Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21°.70S×179°.55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21°.76S×179°.70W,h627km,37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:41.7±1.4,22°.1S×0°.2×179°.3W×0°.2,h600km,n22,
σ1§55/24,mb4.4/9,1C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
HBZ	**Hicks Bay**	**15.60**	**187**	*e*P		**P**	**18 48 53.1**	**-2.1**
URZ	**Urewera**	**16.41**	**190**	P		**P**	**18 49 01.5**	**-1.1**
MRZ	**Mangatainoka R**	**19.02**	**192**	*e*P		**P**	**18 49 26.7**	**+0.3**
DIW	**D'Urville Isla**	**19.52**	**195**	*e*P		**P**	**18 49 27.3**	**-3.6**
CAW	**Cannon Point**	**19.55**	**193**	*e*P		**P**	**18 49 31.7**	**+0.5**
OTW	**Orongorongo Tu**	**19.73**	**193**	*e*P		**P**	**18 49 33.0**	**+0.2**
MOW	**Moikau**	**19.82**	**192**	*e*P		**P**	**18 49 35.5**	**+1.9**
THZ	**Tophouse**	**20.68**	**197**	*e*P		**P**	**18 49 42.0**	**+0.5**
KHZ	**Kahutara**	**21.14**	**195**	P		**P**	**18 49 46.2**	**+0.8**
ARMA	**Armidale**	**27.28**	**246**	*e*P		**P**	**18 50 42.4**	**+2.3**
	4.9nm,0.5s							
CTA	**Charters Tower**	**32.13**	**267**	⇑*i*P		**P**	**18 51 22.3**	**+0.5**
	13nm,0.5s							
STKA	**Stephens Creek**	**36.00**	**246**	*e*P		**P**	**18 51 55.3**	**+1.5**
	3.1nm,0.4s							
ASAR	**Alice Springs**	**42.97**	**259**	P		**P**	**18 52 50.1**	**+0.4**
	9.8nm,0.5s,baz=92,slow=8.2,SNR=47							
ASAR				S		**S**	**18 58 31.3**	**-1.6**
	1.0nm,0.8s,baz=95,slow=15,SNR=5.7							
ASPA	**Alice Springs**	**42.97**	**259**	*e*P		**P**	**18 52 50.1**	**+0.4**
WRA	**Warramunga Arr**	**43.18**	**264**	P		**P**	**18 52 51.0**	**-0.4**
	1.8nm,0.3s,baz=96,slow=7.8,SNR=93							
WRA				S		**S**	**18 58 33.0**	**-2.9**
	0.3nm,0.9s,baz=99,slow=14,SNR=3.0							
KAKA	**Kakadu**	**46.79**	**273**	*e*P		**P**	**18 53 18.2**	**-0.7**
	14nm,0.4s							
FITZ	**Fitzroy Crossi**	**51.61**	**264**	*e*P		**P**	**18 53 54.3**	**+0.1**
	12nm,0.3s							
MBWA	**Marble Bar**	**56.31**	**259**	*e*P		**P**	**18 54 27.1**	**-0.1**
	11nm,0.6s							
CMAR	**Chiang Mai Arr**	**89.48**	**290**	P		**P**	**18 57 38.1**	**+1.7**
	1.3nm,0.8s,baz=135,slow=3.1,SNR=8.1							
ARCES	**ARCESS Array B**	**130.23**	**349**	PKP		**PKiKP**	**19 03 43.7**	**-1.2**
	0.7nm,0.6s,baz=282,slow=4.2,SNR=3.5							
FINES	**FINESS Array B**	**136.91**	**342**	PKP		**PKiKP**	**19 03 57.3**	**-1.3**
	3.7nm,1.1s,baz=158,slow=3.2,SNR=3.4							
MLR	**Muntele Rosu**	**148.83**	**325**	PKPbc		**PKiKP**	**19 04 22.7**	**-1.0**
	0.2nm,0.7s,baz=1.2,slow=23,SNR=2.3							

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*JMA **01** 00:02:29.9±0.1,24°N±1°×122°8E±0°5,h26km±2km, MV3.1/14,NW OFF ISHIGAKIJIMA IS*
*TAP **01** 00:02:30.0,24°12N×122°75E,h22km,ML3.2,C*
ISC 01 00:02:29.1±1.1,**24°02N**±0°04×**122°78E**±0°02,**h24**km±11km, **n53**,σ**0s63**/88,**2C-1D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.44	284	⇑iP	Pb	00 02 38.2	+0.3
	baz=274						
EOS4				eS	Sb	00 02 45.1	+1.1
	baz=274						
JYNG	Yonagunijimaku	0.46	19	iP	Pb	00 02 38.4	-0.2
JYNG				S	Sb	00 02 44.3	-0.7
YOJ	Yonaguni jima	0.49	25	P	Pb	00 02 38.9	-0.2
YOJ				S	Sb	00 02 45.2	-0.8
YOJ	Yonaguni jima	0.49	25	⇓iP	Pb	00 02 38.9	-0.2
	baz=40						
YOJ				S	Sb	00 02 45.2	-0.8
	baz=40						
EOS3	EOS3	0.50	303	⇑iP	Pb	00 02 39.6	+0.4
	baz=298						
EOS3				S	Sn	00 02 47.1	-1.3
	baz=298						
EOS2	EOS2	0.64	309	eP	Pn	00 02 42.4	-0.2
	baz=298						
EOS2				eS	Sn	00 02 52.1	+0.2
	baz=298						
IRIF	Iriomote-Funau	0.92	70	P	Pb	00 02 46.7	+0.3
HATJ	Hateruma jima	0.94	87	P	Pb	00 02 46.6	-0.1
HATJ				S	Sb	00 02 58.7	+0.1
EWUT	Wuta	1.01	295	P	Pn	00 02 47.8	0.0
	baz=291						
EWUT				eS	Sn	00 03 00.8	-0.4
	baz=291						
ENA	Nanau	1.03	294	P	Pn	00 02 48.0	0.0
	baz=297						
ENA				S	Sn	00 03 01.8	0.0
	baz=297						
TWC	Suao	1.04	305	eP	Pn	00 02 48.0	-0.1
	baz=302						
TWC				eS	Sb	00 03 01.0	-0.5
	baz=302						
NACB	Ninganchiao	1.10	279	P	Pn	00 02 49.1	+0.2
NACB	Ninganchiao	1.10	279	P	Pn	00 02 48.9	0.0
	baz=256						
JKRS	Kuro-shima	1.14	79	P	Pn	00 02 50.1	+0.6
JKRS				S	Sb	00 03 05.5	+0.9
NDS	Dongshan	1.15	303	P	Pb	00 02 50.4	+0.2
	baz=299						
NDS				eS	Sn	00 03 05.3	+0.6
	baz=299						
ETM	Tongmen	1.18	268	eP	Pn	00 02 49.8	-0.3
	baz=250						
ETLH	Xiulin Townshi	1.20	279	eP	Pn	00 02 50.8	+0.3
	baz=274						
TWE	Neicheng	1.24	305	eP	Pb	00 02 52.3	+0.5
	baz=302						
TWE				eS	Sb	00 03 07.6	+0.4
	baz=302						
LXIB	Xiulin Townshi	1.25	271	eP	Pn	00 02 51.0	-0.2
	baz=266						
LATG	Datong	1.26	295	eP	Pb	00 02 52.4	+0.2
	baz=291						
LATG				eS	Sb	00 03 08.8	+0.8
	baz=291						
ENTT	Nioudou	1.27	300	eP	Pb	00 02 52.4	+0.1
	baz=296						
ENTT				eS	Sb	00 03 08.7	+0.4
	baz=296						
JIJ	Ishigaki jima	1.29	74	P	Pn	00 02 51.9	+0.3
JIJ				S	Sn	00 03 08.7	+0.6
TIPB	Shuangxi	1.29	318	eP	Pb	00 02 52.2	-0.5
	baz=316						
TIPB				eS	Sb	00 03 08.5	-0.3
	baz=316						
NDT	Datong Townshi	1.30	297	eP	Pb	00 02 53.6	+0.8
	baz=294						
NDT				eS	Sb	00 03 09.4	+0.3
	baz=294						
WARBT	Fenglin Townsh	1.31	257	eP	Pn	00 02 51.5	-0.4
	baz=252						
WARBT				eS	Sn	00 03 07.5	-1.1
	baz=252						
FUSB	Fushanzhiwuyua	1.32	304	P	Pb	00 02 53.6	+0.5
	baz=302						
FUSB				eS	Sb	00 03 10.4	+0.7
	baz=302						
NNSB	Datong	1.34	288	eP	Pb	00 02 53.4	-0.2
	baz=284						
NNSB				eS	Sb	00 03 10.4	-0.1
	baz=284						
HGSD	Ruisui	1.35	248	eP	Pn	00 02 51.5	-0.8
	baz=243						
HGSD				eS	Sn	00 03 10.7	+1.2
	baz=243						
SXI1	Grass Mountain	1.35	323	P	Pb	00 02 53.0	-0.8
	baz=330						
SXI1				eS	Sb	00 03 10.1	-0.7
	baz=330						
NWF	Wu-fen Shan	1.39	319	eP	Pb	00 02 53.9	-0.5
	baz=317						
NWLT	Wulai	1.39	303	eP	Pb	00 02 55.1	+0.7
	baz=300						
NWLT				eS	Sb	00 03 11.9	+0.2
	baz=300						
WFSB	Wu-fen Shan	1.39	319	eP	Pb	00 02 53.8	-0.6
	baz=318						
WFSB				eS	Sb	00 03 10.6	-1.1
	baz=318						
WHF	Hehuan Shan	1.39	276	eP	Pn	00 02 54.0	+0.6
	baz=271						
EHY	Hungye	1.43	250	eP	Pn	00 02 53.1	-0.5
	baz=245						
EHY				eS	Sn	00 03 10.7	-0.9
	baz=245						
YHNB	Yeheng	1.44	297	P	Pb	00 02 55.9	+0.7
YHNB	Yeheng	1.44	297	eP	Pb	00 02 55.0	-0.2
	baz=300						
YHNB				eS	Sb	00 03 13.2	0.0
	baz=300						
TWA	Mucha	1.45	312	eP	Pb	00 02 54.9	-0.5
	baz=310						
TWA				eS	Sb	00 03 13.8	+0.2
	baz=310						
NSK	Sanguang	1.46	297	eP	Pb	00 02 55.8	+0.3
	baz=294						
NSK				eS	Sb	00 03 13.7	0.0
	baz=294						
CHGB	Renai	1.47	272	eP	Pn	00 02 54.6	+0.4
	baz=255						
CHGB				eS	Sn	00 03 14.0	+1.1
	baz=255						
OWD	Renai	1.47	268	eP	Pn	00 02 55.0	+0.8
	baz=264						
YULB	Yu-li	1.50	246	P	Pn	00 02 54.1	-0.3
YULB	Yu-li	1.50	246	P	Pn	00 02 54.1	-0.3
	baz=228						
YULB				eS	Sn	00 03 12.8	-0.4
	baz=228						
JISG	Ishigakijimahi	1.51	67	P	Pn	00 02 55.2	+0.7
JISG				eS	Sn	00 03 14.2	+0.8
TWF1	Yuli	1.51	244	eP	Pn	00 02 54.4	-0.3
	baz=240						
TWF1				eS	Sn	00 03 13.4	-0.2
	baz=240						
TATO	Taipei	1.52	309	P	Pb	00 02 58.0	+1.5
WUSB	Renai	1.52	269	eP	Pn	00 02 55.6	+0.7
	baz=253						
VWDT	VWDT	1.52	260	eP	Pn	00 02 55.1	+0.3
	baz=247						
YM01	YM01	1.58	316	eP	Pb	00 02 57.8	+0.2
	baz=327						
NFF	Wufeng Townshi	1.64	292	eP	Pb	00 02 58.9	+0.2
	baz=277						
SSLB	Suanglung	1.69	263	P	Pn	00 02 57.6	+0.5
WHP	Taichung City	1.70	279	eP	Pb	00 02 59.9	+0.3
	baz=264						
EDH	Donghe	1.71	233	eP	Pn	00 02 56.7	-0.7
	baz=217						
EDH				eS	Sn	00 03 16.1	-2.3
	baz=217						
JTJ	Tarama	1.86	70	eP	Pb	00 03 01.6	-0.8
JTJ				eS	Sb	00 03 24.9	-0.3

*BJI **01** 00:06:08.8,6°77S×130°54E,h157km,mb4.8/62,mB5.0/30*
*MOS **01** 00:06:10.7±0.9,6°31S×130°08E,h133km,mb4.8/33,Error ellipse: s-maj=10.9km s-min=4.9km az=114.1*
*NEIC **01** 00:06:12.3,6°39S×130°40E,h160km,Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^{16}Nm; M_{rr}0.11; $M_{\theta\theta}$-2.64; $M_{\phi\phi}$2.53; $M_{r\theta}$-0.43; $M_{\theta\phi}$3.11; $M_{\phi r}$1.53; Fault plane solution: $M_0$4.34000×10^{16} NP1: ϕ_s339.76000°,δ88.18000°,λ158.53000°. NP2: ϕ_s70.48000°,δ68.54000°,λ1.95000°. Principal axes: T 4.3372, Plg16.0000°, Azm293.0000°; N 0.0110, Plg68.0000°, Azm155.0000°; P -4.3481, Plg14.0000°, Azm27.0000°;*
*NEIC **01** 00:06:12.3,6°29S×130°09E,h160km*
*DJA **01** 00:06:13.6±0.2,6°S±2°×13°0E±°,h146km±2km,M5.0/69, mb5.2/69,mB5.5/43,MLv5.6/19,Mw(mB)5.0/43, MwMwp4.6/2,Mwp5.0/2*
*NEIC **01** 00:06:13.2±1.7,6°30S±0°05×130°12E±0°06,h140km±4km, mb5.0/153,Mww5.0/13,Error ellipse: s-maj=9.1km s-min=7.5km az=85.0*
*IDC **01** 00:06:14.9±1.2,6°32S×130°13E,h157km±10km,mb4.5/18, mbtmp5.0/23,MS3.6/8,Error ellipse: s-maj=14.3km s-min=9.0km az=73.0*
*GCMT **01** 00:06:15.2±0.3,6°21S±0°02×130°17E±0°02,h143km±2km, MW5.1/97,Moment Tensor Solution. s25,c25; s97,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.81±.15; $M_{\theta\theta}$-2.97±.18; $M_{\phi\phi}$3.79±.18; $M_{r\theta}$-1.33±.12; $M_{\theta\phi}$3.46±.20; $M_{\phi r}$1.05±.13; Best double couple: $M_0$5.17000×10^{16} NP1:ϕ_s160.00000°,δ78.00000°,λ-162.00000°. NP2: ϕ_s66.00000°,δ72.00000°,λ-12.00000°. Principal axes: T 5.2820, Plg4.0000°, Azm292.0000°; N -0.2180, Plg68.0000°, Azm191.0000°; P -5.0580, Plg21.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 00:06:13.4±0.6,**6°38S**±0°03×**130°14E**±0°04,**h148**km±5km, **n726**,σ**1s11**/751,**mb4.9**/135,**8C-15D,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.86	353	P	Pn	00 06 48.0	+1.2
SAUI	Saumlaki	1.96	144	Pn	Pn	00 06 48.4	+0.5
SAUI				Sn	Sn	00 07 16.4	+1.8
SAUI	Saumlaki	1.96	144	P	Pn	00 06 49.5	+1.5
FAKI	Fak Fak	4.03	32		Pn	00 07 12.3	-1.7
FAKI				Sn	Sn	00 07 55.3	-5.9
FAKI	Fak Fak	4.03	32	P	Pn	00 07 12.4	-1.7
NLAI	Namlea	4.35	316	P	Pn	00 07 19.9	+1.7
KMPI	Kaimana, Papua	4.46	53	P	Pn	00 07 19.5	-0.2
SWI	Sorong	5.60	12	P	Pn	00 07 32.6	-2.1
	182nm,0.8s,13µm2µm4.9nm						
SWI	Sorong	5.60	12	P	Pn	00 07 32.8	-1.9
SANI	Sanana	5.97	316	P	Pn	00 07 40.6	+0.9
	222nm,0.9s,4µm1.3nm						
LBMI	Labuha	6.28	335	P	Pn	00 07 44.4	+0.5
	722nm,0.9s,7µm3.0nm						
RKPI	Ransiki, Papua	6.30	40	P	Pn	00 07 43.8	-0.3
	2µm,1.1s,25µm13nm						
MTN	Manton Dam	6.50	171	P	Pn	00 07 46.5	-0.2
	baz=6.6,SNR=189						
MTN				S	Sn	00 08 55.9	-3.9
	baz=6.6						
MTN	Manton Dam	6.50	171	Pn	Pn	00 07 46.7	-0.1
MTN				Sn	Sn	00 08 55.8	-4.1
KDU	Kakadu	6.67	160	P	Pn	00 07 48.5	-0.6
	baz=6.8,SNR=1000						
KDU				S	Sn	00 08 59.8	-4.3
	baz=6.8						
SOEI	Soe	6.71	240	Pn	Pn	00 07 50.0	+0.3
SOEI				Sn	Sn	00 09 06.8	+1.7
SOEI	Soe	6.71	240	P	Pn	00 07 50.5	+0.8
	946nm,0.8s,10µm10nm						
BATI	Baumata	7.45	239	P	Pn	00 08 00.0	+0.6
	1µm,0.6s,10µm8.0nm						
BATI	Baumata	7.45	239	P	Pn	00 08 00.1	+0.6
	842nm,0.5s,baz=105,slow=1.5,SNR=78						
BATI				S	Sn	00 09 20.1	-2.7
	1µm,0.4s,baz=329,slow=5.9,SNR=15						
BATI				LR	LR	00 10 41.1	
	comp=Z,758nm,18.4s,baz=64,slow=36						
BBSI	Bau Bau	7.58	276	P	Pn	00 08 04.5	+3.3
	346nm,1.1s,3µm1.2nm						
TNTI	Ternate	7.62	339	Pn	Pn	00 08 00.7	-1.1
TNTI	Ternate	7.62	339	P	Pn	00 08 01.5	-0.4
	49nm,1.1s,0.3nm						
MMRI	Maumere	8.15	254		Pn	00 08 09.8	+1.0
MMRI	Maumere	8.15	254	P	Pn	00 08 08.6	-0.2
	174nm,1.0s						
EDFI	Ende, Flores	8.70	254	P	Pn	00 08 16.6	+0.3
	73nm,0.9s,1µm						
LUWI	Luwuk	9.06	306		Pn	00 08 21.9	+0.8
LUWI	Luwuk	9.06	306	P	Pn	00 08 21.4	+0.4
	570nm,1.2s,7µm						
KMSI	Cibinong	9.25	318	P	Pn	00 08 23.5	0.0
	546nm,1.2s						
KNRA	Kununurra	9.34	188	P	Pn	00 08 22.9	-1.7
	baz=9.4,SNR=202						
KNRA	Kununurra	9.34	188	Pn	Pn	00 08 23.1	-1.6
KNRA				Sn	Sn	00 10 02.4	-5.8
SMPI	Sarmi	9.60	63	P	Pn	00 08 28.3	+0.1
	131nm,0.9s,4µm						
BKSI	Bulukumba	10.02	276	P	Pn	00 08 35.0	+1.2
	74nm,0.9s,791nm						
BASI	Baing, Sumba	10.20	247	P	Pn	00 08 35.3	-0.8
	265nm,0.9s,4µm						
MMPI	Merauke	10.37	102	P	Pn	00 08 48.6	+10
KAPI	Kappang	10.42	277	Pn	Pn	00 08 39.6	+0.5
KAPI	Kappang	10.42	277	P	Pn	00 08 39.6	+0.5
KAPI	Kappang	10.42	277	P	Pn	00 08 40.5	+1.4
	8.7nm,0.3s,baz=119,slow=3.5,SNR=6.7						
MRSI	Marisa	10.65	309	P	Pn	00 08 43.8	+1.7
	881nm,1.0s,8µm						
GENI	Genyem	10.68	70	P	Pn	00 08 42.6	0.0
	187nm,0.7s,3µm						
TTSI	Tana Toraja	10.80	287	P	Pn	00 08 45.7	+1.6
	112nm,1.2s,2µm						
TOLI2	Tolitoli	11.94	308	Pn	Pn	00 08 58.5	-0.6
MPSI	Mapaga	12.21	303	P	Pn	00 09 04.2	+1.7
FITZ	Fitzroy Crossi	12.44	200	P	Pn	00 09 02.4	-3.1
	baz=12,SNR=267						
PLAI	Plampang	12.49	258	P	Pn	00 09 03.0	-3.2
	124nm,0.8s,1µm						
TWSI	Taliwang, Sumb	13.35	259	P	Pn	00 09 15.0	-2.2
	71nm,0.5s,944nm						
WB0	Warramunga Arr	13.93	163	Pn	Pn	00 09 23.3	-1.4
WRAB	Tennant Creek	14.08	163	Pn	Pn	00 09 24.6	-1.9
WRAB	Tennant Creek	14.08	163	P	Pn	00 09 24.6	-1.9
WRA	Warramunga Arr	14.08	164	Pn	Pn	00 09 24.3	-2.3
WRA	Warramunga Arr	14.08	164	P	Pn	00 09 24.3	-2.3
WRA	Warramunga Arr	14.08	164	P	Pn	00 09 24.5	-2.0
	14nm,0.4s,baz=336,slow=14,SNR=177						
WRA				S	Sn	00 11 50.4	-12
	84nm,0.5s,baz=350,slow=20,SNR=12						
WB2	Warramunga Arr	14.09	164	Pn	Pn	00 09 24.1	-2.5
DAV	Davao City (W)	14.12	341	P	P	00 09 29.1	-1.0
DAV	Davao City (W)	14.12	341	P	Pn	00 09 27.9	+1.0
	98nm,0.4s,baz=252,slow=20,SNR=1.6						
DAV				LR	LR	00 15 39.7	
	comp=Z,269nm,21.2s,baz=42,slow=40						
BKB	Balikpapan	14.15	291	P	P	00 09 31.2	+0.7
BKB	Balikpapan	14.15	291	P	P	00 09 31.5	+1.0
	251nm,1.4s,4µm						
WR0	Warramunga Arr	14.16	163	Pn	Pn	00 09 26.7	-0.8
COEN	Coen	14.87	121	Pn	Pn	00 09 34.8	-1.6
SRBI	Singaraja	14.90	263	P	Pn	00 09 36.6	-0.2
	155nm,0.9s,2µm						
IGBI	Denpasar	15.06	260	P	Pn	00 09 38.1	-0.6
BBKI	Banjar Baru	15.51	280	P	P	00 09 47.4	+1.8
	1µm,1.2s,11µm						
ABJI	Asem Bagus	15.84	264	P	P	00 09 49.7	+0.5
	163nm,0.8s						
JAGI	Jajag, Banyuwa	15.99	262	Pn	Pn	00 09 48.4	-1.8
JAGI	Jajag, Banyuwa	15.99	262	P	Pn	00 09 48.2	-2.0
	139nm,0.6s						
MTKI	Muara Teweh, K	16.14	289	P	P	00 09 54.0	+1.5
	196nm,0.8s,6µm						
MYLDM	Lahad Datu	16.34	314	P	Pn	00 09 54.2	-0.3
MYLDM				IAmb	IAmb	00 10 21.3	
	comp=Z,125nm,1.1s						
BLJI	Banyuglugur	16.47	264	P	P	00 09 56.7	+0.5
	comp=Z,489nm,0.6s,comp=Z,3µm						
QIS	Mount Isa	16.82	148	P	P	00 09 59.5	-0.5
	baz=17,SNR=105						
PMG	Port Moresby	17.12	101	P	Pn	00 10 05.0	+0.9
PMG	Port Moresby	17.12	101	⇑eP	Pn	00 10 05.3	+1.3
PMG	Port Moresby	17.12	101	P	Pn	00 10 05.5	+1.5
	comp=Z,159nm,0.9s,baz=288,slow=7.0,SNR=77						
AS31	Alice Springs	17.56	168		Pn	00 10 09.6	+0.3
ASAR	Alice Springs	17.56	168	P	Pn	00 10 09.3	0.0
ASAR	Alice Springs	17.56	168	P	Pn	00 10 09.3	0.0
ASAR	Alice Springs	17.56	168	P	Pn	00 10 09.8	+0.5
	comp=Z,65nm,0.8s,baz=347,slow=11,SNR=157						
ASAR				S	S	00 13 14.2	-9.2
	comp=Z,50nm,0.7s,baz=354,slow=25,SNR=12						
MANU	Manus Island	17.71	77	P	P	00 10 10.3	+0.5
MANU				IAmb	IAmb	00 10 26.4	
	comp=Z,80nm,1.1s						
MBWA	Marble Bar	17.81	213	P	P	00 10 11.6	+0.7
PSA00	Pilbara Seismi	18.09	212	P	Pn	00 10 14.7	-0.8
PSA00	Pilbara Seismi	18.09	212	P	P	00 10 14.0	+0.1
PSA00				IAmb	IAmb	00 10 16.1	
	comp=Z,76nm,0.6s						
MTSU	Mount Surprise	18.10	131	P	Pn	00 10 16.3	+0.6
	baz=18,SNR=38						
KKM	Kota Kinabalu	18.59	311	P	P	00 10 18.9	-0.6
KKM				IAmb	IAmb	00 10 21.2	
	comp=Z,114nm,0.9s						
WRKA	Warakurna	18.63	185	P	Pn	00 10 21.3	-0.6
	baz=19,SNR=108						
STKI	Sintang	19.69	288	P	Pn	00 10 34.3	-0.1
	comp=Z,85nm,0.8s,comp=Z,22µm						
SBUM	Sibu	19.92	296	P	P	00 10 33.7	-0.1
SBUM				IAmb	IAmb	00 10 36.4	
	comp=Z,136nm,1.5s						
CTA	Charters Tower	20.75	133	P	Pn	00 10 44.9	-1.9
	comp=Z,25nm,0.7s,baz=304,slow=11,SNR=32						
	comp=Z,25nm,0.7s						
CTAO	Charters Tower	20.75	133	P	P	00 10 44.4	+1.7
CTAO				IAmb	IAmb	00 10 55.0	
	comp=Z,99nm,1.2s						
CTAO	Charters Tower	20.75	133	P	P	00 10 44.4	+1.7
CTAO				pmax	pmax		
	comp=Z,99nm,1.3s						
KPJI	Karang Pucung	21.08	266	P	P	00 10 46.6	+0.4
	comp=Z,77nm,0.8s						
KSM	Kuching	21.28	291	P	P	00 10 48.3	-0.1
CMJI	Cimerak	21.57	265	P	P	00 10 49.9	-1.6
	comp=Z,235nm,1.2s						
GIRL	Giralia	22.29	222	P	P	00 10 59.9	+1.2
	baz=22,SNR=12						
LEM	Lembang	22.38	268	P	P	00 11 01.0	+1.1
	comp=Z,242nm,0.8s						
LEM	Lembang	22.38	268	P	P	00 11 00.3	+0.5
	comp=Z,182nm,0.8s,baz=84,slow=9.5,SNR=21						
	comp=Z,182nm,0.8s						
CNJI	Cibinong	22.86	266	P	P	00 11 03.4	-0.9
	comp=Z,543nm,1.1s,comp=Z,4µm						
MEEK	Meekatharra	22.94	207	P	P	00 11 05.7	+0.8
	baz=23,SNR=25						
DBJI	Dramaga	23.24	268	P	P	00 11 06.7	-1.1
	comp=Z,201nm,0.9s,comp=Z,9µm						
SKJI	Sukabumi	23.43	267	P	P	00 11 08.3	-1.2
	comp=Z,326nm,0.9s						
QLP	Quilpie	24.17	148	P	P	00 11 17.5	+1.5
	baz=24,SNR=8.9						
CGJI	Cibinong	24.29	268	P	P	00 11 16.3	-1.0
	comp=Z,408nm,1.0s						
FORT	Forrest	24.35	184	P	P	00 11 18.6	+1.0
	baz=24,SNR=15						
FORT	Forrest	24.35	184	P	P	00 11 18.2	+0.5
XMIS	Christmas Isla	24.55	259	P	P	00 11 19.3	-0.5
PMBI	Palembang	25.51	277	P	P	00 11 29.7	+1.3
KASI	Kota Agung	25.52	271	P	P	00 11 26.9	-1.6
	comp=Z,54nm,0.9s						
KMBL	Kambalda	26.03	196	P	P	00 11 33.9	+1.0
	baz=26,SNR=17						
MORW	Morawa	26.20	209	P	P	00 11 34.9	+0.4
	baz=26,SNR=9.7						
MORW	Morawa	26.20	209	P	P	00 11 35.1	+0.6
MORW				IAmb	IAmb	00 12 03.0	
	comp=Z,35nm,1.2s						
BBOO	Buckleboo	26.87	169	P	P	00 11 41.2	+0.9
	baz=27,SNR=20						
BBOO	Buckleboo	26.87	169	P	P	00 11 41.3	+0.9
BLDU	Ballidu	27.21	206	P	P	00 11 44.0	+0.6
	baz=27,SNR=6.4						
MYKOM	Kota Tinggi	27.47	286	P	P	00 11 46.2	+0.2
MYKOM				IAmb	IAmb	00 11 50.3	
	comp=Z,20nm,0.8s						
STKA	Stephens Creek	27.53	159	P	P	00 11 47.4	+1.0
	baz=28,SNR=17						
STKA	Stephens Creek	27.53	159	P	P	00 11 47.2	+1.0
STKA	Stephens Creek	27.53	159	P	P	00 11 47.3	+1.0
STKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
STKA	Stephens Creek	27.53	159	P	P	00 11 47.4	+1.0
	comp=Z,4.6nm,0.4s,baz=337,slow=9.1,SNR=20						
STKA				LR	LR	00 24 07.8	
	comp=Z,315nm,18.5s,baz=342,slow=39						
	comp=Z,4.6nm,0.4s						
KLBR	Kellerberrin	27.63	203	P	P	00 11 48.1	+0.9
	baz=28,SNR=8.7						
HTT	Hallett	28.12	164	P	P	00 11 53.2	+1.6
	baz=28,SNR=4.0						
CMSA	Cobar Meteorol	28.95	152	P	P	00 12 00.4	+1.5
	baz=29,SNR=30						
NWAO	Narrogin (SRO)	29.01	203	P	P	00 12 00.5	+1.1
	baz=29,SNR=13						
NWAO				P	P	00 12 00.5	+1.1
	baz=29,SNR=13						
NWAO	Narrogin (SRO)	29.01	203	LR	LR	00 25 30.7	
	comp=Z,122nm,18.4s,baz=289,slow=40						
HNR	Honiara	29.68	98	LR	LR	00 25 32.3	
	comp=Z,2µm,18.6s,baz=302,slow=39						
BKNI	Bangkinang	29.80	282	P	P	00 12 06.0	-0.6
PDSI	Padang	30.10	279	P	P	00 12 09.7	+0.4
	comp=Z,24nm,1.3s						
TWG	Pinlang	30.35	343	P	P	00 12 11.6	+0.2
TWG				IAmb	IAmb	00 12 15.4	
	comp=Z,65nm,1.3s						
RKGY	Rocky Gully	30.61	202	P	P	00 12 15.0	+1.4
	baz=31,SNR=8.7						
IPM	Ipoh	31.00	290	P	P	00 12 16.1	-1.1
ARMA	Armidale	31.30	142	P	P	00 12 22.1	+2.3
	baz=31,SNR=5.4						
ARMA	Armidale	31.30	142	P	P	00 12 20.7	+0.9
NACB	Ninganchiao	31.49	345	P	P	00 12 19.4	-2.0
NACB				IAmb	IAmb	00 12 21.8	
	comp=Z,40nm,1.1s						
ARPS	Mount Arapiles	32.08	162	P	P	00 12 28.4	+2.0
	baz=32,SNR=18						
RPSI	Rantau Prapat	32.44	285	P	P	00 12 28.4	-1.5
RPSI				IAmb	IAmb	00 12 31.5	
	comp=Z,18nm,0.9s						
PSI	Prapat	32.47	285	P	P	00 12 28.4	-1.9
PSI				pmax	pmax		
	comp=Z,18nm,0.9s						
MGCD	Mangrove Creek	33.05	147	P	P	00 12 37.8	+2.9
	baz=33,SNR=5.0						
GSI	Gunungsitoli	33.39	282	P	P	00 12 37.2	-0.9
GSI				IAmb	IAmb	00 12 39.9	
	comp=Z,52nm,1.1s						
CAN	Canberra	33.63	151	P	P	00 12 40.4	+0.4
CAN				IAmb	IAmb	00 12 42.9	
	comp=Z,16nm,0.7s						
CAN	Canberra	33.63	151	P	P	00 12 40.4	+0.4
CAN				pmax	pmax		
	comp=Z,16nm,0.7s						
CAN	Canberra	33.63	151	P	P	00 12 42.3	+2.3
CNB	Canberra Magne	33.80	151	P	P	00 12 42.2	+0.7
	baz=34,SNR=4.6						
TOO	Toolangi	34.05	158	P	P	00 12 46.8	+3.2
	baz=34,SNR=4.3						
JCJ	Chichijima	35.27	19	P	P	00 12 53.1	-1.0
SLVN	Son La	37.70	318	P	P	00 13 14.1	-0.8
PHRA	Phrae	38.49	311	P	P	00 13 20.8	-0.6
JNU	Nakatsue	39.29	1	P	P	00 13 27.4	-0.5
JNU				IAmb	IAmb	00 13 28.7	
	comp=Z,34nm,0.9s						
CM31	Chiang Mai Arr	39.44	309	P	P	00 13 29.1	-0.3
CM31				IAmb	IAmb	00 13 30.9	
	comp=Z,18nm,0.8s						
CMAR	Chiang Mai Arr	39.44	309	P	P	00 13 29.0	-0.5
CMAR	Chiang Mai Arr	39.44	309	iP	P	00 13 29.7	+0.3
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CMAR	Chiang Mai Arr	39.44	309	P	P	00 13 30.1	+0.7
	comp=Z,7.9nm,0.6s,baz=136,slow=6.9,SNR=50						
CMAR				PcP	PcP	00 15 35.8	+1.1

comp=Z,1.3nm,0.3s,baz=152,slow=3.1,SNR=5.9
CMAR ScP **ScP** **00 19 08.5 -1.1**
comp=Z,2.5nm,0.4s,baz=152,slow=2.9,SNR=11
comp=Z,7.9nm,0.6s
CRAI Chiangrai 39.44 313 P **P** **00 13 29.4 0.0**
CHTO Chiang Mai 39.65 310 P **P** **00 13 30.7 -0.5**
CHTO IAmb IAmb 00 13 32.5
comp=Z,58nm,1.4s
CHTO Chiang Mai 39.65 310 P **P** **00 13 30.7 -0.5**
CHTO pmax pmax
comp=Z,58nm,1.5s
CHTO Chiang Mai 39.65 310 P **P** **00 13 31.4 +0.3**
CHTO ScP **ScP** **00 19 10.2 -0.3**
NJ2 Nanjing 39.70 345 *eP* **P** **00 13 34.2 +2.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,690nm,3.8s
WHN Wuhan 39.71 338 ⇑P **P** **00 13 32.3 +0.9**
WHN pmax pmax
comp=Z,100nm,1.2s
JMN Monobe 40.05 5 P **P** **00 13 33.3 -0.9**
KMI Kunming 41.13 321 ⇓P **P** **00 13 44.7 +1.3**
KMI pmax pmax
comp=Z,12nm,1.0s
ENH Enshi 41.48 333 P **P** **00 13 44.7 -1.3**
ENH IAmb IAmb 00 13 46.3
comp=Z,13nm,0.5s
TJN Taejon 42.61 357 P **P** **00 13 53.2 -1.8**
TJN Taejon 42.61 357 *ceP* **P** **00 13 55.7 +0.7**
PZH PanZhiHua 42.74 321 P **P** **00 13 56.2 -0.2**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,110nm,6.4s
MJAR Matsushiro Arr 43.36 9 P **P** **00 14 00.2 -0.9**
comp=Z,39nm,0.8s,baz=188,slow=9.3,SNR=65
MJAR LR LR 00 30 53.7
comp=Z,41nm,20.2s,baz=194,slow=34
comp=Z,39nm,0.8s
MAJO Matsushiro 43.36 9 P **P** **00 13 59.7 -1.4**
MAJO Matsushiro 43.36 9 *d* iP **P** **00 14 00.0 -1.1**
MAJO pmax pmax
comp=Z,62nm,0.9s
MAJO Matsushiro 43.36 9 P **P** **00 14 00.0 -1.1**
MAJO PcP **PcP** **00 15 45.6 -1.5**
MJB9 Matsu-Tunnel 43.37 9 P **P** **00 13 59.9 -1.3**
KSAR Wonju Array Be 43.65 357 P **P** **00 14 03.6 +0.3**
KSAR Wonju Array Be 43.65 357 P **P** **00 14 03.6 +0.3**
KSRS Korea Array 43.66 357 P **P** **00 14 03.8 +0.4**
comp=Z,8.0nm,0.7s,baz=173,slow=9.8,SNR=19
KSRS PcP **PP** **00 15 48.9 +0.8**
comp=Z,1.9nm,0.3s,baz=174,slow=3.1,SNR=3.4
KSRS ScP **ScP** **00 19 25.1 -0.8**
comp=Z,1.4nm,0.5s,baz=184,slow=4.2,SNR=5.4
KSRS LR LR 00 31 04.7
comp=Z,36nm,22.0s,baz=160,slow=34
comp=Z,8.0nm,0.7s
INCN Inchon 43.76 356 P **P** **00 14 03.8 -0.5**
INCN IAmb IAmb 00 14 06.5
comp=Z,29nm,0.8s
INCN Inchon 43.76 356 P **P** **00 14 03.8 -0.5**
INCN pmax pmax
comp=Z,29nm,0.9s
CD2 Chengdu 44.86 327 P **P** **00 14 13.7 +0.5**
XAN Xi'an 44.94 335 ⇓P **P** **00 14 12.9 -0.8**
XAN pmax pmax
comp=Z,21nm,0.7s
XAN LR LR
comp=Z,420nm,9.6s
XAN LR LR
comp=Z,460nm,8.9s
XAN LR LR
comp=Z,290nm,8.2s
JMM Marumori 45.13 12 P **P** **00 14 14.7 -0.3**
HNS HongShan 45.88 343 ⇓P **P** **00 14 20.8 -0.2**
HNS PcP **PcP** **00 15 56.5 +0.8**
HNS ScP **ScP** **00 19 34.8 -0.3**
HNS pmax pmax
comp=Z,23nm,1.1s
BJT Baijiatuau 47.94 346 P **P** **00 14 36.5 -0.4**
BJT IAmb IAmb 00 14 37.8
comp=Z,22nm,0.8s
BJT Baijiatuau 47.94 346 P **P** **00 14 36.5 -0.4**
BJT pmax pmax
comp=Z,22nm,0.8s
BJT Baijiatuau 47.94 346 P **P** **00 14 37.0 0.0**
BJI Beijing 47.95 346 P **P** **00 14 37.0 -0.1**
BJI pmax pmax
comp=Z,14nm,0.8s
JTM Tenmabayashi 48.00 11 P **P** **00 14 36.6 -0.8**
MSHR Mys Shultsa 48.74 1 ⇓*eP* **P** **00 14 43.2 +0.2**
MSHR pmax pmax
comp=Z,20nm,0.6s
LZH Lanzhou 48.93 332 *eP* **P** **00 14 45.6 +0.8**
LZH pmax pmax
comp=Z,12nm,1.0s
HHC Hu-ho-hao-te 50.00 342 *eP* **P** **00 14 53.5 +0.7**
HHC pmax pmax
comp=Z,27nm,0.5s
HHC pmax pmax
comp=Z,160nm,4.3s
CN2 Changchun 50.13 356 *eP* **P** **00 14 53.2 -0.4**
CN2 pmax pmax
comp=Z,20nm,0.6s
BTO Baotou 50.29 340 *eP* P 00 15 00.3 +5.4
BTO pP pwP 00 15 32.4 -0.2
BTO sP sP 00 15 48.5 +5.2
BTO PP **PP** **00 16 59.2 +7.3**
BTO S S 00 22 06.3 +10
BTO sS sS 00 22 57.9 +4.7
BTO SS **SS** **00 25 36.3 +4.3**
BTO pmax pmax
comp=Z,17nm,0.8s
BTO pmax pmax
comp=Z,360nm,5.1s
USA0B Ussuriysk Arra 50.38 2 P **P** **00 14 54.8 -0.6**
USA0B IAmb IAmb 00 14 56.6
comp=Z,26nm,0.8s
USA0B Ussuriysk Arra 50.38 2 *deP* **P** **00 14 55.6 +0.2**
USRK Ussuriysk Ar. 50.38 2 P **P** **00 14 55.5 +0.1**
USRK Ussuriysk Ar. 50.38 2 P **P** **00 14 55.6 +0.2**
comp=Z,24nm,0.7s,baz=184,slow=7.2,SNR=37
USRK ScP **ScP** **00 19 52.2 -1.8**
comp=Z,2.1nm,0.7s,baz=192,slow=6.9,SNR=4.1
comp=Z,24nm,0.7s
PYZ Puysegur Point 50.63 148 P **P** **00 14 58.0 +0.6**
MDJ Mudanjiang 50.77 359 P **P** **00 14 57.5 -0.8**
MDJ Mudanjiang 50.77 359 P **P** **00 14 58.6 +0.3**
FOZ Fox Glacier 50.79 143 P **P** **00 14 59.3 +0.7**
FOZ IAmb IAmb 00 15 02.5
comp=Z,28nm,1.4s
QRZ Quartz Range 51.03 139 P **P** **00 15 01.2 +0.8**
TOZ Tahuroa Road 51.61 134 P **P** **00 15 05.8 +1.0**
XLT XiLinHaoTe 51.64 347 *eP* **P** **00 15 04.6 -0.4**
XLT PcP **PcP** **00 16 16.0 -0.6**
XLT PP **PP** **00 17 05.3 +1.2**
XLT pmax pmax
comp=Z,21nm,0.9s
XLT pmax pmax
comp=Z,170nm,4.3s
RPZ Rata Peaks 51.64 143 P **P** **00 15 05.7 +0.8**
RPZ Rata Peaks 51.64 143 LR LR 00 37 15.4
comp=Z,110nm,18.0s,baz=87,slow=36
THZ Tophouse 51.75 140 P **P** **00 15 06.8 +0.9**
NNZ Nelson 51.78 139 P **P** **00 15 09.2 +3.2**
LSA Lhasa 51.85 316 P **P** **00 15 06.5 -0.8**
LSA IAmb IAmb 00 15 09.0
comp=Z,20nm,0.8s
LSA Lhasa 51.85 316 P **P** **00 15 06.5 -0.8**
LSA pmax pmax
comp=Z,20nm,0.8s
LSA Lhasa 51.85 316 P **P** **00 15 07.9 +0.7**
BNX BinXian 51.94 358 ⇓P **P** **00 15 06.4 -0.7**
BNX pmax pmax
comp=Z,23nm,0.9s
BNX pmax pmax
comp=Z,270nm,5.4s
OXZ Oxford 52.02 142 P **P** **00 15 09.4 +1.6**
OXZ IAmb IAmb 00 15 12.6
comp=Z,12nm,0.6s
TUWZ Tuamarina 52.25 139 P **P** **00 15 09.6 0.0**
MRZ Mangatainoka R 52.98 137 P **P** **00 15 16.0 +1.1**
GTA Gaotai 53.50 331 *eP* **P** **00 15 19.4 +0.6**
GTA pmax pmax
comp=Z,8.0nm,0.8s
GTA Gaotai 53.50 331 *eP* **P** **00 15 19.5 +0.6**
GTA pmax pmax
comp=Z,8.0nm,0.7s
GOMU GeErMu 53.77 325 P **P** **00 15 22.9 +1.7**
KLR Kul'dur 55.40 1 *deP* **P** **00 15 32.1 0.0**
KLR pmax pmax
comp=Z,32nm,1.0s
HYB Hyderabad 56.17 296 ⇑*eP* **P** **00 15 37.9 -0.4**
ULN Ulaanbaatar 57.72 342 P **P** **00 15 48.9 +0.1**
ULN Ulaanbaatar 57.72 342 P **P** **00 15 48.9 +0.1**
ULN pmax pmax
comp=Z,25nm,0.8s
SONM Songino Array 57.90 341 P **P** **00 15 49.9 -0.2**
SONM IAmb IAmb 00 15 51.9
comp=Z,15nm,1.1s
SONM Songino Array 57.90 341 P **P** **00 15 49.9 -0.2**
SONM pmax pmax
comp=Z,15nm,1.1s
SONM Songino Array 57.90 341 P **P** **00 15 50.8 +0.7**
comp=Z,8.9nm,0.9s,baz=158,slow=4.8,SNR=47
comp=Z,8.9nm,0.9s
ZEA Zeya 59.94 358 *eP* **P** **00 16 04.1 +0.3**
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=Z,50nm,0.9s
ZAK Zakamensk 61.13 341 *eP* **P** **00 16 11.8 -0.3**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
WMQ Urumqi 62.95 327 *eP* **P** **00 16 25.4 +1.0**
WMQ pP pP 00 16 57.9 -0.5
WMQ pmax pmax
comp=Z,19nm,0.7s
MOY Mondy 62.98 340 *eP* **P** **00 16 25.6 +1.2**
PETK Petropavlovsk- 63.70 18 P **P** **00 16 29.4 +0.4**
PETK Petropavlovsk- 63.70 18 P **P** **00 16 29.4 +0.4**
PETK Petropavlovsk- 63.70 18 P **P** **00 16 29.1 +0.2**
comp=Z,30nm,0.7s,baz=179,slow=4.2,SNR=29
comp=Z,30nm,0.7s
BOD Bodaibo 65.31 351 *eP* **P** **00 16 39.7 +0.4**
BOD pmax pmax
comp=Z,24nm,1.4s
ZSN Zaisan 66.82 328 ⇑*eP* **P** **00 16 49.7 +0.5**
baz=328
ZSN Zaisan 66.82 328 *ceP* **P** **00 16 49.7 +0.5**
NIL Nilore 66.92 311 P **P** **00 16 49.8 -0.4**
NIL IAmb IAmb 00 16 51.1
comp=Z,18nm,0.7s
NIL Nilore 66.92 311 P **P** **00 16 49.8 -0.4**
NIL pmax pmax
comp=Z,17nm,0.7s
NIL Nilore 66.92 311 P **P** **00 16 50.4 +0.2**
DGZ Jazzator, Alta 67.03 331 *d* iP **P** **00 16 51.4 +0.7**
DGZ pmax pmax
comp=Z,14nm,1.1s
SHLS Shalkode 67.32 322 *eP* **P** **00 16 51.7 -0.9**
baz=322
SHLS Shalkode 67.32 322 *eP* **P** **00 16 51.7 -0.9**
PDGK Podgornoye 67.39 322 P **P** **00 16 52.9 -0.2**
TARG Taragay, Kyrgy 67.58 320 P **P** **00 16 54.4 -0.2**
TARG Taragay, Kyrgy 67.58 320 P **P** **00 16 54.4 -0.2**
TARG pmax pmax
comp=Z,7.0nm,1.0s
UZB Uzynbulak 67.58 322 *eP* **P** **00 16 55.0 +0.7**
comp=Z,10nm,1.0s,baz=322
UZB Uzynbulak 67.58 322 *eP* **P** **00 16 54.9 +0.7**
UZB pmax pmax
comp=Z,10.0nm,1.0s
KSH Kashi 67.66 317 P **P** **00 16 56.3 +1.5**
KSH PcP **PcP** **00 17 22.2 +1.4**
KSH S **S** **00 25 40.4 -0.1**
KSH pmax pmax
comp=Z,10.0nm,0.7s
MA2 Magadan 67.77 11 P **P** **00 16 54.2 -0.7**
MA2 Magadan 67.77 11 P **P** **00 16 54.2 -0.7**
MA2 pmax pmax
comp=Z,40nm,1.0s
MK31 Makanchi Array 67.79 327 P **P** **00 16 55.7 +0.3**
MK31 IAmb IAmb 00 16 56.8
comp=Z,14nm,0.8s
MK31 Makanchi Array 67.79 327 P **P** **00 16 55.7 +0.3**
MK31 pmax pmax
comp=Z,15nm,0.8s
MKAR Makanchi Array 67.79 327 P **P** **00 16 55.4 +0.1**
MKAR Makanchi Array 67.79 327 P **P** **00 16 55.4 +0.1**
MKAR Makanchi Array 67.79 327 P **P** **00 16 56.0 +0.6**
comp=Z,19nm,0.6s,baz=116,slow=8.5,SNR=184
comp=Z,19nm,0.6s
SATY Saty 67.91 322 *eP* **P** **00 16 56.9 +0.6**
baz=322
SATY Saty 67.91 322 *eP* **P** **00 16 56.9 +0.6**
ZHN Zhinishke 67.95 322 *eP* **P** **00 16 57.2 +0.6**
baz=322
ZHN Zhinishke 67.95 322 *eP* **P** **00 16 57.2 +0.6**
KPKS Kokpek 67.96 322 *eP* **P** **00 16 57.3 +0.6**
baz=322
KPKS Kokpek 67.96 322 *eP* **P** **00 16 57.2 +0.6**
MAKZ Makanchi 67.97 326 P **P** **00 16 56.1 -0.4**
MAKZ IAmb IAmb 00 16 57.8
comp=Z,15nm,0.7s
MAKZ Makanchi 67.97 326 P **P** **00 16 56.1 -0.4**
MAKZ pmax pmax
comp=Z,15nm,0.7s
MAKZ Makanchi 67.97 326 P **P** **00 16 56.9 +0.4**
YAK Yakutsk 68.21 360 P **P** **00 16 57.7 +0.1**
YAK Yakutsk 68.21 360 *eP* **P** **00 16 58.2 +0.6**
YAK *e* 00 17 22.6
YAK *e* 00 19 30.9
YAK *e*PPP PPP 00 21 03.3
YAK *e*S **S** **00 25 45.7 -0.1**
YAK *e*'SS **SKiKP** **00 26 33.6 -3.7**
YAK *e*SS **SS** **00 30 13.5 +1.6**
YAK pmax pmax
comp=Z,188nm,1.1s
YAK pmax pmax
comp=N,30nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=Z,337nm,4.4s
YAK pmax pmax
comp=N,213nm,6.1s
YAK pmax pmax
comp=E,116nm,2.8s
YAK smax smax
comp=N,334nm,4.8s
YAK smax smax
comp=E,171nm,5.4s
YAK Yakutsk 68.21 360 P **P** **00 16 57.7 +0.1**
TNSS Tian-Shan 68.81 321 *eP* **P** **00 17 03.0 +0.8**
baz=321
TNSS Tian-Shan 68.81 321 *eP* **P** **00 17 03.0 +0.8**
MDOK Medeo 68.81 321 *eP* **P** **00 17 02.6 +0.6**
baz=321
MDOK Medeo 68.81 321 *eP* **P** **00 17 02.5 +0.6**
AAA Alma-Ata 68.92 321 *eP* **P** **00 17 02.7 +0.2**
baz=321
AAA Alma-Ata 68.92 321 *eP* **P** **00 17 02.7 +0.2**
TDK Taldyqorghan 68.97 323 *eP* **P** **00 17 02.9 +0.1**
baz=323
TDK Taldyqorghan 68.97 323 *eP* **P** **00 17 02.8 +0.1**
CHKK Chushkaly 69.21 322 *eP* **P** **00 17 04.2 0.0**
baz=322
CHKK Chushkaly 69.21 322 *eP* **P** **00 17 04.2 0.0**
KZA Kyzart 69.40 319 P **P** **00 17 07.6 +1.7**
SNR=10
TKM2 Tokmak 2 69.60 320 P **P** **00 17 07.8 +0.9**
SNR=14
TKM2 Tokmak 2 69.60 320 P **P** **00 17 07.3 +0.4**
KUU Kurty 69.63 322 *eP* **P** **00 17 06.8 -0.1**
baz=322
KUU Kurty 69.63 322 *eP* **P** **00 17 06.7 -0.1**
UCH Uchtor 69.95 319 P **P** **00 17 10.9 +1.6**
SNR=22
AAK Ala-Archa 70.16 320 P **P** **00 17 11.9 +1.6**
SNR=8.0
AAK Ala-Archa 70.16 320 P **P** **00 17 10.7 +0.4**
AAK IAmb IAmb 00 17 12.8
comp=Z,16nm,1.0s
AAK Ala-Archa 70.16 320 P **P** **00 17 10.7 +0.4**
AAK pmax pmax
comp=Z,16nm,1.0s
AAK Ala-Archa 70.16 320 P **P** **00 17 12.0 +1.7**
AML Almayashu 70.44 319 P **P** **00 17 13.6 +1.3**
SNR=20
USP Ospenovka 70.47 320 P **P** **00 17 12.9 +0.9**
SNR=34
KBL Kabul 70.47 310 P **P** **00 17 12.5 +0.1**
KBL Kabul 70.47 310 P **P** **00 17 12.5 +0.1**
KBL pmax pmax
comp=Z,8.0nm,1.0s
SGDS Sogindy 70.47 320 *eP* **P** **00 17 12.5 +0.4**
baz=320
SGDS Sogindy 70.47 320 *eP* **P** **00 17 12.4 +0.4**
ARSB Arslanbob 70.53 318 P **P** **00 17 13.1 +0.6**
ARSB Arslanbob 70.53 318 P **P** **00 17 13.1 +0.6**
ARSB pmax pmax
comp=Z,7.0nm,1.0s
EKS2 Erkin-Say 70.64 319 P **P** **00 17 14.8 +1.6**
SNR=20
SEM Semipalatinsk 71.04 329 *eP* **P** **00 17 16.2 +0.7**
baz=329
SEM Semipalatinsk 71.04 329 *eP* **P** **00 17 16.2 +0.7**
ZAA0 Zalesovo Array 71.09 334 P **P** **00 17 15.0 -0.4**
ZALV Zalesovo Beam 71.09 334 P **P** **00 17 14.8 -0.6**
ZALV Zalesovo Beam 71.09 334 P **P** **00 17 14.8 -0.6**
ZALV Zalesovo Beam 71.09 334 P **P** **00 17 14.9 -0.5**
comp=Z,9.3nm,0.8s,baz=121,slow=5.0,SNR=37
comp=Z,9.3nm,0.8s
SEY Seymchan 71.18 11 *deP* **P** **00 17 16.5 +0.7**
SEY pmax pmax
comp=Z,69nm,0.9s
BTLS Baital 71.62 322 *eP* **P** **00 17 19.2 +0.4**
baz=322
BTLS Baital 71.62 322 *eP* **P** **00 17 19.2 +0.4**
KURBB Kurchatov Arra 72.06 328 P **P** **00 17 20.6 -0.7**
KURBB Kurchatov Arra 72.06 328 P **P** **00 17 21.4 +0.2**
comp=Z,8.2nm,0.7s,baz=129,slow=4.8,SNR=59
KURBB S **S** **00 26 26.4 -4.7**
comp=Z,0.6nm,0.2s,baz=116,slow=15,SNR=1.4
comp=Z,8.2nm,0.7s
KURK Kurchatov 72.06 328 P **P** **00 17 21.4 +0.1**
KURK Kurchatov 72.06 328 *d* iP **P** **00 17 21.3 0.0**
KURK pmax pmax
comp=Z,22nm,1.3s
DZA Taraz 72.34 319 *eP* **P** **00 17 23.5 +0.3**
baz=319
DZA Taraz 72.34 319 *eP* **P** **00 17 23.5 +0.3**
IUG luzhnay 72.87 318 ⇓*iP* **P** **00 17 27.1 +0.7**
comp=Z,13nm,0.9s,baz=318
IUG luzhnay 72.87 318 *diP* **P** **00 17 27.1 +0.7**
IUG pmax pmax
comp=Z,13nm,0.9s
KK31 Karatay Array 72.97 319 P **P** **00 17 27.1 +0.2**
KK31 Karatay Array 72.97 319 P **P** **00 17 27.1 +0.2**
KK31 pmax pmax
comp=Z,12nm,1.0s
KKAR Karatay Array 72.97 319 P **P** **00 17 27.4 +0.5**
KKAR Karatay Array 72.97 319 P **P** **00 17 27.1 +0.2**
KKAR IAmb IAmb 00 17 28.8
comp=Z,12nm,0.9s
KKAR Karatay Array 72.97 319 P **P** **00 17 27.4 +0.5**
KKAR pmax pmax
comp=Z,12nm,1.0s
VNDA Vanda 73.04 173 P **P** **00 17 27.4 +0.7**
comp=Z,2.4nm,0.5s,baz=322,slow=7.6,SNR=20
comp=Z,2.4nm,0.5s
ADK Adak 73.59 31 P **P** **00 17 32.0 +1.8**
ADK Adak 73.59 31 P **P** **00 17 32.0 +1.8**
ADK pmax pmax
comp=Z,82nm,1.2s
GSTR Great Sitkin T 74.03 31 P **P** **00 17 32.6 -0.3**
OTUK Ortayu 74.22 324 P **P** **00 17 34.6 +0.5**
BRZS Berezniki 74.88 326 *eP* **P** **00 17 38.1 +0.2**
baz=326
BRZS Berezniki 74.88 326 *eP* **P** **00 17 38.0 +0.2**
MAW Mawson 75.57 201 P **P** **00 17 42.4 +0.9**
comp=Z,3.8nm,0.8s,baz=49,slow=9.3,SNR=6.8
comp=Z,3.8nm,0.8s
HRA Herat 75.69 308 P **P** **00 17 43.2 +0.1**
BVA0 Borovoye Array 77.62 328 *i* P **P** **00 17 52.3 -0.9**
BVAR Borovoye Array 77.62 328 P **P** **00 17 53.2 0.0**
comp=Z,6.5nm,0.8s,baz=125,slow=7.8,SNR=33
comp=Z,6.5nm,0.8s
BRVK Borovoye 77.69 328 P **P** **00 17 53.2 -0.4**
BRVK Borovoye 77.69 328 *ceP* **P** **00 17 52.8 -0.8**
BRVK pmax pmax
comp=Z,9.0nm,0.9s
TIXI Tiksi 77.88 360 P **P** **00 17 53.3 -1.0**
TIXI IAmb IAmb 00 17 54.9
comp=Z,19nm,0.7s
TIXI Tiksi 77.88 360 P **P** **00 17 53.3 -1.0**
TIXI pmax pmax
comp=Z,19nm,0.7s
UOSS Minazif 78.27 297 P **P** **00 17 57.0 -0.5**
SPIA Saint Paul Isl 79.56 29 P **P** **00 18 05.1 +1.3**
baz=241
UNV Unalaska Valle 79.91 33 P **P** **00 18 06.3 +0.6**
baz=244
GEYT Alibeck 79.92 310 P **P** **00 18 06.8 +0.6**
GEYT Alibeck 79.92 310 P **P** **00 18 06.8 +0.6**
GEYT pmax pmax
comp=Z,7.0nm,0.9s
GEYT Alibeck 79.92 310 P **P** **00 18 06.8 +0.6**
comp=Z,4.9nm,0.7s,baz=99,slow=9.2,SNR=9.8
comp=Z,4.9nm,0.7s
GYA0B ALIBECK ARRAY 79.92 310 P **P** **00 18 05.9 -0.3**
FALS False Pass 81.98 32 P **P** **00 18 16.8 +0.2**
baz=247
AB31 Akbulak array 82.11 322 *i* P **P** **00 18 17.2 -0.3**
ABKAR Akbulak array 82.11 322 P **P** **00 18 17.2 -0.2**
ABKAR Akbulak array 82.11 322 P **P** **00 18 16.6 -0.9**
GAMB Gambell 82.30 22 P **P** **00 18 18.7 +0.6**
baz=238
M11K Mekoryuk 82.92 27 P **P** **00 18 22.3 +0.9**
baz=244
QSPA South Pole Qui 83.59 180 P **P** **00 18 25.3 +0.3**
SDPT Sand Point 83.73 33 P **P** **00 18 25.8 +0.1**
baz=249
CHNA Chernabura Isl 84.03 33 P **P** **00 18 27.8 +0.6**
baz=250
M13K Dall Lake 84.22 27 P **P** **00 18 28.7 +0.7**
baz=246
SVE Sverdlovsk 84.31 329 ⇓*eP* **P** **00 18 28.7 +0.1**
SVE pmax pmax
comp=Z,17nm,1.1s
TNA Tin City 84.60 22 P **P** **00 18 30.5 +0.7**
baz=242
O14K Tigyukauivet M 84.75 29 P **P** **00 18 31.3 +0.6**
baz=248
N14K Kuskokwak Cree 84.80 28 P **P** **00 18 31.4 +0.4**
baz=248
L14K Kuka Creek 84.89 26 P **P** **00 18 31.8 +0.5**
L14K IAmb IAmb 00 18 33.8
comp=Z,34nm,1.1s
L14K Kuka Creek 84.89 26 P **P** **00 18 32.5 +1.2**
baz=247
M14K Bethel 84.98 27 P **P** **00 18 32.6 +0.8**
M14K Bethel 84.98 27 P **P** **00 18 32.9 +1.1**
baz=248,SNR=6.9
J14K Nanvaranak Lak 85.08 25 P **P** **00 18 32.6 +0.4**
J14K IAmb IAmb 00 18 34.9
comp=Z,26nm,1.0s
J14K Nanvaranak Lak 85.08 25 P **P** **00 18 33.7 +1.4**
baz=246
ANM Nome 85.11 23 P **P** **00 18 33.2 +0.8**
baz=244
CHGN Chignik 85.15 32 P **P** **00 18 32.9 +0.1**
baz=251
F14K Arctic Creek 85.15 22 P **P** **00 18 33.7 +1.1**
baz=243
ARU Arti 85.26 328 P **P** **00 18 32.7 -0.6**
ARU Arti 85.26 328 *ciP* **P** **00 18 32.7 -0.6**
ARU S **SKSac** **00 28 45.6 +1.3**
ARU SS **SS** **00 34 28.6 -0.4**
ARU pmax pmax
comp=Z,16nm,1.2s
O15K Ungalikthiuk R 85.41 29 P **P** **00 18 34.7 +0.7**
baz=250
M15K Kasigluk River 85.54 27 P **P** **00 18 35.9 +1.2**
baz=249
L15K Ungalak Mounta 85.55 26 P **P** **00 18 35.2 +0.5**
baz=248,SNR=6.5
N15K Kwethluk River 85.63 28 P **P** **00 18 34.9 -0.2**
N15K Kwethluk River 85.63 28 P **P** **00 18 36.4 +1.3**
baz=249
K15K Wolf Creek Mou 85.76 26 P **P** **00 18 35.5 -0.2**
K15K IAmb IAmb 00 18 37.8
comp=Z,28nm,0.8s
K15K Wolf Creek Mou 85.76 26 P **P** **00 18 37.1 +1.4**

baz=248
G15K **Niukluk** 85.81 23 P P 00 18 36.5 +0.6
baz=245
F15K **North Star Dit** 85.88 22 P P 00 18 37.9 +1.7
baz=245
P16K **Nushagak River** 86.25 30 P P 00 18 39.1 +0.9
baz=251
N16K **Nishlik Lake** 86.35 28 P P 00 18 40.3 +1.6
baz=250
H16K **Elim** 86.37 24 P P 00 18 39.2 +0.6
baz=247
O16K **Kokwok River B** 86.38 29 P P 00 18 39.0 +0.2
O16K IAmb IAmb 00 18 40.3
comp=Z,27nm,0.9s
O16K **Kokwok River B** 86.38 29 P P 00 18 39.5 +0.7
baz=251
M16K **Timber Creek** 86.45 27 P P 00 18 39.5 +0.3
M16K **Timber Creek** 86.45 27 P P 00 18 40.4 +1.3
baz=250,SNR=7.2
L16K **Owhat River** 86.45 27 P P 00 18 39.2 +0.1
L16K IAmb IAmb 00 18 40.8
comp=Z,25nm,0.8s
L16K **Owhat River** 86.45 27 P P 00 18 40.2 +1.1
baz=250,SNR=9.8
J16K **Anvik River** 86.53 25 P P 00 18 39.8 +0.4
J16K IAmb IAmb 00 18 42.1
comp=Z,18nm,0.8s
J16K **Anvik River** 86.53 25 P P 00 18 41.0 +1.5
baz=249
G16K **Koyuk River** 86.62 23 P P 00 18 39.7 -0.1
G16K **Koyuk River** 86.62 23 P P 00 18 40.6 +0.8
baz=247
I17K **Unalakleet** 86.71 24 P P 00 18 40.2 -0.1
I17K **Unalakleet** 86.71 24 P P 00 18 41.3 +1.0
baz=249
C16K **Lisburne Hills** 86.75 20 P P 00 18 41.1 +0.7
baz=244
O17K **Koliganek Bris** 86.92 29 P P 00 18 42.3 +0.9
baz=252
Q17K **Contact Creek** 87.06 31 P P 00 18 41.5 -0.8
baz=253
P17K **Kvichak River** 87.06 30 P P 00 18 41.5 -0.6
baz=253
N17K **Nushagak Hills** 87.11 28 P P 00 18 43.2 +0.9
baz=252
L17K **Donlin** 87.12 27 P P 00 18 43.9 +1.5
baz=251
M17K **Holitna River** 87.27 27 P P 00 18 43.8 +0.7
M17K **Holitna River** 87.27 27 P P 00 18 44.6 +1.5
baz=252
D17K **Noatak River** 87.28 21 P P 00 18 44.0 +1.0
baz=246
K17K **Iditarod** 87.31 26 P P 00 18 44.0 +0.7
K17K IAmb IAmb 00 18 45.9
comp=Z,19nm,0.8s
K17K **Iditarod** 87.31 26 P P 00 18 44.3 +1.0
baz=251
G17K **Kiwalik Mounta** 87.32 23 P P 00 18 44.0 +0.7
baz=248
H17K **Granite Mounta** 87.41 24 P P 00 18 43.7 0.0
H17K IAmb IAmb 00 18 44.8
comp=Z,11nm,0.7s
H17K **Granite Mounta** 87.41 24 P P 00 18 44.4 +0.7
baz=249
F17K **Baldwin Pennin** 87.44 22 P P 00 18 44.2 +0.5
baz=248
SII **Sitkinak Islan** 87.47 32 P P 00 18 44.7 +0.6
baz=255
E17K **Hotham Inlet** 87.48 21 P P 00 18 44.4 +0.4
baz=247
RDOG **Red Dog Mine** 87.48 20 P P 00 18 43.7 -0.3
RDOG IAmb IAmb 00 18 45.4
comp=Z,18nm,1.1s
RDOG **Red Dog Mine** 87.48 20 P P 00 18 44.2 +0.2
baz=246
C17K **DeLong Mountai** 87.56 20 P P 00 18 44.7 +0.3
baz=246
R18K **Karluk** 87.60 31 P P 00 18 45.4 +0.8
baz=254
Q18K **Katmai Hardscr** 87.61 30 P P 00 18 44.6 -0.3
baz=254
P18K **Big Mountain,** 87.71 30 P P 00 18 46.0 +0.7
baz=254
N18K **Kilae Creek** 87.77 28 P P 00 18 46.3 +0.8
baz=253
O18K **Koktuh Hills** 87.86 29 P P 00 18 47.1 +1.2
baz=254
L18K **Granite Mounta** 87.87 27 P P 00 18 46.6 +0.7
L18K IAmb IAmb 00 18 48.5
comp=Z,19nm,0.9s
L18K **Granite Mounta** 87.87 27 P P 00 18 47.4 +1.5
baz=252
M18K **Stony River** 88.04 27 P P 00 18 48.3 +1.6
baz=253
E18K **Tukpahlearik C** 88.05 21 P P 00 18 46.6 -0.1
E18K IAmb IAmb 00 18 47.6
comp=Z,15nm,1.1s
E18K **Tukpahlearik C** 88.05 21 P P 00 18 47.0 +0.3
baz=248
H18K **Honhosa River** 88.10 24 P P 00 18 47.2 +0.2
baz=251
G18K **Tagagawik** 88.23 23 P P 00 18 47.5 -0.1
baz=250
J18K **Innoko River** 88.24 25 P P 00 18 47.3 -0.3
J18K IAmb IAmb 00 18 49.4
comp=Z,12nm,0.9s
J18K **Innoko River** 88.24 25 P P 00 18 48.1 +0.4
baz=252
C18K **Utukok River** 88.30 20 P P 00 18 48.2 +0.3
baz=248
B18K **Kokolik River** 88.37 19 P P 00 18 49.1 +1.0
baz=247
TTA **Tatalina** 88.38 26 P P 00 18 48.6 +0.2
TTA IAmb IAmb 00 18 50.3
comp=Z,11nm,0.8s
TTA **Tatalina** 88.38 26 P P 00 18 49.0 +0.6
baz=253,SNR=7.2
TTA **Tatalina** 88.38 26 P P 00 18 48.6 +0.2
TTA pmax pmax
comp=Z,11nm,0.8s
N19K **Bonanza Creek** 88.47 28 P P 00 18 48.7 -0.2
N19K IAmb IAmb 00 18 50.6
comp=Z,18nm,0.8s
N19K **Bonanza Creek** 88.47 28 P P 00 18 49.9 +1.0
baz=254
GCSA **Galena City Sc** 88.57 24 P P 00 18 49.4 +0.3
baz=252
KDAK **Kodiak Island** 88.62 32 P P 00 18 50.6 +1.1
baz=256
L19K **White Mountain** 88.68 27 P P 00 18 50.3 +0.5
L19K IAmb IAmb 00 18 52.3
comp=Z,17nm,0.9s
L19K **White Mountain** 88.68 27 P P 00 18 51.3 +1.6
baz=254,SNR=6.4
M19K **Big River Lodg** 88.81 27 P P 00 18 51.0 +0.7
M19K IAmb IAmb 00 18 53.0
comp=Z,12nm,0.9s
M19K **Big River Lodg** 88.81 27 P P 00 18 51.7 +1.3
baz=254
J19K **Poorman** 88.86 25 P P 00 18 50.7 +0.2
J19K IAmb IAmb 00 18 52.8
comp=Z,14nm,1.3s
J19K **Poorman** 88.86 25 P P 00 18 51.0 +0.4
baz=253
F19K **Shaleruckik Mo** 88.88 22 P P 00 18 50.2 -0.3
F19K **Shaleruckik Mo** 88.88 22 P P 00 18 50.6 +0.1
baz=251
G19K **Purcell Mounta** 88.92 23 P P 00 18 50.1 -0.7
G19K IAmb IAmb 00 18 51.8
comp=Z,9.4nm,0.8s
G19K **Purcell Mounta** 88.92 23 P P 00 18 50.9 +0.1
baz=252
H19K **Roundabout Mou** 88.98 24 P P 00 18 50.4 -0.6
H19K IAmb IAmb 00 18 52.1
comp=Z,22nm,1.2s
H19K **Roundabout Mou** 88.98 24 P P 00 18 51.3 +0.3
baz=252
C19K **Lookout Ridge** 89.01 20 P P 00 18 50.9 -0.3
C19K **Lookout Ridge** 89.01 20 P P 00 18 52.1 +0.9
baz=249
ELIB **Princess Elisa** 89.12 197 dP P 00 18 53.2 +1.4
comp=Z,5.6nm,0.7s
O20K **Slope Mountain** 89.17 29 P P 00 18 53.0 +0.8
baz=256
L20K **Farewell, AK** 89.20 27 P P 00 18 52.9 +0.7
baz=255
E19K **Redstone River** 89.28 22 P P 00 18 52.5 0.0
E19K IAmb IAmb 00 18 53.4
comp=Z,15nm,1.1s
E19K **Redstone River** 89.28 22 P P 00 18 52.7 +0.2
baz=252
D19K **Kuna River** 89.30 20 P P 00 18 51.9 -0.7
D19K IAmb IAmb 00 18 53.3
comp=Z,16nm,1.1s
D19K **Kuna River** 89.30 20 P P 00 18 52.8 +0.2
baz=251
K20K **Telida** 89.35 26 P P 00 18 53.3 +0.4
K20K **Telida** 89.35 26 P P 00 18 53.1 +0.3
baz=254
M20K **Styx River** 89.38 27 P P 00 18 53.5 +0.4
baz=255
J20K **Nowinta River** 89.53 25 P P 00 18 53.4 -0.3
J20K IAmb IAmb 00 18 56.1
comp=Z,7.0nm,0.7s
J20K **Nowinta River** 89.53 25 P P 00 18 54.0 +0.3
baz=254
H20K **Anotleneega Mo** 89.59 24 P P 00 18 53.8 -0.1
baz=254
F20K **Avaraart Lake** 89.72 22 P P 00 18 54.8 +0.4
F20K IAmb IAmb 00 18 55.5
comp=Z,18nm,1.3s
F20K **Avaraart Lake** 89.72 22 P P 00 18 54.6 +0.2
baz=253
D20K **Etivluk River** 89.90 20 P P 00 18 55.0 -0.3
baz=252
E20K **Nigu River** 89.91 21 P P 00 18 55.1 -0.3
baz=253
B20K **Meade River** 90.12 19 P P 00 18 56.5 +0.2
baz=252
SKT **Skwentna** 90.14 28 P P 00 18 55.6 -1.0
baz=257
CAST **Castle Rocks** 90.23 26 P P 00 18 57.1 +0.1
baz=256
CHUM **Lake Minchumin** 90.24 26 P P 00 18 57.3 +0.3
baz=256,SNR=9.9
SUA **Susitna One** 90.39 28 P P 00 18 58.2 +0.3
baz=258
G21K **Allakaket** 90.41 23 P P 00 18 58.1 +0.3
baz=255
H21K **Melozitna Rive** 90.47 24 P P 00 18 58.0 -0.1
baz=256
F21K **Alatna River** 90.61 22 P P 00 18 58.6 -0.1
baz=255
C21K **Knifeblade Rid** 90.66 20 P P 00 18 58.6 -0.2
baz=254
O22K **Cooper Landing** 90.67 29 P P 00 18 59.1 +0.1
baz=258
I21K **Tanana** 90.69 24 P P 00 18 59.0 0.0
baz=256
E21K **Killik River** 90.75 21 P P 00 18 59.1 -0.2
baz=255
RC01 **Rabbit Creek A** 90.78 29 P P 00 18 58.4 -1.2
baz=258
B21K **Ikpikpuk River** 90.85 20 P P 00 18 59.6 0.0
B21K IAmb IAmb 00 19 00.5
comp=Z,14nm,1.2s
B21K **Ikpikpuk River** 90.85 20 P P 00 18 59.3 -0.4
baz=254
BPAW **Bear Paw Mtn.** 90.86 26 P P 00 18 59.6 -0.3
baz=257
TRF **Thorofare Moun** 91.02 26 P P 00 18 59.7 -1.1
baz=258
H22K **Ishlitna Cre** 91.10 24 P P 00 19 00.9 -0.1
baz=257
A22K **Sinclair Lake** 91.12 18 P P 00 19 00.6 -0.3
baz=254
F22K **John River** 91.17 22 P P 00 19 01.2 -0.1
baz=256
MLY **Manley** 91.17 25 P P 00 19 00.7 -0.6
MLY IAmb IAmb 00 19 02.5
comp=Z,7.8nm,0.8s
MLY **Manley** 91.17 25 P P 00 19 01.0 -0.4
baz=258,SNR=6.9
PMR **Palmer** 91.17 28 P P 00 19 00.7 -0.7
baz=259
G22K **Bettles** 91.28 23 P P 00 19 01.5 -0.2
baz=257
D22K **Ayikyak River** 91.32 21 P P 00 19 02.0 +0.1
baz=256
PWL **Port Wells** 91.41 29 P P 00 19 01.8 -0.7
baz=260
B22K **Teshekpuk Lake** 91.44 19 P P 00 19 02.2 -0.2
baz=255
E22K **Anaktuvuk Pass** 91.45 22 P P 00 19 02.8 +0.2
baz=257
KNK **Knik Glacier** 91.45 28 P P 00 19 02.9 +0.2
baz=260
ZEI **Tsey** 91.53 313 eP P 00 19 05.5 +1.8
ZEI pmax pmax
comp=Z,5.0nm,1.4s
SML **Sawmill** 91.58 28 P P 00 19 03.2 -0.1
SML **Sawmill** 91.58 28 P P 00 19 02.8 -0.6
baz=260
RND **Reindeer** 91.64 26 P P 00 19 02.9 -0.7
RND IAmb IAmb 00 19 03.2
comp=Z,13nm,0.8s
RND **Reindeer** 91.64 26 P P 00 19 02.9 -0.7
RND pmax pmax
comp=Z,13nm,0.8s
MCK **McKinley** 91.67 26 P P 00 19 02.6 -1.1
baz=259
WAT1 **Susitna Watana** 91.67 27 P P 00 19 03.1 -0.6
baz=259
I23K **Minto, Yukon-K** 91.76 25 P P 00 19 03.8 -0.2
I23K IAmb IAmb 00 19 04.7
comp=Z,13nm,0.8s
I23K **Minto, Yukon-K** 91.76 25 P P 00 19 03.9 -0.1
baz=259,SNR=8.6
NEA2 **Nenana** 91.78 25 P P 00 19 03.3 -0.9
NEA2 **Nenana** 91.78 25 P P 00 19 03.9 -0.2
baz=259
G23K **Bananza Creek** 91.81 23 P P 00 19 04.0 -0.3
G23K IAmb IAmb 00 19 05.3
comp=Z,10.0nm,0.8s
G23K **Bananza Creek** 91.81 23 P P 00 19 04.5 +0.2
baz=258
COLD **Coldfoot** 91.85 23 P P 00 19 04.6 +0.2
baz=258,SNR=6.7
M23K **Glacier View** 91.87 28 P P 00 19 04.7 0.0
baz=260
WAT6 **Susitna Watana** 92.00 27 P P 00 19 05.1 -0.2
baz=260
GLI **Glacier Island** 92.01 29 P P 00 19 05.8 +0.5
baz=261
SIRT **Sirnak** 92.02 307 P P 00 19 04.9 -1.0
D23K **Nanushuk River** 92.04 21 P P 00 19 06.1 +0.9
baz=258
SCM **Sheep Creek Mo** 92.06 28 P P 00 19 06.4 +0.9
baz=260
E23K **Chandalar** 92.24 22 P P 00 19 06.9 +0.6
baz=259
DHY **Denali Highway** 92.24 27 P P 00 19 05.7 -0.8
DHY IAmb IAmb 00 19 07.0
comp=Z,12nm,1.1s
DHY **Denali Highway** 92.24 27 P P 00 19 06.2 -0.3
baz=260
C23K **Itkillik River** 92.25 20 P P 00 19 05.7 -0.5
C23K IAmb IAmb 00 19 07.5
comp=Z,8.5nm,0.7s
C23K **Itkillik River** 92.25 20 P P 00 19 06.4 +0.2
baz=258
CCB **Clear Creek Bu** 92.32 25 P P 00 19 04.6 -2.0
CCB IAmb IAmb 00 19 06.0
comp=Z,10nm,0.8s
TOLK **Toolik Lake Re** 92.37 21 P P 00 19 07.4 +0.6
baz=259
GURO **Guroymak-BITLI** 92.45 308 P P 00 19 07.3 -0.7
H24K **Noodor Dome** 92.50 24 P P 00 19 07.0 -0.5
H24K IAmb IAmb 00 19 08.3
comp=Z,11nm,0.8s
H24K **Noodor Dome** 92.50 24 P P 00 19 07.8 +0.3
baz=260
POKR **Poker Plat Res** 92.56 25 P P 00 19 08.2 +0.4
baz=260
EYAK **Cordova Ski Ar** 92.61 29 P P 00 19 08.7 +0.6
baz=262
M24K **Tolsona, Glenn** 92.64 28 P P 00 19 09.2 +1.0
baz=262
HDA **Harding Lake** 92.65 26 P P 00 19 06.2 -2.0
HDA IAmb IAmb 00 19 07.8
comp=Z,10.0nm,1.0s
HDA **Harding Lake** 92.65 26 P P 00 19 07.3 -0.8
baz=261
HDA P P 00 19 07.3 -0.8
baz=261
E24K **Your Creek** 92.66 22 P P 00 19 08.0 -0.2
baz=260
IL31 92.73 25 P P 00 19 06.5 -1.9
IL31 IAmb IAmb 00 19 07.5
comp=Z,4.7nm,0.7s
ILAR **Eielson Array** 92.73 25 P P 00 19 06.4 -2.1
ILAR **Eielson Array** 92.73 25 P P 00 19 06.4 -2.1
ILAR **Eielson Array** 92.73 25 P P 00 19 06.7 -1.8
comp=Z,4.0nm,0.7s,baz=272,slow=4.4,SNR=43
ILAR PP PP 00 22 50.0 -2.5
comp=Z,0.8nm,0.9s,baz=271,slow=5.9,SNR=4.6
comp=Z,4.0nm,0.7s
D24K **Happy Valley** 92.73 21 P P 00 19 09.0 +0.6
baz=259
F24K **Squaw Lake** 92.78 22 P P 00 19 07.9 -0.9
F24K IAmb IAmb 00 19 10.1
comp=Z,8.8nm,0.8s
F24K **Squaw Lake** 92.78 22 P P 00 19 09.2 +0.4
baz=260,SNR=8.3
G24K **Hadweenzic Riv** 92.81 23 P P 00 19 08.1 -0.7
G24K IAmb IAmb 00 19 09.9
comp=Z,14nm,1.1s
G24K **Hadweenzic Riv** 92.81 23 P P 00 19 09.1 +0.2
baz=261,SNR=5.1
C24K **Franklin Bluff** 92.88 20 P P 00 19 09.3 +0.2
baz=260
K24K **Donnelly Dome** 93.07 26 P P 00 19 09.6 -0.6
baz=262
PAX **Paxson** 93.09 27 P P 00 19 10.5 +0.1
baz=262
KAIM **Kayak Island** 93.19 30 P P 00 19 09.8 -0.9
baz=263
BMRM **Bremner River** 93.23 29 P P 00 19 10.5 -0.4
baz=263
G25K **Bearman Lake** 93.35 23 P P 00 19 11.1 -0.2
baz=262
J25K **Salcha River,** 93.36 25 P P 00 19 10.8 -0.7
J25K **Salcha River,** 93.36 25 P P 00 19 11.0 -0.5
baz=262
H25L **Birch Creek** 93.40 24 P P 00 19 11.5 0.0
baz=262
PRP **Porcupine Dome** 93.41 25 P P 00 19 10.6 -1.3
baz=262
D25K **Kavik River** 93.62 21 P P 00 19 12.9 +0.3
baz=262
F25K **Christian Rive** 93.65 22 P P 00 19 13.4 +0.7
baz=262
E25K **Arctic Village** 93.75 22 P P 00 19 12.9 -0.3
E25K IAmb IAmb 00 19 14.5
comp=Z,11nm,1.1s
E25K **Arctic Village** 93.75 22 P P 00 19 13.8 +0.7
baz=262,SNR=7.8
SCRK **Sand Creek** 93.88 26 P P 00 19 13.5 -0.5
baz=264
CRQE **Cirque** 93.94 29 P P 00 19 15.3 +0.9
baz=264
MCARA **McCarthy VSAT** 94.04 29 P P 00 19 15.1 +0.5
baz=264
L26K **Log Cabin Wild** 94.06 27 P P 00 19 14.8 +0.1
baz=264
J26L **Joseph Creek** 94.12 26 P P 00 19 14.2 -0.8
J26L **Joseph Creek** 94.12 26 P P 00 19 15.1 +0.1
baz=264
C26K **Camden Bay** 94.21 20 P P 00 19 16.2 +1.0
baz=263
F26K **Sheenjek River** 94.23 22 P P 00 19 16.0 +0.6
baz=264
G26K **Porcupine Rive** 94.29 23 P P 00 19 16.1 +0.5
baz=264
I26K **Coal Creek Min** 94.37 25 P P 00 19 16.1 0.0
baz=264
MESA **MESA** 94.45 30 P P 00 19 16.7 -0.1
baz=265
M27K **Edge Creek, AK** 94.67 28 P P 00 19 18.0 +0.3
baz=265
K27K **Chicken** 94.72 26 P P 00 19 17.7 0.0
K27K **Chicken** 94.72 26 P P 00 19 18.6 +0.9
baz=265
L27K **Beaver Creek,** 94.75 27 P P 00 19 18.7 +0.8
baz=265
I27K **Kandik River** 95.04 25 P P 00 19 19.8 +0.6
baz=266
G27K **Doyon Strip** 95.11 23 P P 00 19 19.9 +0.4
baz=266
H27K **Steamboat Moun** 95.12 24 P P 00 19 19.9 +0.4
baz=266
BVCY **Beaver Creek** 95.14 28 P P 00 19 20.0 +0.3
baz=266
EGAK **Eagle** 95.17 25 P P 00 19 19.2 -0.5
EGAK IAmb IAmb 00 19 20.5
comp=Z,7.3nm,0.9s
EGAK **Eagle** 95.17 25 P P 00 19 20.1 +0.4
baz=266
E27K **Coleen River** 95.23 22 P P 00 19 19.1 -0.8
E27K IAmb IAmb 00 19 21.1
comp=Z,12nm,1.2s
E27K **Coleen River** 95.23 22 P P 00 19 20.1 +0.1
baz=266
BELA **Belgrano 2** 95.44 183 P P 00 19 19.7 -1.1
D27M **Malcolm River** 95.53 21 P P 00 19 21.5 +0.2
baz=267
I28M **Miner Creek** 95.73 25 P P 00 19 22.4 0.0
I28M **Miner Creek** 95.73 25 P P 00 19 22.8 +0.4
baz=267
F28M **Old Crow** 95.85 23 P P 00 19 22.6 -0.2
F28M IAmb IAmb 00 19 23.1
comp=Z,3.5nm,0.8s
F28M **Old Crow** 95.85 23 P P 00 19 23.0 +0.2
baz=268
DAWY **Dawson** 95.90 26 P P 00 19 22.8 -0.4
DAWY **Dawson** 95.90 26 P P 00 19 23.5 +0.4
baz=268
E28M **Babbage River** 96.02 22 P P 00 19 23.0 -0.5
E28M IAmb IAmb 00 19 24.4
comp=Z,13nm,1.4s
E28M **Babbage River** 96.02 22 P P 00 19 23.5 0.0
baz=268
SNAA **Sanae** 96.29 193 P P 00 19 24.7 -0.2
comp=Z,1.3nm,0.7s,baz=187,slow=8.8,SNR=7.8
comp=Z,1.3nm,0.7s
D28M **Stokes Point** 96.33 21 P P 00 19 25.1 +0.3
baz=269
H29M **Whitestone** 96.40 24 P P 00 19 25.2 -0.1
baz=269
I29M **Ogilvie Camp,** 96.41 25 P P 00 19 24.8 -0.6
I29M **Ogilvie Camp,** 96.41 25 P P 00 19 25.5 +0.1
baz=269
L29M **L29M** 96.43 27 P P 00 19 25.6 +0.1
L29M IAmb IAmb 00 19 27.0
comp=Z,6.8nm,1.1s
L29M **L29M** 96.43 27 P P 00 19 25.8 +0.3
baz=269
G29M **Pine Creek** 96.55 23 P P 00 19 25.6 -0.4
G29M **Pine Creek** 96.55 23 P P 00 19 26.1 +0.1
baz=269
E29M **Blow River** 96.61 22 P P 00 19 26.0 -0.2
baz=270
K29M **Barlow Dome** 96.72 26 P P 00 19 27.5 +0.6
baz=269
N30M **Aishikik Lake** 96.89 29 P P 00 19 28.1 +0.4
baz=270
EPYK **Eagle Plains** 97.07 24 P Pdif 00 19 28.4 0.0
baz=270
I30M **Mount Dempster** 97.22 25 P P 00 19 28.1 -1.0
I30M IAmb IAmb 00 19 29.6
comp=Z,4.0nm,1.0s
I30M **Mount Dempster** 97.22 25 P P 00 19 28.7 -0.4
baz=271
J30M **Hart River** 97.24 26 P P 00 19 29.1 -0.2
J30M IAmb IAmb 00 19 30.4
comp=Z,11nm,1.1s
J30M **Hart River** 97.24 26 P Pdif 00 19 29.4 +0.1
baz=270
G30M **tAoh Zraii Nji** 97.26 23 P P 00 19 28.5 -0.7
G30M IAmb IAmb 00 19 29.2
comp=Z,7.0nm,1.1s
G30M **tAoh Zraii Nji** 97.26 23 P P 00 19 28.9 -0.3
baz=271
S31K **Pelican** 97.30 32 P P 00 19 28.3 -1.1
baz=270
MMAI **Mount Meron Ar** 97.40 302 LR LR 01 08 31.3
comp=Z,13nm,20.9s,baz=90,slow=38
F30M **Barrier River** 97.42 23 P P 00 19 29.0 -0.8
baz=271
G31M **Satah River** 98.03 23 P P 00 19 31.9 -0.7
baz=273

H31M	**Peel River**	**98.05**	**24**	P	**P**	**00 19 32.5**	**-0.2**
	baz=272						
R32K	**Eaglecrest**	**98.20**	**32**	P	**P**	**00 19 33.3**	**-0.3**
	baz=271						
INK	**Inuvik**	**98.24**	**22**	P	**P**	**00 19 32.3**	**-1.2**
INK				IAmb	IAmb	00 19 34.7	
	comp=Z,9.0nm,1.3s						
INK	**Inuvik**	**98.24**	**22**	P	**P**	**00 19 32.8**	**-0.7**
	baz=274						
INK	**Inuvik**	**98.24**	**22**	P	**P**	**00 19 32.3**	**-1.2**
INK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
N32M	**Quiet Lake**	**98.83**	**29**	P	**P**	**00 19 36.1**	**-0.2**
	baz=273						
P33M	**Teslin, Yukon**	**99.01**	**30**	P	P	00 19 36.8	
	baz=273						
A36M	**Sachs Harbour**	**100.54**	**18**	P	**Pdif**	**00 19 42.7**	**-1.0**
	baz=282						
ARCES	**ARCESS Array B**	**101.05**	**340**	P	**Pdif**	**00 19 45.0**	**-1.0**
ARCES	**ARCESS Array B**	**101.05**	**340**	P	**Pdif**	**00 19 45.0**	**-1.0**
	comp=Z,2.2nm,0.8s,baz=35,slow=4.4,SNR=3.9						
ARCES				PKiKP	**PKiKP**	**00 24 10.2**	**-0.2**
	comp=Z,3.0nm,1.0s,baz=93,slow=1.0,SNR=6.3						
C36M	**Paulatuk**	**101.49**	**20**	P	**Pdif**	**00 19 47.3**	**-0.6**
	baz=283						
FINES	**FINESS Array B**	**102.29**	**332**	P	**Pdif**	**00 19 49.8**	**-1.9**
	comp=Z,0.7nm,0.6s,baz=43,slow=5.2,SNR=1.2						
FINES				PKiKP	**PKiKP**	**00 24 12.3**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=85,slow=1.5,SNR=3.4						
YKA	**Yellowknife Ar**	**107.14**	**26**	Pdiff	**Pdif**	**00 20 12.4**	**-0.8**
	comp=Z,0.2nm,0.8s,baz=296,slow=4.7,SNR=2.6						
YKA				PKiKP	**PKiKP**	**00 24 21.4**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=290,slow=2.0,SNR=15						
HFS	**Hagfors**	**108.49**	**332**	Pdiff	**Pdif**	**00 20 16.6**	**-2.6**
	comp=Z,3.1nm,0.9s,baz=125,slow=4.2,SNR=4.3						
NVAR	**Mina Array Bea**	**110.81**	**51**	Pdiff	**Pdif**	**00 20 35.8**	**+5.4**
	comp=Z,0.2nm,0.4s,baz=261,slow=9.9,SNR=3.9						
LRMC	**Laurel Mtn Rad**	**111.72**	**54**	P	**PKiKP**	**00 24 32.2**	**+0.9**
	baz=278						
GERES	**GERESS Array B**	**112.04**	**320**	PKiKP	**PKiKP**	**00 24 31.1**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=15,slow=1.5,SNR=7.5						
HLID	**Hailey**	**112.72**	**45**	P	**PKiKP**	**00 24 33.0**	**0.0**
	baz=284						
R11B	**Troy Canyon, C**	**112.92**	**51**	P	**PKiKP**	**00 24 34.8**	**+1.3**
	baz=280						
BELC	**Belle Mtn. Jos**	**113.30**	**56**	P	**PKiKP**	**00 24 35.6**	**+1.2**
	baz=278						
IKP	**In-Ko-Pah, Jac**	**113.39**	**57**	P	**PKiKP**	**00 24 35.7**	**+1.3**
	baz=278						
GMRC	**Granite Mounta**	**113.46**	**55**	P	**PKiKP**	**00 24 35.5**	**+0.9**
	baz=279						
WTTA	**Wattenberg**	**113.82**	**319**	*e*PKiKP	**PKiKP**	**00 24 34.7**	**-0.3**
	comp=Z,5.4nm,0.3s						
WATA	**Walderalm**	**113.84**	**319**	*e*PKiKP	**PKiKP**	**00 24 34.6**	**-0.4**
	comp=Z,2.0nm,0.3s						
MOTA	**Moosalm**	**114.14**	**319**	*e*PKP	PKPdf	00 24 35.0	-0.6
	comp=Z,1.7nm,0.3s						
RETA	**Reutte**	**114.32**	**320**	*e*PKiKP	PKPdf	00 24 35.5	-0.3
	comp=Z,0.9nm,0.4s						
FETA	**Feichten**	**114.48**	**319**	*e*PKiKP	PKPdf	00 24 36.1	-0.2
	comp=Z,1.9nm,0.7s						
EGMT	**Eagleton**	**114.62**	**40**	P	**PKiKP**	**00 24 37.0**	**+0.6**
	baz=289						
DUG	**Dugway, Tooele**	**114.66**	**49**	P	**PKiKP**	**00 24 37.3**	**+0.5**
	baz=283						
DAVA	**Damuels**	**114.95**	**320**	*e*PKiKP	**PKiKP**	**00 24 36.9**	**-0.2**
	comp=Z,3.4nm,0.3s						
LOHW	**Long Hollow**	**115.39**	**45**		**PKPdf**	**00 24 39.2**	**+1.0**
RLMT	**Red Lodge**	**115.86**	**43**	P	**PKiKP**	**00 24 39.6**	**+0.5**
	baz=288						
TMUT	**Trail Mountain**	**116.07**	**49**		**PKiKP**	**00 24 40.3**	**+0.6**
BW06	**Boulder Array**	**116.36**	**45**	P	**PKiKP**	**00 24 40.8**	**+0.7**
	baz=287						
PDAR	**Pinedale Array**	**116.36**	**45**	PKP	**PKPdf**	**00 24 40.0**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=258,slow=1.3,SNR=9.1						
WUAZ	**Wupatki**	**116.78**	**53**	P	**PKiKP**	**00 24 42.0**	**+0.9**
	baz=282						
LAO	**LASA Array**	**117.33**	**40**	PKPdf	**PKiKP**	**00 24 42.1**	**+0.5**
LAO	**LASA Array**	**117.33**	**40**	P	**PKiKP**	**00 24 42.8**	**+1.2**
	baz=292						
TUC	**Tucson**	**117.89**	**57**	P	**PKiKP**	**00 24 44.0**	**+0.8**
	baz=281						
DGMT	**Dagmar**	**117.91**	**38**	P	**PKiKP**	**00 24 44.1**	**+1.5**
	baz=294						
O20A	**White River Ci**	**118.06**	**48**		**PKiKP**	**00 24 43.7**	**+0.3**
O20A	**White River Ci**	**118.06**	**48**	P	**PKiKP**	**00 24 44.7**	**+1.2**
	baz=287,SNR=5.6						
K22A	**Casper**	**118.52**	**45**	P	**PKiKP**	**00 24 44.2**	**0.0**
	baz=289						
MVCO	**Mesa Verde**	**118.65**	**51**	P	**PKiKP**	**00 24 45.2**	**+0.5**
	baz=285						
EKA	**Eskdalemuir Ar**	**118.69**	**332**	PKP	**PKPdf**	**00 24 43.5**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=30,slow=2.6,SNR=4.7						
N23A	**Red Feather La**	**119.50**	**46**	P	**PKiKP**	**00 24 46.7**	**+0.3**
	baz=289						
RSSD	**Black Hills**	**119.71**	**42**	PKPdf	**PKPdf**	**00 24 46.0**	**-0.5**
RSSD	**Black Hills**	**119.71**	**42**	P	**PKiKP**	**00 24 46.8**	**+0.2**
	baz=292						
RSSD	**Black Hills**	**119.71**	**42**	PKIKP	**PKPdf**	**00 24 46.0**	**-0.5**
S22A	**4UR Ranch, Cre**	**119.79**	**50**	P	**PKiKP**	**00 24 48.1**	**+1.1**
	baz=286						
ISCO	**Idaho Springs**	**120.09**	**47**	P	**PKiKP**	**00 24 48.5**	**+0.9**
	baz=288						
121A	**Cookes Peak, D**	**120.33**	**56**	P	**PKiKP**	**00 24 49.2**	**+1.2**
	baz=283						
Y22D	**IRIS PASSCAL I**	**120.68**	**54**	P	**PKPdf**	**00 24 47.9**	**-0.6**
	baz=284						
Y22F	**Passcal Instru**	**120.68**	**54**	P	**PKPdf**	**00 24 48.6**	**+0.1**
	baz=284						
SDCO	**Great Sand Dun**	**120.80**	**50**	P	**PKiKP**	**00 24 49.8**	**+0.9**
	baz=287						
ANMO	**Albuquerque**	**120.83**	**53**	PKPdf	**PKiKP**	**00 24 49.8**	**+0.8**
ANMO	**Albuquerque**	**120.83**	**53**	P	**PKiKP**	**00 24 49.8**	**+0.8**
	baz=285						
ANMO	**Albuquerque**	**120.83**	**53**	PKIKP	**PKiKP**	**00 24 49.8**	**+0.8**
T25A	**Trinidad**	**121.81**	**50**	P	**PKiKP**	**00 24 51.7**	**+0.8**
	baz=288						
ULM	**Lac du Bonnet**	**121.86**	**33**	PKP	**PKPdf**	**00 24 49.0**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=301,slow=4.0,SNR=4.6						
MNTX	**Cornudas Mount**	**122.50**	**56**	P	**PKiKP**	**00 24 52.7**	**+0.5**
	baz=284						
RTBA	**Rita Blanca**	**123.30**	**50**		**PKiKP**	**00 24 54.3**	**+0.6**
MSTX	**Muleshoe**	**124.02**	**53**	P	**PKiKP**	**00 24 55.3**	**+0.1**
	baz=287						
TXAR	**Lajitas Array**	**124.49**	**59**	PKP	**PKiKP**	**00 24 56.4**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=211,slow=1.0,SNR=12						
ECSD	**EROS Data Cent**	**124.73**	**40**		**PKiKP**	**00 24 56.0**	**-0.1**
ECSD	**EROS Data Cent**	**124.73**	**40**	P	**PKiKP**	**00 24 56.1**	**-0.1**
	baz=298						
BGNE	**Belgrade**	**124.77**	**43**	P	**PKPdf**	**00 24 56.1**	**+0.1**
	baz=296						
F36A	**Milaca**	**125.55**	**36**	PKPdf	**PKiKP**	**00 24 58.0**	**+0.2**
KSU1	**Kansas State U**	**126.82**	**45**	P	**PKiKP**	**00 25 01.0**	**+0.5**
	baz=296						
WMOK	**Wichita Mounta**	**126.91**	**51**	P	**PKiKP**	**00 25 00.7**	**-0.2**
	baz=291						
ABTX	**Abilene, Hawle**	**126.93**	**54**	P	**PKiKP**	**00 25 01.0**	**0.0**
	baz=288						
ESDC	**Sonseca Array**	**127.16**	**316**	PKP	**PKPdf**	**00 25 00.4**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=30,slow=2.3,SNR=2.4						
ESDC				PP	**PP**	**00 27 01.7**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=66,slow=8.4,SNR=4.2						
JCT	**Junction City**	**127.44**	**56**	P	**PKiKP**	**00 25 02.6**	**+0.6**
	baz=287						
833A	**Chaparral WMA,**	**128.38**	**59**	P	**PKiKP**	**00 25 04.4**	**+0.5**
	baz=286						
TUL3	**Leonard**	**128.73**	**48**	P	**PKiKP**	**00 25 04.4**	**0.0**
	baz=294						
TOA0	**Torodi Ar. Sit**	**128.82**	**282**		**PKPdf**	**00 25 04.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**128.82**	**282**	PKP	**PKPdf**	**00 25 04.5**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=62,slow=2.6,SNR=16						
TORD				SKPbc	SKPbc	00 28 09.8	
	comp=Z,6.9nm,0.7s,baz=59,slow=4.5,SNR=32						
WHTX	**Lake Whitney,**	**128.88**	**54**	P	**PKPdf**	**00 25 04.1**	**0.0**
	baz=290						
JFWS	**Jewell Farm**	**129.13**	**38**	P	**PKPdf**	**00 25 04.3**	**0.0**
	baz=304						
PLCA	**Paso Flores**	**129.41**	**160**	PKP	**PKiKP**	**00 25 05.8**	**0.0**
	comp=Z,1.1nm,0.8s,baz=34,slow=13,SNR=3.4						
PLCA				SKPbc	SKPab	00 28 12.7	+0.2
	comp=Z,2.4nm,0.8s,baz=247,slow=4.7,SNR=6.0						
SCHQ	**Schefferville**	**129.79**	**13**	PKP	**PKiKP**	**00 25 05.9**	**0.0**
	comp=Z,5.3nm,0.9s,baz=261,slow=5.7,SNR=2.3						
SCHQ				SKPbc	SKPab	00 28 12.7	-0.9
	comp=Z,11nm,0.8s,baz=353,slow=5.5,SNR=7.2						
MIAR	**Mount Ida**	**130.94**	**49**	P	**PKPdf**	**00 25 07.7**	**-0.3**
	baz=295						
CCM	**Cathedral Cave**	**131.03**	**44**	P	**PKiKP**	**00 25 08.6**	**-0.3**
	baz=300						
GLMI	**Grayling**	**131.20**	**33**	P	**PKiKP**	**00 25 09.1**	**0.0**
	baz=311						
O48B	**Farmland**	**133.78**	**38**	P	**PKPdf**	**00 25 13.7**	**+0.5**
	baz=308						
WCI	**Wyandotte Cave**	**134.25**	**41**	P	**PKPdf**	**00 25 14.7**	**+0.6**
	baz=305						
WVT	**Waverly**	**134.36**	**44**	P	**PKPdf**	**00 25 15.0**	**+0.7**
	baz=302						
P49A	**Miami Univ. Ec**	**134.49**	**38**	P	**PKiKP**	**00 25 15.3**	**-0.6**
	baz=308						
ACSO	**Alum Creek Sta**	**135.10**	**36**	P	**PKiKP**	**00 25 16.8**	**-0.3**
	baz=310						
DBIC	**Dimbokro**	**135.30**	**273**	PKP	**PKPdf**	**00 25 17.5**	**+0.8**
	comp=Z,13nm,1.3s,baz=108,slow=4.1,SNR=7.0						
DBIC				SKPbc	**SKPbc**	**00 28 32.6**	**-1.5**
	comp=Z,14nm,0.7s,baz=105,slow=3.0,SNR=23						
M53A	**WI Miller and**	**135.61**	**33**	P	**PKiKP**	**00 25 17.5**	**-0.6**
	baz=314						
P52A	**Corning**	**135.98**	**36**	P	**PKPdf**	**00 25 18.1**	**+0.8**
	baz=310						
O53A	**New Philadelph**	**136.11**	**35**	P	**PKiKP**	**00 25 18.7**	**-0.5**
	baz=312						
LRAL	**Lakeview Retre**	**136.51**	**47**	P	**PKPdf**	**00 25 19.3**	**+0.8**
	baz=300						
TZTN	**Tazewell**	**137.01**	**41**	P	**PKPdf**	**00 25 20.0**	**+0.7**
	baz=306						
MCWV	**Mont Chateau**	**137.29**	**35**	P	**PKPdf**	**00 25 20.6**	**+0.9**
	baz=313						
BRAL	**Brewton**	**137.36**	**50**	P	**PKiKP**	**00 25 21.5**	**-0.4**
	baz=298						
BINY	**Binghamton**	**137.47**	**29**	P	**PKPdf**	**00 25 20.0**	**0.0**
	baz=320						
LBNH	**Lisbon**	**137.63**	**24**	P	**PKPdf**	**00 25 20.0**	**-0.2**
	baz=327						
SSPA	**Standing Stone**	**137.67**	**32**	P	**PKPdf**	**00 25 20.8**	**+0.4**
	baz=316						
PKME	**Peaks-Kenny Pk**	**137.74**	**20**	P	**PKPdf**	**00 25 20.9**	**+0.5**
	baz=331						
BLA	**Blacksburg**	**138.57**	**38**	P	**PKPdf**	**00 25 21.9**	**-0.3**
	baz=310						
L61B	**Northampton**	**138.79**	**26**	P	**PKPdf**	**00 25 22.5**	**+0.1**
	baz=324						
GOGA	**Godfrey**	**138.84**	**45**	P	**PKPdf**	**00 25 23.0**	**+0.3**
	baz=304						
GO02	**Mina Guanaco**	**143.24**	**149**	PKPdf	PKPbc	00 25 29.7	+1.0
ACON	**Acoyapa**	**144.72**	**78**	*e*P	**PKPdf**	**00 25 34.6**	**+0.9**
JTS	**Las Juntas de**	**145.08**	**81**	*e*P	**PKPdf**	**00 25 35.3**	**+0.9**
CPUP	**Villa Florida**	**146.69**	**168**	PKPab	**PKPab**	**00 25 39.5**	**-0.5**
CPUP	**Villa Florida**	**146.69**	**168**	PKPbc	**PKPbc**	**00 25 39.0**	**+0.4**
	comp=Z,8.2nm,0.8s,baz=187,slow=2.4,SNR=15						
CPUP				SKPbc	**SKPbc**	**00 29 02.7**	**-0.9**
	comp=Z,8.0nm,1.0s,baz=182,slow=1.8,SNR=8.0						
PB11	**IPOC Station P**	**147.53**	**144**	PKPab	**PKPbc**	**00 25 42.3**	**+1.0**
MCRA	**Macar, Loja**	**148.12**	**109**	*e*P	**PKPbc**	**00 25 43.6**	**+0.6**
ARNL	**Arenillas**	**148.27**	**107**		**PKiKP**	**00 25 45.4**	**+0.6**
COHC	**Cochancay**	**149.37**	**106**	*e*P	**PKiKP**	**00 25 47.2**	**+0.1**
PIAT	**Ana Tenorio**	**150.72**	**104**	*e*P	**PKiKP**	**00 25 51.5**	**+1.0**
OTAV	**Otavalo**	**150.83**	**101**	*e*P	**PKPbc**	**00 25 50.3**	**+0.1**
LPAZ	**La Paz**	**151.12**	**141**	*e*P	**PKiKP**	**00 25 52.0**	**+0.6**
LPAZ	**La Paz**	**151.12**	**141**	PKP	**PKPdf**	**00 25 44.8**	**-0.1**
	comp=Z,8.3nm,0.9s,baz=175,slow=1.9,SNR=4.0						
LPAZ				PKPbc	**PKiKP**	**00 25 52.0**	**+0.6**
	comp=Z,7.4nm,0.8s,baz=51,slow=0.9,SNR=19						
GCUF	**Volcan Galeras**	**152.11**	**99**	*e*P	**PKiKP**	**00 25 54.3**	**+0.8**
BBAC	**Balboa, Cauca**	**152.35**	**98**	*e*P	**PKPbc**	**00 25 52.7**	**-0.7**
JAMC	**Jamundi, Valle**	**153.10**	**95**	*e*P	**PKiKP**	**00 25 55.5**	**+0.4**
YOTC	**Yotoco, Valle**	**153.52**	**94**	*e*P	**PKiKP**	**00 25 56.0**	**+0.1**
FLOC	**Florencia**	**153.84**	**99**	*e*P	**PKiKP**	**00 25 57.4**	**+0.9**
CBOC	**Ciudad Bolivar**	**154.00**	**90**	*e*P	**PKiKP**	**00 25 57.3**	**+0.4**
PTLC	**Puerto Leguiza**	**154.37**	**103**	*e*P	**PKPbc**	**00 25 57.1**	**-0.4**
ORTC	**Ortega, Tolima**	**154.60**	**94**	*e*P	**PKPab**	**00 26 14.8**	**+1.6**
GUY2C	**Guyana, Caldas**	**154.60**	**91**	*e*P	**PKiKP**	**00 25 59.5**	**+1.0**
PRAC	**Prado**	**154.94**	**95**	*e*P	**PKiKP**	**00 25 59.0**	**+0.3**
PTBC	**PUERTO BERRIO;**	**155.56**	**88**	*e*P	**PKPab**	**00 26 18.3**	**+1.0**
CHIC	**Chingaza**	**156.18**	**93**	*e*P	PKPdf	00 26 01.9	+10
RUSC	**La Rusia**	**156.91**	**90**	*e*P	**PKPdf**	**00 25 53.0**	**0.0**

*NEIC **01** 00:16:18.1±1.9, 54°.0S±0°.2×133°.1W±0°.2, h10km±1km, mb4.8/17, Error ellipse: s-maj=25.5km s-min=20.0km az=357.0*

*IDC **01** 00:16:18.3±1.1, 54°.11S×133°.15W, h0km, mb3.8/4, mbtmp3.8/4, MS3.8/19, Error ellipse: s-maj=45.8km s-min=37.0km az=156.0*

ISC 01 00:16:18.4±0.6**, 54°.0S**±0°.1×**133°.0W**±0°.1**, h10**km**, n64, σ1s.22**/26**, mb4.6**/13**, MS3.9**/23**, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCN	**Pitcairn Islan**	**29.00**	**5**	P	**P**	**00 22 15.9**	**-2.3**
RPN	**Rapa Nui**	**32.03**	**42**	LR	LR	00 32 45.1	
	comp=Z,89nm,18.9s,baz=108,slow=31						
VNDA	**Vanda**	**32.65**	**201**	P	**P**	**00 22 49.4**	**-0.5**
VNDA	**Vanda**	**32.65**	**201**	LR	LR	00 32 33.8	
	comp=Z,96nm,20.4s,baz=56,slow=30						
SMAI	**San Martin Ant**	**32.98**	**141**	P	**P**	**00 22 52.2**	**-0.7**
TBI	**Tubuai**	**33.04**	**331**	*e*LR	LR	00 31 22.6	
	comp=Z,986nm,26.5s						
TBI	**Tubuai**	**33.04**	**331**	*e*T	T	00 57 35.0	
	66nm,0.4s						
PMSA	**Palmer Station**	**34.89**	**136**	P	**P**	**00 23 07.7**	**-1.8**
PMSA	**Palmer Station**	**34.89**	**136**	LR	LR	00 34 02.5	
	comp=Z,153nm,19.4s,baz=304,slow=30						
MG04	**Isla Riesco**	**35.60**	**114**	P	**P**	**00 23 15.2**	**-0.6**
QSPA	**South Pole Qui**	**36.15**	**180**	P	**P**	**00 23 20.8**	**+0.2**
LTZ	**Lake Taylor**	**37.13**	**265**	P	**P**	**00 23 29.0**	**0.0**
URZ	**Urewera**	**37.14**	**274**	LR	LR	00 35 07.3	
	comp=Z,127nm,21.8s,baz=226,slow=30						
DSZ	**Denniston Nort**	**38.03**	**266**	P	**P**	**00 23 35.7**	**-1.0**
DSZ				IAmb	IAmb	00 23 39.9	
	comp=Z,11nm,1.0s						
FOZ	**Fox Glacier**	**38.12**	**262**	P	**P**	**00 23 36.5**	**-0.8**
FOZ				IAmb	IAmb	00 23 37.9	
	comp=Z,12nm,1.4s						
DCZ	**Deep Cove**	**38.53**	**258**	P	**P**	**00 23 39.2**	**-1.5**
DCZ				IAmb	IAmb	00 23 52.4	
	comp=Z,16nm,1.1s						
RAR	**Rarotonga**	**38.56**	**318**	LR	LR	00 37 09.8	
	comp=Z,121nm,18.6s,baz=134,slow=32						
PPT2	**Papeete2**	**38.56**	**334**	*e*LR	LR	00 33 54.6	
	comp=Z,261nm,25.2s						
PPT2				*e*LR	LR	00 34 02.5	
	comp=Z,198nm,26.2s						
PPT	**Papeete**	**38.58**	**334**	LR	LR	00 35 37.9	
	comp=Z,220nm,20.4s,baz=187,slow=30						
H03S2	**Juan Fernandez**	**42.65**	**84**	T	T	01 10 03.7	
	baz=222,slow=74,SNR=34						
H03S1	**Juan Fernandez**	**42.65**	**84**	T	T	01 10 04.8	
	baz=222,slow=74,SNR=40						
H03S3	**Juan Fernandez**	**42.66**	**84**	T	T	01 10 04.2	
	baz=222,slow=74,SNR=43						
H03N3	**Juan Fernandez**	**42.92**	**84**	T	T	01 10 12.0	
	baz=226,slow=71,SNR=180						
H03N2	**Juan Fernandez**	**42.92**	**84**	T	T	01 10 10.9	
	baz=226,slow=71,SNR=236						
H03N1	**Juan Fernandez**	**42.93**	**84**	T	T	01 10 11.6	
	baz=226,slow=71,SNR=136						
PLCA	**Paso Flores**	**42.94**	**98**	LR	LR	00 37 30.3	
	comp=Z,84nm,20.8s,baz=218,slow=30						
TAOE	**Nuku Hiva Isla**	**45.41**	**350**	*e*LR	LR	00 37 03.9	
	comp=Z,195nm,25.2s						
LMEL	**Las Melosas**	**47.78**	**92**	P	**P**	**00 24 56.0**	**+0.2**
LMEL				IAmb	IAmb	00 24 57.0	
	comp=Z,11nm,1.1s						
VA03	**San Esteban**	**48.34**	**90**	P	**P**	**00 25 01.1**	**+1.0**
VA03				IAmb	IAmb	00 25 13.3	
	comp=Z,16nm,1.0s						
SNAA	**Sanae**	**49.80**	**162**	P	**P**	**00 25 11.7**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=204,slow=15,SNR=1.9						
SNAA				LR	LR	00 44 07.9	
	comp=Z,141nm,21.2s,baz=194,slow=34						
	comp=Z,0.9nm,0.8s						
AC04	**Llanos de Chal**	**51.35**	**86**	P	**P**	**00 25 23.9**	**+1.0**
AC04				IAmb	IAmb	00 25 37.1	
	comp=Z,56nm,1.4s						
AC05	**El Transito**	**51.35**	**87**	P	**P**	**00 25 23.3**	**+0.2**
AC05				IAmb	IAmb	00 25 28.3	
	comp=Z,18nm,1.3s						
GO03	**Copiap**	**52.30**	**86**	P	**P**	**00 25 31.9**	**+1.9**
GO03				IAmb	IAmb	00 25 37.6	
	comp=Z,10nm,1.0s						
PB14	**IPOC Station P**	**54.44**	**83**	P	**P**	**00 25 45.1**	**-1.0**
PB14				IAmb	IAmb	00 25 49.6	
	comp=Z,31nm,1.4s						
DZM	**Mont Dzumac**	**55.20**	**280**	*e*LR	LR	00 41 16.5	
	comp=Z,66nm,25.9s						
NNA	**Nana**	**60.79**	**69**	LR	LR	00 45 54.4	
	comp=Z,66nm,21.6s,baz=219,slow=29						
CPUP	**Villa Florida**	**60.85**	**95**	LR	LR	00 48 25.1	
	comp=Z,49nm,20.8s,baz=217,slow=32						
ASAR	**Alice Springs**	**72.95**	**253**	P	**P**	**00 27 48.1**	**+0.1**
ASAR	**Alice Springs**	**72.95**	**253**	P	**P**	**00 27 48.8**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=138,slow=7.0,SNR=6.3						
	comp=Z,1.0nm,0.8s						
H01W1	**Cape Leeuwin H**	**74.24**	**232**	T	T	01 49 49.4	
	baz=144,slow=76,SNR=40						
H01W2	**Cape Leeuwin H**	**74.25**	**232**	T	T	01 49 49.4	
	baz=144,slow=76,SNR=40						
H01W3	**Cape Leeuwin H**	**74.26**	**232**	T	T	01 49 51.6	
	baz=144,slow=76,SNR=35						
BDFB	**Brasilia**	**74.58**	**95**	P	**P**	**00 27 56.9**	**-0.8**
BDFB	**Brasilia**	**74.58**	**95**	LR	LR	00 57 15.7	
	comp=Z,59nm,18.3s,baz=134,slow=33						
WRA	**Warramunga Arr**	**75.64**	**256**	P	**P**	**00 28 04.8**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=146,slow=5.1,SNR=6.8						
	comp=Z,0.6nm,0.6s						
LPIG	**La Paz**	**80.24**	**21**	LR	LR	00 57 17.5	
	comp=Z,70nm,18.4s,baz=248,slow=31						
TXAR	**Lajitas Array**	**86.81**	**25**	P	**P**	**00 29 05.1**	**+2.4**
	comp=Z,0.3nm,0.7s,baz=198,slow=8.5,SNR=2.5						
	comp=Z,0.3nm,0.7s						
PFO	**Pinyon Flats O**	**88.45**	**14**	LR	LR	00 59 30.1	
	comp=Z,101nm,19.4s,baz=204,slow=29						
H11S2	**WAKE ISLAND Hy**	**88.68**	**304**	T	T	02 07 16.7	
	baz=148,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy**	**88.69**	**304**	T	T	02 07 21.0	
	baz=148,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**88.70**	**304**	T	T	02 07 17.9	
	baz=148,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**89.63**	**305**	T	T	02 08 27.2	
	baz=149,slow=76,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**89.64**	**305**	T	T	02 08 27.7	
	baz=149,slow=76,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**89.65**	**305**	T	T	02 08 28.4	
	baz=149,slow=76,SNR=6.8						
SUR	**Sutherland**	**91.02**	**158**	LR	LR	01 04 16.5	
	comp=Z,74nm,18.4s,baz=164,slow=32						
ANMO	**Albuquerque**	**91.54**	**22**	LR	LR	01 02 58.3	
	comp=Z,61nm,19.2s,baz=9.0,slow=31						
BOSA	**Boshof**	**95.58**	**161**	LR	LR	01 07 36.3	
	comp=Z,33nm,19.4s,baz=192,slow=32						
YBH	**Yreka Blue Hor**	**95.79**	**8**	LR	LR	01 01 44.4	
	comp=Z,103nm,21.9s,baz=334,slow=28						
PDAR	**Pinedale Array**	**98.49**	**17**	LR	LR	01 07 04.7	
	comp=Z,84nm,18.6s,baz=291,slow=31						
LBTB	**Lobatse**	**99.14**	**160**	LR	LR	01 09 20.6	
	comp=Z,41nm,18.8s,baz=172,slow=32						
ILAR	**Eielson Array**	**118.95**	**353**	PKP	**PKiKP**	**00 35 07.2**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=185,slow=4.3,SNR=6.6						
SONM	**Songino Array**	**143.03**	**285**	PKP	**PKPdf**	**00 35 50.6**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=131,slow=2.1,SNR=2.3						
EKA	**Eskdalemuir Ar**	**151.48**	**67**	PKPbc	**PKiKP**	**00 36 12.6**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=244,slow=3.1,SNR=1.7						
MKAR	**Makanchi Array**	**156.56**	**267**	PKPab	**PKPab**	**00 36 42.8**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=132,slow=3.4,SNR=3.5						

*IDC **01** 00:18:57.7±9.0, 22°.01S×179°.35W, h487km±111km, mb3.4/6, mbtmp4.2/7, Error ellipse: s-maj=60.7km s-min=26.7km az=3.0*

*NEIC **01** 00:18:59.2±1.1, 21°.8S±0°.2×179°.3W±0°.2, h511km±21km, mb4.1/29, Error ellipse: s-maj=40.3km s-min=21.3km az=217.0*

ISC 01 00:19:03.3±0.8**, 22°.0S**±0°.1×**179°.5W**±0°.1**, h550**km**, n43, σ1s.07**/43**, mb4.1**/18**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.38**	**169**	P	P	00 20 50.7	-4.1
LIFNC	**LIFOU**	**12.39**	**273**	P	**P**	**00 21 44.0**	**-1.9**
DZM	**Mont Dzumac**	**13.01**	**267**	P	**P**	**00 21 51.4**	**-1.1**
URZ	**Urewera**	**16.47**	**189**	P	**P**	**00 22 24.1**	**-2.9**
	2.8nm,0.3s,baz=91,slow=17,SNR=4.1						
URZ				S	**S**	**00 25 11.5**	**-1.7**
	3.5nm,0.7s,baz=256,slow=22,SNR=3.6						
BKZ	**Black Stump Fm**	**17.46**	**190**	P	**P**	**00 22 34.1**	**-1.9**
BKZ				IAmb	IAmb	00 22 35.1	
	comp=Z,4.1nm,1.0s						
BFZ	**Birch Farm**	**18.98**	**190**	P	**P**	**00 22 48.9**	**-1.0**
MRZ	**Mangatainoka R**	**19.07**	**191**	P	**P**	**00 22 49.9**	**-0.8**
MRZ				IAmb	IAmb	00 23 02.6	
	comp=Z,6.2nm,1.0s						
TCW	**Tory Channel**	**19.87**	**194**	P	**P**	**00 22 57.9**	**0.0**
QRZ	**Quartz Range**	**19.95**	**198**	P	**P**	**00 22 59.6**	**+0.9**
PLWZ	**Palliser**	**20.01**	**192**	P	**P**	**00 22 58.7**	**-0.6**
NNZ	**Nelson**	**20.09**	**196**	P	**P**	**00 22 59.6**	**-0.3**
CMWZ	**Cape Campbell**	**20.39**	**194**	P	**P**	**00 23 03.0**	**+0.3**
THZ	**Tophouse**	**20.72**	**196**	P	**P**	**00 23 08.0**	**+2.2**
THZ				IAmb	IAmb	00 23 16.1	
	comp=Z,3.9nm,1.0s						
DSZ	**Denniston Nort**	**21.00**	**198**	P	**P**	**00 23 10.5**	**+2.2**
DSZ				IAmb	IAmb	00 23 21.7	
	comp=Z,6.2nm,1.0s						
KHZ	**Kahutara**	**21.18**	**194**	P	**P**	**00 23 08.8**	**-1.0**
KHZ				IAmb	IAmb	00 23 15.3	
	comp=Z,4.9nm,0.9s						
GVZ	**Greta Valley S**	**21.82**	**195**	P	**P**	**00 23 17.4**	**+1.8**
INZ	**Inchbonnie**	**22.01**	**198**	P	**P**	**00 23 16.7**	**-0.6**
INZ				IAmb	IAmb	00 23 18.1	
	comp=Z,5.1nm,1.2s						
FOZ	**Fox Glacier**	**23.24**	**200**	P	**P**	**00 23 27.9**	**-0.3**
FOZ				IAmb	IAmb	00 23 28.8	
	comp=Z,6.8nm,0.9s						
EIDS	**Eidsvold**	**27.10**	**257**	P	**P**	**00 24 03.2**	**+0.6**
ARMA	**Armidale**	**27.15**	**246**	P	**P**	**00 24 04.0**	**+0.9**
ARMA				IAmb	IAmb	00 24 13.0	
	comp=Z,6.4nm,0.9s						
CTAO	**Charters Tower**	**31.96**	**267**	P	**P**	**00 24 45.5**	**+0.8**
CTAO				IAmb	IAmb	00 24 46.0	
	comp=Z,5.1nm,0.7s						
TOO	**Toolangi**	**33.88**	**235**	P	**P**	**00 25 01.0**	**+0.3**
STKA	**Stephens Creek**	**35.87**	**246**	P	**P**	**00 25 17.6**	**+0.2**
COEN	**Coen**	**36.29**	**276**	P	**P**	**00 25 21.3**	**+0.3**
COEN				IAmb	IAmb	00 25 23.2	
	comp=Z,4.7nm,0.9s						
BBOO	**Buckleboo**	**40.62**	**245**	P	**P**	**00 25 55.7**	**-0.2**
BBOO				IAmb	IAmb	00 25 59.1	
	comp=Z,7.1nm,1.0s						
AS31	**Alice Springs**	**42.81**	**258**	P	**P**	**00 26 13.7**	**+0.4**
ASAR	**Alice Springs**	**42.81**	**258**	P	**P**	**00 26 13.4**	**+0.1**
ASAR	**Alice Springs**	**42.81**	**258**	P	**P**	**00 26 13.6**	**+0.2**
	comp=Z,5.0nm,0.9s,baz=90,slow=8.3,SNR=27						
	comp=Z,5.0nm,0.9s						
WR0	**Warramunga Arr**	**42.82**	**264**	P	**P**	**00 26 13.0**	**-0.3**
WB0	**Warramunga Arr**	**42.99**	**264**	P	**P**	**00 26 14.8**	**0.0**
WB0				IAmb	IAmb	00 26 15.2	
	comp=Z,4.3nm,0.7s						
WB2	**Warramunga Arr**	**42.99**	**264**	P	**P**	**00 26 14.4**	**-0.3**
WB2				IAmb	IAmb	00 26 14.9	
	comp=Z,4.3nm,0.8s						
WRAB	**Tennant Creek**	**43.00**	**264**	P	**P**	**00 26 14.4**	**-0.3**
WRAB				IAmb	IAmb	00 26 14.9	
	comp=Z,5.5nm,0.9s						
WRA	**Warramunga Arr**	**43.01**	**264**	P	**P**	**00 26 14.5**	**-0.4**
WRA	**Warramunga Arr**	**43.01**	**264**	P	**P**	**00 26 14.3**	**-0.6**
	comp=Z,2.2nm,0.5s,baz=96,slow=7.8,SNR=73						
	comp=Z,2.2nm,0.5s						
FORT	**Forrest**	**47.41**	**248**	P	**P**	**00 26 48.5**	**+0.1**
PSA00	**Pilbara Seismi**	**55.96**	**258**	P	**P**	**00 27 50.0**	**-0.1**
MBWA	**Marble Bar**	**56.15**	**259**	P	**P**	**00 27 51.3**	**-0.1**
MBWA				IAmb	IAmb	00 27 51.8	
	comp=Z,7.1nm,0.7s						
VNDA	**Vanda**	**56.31**	**185**	P	**P**	**00 27 52.5**	**+0.9**
QSPA	**South Pole Qui**	**68.09**	**180**	P	**P**	**00 29 09.2**	**+1.0**
TXAR	**Lajitas Array**	**89.05**	**58**	P	**P**	**00 31 00.6**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=220,slow=7.5,SNR=4.9						
	comp=Z,0.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.28**	**290**	P	**P**	**00 31 03.2**	**+1.7**
	comp=Z,1.7nm,0.3s,baz=125,slow=2.8,SNR=4.9						
	comp=Z,1.7nm,0.3s						
ILAR	**Eielson Array**	**90.08**	**13**	P	**P**	**00 31 03.5**	**-0.7**
	comp=Z,0.6nm,1.1s,baz=213,slow=4.9,SNR=1.3						
	comp=Z,0.6nm,1.1s						
PDAR	**Pinedale Array**	**91.02**	**44**	P	**P**	**00 31 08.7**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=212,slow=5.0,SNR=2.3						
	comp=Z,0.5nm,0.9s						

*IDC **01** 00:22:51.2±2.2, 3°.52N×127°.29E, h0km, mb3.6/6,*

mbtmp3.6/6, Error ellipse: s-maj=234.6km s-min=21.2km az=68.0

ISC 01 00:22:56.8±3.6,**4°N**±1°×**12°8E**±°,**h45**^{km},**n6**,σ**0**^{s}**93**/6, **mb3.7**/6,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.32**	**165**	P	**P**	**00 28 11.3**	**+0.9**
	0.9nm,0.7s,baz=344,slow=10.0,SNR=6.9						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**27.80**	**168**	P	**P**	**00 28 41.4**	**-0.5**
	0.2nm,0.6s,baz=346,slow=12,SNR=1.5						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**58.18**	**325**	P	**P**	**00 32 45.5**	**-0.8**
	0.4nm,0.7s,baz=116,slow=7.8,SNR=2.8						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**61.11**	**333**	P	**P**	**00 33 05.9**	**-0.4**
	0.3nm,0.3s,baz=116,slow=6.6,SNR=2.4						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**62.34**	**327**	P	**P**	**00 33 15.3**	**+0.7**
	0.7nm,0.6s,baz=127,slow=6.2,SNR=7.8						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**67.92**	**327**	P	**P**	**00 33 51.3**	**+0.4**
	0.9nm,0.9s,baz=119,slow=5.2,SNR=3.6						
	0.9nm,0.9s						

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*DJA **01** 00:27:31.9±0.2,5°S±3°×12°6E±°,h10^{km},M4.4/12, mb4.7/10,mB5.0/3,MLv4.3/12,Mw(mB)4.3/3*

*IDC **01** 00:27:33.0±1.0,5°.54S×125°.51E,h0^{km},mb3.8/5, mbtmp4.0/8,ML4.4/3,MS3.2/1,Error ellipse: s-maj=43.1km s-min=19.5km az=68.0*

*NEIC **01** 00:27:34.3±2.0,5°.42S±0°.08×125°.59E±0°.06,h79^{km}±23^{km}, mb4.1/9,Error ellipse: s-maj=11.7km s-min=8.2km az=201.0*

ISC 01 00:27:31.3±0.6,**5°.44S**±0°.06×**125°.65E**±0°.07,**h10**^{km},**n42**, σ**2**^{s}**58**/39,**mb4.2**/8,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**2.62**	**34**	P	**Pn**	**00 28 13.8**	**0.0**
BBSI	**Bau Bau**	**3.06**	**269**	P	**Pn**	**00 28 20.1**	**+0.3**
SANI	**Sanana**	**3.39**	**6**	P	Pn	00 28 21.8	-2.5
SANI				S	**Sn**	**00 28 58.2**	**-6.3**
BNDI	**Bandanaira**	**4.34**	**78**	P	**Pn**	**00 28 37.6**	**+0.2**
SOEI	**Soe**	**4.50**	**198**	Pn	**Pn**	**00 28 40.1**	**+0.5**
SOEI	**Soe**	**4.50**	**198**	P	**Pn**	**00 28 43.2**	**+3.5**
MMRI	**Maumere**	**4.64**	**227**	Pn	**Pn**	**00 28 41.5**	**0.0**
LBMI	**Labuha**	**5.12**	**21**	P	**Pn**	**00 28 49.0**	**+0.9**
	69nm,0.8s,0.3nm						
EDFI	**Ende, Flores**	**5.12**	**230**	P	**Pn**	**00 28 48.1**	**-0.1**
	37nm,0.6s,592nm0.1nm						
BATI	**Baumata**	**5.13**	**202**	Pn	**Pn**	**00 28 51.4**	**+3.1**
	17nm,0.3s,baz=85,slow=2.7,SNR=6.1						
	49nm,0.5s						
LUWI	**Luwuk**	**5.23**	**327**	Pn	**Pn**	**00 28 49.1**	**-0.5**
LUWI	**Luwuk**	**5.23**	**327**	P	**Pn**	**00 28 51.0**	**+1.4**
	136nm,0.6s,0.8nm						
BKSI	**Bulukumba**	**5.50**	**271**	P	**Pn**	**00 28 53.2**	**-0.2**
	65nm,0.7s,829nm0.2nm						
KAPI	**Kappang**	**5.89**	**274**	Pn	**Pn**	**00 28 58.3**	**-0.4**
	14nm,0.3s,baz=125,slow=4.7,SNR=12						
KAPI				Sn	**Sn**	**00 30 03.1**	**-3.2**
	1.2nm,0.3s,baz=35,slow=22,SNR=1.3						
KAPI				LR	LR	00 31 17.8	
	comp=Z,236nm,21.9s,baz=79,slow=39						
	35nm,0.4s						
TNTI	**Ternate**	**6.41**	**16**	Pn	**Pn**	**00 29 05.7**	**-0.1**
FAKI	**Fak Fak**	**7.04**	**69**	Pn	**Pn**	**00 29 15.7**	**+1.1**
FAKI	**Fak Fak**	**7.04**	**69**	P	**Pn**	**00 29 16.0**	**+1.4**
	263nm,0.5s,3µm1.1nm						
TOLI2	**Tolitoli**	**8.12**	**323**	Pn	**Pn**	**00 29 29.1**	**-0.3**
MTN	**Manton Dam**	**9.13**	**144**	Pn	**Pn**	**00 29 42.8**	**-0.5**
KNRA	**Kununurra**	**10.62**	**164**	Pn	**Pn**	**00 30 02.6**	**-1.1**
WB0	**Warramunga Arr**	**16.59**	**150**	Pn	**Pn**	**00 31 21.6**	**-2.6**
WB0				IAmb	IAmb	00 31 37.8	
	comp=Z,16nm,1.3s						
WRAB	**Tennant Creek**	**16.71**	**150**		**Pn**	**00 31 22.7**	**-3.0**
WRAB				IAmb	IAmb	00 31 26.1	
	comp=Z,6.9nm,0.6s						
WRA	**Warramunga Arr**	**16.71**	**150**	Pn	**Pn**	**00 31 23.3**	**-2.4**
	comp=Z,1.2nm,0.3s,baz=315,slow=14,SNR=60						
WB2	**Warramunga Arr**	**16.72**	**150**	Pn	**Pn**	**00 31 22.6**	**-3.2**
WB2				IAmb	IAmb	00 31 24.8	
	comp=Z,8.0nm,0.8s						
WR0	**Warramunga Arr**	**16.82**	**150**	P	**Pn**	**00 31 24.6**	**-2.6**
WR0				IAmb	IAmb	00 31 26.3	
	comp=Z,14nm,1.1s						
PSA00	**Pilbara Seismi**	**16.99**	**199**		**Pn**	**00 31 26.5**	**-2.7**
PSA00	**Pilbara Seismi**	**16.99**	**199**		**Pn**	**00 31 26.8**	**-2.5**
PSA00				IAmb	IAmb	00 31 31.0	
	comp=Z,13nm,1.0s						
COEN	**Coen**	**19.22**	**117**	P	**P**	**00 31 53.6**	**-2.2**
AS31	**Alice Springs**	**19.79**	**157**	P	P	00 31 57.3	-4.6
ASAR	**Alice Springs**	**19.79**	**157**	P	**P**	**00 31 58.3**	**-3.7**
ASAR	**Alice Springs**	**19.79**	**157**	P	**P**	**00 32 03.4**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=332,slow=10.0,SNR=32						
	comp=Z,5.5nm,0.6s						
FORT	**Forrest**	**25.31**	**175**	P	**P**	**00 32 54.5**	**-3.7**
STKA	**Stephens Creek**	**30.24**	**152**	P	**P**	**00 33 46.2**	**+3.8**
	comp=Z,4.9nm,1.1s,baz=326,slow=18,SNR=3.9						
	comp=Z,4.9nm,1.1s						
PZH	**PanZhiHua**	**39.31**	**325**	P	P	00 34 57.8	-3.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PZH				pmax	pmax		
	comp=Z,100nm,6.2s						
LZH	**Lanzhou**	**46.09**	**335**	*e*P	P	00 35 51.4	-4.5
LZH				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC	**Hu-ho-hao-te**	**47.84**	**346**	*e*P	**P**	**00 36 08.3**	**-1.2**
HHC				pmax	pmax		
	comp=Z,21nm,0.6s						
HHC				pmax	pmax		
	comp=Z,170nm,4.7s						
SONM	**Songino Array**	**55.69**	**344**	P	**P**	**00 37 11.2**	**+3.2**
	comp=Z,0.5nm,0.7s,baz=150,slow=4.8,SNR=2.8						
	comp=Z,0.5nm,0.7s						
WMQ	**Urumqi**	**59.79**	**329**	*e*P	P	00 37 32.6	-4.2
MKAR	**Makanchi Array**	**64.60**	**329**	P	**P**	**00 38 12.2**	**+3.1**
	comp=Z,0.5nm,0.6s,baz=123,slow=8.8,SNR=4.4						
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**68.33**	**335**	P	**P**	**00 38 36.6**	**+4.0**
	comp=Z,0.8nm,0.7s,baz=132,slow=6.2,SNR=4.2						
	comp=Z,0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**68.97**	**330**	P	**P**	**00 38 41.0**	**+4.3**
	comp=Z,0.4nm,0.7s,baz=133,slow=5.1,SNR=4.5						
	comp=Z,0.4nm,0.7s						
CPUP	**Villa Florida**	**148.28**	**175**	PKPbc	**PKPbc**	**00 47 20.3**	**+1.7**
	comp=Z,1.4nm,0.8s,baz=103,slow=3.7,SNR=3.1						

IDC 01 00:51:13.9±9.8,**46°.75N**×**146°.12E**,**h418**^{km}±114^{km}, **mb2.6**/5,**mbtmp3.4**/5,**Error ellipse: s-maj=39.2km s-min=23.2km az=141.0,Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**26.77**	**287**	P	P	00 56 18.8	+0.8
	0.3nm,0.4s,baz=79,slow=8.4,SNR=2.6						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**39.54**	**38**	P	P	00 58 05.5	-0.8
	0.2nm,0.4s,baz=253,slow=6.1,SNR=6.7						
	0.2nm,0.4s						
NOA	**NORSAR Array B**	**66.55**	**338**	P	P	01 01 19.3	-1.0
	0.1nm,0.4s,baz=26,slow=4.9,SNR=2.0						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**67.23**	**192**	P	P	01 01 24.6	-0.4
	0.2nm,0.5s,baz=13,slow=7.0,SNR=1.7						
	0.2nm,0.5s						
PDAR	**Pinedale Array**	**68.53**	**50**	P	P	01 01 34.2	+1.1
	0.4nm,0.6s,baz=346,slow=0.5,SNR=6.6						
	0.4nm,0.6s						

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*IDC **01** 01:18:57.0±1.9,17°.90S×178°.48W,h551^{km}±21^{km}, mb4.1/19,mbtmp4.9/20,Error ellipse: s-maj=16.2km s-min=10.8km az=124.0*

*NEIC **01** 01:18:58.4±1.5,18°.0S±0°.1×178°.5W±0°.1,h565^{km}±7^{km}, mb4.7/330,Error ellipse: s-maj=19.2km s-min=13.9km az=144.0*

ISC 01 01:18:59.1±0.3,**18°.01S**±0°.07×**178°.47W**±0°.06,**h579**^{km}, **n648**,σ**0**^{s}**79**/569,**mb4.7**/197,**6C-3D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.62**	**59**	P	**P**	**01 20 51.4**	**-2.8**
NIUE	**Niue**	**8.17**	**99**	P	**P**	**01 20 59.4**	**+0.1**
	baz=8.2,SNR=41						
NIUE	**Niue**	**8.17**	**99**	P	**P**	**01 20 58.4**	**-1.0**
MARNC	**Mare, Loyalty**	**13.17**	**253**	P	**P**	**01 21 48.6**	**-1.1**
LIFNC	**LIFOU**	**13.76**	**256**	P	**P**	**01 21 54.0**	**-1.7**
PINNC	**Pines Island,**	**13.98**	**249**	P	**P**	**01 21 57.4**	**-0.6**
OUENC	**Ouen Island, N**	**14.47**	**250**	P	**P**	**01 22 02.1**	**-0.7**
DZM	**Mont Dzumac**	**14.74**	**252**	P	**P**	**01 22 05.8**	**+0.3**
DZM	**Mont Dzumac**	**14.74**	**252**	P	**P**	**01 22 04.3**	**-1.2**
	106nm,0.7s,baz=80,slow=16,SNR=49						
ONTNC	**Ouen Toro**	**14.79**	**251**	P	**P**	**01 22 06.1**	**+0.3**
KOUNC	**Koumac, New Ca**	**16.48**	**258**	P	**P**	**01 22 22.3**	**+0.5**
TOZ	**Tahuroa Road**	**20.35**	**194**	P	**P**	**01 22 56.9**	**+0.2**
TOZ				IAmb	IAmb	01 23 09.0	
	comp=Z,15nm,1.0s						
URZ	**Urewera**	**20.54**	**190**	P	**P**	**01 22 56.9**	**-1.6**
	comp=Z,9.6nm,0.6s,baz=98,slow=5.2,SNR=5.9						
URZ				S	**S**	**01 26 07.9**	**-4.0**
	comp=Z,6.8nm,0.7s,baz=301,slow=24,SNR=2.0						
	comp=Z,9.6nm,0.6s						
INZ	**Inchbonnie**	**26.09**	**197**	P	**P**	**01 23 46.5**	**-1.1**
INZ				IAmb	IAmb	01 23 48.6	
	comp=Z,17nm,0.6s						
EIDS	**Eidsvold**	**29.18**	**250**	P	**P**	**01 24 14.5**	**-0.4**
	baz=29,SNR=23						
EIDS	**Eidsvold**	**29.18**	**250**	P	**P**	**01 24 13.6**	**-1.3**
ARMA	**Armidale**	**29.84**	**240**	P	**P**	**01 24 18.0**	**-2.7**
MGCD	**Mangrove Creek**	**31.19**	**235**	P	**P**	**01 24 32.6**	**+0.5**
	baz=31,SNR=8.1						
RMQ	**Roma**	**31.41**	**249**	P	**P**	**01 24 34.9**	**+0.8**
	baz=32,SNR=18						
CNB	**Canberra Magne**	**33.32**	**232**	P	**P**	**01 24 50.9**	**+0.7**
	baz=33,SNR=55						
CTAO	**Charters Tower**	**33.37**	**261**	P	**P**	**01 24 50.5**	**-0.2**
CAN	**Canberra**	**33.60**	**233**	P	**P**	**01 24 53.3**	**+0.8**
PMG	**Port Moresby**	**34.42**	**280**	P	**P**	**01 25 00.2**	**+0.7**
CMSA	**Cobar Meteorol**	**35.05**	**241**	P	**P**	**01 25 05.2**	**+0.7**
	baz=35,SNR=48						
MTSU	**Mount Surprise**	**35.34**	**264**	P	**P**	**01 25 06.8**	**-0.4**
	baz=35,SNR=33						
COEN	**Coen**	**37.05**	**271**	P	**P**	**01 25 20.9**	**-0.3**
TOO	**Toolangi**	**37.06**	**231**	P	**P**	**01 25 22.1**	**+1.1**
	baz=37,SNR=40						
TOO	**Toolangi**	**37.06**	**231**	P	**P**	**01 25 21.7**	**+0.6**
MOO	**Moorlands**	**37.98**	**223**	P	**P**	**01 25 29.6**	**+1.2**
	baz=38,SNR=4.0						
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**01 25 33.6**	**+0.5**
	baz=39,SNR=107						
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**01 25 33.5**	**+0.5**
STKA				IAmb	IAmb	01 25 34.9	
	comp=Z,29nm,1.0s						
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**01 25 34.0**	**+0.9**
	comp=Z,83nm,0.5s,baz=89,slow=9.7,SNR=183						
	comp=Z,83nm,0.5s						
ARPS	**Mount Arapiles**	**39.54**	**234**	P	**P**	**01 25 41.8**	**+0.7**
	baz=40,SNR=13						
QIS	**Mount Isa**	**39.58**	**259**	P	**P**	**01 25 40.8**	**-0.8**
	baz=40,SNR=11						
HTT	**Hallett**	**41.04**	**240**	P	**P**	**01 25 53.9**	**+0.7**
	baz=41,SNR=45						
BBOO	**Buckleboo**	**43.31**	**241**	P	**P**	**01 26 11.2**	**+0.4**
	baz=43,SNR=58						
BBOO	**Buckleboo**	**43.31**	**241**	P	**P**	**01 26 10.6**	**-0.2**
KHLU	**Kahalu`u**	**43.45**	**32**	P	**P**	**01 26 12.2**	**0.0**
HMH	**Humu‘ula Sheep**	**43.66**	**32**	P	**P**	**01 26 14.4**	**+0.3**
KEKH	**Kekaha**	**43.78**	**26**	P	**P**	**01 26 14.2**	**-0.3**
MHA	**Mahukona**	**43.95**	**31**	P	**P**	**01 26 16.3**	**+0.4**
HLK	**Haleakala**	**44.26**	**30**	P	**P**	**01 26 18.8**	**+0.2**
WR0	**Warramunga Arr**	**44.37**	**260**	IAmb	IAmb	01 26 20.1	
	comp=Z,47nm,1.2s						
WRAB	**Tennant Creek**	**44.55**	**260**	P	**P**	**01 26 19.6**	**-1.0**
WRA	**Warramunga Arr**	**44.56**	**260**	P	**P**	**01 26 19.1**	**-1.6**
WRA	**Warramunga Arr**	**44.56**	**260**	P	**P**	**01 26 19.9**	**-0.9**
	comp=Z,61nm,0.7s,baz=94,slow=7.2,SNR=374						
WRA				PcP	**PcP**	**01 27 51.0**	**-0.1**
	comp=Z,4.9nm,0.7s,baz=96,slow=3.0,SNR=4.0						
WRA				ScP	**ScP**	**01 30 50.4**	**+1.8**
	comp=Z,3.8nm,1.2s,baz=94,slow=3.6,SNR=5.2						
	comp=Z,61nm,0.7s						
AS31	**Alice Springs**	**44.71**	**254**	P	**P**	**01 26 21.6**	**-0.2**
ASAR	**Alice Springs**	**44.71**	**254**	P	**P**	**01 26 21.9**	**0.0**
	comp=Z,375nm,0.6s,baz=88,slow=8.4,SNR=3284						
ASAR				PcP	**PcP**	**01 27 51.8**	**+0.1**
	comp=Z,8.0nm,0.7s,baz=83,slow=4.3,SNR=4.2						
ASAR				ScP	**ScP**	**01 30 51.6**	**+2.3**
	comp=Z,2.7nm,1.0s,baz=98,slow=4.2,SNR=5.6						
SMPI	**Sarmi**	**44.91**	**286**	P	**P**	**01 26 23.4**	**-0.1**
	comp=Z,82nm,0.8s						
SMPI				pP	**pwP**	**01 28 11.9**	**+3.0**
	comp=Z,82nm,0.8s						
KDU	**Kakadu**	**47.50**	**269**	P	**P**	**01 26 42.4**	**-0.6**
	baz=48,SNR=56						
MTN	**Manton Dam**	**48.74**	**269**	P	**P**	**01 26 51.3**	**-1.0**
	baz=49,SNR=18						
WRKA	**Warakurna**	**49.76**	**252**	P	**P**	**01 26 59.6**	**-0.1**
	baz=50,SNR=93						
FORT	**Forrest**	**49.91**	**245**	P	**P**	**01 27 00.2**	**-0.4**
	baz=50,SNR=49						
KNRA	**Kununurra**	**50.42**	**264**	P	**P**	**01 27 04.0**	**-0.5**
	baz=50,SNR=24						
KNRA	**Kununurra**	**50.42**	**264**	P	**P**	**01 27 04.2**	**-0.3**
FAKI	**Fak Fak**	**50.54**	**281**	P	**P**	**01 27 04.1**	**-1.4**
FAKI				IAmb	IAmb	01 27 05.4	
	comp=Z,17nm,0.7s						
FAKI	**Fak Fak**	**50.54**	**281**	P	**P**	**01 27 04.1**	**-1.4**
	comp=Z,24nm,1.0s						
SWI	**Sorong**	**52.21**	**283**	P	**P**	**01 27 17.5**	**0.0**
	comp=Z,224nm,0.8s,comp=Z,2µm						
FITZ	**Fitzroy Crossi**	**52.95**	**261**	P	**P**	**01 27 22.5**	**-0.2**
	baz=53,SNR=17						
KMBL	**Kambalda**	**55.22**	**244**	P	**P**	**01 27 37.7**	**-0.8**
	baz=55,SNR=6.6						
LBMI	**Labuha**	**55.78**	**282**	P	**P**	**01 27 43.1**	**+0.5**
	comp=Z,102nm,1.0s						
SOEI	**Soe**	**56.01**	**270**	P	**P**	**01 27 45.4**	**+1.1**
SOEI	**Soe**	**56.01**	**270**	P	**P**	**01 27 44.9**	**+0.6**
	comp=Z,212nm,0.9s,comp=Z,2µm						
SANI	**Sanana**	**56.70**	**280**	P	**P**	**01 27 48.3**	**-0.6**
	comp=Z,87nm,0.9s						
PSA00	**Pilbara Seismi**	**57.83**	**255**	P	**P**	**01 27 55.5**	**-1.0**
PSA00				IAmb	IAmb	01 27 56.9	
	comp=Z,30nm,0.9s						
MBWA	**Marble Bar**	**57.99**	**256**	P	**P**	**01 27 56.4**	**-1.2**
MBWA				IAmb	IAmb	01 27 57.5	
	comp=Z,37nm,0.7s						
MEEK	**Meekatharra**	**58.34**	**249**	P	**P**	**01 27 59.3**	**-0.7**
	baz=58,SNR=13						
EDFI	**Ende, Flores**	**58.73**	**271**	P	**P**	**01 28 01.9**	**-0.9**
	comp=Z,66nm,0.9s,comp=Z,612nm						
KLBR	**Kellerberrin**	**58.73**	**244**	P	**P**	**01 28 02.0**	**-0.4**
	baz=59,SNR=29						
NWAO	**Narrogin (SRO)**	**59.11**	**242**	P	**P**	**01 28 05.0**	**0.0**
	baz=59,SNR=9.9						
NWAO				P	**P**	**01 28 05.0**	**0.0**
	baz=59,SNR=9.9						
NWAO	**Narrogin (SRO)**	**59.11**	**242**	P	**P**	**01 28 04.5**	**-0.5**
NWAO				IAmb	IAmb	01 28 05.7	
	comp=Z,26nm,0.8s						
RKGY	**Rocky Gully**	**59.27**	**240**	P	**P**	**01 28 06.0**	**+0.1**
	baz=59,SNR=6.8						
BLDU	**Ballidu**	**59.69**	**245**	P	**P**	**01 28 08.3**	**-0.5**
	baz=60,SNR=14						
MUN	**Mundaring**	**60.03**	**243**	P	**P**	**01 28 11.2**	**+0.2**
	baz=60,SNR=4.7						
LUWI	**Luwuk**	**60.06**	**279**	P	**P**	**01 28 11.7**	**+0.2**
VNDA	**Vanda**	**60.34**	**185**	P	**P**	**01 28 13.6**	**+1.3**
	comp=Z,2.8nm,0.9s,baz=344,slow=6.8,SNR=14						
	comp=Z,2.8nm,0.9s						
MORW	**Morawa**	**60.39**	**246**	P	**P**	**01 28 12.9**	**-0.6**
	baz=60,SNR=7.3						
MORW	**Morawa**	**60.39**	**246**	P	**P**	**01 28 12.5**	**-1.0**
MORW				IAmb	IAmb	01 28 13.4	
	comp=Z,24nm,0.7s						
GTOI	**Gorontalo**	**60.43**	**281**	P	**P**	**01 28 14.3**	**+0.4**
	comp=Z,22nm,0.9s						
KAPI	**Kappang**	**61.64**	**274**	P	**P**	**01 28 20.7**	**-1.1**
KAPI				IAmb	IAmb	01 28 24.1	
	comp=Z,21nm,0.9s						
PLAI	**Plampang**	**62.43**	**269**	P	**P**	**01 28 26.4**	**-0.6**
	comp=Z,128nm,0.9s,comp=Z,1µm						
TOLI2	**Tolitoli**	**62.68**	**281**	P	**P**	**01 28 27.4**	**-1.2**
TOLI2				IAmb	IAmb	01 28 29.1	
	comp=Z,22nm,0.9s						
GIRL	**Giralia**	**62.81**	**253**	P	**P**	**01 28 29.1**	**-0.2**
	baz=63,SNR=8.9						
TWSI	**Taliwang, Sumb**	**63.31**	**269**	P	**P**	**01 28 32.0**	**-0.6**
	comp=Z,123nm,1.1s,comp=Z,1µm						
IGBI	**Denpasar**	**64.94**	**269**	P	**P**	**01 28 42.5**	**-0.5**
	comp=Z,122nm,0.9s						
JAGI	**Jajag, Banyuwa**	**65.98**	**269**	P	**P**	**01 28 48.0**	**-1.5**
JAGI	**Jajag, Banyuwa**	**65.98**	**269**	P	**P**	**01 28 48.0**	**-1.5**
	comp=Z,105nm,0.9s,comp=Z,1µm						
MYLDM	**Lahad Datu**	**66.28**	**284**	P	**P**	**01 28 51.1**	**-0.2**
MYLDM				IAmb	IAmb	01 28 54.9	
	comp=Z,42nm,1.2s						
BLJI	**Banyuglugur**	**66.71**	**269**	P	**P**	**01 28 53.8**	**-0.2**
	comp=Z,101nm,0.8s						
BBKI	**Banjar Baru**	**66.78**	**274**	P	P	01 29 00.2	+5.8
MJAR	**Matsushiro Arr**	**67.95**	**323**	P	**P**	**01 29 00.3**	**-0.8**
	comp=Z,3.2nm,0.6s,baz=150,slow=5.8,SNR=7.3						
	comp=Z,3.2nm,0.6s						
STKI	**Sintang**	**71.08**	**276**	P	**P**	**01 29 21.1**	**+0.9**
	comp=Z,65nm,0.9s,comp=Z,14µm						
SBUM	**Sibu**	**71.16**	**279**	P	**P**	**01 29 19.9**	**-0.8**
NIKH	**Nikolski High**	**71.17**	**6**	P	**P**	**01 29 21.8**	**+2.0**
	baz=190						
YULB	**Yu-li**	**71.77**	**303**	P	**P**	**01 29 24.1**	**0.0**
YULB				IAmb	IAmb	01 29 32.7	
	comp=Z,39nm,1.2s						
QSPA	**South Pole Qui**	**72.05**	**180**	P	**P**	**01 29 25.7**	**+0.7**
QSPA				IAmb	IAmb	01 29 27.3	
	comp=Z,16nm,0.8s						
KSM	**Kuching**	**72.64**	**277**	P	**P**	**01 29 29.3**	**0.0**
AKUT	**Akutan**	**72.67**	**8**	P	**P**	**01 29 28.7**	**+0.2**
PETK	**Petropavlovsk-**	**73.76**	**345**	P	**P**	**01 29 34.6**	**-0.1**
	comp=Z,6.6nm,0.8s,baz=120,slow=8.8,SNR=4.5						
	comp=Z,6.6nm,0.8s						
SCZ2	**Santa Cruz Isl**	**76.22**	**47**	P	**P**	**01 29 49.9**	**+1.0**
	baz=237						
SAO	**San Andreas Ge**	**76.54**	**44**	P	**P**	**01 29 50.7**	**+0.1**
SAO				IAmb	IAmb	01 29 52.7	
	comp=Z,28nm,0.8s						
PKM	**Mcpherson Peak**	**76.59**	**46**	P	**P**	**01 29 52.7**	**+1.6**
	baz=236						
SMMC	**Simmler**	**76.70**	**46**	P	**P**	**01 29 52.6**	**+1.0**
	baz=236						
BBGB	**Big Mountain B**	**76.70**	**44**	P	**P**	**01 29 52.2**	**+0.6**
BBGB				IAmb	IAmb	01 29 54.3	
	comp=Z,55nm,1.1s						
BCW	**Bitter Crk WRg**	**76.89**	**46**	P	**P**	**01 29 53.4**	**+0.7**
BCW				IAmb	IAmb	01 29 55.1	
	comp=Z,28nm,0.8s						
SII	**Sitkinak Islan**	**77.04**	**14**	P	**P**	**01 29 52.8**	**0.0**
	baz=204						
KMRM	**Mail Ridge**	**77.13**	**40**	P	**P**	**01 29 54.2**	**+0.3**
PASC	**Pasadena Art C**	**77.33**	**48**	P	**P**	**01 29 55.2**	**+0.2**
PASC				IAmb	IAmb	01 29 56.5	
	comp=Z,19nm,0.9s						
ARVC	**Arvin**	**77.39**	**46**	P	**P**	**01 29 55.9**	**+0.6**
	baz=237						
109C	**Camp Elliot, M**	**77.43**	**49**	P	**P**	**01 29 55.3**	**-0.2**
109C	**Camp Elliot, M**	**77.43**	**49**	P	**P**	**01 29 56.3**	**+0.8**
	baz=239						
CBX	**Cerro Bola**	**77.45**	**50**	P	**P**	**01 29 55.7**	**-0.1**
ELS	**Elsinore Mount**	**77.59**	**48**	P	**P**	**01 29 56.9**	**+0.4**
VES	**Vestal, Richgr**	**77.61**	**46**	P	**P**	**01 29 57.2**	**+0.8**
	baz=237,SNR=7.9						
VTX	**Valle De La Tr**	**77.64**	**51**	P	**P**	**01 29 57.0**	**+0.2**
MURC	**Murrieta**	**77.73**	**49**	P	**P**	**01 29 57.7**	**+0.5**
	baz=238,SNR=6.5						
BFSC	**Mount Baldy Ra**	**77.74**	**48**	P	**P**	**01 29 57.5**	**+0.2**
	baz=238,SNR=7.2						
ESJX	**Sierra Juarez**	**77.82**	**50**	P	**P**	**01 29 58.3**	**+0.4**
EDW2	**Edwards Air Fo**	**77.84**	**47**	P	**P**	**01 29 58.9**	**+1.1**
	baz=238,SNR=20						
R18K	**Karluk**	**77.90**	**13**	P	**P**	**01 29 57.3**	**-0.2**
	baz=203						
ISA	**Isabella, Lake**	**77.93**	**46**	P	**P**	**01 29 58.6**	**+0.3**
ISA				IAmb	IAmb	01 30 00.3	
	comp=Z,25nm,0.9s						
ISA	**Isabella, Lake**	**77.93**	**46**	P	**P**	**01 29 59.3**	**+1.0**
	baz=237,SNR=18						
CMB	**Columbia Colle**	**77.95**	**43**	IAmb	IAmb	01 29 60.0	
	comp=Z,18nm,0.9s						
CCAC	**Calif City Air**	**77.97**	**47**	P	**P**	**01 29 59.4**	**+0.9**
RMX	**La Rumorosa**	**78.03**	**50**	P	**P**	**01 29 59.9**	**+1.0**
RMX				IAmb	IAmb	01 30 01.2	
	comp=Z,20nm,0.7s						
IKP	**In-Ko-Pah, Jac**	**78.03**	**50**	P	**P**	**01 29 59.9**	**+1.0**
	baz=239,SNR=12						
AFDM	**Forest Hills D**	**78.09**	**42**	P	**P**	**01 29 59.6**	**+0.6**
AFDM				IAmb	IAmb	01 30 00.6	
	comp=Z,20nm,1.0s						
YUH	**Yuha Desert**	**78.16**	**50**	P	**P**	**01 30 00.3**	**+0.8**
MDJ	**Mudanjiang**	**78.23**	**325**	P	**P**	**01 30 00.6**	**+1.0**
MDJ				pP	PcP	01 30 05.0	-1.4
Q17K	**Contact Creek**	**78.25**	**12**	P	**P**	**01 29 58.4**	**-1.0**
	baz=202						
PFO	**Pinyon Flats O**	**78.27**	**49**	P	**P**	**01 30 00.4**	**+0.2**
PFO	**Pinyon Flats O**	**78.27**	**49**	P	**P**	**01 30 00.9**	**+0.7**
	baz=239						
TPFO	**Pinon Flats**	**78.27**	**49**	P	**P**	**01 30 01.1**	**+1.0**
	baz=239						
PMD	**Palm Desert**	**78.34**	**49**	P	**P**	**01 30 00.6**	**+0.2**
LRMC	**Laurel Mtn Rad**	**78.38**	**47**	P	**P**	**01 30 01.0**	**+0.3**
	baz=238,SNR=5.0						
SWSC	**Sam W. Stewart**	**78.40**	**50**	P	**P**	**01 30 01.8**	**+1.1**
	baz=240,SNR=7.4						
Q16K	**King Salmon**	**78.49**	**11**	P	**P**	**01 29 59.7**	**-0.8**
	baz=201						
KDAK	**Kodiak Island**	**78.51**	**14**	P	**P**	**01 30 00.7**	**0.0**
	baz=205						
KDAK	**Kodiak Island**	**78.51**	**14**	P	**P**	**01 29 59.9**	**-0.8**
	comp=Z,16nm,0.7s,baz=233,slow=4.9,SNR=12						
	comp=Z,16nm,0.7s						
P16K	**Nushagak River**	**78.58**	**11**	P	**P**	**01 30 00.4**	**-0.6**
	baz=200						
MDPB	**Devils Postpil**	**78.59**	**44**	P	**P**	**01 30 02.8**	**+0.8**
MDPB				IAmb	IAmb	01 30 03.9	
	comp=Z,24nm,0.9s						
CWC	**Cottonwood Cre**	**78.61**	**46**	P	**P**	**01 30 03.1**	**+1.0**
	baz=237						
OMMB	**Old Mammoth Mi**	**78.63**	**44**	P	**P**	**01 30 02.8**	**+0.5**
OMMB				IAmb	IAmb	01 30 04.2	
	comp=Z,23nm,1.3s						
YBH	**Yreka Blue Hor**	**78.64**	**39**	P	**P**	**01 30 02.5**	**+0.6**
YBH				IAmb	IAmb	01 30 04.0	
	comp=Z,16nm,0.8s						
SLBS	**Sierra La Lagu**	**78.66**	**60**	P	**P**	**01 30 02.5**	**+0.1**
EMB	**Emerald Bay**	**78.67**	**43**	P	**P**	**01 30 01.7**	**-0.6**
M11K	**Mekoryuk**	**78.75**	**6**	P	**P**	**01 30 02.2**	**+0.3**
	baz=192						
MLAC	**Mammoth, Mammo**	**78.75**	**44**	P	**P**	**01 30 03.6**	**+0.8**
	baz=237						
Q18K	**Katmai Hardscr**	**78.79**	**12**	P	**P**	**01 30 01.9**	**-0.5**
	baz=203,SNR=7.0						
BELC	**Belle Mtn. Jos**	**78.79**	**49**	P	**P**	**01 30 04.3**	**+1.3**
	baz=239,SNR=10						
MPMC	**Manual Prospec**	**78.81**	**46**	P	**P**	**01 30 04.2**	**+1.0**
	baz=238,SNR=16						
N14K	**Kuskokwak Cree**	**78.85**	**9**	P	**P**	**01 30 02.5**	**+0.1**
	baz=196						
GSC	**Goldstone, Bar**	**78.89**	**47**	P	**P**	**01 30 04.2**	**+0.8**
	baz=238,SNR=5.9						
MPK	**Martis Peak**	**78.89**	**42**	P	**P**	**01 30 04.3**	**+0.7**
HEC	**Hector,Ludlow**	**78.98**	**48**	P	**P**	**01 30 04.8**	**+1.0**
	baz=239,SNR=5.8						
BC3	**Big Chuckawall**	**79.01**	**49**	P	**P**	**01 30 05.7**	**+1.6**
	baz=240,SNR=8.1						
P17K	**Kvichak River**	**79.02**	**11**	P	**P**	**01 30 02.9**	**-0.4**
	baz=201,SNR=7.6						
PNTR	**Pine Nut**	**79.05**	**43**	P	**P**	**01 30 04.7**	**+0.3**
PNTR				IAmb	IAmb	01 30 06.4	
	comp=Z,38nm,0.8s						
O16K	**Kokwok River B**	**79.09**	**10**	P	**P**	**01 30 02.1**	**-1.7**
	baz=200						
L04D	**Klamath Falls**	**79.17**	**39**	P	**P**	**01 30 05.5**	**+0.7**
L04D				IAmb	IAmb	01 30 06.5	
	comp=Z,29nm,0.8s						
QSM	**Queen of Sheba**	**79.19**	**47**	P	**P**	**01 30 05.1**	**+0.2**
N15K	**Kwethluk River**	**79.32**	**9**	P	**P**	**01 30 05.2**	**+0.2**
	baz=198						
Q19K	**Cape Douglas,**	**79.33**	**13**	P	**P**	**01 30 04.4**	**-0.6**
	baz=204						
GRAC	**Grapevine Rang**	**79.39**	**45**	IAmb	IAmb	01 30 07.8	
	comp=Z,17nm,0.7s						
GRAC	**Grapevine Rang**	**79.39**	**45**	P	**P**	**01 30 07.4**	**+1.5**
	baz=238,SNR=8.0						
P18K	**Big Mountain,**	**79.43**	**12**	P	**P**	**01 30 04.7**	**-0.9**
P18K				IAmb	IAmb	01 30 05.7	
	comp=Z,33nm,0.8s						

P18K Big Mountain, 79.43 12 P P 01 30 05.0 -0.6
baz=202,SNR=8.2
GMRC Granite Mounta 79.43 48 P P 01 30 07.2 +0.9
baz=239,SNR=5.9
O17K Koliganek Bris 79.44 11 P P 01 30 04.8 -0.8
baz=201
PIX Pinacate 79.45 52 P P 01 30 06.8 +0.5
FURC Furnace Creek, 79.46 46 P P 01 30 07.3 +1.1
baz=238
IRM Iron Mountain 79.48 49 P P 01 30 07.8 +1.3
baz=240,SNR=9.6
RYN Ryan 79.50 44 P P 01 30 07.2 +0.6
PAHR Pah Rah Range 79.54 42 P P 01 30 07.2 +0.4
PAHR IAmb IAmb 01 30 08.7
comp=Z,26nm,1.2s
NVAR Mina Array Bea 79.54 44 P P 01 30 07.8 +0.8
comp=Z,13nm,0.8s,baz=224,slow=8.7,SNR=85
comp=Z,13nm,0.8s
TUQ Turquoise Moun 79.58 47 P P 01 30 08.0 +0.9
baz=239,SNR=14
M14K Bethel 79.61 8 P P 01 30 06.0 -0.4
baz=196
NV11 Mina Array Sit 79.64 44 IAmb IAmb 01 30 09.3
comp=Z,24nm,1.1s
BLYC Blythe 79.73 50 P P 01 30 08.7 +1.0
BLYC IAmb IAmb 01 30 10.0
comp=Z,14nm,0.8s
M15K Kasigluk River 79.73 9 P P 01 30 06.9 -0.2
baz=197
MZP Montezuma Peak 79.76 45 P P 01 30 08.3 +0.1
WCT Wildcat Mounta 79.79 46 P P 01 30 08.3 +0.2
113A Mohawk Valley, 79.80 51 P P 01 30 09.1 +0.9
N16K Nishlik Lake 79.81 10 P P 01 30 06.5 -1.1
baz=199
O18K Koktuh Hills 79.86 12 P P 01 30 07.5 -0.4
O18K Koktuh Hills 79.86 12 P P 01 30 07.7 -0.1
baz=202,SNR=13
KVN Kaiserville 80.01 43 IAmb IAmb 01 30 11.1
comp=Z,19nm,1.0s
TPH Tonopah 80.06 45 P P 01 30 10.5 +0.8
L14K Kuka Creek 80.08 8 P P 01 30 09.1 +0.2
baz=195
214A Organ Pipe Nat 80.12 52 P P 01 30 10.9 +1.0
214A Organ Pipe Nat 80.12 52 P P 01 30 11.5 +1.6
baz=242
N17K Nushagak Hills 80.13 10 P P 01 30 08.6 -0.6
baz=200
TPNV Topopah Spring 80.13 46 P P 01 30 10.4 +0.4
TPNV Topopah Spring 80.13 46 P P 01 30 11.2 +1.2
baz=239,SNR=10
BNX BinXian 80.14 325 ⇓P P 01 30 09.3 -0.3
BNX pmax pmax
comp=Z,8.0nm,0.8s
BNX pmax pmax
comp=Z,110nm,4.4s
PDMCI Parker Dam,Lak 80.28 49 P P 01 30 11.9 +1.3
baz=240
M16K Timber Creek 80.31 9 IAmb IAmb 01 30 11.4
comp=Z,27nm,0.9s
M16K Timber Creek 80.31 9 P P 01 30 11.1 +1.0
baz=199
K05A Summer Lake 80.31 39 P P 01 30 11.2 +0.3
O19K Port Alsworth 80.35 12 P P 01 30 09.8 -0.5
baz=203,SNR=7.7
ILSW Iliamna Southw 80.40 13 IAmb IAmb 01 30 10.7
comp=Z,29nm,0.7s
HOM Homer 80.42 13 P P 01 30 09.9 -0.8
baz=206
J05D Fort Rock, OR 80.44 39 P P 01 30 12.1 +0.7
V12A Nelson 80.48 48 P P 01 30 12.5 +0.7
N18K Kilae Creek 80.50 11 P P 01 30 10.5 -0.6
baz=202
L15K Ungalak Mounta 80.56 8 P P 01 30 11.3 -0.1
baz=196
O20K Slope Mountain 80.59 13 P P 01 30 11.2 -0.5
baz=205
WTNK Soaring Height 80.60 47 P P 01 30 13.7 +1.4
SHPR Sheep Range 80.66 47 P P 01 30 13.2 +0.5
BRLK Bradley Lake 80.69 14 P P 01 30 11.7 -0.4
BRLK IAmb IAmb 01 30 12.5
comp=Z,24nm,0.8s
BRSE Bradley Lake S 80.70 14 P P 01 30 12.0 -0.2
baz=207
H04A Detroit Lake 80.71 37 P P 01 30 13.1 +0.5
H04A IAmb IAmb 01 30 13.4
comp=Z,16nm,0.6s
L16K Owhat River 80.88 9 P P 01 30 13.0 0.0
L16K IAmb IAmb 01 30 14.5
comp=Z,17nm,1.1s
L16K Owhat River 80.88 9 P P 01 30 13.3 +0.2
baz=198
N19K Bonanza Creek 80.89 12 IAmb IAmb 01 30 12.8
comp=Z,16nm,1.0s
N19K Bonanza Creek 80.89 12 P P 01 30 12.5 -0.8
baz=203
M17K Holitna River 80.91 10 P P 01 30 14.1 +0.9
baz=200
RSO Redoubt South 80.91 13 P P 01 30 13.0 -0.5
I05D Terrebonne, OR 80.99 38 P P 01 30 13.8 -0.3
I05D IAmb IAmb 01 30 15.4
comp=Z,21nm,0.9s
K15K Wolf Creek Mou 81.15 8 P P 01 30 15.2 +0.8
baz=196
PRN Pahroc Range 81.19 46 P P 01 30 16.0 +0.6
PRN IAmb IAmb 01 30 17.8
comp=Z,25nm,0.9s
M18K Stony River 81.27 11 P P 01 30 15.5 +0.4
baz=202
R11B Troy Canyon, C 81.31 45 P P 01 30 16.7 +0.6
baz=239,SNR=13
BMN Battle Mountai 81.32 43 IAmb IAmb 01 30 17.9
comp=Z,28nm,1.0s
HOOD Mount Hood Mea 81.39 37 IAmb IAmb 01 30 17.7
comp=Z,36nm,1.2s
L17K Donlin 81.46 9 P P 01 30 17.1 +1.0
baz=199,SNR=9.5
WVOR Wild Horse Val 81.52 40 IAmb IAmb 01 30 18.9
comp=Z,32nm,1.0s
O22K Cooper Landing 81.59 14 P P 01 30 15.8 -0.9
baz=208
GAMB Gambell 81.69 3 P P 01 30 16.2 -0.8
baz=186
N20K Mount Spurr 81.70 13 P P 01 30 16.6 -0.8
baz=205
L18K Granite Mounta 81.80 10 IAmb IAmb 01 30 19.2
comp=Z,41nm,1.4s
L18K Granite Mounta 81.80 10 P P 01 30 18.3 +0.5
baz=201
TUC Tucson 81.81 52 P P 01 30 19.4 +0.8
TUC IAmb IAmb 01 30 21.5
comp=Z,23nm,1.1s
TUC Tucson 81.81 52 P P 01 30 20.8 +2.2
baz=243
M19K Big River Lodg 81.92 11 P P 01 30 18.1 -0.3
M19K Big River Lodg 81.92 11 P P 01 30 17.9 -0.4
baz=203
I07A Izee 81.92 39 P P 01 30 19.1 +0.2
I07A IAmb IAmb 01 30 20.9
comp=Z,26nm,0.8s
K17K Iditarod 82.01 9 P P 01 30 19.1 +0.3
baz=199
BELA Belgrano 2 82.07 173 P P 01 30 18.9 -0.2
BELA IAmb IAmb 01 30 20.5
comp=Z,13nm,0.8s
L19K White Mountain 82.09 11 P P 01 30 19.5 +0.2
baz=203,SNR=5.4
GNW Green Mountain 82.09 34 IAmb IAmb 01 30 21.2
comp=Z,18nm,0.9s
RC01 Rabbit Creek A 82.13 14 IAmb IAmb 01 30 19.9
comp=Z,29nm,1.2s
RC01 Rabbit Creek A 82.13 14 P P 01 30 19.0 -0.5
baz=208
J08A Circle Bar Ran 82.13 40 IAmb IAmb 01 30 21.9
comp=Z,34nm,1.1s
M20K Styx River 82.14 12 P P 01 30 18.8 -0.8
baz=204
Q12A Willow Creek R 82.17 45 P P 01 30 20.8 +0.4
Q12A IAmb IAmb 01 30 22.3
comp=Z,25nm,1.1s
J16K Anvik River 82.23 8 IAmb IAmb 01 30 20.8
comp=Z,14nm,0.8s
J16K Anvik River 82.23 8 P P 01 30 19.7 -0.2
baz=197,SNR=9.4
LCMT Little Creek M 82.24 47 IAmb IAmb 01 30 22.9
comp=Z,16nm,0.9s
SUA Susitna One 82.24 13 P P 01 30 19.6 -0.6
SUA IAmb IAmb 01 30 21.1
comp=Z,23nm,0.8s
SUA Susitna One 82.24 13 P P 01 30 19.3 -0.8
baz=206
PWL Port Wells 82.25 14 IAmb IAmb 01 30 20.2
comp=Z,22nm,0.8s
PWL Port Wells 82.25 14 P P 01 30 19.4 -0.7
baz=209,SNR=5.4
X16A Lo Mia Camp, P 82.29 50 P P 01 30 22.0 +0.9
X16A IAmb IAmb 01 30 23.8
comp=Z,23nm,1.0s
D05A Enumclaw 82.32 35 P P 01 30 21.4 +0.7
CCUT Cedar City 82.42 47 P P 01 30 22.7 +0.9
CCUT IAmb IAmb 01 30 24.2
comp=Z,15nm,0.9s
SPR3 Spring Creek 3 82.48 45 P P 01 30 22.2 +0.1
319A Douglas 82.53 54 P P 01 30 23.4 +1.0
319A IAmb IAmb 01 30 25.3
comp=Z,29nm,0.9s
KNB Kanab 82.54 47 P P 01 30 22.1 -0.2
KNB IAmb IAmb 01 30 24.6
comp=Z,17nm,0.9s
L20K Farewell, AK 82.54 11 P P 01 30 21.2 -0.4
baz=204
SKT Skwentna 82.54 12 P P 01 30 20.1 -1.4
baz=206
GLI Glacier Island 82.56 15 P P 01 30 20.8 -0.8
baz=210
PSUT Pine Spring 82.57 46 P P 01 30 23.1 +0.6
PSUT IAmb IAmb 01 30 24.2
comp=Z,13nm,0.7s
TTA Tatalina 82.58 10 P P 01 30 22.0 +0.2
baz=202,SNR=7.2
U15A North Rim 82.63 48 P P 01 30 24.2 +1.2
SZCU Shurtz Canyon 82.64 47 P P 01 30 24.2 +1.4
SZCU IAmb IAmb 01 30 25.2
comp=Z,20nm,1.3s
M22K Willow 82.64 13 P P 01 30 21.4 -0.5
baz=207
KNK Knik Glacier 82.71 14 IAmb IAmb 01 30 22.7
comp=Z,16nm,0.8s
KNK Knik Glacier 82.71 14 P P 01 30 21.8 -0.6
baz=209
F07A Phinny Hill Vi 82.71 37 P P 01 30 22.8 +0.1
F07A IAmb IAmb 01 30 24.3
comp=Z,15nm,0.8s
PMR Palmer 82.71 14 P P 01 30 21.0 -1.3
PMR IAmb IAmb 01 30 22.5
comp=Z,30nm,1.4s
PMR Palmer 82.71 14 P P 01 30 21.8 -0.5
baz=208
ELK Elko 82.77 43 P P 01 30 23.8 +0.4
ELK IAmb IAmb 01 30 25.2
comp=Z,15nm,1.0s
I17K Unalakleet 82.79 8 P P 01 30 22.9 +0.2
baz=197
WUAZ Wupatki 82.85 49 IAmb IAmb 01 30 26.4
comp=Z,23nm,1.1s
WUAZ Wupatki 82.85 49 P P 01 30 25.3 +1.4
baz=242,SNR=18
G08A Pilot Rock 82.92 38 IAmb IAmb 01 30 25.7
comp=Z,21nm,1.1s
J18K Innoko River 82.97 10 IAmb IAmb 01 30 24.5
comp=Z,19nm,0.8s
J18K Innoko River 82.97 10 P P 01 30 23.7 +0.1
baz=201,SNR=13
SIT Sitka 82.99 22 P P 01 30 25.0 +1.2
baz=221
LTY Liberty 83.08 35 IAmb IAmb 01 30 25.9
comp=Z,16nm,1.1s
SML Sawmill 83.08 14 P P 01 30 23.8 -0.5
baz=209
PKCU Pink Cliffs 83.10 47 P P 01 30 26.7 +1.4
PKCU IAmb IAmb 01 30 28.3
comp=Z,32nm,1.0s
E07A Sunnyside 83.13 36 IAmb IAmb 01 30 26.7
comp=Z,38nm,1.1s
CUT Chulitna 83.19 13 IAmb IAmb 01 30 24.8
comp=Z,36nm,1.0s
CUT Chulitna 83.19 13 P P 01 30 24.0 -0.7
baz=207
M23K Glacier View 83.21 14 P P 01 30 23.9 -1.0
baz=209
HAWA Hanford 83.22 37 IAmb IAmb 01 30 27.0
comp=Z,27nm,1.1s
BMRM Bremner River 83.27 16 P P 01 30 24.9 -0.4
baz=212
K20K Telida 83.31 11 IAmb IAmb 01 30 26.0
comp=Z,21nm,0.8s
K20K Telida 83.31 11 P P 01 30 25.2 -0.1
baz=203,SNR=12
H16K Elim 83.33 7 P P 01 30 25.3 0.0
baz=196
MESA MESA 83.33 17 P P 01 30 25.8 +0.1
baz=215
SCM Sheep Creek Mo 83.34 14 P P 01 30 25.2 -0.4
SCM Sheep Creek Mo 83.34 14 P P 01 30 25.3 -0.3
baz=210,SNR=8.1
S31K Pelican 83.36 21 P P 01 30 26.4 +0.8
baz=220
KLU Klutina 83.38 15 P P 01 30 25.7 -0.2
baz=211
MTPU Mount Pierson 83.48 47 IAmb IAmb 01 30 30.0
comp=Z,15nm,0.9s
G15K Niukluk 83.48 6 P P 01 30 25.8 -0.3
baz=194
CRQE Cirque 83.49 17 P P 01 30 26.3 -0.1
baz=214
E08A Dider Farm, El 83.55 37 IAmb IAmb 01 30 28.5
comp=Z,15nm,0.7s
WRAK Wrangell Islan 83.62 24 P P 01 30 27.2 +0.2
baz=224
J19K Poorman 83.64 10 P P 01 30 27.2 +0.2
baz=202
MVU Marysvale 83.68 46 P P 01 30 29.5 +1.5
F14K Arctic Creek 83.74 5 P P 01 30 27.2 -0.2
baz=192
CAST Castle Rocks 83.74 12 IAmb IAmb 01 30 26.6
comp=Z,25nm,0.8s
CAST Castle Rocks 83.74 12 P P 01 30 25.8 -1.6
baz=205,SNR=23
MAW Mawson 83.75 200 P P 01 30 28.7 +1.2
baz=84,SNR=11
MAW Mawson 83.75 200 P P 01 30 27.8 +0.3
MAW Mawson 83.75 200 P P 01 30 28.3 +0.8
comp=Z,7.1nm,0.8s,baz=131,slow=6.3,SNR=15
comp=Z,7.1nm,0.8s
MFID Camas Ranch 83.79 41 IAmb IAmb 01 30 30.1
comp=Z,19nm,1.1s
RPSI Rantau Prapat 83.80 275 P P 01 30 27.8 -1.1
RPSI IAmb IAmb 01 30 29.5
comp=Z,27nm,0.9s
N25K Chitina, Valde 83.81 16 P P 01 30 27.9 0.0
baz=212,SNR=9.2
LYN LuoYang 83.84 309 ⇑P P 01 30 29.8 +1.2
LYN pmax pmax
comp=Z,30nm,0.7s
LYN pmax pmax
comp=Z,510nm,5.1s
M24K Tolsona, Glenn 83.85 15 P P 01 30 28.3 +0.2
baz=211
W18A Petrified Fore 83.86 50 P P 01 30 28.8 -0.2
GLB Gilahina Butte 83.88 16 IAmb IAmb 01 30 28.3
comp=Z,14nm,0.6s
WAT6 Susitna Watana 83.90 14 P P 01 30 28.0 -0.4
baz=209,SNR=8.9
H17K Granite Mounta 83.90 8 P P 01 30 27.0 -1.2
baz=198
WAT1 Susitna Watana 83.94 13 P P 01 30 27.8 -0.7
baz=208
D08A Wollman Farm, 83.94 36 IAmb IAmb 01 30 30.1
comp=Z,15nm,0.8s
MCARA McCarthy VSAT 84.04 16 P P 01 30 29.2 +0.2
baz=214
G16K Koyuk River 84.05 7 P P 01 30 29.1 +0.2
baz=195
J20K Nowinta River 84.06 10 P P 01 30 29.1 +0.1
baz=203
KTH Kantishna Hill 84.09 12 IAmb IAmb 01 30 29.9
comp=Z,17nm,0.9s
DUG Dugway, Tooele 84.09 45 P P 01 30 29.8 -0.1
baz=240
F15K North Star Dit 84.12 6 P P 01 30 29.5 +0.3
baz=193
CHUM Lake Minchumin 84.12 11 P P 01 30 28.4 -0.8
baz=205,SNR=7.1
TRF Thorofare Moun 84.12 12 P P 01 30 28.4 -1.1
baz=207,SNR=17
LOGN Logan Glacier 84.13 17 P P 01 30 29.6 -0.1
LOGN IAmb IAmb 01 30 30.4
comp=Z,25nm,1.1s
BARN Barnard Glacie 84.14 17 IAmb IAmb 01 30 30.6
comp=Z,24nm,1.0s
CTG Chitna Glacier 84.15 17 P P 01 30 29.6 -0.1
baz=215
CTGM Chitina Glacie 84.16 17 IAmb IAmb 01 30 30.5
comp=Z,22nm,1.0s
P29M Windy Craggy 84.16 19 P P 01 30 29.2 -0.4
baz=219
121A Cookes Peak, D 84.18 53 P P 01 30 30.6 +0.1
121A IAmb IAmb 01 30 33.2
comp=Z,10nm,0.9s
121A Cookes Peak, D 84.18 53 P P 01 30 31.8 +1.2
baz=244
BGU Big Grassy Mou 84.31 44 P P 01 30 30.4 -0.6
O28M Mount Upton 84.32 18 P P 01 30 30.7 -0.1
baz=216
G17K Kiwalik Mounta 84.35 7 P P 01 30 30.1 -0.3
baz=197
HARP HAARP 84.35 15 P P 01 30 30.4 -0.1
baz=212
DHY Denali Highway 84.41 14 P P 01 30 30.5 -0.5
baz=210
O29M Mount Kennedy 84.43 19 P P 01 30 31.4 +0.3
baz=218
HMU Henry Mountain 84.43 47 P P 01 30 31.9 +0.1
NLU North Lily Min 84.47 45 P P 01 30 32.4 +0.5
ZAIG Zacatecas 84.51 64 P P 01 30 33.3 +0.7
BPAW Bear Paw Mtn. 84.57 12 P P 01 30 29.7 -1.8
baz=206
PLID Pearl Lake 84.57 39 P P 01 30 32.1 -0.1
Q16A Castle Valley 84.59 46 IAmb IAmb 01 30 35.1
comp=Z,22nm,1.5s
GSI Gunungsitoli 84.65 273 P P 01 30 32.9 -0.2
MCK McKinley 84.65 13 P P 01 30 31.5 -0.5
baz=208,SNR=8.8
C09A Chrisman Ranch 84.72 36 P P 01 30 32.6 -0.1
C09A IAmb IAmb 01 30 34.0
comp=Z,17nm,1.1s
HLID Hailey 84.74 41 P P 01 30 33.1 0.0
HLID IAmb IAmb 01 30 35.1
comp=Z,12nm,0.8s
HLID Hailey 84.74 41 P P 01 30 34.2 +1.1
baz=239,SNR=14
TMUT Trail Mountain 84.75 46 P P 01 30 34.0 +0.7
TMUT IAmb IAmb 01 30 35.6
comp=Z,9.8nm,0.8s
PAX Paxson 84.76 14 P P 01 30 31.5 -1.1
baz=211
P30M Million Dollar 84.79 19 P P 01 30 33.3 +0.5
baz=219
MPU Maple Canyon 84.80 45 P P 01 30 33.5 +0.1
SKAG Skagway 84.81 21 P P 01 30 33.0 +0.3
SKAG IAmb IAmb 01 30 34.2
comp=Z,21nm,1.2s
SKAG Skagway 84.81 21 P P 01 30 33.0 +0.3
baz=221
T35M Bob Quinn 84.84 24 P P 01 30 33.5 +0.5
baz=225
YUK8 Steele Glacier 84.86 18 P P 01 30 33.5 +0.2
baz=217,SNR=7.7
SPUT South Promonto 84.88 44 P P 01 30 33.9 +0.2
M26K Nabesna, AK 84.89 16 IAmb IAmb 01 30 34.1
comp=Z,20nm,1.0s
M26K Nabesna, AK 84.89 16 P P 01 30 33.4 +0.2
baz=214
HVU Hansel Valley 84.89 43 P P 01 30 33.7 -0.1
H19K Roundabout Mou 84.94 9 P P 01 30 33.1 -0.1
baz=201
G18K Tagagawik 84.98 8 P P 01 30 33.1 -0.4
baz=199
YUK6 Outpost Mounta 85.00 18 P P 01 30 33.7 -0.3
baz=218
YUK3 Moose Creek 85.06 17 P P 01 30 34.6 +0.4
baz=216,SNR=9.6
SRU San Rafael Swe 85.13 46 P P 01 30 35.6 +0.5
SRU IAmb IAmb 01 30 36.7
comp=Z,11nm,0.7s
M27K Edge Creek, AK 85.15 16 IAmb IAmb 01 30 35.7
comp=Z,28nm,1.2s
M27K Edge Creek, AK 85.15 16 P P 01 30 34.9 +0.3
baz=215,SNR=9.0
H20K Anotleneega Mo 85.15 10 P P 01 30 34.1 -0.2
baz=202
S34M Telegraph Cree 85.16 23 P P 01 30 35.0 +0.5
S34M Telegraph Cree 85.16 23 P P 01 30 35.4 +0.9
baz=225,SNR=8.7
HYT Haines Junctio 85.17 19 P P 01 30 34.5 -0.1
baz=219
F17K Baldwin Pennin 85.18 7 P P 01 30 34.2 -0.2
baz=196
YUK4 Talbot Arm 85.24 18 P P 01 30 35.0 -0.1
baz=218
L26K Log Cabin Wild 85.33 15 IAmb IAmb 01 30 36.0
comp=Z,25nm,1.5s
L26K Log Cabin Wild 85.33 15 P P 01 30 35.2 -0.1
baz=213
I21K Tanana 85.36 11 P P 01 30 35.0 -0.3
baz=205,SNR=5.4
K24K Donnelly Dome 85.41 14 P P 01 30 35.5 -0.2
baz=211,SNR=7.0
G19K Purcell Mounta 85.43 9 P P 01 30 35.2 -0.4
baz=200
MLY Manley 85.45 11 IAmb IAmb 01 30 35.6
comp=Z,17nm,1.3s
MLY Manley 85.45 11 P P 01 30 34.8 -1.0
baz=206,SNR=6.4
P32M Atlin 85.46 21 P P 01 30 35.9 -0.1
baz=222
BVCY Beaver Creek 85.47 17 P P 01 30 36.3 +0.4
baz=216
TCUT Toone Canyon 85.47 44 P P 01 30 37.1 +0.3
TCUT IAmb IAmb 01 30 38.6
comp=Z,12nm,0.7s
Q32M Nakina River 85.50 22 P P 01 30 37.5 +1.2
baz=224
O30N Mendenhall 85.57 19 IAmb IAmb 01 30 37.7
comp=Z,10nm,0.8s
O30N Mendenhall 85.57 19 P P 01 30 36.5 0.0
baz=220
425A Indio Mountain 85.62 56 P P 01 30 37.9 +0.4
425A IAmb IAmb 01 30 40.3
comp=Z,19nm,1.3s
NEW Newport 85.63 36 P P 01 30 36.8 -0.2
NEW IAmb IAmb 01 30 38.0
comp=Z,8.0nm,0.8s
NEW Newport 85.63 36 P P 01 30 37.2 +0.2
baz=237,SNR=6.7
NEW Newport 85.63 36 P P 01 30 36.7 -0.4
comp=Z,6.8nm,0.7s,baz=238,slow=5.2,SNR=12
comp=Z,6.8nm,0.7s
BSUT Blindstream Ca 85.63 45 P P 01 30 37.3 -0.4
BSUT IAmb IAmb 01 30 39.5
comp=Z,8.6nm,0.9s
H21K Melozitna Rive 85.65 10 P P 01 30 36.5 -0.2
baz=204
HDA Harding Lake 85.67 13 IAmb IAmb 01 30 36.5
comp=Z,9.3nm,0.8s
HDA Harding Lake 85.67 13 P P 01 30 36.2 -0.6
baz=210,SNR=5.8
HDA P P 01 30 36.2 -0.6
baz=210,SNR=5.8
MNTX Cornudas Mount 85.68 55 P P 01 30 39.0 +1.3
baz=246
MVCO Mesa Verde 85.69 49 P P 01 30 37.6 -0.2
baz=244
CCB Clear Creek Bu 85.69 13 IAmb IAmb 01 30 36.8
comp=Z,26nm,1.3s
E17K Hotham Inlet 85.74 6 P P 01 30 36.8 -0.2
baz=196
L27K Beaver Creek, 85.75 16 P P 01 30 36.9 -0.3
baz=215
XLT XiLinHaoTe 85.78 319 eP P 01 30 38.3 +0.4
XLT pP PcP 01 30 55.6 +16
XLT pmax pmax
comp=Z,7.0nm,1.1s
XLT pmax pmax
comp=Z,150nm,5.1s
N30M Aishikik Lake 85.79 19 P P 01 30 37.0 -0.5
baz=219
I23K Minto, Yukon-K 85.82 12 P P 01 30 37.2 -0.3
baz=208
WHY Whitehorse 85.87 20 P P 01 30 38.3 +0.3
baz=221
MDM Murphy Dome 85.88 12 IAmb IAmb 01 30 37.6

comp=Z,25nm,1.2s
DLBC Dease Lake 85.95 23 P P 01 30 38.9 +0.6
baz=226
DLBC Dease Lake 85.95 23 P P 01 30 38.2 -0.1
comp=Z,5.9nm,0.8s,baz=202,slow=5.9,SNR=8.3
comp=Z,5.9nm,0.8s
SCRK Sand Creek 85.97 14 P P 01 30 38.1 -0.3
baz=213
F19K Shaleruckik Mo 85.99 8 P P 01 30 37.5 -0.7
baz=200
IL31 86.00 13 IAmb IAmb 01 30 38.2
comp=Z,7.4nm,0.7s
ILAR Eielson Array 86.00 13 P P 01 30 37.0 -1.3
comp=Z,3.3nm,0.5s,baz=222,slow=5.0,SNR=73
comp=Z,3.3nm,0.5s
TX31 Lajitas Ar. Si 86.10 58 P P 01 30 40.0 +0.2
TX32 Lajitas Array 86.10 58 P P 01 30 40.9 +1.1
TXAR Lajitas Array 86.10 58 P P 01 30 40.8 +1.0
TXAR Lajitas Array 86.10 58 P P 01 30 41.6 +1.8
comp=Z,16nm,0.8s,baz=220,slow=6.0,SNR=188
comp=Z,16nm,0.8s
H22K Ishtalitna Cre 86.11 11 P P 01 30 38.5 -0.3
baz=206,SNR=5.2
M29M Somme Creek 86.16 17 IAmb IAmb 01 30 39.8
comp=Z,8.7nm,0.9s
M29M Somme Creek 86.16 17 P P 01 30 39.1 -0.2
baz=218
POKR Poker Plat Res 86.18 13 IAmb IAmb 01 30 38.5
comp=Z,7.3nm,0.6s
POKR Poker Plat Res 86.18 13 P P 01 30 38.2 -1.1
baz=209
J25K Salcha River, 86.19 14 IAmb IAmb 01 30 40.0
comp=Z,31nm,1.5s
J25K Salcha River, 86.19 14 P P 01 30 38.8 -0.6
baz=211,SNR=8.8
E18K Tukpahlearik C 86.20 7 P P 01 30 39.0 -0.3
baz=197
ANMO Albuquerque 86.20 52 P P 01 30 40.1 -0.2
ANMO Albuquerque 86.20 52 P P 01 30 40.8 +0.5
baz=245
D17K Noatak River 86.21 6 P P 01 30 39.6 +0.3
baz=195
N31M Braeburn, Yuko 86.21 19 P P 01 30 39.7 +0.2
baz=220
P33M Teslin, Yukon 86.22 21 P P 01 30 39.9 +0.3
baz=223
XAN Xi'an 86.27 307 ⇑P P 01 30 41.8 +1.3
XAN pmax pmax
comp=Z,27nm,0.9s
XAN LR LR
comp=N,320nm,9.3s
XAN LR LR
comp=E,320nm,8.6s
XAN LR LR
comp=Z,310nm,7.9s
R33M Jennings River 86.28 22 P P 01 30 40.5 +0.5
baz=225
G21K Allakaket 86.32 10 P P 01 30 39.6 -0.2
baz=204
F20K Avaraart Lake 86.47 9 P P 01 30 40.4 -0.2
baz=202
K27K Chicken 86.48 15 P P 01 30 40.9 +0.3
baz=214
J26L Joseph Creek 86.52 14 IAmb IAmb 01 30 41.6
comp=Z,10.0nm,0.8s
J26L Joseph Creek 86.52 14 P P 01 30 41.1 +0.2
baz=213,SNR=11
ALPN Alpine 86.53 57 IAmb IAmb 01 30 44.4
comp=Z,39nm,1.4s
E19K Redstone River 86.65 8 IAmb IAmb 01 30 41.5
comp=Z,6.5nm,0.7s
E19K Redstone River 86.65 8 P P 01 30 40.8 -0.5
baz=200
MSO Missoula 86.70 38 P P 01 30 41.9 -0.4
MSO Missoula 86.70 38 P P 01 30 42.4 +0.2
baz=239,SNR=5.0
H24K Noodor Dome 86.72 12 P P 01 30 40.3 -1.6
baz=209
M30M Minto, Yukon 86.75 18 IAmb IAmb 01 30 42.9
comp=Z,16nm,0.9s
M30M Minto, Yukon 86.75 18 P P 01 30 42.1 +0.1
baz=219,SNR=10
L29M L29M 86.78 17 IAmb IAmb 01 30 43.7
comp=Z,18nm,1.1s
L29M L29M 86.78 17 P P 01 30 42.4 +0.3
baz=218
N32M Quiet Lake 86.82 20 IAmb IAmb 01 30 43.8
comp=Z,16nm,1.1s
N32M Quiet Lake 86.82 20 P P 01 30 42.7 +0.3
baz=223
TPAW Teton Pass 86.90 42 IAmb IAmb 01 30 45.5
comp=Z,13nm,1.0s
FXWY Fox Creek 86.92 42 P P 01 30 43.5 0.0
FXWY IAmb IAmb 01 30 46.5
comp=Z,7.9nm,0.8s
PRP Porcupine Dome 86.94 13 P P 01 30 42.6 -0.3
baz=211
F21K Alatna River 86.97 9 P P 01 30 42.5 -0.5
baz=204
G22K Bettles 87.02 10 P P 01 30 42.9 -0.2
baz=206
G23K Bananza Creek 87.09 11 P P 01 30 43.3 -0.2
baz=207
S22A 4UR Ranch, Cre 87.12 49 IAmb IAmb 01 30 46.7
comp=Z,11nm,1.1s
S22A 4UR Ranch, Cre 87.12 49 P P 01 30 45.8 +1.1
baz=245,SNR=9.7
MOOW Moose Ponds 87.15 42 P P 01 30 45.0 +0.4
O20A White River Ci 87.16 46 P P 01 30 44.8 +0.1
O20A IAmb IAmb 01 30 46.5
comp=Z,11nm,1.0s
O20A White River Ci 87.16 46 P P 01 30 45.5 +0.8
baz=244
LOHW Long Hollow 87.18 42 P P 01 30 44.9 +0.1
LOHW IAmb IAmb 01 30 46.0
comp=Z,7.8nm,0.8s
M31M Drury Creek, Y 87.19 19 P P 01 30 43.4 -0.6
baz=222
DAWY Dawson 87.20 16 IAmb IAmb 01 30 45.0
comp=Z,17nm,1.3s
DAWY Dawson 87.20 16 P P 01 30 44.3 +0.2
baz=217,SNR=7.1
I26K Coal Creek Min 87.29 14 P P 01 30 44.7 +0.3
baz=213
HHC Hu-ho-hao-te 87.30 314 *e*P P 01 30 42.2 -3.0
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,150nm,5.0s
EGAK Eagle 87.33 15 IAmb IAmb 01 30 45.3
comp=Z,28nm,1.5s
EGAK Eagle 87.33 15 P P 01 30 44.4 -0.2
baz=215
YFT Old Faithful 87.43 42 P P 01 30 47.5 +1.6
YFT IAmb IAmb 01 30 49.1
comp=Z,13nm,0.8s
F22K John River 87.44 10 P P 01 30 45.1 0.0
baz=205
YMR Madison River 87.45 41 P P 01 30 46.7 +0.8
YMR IAmb IAmb 01 30 48.5
comp=Z,21nm,1.0s
BW06 Boulder Array 87.46 43 IAmb IAmb 01 30 47.4
comp=Z,11nm,0.8s
BW06 Boulder Array 87.46 43 P P 01 30 46.4 +0.3
baz=243
PD31 Pinedale Array 87.47 43 IAmb IAmb 01 30 47.4
comp=Z,10.0nm,0.8s
PDAR Pinedale Array 87.47 43 P P 01 30 46.6 +0.5
comp=Z,7.0nm,0.6s,baz=221,slow=3.3,SNR=88
PDAR PP PP 01 34 19.1 -3.0
comp=Z,1.8nm,1.0s,baz=243,slow=6.5,SNR=6.9
comp=Z,7.0nm,0.6s
BOZ Bozeman (W) 87.48 40 P P 01 30 46.1 +0.1
BOZ IAmb IAmb 01 30 47.9
comp=Z,14nm,1.1s
BOZ Bozeman (W) 87.48 40 P P 01 30 47.2 +1.3
baz=241,SNR=5.6
D19K Kuna River 87.52 7 P P 01 30 44.5 -0.9
baz=199
H25L Birch Creek 87.52 13 P P 01 30 44.1 -1.4
baz=211
COLD Coldfoot 87.52 11 P P 01 30 45.5 0.0
baz=207
K29M Barlow Dome 87.53 17 IAmb IAmb 01 30 47.0
comp=Z,18nm,1.4s
K29M Barlow Dome 87.53 17 P P 01 30 45.8 +0.1
baz=219
FARO Faro, Yukon 87.53 19 P P 01 30 45.1 -0.6
baz=222
E20K Nigu River 87.54 8 P P 01 30 45.7 +0.1
baz=201
G24K Hadweenzic Riv 87.56 12 P P 01 30 45.3 -0.4
baz=209
H17A Grant Village 87.56 42 P P 01 30 47.9 +1.3
H17A IAmb IAmb 01 30 49.6
comp=Z,15nm,0.8s
H17A Grant Village 87.56 42 P P 01 30 48.9 +2.4
baz=242,SNR=15
WTLY Watson Lake, Y 87.57 22 P P 01 30 46.3 +0.4
baz=226
SAND Sanderson 87.58 58 P P 01 30 47.6 +0.9
SAND IAmb IAmb 01 30 48.7
comp=Z,13nm,0.9s
MNHN Monahans 87.60 56 P P 01 30 47.8 +1.1
MNHN IAmb IAmb 01 30 48.6
comp=Z,7.8nm,0.9s
YNR Norris Junctio 87.65 41 P P 01 30 48.2 +1.3
YNR IAmb IAmb 01 30 50.8
comp=Z,11nm,1.1s
MAYO Mayo, Yukon 87.80 18 P P 01 30 46.7 -0.1
baz=220
G25K Bearman Lake 87.89 12 P P 01 30 46.9 -0.2
baz=211
I27K Kandik River 87.89 14 P P 01 30 46.4 -0.9
baz=215
D20K Etuk River 87.91 8 P P 01 30 47.0 -0.2
baz=201
C19K Lookout Ridge 87.93 7 P P 01 30 47.6 +0.2
baz=198
E21K Killik River 88.02 9 IAmb IAmb 01 30 48.1
comp=Z,18nm,1.4s
E21K Killik River 88.02 9 P P 01 30 47.3 -0.5
baz=203
ODSA Odessa 88.06 55 P P 01 30 49.2 +0.3
ODSA IAmb IAmb 01 30 50.8
comp=Z,17nm,1.0s
E22K Anaktuvuk Pass 88.07 10 IAmb IAmb 01 30 48.7
comp=Z,9.3nm,1.1s
E22K Anaktuvuk Pass 88.07 10 P P 01 30 47.4 -0.6
baz=205
SDCO Great Sand Dun 88.07 49 P P 01 30 49.3 +0.2
SDCO Great Sand Dun 88.07 49 P P 01 30 49.5 +0.3
baz=245
I28M Miner Creek 88.17 15 P P 01 30 48.1 -0.6
baz=216
F24K Squaw Lake 88.20 11 IAmb IAmb 01 30 49.5
comp=Z,7.6nm,0.8s
F24K Squaw Lake 88.20 11 P P 01 30 48.9 +0.3
baz=209
BTO Baotou 88.25 314 *e*P P 01 30 51.3 +1.7
BTO pmax pmax
comp=Z,14nm,0.7s
BTO pmax pmax
comp=Z,240nm,4.4s
E23K Chandalar 88.37 10 P P 01 30 49.9 +0.4
baz=207
J30M Hart River 88.43 17 P P 01 30 49.5 -0.4
baz=220
H27K Steamboat Moun 88.43 14 P P 01 30 50.2 +0.4
baz=215
I29M Ogilvie Camp, 88.52 16 IAmb IAmb 01 30 50.6
comp=Z,6.1nm,0.9s
I29M Ogilvie Camp, 88.52 16 P P 01 30 49.8 -0.4
baz=218
G26K Porcupine Rive 88.53 13 P P 01 30 50.9 +0.8
baz=213
C21K Knifeblade Rid 88.57 8 P P 01 30 50.4 +0.1
baz=202
E24K Your Creek 88.58 11 P P 01 30 50.5 0.0
baz=208
DRIO Del Rio 88.59 59 P P 01 30 52.3 +0.9
DRIO IAmb IAmb 01 30 53.6
comp=Z,30nm,0.9s
MSTX Muleshoe 88.60 54 P P 01 30 51.8 +0.4
baz=247
D22K Ayikyak River 88.62 9 IAmb IAmb 01 30 51.1
comp=Z,10.0nm,0.7s
D22K Ayikyak River 88.62 9 P P 01 30 50.9 +0.3
baz=204
T25A Trinidad 88.62 50 P P 01 30 51.2 -0.3
T25A IAmb IAmb 01 30 54.2
comp=Z,8.1nm,1.1s
F25K Christian Rive 88.70 12 P P 01 30 51.3 +0.3
baz=211
TGTN Hyland Airport 88.73 22 P P 01 30 52.0 +0.7
baz=227,SNR=8.4
RLMT Red Lodge 88.73 41 P P 01 30 52.5 +0.6
RLMT IAmb IAmb 01 30 54.0
comp=Z,9.3nm,0.9s
RLMT Red Lodge 88.73 41 P P 01 30 53.2 +1.3
baz=243
OZNA Ozona 88.74 57 P P 01 30 52.2 +0.1
OZNA IAmb IAmb 01 30 53.9
comp=Z,16nm,0.8s
ISCO Idaho Springs 88.84 47 P P 01 30 53.6 +1.0
baz=245
CMAR Chiang Mai Arr 88.86 290 P P 01 30 54.0 +1.2
comp=Z,3.6nm,0.4s,baz=114,slow=3.0,SNR=24
comp=Z,3.6nm,0.4s
G27K Doyon Strip 88.88 14 P P 01 30 51.6 -0.2
baz=215
I30M Mount Dempster 88.92 16 IAmb IAmb 01 30 52.8
comp=Z,9.8nm,1.0s
I30M Mount Dempster 88.92 16 P P 01 30 52.2 0.0
baz=220
D23K Nanushuk River 89.00 10 P P 01 30 52.5 +0.2
baz=206
B21K Ikpikpuk River 89.02 8 P P 01 30 52.3 -0.1
baz=203
ELIB Princess Elisa 89.05 187 *d*P P 01 30 53.2 +0.3
comp=Z,19nm,0.8s
ELIB *d*pP pP 01 32 57.2 -0.8
B20K Meade River 89.06 7 P P 01 30 51.7 -0.9
baz=200
N23A Red Feather La 89.07 46 P P 01 30 54.8 +1.1
baz=245,SNR=10
F26K Sheenjek River 89.08 12 P P 01 30 52.6 -0.2
baz=212
PZH PanZhiHua 89.15 298 P P 01 30 55.4 +1.2
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,7.0s
E25K Arctic Village 89.17 12 IAmb IAmb 01 30 54.2
comp=Z,7.4nm,1.1s
E25K Arctic Village 89.17 12 P P 01 30 53.4 +0.2
baz=211
H29M Whitestone 89.18 15 P P 01 30 53.3 +0.1
H29M IAmb IAmb 01 30 54.5
comp=Z,15nm,1.0s
H29M Whitestone 89.18 15 P P 01 30 53.4 +0.2
baz=218
833A Chaparral WMA, 89.20 60 P P 01 30 55.8 +1.6
baz=249
POST Post 89.24 55 IAmb IAmb 01 30 55.5
comp=Z,14nm,0.7s
HBVL Hebbronville 89.36 61 IAmb IAmb 01 30 57.8
comp=Z,17nm,1.2s
KOTAN Kotaneelee Air 89.36 24 P P 01 30 54.4 +0.3
baz=231
K22A Casper 89.42 45 IAmb IAmb 01 30 56.7
comp=Z,14nm,1.3s
K22A Casper 89.42 45 P P 01 30 55.0 -0.1
baz=245
D24K Happy Valley 89.48 10 P P 01 30 54.3 -0.3
baz=208
PHWY Pilot Hill 89.57 46 IAmb IAmb 01 30 57.4
comp=Z,8.4nm,0.9s
JCT Junction City 89.64 58 IAmb IAmb 01 30 57.7
comp=Z,8.7nm,0.8s
JCT Junction City 89.64 58 P P 01 30 56.8 +0.6
baz=249
SN01 Snyder 1 89.64 55 IAmb IAmb 01 30 57.5
comp=Z,14nm,0.8s
EPYK Eagle Plains 89.72 16 IAmb IAmb 01 30 56.4
comp=Z,13nm,0.9s
EPYK Eagle Plains 89.72 16 P P 01 30 55.8 0.0
baz=219,SNR=6.9
EGMT Eagleton 89.76 39 P P 01 30 56.6 +0.2
baz=242
AMTX Amarillo 89.78 53 IAmb IAmb 01 30 58.2
comp=Z,10nm,0.8s
AMTX Amarillo 89.78 53 P P 01 30 57.6 +0.8
baz=248
C23K Itkillik River 89.80 9 P P 01 30 56.2 +0.2
baz=206
G29M Pine Creek 89.81 15 IAmb IAmb 01 30 56.8
comp=Z,12nm,1.1s
G29M Pine Creek 89.81 15 P P 01 30 56.6 +0.4
baz=218
B22K Teshekpuk Lake 89.85 8 P P 01 30 56.2 0.0
baz=204
DKNS Dickens 89.91 55 P P 01 30 57.1 -0.4
DKNS IAmb IAmb 01 30 58.7
comp=Z,8.2nm,1.1s
H31M Peel River 89.91 17 IAmb IAmb 01 30 57.1
comp=Z,6.0nm,0.9s
H31M Peel River 89.91 17 P P 01 30 56.7 0.0
baz=222
F28M Old Crow 89.94 14 P P 01 30 56.4 -0.4
baz=216
C24K Franklin Bluff 90.00 10 P P 01 30 56.7 -0.2
baz=208
E27K Coleen River 90.03 13 P P 01 30 56.9 -0.3
baz=215
D25K Kavik River 90.05 11 P P 01 30 56.7 -0.6
baz=210
TROLL Troll, Antarti 90.21 180 P P 01 30 58.6 +0.3
comp=Z,438nm,0.7s
A22K Sinclair Lake 90.26 8 P P 01 30 58.0 -0.1
baz=202
EDM Edmonton 90.28 33 IAmb IAmb 01 30 58.8
comp=Z,8.0nm,0.6s
G30M tAoh Zraii Nji 90.31 15 P P 01 30 58.5 0.0
baz=220
A21K Barrow 90.36 7 P P 01 31 01.1 +2.5
baz=201
APMT Aspermont 90.41 55 IAmb IAmb 01 31 01.1
comp=Z,14nm,0.9s
SNAA Sanae 90.50 179 P P 01 30 59.8 +0.3
SNAA IAmb IAmb 01 31 00.5
comp=Z,11nm,1.3s
SNAA Sanae 90.50 179 ⇑P P 01 30 59.5 +0.1
comp=Z,70nm,0.6s
SNAA Sanae 90.50 179 P P 01 30 59.6 +0.1
comp=Z,2.9nm,0.7s,baz=210,slow=8.6,SNR=19
comp=Z,2.9nm,0.7s
ABTX Abilene, Hawle 90.53 56 P P 01 31 01.1 +0.8
baz=249
BRDY Brady 90.57 57 IAmb IAmb 01 31 02.1
comp=Z,12nm,1.1s
VNA3 Neumayer Olymp 90.64 176 ⇑P P 01 31 00.6 +0.5
comp=Z,14nm,0.7s
G31M Satah River 90.77 16 P P 01 30 59.3 -1.2
G31M Satah River 90.77 16 P P 01 31 00.5 0.0
baz=222,SNR=13
E28M Babbage River 90.82 13 IAmb IAmb 01 31 01.6
comp=Z,7.0nm,1.1s
E28M Babbage River 90.82 13 P P 01 31 00.5 -0.3
baz=217
C26K Camden Bay 90.83 11 P P 01 31 01.4 +0.6
baz=212
LZH Lanzhou 90.91 308 *e*P P 01 31 03.4 +1.3
LZH pmax pmax
comp=Z,14nm,1.0s
F30M Barrier River 90.91 15 P P 01 31 01.4 +0.2
baz=220
SMWD Samnorwood 90.96 53 IAmb IAmb 01 31 03.7
comp=Z,7.6nm,0.9s
E29M Blow River 91.01 14 P P 01 31 00.7 -0.9
baz=218
D27M Malcolm River 91.03 13 P P 01 31 01.8 0.0
baz=215
VNA2 Neumayer--Watz 91.08 177 ⇑P P 01 31 02.7 +0.6
comp=Z,7.6nm,0.7s,baz=171,slow=3.0
F31M Tsiigehtchic 91.30 16 P P 01 31 02.3 -0.6
baz=222,SNR=16
VNA1 Neumayer--Stat 91.31 177 ⇑P P 01 31 04.2 +1.1
comp=Z,12nm,0.9s
LAO LASA Array 91.33 41 P P 01 31 04.7 +1.0
baz=245
D28M Stokes Point 91.57 13 P P 01 31 04.4 +0.3
baz=218
PLPT Palo Pinto 91.64 56 IAmb IAmb 01 31 07.1
comp=Z,15nm,0.8s
RSSD Black Hills 91.68 44 P P 01 31 05.0 -0.5
RSSD IAmb IAmb 01 31 06.7
comp=Z,8.9nm,0.9s
RSSD Black Hills 91.68 44 P P 01 31 06.2 +0.7
baz=246
OGNE Ogallala 91.81 47 P P 01 31 05.9 -0.2
baz=248
FW03 Perrin-Whitt E 91.92 56 IAmb IAmb 01 31 08.4
comp=Z,11nm,0.9s
INK Inuvik 92.00 15 IAmb IAmb 01 31 06.3
comp=Z,11nm,1.0s
INK Inuvik 92.00 15 P P 01 31 05.6 -0.5
baz=222,SNR=7.6
INK Inuvik 92.00 15 P P 01 31 05.5 -0.7
comp=Z,8.6nm,0.9s,baz=227,slow=4.9,SNR=23
comp=Z,8.6nm,0.9s
WHTX Lake Whitney, 92.05 57 P P 01 31 07.8 +0.5
baz=250
CBKS Cedar Bluff 92.67 50 P P 01 31 10.8 +0.8
baz=249
DGMT Dagmar 93.31 40 P P 01 31 13.2 +0.5
baz=246
SONM Songino Array 93.59 319 P P 01 31 13.6 -0.5
comp=Z,1.0nm,1.0s,baz=117,slow=5.7,SNR=2.6
comp=Z,1.0nm,1.0s
YKA Yellowknife Ar 94.45 25 P P 01 31 16.8 -0.6
comp=Z,2.3nm,0.9s,baz=244,slow=4.5,SNR=18
YKA PP PP 01 35 12.8 -2.7
comp=Z,1.3nm,1.1s,baz=245,slow=8.4,SNR=5.2
comp=Z,2.3nm,0.9s
BGNE Belgrade 94.71 48 P P 01 31 20.4 +1.1
baz=250
KSU1 Kansas State U 95.06 51 P P 01 31 21.9 +1.1
baz=251
C36M Paulatuk 95.21 17 P P 01 31 20.5 -0.2
baz=231
ECSD EROS Data Cent 96.54 46 P P 01 31 27.3 -0.1
baz=251
A36M Sachs Harbour 96.59 15 P P 01 31 26.0 -0.9
A36M Sachs Harbour 96.59 15 P P 01 31 27.0 +0.1
baz=230
AGMN Agassiz Nation 98.45 42 P P 01 31 36.0 +0.2
baz=252
CCM Cathedral Cave 98.76 53 P Pdif 01 31 37.3 -0.1
baz=254
JFWS Jewell Farm 100.77 48 P Pdif 01 31 45.5 -0.7
baz=255
TZTN Tazewell 104.35 56 P Pdif 01 32 02.2 -0.1
baz=258
P52A Corning 106.04 53 P PKiKP 01 36 17.9 -0.2
baz=260
BVAR Borovoye Array 116.89 321 PKP PKPdf 01 36 37.7 -0.6
comp=Z,0.7nm,0.5s,baz=90,slow=1.5,SNR=6.4
GAZ Gaziantep 143.35 309 PKPdf PKPab 01 37 26.9 -0.1
LODK Lodwar 143.83 250 PKPdf PKPbc 01 37 29.3 0.0
BRTR Keskin Array B 144.81 315 PKPdf **PKPdf** 01 37 30.8 -0.3
BRTR Keskin Array B 144.81 315 PKP **PKPdf** 01 37 31.4 +0.3
comp=Z,4.5nm,0.8s,baz=138,slow=2.9,SNR=25
ANTO Ankara 145.31 315 PKPbc **PKPbc** 01 37 32.7 -0.4
OSTC Ostas 145.47 343 *e*PKP **PKPab** 01 37 33.9 -0.7
CHVC Chvalec 145.49 344 *e*PKP **PKPbc** 01 37 33.9 +0.7
CLL Collm 145.55 347 **PKPbc** 01 37 32.6 -0.7
CLL Collm 145.55 347 *i* PKPbc **PKPbc** 01 37 33.0 -0.3
comp=Z,12nm,1.1s
CLL *i* PKiKP **PKiKP** 01 37 36.2 +0.1
comp=Z,7.0nm,1.1s
CLL *ex* x 01 39 52.0
DPC Dobruska-Polom 145.63 343 *e*PKP **PKPbc** 01 37 34.1 +0.5
BRG Berggiesshubel 145.75 346 *e*PKP **PKPab** 01 37 35.1 -0.5
BRG Amp 01 37 36.8
comp=Z,3.7nm,0.8s
MMAI Mount Meron Ar 146.15 303 PKPbc **PKPbc** 01 37 36.1 +0.4
comp=Z,7.3nm,0.6s,baz=69,slow=4.6,SNR=15
VRAC Vranov 146.49 342 *e*PKP **PKPab** 01 37 39.1 +0.4
KRUC Moravsky 146.77 342 *e*PKP **PKPab** 01 37 40.0 +0.2
ZVC Zvikov 147.02 345 *e*PKP **PKPbc** 01 37 37.6 +0.2
KHC Kasperske Hory 147.46 345 *e*PKP **PKPbc** 01 37 39.0 +0.4
KHC *ex* x 01 37 43.1
CKRC Cesky Krumlov 147.56 344 *e*PKP **PKPbc** 01 37 39.2 +0.3
GERES GERESS Array B 147.69 345 PKPbc **PKPbc** 01 37 39.4 +0.1
comp=Z,0.7nm,0.8s,baz=27,slow=9.0,SNR=6.2
KBA Koelnbreinsper 149.42 344 *e*PKP **PKPdf** 01 37 38.7 +0.2
comp=Z,10nm,1.7s
MOTA Moosalm 149.70 347 *e*PKP **PKiKP** 01 37 44.8 -0.2
comp=Z,1.5nm,0.7s
SQTA Sankt Quirin 149.80 347 *e*PKP **PKiKP** 01 37 45.0 -0.2
comp=Z,1.5nm,0.5s
ABTA Abfaltersbach 149.94 345 *e*PKP **PKPbc** 01 37 44.8 -0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,1.5nm,0.6s						
DAVA	Damuels	150.00	349	ePKiKP	PKiKP	01 37 45.9	+0.3
	comp=Z,1.8nm,0.7s						
FETA	Feichten	150.09	347	ePKiKP	PKiKP	01 37 45.9	+0.1
	comp=Z,0.8nm,0.6s						
ESDC	Sonseca Array	157.89	11	PKPab	PKPab	01 38 26.4	-0.7
	comp=Z,1.5nm,0.8s,baz=336,slow=4.2,SNR=6.7						
TORD	Torodi Ar. Bea	175.16	182	PKPab	PKPab	01 39 44.0	+0.3
	comp=Z,0.6nm,0.7s,baz=149,slow=3.7,SNR=3.5						

IDC 01 01:52:46.9±2.4**,3°.24N×126°.93E,h0km,mb3.3**/3**, mbtmp3.3**/3**,Error ellipse: s-maj=202.3km s-min=27.8km az=66.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.16	163	P	P	01 58 05.0	-0.1
	0.2nm,0.4s,baz=342,slow=10.0,SNR=10.0						
	0.2nm,0.4s						
ASAR	Alice Springs	27.60	166	P	P	01 58 36.3	+0.2
	0.1nm,0.3s,baz=345,slow=11,SNR=1.4						
	0.1nm,0.3s						
MKAR	Makanchi Array	58.07	325	P	P	02 02 41.8	-0.2
	0.2nm,0.4s,baz=114,slow=8.0,SNR=4.1						
	0.2nm,0.4s						

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*IDC **01** 02:29:58.4±1.2,48°.74S×107°.02E,h0km,mb4.6/6, mbtmp4.6/6,MS5.0/3,Error ellipse: s-maj=54.8km s-min=19.4km az=121.0*

*NEIC **01** 02:30:00.6±2.2,48°.6S±0°.1×106°.7E±0°.2,h10km±1km, mb4.9/27,Error ellipse: s-maj=23.5km s-min=16.3km az=298.0*

*GCMT **01** 02:30:03.6±0.2,48°.68S±0°.01×106°.81E±0°.02,h13km±1km, MW5.4/97,Moment Tensor Solution. s43,c63; s97,c147; Duration: 1s.3 Moment tensor: Scale 10^17Nm; Mrr0.06±.05; Mθθ1.37±.06; Mφφ-1.42±.06; Mrθ-0.46±.14; Mθφ1.05±.05; Mφr-0.34±.13; Best double couple: M0 1.83600×10^17 NP1:φs205.00000°,δ82.00000°, λ164.00000°. NP2:φs298.00000°,δ74.00000°,λ8.00000°. Principal axes: T 1.8830, Plg17.0000°, Azm161.0000°; N -0.0860, Plg72.0000°, Azm1.0000°; P -1.7890, Plg6.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 02:30:00.2±0.5**,48°.71S**±0°.08×**106°.8E**±0°.1**,h10km,n64, σ1s.12**/63**,mb4.9**/25**,MS5.1**/3**,1D,Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	14.83	24	T	T	02 48 31.4	
	baz=198,slow=74,SNR=226						
H01W1	Cape Leeuwin H	14.84	24	T	T	02 48 30.7	
	baz=198,slow=74,SNR=272						
H01W3	Cape Leeuwin H	14.84	24	T	T	02 48 31.1	
	baz=198,slow=74,SNR=333						
NWAO	Narrogin (SRO)	17.60	30	Pn	Pn	02 34 04.3	-1.2
NWAO				IAmb	IAmb	02 34 17.8	
	comp=Z,195nm,1.9s						
MORW	Morawa	20.86	23	P	P	02 34 41.0	-1.2
FORT	Forrest	24.10	50		P	02 35 14.4	-1.5
BBOO	Buckleboo	27.03	65	P	P	02 35 42.6	+0.1
BBOO				IAmb	IAmb	02 35 52.5	
	comp=Z,29nm,1.0s						
MAW	Mawson	28.99	213	LR	LR	02 45 29.1	
	comp=Z,1μm,18.6s,baz=68,slow=32						
PSA00	Pilbara Seismi	29.01	26	P	P	02 35 58.6	-1.6
TOO	Toolangi	30.02	83	P	P	02 36 09.5	+0.4
TOO				IAmb	IAmb	02 36 21.7	
	comp=Z,30nm,1.3s						
STKA	Stephens Creek	31.06	70	P	P	02 36 19.2	+1.0
STKA	Stephens Creek	31.06	70	P	P	02 36 16.9	-1.3
	comp=Z,3.2nm,0.8s,baz=213,slow=10,SNR=4.4						
	comp=Z,3.2nm,0.8s						
ASAR	Alice Springs	32.88	50	P	P	02 36 33.4	-1.0
ASAR	Alice Springs	32.88	50	P	P	02 36 32.1	-2.3
	comp=Z,11nm,0.8s,baz=209,slow=8.4,SNR=76						
ASAR				PcP	PcP	02 39 17.5	-1.4
	comp=Z,2.0nm,0.9s,baz=215,slow=1.7,SNR=6.5						
	comp=Z,11nm,0.8s						
AS31	Alice Springs	32.88	50	P	P	02 36 34.4	-0.1
VNDA	Vanda	35.52	162	P	P	02 36 56.5	-0.2
VNDA				IAmb	IAmb	02 36 59.2	
	comp=Z,12nm,1.1s						
VNDA	Vanda	35.52	162	P	P	02 36 55.5	-1.2
	comp=Z,11nm,1.0s,baz=287,slow=9.3,SNR=25						
VNDA				LR	LR	02 50 32.1	
	comp=Z,5μm,18.3s,baz=296,slow=35						
	comp=Z,11nm,1.0s						
WRA	Warramunga Arr	36.23	47	P	P	02 37 03.1	-0.3
WRA	Warramunga Arr	36.23	47	P	P	02 37 02.4	-1.0
	comp=Z,18nm,0.8s,baz=211,slow=8.3,SNR=101						
WRA				PcP	PcP	02 39 27.6	-0.9
	comp=Z,1.5nm,0.8s,baz=221,slow=2.6,SNR=5.2						
	comp=Z,18nm,0.8s						
WB2	Warramunga Arr	36.23	47	P	P	02 37 03.1	-0.3
WRAB	Tennant Creek	36.24	47	P	P	02 37 03.2	-0.2
WRAB				IAmb	IAmb	02 37 04.8	
	comp=Z,26nm,0.9s						
SBA	Scott Base	36.63	162	P	P	02 37 08.1	+1.9
SBA				IAmb	IAmb	02 37 29.2	
	comp=Z,46nm,1.4s						
ARMA	Armidale	38.42	78	P	P	02 37 22.9	+0.9
MTN	Manton Dam	41.04	38	P	P	02 37 44.1	+0.4
MTN				IAmb	IAmb	02 37 45.3	
	comp=Z,19nm,0.9s						
QSPA	South Pole Qui	41.42	180	P	P	02 37 46.7	+0.1
QSPA				IAmb	IAmb	02 37 52.5	
	comp=Z,53nm,1.8s						
CTA	Charters Tower	42.55	62	P	P	02 37 54.5	-1.6
	comp=Z,6.2nm,0.8s,baz=202,slow=9.6,SNR=7.7						
	comp=Z,6.2nm,0.8s						
CTAO	Charters Tower	42.55	62	P	P	02 37 56.0	-0.1
ELIB	Princess Elisa	42.67	207	dP	P	02 37 52.4	-4.2
	comp=Z,8.7nm,1.2s						
INZ	Inchbonnie	44.30	108	P	P	02 38 11.7	+1.8
INZ				IAmb	IAmb	02 38 19.2	
	comp=Z,17nm,1.0s						
COEN	Coen	45.77	53	P	P	02 38 22.8	+0.9
COEN				IAmb	IAmb	02 38 41.8	
	comp=Z,21nm,1.4s						
TROLL	Troll, Antarti	48.60	204	P	P	02 38 42.0	-1.6
	comp=Z,283nm,1.1s						
KSM	Kuching	50.08	5	P	P	02 38 55.8	+0.5
SNAA	Sanae	50.19	203	P	P	02 38 55.9	+0.3
SNAA	Sanae	50.19	203	P	P	02 38 55.6	0.0
	comp=Z,146nm,0.8s						
SNAA	Sanae	50.19	203	P	P	02 38 54.3	-1.3
	comp=Z,6.8nm,0.9s,baz=146,slow=12,SNR=12						
	comp=Z,6.8nm,0.9s						
TOLI2	Tolitoli	51.08	18	P	P	02 39 02.2	-0.6
TOLI2				IAmb	IAmb	02 39 17.4	
	comp=Z,42nm,1.8s						
BELA	Belgrano 2	51.48	190	P	P	02 39 04.5	-0.7
BELA				IAmb	IAmb	02 39 23.1	
	comp=Z,13nm,0.8s						
PMG	Port Moresby	51.69	54	P	P	02 39 07.8	+0.4
PMG				IAmb	IAmb	02 39 09.8	
	comp=Z,20nm,1.0s						
VNA2	Neumayer--Watz	51.81	202	P	P	02 39 07.4	-0.3
	comp=Z,7.0nm,0.8s,baz=127,slow=8.0						
VNA3	Neumayer Olymp	52.17	202	P	P	02 39 10.3	-0.1
	comp=Z,4.5nm,0.9s						
VNA1	Neumayer--Stat	52.21	202	P	P	02 39 11.3	+0.6
	comp=Z,15nm,1.1s						
PMSA	Palmer Station	66.63	184	LR	LR	03 10 46.6	
	comp=Z,975nm,18.2s,baz=192,slow=37						
LSZ	Lusaka	71.21	268	P	P	02 41 19.7	0.0
LSZ				IAmb	IAmb	02 41 29.3	
	comp=Z,6.5nm,0.9s						
WIN	Windhoek	73.22	255	P	P	02 41 32.4	+0.7
PZH	PanZhiHua	75.01	355	P	P	02 41 43.7	+1.9
PZH				pmax	pmax		
	comp=Z,30nm,0.9s						
NJ2	Nanjing	81.12	10	eP	P	02 42 17.1	+1.8
NJ2				pP	PcP	02 42 20.5	-1.1
NJ2				sP	pwP	02 42 23.3	+1.6
NJ2				pmax	pmax		
	comp=Z,31nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,720nm,3.7s						
BJT	Baijiatuau	88.74	7	P	P	02 42 52.7	-0.7
HHC	Hu-ho-hao-te	89.28	4	eP	P	02 42 57.9	+1.8
HHC				pmax	pmax		
	comp=Z,65nm,0.9s						
HHC				pmax	pmax		
	comp=Z,320nm,6.5s						
WMQ	Urumqi	93.67	346	eP	P	02 43 17.3	+0.9
KCPM	Cahto Peak	143.34	85	PKPdf	PKPdf	02 49 33.9	-0.5
CMB	Columbia Colle	144.58	90	PKPdf	PKPab	02 49 35.1	0.0
ORV	Oroville	144.65	87		PKPab	02 49 34.9	-0.4
PMD	Palm Desert	144.67	99		PKPdf	02 49 36.6	-0.1
AFDM	Forest Hills D	144.68	88		PKPab	02 49 35.7	+0.3
YBH	Yreka Blue Hor	144.94	82	PKPbc	PKPdf	02 49 37.3	+0.2
PIX	Pinacate	145.23	105	PKPbc	PKPdf	02 49 38.4	+0.6
OMMB	Old Mammoth Mi	145.27	91	PKPbc	PKPab	02 49 38.4	+0.4
NVAR	Mina Array Bea	146.17	91	PKPbc	PKPbc	02 49 40.5	0.0
	comp=Z,9.5nm,1.0s,baz=219,slow=6.1,SNR=21						
ELK	Elko	149.39	89	PKPbc	PKPbc	02 49 48.1	-1.0
	comp=Z,3.3nm,1.0s,baz=217,slow=1.7,SNR=6.6						
TXAR	Lajitas Array	149.71	119	PKPbc	PKPbc	02 49 49.9	-0.3
	comp=Z,7.5nm,1.0s,baz=212,slow=4.4,SNR=11						
SUMG	Summit	151.45	339		PKPbc	02 49 52.8	-0.5
ANMO	Albuquerque	151.89	107	PKPbc	PKPbc	02 49 55.7	+0.4
	comp=Z,12nm,1.3s,baz=275,slow=6.1,SNR=5.4						
YKA	Yellowknife Ar	153.39	43	PKPbc	PKPbc	02 49 57.2	-0.2
	comp=Z,3.2nm,0.9s,baz=288,slow=2.4,SNR=6.8						
PDAR	Pinedale Array	154.09	89	PKPbc	PKiKP	02 50 00.3	+0.4
	comp=Z,0.6nm,0.7s,baz=307,slow=1.8,SNR=2.7						

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*IDC **01** 02:32:43.3±0.3,30°.66N×57°.40E,h0km,mb5.7/38, mbtmp5.7/47,ML4.8/9,MS5.8/53,Error ellipse: s-maj=10.1km s-min=9.1km az=14.0*

*BJI **01** 02:32:43.7,30°.75N×57°.36E,h10km,mb5.7/97,mB6.2/88, Ms6.3/99,Ms7 6.0/99*

*MOS **01** 02:32:43.5±0.8,30°.70N×57°.35E,h10km,mb6.1/83, MS5.7/70,Error ellipse: s-maj=3.9km s-min=2.7km az=113.8*

*DSN **01** 02:32:44.3±1.2,30°.81N×57°.92E,h15km,mb5.9/3, ML6.0/12,Error ellipse: s-maj=23.0km s-min=4.3km az=80.0*

*TEH **01** 02:32:44.3,30°.74N×57°.37E,h8km±40km,ML6.2*

*THR **01** 02:32:45.0±0.4,30°.75N×57°.36E,h16km±3km,ML6.0*

*IPGP **01** 02:32:46.0,30°.77N×57°.33E,h7km,Mw6.1,Fault plane solution: NP1:φs314.00000°,δ52.00000°,λ97.00000°. NP2:φs123.00000°,δ39.00000°,λ81.00000°.*

*NEIC **01** 02:32:46.0±1.8,30°.75N±0°.06×57°.31E±0°.08,h9km±1km, mb6.0/478,Ms_20 6.0/876,Mwb6.0/67,Mww6.1/27,Error ellipse: s-maj=11.2km s-min=10.3km az=280.0,Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr0.90; Mθθ-0.54; Mφφ-0.36; Mrθ-0.16; Mθφ0.64; Mφr0.36; Fault plane solution: M0 1.09000×10^18 NP1: φs118.70000°,δ36.45000°,λ70.77000°. NP2: φs322.14000°,δ55.88000°,λ103.67000°. Principal axes: T 1.0003, Plg75.0000°, Azm272.0000°; N 0.1637, Plg11.0000°, Azm134.0000°; P -1.1640, Plg10.0000°, Azm42.0000°;*

*GCMT **01** 02:32:46.0±0.1,30°.64N×57°.16E,h12km,MW6.1/165, Moment Tensor Solution. s163,c321; s165,c604; Duration: 2s.7 Moment tensor: Scale 10^18Nm; Mrr1.30±.01; Mθθ-0.91±.01; Mφφ-0.38±.01; Mrθ-0.62±.02; Mθφ0.77±.01; Mφr0.59±.02; Best double couple: M0 1.62500×10^18 NP1:φs310.00000°,δ61.00000°, λ95.00000°. NP2:φs120.00000°,δ29.00000°,λ81.00000°. Principal axes: T 1.5480, Plg74.0000°, Azm233.0000°; N 0.1560, Plg4.0000°, Azm128.0000°; P -1.7030, Plg16.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*OMAN **01** 02:32:46.6±0.1,30°.62N×57°.27E,h10km,mb6.4/48, ml6.1/3,ms5.9/18,Mwp6.4/38 Error ellipse: s-maj=5.5km s-min=3.3km az=277.0*

*NEIC **01** 02:32:46.2,30°.77N×57°.32E,h10km*

*NEIC **01** 02:32:46.1,30°.77N×57°.32E,h14km*

*NEIC **01** 02:32:46.1,30°.87N×57°.08E,h14km,Moment Tensor Solution. Duration: 5s.3 Moment tensor: Scale 10^18Nm; Mrr1.49; Mθθ-0.91; Mφφ-0.59; Mrθ0.32; Mθφ0.63; Mφr0.25; Fault plane solution: M0 1.50000×10^18 NP1: φs114.83000°,δ48.36000°,λ72.30000°. NP2: φs320.48000°,δ44.61000°,λ108.87000°. Principal axes: T 1.5896, Plg77.0000°, Azm315.0000°; N -0.1874, Plg13.0000°, Azm127.0000°; P -1.4022, Plg2.0000°, Azm217.0000°;*

*BGR **01** 02:32:60.0,30°.82N×55°.32E,h33km,mb5.9,mB_BB6.6, Ms5.3*

ISC 01 02:32:45.1±0.3**,30°.68N**±0°.02×**57°.36E**±0°.02**,h9km**±1km**, h9km:pP-P,n2677,σ1s.57**/2617**,mb6.0**/520**,MS6.0**/564**, 414C-70D,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.76	292	Pg	Pg	02 32 58.8	-1.0
ZRDN				Sg	Sg	02 33 10.2	+0.5
KHGB	Koh Gabri	0.82	248	Pg	Pg	02 33 00.7	-0.2
KHGB				Sg	Sg	02 33 11.9	+0.3
CHMN	Cheshme madani	0.83	169	Pg	Pg	02 33 00.9	-0.3
TVBK	TV Kerman	0.86	217	Pg	Pg	02 33 02.2	+0.4
KRBR	Kerman	0.87	217	ePg	Pb	02 33 02.5	0.0
NGRK	Negar Kerman	1.17	208	Pg	Pg	02 33 07.7	+0.1
IBAF	Bafgh	1.78	301	Pg	Pn	02 33 16.9	+0.7
KBAM	BAM	1.81	148	Pn	Pb	02 33 17.7	-0.8
BSRN	Basiran	1.98	49	ePn	Pn	02 33 19.1	0.0
BSRN				eSg	Sb	02 33 46.2	-0.1
BSRN				IAML		02 33 52.3	
	comp=N,90μm,0.8s						
BSRN	Basiran	1.98	49	Pn	Pn	02 33 19.0	0.0
IKOO	Kooshah	2.24	39	Pn	Pn	02 33 22.6	0.0
TPRV	Parvadeh(Tabas	2.41	346	Pn	Pn	02 33 24.7	-0.1
NHDN	Nehbandan	2.42	72	Pn	Pn	02 33 25.5	+0.5
IMEH	Mehriz	2.46	287	Pn	Pn	02 33 26.7	+1.0
ITEG	Tejag	2.51	28	Pn	Pn	02 33 26.1	-0.2
BAGH	Bagheran - Bir	2.62	36	Pn	Pn	02 33 27.3	-0.6
KHNJ	Kahnooj	2.74	173	Pn	Pn	02 33 31.4	+2.1
YZKH	Yazd	2.91	307	ePn	Pn	02 33 32.5	+0.8
YZKH				IAML		02 34 23.1	
	comp=E,43μm,0.4s						
YZKH				IAML		02 34 28.2	
	comp=N,50μm,0.8s						
TKDS	Koohdasht(Taba	2.93	356	Pn	Pn	02 33 32.1	0.0
ICHK	Chekchek	2.96	302	Pn	Pn	02 33 33.3	+0.8
IDAH	Dahanechah	2.96	46	Pn	Pn	02 33 32.8	+0.2
TABS	Tabas	2.96	356	ePn	Pn	02 33 32.7	+0.2
TABS				IAML		02 34 27.4	
	comp=N,37μm,0.4s						
AFRZ	Afriz	3.08	27	Pn	Pn	02 33 33.8	-0.3
ZHSF	Zahedan	3.15	109	ePn	Pn	02 33 21.5	-14
ZHDN	Zahedan	3.26	112	Pn	Pn	02 33 37.6	+1.0
IBND	Bandar-abas	3.30	193	Pn	Pb	02 33 40.6	-3.3
TNSJ	Nastanj	3.33	349	Pn	Pn	02 33 37.5	-0.1
ISAD	Sadrabad	3.37	292	Pn	Pn	02 33 39.3	+1.1
GENO	Geno	3.43	198	Pn	Pn	02 33 42.1	+3.2
BNDS	Bandar-Abbas	3.43	198	ePn	Pn	02 33 41.2	+2.2
SHRT	Shahrakht	3.86	39	ePn	Pn	02 33 45.3	+0.5
SHRT	Shahrakht	3.86	39	Pn	Pn	02 33 45.4	+0.6
JHRM	Jahrom	3.94	238	Pn	Pn	02 33 47.7	+1.8
ANAR	Anarak	3.97	310	Pn	Pn	02 33 46.7	+0.4
LAR1	LAR	3.98	222	Pn	Pn	02 33 48.2	+1.8
SHI	Shiraz	4.32	257	Pn	Pn	02 33 52.7	+1.5
QIR1	Qir	4.35	241	Pn	Pn	02 33 53.2	+1.7
IRAM	Ramesheh	4.41	286	Pn	Pn	02 33 53.6	+1.2
NASN	Na'in	4.41	300	ePn	Pn	02 33 53.3	+0.8
NASN				IAML		02 35 11.5	
	comp=E,8μm,0.7s						
NASN				IAML		02 35 13.1	
	comp=N,7μm,0.3s						
GHIR	Ghir-Karzin	4.50	239	ePn	Pn	02 33 55.2	+1.7
SHME	Shamm	4.74	193	i P	Pn	02 33 59.4	+2.6
	SNR=195						
SHME	Shamm	4.74	193	P	Pn	02 33 60.0	+3.2
	SNR=273						
SHME				P	Pn	02 33 60.0	+3.2
	SNR=273						
SHME				S	Sn	02 34 51.5	-0.3
SHME				S	Sn	02 34 51.5	-0.3
IZEF	Zefreh	4.81	299	Pn	Pn	02 33 59.4	+1.3
JASK	Jask - Hormozg	4.82	175	P	Pn	02 34 01.1	+3.3
	SNR=733						
JASK				S	Sn	02 34 55.4	+1.5
JASK	Jask - Hormozg	4.82	175	Pn	Pn	02 33 59.8	+1.9
IGAR	Gharneh	4.85	292	Pn	Pn	02 34 00.1	+1.6
LMD1	Lamerd	4.96	229	Pn	Pn	02 34 01.7	+2.0
KLNJ	Kolanjah	4.97	275	Pn	Pn	02 34 01.6	+1.4
TBHD	Torbat heydari	4.97	18	Pn	Pn	02 34 00.5	+0.3
TBJM	Torbat-e-JAM	5.21	28	Pn	Pn	02 34 03.9	+0.5
UMQ	Umm Al-Quwin	5.35	197	i P	Pn	02 34 09.1	+3.9
	SNR=131						
UMQ	Umm Al-Quwin	5.35	197	P	Pn	02 34 09.3	+4.1
	SNR=131						
UMQ				P	Pn	02 34 09.3	+4.1
	SNR=131						
UMQ				S	Sn	02 35 01.8	-5.1
UMQ				S	Sn	02 35 01.8	-5.1
IBRJ	Brojen	5.36	285	Pn	Pn	02 34 07.7	+2.1
MASF	Masafi	5.39	192	P	Pn	02 34 09.6	+3.8
	SNR=2011						
MASF				P	Pn	02 34 09.6	+3.8
	SNR=2011						
MASF				S	Sn	02 35 08.1	-0.1
MASF				S	Sn	02 35 08.1	-0.1
MSFE	Esma-Masafi	5.41	192	i P	Pn	02 34 08.7	+2.7
	SNR=2009						
SHRO	Shahrood	5.41	348	ePn	Pn	02 34 06.5	+0.4
SHRO				IAML		02 35 47.8	
	comp=N,7μm,0.7s						
SHRO				IAML		02 35 49.7	
	comp=E,6μm,0.6s						
SRVN	Saravan	5.49	125	Pn	Pn	02 34 09.2	+1.9
KRSH	Karshahi	5.50	308	Pn	Pn	02 34 07.9	+0.5
HRA	Herat	5.54	47	Pn	Pn	02 34 09.2	+1.2
IKLH	Kolahrood	5.57	300	Pn	Pn	02 34 09.8	+1.4
IANJ	Anjilo	5.58	330	Pn	Pn	02 34 08.3	-0.2
IMOG	Moghan	5.66	17	Pn	Pn	02 34 10.2	+0.5
ISFB	Sefidab	5.66	312	Pn	Pn	02 34 10.0	+0.5
SBZV	Sabzevar	5.70	2	Pn	Pn	02 34 10.4	+0.2
ZNGN	Zangian	5.74	286	Pn	Pn	02 34 12.9	+2.1
CHBR	Chabahar	5.77	151	ePn	Pn	02 34 10.8	-0.2
CHBR	Chabahar	5.77	151	Pn	Pn	02 34 10.4	-0.6
JRKH	Jarkhoshk	5.78	25	Pn	Pn	02 34 11.8	+0.5
DSBU	Dashti - Bushe	5.79	248	Pn	Pn	02 34 12.3	+1.0
UOSS	Minazif	5.80	190	Pn	Pn	02 34 13.5	+2.1
UOSS	Minazif	5.80	190	i P	Pn	02 34 14.1	+2.6
	SNR=261						
UOSS	Minazif	5.80	190	P	Pn	02 34 14.3	+2.8
UOSS				P	Pn	02 34 14.3	+2.8
UOSS				S	Sn	02 35 18.2	0.0
UOSS				S	Sn	02 35 18.2	0.0
UOSS	Minazif	5.80	190	⇑P	Pn	02 34 12.7	+1.3
IPIR	Pirpir	5.86	292	Pn	Pn	02 34 14.6	+2.1
NAZ	Nazwa, Dubai	5.87	195	i P	Pn	02 34 15.1	+2.9
	SNR=2219						
NAZ	Nazwa, Dubai	5.87	195	P	Pn	02 34 16.0	+3.7
	SNR=2226						
NAZ				P	Pn	02 34 16.0	+3.7
	SNR=2226						
NAZ				S	Sn	02 35 20.6	+0.9
NAZ				S	Sn	02 35 20.6	+0.9
QAMS	Qamsar	5.90	303	Pn	Pn	02 34 13.7	+0.8
IPAY	Payeh	5.91	13	Pn	Pn	02 34 13.8	+0.6
JHBN	Jahan bin	5.92	287	Pn	Pn	02 34 15.1	+1.8
HATD	Hatta, Dubai	5.93	191	i P	Pn	02 34 15.1	+1.8
	SNR=330						
HATD	Hatta, Dubai	5.93	191	P	Pn	02 34 16.7	+3.5
	SNR=330						
HATD				P	Pn	02 34 16.7	+3.5
	SNR=330						
HATD				S	Sn	02 35 21.0	-0.4
HATD				S	Sn	02 35 21.0	-0.4
ILAS	Lasjerd	5.96	323	Pn	Pn	02 34 13.2	-0.7
IAKL	Akhelmad	6.02	11	Pn	Pn	02 34 16.3	+1.7
ASHO	Ashiyiah	6.08	191	i P	Pn	02 34 18.0	+2.7
	SNR=3210						
ASHO				S	Sn	02 35 30.6	+5.5
ASHO	Ashiyiah	6.08	191	P	Pn	02 34 18.4	+3.1
	SNR=3209						
ASHO				S	Sn	02 35 26.1	+1.0
IMYA	Miami	6.09	21	Pn	Pn	02 34 16.8	+1.2
FAQ	Al Faqa, Dubai	6.12	195	i P	Pn	02 34 18.2	+2.5
	SNR=247						
FAQ	Al Faqa, Dubai	6.12	195	P	Pn	02 34 18.7	+2.9
	SNR=485						
FAQ				P	Pn	02 34 18.7	+2.9
	SNR=485						
FAQ				S	Sn	02 35 28.0	+2.2
FAQ				S	Sn	02 35 28.0	+2.2
NGCH	Negor - Chabah	6.27	147	P	Pn	02 34 18.4	+0.6
	SNR=33						
NGCH				S	Sn	02 35 30.4	+0.9
NGCH	Negor - Chabah	6.27	147	Pn	Pn	02 34 18.9	+1.1
IFIR	Firoozkooh	6.27	323	Pn	Pn	02 34 17.7	-0.4
ASUD	Al Ashush, Dub	6.29	197	i P	Pn	02 34 21.1	+3.0
	SNR=163						
ASUD	Al Ashush, Dub	6.29	197	P	Pn	02 34 22.0	+3.8
	SNR=247						
ASUD				P	Pn	02 34 22.0	+3.8
	SNR=247						
ASUD				S	Sn	02 35 30.6	+0.3
ASUD				S	Sn	02 35 30.6	+0.3
IKRD	Kardeh	6.34	16	Pn	Pn	02 34 20.0	+1.1
GHVR	GHOM	6.36	308	ePn	Pn	02 34 20.5	+1.4
ISFR	Sfrayin	6.38	5	Pn	Pn	02 34 20.2	+0.7
AJN	Ajban	6.45	200	i P	Pn	02 34 22.5	+2.3
	SNR=37						
AJN	Ajban	6.45	200	P	Pn	02 34 23.1	+2.8
	SNR=178						
AJN				P	Pn	02 34 23.1	+2.8
	SNR=178						
AJN				S	Sn	02 35 34.7	+0.7
AJN				S	Sn	02 35 34.7	+0.7
IGLO	Ghaloghah	6.51	334	Pn	Pn	02 34 22.5	+1.3
SOHO	SOHO	6.56	187	i P	Pn	02 34 22.2	+0.3
	SNR=171						
SOHO	SOHO	6.56	187	P	Pn	02 34 23.0	+1.1
SOHO				P	Pn	02 34 23.0	+1.1
SOHO				S	Sn	02 35 38.2	+1.4
SOHO				S	Sn	02 35 38.2	+1.4
IDMV	Damavand	6.61	319	Pn	Pn	02 34 23.4	+0.6
DAMV	Damavand	6.69	319	ePn	Pn	02 34 24.4	+0.7
IQOM	Qom	6.72	310	Pn	Pn	02 34 24.7	+0.4
ALNE	Al Ain	6.75	193	i P	Pn	02 34 26.2	+1.7
	SNR=318						
ALNE	Al Ain	6.75	193	P	Pn	02 34 27.0	+2.5
	SNR=318						
ALNE				P	Pn	02 34 27.0	+2.5
	SNR=318						
ALNE				S	Sn	02 35 41.7	+0.2
ALNE				S	Sn	02 35 41.7	+0.2
IMND	Minoodasht	6.75	347	Pn	Pn	02 34 24.9	+0.4
IEMG	Emamgholi	6.80	9	Pn	Pn	02 34 26.2	+0.8
IPRN	Peran	6.95	324	Pn	Pn	02 34 28.2	+0.9
IHSB	Hasanabad	6.96	315	Pn	Pn	02 34 27.8	+0.3
KHMZ	Khomeyn	6.97	298	ePn	Pn	02 34 29.3	+1.6
JRN	Qarnain Island	6.97	216	P	Pn	02 34 29.3	+1.9
	SNR=168						
JRN				P	Pn	02 34 29.3	+1.9
	SNR=168						
JRN				S	Sn	02 35 45.5	-1.4
JRN				S	Sn	02 35 45.5	-1.4
AMIS	Naft Sefid	6.98	280	Pn	Pn	02 34 28.2	+0.6
MRVT	Maraveh tapeh	7.04	352	ePn	Pn	02 34 28.9	+0.5
MRVT	Maraveh tapeh	7.04	352	Pn	Pn	02 34 29.3	+0.8
HOQ	Hoqain	7.07	180	P	Pn	02 34 30.6	+1.7
	SNR=78						
HOQ				P	Pn	02 34 30.6	+1.7
	SNR=78						
HOQ				S	Sn	02 35 50.1	+0.7
HOQ				S	Sn	02 35 50.1	+0.7
HOQ	Hoqain	7.07	180	Pn	Pn	02 34 28.6	-0.2
TEH	Tehran	7.10	317	Pn	Pn	02 34 30.2	+0.9
BIDO	Bidbid	7.17	174	P	Pn	02 34 31.5	+1.4
	SNR=104						
BIDO				S	Sn	02 35 52.1	+0.4
GEYT	Alibeck	7.26	5		Pn	02 34 31.8	+0.4
GEYT	Alibeck	7.26	5	Pn	Pn	02 34 32.7	+1.3
	comp=E,8.8nm,0.3s,baz=185,slow=15,SNR=109						
GEYT				Lg	Lg	02 36 24.4	
	comp=E,20nm,0.3s,baz=193,slow=22,SNR=3.5						
GEYT				LR	LR	02 38 00.6	
	comp=E,100μm,21.2s,baz=192,slow=44						
	comp=E,178nm,0.8s						
GYA0B	ALIBECK ARRAY	7.26	5	Pn	Pn	02 34 31.9	+0.5
ASAO	Ashtian	7.29	304	ePn	Pn	02 34 32.9	+0.9

ARQ Araqi 7.35 186 P Pn 02 34 35.9 +3.1
SNR=185
ARQ P Pn 02 34 35.9 +3.1
SNR=185
ARQ P Pn 02 34 35.9 +3.1
SNR=185
ARQ S Sn 02 35 56.7 +0.3
ARQ S Sn 02 35 56.7 +0.3
ARQ S Sn 02 35 56.7 +0.3
CHTH Charan 7.37 317 *e*Pn Pn 02 34 33.9 +0.8
SHMA Al-Shehemyia 7.41 231 P Pn 02 34 35.2 +1.8
SNR=38
SHMA S Sn 02 35 57.9 +0.4
WSAR Wadi Sarin 7.50 171 P Pn 02 34 37.3 +2.5
SNR=624
WSAR S Sn 02 36 02.3 +2.3
WSAR Wadi Sarin 7.50 171 Pn Pn 02 34 35.5 +0.8
comp=E,87nm,0.3s,baz=3.4,slow=10,SNR=174
WSAR Sn Sn 02 35 59.5 -0.5
comp=E,6.5nm,0.3s,baz=75,slow=17,SNR=1.2
comp=E,775nm,0.4s
MZPU Pul - Mazandar 7.50 321 Pn Pn 02 34 36.1 +1.2
IMHD Mahdasht 7.50 313 Pn Pn 02 34 35.9 +1.1
THKV Tehran--Karaj 7.52 316 *e*Pn Pn 02 34 35.9 +0.7
SMDO Samad 7.62 175 P Pn 02 34 38.6 +2.1
SNR=222
SMDO P Pn 02 34 38.6 +2.1
SNR=222
SMDO S Sn 02 36 03.3 +0.3
SMDO S Sn 02 36 03.3 +0.3
IRAZ Razeghan 7.81 309 Pn Pn 02 34 39.8 +0.7
KLST Kelardasht - M 7.84 320 Pn Pn 02 34 40.8 +1.1
BSY Bisya 7.91 181 P Pn 02 34 43.2 +2.8
SNR=236
BSY P Pn 02 34 43.2 +2.8
SNR=236
BSY S Sn 02 36 11.7 +1.7
BSY S Sn 02 36 11.7 +1.7
TRNA Turayna 8.04 224 P Pn 02 34 43.1 +0.9
SNR=211
TRNA S Sn 02 36 12.3 -1.0
HAGD Aghdareh 8.06 303 Pn Pn 02 34 44.3 +1.8
WBK Wadi Bani Khal 8.17 169 P Pn 02 34 44.6 +0.6
SNR=636
WBK P Pn 02 34 44.6 +0.6
SNR=636
WBK S Sn 02 36 16.0 -0.5
WBK S Sn 02 36 16.0 -0.5
SMRA Abu-Samra 8.27 226 P Pn 02 34 46.0 +0.7
SNR=672
SMRA S Sn 02 36 18.1 -0.8
JMDO Jabal Madar 8.31 175 P Pn 02 34 48.4 +2.6
SNR=168
JMDO P Pn 02 34 48.4 +2.6
SNR=168
JMDO S Sn 02 36 23.9 +4.1
JMDO S Sn 02 36 23.9 +4.1
MZR Muzera 8.39 205 *i* P Pn 02 34 50.3 +3.3
SNR=15
MZR Muzera 8.39 205 P Pn 02 34 48.5 +1.5
SNR=17
MZR S Sn 02 36 21.2 -0.7
IKFM Kafar-mosalman 8.55 292 Pn Pn 02 34 49.4 +0.3
JLN Jalan Bani Buh 8.69 167 P Pn 02 34 51.0 -0.1
SNR=37
JLN P Pn 02 34 51.0 -0.1
SNR=37
JLN P Pn 02 34 51.0 -0.1
SNR=37
JLN S Sn 02 36 32.2 +2.9
JLN S Sn 02 36 32.2 +2.9
JLN S Sn 02 36 32.2 +2.9
JIR1 Jirandeh 8.70 316 Pn Pn 02 34 52.7 +1.4
GIDE GILAN DEYLAMAN 8.78 317 *e*Pn Pn 02 34 53.3 +0.9
IBZA Bozab 8.86 298 Pn Pn 02 34 53.9 +0.3
LHJ2 Lahijan - Gila 8.86 319 Pn Pn 02 34 53.0 -0.3
IKOM Komasi 9.02 295 Pn Pn 02 34 56.9 +1.2
ZNJK Zanjan 9.37 312 *e*Pn Pn 02 35 01.6 +1.0
KCHF Cheshme Sefid, 9.42 295 Pn Pn 02 35 00.7 -0.5
SNGE Sanandaj 9.49 300 *e*Pn Pn 02 35 03.2 +1.0
MHTO MHTO 9.67 177 P Pn 02 35 07.1 +2.6
SNR=118
MHTO P Pn 02 35 07.1 +2.6
SNR=118
MHTO S Sn 02 36 54.4 +1.1
MHTO S Sn 02 36 54.4 +1.1
CSN1 Caspian 9.69 317 Pn Pn 02 35 04.1 -0.6
ILIN Lien 9.71 299 Pn Pn 02 35 05.0 -0.3
IGHG Ghaleghazi 9.81 295 Pn Pn 02 35 05.9 -0.6
ILBA Ilam Banvizeh 9.89 290 *e*Pn Pn 02 35 06.6 -1.0
ILBA Ilam Banvizeh 9.89 290 Pn Pn 02 35 05.3 -2.3
IDHR Dehrash 10.07 296 Pn Pn 02 35 09.7 -0.5
GAS1 Astara - Iran 10.40 320 Pn Pn 02 35 14.2 -0.3
KBL Kabul 10.58 66 Pn Pn 02 35 19.7 +2.6
KBL Kabul 10.58 66 P Pn 02 35 22.5 +5.3
SNR=106
KBL P Pn 02 35 22.5 +5.3
SNR=106
KBL Kabul 10.58 66 P Pn 02 35 19.7 +2.6
KGS1 Ghasr-e-Shirin 10.63 294 Pn Pn 02 35 15.6 -2.1
KBU Kabul Universi 10.64 66 P Pn 02 35 20.4 +2.4
IHSH Hashtrud 10.66 311 Pn Pn 02 35 18.6 +0.3
ISRB Sarab 10.72 314 Pn Pn 02 35 20.0 +1.0
GRMI Germi 11.23 319 *e*Pn Pn 02 35 26.8 +0.9
GRMI Germi 11.23 319 Pn Pn 02 35 25.9 0.0
SDS1 Sardasht. Az. 11.31 302 Pn Pn 02 35 28.9 +0.9
IHRS Heris 11.41 315 Pn Pn 02 35 30.1 +1.6
MAHB Mahabad 11.44 305 Pn Pn 02 35 30.1 +1.3
IAZR Azarshahr 11.72 310 Pn Pn 02 35 34.5 +1.8
ITBZ Tabriz 11.92 312 Pn Pn 02 35 35.9 +0.5
ISHB Shabestar 12.29 311 Pn Pn 02 35 41.8 +1.2
JASL Jaisalmer 12.46 104 *e*P Pn 02 35 45.0 +2.3
IMRD Marand 12.49 313 Pn Pn 02 35 44.9 +1.7
SHAO Shalim 12.70 188 *i* P Pn 02 35 45.9 -0.1
SNR=56
SHAO Shalim 12.70 188 P Pn 02 35 47.1 +1.1
SNR=57
SHAO P Pn 02 35 47.1 +1.1
SNR=57
SHAO P Pn 02 35 47.1 +1.1
SNR=57
SHAO S Sn 02 38 06.2 -1.5
SHAO S Sn 02 38 06.2 -1.5
SHAO S Sn 02 38 06.2 -1.5
DMTO DMTO 13.09 190 P Pn 02 35 50.4 -1.0
SNR=216
DMTO P Pn 02 35 50.4 -1.0
SNR=216
DMTO P Pn 02 35 50.4 -1.0
SNR=216
DMTO S Sn 02 38 15.4 -1.8
DMTO S Sn 02 38 15.4 -1.8
DMTO S Sn 02 38 15.4 -1.8
WHFO Wadi Hawf 13.12 195 P Pn 02 35 50.8 -0.9
SNR=451
WHFO P Pn 02 35 50.8 -0.9
SNR=451
WHFO P Pn 02 35 50.8 -0.9
SNR=451
WHFO S Sn 02 38 15.5 -2.4
WHFO S Sn 02 38 15.5 -2.4
WHFO S Sn 02 38 15.5 -2.4
CUKT Cukurca 13.15 304 P Pn 02 35 52.8 +0.6
BHUJ Bhuj 13.22 121 *e*P Pn 02 35 54.4 +1.3
BHUJ IAmb IAmb 02 36 00.8
comp=Z,148nm,0.8s
AKT Akhty 13.28 327 *c i*P Pn 02 35 54.0 +0.1
AKT MLR MLR
comp=Z,28µm,13.0s
RBK Rabkut 13.43 193 P Pn 02 35 54.8 -1.2
SNR=239
RBK P Pn 02 35 54.8 -1.2
SNR=239
RBK P Pn 02 35 54.8 -1.2
SNR=239
RBK S Sn 02 38 21.2 -4.4
RBK S Sn 02 38 21.2 -4.4
RBK S Sn 02 38 21.2 -4.4
MAKU Maku 13.51 313 *e*Pn Pn 02 35 58.9 +1.9
MAKU Maku 13.51 313 Pn Pn 02 35 58.4 +1.3
ABTO Aybut 13.77 196 P Pn 02 35 59.0 -1.7
SNR=775
ABTO P Pn 02 35 59.0 -1.7
SNR=775
ABTO P Pn 02 35 59.0 -1.7
SNR=775
ABTO S Sn 02 38 29.0 -4.9
ABTO S Sn 02 38 29.0 -4.9
ABTO S Sn 02 38 29.0 -4.9
NIL Nilore 13.79 73 Pn Pn 02 36 02.9 +2.1
NIL Nilore 13.79 73 P Pn 02 36 04.9 +4.1
NIL Nilore 13.79 73 P Pn 02 36 02.9 +2.1
CLDR Caldiran 13.87 311 P Pn 02 36 04.6 +2.4
VANB Van 13.94 308 P Pn 02 36 03.9 +1.0
GNI Garni 13.95 316 Pn Pn 02 36 04.6 +1.5
GNI Garni 13.95 316 P Pn 02 36 05.6 +2.5
GNI Garni 13.95 316 P Pn 02 36 07.0 +3.9
GNI P Pn 02 36 07.0 +3.9
GNI S Sn 02 38 42.4 +4.2
GNI S Sn 02 38 42.4 +4.2
GNI Garni 13.95 316 ⇑P Pn 02 36 05.7 +2.5
GNI Garni 13.95 316 *c i*P Pn 02 36 06.1 +3.0
GNI MLR MLR
comp=Z,35µm,11.0s
GNI Garni 13.95 316 Pn Pn 02 36 05.4 +2.2
comp=Z,0.6nm,0.3s,baz=140,slow=4.9,SNR=39
GNI Lg Lg 02 40 06.5
comp=Z,0.4nm,0.3s,baz=68,slow=19,SNR=1.2
comp=Z,107nm,1.0s
AKDM Akdamar-Van 14.08 307 P Pn 02 36 07.3 +2.3
SIRT Sirnak 14.10 303 P Pn 02 36 04.8 -0.3
SIRT Sirnak 14.10 303 Pn Pn 02 36 04.3 -0.8
SIRT Sirnak 14.10 303 ⇑P Pn 02 36 04.5 -0.6
TASB TASBURUN-IGDIR 14.15 315 P Pn 02 36 08.6 +2.8
MAK Makhachkala 14.56 330 *d i*P Pn 02 36 09.4 -1.9
MAK *e*S Sn 02 38 49.6 -3.1
MAK pmax pmax
comp=Z,898nm,1.3s
MAK MLR MLR
comp=Z,23µm,16.0s
AGRB Hanur-Agry 14.71 311 P Pn 02 36 15.7 +2.1
MLAZ Malazgirt-MUS 14.78 309 P Pn 02 36 15.7 +1.3
GURO Guroymak-BITLI 14.85 306 P Pn 02 36 16.1 +0.7
GURO Guroymak-BITLI 14.85 306 Pn Pn 02 36 16.4 +1.0
DBC Dubki 14.90 329 *c i*P Pn 02 36 15.3 -0.7
JMU Jammu 15.07 78 *e*P P 02 36 22.2 -1.4
CHM Chimkent 15.21 37 *e*P Pn 02 36 20.6 +0.6
comp=Z,991nm,2.3s,baz=37
CHM LR LR 02 42 24.5
comp=Z,13µm,7.8s,baz=37
CHM Chimkent 15.21 37 *e*P Pn 02 36 20.6 +0.6
CHM pmax pmax
comp=Z,991nm,2.3s
CHM MLR MLR
comp=Z,13µm,8.0s
KARS Kars 15.25 314 P P 02 36 23.4 -2.3
KARS Kars 15.25 314 P Pn 02 36 22.0 +1.2
KARS Kars 15.25 314 P Pn 02 36 22.0 +1.2
KARS pmax pmax
comp=Z,3µm,1.4s
SVAN Silvan-Diyarba 15.26 304 P Pn 02 36 21.6 +0.8
AKH Akhalkalaki 15.48 318 P P 02 36 26.3 -2.0
VRTB Varto-Mus 15.53 307 P Pn 02 36 26.6 +2.2
MAZI Mazidag 15.55 300 P Pn 02 36 23.0 -1.6
SENK Senkaya-Erzuru 15.66 313 P P 02 36 28.8 -1.6
KOPR Koprukoy-ERZUR 15.68 311 P P 02 36 29.3 -1.2
AJM Ajmer 15.75 101 *e*P Pn 02 36 29.1 +1.8
AJM IAmb IAmb 02 36 37.2
comp=Z,438nm,0.9s
THN Thein Dam 15.75 79 *e*P P 02 36 29.4 -1.7
KARO Karliova-Bingo 15.88 307 P P 02 36 31.1 -1.7
DYBB Diyarbakir 15.95 302 P Pn 02 36 29.8 -0.1
BNGB Bingl 15.99 306 P Pn 02 36 32.1 +1.7
ZEI Tsey 16.17 322 *e*P Pn 02 36 32.1 -0.6
ZEI pmax pmax
comp=Z,946nm,1.4s
KK31 Karatay Array 16.24 37 Pn Pn 02 36 31.0 -2.4
KK31 Karatay Array 16.24 37 P Pn 02 36 31.0 -2.4
KK31 pmax pmax
comp=Z,334nm,1.1s
KKAR Karatay Array 16.24 37 Pn Pn 02 36 30.6 -2.8
KKAR Karatay Array 16.24 37 P Pn 02 36 30.6 -2.8
KKAR IAmb IAmb 02 36 45.8
comp=Z,332nm,1.1s
KKAR Karatay Array 16.24 37 ⇑P Pn 02 36 31.2 -2.2
KKAR Karatay Array 16.24 37 P Pn 02 36 30.6 -2.8
DHRM DHARAMSHALA 16.24 80 *e*P Pn 02 36 34.5 +0.7
DHRM IAmb IAmb 02 36 43.4
comp=Z,2µm,1.0s
ONI Oni 16.27 321 P Pn 02 36 35.0 +1.0
ONI Oni 16.27 321 P Pn 02 36 32.9 -1.1
ONI Oni 16.27 321 P Pn 02 36 32.9 -1.1
ONI pmax pmax
comp=Z,796nm,1.4s
DZA Taraz 16.52 39 *e*P Pn 02 36 35.7 -1.3
baz=39
DZA Taraz 16.52 39 *e*P Pn 02 36 35.7 -1.3
URFA Urfa 16.76 299 P Pn 02 36 39.1 -1.1
NCK Nalchik 16.82 323 *c i*P P 02 36 42.5 -0.6
NCK pmax pmax
comp=Z,1µm,1.1s
PTK Pertek 16.86 304 P Pn 02 36 42.4 +0.9
KUDL Kundal 16.86 94 *e*P Pn 02 36 41.9 +0.4
ERZN Erzincan 16.92 306 P P 02 36 44.1 -0.1
CHOM Cayeli-Rize 16.97 312 P P 02 36 44.7 +0.1
BAYT Aydintepe-Bayb 17.01 309 P P 02 36 45.4 +0.1
SMLA Simla 17.01 83 *e*P P 02 36 44.8 -0.4
SMLA IAmb IAmb 02 36 51.7
comp=Z,550nm,0.8s
NEUR Neytrino 17.14 321 *i* P P 02 36 47.3 +0.6
KBZ Khabaz 17.35 323 P Pn 02 36 48.0 +0.6
comp=Z,1.5nm,0.3s,baz=117,slow=11,SNR=74
KBZ S S 02 40 11.8 +2.6
comp=Z,26nm,1.1s,baz=92,slow=20,SNR=0.8
comp=Z,175nm,1.0s
SONA Sohna 17.35 93 *e*P P 02 36 50.2 +1.3
NDI New Delhi 17.38 92 *e*P P 02 36 49.0 -0.2
NDI IAmb IAmb 02 36 55.3
comp=Z,706nm,0.9s
AML Almayashu 17.39 44 P Pn 02 36 47.6 -0.7
SNR=22
PYA1 Pyatigorsk 17.48 324 *c i*P Pn 02 36 49.1 0.0
SHA1 Shidzhatmaz 17.48 322 *c i*P P 02 36 50.4 -0.2
ASF Jabal al Asfar 17.52 280 P Pn 02 36 49.5 -0.3
comp=Z,7.8nm,0.3s,baz=95,slow=6.7,SNR=75
ASF S S 02 40 10.3 -2.9
comp=Z,70nm,1.0s,baz=57,slow=17,SNR=2.2
ASF Lg Lg 02 42 08.7
baz=77,slow=18
ASF LR LR 02 44 53.9
comp=Z,27µm,18.1s,baz=99,slow=42
comp=Z,135nm,0.9s
KTUT Trabzon 17.55 311 ⇑P P 02 36 52.0 +1.0
KTUT Trabzon 17.55 311 P P 02 36 51.8 +0.7
KSH Kashi 17.58 55 P Pn 02 36 44.5 -6.0
KSH pP P 02 36 48.4 -3.1
KSH sP pP 02 36 51.9 -2.6
KSH S Sn **02 39 55.9 -10**
KSH pmax pmax
comp=Z,380nm,1.1s
KSH pmax pmax
comp=Z,14µm,9.7s
KSH LR LR
comp=Z,37µm,7.3s
KSH LR LR
comp=Z,61µm,8.3s
KSH LR LR
comp=Z,43µm,12.4s
KIV Kislovodsk 17.62 323 ⇑P P 02 36 52.8 +0.9
KIV Kislovodsk 17.62 323 P P 02 36 52.0 +0.1
KIV IAmb IAmb 02 37 00.4
comp=Z,1µm,1.1s
KIV Kislovodsk 17.62 323 P P 02 36 52.7 +0.8
KIV P P 02 36 52.7 +0.8
KIV Kislovodsk 17.62 323 *e*P P 02 36 51.6 -0.3
KIV *e*S Sn 02 40 08.8 +1.6
KIV pmax pmax
comp=Z,1µm,1.1s
KIV MLR MLR
comp=Z,6µm,14.0s
ILIC ilic-Erzincan 17.67 305 P P 02 36 53.6 +1.1
ARPR Arapgir-MALATY 17.69 303 P P 02 36 53.4 +0.5
ARPR Arapgir-MALATY 17.69 303 P P 02 36 52.5 -0.3
ARPR IAmb IAmb 02 36 58.7
comp=Z,1µm,1.4s
EKS2 Erkin-Say 17.75 43 P Pn 02 36 52.6 0.0
SNR=87
DDI Dehra Dun 17.84 86 *e*P P 02 36 57.3 +2.8
GAZ Gaziantep 17.91 297 P P 02 36 55.7 +0.5
GAZ Gaziantep 17.91 297 P Pn 02 36 53.7 -0.9
GAZ IAmb IAmb 02 37 02.3
comp=Z,3µm,1.9s
GAZ Gaziantep 17.91 297 ⇑P Pn 02 36 54.1 -0.5
UCH Uchtor 17.94 45 P Pn 02 36 54.0 -1.3
SNR=58
DARE Darende-Malaty 18.13 301 P P 02 36 59.2 +1.6
AAK Ala-Archa 18.16 44 P P 02 36 58.0 -0.1
SNR=78
AAK Ala-Archa 18.16 44 P Pn 02 36 56.5 -1.3
AAK IAmb IAmb 02 37 05.3
comp=Z,2µm,1.8s
AAK Ala-Archa 18.16 44 P P 02 36 57.9 -0.1
AAK P P 02 36 57.9 -0.1
AAK P P 02 36 57.9 -0.1
AAK S S 02 40 28.2 +2.0
AAK S S 02 40 28.2 +2.0
AAK S S 02 40 28.2 +2.0
AAK Ala-Archa 18.16 44 ⇑P Pn 02 36 57.2 -0.5
AAK Ala-Archa 18.16 44 P Pn 02 36 57.2 -0.5
comp=Z,0.9nm,0.3s,baz=232,slow=12,SNR=93
AAK S Sn **02 40 20.6 0.0**
comp=Z,82nm,1.2s,baz=269,slow=18,SNR=2.1
AAK LR LR 02 45 18.0
comp=Z,51µm,19.2s,baz=246,slow=42
comp=Z,149nm,1.0s
ESPY Espiye-Giresun 18.20 309 P P 02 37 00.7 +2.4
GOF Gofitskoye 18.22 326 *c i*P Pn 02 36 57.7 -0.6
KMRS Kahramanmaras 18.24 297 P P 02 36 59.7 +0.9
BEIL Beino 18.24 288 *e*P P 02 36 59.4 +0.6
KZA Kyzart 18.32 47 P Pn 02 36 58.5 -1.3
SNR=30
HWQ Hawqa 18.41 287 *e*P P 02 37 02.9 +2.2
ZAHL Zahle 18.43 286 *e*P Pn 02 37 02.3 +1.4
RCY Rachaya 18.45 284 *e*P Pn 02 37 03.2 +2.0
KBK Karagaybulak 18.45 45 P P 02 37 00.8 -0.3
SNR=60
SHBL Chebaa 18.52 284 *e*P Pn 02 37 04.1 +2.0
TAHT Tahtakopru-Hat 18.53 293 P Pn 02 37 03.9 +1.9
CHMS Chumysh 18.53 44 P P 02 37 01.6 -0.3
SNR=48
USP Ospenovka 18.54 43 P P 02 37 00.8 -1.3
SNR=29
QRWL Qaraoun 18.58 285 *e*P Pn 02 37 05.2 +2.5
BHL Bhannes 18.62 286 *e*P Pn 02 37 05.9 +2.6
AB31 Akbulak array 18.66 5 *i* P P 02 37 02.2 -1.0
ABKAR Akbulak array 18.66 5 P P 02 37 01.7 -1.4
ABKAR Akbulak array 18.66 5 ⇑P P 02 37 01.5 -1.7
DQRL Deir Qamar 18.68 285 *e*P Pn 02 37 06.0 +2.0
GHAJ Ghor Haditha 18.69 278 P Pn 02 37 05.0 +0.9
SGDS Sogindy 18.73 42 *e*P P 02 37 03.6 -0.5
MMAI Mount Meron Ar 18.79 283 P Pn 02 37 06.4 +1.0
comp=Z,6.7nm,0.3s,baz=98,slow=9.6,SNR=118
MMAI S S **02 40 42.9 +4.0**
comp=Z,36nm,1.1s,baz=103,slow=20,SNR=1.7
MMAI Lg Lg 02 42 44.7
baz=112,slow=42
MMAI LR LR 02 45 36.9
comp=Z,14µm,18.1s,baz=67,slow=41
comp=Z,245nm,1.0s
SARI SarD1z-Kayseri 18.86 300 P Pn 02 37 07.7 +1.4
MSBI Mazada 18.87 278 ⇑P Pn 02 37 06.5 +0.4
RSDY Resadiye-TOKAT 18.93 306 P Pn 02 37 08.4 +1.5
SVSK Karacayir 18.96 305 P Pn 02 37 08.7 +1.4
SALP Salfit 18.97 280 ⇑P Pn 02 37 07.5 0.0
TKM2 Tokmak 2 18.99 45 P P 02 37 06.8 -0.4
SNR=70
CEYT Ceyhan 19.01 295 P Pn 02 37 09.5 +1.7
SOC Sochi 19.02 317 *e*P P 02 37 06.4 -0.8
SOC *e* 02 40 40.1
SOC pmax pmax
comp=Z,231nm,1.0s
SOC MLR MLR
comp=Z,8µm,11.0s
ULHL Ulahol 19.03 47 P Pn **02 37 08.4 +0.1**
SNR=18
KOZT Kozan 19.06 297 P Pn 02 37 09.4 +0.9
LABN Labinsk 19.12 321 *c i*P Pn 02 37 10.9 +1.8
LABN pmax pmax
comp=Z,3µm,2.8s
LABN pmax pmax
comp=Z,27µm,3.3s
AMAZ Amatzia 19.23 278 ⇑P Pn 02 37 11.3 +0.7
POO Poona 19.24 125 *e*P Pn 02 37 12.9 +2.1
POO IAmb IAmb 02 37 18.0
comp=Z,430nm,1.3s
BHPL Bhopal 19.35 108 *e*P Pn 02 37 12.5 +0.4
BHPL IAmb IAmb 02 37 16.2
comp=Z,465nm,1.2s
EIL Elat 19.39 273 ⇑P Pn 02 37 12.3 -0.2
EIL Elat 19.39 273 P Pn 02 37 13.1 +0.5
comp=Z,3.4nm,0.3s,baz=66,slow=6.7,SNR=118
EIL S S **02 40 54.2 +3.3**
comp=Z,88nm,1.1s,baz=66,slow=19,SNR=1.3
EIL Lg Lg 02 43 06.0
comp=Z,0.6nm,0.3s,baz=12,slow=19,SNR=2.4
EIL LR LR 02 45 45.6
comp=Z,26µm,18.9s,baz=90,slow=40
comp=Z,557nm,1.2s
BTLS Baital 19.42 38 ⇑*i*P Pn **02 37 12.2 -0.5**
comp=Z,1µm,2.6s,baz=38
BTLS *i* S Sn **02 40 50.3 -0.2**
baz=38
BTLS Baital 19.42 38 *c i*P Pn **02 37 12.2 -0.5**
BTLS *i* S Sn **02 40 50.3 -0.2**
BTLS pmax pmax
comp=Z,1µm,2.6s
BNN Bunyan 19.43 301 P Pn **02 37 13.6 +0.5**
BNN Bunyan 19.43 301 P Pn **02 37 13.6 +0.5**
BNN Bunyan 19.43 301 ⇑P Pn **02 37 13.3 +0.3**
TOKT Tokat 19.44 305 P Pn **02 37 13.7 +0.6**
KARA Karaisali 19.60 296 P Pn **02 37 15.6 +0.6**
KZIT Kziot 19.72 277 ⇑P Pn **02 37 17.2 +0.8**
AKTO Aktyubinsk 19.74 1 P P **02 37 15.5 +0.4**
comp=Z,9.5nm,0.3s,baz=185,slow=9.9,SNR=280
AKTO LR LR 02 45 46.1
comp=Z,65µm,21.3s,baz=172,slow=40
comp=Z,265nm,0.8s
CMRD Camardi-Nigde 19.75 297 P Pn **02 37 17.3 +0.4**
TARG Taragay, Kyrgy 19.80 51 IAmb IAmb 02 37 28.2
comp=Z,1µm,1.5s
PTH Pithoragarh 19.81 87 *e*P Pn **02 37 19.3 +1.6**
TNSS Tian-Shan 19.89 46 ⇑*i*P P **02 37 17.5 +0.3**
baz=46
TNSS Tian-Shan 19.89 46 ⇑*i*P P **02 37 17.5 +0.3**
AAA Alma-Ata 19.96 46 *e*P Pn **02 37 18.7 -0.5**
baz=46
AAA LR LR 02 44 31.4
baz=46
AAA Alma-Ata 19.96 46 *e*P Pn **02 37 18.8 -0.5**
ERBR Yeremizino-Bor 19.96 323 ⇑*i*P Pn **02 37 19.3 +0.1**
KUU Kurty 19.99 43 ⇑*i*P P **02 37 18.6 +0.7**
baz=44
KUU *i* S S **02 41 03.2 +0.4**
baz=44
KUU LR LR 02 44 31.4
comp=Z,21µm,8.8s,baz=44
KUU Kurty 19.99 43 *c i*P P **02 37 18.6 +0.7**
KUU *i* S S **02 41 03.1 +0.4**
KUU MLR MLR
comp=Z,21µm,9.0s
KNDC Almaty 20.00 46 P Pn **02 37 19.9 +0.2**
MDOK Medeo 20.02 46 *i* P Pn 02 37 19.2 -0.8
baz=46
MDOK LR LR 02 44 33.7
comp=Z,16µm,9.6s,baz=46
MDOK Medeo 20.02 46 *i* P Pn 02 37 19.2 -0.9
MDOK MLR MLR
comp=Z,16µm,10.0s
YOZ Yozgat 20.07 302 P Pn 02 37 20.1 -0.6
KVT Kavak 20.09 307 P Pn 02 37 20.9 0.0
KOZK Kozakli-Nevseh 20.26 301 P Pn 02 37 22.5 -0.5
AKL Akola 20.29 115 *e*P Pn 02 37 23.3 +0.1
AKL IAmb IAmb 02 37 27.2
comp=Z,297nm,0.9s
KAD Karad 20.30 127 *e*P Pn 02 37 23.3 -0.1
CHKK Chushkaly 20.36 44 *e*P P **02 37 22.4 +0.6**
baz=44
CHKK Chushkaly 20.36 44 *e*P P **02 37 22.4 +0.6**
CSS Mathiatis 20.62 288 ⇑P Pn 02 37 26.4 -0.6
SATY Saty 20.82 48 ⇑*i*P P **02 37 27.9 +0.8**
comp=Z,896nm,2.4s,baz=48
SATY Saty 20.82 48 *c i*P P **02 37 27.8 +0.8**
SATY pmax pmax

comp=Z,896nm,2.4s
DIKM Dikmen 20.87 308 ⇓P P 02 37 28.3 +0.9
ZHN Zhinishke 20.89 48 eP P 02 37 28.1 +0.2
comp=Z,585nm,2.2s,baz=48
ZHN Zhinishke 20.89 48 eP P 02 37 28.0 +0.2
ZHN pmax pmax
comp=Z,585nm,2.2s
OTUK Ortayu 20.94 29 P P 02 37 28.2 0.0
ARXS Arharly 21.06 44 eP P 02 37 29.8 +0.3
ANN Anapa 21.06 318 *c iP* **P 02 37 31.0 +1.6**
ANN *e*S Sn 02 41 28.6 -1.5
ANN pmax pmax
comp=Z,2μm,1.2s
ANN pmax pmax
comp=Z,10μm,3.0s
ANN smax smax
comp=E,14μm,9.5s
KPKS Kokpek 21.20 47 eP P 02 37 31.4 +0.3
comp=E,716nm,2.4s,baz=47
KPKS *e*S **S 02 41 26.6 -0.3**
baz=47
KPKS Kokpek 21.20 47 eP P 02 37 31.3 +0.3
KPKS *e*S **S 02 41 26.6 -0.3**
KPKS pmax pmax
comp=Z,716nm,2.4s
UZB Uzunbulak 21.26 48⇑ *iP* **P 02 37 32.2 +0.4**
comp=Z,621nm,2.0s,baz=48
UZB Uzunbulak 21.26 48 *c iP* **P 02 37 32.1 +0.4**
UZB pmax pmax
comp=Z,621nm,2.0s
BR131 Keskin Array S 21.33 301 P P 02 37 33.1 +0.5
SNR=248
BR131 P P 02 37 33.1 +0.5
SNR=248
BR131 S **S 02 41 28.2 -1.4**
BR131 S **S 02 41 28.2 -1.4**
BR131 Keskin Array S 21.33 301 *c iP* **P 02 37 32.9 +0.5**
BRTR Keskin Array B 21.33 301 P P 02 37 32.2 -0.3
BRTR Keskin Array B 21.33 301 *i P* **P 02 37 33.0 +0.5**
BRTR pmax pmax
comp=Z,355nm,1.0s
BRTR Keskin Array B 21.33 301 P P 02 37 33.1 +0.6
comp=Z,357nm,1.0s,baz=120,slow=12,SNR=373
BRTR PcP **PcP 02 41 36.8 0.0**
comp=Z,28nm,1.0s,baz=145,slow=4.1,SNR=3.8
comp=Z,357nm,1.0s
GOA Goa 21.36 131 eP P 02 37 35.6 +2.7
GOA IAmb IAmb 02 37 40.1
comp=Z,747nm,1.0s
SHLS Shalkode 21.55 49⇑ *iP* **P 02 37 38.6 +3.8**
comp=Z,558nm,2.1s,baz=49
SHLS Shalkode 21.55 49 *c iP* **P 02 37 38.6 +3.8**
SHLS pmax pmax
comp=Z,558nm,2.1s
PDGK Podgornoye 21.64 48 P P 02 37 36.1 +0.2
TDK Taldyqorghan 21.84 43 eP P 02 37 38.0 +0.2
baz=43
TDK LR LR 02 46 15.9
comp=Z,13μm,10.2s,baz=43
TDK Taldyqorghan 21.84 43 eP P 02 37 38.0 +0.2
TDK MLR MLR
comp=Z,13μm,10.0s
ANTO Ankara 21.99 301⇑ **P P 02 37 39.9 +0.3**
ANTO Ankara 21.99 301 P P 02 37 38.9 -0.7
ANTO IAmb IAmb 02 37 43.8
comp=Z,1μm,1.4s
ANTO Ankara 21.99 301 P P 02 37 41.8 +2.2
ANTO P **P 02 37 41.8 +2.2**
ANTO Ankara 21.99 301⇑ **P P 02 37 39.9 +0.3**
ANTO Ankara 21.99 301 P P 02 37 38.9 -0.7
ANTO pmax pmax
comp=Z,1μm,1.4s
BR231 Keskin MP Arra 22.00 301 P P 02 37 39.9 +0.2
BRZS Berezniki 22.46 27⇑ *iP* **P 02 37 44.7 +0.3**
comp=Z,990nm,2.3s,baz=26
BRZS Berezniki 22.46 27 *c iP* **P 02 37 44.7 +0.3**
BRZS pmax pmax
comp=Z,991nm,2.3s
PYUN Piuthan 22.47 90 *eP* **P 02 37 45.5 +0.5**
comp=Z,2μm,1.1s
BELG Belogornoye 22.84 345 *c iP* **P 02 37 47.4 -1.0**
BELG pmax pmax
comp=Z,354nm,1.0s
BELG MLR MLR
comp=Z,3μm,16.0s
BELG Belogornoye 22.84 345 LR LR 02 49 17.1
comp=Z,19μm,18.3s,baz=158,slow=43
KOLN Koldanda 23.07 91 eP P 02 37 51.3 0.0
comp=Z,6μm,1.8s
DANN Dangsing 23.08 89 eP P 02 37 51.9 +0.4
comp=Z,3μm,1.0s
SIM Simferopol' 23.13 314 eP P 02 37 51.6 +0.1
SIM *e*S **S 02 42 04.4 +1.4**
SIM pmax pmax
comp=Z,3μm,1.0s
ISP Isparta 23.25 295 P P 02 37 53.3 +0.5
ISP Isparta 23.25 295⇑ **P P 02 37 53.2 +0.3**
ISP Isparta 23.25 295 *c iP* **P 02 37 53.6 +0.7**
ISP pmax pmax
comp=Z,3μm,1.7s
ISP MLR MLR
comp=Z,11μm,17.0s
ATD Arta Tunnel 23.33 218 P P 02 37 55.4 +1.6
ATD IAMs_20 IAMs_20 02 48 26.7
comp=Z,57μm,20.0s
ATD Arta Tunnel 23.33 218 eP P 02 37 49.0 -4.7
ATD *eP* **pP 02 37 54.7 -2.4**
ATD *e*S **S 02 42 10.8 +4.0**
ATD Arta Tunnel 23.33 218 eP P 02 37 57.9 +4.1
ATD *e*S Sn 02 42 17.1 -7.8
ATD IAMs_20 IAMs_20 02 46 20.3
comp=E,157μm,5.4s
ATD Arta Tunnel 23.33 218 P P 02 37 56.4 +2.6
SNR=142
ATD S **S 02 42 04.2 -2.5**
ATD Arta Tunnel 23.33 218⇑ **P P 02 37 54.5 +0.8**
ATD Arta Tunnel 23.33 218 LR LR 02 48 38.3
comp=E,3μm,19.9s,baz=36,slow=41
ATD Arta Tunnel 23.33 218 eP P 02 37 57.9 +4.1
ATD *e*S Sn 02 42 17.1 -7.8
ATD IAMs_20 IAMs_20 02 46 20.3
comp=E,157μm,5.4s
ATD Arta Tunnel 23.33 218 eP P 02 37 49.0 -4.7
ATD *eP* **pP 02 37 54.7 -2.4**
ATD *e*S **S 02 42 10.8 +4.0**
MDUB Mudurnu 23.34 302 IAMs_20 IAMs_20 02 47 43.6
comp=Z,45μm,22.0s
MDUB Mudurnu 23.34 302⇑ **P P 02 37 53.3 -0.4**
HYB Hyderabad 23.38 120 *i* **P 02 37 54.9 +0.6**
HYB *eP* **pP 02 37 55.7 -1.8**
HYB IVmB_BB 02 37 59.3
comp=Z,13μm,3.6s
HYB *e*S **S 02 42 10.3 +2.7**
HYB *e*PcS **PcS 02 45 20.8 +0.2**
HYB IVMs_BB IVMs_BB 02 49 32.6
comp=Z,9μm,9.0s
HYB Hyderabad 23.38 120 *eP* **P 02 37 55.4 +1.1**
HYB IAmb IAmb 02 38 01.5
comp=Z,593nm,1.2s
VRH Novokhopyorsk 23.56 335 *eP* **P 02 37 55.0 -0.8**
VRH *e* 02 37 56.3
VRH *e*S **S 02 42 06.7 -3.2**
VRH pmax pmax
comp=Z,1μm,1.4s
VRH smax smax
comp=E,20μm,13.2s
ELL Elmali 23.57 292⇑ **P P 02 37 56.6 +0.4**
KSL Kastellorizon 23.77 291 P P 02 37 56.4 -1.6
GKN Gorkha 23.91 90 eP P 02 37 59.9 +0.3
comp=E,4μm,1.4s
MNGI Mangalore 23.91 134 eP P 02 38 03.6 +4.2
BRVK Borovoye 24.27 19 P P 02 38 02.1 -0.4
BRVK IAmb IAmb 02 38 08.1
comp=Z,858nm,1.5s
BRVK Borovoye 24.27 19 P P 02 38 03.3 +0.8
BRVK P **P 02 38 03.3 +0.8**
BRVK P **P 02 38 03.3 +0.8**
BRVK S **S 02 42 23.7 +2.5**
BRVK S **S 02 42 23.7 +2.5**
BRVK S **S 02 42 23.7 +2.5**
BRVK Borovoye 24.27 19⇑ **P P 02 38 01.4 -1.1**
BRVK Borovoye 24.27 19 *c iP* **P 02 38 02.9 +0.4**
BRVK pmax pmax
comp=Z,379nm,1.0s
BRVK MLR MLR
comp=Z,60μm,18.0s
BVA0 Borovoye Array 24.27 19 *i* P **P 02 38 03.1 +0.6**
BVAR Borovoye Array 24.27 19 P P 02 38 03.0 +0.5
comp=Z,411nm,1.0s,baz=203,slow=6.4,SNR=432
BVAR PcP **PcP 02 41 42.5 +0.1**
comp=Z,81nm,0.9s,baz=207,slow=1.6,SNR=10
BVAR LR LR 02 48 49.2
comp=Z,61μm,20.6s,baz=206,slow=40
comp=Z,411nm,1.0s
VORD Divnogorie 24.32 332 *eP* **P 02 38 02.3 -0.6**
VORD *e* 02 38 03.1
VORD *e*S **S 02 42 21.0 -1.0**
VORD pmax pmax
comp=Z,530nm,1.3s
VORD smax smax
comp=E,980nm,4.8s
HMAD Nubian desert 24.40 249 *i* P **P 02 38 04.8 +0.8**
HMAD *i* 02 38 06.1
baz=347,slow=11
DMN Daman 24.41 90 *eP* **P 02 38 05.0 +0.7**
comp=E,3μm,1.4s
KKN Kakani 24.51 90 *eP* **P 02 38 05.7 +0.5**
comp=E,3μm,1.4s
VSR Storozhevoye 24.56 332 *eP* **P 02 38 04.6 -0.6**
VSR *e* 02 38 06.0
VSR *e*S **S 02 42 26.7 +0.8**
VSR pmax pmax
comp=Z,530nm,1.0s
VSR smax smax
comp=N,9μm,12.8s
PKIN Phulchoki 24.66 90 *eP* **P 02 38 07.4 +0.7**
comp=N,4μm,1.5s
PKI Pulchoki 24.68 90 *eP* **P 02 38 07.6 +0.8**
comp=N,4μm,1.4s
KULA Kula-Manisa 24.81 296 P P 02 38 06.4 -1.2
VORR Voronezh 24.89 333 *eP* **P 02 38 08.1 0.0**
VORR *e* 02 38 09.2
VORR *e*S **S 02 42 27.6 -3.7**
VORR pmax pmax
comp=Z,440nm,0.8s
VORR smax smax
comp=E,1μm,4.9s
MAKZ Makanchi 24.91 43 P P 02 38 08.4 0.0
MAKZ IAmb IAmb 02 38 18.3
comp=Z,477nm,1.3s
MAKZ Makanchi 24.91 43⇑ **P P 02 38 08.0 -0.4**
MAKZ Makanchi 24.91 43 P P 02 38 08.4 0.0
MAKZ pmax pmax
comp=Z,477nm,1.3s
YER Yerkesik 24.91 293 P P 02 38 06.0 -2.6
ARG Arkhangelos 24.95 291 P P 02 38 07.6 -1.2
ARG Arkhangelos 24.95 291⇑ **P P 02 38 08.8 -0.1**
GUN Gumba 25.00 89 *eP* **P 02 38 10.8 +1.0**
comp=Z,3μm,1.1s
ISK Istanbul-Kandi 25.06 302 P P 02 38 09.9 +0.1
MK31 Makanchi Array 25.09 43 P P 02 38 10.5 +0.5
MK31 Makanchi Array 25.09 43 P P 02 38 10.5 +0.5
MK31 pmax pmax
comp=Z,199nm,1.3s
MKAR Makanchi Array 25.09 43 P P 02 38 10.1 +0.1
MKAR Makanchi Array 25.09 43 P P 02 38 10.1 +0.1
MKAR Makanchi Array 25.09 43 P P 02 38 10.5 +0.5
comp=Z,78nm,0.9s,baz=224,slow=7.9,SNR=272
MKAR LR LR 02 49 26.1
comp=Z,44μm,19.3s,baz=251,slow=40
MKAR P3KPbc 03 11 13.8
comp=Z,2.2nm,1.0s,baz=48,slow=3.6,SNR=3.9
comp=Z,78nm,0.9s
JHSG JHARSUGUGA 25.26 104 *eP* **P 02 38 13.2 +1.4**
JHSG IAmb IAmb 02 38 19.7
comp=Z,1μm,1.3s
JIRN Jiri 25.33 90 *eP* **P 02 38 13.8 +1.0**
comp=Z,1μm,0.8s
KURBB Kurchatov Arra 25.43 32 P P 02 38 13.9 +0.9
comp=Z,126nm,0.8s,baz=232,slow=9.0,SNR=678
KURBB PcP **PcP 02 41 44.6 -0.4**
comp=Z,31nm,0.9s,baz=231,slow=3.8,SNR=5.5
KURBB LR LR 02 49 39.5
comp=Z,53μm,19.8s,baz=240,slow=40
comp=Z,126nm,0.8s
DAT Datca 25.43 292 P P 02 38 10.4 -2.9
DESE Dese 25.48 224 *eP* **P 02 38 12.8 -1.3**
DESE *e*S **S 02 42 44.0 +2.2**
DESE Dese 25.48 224 *eP* **P 02 38 18.4 +4.3**
DESE *e*S S 02 42 55.3 +13
DESE IAMs_20 IAMs_20 02 49 25.7
comp=E,108μm,8.8s
DESE Dese 25.48 224 *eP* **P 02 38 18.4 +4.3**
DESE *e*S S 02 42 55.3 +13
DESE IAMs_20 IAMs_20 02 49 25.7
comp=E,108μm,8.8s
DESE Dese 25.48 224 *eP* **P 02 38 12.8 -1.3**
DESE *e*S **S 02 42 44.0 +2.2**
VJD Vijayawada 25.51 118 *eP* **P 02 38 15.7 +1.7**
KURK Kurchatov 25.54 32 P P 02 38 14.7 +0.8
KURK IAmb IAmb 02 38 21.1
comp=Z,322nm,1.1s
KURK Kurchatov 25.54 32 P P 02 38 14.9 +1.0
KURK P **P 02 38 14.9 +1.0**
KURK P **P 02 38 14.9 +1.0**
KURK S **S 02 42 48.6 +7.1**
KURK S **S 02 42 48.6 +7.1**
KURK S **S 02 42 48.6 +7.1**
KURK Kurchatov 25.54 32 P P 02 38 14.7 +0.8
KURK pmax pmax
comp=Z,322nm,1.1s
BODT Bodrum 25.68 292 P P 02 38 13.2 -2.2
KARP Karpathos 25.70 289 P P 02 38 15.4 -0.3
KARP Karpathos 25.70 289⇑ **P P 02 38 15.0 -0.7**
LPSR Galich'ya Gora 25.73 334 *eP* **P 02 38 16.5 -0.2**
LPSR *e* 02 38 16.5
LPSR *e*S **S 02 42 45.7 +1.2**
LPSR pmax pmax
comp=Z,390nm,0.8s
LPSR smax smax
comp=E,12μm,9.1s
ARU Arti 25.75 2 P P 02 38 16.3 +0.4
ARU IAmb IAmb 02 38 22.7
comp=Z,410nm,1.1s
ARU Arti 25.75 2⇑ *iP* **P 02 38 16.2 +0.4**
ARU Arti 25.75 2 *c iP* **P 02 38 16.2 +0.3**
ARU 02 38 55.0
ARU 02 41 41.3
ARU S **S 02 42 47.0 +2.2**
ARU SS **SnSn 02 43 42.9 +3.2**
ARU pmax pmax
comp=Z,277nm,1.1s
ARU MLR MLR
comp=Z,23μm,16.0s
ARU Arti 25.75 2 LR LR 02 49 11.1
comp=Z,33μm,20.1s,baz=174,slow=38
EVN Everest 25.80 89⇑ **P P 02 38 18.4 +1.1**
MRWI Hamdab 25.85 248 *i P* **P 02 38 18.1 +1.0**
RAMN Ramite 25.86 91 *eP* **P 02 38 18.3 +0.8**
comp=Z,5μm,1.2s
KOSK Kos Island 25.92 292 P P 02 38 16.1 -1.5
SEM Semipalatinsk 26.10 34⇑ *iP* **P 02 38 20.2 +0.8**
baz=34
SEM LR LR 02 48 36.4
comp=Z,10μm,8.6s,baz=34
SEM Semipalatinsk 26.10 34 *c iP* **P 02 38 20.2 +0.8**
SEM MLR MLR
comp=Z,10μm,9.0s
SMG Samos 26.12 294 P P 02 38 18.8 -0.7
BOK Bokaro 26.23 98 *eP* **P 02 38 21.2 +0.7**
BOK IAmb IAmb 02 38 26.0
comp=Z,360nm,1.0s
SVE Sverdlovsk 26.24 4 *d iP* **P 02 38 20.8 +0.5**
SVE *e*S **S 02 42 55.7 +3.2**
SVE pmax pmax
comp=Z,4μm,9.6s
SVE pmax pmax
comp=Z,476nm,1.5s
SVE MLR MLR
comp=Z,27μm,17.0s
DKL Dikili 26.25 297⇑ **P P 02 38 20.6 0.0**
EFOR EFORIE 26.30 309⇑ **P P 02 38 20.9 0.0**
ZKR Zakros 26.46 288 P P 02 38 20.5 -2.0
MFTR Murfatlar 26.48 309⇓ **P P 02 38 22.9 +0.3**
PSN Preselentsi 26.48 307 *i P* **P 02 38 23.1 +0.4**
PURM Purcari 26.49 314⇓ **P P 02 38 23.5 +0.8**
ODAN Odare 26.56 91 *eP* **P 02 38 25.0 +1.2**
comp=Z,4μm,1.4s
TIRR Tirgusor 26.58 309⇑ **P P 02 38 23.2 -0.3**
TIRR Tirgusor 26.58 309⇑ **P P 02 38 23.9 +0.3**
TPGR Topolog 26.73 310⇓ **P P 02 38 25.1 +0.3**
PRK Paraskevi 26.77 297 P P 02 38 23.2 -2.0
CHOS Chios island 26.81 295 P P 02 38 25.2 -0.6
EZN Ezine 26.82 298 P P 02 38 24.3 -1.4
FRMA Ierapetra Chan 26.85 288 P P 02 38 24.2 -1.9
ICOR Ion Corvin 26.88 308⇑ **P P 02 38 26.4 +0.3**
VIS Vishakhapatnam 26.90 113 *eP* **P 02 38 28.3 +1.7**
VIS IAmb IAmb 02 38 36.3
comp=Z,213nm,1.4s
ZSN Zaisan 26.94 44⇑ *iP* **P 02 38 26.9 +0.1**
baz=44
ZSN *e*S **S 02 43 04.9 +0.9**
baz=44
ZSN Zaisan 26.94 44 *c iP* **P 02 38 26.9 +0.1**
ZSN *e*S **S 02 43 04.8 +0.9**
EDRB Edirne 26.94 303 P P 02 38 23.7 -3.1
CFR Carcaliu 27.03 311⇑ **P P 02 38 27.7 +0.1**
SALM Salem 27.05 130⇑ *eP* **P 02 38 28.9 +1.0**
APE Apeiranthos 27.10 292⇑ **P P 02 38 27.5 -0.8**
APE Apeiranthos 27.10 292 P P 02 38 24.7 -3.6
APE Apeiranthos 27.10 292⇓ **P P 02 38 28.4 0.0**
APE Apeiranthos 27.10 292 *c iP* **P 02 38 28.0 -0.3**
APE pmax pmax
comp=Z,139nm,1.0s
APE MLR MLR
comp=Z,7μm,14.0s
SANT Santorini 27.11 291⇑ **P P 02 38 26.9 -1.5**
SANT Santorini 27.11 291 P P 02 38 26.0 -2.5
SANT Santorini 27.11 291⇑ **P P 02 38 27.9 -0.6**
ENEZ Enez 27.12 300 P P 02 38 26.7 -1.8
CMBO Columbo, Santo 27.16 291 P P 02 38 28.3 -0.5
ALN Alexandroupoli 27.24 301 P P 02 38 29.4 0.0
ALN IAmb IAmb 02 38 31.9
comp=Z,306nm,1.2s
ALN Alexandroupoli 27.24 301 P P 02 38 28.3 -1.2
ALN Alexandroupoli 27.24 301⇑ **P P 02 38 29.5 0.0**
ALN Alexandroupoli 27.24 301 P P 02 38 29.4 0.0
ALN pmax pmax
comp=Z,306nm,1.2s
TATR Tataca 27.25 311⇑ **P P 02 38 29.8 +0.3**
JMB Yambol 27.26 304 *i P* **P 02 38 29.6 -0.1**
WMQ Urumqi 27.31 53⇑ **P P 02 38 31.2 +1.0**
WMQ pP sP 02 38 34.9 +0.1
WMQ S **S 02 43 13.6 +3.7**
WMQ pmax pmax
comp=Z,72nm,1.3s
WMQ pmax pmax
comp=Z,5μm,11.5s
WMQ LR LR
comp=Z,40μm,21.3s
WMQ LR LR
comp=Z,17μm,18.1s
WMQ LR LR
comp=Z,21μm,24.7s
SCTR Scanteiesti 27.32 311⇓ **P P 02 38 30.6 +0.4**
MILM Milestii Mici 27.32 314⇑ *iP* **P 02 38 30.1 0.0**
comp=Z,5μm,2.9s
MILM Milestii Mici 27.32 314⇓ **P P 02 38 29.9 -0.2**
MILM Milestii Mici 27.32 314 *c iP* **P 02 38 30.1 0.0**
MILM *e* 02 38 36.0
MILM *e*PPP PPP 02 39 30.0
MILM *e*S **S 02 43 08.0 -1.8**
MILM *e* 02 43 13.0
MILM pmax pmax
comp=Z,5μm,2.9s
MILM pmax pmax
comp=N,1μm,2.7s
MILM pmax pmax
comp=E,3μm,2.8s
VLDR Vladesti 27.33 312⇓ **P P 02 38 30.2 0.0**
NEGRR Negrea 27.34 311⇓ **P P 02 38 30.7 +0.3**
KIS Kishinev 27.35 315⇑ *iP* **P 02 38 30.5 +0.1**
comp=E,2μm,2.9s
KIS Kishinev 27.35 315⇓ **P P 02 38 30.9 +0.5**
KIS Kishinev 27.35 315 *c iP* **P 02 38 30.5 +0.1**
KIS *e* 02 38 37.0
KIS *e*PPP PPP 02 39 31.0
KIS *e*S **S 02 43 09.0 -1.3**
KIS *e* 02 43 16.0
KIS pmax pmax
comp=Z,2μm,2.9s
KIS pmax pmax
comp=E,2μm,2.8s
SCHL Schela 27.36 311⇑ **P P 02 38 31.0 +0.5**
AMRR Amara 27.36 309⇑ **P P 02 38 30.6 +0.1**
HRKL Herakleio 27.37 288 P P 02 38 30.5 -0.2
IZVR Izvoarele 27.41 311⇑ **P P 02 38 31.5 +0.6**
LOZB Loznitsa 27.47 306⇓ **P P 02 38 31.9 +0.4**
JAWL J.Aulia 27.48 242 *i P* **P 02 38 32.9 +1.0**
GTK Tadong 27.49 89 *eP* **P 02 38 33.9 +1.9**
TUDR 27.50 311⇑ **P P 02 38 32.6 +0.9**
VARL Varlezi 27.50 312⇓ **P P 02 38 33.8 +2.0**
IDI Anoyia 27.55 288⇑ **P P 02 38 32.1 -0.3**
IDI Anoyia 27.55 288 P P 02 38 30.0 -2.4
IDI Anoyia 27.55 288 P P 02 38 31.8 -0.6
IDI Anoyia 27.55 288⇑ **P P 02 38 32.3 -0.1**
IDI Anoyia 27.55 288 LR LR 02 53 32.7
comp=E,6μm,19.6s,baz=122,slow=45
RAZG Razgrad 27.58 306⇓ **P P 02 38 32.8 +0.2**
KOD Kodaikanal 27.64 133 *eP* **P 02 38 36.5 +2.9**
KOD IAmb IAmb 02 38 40.8
comp=Z,127nm,1.1s
LEHL Lehliu 27.66 308⇓ **P P 02 38 33.8 +0.6**
RDO Rodhopi 27.67 301 IAmb IAmb 02 38 35.7
comp=Z,428nm,1.2s
RDO Rodhopi 27.67 301 P P 02 38 31.7 -1.6
RDO Rodhopi 27.67 301⇑ **P P 02 38 33.2 0.0**
LIA Limnos Island 27.70 298 P P 02 38 31.7 -1.9
FURI Furi 27.81 223 P P 02 38 36.8 +1.5
FURI IAmb IAmb 02 38 59.5
comp=Z,262nm,1.1s
FURI Furi 27.81 223 *eP* **P 02 38 33.1 -2.1**
FURI *e*S **S 02 43 21.9 +3.2**
FURI Furi 27.81 223 *eP* **P 02 38 38.9 +3.7**
FURI *e*S S 02 43 31.8 +13
FURI IAmb IAmb 02 50 27.1
comp=Z,70μm,19.9s
FURI Furi 27.81 223 *eP* **P 02 38 38.9 +3.7**
FURI *e*S S 02 43 31.8 +13
FURI IAmb IAmb 02 50 27.1
comp=Z,70μm,19.9s
FURI Furi 27.81 223 *eP* **P 02 38 33.1 -2.1**
FURI *e*S **S 02 43 21.9 +3.2**
VASR Vaslui 27.84 313⇑ **P P 02 38 35.4 +0.6**
GHRR 27.84 312⇑ **P P 02 38 35.1 +0.3**
SZH Strazhitsa 27.87 306 *i P* **P 02 38 35.6 +0.5**
GRER 27.87 310⇓ **P P 02 38 37.1 +2.0**
KDZ Kurdzhali 27.91 302 *i P* **P 02 38 34.7 -0.9**
PANC Panciu 27.94 311⇓ **P P 02 38 37.0 +1.3**
MHLO Agia Marina, M 27.98 291 P P 02 38 34.8 -1.4
ISR Istrita 28.06 310⇑ **P P 02 38 38.3 +1.4**
SULR 28.11 309⇑ **P P 02 38 38.3 +1.1**
SORM Soroca 28.15 316⇑ **P P 02 38 37.6 +0.1**
SGRR Singureni 28.15 307⇓ **P P 02 38 37.9 +0.3**
THAS Thassos island 28.17 300 P P 02 38 35.6 -2.2
GVD Gavdhos 28.21 287 P P 02 38 36.6 -1.6
VRI Vrincioaia 28.21 311⇑ **P P 02 38 39.2 +1.0**
VRI Vrincioaia 28.21 311 P P 02 38 39.5 +1.3
IAS Iasi 28.21 314⇑ **P P 02 38 38.4 +0.3**
IAS Iasi 28.21 314 P P 02 38 38.7 +0.6
PLOR Plostina 28.25 311⇑ **P P 02 38 40.0 +1.4**
IMMV Iera Moni Meta 28.29 289 P P 02 38 38.1 -0.8
NEHR Nehoiu 28.33 310⇓ **P P 02 38 41.2 +1.9**
KYMI Kymi, Euboea I 28.36 295 P P 02 38 39.8 +0.2
RZN Rozhen 28.37 302 *i P* **P 02 38 39.4 -0.4**
KAVA Kavala 28.39 300 P P 02 38 36.0 -3.8
KIRV Kirov 28.43 351 *c iP* **P 02 38 40.2 +0.4**
KIRV Kirov 28.43 351 LR LR 02 52 09.0
comp=Z,35μm,20.6s,baz=168,slow=41
DION Dionisos Attik 28.44 294 P P 02 38 39.9 -0.4
PLD Plovdiv 28.46 303 P P 02 38 41.0 +0.6
RODP Rodopos 28.47 289 P P 02 38 42.7 +2.1
PTL Penteli 28.49 294 P P 02 38 41.4 +0.6
TESR Tescani 28.51 312⇑ **P P 02 38 41.4 +0.7**
VLY Voula,Athens 28.53 294 P P 02 38 39.5 -1.6
ATHU Athens Univers 28.55 294 P P 02 38 36.6 -4.7
OBN Obninsk 28.56 335⇑ **P P 02 38 41.8 +0.7**
OBN Obninsk 28.56 335 P P 02 38 40.9 -0.2
OBN Obninsk 28.56 335⇑ **P P 02 38 41.8 +0.7**
OBN Obninsk 28.56 335 *c iP* **P 02 38 41.7 +0.7**
OBN *i* *PP **sP 02 38 45.3 -0.3**
OBN *i* *SP **pP 02 38 49.2 +4.9**

OBN *i* 02 39 28.0
OBN *i* PPP PPP 02 39 42.4
OBN *e* 02 41 53.8
OBN *i* S **S** **02 43 31.3 +2.2**
OBN SSS SSS 02 45 14.0
OBN pmax pmax
comp=Z,3µm,1.5s
OBN pmax pmax
comp=Z,9µm,4.7s
OBN MLR MLR
comp=Z,10µm,17.0s
MLR Muntele Rosu 28.59 310 ⇑P **P** **02 38 43.1 +1.4**
MLR Muntele Rosu 28.59 310 P **P** **02 38 42.2 +0.6**
MLR IAmb IAmb 02 38 46.1
comp=Z,523nm,1.4s
MLR Muntele Rosu 28.59 310 P **P** **02 38 42.2 +0.6**
MLR pmax pmax
comp=Z,523nm,1.4s
ATH Athens Observa 28.60 294 P **P** **02 38 38.6 -3.1**
COPA Copaceanca 28.64 307 ⇑P **P** **02 38 42.2 +0.3**
MOS Moscow 28.67 337 *eP* **P** **02 38 41.9 -0.2**
MOS *e* 02 39 35.0
MOS *e* 02 41 48.3
MOS *eS* **S** **02 43 31.5 +0.6**
MOS *eSS* **SnSn** **02 45 00.8 +10**
MOS pmax pmax
comp=Z,910nm,1.5s
MOS pmax pmax
comp=E,243nm,1.1s
MOS pmax pmax
comp=N,543nm,1.0s
MOS pmax pmax
comp=Z,8µm,4.2s
MOS pmax pmax
comp=N,5µm,3.5s
MOS pmax pmax
comp=E,3µm,3.5s
MOS smax smax
comp=E,4µm,4.7s
MOS MLR MLR
comp=Z,8µm,11.0s
TURR Turia 28.74 311 ⇑P **P** **02 38 44.1 +1.2**
KOKK Kokkinochori, 28.75 300 P **P** **02 38 40.0 -3.0**
ANKY Antikythira Is 28.84 289 P P 02 37 56.8 -47
PLVB Pleven 28.85 305 ⇑P **P** **02 38 44.0 +0.2**
HUMR Humele 28.92 308 ⇑P **P** **02 38 44.0 -0.4**
NVR Nevrokopi 28.95 301 P **P** **02 38 44.2 -0.6**
AKASG Malin Array Be 28.96 322 IAmb IAmb 02 38 46.8
comp=Z,339nm,1.2s
AKASG Malin Array Be 28.96 322 P **P** **02 38 44.9 +0.2**
comp=Z,105nm,0.8s,baz=126,slow=8.0,SNR=198
AKASG PcP **PcP** **02 41 52.2 -1.2**
comp=Z,51nm,1.1s,baz=81,slow=2.6,SNR=4.7
comp=Z,105nm,0.8s
AKBB Malin Array Si 28.96 322*c iP* **P** **02 38 44.9 +0.2**
PGB Panagyurishte 28.96 303 *i P* **P** **02 38 44.2 -0.7**
KIEV Kiev 28.96 322 P **P** **02 38 44.4 -0.3**
KIEV Kiev 28.96 322 *i P* **P** **02 38 45.1 +0.3**
SNR=121
KIEV Kiev 28.96 322 ⇑P **P** **02 38 45.0 +0.3**
KIEV Kiev 28.96 322 P **P** **02 38 44.4 -0.3**
KIEV pmax pmax
comp=Z,819nm,1.5s
BOSR Bodos 28.98 311 ⇑P **P** **02 38 45.6 +0.6**
MMB Musomishta 29.07 301 *i P* **P** **02 38 45.9 +0.1**
SRS Serrai 29.10 300 P **P** **02 38 43.7 -2.4**
SRS Serrai 29.10 300 P **P** **02 38 45.8 -0.3**
DOPR Dopca 29.12 311 ⇑P **P** **02 38 47.1 +0.9**
VOIR 29.16 309 ⇑P **P** **02 38 47.3 +0.6**
VOIR 29.16 309 P **P** **02 38 47.5 +0.8**
LSA Lhasa 29.17 83 IAmb IAmb 02 38 53.0
comp=Z,632nm,2.0s
LSA IAMs_20 IAMs_20 02 51 31.0
comp=Z,32µm,20.0s
LSA Lhasa 29.17 83 P **P** **02 38 48.8 +1.4**
LSA P **P** **02 38 48.8 +1.4**
LSA P **P** **02 38 48.8 +1.4**
LSA Lhasa 29.17 83 P **P** **02 38 48.6 +1.2**
LSA S **S** **02 43 41.0 +0.9**
LSA pmax pmax
comp=Z,57nm,1.0s
LSA pmax pmax
comp=Z,2µm,3.0s
LSA LR LR
comp=Z,38µm,25.6s
LSA LR LR
comp=Z,25µm,21.4s
LSA LR LR
comp=Z,41µm,25.6s
VLAD Vladila 29.17 306 ⇓P **P** **02 38 46.5 -0.1**
SOH Sokhos 29.23 300 P **P** **02 38 45.3 -2.0**
SOH Sokhos 29.23 300 P **P** **02 38 47.6 +0.3**
HORT Hortiatis 29.39 299 P **P** **02 38 46.6 -2.1**
ARR Arges 29.42 309 ⇑P **P** **02 38 49.5 +0.5**
THAL Thalero 29.44 294 P **P** **02 38 47.9 -1.2**
MPEP Malo Peshtene 29.47 305 *i P* **P** **02 38 48.5 -0.8**
THE Thessaloniki 29.49 299 P **P** **02 38 46.2 -3.4**
THE Thessaloniki 29.49 299 P **P** **02 38 49.9 +0.3**
AXAR Agios Charalam 29.50 295 P **P** **02 38 46.3 -3.4**
DGZ Jazzator, Alta 29.52 41*c iP* **P** **02 38 50.6 +0.7**
DGZ pmax pmax
comp=Z,33nm,0.9s
DGZ MLR MLR
comp=Z,42µm,19.0s
KKB Krupnik 29.58 302 *i P* **P** **02 38 49.8 -0.6**
KNT Kendrikon 29.63 300 P **P** **02 38 49.9 -0.9**
KNT Kendrikon 29.63 300 P **P** **02 38 50.5 -0.3**
VTS Vitosha 29.66 303 *i P* **P** **02 38 50.6 -0.6**
GUR Goura 29.68 294 P P 02 38 45.9 -5.6
PEHC Pehcevo 29.73 301 *i P* **P** **02 38 51.6 -0.3**
AGG Agios Georgios 29.78 296 ⇑P **P** **02 38 51.3 -0.9**
AGG Agios Georgios 29.78 296 P **P** **02 38 52.8 +0.6**
BURAR Bucovina Array 29.84 314 ⇑P **P** **02 38 53.7 +1.0**
KLV Kalavryta, Ach 29.84 294 P **P** **02 38 49.3 -3.5**
BUR08 Bucovina Ar. S 29.86 314 P **P** **02 38 52.6 -0.2**
KLMT Kalamata 29.87 292 P **P** **02 38 51.8 -1.1**
VAY Valandovo 29.90 300 *i P* **P** **02 38 52.8 -0.3**
VAY Valandovo 29.90 300 P **P** **02 38 53.0 -0.2**
BAIL Bailesti 29.91 306 ⇓P **P** **02 38 53.3 +0.1**
GRG Griva 29.96 300 P **P** **02 38 53.6 -0.2**
LOT Lotru 30.02 309 ⇑P **P** **02 38 54.1 -0.2**
THL Klokotos Trika 30.08 297 P **P** **02 38 51.7 -3.1**
PYL PYLOS 30.12 292 P **P** **02 38 52.1 -3.1**
SRE Strehaia 30.18 307 ⇑P **P** **02 38 56.2 +0.6**
ARCR ARCALIA 30.18 312 ⇑P **P** **02 38 56.9 +1.3**
KSV Kosov 30.21 315 P **P** **02 38 56.1 +0.3**
PASG PASIGHAT 30.22 87 *eP* P 02 39 22.3 +26
PASG IAmb IAmb 02 39 23.9
comp=Z,471nm,0.8s
PUNG Punghina 30.26 306 ⇑P **P** **02 38 56.5 +0.1**
BLKB Belogradchik 30.28 305 ⇑P **P** **02 38 56.7 +0.1**
ZAA0 Zalesovo Array 30.53 32 P **P** **02 38 58.3 -0.3**
ZAA0 IAmb IAmb 02 39 03.3
comp=Z,162nm,0.7s
ZAA0 IAMs_20 IAMs_20 02 52 39.1
comp=Z,35µm,18.0s
ZALV Zalesovo Beam 30.53 32 P **P** **02 38 58.5 -0.1**
comp=Z,144nm,0.6s,baz=239,slow=9.5,SNR=445
ZALV PcP **PcP** **02 41 56.0 -1.3**
comp=Z,38nm,0.9s,baz=226,slow=5.8,SNR=3.6
ZALV LR LR 02 52 49.7
comp=Z,34µm,19.1s,baz=218,slow=40
comp=Z,144nm,0.6s
CJR Cluj-Napoca 30.54 311 ⇓P **P** **02 38 59.8 +0.9**
KPRO Kipourio 30.62 298 P **P** **02 38 56.7 -3.0**
DJES Djerdap 30.65 307 ⇓P **P** **02 38 60.0 +0.2**
GZR Gura Zlata 30.67 308 ⇑P **P** **02 38 59.1 -0.9**
GZR Gura Zlata 30.67 308 P **P** **02 39 00.0 -0.1**
FNA Florina 30.71 299 P **P** **02 38 56.5 -3.9**
FNA Florina 30.71 299 ⇑P **P** **02 39 00.2 -0.2**
FNA Florina 30.71 299 P **P** **02 39 00.2 -0.2**
DEV Deva 30.73 309 ⇓P **P** **02 39 00.4 -0.1**
DEV Deva 30.73 309 P **P** **02 39 01.9 +1.4**
SHL Shillong 30.80 91 *eP* **P** **02 39 01.1 -0.5**
SHL IAmb IAmb 02 39 05.3
comp=Z,114nm,0.9s
MARR Marisel-Cluj 30.84 311 ⇑P **P** **02 39 02.4 +0.8**
SKO Skopje 30.84 301 *i P* **P** **02 39 01.2 -0.3**
LTHK Lithakia 30.86 293 P **P** **02 38 58.8 -2.9**
NEST Nestorio 30.91 298 P **P** **02 39 00.5 -1.8**
BMR Baia Mare 30.94 313 ⇓P **P** **02 39 03.2 +0.9**
BMR Baia Mare 30.94 313 P **P** **02 39 03.4 +1.1**
BOVS Bovan 30.97 305 ⇑P **P** **02 39 01.5 -1.1**

JAN Janina 30.98 297 P **P** **02 38 58.1 -4.7**
NYDR Nydri-Lefkada 31.02 295 P P 02 38 52.6 -11
VLS Valsamata 31.08 294 P P 02 38 58.2 -5.5
MESR Meseseni 31.10 312 ⇑P **P** **02 39 05.2 +1.4**
FSK Fiskardo 31.12 295 P P 02 38 52.6 -11
KBN Korca 31.13 299 P **P** **02 38 59.8 -4.4**
OHR Ohrid 31.19 300 *i P* **P** **02 39 05.7 +1.0**
OHR Ohrid 31.19 300 P **P** **02 39 05.4 +0.8**
KEF4 Livadi, Kephal 31.21 294 P **P** **02 39 00.1 -4.7**
SURR Surduc 31.21 309 ⇑P **P** **02 39 04.8 0.0**
MDVR Moldovita 31.23 307 ⇓P **P** **02 39 04.9 -0.1**
KEF3 Kipouria, Keph 31.27 294 P **P** **02 39 01.4 -3.9**
TEZP TEZPUR 31.29 88 *eP* **P** **02 39 05.5 0.0**
TEZP IAmb IAmb 02 39 10.4
comp=Z,168nm,0.9s
LVV L'vov 31.45 317 *eP* **P** **02 39 07.3 +0.5**
LVV *eS* **S** **02 44 08.3 -6.3**
LVV *eSS* **SnSn** **02 45 58.0 -0.6**
BZS Buzias 31.52 308 ⇓P **P** **02 39 07.4 0.0**
BZS Buzias 31.52 308 ⇑P **P** **02 39 07.3 -0.1**
BZS Buzias 31.52 308 P **P** **02 39 07.4 0.0**
GOMU GeErMu 31.60 70 P **P** **02 39 09.6 +0.9**
GOMU pP sP 02 39 13.9 +0.6
GOMU sP pP 02 39 19.9 +7.9
GOMU PcP **PcP** **02 42 01.8 +0.8**
GOMU S **S** **02 44 20.7 +2.6**
GOMU pmax pmax
comp=Z,29nm,0.9s
GOMU LR LR
comp=Z,12µm,17.5s
GOMU LR LR
comp=Z,7µm,16.4s
GOMU LR LR
comp=Z,18µm,16.1s
SRN Sarande 31.65 297 P P 02 39 00.3 -8.4
SIRR Siria 31.67 310 ⇑P **P** **02 39 09.7 +0.9**
BANR Banloc 31.78 308 ⇑P **P** **02 39 10.3 +0.6**
KEK Kerkira 31.80 297 IAmb IAmb 02 39 20.2
comp=Z,143nm,0.8s
KEK Kerkira 31.80 297 P P 02 39 02.2 -7.7
KEK Kerkira 31.80 297 ⇓P **P** **02 39 10.9 +0.9**
MNK Minsk 31.80 327 *i P* **P** **02 39 10.0 +0.2**
comp=E,61nm,0.8s
MNK *i P* **P** **02 39 10.0 +0.2**
comp=N,96nm,0.8s
MNK *i P* **P** **02 39 10.0 +0.2**
comp=Z,277nm,0.8s,baz=126
MNK *i* PP **PnPn** **02 40 14.4 +0.4**
MNK *i* PcP **PcP** **02 42 01.1 +0.4**
MNK *i* S **S** **02 44 21.0 +1.1**
MNK *i* SS **SnSn** **02 45 57.7 -9.3**
MNK *i* LR LR 02 51 28.4
MNK *i* LRM MLR 02 54 45.3
comp=Z,7µm,17.9s
MNK *i* LRM MLR 02 54 46.7
comp=E,3µm,17.8s
MNK *i* LRM MLR 02 54 49.6
comp=N,6µm,17.8s
MNK Minsk 31.80 327*d iP* **P** **02 39 10.0 +0.2**
BORR Bors 31.84 311 ⇑P **P** **02 39 11.8 +1.6**
LTVH Ltavrtes, Hu 31.86 312 ⇑P **P** **02 39 11.6 +1.3**
LTVH Ltavrtes, Hu 31.86 312 ⇑P **P** **02 39 11.6 +1.3**
PRGR Permogore 31.91 349 ⇑*iP* **P** **02 39 10.2 -0.4**
PRGR pmax pmax
comp=Z,145nm,1.3s
TIR Tirane 31.92 300 ⇑P **P** **02 39 10.8 -0.1**
TIR Tirane 31.92 300 P **P** **02 39 09.5 -1.5**
TIR Tirane 31.92 300 P **P** **02 39 07.4 -3.6**
TIR Tirane 31.92 300 ⇑P **P** **02 39 09.8 -1.2**
TIR Tirane 31.92 300 P **P** **02 39 09.5 -1.5**
TIR pmax pmax
comp=Z,394nm,0.9s
TIR MLR MLR
comp=Z,11µm,19.0s
ITAN ITANAGAR 31.94 87 *eP* **P** **02 39 12.9 +1.5**
ITAN IAmb IAmb 02 39 21.7
comp=Z,419nm,0.8s
PALK Pallekele 31.95 132 P **P** **02 39 14.0 +2.5**
PVY Plav 32.03 302 ⇑*iP* **P** **02 39 10.9 -1.2**
BEO Beograd 32.10 306 P **P** **02 39 12.5 0.0**
IVA Berane 32.12 303 ⇑*iP* **P** **02 39 11.6 -1.3**
SJES Sjenica 32.13 304 ⇑*iP* **P** **02 39 12.5 -0.5**
KOLS Kolonicke sedl 32.16 315 *eP* **P** **02 39 14.8 +1.8**
KOLS *e* 02 42 03.3
KOLS Kolonicke sedl 32.16 315 *eP* **P** **02 39 14.8 +1.8**
KOLS *e* 02 42 03.3
KOLS pmax pmax
comp=Z,946nm,1.1s
KWP Kalwaria Pacla 32.16 316 *eP* **P** **02 39 14.1 +1.1**
KWP Kalwaria Pacla 32.16 316 ⇑P **P** **02 39 13.9 +0.9**
KWP Kalwaria Pacla 32.16 316 P **P** **02 39 13.6 +0.6**
DIVS Divibare 32.28 305 ⇑*iP* **P** **02 39 13.3 -1.0**
DIVS Divibare 32.28 305 ⇑P **P** **02 39 13.2 -1.1**
KOME Kolasin 32.39 303 ⇓*iP* **P** **02 39 14.2 -1.1**
KLMR Klimovskoe 32.41 344 ⇑*iP* **P** **02 39 15.0 -0.1**
KLMR ⇑*iP* **P** **02 39 15.0 -0.1**
KLMR ⇓*iP* **P** **02 39 15.0 -0.1**
KLMR AMP 02 39 17.5
comp=Z,999nm,1.3s
KLMR S **S** **02 44 28.6 -0.8**
KLMR S **S** **02 44 28.6 -0.8**
KLMR LQ LQ 02 51 05.4
KLMR LQ LQ 02 51 05.4
KLMR LR LR 02 52 32.3
KLMR AMP 02 54 52.7
comp=Z,20µm,13.7s
KLMR Klimovskoe 32.41 344*c iP* **P** **02 39 14.9 -0.1**
KLMR S **S** **02 44 28.5 -0.8**
KLMR pmax pmax
comp=Z,999nm,1.3s
KLMR pmax pmax
comp=Z,9µm,4.6s
KLMR MLR MLR
comp=Z,20µm,14.0s
ULC Ulcinj 32.46 301 ⇓*iP* **P** **02 39 14.9 -0.9**
PDG Podgorica 32.52 302 ⇑P **P** **02 39 14.3 -1.9**
PDG Podgorica 32.52 302 P **P** **02 39 16.9 +0.7**
PDG PcP **PcP** **02 42 02.9 0.0**
PDG Podgorica 32.52 302 ⇑*iP* **P** **02 39 14.1 -2.1**
PDG Podgorica 32.52 302 ⇑P **P** **02 39 14.9 -1.3**
PDG Podgorica 32.52 302 ⇓*iP* **P** **02 39 14.5 -1.7**
DRME Dracevica, Mon 32.53 301 *eP* **P** **02 39 15.9 -0.5**
DRME Dracevica, Mon 32.53 301 ⇑*iP* **P** **02 39 14.8 -1.6**
NACGM Naroch 32.55 327 *eP* **P** **02 39 16.8 +0.5**
comp=E,13µm,1.1s
PLE Pljevlja 32.56 303 ⇑*iP* **P** **02 39 15.2 -1.6**
RUDO Rudo 32.63 304 *eP* **P** **02 39 15.4 -1.8**
FRGS Fruska Gora 32.64 307 ⇑P **P** **02 39 17.2 -0.1**
FRGS Fruska Gora 32.64 307 ⇑*iP* **P** **02 39 17.0 -0.3**
CRVS Cervenica-Dubn 32.64 314 *eP* **P** **02 39 18.5 +1.2**
CRVS *ePP* **PP** **02 40 37.7 +6.7**
CRVS Cervenica-Dubn 32.64 314 *eP* **P** **02 39 18.5 +1.2**
CRVS pmax pmax
comp=Z,1µm,1.8s
BBLS Lazići 32.65 304 ⇑*iP* **P** **02 39 16.8 -0.7**
TEKS Tekeris 32.70 306 ⇑*iP* **P** **02 39 17.0 -0.8**
BUM Brajici-Budva 32.76 301 ⇑*iP* **P** **02 39 16.4 -2.1**
CEME Cevo 32.78 302 ⇓*iP* **P** **02 39 16.5 -2.1**
SAIH SAIHA 32.79 96 *eP* **P** **02 39 19.7 +0.7**
NKME Niksic 32.79 302 ⇑*iP* **P** **02 39 17.0 -1.7**
IMP Imphal 32.80 91 *eP* **P** **02 39 20.1 +1.1**
IDID Didziasalis 32.81 328 *eP* **P** **02 39 18.6 0.0**
MOKO MOKOCHONG 32.85 88 *eP* **P** **02 39 20.7 +1.2**
MOKO IAmb IAmb 02 39 25.5
comp=Z,1µm,1.1s
BSZH Besenyszg 32.89 311 ⇑P **P** **02 39 20.6 +1.2**
KECS Kecovo 33.11 313 *eP* **P** **02 39 22.6 +1.2**
KECS Kecovo 33.11 313 *eP* **P** **02 39 22.6 +1.2**
KECS pmax pmax
comp=Z,107nm,1.3s
TREB Trebinje 33.22 302 ⇑*iP* **P** **02 39 20.0 -2.4**
ISAL Salakas 33.25 328 *eP* **P** **02 39 22.9 +0.4**
IZAR Zarasai 33.30 328 *eP* **P** **02 39 23.6 +0.8**
PSZ Piszkesteto 33.31 312 ⇑P **P** **02 39 23.8 +0.6**
PSZ Piszkesteto 33.31 312 IAmb IAmb 02 39 27.0
comp=Z,274nm,1.1s
PSZ Piszkesteto 33.31 312 ⇑P **P** **02 39 23.7 +0.5**
NEVS Nevesinje 33.48 303 *eP* P 02 39 17.7 -7.1
NIE Niedzica 33.54 315 *eP* **P** **02 39 27.0 +1.8**
MORH Mrgy, Hungar 33.68 308 ⇑P **P** **02 39 26.6 +0.3**
STON Ston 33.72 302 ⇑*iP* **P** **02 39 24.2 -2.5**
LKP Lekhapani 33.72 86 *eP* **P** **02 39 28.5 +1.6**

LKP IAmb IAmb 02 39 29.6
comp=Z,698nm,0.9s
KOVH Kovagotottos 34.02 308 ⇑P **P** **02 39 28.9 -0.3**
TIP Timpagrande 34.12 296 ⇑P **P** **02 39 29.6 -0.7**
TIP Timpagrande 34.12 296 IAmb IAmb 02 39 33.5
comp=Z,207nm,1.2s
TIP Timpagrande 34.12 296 ⇑P **P** **02 39 29.4 -0.9**
OJC Ojcow 34.12 316 *eP* **P** **02 39 31.1 +1.0**
OJC *eS* **S** **02 45 00.6 +4.4**
OJC Ojcow 34.12 316 ⇑P **P** **02 39 30.9 +0.7**
BEL Belsk 34.16 319 *eP* **P** **02 39 31.4 +1.0**
BEL *eS* **S** **02 45 02.1 +5.5**
BEL Belsk 34.16 319 ⇑P **P** **02 39 31.4 +1.0**
BEL Belsk 34.16 319 P **P** **02 39 31.4 +1.0**
LODK Lodwar 34.16 222 IAmb IAmb 02 39 37.2
comp=Z,160nm,1.2s
LODK Lodwar 34.16 222 *eP* **P** **02 39 28.9 -1.9**
LODK *eS* **S** **02 45 00.2 +2.8**
LODK Lodwar 34.16 222 *eP* **P** **02 39 34.7 +3.8**
LODK *eS* S 02 45 09.6 +12
LODK Lodwar 34.16 222 P **P** **02 39 33.5 +2.7**
SNR=150
LODK Lodwar 34.16 222 *eP* **P** **02 39 34.7 +3.8**
LODK *eS* S 02 45 09.6 +12
LODK Lodwar 34.16 222 *eP* **P** **02 39 28.9 -1.9**
LODK *eS* **S** **02 45 00.2 +2.8**
MATE Matera 34.23 298 ⇓P **P** **02 39 29.8 -1.4**
PABE Paberze 34.23 326 P **P** **02 39 31.1 +0.1**
PABE Paberze 34.23 326 *eP* **P** **02 39 30.7 -0.3**
PUL Pulkovo 34.29 336*c iP* **P** **02 39 32.2 +0.8**
PUL pmax pmax
comp=Z,980nm,1.0s
SRO Srobarova 34.30 311 *eP* **P** **02 39 32.8 +1.1**
SRO Srobarova 34.30 311 *eP* **P** **02 39 32.8 +1.1**
SRO pmax pmax
comp=Z,171nm,1.0s
BLY Banja Luka 34.38 306 ⇑*iP* **P** **02 39 31.6 -0.8**
BLY Banja Luka 34.38 306 ⇑P **P** **02 39 32.1 -0.4**
VSVD Vaisvydziai 34.51 327 ⇓P **P** **02 39 33.6 +0.3**
MRVN Minervino Murg 34.64 299 ⇓P **P** **02 39 33.5 -1.3**
PRIJ Prijedor 34.75 306 *eP* **P** **02 39 35.2 -0.4**
CEL Celeste 34.78 294 IAmb IAmb 02 39 44.3
comp=Z,211nm,1.1s
CEL Celeste 34.78 294 ⇑P **P** **02 39 35.7 -0.3**
A050A Klekovaca 34.79 305 ⇑*iP* **P** **02 39 35.1 -1.0**
CUC Castrocucco 34.87 297 IAmb IAmb 02 39 40.5
comp=Z,174nm,1.2s
CUC Castrocucco 34.87 297 ⇑P **P** **02 39 36.6 -0.3**
OKC Ostrava-Krasne 35.00 314 ⇑*iP* **P** **02 39 38.0 +0.3**
OKC AMS AMS 03 01 20.0
comp=Z,6µm,12.2s
OKC Ostrava-Krasne 35.00 314 ⇑*iP* **P** **02 39 38.0 +0.3**
OKC MLR MLR
comp=Z,6µm,12.2s
JAVC Velka Javorina 35.00 313 ⇑*iP* **P** **02 39 38.9 +1.0**
JAVC *e*PP **PP** **02 40 56.9 -0.2**
JAVC *eS* **S** **02 45 08.6 -1.3**
MAUC Maruska 35.05 314 ⇑*iP* **P** **02 39 39.0 +0.7**
SMOL Smolenice 35.06 312 *eP* **P** **02 39 39.0 +0.7**
SMOL pmax pmax
comp=Z,129nm,1.1s
MSEY Mahe Island 35.20 183 P **P** **02 39 41.0 +1.2**
MSEY Mahe Island 35.20 183 P **P** **02 39 41.0 +1.2**
MSEY Mahe Island 35.20 183 *eP* **P** **02 39 41.1 +1.2**
MSEY IAmb IAmb 02 39 42.8
comp=Z,49nm,1.1s
MSEY Mahe Island 35.20 183 P **P** **02 39 41.0 +1.2**
MSEY pmax pmax
comp=Z,100nm,1.2s
MSEY MLR MLR
comp=Z,7µm,18.0s
VALR Valaam 35.27 338*c iP* **P** **02 39 40.2 +0.4**
VALR pmax pmax
comp=Z,731nm,1.1s
VALR MLR MLR
comp=Z,5µm,14.0s
KOGS Kog 35.35 308 *i P* **P** **02 39 40.7 -0.1**
KOGS *i* PP **PP** **02 41 06.9 +6.0**
MORC Moravsky Berou 35.35 314 ⇑P **P** **02 39 40.8 0.0**
MORC Moravsky Berou 35.35 314 ⇑*iP* **P** **02 39 41.0 +0.2**
MORC *e*PP **PP** **02 41 00.2 -0.8**
MORC *eS* **S** **02 45 17.7 +2.4**
MORC Moravsky Berou 35.35 314 ⇑P **P** **02 39 41.1 +0.2**
MORC ⇑P **PcP** **02 42 11.6 +0.6**
SOP Sopron 35.41 310 P **P** **02 39 41.2 -0.1**
PBUR Paburge 35.48 326 *eP* **P** **02 39 41.6 -0.1**
GTA Gaotai 35.57 64 ⇑P **P** **02 39 44.0 +1.1**
GTA pP sP 02 39 48.2 +0.7
GTA sP pP 02 39 54.1 +7.9
GTA PP **PP** **02 41 07.2 +3.6**
GTA S **S** **02 45 24.1 +5.1**
GTA pmax pmax
comp=Z,120nm,1.0s
GTA pmax pmax
comp=Z,3µm,5.6s
GTA LR LR
comp=Z,12µm,21.9s
GTA LR LR
comp=Z,16µm,18.3s
GTA LR LR
comp=Z,27µm,21.1s
RONA Rosalia, Austr 35.59 310 *i P* **P** **02 39 42.9 0.0**
comp=Z,253nm,1.1s,SNR=110
RONA *e*PcP **PcP** **02 42 11.8 +0.1**
comp=Z,26nm,1.1s
KLNR Kaliningrad 35.66 323*c iP* **P** **02 39 43.8 +0.5**
KLNR pmax pmax
comp=Z,791nm,1.1s
KLNR MLR MLR
comp=Z,9µm,19.0s
CRES Cresnjev 35.77 307 ⇑*iP* **P** **02 39 44.3 -0.2**
VRAC Vranov 35.81 313 ⇑P **P** **02 39 45.1 +0.3**
VRAC Vranov 35.81 313 ⇑*iP* **P** **02 39 45.0 +0.3**
VRAC *e*PP **PP** **02 41 06.7 +0.7**
VRAC *eS* **S** **02 45 26.0 +3.8**
BOJS Bojanci 35.86 306 ⇑*iP* **P** **02 39 45.1 -0.1**
BOJS Bojanci 35.86 306 *i* PcP **PcP** **02 42 13.1 +0.6**
KRUC Moravsky 35.87 313 ⇑*iP* **P** **02 39 45.4 +0.2**
KRUC *eS* **S** **02 45 25.6 +2.5**
KRLC Kraliky 35.91 314 ⇑*iP* **P** **02 39 45.9 +0.3**
KRLC *e*PCP **PcP** **02 42 11.9 -0.7**
KRLC *eS* **S** **02 45 24.3 +0.5**
KRLC AMS AMS 02 57 30.0
comp=Z,5µm,14.1s
KRLC Kraliky 35.91 314 ⇑*iP* **P** **02 39 45.9 +0.3**
KRLC *e* 02 42 11.9
KRLC *eS* **S** **02 45 24.3 +0.5**
KRLC MLR MLR
comp=Z,5µm,14.1s
CONA Conrad Observa 35.93 311 *i P* **P** **02 39 45.8 -0.1**
comp=Z,120nm,1.1s,SNR=61
CONA *e*PcP **PcP** **02 42 13.1 +0.3**
comp=Z,14nm,0.8s
VAE Valguarnera 35.97 293 LR LR 02 55 46.6
comp=Z,3µm,18.6s,baz=90,slow=38
ARSA Arzberg 36.00 309 *i P* **P** **02 39 45.9 -0.5**
comp=Z,104nm,1.0s,SNR=46
ARSA *i* PcP **PcP** **02 42 12.4 -0.5**
comp=Z,25nm,0.8s,SNR=4.2
ARSA Arzberg 36.00 309 ⇑P **P** **02 39 45.8 -0.7**
MTSE Matsula 36.11 331 *eP* **P** **02 39 46.7 -0.4**
PERS Pernice 36.15 308 *i* PcP **PcP** **02 42 13.2 -0.2**
PERS Pernice 36.15 308 *i P* **P** **02 39 47.4 -0.4**
PERS Pernice 36.15 308 *i* PP **PP** **02 41 14.5 +4.7**
SLIT Slitere, Latvi 36.16 328 *eP* **P** **02 39 47.3 -0.2**
SLIT Slitere, Latvi 36.16 328 ⇑P **P** **02 39 47.4 -0.2**
SOKA Soboth 36.22 308 *i P* **P** **02 39 48.1 -0.3**
comp=Z,63nm,1.3s,SNR=17
SOKA *i* PcP **PcP** **02 42 13.5 -0.1**
comp=Z,46nm,1.1s,SNR=7.1
DPC Dobruska-Polom 36.27 315 ⇑*iP* **P** **02 39 49.1 +0.3**
DPC *e*PP **PP** **02 41 12.5 +1.4**
DPC *eS* **S** **02 45 23.0 -6.4**
DPC AMS AMS 02 57 40.0
comp=Z,5µm,15.7s
DPC Dobruska-Polom 36.27 315 ⇑*iP* **P** **02 39 49.1 +0.3**
DPC *e* 02 41 12.5
DPC *eS* **S** **02 45 23.0 -6.4**
DPC MLR MLR
comp=Z,5µm,15.7s
OSTC Ostas 36.40 315 ⇑*iP* **P** **02 39 50.3 +0.5**
OSTC AMS AMS 03 02 20.0
comp=Z,6µm,12.9s

OSTC	Ostas	36.40	315	⇑iP	P	02 39 50.3	+0.5
OSTC				MLR	MLR		
	comp=Z,6µm,12.9s						
INTR	Introdacqua	36.42	300	IAmb	IAmb	02 39 52.4	
	comp=Z,208nm,1.4s						
KSP	Ksiaz	36.44	315	eP	P	02 39 51.1	+1.0
KSP				eS	S	02 45 31.6	-0.2
KSP	Ksiaz	36.44	315	⇑P	P	02 39 50.7	+0.6
KSP	Ksiaz	36.44	315	P	P	02 39 50.6	+0.5
LJU	Ljubljana	36.45	307	i P	P	02 39 50.1	-0.1
LJU				ePcP	PcP	02 42 15.1	+0.9
LJU				eS	S	02 45 35.4	+3.3
LJU				eSS	SS	02 48 16.1	+5.2
CEY	Cerknica	36.47	307	⇑iP	P	02 39 50.1	-0.3
TREC	Trest	36.50	313	⇑iP	P	02 39 50.9	+0.2
TREC				AMS	AMS	02 59 00.0	
	comp=Z,7µm,16.7s						
TREC	Trest	36.50	313	⇑iP	P	02 39 50.9	+0.2
TREC				MLR	MLR		
	comp=Z,7µm,16.7s						
CHVC	Chvalec	36.51	315	⇑iP	P	02 39 51.4	+0.7
CHVC				AMS	AMS	03 02 10.0	
	comp=Z,6µm,13.5s						
CHVC	Chvalec	36.51	315	⇑iP	P	02 39 51.4	+0.7
CHVC				MLR	MLR		
	comp=Z,6µm,13.5s						
UPC	Upice	36.51	315	⇑iP	P	02 39 51.2	+0.5
UPC				AMS	AMS	02 59 10.0	
	comp=Z,6µm,15.2s						
UPC	Upice	36.51	315	⇑iP	P	02 39 51.2	+0.5
UPC				MLR	MLR		
	comp=Z,6µm,15.2s						
OBKA	Obir	36.51	308	eP	P	02 39 50.9	0.0
	comp=Z,85nm,1.1s						
OBKA				ePcP	PcP	02 42 13.8	-0.7
	comp=Z,15nm,0.9s						
OBKA	Obir	36.51	308	⇑iP	P	02 39 50.3	-0.6
TNCH	TengChong	36.68	88	⇑P	P	02 39 54.2	+1.5
TNCH				pP	sP	02 39 57.1	-0.1
TNCH				sP	pP	02 39 59.4	+3.5
TNCH				PP	PP	02 41 18.1	+2.0
TNCH				S	S	02 45 36.3	-0.1
TNCH				sS	sS	02 45 41.1	-0.5
TNCH				PcS	PcS	02 46 04.6	+0.8
TNCH				SS	SnSn	02 48 02.2	-4.2
TNCH				pmax	pmax		
	comp=Z,720nm,1.1s						
TNCH				pmax	pmax		
	comp=Z,3µm,4.9s						
TNCH				LR	LR		
	comp=Z,7µm,15.4s						
TNCH				LR	LR		
	comp=Z,11µm,14.8s						
TNCH				LR	LR		
	comp=Z,16µm,13.0s						
GKP	Gorka Klasztor	36.71	320	eP	P	02 39 53.3	+0.9
GKP	Gorka Klasztor	36.71	320	eP	P	02 39 51.6	-0.7
GKP	Gorka Klasztor	36.71	320	P	P	02 39 53.0	+0.7
SKDS	Skadanscina	36.72	306	⇑iP	P	02 39 51.5	-1.1
MEF	Metsahovi	36.79	333	eP	P	02 39 52.7	-0.3
AQU	L'Aquila	36.82	301	IAmb	IAmb	02 40 06.8	
	comp=Z,330nm,0.9s						
AQU	L'Aquila	36.82	301	P	P	02 39 53.0	-0.5
AQU	L'Aquila	36.82	301	⇑P	P	02 39 53.5	0.0
AQU	L'Aquila	36.82	301	P	P	02 39 53.9	+0.4
CAMP	Campotosto	36.83	301	P	P	02 39 53.8	+0.1
CAMP				IAmb	IAmb	02 40 00.8	
	comp=Z,269nm,1.2s						
CLTB	Caltabellotta	36.91	293	⇑P	P	02 39 54.4	0.0
GUMA	Gualdo di Mace	36.92	302	IAmb	IAmb	02 40 03.8	
	comp=Z,129nm,0.8s						
FINES	FINESS Array B	36.96	335	i P	P	02 39 54.5	+0.2
FINES				pmax	pmax		
	comp=Z,143nm,0.9s						
FINES	FINESS Array B	36.96	335	P	P	02 39 54.6	+0.2
	comp=Z,142nm,0.9s,baz=125,slow=9.7,SNR=145						
	comp=Z,142nm,0.9s						
MOA	Molln	36.96	310	i P	P	02 39 54.5	-0.1
	comp=Z,221nm,1.0s,SNR=78						
KMBO	Kilima Mbogo	36.97	215	i P	P	02 39 57.1	+1.9
	SNR=140						
KMBO	Kilima Mbogo	36.97	215	eP	P	02 39 46.6	-8.6
KMBO				eS	S	02 45 33.4	-7.6
KMBO	Kilima Mbogo	36.97	215	eP	P	02 39 52.5	-2.7
KMBO				eS	S	02 45 40.5	-0.4
KMBO				IAMs_20	IAMs_20	02 53 24.1	
	comp=Z,14µm,24.4s						
KMBO	Kilima Mbogo	36.97	215	P	P	02 39 57.4	+2.2
KMBO				P	P	02 39 57.4	+2.2
KMBO				S	S	02 45 40.1	-0.8
KMBO				S	S	02 45 40.1	-0.8
KMBO	Kilima Mbogo	36.97	215	⇑iP	P	02 39 57.2	+1.9
KMBO				IAmb	IAmb	02 40 00.5	
	comp=Z,455nm,1.1s						
KMBO	Kilima Mbogo	36.97	215	P	P	02 39 57.1	+1.9
KMBO				pmax	pmax		
	comp=Z,156nm,1.1s						
KMBO				MLR	MLR		
	comp=Z,13µm,20.0s						
KMBO	Kilima Mbogo	36.97	215	P	P	02 39 56.6	+1.4
	comp=Z,95nm,1.0s,baz=31,slow=11,SNR=106						
KMBO				PKiKP	PKiKP	02 49 33.7	-0.8
	comp=Z,1.4nm,0.8s,baz=71,slow=6.8,SNR=4.3						
KMBO				LR	LR	02 56 30.6	
	comp=Z,12µm,20.2s,baz=38,slow=39						
	comp=Z,95nm,1.0s						
KMBO	Kilima Mbogo	36.97	215	eP	P	02 39 52.5	-2.7
KMBO				eS	S	02 45 40.5	-0.4
KMBO				IAMs_20	IAMs_20	02 53 24.1	
	comp=Z,14µm,24.4s						
KMBO	Kilima Mbogo	36.97	215	eP	P	02 39 46.6	-8.6
KMBO				eS	S	02 45 33.4	-7.6
CADS	Cadrg	37.02	307	i PP	PP	02 41 24.1	+4.8
CADS	Cadrg	37.02	307	i P	P	02 39 54.4	-0.7
SABO	M.te Sabotino	37.08	307	IAmb	IAmb	02 40 00.3	
	comp=Z,392nm,1.7s						
SABO				IAMs_20	IAMs_20	02 57 15.7	
	comp=Z,5µm,20.0s						
GOPC	GO Pecny, Ondr	37.10	314	⇑iP	P	02 39 55.6	-0.2
GOPC				AMS	AMS	02 58 10.0	
	comp=Z,8µm,14.3s						
GOPC	GO Pecny, Ondr	37.10	314	⇑iP	P	02 39 55.6	-0.2
GOPC				MLR	MLR		
	comp=Z,8µm,14.3s						
CKRC	Cesky Krumlov	37.14	312	⇑iP	P	02 39 56.3	+0.2
CKRC				ePP	PP	02 41 18.3	-2.4
CKRC				eS	S	02 45 49.0	+6.4
CKRC				AMS	AMS	02 58 00.0	
	comp=Z,5µm,12.3s						
CKRC	Cesky Krumlov	37.14	312	⇑iP	P	02 39 56.3	+0.2
CKRC				e		02 41 18.3	
CKRC				eS	S	02 45 49.0	+6.4
CKRC				MLR	MLR		
	comp=Z,5µm,12.3s						
MYKA	Terra Mystica	37.15	308	i P	P	02 39 56.0	-0.3
	comp=Z,65nm,1.2s,SNR=16						
MYB	Mayabunder	37.27	110	eP	P	02 39 59.3	+1.8
PRU	Pruhonice	37.28	314	⇑iP	P	02 39 56.9	-0.3
PRU				AMS	AMS	02 58 20.0	
	comp=Z,9µm,16.6s						
PRU	Pruhonice	37.28	314	⇑iP	P	02 39 56.9	-0.3
PRU				MLR	MLR		
	comp=Z,9µm,16.6s						
PTCC	Patocco-Chiusa	37.31	308	⇑P	P	02 39 56.0	-1.6
BIOA	Bad Ischl, Aus	37.34	310	i P	P	02 39 57.7	-0.1
	comp=Z,245nm,1.2s,SNR=114						
BIOA				ePcP	PcP	02 42 17.3	+0.4
	comp=Z,32nm,1.3s						
ZVC	Zvikov	37.36	313	⇑iP	P	02 39 58.2	+0.3
PRA	Prague	37.36	314	⇑eP	P	02 39 58.5	+0.5
PRA				eS	S	02 45 41.6	-4.3
PRA				AMS	AMS	02 58 10.0	
	comp=Z,8µm,16.3s						
PRA	Prague	37.36	314	eP	P	02 39 58.5	+0.5
PRA				eS	S	02 45 41.6	-4.3
PRA				MLR	MLR		
	comp=Z,8µm,16.3s						
PVCC	Panska Ves	37.40	314	⇑eP	P	02 39 57.7	-0.6
PVCC				AMS	AMS	03 02 40.0	
	comp=Z,9µm,12.8s						
PVCC	Panska Ves	37.40	314	eP	P	02 39 57.7	-0.6
PVCC				MLR	MLR		
	comp=Z,9µm,12.8s						
KBA	Koelnbreinsper	37.43	309	eP	P	02 39 58.6	-0.2
	comp=Z,223nm,1.1s						
KBA	Koelnbreinsper	37.43	309	⇑P	P	02 39 58.3	-0.4
KBA	Koelnbreinsper	37.43	309	P	P	02 39 58.6	-0.2
CESX	Cesi	37.44	301	IAmb	IAmb	02 40 01.9	
	comp=Z,210nm,1.1s						
GEC2	GERESS Array S	37.54	312	eP	P	02 39 59.4	-0.2
	comp=Z,444nm,1.0s,baz=105,slow=8.4						
GERES	GERESS Array B	37.54	312	P	P	02 39 59.4	-0.2
GERES	GERESS Array B	37.54	312	P	P	02 39 59.5	0.0
	comp=Z,284nm,0.9s,baz=99,slow=8.2,SNR=414						
GERES				PcP	PcP	02 42 16.6	-1.0
	comp=Z,71nm,1.0s,baz=100,slow=1.6,SNR=5.9						
	comp=Z,284nm,0.9s						
KIBK	Kibwezi	37.65	213	P	P	02 40 01.6	+0.8
KIBK	Kibwezi	37.65	213	P	P	02 40 02.5	+1.7
	SNR=74						
KIBK	Kibwezi	37.65	213	P	P	02 40 00.8	0.0
KHC	Kasperske Hory	37.68	312	IAmb	IAmb	02 40 04.6	
	comp=Z,272nm,1.1s						
KHC	Kasperske Hory	37.68	312	⇑P	P	02 40 00.6	-0.2
KHC	Kasperske Hory	37.68	312	⇑iP	P	02 40 00.5	-0.2
KHC				ePP	PP	02 41 25.4	-1.2
KHC				eS	S	02 45 54.8	+4.0
KHC				AMS	AMS	03 00 10.0	
	comp=Z,5µm,15.5s						
KHC	Kasperske Hory	37.68	312	c iP	P	02 40 00.6	-0.2
KHC				pmax	pmax		
	comp=Z,2µm,2.5s						
STAL	STALIGIAL	37.73	307	IAmb	IAmb	02 40 02.5	
	comp=Z,280nm,1.1s						
MGAB	Montegabbione	37.80	302	⇑P	P	02 40 00.7	-1.1
BRG	Berggiesshubel	37.88	315	⇑iP	P	02 40 03.5	+1.2
BRG				Amp		02 40 06.1	
	comp=Z,43nm,1.0s						
BRG	Berggiesshubel	37.88	315	P	P	02 40 07.8	+5.5
BRG				Amp		02 40 09.5	
	comp=Z,94nm,1.1s						
BRG	Berggiesshubel	37.88	315	S	S	02 46 08.0	+14
BRG	Berggiesshubel	37.88	315	SS	SS	02 48 54.0	+14
BRG				Amp		03 03 20.0	
	comp=N,4.7nm,12.0s						
BRG				Amp		03 03 20.0	
	comp=Z,6.2nm,13.9s						
BRG				Amp		03 03 24.0	
	comp=E,6.2nm,12.9s						
BRG	Berggiesshubel	37.88	315	⇑iP	P	02 40 03.5	+1.2
BRG				e		02 40 07.7	
BRG						02 41 39.0	
BRG						02 42 19.9	
BRG				SS	SS	02 48 54.0	+14
BRG				pmax	pmax		
	comp=Z,43nm,1.0s						
BRG	Berggiesshubel	37.88	315	eP	P	02 40 03.5	+1.2
	baz=105,slow=8.4						
CIMO	Cimolais	37.92	307	IAmb	IAmb	02 40 04.3	
	comp=Z,171nm,1.1s						
LESA	Schwarzleotal	37.94	309	eP	P	02 40 02.5	-0.5
	comp=Z,74nm,0.7s						
LESA				ePcP	PcP	02 42 18.3	-0.5
	comp=Z,14nm,0.5s						
ABTA	Abfaltersbach	37.94	308	i P	P	02 40 02.6	-0.4
	comp=Z,204nm,1.0s,SNR=71						
HSKC	Hora Svate Kat	38.12	314	⇑iP	P	02 40 04.6	+0.2
HSKC				AMS	AMS	03 03 20.0	
	comp=Z,10µm,12.0s						
WET	Wettzell	38.13	312	P	P	02 40 04.1	-0.4
WET	Wettzell	38.13	312	eP	P	02 40 04.2	-0.4
	comp=Z,253nm,1.4s,baz=105,slow=8.4						
MOY	Mondy	38.23	44	eP	P	02 40 06.9	+1.5
MOY				pmax	pmax		
	comp=Z,423nm,3.2s						
FBE	Freiberg	38.25	315	eP	P	02 40 05.9	+0.4
	baz=105,slow=8.4						
RAF	Rauma	38.31	333	eP	P	02 40 05.4	-0.4
TEOL	Teolo	38.33	306	P	P	02 40 05.2	-1.0
TEOL				IAmb	IAmb	02 40 07.7	
	comp=Z,353nm,1.2s						
TEOL				PcP	PcP	02 42 20.0	0.0
RUE	Ruedersdorf	38.42	317	eP	P	02 40 06.5	-0.3
RUE	Ruedersdorf	38.42	317	⇑P	P	02 40 07.5	+0.7
RUE	Ruedersdorf	38.42	317	eP	P	02 40 07.5	+0.7
	comp=Z,428nm,1.1s,baz=105,slow=8.4						
CLL	Collm	38.56	315	IAmb	IAmb	02 40 11.4	
	comp=Z,571nm,1.2s						
CLL	Collm	38.56	315	⇑iP	P	02 40 08.9	+0.8
	comp=Z,645nm,1.3s						
CLL				ePmax		02 40 16.0	
CLL				ePP	PnPn	02 41 40.0	+1.9
CLL				ePPPP		02 42 08.0	
CLL				ex	x	02 42 30.0	
CLL				eS	S	02 46 04.0	0.0
	comp=N,2µm,17.3s						
CLL				eS	S	02 46 04.0	0.0
	comp=E,3µm,31.3s						
CLL				eSS	SnSn	02 48 48.0	-2.9
CLL				AMS	AMS	03 00 00.0	
	comp=Z,6µm,21.1s						
CLL				AMS	AMS	03 02 00.0	
CLL	Collm	38.56	315	⇑iP	P	02 40 08.9	+0.8
CLL				eS	S	02 46 04.0	0.0
CLL				pmax	pmax		
	comp=Z,645nm,1.3s						
CLL				MLR	MLR		
	comp=Z,6µm,21.1s						
CLL	Collm	38.56	315	eP	P	02 40 08.9	+0.8
	comp=Z,565nm,1.2s,baz=105,slow=8.4						
WTTA	Wattenberg	38.61	309	i P	P	02 40 07.9	-0.9
	comp=Z,535nm,1.0s,SNR=179						
WTTA				ePcP	PcP	02 42 21.1	+0.1
	comp=Z,45nm,0.9s						
NKC	Novy Kostel	38.64	313	⇑iP	P	02 40 09.0	+0.2
NKC				AMS	AMS	03 03 50.0	
	comp=Z,8µm,14.5s						
NKC	Novy Kostel	38.64	313	⇑iP	P	02 40 09.0	+0.2
NKC				MLR	MLR		
	comp=Z,8µm,14.5s						
BLEU	Blekinge	38.65	324	⇑iP	P	02 40 08.2	-0.5
WATA	Walderalm	38.66	309	i P	P	02 40 08.2	-1.0
	comp=Z,499nm,1.1s,SNR=178						
WATA				ePcP	PcP	02 42 20.7	-0.4
	comp=Z,49nm,1.0s						
BSD	Bornholm Skovb	38.66	322	eP	P	02 40 07.9	-0.9
BSD	Bornholm Skovb	38.66	322	⇑P	P	02 40 08.2	-0.6
BSD	Bornholm Skovb	38.66	322	⇑iP	P	02 40 07.6	-1.2
BSD				i P	pP	02 40 09.2	-3.0
BSD				IAmb	IAmb	02 40 11.2	
	comp=Z,463nm,0.9s						
BSD				IAmb	IAmb	02 40 11.7	
	comp=Z,391nm,1.1s						
TANN	Tannenbergstha	38.68	314	eP	P	02 40 09.0	-0.2
	baz=105,slow=8.4						
ROTZ	Rotzenmuhle	38.69	313	eP	P	02 40 09.2	0.0
	comp=Z,23nm,1.1s,baz=105,slow=8.4						
WERN	Wernitzgruen	38.70	314	eP	P	02 40 09.3	0.0
	comp=Z,280nm,1.9s,baz=105,slow=8.4						
GUNZ	Gunzen	38.74	314	eP	P	02 40 09.5	-0.2
	baz=105,slow=8.4						
MANZ	Manzenberg	38.80	313	eP	P	02 40 10.3	+0.2
	baz=105,slow=8.4						
PLN	Plauen	38.88	314	eP	P	02 40 10.8	0.0
	baz=105,slow=8.4						
SQTA	Sankt Quirin	38.89	308	i P	P	02 40 10.1	-0.9
	comp=Z,290nm,1.0s,SNR=59						
SQTA				i PcP	PcP	02 42 21.7	-0.2
	comp=Z,83nm,1.1s,SNR=5.9						
LZH	Lanzhou	38.90	69	⇑iP	P	02 40 12.4	+1.1
LZH				sP	sP	02 40 19.5	+3.6
LZH				PP	PnPn	02 41 43.9	+1.3
LZH				PcP	PcP	02 42 24.7	+2.6
LZH				S	S	02 46 09.6	-0.3
LZH				SS	SnSn	02 48 52.4	-7.4
LZH				pmax	pmax		
	comp=Z,290nm,1.0s						
LZH				pmax	pmax		
	comp=Z,4µm,5.3s						
LZH				LR	LR		
	comp=Z,18µm,18.5s						
LZH				LR	LR		
	comp=Z,15µm,14.4s						
LZH				LR	LR		
	comp=Z,21µm,20.4s						
MOTA	Moosalm	38.98	309	i P	P	02 40 10.5	-1.3
	comp=Z,275nm,1.1s,SNR=93						
MOTA				i PcP	PcP	02 42 22.1	0.0
	comp=Z,82nm,0.8s,SNR=11						
FUR	Furstenfeldbru	38.99	310	P	P	02 40 11.0	-0.7
PZH	PanZhiHua	39.01	85	P	P	02 40 12.4	+0.1
PZH				PP	PnPn	02 41 45.1	+1.1
PZH				S	S	02 46 13.3	+1.7
PZH				pmax	pmax		
	comp=Z,180nm,1.7s						
PZH				pmax	pmax		
	comp=Z,3µm,8.8s						
PZH				LR	LR		
	comp=Z,18µm,20.6s						
PZH				LR	LR		
	comp=Z,12µm,16.7s						
PZH				LR	LR		
	comp=Z,14µm,17.1s						
VLC	Villacollemand	39.14	304	P	P	02 40 11.6	-1.4
VLC	Villacollemand	39.14	304	⇓P	P	02 40 12.2	-0.8
SALO	Salr	39.16	306	⇑P	P	02 40 12.6	-0.7
VIKU	Vikbolandet	39.17	327	eP	P	02 40 12.8	-0.3
FETA	Feichten	39.19	308	i P	P	02 40 12.8	-0.8
	comp=Z,457nm,1.1s,SNR=139						
FETA				ePcP	PcP	02 42 23.2	+0.4
	comp=Z,102nm,1.0s						
VAF	Ylistaro	39.21	336	P	P	02 40 13.6	+0.3
RETA	Reutte	39.23	309	i P	P	02 40 12.6	-1.2
	comp=Z,163nm,0.9s,SNR=48						
RETA				ePcP	PcP	02 42 22.6	-0.3
	comp=Z,25nm,0.8s						
PRMA	PARMA	39.23	304	IAmb	IAmb	02 40 16.6	
	comp=Z,651nm,1.3s						
MOX	Moxa	39.25	314	P	P	02 40 14.3	+0.4
MOX	Moxa	39.25	314	eP	P	02 40 14.2	+0.4
	comp=Z,62nm,0.9s,baz=105,slow=8.4						
MOX				eL	L	03 00 33.4	
	comp=Z,4µm,21.0s						
MSF	Maaselka	39.26	342	P	P	02 40 14.0	+0.3
NEUB	Neuenburg	39.28	315	eP	P	02 40 14.9	+0.8
	baz=105,slow=8.4						
GRA1	Grafenberg Arr	39.30	312	IAmb	IAmb	02 40 18.5	
	comp=Z,261nm,1.1s						
GRF	Grafenberg Arr	39.30	312	eP	P	02 40 14.6	+0.3
	baz=105,slow=8.4						
GRF				eL	L	02 59 42.5	
	comp=Z,6µm,19.6s						
GRFO	Grafenberg	39.30	312	P	P	02 40 14.7	+0.4
GRFO				IAmb	IAmb	02 40 18.4	
	comp=Z,253nm,1.1s						
GRFO	Grafenberg	39.30	312	P	P	02 40 14.7	+0.4
GRFO				pmax	pmax		
	comp=Z,253nm,1.1s						
ZAK	Zakamensk	39.31	47	eP	P	02 40 14.9	+0.4
ZAK				pmax	pmax		
	comp=Z,57nm,1.4s						
RGN	Rugen	39.33	320	eP	P	02 40 15.1	+0.7
RGN	Rugen	39.33	320	⇑P	P	02 40 15.6	+1.2
RGN	Rugen	39.33	320	eP	P	02 40 15.6	+1.2
	comp=Z,2µm,1.3s,baz=105,slow=8.4						
CHTO	Chiang Mai	39.37	98	P	P	02 40 15.8	+0.6
CHTO				P	P	02 40 15.8	+0.6
CHTO	Chiang Mai	39.37	98	⇑P	P	02 40 14.6	-0.6
CHTO	Chiang Mai	39.37	98	P	P	02 40 15.4	+0.2
CHTO				pmax	pmax		
	comp=Z,228nm,1.1s						
CHTO				MLR	MLR		
	comp=Z,10µm,19.0s						
UPP	Uppsala	39.40	329	eP	P	02 40 15.0	+0.1
CM31	Chiang Mai Arr	39.52	98	P	P	02 40 16.8	+0.3
CM31				PcP	PcP	02 42 23.4	-0.7
CM31	Chiang Mai Arr	39.52	98	P	P	02 40 17.8	+1.3
	SNR=28						
CM31				P	P	02 40 17.8	+1.3
	SNR=28						
CM31				P	P	02 40 17.8	+1.3
	SNR=28						
CMAR	Chiang Mai Arr	39.52	98	P	P	02 40 16.5	0.0
	comp=Z,40nm,0.9s,baz=293,slow=8.1,SNR=104						
CMAR				PcP	PcP	02 42 23.4	-0.7
	comp=Z,25nm,0.8s,baz=285,slow=4.8,SNR=6.6						
	comp=Z,40nm,0.9s						
OUL	Oulu	39.53	340	P	P	02 40 15.8	-0.2
APA	Apatity	39.55	346	⇓iP	P	02 40 15.4	-0.7
APA				i		02 41 50.0	
APA				i		02 42 13.0	
APA				i S	S	02 46 15.0	-3.5
APA				pmax	pmax		
	comp=Z,338nm,0.9s						
LVZ	Lovozero	39.58	347	P	P	02 40 15.8	-0.6
LVZ				IAmb	IAmb	02 40 18.9	
	comp=Z,243nm,1.2s						
LVZ	Lovozero	39.58	347	⇑P	P	02 40 16.5	+0.1
LVZ	Lovozero	39.58	347	c iP	P	02 40 16.5	+0.1
LVZ				pmax	pmax		
	comp=Z,320nm,1.7s						
LVZ				MLR	MLR		
	comp=Z,11µm,15.0s						
LUNU	Lund	39.63	322	⇑iP	P	02 40 16.9	0.0
CD2	Chengdu	39.63	77	P	P	02 40 17.3	-0.1
CD2				pP	pP	02 40 20.9	+0.3
CD2				sP	sP	02 40 22.2	+0.3
CD2				PP	PnPn	02 41 53.1	+1.8
CD2				S	S	02 46 20.6	-0.1
CD2				sS	sS	02 46 27.8	+1.8
CD2				pmax	pmax		
	comp=Z,120nm,0.9s						
CD2				pmax	pmax		
	comp=Z,2µm,5.3s						
CD2				LR	LR		
	comp=Z,9µm,12.8s						
CD2				LR	LR		
	comp=Z,15µm,12.6s						
CD2				LR	LR		
	comp=Z,14µm,11.8s						
UBR	Ueberruh	39.69	309	eP	P	02 40 16.8	-0.9
	comp=Z,408nm,1.1s,baz=105,slow=8.4						
DEL	Delary	39.71	323	eP	P	02 40 17.7	+0.1
DEL	Delary	39.71	323	⇑iP	P	02 40 17.0	-0.6
MSSA	Maissana	39.77	304	P	P	02 40 16.9	-1.4
DAVA	Damuels	39.80	308	i P	P	02 40 17.6	-1.0
	comp=Z,495nm,1.1s,SNR=125						
DAVA				ePcP	PcP	02 42 24.7	0.0
	comp=Z,58nm,0.9s						
DAVA	Damuels	39.80	308	⇑P	P	02 40 17.4	-1.3
VSL	Villasalto	39.84	296	IAmb	IAmb	02 40 23.0	
	comp=Z,401nm,1.1s						
VSL	Villasalto	39.84	296	⇑P	P	02 40 18.8	-0.1
FLTG	Flechtingen	39.88	316	⇑P	P	02 40 19.6	+0.6
FLTG	Flechtingen	39.88	316	eP	P	02 40 19.8	+0.7
	comp=Z,512nm,1.1s,baz=105,slow=8.4						
CRAI	Chiangrai	40.00	95	P	P	02 40 21.1	+0.6
BJUU	Bjuv	40.01	322	⇑iP	P	02 40 19.0	-1.1
GORT1	Trebel	40.01	317	eP	P	02 40 21.1	+1.1
	comp=Z,663nm,1.2s,baz=105,slow=8.4						
TUE	Stuetta	40.06	307	⇑P	P	02 40 19.7	-1.2
KEST	Kesra	40.17	290	IAmb	IAmb	02 40 31.3	
	comp=Z,339nm,1.4s						
KEST	Kesra	40.17	290	P	P	02 40 22.8	+1.0
	SNR=23						
KEST				P	P	02 40 22.8	+1.0
	SNR=23						
KEST				P	P	02 40 22.8	+1.0
	SNR=23						
KEST	Kesra	40.17	290	P	P	02 40 22.7	+0.9
	comp=Z,56nm,0.9s,baz=353,slow=2.5,SNR=26						
KEST				LR	LR	03 00 49.8	
	comp=Z,11µm,18.1s,baz=62,slow=42						
	comp=Z,56nm,0.9s						
ASSE	Asse, Remlinge	40.17	316	eP	P	02 40 22.2	+0.8
	baz=105,slow=8.4						
COP	Copenhagen	40.19	322	P	P	02 40 23.1	+1.6
COP	Copenhagen	40.19	322	⇑iP	P	02 40 22.1	+0.6
COP				i P	pP	02 40 23.8	-1.1
COP				IAmb	IAmb	02 40 25.5	
	comp=Z,987nm,1.1s						
COP				IAmb	IAmb	02 40 25.9	
	comp=Z,394nm,1.2s						
KMI	Kunming	40.28	86	⇑P	P	02 40 23.4	+0.4
KMI				pP	sP	02 40 27.3	-0.3
KMI				PP	PP	02 41 55.2	-0.4
KMI				S	S	02 46 33.5	+2.6
KMI				pmax	pmax		
	comp=Z,400nm,1.0s						
KMI				pmax	pmax		
	comp=Z,4µm,5.4s						
KMI				LR	LR		
	comp=Z,19µm,16.2s						
KMI				LR	LR		
	comp=Z,11µm,19.0s						

KMI LR LR
comp=Z,12µm,18.0s
UBBA Unterbreizbach 40.29 314 *eP* **P 02 40 23.1 +0.7**
comp=Z,220nm,1.5s,baz=105,slow=8.4
IRK Irkutsk 40.34 44 *eP* **P 02 40 23.4 +0.5**
STU Stuttgart 40.45 311 P **P 02 40 23.6 -0.3**
GTTG Gottingen 40.47 315 *eP* **P 02 40 24.9 +0.9**
baz=105,slow=8.4
FABU Falkenberg 40.50 324⇑*iP* **P 02 40 24.2 +0.1**
DGAR Diego Garcia 40.55 157 P **P 02 40 26.0 +1.1**
DGAR Diego Garcia 40.55 157 IAMs_20 IAMs_20 02 55 43.3
comp=Z,19µm,19.0s
DGAR Diego Garcia 40.55 157 P **P 02 40 26.0 +1.1**
DGAR pmax pmax
comp=Z,152nm,1.0s
NRDL Niedersach Rie 40.59 316 *eP* **P 02 40 26.1 +1.2**
comp=Z,399nm,1.4s,baz=105,slow=8.4
BORU Boraas 40.71 325⇑*iP* **P 02 40 25.4 -0.4**
SLE Schleitheim 40.79 309 P **P 02 40 25.3 -1.4**
BSEG Bad Segeberg 40.83 319 *eP* **P 02 40 28.0 +1.1**
comp=Z,415nm,1.1s,baz=105,slow=8.4
SONM Songino Array 40.91 51 P **P 02 40 28.4 +0.5**
SONM Songino Array 40.91 51 P **P 02 40 28.4 +0.5**
SONM pmax pmax
comp=Z,137nm,1.3s
SONM Songino Array 40.91 51 P **P 02 40 28.7 +0.9**
comp=Z,430nm,1.0s,baz=265,slow=7.9,SNR=125
SONM PcP **PcP 02 42 27.5 -0.8**
comp=Z,8.0nm,0.8s,baz=241,slow=4.2,SNR=1.7
SONM LR LR 02 59 18.7
comp=Z,23µm,19.4s,baz=260,slow=39
comp=Z,43nm,1.0s
MONC Moncucco Torin 40.95 305⇑*iP* **P 02 40 25.9 -2.1**
BFO Black Forest 40.96 310 P **P 02 40 27.9 -0.3**
BFO Black Forest 40.96 310⇑*iP* **P 02 40 26.7 -1.5**
BFO Black Forest 40.96 310 P **P 02 40 27.9 -0.3**
BFO pmax pmax
comp=Z,44nm,1.0s
ONAU Onsala 41.05 324⇑*iP* **P 02 40 28.7 +0.1**
SGF Sodankyl 41.08 342 P **P 02 40 29.3 +0.6**
RETH Rethem/Aller, 41.09 317 *eP* **P 02 40 30.1 +1.1**
baz=105,slow=8.4
TNS Taunus Mts 41.16 313 P **P 02 40 30.3 +0.5**
TNS Taunus Mts 41.16 313 *eP* **P 02 40 29.6 -0.2**
comp=Z,307nm,1.2s,baz=105,slow=8.4
SBF Sospel 41.25 303 *eP* **P 02 40 28.6 -2.0**
HFS Hagfors 41.28 328 P **P 02 40 30.2 -0.3**
comp=Z,138nm,1.0s,baz=125,slow=7.4,SNR=90
HFS PP **PP 02 42 06.6 +1.0**
comp=Z,68nm,0.9s,baz=116,slow=13,SNR=3.5
HFS P3KPbc 03 09 50.6
comp=Z,7.4nm,0.8s,baz=14,slow=3.1,SNR=4.6
comp=Z,138nm,1.0s
KASTN Kahler Asten 41.35 314 *eP* **P 02 40 32.3 +1.1**
baz=105,slow=8.4
ULN Ulaanbaatar 41.36 51 P **P 02 40 32.2 +0.6**
ULN IAMs_20 IAMs_20 02 59 12.4
comp=Z,23µm,19.0s
ULN Ulaanbaatar 41.36 51 P **P 02 40 32.2 +0.6**
ULN pmax pmax
comp=Z,122nm,1.2s
ULN MLR MLR
comp=Z,23µm,19.0s
TJOU Tjoern 41.42 325⇑*iP* **P 02 40 31.0 -0.6**
SENIN Lac Senin/Sane 41.47 307 IAmb IAmb 02 40 53.9
comp=Z,270nm,1.0s
SENIN IAMs_20 IAMs_20 02 59 29.5
comp=Z,20µm,21.0s
ISO Isola 41.54 303 P **P 02 40 32.6 -0.4**
SSRD Sdr. Stenderup 41.64 321⇑*iP* **P 02 40 34.8 +1.3**
SSRD *iP* **pP 02 40 36.8 -0.1**
SSRD IAmb IAmb 02 40 36.9
comp=Z,563nm,1.0s
SSRD IAmb IAmb 02 40 36.9
comp=Z,248nm,0.8s
CDF Champ du Feu 41.67 310 P **P 02 40 31.9 -2.1**
ECH Echery 41.73 309⇑P **P 02 40 33.1 -1.3**
ECH Echery 41.73 309 P **P 02 40 33.1 -1.3**
MBDF Montbardon 41.75 304 P **P 02 40 33.6 -1.2**
LPL La Plagne 41.81 305 P **P 02 40 34.3 -1.1**
BNI Bardonecchia 41.83 305 IAmb IAmb 02 40 36.3
comp=Z,264nm,1.2s
BNI Bardonecchia 41.83 305⇑P **P 02 40 33.9 -1.6**
BNI Bardonecchia 41.83 305 P **P 02 40 33.8 -1.6**
HINF Hinteralfeld 41.89 309 P **P 02 40 34.9 -0.9**
IBBN Ibbenburen 41.96 316⇑P **P 02 40 36.0 -0.2**
IBBN Ibbenburen 41.96 316 *eP* **P 02 40 36.9 +0.7**
comp=Z,371nm,1.3s,baz=105,slow=8.4
STRU Stroemstad 42.01 326⇑*iP* **P 02 40 35.1 -1.4**
DODT Dodoma, Tanzan 42.10 213 *iP* **P 02 40 36.4 -1.5**
BUG Bochum--Univer 42.10 314 *eP* **P 02 40 38.3 +1.0**
comp=Z,244nm,1.0s,baz=105,slow=8.4
MUD Monsted U'grnd 42.16 322⇑P **P 02 40 38.9 +1.1**
MUD Monsted U'grnd 42.16 322 *iP* **P 02 40 37.9 +0.2**
MUD *iP* **pP 02 40 39.8 -1.4**
MUD IAmb IAmb 02 40 41.1
comp=Z,448nm,1.3s
MUD IAmb IAmb 02 40 42.1
comp=Z,91nm,0.9s
HAU Haudompre 42.25 309 P **P 02 40 36.7 -2.0**
CABF La Chapelle 42.32 307 P **P 02 40 38.0 -1.3**
ORIF Oris-en-Rattie 42.39 304 P **P 02 40 40.3 +0.3**
CASM Ain Smara 42.40 292 P **P 02 40 41.8 +1.7**
VADS Vadso 42.50 346⇑*iP* **P 02 40 40.8 +0.5**
VADS IVmB_BB 02 40 42.0
comp=Z,4µm,1.6s
VADS *eP* **PP 02 42 19.7 +1.1**
VADS *eS* **S 02 47 04.4 +2.2**
VADS *eSS* **SS 02 50 11.0 -0.3**
VADS IVMs_BB IVMs_BB 02 57 08.0
comp=Z,5µm,5.7s
NC602 NORSAR Array S 42.50 329 *eP* **P 02 40 39.7 -0.8**
NC602 IVmBBB 02 40 43.3
comp=Z,4µm,3.6s
NC602 *eP* **PP 02 42 17.8 -1.1**
NC602 *eScP* **ScP 02 46 25.6 +1.5**
NC602 *eS* **S 02 47 02.5 -0.1**
NC602 *eSS* **SS 02 50 10.0 -1.7**
NC602 IVMs_BB IVMs_BB 03 05 43.0
comp=Z,5µm,7.0s
WLF Walferdange 42.55 312 *dP* **P 02 40 41.3 +0.2**
comp=Z,64nm,1.0s
WLF Walferdange 42.55 312 P **P 02 40 40.1 -0.9**
WLF Walferdange 42.55 312⇑P **P 02 40 41.0 -0.1**
WLF Walferdange 42.55 312 P **P 02 40 41.4 +0.3**
WLF Walferdange 42.55 312 *eP* **P 02 40 41.1 +0.1**
comp=Z,141nm,1.2s,baz=105,slow=8.4
OSL Oslo 42.56 327⇑*iP* **P 02 40 40.8 -0.2**
OSL IVmB_BB 02 40 43.5
comp=Z,5µm,1.6s
OSL *eP* **PP 02 42 20.2 +0.7**
OSL *eScP* **ScP 02 46 26.1 +1.8**
OSL *eS* **S 02 47 03.9 +0.5**
OSL *eSS* **SS 02 50 17.0 +4.2**
OSL IVMs_BB IVMs_BB 03 02 59.0
comp=Z,5µm,8.7s
SLVN Son La 42.61 91 IAmb IAmb 02 40 47.6
comp=Z,261nm,1.2s
BTNL Ternell 42.68 313 *dP* **P 02 40 43.0 +0.8**
comp=Z,51nm,1.3s
KEV Kevo 42.71 345 P **P 02 40 42.0 -0.1**
KEV IAmb IAmb 02 40 44.3
comp=Z,218nm,0.9s
KEV Kevo 42.71 345⇑P **P 02 40 42.5 +0.5**
KEV Kevo 42.71 345 P **P 02 40 42.0 -0.1**
KEV pmax pmax
comp=Z,218nm,0.9s
KEV MLR MLR
comp=Z,11µm,21.0s
BHOU Houvegnez 42.73 312 *dP* **P 02 40 43.5 +0.9**
comp=Z,68nm,1.1s
MEM Membach 42.76 313 *dP* **P 02 40 43.5 +0.7**
MEM *dPdif* **PcP 02 42 34.0 -0.1**
MEM Membach 42.76 313 P **P 02 40 43.8 +1.0**
NB2 NORSAR Subarra 42.77 329 P **P 02 40 42.1 -0.7**
comp=Z,368nm,1.4s,baz=116,slow=8.6
NB2 NORSAR Subarra 42.77 329 P **P 02 40 42.1 -0.7**
baz=116,slow=8.6
NB2 NORSAR Subarra 42.77 329 P **P 02 40 41.7 -1.1**
NOA NORSAR Array B 42.77 329 P **P 02 40 42.1 -0.7**
comp=Z,63nm,1.1s,baz=116,slow=7.9,SNR=51
NOA PP **PP 02 42 23.1 +1.3**
comp=Z,16nm,0.9s,baz=119,slow=8.4,SNR=5.3
NOA LR LR 03 00 17.8
comp=Z,6µm,20.6s,baz=110,slow=39

NOA P3KPbc 03 09 46.5
comp=Z,2.6nm,0.9s,baz=38,slow=7.1,SNR=4.0
comp=Z,63nm,1.1s
DFRA Djebel Bou Aff 42.85 292 P **P 02 40 45.3 +1.5**
ARA0 ARCESS Array S 42.89 344⇑*iP* **P 02 40 43.9 +0.4**
ARA0 IVmB_BB 02 40 46.9
comp=Z,7µm,4.2s
ARA0 *ePP* **PP 02 42 27.0 +4.1**
ARA0 *eS* **S 02 47 09.8 +1.7**
ARA0 *eSS* **SS 02 50 19.6 +0.5**
ARA0 IVMs_BB IVMs_BB 03 01 11.2
comp=Z,6µm,19.2s
ARCES ARCESS Array B 42.89 344 P **P 02 40 43.4 -0.2**
comp=Z,73nm,0.9s,baz=137,slow=8.8,SNR=87
ARCES LR LR 03 01 32.9
comp=Z,10µm,18.2s,baz=125,slow=40
comp=Z,73nm,0.9s
KONO Kongsberg 42.99 327 P **P 02 40 44.2 -0.3**
KONO Kongsberg 42.99 327 *eP* **P 02 40 43.4 -1.0**
KONO IVmBBB 02 40 47.5
comp=Z,3µm,3.5s
KONO *eS* **S 02 47 10.7 +1.1**
KONO *eSS* **SS 02 50 22.9 +1.7**
KONO IVMs_BB IVMs_BB 03 02 49.7
comp=Z,5µm,18.4s
KONO Kongsberg 42.99 327⇓*iP* **P 02 40 44.4 -0.1**
KONO Kongsberg 42.99 327*ceP* **P 02 40 43.8 -0.6**
KONO pmax pmax
comp=Z,122nm,1.3s
KONO MLR MLR
comp=Z,9µm,17.0s
BEBN Eben Emael 42.99 313 *dP* **P 02 40 45.4 +0.8**
BEBN *dPcP* **PcP 02 42 35.3 +0.4**
BSTI Sart Tilman 43.04 313 *dP* **P 02 40 45.9 +0.9**
HOMB Homborsund 43.06 324⇑*iP* **P 02 40 45.4 +0.4**
HOMB IVmBBB 02 40 48.5
comp=Z,6µm,3.0s
HOMB *eS* **S 02 47 11.4 +0.7**
HOMB *eSS* **SS 02 50 24.8 +2.1**
HOMB IVMs_BB IVMs_BB 03 03 33.0
comp=Z,5µm,12.2s
HOMB Homborsund 43.06 324⇑*iP* **P 02 40 45.1 +0.1**
KTK1 Kautokeino 43.06 343 *eP* **P 02 40 45.0 0.0**
KTK1 IVmBBB 02 40 47.9
comp=Z,4µm,2.7s
KTK1 *ePP* **PP 02 42 27.6 +2.8**
KTK1 *eS* **S 02 47 12.3 +1.7**
KTK1 *eSS* **SS 02 50 23.9 +1.4**
KTK1 IVMs_BB IVMs_BB 03 01 03.4
comp=Z,10µm,14.8s
BCLA Clavier 43.18 313 *dP* **P 02 40 46.9 +0.7**
BCLA *dPdif* **PcP 02 42 35.3 -0.3**
RCHB Rochefort 43.20 312 *dP* **P 02 40 46.9 +0.6**
comp=Z,114nm,1.0s
RCHB *dPcP* **PcP 02 42 35.3 -0.3**
GYA Guiyang 43.24 83⇑*iP* **P 02 40 46.8 -0.3**
GYA PP **PcP 02 42 35.0 -1.3**
GYA S **S 02 47 13.0 -1.4**
GYA pmax pmax
comp=Z,130nm,0.8s
GYA pmax pmax
comp=Z,3µm,7.1s
GYA LR LR
comp=Z,10µm,15.6s
GYA LR LR
comp=Z,13µm,17.4s
GYA LR LR
comp=Z,16µm,18.2s
VIVF Saint-Julien-l 43.25 304 P **P 02 40 44.5 -2.4**
SET Setif 43.28 292 P **P 02 40 50.0 +2.7**
XAN Xi'an 43.31 71⇑P **P 02 40 47.3 -0.2**
XAN pP pP 02 40 51.4 +0.6
XAN PP **PP 02 42 30.4 +2.3**
XAN S **S 02 47 17.1 +1.8**
XAN sS sS 02 47 24.8 +4.3
XAN ScS **ScS 02 50 42.9 -5.3**
XAN pmax pmax
comp=Z,110nm,0.9s
XAN pmax pmax
comp=Z,4µm,7.7s
XAN LR LR
comp=Z,47µm,22.1s
XAN LR LR
comp=Z,12µm,19.6s
XAN LR LR
comp=Z,11µm,17.5s
BGES Gesves 43.32 312 *dP* **P 02 40 48.0 +0.7**
BGES *dPcP* **PcP 02 42 36.0 0.0**
SSB Saint Sauveur 43.35 305⇑P **P 02 40 46.0 -1.7**
SSB Saint Sauveur 43.35 305 P **P 02 40 46.3 -1.3**
BTO Baotou 43.37 62 *eP* **P 02 40 48.1 +0.2**
BTO pP **sP 02 40 52.1 -0.4**
BTO PP **PP 02 42 29.8 +1.2**
BTO S **S 02 47 16.8 +0.8**
BTO SS **SS 02 50 19.6 -10**
BTO pmax pmax
comp=Z,170nm,1.0s
BTO pmax pmax
comp=Z,10µm,8.7s
BTO LR LR
comp=Z,60µm,19.0s
BTO LR LR
comp=Z,14µm,14.5s
BTO LR LR
comp=Z,39µm,21.8s
GIVF Givet 43.45 312 P **P 02 40 48.4 0.0**
BMRD Maredsous 43.51 312 *dP* **P 02 40 49.4 +0.6**
comp=Z,70nm,1.0s
DOU Dourbes 43.60 312 *dP* **P 02 40 50.0 +0.5**
comp=Z,113nm,1.1s
SNART Snartemo 43.73 324⇑*iP* **P 02 40 50.8 +0.4**
SNART IVmB_BB 02 40 54.3
comp=Z,16µm,3.0s
SNART *eS* **S 02 47 22.1 +1.5**
SNART Snartemo 43.73 324 *iP* **P 02 40 50.4 -0.1**
MAHO Mahon 43.74 297 IAmb IAmb 02 40 54.0
comp=Z,479nm,1.5s
MAHO Mahon 43.74 297⇑P **P 02 40 50.5 -0.4**
BAIF Baives 43.84 312 P **P 02 40 51.6 +0.1**
SMF Signal de Mont 43.87 307 P **P 02 40 50.1 -1.7**
LOR Lormes 43.88 308⇑P **P 02 40 50.5 -1.4**
LOR Lormes 43.88 308 P **P 02 40 50.6 -1.3**
MOR8 Moi Rana 43.92 336⇑*iP* **P 02 40 51.4 -0.6**
MOR8 IVmBBB 02 40 54.0
comp=Z,4µm,2.1s
MOR8 *ePP* **PP 02 42 33.7 -0.3**
MOR8 *eSS* SS 02 50 40.7 +1.3
MOR8 IVMs_BB IVMs_BB 03 01 23.3
comp=Z,6µm,18.3s
SKAR Skarslia 43.95 328⇑*iP* **P 02 40 52.9 +0.6**
SKAR IVmB_BB 02 40 56.4
comp=Z,4µm,3.5s
SKAR *ePP* **PP 02 42 34.6 +0.1**
SKAR *eS* **S 02 47 24.2 +0.2**
SKAR *eSS* **SS 02 50 42.6 +2.3**
SKAR IVMs_BB IVMs_BB 03 02 47.1
comp=Z,6µm,10.2s
NSS Namsos 43.99 334⇑*iP* **P 02 40 52.2 -0.3**
NSS IVmB_BB 02 40 55.0
comp=Z,5µm,1.7s
NSS *ePP* **PP 02 42 35.7 +0.9**
NSS *eS* **S 02 47 24.2 -0.1**
NSS *eSS* **SS 02 50 43.7 +3.0**
NSS IVMs_BB IVMs_BB 03 06 24.4
comp=Z,6µm,9.6s
TBLU Trondheim 44.10 332 *eP* **P 02 40 53.8 +0.4**
TBLU IVmB_BB 02 40 56.4
comp=Z,3µm,2.8s
TBLU *eS* **S 02 47 26.6 +0.8**
TBLU *eSS* **SS 02 50 41.5 -1.3**
TBLU IVMs_BB IVMs_BB 03 03 41.6
comp=Z,5µm,8.6s
SSF Saint Saulge 44.11 308 P **P 02 40 52.2 -1.5**
DOMB Dombas 44.11 330 *eP* **P 02 40 53.1 -0.5**
DOMB IVmB_BB 02 40 56.6
comp=Z,4µm,2.6s
DOMB *ePP* **PcP 02 42 37.9 -0.7**
DOMB *eS* **S 02 47 27.4 +1.1**
DOMB *eSS* **SS 02 50 43.9 +0.6**
DOMB IVMs_BB IVMs_BB 03 01 52.8
comp=Z,6µm,19.4s
HAMF Hammerfest 44.13 345⇑*iP* **P 02 40 53.9 +0.4**
HAMF IVmBBB 02 40 56.2
comp=Z,5µm,1.7s

HAMF *eS* **S 02 47 27.9 +1.8**
HAMF *eSS* **SS 02 50 43.5 +0.2**
HAMF IVMs_BB IVMs_BB 03 03 05.0
comp=Z,9µm,11.4s
JETT Jettan, Norway 44.17 342⇑*iP* **P 02 40 54.3 +0.4**
JETT IVmB_BB 02 40 56.6
comp=Z,5µm,1.5s
JETT *eS* **S 02 47 30.5 +3.7**
JETT *eSS* **SS 02 50 45.0 +0.8**
JETT IVMs_BB IVMs_BB 03 01 44.4
comp=Z,10µm,13.0s
AVF Avril sur Loir 44.21 307 P **P 02 40 51.6 -2.9**
FAUS Fauske 44.31 338⇑*iP* **P 02 40 55.0 0.0**
FAUS IVmBBB 02 40 57.4
comp=Z,4µm,1.7s
FAUS *ePP* **PcP 02 42 39.0 0.0**
FAUS *eS* **S 02 47 29.6 +0.9**
FAUS *eSS* **SS 02 50 49.2 +2.3**
FAUS IVMsBB 03 02 22.7
comp=Z,6µm,8.0s
BLS5 Blasjo 44.43 325⇑*iP* **P 02 40 56.3 +0.2**
BLS5 IVmB_BB 02 41 00.3
comp=Z,5µm,3.2s
BLS5 *ePP* **PP 02 42 39.2 -0.3**
BLS5 *eS* **S 02 47 30.2 -0.6**
BLS5 *eSS* **SS 02 50 51.5 +2.0**
BLS5 IVMs_BB IVMs_BB 03 06 05.3
comp=Z,6µm,8.8s
SBV Sambava 44.46 190 P **P 02 40 59.3 +2.6**
SBV Sambava 44.46 190 P **P 02 40 58.7 +2.0**
SNR=9.3
SBV Sambava 44.46 190⇑P **P 02 40 57.7 +1.0**
ODD1 Odda 44.49 326⇑*iP* **P 02 40 57.7 +1.1**
ODD1 IVmB_BB 02 41 00.8
comp=Z,6µm,3.0s
ODD1 *eS* **S 02 47 34.5 +2.8**
ODD1 *eSS* **SS 02 50 51.7 +0.9**
ODD1 IVMs_BB IVMs_BB 03 04 34.6
comp=Z,6µm,11.6s
STOK Stokkvaagen 44.50 336⇑*iP* **P 02 40 56.5 0.0**
STOK IVmB_BB 02 40 58.8
comp=Z,5µm,1.5s
STOK *ePP* **PP 02 42 39.3 -0.8**
STOK *eScP* **ScP 02 46 33.1 +1.1**
STOK *eS* **S 02 47 32.8 +1.3**
STOK *eSS* **SS 02 50 50.6 0.0**
STOK IVMs_BB IVMs_BB 03 02 46.1
comp=Z,7µm,8.2s
HHC Hu-ho-hao-te 44.52 61⇑*iP* **P 02 40 58.6 +1.4**
HHC pP sP 02 41 02.5 +0.7
HHC sP pP 02 41 05.6 +5.1
HHC PP **PP 02 42 41.5 +0.6**
HHC S **S 02 47 34.4 +1.6**
HHC sS sS 02 47 40.5 +2.4
HHC ScS **ScS 02 50 57.7 +2.0**
HHC pmax pmax
comp=Z,59nm,1.0s
HHC pmax pmax
comp=Z,8µm,5.3s
HHC LR LR
comp=Z,9µm,17.7s
HHC LR LR
comp=Z,32µm,17.8s
HHC LR LR
comp=Z,42µm,20.3s
KONS Konsvik 44.55 336 *eP* **P 02 40 56.9 0.0**
KONS IVmB_BB 02 40 58.5
comp=Z,5µm,1.6s
BGF Bois d'Agland 44.55 307 P **P 02 40 55.5 -1.7**
ENH Enshi 44.59 77 P **P 02 40 58.0 +0.2**
ENH IAmb IAmb 02 41 02.8
comp=Z,353nm,1.7s
ENH IAMs_20 IAMs_20 03 01 33.8
comp=Z,23µm,20.0s
EJON La Jonquera 44.60 301 P **P 02 40 56.0 -1.7**
TRO Tromso 44.61 342 *eP* **P 02 40 57.5 +0.1**
TRO IVmB_BB 02 40 59.8
comp=Z,6µm,1.6s
TRO *eS* **S 02 47 35.8 +2.6**
TRO *eScS* **ScS 02 50 56.2 +1.2**
TRO IVMs_BB IVMs_BB 03 02 00.0
comp=Z,8µm,14.4s
STEI Steigen 44.63 339⇑*iP* **P 02 40 57.5 -0.1**
STEI IVmBBB 02 41 00.6
comp=Z,6µm,3.4s
STEI *ePP* **PP 02 42 41.1 -0.4**
STEI *eS* **S 02 47 33.5 0.0**
STEI *eSS* **SS 02 50 53.8 +0.5**
STEI IVMs_BB IVMs_BB 03 01 34.9
comp=Z,5µm,10.2s
ETOS Mallorca 44.87 297 P **P 02 41 00.1 +0.2**
KMY Karmoy 44.96 325 *eP* **P 02 41 00.2 -0.1**
KMY IVmBBB 02 41 04.1
comp=Z,5µm,3.0s
KMY *ePP* **PP 02 42 44.4 -0.7**
KMY *eS* **S 02 47 39.3 +0.8**
KMY *eSS* **SS 02 51 00.8 +1.1**
MOL Molde 44.97 330 *eP* **P 02 41 00.5 +0.2**
MOL IVmB_BB 02 41 03.9
comp=Z,4µm,3.3s
MOL *eS* **S 02 47 40.9 +2.4**
CLF Chambon-Foret 44.99 309 P **P 02 40 59.8 -0.8**
CLF Chambon-Foret 44.99 309⇑P **P 02 41 00.3 -0.3**
TCF Toulx Ste Croi 44.99 306 P **P 02 40 59.3 -1.5**
MTLF Montolieu 45.05 302⇑P **P 02 41 00.2 -1.1**
AKN Aaknes 45.07 329 *eP* **P 02 41 02.0 +0.9**
AKN IVmBBB 02 41 05.0
comp=Z,4µm,3.2s
AKN *eS* **S 02 47 40.2 +0.2**
AKN IVMs_BB IVMs_BB 03 02 25.3
comp=Z,5µm,13.3s
SRIT Nakonsritamara 45.09 110 P **P 02 41 03.9 +2.0**
HYA Hoyanger 45.09 328 *eP* **P 02 41 01.4 +0.1**
HYA IVmB_BB 02 41 04.4
comp=Z,3µm,1.8s
HYA *ePP* **PP 02 42 47.2 +0.7**
HYA *eS* **S 02 47 39.1 -1.2**
HYA *eSS* **SS 02 51 03.1 +1.0**
MLSI Meulaboh, Aceh 45.19 118 P **P 02 41 02.1 -0.6**
comp=Z,55nm,1.1s,comp=Z,371nm
BER Bergen 45.25 327 *eP* **P 02 41 03.5 +1.0**
BER IVmB_BB 02 41 05.7
comp=Z,4µm,1.8s
BER *ePP* **PP 02 42 45.5 -2.6**
BER *eS* **S 02 47 44.2 +1.6**
BER *eSS* **SS 02 51 06.5 +1.5**
BER IVMs_BB IVMs_BB 03 04 54.9
comp=Z,6µm,13.4s
LOF Lofoten 45.28 339 *eP* **P 02 41 00.2 -2.5**
LOF IVmBBB 02 41 04.9
comp=Z,3µm,3.1s
LOF *ePP* **PcP 02 42 44.8 +2.5**
LOF *eScP* **ScP 02 46 33.7 -1.5**
LOF *eScS* **ScS 02 51 01.4 +2.1**
LOF IVMs_BB IVMs_BB 03 02 08.3
comp=Z,5µm,13.3s
ASK Askoy 45.35 327 *eP* **P 02 41 04.9 +1.6**
ASK *ePP* **PP 02 42 50.1 +0.9**
ASK *eS* **S 02 47 48.4 +4.4**
RJF Les Rejaudoux 45.48 305 P **P 02 41 02.3 -2.4**
TIY Taiyuan 45.54 66⇑P **P 02 41 06.0 +0.7**
TIY pP **sP 02 41 09.8 -0.1**
TIY S **S 02 47 51.8 +4.2**
TIY pmax pmax
comp=Z,130nm,1.1s
TIY LR LR
comp=Z,17µm,18.1s
TIY LR LR
comp=Z,6µm,17.7s
TIY LR LR
comp=Z,10µm,16.2s
SUE Sulen 45.72 327 *iP* **P 02 41 06.3 +0.1**
SUE IVmB_BB 02 41 09.0
comp=Z,4µm,1.7s
SUE *ePP* **PP 02 42 53.2 +0.1**
SUE *eS* **S 02 47 52.4 +3.0**
SUE *eSS* **SS 02 51 16.6 +3.5**
SUE IVMs_BB IVMs_BB 03 07 48.2
comp=Z,6µm,11.1s
FOO Floro 45.75 328 *eP* **P 02 41 06.9 +0.4**
FOO IVmB_BB 02 41 09.2
comp=Z,2µm,1.7s
FOO *ePP* **PP 02 42 53.0 -0.5**
FOO *eS* **S 02 47 50.2 +0.4**

FOO eSS **SS** **02 51 14.1 +0.4**
FOO IVMs_BB IVMs_BB 03 07 29.0
comp=Z,5µm,9.3s
ELSH Elham, Standar 45.89 313 eP **P** **02 41 07.4 -0.3**
LFF La Frestale 46.04 305 P **P** **02 41 07.7 -1.4**
ELMS Elmsett, Ipswi 46.05 314 eP **P** **02 41 08.6 -0.5**
ELMS IAmb IAmb 02 41 11.1
comp=Z,153nm,0.9s
ELMS IAMs_20 IAMs_20 03 08 34.4
comp=Z,6µm,14.6s
EIBI Ibiza 46.09 296 P **P** **02 41 09.5 -0.1**
LYN LuoYang 46.10 70⇑iP **P** **02 41 10.5 +0.8**
LYN S **S** **02 47 58.1 +2.5**
LYN sS sS 02 48 05.3 +4.4
LYN SS **SS** **02 51 13.8 -6.8**
LYN pmax pmax
comp=Z,380nm,1.3s
LYN pmax pmax
comp=Z,5µm,11.3s
LYN LR LR
comp=Z,20µm,13.7s
LYN LR LR
comp=Z,20µm,17.5s
LYN LR LR
comp=Z,35µm,21.8s
WACR West Acre 46.33 315⇑eP **P** **02 41 11.1 -0.1**
WACR IAmb IAmb 02 41 14.6
comp=Z,502nm,1.1s
HMNX Herstmonceux 46.37 313 eP **P** **02 41 11.5 -0.1**
HMNX IAmb IAmb 02 41 14.4
comp=Z,202nm,1.0s
EPF Esparros 46.44 302 P **P** **02 41 10.3 -2.0**
LDF La Druitiere 46.59 310 P **P** **02 41 12.4 -1.0**
MFF Saint Martin d 46.61 307⇓P **P** **02 41 12.2 -1.4**
MFF Saint Martin d 46.61 307 P **P** **02 41 11.6 -2.0**
TAM Tamanrasset 46.62 273 P **P** **02 41 14.0 0.0**
TAM IAMs_20 IAMs_20 03 03 26.4
comp=Z,16µm,18.0s
TAM Tamanrasset 46.62 273⇑P **P** **02 41 14.1 0.0**
TAM Tamanrasset 46.62 273 P **P** **02 41 13.9 -0.2**
KCSI Kotacane, Aceh 46.71 117 P **P** **02 41 14.6 -0.1**
comp=Z,51nm,2.2s,comp=Z,2µm
GULI GuiLin 46.77 83⇓P **P** **02 41 15.3 +0.2**
GULI S **S** **02 48 02.4 -3.0**
GULI pmax pmax
comp=Z,60nm,1.0s
GULI LR LR
comp=Z,8µm,15.7s
GULI LR LR
comp=Z,6µm,17.9s
GULI LR LR
comp=Z,12µm,16.8s
FLN La Foliniere 46.83 310 P **P** **02 41 13.5 -1.7**
BOD Bodaibo 46.97 38 eP **P** **02 41 15.8 -0.4**
BOD pmax pmax
comp=Z,253nm,1.7s
GRR Gorron 47.08 309 P **P** **02 41 16.5 -0.7**
GDLE Glaisdale, N Y 47.35 318 eP **P** **02 41 18.6 -0.5**
HNS HongShan 47.38 66⇑P **P** **02 41 20.2 +0.6**
HNS PcP **PcP** **02 42 49.9 -0.4**
HNS PcS **PcS** **02 46 46.7 +1.2**
HNS S **S** **02 48 17.6 +3.9**
HNS pmax pmax
comp=Z,60nm,1.6s
HNS pmax pmax
comp=Z,3µm,8.4s
HNS LR LR
comp=Z,5µm,14.3s
HNS LR LR
comp=Z,14µm,18.5s
HNS LR LR
comp=Z,14µm,19.3s
WOL Wolverton 47.38 313⇑eP **P** **02 41 18.8 -0.6**
XLT XiLinHaoTe 47.61 57 eP **P** **02 41 22.4 +0.9**
XLT pP sP 02 41 26.6 +0.5
XLT sP pP 02 41 28.6 +3.8
XLT PcP **PcP** **02 42 51.6 +0.4**
XLT S **S** **02 48 21.8 +4.6**
XLT sS sS 02 48 25.6 +3.1
XLT pmax pmax
comp=Z,90nm,1.1s
XLT pmax pmax
comp=Z,4µm,5.5s
XLT LR LR
comp=Z,24µm,19.6s
XLT LR LR
comp=Z,38µm,19.1s
SWN1 Swindon 47.75 314⇑eP **P** **02 41 22.0 -0.3**
SWN1 IAmb IAmb 02 41 24.4
comp=Z,433nm,1.0s
HPK Haverah Park 47.78 317⇑eP **P** **02 41 21.7 -0.8**
HPK IAMs_20 IAMs_20 03 07 39.0
comp=Z,8µm,21.1s
ECHE Chera 47.79 297 P **P** **02 41 22.7 -0.2**
LBWR Ladybower, Pea 47.80 316⇑eP **P** **02 41 23.1 +0.4**
LBWR IAmb IAmb 02 41 28.6
comp=Z,172nm,1.0s
LBWR IAMs_20 IAMs_20 03 06 10.5
comp=Z,9µm,16.4s
KULM Kulim 47.86 113 IAmb IAmb 02 41 29.8
comp=Z,184nm,1.2s
KULM Kulim 47.86 113⇑P **P** **02 41 23.6 -0.1**
BJO1 Bjornoya 47.88 347 eP **P** **02 41 21.8 -1.2**
BJO1 IVmB_BB 02 41 25.9
comp=Z,5µm,3.4s
BJO1 ePP **PP** **02 43 15.7 +1.0**
BJO1 eS **S** **02 48 19.5 -0.4**
BJO1 eSS **SS** **02 51 51.1 +3.0**
BJO1 IVMs_BB IVMs_BB 03 03 38.2
comp=Z,9µm,13.1s
JSA Saint Aubin 47.95 310⇑eP **P** **02 41 22.8 -1.0**
JSA Saint Aubin 47.95 310⇑P **P** **02 41 23.4 -0.5**
STRD Stroud 47.98 314⇑eP **P** **02 41 23.1 -1.0**
STRD IAmb IAmb 02 41 26.4
comp=Z,205nm,1.0s
GSI Gunungsitoli 48.00 120 P **P** **02 41 26.2 +1.5**
CNSH ChangSha 48.05 78⇑P **P** **02 41 24.8 -0.2**
CNSH PP **PP** **02 43 19.8 +2.7**
CNSH S **S** **02 48 20.5 -3.1**
CNSH pmax pmax
comp=Z,160nm,1.0s
CNSH LR LR
comp=Z,18µm,20.9s
CNSH LR LR
comp=Z,5µm,15.4s
CNSH LR LR
comp=Z,11µm,24.7s
EDMD Edmundbyers 48.05 316⇑eP **P** **02 41 23.7 -0.9**
EDMD IAmb IAmb 02 41 26.9
comp=Z,524nm,1.1s
EDMD IAMs_20 IAMs_20 03 11 17.6
comp=Z,6µm,13.5s
STNC Stoke 48.07 316 IAmb IAmb 02 41 33.8
comp=Z,2µm,2.4s
BJT Baijiatuau 48.10 62 P **P** **02 41 26.5 +1.3**
BJT Baijiatuau 48.10 62 IAMs_20 IAMs_20 03 03 58.8
comp=Z,22µm,21.0s
BJT Baijiatuau 48.10 62 P **P** **02 41 26.5 +1.3**
BJT pmax pmax
comp=Z,89nm,1.2s
BJT MLR MLR
comp=Z,22µm,21.0s
BJI Beijing 48.10 62 P **P** **02 41 26.1 +0.9**
BJI sP **sP** **02 41 29.7 -0.2**
BJI PcP **PcP** **02 42 52.7 -0.1**
BJI PP **PP** **02 43 19.3 +2.0**
BJI S **S** **02 48 29.8 +5.8**
BJI pmax pmax
comp=Z,19nm,0.9s
BJI pmax pmax
comp=Z,2µm,6.1s
BJI LR LR
comp=Z,7µm,16.0s
BJI LR LR
comp=Z,7µm,18.7s
BJI LR LR
comp=Z,12µm,21.0s
CART Cartagena 48.13 295 P **P** **02 41 24.4 -1.1**
OLDB Oldbury-Upon-S 48.22 314⇑eP **P** **02 41 25.2 -0.7**
OLDB IAmb IAmb 02 41 28.2
comp=Z,161nm,0.8s
EMUR La Murta 48.27 295 P **P** **02 41 25.5 -1.1**
LRW Lerwick 48.34 325 eP **P** **02 41 26.8 0.0**
LRW IAmb IAmb 02 41 28.1
comp=Z,338nm,1.1s
LRW Lerwick 48.34 325⇑P **P** **02 41 26.8 0.0**
ETOB Tobarra 48.38 296 P **P** **02 41 27.1 -0.4**
MONM Monmouth 48.38 314 eP **P** **02 41 26.5 -0.7**
MONM IAmb IAmb 02 41 27.7
comp=Z,295nm,1.4s
MCH1 Michaelchurch 48.51 314⇓eP **P** **02 41 27.4 -0.7**
MCH1 IAmb IAmb 02 41 29.6
comp=Z,364nm,1.4s
MCH1 IAMs_20 IAMs_20 03 08 06.0
comp=Z,6µm,19.3s
MCH1 Michaelchurch 48.51 314⇑P **P** **02 41 27.4 -0.7**
DRUM Mains of Drumt 48.55 321 eP **P** **02 41 28.2 -0.3**
WHN Wuhan 48.58 75⇓iP **P** **02 41 29.4 +0.4**
WHN pP **pP** **02 41 32.9 +0.5**
WHN sP **sP** **02 41 36.3 +2.7**
WHN PP **PP** **02 43 27.1 +5.3**
WHN S **S** **02 48 32.1 +1.2**
WHN pmax pmax
comp=Z,120nm,0.9s
WHN pmax pmax
comp=Z,8µm,5.9s
WHN LR LR
comp=Z,10µm,9.9s
WHN LR LR
comp=Z,18µm,11.7s
WHN LR LR
comp=Z,50µm,18.1s
QUIF Quistinic 48.63 309 P **P** **02 41 28.4 -0.8**
QIZ Qiongzhong 48.64 91 P **P** **02 41 32.1 +2.5**
QIZ PP **PP** **02 43 26.2 +3.6**
QIZ S **S** **02 48 30.4 -1.6**
QIZ pmax pmax
comp=Z,110nm,2.1s
QIZ pmax pmax
comp=Z,2µm,4.4s
QIZ LR LR
comp=Z,7µm,18.5s
QIZ LR LR
comp=Z,6µm,18.5s
QIZ LR LR
comp=Z,7µm,18.5s
FOEL Foel Wylfa 48.66 315⇑eP **P** **02 41 29.0 -0.3**
FOEL e 02 43 22.0
FOEL IAMs_20 IAMs_20 03 05 50.5
comp=Z,6µm,20.5s
ROSF Rostrenen 48.69 309⇑P **P** **02 41 29.2 -0.5**
ROSF Rostrenen 48.69 309 P **P** **02 41 30.2 +0.5**
KESW Keswick, Cumbr 48.69 318⇑eP **P** **02 41 29.6 0.0**
KESW e 02 43 20.8
EKA Eskdalemuir Ar 48.78 319 P **P** **02 41 30.0 -0.2**
EKA Eskdalemuir Ar 48.78 319 P **P** **02 41 30.0 -0.2**
comp=Z,28nm,0.4s,baz=101,slow=6.8,SNR=126
comp=Z,28nm,0.4s
ESK Eskdalemuir 48.80 319⇑eP **P** **02 41 30.1 -0.3**
ESK IAMs_20 IAMs_20 03 07 23.2
comp=Z,7µm,16.1s
ESK Eskdalemuir 48.80 319 P **P** **02 41 30.6 +0.2**
ESK Eskdalemuir 48.80 319⇑P **P** **02 41 30.1 -0.3**
ESK Eskdalemuir 48.80 319 P **P** **02 41 30.6 +0.2**
ESK pmax pmax
comp=Z,335nm,1.2s
EDI Edinburgh 48.84 319⇑eP **P** **02 41 30.7 +0.1**
EDI IAMs_20 IAMs_20 03 04 53.3
comp=Z,6µm,20.3s
LLW Llanuwychllyn 48.94 315⇑eP **P** **02 41 31.2 -0.3**
MCD Coleburn Disti 49.04 322⇑eP **P** **02 41 32.3 +0.1**
MCD IAmb IAmb 02 41 34.4
comp=Z,413nm,1.1s
ENIJ Nijar 49.19 294 P **P** **02 41 32.5 -1.2**
INVG Invergeldie, C 49.36 320⇑eP **P** **02 41 34.5 -0.2**
INVG IAmb IAmb 02 41 36.6
comp=Z,479nm,1.2s
INVG IAMs_20 IAMs_20 03 06 58.2
comp=Z,8µm,17.9s
NEWG New Galloway 49.38 318⇑eP **P** **02 41 35.0 +0.2**
NEWG IAMs_20 IAMs_20 03 09 22.8
comp=Z,7µm,16.6s
WLF1 Llynfaes 49.39 316⇑eP **P** **02 41 34.0 -0.9**
UCM Universidad Co 49.41 299 P **P** **02 41 34.1 -1.3**
HTL Hartland 49.42 313 eP **P** **02 41 34.4 -0.9**
TIA Tai'an 49.50 67 P **P** **02 41 36.6 +0.5**
TIA S **S** **02 48 47.6 +3.7**
TIA pmax pmax
comp=Z,150nm,1.2s
TIA pmax pmax
comp=Z,3µm,6.3s
TIA LR LR
comp=Z,15µm,23.9s
TIA LR LR
comp=Z,6µm,21.8s
TIA LR LR
comp=Z,14µm,15.5s
FIGM Figuig 49.50 288 P **P** **02 41 38.0 +1.7**
IOMK Kirk Michael 49.53 317 eP **P** **02 41 35.5 -0.5**
PGBU Glenifferbraes 49.56 319⇑eP **P** **02 41 36.5 +0.3**
PGBU IAmb IAmb 02 41 38.6
comp=Z,508nm,1.3s
RSBS Rosebush, Pemb 49.59 314⇑eP **P** **02 41 36.6 +0.1**
RSBS IAmb IAmb 02 41 39.4
comp=Z,149nm,1.1s
GAL1 Galloway 49.64 318⇑eP **P** **02 41 35.9 -0.9**
GAL1 e 02 43 32.0
GAL1 IAMs_20 IAMs_20 03 09 32.5
comp=Z,7µm,16.2s
CHAS Isla Isabel II 49.73 292 P **P** **02 41 37.3 -0.5**
TAF Taforalt 49.80 291 P **P** **02 41 40.0 +1.5**
HIA Hailar 49.82 49 P **P** **02 41 38.3 -0.1**
HIA Hailar 49.82 49 IAMs_20 IAMs_20 03 06 31.4
comp=Z,15µm,18.0s
HIA Hailar 49.82 49 P **P** **02 41 38.3 -0.1**
HIA pmax pmax
comp=Z,118nm,1.4s
HIA MLR MLR
comp=Z,15µm,18.0s
OPO Ambohidratompo 49.94 193 LR LR 03 01 25.4
comp=Z,7µm,20.1s,baz=186,slow=34
ESDC Sonseca Array 50.06 298 P **P** **02 41 39.2 -1.2**
comp=Z,53nm,1.0s,baz=67,slow=7.3,SNR=106
ESDC PcP **PcP** **02 42 59.3 -0.8**
comp=Z,30nm,1.0s,baz=54,slow=3.4,SNR=4.9
ESDC LR LR 03 07 26.2
comp=Z,4µm,18.4s,baz=75,slow=42
comp=Z,53nm,1.0s
GZH Guangzhou 50.08 84 P **P** **02 41 40.7 +0.1**
GZH PP **PP** **02 43 36.2 +0.6**
GZH S **S** **02 48 53.0 +0.8**
GZH pmax pmax
comp=Z,57nm,0.9s
GZH pmax pmax
comp=Z,5µm,4.3s
GZH LR LR
comp=Z,5µm,15.6s
GZH LR LR
comp=Z,3µm,13.4s
GZH LR LR
comp=Z,3µm,10.0s
LAWE Loch Awe, Argy 50.10 320⇑eP **P** **02 41 40.4 +0.1**
LAWE IAmb IAmb 02 41 42.4
comp=Z,553nm,1.1s
LAWE IAMs_20 IAMs_20 03 07 28.7
comp=Z,10µm,19.1s
LINV Loch Inver, As 50.13 322⇑eP **P** **02 41 40.4 -0.1**
LINV IAmb IAmb 02 41 42.5
comp=Z,598nm,1.3s
KPL Plockton 50.31 321⇑eP **P** **02 41 41.2 -0.7**
KPL IAmb IAmb 02 41 43.2
comp=Z,310nm,1.1s
ABPO Ambohimpanom 50.36 192 P **P** **02 41 44.5 +1.7**
ABPO IAmb IAmb 02 41 46.5
comp=Z,152nm,1.2s
ABPO Ambohimpanom 50.36 192⇑iP **P** **02 41 42.3 -0.5**
ABPO IAmb IAmb 02 41 46.0
comp=Z,2µm,3.2s
ABPO Ambohimpanom 50.36 192⇑P **P** **02 41 44.1 +1.2**
ABPO Ambohimpanom 50.36 192 P **P** **02 41 44.5 +1.7**
ABPO pmax pmax
comp=Z,152nm,1.3s
PAB San Pablo 50.38 298 P **P** **02 41 41.6 -1.1**
PAB San Pablo 50.38 298 P **P** **02 41 41.7 -1.1**
PAB San Pablo 50.38 298 P **P** **02 41 41.6 -1.1**
PAB pmax pmax
comp=Z,99nm,1.2s
CLGH Cloghs, Cushen 50.45 318⇑eP **P** **02 41 42.3 -0.7**
CLGH IAmb IAmb 02 41 45.8
comp=Z,336nm,1.2s
CLGH IAMs_20 IAMs_20 03 12 28.7
comp=Z,5µm,14.3s
ILTH Belurgan, Co L 50.56 317⇑eP **P** **02 41 42.7 -1.1**
DLV T Lat 50.69 100 IAmb IAmb 02 41 51.0
comp=Z,195nm,1.1s
SPA0 Spitsbergen Ar 50.88 350 eP **P** **02 41 46.0 +0.1**
SPA0 IVmB_BB 02 41 47.5
comp=Z,2µm,1.1s
SPA0 ePP **PP** **02 43 41.5 -0.5**
SPA0 eS **S** **02 49 04.3 +2.3**
SPA0 eSS **SS** **02 52 37.2 +1.0**
SPA0 IVMs_BB IVMs_BB 03 05 34.4
comp=Z,5µm,12.3s
SPITS Spitsbergen Ar 50.88 350 P **P** **02 41 45.9 0.0**
comp=Z,437nm,1.1s,baz=136,slow=14,SNR=24
SPITS LR LR 03 06 46.9
comp=Z,10µm,20.2s,baz=106,slow=40
comp=Z,437nm,1.1s
EMAL Malaga-Limoner 50.97 294 P **P** **02 41 45.4 -1.8**
HKPS Hong Kong Po S 51.06 85 P **P** **02 41 48.9 +0.8**
HKPS IAmb IAmb 02 41 53.2
comp=Z,246nm,1.1s
BKNI Bangkinang 51.25 118 P **P** **02 41 50.5 +0.9**
BKNI IAmb IAmb 02 41 52.8
comp=Z,236nm,1.5s
BKNI Bangkinang 51.25 118 P **P** **02 41 47.9 -1.6**
RER Riviere de l'E 51.57 182 P **P** **02 41 53.1 +1.3**
RER Riviere de l'E 51.57 182 P **P** **02 41 53.3 +1.6**
SNR=6.2
RER Riviere de l'E 51.57 182⇑P **P** **02 41 53.0 +1.2**
PDSI Padang 51.62 119 P **P** **02 41 51.7 -0.6**
comp=Z,76nm,1.8s,comp=Z,5µm
PBRG Braganca 51.79 301 eP **P** **02 41 51.8 -1.5**
comp=Z,80nm,1.6s
PBRG Braganca 51.79 301 ePP **PP** **02 43 55.4 +4.5**
NJ2 Nanjing 51.89 72⇓P **P** **02 41 55.3 +1.2**
NJ2 pP **pP** **02 41 57.8 +0.4**
NJ2 sP **sP** **02 42 00.6 +1.9**
NJ2 PcP **PcP** **02 43 08.1 +1.2**
NJ2 PP **PP** **02 43 55.9 +4.0**
NJ2 S **S** **02 49 17.7 +0.7**
NJ2 pmax pmax
comp=Z,27nm,0.8s
NJ2 pmax pmax
comp=Z,720nm,3.9s
NJ2 LR LR
comp=Z,19µm,16.6s
NJ2 LR LR
comp=Z,8µm,19.4s
NJ2 LR LR
comp=Z,12µm,18.0s
SMIR Smir Dam 51.97 293 P **P** **02 41 55.0 +0.3**
LCRM LCR 52.03 291 P **P** **02 41 57.0 +1.6**
KBS Kingsbay 52.04 350 IAMs_20 IAMs_20 03 07 20.8
comp=Z,14µm,19.0s
KBS Kingsbay 52.04 350 eP **P** **02 41 54.8 +0.2**
KBS IVmB_BB 02 41 56.7
comp=Z,3µm,0.8s
KBS eS **S** **02 49 17.9 -0.1**
KBS IVMs_BB IVMs_BB 03 07 11.0
comp=Z,6µm,16.1s
KBS Kingsbay 52.04 350⇑P **P** **02 41 54.6 +0.1**
KBS Kingsbay 52.04 350 P **P** **02 41 54.7 +0.1**
KBS pmax pmax
comp=Z,274nm,1.1s
KBS MLR MLR
comp=Z,14µm,19.0s
MDT Midelt 52.06 290 P **P** **02 41 56.0 +0.5**
MVO Moncorvo 52.11 300 eP **P** **02 41 55.0 -0.8**
comp=Z,124nm,1.5s
MVO Moncorvo 52.11 300 ePcP **PcP** **02 43 06.9 -0.8**
MVO Moncorvo 52.11 300 ePP **PP** **02 44 01.0 +7.2**
ARF Arif 52.12 288 P **P** **02 41 57.0 +1.0**
EKNA AfricaArray - 52.28 250⇑iP **P** **02 41 58.1 +0.8**
IFR Ifrane 52.30 291 P **P** **02 41 56.9 -0.5**
SFS San Fernando 52.43 294 P **P** **02 41 56.6 -1.5**
DL2 Dalian 52.46 62 P **P** **02 41 58.6 +0.4**
DL2 PP **PP** **02 43 56.6 -0.3**
DL2 S **S** **02 49 25.0 +0.3**
DL2 SS **SS** **02 52 54.1 -8.3**
DL2 pmax pmax
comp=Z,140nm,1.4s
DL2 pmax pmax
comp=Z,4µm,5.3s
DL2 LR LR
comp=Z,16µm,21.8s
DL2 LR LR
comp=Z,6µm,19.8s
DL2 LR LR
comp=Z,19µm,18.9s
MYKOM **Kota Tinggi 52.52 114** P **P** **02 42 00.1 +1.1**
PVRL Vila Real 52.60 301 eP **P** **02 41 58.3 -1.1**
comp=Z,144nm,1.8s
PVRL Vila Real 52.60 301 ePP PP 02 44 06.7 +8.5
MTE Manteigas 52.63 300 eP **P** **02 41 59.3 -0.4**
comp=Z,216nm,2.2s
MTE Manteigas 52.63 300 IAmb IAmb 02 42 02.8
comp=Z,145nm,0.9s
MTE Manteigas 52.63 300⇑P **P** **02 41 58.0 -1.7**
POLO Lamas de Olo 52.64 301 eP **P** **02 41 58.8 -0.9**
comp=Z,58nm,1.9s
PCBR Castelo Branco 52.69 299 eP **P** **02 41 59.1 -0.9**
comp=Z,288nm,1.8s
PCBR Castelo Branco 52.69 299 ePP **PP** **02 43 58.8 -0.2**
ARNO Arenosillo 52.70 295 P **P** **02 41 58.8 -1.2**
PBAR Barrancos 52.70 297 eP **P** **02 41 58.4 -1.7**
comp=Z,321nm,1.9s
PMRV Marv??o 52.71 298 eP **P** **02 41 59.3 -0.9**
comp=Z,108nm,1.9s
PMRV Marv??o 52.71 298 ePP **PP** **02 44 05.8 +6.6**
PVIS Viseu 52.84 300 eP **P** **02 42 00.4 -0.7**
PVIS Viseu 52.84 300 ePP **PP** **02 44 01.1 +0.7**
PGAV Gavieira, Arco 52.88 302 eP **P** **02 42 00.1 -1.4**
comp=Z,258nm,1.4s
PESTR Estremoz 52.98 298 eP **P** **02 42 00.5 -1.6**
comp=Z,102nm,1.5s
PESTR Estremoz 52.98 298 ePP **PP** **02 44 01.9 +0.2**
PESTR Estremoz 52.98 298 P **P** **02 42 01.4 -0.8**
PESTR Estremoz 52.98 298 P **P** **02 42 01.0 -1.1**
PESTR Estremoz 52.98 298⇑P **P** **02 42 00.8 -1.3**
VAL Valentia 52.99 314 P **P** **02 42 03.4 +1.5**
VOI Vohitsoka 53.26 192 P **P** **02 42 05.4 +1.1**
VOI IAmb IAmb 02 42 07.7
comp=Z,182nm,1.1s
VOI Vohitsoka 53.26 192 P **P** **02 42 06.5 +2.1**
VOI Vohitsoka 53.26 192 P **P** **02 42 05.9 +1.6**
SNR=8.1
VOI Vohitsoka 53.26 192 eP **P** **02 42 05.6 +1.2**
VOI Vohitsoka 53.26 192⇑P **P** **02 42 05.0 +0.6**
PTO Porto 53.28 301 eP **P** **02 42 04.3 0.0**
comp=Z,107nm,1.5s
COI Coimbra 53.32 299 eP **P** **02 42 04.3 -0.3**
comp=Z,130nm,1.8s
COI Coimbra 53.32 299⇑P **P** **02 42 04.3 -0.3**
COI Coimbra 53.32 299 P **P** **02 42 04.3 -0.3**
SNY Shenyang 53.35 58⇑P **P** **02 42 04.2 -0.6**
SNY S **S** **02 49 41.0 +4.3**
SNY pmax pmax
comp=Z,24nm,0.8s
SNY pmax pmax
comp=Z,2µm,6.2s
SNY LR LR
comp=Z,12µm,15.9s
SNY LR LR
comp=Z,7µm,22.6s
SNY LR LR
comp=Z,9µm,25.0s
PBEJ Beja 53.37 297 eP **P** **02 42 04.3 -0.7**
comp=Z,207nm,1.6s
PBEJ Beja 53.37 297 ePP **PP** **02 44 04.8 -0.4**
EVO Evora 53.37 297 eP **P** **02 42 04.3 -0.7**
comp=Z,123nm,1.8s
EVO Evora 53.37 297 ePP **PP** **02 44 05.0 -0.2**
EVO Evora 53.37 297 P **P** **02 42 04.0 -1.1**
PVAQ Vaqueiros 53.40 296 eP **P** **02 42 04.2 -1.0**
comp=Z,126nm,1.9s
PVAQ Vaqueiros 53.40 296 ePP **PP** **02 44 06.8 +1.4**
PMTG Montargil 53.42 298 eP **P** **02 42 04.2 -1.2**
comp=Z,141nm,1.8s
PCAS Casmilo, Conde 53.42 299 eP **P** **02 42 03.9 -1.5**
comp=Z,66nm,1.0s
PCAS Casmilo, Conde 53.42 299 ePcP **PcP** **02 43 12.3 -0.2**
PCAS Casmilo, Conde 53.42 299 ePP **PP** **02 44 05.6 0.0**
JMIC Jan Mayen 53.48 338 LR LR 03 05 41.8
comp=Z,4µm,21.7s,baz=84,slow=37

ZHG ZHG 53.53 291 P **P** **02 42 08.0 +1.6**
PCVE Castro Verde 53.59 296 *e*P **P** **02 42 05.3 -1.4**
comp=Z,167nm,1.8s
PCVE Castro Verde 53.59 296 *e*PcP **PcP** **02 43 12.3 -0.9**
PCVE Castro Verde 53.59 296 *e*PP **PP** **02 44 08.2 +1.0**
PBDV Barranco-do-Ve 53.60 296 *e*P **P** **02 42 05.6 -1.2**
comp=Z,96nm,1.6s
PBDV Barranco-do-Ve 53.60 296 *e*PcP **PcP** **02 43 12.5 -0.8**
PBDV Barranco-do-Ve 53.60 296 *e*PP **PP** **02 44 07.6 +0.3**
LSZ Lusaka 53.62 216 P **P** **02 42 08.4 +1.2**
LSZ Lusaka 53.62 216 P **P** **02 42 08.5 +1.3**
LSZ P **P** **02 42 08.5 +1.3**
LSZ P **P** **02 42 08.5 +1.3**
LSZ Lusaka 53.62 216 ⇑P **P** **02 42 07.9 +0.7**
LSZ Lusaka 53.62 216 P **P** **02 42 08.4 +1.3**
LSZ pmax pmax
comp=Z,71nm,1.1s
LSZ MLR MLR
comp=Z,29µm,20.0s
LSZ Lusaka 53.62 216 LR LR 03 06 50.0
comp=Z,27µm,19.5s,baz=32,slow=38
ZGR Zagora 53.65 287 P **P** **02 42 09.0 +1.6**
MESJ Messejana 53.69 297 *e*P **P** **02 42 06.5 -0.9**
comp=Z,112nm,1.6s
MESJ Messejana 53.69 297 *e*PcP **PcP** **02 43 14.5 +0.9**
MESJ Messejana 53.69 297 *e*PP **PP** **02 44 09.6 +1.6**
MESJ Messejana 53.69 297 *e*P **P** **02 42 06.7 -0.6**
MESJ IAmb IAmb 02 42 09.8
comp=Z,117nm,1.4s
MESJ *e*S **S** **02 49 41.0 -0.4**
MESJ Messejana 53.69 297 ⇑P **P** **02 42 06.5 -0.9**
MESJ Messejana 53.69 297 *e*P **P** **02 42 06.7 -0.6**
MESJ *e*S **S** **02 49 42.0 +0.5**
PNCL Nicolau / Gran 53.86 297 *e*P **P** **02 42 07.7 -0.9**
comp=Z,186nm,1.9s
PNCL Nicolau / Gran 53.86 297 *e*PcP **PcP** **02 43 14.3 +0.1**
PNCL Nicolau / Gran 53.86 297 *e*PP **PP** **02 44 09.9 +0.3**
KNMB Chin-men Tao 53.89 81 IAMs_20 IAMs_20 03 06 37.0
comp=Z,10µm,19.0s
QZH Quanzhou 53.90 80⇑ *i*P **P** **02 42 08.4 -0.6**
QZH S **S** **02 49 47.4 +2.8**
QZH pmax pmax
comp=Z,100nm,2.3s
QZH pmax pmax
comp=Z,3µm,6.2s
QZH LR LR
comp=Z,9µm,13.4s
QZH LR LR
comp=Z,10µm,18.6s
QZH LR LR
comp=Z,15µm,18.2s
PACT Alcochete 53.95 298 *e*P **P** **02 42 08.4 -0.8**
comp=Z,589nm,1.8s
PACT Alcochete 53.95 298 *e*PP **PP** **02 44 11.5 +1.2**
TOA0 Torodi Ar. Sit 53.97 264 P **P** **02 42 09.0 -0.7**
TOA0 Torodi Ar. Sit 53.97 264 P **P** **02 42 09.1 -0.7**
SNR=32
TOA0 S **S** **02 49 44.1 -1.8**
TORD Torodi Ar. Bea 53.97 264 P **P** **02 42 09.0 -0.7**
TORD IAmb IAmb 02 42 11.9
comp=Z,194nm,0.8s
TORD IAMs_20 IAMs_20 03 05 57.6
comp=Z,10µm,20.0s
TORD Torodi Ar. Bea 53.97 264 P **P** **02 42 09.0 -0.7**
comp=Z,234nm,0.9s,baz=52,slow=8.0,SNR=744
TORD LR LR 03 06 09.3
comp=Z,12µm,19.8s,baz=64,slow=37
comp=Z,234nm,0.9s
SSE Sheshan 54.07 72 P **P** **02 42 08.5 -1.7**
SSE S **S** **02 49 46.3 -0.4**
SSE pmax pmax
comp=Z,22nm,0.8s
SSE pmax pmax
comp=Z,2µm,5.2s
SSE LR LR
comp=Z,6µm,19.5s
SSE LR LR
comp=Z,2µm,19.3s
PTEO Sao Teotonio 54.14 296 *e*P **P** **02 42 10.2 -0.5**
comp=Z,170nm,2.2s
PTEO Sao Teotonio 54.14 296 *e*PP **PP** **02 44 13.8 +1.6**
MORF Marmelete 54.15 296 *e*P **P** **02 42 09.1 -1.7**
comp=Z,159nm,1.7s
MORF Marmelete 54.15 296 *e*PcP **PcP** **02 43 17.6 +2.2**
MORF Marmelete 54.15 296 *e*PP **PP** **02 44 12.1 -0.1**
MORF Marmelete 54.15 296 IAmb IAmb 02 42 13.6
comp=Z,161nm,1.6s
MORF Marmelete 54.15 296 *e*P **P** **02 42 10.1 -0.7**
MORF IAmb IAmb 02 42 11.9
comp=Z,838nm,2.5s
MORF *e*S **S** **02 49 47.5 -0.4**
MORF Marmelete 54.15 296 *e*P **P** **02 42 10.1 -0.7**
MORF *e*S **S** **02 49 47.4 -0.4**
AVE Averroes 54.20 291 IAmb IAmb 02 42 12.8
comp=Z,331nm,1.5s
AVE Averroes 54.20 291 P **P** **02 42 10.1 -1.1**
AVE Averroes 54.20 291 ⇑P **P** **02 42 10.4 -0.8**
LIS Lisbon 54.20 298 *e*P **P** **02 42 10.4 -0.7**
LIS IAmb IAmb 02 42 14.2
comp=Z,342nm,1.3s
LIS *e*S **S** **02 49 47.9 -0.5**
LIS Lisbon 54.20 298 *e*P **P** **02 42 10.3 -0.7**
LIS *e*S **S** **02 49 47.8 -0.5**
ZEA Zeya 54.24 43 *e*P **P** **02 42 12.0 +0.8**
ZEA *e*S **S** **02 49 52.0 +3.5**
ZEA pmax pmax
comp=E,40nm,0.7s
ZEA pmax pmax
comp=N,20nm,0.9s
ZEA pmax pmax
comp=Z,80nm,1.0s
ZEA pmax pmax
comp=E,1µm,5.2s
ZEA pmax pmax
comp=N,500nm,5.4s
ZEA pmax pmax
comp=Z,2µm,6.3s
ZEA smax smax
comp=N,900nm,11.6s
ZEA smax smax
comp=E,3µm,9.4s
ZEA MLR MLR
comp=E,8µm,11.0s
ZEA MLR MLR
comp=N,4µm,10.0s
PMAFR Mafra 54.25 298 *e*P **P** **02 42 11.6 +0.2**
comp=N,345nm,2.0s
PMAFR Mafra 54.25 298 *e*PP **PP** **02 44 15.0 +1.9**
PFVI Vila Bisbo 54.32 296 IAmb IAmb 02 42 19.6
comp=Z,90nm,0.9s
CN2 Changchun 54.34 56 *e*P **P** **02 42 12.0 0.0**
CN2 PP **PP** **02 44 16.2 +2.4**
CN2 *e*S **S** **02 49 50.8 +0.6**
CN2 SS **SS** **02 53 29.0 -3.0**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=Z,8µm,17.0s
CN2 LR LR
comp=Z,14µm,17.0s
CN2 LR LR
comp=Z,24µm,26.0s
OUZM OUZ 54.35 288 P **P** **02 42 14.0 +1.6**
SUJ Sinuiju 54.37 60 P **P** **02 42 12.2 -0.1**
SUJ S **S** **02 49 48.6 -2.0**
SUJ AmB
comp=Z,5µm,4.9s
SUJ AMS AMS
comp=Z,20µm,19.4s
DSRI Dabo 54.49 116 P **P** **02 42 12.7 -0.8**
comp=Z,105nm,1.3s
HEH HeiHe 54.69 48 *e*P **P** **02 42 14.0 -0.5**
HEH pP **pP** **02 42 17.8 -0.1**
HEH PcP **PcP** **02 43 17.3 +0.1**
HEH PP **PP** **02 44 15.4 -1.4**
HEH S **S** **02 49 51.8 -2.9**
HEH SS **SS** **02 53 34.7 -2.5**
HEH pmax pmax
comp=Z,150nm,1.0s
HEH pmax pmax
comp=Z,3µm,5.8s
HEH LR LR
comp=Z,14µm,16.8s
HEH LR LR
comp=Z,29µm,18.8s
HEH LR LR
comp=Z,52µm,17.9s
TIO Tiouine 54.76 288 P **P** **02 42 14.9 -0.5**
SRHM Skhour des Reh 54.82 290 P **P** **02 42 17.0 +1.2**
YAK Yakutsk 55.17 33 P **P** **02 42 17.2 -0.6**
YAK Yakutsk 55.17 33 ⇑P **P** **02 42 17.0 -0.7**
YAK Yakutsk 55.17 33 *c i*P **P** **02 42 17.8 +0.1**
YAK *e**PP **pP** **02 42 21.0 -0.1**
YAK *e* 02 43 18.3
YAK *e* 02 44 18.6
YAK *e*S **S** **02 50 01.4 +0.6**
YAK pmax pmax
comp=Z,205nm,1.0s
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=E,39nm,1.4s
YAK pmax pmax
comp=Z,1µm,4.8s
YAK pmax pmax
comp=N,443nm,6.9s
YAK pmax pmax
comp=E,230nm,2.9s
YAK smax smax
comp=E,4µm,7.7s
YAK smax smax
comp=N,1µm,9.7s
YAK MLR MLR
comp=E,5µm,17.0s
YAK Yakutsk 55.17 33 LR LR 03 08 27.5
comp=E,1µm,19.0s,baz=262,slow=39
BNX BinXian 55.37 53 ⇑P **P** **02 42 19.2 -0.2**
BNX PcP **PcP** **02 43 18.6 -1.3**
BNX PP **PP** **02 44 21.0 -2.0**
BNX S **S** **02 50 06.6 +2.7**
BNX sS **sS** **02 50 13.3 +3.8**
BNX SS **SS** **02 53 45.1 -2.9**
BNX pmax pmax
comp=E,52nm,1.1s
BNX pmax pmax
comp=E,4µm,5.6s
BNX LR LR
comp=E,29µm,21.6s
BNX LR LR
comp=E,6µm,21.4s
BNX LR LR
comp=E,13µm,14.6s
TIXI Tiksi 55.38 21 P **P** **02 42 18.8 -0.3**
TIXI IAmb IAmb 02 42 25.9
comp=Z,171nm,1.2s
TIXI Tiksi 55.38 21 IAMs_20 IAMs_20 03 08 39.6
comp=Z,17µm,20.0s
TIXI Tiksi 55.38 21 ⇑P **P** **02 42 18.7 -0.3**
TIXI Tiksi 55.38 21 *c e*P **P** **02 42 18.5 -0.6**
TIXI Tiksi 55.38 21 LR LR 03 09 00.2
comp=Z,826nm,18.6s,baz=277,slow=39
PYAG Pyongyang 55.56 61 P **P** **02 42 20.3 -0.6**
PYAG S **S** **02 50 04.4 -2.2**
PYAG AmB
comp=Z,965nm,1.6s
PYAG AMS AMS
comp=Z,7µm,17.4s
HJU Haeju 55.78 63 P **P** **02 42 22.1 -0.4**
HJU S **S** **02 50 07.8 -1.8**
HJU AmB
comp=Z,3µm,3.5s
HJU AMS AMS
comp=Z,15µm,16.7s
TPUB Ta-pu 56.23 81 IAMs_20 IAMs_20 03 09 50.8
comp=Z,12µm,18.0s
FOMA Nahampoana Res 56.23 191 IAmb IAmb 02 42 28.7
comp=Z,181nm,1.1s
FOMA Nahampoana Res 56.23 191 P **P** **02 42 27.3 +1.6**
SNR=7.1
FOMA Nahampoana Res 56.23 191 ⇑P **P** **02 42 26.3 +0.6**
SSLB Suanglung 56.32 80 P **P** **02 42 27.5 +0.9**
SSLB IAmb IAmb 02 42 32.5
comp=Z,181nm,1.2s
SSLB IAMs_20 IAMs_20 03 08 20.7
comp=Z,13µm,19.0s
TATO Taipei 56.34 79 IAMs_20 IAMs_20 03 10 25.8
comp=Z,16µm,20.0s
YHNB Yeheng 56.35 79 IAmb IAmb 02 42 35.9
comp=Z,174nm,1.2s
YHNB IAMs_20 IAMs_20 03 09 47.0
comp=Z,11µm,19.0s
INCN Inchon 56.62 63 P **P** **02 42 28.7 +0.1**
INCN Inchon 56.62 63 IAMs_20 IAMs_20 03 09 52.9
comp=Z,14µm,20.0s
INCN Inchon 56.62 63 P **P** **02 42 28.7 +0.1**
INCN pmax pmax
comp=Z,84nm,1.1s
INCN MLR MLR
comp=Z,14µm,20.0s
HHU Hamhung 56.68 60 P **P** **02 42 28.4 -0.5**
HHU AmB
comp=Z,2µm,3.7s
HHU AMS AMS
comp=Z,10µm,15.0s
YULB Yu-li 56.76 81 IAMs_20 IAMs_20 03 09 48.4
comp=Z,12µm,20.0s
LWLI Liwa 57.01 120 P **P** **02 42 29.9 -1.8**
comp=Z,376nm,1.1s
MDJ Mudanjiang 57.10 54 P **P** **02 42 31.0 -0.9**
MDJ IAMs_20 IAMs_20 03 09 21.5
comp=Z,14µm,18.0s
MDJ Mudanjiang 57.10 54 P **P** **02 42 30.7 -1.2**
MDJ pP pP 02 42 33.8 -1.4
MDJ PcP **PcP** **02 43 26.5 -0.2**
MDJ PP **PP** **02 44 45.5 +7.0**
MDJ ScP **ScP** **02 47 22.6 -4.0**
MDJ PcS **PcS** **02 47 27.1 -0.4**
MDJ S **S** **02 50 23.5 -3.5**
MDJ ScS **ScS** **02 52 21.6 +0.1**
MDJ SS **SS** **02 54 13.6 -1.8**
MDJ pmax pmax
comp=Z,29nm,2.0s
MDJ pmax pmax
comp=Z,3µm,10.0s
MDJ LR LR
comp=Z,9µm,14.4s
MDJ LR LR
comp=Z,13µm,17.2s
MDJ LR LR
comp=Z,17µm,17.9s
DAG Danmarks Havn 57.18 345 ⇑P **P** **02 42 31.4 -0.4**
DAG Danmarks Havn 57.18 345 *i*P **P** **02 42 31.0 -0.9**
DAG IAmb IAmb 02 42 35.9
comp=Z,47nm,0.9s
DBG Daneborg 57.38 342 ⇑P **P** **02 42 33.9 +0.5**
DBG Daneborg 57.38 342 *i*P **P** **02 42 33.4 0.0**
DBG IAmb IAmb 02 42 38.2
comp=Z,27nm,1.0s
TJN Taejon 57.48 64 *c e*P **P** **02 42 33.9 -0.8**
NOR Nord 57.52 350 *i*P **P** **02 42 32.4 -1.8**
NOR IAmb IAmb 02 42 38.6
comp=Z,44nm,0.9s
KS19 Wonju Array Si 57.56 63 P **P** **02 42 35.5 +0.3**
KS19 IAmb IAmb 02 42 40.0
comp=Z,264nm,1.8s
KSAR Wonju Array Be 57.59 63 P **P** **02 42 35.0 -0.4**
KSAR Wonju Array Be 57.59 63 P **P** **02 42 35.0 -0.4**
BLWY Bulawayo 57.59 212 *i*P **P** **02 42 37.1 +1.5**
BLWY Bulawayo 57.59 212 *i*P **P** **02 42 32.9 -2.7**
KSRS Korea Array 57.62 63 P **P** **02 42 34.7 -0.9**
comp=Z,44nm,1.0s,baz=277,slow=7.3,SNR=50
comp=Z,44nm,1.0s
KLR Kul'dur 57.63 48 *c i*P **P** **02 42 34.7 -0.8**
KLR pmax pmax
comp=Z,104nm,0.9s
KLR MLR MLR
comp=Z,23µm,18.0s
KLR Kul'dur 57.63 48 LR LR 03 10 03.1
comp=Z,27µm,18.2s,baz=274,slow=39
KASI Kota Agung 57.67 120 P **P** **02 42 35.0 -1.2**
comp=Z,204nm,0.8s
SCO Scoresbysund 57.86 337 IAmb IAmb 02 42 39.7
comp=Z,133nm,1.2s
SCO Scoresbysund 57.86 337 ⇓P **P** **02 42 38.1 +1.4**
SCO Scoresbysund 57.86 337 P **P** **02 42 38.2 +1.4**
SCO Scoresbysund 57.86 337 *i*P **P** **02 42 38.4 +1.6**
SCO IAmb IAmb 02 42 40.0
comp=Z,32nm,0.9s
KSM Kuching 57.87 110 P **P** **02 42 37.2 -0.4**
KSM IAmb IAmb 02 42 39.1
comp=Z,204nm,1.3s
KSM Kuching 57.87 110 P **P** **02 42 37.0 -0.7**
MATP Matopo 57.89 212 *i*P **P** **02 42 39.4 +1.7**
MATP Matopo 57.89 212 LR LR 03 08 15.9
comp=Z,8µm,20.8s,baz=28,slow=37
MATP Matopo 57.89 212 *i*P **P** **02 42 36.0 -1.7**
BORG Borgarnes 57.91 330 P **P** **02 42 38.5 +1.3**
BORG IAmb IAmb 02 42 40.7
comp=Z,128nm,1.0s
BORG Borgarnes 57.91 330 ⇑P **P** **02 42 39.6 +2.4**
BORG Borgarnes 57.91 330 P **P** **02 42 38.5 +1.3**
BORG pmax pmax
comp=Z,128nm,1.0s
BORG Borgarnes 57.91 330 LR LR 03 10 34.0
comp=Z,3µm,18.3s,baz=84,slow=39
MSHR Mys Shultsa 58.68 56 *c e*P **P** **02 42 43.1 +0.1**
MSHR pmax pmax
comp=Z,83nm,1.7s
MSHR MLR MLR
comp=Z,17µm,19.0s
USA0B Ussuriysk Arra 58.87 54 IAMs_20 IAMs_20 03 10 28.0
comp=Z,13µm,18.0s
USA0B Ussuriysk Arra 58.87 54 *c e*P **P** **02 42 43.3 -1.0**
USRK Ussuriysk Ar. 58.87 54 P **P** **02 42 43.3 -1.0**
comp=Z,26nm,0.9s,baz=277,slow=6.5,SNR=32
USRK LR LR 03 11 39.9
comp=Z,13µm,18.2s,baz=270,slow=40
USRK PKP2bc 03 12 28.0
comp=Z,2.5nm,0.9s,baz=40,slow=7.4,SNR=4.0
comp=Z,26nm,0.9s
SBUM Sibu 58.88 107 P **P** **02 42 43.9 -0.8**
SBUM Sibu 58.88 107 ⇑P **P** **02 42 44.1 -0.6**
MUSN Musina, Limpop 58.91 210 *i*P **P** **02 42 47.2 +2.5**
MUSN Musina, Limpop 58.91 210 *i*P **P** **02 42 45.3 +0.6**
CGJI Cibinong 59.28 120 P **P** **02 42 48.0 +0.6**
comp=Z,139nm,1.3s,comp=Z,4µm
MOPA Mopani 59.37 208 *e*P **P** **02 42 48.0 +0.2**
STKI Sintang 59.64 110 P **P** **02 42 50.1 +0.1**
comp=Z,243nm,0.9s
KKM Kota Kinabalu 60.25 101 P **P** **02 42 54.6 +0.3**
KKM IAmb IAmb 02 42 55.8
comp=Z,88nm,0.9s
GRNR Gornyy 60.27 46⇑ *i*P **P** **02 42 53.8 0.0**
GRNR *e* 02 46 37.9
GRNR pmax pmax
comp=E,20nm,1.0s
GRNR pmax pmax
comp=Z,40nm,1.0s
GRNR MLR MLR
comp=E,6µm,15.0s
SPMM Sapulut 61.17 102 P **P** **02 43 00.0 -0.5**
LEPH Lephalale, Lim 61.19 211 *e*P **P** **02 42 58.8 -1.7**
JOW Kunigami 61.34 74 IAMs_20 IAMs_20 03 10 37.1
comp=Z,11µm,19.0s
PMPST Porto Santo, M 61.38 293 *e*P **P** **02 43 01.2 -0.5**
comp=Z,287nm,1.8s
SOEG Soedalen 61.44 335 *i*P **P** **02 43 01.3 -0.1**
SOEG IAmb IAmb 02 43 06.9
comp=Z,79nm,0.9s
TEY Ternei 61.84 52⇑ *e*P **P** **02 43 01.8 -2.7**
TEY *e* 02 51 26.0
TEY pmax pmax
comp=N,10.0nm,1.0s
TEY pmax pmax
comp=E,20nm,1.0s
TEY pmax pmax
comp=Z,30nm,1.0s
PMAR Madeira 61.96 293 *e*P **P** **02 43 06.0 +0.2**
comp=Z,482nm,1.7s
FUL Funchal 61.97 293 *e*P **P** **02 43 07.5 +1.9**
comp=Z,279nm,2.0s
NKL Nikolayevsk 62.25 43 *e*P **P** **02 43 04.0 -3.1**
NKL *e*S **S** **02 51 30.1 -2.9**
NKL pmax pmax
comp=E,159nm,0.9s
NKL pmax pmax
comp=N,159nm,1.0s
NKL pmax pmax
comp=Z,786nm,1.0s
NKL smax smax
comp=E,645nm,7.0s
NKL smax smax
comp=N,501nm,3.5s
NKL MLR MLR
comp=E,42µm,15.0s
NKL MLR MLR
comp=N,16µm,12.0s
TSUM Tsumeb 62.63 223 P **P** **02 43 11.3 +1.0**
TSUM IAmb IAmb 02 43 16.1
comp=Z,162nm,1.1s
TSUM Tsumeb 62.63 223 ⇑P **P** **02 43 11.1 +0.9**
TSUM Tsumeb 62.63 223 LR LR 03 11 36.1
comp=Z,13µm,19.3s,baz=37,slow=37
MYLDM Lahad Datu 62.64 101 P **P** **02 43 10.8 +0.4**
MYLDM IAmb IAmb 02 43 15.7
comp=Z,151nm,1.2s
MYLDM Lahad Datu 62.64 101 ⇑P **P** **02 43 10.2 -0.2**
POGA Pongola 62.69 206 ⇑P **P** **02 43 12.7 +2.4**
SUMG Summit 62.75 340 P **P** **02 43 11.0 +0.3**
SUMG Summit 62.75 340 ⇑P **P** **02 43 11.1 +0.4**
SUMG Summit 62.75 340 P **P** **02 43 11.0 +0.3**
SUMG pmax pmax
comp=Z,327nm,1.2s
SUMG MLR MLR
comp=Z,6µm,21.0s
SUMG Summit 62.75 340 *i*P **P** **02 43 10.0 -0.7**
SUMG IAmb IAmb 02 43 13.8
comp=Z,105nm,1.1s
DBIC Dimbokro 62.77 261 P **P** **02 43 10.8 -0.5**
DBIC IAmb IAmb 02 43 13.1
comp=Z,254nm,1.1s
DBIC IAMs_20 IAMs_20 03 12 02.9
comp=Z,20µm,19.0s
DBIC Dimbokro 62.77 261⇑ *i*P **P** **02 43 10.6 -0.6**
DBIC IAmb IAmb 02 43 12.8
comp=Z,245nm,1.1s
DBIC Dimbokro 62.77 261 ⇑P **P** **02 43 10.6 -0.6**
DBIC Dimbokro 62.77 261 P **P** **02 43 10.4 -0.8**
comp=Z,156nm,1.1s,baz=48,slow=8.0,SNR=52
DBIC LR LR 03 12 13.8
comp=Z,20µm,18.8s,baz=44,slow=38
comp=Z,156nm,1.1s
KIC Kosan Boka 62.83 261⇑ *e*P **P** **02 43 11.2 -0.4**
comp=Z,272nm,0.9s
TIC Toumodi 62.92 261⇑ *e*P **P** **02 43 11.6 -0.7**
comp=Z,106nm,0.9s
LIC Lamto 63.15 261⇑ *e*P **P** **02 43 13.0 -0.7**
comp=Z,310nm,0.9s
LBTB Lobatse 63.19 212 P **P** **02 43 14.5 +0.7**
LBTB IAmb IAmb 02 43 16.9
comp=Z,102nm,0.9s
LBTB Lobatse 63.19 212 *i*P **P** **02 43 15.6 +1.8**
LBTB Lobatse 63.19 212 *i*P **P** **02 43 14.0 +0.2**
LBTB IAmb IAmb 02 43 15.9
comp=Z,235nm,1.4s
LBTB Lobatse 63.19 212 P **P** **02 43 14.5 +0.7**
LBTB pmax pmax
comp=Z,102nm,0.9s
LBTB MLR MLR
comp=Z,17µm,18.0s
LBTB Lobatse 63.19 212 LR LR 03 12 48.2
comp=Z,17µm,18.5s,baz=27,slow=38
LBTB Lobatse 63.19 212 *i*P **P** **02 43 10.1 -3.7**
MACI Morro de la Ar 63.24 288 P **P** **02 43 14.8 +0.4**
MACI IAmb IAmb 02 43 38.0
comp=Z,160nm,1.4s
JMN Monobe 63.39 65 P **P** **02 43 15.6 +0.4**
JMN IAmb IAmb 02 43 21.8
comp=Z,158nm,1.3s
JMN Monobe 63.39 65 ⇑P **P** **02 43 16.0 +0.8**
TYV Tymovskoe 64.06 45 *e*P **P** **02 43 20.0 +0.8**
TYV *e*S **S** **02 51 59.2 +3.5**
TYV pmax pmax
comp=Z,87nm,1.0s
TYV pmax pmax
comp=Z,4µm,5.3s
TYV smax smax
comp=N,2µm,9.0s
TYV smax smax
comp=E,6µm,9.0s
PRYS Parys 64.06 210 *e*P **P** **02 43 19.0 -0.6**
NGJI Ngawi 64.13 117 P **P** **02 43 19.2 -1.0**
comp=E,106nm,1.1s
ICESG Greenland Ices 64.14 337 ⇑P **P** **02 43 19.9 0.0**
ICESG Greenland Ices 64.14 337 *i*P **P** **02 43 20.2 +0.4**
ICESG IAmb IAmb 02 43 22.5

comp=Z,130nm,1.0s
NEEM North Greenlan 64.16 347 ⇑P **P 02 43 19.4 -0.4**
NEEM North Greenlan 64.16 347 *i* P **P 02 43 19.2 -0.6**
NEEM IAmb IAmb 02 43 27.4
comp=Z,34nm,0.8s
UGL Uglegorsk 64.23 47 *e*P **P 02 43 21.0 +0.7**
UGL *e*S **S 02 51 59.4 +1.5**
UGL pmax pmax
comp=Z,4μm,5.0s
UGL smax smax
comp=E,4μm,4.7s
UGL smax smax
comp=N,3μm,7.8s
UGL MLR MLR
comp=N,11μm,14.0s
BBKI Banjar Baru 64.42 111 P **P 02 43 21.7 -0.4**
comp=N,320nm,1.1s,comp=N,16μm
BKB Balikpapan 64.82 108 P **P 02 43 25.0 +0.3**
comp=N,504nm,1.0s,comp=N,5μmcomp=N,5μm
ISOG Isortoq, Green 65.03 333 ⇑P **P 02 43 25.5 +0.2**
YSS Yuzh-Sakhalins 65.34 49 ⇓*i*P **P 02 43 27.4 -0.2**
YSS *e* 02 44 04.3
YSS *e*S **S 02 52 09.0 -2.7**
YSS *e*PS **PnS 02 52 29.0 -0.8**
YSS *e*SSS SSS 02 59 21.7
comp=Z,270nm,0.9s
YSS pmax pmax
comp=Z,3μm,5.4s
YSS smax smax
comp=N,2μm,8.6s
YSS smax smax
comp=E,1μm,9.0s
SEY Seymchan 65.36 30 ⇑*e*P **P 02 43 28.1 +0.6**
SEY pmax pmax
comp=Z,177nm,0.9s
SEY MLR MLR
comp=Z,25μm,18.0s
SEY Seymchan 65.36 30 LR LR 03 15 19.3
comp=Z,30μm,18.1s,baz=273,slow=39
WIN Windhoek 65.54 221 P **P 02 43 30.1 +0.7**
WIN Windhoek 65.54 221 P **P 02 43 30.1 +0.7**
WIN pmax pmax
comp=Z,77nm,1.2s
WIN MLR MLR
comp=Z,28μm,21.0s
MJB9 Matsu-Tunnel 65.71 61 P **P 02 43 30.3 0.0**
MAJO Matsushiro 65.71 61 P **P 02 43 30.2 0.0**
MAJO Matsushiro 65.71 61 IAMs_20 IAMs_20 03 13 39.7
comp=Z,11μm,22.0s
MAJO Matsushiro 65.71 61 *ce*P **P 02 43 30.1 -0.2**
MAJO pmax pmax
comp=Z,33nm,0.9s
MAJO MLR MLR
comp=Z,18μm,26.0s
MJAR Matsushiro Arr 65.72 61 P **P 02 43 29.8 -0.5**
comp=Z,17nm,0.9s,baz=293,slow=9.1,SNR=22
MJAR PKP2bc 03 12 10.7
comp=Z,4.9nm,1.1s,baz=93,slow=2.5,SNR=4.9
comp=Z,17nm,0.9s
MA2 Magadan 65.73 34 P **P 02 43 30.1 +0.1**
MA2 IAmb IAmb 02 43 31.9
comp=Z,134nm,1.0s
MA2 IAMs_20 IAMs_20 03 14 21.3
comp=Z,11μm,20.0s
MA2 Magadan 65.73 34 ⇑P **P 02 43 30.2 +0.2**
MA2 Magadan 65.73 34 *ce*P **P 02 43 29.7 -0.3**
MA2 pmax pmax
comp=Z,141nm,1.0s
MA2 MLR MLR
comp=Z,8μm,17.0s
MA2 Magadan 65.73 34 LR LR 03 15 34.5
comp=Z,7μm,20.3s,baz=243,slow=39
BLJI Banyuglugur 66.02 116 P **P 02 43 30.4 -2.0**
comp=Z,70nm,1.4s,comp=Z,3μm
ASAJ Asahikawa 66.19 52 LR LR 03 14 58.9
comp=Z,10μm,20.1s,baz=282,slow=38
JKA Kamikawa-asahi 66.19 52 IAMs_20 IAMs_20 03 15 35.6
comp=Z,11μm,18.0s
JTM Tenmabayashi 66.30 56 P **P 02 43 33.8 -0.1**
BOSA Boshof 66.44 211 P **P 02 43 35.3 +0.3**
BOSA IAmb IAmb 02 43 37.5
comp=Z,144nm,0.8s
BOSA IAMs_20 IAMs_20 03 14 35.0
comp=Z,11μm,20.0s
BOSA Boshof 66.44 211 *i* P **P 02 43 37.3 +2.3**
BOSA Boshof 66.44 211 ⇑*i*P **P 02 43 34.5 -0.5**
BOSA IAmb IAmb 02 43 37.0
comp=Z,142nm,0.8s
BOSA Boshof 66.44 211 ⇑P **P 02 43 35.1 +0.2**
BOSA Boshof 66.44 211 P **P 02 43 35.2 +0.3**
comp=Z,124nm,0.8s,baz=30,slow=6.6,SNR=106
BOSA LR LR 03 14 44.5
comp=Z,9μm,19.0s,baz=30,slow=38
comp=Z,124nm,0.8s
BOSA Boshof 66.44 211 *i* P **P 02 43 36.5 +1.5**
KSTD Kokstad 66.54 206 *e*P **P 02 43 35.9 +0.3**
KSTD IAmb IAmb 02 43 38.2
comp=Z,8μm,5.6s
ABJI Asem Bagus 66.55 115 P **P 02 43 34.5 -1.3**
comp=Z,250nm,1.0s,comp=Z,4μmcomp=Z,5μm
TOLI2 Toliloli 66.73 103 P **P 02 43 36.1 -0.9**
KULLO Kullorsuaq 66.84 345 ⇑P **P 02 43 36.6 -0.2**
KULLO Kullorsuaq 66.84 345 *i* P **P 02 43 37.2 +0.4**
KULLO IAmb IAmb 02 43 52.4
comp=Z,29nm,0.9s
JAGI Jajag, Banyuwa 66.90 116 P **P 02 43 35.3 -2.8**
comp=Z,72nm,1.2s,comp=Z,3μmcomp=Z,3μm
JMM Marumori 67.15 59 IAmb IAmb 02 43 40.8
comp=Z,75nm,1.1s
JMM Marumori 67.15 59 ⇓P **P 02 43 39.0 -0.4**
NUUG Nuugaatsiaq 67.36 341 *i* P **P 02 43 41.0 +0.8**
NUUG IAmb IAmb 02 43 45.6
comp=Z,99nm,1.0s
DY2G Dye2 67.44 335 *i* P **P 02 43 42.2 +1.1**
DY2G IAmb IAmb 02 43 44.4
comp=Z,104nm,0.9s
UMMG Uummannaq 67.47 340 *i* P **P 02 43 41.2 +0.3**
UMMG IAmb IAmb 02 43 43.4
comp=Z,67nm,1.0s
SRBI Singaraja 67.49 115 P **P 02 43 38.7 -3.1**
comp=Z,186nm,1.1s,comp=Z,3μmcomp=Z,4μm
UPNV Upernavik 67.52 343 *i* P **P 02 43 41.2 0.0**
UPNV IAmb IAmb 02 43 48.6
comp=Z,33nm,0.7s
DAV Davao City (W) 67.71 95 P **P 02 43 45.0 +1.7**
EUNU Eureka 67.72 354 P **P 02 43 42.6 +0.2**
EUNU Eureka 67.72 354 ⇑P **P 02 43 42.7 +0.3**
ILULI Ilulissat 67.86 339 IAmb IAmb 02 43 45.5
comp=Z,198nm,1.2s
ILULI Ilulissat 67.86 339 ⇑P **P 02 43 43.2 -0.1**
ILULI Ilulissat 67.86 339 *i* P **P 02 43 42.2 -1.1**
ILULI IAmb IAmb 02 43 45.6
comp=Z,60nm,1.1s
IGBI Denpasar 67.88 115 P **P 02 43 41.7 -2.6**
comp=Z,85nm,0.8s,comp=Z,2μm
TULEG Thule 68.01 348 *i* P **P 02 43 43.2 -1.0**
TULEG IAmb IAmb 02 43 51.1
comp=Z,49nm,0.7s
MRSI Marisa 68.04 103 P **P 02 43 45.8 +0.4**
comp=Z,218nm,1.7s,comp=Z,5μmcomp=Z,4μm
JHJ Hachijo jima 2 68.20 64 LR LR 03 16 49.8
comp=Z,8μm,19.4s,baz=174,slow=39
TTSI Tana Toraja 68.23 108 P **P 02 43 45.0 -1.5**
comp=Z,73nm,1.0s,comp=Z,2μm
YUK Yuzh-Kuril'sk 68.41 51 *e*P **P 02 43 47.6 +0.3**
YUK *e* 02 44 12.8
YUK *e* 02 46 18.1
YUK *e*PPP PPP 02 47 56.9
YUK *e*S **S 02 52 49.5 +0.6**
YUK *e* 02 53 47.0
YUK *e*SS **SS 02 57 13.9 +2.0**
YUK pmax pmax
comp=N,460nm,1.2s
YUK pmax pmax
comp=Z,373nm,1.2s
YUK pmax pmax
comp=E,396nm,1.1s
YUK pmax pmax
comp=Z,501nm,1.8s
YUK MLR MLR
comp=N,10μm,18.0s
YUK MLR MLR
comp=Z,10μm,18.0s
YUK MLR MLR
comp=E,4μm,17.0s

KEIM Keimoes 68.49 214 *e*P **P 02 43 49.4 +1.5**
BILL Bilibino 68.57 22 IAMs_20 IAMs_20 03 18 15.8
comp=Z,10μm,20.0s
BILL Bilibino 68.57 22 *i* P **P 02 43 48.2 +0.4**
SFJD Kangerlussuaq 68.75 336 P **P 02 43 48.9 -0.1**
SFJD IAmb IAmb 02 43 54.6
comp=Z,114nm,1.1s
SFJD Kangerlussuaq 68.75 336 ⇑P **P 02 43 48.8 -0.1**
SFJD Kangerlussuaq 68.75 336 P **P 02 43 48.9 -0.1**
SFJD pmax pmax
comp=Z,114nm,1.1s
SFJD MLR MLR
comp=Z,5μm,19.0s
SFJD Kangerlussuaq 68.75 336 LR LR 03 16 54.6
comp=Z,4μm,18.9s,baz=54,slow=38
GTOI Gorontalo 68.86 102 P **P 02 43 48.8 -1.7**
comp=Z,52nm,1.8s,comp=Z,2μm
GTOI pP **pP 02 43 52.7 -1.2**
comp=Z,52nm,1.8s,comp=Z,2μm
TWSI Taliwang, Sumb 69.19 114 P **P 02 43 48.2 -4.3**
comp=Z,54nm,1.1s,comp=Z,1μm
KAPI Kappang 69.29 109 P **P 02 43 52.3 -0.9**
KAPI IAmb IAmb 02 43 54.0
comp=Z,210nm,1.1s
KAPI Kappang 69.29 109 P **P 02 43 52.4 -0.7**
KAPI Kappang 69.29 109 ⇑P **P 02 43 51.6 -1.5**
KAPI Kappang 69.29 109 P **P 02 43 52.1 -1.0**
comp=Z,176nm,1.1s,baz=271,slow=6.5,SNR=20
comp=Z,176nm,1.1s
NRS Narsarsuaq 69.41 330 IAMs_20 IAMs_20 03 15 29.3
comp=Z,7μm,21.0s
NRS Narsarsuaq 69.41 330 ⇑P **P 02 43 52.6 -0.5**
NRS Narsarsuaq 69.41 330 *i* P **P 02 43 53.1 0.0**
NRS IAmb IAmb 02 43 54.9
comp=Z,54nm,0.6s
MBO M'Bour 69.44 275 P **P 02 43 54.1 0.0**
MBO IAMs_20 IAMs_20 03 17 56.9
comp=Z,8μm,19.0s
MBO M'Bour 69.44 275 ⇑P **P 02 43 54.1 0.0**
KMSI Cibinong 69.71 102 P **P 02 43 55.9 +0.2**
comp=Z,204nm,0.9s,comp=Z,5μmcomp=Z,4μm
BKSI Bulukumba 69.77 109 P **P 02 43 56.5 +0.4**
comp=Z,68nm,1.6s,comp=Z,4μm
SOE Somerset East 69.86 208 ⇓P **P 02 43 57.2 +0.9**
PLAI Plampang 69.95 114 P P 02 43 52.1 -5.1
comp=Z,121nm,1.0s,comp=Z,2μmcomp=Z,2μm
GRHM Grahamstown, E 70.03 207 IAMs_20 IAMs_20 03 17 11.3
comp=Z,10μm,18.0s
GRHM Grahamstown, E 70.03 207 *e*P **P 02 44 00.3 +3.0**
GRHM Grahamstown, E 70.03 207 ⇑P **P 02 43 57.7 +0.4**
ROOI Rooidraai Farm 70.52 210 *e*P **P 02 44 00.2 -0.2**
ROOI IAmb IAmb 02 44 03.4
comp=Z,202nm,1.0s
NUUK Nuuk 70.54 334 ⇓P **P 02 44 00.1 +0.1**
NUUK Nuuk 70.54 334 *i* P **P 02 44 00.4 +0.4**
NUUK IAmb IAmb 02 44 02.8
comp=Z,102nm,1.0s
IVI Ivigtut 70.57 330 IAmb IAmb 02 44 05.2
comp=Z,110nm,1.0s
IVI Ivigtut 70.57 330 ⇑P **P 02 44 00.1 -0.2**
IVI Ivigtut 70.57 330 *i* P **P 02 44 00.1 -0.2**
IVI IAmb IAmb 02 44 05.6
comp=Z,41nm,0.8s
AIS Amsterdam Isla 70.70 163 P **P 02 44 02.2 +1.1**
FRAZ Fraserburg 70.99 212 *e*P **P 02 44 04.0 +0.8**
BUFB Buffelsbos 71.45 208 *e*P **P 02 44 08.6 +2.7**
SUR Sutherland 71.64 212 P **P 02 44 08.5 +1.2**
SUR IAmb IAmb 02 44 12.4
comp=Z,201nm,1.4s
SUR Sutherland 71.64 212 IAMs_20 IAMs_20 03 18 05.7
comp=Z,11μm,20.0s
SUR Sutherland 71.64 212 P **P 02 44 08.4 +1.2**
SUR Sutherland 71.64 212 *e*P **P 02 44 09.3 +2.0**
SUR Sutherland 71.64 212 ⇑P **P 02 44 08.3 +1.0**
SUR Sutherland 71.64 212 LR LR 03 17 57.8
comp=Z,17μm,18.4s,baz=28,slow=38
PEA0B Petropavlovsk- 71.83 39 P **P 02 44 07.2 -0.8**
PEA0B IAmb IAmb 02 44 15.1
comp=Z,112nm,1.1s
PEA0B Petropavlovsk- 71.83 39 P **P 02 44 07.3 -0.8**
PEA0B pmax pmax
comp=Z,112nm,1.1s
PEA0B MLR MLR
comp=Z,18μm,21.0s
PETK Petropavlovsk- 71.83 39 P **P 02 44 06.6 -1.5**
comp=Z,52nm,0.9s,baz=246,slow=2.1,SNR=18
comp=Z,52nm,0.9s
BBSI Bau Bau 71.86 108 P **P 02 44 08.1 -0.8**
comp=Z,111nm,1.1s,comp=Z,3μmcomp=Z,3μm
SKR Severo-Kuril's 72.05 41 *e*P P 02 43 54.8 -15
SKR *e*S **S 02 53 33.7 +2.6**
SKR pmax pmax
comp=Z,2μm,4.8s
SKR smax smax
comp=N,6μm,9.0s
SKR smax smax
comp=E,4μm,10.5s
SKR MLR MLR
comp=Z,9μm,16.0s
PET Petropavlovsk 72.38 38 *e*P **P 02 44 11.9 +0.6**
PET *e*S **S 02 53 32.4 -2.5**
PET *e* 02 54 13.7
PET pmax pmax
comp=Z,44nm,1.0s
PET pmax pmax
comp=Z,1μm,11.5s
PET smax smax
comp=E,1μm,19.3s
PET MLR MLR
comp=Z,11μm,17.0s
PET MLR MLR
comp=Z,9μm,15.0s
TNTI Ternate 72.47 100 P **P 02 44 12.0 -0.5**
TNTI Ternate 72.47 100 P **P 02 44 12.5 0.0**
comp=Z,324nm,1.1s,comp=Z,8μmcomp=Z,4μm
JCJ Chichijima 72.59 69 IAMs_20 IAMs_20 03 08 09.6
comp=Z,9μm,22.0s
SANI Sanana 72.80 103 P **P 02 44 13.7 -0.8**
comp=Z,343nm,1.0s,comp=Z,7μmcomp=Z,6μm
SANI Sanana 72.80 103 P **P 02 44 12.3 -2.2**
SANI Sanana 72.80 103 ⇑P **P 02 44 13.6 -0.9**
BASI Baing, Sumba 72.99 113 P **P 02 44 15.0 -0.5**
comp=Z,557nm,1.1s,comp=Z,7μmcomp=Z,4μm
PRTV Porterville,We 73.00 213 *e*P **P 02 44 14.9 -0.4**
PRTV IAmb IAmb 02 44 18.4
comp=Z,115nm,1.0s
EDFI Ende, Flores 73.02 111 P **P 02 44 12.6 -3.2**
comp=Z,91nm,1.4s,comp=Z,1μm
CER Ceres 73.16 213 *e*P **P 02 44 13.6 -2.6**
LBMI Labuha 73.32 101 P **P 02 44 17.4 -0.2**
comp=Z,536nm,1.3s,comp=Z,10μm
RES Resolute Bay 73.33 353 P **P 02 44 16.4 -0.2**
RES Resolute Bay 73.33 353 ⇓P **P 02 44 16.6 0.0**
RES Resolute Bay 73.33 353 P **P 02 44 16.4 -0.2**
RES pmax pmax
comp=Z,56nm,1.4s
RES Resolute Bay 73.33 353 LR LR 03 19 47.6
comp=Z,11μm,21.9s,baz=16,slow=38
NLAI Namlea 74.38 103 P **P 02 44 23.9 +0.2**
comp=Z,89nm,0.9s,comp=Z,6μm
SACV Santiago Islan 74.86 279 P **P 02 44 26.3 -0.3**
SACV Santiago Islan 74.86 279 P **P 02 44 26.7 +0.1**
BATI Baumata 75.44 111 P **P 02 44 29.4 -0.5**
comp=Z,845nm,0.9s,comp=Z,8μmcomp=Z,4μm
A21K Barrow 75.49 11 P **P 02 44 29.6 +0.4**
baz=330
SOEI Soe 75.67 111 P **P 02 44 31.0 -0.3**
comp=Z,665nm,1.0s,comp=Z,6μmcomp=Z,4μm
SOEI Soe 75.67 111 P **P 02 44 29.1 -2.2**
SOEI Soe 75.67 111 ⇑P **P 02 44 29.9 -1.4**
A19K Wainwright 75.67 13 P **P 02 44 30.3 0.0**
baz=326
A22K Sinclair Lake 76.03 10 P **P 02 44 32.5 +0.1**
baz=332
GIRL Giralia 76.08 127 ⇑P **P 02 44 34.1 +0.8**
B18K Kokolik River 76.23 13 P **P 02 44 33.3 -0.2**
baz=326
SHEL Horse Pasture 76.34 242 P **P 02 44 35.8 +0.8**
SHEL IAmb IAmb 02 44 38.1
comp=Z,577nm,1.1s
SHEL Horse Pasture 76.34 242 IAMs_20 IAMs_20 03 22 35.4
comp=Z,8μm,19.0s
SHEL Horse Pasture 76.34 242 ⇓P **P 02 44 36.4 +1.5**
SHEL ⇓P **P 02 44 36.5 +1.5**
SHEL Horse Pasture 76.34 242 P **P 02 44 35.8 +0.8**
SHEL pmax pmax

comp=Z,577nm,1.2s
SHEL MLR MLR
comp=Z,8μm,19.0s
C16K Lisburne Hills 76.38 15 IAmb IAmb 02 44 40.4
comp=Z,257nm,1.5s
C16K IAMs_20 IAMs_20 03 24 53.4
comp=Z,9μm,18.0s
C16K Lisburne Hills 76.38 15 P **P 02 44 33.5 -0.9**
baz=323
B20K Meade River 76.55 12 IAmb IAmb 02 44 42.2
comp=Z,177nm,1.2s
B20K IAMs_20 IAMs_20 03 23 31.7
comp=Z,8μm,20.0s
B20K Meade River 76.55 12 P **P 02 44 35.8 +0.5**
baz=330
SWI Sorong 76.63 99 P **P 02 44 36.1 -0.6**
comp=Z,331nm,1.0s,comp=Z,6μmcomp=Z,4μm
C17K DeLong Mountai 76.69 14 P **P 02 44 35.9 -0.3**
baz=325
FRB Frobisher Bay 76.70 338 ⇑P **P 02 44 36.0 -0.2**
B22K Teshekpuk Lake 76.86 10 IAMs_20 IAMs_20 03 23 29.0
comp=Z,7μm,20.0s
B22K Teshekpuk Lake 76.86 10 P **P 02 44 37.5 +0.5**
baz=333
C19K Lookout Ridge 76.88 13 P **P 02 44 37.1 -0.2**
baz=328
C18K Utukok River 76.95 14 IAmb IAmb 02 44 40.1
comp=Z,118nm,1.0s
C18K Utukok River 76.95 14 P **P 02 44 37.7 0.0**
baz=327
RDOG Red Dog Mine 77.09 14 P **P 02 44 38.1 -0.4**
baz=325,SNR=22
B21K Ikpikpuk River 77.32 11 IAmb IAmb 02 44 42.6
comp=Z,203nm,1.1s
B21K IAMs_20 IAMs_20 03 25 14.0
comp=Z,7μm,19.0s
B21K Ikpikpuk River 77.32 11 P **P 02 44 39.6 0.0**
baz=332
D17K Noatak River 77.35 15 P **P 02 44 39.7 -0.1**
baz=325
BNDI Bandanaira 77.42 103 P **P 02 44 41.1 0.0**
comp=Z,1μm,1.0s,comp=Z,19μmcomp=Z,7μm
BNDI Bandanaira 77.42 103 ⇑P **P 02 44 40.2 -0.9**
A36M Sachs Harbour 77.60 1 P **P 02 44 41.0 -0.1**
A36M Sachs Harbour 77.60 1 P **P 02 44 41.0 -0.1**
baz=358,SNR=223
D19K Kuna River 77.69 13 P **P 02 44 42.0 +0.2**
baz=329
C21K Knifeblade Rid 77.70 11 P **P 02 44 42.6 +0.8**
baz=332,SNR=28
C23K Itkillik River 77.74 10 IAMs_20 IAMs_20 03 23 38.1
comp=Z,9μm,20.0s
C23K Itkillik River 77.74 10 P **P 02 44 43.0 +1.0**
baz=336,SNR=96
D20K Etivluk River 77.77 12 P **P 02 44 41.6 -0.7**
baz=331
TNA Tin City 77.91 18 P **P 02 44 42.9 -0.1**
baz=321
TNA Tin City 77.91 18 ⇑P **P 02 44 43.7 +0.7**
E18K Tukpahlearik C 78.11 14 P **P 02 44 44.2 +0.1**
baz=327
C24K Franklin Bluff 78.11 9 P **P 02 44 44.9 +0.9**
baz=337,SNR=50
E17K Hotham Inlet 78.13 15 P **P 02 44 44.1 -0.1**
baz=326,SNR=36
GAMB Gambell 78.22 20 P **P 02 44 44.9 +0.1**
baz=318
E20K Nigu River 78.25 12 P **P 02 44 44.4 -0.6**
baz=331
D22K Ayikyak River 78.29 11 IAmb IAmb 02 44 52.2
comp=Z,210nm,1.1s
D22K IAMs_20 IAMs_20 03 20 18.7
comp=Z,10μm,22.0s
D22K Ayikyak River 78.29 11 P **P 02 44 45.9 +0.7**
baz=334,SNR=76
F14K Arctic Creek 78.39 17 P **P 02 44 46.3 +0.6**
baz=323
C26K Camden Bay 78.40 8 P **P 02 44 46.3 +0.7**
baz=341
E21K Killik River 78.47 11 IAmb IAmb 02 44 52.4
comp=Z,179nm,1.4s
E21K IAMs_20 IAMs_20 03 20 30.9
comp=Z,10μm,22.0s
E21K Killik River 78.47 11 P **P 02 44 46.2 0.0**
baz=333
D23K Nanushuk River 78.52 10 P **P 02 44 46.8 +0.4**
baz=336
FAKI Fak Fak 78.55 100 IAmb IAmb 02 44 49.2
comp=Z,162nm,1.0s
FAKI Fak Fak 78.55 100 P **P 02 44 47.5 +0.1**
comp=Z,265nm,1.0s,comp=Z,8μmcomp=Z,6μm
FAKI Fak Fak 78.55 100 ⇑P **P 02 44 47.4 -0.1**
ASCN Ascension 78.57 254 P **P 02 44 48.2 +0.7**
ASCN IAmb IAmb 02 44 49.8
comp=Z,248nm,1.1s
F15K North Star Dit 78.61 16 IAmb IAmb 02 44 53.6
comp=Z,326nm,1.6s
F15K IAMs_20 IAMs_20 03 23 22.3
comp=Z,7μm,21.0s
F15K North Star Dit 78.61 16 P **P 02 44 47.4 +0.5**
baz=324
D24K Happy Valley 78.62 9 IAmb IAmb 02 44 49.8
comp=Z,97nm,1.1s
D24K IAMs_20 IAMs_20 03 24 05.1
comp=Z,8μm,21.0s
D24K Happy Valley 78.62 9 P **P 02 44 47.8 +0.9**
baz=337
E19K Redstone River 78.75 13 IAmb IAmb 02 44 53.9
comp=Z,343nm,1.9s
E19K Redstone River 78.75 13 P **P 02 44 47.6 -0.1**
baz=330
D25K Kavik River 78.78 8 P **P 02 44 48.3 +0.4**
D25K IAmb IAmb 02 44 50.8
comp=Z,157nm,1.1s
D25K IAMs_20 IAMs_20 03 23 27.7
comp=Z,9μm,20.0s
D25K Kavik River 78.78 8 P **P 02 44 48.4 +0.5**
baz=339,SNR=115
F17K Baldwin Pennin 78.80 15 IAmb IAmb 02 44 54.5
comp=Z,394nm,1.9s
F17K Baldwin Pennin 78.80 15 P **P 02 44 47.8 0.0**
baz=227,SNR=26
TOLK Toolik Lake Re 78.99 10 IAMs_20 IAMs_20 03 25 00.1
comp=Z,9μm,20.0s
TOLK Toolik Lake Re 78.99 10 P **P 02 44 49.5 +0.6**
baz=337,SNR=68
MBWA Marble Bar 79.01 123 P **P 02 44 49.3 -0.5**
MBWA IAmb IAmb 02 44 51.0
comp=Z,129nm,1.0s
MBWA Marble Bar 79.01 123 P **P 02 44 49.2 -0.5**
MBWA P **P 02 44 49.2 -0.5**
MBWA Marble Bar 79.01 123 ⇑P **P 02 44 48.7 -1.0**
E22K Anaktuvuk Pass 79.11 11 IAmb IAmb 02 44 56.2
comp=Z,404nm,1.9s
E22K IAMs_20 IAMs_20 03 22 06.6
comp=Z,8μm,22.0s
E22K Anaktuvuk Pass 79.11 11 P **P 02 44 50.0 +0.3**
baz=335
F19K Shaleruckik Mo 79.19 13 IAmb IAmb 02 44 55.7
comp=Z,248nm,1.6s
F19K IAMs_20 IAMs_20 03 22 16.9
comp=Z,8μm,22.0s
F19K Shaleruckik Mo 79.19 13 P **P 02 44 49.7 -0.4**
baz=330
G15K Niukluk 79.34 17 P **P 02 44 51.2 +0.3**
baz=325
PSA00 Pilbara Seismi 79.35 123 P **P 02 44 50.1 -1.5**
PSA00 IAmb IAmb 02 44 52.8
comp=Z,138nm,1.1s
ANM Nome 79.36 17 P **P 02 44 51.7 +0.6**
baz=324
F20K Avaraart Lake 79.40 13 IAmb IAmb 02 44 57.3
comp=Z,142nm,1.4s
F20K IAMs_20 IAMs_20 03 25 45.1
comp=Z,8μm,21.0s
F20K Avaraart Lake 79.40 13 P **P 02 44 51.0 -0.1**
baz=332
G16K Koyuk River 79.42 16 IAmb IAmb 02 44 58.1
comp=Z,503nm,2.0s
G16K IAMs_20 IAMs_20 03 24 30.9
comp=Z,7μm,21.0s
G16K Koyuk River 79.42 16 P **P 02 44 51.5 +0.2**
baz=326
D27M Malcolm River 79.47 7 IAMs_20 IAMs_20 03 24 05.6
comp=Z,7μm,21.0s
D27M Malcolm River 79.47 7 P **P 02 44 52.2 +0.5**
baz=344,SNR=56
E23K Chandalar 79.52 10 P **P 02 44 52.6 +0.6**

baz=337
D28M Stokes Point 79.59 6 P P 02 44 52.9 +0.8
baz=346
F22K John River 79.62 11 P P 02 44 53.0 +0.6
baz=334
F21K Alatna River 79.65 12 P P 02 44 52.8 +0.2
F21K IAMs_20 IAMs_20 03 27 03.7
comp=Z,8µm,20.0s
F21K Alatna River 79.65 12 P P 02 44 52.8 +0.2
baz=333
E24K Your Creek 79.67 10 IAmb IAmb 02 44 55.8
comp=Z,174nm,1.2s
E24K IAMs_20 IAMs_20 03 24 41.1
comp=Z,8µm,20.0s
E24K Your Creek 79.67 10 P P 02 44 53.5 +0.8
baz=338
G17K Kiwalik Mounta 79.72 15 P P 02 44 53.1 +0.2
baz=328
G18K Tagagawik 79.82 14 IAMs_20 IAMs_20 03 25 31.3
comp=Z,10µm,22.0s
G18K Tagagawik 79.82 14 P P 02 44 53.6 +0.1
baz=329,SNR=38
G19K Purcell Mounta 79.93 14 IAmb IAmb 02 45 00.2
comp=Z,215nm,1.4s
G19K IAMs_20 IAMs_20 03 26 49.2
comp=Z,8µm,19.0s
G19K Purcell Mounta 79.93 14 P P 02 44 54.1 0.0
baz=330
E25K Arctic Village 80.02 9 IAmb IAmb 02 44 57.4
comp=Z,140nm,1.1s
E25K IAMs_20 IAMs_20 03 24 38.4
comp=Z,9µm,21.0s
E25K Arctic Village 80.02 9 P P 02 44 55.0 +0.4
baz=340,SNR=100
H16K Elim 80.08 16 P P 02 44 55.3 +0.4
baz=326,SNR=25
KMPI Kaimana, Papua 80.17 100 P P 02 44 57.3 +1.0
comp=Z,617nm,1.0s,comp=Z,7µmcomp=Z,6µm
KMPI pP **PcP 02 45 07.1 +3.5**
comp=Z,617nm,1.0s,comp=Z,7µmcomp=Z,6µm
COLD Coldfoot 80.19 11 P P 02 44 55.9 +0.4
baz=336,SNR=49
E28M Babbage River 80.22 6 IAMs_20 IAMs_20 03 23 46.6
comp=Z,8µm,22.0s
E28M Babbage River 80.22 6 P P 02 44 56.1 +0.5
baz=345
G22K Bettles 80.26 11 P P 02 44 56.5 +0.6
baz=335
C36M Paulatuk 80.26 1 IAmb IAmb 02 44 59.0
comp=Z,174nm,1.1s
C36M Paulatuk 80.26 1 P P 02 44 55.1 -0.7
baz=359
F24K Squaw Lake 80.27 10 IAmb IAmb 02 45 03.1
comp=Z,227nm,1.6s
F24K IAMs_20 IAMs_20 03 25 51.0
comp=Z,6µm,22.0s
F24K Squaw Lake 80.27 10 P P 02 44 57.0 +1.0
baz=338
G21K Allakaket 80.28 12 IAmb IAmb 02 45 01.9
comp=Z,300nm,2.0s
G21K IAMs_20 IAMs_20 03 27 12.5
comp=Z,7µm,20.0s
G21K Allakaket 80.28 12 P P 02 44 55.9 -0.1
baz=333
H17K Granite Mounta 80.37 15 IAMs_20 IAMs_20 03 23 25.7
comp=Z,9µm,22.0s
H17K Granite Mounta 80.37 15 P P 02 44 56.5 +0.1
baz=328,SNR=23
E27K Coleen River 80.42 7 IAmb IAmb 02 45 01.3
comp=Z,135nm,1.2s
E27K Coleen River 80.42 7 P P 02 44 57.2 +0.4
baz=344
SAUI Saumlaki 80.45 105 P P 02 44 58.9 +1.2
SAUI Saumlaki 80.45 105 P P 02 44 59.4 +1.7
comp=Z,2µm,1.1s,comp=Z,22µmcomp=Z,9µm
F25K Christian Rive 80.51 9 P P 02 44 58.0 +0.7
baz=340,SNR=52
H18K Honhosa River 80.52 14 IAmb IAmb 02 45 03.6
comp=Z,410nm,1.9s
H18K IAMs_20 IAMs_20 03 25 18.0
comp=Z,8µm,21.0s
H18K Honhosa River 80.52 14 P P 02 44 57.2 -0.1
baz=329
E29M Blow River 80.58 6 IAmb IAmb 02 45 04.3
comp=Z,176nm,1.4s
E29M IAMs_20 IAMs_20 03 24 35.0
comp=Z,8µm,21.0s
E29M Blow River 80.58 6 P P 02 44 57.8 +0.2
baz=347,SNR=78
H19K Roundabout Mou 80.60 14 P P 02 44 57.5 -0.2
H19K IAmb IAmb 02 45 05.0
comp=Z,320nm,2.0s
H19K IAMs_20 IAMs_20 03 27 48.7
comp=Z,9µm,20.0s
H19K Roundabout Mou 80.60 14 P P 02 44 57.6 0.0
baz=331,SNR=22
F26K Sheenjek River 80.60 8 P P 02 44 58.5 +0.8
baz=341
G23K Bananza Creek 80.69 11 IAMs_20 IAMs_20 03 25 38.3
comp=Z,9µm,19.0s
G23K Bananza Creek 80.69 11 P P 02 44 58.8 +0.5
baz=336,SNR=46
H20K Anotleneega Mo 80.94 13 P P 02 44 59.1 -0.5
baz=332,SNR=23
INK Inuvik 80.98 4 IAmb IAmb 02 45 05.9
comp=Z,163nm,1.4s
INK IAMs_20 IAMs_20 03 26 44.6
comp=Z,5µm,19.0s
INK Inuvik 80.98 4 P P 02 44 59.3 -0.3
baz=351,SNR=89
INK Inuvik 80.98 4 ⇑P P 02 44 59.1 -0.5
INK ⇑P **P 02 44 59.3 -0.3**
INK Inuvik 80.98 4 LR LR 03 27 12.6
comp=Z,3µm,19.1s,baz=320,slow=40
I17K Unalakleet 81.08 16 IAmb IAmb 02 45 07.3
comp=Z,339nm,1.5s
I17K IAMs_20 IAMs_20 03 24 58.7
comp=Z,6µm,22.0s
I17K Unalakleet 81.08 16 P P 02 45 00.8 +0.5
baz=328,SNR=36
GUMO Guam 81.09 80 LR LR 03 22 25.6
comp=Z,3µm,21.6s,baz=259,slow=37
G24K Hadweenzic Riv 81.09 10 IAmb IAmb 02 45 08.3
comp=Z,256nm,1.2s
G24K IAMs_20 IAMs_20 03 28 00.5
comp=Z,7µm,20.0s
G24K Hadweenzic Riv 81.09 10 P P 02 45 01.0 +0.7
baz=339
F28M Old Crow 81.15 7 IAMs_20 IAMs_20 03 25 18.2
comp=Z,6µm,21.0s
F28M Old Crow 81.15 7 P P 02 45 00.7 0.0
baz=345,SNR=58
H21K Melozitna Rive 81.18 12 IAmb IAmb 02 45 07.5
comp=Z,226nm,1.4s
H21K IAMs_20 IAMs_20 03 23 57.1
comp=Z,9µm,22.0s
H21K Melozitna Rive 81.18 12 P P 02 45 01.2 +0.3
baz=334,SNR=72
GCSA Galena City Sc 81.19 14 P P 02 45 01.3 +0.4
baz=331
H22K Ishtalitna Cre 81.22 12 P P 02 45 01.8 +0.8
baz=335,SNR=70
G25K Bearman Lake 81.23 9 P P 02 45 01.6 +0.6
baz=340
J14K Nanvaranak Lak 81.31 18 IAmb IAmb 02 45 08.3
comp=Z,189nm,1.5s
J14K IAMs_20 IAMs_20 03 27 20.0
comp=Z,8µm,22.0s
J14K Nanvaranak Lak 81.31 18 P P 02 45 01.4 -0.2
baz=325
G26K Porcupine Rive 81.36 8 P P 02 45 02.3 +0.6
baz=342
F30M Barrier River 81.51 5 P P 02 45 02.7 +0.1
baz=349,SNR=60
FYU Fort Yukon 81.53 9 IAMs_20 IAMs_20 03 25 48.4
comp=Z,7µm,22.0s
MORW Morawa 81.57 131 P P 02 45 04.0 +0.6
MORW IAmb IAmb 02 45 07.2
comp=Z,134nm,1.3s
DRLN Deer Lake 81.59 323 P P 02 45 03.3 0.0
DRLN IAmb IAmb 02 45 04.5
comp=Z,135nm,1.1s
DRLN Deer Lake 81.59 323 ⇓P P 02 45 03.1 -0.2
DRLN ⇑P **pP 02 45 03.2 -3.6**
J16K Anvik River 81.61 16 IAmb IAmb 02 45 10.1
comp=Z,158nm,1.2s
J16K IAMs_20 IAMs_20 03 25 14.7
comp=Z,6µm,21.0s
J16K Anvik River 81.61 16 P P 02 45 03.7 +0.6
baz=328,SNR=41
I20K Naaghedeneel 81.64 13 IAmb IAmb 02 45 10.9
comp=Z,245nm,1.2s
I20K IAMs_20 IAMs_20 03 24 44.3
comp=Z,8µm,22.0s
I20K Naaghedeneel 81.64 13 P P 02 45 03.6 +0.4
baz=333
H25L Birch Creek 81.74 9 P P 02 45 04.4 +0.7
baz=340
G27K Doyon Strip 81.74 7 IAmb IAmb 02 45 11.0
comp=Z,220nm,1.4s
G27K IAMs_20 IAMs_20 03 21 41.8
comp=Z,5µm,22.0s
G27K Doyon Strip 81.74 7 P P 02 45 04.6 +0.7
baz=344,SNR=52
I21K Tanana 81.76 12 IAmb IAmb 02 45 10.7
comp=Z,225nm,1.6s
I21K IAMs_20 IAMs_20 03 26 36.6
comp=Z,8µm,22.0s
I21K Tanana 81.76 12 P P 02 45 04.1 +0.2
baz=335,SNR=7.9
F31M Tsiigehtchic 81.82 4 IAMs_20 IAMs_20 03 26 27.9
comp=Z,5µm,20.0s
F31M Tsiigehtchic 81.82 4 P P 02 45 04.1 -0.1
baz=350,SNR=101
H24K Noodor Dome 81.84 10 IAmb IAmb 02 45 11.4
comp=Z,216nm,1.6s
H24K IAMs_20 IAMs_20 03 26 32.5
comp=Z,7µm,20.0s
H24K Noodor Dome 81.84 10 P P 02 45 04.9 +0.5
baz=338
G29M Pine Creek 82.01 6 P P 02 45 05.0 -0.3
G29M IAmb IAmb 02 45 11.6
comp=Z,195nm,1.6s
G29M Pine Creek 82.01 6 P P 02 45 05.0 -0.3
baz=347
G30M tAoh Zraii Nji 82.10 5 IAmb IAmb 02 45 07.8
comp=Z,197nm,1.2s
G30M tAoh Zraii Nji 82.10 5 P P 02 45 05.8 0.0
baz=348
J19K Poorman 82.12 14 IAMs_20 IAMs_20 03 26 20.0
comp=Z,9µm,21.0s
J19K Poorman 82.12 14 P P 02 45 06.4 +0.6
baz=332
MLY Manley 82.12 12 IAmb IAmb 02 45 12.4
comp=Z,120nm,1.3s
MLY IAMs_20 IAMs_20 03 28 20.9
comp=Z,8µm,20.0s
MLY Manley 82.12 12 P P 02 45 06.1 +0.2
baz=336,SNR=34
K15K Wolf Creek Mou 82.22 17 IAMs_20 IAMs_20 03 27 21.7
comp=Z,7µm,18.0s
K15K Wolf Creek Mou 82.22 17 P P 02 45 07.3 +0.9
baz=327,SNR=16
I23K Minto, Yukon-K 82.24 11 IAmb IAmb 02 45 13.3
comp=Z,177nm,1.4s
I23K Minto, Yukon-K 82.24 11 P P 02 45 06.8 +0.4
baz=337,SNR=66
J20K Nowinta River 82.26 13 IAmb IAmb 02 45 13.3
comp=Z,135nm,1.2s
J20K Nowinta River 82.26 13 P P 02 45 06.8 +0.3
baz=333,SNR=36
SCHQ Scheferville 82.30 331 P P 02 45 06.6 -0.3
SCHQ Scheferville 82.30 331 P P 02 45 06.2 -0.7
comp=Z,60nm,1.1s,baz=32,slow=6.8,SNR=25
SCHQ LR LR 03 23 20.7
comp=Z,2µm,18.7s,baz=41,slow=37
comp=Z,60nm,1.1s
G31M Satah River 82.30 5 IAMs_20 IAMs_20 03 26 52.5
comp=Z,6µm,21.0s
G31M Satah River 82.30 5 P P 02 45 06.4 -0.3
baz=350,SNR=67
H27K Steamboat Moun 82.31 8 P P 02 45 06.8 -0.1
baz=344
J18K Innoko River 82.35 15 IAmb IAmb 02 45 13.7
comp=Z,262nm,1.6s
J18K IAMs_20 IAMs_20 03 28 40.2
comp=Z,9µm,20.0s
J18K Innoko River 82.35 15 P P 02 45 07.3 +0.3
baz=331,SNR=32
PRP Porcupine Dome 82.48 9 P P 02 45 08.3 +0.4
PRP IAmb IAmb 02 45 14.8
comp=Z,117nm,1.2s
PRP IAMs_20 IAMs_20 03 29 04.6
comp=Z,6µm,20.0s
PRP Porcupine Dome 82.48 9 P P 02 45 08.0 +0.1
baz=340
M11K Mekoryuk 82.50 20 P P 02 45 09.0 +1.2
baz=323
POKR Poker Plat Res 82.58 10 IAmb IAmb 02 45 15.0
comp=Z,218nm,1.4s
POKR IAMs_20 IAMs_20 03 27 24.1
comp=Z,7µm,20.0s
POKR Poker Plat Res 82.58 10 P P 02 45 08.7 +0.5
baz=339,SNR=33
MDM Murphy Dome 82.60 11 IAmb IAmb 02 45 10.8
comp=Z,131nm,1.1s
MDM IAMs_20 IAMs_20 03 26 55.7
comp=Z,9µm,21.0s
KNRA Kunurra 82.63 113 P P 02 45 09.1 -0.1
K17K Iditarod 82.64 16 IAMs_20 IAMs_20 03 26 19.0
comp=Z,7µm,22.0s
K17K Iditarod 82.64 16 P P 02 45 08.8 +0.2
baz=330
H29M Whitestone 82.66 6 IAmb IAmb 02 45 11.0
comp=Z,130nm,1.2s
H29M Whitestone 82.66 6 P P 02 45 08.7 +0.1
baz=346,SNR=44
EPYK Eagle Plains 82.66 6 IAmb IAmb 02 45 14.6
comp=Z,182nm,1.5s
EPYK Eagle Plains 82.66 6 P P 02 45 08.6 -0.1
baz=348,SNR=30
L14K Kuka Creek 82.71 18 IAmb IAmb 02 45 13.5
comp=Z,88nm,1.1s
L14K Kuka Creek 82.71 18 P P 02 45 09.6 +0.7
baz=326,SNR=18
COLA College 82.74 11 P P 02 45 09.2 +0.2
COLA IAmb IAmb 02 45 15.2
comp=Z,200nm,1.4s
COLA College 82.74 11 IAMs_20 IAMs_20 03 26 59.4
comp=Z,9µm,20.0s
COLA College 82.74 11 P P 02 45 09.1 +0.2
baz=338
COLA College 82.74 11 ⇑P P 02 45 08.7 -0.3
COLA College 82.74 11 P P 02 45 09.2 +0.2
COLA pmax pmax
comp=Z,200nm,1.4s
L15K Ungalak Mounta 82.75 18 P P 02 45 09.8 +0.7
baz=327
NEA2 Nenana 82.81 11 IAmb IAmb 02 45 15.5
comp=Z,179nm,1.5s
NEA2 IAMs_20 IAMs_20 03 28 32.1
comp=Z,8µm,21.0s
NEA2 Nenana 82.81 11 P P 02 45 09.1 -0.3
baz=337,SNR=28
CHUM Lake Minchumin 82.88 13 P P 02 45 10.2 +0.5
baz=335,SNR=30
I27K Kandik River 82.91 8 P P 02 45 10.1 +0.1
baz=344
BPAW Bear Paw Mtn. 82.93 12 P P 02 45 10.0 -0.1
baz=336,SNR=46
MTN Manton Dam 82.96 109 P P 02 45 10.3 -0.6
CCB Clear Creek Bu 82.96 11 IAMs_20 IAMs_20 03 27 16.2
comp=Z,7µm,21.0s
TTA Tatalina 82.97 15 IAMs_20 IAMs_20 03 29 17.7
comp=Z,7µm,20.0s
TTA Tatalina 82.97 15 P P 02 45 10.7 +0.3
baz=332,SNR=24
TTA Tatalina 82.97 15 ⇑P P 02 45 10.5 +0.1
ILAR Eielson Array 82.99 10 P P 02 45 09.3 -1.0
comp=Z,14nm,0.9s,baz=321,slow=3.6,SNR=64
ILAR PP **PP 02 48 21.0 +0.8**
comp=Z,11nm,1.0s,baz=334,slow=6.6,SNR=5.8
ILAR LR LR 03 27 39.3
comp=Z,6µm,19.2s,baz=296,slow=40
comp=Z,14nm,0.9s
I26K Coal Creek Min 83.00 9 IAmb IAmb 02 45 17.0
comp=Z,119nm,1.4s
I26K IAMs_20 IAMs_20 03 26 43.5
comp=Z,6µm,20.0s
I26K Coal Creek Min 83.00 9 P P 02 45 11.2 +0.8
baz=342
K20K Telida 83.00 14 IAmb IAmb 02 45 17.1
comp=Z,274nm,1.6s
K20K IAMs_20 IAMs_20 03 29 11.8
comp=Z,8µm,21.0s
K20K Telida 83.00 14 P P 02 45 10.8 +0.3
baz=333,SNR=29
WRH Wood River Hil 83.08 11 IAMs_20 IAMs_20 03 29 07.3
comp=Z,7µm,18.0s
BWN Browne 83.13 11 IAmb IAmb 02 45 15.9
comp=Z,116nm,1.3s
BWN IAMs_20 IAMs_20 03 28 51.3
comp=Z,6µm,20.0s
L17K Donlin 83.15 16 P P 02 45 11.7 +0.4
baz=330
L16K Owhat River 83.23 17 IAMs_20 IAMs_20 03 25 50.5
comp=Z,7µm,22.0s
L16K Owhat River 83.23 17 P P 02 45 12.4 +0.8
baz=329,SNR=36
I28M Miner Creek 83.25 7 IAmb IAmb 02 45 17.9
comp=Z,115nm,1.3s
I28M IAMs_20 IAMs_20 03 28 40.5
comp=Z,6µm,18.0s
I28M Miner Creek 83.25 7 P P 02 45 11.3 -0.4
baz=345,SNR=29
M13K Dall Lake 83.30 19 P P 02 45 12.6 +0.6
baz=326,SNR=7.8
HDA Harding Lake 83.32 10 IAMs_20 IAMs_20 03 27 18.6
comp=Z,6µm,20.0s
HDA Harding Lake 83.32 10 P P 02 45 11.2 -0.8
baz=339,SNR=8.4
HDA P **P 02 45 11.2 -0.8**
baz=339,SNR=8.4
CAST Castle Rocks 83.34 13 IAMs_20 IAMs_20 03 25 47.4
comp=Z,9µm,22.0s
CAST Castle Rocks 83.34 13 P P 02 45 12.3 0.0
baz=335,SNR=81
J25K Salcha River, 83.36 10 P P 02 45 11.7 -0.7
J25K IAmb IAmb 02 45 18.5
comp=Z,206nm,1.4s
J25K IAMs_20 IAMs_20 03 26 48.7
comp=Z,7µm,22.0s
J25K Salcha River, 83.36 10 P P 02 45 12.1 -0.2
baz=340
M14K Bethel 83.40 18 IAMs_20 IAMs_20 03 29 10.1
comp=Z,8µm,20.0s
M14K Bethel 83.40 18 P P 02 45 12.7 +0.3
baz=327,SNR=16
H31M Peel River 83.40 5 P P 02 45 12.4 -0.1
baz=350
L18K Granite Mounta 83.45 15 IAMs_20 IAMs_20 03 25 02.2
comp=Z,6µm,22.0s
L18K Granite Mounta 83.45 15 P P 02 45 12.4 -0.4
baz=331,SNR=18
I29M Ogilvie Camp, 83.50 7 IAmb IAmb 02 45 14.8
comp=Z,100nm,1.3s
I29M Ogilvie Camp, 83.50 7 P P 02 45 12.1 -0.9
baz=346,SNR=14
SMPI Sarmi 83.58 96 P P 02 45 15.8 +1.6
comp=Z,144nm,1.2s,comp=Z,6µmcomp=Z,6µm
MCK McKinley 83.63 11 P P 02 45 13.4 -0.3
baz=338,SNR=22
TRF Thorofare Moun 83.65 12 IAmb IAmb 02 45 22.4
comp=Z,182nm,1.5s
TRF IAMs_20 IAMs_20 03 29 23.4
comp=Z,8µm,20.0s
TRF Thorofare Moun 83.65 12 P P 02 45 13.5 -0.5
baz=336,SNR=19
SPIA Saint Paul Isl 83.72 24 P P 02 45 14.2 0.0
baz=320
J26L Joseph Creek 83.72 9 IAmb IAmb 02 45 20.4
comp=Z,191nm,1.4s
J26L IAMs_20 IAMs_20 03 25 23.2
comp=Z,7µm,22.0s
J26L Joseph Creek 83.72 9 P P 02 45 14.1 -0.1
baz=342,SNR=71
EGAK Eagle 83.76 8 IAMs_20 IAMs_20 03 26 37.1
comp=Z,5µm,20.0s
EGAK Eagle 83.76 8 P P 02 45 14.2 -0.1
baz=344,SNR=79
EGAK Eagle 83.76 8 ⇑P P 02 45 14.1 -0.2
M15K Kasigluk River 83.78 18 P P 02 45 14.9 +0.5
baz=328,SNR=14
PPLA Purkeypile 83.80 13 P P 02 45 13.7 -1.0
baz=335,SNR=18
I30M Mount Dempster 83.81 6 IAmb IAmb 02 45 20.7
comp=Z,214nm,1.4s
I30M IAMs_20 IAMs_20 03 26 01.5
comp=Z,5µm,21.0s
I30M Mount Dempster 83.81 6 P P 02 45 14.4 -0.3
baz=348
L20K Farewell, AK 83.83 14 P P 02 45 15.0 +0.3
baz=333
L19K White Mountain 83.89 15 IAmb IAmb 02 45 20.6
comp=Z,124nm,1.4s
L19K White Mountain 83.89 15 P P 02 45 15.4 +0.4
baz=339
RND Reindeer 83.94 12 IAMs_20 IAMs_20 03 26 02.2
comp=Z,7µm,20.0s
M16K Timber Creek 83.95 17 IAmb IAmb 02 45 22.6
comp=Z,169nm,1.3s
M16K IAMs_20 IAMs_20 03 29 48.6
comp=Z,7µm,20.0s
M16K Timber Creek 83.95 17 P P 02 45 15.4 +0.1
baz=329
M17K Holitna River 83.99 16 IAmb IAmb 02 45 20.4
comp=Z,159nm,1.1s
M17K IAMs_20 IAMs_20 03 29 21.7
comp=Z,6µm,21.0s
M17K Holitna River 83.99 16 P P 02 45 15.6 +0.1
baz=330
K24K Donnelly Dome 84.07 10 P P 02 45 15.6 -0.3
baz=340,SNR=18
SCRK Sand Creek 84.16 9 IAMs_20 IAMs_20 03 26 52.9
comp=Z,7µm,21.0s
SCRK Sand Creek 84.16 9 P P 02 45 16.7 +0.2
baz=342,SNR=77
N14K Kuskokwak Cree 84.17 19 P P 02 45 16.9 +0.5
baz=327
M19K Big River Lodg 84.24 14 P P 02 45 17.2 +0.4
M19K Big River Lodg 84.24 14 P P 02 45 17.4 +0.6
baz=333
M18K Stony River 84.29 15 P P 02 45 17.0 0.0
baz=332,SNR=16
K27K Chicken 84.37 8 IAMs_20 IAMs_20 03 27 14.3
comp=Z,7µm,20.0s
K27K Chicken 84.37 8 P P 02 45 17.8 +0.4
baz=343
N15K Kwethluk River 84.39 18 IAmb IAmb 02 45 24.9
comp=Z,128nm,1.4s
N15K Kwethluk River 84.39 18 P P 02 45 17.9 +0.3
baz=328
J30M Hart River 84.45 6 P P 02 45 17.8 -0.2
baz=348
N16K Nishlik Lake 84.47 17 P P 02 45 18.9 +0.8
baz=329,SNR=14
DHY Denali Highway 84.50 11 IAmb IAmb 02 45 24.1
comp=Z,168nm,1.5s
DHY IAMs_20 IAMs_20 03 30 24.9
comp=Z,8µm,22.0s
DHY Denali Highway 84.50 11 P P 02 45 18.2 -0.1
baz=339,SNR=15
M20K Styx River 84.52 14 IAMs_20 IAMs_20 03 30 28.7
comp=Z,6µm,20.0s
M20K Styx River 84.52 14 P P 02 45 18.1 -0.3
baz=334
WAT1 Susitna Watana 84.53 12 P P 02 45 17.1 -1.2
baz=338
CUT Chulitna 84.61 13 IAmb IAmb 02 45 24.1
comp=Z,134nm,1.1s
CUT Chulitna 84.61 13 P P 02 45 17.5 -1.2
baz=336
DAWY Dawson 84.65 7 P P 02 45 19.0 0.0
baz=346,SNR=53
SVW2 Sparrevohn 84.69 15 IAmb IAmb 02 45 25.9
comp=Z,177nm,1.6s
SKT Skwentna 84.76 13 P P 02 45 18.8 -0.7
baz=335,SNR=42
N17K Nushagak Hills 84.81 16 IAmb IAmb 02 45 27.1
comp=Z,142nm,1.4s
N17K IAMs_20 IAMs_20 03 30 03.5
comp=Z,8µm,21.0s
N17K Nushagak Hills 84.81 16 P P 02 45 20.3 +0.5
baz=331
O14K Tigyukauivet M 84.85 19 P P 02 45 20.1 +0.2
baz=327
NWAO Narrogin (SRO) 84.90 133 P P 02 45 19.8 -0.7
NWAO Narrogin (SRO) 84.90 133 P P 02 45 19.9 -0.6
NWAO P **P 02 45 19.9 -0.6**
NWAO Narrogin (SRO) 84.90 133 P P 02 45 19.8 -0.7
NWAO pmax pmax
comp=Z,209nm,1.0s
NWAO Narrogin (SRO) 84.90 133 P P 02 45 19.6 -0.9
comp=Z,181nm,1.0s,baz=288,slow=5.1,SNR=46

	comp=Z,181nm,1.0s						
WAT6	Susitna Watana	84.90	11	P	P	02 45 19.7	-0.7
	baz=339,SNR=28						
PAX	Paxson	84.90	10	P	P	02 45 20.3	+0.1
	baz=340,SNR=16						
N18K	Kilae Creek	84.99	16	IAMs_20	IAMs_20	03 28 60.0	
	comp=Z,7µm,20.0s						
N18K	Kilae Creek	84.99	16	P	P	02 45 21.0	+0.4
	baz=332						
K29M	Barlow Dome	85.06	7	IAmb	IAmb	02 45 27.6	
	comp=Z,195nm,1.5s						
K29M	Barlow Dome	85.06	7	P	P	02 45 21.1	0.0
	baz=347						
GENI	Genyem	85.13	96	P	P	02 45 23.3	+1.2
	comp=Z,355nm,1.2s,comp=Z,8µmcomp=Z,5µm						
GENI	Genyem	85.13	96	⇑P	P	02 45 22.0	-0.1
L26K	Log Cabin Wild	85.16	9	IAMs_20	IAMs_20	03 27 43.3	
	comp=Z,7µm,22.0s						
L26K	Log Cabin Wild	85.16	9	P	P	02 45 21.9	+0.5
	baz=342,SNR=26						
MENT	Mentasta	85.19	10	IAmb	IAmb	02 45 29.4	
	comp=Z,159nm,1.6s						
MENT				IAMs_20	IAMs_20	03 27 44.1	
	comp=Z,7µm,21.0s						
N19K	Bonanza Creek	85.19	15	P	P	02 45 22.5	+0.8
	baz=333,SNR=29						
M22K	Willow	85.24	13	IAMs_20	IAMs_20	03 30 43.5	
	comp=Z,7µm,18.0s						
M22K	Willow	85.24	13	P	P	02 45 21.5	-0.3
	baz=337,SNR=26						
O15K	Ungalikthiuk R	85.31	18	P	P	02 45 22.5	+0.3
	baz=329						
L27K	Beaver Creek,	85.33	9	IAmb	IAmb	02 45 25.3	
	comp=Z,132nm,1.2s						
L27K				IAMs_20	IAMs_20	03 23 49.6	
	comp=Z,7µm,22.0s						
L27K	Beaver Creek,	85.33	9	P	P	02 45 22.9	+0.6
	baz=344,SNR=57						
N20K	Mount Spurr	85.33	14	P	P	02 45 22.2	-0.3
	baz=335,SNR=10						
SPCR	Spurr Chakacha	85.33	14	P	P	02 45 21.9	-0.5
	baz=335						
SUA	Susitna One	85.39	13	P	P	02 45 22.5	-0.3
SUA	Susitna One	85.39	13	P	P	02 45 22.5	-0.3
	baz=336,SNR=76						
O16K	Kokwok River B	85.40	17	IAmb	IAmb	02 45 29.6	
	comp=Z,173nm,1.4s						
O16K	Kokwok River B	85.40	17	P	P	02 45 23.0	+0.3
	baz=330,SNR=18						
MAYO	Mayo, Yukon	85.45	6	IAmb	IAmb	02 45 25.2	
	comp=Z,121nm,1.1s						
MAYO	Mayo, Yukon	85.45	6	P	P	02 45 23.1	+0.1
	baz=349,SNR=8.2						
HARP	HAARP	85.49	10	P	P	02 45 23.7	+0.6
	baz=341,SNR=17						
O17K	Koliganek Bris	85.50	17	P	P	02 45 23.3	+0.2
	baz=331,SNR=17						
SML	Sawmill	85.52	12	IAmb	IAmb	02 45 30.2	
	comp=Z,161nm,1.2s						
SML				IAMs_20	IAMs_20	03 27 47.9	
	comp=Z,6µm,22.0s						
SML	Sawmill	85.52	12	P	P	02 45 23.0	-0.4
	baz=338,SNR=20						
PMR	Palmer	85.57	12	P	P	02 45 23.4	-0.1
	baz=337,SNR=31						
M24K	Tolsona, Glenn	85.61	11	IAMs_20	IAMs_20	03 26 20.1	
	comp=Z,6µm,20.0s						
M24K	Tolsona, Glenn	85.61	11	P	P	02 45 24.2	+0.4
	baz=340,SNR=30						
M23K	Glacier View	85.64	12	P	P	02 45 23.7	-0.2
	baz=339,SNR=16						
SCM	Sheep Creek Mo	85.67	11	IAMs_20	IAMs_20	03 26 42.9	
	comp=Z,5µm,21.0s						
SCM	Sheep Creek Mo	85.67	11	P	P	02 45 23.7	-0.4
	baz=339,SNR=9.4						
L29M	L29M	85.72	7	IAMs_20	IAMs_20	03 31 04.8	
	comp=Z,5µm,19.0s						
L29M	L29M	85.72	7	P	P	02 45 24.0	-0.3
	baz=347,SNR=45						
O19K	Port Alsworth	85.78	15	P	P	02 45 24.3	-0.2
	baz=333,SNR=6.7						
M26K	Nabesna, AK	85.81	9	IAMs_20	IAMs_20	03 28 04.3	
	comp=Z,8µm,21.0s						
M26K	Nabesna, AK	85.81	9	P	P	02 45 24.5	-0.3
	baz=343						
KNK	Knik Glacier	85.86	12	P	P	02 45 25.3	+0.3
	baz=338,SNR=19						
O18K	Koktuh Hills	85.88	16	P	P	02 45 25.4	+0.3
O18K	Koktuh Hills	85.88	16	P	P	02 45 25.0	-0.1
	baz=332,SNR=20						
P16K	Nushagak River	85.92	17	P	P	02 45 25.7	+0.5
	baz=330,SNR=9.7						
RC01	Rabbit Creek A	85.92	13	IAmb	IAmb	02 45 27.2	
	comp=Z,178nm,1.1s						
RC01	Rabbit Creek A	85.92	13	P	P	02 45 25.0	-0.3
	baz=337,SNR=26						
CAPN	Captain Cook N	85.94	14	P	P	02 45 24.7	-0.6
	baz=336						
M27K	Edge Creek, AK	86.00	9	IAmb	IAmb	02 45 28.7	
	comp=Z,201nm,1.2s						
M27K				IAMs_20	IAMs_20	03 30 51.4	
	comp=Z,6µm,22.0s						
M27K	Edge Creek, AK	86.00	9	P	P	02 45 26.2	+0.4
	baz=344						
BVCY	Beaver Creek	86.08	8	P	P	02 45 26.9	+0.9
	baz=344,SNR=20						
P17K	Kvichak River	86.17	17	P	P	02 45 26.7	+0.2
	baz=331,SNR=26						
KLU	Klutina	86.23	11	P	P	02 45 27.1	+0.3
	baz=340,SNR=22						
ILSW	Iliamna Southw	86.23	15	IAmb	IAmb	02 45 32.1	
	comp=Z,134nm,1.5s						
O20K	Slope Mountain	86.26	15	P	P	02 45 25.8	-1.2
	baz=334						
P18K	Big Mountain,	86.28	16	P	P	02 45 27.1	-0.1
	baz=332,SNR=6.7						
N25K	Chitina, Valde	86.33	10	IAmb	IAmb	02 45 33.8	
	comp=Z,170nm,1.7s						
N25K	Chitina, Valde	86.33	10	P	P	02 45 27.9	+0.5
	baz=341,SNR=11						
M29M	Somme Creek	86.33	7	IAmb	IAmb	02 45 34.4	
	comp=Z,214nm,1.6s						
M29M				IAMs_20	IAMs_20	03 27 17.1	
	comp=Z,5µm,21.0s						
M29M	Somme Creek	86.33	7	P	P	02 45 28.0	+0.6
	baz=346						
M30M	Minto, Yukon	86.37	7	IAmb	IAmb	02 45 33.8	
	comp=Z,110nm,1.6s						
M30M	Minto, Yukon	86.37	7	P	P	02 45 27.4	-0.1
	baz=348,SNR=18						
PWL	Port Wells	86.40	12	P	P	02 45 27.2	-0.5
	baz=338,SNR=18						
WRGLY	Wrigley	86.41	0	IAMs_20	IAMs_20	03 29 28.1	
	comp=Z,5µm,19.0s						
WRGLY	Wrigley	86.41	0	P	P	02 45 27.9	+0.3
	baz=359						
O22K	Cooper Landing	86.49	13	P	P	02 45 28.1	+0.1
	baz=337,SNR=14						
P19K	Oil Pt	86.51	15	P	P	02 45 27.1	-1.2
	baz=334						
Q16K	King Salmon	86.57	17	P	P	02 45 28.0	-0.4
	baz=331,SNR=17						
GLI	Glacier Island	86.60	12	IAmb	IAmb	02 45 35.7	
	comp=Z,110nm,1.4s						
GLI	Glacier Island	86.60	12	P	P	02 45 27.8	-0.8
	baz=339						
GLB	Gilahina Butte	86.61	10	IAMs_20	IAMs_20	03 31 16.5	
	comp=Z,9µm,22.0s						
YUK3	Moose Creek	86.75	8	P	P	02 45 29.8	+0.2
	baz=345,SNR=34						
MCARA	McCarthy VSAT	86.78	10	IAMs_20	IAMs_20	03 29 08.0	
	comp=Z,9µm,21.0s						
MCARA	McCarthy VSAT	86.78	10	P	P	02 45 29.3	-0.2
	baz=343,SNR=8.3						
FID	Port Fidalgo	86.83	11	IAmb	IAmb	02 45 31.5	
	comp=Z,70nm,1.1s						
HOM	Homer	86.85	14	IAMs_20	IAMs_20	03 30 34.2	
	comp=Z,8µm,20.0s						
HOM	Homer	86.85	14	P	P	02 45 29.4	-0.5
	baz=335						
YKAW3	Yellowknife Wh	86.86	356	IAMs_20	IAMs_20	03 25 50.8	
	comp=Z,9µm,22.0s						
VRDI	Verde Repeater	86.86	10	P	P	02 45 30.4	+0.2
VRDI				IAmb	IAmb	02 45 36.4	
	comp=Z,213nm,1.9s						
VRDI				IAMs_20	IAMs_20	03 30 46.3	
	comp=Z,7µm,21.0s						
SEW	Seward	86.89	13	P	P	02 45 28.6	-1.4
	baz=337,SNR=10						
BRLK	Bradley Lake	86.92	14	IAmb	IAmb	02 45 31.7	
	comp=Z,102nm,1.0s						
BRLK				IAMs_20	IAMs_20	03 30 43.1	
	comp=Z,8µm,22.0s						
YKA	Yellowknife Ar	86.93	356	P	P	02 45 29.6	-0.5
YKA	Yellowknife Ar	86.93	356	*i* P	P	02 45 29.8	-0.3
YKA				pmax	pmax		
	comp=Z,56nm,0.9s						
YKA	Yellowknife Ar	86.93	356	P	P	02 45 29.9	-0.3
	comp=Z,54nm,1.0s,baz=356,slow=5.2,SNR=249						
YKA				LR	LR	03 28 38.9	
	comp=Z,6µm,20.7s,baz=356,slow=39						
	comp=Z,54nm,1.0s						
YKAW1	Yellowknife Wh	86.93	356	IAMs_20	IAMs_20	03 26 03.7	
	comp=Z,8µm,22.0s						
BMRM	Bremner River	86.93	11	P	P	02 45 28.8	-1.5
	baz=341,SNR=22						
M31M	Drury Creek, Y	86.96	5	IAmb	IAmb	02 45 36.5	
	comp=Z,274nm,1.9s						
M31M	Drury Creek, Y	86.96	5	P	P	02 45 29.0	-1.3
	baz=350,SNR=44						
BRSE	Bradley Lake S	86.97	14	P	P	02 45 30.1	-0.4
	baz=336,SNR=6.3						
Q18K	Katmai Hardscr	87.00	16	P	P	02 45 28.5	-2.2
	baz=333,SNR=7.3						
FARO	Faro, Yukon	87.01	5	IAmb	IAmb	02 45 35.9	
	comp=Z,148nm,1.5s						
FARO	Faro, Yukon	87.01	5	P	P	02 45 30.3	-0.4
	baz=351,SNR=34						
CNPM	China Poot	87.06	14	IAmb	IAmb	02 45 36.4	
	comp=Z,191nm,1.4s						
CNPM				IAMs_20	IAMs_20	03 30 49.7	
	comp=Z,9µm,22.0s						
Q19K	Cape Douglas,	87.07	16	IAMs_20	IAMs_20	03 27 02.0	
	comp=Z,7µm,21.0s						
Q19K	Cape Douglas,	87.07	16	P	P	02 45 29.4	-1.6
	baz=334						
Q17K	Contact Creek	87.12	17	P	P	02 45 30.6	-0.8
	baz=332,SNR=5.1						
EYAK	Cordova Ski Ar	87.14	11	P	P	02 45 31.1	-0.2
	baz=340,SNR=9.7						
HIN	Hinchinbrook I	87.16	12	IAMs_20	IAMs_20	03 30 06.2	
	comp=Z,8µm,19.0s						
BARN	Barnard Glacie	87.28	9	IAMs_20	IAMs_20	03 31 42.3	
	comp=Z,7µm,21.0s						
R16K	Pilot Point	87.30	18	P	P	02 45 31.1	-0.9
	baz=330						
YUK8	Steele Glacier	87.31	8	P	P	02 45 32.5	+0.1
	baz=345,SNR=10						
CRQM	Cirque	87.36	10	IAmb	IAmb	02 45 37.8	
	comp=Z,113nm,1.3s						
CRQE	Cirque	87.37	10	P	P	02 45 32.0	-0.5
	baz=342						
P23K	Montague Islan	87.38	12	P	P	02 45 31.6	-0.8
	baz=339						
YUK4	Talbot Arm	87.38	8	P	P	02 45 32.4	-0.3
	baz=346,SNR=36						
TGL	Tana Glacier	87.41	10	IAmb	IAmb	02 45 38.9	
	comp=Z,100nm,1.5s						
TGL				IAMs_20	IAMs_20	03 29 18.7	
	comp=Z,8µm,20.0s						
CTG	Chitna Glacier	87.41	9	P	P	02 45 32.4	-0.4
	baz=344,SNR=21						
N30M	Aishikik Lake	87.44	7	IAmb	IAmb	02 45 39.3	
	comp=Z,123nm,1.5s						
N30M	Aishikik Lake	87.44	7	P	P	02 45 32.3	-0.4
	baz=348						
RAGM	Ragged Mountai	87.47	11	P	P	02 45 34.6	+1.6
NIKH	Nikolski High	87.49	26	P	P	02 45 33.0	0.0
	baz=322						
N31M	Braeburn, Yuko	87.54	6	IAmb	IAmb	02 45 38.1	
	comp=Z,93nm,1.2s						
N31M				IAMs_20	IAMs_20	03 29 13.1	
	comp=Z,7µm,21.0s						
N31M	Braeburn, Yuko	87.54	6	P	P	02 45 32.9	-0.3
	baz=349,SNR=16						
LMN	Caledonia Moun	87.56	324	P	P	02 45 32.9	-0.6
LOGN	Logan Glacier	87.59	9	IAmb	IAmb	02 45 36.2	
	comp=Z,114nm,1.1s						
LOGN				IAMs_20	IAMs_20	03 32 11.6	
	comp=Z,8µm,20.0s						
BERG	Berg Lake	87.62	10	IAMs_20	IAMs_20	03 28 40.0	
	comp=Z,5µm,19.0s						
ISLE	Juniper Island	87.62	10	IAmb	IAmb	02 45 40.1	
	comp=Z,246nm,1.9s						
ISLE				IAMs_20	IAMs_20	03 26 02.4	
	comp=Z,8µm,20.0s						
Q20K	Shuyak Island	87.64	15	P	P	02 45 33.2	-0.5
	baz=335						
SYI	Shuyak Island	87.64	15	IAmb	IAmb	02 45 36.9	
	comp=Z,142nm,1.2s						
UNV	Unalaska Valle	87.66	24	P	P	02 45 32.6	-1.2
	baz=323						
WAX	Waxell Ridge	87.69	10	IAmb	IAmb	02 45 40.8	
	comp=Z,236nm,1.8s						
HAL	Halifax	87.75	322	IAmb	IAmb	02 45 37.9	
	comp=Z,116nm,1.3s						
O28M	Mount Upton	87.75	9	P	P	02 45 33.8	-0.8
	baz=345						
FCC	Fort Churchill	87.77	346	P	P	02 45 34.0	-0.2
FCC				IAmb	IAmb	02 45 36.3	
	comp=Z,130nm,1.2s						
FCC				IAMs_20	IAMs_20	03 27 58.9	
	comp=Z,5µm,20.0s						
FCC	Fort Churchill	87.77	346	P	P	02 45 34.0	-0.2
FCC				pmax	pmax		
	comp=Z,130nm,1.3s						
FCC				MLR	MLR		
	comp=Z,5µm,20.0s						
YUK6	Outpost Mounta	87.81	8	P	P	02 45 34.1	-0.7
	baz=347,SNR=12						
FALS	False Pass	87.88	22	P	P	02 45 35.1	+0.2
	baz=326						
TABL	Table Mountain	87.95	9	IAmb	IAmb	02 45 41.9	
	comp=Z,139nm,1.6s						
KAIM	Kayak Island	87.95	11	P	P	02 45 34.2	-1.0
	baz=341						
TGTN	Hyland Airport	88.01	3	P	P	02 45 35.4	-0.1
	baz=355,SNR=43						
HYT	Haines Junctio	88.02	7	P	P	02 45 35.1	-0.5
	baz=347,SNR=48						
MESA	MESA	88.09	10	P	P	02 45 35.3	-0.8
	baz=344						
Q23K	Middleton Isla	88.10	12	P	P	02 45 33.8	-2.0
	baz=340						
R18K	Karluk	88.10	17	P	P	02 45 34.2	-1.7
	baz=333						
N32M	Quiet Lake	88.10	5	IAmb	IAmb	02 45 40.6	
	comp=Z,66nm,1.2s						
N32M	Quiet Lake	88.10	5	P	P	02 45 34.6	-1.4
	baz=351						
CHGN	Chignik	88.17	19	P	P	02 45 34.5	-1.7
	baz=330						
O30N	Mendenhall	88.22	7	P	P	02 45 36.3	-0.2
	baz=348,SNR=14						
KDAK	Kodiak Island	88.35	16	P	P	02 45 37.0	-0.1
KDAK	Kodiak Island	88.35	16	P	P	02 45 37.4	+0.3
	baz=335						
KDAK	Kodiak Island	88.35	16	P	P	02 45 37.0	-0.1
KDAK				pmax	pmax		
	comp=Z,132nm,1.0s						
KDAK	Kodiak Island	88.35	16	P	P	02 45 36.5	-0.5
	comp=Z,98nm,1.0s,baz=21,slow=5.7,SNR=26						
KDAK				LR	LR	03 30 46.0	
	comp=Z,9µm,21.7s,baz=339,slow=39						
	comp=Z,98nm,1.0s						
SDPT	Sand Point	88.39	21	P	P	02 45 35.6	-1.7
	baz=328						
PINM	Pinnacle	88.40	9	P	P	02 45 37.1	-0.3
	baz=345						
O29M	Mount Kennedy	88.41	8	IAMs_20	IAMs_20	03 28 53.8	
	comp=Z,5µm,19.0s						
O29M	Mount Kennedy	88.41	8	P	P	02 45 36.6	-0.9
	baz=346						
WHY	Whitehorse	88.44	6	IAmb	IAmb	02 45 43.2	
	comp=Z,150nm,1.6s						
WHY	Whitehorse	88.44	6	P	P	02 45 36.5	-1.2
	baz=350,SNR=11						
BCPM	Bancas Point	88.62	8	IAMs_20	IAMs_20	03 32 31.6	
	comp=Z,7µm,20.0s						
P30M	Million Dollar	88.76	7	P	P	02 45 39.6	+0.5
	baz=348						
D62A	Allapoint, All	88.78	327	P	P	02 45 38.3	-1.1
	baz=44,SNR=9.4						
D62A				P	P	02 45 38.3	-1.1
	baz=44,SNR=9.4						
PNL	Peninsula	88.92	8	P	P	02 45 40.0	+0.2
	baz=346						
E63A	Oxbow	88.95	326	P	P	02 45 38.8	-1.4
	baz=44						
E63A				P	P	02 45 38.8	-1.4
	baz=44						
LMQ	La Malbaie	89.04	328	P	P	02 45 40.6	+0.1
P33M	Teslin, Yukon	89.05	5	P	P	02 45 39.9	-0.6
P33M	Teslin, Yukon	89.05	5	P	P	02 45 40.5	0.0
	baz=351,SNR=23						
SII	Sitkinak Islan	89.07	17	P	P	02 45 39.3	-1.2
	baz=333						
CHNA	Chernabura Isl	89.10	20	P	P	02 45 40.3	-0.3
	baz=329						
P29M	Windy Craggy	89.16	8	IAmb	IAmb	02 45 47.3	
	comp=Z,186nm,1.9s						
P29M	Windy Craggy	89.16	8	P	P	02 45 40.3	-0.6
	baz=347						
F64A	Sherman	89.32	325	P	P	02 45 38.8	-3.1
	baz=44						
F64A				P	P	02 45 38.8	-3.1
	baz=44						
E62A	Clayton Lake	89.34	327	P	P	02 45 40.3	-1.7
	baz=44						
E62A				P	P	02 45 40.3	-1.7
	baz=44						
CHIR	Chirikof Islan	89.35	18	P	P	02 45 41.2	-0.6
	baz=332						
WB0	Warramunga Arr	89.35	113	IAmb	IAmb	02 45 45.3	
	comp=Z,76nm,0.9s						
WTLY	Watson Lake, Y	89.40	3	IAMs_20	IAMs_20	03 30 03.1	
	comp=Z,6µm,18.0s						
WTLY	Watson Lake, Y	89.40	3	P	P	02 45 41.0	-1.1
	baz=355,SNR=12						
G65A	Princeton	89.40	325	IAmb	IAmb	02 45 45.6	
	comp=Z,96nm,1.4s						
WRA	Warramunga Arr	89.41	114	P	P	02 45 41.9	-0.8
	comp=Z,64nm,0.9s,baz=311,slow=4.3,SNR=12						
WRA				PKPPKP	P'P'df	03 11 25.9	+0.3
	comp=Z,5.1nm,1.1s,baz=115,slow=2.2,SNR=6.4						
	comp=Z,64nm,0.9s						
WRAB	Tennant Creek	89.41	114	P	P	02 45 42.1	-0.6
WRAB				IAmb	IAmb	02 45 50.0	
	comp=Z,89nm,0.9s						
WRAB	Tennant Creek	89.41	114	P	P	02 45 42.1	-0.6
WRAB				pmax	pmax		
	comp=Z,89nm,1.0s						
FLDN	Fort Liard	89.41	0	IAmb	IAmb	02 45 45.3	
	comp=Z,151nm,1.2s						
FLDN	Fort Liard	89.41	0	P	P	02 45 42.1	+0.1
	baz=359,SNR=8.0						
WB2	Warramunga Arr	89.42	114	IAmb	IAmb	02 45 50.0	
	comp=Z,89nm,0.9s						
KOTAN	Kotaneelee Air	89.52	1	P	P	02 45 41.0	-1.5
	baz=359						
SKAG	Skagway	89.58	6	IAmb	IAmb	02 45 50.7	
	comp=Z,139nm,1.6s						
SKAG	Skagway	89.58	6	P	P	02 45 42.1	-0.7
	baz=349						
P32M	Atlin	89.60	6	IAmb	IAmb	02 45 48.0	
	comp=Z,88nm,1.5s						
P32M	Atlin	89.60	6	P	P	02 45 42.7	-0.3
	baz=350,SNR=8.9						
F63A	Nahmakanta, Br	89.80	326	P	P	02 45 43.7	-0.5
F63A	Nahmakanta, Br	89.80	326	P	P	02 45 43.2	-1.0
	baz=44						
F63A				P	P	02 45 43.2	-1.0
	baz=44						
R33M	Jennings River	90.00	4	IAmb	IAmb	02 45 51.7	
	comp=Z,106nm,1.8s						
R33M				IAMs_20	IAMs_20	03 29 34.7	
	comp=Z,7µm,21.0s						
R33M	Jennings River	90.00	4	P	P	02 45 44.9	-0.1
	baz=353						
F62A	Pittston Farm,	90.08	326	P	P	02 45 44.9	-0.5
	baz=43						
F62A				P	P	02 45 44.9	-0.5
	baz=43						
LIRD	Liard River Hi	90.20	2	P	P	02 45 45.6	-0.1
	baz=357,SNR=5.6						
PKME	Peaks-Kenny Pk	90.21	325	P	P	02 45 45.8	-0.2
	baz=44						
Q32M	Nakina River	90.34	5	IAmb	IAmb	02 45 53.3	
	comp=Z,195nm,1.9s						
Q32M	Nakina River	90.34	5	P	P	02 45 47.1	+0.4
	baz=352						
R31K	City Hall, Gus	90.57	7	P	P	02 45 47.7	+0.3
	baz=349						
FORT	Forrest	90.78	126	P	P	02 45 49.1	+0.3
R32K	Eaglecrest	90.83	6	P	P	02 45 48.7	0.0
	baz=350						
JIS	Juneau Island	90.84	6	IAmb	IAmb	02 45 54.8	
	comp=Z,108nm,1.6s						
G62A	West of Eustis	90.84	326	IAmb	IAmb	02 45 56.5	
	comp=Z,94nm,1.6s						
G62A	West of Eustis	90.84	326	P	P	02 45 48.9	-0.2
	baz=43						
G62A				P	P	02 45 48.9	-0.2
	baz=43						
S31K	Pelican	90.96	7	P	P	02 45 47.9	-1.3
	baz=348						
DLBC	Dease Lake	91.01	4	P	P	02 45 50.6	+1.0
DLBC				IAmb	IAmb	02 45 56.6	
	comp=Z,248nm,2.0s						
DLBC	Dease Lake	91.01	4	P	P	02 45 50.3	+0.7
	baz=354,SNR=8.7						
DLBC	Dease Lake	91.01	4	P	P	02 45 49.5	-0.1
	comp=Z,23nm,1.2s,baz=42,slow=4.6,SNR=12						
DLBC				PP	PP	02 49 23.7	-1.2
	comp=Z,15nm,1.0s,baz=277,slow=3.8,SNR=5.3						
DLBC				LR	LR	03 29 16.5	
	comp=Z,2µm,21.9s,baz=332,slow=37						
	comp=Z,23nm,1.2s						
ASAR	Alice Springs	91.08	117	P	P	02 45 49.7	-0.7
	comp=Z,124nm,1.1s,baz=305,slow=4.1,SNR=183						
	comp=Z,124nm,1.1s						
AS31	Alice Springs	91.08	117	P	P	02 45 50.0	-0.4
S34M	Telegraph Cree	91.46	5	IAmb	IAmb	02 45 54.9	
	comp=Z,114nm,1.5s						
S34M	Telegraph Cree	91.46	5	P	P	02 45 52.3	+0.7
	baz=353						
S32K	Killisnoo	91.62	6	P	P	02 45 52.2	-0.1
	baz=350						
SIT	Sitka	91.95	7	P	P	02 45 54.4	+0.5
	baz=349						
I62A	Tamworth	92.22	326	IAmb	IAmb	02 45 58.0	
	comp=Z,117nm,1.4s						
I62A	Tamworth	92.22	326	P	P	02 45 55.3	-0.2
	baz=42,SNR=6.0						
I62A				P	P	02 45 55.3	-0.2
	baz=42,SNR=6.0						
LBNH	Lisbon	92.24	326	IAmb	IAmb	02 45 59.6	
	comp=Z,153nm,1.4s						
LBNH	Lisbon	92.24	326	P	P	02 45 55.7	+0.2
	baz=42						
LBNH	Lisbon	92.24	326	P	P	02 45 55.8	+0.3
	baz=42,SNR=9.3						
T35M	Bob Quinn	92.44	4	P	P	02 45 56.2	0.0
	baz=354						
VT1	Waterbury	92.56	327	IAmb	IAmb	02 46 01.0	
	comp=Z,131nm,1.9s						
UNH	University of	92.57	325	P	P	02 45 57.0	0.0
	baz=42						
FRNY	Flat Rock	92.57	327	P	P	02 45 56.6	-0.4
	baz=40						
HNH	Hanover	92.81	326	IAmb	IAmb	02 46 02.2	
	comp=Z,95nm,1.4s						
WRAK	Wrangell Islan	92.85	5	P	P	02 45 57.6	-0.4
	baz=352						
MCVT	Middlebury Col	92.96	327	P	P	02 45 59.0	+0.1
	baz=41,SNR=6.6						
U33K	Whale Pass	93.09	6	P	P	02 45 58.7	-0.4
	baz=351						
FFC	Flin Flon	93.10	348	P	P	02 45 58.8	-0.4
FFC				IAmb	IAmb	02 46 00.4	
	comp=Z,52nm,1.1s						
FFC	Flin Flon	93.10	348	IAMs_20	IAMs_20	03 31 35.8	
	comp=Z,6µm,18.0s						
FFC	Flin Flon	93.10	348	P	P	02 45 58.8	-0.4
FFC				pmax	pmax		
	comp=Z,52nm,1.1s						
FFC				MLR	MLR		
	comp=Z,6µm,18.0s						
LONY	Lake Ozonia	93.20	328	IAmb	IAmb	02 46 01.1	
	comp=Z,43nm,1.1s						
LONY	Lake Ozonia	93.20	328	P	P	02 45 58.6	-1.3
	baz=40						
J61A	Chester	93.21	326	IAmb	IAmb	02 46 02.4	
	comp=Z,61nm,1.2s						

J61A IAMs_20 IAMs_20 03 32 43.9
comp=Z,4µm,19.0s
J61A Chester 93.21 326 P P 02 45 59.7 -0.3
baz=41,SNR=7.6
J61A P P **02 45 59.7 -0.3**
baz=41,SNR=7.6
WBO Williamsburg 93.22 328 IAmb IAmb 02 46 03.5
comp=Z,58nm,1.3s
BCX Boston College 93.28 324 IAmb IAmb 02 46 03.7
comp=Z,99nm,1.5s
HRV Adam Dziewonsk 93.34 325 P P 02 46 00.3 -0.3
HRV IAmb IAmb 02 46 04.1
comp=Z,74nm,1.4s
HRV Adam Dziewonsk 93.34 325 P P 02 46 00.2 -0.5
baz=42
HRV Adam Dziewonsk 93.34 325 P P 02 45 59.8 -0.8
baz=42
HRV Adam Dziewonsk 93.34 325 P P 02 46 00.4 -0.3
HRV pmax pmax
comp=Z,74nm,1.4s
COEN Coen 93.48 104 IAmb IAmb 02 46 02.7
comp=Z,41nm,0.9s
U35K Hyder 93.52 4 P P 02 46 01.1 0.0
baz=354
K62A Royalston 93.56 325 IAmb IAmb 02 46 04.0
comp=Z,54nm,1.1s
K62A Royalston 93.56 325 P P 02 46 00.8 -0.8
baz=42
K62A P P **02 46 00.8 -0.8**
baz=42
M65A Busby, Falmout 93.58 324 P P 02 46 01.3 -0.5
baz=43
ACCN Adirondack Com 93.71 327 IAmb IAmb 02 46 06.1
comp=Z,90nm,1.4s
ACCN Adirondack Com 93.71 327 P P 02 46 02.1 -0.2
baz=40,SNR=7.1
CRAG Craig 93.73 6 P P 02 46 00.8 -1.3
baz=351
BRYW Bryant College 93.77 324 IAmb IAmb 02 46 04.5
comp=Z,87nm,1.3s
QUA2 Belchertown 93.91 325 IAmb IAmb 02 46 05.2
comp=Z,65nm,1.2s
QUA2 Belchertown 93.91 325 P P 02 46 02.2 -1.1
baz=42
L61B Northampton 93.94 325 IAmb IAmb 02 46 05.4
comp=Z,69nm,1.2s
L61B Northampton 93.94 325 P P 02 46 02.7 -0.7
baz=41
L61B Northampton 93.94 325 P P 02 46 02.4 -1.0
baz=41,SNR=12
V35K Ketchikan 93.99 5 P P 02 46 02.7 -0.6
baz=352
J59A Piesco 94.05 327 IAmb IAmb 02 46 07.6
comp=Z,66nm,1.3s
J59A Piesco 94.05 327 P P 02 46 04.7 +0.8
baz=40,SNR=6.7
J59A P P **02 46 04.7 +0.8**
baz=40,SNR=6.7
WCNY West Carthage 94.18 328 P P 02 46 03.7 -0.7
baz=39
TRY Troy 94.21 326 IAmb IAmb 02 46 08.2
comp=Z,122nm,1.5s
TRY Troy 94.21 326 P P 02 46 04.0 -0.6
baz=41
UCCT U. Connecticut 94.21 325 IAmb IAmb 02 46 06.4
comp=Z,87nm,1.1s
J58A Remsen 94.49 327 IAmb IAmb 02 46 11.8
comp=Z,132nm,1.8s
J58A Remsen 94.49 327 P P 02 46 05.3 -0.7
baz=39,SNR=5.4
J58A P P **02 46 05.3 -0.7**
baz=39,SNR=5.4
PMG Port Moresby 94.56 98 P P 02 46 05.7 -0.9
PMG IAMs_20 IAMs_20 03 16 57.2
comp=Z,4µm,21.0s
PMG Port Moresby 94.56 98 *c i* P P **02 46 06.2 -0.4**
PMG pmax pmax
comp=Z,154nm,1.0s
PMG MLR MLR
comp=Z,1µm,16.0s
PMG Port Moresby 94.56 98 P P **02 46 06.3 -0.3**
comp=Z,135nm,0.9s,baz=322,slow=3.5,SNR=46
comp=Z,135nm,0.9s
HCNY Howe Caverns 94.58 327 P P 02 46 05.5 -0.9
baz=40,SNR=7.1
DELO Deloro Mine 94.64 329 IAMs_20 IAMs_20 03 29 58.5
comp=Z,4µm,19.0s
J57A Williamstown 94.78 328 IAmb IAmb 02 46 09.6
comp=Z,67nm,1.4s
J57A IAMs_20 IAMs_20 03 29 55.4
comp=Z,5µm,22.0s
KSCT Kent School, K 94.88 325 IAmb IAmb 02 46 09.2
comp=Z,72nm,1.2s
NPNY Mohonk Preserv 95.18 326 P P 02 46 08.2 -0.9
baz=40,SNR=17
L59A Walton 95.28 327 IAmb IAmb 02 46 12.9
comp=Z,84nm,1.2s
L59A IAMs_20 IAMs_20 03 32 24.6
comp=Z,4µm,18.0s
L59A Walton 95.28 327 P P 02 46 09.0 -0.6
baz=40,SNR=8.2
L59A P P **02 46 09.0 -0.6**
baz=40,SNR=8.2
BRNY Black Rk. Fore 95.37 325 P P 02 46 09.0 -1.0
baz=40
BRLDA Berland Lookou 95.45 357 IAMs_20 IAMs_20 03 24 20.2
comp=Z,6µm,18.0s
PAL Palisades 95.63 325 P P 02 46 10.5 -0.6
PAL IAmb IAmb 02 46 13.9
comp=Z,55nm,1.1s
PAL Palisades 95.63 325 P P 02 46 09.5 -1.6
baz=40
PAL Palisades 95.63 325 P P 02 46 10.5 -0.6
PAL pmax pmax
comp=Z,55nm,1.2s
PAL MLR MLR
comp=Z,3µm,18.0s
TRNY Table Rock, Ra 95.68 325 IAmb IAmb 02 46 12.8
comp=Z,71nm,1.2s
BINY Binghamton 95.71 327 P P 02 46 09.9 -1.7
baz=39
BINY Binghamton 95.71 327 P P 02 46 11.6 0.0
baz=39
J55A Hilton 95.71 329 IAMs_20 IAMs_20 03 31 07.1
comp=Z,5µm,22.0s
RCBR Riachuelo 95.73 267 IAMs_20 IAMs_20 03 29 21.3
comp=Z,5µm,20.0s
RCBR Riachuelo 95.73 267 LR LR 03 29 41.4
comp=Z,4µm,18.6s,baz=66,slow=36
ODNJ Ogdensburg 95.92 326 P P 02 46 10.6 -1.9
baz=40,SNR=5.5
ULM Lac du Bonnet 96.00 343 IAmb IAmb 02 46 12.8
comp=Z,63nm,1.1s
ULM IAMs_20 IAMs_20 03 32 03.7
comp=Z,5µm,21.0s
ULM Lac du Bonnet 96.00 343 ⇑ *i* P P **02 46 11.1 -1.5**
ULM Lac du Bonnet 96.00 343 P P **02 46 11.4 -1.3**
comp=Z,38nm,0.9s,baz=25,slow=4.6,SNR=35
ULM PP **PP 02 50 01.6 -2.4**
comp=Z,10nm,1.1s,baz=13,slow=5.3,SNR=3.7
comp=Z,38nm,0.9s
EDM Edmonton 96.06 354 IAmb IAmb 02 46 15.1
comp=Z,83nm,1.2s
EDM IAMs_20 IAMs_20 03 29 10.0
comp=Z,5µm,19.0s
J54A Appleton 96.07 329 IAMs_20 IAMs_20 03 29 36.5
comp=Z,5µm,20.0s
KSPA Keystone Colle 96.11 327 P P 02 46 12.8 -0.6
baz=39
MMNY Mt. Morris Dam 96.18 329 IAMs_20 IAMs_20 03 31 09.3
comp=Z,5µm,22.0s
BRNJ Basking Ridge 96.20 325 IAmb IAmb 02 46 14.8
comp=Z,61nm,1.1s
BRNJ IAMs_20 IAMs_20 03 32 59.2
comp=Z,5µm,19.0s
BRNJ Basking Ridge 96.20 325 P P 02 46 13.3 -0.4
baz=40
L56A Greenwood 96.49 328 IAmb IAmb 02 46 18.0
comp=Z,55nm,1.3s
L56A Greenwood 96.49 328 P P 02 46 14.8 -0.4
baz=38,SNR=6.9
L56A P P **02 46 14.8 -0.4**
baz=38,SNR=6.9
PANJ Princeton 96.50 325 P P 02 46 13.1 -2.0
baz=40,SNR=7.3
LUPA Lehigh Univers 96.66 326 IAmb IAmb 02 46 17.2
comp=Z,41nm,1.2s
D41A Chassel 96.74 337 IAMs_20 IAMs_20 03 33 58.5
comp=Z,4µm,18.0s
WVNY West Valley, N 96.75 329 P P 02 46 16.4 +0.2
WVNY IAmb IAmb 02 46 20.5
comp=Z,36nm,1.1s
WVNY IAMs_20 IAMs_20 03 31 37.4
comp=Z,5µm,22.0s
WVNY West Valley, N 96.75 329 P P 02 46 17.0 +0.7
baz=37
E43A Lone Tree Farm 96.80 336 IAMs_20 IAMs_20 03 31 58.2
comp=Z,5µm,20.0s
EYMN Ely 96.88 339 IAmb IAmb 02 46 22.2
comp=Z,75nm,1.4s
EYMN Ely 96.88 339 IAMs_20 IAMs_20 03 34 06.3
comp=Z,6µm,21.0s
EYMN Ely 96.88 339 P P 02 46 15.8 -1.0
baz=27
TUPA Temple Univers 96.90 325 P P 02 46 17.1 +0.2
baz=40,SNR=28
M57A Sunshine Farm, 96.92 327 IAmb IAmb 02 46 17.8
comp=Z,48nm,1.4s
M57A IAMs_20 IAMs_20 03 35 21.1
comp=Z,3µm,18.0s
N58A Sunbury 97.12 327 IAmb IAmb 02 46 21.0
comp=Z,44nm,1.3s
N58A IAMs_20 IAMs_20 03 34 56.3
comp=Z,4µm,18.0s
N58A Sunbury 97.12 327 P P 02 46 17.5 -0.4
baz=38,SNR=6.4
N58A P P **02 46 17.5 -0.4**
baz=38,SNR=6.4
PSUB Penn St. - Bra 97.21 325 P P 02 46 17.4 -1.0
baz=40
GLMI Grayling 97.25 334 P P 02 46 17.5 -0.9
baz=32
BBB Bella Bella 97.35 3 LR LR 03 33 54.3
comp=Z,3µm,22.0s,baz=332,slow=38
GEDE Greenville 97.39 325 P P 02 46 17.0 -2.2
baz=39,SNR=10.0
G45A Suttons Bay 97.46 335 IAMs_20 IAMs_20 03 36 55.8
comp=Z,4µm,20.0s
BBOO Buckleboo 97.57 124 IAmb IAmb 02 46 20.0
comp=Z,54nm,1.2s
M55A Ridgway 97.57 328 IAmb IAmb 02 46 23.0
comp=Z,36nm,1.1s
M55A IAMs_20 IAMs_20 03 32 15.2
comp=Z,4µm,22.0s
M55A Ridgway 97.57 328 P P 02 46 18.8 -1.2
baz=37,SNR=6.7
M55A P P **02 46 18.8 -1.2**
baz=37,SNR=6.7
ERPA Erie 97.59 329 IAMs_20 IAMs_20 03 30 19.7
comp=Z,4µm,22.0s
ERPA Erie 97.59 329 P P 02 46 18.8 -1.2
baz=36
MVL Millersville 97.60 326 IAmb IAmb 02 46 23.1
comp=Z,42nm,1.2s
F42A Maple Grove Fa 97.73 336 IAMs_20 IAMs_20 03 37 39.8
comp=Z,5µm,18.0s
AGMN Agassiz Nation 97.79 342 IAmb IAmb 02 46 22.0
comp=Z,34nm,1.2s
AGMN IAMs_20 IAMs_20 03 32 59.3
comp=Z,5µm,20.0s
AGMN Agassiz Nation 97.79 342 P P 02 46 19.8 -1.0
baz=23
AGMN Agassiz Nation 97.79 342 P P 02 46 19.6 -1.2
baz=23,SNR=9.8
SSPA Standing Stone 97.83 327 P P 02 46 19.8 -1.3
SSPA IAmb IAmb 02 46 24.6
comp=Z,41nm,1.2s
SSPA Standing Stone 97.83 327 P P 02 46 19.1 -2.0
baz=38
SSPA Standing Stone 97.83 327 P P 02 46 20.7 -0.4
baz=38
PSDB Penn State Uni 97.83 328 P Pdif 02 46 22.2 +1.0
baz=37
ALLY Alegheny Colle 98.04 329 IAMs_20 IAMs_20 03 30 46.6
comp=Z,4µm,20.0s
MAW Mawson 98.07 178 P Pdif 02 46 21.7 +0.5
comp=Z,5.9nm,1.0s,baz=352,slow=8.0,SNR=5.8
comp=Z,5.9nm,1.0s
E38A The Farm, Brul 98.10 339 IAmb IAmb 02 46 25.3
comp=Z,49nm,1.4s
E38A IAMs_20 IAMs_20 03 32 19.5
comp=Z,4µm,22.0s
K50A Casco 98.17 331 IAMs_20 IAMs_20 03 29 29.0
comp=Z,4µm,22.0s
M53A WI Miller and 98.44 329 IAMs_20 IAMs_20 03 30 56.2
comp=Z,5µm,22.0s
M53A WI Miller and 98.44 329 P P 02 46 21.8 -2.1
baz=36
I45A Fountain 98.53 334 IAMs_20 IAMs_20 03 37 27.2
comp=Z,4µm,19.0s
M52A Chesterland 98.66 330 IAMs_20 IAMs_20 03 32 22.8
comp=Z,4µm,22.0s
J47A Sunmer 98.67 333 IAMs_20 IAMs_20 03 32 49.0
comp=Z,4µm,19.0s
H43A Windswept, Lux 98.72 336 IAMs_20 IAMs_20 03 32 58.1
comp=Z,5µm,21.0s
P57A Homestead Farm 98.80 327 IAmb IAmb 02 46 28.7
comp=Z,40nm,1.6s
P57A IAMs_20 IAMs_20 03 33 53.8
comp=Z,4µm,20.0s
G40A Rib Lake 98.85 337 IAMs_20 IAMs_20 03 31 39.6
comp=Z,4µm,22.0s
N53A Lisbon 99.03 329 IAMs_20 IAMs_20 03 32 47.7
comp=Z,5µm,21.0s
CTA Charters Tower 99.08 108 P **Pdif 02 46 26.1 -0.9**
comp=Z,10nm,1.0s,baz=304,slow=6.4,SNR=7.6
comp=Z,10nm,1.0s
CTAO Charters Tower 99.08 108 P Pdif 02 46 25.9 -1.1
CTAO Charters Tower 99.08 108 P Pdif 02 46 25.9 -1.1
CTAO pmax pmax
comp=Z,17nm,1.1s
MDND Maddock 99.13 345 Pdiff **Pdif 02 46 26.9 0.0**
baz=20
MDND Maddock 99.13 345 P Pdif 02 46 25.3 -1.6
baz=20,SNR=11
D32A Dogwood Acres, 99.17 343 IAMs_20 IAMs_20 03 33 50.6
comp=Z,4µm,19.0s
O54A Avella 99.33 329 IAMs_20 IAMs_20 03 33 08.8
comp=Z,4µm,19.0s
F36A Milaca 99.36 340 Pdif 02 46 27.4 -0.5
F36A IAMs_20 IAMs_20 03 35 10.0
comp=Z,4µm,18.0s
F36A Milaca 99.36 340 P Pdif 02 46 27.1 -0.8
baz=25,SNR=8.8
DGMT Dagmar 99.49 348 IAmb IAmb 02 46 30.7
comp=Z,38nm,1.1s
DGMT Dagmar 99.49 348 IAMs_20 IAMs_20 03 36 40.0
comp=Z,6µm,20.0s
DGMT Dagmar 99.49 348 Pdiff **Pdif 02 46 27.9 -0.6**
baz=16
DGMT Dagmar 99.49 348 P Pdif 02 46 28.7 +0.3
baz=16
MCWV Mont Chateau 99.51 328 IAMs_20 IAMs_20 03 32 50.6
comp=Z,5µm,22.0s
MCWV Mont Chateau 99.51 328 Pdiff **Pdif 02 46 27.7 -1.0**
baz=36
L48A N Adams 99.61 332 IAMs_20 IAMs_20 03 35 45.8
comp=Z,4µm,20.0s
I42A Draeger Farm, 99.63 336 IAMs_20 IAMs_20 03 33 34.1
comp=Z,4µm,21.0s
O53A New Philadelph 99.65 329 IAMs_20 IAMs_20 03 32 55.1
comp=Z,5µm,20.0s
O53A New Philadelph 99.65 329 Pdiff **Pdif 02 46 27.4 -1.9**
baz=35
SPMN Marine on St. 99.72 339 Pdif **Pdif 02 46 29.0 -0.5**
SPMN IAMs_20 IAMs_20 03 33 49.5
comp=Z,6µm,21.0s
SPMN Marine on St. 99.72 339 Pdiff **Pdif 02 46 27.9 -1.6**
baz=26
R58B Mineral 99.93 326 P Pdif 02 46 29.0 -1.6
baz=38
R58B P **Pdif 02 46 29.0 -1.6**
baz=38
O52A Adamsville 100.03 329 Pdif **Pdif 02 46 32.5 +1.5**
O52A IAMs_20 IAMs_20 03 33 06.3
comp=Z,5µm,22.0s
F33A 5 Mile Ranch, 100.17 342 IAMs_20 IAMs_20 03 34 12.2
comp=Z,5µm,19.0s
F33A 5 Mile Ranch, 100.17 342 P Pdif 02 46 31.1 -0.3
baz=23,SNR=6.1
L46A Eue Claire 100.28 333 IAMs_20 IAMs_20 03 39 22.7
comp=Z,4µm,20.0s
P53A Whipple 100.35 329 IAMs_20 IAMs_20 03 33 28.7
comp=Z,4µm,20.0s
ACSO Alum Creek Sta 100.43 330 Pdiff **Pdif 02 46 31.2 -1.6**
baz=34
K43A Burlington 100.45 335 IAMs_20 IAMs_20 03 33 50.0
comp=Z,5µm,22.0s
Q54A Coxs Mills 100.51 328 IAMs_20 IAMs_20 03 34 06.9
comp=Z,4µm,20.0s
P52A Corning 100.56 329 IAMs_20 IAMs_20 03 39 36.2
comp=Z,4µm,21.0s
P52A Corning 100.56 329 Pdiff **Pdif 02 46 31.5 -1.9**
baz=35
E28A Huff 100.58 345 Pdif **Pdif 02 46 32.8 -0.5**
L44A Lake County Fo 100.75 334 IAMs_20 IAMs_20 03 40 03.0
comp=Z,4µm,18.0s
L44A Lake County Fo 100.75 334 Pdiff **Pdif 02 46 33.4 -0.8**
baz=30
EGMT Eagleton 100.80 351 IAMs_20 IAMs_20 03 37 27.6
comp=Z,5µm,21.0s
EGMT Eagleton 100.80 351 Pdiff **Pdif 02 46 32.3 -2.1**
baz=11
JFWS Jewell Farm 100.95 336 IAMs_20 IAMs_20 03 34 04.1
comp=Z,4µm,22.0s
JFWS Jewell Farm 100.95 336 Pdiff **Pdif 02 46 33.6 -1.4**
baz=28
I37A Lemond, Waseca 101.00 339 IAMs_20 IAMs_20 03 34 27.2
comp=Z,6µm,22.0s
N47A Urbana 101.01 332 IAMs_20 IAMs_20 03 32 30.0
comp=Z,4µm,21.0s
O49A Covington 101.04 331 IAMs_20 IAMs_20 03 34 37.9
comp=Z,4µm,21.0s
HQIL Hanson Quary C 101.06 334 IAMs_20 IAMs_20 03 39 56.1
comp=Z,5µm,18.0s
STKA Stephens Creek 101.14 120 P **Pdif 02 46 35.1 -0.8**
comp=Z,14nm,1.1s,baz=331,slow=8.2,SNR=11
Q52A Bidwell 101.17 329 IAMs_20 IAMs_20 03 32 43.4
comp=Z,4µm,22.0s
NEW Newport 101.26 356 Pdif **Pdif 02 46 37.1 +0.8**
NEW Newport 101.26 356 Pdiff **Pdif 02 46 34.0 -2.3**
baz=4.9
NEW Newport 101.26 356 P **Pdif 02 46 37.2 +0.8**
NEW Newport 101.26 356 P **Pdif 02 46 35.3 -1.0**
comp=Z,5.6nm,1.0s,baz=99,slow=18,SNR=6.9
NEW PP **PP 02 50 38.5 -5.7**
comp=Z,8.7nm,1.1s,baz=24,slow=6.6,SNR=4.1
O48B Farmland 101.32 332 IAMs_20 IAMs_20 03 31 03.2
comp=Z,4µm,20.0s
O48B Farmland 101.32 332 Pdiff **Pdif 02 46 35.4 -1.4**
baz=32
M44A Midewin, Midew 101.49 334 IAMs_20 IAMs_20 03 40 18.5
comp=Z,4µm,18.0s
R53A Hurricane 101.54 328 IAMs_20 IAMs_20 03 34 28.4
comp=Z,5µm,21.0s
L42A Oliver, Polo 101.55 336 IAMs_20 IAMs_20 03 41 22.9
comp=Z,4µm,20.0s
LAO LASA Array 101.57 349 Pdiff **Pdif 02 46 36.8 -1.0**
baz=14
LAO LASA Array 101.57 349 P **Pdif 02 46 38.0 +0.2**
baz=14
Q51A Peebles 101.59 330 Pdif **Pdif 02 46 38.4 +0.4**
S54A Dingess, Beckl 101.69 328 IAMs_20 IAMs_20 03 35 01.2
comp=Z,3µm,20.0s
BLA Blacksburg 101.75 327 IAMs_20 IAMs_20 03 33 40.9
comp=Z,5µm,21.0s
BLA Blacksburg 101.75 327 Pdiff **Pdif 02 46 38.3 -0.4**
baz=36
P49A Miami Univ. Ec 101.75 331 Pdiff **Pdif 02 46 38.2 -0.5**
baz=33
SFIN Lafayette 101.99 333 IAMs_20 IAMs_20 03 35 08.0
comp=Z,4µm,20.0s
SFIN Lafayette 101.99 333 Pdiff **Pdif 02 46 38.6 -1.0**
baz=31
K38A Parkersburg 102.03 338 IAMs_20 IAMs_20 03 38 47.6
comp=Z,4µm,19.0s
CNNC Cliffs of the 102.07 324 Pdiff **Pdif 02 46 39.6 -0.5**
baz=38
P48A Milroy 102.11 331 IAMs_20 IAMs_20 03 34 33.0
comp=Z,4µm,22.0s
OVMT Ovando 102.12 353 Pdif **Pdif 02 46 39.4 -0.9**
SUSD Miller 102.17 343 IAMs_20 IAMs_20 03 35 02.0
comp=Z,4µm,22.0s
SUSD Miller 102.17 343 Pdiff **Pdif 02 46 39.8 -0.6**
baz=21
ECSD EROS Data Cent 102.20 341 IAMs_20 IAMs_20 03 37 39.0
comp=Z,5µm,18.0s
ECSD EROS Data Cent 102.20 341 Pdiff **Pdif 02 46 39.7 -0.9**
baz=23
CHMT Chamberlain Mo 102.30 353 Pdif **Pdif 02 46 41.5 +0.3**
LTY Liberty 102.40 359 IAMs_20 IAMs_20 03 41 20.0
comp=Z,5µm,21.0s
W59A Clinton 102.41 324 IAMs_20 IAMs_20 03 35 34.6
comp=Z,4µm,20.0s
U56A King 102.42 326 IAMs_20 IAMs_20 03 33 53.8
comp=Z,4µm,20.0s
MSO Missoula 102.45 354 Pdiff **Pdif 02 46 41.0 -0.8**
baz=7.7
D05A Enumclaw 102.49 360 IAMs_20 IAMs_20 03 40 31.2
comp=Z,6µm,21.0s
D08A Wollman Farm, 102.55 357 IAMs_20 IAMs_20 03 35 26.8
comp=Z,6µm,22.0s
ELMT Elliston 102.61 353 Pdif **Pdif 02 46 41.8 -0.8**
HDIL Hopedale 102.68 335 IAMs_20 IAMs_20 03 41 00.9
comp=Z,5µm,18.0s
P46A Rosedale 102.69 333 IAMs_20 IAMs_20 03 35 49.4
comp=Z,4µm,21.0s
BLO Bloomington 102.80 332 IAMs_20 IAMs_20 03 37 32.3
comp=Z,5µm,18.0s
SCIA State Center 102.84 338 IAMs_20 IAMs_20 03 39 04.1
comp=Z,5µm,18.0s
S51A Beattyville 102.85 329 IAMs_20 IAMs_20 03 41 17.8
comp=Z,4µm,21.0s
U54A Nelsons Funny 102.96 327 IAMs_20 IAMs_20 03 37 01.0
comp=Z,3µm,19.0s
N41A Harden Midland 103.11 336 IAMs_20 IAMs_20 03 40 31.3
comp=Z,5µm,19.0s
BOZ Bozeman (W) 103.42 352 IAMs_20 IAMs_20 03 38 56.0
comp=Z,7µm,22.0s
BOZ Bozeman (W) 103.42 352 Pdiff **Pdif 02 46 45.3 -0.9**
baz=9.7
WCI Wyandotte Cave 103.51 331 Pdiff **Pdif 02 46 46.4 0.0**
baz=32
P43A Skaggs, Pawnee 103.56 334 IAMs_20 IAMs_20 03 41 39.3
comp=Z,5µm,18.0s
RLMT Red Lodge 103.58 350 Pdif **Pdif 02 46 47.7 +0.8**
RLMT Red Lodge 103.58 350 Pdiff **Pdif 02 46 46.8 -0.1**
baz=12
F04D Rainier, OR 103.59 0 IAMs_20 IAMs_20 03 40 42.5
comp=Z,5µm,20.0s
RSSD Black Hills 103.64 346 IAMs_20 IAMs_20 03 37 25.7
comp=Z,5µm,20.0s
RSSD Black Hills 103.64 346 Pdiff **Pdif 02 46 46.6 -0.7**
baz=16
TZTN Tazewell 103.73 328 Pdiff **Pdif 02 46 47.0 -0.6**
baz=34
L34A Svendsen Farm, 103.76 340 IAMs_20 IAMs_20 03 40 12.3
comp=Z,5µm,19.0s
OLIL Olney 103.80 333 IAMs_20 IAMs_20 03 37 38.9
comp=Z,4µm,19.0s
N38A Joes South For 103.85 337 IAMs_20 IAMs_20 03 39 38.7
comp=Z,5µm,20.0s
KMSC Kings Mountain 103.85 326 IAMs_20 IAMs_20 03 34 57.6
comp=Z,5µm,20.0s
KMSC Kings Mountain 103.85 326 Pdiff **Pdif 02 46 47.0 -1.1**
baz=36
Q44A Meyer Farm, Va 104.01 334 IAMs_20 IAMs_20 03 32 41.4
comp=Z,4µm,22.0s
V53A Saluda 104.12 327 IAMs_20 IAMs_20 03 42 32.6
comp=Z,4µm,19.0s
Y57A Sumter 104.30 325 IAMs_20 IAMs_20 03 39 55.5
comp=Z,3µm,20.0s
V52A Sevierville 104.34 328 IAMs_20 IAMs_20 03 39 55.3
comp=Z,4µm,22.0s
PAULI Pauline 104.34 326 IAMs_20 IAMs_20 03 35 22.6
comp=Z,4µm,22.0s
PLID Pearl Lake 104.35 355 Pdif **Pdif 02 46 52.0 +1.5**
N35A Tabor 104.55 339 IAMs_20 IAMs_20 03 37 14.3
comp=Z,5µm,21.0s
TKL Tuckaleechee C 104.57 328 IAMs_20 IAMs_20 03 36 01.5
comp=Z,4µm,21.0s
P40A Paris 104.57 336 IAMs_20 IAMs_20 03 36 27.1
comp=Z,5µm,20.0s
SLM Saint Louis 104.71 334 IAMs_20 IAMs_20 03 42 13.7
comp=Z,4µm,20.0s
V51A Loudon 104.71 329 IAMs_20 IAMs_20 03 36 04.2
comp=Z,6µm,21.0s
BG3 Lake Jocassee 104.73 327 IAMs_20 IAMs_20 03 39 40.8
comp=Z,4µm,19.0s
BGNE Belgrade 104.78 341 IAMs_20 IAMs_20 03 36 54.3
comp=Z,5µm,21.0s
CASY Casey 104.80 160 IAMs_20 IAMs_20 03 25 53.8
comp=Z,5µm,22.0s
T47A Sharon Grove 104.90 331 IAMs_20 IAMs_20 03 41 44.0

	comp=Z,4µm,19.0s						
P38A	**Dawn**	**105.00 337**	Pdif	**Pdif**	**02 46 53.0**	**-0.1**
IMW	**Indian Meadow**	**105.01 351**	IAMs_20	IAMs_20	03 37 12.1	
	comp=Z,6µm,22.0s					
HODGE	**Hodges**	**105.03 326**	IAMs_20	IAMs_20	03 35 31.9	
	comp=Z,4µm,21.0s					
ELIB	**Princess Elisa**	**105.06 190**	*d*PKiKP	**PKiKP**	**02 51 04.8**	**-2.2**
CPCT	**Cooper Cave**	**105.08 329**	IAMs_20	IAMs_20	03 36 16.0	
	comp=Z,5µm,21.0s					
COR	**Corvallis**	**105.09 0**	IAMs_20	IAMs_20	03 37 43.1	
	comp=Z,9µm,20.0s					
W52A	**Murphy**	**105.11 328**	IAMs_20	IAMs_20	03 34 55.7	
	comp=Z,4µm,21.0s					
SIUC	**Southern Illin**	**105.12 333**	IAMs_20	IAMs_20	03 38 27.8	
	comp=Z,3µm,20.0s					
MOOW	**Moose Ponds**	**105.13 351**	IAMs_20	IAMs_20	03 40 31.2	
	comp=Z,5µm,21.0s					
N33A	**J Bar K, Exete**	**105.20 340**	IAMs_20	IAMs_20	03 39 23.5	
	comp=Z,5µm,20.0s					
LOHW	**Long Hollow**	**105.25 351**	Pdif	**Pdif**	**02 46 55.1**	**+0.7**
LOHW			IAMs_20	IAMs_20	03 37 19.2	
	comp=Z,6µm,21.0s					
I05D	**Terrebonne, OR**	**105.33 359**	IAMs_20	IAMs_20	03 37 11.4	
	comp=Z,6µm,22.0s					
FVM	**French Village**	**105.35 334**	IAMs_20	IAMs_20	03 42 42.8	
	comp=Z,4µm,18.0s					
SNOW	**Snow King Moun**	**105.42 351**	IAMs_20	IAMs_20	03 41 29.1	
	comp=Z,6µm,22.0s					
T45A	**Paducah**	**105.50 332**	IAMs_20	IAMs_20	03 37 26.9	
	comp=Z,4µm,21.0s					
REDW	**Red Top Meadow**	**105.53 351**	IAMs_20	IAMs_20	03 40 23.4	
	comp=Z,102µm,22.0s					
CCM	**Cathedral Cave**	**105.59 335**	IAMs_20	IAMs_20	03 43 32.1	
	comp=Z,3µm,18.0s					
W50A	**Signal Mountai**	**105.64 329**	IAMs_20	IAMs_20	03 36 43.8	
	comp=Z,5µm,21.0s					
CGM3	**Cape Girardeau**	**105.66 333**	IAMs_20	IAMs_20	03 44 07.9	
	comp=Z,3µm,19.0s					
R40A	**Maddies Statio**	**105.75 336**	IAMs_20	IAMs_20	03 37 13.3	
	comp=Z,5µm,20.0s					
V48A	**Smith Brothers**	**105.84 330**	IAMs_20	IAMs_20	03 38 21.1	
	comp=Z,3µm,20.0s					
PDAR	**Pinedale Array**	**105.93 350**	Pdiff	**Pdif**	**02 46 58.3**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=62,slow=4.2,SNR=1.6					
PDAR			PKiKP	**PKiKP**	**02 51 09.8**	**0.0**
	comp=Z,1.6nm,0.8s,baz=46,slow=6.4,SNR=3.7					
PDAR			PKKPbc	**PKKPbc**	**03 02 33.4**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=205,slow=2.5,SNR=4.9					
WVT	**Waverly**	**105.94 331**	IAMs_20	IAMs_20	03 39 30.4	
	comp=Z,4µm,20.0s					
X51A	**Calhoun**	**105.97 328**	IAMs_20	IAMs_20	03 36 42.5	
	comp=Z,4µm,20.0s					
MFID	**Camas Ranch**	**106.00 355**	IAMs_20	IAMs_20	03 41 28.1	
	comp=Z,4µm,20.0s					
AHID	**Auburn Hatcher**	**106.15 351**	IAMs_20	IAMs_20	03 40 47.5	
	comp=Z,8µm,22.0s					
HICK	**Hickman**	**106.15 333**	IAMs_20	IAMs_20	03 43 21.9	
	comp=Z,5µm,18.0s					
UTMT	**University of**	**106.17 332**	IAMs_20	IAMs_20	03 37 47.5	
	comp=Z,4µm,20.0s					
Y52A	**Lilburn**	**106.19 327**	IAMs_20	IAMs_20	03 38 05.4	
	comp=Z,4µm,22.0s					
PARMO	**Parma**	**106.25 333**	IAMs_20	IAMs_20	03 42 36.5	
	comp=Z,3µm,19.0s					
FPAL	**Fort Paine**	**106.33 329**	IAMs_20	IAMs_20	03 37 03.0	
	comp=Z,5µm,21.0s					
GLAT	**Glass**	**106.41 332**	IAMs_20	IAMs_20	03 37 51.8	
	comp=Z,4µm,20.0s					
PVMO	**Portageville**	**106.44 333**	IAMs_20	IAMs_20	03 39 08.8	
	comp=Z,4µm,20.0s					
KSU1	**Kansas State U**	**106.46 339**	IAMs_20	IAMs_20	03 39 41.8	
	comp=Z,3µm,20.0s					
RWWY	**Rawlins**	**106.59 348**	IAMs_20	IAMs_20	03 35 57.9	
	comp=Z,5µm,22.0s					
LNXT	**Lenox**	**106.63 332**	IAMs_20	IAMs_20	03 43 45.8	
	comp=Z,4µm,19.0s					
S39A	**Bolivar**	**106.66 336**	IAMs_20	IAMs_20	03 38 34.3	
	comp=Z,4µm,21.0s					
HALT	**Halls**	**106.74 332**	IAMs_20	IAMs_20	03 38 13.6	
	comp=Z,4µm,19.0s					
154A	**Montrose**	**106.76 326**	IAMs_20	IAMs_20	03 36 55.7	
	comp=Z,4µm,22.0s					
MGMO	**Mountain Grove**	**106.77 335**	IAMs_20	IAMs_20	03 43 05.1	
	comp=Z,4µm,19.0s					
PEBM	**Pemiscott Bayo**	**106.77 333**	IAMs_20	IAMs_20	03 39 18.4	
	comp=Z,4µm,19.0s					
K05A	**Summer Lake**	**106.94 359**	Pdif	**Pdif**	**02 47 01.3**	**-0.6**
GNAR	**Gosnell**	**106.96 333**	IAMs_20	IAMs_20	03 43 44.5	
	comp=Z,4µm,18.0s					
255A	**Hazlehurst**	**107.01 325**	IAMs_20	IAMs_20	03 41 46.4	
	comp=Z,3µm,20.0s					
X48A	**Hartselle**	**107.03 330**	IAMs_20	IAMs_20	03 38 15.6	
	comp=Z,4µm,21.0s					
K04D	**Chiloquin, OR**	**107.05 359**	IAMs_20	IAMs_20	03 37 44.9	
	comp=Z,5µm,22.0s					
BRIGG	**Briggsdale**	**107.09 345**	IAMs_20	IAMs_20	03 39 02.1	
	comp=Z,6µm,21.0s					
N23A	**Red Feather La**	**107.12 347**	IAMs_20	IAMs_20	03 40 19.0	
	comp=Z,5µm,20.0s					
Z51A	**Franklin**	**107.16 328**	IAMs_20	IAMs_20	03 38 38.0	
	comp=Z,3µm,21.0s					
SJG	**San Juan**	**107.18 304**	*e*P	**PP**	**02 51 26.0**	**-3.5**
Y49A	**Blount Mountai**	**107.26 329**	IAMs_20	IAMs_20	03 37 43.6	
	comp=Z,3µm,20.0s					
HVU	**Hansel Valley**	**107.33 352**	IAMs_20	IAMs_20	03 40 55.2	
	comp=Z,5µm,19.0s					
HWUT	**Hardware Ranch**	**107.35 351**	IAMs_20	IAMs_20	03 40 53.8	
	comp=Z,5µm,22.0s					
152A	**Waverly Hall**	**107.48 327**	IAMs_20	IAMs_20	03 41 22.7	
	comp=Z,4µm,20.0s					
CBKS	**Cedar Bluff**	**107.64 341**	IAMs_20	IAMs_20	03 38 53.9	
	comp=Z,6µm,22.0s					
MET	**Memphis--Engin**	**107.66 332**	IAMs_20	IAMs_20	03 44 18.0	
	comp=Z,4µm,18.0s					
R32A	**Long Quarter,**	**107.71 340**	IAMs_20	IAMs_20	03 40 39.9	
	comp=Z,3µm,19.0s					
SPUT	**South Promonto**	**107.75 352**	IAMs_20	IAMs_20	03 39 23.5	
	comp=Z,4µm,21.0s					
FCAR	**Ozark Folk Cen**	**107.84 334**	IAMs_20	IAMs_20	03 41 32.5	
	comp=Z,4µm,19.0s					
TIGA	**Tifton**	**107.96 326**	IAMs_20	IAMs_20	03 44 54.4	
	comp=Z,3µm,21.0s					
OXF	**Oxford**	**107.98 332**	IAMs_20	IAMs_20	03 45 50.5	
	comp=Z,4µm,19.0s					
RDMU	**Red Mountain**	**108.08 350**	IAMs_20	IAMs_20	03 45 49.2	
	comp=Z,4µm,19.0s					
ISCO	**Idaho Springs**	**108.11 346**	Pdif	**Pdif**	**02 47 06.3**	**-1.1**
ISCO			IAMs_20	IAMs_20	03 42 16.2	
	comp=Z,6µm,20.0s					
ISCO	**Idaho Springs**	**108.11 346**	PKiKP	**PKiKP**	**02 51 13.7**	**-0.3**
	baz=15					
ISCO	**Idaho Springs**	**108.11 346**	P	**Pdif**	**02 47 06.3**	**-1.1**
HHAR	**Hobbs**	**108.14 336**	IAMs_20	IAMs_20	03 41 49.5	
	comp=Z,3µm,18.0s					
BGU	**Big Grassy Mou**	**108.20 352**	IAMs_20	IAMs_20	03 41 48.4	
	comp=Z,4µm,19.0s					
KSCO	**Kaye Shedlock'**	**108.20 344**	IAMs_20	IAMs_20	03 44 12.6	
	comp=Z,5µm,20.0s					
LRAL	**Lakeview Retre**	**108.22 329**	IAMs_20	IAMs_20	03 41 19.9	
	comp=Z,3µm,18.0s					
LRAL	**Lakeview Retre**	**108.22 329**	PKiKP	**PKiKP**	**02 51 14.4**	**+0.4**
	baz=32					
CTU	**Camp Tracy**	**108.27 351**	IAMs_20	IAMs_20	03 41 35.2	
	comp=Z,5µm,22.0s					
O20A	**White River Ci**	**108.28 348**	IAMs_20	IAMs_20	03 42 19.7	
	comp=Z,5µm,20.0s					
O20A	**White River Ci**	**108.28 348**	PKiKP	**PKiKP**	**02 51 14.5**	**+0.3**
	baz=13					
BSUT	**Blindstream Ca**	**108.29 350**	IAMs_20	IAMs_20	03 41 12.7	
	comp=Z,6µm,21.0s					
WHAR	**Wooly Hollow**	**108.43 334**	IAMs_20	IAMs_20	03 42 00.2	
	comp=Z,3µm,20.0s					
T35A	**Sooner Cattle**	**108.43 338**	IAMs_20	IAMs_20	03 38 57.1	
	comp=Z,4µm,20.0s					
Y45A	**Yeager Farm, C**	**108.59 331**	IAMs_20	IAMs_20	03 46 18.9	
	comp=Z,4µm,21.0s					
ELK	**Elko**	**108.60 354**	Pdif	**Pdif**	**02 47 09.8**	**+0.4**
ELK			IAMs_20	IAMs_20	03 38 14.0	
	comp=Z,5µm,22.0s					
ELK	**Elko**	**108.60 354**	P	**Pdif**	**02 47 09.8**	**+0.4**
ELK			MLR	MLR		
	comp=Z,5µm,22.0s					
ELK	**Elko**	**108.60 354**	PP	**PP**	**02 51 35.3**	**-3.6**
	comp=Z,9.3nm,1.1s,baz=34,slow=7.1,SNR=4.8					
250A	**Grady**	**108.78 328**	IAMs_20	IAMs_20	03 38 21.0	
	comp=Z,4µm,20.0s					
DUG	**Dugway, Tooele**	**108.89 352**	IAMs_20	IAMs_20	03 40 41.7	
	comp=Z,5µm,20.0s					
DUG	**Dugway, Tooele**	**108.89 352**	PKiKP	**PKiKP**	**02 51 15.4**	**+0.1**
	baz=8.9					
UALR	**University of**	**108.91 334**	IAMs_20	IAMs_20	03 42 16.8	
	comp=Z,3µm,21.0s					
OK051	**E0350 and S346**	**108.91 338**	IAMs_20	IAMs_20	03 39 10.8	
	comp=Z,4µm,22.0s					
OK048	**Pawnee Station**	**109.03 338**	IAMs_20	IAMs_20	03 41 05.8	
	comp=Z,4µm,20.0s					
OK032	**Salt Plains WL**	**109.07 339**	IAMs_20	IAMs_20	03 42 05.7	
	comp=Z,5µm,21.0s					
TUL3	**Leonard**	**109.11 337**	PKiKP	**PKiKP**	**02 51 15.8**	**+0.2**
	baz=24					
TROLL	**Troll, Antarti**	**109.17 196**	⇑PKKPbc	**PKKPbc**	**03 02 21.6**	**-1.7**
	comp=Z,429nm,0.9s					
TROLL			⇑PKiKP	**PKiKP**	**02 51 14.7**	**+0.1**
	comp=Z,368nm,0.8s					
CROK	**Carrier**	**109.27 339**	IAMs_20	IAMs_20	03 45 05.2	
	comp=Z,4µm,20.0s					
OK035	**E0210 Rd and N**	**109.31 340**	IAMs_20	IAMs_20	03 42 02.1	
	comp=Z,4µm,20.0s					
P17A	**Butcher Ranch,**	**109.33 350**	IAMs_20	IAMs_20	03 46 33.3	
	comp=Z,4µm,18.0s					
OK033	**Mehan**	**109.37 338**	IAMs_20	IAMs_20	03 41 37.9	
	comp=Z,4µm,20.0s					
OK052	**Battle Ridge R**	**109.37 338**	IAMs_20	IAMs_20	03 41 38.0	
	comp=Z,4µm,19.0s					
553A	**Crawfordville**	**109.39 325**	IAMs_20	IAMs_20	03 38 20.5	
	comp=Z,3µm,21.0s					
OK030	**Cody Creek RV**	**109.43 338**	IAMs_20	IAMs_20	03 42 29.4	
	comp=Z,4µm,20.0s					
CCAR	**Cane Creek**	**109.44 333**	IAMs_20	IAMs_20	03 42 51.2	
	comp=Z,4µm,19.0s					
146A	**Union**	**109.45 330**	IAMs_20	IAMs_20	03 44 44.6	
	comp=Z,3µm,20.0s					
OK038	**West end E0370**	**109.53 340**	IAMs_20	IAMs_20	03 42 29.0	
	comp=Z,4µm,21.0s					
MIAR	**Mount Ida**	**109.57 335**	IAMs_20	IAMs_20	03 43 42.4	
	comp=Z,4µm,18.0s					
MIAR	**Mount Ida**	**109.57 335**	PKiKP	**PKiKP**	**02 51 16.9**	**+0.4**
	baz=26					
SRU	**San Rafael Swe**	**109.65 350**	IAMs_20	IAMs_20	03 43 09.8	
	comp=Z,5µm,20.0s					
U32A	**Winter Ranch,**	**109.70 340**	IAMs_20	IAMs_20	03 42 14.4	
	comp=Z,3µm,20.0s					
OK029	**Liberty Lake**	**109.76 338**	IAMs_20	IAMs_20	03 41 37.2	
	comp=Z,3µm,21.0s					
BRAL	**Brewton**	**109.82 328**	IAMs_20	IAMs_20	03 40 17.5	
	comp=Z,5µm,19.0s					
Q16A	**Castle Valley**	**109.94 350**	IAMs_20	IAMs_20	03 46 20.4	
	comp=Z,4µm,20.0s					
SDCO	**Great Sand Dun**	**110.06 346**	PKiKP	**PKiKP**	**02 51 17.5**	**-0.2**
	baz=16					
ELIS	**Ellis County**	**110.11 340**	IAMs_20	IAMs_20	03 48 03.4	
	comp=Z,5µm,21.0s					
ORV	**Oroville**	**110.11 359**	IAMs_20	IAMs_20	03 41 53.0	
	comp=Z,5µm,21.0s					
WLAR	**White Oak Lake**	**110.16 334**	IAMs_20	IAMs_20	03 46 23.1	
	comp=Z,4µm,19.0s					
W35A	**Tecumseh**	**110.16 338**	IAMs_20	IAMs_20	03 42 04.0	
	comp=Z,5µm,21.0s					
FNO	**Franklin**	**110.24 338**	IAMs_20	IAMs_20	03 40 42.9	
	comp=Z,3µm,21.0s					
SNAA	**Sanae**	**110.25 197**	⇑PKKPbc	**PKKPbc**	**03 02 16.9**	**-2.8**
	comp=Z,102nm,1.1s					
SNAA			⇑PKiKP	**PKiKP**	**02 51 15.8**	**-0.7**
	comp=Z,211nm,1.0s					
SNAA	**Sanae**	**110.25 197**	PKiKP	**PKiKP**	**02 51 15.2**	**-1.4**
	comp=Z,13nm,1.1s,baz=61,slow=3.1,SNR=11					
SNAA			PKKPbc	**PKKPbc**	**03 02 16.8**	**-2.8**
	comp=Z,5.7nm,1.0s,baz=241,slow=5.0,SNR=7.2					
143A	**Socs Landing,**	**110.36 332**	IAMs_20	IAMs_20	03 46 00.7	
	comp=Z,4µm,19.0s					
T25A	**Trinidad**	**110.40 345**	PKiKP	**PKiKP**	**02 51 18.1**	**-0.3**
	baz=17					
TCRU	**Three Creeks R**	**110.41 351**	IAMs_20	IAMs_20	03 39 15.9	
	comp=Z,5µm,22.0s					
VBMS	**Vicksburg**	**110.43 331**	IAMs_20	IAMs_20	03 45 15.4	
	comp=Z,3µm,20.0s					
KVN	**Kaiserville**	**110.50 356**	IAMs_20	IAMs_20	03 38 31.1	
	comp=Z,5µm,22.0s					
YERR	**Yerington**	**110.62 357**	IAMs_20	IAMs_20	03 43 52.3	
	comp=Z,5µm,20.0s					
HOPS	**Hopland Field**	**110.68 0**	IAMs_20	IAMs_20	03 41 41.8	
	comp=Z,7µm,20.0s					
HMU	**Henry Mountain**	**110.83 350**	IAMs_20	IAMs_20	03 46 37.1	
	comp=Z,3µm,20.0s					
BDFB	**Brasilia**	**110.86 264**	IAMs_20	IAMs_20	03 42 19.4	
	comp=Z,5µm,18.0s					
BDFB	**Brasilia**	**110.86 264**	PP	**PP**	**02 51 56.7**	**-0.5**
	comp=Z,12nm,1.1s,baz=34,slow=3.4,SNR=5.1					
MTPU	**Mount Pierson**	**110.94 351**	IAMs_20	IAMs_20	03 40 17.8	
	comp=Z,5µm,21.0s					
R11B	**Troy Canyon, C**	**111.01 354**	IAMs_20	IAMs_20	03 43 00.7	
	comp=Z,4µm,20.0s					
R11B	**Troy Canyon, C**	**111.01 354**	PKiKP	**PKiKP**	**02 51 19.3**	**-0.1**
	baz=6.5					
VNA2	**Neumayer--Watz**	**111.02 199**	⇑PKKPbc	**PKKPbc**	**03 02 14.7**	**-2.4**
	comp=Z,11nm,1.0s,baz=268,slow=5.0					
VNA2			⇑PKiKP	**PKiKP**	**02 51 17.8**	**-0.2**
	comp=Z,17nm,0.8s,baz=49,slow=3.0					
VNA1	**Neumayer--Stat**	**111.11 199**	⇑PKKPbc	**PKKPbc**	**03 02 14.2**	**-2.5**
	comp=Z,14nm,1.0s					
VNA1			⇑PKiKP	**PKiKP**	**02 51 18.0**	**-0.1**
	comp=Z,27nm,0.9s					
NVAR	**Mina Array Bea**	**111.12 356**	Pdiff	**Pdif**	**02 47 23.2**	**+2.5**
	comp=Z,0.4nm,0.7s,baz=56,slow=3.7,SNR=3.6					
NVAR			PKiKP	**PKiKP**	**02 51 20.4**	**+0.8**
	comp=Z,4.3nm,1.0s,baz=17,slow=0.9,SNR=4.0					
WMOK	**Wichita Mounta**	**111.15 339**	IAMs_20	IAMs_20	03 40 54.0	
	comp=Z,4µm,21.0s					
WMOK	**Wichita Mounta**	**111.15 339**	PKiKP	**PKiKP**	**02 51 19.4**	**-0.1**
	baz=22					
MVCO	**Mesa Verde**	**111.17 348**	IAMs_20	IAMs_20	03 42 54.4	
	comp=Z,5µm,20.0s					
MVCO	**Mesa Verde**	**111.17 348**	PKiKP	**PKiKP**	**02 51 19.9**	**+0.1**
	baz=13					
Z38A	**Mt. Pleasant**	**111.23 335**	IAMs_20	IAMs_20	03 44 42.5	
	comp=Z,4µm,20.0s					
LOOK	**Love County**	**111.33 337**	IAMs_20	IAMs_20	03 45 18.8	
	comp=Z,4µm,20.0s					
MCCM	**Marconi Confer**	**111.53 0**	IAMs_20	IAMs_20	03 43 56.4	
	comp=Z,4µm,20.0s					
PKCU	**Pink Cliffs**	**111.54 351**	IAMs_20	IAMs_20	03 47 25.8	
	comp=Z,5µm,20.0s					
S11A	**Rachel**	**111.72 354**	IAMs_20	IAMs_20	03 44 20.6	
	comp=Z,3µm,20.0s					
VNA3	**Neumayer Olymp**	**111.82 199**	⇑PKKPbc	**PKKPbc**	**03 02 11.8**	**-2.7**
	comp=Z,13nm,1.0s					
VNA3			⇑PKiKP	**PKiKP**	**02 51 18.8**	**-0.7**
	comp=Z,19nm,0.8s					
AMTX	**Amarillo**	**111.86 342**	PKiKP	**PKiKP**	**02 51 20.9**	**0.0**
	baz=19					
Z35A	**Perchaven, San**	**111.96 337**	IAMs_20	IAMs_20	03 47 03.4	
	comp=Z,4µm,22.0s					
FW06	**Azle**	**112.39 337**	IAMs_20	IAMs_20	03 48 21.8	
	comp=Z,4µm,21.0s					
TPNV	**Topopah Spring**	**112.46 354**	IAMs_20	IAMs_20	03 46 22.4	
	comp=Z,5µm,19.0s					
NATX	**Nacogdoches**	**112.46 334**	IAMs_20	IAMs_20	03 41 35.1	
	comp=Z,3µm,20.0s					
NATX	**Nacogdoches**	**112.46 334**	PKiKP	**PKiKP**	**02 51 22.5**	**+0.4**
	baz=26					
FW03	**Perrin-Whitt E**	**112.49 338**	IAMs_20	IAMs_20	03 44 30.6	
	comp=Z,3µm,21.0s					
237A	**Washetta, Mont**	**112.67 335**	IAMs_20	IAMs_20	03 46 03.4	
	comp=Z,4µm,21.0s					
FW07	**Weatherford**	**112.71 337**	IAMs_20	IAMs_20	03 45 34.4	
	comp=Z,4µm,21.0s					
441A	**DeRidder**	**112.80 333**	IAMs_20	IAMs_20	03 46 46.1	
	comp=Z,5µm,22.0s					
ANMO	**Albuquerque**	**112.96 346**	IAMs_20	IAMs_20	03 45 12.6	
	comp=Z,4µm,21.0s					
ANMO	**Albuquerque**	**112.96 346**	PKiKP	**PKiKP**	**02 51 23.0**	**-0.2**
	baz=15					
ANMO	**Albuquerque**	**112.96 346**	PKKPbc	PKKPbc	03 02 09.5	-0.6
	comp=Z,2.1nm,1.0s,baz=279,slow=3.4,SNR=4.2					
FURC	**Furnace Creek,**	**112.98 355**	PKiKP	**PKiKP**	**02 51 23.2**	**+0.3**
	baz=5.4					
MSTX	**Muleshoe**	**113.01 342**	PKiKP	**PKiKP**	**02 51 23.1**	**-0.1**
	baz=18					
CWC	**Cottonwood Cre**	**113.09 356**	PKiKP	**PKiKP**	**02 51 23.1**	**-0.2**
	baz=4.3					
GWY	**Greenwater Val**	**113.25 355**	IAMs_20	IAMs_20	03 42 29.9	
	comp=Z,3µm,21.0s					
WHTX	**Lake Whitney,**	**113.25 337**	IAMs_20	IAMs_20	03 43 51.7	
	comp=Z,4µm,20.0s					
WHTX	**Lake Whitney,**	**113.25 337**	PKiKP	**PKiKP**	**02 51 24.1**	**+0.5**
	baz=23					
WUAZ	**Wupatki**	**113.30 350**	IAMs_20	IAMs_20	03 46 04.9	
	comp=Z,5µm,19.0s					
WUAZ	**Wupatki**	**113.30 350**	PKiKP	**PKiKP**	**02 51 24.2**	**+0.4**
	baz=10					
ABTX	**Abilene, Hawle**	**113.38 339**	IAMs_20	IAMs_20	03 42 12.9	
	comp=Z,5µm,22.0s					
ABTX	**Abilene, Hawle**	**113.38 339**	PKiKP	**PKiKP**	**02 51 23.9**	**0.0**
	baz=21					
W18A	**Petrified Fore**	**113.43 348**	PKiKP	**PKiKP**	**02 51 23.9**	**-0.2**
	baz=12					
MPMC	**Manual Prospec**	**113.44 355**	PKiKP	**PKiKP**	**02 51 24.1**	**+0.1**
	baz=4.8					
CAMR	**Camarioca**	**113.49 319**	IAMs_20	IAMs_20	03 44 06.8	
	comp=Z,3µm,20.0s					
SPB	**Sao Paulo**	**113.81 256**	IAMs_20	IAMs_20	03 40 47.0	
	comp=Z,4µm,19.0s					
435B	**Jarrell**	**114.40 336**	IAMs_20	IAMs_20	03 46 21.2	
	comp=Z,4µm,22.0s					
EDW2	**Edwards Air Fo**	**114.64 356**	PKiKP	PKPdf	02 51 26.7	+0.4
	baz=4.4					
BCW	**Bitter Crk WRg**	**114.66 357**	IAMs_20	IAMs_20	03 42 00.2	
	comp=Z,5µm,20.0s					
CBCY	**The Bluff, Cay**	**115.10 315**	IAMs_20	IAMs_20	03 40 06.7	
	comp=Z,5µm,22.0s					
BFSC	**Mount Baldy Ra**	**115.25 355**	PKiKP	**PKPdf**	**02 51 28.1**	**+0.5**
	baz=4.8					
PASC	**Pasadena Art C**	**115.36 356**	IAMs_20	IAMs_20	03 43 39.3	
	comp=Z,6µm,21.0s					
BELC	**Belle Mtn. Jos**	**115.36 354**	PKiKP	**PKPdf**	**02 51 28.5**	**+0.8**
	baz=6.3					
JCT	**Junction City**	**115.41 338**		**PKiKP**	**02 51 27.0**	**-0.8**
JCT			IAMs_20	IAMs_20	03 46 29.9	
	comp=Z,5µm,22.0s					
JCT	**Junction City**	**115.41 338**	PKiKP	**PKPdf**	**02 51 28.3**	**+0.5**
	baz=22					
JCT	**Junction City**	**115.41 338**	PKIKP	**PKiKP**	**02 51 27.0**	**-0.8**
121A	**Cookes Peak, D**	**115.57 346**	PKiKP	**PKPdf**	**02 51 28.5**	**+0.2**
	baz=14					
SCZ2	**Santa Cruz Isl**	**115.61 357**	PKiKP	**PKPdf**	**02 51 28.9**	**+0.8**
	baz=2.9					
DUN6	**Lazy B Ranch**	**115.81 347**	PKPdf	**PKPdf**	**02 51 29.9**	**+1.3**
EPT	**El Paso**	**116.03 345**	IAMs_20	IAMs_20	03 45 37.5	
	comp=Z,5µm,20.0s					
TUC	**Tucson**	**116.35 349**	PKPdf	**PKiKP**	**02 51 29.6**	**0.0**
TUC	**Tucson**	**116.35 349**	IAMs_20	IAMs_20	03 42 05.2	
	comp=Z,4µm,21.0s					
TUC	**Tucson**	**116.35 349**	PKIKP	**PKiKP**	**02 51 29.6**	**0.0**
TUC			MLR	MLR		
	comp=Z,4µm,21.0s					
SDV	**Santo Domingo**	**116.49 300**	PKPdf	**PKPdf**	**02 51 28.6**	**-1.8**
SDV	**Santo Domingo**	**116.49 300**	PKP	**PKPdf**	**02 51 29.1**	**-1.4**
	comp=Z,4.8nm,0.8s,baz=58,slow=4.9,SNR=5.4					
SDV			PP	PP	02 52 28.2	-8.4
	comp=Z,1.8nm,0.5s,baz=30,slow=7.8,SNR=3.6					
SDV			PKKPbc	**PKKPbc**	**03 01 58.4**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=299,slow=8.6,SNR=3.9					
DZM	**Mont Dzumac**	**116.81 101**	*e*LR	LR	03 26 51.8	
	comp=Z,3µm,24.7s					
833A	**Chaparral WMA,**	**117.27 337**	PKPdf	**PKPdf**	**02 51 30.9**	**-0.5**
TX31	**Lajitas Ar. Si**	**117.64 341**	P	**PKPdf**	**02 51 30.9**	**-1.3**
	baz=18					
TXAR	**Lajitas Array**	**117.64 341**	PKPdf	**PKPdf**	**02 51 31.6**	**-0.6**
TXAR	**Lajitas Array**	**117.64 341**	PKIKP	**PKPdf**	**02 51 31.6**	**-0.6**
TXAR	**Lajitas Array**	**117.64 341**	PKP	**PKPdf**	**02 51 31.8**	**-0.4**
	comp=Z,8.1nm,1.0s,baz=101,slow=0.6,SNR=7.1					
TXAR			PKKPbc	**PKKPbc**	**03 01 50.8**	**-2.9**
	comp=Z,2.1nm,1.0s,baz=184,slow=5.0,SNR=6.8					
VTX	**Valle De La Tr**	**117.92 353**	IAMs_20	IAMs_20	03 46 38.8	
	comp=Z,5µm,21.0s					
TAMC	**Tame, Arauca**	**118.94 298**	*e*P	**PKPdf**	**02 51 34.4**	**-0.6**
SJCC	**San Jacinto, C**	**119.15 304**	*e*P	**PKPdf**	**02 51 34.4**	**-1.0**
TEIG	**Tepich**	**119.56 322**		**PKPdf**	**02 51 35.3**	**-0.7**
TEIG			IAMs_20	IAMs_20	03 52 44.1	
	comp=Z,3µm,22.0s					
TEIG	**Tepich**	**119.56 322**	PKP	**PKPdf**	**02 51 35.8**	**-0.1**
	comp=Z,170nm,1.0s,baz=76,slow=6.7,SNR=4.1					
TEIG			PKKPbc	**PKKPbc**	**03 01 45.9**	**-0.5**
	comp=Z,113nm,1.0s,baz=319,slow=4.1,SNR=4.1					
BELA	**Belgrano 2**	**120.17 194**	PKPdf	**PKPdf**	**02 51 34.6**	**-0.8**
RUSC	**La Rusia**	**120.27 299**	*e*P	**PKPdf**	**02 51 36.4**	**-1.7**
QSPA	**South Pole Qui**	**120.51 180**	IAMs_20	IAMs_20	03 42 29.4	
	comp=Z,5µm,19.0s					
QSPA	**South Pole Qui**	**120.51 180**	PKP	**PKPdf**	**02 51 35.5**	**-0.9**
	baz=266,slow=2.3					
ZARC	**Zaragoza, Cauc**	**120.54 301**	*e*P	**PKPdf**	**02 51 36.7**	**-1.3**
PTGC	**Puerto Gaitan,**	**120.63 297**	*e*P	**PKPdf**	**02 51 34.7**	**-3.4**
LCBC	**Los crdobas,**	**120.72 304**	*e*P	**PKiKP**	**02 51 40.9**	**+2.5**
SAML	**Samuel**	**120.73 278**	PKPdf	**PKPdf**	**02 51 37.0**	**-1.2**
SAML	**Samuel**	**120.73 278**	IAMs_20	IAMs_20	03 47 34.0	
	comp=Z,4µm,19.0s					
SAML	**Samuel**	**120.73 278**	PKIKP	**PKPdf**	**02 51 37.1**	**-1.2**
SAML	**Samuel**	**120.73 278**	*e*P	**PKiKP**	**02 51 38.8**	**+0.4**
PTBC	**PUERTO BERRIO,**	**120.88 300**	*e*P	**PKPdf**	**02 51 37.2**	**-1.4**
SPBC	**San Pablo de B**	**121.17 299**	*e*P	**PKPdf**	**02 51 37.9**	**-1.4**
APAC	**Apartado, Choc**	**121.52 303**	*e*P	**PKiKP**	**02 51 41.0**	**+1.0**
CHIC	**Chingaza**	**121.58 298**	*e*P	**PKPdf**	**02 51 38.7**	**-1.8**
NORC	**Norcasia**	**121.83 300**	*e*P	**PKPdf**	**02 51 40.0**	**-0.5**
DBBC	**Dabeiba**	**121.85 302**	*e*P	**PKPdf**	**02 51 38.7**	**-1.9**
VILC	**Villavicencio,**	**121.88 298**	*e*P	**PKiKP**	**02 51 42.7**	**+1.8**
ROSC	**El Rosal**	**121.89 299**	IAMs_20	IAMs_20	03 56 07.6	
	comp=Z,3µm,18.0s					
ROSC	**El Rosal**	**121.89 299**	*e*P	**PKPdf**	**02 51 39.0**	**-2.1**
ROSC	**El Rosal**	**121.89 299**	PKP	**PKPdf**	**02 51 40.7**	**-0.4**
	comp=Z,59nm,1.0s,baz=126,slow=19,SNR=16					
MEDEC	**Medelln, Ant**	**121.89 301**	*e*P	**PKiKP**	**02 51 41.4**	**+0.4**
CVER	**Cruz Verde, Cu**	**121.91 298**	*e*P	**PKPdf**	**02 51 40.2**	**-1.1**
BBRB	**Robore, Bolivi**	**122.14 267**	*e*P	**PKiKP**	**02 51 41.8**	**+0.8**
SIV	**San Ignacio**	**122.24 270**	PKP	**PKPdf**	**02 51 40.6**	**-0.5**
	comp=Z,19nm,1.0s,baz=82,slow=2.0,SNR=36					
SIV			PP	**PP**	**02 53 10.2**	**-6.5**
	comp=Z,5.8nm,1.0s,baz=101,slow=5.7,SNR=3.7					
BBSD	**Serra de San D**	**122.36 268**	*e*P	**PKPdf**	**02 51 41.4**	**+0.1**
GUY2C	**Guyana, Caldas**	**122.42 300**	*e*P	**PKPdf**	**02 51 40.9**	**-1.3**
CBOC	**Ciudad Bolivar**	**122.48 301**	*e*P	**PKiKP**	**02 51 43.6**	**+1.5**
RODS	**Rosario do Sul**	**122.74 252**	*e*P	**PKiKP**	**02 51 42.2**	**+0.4**
VNDA	**Vanda**	**122.85 165**	PKPdf	**PKPdf**	**02 51 40.2**	**-0.3**
VNDA	**Vanda**	**122.85 165**	PKP	**PKPdf**	**02 51 39.6**	**-0.9**
	comp=Z,6.3nm,1.0s,baz=255,slow=4.7,SNR=14					
VNDA			PP	**PP**	**02 53 14.3**	**-5.0**
	comp=Z,6.8nm,1.1s,baz=266,slow=9.1,SNR=3.0					
PRAC	**Prado**	**123.04 298**	*e*P	**PKPdf**	**02 51 39.4**	**-3.5**
PETF	**Flores**	**123.13 322**		**PKPdf**	**02 51 42.1**	**-0.7**
CPUP	**Villa Florida**	**123.15 257**	IAMs_20	IAMs_20	03 42 53.4	
	comp=Z,4µm,20.0s					
CPUP	**Villa Florida**	**123.15 257**	PKP	**PKPdf**	**02 51 41.3**	**-1.3**
	comp=Z,25nm,1.1s,baz=63,slow=2.4,SNR=21					
CPUP			PP	**PP**	**02 53 20.7**	**-2.1**
	comp=Z,7.5nm,1.1s,baz=68,slow=3.9,SNR=5.1					
CPUP			PKKPbc	**PKKPab**	**03 01 29.1**	**-3.4**
	comp=Z,2.5nm,1.1s,baz=189,slow=7.5,SNR=3.1					
ORTC	**Ortega, Tolima**	**123.19 299**	*e*P	**PKPdf**	**02 51 40.4**	**-2.7**
PLMC	**San Jos del P**	**123.31 300**	*e*P	**PKPdf**	**02 51 40.8**	**-2.6**
ZAIG	**Zacatecas**	**123.47 338**	PKPdf	**PKPdf**	**02 51 43.6**	**-0.2**
ZAIG			IAMs_20	IAMs_20	03 54 14.3	
	comp=Z,3µm,18.0s					
ITQB	**Itaqui**	**123.70 253**	*e*P	**PKiKP**	**02 51 44.3**	**+0.5**
ETMB	**Extrema**	**123.74 279**	*e*P	**PKiKP**	**02 51 44.4**	**+0.1**
SBA	**Scott Base**	**123.84 166**		**PKiKP**	**02 51 43.3**	**+0.7**
SBA	**Scott Base**	**123.84 166**	PKIKP	**PKiKP**	**02 51 43.3**	**+0.7**
TBTG	**Tabatinga, AM**	**123.85 287**	*e*P	**PKPdf**	**02 51 42.5**	**-1.9**
TBTG	**Tabatinga, AM**	**123.85 287**	*e*P	**PKiKP**	**02 51 45.1**	**+0.5**
YOTC	**Yotoco, Valle**	**123.97 300**	*e*P	**PKPdf**	**02 51 41.9**	**-2.8**
TGUH	**Tegucigalpa,Un**	**124.00 317**	IAMs_20	IAMs_20	03 56 25.5	
	comp=Z,4µm,20.0s					
TGUH	**Tegucigalpa,Un**	**124.00 317**	*e*P	**PKPdf**	**02 51 44.0**	**-0.8**
AZU	**Azuero**	**124.22 306**	*e*P	**PKPdf**	**02 51 40.2**	**-4.8**
ACON	**Acoyapa**	**124.36 314**	*e*P	**PKPdf**	**02 51 43.6**	**-1.7**
SLBS	**Sierra La Lagu**	**124.59 346**	IAMs_20	IAMs_20	03 42 44.6	
	comp=Z,7µm,20.0s					
JAMC	**Jamundi, Valle**	**124.72 299**	*e*P	**PKPdf**	**02 51 44.6**	**-1.7**
COVE	**Coope Vega, Sa**	**124.83 312**	IAMs_20	IAMs_20	03 56 04.3	
	comp=Z,3µm,21.0s					
CCIG	**Comitan**	**124.85 324**	IAMs_20	IAMs_20	03 51 50.5	
	comp=Z,5µm,21.0s					
MECA	**Mercedes**	**124.85 254**	*e*P	**PKiKP**	**02 51 47.1**	**+1.0**
MTO3	**Montecristo**	**124.92 320**	IAMs_20	IAMs_20	03 51 35.8	
	comp=Z,3µm,22.0s					
CACAO	**El Cacao, Vera**	**124.94 306**	*e*P	**PKPdf**	**02 51 44.4**	**-2.1**
FLOC	**Florencia**	**124.99 297**	*e*P	**PKPdf**	**02 51 45.3**	**-1.3**
POPC	**Popayan, Colom**	**125.16 299**	*e*P	**PKPdf**	**02 51 44.4**	**-2.8**
HDC	**Heredia**	**125.19 311**	IAMs_20	IAMs_20	03 57 45.8	
	comp=Z,3µm,20.0s					
HDC	**Heredia**	**125.19 311**	*e*P	**PKiKP**	**02 51 48.3**	**+0.9**
RIMA	**Rio Macho**	**125.20 311**	PKPdf	**PKPdf**	**02 51 46.6**	**-0.5**
PTLC	**Puerto Leguiza**	**125.22 295**	*e*P	**PKPdf**	**02 51 44.4**	**-2.6**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ARE1	Arenal 1	125.23	312	IAMs_20	IAMs_20	03 55 55.9	
	comp=Z,3µm,20.0s						
LCR2	La Lucha 2	125.31	311	IAMs_20	IAMs_20	03 56 23.2	
	comp=Z,2µm,20.0s						
SNET	Serv Nac Est T	125.42	319	IAMs_20	IAMs_20	03 50 47.5	
	comp=Z,5µm,22.0s						
JTS	Las Juntas de	125.50	312	IAMs_20	IAMs_20	03 55 05.2	
	comp=Z,2µm,20.0s						
JTS	Las Juntas de	125.50	312	eP	PKPdf	02 51 44.9	-2.6
JTS	Las Juntas de	125.50	312	PKP	PKPdf	02 51 46.4	-1.1
	comp=Z,8.5nm,0.9s,baz=307,slow=20,SNR=4.3						
CMIG	Matias Romero	125.51	327	PKP	PKPdf	02 51 46.8	-0.7
	comp=Z,34nm,1.0s,baz=53,slow=2.5,SNR=18						
HZTE	Horizontes, Gu	125.59	313	IAMs_20	IAMs_20	03 55 36.3	
	comp=Z,3µm,20.0s						
ORTG	Ortega, Santa	125.77	313	IAMs_20	IAMs_20	03 57 13.2	
	comp=Z,4µm,20.0s						
JACO	JACO, Garabito	125.79	312	IAMs_20	IAMs_20	03 57 16.9	
	comp=Z,3µm,20.0s						
BBAC	Balboa, Cauca	125.93	299	eP	PKPdf	02 51 47.0	-1.6
CRUC	La Cruz	126.00	298	eP	PKPdf	02 51 48.1	-0.9
FOZ	Fox Glacier	126.00	124	PKPdf	PKPdf	02 51 46.3	-1.2
GCUF	Volcan Galeras	126.52	298	eP	PKiKP	02 51 50.6	0.0
CMBC	Cumbal	127.06	298	eP	PKiKP	02 51 51.7	+0.1
BONI	La Bonita	127.15	297	eP	PKPdf	02 51 49.6	-1.4
TUMC	Tumaco	127.17	300	eP	PKPdf	02 51 44.0	-6.7
TKNZ	Takaka Hill	127.86	120		PKPdf	02 51 50.7	-0.5
CUSE	Cuicocha Este	127.91	298	eP	PKPdf	02 51 52.2	-0.4
OTAV	Otavalo	128.00	298	PKPdf	PKPdf	02 51 51.3	-1.6
OTAV	Otavalo	128.00	298	eP	PKPdf	02 51 51.1	-1.7
OTAV	Otavalo	128.00	298	PKIKP	PKPdf	02 51 51.3	-1.6
OTAV	Otavalo	128.00	298	eP	PKPdf	02 51 52.9	0.0
MQZ	McQueen's Vall	128.07	124	IAMs_20	IAMs_20	03 54 03.5	
	comp=Z,2µm,18.0s						
CZSB	Cruzeiro do Su	128.12	285	eP	PKPdf	02 51 49.4	-3.1
CZSB	Cruzeiro do Su	128.12	285	eP	PKiKP	02 51 53.3	+0.2
PAC1	Pacto, Paraso	128.24	298	eP	PKPdf	02 51 52.2	-0.7
LPAZ	La Paz	128.45	273	IAMs_20	IAMs_20	03 49 51.0	
	comp=Z,4µm,20.0s						
LPAZ	La Paz	128.45	273	eP	PKPdf	02 51 50.9	-2.9
LPAZ	La Paz	128.45	273	eP	PKPdf	02 51 53.4	-0.3
LPAZ	La Paz	128.45	273	PKP	PKPdf	02 51 52.9	-0.8
	comp=Z,18nm,1.0s,baz=46,slow=3.8,SNR=35						
PIAT	Ana Tenorio	128.64	296	eP	PKPdf	02 51 52.2	-1.8
SLOR	San Lorenzo -	128.65	297	PKPdf	PKiKP	02 51 54.8	+0.1
EFI	East Falkland	128.87	226	PKPdf	PKPdf	02 51 52.0	-0.7
EFI	East Falkland	128.87	226	PKIKP	PKPdf	02 51 52.0	-0.7
EFI				MLR	MLR		
	comp=Z,6µm,21.0s						
TOZ	Tahuroa Road	129.17	116	PKPdf	PKPdf	02 51 53.9	+0.2
TRQA	Tornquist	130.16	244	PKPdf	PKPdf	02 51 55.3	-0.4
TRQA	Tornquist	130.16	244	PKIKP	PKPdf	02 51 55.3	-0.4
TRQA				MLR	MLR		
	comp=Z,6µm,21.0s						
COHC	Cochancay	130.33	296	eP	PKPdf	02 51 55.6	-1.1
AF01	San Pedro de A	131.18	265	IAMs_20	IAMs_20	03 52 21.7	
	comp=Z,3µm,21.0s						
AP01	Chacalluta	131.25	272	IAMs_20	IAMs_20	03 52 25.3	
	comp=Z,4µm,19.0s						
SALI	Salinas	131.49	298	IAMs_20	IAMs_20	04 02 48.1	
	comp=Z,3µm,19.0s						
ARNL	Arenillas	131.63	295		PKPdf	02 51 59.6	+0.4
ARNL				IAMs_20	IAMs_20	03 55 19.7	
	comp=Z,2µm,21.0s						
PB09	IPOC Station P	131.66	267	IAMs_20	IAMs_20	03 52 33.4	
	comp=Z,3µm,20.0s						
LVC	Limon Verde	131.68	266	PKPdf	PKiKP	02 52 00.3	-0.2
LVC	Limon Verde	131.68	266	PKIKP	PKiKP	02 52 00.3	-0.2
LVC	Limon Verde	131.68	266	eP	PKPdf	02 51 59.0	-0.4
TA02	Huaiquique	131.84	269	IAMs_20	IAMs_20	03 57 28.0	
	comp=Z,3µm,20.0s						
TA01	Diego Aracena	132.00	269	IAMs_20	IAMs_20	03 53 32.2	
	comp=Z,3µm,22.0s						
PB02	IPOC Station P	132.05	268	IAMs_20	IAMs_20	03 53 48.5	
	comp=Z,4µm,21.0s						
MCRA	Macar, Loja	132.06	294	eP	PKPdf	02 51 57.9	-2.1
PATCX	Punta Patache	132.08	269	IAMs_20	IAMs_20	03 52 23.2	
	comp=Z,4µm,20.0s						
PB07	IPOC Station P	132.19	268	IAMs_20	IAMs_20	03 57 08.4	
	comp=Z,3µm,20.0s						
PB15	IPOC Station P	132.38	266	IAMs_20	IAMs_20	03 56 21.4	
	comp=Z,4µm,19.0s						
ATAH	Atahualpa	132.46	290	PKP	PKiKP	02 52 01.9	-0.5
	comp=Z,25nm,1.1s,baz=41,slow=2.9,SNR=16						
ATAH				PP	PP	02 54 22.9	-1.5
	comp=Z,8.0nm,1.1s,baz=101,slow=5.2,SNR=2.3						
PB04	IPOC Station P	132.65	267	IAMs_20	IAMs_20	03 55 05.4	
	comp=Z,3µm,20.0s						
GO02	Mina Guanaco	133.15	263	IAMs_20	IAMs_20	03 58 28.9	
	comp=Z,3µm,19.0s						
PB14	IPOC Station P	133.67	264	IAMs_20	IAMs_20	03 52 42.6	
	comp=Z,4µm,21.0s						
NNA	Nana	133.82	284	IAMs_20	IAMs_20	04 00 11.5	
	comp=Z,3µm,20.0s						
NNA	Nana	133.82	284	PKP	PKPdf	02 52 03.3	0.0
	comp=Z,6.9nm,0.4s,baz=56,slow=9.6,SNR=2.4						
ZON	Zonda	134.19	254	PKPdf	PKiKP	02 52 04.3	-0.5
ZON	Zonda	134.19	254	PKIKP	PKiKP	02 52 04.4	-0.5
GO03	Copiap	134.46	260	IAMs_20	IAMs_20	03 51 50.5	
	comp=Z,4µm,21.0s						
AC05	El Transito	134.84	258	IAMs_20	IAMs_20	03 54 20.7	
	comp=Z,3µm,21.0s						
LCO	Las Campanas	135.25	258		PKPdf	02 52 06.0	+0.1
LCO	Las Campanas	135.25	258	PKIKP	PKPdf	02 52 06.0	+0.1
AC04	Llanos de Chal	135.34	260	IAMs_20	IAMs_20	03 59 44.0	
	comp=Z,4µm,19.0s						
MT08	Bocatoma Ro	135.71	252	PKPdf	PKPdf	02 52 07.2	+0.6
CO02	Combarbal	136.04	255	IAMs_20	IAMs_20	03 59 30.6	
	comp=Z,3µm,18.0s						
PEL	Peldehue	136.19	253	IAMs_20	IAMs_20	03 52 35.4	
	comp=Z,3µm,21.0s						
MT05	Renca	136.29	252	IAMs_20	IAMs_20	03 54 02.1	
	comp=Z,3µm,21.0s						
BO04	La Punta	136.29	251		PKPdf	02 52 06.6	-0.8
MT02	Curacav	136.59	253	IAMs_20	IAMs_20	03 53 04.1	
	comp=Z,4µm,22.0s						
VA05	Santo Domingo	137.05	252	IAMs_20	IAMs_20	03 53 08.4	
	comp=Z,4µm,22.0s						
PLCA	Paso Flores	137.07	242	eP	PKPdf	02 52 08.8	+0.2
PLCA	Paso Flores	137.07	242	PKhKP	PKPpre	02 52 01.9	
	comp=Z,5.4nm,1.0s,baz=53,slow=2.2,SNR=4.8						
PLCA				SKPbc	SKPbc	02 55 42.0	+0.1
	comp=Z,5.3nm,1.0s,baz=121,slow=4.7,SNR=3.5						
PAYG	Puerto Ayora	137.19	308	PKPdf	PKPdf	02 52 09.3	-0.3
PAYG	Puerto Ayora	137.19	308	eP	PKPdf	02 52 07.9	-1.7
GO05	Huala	137.54	250	IAMs_20	IAMs_20	03 53 08.3	
	comp=Z,4µm,21.0s						
LL02	Futaleuf	138.12	238	PKPdf	PKPdf	02 52 10.1	-0.3
RAR	Rarotonga	145.44	83		PKPbc	02 52 23.1	-0.9
RAR	Rarotonga	145.44	83	PKIKP	PKPbc	02 52 23.1	-0.9
PMOR	Pomariorio Ree	152.08	62	eP	PKPbc	02 52 38.4	-3.1
	comp=Z,227nm,1.0s						
PPT	Papeete	152.25	68	PKPbc	PKPbc	02 52 41.0	-0.9
	comp=Z,203nm,1.0s,baz=299,slow=4.4,SNR=11						
PPT2	Papeete2	152.27	68	eP	PKPbc	02 52 41.4	-0.6
	comp=Z,178nm,1.0s						
PPT2	Papeete2	152.27	68	eLR	LR	03 43 16.3	
	comp=Z,7µm,24.2s						
PPT2				eLR	LR	03 43 24.0	
	comp=Z,5µm,28.5s						
PPTF	Pamatai, Papee	152.28	68		PKPbc	02 52 41.8	-0.2
PAE	Paea	152.30	68	eP	PKPdf	02 52 34.6	-0.6
	comp=Z,29nm,1.0s						
TVO	Taravao	152.63	68	eP	PKPbc	02 52 40.7	-2.1
	comp=Z,60nm,1.0s						
TAOE	Nuku Hiva Isla	152.82	41	eP	PKPdf	02 52 32.9	-3.4
	comp=Z,395nm,1.2s						
TAOE	Nuku Hiva Isla	152.82	41	eLR	LR	03 43 13.3	
	comp=Z,4µm,23.0s						
TBI	Tubuai	155.06	79	eLR	LR	03 44 30.4	
	comp=Z,5µm,26.0s						
TBI				eLR	LR	03 44 39.0	
	comp=Z,21µm,25.8s						

AFAD 01 02:34:03.2±0.0, 40°.12N×35°.01E, h7km±2km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COAL	Corum-Alaca	0.13	354	P	Pg	02 34 06.7	+0.5
COAL				S	Sg	02 34 08.6	+0.5
CKRK	Yozgat, Cekere	0.38	97	P	Pg	02 34 10.5	-0.2
CKRK				S	Sg	02 34 16.0	+0.3
CDAG	Cicekdag	0.70	225	P	Pb	02 34 17.3	-0.4
CDAG				S	Sg	02 34 26.5	+0.9
HACI	Hacifakili, Ak	0.70	127	P	Pb	02 34 17.3	-0.5
HACI				S	Sg	02 34 26.6	+0.9
SIRC	Yozgat	0.79	172	P	Pb	02 34 18.9	-0.4
SIRC				S	Sb	02 34 30.5	+0.2
SIRC				i AML	AML	02 34 36.0	
	comp=E,8.4nm,0.2s						
SIRC				i AML	AML	02 34 36.0	
	comp=N,8.6nm,0.3s						
DELI	KIRIKKALE	0.84	262	P	Pg	02 34 19.7	+0.3
DELI				S	Sb	02 34 31.4	-0.3
AKPI	Kirsehir/Akpin	0.99	232	P	Pg	02 34 22.0	-0.3
AKPI				S	Sg	02 34 34.6	-0.5
CUSAR	Sarkisla-SIVAS	1.19	126	P	Pn	02 34 27.3	+0.9
CUSAR				S	Sn	02 34 43.0	+0.2
KIRS	Kirsehir-Merke	1.30	221	P	Pg	02 34 28.2	+0.1
KIRS				S	Sg	02 34 44.9	0.0
KIRS				i AML	AML	02 34 47.0	
	comp=N,4.1nm,1.0s						

ISK ***01*** *02:35:49.3, 35°.66N×32°.29E, h17km, ML2.6/9*
AFAD ***01*** *02:35:50.8±0.0, 35°.94N×32°.05E, h9km±1km, ML2.2*
NIC ***01*** *02:35:51.5, 35°.45N×32°.21E, h32km±25km, Ml2.2/6*
ISC 01 02:35:47.4±1.2**, 35°.70N**±0°.02×**32°.24E**±0°.05**, h8**km±10km**,**
n21, σ0ˢ.76/36**, 2D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GAZI	Gazipasa	0.54	7	Pg	Pn	02 36 01.4	-0.1
GAZI				Sg	Sn	02 36 09.6	-1.2
ALFC	Alefka	0.61	151⇓	iP	Pb	02 36 01.2	+0.8
ALFC				S	Sb	02 36 08.6	-0.6
ALFC				AML	AML	02 36 10.0	
	1.1nm,0.1s						
ALFC				AML	AML	02 36 10.2	
	1.3nm,0.1s						
AKMS	Akamas	0.68	173⇓	iP	Pg	02 36 01.2	+0.7
AKMS				S	Sg	02 36 08.9	-0.5
AKMS				AML	AML	02 36 16.3	
	0.5nm,0.3s						
AKMS				AML	AML	02 36 18.4	
	0.7nm,0.3s						
AKDN	Akdeniz- Kıbrı	0.71	123	Pg	Pn	02 36 03.9	+0.1
LEF	Lefka	0.78	137	Pg	Pb	02 36 03.7	+0.4
LEF				Sg	Sb	02 36 13.7	-0.3
TROD	Troodos	0.91	145	P	Pb	02 36 05.6	+0.1
TROD				S	Sg	02 36 16.2	-0.4
TROD				AML	AML	02 36 19.4	
	0.3nm,0.5s						
TROD				AML	AML	02 36 34.5	
	0.2nm,0.6s						
BERE	Bereket-Mersin	1.03	50	Pg	Pn	02 36 09.5	+1.2
BERE				Sg	Sn	02 36 24.1	+1.1
ATHAL	Athalassa	1.09	120	P	Pn	02 36 09.6	+0.5
ATHAL				S	Sb	02 36 23.7	+0.7
ATHAL				AML	AML	02 36 36.0	
	0.4nm,0.4s						
ATHAL				AML	AML	02 36 43.0	
	0.4nm,0.6s						
LFK	Lefkose	1.13	111	Pn	Pn	02 36 09.9	+0.2
LFK				Sn	Sn	02 36 25.5	+0.1
CSS	Mathiatis	1.15	129	Pn	Pg	02 36 09.6	0.0
CSS	Mathiatis	1.15	129	P	Pg	02 36 09.3	-0.2
CSS				S	Sg	02 36 23.2	-1.3
AKKU	Akkuyu-Mersin	1.16	66	Pn	Pn	02 36 11.1	+1.1
ASGA	Asgata	1.23	137	P	Pb	02 36 11.0	+0.1
ASGA				AML	AML	02 36 36.9	
	0.2nm,0.8s						
ASGA				AML	AML	02 36 44.6	
	0.2nm,0.5s						
HDMB	Hadim	1.28	9	Pn	Pg	02 36 13.2	+1.1
IKL	Isikli	1.29	65	Pn	Pg	02 36 12.8	+0.6
MVOU	Mavrovouni	1.32	120	P	Pn	02 36 12.0	-0.2
MVOU				S	Sb	02 36 28.4	-1.2
MVOU				AML	AML	02 36 29.4	
	0.3nm,0.2s						
MVOU				AML	AML	02 36 29.5	
	0.2nm,0.2s						
KKBE	Karaman, Kazim	1.62	20	P	Pg	02 36 19.9	+1.3
KKBE				S	Sg	02 36 39.2	-0.4
KKBE				i AML	AML	02 36 45.0	
	comp=N,28nm,1.3s						
KKBE				i AML	AML	02 36 46.0	
	comp=E,26nm,0.6s						
SEDI	Konya, Seydise	1.80	348	P	Pn	02 36 19.2	+0.3
SEDI				S	Sn	02 36 41.2	-0.7
SEDI				i AML	AML	02 36 47.0	
	comp=N,56nm,0.6s						
KMER	Konya-Meram	2.07	3	P	Pb	02 36 25.2	-0.1
KMER				S	Sn	02 36 49.0	+0.3
KMER				i AML	AML	02 36 56.0	
	comp=E,33nm,0.3s						
KMER				i AML	AML	02 37 00.0	
	comp=N,24nm,0.4s						
KONT	Konya--Tatoy	2.25	2	P	Pb	02 36 27.7	-0.6
KONT				S	Sb	02 36 55.8	-0.5
KONT				i AML	AML	02 37 00.0	
	comp=N,18nm,1.1s						
KONT				i AML	AML	02 37 09.0	
	comp=E,17nm,0.6s						
KERG	Konya-Eregli	2.29	41	P	Pg	02 36 31.0	-0.4
KERG				S	Sg	02 36 59.8	-1.3
KERG				i AML	AML	02 37 06.0	
	comp=N,25nm,0.6s						
KERG				i AML	AML	02 37 06.0	
	comp=E,24nm,0.5s						

MOS ***01*** *02:43:24.5±1.1, 30°.65N×57°.45E, h10km, mb5.3/41, Error ellipse: s-maj=6.0km s-min=3.7km az=113.9*
IDC ***01*** *02:43:24.6±0.5, 30°.63N×57°.39E, h0km, mb4.8/34, mbtmp4.8/43, ML4.2/9, Error ellipse: s-maj=11.7km s-min=10.0km az=175.0*
TEH ***01*** *02:43:25.5, 30°.68N×57°.38E, h8km±34km, ML5.2*
THR ***01*** *02:43:25.4±0.6, 30°.65N×57°.46E, h14km±6km, ML5.0*
DSN ***01*** *02:43:26.7±1.3, 30°.55N×58°.30E, h15km, ML4.8/5, Error ellipse: s-maj=46.9km s-min=11.6km az=117.0*
NEIC ***01*** *02:43:27.2±1.9, 30°.70N±0°.03×57°.44E±0°.08, h10km±1km, mb5.1/105, Error ellipse: s-maj=12.6km s-min=3.1km az=250.0*
OMAN ***01*** *02:43:30.4±2.0, 30°.57N×57°.32E, h28km±48km, mb4.6/23, ml4.9/3, Error ellipse: s-maj=34.1km s-min=10.6km az=13.0*
ISC 01 02:43:26.7±0.5**, 30°.67N**±0°.03×**57°.38E**±0°.03**, h13**km±2km**,**
h14km:pP-P, n576, σ1ˢ.20/602**, mb5.1**/144**, 17C-14D,**
Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.78	293	Pg	Pg	02 43 40.7	-1.3
CHMN	Cheshme madani	0.81	170	Pg	Pg	02 43 41.0	-1.5
KHGB	Koh Gabri	0.83	250	Pg	Pg	02 43 41.2	-1.6
TVBK	TV Kerman	0.86	218	Pg	Pg	02 43 42.6	-0.9
KRBR	Kerman	0.86	218	ePg	Pg	02 43 42.5	-1.0
NGRK	Negar Kerman	1.16	209	Pg	Pg	02 43 48.1	-1.0
KBAM	BAM	1.79	148	Pn	Pn	02 43 57.8	+0.5
IBAF	Bafgh	1.81	301	Pg	Pb	02 43 58.9	-0.8
BSRN	Basiran	1.98	49	ePn	Pn	02 43 59.9	-0.1
BSRN				IAML		02 44 30.6	
	comp=N,11µm,0.4s						
BSRN				IAML		02 44 34.7	
	comp=E,14µm,0.6s						
BSRN	Basiran	1.98	49	Pn	Pb	02 44 01.0	-1.6
IKOO	Kooshah	2.24	38	Pn	Pn	02 44 04.4	+0.7
NHDN	Nehbandan	2.41	72	Pn	Pn	02 44 06.8	+0.9
TPRV	Parvadeh(Tabas	2.43	346	Pn	Pn	02 44 07.1	+0.9
IMEH	Mehriz	2.48	288	Pn	Pn	02 44 08.1	+1.1
ITEG	Tejag	2.51	27	Pn	Pn	02 44 08.0	+0.6
KHNJ	Kahnooj	2.72	174	Pn	Pn	02 44 11.8	+1.7
YZKH	Yazd	2.93	307	ePn	Pn	02 44 14.8	+1.7
YZKH				eSg	Sg	02 44 59.0	-2.0
YZKH				IAML		02 45 03.0	
	comp=E,3µm,0.6s						
YZKH				IAML		02 45 11.0	
	comp=N,3µm,0.6s						
IDAH	Dahanechah	2.96	45	Pn	Pn	02 44 14.4	+0.8
TABS	Tabas	2.98	356	ePn	Pn	02 44 15.2	+1.4
TABS				IAML		02 45 09.0	
	comp=N,4µm,0.6s						
ICHK	Chekchek	2.99	303	Pn	Pn	02 44 15.5	+1.6
AFRZ	Afriz	3.08	26	Pn	Pn	02 44 15.6	+0.4
IMON	Monand	3.18	37	Pn	Pn	02 44 18.2	+1.6
IBND	Bandar-abas	3.29	193	Pn	Pn	02 44 19.2	+1.4
ISAD	Sadrabad	3.40	292	Pn	Pn	02 44 20.6	+1.0
GENO	Geno	3.42	198	Pn	Pn	02 44 22.2	+2.3
BNDS	Bandar-Abbas	3.42	198	ePn	Pb	02 44 23.1	-4.1
SHRT	Shahrakht	3.87	39	ePn	Pn	02 44 25.9	0.0
SHRT	Shahrakht	3.87	39	Pn	Pn	02 44 25.9	0.0
LAR1	LAR	3.98	222	Pn	Pn	02 44 28.4	+1.0
SHI	Shiraz	4.33	258	Pn	Pn	02 44 33.6	+1.2
QIR1	Qir	4.36	241	Pn	Pn	02 44 33.5	+0.8
IRAM	Ramesheh	4.43	286	Pn	Pn	02 44 35.2	+1.4
NASN	Na'in	4.43	300	ePn	Pn	02 44 35.8	+1.9
NASN				IAML		02 45 47.9	
	comp=N,866nm,0.9s						
GHIR	Ghir-Karzin	4.50	239	ePn	Pn	02 44 36.4	+1.7
SHME	Shamm	4.73	194	i P	Pn	02 44 38.0	+0.3
	SNR=9.6						
SHME				S	Sn	02 45 36.9	+4.6
SHME	Shamm	4.73	194	P	Pn	02 44 38.9	+1.3
	SNR=15						
JASK	Jask - Hormozg	4.80	175	P	Pn	02 44 40.0	+1.3
	SNR=27						
JASK	Jask - Hormozg	4.80	175	Pn	Pn	02 44 40.0	+1.3
IZEF	Zefreh	4.84	299	Pn	Pn	02 44 41.0	+1.6
IGAR	Gharneh	4.87	292	Pn	Pn	02 44 41.2	+1.3
LMD1	Lamerd	4.96	229	Pn	Pn	02 44 42.5	+1.7
TBHD	Torbat heydari	4.99	18	Pn	Pn	02 44 41.4	+0.1
KLNJ	Kolanjah	4.99	275	Pn	Pn	02 44 42.9	+1.4
UMQ	Umm Al-Quwin	5.34	197	i P	Pn	02 44 49.1	+3.1
	SNR=9.1						
UMQ	Umm Al-Quwin	5.34	197	P	Pn	02 44 47.3	+1.2
	SNR=6.2						
IBRJ	Brojen	5.38	285	Pn	Pn	02 44 48.1	+1.2
MASF	Masafi	5.38	192	P	Pn	02 44 47.7	+1.0
	SNR=28						
MASF				P	Pn	02 44 47.7	+1.0
MSFE	Esma-Masafi	5.39	192	i P	Pn	02 44 49.1	+2.2
	SNR=28						
SHRO	Shahrood	5.43	348	ePn	Pn	02 44 48.8	+1.3
SHRO				IAML		02 46 26.5	
	comp=E,576nm,0.7s						
SHRO				IAML		02 46 28.8	
	comp=N,341nm,0.7s						
SRVN	Saravan	5.47	125	Pn	Pn	02 44 50.4	+2.4
HRA	Herat	5.54	47	Pn	Pn	02 44 49.8	+0.9
IKLH	Kolahrood	5.59	300	Pn	Pn	02 44 51.0	+1.2
IANJ	Anjilo	5.60	330	Pn	Pn	02 44 51.0	+1.1
IMOG	Moghan	5.67	16	Pn	Pn	02 44 51.7	+0.9
CHBR	Chabahar	5.75	151	ePn	Pn	02 44 51.6	-0.1
JRKH	Jarkhoshk	5.79	25	Pn	Pn	02 44 53.3	+1.0
UOSS	Minazif	5.79	191	Pn	Pn	02 44 53.9	+1.6
UOSS	Minazif	5.79	191	i P	Pn	02 44 53.6	+1.2
	SNR=18						
UOSS	Minazif	5.79	191	P	Pn	02 44 53.5	+1.2
DSBU	Dashti - Bushe	5.80	248	Pn	Pn	02 44 53.5	+1.0
NAZ	Nazwa, Dubai	5.86	195	i P	Pn	02 44 55.9	+2.7
	SNR=20						
NAZ	Nazwa, Dubai	5.86	195	P	Pn	02 44 54.5	+1.3
	SNR=20						
IPIR	Pirpir	5.88	292	Pn	Pn	02 44 54.7	+0.9
QAMS	Qamsar	5.92	303	Pn	Pn	02 44 56.0	+1.7
HATD	Hatta, Dubai	5.92	191	i P	Pn	02 44 56.2	+2.1
	SNR=8.8						
HATD	Hatta, Dubai	5.92	191	P	Pn	02 44 55.4	+1.3
HATD				S	Sn	02 46 02.0	+0.2
IPAY	Payeh	5.92	13	Pn	Pn	02 44 55.6	+1.3
JHBN	Jahan bin	5.94	287	Pn	Pn	02 44 56.0	+1.3
ILAS	Lasjerd	5.99	323	Pn	Pn	02 44 57.0	+1.8
IAKL	Akhelmad	6.03	11	Pn	Pn	02 44 56.7	+0.9
ASHO	Ashiyiah	6.07	191	i P	Pn	02 44 58.7	+2.5
	SNR=40						
ASHO	Ashiyiah	6.07	191	P	Pn	02 44 57.5	+1.2
	SNR=40						
ASHO				S	Sn	02 46 05.4	-0.2
IMYA	Miami	6.10	21	Pn	Pn	02 44 58.6	+1.9
FAQ	Al Faqa, Dubai	6.11	195	i P	Pn	02 44 58.8	+2.2
	SNR=19						
FAQ	Al Faqa, Dubai	6.11	195	P	Pn	02 44 58.0	+1.4
	SNR=19						
NGCH	Negor - Chabah	6.24	147	P	Pn	02 45 00.3	+1.8
	SNR=9.0						
ASUD	Al Ashush, Dub	6.29	197	i P	Pn	02 45 01.4	+2.3
	SNR=30						
ASUD	Al Ashush, Dub	6.29	197	P	Pn	02 44 59.7	+0.6
	SNR=30						
ASUD				S	Sn	02 46 11.3	+0.6
IFIR	Firoozkooh	6.30	323	Pn	Pn	02 45 00.8	+1.3
IKRD	Kardeh	6.35	16	Pn	Pn	02 45 01.4	+1.2
GHVR	GHOM	6.39	308	ePn	Pn	02 45 03.0	+2.5
ISFR	Sfrayin	6.39	4	Pn	Pn	02 45 02.1	+1.3
AJN	Ajban	6.44	200	i P	Pn	02 45 03.3	+2.1
	SNR=13						
AJN	Ajban	6.44	200	P	Pn	02 45 01.9	+0.7
	SNR=16						
AJN				S	Sn	02 46 14.0	-0.6
IGLO	Ghaloghah	6.53	334	Pn	Pn	02 45 03.9	+1.3
SOHO	SOHO	6.55	187	i P	Pn	02 45 03.3	+0.5
	SNR=21						
SOHO	SOHO	6.55	187	P	Pn	02 45 03.7	+1.0
IDMV	Damavand	6.64	319	Pn	Pn	02 45 05.7	+1.5
DAMV	Damavand	6.71	319	ePn	Pn	02 45 06.5	+1.4
ALNE	Al Ain	6.74	193	i P	Pn	02 45 07.2	+1.9
	SNR=6.8						
ALNE	Al Ain	6.74	193	P	Pn	02 45 06.5	+1.1
	SNR=7.6						
ALNE				S	Sn	02 46 22.3	+0.3
IQOM	Qom	6.75	310	Pn	Pn	02 45 06.7	+1.0
IEMG	Emamgholi	6.81	9	Pn	Pn	02 45 07.4	+0.8
JRN	Qarnain Island	6.97	216	P	Pn	02 45 08.9	+0.4
	SNR=14						
JRN				S	Sn	02 46 28.2	+0.6
IPRN	Peran	6.97	324	Pn	Pn	02 45 09.4	+0.8
KHMZ	Khomeyn	6.99	298	ePn	Pn	02 45 11.2	+2.3
HOQ	Hoqain	7.06	180	P	Pn	02 45 10.6	+0.9
	SNR=17						
MRVT	Maraveh tapeh	7.06	352	ePn	Pn	02 45 11.1	+1.4
BIDO	Bidbid	7.15	174	P	Pn	02 45 12.1	+1.1
BIDO				S	Sn	02 46 32.5	+0.4
GEYT	Alibeck	7.27	5		Pn	02 45 13.8	+1.2
GEYT	Alibeck	7.27	5	P	Pn	02 45 14.0	+1.3
GEYT	Alibeck	7.27	5	Pn	Pn	02 45 13.9	+1.3
	comp=N,2.9nm,0.3s,baz=189,slow=18,SNR=9.7						
GEYT				Sn	Sn	02 46 33.9	-1.2
	comp=N,0.9nm,0.3s,baz=204,slow=25,SNR=1.8						
	comp=N,31nm,0.7s						
GYA0B	ALIBECK ARRAY	7.27	5	Pn	Pn	02 45 14.2	+1.5
ASAO	Ashtian	7.31	304	ePn	Pn	02 45 15.5	+2.1
ARQ	Araqi	7.34	186	P	Pn	02 45 14.7	+1.1
	SNR=63						
CHTH	Charan	7.39	317	ePn	Pn	02 45 16.1	+1.6
SHMA	Al-Shehemyia	7.41	231	P	Pn	02 45 15.7	+1.1
	SNR=9.9						
WSAR	Wadi Sarin	7.48	171	P	Pn	02 45 16.9	+1.3
	SNR=20						
WSAR				S	Sn	02 46 41.6	+1.3
WSAR	Wadi Sarin	7.48	171	Pn	Pn	02 45 16.4	+0.9
	comp=N,21nm,0.3s,baz=6.0,slow=9.5,SNR=55						
WSAR				Sn	Sn	02 46 39.3	-0.9
	comp=N,3.6nm,0.3s,baz=281,slow=23,SNR=1.0						
	comp=N,172nm,0.6s						
THKV	Tehran--Karaj	7.55	316	ePn	Pn	02 45 19.0	+2.4
SMDO	Samad	7.60	175	P	Pn	02 45 18.4	+1.1
	SNR=8.5						
SMDO				S	Sn	02 46 44.0	+0.7
SAKB	Bahrain	7.62	234	P	Pn	02 45 18.6	+1.1
IRAZ	Razeghan	7.84	309	Pn	Pn	02 45 21.7	+1.1
BSY	Bisya	7.89	181	P	Pn	02 45 22.2	+1.0
	SNR=9.9						
BSY				S	Sn	02 46 50.8	+0.4
TRNA	Turayna	8.04	224	P	Pn	02 45 24.0	+0.8
	SNR=47						
WBK	Wadi Bani Khal	8.15	170	P	Pn	02 45 25.9	+1.2
	SNR=5.8						
WBK				S	Sn	02 46 57.6	+0.9
SMRA	Abu-Samra	8.28	226	P	Pn	02 45 27.2	+0.8
	SNR=27						
JMDO	Jabal Madar	8.29	175	P	Pn	02 45 27.6	+0.9
JMDO				S	Sn	02 47 01.0	+0.8
JLN	Jalan Bani Buh	8.67	167	P	Pn	02 45 33.4	+1.5
JLN				S	Sn	02 47 10.4	+0.8
GIDE	GILAN DEYLAMAN	8.80	317	ePn	Pn	02 45 36.0	+2.2
ZNJK	Zanjan	9.39	312	ePn	Pn	02 45 43.6	+1.6
SNGE	Sanandaj	9.52	300	ePn	Pn	02 45 45.2	+1.6
MHTO	MHTO	9.65	177	P	Pn	02 45 47.1	+1.8

ILBA Ilam Banvizeh 9.92 290 *e*Pn **Pn 02 45 50.0 +1.0**
GRMI Germi 11.26 319 *e*Pn **Pn 02 46 09.0 +1.7**
SHAO Shalim 12.69 188 *i* P **Pn 02 46 26.6 -0.3**
SNR=22
SHAO Shalim 12.69 188 P **Pn 02 46 27.9 +1.0**
SNR=22
AKT Akhty 13.30 327⇑ *e*P **Pn 02 46 36.2 +0.9**
GNI Garni 13.98 316 P **Pn 02 46 47.0 +2.5**
GNI Garni 13.98 316 Pn **Pn 02 46 47.0 +2.5**
comp=N,0.2nm,0.3s,baz=168,slow=20,SNR=1.3
comp=N,4.9nm,0.9s
MAK Makhachkala 14.58 330 *e*P **Pn 02 46 50.6 -2.0**
MAK *e*S **Sn 02 49 31.6 -2.5**
MAK pmax pmax
comp=Z,262nm,1.1s
GURO Guroymak-BITLI 14.87 306 P **P 02 47 04.0 +1.5**
DBC Dubki 14.93 329 *ce*P **Pn 02 46 58.2 +0.8**
ZEI Tsey 16.19 322 *e*P **P 02 47 17.0 -0.2**
ZEI pmax pmax
comp=Z,79nm,1.5s
DHRM DHARAMSHALA 16.23 80 *e*P **P 02 47 16.3 -1.4**
KK31 Karatay Array 16.24 37 Pn **Pn 02 47 14.3 -0.1**
KK31 Karatay Array 16.24 37 *i* P **Pn 02 47 14.6 +0.1**
KKAR Karatay Array 16.24 37 P **Pn 02 47 14.8 +0.3**
KKAR Karatay Array 16.24 37 P **Pn 02 47 14.8 +0.3**
KKAR pmax pmax
comp=Z,60nm,1.1s
ONI Oni 16.30 321 Pn **P 02 47 16.6 -1.7**
ONI Oni 16.30 321 P **P 02 47 16.6 -1.7**
ONI pmax pmax
comp=Z,140nm,1.7s
ARSB Arslanbob 16.48 46 Pn **Pn 02 47 16.1 -1.6**
ARSB Arslanbob 16.48 46 P **Pn 02 47 16.1 -1.6**
ARSB pmax pmax
comp=Z,31nm,1.0s
NCK Nalchik 16.85 323⇓ *e*P **P 02 47 23.9 -0.4**
SMLA Simla 17.00 83 *e*P **P 02 47 26.0 +0.1**
NEUR Neytrino 17.16 321 *e*P **P 02 47 28.1 +0.2**
KBZ Khabaz 17.37 323⇑ *e*P **P 02 47 30.7 +0.7**
KBZ Khabaz 17.37 323 P **P 02 47 30.3 +0.3**
comp=Z,0.2nm,0.3s,baz=128,slow=11,SNR=6.3
comp=Z,15nm,1.1s
PYA1 Pyatigorsk 17.50 324 *de*P **P 02 47 31.2 -0.4**
ASF Jabal al Asfar 17.55 280 P **Pn 02 47 30.8 -0.3**
comp=Z,1.1nm,0.3s,baz=164,slow=19,SNR=7.3
comp=Z,9.7nm,0.8s
KSH Kashi 17.57 55 P **Pn 02 47 29.5 -1.9**
KSH pmax pmax
comp=Z,90nm,0.9s
KIV Kislovodsk 17.64 323 Pn **Pn 02 47 30.2 -2.0**
KIV IAmb IAmb 02 47 39.4
comp=Z,322nm,1.6s
KIV Kislovodsk 17.64 323 *e*P **P 02 47 33.4 +0.3**
KIV pmax pmax
comp=Z,94nm,1.1s
AAK Ala-Archa 18.16 44 Pn **Pn 02 47 35.9 -2.8**
AAK IAmb IAmb 02 47 45.5
comp=Z,393nm,1.9s
AAK Ala-Archa 18.16 44 P **Pn 02 47 35.9 -2.8**
AAK pmax pmax
comp=Z,393nm,1.9s
AAK Ala-Archa 18.16 44 P **P 02 47 38.8 -0.2**
comp=Z,1.1nm,0.3s,baz=221,slow=5.5,SNR=19
comp=Z,27nm,0.7s
AB31 Akbulak array 18.67 5 *i* P **P 02 47 42.6 -1.7**
ABKAR Akbulak array 18.67 5 P **Pn 02 47 44.4 -0.2**
MMAI Mount Meron Ar 18.81 283 P **Pn 02 47 47.3 +0.7**
comp=Z,0.5nm,0.3s,baz=96,slow=10,SNR=6.6
comp=Z,18nm,1.0s
SOC Sochi 19.04 317 *e*P **P 02 47 47.2 -1.2**
SOC *e* 02 51 21.2
SOC MLR MLR
comp=Z,2µm,15.0s
BHPL Bhopal 19.32 108 *e*P **Pn 02 47 53.5 +0.7**
EIL Elat 19.41 273 P **Pn 02 47 54.2 +0.4**
comp=Z,0.4nm,0.3s,baz=20,slow=13,SNR=3.5
comp=Z,41nm,0.9s
AKTO Aktyubinsk 19.75 1 P **Pn 02 47 57.0 -0.6**
comp=Z,3.3nm,0.3s,baz=182,slow=10,SNR=42
comp=Z,49nm,0.7s
TARG Taragay, Kyrgy 19.79 50 P **P 02 47 56.0 -1.1**
TARG Taragay, Kyrgy 19.79 50 P **P 02 47 56.0 -1.1**
TARG pmax pmax
comp=Z,413nm,1.8s
CSS Mathiatis 20.64 288 P Pn 02 48 07.8 -0.6
CSS IAmb IAmb 02 48 15.1
comp=Z,82nm,1.3s
ANN Anapa 21.09 318 *e*P **P 02 48 13.3 +2.7**
ANN pmax pmax
comp=Z,123nm,1.0s
BR131 Keskin Array S 21.35 301 *ce*P **P 02 48 15.2 +1.5**
BRTR Keskin Array B 21.35 301 P **P 02 48 15.2 +1.5**
BRTR Keskin Array B 21.35 301 P **P 02 48 14.6 +0.8**
comp=Z,27nm,0.9s,baz=123,slow=12,SNR=24
BRTR PcP **PcP 02 52 17.4 -0.2**
comp=Z,2.4nm,0.8s,baz=131,slow=6.9,SNR=3.7
comp=Z,27nm,0.9s
PYUN Piuthan 22.45 90 *e*P **P 02 48 26.3 +0.6**
BELG Belogornoye 22.86 345⇑ *e*P **P 02 48 29.4 -0.2**
BELG pmax pmax
comp=Z,57nm,1.1s
DANN Dangsing 23.06 89 *e*P **P 02 48 32.4 +0.2**
comp=Z,728nm,1.1s
SIM Simferopol' 23.15 315 *e*P **P 02 48 34.7 +2.0**
SIM pmax pmax
comp=Z,267nm,1.3s
ISP Isparta 23.27 295 P **P 02 48 35.6 +1.6**
ISP IAmb IAmb 02 48 38.4
comp=Z,80nm,1.0s
ISP Isparta 23.27 295⇓ *e*P **P 02 48 35.1 +1.0**
ISP pmax pmax
comp=Z,64nm,1.0s
HYB Hyderabad 23.36 120 *e*P **P 02 48 35.8 +0.8**
VRH Novokhopyorsk 23.59 335 *e*P **P 02 48 35.4 -1.5**
VRH pmax pmax
comp=Z,90nm,0.9s
GKN Gorkha 23.89 89 *e*P **P 02 48 41.3 +1.0**
comp=Z,159nm,0.9s
BRVK Borovoye 24.28 19⇓ *e*P **P 02 48 44.4 +0.9**
BRVK pmax pmax
comp=Z,81nm,1.0s
BVA0 Borovoye Array 24.28 19 *i* P **P 02 48 43.9 +0.4**
BVAR Borovoye Array 24.28 19 P **P 02 48 44.5 +1.0**
comp=Z,114nm,0.8s,baz=200,slow=7.2,SNR=61
BVAR PcP **PcP 02 52 23.6 +0.4**
comp=Z,11nm,0.7s,baz=230,slow=2.4,SNR=9.9
comp=Z,114nm,0.8s
VORD Divnogorie 24.34 332 *e*P **P 02 48 42.7 -1.4**
VORD pmax pmax
comp=Z,50nm,1.0s
DMN Daman 24.39 90 *e*P **P 02 48 46.0 +1.0**
comp=Z,342nm,1.2s
VSR Storozhevoye 24.59 332 *e*P **P 02 48 44.9 -1.4**
VSR pmax pmax
comp=Z,40nm,0.8s
PKIN Phulchoki 24.64 90 *e*P **P 02 48 48.2 +0.8**
comp=Z,247nm,0.9s
PKI Pulchoki 24.66 90 *e*P **P 02 48 48.2 +0.6**
comp=Z,371nm,1.1s
VORR Voronezh 24.92 333 *e*P **P 02 48 49.0 -0.3**
VORR pmax pmax
comp=Z,59nm,1.5s
GUN Gumba 24.98 89 *e*P **P 02 48 51.5 +1.0**
comp=Z,381nm,1.0s
MK31 Makanchi Array 25.09 43 P **P 02 48 52.0 +1.1**
MK31 IAmb IAmb 02 48 53.4
comp=Z,47nm,1.1s
MK31 Makanchi Array 25.09 43 *ce*P **P 02 48 51.8 +0.9**
MKAR Makanchi Array 25.09 43 P **P 02 48 52.0 +1.1**
comp=Z,34nm,0.8s,baz=226,slow=9.5,SNR=69
MKAR PcP **PcP 02 52 24.4 -0.7**
comp=Z,0.7nm,0.6s,baz=250,slow=0.9,SNR=1.9
comp=Z,34nm,0.8s
JIRN Jiri 25.31 90 *e*P **P 02 48 54.2 +0.7**
comp=Z,352nm,1.2s
KURBB Kurchatov Arra 25.43 32 P **P 02 48 55.2 +1.3**
comp=Z,49nm,0.9s,baz=231,slow=9.0,SNR=92
KURBB PcP **PcP 02 52 25.6 -0.1**
comp=Z,2.8nm,1.0s,baz=222,slow=3.7,SNR=3.9
comp=Z,49nm,0.9s
KURK Kurchatov 25.54 32⇓ *e*P **P 02 48 56.1 +1.2**
KURK pmax pmax
comp=Z,61nm,1.0s
KARP Karpathos 25.72 289 P **P 02 48 58.2 +1.5**
LPSR Galich'ya Gora 25.75 334 *e*P **P 02 48 55.5 -1.3**
LPSR pmax pmax
comp=Z,60nm,0.8s
ARU Arti 25.77 2*d* *i*P **P 02 48 59.2 +2.3**
ARU 02 49 32.9
ARU S **S 02 53 28.8 +3.3**
ARU pmax pmax
comp=Z,353nm,2.0s
RAMN Ramite 25.84 91 *e*P **P 02 48 59.1 +0.9**
comp=Z,344nm,0.9s
SVE Sverdlovsk 26.25 4 *e*P **P 02 49 05.2 +3.9**
WMQ Urumqi 27.31 53 *e*P **P 02 49 12.4 +1.3**
WMQ pmax pmax
comp=Z,59nm,1.1s
KIRV Kirov 28.44 351⇓ *e*P **P 02 49 22.0 +1.1**
OBN Obninsk 28.58 335 P **P 02 49 23.2 +1.1**
OBN Obninsk 28.58 335 *ce*P **P 02 49 23.1 +0.9**
OBN *i* *PP **sP 02 49 26.4 -2.2**
OBN *e* *SP **pP 02 49 30.1 +3.3**
OBN *i* PPP PPP 02 50 23.5
OBN *e*S S 02 54 00.5 -9.4
OBN SSS SSS 02 55 56.0
OBN pmax pmax
comp=Z,72nm,1.2s
OBN MLR MLR
comp=Z,3µm,15.0s
OBN Obninsk 28.58 335 P **P 02 49 23.4 +1.2**
comp=Z,28nm,0.6s,baz=164,slow=7.4,SNR=7.9
comp=Z,28nm,0.6s
MLR Muntele Rosu 28.61 310 IAmb IAmb 02 49 35.6
comp=Z,49nm,1.4s
MLR Muntele Rosu 28.61 310 P **P 02 49 23.7 +0.9**
comp=Z,8.3nm,0.9s,baz=144,slow=3.7,SNR=5.0
comp=Z,8.3nm,0.9s
MOS Moscow 28.70 337 *e*P **P 02 49 22.7 -0.5**
MOS pmax pmax
comp=Z,181nm,1.8s
AKASG Malin Array Be 28.98 322 *i* P **P 02 49 26.5 +0.7**
AKASG pmax pmax
comp=Z,11nm,0.7s
AKASG Malin Array Be 28.98 322 P **P 02 49 26.2 +0.4**
comp=Z,11nm,0.7s,baz=124,slow=8.6,SNR=5.1
AKASG PcP **PcP 02 52 33.3 -0.9**
comp=Z,0.7nm,0.4s,baz=90,slow=2.6,SNR=4.4
comp=Z,11nm,0.7s
AKBB Malin Array Si 28.98 322 IAmb IAmb 02 49 27.3
comp=Z,28nm,0.7s
AKBB Malin Array Si 28.98 322⇑ *i*P **P 02 49 26.3 +0.5**
KIEV Kiev 28.99 322 P **P 02 49 26.3 +0.5**
KIEV IAmb IAmb 02 49 27.3
comp=Z,26nm,0.7s
KIEV Kiev 28.99 322 P **P 02 49 26.3 +0.5**
KIEV pmax pmax
comp=Z,26nm,0.7s
DGZ Jazzator, Alta 29.52 41⇓ *e*P **P 02 49 32.1 +1.3**
DGZ pmax pmax
comp=Z,20nm,0.9s
ZAA0 Zalesovo Array 30.53 32 P **P 02 49 39.9 +0.4**
ZALV Zalesovo Beam 30.53 32 P **P 02 49 40.1 +0.6**
comp=Z,46nm,0.6s,baz=238,slow=9.4,SNR=66
ZALV PcP **PcP 02 52 37.0 -1.2**
comp=Z,2.9nm,0.7s,baz=239,slow=2.1,SNR=4.5
comp=Z,46nm,0.6s
GOMU GeErMu 31.59 70 P **P 02 49 51.0 +1.5**
GOMU pP sP 02 49 53.0 -3.0
GOMU pmax pmax
comp=Z,21nm,0.9s
KOLS Kolonicke sedl 32.18 315 *e*P **P 02 49 56.5 +2.4**
KOLS Kolonicke sedl 32.18 315 *e*P **P 02 49 56.5 +2.4**
KOLS pmax pmax
comp=Z,52nm,1.0s
KLMR Klimovskoe 32.43 344 *e*P **P 02 49 52.2 -3.9**
KLMR AMP 02 49 58.2
comp=Z,148nm,1.3s
KLMR Klimovskoe 32.43 344 *e*P **P 02 49 52.2 -3.9**
KLMR pmax pmax
comp=Z,148nm,1.3s
CRVS Cervenica-Dubn 32.67 314 *e*P **P 02 50 01.2 +2.8**
CRVS Cervenica-Dubn 32.67 314 *e*P **P 02 50 01.2 +2.8**
CRVS pmax pmax
comp=Z,94nm,1.9s
OJC Ojcow 34.15 316 IAmb IAmb 02 50 13.4
comp=Z,49nm,1.2s
LODK Lodwar 34.16 222 P **P 02 50 13.3 +1.5**
LODK IAmb IAmb 02 50 17.2
comp=Z,63nm,1.7s
PABE Paberze 34.25 326 P **P 02 50 13.1 +1.1**
JAVC Velka Javorina 35.03 313 *e*P **P 02 50 19.8 +0.8**
MORC Moravsky Berou 35.38 314 *e*P **P 02 50 22.4 +0.4**
SOP Sopron 35.44 310 P **P 02 50 23.2 +0.8**
GTA Gaotai 35.56 64 *e*P **P 02 50 25.1 +1.4**
GTA pP sP 02 50 32.5 +2.3
GTA pmax pmax
comp=Z,71nm,1.0s
RONA Rosalia, Austr 35.62 310 *e*P **P 02 50 23.5 -0.5**
comp=Z,11nm,0.9s
VRAC Vranov 35.83 313 *e*P **P 02 50 26.2 +0.4**
VRAC Vranov 35.83 313 P **P 02 50 26.4 +0.6**
comp=Z,3.4nm,0.8s,baz=104,slow=11,SNR=5.0
comp=Z,3.4nm,0.8s
KRUC Moravsky 35.89 313 *e*P **P 02 50 26.5 +0.2**
CONA Conrad Observa 35.95 311 *e*P **P 02 50 27.4 +0.4**
comp=Z,8.2nm,1.1s
SOKA Soboth 36.24 308 *e*PcP **PcP 02 52 54.7 +0.2**
comp=Z,3.5nm,0.9s
KSP Ksiaz 36.46 315 P **P 02 50 32.7 +1.5**
TREC Trest 36.53 313 *e*P **P 02 50 32.3 +0.5**
TREC Trest 36.53 313 *e*P **P 02 50 32.3 +0.5**
CHVC Chvalec 36.53 315 *e*P **P 02 50 32.7 +0.9**
CHVC Chvalec 36.53 315 *e*P **P 02 50 32.7 +0.9**
KMBO Kilima Mbogo 36.97 215 P **P 02 50 37.6 +1.5**
KMBO Kilima Mbogo 36.97 215 P **P 02 50 37.6 +1.5**
KMBO pmax pmax
comp=Z,16nm,1.1s
KMBO Kilima Mbogo 36.97 215 P **P 02 50 37.5 +1.4**
comp=Z,10nm,0.9s,baz=34,slow=11,SNR=18
comp=Z,10nm,0.9s
FINES FINESS Array B 36.98 335 P **P 02 50 35.8 +0.4**
comp=Z,11nm,0.7s,baz=126,slow=10,SNR=23
comp=Z,11nm,0.7s
MOA Molln 36.98 310 *i* P **P 02 50 36.2 +0.5**
comp=Z,19nm,1.0s,SNR=5.2
CKRC Cesky Krumlov 37.16 312 *e*P **P 02 50 37.2 0.0**
CKRC Cesky Krumlov 37.16 312 *e*P **P 02 50 37.2 0.0**
PRU Pruhonice 37.30 314 *e*P **P 02 50 41.4 +3.1**
PRU Pruhonice 37.30 314 *e*P **P 02 50 41.4 +3.1**
BIOA Bad Ischl, Aus 37.37 310 *i* P **P 02 50 39.4 +0.4**
comp=Z,22nm,1.2s,SNR=7.0
ZVC Zvikov 37.38 313 *e*P **P 02 50 39.2 +0.1**
KBA Koelnbreinsper 37.45 309 *e*P **P 02 50 40.0 +0.1**
comp=Z,15nm,1.1s
KBA Koelnbreinsper 37.45 309 P **P 02 50 39.7 -0.2**
GEC2 GERESS Array S 37.56 312 IAmb IAmb 02 50 42.8
comp=Z,23nm,0.9s
GERES GERESS Array B 37.56 312 P **P 02 50 41.0 +0.4**
comp=Z,19nm,0.9s,baz=100,slow=6.9,SNR=35
GERES PcP **PcP 02 52 58.3 -0.2**
comp=Z,3.2nm,0.8s,baz=101,slow=2.9,SNR=5.1
comp=Z,19nm,0.9s
KIBK Kibwezi 37.64 213 P **P 02 50 43.4 +1.7**
KHC Kasperske Hory 37.70 312 P **P 02 50 42.2 +0.4**
KHC Kasperske Hory 37.70 312 *e*P **P 02 50 41.7 -0.1**
KHC Kasperske Hory 37.70 312⇑ *e*P **P 02 50 41.4 -0.4**
KHC pmax pmax
comp=Z,23nm,1.0s
CIMO Cimolais 37.95 307 P **P 02 50 44.5 +0.6**
CIMO IAmb IAmb 02 50 45.3
comp=Z,11nm,1.1s
CIMO **PcP 02 52 59.6 0.0**
LESA Schwarzleotal 37.96 309 *e*PcP **PcP 02 52 59.0 -0.7**
comp=Z,2.2nm,0.5s
ABTA Abfaltersbach 37.96 308 *e*P **P 02 50 44.0 0.0**
comp=Z,13nm,1.2s
ABTA *e*PcP **PcP 02 53 01.5 +1.7**
comp=Z,1.5nm,0.7s
MOY Mondy 38.23 44 *e*P **P 02 50 48.0 +1.7**
CLL Collm 38.59 315 *e*P **P 02 50 50.0 +0.8**
comp=Z,24nm,1.0s
CLL *ex* x 02 50 57.0
CLL *ex* x 02 51 40.0
CLL Collm 38.59 315 *e*P **P 02 50 50.0 +0.8**
CLL pmax pmax
comp=Z,24nm,1.0s
WTTA Wattenberg 38.63 309 *i* P **P 02 50 49.5 -0.3**
comp=Z,32nm,1.2s,SNR=7.7
WTTA Wattenberg 38.63 309 P **P 02 50 49.6 -0.3**
WATA Walderalm 38.68 309 *i* P **P 02 50 50.2 0.0**
comp=Z,28nm,1.0s,SNR=5.4
LZH Lanzhou 38.89 69 *e*P **P 02 50 52.8 +0.7**
LZH pP sP 02 50 57.9 -0.7
LZH sP pP 02 51 00.3 +3.6
LZH pmax pmax
comp=Z,94nm,1.0s
SQTA Sankt Quirin 38.91 308 *e*P **P 02 50 51.4 -0.8**
comp=Z,21nm,1.0s
SQTA *e*PcP **PcP 02 53 02.8 0.0**
comp=Z,5.4nm,0.6s
PZH PanZhiHua 38.99 85 P **P 02 50 54.9 +1.9**
PZH pmax pmax
comp=Z,20nm,0.8s
MOTA Moosalm 39.00 309 *e*P **P 02 50 51.5 -1.4**
comp=Z,17nm,1.1s
MOTA *e*PcP **PcP 02 53 03.1 +0.1**
comp=Z,10nm,0.9s
FETA Feichten 39.21 308 *i* P **P 02 50 54.0 -0.7**
comp=Z,34nm,1.1s,SNR=8.1
RETA Reutte 39.25 309 *e*P **P 02 50 53.9 -1.0**
comp=Z,16nm,1.1s
CHTO Chiang Mai 39.35 98 P **P 02 50 56.8 +0.9**
CHTO Chiang Mai 39.35 98 P **P 02 50 56.8 +0.9**
CHTO pmax pmax
comp=Z,23nm,0.9s
CMAR Chiang Mai Arr 39.50 98 *i* P **P 02 50 57.5 +0.3**
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR Chiang Mai Arr 39.50 98 P **P 02 50 57.8 +0.6**
comp=Z,5.0nm,0.7s,baz=290,slow=8.3,SNR=14
CMAR PcP **PcP 02 53 04.9 0.0**
comp=Z,1.1nm,0.3s,baz=284,slow=4.7,SNR=5.7
comp=Z,5.0nm,0.7s
APA Apatity 39.58 346⇓ *i*P **P 02 50 55.3 -1.9**
APA pmax pmax
comp=Z,50nm,0.8s
APA MLR MLR
comp=Z,50µm,0.8s
CD2 Chengdu 39.62 77 P **P 02 50 58.5 +0.4**
CD2 pP pP 02 51 01.1 -1.6
CD2 pmax pmax
comp=Z,40nm,0.7s
DAVOX Davos/Dischmat 39.76 308 P **P 02 50 58.9 -0.4**
comp=Z,9.9nm,0.7s,baz=89,slow=2.1,SNR=20
DAVOX PcP **PcP 02 53 05.0 -0.5**
comp=Z,4.1nm,0.8s,baz=98,slow=7.1,SNR=3.0
comp=Z,9.9nm,0.7s
DAVA Damuels 39.82 308 *i* P **P 02 50 58.7 -1.0**
comp=Z,37nm,1.1s,SNR=6.3
TUE Stuetta 40.09 307 P **P 02 51 01.3 -0.8**
PGF Pioggiola 40.11 301 *e*P **P 02 51 02.0 -0.1**
KEST Kesra 40.19 290 P **P 02 51 02.9 0.0**
comp=Z,7.2nm,1.1s,baz=86,slow=13,SNR=2.4
comp=Z,7.2nm,1.1s
KMI Kunming 40.26 86⇑ P **P 02 51 04.4 +0.6**
KMI pmax pmax
comp=Z,94nm,1.0s
SONM Songino Array 40.91 51 P **P 02 51 09.8 +1.1**
comp=Z,12nm,0.9s,baz=269,slow=9.8,SNR=28
comp=Z,12nm,0.9s
TNS Taunus Mts 41.19 313 P **P 02 51 12.1 +1.2**
HFS Hagfors 41.30 328 P **P 02 51 11.8 +0.2**
comp=Z,8.4nm,0.7s,baz=119,slow=9.2,SNR=12
comp=Z,8.4nm,0.7s
ULN Ulaanbaatar 41.35 51 P **P 02 51 13.5 +1.1**
ULN Ulaanbaatar 41.35 51 P **P 02 51 13.5 +1.1**
ULN pmax pmax
comp=Z,15nm,0.7s
CDF Champ du Feu 41.70 310 P **P 02 51 15.0 -0.1**
ECH Echery 41.75 309 P **P 02 51 16.5 +1.0**
ECH Echery 41.75 309 P **P 02 51 16.5 +1.0**
ECH pmax pmax
comp=Z,21nm,1.2s
LPL La Plagne 41.84 305 P **P 02 51 17.7 +1.2**
BNI Bardonecchia 41.85 305 P **P 02 51 15.0 -1.5**
BNI Bardonecchia 41.85 305 P **P 02 51 15.0 -1.5**
BNI pmax pmax
comp=Z,25nm,1.3s
CABF La Chapelle 42.34 307 P **P 02 51 20.3 -0.1**
SLVN Son La 42.59 91 P **P 02 51 24.0 +1.3**
SLVN IAmb IAmb 02 51 24.9
comp=Z,31nm,1.0s
NB2 NORSAR Subarra 42.79 329 P **P 02 51 23.2 -0.6**
comp=Z,19nm,1.2s,baz=116,slow=8.6
NB2 NORSAR Subarra 42.79 329 P **S 02 57 47.0 -0.4**
comp=Z,0.9nm,0.7s,baz=347,slow=7.4
NOA NORSAR Array B 42.79 329 P **P 02 51 23.2 -0.6**
comp=Z,3.8nm,0.9s,baz=116,slow=8.0,SNR=8.0
comp=Z,3.8nm,0.9s
ARCES ARCESS Array B 42.91 344 P **P 02 51 25.4 +0.8**
ARCES IAmb IAmb 02 51 27.3
comp=Z,47nm,1.4s
ARCES ARCESS Array B 42.91 344 P **P 02 51 25.4 +0.8**
ARCES pmax pmax
comp=Z,47nm,1.4s
ARCES ARCESS Array B 42.91 344 P **P 02 51 24.9 +0.2**
comp=Z,11nm,0.9s,baz=134,slow=7.0,SNR=12
comp=Z,11nm,0.9s
GYA Guiyang 43.22 83⇓ *i*P **P 02 51 28.1 +0.3**
GYA pmax pmax
comp=Z,39nm,0.8s
XAN Xi'an 43.30 71⇑ P **P 02 51 28.4 +0.1**
XAN pP sP 02 51 33.3 -1.5
XAN pmax pmax
comp=Z,65nm,1.1s
BTO Baotou 43.36 62 *e*P **P 02 51 28.9 +0.1**
BTO pP **sP 02 51 34.4 -0.9**
BTO sP **pP 02 51 35.9 +2.6**
BTO PP **PP 02 53 11.5 +2.0**
BTO pmax pmax
comp=Z,95nm,1.1s
GIVF Givet 43.48 312 P **P 02 51 29.5 0.0**
BAIF Baives 43.87 312 P **P 02 51 33.6 +1.0**
SMF Signal de Mont 43.89 307 P **P 02 51 32.4 -0.5**
LOR Lormes 43.90 308 P **P 02 51 33.4 +0.5**
SSF Saint Saulge 44.13 308 P **P 02 51 34.4 -0.4**
AVF Avril sur Loir 44.23 307 P **P 02 51 35.1 -0.5**
HHC Hu-ho-hao-te 44.51 61 *e*P **P 02 51 39.6 +1.6**
HHC pmax pmax
comp=Z,41nm,0.9s
ENH Enshi 44.57 77 P **P 02 51 39.4 +0.8**
ENH IAmb IAmb 02 51 41.5
comp=Z,41nm,1.5s
TCF Toulx Ste Croi 45.01 306 P **P 02 51 42.7 +0.8**
LYN LuoYang 46.09 70⇑ P **P 02 51 51.7 +1.2**
LYN pP sP 02 51 56.2 -0.8
LYN sP pP 02 51 58.9 +3.8
LYN PcS **PcS 02 57 20.2 -0.9**
LYN S **S 02 58 31.2 -4.7**
LYN sS sS 02 58 43.3 -0.2
LYN ScS **ScS 03 01 40.0 -6.1**
LYN pmax pmax
comp=Z,59nm,1.0s
ETSF Etsaut 47.13 302 P **P 02 52 00.7 +2.1**
HNS HongShan 47.36 66⇑ P **P 02 52 01.2 +0.8**
HNS pmax pmax
comp=Z,17nm,1.2s
XLT XiLinHaoTe 47.61 57 *e*P **P 02 52 03.2 +0.8**
XLT pP sP 02 52 06.7 -2.2
XLT sP pP 02 52 10.2 +3.2
XLT PcP **PcP 02 53 32.1 +0.1**
XLT PP **PP 02 53 59.7 +5.9**
XLT S **S 02 58 58.5 +1.0**
XLT sS sS 02 59 08.7 +3.5
XLT pmax pmax
comp=Z,19nm,1.1s
CNSH ChangSha 48.04 78⇑ P **P 02 52 05.8 0.0**
CNSH pmax pmax
comp=Z,43nm,1.0s
BJT Baijiatuau 48.09 62 P **P 02 52 07.0 +0.9**
BJT IAmb IAmb 02 52 07.6
comp=Z,11nm,0.8s
BJT Baijiatuau 48.09 62 P **P 02 52 07.0 +0.9**
BJT pmax pmax
comp=Z,11nm,0.8s
EKA Eskdalemuir Ar 48.80 319 P **P 02 52 11.6 +0.3**
comp=Z,11nm,0.8s,baz=102,slow=6.8,SNR=19
comp=Z,11nm,0.8s
TIA Tai'an 49.49 67 P **P 02 52 17.5 +0.6**
TIA pmax pmax
comp=Z,28nm,1.0s
HIA Hailar 49.81 49 P **P 02 52 19.9 +0.7**
HIA IAmb IAmb 02 52 20.7
comp=Z,13nm,0.7s
HIA Hailar 49.81 49 P **P 02 52 19.9 +0.7**

HIA pmax pmax
comp=Z,13nm,0.7s
GZH Guangzhou 50.06 84 P **P** **02 52 21.8 +0.5**
GZH PP **PP** **02 54 16.2 -0.2**
GZH S **S** **02 59 32.4 0.0**
GZH pmax pmax
comp=Z,40nm,2.5s
ESDC Sonseca Array 50.08 298 P **P** **02 52 20.4 -1.0**
comp=Z,2.9nm,0.9s,baz=71,slow=7.8,SNR=9.1
ESDC PcP **PcP** **02 53 40.3 -0.7**
comp=Z,2.7nm,1.1s,baz=63,slow=3.9,SNR=4.1
comp=Z,2.9nm,0.9s
SPITS Spitsbergen Ar 50.90 350 P **P** **02 52 27.4 +0.4**
comp=Z,6.4nm,0.7s,baz=134,slow=6.2,SNR=1.8
comp=Z,6.4nm,0.7s
NJ2 Nanjing 51.87 72 *e*P **P** **02 52 36.2 +1.3**
NJ2 pP **sP** **02 52 38.9 -2.6**
NJ2 sP **pP** **02 52 41.9 +2.4**
NJ2 pmax pmax
comp=Z,12nm,0.5s
KBS Kingsbay 52.06 350⇓ *e*P **P** **02 52 37.2 +1.6**
KBS pmax pmax
comp=Z,34nm,1.1s
MTE Manteigas 52.66 300 *e*P **P** **02 52 40.3 -0.4**
comp=Z,26nm,1.4s
PCBR Castelo Branco 52.72 299 *e*P **P** **02 52 41.8 +0.8**
comp=Z,36nm,1.5s
PBAR Barrancos 52.73 297 *e*P **P** **02 52 40.8 -0.3**
comp=Z,38nm,1.2s
PGAV Gavieira, Arco 52.91 302 *e*P **P** **02 52 43.1 +0.5**
comp=Z,38nm,1.6s
TOA0 Torodi Ar. Sit 53.99 264 P **P** **02 52 50.6 -0.1**
TOA0 IAmb IAmb 02 52 56.1
comp=Z,20nm,0.8s
TORD Torodi Ar. Bea 53.99 264 P **P** **02 52 50.6 -0.1**
TORD IAmb IAmb 02 52 56.1
comp=Z,12nm,0.8s
TORD Torodi Ar. Bea 53.99 264 P **P** **02 52 50.2 -0.5**
comp=Z,16nm,0.8s,baz=63,slow=7.5,SNR=22
comp=Z,16nm,0.8s
ZEA Zeya 54.24 43 *e*P **P** **02 52 53.2 +1.2**
CN2 Changchun 54.34 56 *e*P **P** **02 52 53.4 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
YAK Yakutsk 55.18 33⇑ P **P** **02 52 57.6 -1.1**
YAK Yakutsk 55.18 33⇑ *e*P **P** **02 52 58.0 -0.6**
YAK pmax pmax
comp=Z,34nm,1.0s
BNX BinXian 55.36 53 ⇑P **P** **02 52 59.9 -0.4**
BNX pmax pmax
comp=Z,17nm,1.2s
TIXI Tiksi 55.39 21 P **P** **02 53 00.1 +0.1**
TIXI IAmb IAmb 02 53 02.2
comp=Z,24nm,1.1s
TIXI PcP **PcP** **02 53 58.8 -1.4**
LHSI Lahat 55.80 120 P **P** **02 53 03.5 -0.3**
comp=Z,378nm,0.9s,comp=Z,11μm
MDJ Mudanjiang 57.10 54 P **P** **02 53 13.6 +0.9**
MDJ pmax pmax
comp=Z,8.0nm,2.1s
MDJ pmax pmax
comp=Z,550nm,8.0s
KSAR Wonju Array Be 57.58 63 P **P** **02 53 16.1 -0.1**
KSAR Wonju Array Be 57.58 63 P **P** **02 53 16.1 -0.1**
KSRS Korea Array 57.61 63 P **P** **02 53 16.1 -0.2**
comp=Z,6.7nm,0.7s,baz=279,slow=7.0,SNR=16
comp=Z,6.7nm,0.7s
KLR Kul'dur 57.63 48*de*P **P** **02 53 16.5 +0.1**
KLR pmax pmax
comp=Z,19nm,0.9s
KSM Kuching 57.85 110 P **P** **02 53 17.5 -0.9**
KSM IAmb IAmb 02 53 18.9
comp=Z,16nm,1.1s
USA0B Ussuriysk Arra 58.87 54 P **P** **02 53 23.7 -1.4**
USA0B IAmb IAmb 02 53 25.6
comp=Z,14nm,1.1s
USA0B Ussuriysk Arra 58.87 54 P **P** **02 53 23.7 -1.4**
USA0B pmax pmax
comp=Z,14nm,1.1s
USRK Ussuriysk Ar. 58.87 54 P **P** **02 53 24.5 -0.6**
USRK Ussuriysk Ar. 58.87 54 P **P** **02 53 24.4 -0.7**
comp=Z,7.7nm,1.0s,baz=272,slow=4.6,SNR=6.7
comp=Z,7.7nm,1.0s
TSUM Tsumeb 62.63 223 P **P** **02 53 52.6 +1.5**
TSUM IAmb IAmb 02 53 55.6
comp=Z,21nm,1.1s
SUMG Summit 62.77 340 P **P** **02 53 52.6 +0.9**
SUMG IAmb IAmb 02 53 53.1
comp=Z,14nm,1.0s
SUMG Summit 62.77 340 P **P** **02 53 52.6 +0.9**
SUMG pmax pmax
comp=Z,14nm,1.0s
DBIC Dimbokro 62.79 261 P **P** **02 53 52.8 +0.6**
DBIC IAmb IAmb 02 54 21.5
comp=Z,10nm,0.9s
DBIC Dimbokro 62.79 261 P **P** **02 53 52.8 +0.6**
DBIC pmax pmax
comp=Z,10.0nm,1.0s
DBIC Dimbokro 62.79 261 P **P** **02 53 51.3 -0.9**
comp=Z,4.7nm,0.7s,baz=41,slow=4.4,SNR=4.5
comp=Z,4.7nm,0.7s
LBTB Lobatse 63.18 212 P **P** **02 53 55.4 +0.8**
LBTB Lobatse 63.18 212 P **P** **02 53 55.4 +0.8**
LBTB pmax pmax
comp=Z,8.0nm,0.9s
YSS Yuzh-Sakhalins 65.34 49 *e*P **P** **02 54 08.2 -0.3**
SEY Seymchan 65.36 30⇑ *e*P **P** **02 54 08.6 +0.2**
SEY pmax pmax
comp=Z,32nm,0.9s
MJAR Matsushiro Arr 65.71 61 P **P** **02 54 10.4 -0.7**
comp=Z,1.0nm,0.3s,baz=306,slow=15,SNR=5.3
comp=Z,1.0nm,0.3s
BOSA Boshof 66.43 211 P **P** **02 54 16.3 +0.5**
BOSA IAmb IAmb 02 54 18.0
comp=Z,16nm,1.0s
BOSA Boshof 66.43 211 P **P** **02 54 16.3 +0.5**
BOSA pmax pmax
comp=Z,16nm,1.0s
BOSA Boshof 66.43 211 P **P** **02 54 16.2 +0.5**
comp=Z,8.1nm,0.8s,baz=36,slow=7.3,SNR=12
comp=Z,8.1nm,0.8s
TOLI2 Tolitoli 66.71 103 P **P** **02 54 16.9 -0.9**
TOLI2 IAmb IAmb 02 54 19.1
comp=Z,9.9nm,1.0s
BILL Bilibino 68.58 22 *e*P **P** **02 54 29.4 +0.7**
KAPI Kappang 69.27 109 P **P** **02 54 33.5 -0.4**
KAPI IAmb IAmb 02 54 34.4
comp=Z,21nm,1.1s
KAPI Kappang 69.27 109*de*P **P** **02 54 32.9 -1.0**
KAPI pmax pmax
comp=Z,22nm,1.1s
PETK Petropavlovsk- 71.83 39 P **P** **02 54 47.5 -1.4**
comp=Z,11nm,0.9s,baz=250,slow=3.0,SNR=3.7
comp=Z,11nm,0.9s
A22K Sinclair Lake 76.05 10 P **P** **02 55 12.4 -0.8**
baz=332
B20K Meade River 76.56 12 P **P** **02 55 16.3 +0.1**
baz=330
B22K Teshekpuk Lake 76.88 10 P **P** **02 55 18.8 +0.8**
B22K Teshekpuk Lake 76.88 10 P **P** **02 55 18.4 +0.4**
baz=333
C19K Lookout Ridge 76.90 13 P **P** **02 55 18.4 +0.2**
baz=328
C18K Utukok River 76.97 14 IAmb IAmb 02 55 23.1
comp=Z,18nm,1.1s
C18K Utukok River 76.97 14 P **P** **02 55 18.8 +0.2**
baz=326
B21K Ikpikpuk River 77.33 11 P **P** **02 55 20.7 +0.1**
baz=332
D17K Noatak River 77.36 15 P **P** **02 55 20.5 -0.2**
baz=325
A36M Sachs Harbour 77.61 1 P **P** **02 55 21.8 -0.3**
baz=358
D19K Kuna River 77.70 13 P **P** **02 55 22.4 -0.3**
baz=329
C21K Knifeblade Rid 77.71 11 P **P** **02 55 22.8 +0.1**
baz=332
C23K Itkillik River 77.75 10 IAmb IAmb 02 55 28.8
comp=Z,35nm,1.3s
C23K Itkillik River 77.75 10 P **P** **02 55 23.2 +0.3**
baz=336
D20K Etivluk River 77.78 12 P **P** **02 55 23.7 +0.5**
baz=330
E18K Tukpahlearik C 78.12 14 P **P** **02 55 25.4 +0.4**
baz=327
C24K Franklin Bluff 78.12 9 P **P** **02 55 25.8 +0.8**
baz=337
E17K Hotham Inlet 78.14 15 P **P** **02 55 24.6 -0.6**
baz=326
E20K Nigu River 78.26 12 P **P** **02 55 25.7 -0.2**
baz=331
D22K Ayikyak River 78.31 11 P **P** **02 55 26.6 +0.5**
baz=334
F14K Arctic Creek 78.39 17 P **P** **02 55 27.1 +0.5**
baz=323
C26K Camden Bay 78.41 8 P **P** **02 55 26.9 +0.3**
baz=340
E21K Killik River 78.49 11 P **P** **02 55 27.1 0.0**
baz=333
D23K Nanushuk River 78.54 10 P **P** **02 55 27.2 -0.1**
baz=336
F15K North Star Dit 78.62 16 P **P** **02 55 27.1 -0.8**
baz=324
D24K Happy Valley 78.63 9 P **P** **02 55 28.1 +0.3**
baz=337
E19K Redstone River 78.77 13 P **P** **02 55 28.2 -0.4**
baz=330
D25K Kavik River 78.80 8 IAmb IAmb 02 55 30.9
comp=Z,52nm,1.8s
D25K Kavik River 78.80 8 P **P** **02 55 29.2 +0.4**
baz=339
F17K Baldwin Pennin 78.81 15 P **P** **02 55 29.4 +0.6**
baz=327
TOLK Toolik Lake Re 79.00 10 P **P** **02 55 31.0 +1.1**
TOLK Toolik Lake Re 79.00 10 P **P** **02 55 30.3 +0.3**
baz=336
E22K Anaktuvuk Pass 79.12 11 IAmb IAmb 02 55 32.3
comp=Z,38nm,1.6s
E22K Anaktuvuk Pass 79.12 11 P **P** **02 55 29.9 -0.6**
baz=335
F19K Shaleruckik Mo 79.20 13 IAmb IAmb 02 55 31.7
comp=Z,21nm,1.4s
F19K Shaleruckik Mo 79.20 13 P **P** **02 55 30.4 -0.6**
baz=330
PSA00 Pilbara Seismi 79.33 123 P **P** **02 55 30.5 -1.8**
G15K Niukluk 79.36 17 P **P** **02 55 31.7 -0.1**
baz=324
F20K Avaraart Lake 79.41 13 IAmb IAmb 02 55 34.1
comp=Z,24nm,1.6s
F20K Avaraart Lake 79.41 13 P **P** **02 55 31.9 -0.2**
baz=331
G16K Koyuk River 79.43 16 IAmb IAmb 02 55 37.0
comp=Z,21nm,1.3s
G16K Koyuk River 79.43 16 P **P** **02 55 32.1 -0.1**
baz=326
D27M Malcolm River 79.48 7 P **P** **02 55 33.0 +0.5**
baz=344
E23K Chandalar 79.53 10 P **P** **02 55 33.5 +0.6**
baz=336
D28M Stokes Point 79.60 6 P **P** **02 55 33.1 0.0**
baz=346
F22K John River 79.63 11 P **P** **02 55 34.0 +0.7**
baz=334
F21K Alatna River 79.66 12 P **P** **02 55 33.7 +0.2**
baz=333
E24K Your Creek 79.68 10 P **P** **02 55 34.3 +0.6**
baz=338
G17K Kiwalik Mounta 79.73 15 P **P** **02 55 34.1 +0.2**
baz=327
G18K Tagagawik 79.83 14 IAmb IAmb 02 55 35.4
comp=Z,21nm,1.4s
G18K Tagagawik 79.83 14 P **P** **02 55 34.1 -0.3**
baz=329
G19K Purcell Mounta 79.94 14 P **P** **02 55 34.6 -0.5**
baz=330
E25K Arctic Village 80.03 9 IAmb IAmb 02 55 37.5
comp=Z,37nm,1.7s
H16K Elim 80.09 16 P **P** **02 55 35.7 -0.1**
baz=326
COLD Coldfoot 80.20 11 P **P** **02 55 36.6 +0.2**
baz=336
E28M Babbage River 80.23 6 IAmb IAmb 02 55 37.8
comp=Z,38nm,1.9s
E28M Babbage River 80.23 6 P **P** **02 55 36.3 -0.3**
baz=345
G22K Bettles 80.27 11 P **P** **02 55 36.4 -0.4**
baz=335
C36M Paulatuk 80.28 1 P **P** **02 55 35.9 -0.9**
C36M IAmb IAmb 02 55 38.0
comp=Z,44nm,1.7s
C36M Paulatuk 80.28 1 P **P** **02 55 35.6 -1.1**
baz=359
F24K Squaw Lake 80.28 10 P **P** **02 55 37.1 +0.2**
baz=338
G21K Allakaket 80.29 12 P **P** **02 55 36.1 -0.8**
baz=333
H17K Granite Mounta 80.38 15 IAmb IAmb 02 55 39.0
comp=Z,45nm,1.9s
H17K Granite Mounta 80.38 15 P **P** **02 55 37.2 -0.2**
baz=325
E27K Coleen River 80.43 7 IAmb IAmb 02 55 39.7
comp=Z,54nm,1.8s
E27K Coleen River 80.43 7 P **P** **02 55 38.0 +0.3**
baz=344
F25K Christian Rive 80.52 9 P **P** **02 55 38.3 +0.1**
baz=340
H18K Honhosa River 80.53 14 P **P** **02 55 38.2 0.0**
baz=329
E29M Blow River 80.59 6 P **P** **02 55 38.9 +0.4**
baz=347
H19K Roundabout Mou 80.61 14 P **P** **02 55 38.5 -0.1**
baz=331
F26K Sheenjek River 80.61 8 P **P** **02 55 38.4 -0.3**
baz=341
G23K Bananza Creek 80.71 11 P **P** **02 55 38.8 -0.3**
baz=336
IMAR Indian Mountai 80.73 12 P **P** **02 55 39.6 +0.4**
H20K Anaktuvuk Anneega Mo 80.95 13 P **P** **02 55 40.5 0.0**
baz=332
INK Inuvik 80.99 4 P **P** **02 55 40.9 +0.3**
baz=350
I17K Unalakleet 81.09 16 P **P** **02 55 41.5 +0.4**
baz=327
G24K Hadweenzic Riv 81.11 10 IAmb IAmb 02 55 47.0
comp=Z,27nm,1.3s
G24K Hadweenzic Riv 81.11 10 P **P** **02 55 41.6 +0.3**
baz=338
F28M Old Crow 81.17 7 P **P** **02 55 41.0 -0.6**
baz=345
H21K Melozitna Rive 81.19 12 IAmb IAmb 02 55 43.5
comp=Z,52nm,1.9s
H21K Melozitna Rive 81.19 12 P **P** **02 55 41.8 0.0**
baz=334
GCSA Galena City Sc 81.20 14 P **P** **02 55 41.3 -0.4**
baz=331
H22K Ishtalitna Cre 81.23 12 P **P** **02 55 42.0 0.0**
baz=335
F30M Barrier River 81.53 5 P **P** **02 55 43.2 -0.3**
baz=348
J16K Anvik River 81.62 16 IAmb IAmb 02 55 46.6
comp=Z,56nm,1.9s
J16K Anvik River 81.62 16 P **P** **02 55 44.0 0.0**
baz=328
I20K Naaghedeneel 81.65 13 P **P** **02 55 44.5 +0.4**
baz=333
G27K Doyon Strip 81.75 7 P **P** **02 55 45.6 +0.8**
baz=344
F31M Tsiigehtchic 81.84 4 P **P** **02 55 45.2 +0.1**
baz=350
H24K Noodor Dome 81.85 10 P **P** **02 55 45.1 -0.2**
baz=338
G29M Pine Creek 82.03 6 P **P** **02 55 45.5 -0.6**
baz=347
G30M tAoh Zraii Nji 82.11 5 IAmb IAmb 02 55 51.2
comp=Z,24nm,1.3s
G30M tAoh Zraii Nji 82.11 5 P **P** **02 55 46.5 -0.2**
baz=348
J19K Poorman 82.13 14 P **P** **02 55 46.4 -0.3**
baz=332
MLY Manley 82.13 12 P **P** **02 55 46.4 -0.4**
baz=336
K15K Wolf Creek Mou 82.23 17 P **P** **02 55 47.5 +0.3**
baz=327
I23K Minto, Yukon-K 82.26 11 IAmb IAmb 02 55 52.0
comp=Z,50nm,1.7s
I23K Minto, Yukon-K 82.26 11 P **P** **02 55 47.5 +0.2**
baz=337
J20K Nowinta River 82.27 13 P **P** **02 55 47.1 -0.3**
baz=333
G31M Satah River 82.31 5 P **P** **02 55 47.4 -0.2**
baz=350
SCHQ Schefferville 82.32 331 P **P** **02 55 47.2 -0.7**
comp=Z,3.3nm,0.7s,baz=23,slow=2.7,SNR=4.4
comp=Z,3.3nm,0.7s
H27K Steamboat Moun 82.33 8 P **P** **02 55 47.3 -0.5**
baz=344
J18K Innoko River 82.36 15 P **P** **02 55 48.6 +0.6**
baz=331
PRP Porcupine Dome 82.50 9 P **P** **02 55 49.6 +0.8**
baz=340
M11K Mekoryuk 82.50 20 P **P** **02 55 49.2 +0.5**
baz=323
POKR Poker Plat Res 82.59 10 P **P** **02 55 49.4 +0.3**
baz=339
K17K Iditarod 82.66 16 P **P** **02 55 48.8 -0.7**
baz=330
H29M Whitestone 82.67 6 P **P** **02 55 49.5 0.0**
baz=346
L14K Kuka Creek 82.72 18 P **P** **02 55 50.5 +0.7**
baz=326
L15K Ungalak Mounta 82.75 18 P **P** **02 55 50.5 +0.5**
baz=327
NEA2 Nenana 82.82 11 P **P** **02 55 49.5 -0.8**
baz=337
I27K Kandik River 82.92 8 P **P** **02 55 51.3 +0.4**
baz=344
BPAW Bear Paw Mtn. 82.94 12 P **P** **02 55 50.9 -0.1**
baz=336
TTA Tatalina 82.98 15 P **P** **02 55 52.0 +0.7**
TTA IAmb IAmb 02 55 52.5
comp=Z,20nm,1.5s
TTA Tatalina 82.98 15 P **P** **02 55 51.0 -0.3**
baz=331
TTA Tatalina 82.98 15 P **P** **02 55 52.0 +0.7**
TTA pmax pmax
comp=Z,21nm,1.5s
ILAR Eielson Array 83.00 10 P **P** **02 55 51.4 +0.1**
ILAR Eielson Array 83.00 10 P **P** **02 55 51.4 +0.1**
ILAR Eielson Array 83.00 10 P **P** **02 55 50.8 -0.5**
comp=Z,1.1nm,0.6s,baz=320,slow=4.3,SNR=6.9
ILAR PP **PP** **02 59 01.0 -0.2**
comp=Z,2.0nm,1.0s,baz=332,slow=5.7,SNR=6.5
comp=Z,1.1nm,0.6s
K20K Telida 83.02 14 P **P** **02 55 51.8 +0.4**
baz=333
L17K Donlin 83.16 16 P **P** **02 55 52.9 +0.8**
baz=330
L16K Owhat River 83.24 17 P **P** **02 55 53.0 +0.5**
baz=329
I28M Miner Creek 83.26 7 P **P** **02 55 52.6 -0.1**
baz=345
CAST Castle Rocks 83.35 13 P **P** **02 55 53.4 +0.3**
baz=335
J25K Salcha River, 83.38 10 P **P** **02 55 52.9 -0.4**
baz=340
M14K Bethel 83.41 18 P **P** **02 55 53.7 +0.3**
baz=327
H31M Peel River 83.42 5 P **P** **02 55 52.4 -1.0**
baz=350
MCK McKinley 83.64 11 P **P** **02 55 53.7 -0.9**
baz=337
J26L Joseph Creek 83.73 9 P **P** **02 55 54.7 -0.5**
baz=342
EGAK Eagle 83.77 8 P **P** **02 55 55.0 -0.2**
baz=344
I30M Mount Dempster 83.83 6 P **P** **02 55 55.7 0.0**
baz=348
L20K Farewell, AK 83.84 14 P **P** **02 55 55.1 -0.6**
baz=333
L19K White Mountain 83.90 15 P **P** **02 55 56.2 +0.2**
baz=332
M16K Timber Creek 83.96 17 P **P** **02 55 57.1 +0.9**
baz=329
M17K Holitna River 84.00 16 P **P** **02 55 57.0 +0.6**
baz=330
K24K Donnelly Dome 84.08 10 P **P** **02 55 57.1 +0.2**
baz=340
SCRK Sand Creek 84.17 9 IAmb IAmb 02 56 02.7
comp=Z,17nm,1.2s
SCRK Sand Creek 84.17 9 P **P** **02 55 57.6 +0.1**
baz=342
N14K Kuskokwak Cree 84.18 19 P **P** **02 55 57.6 +0.3**
baz=327
M18K Stony River 84.30 15 P **P** **02 55 58.2 +0.3**
baz=332
K27K Chicken 84.38 8 P **P** **02 55 59.1 +0.8**
baz=343
J30M Hart River 84.47 6 P **P** **02 55 59.1 +0.1**
baz=348
N16K Nishlik Lake 84.48 17 P **P** **02 55 59.8 +0.9**
baz=329
DHY Denali Highway 84.51 11 P **P** **02 55 59.0 -0.2**
baz=339
DAWY Dawson 84.66 7 P **P** **02 56 00.2 +0.3**
DAWY IAmb IAmb 02 56 04.3
comp=Z,22nm,1.6s
DAWY Dawson 84.66 7 P **P** **02 55 59.7 -0.1**
baz=346
SKT Skwentna 84.77 13 P **P** **02 56 00.3 -0.1**
baz=335
N17K Nushagak Hills 84.83 16 P **P** **02 56 00.4 -0.2**
baz=331
O14K Tigyukauivet M 84.86 19 P **P** **02 56 00.9 +0.1**
baz=327
NWAO Narrogin (SRO) 84.87 133 P **P** **02 56 00.0 -1.2**
NWAO Narrogin (SRO) 84.87 133 P **P** **02 55 60.0 -1.2**
comp=Z,16nm,1.0s,baz=316,slow=6.3,SNR=4.4
comp=Z,16nm,1.0s
WAT6 Susitna Watana 84.91 11 P **P** **02 56 01.2 -0.1**
baz=338
N18K Kilae Creek 85.00 16 P **P** **02 56 01.9 +0.4**
baz=332
K29M Barlow Dome 85.07 7 P **P** **02 56 02.0 0.0**
baz=347
L26K Log Cabin Wild 85.17 9 P **P** **02 56 02.1 -0.2**
baz=342
N19K Bonanza Creek 85.20 15 P **P** **02 56 02.6 0.0**
baz=333
M22K Willow 85.25 13 P **P** **02 56 03.2 +0.5**
baz=336
L27K Beaver Creek, 85.34 9 P **P** **02 56 03.5 +0.2**
baz=343
SUA Susitna One 85.40 13 P **P** **02 56 03.4 -0.2**
baz=336
O16K Kokwok River B 85.41 17 P **P** **02 56 02.5 -1.0**
baz=330
HARP HAARP 85.50 10 P **P** **02 56 04.3 +0.2**
baz=341
SML Sawmill 85.53 12 P **P** **02 56 04.7 +0.5**
baz=338
PMR Palmer 85.59 12 P **P** **02 56 04.4 0.0**
baz=337
M24K Tolsona, Glenn 85.62 11 P **P** **02 56 05.0 +0.3**
baz=340
M23K Glacier View 85.65 12 P **P** **02 56 04.4 -0.4**
baz=338
SCM Sheep Creek Mo 85.68 11 P **P** **02 56 05.2 +0.2**
baz=339
L29M L29M 85.73 7 IAmb IAmb 02 56 10.0
comp=Z,27nm,1.5s
L29M L29M 85.73 7 P **P** **02 56 05.4 +0.2**
baz=347
M26K Nabesna, AK 85.82 9 P **P** **02 56 05.8 +0.2**
baz=342
KNK Knik Glacier 85.88 12 P **P** **02 56 05.8 -0.1**
baz=338
O18K Koktuh Hills 85.89 16 P **P** **02 56 05.9 -0.1**
baz=332
RC01 Rabbit Creek A 85.94 13 P **P** **02 56 06.8 +0.6**
baz=337
M27K Edge Creek, AK 86.01 9 IAmb IAmb 02 56 08.1
comp=Z,22nm,1.1s
M27K Edge Creek, AK 86.01 9 P **P** **02 56 07.6 +0.9**
baz=343
BVCY Beaver Creek 86.09 8 P **P** **02 56 07.7 +0.7**
baz=344
P17K Kvichak River 86.18 17 P **P** **02 56 07.9 +0.6**
baz=331
KLU Klutina 86.24 11 P **P** **02 56 08.2 +0.5**
baz=340
M29M Somme Creek 86.34 7 P **P** **02 56 08.3 0.0**
baz=346
M30M Minto, Yukon 86.39 7 P **P** **02 56 08.5 0.0**
baz=348
PWL Port Wells 86.41 12 P **P** **02 56 08.5 -0.1**
baz=338
WRGLY Wrigley 86.43 0 P **P** **02 56 09.0 +0.5**
WRGLY Wrigley 86.43 0 P **P** **02 56 09.5 +1.0**
baz=359
YUK3 Moose Creek 86.76 8 P **P** **02 56 11.3 +0.8**
baz=345
YKA Yellowknife Ar 86.94 356 P **P** **02 56 11.5 +0.4**
YKA Yellowknife Ar 86.94 356 *i* P **P** **02 56 11.3 +0.2**

YKA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YKA	Yellowknife Ar	86.94	356	P	P	02 56 10.9	-0.1
	comp=Z,5.6nm,0.9s,baz=357,slow=5.3,SNR=28						
	comp=Z,5.6nm,0.9s						
M31M	Drury Creek, Y	86.97	5	P	P	02 56 11.5	+0.2
	baz=350						
YUK4	Talbot Arm	87.39	8	P	P	02 56 13.5	-0.1
	baz=346						
FCC	Fort Churchill	87.78	346	P	P	02 56 15.5	+0.3
FCC				IAmb	IAmb	02 56 16.3	
	comp=Z,16nm,1.2s						
FCC	Fort Churchill	87.78	346	P	P	02 56 15.5	+0.3
FCC				pmax	pmax		
	comp=Z,16nm,1.3s						
HYT	Haines Junctio	88.03	7	IAmb	IAmb	02 56 25.6	
	comp=Z,19nm,1.1s						
HYT	Haines Junctio	88.03	7	P	P	02 56 16.8	+0.2
	baz=347						
O30N	Mendenhall	88.23	7	P	P	02 56 17.2	-0.2
	baz=348						
ULM	Lac du Bonnet	96.02	343⇓	eP	P	02 56 52.9	-0.7
ULM	Lac du Bonnet	96.02	343	P	P	02 56 52.3	-1.2
	comp=Z,4.8nm,0.7s,baz=66,slow=3.8,SNR=7.1						
	comp=Z,4.8nm,0.7s						
OTAV	Otavalo	128.02	298		PKPdf	03 02 33.3	-0.4
OTAV	Otavalo	128.02	298	PKIKP	PKPdf	03 02 33.3	-0.4
LPAZ	La Paz	128.47	273	PKP	PKiKP	03 02 34.7	-0.6
	comp=Z,1.9nm,1.0s,baz=354,slow=6.8,SNR=3.1						
LPAZ				PP	PP	03 04 35.2	-4.6
	comp=Z,2.3nm,0.9s,baz=99,slow=4.0,SNR=4.2						

*NEIC **01** 02:44:02.9±1.1, 36°63N±0°02×99°22W±0°04, h5km±2km, Error ellipse: s-maj=5.3km s-min=3.8km az=275.0*
*TUL **01** 02:44:03.4±1.5, 36°64N±0°02×99°19W±0°04, h3km±7km, ML3.0, mb_Lg2.6/45(NEIC), ML2.9/14(NEIC), Error ellipse: s-maj=5.1km s-min=3.1km az=88.0*
*ANF **01** 02:44:03.6±0.3, 36°64N×99°19W, h5km, ML3.4/7, Error ellipse: s-maj=5.8km s-min=3.8km az=91.0*
ISC 01 02:44:03.2±1.2**, 36°64N**±0°02×**99°22W**±0°03**, h4**km±10km**, n71, σ0s77**/69**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOKA	Waynoka	0.23	91	Pg	Pg	02 44 08.1	+0.4
NOKA				Sg	Sg	02 44 11.5	+0.7
NOKA				IAML		02 44 13.8	
	comp=E,4μm,0.2s						
U32A	Winter Ranch,	0.31	146	Pg	Pg	02 44 09.7	+0.4
U32A				Sg	Sg	02 44 14.3	+1.0
U32A				IAML		02 44 14.6	
	comp=N,2μm,0.4s						
U32A				IAML		02 44 16.2	
	comp=E,2μm,0.1s						
OK035	E0210 Rd and N	0.41	80	Pg	Pg	02 44 11.4	+0.2
OK035				Sg	Sg	02 44 17.2	+0.6
OK035				IAML		02 44 17.7	
	comp=E,2μm,0.3s						
OK038	West end E0370	0.42	113	Pg	Pg	02 44 11.5	+0.3
OK038				Sg	Sg	02 44 17.2	+0.6
ELIS	Ellis County	0.59	196	Pg	Pb	02 44 15.3	-0.9
ELIS				Sg	Sb	02 44 23.8	-1.1
ELIS				IAML		02 44 26.3	
	comp=N,751nm,0.2s						
ELIS				IAML		02 44 33.3	
	comp=E,534nm,0.2s						
OK032	Salt Plains WL	0.83	78		Pg	02 44 18.8	-0.3
OK032				IAML		02 44 37.1	
	comp=E,481nm,0.2s						
OK032				IAML		02 44 41.3	
	comp=E,504nm,0.1s						
CROK	Carrier	1.00	97	Pg	Pg	02 44 22.1	-0.4
KAN10	Anthony SW Sta	1.02	61		Pg	02 44 22.3	-0.5
CSTR	Hydro, Custer	1.08	156	Pg	Pg	02 44 23.6	-0.3
GC02	Grant County #	1.11	79	Pg	Pg	02 44 23.9	-0.7
KAN08	Anthony NE Sta	1.16	59		Pg	02 44 24.9	-0.6
KAN05	Bluff City Nor	1.18	66		Pg	02 44 25.1	-0.6
KAN12	Harper NE Stat	1.18	56		Pg	02 44 25.4	-0.4
KAN17	Caldwell West	1.23	70	Pg	Pg	02 44 26.3	-0.6
KAN06	Argonia West S	1.25	60		Pg	02 44 26.3	-0.8
KAN01	Argonia South	1.28	66		Pg	02 44 27.1	-0.6
KAN09	Caldwell North	1.38	68		Pn	02 44 28.9	-0.3
KAN13	South Haven SW	1.45	75		Pn	02 44 29.9	-0.2
BLOK	Blackwell	1.61	85		Pb	02 44 32.7	-0.9
OK029	Liberty Lake	1.66	120		Pb	02 44 33.3	-1.0
SMWD	Samnorwood	1.74	209		Pb	02 44 35.3	-0.5
SMWD				IAmb_Lg		02 44 58.2	
	comp=Z,21nm,0.8s						
R32A	Long Quarter,	1.82	13		Pb	02 44 36.8	-0.3
R32A				IAmb_Lg		02 45 01.7	
	comp=Z,47nm,0.8s						
OK048	Pawnee Station	1.84	96		Pn	02 44 35.5	-0.1
OKCSW	OKLAHOMA CITY	1.90	130		Pn	02 44 36.5	+0.2
OK051	E0350 and S346	1.92	93		Pb	02 44 38.5	-0.3
WMOK	Wichita Mounta	1.93	169	Pn	Pn	02 44 37.1	+0.3
WMOK				IAmb_Lg		02 45 08.2	
	comp=Z,39nm,0.8s						
WMOK	Wichita Mounta	1.93	169	P	Pb	02 44 37.4	-1.5
	baz=350						
WMOK				S	Sb	02 45 02.6	-0.8
	baz=350						
FNO	Franklin	2.02	133		Pn	02 44 37.5	-0.5
OK052	Battle Ridge R	2.05	108	Pn	Pn	02 44 38.1	-0.4
QUOK	Quay	2.08	102		Pb	02 44 41.2	-0.2
OK030	Cody Creek RV	2.09	109	Pn	Pn	02 44 38.5	-0.5
T35A	Sooner Cattle	2.19	82		Pb	02 44 43.4	0.0
CBKS	Cedar Bluff	2.21	349		Pn	02 44 41.0	+0.3
CBKS	Cedar Bluff	2.21	349	P	Pn	02 44 41.2	+0.5
	baz=168						
CBKS				S	Sb	02 45 09.7	-1.7
	baz=168						
DEOK	Depew	2.34	109	Pn	Pn	02 44 42.4	0.0
W35A	Tecumseh	2.41	127		Pn	02 44 43.7	+0.3
AMTX	Amarillo	2.66	230		Pg	02 44 52.5	-1.7
AMTX				IAmb_Lg		02 45 32.0	
	comp=Z,30nm,0.9s						
AMTX	Amarillo	2.66	230	P	Pn	02 44 47.5	+0.6
	baz=48						
RTBA	Rita Blanca	2.84	267		Pn	02 44 50.4	+0.9
RTBA				IAmb_Lg		02 45 37.3	
	comp=Z,7.4nm,0.8s						
TUL3	Leonard	2.86	104	Pn	Pn	02 44 50.0	+0.4
TUL3	Leonard	2.86	104	P	Pn	02 44 49.2	-0.4
	baz=286						
TUL3				S	Sn	02 45 25.5	+1.1
	baz=286						
WTFS	Witchita Falls	2.93	168	Pn	Pn	02 44 51.0	+0.5
LOOK	Love County	3.12	147	Pn	Pn	02 44 54.1	+0.9
KSU1	Kansas State U	3.21	39	Pn	Pn	02 44 54.9	+0.5
KSU1				IAmb_Lg		02 45 47.4	
	comp=Z,13nm,0.7s						
KSU1	Kansas State U	3.21	39	P	Pn	02 44 54.7	+0.3
	baz=220						
KSU1				S	Sn	02 45 33.8	+0.8
	baz=220						
DKNS	Dickens	3.28	206	Pn	Pn	02 44 57.0	+1.6
DKNS				IAmb_Lg		02 45 54.2	
	comp=Z,12nm,0.7s						
APMT	Aspermont	3.39	193		Pn	02 44 58.0	+1.1
RLO	Rose Lookout	3.42	97	Pn	Pn	02 44 57.8	+0.5
KSCO	Kaye Shedlock'	3.59	312	Pn	Pn	02 45 00.7	+1.0
KSCO				IAmb_Lg		02 46 04.0	
	comp=Z,17nm,0.7s						
FW03	Perrin-Whitt E	3.71	165	IAmb_Lg		02 46 02.6	
	comp=Z,13nm,0.9s						
PLPT	Palo Pinto	3.89	169	Pn	Pn	02 45 04.2	+0.5
PLPT				IAmb_Lg		02 46 06.0	
	comp=Z,4.2nm,0.9s						
SN01	Snyder 1	4.01	201	IAmb_Lg		02 46 20.2	
	comp=Z,15nm,0.7s						
ABTX	Abilene, Hawle	4.02	185	Pn	Pn	02 45 06.3	+0.7
ABTX				IAmb_Lg		02 46 14.4	
	comp=Z,12nm,0.8s						
ABTX	Abilene, Hawle	4.02	185	P	Pn	02 45 06.2	+0.7
	baz=5.2						
POST	Post	4.03	208	IAmb_Lg		02 46 19.0	
	comp=Z,14nm,0.9s						
T25A	Trinidad	4.19	278	Pn	Pn	02 45 09.3	+1.3
T25A				IAmb_Lg		02 46 21.7	
	comp=Z,20nm,0.8s						
T25A	Trinidad	4.19	278	P	Pn	02 45 08.6	+0.5
	baz=95						
T25A				S	Sn	02 45 59.4	+1.8
	baz=95						
HHAR	Hobbs	4.27	93	Pn	Pn	02 45 09.4	+0.4
TREL	Terrell	4.67	146	IAmb_Lg		02 46 35.1	
	comp=Z,40nm,0.8s						
S39A	Bolivar	4.82	76	Pn	Pn	02 45 17.6	+1.0
OGNE	Ogallala	4.83	334	Pn	Pn	02 45 17.1	+0.4
SGCY	Sterling City	4.97	199	IAmb_Lg		02 46 44.8	
	comp=Z,16nm,1.0s						
MIAR	Mount Ida	5.05	113	Pn	Pn	02 45 20.7	+1.1
P38A	Dawn	5.38	55	IAmb_Lg		02 47 04.5	
	comp=Z,14nm,0.8s						
BRIGG	Briggsdale	5.61	316	IAmb_Lg		02 47 09.3	
	comp=Z,14nm,0.9s						
R40A	Maddies Statio	5.77	71	IAmb_Lg		02 47 09.3	
	comp=Z,8.6nm,0.8s						
WHAR	Wooly Hollow	5.78	101	IAmb_Lg		02 47 21.5	
	comp=Z,9.8nm,1.1s						
OZNA	Ozona	5.92	196		Pn	02 45 31.7	0.0
MNHN	Monahans	6.05	210	IAmb_Lg		02 47 26.5	
	comp=Z,6.3nm,0.9s						
PHWY	Pilot Hill	6.73	316	IAmb_Lg		02 47 38.2	
	comp=Z,4.3nm,0.8s						
N23A	Red Feather La	6.76	311	IAmb_Lg		02 47 49.1	
	comp=Z,11nm,0.9s						

IDC 01 02:47:20.8±1.6**, 30°80N**×**57°36E, h0**km**, mb3.7**/4**, mbtmp3.8**/5**, ML4.1**/1**, Error ellipse: s-maj=40.1km s-min=29.3km az=124.0, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	7.62	171	Pn	Pn	02 49 14.3	+1.3
	2.9nm,0.3s,baz=356,slow=11,SNR=2.1						
	13nm,0.5s						
MKAR	Makanchi Array	25.00	43	P	P	02 52 44.9	-1.3
	0.7nm,0.7s,baz=240,slow=9.3,SNR=1.3						
	0.7nm,0.7s						
KURBB	Kurchatov Arra	25.33	33	P	P	02 52 49.8	+0.7
	0.6nm,0.7s,baz=232,slow=8.9,SNR=2.1						
	0.6nm,0.7s						
FINES	FINESS Array B	36.85	335	P	P	02 54 31.4	+0.9
	2.3nm,0.8s,baz=119,slow=6.7,SNR=3.5						
	2.3nm,0.8s						
TORD	Torodi Ar. Bea	53.99	264	P	P	02 56 45.9	-1.0
	1.1nm,0.8s,baz=49,slow=7.4,SNR=2.2						
	1.1nm,0.8s						

*IDC **01** 02:47:39.0±0.5, 60°20N×152°81W, h105km±5km, mb3.9/17, mbtmp4.3/22, Error ellipse: s-maj=12.5km s-min=7.5km az=75.0*
*NEIC **01** 02:47:39.7±1.4, 60°25N±0°03×152°66W±0°07, h106km±3km, Error ellipse: s-maj=5.0km s-min=4.3km az=94.0*
*AEIC **01** 02:47:40.6±1.6, 60°25N±0°03×152°67W±0°06, h103km±2km, ML4.2, mb4.6/98(NEIC), ML4.4/196(NEIC), Error ellipse: s-maj=4.7km s-min=4.3km az=125.0*
ISC 01 02:47:39.7±0.5**, 60°26N**±0°03×**152°59W**±0°04**, h107**km±4km**, h107**km**:pP-P, n621, σ0s89**/622**, mb4.5**/63**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	Slope Mountain	0.18	186		Pn	02 47 55.0	+0.1
O20K					Sn	02 48 06.2	+0.1
O20K	Slope Mountain	0.18	186	P	Pn	02 47 55.0	+0.1
	baz=352						
O20K				S	Sn	02 48 06.5	+0.4
	baz=352						
RED	Redoubt Volcan	0.19	330		Pn	02 47 54.6	-0.3
RED					Sn	02 48 05.5	-0.7
RDSO	Redoubt South	0.21	339		Pn	02 47 54.7	-0.3
RSO	Redoubt South	0.22	338		Pn	02 47 54.9	-0.2
RDWB	Redoubt West	0.27	332		Pn	02 47 54.8	-0.4
RDWB					Sn	02 48 06.3	-0.5
IVE	Iliamna Volcan	0.32	222		Pn	02 47 55.0	-0.4
IVE					Sn	02 48 06.9	-0.2
RDT	Redoubt	0.33	15		Pn	02 47 55.3	-0.1
RDT					Sn	02 48 07.0	-0.2
ILW	Iliamna West	0.34	235		Pn	02 47 55.3	-0.3
ILW					Sn	02 48 07.2	-0.2
DFR	Drift River	0.34	352		Pn	02 47 55.1	-0.3
NCT	North Crescent	0.35	331		Pn	02 47 55.2	-0.3
NCT					Sn	02 48 07.0	-0.4
RDJH	Redoubt Jeurge	0.35	342		Pn	02 47 55.2	-0.3
RDJH					Sn	02 48 07.4	0.0
ILSW	Iliamna Southw	0.39	226		Pn	02 47 55.1	-0.6
ILSW				IAML		02 48 10.2	
	comp=E,6μm,0.7s						
P19K	Oil Pt	0.69	209		Pn	02 47 57.7	-0.1
P19K					Sn	02 48 11.2	-0.1
P19K	Oil Pt	0.69	209	IAML		02 48 11.9	
	comp=N,9μm,0.7s						
P19K				IAML		02 48 12.1	
	comp=E,15μm,0.5s						
P19K	Oil Pt	0.69	209	P	Pn	02 47 57.7	-0.1
	baz=25						
P19K				S	Sn	02 48 11.2	-0.1
	baz=25						
HOM	Homer	0.76	141		Pn	02 47 58.9	+0.5
HOM					Sn	02 48 13.6	+1.2
HOM	Homer	0.76	141	P	Pn	02 47 58.8	+0.5
	baz=320						
HOM				S	Sn	02 48 13.6	+1.2
	baz=320						
O19K	Port Alsworth	0.87	267		Pn	02 47 58.7	-0.6
O19K	Port Alsworth	0.87	267	IAML		02 48 13.8	
	comp=E,12μm,0.4s						
O19K				IAML		02 48 13.9	
	comp=N,13μm,0.5s						
O19K	Port Alsworth	0.87	267	P	Pn	02 47 58.7	-0.6
	baz=85						
CAPN	Captain Cook N	0.88	53		Pn	02 48 01.2	+1.9
CAPN	Captain Cook N	0.88	53	P	Pn	02 48 01.2	+1.9
	baz=236						
N20K	Mount Spurr	0.97	11	P	Pn	02 48 00.5	+0.1
	baz=194						
N20K				S	Sn	02 48 16.9	+0.9
	baz=194						
SPCR	Spurr Chakacha	0.97	11		Pn	02 48 00.5	+0.1
SPCR					Sn	02 48 16.6	+0.6
SPCR	Spurr Chakacha	0.97	11		Pn	02 48 00.5	+0.1
SPCR	Spurr Chakacha	0.97	11	P	Pn	02 48 00.5	+0.1
	baz=194						
AUL	Augustine Lava	0.98	206		Pn	02 48 00.4	-0.1
AUL					Sn	02 48 16.1	0.0
BRLK	Bradley Lake	0.98	119		Pn	02 48 00.4	-0.1
BRLK	Bradley Lake	0.98	119	IAML		02 48 17.0	
	comp=E,12μm,0.3s						
SPCN	Chakachatna No	0.99	11		Pn	02 48 01.1	+0.5
AUCH	Augustine Cone	1.00	206		Pn	02 48 00.6	-0.1
AUQ	Augustine Qik'	1.00	205		Pn	02 48 00.6	-0.1
AUQ					Sn	02 48 16.6	+0.1
AUJK	Augustine Jueg	1.00	205		Pn	02 48 00.6	-0.1
CNPM	China Poot	1.00	137		Pn	02 48 00.9	+0.2
CNPM					Sn	02 48 16.7	+0.2
SPBG	Spurr Blockage	1.01	6		Pn	02 48 01.3	+0.4
SPCP	Crater Peak Br	1.04	12		Pn	02 48 01.5	+0.3
BRSE	Bradley Lake S	1.06	118		Pn	02 48 01.2	-0.1
BRSE	Bradley Lake S	1.06	118	P	Pn	02 48 01.3	-0.1
	baz=299						
N19K	Bonanza Creek	1.09	302	Pn	Pn	02 48 01.2	-0.5
N19K				IAML		02 48 18.3	
	comp=E,4μm,0.7s						
N19K				IAML		02 48 18.3	
	comp=N,5μm,0.7s						
N19K	Bonanza Creek	1.09	302	P	Pn	02 48 01.1	-0.7
	baz=122						
SPNN	North Nagishla	1.12	357		Pn	02 48 02.1	0.0
SPNN					Sn	02 48 19.0	0.0
SLKM	Skilak Lake	1.20	77		Pn	02 48 02.7	-0.2
STLK	Strandline Lak	1.30	16		Pn	02 48 04.3	+0.3
STLK					Sn	02 48 22.7	+0.2
O18K	Koktuh Hills	1.38	254		Pn	02 48 04.2	-0.7
O18K	Koktuh Hills	1.38	254	P	Pn	02 48 04.2	-0.7
	baz=72						
Q19K	Cape Douglas,	1.44	203		Pn	02 48 05.1	-0.6
Q19K	Cape Douglas,	1.44	203	IAML		02 48 28.0	
	comp=N,3μm,0.6s						
Q19K				IAML		02 48 29.6	
	comp=E,3μm,0.6s						
Q19K	Cape Douglas,	1.44	203	P	Pn	02 48 05.1	-0.6
	baz=20						
O22K	Cooper Landing	1.44	80		Pn	02 48 05.7	+0.1
O22K					Sn	02 48 25.8	+0.6
O22K	Cooper Landing	1.44	80	P	Pn	02 48 05.7	+0.1
	baz=262						
O22K				S	Sn	02 48 26.2	+1.0
	baz=262						
FIS	Fire Island	1.47	52		Pn	02 48 07.3	+1.4
FIS				IAML		02 48 32.0	
	comp=N,6μm,0.7s						
FIS				IAML		02 48 33.1	
	comp=E,6μm,0.4s						
SUA	Susitna One	1.51	36		Pn	02 48 07.2	+0.7
SUA					Sn	02 48 28.4	+1.4
SUA	Susitna One	1.51	36	IAML		02 48 29.4	
	comp=E,6μm,0.6s						
SUA				IAML		02 48 30.0	
	comp=N,4μm,0.4s						
SUA	Susitna One	1.51	36	P	Pn	02 48 07.3	+0.7
	baz=219						
SUA				S	Sn	02 48 28.4	+1.4
	baz=219						
SEW	Seward	1.57	94		Pn	02 48 06.5	-0.7
SEW	Seward	1.57	94	P	Pn	02 48 06.8	-0.3
	baz=277						
P18K	Big Mountain,	1.59	238		Pn	02 48 06.7	-0.8
P18K	Big Mountain,	1.59	238	P	Pn	02 48 06.7	-0.8
	baz=55						
RC01	Rabbit Creek A	1.63	58		Pn	02 48 08.3	+0.3
RC01	Rabbit Creek A	1.63	58	P	Pn	02 48 08.3	+0.3
	baz=241						
M20K	Styx River	1.65	351		Pn	02 48 08.7	+0.3
M20K	Styx River	1.65	351	IAML		02 48 31.0	
	comp=E,3μm,1.2s						
M20K				IAML		02 48 31.3	
	comp=N,2μm,0.6s						
M20K	Styx River	1.65	351	P	Pn	02 48 08.7	+0.3
	baz=172						
Q20K	Shuyak Island	1.65	177	P	Pn	02 48 08.0	-0.2
	baz=355						
SYI	Shuyak Island	1.65	176		Pn	02 48 08.0	-0.2
SYI	Shuyak Island	1.65	176	IAML		02 48 30.4	
	comp=N,3μm,0.3s						
SYI				IAML		02 48 31.0	
	comp=E,3μm,0.4s						
N18K	Kilae Creek	1.69	286		Pn	02 48 07.9	-0.8
N18K	Kilae Creek	1.69	286	P	Pn	02 48 07.9	-0.8
	baz=104						
SVW2	Sparrevohn	1.70	301		Pn	02 48 07.9	-0.9
SKT	Skwentna	1.80	16		Pn	02 48 10.2	+0.1
SKT	Skwentna	1.80	16	IAML		02 48 37.7	
	comp=N,2μm,0.4s						
SKT				IAML		02 48 38.2	
	comp=E,1μm,0.4s						
SKT	Skwentna	1.80	16	P	Pn	02 48 10.1	0.0
	baz=198						
M19K	Big River Lodg	1.87	333		Pn	02 48 10.9	0.0
M19K	Big River Lodg	1.87	333	IAML		02 48 35.2	
	comp=E,2μm,0.9s						
M19K				IAML		02 48 35.3	
	comp=N,1μm,0.8s						
M19K	Big River Lodg	1.87	333	P	Pn	02 48 10.9	0.0
	baz=153						
M22K	Willow	1.92	38		Pn	02 48 12.3	+0.8
M22K	Willow	1.92	38	P	Pn	02 48 12.3	+0.8
	baz=221						
M18K	Stony River	2.01	309		Pn	02 48 12.0	-0.7
M18K	Stony River	2.01	309	P	Pn	02 48 12.0	-0.7
	baz=128						
KAHG	Katmai Hook Gl	2.03	210		Pn	02 48 12.8	-0.2
KAHC	Katmai Hardscr	2.03	219		Pn	02 48 12.6	-0.5
KAHC	Katmai Hardscr	2.03	219	P	Pn	02 48 12.6	-0.5
	baz=36						
Q18K	Katmai Hardscr	2.03	219	P	Pn	02 48 12.6	-0.5
	baz=36						
PMR	Palmer	2.15	50		Pn	02 48 14.0	-0.5
PMR	Palmer	2.15	50	IAML		02 48 41.8	
	comp=E,4μm,0.5s						
PMR				IAML		02 48 42.0	
	comp=N,3μm,0.7s						
PMR	Palmer	2.15	50	P	Pn	02 48 14.1	-0.4
	baz=234						
PWL	Port Wells	2.19	72		Pn	02 48 14.2	-0.7
PWL	Port Wells	2.19	72	P	Pn	02 48 14.3	-0.7
	baz=256						
L19K	White Mountain	2.22	331		Pn	02 48 15.4	-0.1
L19K	White Mountain	2.22	331	IAML		02 48 43.7	
	comp=E,1μm,0.9s						
L19K				IAML		02 48 43.9	
	comp=N,1μm,0.7s						
L19K	White Mountain	2.22	331	P	Pn	02 48 15.0	-0.5
	baz=150						
P17K	Kvichak River	2.22	243		Pn	02 48 14.9	-0.5
P17K	Kvichak River	2.22	243	P	Pn	02 48 14.9	-0.5
	baz=59						
N17K	Nushagak Hills	2.30	279		Pn	02 48 15.7	-0.7
N17K	Nushagak Hills	2.30	279	P	Pn	02 48 15.7	-0.7
	baz=95						
O17K	Koliganek Bris	2.32	260		Pn	02 48 15.9	-0.7
O17K	Koliganek Bris	2.32	260	P	Pn	02 48 15.9	-0.7
	baz=76						
L20K	Farewell, AK	2.32	345		Pn	02 48 17.0	+0.3
KNK	Knik Glacier	2.33	58		Pn	02 48 16.4	-0.4
KNK	Knik Glacier	2.33	58	P	Pn	02 48 16.5	-0.4
	baz=242						
KAKN	Katmai Knife C	2.34	214		Pn	02 48 16.7	-0.3
GHO	Glory Hole Cre	2.34	48		Pn	02 48 16.7	-0.4
GHO	Glory Hole Cre	2.34	48	IAML		02 48 46.2	
	comp=N,3μm,0.5s						
GHO				IAML		02 48 47.3	
	comp=E,4μm,0.7s						
KCG	Knife Ck. Glac	2.34	215		Pn	02 48 16.8	-0.3
KCE	Katmai Mt Cerb	2.42	215		Pn	02 48 18.2	+0.1
KABU	Katmai Buttres	2.43	216		Pn	02 48 18.1	-0.1
CUT	Chulitna	2.43	26		Pn	02 48 18.6	+0.6
CUT				IAML		02 48 52.0	
	comp=N,3μm,0.5s						
CUT				IAML		02 48 53.9	
	comp=E,3μm,0.4s						
CUT	Chulitna	2.43	26	P	Pn	02 48 18.6	+0.6
	baz=209						
KDAK	Kodiak Island	2.48	180	IAML		02 48 53.8	
	comp=E,987nm,0.4s						
KDAK				IAML		02 48 54.1	
	comp=E,994nm,0.7s						
KDAK	Kodiak Island	2.48	180	P	Pn	02 48 17.2	-1.5
	comp=E,113nm,0.3s,baz=60,slow=10,SNR=1809						
KDAK				S	Sn	02 48 46.3	-2.4
	comp=E,539nm,0.4s,baz=312,slow=23,SNR=27						
ACHA	Angle Creek He	2.49	216		Pn	02 48 18.6	-0.3
ANCK	Angle Creek	2.55	217		Pn	02 48 19.5	-0.2
SML	Sawmill	2.59	51		Pn	02 48 19.8	-0.5
SML	Sawmill	2.59	51	IAML		02 48 52.6	
	comp=N,2μm,0.7s						
SML				IAML		02 48 53.5	
	comp=E,2μm,0.9s						
SML	Sawmill	2.59	51	P	Pn	02 48 19.8	-0.5
	baz=235						
P23K	Montague Islan	2.61	93		Pn	02 48 20.1	-0.2
P23K	Montague Islan	2.61	93	P	Pn	02 48 20.2	-0.2
	baz=278						
Q16K	King Salmon	2.61	234		Pn	02 48 20.4	-0.1
Q16K	King Salmon	2.61	234	P	Pn	02 48 20.4	-0.1
	baz=50						
CNTC	Contact Creek	2.62	222		Pn	02 48 20.2	-0.5
Q17K	Contact Creek	2.62	222	P	Pn	02 48 20.2	-0.5
	baz=38						
M17K	Holitna River	2.64	298		Pn	02 48 20.1	-0.7
M17K	Holitna River	2.64	298	IAML		02 49 16.4	
	comp=N,675nm,0.8s						
M17K				IAML		02 49 20.6	
	comp=E,843nm,0.8s						
M17K	Holitna River	2.64	298	P	Pn	02 48 20.1	-0.7
	baz=114						
PPLA	Purkeypile	2.66	4		Pn	02 48 21.9	+0.7
PPLA	Purkeypile	2.66	4	P	Pn	02 48 21.9	+0.7
	baz=185						
GLI	Glacier Island	2.78	75		Pn	02 48 20.9	-1.8
GLI	Glacier Island	2.78	75	P	Pn	02 48 21.4	-1.3
	baz=260						
L18K	Granite Mounta	2.80	317		Pn	02 48 22.4	-0.5
L18K	Granite Mounta	2.80	317	P	Pn	02 48 22.1	-0.8
	baz=134						
M23K	Glacier View	2.82	55		Pn	02 48 22.8	-0.5
M23K	Glacier View	2.82	55	P	Pn	02 48 22.8	-0.5
	baz=239						
O16K	Kokwok River B	2.85	259		Pn	02 48 22.9	-0.7

O16K	Kokwok River B	2.85	259	P	Pn	02 48 22.9	-0.7
	baz=74						
R18K	Karluk	2.87	201		Pn	02 48 22.4	-1.4
R18K	Karluk	2.87	201	P	Pn	02 48 22.4	-1.4
	baz=18						
P16K	Nushagak River	3.01	248		Pn	02 48 25.6	0.0
P16K	Nushagak River	3.01	248	P	Pn	02 48 25.6	0.0
	baz=63						
SCM	Sheep Creek Mo	3.01	56		Pn	02 48 25.4	-0.3
SCM	Sheep Creek Mo	3.01	56	IAML		02 49 04.5	
	comp=N,2µm,1.0s						
SCM				IAML		02 49 06.1	
	comp=E,2µm,0.6s						
SCM	Sheep Creek Mo	3.01	56	P	Pn	02 48 25.4	-0.3
	baz=241						
HIN	Hinchinbrook I	3.03	85		Pn	02 48 26.3	+0.3
HIN				IAML		02 49 02.0	
	comp=N,2µm,0.7s						
HIN				IAML		02 49 03.5	
	comp=E,2µm,0.5s						
FID	Port Fidalgo	3.06	78	IAML		02 49 01.8	
	comp=E,2µm,0.4s						
N16K	Nishlik Lake	3.08	277		Pn	02 48 26.1	-0.6
N16K	Nishlik Lake	3.08	277	P	Pn	02 48 26.1	-0.6
	baz=92						
TTA	Tatalina	3.14	330		Pn	02 48 26.9	-0.6
TTA	Tatalina	3.14	330	P	Pn	02 48 26.9	-0.6
	baz=148						
WAT7	Susitna Watana	3.15	33		Pn	02 48 28.4	+0.8
CAST	Castle Rocks	3.18	4		Pn	02 48 28.2	+0.1
CAST	Castle Rocks	3.18	4	P	Pn	02 48 28.2	+0.1
	baz=185						
K20K	Telida	3.19	348	Pn	Pn	02 48 28.2	0.0
K20K				IAML		02 49 05.6	
	comp=E,426nm,1.2s						
K20K	Telida	3.19	348	P	Pn	02 48 28.5	+0.3
	baz=167						
PLK3	Peulik 3	3.20	218		Pn	02 48 28.5	+0.2
PLK1	Peulik 1	3.22	222		Pn	02 48 28.4	-0.1
WAT1	Susitna Watana	3.23	35		Pn	02 48 28.4	-0.2
WAT1	Susitna Watana	3.23	35	P	Pn	02 48 28.5	-0.1
	baz=219						
M16K	Timber Creek	3.23	287		Pn	02 48 28.1	-0.6
M16K	Timber Creek	3.23	287	P	Pn	02 48 28.1	-0.6
	baz=101						
Q23K	Middleton Isla	3.25	102		Pn	02 48 29.6	+0.6
Q23K	Middleton Isla	3.25	102	IAML		02 49 09.1	
	comp=N,2µm,0.8s						
Q23K				IAML		02 49 09.3	
	comp=E,1µm,0.8s						
Q23K	Middleton Isla	3.25	102	P	Pn	02 48 29.7	+0.8
	baz=287						
Q23K				S	Sn	02 49 06.3	-0.6
	baz=287						
MID	Middleton Isla	3.26	102		Pn	02 48 29.4	+0.5
MID	Middleton Isla	3.26	102	IAML		02 49 09.1	
	comp=N,1µm,0.7s						
MID				IAML		02 49 09.3	
	comp=E,1µm,0.8s						
WAT6	Susitna Watana	3.30	43		Pn	02 48 29.5	-0.2
WAT6	Susitna Watana	3.30	43	P	Pn	02 48 29.6	-0.1
	baz=228						
L17K	Donlin	3.35	307		Pn	02 48 29.4	-0.8
L17K	Donlin	3.35	307	P	Pn	02 48 29.3	-0.8
	baz=122						
TRF	Thorofare Moun	3.39	18		Pn	02 48 30.8	0.0
TRF	Thorofare Moun	3.39	18	IAML		02 49 13.3	
	comp=N,1µm,0.5s						
TRF				IAML		02 49 14.6	
	comp=E,818nm,0.5s						
TRF	Thorofare Moun	3.39	18	P	Pn	02 48 30.8	0.0
	baz=200						
KTH	Kantishna Hill	3.40	13	Pn	Pn	02 48 31.0	0.0
KTH				IAML		02 49 11.3	
	comp=E,651nm,0.8s						
KTH				IAML		02 49 12.8	
	comp=N,662nm,0.7s						
EYAK	Cordova Ski Ar	3.40	82		Pn	02 48 29.3	-1.7
EYAK	Cordova Ski Ar	3.40	82	P	Pn	02 48 29.5	-1.5
	baz=268						
DIV	Divide	3.46	72		Pn	02 48 30.7	-1.1
KLU	Klutina	3.49	66		Pn	02 48 31.4	-0.7
KLU	Klutina	3.49	66	IAML		02 49 14.3	
	comp=E,1µm,0.5s						
KLU	Klutina	3.49	66	P	Pn	02 48 31.3	-0.8
	baz=252						
M24K	Tolsona, Glenn	3.62	56		Pn	02 48 34.4	+0.5
M24K	Tolsona, Glenn	3.62	56	P	Pn	02 48 33.9	0.0
	baz=242						
RND	Reindeer	3.62	28	Pn	Pn	02 48 33.5	-0.4
RND				IAML		02 49 19.6	
	comp=N,319nm,0.4s						
RND				IAML		02 49 20.1	
	comp=E,389nm,0.4s						
CHUM	Lake Minchumin	3.64	2		Pn	02 48 34.1	0.0
CHUM	Lake Minchumin	3.64	2	P	Pn	02 48 34.2	0.0
	baz=183						
L16K	Owhat River	3.66	296		Pn	02 48 33.4	-1.0
L16K	Owhat River	3.66	296	P	Pn	02 48 33.4	-1.0
	baz=111						
K17K	Iditarod	3.69	314	Pn	Pn	02 48 34.0	-0.7
K17K				IAML		02 49 34.1	
	comp=N,317nm,0.8s						
K17K				IAML		02 49 52.7	
	comp=E,430nm,1.1s						
K17K	Iditarod	3.69	314	P	Pn	02 48 34.5	-0.3
	baz=130						
R16K	Pilot Point	3.74	226		Pn	02 48 35.4	+0.1
R16K	Pilot Point	3.74	226	IAML		02 49 20.6	
	comp=N,481nm,0.8s						
R16K				IAML		02 49 48.7	
	comp=E,483nm,1.0s						
R16K	Pilot Point	3.74	226	P	Pn	02 48 35.4	+0.1
	baz=41						
N15K	Kwethluk River	3.75	272		Pn	02 48 35.5	-0.1
N15K	Kwethluk River	3.75	272	P	Pn	02 48 35.5	-0.1
	baz=86						
DHY	Denali Highway	3.76	39		Pn	02 48 35.9	0.0
DHY	Denali Highway	3.76	39	IAML		02 49 21.1	
	comp=N,1µm,0.5s						
DHY				IAML		02 49 22.4	
	comp=E,1µm,0.5s						
DHY	Denali Highway	3.76	39	P	Pn	02 48 35.9	0.0
	baz=224						
J18K	Innoko River	3.77	331	Pn	Pn	02 48 35.5	-0.3
J18K	Innoko River	3.77	331	P	Pn	02 48 35.5	-0.3
	baz=148						
SII	Sitkinak Islan	3.80	193		Pn	02 48 34.5	-1.9
SII	Sitkinak Islan	3.80	193	P	Pn	02 48 34.5	-1.9
	baz=11						
O15K	Ungalikthiuk R	3.82	257		Pn	02 48 36.4	-0.1
O15K	Ungalikthiuk R	3.82	257	P	Pn	02 48 36.4	-0.1
	baz=70						
MCK	McKinley	3.89	25		Pn	02 48 37.1	-0.4
MCK	McKinley	3.89	25	P	Pn	02 48 37.1	-0.4
	baz=208						
GOAT	Goat Mountain	3.91	82		Pn	02 48 36.3	-1.5
BPAW	Bear Paw Mtn.	3.93	10	Pn	Pn	02 48 38.8	+0.8
BPAW				IAML		02 49 21.4	
	comp=N,441nm,0.6s						
BPAW	Bear Paw Mtn.	3.93	10	P	Pn	02 48 37.4	-0.7
	baz=192						
RAGM	Ragged Mountai	3.94	85		Pn	02 48 36.5	-1.6
BMRM	Bremner River	4.00	76	P	Pn	02 48 37.5	-1.4
	baz=263						
J20K	Nowinta River	4.00	350	Pn	Pn	02 48 38.8	-0.1
J20K				IAML		02 49 26.6	
	comp=E,247nm,1.5s						
J20K	Nowinta River	4.00	350	P	Pn	02 48 39.1	+0.2
	baz=169						
J19K	Poorman	4.01	341		Pn	02 48 39.1	0.0
J19K	Poorman	4.01	341	P	Pn	02 48 39.1	0.0
	baz=158						
M15K	Kasigluk River	4.04	280		Pn	02 48 37.3	-2.1
M15K	Kasigluk River	4.04	280	P	Pn	02 48 37.3	-2.1
	baz=93						
KAIM	Kayak Island	4.10	91		Pn	02 48 39.9	-0.4
KAIM	Kayak Island	4.10	91	IAML		02 49 32.5	
	comp=E,856nm,0.5s						
KAIM				IAML		02 49 34.7	
	comp=N,934nm,0.5s						
KAIM	Kayak Island	4.10	91	P	Pn	02 48 40.2	-0.2
	baz=278						
N25K	Chitina, Valde	4.13	67	IAML		02 49 28.1	
	comp=N,921nm,0.7s						
N25K				IAML		02 49 39.2	
	comp=E,597nm,0.7s						
N25K	Chitina, Valde	4.13	67	P	Pn	02 48 40.0	-0.7
	baz=254						
HMT	Hamilton	4.14	85		Pn	02 48 40.6	-0.2
HARP	HAARP	4.17	56	P	Pn	02 48 41.3	0.0
	baz=243						
BWN	Browne	4.19	19		Pn	02 48 41.4	-0.1
BWN	Browne	4.19	19	IAML		02 49 51.1	
	comp=N,551nm,1.0s						
BWN				IAML		02 49 51.9	
	comp=E,410nm,1.1s						
NICHA	Nichawak Mount	4.29	87		Pn	02 48 41.4	-1.6
PAX	Paxson	4.35	48		Pn	02 48 43.8	0.0
PAX	Paxson	4.35	48	P	Pn	02 48 43.8	0.0
	baz=235						
WACK	Wrangell Chich	4.36	63		Pn	02 48 43.6	-0.5
SUCK	Suckling Hills	4.41	89		Pn	02 48 44.6	+0.2
SUCK	Suckling Hills	4.41	89	IAML		02 49 37.8	
	comp=N,607nm,0.6s						
SUCK				IAML		02 50 03.9	
	comp=E,321nm,0.6s						
ANNE	Aniakchak Nort	4.41	223		Pn	02 48 44.0	-0.5
WASW	Wrangell South	4.42	64		Pn	02 48 44.2	-0.5
BERG	Berg Lake	4.42	84		Pn	02 48 44.3	-0.3
ANNW	Aniakchak Nort	4.42	224		Pn	02 48 44.6	-0.1
GLB	Gilahina Butte	4.45	71		Pn	02 48 44.3	-0.8
GLB	Gilahina Butte	4.45	71	IAML		02 49 37.2	
	comp=E,397nm,0.4s						
GLB				IAML		02 49 37.5	
	comp=N,552nm,0.4s						
WAZA	Wrangell Mount	4.47	62		Pn	02 48 45.5	-0.1
O14K	Tigyukauivet M	4.50	261		Pn	02 48 45.7	0.0
O14K	Tigyukauivet M	4.50	261	P	Pn	02 48 45.7	0.0
	baz=73						
L15K	Ungalak Mounta	4.57	292		Pn	02 48 45.8	-0.7
L15K	Ungalak Mounta	4.57	292	P	Pn	02 48 45.8	-0.7
	baz=105						
N14K	Kuskokwak Cree	4.57	270		Pn	02 48 46.3	-0.2
N14K	Kuskokwak Cree	4.57	270	P	Pn	02 48 46.3	-0.2
	baz=82						
ANPB	Aniakchak Plen	4.57	223		Pn	02 48 46.3	-0.4
VRDI	Verde Repeater	4.59	74	Pn	Pn	02 48 47.9	+0.9
VRDI				IAML		02 49 42.3	
	comp=N,500nm,0.7s						
VRDI				IAML		02 49 42.0	
	comp=E,408nm,0.5s						
GRIN	Grindle Hills	4.62	86		Pn	02 48 47.4	+0.2
I20K	Naaghedeneel	4.64	350		Pn	02 48 47.5	0.0
I20K	Naaghedeneel	4.64	350	IAML		02 49 44.3	
	comp=N,525nm,1.1s						
I20K				IAML		02 50 29.7	
	comp=E,639nm,1.2s						
I20K	Naaghedeneel	4.64	350	P	Pn	02 48 47.5	0.0
	baz=169						
NEA2	Nenana	4.65	19		Pn	02 48 46.8	-0.9
NEA2	Nenana	4.65	19	IAML		02 49 41.0	
	comp=E,139nm,0.7s						
NEA2	Nenana	4.65	19	P	Pn	02 48 47.3	-0.3
	baz=203						
M14K	Bethel	4.66	280	Pn	Pn	02 48 47.5	-0.3
M14K	Bethel	4.66	280	P	Pn	02 48 47.4	-0.3
	baz=92						
CRQM	Cirque	4.70	80		Pn	02 48 47.2	-1.3
CRQM	Cirque	4.70	80	IAML		02 49 45.4	
	comp=E,549nm,0.6s						
CRQE	Cirque	4.72	80	P	Pn	02 48 48.4	-0.3
	baz=268						
WRH	Wood River Hil	4.72	24	Pn	Pn	02 48 48.0	-0.6
WRH				IAML		02 49 45.8	
	comp=N,228nm,0.4s						
CHIR	Chirikof Islan	4.73	201		Pn	02 48 46.6	-2.2
CHIR	Chirikof Islan	4.73	201	IAML		02 50 30.5	
	comp=N,300nm,2.6s						
CHIR				IAML		02 50 35.8	
	comp=E,283nm,2.9s						
CHIR	Chirikof Islan	4.73	201	P	Pn	02 48 46.6	-2.2
	baz=18						
K15K	Wolf Creek Mou	4.78	299	P	Pn	02 48 48.9	-0.4
	baz=112						
K24K	Donnelly Dome	4.79	39		Pn	02 48 51.0	+1.4
K24K	Donnelly Dome	4.79	39	P	Pn	02 48 51.0	+1.4
	baz=225						
MCARA	McCarthy VSAT	4.81	72		Pn	02 48 49.0	-0.9
MCARA	McCarthy VSAT	4.81	72	P	Pn	02 48 49.2	-0.7
	baz=261						
WAX	Waxell Ridge	4.84	83		Pn	02 48 48.6	-1.7
TGL	Tana Glacier	4.85	80		Pn	02 48 49.0	-1.4
TGL	Tana Glacier	4.85	80	IAML		02 49 49.7	
	comp=E,478nm,0.4s						
SNH	Sunshine Point	4.86	87		Pn	02 48 50.6	0.0
SNH	Sunshine Point	4.86	87	IAML		02 49 47.3	
	comp=E,470nm,1.3s						
SNH				IAML		02 49 47.6	
	comp=N,365nm,0.3s						
MLY	Manley	4.87	9	Pn	Pn	02 48 51.0	+0.3
MLY	Manley	4.87	9	P	Pn	02 48 51.0	+0.3
	baz=191						
J16K	Anvik River	4.87	312	Pn	Pn	02 48 49.1	-1.5
J16K	Anvik River	4.87	312	P	Pn	02 48 49.7	-0.9
	baz=125						
GCSA	Galena City Sc	4.93	338		Pn	02 48 51.3	-0.1
GCSA	Galena City Sc	4.93	338	P	Pn	02 48 51.3	-0.1
	baz=155						
HDA	Harding Lake	4.93	30	P	Pn	02 48 51.3	-0.1
	baz=215						
HDA				P	Pn	02 48 51.3	-0.1
	baz=215						
CCB	Clear Creek Bu	4.93	25	Pn	Pn	02 48 50.9	-0.5
CCB				IAML		02 49 49.3	
	comp=E,340nm,0.5s						
CCB				IAML		02 49 49.7	
	comp=N,248nm,0.4s						
I21K	Tanana	4.95	3		Pn	02 48 51.4	-0.3
I21K	Tanana	4.95	3	P	Pn	02 48 51.9	+0.1
	baz=184						
MENT	Mentasta	5.01	54		Pn	02 48 52.1	-0.6
CHGN	Chignik	5.02	220		Pn	02 48 51.7	-0.9
CHGN				IAML		02 49 47.5	
	comp=N,318nm,0.1s						
CHGN				IAML		02 49 50.3	
	comp=E,399nm,0.1s						
CHGN	Chignik	5.02	220	P	Pn	02 48 51.9	-0.8
	baz=35						
BARK	Barkley Ridge	5.02	84		Pn	02 48 51.5	-1.2
PTPK	Patty Peak	5.06	75		Pn	02 48 52.8	-0.6
L14K	Kuka Creek	5.07	287	IAML		02 50 37.2	
	comp=N,112nm,1.2s						
L14K				IAML		02 50 48.2	
	comp=E,110nm,1.1s						
L14K	Kuka Creek	5.07	287	P	Pn	02 48 53.2	-0.1
	baz=98						
KIAG	Kiagna River	5.09	78		Pn	02 48 52.5	-1.2
ISLE	Juniper Island	5.09	82		Pn	02 48 53.8	0.0
M26K	Nabesna, AK	5.09	61		Pn	02 48 53.3	-0.5
M26K	Nabesna, AK	5.09	61	IAML		02 49 51.0	
	comp=N,274nm,0.7s						
M26K				IAML		02 50 23.5	
	comp=E,171nm,1.0s						
M26K	Nabesna, AK	5.09	61	P	Pn	02 48 53.7	-0.1
	baz=250						
COLA	College	5.12	23		Pn	02 48 53.9	-0.2
I23K	Minto, Yukon-K	5.13	15	Pn	Pn	02 48 54.3	+0.2
I23K				IAML		02 50 29.4	
	comp=N,103nm,0.8s						
I23K	Minto, Yukon-K	5.13	15	P	Pn	02 48 54.1	0.0
	baz=199						
MDM	Murphy Dome	5.13	21		Pn	02 48 53.2	-0.9
MDM	Murphy Dome	5.13	21	IAML		02 49 54.0	
	comp=N,151nm,0.8s						
MDM				IAML		02 49 55.3	
	comp=E,117nm,0.8s						
L26K	Log Cabin Wild	5.21	54	IAML		02 50 02.3	
	comp=N,358nm,0.5s						
L26K				IAML		02 50 11.8	
	comp=E,335nm,0.5s						
BAGL	Bagley Icefiel	5.21	83		Pn	02 48 54.1	-1.1
IL31		5.24	28		Pn	02 48 55.0	-0.6
ILAR	Eielson Array	5.24	28	Pn	Pn	02 48 55.4	-0.2
ILAR	Eielson Array	5.24	28	P	Pn	02 48 55.2	-0.4
	comp=E,62nm,0.4s,baz=213,slow=14,SNR=484						
ILAR				S	Sn	02 49 50.0	-4.8
	comp=E,59nm,0.4s,baz=213,slow=16,SNR=17						
I17K	Unalakleet	5.27	317	Pn	Pn	02 48 55.4	-0.7
I17K	Unalakleet	5.27	317	P	Pn	02 48 55.3	-0.7
	baz=130						
MESA	MESA	5.30	86		Pn	02 48 57.2	+0.5
MESA	MESA	5.30	86	P	Pn	02 48 57.5	+0.8
	baz=275						
VNHG	Veniaminof 1	5.33	224		Pn	02 48 57.1	+0.1
M13K	Dall Lake	5.35	276		Pn	02 48 57.5	+0.3
M13K	Dall Lake	5.35	276	IAML		02 50 18.7	
	comp=E,186nm,2.7s						
M13K				IAML		02 51 05.2	
	comp=N,237nm,3.0s						
H20K	Anotleneega Mo	5.36	350		Pn	02 48 57.4	+0.1
H20K	Anotleneega Mo	5.36	350	P	Pn	02 48 57.5	+0.2
	baz=168						
GRNC	Granite Creek	5.38	80		Pn	02 48 57.8	+0.1
H21K	Melozitna Rive	5.42	359		Pn	02 48 57.6	-0.5
H21K	Melozitna Rive	5.42	359	P	Pn	02 48 57.9	-0.3
	baz=179						
POKR	Poker Plat Res	5.42	24		Pn	02 48 58.1	0.0
POKR	Poker Plat Res	5.42	24	P	Pn	02 48 58.2	0.0
	baz=209						
VNSS	Veniaminof 8	5.43	225		Pn	02 48 57.8	-0.7
BARN	Barnard Glacie	5.43	77		Pn	02 48 57.7	-0.8
SCRK	Sand Creek	5.50	44	P	Pn	02 48 58.7	-0.5
	baz=231						
J25K	Salcha River,	5.51	34	Pn	Pn	02 48 59.6	+0.3
J25K	Salcha River,	5.51	34	P	Pn	02 48 59.4	+0.1
	baz=221						
VNWF	Veniaminof 8	5.53	225		Pn	02 48 58.9	-0.7
M27K	Edge Creek, AK	5.57	63		Pn	02 49 00.5	+0.2
M27K	Edge Creek, AK	5.57	63	P	Pn	02 49 00.6	+0.3
	baz=253						
H19K	Roundabout Mou	5.58	343	P	Pn	02 49 00.1	0.0
	baz=160						
CTG	Chitna Glacier	5.58	78	P	Pn	02 49 01.0	+0.5
	baz=268						
H18K	Honhosa River	5.59	334		Pn	02 49 00.1	-0.3
H18K	Honhosa River	5.59	334	P	Pn	02 49 00.0	-0.3
	baz=149						
CTGM	Chitina Glacie	5.59	78		Pn	02 49 00.6	+0.1
TABL	Table Mountain	5.69	83		Pn	02 49 00.7	-1.1
H22K	Ishtalitna Cre	5.69	5		Pn	02 49 01.5	-0.2
H22K	Ishtalitna Cre	5.69	5	P	Pn	02 49 01.8	+0.2
	baz=186						
IMAR	Indian Mountai	5.78	355		Pn	02 49 02.7	-0.2
H17K	Granite Mounta	5.79	327	P	Pn	02 49 02.6	-0.4
	baz=141						
J14K	Nanvaranak Lak	5.82	300		Pn	02 49 03.0	-0.4
J14K	Nanvaranak Lak	5.82	300	P	Pn	02 49 03.0	-0.4
	baz=111						
L27K	Beaver Creek,	5.84	57		Pn	02 49 03.6	-0.3
L27K	Beaver Creek,	5.84	57	P	Pn	02 49 03.8	-0.1
	baz=246						
SAMH	Samovar Hills	5.89	86		Pn	02 49 05.5	+1.0
YUK2	White River	5.91	70		Pn	02 49 04.7	-0.2
J26L	Joseph Creek	5.98	41	Pn	Pn	02 49 05.8	+0.1
J26L	Joseph Creek	5.98	41	P	Pn	02 49 05.6	-0.1
	baz=229						
H24K	Noodor Dome	6.00	19		Pn	02 49 05.6	-0.3
H24K	Noodor Dome	6.00	19	P	Pn	02 49 05.6	-0.3
	baz=203						
BVCY	Beaver Creek	6.04	64		Pn	02 49 06.7	+0.2
BVCY	Beaver Creek	6.04	64	P	Pn	02 49 06.7	+0.2
	baz=254						
YUK3	Moose Creek	6.09	70		Pn	02 49 06.9	-0.4
YUK3	Moose Creek	6.09	70	P	Pn	02 49 06.9	-0.4
	baz=261						
O28M	Mount Upton	6.14	80		Pn	02 49 08.1	0.0
O28M	Mount Upton	6.14	80	P	Pn	02 49 08.9	+0.7
	baz=271						
PCA	Pinnacle	6.16	86		Pn	02 49 08.4	+0.3
PINM	Pinnacle	6.16	86	P	Pn	02 49 08.6	+0.5
	baz=277						
PRP	Porcupine Dome	6.19	28	Pn	Pn	02 49 08.8	+0.2
PRP	Porcupine Dome	6.19	28	P	Pn	02 49 08.5	-0.1
	baz=215						
K27K	Chicken	6.21	48		Pn	02 49 08.2	-0.5
K27K	Chicken	6.21	48	P	Pn	02 49 08.9	+0.1
	baz=237						
G19K	Purcell Mounta	6.25	343		Pn	02 49 08.9	-0.4
G19K	Purcell Mounta	6.25	343	P	Pn	02 49 08.9	-0.4
	baz=159						
H16K	Elim	6.27	319	P	Pn	02 49 09.0	-0.6
	baz=130						
G18K	Tagagawik	6.29	337	Pn	Pn	02 49 10.0	+0.1
G18K	Tagagawik	6.29	337	P	Pn	02 49 09.8	-0.1
	baz=152						
G21K	Allakaket	6.30	357		Pn	02 49 09.7	-0.2
G21K	Allakaket	6.30	357	P	Pn	02 49 09.7	-0.2
	baz=176						
YUK8	Steele Glacier	6.37	75		Pn	02 49 11.5	+0.4
YUK8	Steele Glacier	6.37	75	P	Pn	02 49 11.2	0.0
	baz=266						
G17K	Kiwalik Mounta	6.42	328		Pn	02 49 10.6	-1.1
G17K	Kiwalik Mounta	6.42	328	P	Pn	02 49 10.6	-1.1
	baz=142						
SDPT	Sand Point	6.48	224		Pn	02 49 10.6	-1.8
SDPT	Sand Point	6.48	224	P	Pn	02 49 10.6	-1.8
	baz=37						
BCPM	Bancas Point	6.48	87		Pn	02 49 12.4	-0.1
G23K	Bananza Creek	6.58	9	Pn	Pn	02 49 14.5	+0.6
G23K	Bananza Creek	6.58	9	P	Pn	02 49 14.4	+0.6
	baz=192						
PNL	Peninsula	6.65	89		Pn	02 49 14.6	-0.1
PNL	Peninsula	6.65	89	P	Pn	02 49 14.9	+0.1
	baz=281						
I26K	Coal Creek Min	6.66	36	Pn	Pn	02 49 15.2	+0.4
I26K	Coal Creek Min	6.66	36	P	Pn	02 49 14.8	-0.1
	baz=225						
H25L	Birch Creek	6.76	24		Pn	02 49 16.1	0.0
H25L	Birch Creek	6.76	24	P	Pn	02 49 16.1	0.0
	baz=210						
G16K	Koyuk River	6.82	323	Pn	Pn	02 49 16.8	-0.2
G16K	Koyuk River	6.82	323	P	Pn	02 49 16.3	-0.7
	baz=135						
G24K	Hadweenzic Riv	6.86	17		Pn	02 49 17.1	-0.5
G24K	Hadweenzic Riv	6.86	17	P	Pn	02 49 17.1	-0.5
	baz=202						
PS1A	Pavlof South-1	6.88	229		Pn	02 49 17.5	-0.4
YUK4	Talbot Arm	6.91	75	P	Pn	02 49 19.0	+0.6
	baz=266						
EGAK	Eagle	6.96	44		Pn	02 49 18.4	-0.5
EGAK	Eagle	6.96	44	P	Pn	02 49 18.4	-0.5
	baz=235						
F20K	Avaraart Lake	6.96	350		Pn	02 49 18.7	-0.2
O29M	Mount Kennedy	6.97	84		Pn	02 49 19.6	+0.4
O29M	Mount Kennedy	6.97	84	P	Pn	02 49 19.6	+0.4
	baz=276						
PN7A	Pavlof North-7	6.97	230		Pn	02 49 19.0	-0.2
F19K	Shaleruckik Mo	7.00	343	Pn	Pn	02 49 19.3	-0.1
F19K	Shaleruckik Mo	7.00	343	P	Pn	02 49 19.4	+0.1
	baz=159						
F21K	Alatna River	7.01	357		Pn	02 49 19.3	-0.2
YUK6	Outpost Mounta	7.04	78		Pn	02 49 20.5	+0.3
YUK6	Outpost Mounta	7.04	78	P	Pn	02 49 20.3	+0.1
	baz=271						
COLD	Coldfoot	7.08	8		Pn	02 49 20.5	0.0
COLD	Coldfoot	7.08	8	P	Pn	02 49 20.6	+0.1
	baz=190						
G15K	Niukluk	7.10	317		Pn	02 49 20.2	-0.6
G15K	Niukluk	7.10	317	P	Pn	02 49 20.2	-0.6
	baz=127						
M29M	Somme Creek	7.13	66		Pn	02 49 21.4	0.0
M29M	Somme Creek	7.13	66	P	Pn	02 49 21.4	0.0
	baz=258						
G25K	Bearman Lake	7.14	21		Pn	02 49 21.1	-0.2
G25K	Bearman Lake	7.14	21	P	Pn	02 49 21.1	-0.2
	baz=207						
YUK7	Dusty Glacier	7.16	82		Pn	02 49 22.1	+0.2
DAWY	Dawson	7.26	53		Pn	02 49 23.1	+0.1
DAWY	Dawson	7.26	53	P	Pn	02 49 23.1	+0.1
	baz=244						
YUK5	Granite Creek	7.28	77		Pn	02 49 23.5	0.0
F22K	John River	7.28	1		Pn	02 49 23.8	+0.5
F22K	John River	7.28	1	P	Pn	02 49 24.7	+1.4
	baz=182						
F17K	Baldwin Pennin	7.32	332	P	Pn	02 49 23.8	0.0
	baz=144						
I27K	Kandik River	7.33	38		Pn	02 49 23.5	-0.5
I27K	Kandik River	7.33	38	P	Pn	02 49 23.7	-0.3
	baz=228						
ANM	Nome	7.34	312		Pn	02 49 23.5	-0.6
ANM	Nome	7.34	312	P	Pn	02 49 23.5	-0.6
	baz=120						
L29M	L29M	7.44	61		Pn	02 49 25.6	+0.1
L29M	L29M	7.44	61	P	Pn	02 49 25.6	+0.1
	baz=254						
HYT	Haines Junctio	7.46	79		Pn	02 49 26.0	+0.1

HYT	Haines Junctio	7.46	79	P	Pn	02 49 26.0	+0.1
	baz=272						
P29M	Windy Craggy	7.48	88		Pn	02 49 26.1	+0.1
P29M	Windy Craggy	7.48	88	P	Pn	02 49 26.9	+0.8
	baz=281						
E19K	Redstone River	7.51	346		Pn	02 49 26.8	+0.3
E19K	Redstone River	7.51	346	P	Pn	02 49 26.7	+0.3
	baz=162						
F24K	Squaw Lake	7.58	14		Pn	02 49 27.1	-0.2
F24K	Squaw Lake	7.58	14	P	Pn	02 49 27.1	-0.2
	baz=198						
N30M	Aishikik Lake	7.66	74		Pn	02 49 27.5	-1.0
N30M	Aishikik Lake	7.66	74	P	Pn	02 49 27.5	-1.0
	baz=268						
F15K	North Star Dit	7.74	320		Pn	02 49 29.1	-0.4
F15K	North Star Dit	7.74	320	P	Pn	02 49 29.1	-0.4
	baz=130						
G26K	Porcupine Rive	7.77	26		Pn	02 49 29.0	-0.8
G26K	Porcupine Rive	7.77	26	P	Pn	02 49 29.2	-0.7
	baz=215						
I28M	Miner Creek	7.78	43		Pn	02 49 29.9	-0.2
I28M	Miner Creek	7.78	43	P	Pn	02 49 29.9	-0.2
	baz=234						
H27K	Steamboat Moun	7.79	35		Pn	02 49 28.9	-1.3
H27K	Steamboat Moun	7.79	35	P	Pn	02 49 29.2	-1.0
	baz=225						
P30M	Million Dollar	7.79	84		Pn	02 49 30.6	+0.3
P30M	Million Dollar	7.79	84	P	Pn	02 49 30.3	0.0
	baz=278						
E22K	Anaktuvuk Pass	7.92	2		Pn	02 49 33.2	+1.3
M30M	Minto, Yukon	7.92	66		Pn	02 49 31.4	-0.5
K29M	Barlow Dome	7.93	57		Pn	02 49 32.0	-0.2
K29M	Barlow Dome	7.93	57	P	Pn	02 49 32.0	-0.2
	baz=250						
E23K	Chandalar	7.94	8		Pn	02 49 32.9	+0.6
F25K	Christian Rive	7.97	20		Pn	02 49 31.5	-1.2
F25K	Christian Rive	7.97	20	P	Pn	02 49 31.5	-1.2
	baz=206						
E17K	Hotham Inlet	7.98	333		Pn	02 49 31.9	-0.8
E17K	Hotham Inlet	7.98	333	P	Pn	02 49 31.7	-1.0
	baz=145						
E18K	Tukpahlearik C	8.01	337		Pn	02 49 33.9	+0.8
E24K	Your Creek	8.05	11		Pn	02 49 33.7	-0.1
ISNN	Isanotski Nort	8.11	233		Pn	02 49 34.5	-0.1
O30N	Mendenhall	8.15	79		Pn	02 49 34.5	-0.6
O30N	Mendenhall	8.15	79	P	Pn	02 49 34.6	-0.6
	baz=274						
ISLZ	Isanotski Laza	8.16	232		Pn	02 49 34.5	-0.8
F14K	Arctic Creek	8.16	316		Pn	02 49 35.1	-0.1
G27K	Doyon Strip	8.18	32	Pn	Pn	02 49 34.8	-0.6
G27K	Doyon Strip	8.18	32	P	Pn	02 49 34.5	-0.9
	baz=222						
E20K	Nigu River	8.19	351		Pn	02 49 36.4	+0.9
E21K	Killik River	8.24	356		Pn	02 49 34.6	-1.7
SSBA	Shishaldin	8.29	234		Pn	02 49 36.9	-0.1
F26K	Sheenjek River	8.33	23		Pn	02 49 36.1	-1.4
F26K	Sheenjek River	8.33	23	P	Pn	02 49 36.4	-1.1
	baz=211						
E25K	Arctic Village	8.46	18		Pn	02 49 38.4	-0.9
E25K	Arctic Village	8.46	18	P	Pn	02 49 38.4	-0.9
	baz=205						
TOLK	Toolik Lake Re	8.52	7		Pn	02 49 41.3	+1.2
TOLK	Toolik Lake Re	8.52	7	P	Pn	02 49 39.8	-0.2
	baz=190						
D19K	Kuna River	8.61	346		Pn	02 49 42.1	+0.9
D22K	Ayikyak River	8.66	360		Pn	02 49 41.8	-0.2
J30M	Hart River	8.69	53		Pn	02 49 43.6	+1.1
S31K	Pelican	8.72	98		Pn	02 49 41.5	-1.3
SKAG	Skagway	8.72	88		Pn	02 49 43.6	+0.8
H29M	Whitestone	8.75	41		Pn	02 49 42.2	-1.0
H29M	Whitestone	8.75	41	P	Pn	02 49 42.9	-0.3
	baz=234						
WHY	Whitehorse	8.76	80		Pn	02 49 43.2	-0.2
WHY	Whitehorse	8.76	80	P	Pn	02 49 43.2	-0.2
	baz=275						
D17K	Noatak River	8.77	333		Pn	02 49 43.5	+0.2
D23K	Nanushuk River	8.78	5		Pn	02 49 44.3	+0.7
M31M	Drury Creek, Y	8.98	70		Pn	02 49 46.0	-0.4
C21K	Knifeblade Rid	8.99	355		Pn	02 49 47.0	+0.6
D24K	Happy Valley	9.08	9		Pn	02 49 48.1	+0.5
BESE	Bessie Mountai	9.19	93		Pn	02 49 49.8	+0.6
F28M	Old Crow	9.24	32		Pn	02 49 49.0	-0.9
F28M	Old Crow	9.24	32	P	Pn	02 49 49.0	-0.9
	baz=223						
E27K	Coleen River	9.27	26		Pn	02 49 49.3	-1.0
E27K	Coleen River	9.27	26	P	Pn	02 49 49.4	-0.8
	baz=216						
R32K	Eaglecrest	9.46	94	P	Pn	02 49 53.0	+0.2
	baz=290						
D25K	Kavik River	9.47	13		Pn	02 49 52.7	-0.3
D25K	Kavik River	9.47	13	P	Pn	02 49 52.1	-0.9
	baz=199						
P32M	Atlin	9.49	86		Pn	02 49 53.5	+0.1
P32M	Atlin	9.49	86	P	Pn	02 49 53.5	+0.1
	baz=282						
JIS	Juneau Island	9.52	94		Pn	02 49 53.9	+0.3
C24K	Franklin Bluff	9.64	8		Pn	02 49 54.6	-0.6
C24K	Franklin Bluff	9.64	8	P	Pn	02 49 54.1	-1.1
	baz=192						
C23K	Itkillik River	9.66	4		Pn	02 49 55.5	0.0
C23K	Itkillik River	9.66	4	P	Pn	02 49 55.1	-0.3
	baz=186						
S32K	Killisnoo	9.73	99		Pn	02 49 56.0	-0.5
S32K	Killisnoo	9.73	99	P	Pn	02 49 56.7	+0.2
	baz=294						
UNV	Unalaska Valle	9.92	236		Pn	02 49 56.9	-2.2
UNV	Unalaska Valle	9.92	236	P	Pn	02 49 56.9	-2.2
	baz=44						
MNAT	Makushin Natee	9.97	236		Pn	02 49 57.7	-2.1
B22K	Teshekpuk Lake	10.13	358	Pn	Pn	02 50 01.5	-0.3
U33K	Whale Pass	11.06	103		Pn	02 50 15.2	+0.7
WRAK	Wrangell Islan	11.29	101		Pn	02 50 18.9	+1.3
INK	Inuvik	11.51	37	P	Pn	02 50 19.6	-0.7
	comp=N,7.2nm,0.7s,baz=242,slow=17,SNR=13						
INK				S	Sn	02 52 22.2	-4.4
	comp=N,4.0nm,0.5s,baz=238,slow=15,SNR=2.5						
INK				ScP	ScP	02 59 23.0	-1.5
	comp=N,1.4nm,0.8s,baz=340,slow=1.6,SNR=4.0						
DLBC	Dease Lake	11.64	89	P	Pn	02 50 23.0	+0.7
	comp=N,3.9nm,0.4s,baz=270,slow=7.6,SNR=25						
DLBC				S	Sn	02 52 26.7	-3.5
	comp=N,5.5nm,0.5s,baz=235,slow=5.0,SNR=3.3						
C36M	Paulatuk	15.01	41	Pn	Pn	02 51 03.6	-2.3
C36M				IAmb	IAmb	02 51 32.4	
	comp=Z,13nm,0.6s						
BBB	Bella Bella	15.75	110	S	Sn	02 54 08.0	-1.3
	comp=Z,22nm,1.0s,baz=53,slow=6.9,SNR=1.3						
ADK	Adak	15.77	249	Pn	Pn	02 51 15.3	-0.2
A36M	Sachs Harbour	15.93	31	Pn	Pn	02 51 15.9	-1.4
A36M				IAmb	IAmb	02 51 20.9	
	comp=Z,46nm,0.8s						
YKA	Yellowknife Ar	18.16	66		P	02 51 44.2	+0.8
YKA	Yellowknife Ar	18.16	66	P	P	02 51 44.4	+1.0
	comp=Z,9.0nm,0.6s,baz=249,slow=11,SNR=85						
YKA				ScP	ScP	02 59 35.8	-0.8
	comp=Z,2.1nm,0.7s,baz=291,slow=2.3,SNR=25						
BRLDA	Berland Lookou	19.86	92	P	P	02 52 03.0	+0.9
BRLDA				IAmb	IAmb	02 52 04.8	
	comp=Z,22nm,0.8s						
EDM	Edmonton	22.36	91	P	P	02 52 29.2	+0.6
GBB	Gable Butte	23.60	110	P	P	02 52 41.7	+1.1
D08A	Wollman Farm,	23.61	109	P	P	02 52 42.0	+1.4
NEW	Newport	23.61	105	P	P	02 52 41.8	+1.0
	comp=Z,3.1nm,0.8s,baz=322,slow=19,SNR=1.9						
	comp=Z,3.1nm,0.8s						
K02D	Willamette Mer	24.85	122	P	P	02 52 53.3	+1.3
K02D				IAmb	IAmb	02 53 36.3	
	comp=Z,30nm,1.4s						
RES	Resolute Bay	24.98	32	P	P	02 52 52.3	-0.4
F10A	Beach Ranch, E	25.20	109	P	P	02 52 56.0	+0.9
BMO	Blue Mountains	26.00	110	P	P	02 53 04.1	+1.8
PLID	Pearl Lake	26.43	108	P	P	02 53 07.3	+0.8
OVMT	Ovando	26.45	102	P	P	02 53 07.6	+1.1
HLID	Hailey	28.33	109	P	P	02 53 24.6	+1.2
FCC	Fort Churchill	28.89	67	P	P	02 53 28.2	+0.3
FCC				IAmb	IAmb	02 53 30.1	
	comp=Z,13nm,1.4s						
RLMT	Red Lodge	29.66	101	P	P	02 53 37.5	+2.4
FLWY	Flagg Ranch	29.72	104	P	P	02 53 38.1	+2.4
FLWY				IAmb	IAmb	02 54 18.6	
	comp=Z,14nm,1.4s						
IMW	Indian Meadow	29.74	104	P	P	02 53 38.4	+2.5
FXWY	Fox Creek	29.89	105	P	P	02 53 39.6	+2.4
TPAW	Teton Pass	30.04	105	P	P	02 53 40.4	+1.8
TPAW				IAmb	IAmb	02 53 41.8	
	comp=Z,5.9nm,0.7s						
ELK	Elko	30.14	113	P	P	02 53 40.7	+1.2
ELK	Elko	30.14	113	P	P	02 53 40.2	+0.7
	comp=Z,0.7nm,0.5s,baz=333,slow=16,SNR=1.7						
	comp=Z,0.7nm,0.5s						
SNOW	Snow King Moun	30.15	105	P	P	02 53 41.2	+1.6
SNOW				IAmb	IAmb	02 53 43.1	
	comp=Z,5.3nm,0.6s						
REDW	Red Top Meadow	30.18	105	P	P	02 53 42.1	+2.4
SPUT	South Promonto	30.99	109	P	P	02 53 48.4	+1.5
SPUT				IAmb	IAmb	02 53 54.0	
	comp=Z,10nm,1.4s						
HWUT	Hardware Ranch	31.18	108	P	P	02 53 51.1	+2.5
BW06	Boulder Array	31.25	104	P	P	02 53 51.3	+2.0
PD31	Pinedale Array	31.25	104	P	P	02 53 51.1	+1.9
PDAR	Pinedale Array	31.25	104	P	P	02 53 50.4	+1.1
PDAR	Pinedale Array	31.25	104	P	P	02 53 51.0	+1.7
	comp=Z,0.7nm,0.5s,baz=330,slow=4.2,SNR=9.5						
	comp=Z,0.7nm,0.5s						
R11B	Troy Canyon, C	31.93	117	P	P	02 53 56.7	+1.6
BSUT	Blindstream Ca	32.39	108	P	P	02 54 01.6	+2.2
BSUT				IAmb	IAmb	02 54 28.5	
	comp=Z,10nm,1.3s						
TPNV	Topopah Spring	32.80	119	P	P	02 54 04.8	+2.0
ULM	Lac du Bonnet	32.83	82	P	P	02 54 03.7	+1.1
ULM				IAmb	IAmb	02 54 03.9	
	comp=Z,15nm,1.4s						
ULM	Lac du Bonnet	32.83	82	P	P	02 54 03.7	+1.1
	comp=Z,3.3nm,0.3s,baz=311,slow=8.6,SNR=12						
	comp=Z,3.3nm,0.3s						
SRU	San Rafael Swe	33.63	110	P	P	02 54 12.1	+2.1
SRU				IAmb	IAmb	02 54 39.7	
	comp=Z,10nm,1.0s						
O20A	White River Ci	33.91	106	P	P	02 54 14.3	+1.9
O20A				IAmb	IAmb	02 54 15.6	
	comp=Z,6.4nm,0.8s						
AGMN	Agassiz Nation	34.11	85	P	P	02 54 14.1	+0.3
AGMN				IAmb	IAmb	02 54 15.6	
	comp=Z,5.9nm,0.6s						
S22A	4UR Ranch, Cre	36.47	107	P	P	02 54 35.8	+1.4
S22A				IAmb	IAmb	02 54 43.4	
	comp=Z,5.4nm,1.1s						
EYMN	Ely	36.51	82	P	P	02 54 35.0	+0.6
EYMN				IAmb	IAmb	02 54 57.4	
	comp=Z,15nm,1.3s						
ECSD	EROS Data Cent	36.93	91	P	P	02 54 38.5	+0.6
ECSD				IAmb	IAmb	02 54 39.6	
	comp=Z,7.8nm,1.3s						
F36A	Milaca	36.95	86	P	P	02 54 38.4	+0.3
F36A				IAmb	IAmb	02 55 17.7	
	comp=Z,13nm,1.4s						
SDCO	Great Sand Dun	37.10	106	P	P	02 54 41.6	+1.8
E38A	The Farm, Brul	37.40	83	P	P	02 54 42.2	+0.3
I37A	Lemond, Waseca	38.33	88	P	P	02 54 50.6	+0.9
G40A	Rib Lake	39.02	84	P	P	02 54 56.5	+1.0
L40A	Anamosa	40.84	88	P	P	02 55 10.7	+0.2
L40A				IAmb	IAmb	02 55 11.8	
	comp=Z,8.1nm,0.8s						
E46A	Sault Ste Mari	41.14	78	P	P	02 55 13.6	+0.7
AMTX	Amarillo	41.23	105	P	P	02 55 15.7	+1.7
AMTX				IAmb	IAmb	02 55 16.9	
	comp=Z,6.2nm,0.5s						
SPITS	Spitsbergen Ar	41.65	3	P	P	02 55 15.3	-1.4
	comp=Z,12nm,0.9s,baz=354,slow=13,SNR=1.8						
	comp=Z,12nm,0.9s						
K43A	Burlington	41.80	85	P	P	02 55 18.9	+0.5
WMOK	Wichita Mounta	42.76	102	P	P	02 55 27.2	+0.9
425A	Indio Mountain	43.04	111	P	P	02 55 31.1	+2.4
APMT	Aspermont	43.25	104	P	P	02 55 30.7	+0.4
APMT				IAmb	IAmb	02 55 58.7	
	comp=Z,13nm,1.4s						
ABTX	Abilene, Hawle	44.05	104	P	P	02 55 37.7	+1.0
ABTX				IAmb	IAmb	02 56 06.4	
	comp=Z,11nm,1.2s						
L48A	N Adams	44.30	82	P	P	02 55 39.1	+0.6
L48A				IAmb	IAmb	02 55 40.1	
	comp=Z,10.0nm,0.6s						
N47A	Urbana	44.48	85	P	P	02 55 39.9	0.0
FW03	Perrin-Whitt E	44.48	103	P	P	02 55 40.5	+0.5
FW03				IAmb	IAmb	02 55 41.9	
	comp=Z,5.5nm,0.6s						
PLPT	Palo Pinto	44.54	103	P	P	02 55 40.3	-0.3
PLPT				IAmb	IAmb	02 55 42.3	
	comp=Z,5.3nm,0.7s						
T42A	Van Buren	44.74	93	P	P	02 55 41.3	-0.8
TXAR	Lajitas Array	44.88	111	P	P	02 55 45.0	+1.6
	comp=Z,0.5nm,0.7s,baz=303,slow=7.0,SNR=5.6						
	comp=Z,0.5nm,0.7s						
FCAR	Ozark Folk Cen	45.13	95	P	P	02 55 44.5	-0.7
O48B	Farmland	45.22	85	P	P	02 55 45.8	0.0
O48B				IAmb	IAmb	02 55 46.3	
	comp=Z,6.8nm,0.6s						
PBMO	Poplar Bluff	45.27	92	P	P	02 55 46.4	+0.1
PBMO				IAmb	IAmb	02 55 47.2	
	comp=Z,7.8nm,0.6s						
MIAR	Mount Ida	45.47	97	P	P	02 55 48.4	+0.5
MIAR				IAmb	IAmb	02 56 12.2	
	comp=Z,11nm,1.5s						
O49A	Covington	45.68	84	P	P	02 55 48.6	-0.8
O49A				IAmb	IAmb	02 55 59.3	
	comp=Z,21nm,1.5s						
J54A	Appleton	46.15	77	P	P	02 55 53.9	+0.8
WVNY	West Valley, N	46.82	77	P	P	02 55 59.1	+0.8
Q51A	Peebles	47.06	84	P	P	02 56 00.3	+0.1
Q51A				IAmb	IAmb	02 56 01.3	
	comp=Z,9.6nm,1.1s						
M55A	Ridgway	47.45	78	P	P	02 56 04.1	+0.9
OXF	Oxford	47.57	93	P	P	02 56 05.2	+1.0
O54A	Avella	47.64	81	P	P	02 56 05.0	+0.3
O54A				IAmb	IAmb	02 56 42.2	
	comp=Z,7.1nm,0.9s						
P53A	Whipple	47.67	82	P	P	02 56 05.0	0.0
D62A	Allapoint, All	47.84	66	P	P	02 56 06.6	+0.4
D62A				IAmb	IAmb	02 56 12.5	
	comp=Z,12nm,1.3s						
PLAL	Pickwick Lake	47.86	92	P	P	02 56 07.0	+0.6
PLAL				IAmb	IAmb	02 56 35.0	
	comp=Z,13nm,0.9s						
T50A	Nancy	47.87	87	P	P	02 56 07.1	+0.6
T50A				IAmb	IAmb	02 56 34.7	
	comp=Z,12nm,1.2s						
E62A	Clayton Lake	47.97	67	P	P	02 56 07.1	-0.1
E62A				IAmb	IAmb	02 56 25.4	
	comp=Z,8.1nm,1.1s						
S51A	Beattyville	48.01	86	P	P	02 56 07.7	+0.1
S51A				IAmb	IAmb	02 56 19.6	
	comp=Z,10nm,1.2s						
Q54A	Coxs Mills	48.33	82	P	P	02 56 10.2	+0.1
Q54A				IAmb	IAmb	02 56 11.0	
	comp=Z,18nm,1.4s						
M57A	Sunshine Farm,	48.34	77	P	P	02 56 10.4	+0.3
M57A				IAmb	IAmb	02 56 13.5	
	comp=Z,10nm,1.1s						
SSPA	Standing Stone	48.51	78	P	P	02 56 12.2	+0.8
SSPA				IAmb	IAmb	02 56 34.8	
	comp=Z,16nm,1.4s						
G62A	West of Eustis	48.55	69	P	P	02 56 11.6	-0.1
G62A				IAmb	IAmb	02 56 45.8	
	comp=Z,8.9nm,1.2s						
N58A	Sunbury	48.93	77	P	P	02 56 14.8	+0.2
F64A	Sherman	49.08	67	P	P	02 56 15.1	-0.5
R55A	Marlinton	49.23	82	P	P	02 56 17.4	+0.3
R55A				IAmb	IAmb	02 56 54.9	
	comp=Z,7.8nm,1.1s						
Z47A	Carrollton	49.29	93	P	P	02 56 17.8	+0.4
P57A	Homestead Farm	49.34	80	P	P	02 56 18.2	+0.5
P57A				IAmb	IAmb	02 56 18.8	
	comp=Z,5.5nm,0.6s						
V52A	Sevierville	49.41	87	P	P	02 56 17.1	-1.3
V52A				IAmb	IAmb	02 56 56.5	
	comp=Z,4.8nm,1.0s						
FPAL	Fort Paine	49.44	90	P	P	02 56 18.4	-0.3
FPAL					pP	02 56 45.8	+1.9
FPAL				IAmb	IAmb	02 56 46.7	
	comp=Z,8.6nm,0.9s						
Y49A	Blount Mountai	49.59	91	P	P	02 56 19.4	-0.3
Y49A				IAmb	IAmb	02 56 48.1	
	comp=Z,12nm,1.2s						
K62A	Royalston	49.69	72	P	P	02 56 19.9	-0.4
MVL	Millersville	49.75	78	P	P	02 56 21.2	+0.3
MVL				IAmb	IAmb	02 56 44.8	
	comp=Z,9.3nm,1.1s						
ODNJ	Ogdensburg	49.76	76	P	P	02 56 20.6	-0.3
WUPA	West Chester U	50.16	77	P	P	02 56 24.0	0.0
WUPA				IAmb	IAmb	02 56 51.2	
	comp=Z,10nm,1.4s						
ARCES	ARCESS Array B	50.49	1	P	P	02 56 25.4	-0.6
ARCES				IAmb	IAmb	02 56 38.8	
	comp=Z,11nm,1.4s						
ARCES	ARCESS Array B	50.49	1	P	P	02 56 25.2	-0.9
	comp=Z,1.9nm,0.7s,baz=356,slow=7.3,SNR=5.0						
	comp=Z,1.9nm,0.7s						
T57A	Hurt	50.66	83	P	P	02 56 27.1	-0.6
T57A				IAmb	IAmb	02 56 52.1	
	comp=Z,13nm,1.4s						
LMN	Caledonia Moun	50.70	64	P	P	02 56 27.4	-0.6
JSRW	J. Sargeant Re	50.79	81	P	P	02 56 29.2	+0.5
HODGE	Hodges	51.36	87	P	P	02 56 33.1	+0.1
HODGE				IAmb	IAmb	02 57 07.9	
	comp=Z,13nm,1.5s						
W57A	Gilead	51.75	85	P	P	02 56 35.9	0.0
W57A				pP	pP	02 57 03.4	+2.0
352A	Blakely	52.24	92	P	P	02 56 39.3	-0.2
KSRS	Korea Array	53.33	283	P	P	02 56 47.4	-0.1
	comp=Z,2.8nm,0.7s,baz=33,slow=6.1,SNR=6.6						
	comp=Z,2.8nm,0.7s						
XLT	XiLinHaoTe	53.80	296	*e*P	P	02 56 53.8	+2.8
XLT				sP	sP	02 57 28.3	-0.5
XLT				PcP	PcP	02 57 58.5	+3.1
XLT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,2μm,9.6s						
SONM	Songino Array	54.81	306	P	P	02 56 58.5	+0.2
	comp=Z,8.2nm,0.5s,baz=50,slow=5.7,SNR=47						
	comp=Z,8.2nm,0.5s						
ZALV	Zalesovo Beam	57.29	324	P	P	02 57 15.2	-0.4
	comp=Z,3.4nm,0.5s,baz=34,slow=6.8,SNR=10.0						
ZALV				pP	pP	02 57 42.1	+0.2
	comp=Z,1.6nm,0.6s,baz=34,slow=7.4,SNR=2.9						
	comp=Z,3.4nm,0.5s						
FINES	FINESS Array B	58.62	1	P	P	02 57 23.5	-1.4
	comp=Z,1.2nm,0.6s,baz=35,slow=7.0,SNR=6.8						
FINES				pP	pP	02 57 49.3	-1.8
	comp=Z,2.9nm,0.9s,baz=4.3,slow=7.6,SNR=2.5						
	comp=Z,1.2nm,0.6s						
HFS	Hagfors	59.47	8	P	P	02 57 29.4	-1.3
	comp=Z,1.7nm,0.8s,baz=339,slow=3.7,SNR=5.5						
	comp=Z,1.7nm,0.8s						
BVAR	Borovoye Array	61.94	332	P	P	02 57 46.3	-1.3
	comp=Z,3.7nm,0.5s,baz=38,slow=7.3,SNR=4.8						
	comp=Z,3.7nm,0.5s						
KURBB	Kurchatov Arra	62.04	326	P	P	02 57 47.5	-0.8
	comp=Z,2.1nm,0.5s,baz=28,slow=6.6,SNR=19						
KURBB				pP	pP	02 58 14.2	-0.7
	comp=Z,2.4nm,0.9s,baz=27,slow=6.3,SNR=7.0						
	comp=Z,2.1nm,0.5s						
EKA	Eskdalemuir Ar	62.22	19	P	P	02 57 49.0	-0.4
	comp=Z,0.3nm,0.3s,baz=338,slow=5.7,SNR=5.4						
	comp=Z,0.3nm,0.3s						
MKAR	Makanchi Array	64.36	321	P	P	02 58 02.5	-1.2
	comp=Z,1.1nm,0.5s,baz=43,slow=6.9,SNR=11						
MKAR				pP	pP	02 58 30.2	-0.1
	comp=Z,1.1nm,0.8s,baz=58,slow=4.6,SNR=3.6						
	comp=Z,1.1nm,0.5s						
WMQ	Urumqi	65.22	316	*e*P	P	02 58 13.5	+4.1
KEST	Kesra	83.21	15	P	P	02 59 53.8	0.0
	comp=Z,1.3nm,0.6s,baz=103,slow=6.5,SNR=6.7						
	comp=Z,1.3nm,0.6s						
BOSA	Boshof	148.33	4	PKPbc	PKPbc	03 07 11.8	-1.3
	comp=Z,4.3nm,0.5s,baz=346,slow=1.7,SNR=28						
BOSA				pPKPbc	pPKPdf	03 07 39.2	+0.4
	comp=Z,1.0nm,0.4s,baz=23,slow=6.3,SNR=1.6						

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*IDC **01** 02:49:03.4±1.3, 30°.67N×57°.40E, h0km, mb3.8/7, mbtmp3.8/9, ML3.6/2, Error ellipse: s-maj=28.3km s-min=22.3km az=114.0*

*TEH **01** 02:49:04.3, 30°.73N×57°.27E, h8km±108km, ML3.8*

ISC 01 02:49:06.0±0.8**, 30°.70N**±0°.04×**57°.22E**±0°.05**, h15km, n17,** σ**1s.15**/20**, mb3.9**/7**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.65	295	Pg	Pg	02 49 16.9	-1.8
KHGB	Koh Gabri	0.71	244	Pg	Pg	02 49 19.3	-0.7
KHGB				Sg	Sg	02 49 29.6	+0.1
TVBK	TV Kerman	0.81	209	Pg	Pg	02 49 21.0	-0.8
CHMN	Cheshme madani	0.88	161	Pg	Pg	02 49 21.9	-1.2
NGRK	Negar Kerman	1.13	202	Pg	Pb	02 49 26.8	-0.7
NGRK				Sg	Sn	02 49 43.7	+0.7
IBAF	Bafgh	1.67	303	Pg	Pn	02 49 35.6	+0.7
KBAM	BAM	1.89	145	Pn	Pn	02 49 38.6	+0.8
IKOO	Kooshah	2.30	41	Pn	Pn	02 49 44.3	+0.7
GEYT	Alibeck	7.25	6	Pn	Pn	02 50 51.8	+0.3
	0.4nm,0.3s,baz=184,slow=17,SNR=1.1						
	5.2nm,0.8s						
WSAR	Wadi Sarin	7.53	170	Pn	Pn	02 50 55.5	+0.1
	2.7nm,0.3s,baz=13,slow=8.8,SNR=5.4						
WSAR				Sn	Sn	02 52 20.3	-0.2
	0.5nm,0.3s,baz=32,slow=5.5,SNR=1.9						
	13nm,0.4s						
BRTR	Keskin Array B	21.22	302	P	P	02 53 53.0	+1.6
	0.9nm,0.6s,baz=118,slow=14,SNR=2.8						
	0.9nm,0.6s						
BVAR	Borovoye Array	24.30	20	P	P	02 54 20.1	-2.6
	0.7nm,0.5s,baz=188,slow=7.3,SNR=1.8						
	0.7nm,0.5s						
KURBB	Kurchatov Arra	25.48	33	P	P	02 54 32.9	-0.6
	2.4nm,0.8s,baz=232,slow=9.0,SNR=7.6						
	2.4nm,0.8s						
ZALV	Zalesovo Beam	30.58	33	P	P	02 55 18.1	-0.9
	2.4nm,0.6s,baz=237,slow=8.4,SNR=6.2						
	2.4nm,0.6s						
FINES	FINESS Array B	36.90	336	P	P	02 56 15.0	+1.2
	1.8nm,0.9s,baz=151,slow=8.8,SNR=1.2						
	1.8nm,0.9s						
GERES	GERESS Array B	37.44	312	P	P	02 56 19.9	+1.2
	0.7nm,0.9s,baz=91,slow=12,SNR=2.1						
	0.7nm,0.9s						
TORD	Torodi Ar. Bea	53.86	264	P	P	02 58 28.2	-0.6
	1.5nm,0.9s,baz=64,slow=7.7,SNR=3.2						
	1.5nm,0.9s						

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*BJI **01** 02:49:53.9, 6°.06S×147°.53E, h10km, mb5.5/90, mB6.2/32, Ms5.7/59, Ms7 5.6/58*

*MOS **01** 02:49:56.5±0.9, 6°.07S×147°.59E, h43km, mb6.1/52, MS5.6/16, Error ellipse: s-maj=7.2km s-min=4.6km az=103.4*

*NEIC **01** 02:49:58.5±2.2, 6°.14S±0°.06×147°.66E±0°.06, h34km±1km, mb5.9/422, Ms_20 5.9/219, Mwb6.0/26, Mww6.0/28, Error ellipse: s-maj=10.8km s-min=9.2km az=107.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.99; $M_{\theta\theta}$-0.91; $M_{\phi\phi}$-0.09; $M_{r\theta}$0.51; $M_{\theta\phi}$0.11; $M_{\phi r}$-0.19; Fault plane solution: $M_0$1.10000×10^{18} NP1: ϕ_s103.48000°, δ59.66000°, λ95.43000°. NP2: ϕ_s272.83000°, δ30.77000°, λ80.82000°. Principal axes: T 1.1385, Plg75.0000°, Azm28.0000°; N -0.0807, Plg5.0000°, Azm281.0000°; P -1.0578, Plg15.0000°, Azm190.0000°;*

*NEIC **01** 02:49:59.7, 6°.14S×147°.71E, h40km, Moment Tensor Solution. Duration: 4s.1.0 Moment tensor: Scale 10^{18} Nm; M_{rr}1.35; $M_{\theta\theta}$-1.26; $M_{\phi\phi}$-0.08; $M_{r\theta}$0.21; $M_{\theta\phi}$0.41; $M_{\phi r}$-0.30; Fault plane solution: $M_0$1.42000×10^{18} NP1: ϕ_s116.66000°, δ51.84000°, λ101.69000°. NP2: ϕ_s278.15000°, δ39.65000°, λ75.54000°. Principal axes: T 1.4162, Plg79.0000°, Azm75.0000°; N 0.0082, Plg9.0000°, Azm289.0000°; P -1.4244, Plg6.0000°, Azm198.0000°;*

*NEIC **01** 02:49:59.7, 6°.14S×147°.61E, h40km*

*NEIC **01** 02:49:59.2, 6°.11S×147°.63E, h40km*

*IDC **01** 02:50:00.1±1.4, 6°.07S×147°.64E, h60km±12km, mb5.4/30, mbtmp5.7/34, MS5.6/30, Error ellipse: s-maj=12.0km s-min=8.2km az=96.0*

*DJA **01** 02:50:01.0±0.3, 6°S±2°×14°8E±°, h59km±3km, M6.1/114, mb6.0/114, mB6.5/94, MLv6.5/4, Mw5.9/71, Mw(mB)6.2/94, MwMwp5.7/31, Mwp5.8/31*

*KLM **01** 02:50:01, 6°.19S×147°.62E, h60km, mb6.0*

*GCMT **01** 02:50:02.5±0.1, 6°.29S×147°.68E, h45km, MW6.0/150, Moment Tensor Solution. s150,c299; s148,c479; Duration: 2s.5 Moment tensor: Scale 10^{18}Nm; M_{rr}1.18±.01; $M_{\theta\theta}$-1.25±.01; $M_{\phi\phi}$0.07±.01; $M_{r\theta}$0.17±.01; $M_{\theta\phi}$0.37±.01; $M_{\phi r}$-0.27±.01; Best double couple: $M_0$1.30600×10^{18} NP1: ϕ_s115.00000°, δ51.00000°,*

λ104.00000°. NP2:φs273.00000°,δ41.00000°,λ73.00000°. Principal axes: T 1.2440, Plg78.0000°, Azm80.0000°; N 0.1240, Plg11.0000°, Azm286.0000°; P -1.3670, Plg5.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

ISC 01 02:49:59.0±0.3**,6°.16S**±0°.03×**147°.70E**±0°.03**,h53**km±2km**,**
h54km**:pP-P,n1928,**σ1s.35/1849**,mb5.9**/351**,MS5.8**/167**,**
132C-63D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.27	189	Pn	Pn	02 50 49.1	+1.3
PMG	Port Moresby	3.27	189	d iP	Pn	02 50 48.8	+1.0
PMG				pmax	pmax		
	comp=Z,7µm,1.4s						
PMG	Port Moresby	3.27	189	P	Pn	02 50 49.5	+1.6
	comp=Z,4µm,0.7s,baz=4.2,slow=10.0,SNR=209						
PMG				S	Sn	02 51 28.7	+3.2
	comp=Z,22µm,0.7s,baz=348,slow=20,SNR=47						
MANU	Manus Island	4.11	355		Pn	02 51 01.4	+2.0
MANU	Manus Island	4.11	355	⇓P	Pn	02 51 00.3	+0.9
I40PG	Keravat	4.67	67	P	Pn	02 51 09.0	+1.9
	baz=217,slow=13,SNR=1.9						
I40PG				I	I	03 09 30.0	
	baz=231,slow=275,SNR=6.7						
KRVT	Keravat (AS076	4.68	67	P	Pn	02 51 08.6	+1.4
	comp=Z,6µm,0.9s,baz=226,slow=23,SNR=5.3						
KRVT				LR	LR	02 52 59.1	
	comp=Z,105µm,20.5s,baz=129,slow=38						
RABL	Rabaul	4.86	66		Pn	02 51 12.0	+2.4
RABL	Rabaul	4.86	66	⇓P	Pn	02 51 11.6	+1.9
MMPI	Merauke	7.61	252	P	Pn	02 51 50.2	+2.8
	comp=Z,4µm,1.4s,comp=Z,62µmcomp=Z,67µmcomp=Z,20nm						
JAY	Jayapura	7.86	297	P	Pn	02 51 54.2	+3.3
GENI	Genyem	8.31	295	P	Pn	02 52 00.7	+3.7
	comp=Z,2µm,1.0s,comp=Z,31µmcomp=Z,46µm						
GENI	Genyem	8.31	295	⇑P	Pn	02 51 59.2	+2.3
COEN	Coen	8.94	210	P	Pn	02 52 07.3	+1.7
	baz=9.0						
COEN				S	Sn	02 53 41.6	-3.3
	baz=9.0						
COEN	Coen	8.94	210	Pn	Pn	02 52 06.2	+0.6
COEN	Coen	8.94	210	⇓P	Pn	02 52 04.9	-0.7
SMPI	Sarmi	9.88	294	P	Pn	02 52 22.4	+3.9
	comp=Z,1µm,1.1s,comp=Z,17µmcomp=Z,35µm						
MTSU	Mount Surprise	12.35	195	P	Pn	02 52 53.4	+1.2
	baz=12,SNR=142						
HNR	Honiara	12.56	106		Pn	02 52 58.4	+3.3
HNR	Honiara	12.56	106	⇑P	Pn	02 52 58.1	+3.0
HNR	Honiara	12.56	106	P	Pn	02 52 58.4	+3.3
HNR	Honiara	12.56	106	P	Pn	02 52 57.6	+2.5
	comp=Z,18µm,1.0s,baz=192,slow=9.3,SNR=28						
HNR				LR	LR	02 57 20.4	
	comp=Z,115µm,20.9s,baz=268,slow=35						
CTA	Charters Tower	13.91	186	P	Pn	02 53 15.7	+2.1
	comp=Z,222nm,1.1s,baz=3.7,slow=13,SNR=23						
CTA				LR	LR	02 58 20.6	
	comp=Z,36µm,21.6s,baz=354,slow=36						
CTAO	Charters Tower	13.91	186	Pn	Pn	02 53 14.8	+1.2
CTAO	Charters Tower	13.91	186	⇓P	Pn	02 53 13.8	+0.2
CTAO	Charters Tower	13.91	186	P	Pn	02 53 14.8	+1.2
KMPI	Kaimana, Papua	14.17	279	P	Pn	02 53 18.7	+1.7
	comp=Z,767nm,1.0s,comp=Z,13µmcomp=Z,23µm						
FAKI	Fak Fak	15.74	281		Pn	02 53 36.8	-0.6
FAKI				IAmb	IAmb	02 54 02.0	
	comp=Z,729nm,1.1s						
FAKI	Fak Fak	15.74	281	P	Pn	02 53 35.5	-1.9
	comp=Z,631nm,1.4s,comp=Z,12µmcomp=Z,15µm						
FAKI	Fak Fak	15.74	281	⇑P	Pn	02 53 35.8	-1.6
QIS	Mount Isa	16.32	208	P	Pn	02 53 45.2	+0.4
	baz=16,SNR=76						
KDU	Kakadu	16.36	246	P	Pn	02 53 44.8	-0.4
	baz=16,SNR=352						
KDU	Kakadu	16.36	246	⇑P	Pn	02 53 44.9	-0.4
SAUI	Saumlaki	16.38	263	P	P	02 53 46.7	-0.9
	comp=Z,4µm,1.2s,comp=Z,50µmcomp=Z,33µm						
SAUI	Saumlaki	16.38	263	⇑P	P	02 53 47.1	-0.5
PATS	Pohnpei	16.70	40	P	P	02 53 51.1	0.0
	baz=17,SNR=9.1						
PATS	Pohnpei	16.70	40		P	02 53 52.0	+0.9
SWI	Sorong	17.23	287	P	Pn	02 53 56.4	+0.2
	comp=Z,1µm,0.9s,comp=Z,13µmcomp=Z,14µm						
SWI	Sorong	17.23	287	P	Pn	02 53 55.9	-0.3
MTN	Manton Dam	17.63	247	P	P	02 54 02.6	+1.1
	baz=18,SNR=16						
MTN	Manton Dam	17.63	247		Pn	02 54 00.1	-1.0
MTN	Manton Dam	17.63	247	⇓P	P	02 54 01.5	0.0
BNDI	Bandanaira	17.80	274	P	P	02 54 04.6	+1.3
	comp=Z,4µm,1.4s,comp=Z,56µmcomp=Z,25µm						
BNDI	Bandanaira	17.80	274	⇑P	P	02 54 04.0	+0.7
WB0	Warramunga Arr	18.72	223	P	Pn	02 54 13.9	-0.4
WB0				IAmb	IAmb	02 54 20.1	
	comp=Z,1µm,1.6s						
WR0	Warramunga Arr	18.75	222	P	P	02 54 14.1	+0.3
WR0				IAmb	IAmb	02 54 21.6	
	comp=Z,1µm,1.3s						
WRAB	Tennant Creek	18.86	222	P	P	02 54 15.3	+0.3
WRAB				IAmb	IAmb	02 54 22.8	
	comp=Z,1µm,1.5s						
WRAB	Tennant Creek	18.86	222	P	P	02 54 15.3	+0.3
WRAB				pmax	pmax		
	comp=Z,1µm,1.5s						
WB2	Warramunga Arr	18.87	222	P	Pn	02 54 15.6	-0.5
WRA	Warramunga Arr	18.88	222	P	P	02 54 14.7	-0.4
WRA	Warramunga Arr	18.88	222	i P	P	02 54 15.1	0.0
WRA				pmax	pmax		
	comp=Z,102nm,0.6s						
WRA	Warramunga Arr	18.88	222	P	P	02 54 15.6	+0.5
	comp=Z,160nm,0.6s,baz=46,slow=11,SNR=361						
WRA				S	Sn	02 57 40.3	-6.5
	comp=Z,90nm,1.1s,baz=56,slow=23,SNR=2.0						
WRA				PcP	PcP	02 58 41.3	+1.2
	comp=Z,129nm,1.0s,baz=36,slow=2.1,SNR=8.1						
WRA				ScP	ScP	03 02 10.6	-1.0
	comp=Z,22nm,0.9s,baz=45,slow=2.1,SNR=2.6						
WRA				LR	LR	03 02 36.8	
	comp=Z,33µm,18.0s,baz=38,slow=40						
WRA				PKiKP	PKiKP	03 06 29.2	-1.6
	comp=Z,3.7nm,0.9s,baz=63,slow=0.9,SNR=6.3						
WRA				P3KPbc		03 28 46.0	
	comp=Z,1.2nm,1.1s,baz=250,slow=1.9,SNR=2.5						
EIDS	Eidsvold	19.37	171	P	Pn	02 54 22.6	+0.6
	baz=20,SNR=67						
EIDS	Eidsvold	19.37	171	P	Pn	02 54 22.1	+0.2
EIDS				IAmb	IAmb	02 54 26.0	
	comp=Z,1µm,1.6s						
EIDS	Eidsvold	19.37	171	⇓P	Pn	02 54 22.2	+0.2
GUMO	Guam	19.82	352	P	Pn	02 54 26.9	-0.5
GUMO				IAmb	IAmb	02 54 28.5	
	comp=Z,754nm,0.9s						
GUMO	Guam	19.82	352	⇑P	Pn	02 54 27.6	+0.2
GUMO	Guam	19.82	352	P	Pn	02 54 27.0	-0.5
GUMO				pmax	pmax		
	comp=Z,754nm,0.9s						
GUMO	Guam	19.82	352	P	Pn	02 54 27.8	+0.3
	comp=Z,474nm,0.7s,baz=183,slow=9.8,SNR=20						
GUMO				LR	LR	03 00 34.7	
	comp=Z,21µm,21.6s,baz=169,slow=32						
RMQ	Roma	20.24	177	P	Pn	02 54 31.9	-0.3
	baz=20,SNR=128						
QLP	Quilpie	20.57	189	P	Pn	02 54 35.0	-1.3
	baz=21,SNR=285						
QLP	Quilpie	20.57	189	⇓P	P	02 54 34.7	+1.2
NLAI	Namlea	20.74	277	P	P	02 54 36.3	+0.9
	comp=Z,443nm,1.5s,comp=Z,14µm						
KNRA	Kununurra	20.84	241	P	P	02 54 36.5	0.0
	baz=21,SNR=35						
KNRA	Kununurra	20.84	241	P	P	02 54 36.6	0.0
KNRA				IAmb	IAmb	02 55 04.0	
	comp=Z,677nm,1.1s						
LBMI	Labuha	20.89	284	P	P	02 54 38.5	+1.4
	comp=Z,687nm,1.1s,comp=Z,32µm						
TNTI	Ternate	21.44	288	P	P	02 54 43.1	+0.1
TNTI				IAmb	IAmb	02 55 11.1	
	comp=Z,449nm,1.2s						
TNTI	Ternate	21.44	288	P	P	02 54 44.7	+1.7
	comp=Z,417nm,1.4s,comp=Z,9µmcomp=Z,10µm						
TNTI	Ternate	21.44	288	⇑P	P	02 54 42.6	-0.3
KOUNC	Koumac, New Ca	21.53	133	P	P	02 54 44.6	+0.8
KOUNC				IAmb	IAmb	02 55 04.4	
	comp=Z,1µm,1.5s						
AS31	Alice Springs	21.89	216	P	P	02 54 48.3	+0.6
ASAR	Alice Springs	21.89	216	P	P	02 54 48.2	+0.5
ASAR	Alice Springs	21.89	216	P	P	02 54 49.1	+1.4
	comp=Z,157nm,0.6s,baz=51,slow=9.2,SNR=1672						
ASAR				PcP	PcP	02 58 47.6	+2.0
	comp=Z,82nm,1.1s,baz=45,slow=3.9,SNR=5.9						
ASAR				ScP	ScP	03 02 19.3	+0.6
	comp=Z,11nm,1.0s,baz=56,slow=2.3,SNR=1.4						
ASAR				LR	LR	03 04 01.0	
	comp=Z,33µm,19.0s,baz=42,slow=38						
ASAR				PKiKP	PKiKP	03 06 30.5	-1.6
	comp=Z,3.8nm,0.8s,baz=77,slow=0.8,SNR=5.5						
ASAR				P3KPbc		03 28 35.4	
	comp=Z,2.6nm,1.1s,baz=223,slow=3.6,SNR=8.3						
	comp=Z,157nm,0.6s						
SANI	Sanana	22.04	280	P	P	02 54 48.7	-0.7
	comp=Z,859nm,1.3s,comp=Z,16µm						
SANI	Sanana	22.04	280	P	P	02 54 45.8	-3.6
SANI				S	Sn	02 58 59.2	-3.7
SANI	Sanana	22.04	280	⇑P	P	02 54 48.4	-1.0
SOEI	Soe	23.48	260	P	P	02 55 05.0	+0.6
SOEI	Soe	23.48	260	P	P	02 55 05.4	+1.0
	comp=Z,1µm,1.1s,comp=Z,29µmcomp=Z,19µm						
SOEI	Soe	23.48	260	P	P	02 55 03.7	-0.7
SOEI				S	S	02 59 21.9	+7.5
SOEI	Soe	23.48	260	⇑P	P	02 55 04.2	-0.1
LIFNC	LIFOU	23.87	129	P	P	02 55 09.0	+1.2
DZM	Mont Dzumac	24.04	133	eP	P	02 55 08.0	-1.4
	comp=Z,2µm,1.4s						
DZM				eS	S	02 59 15.0	-8.3
	comp=Z,11µm,25.6s						
DZM				eLR	LR	03 01 07.8	
	comp=Z,54µm,25.2s						
DZM	Mont Dzumac	24.04	133	P	P	02 55 09.9	+0.4
BATI	Baumata	24.13	259	P	P	02 55 12.3	+2.1
	comp=Z,2µm,1.1s,comp=Z,41µmcomp=Z,17µm						
BATI	Baumata	24.13	259	P	P	02 55 10.6	+0.3
	comp=Z,2µm,0.9s,baz=130,slow=2.1,SNR=106						
BATI				LR	LR	03 07 05.3	
	comp=Z,36µm,21.1s,baz=92,slow=43						
	comp=Z,2µm,0.9s						
ARMA	Armidale	24.41	172	P	P	02 55 14.5	+1.8
	baz=25,SNR=94						
ARMA	Armidale	24.41	172	P	P	02 55 14.5	+1.8
ARMA	Armidale	24.41	172	⇓P	P	02 55 14.3	+1.6
FITZ	Fitzroy Crossi	24.58	239	P	P	02 55 14.6	+0.3
	baz=25,SNR=755						
KMSI	Cibinong	24.61	285	P	P	02 55 15.1	+0.5
	comp=Z,2µm,1.0s,comp=Z,38µm						
MARNC	Mare, Loyalty	24.88	130	⇑P	P	02 55 18.1	+1.2
BBSI	Bau Bau	25.01	270	P	P	02 55 21.5	+3.2
	comp=Z,856nm,2.5s,comp=Z,28µmcomp=Z,14µm						
CMSA	Cobar Meteorol	25.32	184	P	P	02 55 22.0	+1.2
	baz=26,SNR=111						
MMRI	Maumere	25.37	263	P	P	02 55 21.0	-0.6
MMRI	Maumere	25.37	263	P	P	02 55 22.0	+0.5
	comp=Z,2µm,1.1s,comp=Z,27µmcomp=Z,17µm						
MMRI	Maumere	25.37	263	⇑P	P	02 55 20.0	-1.6
LUWI	Luwuk	25.39	281	P	P	02 55 21.7	0.0
LUWI	Luwuk	25.39	281	P	P	02 55 23.1	+1.4
	comp=Z,2µm,0.8s,comp=Z,18µm						
LUWI	Luwuk	25.39	281	P	P	02 55 20.6	-1.1
LUWI				S	S	02 59 56.4	+12
LUWI	Luwuk	25.39	281	⇑P	P	02 55 22.1	+0.4
GTOI	Gorontalo	25.56	284	P	P	02 55 24.4	+1.2
	comp=Z,290nm,1.1s,comp=Z,5µm						
DAV	Davao City (W)	25.69	300	LR	LR	03 04 38.9	
	comp=Z,4µm,21.3s,baz=150,slow=34						
EDFI	Ende, Flores	25.92	263	P	P	02 55 25.4	-1.2
	comp=Z,729nm,0.9s,comp=Z,9µm						
STKA	Stephens Creek	26.21	192	P	P	02 55 30.0	+1.0
	baz=26,SNR=96						
STKA	Stephens Creek	26.21	192	P	P	02 55 29.9	+1.0
STKA	Stephens Creek	26.21	192	c iP	P	02 55 29.7	+0.8
STKA	Stephens Creek	26.21	192	P	P	02 55 29.9	+1.0
	comp=Z,465nm,1.1s,baz=356,slow=8.8,SNR=84						
STKA				LR	LR	03 06 21.1	
	comp=Z,19µm,20.6s,baz=1.7,slow=37						
	comp=Z,465nm,1.1s						
WRKA	Warakurna	26.42	223	P	P	02 55 30.8	-0.1
	baz=26,SNR=304						
WRKA	Warakurna	26.42	223	⇑P	P	02 55 30.8	-0.1
MRSI	Marisa	26.55	283	P	P	02 55 33.2	+1.0
	comp=Z,324nm,1.1s,comp=Z,6µm						
MGCD	Mangrove Creek	27.10	174	P	P	02 55 38.7	+1.8
	baz=27,SNR=26						
BASI	Baing, Sumba	27.14	260	P	P	02 55 38.2	+0.7
	comp=Z,2µm,0.9s,comp=Z,24µmcomp=Z,15µm						
LHI	Lord Howe Isla	27.38	159	P	P	02 55 40.2	+0.8
LHI				IAmb	IAmb	02 56 00.3	
	comp=Z,315nm,1.2s						
BKSI	Bulukumba	27.45	270	P	P	02 55 40.6	+0.3
	comp=Z,302nm,1.0s,comp=Z,5µm						
RIV	Riverview	27.72	174	P	P	02 55 44.9	+2.4
	baz=28,SNR=7.1						
RIV	Riverview	27.72	174	⇑P	P	02 55 44.8	+2.4
TOLI2	Tolitoli	27.83	284	P	P	02 55 42.5	-1.2
TOLI2				IAmb	IAmb	02 56 03.5	
	comp=Z,309nm,1.2s						
KAPI	Kappang	27.84	271	P	P	02 55 43.8	+0.1
KAPI	Kappang	27.84	271	⇑P	P	02 55 43.7	-0.1
KAPI	Kappang	27.84	271	c iP	P	02 55 43.9	+0.1
KAPI				pmax	pmax		
	comp=Z,350nm,1.1s						
KAPI				MLR	MLR		
	comp=Z,6µm,18.0s						
KAPI	Kappang	27.84	271	LR	LR	03 09 55.1	
	comp=Z,6µm,18.8s,baz=68,slow=43						
TTSI	Tana Toraja	27.96	275	P	P	02 55 46.0	+1.1
	comp=Z,636nm,1.1s,comp=Z,8µm						
HTT	Hallett	28.33	196	P	P	02 55 49.6	+1.6
	baz=28,SNR=51						
HTT	Hallett	28.33	196	⇑P	P	02 55 49.3	+1.3
HTT	Hallett	28.33	196	P	P	02 55 48.2	+0.2
BBOO	Buckleboo	28.65	201	P	P	02 55 51.7	+0.9
	baz=29,SNR=42						
BBOO	Buckleboo	28.65	201	P	P	02 55 51.8	+1.1
BBOO				IAmb	IAmb	02 56 04.8	
	comp=Z,409nm,1.2s						
CAN	Canberra	29.04	178	P	P	02 55 55.2	+0.9
CAN				IAmb	IAmb	02 56 08.4	
	comp=Z,500nm,1.5s						
CAN				IAMs_20	IAMs_20	03 08 47.1	
	comp=Z,18µm,18.0s						
CAN	Canberra	29.04	178	⇑P	P	02 55 56.0	+1.7
CAN	Canberra	29.04	178	P	P	02 55 55.2	+0.9
CAN				pmax	pmax		
	comp=Z,500nm,1.5s						
CAN				MLR	MLR		
	comp=Z,18µm,18.0s						
CNB	Canberra Magne	29.05	177	P	P	02 55 56.2	+1.8
	baz=29,SNR=20						
PLAI	Plampang	29.78	263	P	P	02 55 59.0	-2.1
	comp=Z,412nm,0.8s,comp=Z,4µm						
FORT	Forrest	30.66	215	P	P	02 56 09.6	+1.0
	baz=31,SNR=44						
FORT	Forrest	30.66	215	P	P	02 56 09.5	+1.0
FORT				IAMs_20	IAMs_20	03 08 57.3	
	comp=Z,28µm,20.0s						
TWSI	Taliwang, Sumb	30.66	263	P	P	02 56 08.7	-0.1
	comp=Z,114nm,0.8s,comp=Z,2µm						
MILA	Mila	30.78	178	P	P	02 56 11.2	+1.6
	baz=31,SNR=6.5						
MILA	Mila	30.78	178	⇑P	P	02 56 11.0	+1.3
H11S3	WAKE ISLAND Hy	30.84	37	T	T	03 28 14.8	
	baz=220,slow=74,SNR=73						
H11S2	WAKE ISLAND Hy	30.84	37	T	T	03 28 13.9	
	baz=220,slow=74,SNR=10						
H11S1	WAKE ISLAND Hy	30.86	37	T	T	03 28 15.4	
	baz=220,slow=74,SNR=13						
MBWA	Marble Bar	30.92	238	P	P	02 56 11.5	+0.5
MBWA				IAMs_20	IAMs_20	03 09 43.4	
	comp=Z,25µm,20.0s						
MBWA	Marble Bar	30.92	238	P	P	02 56 11.5	+0.5
MBWA				pP	pP	02 56 23.6	-1.8
MBWA				sP	sP	02 56 27.6	-4.4
ARPS	Mount Arapiles	30.93	189	P	P	02 56 12.5	+1.6
	baz=31,SNR=32						
PSAC2	Pilbara Seismi	30.94	238	IAMs_20	IAMs_20	03 09 44.2	
	comp=Z,24µm,19.0s						
PSAD1	Pilbara Seismi	30.96	238	IAMs_20	IAMs_20	03 09 45.6	
	comp=Z,26µm,19.0s						
PSAB2	Pilbara Seismi	30.97	238	IAMs_20	IAMs_20	03 09 45.0	
	comp=Z,24µm,19.0s						
PSAA2	Pilbara Seismi	30.99	238	IAMs_20	IAMs_20	03 09 46.4	
	comp=Z,24µm,20.0s						
PSAA3	Pilbara Seismi	30.99	238	IAMs_20	IAMs_20	03 09 46.4	
	comp=Z,24µm,19.0s						
PSA00	Pilbara Seismi	30.99	238	P	P	02 56 11.9	+0.2
PSA00				IAmb	IAmb	02 56 25.1	
	comp=Z,216nm,1.1s						
PSA00	Pilbara Seismi	30.99	238	IAMs_20	IAMs_20	03 09 46.5	
	comp=Z,24µm,19.0s						
PSAB3	Pilbara Seismi	31.00	238	IAMs_20	IAMs_20	03 09 46.6	
	comp=Z,24µm,19.0s						
PSAA1	Pilbara Seismi	31.00	238	IAMs_20	IAMs_20	03 09 45.8	
	comp=Z,24µm,19.0s						
PSAC1	Pilbara Seismi	31.01	238	IAMs_20	IAMs_20	03 09 45.9	
	comp=Z,25µm,19.0s						
PSAB1	Pilbara Seismi	31.01	238	IAMs_20	IAMs_20	03 09 46.0	
	comp=Z,25µm,20.0s						
PSAD3	Pilbara Seismi	31.08	238	IAMs_20	IAMs_20	03 09 47.8	
	comp=Z,25µm,19.0s						
BKB	Balikpapan	31.11	278	P	P	02 56 13.0	+0.2
BKB	Balikpapan	31.11	278	P	P	02 56 15.4	+2.6
	comp=Z,446nm,1.3s						
FUNA	Funafuti	31.32	96	P	P	02 56 14.9	+0.3
TOO	Toolangi	31.33	183	P	P	02 56 16.4	+2.0
	baz=32,SNR=6.7						
TOO	Toolangi	31.33	183	P	P	02 56 15.6	+1.1
TOO				IAmb	IAmb	02 56 28.6	
	comp=Z,185nm,1.3s						
TOO	Toolangi	31.33	183	⇑P	P	02 56 15.0	+0.5
TOO	Toolangi	31.33	183	P	P	02 56 15.6	+1.1
TOO				pmax	pmax		
	comp=Z,185nm,1.3s						
TOO				MLR	MLR		
	comp=Z,11µm,21.0s						
H11N1	WAKE ISLAND Hy	31.90	36	T	T	03 29 34.9	
	baz=219,slow=76,SNR=9.7						
H11N3	WAKE ISLAND Hy	31.92	36	T	T	03 29 36.1	
	baz=219,slow=76,SNR=12						
H11N2	WAKE ISLAND Hy	31.92	36	T	T	03 29 36.2	
	baz=219,slow=76,SNR=9.5						
SRBI	Singaraja	32.29	265	P	P	02 56 21.9	-1.3
	comp=Z,106nm,0.8s,comp=Z,6µm						
DNP	Denpasar	32.31	264	P	P	02 56 37.6	+14
IGBI	Denpasar	32.38	263	P	P	02 56 24.3	+0.4
	comp=Z,169nm,1.1s,comp=Z,4µm						
BBKI	Banjar Baru	32.85	273	P	P	02 56 28.8	+0.7
	comp=Z,541nm,0.9s						
MTKI	Muara Teweh, K	33.14	278	P	P	02 56 31.2	+0.6
ABJI	Asem Bagus	33.26	265	P	P	02 56 30.1	-1.5
	comp=Z,169nm,1.2s,comp=Z,7µm						
TGY	Tagaytay City	33.33	307	P	P	02 56 33.2	+0.9
	comp=Z,249nm,0.5s,baz=179,slow=12,SNR=7.5						
	comp=Z,249nm,0.5s						
JAGI	Jajag, Banyuwa	33.35	264	P	P	02 56 30.0	-2.4
	comp=Z,395nm,1.0s,comp=Z,6µm						
JAGI	Jajag, Banyuwa	33.35	264	⇑P	P	02 56 30.2	-2.3
JCJ	Chichijima	33.49	351	P	P	02 56 32.7	-0.7
JCJ	Chichijima	33.49	351	⇑P	P	02 56 32.5	-0.9
JCJ	Chichijima	33.49	351	LR	LR	03 08 17.6	
	comp=Z,7µm,20.5s,baz=179,slow=33						
BLJI	Banyuglugur	33.89	265	P	P	02 56 36.4	-0.7
	comp=Z,147nm,0.8s,comp=Z,5µm						
MEEK	Meekatharra	34.39	230	P	P	02 56 41.9	+0.6
	baz=34,SNR=133						
FUTU	Fugatoga	34.55	106	P	P	02 56 45.5	+2.6
KMBL	Kambalda	34.83	221	P	P	02 56 45.9	+0.9
	baz=35,SNR=64						
NGJI	Ngawi	36.00	266	P	P	02 57 04.1	+8.8
MOO	Moorlands	36.13	181	P	P	02 56 58.7	+2.6
	baz=36,SNR=7.7						
GIRL	Giralia	36.19	240	P	P	02 56 58.6	+1.9
	baz=36,SNR=26						
GIRL	Giralia	36.19	240	⇑P	P	02 56 58.7	+1.9
SBUM	Sibu	36.45	283	P	P	02 56 59.8	+0.6
SBUM	Sibu	36.45	283	P	P	02 56 59.0	-0.2
SBUM	Sibu	36.45	283	⇑P	P	02 56 59.1	0.0
WOJI	Wonogiri, Jawa	36.54	265	P	P	02 57 01.1	+1.2
	comp=Z,908nm,0.9s,comp=Z,15µm						
TAU	Tasmania Unive	36.60	180	P	P	02 57 01.2	+1.2
TAU				IAmb	IAmb	02 57 03.2	
	comp=Z,218nm,1.2s						
TAU				PcP	PcP	02 59 23.5	+1.2
TAU	Tasmania Unive	36.60	180	⇓P	P	02 57 02.4	+2.3
TAU	Tasmania Unive	36.60	180	P	P	02 57 01.2	+1.2
TAU						02 59 23.5	
TAU				pmax	pmax		
	comp=Z,218nm,1.3s						
TAU				MLR	MLR		
	comp=Z,13µm,22.0s						
TAU	Tasmania Unive	36.60	180	P	P	02 57 02.3	+2.3
TAU				pP	pP	02 57 14.4	+0.4
TAU				PcP	PcP	02 59 24.2	+1.9
STKI	Sintang	36.68	278	P	P	02 57 02.7	+1.5
	comp=Z,200nm,1.9s,comp=Z,31µm						
SMRI	Semarang	37.02	266	P	P	02 57 06.6	+2.6
	comp=Z,811nm,2.1s,comp=Z,17µm						
SMRI	Semarang	37.02	266	⇓P	P	02 57 04.7	+0.6
YOGI	Yogyakarta	37.16	265	P	P	02 57 06.0	+0.8
	comp=Z,728nm,2.0s,comp=Z,11µm						
OUZ	Omahuta	37.48	144	IAMs_20	IAMs_20	03 10 14.6	
	comp=Z,16µm,22.0s						
OUZ	Omahuta	37.48	144	⇑P	P	02 57 09.7	+2.1
MORW	Morawa	37.59	229	P	P	02 57 09.4	+0.8
	baz=38,SNR=66						
MORW	Morawa	37.59	229	⇑P	P	02 57 09.6	+0.9
KLBR	Kellerberrin	37.74	224	P	P	02 57 10.0	+0.1
	baz=38,SNR=162						
JOW	Kunigami	37.82	331	P	P	02 57 10.8	+0.3
JOW				IAmb	IAmb	02 57 26.8	
	comp=Z,264nm,1.1s						
JOW	Kunigami	37.82	331	P	P	02 57 10.9	+0.3
JOW	Kunigami	37.82	331	⇓P	P	02 57 11.5	+1.0
JOW	Kunigami	37.82	331	P	P	02 57 11.1	+0.6
	comp=Z,66nm,0.7s,baz=164,slow=9.9,SNR=5.4						
	comp=Z,66nm,0.7s						
BLDU	Ballidu	37.92	226	P	P	02 57 12.2	+0.7
	baz=38,SNR=57						
KSM	Kuching	38.10	280	IAmb	IAmb	02 57 30.2	
	comp=Z,209nm,1.2s						
KSM	Kuching	38.10	280	P	P	02 57 13.0	-0.1
KSM	Kuching	38.10	280	⇑P	P	02 57 12.5	-0.7
KPJI	Karang Pucung	38.51	266	P	P	02 57 17.7	+1.1
	comp=Z,388nm,1.5s,comp=Z,9µm						
NWAO	Narrogin (SRO)	38.88	223	P	P	02 57 20.3	+0.8
	baz=39,SNR=81						
NWAO				P	P	02 57 20.3	+0.8
	baz=39,SNR=81						
NWAO	Narrogin (SRO)	38.88	223	P	P	02 57 20.4	+0.9
NWAO				IAmb	IAmb	02 57 21.5	
	comp=Z,168nm,0.8s						
NWAO	Narrogin (SRO)	38.88	223	IAMs_20	IAMs_20	03 14 11.5	
	comp=Z,17µm,18.0s						
NWAO	Narrogin (SRO)	38.88	223	P	P	02 57 20.4	+0.9
NWAO				pmax	pmax		
	comp=Z,168nm,0.8s						
NWAO				MLR	MLR		
	comp=Z,17µm,18.0s						
NWAO	Narrogin (SRO)	38.88	223	P	P	02 57 20.4	+0.8
	comp=Z,89nm,0.5s,baz=46,slow=7.8,SNR=55						
NWAO				LR	LR	03 14 22.6	
	comp=Z,17µm,18.6s,baz=38,slow=38						
	comp=Z,89nm,0.5s						
NWAO	Narrogin (SRO)	38.88	223	P	P	02 57 20.2	+0.8
NWAO				pP	pP	02 57 32.2	-1.6
CMJI	Cimerak	38.99	265	P	P	02 57 20.3	-0.3
	comp=Z,700nm,0.9s,comp=Z,10µm						
MUN	Mundaring	39.04	225	P	P	02 57 21.9	+1.1
	baz=39,SNR=64						
TPUB	Ta-pu	39.46	319	IAmb	IAmb	02 57 27.8	
	comp=Z,186nm,0.8s						
TPUB				IAMs_20	IAMs_20	03 11 27.3	
	comp=Z,13µm,20.0s						
NACB	Ninganchiao	39.46	321	P	P	02 57 24.4	0.0
NACB				IAMs_20	IAMs_20	03 10 15.3	
	comp=Z,17µm,19.0s						
JHJ2	Mitsune	39.77	350	IAMs_20	IAMs_20	03 13 19.4	
	comp=Z,14µm,20.0s						
JHJ2	Mitsune	39.77	350	⇓P	P	02 57 26.5	-0.3
LEM	Lembang	39.83	267	LR	LR	03 16 41.5	
	comp=Z,3µm,21.3s,baz=75,slow=40						
YHNB	Yeheng	39.96	321	IAmb	IAmb	02 57 32.7	
	comp=Z,254nm,0.9s						
RKGY	Rocky Gully	40.07	221	P	P	02 57 31.0	+1.6
	baz=40,SNR=70						
TATO	Taipei	40.11	322	P	P	02 57 29.9	+0.2
TATO	Taipei	40.11	322	P	P	02 57 30.2	+0.5
TATO				P	P	02 57 30.2	+0.5
TATO	Taipei	40.11	322	P	P	02 57 30.3	+0.5
TATO				pP	pP	02 57 41.8	-1.7
TATO				PcP	PcP	02 59 34.6	+1.0
CNJI	Cibinong	40.30	266	P	P	02 57 31.3	-0.2

comp=Z,738nm,1.2s,comp=Z,9µm
TOZ Tahuroa Road 40.33 145 IAMs_20 IAMs_20 03 12 15.0
comp=Z,14µm,22.0s
HIZ Hauiti 40.52 147 IAmb IAmb 02 57 56.2
comp=Z,259nm,1.5s
HIZ IAMs_20 IAMs_20 03 13 29.0
comp=Z,18µm,20.0s
AFI Afiamalu 40.59 104 P **P** **02 57 34.9 +1.0**
AFI Afiamalu 40.59 104 ⇑P **P** **02 57 34.4 +0.5**
AFI Afiamalu 40.59 104 P **P** **02 57 34.9 +1.0**
AFI pmax pmax
comp=Z,785nm,1.2s
AFI Afiamalu 40.59 104 P **P** **02 57 35.5 +1.6**
AFI pP **pP** **02 57 47.4 0.0**
AFI PcP **PcP** **02 59 37.9 +2.4**
CBJI Citeko 40.60 267 P **P** **02 57 33.6 -0.4**
comp=Z,455nm,1.3s
DBJI Dramaga 40.70 267 P **P** **02 57 34.7 -0.1**
comp=Z,528nm,1.2s,comp=Z,11µm
SKJI Sukabumi 40.88 266 P **P** **02 57 39.1 +2.8**
comp=Z,602nm,0.8s,comp=Z,11µm
KATZ Kakaramea 41.31 146 P **P** **02 57 44.3 +4.7**
WTVZ West Tongariro 41.35 147 P **P** **02 57 44.1 +4.1**
TMVZ Te Maari 41.41 146 P **P** **02 57 42.8 +2.3**
DSZ Denniston Nort 41.41 152 IAmb IAmb 02 58 00.5
comp=Z,180nm,1.1s
DSZ IAMs_20 IAMs_20 03 12 28.4
comp=Z,13µm,22.0s
OTVZ Oturere 41.42 147 P **P** **02 57 43.7 +3.0**
SNVZ South Ngauruho 41.43 147 P **P** **02 57 43.5 +2.8**
ETVZ East Tongariro 41.43 147 P **P** **02 57 44.2 +3.6**
JSG Sagara 41.60 348 ⇑P **P** **02 57 42.5 +0.7**
URZ Urewera 41.61 144 LR LR 03 13 58.0
comp=Z,14µm,19.7s,baz=39,slow=34
JIE Ise 41.65 346 *e*P **P** **02 57 42.2 -0.1**
CGJI Cibinong 41.74 267 P **P** **02 57 42.7 -0.7**
comp=Z,829nm,0.9s,comp=Z,9µm
KNMB Chin-men Tao 41.74 318 P **P** **02 57 44.1 +0.9**
KNMB IAmb IAmb 02 57 47.1
comp=Z,190nm,0.8s
XMI Christmas Isla 41.77 261 ⇑P **P** **02 57 44.4 +0.7**
JMN Monobe 41.78 343 IAmb IAmb 02 57 45.4
comp=Z,350nm,1.3s
JMN Monobe 41.78 343 P **P** **02 57 44.0 +0.6**
JMN Monobe 41.78 343 ⇑P **P** **02 57 44.0 +0.6**
RTZ Ruatahuna 41.78 145 IAMs_20 IAMs_20 03 12 27.5
comp=Z,21µm,22.0s
RTZ Ruatahuna 41.78 145 P **P** **02 57 44.7 +1.2**
XMIS Christmas Isla 41.80 261 P **P** **02 57 44.5 +0.6**
MXZ Matakaoa Point 41.86 143 IAMs_20 IAMs_20 03 12 39.5
comp=Z,19µm,22.0s
MTHZ Maungataniwha 41.86 145 P **P** **02 57 46.5 +2.4**
BHHZ Black Hill Sta 41.87 147 P **P** **02 57 46.0 +1.9**
BKZ Black Stump Fm 41.88 146 IAMs_20 IAMs_20 03 13 25.2
comp=Z,13µm,21.0s
BKZ Black Stump Fm 41.88 146 P **P** **02 57 47.1 +2.8**
MWZ Matawai 41.91 144 P **P** **02 57 47.0 +2.6**
QZH Quanzhou 41.94 319 ⇑*i*P **P** **02 57 45.9 +1.1**
QZH S **S** **03 03 59.7 +0.1**
QZH pmax pmax
comp=Z,180nm,0.9s
QZH LR LR
comp=Z,11µm,16.1s
QZH LR LR
comp=Z,6µm,17.5s
QZH LR LR
comp=Z,15µm,18.2s
THZ Tophouse 41.94 152 IAMs_20 IAMs_20 03 15 24.4
comp=Z,10µm,19.0s
RAGZ Rawiri 41.95 144 P **P** **02 57 46.8 +1.9**
JOD2 Odawara 2 42.00 349 P **P** **02 57 45.0 -0.2**
KWHZ Kaweka Forest 42.03 146 P **P** **02 57 47.5 +2.0**
INZ Inchbonnie 42.03 154 IAMs_20 IAMs_20 03 12 56.6
comp=Z,17µm,22.0s
TWGZ Tauwhareparae 42.07 144 P **P** **02 57 47.8 +2.1**
H01W1 Cape Leeuwin H 42.11 223 P **P** **02 57 48.6 +2.8**
baz=74,slow=7.2,SNR=24
H01W3 Cape Leeuwin H 42.11 223 P **P** **02 57 48.8 +3.0**
baz=74,slow=7.2,SNR=16
H01W2 Cape Leeuwin H 42.12 223 P **P** **02 57 48.7 +2.7**
baz=74,slow=7.2,SNR=17
KRHZ Kereru 42.15 146 P **P** **02 57 48.4 +2.0**
JNU Nakatsue 42.21 339 IAMs_20 IAMs_20 03 11 55.7
comp=Z,14µm,22.0s
JNU Nakatsue 42.21 339 P **P** **02 57 47.0 +0.1**
JNU Nakatsue 42.21 339 ⇑P **P** **02 57 47.0 +0.1**
TSZ Takapari Road 42.22 147 P **P** **02 57 48.9 +1.9**
PNHZ Pukenui 42.25 147 P **P** **02 57 48.4 +1.2**
KIW Kapiti Island 42.25 149 P **P** **02 57 49.4 +2.2**
RIGZ Rimuhau 42.29 144 P **P** **02 57 50.2 +2.6**
OGWZ Otaki Gorge 42.35 149 P **P** **02 57 49.7 +1.7**
LTZ Lake Taylor 42.45 153 IAMs_20 IAMs_20 03 13 22.6
comp=Z,18µm,22.0s
MRZ Mangatainoka R 42.45 148 IAMs_20 IAMs_20 03 14 11.1
comp=Z,13µm,20.0s
MRZ Mangatainoka R 42.45 148 P **P** **02 57 50.3 +1.5**
SNZO South Karori 42.48 150 P **P** **02 57 50.5 +1.5**
SNZO IAmb IAmb 02 57 52.5
comp=Z,664nm,1.9s
DVHZ Dannevirke 42.50 147 P **P** **02 57 50.6 +1.3**
HOWZ Holdsworth Sta 42.59 148 P **P** **02 57 51.3 +1.3**
BHW Baring Head 42.64 150 P **P** **02 57 51.5 +1.2**
BHW IAmb IAmb 02 57 52.5
comp=Z,165nm,1.0s
KLI Kotabumi 42.66 270 P **P** **02 57 52.8 +1.9**
comp=Z,534nm,1.0s,comp=Z,9µm
RPZ Rata Peaks 42.66 155 IAMs_20 IAMs_20 03 13 03.3
comp=Z,22µm,22.0s
RPZ Rata Peaks 42.66 155 LR LR 03 13 59.5
comp=Z,18µm,21.8s,baz=322,slow=34
JGF Kuroka 42.67 348 P **P** **02 57 50.7 +0.1**
MHGZ Mahia Peninsul 42.67 145 P **P** **02 57 54.3 +3.6**
TIWZ Tintock 42.70 148 P **P** **02 57 53.3 +2.4**
KHZ Kahutara 42.75 152 IAMs_20 IAMs_20 03 15 59.7
comp=Z,13µm,18.0s
KHZ Kahutara 42.75 152 ⇑P **P** **02 57 50.2 -0.9**
JRY Ryogami san 42.76 349 P **P** **02 57 51.8 +0.4**
MTW Mount Morrison 42.77 149 P **P** **02 57 52.2 +0.8**
OXZ Oxford 42.77 154 P **P** **02 57 51.6 +0.2**
OXZ IAmb IAmb 02 57 53.4
comp=Z,186nm,1.2s
OXZ IAMs_20 IAMs_20 03 13 30.3
comp=Z,16µm,22.0s
BFZ Birch Farm 42.82 148 P **P** **02 57 52.8 +1.0**
JWT Wachi 42.82 345 P **P** **02 57 52.3 +0.5**
LBZ Lake Benmore 42.86 156 IAMs_20 IAMs_20 03 13 57.4
comp=Z,11µm,20.0s
PAWZ Paruwai Farm 42.90 149 P **P** **02 57 53.6 +1.2**
PMBI Palembang 42.91 272 P **P** **02 57 53.5 +0.6**
PMBI Palembang 42.91 272 P **P** **02 57 55.1 +2.2**
comp=Z,1µm,1.2s,comp=Z,20µm
TMWZ Te Maipa 42.94 148 P **P** **02 57 54.3 +1.6**
GVZ Greta Valley S 42.94 153 IAMs_20 IAMs_20 03 13 48.7
comp=Z,14µm,22.0s
KASI Kota Agung 42.98 269 P **P** **02 57 52.3 -1.2**
comp=Z,827nm,1.1s,comp=Z,7µm
TRWZ Traveller 43.04 149 P **P** **02 57 54.7 +1.0**
NIUE Niue 43.16 111 P **P** **02 57 56.2 +1.3**
JGN Niukaw 43.27 348 *e*P **P** **02 57 55.0 -0.5**
WHZ Wether Hill Ro 43.29 159 IAmb IAmb 02 58 10.6
comp=Z,344nm,1.5s
MQZ McQueen's Vall 43.35 154 IAmb IAmb 02 57 58.7
comp=Z,264nm,1.1s
MQZ IAMs_20 IAMs_20 03 14 10.5
comp=Z,11µm,21.0s
DSRI Dabo 43.40 276 P **P** **02 57 57.8 +0.9**
comp=Z,312nm,1.0s
MJAR Matsushiro Arr 43.40 349 P **P** **02 57 56.6 +0.1**
comp=Z,322nm,1.1s,baz=170,slow=8.0,SNR=166
MJAR PcP **PcP** **02 59 43.0 -1.2**
comp=Z,17nm,0.9s,baz=144,slow=2.9,SNR=1.9
comp=Z,322nm,1.1s
MAJO Matsushiro 43.40 349 P **P** **02 57 56.9 +0.3**
MAJO Matsushiro 43.40 349 IAMs_20 IAMs_20 03 13 40.5
comp=Z,10µm,22.0s
MAJO Matsushiro 43.40 349 ⇑P **P** **02 57 56.7 +0.2**
MAJO Matsushiro 43.40 349*c i*P **P** **02 57 56.3 -0.2**
MAJO pmax pmax
comp=Z,410nm,1.1s
MAJO Matsushiro 43.40 349 P **P** **02 57 56.8 +0.3**
MAT Matsushiro 43.40 349 P **P** **02 57 56.6 +0.1**
LWLI Liwa 43.44 269 P **P** **02 57 57.0 -0.4**
comp=Z,2µm,1.1s,comp=Z,18µm
ODZ Otahua Downs 43.59 156 ⇑P **P** **02 57 58.9 +1.0**
LHSI Lahat 44.06 271 P **P** **02 58 03.0 +0.8**

comp=Z,448nm,1.1s,comp=Z,9µm
JMBI JAMBI 44.17 274 P **P** **02 58 05.8 +2.7**
comp=Z,677nm,1.0s,comp=Z,7µm
JMM Marumori 44.27 352 P **P** **02 58 04.3 +0.9**
JMM Marumori 44.27 352 ⇑P **P** **02 58 04.3 +0.9**
GZH Guangzhou 44.42 312 P **P** **02 58 07.7 +2.9**
GZH PP **PP** **02 59 52.9 +3.6**
GZH S S 03 04 45.4 +9.4
GZH pmax pmax
comp=Z,51nm,1.0s
GZH pmax pmax
comp=Z,1µm,3.2s
MNAI Manna 44.59 270 P **P** **02 58 06.1 -0.3**
MNAI Manna 44.59 270 ⇑P **P** **02 58 05.8 -0.6**
JSD Sado 44.84 349 *e*P **P** **02 58 08.3 +0.4**
SSE Sheshan 44.89 327 P **P** **02 58 09.0 +0.5**
SSE pmax pmax
comp=Z,87nm,0.9s
SSE pmax pmax
comp=Z,910nm,7.7s
SSE Sheshan 44.89 327 P **P** **02 58 08.9 +0.5**
SSE sP **pP** **02 58 24.7 +2.2**
QIZ Qiongzhong 44.92 305 P **P** **02 58 09.4 +0.5**
QIZ S **S** **03 04 43.0 -0.5**
QIZ pmax pmax
comp=Z,40nm,1.4s
QIZ LR LR
comp=Z,3µm,21.1s
QIZ LR LR
comp=Z,3µm,20.6s
QIZ LR LR
comp=Z,6µm,23.0s
JYA Atsumi 45.14 351 *e*P **P** **02 58 11.7 +1.4**
JOM Ohasama 45.79 353 P **P** **02 58 16.5 +1.0**
TJN Taejon 46.42 337*c i*P **P** **02 58 20.3 -0.1**
NJ2 Nanjing 46.90 326 ⇑P **P** **02 58 25.0 +0.7**
NJ2 pmax pmax
comp=Z,74nm,0.5s
NJ2 pmax pmax
comp=Z,1µm,3.7s
BKNI Bangkinang 47.02 276 P **P** **02 58 26.5 +0.9**
comp=Z,389nm,1.4s,comp=Z,7µm
BKNI Bangkinang 47.02 276 P **P** **02 58 21.8 -3.8**
JTM Tenmabayashi 47.12 353 *e*P **P** **02 58 26.7 +0.9**
JTM Tenmabayashi 47.12 353 ⇑P **P** **02 58 26.7 +0.9**
KSRS Korea Array 47.16 338 P **P** **02 58 26.7 +0.5**
comp=Z,47nm,0.9s,baz=158,slow=8.7,SNR=93
KSRS PcP **PcP** **02 59 57.5 +0.3**
comp=Z,10.0nm,0.8s,baz=186,slow=2.3,SNR=6.1
comp=Z,47nm,0.9s
PDSI Padang 47.42 274 P **P** **02 58 27.5 -1.2**
comp=Z,150nm,1.3s,comp=Z,4µm
PPSI Pulau Pagai 47.66 272 P P 02 58 42.2 +12
INCN Inchon 47.66 337 P **P** **02 58 30.6 +0.5**
INCN IAmb IAmb 02 58 32.0
comp=Z,238nm,1.2s
INCN Inchon 47.66 337 P **P** **02 58 31.1 +0.9**
INCN P **P** **02 58 31.1 +0.9**
INCN Inchon 47.66 337 P **P** **02 58 30.7 +0.5**
INCN pmax pmax
comp=Z,238nm,1.2s
INCN Inchon 47.66 337 P **P** **02 58 31.0 +0.9**
JOT Ohata 47.70 353 P **P** **02 58 31.1 +0.8**
CNSH ChangSha 47.86 317 ⇑P **P** **02 58 32.0 +0.1**
CNSH pmax pmax
comp=Z,51nm,1.7s
MIDW Midway 47.99 43 P **P** **02 58 33.4 +0.6**
JOHN Johnston Islan 48.02 61 P **P** **02 58 34.6 +1.4**
JOHN Johnston Islan 48.02 61 IAMs_20 IAMs_20 03 17 17.6
comp=Z,9µm,19.0s
ERM Erimo 48.12 355 IAMs_20 IAMs_20 03 15 59.6
comp=Z,22µm,20.0s
ERM Erimo 48.12 355 ⇑P **P** **02 58 35.2 +1.6**
ERM Erimo 48.12 355*ce*P **P** **02 58 35.0 +1.4**
ERM pmax pmax
comp=Z,201nm,1.7s
KULM Kulim 48.33 283 P **P** **02 58 35.3 -0.5**
KULM IAmb IAmb 02 58 53.3
comp=Z,98nm,1.1s
KULM Kulim 48.33 283 ⇓P **P** **02 58 36.5 +0.8**
WHN Wuhan 48.50 321*i*P **P** **02 58 37.2 +0.5**
WHN pmax pmax
comp=Z,400nm,1.2s
SISI Saibi 48.73 274 P **P** **02 58 38.6 -0.2**
comp=Z,193nm,0.9s,comp=Z,5µm
CTZ Chatham Island 48.78 146 IAmb IAmb 02 58 41.4
comp=Z,130nm,1.2s
MCQ Macquarie Isla 49.05 171 P **P** **02 58 43.0 +2.5**
baz=49,SNR=3.6
YUK Yuzh-Kuril'sk 49.99 358 *e*P **P** **02 58 47.2 -0.7**
YUK *e* 03 00 06.1
YUK *e* 03 00 42.7
YUK *e*PPP PPP 03 01 39.5
YUK *e*S **S** **03 05 51.8 -2.9**
YUK *e* 03 08 30.5
YUK *e*SS **SS** **03 09 27.1 -1.4**
YUK *e*SSS SSS 03 10 56.7
YUK pmax pmax
comp=Z,613nm,1.4s
YUK pmax pmax
comp=Z,622nm,1.2s
YUK pmax pmax
comp=N,256nm,1.0s
YUK pmax pmax
comp=E,476nm,1.0s
YUK MLR MLR
comp=E,3µm,14.0s
YUK MLR MLR
comp=Z,3µm,14.0s
YUK MLR MLR
comp=N,595nm,15.0s
JKA Kamikawa-asahi 50.26 355 ⇑sP **P** **02 58 51.4 +1.5**
ASAJ Asahikawa 50.26 355 *e*P **P** **02 58 51.5 +1.5**
COCO West Island 50.51 259 P **P** **02 58 53.6 +1.2**
COCO West Island 50.51 259 P **P** **02 58 53.6 +1.2**
COCO West Island 50.51 259 P **P** **02 58 53.6 +1.2**
COCO pmax pmax
comp=Z,506nm,1.1s
GSI Gunungsitoli 50.59 277 P **P** **02 58 52.7 -0.3**
comp=Z,334nm,1.3s
GSI Gunungsitoli 50.59 277 ⇑P **P** **02 58 52.3 -0.7**
KCSI Kotacane, Aceh 50.78 280 P **P** **02 58 53.7 -0.7**
comp=Z,175nm,1.4s
MSHR Mys Shultsa 50.80 344*ce*P **P** **02 58 54.4 +0.4**
MSHR pmax pmax
comp=Z,37nm,1.0s
SLVN Son La 50.91 304 P **P** **02 58 55.7 +0.4**
DL2 Dalian 50.94 334 P **P** **02 58 55.3 +0.2**
DL2 pmax pmax
comp=Z,90nm,1.0s
DL2 LR LR
comp=Z,4µm,17.8s
DL2 LR LR
comp=Z,5µm,19.0s
DL2 LR LR
comp=Z,7µm,20.2s
TIA Tai'an 50.98 328 P **P** **02 58 54.9 -0.6**
TIA pmax pmax
comp=Z,110nm,1.2s
TIA pmax pmax
comp=Z,1µm,6.6s
TIA LR LR
comp=Z,6µm,12.8s
TIA LR LR
comp=Z,11µm,14.7s
TIA LR LR
comp=Z,14µm,15.5s
GYA Guiyang 51.31 311 ⇓*i*P **P** **02 58 58.9 +0.5**
GYA pmax pmax
comp=Z,18nm,1.3s
ENH Enshi 51.51 317 P **P** **02 58 58.9 -0.8**
ENH IAmb IAmb 02 59 02.7
comp=Z,117nm,1.1s
TEY Ternei 51.93 350 ⇑*e*P **P** **02 59 02.4 0.0**
TEY *e* 02 59 11.0
TEY pmax pmax
comp=N,40nm,1.0s
TEY pmax pmax
comp=Z,70nm,1.0s
TEY pmax pmax
comp=E,10.0nm,0.8s
SNSI Sinabang, Aceh 52.00 278 P P 02 59 17.7 +14
USA0B Ussuriysk Arra 52.10 346 IAmb IAmb 02 59 05.9
comp=Z,183nm,1.1s
USA0B Ussuriysk Arra 52.10 346*c i*P **P** **02 59 04.2 +0.5**

USRK Ussuriysk Ar. 52.10 346 P **P** **02 59 04.5 +0.8**
comp=Z,77nm,0.9s,baz=170,slow=8.0,SNR=76
USRK PcP **PcP** **03 00 14.6 -0.5**
comp=Z,11nm,0.6s,baz=179,slow=4.9,SNR=4.7
comp=Z,77nm,0.9s
MLSI Meulaboh, Aceh 52.26 280 P **P** **02 59 04.8 -0.7**
comp=Z,193nm,0.7s,comp=Z,3µm
LYN LuoYang 52.40 323 ⇑*i*P **P** **02 59 05.7 -0.5**
LYN PcP **PcP** **03 00 17.3 +0.8**
LYN S **S** **03 06 23.9 -4.5**
LYN pmax pmax
comp=Z,150nm,1.0s
LYN pmax pmax
comp=Z,2µm,7.2s
LYN LR LR
comp=Z,8µm,16.3s
LYN LR LR
comp=Z,3µm,20.0s
LYN LR LR
comp=Z,14µm,24.3s
SNY Shenyang 52.60 337 ⇑P **P** **02 59 07.6 +0.1**
SNY pmax pmax
comp=Z,93nm,1.1s
SNY pmax pmax
comp=Z,1µm,7.5s
SNY LR LR
comp=Z,2µm,20.4s
SNY LR LR
comp=Z,2µm,16.5s
SNY LR LR
comp=Z,3µm,14.7s
RAR Rarotonga 52.93 112 P **P** **02 59 11.3 +1.0**
RAR Rarotonga 52.93 112 ⇑P **P** **02 59 12.1 +1.8**
RAR Rarotonga 52.93 112 P **P** **02 59 11.3 +1.0**
RAR pmax pmax
comp=Z,481nm,1.4s
RAR Rarotonga 52.93 112 LR LR 03 21 40.0
comp=Z,554nm,18.4s,baz=284,slow=36
RAR Rarotonga 52.93 112 P **P** **02 59 12.1 +1.8**
RAR pP **pP** **02 59 23.9 -0.2**
YSS Yuzh-Sakhalins 53.07 356 ⇑*e*P **P** **02 59 11.9 +1.1**
YSS *e*S **S** **03 06 35.0 -2.0**
YSS pmax pmax
comp=Z,150nm,1.1s
YSS pmax pmax
comp=Z,2µm,5.2s
MDJ Mudanjiang 53.11 344 IAmb IAmb 02 59 13.1
comp=Z,112nm,1.0s
MDJ Mudanjiang 53.11 344 P **P** **02 59 11.4 +0.2**
MDJ pP pP 02 59 14.4 -11
MDJ pmax pmax
comp=Z,130nm,1.3s
MDJ pmax pmax
comp=Z,1µm,5.3s
MDJ LR LR
comp=Z,14µm,15.9s
MDJ LR LR
comp=Z,15µm,17.7s
MDJ LR LR
comp=Z,17µm,17.9s
MDJ Mudanjiang 53.11 344 P **P** **02 59 11.8 +0.6**
HNS HongShan 53.16 327 ⇑P **P** **02 59 11.4 -0.2**
HNS *e*S **S** **03 06 40.2 +1.7**
HNS pmax pmax
comp=Z,220nm,1.2s
HNS LR LR
comp=Z,4µm,19.3s
HNS LR LR
comp=Z,3µm,19.3s
HNS LR LR
comp=Z,6µm,24.4s
CRAI Chiangrai 53.40 301 P **P** **02 59 13.7 -0.1**
CN2 Changchun 53.65 340 *e*P **P** **02 59 18.4 +3.3**
CN2 *e*S **S** **03 06 44.2 -0.8**
CN2 SS **SS** **03 10 26.2 -0.3**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=Z,5µm,16.0s
CN2 LR LR
comp=Z,3µm,16.0s
CN2 LR LR
comp=Z,6µm,22.0s
KMI Kunming 53.65 307 ⇑P **P** **02 59 16.0 +0.2**
KMI LR LR
comp=Z,2µm,16.4s
KMI LR LR
comp=Z,2µm,24.1s
KMI LR LR
comp=Z,4µm,36.7s
CM31 Chiang Mai Arr 53.94 298 P **P** **02 59 17.2 -0.5**
SNR=7.5
CMAR Chiang Mai Arr 53.94 298 P **P** **02 59 19.3 +1.5**
CMAR Chiang Mai Arr 53.94 298 P **P** **02 59 19.3 +1.5**
CMAR Chiang Mai Arr 53.94 298 LR LR 03 20 56.7
comp=Z,1µm,21.7s,baz=115,slow=34
CMAR PKPPKP 03 29 31.1
comp=Z,1.4nm,0.3s,baz=282,slow=3.3,SNR=5.4
CHTO Chiang Mai 54.08 298 P **P** **02 59 19.2 +0.4**
CHTO IAmb IAmb 02 59 37.5
comp=Z,47nm,1.1s
CHTO Chiang Mai 54.08 298 P **P** **02 59 18.2 -0.5**
CHTO Chiang Mai 54.08 298 P **P** **02 59 19.2 +0.4**
CHTO pmax pmax
comp=Z,47nm,1.1s
XAN Xi'an 54.25 320 ⇑P **P** **02 59 19.1 -0.7**
XAN pmax pmax
comp=Z,190nm,1.3s
XAN LR LR
comp=Z,4µm,22.0s
XAN LR LR
comp=Z,3µm,21.6s
XAN LR LR
comp=Z,7µm,18.9s
XAN Xi'an 54.25 320 P **P** **02 59 19.1 -0.7**
BJT Baijiatuau 54.37 330 P **P** **02 59 20.4 -0.1**
BJT Baijiatuau 54.37 330 P **P** **02 59 20.4 -0.1**
BJT pmax pmax
comp=Z,480nm,1.8s
BJT Baijiatuau 54.37 330 P **P** **02 59 20.2 -0.3**
BJT PcP **PcP** **03 00 24.0 +0.1**
BJI Beijing 54.39 330 P **P** **02 59 19.0 -1.6**
BJI pmax pmax
comp=Z,58nm,1.5s
TIY Taiyuan 54.63 326 ⇑P **P** **02 59 22.1 -0.4**
TIY pmax pmax
comp=Z,50nm,0.8s
BNX BinXian 54.76 343 ⇑P **P** **02 59 23.2 0.0**
BNX S **S** **03 06 56.8 -3.2**
BNX pmax pmax
comp=Z,250nm,1.2s
BNX pmax pmax
comp=Z,2µm,13.9s
BNX LR LR
comp=Z,4µm,16.3s
BNX LR LR
comp=Z,4µm,17.9s
BNX LR LR
comp=Z,9µm,22.1s
PZH PanZhiHua 55.11 308 P **P** **02 59 27.2 +0.9**
PZH pmax pmax
comp=Z,40nm,1.1s
XMAS Kiritimati 55.37 83 P **P** **02 59 29.3 +1.1**
XMAS Kiritimati 55.37 83 ⇓P **P** **02 59 30.1 +1.9**
XMAS Kiritimati 55.37 83 P **P** **02 59 30.0 +1.7**
XMAS pP **pP** **02 59 41.8 -0.5**
CD2 Chengdu 55.89 314 P **P** **02 59 31.0 -0.7**
CD2 pmax pmax
comp=Z,60nm,1.1s
KLR Kul'dur 56.90 348*c i*P **P** **02 59 39.1 +0.7**
KLR pmax pmax
comp=Z,220nm,1.4s
TYV Tymovskoe 56.96 356 *e*P **P** **02 59 40.2 +1.3**
TYV *e*S **S** **03 07 32.8 +3.8**
TYV pmax pmax
comp=Z,172nm,1.2s
TYV pmax pmax
comp=Z,1µm,4.6s
TYV smax smax
comp=N,3µm,7.7s
TYV smax smax
comp=E,4µm,7.7s
HHC Hu-ho-hao-te 57.34 328 ⇑*i*P **P** **02 59 41.8 -0.1**
HHC pmax pmax
comp=E,74nm,1.1s
HHC LR LR

comp=E,7µm,21.7s
HHC LR LR
comp=E,3µm,20.3s
HHC LR LR
comp=E,5µm,20.1s
XLT XiLinHaoTe 57.43 333 *e*P **P 02 59 41.8 -0.6**
XLT PcP **PcP 03 00 34.8 -0.9**
XLT PP **PP 03 01 50.3 -0.2**
XLT pmax pmax
comp=E,88nm,1.7s
XLT pmax pmax
comp=E,4µm,7.9s
GRNR Gornyy 57.53 352⇑ *i*P **P 02 59 44.2 +1.3**
GRNR pmax pmax
comp=N,20nm,1.3s
GRNR pmax pmax
comp=E,40nm,1.1s
MYB Mayabunder 57.62 289 *e*P **P 02 59 45.8 +1.6**
BTO Baotou 58.00 327 *e*P **P 02 59 47.5 +1.0**
BTO PcP **PcP 03 00 39.4 +1.3**
BTO PP **PP 03 01 57.5 +1.9**
BTO S **S 03 07 42.0 -1.2**
BTO pmax pmax
comp=Z,180nm,0.9s
BTO LR LR
comp=Z,5µm,16.5s
BTO LR LR
comp=Z,6µm,23.5s
BTO LR LR
comp=Z,14µm,22.9s
LZH Lanzhou 58.79 319⇑ *e*P **P 02 59 52.2 0.0**
LZH PcP **PcP 03 00 42.6 +1.2**
LZH S **S 03 07 50.0 -3.9**
LZH SS **SS 03 11 50.3 +2.2**
LZH pmax pmax
comp=Z,96nm,1.5s
LZH LR LR
comp=Z,3µm,20.0s
LZH LR LR
comp=Z,4µm,20.0s
LZH LR LR
comp=Z,6µm,21.6s
HEH HeiHe 58.88 345 *e*P **P 02 59 51.6 -0.7**
HEH PP **PP 03 02 06.0 +2.9**
HEH ScP **ScP 03 04 44.3 +6.9**
HEH S **S 03 07 57.9 +3.8**
HEH SS **SS 03 11 53.1 +4.5**
HEH pmax pmax
comp=Z,130nm,1.1s
HEH pmax pmax
comp=Z,2µm,7.2s
HEH LR LR
comp=Z,3µm,15.7s
HEH LR LR
comp=Z,4µm,16.1s
HEH LR LR
comp=Z,7µm,23.9s
PEA0B Petropavlovsk- 59.65 7*c i*P **P 02 59 58.7 +1.1**
PETK Petropavlovsk- 59.65 7 P **P 02 59 58.1 +0.5**
PETK Petropavlovsk- 59.65 7 P **P 02 59 58.4 +0.7**
comp=Z,274nm,0.9s,baz=142,slow=7.1,SNR=130
PETK LR LR 03 22 33.8
comp=Z,7µm,20.8s,baz=252,slow=33
comp=Z,274nm,0.9s
PET Petropavlovsk 59.69 8 P **P 02 59 58.1 +0.3**
PET Petropavlovsk 59.69 8⇑ *i*P **P 02 59 59.0 +1.2**
PET *e**PP **sP 03 00 20.0 +1.8**
PET *e*S **S 03 08 04.7 +0.3**
PET pmax pmax
comp=Z,354nm,0.9s
PET MLR MLR
comp=Z,8µm,14.0s
PET MLR MLR
comp=Z,6µm,15.0s
PET Petropavlovsk 59.69 8 P **P 02 59 59.0 +1.2**
HON Honolulu 59.84 61 P **P 03 00 00.9 +1.4**
HON Honolulu 59.84 61 P **P 03 00 00.9 +1.4**
HON pmax pmax
comp=Z,579nm,1.3s
KIP Kipapa 59.86 61 P **P 03 00 00.6 +1.0**
KIP Kipapa 59.86 61*ce*P **P 03 00 01.2 +1.5**
KIP pmax pmax
comp=Z,239nm,1.2s
KIP Kipapa 59.86 61 P **P 03 00 01.1 +1.5**
KIP pP **pP 03 00 13.1 -0.9**
HIA Hailar 60.35 339 P **P 03 00 03.0 +0.4**
HIA Hailar 60.35 339*c i*P **P 03 00 02.7 +0.2**
HIA pmax pmax
comp=Z,218nm,1.0s
HIA Hailar 60.35 339 P **P 03 00 02.9 +0.4**
HIA pP **pP 03 00 15.2 -1.7**
SAIH SAIHA 60.62 300 *e*P **P 03 00 04.3 -0.7**
DRV Dumont d'Urvil 60.64 184 P **P 03 00 05.3 +1.1**
DRV pP **pP 03 00 17.1 -1.9**
IMP Imphal 60.69 303 *e*P **P 03 00 04.5 -0.9**
MOKO MOKOCHONG 60.81 305 *e*P **P 03 00 05.2 -1.1**
KHLH Kahului Airpor 61.07 62 P **P 03 00 09.0 +1.1**
KHLU Kahalu`u 61.11 64 P **P 03 00 08.8 +0.5**
JORH JORHAT 61.20 305 *e*P **P 03 00 13.5 +4.8**
MLOA Mauna Loa Obse 61.37 64 P **P 03 00 11.9 +1.4**
POHA Pohakuloa 61.48 64 IAMs_20 IAMs_20 03 24 03.5
comp=Z,7µm,20.0s
ITAN ITANAGAR 61.80 305 *e*P **P 03 00 12.7 -0.1**
ZEA Zeya 62.12 346 *e*P **P 03 00 15.4 +1.1**
ZEA pmax pmax
comp=N,200nm,0.9s
ZEA pmax pmax
comp=E,40nm,0.9s
ZEA pmax pmax
comp=Z,350nm,1.0s
PAE Paea 62.18 107 *e*P **P 03 00 16.5 +1.0**
comp=Z,127nm,1.2s
PPT Papeete 62.18 107 P **P 03 00 17.7 +2.2**
comp=Z,148nm,0.8s,baz=51,slow=0.9,SNR=15
PPT LR LR 03 24 35.6
comp=Z,1µm,19.5s,baz=262,slow=33
comp=Z,148nm,0.8s
PPT2 Papeete2 62.18 107 *e*PKIKP **P 03 00 11.3 -4.3**
comp=Z,2µm,30.5s
PPT2 Papeete2 62.18 107 *e*P **P 03 00 16.9 +1.3**
comp=Z,215nm,1.1s
PPT2 *e*S **S 03 08 30.5 -7.2**
comp=Z,2µm,26.2s
PPT2 Papeete2 62.18 107 *e*LR LR 03 18 43.8
comp=Z,6µm,27.0s
PPT2 *e*LR LR 03 18 52.9
comp=Z,4µm,27.5s
PPTF Pamatai, Papee 62.19 107 P **P 03 00 18.5 +2.9**
TEZP TEZPUR 62.34 304 *e*P **P 03 00 13.2 -3.2**
TIAR Tiarei 62.40 107 *e*P **P 03 00 17.9 +0.9**
comp=Z,64nm,1.0s
TVO Taravao 62.50 107 *e*P **P 03 00 19.2 +1.5**
comp=Z,231nm,1.2s
TBI Tubuai 62.66 113 *e*P **P 03 00 17.6 -1.0**
comp=Z,7µm,36.5s
TBI Tubuai 62.66 113 *e*P **P 03 00 19.8 +1.2**
comp=Z,1µm,1.1s
TBI *e*S **S 03 08 34.6 -8.8**
comp=Z,9µm,31.0s
TBI Tubuai 62.66 113 *e*LR LR 03 19 05.3
comp=Z,36µm,39.0s
TBI *e*LR LR 03 19 07.1
comp=Z,5µm,38.8s
SHEM Shemya Is, Ala 62.81 18 P **P 03 00 18.8 -0.1**
comp=Z,325nm,1.0s,baz=131,slow=6.2,SNR=5.0
comp=Z,325nm,1.0s
GTA Gaotai 63.31 320 *e*P **P 03 00 22.8 0.0**
GTA pP pP 03 00 35.4 -1.9
GTA pmax pmax
comp=Z,45nm,1.5s
GTA LR LR
comp=Z,1µm,21.1s
GTA LR LR
comp=Z,2µm,20.3s
GTA LR LR
comp=Z,2µm,23.5s
MEH Mehetia 63.63 107 *e*P **P 03 00 25.6 +0.5**
comp=Z,151nm,1.0s
PMOR Pomariorio Ree 63.73 104 *e*P **P 03 00 27.2 +1.4**
comp=Z,2µm,1.2s
ULN Ulaanbaatar 64.59 331 P **P 03 00 31.6 +0.6**
ULN IAmb IAmb 03 00 32.2
comp=Z,107nm,0.9s
ULN IAMs_20 IAMs_20 03 27 46.6
comp=Z,6µm,22.0s
ULN Ulaanbaatar 64.59 331 P **P 03 00 31.6 +0.6**
ULN pmax pmax
comp=Z,107nm,1.0s
CIT Chita 64.87 337 *e*P **P 03 00 33.6 +1.0**
CIT *e* 03 00 45.3
CIT *e* 03 00 50.2
CIT *e* 03 01 03.4
CIT *e* 03 09 25.0
CIT pmax pmax
comp=Z,768nm,1.7s
SONM Songino Array 64.89 331 P **P 03 00 33.3 +0.3**
SONM IAmb IAmb 03 00 34.7
comp=Z,202nm,1.3s
SONM Songino Array 64.89 331 P **P 03 00 33.3 +0.3**
SONM pmax pmax
comp=Z,202nm,1.3s
SONM Songino Array 64.89 331 P **P 03 00 33.2 +0.3**
comp=Z,82nm,1.1s,baz=148,slow=3.8,SNR=165
SONM P3KP 03 27 44.8
comp=Z,0.7nm,1.0s,baz=15,slow=6.2,SNR=3.9
SONM LR LR 03 28 07.6
comp=Z,7µm,21.6s,baz=127,slow=35
SONM PKP2bc 03 29 17.0
comp=Z,17nm,1.3s,baz=301,slow=3.9,SNR=7.5
comp=Z,82nm,1.1s
LSA Lhasa 64.90 307 P **P 03 00 34.0 +0.2**
LSA Lhasa 64.90 307 P **P 03 00 34.0 +0.2**
LSA Lhasa 64.90 307 P **P 03 00 34.0 +0.2**
LSA pmax pmax
comp=Z,51nm,1.0s
LSA Lhasa 64.90 307 P **P 03 00 33.6 -0.2**
LSA S **S 03 09 16.4 +4.5**
LSA pmax pmax
comp=Z,33nm,1.1s
LSA LR LR
comp=Z,1µm,27.0s
LSA LR LR
comp=Z,2µm,28.5s
LSA LR LR
comp=Z,3µm,28.5s
GOMU GeErMu 65.00 315 P **P 03 00 34.1 -0.1**
GOMU pP pP 03 00 39.3 -10
GOMU sP sP 03 00 46.7 -8.5
GOMU S **S 03 09 05.2 -7.6**
GOMU pmax pmax
comp=Z,8.0nm,1.0s
GOMU LR LR
comp=Z,1µm,19.6s
GOMU LR LR
comp=Z,3µm,19.2s
GOMU LR LR
comp=Z,5µm,20.2s
CASY Casey 65.29 196 P **P 03 00 35.4 +0.4**
CASY Casey 65.29 196 P **P 03 00 36.1 +1.0**
CASY pP **pP 03 00 48.9 -1.4**
ADK Adak 65.33 23 P **P 03 00 36.8 +1.3**
ADK Adak 65.33 23 IAMs_20 IAMs_20 03 23 59.3
comp=Z,9µm,22.0s
ADK Adak 65.33 23 P **P 03 00 36.8 +1.3**
ADK pmax pmax
comp=Z,571nm,1.5s
ADK Adak 65.33 23 P **P 03 00 36.6 +1.1**
MA2 Magadan 65.57 2 P **P 03 00 37.5 +0.6**
MA2 Magadan 65.57 2*c i*P **P 03 00 37.3 +0.3**
MA2 pmax pmax
comp=Z,223nm,1.1s
MA2 MLR MLR
comp=Z,4µm,18.0s
MA2 Magadan 65.57 2 LR LR 03 24 48.5
comp=Z,6µm,21.9s,baz=223,slow=32
MA2 Magadan 65.57 2 P **P 03 00 37.8 +0.8**
MA2 pP **pP 03 00 50.7 -0.8**
TAPN Taplejung 66.82 303 *e*P **P 03 00 45.2 -0.8**
ODAN Odare 66.92 302 *e*P **P 03 00 44.8 -1.8**
BOK Bokaro 67.21 299 *e*P **P 03 00 51.5 +3.3**
RAMN Ramite 67.62 302 *e*P **P 03 00 50.3 -0.7**
comp=Z,38nm,0.7s
ZAK Zakamensk 68.12 331 *e*P **P 03 00 53.1 -0.4**
ZAK *e* 03 01 05.9
ZAK pmax pmax
comp=Z,166nm,1.3s
ZAK pmax pmax
comp=Z,114nm,1.0s
PALK Pallekele 68.16 280 P **P 03 00 54.7 +0.3**
PALK Pallekele 68.16 280 LR LR 03 36 28.1
comp=Z,1µm,18.1s,baz=210,slow=41
JIRN Jiri 68.20 303 *e*P **P 03 00 53.9 -0.9**
comp=Z,56nm,0.8s
GUN Gumba 68.54 303 *e*P **P 03 00 55.9 -1.0**
comp=Z,81nm,0.6s
PKI Pulchoki 68.82 303 *e*P **P 03 00 57.1 -1.5**
comp=Z,77nm,1.0s
PKIN Phulchoki 68.83 303 *e*P **P 03 00 57.2 -1.4**
comp=Z,47nm,0.8s
IRK Irkutsk 68.91 333 *e*P **P 03 00 57.7 -0.5**
SEY Seymchan 68.99 2*de*P **P 03 00 59.7 +1.2**
SEY pmax pmax
comp=Z,138nm,1.1s
SEY MLR MLR
comp=Z,6µm,18.0s
DMN Daman 69.09 303 *e*P **P 03 00 59.2 -1.0**
comp=Z,148nm,0.9s
BOD Bodaibo 69.35 342 *e*P **P 03 01 00.2 -0.6**
BOD pmax pmax
comp=Z,197nm,1.3s
YAK Yakutsk 69.41 351 P **P 03 01 01.6 +0.5**
YAK Yakutsk 69.41 351*c i*P **P 03 01 01.5 +0.5**
YAK *e**PP **pP 03 01 14.6 -1.1**
YAK *e* 03 01 26.7
YAK ePPP PPP 03 05 16.1
YAK eS **S 03 10 04.5 +0.6**
YAK *e**SS **sS 03 10 33.8 +5.1**
YAK eSS **SS 03 14 25.4 -6.8**
YAK pmax pmax
comp=Z,540nm,1.9s
YAK pmax pmax
comp=N,129nm,1.1s
YAK pmax pmax
comp=E,25nm,1.5s
YAK pmax pmax
comp=Z,4µm,8.8s
YAK pmax pmax
comp=N,5µm,9.6s
YAK pmax pmax
comp=E,1µm,5.3s
YAK smax smax
comp=E,9µm,10.1s
YAK smax smax
comp=N,7µm,10.9s
YAK Yakutsk 69.41 351 LR LR 03 31 33.7
comp=N,120nm,18.6s,baz=142,slow=36
YAK Yakutsk 69.41 351 P **P 03 01 01.4 +0.3**
YAK pP **pP 03 01 13.9 -1.8**
YAK sP **sP 03 01 18.9 -2.7**
NIKH Nikolski High 69.41 26 P **P 03 01 01.2 -0.1**
baz=227
GKN Gorkha 69.61 303 *e*P **P 03 01 02.2 -1.1**
comp=N,80nm,0.7s
MOY Mondy 70.05 331 *e*P **P 03 01 05.1 -0.4**
CCD Concordia, Ant 70.29 187 P **P 03 01 08.2 +1.3**
CCD pP **pP 03 01 21.6 -0.5**
DANN Dangsing 70.45 303 *e*P **P 03 01 07.1 -1.5**
comp=N,101nm,0.8s
AIS Amsterdam Isla 70.56 232 P **P 03 01 09.3 +0.5**
AIS IAMs_20 IAMs_20 03 30 40.1
comp=Z,6µm,19.0s
PYUN Piuthan 71.02 302 *e*P **P 03 01 10.4 -1.6**
comp=Z,122nm,0.9s
UNV Unalaska Valle 71.04 27 P **P 03 01 11.6 +0.3**
baz=229
TAOE Nuku Hiva Isla 71.49 97 *e*PKIKP **P 03 01 11.7 -3.2**
comp=Z,670nm,1.2s
TAOE Nuku Hiva Isla 71.49 97 *e*LR LR 03 23 06.9
comp=Z,2µm,24.6s
TAOE Nuku Hiva Isla 71.49 97 P **P 03 01 16.6 +1.7**
TAOE Nuku Hiva Isla 71.49 97 P **P 03 01 16.8 +1.8**
VNDA Vanda 71.71 177 P **P 03 01 16.0 +1.0**
VNDA IAmb IAmb 03 01 30.3
comp=Z,256nm,1.4s
VNDA Vanda 71.71 177 P **P 03 01 16.0 +1.0**
VNDA pmax pmax
comp=Z,256nm,1.4s
VNDA Vanda 71.71 177 P **P 03 01 16.2 +1.2**
comp=Z,48nm,0.8s,baz=332,slow=6.8,SNR=206
VNDA LR LR 03 28 10.3
comp=Z,3µm,21.7s,baz=316,slow=32
comp=Z,48nm,0.8s
VNDA Vanda 71.71 177 P **P 03 01 16.0 +1.0**
VNDA pP **pP 03 01 28.6 -1.7**
SPIA Saint Paul Isl 71.78 23 P **P 03 01 15.9 +0.3**
baz=225
HYB Hyderabad 72.17 290 *e*P **P 03 01 19.4 +0.5**
HYB *es*P **pP 03 01 34.9 +0.6**
HYB *e*PP **PP 03 03 59.7 -0.3**
HYB eS **S 03 10 40.3 +2.4**
SBA Scott Base 72.34 176 P **P 03 01 20.5 +1.8**
SBA Scott Base 72.34 176 P **P 03 01 20.5 +1.8**
SBA pmax pmax
comp=Z,412nm,1.5s
FALS False Pass 73.08 27 P **P 03 01 23.4 0.0**
baz=232
WMQ Urumqi 73.37 319⇑ P **P 03 01 25.1 -0.4**
WMQ pmax pmax
comp=Z,62nm,1.5s
WMQ LR LR
comp=Z,3µm,14.1s
WMQ LR LR
comp=Z,3µm,14.1s
WMQ LR LR
comp=Z,2µm,21.7s
PTH Pithoragarh 73.78 303 *e*P **P 03 01 27.4 -1.0**
BHPL Bhopal 74.53 296 *e*P **P 03 01 29.6 -3.1**
H08S2 Diego Garcia H 74.59 264 P **P 03 01 34.4 +1.5**
baz=39,slow=4.0,SNR=14
H08S3 Diego Garcia H 74.60 264 P **P 03 01 34.0 +1.1**
baz=39,slow=4.0,SNR=44
H08S1 Diego Garcia H 74.61 264 P **P 03 01 34.3 +1.4**
baz=39,slow=4.0,SNR=4.5
DGAR Diego Garcia 74.65 264 P **P 03 01 35.4 +1.9**
DGAR Diego Garcia 74.65 264 P **P 03 01 35.4 +1.9**
DGAR pmax pmax
comp=Z,1µm,1.2s
SDPT Sand Point 74.72 28 P **P 03 01 34.0 +1.0**
SDPT Sand Point 74.72 28 P **P 03 01 33.2 +0.2**
baz=234
CNBA Chernabura Isl 74.83 28 IAmb IAmb 03 01 36.2
comp=Z,221nm,1.3s
CHNA Chernabura Isl 74.84 28 P **P 03 01 33.7 0.0**
baz=235
BILL Bilibino 75.18 7 *i*P **P 03 01 36.0 +0.5**
M11K Mekoryuk 75.53 22 P **P 03 01 36.9 -0.6**
baz=228
GAMB Gambell 76.12 17 P **P 03 01 41.4 +0.6**
baz=222
DGZ Jazzator, Alta 76.17 325*ce*P **P 03 01 41.2 -0.5**
DGZ pmax pmax
comp=Z,31nm,1.1s
CHGN Chignik 76.22 28 IAmb IAmb 03 02 05.1
comp=Z,95nm,1.0s
CHGN Chignik 76.22 28 P **P 03 01 41.6 0.0**
baz=236
KAD Karad 76.24 289 *e*P **P 03 01 40.8 -1.8**
KUDL Kundal 76.54 301 *e*P **P 03 01 43.1 -1.0**
M13K Dall Lake 76.62 23 IAmb IAmb 03 01 52.0
comp=Z,110nm,1.0s
M13K Dall Lake 76.62 23 P **P 03 01 43.4 -0.3**
baz=230
O14K Tigyukauivet M 76.72 24 P **P 03 01 44.8 +0.5**
baz=233
ZSN Zaisan 76.72 322 *e*P **P 03 01 43.9 -0.8**
baz=322
ZSN Zaisan 76.72 322 *e*P **P 03 01 43.8 -0.8**
SMLA Simla 76.75 304 *e*P **P 03 01 44.4 -0.8**
SMLA IAmb IAmb 03 01 47.3
comp=Z,37nm,1.0s
POO Poona 76.78 291 *e*P **P 03 01 43.3 -2.3**
N14K Kuskokwak Cree 76.96 24 P **P 03 01 45.8 +0.1**
baz=232
PAF Port-aux-Franc 77.20 221 P **P 03 01 48.5 +1.2**
PAF Port-aux-Franc 77.20 221 P **P 03 01 48.5 +1.2**
PAF pmax pmax
comp=Z,347nm,1.2s
O15K Ungalikthiuk R 77.26 25 P **P 03 01 47.6 +0.2**
baz=234
CHIR Chirikof Islan 77.28 29 P **P 03 01 47.7 +0.1**
baz=238
R16K Pilot Point 77.31 27 P **P 03 01 47.3 -0.4**
baz=236
M14K Bethel 77.36 23 IAmb IAmb 03 01 55.7
comp=Z,102nm,0.8s
M14K Bethel 77.36 23 P **P 03 01 48.5 +0.6**
baz=232,SNR=13
L14K Kuka Creek 77.46 22 P **P 03 01 49.2 +0.7**
baz=231
N15K Kwethluk River 77.74 24 P **P 03 01 51.2 +1.1**
N15K IAmb IAmb 03 02 14.4
comp=Z,92nm,1.2s
N15K Kwethluk River 77.74 24 P **P 03 01 50.6 +0.5**
baz=234
DHRM DHARAMSHALA 77.76 305 *e*P **P 03 01 50.1 -1.0**
DHRM IAmb IAmb 03 01 52.6
comp=Z,64nm,0.8s
M15K Kasigluk River 77.82 23 P **P 03 01 50.9 +0.4**
baz=233
P16K Nushagak River 77.95 25 P **P 03 01 50.3 -0.9**
baz=236
J14K Nanvaranak Lak 78.05 21 IAmb IAmb 03 01 55.4
comp=Z,94nm,1.2s
J14K Nanvaranak Lak 78.05 21 P **P 03 01 52.7 +1.1**
baz=230,SNR=11
MK31 Makanchi Array 78.07 320 P **P 03 01 51.6 -0.6**
MK31 Makanchi Array 78.07 320 P **P 03 01 51.7 -0.6**
MK31 pmax pmax
comp=Z,40nm,1.1s
MKAR Makanchi Array 78.07 320 P **P 03 01 51.5 -0.7**
comp=Z,17nm,0.7s,baz=99,slow=7.6,SNR=107
MKAR PKKPbc **PKKPbc 03 20 52.9 -1.1**
comp=Z,3.4nm,0.8s,baz=302,slow=2.0,SNR=14
MKAR PKP2bc 03 28 43.6
comp=Z,2.5nm,1.0s,baz=336,slow=2.7,SNR=6.9
comp=Z,17nm,0.7s
L15K Ungalak Mounta 78.12 22 P **P 03 01 52.7 +0.6**
baz=232
O16K Kokwok River B 78.23 25 IAmb IAmb 03 01 54.5
comp=Z,127nm,1.6s
O16K Kokwok River B 78.23 25 P **P 03 01 52.9 +0.2**
baz=236
MAKZ Makanchi 78.27 320 P **P 03 01 52.7 -0.7**
MAKZ Makanchi 78.27 320 P **P 03 01 52.7 -0.7**
MAKZ pmax pmax
comp=Z,59nm,1.1s
Q16K King Salmon 78.33 26 P **P 03 01 52.8 -0.5**
baz=237
SII Sitkinak Islan 78.35 29 P **P 03 01 53.5 -0.1**
baz=240
Q17K Contact Creek 78.45 27 P **P 03 01 53.4 -0.8**
baz=238,SNR=16
N16K Nishlik Lake 78.46 24 P **P 03 01 55.0 +0.9**
baz=235
K15K Wolf Creek Mou 78.48 22 P **P 03 01 54.7 +0.5**
baz=232
TNA Tin City 78.54 17 P **P 03 01 54.4 0.0**
baz=225
ANM Nome 78.63 19 P **P 03 01 55.7 +0.8**
baz=228,SNR=8.0
SHLS Shalkode 78.64 316 *e*P **P 03 01 53.3 -2.3**
comp=Z,72nm,1.4s,baz=316
SHLS Shalkode 78.64 316 *e*P **P 03 01 53.3 -2.3**
SHLS pmax pmax
comp=Z,72nm,1.4s
TIXI Tiksi 78.64 354 P **P 03 01 53.8 -1.0**
TIXI Tiksi 78.64 354 P **P 03 01 53.8 -1.0**
TIXI pmax pmax
comp=Z,66nm,1.0s
M16K Timber Creek 78.70 23 P **P 03 01 56.1 +0.7**
baz=234
P17K Kvichak River 78.71 26 P **P 03 01 54.9 -0.5**
baz=237
R18K Karluk 78.74 28 P **P 03 01 55.2 -0.4**
baz=239
O17K Koliganek Bris 78.75 25 P **P 03 01 55.6 -0.1**
baz=236,SNR=18
L16K Owhat River 78.90 23 P **P 03 01 56.9 +0.4**
L16K IAmb IAmb 03 01 58.7
comp=Z,150nm,1.6s
L16K Owhat River 78.90 23 P **P 03 01 56.9 +0.4**
baz=234,SNR=14
UZB Uzunbulak 78.94 316⇑ *i*P **P 03 01 56.4 -1.0**
comp=Z,107nm,1.9s,baz=316
UZB Uzunbulak 78.94 316*c i*P **P 03 01 56.3 -1.0**
UZB pmax pmax
comp=Z,107nm,1.9s
F14K Arctic Creek 78.96 18 P **P 03 01 57.4 +0.7**

baz=227,SNR=7.8
Q18K Katmai Hardscr 79.05 27 P P 03 01 57.0 -0.5
baz=238,SNR=16
N17K Nushagak Hills 79.13 24 P P 03 01 58.1 +0.4
baz=236
KPKS Kokpek 79.27 316 *e*P P 03 01 58.3 -0.8
comp=Z,165nm,2.8s,baz=316
KPKS Kokpek 79.27 316 *e*P P 03 01 58.2 -0.8
KPKS pmax pmax
comp=Z,165nm,2.8s
P18K Big Mountain, 79.34 26 P P 03 01 58.8 -0.2
baz=238
G15K Niukluk 79.35 19 P P 03 01 59.2 +0.4
baz=229,SNR=11
ZHN Zhinishke 79.35 316 *e*P P 03 01 58.6 -0.9
baz=316
ZHN Zhinishke 79.35 316 *e*P P 03 01 58.6 -0.9
J16K Anvik River 79.43 21 P P 03 02 00.3 +1.0
baz=233
M17K Holitna River 79.52 24 IAmb IAmb 03 02 01.7
comp=Z,222nm,2.0s
M17K Holitna River 79.52 24 P P 03 02 00.5 +0.7
baz=236,SNR=8.0
ZALV Zalesovo Beam 79.52 328 P P 03 01 58.4 -1.6
comp=Z,23nm,0.6s,baz=112,slow=5.9,SNR=76
ZALV PKKPbc **PKKPbc** 03 20 49.6 -1.4
comp=Z,8.0nm,0.7s,baz=300,slow=2.9,SNR=18
ZALV PKP2bc 03 28 26.5
comp=Z,1.2nm,0.7s,baz=270,slow=3.0,SNR=4.2
ZALV LR LR 03 36 50.4
comp=Z,4µm,21.4s,baz=138,slow=35
comp=Z,23nm,0.6s
O18K Koktuh Hills 79.59 26 P P 03 01 59.9 -0.4
baz=238
L17K Donlin 79.60 23 P P 03 02 00.8 +0.5
baz=235
F15K North Star Dit 79.63 18 P P 03 02 00.8 +0.4
baz=228
H16K Elim 79.71 20 P P 03 02 01.1 +0.4
baz=231,SNR=16
KDAK Kodiak Island 79.71 28 P P 03 02 01.5 +0.6
KDAK Kodiak Island 79.71 28 P P 03 02 01.1 +0.2
baz=241
KDAK Kodiak Island 79.71 28⇓ *e*P P 03 02 01.6 +0.6
KDAK pmax pmax
comp=Z,90nm,1.3s
KDAK MLR MLR
comp=Z,5µm,20.0s
KDAK Kodiak Island 79.71 28 P P 03 02 00.7 -0.2
comp=Z,32nm,0.9s,baz=228,slow=2.5,SNR=13
comp=Z,32nm,0.9s
N18K Kilae Creek 79.75 25 P P 03 02 01.7 +0.5
baz=237,SNR=12
I17K Unalakleet 79.77 21 P P 03 02 02.1 +1.1
baz=232,SNR=22
Q19K Cape Douglas, 79.80 27 IAmb IAmb 03 02 23.9
comp=Z,208nm,1.3s
Q19K Cape Douglas, 79.80 27 P P 03 02 00.3 -1.1
baz=240
K17K Iditarod 79.94 22 P P 03 02 02.3 +0.2
baz=235
TDK Taldyqorghan 79.97 318 *e*P P 03 02 01.9 -0.8
comp=Z,141nm,1.2s,baz=318
TDK Taldyqorghan 79.97 318 *e*P P 03 02 01.9 -0.8
TDK pmax pmax
comp=Z,141nm,1.2s
KSH Kashi 80.01 312 P P 03 02 03.6 +0.4
KSH pmax pmax
comp=Z,29nm,1.5s
KSH LR LR
comp=Z,1µm,17.5s
KSH LR LR
comp=Z,2µm,22.5s
KSH LR LR
comp=Z,3µm,21.7s
ARXS Arharly 80.10 317 *e*P P 03 02 01.7 -1.8
G16K Koyuk River 80.15 19 IAmb IAmb 03 02 06.5
comp=Z,171nm,1.6s
G16K Koyuk River 80.15 19 P P 03 02 03.7 +0.6
baz=231,SNR=22
O19K Port Alsworth 80.15 25 P P 03 02 03.0 -0.2
baz=239
Q20K Shuyak Island 80.21 27 P P 03 02 04.0 +0.4
baz=241
SYI Shuyak Island 80.21 27 IAmb IAmb 03 02 07.1
comp=Z,246nm,1.5s
M18K Stony River 80.22 24 P P 03 02 04.4 +0.8
baz=237
L18K Granite Mounta 80.27 23 P P 03 02 05.0 +1.1
baz=236
MDOK Medeo 80.31 316 *i* P P 03 02 04.0 -0.7
baz=316
MDOK *e*S S 03 12 05.2 -1.4
baz=316
MDOK Medeo 80.31 316 *i* P P 03 02 04.0 -0.7
MDOK *e*S S 03 12 05.1 -1.4
TNSS Tian-Shan 80.34 315⇑ *i*P P 03 02 04.9 -0.4
baz=316
TNSS Tian-Shan 80.34 315⇑ *i*P P 03 02 04.8 -0.4
P19K Oil Pt 80.35 26 IAmb IAmb 03 02 07.9
comp=Z,67nm,0.7s
P19K Oil Pt 80.35 26 P P 03 02 04.1 -0.3
baz=240,SNR=8.5
N19K Bonanza Creek 80.41 25 P P 03 02 05.0 +0.2
baz=239,SNR=8.1
AAA Alma-Ata 80.42 316 *e*P P 03 02 04.5 -0.7
baz=316
AAA Alma-Ata 80.42 316 *e*P P 03 02 04.5 -0.7
ILSW Iliamna Southw 80.55 26 IAmb IAmb 03 02 06.0
comp=Z,164nm,1.6s
NIL Nilore 80.59 305 P P 03 02 05.4 -0.9
NIL IAmb IAmb 03 02 09.4
comp=Z,130nm,1.1s
NIL Nilore 80.59 305 P P 03 02 05.8 -0.5
NIL Nilore 80.59 305 P P 03 02 05.4 -0.9
NIL pmax pmax
comp=Z,130nm,1.1s
ULHL Ulahol 80.60 314 P P 03 02 06.0 -0.4
SNR=6.4
H17K Granite Mounta 80.68 20 P P 03 02 06.5 +0.5
baz=233
G17K Kiwalik Mounta 80.77 19 P P 03 02 07.1 +0.6
baz=232
O20K Slope Mountain 80.83 26 P P 03 02 07.8 +0.7
baz=240
BOOM Boomskoye usch 80.89 315 IAmb IAmb 03 02 09.1
comp=Z,152nm,1.8s
TTA Tatalina 80.93 23 IAmb IAmb 03 02 09.4
comp=Z,177nm,2.0s
TTA Tatalina 80.93 23 P P 03 02 07.6 +0.1
baz=237,SNR=15
J18K Innoko River 80.96 22 P P 03 02 07.5 0.0
baz=236
L19K White Mountain 80.98 24 P P 03 02 08.2 +0.5
L19K White Mountain 80.98 24 P P 03 02 08.3 +0.6
baz=238
M19K Big River Lodg 81.02 24 P P 03 02 08.4 +0.5
baz=239
KUU Kurty 81.02 316 *e*P P 03 02 07.5 -0.9
baz=316
KUU Kurty 81.02 316 *e*P P 03 02 07.4 -0.9
HOM Homer 81.05 27 P P 03 02 08.0 -0.1
baz=241
C16K Lisburne Hills 81.16 16 IAmb IAmb 03 02 10.5
comp=Z,120nm,1.4s
C16K Lisburne Hills 81.16 16 P P 03 02 09.1 +0.7
baz=227
F17K Baldwin Pennin 81.16 18 IAmb IAmb 03 02 15.4
comp=Z,99nm,1.2s
F17K Baldwin Pennin 81.16 18 P P 03 02 08.9 +0.4
baz=232
TKM2 Tokmak 2 81.25 315 P P 03 02 09.0 -0.8
SNR=24
KZA Kyzart 81.26 314 P P 03 02 10.2 +0.1
SNR=15
H18K Honhosa River 81.33 20 P P 03 02 09.6 +0.1
baz=234
E17K Hotham Inlet 81.39 18 P P 03 02 10.4 +0.7
baz=231,SNR=32
D17K Noatak River 81.41 17 P P 03 02 10.8 +1.0
baz=230
BRLK Bradley Lake 81.44 27 P P 03 02 10.1 -0.2
BRSE Bradley Lake S 81.50 27 P P 03 02 10.0 -0.5
baz=242
M20K Styx River 81.52 24 P P 03 02 10.8 +0.1
baz=240
L20K Farewell, AK 81.52 24 P P 03 02 11.1 +0.5
baz=239,SNR=14

N20K Mount Spurr 81.56 25 P P 03 02 10.0 -0.9
baz=241
SPCR Spurr Chakacha 81.56 25 P P 03 02 09.8 -1.1
baz=241
GCSA Galena City Sc 81.62 21 P P 03 02 11.2 +0.3
baz=236
KBK Karagaybulak 81.64 315 P P 03 02 11.0 -0.9
SNR=10.0
J19K Poorman 81.66 22 IAmb IAmb 03 02 40.2
comp=Z,176nm,1.9s
J19K Poorman 81.66 22 P P 03 02 11.9 +0.6
baz=237
G18K Tagagawik 81.67 20 P P 03 02 11.4 +0.1
baz=234
RDOG Red Dog Mine 81.69 17 IAmb IAmb 03 02 18.2
comp=Z,74nm,1.0s
RDOG Red Dog Mine 81.69 17 P P 03 02 11.9 +0.6
baz=230
KURK Kurchatov 81.76 323 P P 03 02 11.1 -0.9
KURK Kurchatov 81.76 323 P P 03 02 10.9 -1.2
KURK Kurchatov 81.76 323 *ce*P P 03 02 10.8 -1.2
KURK pmax pmax
comp=Z,90nm,1.6s
KURBB Kurchatov Arra 81.78 323 P P 03 02 11.1 -1.1
comp=Z,9.9nm,0.9s,baz=117,slow=4.3,SNR=62
KURBB PKKPbc **PKKPbc** 03 20 44.0 -1.8
comp=Z,5.7nm,0.9s,baz=294,slow=2.8,SNR=18
KURBB PKP2bc 03 28 31.6
comp=Z,0.5nm,0.6s,baz=290,slow=2.8,SNR=2.5
comp=Z,9.9nm,0.9s
CAPN Captain Cook N 81.80 26 P P 03 02 12.8 +0.7
baz=242
UCH Uchtor 81.83 314 P P 03 02 13.0 -0.2
SNR=25
CHMS Chumysh 81.87 315 P P 03 02 12.1 -0.8
SNR=10
C17K DeLong Mountai 81.89 16 P P 03 02 12.7 +0.3
baz=230
K20K Telida 81.90 23 IAmb IAmb 03 02 14.8
comp=Z,200nm,1.8s
K20K Telida 81.90 23 P P 03 02 13.1 +0.5
baz=239
AAK Ala-Archa 81.95 314 P P 03 02 12.8 -0.6
SNR=15
AAK Ala-Archa 81.95 314 P P 03 02 13.0 -0.5
AAK Ala-Archa 81.95 314 P P 03 02 13.1 -0.4
AAK Ala-Archa 81.95 314 P P 03 02 13.0 -0.5
AAK pmax pmax
comp=Z,24nm,0.9s
AAK Ala-Archa 81.95 314 PKKPbc PKKPbc 03 20 44.5 -0.7
comp=Z,6.3nm,0.7s,baz=219,slow=1.6,SNR=12
AAK PKP2bc 03 28 28.4
comp=Z,1.3nm,0.7s,baz=189,slow=19,SNR=1.9
E18K Tukpahlearik C 81.97 18 P P 03 02 13.6 +0.8
baz=232
SGDS Sogindy 82.08 315 *e*P P 03 02 13.5 -0.6
baz=315
SGDS Sogindy 82.08 315 *e*P P 03 02 13.4 -0.6
USP Ospenovka 82.12 315 P P 03 02 13.3 -0.9
SNR=30
H19K Roundabout Mou 82.21 20 IAmb IAmb 03 02 16.1
comp=Z,174nm,1.6s
H19K Roundabout Mou 82.21 20 P P 03 02 14.7 +0.7
baz=236
SKT Skwentna 82.22 25 P P 03 02 14.0 -0.3
baz=241,SNR=6.2
SEW Seward 82.24 27 P P 03 02 13.9 -0.4
baz=243,SNR=12
O22K Cooper Landing 82.29 26 IAmb IAmb 03 02 29.7
comp=Z,100nm,0.8s
O22K Cooper Landing 82.29 26 P P 03 02 14.3 -0.3
baz=243,SNR=9.6
J20K Nowinta River 82.30 22 P P 03 02 15.1 +0.5
J20K IAmb IAmb 03 02 16.8
comp=Z,228nm,1.7s
J20K Nowinta River 82.30 22 P P 03 02 15.4 +0.7
baz=238
SUA Susitna One 82.30 25 P P 03 02 13.7 -1.1
baz=242,SNR=7.0
G19K Purcell Mounta 82.34 20 IAmb IAmb 03 02 17.9
comp=Z,297nm,2.0s
G19K Purcell Mounta 82.34 20 P P 03 02 15.3 +0.5
baz=236
MAW Mawson 82.37 203 P P 03 02 15.3 +0.4
MAW Mawson 82.37 203 P P 03 02 15.3 +0.4
MAW pmax pmax
comp=Z,29nm,1.2s
MAW Mawson 82.37 203 P P 03 02 15.4 +0.4
comp=Z,73nm,1.1s,baz=87,slow=6.7,SNR=53
MAW LR LR 03 38 53.1
comp=Z,5µm,19.1s,baz=45,slow=36
comp=Z,73nm,1.1s
AML Almayashu 82.39 314 P P 03 02 15.5 -0.5
SNR=18
PPLA Purkeypile 82.41 24 P P 03 02 14.6 -0.7
baz=240,SNR=9.3
EKS2 Erkin-Say 82.47 314 P P 03 02 15.8 -0.4
SNR=11
I20K Naaghedeneel 82.51 21 IAmb IAmb 03 02 34.2
comp=Z,89nm,1.1s
I20K Naaghedeneel 82.51 21 P P 03 02 16.4 +0.8
baz=238,SNR=8.5
F19K Shaleruckik Mo 82.51 19 IAmb IAmb 03 02 17.4
comp=Z,229nm,2.0s
F19K Shaleruckik Mo 82.51 19 P P 03 02 15.6 0.0
baz=235
RC01 Rabbit Creek A 82.56 26 IAmb IAmb 03 02 17.0
comp=Z,308nm,1.8s
RC01 Rabbit Creek A 82.56 26 P P 03 02 15.5 -0.5
baz=243,SNR=14
C18K Utukok River 82.56 17 IAmb IAmb 03 02 17.8
comp=Z,294nm,2.0s
C18K Utuk River 82.56 17 P P 03 02 15.8 -0.2
baz=231
ROCAM Rodrigues Isla 82.63 251 P P 03 02 17.4 +0.1
ROCAM IAMs_20 IAMs_20 03 36 44.9
comp=Z,4µm,20.0s
CAST Castle Rocks 82.70 23 IAmb IAmb 03 02 17.7
comp=Z,135nm,1.6s
CAST Castle Rocks 82.70 23 P P 03 02 16.1 -0.7
baz=240,SNR=33
M22K Willow 82.70 25 IAmb IAmb 03 02 24.0
comp=Z,223nm,1.6s
M22K Willow 82.70 25 P P 03 02 15.2 -1.6
baz=242,SNR=11
H20K Anotleneega Mo 82.74 21 P P 03 02 16.8 -0.1
baz=238
CHUM Lake Minchumin 82.85 23 P P 03 02 17.5 0.0
baz=240
B18K Kokolik River 82.85 16 P P 03 02 18.0 +0.7
baz=231
BTLS Baital 82.93 317⇑ *i*P P 03 02 17.5 -0.8
comp=Z,56nm,1.5s,baz=317
BTLS Baital 82.93 317 *c i*P P 03 02 17.5 -0.8
BTLS pmax pmax
comp=Z,56nm,1.5s
CUT Chulitna 82.95 24 P P 03 02 16.9 -1.1
baz=242
E19K Redstone River 83.04 19 IAmb IAmb 03 02 25.1
comp=Z,124nm,1.1s
E19K Redstone River 83.04 19 P P 03 02 18.8 +0.4
baz=235
PMR Palmer 83.05 25 IAmb IAmb 03 02 19.4
comp=Z,240nm,1.8s
PMR Palmer 83.05 25 P P 03 02 17.5 -1.0
baz=243,SNR=15
PMR Palmer 83.05 25 P P 03 02 17.2 -1.3
PWL Port Wells 83.07 26 IAmb IAmb 03 02 20.5
comp=Z,100nm,0.8s
PWL Port Wells 83.07 26 P P 03 02 18.1 -0.6
baz=244
P23K Montague Islan 83.12 27 P P 03 02 19.0 +0.1
baz=245
KNK Knik Glacier 83.26 26 P P 03 02 19.3 -0.4
KNK IAmb IAmb 03 02 21.0
comp=Z,252nm,1.8s
KNK Knik Glacier 83.26 26 P P 03 02 19.1 -0.6
baz=244,SNR=13
F20K Avaraart Lake 83.30 19 IAmb IAmb 03 02 21.9
comp=Z,177nm,1.8s
F20K Avaraart Lake 83.30 19 P P 03 02 20.2 +0.5
baz=237,SNR=26
C19K Lookout Ridge 83.31 17 IAmb IAmb 03 02 26.1
comp=Z,82nm,1.0s
C19K Lookout Ridge 83.31 17 P P 03 02 19.9 +0.1
baz=233
Q23K Middleton Isla 83.37 28 P P 03 02 20.4 +0.2
baz=246

D19K Kuna River 83.37 18 P P 03 02 20.3 +0.1
baz=234
TRF Thorofare Moun 83.43 24 P P 03 02 19.2 -1.5
baz=242,SNR=12
BPAW Bear Paw Mtn. 83.46 23 P P 03 02 19.8 -0.9
baz=241,SNR=18
SML Sawmill 83.49 25 P P 03 02 20.1 -0.8
baz=244,SNR=22
H21K Melozitna Rive 83.56 21 P P 03 02 21.1 0.0
baz=240
A19K Wainwright 83.58 16 P P 03 02 21.2 +0.1
baz=231
I21K Tanana 83.62 22 IAmb IAmb 03 02 23.3
comp=Z,272nm,1.9s
I21K Tanana 83.62 22 P P 03 02 21.7 +0.3
baz=240,SNR=17
GLI Glacier Island 83.63 27 IAmb IAmb 03 02 23.3
comp=Z,83nm,0.9s
GLI Glacier Island 83.63 27 P P 03 02 21.3 -0.3
baz=245,SNR=7.5
M23K Glacier View 83.74 26 P P 03 02 22.0 -0.2
baz=245,SNR=10.0
G21K Allakaket 83.76 20 IAmb IAmb 03 02 23.8
comp=Z,137nm,1.8s
G21K Allakaket 83.76 20 P P 03 02 22.3 +0.2
baz=239
QSPA South Pole Qui 83.81 180 P P 03 02 23.5 +0.9
QSPA South Pole Qui 83.81 180 P P 03 02 23.4 +0.8
QSPA LR LR 03 36 32.1
comp=Z,4µm,21.5s,baz=320,slow=33
E20K Nigu River 83.82 18 P P 03 02 22.8 +0.3
baz=236
WAT1 Susitna Watana 83.85 24 P P 03 02 21.8 -0.9
baz=244
FID Port Fidalgo 83.85 27 IAmb IAmb 03 02 24.4
comp=Z,70nm,0.9s
SCM Sheep Creek Mo 83.93 26 P P 03 02 22.8 -0.4
baz=245,SNR=16
D20K Etivluk River 83.95 18 P P 03 02 23.0 -0.1
baz=236
RND Reindeer 83.98 24 IAmb IAmb 03 02 24.4
comp=Z,59nm,0.8s
MLY Manley 84.00 22 IAmb IAmb 03 02 24.8
comp=Z,52nm,0.9s
MLY Manley 84.00 22 P P 03 02 23.5 0.0
baz=242,SNR=45
WAT6 Susitna Watana 84.08 25 P P 03 02 23.4 -0.6
baz=245,SNR=17
EYAK Cordova Ski Ar 84.10 27 P P 03 02 23.4 -0.5
baz=247
MCK McKinley 84.10 24 P P 03 02 22.9 -1.0
baz=243,SNR=46
GAR Garm 84.13 310 IAmb IAmb 03 02 26.1
comp=Z,133nm,1.7s
F21K Alatna River 84.13 20 P P 03 02 23.9 -0.1
baz=239
H22K Ishtalitna Cre 84.19 21 P P 03 02 24.4 +0.1
baz=241,SNR=22
KBL Kabul 84.19 306 P P 03 02 23.6 -1.7
KBL Kabul 84.19 306 P P 03 02 23.4 -1.9
SNR=9.7
KBL Kabul 84.19 306 P P 03 02 23.6 -1.7
KBL pmax pmax
comp=Z,89nm,1.9s
KBL MLR MLR
comp=Z,2µm,21.0s
DZA Taraz 84.27 314 *e*P P 03 02 24.2 -1.1
baz=314
DZA Taraz 84.27 314 *e*P P 03 02 24.2 -1.1
KLU Klutina 84.40 26 IAmb IAmb 03 02 27.8
comp=Z,71nm,0.9s
KLU Klutina 84.40 26 P P 03 02 25.8 +0.2
baz=246,SNR=24
NEA2 Nenana 84.43 23 P P 03 02 24.2 -1.4
baz=243,SNR=30
DHY Denali Highway 84.44 24 P P 03 02 25.4 -0.4
baz=245,SNR=36
KAIM Kayak Island 84.47 28 P P 03 02 25.6 -0.2
baz=248
RAGM Ragged Mountai 84.52 27 IAmb IAmb 03 02 27.8
comp=Z,140nm,1.3s
B20K Meade River 84.53 16 IAmb IAmb 03 02 27.8
comp=Z,232nm,1.9s
B20K Meade River 84.53 16 P P 03 02 26.0 +0.1
baz=235
M24K Tolsona, Glenn 84.54 26 IAmb IAmb 03 02 28.5
comp=Z,83nm,0.8s
M24K Tolsona, Glenn 84.54 26 P P 03 02 26.3 +0.1
baz=246,SNR=15
I23K Minto, Yukon-K 84.58 22 P P 03 02 25.6 -0.7
baz=243,SNR=12
E21K Killik River 84.61 18 IAmb IAmb 03 02 28.4
comp=Z,210nm,1.9s
E21K Killik River 84.61 18 P P 03 02 26.6 +0.2
baz=238
G22K Bettles 84.65 20 P P 03 02 26.6 0.0
baz=241
HMT Hamilton 84.69 28 IAmb IAmb 03 02 28.6
comp=Z,83nm,1.0s
F22K John River 84.71 20 P P 03 02 27.5 +0.5
baz=240
C21K Knifeblade Rid 84.75 18 P P 03 02 27.8 +0.7
baz=237
BMRM Bremner River 84.78 27 P P 03 02 27.0 -0.4
baz=248,SNR=14
KK31 Karatay Array 84.90 314 IAmb IAmb 03 02 30.1
comp=Z,123nm,1.4s
KK31 Karatay Array 84.90 314 *i* P P 03 02 26.9 -1.6
KKAR Karatay Array 84.90 314 P P 03 02 27.2 -1.3
KKAR Karatay Array 84.90 314 P P 03 02 27.2 -1.3
BERG Berg Lake 84.97 28 IAmb IAmb 03 02 30.1
comp=Z,137nm,1.2s
COLA College 85.03 23 P P 03 02 27.3 -1.2
baz=244
N25K Chitina, Valde 85.03 26 IAmb IAmb 03 02 30.4
comp=Z,66nm,1.1s
N25K Chitina, Valde 85.03 26 P P 03 02 28.6 -0.1
baz=248,SNR=9.2
IUG Iuzhnay 85.03 313⇑ *i*P P 03 02 28.4 -0.8
comp=Z,155nm,2.1s,baz=313
IUG Iuzhnay 85.03 313 *c i*P P 03 02 28.4 -0.8
IUG pmax pmax
comp=Z,155nm,2.1s
B21K Ikpikpuk River 85.05 17 IAmb IAmb 03 02 32.0
comp=Z,116nm,1.4s
B21K Ikpikpuk River 85.05 17 P P 03 02 28.8 +0.2
baz=238,SNR=18
G23K Bananza Creek 85.06 21 P P 03 02 29.1 +0.4
baz=242
HARP HAARP 85.09 26 P P 03 02 28.8 -0.1
baz=247,SNR=9.9
E22K Anaktuvuk Pass 85.15 19 IAmb IAmb 03 02 31.1
comp=Z,174nm,1.9s
E22K Anaktuvuk Pass 85.15 19 P P 03 02 28.9 -0.2
baz=240
BRZS Berezniki 85.16 321⇑ *i*P P 03 02 28.5 -1.1
comp=Z,114nm,1.9s,baz=321
BRZS Berezniki 85.16 321 *c i*P P 03 02 28.4 -1.1
BRZS pmax pmax
comp=Z,114nm,1.9s
HDA Harding Lake 85.18 23 P P 03 02 27.8 -1.6
baz=245,SNR=15
HDA P P 03 02 27.8 -1.6
baz=245,SNR=15
PAX Paxson 85.19 25 P P 03 02 28.6 -0.9
baz=247,SNR=15
COLD Coldfoot 85.24 20 P P 03 02 29.9 +0.3
baz=242,SNR=29
D22K Ayikyak River 85.25 18 IAmb IAmb 03 02 32.0
comp=Z,218nm,1.8s
D22K Ayikyak River 85.25 18 P P 03 02 30.2 +0.6
baz=240
POKR Poker Plat Res 85.29 23 P P 03 02 28.1 -1.8
baz=245,SNR=9.5
GLB Gilahina Butte 85.31 27 IAmb IAmb 03 02 31.6
comp=Z,89nm,1.1s
ILAR Eielson Array 85.36 23 P P 03 02 28.4 -1.9
comp=Z,34nm,0.7s,baz=252,slow=4.2,SNR=181
ILAR PKKPbc **PKKPbc** 03 20 34.7 -3.3
comp=Z,1.5nm,0.6s,baz=359,slow=1.2,SNR=14
ILAR PKP2bc 03 28 23.9
comp=Z,1.2nm,1.1s,baz=67,slow=1.8,SNR=4.5
comp=Z,34nm,0.7s
CRQM Cirque 85.36 27 IAmb IAmb 03 02 32.8
comp=Z,107nm,1.1s
CRQE Cirque 85.39 27 P P 03 02 30.4 -0.2
baz=249,SNR=10
WAX Waxell Ridge 85.39 28 IAmb IAmb 03 02 32.4

K24K **Donnelly Dome** 85.39 24 P P 03 02 29.6 -0.8
comp=Z,140nm,1.2s baz=246,SNR=9.3
VRDI **Verde Repeater** 85.39 27 IAmb IAmb 03 02 32.1
comp=Z,87nm,1.2s
A21K **Barrow** 85.43 15 P P 03 02 30.0 -0.4
baz=236
H24K **Noodor Dome** 85.44 22 P P 03 02 30.1 -0.6
baz=244
TGL **Tana Glacier** 85.51 27 IAmb IAmb 03 02 32.8
comp=Z,150nm,1.4s
MCARA **McCarthy VSAT** 85.64 27 IAmb IAmb 03 02 57.5
comp=Z,76nm,1.2s
MCARA **McCarthy VSAT** 85.64 27 P P 03 02 31.8 +0.1
baz=249,SNR=11
ISLE **Juniper Island** 85.68 28 IAmb IAmb 03 02 33.6
comp=Z,84nm,1.2s
A22K **Sinclair Lake** 85.70 16 P P 03 02 31.5 -0.2
baz=237
MESA **MESA** 85.71 28 IAmb IAmb 03 02 34.2
comp=Z,104nm,1.2s
MESA **MESA** 85.71 28 P P 03 02 31.4 -0.9
baz=250
B22K **Teshekpuk Lake** 85.78 17 IAmb IAmb 03 02 33.9
comp=Z,75nm,1.1s
B22K **Teshekpuk Lake** 85.78 17 P P 03 02 32.1 -0.1
baz=239
E23K **Chandalar** 85.83 20 P P 03 02 32.9 +0.3
baz=242
J25K **Salcha River,** 85.89 23 IAmb IAmb 03 02 33.8
comp=Z,87nm,0.9s
J25K **Salcha River,** 85.89 23 P P 03 02 32.2 -0.8
baz=247
D23K **Nanushuk River** 85.92 19 P P 03 02 33.5 +0.6
baz=241
G24K **Hadweenzic Riv** 85.96 21 IAmb IAmb 03 02 38.4
comp=Z,62nm,1.2s
G24K **Hadweenzic Riv** 85.96 21 P P 03 02 33.4 +0.2
baz=244
GRNC **Granite Creek** 85.99 28 P P 03 02 34.0 +0.3
GRNC IAmb IAmb 03 02 36.2
comp=Z,160nm,1.6s
M26K **Nabesna, AK** 86.03 26 IAmb IAmb 03 02 35.3
comp=Z,118nm,1.8s
M26K **Nabesna, AK** 86.03 26 P P 03 02 33.9 +0.2
baz=249
L26K **Log Cabin Wild** 86.10 25 IAmb IAmb 03 02 35.5
comp=Z,44nm,0.9s
L26K **Log Cabin Wild** 86.10 25 P P 03 02 33.6 -0.3
baz=248,SNR=30
TOLK **Toolik Lake Re** 86.12 19 P P 03 02 34.1 +0.1
baz=242
BARN **Barnard Glacie** 86.15 27 IAmb IAmb 03 02 37.0
comp=Z,83nm,0.9s
F24K **Squaw Lake** 86.17 20 P P 03 02 34.9 +0.7
baz=244
PRP **Porcupine Dome** 86.19 23 P P 03 02 35.3 +0.8
baz=246
SCRK **Sand Creek** 86.19 24 P P 03 02 33.9 -0.6
baz=248,SNR=25
E24K **Your Creek** 86.22 20 P P 03 02 34.4 -0.1
baz=244,SNR=9.7
CTG **Chitna Glacier** 86.26 28 P P 03 02 34.8 -0.1
baz=250,SNR=46
C23K **Itkillik River** 86.36 18 P P 03 02 35.8 +0.8
baz=241
LOGN **Logan Glacier** 86.37 28 IAmb IAmb 03 02 38.9
comp=Z,80nm,1.0s
H25L **Birch Creek** 86.38 22 P P 03 02 35.3 0.0
baz=246
G25K **Bearman Lake** 86.48 21 P P 03 02 35.9 +0.2
baz=246
PINM **Pinnacle** 86.49 29 P P 03 02 36.2 +0.3
baz=251,SNR=6.9
M27K **Edge Creek, AK** 86.50 26 P P 03 02 36.4 +0.3
baz=250
J26L **Joseph Creek** 86.56 24 IAmb IAmb 03 02 37.8
comp=Z,57nm,1.1s
J26L **Joseph Creek** 86.56 24 P P 03 02 36.1 -0.2
baz=248
D24K **Happy Valley** 86.60 19 P P 03 02 36.6 +0.4
D24K IAmb IAmb 03 02 38.6
comp=Z,80nm,1.0s
D24K **Happy Valley** 86.60 19 P P 03 02 36.7 +0.5
baz=243
O28M **Mount Upton** 86.73 28 P P 03 02 37.8 +0.3
baz=252,SNR=29
PNL **Peninsula** 86.76 29 P P 03 02 38.0 +0.7
baz=252,SNR=12
L27K **Beaver Creek,** 86.76 25 P P 03 02 37.5 +0.2
baz=250
C24K **Franklin Bluff** 86.89 18 P P 03 02 38.0 +0.4
baz=243,SNR=69
YUK3 **Moose Creek** 86.93 27 P P 03 02 38.5 +0.2
baz=251,SNR=45
BVCY **Beaver Creek** 86.96 26 P P 03 02 38.6 +0.4
baz=251,SNR=39
F25K **Christian Rive** 86.99 21 P P 03 02 38.7 +0.4
baz=246,SNR=15
K27K **Chicken** 87.00 25 P P 03 02 38.9 +0.6
baz=250
I26K **Coal Creek Min** 87.02 23 P P 03 02 37.8 -0.6
baz=249
YUK8 **Steele Glacier** 87.09 27 P P 03 02 39.6 +0.4
baz=252,SNR=22
E25K **Arctic Village** 87.23 20 IAmb IAmb 03 02 41.5
comp=Z,105nm,1.6s
E25K **Arctic Village** 87.23 20 P P 03 02 39.6 +0.2
baz=246,SNR=22
BVA0 **Borovoye Array** 87.31 324 *i* P P 03 02 37.9 -2.2
BVAR **Borovoye Array** 87.31 324 P P 03 02 38.4 -1.7
comp=Z,18nm,0.5s,baz=107,slow=6.1,SNR=56
BVAR PKKPbc **PKKPbc** 03 20 31.4 -1.3
comp=Z,3.1nm,0.6s,baz=291,slow=3.6,SNR=8.1
BVAR PKP2bc 03 28 08.6
comp=Z,0.8nm,0.5s,baz=178,slow=1.0,SNR=4.2
comp=Z,18nm,0.5s
O29M **Mount Kennedy** 87.35 29 IAmb IAmb 03 02 43.0
comp=Z,109nm,0.9s
O29M **Mount Kennedy** 87.35 29 P P 03 02 40.7 +0.5
baz=253
BRVK **Borovoye** 87.38 324 P P 03 02 38.9 -1.5
BRVK **Borovoye** 87.38 324 P P 03 02 38.5 -1.9
BRVK **Borovoye** 87.38 324 *e*P P 03 02 38.7 -1.7
BRVK pmax pmax
comp=Z,47nm,1.4s
BRVK MLR MLR
comp=Z,2μm,20.0s
G26K **Porcupine Rive** 87.40 22 P P 03 02 40.7 +0.6
baz=248
D25K **Kavik River** 87.45 19 IAmb IAmb 03 02 42.8
comp=Z,117nm,1.3s
D25K **Kavik River** 87.45 19 P P 03 02 40.3 -0.2
baz=245
F26K **Sheenjek River** 87.55 21 P P 03 02 41.6 +0.6
baz=248
P29M **Windy Craggy** 87.56 29 P P 03 02 41.4 +0.2
baz=254
YUK4 **Talbot Arm** 87.62 28 P P 03 02 42.4 +0.8
baz=253,SNR=43
EGAK **Eagle** 87.63 24 IAmb IAmb 03 02 43.5
comp=Z,81nm,1.1s
EGAK **Eagle** 87.63 24 P P 03 02 41.0 -0.4
baz=250,SNR=52
YUK6 **Outpost Mounta** 87.64 28 P P 03 02 41.9 +0.1
baz=253,SNR=15
I27K **Kandik River** 87.73 23 P P 03 02 42.0 +0.1
baz=250,SNR=66
S31K **Pelican** 87.86 31 IAmb IAmb 03 02 45.1
comp=Z,101nm,1.1s
S31K **Pelican** 87.86 31 P P 03 02 42.8 +0.3
baz=255
H27K **Steamboat Moun** 87.98 23 P P 03 02 43.5 +0.4
baz=250
HYT **Haines Junctio** 88.00 28 P P 03 02 44.0 +0.6
baz=254,SNR=74
M29M **Somme Creek** 88.03 27 IAmb IAmb 03 02 46.0
comp=Z,86nm,1.0s
M29M **Somme Creek** 88.03 27 P P 03 02 43.5 0.0
baz=253,SNR=56
P30M **Million Dollar** 88.07 29 P P 03 02 44.0 +0.4
baz=254
SIT **Sitka** 88.10 32 P P 03 02 43.7 +0.1
baz=256
DAWY **Dawson** 88.12 25 P P 03 02 44.2 +0.4
baz=252,SNR=83
G27K **Doyon Strip** 88.13 22 IAmb IAmb 03 02 45.8
comp=Z,52nm,1.2s
G27K **Doyon Strip** 88.13 22 P P 03 02 44.2 +0.4
baz=250
C26K **Camden Bay** 88.17 19 P P 03 02 44.7 +0.9
baz=247,SNR=112
R31K **City Hall, Gus** 88.22 31 P P 03 02 44.2 0.0
baz=255
I28M **Miner Creek** 88.34 23 P P 03 02 44.5 -0.3
I28M IAmb IAmb 03 02 46.4
comp=Z,108nm,1.4s
I28M **Miner Creek** 88.34 23 P P 03 02 44.9 +0.1
baz=252
L29M **L29M** 88.37 26 P P 03 02 45.3 +0.4
baz=253
N30M **Aishikik Lake** 88.37 28 IAmb IAmb 03 02 47.6
comp=Z,55nm,1.0s
N30M **Aishikik Lake** 88.37 28 P P 03 02 45.3 +0.3
baz=254
S32K **Killisnoo** 88.59 32 IAmb IAmb 03 02 49.2
comp=Z,80nm,1.1s
S32K **Killisnoo** 88.59 32 P P 03 02 46.6 +0.6
baz=256,SNR=11
E27K **Coleen River** 88.63 21 P P 03 02 46.5 +0.5
baz=250,SNR=60
O30N **Mendenhall** 88.66 28 P P 03 02 46.4 0.0
baz=255,SNR=56
SKAG **Skagway** 88.69 30 P P 03 02 47.1 +0.7
baz=256,SNR=26
M30M **Minto, Yukon** 88.81 27 IAmb IAmb 03 02 48.9
comp=Z,74nm,1.4s
M30M **Minto, Yukon** 88.81 27 P P 03 02 47.2 +0.2
baz=254,SNR=29
R32K **Eaglecrest** 88.81 31 IAmb IAmb 03 02 49.7
comp=Z,48nm,1.1s
R32K **Eaglecrest** 88.81 31 P P 03 02 47.4 +0.3
baz=256,SNR=7.3
K29M **Barlow Dome** 88.85 25 P P 03 02 47.7 +0.4
baz=254
JIS **Juneau Island** 88.89 31 IAmb IAmb 03 02 50.0
comp=Z,75nm,1.2s
CRAG **Craig** 88.93 34 P P 03 02 47.3 -0.4
baz=258
I29M **Ogilvie Camp,** 88.96 24 IAmb IAmb 03 02 49.7
comp=Z,79nm,1.1s
I29M IAMs_20 IAMs_20 03 42 18.5
comp=Z,5μm,18.0s
I29M **Ogilvie Camp,** 88.96 24 P P 03 02 47.4 -0.3
baz=253,SNR=25
N31M **Braeburn, Yuko** 88.99 28 P P 03 02 48.1 +0.2
baz=255,SNR=18
F28M **Old Crow** 89.06 21 IAmb IAmb 03 02 49.8
comp=Z,62nm,1.2s
F28M **Old Crow** 89.06 21 P P 03 02 48.3 +0.2
baz=252,SNR=38
U33K **Whale Pass** 89.07 33 P P 03 02 49.9 +1.6
U33K IAmb IAmb 03 03 16.2
comp=Z,130nm,1.4s
U33K **Whale Pass** 89.07 33 P P 03 02 48.5 +0.2
baz=258
H29M **Whitestone** 89.19 23 IAmb IAmb 03 03 11.7
comp=Z,57nm,1.3s
H29M **Whitestone** 89.19 23 P P 03 02 48.6 -0.1
baz=253
WHY **Whitehorse** 89.20 29 IAmb IAmb 03 02 50.8
comp=Z,117nm,1.5s
WHY **Whitehorse** 89.20 29 P P 03 02 49.0 0.0
baz=256,SNR=23
D27M **Malcolm River** 89.21 20 IAmb IAmb 03 02 50.9
comp=Z,45nm,1.2s
D27M **Malcolm River** 89.21 20 P P 03 02 48.7 -0.1
baz=250,SNR=23
T33K **Petersburg** 89.31 33 P P 03 02 49.7 +0.3
baz=258
MAYO **Mayo, Yukon** 89.48 26 IAmb IAmb 03 03 16.7
comp=Z,90nm,1.1s
MAYO **Mayo, Yukon** 89.48 26 P P 03 02 50.4 +0.3
baz=255
E28M **Babbage River** 89.49 21 IAmb IAmb 03 02 51.9
comp=Z,118nm,1.5s
E28M **Babbage River** 89.49 21 P P 03 02 49.7 -0.3
baz=252
NGCH **Negor - Chabah** 89.52 295 P P 03 02 51.6 +0.5
P32M **Atlin** 89.52 30 IAmb IAmb 03 02 52.3
comp=Z,69nm,1.2s
P32M **Atlin** 89.52 30 P P 03 02 50.8 +0.4
baz=257,SNR=11
G29M **Pine Creek** 89.53 22 IAmb IAmb 03 02 52.5
comp=Z,72nm,1.0s
G29M **Pine Creek** 89.53 22 P P 03 02 50.1 -0.2
baz=253
J30M **Hart River** 89.55 25 IAmb IAmb 03 02 53.0
comp=Z,55nm,1.0s
J30M **Hart River** 89.55 25 P P 03 02 50.6 0.0
baz=255
WRAK **Wrangell Islan** 89.56 33 P P 03 02 50.6 +0.1
baz=258,SNR=9.6
CRZF **Crozet Islands** 89.60 223 IAMs_20 IAMs_20 03 38 51.7
comp=Z,5μm,19.0s
RER **Riviere de l'E** 89.62 249 P P 03 02 52.7 +0.9
RER **Riviere de l'E** 89.62 249 P P 03 02 53.3 +1.4
I30M **Mount Dempster** 89.70 24 IAmb IAmb 03 02 52.6
comp=Z,68nm,1.3s
I30M **Mount Dempster** 89.70 24 P P 03 02 51.1 -0.2
baz=255
HRA **Herat** 89.70 304 P P 03 02 50.6 -1.5
V35K **Ketchikan** 89.74 34 IAmb IAmb 03 02 53.9
comp=Z,92nm,1.3s
V35K **Ketchikan** 89.74 34 P P 03 02 51.1 -0.4
baz=259,SNR=5.7
M31M **Drury Creek, Y** 89.80 27 P P 03 02 51.0 -0.7
baz=256,SNR=14
EPYK **Eagle Plains** 89.87 23 IAmb IAmb 03 02 53.9
comp=Z,121nm,1.1s
EPYK **Eagle Plains** 89.87 23 P P 03 02 51.7 -0.2
baz=254,SNR=43
D28M **Stokes Point** 89.99 20 P P 03 02 52.1 -0.2
baz=253,SNR=44
E29M **Blow River** 90.00 21 P P 03 02 51.7 -0.7
baz=253
P33M **Teslin, Yukon** 90.10 29 P P 03 02 53.3 +0.1
P33M **Teslin, Yukon** 90.10 29 P P 03 02 53.0 -0.1
baz=258,SNR=8.1
Q32M **Nakina River** 90.11 31 IAmb IAmb 03 02 55.5
comp=Z,54nm,1.3s
Q32M **Nakina River** 90.11 31 P P 03 02 53.7 +0.3
baz=258
N32M **Quiet Lake** 90.17 28 IAmb IAmb 03 03 21.1
comp=Z,77nm,1.2s
N32M **Quiet Lake** 90.17 28 P P 03 02 53.2 -0.3
baz=258
G30M **tAoh Zraii Nji** 90.23 22 IAmb IAmb 03 02 55.6
comp=Z,70nm,1.1s
G30M IAMs_20 IAMs_20 03 40 15.8
comp=Z,6μm,20.0s
G30M **tAoh Zraii Nji** 90.23 22 P P 03 02 52.8 -0.8
baz=255,SNR=38
FARO **Faro, Yukon** 90.28 27 P P 03 02 53.5 -0.4
baz=258,SNR=19
RUBB **Prince Rupert** 90.33 35 IAmb IAmb 03 03 21.3
comp=Z,71nm,1.3s
GRNB **Grenville Isla** 90.42 36 IAmb IAmb 03 03 09.6
comp=Z,52nm,1.2s
S34M **Telegraph Cree** 90.50 32 IAmb IAmb 03 02 57.8
comp=Z,52nm,1.2s
S34M **Telegraph Cree** 90.50 32 P P 03 02 55.2 +0.3
baz=259,SNR=10
F30M **Barrier River** 90.55 22 P P 03 02 54.6 -0.4
baz=255
H31M **Peel River** 90.67 24 P P 03 02 55.0 -0.7
baz=257
JLN **Jalan Bani Buh** 90.72 292 P P 03 02 56.0 -0.7
JLN P P 03 02 56.0 -0.7
U35K **Hyder** 90.74 34 P P 03 02 55.8 -0.3
baz=260
T35M **Bob Quinn** 90.80 33 IAmb IAmb 03 02 59.2
comp=Z,45nm,1.2s
T35M **Bob Quinn** 90.80 33 P P 03 02 57.0 +0.5
baz=260,SNR=6.9
R33M **Jennings River** 90.86 30 IAmb IAmb 03 02 58.8
comp=Z,79nm,1.4s
R33M **Jennings River** 90.86 30 P P 03 02 56.8 0.0
baz=260
G31M **Satah River** 90.96 23 P P 03 02 56.3 -0.6
baz=257,SNR=44
DLBC **Dease Lake** 91.17 31 IAmb IAmb 03 03 02.8
comp=Z,107nm,1.6s
DLBC **Dease Lake** 91.17 31 P P 03 02 58.5 +0.4
baz=260,SNR=7.7
DLBC **Dease Lake** 91.17 31 P P 03 02 58.1 0.0
comp=Z,34nm,1.2s,baz=286,slow=1.6,SNR=14
comp=Z,34nm,1.2s
WBK **Wadi Bani Khal** 91.17 292 P P 03 02 58.1 -0.9
F31M **Tsiigehtchic** 91.28 22 IAmb IAmb 03 02 59.6
comp=Z,64nm,1.1s
F31M **Tsiigehtchic** 91.28 22 P P 03 02 56.8 -1.5
baz=257,SNR=20
INK **Inuvik** 91.55 21 P P 03 02 58.8 -0.8
INK IAmb IAmb 03 03 01.3
comp=Z,52nm,1.1s
INK **Inuvik** 91.55 21 P P 03 02 58.5 -1.1
baz=257,SNR=42
INK **Inuvik** 91.55 21 P P 03 02 58.8 -0.8
INK pmax pmax
comp=Z,53nm,1.1s
WSAR **Wadi Sarin** 91.55 293 P P 03 03 00.2 -0.5
WSAR **Wadi Sarin** 91.55 293 PKKPbc PKKPbc 03 20 20.8 -0.2
comp=Z,18nm,0.9s,baz=314,slow=1.4,SNR=9.9
WSAR LR LR 03 44 34.3
comp=Z,1μm,21.4s,baz=264,slow=36
MSEY **Mahe Island** 91.71 265 P P 03 03 02.8 +1.1
MHTO **MHTO** 91.93 291 P P 03 03 01.5 -0.9
JMDO **Jabal Madar** 91.94 292 P P 03 03 01.6 -0.9
BIDO **Bidbid** 92.04 293 P P 03 03 03.0 +0.1
BIDO P P 03 03 03.0 +0.1
WTLY **Watson Lake, Y** 92.06 30 IAmb IAmb 03 03 05.1
comp=Z,66nm,1.0s
WTLY **Watson Lake, Y** 92.06 30 P P 03 03 02.4 +0.2
baz=261,SNR=28
SMDO **Samad** 92.06 293 P P 03 03 02.4 -0.8
SMDO P P 03 03 02.4 -0.8
JASK **Jask - Hormozg** 92.51 296 P P 03 03 05.1 +0.1
SNR=6.9
TGTN **Hyland Airport** 92.52 28 P P 03 03 04.4 +0.1
baz=262,SNR=18
CBB **Campbell River** 92.70 40 IAmb IAmb 03 03 08.4
comp=Z,63nm,1.1s
HOQ **Hoqain** 92.79 293 P P 03 03 05.3 -1.1
HOQ P P 03 03 05.3 -1.1
BSY **Bisya** 92.81 292 P P 03 03 05.7 -0.8
KRMB **Red Mountain** 92.83 49 P P 03 03 06.8 +0.5
KSXB **Camp Six Broad** 92.89 48 IAmb IAmb 03 03 09.1
comp=Z,120nm,1.7s
KCPM **Cahto Peak** 92.90 51 IAmb IAmb 03 03 09.8
comp=Z,84nm,1.2s
K02D **Willamette Mer** 93.13 48 IAmb IAmb 03 03 09.8
comp=Z,69nm,1.3s
L02F **Cave Junction** 93.14 48 IAmb IAmb 03 03 13.3
comp=Z,72nm,1.5s
AB31 **Akbulak array** 93.16 319 *i* P P 03 03 05.1 -2.4
ABKAR **Akbulak array** 93.16 319 P P 03 03 04.9 -2.6
LIRD **Liard River Hi** 93.32 31 P P 03 03 07.8 -0.2
baz=264,SNR=11
CLRS **Cowichan Lake** 93.38 41 IAmb IAmb 03 03 11.4
comp=Z,87nm,1.4s
GEYT **Alibeck** 93.42 308 P P 03 03 07.1 -1.9
comp=Z,10nm,0.8s,baz=94,slow=5.9,SNR=6.7
comp=Z,10nm,0.8s
GYA0B **ALIBECK ARRAY** 93.42 308 P P 03 03 08.1 -0.9
GDXM **Geysers** 93.43 52 IAmb IAmb 03 03 11.8
comp=Z,94nm,1.6s
ARQ **Araqi** 93.49 293 P P 03 03 08.8 -0.8
ARQ P P 03 03 08.8 -0.8
SVE **Sverdlovsk** 93.50 327 *e*P P 03 03 06.7 -2.2
SVE pmax pmax
SVE comp=Z,57nm,1.7s MLR MLR
comp=Z,3μm,20.0s
SOHO **SOHO** 93.55 294 P P 03 03 09.5 -0.3
SOHO P P 03 03 09.5 -0.3
YBH **Yreka Blue Hor** 93.75 49 IAmb IAmb 03 03 12.9
comp=Z,83nm,1.4s
YBH **Yreka Blue Hor** 93.75 49 P P 03 03 10.8 +0.3
comp=Z,39nm,1.1s,baz=170,slow=0.9,SNR=20
YBH LR LR 03 38 44.2
comp=Z,8μm,20.7s,baz=328,slow=31
comp=Z,39nm,1.1s
SHAO **Shalim** 93.85 288 P P 03 03 09.1 -2.2
UOSS **Minazif** 93.92 295 P P 03 03 10.2 -1.3
UOSS **Minazif** 93.92 295 P P 03 03 10.1 -1.4
UOSS P P 03 03 10.1 -1.4
HATD **Hatta, Dubai** 93.97 294 P P 03 03 11.0 -0.9
HATD P P 03 03 11.0 -0.9
MASF **Masafi** 94.00 295 P P 03 03 11.5 -0.5
SNR=8.0
MASF P P 03 03 11.5 -0.5
SNR=8.0
ASHO **Ashiyiah** 94.03 294 P P 03 03 12.0 -0.1
ASHO P P 03 03 12.0 -0.1
SHME **Shamm** 94.07 296 P P 03 03 11.5 -0.7
SNR=5.2
I04A **Tendick Farm,** 94.14 47 IAmb IAmb 03 03 13.3
comp=Z,94nm,1.7s
GNW **Green Mountain** 94.14 43 P P 03 03 12.0 0.0
GNW IAmb IAmb 03 03 14.4
comp=Z,65nm,1.6s
ELIB **Princess Elisa** 94.22 195 *d*P P 03 03 12.2 +0.1
comp=Z,80nm,0.7s
ELIB *d*pP **pP** 03 03 26.6 -1.6
ELIB *d*SKS **SKSac** 03 13 40.7 -1.9
ELIB *d*SP **SP** 03 15 36.1 +2.9
ALNE **Al Ain** 94.25 294 P P 03 03 14.0 +0.8
ALNE P P 03 03 14.0 +0.8
F04A **Amboy** 94.30 44 IAmb IAmb 03 03 23.3
comp=Z,38nm,1.2s
H04A **Detroit Lake** 94.36 46 IAmb IAmb 03 03 14.9
comp=Z,66nm,1.7s
NAZ **Nazwa, Dubai** 94.41 295 P P 03 03 13.4 -0.4
KOTAN **Kotaneelee Air** 94.42 30 P P 03 03 12.5 -0.5
baz=266
FAQ **Al Faqa, Dubai** 94.46 294 P P 03 03 13.1 -0.9
FAQ P P 03 03 13.1 -0.9
ORV **Oroville** 94.49 51 IAmb IAmb 03 03 16.4
comp=Z,62nm,1.2s
AKTO **Aktyubinsk** 94.50 320 P P 03 03 11.1 -2.6
comp=Z,5.3nm,0.9s,baz=90,slow=5.3,SNR=12
AKTO PKKPbc **PKKPdf** 03 20 12.6 -1.3
comp=Z,4.9nm,0.9s,baz=281,slow=2.8,SNR=5.4
K04D **Chiloquin, OR** 94.53 48 IAmb IAmb 03 03 16.2
comp=Z,69nm,1.2s
ARU **Arti** 94.61 326 P P 03 03 12.3 -1.7
ARU IAmb IAmb 03 03 12.8
comp=Z,56nm,1.4s
ARU **Arti** 94.61 326 *c i*P P 03 03 11.2 -2.8
ARU 03 06 59.0
ARU S **SKSac** 03 13 41.7 -3.0
ARU SS **SS** 03 20 54.3 +7.6
ARU pmax pmax
comp=Z,46nm,1.3s
ARU **Arti** 94.61 326 P P 03 03 11.2 -2.8
comp=Z,5.4nm,0.2s,baz=102,slow=3.1,SNR=17
D05A **Enumclaw** 94.68 43 IAmb IAmb 03 03 24.4
comp=Z,40nm,1.1s
ASUD **Al Ashush, Dub** 94.69 294 P P 03 03 14.4 -0.6
FLDN **Fort Liard** 94.72 30 IAmb IAmb 03 03 16.9
comp=Z,68nm,1.3s
FLDN **Fort Liard** 94.72 30 P P 03 03 14.5 +0.2
baz=266
PMPB **Monarch Peak** 94.80 54 P P 03 03 15.3 -0.1
PMPB IAmb IAmb 03 03 30.6
comp=Z,82nm,1.3s
A36M **Sachs Harbour** 94.90 18 P P 03 03 13.8 -1.1
baz=265,SNR=51
WRGLY **Wrigley** 94.93 27 P P 03 03 14.8 -0.5
baz=266,SNR=6.3
J05D **Fort Rock, OR** 94.95 47 IAmb IAmb 03 03 18.4
comp=Z,66nm,1.3s
AJN **Ajban** 94.99 294 P P 03 03 16.2 -0.3
AJN P P 03 03 16.2 -0.3
C36M **Paulatuk** 95.09 21 P P 03 03 14.7 -1.2
C36M IAmb IAmb 03 03 16.0
comp=Z,41nm,1.4s
C36M **Paulatuk** 95.09 21 P P 03 03 15.7 -0.2
baz=266,SNR=17
RBK **Rabkut** 95.15 287 P P 03 03 15.9 -1.5
K05A **Summer Lake** 95.17 48 IAmb IAmb 03 03 19.4
comp=Z,89nm,1.4s
PINE **Pine Mountain** 95.20 47 IAmb IAmb 03 03 18.8
comp=Z,71nm,1.5s
SMMC **Simmler** 95.39 55 P P 03 03 18.3 +0.2
baz=266
PKM **Mcpherson Peak** 95.52 56 P P 03 03 19.2 +0.3
baz=266,SNR=12
EMB **Emerald Bay** 95.54 51 IAmb IAmb 03 03 20.4
comp=Z,66nm,1.5s
SBC **Santa Barbara** 95.57 56 P P 03 03 19.0 +0.1

baz=266
LTY Liberty 95.58 43 lAmb lAmb 03 03 19.7
comp=Z,69nm,1.7s
WHFO Wadi Hawf 95.60 287 P **P** **03 03 18.4 -1.0**
SCZ2 Santa Cruz Isl 95.61 57 P **P** **03 03 18.7 -0.4**
baz=266
SNCC San Nicolas Is 95.65 57 lAmb lAmb 03 03 23.5
comp=Z,62nm,0.9s
SNCC San Nicolas Is 95.65 57 P **P** **03 03 19.9 +0.6**
baz=266
BCW Bitter Crk WRg 95.85 56 P **P** **03 03 20.7 +0.3**
BCW lAmb lAmb 03 03 24.0
comp=Z,71nm,1.1s
PNTR Pine Nut 95.93 51 lAmb lAmb 03 03 22.4
comp=Z,123nm,1.8s
VOG Valley Oaks Go 95.95 54 P **P** **03 03 20.9 +0.3**
baz=267
WAKR Walker 96.03 52 lAmb lAmb 03 03 23.0
comp=Z,57nm,1.8s
BELA Belgrano 2 96.07 180 P **P** **03 03 20.7 +0.4**
SBV Sambava 96.10 256 P **P** **03 03 23.1 +1.4**
SBV Sambava 96.10 256 P **P** **03 03 22.8 +1.1**
SNR=6.8
E07A Sunnyside 96.11 44 lAmb lAmb 03 03 23.2
comp=Z,85nm,1.6s
PLTX Planet X, Gerl 96.12 50 lAmb lAmb 03 03 23.7
comp=Z,64nm,1.5s
PAHR Pah Rah Range 96.13 51 lAmb lAmb 03 03 23.0
comp=Z,68nm,1.7s
VES Vestal, Richgr 96.17 55 P **P** **03 03 21.8 +0.2**
baz=267,SNR=8.4
YERR Yerington 96.21 52 lAmb lAmb 03 03 23.4
comp=Z,79nm,1.7s
I07A Izee 96.25 46 lAmb lAmb 03 03 23.3
comp=Z,63nm,1.7s
HAWA Hanford 96.33 44 lAmb lAmb 03 03 24.1
comp=Z,84nm,1.6s
ARVC Arvin 96.34 55 P **P** **03 03 22.7 +0.3**
baz=267,SNR=7.2
OSI Osito Audit: C 96.40 56 P **P** **03 03 23.5 +0.8**
baz=267
CIS Catalina Islan 96.59 57 P **P** **03 03 23.5 -0.1**
baz=267
ISA Isabella, Lake 96.65 55 P **P** **03 03 23.7 -0.2**
baz=267,SNR=11
E08A Dider Farm, El 96.66 44 lAmb lAmb 03 03 25.7
comp=Z,43nm,1.1s
G08A Pilot Rock 96.68 45 lAmb lAmb 03 03 24.9
comp=Z,43nm,1.5s
LHV Little Huntoon 96.75 52 lAmb lAmb 03 03 30.2
comp=Z,42nm,1.3s
RYN Ryan 96.75 52 P **P** **03 03 25.5 +1.1**
D08A Wollman Farm, 96.77 43 lAmb lAmb 03 03 25.3
comp=Z,76nm,1.7s
WVOR Wild Horse Val 96.82 48 lAmb lAmb 03 03 25.7
comp=Z,68nm,1.8s
PASC Pasadena Art C 96.82 56 lAmb lAmb 03 03 28.1
comp=Z,39nm,1.1s
NVAR Mina Array Bea 96.92 52 P **P** **03 03 25.0 -0.2**
comp=Z,11nm,1.0s,baz=250,slow=5.3,SNR=13
NVAR PP **PP** **03 07 19.6 -1.6**
comp=Z,4.8nm,1.1s,baz=250,slow=8.4,SNR=4.7
NVAR PKKPbc **PKKPbc** **03 20 08.2 +0.6**
comp=Z,1.4nm,0.8s,baz=82,slow=3.1,SNR=4.9
NVAR PKPPKP P'P'df 03 28 12.4 -8.5
comp=Z,0.9nm,0.8s,baz=67,slow=3.9,SNR=4.3
comp=Z,11nm,1.0s
CCAC Calif City Air 97.00 55 lAmb lAmb 03 03 28.1
comp=Z,73nm,1.6s
CWC Cottonwood Cre 97.01 54 P Pdif 03 03 26.1 +0.4
baz=268
EDW2 Edwards Air Fo 97.01 56 P Pdif 03 03 25.7 +0.1
baz=268,SNR=19
NV11 Mina Array Sit 97.03 52 lAmb lAmb 03 03 27.9
comp=Z,37nm,1.4s
C09A Chrisman Ranch 97.23 43 lAmb lAmb 03 03 26.9
comp=Z,106nm,1.9s
BFSC Mount Baldy Ra 97.26 56 P **P** **03 03 26.4 -0.3**
baz=268,SNR=12
E09A Wood Farm, Sta 97.29 44 lAmb lAmb 03 03 28.4
comp=Z,39nm,1.1s
LRMC Laurel Mtn Rad 97.29 55 P Pdif 03 03 26.9 0.0
baz=268,SNR=16
MPMC Manual Prospec 97.47 55 P **P** **03 03 27.6 -0.1**
baz=268,SNR=19
GRAC Grapevine Rang 97.60 54 lAmb lAmb 03 03 43.1
comp=Z,41nm,1.4s
GRAC Grapevine Rang 97.60 54 P Pdif 03 03 28.5 +0.3
baz=268
MURC Murrieta 97.62 57 P **P** **03 03 28.2 -0.1**
baz=268
109C Camp Elliot, M 97.66 58 lAmb lAmb 03 03 31.3
comp=Z,54nm,1.4s
109C Camp Elliot, M 97.66 58 P Pdif 03 03 28.6 +0.1
baz=268
VOI Vohitsoka 97.77 247 P Pdif 03 03 29.4 0.0
VOI Vohitsoka 97.77 247 P Pdif 03 03 29.4 0.0
NVL N'lazarevskaya 97.81 193 *e*P **P** **03 03 27.9 -0.4**
NVL *e**PP **sP** **03 03 49.6 -0.1**
NVL *e* 03 07 27.2
NVL *e*S **SKSac** **03 13 58.3 -2.8**
NVL pmax pmax
comp=Z,45nm,1.5s
NVL smax smax
comp=N,281nm,7.6s
NVL MLR MLR
comp=Z,7µm,18.0s
BRLDA Berland Lookou 97.82 36 lAmb lAmb 03 03 30.5
comp=Z,63nm,1.6s
RRX Edison Barstow 97.83 56 P Pdif 03 03 29.4 +0.2
baz=268
ABPO Ambohimpanom 97.84 250 P **P** **03 03 29.1 -0.7**
ABPO lAmb lAmb 03 03 30.5
comp=Z,23nm,0.9s
ABPO Ambohimpanom 97.84 250 IAMs_20 IAMs_20 03 47 48.0
comp=Z,3µm,19.0s
ABPO Ambohimpanom 97.84 250 P **P** **03 03 29.1 -0.7**
ABPO pmax pmax
comp=Z,23nm,0.9s
ABPO MLR MLR
comp=Z,3µm,19.0s
BMO Blue Mountains 97.84 46 lAmb lAmb 03 03 30.0
comp=Z,74nm,1.8s
F10A Beach Ranch, E 97.92 45 lAmb lAmb 03 03 30.1
comp=Z,86nm,1.9s
QSM Queen of Sheba 97.97 55 lAmb lAmb 03 03 32.7
comp=Z,37nm,1.1s
FURC Furnace Creek, 97.99 54 P Pdif 03 03 29.9 +0.1
baz=268,SNR=11
GSC Goldstone, Bar 98.00 55 P **P** **03 03 29.9 -0.2**
baz=268,SNR=10.0
NEW Newport 98.00 42 lAmb lAmb 03 03 31.4
comp=Z,26nm,0.9s
NEW Newport 98.00 42 P **P** **03 03 29.5 -0.2**
baz=270,SNR=17
NEW Newport 98.00 42 P **P** **03 03 29.6 0.0**
comp=Z,21nm,0.9s,baz=252,slow=4.0,SNR=28
NEW PP **PP** **03 07 28.6 -0.5**
comp=Z,11nm,1.2s,baz=287,slow=5.9,SNR=3.8
comp=Z,21nm,0.9s
PFO Pinyon Flats O 98.23 57 P Pdif 03 03 32.0 +0.8
PFO Pinyon Flats O 98.23 57 Pdiff Pdif 03 03 32.1 +1.0
baz=268
PFO Pinyon Flats O 98.23 57⇓ *e*P Pdif 03 03 31.7 +0.5
PFO pmax pmax
comp=Z,33nm,1.1s
PFO MLR MLR
comp=Z,4µm,18.0s
PFO Pinyon Flats O 98.23 57 P Pdif 03 03 31.3 +0.1
comp=Z,19nm,1.0s,baz=268,slow=4.5,SNR=16
PFO LR LR 03 40 45.7
comp=Z,6µm,21.4s,baz=326,slow=31
comp=Z,19nm,1.0s
TPFO Pinon Flats 98.23 57 Pdiff Pdif 03 03 32.0 +0.9
baz=268
HEC Hector,Ludlow 98.37 56 Pdiff Pdif 03 03 32.3 +0.6
baz=268
IKP In-Ko-Pah, Jac 98.49 58 Pdiff Pdif 03 03 32.7 +0.4
baz=268
TPNV Topopah Spring 98.50 54 Pdiff Pdif 03 03 32.6 +0.3
baz=269
BELC Belle Mtn. Jos 98.63 57 Pdiff Pdif 03 03 33.1 +0.2
baz=268
TUQ Turquoise Moun 98.72 55 Pdiff Pdif 03 03 33.7 +0.4
baz=269
TROLL Troll, Antarti 98.76 190⇑ Pdiff Pdif 03 03 33.0 +0.3
comp=Z,1µm,0.8s
SWSC Sam W. Stewart 98.76 58 Pdiff Pdif 03 03 33.8 +0.5
baz=268
SMRA Abu-Samra 98.78 294 P **P** **03 03 33.0 -0.6**
GMRC Granite Mounta 98.93 56 Pdiff Pdif 03 03 34.6 +0.4
baz=269
YKA Yellowknife Ar 98.99 28 P **P** **03 03 32.8 -0.9**
comp=Z,15nm,1.0s,baz=275,slow=4.7,SNR=58
YKA PP **PP** **03 07 33.4 -2.6**
comp=Z,3.3nm,0.9s,baz=270,slow=7.5,SNR=5.2
YKA PKKPbc **PKKPbc** **03 19 59.5 -3.0**
comp=Z,3.3nm,0.8s,baz=90,slow=2.7,SNR=25
comp=Z,15nm,1.0s
R11B Troy Canyon, C 99.05 52 lAMs_20 lAMs_20 03 49 48.4
comp=Z,4µm,19.0s
R11B Troy Canyon, C 99.05 52 Pdiff **Pdif** **03 03 35.3 +0.5**
baz=269
BC3 Big Chuckawall 99.07 57 Pdiff **Pdif** **03 03 35.2 +0.3**
baz=269
ELK Elko 99.33 50 P **Pdif** **03 03 35.5 -0.5**
comp=Z,7.7nm,1.1s,baz=281,slow=5.8,SNR=5.5
comp=Z,7.7nm,1.1s
IRM Iron Mountain 99.34 56 Pdiff **Pdif** **03 03 36.8 +0.8**
baz=269
KIRV Kirov 99.55 328 P **Pdif** **03 03 34.0 -2.2**
KIRV Kirov 99.55 328 P **Pdif** **03 03 34.0 -2.2**
comp=Z,4.7nm,0.6s,baz=66,slow=5.9,SNR=5.0
KIRV LR LR 03 49 26.1
comp=Z,3µm,20.3s,baz=102,slow=36
comp=Z,4.7nm,0.6s
NEE2 Needles Airpor 99.78 56 Pdiff **Pdif** **03 03 38.8 +0.9**
baz=269
HLID Hailey 99.92 47 Pdiff **Pdif** **03 03 39.6 +1.0**
baz=271
SNAA Sanae 99.95 189 Pdif **Pdif** **03 03 37.8 -0.1**
SNAA Sanae 99.95 189⇑ PKKPbc **PKKPbc** **03 19 56.1 -3.9**
comp=Z,56nm,0.8s
SNAA ⇑Pdiff **Pdif** **03 03 38.2 +0.3**
comp=Z,420nm,1.0s
SNAA PKiKP **PKiKP** **03 08 06.8 +1.2**
comp=Z,27nm,0.5s
SNAA ⇑SKSac **SKSac** **03 14 12.4 +0.4**
comp=Z,59nm,1.1s
SNAA Sanae 99.95 189*d* *i*P **Pdif** **03 03 38.5 +0.6**
SNAA pmax pmax
comp=Z,40nm,1.2s
SNAA MLR MLR
comp=Z,12µm,22.0s
SNAA Sanae 99.95 189 P **Pdif** **03 03 38.1 +0.3**
comp=Z,25nm,1.1s,baz=143,slow=3.7,SNR=22
SNAA PP **PP** **03 07 41.1 -1.7**
comp=Z,20nm,1.2s,baz=165,slow=13,SNR=3.7
SNAA PKKPbc **PKKPbc** **03 19 55.9 -4.1**
comp=Z,3.5nm,1.0s,baz=355,slow=4.2,SNR=7.9
SPR3 Spring Creek 3 100.03 52 Pdif **Pdif** **03 03 40.0 +0.7**
PDMCI Parker Dam,Lak 100.17 56 Pdif **Pdif** **03 03 41.2 +1.6**
baz=270
MSO Missoula 100.18 44 Pdiff **Pdif** **03 03 40.5 +0.9**
baz=272
W13A Hualapai Mount 100.39 56 Pdif **Pdif** **03 03 41.3 +0.5**
CHMT Chamberlain Mo 100.65 44 Pdif **Pdif** **03 03 41.4 -0.4**
LCMT Little Creek M 100.90 54 Pdif **Pdif** **03 03 43.1 +0.1**
BELG Belogornoye 101.00 322⇑ *e*P **Pdif** **03 03 42.6 -0.2**
BELG pmax pmax
comp=Z,7.0nm,0.9s
BELG MLR MLR
comp=Z,531nm,18.0s
BELG Belogornoye 101.00 322 P **Pdif** **03 03 41.2 -1.6**
comp=Z,36nm,0.9s,baz=79,slow=6.4,SNR=7.4
PRGR Permogore 101.13 332 *e*P **Pdif** **03 03 38.9 -4.3**
PRGR pmax pmax
comp=Z,50nm,1.3s
HVU Hansel Valley 101.17 49 Pdif **Pdif** **03 03 44.3 +0.2**
HVU Hansel Valley 101.17 49 *i* P **Pdif** **03 03 44.3 +0.2**
DUG Dugway, Tooele 101.19 50 Pdiff **Pdif** **03 03 45.7 +1.5**
baz=272
214A Organ Pipe Nat 101.27 59 Pdiff **Pdif** **03 03 46.1 +1.5**
baz=270
VNA2 Neumayer--Watz 101.29 188⇑ PKKPbc **PKKPbc** **03 19 51.7 -4.3**
comp=Z,3.2nm,0.6s,baz=345,slow=4.0
VNA2 ⇑Pdiff **Pdif** **03 03 44.1 +0.3**
comp=Z,17nm,0.8s,baz=149,slow=3.0
VNA2 PKiKP **PKiKP** **03 08 09.2 +1.2**
comp=Z,2.9nm,0.5s,baz=154,slow=2.0
VNA2 ⇑SKSac **SKSac** **03 14 18.1 -0.3**
comp=Z,1.6nm,0.8s,baz=357,slow=10.0
VNA3 Neumayer Olymp 101.30 187⇑ PKKPbc **PKKPbc** **03 19 51.2 -4.8**
comp=Z,3.0nm,0.6s
VNA3 ⇑Pdiff **Pdif** **03 03 43.9 0.0**
comp=Z,17nm,0.7s
VNA3 PKiKP **PKiKP** **03 08 09.6 +1.6**
comp=Z,0.8nm,0.4s
VNA3 ⇓SKSac **SKSac** **03 14 11.1 -7.3**
comp=Z,1.2nm,0.9s
MAK Makhachkala 101.63 312 *i* P **Pdif** **03 03 50.2 +4.3**
MAK *e* 03 07 55.0
MAK *e*PPP PPP 03 10 05.0
MAK *e* 03 14 20.2
MAK *e*PS **PS** **03 17 00.4 -1.5**
MAK *e*SS SS 03 22 22.6 -3.4
MAK pmax pmax
comp=Z,253nm,1.2s
VNA1 Neumayer--Stat 101.66 188⇑ Pdiff **Pdif** **03 03 45.8 +0.4**
comp=Z,26nm,1.1s
U15A North Rim 101.68 54 **Pdif** **03 03 49.3 +2.6**
BOZ Bozeman (W) 101.84 45 Pdif **Pdif** **03 03 46.7 -0.3**
BOZ Bozeman (W) 101.84 45 Pdiff **Pdif** **03 03 48.4 +1.4**
baz=273
BOZ Bozeman (W) 101.84 45 *i* P **Pdif** **03 03 46.7 -0.3**
FXWY Fox Creek 102.38 47 Pdif **Pdif** **03 03 49.9 +0.3**
WUAZ Wupatki 102.44 55 Pdiff **Pdif** **03 03 51.3 +1.4**
baz=271
Q16A Castle Valley 102.50 52 Pdif **Pdif** **03 03 50.2 0.0**
H17A Grant Village 102.66 46 Pdiff **Pdif** **03 03 52.0 +1.2**
baz=274
EGMT Eagleton 102.94 42 Pdiff **Pdif** **03 03 52.7 +0.9**
baz=275
TUC Tucson 102.99 58 Pdiff **Pdif** **03 03 52.8 +0.5**
baz=271
SRU San Rafael Swe 102.99 51 Pdif **Pdif** **03 03 52.6 +0.3**
SRU San Rafael Swe 102.99 51 *i* P **Pdif** **03 03 52.6 +0.3**
BW06 Boulder Array 103.51 48 Pdiff **Pdif** **03 03 55.1 +0.5**
baz=274
PDAR Pinedale Array 103.51 48 Pdif **Pdif** **03 03 53.6 -1.0**
PDAR Pinedale Array 103.51 48 Pdiff **Pdif** **03 03 53.9 -0.7**
comp=Z,3.7nm,0.7s,baz=235,slow=2.1,SNR=10
PDAR PP **PP** **03 08 10.2 -0.9**
comp=Z,3.2nm,1.0s,baz=246,slow=1.7,SNR=5.4
PDAR PKKPbc **PKKPbc** **03 19 47.6 -1.4**
comp=Z,1.1nm,0.6s,baz=108,slow=5.7,SNR=6.7
RLMT Red Lodge 103.53 45 Pdiff **Pdif** **03 03 55.4 +0.8**
baz=275
W18A Petrified Fore 103.79 55 Pdif **Pdif** **03 03 55.7 -0.3**
W18A Petrified Fore 103.79 55 Pdiff **Pdif** **03 03 56.4 +0.5**
baz=272
GNI Garni 103.85 310 IAMs_20 IAMs_20 03 43 36.1
comp=Z,4µm,20.0s
KLMR Klimovskoe 104.17 331 *e*Pdif **Pdif** **03 03 52.5 -4.3**
KLMR AMP 03 03 56.5
comp=Z,48nm,1.1s
KLMR *e*PP **PKiKP** **03 08 09.9 -3.5**
KLMR Klimovskoe 104.17 331 *e*P **Pdif** **03 03 52.5 -4.3**
KLMR *e* 03 08 09.9
KLMR pmax pmax
comp=Z,48nm,1.1s
MVCO Mesa Verde 104.69 53 Pdif **Pdif** **03 04 00.2 +0.3**
MVCO Mesa Verde 104.69 53 Pdiff **Pdif** **03 04 01.1 +1.1**
baz=274
O20A White River Ci 104.69 50 Pdiff **Pdif** **03 04 00.9 +1.1**
baz=274
APA Apatity 104.80 339⇓ *i*P **Pdif** **03 04 05.0 +5.6**
APA pmax pmax
comp=Z,11nm,1.0s
KBZ Khabaz 104.93 314 PP **PKiKP** **03 08 15.8 +0.4**
comp=Z,2.7nm,1.1s,baz=82,slow=5.0,SNR=4.3
KBZ PKKPbc **PKKPbc** **03 19 42.4 -2.0**
comp=Z,5.4nm,0.8s,baz=234,slow=3.6,SNR=9.2
LAO LASA Array 105.48 43 PKiKP **PKiKP** **03 08 17.8 +1.4**
baz=278
121A Cookes Peak, D 105.52 58 PKiKP **PKiKP** **03 08 17.5 +0.4**
baz=273
K22A Casper 105.75 48 PKiKP **PKiKP** **03 08 18.1 +0.9**
baz=276
S22A 4UR Ranch, Cre 105.97 53 PKiKP **PKiKP** **03 08 18.2 +0.3**
baz=275
KEV Kevo 106.06 342 lAMs_20 lAMs_20 03 59 19.2
comp=Z,2µm,19.0s
GURO Guroymak-BITLI 106.07 308 Pdif **Pdif** **03 04 05.7 -0.3**
Y22D IRIS PASSCAL I 106.16 56 lAMs_20 lAMs_20 03 46 34.6
comp=Z,4µm,20.0s
Y22D IRIS PASSCAL I 106.16 56 PKiKP **PKiKP** **03 08 17.8 -0.3**
baz=274
Y22F Passcal Instru 106.16 56 PKiKP **PKiKP** **03 08 18.1 -0.1**
baz=274
ANMO Albuquerque 106.48 56 PKiKP **PKiKP** **03 08 18.9 +0.1**
baz=274
ANMO Albuquerque 106.48 56 PKKP 03 19 52.2
comp=Z,11nm,1.1s,baz=216,slow=6.2,SNR=13
ARCES ARCESS Array B 106.63 342 Pdif **Pdif** **03 04 06.5 -1.1**
ARCES ARCESS Array B 106.63 342 *i* P **Pdif** **03 04 06.5 -1.1**
ARCES ARCESS Array B 106.63 342 Pdiff **Pdif** **03 04 06.0 -1.6**
comp=Z,7.2nm,0.8s,baz=69,slow=6.6,SNR=13
ARCES PKiKP **PKiKP** **03 08 16.2 -1.6**
comp=Z,3.8nm,0.8s,baz=111,slow=1.1,SNR=9.7
ARCES PKKPbc **PKKPbc** **03 19 36.8 -3.2**
comp=Z,5.4nm,0.9s,baz=271,slow=1.9,SNR=15
ISCO Idaho Springs 106.73 50 PKiKP **PKiKP** **03 08 20.0 +0.7**
baz=276
TULEG Thule 106.91 8 *i* P **PP** **03 08 27.8 -7.0**
SDCO Great Sand Dun 107.02 53 PKiKP **PKiKP** **03 08 20.8 +0.9**
baz=276
OBN Obninsk 107.05 326 lAMs_20 lAMs_20 03 54 19.7
comp=Z,3µm,20.0s
MNTX Cornudas Mount 107.60 59 PKiKP **PKiKP** **03 08 21.4 +0.7**
baz=274
ANN Anapa 108.67 315 *e*P **Pdif** **03 04 33.1 +16**
ANN pmax pmax
comp=Z,88nm,1.0s
DAG Danmarks Havn 109.04 357 *e*P **PKiKP** **03 08 17.5 -4.6**
TX31 Lajitas Ar. Si 109.23 61 P **PKiKP** **03 08 24.1 +0.1**
baz=274
TXAR Lajitas Array 109.23 61 Pdiff **Pdif** **03 04 20.3 +0.2**
comp=Z,0.4nm,0.8s,baz=278,slow=6.3,SNR=1.9
TXAR PKiKP **PKiKP** **03 08 24.1 +0.2**
comp=Z,2.0nm,0.8s,baz=304,slow=0.8,SNR=9.9
TXAR PKKPbc **PKKPbc** **03 19 29.2 -1.5**
comp=Z,2.0nm,0.6s,baz=109,slow=5.0,SNR=22
E28A Huff 109.25 43 P **PKiKP** **03 08 24.1 +0.7**
baz=282
KIBK Kibwezi 109.26 265 Pdif **Pdif** **03 04 20.9 +0.3**
KIBK lAMs_20 lAMs_20 04 00 18.1
comp=Z,2µm,20.0s
OGNE Ogallala 109.30 49 PKiKP **PKiKP** **03 08 24.7 +0.9**
baz=279
MDND Maddock 109.71 41 PKiKP **PKiKP** **03 08 24.8 +0.7**
baz=283
FINES FINESS Array B 110.12 334 Pdiff **Pdif** **03 04 21.1 -2.2**
comp=Z,3.8nm,0.8s,baz=41,slow=6.1,SNR=11
FINES PKiKP **PKiKP** **03 08 23.4 -1.1**
comp=Z,5.6nm,0.6s,baz=92,slow=3.7,SNR=20
FINES PKKPbc **PKKPbc** **03 19 26.8 -2.0**
comp=Z,4.0nm,0.9s,baz=256,slow=0.8,SNR=4.8
KMBO Kilima Mbogo 110.20 267 Pdif **Pdif** **03 04 25.4 +0.4**
KMBO Kilima Mbogo 110.20 267 lAMs_20 lAMs_20 03 58 32.9
comp=Z,2µm,19.0s
KMBO Kilima Mbogo 110.20 267 *i* P **Pdif** **03 04 25.4 +0.4**
KMBO Kilima Mbogo 110.20 267 Pdiff **Pdif** **03 04 25.9 +0.9**
comp=Z,1.7nm,0.8s,baz=90,slow=4.9,SNR=5.3
KMBO PKiKP **PKiKP** **03 08 26.8 +0.4**
comp=Z,4.4nm,1.1s,baz=21,slow=3.9,SNR=6.7
KMBO PKKPbc **PKKPbc** **03 19 27.0 -0.3**
comp=Z,3.1nm,0.8s,baz=267,slow=8.5,SNR=5.0
AMTX Amarillo 110.40 55 lAMs_20 lAMs_20 03 40 16.7
comp=Z,4µm,22.0s
K30B Basset 110.78 47 P **PKiKP** **03 08 27.3 +0.9**
baz=281
ASF Jabal al Asfar 110.86 302 PKKPbc PKKPbc 03 19 26.5 +1.0
comp=Z,13nm,1.0s,baz=286,slow=1.3,SNR=12
CBKS Cedar Bluff 111.38 51 PKiKP **PKiKP** **03 08 28.7 +1.1**
baz=280
ULM Lac du Bonnet 111.46 38⇓ *i*PKiKP **PKiKP** **03 08 27.9 +0.5**
ULM Lac du Bonnet 111.46 38 PKiKP **PKiKP** **03 08 25.9 -1.4**
comp=Z,9.0nm,0.8s,baz=321,slow=2.0,SNR=18
ULM PKKPbc **PKKPbc** **03 19 21.5 -2.5**
comp=Z,4.1nm,1.0s,baz=89,slow=7.8,SNR=3.8
MMAI Mount Meron Ar 112.01 303 PKiKP **PKiKP** **03 08 28.6 -0.5**
comp=Z,2.0nm,0.8s,baz=37,slow=3.6,SNR=3.8
MMAI PKKPbc **PKKPbc** **03 19 23.1 +1.3**
comp=Z,3.7nm,0.5s,baz=48,slow=1.2,SNR=11
AGMN Agassiz Nation 112.02 40 PKiKP **PKiKP** **03 08 29.3 +0.8**
baz=286
MNK Minsk 112.03 327 *i* P **Pdif** **03 04 30.1 -1.8**
MNK *i* P **Pdif** **03 04 30.1 -1.8**
MNK *i* P **Pdif** **03 04 30.1 -1.8**
baz=69
MNK *i* pP **pPdif** **03 04 49.1 +2.0**
MNK *i* sP **sPdif** **03 04 56.8 +3.8**
MNK *i* PP **PP** **03 09 09.8 -2.6**
MNK *i* PPP PPP 03 11 33.9
MNK *i* SKS **SKSdf** **03 15 39.4 +3.5**
MNK *i* SS **SS** **03 24 50.5 +4.4**
MNK *i* SSS SSS 03 29 04.9
MNK *i* LQ LQ 03 46 09.3
MNK *i* LR LR 03 54 16.0
MNK *i* LRM MLR 03 59 42.6
comp=Z,2µm,18.1s
MNK *i* LRM MLR 03 59 50.4
comp=E,756nm,17.1s
MNK *i* LRM MLR 04 00 42.9
comp=N,1µm,17.1s
MNK Minsk 112.03 327 *i* P **Pdif** **03 04 30.0 -1.8**
MNK *i* 03 09 09.8
MNK *i* PPP PPP 03 11 33.9
MNK *i* 03 15 39.4
MNK *i* SS SS 03 24 50.4 +4.3
GHAJ Ghor Haditha 112.08 301 lAMs_20 lAMs_20 03 52 41.4
comp=Z,2µm,18.0s
BGNE Belgrade 112.10 48 PKiKP **PKiKP** **03 08 29.5 +0.6**
baz=282
ABTX Abilene, Hawle 112.36 57 PKiKP **PKiKP** **03 08 29.7 0.0**
baz=277
BR131 Keskin Array S 112.37 310 *i*PKiKP **PKiKP** **03 08 28.7 -0.9**
BRTR Keskin Array B 112.37 310 PKiKP **PKiKP** **03 08 28.3 -1.3**
comp=Z,1.8nm,0.7s,baz=140,slow=4.1,SNR=6.6
BRTR PKKPbc **PKKPbc** **03 19 21.6 +0.8**
comp=Z,4.2nm,0.9s,baz=197,slow=3.9,SNR=13
JCT Junction City 112.47 60 PKiKP **PKiKP** **03 08 29.8 -0.2**
baz=276
JCT Junction City 112.47 60 P **PKiKP** **03 08 30.2 +0.2**
baz=276,SNR=6.4
AKASG Malin Array Be 112.57 323 PKiKP **PKiKP** **03 08 28.1 -1.4**
comp=Z,5.6nm,0.8s,baz=63,slow=2.3,SNR=11
AKASG PP **PP** **03 09 13.0 -3.5**
comp=Z,5.4nm,1.0s,baz=58,slow=7.0,SNR=13
AKASG PKKPbc **PKKPbc** **03 19 18.9 -1.4**
comp=Z,11nm,0.9s,baz=258,slow=3.9,SNR=19
AKBB Malin Array Si 112.57 323 lAMs_20 lAMs_20 03 55 19.0
comp=Z,4µm,22.0s
KIEV Kiev 112.58 323⇑ P **PKiKP** **03 08 28.4 -1.1**
KIEV Kiev 112.58 323 lAMs_20 lAMs_20 03 57 06.0
comp=Z,2µm,21.0s
KIEV Kiev 112.58 323⇑ PKiKP **PKiKP** **03 08 28.4 -1.1**
ECSD EROS Data Cent 112.69 45 PKiKP **PKiKP** **03 08 29.8 -0.2**
baz=284
ECSD EROS Data Cent 112.69 45 P **PKiKP** **03 08 29.2 -0.7**
baz=284
WMOK Wichita Mounta 112.78 55 PKiKP **PKiKP** **03 08 30.3 -0.2**
baz=279
WMOK Wichita Mounta 112.78 55 P **PKiKP** **03 08 30.2 -0.2**
baz=279
ANTO Ankara 112.98 311 lAMs_20 lAMs_20 03 49 48.7
comp=Z,2µm,19.0s
833A Chaparral WMA, 113.05 62 PKiKP **PKiKP** **03 08 31.3 +0.2**
baz=276
CSS Mathiatis 113.44 305 lAMs_20 lAMs_20 03 49 17.4
comp=Z,4µm,18.0s
VSVD Vaisvydziai 113.51 329 *e*P **PKiKP** **03 08 31.1 +0.1**
SUMG Summit 113.55 2 *i* P **PKiKP** **03 08 31.0 -0.3**
PABE Paberze 113.69 329 *e*P **PKiKP** **03 08 31.3 -0.1**
KSU1 Kansas State U 113.72 50 PKiKP **PKiKP** **03 08 32.5 +0.4**
baz=282
UNM Universidad Na 113.81 72 lAMs_20 lAMs_20 03 50 15.6
comp=Z,3µm,22.0s
SORM Soroca 113.93 320⇓ P **PKiKP** **03 08 30.8 -1.3**
SORM Soroca 113.93 320⇓ PKiKP **PKiKP** **03 08 30.8 -1.3**
T35B Sooner Cattle 114.23 52 P PKPdf 03 08 32.8 -0.3
baz=281
F36A Milaca 114.25 42 P PKPdf 03 08 31.6 -1.3
baz=287
WHTX Lake Whitney, 114.28 58 PKiKP **PKiKP** **03 08 33.7 +0.4**
baz=278
435B Jarrell 114.33 59 PKiKP **PKiKP** **03 08 33.5 0.0**
baz=278
BOSA Boshof 114.72 235 lAMs_20 lAMs_20 03 52 48.4
comp=Z,4µm,20.0s
BOSA Boshof 114.72 235 PKP PKPdf 03 08 35.2 +0.8

comp=Z,14nm,0.7s,baz=122,slow=2.0,SNR=18
BOSA PKKPbc **PKKPbc** 03 19 11.0 -1.6
comp=Z,2.8nm,0.9s,baz=174,slow=0.7,SNR=3.9
I37B Waseca 114.87 44 P **PKiKP** 03 08 33.8 -0.3
baz=286
EYMN Ely 114.91 40 IAMs_20 IAMs_20 03 53 10.5
comp=Z,4μm,20.0s
EYMN Ely 114.91 40 PKiKP PKPdf 03 08 34.4 +0.3
baz=290
EYMN Ely 114.91 40 P **PKiKP** 03 08 33.6 -0.5
baz=290
SPMN Marine on St. 114.92 43 PKiKP **PKiKP** 03 08 33.8 -0.3
baz=288
SPMN Marine on St. 114.92 43 P **PKiKP** 03 08 33.3 -0.8
baz=288
TUL3 Leonard 114.99 53 PKiKP **PKiKP** 03 08 34.4 -0.2
baz=281
TUL3 Leonard 114.99 53 P **PKiKP** 03 08 34.5 -0.2
baz=281
HARR Harsova 115.27 317 ⇓P **PKiKP** 03 08 34.5 -0.2
HARR Harsova 115.27 317 ⇓PKiKP **PKiKP** 03 08 34.6 -0.2
TREL Terrell 115.31 57 PKPdf **PKPdf** 03 08 36.3 +1.0
E38A The Farm, Brul 115.32 41 PKiKP **PKiKP** 03 08 33.9 -1.0
SCIA State Center 115.58 46 PKiKP **PKPdf** 03 08 35.6 0.0
baz=286
X37A Clayton 115.58 55 P **PKPdf** 03 08 35.6 -0.1
baz=281
K38A Parkersburg 115.69 45 P **PKPdf** 03 08 35.9 +0.2
baz=286
LBTB Lobatse 115.76 239 **PKiKP** 03 08 36.6 +0.1
LBTB Lobatse 115.76 239 PKiKP **PKiKP** 03 08 36.6 +0.1
ILULI Ilulissat 115.83 7 IAMs_20 IAMs_20 03 52 25.5
comp=Z,4μm,22.0s
P38A Dawn 115.93 49 P **PKPdf** 03 08 35.3 -1.0
baz=284
HFS Hagfors 115.98 336 PKP **PKiKP** 03 08 33.3 -2.4
comp=Z,3.7nm,0.9s,baz=219,slow=0.9,SNR=4.8
HFS PKKPbc **PKKPbc** 03 19 06.9 -2.1
comp=Z,2.7nm,0.7s,baz=207,slow=6.3,SNR=8.0
U38A Gravette 116.00 52 P **PKPdf** 03 08 36.1 -0.5
baz=282
ISR Istrita 116.08 318 ⇑P **PKPdf** 03 08 36.1 -0.4
ISR Istrita 116.08 318 ⇑PKiKP **PKPdf** 03 08 36.1 -0.4
BURAR Bucovina Array 116.09 321 ⇑P **PKiKP** 03 08 37.0 +0.5
BURAR Bucovina Array 116.09 321 **PKiKP** 03 08 36.9 +0.4
BURAR Bucovina Array 116.09 321 ⇑PKiKP **PKiKP** 03 08 37.0 +0.5
NEHR Nehoiu 116.14 318 ⇓P **PKPdf** 03 08 35.8 -0.8
MLR Muntele Rosu 116.35 318 ⇓P **PKPdf** 03 08 36.3 -0.8
MLR Muntele Rosu 116.35 318 ⇓PKiKP **PKPdf** 03 08 36.3 -0.8
NB2 NORSAR Subarra 116.37 338 PKPdf **PKPdf** 03 08 34.9 -1.6
comp=Z,24nm,1.7s,baz=44,slow=1.9
NB2 PKKP **PKKPbc** 03 19 06.3 -1.4
comp=Z,2.4nm,0.8s,baz=219,slow=3.4
NB2 NORSAR Subarra 116.37 338 PKPdf **PKPdf** 03 08 34.9 -1.6
baz=44,slow=1.9
NOA NORSAR Array B 116.37 338 PKP **PKPdf** 03 08 35.2 -1.3
comp=Z,8.0nm,1.0s,baz=51,slow=2.1,SNR=11
NOA PKKPbc **PKKPbc** 03 19 06.0 -1.8
comp=Z,3.5nm,0.8s,baz=52,slow=3.4,SNR=14
LSZ Lusaka 116.41 250 **PKPdf** 03 08 37.9 -0.1
LSZ Lusaka 116.41 250 PKiKP **PKPdf** 03 08 37.9 -0.1
S39A Bolivar 116.55 51 P **PKPdf** 03 08 36.2 -1.4
baz=284
DOPR Dopca 116.56 319 ⇑P **PKiKP** 03 08 37.4 0.0
SUR Sutherland 116.63 229 **PKiKP** 03 08 39.1 +1.0
G40A Rib Lake 116.65 42 P **PKPdf** 03 08 36.9 -0.6
baz=290
NATX Nacogdoches 116.66 58 PKiKP **PKiKP** 03 08 38.1 +0.2
baz=280
KWP Kalwaria Pacla 116.86 323 IAMs_20 IAMs_20 04 03 04.5
comp=Z,2μm,20.0s
VOIR 116.97 318 ⇑P **PKiKP** 03 08 38.7 +0.5
VOIR 116.97 318 ⇑PKiKP **PKiKP** 03 08 38.7 +0.5
ICESG Greenland Ices 116.97 3 *i* P **PKPdf** 03 08 36.6 -1.3
MIAR Mount Ida 117.04 54 PKiKP **PKiKP** 03 08 38.9 +0.3
baz=282
MIAR Mount Ida 117.04 54 P **PKPdf** 03 08 37.9 -0.6
baz=282
P40A Paris 117.06 49 P **PKPdf** 03 08 37.8 -0.6
baz=286
R40A Maddies Statio 117.22 50 **PKPdf** 03 08 37.9 -0.9
R40A Maddies Statio 117.22 50 P **PKPdf** 03 08 37.8 -0.9
baz=285
U40A Yellville 117.22 52 P **PKPdf** 03 08 38.4 -0.5
baz=283
U40A P **PKPdf** 03 08 38.4 -0.5
baz=283
ELND Elena 117.23 315 ⇑P **PKPdf** 03 08 38.3 -0.4
ARR Arges 117.26 318 ⇑P **PKiKP** 03 08 39.1 +0.3
HUMR Humele 117.32 317 ⇓P **PKPdf** 03 08 37.5 -1.3
JFWS Jewell Farm 117.39 45 PKiKP **PKPdf** 03 08 38.2 -0.8
baz=288
JFWS Jewell Farm 117.39 45 P **PKPdf** 03 08 37.9 -1.1
baz=288
KOLS Kolonicke sedl 117.41 323 *e*PKP **PKPdf** 03 08 38.7 -0.1
KOLS *e* 03 19 03.6
KOLS Kolonicke sedl 117.41 323 *e*PKiKP **PKPdf** 03 08 38.7 -0.1
COYC Coyhaique 117.44 150 **PKiKP** 03 08 40.1 +1.0
CJR Cluj-Napoca 117.45 320 ⇑P **PKPdf** 03 08 38.7 -0.4
CJR Cluj-Napoca 117.45 320 ⇑PKiKP **PKPdf** 03 08 38.7 -0.4
CBBR Cluj-Babes-Bol 117.46 320 ⇓P **PKPdf** 03 08 35.5 -3.5
MARR Marisel-Cluj 117.77 320 ⇓P **PKPdf** 03 08 38.6 -1.1
LOT Lotru 117.81 319 ⇑P **PKPdf** 03 08 38.7 -1.1
CRVS Cervenica-Dubn 117.91 323 *e*PKP **PKPdf** 03 08 39.0 -0.8
CRVS *e* 03 19 00.7
CRVS Cervenica-Dubn 117.91 323 *e*PKiKP **PKPdf** 03 08 39.0 -0.8
WHAR Wooly Hollow 117.91 53 **PKPdf** 03 08 39.7 -0.5
PLVB Pleven 117.95 316 ⇑P **PKPdf** 03 08 39.8 -0.3
SFJD Kangerlussuaq 117.97 8 IAMs_20 IAMs_20 03 56 06.3
comp=Z,3μm,22.0s
CCM Cathedral Cave 118.06 50 PKPdf **PKPdf** 03 08 40.0 -0.4
CCM Cathedral Cave 118.06 50 PKiKP **PKPdf** 03 08 40.0 -0.4
baz=285
CCM Cathedral Cave 118.06 50 P **PKPdf** 03 08 39.5 -0.9
baz=285
CCM Cathedral Cave 118.06 50 PKiKP **PKPdf** 03 08 40.0 -0.4
L42A Oliver, Polo 118.08 45 P **PKPdf** 03 08 39.4 -0.9
baz=288
DEL Delary 118.09 333 *e*P **PKPdf** 03 08 39.0 -0.9
GKP Gorka Klasztor 118.22 329 *e*P **PKPdf** 03 08 40.1 -0.1
EFI East Falkland 118.30 162 **PKiKP** 03 08 41.3 +0.8
EFI East Falkland 118.30 162 PKiKP **PKiKP** 03 08 41.3 +0.8
T42A Van Buren 118.44 51 P **PKPdf** 03 08 40.3 -0.9
baz=285
GZR Gura Zlata 118.47 319 ⇓P **PKPdf** 03 08 39.9 -1.2
GZR Gura Zlata 118.47 319 ⇓PKiKP **PKPdf** 03 08 39.9 -1.2
LCAR Lake Charles 118.63 52 P **PKPdf** 03 08 39.9 -1.6
baz=284
FVM French Village 118.70 50 P **PKPdf** 03 08 41.2 -0.5
baz=286
SURR Surduc 118.76 319 ⇓P **PKPdf** 03 08 40.4 -1.1
HDIL Hopedale 118.80 47 PKiKP **PKPdf** 03 08 41.6 -0.2
baz=288
HDIL Hopedale 118.80 47 P **PKPdf** 03 08 41.2 -0.6
baz=288
SIRR Siria 118.86 320 ⇓P **PKPdf** 03 08 41.0 -0.7
P43A Skaggs, Pawnee 118.91 48 P **PKPdf** 03 08 41.5 -0.5
baz=287
DY2G Dye2 119.01 6 *i* P **PKPdf** 03 08 40.8 -1.0
BZS Buzias 119.14 320 ⇓P **PKPdf** 03 08 41.4 -0.8
BZS Buzias 119.14 320 ⇓PKiKP **PKPdf** 03 08 41.4 -0.8
BLKB Belogradchik 119.19 317 ⇑P **PKPdf** 03 08 41.3 -1.2
L44A Lake County Fo 119.26 45 PKiKP **PKPdf** 03 08 42.2 -0.4
baz=290
PSZ Piszkesteto 119.27 322 ⇓P **PKPdf** 03 08 41.8 -0.8
PSZ Piszkesteto 119.27 322 **PKPdf** 03 08 41.8 -0.8
PSZ Piszkesteto 119.27 322 PKiKP **PKPdf** 03 08 41.8 -0.8
MDVR Moldovita 119.41 319 ⇓P **PKPdf** 03 08 42.0 -0.9
OKC Ostrava-Krasne 119.42 325 *e*PKP **PKPdf** 03 08 42.2 -0.5
OKC Ostrava-Krasne 119.42 325 *e*PKiKP **PKPdf** 03 08 42.2 -0.5
M44A Midewin, Midew 119.43 46 P **PKPdf** 03 08 41.9 -1.1
baz=290
LL01 San Ignacio de 119.46 147 **PKPdf** 03 08 42.5 -0.5
RGN Rugen 119.46 331 IAMs_20 IAMs_20 04 02 17.8
comp=Z,4μm,20.0s
Q44A Meyer Farm, Va 119.50 49 **PKPdf** 03 08 42.8 -0.4
O44A Mansfield 119.52 47 P **PKPdf** 03 08 42.7 -0.5
baz=288
BANR Banloc 119.55 319 ⇑P **PKiKP** 03 08 43.1 0.0
S44A Carbondale 119.67 50 P **PKPdf** 03 08 42.8 -0.7
baz=287
HOPE Hope Point 119.67 177 **PKiKP** 03 08 43.7 +0.6
HOPE Hope Point 119.67 177 PKiKP **PKiKP** 03 08 43.7 +0.6
MORC Moravsky Berou 119.80 325 ⇓P **PKPdf** 03 08 42.9 -0.6
MORC Moravsky Berou 119.80 325 *e*PKP **PKPdf** 03 08 42.6 -0.9
MORC *e*PKKP **PKKPbc** 03 18 54.5 -0.6
MORC Moravsky Berou 119.80 325 ⇓PKiKP **PKPdf** 03 08 42.9 -0.6
MAUC Maruska 119.83 325 *e*PKP **PKPdf** 03 08 42.4 -1.1
MAUC *e*PKKP **PKKPbc** 03 18 51.5 -3.4
BOVS Bovan 119.84 317 ⇓P **PKPdf** 03 08 42.1 -1.5
VBMS Vicksburg 120.03 56 PKiKP **PKiKP** 03 08 44.6 +0.1
baz=283
E46A Sault Ste Mari 120.05 39 P **PKPdf** 03 08 42.9 -1.1
baz=295
KRLC Kraliky 120.08 326 *e*PKP **PKPdf** 03 08 43.4 -0.6
KRLC *e*PKP **PKPdf** 03 08 43.4 -0.6
KRLC Kraliky 120.08 326 *e*PKiKP **PKPdf** 03 08 43.4 -0.6
IDI Anoyia 120.14 307 ⇑P **PKPdf** 03 08 42.2 -2.4
IDI Anoyia 120.14 307 PKP **PKPdf** 03 08 43.6 -1.0
OSTC Ostas 120.15 326 *e*PKP **PKPdf** 03 08 43.5 -0.6
OSTC Ostas 120.15 326 *e*PKiKP **PKPdf** 03 08 43.5 -0.6
JAVC Velka Javorina 120.16 324 *e*PKP **PKiKP** 03 08 44.3 0.0
JAVC *e*PKKP **PKKPab** 03 18 53.2 -0.5
DPC Dobruska-Polom 120.20 326 *e*PKP **PKPdf** 03 08 43.6 -0.6
DPC *e*PKKP **PKKPab** 03 18 53.4 -0.1
DPC Dobruska-Polom 120.20 326 *e*PKiKP **PKPdf** 03 08 43.6 -0.6
CHVC Chvalec 120.22 327 *e*PKP **PKPdf** 03 08 43.4 -0.8
CHVC *e*PKKP **PKKPab** 03 18 53.2 -0.1
CHVC Chvalec 120.22 327 *e*PKiKP **PKPdf** 03 08 43.4 -0.8
OLIL Oliney 120.23 48 **PKPdf** 03 08 44.5 0.0
OLIL Oliney 120.23 48 P **PKPdf** 03 08 44.1 -0.5
baz=288
SRO Srobarova 120.27 323 *e*PKP **PKPdf** 03 08 43.8 -0.5
SRO Srobarova 120.27 323 *e*PKiKP **PKPdf** 03 08 43.8 -0.5
UPC Upice 120.29 326 *e*PKP **PKPdf** 03 08 43.6 -0.7
UPC *e*PKKP **PKKPab** 03 18 52.8 -0.2
UPC Upice 120.29 326 *e*PKiKP **PKPdf** 03 08 43.6 -0.7
OXF Oxford 120.40 54 PKiKP **PKPdf** 03 08 44.5 -0.6
baz=285
OXF Oxford 120.40 54 P **PKPdf** 03 08 44.4 -0.6
baz=285
RUE Ruedersdorf 120.41 329 *e*P **PKiKP** 03 08 45.9 +1.4
SFIN Lafayette 120.44 46 PKiKP **PKPdf** 03 08 45.0 0.0
baz=290
SFIN Lafayette 120.44 46 P **PKPdf** 03 08 44.2 -0.7
baz=290
Y45A Yeager Farm, C 120.45 54 P **PKPdf** 03 08 44.8 -0.3
baz=284,SNR=13
SMOL Smolenice 120.47 324 *e*PKiKP **PKiKP** 03 08 44.8 0.0
GLMI Grayling 120.49 41 PKiKP **PKPdf** 03 08 44.8 -0.1
baz=294
FRGS Fruska Gora 120.49 320 ⇓P **PKPdf** 03 08 44.1 -0.8
FRGS Fruska Gora 120.49 320 *e*P **PKPdf** 03 08 43.7 -1.2
VRAC Vranov 120.56 325 ⇑P **PKPdf** 03 08 44.7 -0.2
VRAC Vranov 120.56 325 *e*PKP **PKPdf** 03 08 43.4 -1.5
VRAC *e*PKKP **PKKPab** 03 18 51.9 +0.1
VRAC Vranov 120.56 325 ⇑PKiKP **PKPdf** 03 08 44.7 -0.2
P46A Rosedale 120.61 47 **PKiKP** 03 08 45.8 +0.4
MORH Mrgy, Hungar 120.78 321 ⇓P **PKPdf** 03 08 44.6 -0.8
KRUC Moravsky 120.80 325 *e*PKP **PKPdf** 03 08 44.3 -1.1
KRUC *e*PKKP **PKKPab** 03 18 49.9 -0.9
DIVS Divibare 120.81 318 ⇑*i*P **PKPdf** 03 08 44.0 -1.6
TEKS Tekeris 120.93 319 *e*P **PKPdf** 03 08 44.5 -1.3
J47A Sunmer 120.99 43 P **PKPdf** 03 08 45.5 -0.4
baz=293
J47A P **PKPdf** 03 08 45.5 -0.4
baz=293
PVCC Panska Ves 121.06 327 *e*PKP **PKPdf** 03 08 45.0 -0.8
PVCC Panska Ves 121.06 327 *e*PKiKP **PKPdf** 03 08 45.0 -0.8
FNA Florina 121.11 314 **PKPdf** 03 08 45.9 -0.4
FNA Florina 121.11 314 PKiKP **PKPdf** 03 08 45.9 -0.4
146A Union 121.14 56 P **PKPdf** 03 08 46.4 -0.1
baz=284,SNR=8.8
SJES Sjenica 121.15 318 ⇑*i*P **PKPdf** 03 08 45.3 -1.1
TREC Trest 121.20 325 *e*PKP **PKPdf** 03 08 45.6 -0.6
TREC *e*PKKP **PKKPbc** 03 18 49.5 -0.3
TREC Trest 121.20 325 *e*PKiKP **PKPdf** 03 08 45.6 -0.6
WVT Waverly 121.21 51 **PKPdf** 03 08 45.5 -1.0
WVT Waverly 121.21 51 PKiKP **PKiKP** 03 08 46.8 +0.1
baz=287
WVT Waverly 121.21 51 P **PKPdf** 03 08 44.9 -1.6
baz=287
WVT Waverly 121.21 51 PKiKP **PKPdf** 03 08 45.5 -1.0
BRG Berggiesshubel 121.21 328 ⇓*i*PKP **PKiKP** 03 08 46.5 +0.3
BRG Amp 03 08 48.8
comp=Z,22nm,0.9s
BRG Berggiesshubel 121.21 328 ⇓*i*PKiKP **PKiKP** 03 08 46.5 +0.3
BRG *e* 03 08 59.7
BRG 03 10 17.5
BRG pmax pmax
comp=Z,22nm,0.9s
BRG Berggiesshubel 121.21 328 *e*PKPdf **PKiKP** 03 08 46.4 +0.3
baz=55,slow=1.9
BSEG Bad Segeberg 121.24 332 *e*PKPdf **PKPdf** 03 08 45.9 -0.1
baz=55,slow=1.9
GOPC GO Pecny, Ondr 121.27 326 *e*PKP **PKPdf** 03 08 45.1 -1.2
GOPC GO Pecny, Ondr 121.27 326 *e*PKiKP **PKPdf** 03 08 45.1 -1.2
N47A Urbana 121.27 45 P **PKPdf** 03 08 45.4 -1.1
baz=291
N47A P **PKPdf** 03 08 45.4 -1.1
baz=291
BBLS Lazići 121.29 318 ⇑*i*P **PKPdf** 03 08 45.9 -0.7
GORT1 Trebel 121.35 331 *e*PKPdf **PKPdf** 03 08 46.2 0.0
baz=55,slow=1.9
PRU Pruhonice 121.36 327 *e*PKP **PKPdf** 03 08 45.6 -0.8
PRU *e*PKKP **PKKPab** 03 18 48.7 +0.4
PRU Pruhonice 121.36 327 *e*PKiKP **PKPdf** 03 08 45.6 -0.8
PRA Prague 121.38 327 *e*PKP **PKPdf** 03 08 45.5 -0.9
PRA Prague 121.38 327 *e*PKiKP **PKPdf** 03 08 45.5 -0.9
RUDO Rudo 121.41 318 ⇑*i*P **PKPdf** 03 08 44.6 -2.1
CLL Collm 121.47 328 **PKPdf** 03 08 46.2 -0.4
CLL Collm 121.47 328 ⇓*i*PKPdf **PKPdf** 03 08 45.8 -0.7
comp=Z,32nm,0.8s
CLL *ex* x 03 09 11.0
CLL *e*PP **PP** 03 10 18.0 -0.3
CLL *e*PKKPbc **PKKPab** 03 18 48.0 +0.2
comp=Z,17nm,1.0s
CLL *es*PKKPbc 03 19 02.0
CLL *e*SS SS 03 26 48.0 -1.0
CLL AMS AMS 04 04 00.0
comp=N,2μm,20.5s
CLL AMS AMS 04 04 00.0
comp=E,2μm,21.2s
CLL AMS AMS 04 04 00.0
comp=Z,3μm,20.4s
CLL Collm 121.47 328 ⇓*i*PKiKP **PKPdf** 03 08 45.8 -0.7
CLL pmax pmax
comp=Z,32nm,0.8s
CLL MLR MLR
comp=Z,3μm,20.4s
CLL Collm 121.47 328 *e*PKPdf **PKPdf** 03 08 45.9 -0.7
baz=55,slow=1.9
FBE Freiberg 121.50 328 *e*PKPdf **PKPdf** 03 08 46.2 -0.4
baz=55,slow=1.9
T47A Sharon Grove 121.51 50 P **PKPdf** 03 08 46.2 -0.9
baz=288
RONA Rosalia, Austr 121.52 324 *e*PKP **PKPdf** 03 08 45.9 -0.9
comp=Z,12nm,1.0s,SNR=6.9
RONA *e*PKKP **PKKPab** 03 18 46.8 -0.9
comp=Z,13nm,1.0s
PLCA Paso Flores 121.60 146 PKP **PKiKP** 03 08 48.1 +0.7
comp=Z,54nm,1.0s,baz=222,slow=2.2,SNR=61
PLCA PKKPbc **PKKPbc** 03 18 46.3 -1.9
comp=Z,6.6nm,1.0s,baz=53,slow=3.8,SNR=6.1
HSKC Hora Svate Kat 121.63 328 *e*PKP **PKPdf** 03 08 46.2 -0.7
CONA Conrad Observa 121.67 324 *e*PKP **PKPdf** 03 08 46.3 -0.8
comp=Z,11nm,0.7s,SNR=7.3
CONA *i* PKKP **PKKPab** 03 18 47.6 +0.4
comp=Z,18nm,1.5s,SNR=5.1
WCI Wyandotte Cave 121.74 49 **PKPdf** 03 08 46.8 -0.7
WCI Wyandotte Cave 121.74 49 PKiKP **PKPdf** 03 08 47.6 +0.1
baz=289
WCI Wyandotte Cave 121.74 49 P **PKPdf** 03 08 46.6 -0.9
baz=289
WCI Wyandotte Cave 121.74 49 PKIKP **PKPdf** 03 08 46.8 -0.7
L48A N Adams 121.76 44 P **PKPdf** 03 08 46.6 -0.9
baz=293
L48A P **PKPdf** 03 08 46.6 -0.9
baz=293
FLTG Flechtingen 121.77 330 *e*PKPdf **PKPdf** 03 08 46.5 -0.6
baz=55,slow=1.9
Z47A Carrollton 121.81 55 P **PKPdf** 03 08 46.7 -1.1
baz=285
ZVC Zvikov 121.85 326 *e*PKP **PKPdf** 03 08 46.5 -0.9
ZVC *e*PKKP **PKKPab** 03 18 46.6 +0.3
O48B Farmland 121.88 46 PKiKP **PKPdf** 03 08 47.2 -0.5
baz=291
O48B Farmland 121.88 46 P **PKPdf** 03 08 47.0 -0.7
baz=291
P48A Milroy 121.96 47 P **PKPdf** 03 08 46.8 -1.1
baz=290
P48A P **PKPdf** 03 08 46.8 -1.1
baz=290
TIR Tirane 121.97 316 IAMs_20 IAMs_20 03 56 04.2
comp=Z,2μm,18.0s
PDG Podgorica 121.97 317 ⇑*i*P **PKPdf** 03 08 45.5 -2.3
V48A Smith Brothers 122.10 51 P **PKPdf** 03 08 46.8 -1.5
baz=287,SNR=16
CKRC Cesky Krumlov 122.11 325 *e*PKP **PKPdf** 03 08 46.8 -1.1
CKRC *e*PKKP **PKKPbc** 03 18 45.9 -0.4
CKRC Cesky Krumlov 122.11 325 *e*PKiKP **PKPdf** 03 08 46.8 -1.1
AAM Ann Arbor 122.15 43 PKiKP **PKPdf** 03 08 48.1 -0.1
baz=294
AAM Ann Arbor 122.15 43 P **PKPdf** 03 08 47.5 -0.7
baz=294
ASSE Asse, Remlinge 122.17 330 *e*PKPdf **PKPdf** 03 08 47.4 -0.4
baz=55,slow=1.9
ARSA Arzberg 122.20 323 *e*PKP **PKPdf** 03 08 46.2 -2.0
comp=Z,5.7nm,0.7s
ARSA *e*PKKP **PKKPab** 03 18 44.9 +0.1
comp=Z,9.1nm,1.0s
NRDL Niedersach Rie 122.23 331 *e*PKPdf **PKPdf** 03 08 47.9 0.0
baz=55,slow=1.9
TANN Tannenbergstha 122.25 328 *e*PKPdf **PKPdf** 03 08 47.7 -0.5
baz=55,slow=1.9
X48A Hartselle 122.30 53 P **PKPdf** 03 08 47.2 -1.5
baz=286,SNR=13
WERD Werda 122.32 328 *e*PKPdf **PKPdf** 03 08 47.7 -0.6
baz=55,slow=1.9
N49A Columbus Grove 122.32 45 P **PKPdf** 03 08 48.0 -0.5
baz=292
N49A P **PKPdf** 03 08 48.0 -0.5
baz=292
GUNZ Gunzen 122.35 328 *e*PKPdf **PKPdf** 03 08 48.0 -0.4
baz=55,slow=1.9
KHC Kasperske Hory 122.35 326 IAMs_20 IAMs_20 04 03 46.6
comp=Z,3μm,22.0s
KHC Kasperske Hory 122.35 326 *e*PKP **PKPdf** 03 08 47.5 -0.9
KHC *e*PKKP **PKKPab** 03 18 44.6 +0.4
KHC Kasperske Hory 122.35 326 *e*PKIKP **PKPdf** 03 08 47.5 -0.9
BLY Banja Luka 122.35 320 ⇑*i*P **PKPdf** 03 08 46.4 -2.1
NKC Novy Kostel 122.36 328 *e*PKP **PKPdf** 03 08 47.7 -0.7
NKC Novy Kostel 122.36 328 *e*PKIKP **PKPdf** 03 08 47.7 -0.7
WERN Wernitzgruen 122.37 328 *e*PKPdf **PKPdf** 03 08 48.0 -0.4
baz=55,slow=1.9
PLN Plauen 122.37 328 *e*PKPdf **PKPdf** 03 08 47.8 -0.6
baz=55,slow=1.9
GEC2 GERESS Array S 122.44 326 *e*PKPdf **PKPdf** 03 08 47.9 -0.7
baz=55,slow=1.9
GERES GERESS Array B 122.44 326 PKP **PKPdf** 03 08 47.9 -0.7
comp=Z,9.8nm,0.6s,baz=66,slow=1.6,SNR=50
GERES PKKPbc **PKKPab** 03 18 44.0 +0.1
comp=Z,1.8nm,0.6s,baz=230,slow=2.6,SNR=8.7
P49A Miami Univ. Ec 122.45 47 PKiKP **PKPdf** 03 08 48.6 -0.3
baz=291
P49A Miami Univ. Ec 122.45 47 P **PKPdf** 03 08 47.7 -1.1
baz=291
O49A Covington 122.49 46 P **PKPdf** 03 08 47.9 -1.0
baz=292
O49A P **PKPdf** 03 08 47.9 -1.0
baz=292
MOX Moxa 122.57 328 *e*PKPdf **PKPdf** 03 08 48.1 -0.6
baz=55,slow=1.9
MOX *e*L L 04 03 15.7
comp=Z,2μm,21.1s
MOA Molln 122.64 324 *e*PKP **PKPdf** 03 08 47.9 -1.1
comp=Z,10nm,1.0s
MOA *i* PKKP **PKKPbc** 03 18 43.7 -0.6
comp=Z,31nm,1.6s,SNR=6.1
U49A Red Boiling Sp 122.67 50 P **PKPdf** 03 08 48.4 -1.0
baz=288
MANZ Manzenberg 122.68 328 *e*PKPdf **PKPdf** 03 08 48.5 -0.5
baz=55,slow=1.9
LRAL Lakeview Retre 122.72 55 PKiKP **PKPdf** 03 08 49.5 -0.1
baz=286
LRAL Lakeview Retre 122.72 55 P **PKPdf** 03 08 48.9 -0.7
baz=286,SNR=17
WET Wettzell 122.73 326 *e*PKPdf **PKPdf** 03 08 48.6 -0.5
baz=55,slow=1.9
SOKA Soboth 122.78 323 *i* PKP **PKPdf** 03 08 48.2 -1.1
comp=Z,23nm,0.9s,SNR=10
SOKA *i* PKKP **PKKPbc** 03 18 43.6 -0.1
comp=Z,17nm,1.2s,SNR=6.2
STON Ston 122.83 318 *e*P **PKPdf** 03 08 47.9 -1.5
A050A Klekovaca 122.89 320 *e*P **PKPdf** 03 08 48.2 -1.4
CRES Cresnjev 122.93 322 ⇑*i*P **PKPdf** 03 08 48.2 -1.4
Y49A Blount Mountai 122.97 53 P **PKPdf** 03 08 49.1 -0.9
baz=286,SNR=11
BIOA Bad Ischl, Aus 123.08 325 *e*PKP **PKPdf** 03 08 48.5 -1.3
comp=Z,12nm,1.0s
BIOA *i* PKKP **PKKPbc** 03 18 42.1 -0.4
comp=Z,21nm,1.5s,SNR=6.1
BRAL Brewton 123.15 57 PKiKP **PKPdf** 03 08 49.9 -0.4
baz=284
OBKA Obir 123.15 323 *e*PKP **PKPdf** 03 08 48.9 -1.2
comp=Z,9.0nm,0.8s
OBKA *e*PKKP **PKKPbc** 03 18 42.7 +0.4
comp=Z,28nm,1.0s
OBKA Obir 123.15 323 ⇑*i*P **PKPdf** 03 08 48.0 -2.1
R50A Paris 123.18 48 P **PKPdf** 03 08 49.2 -1.1
baz=291
R50A P **PKPdf** 03 08 49.2 -1.1
baz=291
BOJS Bojanci 123.21 322 ⇑*i*P **PKPdf** 03 08 48.9 -1.2
BOJS Bojanci 123.21 322 *i* PKPdf **PKPdf** 03 08 49.2 -0.9
T50A Nancy 123.22 49 P **PKPdf** 03 08 49.4 -1.0
baz=290
T50A P **PKPdf** 03 08 49.4 -1.0
baz=290
VLDQ Val d'Or 123.30 35 **PKPdf** 03 08 48.9 -1.3
GRA1 Grafenberg Arr 123.32 328 IAMs_20 IAMs_20 04 03 42.1
comp=Z,2μm,20.0s
GRF Grafenberg Arr 123.32 328 *e*PKPdf **PKPdf** 03 08 49.6 -0.6
baz=55,slow=1.9
GRF *e*L L 04 03 41.6
comp=Z,2μm,20.9s
GRFO Grafenberg 123.32 328 **PKPdf** 03 08 49.8 -0.4
GRFO IAMs_20 IAMs_20 04 03 52.2
comp=Z,2μm,20.0s
GRFO Grafenberg 123.32 328 PKIKP **PKPdf** 03 08 49.8 -0.4
GRFO MLR MLR
comp=Z,2μm,20.0s
LJU Ljubljana 123.39 323 *i* PKPdf **PKPdf** 03 08 49.5 -0.9
ACSO Alum Creek Sta 123.43 45 PKiKP **PKPdf** 03 08 50.4 -0.3
baz=293
ACSO Alum Creek Sta 123.43 45 P **PKPdf** 03 08 49.7 -1.0
baz=293
W50A Signal Mountai 123.44 52 P **PKPdf** 03 08 49.6 -1.3
baz=288,SNR=29
KBA Koelnbreinsper 123.57 324 *e*PKP **PKPdf** 03 08 49.4 -1.6
comp=Z,8.7nm,0.6s
KBA *e*PKKP **PKKPbc** 03 18 40.6 -0.1
comp=Z,7.9nm,0.9s
N51A Ashland 123.58 44 P **PKPdf** 03 08 50.0 -1.0
baz=294
N51A P **PKPdf** 03 08 50.0 -1.0
baz=294
250A Grady 123.59 56 P **PKPdf** 03 08 50.5 -0.7
baz=285
CEY Cerknica 123.61 322 ⇑*i*P **PKPdf** 03 08 49.1 -1.8
Q51A Peebles 123.63 47 P **PKPdf** 03 08 50.5 -0.6
baz=292
Q51A P **PKPdf** 03 08 50.5 -0.6
baz=292
MYKA Terra Mystica 123.63 324 *e*PKP **PKPdf** 03 08 49.7 -1.3
comp=Z,6.5nm,0.8s
MYKA *i* PKKP **PKKPbc** 03 18 40.8 +0.4
comp=Z,17nm,0.9s,SNR=5.6
P51A Williamsport 123.66 46 **PKPdf** 03 08 50.1 -1.0
P51A Williamsport 123.66 46 P **PKPdf** 03 08 50.1 -1.0
baz=292
P51A P **PKPdf** 03 08 50.1 -1.0
baz=292
PRED Cave del Predi 123.77 323 IAMs_20 IAMs_20 04 08 48.3
comp=Z,2μm,21.0s
LESA Schwarzleotal 123.77 325 *e*PKP **PKPdf** 03 08 50.1 -1.1
comp=Z,24nm,0.6s
LESA *e*PKKP **PKKPbc** 03 18 39.9 0.0
comp=Z,27nm,1.3s
CADS Cadrg 123.78 323 *i* PKPdf **PKPdf** 03 08 49.5 -1.7
IVI Ivigtut 123.80 9 *i* P **PKPdf** 03 08 49.6 -1.1
KASTN Kahler Asten 123.85 330 *e*PKPdf **PKPdf** 03 08 50.9 -0.3
baz=55,slow=1.9
WIN Windhoek 123.88 238 **PKPdf** 03 08 52.4 +0.1
WIN Windhoek 123.88 238 PKIKP **PKPdf** 03 08 52.4 +0.1
S51A Beattyville 123.95 48 P **PKPdf** 03 08 50.8 -0.9

baz=291
S51A P PKPdf 03 08 50.8 -0.9
baz=291
SKDS Skadanscina 123.95 322 ⇑*i*P PKPdf 03 08 50.1 -1.5
SABO M.te Sabotino 123.98 323 IAMs_20 IAMs_20 04 09 01.4
comp=Z,2µm,20.0s
TEIG Tepich 123.99 70 IAMs_20 IAMs_20 03 52 44.6
comp=Z,3µm,22.0s
TEIG Tepich 123.99 70 PKP PKPdf 03 08 51.9 -0.3
comp=Z,122nm,0.6s,baz=108,slow=1.4,SNR=12
X51A Calhoun 123.99 52 PKPdf 03 08 51.5 -0.4
X51A Calhoun 123.99 52 P PKPdf 03 08 50.8 -1.1
baz=288,SNR=9.9
X51A P PKPdf 03 08 50.8 -1.1
baz=288,SNR=9.9
V51A Loudon 124.00 51 P PKPdf 03 08 50.8 -1.1
baz=289,SNR=15
Z51A Franklin 124.11 54 P PKPdf 03 08 51.5 -0.6
baz=287,SNR=16
SCHQ Schefferville 124.11 23 PKP PKPdf 03 08 51.5 -0.1
comp=Z,9.3nm,0.6s,baz=297,slow=2.0,SNR=22
SCHQ PKKPbc PKKPab 03 18 37.1 +0.7
comp=Z,7.7nm,0.8s,baz=92,slow=9.1,SNR=5.7
FUR Furstenfeldbru 124.16 326 *e*PKPdf PKPdf 03 08 51.3 -0.6
baz=55,slow=1.9
ABTA Abfaltersbach 124.23 324 *e*PKP PKPdf 03 08 50.2 -2.0
comp=Z,17nm,0.8s,SNR=8.2
ABTA *e*PKKP PKKPbc 03 18 38.2 +0.2
comp=Z,30nm,1.5s,SNR=5.2
P52A Corning 124.26 46 PKiKP PKPdf 03 08 52.0 -0.3
baz=293
O52A Adamsville 124.28 45 P PKPdf 03 08 51.4 -0.9
baz=294
O52A P PKPdf 03 08 51.4 -0.9
baz=294
TZTN Tazewell 124.36 50 PKiKP PKPdf 03 08 52.5 -0.1
baz=290
TZTN Tazewell 124.36 50 P PKPdf 03 08 51.4 -1.2
baz=290,SNR=18
ML02 Panimavida 124.42 142 PKPdf 03 08 52.8 +0.1
Q52A Bidwell 124.43 46 PKPdf 03 08 52.2 -0.4
Q52A Bidwell 124.43 46 P PKPdf 03 08 51.9 -0.7
baz=293
Q52A P PKPdf 03 08 51.9 -0.7
baz=293
TNS Taunus Mts 124.44 329 *e*PKPdf PKPdf 03 08 51.9 -0.5
baz=55,slow=1.9
WATA Walderalm 124.45 325 *i* PKP PKPdf 03 08 51.4 -1.2
comp=Z,40nm,1.2s,SNR=9.2
WATA *e*PKKP PKKPbc 03 18 36.7 -0.6
comp=Z,7.4nm,0.6s
WTTA Wattenberg 124.45 325 *i* PKP PKPdf 03 08 51.1 -1.6
comp=Z,22nm,0.6s,SNR=15
WTTA *e*PKKP PKKPbc 03 18 37.0 -0.2
comp=Z,17nm,1.1s
TKL Tuckaleechee C 124.49 51 P PKPdf 03 08 52.2 -0.7
baz=290,SNR=27
CIMO Cimolais 124.50 324 PKPdf 03 08 51.1 -1.5
M53A WI Miller and 124.53 43 PKiKP PKPdf 03 08 52.6 -0.2
baz=296
W52A Murphy 124.55 51 P PKPdf 03 08 52.9 -0.1
baz=289,SNR=29
V52A Sevierville 124.56 50 P PKPdf 03 08 52.4 -0.6
baz=290,SNR=39
152A Waverly Hall 124.66 54 P PKPdf 03 08 53.0 -0.3
baz=287
O53A New Philadelph 124.66 45 PKiKP PKPdf 03 08 53.0 -0.1
baz=294
N53A Lisbon 124.69 44 PKPdf 03 08 53.2 +0.1
ERPA Erie 124.69 42 PKiKP PKPdf 03 08 52.6 -0.5
baz=297
MOTA Moosalm 124.71 325 *i* PKP PKPdf 03 08 51.7 -1.4
comp=Z,49nm,0.8s,SNR=18
MOTA *e*PKKP PKKPbc 03 18 36.2 0.0
comp=Z,13nm,0.9s
SQTA Sankt Quirin 124.72 325 *i* PKP PKPdf 03 08 52.3 -0.8
comp=Z,35nm,0.9s,SNR=10.0
SQTA *e*PKKP PKKPbc 03 18 36.3 +0.1
comp=Z,12nm,0.9s
TSUM Tsumeb 124.79 242 PKiKP 03 08 54.8 +0.4
TSUM Tsumeb 124.79 242 IAMs_20 IAMs_20 03 59 45.7
comp=Z,3µm,20.0s
352A Blakely 124.82 56 P PKiKP 03 08 53.8 -0.1
baz=286
RETA Reutte 124.83 326 *e*PKP PKPdf 03 08 52.1 -1.1
comp=Z,12nm,1.0s
RETA *e*PKKP PKKPbc 03 18 35.8 +0.1
comp=Z,12nm,1.1s
Y52A Lilburn 124.83 53 P PKPdf 03 08 53.1 -0.5
baz=288,SNR=28
Y52A P PKPdf 03 08 53.1 -0.5
baz=288,SNR=28
P53A Whipple 124.85 45 P PKPdf 03 08 52.9 -0.5
baz=294
P53A P PKPdf 03 08 52.9 -0.5
baz=294
R53A Hurricane 124.90 47 P PKPdf 03 08 52.5 -1.1
baz=293
R53A P PKPdf 03 08 52.5 -1.1
baz=293
STU Stuttgart 124.94 328 *e*PKPdf PKPdf 03 08 52.8 -0.5
baz=55,slow=1.9
UBR Ueberruh 125.08 326 *e*PKPdf PKPdf 03 08 52.9 -0.8
baz=55,slow=1.9
FETA Feichten 125.11 325 *i* PKP PKPdf 03 08 52.9 -1.0
comp=Z,33nm,0.9s,SNR=11
FETA *e*PKKP PKKPbc 03 18 34.3 -0.3
comp=Z,16nm,1.5s
CTI Castel Tesino 125.11 324 PKPdf 03 08 53.1 -0.7
CTI Castel Tesino 125.11 324 PKiKP PKPdf 03 08 53.2 -0.7
V53A Saluda 125.22 50 P PKPdf 03 08 53.6 -0.7
baz=290,SNR=32
V53A P PKPdf 03 08 53.6 -0.7
baz=290,SNR=32
O54A Avella 125.27 44 P PKPdf 03 08 53.9 -0.3
baz=295
O54A P PKPdf 03 08 53.9 -0.3
baz=295
CASEE Lake Jocassee 125.36 51 P PKiKP 03 08 55.0 +0.1
baz=290,SNR=22
BTNL Ternell 125.36 331 *d*PKPdf PKPdf 03 08 53.4 -0.7
UPAO U. Pittsburgh 125.39 44 P PKPdf 03 08 54.6 +0.2
baz=296
MEM Membach 125.40 331 *d*PKPdf PKPdf 03 08 53.8 -0.4
DAVA Damuels 125.43 326 *i* PKP PKPdf 03 08 53.2 -1.3
comp=Z,40nm,0.8s,SNR=11
DAVA *e*Sdiff 03 18 37.4
comp=Z,6.7nm,0.8s
GOGA Godfrey 125.44 53 PKiKP PKPdf 03 08 54.6 -0.1
baz=288
GOGA Godfrey 125.44 53 P PKPdf 03 08 53.9 -0.8
baz=288
Q54A Coxs Mills 125.45 46 P PKPdf 03 08 53.8 -0.8
baz=294,SNR=23
Q54A P PKPdf 03 08 53.8 -0.8
baz=294,SNR=23
WVNY West Valley, N 125.48 41 PKPdf 03 08 54.6 0.0
WVNY West Valley, N 125.48 41 P PKPdf 03 08 54.1 -0.4
baz=298
S54A Dingess, Beckl 125.57 47 P PKPdf 03 08 53.8 -1.1
baz=293,SNR=8.7
S54A P PKPdf 03 08 53.8 -1.1
baz=293,SNR=8.7
BHOU Houvegnez 125.57 331 *d*PKPdf PKPdf 03 08 54.4 -0.1
553A Crawfordville 125.58 57 P PKPdf 03 08 55.1 +0.1
baz=285
FUORN Ofenpass-Fuorn 125.59 325 IAMs_20 IAMs_20 04 06 38.5
comp=Z,3µm,21.0s
VA05 Santo Domingo 125.65 139 PKPdf 03 08 54.9 -0.2
BFO Black Forest 125.66 328 PKPdf 03 08 54.1 -0.7
BFO Black Forest 125.66 328 PKiKP PKPdf 03 08 52.7 -2.1
BFO Black Forest 125.66 328 *e*PKPdf PKPdf 03 08 53.6 -1.1
baz=55,slow=1.9
U54A Nelsons Funny 125.67 49 P PKPdf 03 08 54.8 -0.3
baz=292,SNR=9.7
U54A P PKPdf 03 08 54.8 -0.3
baz=292,SNR=9.7
EKA Eskdalemuir Ar 125.72 340 PKP PKPdf 03 08 54.3 -0.3
comp=Z,9.7nm,0.6s,baz=23,slow=3.5,SNR=27
EKA PKKPbc PKKPbc 03 18 32.4 0.0
comp=Z,1.9nm,0.6s,baz=225,slow=3.4,SNR=5.7
ESK Eskdalemuir 125.74 340 IAMs_20 IAMs_20 04 05 39.5
comp=Z,2µm,20.0s
OTT Ottawa 125.77 37 PKiKP PKPdf 03 08 54.5 -0.5
M55A Ridgway 125.80 42 P PKPdf 03 08 54.2 -1.0
baz=298
M55A P PKPdf 03 08 54.2 -1.0
baz=298

CAMP Campotosto 125.81 319 PKPdf 03 08 54.1 -1.2
MCWV Mont Chateau 125.86 45 PKiKP PKPdf 03 08 55.4 0.0
baz=295
MCWV Mont Chateau 125.86 45 P PKiKP 03 08 56.3 +0.5
baz=295
BCLA Clavier 125.87 331 *d*PKPdf PKPdf 03 08 54.0 -1.0
AQU L'Aquila 125.90 319 IAMs_20 IAMs_20 04 11 12.9
comp=Z,3µm,21.0s
AQU L'Aquila 125.90 319 PKP PKPdf 03 08 54.7 -0.7
AQU L'Aquila 125.90 319 PKiKP PKPdf 03 08 54.4 -1.0
SLE Schleitheim 125.92 327 PKiKP PKPdf 03 08 53.4 -1.9
TIGA Tifton 125.93 55 PKiKP PKiKP 03 08 56.3 +0.1
baz=287
TIGA Tifton 125.93 55 P PKPdf 03 08 55.7 0.0
baz=287
WLF Walferdange 125.95 330 PKPdf PKiKP 03 08 56.2 +0.6
WLF Walferdange 125.95 330 *d*PKP PKPdf 03 08 54.7 -0.5
WLF Walferdange 125.95 330 PKP PKPdf 03 08 52.6 -2.6
WLF Walferdange 125.95 330 PKIKP PKiKP 03 08 56.2 +0.6
WLF Walferdange 125.95 330 *e*PKPdf PKPdf 03 08 55.3 +0.1
baz=55,slow=1.9
PSDB Penn State Uni 125.97 43 P PKiKP 03 08 57.0 +1.0
baz=297
154A Montrose 125.98 54 P PKiKP 03 08 56.6 +0.5
baz=288
BGES Gesves 125.99 331 *d*PKPdf PKPdf 03 08 54.2 -1.0
MURB Monte Urbino 126.02 320 IAMs_20 IAMs_20 04 05 46.0
comp=Z,2µm,20.0s
VA01 Torpederas 126.02 139 PKiKP 03 08 56.4 +0.1
RCHB Rochefort 126.08 331 *d*PKPdf PKPdf 03 08 54.6 -0.8
HODGE Hodges 126.13 52 P PKiKP 03 08 56.2 -0.2
baz=290
J56A Wolcott 126.17 39 P PKiKP 03 08 56.7 +0.4
baz=300
J56A P PKiKP 03 08 56.7 +0.4
baz=300
BMRD Maredsous 126.20 331 *d*PKPdf PKPdf 03 08 55.1 -0.6
MT02 Curacav 126.21 139 PKiKP 03 08 57.2 +0.5
R55A Marlinton 126.24 46 P PKPdf 03 08 55.9 -0.4
baz=294,SNR=35
R55A P PKPdf 03 08 55.9 -0.4
baz=294,SNR=35
PAULI Pauline 126.28 51 P PKPdf 03 08 55.4 -0.9
baz=290,SNR=26
L56A Greenwood 126.29 41 P PKPdf 03 08 55.5 -0.6
baz=299
L56A P PKPdf 03 08 55.5 -0.6
baz=299
ECH Echery 126.35 328 PKiKP 03 08 56.7 +0.2
ECH IAMs_20 IAMs_20 04 05 49.0
comp=Z,3µm,21.0s
ECH Echery 126.35 328 PKiKP PKiKP 03 08 56.7 +0.2
ECH MLR MLR
comp=Z,3µm,21.0s
DOU Dourbes 126.42 331 *d*PKPdf PKiKP 03 08 57.0 +0.5
BLA Blacksburg 126.45 48 PKiKP PKPdf 03 08 56.5 -0.1
baz=293
BLA Blacksburg 126.45 48 P PKPdf 03 08 56.4 -0.3
baz=293,SNR=22
ROC1 El Roble 126.46 139 PKPdf 03 08 57.2 +0.1
PABK Blue Knob Stat 126.47 43 P PKPdf 03 08 56.4 -0.2
baz=297
KMSC Kings Mountain 126.53 50 PKPdf 03 08 56.0 -0.8
KMSC Kings Mountain 126.53 50 PKiKP PKiKP 03 08 57.0 -0.2
baz=291
KMSC Kings Mountain 126.53 50 P PKPdf 03 08 56.9 +0.1
baz=291,SNR=19
WCNY West Carthage 126.56 38 P PKPdf 03 08 56.3 -0.3
baz=302
PEL Peldehue 126.57 140 PKIKP PKiKP 03 08 57.6 +0.1
Q56A Snyder Ridge, 126.59 45 P PKPdf 03 08 56.6 -0.2
baz=296,SNR=16
Q56A P PKPdf 03 08 56.6 -0.2
baz=296,SNR=16
J57A Williamstown 126.65 39 P PKPdf 03 08 56.9 +0.2
baz=301
J57A P PKPdf 03 08 56.9 +0.2
baz=301
K57A Scipio Center 126.67 40 P PKiKP 03 08 57.1 -0.2
baz=300
255A Hazlehurst 126.69 55 P PKPdf 03 08 57.3 +0.2
baz=288
SSPA Standing Stone 126.78 43 PKPdf 03 08 57.0 0.0
SSPA Standing Stone 126.78 43 PKiKP PKPdf 03 08 57.1 0.0
baz=298
SSPA Standing Stone 126.78 43 P PKPdf 03 08 57.0 0.0
baz=298,SNR=23
MT08 Bocatoma Ro 126.81 140 PKPdf PKiKP 03 09 00.2 +2.0
U56A King 126.81 49 P PKPdf 03 08 57.3 0.0
baz=293,SNR=6.3
U56A P PKPdf 03 08 57.3 0.0
baz=293,SNR=6.3
LONY Lake Ozonia 126.87 37 PKiKP PKPdf 03 08 56.6 -0.5
baz=304
JSC Jenkinsville 126.89 51 P PKiKP 03 08 58.0 0.0
baz=290
HAW Hawthorne Fire 126.93 53 P PKPdf 03 08 57.8 +0.2
baz=290
M57A Sunshine Farm, 126.95 42 P PKPdf 03 08 56.3 -1.1
baz=299,SNR=15
M57A P PKPdf 03 08 56.3 -1.1
baz=299,SNR=15
J58A Remsen 127.12 39 PKPdf 03 08 56.7 -1.0
J58A Remsen 127.12 39 P PKiKP 03 08 58.2 0.0
baz=302
J58A P PKiKP 03 08 58.2 0.0
baz=302
P57A Homestead Farm 127.22 44 P PKPdf 03 08 57.6 -0.4
baz=297,SNR=16
P57A P PKPdf 03 08 57.6 -0.4
baz=297,SNR=16
BINY Binghamton 127.27 40 PKiKP PKPdf 03 08 58.0 0.0
baz=300
BINY Binghamton 127.27 40 P PKPdf 03 08 58.1 +0.1
baz=300,SNR=12
ORTG Ortega, Santa 127.27 82 PKPdf PKiKP 03 09 00.6 +1.3
S57A Dark Hollow, R 127.30 46 P PKPdf 03 08 58.4 +0.2
baz=295,SNR=8.4
S57A P PKPdf 03 08 58.4 +0.2
baz=295,SNR=8.4
MSSA Maissana 127.31 323 IAMs_20 IAMs_20 04 08 02.1
comp=Z,2µm,20.0s
FRNY Flat Rock 127.34 36 P PKPdf 03 08 57.3 -0.7
baz=305,SNR=12
BIRD Birdtown, Kers 127.38 51 P PKiKP 03 08 58.7 -0.3
baz=291
T57A Hurt 127.39 47 P PKPdf 03 08 58.3 -0.1
baz=294
T57A P PKPdf 03 08 58.3 -0.1
baz=294
NCB Newcomb 127.44 37 P PKPdf 03 08 58.0 -0.3
baz=303,SNR=14
N58A Sunbury 127.47 42 P PKPdf 03 08 58.0 -0.4
baz=299,SNR=21
N58A P PKPdf 03 08 58.0 -0.4
baz=299,SNR=21
CO06 Fray Jorge 127.48 137 PKPdf 03 08 58.4 -0.3
J59A Piesco 127.54 38 PKPdf 03 08 57.8 -0.7
J59A Piesco 127.54 38 P PKPdf 03 08 57.8 -0.7
baz=303,SNR=14
J59A P PKPdf 03 08 57.8 -0.7
baz=303,SNR=14
W57A Gilead 127.55 50 P PKPdf 03 08 58.2 -0.5
baz=292
W57A P PKPdf 03 08 58.2 -0.5
baz=292
KSPA Keystone Colle 127.74 41 P PKPdf 03 08 58.2 -0.7
baz=300,SNR=8.9
JTS Las Juntas de 127.77 82 PKPdf 03 08 59.5 -0.2
JTS Las Juntas de 127.77 82 *e*P PKPdf 03 08 58.8 -1.0
JTS Las Juntas de 127.77 82 PKiKP PKPdf 03 08 59.5 -0.2
L59A Walton 127.88 40 P PKPdf 03 08 58.7 -0.5
baz=301,SNR=7.1
L59A P PKPdf 03 08 58.7 -0.5
baz=301,SNR=7.1
V58A Windy Hill, Pi 127.97 49 P PKPdf 03 08 59.6 +0.1
baz=293
V58A P PKPdf 03 08 59.6 +0.1
baz=293
R58B Mineral 127.98 46 P PKPdf 03 08 58.9 -0.6
baz=296,SNR=12
R58B P PKPdf 03 08 58.9 -0.6
baz=296,SNR=12
HCNY Howe Caverns 128.02 39 P PKiKP 03 08 59.7 -0.3
baz=302,SNR=9.1
TRQA Tornquist 128.06 150 PKiKP 03 09 00.4 +0.1
TRQA Tornquist 128.06 150 PKIKP PKiKP 03 09 00.4 +0.1

ACCN Adirondack Com 128.10 38 P PKPdf 03 08 59.3 -0.2
baz=304
VT1 Waterbury 128.11 36 P PKiKP 03 09 00.7 +0.5
baz=305,SNR=11
NHSC New Hope 128.15 52 PKiKP PKiKP 03 09 00.3 -0.2
baz=290
NHSC New Hope 128.15 52 P PKiKP 03 09 00.2 -0.2
baz=290
MCVT Middlebury Col 128.19 37 P PKPdf 03 08 58.8 -0.9
baz=305,SNR=8.7
CBN Corbin Frederi 128.23 45 PKiKP PKPdf 03 09 00.1 +0.2
baz=296
Y58A Scranton 128.26 51 P PKiKP 03 09 01.0 +0.3
baz=292
Y58A P PKiKP 03 09 01.0 +0.3
baz=292
X58A Rowland 128.28 50 P PKiKP 03 09 01.0 +0.3
baz=292
X58A P PKiKP 03 09 01.0 +0.3
baz=292
TRY Troy 128.46 38 P PKPdf 03 09 00.1 -0.1
baz=303,SNR=11
LUPA Lehigh Univers 128.47 42 PKiKP 03 09 00.9 -0.1
D62A Allapoint, All 128.48 31 P PKPdf 03 08 59.0 -1.1
baz=311,SNR=5.7
D62A P PKPdf 03 08 59.0 -1.1
baz=311,SNR=5.7
BNI Bardonecchia 128.55 325 IAMs_20 IAMs_20 04 07 13.4
comp=Z,2µm,21.0s
T59A Double "B" Far 128.64 47 P PKiKP 03 09 01.4 0.0
baz=296
T59A P PKiKP 03 09 01.4 0.0
baz=296
LBNH Lisbon 128.65 36 PKiKP PKPdf 03 09 00.7 +0.1
baz=306
LBNH Lisbon 128.65 36 P PKPdf 03 09 00.0 -0.5
baz=306,SNR=6.8
DWPF Disney Wildern 128.66 59 PKiKP PKPdf 03 09 01.0 0.0
baz=286
DWPF Disney Wildern 128.66 59 P PKiKP 03 09 01.7 0.0
baz=286
NPNY Mohonk Preserv 128.68 40 P PKPdf 03 08 59.3 -1.3
baz=302,SNR=6.9
GEDE Greenville 128.69 43 P PKPdf 03 08 59.9 -0.8
baz=299,SNR=11
U59A Littleton 128.72 48 P PKiKP 03 09 01.7 +0.1
baz=295
U59A P PKiKP 03 09 01.7 +0.1
baz=295
ODNJ Ogdensburg 128.73 41 P PKPdf 03 09 00.0 -0.8
baz=301,SNR=15
PSUB Penn St. - Bra 128.75 42 P PKPdf 03 09 01.1 +0.2
baz=300
F62A Pittston Farm, 128.75 33 P PKPdf 03 09 00.5 -0.2
baz=309
F62A P PKPdf 03 09 00.5 -0.2
baz=309
J61A Chester 128.79 37 P PKPdf 03 09 00.6 -0.2
baz=305,SNR=12
J61A P PKPdf 03 09 00.6 -0.2
baz=305,SNR=12
BRNY Black Rk. Fore 128.94 40 P PKPdf 03 09 01.3 +0.1
baz=302
CO01 Juntas del Tor 128.95 137 PKiKP 03 09 03.0 +0.4
CLF Chambon-Foret 128.96 331 PKPdf 03 09 00.8 -0.2
BRNJ Basking Ridge 128.96 41 PKiKP 03 09 02.3 +0.4
BRNJ Basking Ridge 128.96 41 P PKiKP 03 09 01.8 -0.1
baz=301,SNR=8.0
PANJ Princeton 129.03 42 P PKPdf 03 09 01.5 +0.2
baz=300,SNR=11
CNNC Cliffs of the 129.11 49 PKiKP PKPdf 03 09 01.9 +0.2
baz=294
LCO Las Campanas 129.13 135 PKiKP 03 09 02.8 -0.2
LCO Las Campanas 129.13 135 PKIKP PKiKP 03 09 02.8 -0.2
CFA Coronel Fontan 129.14 140 PKP PKiKP 03 09 02.6 0.0
comp=Z,101nm,0.9s,baz=245,slow=2.6,SNR=68
CFA SKPbc SKPbc 03 12 21.5 +2.5
comp=Z,19nm,1.1s,baz=232,slow=23,SNR=13
T60A Surry 129.16 46 P PKiKP 03 09 02.5 +0.1
baz=296
T60A P PKiKP 03 09 02.5 +0.1
baz=296
L61B Northampton 129.22 38 PKiKP PKPdf 03 09 01.9 +0.2
baz=304
L61B Northampton 129.22 38 P PKPdf 03 09 01.4 -0.3
baz=304,SNR=10
PAL Palisades 129.22 40 PKiKP PKPdf 03 09 02.0 +0.3
baz=302
PAL Palisades 129.22 40 P PKiKP 03 09 02.8 +0.4
baz=302,SNR=5.6
CPNY Central Park 129.30 41 PKiKP 03 09 02.8 +0.3
FOR Fordham 129.31 41 P PKiKP 03 09 02.9 +0.3
baz=302
F63A Nahmakanta, Br 129.34 33 P PKPdf 03 09 01.8 0.0
baz=310
F63A P PKPdf 03 09 01.8 0.0
baz=310
AC04 Llanos de Chal 129.34 134 PKiKP 03 09 03.8 +0.7
Y60A Bolivia 129.34 51 P PKiKP 03 09 03.2 +0.3
baz=293
Y60A P PKiKP 03 09 03.2 +0.3
baz=293
K62A Royalston 129.37 38 P PKPdf 03 09 02.2 +0.2
baz=305,SNR=5.9
K62A P PKPdf 03 09 02.2 +0.2
baz=305,SNR=5.9
QUA2 Belchertown 129.51 38 P PKPdf 03 09 02.5 +0.3
baz=304,SNR=6.5
PKME Peaks-Kenny Pk 129.52 33 PKiKP PKPdf 03 09 02.4 +0.3
baz=309
F64A Sherman 129.64 32 P PKPdf 03 09 02.1 -0.3
baz=311
F64A P PKPdf 03 09 02.1 -0.3
baz=311
V61A Roper 129.85 48 P PKiKP 03 09 03.8 -0.1
baz=296
V61A P PKiKP 03 09 03.8 -0.1
baz=296
HRV Adam Dziewonsk 129.87 38 PKiKP 03 09 03.4 -0.3
HRV Adam Dziewonsk 129.87 38 PKiKP PKPdf 03 09 02.9 0.0
baz=305
HRV Adam Dziewonsk 129.87 38 PKIKP PKiKP 03 09 03.4 -0.3
WES Weston 130.08 38 IAMs_20 IAMs_20 03 58 31.6
comp=Z,3µm,20.0s
GO03 Copiap 130.30 134 PKiKP 03 09 05.0 -0.2
M65A Busby, Falmout 130.97 38 PKiKP PKPdf 03 09 05.4 +0.4
baz=305
MCRA Macar, Loja 131.28 101 PKPdf 03 09 07.0 +0.5
MCRA Macar, Loja 131.28 101 *e*P PKPdf 03 09 06.5 0.0
KEST Kesra 131.80 314 PKPdf 03 09 06.7 -0.2
KEST Kesra 131.80 314 PKP PKiKP 03 09 07.4 -0.5
comp=Z,9.4nm,0.7s,baz=9.3,slow=1.4,SNR=11
ATAH Atahualpa 132.15 105 PKP PKiKP 03 09 11.0 +1.4
comp=Z,119nm,0.9s,baz=228,slow=0.8,SNR=69
ATAH SKPbc SKPab 03 12 32.3 +0.6
comp=Z,32nm,0.9s,baz=314,slow=5.1,SNR=7.5
NNA Nana 132.17 112 PKPdf 03 09 08.6 +0.5
NNA Nana 132.17 112 *e*P PKPdf 03 09 08.3 +0.2
NNA Nana 132.17 112 PKIKP PKPdf 03 09 08.6 +0.5
NNA Nana 132.17 112 PKP PKiKP 03 09 09.4 +0.2
comp=Z,187nm,1.1s,baz=278,slow=2.9,SNR=27
NNA SKPbc SKPab 03 12 33.7 +2.4
comp=Z,4.4nm,0.5s,baz=344,slow=1.4,SNR=4.3
COHC Cochancay 132.34 99 *e*P PKPdf 03 09 07.7 -0.7
BOSC San Juan Bosco 132.95 100 PKPdf PKiKP 03 09 10.6 -0.4
UPA Univ. de Panam 133.12 83 *e*P PKPdf 03 09 09.0 -0.8
PAC1 Pacto, Paraso 133.23 95 *e*P PKPdf 03 09 10.5 +0.2
PIAT Ana Tenorio 133.57 97 *e*P PKPdf 03 09 12.3 -0.2
OTAV Otavalo 133.57 96 PKPdf PKPdf 03 09 11.8 +0.5
OTAV Otavalo 133.57 96 *e*P PKPdf 03 09 11.9 +0.5
OTAV Otavalo 133.57 96 ⇑PKIKP PKiKP 03 09 12.1 -0.5
CUSE Cuicocha Este 133.63 95 *e*P PKPdf 03 09 11.2 -0.2
LVC Limon Verde 134.16 130 PKPdf PKiKP 03 09 12.9 -0.6
LVC Limon Verde 134.16 130 PKIKP PKiKP 03 09 12.9 -0.6
LVC Limon Verde 134.16 130 PKhKP PKPpre 03 08 57.1
comp=Z,8.7nm,0.9s,baz=307,slow=3.5,SNR=6.3
LVC PKP PKiKP 03 09 13.5 0.0
comp=Z,35nm,0.7s,baz=264,slow=3.4,SNR=20
LVC SKPbc SKPab 03 12 40.2 +0.1
comp=Z,9.7nm,1.0s,baz=206,slow=3.0,SNR=2.4
GR1C Gorgona, Isla 134.18 92 *e*P PKPdf 03 09 12.0 +0.1
CMBC Cumbal 134.28 95 *e*P PKiKP 03 09 14.5 +0.5
TULM Tulcn-Chalpat 134.29 95 *e*P PKiKP 03 09 14.2 +0.1
BONI La Bonita 134.51 95 *e*P PKiKP 03 09 14.1 -0.1
BBAC Balboa, Cauca 134.99 93 *e*P PKPdf 03 09 14.0 +0.4
MALC Bahia Malaga 135.10 90 *e*P PKiKP 03 09 15.6 +0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PB12	IPOC Station P	135.14	124	PKPdf	PKPdf	03 09 13.7	0.0
CRUC	La Cruz	135.23	94	eP	PKiKP	03 09 15.9	+0.1
CAPC	Capurgana	135.27	84	eP	PKPdf	03 09 13.8	-0.1
POPC	Popayan, Colom	135.62	93	eP	PKPdf	03 09 14.6	-0.2
JAMC	Jamundi, Valle	135.69	92	eP	PKPdf	03 09 15.2	+0.2
APAC	Apartado, Choc	136.03	85	eP	PKPdf	03 09 15.9	+0.6
YOTC	Yotoco, Valle	136.08	91	eP	PKPdf	03 09 15.6	0.0
GTBY	Guantanamo Bay	136.25	68	eP	PKPdf	03 09 14.6	-1.0
DBBC	Dabeiba	136.38	86	eP	PKPdf	03 09 16.8	+0.8
FLOC	Florencia	136.52	94	eP	PKPdf	03 09 16.9	+0.6
CBOC	Ciudad Bolivar	136.53	88	eP	PKPdf	03 09 15.9	-0.6
GARC	Garzon, Huila	136.75	93	eP	PKPdf	03 09 17.7	+0.7
HELC	Santa Helena	137.03	88	eP	PKPdf	03 09 17.9	+0.3
ANIL	Santa Ana	137.06	90	eP	PKPdf	03 09 17.1	-0.5
UREC	San Jos de Ur	137.07	85	eP	PKPdf	03 09 16.8	-0.4
GUY2C	Guyana, Caldas	137.14	89	eP	PKPdf	03 09 18.4	+0.5
ORTC	Ortega, Tolima	137.17	91	eP	PKPdf	03 09 17.8	+0.3
PTLC	Puerto Leguiza	137.17	96	eP	PKPdf	03 09 18.0	+0.5
UCM	Universidad Co	137.17	327	PKP	PKPdf	03 09 13.7	-3.0
CZSB	Cruzeiro do Su	137.40	108	eP	PKPdf	03 09 18.5	+0.6
SJCC	San Jacinto, C	137.40	82	eP	PKiKP	03 09 19.0	-0.8
PRAC	Prado	137.51	91	eP	PKPdf	03 09 18.2	+0.1
NORC	Norcasia	137.65	89	eP	PKPpre	03 09 07.0	
PBRG	Braganca	137.86	331	ePKPdf	PKiKP	03 09 19.6	-0.4
ES09	SONSECA Array	137.97	327	IAMs_20	IAMs_20	04 14 03.7	
	comp=Z,2µm,20.0s						
ES18	SONSECA Array	137.98	327	IAMs_20	IAMs_20	04 14 07.8	
	comp=Z,2µm,21.0s						
ES07	SONSECA Array	138.00	327	IAMs_20	IAMs_20	04 14 04.3	
	comp=Z,2µm,20.0s						
ES17	SONSECA Array	138.00	327	IAMs_20	IAMs_20	04 14 20.3	
	comp=Z,2µm,20.0s						
ES06	SONSECA Array	138.00	327	IAMs_20	IAMs_20	04 14 04.5	
	comp=Z,2µm,20.0s						
ESBB	Sonseca Array	138.01	327	IAMs_20	IAMs_20	04 14 07.7	
	comp=Z,2µm,21.0s						
ESDC	Sonseca Array	138.01	327	IAMs_20	IAMs_20	04 14 05.7	
	comp=Z,2µm,21.0s						
ESDC	Sonseca Array	138.01	327	PKhKP	PKPpre	03 09 06.7	
	comp=Z,3.8nm,1.3s,baz=26,slow=2.5,SNR=4.5						
ESDC				PKP	PKiKP	03 09 19.5	-0.9
	comp=Z,1.8nm,0.7s,baz=22,slow=2.3,SNR=9.0						
ESDC				PP	PP	03 12 08.5	+2.4
	comp=Z,3.5nm,1.2s,baz=33,slow=6.6,SNR=5.0						
ESDC				SKPbc	SKPbc	03 12 49.6	+1.5
	comp=Z,1.7nm,0.8s,baz=24,slow=4.6,SNR=4.2						
ESDC				PKKP	PKKPdf	03 18 51.2	-0.3
	comp=Z,0.8nm,0.5s,baz=283,slow=1.3,SNR=8.2						
ES05	SONSECA Array	138.02	327	IAMs_20	IAMs_20	04 14 05.9	
	comp=Z,2µm,20.0s						
ES12	SONSECA Array	138.02	327	IAMs_20	IAMs_20	04 14 07.1	
	comp=Z,2µm,21.0s						
ES15	SONSECA Array	138.04	327	IAMs_20	IAMs_20	04 14 21.4	
	comp=Z,2µm,20.0s						
ES14	SONSECA Array	138.04	327	IAMs_20	IAMs_20	04 14 21.5	
	comp=Z,2µm,20.0s						
PTBC	PUERTO BERRIO,	138.11	87	eP	PKPpre	03 09 07.7	
LPAZ	La Paz	138.11	123	eP	PKPpre	03 09 12.0	
LPAZ	La Paz	138.11	123	PKhKP	PKPpre	03 09 08.8	
	comp=Z,43nm,1.1s,baz=262,slow=1.7,SNR=29						
LPAZ				PKP	PKiKP	03 09 21.3	-0.6
	comp=Z,175nm,1.0s,baz=316,slow=2.0,SNR=34						
LPAZ				SKPbc	SKiKP	03 12 52.9	-0.9
	comp=Z,30nm,1.1s,baz=241,slow=2.5,SNR=4.1						
ROSC	El Rosal	138.16	90	eP	PKPpre	03 09 12.7	
ROSC	El Rosal	138.16	90	PKhKP	PKPpre	03 09 10.5	
	comp=Z,92nm,0.6s,baz=107,slow=2.7,SNR=37						
ROSC				SKPbc	SKiKP	03 12 53.2	-0.4
	comp=Z,27nm,0.9s,baz=276,slow=21,SNR=6.4						
SMRC	Santa Marta, M	138.28	80	eP	PKPdf	03 09 19.8	+0.4
PAB	San Pablo	138.31	327	IAMs_20	IAMs_20	04 15 05.7	
	comp=Z,2µm,20.0s						
PAB	San Pablo	138.31	327	⇑PKIKP	PKPdf	03 09 19.1	+0.2
CVER	Cruz Verde, Cu	138.38	90	eP	PKPpre	03 09 14.2	
PGAV	Gavieira, Arco	138.44	333	ePKPdf	PKPdf	03 09 18.2	-0.9
SPBC	San Pablo de B	138.45	88	eP	PKPpre	03 09 09.6	
MVO	Moncorvo	138.49	331	ePKPdf	PKiKP	03 09 20.7	-0.6
POLO	Lamas de Olo	138.69	332	ePKPdf	PKiKP	03 09 21.6	-0.2
VILC	Villavicencio,	138.73	91	eP	PKPpre	03 09 13.5	
CHIC	Chingaza	138.73	90	eP	PKPpre	03 09 14.3	
PVRL	Vila Real	138.73	332	ePKPdf	PKiKP	03 09 21.2	-0.6
PVIS	Viseu	139.25	331	ePKPdf	PKiKP	03 09 22.9	0.0
OCAC	Ocana	139.26	85	eP	PKPpre	03 09 14.8	
MTE	Manteigas	139.32	331	ePKP	PKPpre	03 09 11.3	
MTE	Manteigas	139.32	331	ePKPdf	PKPdf	03 09 20.4	-0.4
MTE	Manteigas	139.32	331	IAMs_20	IAMs_20	04 14 34.2	
	comp=Z,3µm,21.0s						
BARC	Barichara	139.37	87	eP	PKPpre	03 09 12.6	
RUSC	La Rusia	139.44	88	eP	PKPpre	03 09 12.7	
CPUP	Villa Florida	139.59	144	PKPdf	PKPdf	03 09 21.3	-0.3
CPUP	Villa Florida	139.59	144	PKIKP	PKPdf	03 09 21.3	-0.3
CPUP	Villa Florida	139.59	144	PKhKP	PKPpre	03 09 12.2	
	comp=Z,19nm,0.9s,baz=240,slow=2.5,SNR=16						
CRJC	Cerrejon, Guaj	139.61	80	eP	PKPpre	03 09 13.5	
PCBR	Castelo Branco	139.72	330	ePKP	PKPpre	03 09 13.0	
PCBR	Castelo Branco	139.72	330	ePKPdf	PKPdf	03 09 21.4	0.0
PAMC	Pamplona, Colo	139.87	86	eP	PKPpre	03 09 15.0	
SDDR	Presa de Saban	139.98	68	PKPdf	PKPdf	03 09 22.3	-0.2
SDDR	Presa de Saban	139.98	68	eP	PKPpre	03 09 18.2	
PMRV	Marv??o	139.99	330	ePKP	PKPpre	03 09 13.7	
PMRV	Marv??o	139.99	330	ePKPdf	PKPdf	03 09 21.7	-0.2
PCAS	Casmilo, Conde	140.05	331	ePKPdf	PKiKP	03 09 26.0	+1.5
BBSR	BB Station	140.11	45	IAMs_20	IAMs_20	04 06 05.2	
	comp=Z,2µm,20.0s						
PTGC	Puerto Gaitan,	140.28	91	eP	PKPpre	03 09 15.1	
URIC	Uribia, Colomb	140.43	79	eP	PKPpre	03 09 16.0	
PESTR	Estremoz	140.51	329	ePKPdf	PKiKP	03 09 24.8	-0.7
PESTR	Estremoz	140.51	329	IAMs_20	IAMs_20	04 12 58.8	
	comp=Z,2µm,21.0s						
PMTG	Montargil	140.68	330	ePKPdf	PKiKP	03 09 27.1	+1.3
PBAR	Barrancos	140.75	328	ePKP	PKPpre	03 09 15.6	
TAMC	Tame, Arauca	140.75	87	eP	PKPpre	03 09 16.4	
EVO	Evora	140.99	329	ePKP	PKPpre	03 09 13.2	
TBTG	Tabatinga, AM	141.06	104	eP	PKPpre	03 09 17.7	
PBEJ	Beja	141.29	329	ePKP	PKPpre	03 09 18.9	
PBEJ	Beja	141.29	329	ePKPdf	PKiKP	03 09 27.9	+0.8
MESJ	Messejana	141.62	329	ePKP	PKPpre	03 09 20.0	
MESJ	Messejana	141.62	329	ePKPdf	PKPdf	03 09 25.1	+0.2
MESJ	Messejana	141.62	329	IAMs_20	IAMs_20	04 14 05.0	
	comp=Z,2µm,22.0s						
PCVE	Castro Verde	141.68	328	ePKP	PKPpre	03 09 19.2	
PCVE	Castro Verde	141.68	328	ePKPdf	PKiKP	03 09 29.8	+1.9
SDV	Santo Domingo	141.91	83	eP	PKPpre	03 09 18.9	
SDV	Santo Domingo	141.91	83	PKhKP	PKPpre	03 09 21.5	
	comp=Z,123nm,0.8s,baz=264,slow=1.8,SNR=132						
SDV				SKPbc	SKiKP	03 13 02.3	+1.2
	comp=Z,47nm,1.0s,baz=12,slow=20,SNR=11						
MORF	Marmelete	142.25	329	ePKPdf	PKPdf	03 09 26.3	+0.2
HATO	Hato, Curacao	143.34	78	IAMs_20	IAMs_20	04 02 59.6	
	comp=Z,3µm,22.0s						
SIV	San Ignacio	144.00	128	PKP	PKPbc	03 09 28.3	+0.6
	comp=Z,141nm,0.6s,baz=234,slow=3.7,SNR=601						
BAUV	El Baul	144.47	83	eP	PKPab	03 09 28.3	-0.6
SJG	San Juan	144.91	67	PKPdf	PKPab	03 09 30.1	-0.3
SJG				IAMs_20	IAMs_20	04 06 10.2	
	comp=Z,2µm,21.0s						
SJG	San Juan	144.91	67	eP	PKPab	03 09 28.9	-1.5
SJG	San Juan	144.91	67	PKP	PKPab	03 09 29.4	-1.1
	comp=Z,218nm,0.9s,baz=348,slow=1.6,SNR=80						
SJG				SKPbc	SKiKP	03 13 11.6	+4.7
	comp=Z,11nm,0.8s,baz=90,slow=8.6,SNR=3.6						
SHEL	Horse Pasture	145.74	230		PKPdf	03 09 32.6	-0.2
SHEL	Horse Pasture	145.74	230	PKP2	PKPdf	03 09 32.6	-0.2
SAML	Samuel	145.75	116		PKPdf	03 09 32.8	0.0
SAML	Samuel	145.75	116	eP	PKPdf	03 09 32.9	+0.1
SAML	Samuel	145.75	116	PKP2	PKPdf	03 09 32.8	0.0
TOA0	Torodi Ar. Sit	145.81	284	PKPbc	PKPdf	03 09 33.1	+0.2
TORD	Torodi Ar. Bea	145.81	284		PKPdf	03 09 32.5	-0.3
TORD	Torodi Ar. Bea	145.81	284	PKPbc	PKPdf	03 09 31.6	-1.2
	comp=Z,100nm,0.7s,baz=50,slow=3.4,SNR=286						
TORD				SKKPbc	SKKPbc	03 20 59.4	-3.0
	comp=Z,14nm,1.1s,baz=301,slow=3.4,SNR=8.9						
PTLB	Pontes e Lacer	145.82	129	PKPbc	PKPbc	03 09 33.1	-0.2
SMRT	St. Maarten	147.73	66	IAMs_20	IAMs_20	04 10 10.8	
	comp=Z,2µm,22.0s						
PCRV	Puerto La Cruz	147.75	81	PKPbc	PKPbc	03 09 38.5	-0.5
	comp=Z,146nm,0.5s,baz=353,slow=2.2,SNR=158						
MBFL	Flemmings, Mon	148.90	68	eP	PKPdf	03 09 38.8	+0.9
MLYT	Lee's Yard	148.93	68	eP	PKPdf	03 09 38.4	+0.4
ANBD	Bethesda, Anti	149.22	67	eP	PKPdf	03 09 37.8	-0.6
PMPST	Porto Santo, M	149.38	333	ePKPdf	PKPbc	03 09 42.5	-0.2
ABD	La Joyeuse, An	149.64	68	eP	PKPdf	03 09 40.1	+1.0
CBE	Ff, Capester	149.64	69	eP	PKPdf	03 09 40.0	+0.9
PMAR	Madeira	149.94	333	ePKPdf	PKPbc	03 09 44.3	0.0
MAGL	Barre de l'ile	149.98	69		PKPbc	03 09 44.2	-0.4
MAGL	Barre de l'ile	149.98	69	eP	PKPdf	03 09 39.1	-0.6
GDSD	La Dsirade Is	150.08	68	IAMs_20	IAMs_20	04 15 36.1	
	comp=Z,2µm,22.0s						
SVN	Savane Anatole	150.36	71	IAMs_20	IAMs_20	04 17 24.1	
	comp=Z,1µm,20.0s						
SVN	Savane Anatole	150.36	71	eP	PKPdf	03 09 40.0	-0.3
FDF	Fort de France	150.41	71	IAMs_20	IAMs_20	04 17 36.5	
	comp=Z,1µm,20.0s						
GRHS	Sauteurs	150.43	76	eP	PKPdf	03 09 36.7	-3.7
GRGR	Grenville	150.43	76	eP	PKPdf	03 09 42.6	+2.2
GRGR	Grenville	150.43	76	eP	PKPdf	03 09 38.5	-1.9
BIM	Bigot	150.53	71	eP	PKPdf	03 09 40.0	-0.5
GCMP	Grenada, Carri	150.60	76	eP	PKPdf	03 09 33.4	-7.2
SVB	Belmont	150.62	74	eP	PKPdf	03 09 40.3	-0.4
SLBI	Saint Lucia, B	150.73	72	eP	PKPdf	03 09 39.6	-1.2
MPOM	Morne Pois Mar	150.75	71		PKPbc	03 09 46.3	-0.1
MPOM				IAMs_20	IAMs_20	04 19 59.2	
	comp=Z,1µm,20.0s						
MPOM	Morne Pois Mar	150.75	71	eP	PKPdf	03 09 38.5	-2.4
TRN	Trinidad (W)	150.87	79	eP	PKPdf	03 09 41.0	-0.1
BBGH	Gun Hill	152.26	73	eP	PKiKP	03 09 52.6	+2.4
KIC	Kosan Boka	152.61	272	ePKIKP	PKPdf	03 09 43.0	-0.8
	comp=Z,43nm,1.0s						
DBIC	Dimbokro	152.73	273		PKPdf	03 09 42.8	-1.1
DBIC				PKPbc	PKiKP	03 09 51.3	0.0
DBIC	Dimbokro	152.73	273	PKP	PKPdf	03 09 43.7	-0.3
	comp=Z,20nm,1.0s,baz=63,slow=2.2,SNR=10						
DBIC				PKPbc	PKiKP	03 09 51.7	+0.5
	comp=Z,64nm,0.7s,baz=93,slow=3.1,SNR=33						
TIC	Toumodi	152.89	273	ePKIKP	PKPdf	03 09 43.5	-0.7
	comp=Z,33nm,1.0s						
LIC	Lamto	152.89	272	ePKIKP	PKPdf	03 09 43.4	-0.8
	comp=Z,38nm,0.9s						
BDFB	Brasilia	153.32	144		PKPdf	03 09 44.8	-0.1
BDFB	Brasilia	153.32	144	PKIKP	PKPdf	03 09 44.8	-0.1
BDFB	Brasilia	153.32	144	PKP	PKPdf	03 09 46.2	+1.3
	comp=Z,136nm,0.9s,baz=170,slow=1.0,SNR=153						
BDFB				PKPbc	PKiKP	03 09 53.6	+1.1
	comp=Z,260nm,0.8s,baz=210,slow=1.9,SNR=43						
MACI	Morro de la Ar	153.42	328		PKPbc	03 09 52.1	-0.4
MDP	Montagnes des	159.73	92	PKP	PKPdf	03 09 53.4	+0.3
	comp=Z,37nm,1.1s,baz=315,slow=1.6,SNR=9.6						
MDP				PKPab	PKPab	03 10 31.9	-0.2
	comp=Z,77nm,0.8s,baz=248,slow=4.9,SNR=13						

*TEH **01** 02:51:49.0, 30.°70N×57.°37E, h21km±47km, ML3.6*
*IDC **01** 02:51:49.8±3.2, 30.°99N×57.°30E, h0km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=93.8km s-min=28.4km az=157.0*
ISC 01 02:51:49.5±0.9**, 30.°71N**±0.°05×**57.°38E**±0.°05**, h10km, n19,** σ**1.s01**/20**, mb3.5**/4**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.77	289	Pg	Pg	02 52 03.0	-1.3
ZRDN				Sg	Sg	02 52 14.6	+0.1
KHGB	Koh Gabri	0.85	247	Pg	Pg	02 52 04.4	-1.5
CHMN	Cheshme madani	0.86	171	Pg	Pg	02 52 04.7	-1.4
TVBK	TV Kerman	0.90	217	Pg	Pg	02 52 06.0	-0.9
NGRK	Negar Kerman	1.21	208	Pg	Pg	02 52 11.4	-1.2
IBAF	Bafgh	1.78	300	Pg	Pn	02 52 20.8	+0.3
KBAM	BAM	1.83	149	Pn	Pn	02 52 21.7	+0.7
IKOO	Kooshah	2.20	39	Pn	Pn	02 52 26.1	-0.2
TPRV	Parvadeh(Tabas	2.38	346	Pn	Pn	02 52 29.5	+0.8
IMEH	Mehriz	2.47	287	Pn	Pn	02 52 29.4	-0.6
ITEG	Tejag	2.47	28	Pn	Pn	02 52 30.3	+0.4
BAGH	Bagheran - Bir	2.58	37	Pn	Pn	02 52 30.9	-0.7
IDAH	Dahanechah	2.93	46	Pn	Pn	02 52 36.9	+0.5
ICHK	Chekchek	2.96	302	Pn	Pn	02 52 36.5	-0.2
ISAD	Sadrabad	3.38	292	Pn	Pn	02 52 44.2	+1.6
BRTR	Keskin Array B	21.33	301	P	P	02 56 36.0	-0.8
	0.2nm,0.3s,baz=124,slow=13,SNR=1.7						
	0.2nm,0.3s						
MKAR	Makanchi Array	25.05	43	P	P	02 57 13.7	-0.1
	1.1nm,1.0s,baz=233,slow=9.8,SNR=2.4						
	1.1nm,1.0s						
KURBB	Kurchatov Arra	25.39	32	P	P	02 57 17.3	+0.5
	0.9nm,0.7s,baz=231,slow=8.8,SNR=7.2						
	0.9nm,0.7s						
TORD	Torodi Ar. Bea	54.00	264	P	P	03 01 15.8	+1.7
	0.8nm,0.8s,baz=58,slow=8.0,SNR=2.3						
	0.8nm,0.8s						

GUC 01 02:52:44.8±0.4**, 24.°03S**×**67.°45W, h227km**±8km**, ML3.9, 5C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB15	IPOC Station P	2.02	293	⇑iP	Pn	02 53 25.6	-0.3
PB15				eS	S	02 53 56.9	-0.9
PB15				IAML		02 54 01.2	
	comp=E,1µm,0.5s						
PB06	IPOC Station P	2.35	304	⇑iP	Pn	02 53 29.0	-0.1
PB06				eS	S	02 54 02.6	-0.9
PB06				IAML		02 54 05.3	
	comp=E,280nm,0.2s						
PB09	IPOC Station P	2.77	323	⇑eP	Pn	02 53 34.1	+0.5
PB09				eS	S	02 54 10.9	-0.7
PB09				IAML		02 54 12.8	
	comp=N,98nm,0.5s						
PB05	IPOC Station P	2.79	294	i P	Pn	02 53 33.8	+0.2
PB05				eS	S	02 54 10.5	-1.3
PB05				IAML		02 54 13.9	
	comp=N,68nm,0.2s						
PB04	IPOC Station P	3.00	304	⇑eP	Pn	02 53 36.2	+0.1
PB04				eS	S	02 54 15.4	-0.8
PB04				IAML		02 54 24.6	
	comp=N,149nm,0.4s						
PB07	IPOC Station P	3.21	315	eP	Pn	02 53 38.6	+0.1
PB07				eS	S	02 54 20.0	-0.5
PB02	IPOC Station P	3.52	320	eP	Pn	02 53 41.9	-0.1
PB02				eS	S	02 54 25.7	-1.2
PB01	IPOC Station P	3.52	327	⇑iP	Pn	02 53 41.6	-0.4
PB01				eS	S	02 54 25.7	-1.2
PATCX	Punta Patache	4.05	321	eP	Pn	02 53 48.5	+0.1
PATCX				i S	S	02 54 37.5	-0.9
PB08	IPOC Station P	4.18	337	eP	Pn	02 53 50.0	-0.2
PB08				i S	S	02 54 41.1	-0.6
PB11	IPOC Station P	4.71	334	eP	Pn	02 53 55.9	-0.7
PB11				i S	S	02 54 51.5	-1.7

*IDC **01** 02:57:47.5±1.7, 30.°69N×57.°25E, h0km, mb3.9/4, mbtmp3.8/6, ML3.5/2, Error ellipse: s-maj=36.4km s-min=33.2km az=23.0*
*TEH **01** 02:57:48.3, 30.°73N×57.°39E, h8km±72km, ML4.0*
ISC 01 02:57:48.8±0.7**, 30.°73N**±0.°04×**57.°39E**±0.°04**, h10km, n38,** σ**1.s46**/38**, mb3.8**/4**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.77	288	Pg	Pg	02 58 03.2	-0.5
KHGB	Koh Gabri	0.86	246	Pg	Pg	02 58 04.8	-0.7
CHMN	Cheshme madani	0.88	172	Pg	Pg	02 58 04.8	-1.0
TVBK	TV Kerman	0.92	216	Pg	Pg	02 58 06.6	0.0
NGRK	Negar Kerman	1.23	208	Pg	Pb	02 58 11.8	-0.5
IBAF	Bafgh	1.78	299	Pg	Pb	02 58 21.3	-0.3
KBAM	BAM	1.84	150	Pn	Pb	02 58 22.0	-0.6
BSRN	Basiran	1.93	50	Pn	Pb	02 58 23.1	-1.0
IKOO	Kooshah	2.18	39	Pn	Pn	02 58 26.5	+1.2
TPRV	Parvadeh(Tabas	2.37	346	Pn	Pn	02 58 28.9	+1.1
NHDN	Nehbandan	2.38	73	Pn	Pb	02 58 30.4	-1.3
ITEG	Tejag	2.45	28	Pn	Pn	02 58 30.4	+1.5
IMEH	Mehriz	2.47	286	Pn	Pn	02 58 31.1	+1.7
BAGH	Bagheran - Bir	2.56	37	Pn	Pn	02 58 32.6	+1.9
KHNJ	Kahnooj	2.79	174	Pn	Pn	02 58 35.6	+2.1
TKDS	Koohdasht(Taba	2.88	356	Pn	Pn	02 58 35.8	+0.9
IDAH	Dahanechah	2.91	46	Pn	Pn	02 58 37.9	+2.5
ICHK	Chekchek	2.96	301	Pn	Pn	02 58 37.2	+1.2
AFRZ	Afriz	3.02	27	Pn	Pn	02 58 38.7	+1.9
IMON	Monand	3.12	38	Pn	Pn	02 58 40.9	+2.6
TNSJ	Nastanj	3.29	349	Pn	Pn	02 58 42.1	+1.7
ISAD	Sadrabad	3.38	291	Pn	Pn	02 58 43.8	+1.8
GENO	Geno	3.49	198	Pn	Pn	02 58 44.9	+1.7
SHRT	Shahrakht	3.81	40	Pn	Pn	02 58 49.5	+1.9
ANAR	Anarak	3.96	309	Pn	Pn	02 58 50.6	+0.9
IRAM	Ramesheh	4.42	285	Pn	Pn	02 58 57.6	+1.4
IZEF	Zefreh	4.82	298	Pn	Pn	02 59 03.3	+1.7
IPAY	Payeh	5.86	13	Pn	Pn	02 59 17.4	+1.5
IPIR	Pirpir	5.87	291	Pn	Pn	02 59 17.2	+1.1
QAMS	Qamsar	5.89	302	Pn	Pn	02 59 17.7	+1.3
IAKL	Akhelmad	5.96	11	Pn	Pn	02 59 18.7	+1.3
IDMV	Damavand	6.60	318	Pn	Pn	02 59 27.3	+1.2
GEYT	Alibeck	7.20	5	Pn	Pn	02 59 36.3	+2.1
	0.4nm,0.3s,baz=189,slow=16,SNR=1.5						
	0.8nm,0.3s						
AKTO	Aktyubinsk	19.69	1	P	P	03 02 16.8	-1.2
	0.3nm,0.3s,baz=189,slow=10.0,SNR=6.1						
	1.9nm,0.6s						
BRTR	Keskin Array B	21.33	301	P	P	03 02 36.6	+0.6
	1.3nm,0.8s,baz=114,slow=12,SNR=5.7						
	1.3nm,0.8s						
GERES	GERESS Array B	37.53	311	P	P	03 05 02.6	-0.3
	1.1nm,0.8s,baz=120,slow=7.9,SNR=4.3						
	1.1nm,0.8s						
TORD	Torodi Ar. Bea	54.01	264	P	P	03 07 12.4	-1.1
	3.6nm,0.8s,baz=68,slow=5.1,SNR=2.0						
	3.6nm,0.8s						
WRA	Warramunga Arr	89.40	114	P	P	03 10 46.8	+0.7
	1.0nm,1.1s,baz=317,slow=4.0,SNR=1.8						
	1.0nm,1.1s						

*TEH **01** 03:19:00.1, 30.°70N×57.°31E, h16km±20km, ML4.3*
*IDC **01** 03:19:00.5±1.2, 30.°69N×57.°30E, h0km, mb3.6/11, mbtmp3.6/15, ML3.5/4, Error ellipse: s-maj=24.1km s-min=20.2km az=133.0*
ISC 01 03:19:02.7±0.6**, 30.°69N**±0.°04×**57.°29E**±0.°05**, h15km, n35,** σ**0.s97**/36**, mb3.5**/11**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.70	293	Pg	Pg	03 19 15.4	-1.1
KHGB	Koh Gabri	0.77	246	Pg	Pg	03 19 16.3	-1.3
TVBK	TV Kerman	0.83	213	Pg	Pg	03 19 18.0	-1.0
CHMN	Cheshme madani	0.85	165	Pg	Pg	03 19 17.9	-1.4
NGRK	Negar Kerman	1.15	205	Pg	Pb	03 19 23.6	-0.9
IBAF	Bafgh	1.73	302	Pg	Pb	03 19 34.0	-0.2
KBAM	BAM	1.85	147	Pn	Pn	03 19 34.1	+0.1
BSRN	Basiran	2.02	51	Pn	Pn	03 19 36.4	-0.1
KHNJ	Kahnooj	2.76	172	Pn	Pn	03 19 46.9	+0.5
ICHK	Chekchek	2.91	303	Pn	Pn	03 19 49.4	+0.7
AFRZ	Afriz	3.10	28	Pn	Pn	03 19 51.4	+0.2
ISAD	Sadrabad	3.32	293	Pn	Pn	03 19 55.8	+1.5
GENO	Geno	3.42	197	Pn	Pn	03 19 56.8	+1.2
SHRT	Shahrakht	3.90	40	Pn	Pn	03 20 03.5	+1.4
ANAR	Anarak	3.92	310	Pn	Pn	03 20 02.9	+0.4
IZEF	Zefreh	4.76	299	Pn	Pn	03 20 15.6	+1.4
JASK	Jask - Hormozg	4.83	174	Pn	Pn	03 20 16.8	+1.8
TBJM	Torbat-e-JAM	5.23	28	Pn	Pn	03 20 20.4	-0.2
SRVN	Saravan	5.54	125	Pn	Pn	03 20 25.6	+0.8
IAKL	Akhelmad	6.02	11	Pn	Pn	03 20 32.6	+1.0
GEYT	Alibeck	7.25	5	Pn	Pn	03 20 49.0	+0.8
	0.7nm,0.3s,baz=195,slow=16,SNR=2.1						
	2.2nm,0.7s						
WSAR	Wadi Sarin	7.52	171	Pn	Pn	03 20 52.7	+0.9
	1.7nm,0.3s,baz=15,slow=11,SNR=9.9						
WSAR				Sn	Sn	03 22 18.4	+1.6
	baz=51,slow=6.5						
	6.5nm,0.5s						
AAK	Ala-Archa	18.20	44	P	P	03 23 15.6	+0.4
	0.1nm,0.3s,baz=213,slow=9.2,SNR=2.1						
	1.4nm,0.8s						
AKTO	Aktyubinsk	19.73	1	P	Pn	03 23 31.7	-1.5
	0.1nm,0.3s,baz=164,slow=10,SNR=4.4						
	1.5nm,0.6s						
BRTR	Keskin Array B	21.27	302	P	P	03 23 48.7	0.0
	0.4nm,0.4s,baz=111,slow=12,SNR=2.4						
	0.4nm,0.4s						
BVAR	Borovoye Array	24.28	19	P	P	03 24 19.3	0.0
	0.9nm,0.7s,baz=197,slow=4.6,SNR=3.8						
	0.9nm,0.7s						
MKAR	Makanchi Array	25.12	43	P	P	03 24 26.4	-0.6
	0.4nm,0.7s,baz=231,slow=8.3,SNR=2.6						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	25.45	32	P	P	03 24 29.2	-0.7
	0.7nm,0.7s,baz=232,slow=8.5,SNR=1.7						
	0.7nm,0.7s						
AKASG	Malin Array Be	28.92	322	P	P	03 25 02.0	+1.0
	0.1nm,0.3s,baz=124,slow=8.6,SNR=1.6						
	0.1nm,0.3s						
ZALV	Zalesovo Beam	30.55	33	P	P	03 25 15.2	-0.3
	1.3nm,0.7s,baz=242,slow=11,SNR=4.6						
	1.3nm,0.7s						
FINES	FINESS Array B	36.93	336	P	P	03 26 11.7	+1.0
	3.2nm,1.1s,baz=107,slow=9.3,SNR=1.1						
	3.2nm,1.1s						
GERES	GERESS Array B	37.49	312	P	P	03 26 15.1	-0.8
	0.5nm,0.7s,baz=90,slow=8.8,SNR=2.2						
	0.5nm,0.7s						
EKA	Eskdalemuir Ar	48.73	319	P	P	03 27 46.5	-0.1
	1.4nm,0.7s,baz=93,slow=5.8,SNR=2.5						
	1.4nm,0.7s						
TORD	Torodi Ar. Bea	53.92	264	P	P	03 28 25.5	-0.5
	0.5nm,0.7s,baz=52,slow=7.6,SNR=4.3						
	0.5nm,0.7s						
YKA	Yellowknife Ar	86.92	356	P	P	03 31 47.4	+0.8
	0.2nm,0.6s,baz=356,slow=5.6,SNR=1.7						
	0.2nm,0.6s						

*IDC **01** 03:19:11.5±0.8, 30.°64N×57.°33E, h0km, mb3.9/17, mbtmp4.0/22, ML3.7/5, MS4.6/1, Error ellipse: s-maj=17.5km s-min=16.3km az=153.0*
ISC 01 03:19:14.2±0.6**, 30.°67N**±0.°06×**57.°3E**±0.°1**, h15km, n24,** σ**0.s80**/25**, mb3.9**/18**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GEYT	Alibeck	7.28	5	Pn	Pn	03 21 00.1	+0.1
	0.7nm,0.3s,baz=196,slow=19,SNR=2.2						
GEYT				Sn	Sn	03 22 24.4	+2.0
	0.7nm,0.3s,baz=235,slow=36,SNR=2.1						
	1.5nm,0.4s						
WSAR	Wadi Sarin	7.50	170	Pn	Pn	03 21 03.1	+0.1
	2.2nm,0.3s,baz=346,slow=10.0,SNR=5.1						
WSAR				Sn	Sn	03 22 29.9	+2.0
	0.5nm,0.3s,baz=302,slow=13,SNR=2.1						
	25nm,0.7s						
ASF	Jabal al Asfar	17.46	280	P	Pn	03 23 17.7	+0.3
	0.3nm,0.3s,baz=89,slow=8.9,SNR=7.0						
	2.9nm,0.7s						
EIL	Elat	19.33	273	P	Pn	03 23 40.2	+0.1
	0.2nm,0.3s,baz=161,slow=3.7,SNR=4.2						
	6.5nm,1.0s						
AKTO	Aktyubinsk	19.75	1	P	P	03 23 43.6	+0.2
	0.4nm,0.3s,baz=175,slow=10.0,SNR=9.4						
	3.4nm,0.6s						
BRTR	Keskin Array B	21.28	302	P	P	03 24 00.6	+0.4
	3.6nm,0.8s,baz=118,slow=11,SNR=9.1						
	3.6nm,0.8s						
BVAR	Borovoye Array	24.30	19	P	P	03 24 30.8	-0.2
	3.6nm,0.7s,baz=203,slow=7.2,SNR=13						
	3.6nm,0.7s						
MKAR	Makanchi Array	25.14	43	P	P	03 24 38.1	-0.5
	1.0nm,0.9s,baz=232,slow=7.0,SNR=3.2						
	1.0nm,0.9s						
KURBB	Kurchatov Arra	25.48	32	P	P	03 24 41.7	+0.2
	1.5nm,0.7s,baz=232,slow=9.2,SNR=5.9						
	1.5nm,0.7s						
AKASG	Malin Array Be	28.93	322	P	P	03 25 12.5	0.0
	1.3nm,0.5s,baz=122,slow=8.7,SNR=5.7						
	1.3nm,0.5s						
ZALV	Zalesovo Beam	30.57	33	P	P	03 25 27.6	+0.4
	3.1nm,0.7s,baz=242,slow=9.3,SNR=9.9						
	3.1nm,0.7s						
FINES	FINESS Array B	36.94	336	P	P	03 26 21.8	-0.6
	1.9nm,0.8s,baz=114,slow=8.5,SNR=5.8						
	1.9nm,0.8s						
GERES	GERESS Array B	37.50	312	P	P	03 26 27.2	-0.1
	2.7nm,0.8s,baz=98,slow=9.6,SNR=9.2						
	2.7nm,0.8s						
HFS	Hagfors	41.26	328	P	P	03 26 58.7	+0.3
	2.0nm,0.8s,baz=151,slow=13,SNR=2.4						
	2.0nm,0.8s						
ARCES	ARCESS Array B	42.88	344	P	P	03 27 10.9	-0.7
	1.4nm,0.7s,baz=142,slow=18,SNR=1.5						
	1.4nm,0.7s						
EKA	Eskdalemuir Ar	48.74	319	P	P	03 27 58.1	+0.1
	0.9nm,0.5s,baz=104,slow=6.8,SNR=5.1						
	0.9nm,0.5s						
ESDC	Sonseca Array	50.01	298	P	P	03 28 07.6	-0.4
	0.6nm,0.7s,baz=62,slow=7.5,SNR=4.8						
	0.6nm,0.7s						
SPITS	Spitsbergen Ar	50.88	350	P	P	03 28 15.1	+1.0
	29nm,1.1s,baz=125,slow=17,SNR=2.6						
JMIC	Jan Mayen	53.46	338	LR	LR	03 53 51.2	

comp=Z,620nm,21.3s,baz=63,slow=39
TORD Torodi Ar. Bea 53.91 264 P **P 03 28 37.1 -0.2**
2.8nm,0.8s,baz=52,slow=8.3,SNR=15
2.8nm,0.8s
ILAR Eielson Array 83.01 10 P **P 03 31 37.5 -1.0**
0.1nm,0.6s,baz=320,slow=4.1,SNR=4.5
0.1nm,0.6s
YKA Yellowknife Ar 86.94 356 P **P 03 31 58.2 0.0**
0.5nm,0.9s,baz=349,slow=4.8,SNR=5.5
0.5nm,0.9s
WRA Warramunga Arr 89.46 114 P **P 03 32 09.9 -1.1**
0.9nm,0.8s,baz=316,slow=4.0,SNR=5.1
0.9nm,0.8s
ASAR Alice Springs 91.14 117 P **P 03 32 17.9 -0.9**
1.0nm,1.1s,baz=308,slow=5.3,SNR=3.2
1.0nm,1.1s

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*TEH **01** 03:25:18.0, 30.72N×57.40E, h8km±18km, ML3.3*
*IDC **01** 03:25:20.6±1.4, 30.67N×57.15E, h0km, mb3.4/4, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=36.0km s-min=31.1km az=56.0*
ISC 01 03:25:21.3±0.8**, 30.68N**±0.06×**57.31E**±0.07**, h10km, n12, σ1^{s}32**/12**, mb3.4**/4**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.72**	**293**	Pg	**Pg**	**03 25 34.1**	**-1.2**
KHGB	**Koh Gabri**	**0.78**	**247**	Pg	**Pg**	**03 25 35.8**	**-0.6**
TVBK	**TV Kerman**	**0.84**	**215**	Pg	**Pg**	**03 25 37.0**	**-0.5**
CHMN	**Cheshme madani**	**0.84**	**166**	Pg	**Pg**	**03 25 35.9**	**-1.7**
NGRK	**Negar Kerman**	**1.15**	**206**	Pg	**Pg**	**03 25 42.5**	**-0.9**
IBAF	**Bafgh**	**1.75**	**302**	Pg	**Pb**	**03 25 53.3**	**-0.3**
ITEG	**Tejag**	**2.52**	**29**	Pn	**Pn**	**03 26 01.6**	**-1.0**
WSAR	**Wadi Sarin**	**7.51**	**171**	Pn	**Pn**	**03 27 11.2**	**+0.3**
	0.8nm,0.3s,baz=351,slow=9.4,SNR=6.2						
	4.8nm,0.6s						
BRTR	**Keskin Array B**	**21.30**	**302**	P	**P**	**03 30 09.3**	**+1.1**
	0.7nm,0.8s,baz=113,slow=9.5,SNR=3.8						
	0.7nm,0.8s						
BVAR	**Borovoye Array**	**24.28**	**19**	P	**P**	**03 30 39.2**	**+0.6**
	0.5nm,0.6s,baz=212,slow=5.1,SNR=2.3						
	0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**53.94**	**264**	P	**P**	**03 34 44.4**	**-1.1**
	1.0nm,0.9s,baz=51,slow=8.6,SNR=4.4						
	1.0nm,0.9s						
WRA	**Warramunga Arr**	**89.44**	**114**	P	**P**	**03 38 21.2**	**+2.5**
	0.2nm,0.7s,baz=306,slow=2.8,SNR=2.0						
	0.2nm,0.7s						

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*IDC **01** 03:33:53.6±2.3, 32.89N×140.89E, h0km, mb3.9/2, mbtmp3.8/4, ML3.2/2, Error ellipse: s-maj=49.6km s-min=17.7km az=43.0*
*JMA **01** 03:33:56.4±0.2, 33.3N±0.5×141E±°, h57km, MV3.3/21, E OFF HACHIJOJIMA ISLAND*
ISC 01 03:33:54.8±1.8**, 33.14N**±0.05×**141.11E**±0.08**, h32km**±14km**, n15, σ1^{s}62**/24**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.08**	**269**	P	**Pb**	**03 34 15.0**	**0.0**
JHJ2				eS	**Sb**	**03 34 28.4**	**-0.4**
JHCJ	**Hachijojimakas**	**1.10**	**267**	eP	**Pb**	**03 34 15.1**	**-0.2**
JHJ	**Hachijo jima 2**	**1.11**	**269**	Pn	**Pb**	**03 34 15.2**	**-0.2**
	73nm,0.3s,baz=76,slow=8.3,SNR=28						
JHJ				Sn	**Sn**	**03 34 27.7**	**-0.6**
	221nm,0.3s,baz=83,slow=23,SNR=8.1						
JAOM	**Aogashimamukai**	**1.32**	**240**	P	**Pb**	**03 34 19.4**	**+0.4**
JAOM				eS	**Sb**	**03 34 35.6**	**+0.1**
JMKN	**Mikurajimanish**	**1.47**	**301**	P	**Pn**	**03 34 19.1**	**+0.1**
BSO1	**Boso 1**	**1.51**	**356**	P	**Pn**	**03 34 19.5**	**+0.4**
BSO1				eS	**Sn**	**03 34 36.7**	**-0.7**
JMYK	**Miyake Tsubota**	**1.59**	**306**	eP	**Pn**	**03 34 20.9**	**+0.3**
JMYK				eS	**Sn**	**03 34 38.7**	**-1.4**
BSO3	**Boso 3**	**1.73**	**344**	P	**Pn**	**03 34 22.2**	**-0.1**
JIM2	**Oshima 3**	**2.10**	**319**	P	**Pn**	**03 34 27.3**	**-0.4**
JIM2				eS	**Sn**	**03 34 49.6**	**-3.1**
JOD2	**Odawara 2**	**2.70**	**322**	P	**Pn**	**03 34 36.2**	**+0.2**
JOD2				eS	**Sn**	**03 35 03.6**	**-3.9**
SHZ3	**Shizuoka 3**	**3.08**	**309**	eP	**Pn**	**03 34 43.2**	**+2.0**
MJAR	**Matsushiro Arr**	**4.14**	**326**	Pn	**Pn**	**03 34 57.5**	**+1.7**
	0.3nm,0.3s,baz=154,slow=35,SNR=12						
MJAR				Sn	**Sn**	**03 35 43.4**	**+0.2**
	0.1nm,0.3s,baz=141,slow=12,SNR=1.1						
	3.0nm,0.5s						
JCJ	**Chichijima**	**6.10**	**171**	Pn	**Pn**	**03 35 21.8**	**-0.8**
	3.4nm,0.3s,baz=311,slow=20,SNR=1.2						
JCJ				Sn	**Sn**	**03 36 27.9**	**-3.4**
	4.0nm,0.3s,baz=291,slow=21,SNR=1.8						
	11nm,0.4s						
WRA	**Warramunga Arr**	**53.18**	**188**	P	**P**	**03 43 11.2**	**+1.4**
	1.0nm,0.5s,baz=4.6,slow=7.6,SNR=19						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**56.91**	**188**	P	**P**	**03 43 38.4**	**+1.7**
	0.4nm,0.4s,baz=6.0,slow=7.4,SNR=7.3						
	0.4nm,0.4s						

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*TEH **01** 03:34:58.2, 30.70N×57.36E, h8km±20km, ML5.5*
*BJI **01** 03:34:58.3, 30.75N×57.09E, h13km, mb4.9/69, mB5.5/34, Ms5.3/46, Ms7 5.0/45*
*IDC **01** 03:34:58.6±0.4, 30.61N×57.36E, h0km, mb4.8/32, mbtmp4.8/41, ML4.4/9, MS5.0/38, Error ellipse: s-maj=11.2km s-min=9.8km az=176.0*
*DSN **01** 03:34:59.8±0.8, 30.71N×58.11E, h15km, ML5.0/11, Ms4.5/9, Error ellipse: s-maj=28.7km s-min=6.7km az=114.0*
*MOS **01** 03:34:59.5±1.1, 30.70N×57.45E, h11km, mb5.3/56, MS4.9/19, Error ellipse: s-maj=4.2km s-min=2.8km az=112.0*
*GCMT **01** 03:35:00.8±0.2, 30.61N±0.01×57.27E±0.02, h12km, MW5.4/115, Moment Tensor Solution. s32,c42; s115,c190; Duration: 1^{s}3 Moment tensor: Scale 10^{17} Nm; M_{rr}0.65±.03; $M_{\theta\theta}$-0.92±.03; $M_{\phi\phi}$0.26±.03; $M_{r\theta}$-0.11±.09; $M_{\theta\phi}$0.89±.02; $M_{\phi r}$1.19±.10; Best double couple: $M_0$1.69300×10^{17} NP1:ϕ_s336.00000°,δ75.00000°, λ130.00000°. NP2:ϕ_s83.00000°,δ43.00000°,λ23.00000°. Principal axes: T 1.7630, Plg45.0000°, Azm286.0000°; N -0.1400, Plg39.0000°, Azm143.0000°; P -1.6230, Plg19.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*THR **01** 03:35:00.4±0.5, 30.75N×57.40E, h15km, ML5.5*
*NEIC **01** 03:35:01.8±1.7, 30.72N±0.06×57.39E±0.08, h10km±1km, mb5.1/204, Mww5.4/17, Error ellipse: s-maj=11.9km s-min=10.7km az=114.0*
*NEIC **01** 03:35:02.1, 30.72N×57.36E, h14km*
*OMAN **01** 03:35:02.8±0.1, 30.58N×57.24E, h10km, mb5.5/41, ml5.2/3, ms4.4/13, Error ellipse: s-maj=1.5km s-min=0.8km az=282.0*
*NEIC **01** 03:35:02.1, 30.72N×57.36E, h14km, Moment Tensor Solution. Duration: 2^{s}4 Moment tensor: Scale 10^{17}Nm; M_{rr}0.84; $M_{\theta\theta}$-0.76; $M_{\phi\phi}$-0.08; $M_{r\theta}$-0.36; $M_{\theta\phi}$0.71; $M_{\phi r}$1.23; Fault plane solution: $M_0$1.67000×10^{17} NP1: ϕ_s332.60000°,δ73.24000°,λ115.85000°. NP2: ϕ_s93.36000°,δ30.49000°,λ34.63000°. Principal axes: T 1.6981, Plg54.0000°, Azm275.0000°; N -0.0570, Plg25.0000°, Azm145.0000°; P -1.6410, Plg24.0000°, Azm43.0000°;*
ISC 01 03:35:01.3±0.4**, 30.65N**±0.03×**57.37E**±0.03**, h9km**±2km**, h9km:pP-P, n1070, σ1^{s}28**/1087**, mb5.0**/247**, MS5.0**/68**, 30C-28D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.78**	**294**	Pg	**Pg**	**03 35 14.0**	**-2.5**
CHMN	**Cheshme madani**	**0.80**	**169**	Pg	**Pg**	**03 35 15.6**	**-1.2**
KHGB	**Koh Gabri**	**0.82**	**251**	Pg	**Pg**	**03 35 15.1**	**-2.0**
TVBK	**TV Kerman**	**0.85**	**219**	Pg	**Pg**	**03 35 16.5**	**-1.2**
NGRK	**Negar Kerman**	**1.15**	**209**	Pg	**Pg**	**03 35 22.2**	**-1.2**
KBAM	**BAM**	**1.78**	**148**	Pn	**Pn**	**03 35 32.5**	**+0.2**
IBAF	**Bafgh**	**1.81**	**302**	Pg	**Pn**	**03 35 32.5**	**-0.2**
BSRN	**Basiran**	**1.99**	**48**	ePn	**Pn**	**03 35 34.3**	**-1.0**
BSRN				IAML		03 36 05.2	
	comp=N,34µm,0.5s						
BSRN				IAML		03 36 05.5	
	comp=E,23µm,0.6s						
BSRN	**Basiran**	**1.99**	**48**	Pn	**Pn**	**03 35 34.9**	**-0.4**
IKOO	**Kooshah**	**2.25**	**38**	Pn	**Pn**	**03 35 38.2**	**-0.7**
TPRV	**Parvadeh(Tabas**	**2.44**	**346**	Pn	**Pn**	**03 35 40.7**	**-0.7**
IMEH	**Mehriz**	**2.48**	**288**	Pn	**Pn**	**03 35 41.7**	**-0.4**
ITEG	**Tejag**	**2.53**	**27**	Pn	**Pn**	**03 35 42.4**	**-0.3**
BAGH	**Bagheran - Bir**	**2.64**	**36**	Pn	**Pn**	**03 35 43.5**	**-0.7**
KHNJ	**Kahnooj**	**2.71**	**174**	Pn	**Pn**	**03 35 45.6**	**+0.5**
YZKH	**Yazd**	**2.94**	**307**	ePn	**Pn**	**03 35 48.2**	**0.0**
YZKH				IAML		03 36 36.0	
	comp=N,11µm,0.3s						
YZKH				IAML		03 36 37.5	
	comp=E,11µm,0.7s						
TKDS	**Koohdasht(Taba**	**2.96**	**356**	Pn	**Pn**	**03 35 47.8**	**-0.7**
IDAH	**Dahanechah**	**2.98**	**45**	Pn	**Pn**	**03 35 48.7**	**-0.2**
ICHK	**Chekchek**	**2.99**	**303**	Pn	**Pn**	**03 35 48.8**	**-0.3**
TABS	**Tabas**	**3.00**	**356**	ePn	**Pn**	**03 35 48.4**	**-0.6**
TABS				IAML		03 36 43.5	
	comp=N,12µm,0.5s						
AFRZ	**Afriz**	**3.10**	**26**	Pn	**Pn**	**03 35 49.7**	**-0.8**
ZHSF	**Zahedan**	**3.13**	**109**	ePn	Pn	03 35 37.4	-13
IBND	**Bandar-abas**	**3.27**	**193**	Pn	**Pn**	**03 35 53.6**	**+0.9**
TNSJ	**Nastanj**	**3.36**	**349**	Pn	**Pn**	**03 35 53.8**	**-0.3**
ISAD	**Sadrabad**	**3.40**	**293**	Pn	**Pn**	**03 35 54.6**	**-0.1**
GENO	**Geno**	**3.41**	**198**	Pn	**Pn**	**03 35 56.8**	**+2.0**
BNDS	**Bandar-Abbas**	**3.41**	**198**	ePn	**Pn**	**03 35 57.1**	**+2.3**
SHRT	**Shahrakht**	**3.88**	**39**	ePn	**Pn**	**03 36 00.4**	**-0.8**
SHRT	**Shahrakht**	**3.88**	**39**	Pn	**Pn**	**03 36 00.8**	**-0.4**
JHRM	**Jahrom**	**3.94**	**238**	Pn	**Pn**	**03 36 02.9**	**+0.9**
LAR1	**LAR**	**3.96**	**222**	Pn	**Pn**	**03 36 03.4**	**+1.1**
ANAR	**Anarak**	**4.00**	**310**	Pn	**Pn**	**03 36 02.9**	**+0.1**
SHI	**Shiraz**	**4.33**	**258**	Pn	**Pn**	**03 36 07.9**	**+0.5**
QIR1	**Qir**	**4.35**	**241**	Pn	**Pn**	**03 36 08.7**	**+1.1**
IRAM	**Ramesheh**	**4.43**	**286**	Pn	**Pn**	**03 36 09.6**	**+0.8**
NASN	**Na'in**	**4.44**	**300**	ePn	**Pn**	**03 36 09.1**	**0.0**
GHIR	**Ghir-Karzin**	**4.49**	**239**	ePn	**Pn**	**03 36 10.6**	**+1.0**
SHME	**Shamm**	**4.71**	**194**	i P	**Pn**	**03 36 13.9**	**+1.4**
	SNR=46						
SHME	**Shamm**	**4.71**	**194**	P	**Pn**	**03 36 14.2**	**+1.6**
	SNR=25						
JASK	**Jask - Hormozg**	**4.79**	**175**	P	**Pn**	**03 36 15.9**	**+2.3**
	SNR=24						
JASK	**Jask - Hormozg**	**4.79**	**175**	Pn	**Pn**	**03 36 14.4**	**+0.8**
IZEF	**Zefreh**	**4.84**	**299**	Pn	**Pn**	**03 36 14.4**	**-0.1**
IGAR	**Gharneh**	**4.87**	**292**	Pn	**Pn**	**03 36 15.3**	**+0.4**
LMD1	**Lamerd**	**4.95**	**229**	Pn	**Pn**	**03 36 16.1**	**+0.4**
KLNJ	**Kolanjah**	**4.98**	**276**	Pn	**Pn**	**03 36 16.8**	**+0.2**
TBHD	**Torbat heydari**	**5.00**	**18**	Pn	**Pn**	**03 36 16.1**	**-0.5**
TBJM	**Torbat-e-JAM**	**5.23**	**28**	Pn	**Pn**	**03 36 19.5**	**-0.3**
UMQ	**Umm Al-Quwin**	**5.33**	**197**	i P	**Pn**	**03 36 23.1**	**+2.1**
	SNR=13						
UMQ	**Umm Al-Quwin**	**5.33**	**197**	P	**Pn**	**03 36 23.1**	**+2.1**
	SNR=13						
MASF	**Masafi**	**5.37**	**192**	P	**Pn**	**03 36 24.0**	**+2.4**
	SNR=124						
MASF				S	**Sn**	**03 37 24.1**	**+0.5**
IBRJ	**Brojen**	**5.38**	**285**	Pn	**Pn**	**03 36 21.8**	**-0.1**
MSFE	**Esma-Masafi**	**5.38**	**192**	i P	**Pn**	**03 36 23.1**	**+1.3**
	SNR=124						
SHRO	**Shahrood**	**5.44**	**348**	ePn	**Pn**	**03 36 22.5**	**-0.2**
SHRO				IAML		03 37 59.2	
	comp=E,2µm,0.7s						
SHRO				IAML		03 38 04.5	
	comp=N,2µm,0.7s						
SRVN	**Saravan**	**5.46**	**125**	Pn	**Pn**	**03 36 24.2**	**+1.2**
KRSH	**Karshahi**	**5.53**	**308**	Pn	**Pn**	**03 36 23.6**	**-0.3**
HRA	**Herat**	**5.55**	**47**		**Pn**	**03 36 24.3**	**0.0**
IKLH	**Kolahrood**	**5.59**	**300**	Pn	**Pn**	**03 36 25.7**	**+0.8**
IANJ	**Anjilo**	**5.61**	**330**	Pn	**Pn**	**03 36 25.0**	**-0.1**
IMOG	**Moghan**	**5.69**	**16**	Pn	**Pn**	**03 36 26.1**	**0.0**
ISFB	**Sefidab**	**5.69**	**312**	Pn	**Pn**	**03 36 26.0**	**-0.1**
SBZV	**Sabzevar**	**5.72**	**2**	Pn	**Pn**	**03 36 25.7**	**-1.0**
CHBR	**Chabahar**	**5.74**	**151**	Pn	**Pn**	**03 36 24.5**	**-2.1**
ZNGN	**Zangian**	**5.76**	**286**	Pn	**Pn**	**03 36 28.2**	**+1.0**
UOSS	**Minazif**	**5.78**	**191**	Pn	**Pn**	**03 36 28.6**	**+1.4**
UOSS	**Minazif**	**5.78**	**191**	i P	**Pn**	**03 36 28.6**	**+1.4**
	SNR=64						
UOSS	**Minazif**	**5.78**	**191**	P	**Pn**	**03 36 29.2**	**+2.0**
UOSS				S	**Sn**	**03 37 33.0**	**-0.6**
DSBU	**Dashti - Bushe**	**5.79**	**248**	Pn	**Pn**	**03 36 27.2**	**-0.3**
JRKH	**Jarkhoshk**	**5.80**	**25**	Pn	**Pn**	**03 36 28.0**	**+0.4**
NAZ	**Nazwa, Dubai**	**5.84**	**195**	i P	**Pn**	**03 36 29.7**	**+1.6**
	SNR=182						
NAZ				S	**Sn**	**03 37 40.4**	**+5.2**
NAZ	**Nazwa, Dubai**	**5.84**	**195**	P	**Pn**	**03 36 30.4**	**+2.4**
	SNR=70						
NAZ				S	**Sn**	**03 37 35.3**	**+0.1**
IPIR	**Pirpir**	**5.88**	**292**	Pn	**Pn**	**03 36 31.1**	**+2.2**
HATD	**Hatta, Dubai**	**5.91**	**191**	i P	**Pn**	**03 36 30.2**	**+1.2**
	SNR=84						
HATD	**Hatta, Dubai**	**5.91**	**191**	P	**Pn**	**03 36 31.3**	**+2.4**
	SNR=83						
HATD				S	**Sn**	**03 37 39.1**	**+2.3**
QAMS	**Qamsar**	**5.92**	**303**	Pn	**Pn**	**03 36 30.5**	**+1.0**
IPAY	**Payeh**	**5.94**	**13**	Pn	**Pn**	**03 36 29.6**	**0.0**
JHBN	**Jahan bin**	**5.94**	**287**	Pn	**Pn**	**03 36 30.4**	**+0.7**
ILAS	**Lasjerd**	**6.00**	**323**	Pn	**Pn**	**03 36 31.2**	**+0.8**
IAKL	**Akhelmad**	**6.05**	**11**	Pn	**Pn**	**03 36 30.8**	**-0.4**
ASHO	**Ashiyiah**	**6.06**	**191**	i P	**Pn**	**03 36 32.5**	**+1.4**
	SNR=200						
ASHO	**Ashiyiah**	**6.06**	**191**	P	**Pn**	**03 36 33.2**	**+2.2**
	SNR=200						
ASHO				S	**Sn**	**03 37 40.9**	**+0.4**
FAQ	**Al Faqa, Dubai**	**6.09**	**195**	i P	**Pn**	**03 36 33.2**	**+1.7**
	SNR=142						
FAQ	**Al Faqa, Dubai**	**6.09**	**195**	P	**Pn**	**03 36 33.5**	**+2.0**
	SNR=142						
IMYA	**Miami**	**6.12**	**21**	Pn	**Pn**	**03 36 32.1**	**+0.2**
NGCH	**Negor - Chabah**	**6.24**	**147**	P	**Pn**	**03 36 34.3**	**+0.8**
	SNR=27						
NGCH	**Negor - Chabah**	**6.24**	**147**	Pn	**Pn**	**03 36 33.1**	**-0.3**
ASUD	**Al Ashush, Dub**	**6.27**	**197**	i P	**Pn**	**03 36 35.9**	**+2.0**
	SNR=70						
ASUD	**Al Ashush, Dub**	**6.27**	**197**	P	**Pn**	**03 36 36.4**	**+2.4**
	SNR=67						
IFIR	**Firoozkooh**	**6.30**	**323**	Pn	**Pn**	**03 36 33.7**	**-0.9**
IKIA	**Kiasar**	**6.34**	**332**	Pn	**Pn**	**03 36 34.1**	**-1.0**
IKRD	**Kardeh**	**6.36**	**16**	Pn	**Pn**	**03 36 35.5**	**0.0**
GHVR	**GHOM**	**6.39**	**308**	ePn	**Pn**	**03 36 36.6**	**+0.9**
ISFR	**Sfrayin**	**6.41**	**5**	Pn	**Pn**	**03 36 36.0**	**-0.1**
AJN	**Ajban**	**6.42**	**200**	i P	**Pn**	**03 36 37.4**	**+1.3**
	SNR=16						
AJN	**Ajban**	**6.42**	**200**	P	**Pn**	**03 36 37.6**	**+1.6**
	SNR=41						
AJN				S	**Sn**	**03 37 49.3**	**-0.2**
SOHO	**SOHO**	**6.54**	**187**	i P	**Pn**	**03 36 37.9**	**+0.3**
	SNR=91						
SOHO	**SOHO**	**6.54**	**187**	P	**Pn**	**03 36 38.2**	**+0.6**
SOHO				S	**Sn**	**03 37 54.7**	**+2.5**
IGLO	**Ghaloghah**	**6.54**	**334**	Pn	**Pn**	**03 36 38.7**	**+0.8**
IALA	**Alasht**	**6.62**	**326**	Pn	**Pn**	**03 36 39.1**	**0.0**
IDMV	**Damavand**	**6.65**	**319**	Pn	**Pn**	**03 36 39.2**	**-0.1**
DAMV	**Damavand**	**6.72**	**319**	ePn	**Pn**	**03 36 39.8**	**-0.6**
ALNE	**Al Ain**	**6.73**	**193**	i P	**Pn**	**03 36 40.9**	**+0.6**
	SNR=94						
ALNE	**Al Ain**	**6.73**	**193**	P	**Pn**	**03 36 41.7**	**+1.5**
	SNR=91						
ALNE				S	**Sn**	**03 37 58.7**	**+1.7**
IQOM	**Qom**	**6.75**	**310**	Pn	**Pn**	**03 36 40.5**	**-0.3**
IMND	**Minoodasht**	**6.79**	**347**	Pn	**Pn**	**03 36 40.7**	**-0.4**
JRN	**Qarnain Island**	**6.96**	**216**	P	**Pn**	**03 36 43.8**	**+0.4**
	SNR=17						
JRN				S	**Sn**	**03 38 04.0**	**+1.4**
IPRN	**Peran**	**6.98**	**324**	Pn	**Pn**	**03 36 44.1**	**+0.3**
KHMZ	**Khomeyn**	**7.00**	**298**	ePn	**Pn**	**03 36 44.3**	**+0.2**
IHSB	**Hasanabad**	**7.00**	**315**	Pn	**Pn**	**03 36 43.7**	**-0.3**
AMIS	**Naft Sefid**	**7.00**	**280**	Pn	Pn	03 36 48.6	+4.6
HOQ	**Hoqain**	**7.04**	**180**	P	**Pn**	**03 36 45.0**	**+0.4**
	SNR=62						
HOQ				S	**Sn**	**03 38 06.8**	**+2.0**
HOQ	**Hoqain**	**7.04**	**180**	Pn	**Pn**	**03 36 46.0**	**+1.4**
MRVT	**Maraveh tapeh**	**7.07**	**352**	ePn	**Pn**	**03 36 44.4**	**-0.6**
MRVT	**Maraveh tapeh**	**7.07**	**352**	Pn	**Pn**	**03 36 44.9**	**-0.1**
TEH	**Tehran**	**7.13**	**317**	Pn	**Pn**	**03 36 45.5**	**-0.4**
BIDO	**Bidbid**	**7.13**	**174**	P	**Pn**	**03 36 46.7**	**+0.9**
	SNR=19						
BIDO				P	**Pn**	**03 36 46.7**	**+0.9**
	SNR=19						
GEYT	**Alibeck**	**7.29**	**5**	Pn	**Pn**	**03 36 48.2**	**+0.3**
GEYT	**Alibeck**	**7.29**	**5**	Pn	**Pn**	**03 36 47.7**	**-0.2**
	comp=N,6.7nm,0.3s,baz=173,slow=13,SNR=32						
GEYT				Sn	**Sn**	**03 38 14.0**	**+3.2**
	comp=N,6.8nm,0.3s,baz=51,slow=52,SNR=2.0						
GEYT				LR	LR	03 40 13.4	
	comp=N,11µm,20.0s,baz=194,slow=43						
	comp=N,67nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**7.29**	**5**		**Pn**	**03 36 48.2**	**+0.3**
ASAO	**Ashtian**	**7.31**	**304**	ePn	**Pn**	**03 36 49.1**	**+0.6**
ARQ	**Araqi**	**7.33**	**186**	P	**Pn**	**03 36 51.0**	**+2.5**
	SNR=80						
ARQ				P	**Pn**	**03 36 51.0**	**+2.5**
	SNR=80						
ARQ				S	**Sn**	**03 38 13.0**	**+1.2**
ARQ				S	**Sn**	**03 38 13.0**	**+1.2**
SHMA	**Al-Shehemyia**	**7.40**	**231**	P	**Pn**	**03 36 50.5**	**+1.1**
	SNR=13						
SHMA				S	**Sn**	**03 38 13.8**	**+0.3**
CHTH	**Charan**	**7.40**	**317**	ePn	**Pn**	**03 36 50.2**	**+0.5**
WSAR	**Wadi Sarin**	**7.47**	**171**	P	**Pn**	**03 36 51.3**	**+0.9**
	SNR=42						
WSAR	**Wadi Sarin**	**7.47**	**171**	Pn	**Pn**	**03 36 50.0**	**-0.5**
	comp=N,47nm,0.3s,baz=8.8,slow=8.4,SNR=88						
WSAR				Sn	**Sn**	**03 38 13.9**	**-1.4**
	comp=N,3.4nm,0.3s,baz=89,slow=7.2,SNR=1.2						
	comp=N,186nm,0.5s						
MZPU	**Pul - Mazandar**	**7.53**	**322**	Pn	**Pn**	**03 36 52.7**	**+1.3**
THKV	**Tehran--Karaj**	**7.55**	**316**	ePn	**Pn**	**03 36 51.8**	**0.0**
SMDO	**Samad**	**7.59**	**175**	P	**Pn**	**03 36 53.3**	**+1.1**
	SNR=57						
SMDO				P	**Pn**	**03 36 53.3**	**+1.1**
	SNR=57						
SMDO				S	**Sn**	**03 38 22.0**	**+3.7**
SMDO				S	**Sn**	**03 38 22.0**	**+3.7**
SAKB	**Bahrain**	**7.61**	**234**	P	**Pn**	**03 36 53.9**	**+1.5**
IRAZ	**Razeghan**	**7.84**	**309**	Pn	**Pn**	**03 36 56.5**	**+0.8**
KLST	**Kelardasht - M**	**7.87**	**320**	Pn	**Pn**	**03 36 56.7**	**+0.6**
BSY	**Bisya**	**7.88**	**181**	P	**Pn**	**03 36 58.1**	**+2.1**
	SNR=39						
TRNA	**Turayna**	**8.03**	**224**	P	**Pn**	**03 36 57.8**	**-0.3**
	SNR=69						
TRNA				S	**Sn**	**03 38 27.9**	**-1.1**
HAGD	**Aghdareh**	**8.08**	**303**	Pn	**Pn**	**03 37 01.3**	**+2.2**
WBK	**Wadi Bani Khal**	**8.14**	**170**	P	**Pn**	**03 36 59.6**	**0.0**
	SNR=204						
WBK				P	**Pn**	**03 36 59.6**	**0.0**
	SNR=204						
WBK	**Wadi Bani Khal**	**8.14**	**170**	Pn	**Pn**	**03 37 00.0**	**+0.4**
SMRA	**Abu-Samra**	**8.26**	**226**	P	**Pn**	**03 37 01.0**	**-0.3**
	SNR=97						
SMRA				S	**Sn**	**03 38 34.3**	**-0.4**
JMDO	**Jabal Madar**	**8.28**	**175**	P	**Pn**	**03 37 02.9**	**+1.4**
	SNR=23						
JMDO				P	**Pn**	**03 37 02.9**	**+1.4**
	SNR=23						
MZR	**Muzera**	**8.37**	**205**	P	**Pn**	**03 37 03.1**	**+0.2**
IKFM	**Kafar-mosalman**	**8.57**	**292**	Pn	**Pn**	**03 37 05.6**	**+0.1**
JLN	**Jalan Bani Buh**	**8.66**	**167**	P	**Pn**	**03 37 06.5**	**-0.3**
	SNR=24						
JLN				P	**Pn**	**03 37 06.5**	**-0.3**
	SNR=24						
JIR1	**Jirandeh**	**8.73**	**316**	Pn	**Pn**	**03 37 09.0**	**+1.1**
GIDE	**GILAN DEYLAMAN**	**8.81**	**317**	ePn	**Pn**	**03 37 09.9**	**+0.9**
IBZA	**Bozab**	**8.88**	**298**	Pn	**Pn**	**03 37 12.8**	**+2.7**
IKOM	**Komasi**	**9.04**	**295**	Pn	**Pn**	**03 37 12.3**	**+0.1**
ZNJK	**Zanjan**	**9.40**	**312**	ePn	**Pn**	**03 37 17.2**	**+0.1**
KCHF	**Cheshme Sefid,**	**9.45**	**295**	Pn	**Pn**	**03 37 17.1**	**-0.5**
SNGE	**Sanandaj**	**9.52**	**300**	ePn	**Pn**	**03 37 19.6**	**+0.8**
MHTO	**MHTO**	**9.64**	**177**	P	**Pn**	**03 37 21.6**	**+1.4**
	SNR=64						
MHTO				S	**Sn**	**03 39 10.6**	**+1.9**
IGHG	**Ghaleghazi**	**9.83**	**295**	Pn	**Pn**	**03 37 21.9**	**-1.2**
ILBA	**Ilam Banvizeh**	**9.92**	**290**	ePn	**Pn**	**03 37 23.1**	**-0.9**
ILBA	**Ilam Banvizeh**	**9.92**	**290**	Pn	**Pn**	**03 37 22.4**	**-1.7**
IDHR	**Dehrash**	**10.10**	**296**	Pn	**Pn**	**03 37 25.9**	**-0.8**
KBL	**Kabul**	**10.58**	**65**		**Pn**	**03 37 35.7**	**+2.5**
KBL	**Kabul**	**10.58**	**65**	P	Pn	03 37 38.9	+5.6
	SNR=14						
KBL	**Kabul**	**10.58**	**65**	P	**Pn**	**03 37 35.7**	**+2.5**
KGS1	**Ghasr-e-Shirin**	**10.65**	**294**	Pn	**Pn**	**03 37 32.4**	**-1.7**
IHSH	**Hashtrud**	**10.69**	**311**	Pn	**Pn**	**03 37 35.2**	**+0.3**
LKRN	**Lenkeran, Azer**	**10.70**	**321**	P	**Pn**	**03 37 34.9**	**+0.2**
ISRB	**Sarab**	**10.75**	**314**	Pn	**Pn**	**03 37 36.3**	**+0.7**
GRMI	**Germi**	**11.26**	**319**	ePn	**Pn**	**03 37 43.3**	**+0.8**
GRMI	**Germi**	**11.26**	**319**	Pn	**Pn**	**03 37 43.4**	**+0.9**
IHRS	**Heris**	**11.44**	**315**	Pn	**Pn**	**03 37 46.8**	**+1.7**
IAZR	**Azarshahr**	**11.75**	**310**	Pn	**Pn**	**03 37 51.3**	**+2.0**
ISHB	**Shabestar**	**12.32**	**311**	Pn	**Pn**	**03 37 56.2**	**-0.9**
IMRD	**Marand**	**12.52**	**313**	Pn	**Pn**	**03 38 01.4**	**+1.7**
SHAO	**Shalim**	**12.67**	**188**	i P	**Pn**	**03 38 02.0**	**+0.2**
	SNR=33						
SHAO	**Shalim**	**12.67**	**188**	P	**Pn**	**03 38 02.2**	**+0.5**
	SNR=32						
SHAO				P	**Pn**	**03 38 02.2**	**+0.5**
	SNR=32						
SHAO				S	**Sn**	**03 40 24.7**	**+1.6**
SHAO				S	**Sn**	**03 40 24.7**	**+1.6**
NAX	**Nakhchivan**	**12.92**	**314**	P	**Pn**	**03 38 05.3**	**+0.1**
DMTO	**DMTO**	**13.07**	**190**	P	**Pn**	**03 38 05.2**	**-1.9**
	SNR=28						
DMTO				P	**Pn**	**03 38 05.2**	**-1.9**
	SNR=28						
WHFO	**Wadi Hawf**	**13.09**	**195**	P	**Pn**	**03 38 05.8**	**-1.7**
	SNR=52						
WHFO				S	**Sn**	**03 40 32.9**	**-0.5**
MNGR	**Mingechevir, A**	**13.10**	**323**	P	**Pn**	**03 38 07.7**	**+0.3**
CUKT	**Cukurca**	**13.18**	**304**	P	**P**	**03 38 16.6**	**-2.2**
AKT	**Akhty**	**13.31**	**327**d	iP	**Pn**	**03 38 11.1**	**+0.6**
SEKA	**Sheki**	**13.36**	**325**	P	**Pn**	**03 38 10.6**	**-0.5**
RBK	**Rabkut**	**13.40**	**193**	P	**Pn**	**03 38 09.7**	**-2.1**
	SNR=28						
RBK				S	**Sn**	**03 40 41.1**	**+0.1**
GANJ	**Ganja**	**13.41**	**321**	P	**Pn**	**03 38 11.9**	**+0.2**
MAKU	**Maku**	**13.54**	**313**	ePn	**Pn**	**03 38 14.8**	**+1.2**
MAKU	**Maku**	**13.54**	**313**	Pn	**Pn**	**03 38 15.5**	**+1.9**
ABTO	**Aybut**	**13.75**	**197**	P	**Pn**	**03 38 13.8**	**-2.7**
	SNR=37						
ABTO				P	**Pn**	**03 38 13.8**	**-2.7**
	SNR=37						
NIL	**Nilore**	**13.78**	**73**	Pn	**Pn**	**03 38 17.7**	**+0.8**
NIL	**Nilore**	**13.78**	**73**	P	**Pn**	**03 38 18.6**	**+1.7**
NIL	**Nilore**	**13.78**	**73**	P	**Pn**	**03 38 17.7**	**+0.8**
CLDR	**Caldiran**	**13.90**	**311**	P	**Pn**	**03 38 20.5**	**+1.8**
VANB	**Van**	**13.96**	**308**	P	**Pn**	**03 38 21.4**	**+2.0**
ZKTA	**Zakatala**	**13.97**	**325**	P	**Pn**	**03 38 19.6**	**+0.2**
GNI	**Garni**	**13.98**	**316**	Pn	**Pn**	**03 38 20.7**	**+1.0**
GNI	**Garni**	**13.98**	**316**	P	**P**	**03 38 25.7**	**-2.1**
GNI	**Garni**	**13.98**	**316**	eP	**Pn**	**03 38 22.5**	**+2.8**
GNI				pmax	pmax		
	comp=Z,37nm,1.3s						
GNI	**Garni**	**13.98**	**316**	Pn	**Pn**	**03 38 21.2**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=69,slow=11,SNR=5.3						
	comp=Z,8.8nm,0.8s						
AKDM	**Akdamar-Van**	**14.11**	**307**	P	**P**	**03 38 30.3**	**+1.0**
SIRT	**Sirnak**	**14.13**	**303**	P	**Pn**	**03 38 22.8**	**+1.2**
SIRT	**Sirnak**	**14.13**	**303**	Pn	**Pn**	**03 38 21.8**	**+0.1**
MAK	**Makhachkala**	**14.59**	**330**	eP	**Pn**	**03 38 26.1**	**-1.7**
MAK				eS	**Sn**	**03 41 08.6**	**-1.0**
MAK				pmax	pmax		
	comp=Z,267nm,1.3s						
MAK				MLR	MLR		
	comp=Z,2µm,11.0s						
AGRB	**Hanur-Agry**	**14.74**	**311**	P	**P**	**03 38 33.2**	**-3.1**
GURO	**Guroymak-BITLI**	**14.88**	**306**	P	**P**	**03 38 41.1**	**+3.4**
GURO	**Guroymak-BITLI**	**14.88**	**306**		**Pn**	**03 38 33.2**	**+1.3**
DBC	**Dubki**	**14.94**	**329**c	iP	**Pn**	**03 38 33.2**	**+0.6**
CHM	**Chimkent**	**15.22**	**37**	eP	**Pn**	**03 38 34.9**	**-1.5**
	baz=36						
CHM	**Chimkent**	**15.22**	**37**	eP	**Pn**	**03 38 34.8**	**-1.5**
KARS	**Kars**	**15.28**	**315**	Pn	**Pn**	**03 38 35.8**	**-1.5**
KARS	**Kars**	**15.28**	**315**	P	**Pn**	**03 38 35.8**	**-1.5**
KARS				pmax	pmax		
	comp=Z,569nm,1.9s						
SVAN	**Silvan-Diyarba**	**15.29**	**304**	P	**P**	**03 38 41.4**	**-0.8**
IUG	**Iuzhnay**	**15.32**	**38**	eP	**Pn**	**03 38 35.8**	**-2.1**
	baz=38						
IUG	**Iuzhnay**	**15.32**	**38**	eP	**Pn**	**03 38 35.7**	**-2.1**
VRTB	**Varto-Mus**	**15.56**	**307**	P	**Pn**	**03 38 41.9**	**+1.0**
MAZI	**Mazidag**	**15.57**	**300**	P	**Pn**	**03 38 40.1**	**-1.0**
SENK	**Senkaya-Erzuru**	**15.70**	**313**	P	**P**	**03 38 45.5**	**-1.4**
KOPR	**Koprukoy-ERZUR**	**15.71**	**311**	P	**P**	**03 38 45.7**	**-1.2**
AJM	**Ajmer**	**15.73**	**101**	eP	**P**	**03 38 48.4**	**+1.2**
THN	**Thein Dam**	**15.74**	**79**	eP	**Pn**	**03 38 43.5**	**+0.2**
KARO	**Karliova-Bingo**	**15.90**	**307**	P	**P**	**03 38 47.8**	**-1.4**
DYBB	**Diyarbakir**	**15.98**	**302**	P	**P**	**03 38 49.0**	**-0.9**
BNGB	**Bingl**	**16.02**	**306**	P	**P**	**03 38 49.4**	**-0.9**
ZEI	**Tsey**	**16.20**	**322**	eP	**Pn**	**03 38 50.2**	**+0.9**
ZEI				pmax	pmax		
	comp=Z,62nm,0.7s						

DHRM DHARAMSHALA 16.23 79 *e*P **Pn** **03 38 50.6 +0.8**
DHRM IAmb IAmb 03 39 06.4
comp=Z,271nm,1.1s
KK31 Karatay Array 16.25 37 **Pn** **03 38 48.0 -1.7**
KK31 Karatay Array 16.25 37 P **Pn** **03 38 48.0 -1.7**
KK31 pmax pmax
comp=Z,71nm,1.1s
KKAR Karatay Array 16.25 37 **Pn** **03 38 48.0 -1.7**
KKAR Karatay Array 16.25 37 **Pn** **03 38 48.1 -1.7**
KKAR Karatay Array 16.25 37 P **Pn** **03 38 48.1 -1.7**
ONI Oni 16.31 321 P **P** **03 38 53.3 -0.2**
ONI Oni 16.31 321 Pn **Pn** **03 38 48.3 -2.2**
ONI Oni 16.31 321 P **Pn** **03 38 48.3 -2.2**
ONI pmax pmax
comp=Z,45nm,1.1s
DZA Taraz 16.53 39 *e*P **Pn** **03 38 51.6 -1.7**
baz=38
DZA Taraz 16.53 39 *e*P **Pn** **03 38 51.6 -1.7**
URFA Urfa 16.79 299 P **P** **03 38 58.2 -0.7**
KUDL Kundal 16.85 94 *e*P **Pn** **03 38 57.5 +0.1**
NCK Nalchik 16.86 323 *e*P **P** **03 38 59.2 -0.3**
PTK Pertek 16.89 304 P **P** **03 39 00.1 0.0**
CHOM Cayeli-Rize 17.00 312 P **P** **03 39 02.8 +1.7**
SMLA Simla 17.00 83 *e*P **Pn** **03 38 59.7 +0.4**
SMLA IAmb IAmb 03 39 08.7
comp=Z,305nm,1.5s
NEUR Neytrino 17.17 321 P **P** **03 39 04.0 +0.9**
SONA Sohna 17.34 93 *e*P **Pn** **03 39 01.4 -2.1**
NDI New Delhi 17.36 91 *e*P **Pn** **03 39 01.7 -2.1**
KBZ Khabaz 17.38 323*d i*P **P** **03 39 05.1 -0.2**
KBZ pmax pmax
comp=Z,69nm,2.5s
KBZ Khabaz 17.38 323 P **Pn** **03 39 01.9 -2.0**
comp=Z,0.2nm,0.3s,baz=65,slow=22,SNR=15
comp=Z,14nm,0.8s
AML Almayashu 17.40 44 P **P** **03 39 05.3 -0.7**
SNR=23
PYA1 Pyatigorsk 17.51 324*d i*P **P** **03 39 06.2 -0.6**
SHA1 Shidzhatmaz 17.51 322*c i*P **P** **03 39 08.4 +1.4**
ASF Jabal al Asfar 17.54 280 P **Pn** **03 39 04.0 -2.1**
comp=Z,4.1nm,0.3s,baz=92,slow=13,SNR=38
ASF LR LR 03 47 15.8
comp=Z,4µm,19.9s,baz=99,slow=42
comp=Z,18nm,0.6s
KTUT Trabzon 17.58 311 P **P** **03 39 08.8 +1.3**
KSH Kashi 17.58 55 P **Pn** **03 39 00.8 -5.8**
KSH pP P 03 39 04.5 -3.2
KSH sP pP 03 39 08.4 -2.3
KSH pmax pmax
comp=Z,140nm,1.1s
KSH LR LR
comp=Z,5µm,8.6s
KSH LR LR
comp=Z,5µm,8.1s
KSH LR LR
comp=Z,5µm,11.7s
KIV Kislovodsk 17.65 323 **Pn** **03 39 07.0 -0.4**
KIV IAmb IAmb 03 39 12.6
comp=Z,130nm,0.9s
KIV Kislovodsk 17.65 323 P **P** **03 39 09.6 +1.3**
KIV P **P** **03 39 09.6 +1.3**
KIV S **Sn** **03 42 25.4 +1.3**
KIV S **Sn** **03 42 25.4 +1.3**
KIV Kislovodsk 17.65 323 *e*P **P** **03 39 08.7 +0.3**
KIV *e*S **Sn** **03 42 27.1 +3.0**
KIV pmax pmax
comp=Z,127nm,1.1s
ILIC ilic-Erzincan 17.70 305 P **P** **03 39 11.9 +2.9**
ARPR Arapgir-MALATY 17.72 304 P **P** **03 39 10.7 +1.4**
ARPR Arapgir-MALATY 17.72 304 **Pn** **03 39 08.1 -0.3**
EKS2 Erkin-Say 17.77 43 P **Pn** **03 39 08.7 -0.2**
SNR=28
GAZ Gaziantep 17.94 297 P **P** **03 39 12.3 +0.7**
GAZ Gaziantep 17.94 297 Pn **Pn** **03 39 08.6 -2.4**
UCH Uchtor 17.95 45 P **Pn** **03 39 10.2 -1.3**
SNR=22
ARXR Arkhyz 18.15 320 *e*P **P** **03 39 15.8 +1.9**
ARXR pmax pmax
comp=Z,88nm,1.0s
DARE Darende-Malaty 18.15 301 P **P** **03 39 16.6 +2.6**
AAK Ala-Archa 18.18 44 P **P** **03 39 14.0 -0.3**
SNR=31
AAK Ala-Archa 18.18 44 Pn **Pn** **03 39 10.5 -3.5**
AAK Ala-Archa 18.18 44 P **P** **03 39 13.9 -0.4**
AAK S **S** **03 42 42.6 +0.1**
AAK Ala-Archa 18.18 44 P **Pn** **03 39 10.5 -3.5**
AAK pmax pmax
comp=Z,108nm,1.4s
AAK Ala-Archa 18.18 44 P **Pn** **03 39 13.7 -0.3**
comp=Z,0.4nm,0.3s,baz=231,slow=10,SNR=38
AAK LR LR 03 47 23.3
comp=Z,6µm,21.6s,baz=244,slow=41
comp=Z,17nm,0.8s
ESPY Espiye-Giresun 18.23 309 P **P** **03 39 17.5 +2.8**
GOF Gofitskoye 18.26 326*ce*P **P** **03 39 14.5 -0.4**
BEIL Beino 18.26 288 *e*P **P** **03 39 16.0 +0.8**
KMRS Kahramanmaras 18.27 297 P **P** **03 39 16.9 +1.7**
KZA Kyzart 18.33 47 P **Pn** **03 39 15.4 -0.7**
SNR=23
HWQ Hawqa 18.43 287 *e*P **Pn** **03 39 18.2 +1.1**
ZAHL Zahle 18.45 286 *e*P **Pn** **03 39 18.3 +1.0**
KBK Karagaybulak 18.46 45 P **P** **03 39 16.4 -1.1**
SNR=23
RCY Rachaya 18.47 284 *e*P **Pn** **03 39 18.2 +0.6**
SHBL Chebaa 18.54 284 *e*P **Pn** **03 39 19.4 +1.0**
CHMS Chumysh 18.54 44 P **Pn** **03 39 20.7 +2.4**
SNR=7.4
TAHT Tahtakopru-Hat 18.55 294 P **Pn** **03 39 20.9 +2.4**
USP Ospenovka 18.55 43 P **P** **03 39 17.2 -1.1**
SNR=8.5
BHL Bhannes 18.64 286 *e*P **Pn** **03 39 19.6 -0.1**
AB31 Akbulak array 18.68 5 *i*P **P** **03 39 18.3 -1.3**
ABKAR Akbulak array 18.68 5 P **P** **03 39 18.1 -1.5**
ABKAR Akbulak array 18.68 5 P **P** **03 39 18.4 -1.1**
ABKAR IAmb IAmb 03 39 28.4
comp=Z,44nm,0.9s
DQRL Deir Qamar 18.70 285 *e*P **Pn** **03 39 21.2 +0.8**
GHAJ Ghor Haditha 18.71 278 P **P** **03 39 17.9 -2.1**
GHAJ IAmb IAmb 03 39 34.6
comp=Z,168nm,1.0s
SGDS Sogindy 18.74 42 *e*P **P** **03 39 19.2 -1.2**
baz=42
SGDS Sogindy 18.74 42 *e*P **P** **03 39 19.1 -1.3**
VSLR Vesyoloye 18.79 318 *i*P **Pn** **03 39 23.6 +2.3**
VSLR pmax pmax
comp=Z,68nm,1.1s
RPOR Krasnaya Polya 18.80 319*c i*P **Pn** **03 39 24.1 +2.6**
MMAI Mount Meron Ar 18.81 283 P **P** **03 39 20.9 -0.4**
comp=Z,1.0nm,0.3s,baz=91,slow=14,SNR=18
comp=Z,12nm,0.8s
SARI SarD1z-Kayseri 18.89 300 P **Pn** **03 39 25.4 +2.6**
RSDY Resadiye-TOKAT 18.96 306 P **Pn** **03 39 24.8 +1.4**
SVSK Karacayir 18.99 305 P **Pn** **03 39 25.4 +1.7**
TKM2 Tokmak 2 19.00 45 P **Pn** **03 39 23.5 -0.6**
SNR=54
CEYT Ceyhan 19.03 295 P **Pn** **03 39 25.4 +1.2**
ULHL Ulahol 19.04 47 P **Pn** **03 39 24.5 -0.1**
SNR=12
SOC Sochi 19.05 318 *e*P **Pn** **03 39 26.7 +2.3**
SOC pmax pmax
comp=Z,46nm,0.9s
SOC MLR MLR
comp=Z,2µm,14.0s
GUZR Guzeripl' **19.07 319** *e*P **Pn** **03 39 26.2 +1.4**
KOZT Kozan 19.08 297 P **Pn** **03 39 25.2 +0.3**
LABN Labinsk 19.15 321 *e*P **P** **03 39 22.6 -2.2**
LABN *e*S **S** **03 43 04.4 +2.5**
LABN pmax pmax
comp=Z,133nm,1.8s
LABN MLR MLR
comp=N,5µm,11.0s
POO Poona 19.21 125 *e*P **Pn** **03 39 27.7 +1.1**
BHPL Bhopal 19.32 108 *e*P **Pn** **03 39 27.8 -0.1**
BHPL IAmb IAmb 03 39 36.4
comp=Z,29nm,0.9s
EIL Elat 19.41 273 P **P** **03 39 27.3 -0.4**
comp=Z,0.7nm,0.3s,baz=66,slow=2.8,SNR=17
comp=Z,33nm,0.9s
BTLS Baital 19.43 38 *e*P **P** **03 39 26.8 -1.0**
baz=38
BTLS Baital 19.43 38 *e*P **P** **03 39 26.8 -1.0**
BNN Bunyan 19.46 301 P **Pn** **03 39 30.2 +0.7**
BNN Bunyan 19.46 301 P **P** **03 39 27.3 -1.0**
BNN IAmb IAmb 03 39 46.5
comp=Z,144nm,1.0s
TOKT Tokat 19.47 305 P **Pn** **03 39 31.1 +1.5**
KARA Karaisali 19.63 296 P **Pn** **03 39 34.5 +3.1**
AKTO Aktyubinsk 19.77 1 P **P** **03 39 31.0 -0.5**
comp=Z,6.4nm,0.3s,baz=188,slow=9.4,SNR=100
AKTO LR LR 03 48 34.3
comp=Z,8µm,18.6s,baz=165,slow=41
comp=Z,41nm,0.6s
CMRD Camardi-Nigde 19.77 297 P **Pn** **03 39 33.3 0.0**
PTH Pithoragarh 19.80 87 *e*P **Pn** **03 39 33.8 +0.1**
TARG Taragay, Kyrgy 19.80 50 IAmb IAmb 03 39 43.4
comp=Z,175nm,1.3s
LGTI Lohaghat 19.84 88 *e*P **P** **03 39 32.4 0.0**
TNSS Tian-Shan 19.90 46 *e*P **P** **03 39 32.3 -1.2**
baz=46
TNSS Tian-Shan 19.90 46 *e*P **P** **03 39 32.2 -1.2**
AAA Alma-Ata 19.97 46 *e*P **P** **03 39 33.6 -0.2**
baz=46
AAA Alma-Ata 19.97 46 *e*P **P** **03 39 33.6 -0.2**
ERBR Yeremizino-Bor 20.00 323 *e*P **Pn** **03 39 34.7 -1.0**
ERBR *e*S **Sn** **03 43 24.2 +3.6**
ERBR pmax pmax
comp=Z,141nm,0.9s
KUU Kurty 20.00 43 *e*P **P** **03 39 33.2 -0.9**
comp=Z,191nm,1.6s,baz=43
KUU Kurty 20.00 43 *e*P **P** **03 39 33.2 -0.9**
KUU pmax pmax
comp=Z,191nm,1.6s
MDOK Medeo 20.03 46 *e*P **P** **03 39 33.4 -1.2**
baz=46
MDOK Medeo 20.03 46 *e*P **P** **03 39 33.4 -1.2**
YOZ Yozgat 20.10 302 P **Pn** 03 39 36.5 -0.7
KVT Kavak 20.12 307 P **Pn** 03 39 38.1 +0.8
KOZK Kozakli-Nevseh 20.29 301 P **Pn** 03 39 39.8 +0.4
CHKK Chushkaly 20.37 44 *e*P **P** **03 39 36.8 -1.3**
baz=44
CHKK Chushkaly 20.37 44 *e*P **P** **03 39 36.8 -1.3**
CSS Mathiatis 20.64 288 IAmb IAmb 03 39 47.3
comp=Z,74nm,0.8s
GELR Gelenjik 20.64 318 *i*P **Pn** 03 39 42.9 -0.4
GELR pmax pmax
comp=Z,100nm,1.1s
SATY Saty 20.83 48⇓ *e*P **P** **03 39 42.2 -1.0**
baz=48
SATY Saty 20.83 48*de*P **P** **03 39 42.2 -1.0**
ZHN Zhinishke 20.90 47 *e*P **P** **03 39 43.2 -0.9**
baz=47
ZHN Zhinishke 20.90 47 *e*P **P** **03 39 43.1 -0.9**
OTUK Ortayu 20.96 29 P **P** **03 39 42.9 -1.6**
ANN Anapa 21.09 318 *e*P **P** **03 39 46.7 +0.8**
ANN *e*S **S** **03 43 42.7 +2.1**
ANN pmax pmax
comp=Z,108nm,1.0s
KPKS Kokpek 21.21 47 *e*P **P** **03 39 46.5 -0.8**
baz=47
KPKS Kokpek 21.21 47 *e*P **P** **03 39 46.5 -0.8**
UZB Uzynbulak 21.27 48 *e*P **P** **03 39 47.3 -0.7**
comp=Z,121nm,2.1s,baz=48
UZB Uzynbulak 21.27 48 *e*P **P** **03 39 47.3 -0.7**
UZB pmax pmax
comp=Z,121nm,2.1s
BR131 Keskin Array S 21.36 302 P **P** **03 39 48.7 -0.2**
SNR=49
BR131 Keskin Array S 21.36 302*c i*P **P** **03 39 48.3 -0.6**
BRTR Keskin Array B 21.36 302 P **P** **03 39 48.6 -0.3**
comp=Z,52nm,0.9s,baz=122,slow=12,SNR=52
BRTR PcP **PcP** **03 43 52.5 -0.4**
comp=Z,3.1nm,0.8s,baz=144,slow=4.4,SNR=3.8
comp=Z,52nm,0.9s
SHLS Shalkode 21.55 49 *e*P **P** **03 39 53.3 +2.3**
baz=49
SHLS Shalkode 21.55 49 *e*P **P** **03 39 53.3 +2.3**
PDGK Podgornoye 21.65 48 P **P** **03 39 52.2 +0.1**
TDK Taldyqorghan 21.85 43 *e*P **P** **03 39 53.2 -0.9**
comp=Z,162nm,1.4s,baz=43
TDK Taldyqorghan 21.85 43 *e*P **P** **03 39 53.2 -0.9**
TDK pmax pmax
comp=Z,162nm,1.4s
ANTO Ankara 22.02 301 ⇑P **P** **03 39 57.0 +1.0**
ANTO Ankara 22.02 301 P **P** **03 39 56.1 +0.1**
ANTO IAmb IAmb 03 40 16.4
comp=Z,119nm,1.4s
ANTO Ankara 22.02 301 P **P** **03 39 56.3 +0.3**
ANTO S Sn 03 44 04.0 -5.4
ANTO Ankara 22.02 301 P **P** **03 39 56.1 +0.1**
ANTO pmax pmax
comp=Z,119nm,1.4s
PYUN Piuthan 22.46 90 *e*P **P** **03 40 01.4 +0.5**
comp=Z,253nm,0.9s
BRZS Berezniki 22.48 26 *e*P **P** **03 40 00.3 -0.5**
comp=Z,102nm,1.9s,baz=26
BRZS Berezniki 22.48 26 *e*P **P** **03 40 00.2 -0.5**
BRZS pmax pmax
comp=Z,102nm,1.9s
BELG Belogornoye 22.88 345*d i*P **P** **03 40 02.8 -2.0**
BELG pmax pmax
comp=Z,40nm,1.1s
KOLN Koldanda 23.06 91 *e*P **P** **03 40 07.3 0.0**
comp=Z,808nm,1.5s
DANN Dangsing 23.07 89 *e*P **P** **03 40 07.9 +0.4**
comp=Z,905nm,1.3s
SIM Simferopol' **23.16 315** *e*P **P** **03 40 09.0 +1.1**
SIM pmax pmax
comp=Z,173nm,0.8s
ISP Isparta 23.27 295 P **P** **03 40 08.1 -1.2**
ISP Isparta 23.27 295*ce*P **P** **03 40 09.9 +0.7**
ISP pmax pmax
comp=Z,128nm,1.0s
ATD Arta Tunnel 23.31 218 P **P** **03 40 10.3 +0.6**
ATD Arta Tunnel 23.31 218 LR LR 03 51 12.1
comp=Z,451nm,18.2s,baz=40,slow=42
HYB Hyderabad 23.35 120 *e*P **P** **03 40 12.0 +1.8**
HYB *e*S **S** **03 44 24.8 +1.6**
HYB Hyderabad 23.35 120 *e*P **P** **03 40 10.0 -0.1**
VRH Novokhopyorsk 23.60 335 *e*P **P** **03 40 11.7 -0.5**
VRH pmax pmax
comp=Z,110nm,1.3s
GKN Gorkha 23.90 89 *e*P **P** **03 40 16.3 +0.7**
comp=Z,262nm,0.9s
BRVK Borovoye 24.29 19 P **P** **03 40 17.5 -1.3**
BRVK IAmb IAmb 03 40 24.0
comp=Z,134nm,1.6s
BRVK Borovoye 24.29 19 P **P** **03 40 18.9 +0.1**
BRVK P **P** **03 40 18.9 +0.1**
BRVK S **S** **03 44 41.7 +4.1**
BRVK S **S** **03 44 41.7 +4.1**
BRVK Borovoye 24.29 19*d i*P **P** **03 40 18.1 -0.7**
BRVK pmax pmax
comp=Z,114nm,2.5s
BVA0 Borovoye Array 24.29 19 *i*P **P** **03 40 18.1 -0.7**
BVAR Borovoye Array 24.29 19 P **P** **03 40 18.0 -0.8**
comp=Z,25nm,0.6s,baz=202,slow=7.7,SNR=91
BVAR PcP **PcP** **03 43 57.7 -0.8**
comp=Z,8.5nm,0.6s,baz=209,slow=2.6,SNR=9.7
BVAR LR LR 03 51 04.0
comp=Z,8µm,19.1s,baz=190,slow=40
comp=Z,25nm,0.6s
VORD Divnogorie 24.35 332 *e*P **P** **03 40 18.3 -1.0**
VORD pmax pmax
comp=Z,40nm,1.0s
DMN Daman 24.39 90 *e*P **P** **03 40 20.9 +0.6**
comp=Z,220nm,1.0s
KKN Kakani 24.50 90 *e*P **P** **03 40 21.5 +0.3**
comp=Z,633nm,1.6s
VSR Storozhevoye 24.59 332 *e*P **P** **03 40 20.6 -1.0**
VSR pmax pmax
comp=Z,50nm,0.8s
PKIN Phulchoki 24.65 90 *e*P **P** **03 40 23.0 +0.4**
comp=Z,104nm,0.6s
PKI Pulchoki 24.66 90 *e*P **P** **03 40 22.8 0.0**
comp=Z,400nm,1.3s
MAKZ Makanchi 24.92 43 P **P** **03 40 24.2 -0.4**
MAKZ IAmb IAmb 03 40 28.4
comp=Z,43nm,1.0s
MAKZ Makanchi 24.92 43 P **P** **03 40 24.3 -0.4**
MAKZ pmax pmax
comp=Z,43nm,1.0s
VORR Voronezh 24.93 333 *e*P **P** **03 40 23.4 -1.1**
VORR pmax pmax
comp=Z,100nm,0.5s
GUN Gumba 24.99 89 *e*P **P** **03 40 26.1 +0.3**
comp=Z,562nm,1.2s
MK31 Makanchi Array 25.10 43 P **P** **03 40 26.1 -0.1**
MK31 IAmb IAmb 03 40 31.2
comp=Z,48nm,1.5s
MK31 Makanchi Array 25.10 43*c i*P **P** **03 40 25.9 -0.3**
MKAR Makanchi Array 25.10 43 P **P** **03 40 25.8 -0.4**
MKAR Makanchi Array 25.10 43 P **P** **03 40 25.8 -0.4**
MKAR Makanchi Array 25.10 43 P **P** **03 40 25.3 -0.9**
comp=Z,11nm,0.8s,baz=226,slow=8.9,SNR=36
MKAR LR LR 03 50 52.0
comp=Z,2µm,19.9s,baz=227,slow=38
comp=Z,11nm,0.8s
JIRN Jiri 25.32 90 *e*P **P** **03 40 29.5 +0.8**
comp=Z,183nm,0.7s
KURBB Kurchatov Arra 25.45 32 P **P** **03 40 28.9 -0.3**
comp=Z,30nm,0.9s,baz=231,slow=9.1,SNR=72
KURBB LR LR 03 51 54.4
comp=Z,7µm,19.5s,baz=211,slow=40
comp=Z,30nm,0.9s
KURK Kurchatov 25.55 32 P **P** **03 40 30.3 0.0**
KURK IAmb IAmb 03 40 33.1
comp=Z,56nm,1.1s
KURK Kurchatov 25.55 32 P **P** **03 40 30.4 +0.2**
KURK S **S** **03 45 03.8 +5.9**
KURK Kurchatov 25.55 32*c i*P **P** **03 40 30.2 0.0**
KURK pmax pmax
comp=Z,69nm,1.3s
BALB Balikesir 25.64 299 IAmb IAmb 03 40 32.9
comp=Z,48nm,0.8s
LPSR Galich'ya Gora 25.76 334 *e*P **P** **03 40 31.5 -0.6**
LPSR pmax pmax
comp=Z,70nm,0.8s
ARU Arti 25.78 2 P **P** **03 40 32.1 -0.2**
ARU IAmb IAmb 03 40 35.2
comp=Z,30nm,0.9s
ARU Arti 25.78 2*d i*P **P** **03 40 33.1 +0.9**
ARU 03 41 10.3
ARU S **S** **03 45 05.2 +3.9**
ARU SS **SnSn** **03 46 00.9 +4.4**
ARU pmax pmax
comp=Z,33nm,0.9s
RAMN Ramite 25.84 91 *e*P **P** **03 40 33.9 +0.5**
comp=Z,642nm,1.1s
SEM Semipalatinsk 26.12 34 *e*P **P** **03 40 34.1 -1.6**
baz=34
SEM Semipalatinsk 26.12 34 *e*P **P** **03 40 34.9 -0.8**
BOK Bokaro 26.21 98 *e*P **P** **03 40 37.0 +0.5**
SVE Sverdlovsk 26.27 4 *e*P **P** **03 40 36.8 +0.2**
SVE pmax pmax
comp=Z,42nm,1.3s
SVE MLR MLR
comp=Z,5µm,15.0s
ODAN Odare 26.55 91 *e*P **P** **03 40 39.6 -0.2**
comp=Z,481nm,1.5s
ZSN Zaisan 26.95 44 *e*P **P** **03 40 42.2 -0.8**
baz=44
ZSN Zaisan 26.95 44 *e*P **P** **03 40 42.2 -0.8**
HARR Harsova 27.02 309 ⇓P **P** **03 40 44.1 +0.6**
WMQ Urumqi 27.32 53 *e*P **P** **03 40 47.1 +0.7**
WMQ pP sP 03 40 52.7 +1.5
WMQ pmax pmax
comp=Z,17nm,1.1s
WMQ LR LR
comp=Z,5µm,20.9s
WMQ LR LR
comp=Z,2µm,17.1s
WMQ LR LR
comp=Z,2µm,23.9s
IDI Anoyia 27.57 288 ⇑P **P** **03 40 48.9 +0.2**
IDI Anoyia 27.57 288 IAmb IAmb 03 41 19.6
comp=Z,42nm,0.9s
RDO Rodhopi 27.69 301 IAmb IAmb 03 41 08.4
comp=Z,68nm,1.4s
GHRR 27.88 312 ⇑P **P** **03 40 51.9 +0.6**
KIRV Kirov 28.46 351 ⇑*i*P **P** **03 40 55.9 -0.3**
TESR Tescani 28.54 312 ⇓P **P** **03 40 57.9 +0.8**
COVR Voineasa-Covas 28.57 311 ⇑P **P** **03 40 58.2 +0.7**
OBN Obninsk 28.59 335 P **P** **03 40 57.1 -0.3**
OBN Obninsk 28.59 335*ce*P **P** **03 40 57.9 +0.4**
OBN *i* 03 41 02.2
OBN *e*S **S** **03 45 41.1 -4.5**
OBN *e*SSS SSS 03 47 21.7
OBN pmax pmax
comp=Z,193nm,1.7s
OBN MLR MLR
comp=Z,3µm,22.0s
MLR Muntele Rosu 28.62 310 P **P** **03 40 58.6 +0.6**
MLR IAmb IAmb 03 41 09.3
comp=Z,35nm,1.1s
MLR Muntele Rosu 28.62 310 P **P** **03 40 58.6 +0.6**
MLR pmax pmax
comp=Z,35nm,1.1s
MOS Moscow 28.71 337 *e*P **P** **03 40 58.2 -0.3**
MOS *e* 03 41 54.3
MOS *e*PPP PPP 03 42 01.5
MOS *e*S **S** **03 45 49.4 +2.0**
MOS pmax pmax
comp=Z,65nm,0.7s
MOS pmax pmax
comp=Z,200nm,1.5s
MOS MLR MLR
comp=Z,2µm,20.0s
AKASG Malin Array Be 28.99 322 P **P** **03 41 00.2 -0.9**
comp=Z,12nm,0.9s,baz=126,slow=8.5,SNR=25
AKASG PcP **PcP** **03 44 08.9 -0.6**
comp=Z,3.2nm,0.7s,baz=81,slow=2.6,SNR=4.8
comp=Z,12nm,0.9s
AKBB Malin Array Si 28.99 322 IAmb IAmb 03 41 10.6
comp=Z,37nm,1.1s
AKBB Malin Array Si 28.99 322*ce*P **P** **03 41 00.7 -0.4**
AKBB pmax pmax
comp=Z,31nm,1.1s
KIEV Kiev 28.99 322 P **P** **03 41 00.4 -0.7**
KIEV IAmb IAmb 03 41 10.7
comp=Z,39nm,1.1s
KIEV Kiev 28.99 322 P **P** **03 41 00.4 -0.7**
KIEV pmax pmax
comp=Z,39nm,1.1s
SRS Serrai 29.13 300 P **P** **03 41 02.4 -0.1**
DOPR Dopca 29.15 311 ⇑P **P** **03 41 02.6 -0.1**
LSA Lhasa 29.16 83 P **P** **03 41 03.5 +0.1**
LSA IAmb IAmb 03 41 09.2
comp=Z,33nm,1.4s
LSA Lhasa 29.16 83 P **P** **03 41 03.5 +0.1**
LSA pmax pmax
comp=Z,33nm,1.4s
VOIR 29.19 309 ⇓P **P** **03 41 03.4 +0.3**
ARR Arges 29.45 309 ⇑P **P** **03 41 05.4 +0.1**
DGZ Jazzator, Alta 29.53 41 *e*P **P** **03 41 06.2 +0.1**
DGZ pmax pmax
comp=Z,13nm,1.2s
BURAR Bucovina Array 29.87 314 ⇑P **P** **03 41 09.4 +0.3**
BURAR Bucovina Array 29.87 314 IAmb IAmb 03 41 16.6
comp=Z,25nm,0.9s
BUR08 Bucovina Ar. S 29.89 314 P **P** **03 41 09.4 +0.2**
BUR08 IAmb IAmb 03 41 16.5
comp=Z,25nm,1.1s
VAY Valandovo 29.92 300 P **P** **03 41 11.5 +2.0**
GRG Griva 29.99 300 P **P** **03 41 09.5 -0.7**
LOT Lotru 30.05 309 ⇑P **P** **03 41 11.6 +0.9**
ARCR ARCALIA 30.21 312 ⇑P **P** **03 41 12.8 +0.8**
ZALV Zalesovo Beam 30.55 32 P **P** **03 41 13.3 -1.5**
ZALV Zalesovo Beam 30.55 32 P **P** **03 41 13.8 -1.0**
comp=Z,23nm,0.5s,baz=238,slow=9.3,SNR=87
ZALV PcP **PcP** **03 44 11.5 -1.9**
comp=Z,5.9nm,0.9s,baz=232,slow=4.8,SNR=3.4
ZALV LR LR 03 55 14.1
comp=Z,5µm,18.0s,baz=236,slow=40
comp=Z,23nm,0.5s
CJR Cluj-Napoca 30.57 311 ⇑P **P** **03 41 15.8 +0.6**
FNA Florina 30.74 299 P **P** **03 41 17.9 +1.1**
DEV Deva 30.76 309 P **P** **03 41 18.8 +2.0**
SHL Shillong 30.78 91 *e*P **P** **03 41 16.2 -1.3**
SHL IAmb IAmb 03 41 19.7
comp=Z,20nm,1.0s
BMR Baia Mare 30.97 313 P **P** **03 41 19.9 +1.2**
KBN Korca 31.16 299 P **P** **03 41 21.6 +1.1**
LVV L'vov 31.48 317 *e*P **P** **03 41 24.5 +1.4**
BZS Buzias 31.55 308 ⇑P **P** **03 41 23.5 -0.3**
GOMU GeErMu 31.60 70 P **P** **03 41 25.4 +0.6**
GOMU pmax pmax
comp=Z,11nm,0.9s
GOMU LR LR
comp=Z,1µm,18.5s
GOMU LR LR
comp=Z,960nm,18.9s
GOMU LR LR
comp=Z,790nm,18.7s
SIRR Siria 31.70 310 ⇓P **P** **03 41 25.4 +0.2**

MNK Minsk 31.83 327 *i* P **P 03 41 27.4 +1.2**
comp=E,14nm,0.8s
MNK *i* P **P 03 41 27.4 +1.2**
comp=N,22nm,0.8s
MNK *i* P **P 03 41 27.4 +1.2**
comp=Z,59nm,0.8s,baz=126
MNK *i* PP **PnPn 03 42 32.9 +2.4**
MNK *i* PPP PPP 03 42 42.8
MNK *i* S **S 03 46 39.3 +2.7**
MNK *i* SS **SnSn 03 48 30.6 +6.7**
MNK Minsk 31.83 327 *i* P **P 03 41 27.4 +1.2**
MNK *i* 03 42 32.9
MNK *i* PPP PPP 03 42 42.8
MNK *i* 03 44 18.2
MNK *i* S **S 03 46 39.2 +2.7**
MNK *i* SS **SnSn 03 48 30.6 +6.7**
MNK pmax pmax
comp=N,22nm,0.8s
MNK pmax pmax
comp=E,14nm,0.8s
MNK pmax pmax
comp=Z,59nm,0.8s
PRGR Permogore 31.94 349 *eP* **P 03 41 24.8 -2.2**
PRGR pmax pmax
comp=Z,12nm,0.8s
TIR Tirane 31.94 300 P **P 03 41 30.2 +2.9**
KOLS Kolonicke sedl 32.19 315 *eP* **P 03 41 30.7 +1.3**
KOLS Kolonicke sedl 32.19 315 *eP* **P 03 41 30.7 +1.3**
KOLS pmax pmax
comp=Z,129nm,0.9s
KWP Kalwaria Pacla 32.19 316 P **P 03 41 30.7 +1.3**
KLMR Klimovskoe 32.45 344 *eP* **P 03 41 29.2 -2.2**
KLMR AMP 03 41 36.6
comp=Z,72nm,1.3s
KLMR Klimovskoe 32.45 344 *eP* **P 03 41 29.1 -2.3**
KLMR pmax pmax
comp=Z,72nm,1.3s
NACGM Naroch 32.59 327 *eP* **P 03 41 32.7 0.0**
comp=E,3µm,0.8s
CRVS Cervenica-Dubn 32.67 314 *eP* **P 03 41 34.3 +0.6**
CRVS Cervenica-Dubn 32.67 314 *eP* **P 03 41 34.3 +0.6**
CRVS pmax pmax
comp=Z,67nm,1.2s
IDID Didziasalis 32.85 328 *eP* **P 03 41 35.9 +0.8**
ISAL Salakas 33.28 328 *eP* **P 03 41 39.2 +0.4**
PSZ Piszkesteto 33.34 312 IAmb IAmb 03 41 41.6
comp=Z,14nm,0.8s
PSZ Piszkesteto 33.34 312 P **P 03 41 40.4 +0.8**
NIE Niedzica 33.57 315 P **P 03 41 43.1 +1.6**
LODK Lodwar 34.14 222 P **P 03 41 48.3 +1.5**
LODK Lodwar 34.14 222 P **P 03 41 48.4 +1.6**
SNR=14
OJC Ojcow 34.15 316 *eP* **P 03 41 45.9 -0.6**
PABE Paberze 34.26 326 P **P 03 41 47.2 -0.2**
PABE Paberze 34.26 326 *eP* **P 03 41 48.3 +0.9**
PUL Pulkovo 34.32 336 ⇓ *iP* **P 03 41 48.9 +1.1**
PUL pmax pmax
comp=Z,140nm,0.8s
SRO Srobarova 34.33 311 *eP* **P 03 41 49.3 +1.2**
SRO Srobarova 34.33 311 *eP* **P 03 41 49.3 +1.2**
SRO pmax pmax
comp=Z,15nm,0.9s
OKC Ostrava-Krasne 35.03 314 *eP* **P 03 41 53.8 -0.3**
OKC AMS AMS 04 03 40.0
comp=Z,2µm,14.6s
OKC Ostrava-Krasne 35.03 314 *eP* **P 03 41 53.8 -0.3**
OKC MLR MLR
comp=Z,2µm,14.6s
JAVC Velka Javorina 35.03 313 *eP* **P 03 41 54.8 +0.6**
MAUC Maruska 35.08 314 *eP* **P 03 41 54.3 -0.3**
SMOL Smolenice 35.09 312 *eP* **P 03 41 54.7 0.0**
SMOL pmax pmax
comp=Z,8.0nm,0.8s
VALR Valaam 35.30 338 *eP* **P 03 41 57.4 +1.2**
VALR pmax pmax
comp=Z,39nm,0.8s
MORC Moravsky Berou 35.38 314 P **P 03 41 56.4 -0.9**
MORC PcP **PcP 03 44 26.2 -0.9**
MORC Moravsky Berou 35.38 314 *eP* **P 03 41 56.3 -0.9**
SOP Sopron 35.44 310 P **P 03 41 58.3 +0.6**
PBUR Paburge 35.51 326 *eP* **P 03 41 57.5 -0.7**
GTA Gaotai 35.57 64 P **P 03 41 59.6 +0.6**
GTA sP sP 03 42 08.1 +4.3
GTA pmax pmax
comp=Z,32nm,1.4s
GTA LR LR
comp=Z,2µm,13.9s
GTA LR LR
comp=Z,2µm,17.9s
GTA LR LR
comp=Z,3µm,20.7s
RONA Rosalia, Austr 35.62 310 *iP* **P 03 41 58.6 -0.7**
comp=Z,22nm,1.0s,SNR=7.7
VRAC Vranov 35.84 313 ⇓ P **P 03 42 01.7 +0.6**
VRAC Vranov 35.84 313 *eP* **P 03 42 01.1 0.0**
BOJS Bojanci 35.88 306 *iP* **P 03 42 01.1 -0.4**
PAOL Paolisi 35.90 299 IAmb IAmb 03 42 19.6
comp=Z,77nm,1.6s
KRUC Moravsky 35.90 313 *eP* **P 03 42 01.3 -0.3**
KRLC Kraliky 35.94 314 *eP* **P 03 42 01.3 -0.7**
KRLC AMS AMS 04 02 30.0
comp=Z,2µm,20.5s
KRLC Kraliky 35.94 314 *eP* **P 03 42 01.3 -0.7**
KRLC MLR MLR
comp=Z,2µm,20.5s
CONA Conrad Observa 35.96 311 *iP* **P 03 42 02.0 -0.2**
comp=Z,11nm,1.0s,SNR=7.1
ARSA Arzberg 36.03 309 *eP* **P 03 42 02.7 -0.1**
comp=Z,9.2nm,0.8s
SOKA Soboth 36.24 308 *eP* **P 03 42 04.9 +0.2**
comp=Z,3.3nm,0.7s
SOKA *i* PcP **PcP 03 44 29.2 -0.6**
comp=Z,4.3nm,0.7s,SNR=4.6
DPC Dobruska-Polom 36.30 315 *eP* **P 03 42 04.6 -0.5**
DPC AMS AMS 04 02 20.0
comp=Z,2µm,16.8s
DPC Dobruska-Polom 36.30 315 *eP* **P 03 42 04.6 -0.5**
DPC MLR MLR
comp=Z,2µm,16.8s
OSTC Ostas 36.43 315 AMS AMS 04 02 30.0
comp=Z,2µm,22.8s
KSP Ksiaz 36.47 316 *eP* **P 03 42 06.6 +0.2**
CEY Cerknica 36.49 307 *iP* **P 03 42 06.3 -0.4**
TREC Trest 36.53 313 *eP* **P 03 42 06.1 -1.0**
TREC AMS AMS 04 03 10.0
comp=Z,2µm,19.1s
TREC Trest 36.53 313 *eP* **P 03 42 06.1 -1.0**
TREC MLR MLR
comp=Z,2µm,19.1s
CHVC Chvalec 36.54 315 *eP* **P 03 42 06.9 -0.2**
CHVC AMS AMS 04 02 30.0
comp=Z,3µm,23.7s
CHVC Chvalec 36.54 315 *eP* **P 03 42 06.9 -0.2**
CHVC MLR MLR
comp=Z,3µm,23.7s
UPC Upice 36.54 315 *eP* **P 03 42 07.0 -0.1**
UPC AMS AMS 04 02 40.0
comp=Z,2µm,21.3s
UPC Upice 36.54 315 *eP* **P 03 42 07.0 -0.1**
UPC MLR MLR
comp=Z,2µm,21.3s
TNCH TengChong 36.67 88 *eP* **P 03 42 09.9 +1.2**
TNCH pmax pmax
comp=Z,120nm,1.0s
TNCH pmax pmax
comp=Z,650nm,4.1s
GKP Gorka Klasztor 36.74 320 *eP* **P 03 42 09.7 +0.9**
GKP Gorka Klasztor 36.74 320 P **P 03 42 09.9 +1.2**
MEF Metsahovi 36.83 333 *eP* **P 03 42 09.4 +0.1**
AQU L'Aquila 36.84 301 IAmb IAmb 03 42 27.0
comp=Z,30nm,0.9s
AQU L'Aquila 36.84 301 P P 03 42 14.5 +4.7
KMBO Kilima Mbogo 36.95 215 P **P 03 42 12.2 +1.0**
KMBO Kilima Mbogo 36.95 215 P **P 03 42 12.1 +0.9**
KMBO Kilima Mbogo 36.95 215 P **P 03 42 12.2 +1.0**
KMBO pmax pmax
comp=Z,22nm,1.4s
KMBO Kilima Mbogo 36.95 215 P **P 03 42 10.3 -0.9**
comp=Z,8.4nm,1.0s,baz=35,slow=13,SNR=14
comp=Z,8.4nm,1.0s
MOA Molln 36.99 310 *iP* **P 03 42 09.9 -1.0**
comp=Z,22nm,0.9s,SNR=7.5
FINES FINESS Array B 36.99 335 P **P 03 42 09.8 -1.0**
comp=Z,28nm,0.8s,baz=117,slow=4.9,SNR=50
FINES PP **PnPn 03 43 41.9 +6.9**
comp=Z,7.1nm,0.8s,baz=134,slow=11,SNR=3.7
comp=Z,28nm,0.8s
CADS Cadrg 37.05 307 *iP* **P 03 42 11.5 0.0**
GOPC GO Pecny, Ondr 37.13 314 AMS AMS 04 03 20.0
comp=Z,3µm,20.6s
CKRC Cesky Krumlov 37.17 312 *eP* **P 03 42 11.6 -0.9**
CKRC AMS AMS 04 03 50.0
comp=Z,2µm,17.7s
CKRC Cesky Krumlov 37.17 312 *eP* **P 03 42 11.6 -0.9**
CKRC MLR MLR
comp=Z,2µm,17.7s
PRU Pruhonice 37.31 314 *eP* **P 03 42 12.8 -0.8**
PRU AMS AMS 04 03 00.0
comp=Z,2µm,18.1s
PRU Pruhonice 37.31 314 *eP* **P 03 42 12.8 -0.8**
PRU MLR MLR
comp=Z,2µm,18.1s
BIOA Bad Ischl, Aus 37.37 310 *iP* **P 03 42 13.9 -0.3**
comp=Z,16nm,1.0s,SNR=6.4
BIOA *e*PcP **PcP 03 44 33.2 +0.1**
comp=Z,2.1nm,0.4s
ZVC Zvikov 37.39 313 *eP* **P 03 42 13.7 -0.6**
ZVC AMS AMS 04 03 30.0
comp=Z,2µm,18.1s
PRA Prague 37.40 314 AMS AMS 04 03 00.0
comp=Z,3µm,18.7s
PVCC Panska Ves 37.43 314 *eP* **P 03 42 14.3 -0.3**
PVCC AMS AMS 04 05 20.0
comp=Z,2µm,17.9s
PVCC Panska Ves 37.43 314 *eP* **P 03 42 14.3 -0.3**
PVCC MLR MLR
comp=Z,2µm,17.9s
KBA Koelnbreinsper 37.46 309 *eP* **P 03 42 15.4 +0.3**
comp=Z,7.1nm,0.7s
KBA Koelnbreinsper 37.46 309 P **P 03 42 15.4 +0.3**
MURB Monte Urbino 37.55 302 IAmb IAmb 03 42 18.3
comp=Z,32nm,1.0s
GEC2 GERESS Array S 37.57 312 IAmb IAmb 03 42 17.9
comp=Z,42nm,0.9s
GEC2 GERESS Array S 37.57 312 P **P 03 42 15.5 -0.4**
GEC2 GERESS Array S 37.57 312 *eP* **P 03 42 14.9 -1.0**
comp=Z,41nm,0.9s,baz=101,slow=8.6
GERES GERESS Array B 37.57 312 P **P 03 42 14.7 -1.3**
GERES GERESS Array B 37.57 312 P **P 03 42 14.9 -1.0**
comp=Z,32nm,0.8s,baz=105,slow=9.8,SNR=68
GERES PcP **PcP 03 44 32.8 -0.9**
comp=Z,5.1nm,0.7s,baz=92,slow=3.1,SNR=5.2
comp=Z,32nm,0.8s
KIBK Kibwezi 37.63 213 P **P 03 42 18.0 +1.2**
SNR=12
KHC Kasperske Hory 37.71 312 IAmb IAmb 03 42 19.0
comp=Z,25nm,0.9s
KHC Kasperske Hory 37.71 312 *eP* **P 03 42 15.7 -1.4**
KHC AMS AMS 04 03 20.0
comp=Z,3µm,18.3s
KHC Kasperske Hory 37.71 312 *ceP* **P 03 42 15.9 -1.2**
KHC pmax pmax
comp=Z,57nm,0.9s
BRG Berggiesshubel 37.91 315 *eP* **P 03 42 19.7 +1.1**
BRG Amp 03 42 21.4
comp=Z,5.4nm,0.8s
BRG Berggiesshubel 37.91 315 *eP* **P 03 42 19.7 +1.1**
BRG pmax pmax
comp=Z,5.0nm,0.8s
CIMO Cimolais 37.95 307 P **P 03 42 18.0 -1.1**
CIMO IAmb IAmb 03 42 25.9
comp=Z,9.5nm,0.8s
CIMO **PcP 03 44 34.0 -0.9**
LESA Schwarzleotal 37.97 309 *eP* **P 03 42 18.5 -0.8**
comp=Z,13nm,0.7s
LESA *e*PcP **PcP 03 44 34.6 -0.3**
comp=Z,5.2nm,0.6s
ABTA Abfaltersbach 37.97 308 *iP* **P 03 42 17.7 -1.6**
comp=Z,17nm,0.8s,SNR=6.6
HSKC Hora Svate Kat 38.15 314 *eP* **P 03 42 20.3 -0.5**
WET Wettzell 38.16 312 P **P 03 42 20.7 -0.2**
WET Wettzell 38.16 312 *eP* **P 03 42 19.8 -1.0**
comp=Z,9.3nm,1.0s,baz=101,slow=8.6
FBE Freiberg 38.28 315 *eP* **P 03 42 21.0 -0.8**
comp=Z,7.7nm,0.9s,baz=101,slow=8.6
RAF Rauma 38.35 333 *eP* **P 03 42 23.2 +1.1**
RUE Ruedersdorf 38.45 317 *eP* **P 03 42 24.0 +0.8**
CLL Collm 38.59 315 IAmb IAmb 03 42 31.7
comp=Z,50nm,1.0s
CLL Collm 38.59 315 *iP* **P 03 42 25.0 +0.6**
comp=Z,31nm,1.0s
CLL *i* pP **pP 03 42 27.8 -0.1**
CLL *i* sP **sP 03 42 30.3 +1.1**
comp=Z,68nm,1.1s
CLL *e*PP **PP 03 43 53.0 +0.4**
CLL *e*PPPP 03 44 22.0
CLL Collm 38.59 315 *iP* **P 03 42 25.0 +0.6**
CLL *i* 03 42 27.8
CLL *i* 03 42 30.3
CLL pmax pmax
comp=Z,31nm,1.0s
CLL Collm 38.59 315 *eP* **P 03 42 24.2 -0.2**
comp=Z,56nm,1.1s,baz=101,slow=8.6
WTTA Wattenberg 38.64 309 *iP* **P 03 42 23.3 -1.8**
comp=Z,35nm,0.9s,SNR=11
WTTA *e*PcP **PcP 03 44 37.4 +0.2**
comp=Z,7.6nm,0.7s
NKC Novy Kostel 38.67 313 *eP* **P 03 42 24.3 -0.9**
NKC AMS AMS 04 05 00.0
comp=Z,3µm,18.8s
NKC Novy Kostel 38.67 313 *eP* **P 03 42 24.3 -0.9**
NKC MLR MLR
comp=Z,3µm,18.8s
WATA Walderalm 38.69 309 *eP* **P 03 42 24.4 -1.1**
comp=Z,35nm,1.3s
WATA *e*PcP **PcP 03 44 36.6 -0.7**
comp=Z,6.0nm,0.7s
BSD Bornholm Skovb 38.69 322 *eP* **P 03 42 24.2 -0.9**
TANN Tannenbergstha 38.71 314 *eP* **P 03 42 24.7 -0.8**
comp=Z,7.4nm,1.1s,baz=101,slow=8.6
ROTZ Rotzenmuhle 38.72 313 *eP* **P 03 42 24.6 -1.0**
comp=Z,9.3nm,1.4s,baz=101,slow=8.6
ZCCA Zocca 38.76 304 IAmb IAmb 03 42 41.7
comp=Z,30nm,0.9s
GUNZ Gunzen 38.78 314 *eP* **P 03 42 24.8 -1.2**
comp=Z,8.0nm,1.0s,baz=101,slow=8.6
WERD Werda 38.81 314 *eP* **P 03 42 26.7 +0.4**
comp=Z,5.9nm,1.0s,baz=101,slow=8.6
LZH Lanzhou 38.90 69 *eP* **P 03 42 27.4 0.0**
LZH pP sP 03 42 31.3 -1.1
LZH sP pP 03 42 34.7 +3.7
LZH S **S 03 48 23.5 -2.4**
LZH sS sS 03 48 36.5 +5.0
LZH pmax pmax
comp=Z,33nm,1.2s
LZH LR LR
comp=Z,2µm,13.9s
LZH LR LR
comp=Z,2µm,15.1s
LZH LR LR
comp=Z,2µm,16.7s
SQTA Sankt Quirin 38.92 308 *iP* **P 03 42 25.4 -1.9**
comp=Z,18nm,0.6s,SNR=9.2
SQTA *i* PcP **PcP 03 44 38.4 +0.4**
comp=Z,13nm,0.7s,SNR=5.8
PZH PanZhiHua 39.00 85 P **P 03 42 28.4 +0.1**
PZH S **S 03 48 27.7 +0.3**
PZH pmax pmax
comp=Z,30nm,1.0s
PZH LR LR
comp=Z,2µm,19.6s
PZH LR LR
comp=Z,1µm,16.2s
PZH LR LR
comp=Z,2µm,16.7s
MOTA Moosalm 39.01 309 *iP* **P 03 42 26.6 -1.6**
comp=Z,27nm,0.8s,SNR=9.1
MOTA *i* PcP **PcP 03 44 38.4 +0.1**
comp=Z,16nm,0.8s,SNR=9.5
FUR Furstenfeldbru 39.02 310 *eP* **P 03 42 27.3 -0.8**
comp=Z,17nm,0.8s,baz=101,slow=8.6
VIKU Vikbolandet 39.20 327 *eP* **P 03 42 30.6 +1.2**
FETA Feichten 39.22 308 *iP* **P 03 42 29.0 -0.9**
comp=Z,29nm,0.8s,SNR=11
FETA *i* PcP **PcP 03 44 39.8 +0.8**
comp=Z,11nm,0.8s,SNR=4.5
RETA Reutte 39.26 309 *eP* **P 03 42 28.8 -1.4**
comp=Z,14nm,0.9s
RETA *e*PcP **PcP 03 44 39.3 +0.3**
comp=Z,6.0nm,0.7s
MOX Moxa 39.28 314 P **P 03 42 29.4 -0.9**
MSF Maaselka 39.29 342 P **P 03 42 30.7 +0.6**
ZAK Zakamensk 39.32 47 *eP* **P 03 42 30.5 -0.2**
ZAK pmax pmax
comp=Z,16nm,1.7s
GRF Grafenberg Arr 39.33 312 *eP* **P 03 42 29.7 -0.9**
comp=Z,18nm,0.8s,baz=101,slow=8.6
GRFO Grafenberg 39.33 312 P **P 03 42 30.7 +0.1**
GRFO Grafenberg 39.33 312 P **P 03 42 30.7 +0.1**
GRFO pmax pmax
comp=Z,18nm,0.8s
CHTO Chiang Mai 39.35 98 P **P 03 42 30.6 -0.5**
CHTO IAmb IAmb 03 42 37.0
comp=Z,63nm,1.2s
CHTO Chiang Mai 39.35 98 P **P 03 42 31.2 +0.1**
CHTO P **P 03 42 31.2 +0.1**
CHTO Chiang Mai 39.35 98 P **P 03 42 30.6 -0.5**
CHTO pmax pmax
comp=Z,63nm,1.3s
RGN Rugen 39.36 320 *eP* **P 03 42 31.3 +0.6**
RGN Rugen 39.36 320 *eP* **P 03 42 30.8 0.0**
comp=Z,163nm,0.8s,baz=101,slow=8.6
FUORN Ofenpass-Fuorn 39.48 307 P **P 03 42 31.4 -0.8**
FUORN **PcP 03 44 39.7 -0.2**
CM31 Chiang Mai Arr 39.50 98 P **P 03 42 32.5 0.0**
CMAR Chiang Mai Arr 39.50 98 P **P 03 42 31.7 -0.8**
CMAR Chiang Mai Arr 39.50 98 P **P 03 42 32.4 0.0**
comp=Z,4.4nm,0.8s,baz=298,slow=8.0,SNR=24
CMAR PcP **PcP 03 44 38.7 -1.4**
comp=Z,3.1nm,0.7s,baz=294,slow=6.0,SNR=5.4
CMAR LR LR 04 00 44.8
comp=Z,794nm,20.4s,baz=290,slow=39
comp=Z,4.4nm,0.8s
OUL Oulu 39.57 340 P **P 03 42 32.9 +0.5**
APA Apatity 39.59 346 ⇓ *iP* **P 03 42 31.9 -0.6**
APA pmax pmax
comp=Z,34nm,0.8s
CD2 Chengdu 39.63 77 P **P 03 42 32.7 -0.7**
CD2 pP pP 03 42 36.4 -0.5
CD2 sP sP 03 42 38.1 -0.3
CD2 pmax pmax
comp=Z,30nm,0.8s
LUNU Lund 39.66 322 *iP* **P 03 42 32.3 -1.0**
UBR Ueberruh 39.72 309 *eP* **P 03 42 33.1 -1.0**
comp=Z,30nm,1.0s,baz=101,slow=8.6
DEL Delary 39.74 323 *eP* **P 03 42 34.6 +0.6**
DEL Delary 39.74 323 *iP* **P 03 42 33.8 -0.1**
DAVA Damuels 39.82 308 *iP* **P 03 42 33.7 -1.3**
comp=Z,40nm,0.8s,SNR=16
DAVA *e*PcP **PcP 03 44 41.2 +0.3**
comp=Z,12nm,0.7s
VSL Villasalto 39.86 296 IAmb IAmb 03 42 36.9
comp=Z,30nm,0.8s
FLTG Flechtingen 39.91 316 *eP* **P 03 42 35.0 -0.4**
comp=Z,36nm,0.9s,baz=101,slow=8.6
CRAI Chiangrai 39.99 95 P **P 03 42 36.2 -0.3**
CRAI IAmb IAmb 03 42 42.0
comp=Z,28nm,0.9s
BJUU Bjuv 40.04 322 *iP* **P 03 42 37.2 +0.8**
GORT1 Trebel 40.04 317 *eP* **P 03 42 36.6 +0.2**
comp=Z,49nm,1.3s,baz=101,slow=8.6
TUE Stuetta 40.09 307 P **P 03 42 36.0 -1.3**
KEST Kesra 40.19 290 P **P 03 42 38.5 +0.4**
KEST Kesra 40.19 290 P **P 03 42 38.0 -0.1**
comp=Z,6.9nm,0.8s,baz=355,slow=2.5,SNR=8.3
comp=Z,6.9nm,0.8s
KMI Kunming 40.27 86 ⇓ P **P 03 42 39.5 +0.5**
KMI sP sP 03 42 44.2 +0.2
KMI S **S 03 48 48.9 +2.1**
KMI pmax pmax
comp=Z,52nm,1.3s
KMI LR LR
comp=Z,2µm,15.4s
KMI LR LR
comp=Z,2µm,17.1s
KMI LR LR
comp=Z,1µm,16.3s
GTTG Gottingen 40.50 315 *eP* **P 03 42 40.1 -0.1**
comp=Z,30nm,1.3s,baz=101,slow=8.6
BORU Boraas 40.74 325 *iP* **P 03 42 40.6 -1.5**
BSEG Bad Segeberg 40.86 319 *eP* **P 03 42 43.2 -0.1**
comp=Z,29nm,0.9s,baz=101,slow=8.6
SONM Songino Array 40.92 51 P **P 03 42 44.0 -0.1**
SONM Songino Array 40.92 51 P **P 03 42 44.0 -0.1**
SONM pmax pmax
comp=Z,29nm,1.4s
SONM Songino Array 40.92 51 P **P 03 42 43.9 -0.1**
comp=Z,10.0nm,1.1s,baz=260,slow=8.7,SNR=27
SONM PP **PnPn 03 44 20.7 -1.7**
comp=Z,4.6nm,1.1s,baz=272,slow=7.3,SNR=3.9
SONM PcP **PcP 03 44 43.9 -0.5**
comp=Z,1.3nm,0.7s,baz=263,slow=5.2,SNR=1.4
SONM LR LR 04 01 32.3
comp=Z,3µm,18.7s,baz=266,slow=39
comp=Z,10.0nm,1.1s
SGF Sodankyl 41.11 342 P **P 03 42 45.8 +0.7**
HFS Hagfors 41.31 328 P **P 03 42 45.4 -1.5**
comp=Z,12nm,0.9s,baz=116,slow=10,SNR=10
comp=Z,12nm,0.9s
ULN Ulaanbaatar 41.37 51 P **P 03 42 47.3 -0.4**
ULN Ulaanbaatar 41.37 51 P **P 03 42 47.3 -0.4**
ULN pmax pmax
comp=Z,11nm,0.9s
SENIN Lac Senin/Sane 41.50 307 P **P 03 42 48.4 -0.5**
SENIN IAmb IAmb 03 43 01.9
comp=Z,38nm,0.7s
MBDF Montbardon 41.78 304 P **P 03 42 50.5 -0.6**
LPL La Plagne 41.84 305 P **P 03 42 49.3 -2.4**
BNI Bardonecchia 41.86 305 P **P 03 42 51.0 -0.7**
BNI Bardonecchia 41.86 305 P **P 03 42 51.0 -0.7**
MUD Monsted U'grnd 42.20 322 *iP* **P 03 42 54.7 +0.6**
MUD IAmb IAmb 03 42 57.4
comp=Z,33nm,1.0s
CABF La Chapelle 42.35 307 P **P 03 42 55.0 -0.7**
ORIF Oris-en-Rattie 42.42 304 P **P 03 42 55.4 -0.9**
WLF Walferdange 42.58 312 *dP* **P 03 42 57.8 +0.4**
SLVN Son La 42.59 91 P **P 03 42 58.1 +0.2**
SLVN IAmb IAmb 03 42 59.7
comp=Z,39nm,1.2s
BTNL Ternell 42.71 313 *dP* **P 03 42 58.3 -0.2**
BHOU Houvegnez 42.76 313 *dP* **P 03 42 59.1 +0.2**
comp=Z,9.4nm,0.8s
MEM Membach 42.79 313 *dP* **P 03 42 59.2 +0.1**
comp=Z,16nm,0.9s
NB2 NORSAR Subarra 42.80 329 P **P 03 42 58.5 -0.6**
comp=Z,16nm,1.1s,baz=116,slow=8.6
NB2 PP **PP 03 44 32.5 -5.7**
comp=Z,1.2nm,0.7s,baz=128,slow=9.3
NB2 NORSAR Subarra 42.80 329 P **P 03 42 58.5 -0.6**
baz=116,slow=8.6
NOA NORSAR Array B 42.80 329 P **P 03 42 57.9 -1.2**
comp=Z,5.1nm,1.0s,baz=115,slow=8.0,SNR=9.1
comp=Z,5.1nm,1.0s
ARA0 ARCESS Array S 42.92 344 *eP* **P 03 43 00.9 +1.0**
ARCES ARCESS Array B 42.92 344 P **P 03 42 59.1 -0.8**
ARCES ARCESS Array B 42.92 344 P **P 03 42 59.1 -0.8**
ARCES pmax pmax
comp=Z,25nm,1.1s
ARCES ARCESS Array B 42.92 344 P **P 03 42 58.8 -1.1**
comp=Z,9.9nm,0.7s,baz=133,slow=7.5,SNR=23
comp=Z,9.9nm,0.7s
KTK1 Kautokeino 43.09 343 *eP* **P 03 43 01.5 +0.2**
BCLA Clavier 43.21 313 *dP* **P 03 43 02.5 0.0**
GYA Guiyang 43.23 83 P **P 03 43 04.3 +1.2**
GYA pmax pmax
comp=Z,23nm,1.5s
RCHB Rochefort 43.23 312 *dP* **P 03 43 02.5 -0.1**
comp=Z,16nm,0.9s
XAN Xi'an 43.31 71 ⇓ P **P 03 43 03.3 -0.3**
XAN pP pP 03 43 07.4 +0.2
XAN pmax pmax
comp=Z,47nm,1.3s
XAN LR LR
comp=Z,5µm,20.6s
XAN LR LR
comp=Z,1µm,17.5s
XAN LR LR
comp=Z,1µm,13.4s
BGES Gesves 43.35 312 *dP* **P 03 43 03.5 -0.1**
comp=Z,9.8nm,0.9s
BTO Baotou 43.37 62 *eP* **P 03 43 03.6 -0.5**
BTO pP **sP 03 43 08.4 -0.5**
BTO sP **pP 03 43 10.7 +3.2**
BTO PP **PP 03 44 46.3 +1.6**
BTO S **S 03 49 32.2 +0.1**
BTO SS **SS 03 52 37.2 -8.4**

BTO pmax pmax
comp=Z,62nm,1.4s
BTO pmax pmax
comp=Z,1μm,10.3s
BTO LR LR
comp=Z,8μm,19.0s
BTO LR LR
comp=Z,5μm,14.9s
GIVF Givet 43.48 312 P **P** **03 43 06.2 +1.5**
BMRD Maredsous 43.54 312 *d*P **P** **03 43 05.7 +0.5**
comp=Z,12nm,0.9s
DOU Dourbes 43.63 312 *d*P **P** **03 43 06.8 +0.9**
comp=Z,19nm,1.0s
BAIF Baives 43.87 312 P **P** **03 43 09.4 +1.6**
SMF Signal de Mont 43.90 307 P **P** **03 43 06.0 -2.1**
LOR Lormes 43.91 308 P **P** **03 43 07.0 -1.2**
MOR8 Moi Rana 43.95 337 *e*P **P** **03 43 07.9 -0.4**
SKAR Skarslia 43.99 328 *e*P **P** **03 43 07.9 -0.8**
NSS Namsos 44.02 334 *e*P **P** **03 43 10.1 +1.2**
SSF Saint Saulge 44.14 308 P **P** **03 43 07.6 -2.4**
HAMF Hammerfest 44.16 345 *e*P **P** **03 43 10.9 +1.1**
JETT Jettan, Norway 44.20 342 *e*P **P** **03 43 10.4 +0.1**
AVF Avril sur Loir 44.24 307 P **P** **03 43 10.8 0.0**
FAUS Fauske 44.34 338 *e*P **P** **03 43 11.7 +0.3**
HHC Hu-ho-hao-te 44.52 61 *e*P **P** **03 43 13.5 +0.2**
HHC pP sP 03 43 17.7 -0.4
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,830nm,7.9s
HHC LR LR
comp=Z,4μm,18.4s
HHC LR LR
comp=Z,2μm,17.6s
HHC LR LR
comp=Z,4μm,19.0s
ODD1 Odda 44.52 326 *e*P **P** **03 43 14.2 +1.2**
STOK Stokkvaagen 44.53 336 *e*P **P** **03 43 13.4 +0.6**
KONS Konsvik 44.58 337 *e*P **P** **03 43 13.9 +0.7**
TRO Tromso 44.64 342 *e*P **P** **03 43 14.1 +0.3**
STEI Steigen 44.67 339 *e*P **P** **03 43 14.4 +0.5**
TCF Toulx Ste Croi 45.02 306 P **P** **03 43 16.3 -0.8**
AKN Aaknes 45.10 329 *e*P **P** **03 43 20.1 +2.5**
RJF Les Rejaudoux 45.51 305 P **P** **03 43 20.3 -0.7**
LFF La Frestale 46.07 305 P **P** **03 43 25.4 0.0**
LYN LuoYang 46.10 70 ⇓P **P** **03 43 26.5 +0.7**
LYN pP sP 03 43 31.2 +0.3
LYN sP pP 03 43 33.8 +4.4
LYN sS sS 03 50 18.8 +1.5
LYN SS **SS** **03 53 34.6 -2.0**
LYN pmax pmax
comp=Z,50nm,1.3s
LYN pmax pmax
comp=Z,880nm,11.3s
LYN LR LR
comp=Z,3μm,16.2s
LYN LR LR
comp=Z,2μm,14.7s
LYN LR LR
comp=Z,3μm,19.4s
LDF La Druitiere 46.62 310 P **P** **03 43 29.3 -0.4**
TAM Tamanrasset 46.63 273 P **P** **03 43 29.7 -0.6**
TAM lAmb lAmb 03 43 37.2
comp=Z,14nm,1.2s
TAM Tamanrasset 46.63 273 P **P** **03 43 29.7 -0.6**
BOD Bodaibo 46.98 38 *e*P **P** **03 43 31.7 -0.7**
BOD pmax pmax
comp=Z,87nm,1.7s
HNS HongShan 47.37 66 ⇑P **P** **03 43 37.1 +1.4**
HNS pmax pmax
comp=Z,11nm,1.2s
XLT XiLinHaoTe 47.62 57 *e*P **P** **03 43 38.8 +1.1**
XLT pP sP 03 43 43.1 +0.6
XLT sP pP 03 43 45.3 +4.2
XLT PcP **PcP** **03 45 07.6 +0.3**
XLT PP **PP** **03 45 29.4 +0.3**
XLT pmax pmax
comp=Z,16nm,1.3s
XLT pmax pmax
comp=Z,260nm,4.4s
XLT LR LR
comp=N,290nm,16.6s
XLT LR LR
comp=E,2μm,19.1s
XLT LR LR
comp=Z,3μm,20.0s
XLT XiLinHaoTe 47.62 57 *e*P **P** **03 43 38.7 +1.1**
XLT pP sP 03 43 43.2 +0.7
XLT sP pP 03 43 45.5 +4.4
XLT PcP **PcP** **03 45 07.8 +0.5**
XLT PP **PP** **03 45 29.3 +0.2**
XLT pmax pmax
comp=Z,16nm,1.3s
XLT pmax pmax
comp=Z,260nm,4.1s
XLT LR LR
comp=Z,290nm,17.0s
XLT LR LR
comp=Z,2μm,19.1s
XLT LR LR
comp=Z,3μm,20.0s
EKA Eskdalemuir Ar 48.81 319 P **P** **03 43 45.3 -1.3**
comp=Z,1.4nm,0.3s,baz=100,slow=7.1,SNR=15
comp=Z,1.4nm,0.3s
TIA Tai'an 49.50 67 P **P** **03 43 52.5 +0.3**
TIA pmax pmax
comp=Z,17nm,1.4s
TIA LR LR
comp=Z,2μm,18.2s
TIA LR LR
comp=Z,810nm,18.4s
TIA LR LR
comp=Z,1μm,17.3s
OPO Ambohidratompo 49.91 193 LR LR 04 02 45.5
comp=Z,642nm,21.4s,baz=170,slow=33
ESDC Sonseca Array 50.09 298 P **P** **03 43 54.4 -2.3**
comp=Z,4.5nm,0.8s,baz=71,slow=6.3,SNR=27
ESDC PcP **PcP** **03 45 16.2 0.0**
comp=Z,1.5nm,0.8s,baz=59,slow=3.8,SNR=4.5
comp=Z,4.5nm,0.8s
ABPO Ambohimpanom 50.34 192 P **P** **03 43 59.3 +0.6**
ABPO lAmb lAmb 03 44 08.9
comp=Z,42nm,1.6s
ABPO Ambohimpanom 50.34 192 P **P** **03 43 59.3 +0.6**
ABPO pmax pmax
comp=Z,42nm,1.7s
SPITS Spitsbergen Ar 50.91 350 P **P** **03 44 01.7 -0.6**
comp=Z,11nm,0.7s,baz=107,slow=13,SNR=5.9
SPITS LR LR 04 09 13.4
comp=Z,2μm,19.1s,baz=86,slow=40
comp=Z,11nm,0.7s
RER Riviere de l'E 51.54 182 P **P** **03 44 09.2 +1.5**
PBRG Braganca 51.81 301 *e*P **P** **03 44 09.1 -0.5**
comp=Z,44nm,1.7s
NJ2 Nanjing 51.88 72 *e*P **P** **03 44 10.4 +0.2**
NJ2 pP **pP** **03 44 13.6 -0.2**
NJ2 sP **sP** **03 44 16.5 +1.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,1μm,4.3s
NJ2 LR LR
comp=Z,2μm,12.8s
NJ2 LR LR
comp=Z,1μm,16.1s
NJ2 LR LR
comp=Z,1μm,18.0s
MVO Moncorvo 52.14 300 *e*P **P** **03 44 11.8 -0.3**
comp=Z,33nm,2.4s
MVO Moncorvo 52.14 300 *e*LR LR 04 00 35.8
comp=Z,3μm,20.0s
PVRL Vila Real 52.63 301 *e*P **P** **03 44 15.7 0.0**
comp=Z,38nm,1.5s
MTE Manteigas 52.66 300 *e*P **P** **03 44 15.5 -0.5**
comp=Z,41nm,1.5s
MTE Manteigas 52.66 300 *e*LR LR 04 01 58.3
comp=Z,2μm,20.0s
POLO Lamas de Olo 52.67 301 *e*P **P** **03 44 15.0 -1.0**
comp=Z,13nm,1.4s
PCBR Castelo Branco 52.72 299 *e*P **P** **03 44 15.0 -1.3**
comp=Z,30nm,1.4s
PBAR Barrancos 52.73 297 *e*P **P** **03 44 14.3 -2.1**
comp=Z,40nm,2.1s
PMRV Marv??o 52.74 298 *e*P **P** **03 44 12.5 -4.0**
comp=Z,23nm,1.9s
PMRV Marv??o 52.74 298 *e*LR LR 04 02 23.4
comp=Z,2μm,20.0s
PGAV Gavieira, Arco 52.91 302 *e*P **P** **03 44 15.9 -1.9**
comp=Z,46nm,1.7s
PGAV Gavieira, Arco 52.91 302 *e*LR LR 03 59 40.1
comp=Z,2μm,20.0s
VOI Vohitsoka 53.24 192 P **P** **03 44 22.6 +2.3**
LSZ Lusaka 53.61 216 P **P** **03 44 24.1 +0.9**
LSZ Lusaka 53.61 216 P **P** **03 44 24.1 +0.9**
LSZ pmax pmax
comp=Z,12nm,1.1s
LSZ Lusaka 53.61 216 LR LR 04 09 24.2
comp=Z,4μm,18.9s,baz=78,slow=39
PNCL Nicolau / Gran 53.89 297 *e*P **P** **03 44 24.5 -0.4**
comp=Z,34nm,1.7s
TOA0 Torodi Ar. Sit 53.98 264 P **P** **03 44 24.2 -1.7**
TOA0 Torodi Ar. Sit 53.98 264 P **P** **03 44 24.4 -1.5**
SNR=15
TORD Torodi Ar. Bea 53.98 264 P **P** **03 44 24.1 -1.8**
TORD lAmb lAmb 03 44 26.8
comp=Z,16nm,0.7s
TORD Torodi Ar. Bea 53.98 264 P **P** **03 44 24.1 -1.8**
comp=Z,28nm,0.7s,baz=52,slow=7.4,SNR=106
TORD LR LR 04 08 32.6
comp=Z,1μm,20.8s,baz=81,slow=37
comp=Z,28nm,0.7s
ZEA Zeya 54.25 43 *e*P **P** **03 44 27.8 +0.5**
ZEA pmax pmax
comp=Z,20nm,1.3s
ZEA MLR MLR
comp=E,1μm,13.0s
ZEA MLR MLR
comp=Z,2μm,14.0s
CN2 Changchun 54.35 56 *e*P **P** **03 44 27.9 -0.3**
CN2 *e*S **S** **03 52 06.4 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,1.4s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,3μm,19.0s
HEH HeiHe 54.70 48 *e*P **P** **03 44 30.0 -0.7**
HEH pP **pP** **03 44 33.2 -1.0**
HEH S **S** **03 52 07.4 -3.5**
HEH pmax pmax
comp=Z,23nm,1.2s
HEH pmax pmax
comp=Z,1μm,7.9s
HEH LR LR
comp=Z,3μm,15.7s
HEH LR LR
comp=Z,7μm,14.9s
HEH LR LR
comp=Z,11μm,15.9s
YAK Yakutsk 55.19 33 P **P** **03 44 32.9 -1.1**
YAK lAmb lAmb 03 44 34.3
comp=Z,36nm,1.1s
YAK Yakutsk 55.19 33 *e*P **P** **03 44 33.1 -0.9**
YAK *e**PP **pP** **03 44 36.6 -0.9**
YAK *e* 03 46 36.4
YAK *e*S **S** **03 52 17.3 +0.3**
YAK *e* 03 54 15.5
YAK *e*SS **SS** **03 56 04.0 +3.4**
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.7s
YAK pmax pmax
comp=E,15nm,1.8s
YAK pmax pmax
comp=Z,211nm,3.8s
YAK pmax pmax
comp=N,322nm,5.1s
YAK pmax pmax
comp=E,166nm,4.8s
YAK smax smax
comp=E,395nm,7.0s
YAK smax smax
comp=N,121nm,3.3s
YAK MLR MLR
comp=Z,2μm,24.0s
YAK MLR MLR
comp=N,1μm,25.0s
YAK Yakutsk 55.19 33 LR LR 04 10 31.7
comp=N,171nm,18.6s,baz=261,slow=39
BNX BinXian 55.38 53 ⇑P **P** **03 44 32.7 -2.9**
BNX pmax pmax
comp=N,12nm,1.3s
TIXI Tiksi 55.40 21 P **P** **03 44 35.6 +0.3**
TIXI lAmb lAmb 03 44 40.7
comp=Z,34nm,1.2s
TIXI Tiksi 55.40 21*c*eP **P** **03 44 34.3 -1.1**
MDJ Mudanjiang 57.11 54 P **P** **03 44 47.8 -0.2**
MDJ pP pP 03 44 51.0 -0.6
MDJ PP **PP** **03 47 01.8 +7.2**
MDJ ScP **ScP** **03 49 39.8 -2.9**
MDJ ScS **ScS** **03 54 35.8 -1.8**
MDJ pmax pmax
comp=Z,8.0nm,1.5s
MDJ pmax pmax
comp=Z,600nm,11.6s
DAG Danmarks Havn 57.21 345 *i*P **P** **03 44 47.0 -1.2**
DAG lAmb lAmb 03 44 56.0
comp=Z,7.7nm,0.8s
DBG Daneborg 57.41 342 *i*P **P** **03 44 50.3 +0.6**
DBG lAmb lAmb 03 44 56.5
comp=Z,5.6nm,0.9s
NOR Nord 57.55 350 *i*P **P** **03 44 50.3 -0.3**
NOR lAmb lAmb 03 44 53.0
comp=Z,6.4nm,0.8s
KS19 Wonju Array Si 57.56 63 P **P** **03 44 52.7 +1.4**
KSAR Wonju Array Be 57.59 63 P **P** **03 44 50.3 -1.2**
KSAR Wonju Array Be 57.59 63 P **P** **03 44 50.3 -1.2**
KSRS Korea Array 57.62 63 P **P** **03 44 50.1 -1.6**
comp=Z,3.2nm,0.8s,baz=272,slow=6.7,SNR=7.0
KSRS LR LR 04 12 56.3
comp=Z,1μm,19.2s,baz=270,slow=40
comp=Z,3.2nm,0.8s
KLR Kul'dur 57.64 48*c i*P **P** **03 44 50.4 -1.3**
KLR pmax pmax
comp=Z,16nm,1.1s
KLR Kul'dur 57.64 48 P **P** **03 44 50.6 -1.1**
comp=Z,11nm,1.1s,baz=280,slow=8.4,SNR=17
KLR LR LR 04 12 27.7
comp=Z,3μm,21.5s,baz=278,slow=39
comp=Z,11nm,1.1s
KSM Kuching 57.85 110 P **P** **03 44 53.6 0.0**
KSM lAmb lAmb 03 44 56.1
comp=Z,22nm,1.2s
SBUM Sibu 58.85 107 P **P** **03 44 59.7 -0.9**
SBUM lAmb lAmb 03 45 00.9
comp=Z,35nm,1.8s
USRK Ussuriysk Ar. 58.88 54 P **P** **03 44 59.3 -1.1**
comp=Z,3.3nm,0.8s,baz=316,slow=5.3,SNR=4.1
USRK LR LR 04 12 44.4
comp=Z,2μm,18.5s,baz=278,slow=38
comp=Z,3.3nm,0.8s
LEM Lembang 60.83 119 LR LR 04 14 56.1
comp=Z,717nm,18.2s,baz=242,slow=39
JNU Nakatsue 61.24 67 LR LR 04 14 20.6
comp=Z,1μm,19.7s,baz=293,slow=39
JOW Kunigami 61.34 74 LR LR 04 15 22.9
comp=Z,1μm,18.6s,baz=102,slow=40
TSUM Tsumeb 62.62 223 P **P** **03 45 27.1 +0.8**
TSUM lAmb lAmb 03 45 29.2
comp=Z,17nm,1.1s
DBIC Dimbokro 62.78 261 P **P** **03 45 27.0 -0.4**
DBIC lAmb lAmb 03 45 36.5
comp=Z,18nm,1.1s
DBIC Dimbokro 62.78 261 P **P** **03 45 27.0 -0.4**
DBIC pmax pmax
comp=Z,18nm,1.1s
DBIC Dimbokro 62.78 261 P **P** **03 45 24.6 -2.8**
comp=Z,5.0nm,0.5s,baz=44,slow=6.3,SNR=13
comp=Z,5.0nm,0.5s
SUMG Summit 62.78 340 P **P** **03 45 27.3 +0.3**
SUMG lAmb lAmb 03 45 37.5
comp=Z,22nm,1.1s
SUMG Summit 62.78 340 P **P** **03 45 27.3 +0.3**
SUMG pmax pmax
comp=Z,22nm,1.1s
SUMG Summit 62.78 340 *i*P **P** **03 45 27.0 0.0**
SUMG lAmb lAmb 03 45 34.4
comp=Z,9.3nm,0.8s
KIC Kosan Boka 62.84 261 ⇑*i*P **P** **03 45 27.8 0.0**
comp=Z,18nm,0.6s
TIC Toumodi 62.93 261 ⇓*i*P **P** **03 45 28.1 -0.3**
comp=Z,7.7nm,0.7s
LIC Lamto 63.15 261 ⇑*i*P **P** **03 45 29.8 -0.1**
comp=Z,23nm,0.6s
LBTB Lobatse 63.17 212 P **P** **03 45 30.0 +0.2**
LBTB lAmb lAmb 03 45 57.0
comp=Z,9.6nm,0.9s
LBTB Lobatse 63.17 212 P **P** **03 45 30.0 +0.2**
LBTB pmax pmax
comp=Z,10.0nm,0.9s
LBTB Lobatse 63.17 212 LR LR 04 15 02.8
comp=Z,2μm,18.7s,baz=48,slow=38
ICESG Greenland Ices 64.17 337 *i*P **P** **03 45 35.7 -0.5**
ICESG lAmb lAmb 03 45 38.5
comp=Z,14nm,0.8s
NEEM North Greenlan 64.19 347 *e*P **P** **03 45 37.4 +1.2**
NEEM lAmb lAmb 03 45 45.1
comp=Z,16nm,0.7s
YSS Yuzh-Sakhalins 65.35 49 *e*P **P** **03 45 42.9 -0.9**
YSS pmax pmax
comp=Z,50nm,0.9s
SEY Seymchan 65.38 30 ⇓*i*P **P** **03 45 44.0 +0.3**
SEY pmax pmax
comp=Z,36nm,1.1s
SEY Seymchan 65.38 30 LR LR 04 17 24.7
comp=Z,4μm,18.9s,baz=278,slow=39
MJAR Matsushiro Arr 65.72 61 P **P** **03 45 44.2 -2.2**
comp=Z,2.4nm,1.0s,baz=271,slow=13,SNR=4.7
MJAR LR LR 04 17 49.1
comp=Z,774nm,20.9s,baz=302,slow=39
comp=Z,2.4nm,1.0s
MA2 Magadan 65.75 34 LR LR 04 16 01.8
comp=Z,918nm,20.4s,baz=292,slow=37
ASAJ Asahikawa 66.20 52 LR LR 04 17 12.6
comp=Z,923nm,18.5s,baz=272,slow=38
MPSI Mapaga 66.39 104 P **P** **03 45 50.9 -0.1**
comp=Z,34nm,1.3s,comp=Z,4μm
BOSA Boshof 66.42 211 P **P** **03 45 50.9 0.0**
BOSA lAmb lAmb 03 45 57.4
comp=Z,11nm,0.8s
BOSA Boshof 66.42 211 P **P** **03 45 50.9 0.0**
BOSA pmax pmax
comp=Z,11nm,0.8s
BOSA Boshof 66.42 211 P **P** **03 45 49.5 -1.5**
comp=Z,8.6nm,0.6s,baz=13,slow=11,SNR=10
BOSA LR LR 04 16 59.8
comp=Z,966nm,19.0s,baz=34,slow=38
comp=Z,8.6nm,0.6s
TOLI2 Tolitoli 66.71 103 P **P** **03 45 51.9 -1.2**
TOLI2 lAmb lAmb 03 45 58.8
comp=Z,9.3nm,0.8s
DY2G Dye2 67.48 335 *i*P **P** **03 45 58.1 +0.7**
DY2G lAmb lAmb 03 45 59.4
comp=Z,18nm,0.7s
MRSI Marisa 68.02 103 P P 03 45 56.1 -5.2
JHJ Hachijo jima 2 68.20 64 LR LR 04 19 24.4
comp=Z,924nm,18.6s,baz=280,slow=39
BILL Bilibino 68.59 22 *i*P **P** **03 46 04.3 +0.2**
KAPI Kappang 69.27 109 P **P** **03 46 07.7 -1.4**
KAPI Kappang 69.27 109 P **P** **03 46 07.7 -1.4**
KAPI pmax pmax
comp=Z,33nm,1.1s
KAPI Kappang 69.27 109 P **P** **03 46 06.8 -2.3**
comp=Z,7.2nm,0.2s,baz=275,slow=5.9,SNR=5.8
KAPI LR LR 04 19 03.4
comp=Z,278nm,19.9s,baz=305,slow=38
comp=Z,7.2nm,0.2s
IVI Ivigtut 70.61 330 *i*P **P** **03 46 16.9 +0.4**
IVI lAmb lAmb 03 46 18.6
comp=Z,18nm,0.8s
SUR Sutherland 71.62 212 P **P** **03 46 24.3 +1.0**
SUR Sutherland 71.62 212 LR LR 04 20 31.1
comp=Z,1μm,19.1s,baz=28,slow=38
PETK Petropavlovsk- 71.84 39 LR LR 04 20 25.7
comp=Z,2μm,19.7s,baz=299,slow=38
TNTI Ternate 72.45 100 P **P** **03 46 28.5 0.0**
TNTI Ternate 72.45 100 P **P** **03 46 27.7 -0.8**
comp=Z,55nm,1.0s,comp=Z,1μm
SANI Sanana 72.78 103 P **P** **03 46 34.5 +4.0**
RES Resolute Bay 73.36 353 LR LR 04 22 03.4
comp=Z,2μm,21.8s,baz=18,slow=38
BATI Baumata 75.42 111 P **P** **03 46 46.0 +0.2**
comp=Z,107nm,1.3s,comp=Z,2μm
A21K Barrow 75.52 11 P **P** **03 46 45.7 +0.2**
baz=330
SOEI Soe 75.64 111 P **P** **03 46 45.3 -2.0**
comp=Z,76nm,1.1s
A19K Wainwright 75.70 13 P **P** **03 46 47.3 +0.8**
baz=326
A22K Sinclair Lake 76.06 10 P **P** **03 46 49.1 +0.5**
baz=332
B18K Kokolik River 76.26 13 P **P** **03 46 50.6 +0.8**
baz=326
C16K Lisburne Hills 76.40 15 P **P** **03 46 51.1 +0.5**
baz=323
B20K Meade River 76.58 12 P **P** **03 46 51.8 +0.3**
baz=330
SWI Sorong 76.61 99 P **P** **03 46 51.9 -0.8**
comp=Z,39nm,1.0s
C17K DeLong Mountai 76.71 14 P **P** **03 46 53.0 +0.6**
baz=325
B22K Teshekpuk Lake 76.89 10 P **P** **03 46 54.3 +1.0**
baz=333
C19K Lookout Ridge 76.91 13 P **P** **03 46 54.0 +0.4**
baz=328
C18K Utukok River 76.98 14 P **P** **03 46 54.2 +0.3**
baz=327
RDOG Red Dog Mine 77.12 14 P **P** **03 46 55.0 +0.3**
baz=325
B21K Ikpikpuk River 77.34 11 P **P** **03 46 56.8 +1.0**
baz=332
D17K Noatak River 77.37 15 P **P** **03 46 56.4 +0.4**
baz=325
A36M Sachs Harbour 77.63 1 P **P** **03 46 58.0 +0.6**
baz=358
D19K Kuna River 77.71 13 P **P** **03 46 58.3 +0.3**
baz=329
C21K Knifeblade Rid 77.73 11 P **P** **03 46 58.8 +0.7**
baz=332,SNR=6.0
C23K Itkillik River 77.76 10 lAmb lAmb 03 47 00.5
comp=Z,21nm,0.9s
C23K Itkillik River 77.76 10 P **P** **03 46 59.3 +1.1**
baz=336,SNR=11
D20K Etivluk River 77.80 12 P **P** **03 46 58.8 +0.3**
baz=330
E18K Tukpahlearik C 78.13 14 P **P** **03 47 00.8 +0.5**
baz=327
C24K Franklin Bluff 78.14 9 P **P** **03 47 00.6 +0.3**
baz=337
E17K Hotham Inlet 78.16 15 P **P** **03 47 00.7 +0.2**
baz=326
E20K Nigu River 78.28 12 P **P** **03 47 01.1 -0.1**
baz=331
D22K Ayikyak River 78.32 11 lAmb lAmb 03 47 04.1
comp=Z,14nm,0.9s
D22K Ayikyak River 78.32 11 P **P** **03 47 02.4 +1.0**
baz=334
F14K Arctic Creek 78.41 17 P **P** **03 47 03.0 +1.1**
baz=323
C26K Camden Bay 78.43 8 P **P** **03 47 02.6 +0.7**
baz=340
E21K Killik River 78.50 11 P **P** **03 47 02.6 +0.2**
baz=333
FAKI Fak Fak 78.53 100 P **P** **03 47 02.2 -1.2**
FAKI Fak Fak 78.53 100 P **P** **03 47 03.8 +0.4**
comp=Z,32nm,1.8s
D23K Nanushuk River 78.55 10 P **P** **03 47 03.1 +0.4**
baz=336
F15K North Star Dit 78.64 16 P **P** **03 47 03.1 -0.1**
F15K North Star Dit 78.64 16 P **P** **03 47 03.4 +0.2**
baz=324
D24K Happy Valley 78.65 9 lAmb lAmb 03 47 05.8
comp=Z,10nm,0.9s
D24K Happy Valley 78.65 9 P **P** **03 47 03.9 +0.8**
baz=337
E19K Redstone River 78.78 13 lAmb lAmb 03 47 17.8
comp=Z,32nm,1.6s
E19K Redstone River 78.78 13 P **P** **03 47 03.8 -0.1**
baz=330
D25K Kavik River 78.81 8 lAmb lAmb 03 47 15.7
comp=Z,11nm,0.9s
D25K Kavik River 78.81 8 P **P** **03 47 04.7 +0.5**
baz=339,SNR=14
F17K Baldwin Pennin 78.82 15 lAmb lAmb 03 47 15.4
comp=Z,57nm,1.9s

F17K **Baldwin Pennin** 78.82 15 P P 03 47 04.7 +0.6
baz=327
MBWA **Marble Bar** 78.98 123 P P 03 47 05.9 +0.2
TOLK **Toolik Lake Re** 79.01 10 IAmb IAmb 03 47 06.6
comp=Z,16nm,1.0s
TOLK **Toolik Lake Re** 79.01 10 P P 03 47 05.8 +0.6
baz=337,SNR=14
F18K **Selawik** 79.03 14 P P 03 47 05.1 -0.2
baz=328
E22K **Anaktuvuk Pass** 79.13 11 IAmb IAmb 03 47 06.8
comp=Z,17nm,1.3s
E22K **Anaktuvuk Pass** 79.13 11 P P 03 47 06.3 +0.4
baz=335
F19K **Shaleruckik Mo** 79.22 13 IAmb IAmb 03 47 11.2
comp=Z,32nm,1.6s
F19K **Shaleruckik Mo** 79.22 13 P P 03 47 05.3 -1.0
baz=330
PSA00 **Pilbara Seismi** 79.32 123 P P 03 47 07.8 +0.3
PSA00 IAmb IAmb 03 47 12.4
comp=Z,17nm,0.9s
G15K **Niukluk** 79.37 17 P P 03 47 07.5 +0.3
baz=325
ANM **Nome** 79.38 17 P P 03 47 07.1 -0.1
baz=324
F20K **Avaraart Lake** 79.42 13 IAmb IAmb 03 47 17.9
comp=Z,33nm,1.9s
F20K **Avaraart Lake** 79.42 13 P P 03 47 07.2 -0.2
baz=331
G16K **Koyuk River** 79.44 16 IAmb IAmb 03 47 11.7
comp=Z,23nm,1.4s
G16K **Koyuk River** 79.44 16 P P 03 47 08.0 +0.5
baz=326
D27M **Malcolm River** 79.49 7 IAmb IAmb 03 47 15.7
comp=Z,30nm,1.9s
D27M **Malcolm River** 79.49 7 P P 03 47 08.2 +0.3
baz=344
E23K **Chandalar** 79.54 10 P P 03 47 08.6 +0.4
baz=337
D28M **Stokes Point** 79.62 6 P P 03 47 09.3 +0.9
baz=346
F22K **John River** 79.64 11 P P 03 47 09.1 +0.4
baz=334
F21K **Alatna River** 79.68 12 IAmb IAmb 03 47 12.9
comp=Z,34nm,1.8s
F21K **Alatna River** 79.68 12 P P 03 47 09.2 +0.4
baz=333
E24K **Your Creek** 79.69 10 IAmb IAmb 03 47 12.6
comp=Z,56nm,1.8s
E24K **Your Creek** 79.69 10 P P 03 47 09.7 +0.7
baz=338
G17K **Kiwalik Mounta** 79.75 15 P P 03 47 09.2 0.0
baz=327
G18K **Tagagawik** 79.85 14 P P 03 47 09.5 -0.3
baz=329
G19K **Purcell Mounta** 79.95 14 P P 03 47 10.3 0.0
baz=330
E25K **Arctic Village** 80.05 9 P P 03 47 11.7 +0.8
baz=340,SNR=9.4
H16K **Elim** 80.10 16 P P 03 47 11.4 +0.2
baz=326
COLD **Coldfoot** 80.22 11 P P 03 47 12.2 +0.4
baz=336,SNR=8.9
E28M **Babbage River** 80.25 6 P P 03 47 12.0 +0.1
baz=345
G22K **Bettles** 80.29 11 P P 03 47 12.1 0.0
baz=335
C36M **Paulatuk** 80.29 1 P P 03 47 10.7 -1.3
C36M IAmb IAmb 03 47 16.1
comp=Z,64nm,1.9s
C36M **Paulatuk** 80.29 1 P P 03 47 11.8 -0.3
baz=359,SNR=12
F24K **Squaw Lake** 80.30 10 IAmb IAmb 03 47 13.7
comp=Z,23nm,1.6s
F24K **Squaw Lake** 80.30 10 P P 03 47 12.5 +0.2
baz=338
G21K **Allakaket** 80.31 12 P P 03 47 12.0 -0.3
baz=333
H17K **Granite Mounta** 80.39 15 P P 03 47 12.9 +0.2
H17K IAmb IAmb 03 47 13.3
comp=Z,32nm,1.6s
H17K **Granite Mounta** 80.39 15 P P 03 47 12.9 +0.2
baz=328
E27K **Coleen River** 80.45 7 IAmb IAmb 03 47 14.2
comp=Z,27nm,1.5s
E27K **Coleen River** 80.45 7 P P 03 47 13.3 +0.3
baz=344
F25K **Christian Rive** 80.53 9 P P 03 47 13.5 0.0
baz=340
H18K **Honhosa River** 80.55 14 P P 03 47 13.4 -0.2
baz=329
E29M **Blow River** 80.61 6 P P 03 47 13.8 0.0
baz=347,SNR=6.6
H19K **Roundabout Mou** 80.62 14 P P 03 47 13.8 -0.1
baz=331
F26K **Sheenjek River** 80.63 8 P P 03 47 14.6 +0.6
baz=341
G23K **Bananza Creek** 80.72 11 P P 03 47 15.0 +0.5
baz=336,SNR=5.7
H20K **Anotleneega Mo** 80.96 13 P P 03 47 15.7 -0.1
baz=332
INK **Inuvik** 81.01 4 IAmb IAmb 03 47 19.6
comp=Z,22nm,1.4s
INK **Inuvik** 81.01 4 P P 03 47 16.2 +0.3
baz=350,SNR=12
INK **Inuvik** 81.01 4 LR LR 04 29 39.9
comp=Z,383nm,18.3s,baz=360,slow=40
I17K **Unalakleet** 81.10 16 P P 03 47 17.2 +0.7
baz=328
G24K **Hadweenzic Riv** 81.12 10 IAmb IAmb 03 47 18.8
comp=Z,18nm,1.1s
G24K **Hadweenzic Riv** 81.12 10 P P 03 47 17.3 +0.7
baz=336
F28M **Old Crow** 81.18 7 P P 03 47 17.4 +0.5
baz=345
H21K **Melozitna Rive** 81.21 12 IAmb IAmb 03 47 18.1
comp=Z,21nm,1.4s
H21K **Melozitna Rive** 81.21 12 P P 03 47 17.6 +0.5
baz=334
GCSA **Galena City Sc** 81.22 14 P P 03 47 17.2 +0.1
baz=331
H22K **Ishtalitna Cre** 81.25 12 P P 03 47 18.0 +0.7
baz=335,SNR=5.5
G25K **Bearman Lake** 81.25 9 P P 03 47 17.7 +0.4
baz=340
J14K **Nanvaranak Lak** 81.34 18 P P 03 47 18.4 +0.7
baz=325
G26K **Porcupine Rive** 81.38 8 P P 03 47 18.4 +0.4
baz=342
F30M **Barrier River** 81.54 5 P P 03 47 19.4 +0.6
baz=349,SNR=6.9
FYU **Fort Yukon** 81.56 9 P P 03 47 19.3 +0.4
J16K **Anvik River** 81.64 16 IAmb IAmb 03 47 23.3
comp=Z,53nm,1.8s
J16K **Anvik River** 81.64 16 P P 03 47 19.5 +0.2
baz=328
I20K **Naaghedeneel** 81.66 13 P P 03 47 20.3 +0.9
baz=333
H25L **Birch Creek** 81.76 9 P P 03 47 20.1 +0.1
baz=340
G27K **Doyon Strip** 81.77 7 P P 03 47 20.8 +0.7
baz=344,SNR=7.4
I21K **Tanana** 81.79 12 IAmb IAmb 03 47 18.7
comp=Z,9.5nm,0.5s
F31M **Tsiigehtchic** 81.85 4 IAmb IAmb 03 47 24.9
comp=Z,45nm,1.5s
F31M **Tsiigehtchic** 81.85 4 P P 03 47 20.1 -0.2
baz=350,SNR=11
H24K **Noodor Dome** 81.87 10 IAmb IAmb 03 47 29.2
comp=Z,18nm,1.6s
H24K **Noodor Dome** 81.87 10 P P 03 47 20.5 -0.1
baz=338
G29M **Pine Creek** 82.04 6 IAmb IAmb 03 47 41.1
comp=Z,54nm,1.9s
G29M **Pine Creek** 82.04 6 P P 03 47 21.8 +0.4
baz=347
G30M **tAoh Zraii Nji** 82.13 5 P P 03 47 21.7 -0.2
baz=348
J19K **Poorman** 82.14 14 P P 03 47 22.3 +0.3
baz=332
MLY **Manley** 82.14 12 P P 03 47 22.0 -0.1
MLY IAmb IAmb 03 47 29.2
comp=Z,31nm,1.8s
MLY **Manley** 82.14 12 P P 03 47 22.2 +0.1
baz=336
K15K **Wolf Creek Mou** 82.24 17 P P 03 47 22.6 0.0
baz=327
I23K **Minto, Yukon-K** 82.27 11 IAmb IAmb 03 47 25.9
comp=Z,30nm,1.6s
I23K **Minto, Yukon-K** 82.27 11 P P 03 47 23.0 +0.3
baz=337
J20K **Nowinta River** 82.28 13 P P 03 47 23.3 +0.5
baz=333
G31M **Satah River** 82.33 5 P P 03 47 23.1 +0.2
baz=350,SNR=8.1
SCHQ **Schefferville** 82.33 331 P P 03 47 21.7 -1.5
comp=Z,5.2nm,0.8s,baz=44,slow=8.0,SNR=5.0
comp=Z,5.2nm,0.8s
H27K **Steamboat Moun** 82.34 8 P P 03 47 23.5 +0.4
baz=344
J18K **Innoko River** 82.38 15 IAmb IAmb 03 47 24.2
comp=Z,34nm,1.6s
J18K **Innoko River** 82.38 15 P P 03 47 23.6 +0.4
baz=331
PRP **Porcupine Dome** 82.51 9 P P 03 47 24.7 +0.5
PRP **Porcupine Dome** 82.51 9 P P 03 47 24.5 +0.4
baz=340
M11K **Mekoryuk** 82.52 20 P P 03 47 24.7 +0.7
baz=323
POKR **Poker Plat Res** 82.61 10 IAmb IAmb 03 47 43.3
comp=Z,11nm,0.9s
POKR **Poker Plat Res** 82.61 10 P P 03 47 24.9 +0.5
baz=339
KNRA **Kununurra** 82.61 113 P P 03 47 24.1 -1.1
MDM **Murphy Dome** 82.63 11 IAmb IAmb 03 47 25.3
comp=Z,20nm,1.3s
K17K **Iditarod** 82.67 16 P P 03 47 25.2 +0.4
baz=330
H29M **Whitestone** 82.68 6 P P 03 47 25.4 +0.6
baz=346
EPYK **Eagle Plains** 82.69 6 P P 03 47 25.3 +0.4
baz=348
L14K **Kuka Creek** 82.73 18 P P 03 47 25.8 +0.6
baz=326
COLA **College** 82.77 11 P P 03 47 25.8 +0.5
baz=338
L15K **Ungalak Mounta** 82.77 18 P P 03 47 25.9 +0.6
baz=327
NEA2 **Nenana** 82.83 11 IAmb IAmb 03 47 44.6
comp=Z,7.0nm,0.8s
NEA2 **Nenana** 82.83 11 P P 03 47 26.0 +0.4
baz=337
I27K **Kandik River** 82.94 8 P P 03 47 26.4 +0.2
baz=344
MTN **Mantah Dam** 82.94 109 P P 03 47 25.5 -1.4
BPAW **Bear Paw Mtn.** 82.95 12 P P 03 47 26.4 +0.1
baz=336
TTA **Tatalina** 83.00 15 P P 03 47 26.7 0.0
baz=332
IL31 83.02 10 P P 03 47 26.0 -0.5
IL31 IAmb IAmb 03 47 31.1
comp=Z,22nm,1.8s
ILAR **Eielson Array** 83.02 10 P P 03 47 24.9 -1.7
comp=Z,1.4nm,0.6s,baz=322,slow=4.8,SNR=26
ILAR PKKPbc PKKPbc 04 05 47.4 -1.9
comp=Z,0.2nm,0.6s,baz=186,slow=1.9,SNR=6.2
ILAR LR LR 04 29 53.1
comp=Z,831nm,18.3s,baz=318,slow=40
comp=Z,1.4nm,0.6s
K20K **Telida** 83.03 14 P P 03 47 26.9 +0.2
baz=333
I26K **Coal Creek Min** 83.03 9 P P 03 47 26.6 -0.1
baz=342
L17K **Donlin** 83.17 16 P P 03 47 27.7 +0.2
baz=330
L16K **Owhat River** 83.25 17 P P 03 47 27.9 0.0
baz=329
I28M **Miner Creek** 83.27 7 IAmb IAmb 03 47 32.5
comp=Z,40nm,1.9s
I28M **Miner Creek** 83.27 7 P P 03 47 28.4 +0.3
baz=345
CAST **Castle Rocks** 83.37 13 IAmb IAmb 03 47 33.2
comp=Z,20nm,0.9s
CAST **Castle Rocks** 83.37 13 P P 03 47 28.9 +0.4
baz=335
J25K **Salcha River,** 83.39 10 P P 03 47 28.3 -0.3
baz=340
M14K **Bethel** 83.42 18 P P 03 47 28.5 -0.2
baz=327
H31M **Peel River** 83.43 5 IAmb IAmb 03 47 44.1
comp=Z,24nm,1.4s
H31M **Peel River** 83.43 5 P P 03 47 28.7 0.0
baz=350
L18K **Granite Mounta** 83.47 15 P P 03 47 29.0 0.0
baz=331
I29M **Ogilvie Camp,** 83.53 7 IAmb IAmb 03 47 29.4
comp=Z,25nm,1.6s
I29M **Ogilvie Camp,** 83.53 7 P P 03 47 29.1 -0.1
baz=346
MCK **McKinley** 83.65 11 P P 03 47 29.8 -0.1
baz=337
TRF **Thorofare Moun** 83.67 12 IAmb IAmb 03 47 34.9
comp=Z,32nm,1.6s
TRF **Thorofare Moun** 83.67 12 P P 03 47 30.3 +0.1
baz=336
J26L **Joseph Creek** 83.75 9 IAmb IAmb 03 47 32.9
comp=Z,9.0nm,0.7s
J26L **Joseph Creek** 83.75 9 P P 03 47 30.5 0.0
baz=342
EGAK **Eagle** 83.79 8 IAmb IAmb 03 47 51.4
comp=Z,11nm,1.0s
EGAK **Eagle** 83.79 8 P P 03 47 30.8 +0.3
baz=344
M15K **Kasigluk River** 83.81 18 P P 03 47 30.5 -0.2
baz=328
PPLA **Purkeypile** 83.82 13 P P 03 47 31.1 +0.2
baz=335
I30M **Mount Dempster** 83.84 6 IAmb IAmb 03 47 32.8
comp=Z,27nm,1.6s
I30M **Mount Dempster** 83.84 6 P P 03 47 31.3 +0.3
baz=348
L20K **Farewell, AK** 83.86 14 P P 03 47 31.4 +0.4
baz=333
L19K **White Mountain** 83.92 15 P P 03 47 31.7 +0.4
baz=332
RND **Reindeer** 83.97 12 IAmb IAmb 03 47 31.3
comp=Z,26nm,1.4s
M16K **Timber Creek** 83.97 17 P P 03 47 32.0 +0.5
baz=329
M17K **Holitna River** 84.02 16 P P 03 47 32.5 +0.7
baz=330
K24K **Donnelly Dome** 84.09 10 P P 03 47 32.4 +0.2
baz=340
SCRK **Sand Creek** 84.19 9 P P 03 47 32.8 0.0
SCRK IAmb IAmb 03 47 37.8
comp=Z,18nm,1.2s
SCRK **Sand Creek** 84.19 9 P P 03 47 33.2 +0.4
baz=342
M19K **Big River Lodg** 84.26 15 P P 03 47 33.8 +0.8
baz=333
M18K **Stony River** 84.31 15 P P 03 47 33.3 0.0
baz=332
K27K **Chicken** 84.39 8 IAmb IAmb 03 47 42.4
comp=Z,15nm,1.1s
K27K **Chicken** 84.39 8 P P 03 47 33.9 +0.2
baz=343
N15K **Kathluk River** 84.41 18 P P 03 47 34.2 +0.3
baz=328
J30M **Hart River** 84.48 6 IAmb IAmb 03 47 38.1
comp=Z,29nm,1.6s
J30M **Hart River** 84.48 6 P P 03 47 34.5 +0.3
baz=348
N16K **Nishlik Lake** 84.49 17 P P 03 47 34.7 +0.4
baz=329
DHY **Denali Highway** 84.53 11 P P 03 47 34.2 -0.3
baz=339
M20K **Styx River** 84.55 14 P P 03 47 33.7 -0.9
baz=334
WAT1 **Susitna Watana** 84.56 12 P P 03 47 33.7 -0.9
baz=338
DAWY **Dawson** 84.68 7 IAmb IAmb 03 47 39.8
comp=Z,30nm,1.6s
DAWY **Dawson** 84.68 7 P P 03 47 35.4 +0.3
baz=346
SKT **Skwentna** 84.78 13 IAmb IAmb 03 47 47.0
comp=Z,14nm,1.2s
SKT **Skwentna** 84.78 13 P P 03 47 35.5 -0.2
baz=335
N17K **Nushagak Hills** 84.84 16 P P 03 47 36.1 +0.1
baz=331
NWAO **Narrogin (SRO)** 84.87 133 P P 03 47 36.6 +0.2
O14K **Tigyukauivet M** 84.87 19 P P 03 47 35.2 -0.9
baz=327
PAX **Paxson** 84.93 10 P P 03 47 36.2 -0.3
baz=340
N18K **Kilae Creek** 85.01 16 P P 03 47 38.6 +1.7
N18K **Kilae Creek** 85.01 16 P P 03 47 36.6 -0.3
baz=332
K29M **Barlow Dome** 85.09 7 P P 03 47 37.1 -0.2
baz=347
L26K **Log Cabin Wild** 85.19 9 IAmb IAmb 03 47 45.8
comp=Z,31nm,1.6s
L26K **Log Cabin Wild** 85.19 9 P P 03 47 37.6 -0.1
baz=342
N19K **Bonanza Creek** 85.22 15 IAmb IAmb 03 47 58.3
comp=Z,12nm,0.8s
N19K **Bonanza Creek** 85.22 15 P P 03 47 38.2 +0.3
baz=333
M22K **Willow** 85.27 13 P P 03 47 36.7 -1.3
baz=336
O15K **Ungalikthiuk R** 85.33 18 P P 03 47 37.1 -1.3
baz=328
L27K **Beaver Creek,** 85.36 9 IAmb IAmb 03 47 39.9
comp=Z,13nm,1.2s
L27K **Beaver Creek,** 85.36 9 P P 03 47 38.5 -0.1
baz=344
SUA **Susitna One** 85.41 13 P P 03 47 38.3 -0.6
baz=336
O16K **Kokwok River B** 85.43 17 P P 03 47 38.3 -0.6
baz=330
HARP **HAARP** 85.52 10 P P 03 47 38.8 -0.5
baz=341
O17K **Koliganek Bris** 85.52 17 P P 03 47 39.1 -0.2
baz=331
SML **Sawmill** 85.55 12 P P 03 47 38.4 -1.1
baz=338
PMR **Palmer** 85.60 12 P P 03 47 39.9 +0.2
PMR **Palmer** 85.60 12 P P 03 47 39.5 -0.2
baz=337
PMR **Palmer** 85.60 12 P P 03 47 39.9 +0.2
PMR pmax pmax
comp=Z,44nm,1.6s
M24K **Tolsona, Glenn** 85.63 11 P P 03 47 39.4 -0.6
baz=340
M23K **Glacier View** 85.67 12 P P 03 47 38.7 -1.4
baz=338
SCM **Sheep Creek Mo** 85.70 11 P P 03 47 39.5 -0.8
baz=339
L29M **L29M** 85.74 7 P P 03 47 40.2 -0.3
baz=347
M26K **Nabesna, AK** 85.83 9 P P 03 47 40.8 -0.2
baz=342
KNK **Knik Glacier** 85.89 12 P P 03 47 41.2 -0.1
baz=338
O18K **Koktuh Hills** 85.91 16 P P 03 47 41.5 +0.1
baz=332
P16K **Nushagak River** 85.94 17 P P 03 47 41.4 0.0
baz=330
RC01 **Rabbit Creek A** 85.95 13 P P 03 47 41.5 -0.1
baz=337
M27K **Edge Creek, AK** 86.03 9 IAmb IAmb 03 48 02.2
comp=Z,13nm,0.9s
M27K **Edge Creek, AK** 86.03 9 P P 03 47 42.2 +0.2
baz=344
BVCY **Beaver Creek** 86.11 8 P P 03 47 42.4 +0.1
baz=344
P17K **Kvichak River** 86.19 17 P P 03 47 42.8 +0.1
baz=331
KLU **Klutina** 86.25 11 P P 03 47 43.2 +0.1
baz=340
P18K **Big Mountain,** 86.31 16 P P 03 47 43.5 +0.1
baz=332
M29M **Somme Creek** 86.36 7 IAmb IAmb 03 47 58.0
comp=Z,20nm,1.4s
M29M **Somme Creek** 86.36 7 P P 03 47 43.1 -0.5
baz=346
M30M **Minto, Yukon** 86.40 7 P P 03 47 43.4 -0.3
baz=348
PWL **Port Wells** 86.43 12 P P 03 47 43.5 -0.4
baz=338
WRGLY **Wrigley** 86.44 0 P P 03 47 44.2 +0.3
WRGLY IAmb IAmb 03 48 10.0
comp=Z,19nm,1.2s
WRGLY **Wrigley** 86.44 0 P P 03 47 44.2 +0.3
baz=359
O22K **Cooper Landing** 86.52 13 P P 03 47 44.6 +0.3
baz=337
P19K **Oil Pt** 86.54 15 P P 03 47 43.9 -0.5
baz=334
Q16K **King Salmon** 86.59 17 P P 03 47 44.1 -0.6
baz=331
GLI **Glacier Island** 86.63 12 P P 03 47 44.6 -0.3
baz=339
YUK3 **Moose Creek** 86.77 8 P P 03 47 46.1 +0.3
baz=345
SEW **Seward** 86.92 13 P P 03 47 46.2 0.0
baz=337
YKA **Yellowknife Ar** 86.96 356 P P 03 47 45.4 -1.0
comp=Z,3.5nm,0.8s,baz=357,slow=5.2,SNR=41
YKA LR LR 04 30 01.1
comp=Z,714nm,22.0s,baz=22,slow=38
comp=Z,3.5nm,0.8s
BMRM **Bremner River** 86.96 11 P P 03 47 46.4 -0.1
baz=341
M31M **Drury Creek, Y** 86.99 5 P P 03 47 46.3 -0.3
baz=350
Q18K **Katmai Hardscr** 87.02 16 P P 03 47 46.0 -0.9
baz=332
FARO **Faro, Yukon** 87.04 5 P P 03 47 47.2 +0.3
baz=351
EYAK **Cordova Ski Ar** 87.17 11 P P 03 47 47.8 +0.3
baz=340
YUK8 **Steele Glacier** 87.33 8 P P 03 47 47.2 -1.4
baz=345
YUK4 **Talbot Arm** 87.41 8 P P 03 47 48.4 -0.5
baz=346
CTG **Chitna Glacier** 87.44 9 P P 03 47 48.4 -0.6
baz=344
N30M **Aishikik Lake** 87.47 7 P P 03 47 49.1 +0.1
baz=348
N31M **Braeburn, Yuko** 87.57 6 P P 03 47 48.9 -0.6
baz=349
FCC **Fort Churchill** 87.80 346 P P 03 47 50.6 +0.2
FCC **Fort Churchill** 87.80 346 P P 03 47 50.7 +0.2
FCC pmax pmax
comp=Z,55nm,2.0s
YUK6 **Outpost Mounta** 87.83 8 P P 03 47 50.5 -0.5
baz=346
TGTN **Hyland Airport** 88.04 3 P P 03 47 51.8 +0.1
baz=355
HYT **Haines Junctio** 88.04 7 P P 03 47 52.5 +0.6
baz=347
Q23K **Middleton Isla** 88.12 12 P P 03 47 51.7 -0.3
baz=340
N32M **Quiet Lake** 88.13 5 P P 03 47 51.8 -0.4
baz=351
O30N **Mendenhall** 88.24 7 P P 03 47 52.4 -0.4
baz=348
KDAK **Kodiak Island** 88.37 16 LR LR 04 33 18.8
comp=Z,1µm,18.6s,baz=357,slow=40
O29M **Mount Kennedy** 88.43 8 P P 03 47 53.2 -0.5
baz=346
P33M **Teslin, Yukon** 89.08 5 P P 03 47 56.0 -0.8
baz=351
SII **Sihkinak Islan** 89.09 17 P P 03 47 56.2 -0.6
baz=333
WB0 **Warramunga Arr** 89.33 113 P P 03 47 57.6 -0.8
WB0 IAmb IAmb 03 48 05.4
comp=Z,15nm,0.9s
WRA **Warramunga Arr** 89.38 114 P P 03 47 56.5 -2.1
comp=Z,6.7nm,1.0s,baz=313,slow=4.2,SNR=28
WRA PKKPbc PKKPdf 04 05 30.2 +0.4
comp=Z,0.6nm,0.7s,baz=121,slow=2.7,SNR=3.2
comp=Z,6.7nm,1.0s
WRAB **Tennant Creek** 89.38 114 P P 03 47 58.1 -0.5
WRAB **Tennant Creek** 89.38 114 P P 03 47 58.1 -0.5
WRAB pmax pmax
comp=Z,37nm,1.4s
FORT **Forrest** 90.75 126 P P 03 48 04.2 -0.5
AS31 **Alice Springs** 91.06 117 P P 03 48 05.8 -0.7
ASAR **Alice Springs** 91.06 117 P P 03 48 05.1 -1.3
comp=Z,6.7nm,0.9s,baz=308,slow=4.2,SNR=33
ASAR PKKPbc PKKPdf 04 05 27.5 +0.4
comp=Z,0.3nm,0.8s,baz=115,slow=4.1,SNR=4.8
comp=Z,6.7nm,0.9s
LONY **Lake Ozonia** 93.23 328 P P 03 48 15.0 -1.2
baz=40
PMG **Port Moresby** 94.54 98 P P 03 48 22.1 -0.5
PMG **Port Moresby** 94.54 98 P P 03 48 22.1 -0.5
PMG pmax pmax
comp=Z,22nm,1.0s
ULM **Lac du Bonnet** 96.03 343 P P 03 48 28.0 -0.9
ULM IAmb IAmb 03 48 29.4
comp=Z,6.5nm,0.8s
ULM **Lac du Bonnet** 96.03 343 P P 03 48 28.0 -0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ULM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ULM	Lac du Bonnet	96.03	343	P	P	03 48 27.3	-1.6
	comp=Z,4.8nm,0.7s,baz=56,slow=4.3,SNR=9.8						
	comp=Z,4.8nm,0.7s						
BBB	Bella Bella	97.38	3	LR	LR	04 37 41.7	
	comp=Z,348nm,18.5s,baz=5.0,slow=39						
PDAR	Pinedale Array	105.96	350	PKiKP	PKiKP	03 53 26.4	+0.4
	comp=Z,0.1nm,0.5s,baz=350,slow=4.8,SNR=3.6						
PFO	Pinyon Flats O	115.82	354	P	PKiKP	03 53 44.0	-0.7
	baz=5.9						
TPFO	Pinon Flats	115.82	354	P	PKiKP	03 53 43.7	-1.0
	baz=5.9						
MNTX	Cornudas Mount	115.87	344	P	PKPdf	03 53 44.6	-0.1
	baz=16						
TXAR	Lajitas Array	117.67	341	PKP	PKPdf	03 53 46.7	-1.7
	comp=Z,0.7nm,0.8s,baz=54,slow=2.2,SNR=4.0						
AMBA	Amambai (Brazi	119.92	260	eP	PKiKP	03 53 54.3	+1.6
VILB	Vilhena	120.12	272	eP	PKiKP	03 53 54.8	+1.5
CPSB	Cacapava Do Su	121.33	251	eP	PKiKP	03 53 56.6	+1.4
ROSC	El Rosal	121.91	299	PKP	PKPdf	03 53 56.9	-0.3
	comp=Z,5.1nm,0.5s,baz=349,slow=7.8,SNR=4.6						
UNIS	Unistalda (Bra	122.22	253	eP	PKiKP	03 53 58.6	+1.6
BBSD	Serra de San D	122.38	268	eP	PKiKP	03 53 59.0	+1.4
CPUP	Villa Florida	123.16	257	PKP	PKPdf	03 53 58.2	-0.4
	comp=Z,0.8nm,0.8s,baz=180,slow=1.0,SNR=3.7						
MTO3	Montecristo	124.95	320		PKPdf	03 54 01.7	-1.1
LPAZ	La Paz	128.46	273	PKP	PKPdf	03 54 08.6	-1.3
	comp=Z,1.6nm,0.8s,baz=68,slow=12,SNR=6.1						

*IDC **01** 03:42:49.5±2.1, 15°.19N×94°.34W, h0km, mb3.6/3, mbtmp3.6/5, ML3.7/2, Error ellipse: s-maj=39.2km s-min=23.3km az=36.0*
*MEX **01** 03:42:53.5±0.9, 15°.00N×94°.38W, h16km±11km, MD4.4*
*NEIC **01** 03:42:54.2±1.4, 15°.31N±0°.04×94°.28W±0°.04, h10km±2km, mb4.1/40, Md4.3/79(MEX), Error ellipse: s-maj=8.4km s-min=3.5km az=131.0*
ISC 01 03:42:50.9±0.7**, 15°.21N**±0°.05×**94°.34W**±0°.03**, h10km, n109, σ2.s22**/143**, mb4.1**/11**, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.18	65		Pb	03 43 13.1	-0.4
PCIG					Sg	03 43 26.4	-2.7
PCIG		1.18	65	eP	Pb	03 43 13.1	-0.4
PCIG				eS	Sg	03 43 26.4	-2.7
NILT	Santiago Nilte	1.37	349	eP	Pn	03 43 17.1	+0.9
NILT				i S	Sb	03 43 35.3	+0.9
HUIG	Huatulco	1.80	288		Pn	03 43 21.3	-0.7
HUIG	Huatulco	1.80	288	eP	Pn	03 43 21.0	-1.0
HUIG				i S	Sn	03 43 40.6	-4.3
CMIG	Matias Romero	1.94	344		Pn	03 43 25.5	+1.4
CMIG					Sn	03 43 50.4	+1.8
CMIG	Matias Romero	1.94	344	Pn	Pn	03 43 25.8	+1.8
	86nm,0.3s,baz=169,slow=11,SNR=1252						
CMIG				Sn	Sn	03 43 49.3	+0.8
	495nm,0.3s,baz=31,slow=7.0,SNR=31						
CMIG	Matias Romero	1.94	344	eP	Pn	03 43 25.5	+1.4
CMIG				eS	Sn	03 43 50.4	+1.8
TGIG		1.95	37		Pn	03 43 26.3	+2.1
TGIG					Sb	03 43 50.8	-0.2
TGIG		1.95	37	eP	Pn	03 43 26.3	+2.1
TGIG				eS	Sb	03 43 50.8	-0.2
TGBT	Tuxtla Gutierr	1.96	37		Pn	03 43 26.3	+2.0
TGBT					Sb	03 43 52.0	+0.6
TGBT	Tuxtla Gutierr	1.96	37	eP	Pn	03 43 26.3	+2.0
TGBT				i S	Sb	03 43 52.0	+0.6
THIG		2.02	98		Pn	03 43 27.1	+2.0
THIG					Sn	03 43 47.9	-2.6
THIG		2.02	98	eP	Pn	03 43 27.1	+2.0
THIG				eS	Sn	03 43 47.9	-2.6
PATR	El Naranjo	2.03	92	eP	Pn	03 43 24.3	-1.2
PATR				eS	Sn	03 43 48.1	-2.9
PAVE	Pavencul	2.08	90	eP	Pn	03 43 25.7	-0.5
PAVE				eS	Sn	03 43 49.5	-2.9
UXUV	UXUV	2.10	5	eP	Pn	03 43 29.0	+2.8
UXUV				eS	Sb	03 43 57.3	+1.9
CHUJ	Union Juarez	2.15	93	eP	Pn	03 43 26.6	-0.5
CHUJ				eS	Sn	03 43 52.0	-2.1
CCIG	Comitan	2.37	63		Pn	03 43 33.7	+3.7
CCIG	Comitan	2.37	63	eP	Pn	03 43 33.1	+3.0
CCIG				eS	Sn	03 44 01.8	+2.5
RTAL	Retalhuleu	2.64	105		Pn	03 43 36.9	+3.2
HUEH	Huehuetenango	2.74	87		Pn	03 43 37.6	+2.4
TUIG	Tuzandepetl	2.81	358	eP	Pn	03 43 38.8	+2.9
TUIG				eS	Sn	03 44 12.6	+2.7
PEIG	Puerto Escondi	2.82	286		Pn	03 43 35.5	-0.6
PEIG					Sn	03 44 04.4	-5.8
PEIG	Puerto Escondi	2.82	286	eP	Pn	03 43 35.5	-0.6
PEIG				eS	Sn	03 44 04.4	-5.8
NEUV	Arroyo Zacate	2.86	331	eP	Pn	03 43 38.1	+1.5
NEUV				i S	Sn	03 44 12.3	+1.2
OXIG	Oaxaca	2.96	309		Pn	03 43 40.9	+2.7
OXIG					Sn	03 44 13.9	+0.1
VHO	Vista Hermosa	2.96	309	eP	Pn	03 43 39.2	+1.1
VHO				eS	Sn	03 44 13.9	+0.1
PMUV	Sontecomapan	3.40	347	eP	Pn	03 43 44.8	+0.7
PMUV				eS	Sn	03 44 25.1	+0.5
YOIG	Yosondua	3.49	298		Pn	03 43 47.6	+2.0
YOIG					Sn	03 44 25.6	-1.6
YOIG	Yosondua	3.49	298	eP	Pn	03 43 47.6	+2.0
YOIG				eS	Sn	03 44 25.6	-1.6
PNIG	Pinotepa	3.83	288		Pn	03 43 50.6	+0.5
PNIG					Sn	03 44 29.8	-5.5
PNIG	Pinotepa	3.83	288	eP	Pn	03 43 50.6	+0.5
PNIG				eS	Sn	03 44 29.8	-5.5
TXIG	Tlaxiaco	3.87	302		Pn	03 43 53.7	+2.8
TXIG					Sn	03 44 36.5	0.0
TXIG	Tlaxiaco	3.87	302	eP	Pn	03 43 53.7	+2.8
TXIG				eS	Sn	03 44 36.5	0.0
HLIG	Huajuapan de L	4.22	309		Pn	03 43 58.7	+3.1
HLIG					Sn	03 44 45.9	+0.7
HLIG	Huajuapan de L	4.22	309	eP	Pn	03 43 58.5	+2.9
HLIG				eS	Sn	03 44 45.9	+0.7
TPIG	Tehuac#an	4.31	318		Pn	03 44 01.5	+4.8
TPIG					Sn	03 44 41.5	-5.8
TPIG	Tehuac#an	4.31	318	eP	Pn	03 44 01.5	+4.8
TPIG				eS	Sn	03 44 41.5	-5.8
FTIG	Fresnillo de T	4.52	307		Pn	03 44 03.3	+3.7
FTIG					Sn	03 44 51.3	-1.1
FTIG	Fresnillo de T	4.52	307	eP	Pn	03 44 03.0	+3.3
FTIG				eS	Sn	03 44 51.3	-1.1
MGIG	Malinaltepec	4.59	297		Pn	03 44 03.4	+2.7
MGIG					Sn	03 44 51.2	-3.0
MGIG	Malinaltepec	4.59	297	i P	Pn	03 44 03.4	+2.7
MGIG				i S	Sn	03 44 51.2	-3.0
PETF	Flores	4.62	68		Pn	03 44 03.7	+2.8
TLIG	Tlapa	4.69	301		Pn	03 44 04.5	+2.6
TLIG	Tlapa	4.69	301	eP	Pn	03 44 04.6	+2.6
TLIG				e		03 44 45.6	
JAUV	Jalcomulco	4.76	331	eP	Pn	03 44 03.1	+0.3
JAUV				i S	Sn	03 44 55.7	-2.3
SCIG	Sabancuy	4.80	38	eP	Pn	03 44 03.8	+0.5
SCIG				eS	Sn	03 44 55.9	-3.1
CRIG	Cruz Grande	4.86	289		Pn	03 44 05.1	+1.0
CRIG					Sn	03 44 53.1	-7.4
CRIG	Cruz Grande	4.86	289	eP	Pn	03 44 04.8	+0.7
CRIG				eS	Sn	03 44 53.1	-7.4
ESQI	Esquipulas	4.87	97		Pn	03 44 06.9	+2.5
MTO3	Montecristo	4.88	99		Pn	03 44 07.5	+2.8
LVIG	Laguna Verde	4.91	336	eP	Pn	03 44 04.8	0.0
LVIG				eS	Sn	03 44 57.2	-4.5
SNET	Serv Nac Est T	5.17	106	Pn	Pn	03 44 11.6	+3.0
PPM	Popocatepetl	5.61	314	e	Pn	03 44 21.8	+6.8
PPM				e		03 45 08.3	
MEIG	Mezcala	5.74	299		Pn	03 44 19.4	+3.0
MEIG					Sn	03 45 19.6	-2.8
MEIG	Mezcala	5.74	299	eP	Pn	03 44 19.4	+3.0
MEIG				eS	Sn	03 45 19.6	-2.8
YAIG	Yautepec	5.80	309		Pn	03 44 22.6	+5.3
YAIG					Sn	03 45 21.1	-2.8
YAIG	Yautepec	5.80	309	eP	Pn	03 44 22.6	+5.3
YAIG				eS	Sn	03 45 21.1	-2.8
PLIG	Platanillo	5.87	303	e	Pn	03 44 23.0	+4.8
PLIG				e		03 45 11.2	
ARIG	Puente Sto Nin	6.52	299		Pn	03 44 30.9	+3.9
ARIG	Puente Sto Nin	6.52	299	eP	Pn	03 44 30.9	+3.9
ARIG				er		03 45 39.8	
ZIIG	Zihuatanejo	7.24	290		Pn	03 44 39.6	+2.7
ZIIG					Sn	03 45 50.3	-9.0
ZIIG	Zihuatanejo	7.24	290	i P	Pn	03 44 39.6	+2.7
ZIIG				eS	Sn	03 45 50.3	-9.0
TEIG	Tepich	7.63	48	Pn	Pn	03 44 42.9	+0.7
TEIG	Tepich	7.63	48	Pn	Pn	03 44 42.6	+0.4
	86nm,0.3s,baz=171,slow=2.7,SNR=72						
TEIG				Sn	Sn	03 46 07.9	-0.9
	177nm,0.3s,baz=161,slow=22,SNR=6.1						
MATN	Matagalpa	8.47	104	Pn	Pn	03 44 55.7	+1.8
ORTG	Ortega, Santa	9.91	118		Pn	03 45 15.5	+1.9
JTS	Las Juntas de	10.38	117	Pn	Pn	03 45 20.7	+0.7
	0.2nm,0.3s,baz=291,slow=18,SNR=1.9						
JTS				Sn	Sn	03 47 16.5	+0.1
	0.1nm,0.3s,baz=270,slow=20,SNR=1.2						
	3.6nm,0.7s						
ARE1	Arenal 1	10.50	116	Pn	Pn	03 45 24.8	+3.1
RIMA	Rio Macho	11.57	117		Pn	03 45 38.9	+2.4
833A	Chaparral WMA,	13.87	341		Pn	03 46 10.4	+2.8
HNDO	Hondo	14.96	343	Pn	Pn	03 46 24.2	+1.6
435B	Jarrell	15.78	350	Pn	Pn	03 46 33.7	+0.3
435B				IAmb	IAmb	03 46 44.8	
	comp=Z,12nm,0.8s						
TXAR	Lajitas Array	16.48	330	Pn	Pn	03 46 44.7	+2.2
	comp=Z,0.2nm,0.3s,baz=154,slow=12,SNR=10						
	comp=Z,0.5nm,0.4s						
BRDY	Brady	16.56	346	Pn	Pn	03 46 45.4	+2.0
BRDY				IAmb	IAmb	03 47 01.7	
	comp=Z,6.6nm,0.7s						
OZNA	Ozona	16.83	339	Pn	Pn	03 46 47.6	+0.8
OZNA				IAmb	IAmb	03 47 00.3	
	comp=Z,8.1nm,0.7s						
WHTX	Lake Whitney,	16.95	351	Pn	Pn	03 46 49.9	+1.7
WHTX				IAmb	IAmb	03 46 54.7	
	comp=Z,9.5nm,0.7s						
SGCY	Sterling City	17.74	341	Pn	Pn	03 46 59.4	+1.1
SGCY				IAmb	IAmb	03 47 07.0	
	comp=Z,11nm,0.7s						
ABTX	Abilene, Hawle	17.99	345		Pn	03 47 02.9	+1.6
425A	Indio Mountain	18.32	330	P	Pn	03 47 07.6	+2.2
ODSA	Odessa	18.42	337		Pn	03 47 08.7	+2.1
ODSA				IAmb	IAmb	03 47 12.3	
	comp=Z,10nm,0.9s						
SN01	Snyder 1	18.55	342	P	Pn	03 47 10.6	+2.4
SN01				IAmb	IAmb	03 47 16.7	
	comp=Z,8.3nm,0.6s						
APMT	Aspermont	18.78	345	P	P	03 47 12.5	+2.0
APMT				IAmb	IAmb	03 47 25.6	
	comp=Z,6.4nm,0.9s						
LOOK	Love County	18.88	353	P	P	03 47 13.2	+1.7
LOOK				IAmb	IAmb	03 47 25.2	
	comp=Z,20nm,1.2s						
POST	Post	18.93	341	P	P	03 47 14.8	+2.7
POST				IAmb	IAmb	03 47 20.5	
	comp=Z,6.3nm,0.8s						
MIAR	Mount Ida	19.26	2	P	P	03 47 17.3	+1.6
DKNS	Dickens	19.32	343	P	P	03 47 18.4	+2.0
DKNS				IAmb	IAmb	03 47 35.8	
	comp=Z,12nm,1.0s						
W35A	Tecumseh	19.99	354		Pn	03 47 26.9	+1.6
MSTX	Muleshoe	20.17	339	P	P	03 47 27.1	+1.3
SMWD	Samnorwood	20.51	346	P	P	03 47 31.2	+1.8
SMWD				IAmb	IAmb	03 47 34.8	
	comp=Z,12nm,0.9s						
AMTX	Amarillo	20.67	343	IAmb	IAmb	03 47 39.3	
	comp=Z,12nm,0.8s						
FCAR	Ozark Folk Cen	20.69	5	P	P	03 47 32.4	+1.2
FPAL	Fort Paine	20.79	21	P	P	03 47 33.1	+0.7
FPAL				IAmb	IAmb	03 47 40.4	
	comp=Z,9.0nm,1.1s						
HHAR	Hobbs	20.99	1	P	P	03 47 36.0	+1.5
121A	Cookes Peak, D	21.14	327	P	P	03 47 39.2	+2.8
121A				IAmb	IAmb	03 47 41.6	
	comp=Z,10nm,1.1s						
ELIS	Ellis County	21.26	349	P	P	03 47 38.8	+1.3
ELIS				IAmb	IAmb	03 47 45.9	
	comp=Z,13nm,0.9s						
OK051	E0350 and S346	21.32	354	P	P	03 47 39.3	+1.2
OK051				IAmb	IAmb	03 47 43.6	
	comp=Z,10.0nm,0.7s						
KAN13	South Haven SW	21.89	353	P	P	03 47 45.5	+1.3
KAN08	Anthony NE Sta	22.16	352	P	P	03 47 49.7	+2.6
RTBA	Rita Blanca	22.43	342	IAmb	IAmb	03 47 57.4	
	comp=Z,8.7nm,0.7s						
T25A	Trinidad	23.60	340	IAmb	IAmb	03 48 07.6	
	comp=Z,6.0nm,1.0s						
CBKS	Cedar Bluff	23.99	350	P	P	03 48 07.7	+1.9
X16A	Lo Mia Camp, P	24.56	324	IAmb	IAmb	03 48 16.4	
	comp=Z,3.6nm,0.9s						
WUAZ	Wupatki	25.34	326	P	P	03 48 20.8	+2.5
WUAZ				IAmb	IAmb	03 48 35.6	
	comp=Z,3.8nm,1.0s						
PHWY	Pilot Hill	27.73	342	P	P	03 48 42.3	+2.3
PHWY				IAmb	IAmb	03 48 55.3	
	comp=Z,4.0nm,1.2s						
NVAR	Mina Array Bea	31.32	322	P	P	03 49 10.4	-1.4
	comp=Z,0.7nm,0.8s,baz=144,slow=14,SNR=1.2						
	comp=Z,0.7nm,0.8s						
YKA	Yellowknife Ar	49.35	348	P	P	03 51 40.8	+0.5
	comp=Z,0.5nm,0.8s,baz=150,slow=7.9,SNR=4.7						
	comp=Z,0.5nm,0.8s						
ILAR	Eielson Array	60.84	337	P	P	03 53 03.5	+0.3
	comp=Z,0.4nm,0.6s,baz=127,slow=5.5,SNR=9.5						
	comp=Z,0.4nm,0.6s						

*IDC **01** 03:51:30.0±1.4, 30°.69N×57°.23E, h0km, mb3.6/8, mbtmp3.6/12, ML3.6/4, Error ellipse: s-maj=29.2km s-min=20.3km az=146.0*
*TEH **01** 03:51:30.7, 30°.75N×57°.36E, h9km±59km, ML4.0*
*DSN **01** 03:51:35.0±1.8, 30°.26N×58°.69E, h15km, ML3.3/6, Error ellipse: s-maj=71.7km s-min=15.9km az=121.0*
ISC 01 03:51:32.1±0.6**, 30°.71N**±0°.03×**57°.36E**±0°.04**, h15km, n60, σ1.s64**/62**, mb3.5**/8**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.75	290	Pg	Pg	03 51 45.6	-1.2
KHGB	Koh Gabri	0.83	246	Pg	Pg	03 51 46.9	-1.3
CHMN	Cheshme madani	0.86	169	Pg	Pb	03 51 47.9	-1.0
CHMN				Sg	Sb	03 51 59.8	-0.7
TVBK	TV Kerman	0.89	216	Pg	Pn	03 51 49.2	-1.1
NGRK	Negar Kerman	1.20	207	Pg	Pg	03 51 54.6	-0.6
IBAF	Bafgh	1.77	300	Pg	Pb	03 52 03.0	-1.2
IBAF				Sg	Sb	03 52 26.2	-0.1
KBAM	BAM	1.84	149	Pn	Pb	03 52 04.0	-1.4
BSRN	Basiran	1.96	50	Pn	Pb	03 52 05.9	-1.7
IKOO	Kooshah	2.21	39	Pn	Pn	03 52 09.1	+0.7
TPRV	Parvadeh(Tabas	2.38	346	Pn	Pn	03 52 11.3	+0.7
IMEH	Mehriz	2.45	287	Pn	Pb	03 52 13.4	-2.6
ITEG	Tejag	2.48	28	Pn	Pn	03 52 12.6	+0.5
BAGH	Bagheran - Bir	2.60	37	Pn	Pn	03 52 13.7	-0.1
KHNJ	Kahnooj	2.77	174	Pn	Pb	03 52 18.0	-3.3
TKDS	Koohdasht(Taba	2.90	356	Pn	Pn	03 52 18.1	+0.3
IDAH	Dahanechah	2.94	46	Pn	Pn	03 52 19.0	+0.5
ICHK	Chekchek	2.95	302	Pn	Pn	03 52 20.1	+1.5
AFRZ	Afriz	3.05	27	Pn	Pn	03 52 20.4	+0.5
IMON	Monand	3.16	38	Pn	Pn	03 52 22.9	+1.4
TNSJ	Nastanj	3.30	349	Pn	Pn	03 52 23.5	+0.2
ISAD	Sadrabad	3.36	292	Pn	Pn	03 52 25.9	+1.6
GENO	Geno	3.46	198	Pn	Pb	03 52 29.0	-4.1
SHRT	Shahrakht	3.84	40	Pn	Pn	03 52 31.7	+1.0
ANAR	Anarak	3.95	310	Pn	Pn	03 52 33.7	+1.5
IRAM	Ramesheh	4.40	286	Pn	Pn	03 52 40.6	+2.1
SHME	Shamm	4.77	193	P	Pn	03 52 45.8	+2.5
IZEF	Zefreh	4.80	298	Pn	Pn	03 52 45.5	+1.4
TBJM	Torbat-e-JAM	5.18	28	Pn	Pn	03 52 50.6	+1.3
MSFE	Esma-Masafi	5.44	191	P	Pn	03 52 54.0	+1.4
KRSH	Karshahi	5.48	308	Pn	Pn	03 52 54.7	+1.3
ISFB	Sefidab	5.64	311	Pn	Pn	03 52 57.7	+2.3
SBZV	Sabzevar	5.67	2	Pn	Pn	03 52 56.3	+0.3
JRKH	Jarkhoshk	5.75	25	Pn	Pn	03 52 58.4	+1.4
UOSS	Minazif	5.83	190	P	Pn	03 53 00.4	+2.3
IPIR	Pirpir	5.85	291	Pn	Pn	03 53 00.6	+2.0
IPAY	Payeh	5.88	13	Pn	Pn	03 53 00.2	+1.2
NAZ	Nazwa, Dubai	5.90	195	P	Pn	03 53 01.4	+2.5
NAZ				S	Sn	03 54 10.5	+4.3
HATD	Hatta, Dubai	5.96	191	P	Pn	03 53 03.2	+3.3
IAKL	Akhelmad	5.99	11	Pn	Pn	03 53 01.3	+0.8
IMYA	Miami	6.06	21	Pn	Pn	03 53 02.9	+1.5
ASHO	Ashiyiah	6.12	191	P	Pn	03 53 04.3	+2.4
IKRD	Kardeh	6.31	16	Pn	Pn	03 53 06.5	+1.7
ASUD	Al Ashush, Dub	6.32	197	P	Pn	03 53 08.9	+4.1
ISFR	Sfrayin	6.35	5	Pn	Pn	03 53 06.9	+1.6
IGLO	Ghaloghah	6.48	334	Pn	Pn	03 53 08.4	+1.3
IDMV	Damavand	6.59	319	Pn	Pn	03 53 09.4	+0.7
SOHO	SOHO	6.59	187	P	Pn	03 53 08.1	-0.4
GEYT	Alibeck	7.23	5	Pn	Pn	03 53 19.1	+1.9
	0.8nm,0.3s,baz=205,slow=6.4,SNR=2.0						
	1.2nm,0.3s						
WSAR	Wadi Sarin	7.53	171	Pn	Pn	03 53 22.3	+0.9
	0.8nm,0.3s,baz=5.5,slow=9.7,SNR=3.4						
	7.2nm,0.6s						
WBK	Wadi Bani Khal	8.20	169	Pn	Pn	03 53 31.6	+1.0
AAK	Ala-Archa	18.14	44	P	P	03 55 45.4	+1.6
	0.2nm,0.3s,baz=190,slow=11,SNR=1.6						
	0.5nm,0.4s						
AKTO	Aktyubinsk	19.71	1	P	P	03 56 00.8	0.0
	0.2nm,0.3s,baz=190,slow=8.2,SNR=4.0						
	1.2nm,0.5s						
BRTR	Keskin Array B	21.31	301	P	P	03 56 17.6	-0.8
	0.4nm,0.5s,baz=93,slow=9.4,SNR=4.3						
	0.4nm,0.5s						
BVAR	Borovoye Array	24.24	19	P	P	03 56 48.7	+0.5
	0.7nm,0.5s,baz=216,slow=6.2,SNR=2.8						
	0.7nm,0.5s						
MKAR	Makanchi Array	25.07	43	P	P	03 56 56.7	+0.9
	0.4nm,0.6s,baz=232,slow=8.9,SNR=3.9						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	25.40	32	P	P	03 56 59.8	+1.0
	0.4nm,0.3s,baz=233,slow=8.8,SNR=8.0						
	0.4nm,0.3s						
ZALV	Zalesovo Beam	30.50	32	P	P	03 57 44.4	0.0
	1.3nm,0.7s,baz=230,slow=8.1,SNR=5.5						
	1.3nm,0.7s						
FINES	FINESS Array B	36.93	335	P	P	03 58 40.3	+0.2
	2.0nm,0.6s,baz=147,slow=13,SNR=9.7						
	2.0nm,0.6s						
GERES	GERESS Array B	37.52	312	P	P	03 58 45.6	+0.2
	0.5nm,0.6s,baz=108,slow=4.3,SNR=3.7						
	0.5nm,0.6s						
TORD	Torodi Ar. Bea	53.98	264	P	P	04 00 54.5	-1.2
	0.7nm,0.7s,baz=55,slow=6.0,SNR=7.2						
	0.7nm,0.7s						

*SOME **01** 04:08:21.8, 40°.50N×73°.03E, h0km*
*NNC **01** 04:08:22.9±3.0, 40°.46N×72°.97E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=21.7km s-min=14.4km az=168.0*
*ISU **01** 04:08:23.0, 40°.58N×72°.85E, h27km*
ISC 01 04:08:23.4±2.3**, 40°.5N**±0°.2×**72°.94E**±0°.07**, h10km, n10, σ0.s80**/11**, 1C-3D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TSTA	Tashata	0.37	287	P	Pg	04 08 30.2	-0.6
TSTA				S	Sg	04 08 35.4	-0.3
CHMI	Chimion	1.10	260	S	Sg	04 08 58.6	-0.4
AML	Almayashu	1.75	19	⇓Pg	Pb	04 08 55.8	-0.1
	0.4nm,0.7s						
AML				⇓Lg	Lg	04 09 20.0	
	1.6nm,0.7s						
MRKS	Merke	2.28	5	ePg	Pb	04 09 04.3	-0.4
	2.0nm,0.1s						
MRKS				eLg	Lg	04 09 35.7	
	8.9nm,0.2s						
MRKS	Merke	2.28	5	Pg	Pb	04 09 04.3	-0.4
	5.1nm,0.3s						
MRKS				Lg	Lg	04 09 35.7	
	8.9nm,0.2s						
KK31	Karatay Array	3.20	326	⇑Pg	Pb	04 09 21.9	+1.7
	0.6nm,0.6s,baz=131,slow=17,SNR=4.7						
KK31				⇓Lg	Lg	04 10 03.1	
	0.4nm,0.4s						
KST	Kastek	3.42	40	ePg	Pb	04 09 24.7	+0.6
	1.4nm,0.5s						
KST				eLg	Lg	04 10 10.7	
	2.3nm,0.3s						
KST	Kastek	3.42	40	Pg	Pb	04 09 24.7	+0.6
	1.4nm,0.5s						
KST				Lg	Lg	04 10 10.7	
	2.3nm,0.3s						
KRBS	Karabastau	3.81	31	ePg	Pb	04 09 31.4	+0.7
	0.3nm,0.1s						
KRBS				eLg	Lg	04 10 22.2	
	0.8nm,0.3s						
KRBS	Karabastau	3.81	31	Pg	Pb	04 09 31.4	+0.7
	0.7nm,0.5s						
KRBS				Lg	Lg	04 10 22.2	
	0.8nm,0.3s						

*IDC **01** 04:31:35.6±0.6, 21°.30S×168°.65E, h0km, mb4.5/16, mbtmp4.5/18, ML4.4/1, MS4.5/14, Error ellipse: s-maj=17.3km s-min=15.1km az=103.0*
*BJI **01** 04:31:36.7, 21°.13S×168°.96E, h10km, mb4.8/32, mB5.5/15, Ms5.1/10, Ms7 4.8/11*
*NEIC **01** 04:31:38.7±1.8, 21°.48S±0°.08×168°.62E±0°.05, h10km±1km, mb5.1/58, Error ellipse: s-maj=13.7km s-min=7.4km az=359.0*
*BGR **01** 04:31:41.1, 20°.64S×171°.33E, h33km*
*GCMT **01** 04:31:42.7±0.3, 21°.53S±0°.04×168°.58E±0°.03, h21km, MW5.2/79, Moment Tensor Solution. s30,c31; s79,c95; Duration: 0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.87±.06; $M_{\theta\theta}$0.31±.04; $M_{\phi\phi}$0.55±.03; $M_{r\theta}$-0.34±.08; $M_{\theta\phi}$-0.02±.02; $M_{\phi r}$-0.10±.06; Best double couple: $M_0$0.76400×10^{17} NP1:ϕ_s14.00000°, δ51.00000°, λ-71.00000°. NP2: ϕ_s165.00000°, δ43.00000°, λ-112.00000°. Principal axes: T 0.5630, Plg4.0000°, Azm90.0000°; N 0.4010, Plg15.0000°, Azm181.0000°; P -0.9640, Plg75.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 04:31:39.5±0.4**, 21°.40S**±0°.06×**168°.58E**±0°.06**, h20km, n238, σ1.s09**/217**, mb5.0**/51**, MS4.7**/19**, 18D, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	0.52	260		Pb	04 31 49.3	-0.6
LIFNC	LIFOU	1.39	296	Pn	Pn	04 32 01.6	-2.2
PINNC	Pines Island,	1.60	221		Pn	04 32 05.2	-1.5
OUENC	Ouen Island, N	1.91	237		Pn	04 32 10.4	-0.5
DZM	Mont Dzumac	2.09	251	ePn	Pn	04 32 13.5	0.0
	8μm,1.4s						
DZM				eSn	Sb	04 32 40.8	-1.7
	10μm,1.0s						
DZM	Mont Dzumac	2.09	251	Pn	Pn	04 32 13.1	-0.4
	125nm,0.3s,baz=112,slow=14,SNR=587						
DZM				LR	LR	04 32 39.2	
	comp=Z,4μm,19.0s,baz=144,slow=29						
DZM				Sn	Sn	04 32 40.4	+1.4
	547nm,0.3s,baz=330,slow=20,SNR=20						
	536nm,0.5s						
ONTNC	Ouen Toro	2.17	245		Pn	04 32 14.6	+0.1
KOUNC	Koumac, New Ca	4.10	281	Pn	Pn	04 32 41.3	+0.3
RAO	Raoul Island	14.49	125	LR	LR	04 38 20.8	
	comp=Z,488nm,22.0s,baz=132,slow=28						
EIDS	Eidsvold	16.54	253	Pn	Pn	04 35 29.6	-0.8
TOZ	Tahuroa Road	17.35	161		P	04 35 42.2	+0.5
ARMA	Armidale	17.68	236	P	P	04 35 46.0	+0.4
	baz=18,SNR=4.0						
ARMA	Armidale	17.68	236	Pn	Pn	04 35 42.3	-2.5
HIZ	Hauiti	17.90	164		P	04 35 49.2	+1.4
HIZ				IAmb	IAmb	04 35 59.5	
	comp=Z,128nm,1.4s						
URZ	Urewera	18.35	158	P	P	04 35 53.1	+0.4
	comp=Z,14nm,0.8s,baz=16,slow=3.2,SNR=8.6						
URZ				LR	LR	04 41 37.0	
	comp=Z,872nm,18.3s,baz=42,slow=33						
MRNZ	Matariki Terra	20.25	171	P	Pn	04 36 16.3	+0.7
CTA	Charters Tower	20.92	270	P	P	04 36 20.1	-0.9
	comp=Z,5.0nm,0.9s,baz=83,slow=14,SNR=3.0						
CTA				LR	LR	04 44 12.5	
	comp=Z,3μm,19.6s,baz=90,slow=36						
	comp=Z,5.0nm,0.9s						
CAN	Canberra	22.06	227	P	P	04 36 33.8	+0.5
RPZ	Rata Peaks	22.35	175	P	P	04 36 35.4	-0.8
	comp=Z,12nm,0.9s,baz=349,slow=7.0,SNR=9.9						
	comp=Z,12nm,0.9s						
CMSA	Cobar Meteorol	22.80	239	P	P	04 36 41.4	+0.3
	baz=23,SNR=11						
QLP	Quilpie	22.82	252	P	P	04 36 43.1	+1.8
	baz=23,SNR=4.8						
MTSU	Mount Surprise	23.05	274	P	P	04 36 46.2	+2.3
	baz=23,SNR=5.1						
PMG	Port Moresby	23.80	297	P	P	04 36 52.0	+0.8
PMG				IAmb	IAmb	04 37 17.6	
	comp=Z,77nm,1.6s						

PMG Port Moresby 23.80 297 P P 04 36 51.2 0.0
comp=Z,6.7nm,0.6s,baz=130,slow=5.3,SNR=7.1
comp=Z,6.7nm,0.6s
COEN Coen 25.28 283 P P 04 37 06.2 +1.4
TOO Toolangi 25.66 226 P P 04 37 11.7 +3.6
baz=26,SNR=4.3
TOO Toolangi 25.66 226 P P 04 37 08.9 +0.9
STKA Stephens Creek 26.21 241 P P 04 37 14.7 +1.6
baz=26,SNR=4.8
STKA Stephens Creek 26.21 241 P P 04 37 14.1 +1.0
STKA Stephens Creek 26.21 241 P P 04 37 13.8 +0.7
comp=Z,5.4nm,0.8s,baz=83,slow=13,SNR=8.3
STKA LR LR 04 47 32.6
comp=Z,1µm,18.4s,baz=75,slow=36
comp=Z,5.4nm,0.8s
RAR Rarotonga 29.46 96 LR LR 04 47 12.6
comp=Z,395nm,21.2s,baz=284,slow=32
PATS Pohnpei 29.81 339 P P 04 37 51.4 +6.1
baz=30,SNR=4.2
WB0 Warramunga Arr 32.01 267 P P 04 38 04.8 0.0
WB2 Warramunga Arr 32.02 266 IAmb IAmb 04 38 13.1
comp=Z,38nm,1.3s
WRA Warramunga Arr 32.03 266 P P 04 38 04.2 -0.7
WRA Warramunga Arr 32.03 266 P P 04 38 04.3 -0.7
comp=Z,6.0nm,0.9s,baz=100,slow=8.4,SNR=21
comp=Z,6.0nm,0.9s
AS31 Alice Springs 32.06 259 P P 04 38 05.4 +0.2
ASAR Alice Springs 32.06 259 P P 04 38 05.6 +0.3
ASAR Alice Springs 32.06 259 P P 04 38 05.3 +0.1
comp=Z,9.0nm,0.8s,baz=82,slow=9.0,SNR=56
ASAR LR LR 04 50 49.9
comp=Z,661nm,18.5s,baz=110,slow=36
comp=Z,9.0nm,0.8s
KDU Kakadu 35.52 278 P P 04 38 35.1 -0.2
baz=36,SNR=5.5
MTN Manton Dam 36.70 277 P P 04 38 45.4 -0.1
MTN IAmb IAmb 04 38 53.2
comp=Z,61nm,1.6s
WRKA Warakurna 37.10 256 P P 04 38 48.9 0.0
baz=37,SNR=4.2
FORT Forrest 37.40 247 P P 04 38 51.2 -0.1
FORT IAmb IAmb 04 38 59.5
comp=Z,54nm,1.1s
KNRA Kununurra 38.10 272 P P 04 38 57.1 -0.2
baz=38,SNR=3.7
KNRA Kununurra 38.10 272 IAmb IAmb 04 39 05.1
comp=Z,33nm,0.9s
TBI Tubuai 38.76 101 eLR LR 04 49 21.7
comp=Z,4µm,27.5s
TBI eLR LR 04 49 30.5
comp=Z,1µm,29.0s
PPT2 Papeete2 39.55 92 eLR LR 04 49 38.1
comp=Z,984nm,23.5s
PPT2 eLR LR 04 49 52.6
comp=Z,942nm,29.0s
PPT Papeete 39.55 92 LR LR 04 52 28.9
comp=Z,425nm,18.4s,baz=280,slow=32
FITZ Fitzroy Crossi 40.45 267 P P 04 39 17.6 +0.6
baz=40,SNR=12
KMBL Kambalda 42.72 247 P P 04 39 35.2 -0.2
baz=43,SNR=6.7
BATI Baumata 44.48 277 LR LR 04 58 43.8
comp=Z,1µm,20.0s,baz=146,slow=37
PSA00 Pilbara Seismi 45.19 260 P P 04 39 55.3 -0.1
PSA00 IAmb IAmb 04 40 04.7
comp=Z,39nm,1.4s
MBWA Marble Bar 45.36 261 P P 04 39 57.1 +0.4
MEEK Meekatharra 45.71 253 P P 04 39 59.6 +0.1
baz=46,SNR=3.9
KLBR Kellerberrin 46.25 246 P P 04 40 03.4 -0.3
baz=46,SNR=5.0
NWAO Narrogin (SRO) 46.70 244 P P 04 40 07.0 -0.2
baz=47,SNR=4.3
NWAO P P 04 40 07.0 -0.2
baz=47,SNR=4.3
NWAO Narrogin (SRO) 46.70 244 P P 04 40 08.5 +1.3
NWAO Narrogin (SRO) 46.70 244 LR LR 05 00 40.4
comp=Z,1µm,18.1s,baz=76,slow=37
BLDU Ballidu 47.17 248 P P 04 40 10.2 -0.7
baz=47,SNR=4.2
MUN Mundaring 47.57 246 P P 04 40 14.4 +0.4
baz=48,SNR=5.1
MORW Morawa 47.81 250 P P 04 40 16.3 +0.4
baz=48,SNR=6.3
MORW Morawa 47.81 250 P P 04 40 17.4 +1.5
KAPI Kappang 50.01 282 LR LR 05 01 21.8
comp=Z,213nm,21.8s,baz=107,slow=36
TAOE Nuku Hiva Isla 50.83 84 eLR LR 04 55 02.6
comp=Z,2µm,28.3s
TOLI2 Tolitoli 51.76 289 P P 04 40 45.2 -0.9
TOLI2 IAmb IAmb 04 40 54.8
comp=Z,18nm,1.0s
VNDA Vanda 56.27 182 P P 04 41 19.4 +1.3
VNDA IAmb IAmb 04 41 22.4
comp=Z,48nm,1.8s
VNDA Vanda 56.27 182 P P 04 41 18.1 +0.1
comp=Z,13nm,1.4s,baz=3.6,slow=5.7,SNR=12
comp=Z,13nm,1.4s
SBA Scott Base 56.51 180 P P 04 41 22.7 +2.9
LEM Lembang 60.52 274 LR LR 05 09 25.5
comp=Z,554nm,19.1s,baz=265,slow=38
MJAR Matsushiro Arr 64.37 333 P P 04 42 10.9 -3.1
comp=Z,0.9nm,0.4s,baz=173,slow=7.7,SNR=2.0
comp=Z,0.9nm,0.4s
QSPA South Pole Qui 68.67 180 P P 04 42 41.1 -0.2
NJ2 Nanjing 71.33 317 eP P 04 43 00.1 +2.1
NJ2 pP pP 04 43 03.2 -0.6
NJ2 sP pwP 04 43 05.8 -1.0
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NJ2 pmax pmax
comp=Z,520nm,4.0s
USA0B Ussuriysk Arra 73.37 333 P P 04 43 10.3 +0.5
USA0B IAmb IAmb 04 43 17.9
comp=Z,20nm,1.1s
USRK Ussuriysk Ar. 73.37 333 P P 04 43 10.9 +1.0
USRK Ussuriysk Ar. 73.37 333 P P 04 43 08.0 -1.8
comp=Z,6.8nm,0.9s,baz=134,slow=4.2,SNR=8.4
comp=Z,6.8nm,0.9s
MDJ Mudanjiang 74.72 332 P P 04 43 20.6 +2.8
MDJ pmax pmax
comp=Z,18nm,1.8s
MDJ pmax pmax
comp=Z,200nm,4.5s
PETK Petropavlovsk- 74.79 353 P P 04 43 15.8 -2.1
comp=Z,16nm,1.0s,baz=165,slow=6.2,SNR=5.3
comp=Z,16nm,1.0s
CN2 Changchun 75.98 329 eP P 04 43 27.2 +2.2
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,500nm,12.0s
CN2 LR LR
comp=Z,300nm,12.0s
CN2 LR LR
comp=Z,400nm,15.0s
MAW Mawson 76.21 202 P P 04 43 27.0 +1.0
MAW Mawson 76.21 202 P P 04 43 26.6 +0.5
comp=Z,6.5nm,1.0s,baz=117,slow=8.2,SNR=6.8
comp=Z,6.5nm,1.0s
HNS HongShan 77.39 319 ⇓P P 04 43 33.9 +0.8
HNS pmax pmax
comp=Z,6.0nm,1.3s
CRAI Chiangrai 78.44 297 IAmb IAmb 04 43 48.2
comp=Z,14nm,1.1s
CM31 Chiang Mai Arr 78.83 295 P P 04 43 43.3 +1.7
CMAR Chiang Mai Arr 78.83 295 P P 04 43 41.7 +0.2
CMAR Chiang Mai Arr 78.83 295 P P 04 43 42.5 +0.9
comp=Z,5.2nm,0.8s,baz=129,slow=3.8,SNR=17
comp=Z,5.2nm,0.8s
CHTO Chiang Mai 78.99 295 P P 04 43 43.1 +0.7
CHTO IAmb IAmb 04 43 46.5
comp=Z,18nm,1.1s
XAN Xi'an 79.11 313 ⇓P P 04 43 42.6 -0.2
XAN pmax pmax
comp=Z,9.0nm,1.4s
BELA Belgrano 2 80.01 175 P P 04 43 45.8 -1.2
BELA IAmb IAmb 04 43 49.3
comp=Z,34nm,1.3s
HEH HeiHe 80.08 335 eP P 04 43 47.5 -0.1
HEH pmax pmax
comp=Z,9.0nm,0.9s
PZH PanZhiHua 80.35 303 P P 04 43 52.2 +2.4
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,180nm,8.3s
XLT XiLinHaoTe 80.82 324 eP P 04 43 49.6 -2.3
XLT pP pP 04 43 55.3 -2.5
XLT sP PcP 04 43 58.6 +0.1
XLT pmax pmax
comp=Z,9.0nm,0.6s
XLT pmax pmax
comp=Z,250nm,5.3s
XLT LR LR
comp=Z,520nm,20.0s
XLT LR LR
comp=Z,310nm,20.0s
CD2 Chengdu 81.06 308 P P 04 43 54.4 +1.0
HHC Hu-ho-hao-te 81.45 320 eP P 04 43 55.5 +0.1
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,410nm,5.6s
HHC LR LR
comp=Z,370nm,20.7s
HHC LR LR
comp=Z,500nm,21.0s
HHC LR LR
comp=Z,670nm,20.2s
HIA Hailar 82.66 330 P P 04 44 02.2 +0.8
HIA IAmb IAmb 04 44 09.3
comp=Z,33nm,1.9s
LZH Lanzhou 83.71 313 eP P 04 44 09.7 +2.4
LZH pP pwP 04 44 15.0 -1.3
LZH sP sP 04 44 17.3 +2.0
LZH S S 04 54 34.5 +5.2
LZH sS ScS 04 54 40.7 -1.5
LZH pmax pmax
comp=Z,19nm,1.0s
LZH LR LR
comp=Z,340nm,20.6s
LZH LR LR
comp=Z,470nm,19.6s
LZH LR LR
comp=Z,480nm,19.9s
ELIB Princess Elisa 83.92 190 dP P 04 44 07.0 -0.8
comp=Z,7.5nm,1.6s
Q16K King Salmon 84.80 17 P P 04 44 12.9 +0.9
baz=212
N15K Kwethluk River 85.19 15 P P 04 44 15.7 +1.7
baz=209
Q18K Katmai Hardscr 85.24 18 P P 04 44 16.4 +1.9
baz=214
P17K Kvichak River 85.30 17 P P 04 44 16.3 +1.8
baz=212
M15K Kasigluk River 85.51 15 P P 04 44 17.4 +1.9
baz=208
N16K Nishlik Lake 85.78 16 P P 04 44 18.0 +1.0
baz=210
M16K Timber Creek 86.21 15 P P 04 44 19.0 -0.1
baz=210
TROLL Troll, Antarti 86.35 184 ⇓P P 04 44 19.1 -0.9
comp=Z,485nm,0.7s
SNAA Sanae 86.99 183 P P 04 44 22.1 -0.9
SNAA Sanae 86.99 183 ⇓P P 04 44 21.7 -1.4
comp=Z,191nm,1.0s
SNAA Sanae 86.99 183 P P 04 44 21.7 -1.4
comp=Z,9.8nm,1.1s,baz=177,slow=4.2,SNR=11
comp=Z,9.8nm,1.1s
VNA3 Neumayer Olymp 87.60 181 ⇓P P 04 44 24.5 -1.5
comp=Z,6.3nm,0.7s
J16K Anvik River 87.81 13 P P 04 44 27.5 +0.7
baz=208
VNA2 Neumayer--Watz 87.89 181 ⇓P P 04 44 26.0 -1.3
comp=Z,5.7nm,0.6s,baz=186,slow=5.0
ULN Ulaanbaatar 88.22 324 P P 04 44 29.1 -0.2
SONM Songino Array 88.57 323 P P 04 44 31.6 +0.7
SONM IAmb IAmb 04 44 34.4
comp=Z,30nm,2.0s
SONM Songino Array 88.57 323 P P 04 44 30.1 -0.8
comp=Z,2.0nm,0.8s,baz=149,slow=4.5,SNR=8.3
comp=Z,2.0nm,0.8s
H16K Elim 88.68 12 P P 04 44 31.8 +1.0
baz=207
ARVC Arvin 88.81 51 P P 04 44 31.7 -0.5
baz=243
AFDM Forest Hills D 89.08 47 P P 04 44 32.6 -0.8
AFDM IAmb IAmb 04 44 58.9
comp=Z,13nm,1.6s
BFSC Mount Baldy Ra 89.27 53 P P 04 44 33.5 -1.1
baz=243
ISA Isabella, Lake 89.31 51 P P 04 44 34.7 0.0
ISA Isabella, Lake 89.31 51 P P 04 44 34.7 0.0
baz=243
OMMB Old Mammoth Mi 89.83 49 IAmb IAmb 04 45 04.9
comp=Z,14nm,1.5s
PFO Pinyon Flats O 89.89 54 P P 04 44 37.1 -0.4
baz=244
CWC Cottonwood Cre 89.95 51 P P 04 44 37.8 0.0
baz=243
SWSC Sam W. Stewart 90.10 55 P P 04 44 38.6 +0.3
baz=244
MPMC Manual Prospec 90.20 51 P P 04 44 38.5 -0.5
baz=243
BELC Belle Mtn. Jos 90.41 54 P P 04 44 39.7 -0.2
baz=244
PAHR Pah Rah Range 90.52 47 IAmb IAmb 04 45 02.9
comp=Z,27nm,1.9s
QSM Queen of Sheba 90.61 51 IAmb IAmb 04 45 07.7
comp=Z,12nm,1.4s
BC3 Big Chuckawall 90.67 54 P P 04 44 40.9 -0.2
baz=244
NVAR Mina Array Bea 90.69 49 P P 04 44 40.6 -0.6
comp=Z,2.6nm,1.0s,baz=224,slow=8.0,SNR=9.0
comp=Z,2.6nm,1.0s
GRAC Grapevine Rang 90.71 50 P P 04 44 41.2 0.0
baz=244
FURC Furnace Creek, 90.84 51 P P 04 44 41.3 -0.3
baz=244
GWY Greenwater Val 90.86 51 IAmb IAmb 04 44 45.5
comp=Z,9.2nm,1.3s
LPIG La Paz 90.90 65 LR LR 05 15 53.0
comp=Z,389nm,21.0s,baz=318,slow=29
F18K Selawik 90.92 12 P P 04 44 42.1 +0.8
baz=209
J05D Fort Rock, OR 90.98 43 IAmb IAmb 04 44 43.8
comp=Z,13nm,1.2s
TUQ Turquoise Moun 91.08 52 P P 04 44 42.8 -0.2
baz=244
KVN Kaiserville 91.11 48 P P 04 44 42.3 -0.8
KVN IAmb IAmb 04 44 43.1
comp=Z,7.1nm,1.3s
IRM Iron Mountain 91.11 54 P P 04 44 43.1 +0.1
baz=245
WCT Wildcat Mounta 91.15 51 IAmb IAmb 04 45 09.6
comp=Z,19nm,1.8s
TPNV Topopah Spring 91.49 51 IAmb IAmb 04 44 45.6
comp=Z,10nm,1.3s
TPNV Topopah Spring 91.49 51 P P 04 44 44.9 0.0
baz=244
SHPR Sheep Range 92.09 52 P P 04 44 48.2 +0.5
ILAR Eielson Array 92.46 18 P P 04 44 46.4 -2.2
comp=Z,0.5nm,0.6s,baz=232,slow=5.0,SNR=12
comp=Z,0.5nm,0.6s
PRN Pahroc Range 92.55 51 IAmb IAmb 04 45 17.4
comp=Z,9.4nm,1.2s
P32M Atlin 93.38 26 P P 04 44 54.3 +1.4
baz=232
TUC Tucson 93.70 57 P P 04 44 54.9 -0.2
baz=247
U15A North Rim 94.17 53 P P 04 44 57.6 +0.1
D22K Ayikyak River 94.28 13 P P 04 44 57.3 +0.5
baz=216
F24K Squaw Lake 94.30 15 P P 04 44 56.9 -0.1
baz=220
E23K Chandalar 94.30 15 P P 04 44 56.3 -0.7
baz=218
R33M Jennings River 94.39 27 P P 04 44 58.3 +0.6
baz=234
121A Cookes Peak, D 96.14 58 P P 04 45 06.4 0.0
121A IAmb IAmb 04 45 33.6
comp=Z,5.2nm,0.9s
F28M Old Crow 96.49 18 P P 04 45 07.2 +0.3
baz=227
C26K Camden Bay 96.82 15 P P 04 45 08.9 +0.5
baz=223
WMQ Urumqi 98.24 314 eP Pdif 04 45 17.2 +1.7
WMQ pmax pmax
comp=Z,13nm,0.8s
WMQ LR LR
comp=Z,530nm,22.9s
WMQ LR LR
comp=Z,370nm,21.3s
WMQ LR LR
comp=Z,390nm,28.9s
TXAR Lajitas Array 98.33 62 LR LR 05 23 02.4
comp=Z,190nm,18.5s,baz=354,slow=31
ARCES ARCESS Array B 126.98 345 PKP PKPdf 04 50 41.3 0.0
comp=Z,3.3nm,0.6s,baz=83,slow=0.9,SNR=16
BDFB Brasilia 128.59 133 PKP PKPdf 04 50 45.6 -0.6
comp=Z,8.2nm,1.1s,baz=176,slow=5.2,SNR=7.6
FINES FINESS Array B 132.32 337 PKP PKPdf 04 50 50.6 -1.1
comp=Z,2.4nm,0.8s,baz=76,slow=5.9,SNR=2.1
AKASG Malin Array Be 136.85 323 PKP PKPdf 04 50 59.3 -1.2
comp=Z,1.1nm,0.7s,baz=56,slow=1.5,SNR=5.0
NB2 NORSAR Subarra137.34 344 PKPdf PKPdf 04 51 01.6 +0.4
comp=Z,2.9nm,1.1s,baz=31,slow=1.9
NOA NORSAR Array B 137.34 344 PKP PKPdf 04 50 58.9 -2.3
comp=Z,0.9nm,0.7s,baz=32,slow=2.0,SNR=3.8
KOLS Kolonicke sedl 141.62 324 ePKP PKiKP 04 51 11.8 -0.4
CRVS Cervenica-Dubn 142.08 324 ePKP PKiKP 04 51 12.6 -0.5
PSZ Piszkesteto 143.50 324 PKPdf PKPdf 04 51 12.1 -0.7
MAUC Maruska 143.71 327 ePKP PKPdf 04 51 12.3 -0.7
DPC Dobruska-Polom 143.79 330 ePKP PKPdf 04 51 12.3 -0.9
JAVC Velka Javorina 144.11 327 ePKP PKPdf 04 51 13.7 -0.1
PVCC Panska Ves 144.47 331 ePKP PKPbc 04 51 13.2 +0.4
FLTG Flechtingen 144.50 336 ePKPbc PKPab 04 51 12.8 +0.2
baz=36,slow=2.9
BRG Berggiesshubel 144.50 332 eP PKPdf 04 51 14.2 -0.1
BRG Amp 04 51 15.9
comp=Z,20nm,1.1s
BRG Berggiesshubel 144.50 332 P PKiKP 04 51 22.6 +4.7
BRG Amp 04 51 24.6
comp=Z,15nm,1.1s
BRG Berggiesshubel 144.50 332 ePKPbc PKPbc 04 51 13.7 +0.8
baz=36,slow=2.9
CLL Collm 144.58 333 PKPbc 04 51 13.4 +0.3
CLL Collm 144.58 333 i PKPbc PKPab 04 51 13.0 +0.1
comp=Z,20nm,1.1s
CLL i pPKPbc pPKPdf 04 51 20.7 +0.2
comp=Z,87nm,2.0s
CLL eSKPdf SKPdf 04 54 50.0 +2.2
CLL Collm 144.58 333 ePKPbc PKPab 04 51 12.8 -0.2
baz=36,slow=2.9
KRUC Moravsky 144.62 328 ePKP PKPdf 04 51 14.1 -0.5
FBE Freiberg 144.72 333 ePKPbc PKPbc 04 51 14.0 +0.5
baz=36,slow=2.9
NRDL Niedersach Rie 144.79 337 ePKPbc PKPbc 04 51 13.9 +0.3
baz=36,slow=2.9
RETH Rethem/Aller, 144.85 338 ePKPbc PKPab 04 51 14.0 +0.2
baz=36,slow=2.9
ASSE Asse, Remlinge 144.87 336 ePKPbc PKPbc 04 51 14.2 +0.2
baz=36,slow=2.9
TREC Trest 144.90 329 ePKP PKPdf 04 51 15.1 0.0
HSKC Hora Svate Kat 144.92 332 ePKP PKPab 04 51 14.6 +0.4
NEUB Neuenburg 145.16 334 ePKPbc PKPab 04 51 15.3 +0.3
baz=36,slow=2.9
ZVC Zvikov 145.41 330 ePKP PKPab 04 51 16.3 +0.2
TANN Tannenbergstha 145.48 333 ePKPbc PKPab 04 51 16.5 +0.1
baz=36,slow=2.9
WERD Werda 145.52 333 ePKPbc PKPab 04 51 16.7 +0.2
baz=36,slow=2.9
EKA Eskdalemuir Ar 145.55 352 PKPbc PKPdf 04 51 15.6 -0.4
comp=Z,28nm,1.0s,baz=360,slow=3.1,SNR=16
PLN Plauen 145.55 333 ePKPbc PKPbc 04 51 16.6 +0.3
baz=36,slow=2.9
RONA Rosalia, Austr 145.56 326 i PKP PKPab 04 51 17.1 +0.3
comp=Z,1.7nm,0.5s,SNR=8.7
GUNZ Gunzen 145.57 333 ePKPbc PKPab 04 51 16.8 +0.2
baz=36,slow=2.9
GTTG Gottingen 145.60 336 ePKPbc PKPab 04 51 16.9 +0.3
baz=36,slow=2.9
WERN Wernitzgruen 145.61 333 ePKPbc PKPab 04 51 17.4 +0.6
baz=36,slow=2.9
NKC Novy Kostel 145.62 333 ePKP PKPab 04 51 16.9 +0.1
CONA Conrad Observa 145.63 327 i PKP PKPab 04 51 17.7 +0.6
comp=Z,2.5nm,0.6s,SNR=12
MOX Moxa 145.66 334 ePKPbc PKPbc 04 51 16.7 +0.1
baz=36,slow=2.9
IBBN Ibbenburen 145.76 339 ePKPbc PKPbc 04 51 17.1 +0.2
baz=36,slow=2.9
CKRC Cesky Krumlov 145.79 329 ePKP PKPdf 04 51 16.5 -0.1
KHC Kasperske Hory 145.92 330 ePKP PKPbc 04 51 17.8 +0.3
GERES GERESS Array B 146.06 330 PKPbc PKPab 04 51 18.9 +0.3
GERES GERESS Array B 146.06 330 PKPbc PKPbc 04 51 18.5 +0.4
comp=Z,12nm,0.9s,baz=46,slow=3.9,SNR=34
ROTZ Rotzenmuhle 146.07 332 ePKPbc PKPbc 04 51 18.1 +0.2
baz=36,slow=2.9
WET Wettzell 146.23 331 ePKPbc PKPbc 04 51 18.9 +0.4
baz=36,slow=2.9
MOA Moln 146.48 328 ePKP PKPab 04 51 20.3 +0.1
comp=Z,0.5nm,0.3s
GRF Grafenberg Arr 146.55 333 ePKPbc PKPbc 04 51 19.7 +0.4
baz=36,slow=2.9
GRFO Grafenberg 146.55 333 PKPbc PKPbc 04 51 20.0 +0.7
SOKA Soboth 146.87 326 i PKP PKPdf 04 51 18.9 +0.3
comp=Z,3.0nm,0.7s,SNR=6.5
TNS Taunus Mts 147.24 336 ePKPbc PKPbc 04 51 21.7 +0.3
baz=36,slow=2.9
KBA Koelnbreinsper 147.47 328 ePKP PKPbc 04 51 21.6 -0.6
comp=Z,7.5nm,0.9s
LESA Schweotal 147.55 329 ePKP PKPbc 04 51 22.3 -0.1
comp=Z,5.6nm,0.6s
BTNL Ternell 147.76 339 dPKPdf PKPdf 04 51 19.6 -0.3
BTNL dPKP PKPbc 04 51 22.5 -0.2
MEM Membach 147.78 339 dPKP PKPbc 04 51 22.3 -0.5
BSTI Sart Tilman 147.95 339 dPKP PKPbc 04 51 23.4 +0.2
BHOU Houvegnez 148.00 339 dPKP PKPbc 04 51 23.5 +0.1
ABTA Abfaltersbach 148.11 328 ePKP PKPbc 04 51 23.2 -0.7
comp=Z,4.8nm,0.6s
CLUD Cludinico 148.12 327 PKPbc 04 51 22.9 -1.0
WTTA Wattenberg 148.16 330 i pPKP PKPbc 04 51 24.7 +0.5
comp=Z,14nm,1.1s,SNR=5.8
BCLA Clavier 148.18 340 dPKP PKPbc 04 51 23.8 0.0
BGES Gesves 148.28 340 dPKP PKiKP 04 51 25.7 -0.1
MOTA Moosalm 148.35 330 i PKP PKPbc 04 51 24.7 +0.1
comp=Z,15nm,0.9s,SNR=6.7
SQTA Sankt Quirin 148.39 330 i PKP PKPbc 04 51 24.9 +0.3
comp=Z,12nm,0.7s,SNR=6.8
RETA Reutte 148.40 331 ePKP PKPbc 04 51 24.9 +0.3
comp=Z,2.6nm,0.5s
RCHB Rochefort 148.43 339 dPKP PKPbc 04 51 24.4 -0.1
BMRD Maredsous 148.45 340 dPKP PKPbc 04 51 23.6 -0.9
WLF Walferdange 148.53 338 dPcP PKPbc 04 51 23.4 -1.4
DOU Dourbes 148.69 340 dPcP PKPbc 04 51 25.5 +0.3
FETA Feichten 148.76 330 i PKP PKPbc 04 51 26.0 +0.3
comp=Z,12nm,0.8s,SNR=7.3
BFO Black Forest 148.80 334 PKPbc 04 51 25.1 -0.5
BFO Black Forest 148.80 334 ePKPbc PKPbc 04 51 25.3 -0.3
baz=36,slow=2.9
DAVA Damuels 148.95 331 ePKP PKPbc 04 51 26.3 +0.2
comp=Z,2.8nm,0.5s
CTI Castel Tesino 149.02 328 PKPbc 04 51 26.6 +0.3
TUE Stuetta 149.81 331 PKPbc 04 51 27.7 -0.6
INTR Introdacqua 150.41 320 PKPbc 04 51 29.0 -0.8
SENIN Lac Senin/Sane 150.79 333 PKPbc 04 51 30.1 -0.7
BNI Bardonecchia 152.09 332 PKPbc 04 51 33.1 -0.6
ESDC Sonseca Array 160.69 342 PKPdf PKPdf 04 51 37.6 -0.7
ESDC PKPab PKPab 04 52 19.3 -0.7
ESDC Sonseca Array 160.69 342 PKPab PKPab 04 52 19.8 -0.3
comp=Z,4.6nm,1.2s,baz=14,slow=3.7,SNR=8.1
TORD Torodi Ar. Bea 165.03 239 PKP PKPdf 04 51 41.4 -1.7
comp=Z,0.5nm,0.8s,baz=64,slow=0.6,SNR=2.7
TORD PKPab PKPab 04 52 38.4 -1.4
comp=Z,1.2nm,1.1s,baz=103,slow=3.3,SNR=2.6

*IDC **01** 04:33:12.0±1.9, 32°.58S×178°.25W, h0km, mb4.3/3, mbtmp4.3/4, ML4.0/1, Error ellipse: s-maj=56.3km s-min=36.8km az=145.0*

*WEL **01** 04:33:15.9±0.8, 32°S±12°×17°9W±3°0, h33km, M4.4/10, mB4.6/5, ML4.7/11, MLv4.7/10, Mw(mB)3.8/5, Error ellipse: s-maj=0.0km s-min=0.0km az=111.0, confirmed*

ISC 01 04:33:14.1±1.3, 32°.73S±0°.08×177°.8W±0°.2, h35km, n23, σ1.9/69/37, mb4.3/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.45	358	P		Pn	04 34 03.6	-1.8
GLKZ				S		Sn	04 34 43.3	-1.8
WMGZ	Waiomatatini S	5.95	210	P		Pn	04 34 41.5	+1.9
WMGZ				S		Sn	04 35 48.3	+1.8
PKGZ	Pakihiroa	6.15	212	P		Pn	04 34 42.0	-0.5
PKGZ				S		Sn	04 35 51.2	-0.3
HAZ	Te Kaha	6.18	214	P		Pn	04 34 42.7	-0.1
HAZ				S		Sn	04 35 54.1	+2.0

PUZ	**Puketiti**	**6.22**	**210**	P	**Pn**	**04 34 43.2**	**-0.2**
PUZ				S	**Sn**	**04 35 53.6**	**+0.2**
RUGZ	**Raukumara Rang**	**6.39**	**214**	P	**Pn**	**04 34 46.2**	**+0.3**
RUGZ				S	**Sn**	**04 35 57.3**	**-0.4**
MWZ	**Matawai**	**6.76**	**213**	P	**Pn**	**04 34 50.8**	**-0.1**
MWZ				S	**Sn**	**04 36 06.9**	**+0.2**
URZ	**Urewera**	**6.90**	**215**	Pn	**Pn**	**04 34 52.4**	**-0.2**
	2.7nm,0.3s,baz=27,slow=1.4,SNR=11						
URZ				Sn	**Sn**	**04 36 05.7**	**-4.3**
	2.8nm,0.3s,baz=37,slow=20,SNR=6.6						
	5.0nm,0.3s						
URZ	**Urewera**	**6.90**	**215**	P	**Pn**	**04 34 53.0**	**+0.3**
URZ				S	**Sn**	**04 36 08.0**	**-1.9**
RAHZ	**Arahi**	**7.44**	**212**	P	**Pn**	**04 35 02.0**	**+1.9**
RAHZ				S	**Sn**	**04 36 22.5**	**-0.7**
MTHZ	**Maungataniwha**	**7.50**	**214**	P	**Pn**	**04 34 59.7**	**-1.2**
MTHZ				S	**Sn**	**04 36 23.2**	**-1.5**
OUZ	**Omahuta**	**7.56**	**248**	P	**Pn**	**04 35 04.1**	**+2.3**
NMHZ	**Naumai**	**7.71**	**213**	P	**Pn**	**04 35 05.4**	**+1.5**
NMHZ				S	**Sn**	**04 36 28.0**	**-2.0**
BKZ	**Black Stump Fm**	**7.91**	**214**	S	**Sn**	**04 36 32.3**	**-2.6**
KAHZ	**Kahuranaki**	**8.25**	**210**	P	**Pn**	**04 35 10.4**	**-0.9**
KAHZ				S	**Sn**	**04 36 40.6**	**-2.7**
TMVZ	**Te Maari**	**8.26**	**218**	P	**Pn**	**04 35 11.3**	**-0.2**
TMVZ				S	**Sn**	**04 36 41.2**	**-2.5**
OTVZ	**Oturere**	**8.32**	**218**	P	**Pn**	**04 35 12.5**	**+0.1**
CTA	**Charters Tower**	**34.39**	**282**	P	**P**	**04 39 58.3**	**+0.3**
	2.6nm,0.4s,baz=112,slow=11,SNR=2.8						
	2.6nm,0.4s						
ASAR	**Alice Springs**	**43.19**	**269**	P	**P**	**04 41 11.8**	**0.0**
	1.4nm,0.5s,baz=106,slow=7.9,SNR=7.3						
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**44.39**	**274**	P	**P**	**04 41 21.3**	**-0.1**
	1.9nm,0.3s,baz=114,slow=8.0,SNR=24						
	1.9nm,0.3s						
FINES	**FINESS Array B**	**147.37**	**339**	PKPbc	**PKiKP**	**04 52 55.4**	**-0.1**
	1.2nm,0.4s,baz=54,slow=4.5,SNR=13						
HFS	**Hagfors**	**151.55**	**348**	PKPbc	**PKPbc**	**04 53 07.5**	**+3.8**
	0.9nm,0.6s,baz=40,slow=2.5,SNR=1.2						
BRTR	**Keskin Array B**	**153.78**	**294**	PKPbc	**PKiKP**	**04 53 11.2**	**+1.5**
	0.4nm,0.5s,baz=85,slow=2.2,SNR=2.1						

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*IDC **01** 04:56:41.5±1.5, 31°.03N×57°.07E, h0km, mb3.4/5, mbtmp3.4/7, ML3.1/2, Error ellipse: s-maj=34.8km s-min=24.4km az=134.0*

*TEH **01** 04:56:42.3, 30°.80N×57°.29E, h8km±53km, ML3.6*

ISC 01 04:56:42.3±0.8**, 30°.89N**±0°.04×**57°.25E**±0°.04**, h10**km**, n29,** σ**2^{s}20**/29**, mb3.3**/5**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.62**	**277**	Pg	**Pn**	**04 56 56.1**	**-1.2**
KHGB	**Koh Gabri**	**0.84**	**233**	Pg	**Pg**	**04 56 58.2**	**-0.3**
TVBK	**TV Kerman**	**0.99**	**205**	Pg	**Pg**	**04 57 01.0**	**-0.5**
CHMN	**Cheshme madani**	**1.06**	**166**	Pg	**Pg**	**04 57 00.6**	**-2.1**
NGRK	**Negar Kerman**	**1.32**	**200**	Pg	**Pn**	**04 57 06.7**	**-0.4**
IBAF	**Bafgh**	**1.60**	**296**	Pg	**Pg**	**04 57 14.2**	**+1.2**
BSRN	**Basiran**	**1.93**	**56**	Pn	**Pb**	**04 57 18.9**	**+1.2**
KBAM	**BAM**	**2.04**	**149**	Pn	**Pn**	**04 57 17.9**	**+1.1**
IKOO	**Kooshah**	**2.14**	**44**	Pn	**Pb**	**04 57 21.1**	**-0.2**
TPRV	**Parvadeh(Tabas**	**2.19**	**348**	Pn	**Pb**	**04 57 22.1**	**+0.1**
IMEH	**Mehriz**	**2.31**	**283**	Pn	**Pb**	**04 57 24.2**	**-0.1**
ITEG	**Tejag**	**2.37**	**32**	Pn	**Pb**	**04 57 24.7**	**-0.5**
TKDS	**Koohdasht(Taba**	**2.72**	**358**	Pn	**Pb**	**04 57 29.3**	**-1.8**
ICHK	**Chekchek**	**2.77**	**300**	Pn	**Pb**	**04 57 30.6**	**-1.6**
IDAH	**Dahanechah**	**2.89**	**50**	Pn	**Pn**	**04 57 31.8**	**+3.1**
AFRZ	**Afriz**	**2.94**	**30**	Pn	**Pn**	**04 57 32.4**	**+3.2**
TNSJ	**Nastanj**	**3.11**	**350**	Pn	**Pb**	**04 57 34.7**	**-3.1**
ISAD	**Sadrabad**	**3.21**	**289**	Pn	**Pb**	**04 57 37.3**	**-2.3**
ANAR	**Anarak**	**3.77**	**308**	Pn	**Pn**	**04 57 43.8**	**+3.2**
IRAM	**Ramesheh**	**4.26**	**284**	Pn	**Pn**	**04 57 51.0**	**+3.5**
IZEF	**Zefreh**	**4.64**	**297**	Pn	**Pn**	**04 57 56.7**	**+4.1**
KRSH	**Karshahi**	**5.30**	**307**	Pn	**Pn**	**04 58 05.5**	**+3.8**
GEYT	**Alibeck**	**7.06**	**6**	Pn	**Pn**	**04 58 22.4**	**-3.4**
	0.1nm,0.3s,baz=172,slow=12,SNR=1.5						
	0.8nm,0.4s						
WSAR	**Wadi Sarin**	**7.72**	**170**	Pn	**Pn**	**04 58 36.3**	**+1.5**
	0.7nm,0.3s,baz=350,slow=5.1,SNR=8.1						
	3.9nm,0.5s						
BRTR	**Keskin Array B**	**21.14**	**301**	P	**P**	**05 01 25.3**	**-2.2**
	0.2nm,0.3s,baz=102,slow=11,SNR=1.8						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**25.00**	**43**	P	**P**	**05 02 06.5**	**+0.3**
	0.3nm,0.5s,baz=242,slow=8.7,SNR=2.1						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**25.30**	**33**	P	**P**	**05 02 10.2**	**+1.4**
	0.5nm,0.8s,baz=231,slow=9.1,SNR=4.7						
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**30.40**	**33**	P	**P**	**05 02 55.3**	**+0.9**
	0.7nm,0.5s,baz=220,slow=8.9,SNR=4.3						
	0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**53.90**	**264**	P	**P**	**05 06 06.6**	**+0.4**
	0.5nm,0.7s,baz=48,slow=8.0,SNR=3.5						
	0.5nm,0.7s						

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*GCG **01** 05:14:07.0±1.6, 14°.13N×91°.92W, h140km±14km, MD4.0*

*CATAC **01** 05:14:15.7±0.4, 14°.09N×91°.71W, h30km±5km, ML4.4*

*SNET **01** 05:14:16.9±1.6, 14°.23N×91°.54W, h85km, ML4.2*

*IDC **01** 05:14:19.4±1.9, 14°.45N×91°.61W, h81km±18km, mb3.2/3, mbtmp3.7/6, Error ellipse: s-maj=25.1km s-min=12.9km az=29.0*

ISC 01 05:14:16.6±1.0**, 14°.18N**±0°.06×**91°.71W**±0°.05**, h75**km±6km**, n63,** σ**1^{s}84**/101**, mb3.6**/3**, 4D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.19**	**48**	⇓*i*P	**Pn**	**05 14 26.1**	**-1.6**
SULM				*e*S	**Sn**	**05 14 42.4**	**+6.5**
RTAL	**Retalhuleu**	**0.34**	**2**	*i* P	**Pn**	**05 14 26.1**	**-2.6**
RTAL				*i* S	**Sn**	**05 14 35.3**	**-2.2**
RTAL				IAML		05 14 36.1	
	comp=Z,3μm,1.0s						
STG3	**Santiaguito 3,**	**0.55**	**14**	⇓*i*P	**Pn**	**05 14 28.7**	**-1.8**
STG3				*e*S	**Sn**	**05 14 46.5**	**+5.7**
QUEO	**Labor Ovalle**	**0.71**	**15**	*i* P	**Pn**	**05 14 30.8**	**-1.6**
QUEO				*i* S	**Sn**	**05 14 42.8**	**-1.2**
QUEO				IAML		05 14 49.5	
	comp=Z,7μm,1.0s						
SMCA	**Catarina**	**0.76**	**332**	*i* P	**Pn**	**05 14 30.6**	**-2.0**
SMCA				*i* S	**Sn**	**05 14 42.6**	**-1.9**
SMCA				IAML		05 14 43.5	
	comp=Z,3μm,1.0s						
SMSP	**San Marcos**	**0.79**	**355**	*i* P	**Pn**	**05 14 31.6**	**-1.7**
SMSP				*i* S	**Sn**	**05 14 43.8**	**-1.8**
SMSP				IAML		05 14 44.5	
	comp=Z,12μm,1.0s						
ESSG	**Sabana Grande**	**0.87**	**76**	*i* P	**Pn**	**05 14 31.6**	**-2.4**
ESSG				*i* S	**Sn**	**05 14 43.6**	**-3.2**
ESSG				IAML		05 14 51.9	
	comp=Z,12μm,1.0s						
FUG	**Fuego 3**	**0.88**	**72**	⇓*e*P	**Pn**	**05 14 32.6**	**-1.5**
FUG				*e*S	**Sn**	**05 14 50.1**	**+3.0**
CHTG	**Tecpan**	**0.91**	**50**	*i* P	**Pn**	**05 14 33.4**	**-1.2**
CHTG				*i* S	**Sn**	**05 14 46.7**	**-1.2**
CHTG				IAML		05 14 50.2	
	comp=Z,18μm,1.0s						
PCG	**Pacaya**	**1.09**	**79**	⇓*e*P	**Pn**	**05 14 35.9**	**-0.8**
PCG				*e*S	**Sn**	**05 14 56.1**	**+4.4**
HUEH	**Huehuetenango**	**1.15**	**10**	*i* P	**Pn**	**05 14 37.6**	**+0.1**
HUEH				*i* S	**Sn**	**05 14 54.6**	**+1.5**
HUEH				IAML		05 14 59.2	
	comp=Z,6μm,1.0s						
GUMI	**Mixco**	**1.15**	**67**	*i* P	**Pn**	**05 14 36.6**	**-0.9**
GUMI				*i* S	**Sn**	**05 14 52.6**	**-0.5**
GUMI				IAML		05 14 54.6	
	comp=Z,18μm,1.0s						
GCG4	**OSOP**	**1.21**	**70**	*i* P	**Pn**	**05 14 37.4**	**-0.8**
GCG4				*i* S	**Sn**	**05 14 53.7**	**-0.6**
GCG4				IAML		05 14 56.2	
	comp=Z,8μm,1.0s						
NBG	**Las Nubes**	**1.38**	**73**	*e*P	**Pn**	**05 14 40.9**	**+0.5**
NBG				*e*S	**Sn**	**05 15 00.8**	**+2.5**
SLOZ	**Alcaldia de Sa**	**1.87**	**94**	*e*P	**Pn**	**05 14 45.6**	**-1.1**
LOAL	**Lomas de Alarc**	**1.88**	**95**	*i* P	**Pn**	**05 14 46.0**	**-0.8**
LOAL				*i* S	**Sn**	**05 15 09.5**	**-0.3**
LOAL				IAML		05 15 20.2	
	comp=Z,5μm,1.0s						
NUBE	**Las Nubes**	**1.89**	**98**	*e*P	**Pn**	**05 14 45.5**	**-1.6**
NUBE				*e*S	**Sn**	**05 15 07.3**	**-2.9**
NUBE	**Las Nubes**	**1.89**	**98**	*i* P	**Pn**	**05 14 45.5**	**-1.6**
NUBE				*i* S	**Sn**	**05 15 08.0**	**-2.2**
NUBE				IAML		05 15 12.6	
	comp=Z,2μm,1.0s						
CEVE	**Cerro Verde**	**2.05**	**100**	*e*P	**Pn**	**05 14 48.3**	**-1.0**
CEVE	**Cerro Verde**	**2.05**	**100**	*i* P	**Pn**	**05 14 48.5**	**-0.8**
CEVE				*i* S	**Sn**	**05 15 13.1**	**-1.1**
CEVE				IAML		05 15 25.1	
	comp=Z,3μm,1.0s						
SNJE	**San Jose**	**2.06**	**98**	*e*P	**Pn**	**05 14 48.5**	**-0.9**
UNIC	**Universidad Ca**	**2.10**	**95**	*i* P	**Pn**	**05 14 48.7**	**-1.2**
UNIC				IAML		05 14 50.5	
	comp=Z,440nm,1.0s						
UNIC				*i* S	**Sn**	**05 15 14.7**	**-0.5**
JAYA	**Jayaque - finc**	**2.25**	**103**	*e*P	**Pn**	**05 14 50.3**	**-1.7**
JAYA	**Jayaque - finc**	**2.25**	**103**	*i* P	**Pn**	**05 14 50.4**	**-1.6**
JAYA				*i* S	**Sn**	**05 15 15.6**	**-3.4**
JAYA				IAML		05 15 19.1	
	comp=Z,8μm,1.0s						
MTO3	**Montecristo**	**2.29**	**84**	*i* P	**Pn**	**05 14 51.0**	**-1.4**
MTO3				*i* S	**Sn**	**05 15 19.0**	**-0.8**
MTO3				IAML		05 15 32.2	
	comp=Z,240nm,1.0s						
ESQI	**Esquipulas**	**2.32**	**80**	*i* P	**Pn**	**05 14 52.3**	**-0.6**
ESQI				IAML		05 15 28.1	
	comp=Z,520nm,1.0s						
PMON	**Piamonte**	**2.37**	**101**	*i* P	**Pn**	**05 14 52.3**	**-1.2**
PMON				IAML		05 15 24.8	
	comp=Z,3μm,1.0s						
QUEZ	**Alcaldia de Qu**	**2.39**	**98**	*i* S	**Sn**	**05 15 22.1**	**+0.1**
LALI	**Alcalda de L**	**2.42**	**106**	*e*P	**Pn**	**05 14 52.6**	**-1.4**
LALI	**Alcalda de L**	**2.42**	**106**	*i* S	**Sn**	**05 15 20.2**	**-2.4**
UEES	**Universidad Ev**	**2.44**	**101**	*e*P	**Pn**	**05 14 53.4**	**-1.0**
UEES				*e*S	**Sn**	**05 15 21.9**	**-1.4**
UEES	**Universidad Ev**	**2.44**	**101**	*i* P	**Pn**	**05 14 53.6**	**-0.8**
UEES				*i* S	**Sn**	**05 15 23.3**	**0.0**
UEES				IAML		05 15 31.7	
	comp=Z,1μm,1.0s						
SNET	**Serv Nac Est T**	**2.45**	**101**	*i* P	**Pn**	**05 14 53.7**	**-0.9**
SNET				*i* S	**Sn**	**05 15 22.0**	**-1.6**
SNET				IAML		05 15 27.1	
	comp=Z,3μm,1.0s						
IGN	**Direccin Gen**	**2.51**	**100**	*i* S	**Sn**	**05 15 25.0**	**+0.1**
LOMA	**Loma Larga**	**2.52**	**102**	*i* P	**Pn**	**05 14 54.7**	**-0.8**
LOMA				*i* S	**Sn**	**05 15 24.5**	**-0.8**
LOMA				IAML		05 15 32.6	
	comp=Z,1μm,1.0s						
LLGN	**La Laguna**	**2.68**	**90**	*i* P	**Pn**	**05 14 56.1**	**-1.6**
LLGN				IAML		05 15 45.5	
	comp=Z,390nm,1.0s						
SJTE	**Alcalda de S**	**2.68**	**102**	*e*P	**Pn**	**05 14 56.9**	**-0.8**
SJTE	**Alcalda de S**	**2.68**	**102**	*i* P	**Pn**	**05 14 57.4**	**-0.3**
SJTE				*i* S	**Sn**	**05 15 28.6**	**-0.6**
SJTE				IAML		05 15 32.9	
	comp=Z,880nm,1.0s						
PAVA	**Las Pavas**	**2.73**	**99**	*i* P	**Pn**	**05 14 57.3**	**-1.0**
PAVA				*i* S	**Sn**	**05 15 30.2**	**-0.2**
PAVA				IAML		05 15 39.0	
	comp=Z,1μm,1.0s						
COEG	**Centro de Oper**	**2.80**	**101**	*e*P	**Pn**	**05 14 58.5**	**-0.8**
COEG				*e*S	**Sn**	**05 15 32.4**	**+0.4**
COEG	**Centro de Oper**	**2.80**	**101**	*i* P	**Pn**	**05 14 58.9**	**-0.4**
COEG				*i* S	**Sn**	**05 15 32.0**	**-0.1**
COEG				IAML		05 15 41.4	
	comp=Z,770nm,1.0s						
UESV	**Universidad de**	**2.88**	**100**	*i* P	**Pn**	**05 14 59.1**	**-1.3**
UESV				*i* S	**Sn**	**05 15 34.2**	**+0.1**
UESV				IAML		05 15 38.1	
	comp=Z,530nm,1.0s						
TECO	**Alcaldia de Te**	**2.91**	**102**	*i* P	**Pn**	**05 14 59.2**	**-1.6**
TECO				*i* S	**Sn**	**05 15 34.5**	**-0.2**
TECO				IAML		05 15 48.7	
	comp=Z,420nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.93**	**99**	*e*P	**Pn**	**05 14 60.0**	**-1.0**
SCLA	**Alcaldia de Sa**	**2.93**	**99**	*i* S	**Sn**	**05 15 36.4**	**+1.2**
PQSS	**Presa 15 de Se**	**3.10**	**100**	*i* S	**Sn**	**05 15 39.9**	**+0.5**
COEB	**Comit de Eme**	**3.16**	**102**	*e*P	**Pn**	**05 15 03.3**	**-0.9**
ALJI	**Alcalda de J**	**3.16**	**105**	*e*P	**Pn**	**05 15 02.9**	**-1.2**
ALJI	**Alcalda de J**	**3.16**	**105**	*i* P	**Pn**	**05 15 03.3**	**-0.8**
ALJI				*i* S	**Sn**	**05 15 39.3**	**-1.5**
ALJI				IAML		05 15 45.5	
	comp=Z,390nm,1.0s						
PETF	**Flores**	**3.25**	**33**	*i* P	**Pn**	**05 15 05.8**	**+0.5**
PETF				*i* S	**Sn**	**05 15 44.9**	**+2.0**
PETF				IAML		05 16 03.8	
	comp=Z,240nm,1.0s						
PACA	**Pacayal**	**3.36**	**102**	*i* P	**Pn**	**05 15 07.8**	**+0.8**
PACA				IAML		05 16 06.3	
	comp=Z,3μm,1.0s						
LCND	**La Caada**	**3.81**	**103**	*e*P	**Pn**	**05 15 12.0**	**-0.9**
LCND				*e*S	**Sn**	**05 15 56.3**	**-0.2**
LCND	**La Caada**	**3.81**	**103**	*i* S	**Sn**	**05 15 57.1**	**+0.5**
CNCH	**Conchagua**	**3.87**	**103**	*i* P	**Pn**	**05 15 13.2**	**-0.7**
CNCH				*i* S	**Sn**	**05 15 58.7**	**+0.5**
CNCH				IAML		05 16 08.0	
	comp=Z,970nm,1.0s						
CSGN	**Cosiguina Volc**	**4.21**	**106**	*i* P	**Pn**	**05 15 18.6**	**+0.2**
CSGN				IAML		05 16 14.3	
	comp=Z,1μm,1.0s						
CMIG	**Matias Romero**	**4.21**	**314**	P	**Pn**	**05 15 18.6**	**+0.2**
	comp=Z,21nm,0.3s,baz=136,slow=7.5,SNR=33						
CMIG				S	**Sn**	**05 16 07.2**	**+0.7**
	comp=Z,30nm,0.4s,baz=86,slow=19,SNR=9.2						
POTN	**Potosi Cosigui**	**4.25**	**106**	*i* P	**Pn**	**05 15 19.8**	**+0.9**
POTN				IAML		05 16 19.6	
	comp=Z,60nm,1.0s						
TEIG	**Tepich**	**6.85**	**28**	P	**Pn**	**05 15 54.2**	**-0.3**
	comp=Z,208nm,0.3s,baz=157,slow=1.3,SNR=131						
TEIG				S	**Sn**	**05 17 07.0**	**-4.0**
	comp=Z,125nm,0.4s,baz=198,slow=22,SNR=6.3						
JTS	**Las Juntas de**	**7.65**	**120**	P	**Pn**	**05 16 07.5**	**+2.0**
	comp=Z,4.8nm,0.3s,baz=302,slow=18,SNR=7.1						
JTS				S	**Sn**	**05 17 37.1**	**+6.4**
	comp=Z,12nm,0.9s,baz=37,slow=20,SNR=2.6						
TXAR	**Lajitas Array**	**18.71**	**326**	P	**Pn**	**05 18 30.0**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=154,slow=12,SNR=14						
NVAR	**Mina Array Bea**	**33.71**	**321**	P	**P**	**05 20 53.4**	**+2.3**
	comp=Z,0.8nm,0.6s,baz=131,slow=9.7,SNR=8.4						
	comp=Z,0.8nm,0.6s						
YKA	**Yellowknife Ar**	**50.92**	**347**	P	**P**	**05 23 09.2**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=153,slow=13,SNR=4.5						
	comp=Z,0.2nm,0.7s						
ILAR	**Eielson Array**	**62.79**	**337**	P	**P**	**05 24 34.0**	**0.0**
	comp=Z,0.6nm,0.9s,baz=112,slow=5.5,SNR=6.6						
	comp=Z,0.6nm,0.9s						

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*BJI **01** 05:20:26.6, 49°.50S×106°.16E, h25km, mb5.0/54, mB5.6/28, Ms5.4/37, Ms7 5.1/37*

*MOS **01** 05:20:26.9±0.9, 48°.74S×106°.86E, h10km, mb5.3/18, MS5.2/4, Error ellipse: s-maj=18.7km s-min=9.3km az=74.5*

*IDC **01** 05:20:27.5±0.4, 48°.72S×106°.86E, h0km, mb4.7/17, mbtmp4.6/18, ML1.9/1, MS4.8/42, Error ellipse: s-maj=20.6km s-min=14.2km az=128.0*

*NEIC **01** 05:20:28.5, 48°.77S×106°.82E, h20km*

*NEIC **01** 05:20:28.5±1.4, 48°.78S±0°.08×106°.8E±0°.2, h10km±1km, mb5.2/67, Ms_20 5.1/90, Mww5.5/12, Error ellipse: s-maj=16.9km s-min=13.6km az=282.0*

*NEIC **01** 05:20:28.5, 48°.47S×106°.97E, h20km, Moment Tensor Solution. Duration: 2^{s}5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.43; $M_{\theta\theta}$1.49; $M_{\phi\phi}$-1.06; $M_{r\theta}$0.41; $M_{\theta\phi}$1.41; $M_{\phi r}$1.40; Fault plane solution: $M_0$2.43000×10^{17} NP1: ϕ_s204.42000°, δ82.24000°, λ-141.62000°. NP2: ϕ_s108.32000°, δ52.03000°, λ-9.86000°. Principal axes: T 2.4615, Plg20.0000°, Azm331.0000°; N -0.0696, Plg51.0000°, Azm214.0000°; P -2.3919, Plg32.0000°, Azm74.0000°;*

*GCMT **01** 05:20:31.5±0.1, 48°.70S±0°.01×106°.74E±0°.01, h12km, MW5.4/141, Moment Tensor Solution. s87,c135; s141,c261; Duration: 1^{s}3 Moment tensor: Scale 10^{17} Nm; M_{rr}0.03±.02; $M_{\theta\theta}$1.35±.02; $M_{\phi\phi}$-1.39±.02; $M_{r\theta}$-0.54±.06; $M_{\theta\phi}$0.93±.02; $M_{\phi r}$-0.25±.06; Best double couple: $M_0$1.75100×10^{17} NP1: ϕ_s207.00000°, δ79.00000°, λ165.00000°. NP2: ϕ_s299.00000°, δ75.00000°, λ11.00000°. Principal axes: T 1.8250, Plg18.0000°, Azm163.0000°; N -0.1570, Plg72.0000°, Azm352.0000°; P -1.6770, Plg3.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 05:20:28.1±0.7**, 48°.86S**±0°.05×**106°.84E**±0°.07**, h6**km±4km**, n608,** σ**1^{s}17**/553**, mb5.2**/80**, MS5.1**/104**, 11C-8D, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**14.96**	**24**	T	T	05 39 01.9	
	baz=198,slow=74,SNR=434						
H01W1	**Cape Leeuwin H**	**14.97**	**24**	T	T	05 39 02.6	
	baz=198,slow=74,SNR=357						
H01W3	**Cape Leeuwin H**	**14.98**	**24**	T	T	05 39 01.4	
	baz=198,slow=74,SNR=454						
RKGY	**Rocky Gully**	**16.10**	**32**	P	**Pn**	**05 24 14.2**	**-0.8**
	baz=16						
CASY	**Casey**	**17.57**	**175**	Pn	**Pn**	**05 24 33.5**	**+0.2**
NWAO	**Narrogin (SRO)**	**17.73**	**30**	P	**Pn**	**05 24 34.4**	**-1.0**
	baz=18						
NWAO				P	**Pn**	**05 24 34.4**	**-1.0**
	baz=18						
NWAO	**Narrogin (SRO)**	**17.73**	**30**		**Pn**	**05 24 32.9**	**-2.5**
NWAO				IAmb	IAmb	05 24 37.5	
	comp=Z,382nm,1.9s						
NWAO	**Narrogin (SRO)**	**17.73**	**30**	Pn	**Pn**	**05 24 32.1**	**-3.4**
NWAO				IAmb	IAmb	05 24 37.6	
	comp=Z,114nm,1.9s						
NWAO	**Narrogin (SRO)**	**17.73**	**30**	P	**P**	**05 24 34.7**	**-1.7**
NWAO	**Narrogin (SRO)**	**17.73**	**30**	P	**Pn**	**05 24 32.9**	**-2.5**
NWAO				pmax	pmax		
	comp=Z,382nm,1.9s						
NWAO	**Narrogin (SRO)**	**17.73**	**30**	P	**Pn**	**05 24 33.0**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=38,slow=10,SNR=2.6						
NWAO				PcP	**PcP**	**05 29 12.5**	**-0.9**
	comp=Z,2.4nm,0.4s,baz=56,slow=3.6,SNR=1.6						
	comp=Z,12nm,1.1s						
MUN	**Mundaring**	**18.29**	**26**	P	**P**	**05 24 42.7**	**+0.2**
	baz=18,SNR=3.1						
KLBR	**Kellerberrin**	**19.12**	**30**	P	**Pn**	**05 24 52.2**	**-0.3**
	baz=19,SNR=6.0						
BLDU	**Ballidu**	**19.71**	**26**	P	**Pn**	**05 25 00.6**	**+1.0**
	baz=20,SNR=6.6						
KMBL	**Kambalda**	**20.86**	**39**	P	Pn	05 25 11.4	-1.6
	baz=21,SNR=6.3						
MORW	**Morawa**	**20.99**	**23**	P	Pn	05 25 12.1	-2.5
	baz=21,SNR=10.0						
MORW	**Morawa**	**20.99**	**23**	P	**P**	**05 25 10.3**	**-1.7**
MORW				IAmb	IAmb	05 25 23.0	
	comp=Z,135nm,1.1s						
PAF	**Port-aux-Franc**	**23.84**	**255**	IAMs_20	IAMs_20	05 32 05.9	
	comp=Z,8μm,21.0s						
MEEK	**Meekatharra**	**24.00**	**27**	P	**P**	**05 25 43.1**	**-0.5**
	baz=24,SNR=6.0						
FORT	**Forrest**	**24.19**	**49**	P	**P**	**05 25 45.2**	**0.0**
	baz=24,SNR=9.0						
FORT	**Forrest**	**24.19**	**49**	P	**P**	**05 25 44.1**	**-1.1**
BBOO	**Buckleboo**	**27.09**	**65**	P	**P**	**05 26 11.3**	**-0.2**
	baz=27,SNR=10						
BBOO	**Buckleboo**	**27.09**	**65**	P	**P**	**05 26 10.0**	**-1.5**
ARPS	**Mount Arapiles**	**28.12**	**78**	P	**P**	**05 26 19.3**	**-1.4**
	baz=28,SNR=5.3						
HTT	**Hallett**	**28.40**	**69**	P	**P**	**05 26 22.3**	**-1.0**
	baz=28,SNR=4.0						
TAU	**Tasmania Unive**	**28.54**	**93**	IAMs_20	IAMs_20	05 34 45.8	
	comp=Z,4μm,21.0s						
MOO	**Moorlands**	**28.66**	**92**	P	**P**	**05 26 24.6**	**-0.9**
	baz=29,SNR=4.2						
MAW	**Mawson**	**28.87**	**213**	P	**P**	**05 26 27.1**	**+0.1**
MAW	**Mawson**	**28.87**	**213**	P	**P**	**05 26 27.1**	**+0.1**
MAW				pmax	pmax		
	comp=Z,8.0nm,1.8s						
MAW	**Mawson**	**28.87**	**213**	P	**P**	**05 26 28.6**	**+1.6**
	comp=Z,6.1nm,1.1s,baz=68,slow=7.6,SNR=3.9						
MAW				LR	LR	05 35 03.1	
	comp=Z,2μm,21.9s,baz=69,slow=30						
	comp=Z,6.1nm,1.1s						
WRKA	**Warakurna**	**29.12**	**43**	P	**P**	**05 26 29.3**	**-0.4**
	baz=29,SNR=5.7						
PSA00	**Pilbara Seismi**	**29.14**	**25**	P	**P**	**05 26 28.4**	**-1.5**
PSA00				IAmb	IAmb	05 27 01.8	
	comp=Z,42nm,1.1s						
PSA00	**Pilbara Seismi**	**29.14**	**25**	P	**P**	**05 26 28.2**	**-1.7**
PSA00				IAmb	IAmb	05 26 52.0	
	comp=Z,40nm,1.6s						
MBWA	**Marble Bar**	**29.50**	**25**	P	**P**	**05 26 32.4**	**-0.7**
TOO	**Toolangi**	**30.03**	**83**	P	**P**	**05 26 37.8**	**+0.1**
	baz=30,SNR=9.2						
TOO	**Toolangi**	**30.03**	**83**	P	**P**	**05 26 36.7**	**-1.0**
TOO				IAmb	IAmb	05 26 45.0	
	comp=Z,39nm,1.0s						
TOO	**Toolangi**	**30.03**	**83**	P	**P**	**05 26 36.7**	**-1.0**
TOO				pmax	pmax		
	comp=Z,39nm,1.0s						
STKA	**Stephens Creek**	**31.10**	**70**	P	**P**	**05 26 47.0**	**-0.2**
	baz=31,SNR=9.9						
STKA	**Stephens Creek**	**31.10**	**70**	P	**P**	**05 26 45.7**	**-1.5**
STKA	**Stephens Creek**	**31.10**	**70**	*de*P	**P**	**05 26 46.6**	**-0.5**
STKA	**Stephens Creek**	**31.10**	**70**	P	**P**	**05 26 46.3**	**-0.8**
	comp=Z,6.2nm,0.8s,baz=208,slow=9.8,SNR=9.7						
STKA				PcP	**PcP**	**05 29 42.6**	**+0.2**
	comp=Z,5.4nm,0.7s,baz=265,slow=4.8,SNR=2.5						
STKA				LR	LR	05 36 48.9	
	comp=Z,5μm,21.9s,baz=225,slow=32						
	comp=Z,6.2nm,0.8s						
ASAR	**Alice Springs**	**32.97**	**50**	P	**P**	**05 27 02.4**	**-1.3**
ASAR	**Alice Springs**	**32.97**	**50**	P	**P**	**05 27 02.5**	**-1.1**
	comp=Z,13nm,0.8s,baz=209,slow=8.2,SNR=104						
ASAR				PcP	**PcP**	**05 29 47.7**	**0.0**
	comp=Z,4.3nm,0.8s,baz=184,slow=0.8,SNR=5.0						
ASAR				ScP	**ScP**	**05 33 32.2**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=187,slow=5.1,SNR=2.6						
ASAR				LR	LR	05 38 46.8	
	comp=Z,3μm,20.3s,baz=214,slow=33						
	comp=Z,13nm,0.8s						
AS31	**Alice Springs**	**32.98**	**50**	P	**P**	**05 27 02.6**	**-1.1**
CAN	**Canberra**	**33.64**	**82**	IAMs_20	IAMs_20	05 37 54.3	
	comp=Z,3μm,20.0s						
CMSA	**Cobar Meteorol**	**33.90**	**74**	P	**P**	**05 27 11.7**	**+0.1**
	baz=34,SNR=13						
FITZ	**Fitzroy Crossi**	**34.26**	**33**	P	**P**	**05 27 15.9**	**+1.1**
	baz=34,SNR=4.5						
VNDA	**Vanda**	**35.38**	**162**	P	**P**	**05 27 24.6**	**+0.7**
VNDA				IAmb	IAmb	05 27 32.6	
	comp=Z,27nm,0.9s						
VNDA	**Vanda**	**35.38**	**162**	P	**P**	**05 27 24.7**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,27nm,0.9s						
VNDA	**Vanda**	**35.38**	**162**	P	**P**	**05 27 24.9**	**+0.9**
	comp=Z,13nm,1.1s,baz=293,slow=11,SNR=26						
VNDA				LR	LR	05 40 59.5	
	comp=Z,6μm,18.2s,baz=296,slow=35						
	comp=Z,13nm,1.1s						
WRA	**Warramunga Arr**	**36.32**	**47**	P	**P**	**05 27 31.2**	**-1.4**
WRA	**Warramunga Arr**	**36.32**	**47**	P	**P**	**05 27 31.2**	**-1.4**
WRA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
WRA	**Warramunga Arr**	**36.32**	**47**	P	**P**	**05 27 31.8**	**-0.9**
	comp=Z,22nm,0.9s,baz=211,slow=8.2,SNR=102						
WRA				PcP	**PcP**	**05 29 56.7**	**-0.6**
	comp=Z,14nm,1.1s,baz=222,slow=2.2,SNR=6.0						
WRA				ScP	**ScP**	**05 33 45.0**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=195,slow=3.3,SNR=2.6						
	comp=Z,22nm,0.9s						
WR0	**Warramunga Arr**	**36.41**	**47**	P	**P**	**05 27 32.1**	**-1.2**
WR0				IAmb	IAmb	05 27 40.1	
	comp=Z,62nm,1.2s						
CRZF	**Crozet Islands**	**36.44**	**252**	IAMs_20	IAMs_20	05 38 04.4	
	comp=Z,4μm,21.0s						
QLP	**Quilpie**	**36.48**	**66**	P	**P**	**05 27 34.4**	**+0.5**
	baz=36,SNR=7.6						
SBA	**Scott Base**	**36.48**	**162**	P	**P**	**05 27 34.3**	**+0.9**
SBA	**Scott Base**	**36.48**	**162**	P	**P**	**05 27 34.3**	**+0.9**
SBA				pmax	pmax		
	comp=Z,144nm,2.0s						
SBA				MLR	MLR		
	comp=Z,4μm,18.0s						
COCO	**West Island**	**37.50**	**344**	IAMs_20	IAMs_20	05 39 38.6	
	comp=Z,3μm,20.0s						
KNRA	**Kununurra**	**37.65**	**36**	P	**P**	**05 27 42.3**	**-1.6**
KNRA				IAmb	IAmb	05 27 59.1	
	comp=Z,115nm,1.9s						
ARMA	**Armidale**	**38.45**	**78**	P	**P**	**05 27 52.1**	**+1.4**
	baz=38,SNR=19						
ARMA	**Armidale**	**38.45**	**78**	P	**P**	**05 27 50.4**	**-0.3**
ARMA				IAmb	IAmb	05 27 58.3	
	comp=Z,54nm,0.9s						
QIS	**Mount Isa**	**38.51**	**55**	P	**P**	**05 27 50.9**	**-0.2**
	baz=38,SNR=6.8						
RMQ	**Roma**	**39.33**	**71**	P	**P**	**05 27 59.3**	**+1.3**
	baz=39,SNR=13						
DCZ	**Deep Cove**	**40.21**	**109**	P	**P**	**05 28 07.0**	**+1.9**

DCZ IAmb IAmb 05 28 12.9
comp=Z,56nm,1.1s
WHZ Wether Hill Ro 40.51 110 P **P** **05 28 09.0 +1.4**
MLZ Mavora Lakes 40.86 109 P **P** **05 28 11.2 +0.7**
MLZ IAmb IAmb 05 28 18.2
comp=Z,45nm,1.2s
TWSI Taliwang, Sumb 40.88 15 P P 05 28 14.9 +4.1
BATI Baumata 41.02 26 LR LR 05 45 25.7
comp=Z,2µm,19.3s,baz=209,slow=37
MTN Manton Dam 41.16 38 P **P** **05 28 11.9 -1.3**
MTN IAmb IAmb 05 28 23.9
comp=Z,73nm,1.2s
EIDS Eidsvold 41.59 72 P **P** **05 28 16.3 -0.3**
baz=42,SNR=6.2
EIDS Eidsvold 41.59 72 P **P** **05 28 16.0 -0.6**
EIDS IAmb IAmb 05 28 23.9
comp=Z,57nm,1.1s
SOEI Soe 41.63 26 P **P** **05 28 15.7 -1.5**
SOEI IAmb IAmb 05 28 56.6
comp=Z,59nm,1.1s
SOEI IAMs_20 IAMs_20 05 46 11.9
comp=Z,2µm,19.0s
KDU Kakadu 41.85 39 P **P** **05 28 18.4 -0.5**
baz=42,SNR=4.8
LEM Lembang 41.90 1 LR LR 05 42 38.2
comp=Z,3µm,20.1s,baz=238,slow=32
DBJI Dramaga 42.16 360 P P 05 28 31.6 +10
ELIB Princess Elisa 42.54 207 *d*P **P** **05 28 24.3 +0.2**
comp=Z,17nm,1.2s
CTA Charters Tower 42.61 62 P **P** **05 28 25.2 +0.1**
comp=Z,17nm,0.8s,baz=223,slow=7.1,SNR=16
CTA PcP **PcP** **05 30 17.6 +0.3**
comp=Z,9.7nm,1.0s,baz=206,slow=3.0,SNR=1.7
CTA LR LR 05 45 45.0
comp=Z,3µm,18.1s,baz=215,slow=36
comp=Z,17nm,0.8s
CTAO Charters Tower 42.61 62 P **P** **05 28 24.3 -0.8**
CTAO IAmb IAmb 05 28 31.9
comp=Z,57nm,1.0s
CTAO Charters Tower 42.61 62 P **P** **05 28 24.3 -0.8**
CTAO pmax pmax
comp=Z,57nm,1.0s
CTAO MLR MLR
comp=Z,4µm,18.0s
LBZ Lake Benmore 42.62 109 P **P** **05 28 25.4 +0.5**
MTSU Mount Surprise 43.06 58 P **P** **05 28 29.3 +0.5**
baz=43,SNR=15
RPZ Rata Peaks 43.49 108 LR LR 05 43 43.2
comp=Z,2µm,18.4s,baz=236,slow=32
MQZ McQueen's Vall 44.50 109 IAMs_20 IAMs_20 05 43 28.5
comp=Z,2µm,20.0s
KAPI Kappang 45.05 18 P **P** **05 28 43.3 -1.4**
KAPI IAmb IAmb 05 29 01.8
comp=Z,31nm,1.2s
KAPI Kappang 45.05 18 P **P** **05 28 43.3 -1.4**
KAPI pmax pmax
comp=Z,31nm,1.3s
KAPI Kappang 45.05 18 LR LR 05 44 54.0
comp=Z,1µm,21.4s,baz=198,slow=33
THZ Tophouse 45.67 107 P **P** **05 28 49.7 +0.2**
THZ IAmb IAmb 05 29 14.1
comp=Z,57nm,1.4s
MRNZ Matariki Terra 45.78 107 P **P** **05 28 50.6 +0.3**
PMBI Palembang 45.80 357 IAMs_20 IAMs_20 05 43 35.5
comp=Z,2µm,22.0s
COEN Coen 45.86 53 P **P** **05 28 50.3 -0.8**
COEN IAmb IAmb 05 29 06.9
comp=Z,38nm,1.4s
SPSI Sidrap Palu 46.08 18 P **P** **05 28 52.7 -0.1**
comp=Z,35nm,0.9s,comp=Z,906nm
BSWZ Blackbush Sta 46.31 108 P **P** **05 28 55.3 +0.8**
NVL N'lazarevskaya 46.42 207 *e*P **P** **05 28 54.8 -0.1**
NVL *e*S **S** **05 35 40.5 -2.0**
NVL pmax pmax
comp=Z,23nm,1.0s
NVL smax smax
comp=N,503nm,12.4s
BKB Balikpapan 48.20 14 P **P** **05 29 09.0 -0.4**
TROLL Troll, Antarti 48.47 204 ⇑P **P** **05 29 11.4 +0.4**
comp=Z,405nm,1.1s
BKNI Bangkinang 49.25 352 P **P** **05 29 16.2 -1.3**
BKNI IAMs_20 IAMs_20 05 46 13.2
comp=Z,2µm,20.0s
BKZ Black Stump Fm 49.39 106 IAMs_20 IAMs_20 05 45 41.9
comp=Z,2µm,21.0s
SANI Sanana 49.45 26 P P 05 29 28.6 +10
TOZ Tahuroa Road 49.60 104 IAMs_20 IAMs_20 05 45 58.4
comp=Z,2µm,20.0s
TPRI Tanjung Pinang 49.63 357 P **P** **05 29 20.8 +0.5**
comp=Z,23nm,0.9s,comp=Z,6µm
RTZ Ruatahuna 50.02 106 P **P** **05 29 22.6 -0.6**
SNAA Sanae 50.06 203 P **P** **05 29 23.0 -0.1**
SNAA IAmb IAmb 05 29 40.7
comp=Z,46nm,1.0s
SNAA IAMs_20 IAMs_20 05 49 30.7
comp=Z,2µm,18.0s
SNAA Sanae 50.06 203 ⇑P **P** **05 29 23.6 +0.5**
comp=Z,349nm,0.7s
SNAA Sanae 50.06 203 *c i*P **P** **05 29 23.6 +0.5**
SNAA pmax pmax
comp=Z,21nm,1.0s
SNAA Sanae 50.06 203 P **P** **05 29 23.7 +0.5**
comp=Z,18nm,0.9s,baz=138,slow=11,SNR=51
SNAA LR LR 05 49 50.8
comp=Z,2µm,18.0s,baz=116,slow=35
comp=Z,18nm,0.9s
KSM Kuching 50.23 5 P **P** **05 29 23.1 -1.7**
H08S2 Diego Garcia H 50.23 313 T T 06 23 01.2
baz=153,slow=76,SNR=13
H08S3 Diego Garcia H 50.25 313 T T 06 23 03.2
baz=151,slow=76,SNR=38
MPSI Mapaga 50.29 17 P **P** **05 29 26.1 +0.7**
comp=Z,22nm,2.1s,comp=Z,757nm
URZ Urewera 50.31 106 LR LR 05 46 40.3
comp=Z,827nm,20.9s,baz=351,slow=31
DGAR Diego Garcia 50.45 313 IAMs_20 IAMs_20 05 44 44.7
comp=Z,2µm,19.0s
MYKOM Kota Tinggi 50.52 356 P **P** **05 29 25.5 -1.6**
MYKOM IAMs_20 IAMs_20 05 46 51.9
comp=Z,2µm,20.0s
GSI Gunungsitoli 50.61 348 IAMs_20 IAMs_20 05 51 38.2
comp=Z,2µm,19.0s
FAKI Fak Fak 50.67 34 P **P** **05 29 27.8 -0.5**
FAKI IAmb IAmb 05 29 39.7
comp=Z,49nm,1.1s
FAKI Fak Fak 50.67 34 P **P** **05 29 29.2 +0.9**
comp=Z,49nm,1.3s,comp=Z,1µm
MRSI Marisa 50.85 20 P **P** **05 29 29.1 -0.5**
comp=Z,26nm,1.3s
TOLI2 Tolitoli 51.22 18 P **P** **05 29 30.1 -2.3**
LBMI Labuha 51.23 27 P **P** **05 29 33.5 +1.0**
comp=Z,210nm,1.3s,comp=Z,2µm
GTOI Gorontalo 51.25 21 P **P** **05 29 31.1 -1.5**
comp=Z,11nm,1.0s,comp=Z,297nm
SBUM Sibu 51.32 7 P **P** **05 29 31.9 -1.2**
BELA Belgrano 2 51.33 190 P **P** **05 29 32.2 -0.4**
BELA IAmb IAmb 05 29 51.5
comp=Z,34nm,1.0s
VNA2 Neumayer--Watz 51.68 202 ⇑P **P** **05 29 35.6 +0.4**
comp=Z,10nm,0.6s,baz=132,slow=7.0
PMG Port Moresby 51.77 54 P **P** **05 29 36.1 -0.5**
PMG IAmb IAmb 05 29 43.5
comp=Z,40nm,0.9s
PMG Port Moresby 51.77 54 IAMs_20 IAMs_20 05 51 23.8
comp=Z,1µm,19.0s
PMG Port Moresby 51.77 54 *de*P **P** **05 29 36.8 +0.2**
PMG pmax pmax
comp=Z,14nm,0.9s
FOMA Nahampoana Res 51.96 275 IAMs_20 IAMs_20 05 45 57.6
comp=Z,2µm,20.0s
VNA3 Neumayer Olymp 52.03 202 ⇑P **P** **05 29 38.1 +0.3**
comp=Z,15nm,0.8s
VNA1 Neumayer--Stat 52.08 202 ⇑P **P** **05 29 39.0 +0.9**
comp=Z,52nm,1.1s
SWI Sorong 52.23 32 P **P** **05 29 40.3 +0.4**
comp=Z,35nm,1.1s,comp=Z,1µm
IPM Ipoh 53.37 353 P **P** **05 29 47.6 -0.7**
KOUNC Koumac, New Ca 53.48 79 P **P** **05 29 49.6 +0.4**
KOUNC IAmb IAmb 05 29 56.4
comp=Z,40nm,0.9s
DZM Mont Dzumac 53.81 82 *e*P P 05 29 35.2 -16
comp=Z,194nm,28.1s
DZM *e*S S 05 37 17.2 -10
comp=Z,706nm,29.5s
DZM *e*LR LR 05 45 51.5
comp=Z,4µm,28.7s
DZM Mont Dzumac 53.81 82 P **P** **05 29 51.1 -0.6**
DZM IAmb IAmb 05 29 59.0
comp=Z,32nm,1.0s
DZM Mont Dzumac 53.81 82 LR LR 05 48 17.7
comp=Z,1µm,21.9s,baz=207,slow=31
OUENC Ouen Island, N 53.82 83 P **P** **05 29 52.2 +0.5**
SMPI Sarmi 54.10 41 P **P** **05 29 53.5 -0.2**
comp=Z,75nm,1.2s,comp=Z,3µm
VOI Vohitsoka 54.22 277 IAMs_20 IAMs_20 05 47 17.4
comp=Z,1µm,19.0s
MYLDM Lahad Datu 54.78 14 P **P** **05 29 58.3 -0.3**
MYLDM IAmb IAmb 05 30 40.8
comp=Z,27nm,1.1s
ABPO Ambohimpanom 56.00 280 IAMs_20 IAMs_20 05 47 56.4
comp=Z,1µm,20.0s
OPO Ambohidratompo 56.34 280 LR LR 05 48 17.5
comp=Z,549nm,20.5s,baz=16,slow=30
DAV Davao City (W) 58.07 22 LR LR 05 56 58.4
comp=Z,315nm,18.6s,baz=194,slow=38
KRVT Keravat (AS076 58.66 56 LR LR 05 54 48.7
comp=Z,985nm,19.5s,baz=191,slow=35
HNR Honiara 59.11 67 IAMs_20 IAMs_20 05 52 45.4
comp=Z,2µm,22.0s
HNR Honiara 59.11 67 LR LR 05 53 08.2
comp=Z,21µm,21.9s,baz=217,slow=33
RAO Raoul Island 59.20 100 LR LR 05 52 02.5
comp=Z,525nm,20.3s,baz=130,slow=32
PALK Pallekele 60.42 330 LR LR 05 51 12.5
comp=Z,2µm,19.9s,baz=270,slow=31
BOSA Boshof 63.72 256 P **P** **05 31 01.4 +0.7**
comp=Z,4.2nm,1.0s,baz=154,slow=6.7,SNR=3.9
BOSA LR LR 05 52 14.9
comp=Z,1µm,21.4s,baz=152,slow=30
comp=Z,4.2nm,1.0s
SUR Sutherland 63.97 250 IAMs_20 IAMs_20 05 53 03.0
comp=Z,1µm,20.0s
SUR Sutherland 63.97 250 P **P** **05 31 01.0 -1.3**
SUR Sutherland 63.97 250 LR LR 05 53 38.5
comp=Z,1µm,18.1s,baz=143,slow=31
LBTB Lobatse 65.98 259 P **P** **05 31 15.4 0.0**
LBTB IAmb IAmb 05 31 25.7
comp=Z,16nm,1.2s
LBTB Lobatse 65.98 259 P **P** **05 31 15.4 0.0**
LBTB pmax pmax
comp=Z,16nm,1.3s
LBTB Lobatse 65.98 259 LR LR 05 54 08.7
comp=Z,1µm,20.6s,baz=140,slow=31
PMSA Palmer Station 66.48 184 LR LR 06 01 13.5
comp=Z,1µm,18.5s,baz=128,slow=37
MATP Matopo 67.31 265 LR LR 05 54 36.4
comp=Z,762nm,20.9s,baz=84,slow=30
CM31 Chiang Mai Arr 67.39 352 P **P** **05 31 23.1 -1.0**
CM31 IAmb IAmb 05 31 34.3
comp=Z,30nm,1.4s
CMAR Chiang Mai Arr 67.39 352 P **P** **05 31 22.4 -1.7**
CMAR Chiang Mai Arr 67.39 352 P **P** **05 31 23.2 -0.8**
comp=Z,3.6nm,0.3s,baz=195,slow=6.0,SNR=11
CMAR LR LR 06 00 23.8
comp=Z,730nm,18.1s,baz=200,slow=36
comp=Z,3.6nm,0.3s
QIZ Qiongzhong 67.64 3 P **P** **05 31 26.1 +0.4**
QIZ S **S** **05 40 24.8 +1.7**
QIZ pmax pmax
comp=Z,620nm,5.9s
QIZ LR LR
comp=Z,770nm,21.9s
QIZ LR LR
comp=Z,710nm,18.5s
QIZ LR LR
comp=Z,930nm,15.1s
CHTO Chiang Mai 67.74 352 IAMs_20 IAMs_20 06 00 33.1
comp=Z,1µm,18.0s
CRAI Chiangrai 69.02 353 P **P** **05 31 33.1 -1.2**
CRAI IAmb IAmb 05 31 44.8
comp=Z,25nm,1.2s
HYB Hyderabad 70.62 331 *e*P **P** **05 31 43.8 -0.5**
HYB *ep*P **sP** **05 31 46.9 +1.2**
HYB *e*S **S** **05 40 58.5 -0.1**
GUMO Guam 70.70 39 LR LR 06 02 31.2
comp=Z,319nm,18.8s,baz=216,slow=36
LSZ Lusaka 71.22 268 P **P** **05 31 47.3 -0.9**
LSZ IAmb IAmb 05 31 54.7
comp=Z,26nm,1.2s
LSZ IAMs_20 IAMs_20 05 57 33.9
comp=Z,1µm,20.0s
LSZ Lusaka 71.22 268 P **P** **05 31 47.3 -0.9**
LSZ pmax pmax
comp=Z,26nm,1.2s
LSZ Lusaka 71.22 268 LR LR 05 58 06.2
comp=Z,1µm,19.8s,baz=148,slow=32
PATS Pohnpei 71.36 55 P **P** **05 31 49.0 +0.1**
baz=71,SNR=3.5
WIN Windhoek 73.18 255 P **P** **05 32 00.1 +0.1**
WIN IAmb IAmb 05 32 12.6
comp=Z,47nm,1.4s
WIN Windhoek 73.18 255 P **P** **05 32 00.1 +0.1**
WIN pmax pmax
comp=Z,47nm,1.4s
KMI Kunming 73.74 356 ⇑P **P** **05 32 03.1 +0.1**
KMI S **SKiKP** **05 41 34.6 +1.6**
KMI pmax pmax
comp=Z,21nm,1.3s
KMI LR LR
comp=Z,890nm,24.3s
KMI LR LR
comp=Z,680nm,18.3s
KMI LR LR
comp=Z,1µm,26.5s
TNCH TengChong 73.93 352 P **P** **05 32 06.0 +1.9**
TNCH S **S** **05 41 38.6 +2.1**
TNCH SS **SS** **05 46 25.8 +4.3**
TNCH pmax pmax
comp=Z,240nm,3.7s
TNCH LR LR
comp=Z,660nm,20.2s
TNCH LR LR
comp=Z,570nm,22.2s
TNCH LR LR
comp=Z,890nm,18.9s
KIBK Kibwezi 74.39 285 P **P** **05 32 06.0 -1.0**
GYA Guiyang 74.98 360 P P 05 32 15.5 +5.4
GYA S **S** **05 41 53.9 +5.8**
GYA SKS **SKSac** **05 42 14.1 -5.2**
GYA pmax pmax
comp=Z,18nm,1.6s
GYA LR LR
comp=Z,970nm,19.4s
GYA LR LR
comp=Z,880nm,20.6s
GYA LR LR
comp=Z,1µm,19.9s
PZH PanZhiHua 75.16 355 P **P** **05 32 13.2 +2.1**
PZH S **S** **05 41 51.3 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,170nm,8.0s
PZH LR LR
comp=Z,740nm,21.9s
PZH LR LR
comp=Z,700nm,19.6s
PZH LR LR
comp=Z,1µm,22.6s
TSUM Tsumeb 75.31 258 P **P** **05 32 12.2 -0.1**
TSUM Tsumeb 75.31 258 IAMs_20 IAMs_20 06 00 36.4
comp=Z,1µm,19.0s
TSUM Tsumeb 75.31 258 LR LR 06 00 56.1
comp=Z,1µm,18.4s,baz=150,slow=32
KMBO Kilima Mbogo 75.82 285 P **P** **05 32 14.6 -0.9**
KMBO Kilima Mbogo 75.82 285 *i* P **P** **05 32 15.1 -0.4**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 75.82 285 P **P** **05 32 15.8 +0.3**
comp=Z,1.1nm,0.3s,baz=89,slow=10,SNR=7.5
KMBO LR LR 05 58 47.9
comp=Z,419nm,20.8s,baz=96,slow=30
comp=Z,1.1nm,0.3s
RAR Rarotonga 76.48 107 LR LR 05 59 00.3
comp=Z,479nm,20.4s,baz=212,slow=30
JOW Kunigami 77.75 20 LR LR 06 07 54.1
comp=Z,262nm,18.7s,baz=174,slow=37
ENH Enshi 78.81 2 IAMs_20 IAMs_20 06 07 50.8
comp=Z,707nm,19.0s
EFI East Falkland 79.01 190 ⇑ *e*P **P** **05 32 33.1 +0.6**
EFI pmax pmax
comp=Z,16nm,1.1s
WHN Wuhan 79.33 7 P P 05 32 40.5 +6.2
LSA Lhasa 79.46 346 IAMs_20 IAMs_20 06 06 55.7
comp=Z,657nm,20.0s
CD2 Chengdu 79.46 357 P **P** **05 32 35.6 +0.5**
CD2 S **S** **05 42 39.2 +2.7**
CD2 pmax pmax
comp=Z,40nm,1.2s
CD2 LR LR
comp=Z,2µm,20.2s
CD2 LR LR
comp=Z,1µm,16.7s
CD2 LR LR
comp=Z,2µm,22.9s
LODK Lodwar 80.51 286 P **P** **05 32 40.8 -0.5**
LODK Lodwar 80.51 286 P **P** **05 32 41.7 +0.4**
SHAO Shalim 80.64 311 P **P** **05 32 41.9 +0.3**
DMTO DMTO 80.72 311 P **P** **05 32 41.9 -0.1**
DMTO P **P** **05 32 41.9 -0.1**
RBK Rabkut 80.91 310 P **P** **05 32 42.4 -0.7**
RBK P **P** **05 32 42.4 -0.7**
TBI Tubuai 81.24 115 *e*LR LR 05 57 56.1
comp=Z,4µm,24.8s
TBI *e*LR LR 05 58 00.4
comp=Z,1µm,25.0s
ABTO Aybut 81.25 309 P **P** **05 32 45.3 +0.3**
ABTO P **P** **05 32 45.3 +0.3**
NJ2 Nanjing 81.26 10 *e*P **P** **05 32 46.2 +1.6**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,500nm,4.1s
WHFO Wadi Hawf 81.48 310 P **P** **05 32 45.2 -1.0**
WHFO P **P** **05 32 45.2 -1.0**
MHTO MHTO 82.04 315 P **P** **05 32 48.4 -0.6**
SNR=8.0
MHTO P **P** **05 32 48.4 -0.6**
SNR=8.0
ATD Arta Tunnel 82.26 297 P **P** **05 32 49.2 -1.2**
ATD IAmb IAmb 05 32 57.9
comp=Z,29nm,1.3s
ATD Arta Tunnel 82.26 297 P **P** **05 32 50.4 0.0**
ATD Arta Tunnel 82.26 297 LR LR 06 02 50.2
comp=Z,24nm,20.4s,baz=146,slow=31
JLN Jalan Bani Buh 82.38 316 P **P** **05 32 50.5 -0.3**
SNR=7.2
JLN P **P** **05 32 50.5 -0.3**
SNR=7.2
XAN Xi'an 82.56 2 ⇑P **P** **05 32 51.8 +0.3**
XAN pmax pmax
comp=Z,12nm,1.4s
XAN LR LR
comp=Z,910nm,13.6s
XAN LR LR
comp=Z,880nm,15.1s
XAN LR LR
comp=Z,2µm,19.2s
WBK Wadi Bani Khal 82.98 316 P **P** **05 32 54.1 +0.1**
SNR=7.1
WBK P **P** **05 32 54.1 +0.1**
SNR=7.1
JMDO Jabal Madar 83.17 316 P **P** **05 32 53.7 -1.2**
JMDO P **P** **05 32 53.7 -1.2**
LYN LuoYang 83.20 5 ⇓P P 05 32 59.2 +4.5
LYN pP pwP 05 33 03.9 +4.3
LYN sP PcP 05 33 06.1 +6.9
LYN pmax pmax
comp=Z,23nm,1.4s
LYN pmax pmax
comp=Z,240nm,6.3s
LYN LR LR
comp=Z,460nm,15.1s
LYN LR LR
comp=Z,680nm,16.3s
LYN LR LR
comp=Z,830nm,21.0s
WSAR Wadi Sarin 83.68 316 P **P** **05 32 56.3 -1.2**
SNR=5.3
WSAR Wadi Sarin 83.68 316 LR LR 06 01 48.5
comp=Z,519nm,21.5s,baz=174,slow=30
SMDO Samad 83.79 316 P **P** **05 32 58.0 -0.1**
SNR=14
SMDO P **P** **05 32 58.0 -0.1**
SNR=14
BSY Bisya 83.91 315 P **P** **05 32 59.6 +0.9**
SNR=10.0
BSY P **P** **05 32 59.6 +0.9**
SNR=10.0
BIDO Bidbid 84.15 316 P **P** **05 33 00.3 +0.4**
SNR=13
BIDO P **P** **05 33 00.3 +0.4**
SNR=13
JNU Nakatsue 84.39 20 LR LR 06 11 47.7
comp=Z,151nm,19.5s,baz=190,slow=37
NGCH Negor - Chabah 84.41 319 P **P** **05 33 02.0 +0.8**
HOQ Hoqain 84.58 315 P **P** **05 33 01.7 -0.4**
SNR=18
HOQ P **P** **05 33 01.7 -0.4**
SNR=18
LZH Lanzhou 84.62 358 *e*P **P** **05 33 03.0 +0.8**
LZH sP pwP 05 33 10.4 +3.3
LZH SKS **SKSac** **05 43 25.9 -0.5**
LZH S **SKKSac** **05 43 30.3 -1.8**
LZH pmax pmax
comp=Z,33nm,1.4s
LZH pmax pmax
comp=Z,360nm,5.5s
LZH LR LR
comp=Z,1µm,18.6s
LZH LR LR
comp=Z,920nm,19.6s
LZH LR LR
comp=Z,2µm,20.6s
ARQ Araqi 84.73 315 P **P** **05 33 03.0 +0.2**
SNR=13
ARQ P **P** **05 33 03.0 +0.2**
SNR=13
TIA Tai'an 85.19 8 P **P** **05 33 05.4 +0.5**
TIA pmax pmax
comp=Z,12nm,1.4s
SOHO SOHO 85.41 315 P **P** **05 33 07.1 +0.9**
SOHO P **P** **05 33 07.1 +0.9**
PPT2 Papeete2 85.55 112 *e*LR LR 06 00 07.1
comp=Z,654nm,27.2s
PPT2 *e*LR LR 06 00 14.2
comp=Z,478nm,31.0s
PPT Papeete 85.56 112 LR LR 06 06 21.5
comp=Z,275nm,19.0s,baz=238,slow=32
ALNE Al Ain 85.71 314 P **P** **05 33 06.5 -1.3**
SNR=7.5
ALNE P **P** **05 33 06.5 -1.3**
SNR=7.5
MZR Muzera 85.91 312 P **P** **05 33 09.1 +0.4**
ASHO Ashiyiah 86.10 315 P **P** **05 33 08.7 -1.0**
SNR=7.7
ASHO P **P** **05 33 08.7 -1.0**
SNR=7.7
HNS HongShan 86.17 6 ⇓P **P** **05 33 10.1 +0.5**
HNS *e*S **S** **05 43 45.2 +0.8**
HNS pmax pmax
comp=Z,26nm,1.2s
HNS LR LR
comp=Z,320nm,21.9s
HNS LR LR
comp=Z,380nm,21.0s
HNS LR LR
comp=Z,500nm,20.2s
HATD Hatta, Dubai 86.19 315 P **P** **05 33 09.6 -0.5**
SNR=16
HATD P **P** **05 33 09.6 -0.5**
SNR=16
UOSS Minazif 86.26 315 P **P** **05 33 09.2 -1.3**
UOSS Minazif 86.26 315 IAMs_20 IAMs_20 06 03 04.9
comp=Z,802nm,22.0s
UOSS Minazif 86.26 315 P **P** **05 33 10.2 -0.3**
UOSS P **P** **05 33 10.2 -0.3**
FAQ Al Faqa, Dubai 86.38 315 P **P** **05 33 10.3 -0.7**
SNR=5.6
FAQ P **P** **05 33 10.3 -0.7**
SNR=5.6
ASUD Al Ashush, Dub 86.40 314 P **P** **05 33 10.9 -0.2**
SNR=5.5
ASUD P **P** **05 33 10.9 -0.2**
SNR=5.5
NAZ Nazwa, Dubai 86.55 315 P **P** **05 33 12.4 +0.6**
SNR=9.1
NAZ P **P** **05 33 12.4 +0.6**
SNR=9.1
MASF Masafi 86.64 315 P **P** **05 33 12.0 -0.3**

SNR=10
MASF P **P** **05 33 12.0 -0.3**
SNR=10
SHME Shamm 87.23 316 P **P** **05 33 19.1 +3.9**
SHME P **P** **05 33 19.1 +3.9**
NIL Nilore 87.44 332 P **P** **05 33 14.4 -1.6**
NIL Nilore 87.44 332 IAMs_20 IAMs_20 06 07 51.8
comp=Z,962nm,20.0s
NIL Nilore 87.44 332 P **P** **05 33 16.2 +0.1**
NIL Nilore 87.44 332 P **P** **05 33 14.4 -1.6**
NIL pmax pmax
comp=Z,87nm,1.1s
INCN Inchon 87.75 16 P **P** **05 33 18.6 +1.2**
KSAR Wonju Array Be 87.94 17 P **P** **05 33 17.0 -1.2**
KSAR Wonju Array Be 87.94 17 P **P** **05 33 17.0 -1.2**
KSRS Korea Array 87.96 17 P **P** **05 33 17.5 -0.8**
comp=Z,0.5nm,0.3s,baz=197,slow=3.8,SNR=1.4
KSRS LR LR 06 11 32.1
comp=Z,186nm,21.6s,baz=205,slow=35
comp=Z,0.5nm,0.3s
GTA Gaotai 88.11 355 *e*P **P** **05 33 18.5 -0.7**
GTA S **S** **05 44 04.4 +1.0**
GTA pmax pmax
comp=Z,12nm,1.4s
GTA LR LR
comp=Z,540nm,23.1s
GTA LR LR
comp=Z,640nm,21.1s
GTA LR LR
comp=Z,900nm,21.9s
BTO Baotou 89.13 2 *e*P **P** **05 33 25.6 +1.6**
BTO pP **pwP** **05 33 30.5 +1.6**
BTO sP **PcP** **05 33 32.8 +7.4**
BTO S **S** **05 44 13.2 +0.3**
BTO SS **SS** **05 50 13.1 +5.5**
BTO pmax pmax
comp=Z,14nm,0.5s
BTO pmax pmax
comp=Z,140nm,5.3s
BTO LR LR
comp=Z,2μm,20.2s
BTO LR LR
comp=Z,1μm,16.6s
BTO LR LR
comp=Z,3μm,21.1s
HHC Hu-ho-hao-te 89.43 4 *e*P **P** **05 33 25.6 +0.2**
HHC pmax pmax
comp=Z,17nm,0.5s
HHC pmax pmax
comp=Z,290nm,4.0s
HHC LR LR
comp=Z,600nm,20.0s
HHC LR LR
comp=Z,610nm,20.3s
HHC LR LR
comp=Z,680nm,19.8s
MJAR Matsushiro Arr 89.49 25 P **P** **05 33 25.3 -0.3**
comp=Z,2.1nm,0.7s,baz=199,slow=6.3,SNR=10
MJAR LR LR 06 16 15.8
comp=Z,87nm,19.3s,baz=201,slow=38
comp=Z,2.1nm,0.7s
MAJO Matsushiro 89.49 25⇑ *e*P **P** **05 33 25.7 +0.1**
MAJO pmax pmax
comp=Z,6.0nm,0.9s
KBL Kabul 89.61 330 P **P** **05 33 25.0 -1.5**
KBL Kabul 89.61 330 P **P** **05 33 26.8 +0.3**
SNR=22
KBL P **P** **05 33 26.8 +0.3**
SNR=22
KBL Kabul 89.61 330 P **P** **05 33 25.0 -1.5**
KBL pmax pmax
comp=Z,48nm,1.2s
PLCA Paso Flores 90.75 182 P **P** **05 33 32.1 +0.1**
PLCA IAmb IAmb 05 33 46.3
comp=Z,20nm,1.4s
PLCA Paso Flores 90.75 182 P **P** **05 33 32.1 +0.1**
PLCA pmax pmax
comp=Z,21nm,1.4s
PLCA Paso Flores 90.75 182 P **P** **05 33 32.6 +0.7**
comp=Z,3.0nm,0.8s,baz=170,slow=4.6,SNR=8.2
PLCA LR LR 06 13 27.7
comp=Z,767nm,19.2s,baz=171,slow=35
comp=Z,3.0nm,0.8s
HRA Herat 91.91 324 P **P** **05 33 35.3 -1.9**
HRA IAmb IAmb 05 33 42.6
comp=Z,17nm,1.1s
KSH Kashi 92.15 337 P **P** **05 33 36.8 -1.3**
KSH sP pwP 05 33 45.7 +2.7
KSH pmax pmax
comp=Z,10.0nm,1.2s
KSH LR LR
comp=Z,600nm,20.8s
KSH LR LR
comp=Z,920nm,21.0s
KSH LR LR
comp=Z,680nm,20.3s
XLT XiLinHaoTe 92.74 7 *e*P **P** **05 33 42.6 +2.0**
XLT pP pwP 05 33 46.8 +1.2
XLT sP sP 05 33 49.5 +7.4
XLT pmax pmax
comp=Z,7.0nm,0.7s
XLT pmax pmax
comp=Z,170nm,4.9s
WMQ Urumqi 93.82 346 *e*P **P** **05 33 44.8 -0.8**
WMQ pmax pmax
comp=Z,21nm,1.1s
WMQ LR LR
comp=Z,600nm,19.9s
WMQ LR LR
comp=Z,500nm,19.9s
WMQ LR LR
comp=Z,450nm,24.7s
MDJ Mudanjiang 95.20 16 P **P** **05 33 53.2 +1.4**
MDJ pmax pmax
comp=Z,7.0nm,2.1s
MDJ pmax pmax
comp=Z,180nm,5.6s
USA0B Ussuriysk Arra 95.27 18 P **P** **05 33 50.5 -1.6**
USA0B Ussuriysk Arra 95.27 18 P **P** **05 33 50.5 -1.6**
USA0B pmax pmax
comp=Z,40nm,1.9s
USRK Ussuriysk Ar. 95.27 18 P **P** **05 33 51.2 -0.9**
USRK Ussuriysk Ar. 95.27 18 P **P** **05 33 51.2 -0.9**
AAK Ala-Archa 95.46 337 P **P** **05 33 51.4 -1.9**
AAK IAmb IAmb 05 33 59.2
comp=Z,10.0nm,1.1s
AAK Ala-Archa 95.46 337 IAMs_20 IAMs_20 06 15 19.2
comp=Z,692nm,19.0s
AAK Ala-Archa 95.46 337 P **P** **05 33 51.4 -1.9**
AAK pmax pmax
comp=Z,10.0nm,1.2s
AAK MLR MLR
comp=Z,700nm,19.0s
AAK Ala-Archa 95.46 337 P **P** **05 33 53.0 -0.2**
comp=Z,1.0nm,0.4s,baz=221,slow=4.5,SNR=7.3
comp=Z,1.0nm,0.4s
SONM Songino Array 96.32 360 P **P** **05 33 56.5 -0.5**
comp=Z,2.2nm,0.8s,baz=171,slow=3.5,SNR=8.0
SONM LR LR 06 19 53.7
comp=Z,548nm,18.0s,baz=178,slow=37
comp=Z,2.2nm,0.8s
ULN Ulaanbaatar 96.35 0 IAMs_20 IAMs_20 06 17 09.7
comp=Z,516nm,20.0s
GEYT Alibeck 96.61 323 P **P** **05 33 58.2 -0.3**
comp=Z,1.8nm,0.5s,baz=184,slow=5.8,SNR=2.6
GEYT LR LR 06 13 56.7
comp=Z,426nm,18.7s,baz=150,slow=33
comp=Z,1.8nm,0.5s
KK31 Karatay Array 96.99 334 P **P** **05 33 58.8 -1.2**
KK31 Karatay Array 96.99 334 P **P** **05 33 58.8 -1.2**
KK31 pmax pmax
comp=Z,4.0nm,1.2s
KKAR Karatay Array 96.99 334 P **P** **05 33 58.3 -1.7**
KKAR Karatay Array 96.99 334 P **P** **05 33 58.3 -1.7**
MKAR Makanchi Array 97.64 343 P Pdif 05 34 03.1 +0.1
comp=Z,0.4nm,0.6s,baz=170,slow=8.8,SNR=2.7
MKAR LR LR 06 13 59.5
comp=Z,372nm,22.0s,baz=181,slow=33
comp=Z,0.4nm,0.6s
MAKZ Makanchi 97.71 343 IAMs_20 IAMs_20 06 14 10.8
comp=Z,577nm,21.0s
RPN Rapa Nui 97.73 148 LR LR 06 09 05.7
comp=Z,474nm,21.6s,baz=202,slow=30
ASAJ Asahikawa 97.76 25 LR LR 06 17 12.2
comp=Z,192nm,21.5s,baz=214,slow=35
TAOE Nuku Hiva Isla 98.06 113 *e*LR LR 06 06 08.9
comp=Z,626nm,23.7s

HIA Hailar 98.38 9 IAMs_20 IAMs_20 06 20 22.8
comp=Z,508nm,21.0s
DGZ Jazzator, Alta 99.60 347⇑ *e*P **Pdif** **05 34 08.8 -2.9**
DGZ pmax pmax
comp=Z,3.0nm,0.9s
CFA Coronel Fontan 99.77 184 LR LR 06 20 16.5
comp=Z,551nm,18.1s,baz=181,slow=36
KLR Kul'dur 100.05 16 LR LR 06 22 10.2
comp=Z,286nm,19.2s,baz=224,slow=37
GHAJ Ghor Haditha 101.94 304 IAMs_20 IAMs_20 06 13 43.4
comp=Z,633nm,19.0s
KURBB Kurchatov Arra 102.04 342 P **Pdif** **05 34 21.8 -0.5**
comp=Z,1.1nm,1.1s,baz=160,slow=4.4,SNR=4.1
KURBB PKiKP **PKiKP** **05 38 47.2 +2.5**
comp=Z,0.2nm,0.4s,baz=170,slow=1.9,SNR=4.0
KURK Kurchatov 102.11 342 IAMs_20 IAMs_20 06 21 17.1
comp=Z,589nm,20.0s
KURK Kurchatov 102.11 342 P **Pdif** **05 34 21.8 -0.8**
H10S2 ASCENSION HYDR 102.98 240 T T 07 30 03.7
baz=141,slow=74,SNR=7.1
H10S3 ASCENSION HYDR 102.99 240 T T 07 30 09.3
baz=79,slow=74,SNR=16
GNI Garni 104.21 316 IAMs_20 IAMs_20 06 16 24.2
comp=Z,533nm,22.0s
MAK Makhachkala 105.23 319 *i* P **Pdif** **05 34 30.5 -6.2**
MAK *e* 05 45 54.1
MAK pmax pmax
comp=Z,154nm,1.0s
CSS Mathiatis 105.93 305 IAMs_20 IAMs_20 06 16 59.0
comp=Z,561nm,19.0s
BRVK Borovoye 106.17 338 IAMs_20 IAMs_20 06 21 02.6
comp=Z,667nm,21.0s
ARPR Arapgir-MALATY 106.46 311 IAMs_20 IAMs_20 06 16 56.9
comp=Z,693nm,20.0s
KIV Kislovodsk 108.15 317 IAMs_20 IAMs_20 06 24 03.5
comp=Z,399nm,19.0s
PETK Petropavlovsk- 110.35 30 PKKPbc PKKPbc 05 49 58.9 -1.8
comp=Z,15nm,1.1s,baz=257,slow=5.9,SNR=3.5
SEY Seymchan 117.14 22⇓ *i*PKIKP **PKiKP** **05 39 14.3 +1.6**
MLR Muntele Rosu 117.40 309 IAMs_20 IAMs_20 06 25 21.7
comp=Z,552nm,20.0s
OBN Obninsk 119.12 322⇓ *i*PKIKP **PKPdf** **05 39 15.7 -1.0**
OBN SSS SSS 06 01 28.0
OBN pmax pmax
comp=Z,10.0nm,0.4s
OBN MLR MLR
comp=Z,506nm,19.0s
GERES GERESS Array B 125.99 305 PKP **PKPdf** **05 39 29.6 -0.7**
comp=Z,0.7nm,0.6s,baz=116,slow=2.3,SNR=2.7
GRB1 Grafenberg Arr 127.41 305 PKIKP **PKiKP** **05 39 37.7 +4.3**
FINES FINESS Array B 127.42 323 PKIKP **PKiKP** **05 39 33.0 0.0**
FINES FINESS Array B 127.42 323 PKP **PKiKP** **05 39 33.0 0.0**
comp=Z,3.2nm,0.9s,baz=51,slow=0.9,SNR=2.3
CLL Collm 127.76 308 *e*SS SS 05 58 48.0 -0.6
CLL *e*SSS SSS 06 03 24.0
CLL AMS AMS 06 39 00.0
comp=Z,200nm,18.7s
O14K Tigyukauivet M 130.96 43 P **PKiKP** **05 39 40.3 +0.2**
baz=241
ESDC Sonseca Array 131.19 287 PKP **PKPdf** **05 39 40.7 +0.2**
comp=Z,0.9nm,0.9s,baz=78,slow=1.6,SNR=2.4
L14K Kuka Creek 131.34 40 P **PKPdf** **05 39 40.5 +0.5**
baz=242
OTAV Otavalo 131.35 173 IAMs_20 IAMs_20 06 34 26.6
comp=Z,416nm,20.0s
PAB San Pablo 131.36 286 IAMs_20 IAMs_20 06 39 35.0
comp=Z,365nm,20.0s
M14K Bethel 131.37 41 P **PKiKP** **05 39 40.9 -0.1**
baz=242
O15K Ungalikthiuk R 131.57 43 P **PKiKP** **05 39 42.4 +1.0**
baz=242
J14K Nanvaranak Lak 131.65 38 P **PKiKP** **05 39 41.9 +0.4**
baz=242
F14K Arctic Creek 131.85 34 P **PKiKP** **05 39 42.5 +0.7**
baz=242
M15K Kasigluk River 131.90 41 P **PKiKP** **05 39 42.6 +0.5**
baz=242
N15K Kwethluk River 131.91 42 P **PKiKP** **05 39 42.0 -0.1**
baz=242
L15K Ungalak Mounta 132.01 40 P **PKiKP** **05 39 41.9 -0.3**
baz=243
P16K Nushagak River 132.34 44 P **PKiKP** **05 39 42.9 0.0**
baz=243
O16K Kokwok River B 132.55 43 P **PKiKP** **05 39 44.2 +0.8**
baz=243
F15K North Star Dit 132.58 34 P **PKiKP** **05 39 43.7 +0.4**
baz=244
N16K Nishlik Lake 132.64 42 P **PKiKP** **05 39 44.3 +0.7**
baz=244
Q16K King Salmon 132.80 45 P **PKiKP** **05 39 44.9 +1.0**
baz=243
M16K Timber Creek 132.80 41 P **PKiKP** **05 39 44.4 +0.5**
baz=244
L16K Owhat River 132.88 40 P **PKiKP** **05 39 44.8 +0.8**
baz=244
Q17K Contact Creek 132.97 46 P **PKiKP** **05 39 44.7 +0.3**
baz=244
H16K Elim 133.02 36 P **PKiKP** **05 39 45.4 +1.2**
baz=245
O17K Koliganek Bris 133.08 44 P **PKiKP** **05 39 45.2 +0.7**
baz=244
P17K Kvichak River 133.13 44 P **PKiKP** **05 39 45.3 +0.7**
baz=244
G16K Koyuk River 133.30 35 P **PKiKP** **05 39 46.1 +1.4**
baz=245
I17K Unalakleet 133.31 37 P **PKiKP** **05 39 45.4 +0.6**
baz=245
R18K Karluk 133.35 47 P **PKiKP** **05 39 45.7 +0.7**
baz=244
N17K Nushagak Hills 133.37 43 P **PKiKP** **05 39 45.7 +0.7**
baz=245
NOA NORSAR Array B 133.43 318 PKP **PKPdf** **05 39 44.7 +0.7**
comp=Z,0.3nm,0.7s,baz=118,slow=3.5,SNR=1.0
C16K Lisburne Hills 133.44 31 P **PKiKP** **05 39 45.6 +0.6**
baz=245
Q18K Katmai Hardscr 133.56 46 P **PKiKP** **05 39 45.7 0.0**
baz=244
L17K Donlin 133.57 40 P **PKiKP** **05 39 45.0 -0.4**
baz=245
M17K Holitna River 133.63 41 P **PKiKP** **05 39 45.7 +0.1**
baz=245
K17K Iditarod 133.81 40 P **PKiKP** **05 39 46.0 +0.1**
baz=246
O18K Kokth Hills 133.98 44 P **PKiKP** **05 39 46.7 +0.4**
baz=245
D17K Noatak River 133.98 32 P **PKiKP** **05 39 46.6 +0.5**
baz=247
G17K Kiwalik Mounta 134.00 35 P **PKiKP** **05 39 46.0 -0.2**
baz=247
N18K Kilae Creek 134.01 43 P **PKiKP** **05 39 45.9 -0.5**
baz=246
H17K Granite Mounta 134.06 36 P **PKPdf** **05 39 45.6 +0.6**
baz=247
F17K Baldwin Pennin 134.14 34 P **PKiKP** **05 39 46.4 0.0**
baz=247
RDOG Red Dog Mine 134.18 32 P **PKiKP** **05 39 46.4 -0.1**
baz=247
E17K Hotham Inlet 134.19 33 P **PKiKP** **05 39 46.7 +0.2**
baz=247
C17K DeLong Mountai 134.26 31 P **PKiKP** **05 39 46.3 -0.3**
baz=247
Q19K Cape Douglas, 134.32 46 P **PKiKP** **05 39 46.8 -0.2**
baz=246
M18K Stony River 134.37 42 P **PKiKP** **05 39 46.7 -0.3**
baz=246
O19K Port Alsworth 134.53 44 P **PKiKP** **05 39 47.2 -0.1**
baz=246
N19K Bonanza Creek 134.70 43 P **PKiKP** **05 39 47.9 0.0**
baz=247
H18K Honhosa River 134.75 36 P **PKiKP** **05 39 47.6 -0.1**
baz=248
E18K Tukpahlearik C 134.75 33 P **PKiKP** **05 39 47.7 +0.1**
baz=248
J18K Innoko River 134.77 39 P **PKiKP** **05 39 47.5 -0.3**
baz=248
Q20K Shuyak Island 134.78 46 P **PKPdf** **05 39 47.0 +0.5**
baz=246
F18K Selawik 134.80 34 P **PKiKP** **05 39 47.9 +0.2**
baz=248
P19K Oil Pt 134.81 45 P **PKiKP** **05 39 47.9 -0.2**
baz=246
TTA Tatalina 134.86 40 P **PKiKP** **05 39 48.0 -0.2**
baz=248
G18K Tagagawik 134.91 35 P **PKiKP** **05 39 48.3 +0.2**
baz=248
C18K Utukok River 135.00 31 P **PKiKP** **05 39 48.3 +0.1**
baz=249
B18K Kokolik River 135.05 30 P **PKiKP** **05 39 48.8 +0.6**
baz=249
L19K White Mountain 135.07 41 P **PKiKP** **05 39 48.5 0.0**
baz=248
M19K Big River Lodg 135.16 42 P **PKiKP** **05 39 48.8 +0.1**
baz=248
GCSA Galena City Sc 135.18 37 P **PKiKP** **05 39 48.9 +0.3**
baz=249
J19K Poorman 135.42 39 P **PKiKP** **05 39 49.6 +0.5**
baz=249
F19K Shaleruckik Mo 135.58 34 P **PKiKP** **05 39 49.6 +0.3**
baz=250
A19K Wainwright 135.58 29 P **PKiKP** **05 39 49.4 +0.1**
baz=251
G19K Purcell Mounta 135.60 35 P **PKiKP** **05 39 49.5 +0.1**
baz=250
L20K Farewell, AK 135.60 41 P **PKiKP** **05 39 49.9 +0.3**
baz=249
H19K Roundabout Mou 135.63 36 P **PKiKP** **05 39 49.9 +0.5**
baz=250
C19K Lookout Ridge 135.70 31 P **PKiKP** **05 39 50.3 +0.7**
baz=251
M20K Styx River 135.71 42 P **PKiKP** **05 39 49.6 -0.3**
baz=249
K20K Telida 135.84 40 P **PKiKP** **05 39 50.1 +0.1**
baz=249
E19K Redstone River 135.99 34 P **PKPdf** **05 39 49.2 +0.7**
baz=251
BRSE Bradley Lake S 136.01 45 P **PKPdf** **05 39 49.6 +0.8**
baz=248
D19K Kuna River 136.01 32 P **PKiKP** **05 39 49.6 -0.7**
baz=251
J20K Nowinta River 136.09 39 P **PKPdf** **05 39 49.7 +0.9**
baz=250
H20K Anotleneega Mo 136.23 37 P **PKiKP** **05 39 50.5 -0.3**
baz=251
F20K Avaraart Lake 136.41 34 P **PKiKP** **05 39 50.5 -0.5**
baz=252
SKT Skwentna 136.45 42 P **PKiKP** **05 39 50.6 -0.7**
baz=250
PPLA Purkeypile 136.48 41 P **PKiKP** **05 39 51.2 -0.3**
baz=250
D20K Etivluk River 136.60 32 P **PKiKP** **05 39 51.6 +0.2**
baz=253
E20K Nigu River 136.61 33 P **PKPdf** **05 39 50.7 +0.9**
baz=253
SUA Susitna One 136.62 43 P **PKPdf** **05 39 50.7 +0.7**
baz=250
CAST Castle Rocks 136.70 40 P **PKiKP** **05 39 51.1 -0.7**
baz=251
SEW Seward 136.75 45 P **PKiKP** **05 39 51.4 -0.4**
baz=250
B20K Meade River 136.79 30 P **PKiKP** **05 39 51.1 -0.6**
baz=254
RC01 Rabbit Creek A 136.96 44 P **PKiKP** **05 39 51.8 -0.5**
baz=250
M22K Willow 137.00 43 P **PKiKP** **05 39 51.6 -0.7**
baz=251
G21K Allakaket 137.09 35 P **PKPdf** **05 39 51.5 +0.9**
baz=253
H21K Melozitna Rive 137.10 37 P **PKPdf** **05 39 51.6 +0.9**
baz=253
CUT Chulitna 137.15 42 P **PKPdf** **05 39 51.4 +0.6**
baz=251
F21K Alatna River 137.30 34 P **PKPdf** **05 39 51.1 +0.1**
baz=254
A21K Barrow 137.32 28 P **PKPdf** **05 39 51.7 +0.8**
baz=256
C21K Knifeblade Rid 137.36 32 P **PKPdf** **05 39 51.7 +0.6**
baz=255
BPAW Bear Paw Mtn. 137.38 39 P **PKPdf** **05 39 51.5 +0.2**
baz=252
PMR Palmer 137.40 43 P **PKPdf** **05 39 51.3 0.0**
baz=251
E21K Killik River 137.46 33 P **PKPdf** **05 39 52.0 +0.7**
baz=255
TRF Thorofare Moun 137.47 40 P **PKPdf** **05 39 52.6 +1.0**
baz=252
PWL Port Wells 137.52 44 P **PKiKP** **05 39 53.2 -0.3**
baz=251
B21K Ikpikpuk River 137.54 31 P **PKiKP** **05 39 53.1 -0.2**
baz=255
KNK Knik Glacier 137.65 44 P **PKPdf** **05 39 52.1 +0.3**
baz=252
H22K Ishtalitna Cre 137.74 37 P **PKPdf** **05 39 52.7 +0.9**
baz=254
MLY Manley 137.75 38 P **PKPdf** **05 39 52.4 +0.4**
baz=254
A22K Sinclair Lake 137.76 29 P **PKPdf** **05 39 51.3 -0.3**
baz=257
SML Sawmill 137.83 43 P **PKPdf** **05 39 52.3 +0.1**
baz=252
F22K John River 137.86 34 P **PKPdf** **05 39 52.3 +0.3**
baz=255
G22K Bettles 137.96 35 P **PKPdf** **05 39 52.0 -0.1**
baz=255
D22K Ayikyak River 138.02 32 P **PKPdf** **05 39 52.6 +0.3**
baz=256
WAT1 Susitna Watana 138.04 42 P **PKPdf** **05 39 52.7 +0.2**
baz=253
M23K Glacier View 138.10 43 P **PKPdf** **05 39 53.0 +0.4**
baz=252
GLI Glacier Island 138.10 45 P **PKPdf** **05 39 53.4 +0.7**
baz=252
B22K Teshekpuk Lake 138.11 30 P **PKPdf** **05 39 52.9 +0.6**
baz=257
MCK McKinley 138.13 40 P **PKPdf** **05 39 52.9 +0.2**
baz=254
E22K Anaktuvuk Pass 138.15 33 P **PKPdf** **05 39 53.4 +0.8**
baz=256
SCM Sheep Creek Mo 138.29 43 P **PKPdf** **05 39 53.0 0.0**
baz=253
NEA2 Nenana 138.32 39 P **PKPdf** **05 39 53.7 +0.7**
baz=254
WAT6 Susitna Watana 138.32 42 P **PKPdf** **05 39 53.7 +0.5**
baz=253
I23K Minto, Yukon-K 138.34 38 P **PKPdf** **05 39 53.8 +0.9**
baz=255
G23K Bananza Creek 138.48 36 P **PKPdf** **05 39 53.7 +0.5**
baz=256
COLD Coldfoot 138.53 35 P **PKPdf** **05 39 53.8 +0.6**
baz=256
DHY Denali Highway 138.62 42 P **PKPdf** **05 39 54.0 +0.3**
baz=254
D23K Nanushuk River 138.75 32 P **PKPdf** **05 39 54.2 +0.6**
baz=258
KLU Klutina 138.83 44 P **PKPdf** **05 39 54.7 +0.6**
baz=253
E23K Chandalar 138.94 34 P **PKPdf** **05 39 54.6 +0.5**
baz=258
C23K Itkillik River 138.95 31 P **PKPdf** **05 39 54.4 +0.5**
baz=259
TOLK Toolik Lake Re 139.08 33 P **PKPdf** **05 39 55.0 +0.7**
baz=259
H24K Noodor Dome 139.12 37 P **PKPdf** **05 39 54.8 +0.4**
baz=257
ILAR Eielson Array 139.27 39 PKhKP PKPpre 05 39 49.7
comp=Z,2.1nm,1.1s,baz=263,slow=3.8,SNR=6.9
ILAR PKP pPKPdf 05 39 55.6 -0.2
comp=Z,3.4nm,0.9s,baz=279,slow=3.2,SNR=14
BMRM Bremner River 139.29 45 P **PKPdf** **05 39 55.4 +0.5**
baz=254
E24K Your Creek 139.36 34 P **PKiKP** **05 39 56.1 -1.0**
baz=259
HARP HAARP 139.43 43 P **PKPdf** **05 39 56.3 +1.2**
baz=255
PAX Paxson 139.44 42 P **PKPdf** **05 39 55.9 +0.8**
baz=255
G24K Hadweenzic Riv 139.46 36 P **PKPdf** **05 39 56.2 +1.2**
baz=258
N25K Chitina, Valde 139.47 44 P **PKPdf** **05 39 56.4 +1.1**
baz=254
F24K Squaw Lake 139.47 35 P **PKPdf** **05 39 56.1 +1.1**
baz=259
K24K Donnelly Dome 139.51 41 P **PKPdf** **05 39 56.4 +1.2**
baz=256
C24K Franklin Bluff 139.58 31 P **PKPdf** **05 39 55.7 +0.6**
baz=261
BGLC Bering Glacier 139.68 47 P **PKiKP** **05 39 57.0 -0.8**
baz=254
J25K Salcha River, 139.87 40 P **PKPdf** **05 39 55.9 0.0**
baz=257
G25K Bearman Lake 140.01 36 P **PKPdf** **05 39 56.1 +0.2**
baz=259
H25L Birch Creek 140.03 37 P **PKPdf** **05 39 56.2 +0.3**
baz=259
MCARA McCarthy VSAT 140.14 45 P **PKPdf** **05 39 56.3 0.0**
baz=255
SCRK Sand Creek 140.32 41 P **PKPdf** **05 39 56.5 -0.2**
baz=258

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
F25K	Christian Rive	140.33	35	P	PKPdf	05 39 56.5	-0.1
	baz=261						
L26K	Log Cabin Wild	140.39	42	P	PKPdf	05 39 56.6	-0.2
	baz=257						
M26K	Nabesna, AK	140.40	43	P	PKPdf	05 39 56.0	-0.9
	baz=257						
E25K	Arctic Village	140.44	34	P	PKPdf	05 39 56.4	-0.4
	baz=261						
J26L	Joseph Creek	140.61	40	P	PKPdf	05 39 57.1	-0.1
	baz=259						
C26K	Camden Bay	140.91	31	P	PKPdf	05 39 57.6	+0.1
	baz=264						
F26K	Sheenjek River	140.91	35	P	PKPdf	05 39 56.6	-1.0
	baz=262						
I26K	Coal Creek Min	140.93	39	P	PKPdf	05 39 57.4	-0.3
	baz=260						
G26K	Porcupine Rive	140.94	36	P	PKPdf	05 39 57.6	0.0
	baz=262						
L27K	Beaver Creek,	141.07	42	P	PKPdf	05 39 58.0	-0.1
	baz=258						
K27K	Chicken	141.15	41	P	PKPdf	05 39 58.5	+0.4
	baz=259						
O28M	Mount Upton	141.33	46	P	PKPdf	05 39 58.5	-0.4
	baz=257						
BVCY	Beaver Creek	141.38	44	P	PKPdf	05 39 58.8	+0.2
	baz=258						
YUK3	Moose Creek	141.43	45	P	PKPdf	05 39 59.3	+0.3
	baz=258						
I27K	Kandik River	141.61	38	P	PKPdf	05 39 59.3	+0.4
	baz=262						
YUK8	Steele Glacier	141.65	46	P	PKPdf	05 39 59.4	0.0
	baz=258						
EGAK	Eagle	141.68	40	P	PKPdf	05 39 60.0	+1.0
	baz=261						
H27K	Steamboat Moun	141.74	37	P	PKPdf	05 39 59.8	+0.7
	baz=262						
G27K	Doyon Strip	141.76	37	P	PKPdf	05 39 59.9	+0.7
	baz=263						
E27K	Coleen River	141.93	34	P	PKPdf	05 39 59.6	+0.2
	baz=265						
YUK4	Talbot Arm	142.19	46	P	PKPdf	05 40 00.3	0.0
	baz=259						
D27M	Malcolm River	142.24	33	P	PKPdf	05 40 00.4	+0.4
	baz=267						
YUK6	Outpost Mounta	142.24	46	P	PKPdf	05 40 00.4	0.0
	baz=258						
P29M	Windy Craggy	142.26	49	P	PKPdf	05 40 00.5	+0.2
	baz=257						
I28M	Miner Creek	142.28	39	P	PKPdf	05 40 00.7	+0.5
	baz=263						
DAWY	Dawson	142.32	41	P	PKPdf	05 40 00.9	+0.6
	baz=262						
M29M	Somme Creek	142.48	44	P	PKPdf	05 40 01.7	+1.0
	baz=260						
F28M	Old Crow	142.53	35	P	PKPdf	05 40 01.5	+1.0
	baz=266						
HYT	Haines Junctio	142.63	47	P	PKPdf	05 40 01.7	+0.7
	baz=259						
E28M	Babbage River	142.72	34	P	PKPdf	05 40 01.8	+1.0
	baz=267						
SCZ2	Santa Cruz Isl	142.73	96	P	PKPdf	05 40 01.6	-0.4
	baz=232						
L29M	L29M	142.74	43	P	PKPdf	05 40 02.1	+1.1
	baz=261						
P30M	Million Dollar	142.75	48	P	PKPdf	05 40 02.2	+1.1
	baz=258						
NOR	Nord	142.79	348	*i* P	PKPdf	05 39 56.4	-4.2
SIT	Sitka	142.88	53	P	PKPdf	05 40 01.9	+0.6
	baz=256						
N30M	Aishikik Lake	142.94	46	P	PKPdf	05 40 01.9	+0.5
	baz=260						
I29M	Ogilvie Camp,	142.95	39	P	PKPdf	05 40 02.5	+1.1
	baz=264						
H29M	Whitestone	143.01	38	P	PKPdf	05 40 01.5	+0.1
	baz=265						
D28M	Stokes Point	143.03	33	P	PKPdf	05 40 02.0	+0.7
	baz=269						
K29M	Barlow Dome	143.11	42	P	PKPdf	05 40 02.5	+0.7
	baz=263						
PKM	Mcpherson Peak	143.15	95	P	PKPdf	05 40 02.5	-0.3
	baz=233						
G29M	Pine Creek	143.20	37	P	PKPdf	05 40 02.9	+1.2
	baz=266						
M30M	Minto, Yukon	143.26	44	P	PKPdf	05 40 03.2	+1.3
	baz=262						
SMMC	Simmler	143.28	94	P	PKPdf	05 40 02.6	-0.2
	baz=234						
O30N	Mendenhall	143.30	47	P	PKPdf	05 40 02.7	+0.6
	baz=260						
E29M	Blow River	143.31	34	P	PKPdf	05 40 02.8	+1.0
	baz=268						
S32K	Killisnoo	143.38	53	P	PKPdf	05 40 03.3	+1.1
	baz=256						
N31M	Braeburn, Yuko	143.57	46	P	PKPdf	05 40 02.2	-0.3
	baz=261,SNR=9.2						
R32K	Eaglecrest	143.59	51	P	PKPdf	05 40 02.8	+0.2
	baz=258						
EPYK	Eagle Plains	143.68	38	P	PKPdf	05 40 02.8	+0.2
	baz=267						
J30M	Hart River	143.71	41	P	PKPdf	05 40 02.7	-0.1
	baz=265						
I30M	Mount Dempster	143.75	40	P	PKPdf	05 40 02.6	-0.3
	baz=266						
MAYO	Mayo, Yukon	143.80	42	P	PKPdf	05 40 02.5	-0.4
	baz=264,SNR=7.1						
WHY	Whitehorse	143.87	47	P	PKPdf	05 40 03.5	+0.3
	baz=261,SNR=5.4						
G30M	tAoh Zraii Nji	143.91	37	P	PKPdf	05 40 02.4	-0.6
	baz=268						
MURC	Murrieta	144.08	99	P	PKPbc	05 40 03.3	+1.0
	baz=232						
F30M	Barrier River	144.09	35	P	PKPbc	05 40 02.3	+1.0
	baz=269						
BFSC	Mount Baldy Ra	144.17	97	P	PKPbc	05 40 03.3	+0.6
	baz=232,SNR=7.6						
IKP	In-Ko-Pah, Jac	144.19	101	P	PKPbc	05 40 03.6	+0.8
	baz=230						
VES	Vestal, Richgr	144.19	94	P	PKPdf	05 40 03.9	-0.5
	baz=234						
P32M	Atlin	144.26	49	P	PKPdf	05 40 04.2	+0.4
	baz=260,SNR=5.2						
WRAK	Wrangell Islan	144.32	55	P	PKPdf	05 40 03.8	-0.1
	baz=257						
M31M	Drury Creek, Y	144.32	45	P	PKPdf	05 40 03.9	+0.1
	baz=263,SNR=6.1						
EDW2	Edwards Air Fo	144.34	96	P	PKPbc	05 40 04.1	+0.9
	baz=233,SNR=7.5						
V35K	Ketchikan	144.46	57	P	PKPab	05 40 02.6	+0.1
	baz=256						
ISA	Isabella, Lake	144.49	95	P	PKPab	05 40 03.7	+0.3
	baz=234,SNR=5.2						
PFO	Pinyon Flats O	144.57	99	P	PKPab	05 40 03.9	+0.1
	baz=231,SNR=18						
PFO	Pinyon Flats O	144.57	99	⇓*e*PKIKP	PKPbc	05 40 05.0	+1.0
TPFO	Pinon Flats	144.57	99	P	PKPab	05 40 03.2	-0.6
	baz=231,SNR=19						
SWSC	Sam W. Stewart	144.58	101	P	PKPbc	05 40 04.5	+0.6
	baz=230						
H31M	Peel River	144.63	39	P	PKPdf	05 40 04.1	-0.2
	baz=268						
PMD	Palm Desert	144.65	99	PKPdf	PKPbc	05 40 04.7	+0.6
ORV	Oroville	144.65	87	PKPdf	PKPab	05 40 03.5	-0.3
ORV	Oroville	144.65	87	PKIKP	PKPab	05 40 03.5	-0.3
BBRC	Big Bear Solar	144.67	98	P	PKPab	05 40 04.1	-0.2
	baz=232,SNR=5.8						
G31M	Satah River	144.68	37	PKPdf	PKPab	05 40 02.9	0.0
G31M	Satah River	144.68	37	P	PKPbc	05 40 03.5	+0.4
	baz=270,SNR=67						
AFDM	Forest Hills D	144.68	88	PKPdf	PKPbc	05 40 04.3	+0.3
P33M	Teslin, Yukon	144.81	48	P	PKPbc	05 40 04.4	+0.5
	baz=262						
N32M	Quiet Lake	144.81	47	P	PKPbc	05 40 04.1	+0.3
	baz=263						
FARO	Faro, Yukon	144.81	45	P	PKPbc	05 40 04.1	+0.3
	baz=264,SNR=53						
Q32M	Nakina River	144.88	51	P	PKPbc	05 40 04.3	0.0
	baz=260						
F31M	Tsiigehtchic	144.88	36	P	PKPab	05 40 03.5	-0.3
	baz=271,SNR=94						
LRMC	Laurel Mtn Rad	144.90	96	P	PKPab	05 40 04.9	-0.1
	baz=234,SNR=7.0						
INK	Inuvik	144.94	34	P	PKPbc	05 40 03.9	0.0
	baz=272,SNR=47						
INK	Inuvik	144.94	34	PKP	PKPab	05 40 03.4	-0.5
	comp=Z,31nm,1.1s,baz=247,slow=2.9,SNR=45						
DAG	Danmarks Havn	144.99	341	*i* P	PKPab	05 40 01.3	-2.6
HSIG		145.03	111	PKPbc	PKPbc	05 40 03.9	-1.6
BELC	Belle Mtn. Jos	145.11	99	P	PKPbc	05 40 05.6	-0.2
	baz=232,SNR=73						
CWC	Cottonwood Cre	145.20	94	P	PKPdf	05 40 06.8	+0.5
	baz=235						
BC3	Big Chuckawall	145.25	100	P	PKPbc	05 40 06.0	-0.2
	baz=231,SNR=48						
GLA	Glamis	145.28	101	P	PKPbc	05 40 06.2	0.0
	baz=230						
S34M	Telegraph Cree	145.28	53		PKPbc	05 40 04.5	-0.8
S34M	Telegraph Cree	145.28	53	P	PKPdf	05 40 06.2	+0.6
	baz=260,SNR=6.5						
MPMC	Manual Prospec	145.37	95	P	PKPbc	05 40 06.5	-0.1
	baz=234,SNR=45						
GSC	Goldstone, Bar	145.37	97	P	PKPbc	05 40 06.6	+0.1
	baz=233,SNR=51						
MLAC	Mammoth, Mammo	145.38	92	P	PKPab	05 40 07.6	+0.8
	baz=236,SNR=5.4						
HEC	Hector,Ludlow	145.40	98	P	PKPab	05 40 07.8	+1.1
	baz=233,SNR=75						
TIN	Tinemaha, Big	145.45	93	P	PKPab	05 40 07.6	+0.6
	baz=236						
U35K	Hyder	145.47	56	P	PKPab	05 40 06.9	+0.7
	baz=257						
T35M	Bob Quinn	145.57	54	P	PKPab	05 40 08.0	+1.3
	baz=259,SNR=10						
R33M	Jennings River	145.61	50	P	PKPab	05 40 08.4	+1.5
	baz=262						
IRM	Iron Mountain	145.76	100	P	PKPab	05 40 09.3	+1.2
	baz=232,SNR=32						
GMRC	Granite Mounta	145.81	98	P	PKPab	05 40 09.9	+1.5
	baz=233,SNR=27						
214A	Organ Pipe Nat	145.87	105	P	PKPab	05 40 09.8	+1.3
	baz=229,SNR=24						
DLBC	Dease Lake	145.95	52	P	PKiKP	05 40 09.8	-1.2
	baz=261,SNR=7.0						
DLBC	Dease Lake	145.95	52	PKPbc	PKPbc	05 40 07.5	0.0
	comp=Z,6.1nm,1.0s,baz=239,slow=4.8,SNR=6.4						
GRAC	Grapevine Rang	145.99	94	P	PKPab	05 40 10.1	+1.3
	baz=235,SNR=42						
FURC	Furnace Creek,	146.02	95	P	PKPab	05 40 10.0	+1.1
	baz=235,SNR=47						
TUQ	Turquoise Moun	146.03	97	P	PKPab	05 40 10.2	+1.1
	baz=233,SNR=19						
NVAR	Mina Array Bea	146.16	91	PKPbc	PKPab	05 40 10.2	+0.5
	comp=Z,16nm,0.8s,baz=221,slow=5.7,SNR=95						
DBG	Daneborg	146.19	337	*i* P	PKPdf	05 40 06.4	-0.3
NEE2	Needles Airpor	146.48	99	P	PKPab	05 40 10.8	+0.1
	baz=232						
PDMCI	Parker Dam,Lak	146.51	100	P	PKPab	05 40 10.9	0.0
	baz=232,SNR=6.8						
TPNV	Topopah Spring	146.70	95	P	PKPab	05 40 11.8	0.0
	baz=235						
WTLY	Watson Lake, Y	146.79	49	P	PKPab	05 40 11.1	-0.2
	baz=264,SNR=34						
A36M	Sachs Harbour	147.13	27	P	PKPab	05 40 11.5	-0.6
	baz=286						
TGTN	Hyland Airport	147.15	46	P	PKPbc	05 40 11.8	+0.8
	baz=267,SNR=23						
TUC	Tucson	147.39	106	P	PKPbc	05 40 12.2	-0.4
	baz=228						
R11B	Troy Canyon, C	147.91	93	P	PKPbc	05 40 13.4	-0.5
	baz=237						
LIRD	Liard River Hi	148.09	51	P	PKPbc	05 40 13.4	-0.1
	baz=266						
C36M	Paulatuk	148.19	31	P	PKPbc	05 40 13.1	-0.3
	baz=284						
SMRT	St. Maarten	148.19	198	IAMs_20	IAMs_20	06 35 50.8	
	comp=Z,358nm,22.0s						
SJG	San Juan	148.80	193	IAMs_20	IAMs_20	06 44 04.9	
	comp=Z,417nm,21.0s						
WUAZ	Wupatki	149.05	101	P	PKPbc	05 40 16.2	-0.7
	baz=233						
KOTAN	Kotaneelee Air	149.16	49	P	PKPbc	05 40 16.1	-0.1
	baz=268						
WRGLY	Wrigley	149.38	43	P	PKPbc	05 40 16.7	+0.1
	baz=274						
121A	Cookes Peak, D	149.42	109	P	PKPbc	05 40 17.9	-0.1
	baz=228,SNR=16						
121A	Cookes Peak, D	149.42	109	P	PKiKP	05 40 19.3	+0.2
	baz=228						
FLDN	Fort Liard	149.45	49	P	PKiKP	05 40 17.6	-0.4
	baz=269						
TX31	Lajitas Ar. Si	149.63	119	P	PKPbc	05 40 19.4	+0.9
	baz=222						
TXAR	Lajitas Array	149.63	119	PKPbc	PKPbc	05 40 19.0	+0.5
	comp=Z,5.8nm,0.8s,baz=201,slow=5.8,SNR=38						
W18A	Petrified Fore	149.86	103	P	PKPbc	05 40 19.7	+0.7
	baz=232						
NEEM	North Greenlan	150.07	351	*i* P	PKPbc	05 40 17.6	-0.8
MNTX	Cornudas Mount	150.33	113	P	PKiKP	05 40 21.0	+0.2
	baz=225,SNR=39						
MNTX	Cornudas Mount	150.33	113	P	PKiKP	05 40 21.0	+0.2
	baz=225						
DUG	Dugway, Tooele	150.71	92	P	PKiKP	05 40 22.0	+0.5
	baz=240						
Y22A	Socorro	150.87	108	P	PKPbc	05 40 21.9	+0.5
	baz=229						
Y22F	Passcal Instru	150.98	108	P	PKiKP	05 40 23.2	+1.0
	baz=229						
NEW	Newport	151.20	74	P	PKiKP	05 40 22.4	+0.4
	baz=252						
HLID	Hailey	151.23	85	P	PKiKP	05 40 23.4	+0.9
	baz=245						
833A	Chaparral WMA,	151.24	126	P	PKPbc	05 40 22.6	+0.4
	baz=217						
SUMG	Summit	151.60	339	*i* P	PKPbc	05 40 21.8	-0.4
ANMO	Albuquerque	151.84	107	P	PKPbc	05 40 24.0	+0.4
	baz=230						
ANMO	Albuquerque	151.84	107	P	PKPbc	05 40 23.4	-0.3
	baz=230						
MVCO	Mesa Verde	151.92	101	P	PKPbc	05 40 24.0	+0.2
	baz=234						
RES	Resolute Bay	152.49	12	PKPbc	PKPbc	05 40 23.0	-0.6
	comp=Z,10.0nm,0.9s,baz=330,slow=1.7,SNR=17						
JCT	Junction City	152.69	122	P	PKPbc	05 40 24.7	-0.8
	baz=220						
JCT	Junction City	152.69	122	P	PKPbc	05 40 24.2	-1.3
	baz=220						
MSO	Missoula	152.78	79	P	PKPbc	05 40 24.0	-1.3
	baz=251						
S22A	4UR Ranch, Cre	153.31	102	P	PKPbc	05 40 24.9	-2.1
	baz=235						
MSTX	Muleshoe	153.48	113	P	PKPbc	05 40 25.1	-2.1
	baz=227						
MSTX	Muleshoe	153.48	113	P	PKPbc	05 40 25.7	-1.5
	baz=227						
YKA	Yellowknife Ar	153.50	44	PKPbc	PKPbc	05 40 25.6	-0.6
	comp=Z,1.6nm,0.8s,baz=290,slow=2.4,SNR=10						
O20A	White River Ci	153.69	96	P	PKPbc	05 40 26.3	-1.3
	baz=239						
BOZ	Bozeman (W)	153.86	83	P	PKPbc	05 40 26.8	-0.9
	baz=249						
ICESG	Greenland Ices	153.97	333	*e*P	PKPbc	05 40 26.6	-0.8
BW06	Boulder Array	154.09	90	P	PKPbc	05 40 26.7	-1.8
	baz=244						
PDAR	Pinedale Array	154.09	90	PKP	PKPdf	05 40 21.4	+1.1
	comp=Z,2.7nm,0.9s,baz=246,slow=1.5,SNR=13						
H17A	Grant Village	154.10	86	P	PKPbc	05 40 27.4	-1.0
	baz=247						
SDCO	Great Sand Dun	154.16	103	P	PKPbc	05 40 27.0	-1.8
	baz=234						
ABTX	Abilene, Hawle	154.38	119	P	PKPbc	05 40 27.3	-1.8
	baz=223						
ABTX	Abilene, Hawle	154.38	119	P	PKPbc	05 40 27.4	-1.7
	baz=223						
AMTX	Amarillo	154.76	113	P	PKPbc	05 40 28.3	-1.7
	baz=228						
RLMT	Red Lodge	155.24	85	P	PKPdf	05 40 29.1	+7.3
	baz=248						
ISCO	Idaho Springs	155.24	99	P	PKPdf	05 40 29.9	+7.8
	baz=238						
ULM	Lac du Bonnet	165.20	76	PKP	PKPdf	05 40 32.0	-0.4
	comp=Z,7.0nm,1.0s,baz=113,slow=2.5,SNR=4.0						

TEH 01 05:25:48.7, 30°.78N×57°.41E, h10km, ML2.7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.78	285	Pg	Pb	05 26 05.1	+0.6
KHGB	Koh Gabri	0.90	244	Pg	Pg	05 26 05.7	-0.4
KHGB	Koh Gabri	0.90	244	Pg	Pg	05 26 05.7	-0.4
CHMN	Cheshme madani	0.92	173	Pg	Pg	05 26 06.5	+0.1
CHMN	Cheshme madani	0.92	173	Pg	Pg	05 26 06.6	+0.1
TVBK	TV Kerman	0.97	216	Pg	Pn	05 26 08.3	-0.4
TVBK	TV Kerman	0.97	216	Pg	Pb	05 26 07.9	+0.1
NGRK	Negar Kerman	1.27	208	Pg	Pg	05 26 13.7	+0.5
IBAF	Bafgh	1.78	298	Pg	Pg	05 26 22.8	0.0
IBAF	Bafgh	1.78	298	Pg	Pb	05 26 22.1	+0.7
BSRN	Basiran	1.89	51	Pn	Pg	05 26 25.0	+0.1

IDC 01 05:38:36.5±0.6, 29°.83N×143°.24E, h0km, mb4.1/22, mbtmp4.1/25, ML3.6/3, Error ellipse: s-maj=19.9km s-min=14.7km az=60.0

MOS 01 05:38:37.2±1.3, 29°.94N×143°.16E, h17km, mb4.4/8, Error ellipse: s-maj=18.2km s-min=7.1km az=116.3

NEIC 01 05:38:38.9±1.1, 29°.78N±0°.02×143°.2E±0°.2, h10km±5km, mb4.4/20, Error ellipse: s-maj=20.6km s-min=2.8km az=84.0

JMA 01 05:38:40.1±0.4, 29°.8N±0°.8×14°3E±°, h53km, MV4.5/34, NEAR TORISHIMA IS

ISC 01 05:38:37.9±0.5, 29°.81N±0°.04×143°.08E±0°.09, h10km, n99, σ1s.82/109, mb4.3/38, 3C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.82	196	P	Pn	05 39 23.0	+0.1
CBIJ				S	Sn	05 39 53.5	-3.5
JCJ	Chichijima	2.82	196		Pn	05 39 23.0	+0.1
JCJ	Chichijima	2.82	196	Pn	Pn	05 39 19.6	-3.4
	89nm,0.3s,baz=19,slow=11,SNR=144						
JCJ				Sn	Sn	05 39 49.4	-7.6
	113nm,0.3s,baz=93,slow=24,SNR=13						
JHH2	Haha-jima-NKT2	3.26	194	*e*P	Pn	05 39 29.6	+0.5
JHH2				S	Sn	05 40 05.5	-2.5
JHJ2	Mitsune	4.32	321	Pn	Pn	05 39 44.7	+1.1
JHJ2	Mitsune	4.32	321	S	Sn	05 40 31.7	-2.3
JHJ	Hachijo jima 2	4.34	320	Pn	Pn	05 39 44.7	+0.8
	12nm,0.3s,baz=85,slow=12,SNR=1.8						
JHJ				Sn	Sn	05 40 31.3	-3.3
	43nm,0.3s,baz=115,slow=23,SNR=5.6						
	187nm,1.1s						
BSO1	Boso 1	5.15	340	P	Pn	05 39 55.1	+0.5
BSO1				S	Sn	05 40 51.7	-2.1
BSO2	Boso 2	5.31	339	*e*S	Sn	05 40 57.8	-0.2
BSO3	Boso 3	5.43	337	*e*P	Pn	05 39 59.0	+0.3
BSO3				*e*S	Sn	05 40 58.3	-2.8
BSO4	Boso 4	5.66	337	P	Pn	05 40 03.0	+1.0
JOD2	Odawara 2	6.40	329	*e*S	Sn	05 41 20.2	-5.1
JHU	Hanno	6.82	333	P	Pn	05 40 19.4	+1.4
JHO	Hitachi	7.10	343	P	Pn	05 40 21.2	-0.7
JRY	Ryogami san	7.12	332	P	Pn	05 40 23.7	+1.5
JAG	Ashikaga	7.26	336	P	Pn	05 40 24.9	+0.8
JFK	Kawauchi	7.76	347	P	Pn	05 40 29.9	-1.0
JFK				*e*S	Sn	05 41 51.1	-7.7
MJAR	Matsushiro Arr	7.86	330	Pn	Pn	05 40 32.4	+0.2
	0.4nm,0.3s,baz=157,slow=12,SNR=7.1						
MJAR				Sn	Sn	05 41 57.6	-3.6
	0.4nm,0.3s,baz=123,slow=26,SNR=7.4						
	2.5nm,0.4s						
MAJO	Matsushiro	7.86	330	Pn	Pn	05 40 33.8	+1.5
MAJO	Matsushiro	7.86	330	*i* P	Pn	05 40 32.6	+0.3
MJB9	Matsu-Tunnel	7.86	330	Pn	Pn	05 40 33.7	+1.3
JMM	Marumori	8.26	347		Pn	05 40 37.6	-0.1
JMK	Ichinoseki	9.25	351	P	Pn	05 40 49.8	-1.5
JMK				*e*S	Sn	05 42 26.1	-9.4
ERM	Erimo	12.18	0	Pn	Pn	05 41 29.1	-2.3
ERM	Erimo	12.18	0	*i* P	Pn	05 41 28.8	-2.6
JCH	Churui	12.78	1	P	Pn	05 41 36.9	-2.8
JCH				*e*S	Sn	05 43 48.0	-14
ASAJ	Asahikawa	14.29	359	P	Pn	05 41 59.1	-1.1
JKA	Kamikawa-asahi	14.29	359	Pn	Pn	05 41 59.1	-1.1
KSRS	Korea Array	14.74	305	Pn	Pn	05 42 08.1	+1.7
	0.6nm,0.3s,baz=109,slow=13,SNR=4.6						
	1.1nm,0.3s						
KLR	Kul'dur	21.23	339	*e*P	P	05 43 21.8	-2.1
KLR				pmax	pmax		
	comp=Z,18nm,3.3s						
KLR	Kul'dur	21.23	339	P	P	05 43 26.2	+2.3
	comp=Z,3.1nm,0.7s,baz=146,slow=8.1,SNR=11						
	comp=Z,3.1nm,0.7s						
ULN	Ulaanbaatar	32.97	313	P	P	05 45 13.0	0.0
ULN				IAmb	IAmb	05 45 18.3	
	comp=Z,3.9nm,0.7s						
ULN	Ulaanbaatar	32.97	313	P	P	05 45 13.0	0.0
ULN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SONM	Songino Array	33.38	313	P	P	05 45 18.4	+1.9
SONM				IAmb	IAmb	05 45 19.6	
	comp=Z,4.9nm,1.4s						
SONM	Songino Array	33.38	313	P	P	05 45 18.4	+1.9
SONM				pmax	pmax		
	comp=Z,5.0nm,1.4s						
SONM	Songino Array	33.38	313	P	P	05 45 18.4	+1.9
	comp=Z,1.9nm,0.8s,baz=105,slow=6.3,SNR=11						
	comp=Z,1.9nm,0.8s						
DGZ	Jazzator, Alta	46.01	312	*i* P	P	05 47 02.0	+0.4
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZALV	Zalesovo Beam	48.00	317	P	P	05 47 18.9	+2.1
ZALV	Zalesovo Beam	48.00	317	P	P	05 47 16.9	+0.1
	comp=Z,0.8nm,0.6s,baz=108,slow=9.3,SNR=5.3						
ZALV				PcP	PcP	05 48 44.5	-0.3
	comp=Z,1.3nm,0.4s,baz=92,slow=4.5,SNR=5.4						
	comp=Z,0.8nm,0.6s						
MK31	Makanchi Array	49.40	308	P	P	05 47 28.0	+0.2
MK31				IAmb	IAmb	05 47 30.0	
	comp=Z,2.7nm,0.9s						
MK31	Makanchi Array	49.40	308	P	P	05 47 28.0	+0.2
MK31				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	Makanchi Array	49.40	308	P	P	05 47 28.3	+0.5
MKAR	Makanchi Array	49.40	308	P	P	05 47 29.2	+1.4
	comp=Z,1.7nm,0.7s,baz=91,slow=8.8,SNR=13						
	comp=Z,1.7nm,0.7s						
F17K	Baldwin Pennin	49.47	26	P	P	05 47 29.1	+1.2
F17K				IAmb	IAmb	05 47 35.3	
	comp=Z,9.3nm,1.4s						
JIRN	Jiri	49.50	282	*e*P	P	05 47 30.8	+1.6
K17K	Iditarod	49.65	31	P	P	05 47 29.9	+0.5
GUN	Gumba	49.69	283	*e*P	P	05 47 31.4	+0.7
	comp=Z,9.2nm,0.6s						
WB0	Warramunga Arr	49.99	191	P	P	05 47 32.8	+0.3
WB0				IAmb	IAmb	05 47 41.2	
	comp=Z,3.6nm,0.8s						
WRA	Warramunga Arr	50.17	191	P	P	05 47 34.1	+0.3
WRA	Warramunga Arr	50.17	191	P	P	05 47 34.0	+0.2
	comp=Z,1.9nm,0.9s,baz=13,slow=8.3,SNR=11						
WRA				PcP	PcP	05 48 54.4	+1.2
	comp=Z,1.5nm,0.8s,baz=360,slow=3.8,SNR=5.2						
	comp=Z,1.9nm,0.9s						
SVW2	Sparrevohn	50.59	33	P	P	05 47 37.9	+1.2
C19K	Lookout Ridge	50.95	23	P	P	05 47 40.0	+0.8
E19K	Redstone River	51.28	25	P	P	05 47 42.9	+1.2
E19K				IAmb	IAmb	05 48 21.9	
	comp=Z,7.6nm,1.5s						
DANN	Dangsing	51.35	284	*e*P	P	05 47 44.8	+1.6
	comp=Z,9.2nm,0.4s						
KURK	Kurchatov	51.68	313	*i* P	P	05 47 44.1	-0.8
KURK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
F20K	Avaraart Lake	51.74	26	P	P	05 47 45.5	+0.4
F20K				IAmb	IAmb	05 47 47.0	
	comp=Z,5.8nm,1.4s						
KURBB	Kurchatov Arra	51.74	313	P	P	05 47 46.2	+0.8
	comp=Z,1.1nm,0.5s,baz=89,slow=6.7,SNR=11						
	comp=Z,1.1nm,0.5s						
PYUN	Piuthan	52.08	284	*e*P	P	05 47 49.9	+1.4
	comp=Z,20nm,0.5s						
IMAR	Indian Mountai	52.28	27	P	P	05 47 49.5	+0.4
B21K	Ikpikpuk River	52.79	23	P	P	05 47 54.2	+1.3
D22K	Ayikyak River	53.28	24	P	P	05 47 57.4	+0.9
D22K				IAmb	IAmb	05 48 16.1	
	comp=Z,11nm,1.4s						
E22K	Anaktuvuk Pass	53.44	25	P	P	05 47 58.6	+0.8
ASAR	Alice Springs	53.90	190	P	P	05 48 01.9	+0.4
	comp=Z,0.6nm,0.5s,baz=6.1,slow=6.5,SNR=8.0						
ASAR				PcP	PcP	05 49 08.4	+1.4
	comp=Z,0.2nm,0.5s,baz=11,slow=5.2,SNR=2.3						
	comp=Z,0.6nm,0.5s						
C23K	Itkillik River	54.20	23	P	P	05 48 04.0	+0.8
MDM	Murphy Dome	54.41	29	P	P	05 48 05.3	+0.5
MDM				IAmb	IAmb	05 48 20.9	
	comp=Z,4.8nm,1.4s						
F24K	Squaw Lake	54.82	26	P	P	05 48 08.8	+1.0
F24K				IAmb	IAmb	05 48 10.7	
	comp=Z,5.1nm,1.4s						
ILAR	Eielson Array	54.97	29	P	P	05 48 08.4	-0.5
	comp=Z,0.8nm,0.9s,baz=265,slow=5.9,SNR=7.6						
	comp=Z,0.8nm,0.9s						
AAK	Ala-Archa	55.39	303	P	P	05 48 13.1	+0.6

	comp=Z,1.4nm,0.5s,baz=124,slow=5.1,SNR=4.1						
	comp=Z,1.4nm,0.5s						
D25K	Kavik River	55.59	24	P	P	05 48 14.3	+1.0
E25K	Arctic Village	55.76	25	P	P	05 48 15.2	+0.6
BMAR	Burnt Mountain	56.08	26	P	P	05 48 17.8	+0.9
SCRK	Sand Creek	56.19	30	P	P	05 48 18.1	+0.2
BVAR	Borovoye Array	56.61	316	P	P	05 48 21.8	+0.9
	comp=Z,1.6nm,0.5s,baz=81,slow=6.0,SNR=9.1						
	comp=Z,1.6nm,0.5s						
BRVK	Borovoye	56.67	316	*ce*P	P	05 48 21.1	-0.2
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.7s						
KK31	Karatay Array	58.17	305	*i* P	P	05 48 33.2	+1.2
ARU	Arti	62.78	322	*c i*P	P	05 49 01.4	-1.9
ARU				S	S	05 57 28.8	-3.4
ARU				SS	SS	06 01 34.0	-2.4
ARU				pmax	pmax		
	comp=Z,16nm,1.8s						
ARU	Arti	62.78	322	P	P	05 49 03.7	+0.4
	comp=Z,8.1nm,0.2s,baz=124,slow=8.2,SNR=3.6						
AB31	Akbulak array	63.79	314	*i* P	P	05 49 10.2	+0.1
AKTO	Aktyubinsk	64.66	315	P	P	05 49 15.2	-0.6
	comp=Z,1.0nm,0.5s,baz=70,slow=8.1,SNR=4.3						
	comp=Z,1.0nm,0.5s						
KIRV	Kirov	66.91	325	*ce*P	P	05 49 28.6	-1.5
YKA	Yellowknife Ar	69.39	29	P	P	05 49 45.6	-0.1
	comp=Z,0.4nm,0.6s,baz=298,slow=6.6,SNR=7.4						
	comp=Z,0.4nm,0.6s						
ARCES	ARCESS Array B	71.25	341	P	P	05 49 57.4	+0.5
	comp=Z,3.6nm,0.8s,baz=57,slow=4.5,SNR=5.8						
	comp=Z,3.6nm,0.8s						
OBN	Obninsk	74.76	325	⇓*e*P	P	05 50 18.0	+0.1
OBN				*e*		05 50 32.8	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,421nm,23.0s						
FINES	FINESS Array B	75.87	334	P	P	05 50 24.8	+0.6
	comp=Z,5.9nm,0.9s,baz=108,slow=6.2,SNR=7.3						
	comp=Z,5.9nm,0.9s						
KBZ	Khabaz	76.75	313	*i* P	P	05 50 26.6	-2.9
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NVAR	Mina Array Bea	78.24	52	P	P	05 50 37.7	-0.6
	comp=Z,0.3nm,0.6s,baz=308,slow=4.4,SNR=4.3						
	comp=Z,0.3nm,0.6s						
MNK	Minsk	79.28	328	*i* P	P	05 50 40.6	-2.8
	comp=E,5.0nm,0.7s						
MNK				*i* P	P	05 50 40.6	-2.8
	comp=N,17nm,0.7s						
MNK				*i* P	P	05 50 40.6	-2.8
	comp=Z,17nm,0.9s,baz=53						
MNK				*i* PcP	sP	05 50 49.7	+4.9
MNK				*i* PP	PP	05 53 39.9	-2.6
MNK				*i* PPP	PPP	05 55 29.8	
MNK				*i* S	S	06 00 38.4	-5.3
MNK				*i* SS	SS	06 05 55.6	+6.3
MNK				*i* SSS	SSS	06 08 55.3	
MNK				*i* LQ	LQ	06 21 18.7	
MNK				*i* LR	LR	06 24 34.1	
MNK				*i* LRM	MLR	06 27 52.2	
	comp=Z,220nm,19.7s						
MNK				*i* LRM	MLR	06 28 02.7	
	comp=N,550nm,19.7s						
MNK				*i* LRM	MLR	06 28 07.9	
	comp=E,165nm,18.4s						
MNK	Minsk	79.28	328	*i* P	P	05 50 40.6	-2.8
MNK				*i*		05 50 49.6	
MNK				*i*		05 53 39.9	
MNK				*i* PPP	PPP	05 55 29.7	
MNK				*i* S	S	06 00 38.3	-5.3
MNK				*i* SS	SS	06 05 55.6	+6.3
MNK				pmax	pmax		
	comp=Z,17nm,0.9s						
MNK				pmax	pmax		
	comp=E,5.0nm,0.7s						
MNK				MLR	MLR		
	comp=Z,220nm,20.0s						
MNK				MLR	MLR		
	comp=N,550nm,20.0s						
MNK				MLR	MLR		
	comp=E,165nm,18.0s						
AKASG	Malin Array Be	80.90	324	P	P	05 50 51.9	-0.3
	comp=E,1.1nm,0.5s,baz=54,slow=5.1,SNR=5.4						
	comp=E,1.1nm,0.5s						
HFS	Hagfors	81.25	337	P	P	05 50 53.9	0.0
	comp=E,4.5nm,0.8s,baz=76,slow=9.3,SNR=5.6						
	comp=E,4.5nm,0.8s						
NB2	NORSAR Subarra	81.39	338	P	P	05 50 54.5	-0.2
	comp=Z,6.7nm,1.0s,baz=40,slow=5.3						
NOA	NORSAR Array B	81.39	338	P	P	05 50 54.2	-0.5
	comp=Z,2.7nm,0.8s,baz=40,slow=5.1,SNR=7.0						
	comp=Z,2.7nm,0.8s						
PDAR	Pinedale Array	81.74	45	P	P	05 50 56.0	-1.2
	comp=Z,0.2nm,0.5s,baz=296,slow=4.8,SNR=2.2						
	comp=Z,0.2nm,0.5s						
BRTR	Keskin Array B	84.74	313	P	P	05 51 13.6	+1.0
	comp=Z,2.0nm,0.8s,baz=97,slow=5.2,SNR=9.1						
	comp=Z,2.0nm,0.8s						
ULM	Lac du Bonnet	84.75	34	P	P	05 51 12.1	-0.2
	comp=Z,1.1nm,0.6s,baz=344,slow=7.4,SNR=1.7						
	comp=Z,1.1nm,0.6s						
TXAR	Lajitas Array	93.36	53	P	P	05 51 54.3	+0.6
	comp=Z,0.9nm,0.9s,baz=270,slow=2.1,SNR=5.7						
	comp=Z,0.9nm,0.9s						
QSPA	South Pole Qui	119.57	180	PKP	PKPdf	05 57 26.5	-0.7
	comp=Z,0.9nm,0.5s,baz=88,slow=0.7,SNR=3.1						
LPAZ	La Paz	148.40	72	PKPbc	PKPdf	05 58 25.8	+3.2
	comp=Z,2.0nm,0.6s,baz=316,slow=2.3,SNR=8.6						
SIV	San Ignacio	153.92	64	PKPbc	PKPbc	05 58 37.9	-0.4
	comp=Z,0.5nm,0.6s,baz=2.3,slow=9.0,SNR=2.5						

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*NNC **01** 05:39:24.4±1.6, 54°.41N×87°.12E, h0^{km}, mb3.0, mpv2.8, Error ellipse: s-maj=17.0km s-min=9.0km az=175.0, Suspected Mining explosion.*

*IDC **01** 05:39:27.1±2.5, 54°.41N×86°.96E, h0^{km}, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=21.8km s-min=15.0km az=63.0*

ISC 01 05:39:24.8±4.0**, 54°.5N**±0°.2×**86°.9E**±0°.2**, h0^{km}, n9,** σ**1^s.12**/14**, 7C-3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.38	245	I	I	05 46 30.0	
	0.1nm,0.7s,baz=71,slow=341,SNR=43						
ZAA0	Zalesovo Array	1.38	245	⇓P	Pb	05 39 50.6	-0.9
	0.2nm,0.3s						
ZAA0				⇑S	Sn	05 40 10.5	+0.3
	5.6nm,1.0s						
ZALV	Zalesovo Beam	1.38	245	Pg	Pn	05 39 50.4	-0.9
	1.5nm,0.3s,baz=67,slow=17,SNR=16						
ZALV				Lg	Lg	05 40 10.4	
	2.4nm,0.3s,baz=73,slow=26,SNR=11						
KURK	Kurchatov	6.35	236	⇑Pn	Pn	05 40 59.4	-0.1
	2.6nm,1.3s						
KURK				⇓Sn	Sn	05 42 11.7	-1.0
	3.3nm,1.3s						
KURK				⇑Lg	Lg	05 42 46.4	
	7.2nm,1.0s						
KURBB	Kurchatov Arra	6.45	236	Pn	Pn	05 41 02.9	+1.9
	0.1nm,0.3s,baz=52,slow=14,SNR=8.7						
KURBB				Sn	Sn	05 42 16.3	+1.1
	baz=45,slow=17,SNR=2.3						
KURBB				Lg	Lg	05 42 49.1	
	baz=50,slow=30,SNR=7.0						
	0.9nm,0.4s						
KURBB	Kurchatov Arra	6.45	236	⇓Pn	Pn	05 41 00.9	-0.1
	1.3nm,0.5s						
KURBB				⇑Sn	Sn	05 42 15.7	+0.5
	2.5nm,0.6s						
KURBB				⇑Lg	Lg	05 42 48.1	
	11nm,1.1s						
MK31	Makanchi Array	8.30	203	Pn	Pn	05 41 26.6	+0.3
	0.3nm,0.3s,baz=27,slow=14,SNR=11						
MK31				⇑Sn	Sn	05 43 00.2	-0.5
	0.3nm,0.5s,baz=32,slow=28,SNR=3.7						
MK31				⇑Lg	Lg	05 43 44.8	
	4.2nm,1.0s,baz=33,slow=30,SNR=4.8						
MKAR	Makanchi Array	8.30	203	Pn	Pn	05 41 28.2	+1.8
	0.2nm,0.3s,baz=25,slow=13,SNR=10						
MKAR				Sn	Sn	05 43 00.7	0.0
	0.1nm,0.3s,baz=19,slow=30,SNR=4.5						
MKAR				Lg	Lg	05 43 44.3	
	baz=12,slow=40,SNR=5.7						
	0.3nm,0.3s						
BVAR	Borovoye Array	9.91	268	Pn	Pn	05 41 50.0	+1.5
	baz=54,slow=15,SNR=2.1						
BVAR				Pg		05 42 25.0	
	baz=112,slow=1.6,SNR=1.8						
	0.2nm,0.3s						

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*IDC **01** 05:41:02.6±0.9, 30°.62N×57°.28E, h0^{km}, mb3.7/13, mbtmp3.8/17, ML3.6/4, MS3.8/2, Error ellipse: s-maj=20.4km s-min=18.2km az=85.0*

*DSN **01** 05:41:02.7±1.2, 30°.74N×58°.14E, h15^{km}, ML3.5/9, Error ellipse: s-maj=48.0km s-min=11.4km az=107.0*

*TEH **01** 05:41:02.8, 30°.70N×57°.37E, h8^{km}±43^{km}, ML4.0*

*OMAN **01** 05:41:15.1±0.8, 30°.02N×56°.78E, h10^{km}, mb4.5/16, ml3.6/7, Error ellipse: s-maj=7.4km s-min=6.4km az=104.0*

ISC 01 05:41:04.8±0.5**, 30°.65N**±0°.03×**57°.30E**±0°.04**, h15^{km}, n103,** σ**2^s.28**/122**, mb3.8**/13**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.73	296	Pg	Pg	05 41 17.6	-1.5
KHGB	Koh Gabri	0.76	249	Pg	Pg	05 41 18.9	-0.9
KHGB				Sg	Sg	05 41 29.9	+0.1
TVBK	TV Kerman	0.81	216	Pg	Pb	05 41 20.5	-0.3
TVBK				Sg	Sg	05 41 32.6	+1.3
CHMN	Cheshme madani	0.81	165	Pg	Pg	05 41 18.9	-1.8
CHMN				Sg	Sg	05 41 30.8	-0.6
NGRK	Negar Kerman	1.11	206	Pg	Pn	05 41 25.6	-0.6
NGRK				Sg	Sb	05 41 41.7	+1.2
IBAF	Bafgh	1.76	303	Pg	Pn	05 41 36.2	+1.2
KBAM	BAM	1.81	146	Pn	Pn	05 41 36.0	+0.5
BSRN	Basiran	2.04	49	Pn	Pn	05 41 38.0	-0.8
IKOO	Kooshah	2.29	39	Pn	Pn	05 41 41.8	-0.6
IMEH	Mehriz	2.42	288	Pn	Pn	05 41 45.7	+1.6
TPRV	Parvadeh(Tabas	2.43	348	Pn	Pn	05 41 44.4	+0.3
ITEG	Tejag	2.56	28	Pn	Pn	05 41 45.1	-0.9
BAGH	Bagheran - Bir	2.68	37	Pn	Pn	05 41 47.4	-0.3
KHNJ	Kahnooj	2.71	172	Pn	Pn	05 41 50.7	+2.7
ICHK	Chekchek	2.94	304	Pn	Pn	05 41 52.9	+1.6
TKDS	Koohdasht(Taba	2.96	357	Pn	Pn	05 41 51.3	-0.2
IDAH	Dahanechah	3.02	46	Pn	Pn	05 41 52.2	-0.2
AFRZ	Afriz	3.13	27	Pn	Pn	05 41 53.5	-0.2
IMON	Monand	3.24	38	Pn	Pn	05 41 55.1	-0.2
ISAD	Sadrabad	3.34	293	Pn	Pn	05 41 58.7	+1.9
TNSJ	Nastanj	3.36	350	Pn	Pn	05 41 56.9	0.0
GENO	Geno	3.38	197	Pn	Pn	05 42 00.5	+3.2
SHRT	Shahrakht	3.92	40	Pn	Pn	05 42 04.7	+0.1
ANAR	Anarak	3.96	311	Pn	Pn	05 42 06.8	+1.6
IRAM	Ramesheh	4.37	287	Pn	Pn	05 42 13.0	+2.1
SHME	Shamm	4.69	193	P	Pn	05 42 17.7	+2.6
SHME	Shamm	4.69	193	P	Pn	05 42 19.2	+4.1
SHME				S	Sn	05 43 06.0	-3.3
JASK	Jask - Hormozg	4.79	174	P	Pn	05 42 20.0	+3.5
JASK				S	Sn	05 43 10.1	-1.6
JASK	Jask - Hormozg	4.79	174	Pn	Pn	05 42 18.4	+2.0
IZEF	Zefreh	4.79	299	Pn	Pn	05 42 18.2	+1.5
KLNJ	Kolanjah	4.92	276	Pn	Pn	05 42 21.5	+2.9
UMQ	Umm Al-Quwin	5.30	196	P	Pn	05 42 23.8	+0.3
MASF	Masafi	5.35	191	P	Pn	05 42 27.8	+3.5
MASF				S	Sn	05 43 22.1	-3.6
MSFE	Esma-Masafi	5.36	191	P	Pn	05 42 26.7	+2.4
MSFE				S	Sn	05 43 32.0	+6.1
KRSH	Karshahi	5.49	308	Pn	Pn	05 42 27.8	+1.6
IKLH	Kolahrood	5.54	300	Pn	Pn	05 42 29.7	+2.6
ISFB	Sefidab	5.65	312	Pn	Pn	05 42 30.0	+1.6
SBZV	Sabzevar	5.73	2	Pn	Pn	05 42 30.3	+0.6
UOSS	Minazif	5.76	190	P	Pn	05 42 32.7	+2.8
UOSS				S	Sn	05 43 32.4	-3.3
NAZ	Nazwa, Dubai	5.82	195	P	Pn	05 42 34.3	+3.7
JRKH	Jarkhoshk	5.83	25	Pn	Pn	05 42 30.9	0.0
QAMS	Qamsar	5.88	303	Pn	Pn	05 42 33.8	+2.2
HATD	Hatta, Dubai	5.89	190	P	Pn	05 42 33.2	+1.6
HATD	Hatta, Dubai	5.89	190	P	Pn	05 42 35.5	+3.8
HATD				S	Sn	05 43 35.4	-3.5
ASHO	Ashiyiah	6.04	191	P	Pn	05 42 36.6	+2.9
ASHO	Ashiyiah	6.04	191	P	Pn	05 42 36.8	+3.1
	SNR=7.0						
ASHO				S	Sn	05 43 38.5	-4.1
IAKL	Akhelmad	6.06	11	Pn	Pn	05 42 33.9	-0.3
FAQ	Al Faqa, Dubai	6.07	195	P	Pn	05 42 36.2	+2.1
FAQ	Al Faqa, Dubai	6.07	195	P	Pn	05 42 37.4	+3.3
FAQ				S	Sn	05 43 39.1	-4.2
ASUD	Al Ashush, Dub	6.25	197	P	Pn	05 42 39.2	+2.7
ASUD	Al Ashush, Dub	6.25	197	P	Pn	05 42 40.1	+3.6
ASUD				S	Sn	05 43 43.5	-4.2
NGCH	Negor - Chabah	6.26	146	P	Pn	05 42 44.9	+8.2
IKRD	Kardeh	6.39	16	Pn	Pn	05 42 38.5	-0.1
AJN	Ajban	6.40	199	P	Pn	05 42 41.0	+2.5
AJN	Ajban	6.40	199	P	Pn	05 42 41.1	+2.5
ISFR	Sfrayin	6.42	5	Pn	Pn	05 42 39.3	+0.2
IGLO	Ghaloghah	6.52	335	Pn	Pn	05 42 42.0	+1.6
SOHO	SOHO	6.52	186	P	Pn	05 42 40.5	+0.2
SOHO	SOHO	6.52	186	P	Pn	05 42 42.8	+2.5
IDMV	Damavand	6.61	319	Pn	Pn	05 42 43.3	+1.5
ALNE	Al Ain	6.71	192	P	Pn	05 42 45.0	+2.1
ALNE	Al Ain	6.71	192	P	Pn	05 42 45.1	+2.2
ALNE				S	Sn	05 43 55.3	-3.8
JRN	Qarnain Island	6.92	216	P	Pn	05 42 46.8	+1.2
HOQ	Hoqain	7.04	180	P	Pn	05 42 49.7	+2.3
HOQ	Hoqain	7.04	180	Pn	Pn	05 42 49.6	+2.2
MRVT	Maraveh tapeh	7.07	352	Pn	Pn	05 42 48.3	+0.5
BIDO	Bidbid	7.13	174	P	Pn	05 42 51.6	+2.9
GEYT	Alibeck	7.30	5	Pn	Pn	05 42 52.7	+1.7
	0.7nm,0.3s,baz=178,slow=13,SNR=1.5						
	1.4nm,0.3s						
ARQ	Araqi	7.31	186	P	Pn	05 42 54.3	+3.2
	SNR=6.5						
SHMA	Al-Shehemyia	7.35	231	P	Pn	05 42 53.7	+2.1
WSAR	Wadi Sarin	7.47	171	P	Pn	05 42 56.1	+2.7
WSAR				S	Sn	05 44 18.1	+0.2
WSAR	Wadi Sarin	7.47	171	Pn	Pn	05 42 54.6	+1.2
	2.9nm,0.3s,baz=11,slow=10,SNR=29						
WSAR				Sn	Sn	05 44 17.1	-0.8
	0.1nm,0.3s,baz=25,slow=17,SNR=2.1						
	14nm,0.5s						
SAKB	Bahrain	7.56	234	P	Pn	05 42 56.1	+1.6
SMDO	Samad	7.59	175	P	Pn	05 42 59.6	+4.6
BSY	Bisya	7.87	181	P	Pn	05 43 01.9	+3.1
BSY				S	Sn	05 44 26.0	-1.7
TRNA	Turayna	7.99	224	P	Pn	05 43 01.1	+0.7
TRNA				S	Sn	05 44 23.7	-6.8
WBK	Wadi Bani Khal	8.14	169	P	Pn	05 43 04.9	+2.3
	SNR=15						
WBK				S	Sn	05 44 34.7	+0.3
WBK	Wadi Bani Khal	8.14	169	Pn	Pn	05 43 03.8	+1.2
SMRA	Abu-Samra	8.21	226	P	Pn	05 43 03.8	+0.3
SMRA				S	Sn	05 44 28.6	-7.5
JMDO	Jabal Madar	8.27	175	P	Pn	05 43 08.7	+4.4
JLN	Jalan Bani Buh	8.67	167	P	Pn	05 43 13.6	+3.8
JLN				S	Sn	05 44 49.4	+2.1
MHTO	MHTO	9.64	176	P	Pn	05 43 27.1	+4.1
KBL	Kabul	10.64	66	P	Pn	05 43 55.8	+19
SHAO	Shalim	12.66	187	P	Pn	05 44 07.0	+2.5
DMTO	DMTO	13.05	190	P	Pn	05 44 10.8	+1.0
DMTO				S	Sn	05 46 31.6	-3.1
WHFO	Wadi Hawf	13.07	195	P	Pn	05 44 11.8	+1.7
	SNR=5.6						
WHFO				S	Sn	05 46 29.3	-6.0
RBK	Rabkut	13.38	193	P	Pn	05 44 13.8	-0.6
ABTO	Aybut	13.73	196	P	Pn	05 44 17.9	-1.2
ABTO				S	Sn	05 46 42.2	-9.1
AAK	Ala-Archa	18.22	44	P	P	05 45 17.3	-0.2
	0.1nm,0.3s,baz=278,slow=22,SNR=1.6						
	0.7nm,0.5s						
AKTO	Aktyubinsk	19.77	1	P	P	05 45 34.6	+0.3
	0.2nm,0.3s,baz=171,slow=9.9,SNR=6.1						
	2.4nm,0.7s						
BRTR	Keskin Array B	21.31	302	P	P	05 45 51.4	+0.2
	1.0nm,0.6s,baz=119,slow=13,SNR=5.9						
BRTR				LR	LR	05 55 44.8	
	comp=Z,208nm,20.8s,baz=52,slow=41						
	1.0nm,0.6s						
BELG	Belogornoye	22.86	345	P	P	05 46 07.9	+0.4
	7.1nm,0.8s,baz=214,slow=6.7,SNR=5.0						
	7.1nm,0.8s						
BVAR	Borovoye Array	24.32	19	P	P	05 46 21.8	+0.1
	2.3nm,0.8s,baz=200,slow=7.9,SNR=10						
	2.3nm,0.8s						
MKAR	Makanchi Array	25.14	43	P	P	05 46 29.8	+0.5
	0.7nm,0.8s,baz=239,slow=8.2,SNR=4.2						
	0.7nm,0.8s						
KURBB	Kurchatov Arra	25.48	32	P	P	05 46 32.5	+0.2
	0.9nm,0.8s,baz=231,slow=9.1,SNR=8.2						
	0.9nm,0.8s						
FINES	FINESS Array B	36.97	336	P	P	05 48 14.3	+1.0
	2.9nm,0.9s,baz=123,slow=14,SNR=4.2						
	2.9nm,0.9s						
GERES	GERESS Array B	37.53	312	P	P	05 48 18.5	+0.2
	1.7nm,0.9s,baz=79,slow=7.1,SNR=4.0						
GERES				LR	LR	06 05 08.3	
	comp=Z,150nm,20.2s,baz=165,slow=38						
	1.7nm,0.9s						
EKA	Eskdalemuir Ar	48.77	319	P	P	05 49 47.6	-1.3
	0.5nm,0.5s,baz=106,slow=7.5,SNR=2.2						
	0.5nm,0.5s						
TORD	Torodi Ar. Bea	53.92	264	P	P	05 50 27.7	-0.4
	1.4nm,0.7s,baz=50,slow=7.2,SNR=8.8						
	1.4nm,0.7s						
ILAR	Eielson Array	83.03	10	P	P	05 53 28.3	-1.0
	0.2nm,0.7s,baz=325,slow=4.3,SNR=2.0						
	0.2nm,0.7s						
YKA	Yellowknife Ar	86.96	356	P	P	05 53 49.8	+0.8
	0.2nm,0.6s,baz=356,slow=5.1,SNR=3.4						
	0.2nm,0.6s						
WRA	Warramunga Arr	89.43	114	P	P	05 54 01.9	+0.5
	0.6nm,0.9s,baz=313,slow=4.4,SNR=3.5						
	0.6nm,0.9s						
ASAR	Alice Springs	91.11	117	P	P	05 54 09.3	+0.1
	0.5nm,0.8s,baz=308,slow=6.2,SNR=4.2						
	0.5nm,0.8s						

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*SJA **01** 05:45:55.2±0.7, 32°.70S×72°.31W, h13^{km}, ML4.2, MW3.9*

*IDC **01** 05:45:57.7±0.8, 32°.67S×71°.68W, h0^{km}, mb3.9/7, mbtmp3.8/13, ML3.9/6, MS4.1/2, Error ellipse: s-maj=21.8km s-min=16.6km az=137.0*

*NEIC **01** 05:46:01.3±1.6, 32°.69S±0°.04×71°.84W±0°.04, h22^{km}±7^{km}, mb4.2/6, ML3.8(GUC), Error ellipse: s-maj=6.0km s-min=4.7km az=46.0*

*GUC **01** 05:46:02.7±0.8, 32°.80S×71°.72W, h31^{km}±3^{km}, ML3.8*

ISC 01 05:46:00.1±1.1**, 32°.66S**±0°.02×**71°.79W**±0°.03**, h17^{km}**±7^{km}**, n122,** σ**1^s.32**/167**, mb4.0**/10**, 4C-10D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VA01	Torpederas	0.38	162		Pb	05 46 09.5	+1.1
VA01				Sg	Sb	05 46 14.7	+0.6
VA01	Torpederas	0.38	162	*e*P	Pb	05 46 08.9	+0.5
VA01	Torpederas	0.38	162	*e*P	Pb	05 46 09.6	+1.1
VA01				*e*S	Sb	05 46 15.0	+1.0
VA01				IAML		05 46 15.8	
	comp=N,10μm,0.1s						
ROC1	El Roble	0.72	116		Pn	05 46 15.2	-0.7
ROC1				Sg	Sn	05 46 25.1	-1.6
ROCH	El Roble	0.72	115	⇓*i*P	Pn	05 46 15.5	-0.4
ROCH				*e*S	Sn	05 46 25.4	-1.2
ROCH				IAML		05 46 26.6	
	comp=E,13μm,0.4s						
MT02	Curacav	0.81	138		Pg	05 46 16.2	+0.3
MT02				Sg	Sg	05 46 26.4	-0.3
MT02	Curacav	0.81	138	*e*P	Pb	05 46 15.3	-0.5
MT02				*e*S	Sg	05 46 26.7	0.0
MT02	Curacav	0.81	138	⇓*i*P	Pg	05 46 16.3	+0.3
MT02				*e*S	Sg	05 46 26.5	-0.1
MT02				IAML		05 46 29.8	
	comp=E,4μm,0.2s						
VA05	Santo Domingo	1.00	172		Pb	05 46 19.1	+0.1
VA05	Santo Domingo	1.00	172	*e*P	Pb	05 46 19.3	+0.3
VA05				*e*S	Sb	05 46 32.1	+0.1
VA05				IAML		05 46 39.1	
	comp=E,7μm,0.4s						
PEL	Peldehue	1.05	118		Pg	05 46 20.4	-0.1
PEL				Sg	Sn	05 46 34.7	+0.4
PEL	Peldehue	1.05	118	*e*P	Pg	05 46 20.6	+0.1
PEL				*e*S	Sn	05 46 34.8	+0.4
PEL				IAML		05 46 37.2	
	comp=N,8μm,0.3s						
VA03	San Esteban	1.05	96		Pn	05 46 20.3	+0.1
VA03	San Esteban	1.05	96	*e*P	Pn	05 46 20.2	+0.1
VA03				*e*S	Sn	05 46 35.3	+0.8
VA03				IAML		05 46 36.7	
	comp=Z,3μm,0.2s						
VA03	San Esteban	1.05	96	⇓*i*P	Pn	05 46 20.4	+0.1
VA03				*e*S	Sn	05 46 34.5	0.0
MT05	Renca	1.15	130	Pn	Pn	05 46 21.7	+0.3
MT05					Sg	05 46 36.8	-0.5
MT05	Renca	1.15	130	*e*P	Pg	05 46 22.0	-0.3
MT05				*e*S	Sg	05 46 39.4	+2.1
MT05				*e*S	Sg	05 46 39.5	+2.1
MT05				IAML		05 46 44.3	
	comp=Z,2μm,0.7s						
MT05	Renca	1.15	130	⇓*i*P	Pg	05 46 21.9	-0.3
MT05				*e*S	Sg	05 46 37.0	-0.3
MT05				IAML		05 46 40.5	
	comp=E,9μm,0.2s						
MT10	Hacienda Santa	1.22	120	⇓*i*P	Pg	05 46 23.3	-0.4
MT10				*e*S	Sg	05 46 40.1	+0.5
MT01	Popeta	1.28	159		Pb	05 46 23.7	-0.1
MT01	Popeta	1.28	159	*e*P	Pn	05 46 22.7	-0.6
MT01				*e*S	Sg	05 46 41.2	-0.4
MT01				IAML		05 46 43.1	
	comp=Z,2μm,0.4s						
MT01	Popeta	1.28	159	⇓*i*P	Pn	05 46 23.4	+0.1
MT01				*e*S	Sb	05 46 39.3	-0.7
MT01				IAML		05 46 44.1	
	comp=E,3μm,0.8s						
MT14	Cerro Cal¡n	1.28	125	*e*P	Pg	05 46 24.2	-0.7
MT14				*e*S	Sg	05 46 41.1	-0.6
MT14				IAML		05 46 45.3	
	comp=N,8μm,0.5s						
MT09	Talagante	1.30	149		Pb	05 46 24.2	-0.1
MT09	Talagante	1.30	149	⇓*e*P	Pb	05 46 24.1	-0.1
MT09				*e*S	Sg	05 46 40.9	-1.3
MT09				IAML		05 46 42.5	
	comp=N,3μm,0.5s						
MT03	Universidad Ad	1.36	128		Pb	05 46 25.1	0.0
MT03	Universidad Ad	1.36	128	*e*P	Pb	05 46 25.4	+0.2
MT03				*e*P	Pg	05 46 25.5	-0.8
MT03				*e*S	Sg	05 46 45.5	+1.4
MT03				IAML		05 46 49.8	
	comp=Z,3μm,0.8s						
MT03	Universidad Ad	1.36	128	⇓*i*P	Pb	05 46 25.4	+0.2
MT03				*e*S	Sg	05 46 43.4	-0.6
MT03				IAML		05 46 47.7	
	comp=N,6μm,0.2s						
FCH	Farellones	1.42	118	*i* P	Pb	05 46 26.5	0.0
FCH				*e*S	Sg	05 46 45.1	-1.2
FCH				IAML		05 46 46.5	
	comp=N,3μm,0.3s						
MT15	Las Vizcachas	1.43	131	*e*P	Pb	05 46 26.5	+0.1
MT15				*e*S	Sg	05 46 45.5	-0.7
MT15				IAML		05 46 49.8	
	comp=N,7μm,0.2s						
MT12	Pirque	1.49	136	⇓*i*P	Pb	05 46 27.3	-0.1
MT12				*e*S	Sg	05 46 47.7	-0.6
MT04	Ro Olivares	1.57	119	⇓*i*P	Pb	05 46 28.8	-0.2
MT04				*e*S	Sg	05 46 49.0	-2.0
MT04				IAML		05 46 51.3	
	comp=E,3μm,0.4s						
CO02	Combarbal	1.60	25		Pb	05 46 29.9	+0.5
CO02	Combarbal	1.60	25	*e*P	Pn	05 46 29.0	+1.2
CO02				*e*S	Sn	05 46 45.3	-2.9
CO02				*e*S	Sb	05 46 51.6	+2.3
CO02				IAML		05 46 55.1	
	comp=Z,4μm,0.3s						
CO02	Combarbal	1.60	25	⇑*i*P	Pn	05 46 29.0	+1.2
CO02				*e*S	Sb	05 46 50.3	+1.0
BO04	La Punta	1.65	144		Pb	05 46 30.0	-0.1
BO04	La Punta	1.65	144	*e*P	Pb	05 46 30.1	-0.1
MT13	San Alfonso	1.66	131		Pb	05 46 30.3	0.0
MT13	San Alfonso	1.66	131	*e*P	Pb	05 46 30.5	+0.1
MT13				*e*S	Sb	05 46 50.4	-0.6
MT08	Bocatoma Ro	1.68	118		Pb	05 46 30.5	-0.3
MT08	Bocatoma Ro	1.68	118	*i* P	Pb	05 46 30.7	-0.1
MT08				*e*S	Sg	05 46 53.0	-1.5
MT08				IAML		05 46 54.4	
	comp=N,2μm,0.8s						
LMEL	Las Melosas	1.78	132		Pb	05 46 32.2	-0.2
LMEL	Las Melosas	1.78	132	⇑*i*P	Pb	05 46 32.5	+0.1
LMEL				*e*S	Sg	05 46 56.3	-1.2
LMEL				IAML		05 46 59.6	
	comp=E,3μm,0.4s						
BO01	Tunca	1.82	161		Pn	05 46 31.1	+0.4
BO01	Tunca	1.82	161	*e*P	Pn	05 46 30.5	-0.2
BO01				*e*P	Pb	05 46 31.3	-1.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BO01				eS	Sb	05 46 56.3	+0.7
BO01	Tunca	1.82	161	eP	Pn	05 46 31.1	+0.4
BO01				eS	Sb	05 46 54.8	-0.8
BO01				IAML		05 47 01.4	
	comp=E,995nm,0.5s						
CO06	Fray Jorge	1.99	4		Pn	05 46 33.2	+0.2
CO06	Fray Jorge	1.99	4⇑	eP	Pn	05 46 33.0	0.0
CO06				eS	Sn	05 46 54.2	-3.3
CO06				IAML		05 46 57.7	
	comp=E,833nm,0.2s						
CO03	El Pedregal	2.04	28		Pn	05 46 35.3	+1.5
CO03	El Pedregal	2.04	28	eP	Pn	05 46 35.4	+1.5
CO03				eS	Sg	05 47 06.5	+0.5
CO03				IAML		05 47 07.8	
	comp=Z,1μm,0.4s						
CO03	El Pedregal	2.04	28⇑	iP	Pn	05 46 35.4	+1.5
CO03				eS	Sb	05 47 04.2	+2.1
RTLS	Leoncito	2.28	69	eP	Pb	05 46 41.4	+0.3
RTLS				eS	Sg	05 47 16.0	+2.4
RTLS				IAML		05 47 25.9	
	comp=Z,1μm,0.6s						
BO02	Sierra Bellavi	2.29	159	Pn	Pn	05 46 37.9	+0.7
BO02	Sierra Bellavi	2.29	159	eP	Pn	05 46 37.4	+0.3
BO02				eS	Sn	05 47 06.3	+1.3
BO02				IAML		05 47 14.4	
	comp=Z,1μm,0.4s						
GO05	Huala	2.34	183		Pn	05 46 37.4	-0.6
GO05	Huala	2.34	183	eP	Pn	05 46 36.6	-1.3
GO05				eS	Sn	05 47 05.8	-0.6
GO04	Tololo Observa	2.62	19		Pn	05 46 42.9	+1.0
GO04	Tololo Observa	2.62	19	eP	Pn	05 46 43.0	+1.0
GO04				eS	Sb	05 47 21.5	+2.7
GO04				IAML		05 47 28.9	
	comp=Z,1μm,0.3s						
CO05	La Serena	2.77	10		Pn	05 46 44.2	+0.4
CO05	La Serena	2.77	10	eP	Pn	05 46 44.5	+0.6
ZON	Zonda	2.87	68	eP	Pb	05 46 49.2	-1.6
ZON				eP	Pn	05 46 49.8	+4.7
ZON				eS	Sg	05 47 29.3	-3.0
ZON				IAML		05 47 39.1	
	comp=Z,355nm,0.8s						
RTCV	Cerro Valdivia	2.87	75	eP	Pb	05 46 49.9	-1.0
RTCV				eS	Sg	05 47 31.3	-1.0
DOCA	Reserva Natura	2.87	54	eP	Pn	05 46 48.5	+3.1
DOCA				IAML		05 47 40.3	
	comp=Z,348nm,0.4s						
CO01	Juntas del Tor	3.04	29		Pn	05 46 49.5	+1.7
CO01	Juntas del Tor	3.04	29	eP	Pn	05 46 49.8	+2.0
CO01				eP	Pb	05 46 49.9	-4.2
CO01				eS	Sb	05 47 32.5	+1.5
CO01				IAML		05 47 36.3	
	comp=Z,258nm,0.3s						
ML02	Panimavida	3.11	174	Pn	Pn	05 46 48.2	-0.2
ACCO	Cerro Coronel	3.11	49	eP	Pb	05 46 52.8	-2.4
ACCO				eS	Sb	05 47 36.8	+3.8
RTLL	Cerro Villicun	3.12	66	eP	Pb	05 46 52.3	-2.8
RTLL				eS	Sg	05 47 37.9	-2.4
AROD	Rodeo	3.18	39	eP	Pn	05 46 53.5	+3.8
AROD				eS	Sb	05 47 33.8	-1.2
CFA	Coronel Fontan	3.19	72	eP	Pb	05 46 53.3	-3.2
CFA				eS	Sg	05 47 39.4	-3.4
CFA	Coronel Fontan	3.19	72	Pn	Pn	05 46 50.1	+0.5
	comp=Z,22nm,0.3s,baz=261,slow=7.3,SNR=181						
CFA				Sn	Sn	05 47 27.9	+0.6
	comp=Z,22nm,0.3s,baz=220,slow=13,SNR=2.1						
CFA				Lg	Lg	05 47 36.1	
	comp=Z,78nm,0.3s,baz=135,slow=20,SNR=8.6						
	comp=Z,56nm,0.4s						
RFA	San Rafael	3.48	128	eP	Pn	05 46 56.5	+2.9
RFA				eS	Sb	05 47 45.3	+2.0
LCO	Las Campanas	3.76	15	Pn	Pn	05 46 58.6	+1.1
LCO	Las Campanas	3.76	15	eP	Pn	05 46 53.3	-4.3
LCO				eP	Pb	05 46 58.7	-7.6
LCO				eS	Sn	05 47 46.8	+5.2
LCO				IAML		05 47 57.1	
	comp=Z,378nm,0.3s						
AC05	El Transito	4.03	19		Pn	05 47 02.5	+1.3
AC05	El Transito	4.03	19	eP	Pn	05 47 02.8	+1.6
AC05				IAML		05 48 19.2	
	comp=Z,191nm,0.8s						
AC04	Llanos de Chal	4.49	8	Pn	Pn	05 47 06.9	-0.4
AC04	Llanos de Chal	4.49	8	eP	Pn	05 47 07.1	-0.2
MRA	San Martin	5.13	89	eP	Pn	05 47 18.7	+2.4
GO03	Copiap	5.23	15		Pn	05 47 17.5	-0.1
AC06	Mina Casimiro	5.43	14		Pn	05 47 20.0	-0.4
H03N1	Juan Fernandez	6.03	261	Pn	Pn	05 47 29.1	+0.7
	baz=0.4,slow=74						
H03N1				T	T	05 53 56.6	
	baz=89,slow=74						
H03N3	Juan Fernandez	6.04	261	Pn	Pn	05 47 28.9	+0.4
H03N3				T	T	05 53 56.9	
	baz=89,slow=74						
H03N2	Juan Fernandez	6.05	261	Pn	Pn	05 47 29.5	+0.9
	baz=261,slow=74						
H03N2				T	T	05 53 57.3	
	baz=89,slow=74						
H03S1	Juan Fernandez	6.08	257	T	T	05 53 51.4	
	baz=82,slow=75,SNR=47						
H03S3	Juan Fernandez	6.08	257	T	T	05 53 52.7	
	baz=82,slow=75,SNR=40						
H03S2	Juan Fernandez	6.09	257	T	T	05 53 51.1	
	baz=82,slow=75,SNR=84						
GO06	Curarrehue	6.91	178	Pn	Pn	05 47 41.5	+0.7
PLCA	Paso Flores	8.12	173	Pn	Pn	05 47 57.7	+0.5
PLCA	Paso Flores	8.12	173	Pn	Pn	05 47 57.6	+0.3
	comp=Z,0.5nm,0.3s,baz=332,slow=10,SNR=9.1						
	comp=Z,1.4nm,0.4s						
LVC	Limon Verde	10.33	15	Pn	Pn	05 48 27.4	-0.6
	comp=Z,0.2nm,0.3s,baz=222,slow=15,SNR=1.2						
	comp=Z,0.9nm,0.4s						
CPUP	Villa Florida	14.08	67	Pn	Pn	05 49 20.0	+1.2
CPUP	Villa Florida	14.08	67	Pn	Pn	05 49 18.7	-0.1
	comp=Z,0.1nm,0.3s,baz=215,slow=19,SNR=2.3						
CPUP				Sn	Sn	05 51 52.3	-2.4
	baz=255,slow=16,SNR=2.8						
	comp=Z,1.3nm,0.8s						
PB16	IPOC Station P	14.41	9	Pn	Pn	05 49 26.1	+2.1
LPAZ	La Paz	16.64	12	Pn	Pn	05 49 53.4	+0.2
LPAZ	La Paz	16.64	12	Pn	Pn	05 49 53.5	+0.3
	comp=Z,0.2nm,0.3s,baz=204,slow=4.8,SNR=6.5						
	comp=Z,1.5nm,0.6s						
AQDB	Aquidauana	18.80	54	P	Pn	05 50 19.6	+0.3
SIV	San Ignacio	19.23	33	P	P	05 50 22.7	-1.0
	baz=228,slow=11,SNR=6.5						
	comp=Z,0.8nm,0.5s						
EFI	East Falkland	21.48	156	P	P	05 50 47.5	-0.2
EFI				IAmb	IAmb	05 51 15.6	
	comp=Z,60nm,1.4s						
ETMB	Extrema	23.31	14	P	P	05 51 08.8	+1.5
ETMB				IAmb	IAmb	05 51 09.7	
	comp=Z,3.0nm,0.7s						
SAML	Samuel	24.91	21	P	P	05 51 23.0	+0.7
SAML				IAmb	IAmb	05 51 39.1	
	comp=Z,5.9nm,1.5s						
ATAH	Atahualpa	26.13	345	LR	LR	06 00 36.8	
	comp=Z,100nm,19.3s,baz=190,slow=34						
BDFB	Brasilia	27.43	57	P	P	05 51 43.7	-1.5
	comp=Z,2.5nm,0.7s,baz=172,slow=3.8,SNR=3.4						
	comp=Z,2.5nm,0.7s						
SNAA	Sanae	52.74	158	P	P	05 55 13.8	+0.1
SNAA				IAmb	IAmb	05 55 39.7	
	comp=Z,5.7nm,1.4s						
SNAA	Sanae	52.74	158	P	P	05 55 14.0	+0.3
	comp=Z,1.0nm,0.8s,baz=280,slow=12,SNR=1.8						
	comp=Z,1.0nm,0.8s						
TEIG	Tepich	54.90	341	P	P	05 55 29.9	-0.1
QSPA	South Pole Qui	57.57	180	P	P	05 55 49.0	+0.3
	comp=Z,1.9nm,0.9s,baz=171,slow=0.8,SNR=3.9						
	comp=Z,1.9nm,0.9s						
TXAR	Lajitas Array	68.67	330	P	P	05 57 03.5	+0.8
	comp=Z,0.3nm,0.7s,baz=158,slow=7.6,SNR=2.3						
	comp=Z,0.3nm,0.7s						
BOSA	Boshof	80.51	118	P	P	05 58 10.4	-1.3
	comp=Z,3.9nm,1.1s,baz=225,slow=4.3,SNR=2.6						
	comp=Z,3.9nm,1.1s						
NVAR	Mina Array Bea	82.91	325	P	P	05 58 25.0	+0.9
	comp=Z,0.3nm,0.7s,baz=120,slow=6.3,SNR=1.7						
	comp=Z,0.3nm,0.7s						
TORD	Torodi Ar. Bea	83.56	70	P	P	05 58 27.3	-0.4
	comp=Z,1.3nm,0.8s,baz=259,slow=2.5,SNR=9.3						
	comp=Z,1.3nm,0.8s						
YBH	Yreka Blue Hor	87.60	324	LR	LR	06 31 14.8	
	comp=Z,458nm,21.6s,baz=250,slow=31						
H11S2	WAKE ISLAND Hy	125.99	270	T	T	08 23 59.1	
	baz=118,slow=75,SNR=276						
H11S1	WAKE ISLAND Hy	126.00	270	T	T	08 24 00.1	
	baz=118,slow=75,SNR=353						
H11S3	WAKE ISLAND Hy	126.01	270	T	T	08 24 00.5	
	baz=118,slow=75,SNR=212						
BVAR	Borovoye Array	146.15	42	PKPbc	PKPbc	06 05 39.5	+0.5
	comp=Z,1.3nm,0.5s,baz=309,slow=3.0,SNR=11						
AAK	Ala-Archa	151.67	60	PKPbc	PKPbc	06 05 53.6	-0.1
	comp=Z,2.0nm,2.2s,baz=235,slow=1.5,SNR=6.9						
KURBB	Kurchatov Arra	151.75	42	PKPbc	PKPbc	06 05 53.2	-0.1
	comp=Z,1.6nm,0.5s,baz=300,slow=2.8,SNR=12						
ZALV	Zalesovo Beam	152.98	31	PKPbc	PKPbc	06 05 55.7	-0.3
	comp=Z,2.6nm,0.7s,baz=304,slow=3.3,SNR=2.2						
MKAR	Makanchi Array	155.72	47	PKPab	PKPab	06 06 19.2	-0.1
	comp=Z,0.4nm,0.5s,baz=19,slow=2.8,SNR=2.2						
HHC	Hu-ho-hao-te	171.40	343	eP	P	06 06 06.0	+11
PZH	PanZhiHua	171.67	136	PKP	PKPdf	06 06 07.4	-0.9

IDC 01 05:52:22.6±1.1, 1°.17S×120°.74E, h0km, mb3.8/6, mbtmp3.8/7, ML3.8/1, Error ellipse: s-maj=50.6km s-min=17.7km az=68.0
DJA 01 05:52:27.0±1.9, 1°S±3°×12°0E±°, h19km±18km, M4.0/12, MLv4.0/12
ISC 01 05:52:29.2±0.9, 1°.23S±0°.05×120°.46E±0°.06, h49km, n15, σ1s.33/17, mb3.9/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPSI	Mapaga	1.65	340	P	Pn	05 52 53.3	-2.5
TTSI	Tana Toraja	1.92	199	P	Pn	05 52 58.3	-1.1
MRSI	Marisa	2.25	41	P	Pn	05 53 03.3	-0.6
MRSI				S	Sn	05 53 31.3	+0.8
LUWI	Luwuk	2.32	86	P	Pn	05 53 04.4	-0.5
SPSI	Sidrap Palu	2.81	194	P	Pn	05 53 11.2	-0.4
GTOI	Gorontalo	3.15	54	P	Pn	05 53 15.4	-0.9
BKB	Balikpapan	3.56	269	P	Pn	05 53 21.4	-0.6
KAPI	Kappang	3.83	191	Pn	Pn	05 53 24.7	-0.9
	7.0nm,0.3s,baz=339,slow=10,SNR=9.6						
KAPI				Sn	Sn	05 54 10.6	+1.1
	6.0nm,0.3s,baz=236,slow=22,SNR=2.1						
	26nm,0.4s						
BKSI	Bulukumba	4.08	185	P	Pn	05 53 27.4	-1.8
WRA	Warramunga Arr	23.03	145	P	P	05 57 28.3	-2.1
	1.1nm,0.8s,baz=323,slow=10,SNR=9.2						
	1.1nm,0.8s						
ASAR	Alice Springs	25.84	151	P	P	05 57 55.5	-0.8
	0.6nm,0.9s,baz=335,slow=11,SNR=3.3						
	0.6nm,0.9s						
CMAR	Chiang Mai Arr	28.82	314	P	P	05 58 24.5	+1.5
	1.0nm,0.3s,baz=139,slow=7.0,SNR=1.4						
	1.0nm,0.3s						
MKAR	Makanchi Array	58.36	330	P	P	06 02 20.9	+1.4
	1.0nm,0.7s,baz=130,slow=8.2,SNR=7.8						
	1.0nm,0.7s						
ZALV	Zalesovo Beam	62.41	337	P	P	06 02 47.0	+0.1
	0.6nm,0.5s,baz=131,slow=7.9,SNR=2.2						
	0.6nm,0.5s						
KURBB	Kurchatov Arra	62.78	331	P	P	06 02 50.1	+0.6
	0.8nm,0.6s,baz=145,slow=6.1,SNR=6.5						
	0.8nm,0.6s						

ISN 01 05:56:48.2±0.9, 34°.60N×45°.79E, h6km±36km, ML3.3
TEH 01 05:56:48.1, 34°.62N×45°.83E, h9km±17km, ML3.1
ISC 01 05:56:49.4±1.4, 34°.61N±0°.04×45°.80E±0°.03, h3km±12km, n17, σ0s.77/22, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.20	239	Pg	Pg	05 56 53.9	+0.5
IDHR	Dehrash	0.49	80	Pg	Pg	05 56 58.6	-0.2
IDHR				Sg	Sg	05 57 06.1	+0.8
IGHG	Ghaleghazi	0.70	114	Pg	Pg	05 57 02.6	-0.2
IGHG				Sg	Sb	05 57 13.4	-1.0
ILIN	Lien	1.01	72	Pg	Pg	05 57 07.9	-0.7
ILBA	Ilam Banvizeh	1.04	161	Pg	Pg	05 57 08.9	-0.5
KCHF	Cheshme Sefid,	1.08	108	Pg	Pg	05 57 09.5	-0.6
IKRK	Kirkuk	1.43	304	ePg	Pn	05 57 15.0	-1.3
IKRK				eSg	Sn	05 57 36.0	+0.4
IKRK				AML	AML	05 57 39.7	
	comp=N,658nm,0.5s						
IKRK				AML	AML	05 57 39.9	
	comp=E,400nm,0.3s						
IKOM	Komasi	1.48	107	Pg	Pb	05 57 17.5	-0.1
IBZA	Bozab	1.71	94	Pg	Pb	05 57 21.0	-0.6
BHD	Baghdad	1.78	222	ePn	Pn	05 57 21.0	0.0
BHD				eSn	Sb	05 57 45.0	-0.4
IKFM	Kafar-mosalman	2.02	122	Pn	Pn	05 57 24.8	+0.5
MAHB	Mahabad	2.15	358	Pn	Pn	05 57 27.5	+1.3
HAGD	Aghdareh	2.76	85	Pn	Pn	05 57 35.5	+0.8
RAFI	Al-Rafai	2.89	175	ePn	Pn	05 57 37.0	+0.7
RAFI				eSn	Sn	05 58 12.0	+0.4
IHSH	Hashtrud	2.94	23	Pn	Pn	05 57 37.6	+0.3
AMIS	Naft Sefid	4.15	134	Pn	Pn	05 57 53.3	-0.3
IKLH	Kolahrood	4.97	103	Pn	Pn	05 58 06.6	+1.4

NNC 01 05:58:53.7±2.7, 54°.36N×87°.18E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=35.5km s-min=20.9km az=173.0, Suspected Mining explosion.
IDC 01 05:58:54.5±3.0, 54°.34N×87°.06E, h0km, mbtmp2.7/2, ML2.6/2, 6C, Error ellipse: s-maj=24.8km s-min=19.8km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.37	255	I	I	06 06 05.0	
	baz=74,slow=340,SNR=16						
ZAA0	Zalesovo Array	1.37	254	⇑P	Pg	05 59 20.3	-0.5
	0.4nm,0.3s						
ZAA0				⇑S	Sn	05 59 40.2	+0.5
	0.7nm,0.4s						
ZALV	Zalesovo Beam	1.37	254	Pg	Pg	05 59 20.1	-0.6
	4.0nm,0.3s,baz=70,slow=17,SNR=28						
ZALV				Lg	Lg	05 59 38.5	
	2.5nm,0.3s,baz=76,slow=30,SNR=9.3						
KURBB	Kurchatov Arra	6.40	238	Pn	Pn	06 00 29.2	-0.7
	0.1nm,0.3s,baz=53,slow=13,SNR=6.4						
KURBB				Sn	Sn	06 01 44.8	+1.2
	baz=68,slow=6.1,SNR=1.2						
KURBB				Lg	Lg	06 02 15.9	
	baz=56,slow=32,SNR=1.9						
	0.7nm,0.6s						
KURBB	Kurchatov Arra	6.40	238	⇑Pn	Pn	06 00 31.3	+1.4
	0.3nm,0.2s						
KURBB				⇑Sn	Sn	06 01 46.4	+2.8
	0.8nm,0.3s						
KURBB				⇑Lg	Lg	06 02 16.3	
	5.1nm,0.9s						
MK31	Makanchi Array	8.13	204	⇑Pn	Pn	06 00 53.1	-0.7
	0.3nm,0.6s,baz=26,slow=14,SNR=5.1						
MKAR	Makanchi Array	8.13	204	Pn	Pn	06 00 55.9	+2.1
	0.1nm,0.3s,baz=26,slow=12,SNR=2.2						
	0.2nm,0.4s						

OMAN 01 06:06:12.9±0.1, 31°.47N×57°.45E, h10km, mb4.7/16, ms4.2/1, Error ellipse: s-maj=2.5km s-min=1.9km az=37.0
IDC 01 06:06:19.5±2.1, 30°.45N×57°.43E, h0km, mb3.8/8, mbtmp3.8/10, ML3.5/2, MS4.1/2, Error ellipse: s-maj=51.4km s-min=22.4km az=149.0
TEH 01 06:06:20.6, 30°.71N×57°.31E, h8km±45km, ML4.0
DSN 01 06:06:25.1±1.5, 30°.47N×58°.05E, h15km, ML3.3/7, Error ellipse: s-maj=69.1km s-min=14.3km az=108.0
ISC 01 06:06:22.9±0.6, 30°.68N±0°.04×57°.35E±0°.04, h15km, n93, σ2s.57/102, mb3.8/8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.75	293	Pg	Pg	06 06 34.8	-2.8
KHGB	Koh Gabri	0.81	248	Pg	Pg	06 06 36.1	-2.6
KHGB				Sg	Sg	06 06 47.2	-2.1
CHMN	Cheshme madani	0.83	168	Pg	Pg	06 06 37.0	-2.1
TVBK	TV Kerman	0.85	216	Pg	Pg	06 06 38.5	-1.1
TVBK				Sg	Sg	06 06 50.1	-0.8
NGRK	Negar Kerman	1.16	207	Pg	Pb	06 06 44.2	-0.7
NGRK				Sg	Sb	06 07 00.8	+0.9
IBAF	Bafgh	1.77	301	Pg	Pn	06 06 53.9	+0.6
KBAM	BAM	1.81	148	Pn	Pn	06 06 55.0	+1.3
BSRN	Basiran	1.99	49	Pn	Pn	06 06 57.0	+0.8
IKOO	Kooshah	2.24	39	Pn	Pn	06 06 60.0	+0.2
TPRV	Parvadeh(Tabas	2.41	347	Pn	Pn	06 07 01.6	-0.3
IMEH	Mehriz	2.45	288	Pn	Pn	06 07 02.8	+0.2
ITEG	Tejag	2.51	28	Pn	Pn	06 07 03.1	-0.3
KHNJ	Kahnooj	2.74	173	Pn	Pn	06 07 07.3	+0.9
TKDS	Koohdasht(Taba	2.93	356	Pn	Pn	06 07 09.1	0.0
ICHK	Chekchek	2.96	303	Pn	Pn	06 07 10.5	+1.0
IDAH	Dahanechah	2.97	46	Pn	Pn	06 07 10.3	+0.5
AFRZ	Afriz	3.08	27	Pn	Pn	06 07 10.8	-0.4
TNSJ	Nastanj	3.33	349	Pn	Pn	06 07 14.8	+0.1
ISAD	Sadrabad	3.37	292	Pn	Pn	06 07 16.4	+1.2
GENO	Geno	3.42	198	Pn	Pn	06 07 19.2	+3.3
SHRT	Shahrakht	3.87	39	Pn	Pn	06 07 22.6	+0.6
ANAR	Anarak	3.96	310	Pn	Pn	06 07 24.3	+0.9
IRAM	Ramesheh	4.40	286	Pn	Pn	06 07 30.5	+1.1
SHME	Shamm	4.73	193	P	Pn	06 07 36.9	+3.2
SHME	Shamm	4.73	193	P	Pn	06 07 35.9	+2.1
SHME				S	Sb	06 08 39.2	-3.2
IZEF	Zefreh	4.81	299	Pn	Pn	06 07 36.1	+1.0
JASK	Jask - Hormozg	4.81	174	P	Pn	06 07 38.1	+3.1
	SNR=6.4						
JASK				S	Sb	06 08 41.6	-3.1
JASK	Jask - Hormozg	4.81	174	Pn	Pn	06 07 37.5	+2.6
KLNJ	Kolanjah	4.96	275	Pn	Pn	06 07 37.7	+0.5
MASF	Masafi	5.39	192	P	Pn	06 07 46.2	+3.3
	SNR=6.7						
MASF				S	Sb	06 08 56.1	-5.2
MSFE	Esma-Masafi	5.40	191	P	Pn	06 07 45.7	+2.7
MSFE				S	Sn	06 08 47.6	+2.7
KRSH	Karshahi	5.50	308	Pn	Pn	06 07 45.7	+1.3
IKLH	Kolahrood	5.56	300	Pn	Pn	06 07 46.0	+0.6
ISFB	Sefidab	5.66	312	Pn	Pn	06 07 47.7	+1.1
SBZV	Sabzevar	5.70	2	Pn	Pn	06 07 48.0	+0.7
JRKH	Jarkhoshk	5.79	25	Pn	Pn	06 07 49.0	+0.6
UOSS	Minazif	5.80	190	P	Pn	06 07 49.7	+1.3
UOSS	Minazif	5.80	190	P	Pn	06 07 51.5	+3.1
UOSS				S	Sb	06 09 06.1	-7.1
NAZ	Nazwa, Dubai	5.86	195	P	Pn	06 07 52.4	+3.1
NAZ				S	Sb	06 09 08.0	-6.8
HATD	Hatta, Dubai	5.93	191	P	Pn	06 07 52.3	+2.0
HATD	Hatta, Dubai	5.93	191	P	Pn	06 07 53.0	+2.7
HATD				S	Sb	06 09 09.0	-7.8
IAKL	Akhelmad	6.03	11	Pn	Pn	06 07 51.9	+0.1
ASHO	Ashiyiah	6.08	191	P	Pn	06 07 55.0	+2.7
ASHO	Ashiyiah	6.08	191	P	Pn	06 07 55.1	+2.8
	SNR=14						
ASHO				S	Sn	06 09 12.3	+11
IMYA	Miami	6.10	21	Pn	Pn	06 07 54.4	+1.7
FAQ	Al Faqa, Dubai	6.11	195	P	Pn	06 07 54.9	+2.2
FAQ	Al Faqa, Dubai	6.11	195	P	Pn	06 07 55.2	+2.5
FAQ				S	Sb	06 09 14.0	-8.0
NGCH	Negor - Chabah	6.27	147	P	Pn	06 07 55.4	+0.5
ASUD	Al Ashush, Dub	6.29	197	P	Pn	06 07 56.7	+1.6
ASUD	Al Ashush, Dub	6.29	197	P	Pn	06 07 57.6	+2.4
ASUD				S	Sn	06 09 14.8	+8.1
IKRD	Kardeh	6.34	16	Pn	Pn	06 07 57.3	+1.2
ISFR	Sfrayin	6.38	5	Pn	Pn	06 07 57.4	+0.7
AJN	Ajban	6.44	200	P	Pn	06 07 59.3	+2.1
SOHO	SOHO	6.56	187	P	Pn	06 07 59.3	+0.5
SOHO	SOHO	6.56	187	P	Pn	06 07 59.9	+1.0
IDMV	Damavand	6.61	319	Pn	Pn	06 08 00.6	+0.8
ALNE	Al Ain	6.75	193	P	Pn	06 08 03.5	+2.1
JRN	Qarnain Island	6.96	216	P	Pn	06 08 04.5	+0.1
HOQ	Hoqain	7.07	180	P	Pn	06 08 07.6	+1.7
HOQ	Hoqain	7.07	180	Pn	Pn	06 08 07.1	+1.2
BIDO	Bidbid	7.16	174	P	Pn	06 08 08.6	+1.5
GEYT	Alibeck	7.26	5	Pn	Pn	06 08 10.2	+1.7
	0.4nm,0.3s,baz=210,slow=17,SNR=1.8						
	1.5nm,0.3s						
ARQ	Araqi	7.35	186	P	Pn	06 08 12.5	+2.7
	SNR=5.8						
ARQ				S	Sn	06 09 44.8	+12
SHMA	Al-Shehemyia	7.40	231	P	Pn	06 08 09.0	-1.3
WSAR	Wadi Sarin	7.50	171	P	Pn	06 08 13.1	+1.3
	SNR=14						
SAKB	Bahrain	7.61	234	P	Pn	06 08 11.5	-1.8
SMDO	Samad	7.62	175	P	Pn	06 08 15.2	+1.7
SMDO				S	Sn	06 09 51.5	+12
BSY	Bisya	7.90	181	P	Pn	06 08 20.5	+3.2
TRNA	Turayna	8.04	224	P	Pn	06 08 19.1	0.0
	SNR=13						
TRNA				S	Sn	06 09 56.9	+7.2
WBK	Wadi Bani Khal	8.17	169	P	Pn	06 08 22.4	+1.4
WBK				S	Sn	06 10 04.4	+11
SMRA	Abu-Samra	8.26	226	P	Pn	06 08 22.3	+0.1
SMRA				S	Sn	06 10 03.8	+8.4
JMDO	Jabal Madar	8.30	175	P	Pn	06 08 24.8	+2.0
JMDO				S	Sn	06 10 07.8	+11
MZR	Muzera	8.39	205	P	Pn	06 08 25.1	+1.1
JLN	Jalan Bani Buh	8.69	167	P	Pn	06 08 29.4	+1.2
JLN				S	Sn	06 10 17.4	+11
MHTO	MHTO	9.67	177	P	Pn	06 08 44.5	+3.0
KBL	Kabul	10.59	66	P	Pn	06 08 38.6	-16
SHAO	Shalim	12.70	187	P	Pn	06 09 25.2	+2.2
DMTO	DMTO	13.09	190	P	Pn	06 09 27.9	-0.5
WHFO	Wadi Hawf	13.11	195	P	Pn	06 09 27.3	-1.4
RBK	Rabkut	13.42	193	P	Pn	06 09 31.4	-1.6
ABTO	Aybut	13.77	196	P	Pn	06 09 35.8	-1.9
GNI	Garni	13.95	316	P	Pn	06 09 22.6	-18
KBZ	Khabaz	17.35	323	LR	LR	06 19 10.4	
	comp=Z,297nm,20.1s,baz=150,slow=44						
AKTO	Aktyubinsk	19.74	1	P	P	06 10 52.3	+0.3
	0.2nm,0.3s,baz=196,slow=8.5,SNR=3.0						
	1.1nm,0.5s						
BVAR	Borovoye Array	24.27	19	P	P	06 11 40.1	+0.7
	2.3nm,0.8s,baz=203,slow=7.2,SNR=8.4						
	2.3nm,0.8s						
MKAR	Makanchi Array	25.10	43	P	P	06 11 46.3	-0.6
	0.5nm,0.7s,baz=226,slow=9.5,SNR=4.7						
	0.5nm,0.7s						
KURBB	Kurchatov Arra	25.44	32	P	P	06 11 50.5	+0.6
	0.9nm,0.5s,baz=230,slow=9.1,SNR=11						
	0.9nm,0.5s						
ZALV	Zalesovo Beam	30.54	32	P	P	06 12 36.0	+0.5
	2.3nm,0.5s,baz=236,slow=10.0,SNR=9.3						
	2.3nm,0.5s						
FINES	FINESS Array B	36.96	335	P	P	06 13 32.0	+0.8
	3.0nm,0.9s,baz=134,slow=5.5,SNR=3.5						
	3.0nm,0.9s						
GERES	GERESS Array B	37.53	312	P	P	06 13 37.2	+0.8
	0.6nm,0.7s,baz=119,slow=10,SNR=1.9						
	0.6nm,0.7s						
TORD	Torodi Ar. Bea	53.97	264	P	P	06 15 45.6	-0.9
	1.3nm,0.7s,baz=51,slow=8.1,SNR=10						
	1.3nm,0.7s						
BORG	Borgarnes	57.91	330	LR	LR	06 46 03.6	
	comp=Z,273nm,18.5s,baz=91,slow=41						
ILAR	Eielson Array	82.99	10	P	P	06 18 47.4	+0.2
	0.1nm,0.8s,baz=335,slow=6.0,SNR=1.8						
	0.1nm,0.8s						

DJA 01 06:08:46.6±0.4, 10°S±5°×12°1E±°, h77km±9km, M4.1/10, MLv4.1/10
IDC 01 06:08:48.9±2.0, 9°.27S×121°.64E, h141km±19km, mb3.7/7, mbtmp4.1/10, Error ellipse: s-maj=50.2km s-min=9.6km az=55.0
ISC 01 06:08:44.9±0.7, 9°.62S±0°.06×121°.25E±0°.05, h100km, n21, σ1s.76/26, mb4.0/7, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BASI	Baing, Sumba	0.89	228	P	Pn	06 09 04.7	+0.5
EDFI	Ende, Flores	0.96	27	P	Pn	06 09 05.1	0.0
EDFI				S	Sn	06 09 19.3	-0.9
MMRI	Maumere	1.38	45	P	Pn	06 09 10.4	+0.7
MMRI				S	Sn	06 09 28.4	-0.1
BATI	Baumata	2.45	104	P	Pn	06 09 24.4	+1.0
BATI				S	Sn	06 09 55.1	+2.1
BATI	Baumata	2.45	104	P	Pn	06 09 24.7	+1.3
	23nm,0.3s,baz=302,slow=9.5,SNR=1.9						
BATI				S	Sn	06 09 55.0	+2.1
	93nm,0.4s,baz=158,slow=3.0,SNR=11						
SOEI	Soe	2.98	93	P	Pn	06 09 32.2	+1.7
PLAI	Plampang	3.52	283	P	Pn	06 09 38.8	+1.2
TWSI	Taliwang, Sumb	4.40	281	P	Pn	06 09 50.8	+1.3
BKSI	Bulukumba	4.41	345	P	Pn	06 09 53.7	+4.0
KAPI	Kappang	4.81	342	P	Pn	06 09 58.8	+3.8
	9.3nm,0.3s,baz=162,slow=9.9,SNR=12						
KAPI				S	Sn	06 10 50.1	+0.5
	8.1nm,0.3s,baz=222,slow=11,SNR=1.9						
FAKI	Fak Fak	12.79	59	P	P	06 11 48.6	-1.7
WRA	Warramunga Arr	16.28	131	P	Pn	06 12 26.2	-1.6
	3.6nm,0.6s,baz=305,slow=14,SNR=25						
WRA				S	Sn	06 15 15.6	-13
	2.0nm,0.5s,baz=309,slow=24,SNR=9.6						
ASAR	Alice Springs	18.48	141	P	P	06 12 54.0	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	3.9nm,0.7s,baz=329,slow=14,SNR=28						
ASAR				S	S	06 16 07.7	-11
	0.4nm,0.6s,baz=159,slow=39,SNR=5.2						
STKA	Stephens Creek	29.09	143	P	P	06 14 37.0	+0.8
	3.8nm,0.6s,baz=310,slow=9.8,SNR=8.8						
	3.8nm,0.6s						
SONM	Songino Array	58.70	348	P	P	06 18 30.3	-1.8
	0.4nm,0.4s,baz=169,slow=8.2,SNR=2.4						
	0.4nm,0.4s						
MKAR	Makanchi Array	66.03	332	P	P	06 19 19.7	-1.2
	1.1nm,0.6s,baz=140,slow=6.9,SNR=13						
	1.1nm,0.6s						
ZALV	Zalesovo Beam	70.42	338	P	P	06 19 45.7	-2.5
	0.8nm,0.3s,baz=141,slow=5.6,SNR=5.4						
	0.8nm,0.3s						
KURBB	Kurchatov Arra	70.52	333	P	P	06 19 47.3	-1.5
	0.5nm,0.4s,baz=138,slow=5.7,SNR=9.5						
	0.5nm,0.4s						
QSPA	South Pole Qui	80.38	180	P	P	06 20 45.6	+0.5
	0.5nm,0.5s,baz=270,slow=3.0,SNR=2.1						
	0.5nm,0.5s						
SNAA	Sanae	91.00	195	P	P	06 21 38.9	+1.3
	2.3nm,1.2s,baz=143,slow=14,SNR=2.1						
	2.3nm,1.2s						
TORD	Torodi Ar. Bea	120.75	280	PKP	PKPdf	06 27 26.7	+0.4
	0.6nm,1.1s,baz=94,slow=1.9,SNR=1.3						

*UCR **01** 06:12:49.3±0.6, 10°.93N×86°.47W, h2km±8km, MW3.9*
*CATAC **01** 06:12:52.1±0.3, 10°.91N×86°.63W, h60km, ML3.6*
ISC 01 06:12:52.2±1.2**, 10°.96N**±0°.03×**86°.48W**±0°.04**, h32**km±12km**, n88,** σ1s.40/130**, 1C-2D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCRUZ	La Cruz	0.84	82	eP	Pn	06 13 07.5	-0.4
MSHP	Masachapa	0.86	356	iP	Pb	06 13 08.9	+0.1
MSHP				IAML		06 13 09.7	
	comp=Z,510nm,1.0s						
MSHP				iS	Sb	06 13 20.8	+0.7
NADN	Granada	0.90	29	iP	Pb	06 13 08.7	-0.7
NADN				iS	Sb	06 13 22.8	+1.8
NADN				IAML		06 13 24.0	
	comp=Z,4µm,1.0s						
HZTE	Horizontes, Gu	0.90	106	eP	Pn	06 13 07.3	-1.5
HZTE				eS	Sn	06 13 20.7	+0.1
HZTE	Horizontes, Gu	0.90	106	iP	Pn	06 13 07.2	-1.5
HZTE				iS	Sb	06 13 21.2	0.0
HZTE				IAML		06 13 38.5	
	comp=Z,2µm,1.0s						
ADRN	Diriamba	0.92	15	iP	Pb	06 13 09.5	-0.3
ADRN				iS	Sb	06 13 23.3	+1.5
ADRN				IAML		06 13 26.3	
	comp=Z,9µm,1.0s						
JAPN	Al SSO del Vol	0.96	54	iP	Pb	06 13 09.8	-0.7
JAPN				IAML		06 13 10.8	
	comp=Z,2µm,1.0s						
OMEN	Al SSO del Vol	1.00	57	iP	Pn	06 13 10.1	+0.1
OMEN				IAML		06 13 30.4	
	comp=Z,2µm,1.0s						
MORN	Al O del Volca	1.00	54	iP	Pn	06 13 10.0	-0.1
MORN				IAML		06 13 10.4	
	comp=Z,4µm,1.0s						
GBS3	Finca Las Img	1.02	100	iP	Pn	06 13 09.0	-1.4
GBS3				eS	Sn	06 13 24.2	+0.6
CONN	Concepcion	1.03	54	iP	Pn	06 13 10.2	-0.3
CONN				iS	Sb	06 13 26.9	+2.1
CONN				IAML		06 13 27.1	
	comp=Z,12µm,1.0s						
CRUN	El Crucero	1.03	10	iP	Pb	06 13 11.2	-0.5
CRUN				IAML		06 13 32.0	
	comp=Z,8.2nm,1.0s						
LAPC	Finca la Perla	1.05	101	iP	Pn	06 13 09.2	-1.5
LAPC				eS	Sn	06 13 24.0	-0.2
BUEV	Buena Vista	1.07	99	iP	Pn	06 13 09.9	-1.2
BUEV				eS	Sb	06 13 25.6	-0.3
MASN	Masaya	1.07	17	iP	Pn	06 13 11.1	+0.1
MASN				IAML		06 13 20.5	
	comp=Z,370nm,1.0s						
GB1A	Borinquen Arri	1.07	98	eP	Pn	06 13 10.3	-0.8
GB1A				eS	Sb	06 13 26.4	+0.3
MAS3	Al N del Volca	1.10	16	iP	Pb	06 13 11.7	-1.1
MAS3				IAML		06 13 41.3	
	comp=Z,2µm,1.0s						
VRLE	La Escondida,	1.11	99	eP	Pn	06 13 10.6	-1.0
VRLE	La Escondida,	1.11	99	iP	Pn	06 13 11.0	-0.6
VRLE				IAML		06 13 28.7	
	comp=Z,1µm,1.0s						
GPS3	Bodega del ICE	1.11	101	eP	Pn	06 13 10.4	-1.3
GPS3				eS	Sn	06 13 26.4	+0.5
GPS1	Guardaparques	1.12	99	eP	Pn	06 13 11.3	-0.6
GPS1				eS	Sn	06 13 27.0	+0.7
GPS2	Hotel Rincn d	1.13	101	eP	Pn	06 13 10.7	-1.2
GPS2				eS	Sn	06 13 26.3	0.0
BUAI	Buenos Aires	1.13	94	⇓eP	Pn	06 13 11.0	-0.9
BUAI				eS	Sn	06 13 27.1	+0.8
GP77	Hacienda Santa	1.15	100	eP	Pn	06 13 11.4	-0.8
GP77				eS	Sn	06 13 27.5	+0.6
UNAN	Cigeo UNAN	1.16	10	iP	Pb	06 13 12.9	-0.9
UNAN				iS	Sb	06 13 29.8	+1.3
UNAN				IAML		06 13 40.9	
	comp=Z,9µm,1.0s						
ORTG	Ortega, Santa	1.17	121	eP	Pn	06 13 11.3	-1.1
ORTG	Ortega, Santa	1.17	121	iP	Pn	06 13 10.4	-2.0
ORTG				iS	Sb	06 13 28.1	-0.7
ORTG				IAML		06 13 34.0	
	comp=Z,600nm,1.0s						
SAJU	San Juanillo,	1.17	140	eP	Pb	06 13 14.0	+0.1
COPN	Copaltepe	1.22	355	iP	Pb	06 13 13.4	-1.3
COPN				IAML		06 13 33.0	
	comp=Z,3µm,1.0s						
JUD3	Juan Diaz 3	1.22	130	eP	Pn	06 13 10.4	-2.7
WILN	Americas 2	1.23	13	iP	Pb	06 13 13.6	-1.3
WILN				iS	Sb	06 13 32.5	+2.1
WILN				IAML		06 13 46.0	
	comp=Z,720nm,1.0s						
PLVR	Palo Verde	1.27	119	eP	Pn	06 13 12.9	-1.0
APYN	Apoyeque	1.27	6	iP	Pb	06 13 14.2	-1.5
APYN				iS	Sb	06 13 32.8	+1.1
APYN				IAML		06 13 40.0	
	comp=Z,1µm,1.0s						
BAGA	Bagaces	1.27	110	eP	Pn	06 13 13.3	-0.5
MESS	Mesas	1.28	100	eP	Pn	06 13 12.8	-1.2
COLC	Colonia	1.29	103	eP	Pn	06 13 13.2	-0.8
COLC				eS	Sb	06 13 31.4	-0.8
CLARA	Aguas Claras	1.29	98	eP	Pn	06 13 13.6	-0.5
CLARA				eS	Sb	06 13 32.0	-0.4
HORNC	Hornillas	1.30	101	eP	Pn	06 13 13.4	-0.8
CUI	Cuipilapa	1.33	103	eP	Pn	06 13 13.9	-0.6
CUI				eS	Sn	06 13 31.0	-0.2
VMAR	Armenia, Volca	1.35	96	eP	Pn	06 13 14.5	-0.4
VMAR				eS	Sb	06 13 34.6	+0.6
CANAL	Canalete	1.41	95	eP	Pn	06 13 14.7	-1.0
CANAL				eS	Sb	06 13 35.1	-0.4
MOTZ	Rio Naranjo	1.41	101	eP	Pn	06 13 15.6	-0.1
LEVN	Ruinas Leon Vi	1.44	355	iP	Pn	06 13 16.1	0.0
LEVN				iS	Sb	06 13 35.1	-1.3
LEVN				IAML		06 13 42.0	
	comp=Z,1µm,1.0s						
MOMN	Momotombo	1.44	358	iP	Pn	06 13 16.2	+0.1
MOMN				iS	Sb	06 13 35.7	-0.8
MOMN				IAML		06 13 42.0	
	comp=Z,28nm,1.0s						
INDI	Punta indio, G	1.45	138	iP	Pn	06 13 13.5	-2.8
INDI				iS	Sb	06 13 44.2	+7.3
INDI				IAML		06 13 52.2	
	comp=Z,340nm,1.0s						
ACAL	Aguas Claras	1.46	103	⇓eP	Pn	06 13 16.2	-0.2
ACAL				eS	Sb	06 13 36.8	-0.2
MOM2	El Cardon	1.47	360	iP	Pn	06 13 16.4	-0.1
MOM2				iS	Sb	06 13 37.5	+0.3
MOM2				IAML		06 13 40.8	
	comp=Z,650nm,1.0s						
PTEN	Parque Tenorio	1.49	99	eP	Pn	06 13 16.1	-0.7
CNGA	Al SSO del Vol	1.54	352	iP	Pn	06 13 17.1	-0.4
CNGA				iS	Sb	06 13 39.2	-0.2
CNGA				IAML		06 13 42.4	
	comp=Z,860nm,1.0s						
CNGN	Cerro Negro	1.54	352	eP	Pn	06 13 18.0	+0.4
CNGN	Cerro Negro	1.54	352	iP	Pn	06 13 17.8	+0.2
CNGN				iS	Sb	06 13 38.7	-0.8
CNGN				IAML		06 13 44.2	
	comp=Z,620nm,1.0s						
ROCN	Rota Cerro Neg	1.57	351	iP	Pn	06 13 18.1	+0.2
ROCN				iS	Sb	06 13 40.1	-0.1
ROCN				IAML		06 13 48.9	
	comp=Z,320nm,1.0s						
COTE	Lago Cote	1.58	104	eP	Pn	06 13 17.2	-0.9
COTE				eS	Sb	06 13 40.3	-0.4
VERA	Finca Concepci	1.58	94	⇑iP	Pn	06 13 18.6	+0.6
ILCN	San Idelfonso	1.62	352	iP	Pn	06 13 18.6	0.0
ILCN				iS	Sb	06 13 41.1	-0.6
ILCN				IAML		06 13 44.5	
	comp=Z,160nm,1.0s						
ACON	Acoyapa	1.62	52	eP	Pn	06 13 17.9	-0.7
ACON	Acoyapa	1.62	52	iP	Pn	06 13 18.5	-0.1
ACON				iS	Sb	06 13 42.5	+0.7
ACON				IAML		06 13 45.0	
	comp=Z,320nm,1.0s						
JUNT	Juntas	1.64	114	eP	Pn	06 13 19.0	+0.2
JTS	Las Juntas de	1.64	114	eP	Pn	06 13 18.7	-0.3
TABAC	Tabacon	1.75	105	eP	Pn	06 13 20.7	+0.3
PKGN	Cerro Pekin	1.77	344	iP	Pb	06 13 21.8	-2.2
PKGN				iS	Sb	06 13 45.5	-0.3
PKGN				IAML		06 13 55.6	
	comp=Z,890nm,1.0s						
MONTE	Monteverde	1.77	111	eP	Pn	06 13 20.8	+0.1
CASO	Castillo	1.79	107	eP	Pn	06 13 21.6	+0.6
CASO				eS	Sb	06 13 47.9	+1.2
ARE1	Arenal 1	1.80	106	eP	Pn	06 13 22.1	+1.1
CEDE	Laguna Cedeo	1.81	105	eP	Pn	06 13 21.4	+0.2
VACR	Volcan Arenal	1.84	105	iP	Pb	06 13 23.1	-2.1
VACR				iS	Sb	06 13 48.6	+0.7
FORC	Fortuna	1.84	105	eP	Pn	06 13 22.8	+1.1
LAFE	Finca La Fe, P	1.92	126	iP	Pn	06 13 20.6	-2.2
LAFE				iS	Sb	06 13 52.5	+2.2
LAFE				IAML		06 14 07.9	
	comp=Z,260nm,1.0s						
MATN	Matagalpa	2.03	15	eP	Pn	06 13 24.2	-0.1
MATN	Matagalpa	2.03	15	iP	Pn	06 13 24.7	+0.4
MATN				IAML		06 13 44.4	
	comp=Z,130nm,1.0s						
MATN				iS	Sb	06 13 51.4	-2.1
COVE	Coope Vega, Sa	2.06	97	eP	Pn	06 13 26.1	+1.6
LIMN	Finca el Limon	2.09	3	iP	Pn	06 13 25.6	+0.4
LIMN				IAML		06 14 11.2	
	comp=Z,280nm,1.0s						
CPMI	Catarata Coope	2.17	108	iP	Pn	06 13 28.0	+1.7
CPMI				iS	Sb	06 14 03.4	+5.8
CPMI				IAML		06 14 08.1	
	comp=Z,260nm,1.0s						
JACO	JACO, Garabito	2.21	126	iP	Pb	06 13 29.0	-2.5
JACO				iS	Sb	06 14 01.6	+3.1
JACO				IAML		06 14 17.4	
	comp=Z,160nm,1.0s						
POTN	Potosi Cosigui	2.26	334	iP	Pb	06 13 34.0	+1.6
POTN				IAML		06 14 04.7	
	comp=Z,80nm,1.0s						
CSGN	Cosiguina Volc	2.26	332	iP	Pn	06 13 27.1	-0.4
CSGN				IAML		06 14 06.3	
	comp=Z,760nm,1.0s						
SOMN	Somoto	2.45	357	iP	Pn	06 13 31.8	+1.7
SOMN				IAML		06 13 40.0	
	comp=Z,98nm,1.0s						
RCPN	Sur Rio San Ju	2.58	8	iP	Pn	06 13 31.8	-0.1
RCPN				IAML		06 14 06.7	
	comp=Z,0.6nm,1.0s						
RIFO	Rio Frio, Sara	2.59	104	iP	Pb	06 13 35.6	-2.5
RIFO				IAML		06 14 38.6	
	comp=Z,180nm,1.0s						
RCVN	Varillal2	2.62	6	iP	Pn	06 13 32.2	-0.3
RCVN				IAML		06 13 34.1	
	comp=Z,1µm,1.0s						
OCON	Estacion meteo	2.65	0	iP	Pn	06 13 32.9	0.0
OCON				IAML		06 13 34.8	
	comp=Z,88nm,1.0s						
LCR2	La Lucha 2	2.72	116	iP	Pb	06 13 37.5	-2.9
LCR2				IAML		06 14 17.9	
	comp=Z,84nm,1.0s						
TRT2	Tortugero	2.73	98	iP	Pb	06 13 40.1	-0.3
TRT2				IAML		06 14 43.5	
	comp=Z,160nm,1.0s						
RIMA	Rio Macho	2.83	115	iP	Pn	06 13 37.9	+2.4
RIMA				IAML		06 14 27.1	
	comp=Z,73nm,1.0s						
BLUN	Bluefields	2.85	68	iP	Pb	06 13 41.6	-0.8
BLUN				IAML		06 14 18.0	
	comp=Z,96nm,1.0s						
RVSTA	Santa Teresita	2.95	109	eP	Pn	06 13 37.8	+0.8
CDM	Cerro de Muert	3.02	117	iP	Pn	06 13 40.2	+2.0
CDM				IAML		06 14 47.4	
	comp=Z,63nm,1.0s						
SCLA	Alcaldia de Sa	3.50	321	iP	Pn	06 13 44.6	+0.1
SCLA				IAML		06 14 32.4	
	comp=Z,34nm,1.0s						

*IDC **01** 06:25:22.6±1.9, 0°.99N×123°.72E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=187.2km s-min=27.7km az=62.0*
*DJA **01** 06:25:46.4±0.7, 1°N±5°×12°4E±°, h203km±6km, M3.4/7, MLv3.4/7*
ISC 01 06:25:48.7±1.6**, 0°.7N**±0°.2×**124°.53E**±0°.09**, h200**km**, n8,** σ**1s.24**/9**, mb3.3**/3**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	1.52	268	P	Pn	06 26 22.5	0.0
GTOI				S	Sn	06 26 49.9	+1.1
SANI	Sanana	3.08	152	P	Pn	06 26 39.3	0.0
SANI				S	Sn	06 27 18.2	-0.8
LBMI	Labuha	3.25	114	P	Pn	06 26 41.3	0.0
LBMI				S	Sn	06 27 23.2	+0.8
NLAI	Namlea	4.67	147	S	Sn	06 27 56.5	+2.2
FAKI	Fak Fak	8.51	115	P	Pn	06 27 42.9	-5.7
WRA	Warramunga Arr	22.65	155	P	P	06 30 32.0	-1.0
	2.5nm,0.5s,baz=332,slow=11,SNR=21						
	2.5nm,0.5s						
ASAR	Alice Springs	25.87	160	P	P	06 31 01.3	-0.9
	0.2nm,0.3s,baz=338,slow=7.7,SNR=5.2						
	0.2nm,0.3s						
MKAR	Makanchi Array	58.85	327	P	P	06 35 18.3	-8.1
	0.2nm,0.3s,baz=134,slow=7.4,SNR=2.8						
	0.2nm,0.3s						

*NNC **01** 06:30:50.3±3.1, 54°.50N×86°.93E, h0km, mb3.0, mpv2.9, Error ellipse: s-maj=20.7km s-min=13.3km az=65.0, Suspected Mining explosion.*
*IDC **01** 06:30:55.6±2.7, 54°.32N×86°.57E, h0km, mbtmp2.9/3, ML2.0/2, Error ellipse: s-maj=21.5km s-min=13.8km az=64.0*
ISC 01 06:30:57.1±3.4**, 54°.3N**±0°.2×**86°.4E**±0°.2**, h0**km**, n8,** σ**1s.12**/10**, 3C-3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.96	251	I	I	06 37 45.2	
	0.1nm,0.8s,baz=69,slow=340,SNR=43						
ZAA0	Zalesovo Array	0.96	251	⇑P	Pg	06 31 15.1	-0.4
	0.6nm,0.8s,baz=68,slow=17						
ZAA0				⇓S	Sn	06 31 34.5	+2.3
	4.5nm,1.1s,baz=64,slow=26						
ZALV	Zalesovo Beam	0.96	251	Pg	Pb	06 31 15.6	-1.0
	0.3nm,0.3s,baz=67,slow=17,SNR=12						
ZALV				Lg	Lg	06 31 33.5	
	baz=67,slow=24						
KURK	Kurchatov	5.91	236	⇓Pn	Pn	06 32 25.9	0.0
	2.2nm,0.8s						
KURK				⇓Lg	Lg	06 34 09.9	
	4.3nm,1.0s						
KURBB	Kurchatov Arra	6.01	236	Pn	Pn	06 32 27.9	+0.7
	baz=54,slow=14,SNR=18						
KURBB				Sn	Sn	06 33 36.2	-0.6
	baz=55,slow=31,SNR=1.4						
KURBB				Lg	Lg	06 34 10.4	
	baz=45,slow=23,SNR=4.3						
	1.7nm,0.8s						
KURBB	Kurchatov Arra	6.01	236	⇑Pn	Pn	06 32 28.0	+0.7
	4.1nm,0.9s						
KURBB				⇑Lg	Lg	06 34 11.7	
	5.4nm,1.1s						
MKAR	Makanchi Array	7.92	201	Pn	Pn	06 32 54.3	+0.9
	0.2nm,0.5s,baz=20,slow=16,SNR=1.1						
MKAR				Sn	Sn	06 34 23.4	-0.2
	baz=12,slow=36,SNR=2.9						
MKAR				Lg	Lg	06 35 11.8	
	baz=23,slow=33,SNR=3.5						
BVAR	Borovoye Array	9.56	269	Pn	Pn	06 33 15.9	-0.1
	baz=70,slow=18,SNR=1.7						
	0.4nm,0.6s						

*IDC **01** 06:36:16.6±3.1, 29°.76N×57°.98E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=81.5km s-min=25.4km az=154.0*
*TEH **01** 06:36:21.7, 30°.77N×57°.35E, h6km±162km, ML3.7*
ISC 01 06:36:23.0±0.8**, 30°.68N**±0°.04×**57°.24E**±0°.04**, h11**km**, n23,** σ**2s.12**/23**, mb3.4**/6**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.67	296	Pg	Pn	06 36 37.2	-1.4
KHGB	Koh Gabri	0.72	246	Pg	Pn	06 36 39.1	-0.3
TVBK	TV Kerman	0.80	211	Pg	Pn	06 36 41.8	+1.3
CHMN	Cheshme madani	0.85	162	Pg	Pn	06 36 40.5	-0.7
NGRK	Negar Kerman	1.12	203	Pg	Pn	06 36 47.3	+2.4
IBAF	Bafgh	1.70	303	Pg	Pg	06 36 55.5	-0.1
KBAM	BAM	1.86	145	Pn	Pg	06 36 57.7	-1.0
BSRN	Basiran	2.06	51	Pn	Pn	06 36 58.6	+0.8
IKOO	Kooshah	2.31	40	Pn	Pn	06 37 02.0	+0.8
IMEH	Mehriz	2.36	288	Pn	Pb	06 37 05.4	-0.3
ITEG	Tejag	2.56	30	Pn	Pn	06 37 05.0	+0.4
BAGH	Bagheran - Bir	2.69	38	Pn	Pn	06 37 06.8	+0.3
ICHK	Chekchek	2.88	304	Pn	Pb	06 37 12.2	-2.3
IDAH	Dahanechah	3.04	47	Pn	Pn	06 37 12.6	+1.3
AFRZ	Afriz	3.13	28	Pn	Pn	06 37 13.3	+0.9
ISAD	Sadrabad	3.28	293	Pn	Pb	06 37 17.9	-3.5
ANAR	Anarak	3.90	311	Pn	Pn	06 37 24.4	+1.5
BRTR	Keskin Array B	21.25	302	P	P	06 41 15.6	+6.4
	0.5nm,0.4s,baz=98,slow=8.9,SNR=3.6						
	0.5nm,0.4s						
BVAR	Borovoye Array	24.31	20	P	P	06 41 42.0	+1.6
	0.9nm,0.7s,baz=204,slow=7.0,SNR=4.6						
	0.9nm,0.7s						
MKAR	Makanchi Array	25.16	43	P	P	06 41 46.3	-1.9
	0.2nm,0.7s,baz=222,slow=7.6,SNR=1.7						
	0.2nm,0.7s						
KURBB	Kurchatov Arra	25.49	33	P	P	06 41 51.3	+0.2
	0.5nm,0.7s,baz=230,slow=8.9,SNR=6.5						
	0.5nm,0.7s						
ZALV	Zalesovo Beam	30.59	33	P	P	06 42 33.9	-2.7
	0.7nm,0.4s,baz=227,slow=9.7,SNR=2.1						
	0.7nm,0.4s						
TORD	Torodi Ar. Bea	53.87	264	P	P	06 45 45.9	-0.6
	0.5nm,0.7s,baz=54,slow=7.9,SNR=4.1						
	0.5nm,0.7s						

*AEIC **01** 07:05:54.7±1.1, 61°.45N±0°.02×146°.52W±0°.04, h22km±7km, ML3.2, ML3.4/162(NEIC), Error ellipse: s-maj=3.0km s-min=2.2km az=84.0*
*NEIC **01** 07:05:54.0±1.0, 61°.450N±0°.006×146°.54W±0°.05, h29km±9km, Error ellipse: s-maj=3.2km s-min=0.5km az=102.0*
*IDC **01** 07:06:00.8±2.8, 62°.08N×147°.07W, h0km, mb3.1/1, mbtmp3.1/3, ML2.9/2, Error ellipse: s-maj=40.9km s-min=19.1km az=59.0*
ISC 01 07:05:54.0±0.9**, 61°.45N**±0°.02×**146°.54W**±0°.02**, h31**km±8km**, n262,** σ**0s.63**/255**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KLU	Klutina	0.30	82		Pb	07 06 01.5	-0.1
KLU	Klutina	0.30	82		Sb	07 06 07.0	+0.3
KLU	Klutina	0.30	82	IAML		07 06 07.3	
	comp=N,10µm,0.4s						
KLU				IAML		07 06 07.4	
	comp=E,15µm,0.4s						
KLU	Klutina	0.30	82	P	Pb	07 06 01.4	-0.1
	baz=262						
KLU				S	Sb	07 06 07.0	+0.3
	baz=262						
DIV	Divide	0.49	131		Pb	07 06 03.4	-0.9
DIV					Sb	07 06 10.7	-0.7
SCM	Sheep Creek Mo	0.54	316		Pb	07 06 04.3	-0.8
SCM	Sheep Creek Mo	0.54	316		Sb	07 06 13.2	+0.4
SCM	Sheep Creek Mo	0.54	316	IAML		07 06 13.3	
	comp=N,5µm,0.6s						
SCM				IAML		07 06 13.5	
	comp=E,9µm,0.5s						
SCM	Sheep Creek Mo	0.54	316	P	Pb	07 06 04.7	-0.4
	baz=134						
SCM				S	Sb	07 06 13.2	+0.4
	baz=134						
GLI	Glacier Island	0.64	206		Pb	07 06 06.1	-0.6
GLI				IAML		07 06 15.9	
	comp=E,2µm,0.3s						
GLI				IAML		07 06 16.3	
	comp=N,2µm,0.2s						
GLI	Glacier Island	0.64	206		Sb	07 06 15.3	0.0
GLI	Glacier Island	0.64	206	P	Pb	07 06 06.0	-0.6
	baz=26						
GLI				S	Sb	07 06 15.5	+0.1
	baz=26						
M23K	Glacier View	0.66	301		Pn	07 06 06.4	-0.9
M23K					Sb	07 06 16.0	-0.1
M23K	Glacier View	0.66	301	P	Pn	07 06 06.3	-0.9
	baz=120						
M23K				S	Sb	07 06 16.0	-0.1
	baz=120						
M24K	Tolsona, Glenn	0.68	14		Pb	07 06 06.8	-0.6
M24K	Tolsona, Glenn	0.68	14		Sn	07 06 17.4	+0.3
M24K	Tolsona, Glenn	0.68	14	IAML		07 06 17.7	
	comp=E,1µm,0.9s						
M24K				IAML		07 06 17.9	
	comp=N,964nm,0.9s						
M24K	Tolsona, Glenn	0.68	14	P	Pb	07 06 07.0	-0.4
	baz=194						
M24K				S	Sn	07 06 17.4	+0.3
	baz=194						
FID	Port Fidalgo	0.70	178		Pn	07 06 07.4	-0.4
FID					Sb	07 06 18.5	+1.3
KNK	Knik Glacier	0.93	268		Pn	07 06 10.7	-0.2
KNK				IAML		07 06 24.9	
	comp=N,2µm,0.5s						
KNK	Knik Glacier	0.93	268		Sn	07 06 23.4	+0.3
KNK	Knik Glacier	0.93	268	P	Pn	07 06 10.7	-0.2
	baz=87						
KNK				S	Sn	07 06 23.5	+0.3
	baz=87						
SML	Sawmill	0.93	293		Pn	07 06 10.4	-0.6
SML	Sawmill	0.93	293		Sn	07 06 22.9	-0.3
SML	Sawmill	0.93	293	IAML		07 06 23.1	
	comp=E,937nm,0.3s						
SML				IAML		07 06 23.3	
	comp=N,2µm,0.6s						
SML	Sawmill	0.93	293	P	Pn	07 06 10.2	-0.8
	baz=112						
SML				S	Sn	07 06 22.9	-0.3
	baz=112						
N25K	Chitina, Valde	0.94	80		Pn	07 06 10.1	-1.1
N25K				IAML		07 06 23.4	
	comp=N,852nm,0.4s						
N25K	Chitina, Valde	0.94	80	P	Pn	07 06 10.0	-1.2
	baz=261						
EYAK	Cordova Ski Ar	0.98	157		Pn	07 06 11.5	-0.1
EYAK	Cordova Ski Ar	0.98	157	P	Pn	07 06 11.5	-0.1
	baz=338						
BMRM	Bremner River	1.05	117		Pn	07 06 11.4	-1.3
BMRM	Bremner River	1.05	117	P	Pn	07 06 11.4	-1.3
	baz=298						
PWL	Port Wells	1.06	237		Pn	07 06 12.6	-0.1
PWL				IAML		07 06 29.6	
	comp=N,643nm,0.5s						
PWL				IAML		07 06 29.8	
	comp=E,740nm,0.3s						
PWL	Port Wells	1.06	237	P	Pn	07 06 12.6	-0.1
	baz=55						
HIN	Hinchinbrook I	1.06	179		Pn	07 06 12.8	+0.1
HARP	HAARP	1.15	34		Pn	07 06 14.0	0.0
HARP	HAARP	1.15	34	P	Pn	07 06 14.0	0.0
	baz=215						
WACK	Wrangell Chich	1.18	62		Pn	07 06 14.1	-0.5
GHO	Glory Hole Cre	1.19	287		Pn	07 06 14.3	-0.3
WASW	Wrangell South	1.22	66		Pn	07 06 14.5	-0.7
GOAT	Goat Mountain	1.24	134		Pn	07 06 15.3	0.0
PMR	Palmer	1.25	278	Pn	Pn	07 06 15.5	+0.1
PMR				IAML		07 06 34.0	
	comp=E,884nm,0.6s						
PMR				IAML		07 06 34.1	
	comp=N,930nm,0.2s						

PMR Palmer 1.25 278 P Pn 07 06 15.6 +0.3
baz=95
WAT6 Susitna Watana 1.27 334 Pn 07 06 14.9 -0.8
WAT6 Susitna Watana 1.27 334 P Pn 07 06 14.9 -0.8
baz=153
WAZA Wrangell Mount 1.29 60 Pn 07 06 15.9 -0.3
GLB Gilahina Butte 1.31 89 Pn 07 06 15.6 -0.6
GLB IAML 07 06 34.3
comp=E,718nm,0.5s
RAGM Ragged Mountai 1.40 139 Pn 07 06 17.6 +0.2
VRDI Verde Repeater 1.50 97 Pn 07 06 18.2 -0.7
VRDI IAML 07 06 41.5
comp=N,432nm,0.5s
P23K Montague Islan 1.52 197 Pn 07 06 19.4 +0.4
P23K Montague Islan 1.52 197 P Pn 07 06 19.4 +0.4
baz=16
HMT Hamilton 1.58 134 Pn 07 06 20.3 +0.4
RC01 Rabbit Creek A 1.59 258 Pn Pn 07 06 20.9 +0.9
RC01 Rabbit Creek A 1.59 258 P Pn 07 06 21.2 +1.2
baz=75
PAX Paxson 1.60 18 Pn 07 06 20.3 0.0
PAX Paxson 1.60 18 P Pn 07 06 20.3 0.0
baz=198
WAT1 Susitna Watana 1.68 326 Pn 07 06 21.6 +0.4
WAT1 Susitna Watana 1.68 326 P Pn 07 06 21.6 +0.4
baz=145
DHY Denali Highway 1.68 347 Pn 07 06 21.2 -0.1
DHY Denali Highway 1.68 347 P Pn 07 06 21.4 0.0
baz=166
MCARA McCarthy VSAT 1.69 91 Pn 07 06 21.5 +0.1
MCARA McCarthy VSAT 1.69 91 P Pn 07 06 21.5 +0.1
baz=274
M22K Willow 1.74 282 Pn 07 06 23.3 +1.2
M22K Willow 1.74 282 P Pn 07 06 23.1 +1.1
baz=98
BERG Berg Lake 1.75 126 Pn 07 06 22.3 +0.1
NICHA Nichawak Mount 1.75 133 Pn 07 06 22.4 +0.1
WAT7 Susitna Watana 1.76 323 Pn 07 06 22.9 +0.5
CRQM Cirque 1.79 111 Pn 07 06 23.3 +0.3
CRQE Cirque 1.81 111 P Pn 07 06 23.5 +0.3
baz=294
O22K Cooper Landing 1.84 239 Pn 07 06 24.6 +1.3
O22K Cooper Landing 1.84 239 P Pn 07 06 24.0 +0.6
baz=57
KAIM Kayak Island 1.85 145 Pn 07 06 23.9 +0.4
KAIM Kayak Island 1.85 145 IAML 07 06 45.2
comp=E,225nm,2.9s
KAIM IAML 07 07 11.7
comp=N,225nm,3.5s
KAIM Kayak Island 1.85 145 P Pn 07 06 24.0 +0.4
baz=327
KHIT Khitrov Hills 1.90 121 Pn 07 06 24.3 0.0
M26K Nabesna, AK 1.93 59 Pn 07 06 25.6 +1.0
M26K Nabesna, AK 1.93 59 P Pn 07 06 25.7 +1.0
baz=242
TGL Tana Glacier 1.93 110 Pn 07 06 24.8 0.0
TGL IAML 07 06 58.1
comp=N,493nm,0.6s
SUCK Suckling Hills 1.94 134 Pn 07 06 26.6 +1.8
SUCK IAML 07 06 55.9
comp=N,493nm,0.4s
SUCK IAML 07 06 56.1
comp=E,288nm,0.4s
GRIN Grindle Hills 1.96 125 Pn 07 06 25.1 -0.1
SEW Seward 1.97 228 Pn 07 06 25.4 +0.2
SEW Seward 1.97 228 P Pn 07 06 25.5 +0.4
baz=46
PTPK Patty Peak 1.98 96 Pn 07 06 26.0 +0.5
CUT Chulitna 2.01 300 Pn Pn 07 06 27.1 +1.4
CUT Chulitna 2.01 300 P Pn 07 06 27.1 +1.4
baz=117
SUA Susitna One 2.02 272 Pn 07 06 27.5 +1.4
SUA IAML 07 06 55.6
comp=N,410nm,0.8s
SUA Susitna One 2.02 272 P Pn 07 06 27.0 +0.9
baz=88
SLKM Skilak Lake 2.03 244 Pn 07 06 26.8 +0.7
WAX Waxell Ridge 2.06 118 Pn 07 06 26.8 +0.3
KIAG Kiagna River 2.09 103 Pn 07 06 26.9 -0.2
L26K Log Cabin Wild 2.17 42 Pn 07 06 29.2 +1.2
ISLE Juniper Island 2.21 111 Pn 07 06 28.6 -0.1
ISLE IAML 07 07 05.9
comp=N,315nm,0.6s
SNH Sunshine Point 2.22 124 Pn 07 06 30.5 +1.9
SNH IAML 07 06 53.2
comp=N,179nm,2.3s
SNH IAML 07 07 04.4
comp=E,200nm,1.0s
BARK Barkley Ridge 2.24 116 Pn 07 06 29.1 +0.1
RND Reindeer 2.24 332 Pn 07 06 30.2 +1.2
RND IAML 07 07 07.7
comp=N,269nm,0.8s
RND IAML 07 07 07.9
comp=E,262nm,0.7s
BAGL Bagley Icefiel 2.37 112 Pn 07 06 30.6 -0.1
M27K Edge Creek, AK 2.38 66 Pn 07 06 32.2 +1.1
M27K Edge Creek, AK 2.38 66 P Pn 07 06 32.2 +1.1
baz=250
K24K Donnelly Dome 2.39 8 Pn 07 06 32.9 +1.9
K24K Donnelly Dome 2.39 8 P Pn 07 06 32.9 +1.9
baz=189
BARN Barnard Glacie 2.39 97 Pn 07 06 32.1 +0.9
BARN IAML 07 07 09.1
comp=N,176nm,0.6s
BARN IAML 07 07 13.7
comp=E,197nm,0.6s
GRNC Granite Creek 2.43 105 Pn 07 06 31.8 0.0
GRNC IAML 07 07 09.4
comp=E,148nm,0.6s
GRNC IAML 07 07 10.2
comp=N,156nm,0.5s
SKT Skwentna 2.44 285 Pn Pn 07 06 32.4 +0.8
SKT IAML 07 07 08.0
comp=N,238nm,0.3s
SKT IAML 07 07 09.7
comp=E,184nm,0.6s
SKT Skwentna 2.44 285 P Pn 07 06 32.5 +0.8
baz=100
STLK Strandline Lak 2.54 273 Pn 07 06 34.0 +0.9
MCK McKinley 2.54 335 Pn 07 06 34.3 +1.2
MCK McKinley 2.54 335 P Pn 07 06 34.3 +1.2
baz=153
CTG Chitna Glacier 2.56 99 P Pn 07 06 33.8 +0.4
baz=283
CTGM Chitina Glacie 2.56 99 Pn 07 06 33.4 -0.2
CTGM IAML 07 07 14.2
comp=N,159nm,0.7s
MESA MESA 2.58 118 P Pn 07 06 34.0 +0.1
baz=302
SPCG Spurr Capps Gl 2.65 269 Pn 07 06 35.5 +0.9
TRF Thorofare Moun 2.66 321 Pn 07 06 35.9 +1.0
TRF IAML 07 07 19.2
comp=N,135nm,0.4s
TRF IAML 07 07 21.7
comp=E,134nm,0.6s
TRF Thorofare Moun 2.66 321 P Pn 07 06 36.0 +1.2
baz=137
BRSE Bradley Lake S 2.69 232 Pn 07 06 35.8 +0.6
BRSE Bradley Lake S 2.69 232 P Pn 07 06 35.8 +0.6
baz=49
SPCP Crater Peak Br 2.71 269 Pn 07 06 36.7 +1.1
L27K Beaver Creek, 2.73 52 Pn 07 06 36.6 +0.9
L27K Beaver Creek, 2.73 52 P Pn 07 06 36.6 +0.9
baz=236
BRLK Bradley Lake 2.73 234 Pn 07 06 36.2 +0.5
BRLK IAML 07 07 21.0
comp=N,89nm,1.0s
BRLK IAML 07 07 22.2
comp=E,145nm,0.6s
YUK2 White River 2.74 80 Pn 07 06 36.4 +0.5
N20K Mount Spurr 2.75 267 P Pn 07 06 36.7 +0.8
baz=82
SPCR Spurr Chakacha 2.75 267 Pn 07 06 36.7 +0.7
SPCR Spurr Chakacha 2.75 267 Pn 07 06 36.6 +0.7
SPCR Spurr Chakacha 2.75 267 P Pn 07 06 36.6 +0.7
baz=82
LOGN Logan Glacier 2.76 101 Pn 07 06 36.0 -0.1
LOGN IAML 07 07 18.5
comp=N,148nm,0.5s
LOGN IAML 07 07 19.8
comp=E,94nm,0.5s
SCRK Sand Creek 2.79 24 Pn 07 06 36.8 +0.2
SCRK Sand Creek 2.79 24 P Pn 07 06 37.4 +0.8
baz=206
SPBG Spurr Blockage 2.82 269 Pn 07 06 37.8 +0.9

TABL Table Mountain 2.82 109 Pn 07 06 37.2 +0.1
TABL IAML 07 07 22.6
comp=N,131nm,0.9s
TABL IAML 07 07 23.9
comp=E,126nm,0.8s
BVCY Beaver Creek 2.85 68 Pn 07 06 38.7 +1.3
BVCY Beaver Creek 2.85 68 P Pn 07 06 37.9 +0.5
baz=253
YUK3 Moose Creek 2.92 81 Pn 07 06 39.1 +0.7
YUK3 Moose Creek 2.92 81 P Pn 07 06 39.3 +0.8
baz=266
KTH Kantishna Hill 2.93 318 Pn Pn 07 06 39.4 +0.9
KTH IAML 07 07 22.4
comp=E,113nm,0.6s
SPNN North Nagishla 2.96 271 Pn 07 06 40.0 +1.0
HDA Harding Lake 2.97 357 Pn 07 06 39.5 +0.5
HDA IAML 07 07 21.0
comp=N,135nm,0.4s
HDA IAML 07 07 21.1
comp=E,180nm,0.6s
HDA Harding Lake 2.97 357 P Pn 07 06 39.7 +0.7
baz=176
HDA P Pn 07 06 39.7 +0.7
baz=176
RDT Redoubt 2.99 255 Pn 07 06 39.4 +0.1
PPLA Purkeypile 3.02 301 Pn 07 06 40.4 +0.7
PPLA Purkeypile 3.02 301 P Pn 07 06 40.5 +0.7
baz=116
CNPM China Poot 3.02 232 Pn Pn 07 06 40.2 +0.4
CNPM IAML 07 07 27.6
comp=N,77nm,0.5s
CNPM IAML 07 07 36.2
comp=E,97nm,1.1s
BWN Browne 3.04 335 Pn 07 06 39.7 -0.3
BWN IAML 07 07 43.2
comp=E,173nm,1.0s
HOM Homer 3.10 237 Pn 07 06 41.6 +0.9
HOM Homer 3.10 237 P Pn 07 06 41.6 +0.9
baz=52
DFR Drift River 3.12 257 Pn 07 06 41.4 +0.3
SAMH Chamovar Hills 3.12 113 Pn 07 06 41.7 +0.7
O28M Mount Upton 3.15 100 Pn 07 06 42.2 +0.5
O28M Mount Upton 3.15 100 P Pn 07 06 42.0 +0.2
baz=285
M20K Styx River 3.17 281 Pn 07 06 43.0 +1.2
M20K IAML 07 07 34.2
comp=E,74nm,0.7s
M20K Styx River 3.17 281 P Pn 07 06 42.7 +0.8
baz=95
RDSO Redoubt South 3.19 254 Pn 07 06 42.4 +0.3
RSO Redoubt South 3.19 255 Pn 07 06 43.0 +0.8
RED Redoubt Volcan 3.22 254 Pn 07 06 42.6 +0.2
J25K Salcha River, 3.22 9 Pn 07 06 42.8 +0.4
J25K Salcha River, 3.22 9 P Pn 07 06 42.9 +0.4
baz=190
RDWB Redoubt West 3.22 255 Pn 07 06 43.1 +0.5
NCT North Crescent 3.24 257 Pn 07 06 43.0 +0.2
CAST Castle Rocks 3.25 310 Pn Pn 07 06 42.8 0.0
CAST IAML 07 07 38.5
comp=E,68nm,0.6s
CAST Castle Rocks 3.25 310 P Pn 07 06 43.3 +0.5
baz=125
CCB Clear Creek Bu 3.26 350 Pn 07 06 43.0 +0.1
ILAR Eielson Array 3.34 357 Pn 07 06 44.0 +0.1
ILAR Eielson Array 3.34 357 Pn Pn 07 06 43.8 -0.2
comp=E,2.3nm,0.3s,baz=179,slow=14,SNR=102
ILAR Lg Lg 07 07 26.1
comp=E,4.1nm,0.3s,baz=180,slow=20,SNR=3.3
comp=E,10.0nm,0.4s
J26L Joseph Creek 3.35 23 Pn 07 06 45.1 +0.9
J26L Joseph Creek 3.35 23 P Pn 07 06 45.1 +0.9
baz=205
BPAW Bear Paw Mtn. 3.35 324 Pn Pn 07 06 44.4 +0.2
BPAW IAML 07 07 39.4
comp=N,58nm,0.7s
BPAW Bear Paw Mtn. 3.35 324 P Pn 07 06 44.8 +0.5
baz=140
NEA2 Nenana 3.36 341 P Pn 07 06 44.2 0.0
baz=159
PCA Pinnacle 3.37 111 Pn 07 06 44.4 0.0
PINM Pinnacle 3.37 111 P Pn 07 06 44.5 0.0
baz=297
IVE Iliamna Volcan 3.49 249 Pn 07 06 46.3 +0.1
ILW Iliamna West 3.53 250 Pn 07 06 47.1 +0.3
ILSW Iliamna Southw 3.56 248 Pn 07 06 48.0 +0.8
ILSW IAML 07 07 42.6
comp=E,45nm,0.8s
MDM Murphy Dome 3.60 348 Pn 07 06 47.8 +0.1
MDM IAML 07 07 52.1
comp=E,51nm,0.8s
CHUM Lake Minchumin 3.61 315 Pn 07 06 48.3 +0.6
CHUM Lake Minchumin 3.61 315 P Pn 07 06 48.3 +0.6
baz=130
L20K Farewell, AK 3.62 290 Pn 07 06 47.8 -0.1
L20K Farewell, AK 3.62 290 P Pn 07 06 47.8 -0.1
baz=103
POKR Poker Plat Res 3.70 354 P Pn 07 06 49.0 0.0
baz=173
M19K Big River Lodg 3.77 280 Pn 07 06 50.0 0.0
M19K Big River Lodg 3.77 280 IAML 07 07 52.0
comp=E,52nm,1.2s
M19K IAML 07 07 52.1
comp=N,43nm,0.9s
M19K Big River Lodg 3.77 280 P Pn 07 06 50.0 0.0
baz=93
N19K Bonanza Creek 3.91 264 Pn 07 06 51.9 0.0
N19K Bonanza Creek 3.91 264 P Pn 07 06 51.9 0.0
baz=77
I23K Minto, Yukon-K 3.92 342 Pn 07 06 52.3 +0.3
I23K IAML 07 08 02.0
comp=N,60nm,0.8s
I23K IAML 07 08 06.2
comp=E,39nm,1.0s
I23K Minto, Yukon-K 3.92 342 P Pn 07 06 52.3 +0.3
baz=160
M29M Somme Creek 3.94 72 Pn 07 06 53.0 +0.6
M29M Somme Creek 3.94 72 P Pn 07 06 52.8 +0.4
baz=259
K20K Telida 3.99 302 Pn 07 06 53.1 +0.1
K20K IAML 07 08 01.8
comp=E,63nm,0.8s
K20K Telida 3.99 302 P Pn 07 06 52.9 -0.1
baz=115
L19K White Mountain 4.01 284 Pn 07 06 53.5 +0.2
L19K White Mountain 4.01 284 P Pn 07 06 53.5 +0.2
baz=97
MLY Manley 4.06 334 P Pn 07 06 54.2 +0.2
baz=150
SYI Shuyak Island 4.09 228 Pn 07 06 55.0 +0.6
SYI Shuyak Island 4.09 228 IAML 07 08 02.6
comp=N,42nm,3.8s
SYI IAML 07 08 45.2
comp=E,57nm,3.1s
Q20K Shuyak Island 4.09 228 P Pn 07 06 55.0 +0.6
baz=43
PRP Porcupine Dome 4.11 6 Pn 07 06 54.6 -0.1
PRP Porcupine Dome 4.11 6 IAML 07 07 47.0
comp=N,41nm,0.5s
PRP IAML 07 08 02.7
comp=E,34nm,0.6s
PRP Porcupine Dome 4.11 6 P Pn 07 06 54.7 0.0
baz=187
I26K Coal Creek Min 4.16 20 Pn 07 06 56.5 +1.2
I26K IAML 07 08 16.0
comp=E,33nm,0.7s
I26K IAML 07 08 16.4
comp=N,34nm,0.8s
I26K Coal Creek Min 4.16 20 P Pn 07 06 55.8 +0.6
baz=203
SVW2 Sparrevohn 4.38 269 Pn Pn 07 06 57.9 -0.4
SVW2 IAML 07 07 52.8
comp=N,25nm,4.3s
SVW2 IAML 07 08 21.7
comp=E,29nm,3.1s
J20K Nowinta River 4.43 311 Pn 07 06 59.2 +0.2
J20K Nowinta River 4.43 311 IAML 07 07 57.7
comp=N,45nm,0.6s
J20K IAML 07 07 58.3
comp=E,30nm,0.6s
J20K Nowinta River 4.43 311 P Pn 07 06 59.2 +0.2
baz=125
M18K Stony River 4.46 275 Pn 07 06 58.7 -0.6
M18K Stony River 4.46 275 P Pn 07 06 59.2 -0.2
baz=86
I21K Tanana 4.47 329 P Pn 07 06 59.7 +0.1
baz=144

N30M Aishikik Lake 4.53 86 Pn 07 07 00.2 -0.2
N30M Aishikik Lake 4.53 86 P Pn 07 07 00.3 -0.2
baz=274
O18K Koktuh Hills 4.56 253 Pn 07 07 00.3 -0.5
O18K Koktuh Hills 4.56 253 IAML 07 07 39.1
comp=N,34nm,4.8s
O18K IAML 07 07 42.5
comp=E,32nm,3.5s
O18K Koktuh Hills 4.56 253 P Pn 07 07 00.4 -0.4
baz=66
N18K Kilae Creek 4.61 264 Pn 07 07 01.0 -0.5
N18K Kilae Creek 4.61 264 IAML 07 08 22.9
comp=N,27nm,3.0s
N18K IAML 07 09 00.6
comp=E,25nm,4.3s
N18K Kilae Creek 4.61 264 P Pn 07 07 01.0 -0.5
baz=76
TTA Tatalina 4.68 293 Pn 07 07 02.1 -0.4
TTA IAML 07 08 29.9
comp=E,27nm,3.6s
TTA Tatalina 4.68 293 P Pn 07 07 01.9 -0.6
baz=104
P18K Big Mountain, 4.78 248 Pn 07 07 03.7 -0.1
P18K Big Mountain, 4.78 248 IAML 07 07 44.3
comp=N,27nm,5.0s
P18K IAML 07 07 55.5
comp=E,22nm,4.7s
P18K Big Mountain, 4.78 248 P Pn 07 07 03.7 -0.1
baz=61
KDAK Kodiak Island 4.79 223 Pn 07 07 03.8 -0.2
K29M Barlow Dome 4.80 56 Pn 07 07 05.3 +1.2
L18K Granite Mounta 4.87 284 Pn 07 07 04.8 -0.3
L18K Granite Mounta 4.87 284 IAML 07 08 34.0
comp=E,26nm,3.0s
L18K IAML 07 10 17.3
comp=N,22nm,3.0s
L18K Granite Mounta 4.87 284 P Pn 07 07 04.8 -0.3
baz=95
I20K Naaghedeneel 4.92 316 P Pn 07 07 06.1 +0.4
baz=129
H21K Melozitna Rive 5.07 329 Pn 07 07 07.9 +0.2
H21K Melozitna Rive 5.07 329 IAML 07 08 14.8
comp=N,18nm,3.9s
H21K IAML 07 08 27.8
comp=E,18nm,2.3s
H21K Melozitna Rive 5.07 329 P Pn 07 07 07.9 +0.2
baz=144
KAHC Katmai Hardscr 5.09 240 Pn 07 07 07.8 -0.4
Q18K Katmai Hardscr 5.09 240 P Pn 07 07 07.8 -0.4
baz=53
J18K Innoko River 5.14 298 Pn 07 07 08.8 +0.1
J18K Innoko River 5.14 298 IAML 07 08 21.0
comp=N,18nm,4.0s
J18K IAML 07 08 39.6
comp=E,19nm,4.6s
J18K Innoko River 5.14 298 P Pn 07 07 08.9 +0.2
baz=109
N17K Nushagak Hills 5.27 265 Pn 07 07 09.8 -0.7
N17K Nushagak Hills 5.27 265 IAML 07 08 38.7
comp=E,25nm,4.8s
N17K IAML 07 09 25.6
comp=N,24nm,4.4s
N17K Nushagak Hills 5.27 265 P Pn 07 07 10.3 -0.2
baz=75
G24K Hadweenzic Riv 5.29 356 Pn 07 07 11.0 +0.3
G24K IAML 07 08 47.4
comp=N,17nm,2.0s
G24K IAML 07 08 48.7
comp=E,16nm,1.5s
G24K Hadweenzic Riv 5.29 356 P Pn 07 07 10.6 -0.1
baz=175
G25K Bearman Lake 5.34 2 Pn 07 07 11.6 +0.2
G25K Bearman Lake 5.34 2 P Pn 07 07 11.6 +0.2
baz=182
O17K Koliganek Bris 5.47 257 Pn 07 07 13.1 -0.1
O17K Koliganek Bris 5.47 257 P Pn 07 07 13.1 -0.1
baz=68
G23K Bananza Creek 5.50 345 Pn 07 07 13.6 0.0
G23K Bananza Creek 5.50 345 P Pn 07 07 13.6 0.0
baz=162
L17K Donlin 5.62 282 Pn 07 07 15.1 -0.2
L17K Donlin 5.62 282 P Pn 07 07 15.2 -0.2
baz=92
K17K Iditarod 5.67 288 Pn 07 07 15.8 -0.2
K17K Iditarod 5.67 288 P Pn 07 07 16.0 0.0
baz=98
G21K Allakaket 5.93 332 Pn 07 07 19.7 +0.1
G21K Allakaket 5.93 332 P Pn 07 07 19.7 +0.1
baz=146
COLD Coldfoot 6.01 346 Pn 07 07 20.9 +0.2
COLD Coldfoot 6.01 346 P Pn 07 07 20.9 +0.2
baz=163
H19K Roundabout Mou 6.03 317 Pn 07 07 21.0 +0.1
H19K Roundabout Mou 6.03 317 P Pn 07 07 21.1 +0.1
baz=128
L16K Owhat River 6.19 278 Pn 07 07 23.1 0.0
L16K Owhat River 6.19 278 P Pn 07 07 23.1 0.0
baz=87
F20K Avaraart Lake 6.89 329 P Pn 07 07 33.0 +0.3
baz=140
I17K Unalakleet 6.96 297 P Pn 07 07 33.2 -0.4
baz=104
E17K Hotham Inlet 8.71 317 Pn 07 07 57.6 0.0
YKA Yellowknife Ar 14.96 72 Pn P 07 09 33.8 +5.6
comp=E,0.1nm,0.3s,baz=280,slow=14,SNR=2.7
comp=E,0.4nm,0.9s
PDAR Pinedale Array 28.84 113 P P 07 12 04.2 +15
comp=E,0.1nm,0.5s,baz=309,slow=5.7,SNR=1.7
comp=E,0.1nm,0.5s

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*IDC **01** 07:05:50.5±0.7,21°.37S×168°.63E,h0km,mb4.3/15, mbtmp4.3/17,ML3.9/2,MS3.8/22,Error ellipse: s-maj=21.2km s-min=16.4km az=130.0*
*NEIC **01** 07:05:52.9±2.0,21°.46S±0°.06×168°.64E±0°.05,h10km±1km, mb4.8/29,Error ellipse: s-maj=10.0km s-min=7.1km az=173.0*

ISC 01 07:05:53.1±0.7,21°.38S±0°.07×168°.66E±0°.07,h18km±2km, h19km:pP-P,n114,σ1§01/101,mb4.8/33,MS4.0/23,5C-9D,
Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	0.59	260			Pb	07 06 03.9	-1.0
LIFNC	**LIFOU**	1.45	294		Pn	Pn	07 06 15.1	-3.3
PINNC	**Pines Island,**	1.66	222			Pn	07 06 19.2	-2.1
OUENC	**Ouen Island, N**	1.98	238			Pn	07 06 25.1	-0.6
DZM	**Mont Dzumac** 3μm,0.9s	2.17	251	*e*Pn		Pn	07 06 27.6	-0.8
DZM	17μm,1.2s			*e*Sn		Sn	07 06 54.8	-0.1
DZM	**Mont Dzumac**	2.17	251			Pn	07 06 27.7	-0.7
DZM	**Mont Dzumac** 121nm,0.3s,baz=103,slow=9.8,SNR=638	2.17	251	Pn		Pn	07 06 28.6	+0.1
DZM	comp=Z,1μm,20.6s,baz=159,slow=30			LR		LR	07 06 54.7	
DZM	148nm,0.3s,baz=59,slow=22,SNR=5.9			Sn		Sn	07 06 56.5	+1.6
ONTNC	406nm,0.4s **Ouen Toro**	2.25	245			Pn	07 06 28.8	-0.6
KOUNC	**Koumac, New Ca**	4.17	281	Pn		Pn	07 06 55.4	-0.4
FUNA	**Funafuti**	16.33	40	Pn		P	07 09 43.3	-1.1
FUNA	comp=Z,168nm,1.4s			IAmb		IAmb	07 09 47.6	
EIDS	**Eidsvold**	16.62	253			Pn	07 09 46.4	+1.2
ARMA	**Armidale**	17.75	236	P		Pn	07 09 58.7	-0.7
HIZ	**Hauiti**	17.89	164	P		Pn	07 09 60.0	-1.1
URZ	**Urewera**	18.34	158	P		Pn	07 10 07.7	+1.2
URZ	comp=Z,0.1nm,0.3s,baz=326,slow=3.6,SNR=2.8			LR		LR	07 15 24.7	
MRZ	comp=Z,177nm,20.0s,baz=37,slow=31 comp=Z,3.6nm,0.6s **Mangatainoka R**	20.10	165	P		Pn	07 10 27.5	-0.2
MRZ	comp=Z,32nm,1.2s			IAmb		IAmb	07 10 38.3	
CTA	**Charters Tower** comp=Z,7.9nm,1.0s,baz=89,slow=12,SNR=2.3	20.99	269	P		P	07 10 36.1	+0.5
CTA	comp=Z,562nm,19.6s,baz=86,slow=36 comp=Z,7.9nm,1.0s			LR		LR	07 18 18.7	
CTAO	**Charters Tower**	20.99	269	P		Pn	07 10 38.1	-0.1
CTAO	comp=Z,33nm,1.1s			IAmb		IAmb	07 10 50.1	
RPZ	**Rata Peaks** comp=Z,179nm,19.9s,baz=340,slow=34	22.36	175	LR		LR	07 18 41.4	
PMG	**Port Moresby**	23.86	297	P		P	07 11 06.8	+1.1

PMG IAmb IAmb 07 11 24.3
comp=Z,12nm,0.8s
COEN Coen 25.35 283 P **P** **07 11 20.2 +0.9**
COEN IAmb IAmb 07 11 43.1
comp=Z,13nm,1.1s
STKA Stephens Creek 26.29 241 P **P** **07 11 28.5 +0.9**
STKA Stephens Creek 26.29 241 P **P** **07 11 28.5 +0.9**
comp=Z,5.0nm,1.0s,baz=78,slow=10,SNR=5.7
STKA LR LR 07 21 48.9
comp=Z,340nm,18.2s,baz=57,slow=36
comp=Z,5.0nm,1.0s
RAR Rarotonga 29.39 96 LR LR 07 24 21.7
comp=Z,37nm,18.2s,baz=264,slow=38
WB0 Warramunga Arr 32.08 267 P **P** **07 12 18.4 -0.9**
WB0 IAmb IAmb 07 12 27.0
comp=Z,14nm,1.0s
WRA Warramunga Arr 32.11 266 P **P** **07 12 18.5 -1.0**
WRA Warramunga Arr 32.11 266 P **P** **07 12 18.8 -0.8**
comp=Z,3.2nm,0.8s,baz=100,slow=8.3,SNR=17
comp=Z,3.2nm,0.8s
AS31 Alice Springs 32.14 259 P **P** **07 12 19.6 -0.2**
ASAR Alice Springs 32.14 259 P **P** **07 12 19.7 -0.1**
comp=Z,5.9nm,0.7s,baz=82,slow=9.1,SNR=60
ASAR LR LR 07 25 04.9
comp=Z,180nm,19.0s,baz=98,slow=36
comp=Z,5.9nm,0.7s
MTN Manton Dam 36.78 277 P **P** **07 12 59.8 -0.2**
MTN IAmb IAmb 07 13 15.5
comp=Z,37nm,1.6s
KNRA Kununurra 38.17 272 P **P** **07 13 11.2 -0.7**
KNRA IAmb IAmb 07 13 19.4
comp=Z,25nm,0.8s
TBI Tubuai 38.69 101 *e*LR LR 07 23 45.0
comp=Z,1μm,27.8s
PPT2 Papeete2 39.47 92 *e*LR LR 07 24 00.1
comp=Z,418nm,27.5s
PPT2 *e*LR LR 07 24 05.7
comp=Z,260nm,31.8s
PPT Papeete 39.48 92 LR LR 07 24 44.9
comp=Z,102nm,22.0s,baz=256,slow=29
GUMO Guam 41.87 324 LR LR 07 28 56.2
comp=Z,65nm,20.8s,baz=104,slow=33
BATI Baumata 44.55 277 LR LR 07 33 01.0
comp=Z,161nm,19.9s,baz=54,slow=37
PSA00 Pilbara Seismi 45.27 260 P **P** **07 14 09.9 -0.1**
MBWA Marble Bar 45.44 261 P **P** **07 14 11.4 +0.1**
NWAO Narrogin (SRO) 46.78 244 LR LR 07 35 04.9
comp=Z,262nm,18.1s,baz=99,slow=38
KAPI Kappang 50.08 282 LR LR 07 38 31.9
comp=Z,43nm,18.3s,baz=118,slow=39
TAOE Nuku Hiva Isla 50.76 84 *e*LR LR 07 29 07.4
comp=Z,388nm,29.2s
TOLI2 Tolitoli 51.83 289 P **P** **07 15 00.5 0.0**
TOLI2 IAmb IAmb 07 15 08.4
comp=Z,12nm,0.9s
VNDA Vanda 56.29 182 P **P** **07 15 32.7 +0.6**
VNDA IAmb IAmb 07 15 42.5
comp=Z,13nm,1.6s
VNDA Vanda 56.29 182 P **P** **07 15 32.9 +0.7**
comp=Z,1.2nm,1.0s,baz=296,slow=1.9,SNR=3.3
VNDA LR LR 07 36 08.7
comp=Z,35nm,18.4s,baz=358,slow=32
comp=Z,1.2nm,1.0s
MJAR Matsushiro Arr 64.39 333 P **P** **07 16 28.1 0.0**
comp=Z,1.1nm,0.5s,baz=130,slow=9.4,SNR=1.6
comp=Z,1.1nm,0.5s
JSD Sado 65.64 334 P **P** **07 16 38.2 +2.1**
KSAR Wonju Array Be 69.98 326 P **P** **07 17 04.3 +0.8**
USA0B Ussuriysk Arra 73.39 333 P **P** **07 17 25.3 +1.4**
USA0B IAmb IAmb 07 17 26.7
comp=Z,16nm,1.1s
USRK Ussuriysk Ar. 73.39 333 P **P** **07 17 25.3 +1.5**
USRK Ussuriysk Ar. 73.39 333 P **P** **07 17 24.8 +1.0**
comp=Z,4.0nm,0.8s,baz=126,slow=4.9,SNR=7.1
comp=Z,4.0nm,0.8s
RPN Rapa Nui 73.75 113 LR LR 07 41 26.1
comp=Z,63nm,19.2s,baz=56,slow=29
SHEM Shemya Is, Ala 73.94 3 LR LR 07 44 54.3
comp=Z,150nm,21.3s,baz=294,slow=32
MDJ Mudanjiang 74.74 332 P **P** **07 17 32.9 +1.1**
MDJ pmax pmax
comp=Z,8.0nm,1.2s
MDJ pmax pmax
comp=Z,130nm,8.6s
PETK Petropavlovsk- 74.78 353 P **P** **07 17 31.7 -0.1**
comp=Z,12nm,0.9s,baz=123,slow=5.5,SNR=4.9
comp=Z,12nm,0.9s
MAW Mawson 76.26 202 P **P** **07 17 39.1 -1.1**
MAW Mawson 76.26 202 P **P** **07 17 39.0 -1.2**
comp=Z,4.7nm,1.1s,baz=100,slow=6.1,SNR=3.3
comp=Z,4.7nm,1.1s
KLR Kul'dur 77.59 336 P **P** **07 17 47.9 0.0**
comp=Z,2.6nm,0.9s,baz=162,slow=6.3,SNR=5.0
comp=Z,2.6nm,0.9s
CRAI Chiangrai 78.50 297 P **P** **07 17 54.5 +0.8**
CRAI IAmb IAmb 07 17 56.4
comp=Z,10nm,1.0s
CM31 Chiang Mai Arr 78.89 295 P **P** **07 17 57.1 +1.3**
CMAR Chiang Mai Arr 78.89 295 P **P** **07 17 56.0 +0.2**
CMAR Chiang Mai Arr 78.89 295 P **P** **07 17 55.2 -0.6**
comp=Z,1.9nm,0.4s,baz=137,slow=4.3,SNR=16
comp=Z,1.9nm,0.4s
CHTO Chiang Mai 79.05 295 P **P** **07 17 57.1 +0.4**
CHTO IAmb IAmb 07 17 59.3
comp=Z,11nm,1.1s
BELA Belgrano 2 80.02 175 P **P** **07 18 01.1 +0.1**
BELA IAmb IAmb 07 18 08.2
comp=Z,11nm,0.9s
HEH HeiHe 80.10 335 *e*P **P** **07 18 01.8 +0.2**
HEH pmax pmax
comp=Z,8.0nm,1.2s
PZH PanZhiHua 80.41 303 P **P** **07 18 06.5 +2.5**
PZH pmax pmax
comp=Z,10.0nm,0.4s
PZH pmax pmax
comp=Z,220nm,5.7s
XLT XiLinHaoTe 80.85 324 *e*P P 07 18 12.1 +6.1
XLT pP pwP 07 18 15.7 +1.3
XLT sP sP 07 18 17.9 +5.6
XLT pmax pmax
comp=Z,8.0nm,0.8s
XLT pmax pmax
comp=Z,100nm,4.4s
HHC Hu-ho-hao-te 81.49 320 *e*P **P** **07 18 09.3 -0.2**
HHC pmax pmax
comp=Z,34nm,0.5s
HHC pmax pmax
comp=Z,57nm,4.8s
ELIB Princess Elisa 83.95 190 *d*P **P** **07 18 20.8 -1.1**
comp=Z,6.5nm,1.0s
TROLL Troll, Antarti 86.37 184 ⇓P **P** **07 18 33.7 -0.3**
TROLL ⇑pP **sP** **07 18 40.7 -0.4**
comp=Z,379nm,0.8s
comp=Z,613nm,0.7s
SNAA Sanae 87.01 183 P **P** **07 18 36.7 -0.4**
SNAA IAmb IAmb 07 18 44.3
comp=Z,8.3nm,1.0s
SNAA Sanae 87.01 183 ⇓P **P** **07 18 37.0 -0.1**
SNAA ⇑pP **pP** **07 18 42.2 -0.5**
SNAA Sanae 87.01 183 P **P** **07 18 36.9 -0.2**
comp=Z,5.6nm,1.1s,baz=162,slow=6.3,SNR=6.4
SNAA LR LR 07 55 40.9
comp=Z,37nm,18.6s,baz=190,slow=34
comp=Z,5.6nm,1.1s
VNA3 Neumayer Olymp 87.62 181 ⇓P **P** **07 18 39.3 -0.7**
comp=Z,2.8nm,0.5s
VNA3 pP **pP** **07 18 46.0 +0.4**
comp=Z,6.7nm,0.7s
VNA2 Neumayer--Watz 87.90 181 ⇓P **P** **07 18 40.8 -0.5**
comp=Z,4.7nm,0.7s,baz=186,slow=4.0
VNA2 ⇑pP **sP** **07 18 48.0 -0.4**
comp=Z,6.6nm,0.6s,baz=189,slow=4.0
VNA1 Neumayer--Stat 88.20 181 ⇑P **P** **07 18 42.2 -0.5**
comp=Z,1.1nm,0.5s
VNA1 ⇑pP **pP** **07 18 48.6 +0.3**
comp=Z,6.6nm,1.1s
SONM Songino Array 88.60 323 P **P** **07 18 45.1 +0.1**
comp=Z,1.4nm,0.9s,baz=140,slow=5.4,SNR=9.0
comp=Z,1.4nm,0.9s
YBH Yreka Blue Hor 89.21 44 LR LR 07 52 27.7
comp=Z,58nm,19.1s,baz=279,slow=31
PFO Pinyon Flats O 89.82 54 LR LR 07 52 06.1
comp=Z,62nm,18.4s,baz=311,slow=31
NVAR Mina Array Bea 90.62 49 P **P** **07 18 55.5 +0.7**
comp=Z,1.0nm,0.8s,baz=227,slow=6.9,SNR=6.9
comp=Z,1.0nm,0.8s
PALK Pallekele 90.72 277 LR LR 08 00 34.0
comp=Z,54nm,20.3s,baz=172,slow=36
LPIG La Paz 90.83 65 LR LR 07 54 23.8
comp=Z,66nm,18.1s,baz=275,slow=32
GRNC Granite Creek 91.07 22 P **P** **07 18 57.8 +1.5**
BARN Barnard Glacie 91.34 22 P **P** **07 18 57.8 +0.3**
ILAR Eielson Array 92.43 17 P **P** **07 19 01.8 -0.5**
comp=Z,0.4nm,0.8s,baz=246,slow=4.3,SNR=5.1
comp=Z,0.4nm,0.8s
O30N Mendenhall 93.16 24 P **P** **07 19 06.2 +0.4**
ELK Elko 93.76 48 LR LR 07 56 37.5
comp=Z,86nm,18.4s,baz=312,slow=32
TXAR Lajitas Array 98.26 62 LR LR 07 55 24.9
comp=Z,49nm,19.6s,baz=290,slow=30
WMQ Urumqi 98.28 314 *e*P Pdif 07 19 32.1 +2.5
ARCES ARCESS Array B 126.98 345 PKP **PKPdf** **07 24 55.6 +0.3**
comp=Z,1.8nm,0.6s,baz=71,slow=1.2,SNR=19
KLMR Klimovskoe 127.16 332 *e*PKPdf **PKPdf** **07 24 51.5 -4.3**
KLMR AMP 07 24 56.9
comp=Z,22nm,1.5s
FINES FINESS Array B 132.34 337 PKP **PKPdf** **07 25 05.7 +0.1**
comp=Z,3.3nm,0.9s,baz=45,slow=6.7,SNR=4.3
NB2 NORSAR Subarra 137.35 344 PKPdf **PKiKP** **07 25 16.4 -0.6**
comp=Z,2.4nm,0.9s,baz=32,slow=1.9
NOA NORSAR Array B 137.35 344 PKP **PKiKP** **07 25 16.2 -0.8**
comp=Z,0.7nm,0.6s,baz=38,slow=2.2,SNR=3.2
BRG Berggiesshubel 144.52 332 *i* PKP **PKPdf** **07 25 29.1 +0.8**
BRG Amp 07 25 31.5
comp=Z,22nm,1.2s
CLL Collm 144.60 333 *i* PKPbc **PKPdf** **07 25 28.0 -0.4**
comp=Z,34nm,1.3s
CLL *i* pPKPbc **pPKPdf** **07 25 34.9 +1.2**
PRU Pruhonice 144.89 331 *e*PKP **PKPdf** **07 25 29.1 +0.2**
HSKC Hora Svate Kat 144.94 332 *e*PKP **PKPdf** **07 25 29.4 +0.3**
HSKC *ex* x 07 25 36.4
ZVC Zvikov 145.44 330 *e*PKP **PKPab** **07 25 31.2 +1.1**
ZVC *ex* x 07 25 38.1
EKA Eskdalemuir Ar 145.54 352 PKPbc **PKPbc** **07 25 30.1 +0.1**
comp=Z,19nm,0.9s,baz=350,slow=2.4,SNR=12
RONA Rosalia, Austr 145.58 326 *i* PKP **PKPab** **07 25 32.4 +1.6**
comp=Z,2.0nm,0.5s,SNR=8.2
CONA Conrad Observa 145.66 327 *i* PKP **PKPab** **07 25 32.7 +1.6**
comp=Z,3.9nm,0.9s,SNR=12
CKRC Cesky Krumlov 145.82 329 *e*PKP **PKPab** **07 25 31.8 +0.2**
CKRC *ex* x 07 25 39.5
KHC Kasperske Hory 145.94 330 *e*PKP **PKPab** **07 25 31.9 -0.1**
KHC *ex* x 07 25 39.5
GERES GERESS Array B 146.09 330 PKPbc **PKPab** **07 25 33.4 +0.7**
comp=Z,7.5nm,0.9s,baz=46,slow=3.9,SNR=24
LESA Schwarzleotal 147.58 329 *e*pPKP **PKPbc** **07 25 37.3 +0.9**
comp=Z,1.9nm,0.3s
BTNL Ternell 147.77 339 *d*PKP **PKPbc** **07 25 35.9 -0.8**
MEM Membach 147.79 339 *d*PKP **PKPbc** **07 25 37.5 +0.8**
WTTA Wattenberg 148.19 330 *e*pPKP **PKiKP** **07 25 39.4 -0.5**
comp=Z,2.5nm,0.5s
MOTA Moosalm 148.38 330 *i* PKP **PKPbc** **07 25 39.4 +0.8**
comp=Z,13nm,0.9s,SNR=6.1
BMRD Maredsous 148.46 340 *d*PKP **PKPbc** **07 25 39.0 +0.5**
WLF Walferdange 148.55 338 *d*PKP **PKPbc** **07 25 39.6 +0.9**
FETA Feichten 148.79 330 *e*PKP **PKiKP** **07 25 40.6 -0.5**
comp=Z,10nm,1.0s
DAVA Damuels 148.97 331 *e*PKP **PKiKP** **07 25 41.1 -0.4**
comp=Z,4.0nm,0.6s
ESDC Sonseca Array 160.70 343 PKPab **PKPab** **07 26 34.2 +0.2**
comp=Z,0.3nm,0.6s,baz=12,slow=2.8,SNR=6.6
TORD Torodi Ar. Bea 165.11 239 PKP **PKPdf** **07 25 57.7 +0.6**
comp=Z,0.4nm,0.9s,baz=96,slow=1.6,SNR=2.0
TORD PKPab **PKPab** **07 26 53.5 -0.6**
comp=Z,0.6nm,0.9s,baz=108,slow=5.2,SNR=2.1

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*JMA **01** 07:11:21.7±1.0,46°N±5°×15°1E±°, h30km,MV4.8/15, KURILE ISLANDS REGION*
*SKHL **01** 07:11:21.9±0.1,45°.90N×151°.10E, h96km±6km, mb5.1/5, msh5.9/3*
*MOS **01** 07:11:23.2±0.9,46°.03N×150°.81E, h107km, mb4.1/9, Error ellipse: s-maj=9.7km s-min=8.0km az=64.4*
*NEIC **01** 07:11:23.9±1.4,46°.1N±0°.1×150°.7E±0°.2, h86km±7km, mb4.3/18, Error ellipse: s-maj=19.8km s-min=11.9km az=131.0*
*IDC **01** 07:11:26.6±2.4,46°.21N×150°.59E, h116km±21km, mb3.5/18, mbtmp3.9/23, Error ellipse: s-maj=16.2km s-min=11.3km az=148.0*

ISC 01 07:11:22.6±0.5,45.90N±0°.07×150.90E±0°.06, h88km, n122, σ1s51/120, mb4.1/31, 4C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.23**	**254**	*e*P		**07 11 59.0**	**+1.3**
KUR				AMB	AMB	07 12 01.1	
	370nm,0.3s						
KUR				*e*S		**07 12 26.8**	**+2.1**
KUR				A	A	07 12 33.5	
	500nm,0.4s						
KUR				A	A	07 12 33.5	
	940nm,0.4s						
KUR	**Kuril'sk**	**2.23**	**254**	*e*PN		**07 11 59.8**	**+2.1**
KUR				*i* S		**07 12 26.7**	**+2.1**
KUR				pmax	pmax		
	comp=N,137nm,0.3s						
KUR				pmax	pmax		
	comp=Z,367nm,0.3s						
KUR				pmax	pmax		
	comp=E,115nm,0.2s						
KUR				smax	smax		
	comp=E,944nm,0.4s						
KUR				smax	smax		
	comp=N,496nm,0.3s						
SHO	**Shikotan**	**3.53**	**236**	*e*P		**07 12 15.6**	**+0.4**
SHO				AMB	AMB	07 12 23.0	
	comp=N,50nm,0.3s						
SHO				*e*S		**07 12 56.4**	**+0.5**
SHO				A	A	07 13 08.3	
	comp=N,380nm,0.4s						
SHO				A	A	07 13 08.3	
	comp=N,420nm,0.4s						
SHO	**Shikotan**	**3.53**	**236**	*e*PN		**07 12 15.6**	**+0.4**
SHO				*e*S		**07 12 56.4**	**+0.5**
SHO				pmax	pmax		
	comp=N,38nm,0.3s						
SHO				pmax	pmax		
	comp=E,57nm,0.3s						
SHO				pmax	pmax		
	comp=Z,54nm,0.3s						
SHO				smax	smax		
	comp=N,375nm,0.3s						
SHO				smax	smax		
	comp=E,421nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.03**	**244**	*e*P		**07 12 23.8**	**+1.8**
YUK				AMB	AMB	07 12 25.4	
	comp=E,100nm,0.3s						
YUK				*e*S		**07 13 10.3**	**+2.3**
YUK				A	A	07 13 20.8	
	comp=E,610nm,0.7s						
YUK				A	A	07 13 20.8	
	comp=E,730nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**4.03**	**244**	*e*PN		**07 12 24.1**	**+2.1**
YUK				*e*S		**07 13 11.2**	**+3.2**
YUK				pmax	pmax		
	comp=Z,173nm,0.3s						
YUK				pmax	pmax		
	comp=N,45nm,0.4s						
YUK				smax	smax		
	comp=E,1μm,0.5s						
YUK				smax	smax		
	comp=N,680nm,0.6s						
NEM2	**Nemuro 2**	**4.47**	**237**	*e*P		**07 12 28.1**	**+0.2**
NEM2				*e*S		**07 13 16.5**	**-2.1**
JRA	**Rausu**	**4.55**	**247**	*e*P		**07 12 31.6**	**+2.6**
JNK	**Nakash**	**4.97**	**244**	*e*P		**07 12 36.5**	**+1.8**
JNK				*e*S		**07 13 30.8**	**-0.2**
JAK	**Akkeshi**	**5.30**	**239**	*e*P		**07 12 39.3**	**0.0**
JAK				*e*S		**07 13 36.9**	**-2.1**
JTKR	**Abashiri--Toko**	**5.32**	**251**	*e*P		**07 12 41.8**	**+2.3**
JAR	**Ashorobuto**	**5.72**	**245**	*e*P		**07 12 46.7**	**+1.8**
JAR				*e*S		**07 13 51.4**	**+2.3**
YSS	**Yuzh-Sakhalins**	**5.73**	**284**	*e*P		**07 12 46.8**	**+1.8**
YSS				AMB	AMB	07 12 52.2	
	comp=N,40nm,0.5s						
YSS				*e*S		**07 13 50.0**	**+0.7**
YSS				A	A	07 13 52.6	
	comp=N,30nm,0.7s						
YSS				A	A	07 13 52.6	
	comp=N,30nm,0.7s						
YSS	**Yuzh-Sakhalins**	**5.73**	**284**	⇓*e*PN		**07 12 46.8**	**+1.8**
YSS				*e*S		**07 13 49.3**	**0.0**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				smax	smax		
	comp=N,30nm,0.6s						
YSS				smax	smax		
	comp=E,30nm,0.8s						
JOB	**Onbets**	**5.88**	**242**	*e*P		**07 12 48.0**	**+0.9**
JOB				*e*S		**07 13 52.0**	**-1.0**
SKR	**Severo-Kuril's**	**5.92**	**34**	*e*P		**07 12 48.3**	**+0.7**
SKR	**Severo-Kuril's**	**5.92**	**34**	*i* PN		**07 12 48.3**	**+0.7**
JKK2	**Kamakawa 2**	**6.13**	**254**	*e*P		07 12 55.3	+4.7
JKA	**Kamikawa-asahi**	**6.15**	**256**			**07 12 54.3**	**+3.5**
JKA	**Kamikawa-asahi**	**6.15**	**256**	*e*P		**07 12 54.3**	**+3.5**
ASAJ	**Asahikawa**	**6.15**	**256**	PN		**07 12 54.3**	**+3.5**
ASAJ	**Asahikawa**	**6.15**	**256**	P		**07 12 53.8**	**+3.0**
comp=E,48nm,0.9s,baz=75,slow=14,SNR=13							
JCH	**Churui**	**6.33**	**241**	*e*P		**07 12 53.9**	**+0.6**
JCH				*e*S		**07 14 02.0**	**-2.1**
ERM	**Erimo**	**6.80**	**238**	Pn		**07 13 00.8**	**+1.1**
ERM	**Erimo**	**6.80**	**238**	*i* PN		**07 13 01.3**	**+1.6**
JNBK	**Urakawa-nobuka**	**6.89**	**241**	*e*P		**07 13 00.5**	**-0.4**
TYV	**Tymovskoe**	**7.40**	**315**	*e*P		**07 13 08.6**	**+0.8**
TYV				AMB	AMB	07 13 09.8	
comp=E,20nm,0.7s							
TYV	**Tymovskoe**	**7.40**	**315**	*e*PN		**07 13 08.6**	**+0.8**
TYV				pmax	pmax		
comp=Z,21nm,0.7s							
TYV				pmax	pmax		
comp=Z,300nm,3.2s							
PEA0B	**Petropavlovsk-**	**8.46**	**29**	Pn		**07 13 22.4**	**+0.2**
PEA0B	**Petropavlovsk-**	**8.46**	**29**	PN		**07 13 22.4**	**+0.2**
PETK	**Petropavlovsk-**	**8.46**	**29**	Pn		**07 13 22.2**	**+0.1**
PETK	**Petropavlovsk-**	**8.46**	**29**	PN		**07 13 22.3**	**+0.1**
PETK	**Petropavlovsk-**	**8.46**	**29**	P		**07 13 22.9**	**+0.6**
comp=Z,4.5nm,0.5s,baz=203,slow=12,SNR=24							
JTM	**Tennabayashi**	**8.80**	**238**	Pn		**07 13 24.5**	**-2.3**
JANG	**Nango**	**8.80**	**234**	*e*P		**07 13 24.5**	**-2.5**
JANG				*e*S		07 14 55.4	-9.0
JTH	**Tanohata**	**8.91**	**231**	*e*S		07 14 58.3	-8.7
KLR	**Kul'dur**	**13.35**	**291**	*e*P		**07 14 28.9**	**+0.6**
KLR	**Kul'dur**	**13.35**	**291**	*ce*PN		**07 14 29.5**	**+1.2**
KLR				pmax	pmax		
comp=Z,6.0nm,1.1s							
KLR	**Kul'dur**	**13.35**	**291**	P		**07 14 26.1**	**-2.2**
comp=Z,5.6nm,1.1s,baz=100,slow=14,SNR=6.3							
MJAR	**Matsushiro Arr**	**13.35**	**230**	P		**07 14 28.3**	**-0.1**
comp=Z,1.3nm,0.3s,baz=23,slow=10,SNR=1.7							
USA0B	**Ussuriysk Arra**	**13.48**	**270**	*i* PN		**07 14 30.9**	**+0.9**
USRK	**Ussuriysk Ar.**	**13.48**	**270**	P		07 14 24.5	-5.5
comp=Z,1.9nm,0.5s,baz=82,slow=13,SNR=2.5							
HEH	**HeiHe**	**16.27**	**294**	*e*P		**07 15 06.2**	**-0.8**
HEH				pmax	pmax		
comp=Z,29nm,0.8s							
HEH				pmax	pmax		
comp=Z,170nm,4.3s							
SEY	**Seymchan**	**17.09**	**2**	P		**07 15 15.7**	**-0.3**
comp=Z,1.3nm,0.6s,baz=180,slow=16,SNR=1.6							
KSRS	**Korea Array**	**19.07**	**252**	P		**07 15 40.0**	**+0.3**
comp=Z,2.9nm,0.6s,baz=54,slow=11,SNR=8.4							
YAK	**Yakutsk**	**20.26**	**330**	P		07 15 51.8	-1.4
YAK	**Yakutsk**	**20.26**	**330**	*e*P		07 15 52.5	-0.8
YAK	**Yakutsk**	**20.26**	**330**	*e*P		07 15 53.8	+0.5
YAK				*e*		07 19 22.0	
YAK				pmax	pmax		
comp=Z,43nm,1.0s							
YAK				pmax	pmax		
comp=N,7.0nm,0.9s							
YAK				pmax	pmax		
comp=E,7.0nm,1.5s							
YAK				pmax	pmax		
comp=Z,243nm,5.0s							
YAK				pmax	pmax		
comp=N,193nm,3.3s							
YAK				pmax	pmax		
comp=E,131nm,5.6s							
YAK				smax	smax		
comp=E,178nm,4.7s							
YAK				smax	smax		
comp=N,92nm,3.2s							
YAK	**Yakutsk**	**20.26**	**330**	P	Pn	07 15 51.5	-1.7
comp=N,1.7nm,0.6s,baz=130,slow=2.2,SNR=3.5							
BILL	**Bilibino**	**23.58**	**14**	*e*P		**07 16 24.9**	**0.0**
BILL	**Bilibino**	**23.58**	**14**	*i* P		**07 16 24.9**	**0.0**
XLT	**XiLinHaoTe**	**24.63**	**278**	*e*P		**07 16 35.3**	**+0.6**
XLT				pP	pP	07 16 53.4	-1.2
XLT				sP	sP	07 17 08.8	+3.7
XLT				PP	PnPn	07 17 24.0	+13
XLT				pmax	pmax		
comp=Z,9.0nm,0.6s							
XLT				pmax	pmax		
comp=Z,85nm,6.2s							
TIXI	**Tiksi**	**27.88**	**345**	P	P	**07 16 59.9**	**-3.6**
TIXI				IAmb	IAmb	07 17 01.6	
comp=Z,2.2nm,0.6s							
TIXI	**Tiksi**	**27.88**	**345**	P	P	**07 16 59.9**	**-3.6**
TIXI				pmax	pmax		
comp=Z,2.0nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**29.24**	**148**	T	T	07 48 52.2	
baz=338,slow=74							
H11N1	**WAKE ISLAND Hy**	**29.26**	**148**	T	T	07 48 51.8	
baz=338							
H11N3	**WAKE ISLAND Hy**	**29.26**	**148**	T	T	07 48 53.3	
baz=338,slow=74							
SONM	**Songino Array**	**30.18**	**290**	P	P	**07 17 25.0**	**+0.7**
SONM	**Songino Array**	**30.18**	**290**	P	P	**07 17 25.0**	**+0.7**
SONM				pmax	pmax		
comp=Z,1.0nm,1.3s							
SONM	**Songino Array**	**30.18**	**290**	P	P	**07 17 24.0**	**-0.4**
comp=Z,0.3nm,0.5s,baz=69,slow=4.8,SNR=2.2							
comp=Z,0.3nm,0.5s							
H11S1	**WAKE ISLAND Hy**	**30.29**	**149**	T	T	07 50 09.7	
baz=338,slow=74							
H11S3	**WAKE ISLAND Hy**	**30.30**	**149**	T	T	07 49 58.8	
baz=338,slow=74							
H11S2	**WAKE ISLAND Hy**	**30.31**	**149**	T	T	07 50 11.2	
baz=338							
N15K	**Kwethluk River**	**31.91**	**46**	P	P	**07 17 40.1**	**+0.8**
J16K	**Anvik River**	**32.04**	**40**	P	P	**07 17 41.4**	**+1.0**
J16K				IAmb	IAmb	07 17 55.3	
comp=Z,11nm,1.4s							
M16K	**Timber Creek**	**32.53**	**44**	P	P	**07 17 45.2**	**+0.5**
K17K	**Iditarod**	**33.00**	**41**	P	P	**07 17 49.9**	**+1.1**
K17K				IAmb	IAmb	07 17 55.5	
comp=Z,13nm,1.5s							
C18K	**Utukok River**	**33.12**	**30**	P	P	**07 17 49.8**	**-0.1**
C18K				IAmb	IAmb	07 17 49.9	
comp=Z,13nm,1.4s							
M17K	**Holitna River**	**33.29**	**43**	P	P	**07 17 52.5**	**+1.2**
H18K	**Honhosa River**	**33.33**	**37**	P	P	**07 17 51.6**	**-0.1**
H18K				IAmb	IAmb	07 17 53.0	
comp=Z,3.9nm,1.1s							
G18K	**Tagagawik**	**33.36**	**35**	P	P	**07 17 52.0**	**+0.1**
G18K				IAmb	IAmb	07 17 55.7	
comp=Z,4.8nm,1.4s							
L18K	**Granite Mounta**	**33.70**	**42**	P	P	**07 17 56.2**	**+1.3**
L18K				IAmb	IAmb	07 18 04.0	
comp=Z,8.1nm,1.4s							
J18K	**Innoko River**	**33.80**	**40**	P	P	**07 17 56.5**	**+0.7**
ILAR	**Eielson Array**	**38.17**	**38**	*e*P	P	**07 18 33.4**	**+0.4**
ILAR	**Eielson Array**	**38.17**	**38**	P	P	**07 18 33.2**	**+0.2**
comp=Z,0.3nm,0.5s,baz=269,slow=7.3,SNR=12							
comp=Z,0.3nm,0.5s							
DGZ	**Jazzator, Alta**	**41.67**	**299**	*i* P	P	**07 19 01.5**	**-0.9**
DGZ				pmax	pmax		
comp=Z,10.0nm,2.9s							
ZALV	**Zalesovo Beam**	**41.87**	**306**	P	P	**07 19 01.3**	**-2.4**
comp=Z,0.5nm,0.4s,baz=61,slow=12,SNR=2.1							
comp=Z,0.5nm,0.4s							
MK31	**Makanchi Array**	**45.97**	**297**	P	P	**07 19 35.3**	**-1.3**
MK31	**Makanchi Array**	**45.97**	**297**	*ce*P	P	**07 19 35.5**	**-1.1**
MKAR	**Makanchi Array**	**45.97**	**297**	P	P	**07 19 35.7**	**-0.9**
MKAR	**Makanchi Array**	**45.97**	**297**	*e*P	P	**07 19 35.9**	**-0.7**
MKAR	**Makanchi Array**	**45.97**	**297**	*e*P	P	**07 19 35.9**	**-0.7**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**45.97**	**297**	P	P	**07 19 35.3**	**-1.3**
comp=Z,0.9nm,0.6s,baz=64,slow=7.2,SNR=12							
comp=Z,0.9nm,0.6s							
MAKZ	**Makanchi**	**46.15**	**297**	P	P	**07 19 36.9**	**-1.2**
MAKZ				IAmb	IAmb	07 19 38.8	
comp=Z,1.7nm,0.8s							
MAKZ	**Makanchi**	**46.15**	**297**	P	P	**07 19 36.9**	**-1.2**
MAKZ				pmax	pmax		
comp=Z,2.0nm,0.8s							

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KURK	Kurchatov	46.55	303	*i* P	P	07 19 38.9	-2.2
KURK				pmax	pmax		
	comp=Z,8.0nm,3.0s						
KURBB	Kurchatov Arra	46.64	303	P	P	07 19 40.0	-1.8
	comp=Z,1.5nm,0.6s,baz=80,slow=9.1,SNR=21						
	comp=Z,1.5nm,0.6s						
BVAR	Borovoye Array	50.21	309	P	P	07 20 07.3	-1.9
	comp=Z,0.6nm,0.5s,baz=60,slow=6.8,SNR=2.8						
	comp=Z,0.6nm,0.5s						
BRVK	Borovoye	50.25	309	*e*P	P	07 20 09.8	+0.3
BRVK	Borovoye	50.25	309	*i* P	P	07 20 09.8	+0.3
CMAR	Chiang Mai Arr	50.67	255	P	P	07 20 13.0	-0.1
CMAR	Chiang Mai Arr	50.67	255	P	P	07 20 13.0	-0.1
	comp=Z,1.0nm,0.3s,baz=56,slow=6.8,SNR=2.2						
	comp=Z,1.0nm,0.3s						
YKA	Yellowknife Ar	52.52	36	P	P	07 20 26.3	+0.1
	comp=Z,0.9nm,0.7s,baz=298,slow=7.2,SNR=17						
	comp=Z,0.9nm,0.7s						
JIRN	Jiri	53.48	274	*e*P	P	07 20 36.0	+1.8
	comp=Z,21nm,0.5s						
GUN	Gumba	53.54	274	*e*P	P	07 20 35.3	+0.6
	comp=Z,7.1nm,0.4s						
RAMN	Ramite	53.63	273	*e*P	P	07 20 37.0	+1.8
	comp=Z,23nm,0.6s						
PKI	Pulchoki	54.08	274	*e*P	P	07 20 39.9	+1.3
	comp=Z,6.4nm,0.5s						
DANN	Dangsing	54.74	276	*e*P	P	07 20 44.2	+0.9
	comp=Z,9.5nm,0.4s						
KK31	Karatay Array	55.06	298	*e*P	P	07 20 44.6	-0.5
AB31	Akbulak array	57.78	309	*i* P	P	07 21 03.1	-1.2
ABKAR	Akbulak array	57.78	309	P	P	07 21 03.6	-0.7
ABKAR				IAmb	IAmb	07 21 04.6	
	comp=Z,2.7nm,0.5s						
FINES	FINESS Array B	64.14	334	*e*P	P	07 21 47.5	+0.4
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	FINESS Array B	64.14	334	P	P	07 21 44.9	-2.3
	comp=Z,1.1nm,0.7s,baz=28,slow=6.5,SNR=7.2						
	comp=Z,1.1nm,0.7s						
NVAR	Mina Array Bea	64.19	61	P	P	07 21 49.9	+1.7
	comp=Z,0.9nm,0.6s,baz=302,slow=7.2,SNR=8.9						
	comp=Z,0.9nm,0.6s						
GEYT	Alibeck	65.71	300	P	P	07 21 57.4	-0.4
	comp=Z,1.7nm,0.6s,baz=69,slow=7.9,SNR=1.7						
	comp=Z,1.7nm,0.6s						
PDAR	Pinedale Array	66.48	52	P	P	07 22 03.8	+0.9
	comp=Z,0.4nm,0.6s,baz=297,slow=1.3,SNR=4.7						
	comp=Z,0.4nm,0.6s						
WRA	Warramunga Arr	67.23	197	P	P	07 22 08.7	+1.2
	comp=Z,1.8nm,0.6s,baz=12,slow=6.4,SNR=8.9						
	comp=Z,1.8nm,0.6s						
ULM	Lac du Bonnet	68.16	39	P	P	07 22 12.8	-0.3
	comp=Z,1.0nm,0.4s,baz=304,slow=7.3,SNR=3.8						
	comp=Z,1.0nm,0.4s						
NOA	NORSAR Array B	68.52	340	P	P	07 22 12.7	-2.5
	comp=Z,0.8nm,0.6s,baz=29,slow=6.3,SNR=2.4						
	comp=Z,0.8nm,0.6s						
AS31	Alice Springs	70.94	196	P	P	07 22 32.9	+2.6
ASAR	Alice Springs	70.94	196	P	P	07 22 33.1	+2.8
	comp=Z,2.3nm,0.7s,baz=12,slow=5.5,SNR=19						
	comp=Z,2.3nm,0.7s						
AKASG	Malin Array Be	71.38	325	P	P	07 22 31.5	-1.2
	comp=Z,0.4nm,0.3s,baz=35,slow=6.3,SNR=3.0						
	comp=Z,0.4nm,0.3s						
TX31	Lajitas Ar. Si	79.25	59	P	P	07 23 19.6	+1.3
TX31				IAmb	IAmb	07 23 20.6	
	comp=Z,3.7nm,0.9s						
TXAR	Lajitas Array	79.25	59	P	P	07 23 19.5	+1.1
	comp=Z,0.8nm,0.6s,baz=299,slow=3.7,SNR=9.3						
	comp=Z,0.8nm,0.6s						
H03N2	Juan Fernandez	140.29	90	T	T	10 07 25.7	
	baz=307,slow=77,SNR=46						
H03N1	Juan Fernandez	140.30	90	T	T	10 07 19.4	
	baz=307,slow=77,SNR=54						
H03N3	Juan Fernandez	140.30	90	T	T	10 07 18.8	
	baz=307,slow=77,SNR=52						
PLCA	Paso Flores	149.66	95	PKPbc	PKiKP	07 31 02.5	0.0
	comp=Z,2.5nm,0.6s,baz=286,slow=5.2,SNR=11						
TROLL	Troll, Antarti	149.90	199	P	PKiKP	07 31 02.5	+0.3
	comp=Z,127nm,0.8s						
SNAA	Sanae	151.30	197	⇑P	PKPbc	07 31 04.5	-0.1
SNAA	Sanae	151.30	197	PKPbc	PKPbc	07 31 04.9	+0.4
	comp=Z,1.0nm,0.5s,baz=153,slow=14,SNR=7.1						
VNA2	Neumayer--Watz	152.78	195	⇑P	PKiKP	07 31 08.2	+0.2
	baz=349,slow=1.0						

*NEIC **01** 07:20:59.2±2.4, 2°.4N±0°.1×122°.9E±0°.1, h468km±8km, mb4.3/17, Error ellipse: s-maj=24.2km s-min=10.0km az=53.0*

*DJA **01** 07:21:00.2±1.3, 2°N±13°×12°3E±°, h458km±11km, M4.3/11, mb4.6/6, mB4.9/4, MLv4.2/11, Mw(mB)4.2/4*

*IDC **01** 07:21:00.2±1.8, 2°.21N×122°.83E, h468km±21km, mb3.3/9, mbtmp4.1/9, Error ellipse: s-maj=67.5km s-min=10.6km az=64.0*

ISC 01 07:20:58.7±0.6**, 2°.28N**±0°.09×**122°.9E**±0°.1**, h450km, n54, σ1s.31**/54**, mb4.1**/18**, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GTOI	Gorontalo	1.64	176	P	P	07 21 58.6	+1.2
KMSI	Cibinong	2.00	148	P	P	07 22 02.0	+2.7
MRSI	Marisa	2.03	208	P	P	07 22 01.4	+2.0
TOLI2	Tolitoli	2.42	241	P	P	07 22 01.6	-0.1
TNTI	Ternate	4.70	108	P	P	07 22 21.6	+1.3
TNTI	Ternate	4.70	108	P	P	07 22 22.3	+2.0
MYLDM	Lahad Datu	5.26	303	P	P	07 22 27.9	+2.3
SANI	Sanana	5.29	144	P	P	07 22 26.4	+0.5
	71nm,0.7s,2μm0.5nm						
LBMI	Labuha	5.43	122	P	P	07 22 28.8	+1.5
	110nm,0.5s,2μm0.6nm						
TTSI	Tana Toraja	6.12	210	P	P	07 22 37.0	+2.7
	78nm,0.7s,0.3nm						
SPSI	Sidrap Palu	6.95	207	P	P	07 22 44.5	+1.6
	159nm,0.6s,5μm0.6nm						
FAKI	Fak Fak	10.67	119	P	P	07 23 24.2	+1.0
SBUM	Sibu	10.68	271	P	P	07 23 24.9	+1.6
EDFI	Ende, Flores	11.02	186	P	P	07 23 15.4	-12
SOEI	Soe	12.03	174	P	P	07 23 40.0	+1.9
BATI	Baumata	12.43	177	P	P	07 23 43.5	+1.2
BATI	Baumata	12.43	177	P	P	07 23 44.0	+1.7
	148nm,0.5s,baz=349,slow=5.2,SNR=9.9						
KNRA	Kununurra	18.76	162	P	P	07 24 48.3	-0.5
MBWA	Marble Bar	23.50	187	P	P	07 25 30.7	-1.2
MBWA				IAmb	IAmb	07 25 31.9	
	comp=Z,7.1nm,0.5s						
PSA00	Pilbara Seismi	23.89	187	P	P	07 25 34.5	-0.8
PSA00				IAmb	IAmb	07 25 35.6	
	comp=Z,13nm,0.7s						
WB0	Warramunga Arr	24.64	153	P	P	07 25 40.9	-1.1
WB0				IAmb	IAmb	07 25 42.0	
	comp=Z,7.7nm,1.1s						
WRAB	Tennant Creek	24.77	154	P	P	07 25 42.7	-0.5
WRAB				IAmb	IAmb	07 25 43.3	
	comp=Z,5.4nm,0.8s						
WRA	Warramunga Arr	24.77	154	P	P	07 25 42.5	-0.7
	comp=Z,3.3nm,0.5s,baz=336,slow=9.5,SNR=41						
WRA				ScP	ScP	07 31 58.8	-2.5
	comp=Z,0.1nm,0.5s,baz=346,slow=3.1,SNR=6.1						
	comp=Z,3.3nm,0.5s						
GSI	Gunungsitoli	25.34	268	P	P	07 25 46.9	-1.5
AS31	Alice Springs	27.92	158	P	P	07 26 10.9	-0.2
ASAR	Alice Springs	27.92	158	P	P	07 26 11.1	0.0
ASAR	Alice Springs	27.92	158	P	P	07 26 10.9	-0.2
	comp=Z,1.5nm,0.5s,baz=338,slow=7.2,SNR=24						
ASAR				ScP	ScP	07 32 08.2	-2.4
	comp=Z,0.4nm,0.4s,baz=337,slow=2.9,SNR=4.3						
	comp=Z,1.5nm,0.5s						
MORW	Morawa	31.86	191	P	P	07 26 44.3	-0.9
MORW				IAmb	IAmb	07 27 05.0	
	comp=Z,28nm,1.5s						
FORT	Forrest	33.24	172	P	P	07 26 56.6	-0.4
BBOO	Buckleboo	37.05	161	P	P	07 27 28.6	-0.4
BBOO				IAmb	IAmb	07 28 05.0	
	comp=Z,28nm,1.4s						
STKA	Stephens Creek	38.32	154	P	P	07 27 40.2	+0.8
STKA	Stephens Creek	38.32	154	P	P	07 27 40.1	+0.8
	comp=Z,2.8nm,0.4s,baz=324,slow=10.0,SNR=16						
	comp=Z,2.8nm,0.4s						
RAMN	Ramite	42.56	309	*e*P	P	07 28 15.6	+1.7
	comp=Z,13nm,0.6s						
JIRN	Jiri	43.22	309	*e*P	P	07 28 20.0	+0.7
	comp=Z,9.0nm,0.2s						
GUN	Gumba	43.59	309	*e*P	P	07 28 22.5	+0.4
	comp=Z,18nm,0.3s						
PKI	Pulchoki	43.79	309	*e*P	P	07 28 24.1	+0.4
	comp=Z,7.0nm,0.2s						
PKIN	Phulchoki	43.80	309	*e*P	P	07 28 24.1	+0.4
	comp=Z,6.2nm,0.2s						
CAN	Canberra	44.67	149	P	P	07 28 31.8	+1.7
KOLN	Koldanda	45.30	308	*e*P	P	07 28 36.5	+1.2
	comp=Z,6.8nm,0.2s						
DANN	Dangsing	45.44	309	*e*P	P	07 28 37.3	+0.8
	comp=Z,16nm,0.3s						
PYUN	Piuthan	45.93	308	*e*P	P	07 28 41.1	+1.0
	comp=Z,17nm,0.4s						
SONM	Songino Array	47.57	345	P	P	07 28 52.7	+0.5
	comp=Z,0.4nm,0.4s,baz=164,slow=9.1,SNR=4.3						
	comp=Z,0.4nm,0.4s						
MK31	Makanchi Array	56.65	328	P	P	07 29 57.3	-0.5
MKAR	Makanchi Array	56.65	328	P	P	07 29 57.3	-0.5
MKAR	Makanchi Array	56.65	328	P	P	07 29 58.2	+0.4
	comp=Z,1.2nm,0.3s,baz=129,slow=7.9,SNR=20						
	comp=Z,1.2nm,0.3s						
ZAA0	Zalesovo Array	60.22	335	P	P	07 30 16.1	-5.7
ZAA0				IAmb	IAmb	07 30 42.5	
	comp=Z,26nm,1.1s						
KURBB	Kurchatov Arra	60.96	329	P	P	07 30 26.8	0.0
	comp=Z,0.9nm,0.5s,baz=131,slow=5.5,SNR=10						
	comp=Z,0.9nm,0.5s						
KURK	Kurchatov	60.97	329	P	P	07 30 26.9	0.0
KURK				IAmb	IAmb	07 30 27.7	
	comp=Z,3.9nm,0.5s						
KKAR	Karatay Array	61.74	319	P	P	07 30 31.6	-0.6
BVAR	Borovoye Array	66.50	328	P	P	07 31 01.4	-1.0
	comp=Z,0.6nm,0.6s,baz=128,slow=9.3,SNR=2.0						
	comp=Z,0.6nm,0.6s						
ABKAR	Akbulak array	70.89	322	P	P	07 31 27.1	-2.1
ABKAR				IAmb	IAmb	07 31 33.2	
	comp=Z,1.3nm,0.8s						
AKTO	Aktyubinsk	72.45	323	P	P	07 31 38.1	-0.2
	comp=Z,1.4nm,0.3s,baz=99,slow=9.4,SNR=6.2						
	comp=Z,1.4nm,0.3s						
MAW	Mawson	81.10	200	P	P	07 32 24.1	-1.3
MAW	Mawson	81.10	200	P	P	07 32 24.6	-0.8
	comp=Z,1.4nm,0.7s,baz=90,slow=7.1,SNR=2.3						
	comp=Z,1.4nm,0.7s						

*JMA **01** 07:23:47.9±0.2, 33°.3N±0°.6×12°7E±°, h0km, MV2.6/11, S KOREAN PENINSULA REG*

*KMA **01** 07:23:48.4±0.2, 33°.21N×127°.36E, h0km, Error ellipse: s-maj=3.4km s-min=1.0km az=326.0*

ISC 01 07:23:48.1±1.2**, 33°.18N**±0°.07×**127°.35E**±0°.06**, h10km, n10, σ0s.31**/11**, South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GMDB	Geomundo	0.86	357	P	Pg	07 24 04.7	+0.1
	SNR=36						
GOS2	Gosang-Q330s	0.96	277	P	Pg	07 24 06.7	0.0
	SNR=5.7						
CSDB	Cheongsando	1.06	339	P	Pg	07 24 08.3	-0.3
	SNR=27						
CJD	Chujado	1.17	312	P	Pb	07 24 10.2	-0.3
	SNR=6.4						
JFU	Fukue jima 2	1.29	114	*e*P	Pn	07 24 12.3	+0.1
JFU				*e*S	Sb	07 24 29.4	+0.3
YNDB	Yeoundo	1.30	17	P	Pn	07 24 12.5	+0.2
	SNR=13						
KOHB	KOHEUNG	1.43	358	P	Pn	07 24 14.7	+0.5
	SNR=12						
YKDB	Yokjido	1.63	28	P	Pn	07 24 17.1	+0.3
	SNR=13						
JTSM	Tsushimamitsus	2.05	55	*e*S	Sn	07 24 48.0	-0.2
JTU	Tsushima	2.17	51	*e*S	Sn	07 24 50.9	-0.3

*OMAN **01** 07:29:23.5±1.2, 31°.56N×57°.73E, h10km, mb4.7/25, ms2.7/7, Error ellipse: s-maj=17.6km s-min=10.4km az=117.0*

*IDC **01** 07:29:31.9±1.1, 30°.51N×57°.29E, h0km, mb3.9/12, mbtmp3.9/15, ML3.6/3, MS3.5/2, Error ellipse: s-maj=23.8km s-min=17.9km az=163.0*

*DSN **01** 07:29:33.8±0.9, 30°.66N×58°.33E, h15km, ML3.7/8, Error ellipse: s-maj=47.4km s-min=8.0km az=109.0*

*TEH **01** 07:29:33.0, 30°.68N×57°.35E, h9km±33km, ML4.2*

*NEIC **01** 07:29:35.0±1.5, 30°.70N±0°.08×57°.3E±0°.1, h10km±1km, mb4.2/15, Error ellipse: s-maj=15.0km s-min=13.2km az=110.0*

ISC 01 07:29:35.9±0.4**, 30°.72N**±0°.03×**57°.31E**±0°.04**, h15km, n148, σ2s.07**/165**, mb4.1**/21**, 1D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.71	291	Pg	Pg	07 29 48.0	-1.8
KHGB	Koh Gabri	0.80	245	Pg	Pg	07 29 48.9	-2.5
KHGB				Sg	Sg	07 30 00.3	-1.6
TVBK	TV Kerman	0.87	213	Pg	Pg	07 29 50.5	-2.4
CHMN	Cheshme madani	0.88	167	Pg	Pg	07 29 49.2	-3.8
NGRK	Negar Kerman	1.18	205	Pg	Pn	07 29 55.6	-2.6
IBAF	Bafgh	1.73	301	Pg	Pn	07 30 06.2	+0.6
KBAM	BAM	1.86	148	Pn	Pn	07 30 06.4	-1.0
BSRN	Basiran	1.99	51	Pn	Pn	07 30 08.8	-0.3
IKOO	Kooshah	2.23	40	Pn	Pn	07 30 12.7	+0.1
TPRV	Parvadeh(Tabas	2.36	347	Pn	Pn	07 30 14.7	+0.4
IMEH	Mehriz	2.41	287	Pn	Pn	07 30 15.6	+0.6
NHDN	Nehbandan	2.45	73	Pn	Pn	07 30 14.9	-0.5
ITEG	Tejag	2.49	29	Pn	Pn	07 30 15.5	-0.6
BAGH	Bagheran - Bir	2.62	38	Pn	Pn	07 30 17.8	-0.1
KHNJ	Kahnooj	2.78	173	Pn	Pn	07 30 20.2	+0.3
TKDS	Koohdasht(Taba	2.89	357	Pn	Pn	07 30 21.8	+0.3
ICHK	Chekchek	2.91	302	Pn	Pn	07 30 22.7	+0.8
IDAH	Dahanechah	2.97	47	Pn	Pn	07 30 22.8	+0.1
AFRZ	Afriz	3.06	28	Pn	Pn	07 30 23.9	0.0
TNSJ	Nastanj	3.29	350	Pn	Pn	07 30 27.1	+0.1
ZHDN	Zahedan	3.31	113	Pn	Pn	07 30 26.5	-0.7
ISAD	Sadrabad	3.32	292	Pn	Pn	07 30 29.0	+1.5
IBND	Bandar-abas	3.33	192	Pn	Pn	07 30 27.3	-0.1
GENO	Geno	3.45	197	Pn	Pn	07 30 30.5	+1.1
SHRT	Shahrakht	3.86	40	Pn	Pn	07 30 35.4	+0.6
ANAR	Anarak	3.92	310	Pn	Pn	07 30 36.4	+0.8
QIR1	Qir	4.33	240	Pn	Pn	07 30 42.2	+0.9
IRAM	Ramesheh	4.36	286	Pn	Pn	07 30 42.7	+0.9
IZEF	Zefreh	4.76	298	Pn	Pn	07 30 48.2	+0.8
SHME	Shamm	4.76	193	*i* P	Pn	07 30 48.1	+0.9
	SNR=9.0						
SHME	Shamm	4.76	193	P	Pn	07 30 49.0	+1.8
	SNR=8.0						
SHME				S	Sb	07 31 57.4	+1.1
IGAR	Gharneh	4.80	292	Pn	Pn	07 30 48.9	+1.1
JASK	Jask - Hormozg	4.86	174	P	Pn	07 30 49.6	+1.1
	SNR=17						
JASK				S	Sb	07 31 54.8	-4.2
JASK	Jask - Hormozg	4.86	174	Pn	Pn	07 30 49.2	+0.7
KLNJ	Kolanjah	4.92	275	Pn	Pn	07 30 50.5	+0.8
IBRJ	Brojen	5.31	284	Pn	Pn	07 30 55.8	+0.9
UMQ	Umm Al-Quwin	5.38	196	P	Pn	07 30 58.6	+3.1
MASF	Masafi	5.42	191	P	Pn	07 30 58.4	+2.2
	SNR=14						
MASF				S	Sb	07 32 12.1	-3.2
MSFE	Esma-Masafi	5.44	191	*i* P	Pn	07 30 57.0	+0.6
	SNR=14						
MSFE				S	Sn	07 32 02.5	+3.7
KRSH	Karshahi	5.45	308	Pn	Pn	07 30 57.5	+0.8
IKLH	Kolahrood	5.51	300	Pn	Pn	07 30 58.8	+1.1
HRA	Herat	5.54	47	Pn	Pn	07 30 58.2	+0.2
SRVN	Saravan	5.55	125	Pn	Pn	07 30 59.1	+1.0
ISFB	Sefidab	5.61	312	Pn	Pn	07 31 00.9	+2.1
SBZV	Sabzevar	5.66	2	Pn	Pn	07 31 00.8	+1.1
ZNGN	Zangian	5.69	286	Pn	Pn	07 31 01.1	+0.9
JRKH	Jarkhoshk	5.77	25	Pn	Pn	07 31 01.8	+0.8
UOSS	Minazif	5.83	190	Pn	Pn	07 31 02.6	+0.7
UOSS	Minazif	5.83	190	P	Pn	07 31 02.1	+0.2
UOSS	Minazif	5.83	190	P	Pn	07 31 03.4	+1.5
UOSS				S	Sn	07 32 15.4	+6.9
JHBN	Jahan bin	5.87	287	Pn	Pn	07 31 03.0	+0.3
NAZ	Nazwa, Dubai	5.89	195	*i* P	Pn	07 31 04.5	+1.8
	SNR=10						
NAZ	Nazwa, Dubai	5.89	195	P	Pn	07 31 04.9	+2.2
	SNR=10						
HATD	Hatta, Dubai	5.96	190	P	Pn	07 31 05.4	+1.8
HATD				S	Sn	07 32 20.7	+8.9
IAKL	Akhelmad	5.99	11	Pn	Pn	07 31 03.9	-0.4
IMYA	Miami	6.07	22	Pn	Pn	07 31 06.5	+1.2
ASHO	Ashiyiah	6.11	191	*i* P	Pn	07 31 07.1	+1.3
	SNR=18						
ASHO	Ashiyiah	6.11	191	P	Pn	07 31 07.5	+1.8
	SNR=18						
ASHO				S	Sn	07 32 27.0	+11
FAQ	Al Faqa, Dubai	6.14	195	*i* P	Pn	07 31 08.0	+1.8
	SNR=9.2						
FAQ	Al Faqa, Dubai	6.14	195	P	Pn	07 31 08.2	+2.1
	SNR=9.2						
FAQ				P	Pn	07 31 08.2	+2.1
	SNR=9.2						
ASUD	Al Ashush, Dub	6.32	197	P	Pn	07 31 09.7	+1.1
ASUD	Al Ashush, Dub	6.32	197	P	Pn	07 31 10.7	+2.1
ASUD				P	Pn	07 31 10.7	+2.1
ASUD				S	Sn	07 32 30.8	+10
ASUD				S	Sn	07 32 30.8	+10
NGCH	Negor - Chabah	6.32	147	P	Pn	07 31 05.1	-3.4
ISFR	Sfrayin	6.34	5	Pn	Pn	07 31 10.2	+1.1
IGLO	Ghaloghah	6.46	334	Pn	Pn	07 31 12.1	+1.5
AJN	Ajban	6.47	199	P	Pn	07 31 11.6	+1.0
AJN				P	Pn	07 31 11.6	+1.0
AJN				S	Sn	07 32 33.1	+8.9
AJN				S	Sn	07 32 33.1	+8.9
IDMV	Damavand	6.56	319	Pn	Pn	07 31 12.8	+0.7
SOHO	SOHO	6.60	186	*i* P	Pn	07 31 11.6	-0.7
	SNR=10						
SOHO	SOHO	6.60	186	P	Pn	07 31 12.9	+0.5
IQOM	Qom	6.67	310	Pn	Pn	07 31 15.0	+1.4
ALNE	Al Ain	6.78	192	*i* P	Pn	07 31 15.3	+0.4
	SNR=7.0						
ALNE	Al Ain	6.78	192	P	Pn	07 31 16.5	+1.6
	SNR=7.0						
ALNE				P	Pn	07 31 16.5	+1.6
	SNR=7.0						
ALNE				S	Sn	07 32 41.6	+10
ALNE				S	Sn	07 32 41.6	+10
JRN	Qarnain Island	6.98	216	P	Pn	07 31 18.4	+0.8
MRVT	Maraveh tapeh	7.00	352	Pn	Pn	07 31 19.0	+1.1
HOQ	Hoqain	7.11	180	P	Pn	07 31 21.6	+2.2
	SNR=6.6						
HOQ	Hoqain	7.11	180	Pn	Pn	07 31 18.4	-1.0
BIDO	Bidbid	7.21	174	P	Pn	07 31 20.7	0.0
GEYT	Alibeck	7.22	5	Pn	Pn	07 31 21.4	+0.4
GEYT	Alibeck	7.22	5	Pn	Pn	07 31 23.0	+2.0
	0.3nm,0.3s,baz=70,slow=43,SNR=2.0						
GEYT				Sn	Sn	07 32 45.5	+2.7
	0.5nm,0.3s,baz=99,slow=9.2,SNR=1.3						
	1.1nm,0.3s						
GYA0B	ALIBECK ARRAY	7.22	5	Pn	Pn	07 31 21.2	+0.2
ARQ	Araqi	7.39	186	P	Pn	07 31 25.1	+1.8
	SNR=9.6						
SHMA	Al-Shehemyia	7.40	231	P	Pn	07 31 24.0	+0.7
SHMA				S	Sn	07 32 49.8	+2.7
WSAR	Wadi Sarin	7.54	171	P	Pn	07 31 25.8	+0.4
	SNR=6.8						
WSAR	Wadi Sarin	7.54	171	Pn	Pn	07 31 24.5	-0.9
	2.3nm,0.3s,baz=8.9,slow=9.2,SNR=28						
WSAR				Sn	Sn	07 32 49.0	-1.6
	baz=42,slow=16						
SAKB	Bahrain	7.61	233	P	Pn	07 31 26.6	+0.4
SMDO	Samad	7.66	175	P	Pn	07 31 28.5	+1.4
SMDO				S	Sn	07 33 01.5	+7.9
BSY	Bisya	7.94	181	P	Pn	07 31 32.4	+1.5
BSY				P	Pn	07 31 32.4	+1.5
TRNA	Turayna	8.04	224	P	Pn	07 31 31.7	-0.5
	SNR=5.1						
WBK	Wadi Bani Khal	8.21	169	P	Pn	07 31 33.4	-1.2
	SNR=12						
WBK	Wadi Bani Khal	8.21	169	Pn	Pn	07 31 33.9	-0.6
SMRA	Abu-Samra	8.27	226	P	Pn	07 31 34.9	-0.4
	SNR=7.3						
JMDO	Jabal Madar	8.35	175	P	Pn	07 31 37.4	+1.0
MZR	Muzera	8.41	205	P	Pn	07 31 39.6	+2.3
JLN	Jalan Bani Buh	8.74	167	P	Pn	07 31 41.7	-0.1
MHTO	MHTO	9.71	176	P	Pn	07 31 55.8	+0.7
MHTO				S	Sn	07 33 47.5	+3.5
KBL	Kabul	10.60	66	Pn	Pn	07 32 07.2	-0.3
KBL	Kabul	10.60	66	P	Pn	07 31 44.3	-23
SHAO	Shalim	12.73	187	P	Pn	07 32 35.0	-1.5
DMTO	DMTO	13.12	190	P	Pn	07 32 40.0	-1.8
WHFO	Wadi Hawf	13.14	195	P	Pn	07 32 40.2	-2.0
	SNR=7.1						
RBK	Rabkut	13.46	193	P	Pn	07 32 43.9	-2.6
ABTO	Aybut	13.80	196	P	Pn	07 32 48.2	-2.9
	SNR=7.1						
ABTO				P	Pn	07 32 48.2	-2.9
	SNR=7.1						
GNI	Garni	13.90	316	P	Pn	07 32 34.8	-18
SIRT	Sirnak	14.05	303	Pn	Pn	07 32 53.0	-1.5
KK31	Karatay Array	16.23	37	Pn	Pn	07 33 22.3	-1.1
KKAR	Karatay Array	16.23	37	Pn	Pn	07 33 21.9	-1.5
ARSB	Arslanbob	16.49	46	Pn	Pn	07 33 26.1	-0.7
ASF	Jabal al Asfar	17.48	280	P	Pn	07 33 37.5	-1.7
	0.3nm,0.3s,baz=40,slow=22,SNR=1.8						
	1.6nm,0.6s						
KIV	Kislovodsk	17.56	323	P	Pn	07 33 39.1	-1.1
KIV				IAmb	IAmb	07 33 45.9	
	comp=Z,16nm,1.1s						
KSH	Kashi	17.59	55	P	Pn	07 33 36.1	-4.4
KSH				pP	P	07 33 39.0	-2.5
KSH				sP	pP	07 33 42.5	-3.6
KSH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AAK	Ala-Archa	18.17	44	P	Pn	07 33 46.4	-1.3
ABKAR	Akbulak array	18.62	5	P	P	07 33 51.6	-1.1
AKTO	Aktyubinsk	19.70	1	P	P	07 34 05.2	+0.7
	comp=Z,0.4nm,0.3s,baz=186,slow=7.5,SNR=8.4						
AKTO				LR	LR	07 42 32.7	
	comp=Z,103nm,18.8s,baz=280,slow=39						
	comp=Z,2.6nm,0.5s						
CSS	Mathiatis	20.57	288	P	P	07 34 12.5	-1.7
CSS				IAmb	IAmb	07 34 28.3	
	comp=Z,8.6nm,0.6s						
BRTR	Keskin Array B	21.27	301		P	07 34 21.3	-0.5
BRTR	Keskin Array B	21.27	301	P	P	07 34 22.0	+0.1
	comp=Z,3.0nm,0.8s,baz=114,slow=12,SNR=13						
	comp=Z,3.0nm,0.8s						
MDUB	Mudurnu	23.28	302	P	P	07 34 41.8	-1.3
ELL	Elmali	23.52	292	P	P	07 34 45.2	-0.4
BVAR	Borovoye Array	24.25	19	P	P	07 34 52.2	+0.1
	comp=Z,3.2nm,0.8s,baz=189,slow=7.3,SNR=5.8						
BVAR				PcP	PcP	07 38 31.1	-0.9
	comp=Z,0.7nm,0.5s,baz=194,slow=4.0,SNR=2.5						
BVAR				LR	LR	07 45 11.6	
	comp=Z,135nm,19.5s,baz=310,slow=38						
	comp=Z,3.2nm,0.8s						
MAKZ	Makanchi	24.91	43	P	P	07 34 58.0	-0.3
MAKZ				IAmb	IAmb	07 35 01.4	
	comp=Z,3.0nm,1.1s						
MK31	Makanchi Array	25.09	43	P	P	07 34 60.0	+0.1
MKAR	Makanchi Array	25.09	43	P	P	07 35 00.1	+0.3
MKAR	Makanchi Array	25.09	43	P	P	07 34 59.8	-0.1
	comp=Z,0.6nm,0.6s,baz=233,slow=8.2,SNR=5.0						
	comp=Z,0.6nm,0.6s						
KURBB	Kurchatov Arra	25.42	32	P	P	07 35 03.0	+0.3
	comp=Z,1.7nm,0.8s,baz=231,slow=9.0,SNR=11						
	comp=Z,1.7nm,0.8s						
WMQ	Urumqi	27.32	53	*e*P	P	07 35 21.8	+1.7
AKASG	Malin Array Be	28.90	322	P	P	07 35 33.9	-0.2
	comp=Z,1.2nm,0.7s,baz=125,slow=8.3,SNR=5.0						
	comp=Z,1.2nm,0.7s						
AKBB	Malin Array Si	28.90	322	P	P	07 35 33.5	-0.5
AKBB				IAmb	IAmb	07 35 36.6	
	comp=Z,3.4nm,0.7s						
KIEV	Kiev	28.91	322	P	P	07 35 33.8	-0.3
KIEV				IAmb	IAmb	07 35 36.2	
	comp=Z,3.2nm,0.6s						
ZALV	Zalesovo Beam	30.52	33	P	P	07 35 47.9	-0.4
	comp=Z,2.0nm,0.7s,baz=251,slow=9.2,SNR=5.2						
	comp=Z,2.0nm,0.7s						
KOLS	Kolonicke sedl	32.10	315	*e*P	P	07 36 04.3	+1.9
CRVS	Cervenica-Dubn	32.59	314	*e*P	P	07 36 07.9	+1.2
FINES	FINESS Array B	36.91	335	P	P	07 36 43.3	-0.5
	comp=Z,4.6nm,1.0s,baz=147,slow=8.1,SNR=3.6						
	comp=Z,4.6nm,1.0s						
GEC2	GERESS Array S	37.48	312	P	P	07 36 48.9	0.0
GEC2				IAmb	IAmb	07 36 52.4	
	comp=Z,4.0nm,1.1s						
GERES	GERESS Array B	37.48	312	P	P	07 36 48.2	-0.7
GERES	GERESS Array B	37.48	312	P	P	07 36 48.4	-0.5
	comp=Z,1.6nm,0.7s,baz=91,slow=8.4,SNR=5.8						
	comp=Z,1.6nm,0.7s						
CLUD	Cludinico	37.59	307	P	P	07 36 49.4	-0.4
CLUD				IAmb	IAmb	07 36 52.2	
	comp=Z,5.6nm,0.9s						
CLL	Collm	38.51	315	*e*P	P	07 36 58.0	+0.6
PZH	PanZhiHua	39.04	85	P	P	07 37 03.4	+1.0
PZH				pmax	pmax		

	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,190nm,4.6s						
HHC	Hu-ho-hao-te	44.53	61	eP	P	07 37 46.3	-0.8
HHC				pmax	pmax		
	comp=Z,38nm,0.5s						
HHC				pmax	pmax		
	comp=Z,190nm,4.2s						
LYN	LuoYang	46.13	70	⇓P	P	07 38 02.4	+2.7
LYN				sP	sP	07 38 09.2	+2.2
LYN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LYN				pmax	pmax		
	comp=Z,440nm,4.7s						
XLT	XiLinHaoTe	47.62	57	eP	P	07 38 10.8	-0.6
XLT				pP	pP	07 38 15.7	-1.0
XLT				sP	sP	07 38 19.4	+0.6
XLT				PcP	PcP	07 39 30.8	-10
XLT				pmax	pmax		
	comp=Z,4.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,82nm,4.3s						
ESDC	Sonseca Array	50.01	298	P	P	07 38 26.8	-2.9
	comp=Z,0.7nm,0.8s,baz=90,slow=7.7,SNR=2.9						
	comp=Z,0.7nm,0.8s						
TOA0	Torodi Ar. Sit	53.94	264	P	P	07 38 58.2	-1.0
TOA0				IAmb	IAmb	07 38 58.8	
	comp=Z,3.3nm,0.8s						
TORD	Torodi Ar. Bea	53.94	264	P	P	07 38 57.7	-1.6
TORD				IAmb	IAmb	07 38 58.8	
	comp=Z,2.0nm,0.9s						
TORD	Torodi Ar. Bea	53.94	264	P	P	07 38 57.6	-1.6
	comp=Z,2.1nm,0.7s,baz=53,slow=8.3,SNR=16						
	comp=Z,2.1nm,0.7s						
A36M	Sachs Harbour	77.56	1	P	P	07 41 30.8	+0.1
WRA	Warramunga Arr	89.46	114	P	P	07 42 30.0	-2.7
	comp=Z,0.4nm,0.8s,baz=294,slow=5.0,SNR=3.0						
	comp=Z,0.4nm,0.8s						
ASAR	Alice Springs	91.14	117	P	P	07 42 39.2	-1.2
	comp=Z,0.8nm,1.0s,baz=310,slow=5.1,SNR=3.3						
	comp=Z,0.8nm,1.0s						

IDC 01 07:29:57.9±2.5,54°.06N×86°.55E,h0km,mbtmp3.2/2,ML2.8/2,Error ellipse: s-maj=19.9km s-min=12.2km az=62.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.03	264	I	I	07 35 48.1	
	0.1nm,0.8s,baz=85,slow=341,SNR=15						
ZALV	Zalesovo Beam	1.03	264	P	P	07 30 16.4	-5.2
ZALV	Zalesovo Beam	1.03	264	Pg	Pg	07 30 16.0	-1.6
	1.7nm,0.3s,baz=84,slow=17,SNR=12						
ZALV				Lg	Lg	07 30 32.5	
	2.0nm,0.3s,baz=81,slow=27,SNR=4.6						
KURBB	Kurchatov Arra	6.00	238	Pn	Pn	07 31 28.6	+0.7
	0.2nm,0.3s,baz=56,slow=14,SNR=10						
KURBB				Sn	Sn	07 32 37.1	-0.1
	baz=53,slow=30,SNR=1.6						
KURBB				Lg	Lg	07 33 08.9	
	baz=54,slow=31,SNR=1.3						
	1.9nm,0.4s						
MKAR	Makanchi Array	7.77	202	Pn	Pn	07 31 53.3	+1.1
	0.2nm,0.3s,baz=26,slow=14,SNR=12						
MKAR				Sn	Sn	07 33 20.4	-0.3
	0.1nm,0.3s,baz=19,slow=25,SNR=4.7						
MKAR				Lg	Lg	07 34 05.1	
	baz=18,slow=32,SNR=1.5						
	0.3nm,0.2s						

TEH 01 07:32:31.7,30°.70N×57°.38E,h6km±61km,ML4.0
IDC 01 07:32:33.5±1.1,30°.74N×57°.37E,h0km,mb3.8/8,mbtmp3.9/11,ML3.8/3,Error ellipse: s-maj=24.2km s-min=20.3km az=123.0
DSN 01 07:32:37.0±0.9,30°.60N×57°.85E,h15km,ML3.5/1,Error ellipse: s-maj=76.6km s-min=7.9km az=104.0
ISC 01 07:32:35.3±0.7,30°.74N±0°.04×57°.36E±0°.04,h15km,n38,σ1°.49/40,mb3.8/8,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.74	288	Pg	Pg	07 32 47.5	-2.4
KHGB	Koh Gabri	0.84	245	Pg	Pg	07 32 48.8	-2.8
CHMN	Cheshme madani	0.89	170	Pg	Pg	07 32 49.4	-3.1
TVBK	TV Kerman	0.91	215	Pg	Pg	07 32 50.5	-2.4
NGRK	Negar Kerman	1.22	207	Pg	Pn	07 32 56.5	-1.6
IBAF	Bafgh	1.76	299	Pg	Pb	07 33 06.1	-1.2
KBAM	BAM	1.86	149	Pn	Pn	07 33 06.1	-0.5
BSRN	Basiran	1.94	51	Pn	Pn	07 33 08.1	+0.2
IKOO	Kooshah	2.19	39	Pn	Pn	07 33 11.9	+0.5
TPRV	Parvadeh(Tabas	2.36	346	Pn	Pn	07 33 14.3	+0.7
NHDN	Nehbandan	2.40	73	Pn	Pn	07 33 14.8	+0.6
IMEH	Mehriz	2.44	286	Pn	Pn	07 33 15.9	+1.0
ITEG	Tejag	2.46	28	Pn	Pn	07 33 15.0	0.0
BAGH	Bagheran - Bir	2.58	37	Pn	Pn	07 33 16.4	-0.3
TKDS	Koohdasht(Taba	2.88	356	Pn	Pn	07 33 22.2	+1.5
IDAH	Dahanechah	2.92	46	Pn	Pn	07 33 22.4	+0.9
ICHK	Chekchek	2.94	302	Pn	Pn	07 33 23.2	+1.6
AFRZ	Afriz	3.03	27	Pn	Pn	07 33 23.5	+0.7
IMON	Monand	3.14	38	Pn	Pn	07 33 26.3	+1.9
ZHDN	Zahedan	3.27	113	Pn	Pn	07 33 26.9	+0.7
ISAD	Sadrabad	3.36	291	Pn	Pn	07 33 29.0	+1.6
SHME	Shamm	4.79	193	P	Pn	07 33 48.3	+1.4
MSFE	Esma-Masafi	5.46	191	P	Pn	07 33 57.3	+1.1
MSFE				S	Sn	07 35 01.2	+2.4
UOSS	Minazif	5.86	190	P	Pn	07 34 03.3	+1.7
NAZ	Nazwa, Dubai	5.92	195	P	Pn	07 34 04.8	+2.3
FAQ	Al Faqa, Dubai	6.17	195	P	Pn	07 34 07.8	+1.9
ALNE	Al Ain	6.81	193	P	Pn	07 34 16.5	+1.9
WSAR	Wadi Sarin	7.55	171	Pn	Pn	07 34 25.8	+0.9
	1.3nm,0.3s,baz=347,slow=9.6,SNR=5.6						
WSAR				Sn	Sn	07 35 52.5	+2.2
	0.2nm,0.3s,baz=277,slow=11,SNR=1.5						
	4.1nm,0.4s						
ASF	Jabal al Asfar	17.52	280	P	P	07 36 39.7	-0.5
	0.3nm,0.3s,baz=29,slow=19,SNR=2.0						
	1.3nm,0.5s						
AKTO	Aktyubinsk	19.68	1	P	Pn	07 37 04.1	-1.1
	0.2nm,0.3s,baz=177,slow=9.7,SNR=6.8						
	2.8nm,0.7s						
BRTR	Keskin Array B	21.30	301	P	P	07 37 22.1	+0.5
	0.3nm,0.3s,baz=104,slow=9.1,SNR=3.2						
	0.3nm,0.3s						
BVAR	Borovoye Array	24.22	19	P	P	07 37 51.7	+0.5
	1.0nm,0.6s,baz=208,slow=8.0,SNR=4.6						
	1.0nm,0.6s						
MKAR	Makanchi Array	25.05	43	P	P	07 37 59.2	+0.3
	0.6nm,0.7s,baz=224,slow=6.8,SNR=5.1						
	0.6nm,0.7s						
KURBB	Kurchatov Arra	25.38	32	P	P	07 38 02.3	+0.5
	2.9nm,0.2s,baz=231,slow=9.1,SNR=7.8						
	2.9nm,0.2s						
ZALV	Zalesovo Beam	30.48	33	P	P	07 38 47.5	+0.2
	1.9nm,0.6s,baz=236,slow=9.3,SNR=7.5						
	1.9nm,0.6s						
FINES	FINESS Array B	36.91	335	P	P	07 39 44.0	+0.8
	3.6nm,0.9s,baz=130,slow=13,SNR=2.1						
	3.6nm,0.9s						
TORD	Torodi Ar. Bea	53.98	264	P	P	07 41 59.1	+0.1
	0.9nm,0.7s,baz=54,slow=7.8,SNR=4.6						
	0.9nm,0.7s						
WRA	Warramunga Arr	89.42	114	P	P	07 45 32.5	+0.6
	0.3nm,0.9s,baz=308,slow=4.3,SNR=1.8						
	0.3nm,0.9s						

TEH 01 07:51:22.5,30°.69N×57°.36E,h6km±155km,ML3.6,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.76	292	Pg	Pb	07 51 38.3	+0.1
KHGB	Koh Gabri	0.82	248	Pg	Pb	07 51 39.6	+0.3
CHMN	Cheshme madani	0.84	169	Pg	Pb	07 51 39.2	-0.4
TVBK	TV Kerman	0.87	217	Pg	Pn	07 51 40.9	-0.6
NGRK	Negar Kerman	1.17	208	Pg	Pn	07 51 46.4	+0.7
IBAF	Bafgh	1.78	301	Pg	Pg	07 51 56.6	0.0
KBAM	BAM	1.81	148	Pn	Pg	07 51 57.1	-0.2
BSRN	Basiran	1.98	49	Pn	Pb	07 51 59.5	+0.5
TPRV	Parvadeh(Tabas	2.41	346	Pn	Pb	07 52 05.4	-0.8
NHDN	Nehbandan	2.42	72	Pn	Pb	07 52 06.0	-0.5
IMEH	Mehriz	2.46	287	Pn	Pb	07 52 06.3	-0.9
ITEG	Tejag	2.50	28	Pn	Pb	07 52 06.6	-1.3
BAGH	Bagheran - Bir	2.62	36	Pn	Pb	07 52 08.5	-1.4
TKDS	Koohdasht(Taba	2.93	356	Pn	Pb	07 52 12.6	-2.5
AFRZ	Afriz	3.07	27	Pn	Pn	07 52 14.5	+2.9
ZHDN	Zahedan	3.26	112	Pn	Pn	07 52 16.7	+2.5
ISAD	Sadrabad	3.37	292	Pn	Pb	07 52 19.6	-3.2
SHRT	Shahrakht	3.86	39	Pn	Pn	07 52 26.1	+3.7
ANAR	Anarak	3.97	310	Pn	Pn	07 52 26.9	+2.9
IZEF	Zefreh	4.81	299	Pn	Pn	07 52 39.0	+3.2

IDC 01 07:54:42.9±2.2,7°.92S×130°.34E,h0km,mb3.5/1,mbtmp3.8/3,ML4.1/2,Error ellipse: s-maj=96.9km s-min=27.2km az=70.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	12.57	162	Pn	Pn	07 57 42.7	-0.4
	1.2nm,0.3s,baz=346,slow=13,SNR=42						
WRA				Sn	Sn	08 00 06.7	+2.7
	0.3nm,0.3s,baz=340,slow=25,SNR=1.8						
	1.9nm,0.5s						
ASAR	Alice Springs	16.03	168	Pn	Pn	07 58 29.5	-0.4
	0.5nm,0.3s,baz=351,slow=9.8,SNR=12						
ASAR				Sn	Sn	08 01 30.6	+2.1
	0.1nm,0.3s,baz=346,slow=22,SNR=1.3						
	1.3nm,0.4s						
MKAR	Makanchi Array	69.17	327	P	P	08 05 51.5	+0.1
	0.2nm,0.5s,baz=115,slow=6.5,SNR=2.9						
	0.2nm,0.5s						

IDC 01 08:09:20.1±0.5,51°.58N×30°.00W,h0km,mb4.1/28,mbtmp4.1/29,ML4.1/1,MS4.0/88,Error ellipse: s-maj=16.4km s-min=10.7km az=179.0
GCMT 01 08:09:20.0±0.2,51°.61N±0°.03×29°.86W±0°.02,h12km,MW4.8/106,Moment Tensor Solution. s29,c33; s106,c146; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.01±.07; $M_{\theta\theta}$-0.02±.07; $M_{\phi\phi}$2.03±.05; $M_{r\theta}$0.32±.27; $M_{\theta\phi}$-0.02±.05; $M_{\phi r}$-0.65±.20; Best double couple: $M_0$2.14600×10^{16} NP1:ϕ_s351.00000°,δ55.00000°,λ-100.00000°. NP2:ϕ_s188.00000°,δ37.00000°,λ-77.00000°. Principal axes: T 2.1340, Plg9.0000°, Azm88.0000°; N 0.0250, Plg8.0000°, Azm357.0000°; P -2.1580, Plg78.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
NEIC 01 08:09:22.0±1.3,51°.62N±0°.06×30°.0W±0°.1,h10km±1km,mb4.6/43 Error ellipse: s-maj=13.7km s-min=9.8km az=82.0
ISC 01 08:09:21.6±0.4,51°.63N±0°.07×30°.02W±0°.05,h10km,n188,σ1°.91/113,mb4.5/60,MS4.1/103,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	13.91	16	LR	LR	08 16 34.0	
	comp=Z,404nm,20.3s,baz=208,slow=31						
CMLA	Cha da Macela	14.22	165	Pn	Pn	08 12 42.7	-0.3
DSB	Dublin	14.49	74	Pn	Pn	08 12 46.3	-0.4
ESK	Eskdalemuir	16.34	66	Pn	Pn	08 13 10.5	-0.4
EKA	Eskdalemuir Ar	16.36	66	Pn	Pn	08 13 11.3	+0.1
	baz=264,slow=11						
	4.3nm,0.8s						
DY2G	Dye2	16.98	337	eP	P	08 13 23.5	+2.4
DRLN	Deer Lake	17.63	273	Pn	Pn	08 13 26.8	-0.4
POLO	Lamas de Olo	18.34	115	P	P	08 13 39.8	+3.6
SFJD	Kangerlussuaq	18.50	334	P	P	08 13 37.6	+0.1
SFJD	Kangerlussuaq	18.50	334	LR	LR	08 19 19.9	
	comp=Z,440nm,19.3s,baz=138,slow=32						
PBRG	Braganca	18.66	113	eP	Pn	08 13 44.0	+4.0
	39nm,1.5s						
PVIS	Viseu	18.73	117	eP	Pn	08 13 47.5	+6.7
MVO	Moncorvo	18.92	115	eP	Pn	08 13 43.3	+0.3
	28nm,1.3s						
MVO				eLR	LR	08 18 04.7	
	625nm,22.0s						
MTE	Manteigas	19.14	117	eP	Pn	08 13 51.1	+5.3
	31nm,1.7s						
MTE				eLR	LR	08 18 10.2	
	570nm,20.0s						
MTE	Manteigas	19.14	117	P	Pn	08 13 45.6	-0.1
MTE				IAmb	IAmb	08 14 11.3	
	comp=Z,49nm,1.4s						
SCO	Scoresbysund	19.28	8	iP	Pn	08 13 50.8	+3.7
PCBR	Castelo Branco	19.57	118	eP	Pn	08 13 52.9	+2.1
	comp=Z,32nm,1.5s						
PMTG	Montargil	19.71	121	eP	Pn	08 13 59.1	+6.6
	comp=Z,42nm,1.6s						
PMRV	Marv??o	19.90	119	eP	Pn	08 13 54.8	0.0
	comp=Z,39nm,1.5s						
PMRV				eLR	LR	08 18 45.2	
	comp=Z,592nm,20.0s						
PESTR	Estremoz	20.20	120	P	Pn	08 13 59.5	+1.2
	comp=Z,34nm,1.5s						
PESTR	Estremoz	20.20	120	eP	Pn	08 14 03.7	+5.4
	comp=Z,34nm,1.5s						
EVO	Evora	20.22	122	eP	P	08 13 56.0	-0.6
	comp=Z,34nm,1.9s						
PCVE	Castro Verde	20.88	124	eP	Pn	08 14 09.2	+3.0
	comp=Z,34nm,1.6s						
PBAR	Barrancos	21.00	121	eP	Pn	08 14 11.4	+3.8
	comp=Z,29nm,2.0s						
SUMG	Summit	21.35	353	P	P	08 14 10.3	+1.4
SUMG				IAmb	IAmb	08 14 11.7	
	comp=Z,34nm,1.5s						
SUMG	Summit	21.35	353	iP	P	08 14 11.0	+2.0
PAB	San Pablo	21.52	114	P	P	08 14 11.2	+0.5
PAB				IAmb	IAmb	08 14 17.7	
	comp=Z,58nm,1.5s						
ESBB	Sonseca Array	21.65	113	P	P	08 14 13.1	+0.9
ESBB				IAmb	IAmb	08 14 17.4	
	comp=Z,29nm,1.2s						
ESDC	Sonseca Array	21.65	113	P	P	08 14 12.0	-0.1
	comp=Z,20nm,1.2s,baz=313,slow=10,SNR=21						
ESDC				LR	LR	08 21 09.9	
	comp=Z,659nm,18.4s,baz=306,slow=33						
	comp=Z,20nm,1.2s						
SCHQ	Schefferville	22.11	293	P	P	08 14 16.2	-0.6
SCHQ	Schefferville	22.11	293	P	P	08 14 16.7	-0.1
	comp=Z,5.9nm,0.9s,baz=86,slow=8.0,SNR=9.1						
SCHQ				LR	LR	08 21 15.7	
	comp=Z,403nm,22.0s,baz=82,slow=32						
	comp=Z,5.9nm,0.9s						
FRB	Frobisher Bay	23.48	316	LR	LR	08 21 48.6	
	comp=Z,728nm,18.4s,baz=102,slow=32						
NB2	NORSAR Subarra	24.32	51	P	P	08 14 39.3	+0.1
	comp=Z,8.6nm,1.0s,baz=266,slow=9.3						
NOA	NORSAR Array B	24.32	51	P	P	08 14 39.3	+0.1
	comp=Z,2.0nm,0.8s,baz=265,slow=9.2,SNR=7.2						
NOA				LR	LR	08 22 58.8	
	comp=Z,246nm,20.7s,baz=270,slow=34						
	comp=Z,2.0nm,0.8s						
HFS	Hagfors	25.51	53	P	P	08 14 50.3	+0.5
	comp=Z,2.5nm,0.8s,baz=265,slow=7.4,SNR=2.5						
HFS				LR	LR	08 23 35.8	
	comp=Z,430nm,21.6s,baz=268,slow=34						
	comp=Z,2.5nm,0.8s						
DAG	Danmarks Havn	25.62	6	iP	P	08 14 51.0	+0.3
DAVOX	Davos/Dischmat	26.27	85	LR	LR	08 24 06.4	
	comp=Z,230nm,21.6s,baz=284,slow=34						
MDT	Midelt	26.38	126	LR	LR	08 22 55.0	
	comp=Z,97nm,21.8s,baz=338,slow=31						
CLL	Collm	26.52	74	eP	P	08 14 58.0	-1.1
	comp=Z,4.0nm,0.9s						
CLL				ex	x	08 15 03.0	
CLL				ix	x	08 15 06.8	
CLL				ex	x	08 15 33.0	
CLL				ePPP	PPP	08 15 47.0	
CLL				eS	S	08 19 37.0	+4.0
CLL				eSSS	SSS	08 20 48.0	
BSD	Bornholm Skovb	26.68	65	iP	P	08 15 13.4	+13
HSKC	Hora Svate Kat	27.00	75	AMS	AMS	08 25 20.0	
	comp=Z,600nm,19.1s						
KHC	Kasperske Hory	27.61	78	AMS	AMS	08 24 40.0	
	comp=Z,600nm,24.9s						
PVCC	Panska Ves	27.71	74	AMS	AMS	08 25 50.0	
	comp=Z,500nm,14.3s						
PRA	Prague	27.78	75	AMS	AMS	08 26 50.0	
	comp=Z,300nm,16.9s						
GERES	GERESS Array B	27.79	78	P	P	08 15 09.0	-1.6
	comp=Z,0.3nm,0.2s,baz=276,slow=40,SNR=1.6						
GERES				LR	LR	08 25 44.9	
	comp=Z,582nm,19.7s,baz=278,slow=35						
	comp=Z,0.3nm,0.2s						
ZVC	Zvikov	27.86	77	AMS	AMS	08 24 50.0	

	comp=Z,500nm,16.9s						
PRU	Pruhonice	27.88	76	AMS	AMS	08 24 00.0	
CKRC	Cesky Krumlov	28.17	78	AMS	AMS	08 25 10.0	
	comp=Z,500nm,15.6s						
CHVC	Chvalec	28.58	74	AMS	AMS	08 26 40.0	
	comp=Z,600nm,18.0s						
UPC	Upice	28.58	74	AMS	AMS	08 26 40.0	
	comp=Z,700nm,18.0s						
OSTC	Ostas	28.68	74	AMS	AMS	08 26 40.0	
	comp=Z,600nm,16.2s						
DPC	Dobruska-Polom	28.82	74	AMS	AMS	08 26 40.0	
	comp=Z,600nm,15.2s						
KRLC	Kraliky	29.20	74	AMS	AMS	08 27 00.0	
	comp=Z,600nm,14.7s						
VRAC	Vranov	29.37	76	LR	LR	08 26 13.3	
	comp=Z,384nm,21.2s,baz=296,slow=34						
OKC	Ostrava-Krasne	30.10	74	AMS	AMS	08 27 20.0	
	comp=Z,600nm,15.3s						
NOR	Nord	30.38	4	iP	P	08 15 34.7	+1.5
ARCES	ARCESS Array B	31.12	34	P	P	08 15 39.7	-0.1
	comp=Z,2.3nm,0.8s,baz=270,slow=6.1,SNR=4.2						
ARCES				LR	LR	08 25 21.6	
	comp=Z,100nm,21.7s,baz=273,slow=31						
	comp=Z,2.3nm,0.8s						
SPITS	Spitsbergen Ar	31.37	17	LR	LR	08 25 11.7	
	comp=Z,300nm,21.0s,baz=213,slow=30						
FINES	FINESS Array B	31.48	50	P	P	08 15 43.4	+0.4
	comp=Z,3.9nm,0.6s,baz=282,slow=9.0,SNR=11						
FINES				LR	LR	08 28 23.8	
	comp=Z,176nm,18.5s,baz=253,slow=36						
	comp=Z,3.9nm,0.6s						
KEST	Kesra	32.14	104	P	P	08 15 49.5	+0.2
KEST	Kesra	32.14	104	P	P	08 15 49.0	-0.2
	comp=Z,6.7nm,1.1s,baz=323,slow=14,SNR=2.5						
KEST				LR	LR	08 27 32.4	
	comp=Z,356nm,19.2s,baz=317,slow=34						
	comp=Z,6.7nm,1.1s						
SADO	Sadowa	32.92	278	LR	LR	08 27 38.3	
	comp=Z,422nm,21.9s,baz=63,slow=33						
NACGM	Naroch	33.33	62	eP	P	08 15 56.4	-3.0
	comp=Z,35nm,0.8s,baz=288						
MNK	Minsk	34.07	62	iP	P	08 16 04.5	-1.2
	comp=E,10.0nm,0.9s						
MNK				iP	P	08 16 04.5	-1.2
	comp=N,24nm,0.8s						
MNK				iP	P	08 16 04.5	-1.2
	comp=Z,16nm,0.9s,baz=290						
MNK				iPP	PnPn	08 17 18.9	0.0
MNK				iPPP	PPP	08 17 35.5	
MNK				iS	S	08 21 29.8	-1.3
MNK				iSS	SS	08 23 47.9	-10
MNK				iLQ	LQ	08 26 16.5	
MNK				iLR	LR	08 28 02.2	
MNK				iLRM	MLR	08 29 35.0	
	comp=Z,328nm,17.8s						
MNK				iLRM	MLR	08 29 38.2	
	comp=N,298nm,17.8s						
MNK				iLRM	MLR	08 29 40.2	
	comp=E,170nm,17.8s						
VAE	Valguarnera	34.12	97	LR	LR	08 28 52.0	
	comp=E,126nm,18.6s,baz=299,slow=34						
RES	Resolute Bay	34.50	335	LR	LR	08 29 20.5	
	comp=E,102nm,18.4s,baz=11,slow=35						
FCC	Fort Churchill	35.96	307	P	P	08 16 22.9	+0.9
FCC				IAmb	IAmb	08 16 30.2	
	comp=Z,8.9nm,0.9s						
AKASG	Malin Array Be	36.27	67	P	P	08 16 23.9	-0.9
	comp=Z,0.7nm,0.6s,baz=293,slow=8.3,SNR=5.3						
AKASG				LR	LR	08 32 15.7	
	comp=Z,416nm,18.4s,baz=250,slow=38						
	comp=Z,0.7nm,0.6s						
MLR	Muntele Rosu	36.75	77	LR	LR	08 32 27.5	
	comp=Z,210nm,18.2s,baz=296,slow=38						
O52A	Adamsville	37.12	273	P	P	08 16 32.5	+0.3
KLMR	Klimovskoe	37.95	48	eP	P	08 16 36.1	-2.8
KLMR				AMP		08 16 45.1	
	comp=Z,15nm,1.1s						
OBN	Obninsk	38.52	58	LR	LR	08 31 33.9	
	comp=Z,244nm,21.5s,baz=227,slow=35						
ULM	Lac du Bonnet	40.25	295	P	P	08 16 57.5	-0.8
	comp=Z,2.1nm,0.6s,baz=49,slow=9.3,SNR=4.3						
ULM				LR	LR	08 31 41.6	
	comp=Z,230nm,20.6s,baz=48,slow=33						
	comp=Z,2.1nm,0.6s						
TZTN	Tazewell	40.37	270	P	P	08 16 59.3	-0.2
TZTN				IAmb	IAmb	08 17 08.7	
	comp=Z,30nm,1.4s						
T50A	Nancy	40.87	271	P	P	08 17 03.4	-0.1
TKL	Tuckaleechee C	41.07	269	LR	LR	08 34 48.0	
	comp=Z,107nm,18.9s,baz=66,slow=37						
CPCT	Cooper Cave	41.67	269	P	P	08 17 10.7	+0.5
IDI	Anoyia	42.02	91	LR	LR	08 36 36.1	
	comp=Z,232nm,18.4s,baz=254,slow=39						
SIUC	Southern Illin	43.16	275	P	P	08 17 22.6	+0.3
SIUC				IAmb	IAmb	08 17 29.7	
	comp=Z,9.6nm,0.8s						
KIRV	Kirov	43.45	48	LR	LR	08 34 24.3	
	comp=Z,245nm,21.9s,baz=302,slow=35						
Y49A	Blount Mountai	43.89	269	P	P	08 17 28.4	+0.2
Y49A				IAmb	IAmb	08 17 35.8	
	comp=Z,6.6nm,0.9s						
SJG	San Juan	43.91	234	LR	LR	08 33 23.1	
	comp=Z,80nm,19.8s,baz=34,slow=33						
YKA	Yellowknife Ar	43.96	318	P	P	08 17 28.2	-0.1
	comp=Z,3.2nm,1.0s,baz=62,slow=8.2,SNR=17						
YKA				PcP	PcP	08 19 13.0	-0.9
	comp=Z,1.8nm,0.8s,baz=58,slow=3.6,SNR=17						
YKA				LR	LR	08 33 14.9	
	comp=Z,265nm,20.0s,baz=3.0,slow=33						
	comp=Z,3.2nm,1.0s						
CCM	Cathedral Cave	44.21	277	P	P	08 17 30.7	+0.1
BRTR	Keskin Array B	44.67	79	P	P	08 17 35.7	+1.1
	comp=Z,0.9nm,0.6s,baz=298,slow=9.1,SNR=4.7						
BRTR				LR	LR	08 38 12.1	
	comp=Z,305nm,19.2s,baz=318,slow=39						
	comp=Z,0.9nm,0.6s						
BELG	Belogornoye	45.60	57	LR	LR	08 36 49.3	
	comp=Z,153nm,18.2s,baz=2.4,slow=36						
TOA0	Torodi Ar. Sit	46.11	135	P	P	08 17 44.7	-1.3
TOA0				IAmb	IAmb	08 17 51.3	
	comp=Z,10nm,1.4s						
TORD	Torodi Ar. Bea	46.11	135	P	P	08 17 45.4	-0.6
TORD	Torodi Ar. Bea	46.11	135	P	P	08 17 44.6	-1.3
	comp=Z,2.1nm,0.9s,baz=342,slow=8.7,SNR=11						
TORD				LR	LR	08 35 31.9	
	comp=Z,143nm,18.1s,baz=329,slow=34						
	comp=Z,2.1nm,0.9s						
WHAR	Wooly Hollow	46.61	275	P	P	08 17 49.1	-0.6
HHAR	Hobbs	46.99	277	P	P	08 17 52.2	-0.5
HHAR				IAmb	IAmb	08 17 53.3	
	comp=Z,4.5nm,0.6s						
INK	Inuvik	47.80	331	P	P	08 17 58.0	-0.5
	comp=Z,1.3nm,0.8s,baz=60,slow=9.8,SNR=6.9						
INK				LR	LR	08 37 09.9	
	comp=Z,307nm,18.3s,baz=5.0,slow=35						
	comp=Z,1.3nm,0.8s						
KBZ	Khabaz	47.82	69	LR	LR	08 38 46.4	
	comp=Z,376nm,20.4s,baz=314,slow=37						
ARU	Arti	48.79	48	P	P	08 18 07.1	+0.7
	comp=Z,3.8nm,0.2s,baz=325,slow=6.1,SNR=6.8						
ARU				LR	LR	08 37 51.0	
	comp=Z,242nm,20.1s,baz=293,slow=35						
	comp=Z,3.8nm,0.2s						
E29M	Blow River	49.05	332	P	P	08 18 08.5	+0.3
E29M				IAmb	IAmb	08 18 32.6	
	comp=Z,5.5nm,1.1s						
E28M	Babbage River	49.38	333	P	P	08 18 11.1	+0.3
E28M				IAmb	IAmb	08 18 37.2	
	comp=Z,9.7nm,1.5s						
DBIC	Dimbokro	49.41	146	P	P	08 18 10.9	-0.7
	comp=Z,4.6nm,0.9s,baz=309,slow=6.9,SNR=4.2						
DBIC				LR	LR	08 36 47.2	
	comp=Z,128nm,20.6s,baz=3.0,slow=33						
	comp=Z,4.6nm,0.9s						
PCRV	Puerto La Cruz	50.04	227	LR	LR	08 36 15.0	
	comp=Z,152nm,20.2s,slow=32						
MDP	Montagnes des	50.05	210	LR	LR	08 34 00.5	
	comp=Z,126nm,20.5s,baz=348,slow=30						
MMAI	Mount Meron Ar	50.06	85	LR	LR	08 42 35.6	
	comp=Z,69nm,18.7s,baz=270,slow=40						
J30M	Hart River	50.97	328	P	P	08 18 24.0	+1.0
J30M				IAmb	IAmb	08 18 26.1	
	comp=Z,13nm,1.4s						
GNI	Garni	51.11	72	LR	LR	08 41 40.7	
	comp=Z,206nm,19.3s,baz=320,slow=38						
N23A	Red Feather La	51.33	290	P	P	08 18 27.4	+1.2
I28M	Miner Creek	51.56	330	P	P	08 18 27.5	+0.1
I28M				IAmb	IAmb	08 18 29.4	

	comp=Z,8.4nm,1.3s						
AKTO	Aktyubinsk	52.06	54	P	P	08 18 31.0	-0.2
	comp=Z,3.6nm,0.7s,baz=309,slow=6.1,SNR=11						
AKTO				LR	LR	08 40 15.5	
	comp=Z,318nm,20.6s,baz=307,slow=36						
	comp=Z,3.6nm,0.7s						
EIL	Elat	52.07	89	LR	LR	08 42 49.5	
	comp=Z,65nm,21.6s,baz=258,slow=39						
BPMT	Black Pine Rid	52.11	299	P	P	08 18 31.9	-0.1
PDAR	Pinedale Array	52.24	294	P	P	08 18 32.1	-0.9
	comp=Z,0.9nm,0.5s,baz=63,slow=7.6,SNR=14						
PDAR				LR	LR	08 40 15.3	
	comp=Z,162nm,18.1s,baz=54,slow=36						
	comp=Z,0.9nm,0.5s						
L29M	L29M	52.53	327	P	P	08 18 35.0	+0.4
DLBC	Dease Lake	52.55	319	LR	LR	08 39 27.9	
	comp=Z,314nm,18.3s,baz=70,slow=34						
BAUV	El Baul	52.71	230	P	P	08 18 36.7	+0.4
NEW	Newport	52.93	303	LR	LR	08 39 23.8	
	comp=Z,232nm,18.7s,baz=54,slow=34						
ABKAR	Akbulak array	53.77	54	P	P	08 18 44.2	+0.4
SDV	Santo Domingo	54.02	233	LR	LR	08 39 19.6	
	comp=Z,78nm,20.4s,baz=64,slow=33						
HWUT	Hardware Ranch	54.13	294	P	P	08 18 46.6	-0.2
HWUT				IAmb	IAmb	08 18 54.8	
	comp=Z,4.7nm,0.8s						
ILAR	Eielson Array	54.14	332	P	P	08 18 47.2	+0.9
	comp=Z,1.0nm,0.9s,baz=40,slow=5.2,SNR=7.3						
ILAR				PcP	PcP	08 19 50.4	-0.5
	comp=Z,1.6nm,0.8s,baz=17,slow=3.6,SNR=9.5						
ILAR				LR	LR	08 40 51.8	
	comp=Z,328nm,18.1s,baz=57,slow=35						
	comp=Z,1.0nm,0.9s						
TEIG	Tepich	54.78	258	LR	LR	08 42 49.9	
	comp=Z,915nm,18.1s,baz=175,slow=37						
MVCO	Mesa Verde	55.23	288	P	P	08 18 55.4	+0.5
MVCO				IAmb	IAmb	08 19 07.2	
	comp=Z,9.4nm,1.4s						
ANMO	Albuquerque	55.53	284	LR	LR	08 41 36.3	
	comp=Z,412nm,19.4s,baz=150,slow=35						
BBB	Bella Bella	55.80	313	LR	LR	08 40 43.7	
	comp=Z,375nm,18.2s,baz=46,slow=34						
TIXI	Tiksi	56.11	8	P	P	08 19 01.3	+0.8
TIXI				IAmb	IAmb	08 19 14.8	
	comp=Z,6.8nm,1.1s						
BVAR	Borovoye Array	56.27	46	P	P	08 19 02.5	+0.6
	comp=Z,1.1nm,0.6s,baz=322,slow=6.2,SNR=5.7						
BVAR				LR	LR	08 42 39.7	
	comp=Z,145nm,19.7s,baz=305,slow=36						
	comp=Z,1.1nm,0.6s						
ELK	Elko	56.78	295	LR	LR	08 42 04.2	
	comp=Z,272nm,18.1s,baz=50,slow=35						
RCBR	Riachuelo	57.45	187	LR	LR	08 39 21.9	
	comp=Z,36nm,18.9s,baz=292,slow=31						
TX31	Lajitas Ar. Si	57.70	278	P	P	08 19 12.6	+0.2
TX31				IAmb	IAmb	08 19 19.6	
	comp=Z,6.4nm,0.8s						
TXAR	Lajitas Array	57.70	278	P	P	08 19 13.6	+1.1
	comp=Z,0.8nm,0.7s,baz=57,slow=9.1,SNR=9.6						
TXAR				LR	LR	08 44 02.7	
	comp=Z,242nm,18.0s,baz=44,slow=36						
	comp=Z,0.8nm,0.7s						
X16A	Lo Mia Camp, P	58.88	287	P	P	08 19 21.6	+0.9
ROSC	El Rosal	59.33	234	P	P	08 19 25.3	+1.0
	comp=Z,19nm,0.6s,baz=49,slow=11,SNR=9.3						
ROSC				LR	LR	08 41 15.1	
	comp=Z,176nm,21.9s,baz=16,slow=32						
KVN	Kaiserville	59.54	295	P	P	08 19 25.2	-0.1
KVN				IAmb	IAmb	08 19 27.6	
	comp=Z,9.7nm,1.4s						
NVAR	Mina Array Bea	60.09	295	P	P	08 19 29.5	+0.4
	comp=Z,0.3nm,0.6s,baz=50,slow=6.2,SNR=1.5						
NVAR				LR	LR	08 43 59.1	
	comp=Z,181nm,18.5s,baz=40,slow=35						
	comp=Z,0.3nm,0.6s						
YBH	Yreka Blue Hor	60.22	301	LR	LR	08 44 07.7	
	comp=Z,314nm,18.7s,baz=46,slow=35						
GEYT	Alibeck	60.35	65	P	P	08 19 30.9	+0.3
	comp=Z,2.0nm,0.7s,baz=307,slow=14,SNR=2.0						
GEYT				LR	LR	08 49 03.7	
	comp=Z,72nm,18.5s,baz=344,slow=40						
	comp=Z,2.0nm,0.7s						
JTS	Las Juntas de	60.58	248	LR	LR	08 40 31.3	
	comp=Z,31nm,21.1s,baz=12,slow=31						
H10N2	ASCENSION HYDR	60.71	162	T	T	09 24 43.6	
	baz=350						
H10N3	ASCENSION HYDR	60.72	162	T	T	09 24 39.9	
	baz=350						
H10N1	ASCENSION HYDR	60.73	162	T	T	09 24 52.0	
	baz=350						
CMIG	Matias Romero	61.21	261	LR	LR	08 44 33.4	
	comp=Z,166nm,21.8s,baz=16,slow=34						
KDAK	Kodiak Island	61.28	329	LR	LR	08 44 31.3	
	comp=Z,213nm,18.2s,baz=85,slow=34						
KURBB	Kurchatov Arra	61.54	43	P	P	08 19 38.5	+0.1
	comp=Z,1.5nm,0.2s,baz=319,slow=7.6,SNR=4.2						
KURBB				LR	LR	08 46 19.6	
	comp=Z,169nm,19.3s,baz=203,slow=36						
	comp=Z,1.5nm,0.2s						
ZALV	Zalesovo Beam	61.58	38	P	P	08 19 38.6	0.0
	comp=Z,0.7nm,0.5s,baz=311,slow=9.3,SNR=2.4						
	comp=Z,0.7nm,0.5s						
PFO	Pinyon Flats O	62.41	290	LR	LR	08 45 36.5	
	comp=Z,136nm,19.2s,baz=44,slow=35						
TULM	Tulcn-Chalpat	64.62	235	P	P	08 19 59.7	-0.2
HRA	Herat	65.21	66	P	P	08 20 03.3	0.0
HRA				IAmb	IAmb	08 20 40.6	
	comp=Z,4.9nm,0.8s						
LPIG	La Paz	65.57	278	LR	LR	08 47 30.0	
	comp=Z,158nm,21.6s,baz=32,slow=35						
AAK	Ala-Archa	65.64	52	LR	LR	08 48 06.9	
	comp=Z,252nm,21.6s,baz=314,slow=35						
SEY	Seymchan	65.77	359	LR	LR	08 47 29.9	
	comp=Z,36nm,19.8s,baz=52,slow=35						
MK31	Makanchi Array	66.07	44	P	P	08 20 07.9	-0.5
MKAR	Makanchi Array	66.07	44	P	P	08 20 08.9	+0.5
	comp=Z,0.5nm,0.6s,baz=339,slow=4.4,SNR=6.3						
MKAR				LR	LR	08 48 32.6	
	comp=Z,128nm,20.3s,baz=320,slow=36						
	comp=Z,0.5nm,0.6s						
SAML	Samuel	66.76	216	P	P	08 20 12.2	-0.9
SAML				IAmb	IAmb	08 20 23.0	
	comp=Z,5.2nm,1.4s						
UOSS	Minazif	68.57	77	P	P	08 20 24.2	-0.4
KSH	Kashi	68.73	53	P	P	08 20 25.6	+0.1
KSH				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BDFB	Brasilia	68.80	199	LR	LR	08 46 25.9	
	comp=Z,54nm,19.5s,baz=48,slow=32						
MA2	Magadan	69.15	360	LR	LR	08 49 42.2	
	comp=Z,36nm,18.4s,baz=38,slow=35						
WMQ	Urumqi	70.75	43	*e*P	P	08 20 41.1	+3.3
WMQ				pP	pwP	08 20 43.8	-0.9
WMQ				pmax	pmax		
	comp=Z,16nm,0.8s						
WMQ				LR	LR		
	comp=Z,180nm,28.9s						
ATAH	Atahualpa	71.68	231	LR	LR	08 50 31.1	
	comp=Z,110nm,21.3s,baz=7.6,slow=34						
SIV	San Ignacio	72.58	211	LR	LR	08 47 49.5	
	comp=Z,106nm,20.7s,baz=104,slow=32						
SONM	Songino Array	74.12	29	P	P	08 20 59.1	+1.2
	comp=Z,1.8nm,0.9s,baz=314,slow=8.7,SNR=6.8						
SONM				LR	LR	08 56 40.2	
	comp=Z,109nm,18.2s,baz=334,slow=38						
	comp=Z,1.8nm,0.9s						
NNA	Nana	75.17	228	LR	LR	08 52 05.0	
	comp=Z,112nm,21.5s,baz=2.5,slow=34						
LPAZ	La Paz	75.34	218	P	P	08 21 05.2	-0.6
	comp=Z,1.3nm,0.9s,baz=45,slow=2.9,SNR=4.3						
LPAZ				LR	LR	08 51 02.5	
	comp=Z,66nm,20.2s,baz=14,slow=33						
	comp=Z,1.3nm,0.9s						
PETK	Petropavlovsk-	75.43	355	LR	LR	08 53 42.9	
	comp=Z,41nm,21.0s,baz=53,slow=35						
KMBO	Kilima Mbogo	76.97	109	LR	LR	08 56 50.9	
	comp=Z,111nm,18.2s,baz=82,slow=37						
PB16	IPOC Station P	77.74	218	P	P	08 21 18.4	-0.9
KLR	Kul'dur	78.32	12	LR	LR	08 54 18.4	
	comp=Z,32nm,20.6s,baz=349,slow=34						
XLT	XiLinHaoTe	80.42	24	*e*P	P	08 21 30.6	-2.7
XLT				pP	pP	08 21 35.1	-0.3
XLT				sP	sP	08 21 37.0	+0.8
XLT				pmax	pmax		
	comp=Z,7.0nm,0.4s						
XLT				pmax	pmax		
	comp=Z,96nm,4.4s						
CPUP	Villa Florida	81.25	205	LR	LR	08 55 25.3	
	comp=Z,12nm,18.3s,baz=20,slow=34						
LVC	Limon Verde	81.41	216	LR	LR	08 54 09.7	
	comp=Z,76nm,21.9s,baz=360,slow=33						
TSUM	Tsumeb	81.86	135	LR	LR	08 56 57.1	
	comp=Z,48nm,18.3s,baz=328,slow=35						
HHC	Hu-ho-hao-te	82.01	28	*e*P	P	08 21 41.0	-0.8
HHC				pmax	pmax		
	comp=Z,22nm,0.6s						
HHC				pmax	pmax		
	comp=Z,190nm,5.3s						
MDJ	Mudanjiang	82.53	15	P	P	08 21 39.8	-4.5
MDJ				pmax	pmax		
	comp=Z,8.0nm,2.3s						
MDJ				pmax	pmax		
	comp=Z,280nm,9.3s						
USRK	Ussuriysk Ar.	83.29	13	LR	LR	08 58 57.4	
	comp=Z,42nm,19.0s,baz=255,slow=36						
LSZ	Lusaka	83.56	124	LR	LR	08 58 22.5	
	comp=Z,115nm,20.6s,baz=333,slow=35						
LZH	Lanzhou	83.76	36	*e*P	P	08 21 47.8	-3.2
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
KSRS	Korea Array	89.21	17	LR	LR	09 04 52.5	
	comp=Z,27nm,18.6s,baz=345,slow=37						
CFA	Coronel Fontan	89.43	212	LR	LR	09 00 19.5	
	comp=Z,42nm,18.1s,baz=58,slow=34						
LBTB	Lobatse	90.54	132	LR	LR	09 01 55.6	
	comp=Z,45nm,19.5s,baz=345,slow=35						
PZH	PanZhiHua	91.43	42	P	P	08 22 27.4	-0.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PZH				pmax	pmax		
	comp=Z,200nm,5.7s						
NJ2	Nanjing	92.30	26	*e*P	P	08 22 31.1	-0.8
NJ2				pP	pP	08 22 34.6	+0.3
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,200nm,4.3s						
BOSA	Boshof	93.46	134	LR	LR	09 04 55.8	
	comp=Z,64nm,18.0s,baz=18,slow=36						
JNU	Nakatsue	93.96	16	LR	LR	09 04 50.5	
	comp=Z,28nm,19.0s,baz=348,slow=35						
SUR	Sutherland	94.80	139	LR	LR	09 02 49.4	
	comp=Z,71nm,18.8s,baz=330,slow=34						
PALK	Pallekele	96.92	69	LR	LR	09 10 06.1	
	comp=Z,65nm,21.6s,baz=68,slow=38						
CMAR	Chiang Mai Arr	97.23	48	LR	LR	09 10 53.7	
	comp=Z,37nm,20.3s,baz=335,slow=38						
PPT2	Papeete2	121.88	282	*e*LR	LR	09 05 50.6	
	comp=Z,90nm,22.8s						
TBI	Tubuai	126.14	278	*e*LR	LR	09 07 51.0	
	comp=Z,447nm,29.2s						
WRA	Warramunga Arr	146.08	27	PKPbc	PKPdf	08 29 01.1	+0.2
	comp=Z,2.1nm,0.6s,baz=337,slow=2.7,SNR=26						
DZM	Mont Dzumac	147.85	330	*e*LR	LR	09 17 53.1	
	comp=Z,77nm,24.9s						
DZM	Mont Dzumac	147.85	330	PKPbc	PKPbc	08 29 07.6	+0.8
	comp=Z,8.1nm,0.7s,baz=266,slow=14,SNR=6.0						
ASAR	Alice Springs	149.46	30	PKPbc	PKPbc	08 29 09.9	-1.0
	comp=Z,3.2nm,0.5s,baz=352,slow=2.3,SNR=43						

IDC 01 08:10:10.8±3.3**, 53°.40N**×**87°.60E, h0**km**, mbtmp3.1**/2**, ML2.5**/2**, Error ellipse: s-maj=29.3km s-min=14.2km az=67.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	1.74	290	Pg	Pn	08 10 42.4	+0.1
	0.8nm,0.3s,baz=106,slow=14,SNR=9.4						
ZALV				Lg	Lg	08 11 05.5	
	1.9nm,0.3s,baz=104,slow=40,SNR=13						
I46RU	ZALESOVO INFRA	1.74	290	I	I	08 22 10.0	
	baz=107,slow=329,SNR=2.5						
KURBB	Kurchatov Arra	6.25	247	Pn	Pn	08 11 45.4	+1.3
	0.1nm,0.3s,baz=62,slow=14,SNR=2.1						
	1.4nm,0.2s						
MKAR	Makanchi Array	7.43	209	Pn	Pn	08 12 01.7	+1.2
	0.1nm,0.3s,baz=30,slow=13,SNR=4.1						
MKAR				Sn	Sn	08 13 24.4	-1.1
	baz=25,slow=24,SNR=2.2						
MKAR				Lg	Lg	08 14 07.1	
	baz=24,slow=28,SNR=2.1						
	0.2nm,0.3s						

*IDC **01** 08:14:41.3±1.1, 53°.76N×163°.45W, h0km, mb3.9/21, mbtmp3.9/23, ML3.2/2, MS3.5/2, Error ellipse: s-maj=29.5km s-min=14.5km az=1.0*

*NEIC **01** 08:14:42.7±1.2, 53°.49N±0°.07×163°.23W±0°.07, h15km±7km, mb3.9/13, ML3.6/10, ML3.4(AEIC), Error ellipse: s-maj=10.6km s-min=5.1km az=157.0*

*AEIC **01** 08:14:43.6±1.2, 53°.48N±0°.07×163°.19W±0°.09, h9km±6km, Error ellipse: s-maj=10.8km s-min=6.0km az=145.0*

ISC 01 08:14:44.6±2.6**, 53°.54N**±0°.08×**163°.20W**±0°.04**, h29**km±18km**, n112,** σ**1s.04**/113**, mb4.1**/20**, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	Brown Peak	1.15	344		Pn	08 15 04.4	-0.4
ISLZ	Isanotski Laza	1.23	346		Pn	08 15 05.1	-0.7
ISLZ					Sn	08 15 23.1	+1.6
WESE	West Dahl East	1.24	319		Pn	08 15 05.4	-0.6
SSLS	Shishaldin Sou	1.26	339		Pn	08 15 06.1	-0.3
WESP	Westdahl Peak	1.31	317		Pn	08 15 06.6	-0.4
FALS	False Pass	1.32	355		Pn	08 15 06.8	-0.3
ISNN	Isanotski Nort	1.34	346		Pn	08 15 07.5	+0.1
SSLW	Shishaldin Wes	1.35	337		Pn	08 15 07.3	-0.2
SSBA	Shishaldin	1.35	337		Pn	08 15 07.3	-0.2
SSBA					Sb	08 15 26.9	+0.8
WECS	Westdahl Cape	1.36	318		Pn	08 15 07.2	-0.5
AKSA	Akutan Strait	1.59	293		Pn	08 15 10.3	-0.6
AKSA	Akutan Strait	1.59	293		Pn	08 15 10.5	-0.3
AKSA					Sn	08 15 31.0	+0.6
AKUT	Akutan	1.63	292	Pn	Pn	08 15 11.1	-0.3
AKUT				IAML		08 15 35.3	
	comp=E,493nm,0.5s						
DT1	Dutton Round H	1.66	19		Pn	08 15 11.2	-0.6
AKBBA	Akutan Broad B	1.71	290		Pn	08 15 12.1	-0.4
AKBBA					Sn	08 15 33.3	0.0
ZRO	Akutan Zero	1.73	290		Pn	08 15 12.4	-0.4
AKV	Akutan Volcano	1.74	291		Pn	08 15 12.6	-0.3
AKLV	Akutan Long Va	1.75	292		Pn	08 15 12.7	-0.3
AKGG	Akutan Green G	1.78	293		Pn	08 15 13.4	+0.1
AKRB	Akutan Reef Bi	1.80	290		Pn	08 15 13.5	-0.1
UNV	Unalaska Valle	1.99	280		Pn	08 15 15.2	-1.0
UNV					Sn	08 15 39.4	-0.6
PVV	Pavlof Volcano	2.02	24		Pn	08 15 17.4	+0.8
PN7A	Pavlof North-7	2.02	20		Pn	08 15 17.5	+0.8
PS1A	Pavlof South-1	2.07	24		Pn	08 15 17.6	+0.2
MNAT	Makushin Natee	2.10	281		Pn	08 15 17.2	-0.5
MNAT					Sn	08 15 42.0	-0.8
MREP	Makushin Rep't	2.12	279		Pn	08 15 17.9	-0.3
MSW	Makushin Switc	2.16	281		Pn	08 15 18.5	-0.1
MGOD	Makushin Gods	2.20	278		Pn	08 15 19.0	-0.1
MGOD					Sn	08 15 45.2	-0.2
MAPS	Pakushin South	2.24	278		Pn	08 15 19.6	-0.1
MAPS					Sn	08 15 45.9	-0.5
SDPT	Sand Point	2.41	40		Pn	08 15 22.3	+0.3
SDPT				IAML		08 16 01.6	
	comp=N,370nm,1.3s						
SDPT				IAML		08 16 03.7	
	comp=E,304nm,0.6s						
CNBA	Chernabura Isl	2.48	57		Pn	08 15 23.0	0.0
CNBA	Chernabura Isl	2.48	57	IAML		08 15 54.0	
	comp=E,177nm,0.4s						
VNKR	Veniaminof 5	3.34	40		Pn	08 15 35.6	+0.7
VNHG	Veniaminof 1	3.56	39		Pn	08 15 38.9	+1.0
CHGN	Chignik	3.91	43		Pn	08 15 42.2	-0.4
CHGN				IAML		08 16 57.2	
	comp=E,80nm,1.1s						
CHGN				IAML		08 16 58.9	
	comp=N,76nm,1.1s						
CHIR	Chirikof Islan	4.96	59	Pn	Pn	08 15 56.5	-0.5
R17K	Ugashik Creek	5.64	41		Pn	08 16 06.7	+0.4
O14K	Tigyukauivet M	5.83	10	Pn	Pn	08 16 09.0	0.0
O15K	Ungalikthiuk R	5.95	17		Pn	08 16 10.5	-0.2
SII	Sitkinak Islan	6.00	56	Pn	Pn	08 16 10.8	-0.6
P16K	Nushagak River	6.22	26		Pn	08 16 14.3	0.0
CNTC	Contact Creek	6.27	38		Pn	08 16 15.2	0.0
ANCK	Angle Creek	6.37	40		Pn	08 16 16.7	+0.2
ACHA	Angle Creek He	6.45	40		Pn	08 16 17.9	+0.4
KABU	Katmai Buttres	6.50	40		Pn	08 16 18.6	+0.3
O16K	Kokwok River B	6.69	23	Pn	Pn	08 16 20.7	-0.1
ATKA	Atka Island	6.79	263	Pn	Pn	08 16 22.3	+0.2
N15K	Kwethluk River	6.86	13		Pn	08 16 22.8	-0.3
KAHC	Katmai Hardscr	6.87	39		Pn	08 16 22.6	-0.7
M13K	Dall Lake	6.89	359	Pn	Pn	08 16 24.0	+0.5
O17K	Koliganek Bris	7.09	26		Pn	08 16 26.2	-0.1
M14K	Bethel	7.26	5	Pn	Pn	08 16 29.1	+0.6
P18K	Big Mountain,	7.34	34	Pn	Pn	08 16 30.2	+0.5
KDAK	Kodiak Island	7.36	50	Pn	Pn	08 16 28.2	-1.7
	comp=N,0.6nm,0.3s,baz=221,slow=10,SNR=12						
KDAK				Sn	Sn	08 17 47.0	-5.3
	comp=N,0.7nm,0.3s,baz=344,slow=22,SNR=5.7						
	comp=N,5.7nm,0.9s						
Q19K	Cape Douglas,	7.58	41	Pn	Pn	08 16 32.5	-0.5
O18K	Koktuh Hills	7.70	32	Pn	Pn	08 16 35.2	+0.5
N17K	Nushagak Hills	7.73	23	Pn	Pn	08 16 34.0	-1.1
L14K	Kuka Creek	7.83	2		Pn	08 16 36.7	+0.4
M16K	Timber Creek	7.84	15	Pn	Pn	08 16 37.0	+0.4
SYI	Shuyak Island	7.89	46	Pn	Pn	08 16 37.1	-0.2
ADK	Adak	8.35	264		Pn	08 16 43.5	-0.1
M17K	Holitna River	8.47	19	Pn	Pn	08 16 45.6	+0.4
ILSW	Iliamna Southw	8.49	36	Pn	Pn	08 16 45.0	-0.6
KIWB	Kanaga Island	8.64	264	Pn	Pn	08 16 45.8	-1.8
K15K	Wolf Creek Mou	8.82	5	Pn	Pn	08 16 50.4	+0.4
M18K	Stony River	8.90	23		Pn	08 16 50.4	-0.7
CNPM	China Poot	8.92	43	Pn	Pn	08 16 51.4	0.0
J16K	Anvik River	9.87	7	Pn	Pn	08 17 03.9	-0.4
SUA	Susitna One	10.38	35	Pn	Pn	08 17 10.4	-1.0
ILAR	Eielson Array	13.97	30	Pn	Pn	08 17 56.7	-3.6
	comp=N,0.1nm,0.3s,baz=234,slow=10,SNR=1.9						
	comp=N,0.3nm,0.8s						
I26K	Coal Creek Min	15.49	33		Pn	08 18 22.3	+1.6
I26K				IAmb	IAmb	08 18 33.7	
	comp=Z,6.7nm,1.2s						
E22K	Anaktuvuk Pass	15.61	16		Pn	08 18 23.6	+1.3
FYU	Fort Yukon	15.75	27	Pn	Pn	08 18 24.3	+0.2
FYU				IAmb	IAmb	08 19 04.5	
	comp=Z,9.2nm,1.3s						
M29M	Somme Creek	15.76	46	Pn	Pn	08 18 22.9	-1.5
D22K	Ayikyak River	16.16	14	Pn	Pn	08 18 29.6	+0.2
D22K				IAmb	IAmb	08 18 45.7	
	comp=Z,12nm,1.3s						
E24K	Your Creek	16.17	20	Pn	Pn	08 18 29.3	-0.2
E24K				IAmb	IAmb	08 18 33.7	
	comp=Z,7.0nm,0.8s						
M30M	Minto, Yukon	16.53	46	Pn	Pn	08 18 34.4	+0.4
B20K	Meade River	16.76	7		Pn	08 18 37.8	+1.0
B20K				IAmb	IAmb	08 18 42.1	
	comp=Z,24nm,1.4s						
G30M	tAoh Zraii Nji	18.76	34	P	P	08 18 59.7	-1.3
H31M	Peel River	18.83	38	P	P	08 19 01.4	-0.3
H31M				IAmb	IAmb	08 19 04.0	
	comp=Z,6.2nm,0.8s						
E29M	Blow River	19.06	29	P	P	08 19 03.4	-0.9
E29M				IAmb	IAmb	08 19 33.7	
	comp=Z,9.5nm,1.4s						
INK	Inuvik	20.34	32	P	P	08 19 16.5	-1.6
	comp=Z,0.8nm,0.4s,baz=238,slow=16,SNR=5.8						
	comp=Z,0.8nm,0.4s						
PEA0B	Petropavlovsk-	23.16	285	P	P	08 19 47.5	-0.8
PETK	Petropavlovsk-	23.16	285	P	P	08 19 47.1	-1.3
	comp=Z,3.1nm,0.6s,baz=76,slow=13,SNR=9.7						
PETK				LR	LR	08 28 58.3	
	comp=Z,55nm,19.3s,baz=79,slow=37						
	comp=Z,3.1nm,0.6s						
A36M	Sachs Harbour	24.64	27	P	P	08 20 01.9	-0.2
YKA	Yellowknife Ar	26.63	51	P	P	08 20 22.4	+2.1
YKA	Yellowknife Ar	26.63	51	P	P	08 20 21.4	+1.1
	comp=Z,0.6nm,0.7s,baz=273,slow=9.6,SNR=6.4						
	comp=Z,0.6nm,0.7s						
NVAR	Mina Array Bea	34.04	98	P	P	08 21 28.1	+1.9
	comp=Z,0.3nm,0.6s,baz=320,slow=8.3,SNR=2.2						
	comp=Z,0.3nm,0.6s						
PDAR	Pinedale Array	36.55	85	P	P	08 21 50.8	+3.1
	comp=Z,0.1nm,0.5s,baz=311,slow=5.5,SNR=1.8						
	comp=Z,0.1nm,0.5s						
ULM	Lac du Bonnet	40.28	66	P	P	08 22 21.1	+2.4
	comp=Z,0.9nm,0.5s,baz=302,slow=8.5,SNR=1.9						
	comp=Z,0.9nm,0.5s						
H11N2	WAKE ISLAND Hy	40.83	226	T	T	09 06 13.2	
	baz=26,slow=75,SNR=16						
H11N3	WAKE ISLAND Hy	40.83	226	T	T	09 06 09.7	
	baz=26,slow=75,SNR=20						
H11N1	WAKE ISLAND Hy	40.85	226	T	T	09 06 12.9	
	baz=26,slow=75,SNR=13						
H11S1	WAKE ISLAND Hy	42.00	225	T	T	09 07 26.7	
	baz=26,slow=76,SNR=34						
H11S2	WAKE ISLAND Hy	42.01	225	T	T	09 07 25.5	
	baz=26,slow=76,SNR=24						
H11S3	WAKE ISLAND Hy	42.02	225	T	T	09 07 31.0	
	baz=26,slow=76,SNR=23						
TXAR	Lajitas Array	49.06	95	P	P	08 23 30.6	+1.6
	comp=Z,0.2nm,0.6s,baz=304,slow=6.4,SNR=2.0						
	comp=Z,0.2nm,0.6s						
SONM	Songino Array	53.84	303	P	P	08 24 04.1	-0.5
	comp=Z,0.6nm,0.5s,baz=34,slow=8.6,SNR=3.9						
	comp=Z,0.6nm,0.5s						
ARCES	ARCESS Array B	57.07	356	P	P	08 24 26.3	-1.2
	comp=Z,6.6nm,1.1s,baz=26,slow=7.0,SNR=1.9						
	comp=Z,6.6nm,1.1s						
ZALV	Zalesovo Beam	58.99	320	P	P	08 24 40.5	-0.6
	comp=Z,0.4nm,0.4s,baz=46,slow=4.2,SNR=1.5						
	comp=Z,0.4nm,0.4s						
KURBB	Kurchatov Arra	63.99	321	P	P	08 25 15.2	+0.3
	comp=Z,1.0nm,0.2s,baz=35,slow=6.8,SNR=4.8						
	comp=Z,1.0nm,0.2s						
BVAR	Borovoye Array	64.82	328	P	P	08 25 20.4	+0.2
	comp=Z,2.6nm,0.6s,baz=46,slow=8.5,SNR=9.8						
	comp=Z,2.6nm,0.6s						
FINES	FINESS Array B	65.13	355	P	P	08 25 20.5	-1.6
	comp=Z,1.3nm,0.7s,baz=9.2,slow=10,SNR=0.9						
	comp=Z,1.3nm,0.7s						
MKAR	Makanchi Array	65.61	317	P	P	08 25 24.4	-1.1
	comp=Z,0.3nm,0.4s,baz=30,slow=6.3,SNR=4.8						
	comp=Z,0.3nm,0.4s						
HFS	Hagfors	66.65	2	P	P	08 25 31.3	-0.6
	comp=Z,3.1nm,0.7s,baz=33,slow=3.4,SNR=5.4						
	comp=Z,3.1nm,0.7s						
EKA	Eskdalemuir Ar	70.25	12	P	P	08 25 54.8	+0.4
	comp=Z,2.3nm,0.7s,baz=3.4,slow=4.2,SNR=4.3						
	comp=Z,2.3nm,0.7s						
AKTO	Aktyubinsk	70.75	333	P	P	08 25 58.1	+0.5
	comp=Z,5.6nm,0.9s,baz=35,slow=2.8,SNR=11						
	comp=Z,5.6nm,0.9s						
AAK	Ala-Archa	72.17	319	P	P	08 26 07.3	+0.7
	comp=Z,1.1nm,0.5s,baz=13,slow=14,SNR=2.0						
	comp=Z,1.1nm,0.5s						
AKASG	Malin Array Be	75.61	352	P	P	08 26 25.9	-0.4
	comp=Z,1.8nm,0.6s,baz=5.8,slow=5.0,SNR=6.0						
	comp=Z,1.8nm,0.6s						
CMAR	Chiang Mai Arr	79.92	287	P	P	08 26 49.5	-1.2
	comp=Z,0.7nm,0.3s,baz=8.6,slow=7.5,SNR=5.6						
	comp=Z,0.7nm,0.3s						
BRTR	Keskin Array B	85.97	347	P	P	08 27 21.8	-0.3
	comp=Z,0.9nm,0.8s,baz=17,slow=6.0,SNR=2.6						
	comp=Z,0.9nm,0.8s						
RPN	Rapa Nui	92.88	134	LR	LR	08 59 29.5	
	comp=Z,36nm,19.6s,baz=20,slow=29						

IDC 01 08:25:37.4±2.4**, 6°.55S**×**154°.82E, h0**km**, mb3.7**/3**, mbtmp3.9**/4**, ML4.6**/1**, MS3.7**/1**, Error ellipse: s-maj=50.3km s-min=31.2km az=86.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	3.56	309	Pn	Pn	08 26 35.6	+1.6
	47nm,0.3s,baz=216,slow=24,SNR=74						
KRVT				Sn	Sn	08 27 15.9	-0.9
	34nm,0.3s,baz=61,slow=22,SNR=5.1						
	113nm,0.3s						
HNR	Honiara	5.83	120	LR	LR	08 29 15.2	
	comp=Z,684nm,20.9s,baz=127,slow=37						
WRA	Warramunga Arr	23.93	234	P	P	08 30 53.5	+0.1
	2.8nm,0.6s,baz=57,slow=9.9,SNR=15						
	2.8nm,0.6s						
ASAR	Alice Springs	26.34	228	P	P	08 31 15.3	0.0
	0.5nm,0.5s,baz=61,slow=8.8,SNR=9.7						
	0.5nm,0.5s						
MKAR	Makanchi Array	82.96	319	P	P	08 38 04.5	+0.1
	0.3nm,0.8s,baz=111,slow=6.8,SNR=2.6						
	0.3nm,0.8s						
TORD	Torodi Ar. Bea	152.74	286	PKPbc	PKPbc	08 45 36.6	-0.7
	0.4nm,0.7s,baz=98,slow=2.9,SNR=3.4						

IDC 01 08:34:57.2±2.2**, 54°.19N×85°.99E, h0km, mbtmp3.0**/3**, ML2.5**/3**, Error ellipse: s-maj=16.2km s-min=10.0km az=60.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.73	251	I	I	08 39 40.0	
	0.1nm,0.6s,baz=65,slow=340,SNR=22						
ZALV	Zalesovo Beam	0.73	251	Pg	Pg	08 35 10.8	-0.3
	0.8nm,0.3s,baz=71,slow=15,SNR=6.1						
ZALV				Lg	Lg	08 35 21.7	
	2.3nm,0.3s,baz=67,slow=28,SNR=18						
KURBB	Kurchatov Arra	5.80	235	Pn	Pn	08 36 25.3	+1.0
	0.1nm,0.3s,baz=51,slow=14,SNR=1.7						
KURBB				Sn	Sn	08 37 30.2	-1.3
	0.1nm,0.3s,baz=46,slow=24,SNR=1.5						
KURBB				Lg	Lg	08 38 01.1	
	0.1nm,0.3s,baz=49,slow=32,SNR=1.6						
	0.8nm,0.3s						
MKAR	Makanchi Array	7.77	199	Pn	Pn	08 36 51.9	+0.4
	0.2nm,0.3s,baz=21,slow=12,SNR=9.7						
MKAR				Sn	Sn	08 38 17.8	-2.4
	baz=18,slow=29,SNR=1.6						
MKAR				Lg	Lg	08 39 02.6	
	baz=21,slow=20,SNR=2.2						
	0.3nm,0.4s						
BVAR	Borovoye Array	9.35	269	Pn	Pn	08 37 14.1	+1.0
	baz=81,slow=12,SNR=1.7						
	0.3nm,0.4s						

IDC 01 08:38:30.1±3.1**, 54°.17N×87°.13E, h0km, mbtmp2.6**/2**, ML2.3**/2**, Error ellipse: s-maj=25.5km s-min=18.1km az=63.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.38	262	I	I	08 46 21.6	
	baz=80,slow=340,SNR=9.2						
ZALV	Zalesovo Beam	1.38	262	Pg	Pg	08 38 55.2	-1.3
	0.8nm,0.3s,baz=82,slow=15,SNR=7.4						
ZALV				Lg	Lg	08 39 14.3	
	0.9nm,0.3s,baz=81,slow=25,SNR=7.7						
KURBB	Kurchatov Arra	6.35	239	Pn	Pn	08 40 05.5	+0.7
	baz=53,slow=13,SNR=3.5						
KURBB				Sn	Sn	08 41 17.6	-0.3
	baz=46,slow=20,SNR=1.7						
	0.4nm,0.4s						
MKAR	Makanchi Array	8.00	205	Pn	Pn	08 40 28.7	+1.2
	0.1nm,0.3s,baz=20,slow=10,SNR=1.6						
MKAR				Lg	Lg	08 42 43.6	
	baz=18,slow=28,SNR=1.8						
	0.2nm,0.6s						

IDC 01 08:55:14.7±2.5**, 54°.28N×86°.19E, h0km, mbtmp3.1**/2**, ML2.9**/2**, Error ellipse: s-maj=20.0km s-min=12.3km az=54.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.87	248	I	I	09 00 10.0	
	0.1nm,0.6s,baz=68,slow=340,SNR=22						
ZALV	Zalesovo Beam	0.87	248	Pg	Pg	08 55 29.6	-1.7
	1.7nm,0.3s,baz=67,slow=16,SNR=12						
ZALV				Lg	Lg	08 55 44.5	
	4.6nm,0.3s,baz=69,slow=28,SNR=7.3						
KURBB	Kurchatov Arra	5.94	235	Pn	Pn	08 56 44.7	+0.8
	0.2nm,0.3s,baz=51,slow=13,SNR=21						
KURBB				Lg	Lg	08 58 23.7	
	baz=78,slow=22,SNR=2.7						
	0.8nm,0.3s						
MKAR	Makanchi Array	7.89	200	Pn	Pn	08 57 11.8	+1.2
	0.3nm,0.3s,baz=26,slow=13,SNR=7.6						
	0.3nm,0.3s						

*IDC **01** 09:09:03.8±0.8, 37°.68N×144°.89E, h0km, mb3.6/11, mbtmp3.7/17, ML3.5/6, MS2.9/5, Error ellipse: s-maj=18.8km s-min=17.1km az=129.0*
*JMA **01** 09:09:08.2±0.2, 37°.9N±0°.8×144°.6E±1°.0, h52km, MV4.2/31, FAR E OFF NORTH HONSHU*
*NIED **01** 09:09:08.2, 37°.86N×144°.63E, h52km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.98; $M_{\theta\theta}$-2.88; $M_{\phi\phi}$6.86; $M_{r\theta}$1.32; $M_{\theta\phi}$3.41; $M_{\phi r}$4.85; Fault plane solution: $M_0$7.80000×10^{14} NP1: ϕ_s193.00000°, δ65.00000°, λ-96.00000°. NP2:ϕ_s26.00000°, δ25.00000°, λ-78.00000°.*
ISC 01 09:09:07.8±0.8**, 37°.85N**±0°.05×**144°.75E**±0°.07**, h26km, n42, σ2s.52**/51**, mb3.6**/11**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.63	281	iP	Pn	09 09 48.0	-0.6
JIKH				eS	Sn	09 10 17.6	-2.0
OFUJ	Ofunato	2.71	298	iP	Pn	09 09 49.2	-0.4
OFUJ				eS	Sn	09 10 19.9	-1.7
JIO	Ouri	2.75	284	P	Pn	09 09 49.7	-0.4
JIO				S	Sn	09 10 21.0	-1.5
JKMT	Kesennumamotoy	2.75	291	P	Pn	09 09 49.7	-0.5
JKMT				S	Sn	09 10 20.9	-1.6
JMK	Ichinoseki	2.98	293	iP	Pn	09 09 53.3	-0.1
JOM	Ohasama	3.15	302	iP	Pn	09 09 55.9	+0.1
JOM				S	Sn	09 10 32.4	-0.1
JOTO	OTAMA OYAMA	3.52	267	iP	Pn	09 10 01.2	+0.5
JOTO				S	Sn	09 10 40.2	-1.3
JANG	Nango	3.56	316	P	Pn	09 10 01.2	-0.1
BSO1	Boso 1	4.42	225	eP	Pn	09 10 11.2	-1.4
BSO1				eS	Sn	09 11 01.2	-1.7
JOT	Ohata	4.54	322	P	Pn	09 10 14.8	0.0
JOT				eS	Sn	09 11 03.1	-3.6
JCH	Churui	4.87	348	P	Pn	09 10 18.1	-1.3
JCH				S	Sn	09 11 11.1	-3.8
JRY	Ryogami san	5.03	250	P	Pn	09 10 20.9	-0.7
JRY				S	Sn	09 11 14.7	-4.3
JOD2	Odawara 2	5.24	242	P	Pn	09 10 24.3	-0.1
JOD2				S	Sn	09 11 18.9	-5.2
MJAR	Matsushiro Arr	5.38	258	Pn	Pn	09 10 27.0	+0.5
	0.7nm,0.3s,baz=61,slow=26,SNR=49						
MJAR				Sn	Sn	09 11 29.3	+1.7
	0.2nm,0.3s,baz=233,slow=12,SNR=5.5						
MJAR				LR	LR	09 12 26.7	
	comp=Z,82nm,19.9s,baz=62,slow=37						
	13nm,0.7s						
NEM2	Nemuro 2	5.56	7	P	Pn	09 10 25.8	-2.9
NEM2				S	Sn	09 11 24.8	-6.9
JTKR	Abashiri--Toko	6.14	354	P	Pn	09 10 35.9	-0.9
JTKR				S	Sn	09 11 40.5	-5.6
JHJ2	Mitsune	6.21	222	eP	Pn	09 10 36.8	-0.9
JHJ2				eS	Sn	09 11 40.9	-7.0
JHJ	Hachijo jima 2	6.22	222	Pn	Pn	09 10 35.7	-2.2
	8.6nm,0.3s,baz=41,slow=21,SNR=7.0						
JHJ				Sn	Sn	09 11 42.6	-5.6
	27nm,0.3s,baz=105,slow=23,SNR=7.3						
	98nm,0.7s						
JHR	Hokuryu	6.32	340	eS	Sn	09 11 49.1	-1.3
ASAJ	Asahikawa	6.47	346	Pn	Pn	09 10 41.4	+0.1
	2.1nm,0.3s,baz=206,slow=16,SNR=17						
ASAJ				Sn	Sn	09 11 51.5	-2.6
	1.0nm,0.3s,baz=39,slow=15,SNR=2.3						
	5.9nm,0.3s						
USRK	Ussuriysk Ar.	11.53	307	Pn	Pn	09 11 51.6	+1.0
	0.3nm,0.3s,baz=120,slow=13,SNR=6.3						
USRK				LR	LR	09 15 20.2	
	comp=Z,44nm,21.9s,baz=55,slow=32						
	3.0nm,0.7s						
KSRS	Korea Array	13.35	273	Pn	Pn	09 12 16.1	+0.7
	0.1nm,0.3s,baz=90,slow=13,SNR=4.0						
KSRS				LR	LR	09 17 23.0	
	comp=Z,32nm,19.0s,baz=295,slow=37						
	3.0nm,0.9s						
KLR	Kul'dur	14.75	325	Pn	Pn	09 12 36.4	+1.9
	0.1nm,0.3s,baz=141,slow=13,SNR=2.2						
	0.4nm,0.3s						
H11N2	WAKE ISLAND Hy	26.40	127	T	T	09 42 04.8	
	baz=318,slow=74,SNR=5.8						
H11N1	WAKE ISLAND Hy	26.41	127	T	T	09 42 08.2	
	baz=318,slow=74,SNR=4.5						
H11N3	WAKE ISLAND Hy	26.41	127	T	T	09 41 58.1	
	baz=318,slow=74,SNR=7.5						
H11S1	WAKE ISLAND Hy	27.19	129	T	T	09 43 08.3	
	baz=320						
H11S3	WAKE ISLAND Hy	27.19	129	T	T	09 43 12.4	
	baz=320						
H11S2	WAKE ISLAND Hy	27.20	129	T	T	09 43 11.3	
	baz=320						
SONM	Songino Array	29.57	302	P	P	09 15 12.8	+2.4
	0.2nm,0.3s,baz=90,slow=10,SNR=1.7						
	0.2nm,0.3s						
ZALV	Zalesovo Beam	43.34	312	P	P	09 17 09.0	+1.6
	0.3nm,0.3s,baz=89,slow=8.8,SNR=3.2						
	0.3nm,0.3s						
CMAR	Chiang Mai Arr	44.27	257	LR	LR	09 39 04.5	
	comp=Z,14nm,18.7s,baz=55,slow=41						
MKAR	Makanchi Array	45.94	302	P	P	09 17 29.8	+1.5
	0.5nm,0.7s,baz=88,slow=9.2,SNR=2.7						
	0.5nm,0.7s						
ILAR	Eielson Array	47.38	33	P	P	09 17 39.7	+0.4
	0.6nm,0.8s,baz=266,slow=6.1,SNR=5.0						
	0.6nm,0.8s						
KURBB	Kurchatov Arra	47.60	308	P	P	09 17 41.8	+0.7
	1.0nm,0.6s,baz=83,slow=8.4,SNR=2.5						
	1.0nm,0.6s						
BVAR	Borovoye Array	51.99	312	P	P	09 18 16.7	+2.1
	0.4nm,0.5s,baz=74,slow=11,SNR=1.0						
	0.4nm,0.5s						
AAK	Ala-Archa	52.43	299	LR	LR	09 43 47.1	
	comp=Z,26nm,18.1s,baz=106,slow=40						
WRA	Warramunga Arr	58.32	192	P	P	09 18 59.1	-1.3
	0.8nm,0.6s,baz=12,slow=7.2,SNR=15						
	0.8nm,0.6s						
YKA	Yellowknife Ar	61.75	31	P	P	09 19 23.7	+0.2
	0.2nm,0.7s,baz=301,slow=6.9,SNR=2.9						
	0.2nm,0.7s						
ASAR	Alice Springs	62.04	191	P	P	09 19 24.8	-1.1
	0.4nm,0.8s,baz=14,slow=12,SNR=6.9						
	0.4nm,0.8s						
NVAR	Mina Array Bea	72.36	55	P	P	09 20 32.9	+1.3
	0.5nm,0.8s,baz=225,slow=8.2,SNR=3.5						
	0.5nm,0.8s						
PDAR	Pinedale Array	75.18	47	P	P	09 20 48.4	+0.3
	0.4nm,0.7s,baz=288,slow=0.9,SNR=5.7						
	0.4nm,0.7s						

*IDC **01** 09:10:38.2±2.9, 53°.55N×90°.69E, h0km, mbtmp3.3/4, ML2.8/4, Error ellipse: s-maj=24.9km s-min=19.7km az=63.0*
*NNC **01** 09:10:41.8±2.5, 53°.48N×90°.50E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=19.7km s-min=14.2km az=98.0, Suspected Mining explosion.*
ISC 01 09:10:37.2±4.1**, 53°.7N**±0°.1×**90°.6E**±0°.2**, h0km, n13, σ2s.28**/14**, 7C-5D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.42	276	I	I	09 37 05.0	
	0.1nm,1.6s,baz=93,slow=334,SNR=5.6						
ZAA0	Zalesovo Array	3.42	276	⇑Pn	Pb	09 11 37.1	-1.5
	3.1nm,0.8s						
ZAA0				⇑Lg	Lg	09 12 28.4	
	20nm,0.9s						
ZALV	Zalesovo Beam	3.42	276	Pn	Pn	09 11 33.3	+1.6
	0.5nm,0.3s,baz=90,slow=13,SNR=6.0						
ZALV				Lg	Lg	09 12 28.8	
	5.9nm,0.3s,baz=93,slow=26,SNR=9.5						
	2.3nm,0.5s						
KURK	Kurchatov	7.94	252	⇑Pn	Pn	09 12 35.8	+2.1
	5.0nm,1.0s						
KURK				⇓Sn	Sn	09 14 07.5	+3.3
	21nm,1.2s						
KURK				⇓Lg	Lg	09 14 51.0	
	64nm,1.0s						
KURBB	Kurchatov Arra	8.04	252	Pn	Pn	09 12 35.9	+0.8
	0.4nm,0.3s,baz=68,slow=15,SNR=24						
KURBB				Sn	Sn	09 14 05.8	-0.8
	0.1nm,0.3s,baz=67,slow=26,SNR=12						
KURBB				Lg	Lg	09 14 54.5	
	baz=68,slow=30,SNR=4.4						
	2.4nm,0.4s						
KURBB	Kurchatov Arra	8.04	252	⇓Pn	Pn	09 12 36.1	+1.1
	3.5nm,0.5s						
KURBB				⇓Sn	Sn	09 14 10.2	+3.7
	48nm,0.8s						
KURBB				⇑Lg	Lg	09 14 52.7	
	90nm,0.9s						
MK31	Makanchi Array	8.74	221	⇓Sn	Sn	09 14 24.8	+0.7
	8.5nm,1.0s,baz=44,slow=18,SNR=3.9						
MK31				⇑Lg	Lg	09 15 12.5	
	33nm,1.1s,baz=55,slow=36,SNR=6.7						
MKAR	Makanchi Array	8.74	221	Pn	Pn	09 12 45.3	+0.5
	0.4nm,0.3s,baz=43,slow=13,SNR=5.7						
MKAR				Sn	Sn	09 14 22.1	-2.0
	0.1nm,0.3s,baz=36,slow=25,SNR=1.2						
MKAR				Lg	Lg	09 15 11.8	
	baz=39,slow=28						
	0.8nm,0.4s						
MAKZ	Makanchi	8.86	222	⇑Sn	Sn	09 14 27.4	+0.6
	5.1nm,0.9s						
MAKZ				⇑Lg	Lg	09 15 14.8	
	20nm,1.1s						
SONM	Songino Array	11.62	114	Lg	Lg	09 16 31.6	
	0.2nm,0.3s,baz=302,slow=28,SNR=11						
I34MN	SONGINO INFRAS	11.65	114	I	I	10 17 20.0	
	baz=306,slow=322,SNR=0.4						
BVAR	Borovoye Array	12.07	275	Pn	Pn	09 13 31.8	+1.4
	baz=75,slow=17,SNR=1.5						
BVAR				Sn	Sn	09 15 41.8	-3.7
	baz=74,slow=26,SNR=1.4						
	0.2nm,0.3s						
AAK	Ala-Archa	15.40	230	Lg	Lg	09 18 44.4	
	0.1nm,0.3s,baz=60,slow=20,SNR=1.5						

IDC 01 09:17:12.1±3.1**, 53°.56N×87°.90E, h0km, mbtmp3.0**/2**, ML2.7**/2**, Error ellipse: s-maj=27.7km s-min=19.4km az=82.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.87	283	I	I	09 30 40.0	
	0.1nm,1.0s,baz=102,slow=330,SNR=3.7						
ZALV	Zalesovo Beam	1.87	283	Pn	Pn	09 17 44.5	-0.9
	1.4nm,0.3s,baz=105,slow=12,SNR=11						
ZALV				Sn	Sn	09 18 09.2	-0.5
	3.0nm,0.3s,baz=108,slow=25,SNR=13						
KURBB	Kurchatov Arra	6.48	247	Pn	Pn	09 18 48.7	+0.1
	0.1nm,0.3s,baz=61,slow=14,SNR=2.9						
KURBB				Sn	Sn	09 20 04.0	+0.9
	baz=63,slow=32						
KURBB				Lg	Lg	09 20 36.0	
	baz=64,slow=30,SNR=3.0						
	0.8nm,0.5s						
MKAR	Makanchi Array	7.67	210	Pn	Pn	09 19 06.6	+1.6
	0.2nm,0.3s,baz=28,slow=14,SNR=6.2						
MKAR				Sn	Sn	09 20 32.1	-0.3
	0.1nm,0.3s,baz=27,slow=26,SNR=2.8						
MKAR				Lg	Lg	09 21 13.1	
	0.1nm,0.3s,baz=26,slow=27,SNR=6.6						
	0.4nm,0.4s						

RSNC 01 09:24:48.8±1.4**, 6°.84N×73°.16W, h147km**±5km**, ML3.1, Mw3.5, 6C-4D, Fault plane solution: NP1:**ϕ_s86.00000°, δ58.00000°, λ-142.00000°.**, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARC	Barichara	0.25	185	⇓iP	Pn	09 25 08.8	-0.3
BARC				eS	Sn	09 25 23.8	-0.8
BARC				i		09 25 24.9	
	comp=Z,625nm,0.3s						
PAMC	Pamplona, Colo	0.68	42	eP	Pn	09 25 11.8	+0.4
PAMC				eS	Sn	09 25 28.4	-0.1
PAMC				i		09 25 31.6	
	comp=Z,184nm,0.4s						
RUSC	La Rusia	0.94	175	⇓iP	Pn	09 25 12.9	-0.6
RUSC				eS	Sn	09 25 31.5	-0.6
RUSC				i		09 25 33.1	
	comp=Z,166nm,0.5s						
PTBC	PUERTO BERRIO,	1.32	257	⇑iP	Pn	09 25 15.2	-1.1
PTBC				eS	Sn	09 25 36.8	-0.6
PTBC				i		09 25 40.9	
	comp=Z,165nm,0.1s						
OCAC	Ocana	1.40	353	eP	Pn	09 25 17.1	-0.2
OCAC				eS	Sn	09 25 39.2	+0.1
OCAC				i		09 25 45.2	
	comp=Z,422nm,0.2s						
TAMC	Tame, Arauca	1.42	106	⇓iP	Pn	09 25 17.4	0.0
TAMC				eS	Sn	09 25 38.5	-0.6
TAMC				i		09 25 39.8	
	comp=Z,83nm,0.2s						
SPBC	San Pablo de B	1.49	218	⇑iP	Pn	09 25 17.7	-0.5
SPBC				eS	Sn	09 25 40.1	-0.5
SPBC				i		09 25 46.9	
	comp=Z,272nm,0.1s						
ZARC	Zaragoza, Cauc	1.81	291	eP	Pn	09 25 21.2	-0.4
ZARC				eS	Sn	09 25 46.7	+0.1
ZARC				i		09 25 52.1	
	comp=Z,244nm,0.5s						
NORC	Norcasia	2.12	233	eP	Pn	09 25 24.6	-0.6
NORC				eS	Sn	09 25 51.4	-1.8
NORC				i		09 25 57.0	
	comp=Z,100nm,0.3s						
CHIC	Chingaza	2.27	195	eP	Pn	09 25 27.0	-0.4
CHIC				eS	Sn	09 25 56.5	-0.5
CHIC				i		09 26 01.0	
	comp=Z,139nm,0.3s						
ROSC	El Rosal	2.30	210	eP	Pn	09 25 29.1	+1.3
ROSC				eS	Sn	09 25 59.3	+1.7
ROSC				i		09 26 03.1	
	comp=Z,206nm,0.3s						
HELC	Santa Helena	2.44	255	eP	Pn	09 25 29.6	+0.2
HELC				eS	Sn	09 26 00.9	+0.3
HELC				i		09 26 07.3	
	comp=Z,111nm,0.3s						
CVER	Cruz Verde, Cu	2.48	202	eP	Pn	09 25 30.5	+0.5
CVER				eS	Sn	09 26 01.6	0.0
CVER				i		09 26 10.4	
	comp=Z,110nm,0.4s						
UREC	San Jos de Ur	2.52	291	eP	Pn	09 25 28.7	-1.4
UREC				eS	Sn	09 26 00.2	-1.7
UREC				i		09 26 10.1	
	comp=Z,142nm,0.2s						
GUY2C	Guyana, Caldas	2.72	234	eP	Pn	09 25 33.0	0.0
GUY2C				eS	Sn	09 26 09.2	+2.2
GUY2C				i		09 26 16.7	
	comp=Z,92nm,0.3s						
VILC	Villavicencio,	2.76	191	⇑iP	Pn	09 25 32.4	-0.8
VILC				eS	Sn	09 26 06.3	-1.2
VILC				i		09 26 17.6	
	comp=Z,151nm,0.5s						
PTGC	Puerto Gaitan,	2.81	159	⇓iP	Pn	09 25 32.1	-1.7
PTGC				eS	Sn	09 26 05.3	-3.1
PTGC				i		09 26 19.5	
	comp=Z,36nm,0.5s						
LL6C	La Loma 6 Bece	2.88	358	eP	Pn	09 25 34.1	-0.5
LL6C				eS	Sn	09 26 08.8	-1.2
LL6C				i		09 26 16.3	
	comp=Z,27nm,0.4s						
CBOC	Ciudad Bolivar	3.00	251	eP	Pn	09 25 36.5	+0.3
CBOC				eS	Sn	09 26 10.2	-2.5
CBOC				i		09 26 23.4	
	comp=Z,24nm,0.3s						
DBBC	Dabeiba	3.03	274	eP	Pn	09 25 37.1	+0.5
DBBC				eS	Sn	09 26 12.0	-1.5
DBBC				i		09 26 15.1	
	comp=Z,48nm,0.5s						
ARGC	Ariguani, Magd	3.19	340	eP	Pn	09 25 39.0	+0.5
ARGC				eS	Sn	09 26 17.7	+0.7
ARGC				i		09 26 27.7	
	comp=Z,21nm,0.3s						
SDV	Santo Domingo	3.23	51	⇑iP	Pn	09 25 38.5	-0.6
SDV				eS	Sn	09 26 15.5	-2.6
SDV				i		09 26 18.8	
	comp=Z,29nm,0.4s						
ANIL	Santa Ana	3.23	224	eP	Pn	09 25 40.0	+0.7
ANIL				eS	Sn	09 26 19.3	+1.0
PRAC	Prado	3.55	209	eP	Pn	09 25 42.7	-0.5
PRAC				eS	Sn	09 26 24.0	-1.3
APAC	Apartado, Choc	3.55	287	eP	Pn	09 25 42.6	-0.5
APAC				eS	Sn	09 26 23.9	-1.4
APAC				i		09 26 29.2	
	comp=Z,52nm,0.8s						
ORTC	Ortega, Tolima	3.58	216	eP	Pn	09 25 43.1	-0.4
ORTC				eS	Sn	09 26 26.6	+0.6
ORTC				i		09 26 36.4	
	comp=Z,51nm,0.6s						
SJCC	San Jacinto, C	3.64	327	⇑iP	Pn	09 25 43.1	-1.2
SJCC				eS	Sn	09 26 23.9	-3.5
SJCC				i		09 26 38.7	
	comp=Z,32nm,0.4s						
PLMC	San Jos del P	3.65	238	eP	Pn	09 25 44.4	-0.1
PLMC				eS	Sn	09 26 28.4	+0.7
PLMC				i		09 26 32.9	
	comp=Z,25nm,0.2s						
CRJC	Cerrejon, Guaj	4.16	4	eP	Pn	09 25 49.4	-1.8
CRJC				eS	Sn	09 26 36.4	-3.4
CRJC				i		09 26 41.4	
	comp=Z,29nm,0.2s						
SMRC	Santa Marta, M	4.42	346	⇑iP	Pn	09 25 54.1	-0.5
SMRC				eS	Sn	09 26 40.3	-5.5
SMRC				i		09 26 44.5	
	comp=Z,24nm,0.4s						
CAPC	Capurgana	4.52	294	eP	Pn	09 25 56.2	+0.4
CAPC				eS	Sn	09 26 44.0	-4.1
CAPC				i		09 26 52.1	
	comp=Z,14nm,0.4s						
JAMC	Jamundi, Valle	5.02	224	eP	Pn	09 26 02.1	-0.6
JAMC				eS	Sn	09 26 58.5	-1.8
JAMC				i		09 27 11.4	
	comp=Z,4.7nm,0.3s						
GARC	Garzon, Huila	5.17	207	eP	Pn	09 26 02.6	-2.1
GARC				eS	Sn	09 27 03.2	-0.8
GARC				i		09 27 05.5	
	comp=Z,25nm,0.3s						
FLOC	Florencia	5.78	206	eP	Pn	09 26 11.7	-0.9
FLOC				eS	Sn	09 27 17.6	-0.7
FLOC				i		09 27 21.9	
	comp=Z,3.7nm,0.4s						
BBAC	Balboa, Cauca	6.29	221	eP	Pn	09 26 19.3	-0.3
BBAC				eS	Sn	09 27 28.2	-2.3
BBAC				i		09 27 36.2	
	comp=Z,2.3nm,0.3s						

*LDG **01** 09:45:27.3±0.1, 45°.42N×6°.33E, h2km, Md1.3/2, Error ellipse: s-maj=1.6km s-min=1.1km az=126.0*
STR 01 09:45:27.5±0.4**, 45°N**±2°×°±°**, h5km, MLv1.8**/12**, Error ellipse: s-maj=0.0km s-min=0.0km az=103.6, preliminary, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GDM	Grand'Maison	0.27	214	Pg	Pg	09 45 32.8	0.0
GDM				Sg	Sg	09 45 36.3	-0.1
LPL	La Plagne	0.30	73	ePg	Pg	09 45 33.3	0.0
LPL				eSg	Sg	09 45 37.4	+0.1
LPG	La Plagne	0.31	77	ePg	Pg	09 45 33.5	0.0
LPG				eSg	Sg	09 45 37.7	+0.1
RSL	Roselend	0.33	39	Pg	Pg	09 45 33.8	-0.2
RSL				Sg	Sg	09 45 37.9	-0.5
OGMO	Fort Saint-Gob	0.33	131	Pg	Pg	09 45 34.6	+0.7
LSD	Lago del Serru	0.57	87	Pg	Pg	09 45 38.5	+0.1
LSD	Lago del Serru	0.57	87	Sg	Sg	09 45 45.5	-0.3
ORIF	Oris-en-Rattie	0.60	212	ePg	Pg	09 45 38.4	-0.6
ORIF				eSg	Sg	09 45 46.0	-0.8
	26nm,0.2s						
ORIF	Oris-en-Rattie	0.60	212	Pg	Pg	09 45 38.7	-0.3
RRL	Rocca Remolon	0.60	147	Pg	Pg	09 45 39.7	+0.7
RRL	Rocca Remolon	0.60	147	Sg	Sg	09 45 47.5	+0.6
OGSI	Sixt	0.70	25	Pg	Pg	09 45 40.3	-0.7
RSP	Reno Superiore	0.72	113	Pg	Pg	09 45 41.5	+0.3
RSP	Reno Superiore	0.72	113	Sg	Sg	09 45 50.5	0.0
OG35	Corcelles	0.81	320	Pg	Pg	09 45 43.3	+0.2
CREF	Crivoux	0.90	167	Pg	Pg	09 45 43.1	-1.7
OGAG	Argentiere	0.98	171	Pg	Pg	09 45 40.3	-6.1
OGAG				Sg	Sg	09 45 49.2	-10
DIX	Grande Dixence	1.00	49	Pg	Pg	09 45 46.4	-0.2
CABF	La Chapelle	1.20	352	eP	Pn	09 45 51.7	+0.8

*GEN **01** 09:45:39.4, 45°.46N×6°.40E, h11km±1km, Ml2.3*
*LDG **01** 09:45:39.7±0.1, 45°.45N×6°.32E, h2km, Md2.1/2, Ml3.1/15, Error ellipse: s-maj=1.9km s-min=1.4km az=82.0*
*STR **01** 09:45:39.5±0.2, 45°N±1°×°±°, h6km±2km, MLv2.7/39, Error ellipse: s-maj=0.0km s-min=0.0km az=70.1, preliminary*
*ZUR **01** 09:45:39.5, 45°.45N×6°.38E, h9km±3km, MLh2.5/39, Error ellipse: s-maj=6326.0km s-min=1155.1km az=178.0*
ISC 01 09:45:39.4±0.9**, 45°.45N**±0°.01×**6°.35E**±0°.02**, h7km**±8km**, n99, σ0s.80**/141**, 1C, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPL	La Plagne	0.28	77	ePg	Pg	09 45 45.5	+0.6

LPL				*e*Sg	**Sg**	**09 45 49.3**	**+0.6**
	436nm,0.3s						
LPG	**La Plagne**	**0.29**	**81**	*e*Pg	**Pg**	**09 45 45.6**	**+0.4**
LPG				*e*Sg	**Sg**	**09 45 49.5**	**+0.5**
	436nm,0.3s						
GDM	**Grand'Maison**	**0.30**	**214**	Pg	**Pg**	**09 45 44.8**	**-0.6**
GDM				Sg	**Sg**	**09 45 48.2**	**-1.1**
RSL	**Roselend**	**0.30**	**39**	P	**Pg**	**09 45 45.8**	**+0.3**
RSL				S	**Sg**	**09 45 50.0**	**+0.5**
RSL	**Roselend**	**0.30**	**39**	⇑Pg	**Pg**	**09 45 45.7**	**+0.3**
RSL				Sg	**Sg**	**09 45 49.8**	**+0.3**
RSL	**Roselend**	**0.30**	**39**	Pg	**Pg**	**09 45 45.7**	**+0.3**
RSL				Sg	**Sg**	**09 45 49.9**	**+0.3**
OGMO	**Fort Saint-Gob**	**0.34**	**136**	P	**Pg**	**09 45 46.6**	**+0.5**
OGMO				S	**Sg**	**09 45 51.0**	**+0.5**
OGMO	**Fort Saint-Gob**	**0.34**	**136**	Pg	**Pg**	**09 45 46.5**	**+0.4**
BNI	**Bardonecchia**	**0.46**	**150**	P	Pg	09 45 37.0	-11
BNI				S	**Sg**	**09 45 54.4**	**-0.1**
BNI	**Bardonecchia**	**0.46**	**150**	Pg	**Pg**	**09 45 48.3**	**-0.1**
BNI				Sg	**Sg**	**09 45 54.2**	**-0.2**
OGSM	**Saint Maurice**	**0.48**	**289**	Pg	**Pg**	**09 45 48.0**	**-0.8**
OGSM				Sg	**Sg**	**09 45 55.3**	**+0.2**
LSD	**Lago del Serru**	**0.55**	**89**	S	**Sg**	**09 45 57.3**	**-0.1**
LSD	**Lago del Serru**	**0.55**	**89**	Sg	**Sg**	**09 45 57.2**	**-0.1**
MRGE	**Morge**	**0.59**	**57**	P	**Pg**	**09 45 51.1**	**+0.3**
MRGE				S	**Sb**	**09 46 00.2**	**-0.6**
RRL	**Rocca Remolon**	**0.62**	**149**	P	**Pb**	**09 45 51.9**	**-0.7**
RRL				S	**Sg**	**09 45 59.5**	**+0.2**
RRL	**Rocca Remolon**	**0.62**	**149**	Pg	**Pg**	**09 45 51.7**	**+0.3**
RRL	**Rocca Remolon**	**0.62**	**149**	Sg	**Sg**	**09 45 59.6**	**+0.2**
ORIF	**Oris-en-Rattie**	**0.63**	**212**	*e*Pg	**Pg**	**09 45 50.6**	**-0.9**
ORIF				*e*Sg	**Sg**	**09 45 58.3**	**-1.5**
	231nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.63**	**212**	Pg	**Pg**	**09 45 50.8**	**-0.8**
OGSI	**Sixt**	**0.68**	**25**	Pg	**Pg**	**09 45 49.8**	**-2.6**
OGSI				Sg	**Sg**	**09 45 57.8**	**-3.5**
RSP	**Reno Superiore**	**0.71**	**115**	P	**Pb**	**09 45 53.5**	**-0.7**
RSP				S	**Sg**	**09 46 02.5**	**+0.1**
RSP	**Reno Superiore**	**0.71**	**115**	Sg	**Sg**	**09 46 02.4**	**-0.1**
RSP	**Reno Superiore**	**0.71**	**115**	Pg	**Pb**	**09 45 53.5**	**-0.7**
MBDF	**Montbardon**	**0.79**	**158**	*e*Pg	**Pg**	**09 45 54.1**	**-0.4**
MBDF				*e*Sg	**Sg**	**09 46 04.7**	**0.0**
OG35	**Corcelles**	**0.80**	**318**	Pg	**Pg**	**09 45 55.0**	**+0.1**
OG35				Sg	**Sg**	**09 46 06.0**	**+0.6**
CIRO	**Champorcher**	**0.87**	**80**	S	**Sg**	**09 46 06.9**	**-0.6**
CIRO	**Champorcher**	**0.87**	**80**	Pg	**Pg**	**09 45 56.1**	**-0.1**
BHB	**Bricherasio**	**0.89**	**133**	P	**Pb**	**09 45 56.8**	**-0.4**
BHB				S	**Sb**	**09 46 09.2**	**0.0**
BHB	**Bricherasio**	**0.89**	**133**	Pg	**Pb**	**09 45 56.8**	**-0.4**
CREF	**Crivoux**	**0.92**	**168**	Pg	**Pg**	**09 45 56.5**	**-0.6**
GRYON	**Gryon**	**0.96**	**33**	Pg	**Pg**	**09 45 57.7**	**-0.2**
DIX	**Grande Dixence**	**0.97**	**49**	P	**Pb**	**09 45 58.2**	**-0.5**
DIX	**Grande Dixence**	**0.97**	**49**	Pg	**Pg**	**09 45 58.0**	**-0.1**
DIX	**Grande Dixence**	**0.97**	**49**	Pg	**Pg**	**09 45 57.9**	**-0.1**
AIGLE	**Aigle**	**0.98**	**25**	Pg	**Pg**	**09 45 58.2**	**-0.1**
TRAV	**Traversella**	**0.98**	**86**	Pg	**Pb**	**09 45 58.6**	**-0.2**
OGAG	**Argentiere**	**1.01**	**172**	P	Pg	09 45 52.2	-6.6
OGAG				S	Sg	09 46 01.2	-11
OGAG	**Argentiere**	**1.01**	**172**	Pg	Pg	09 45 52.1	-6.6
OGAG				Sg	Sg	09 46 01.1	-11
SURF	**Saint Ours**	**1.03**	**161**	Pg	**Pb**	**09 45 59.3**	**-0.3**
JAUF	**Jausiers**	**1.06**	**164**	Pg	**Pg**	**09 45 59.5**	**-0.3**
GIMEL	**St. Georges /**	**1.08**	**357**	Pg	**Pb**	**09 46 00.7**	**+0.2**
GIMEL	**St. Georges /**	**1.08**	**357**	Pg	**Pb**	**09 46 00.7**	**+0.2**
PZZ	**Stroppo**	**1.09**	**150**	P	**Pg**	**09 46 00.1**	**-0.3**
PZZ	**Stroppo**	**1.09**	**150**	Pg	**Pg**	**09 45 59.8**	**-0.6**
PZZ	**Stroppo**	**1.09**	**150**	Sg	**Sb**	**09 46 15.1**	**0.0**
SENIN	**Lac Senin/Sane**	**1.13**	**36**	Pg	**Pg**	**09 46 00.7**	**-0.4**
CABF	**La Chapelle**	**1.17**	**351**	*e*Pg	**Pg**	**09 46 02.1**	**+0.2**
CABF	**La Chapelle**	**1.17**	**351**	*e*P	**Pn**	**09 46 03.4**	**+1.1**
CABF				*e*Sg	**Sb**	**09 46 17.6**	**+0.1**
	68nm,0.4s						
MMK	**Mattmark**	**1.28**	**62**	P	**Pn**	**09 46 03.5**	**-0.4**
EMBD	**Embd, Matterta**	**1.29**	**53**	Pg	**Pb**	**09 46 03.6**	**-0.4**
SSB	**Saint Sauveur**	**1.29**	**263**	Pn	**Pn**	**09 46 03.5**	**-0.3**
SSB				Pg	**Pb**	**09 46 04.3**	**+0.3**
VIVF	**Saint-Julien-l**	**1.33**	**244**	*e*Pg	**Pn**	**09 46 04.6**	**+0.2**
VIVF				*e*Sg	**Sb**	**09 46 21.5**	**-0.4**
	104nm,0.3s						
RIVEL	**MONT RIVEL**	**1.34**	**347**	Pn	**Pb**	**09 46 05.0**	**+0.1**
OGDI	**Digne**	**1.34**	**182**	Pn	**Pn**	**09 46 04.6**	**0.0**
OGDI				Pg	**Pg**	**09 46 05.7**	**+0.5**
OGDI				Sn	**Sg**	**09 46 23.2**	**+0.6**
ISO	**Isola**	**1.36**	**158**	Pn	**Pn**	**09 46 04.3**	**-0.5**
ISO				Sn	**Sg**	**09 46 23.9**	**+0.6**
ENAUX	**Enaux**	**1.38**	**167**	Pn	**Pn**	**09 46 04.9**	**-0.3**
ENAUX				Sn	**Sg**	**09 46 23.9**	**+0.2**
LAUCH	**Lauchernalp**	**1.38**	**45**	P	**Pb**	**09 46 05.4**	**-0.3**
TORNY	**Torny/Romont**	**1.39**	**18**	Pg	**Pg**	**09 46 06.4**	**+0.4**
STV	**Sant Anna di V**	**1.39**	**150**	P	**Pb**	**09 46 05.5**	**-0.2**
STV	**Sant Anna di V**	**1.39**	**150**	Pn	**Pb**	**09 46 05.5**	**-0.2**
SIMPL	**Simplonpass**	**1.41**	**55**	P	**Pb**	**09 46 05.8**	**-0.3**
ENR	**Entracque**	**1.44**	**148**	Pn	**Pn**	**09 46 05.9**	**-0.1**
ENR	**Entracque**	**1.44**	**148**	Pg	**Pb**	**09 46 06.6**	**0.0**
BRANT	**Les Verrieres**	**1.49**	**3**	Pn	**Pb**	**09 46 07.0**	**-0.4**
BRANT	**Les Verrieres**	**1.49**	**3**	Sn	**Sg**	**09 46 26.9**	**-0.3**
SPIF	**crte de Spivo**	**1.53**	**155**	Pn	**Pn**	**09 46 07.1**	**-0.1**
SPIF				Sn	**Sn**	**09 46 26.9**	**-0.5**
SMRF	**Simiane la Rot**	**1.58**	**201**	*e*Pg	**Pg**	**09 46 09.8**	**+0.2**
SMRF				*e*Sg	**Sg**	**09 46 31.4**	**+1.3**
	34nm,0.4s						
SALSA	**La sagne**	**1.59**	**171**	Pn	**Pn**	**09 46 08.1**	**+0.1**
SALSA				Sn	**Sn**	**09 46 28.8**	**0.0**
RUSF	**Rustrel**	**1.63**	**203**	Pn	**Pn**	**09 46 08.6**	**0.0**
TURF	**col de Turini**	**1.65**	**153**	Pn	**Pn**	**09 46 08.4**	**-0.5**
TURF				Sn	**Sn**	**09 46 30.0**	**-0.5**
MVIF	**Mont Vial**	**1.66**	**160**	Pg	**Pg**	**09 46 11.6**	**+0.4**
SAOF	**Saorge**	**1.70**	**149**	Pn	**Pn**	**09 46 09.1**	**-0.3**
SAOF				Pg	**Pg**	**09 46 12.4**	**+0.4**
SAOF				Sn	**Sn**	**09 46 30.8**	**-0.7**
TRIGF	**Trigance**	**1.71**	**179**	Pn	**Pn**	**09 46 09.3**	**-0.3**
TRIGF				Sn	**Sn**	**09 46 31.8**	**+0.1**
CALF	**Calern**	**1.75**	**166**	Pn	**Pn**	**09 46 10.1**	**-0.1**
CALF				Pg	**Pb**	**09 46 12.2**	**+0.3**
CALF				Sn	**Sn**	**09 46 32.7**	**-0.1**
MGRO	**Montegrosso**	**1.75**	**143**	Pg	**Pg**	**09 46 13.0**	**+0.1**
SBF	**Sospel**	**1.77**	**154**	*e*Pg	**Pg**	**09 46 13.6**	**+0.3**
SBF				*e*Sg	**Sg**	**09 46 37.7**	**+1.5**
	71nm,0.4s						
ESCA	**l'Escarene**	**1.78**	**155**	Pn	**Pn**	**09 46 10.4**	**-0.1**
BOUC	**Bouclans**	**1.79**	**358**	Pg	**Pg**	**09 46 13.8**	**0.0**
PCP	**Piancastagn**	**1.81**	**120**	Pg	**Pb**	**09 46 12.2**	**-0.5**
RORO	**Rocca Rossa**	**1.81**	**137**	Pg	**Pb**	**09 46 12.5**	**-0.3**
CANO	**Canova, Maglio**	**1.83**	**132**	Pg	**Pb**	**09 46 13.3**	**+0.1**
PLYF	**Puligny Montra**	**1.87**	**324**	Pn	**Pn**	**09 46 10.7**	**-1.1**
ARTF	**Artigues**	**1.91**	**192**	Pn	**Pn**	**09 46 12.5**	**+0.2**
BOURR	**Bourrignon**	**2.03**	**17**	Pn	**Pn**	**09 46 14.0**	**-0.1**
BOURR	**Bourrignon**	**2.03**	**17**	Pg	**Pg**	**09 46 18.6**	**+0.2**
SMF	**Signal de Mont**	**2.12**	**305**	*e*Pg	**Pb**	**09 46 18.3**	**+0.3**
SMF				*e*Sg	**Sb**	**09 46 45.9**	**+1.4**
	24nm,0.2s						
LMR	**La Mourre**	**2.12**	**177**	*e*P	**Pn**	**09 46 15.7**	**+0.5**
LMR				*e*Sg	**Sb**	**09 46 45.3**	**+0.7**
	29nm,0.5s						
LASF	**Ste Croix**	**2.25**	**233**	*e*Pg	**Pb**	**09 46 19.9**	**-0.4**
LASF				*e*Sg	**Sb**	**09 46 48.9**	**+0.6**
	3.9nm,0.3s						
HINF	**Hinteralfeld**	**2.39**	**8**	*e*Pg	**Pb**	**09 46 23.8**	**+1.1**
HINF				*e*Sg	**Sg**	**09 46 54.7**	**-1.4**
	26nm,0.4s						
AVF	**Avril sur Loir**	**2.48**	**304**	*e*Pg	**Pb**	**09 46 25.5**	**+1.3**
AVF				*e*Sg	**Sb**	**09 46 56.4**	**+1.5**
	41nm,0.5s						
SSF	**Saint Saulge**	**2.55**	**310**	*e*Pg	**Pb**	**09 46 26.4**	**+1.0**
SSF				*e*Sg	**Sb**	**09 46 58.5**	**+1.6**
	15nm,0.3s						
HAU	**Haudompre**	**2.55**	**360**	*e*Pg	**Pb**	**09 46 26.9**	**+1.4**
HAU				*e*Sg	**Sg**	**09 47 00.5**	**-0.9**
	33nm,0.3s						
BGF	**Bois d'Agland**	**2.68**	**296**	*e*P	**Pn**	**09 46 23.3**	**+0.4**
BGF				*e*Sg	**Sb**	**09 47 02.3**	**+1.6**
	29nm,0.4s						
SFTF	**Sexfontaines**	**2.90**	**342**	*e*Sg	**Sg**	**09 47 10.9**	**-1.5**
	26nm,0.5s						
CDF	**Champ du Feu**	**3.03**	**12**	*e*Pn	**Pn**	**09 46 26.9**	**-0.9**
CDF	**Champ du Feu**	**3.03**	**12**	*e*Pg	**Pg**	**09 46 36.3**	**-1.1**
CDF				*e*Sg	**Sg**	**09 47 15.5**	**-1.1**
	9.3nm,0.3s						
DAVA	**Damuels**	**3.06**	**52**	*e*Pn	**Pb**	**09 46 32.1**	**-2.1**
	1.0nm,0.1s						
DAVA				Sg	**Sg**	**09 47 19.7**	**+2.1**
	12nm,0.4s						
MTLF	**Montolieu**	**3.64**	**236**	*e*Sg	**Sg**	**09 47 33.4**	**-2.8**
MOTA	**Moosalm**	**3.79**	**58**	*e*Sn	**Sn**	**09 47 24.7**	**+1.4**
	1.9nm,0.2s						

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*IDC **01** 10:23:14.8±0.8,22°.98S×167°.98E,h0km,mb4.0/15, mbtmp4.0/15,MS3.4/7,Error ellipse: s-maj=22.5km s-min=16.5km az=55.0*

*NEIC **01** 10:23:16.7±2.3,22°.64S±0°.08×168°.07E±0°.01,h10km±1km, mb4.3/19,Error ellipse: s-maj=13.3km s-min=2.9km az=177.0*

ISC 01 10:23:19.9±0.5**,22°.82S**±0°.07×**168°.04E**±0°.07**,h35km,n55, σ1s74**/54**,mb4.3**/22**,MS3.2**/6**,4D,New Caledonia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**0.59**	**290**		**Pn**	**10 23 28.2**	**-3.5**
OUENC	**Ouen Island, N**	**1.18**	**289**		**Pn**	**10 23 37.4**	**-2.5**
MARNC	**Mare, Loyalty**	**1.33**	**360**		**Pn**	**10 23 38.4**	**-3.5**
ONTNC	**Ouen Toro**	**1.55**	**289**		**Pn**	**10 23 42.6**	**-2.4**
DZM	**Mont Dzumac**	**1.65**	**296**		**Pn**	**10 23 44.4**	**-2.1**
DZM	**Mont Dzumac**	**1.65**	**296**	Pn	**Pn**	**10 23 45.2**	**-1.3**
	49nm,0.3s,baz=132,slow=14,SNR=95						
DZM				LR	LR	10 24 08.9	
	comp=Z,86nm,20.3s,baz=32,slow=32						
DZM				Sn	**Sn**	**10 24 10.2**	**+3.6**
	115nm,0.3s,baz=150,slow=23,SNR=6.6						
LIFNC	**LIFOU**	**2.16**	**340**		**Pn**	**10 23 49.6**	**-3.8**
KOUNC	**Koumac, New Ca**	**4.16**	**302**		**Pn**	**10 24 18.3**	**-2.6**
HNR	**Honiara**	**15.40**	**328**	LR	LR	10 32 20.2	
	comp=Z,545nm,18.3s,baz=166,slow=35						
EIDS	**Eidsvold**	**15.70**	**257**	Pn	**Pn**	**10 26 56.8**	**-1.7**
ARMA	**Armidale**	**16.50**	**239**	Pn	**Pn**	**10 27 08.7**	**-0.1**
ARMA				IAmb	IAmb	10 27 16.6	
	comp=Z,11nm,1.1s						
SNZO	**South Karori**	**19.27**	**165**	P	**Pn**	**10 27 44.3**	**+1.7**
THZ	**Tophouse**	**19.33**	**169**	P	**Pn**	**10 27 45.5**	**+2.1**
THZ				IAmb	IAmb	10 27 48.8	
	comp=Z,9.9nm,1.1s						
CTA	**Charters Tower**	**20.46**	**274**	P	**P**	**10 27 53.4**	**-1.2**
	comp=Z,2.2nm,0.8s,baz=103,slow=10,SNR=1.6						
CTA				LR	LR	10 35 15.4	
	comp=Z,73nm,19.3s,baz=82,slow=35						
	comp=Z,2.2nm,0.8s						
RPZ	**Rata Peaks**	**20.99**	**174**	P	**P**	**10 27 57.4**	**-2.7**
	comp=Z,4.0nm,0.9s,baz=103,slow=7.8,SNR=2.2						
RPZ				LR	LR	10 35 09.7	
	comp=Z,66nm,20.5s,baz=14,slow=34						
	comp=Z,4.0nm,0.9s						
STKA	**Stephens Creek**	**25.11**	**243**	P	**P**	**10 28 42.8**	**+1.3**
STKA	**Stephens Creek**	**25.11**	**243**	P	**P**	**10 28 40.5**	**-1.0**
	comp=Z,2.4nm,0.8s,baz=98,slow=13,SNR=2.9						
STKA				LR	LR	10 38 00.8	
	comp=Z,71nm,18.1s,baz=25,slow=36						
	comp=Z,2.4nm,0.8s						
COEN	**Coen**	**25.16**	**286**	P	**P**	**10 28 42.9**	**+0.8**
BBOO	**Buckleboo**	**29.89**	**244**	P	**P**	**10 29 25.6**	**+1.2**
BBOO				IAmb	IAmb	10 29 41.2	
	comp=Z,7.0nm,0.9s						
WR0	**Warramunga Arr**	**31.29**	**269**	P	**P**	**10 29 36.7**	**-0.1**
WR0				IAmb	IAmb	10 29 38.6	
	comp=Z,2.4nm,0.7s						
AS31	**Alice Springs**	**31.34**	**262**	P	**P**	**10 29 37.6**	**+0.4**
ASAR	**Alice Springs**	**31.34**	**262**	P	**P**	**10 29 37.8**	**+0.5**
ASAR	**Alice Springs**	**31.34**	**262**	P	**P**	**10 29 36.7**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=87,slow=9.2,SNR=13						
ASAR				PcP	**PcP**	**10 32 30.9**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=116,slow=4.3,SNR=2.3						
ASAR				LR	LR	10 41 48.2	
	comp=Z,58nm,21.0s,baz=95,slow=36						
	comp=Z,1.0nm,0.7s						
WB0	**Warramunga Arr**	**31.46**	**269**	P	**P**	**10 29 38.1**	**-0.3**
WB0				IAmb	IAmb	10 29 43.0	
	comp=Z,5.1nm,1.1s						
WB2	**Warramunga Arr**	**31.46**	**269**	P	**P**	**10 29 38.0**	**-0.4**
WB2				IAmb	IAmb	10 29 40.9	
	comp=Z,4.6nm,1.0s						
WRA	**Warramunga Arr**	**31.48**	**269**	P	**P**	**10 29 38.1**	**-0.4**
WRA	**Warramunga Arr**	**31.48**	**269**	P	**P**	**10 29 37.5**	**-0.9**
	comp=Z,2.6nm,0.9s,baz=98,slow=8.4,SNR=27						
	comp=Z,2.6nm,0.9s						
MTN	**Manton Dam**	**36.42**	**279**	P	**P**	**10 30 20.9**	**-0.6**
MTN				IAmb	IAmb	10 30 40.3	
	comp=Z,6.7nm,1.1s						
FAKI	**Fak Fak**	**39.92**	**294**	P	**P**	**10 30 50.6**	**-0.3**
FAKI				IAmb	IAmb	10 30 58.1	
	comp=Z,6.4nm,0.9s						
BATI	**Baumata**	**44.19**	**279**	LR	LR	10 51 58.0	
	comp=Z,90nm,18.3s,baz=120,slow=39						
MBWA	**Marble Bar**	**44.67**	**263**	P	**P**	**10 31 29.8**	**+0.2**
MBWA				IAmb	IAmb	10 31 36.4	
	comp=Z,6.1nm,0.8s						
NWAO	**Narrogin (SRO)**	**45.66**	**246**	P	**P**	**10 31 35.5**	**-1.8**
	comp=Z,4.8nm,0.8s,baz=358,slow=5.2,SNR=1.8						
	comp=Z,4.8nm,0.8s						
KAPI	**Kappang**	**49.83**	**283**	P	**P**	**10 32 08.7**	**-1.1**
KAPI	**Kappang**	**49.83**	**283**	LR	LR	10 54 36.6	
	comp=Z,21nm,18.1s,baz=92,slow=38						
TOLI2	**Tolitoli**	**51.78**	**291**	P	**P**	**10 32 22.8**	**-1.8**
VNDA	**Vanda**	**54.84**	**182**	P	**P**	**10 32 44.7**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=27,slow=9.7,SNR=2.1						
	comp=Z,0.4nm,0.5s						
MJAR	**Matsushiro Arr**	**65.42**	**334**	P	**P**	**10 33 59.4**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=156,slow=9.2,SNR=2.3						
	comp=Z,1.7nm,0.8s						
QSPA	**South Pole Qui**	**67.25**	**180**	P	**P**	**10 34 10.9**	**+0.3**
QSPA				IAmb	IAmb	10 34 11.0	
	comp=Z,3.0nm,0.8s						
QSPA	**South Pole Qui**	**67.25**	**180**	P	**P**	**10 34 10.5**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=7.1,slow=0.8,SNR=13						
	comp=Z,2.7nm,0.7s						
USRK	**Ussuriysk Ar.**	**74.42**	**334**	P	**P**	**10 34 55.0**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=158,slow=12,SNR=1.5						
	comp=Z,0.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**78.98**	**295**	P	**P**	**10 35 21.7**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=133,slow=4.5,SNR=7.4						
	comp=Z,1.0nm,0.5s						
TROLL	**Troll, Antarti**	**84.90**	**184**	⇓P	**P**	**10 35 50.2**	**-0.8**
	comp=Z,152nm,0.6s						
SNAA	**Sanae**	**85.55**	**183**	P	**P**	**10 35 53.8**	**-0.4**
SNAA				IAmb	IAmb	10 35 54.2	
	comp=Z,2.1nm,0.6s						
SNAA	**Sanae**	**85.55**	**183**	⇓P	**P**	**10 35 53.2**	**-0.9**
	comp=Z,42nm,0.5s						
SNAA	**Sanae**	**85.55**	**183**	P	**P**	**10 35 53.5**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=205,slow=8.7,SNR=16						
	comp=Z,1.8nm,0.6s						
VNA3	**Neumayer Olymp**	**86.18**	**181**	⇓P	**P**	**10 35 56.3**	**-0.9**
	comp=Z,5.5nm,0.7s						
VNA2	**Neumayer--Watz**	**86.46**	**182**	⇓P	**P**	**10 35 58.0**	**-0.6**
	comp=Z,4.5nm,0.6s,baz=187,slow=5.0						
SONM	**Songino Array**	**89.41**	**324**	P	**P**	**10 36 14.1**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=159,slow=4.5,SNR=4.6						
	comp=Z,1.5nm,0.9s						
NVAR	**Mina Array Bea**	**91.99**	**49**	P	**P**	**10 36 26.6**	**+1.2**
	comp=Z,0.1nm,0.5s,baz=225,slow=8.9,SNR=1.8						
	comp=Z,0.1nm,0.5s						
ILAR	**Eielson Array**	**93.96**	**18**	P	**P**	**10 36 33.5**	**0.0**
	comp=Z,0.4nm,0.8s,baz=237,slow=5.0,SNR=2.3						
	comp=Z,0.4nm,0.8s						
ARCES	**ARCESS Array B**	**128.21**	**344**	PKP	**PKPdf**	**10 42 22.3**	**+0.6**
	comp=Z,8.9nm,1.1s,baz=48,slow=1.8,SNR=4.1						
CONA	**Conrad Observa**	**146.53**	**325**	*e*PKP	**PKiKP**	**10 43 03.8**	**+3.4**
	comp=Z,4.6nm,1.0s						
GERES	**GERESS Array B**	**147.02**	**328**	PKPbc	**PKPab**	**10 43 00.5**	**0.0**
	comp=Z,2.3nm,0.9s,baz=64,slow=3.1,SNR=4.0						
ARSA	**Arzberg**	**147.13**	**325**	*e*PKP	**PKiKP**	**10 43 05.8**	**+4.2**
	comp=Z,5.0nm,0.9s						
SOKA	**Soboth**	**147.75**	**324**	*e*PKP	**PKPab**	**10 43 05.6**	**+2.3**
	comp=Z,8.0nm,1.3s						

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*NAO **01** 10:25:09.9±7.1,73°.17N×6°.68E,ML2.5*

*BER **01** 10:25:13.4±2.6,73°.16N×6°.46E,h30km±24km,mb(Pn)4.0, ML2.5(NAO),Confirmed Earthquake*

ISC 01 10:25:08.2±1.3**,73°.09N**±0°.06×**6°.62E**±0°.10**,h11km,n22, σ2s91**/32**,Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**3.75**	**62**	*e*P	**Pn**	**10 26 09.1**	**+3.3**
HSPB	**Hornsund (broa**	**4.55**	**26**	*e*S	**Sn**	**10 27 04.2**	**-5.4**
HSPB				IAML		10 27 05.6	
	comp=Z,4.7nm,0.5s						
JNE	**Jan Mayen East**	**5.07**	**253**	*e*P	**Pn**	**10 26 24.4**	**+0.4**
BRBA	**Barentsburg A**	**5.34**	**17**	Pn	**Pn**	**10 26 29.9**	**+2.2**
BRBA				IAML		10 27 33.3	
	comp=Z,7.0nm,0.1s						
BRBA	**Barentsburg A**	**5.34**	**17**	Pn	**Pn**	**10 26 29.9**	**+2.2**
BRBA				Sn	**Sn**	**10 27 32.3**	**+3.3**
BRBB	**Barentsburg B**	**5.37**	**17**	Pn	**Pn**	**10 26 30.2**	**+2.1**
BRBB	**Barentsburg B**	**5.37**	**17**	Pn	**Pn**	**10 26 30.2**	**+2.1**
SPA0	**Spitsbergen Ar**	**5.65**	**21**	Pn	**Pn**	**10 26 32.8**	**+0.8**
	baz=208,slow=16						
SPA0				IAML		10 27 51.0	
	comp=Z,4.1nm,0.9s						
SPA0	**Spitsbergen Ar**	**5.65**	**21**	Pn	**Pn**	**10 26 32.8**	**+0.8**
	baz=208,slow=16						
JETT	**Jettan, Norway**	**5.67**	**122**	Pn	**Pn**	**10 26 35.0**	**+2.8**
JETT				Sn	**Sn**	**10 27 37.6**	**+0.4**
JETT				IAML		10 27 54.5	
	comp=Z,4.0nm,0.7s						
JETT	**Jettan, Norway**	**5.67**	**122**	Pn	**Pn**	**10 26 35.0**	**+2.8**
JETT				Sn	**Sn**	**10 27 37.6**	**+0.4**
STEI	**Steigen**	**5.93**	**147**	*e*P	**Pn**	**10 26 39.1**	**+3.3**
KBS	**Kingsbay**	**6.00**	**10**	*e*P	**Pn**	**10 26 37.6**	**+0.8**
KBS				*e*S	**Sn**	**10 27 40.0**	**-5.4**
KBS				IAML		10 27 45.9	
	comp=Z,2.2nm,0.8s						
KBS	**Kingsbay**	**6.00**	**10**	Pn	**Pn**	**10 26 37.5**	**+0.7**
KIF	**Kilpisjarvi**	**6.17**	**125**	Pn	**Pn**	**10 26 42.1**	**+3.1**
KIF				Sn	**Sn**	**10 27 46.4**	**-3.0**
KIF	**Kilpisjarvi**	**6.17**	**125**	Pn	**Pn**	**10 26 42.1**	**+3.1**
KIF				Sn	**Sn**	**10 27 46.4**	**-3.0**
FAUS	**Fauske**	**6.44**	**149**	*e*P	**Pn**	**10 26 43.8**	**+1.0**
FAUS				*e*S	**Sn**	**10 27 53.8**	**-2.3**
FAUS				IAML		10 28 15.0	
	comp=Z,3.2nm,1.1s						
KONS	**Konsvik**	**6.99**	**158**	*e*P	**Pn**	**10 26 51.7**	**+1.3**
KONS				*e*S	**Sn**	**10 28 05.3**	**-4.4**
KONS				IAML		10 28 16.0	
	comp=Z,6.1nm,0.8s						
ARA0	**ARCESS Array S**	**7.02**	**111**	Pn	**Pn**	**10 26 53.8**	**+3.0**
	baz=321,slow=12						
ARA0				Sn	**Sn**	**10 28 07.2**	**-3.2**
	baz=311,slow=22						
ARA0	**ARCESS Array S**	**7.02**	**111**	Pn	**Pn**	**10 26 53.8**	**+3.0**
	baz=321,slow=12						
ARA0				Sn	**Sn**	**10 28 07.2**	**-3.2**
	baz=311,slow=22						
KEV	**Kevo**	**7.29**	**107**	Pn	**Pn**	**10 26 57.2**	**+2.7**
KEV	**Kevo**	**7.29**	**107**	Pn	**Pn**	**10 26 57.2**	**+2.7**

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*ISN **01** 10:29:06.7±0.8,32°.34N×47°.45E,h8km±15km,ML3.9*

*IDC **01** 10:29:08.0±1.1,32°.59N×47°.54E,h0km,mb3.9/13, mbtmp3.9/16,ML3.2/3,MS2.8/4,Error ellipse: s-maj=25.1km s-min=16.7km az=158.0*

*TEH **01** 10:29:10.0,32°.40N×47°.46E,h20km±17km,ML3.8*

ISC 01 10:29:10.7±0.5**,32°.37N**±0°.04×**47°.47E**±0°.04**,h23km,n57, σ1s95**/59**,mb3.9**/13**,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.20**	**15**	Pg	**Pn**	**10 29 32.0**	**-0.1**
RAFI	**Al-Rafai**	**1.32**	**241**	*e*Pn	**Pn**	**10 29 34.0**	**+0.3**
RAFI				*e*Sn	**Sb**	**10 29 54.0**	**+2.8**
RAFI				AML	AML	10 30 05.1	
	comp=E,710nm,0.6s						
RAFI				AML	AML	10 30 05.3	
	comp=N,706nm,0.6s						
AHWZ	**Ahwaz**	**1.44**	**136**	Pg	**Pn**	**10 29 37.2**	**+1.7**
AHWZ				Sg	**Sb**	**10 29 58.5**	**+3.7**
ILBA	**Ilam Banvizeh**	**1.64**	**320**	Pg	**Pn**	**10 29 38.7**	**+0.4**
AMIS	**Naft Sefid**	**1.70**	**114**	Pg	**Pb**	**10 29 42.2**	**+0.9**
IKOM	**Komasi**	**1.80**	**1**	Pg	**Pn**	**10 29 41.7**	**+1.1**
KCHF	**Cheshme Sefid,**	**1.93**	**349**	Pn	**Pn**	**10 29 43.6**	**+1.2**
IGHG	**Ghaleghazi**	**2.09**	**339**	Pn	**Pn**	**10 29 45.8**	**+1.1**
IBZA	**Bozab**	**2.12**	**9**	Pn	**Pn**	**10 29 45.9**	**+0.9**
ILIN	**Lien**	**2.58**	**351**	Pn	**Pn**	**10 29 52.9**	**+1.5**
KGS1	**Ghasr-e-Shirin**	**2.65**	**324**	Pn	**Pn**	**10 29 53.2**	**+1.1**
JHBN	**Jahan bin**	**2.71**	**92**	Pn	**Pn**	**10 29 54.6**	**+1.4**
BHD	**Baghdad**	**2.75**	**290**	*e*Pn	**Pn**	**10 29 54.0**	**+0.6**
BHD				*e*Sn	**Sn**	**10 30 28.0**	**+2.1**
BHD				AML	AML	10 30 34.8	
	comp=E,332nm,0.4s						
HAGD	**Aghdareh**	**2.82**	**29**	Pn	**Pn**	**10 29 55.5**	**+0.9**
ZNGN	**Zangian**	**2.88**	**94**	Pn	**Pn**	**10 29 57.2**	**+1.6**
IPIR	**Pirpir**	**2.91**	**83**	Pn	**Pn**	**10 29 57.6**	**+1.6**
IBRJ	**Brojen**	**3.25**	**97**	Pn	**Pn**	**10 30 01.7**	**+1.1**
IKLH	**Kolahrood**	**3.59**	**74**	Pn	**Pn**	**10 30 06.7**	**+1.5**
IRAZ	**Razeghan**	**3.66**	**33**	Pn	**Pn**	**10 30 07.8**	**+1.7**
KLNJ	**Kolanjah**	**3.77**	**110**	Pn	**Pn**	**10 30 09.7**	**+1.9**
IQOM	**Qom**	**3.89**	**50**	Pn	**Pn**	**10 30 10.3**	**+0.9**
IKRK	**Kirkuk**	**3.99**	**320**	*e*Pn	**Pn**	**10 30 11.0**	**+0.5**
IKRK				*e*Sn	**Sn**	**10 30 59.0**	**+2.5**
IZEF	**Zefreh**	**4.14**	**81**	Pn	**Pn**	**10 30 14.2**	**+1.5**
IRAM	**Ramesheh**	**4.21**	**96**	Pn	**Pn**	**10 30 16.7**	**+2.9**
KRSH	**Karshahi**	**4.23**	**67**	Pn	**Pn**	**10 30 14.9**	**+0.9**
IVRN	**Varamin**	**4.41**	**52**	Pn	**Pn**	**10 30 17.6**	**+1.2**
ISFB	**Sefidab**	**4.46**	**62**	Pn	**Pn**	**10 30 18.3**	**+1.3**
MAHB	**Mahabad**	**4.62**	**342**	Pn	**Pn**	**10 30 19.8**	**+0.5**
IDMV	**Damavand**	**4.96**	**49**	Pn	**Pn**	**10 30 24.7**	**+0.5**
KLST	**Kelardasht - M**	**5.09**	**35**	Pn	**Pn**	**10 30 28.2**	**+2.3**
ANAR	**Anarak**	**5.34**	**80**	Pn	**Pn**	**10 30 29.9**	**+0.7**
IAZR	**Azarshahr**	**5.43**	**347**	Pn	**Pn**	**10 30 31.5**	**+0.9**
ILAS	**Lasjerd**	**5.47**	**55**	Pn	**Pn**	**10 30 31.3**	**+0.3**
IPRN	**Peran**	**5.58**	**45**	Pn	**Pn**	**10 30 33.9**	**+1.4**
GRMI	**Germi**	**6.43**	**3**	Pn	**Pn**	**10 30 45.0**	**+0.8**
ASF	**Jabal al Asfar**	**8.95**	**272**	Pn	**Pn**	**10 31 20.2**	**+1.5**
	comp=E,0.2nm,0.3s,baz=348,slow=21,SNR=1.8						
ASF				Sn	**Sn**	**10 32 52.7**	**-6.2**
	comp=E,0.2nm,0.3s,baz=146,slow=23,SNR=3.9						
ASF				Lg	Lg	10 33 54.4	
	comp=E,0.4nm,0.3s,baz=261,slow=24,SNR=2.2						
	comp=E,0.9nm,0.4s						
EIL	**Elat**	**11.07**	**259**	Lg	Lg	10 35 13.4	
	comp=E,0.2nm,0.3s,baz=50,slow=18,SNR=3.9						
KBZ	**Khabaz**	**11.90**	**344**	LR	LR	10 37 04.8	
	comp=E,26nm,20.2s,baz=264,slow=41						
BRTR	**Keskin Array B**	**13.37**	**307**	Pn	**Pn**	**10 32 21.0**	**+1.8**
	baz=125,slow=12,SNR=2.2						
	comp=E,0.8nm,0.9s						
WSAR	**Wadi Sarin**	**13.42**	**130**	Pn	**Pn**	**10 32 16.9**	**-2.9**
	comp=E,0.1nm,0.3s,baz=53,slow=9.1,SNR=2.1						
WSAR				Sn	**Sn**	**10 34 41.5**	**-6.8**
	comp=E,0.1nm,0.3s,baz=195,slow=18,SNR=1.2						
WSAR				LR	LR	10 39 33.8	
	comp=E,23nm,21.4s,baz=40,slow=46						
AKTO	**Aktyubinsk**	**19.67**	**20**	P	**P**	**10 33 36.9**	**-1.2**
	comp=E,0.2nm,0.3s,baz=182,slow=8.2,SNR=1.8						
	comp=E,1.0nm,0.5s						
BELG	**Belogornoye**	**20.01**	**0**	LR	LR	10 44 00.3	
	comp=E,26nm,19.1s,baz=138,slow=45						
AKASG	**Malin Array Be**	**22.74**	**329**	P	**P**	**10 34 10.9**	**-0.1**
	comp=E,1.8nm,0.5s,baz=136,slow=11,SNR=8.0						
	comp=E,1.8nm,0.5s						
KOLS	**Kolonicke sedl**	**25.11**	**319**	*e*	**P**	**10 34 34.6**	**+0.9**
BVAR	**Borovoye Array**	**26.44**	**32**	P	**P**	**10 34 44.5**	**-1.2**
	comp=E,2.0nm,0.8s,baz=226,slow=8.1,SNR=8.6						
	comp=E,2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**29.25**	**42**	P	**P**	**10 35 09.4**	**-1.4**
	comp=E,1.0nm,0.7s,baz=245,slow=9.4,SNR=5.7						
	comp=E,1.0nm,0.7s						
MKAR	**Makanchi Array**	**30.18**	**51**	P	**P**	**10 35 19.2**	**0.0**
	comp=E,0.8nm,0.8s,baz=246,slow=6.1,SNR=6.5						
	comp=E,0.8nm,0.8s						
FINES	**FINESS Array B**	**32.23**	**341**	P	**P**	**10 35 35.2**	**-1.8**
	comp=E,3.8nm,0.9s,baz=157,slow=10,SNR=4.8						
	comp=E,3.8nm,0.9s						
ZALV	**Zalesovo Beam**	**34.17**	**40**	P	**P**	**10 35 51.7**	**-2.3**
	comp=E,1.1nm,0.7s,baz=243,slow=9.8,SNR=5.0						
	comp=E,1.1nm,0.7s						
HFS	**Hagfors**	**35.58**	**331**	P	**P**	**10 36 05.4**	**-0.7**
	comp=E,2.5nm,0.6s,baz=128,slow=9.6,SNR=8.5						
	comp=E,2.5nm,0.6s						
ARCES	**ARCESS Array B**	**39.21**	**348**	P	**P**	**10 36 35.4**	**-1.4**
	comp=E,2.2nm,0.8s,baz=156,slow=8.9,SNR=4.2						
	comp=E,2.2nm,0.8s						
EKA	**Eskdalemuir Ar**	**41.93**	**319**	P	**P**	**10 36 58.6**	**-0.7**
	comp=E,1.1nm,0.5s,baz=99,slow=9.1,SNR=7.0						
	comp=E,1.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**45.94**	**256**	P	**P**	**10 37 33.5**	**+1.5**
	comp=E,0.3nm,0.6s,baz=58,slow=8.6,SNR=1.9						
	comp=E,0.3nm,0.6s						
LBTB	**Lobatse**	**60.76**	**203**	LR	LR	11 08 20.3	
	comp=E,26nm,20.1s,baz=278,slow=39						
BOSA	**Boshof**	**64.22**	**202**	P	**P**	**10 39 46.3**	**+2.4**
	comp=E,3.5nm,0.9s,baz=108,slow=3.0,SNR=3.7						
	comp=E,3.5nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	76.52	327	P	P	10 40 59.2	+0.4
	comp=E,2.7nm,0.8s,baz=262,slow=14,SNR=1.8						
	comp=E,2.7nm,0.8s						
YKA	Yellowknife Ar	84.37	352	P	P	10 41 41.2	+0.4
	comp=E,0.2nm,0.7s,baz=27,slow=5.8,SNR=3.0						
	comp=E,0.2nm,0.7s						

IDC 01 10:33:21.7±8.4**, 31°.90S**×**179°.80E, h343**km±96km**, mb2.5**/2**, mbtmp3.4**/3**, Error ellipse: s-maj=104.7km s-min=48.1km az=2.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.72	198	P	Pn	10 35 01.8	+1.3
	2.9nm,0.3s,baz=39,slow=4.8,SNR=11						
URZ				S	S	10 36 19.5	-1.2
	4.8nm,0.6s,baz=341,slow=22,SNR=9.5						
ASAR	Alice Springs	41.18	270	P	P	10 40 34.3	+0.2
	0.1nm,0.5s,baz=104,slow=7.7,SNR=1.4						
	0.1nm,0.5s						
WRA	Warramunga Arr	42.30	275	P	P	10 40 42.9	-0.2
	0.2nm,0.3s,baz=113,slow=8.0,SNR=9.2						
	0.2nm,0.3s						
FINES	FINESS Array B	145.85	338	PKPbc	PKPdf	10 52 19.2	+0.2
	1.2nm,0.7s,baz=74,slow=5.9,SNR=4.2						

CATAC 01 10:47:48.1±0.5, 13°.36N×90°.10W, h29km±3km, ML3.5
SNET 01 10:47:48.4±1.1, 13°.31N×90°.04W, h28km±8km, ML3.2
GCG 01 10:47:49.9±0.7, 13°.59N×90°.17W, h97km±19km, MD3.4
ISC 01 10:47:48.4±1.5**, 13°.35N**±0°.06×**90°.09W**±0°.04**, h30**km±12km**, n44,** $\sigma 0^s50$/71**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NUBE	Las Nubes	0.63	29	eP	Pb	10 48 01.1	+0.1
NUBE				eS	Sn	10 48 10.7	+0.2
NUBE				IAML		10 48 11.5	
	comp=Z,598nm,0.3s						
NUBE	Las Nubes	0.63	29	iP	Pb	10 48 01.1	+0.1
NUBE				iS	Sn	10 48 11.1	+0.5
NUBE				IAML		10 48 17.7	
	comp=Z,2μm,1.0s						
CEVE	Cerro Verde	0.66	44	eP	Pn	10 48 01.8	-0.2
CEVE				eS	Sn	10 48 12.0	+0.5
CEVE				IAML		10 48 15.6	
	comp=Z,6μm,0.3s						
CEVE	Cerro Verde	0.66	44	iP	Pn	10 48 12.4	+10
SBLS	San Blas	0.67	43	eP	Pn	10 48 01.9	-0.2
JAYA	Jayaque - finc	0.69	64	eP	Pb	10 48 01.9	-0.2
JAYA	Jayaque - finc	0.69	64	iP	Pb	10 48 02.2	+0.1
JAYA				iS	Sn	10 48 12.7	+0.5
JAYA				IAML		10 48 14.3	
	comp=Z,5μm,1.0s						
RTR	El Retiro	0.70	38	eP	Pn	10 48 02.3	-0.1
SNJE	San Jose	0.70	42	eP	Pb	10 48 02.2	0.0
SNJE				eP	Pb	10 48 02.2	0.0
LOAL	Lomas de Alarc	0.71	25	iP	Pn	10 48 02.6	+0.1
LOAL				iS	Sn	10 48 13.3	+0.8
LOAL				IAML		10 48 14.7	
	comp=Z,4μm,1.0s						
SLOZ	Alcaldia de Sa	0.74	24	eP	Pb	10 48 02.5	-0.2
SLOZ				eS	Sn	10 48 13.7	+0.5
LALI	Alcalda de L	0.76	79	iP	Pb	10 48 03.0	-0.1
LALI				iS	Sn	10 48 13.8	+0.2
LALI				IAML		10 48 19.8	
	comp=Z,210nm,1.0s						
CEDA	San Andres	0.81	56	iP	Pn	10 48 03.7	-0.2
CEDA				iS	Sn	10 48 14.9	-0.1
CEDA				IAML		10 48 20.1	
	comp=Z,4μm,1.0s						
UNIC	Universidad Ca	0.82	40	iP	Pn	10 48 03.6	-0.4
UNIC				iS	Sn	10 48 15.9	+0.7
UNIC				IAML		10 48 16.8	
	comp=Z,510nm,1.0s						
PMON	Piamonte	0.84	64	iP	Pn	10 48 04.0	-0.3
PMON				iS	Sn	10 48 16.0	+0.3
PMON				IAML		10 48 20.0	
	comp=Z,2μm,1.0s						
BOQS	Boqueron	0.88	64	eP	Pn	10 48 04.4	-0.5
BOQS				IAML		10 48 19.3	
	comp=Z,321nm,0.2s						
SNET	Serv Nac Est T	0.90	68	iP	Pn	10 48 04.5	-0.6
SNET				iS	Sb	10 48 17.2	0.0
SNET				IAML		10 48 19.0	
	comp=Z,2μm,1.0s						
UEES	Universidad Ev	0.91	66	eP	Pn	10 48 04.8	-0.5
UEES	Universidad Ev	0.91	66	iP	Pn	10 48 05.0	-0.2
UEES				iS	Sn	10 48 17.5	+0.2
UEES				IAML		10 48 23.6	
	comp=Z,880nm,1.0s						
QUEZ	Alcaldia de Qu	0.93	59	iP	Pn	10 48 04.7	-0.8
QUEZ				iS	Sb	10 48 18.1	+0.1
QUEZ				IAML		10 48 19.4	
	comp=Z,4μm,1.0s						
LOMA	Loma Larga	0.94	72	eP	Pn	10 48 05.1	-0.6
LOMA	Loma Larga	0.94	72	iP	Pn	10 48 05.3	-0.4
LOMA				iS	Sb	10 48 18.7	+0.3
LOMA				IAML		10 48 21.9	
	comp=Z,1μm,1.0s						
PCG	Pacaya	1.15	334	eS	Sb	10 48 26.2	+1.7
PAVA	Las Pavas	1.18	72	iP	Pn	10 48 09.4	+0.4
PAVA				iS	Sb	10 48 24.9	-0.3
PAVA				IAML		10 48 29.7	
	comp=Z,750nm,1.0s						
COEG	Centro de Oper	1.21	77	eP	Pn	10 48 09.0	-0.4
COEG				IAML		10 48 27.9	
	comp=Z,605nm,0.2s						
COEG	Centro de Oper	1.21	77	iP	Pn	10 48 09.2	-0.2
COEG				iS	Sn	10 48 25.2	+0.4
COEG				IAML		10 48 27.7	
	comp=Z,470nm,1.0s						
ESSG	Sabana Grande	1.25	325	iP	Pn	10 48 09.4	-0.6
ESSG				iS	Sn	10 48 25.7	-0.3
ESSG				IAML		10 48 26.7	
	comp=Z,1μm,1.0s						
NBG	Las Nubes	1.26	349	eP	Pb	10 48 11.4	-0.3
NBG				eS	Sb	10 48 27.7	+0.2
MTO3	Montecristo	1.26	34	iP	Pn	10 48 09.6	-0.6
MTO3				iS	Sn	10 48 25.0	-1.3
MTO3				IAML		10 48 28.3	
	comp=Z,250nm,1.0s						
TECO	Alcaldia de Te	1.29	82	iP	Pn	10 48 10.1	-0.3
TECO				iS	Sn	10 48 26.1	-0.6
TECO				IAML		10 48 32.4	
	comp=Z,260nm,1.0s						
UESV	Universidad de	1.30	77	iP	Pn	10 48 10.3	-0.3
UESV				iS	Sn	10 48 27.6	+0.6
UESV				IAML		10 48 30.7	
	comp=Z,310nm,1.0s						
FUG	Fuego 3	1.31	326	eP	Pn	10 48 11.3	+0.4
FUG				eS	Sb	10 48 28.2	-0.9
SCLA	Alcaldia de Sa	1.37	75	eP	Pn	10 48 11.1	-0.5
SCLA	Alcaldia de Sa	1.37	75	iP	Pn	10 48 11.3	-0.3
SCLA				iS	Sn	10 48 29.6	+0.8
SCLA				IAML		10 48 39.3	
	comp=Z,130nm,1.0s						
ESQI	Esquipulas	1.41	31	iP	Pn	10 48 11.7	-0.4
ESQI				iS	Sn	10 48 29.9	+0.1
ESQI				IAML		10 48 32.2	
	comp=Z,240nm,1.0s						
PQSS	Presa 15 de Se	1.51	79	eP	Pn	10 48 13.9	+0.5
PQSS	Presa 15 de Se	1.51	79	iP	Pn	10 48 13.1	-0.4
PQSS				iS	Sn	10 48 33.0	+0.8
PQSS				IAML		10 48 36.1	
	comp=Z,150nm,1.0s						
COEB	Comit de Eme	1.52	84	eP	Pn	10 48 13.2	-0.6
STG3	Santiaguito 3,	1.97	313	eP	Pn	10 48 20.2	+0.2
STG3				eS	Sn	10 48 43.7	-0.2
LCND	La Caada	2.14	91	eP	Pn	10 48 21.9	-0.2
CNCH	Conchagua	2.20	92	iP	Pn	10 48 23.5	+0.5
CNCH				iS	Sn	10 48 49.9	+0.6
CNCH				IAML		10 48 57.3	
	comp=Z,350nm,1.0s						
CSGN	Cosiguina Volc	2.49	98	iP	Pn	10 48 26.9	-0.2
CSGN				IAML		10 49 09.4	
	comp=Z,350nm,1.0s						
COPN	Copaltepe	3.61	108	iP	Pn	10 48 42.3	0.0
COPN				IAML		10 49 31.1	
	comp=Z,81nm,1.0s						
LIMN	Finca el Limon	3.64	94	iP	Pn	10 48 42.1	-0.7
LIMN				IAML		10 50 20.4	
	comp=Z,39nm,1.0s						

DNK 01 11:00:56.8±0.6**, 55°.71N**×**13°.30E, h0**km**, ML1.3**(UPP)**, 1C, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUNU	Lund	0.12	134	iP	Pg	11 00 58.5	-0.6
LUNU	Lund	0.12	134	⇑P	Pg	11 00 58.7	-0.3
LUNU				S	Sg	11 01 00.9	+0.3
BJUU	Bjuv	0.39	337	P	Pg	11 01 04.2	-0.1
DEL	Delary	0.82	23	iP	Pg	11 01 11.9	-0.7
DEL	Delary	0.82	23	P	Pg	11 01 11.8	-0.8
BSD	Bornholm Skovb	1.10	122	iP	Pg	11 01 16.0	-1.9
BSD				iS	Sb	11 01 33.0	-0.6
BSD				IAML		11 01 40.4	
	comp=Z,16nm,0.7s						
VXJU	Vaexsjoe	1.52	36	P	Pn	11 01 24.2	-0.9
VXJU				S	Sg	11 01 44.4	-1.1
BLEU	Blekinge	1.53	66	iP	Pn	11 01 24.0	-1.4
BLEU	Blekinge	1.53	66	P	Pn	11 01 24.0	-1.4

NEIC 01 11:01:27.4±0.5, 18°.97N±0°.06×155°.25W±0°.04, h44km±4km, Error ellipse: s-maj=9.4km s-min=3.0km az=152.0
HVO 01 11:01:27.8±1.9**, 18°.83N**±0°.03×**155°.20W**±0°.02**, h14**km±3km**, ML3.2**/28**, ML3.2**/52(NEIC)**, Error ellipse: s-maj=4.2km s-min=2.1km az=158.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HPO	Honuapo	0.42	307		Pg	11 01 36.0	-0.3
HTC	Hot Caves	0.45	335		Pg	11 01 36.5	-0.2
HLP	Hilina Pali	0.47	347		Pg	11 01 36.9	-0.3
HLP				IAML		11 01 44.1	
	comp=E,2μm,0.3s						
PUH	Pauahi	0.54	358		Pg	11 01 37.2	-1.3
PUH					Sg	11 01 44.1	-1.6
KNHH	Kane Nui o Ham	0.55	3		Pg	11 01 37.3	-1.3
STCH	Steam Cracks	0.55	7		Pg	11 01 37.4	-1.4
STCH					Sg	11 01 44.5	-1.6
STCH				IAML		11 01 45.1	
	comp=N,2μm,0.2s						
JCUZ	Jacuzzi	0.56	9		Pg	11 01 37.4	-1.4
JCUZ					Sg	11 01 37.5	-8.7
SDHHI	Sand Hill	0.56	350		Pg	11 01 37.5	-1.4
SDHHI				IAML		11 01 40.3	
	comp=N,2μm,0.5s						
NPOC	North of Pu‘u	0.56	8		Pg	11 01 37.5	-1.4
NPOC					Sg	11 01 44.9	-1.6
NPOC				IAML		11 01 44.9	
	comp=E,1μm,0.4s						
NPOC				IAML		11 01 45.4	
	comp=N,1μm,0.5s						
RIM	Rim	0.56	352		Pg	11 01 37.5	-1.4
RIM				IAML		11 01 41.6	
	comp=N,1μm,1.5s						
KKO	Keanakako`i	0.57	353		Pg	11 01 37.6	-1.4
KKO					Sg	11 01 44.9	-1.6
KKO				IAML		11 01 45.0	
	comp=E,2μm,0.5s						
KKO				IAML		11 01 46.9	
	comp=N,2μm,0.5s						
KHU	Kahuku	0.57	316		Pg	11 01 37.8	-1.3
KHU					Sg	11 01 45.6	-1.2
KHU				IAML		11 01 46.0	
	comp=E,2μm,0.4s						
BYL	Byron's Ledge	0.58	354		Pg	11 01 37.6	-1.6
BYL					Sg	11 01 45.1	-1.9
BYL				IAML		11 01 45.2	
	comp=E,1μm,0.7s						
BYL				IAML		11 01 47.2	
	comp=N,1μm,1.0s						
WRMHI	West Rim	0.58	350		Pg	11 01 37.7	-1.6
WRMHI				IAML		11 01 49.6	
	comp=E,2μm,0.6s						
WRMHI				IAML		11 01 50.5	
	comp=N,2μm,1.2s						
NPH	North Pit	0.58	352		Pg	11 01 37.7	-1.6
OBL	Observatory Le	0.59	352		Pg	11 01 37.7	-1.6
OBL				IAML		11 01 49.5	
	comp=N,2μm,0.4s						
HATHI	Halema‘uma‘u T	0.59	354		Pg	11 01 37.7	-1.7
HATHI					Sg	11 01 45.3	-2.0
HATHI				IAML		11 01 45.6	
	comp=E,1μm,0.2s						
HATHI				IAML		11 01 46.5	
	comp=N,1μm,0.2s						
UWE	Uwekahuna	0.59	351		Pg	11 01 37.9	-1.6
UWE				IAML		11 01 45.8	
	comp=N,1μm,0.9s						
UWE				IAML		11 01 48.7	
	comp=E,2μm,0.8s						
UWB	Uwekahuna B	0.59	352		Pg	11 01 37.8	-1.7
SBLHI	Steaming Bluff	0.60	353		Pg	11 01 37.8	-1.7
SBLHI					Sg	11 01 45.3	-2.2
SBLHI				IAML		11 01 45.7	
	comp=N,1μm,0.4s						
JOKA	Jonika Flow	0.62	17		Pg	11 01 38.2	-1.8
JOKA					Pn	11 01 46.1	+3.8
RSD	Rainshed	0.63	353		Pg	11 01 38.1	-2.1
MLH	Mauna Loa	0.68	345		Pg	11 01 39.3	-1.9
MLH				IAML		11 01 48.7	
	comp=E,1μm,0.1s						
MLH				IAML		11 01 48.9	
	comp=N,1μm,0.2s						
PHO	Puu Honuaula	0.71	24		Pg	11 01 39.3	-2.3
MWH	Moku‘aweowe	0.75	330		Pg	11 01 40.1	-2.4
MWH				Sg	Sg	11 01 49.6	-2.9
MWH				IAML		11 01 50.5	
	comp=N,952nm,0.2s						
MLOA	Mauna Loa Obse	0.79	333		Pg	11 01 40.5	-2.7
MLOA					Sg	11 01 50.0	-3.6
MLOA				IAML		11 01 50.8	
	comp=N,819nm,0.4s						
HMH	Humu‘ula Sheep	0.81	340		Pg	11 01 41.1	-2.5
HMH				IAML		11 01 51.5	
	comp=N,1μm,0.2s						
ALEP	Alea Permanent	0.82	329		Pg	11 01 40.7	-3.2
ALEP					Sg	11 01 50.4	-4.3
CPH	Captain Cook	0.94	314		Pb	11 01 42.0	-4.0
POHA	Pohakuloa	0.97	341	Pg	Pb	11 01 42.7	-3.9
POHA	Pohakuloa	0.97	341		Pn	11 01 53.7	+6.5
POHA	Pohakuloa	0.97	341	IAML		11 01 54.4	
	comp=N,1μm,0.2s						
POHA				IAML		11 01 55.3	
	comp=N,1μm,0.1s						
KHLU	Kahalu`u	1.00	319		Pb	11 01 43.0	-4.0
KHLU				IAML		11 01 54.5	
	comp=E,812nm,0.4s						
KHLU				IAML		11 01 54.5	
	comp=N,708nm,0.2s						
HUH	Hualalai	1.04	325		Pb	11 01 43.9	-3.8
KKH	Kailua Kona	1.13	317		Sb	11 01 57.5	-6.2
HPAH	Hawaii Prepara	1.28	338		Pn	11 01 46.5	-4.8
HPAH					Sb	11 02 00.3	-7.8
MHA	Mahukona	1.50	334	Pn	Pn	11 01 49.6	-4.7
MHA	Mahukona	1.50	334		Sn	11 02 05.9	-7.8
HLK	Haleakala	2.16	333	Pn	Pn	11 01 58.4	-5.1
KHLH	Kahului Airpor	2.36	331	Pn	Pn	11 02 01.8	-4.3

IDC 01 11:06:19.5±54.0**, 23°.59S**×**179°.71E, h0**km**, mb4.1**/3**, mbtmp4.1**/3**, Error ellipse: s-maj=968.0km s-min=147.1km az=86.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.59	248	P	P	11 13 09.2	-1.1
	1.4nm,0.5s,baz=96,slow=9.4,SNR=5.5						
	1.4nm,0.5s						
ASAR	Alice Springs	41.82	260	P	P	11 14 10.9	-0.4
	1.1nm,0.4s,baz=94,slow=7.4,SNR=23						
	1.1nm,0.4s						
WRA	Warramunga Arr	42.16	266	P	P	11 14 15.0	+0.9
	1.2nm,0.3s,baz=101,slow=8.6,SNR=27						
	1.2nm,0.3s						

IDC 01 11:06:49.1±1.1, 62°.35N×24°.55E, h0km, mbtmp2.9/2, ML1.9/2, Error ellipse: s-maj=15.2km s-min=7.7km az=59.0
HEL 01 11:06:50.1±0.2, 62°.36N×24°.64E, h0km, ML1.5, Explosion
ISC 01 11:06:47.5±0.7**, 62°.37N**±0°.02×**24°.56E**±0°.04**, h0**km**, n25,** $\sigma 1^s41$/34**, Finland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEF	Keuruu	0.25	144	PG	Pg	11 06 52.8	+0.6
KEF				SG	Sg	11 06 56.9	+1.5
KAF	Kangasniemi	0.86	107	PB	Pb	11 07 04.9	-0.3
KAF				MSG		11 07 15.5	
	comp=Z,7.4nm,0.2s						
KAF				SB	Sb	11 07 17.2	0.0
VAF	Ylistaro	1.10	309	MSG		11 07 24.8	
	comp=Z,2.0nm,0.2s						
FIA0	FINESS Array S	1.17	141	PG	Pb	11 07 10.1	-0.5
	baz=326						
FIA0				MSG		11 07 24.8	
	comp=Z,3.5nm,0.2s						
FIA0				SN	Sn	11 07 30.1	+2.4
FINES	FINESS Array B	1.17	141	Pg	Pn	11 07 10.5	-0.6
	comp=Z,0.9nm,0.3s,baz=323,slow=15,SNR=39						
FINES				Lg	Lg	11 07 26.1	
	comp=Z,1.3nm,0.3s,baz=321,slow=29,SNR=6.4						
FINES				Rg	Rg	11 07 30.9	
	comp=Z,23nm,0.7s,baz=321,slow=25,SNR=16						
NUR	Nurmijrvi	1.86	179	MSG		11 07 45.3	
	comp=Z,2.9nm,0.2s						
NUR				SG	Sb	11 07 46.0	-0.2
PVF	Pernaja	1.93	160	PB	Pb	11 07 23.3	-0.2
PVF				MSG		11 07 46.9	
	comp=Z,3.5nm,0.2s						
PVF				SG	Sg	11 07 48.2	-1.2
OUF	Merijarvi	2.01	2	PG	Pg	11 07 26.0	+0.1
	baz=178						
OUF				MSG		11 07 50.0	
	comp=Z,2.9nm,0.2s						
OUF				SG	Sg	11 07 51.5	-0.4
OBF0	Syolatti, Pyha	2.14	356	PG	Pg	11 07 29.0	+0.6
OBF0				MSG		11 07 54.1	
	comp=Z,5.0nm,0.2s						
OBF0				SG	Sg	11 07 56.6	+0.4
MEF	Metsahovi	2.16	182	PN	Pb	11 07 27.0	-0.4
MEF				MSG		11 07 53.9	
	comp=Z,5.3nm,0.2s						
MEF				SN	Sb	11 07 54.1	-0.5
HEL1	Helsinki	2.20	176	SB	Sg	11 07 56.7	-1.4
UMAU	Umeaa	2.33	313	SN	Sb	11 08 00.1	+0.6
VJF	Virojoki	2.33	141	PG	Pb	11 07 29.4	-0.9
VJF				MSG		11 07 58.0	
	comp=Z,3.5nm,0.2s						
VJF				SG	Sg	11 08 00.8	-1.5
OBF4	Vikkela, Lumij	2.47	5	MSG		11 08 03.2	
	comp=Z,1.6nm,0.2s						
OBF4				SG	Sg	11 08 05.7	-1.0
HUSU	Husum	2.63	294	SN	Sb	11 08 08.4	+0.1
BURU	Burvik	2.64	329	SN	Sb	11 08 06.8	-1.8
OUL	Oulu	2.79	12	SG	Sb	11 08 14.5	+1.6
HEMU	Hemsoen	3.04	279	SN	Sb	11 08 19.4	-0.5
RMF	Romuvaara	3.06	50	PG	Pb	11 07 42.0	-0.6
RMF				MSG		11 08 19.2	
	comp=Z,1.5nm,0.2s						
RMF				SG	Sb	11 08 20.6	+0.1
JOF	Joensuu	3.17	77	PG	Pb	11 07 43.0	-1.5
RNF	Rovaniemi	4.31	8	SG	Sg	11 09 02.8	-2.8
ERTU	Ertsjaerv	4.33	347	SN	Sn	11 08 47.1	+1.6
PAJU	Pajala	4.72	353	SN	Sn	11 08 58.1	+3.0
NOA	NORSAR Array B	6.48	264	Pn	Pn	11 08 23.9	-0.1
	baz=72,slow=15,SNR=1.6						
	comp=Z,0.4nm,0.7s						
ARCES	ARCESS Array B	7.21	3	Pn	Pn	11 08 35.8	+1.9
	baz=184,slow=12,SNR=1.2						
ARCES				Sn	Sn	11 09 53.0	-3.4
	comp=Z,0.1nm,0.3s,baz=181,slow=22,SNR=1.3						
ARCES				Lg	Lg	11 10 29.6	
	comp=Z,0.1nm,0.3s,baz=186,slow=24,SNR=2.9						
	comp=Z,1.4nm,0.9s						

DJA 01 11:07:00.0±0.4**, 9°S**±6°×**11°8E**±°**, h120**km±4km**, M4.1**/10**, mb4.5**/2**, MLv3.9**/10**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.61	250	P	Pn	11 07 19.6	+0.9
PLAI				S	Sn	11 07 34.3	+1.5
TWSI	Taliwang, Sumb	1.47	265	P	Pn	11 07 27.4	+0.4
TWSI				S	Sn	11 07 49.2	+1.6
BASI	Baing, Sumba	2.70	126	P	Pn	11 07 43.6	+1.2
SRBI	Singaraja	3.16	279	P	Pn	11 07 48.8	+0.4
IGBI	Denpasar	3.18	266	P	Pn	11 07 49.3	+0.6
IGBI				S	Sn	11 08 28.2	+1.9
EDFI	Ende, Flores	3.29	92	P	Pn	11 07 50.4	+0.1
BKSI	Bulukumba	3.71	28	P	Pn	11 07 56.1	+0.3
MMRI	Maumere	3.83	91	P	Pn	11 07 58.3	+0.9
JAGI	Jajag, Banyuwa	4.16	272	P	Pn	11 08 00.6	-1.2
JAGI				S	Sn	11 08 48.8	-0.9
BATI	Baumata	5.46	107	P	Pn	11 08 17.8	-1.5
	45nm,0.6s,0.2nm						
SOEI	Soe	5.94	101	P	Pn	11 08 25.3	-0.5

JMA 01 11:07:19.3±0.1, 30°N±1°×13°9E±°, h455km, MV3.7/14, NEAR TORISHIMA IS
IDC 01 11:07:21.7±1.3, 29°.87N×138°.90E, h424km±14km, mb3.3/14, mbtmp4.1/20, Error ellipse: s-maj=30.0km s-min=12.4km az=76.0
ISC 01 11:07:20.1±0.7**, 29°.84N**±0°.07×**139°.2E**±0°.1**, h421**km**, n31,** $\sigma 1^s68$/39**, mb3.7**/13**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	3.30	9	eP	P	11 08 29.1	+1.9
JHJ	Hachijo jima 2	3.30	8	P	P	11 08 29.3	+2.1
	75nm,0.3s,baz=91,slow=21,SNR=13						
JHJ				S	S	11 09 19.1	-2.7
	61nm,0.3s,baz=87,slow=21,SNR=2.2						
CBIJ	Chichi jima	3.79	136	P	P	11 08 33.1	+1.5
CBIJ				eS	S	11 09 30.5	+0.8
JCJ	Chichijima	3.79	136	P	P	11 08 29.1	-2.5
	51nm,0.6s,baz=7.7,slow=19,SNR=55						
JCJ				S	S	11 09 26.4	-3.2
	142nm,0.3s,baz=270,slow=23,SNR=23						
JIE	Ise	5.01	336	P	P	11 08 45.2	+2.3
JTNC	Tanabenakahech	5.01	323	P	P	11 08 44.6	+1.6
BSO1	Boso 1	5.03	17	eP	P	11 08 43.4	+0.8
BSO1				eS	S	11 09 49.6	-0.4
JOD2	Odawara 2	5.41	359	P	P	11 08 47.9	+0.9
JOD2				eS	S	11 09 56.2	-1.9
JRY	Ryogami san	6.16	358	P	P	11 08 55.5	+0.6
JRY				eS	S	11 10 09.0	-3.7
JTO	Tosashimizu	6.25	300	eP	P	11 08 57.7	+1.8
MJAR	Matsushiro Arr	6.73	353	P	P	11 09 00.5	-1.0
	2.5nm,0.4s,baz=162,slow=9.9,SNR=13						
MJAR				S	S	11 10 20.9	-3.0
	5.9nm,0.8s,baz=169,slow=18,SNR=6.7						
JHS	Saijyo	7.28	317	P	P	11 09 08.4	+1.0
JNU	Nakatsue	7.83	297	P	P	11 09 13.0	-0.5
	12nm,0.9s,baz=63,slow=9.5,SNR=4.2						
KSRS	Korea Array	12.08	312	P	P	11 10 00.4	+0.4
	10nm,0.8s,baz=126,slow=11,SNR=25						
ASAJ	Asahikawa	14.50	10	P	P	11 10 28.3	+1.9
	8.3nm,1.1s,baz=340,slow=28,SNR=1.2						
USRK	Ussuriysk Ar.	15.44	340	P	P	11 10 36.8	+0.4
	9.1nm,0.8s,baz=138,slow=26,SNR=10						
KLR	Kul'dur	20.18	346	P	P	11 11 26.8	+2.2
	2.3nm,0.6s,baz=145,slow=11,SNR=6.9						
	2.3nm,0.6s						
SONM	Songino Array	30.93	315	P	P	11 12 59.8	-0.6
	0.9nm,0.6s,baz=102,slow=7.4,SNR=4.8						
	0.9nm,0.6s						
ZALV	Zalesovo Beam	45.70	318	P	P	11 15 00.9	-0.4
	0.7nm,0.4s,baz=96,slow=14,SNR=5.4						
	0.7nm,0.4s						
MKAR	Makanchi Array	46.72	308	P	P	11 15 09.0	-0.2
	0.8nm,0.7s,baz=83,slow=10,SNR=7.6						
	0.8nm,0.7s						
KURBB	Kurchatov Arra	49.26	313	P	P	11 15 26.7	-1.5
	1.8nm,0.7s,baz=90,slow=7.4,SNR=9.5						
	1.8nm,0.7s						
WRA	Warramunga Arr	49.72	186	P	P	11 15 32.9	+0.8
	1.3nm,0.8s,baz=2.9,slow=8.0,SNR=9.8						
WRA				PP	PP	11 17 29.3	-2.6
	0.9nm,1.0s,baz=14,slow=8.3,SNR=3.6						
	1.3nm,0.8s						
ASAR	Alice Springs	53.45	186	P	P	11 16 00.9	+1.8
	0.6nm,0.6s,baz=15,slow=8.9,SNR=7.1						
	0.6nm,0.6s						
BVAR	Borovoye Array	54.25	316	P	P	11 16 04.5	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2.9nm,0.4s,baz=97,slow=7.4,SNR=14						
	2.9nm,0.4s						
SPITS	**Spitsbergen Ar**	**67.21**	**349**	PP	**PP**	**11 20 05.2**	**+0.7**
	27nm,1.2s,baz=147,slow=11,SNR=3.7						
ARCES	**ARCESS Array B**	**70.08**	**340**	P	**P**	**11 17 48.8**	**+0.9**
	4.0nm,0.9s,baz=60,slow=7.2,SNR=6.8						
	4.0nm,0.9s						
KBZ	**Khabaz**	**74.23**	**312**	P	**P**	**11 18 13.3**	**+0.8**
	2.3nm,0.9s,baz=213,slow=18,SNR=2.9						
	2.3nm,0.9s						
FINES	**FINESS Array B**	**74.32**	**333**	P	**P**	**11 18 12.8**	**0.0**
	3.9nm,1.0s,baz=82,slow=4.0,SNR=5.1						
	3.9nm,1.0s						
HFS	**Hagfors**	**79.86**	**336**	P	**P**	**11 18 43.4**	**+0.2**
	4.7nm,0.9s,baz=81,slow=4.7,SNR=4.1						
	4.7nm,0.9s						
NOA	**NORSAR Array B**	**80.08**	**337**	P	**P**	**11 18 45.1**	**+0.7**
	1.3nm,0.8s,baz=45,slow=5.7,SNR=3.7						
	1.3nm,0.8s						
BRTR	**Keskin Array B**	**82.22**	**311**	P	**P**	**11 18 56.6**	**+0.5**
	1.0nm,0.6s,baz=108,slow=8.0,SNR=4.8						
	1.0nm,0.6s						

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*IDC **01** 11:13:15.5±2.7, 47°.29N×153°.52E, h70km±25km, mb3.4/13, mbtmp3.7/16, MS3.2/11, Error ellipse: s-maj=22.8km s-min=14.1km az=136.0*

ISC 01 11:13:11.7±0.7**, 47°.1N**±0°.1×**153°.51E**±0°.09**, h35km, n33, σ2s07**/19**, mb3.6**/13**, MS3.3**/7**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.63**	**22**	P	**Pn**	**11 14 45.2**	**-1.3**
	3.5nm,0.6s,baz=178,slow=12,SNR=14						
PETK				S	**Sn**	**11 16 06.7**	**+5.9**
	9.4nm,1.0s,baz=218,slow=23,SNR=2.0						
ASAJ	**Asahikawa**	**8.20**	**253**	P	Pn	11 15 14.3	+6.2
	16nm,1.1s,baz=75,slow=14,SNR=13						
ASAJ				LR	LR	11 18 17.7	
	comp=Z,77nm,19.2s,baz=338,slow=36						
MA2	**Magadan**	**12.64**	**354**	LR	LR	11 20 32.4	
	comp=Z,47nm,19.3s,baz=126,slow=35						
SHEM	**Shemya Is, Ala**	**14.41**	**59**	P	**Pn**	**11 16 33.8**	**+0.8**
	47nm,0.6s,baz=283,slow=16,SNR=1.4						
KLR	**Kul'dur**	**14.68**	**286**	P	**P**	**11 16 42.9**	**+0.4**
	0.4nm,0.5s,baz=331,slow=20,SNR=1.3						
KLR				LR	LR	11 22 45.1	
	comp=Z,68nm,18.2s,baz=80,slow=39						
USRK	**Ussuriysk Ar.**	**15.32**	**267**	P	**Pn**	**11 16 46.6**	**+1.4**
	1.2nm,0.6s,baz=60,slow=12,SNR=1.7						
USRK				LR	LR	11 22 56.6	
	comp=Z,75nm,19.9s,baz=3.8,slow=38						
KSRS	**Korea Array**	**21.15**	**252**	P	**P**	**11 17 57.0**	**+3.5**
	1.1nm,0.5s,baz=51,slow=11,SNR=2.7						
KSRS				LR	LR	11 25 33.6	
	comp=Z,23nm,18.3s,baz=55,slow=35						
	1.1nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.37**	**154**	T	T	11 51 04.5	
	baz=342,slow=74						
H11N1	**WAKE ISLAND Hy**	**29.39**	**154**	T	T	11 49 57.5	
	baz=342,slow=74						
H11N3	**WAKE ISLAND Hy**	**29.39**	**154**	T	T	11 50 21.7	
	baz=342						
H11S1	**WAKE ISLAND Hy**	**30.47**	**155**	T	T	11 51 21.6	
	baz=343,slow=76,SNR=165						
H11S3	**WAKE ISLAND Hy**	**30.48**	**155**	T	T	11 51 22.5	
	baz=343,slow=76,SNR=268						
H11S2	**WAKE ISLAND Hy**	**30.49**	**155**	T	T	11 51 23.0	
	baz=343,slow=76,SNR=202						
SONM	**Songino Array**	**31.49**	**289**	P	**P**	**11 19 29.2**	**-0.9**
	0.2nm,0.4s,baz=72,slow=4.7,SNR=2.9						
SONM				LR	LR	11 34 02.1	
	comp=Z,42nm,18.3s,baz=48,slow=40						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**36.14**	**39**	P	**P**	**11 20 08.9**	**-1.2**
	0.8nm,1.0s,baz=248,slow=7.4,SNR=8.7						
	0.8nm,1.0s						
ZALV	**Zalesovo Beam**	**42.65**	**306**	LR	LR	11 40 10.3	
	comp=Z,30nm,18.1s,baz=56,slow=38						
MKAR	**Makanchi Array**	**47.04**	**297**	P	**P**	**11 21 38.2**	**-1.3**
	0.2nm,0.6s,baz=77,slow=6.4,SNR=2.1						
MKAR				LR	LR	11 42 10.1	
	comp=Z,37nm,18.0s,baz=53,slow=37						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**50.51**	**37**	P	**P**	**11 22 05.7**	**-0.3**
	0.6nm,0.6s,baz=296,slow=7.4,SNR=11						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**50.87**	**309**	LR	LR	11 44 31.5	
	comp=Z,27nm,19.3s,baz=46,slow=37						
AAK	**Ala-Archa**	**53.94**	**296**	LR	LR	11 46 32.8	
	comp=Z,37nm,19.4s,baz=46,slow=37						
KIRV	**Kirov**	**57.69**	**323**	LR	LR	11 48 55.7	
	comp=Z,38nm,19.0s,baz=17,slow=37						
FINES	**FINESS Array B**	**63.87**	**335**	P	**P**	**11 23 40.2**	**-0.1**
	1.4nm,0.6s,baz=27,slow=8.8,SNR=3.9						
	1.4nm,0.6s						
ULM	**Lac du Bonnet**	**66.11**	**41**	P	**P**	**11 23 54.1**	**-0.9**
	0.7nm,0.5s,baz=308,slow=21,SNR=1.6						
	0.7nm,0.5s						
HFS	**Hagfors**	**68.26**	**340**	P	**P**	**11 24 06.3**	**-2.1**
	1.1nm,0.4s,baz=65,slow=15,SNR=5.1						
	1.1nm,0.4s						
WRA	**Warramunga Arr**	**68.89**	**199**	P	**P**	**11 24 13.3**	**+0.4**
	0.3nm,0.7s,baz=13,slow=6.7,SNR=2.3						
	0.3nm,0.7s						
AKASG	**Malin Array Be**	**71.44**	**326**	P	**P**	**11 24 26.1**	**-2.1**
	0.2nm,0.3s,baz=35,slow=6.3,SNR=1.4						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**72.59**	**199**	P	**P**	**11 24 36.8**	**+1.5**
	0.5nm,0.6s,baz=9.0,slow=4.7,SNR=10						
	0.5nm,0.6s						
TXAR	**Lajitas Array**	**77.10**	**61**	P	**P**	**11 25 01.3**	**-0.3**
	0.5nm,0.9s,baz=299,slow=2.6,SNR=4.4						
	0.5nm,0.9s						
STKA	**Stephens Creek**	**79.30**	**190**	P	**P**	**11 25 14.3**	**+1.0**
	1.7nm,0.7s,baz=305,slow=6.0,SNR=3.3						
	1.7nm,0.7s						
H03N2	**Juan Fernandez**	**138.48**	**90**	T	T	14 06 17.1	
	baz=306,slow=77,SNR=8.3						
H03N1	**Juan Fernandez**	**138.50**	**90**	T	T	14 06 19.6	
	baz=306,slow=77,SNR=9.7						
H03N3	**Juan Fernandez**	**138.50**	**90**	T	T	14 06 18.6	
	baz=306,slow=77,SNR=9.0						
PLCA	**Paso Flores**	**147.96**	**95**	PKPbc	**PKPdf**	**11 32 49.4**	**-0.4**
	1.1nm,0.7s,baz=11,slow=9.6,SNR=3.2						

TEH 01 11:16:46.5, 30°.77N×57°.35E, h6km±213km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.72**	**286**	Pg	Pb	11 17 01.7	0.0
KHGB	**Koh Gabri**	**0.85**	**243**	Pg	Pb	11 17 04.2	+0.4
CHMN	**Cheshme madani**	**0.92**	**169**	Pg	Pb	11 17 04.8	-0.3
TVBK	**TV Kerman**	**0.93**	**213**	Pg	Pn	11 17 06.2	-0.2
NGRK	**Negar Kerman**	**1.24**	**206**	Pg	Pn	11 17 11.9	+1.2
IBAF	**Bafgh**	**1.73**	**299**	Pg	Pg	11 17 20.2	+0.5
KBAM	**BAM**	**1.89**	**149**	Pn	Pb	11 17 21.2	-0.3
BSRN	**Basiran**	**1.93**	**51**	Pn	Pg	11 17 23.2	-0.4
IKOO	**Kooshah**	**2.17**	**40**	Pn	Pb	11 17 26.6	+0.2
TPRV	**Parvadeh(Tabas**	**2.32**	**346**	Pn	Pb	11 17 27.8	-1.0
NHDN	**Nehbandan**	**2.40**	**74**	Pn	Pb	11 17 30.1	-0.1
IMEH	**Mehriz**	**2.42**	**285**	Pn	Pb	11 17 30.3	-0.4
ITEG	**Tejag**	**2.43**	**29**	Pn	Pb	11 17 29.6	-1.2
BAGH	**Bagheran - Bir**	**2.56**	**38**	Pn	Pb	11 17 31.1	-1.8
TKDS	**Koohdasht(Taba**	**2.84**	**356**	Pn	Pb	11 17 35.1	-2.6
AFRZ	**Afriz**	**3.00**	**28**	Pn	Pn	11 17 37.5	+2.8
TNSJ	**Nastanj**	**3.25**	**349**	Pn	Pn	11 17 40.6	+2.5
ZHDN	**Zahedan**	**3.30**	**114**	Pn	Pb	11 17 42.3	-3.3
ISAD	**Sadrabad**	**3.33**	**291**	Pn	Pb	11 17 43.4	-2.8
ANAR	**Anarak**	**3.91**	**309**	Pn	Pn	11 17 49.7	+2.5
SRVN	**Saravan**	**5.55**	**126**	Pn	Pn	11 18 13.8	+4.0

IDC 01 11:52:35.6±2.1**, 0°.89N×125°.39E, h0km, mb3.2**/3**, mbtmp3.2**/3**, Error ellipse: s-maj=197.1km s-min=28.6km az=64.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.49**	**158**	P	P	11 57 36.4	-0.4
	0.2nm,0.3s,baz=336,slow=11,SNR=9.4						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**25.77**	**162**	P	P	11 58 08.7	+0.3
	0.8nm,1.1s,baz=344,slow=9.6,SNR=2.6						
	0.8nm,1.1s						
MKAR	**Makanchi Array**	**59.15**	**327**	P	P	12 02 38.2	0.0
	0.1nm,0.4s,baz=119,slow=7.0,SNR=1.8						
	0.1nm,0.4s						

IDC 01 11:57:51.0±19.0**, 6°.86S×130°.11E, h288km**±241km**, mb3.2**/1**, mbtmp3.6**/3**, Error ellipse: s-maj=116.9km s-min=97.2km az=87.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.64**	**163**	P	Pn	12 00 52.6	-1.0
	0.3nm,0.3s,baz=342,slow=12,SNR=24						
WRA				S	S	12 03 14.5	-10
	0.6nm,0.5s,baz=330,slow=22,SNR=9.2						
ASAR	**Alice Springs**	**17.10**	**168**	P	P	12 01 32.0	+0.3
	0.9nm,0.5s,baz=346,slow=10,SNR=25						
ASAR				S	S	12 04 20.7	-14
	0.2nm,0.9s,baz=353,slow=26,SNR=1.5						
MKAR	**Makanchi Array**	**68.17**	**327**	P	P	12 08 20.4	0.0
	0.5nm,0.5s,baz=115,slow=7.2,SNR=7.3						
	0.5nm,0.5s						

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*NAO **01** 12:05:24.6±1.4, 76°.90N×15°.61E, h1km±5km, ML3.5*
*BER **01** 12:05:26.5±3.4, 76°.93N×15°.74E, h1km±13km, ML3.1, ML3.5(NAO), Confirmed Earthquake*
*IEPN **01** 12:05:28.0, 76°.95N×15°.65E, h10km*

ISC 01 12:05:25.2±1.0**, 76°.96N**±0°.05×**15°.79E**±0°.05**, h7km**±7km**, n21, σ1s28**/43**, Svalbard region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.07**	**307**	*e*P	**Pg**	**12 05 26.9**	**-0.2**
HSPB				*e*S	**Sg**	**12 05 27.8**	**-0.6**
HSPB				IAML		12 05 27.9	
	comp=Z,12μm,0.1s						
HSPB	**Hornsund (broa**	**0.07**	**307**	Pg	**Pg**	**12 05 26.9**	**-0.2**
HSPB				Lg	Lg	12 05 27.9	
BRBA	**Barentsburg A**	**1.16**	**344**	Pn	**Pg**	**12 05 47.7**	**+0.3**
BRBA				Pg	**Pn**	**12 05 48.8**	**+1.1**
BRBA				Sg	**Sb**	**12 06 03.0**	**+0.4**
BRBA	**Barentsburg A**	**1.16**	**344**	Pn	**Pg**	**12 05 47.7**	**+0.3**
BRBA				Pg	**Pn**	**12 05 48.8**	**+1.1**
BRBA				Lg	Lg	12 06 03.0	
BRBB	**Barentsburg B**	**1.19**	**344**	Pn	**Pb**	**12 05 48.6**	**+0.6**
BRBB				Pg	**Pn**	**12 05 49.5**	**+1.4**
BRBB				Sg	**Sb**	**12 06 03.9**	**+0.4**
BRBB	**Barentsburg B**	**1.19**	**344**	Pn	**Pb**	**12 05 48.6**	**+0.6**
BRBB				Pg	**Pn**	**12 05 49.5**	**+1.4**
BRBB				Lg	Lg	12 06 03.9	
SPA0	**Spitsbergen Ar**	**1.23**	**6**	*e*P	**Pg**	**12 05 48.6**	**-0.2**
SPA0				*e*S	**Sb**	**12 06 05.0**	**+0.3**
SPA0	**Spitsbergen Ar**	**1.23**	**6**	Pn	**Pg**	**12 05 49.1**	**+0.4**
	baz=177,slow=22						
SPA0				Pg	**Pn**	**12 05 50.0**	**+1.3**
	baz=173,slow=16						
SPA0				Sg	**Sn**	**12 06 05.7**	**+0.1**
	baz=167,slow=37						
SPA0				IAML		12 06 11.3	
	comp=Z,431nm,0.5s						
SPA0	**Spitsbergen Ar**	**1.23**	**6**	Pn	**Pg**	**12 05 49.1**	**+0.4**
	baz=177,slow=22						
SPA0				Pg	**Pn**	**12 05 50.0**	**+1.3**
	baz=173,slow=16						
SPA0				Lg	Lg	12 06 05.7	
	baz=167,slow=37						
KBS	**Kingsbay**	**2.14**	**340**	*e*P	**Pn**	**12 06 00.8**	**-0.2**
KBS				S	**Sn**	**12 06 26.5**	**-1.2**
KBS	**Kingsbay**	**2.14**	**340**	*e*P	**Pn**	**12 06 00.9**	**-0.2**
KBS				*e*Pg	**Pb**	**12 06 04.6**	**+0.5**
KBS				*e*S	**Sn**	**12 06 27.3**	**-0.5**
KBS				*e*Sg	**Sg**	**12 06 33.9**	**+0.2**
KBS				IAML		12 06 37.9	
	comp=Z,255nm,0.6s						
KBS	**Kingsbay**	**2.14**	**340**	Pn	**Pn**	**12 06 00.7**	**-0.4**
KBS				Pg	**Pb**	**12 06 04.8**	**+0.7**
KBS				Lg	Lg	12 06 33.4	
HOPEN	**Hopen**	**2.17**	**97**	P	**Pn**	**12 06 03.0**	**+1.4**
HOPEN				*e*S	**Sn**	**12 06 29.0**	**+0.3**
HOPEN	**Hopen**	**2.17**	**97**	Pn	**Pn**	**12 06 02.0**	**+0.4**
HOPEN				Sn	**Sn**	**12 06 29.0**	**+0.3**
HOPEN				Sg	**Sg**	**12 06 35.4**	**+0.4**
HOPEN	**Hopen**	**2.17**	**97**	Pn	**Pn**	**12 06 02.0**	**+0.4**
HOPEN				Sn	**Sn**	**12 06 29.0**	**+0.3**
HOPEN				Lg	Lg	12 06 35.4	
ZFI2	**Zemlya Franca-**	**7.16**	**43**	*e*P	**Pn**	**12 07 11.3**	**+1.4**
ZFI2				*e*S	**Sn**	**12 08 26.7**	**-4.6**
	comp=Z,23nm,3.6s						
OMEGA	**Omega**	**7.16**	**43**	*e*P	**Pn**	**12 07 11.3**	**+1.3**
OMEGA				*e*S	**Sn**	**12 08 27.1**	**-4.3**
	comp=Z,14nm,1.7s						
KIF	**Kilpisjarvi**	**8.13**	**167**	Pn	**Pn**	**12 07 22.1**	**-1.2**
KIF	**Kilpisjarvi**	**8.13**	**167**	Pn	**Pn**	**12 07 22.1**	**-1.2**
DBG	**Daneborg**	**9.21**	**271**	Pn	**Pn**	**12 07 38.5**	**+0.4**
DBG	**Daneborg**	**9.21**	**271**	Pn	**Pn**	**12 07 38.5**	**+0.4**

UPA 01 12:06:04.6±2.2**, 7°.53N×82°.43W, h23km**±20km**, MW4.4, 2D, South of Panama**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PEDE3	**Pedregal, Chir**	**0.85**	**1**	*e*P	Pb	12 06 19.3	-1.4
DVD	**David**	**0.90**	**359**	*e*P	Pb	12 06 20.4	-1.2
DVD				*i* S	Sb	12 06 32.5	-0.8
NANC3	**Nancito, Chiri**	**0.99**	**44**	*i* P	Pn	12 06 20.9	-2.3
NANC3				*i* S	Sb	12 06 35.2	-0.5
PSOM3	**Paja de Sombre**	**1.16**	**5**	*e*P	Pn	12 06 24.2	-1.2
PSOM3				*i* S	Sn	12 06 39.0	-1.5
PTAR3	**Potrerillos Ar**	**1.16**	**357**	*e*P	Pn	12 06 25.4	-0.1
BCO2	**Palmira**	**1.19**	**355**	⇓*i*P	Pn	12 06 24.6	-1.4
BCO2				*e*S	Sn	12 06 40.7	-0.8
LNBQ3	**Los Naranjos,**	**1.26**	**360**	*i* P	Pn	12 06 26.6	-0.2
LNBQ3				*i* S	Sb	12 06 45.7	+2.2
BRU2	**Volcan**	**1.28**	**348**	*e*P	Pn	12 06 26.0	-1.3
BC3P	**Paso Ancho**	**1.29**	**352**	*i* P	Pn	12 06 27.4	0.0
BC3P				*i* S	Sb	12 06 47.0	+2.3
RSUS3	**Rio de Jesus,**	**1.34**	**70**	*e*P	Pn	12 06 26.2	-1.7
RSUS3				*i* S	Sn	12 06 42.1	-2.8
CHGR2	**Aguacate**	**1.43**	**11**	*e*P	Pn	12 06 28.5	-0.7
CHGR2				*e*S	Sn	12 06 46.6	-0.7
MARI3	**Mariato, Verag**	**1.43**	**85**	*e*P	Pn	12 06 29.0	-0.1
MARI3				*i* S	Sb	12 06 48.2	-0.3
CACAO	**El Cacao, Vera**	**1.57**	**97**	⇓*i*P	Pn	12 06 29.3	-1.7
CACAO				*i* S	Sn	12 06 48.1	-2.5
CALO3	**Calobre, Verag**	**1.76**	**63**	*e*P	Pn	12 06 33.6	-0.1
CALO3				*e*S	Sb	12 06 57.3	-0.7
PESE3	**Pese, Herrera**	**1.84**	**78**	*e*P	Pn	12 06 34.7	-0.1
CHIT3	**Chitre**	**2.04**	**78**	*e*P	Pn	12 06 36.9	-0.6
AZU	**Azuero**	**2.15**	**83**	*e*P	Pn	12 06 39.2	+0.1
AZU				*i* S	Sn	12 07 04.2	-0.9
PNME	**Penonome**	**2.29**	**65**	*e*P	Pb	12 06 46.1	+0.8
BCIP	**Isla Barro Col**	**3.04**	**57**	*e*P	Pn	12 06 52.8	+1.6
UPA	**Univ. de Panam**	**3.21**	**63**	*e*P	Pn	12 06 53.0	-0.6
CHPO	**Chepo, Panama**	**3.66**	**63**	*e*P	Pn	12 07 02.5	+2.7
JTS	**Las Juntas de**	**3.71**	**318**	*e*P	Pn	12 07 00.4	-0.1

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*TEH **01** 12:12:20.2, 34°.78N×45°.85E, h8km±20km, ML3.2*
*ISN **01** 12:12:20.9±1.4, 34°.80N×45°.86E, h14km±162km, ML3.3*

ISC 01 12:12:21.1±1.6**, 34°.76N**±0°.03×**45°.83E**±0°.03**, h1km**±14km**, n19, σ0s91**/26**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.32**	**219**	Pg	**Pg**	**12 12 28.0**	**+0.7**
KGS1				Sg	**Sb**	**12 12 34.0**	**-1.4**
IDHR	**Dehrash**	**0.46**	**97**	Pg	**Pg**	**12 12 29.9**	**0.0**
IDHR				Sg	**Sb**	**12 12 37.8**	**-1.8**
IGHG	**Ghaleghazi**	**0.74**	**125**	Pg	**Pg**	**12 12 35.5**	**+0.1**
IGHG				Sg	**Sb**	**12 12 47.7**	**0.0**
ILIN	**Lien**	**0.94**	**80**	Pg	**Pg**	**12 12 39.3**	**+0.2**
ILIN				Sg	**Sb**	**12 12 52.6**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.11**	**115**	Pg	**Pg**	**12 12 42.1**	**-0.2**
ILBA	**Ilam Banvizeh**	**1.17**	**165**	Pg	**Pg**	**12 12 43.4**	**-0.1**
IKRK	**Kirkuk**	**1.38**	**298**	*e*Pg	**Pn**	**12 12 47.0**	**-0.5**
IKRK				*e*Sg	**Sn**	**12 13 07.0**	**+0.5**
IKRK				AML	AML	12 13 09.9	
	comp=N,2μm,0.4s						
IKRK				AML	AML	12 13 10.2	
	comp=E,2μm,0.4s						
SDS1	**Sardasht. Az.**	**1.42**	**349**	Pg	**Pb**	**12 12 48.3**	**-0.2**
IKOM	**Komasi**	**1.50**	**112**	Pg	**Pb**	**12 12 49.8**	**-0.1**
IBZA	**Bozab**	**1.70**	**99**	Pg	**Pb**	**12 12 52.6**	**-0.7**
BHD	**Baghdad**	**1.91**	**219**	*e*Pn	**Pn**	**12 12 55.0**	**+0.2**
BHD				*e*Sn	**Sb**	**12 13 21.0**	**-0.1**
BHD				AML	AML	12 13 26.2	
	comp=E,26nm,0.8s						
MAHB	**Mahabad**	**2.01**	**357**	Pn	**Pn**	**12 12 56.7**	**+0.5**
IKFM	**Kafar-mosalman**	**2.08**	**126**	Pn	**Pb**	**12 12 58.7**	**-0.8**
HAGD	**Aghdareh**	**2.72**	**88**	Pn	**Pn**	**12 13 08.0**	**+1.8**
IAZR	**Azarshahr**	**2.92**	**2**	Pn	**Pn**	**12 13 10.1**	**+1.2**
RAFI	**Al-Rafai**	**3.04**	**175**	*e*Pn	**Pn**	**12 13 12.0**	**+1.7**
RAFI				*e*Sn	**Sn**	**12 13 47.0**	**-0.3**
ISHB	**Shabestar**	**3.52**	**357**	Pn	**Pn**	**12 13 17.1**	**-0.1**
AMIS	**Naft Sefid**	**4.23**	**136**	Pn	**Pn**	**12 13 27.3**	**+0.5**
GRMI	**Germi**	**4.37**	**22**	Pn	**Pn**	**12 13 30.0**	**+1.3**

TEH 01 12:40:12.5, 30°.68N×57°.37E, h6km±140km**, ML3.6, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.78**	**292**	Pg	Pb	12 40 29.0	+0.5
CHMN	**Cheshme madani**	**0.83**	**170**	Pg	Pb	12 40 29.3	-0.2
KHGB	**Koh Gabri**	**0.83**	**249**	Pg	Pb	12 40 29.9	+0.4
TVBK	**TV Kerman**	**0.87**	**218**	Pg	Pb	12 40 30.6	+0.4
NGRK	**Negar Kerman**	**1.17**	**209**	Pg	Pn	12 40 36.4	+0.6
IBAF	**Bafgh**	**1.79**	**301**	Pg	Pg	12 40 47.1	+0.2
KBAM	**BAM**	**1.80**	**148**	Pn	Pg	12 40 46.8	-0.2
BSRN	**Basiran**	**1.97**	**49**	Pn	Pg	12 40 49.7	-0.6
IKOO	**Kooshah**	**2.23**	**38**	Pn	Pb	12 40 53.1	-0.2
NHDN	**Nehbandan**	**2.40**	**72**	Pn	Pb	12 40 55.2	-1.0
TPRV	**Parvadeh(Tabas**	**2.41**	**346**	Pn	Pb	12 40 55.9	-0.5
IMEH	**Mehriz**	**2.47**	**287**	Pn	Pb	12 40 56.8	-0.7
ITEG	**Tejag**	**2.50**	**28**	Pn	Pb	12 40 56.5	-1.4
TKDS	**Koohdasht(Taba**	**2.93**	**356**	Pn	Pn	12 41 02.3	+2.5
AFRZ	**Afriz**	**3.07**	**27**	Pn	Pn	12 41 04.5	+2.8
ZHDN	**Zahedan**	**3.24**	**112**	Pn	Pb	12 41 07.4	-3.1
TNSJ	**Nastanj**	**3.34**	**349**	Pn	Pn	12 41 07.7	+2.4
ISAD	**Sadrabad**	**3.39**	**292**	Pn	Pb	12 41 09.8	-3.3
ANAR	**Anarak**	**3.98**	**310**	Pn	Pn	12 41 17.3	+3.1
IRAM	**Ramesheh**	**4.42**	**286**	Pn	Pn	12 41 23.1	+2.8
IZEF	**Zefreh**	**4.83**	**299**	Pn	Pn	12 41 29.0	+3.1

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*IDC **01** 12:57:57.2±14.0, 15°.90S×173°.93W, h140km±129km, mb3.4/8, mbtmp3.8/8, MS3.2/1, Error ellipse: s-maj=43.6km s-min=24.0km az=142.0*

ISC 01 12:57:54.2±0.8**, 15°.9S**±0°.3×**174°.0W**±0°.2**, h115km, n12, σ1s03**/11**, mb3.5**/8**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**23.44**	**98**	LR	LR	13 10 09.8	
	comp=Z,52nm,19.4s,baz=88,slow=31						
WRA	**Warramunga Arr**	**49.19**	**257**	P	**P**	**13 06 31.5**	**+0.5**
	0.6nm,0.4s,baz=92,slow=7.2,SNR=18						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**49.43**	**252**	P	**P**	**13 06 33.7**	**+0.9**
	1.9nm,0.6s,baz=89,slow=7.7,SNR=23						
	1.9nm,0.6s						
QSPA	**South Pole Qui**	**74.18**	**180**	P	**P**	**13 09 18.3**	**+0.1**
	0.7nm,0.8s,baz=52,slow=2.4,SNR=2.4						
	0.7nm,0.8s						
NVAR	**Mina Array Bea**	**75.05**	**42**	P	**P**	**13 09 24.8**	**+1.2**
	0.4nm,0.7s,baz=198,slow=7.6,SNR=3.6						
	0.4nm,0.7s						
TXAR	**Lajitas Array**	**81.34**	**56**	P	**P**	**13 09 58.6**	**+0.2**
	0.5nm,0.8s,baz=214,slow=6.4,SNR=4.8						
	0.5nm,0.8s						
PDAR	**Pinedale Array**	**82.99**	**42**	P	**P**	**13 10 06.8**	**0.0**
	1.5nm,0.8s,baz=209,slow=3.0,SNR=12						
	1.5nm,0.8s						
ILAR	**Eielson Array**	**83.01**	**11**	P	**P**	**13 10 05.5**	**-0.7**
	0.3nm,0.7s,baz=236,slow=6.1,SNR=7.5						
	0.3nm,0.7s						
YKA	**Yellowknife Ar**	**90.75**	**24**	P	**P**	**13 10 44.1**	**+0.4**
	0.3nm,0.8s,baz=207,slow=4.0,SNR=3.4						
	0.3nm,0.8s						
ARCES	**ARCESS Array B**	**124.99**	**352**	PKP	**PKPdf**	**13 16 38.6**	**-1.6**
	4.7nm,1.1s,baz=48,slow=1.3,SNR=1.3						
KMBO	**Kilima Mbogo**	**144.82**	**244**	PKP	**PKPab**	**13 17 16.6**	**-1.6**
	1.5nm,0.4s,baz=71,slow=23,SNR=1.7						
BRTR	**Keskin Array B**	**146.15**	**320**	PKPbc	**PKPab**	**13 17 22.9**	**+0.6**
	0.9nm,0.7s,baz=74,slow=3.3,SNR=4.2						

IDC 01 13:02:12.4±1.8**, 22°.79N×95°.96E, h0km, mb3.3**/2**, mbtmp3.3**/3**, ML3.7**/1**, MS2.4**/1**, Error ellipse: s-maj=40.4km s-min=20.2km az=61.0, Myanmar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.13**	**147**	Pn	Pn	13 03 30.1	-0.4
	0.7nm,0.3s,baz=322,slow=13,SNR=13						
CMAR				Pg	Pg	13 03 47.6	-3.2
	1.7nm,0.3s,baz=322,slow=18,SNR=6.8						
CMAR				Lg	Lg	13 04 56.4	
	1.4nm,0.3s,baz=323,slow=33,SNR=4.1						
CMAR				LR	LR	13 05 54.6	
	comp=Z,33nm,18.1s,baz=325,slow=43						
	2.1nm,0.4s						
MKAR	**Makanchi Array**	**26.37**	**339**	P	P	13 07 50.8	+0.5
	0.4nm,0.6s,baz=148,slow=9.9,SNR=3.7						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**56.63**	**136**	P	P	13 11 56.7	-0.9
	0.2nm,0.6s,baz=325,slow=7.5,SNR=2.1						
	0.2nm,0.6s						

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*NEIC **01** 13:11:25.2±0.8, 35°.38N±0°.01×98°.10W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.1km az=304.0*

TUL 01 13:11:26.1±0.9**, 35°.38N**±0°.02×**98°.110W**±0°.010**, h8km**±5km**, ML2.5, mb_Lg2.6**/59(NEIC)**, ML2.6**/28(NEIC)**, Error ellipse: s-maj=2.4km s-min=1.1km az=179.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CSTR	**Hydro, Custer**	**0.54**	**299**		Pg	13 11 36.7	+0.1
CSTR				Sg	Sg	13 11 44.4	+0.8
OKCSW	**OKLAHOMA CITY**	**0.55**	**87**		Pg	13 11 35.4	-1.4
OKCSW				Sg	Sg	13 11 43.3	-0.6
OKCSW				IAML		13 11 51.1	
	comp=N,195nm,0.6s						
OKCSW				IAML		13 11 53.6	
	comp=E,347nm,0.6s						
FNO	**Franklin**	**0.59**	**102**	Pg	Pg	13 11 36.7	-0.8
FNO				Sg	Sg	13 11 45.3	0.0
WMOK	**Wichita Mounta**	**0.85**	**221**	Pg	Pg	13 11 41.5	-0.9
W35A	**Tecumseh**	**1.04**	**102**	Pg	Pg	13 11 44.8	-1.2
W35A				IAML		13 12 08.0	
	comp=E,159nm,0.3s						
W35A				IAML		13 12 10.8	
	comp=N,118nm,0.3s						
CROK	**Carrier**	**1.12**	**5**		Pg	13 11 46.5	-1.2
OK033	**Mehan**	**1.16**	**55**	Pg	Pg	13 11 46.6	-1.7
OK033				IAML		13 12 25.0	
	comp=N,232nm,0.1s						
OK030	**Cody Creek RV**	**1.21**	**63**		Pb	13 11 47.9	-1.4
OK030				IAML		13 12 09.7	
	comp=N,205nm,0.3s						
OK030				IAML		13 12 10.0	
	comp=N,170nm,0.3s						
OK052	**Battle Ridge R**	**1.23**	**60**	Pg	Pb	13 11 47.7	-1.9
OK052				IAML		13 12 05.8	
	comp=N,159nm,0.4s						
OK052				IAML		13 12 08.8	
	comp=N,185nm,0.4s						
U32A	**Winter Ranch,**	**1.23**	**324**		Pb	13 11 48.5	-1.2
ELIS	**Ellis County**	**1.26**	**303**		Pn	13 11 49.3	-0.9
QUOK	**Quay**	**1.39**	**55**		Pn	13 11 50.6	-1.2
DEOK	**Depew**	**1.39**	**70**		Pn	13 11 50.6	-1.3
OK048	**Pawnee Station**	**1.40**	**42**	Pg	Pn	13 11 51.1	-0.9
NOKA	**Waynoka**	**1.42**	**332**		Pn	13 11 51.3	-0.9
OK032	**Salt Plains WL**	**1.42**	**357**		Pn	13 11 51.1	-1.2
GC02	**Grant County #**	**1.48**	**8**		Pn	13 11 52.0	-1.1
OK051	**E0350 and S346**	**1.52**	**42**		Pn	13 11 53.9	+0.2
BLOK	**Blackwell**	**1.55**	**28**		Pn	13 11 54.1	0.0
LOOK	**Love County**	**1.58**	**151**		Pn	13 11 54.4	-0.2
WTFS	**Witchita Falls**	**1.64**	**190**		Pn	13 11 55.6	+0.3
KAN17	**Caldwell West**	**1.68**	**9**		Pn	13 11 55.0	-0.9
KAN17				IAmb_Lg		13 12 20.4	
	comp=Z,27nm,0.8s						
KAN13	**South Haven SW**	**1.71**	**17**		Pn	13 11 55.1	-1.1
KAN05	**Bluff City Nor**	**1.73**	**6**	Pn	Pn	13 11 55.9	-0.7
KAN10	**Anthony SW Sta**	**1.74**	**0**		Pn	13 11 56.9	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMWD	Samnorwood	1.77	262	Pn	Pn	13 11 57.1	0.0
KAN01	Argonia South	1.79	9		Pn	13 11 56.7	-0.7
KAN09	Caldwell North	1.79	13		Pn	13 11 57.7	+0.3
KAN09				IAmb_Lg		13 12 23.2	
	comp=Z,49nm,1.1s						
KAN08	Anthony NE Sta	1.84	3		Pn	13 11 57.5	-0.6
KAN06	Argonia West S	1.87	6		Pn	13 11 58.7	+0.2
KAN06				IAmb_Lg		13 12 29.9	
	comp=Z,40nm,1.3s						
KAN12	Harper NE Stat	1.91	3	IAmb_Lg		13 12 29.9	
	comp=Z,23nm,0.8s						
TUL3	Leonard	1.96	74		Pn	13 12 00.1	+0.4
T35A	Sooner Cattle	2.00	40		Pn	13 12 00.1	-0.2
Z35A	Perchaven, San	2.17	161		Pn	13 12 02.7	+0.2
FW03	Perrin-Whitt E	2.34	179		Pn	13 12 05.7	+0.8
FW03				IAmb_Lg		13 12 45.7	
	comp=Z,19nm,0.8s						
X37A	Clayton	2.38	109		Pn	13 12 05.9	+0.4
FW06	Azle	2.45	169	Pn	Pn	13 12 07.3	+0.9
PLPT	Palo Pinto	2.57	184	IAmb_Lg		13 12 48.4	
	comp=Z,19nm,0.7s						
RLO	Rose Lookout	2.63	72	IAmb_Lg		13 12 49.6	
	comp=Z,14nm,0.9s						
APMT	Aspermont	2.64	220	IAmb_Lg		13 12 50.8	
	comp=Z,10nm,0.7s						
DKNS	Dickens	2.88	234	IAmb_Lg		13 13 05.0	
	comp=Z,20nm,0.8s						
AMTX	Amarillo	2.97	261	IAmb_Lg		13 13 07.2	
	comp=Z,19nm,1.0s						
ABTX	Abilene, Hawle	3.03	205	IAmb_Lg		13 13 03.2	
	comp=Z,12nm,1.0s						
Z38A	Mt. Pleasant	3.34	128	IAmb_Lg		13 13 16.6	
	comp=Z,26nm,1.1s						
SN01	Snyder 1	3.41	223	IAmb_Lg		13 13 22.7	
	comp=Z,26nm,0.9s						
HHAR	Hobbs	3.50	74	IAmb_Lg		13 13 25.1	
	comp=Z,16nm,0.7s						
POST	Post	3.64	232	IAmb_Lg		13 13 28.4	
	comp=Z,12nm,0.7s						
CBKS	Cedar Bluff	3.66	340	IAmb_Lg		13 13 29.0	
	comp=Z,16nm,0.8s						
MIAR	Mount Ida	3.82	101	IAmb_Lg		13 13 32.4	
	comp=Z,9.9nm,0.7s						
KSU1	Kansas State U	3.90	17	IAmb_Lg		13 13 35.4	
	comp=Z,16nm,1.0s						
MSTX	Muleshoe	4.09	251	IAmb_Lg		13 13 46.5	
	comp=Z,9.7nm,0.9s						
BRDY	Brady	4.15	191	IAmb_Lg		13 13 35.8	
	comp=Z,8.7nm,0.8s						
S39A	Bolivar	4.49	58	IAmb_Lg		13 13 49.7	
	comp=Z,12nm,0.8s						
435B	Jarrell	4.61	174	IAmb_Lg		13 14 04.2	
	comp=Z,14nm,0.7s						
WHAR	Wooly Hollow	4.76	89	IAmb_Lg		13 14 03.4	
	comp=Z,14nm,1.1s						
MGMO	Mountain Grove	5.04	68	IAmb_Lg		13 14 07.0	
	comp=Z,13nm,0.7s						
JCT	Junction City	5.09	197	IAmb_Lg		13 14 16.0	
	comp=Z,10nm,0.8s						
KSCO	Kaye Shedlock'	5.11	316	IAmb_Lg		13 14 19.4	
	comp=Z,12nm,0.8s						
T25A	Trinidad	5.38	291	IAmb_Lg		13 14 16.7	
	comp=Z,9.6nm,0.8s						
R40A	Maddies Statio	5.51	57	IAmb_Lg		13 14 29.4	
	comp=Z,8.9nm,0.8s						
CCM	Cathedral Cave	6.13	62	IAmb_Lg		13 14 56.4	
	comp=Z,13nm,0.8s						
FVM	French Village	6.70	65	IAmb_Lg		13 15 13.0	
	comp=Z,11nm,0.8s						
ISCO	Idaho Springs	7.41	309	IAmb_Lg		13 15 37.1	
	comp=Z,8.8nm,1.1s						
SMCO	Snowmass	8.02	301	IAmb_Lg		13 15 59.9	
	comp=Z,4.4nm,1.1s						

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*IDC **01** 13:11:58.9±0.8, 55.°44N×166.°48E, h0km, mb3.5/10, mbtmp3.6/12, ML3.6/2, MS3.2/7, Error ellipse: s-maj=29.6km s-min=15.7km az=165.0*

*KRSC **01** 13:11:59.7±1.7, 55.°32N×166.°53E, h37km±9km, Ml4.3*

ISC 01 13:12:01.6±0.7, **55.°39N**±0.°07×**166.°59E**±0.°05, **h20**km, **n49**, σ**1.s22**/50, **mb3.6**/10, **MS3.3**/6, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKI	Bering	0.40	242	eP	Pb	13 12 08.8	-1.1
BKI				eS	Sb	13 12 14.8	-0.7
KBTR	Krutoberegovo	2.28	293	eP	Pn	13 12 36.0	-2.1
KBTR				eS	Sn	13 13 04.4	-1.1
BDR	Baidarnaya	3.25	294	eP	Pn	13 12 50.4	-1.0
BZP	Bezymyannyi-Pe	3.47	281	eP	Pn	13 12 55.5	+1.0
KLY	Klyuchi	3.47	288	eP	Pn	13 12 53.0	-1.4
KLY				eS	Sn	13 13 33.1	-1.8
BZMR	Bezymyannaya	3.50	281	eP	Pn	13 12 55.5	+0.6
TUMD	Tumrok D	3.54	269	eP	Pn	13 12 55.7	+0.2
TUMD				eS	Sn	13 13 37.7	+1.0
KMNR	Kamenistaya	3.62	278	eP	Pn	13 12 58.5	+1.9
KPT	Kopyto	3.65	282	eP	Pn	13 12 57.9	+1.0
TUMR	Tumrok	3.68	271	eP	Pn	13 12 58.6	+1.2
KOZ	Kozyrevsk	3.86	283	eP	Pn	13 13 01.1	+1.3
SRDR	Sredinnyy	3.98	286	eP	Pn	13 13 02.0	+0.5
SPN	Mys Shipunski	4.48	242	eP	Pn	13 13 07.6	-0.8
SPN				eS	Sn	13 13 58.0	-1.9
ESO	Esso	4.50	280	eP	Pn	13 13 10.6	+2.1
NLC	Nalytchevo	4.79	245	eS	Sn	13 14 08.6	+1.2
SMAR	Somma	5.03	248	eP	Pn	13 13 16.7	+0.6
UGLR	Uglovaya	5.04	248	eP	Pn	13 13 17.2	+1.1
UGLR				eS	Sn	13 14 14.3	+0.5
AVH	Avacha	5.06	248	eP	Pn	13 13 17.0	+0.7
KRX	Arik	5.07	250	eP	Pn	13 13 17.1	+0.6
KRX				eS	Sn	13 14 15.0	+0.6
KOK	Koryaka	5.11	249	eP	Pn	13 13 18.2	+1.2
SHEM	Shemya Is, Ala	5.17	118	Pn	Pn	13 13 17.3	-0.4
	6.1nm,0.3s,baz=283,slow=21,SNR=1.4						
SHEM				Sn	Sn	13 14 13.4	-3.2
	baz=284,slow=23						
	47nm,0.6s						
DALK	Dalny	5.17	246	eP	Pn	13 13 16.9	-0.8
PET	Petropavlovsk	5.23	246	eP	Pn	13 13 19.8	+1.3
PET				eS	Sn	13 14 18.6	+0.5
KRMR	Karymshinskiy	5.60	246	eP	Pn	13 13 25.1	+1.5
KRMR				eS	Sn	13 14 25.7	-1.5
PETK	Petropavlovsk-	5.69	250	Pn	Pn	13 13 25.2	+0.3
	3.3nm,0.3s,baz=71,slow=17,SNR=38						
PETK				Sn	Sn	13 14 31.3	+1.7
	1.6nm,0.3s,baz=79,slow=31,SNR=3.0						
PETK				LR	LR	13 15 40.0	
	comp=Z,111nm,20.0s,baz=68,slow=39						
	12nm,0.6s						
MTVR	Mutnovka	5.75	243	eP	Pn	13 13 25.8	-0.2
MTVR				eS	Sn	13 14 30.0	-1.4
GRL	Gorelyy	5.77	244	eP	Pn	13 13 27.6	+1.4
KLR	Kul'dur	22.00	268	LR	LR	13 26 48.4	
	comp=Z,36nm,18.2s,baz=78,slow=40						
ILAR	Eielson Array	24.46	49	P	P	13 17 19.0	+0.2
	2.1nm,1.0s,baz=259,slow=8.3,SNR=11						
	2.1nm,1.0s						
USRK	Ussuriysk Ar.	24.72	258	LR	LR	13 28 24.8	
	comp=Z,33nm,20.2s,baz=25,slow=40						
H11N2	WAKE ISLAND Hy	35.60	180	T	T	13 56 13.3	
	baz=0.2,slow=76,SNR=104						
H11N3	WAKE ISLAND Hy	35.62	179	T	T	13 56 16.6	
	baz=0.2,slow=76,SNR=117						
H11N1	WAKE ISLAND Hy	35.62	180	T	T	13 56 17.5	
	baz=0.2,slow=76,SNR=149						
H11S1	WAKE ISLAND Hy	36.82	180	T	T	13 57 23.4	
	baz=359,slow=75,SNR=13						
H11S3	WAKE ISLAND Hy	36.83	180	T	T	13 57 43.3	
	baz=359,slow=75,SNR=6.1						
H11S2	WAKE ISLAND Hy	36.84	180	T	T	13 57 48.2	
	baz=359,slow=75,SNR=19						
SONM	Songino Array	37.06	284	P	P	13 19 09.9	-0.3
	0.6nm,0.7s,baz=39,slow=9.3,SNR=2.8						
	0.6nm,0.7s						
YKA	Yellowknife Ar	38.85	47	P	P	13 19 25.8	+1.0
	0.2nm,0.5s,baz=308,slow=8.9,SNR=4.8						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	49.80	304	P	P	13 20 52.4	-0.2
	0.3nm,0.4s,baz=53,slow=8.3,SNR=2.4						
	0.3nm,0.4s						
MKAR	Makanchi Array	50.53	298	P	P	13 20 57.0	-1.1
	0.2nm,0.4s,baz=45,slow=4.9,SNR=2.2						
MKAR				LR	LR	13 43 22.0	
	comp=Z,25nm,19.6s,baz=34,slow=37						
	0.2nm,0.4s						
NVAR	Mina Array Bea	51.43	76	P	P	13 21 05.7	+0.5
	0.1nm,0.4s,baz=312,slow=6.8,SNR=1.5						
	0.1nm,0.4s						
ELK	Elko	51.48	72	LR	LR	13 39 54.6	
	comp=Z,48nm,20.1s,baz=303,slow=32						
AKTO	Aktyubinsk	58.99	315	LR	LR	13 47 25.3	
	comp=Z,26nm,18.0s,baz=36,slow=36						
CMAR	Chiang Mai Arr	62.33	262	P	P	13 22 22.2	-0.3
	0.3nm,0.4s,baz=30,slow=7.3,SNR=1.7						
	0.3nm,0.4s						
TXAR	Lajitas Array	66.27	73	P	P	13 22 49.6	+1.3
	0.5nm,0.6s,baz=294,slow=4.6,SNR=9.2						
	0.5nm,0.6s						
GNI	Garni	72.74	317	LR	LR	14 01 30.6	
	comp=Z,24nm,18.1s,baz=336,slow=41						
WRA	Warramunga Arr	79.89	211	P	P	13 24 10.2	+1.6
	0.3nm,0.7s,baz=25,slow=6.2,SNR=1.5						
	0.3nm,0.7s						
ASAR	Alice Springs	83.54	210	P	P	13 24 27.7	-0.1
	0.4nm,0.8s,baz=12,slow=5.7,SNR=2.2						
	0.4nm,0.8s						
QSPA	South Pole Qui	145.14	180	PKPbc	PKPbc	13 31 35.7	0.0
	0.9nm,0.8s,baz=154,slow=2.3,SNR=5.6						

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*SJA **01** 13:33:35.7±0.6, 21.°02S×69.°01W, h120km±3km, ML3.6, MW3.6*

*GUC **01** 13:33:37.5±0.6, 21.°05S×68.°96W, h111km±3km, ML3.6*

ISC 01 13:33:37.5±1.6, **21.°04S**±0.°03×**69.°03W**±0.°06, **h112**km±10km, **n32**, σ**0.s53**/60, **Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.42	269	eP	Pn	13 33 53.7	-0.5
PB01				eS	Sn	13 34 06.6	-0.1
PB01				IAML		13 34 07.9	
	comp=Z,2μm,0.3s						
PB01	IPOC Station P	0.42	269	eP	Pn	13 33 53.7	-0.5
PB01				i S	Sn	13 34 06.4	-0.3
PB01				IAML		13 34 07.7	
	comp=N,4μm,0.2s						
PB09	IPOC Station P	0.78	194	eP	Pn	13 33 56.6	-0.3
PB09				eS	Sn	13 34 12.6	+1.0
PB09				IAML		13 34 14.2	
	comp=Z,1μm,0.4s						
PB09	IPOC Station P	0.78	194	eP	Pn	13 33 56.7	-0.3
PB09				i S	Sn	13 34 12.1	+0.5
PB09				IAML		13 34 13.6	
	comp=N,1μm,0.2s						
PB02	IPOC Station P	0.85	251	eP	Pn	13 33 57.3	-0.2
PB02				eS	Sn	13 34 13.5	+0.9
PB02				IAML		13 34 16.3	
	comp=Z,2μm,0.3s						
PB02	IPOC Station P	0.85	251	eP	Pn	13 33 57.6	0.0
PB02				i S	Sn	13 34 12.9	+0.3
PB02				IAML		13 34 15.7	
	comp=E,3μm,0.5s						
PB08	IPOC Station P	0.90	353	eP	Pn	13 33 58.1	-0.2
PB08				eS	Sn	13 34 14.2	+0.3
PB08				IAML		13 34 15.0	
	comp=Z,532nm,0.4s						
PB08	IPOC Station P	0.90	353	eP	Pn	13 33 58.1	-0.2
PB08				i S	Sn	13 34 13.7	-0.2
PB08				IAML		13 34 14.9	
	comp=E,1μm,0.3s						
PB07	IPOC Station P	1.05	229	eP	Pn	13 33 59.2	-0.4
PB07				eS	Sn	13 34 16.7	+0.5
PB07				IAML		13 34 19.9	
	comp=Z,652nm,0.2s						
PB07	IPOC Station P	1.05	229	eP	Pn	13 33 59.3	-0.3
PB07				i S	Sn	13 34 16.3	0.0
PB07				IAML		13 34 17.1	
	comp=N,1μm,0.2s						
PATCX	Punta Patache	1.07	281	eP	Pn	13 33 59.5	-0.1
PATCX				eS	Sn	13 34 18.1	+1.7
PATCX	Punta Patache	1.07	281	eP	Pn	13 33 59.8	+0.1
PATCX				i S	Sn	13 34 16.7	+0.3
PATCX				IAML		13 34 18.6	
	comp=E,1μm,0.4s						
HMBC	Humberstone	1.10	313	eP	Pn	13 33 59.7	-0.3
HMBC				eS	Sn	13 34 17.3	+0.2
HMBC	Humberstone	1.10	313	eP	Pn	13 33 59.8	-0.3
HMBC				i S	Sn	13 34 17.2	+0.2
HMBC				IAML		13 34 17.8	
	comp=N,2μm,0.2s						
TA01	Diego Aracena	1.17	293	eP	Pn	13 34 00.4	-0.3
TA01				eS	Sn	13 34 18.9	+0.8
TA01				IAML		13 34 24.1	
	comp=Z,353nm,0.6s						
TA01	Diego Aracena	1.17	293	eP	Pn	13 34 00.4	-0.3
TA01				i S	Sn	13 34 18.3	+0.1
TA01				IAML		13 34 19.0	
	comp=N,945nm,0.4s						
TA02	Huaiquique	1.28	306	eP	Pn	13 34 01.2	-0.7
TA02				eS	Sn	13 34 01.8	-19
TA02				IAML		13 34 22.6	
	comp=Z,658nm,0.1s						
TA02	Huaiquique	1.28	306	eP	Pn	13 34 01.5	-0.4
TA02				i S	Sn	13 34 20.0	-0.3
GO01	Chusmiza	1.37	354	eP	Pn	13 34 02.4	-1.1
GO01				eS	Sn	13 34 24.0	+1.0
GO01	Chusmiza	1.37	354	eP	Pn	13 34 03.6	+0.1
GO01				i S	Sn	13 34 23.2	+0.2
PB11	IPOC Station P	1.40	335	eP	Pn	13 34 03.0	-0.5
PB11				eS	Sn	13 34 23.5	+0.5
PB11				IAML		13 34 25.2	
	comp=Z,413nm,0.2s						
PB11	IPOC Station P	1.40	335	eP	Pn	13 34 03.1	-0.3
PB11				i S	Sn	13 34 23.1	+0.1
PB11				IAML		13 34 23.9	
	comp=N,980nm,0.4s						
LVC	Limon Verde	1.57	176	eP	Pn	13 34 05.5	-0.2
LVC				eS	Sn	13 34 27.5	+0.5
LVC				IAML		13 34 30.5	
	comp=Z,218nm,0.2s						
LVC	Limon Verde	1.57	176	eP	Pn	13 34 05.5	-0.2
LVC				i S	Sn	13 34 26.9	-0.1
PB04	IPOC Station P	1.66	219	eP	Pn	13 34 06.2	-0.3
PB04				eS	Sn	13 34 29.2	+0.6
PB04				IAML		13 34 38.0	
	comp=Z,350nm,0.2s						
PB04	IPOC Station P	1.66	219	eP	Pn	13 34 06.0	-0.5
PB04				i S	Sn	13 34 28.0	-0.6
PB06	IPOC Station P	1.73	197	eP	Pn	13 34 07.3	-0.2
PB06				eS	Sn	13 34 30.8	+0.5
PB06				IAML		13 34 31.8	
	comp=Z,432nm,0.2s						
PB06	IPOC Station P	1.73	197	eP	Pn	13 34 07.1	-0.4
PB06				i S	Sn	13 34 30.0	-0.3
PB15	IPOC Station P	2.20	191	eP	Pn	13 34 13.4	0.0
PB15				eS	Sn	13 34 40.9	+0.1
PB15				IAML		13 34 48.5	
	comp=Z,1μm,0.2s						
PB12	IPOC Station P	2.70	333	eP	Pn	13 34 18.6	-1.2
PB16	IPOC Station P	2.72	350	eP	Pn	13 34 21.5	+0.9
GO02	Mina Guanaco	4.14	187	eP	Pn	13 34 38.8	-0.3
GO02				eS	Sn	13 35 15.2	-12

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*IDC **01** 13:34:43.4±4.0, 21.°11S×178.°70W, h530km±43km, mb3.1/12, mbtmp4.0/13, Error ellipse: s-maj=20.6km s-min=17.8km az=69.0*

ISC 01 13:34:45.5±0.5, **21.°2S**±0.°1×**178.°7W**±0.°2, **h550**km, **n39**, σ**1.s19**/37, **mb3.7**/11, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	17.38	191	P	P	13 38 15.8	-1.7
	8.7nm,0.7s,baz=345,slow=1.7,SNR=9.0						
STKA	Stephens Creek	36.86	245	P	P	13 41 07.5	-0.3
	0.8nm,0.4s,baz=118,slow=15,SNR=1.6						
	0.8nm,0.4s						
ASAR	Alice Springs	43.69	258	P	P	13 42 02.3	-0.1
	3.5nm,0.8s,baz=89,slow=8.4,SNR=39						
ASAR				PcP	PcP	13 43 37.5	+0.2
	1.0nm,0.8s,baz=107,slow=4.0,SNR=9.5						
	3.5nm,0.8s						
WRA	Warramunga Arr	43.82	263	P	P	13 42 02.8	-0.7
	1.9nm,0.8s,baz=96,slow=7.5,SNR=16						
	1.9nm,0.8s						
VNDA	Vanda	57.16	185	P	P	13 43 39.8	+0.2
	0.6nm,0.8s,baz=235,slow=8.0,SNR=2.5						
	0.6nm,0.8s						
QSPA	South Pole Qui	68.87	180	P	P	13 44 55.9	+0.8
	4.5nm,0.8s,baz=335,slow=1.3,SNR=29						
	4.5nm,0.8s						
MJAR	Matsushiro Arr	70.36	324	P	P	13 45 04.0	-0.4
	1.9nm,0.8s,baz=138,slow=5.2,SNR=3.2						
	1.9nm,0.8s						
MAW	Mawson	80.67	200	P	P	13 46 01.2	+0.2
	1.2nm,0.8s,baz=282,slow=17,SNR=1.8						
	1.2nm,0.8s						
NVAR	Mina Array Bea	82.01	44	P	P	13 46 08.4	-0.2
	0.5nm,0.6s,baz=218,slow=8.7,SNR=4.4						
	0.5nm,0.6s						
TXAR	Lajitas Array	88.02	58	P	P	13 46 37.3	-0.5
	0.3nm,0.8s,baz=230,slow=5.6,SNR=3.7						
	0.3nm,0.8s						
ILAR	Eielson Array	89.15	13	P	P	13 46 40.9	-1.2
	0.8nm,0.7s,baz=224,slow=5.7,SNR=13						
	0.8nm,0.7s						
PDAR	Pinedale Array	89.94	43	P	P	13 46 46.0	-0.7
	0.6nm,0.7s,baz=208,slow=2.6,SNR=7.0						
	0.6nm,0.7s						
YKA	Yellowknife Ar	97.43	25	P	Pdif	13 47 19.7	-0.2
	0.3nm,0.9s,baz=243,slow=5.5,SNR=3.9						
	0.3nm,0.9s						
ZALV	Zalesovo Beam	110.60	321	PKiKP	PKiKP	13 52 14.2	-1.2
	0.5nm,0.4s,baz=26,slow=3.7,SNR=2.3						
MKAR	Makanchi Array	111.17	313	PKiKP	PKiKP	13 52 16.1	-0.8
	0.3nm,0.5s,baz=31,slow=0.8,SNR=3.9						
KURBB	Kurchatov Arra	114.08	317	PKP	PKPdf	13 52 20.8	-1.5
	0.5nm,0.7s,baz=99,slow=2.0,SNR=6.4						
BVAR	Borovoye Array	119.16	320	PKP	PKPdf	13 52 31.3	-0.7
	1.1nm,0.3s,baz=121,slow=2.4,SNR=9.4						
ARCES	ARCESS Array B	129.47	349	PKP	PKPdf	13 52 50.6	-0.6
	1.3nm,0.6s,baz=318,slow=1.6,SNR=7.7						
FINES	FINESS Array B	136.24	343	PKP	PKPdf	13 53 03.3	-0.8
	3.8nm,1.0s,baz=232,slow=12,SNR=3.8						
KMBO	Kilima Mbogo	138.40	242	PKP	PKPdf	13 53 10.1	+0.1
	1.0nm,0.4s,baz=249,slow=24,SNR=1.2						
NOA	NORSAR Array B	139.58	353	PKP	PKPdf	13 53 10.7	+0.4
	1.0nm,0.8s,baz=14,slow=3.8,SNR=2.3						
HFS	Hagfors	140.11	350	PKhKP	PKPpre	13 53 05.0	
	2.5nm,0.8s,baz=68,slow=5.1,SNR=6.9						
AKASG	Malin Array Be	143.28	330	PKP	PKPab	13 53 14.6	-0.6
	1.9nm,0.4s,baz=43,slow=4.2,SNR=16						
EKA	Eskdalemuir Ar	145.75	4	PKPbc	PKPdf	13 53 22.1	+0.8
	2.5nm,0.7s,baz=353,slow=2.9,SNR=4.1						
BRTR	Keskin Array B	146.78	311	PKPbc	PKPdf	13 53 26.3	+2.6
	1.2nm,0.6s,baz=130,slow=4.9,SNR=5.4						
MMAI	Mount Meron Ar	147.54	299	PKPbc	PKPdf	13 53 27.9	+2.7
	3.5nm,0.6s,baz=63,slow=4.0,SNR=5.6						
CLL	Collm	148.57	346	i PKP	PKPdf	13 53 30.4	+4.3
	comp=Z,10.0nm,1.0s						
KRLC	Kraliky	148.67	341	ePKP	PKPbc	13 53 31.5	+0.6
PRU	Pruhonice	149.40	343	ePKP	PKPbc	13 53 33.0	+0.4
ZVC	Zvikov	150.00	343	ePKP	PKPbc	13 53 34.7	+0.7
KHC	Kasperske Hory	150.44	343	ePKP	PKPbc	13 53 35.1	0.0
CKRC	Cesky Krumlov	150.53	342	ePKP	PKPbc	13 53 35.7	+0.4
GERES	GERESS Array B	150.67	343	PKPbc	PKPbc	13 53 35.4	-0.3
	comp=Z,1.9nm,0.6s,baz=33,slow=3.2,SNR=8.8						
CONA	Conrad Observa	150.85	340	i PKP	PKPbc	13 53 36.5	+0.4
	comp=Z,3.0nm,0.6s						
RONA	Rosalia, Austr	150.90	339	i PKP	PKPbc	13 53 36.6	+0.4
	comp=Z,5.5nm,0.7s						
MOA	Molln	151.41	342	i PKP	PKPbc	13 53 37.3	0.0
	comp=Z,1.0nm,0.4s						
ARSA	Arzberg	151.55	339	i PKP	PKPbc	13 53 37.4	-0.3
	comp=Z,0.7nm,0.3s						
ABTA	Abfaltersbach	152.92	343	i PKP	PKPbc	13 53 40.0	-0.7
	comp=Z,1.6nm,0.5s						
TORD	Torodi Ar. Bea	171.98	183	PKP	PKPdf	13 53 50.8	-1.3
	comp=Z,1.2nm,1.2s,baz=9.7,slow=2.8,SNR=3.7						
TORD				PKPab	PKPab	13 55 18.6	-0.1
	comp=Z,0.4nm,0.8s,baz=227,slow=3.4,SNR=3.1						

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*IDC **01** 13:37:34.4±0.5, 32.°50S×67.°51W, h146km±4km, mb3.6/7, mbtmp4.2/12, Error ellipse: s-maj=16.0km s-min=11.5km az=71.0*

*NEIC **01** 13:37:34.2±2.4, 32.°53S±0.°04×67.°5W±0.°1, h155km±11km, mb4.5/11, Error ellipse: s-maj=14.5km s-min=5.2km az=85.0*

*SJA **01** 13:37:36.3±0.5, 32.°42S×67.°54W, h127km±10km, ML4.4, MW4.2*

ISC 01 13:37:33.2±0.5, **32.°50S**±0.°05×**67.°44W**±0.°06, **h145**km±5km, **h145**km**:pP-P**, **n70**, σ**1.s88**/84, **mb4.1**/11, **2C-2D**, **Mendoza Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CFA	Coronel Fontan	1.12	323	P	Pn	13 38 00.3	+1.6
	baz=169,slow=10						
CFA				S	Sn	13 38 18.7	+0.6
	baz=336,slow=20						
CFA				LR	LR	13 38 36.2	
	comp=Z,265nm,19.7s,slow=57						
ARCO	CERRO ARCO	1.30	255	eP	Pn	13 38 02.3	+1.8
ARCO				eS	Sn	13 38 21.4	0.0
ARCO				IAML		13 38 24.8	
	comp=Z,2μm,0.3s						
AAGR	Agrelo	1.30	243	eP	Pn	13 38 02.7	+2.2
AAGR				eS	Sn	13 38 24.2	+2.9
ZON	Zonda	1.42	312		Pn	13 38 03.2	+1.5
ACHE	Chepes	1.49	27	eP	Pn	13 38 05.0	+2.5
MT08	Bocatoma Ro	2.36	246		Pn	13 38 14.4	+1.8
ACCO	Cerro Coronel	2.36	324	eP	Pn	13 38 15.1	+2.4
ACCO				IAML		13 38 47.0	
	comp=Z,1μm,3.4s						
VA03	San Esteban	2.64	264		Pn	13 38 18.2	+2.3
LMEL	Las Melosas	2.68	239		Pn	13 38 18.0	+1.6
MT13	San Alfonso	2.69	242		Pn	13 38 18.1	+1.6
MT03	Universidad Ad	2.76	248		Pn	13 38 18.2	+0.8
PEL	Peldehue	2.80	256		Pn	13 38 19.1	+1.2
AROD	Rodeo	2.91	323	eP	Pn	13 38 21.7	+2.2
AROD				eS	Sn	13 38 55.8	+0.6
BO04	La Punta	3.04	240		Pn	13 38 22.2	+1.3
ROC1	El Roble	3.05	260		Pn	13 38 21.2	-0.1
ACLC	CERRO LA CRUZ	3.10	8	eP	Pn	13 38 23.6	+1.7
ACLC				eS	Sn	13 38 59.4	0.0
ACLC				IAML		13 39 01.1	
	comp=Z,3μm,0.8s						
CO03	El Pedregal	3.23	300	Pn	Pn	13 38 24.9	+1.5
CO02	Combarbal	3.29	292		Pn	13 38 25.4	+1.1
BO01	Tunca	3.58	237	Pn	Pn	13 38 28.1	+0.2
VA01	Torpederas	3.58	261		Pn	13 38 28.6	+0.7
BO02	Sierra Bellavi	3.60	230	Pn	Pn	13 38 29.4	+1.2
VA05	Santo Domingo	3.69	251		Pn	13 38 28.5	-0.7
GO04	Tololo Observa	3.69	308		Pn	13 38 30.1	+0.5
AC05	El Transito	4.39	326		Pn	13 38 40.8	+2.1
LCO	Las Campanas	4.47	320	Pn	Pn	13 38 40.3	+0.5
GO05	Huala	4.50	235		Pn	13 38 38.2	-1.6
ML02	Panimavida	4.63	224	Pn	Pn	13 38 41.4	-0.2
AC04	Llanos de Chal	5.31	323	Pn	Pn	13 38 50.7	0.0
AHML	Horco Molle	5.99	18	eP	Pn	13 38 59.7	-0.1
AHML				eS	Sn	13 40 05.7	-1.7
AHML				IAML		13 40 45.6	
	comp=Z,110nm,0.6s						
AC01	Pan de Azucar	6.91	336		Pn	13 39 12.1	0.0
TRQA	Tornquist	7.12	143		Pn	13 39 15.8	+1.1
GO06	Curarrehue	7.78	204		Pn	13 39 23.2	-0.5
PLCA	Paso Flores	8.58	196	P	Pn	13 39 34.7	+0.3
	comp=Z,7.2nm,0.5s,baz=357,slow=9.6,SNR=29						
LL03	Petrohue	9.49	203		Pn	13 39 43.9	-2.4
ITQB	Itaqui	9.70	76	Pn	Pn	13 39 49.2	0.0
LVC	Limon Verde	9.94	352	P	Pn	13 39 53.3	+0.4
	comp=Z,3.9nm,0.5s,baz=174,slow=8.6,SNR=12						
LVC				S	Sn	13 41 36.2	-7.0
	comp=Z,7.0nm,0.5s,baz=248,slow=20,SNR=1.8						
CPUP	Villa Florida	10.75	58	Pn	Pn	13 40 01.7	-1.5
CPUP	Villa Florida	10.75	58	P	Pn	13 40 04.0	+0.8
	comp=Z,11nm,0.5s,baz=229,slow=11,SNR=31						
PB07	IPOC Station P	10.95	348		Pn	13 40 04.2	-1.9
LPAZ	La Paz	16.16	358	P	P	13 41 14.1	+0.8
	comp=Z,4.3nm,0.6s,baz=162,slow=8.1,SNR=16						
GO08	Villa O'Higgin	16.41	192	P	Pn	13 41 14.8	-0.1
GO08				IAmb	IAmb	13 41 17.9	
	comp=Z,13nm,0.9s						
SIV	San Ignacio	17.43	21	P	Pn	13 41 28.4	+0.9
	comp=Z,34nm,0.8s,baz=196,slow=8.1,SNR=73						
PTLB	Pontes e Lacer	18.58	26	P	Pn	13 41 41.1	-0.1
PTLB				IAmb	IAmb	13 41 44.6	
	comp=Z,26nm,0.8s						
EFI	East Falkland	20.35	163	P	P	13 41 58.9	+0.9
VILB	Vilhena	20.56	20	P	P	13 41 59.1	-1.5
VILB				IAmb	IAmb	13 42 10.1	
	comp=Z,19nm,0.8s						
SAML	Samuel	23.77	10	P	P	13 42 33.9	+1.4
BDFB	Brasilia	24.35	51	P	P	13 42 38.5	+0.6

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDFB				IAmb	IAmb	13 43 09.5	
	comp=Z,9.9nm,0.8s						
BDFB	Brasilia	24.35	51	P	P	13 42 38.9	+0.9
	comp=Z,7.6nm,0.6s,baz=228,slow=7.4,SNR=8.3						
BDFB				pP	pP	13 43 08.4	+0.7
	comp=Z,11nm,0.8s,baz=238,slow=8.1,SNR=5.3						
	comp=Z,7.6nm,0.6s						
HOPE	Hope Point	30.89	144	P	P	13 43 34.8	-0.9
BELA	Belgrano 2	47.71	171	P	P	13 45 51.9	-2.8
BELA				IAmb	IAmb	13 45 59.9	
	comp=Z,6.7nm,0.7s						
VNA3	Neumayer Olymp	49.32	159	⇓P	P	13 46 08.9	+1.8
	comp=Z,11nm,0.6s						
VNA3				⇑pP	pP	13 46 34.0	-6.4
	comp=Z,5.3nm,0.6s						
VNA2	Neumayer--Watz	49.93	158	⇓P	P	13 46 13.5	+1.9
	comp=Z,16nm,0.6s,baz=286,slow=10.0						
VNA2				⇑pP	pP	13 46 38.8	-6.2
	comp=Z,1.2nm,0.6s,baz=186,slow=5.0						
SNAA	Sanae	51.54	159		P	13 46 26.1	+2.3
SNAA				IAmb	IAmb	13 46 27.8	
	comp=Z,8.0nm,0.5s						
SNAA	Sanae	51.54	159	P	P	13 46 25.5	+1.7
	comp=Z,127nm,0.4s						
SNAA	Sanae	51.54	159	P	P	13 46 25.4	+1.6
	comp=Z,6.4nm,0.5s,baz=288,slow=6.8,SNR=57						
	comp=Z,6.4nm,0.5s						
TROLL	Troll, Antarti	53.26	159	P	P	13 46 39.8	+3.3
	comp=Z,523nm,0.8s						
QSPA	South Pole Qui	57.73	180	P	P	13 47 09.8	+1.2
QSPA				IAmb	IAmb	13 47 17.4	
	comp=Z,2.5nm,0.8s						
QSPA	South Pole Qui	57.73	180	P	P	13 47 10.1	+1.5
	comp=Z,1.2nm,0.6s,baz=322,slow=0.8,SNR=12						
	comp=Z,1.2nm,0.6s						
TXAR	Lajitas Array	70.45	327	P	P	13 48 32.2	+0.3
	comp=Z,0.2nm,0.5s,baz=144,slow=7.8,SNR=3.0						
TXAR				pP	pP	13 49 08.7	+1.2
	comp=Z,0.3nm,0.6s,baz=144,slow=7.8,SNR=3.6						
	comp=Z,0.2nm,0.5s						
MAW	Mawson	73.47	162	P	P	13 48 49.6	+0.3
	comp=Z,1.8nm,0.6s,baz=218,slow=10,SNR=7.2						
	comp=Z,1.8nm,0.6s						
TORD	Torodi Ar. Bea	80.08	68	P	P	13 49 27.3	+0.1
TORD	Torodi Ar. Bea	80.08	68	P	P	13 49 28.8	+1.6
	comp=Z,1.0nm,0.8s,baz=288,slow=5.0,SNR=6.9						
TORD				pP	pP	13 50 05.2	+1.7
	comp=Z,1.0nm,0.7s,baz=272,slow=3.7,SNR=4.9						
	comp=Z,1.0nm,0.8s						
PDAR	Pinedale Array	84.28	330	P	P	13 49 49.9	+1.2
	comp=Z,0.1nm,0.4s,baz=142,slow=4.6,SNR=1.7						
	comp=Z,0.1nm,0.4s						
NVAR	Mina Array Bea	84.96	322	pP	pP	13 50 31.3	+2.4
	comp=Z,0.2nm,0.3s,baz=124,slow=8.0,SNR=4.6						
ASAR	Alice Springs	120.54	203	PKP	PKPdf	13 56 07.7	-0.5
	comp=Z,0.3nm,0.9s,baz=150,slow=1.4,SNR=1.8						
WRA	Warramunga Arr	123.84	205	PKP	PKPdf	13 56 14.2	-0.3
	comp=Z,0.2nm,0.3s,baz=167,slow=1.5,SNR=7.1						
KURBB	Kurchatov Arra	149.13	44	PKPbc	PKiKP	13 57 05.7	+0.6
	comp=Z,1.2nm,0.6s,baz=300,slow=3.3,SNR=18						
KURBB				pPKPbc	pPKPbc	13 57 43.9	+1.5
	comp=Z,2.0nm,0.6s,baz=297,slow=3.2,SNR=9.3						
ZALV	Zalesovo Beam	150.86	34	PKPbc	PKiKP	13 57 09.2	+0.7
	comp=Z,3.2nm,0.6s,baz=296,slow=3.2,SNR=14						
ZALV				pPKPbc	pPKPbc	13 57 47.7	+1.1
	comp=Z,1.7nm,0.5s,baz=310,slow=3.0,SNR=4.7						
MKAR	Makanchi Array	152.87	49	PKPbc	PKiKP	13 57 14.1	+1.1
	comp=Z,0.2nm,0.6s,baz=306,slow=2.7,SNR=3.6						
MKAR				pPKPbc	pPKPbc	13 57 50.6	-0.8
	comp=Z,0.5nm,0.8s,baz=296,slow=1.9,SNR=3.2						
PZH	PanZhiHua	168.84	120	PKP	PKPdf	13 57 22.0	-1.3

*IDC **01** 13:40:37.8±1.6, 52°.72S×19°.59E, h0km, mb3.6/3, mbtmp3.6/3, MS2.9/4, Error ellipse: s-maj=55.0km s-min=47.0km az=158.0*

ISC 01 13:40:38.4±1.6**, 52°.6S**±0°.3×**19°.4E**±0°.3**, h10**km**, n15, σ0§98**/8**, mb3.8**/3**, MS2.8**/4**, Southwest of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SUR	Sutherland	20.20	4	LR	LR	13 50 52.2	
	comp=Z,36nm,20.6s,baz=192,slow=30						
TROLL	Troll, Antarti	20.86	195	P	P	13 45 19.3	-0.8
	comp=Z,127nm,0.8s						
SNAA	Sanae	21.53	199	P	P	13 45 26.8	-0.5
SNAA	Sanae	21.53	199	P	P	13 45 26.8	-0.5
	comp=Z,1.3nm,0.7s,baz=57,slow=11,SNR=7.4						
	comp=Z,1.3nm,0.7s						
H04S2	CROZET ISLANDS	21.67	88	T	T	14 08 07.0	
	baz=242,slow=75,SNR=5.5						
H04S3	CROZET ISLANDS	21.67	88	T	T	14 08 04.9	
	baz=242,slow=75,SNR=5.9						
H04S1	CROZET ISLANDS	21.69	88	T	T	14 08 01.0	
	baz=242,slow=75,SNR=9.1						
VNA2	Neumayer--Watz	21.99	203	P	P	13 45 33.8	+1.7
	baz=40,slow=8.0						
BOSA	Boshof	24.33	13	LR	LR	13 53 21.6	
	comp=Z,41nm,20.6s,baz=196,slow=31						
LBTB	Lobatse	27.92	12	LR	LR	13 56 03.4	
	comp=Z,23nm,19.4s,baz=186,slow=33						
TSUM	Tsumeb	33.33	357	LR	LR	13 58 58.5	
	comp=Z,20nm,21.3s,baz=198,slow=33						
ASAR	Alice Springs	85.19	123	P	P	13 53 15.4	+0.4
	comp=Z,0.4nm,0.7s,baz=206,slow=4.5,SNR=7.6						
	comp=Z,0.4nm,0.7s						
WRA	Warramunga Arr	88.50	121	P	P	13 53 31.3	+0.1
	comp=Z,0.5nm,1.0s,baz=219,slow=5.0,SNR=2.3						
	comp=Z,0.5nm,1.0s						
PDAR	Pinedale Array	144.92	275	PKPbc	PKPbc	14 00 14.6	+0.2
	comp=Z,0.1nm,0.5s,baz=116,slow=6.1,SNR=2.0						
NVAR	Mina Array Bea	147.64	261	PKPbc	PKiKP	14 00 24.0	-0.7
	comp=Z,0.3nm,0.7s,baz=101,slow=4.7,SNR=2.3						

*TRN **01** 13:41:03.4, 10°.71N×62°.29W, h84km, MD3.0*
*FUNV **01** 13:41:05.0, 10°.50N×62°.35W, h30km, MW3.0*

ISC 01 13:41:02.7±1.6**, 10°.70N**±0°.09×**62°.39W**±0°.06**, h79**km±17km**, n11, σ1§50**/18**, 1D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUV	Carupano	0.83	268	⇓eP	Pn	13 41 20.3	+0.6
CRUV				eS	Sn	13 41 32.0	-0.4
TRN	Trinidad (W)	0.97	93	eP	Pn	13 41 22.0	+0.6
TRN				eS	Sn	13 41 34.4	-0.9
GRGR	Grenville	1.60	27	eP	Pn	13 41 29.8	+0.5
GRGR				eS	Sn	13 41 48.9	-0.5
GCMP	Grenada, Carri	2.01	28	eP	Pn	13 41 35.1	+0.4
GCMP				eS	Sn	13 41 58.6	-0.5
PCRV	Puerto La Cruz	2.27	257	eP	Pn	13 41 39.6	+1.4
PCRV				eS	Sn	13 42 04.4	-0.9
TACV	Tcata	4.59	263	eP	Pn	13 42 11.4	+1.7
TACV				eS	Sn	13 43 00.3	-1.6
CACV	CAICARA DEL OR	5.14	233	eP	Pn	13 42 12.4	-4.8
CACV				eS	Sn	13 43 01.3	-14
TURV	Turiamo	5.36	268	eP	Pn	13 42 21.8	+1.6
TURV				eS	Sn	13 43 19.0	-1.7
BAUV	El Baul	5.83	253	eP	Pn	13 42 26.6	-0.1
BAUV				eS	Sn	13 43 28.7	-3.5
BAUV	El Baul	5.83	253	eP	Pn	13 42 28.4	+1.8
BAUV	El Baul	5.83	253	eS	Sn	13 43 32.3	0.0

IDC 01 13:45:21.1±1.5**, 22°.80N**×**95°.86E, h0**km**, mb3.3**/3**, mbtmp3.3**/4**, ML3.8**/1**, Error ellipse: s-maj=41.0km s-min=17.7km az=60.0, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	5.20	146	Pn	Pn	13 46 40.2	0.0
	0.8nm,0.3s,baz=322,slow=13,SNR=14						
CMAR				Pg	Pb	13 46 56.3	+3.4
	1.2nm,0.3s,baz=324,slow=18,SNR=5.7						
CMAR				Lg	Lg	13 48 07.2	
	3.0nm,0.3s,baz=320,slow=29,SNR=9.2						
	2.1nm,0.5s						
MKAR	Makanchi Array	26.32	339	P	P	13 50 58.4	-0.2
	0.3nm,0.6s,baz=146,slow=10,SNR=2.8						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	30.89	338	P	P	13 51 39.8	+0.6
	0.2nm,0.5s,baz=144,slow=9.1,SNR=1.9						
	0.2nm,0.5s						
WRA	Warramunga Arr	56.71	136	P	P	13 55 06.2	-0.6
	0.2nm,0.7s,baz=320,slow=7.4,SNR=1.8						
	0.2nm,0.7s						

*IDC **01** 13:48:27.0±0.8, 22°.20S×67°.82W, h142km±9km, mb3.6/6, mbtmp4.0/9, Error ellipse: s-maj=23.2km s-min=17.5km az=128.0*
*SJA **01** 13:48:27.0±0.7, 22°.47S×67°.98W, h170km±7km, ML4.0, MW3.8*
*NEIC **01** 13:48:28.4±2.7, 22°.48S±0°.06×67°.9W±0°.1, h155km±9km, mb4.1/10, ML4.1(GUC), Error ellipse: s-maj=19.5km s-min=8.3km az=98.0*
*GUC **01** 13:48:28.9±0.7, 22°.42S×68°.00W, h159km±4km, ML4.1*
*VAO **01** 13:48:29.0±0.3, 22°.17S×67°.68W, h129km, mb4.3*

ISC 01 13:48:27.7±0.6**, 22°.42S**±0°.03×**67°.89W**±0°.04**, h156**km±6km**, n115, σ1§55**/152**, mb4.1**/9**, 11C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AF01	San Pedro de A	0.59	207		Pn	13 48 51.0	+0.4
AF01	San Pedro de A	0.59	207	eP	Pn	13 48 50.9	+0.3
AF01				eS	Sn	13 49 08.3	+0.2
AF01				IAML		13 49 26.2	
	comp=N,1μm,0.6s						
LVC	Limon Verde	0.96	259	Pn	Pn	13 48 53.4	+0.3
LVC	Limon Verde	0.96	259	eP	Pn	13 48 53.4	+0.3
LVC				eS	Sn	13 49 12.8	+0.2
LVC	Limon Verde	0.96	259	eP	Pn	13 48 53.5	+0.3
LVC	Limon Verde	0.96	259	P	Pn	13 48 53.1	0.0
	comp=N,536nm,0.4s,baz=114,slow=5.1,SNR=1415						
LVC				S	Sn	13 49 11.3	-1.2
	comp=N,618nm,0.4s,baz=104,slow=4.8,SNR=19						
LVC	Limon Verde	0.96	259	⇑iP	Pn	13 48 53.4	+0.3
LVC				eS	Sn	13 49 11.6	-1.0
LVC				IAML		13 49 13.3	
	comp=N,6μm,0.5s						
PB09	IPOC Station P	1.40	296		Pn	13 48 57.9	+0.9
PB09	IPOC Station P	1.40	296	eP	Pn	13 48 57.8	+0.9
PB09	IPOC Station P	1.40	296	⇑iP	Pn	13 48 57.8	+0.9
PB09				eS	Sn	13 49 19.1	-0.2
PB06	IPOC Station P	1.58	259		Pn	13 48 59.0	+0.3
PB06	IPOC Station P	1.58	259	eP	Pn	13 48 59.0	+0.3
PB06				eS	Sn	13 49 23.7	+1.2
PB06				IAML		13 49 25.8	
	comp=Z,640nm,0.4s						
PB06	IPOC Station P	1.58	259	⇑iP	Pn	13 48 58.9	+0.2
PB06				eS	Sn	13 49 21.8	-0.7
PB06				IAML		13 49 25.3	
	comp=N,1μm,0.3s						
PB15	IPOC Station P	1.66	242	eP	Pn	13 48 59.6	+0.1
PB15				eS	Sn	13 49 24.6	+0.5
PB15	IPOC Station P	1.66	242	eP	Pn	13 49 00.1	+0.5
PB15				eS	Sn	13 49 24.0	0.0
PB07	IPOC Station P	1.98	290	eP	Pn	13 49 03.5	+0.4
PB07				eS	Sn	13 49 30.2	-0.2
PB07				IAML		13 49 31.1	
	comp=Z,698nm,0.3s						
PB07	IPOC Station P	1.98	290	⇑iP	Pn	13 49 03.6	+0.5
PB07				eS	Sn	13 49 29.5	-0.8
PB07				IAML		13 49 30.2	
	comp=N,1μm,0.3s						
PB01	IPOC Station P	2.02	312	eP	Pn	13 49 04.0	+0.4
PB01				eS	Sn	13 49 32.2	+1.0
PB01				IAML		13 49 32.8	
	comp=Z,591nm,0.2s						
PB01	IPOC Station P	2.02	312	⇑iP	Pn	13 49 04.2	+0.6
PB01				eS	Sn	13 49 30.9	-0.3
PB01				IAML		13 49 32.4	
	comp=N,1μm,0.3s						
PB04	IPOC Station P	2.09	272	eP	Pn	13 49 04.7	+0.2
PB04				eS	Sn	13 49 32.2	-0.5
PB04				IAML		13 49 34.5	
	comp=Z,822nm,0.1s						
PB04	IPOC Station P	2.09	272	⇑iP	Pn	13 49 04.6	+0.2
PB04				eS	Sn	13 49 31.4	-1.3
PB04				IAML		13 49 33.5	
	comp=N,1μm,0.4s						
PB02	IPOC Station P	2.16	300	eP	Pn	13 49 05.5	+0.3
PB02				eS	Sn	13 49 33.6	-0.5
PB02				IAML		13 49 35.9	
	comp=Z,734nm,0.3s						
PB02	IPOC Station P	2.16	300	⇑iP	Pn	13 49 05.4	+0.3
PB02				eS	Sn	13 49 33.0	-1.1
PB02				IAML		13 49 35.2	
	comp=E,863nm,0.2s						
PB08	IPOC Station P	2.56	332	eP	Pn	13 49 11.8	+1.6
PB08				eS	Sn	13 49 44.5	+1.5
PB08				IAML		13 49 47.0	
	comp=Z,342nm,0.3s						
PB08	IPOC Station P	2.56	332	⇑iP	Pn	13 49 11.8	+1.6
PB08				eS	Sn	13 49 43.8	+0.7
PB08				IAML		13 49 46.9	
	comp=E,657nm,0.6s						
PATCX	Punta Patache	2.64	307		Pn	13 49 10.8	0.0
PATCX	Punta Patache	2.64	307	eP	Pn	13 49 11.0	0.0
PATCX				eS	Sn	13 49 44.6	+0.2
PATCX	Punta Patache	2.64	307	⇑iP	Pn	13 49 10.9	0.0
PATCX				eS	Sn	13 49 42.5	-1.8
PATCX				IAML		13 49 44.5	
	comp=E,670nm,0.3s						
TA01	Diego Aracena	2.82	310	Pn	Pn	13 49 13.1	0.0
TA01	Diego Aracena	2.82	310	eP	Pn	13 49 12.3	-0.8
TA01				eS	Sn	13 49 47.2	-1.0
TA01				IAML		13 49 52.5	
	comp=Z,251nm,0.5s						
TA01	Diego Aracena	2.82	310	eP	Pn	13 49 13.1	0.0
TA01				eS	Sn	13 49 46.6	-1.6
TA01				IAML		13 49 48.4	
	comp=E,474nm,0.4s						
HMBC	Humberstone	2.83	319	eP	Pn	13 49 13.0	-0.4
HMBC				eS	Sn	13 49 47.5	-1.2
HMBC	Humberstone	2.83	319	⇑iP	Pn	13 49 13.0	-0.4
HMBC				eS	Sn	13 49 46.9	-1.8
TA02	Huaiquique	2.99	315	eP	Pn	13 49 14.8	-0.4
TA02				eS	Sn	13 50 03.0	+11
TA02				IAML		13 50 03.1	
	comp=Z,845nm,0.5s						
GO01	Chusmiza	3.00	336		Pn	13 49 17.0	+1.2
GO01	Chusmiza	3.00	336	eP	Pn	13 49 16.9	+1.0
GO01				eS	Sn	13 49 54.6	+1.7
GO01	Chusmiza	3.00	336	eP	Pn	13 49 16.8	+1.0
GO01				eS	Sn	13 49 53.2	+0.2
PB11	IPOC Station P	3.12	328	eP	Pn	13 49 17.1	+0.1
PB11				eS	Sn	13 49 54.9	-0.3
PB11				IAML		13 49 59.5	
	comp=Z,452nm,0.2s						
PB11	IPOC Station P	3.12	328	⇑iP	Pn	13 49 17.1	+0.1
PB11				eS	Sn	13 49 53.9	-1.3
GO02	Mina Guanaco	3.14	209	Pn	Pn	13 49 17.5	+0.2
GO02	Mina Guanaco	3.14	209	eP	Pn	13 49 17.6	+0.2
GO02				eS	Sn	13 49 55.5	-0.4
GO02	Mina Guanaco	3.14	209	⇓iP	Pn	13 49 17.5	+0.2
GO02				eS	Sn	13 49 54.0	-1.9
AZAP	Zapla	3.15	125	eP	Pn	13 49 17.9	+0.5
AZAP				eS	Sn	13 49 57.1	+1.1
AZAP				IAML		13 49 57.2	
	comp=Z,98nm,0.5s						
SLA	San Lorenzo	3.16	137	eP	Pn	13 49 19.1	+1.6
PB14	IPOC Station P	3.18	226	eP	Pn	13 49 21.3	+3.4
PB14				eS	Sn	13 49 54.7	-2.1
PB14				IAML		13 49 55.6	
	comp=Z,561nm,0.2s						
ASTB	Santa Barbara	3.51	116	eP	Pn	13 49 22.2	+0.4
PB16	IPOC Station P	4.34	339	eP	Pn	13 49 33.9	+0.7
PB16				eS	Sn	13 50 24.5	+0.5
PB16				IAML		13 50 30.3	
	comp=Z,118nm,0.4s						
PB12	IPOC Station P	4.43	328	eP	Pn	13 49 32.3	-1.5
PB12				eS	Sn	13 50 23.3	-2.0
PB12				IAML		13 50 24.9	
	comp=Z,134nm,0.2s						
AC01	Pan de Azucar	4.46	213	Pn	Pn	13 49 32.7	-1.4
AC01	Pan de Azucar	4.46	213	eP	Pn	13 49 32.6	-1.4
AC01				eS	Sn	13 50 18.6	-7.3
AC01				IAML		13 50 23.3	
	comp=Z,81nm,0.1s						
AC06	Mina Casimiro	5.40	204		Pn	13 49 44.3	-2.2
GO03	Copiap	5.57	202		Pn	13 49 46.9	-1.9
LPAZ	La Paz	6.11	358	Pn	Pn	13 49 57.9	+1.3
LPAZ	La Paz	6.11	358	P	Pn	13 49 58.3	+1.8
	comp=Z,22nm,0.5s,baz=162,slow=7.8,SNR=67						
LPAZ				S	Sn	13 51 06.3	+0.3
	comp=Z,3.7nm,0.6s,baz=351,slow=16,SNR=1.1						
AC05	El Transito	6.74	198		Pn	13 50 01.7	-2.6
LCO	Las Campanas	7.03	201		Pn	13 50 05.0	-3.4
GO04	Tololo Observa	8.15	198		Pn	13 50 19.7	-3.5
BBSD	Serra de San D	8.61	54	eP	Pn	13 50 26.3	-2.9
BBRB	Robore, Bolivi	8.63	63	eP	Pn	13 50 25.3	-4.2
CO06	Fray Jorge	8.87	201	Pn	Pn	13 50 27.3	-5.3
SIV	San Ignacio	9.08	46	P	Pn	13 50 32.2	-3.3
	comp=Z,32nm,0.4s,baz=238,slow=10,SNR=94						
SIV				S	Sn	13 52 08.1	-8.3
	comp=Z,17nm,0.6s,baz=158,slow=22,SNR=13						
CO02	Combarbal	9.17	197	Pn	Pn	13 50 33.0	-3.8
MURT	Porto Murtinho	9.56	87	eP	Pn	13 50 40.6	-1.3
BDQN	Bodoquena, MS	10.56	81	eP	Pn	13 50 53.4	-1.6
PTLB	Pontes e Lacer	10.80	52	Pn	Pn	13 50 56.8	-1.5
PTLB	Pontes e Lacer	10.80	52	eP	Pn	13 50 56.4	-1.8
ANTJ	Antonio Joao (	11.02	90	eP	Pn	13 51 00.7	-0.3
AMBA	Amambai (Brazi	11.92	95	eP	Pn	13 51 12.8	0.0
VILB	Vilhena	11.93	39		Pn	13 51 11.8	-1.2
VILB	Vilhena	11.93	39	eP	Pn	13 51 11.9	-1.1
ETMB	Extrema	12.64	8		Pn	13 51 20.8	-1.3
ETMB	Extrema	12.64	8	eP	Pn	13 51 20.8	-1.3
UNIS	Unistalda (Bra	13.30	122	eP	Pn	13 51 32.4	+1.8
RODS	Rosario do Sul	13.84	127	eP	P	13 51 41.1	+0.6
SAML	Samuel	14.14	19	eP	Pn	13 51 39.9	-1.3
ALGR	Alto Alegre (B	14.83	118	eP	P	13 51 52.6	+1.0
ITAB	Concordia	15.08	112	P	P	13 51 54.9	+0.5
ITAB	Concordia	15.08	112	eP	P	13 51 55.2	+0.8
PDRB	Porto dos Gac	15.14	47	eP	Pn	13 51 53.3	-0.3
CPSB	Cacapava Do Su	15.18	125	eP	P	13 51 56.0	+0.5
LDASE	Londrina, Braz	15.49	97	eP	P	13 52 00.3	+1.4
PLTB	Pedras Altas	15.74	129	P	Pn	13 52 00.9	-0.2
PLTB				IAmb	IAmb	13 52 02.8	
	comp=Z,18nm,1.1s						
TRQA	Tornquist	16.39	163	P	P	13 52 09.2	+0.4
FRTB	Fartura	16.91	97	eP	Pn	13 52 15.6	+0.3
GO06	Curarrehue	17.38	189	P	P	13 52 20.6	+0.9
GO06				IAmb	IAmb	13 52 22.1	
	comp=Z,8.5nm,0.8s						
BB19B	Bebedouro	18.04	89	eP	P	13 52 28.1	+0.9
PLCA	Paso Flores	18.39	186	P	Pn	13 52 33.1	+0.3
	comp=Z,0.7nm,0.6s,baz=43,slow=15,SNR=1.5						
RCLB	Rio Claro- Sao	18.82	94	eP	P	13 52 36.6	+0.9
SNDB	Serra Nova Dou	18.94	59	eP	P	13 52 36.6	-0.3
IPMB	Ipameri, GO	18.98	80	eP	P	13 52 37.8	+0.4
PET01	Itanhaem-SP	19.02	100	eP	P	13 52 38.3	+0.7
TEFE	Tefe	19.07	10	eP	P	13 52 39.5	+1.3
NPGB	Novo Progresso	19.49	40	eP	P	13 52 41.8	-1.0
BDFB	Brasilia	19.95	74	P	P	13 52 47.8	-0.2
	comp=Z,2.0nm,0.5s,baz=252,slow=13,SNR=3.1						
LL01	San Ignacio de	20.25	190	P	P	13 52 52.1	+1.3
MACA	Manacapuru-AM	20.39	21	P	P	13 52 52.2	-0.3
MACA	Manacapuru-AM	20.39	21	eP	P	13 52 52.2	-0.3
PMNB	Patos De Minas	20.46	83	eP	P	13 52 53.5	+0.1
ITTB	Itaituba	21.47	35	eP	P	13 53 03.5	-0.5
SGCB	S£o Gabriel d	22.18	2	eP	P	13 53 11.9	+0.6
BOAV	Boa Vista	25.70	17	P	P	13 53 44.0	+0.5
BOAV				IAmb	IAmb	13 53 49.0	
	comp=Z,4.1nm,0.8s						
BOAV	Boa Vista	25.70	17	eP	P	13 53 45.5	+1.9
RIB01	Linhares ES	25.86	88	eP	P	13 53 45.3	+0.2
SNAA	Sanae	61.10	161	P	P	13 58 25.6	+0.7
SNAA				IAmb	IAmb	13 59 05.0	
	comp=Z,4.6nm,1.5s						
TXAR	Lajitas Array	61.93	325	P	P	13 58 31.1	0.0
	comp=Z,0.2nm,0.6s,baz=1.3,slow=16,SNR=4.6						
	comp=Z,0.2nm,0.6s						
QSPA	South Pole Qui	67.77	180	P	P	13 59 10.8	+2.4
QSPA				IAmb	IAmb	13 59 39.9	
	comp=Z,3.2nm,1.4s						
QSPA	South Pole Qui	67.77	180	P	P	13 59 11.1	+2.7
	comp=Z,1.0nm,0.5s,baz=298,slow=0.6,SNR=22						
	comp=Z,1.0nm,0.5s						
DBIC	Dimbokro	68.10	73	P	P	13 59 11.2	+0.1
	comp=Z,1.8nm,0.4s,baz=116,slow=2.8,SNR=3.4						
	comp=Z,1.8nm,0.4s						
ULM	Lac du Bonnet	76.48	342	P	P	14 00 00.0	0.0
	comp=Z,1.1nm,0.5s,baz=97,slow=13,SNR=2.0						
	comp=Z,1.1nm,0.5s						
TOA0	Torodi Ar. Sit	76.78	70	P	P	14 00 03.4	+0.9
TOA0				IAmb	IAmb	14 00 04.4	
	comp=Z,2.6nm,0.6s						
TORD	Torodi Ar. Bea	76.78	70	P	P	14 00 03.4	+0.9
TORD	Torodi Ar. Bea	76.78	70	P	P	14 00 02.5	0.0
	comp=Z,1.5nm,0.4s,baz=257,slow=5.7,SNR=24						
	comp=Z,1.5nm,0.4s						
BOSA	Boshof	82.18	118	P	P	14 00 32.0	+0.2
	comp=Z,1.7nm,1.0s,baz=243,slow=4.5,SNR=1.5						
	comp=Z,1.7nm,1.0s						
MKAR	Makanchi Array	145.81	37	PKPbc	PKPdf	14 07 46.9	-0.8
	comp=Z,0.2nm,0.6s,baz=319,slow=5.7,SNR=1.9						
PZH	PanZhiHua	169.72	65	PKP	PKPdf	14 08 14.5	-2.8

*NEIC **01** 13:51:42.6±1.9, 49°.87N±0°.04×94°.42W±0°.03, h11km±5km, mb_Lg2.5(OTT), Error ellipse: s-maj=6.5km s-min=3.0km az=192.0*
*OTT **01** 13:51:43.3±0.1, 49°.91N×94°.39W, h2km, MN2.5/6, 11km northeast from Kenora, On*

ISC 01 13:51:42.6±1.1**, 49°.94N**±0°.05×**94°.40W**±0°.03**, h11**km±10km**, n21, σ1§47**/37**, Ontario**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EPLO	Experimental L	0.51	121	Pg	Pg	13 51 52.1	-0.4
EPLO				Sg	Sg	13 51 58.8	-0.5
EPLO	Experimental L	0.51	121	PG	Pg	13 51 52.1	-0.4
EPLO				SG	Sg	13 51 58.8	-0.5
EPLO				Trac		13 52 02.4	
	comp=Z,15nm,0.1s						
ULM	Lac du Bonnet	1.00	289	Pg	Pg	13 52 01.6	-0.3
ULM				Sg	Sg	13 52 15.2	+0.2
ULM	Lac du Bonnet	1.00	289	PG	Pg	13 52 01.6	-0.3
ULM				SG	Sg	13 52 15.2	+0.2
ULM				Trac		13 52 18.3	
	comp=Z,31nm,0.1s						
SOLO	Sioux Lookout	1.50	86	Pn	Pb	13 52 11.0	+0.5
SOLO					Sn	13 52 30.3	+1.3
SOLO	Sioux Lookout	1.50	86	PN	Pb	13 52 11.0	+0.5
SOLO				SG	Sn	13 52 30.3	+1.3
SOLO				Trac		13 52 34.1	
	comp=Z,12nm,0.1s						
AGMN	Agassiz Nation	1.91	211	Pn	Pn	13 52 14.7	-0.4
ATKO	Atikokan Iron	2.14	120	Pn	Pn	13 52 19.8	+1.5
ATKO				Sn	Sn	13 52 45.7	+0.8
ATKO	Atikokan Iron	2.14	120	PN	Pn	13 52 19.8	+1.5
ATKO				SN	Sn	13 52 45.7	+0.8
ATKO				LG	Lg	13 52 49.2	
ATKO				Trac		13 52 49.3	
	comp=Z,3.8nm,0.1s						
EYMN	Ely	2.76	135		Pn	13 52 28.5	+1.7
EYMN				Sn	Sn	13 53 00.4	+0.2
EYMN	Ely	2.76	135	Pn	Pn	13 52 26.1	-0.8
EYMN	Ely	2.76	135	PN	Pn	13 52 28.5	+1.7
EYMN				SN	Sn	13 53 00.4	+0.2
PKLO	Pickle Lake	3.01	57	Pn	Pn	13 52 31.4	+1.2
PKLO				Sn	Sn	13 53 07.3	+1.1
PKLO	Pickle Lake	3.01	57	PN	Pn	13 52 31.4	+1.2
PKLO				SN	Sn	13 53 07.3	+1.1
PKLO				LG	Lg	13 53 17.4	
PKLO				Trac		13 53 24.1	
	comp=Z,3.2nm,0.1s						
TBO	Thunder Bay	3.51	110	Pn	Pn	13 52 38.4	+1.2
TBO				Sn	Sn	13 53 17.7	-0.9
TBO	Thunder Bay	3.51	110	PN	Pn	13 52 38.4	+1.2
TBO				SN	Sn	13 53 17.7	-0.9
TBO				Trac		13 53 43.8	
	comp=Z,12nm,0.4s						
F36A	Milaca	4.12	172	Pn	Pn	13 52 45.7	+0.2
VIMO	Victor Mine	7.26	63	Pn	Pn	13 53 28.6	+0.1
VIMO				Sn	Sn	13 54 47.7	-3.2
VIMO	Victor Mine	7.26	63	PN	Pn	13 53 28.6	+0.1
VIMO				SN	Sn	13 54 47.7	-3.2
VIMO				LG	Lg	13 55 30.4	
VIMO				Trac		13 55 37.4	
	comp=Z,128nm,2.0s						
KAPO	Kapuskasing	7.73	89	Sn	Sn	13 54 59.0	-3.5
KAPO	Kapuskasing	7.73	89	SN	Sn	13 54 59.0	-3.5

DJA 01 13:54:46.5±0.4**, 8°S**±4°×**11°6E**±°**, h12**km±4km**, M3.7**/11**, mb3.8**/2**, MLv3.7**/11**, Bali region**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRBI	Singaraja	0.44	296	Pg	Pg	13 54 54.8	-0.4
SRBI				Sg	Sg	13 55 01.4	+0.4
DNP	Denpasar	0.56	225	P	Pb	13 54 58.0	-0.2
DNP				S	Sb	13 55 07.4	+1.2
IGBI	Denpasar	0.70	221	P	Pg	13 54 59.9	-0.3
TWSI	Taliwang, Sumb	1.34	110	P	Pn	13 55 09.9	-1.1
TWSI				S	Sb	13 55 28.7	0.0
ABJI	Asem Bagus	1.45	289	P	Pn	13 55 12.3	-0.2
ABJI				S	Sg	13 55 32.9	-0.2
JAGI	Jajag, Banyuwa	1.46	262	P	Pn	13 55 11.0	-1.6
JAGI				S	Sn	13 55 29.9	-1.8
BLJI	Banyuglugur	2.06	285	P	Pn	13 55 22.1	+1.1
PLAI	Plampang	2.21	104	P	Pn	13 55 22.9	-0.1
PLAI				S	Sn	13 55 50.3	0.0
BKSI	Bulukumba	5.36	57	P	Pn	13 56 04.2	-2.1
	17nm,1.2s,0.1nm						
EDFI	Ende, Flores	6.03	95	P	Pn	13 56 16.1	+0.4

TEH 01 14:01:06.5, 30.73N×57.39E, h8km±126km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHGB	Koh Gabri	0.86	246	Pg	Pg	14 01 22.9	-0.3
TVBK	TV Kerman	0.92	217	Pg	Pb	14 01 25.0	0.0
IBAF	Bafgh	1.78	299	Pg	Pb	14 01 39.8	+0.2
KBAM	BAM	1.83	150	Pn	Pb	14 01 40.2	-0.2
BSRN	Basiran	1.93	50	Pn	Pb	14 01 41.5	-0.5
IKOO	Kooshah	2.18	39	Pn	Pb	14 01 45.9	-0.5
TPRV	Parvadeh(Tabas	2.37	346	Pn	Pn	14 01 47.5	+1.7
IMEH	Mehriz	2.47	286	Pn	Pb	14 01 49.5	-2.0
BAGH	Bagheran - Bir	2.56	37	Pn	Pb	14 01 51.4	-1.6
ICHK	Chekchek	2.96	301	Pn	Pn	14 01 56.4	+2.3
AFRZ	Afriz	3.02	27	Pn	Pn	14 01 56.6	+1.7
ISAD	Sadrabad	3.38	291	Pn	Pn	14 02 01.4	+1.5
IAKL	Akhelmad	5.97	11	Pn	Pn	14 02 37.8	+2.3

IDC 01 14:04:43.7±4.0, 20.14S×168.83E, h0km, mb4.3/3, mbtmp4.3/3, MS3.0/2, Error ellipse: s-maj=243.2km s-min=37.7km az=159.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	21.20	266	LR	LR	14 15 57.8	
	comp=Z,43nm,19.3s,baz=82,slow=32						
ASAR	Alice Springs	32.54	257	P	P	14 11 16.8	+0.1
	0.9nm,0.8s,baz=85,slow=8.6,SNR=3.2						
ASAR				LR	LR	14 23 34.6	
	comp=Z,25nm,20.6s,baz=58,slow=35						
	0.9nm,0.8s						
LEM	Lembang	60.67	273	P	P	14 14 57.1	-0.3
	15nm,0.6s,baz=324,slow=21,SNR=2.0						
	15nm,0.6s						
NVAR	Mina Array Bea	89.69	49	P	P	14 17 43.9	-0.2
	0.4nm,0.6s,baz=243,slow=8.0,SNR=4.8						
	0.4nm,0.6s						
GERES	GERESS Array B	145.09	331	PKPbc	PKPbc	14 24 22.1	-0.5
	0.3nm,0.4s,baz=20,slow=4.3,SNR=3.9						

*IDC **01** 14:05:00.2±0.8, 1.92S×124.67E, h0km, mb4.0/10, mbtmp4.1/12, ML4.2/2, MS2.9/3, Error ellipse: s-maj=32.9km s-min=15.8km az=75.0*
*DJA **01** 14:05:05.8±0.9, 2°S±2°×12°5E±°, h32km±13km, M4.3/20, mb4.4/11, mB5.0/4, MLv4.3/20, Mw(mB)4.4/4*
*NEIC **01** 14:05:08.6±1.1, 2.0S±0.1×124.69E±0.06, h59km±11km, mb4.0/6, Error ellipse: s-maj=18.3km s-min=8.7km az=192.0*
ISC 01 14:05:05.2±0.6, 2.06S±0.05×124.59E±0.04, h31km, n43, σ1.22/49, mb3.9/11, Ceram Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANI	Sanana	1.40	90	P	Pn	14 05 27.0	-1.6
SANI				S	Sn	14 05 43.8	-2.2
LUWI	Luwuk	2.08	299	Pn	Pb	14 05 41.9	-0.4
LUWI	Luwuk	2.08	299	P	Pn	14 05 38.6	+0.6
LUWI				S	Sn	14 06 06.0	+3.1
KMSI	Cibinong	2.69	347	P	Pn	14 05 46.6	+0.2
KMSI				S	Sn	14 06 19.1	+1.2
NLAI	Namlea	2.77	115	P	Pn	14 05 48.7	+1.3
NLAI				S	Sn	14 06 20.6	+0.8
LBMI	Labuha	3.24	64	P	Pn	14 05 53.9	0.0
LBMI				S	Sn	14 06 32.0	+0.6
MRSI	Marisa	3.66	314	P	Pn	14 05 59.8	+0.1
MRSI				S	Sn	14 06 40.6	-1.2
BBSI	Bau Bau	3.95	211	P	Pn	14 06 03.9	+0.1
TNTI	Ternate	3.95	45	P	Pn	14 06 06.4	+2.6
TTSI	Tana Toraja	4.87	258	P	Pn	14 06 15.0	-1.3
TOLI2	Tolitoli	4.94	310		Pn	14 06 19.3	+1.9
SPSI	Sidrap Palu	5.17	248	P	Pn	14 06 20.6	+0.1
	113nm,0.7s,2µm0.5nm						
MPSI	Mapaga	5.26	297	P	Pn	14 06 22.3	+0.5
	20nm,0.7s,2µm0.2nm						
BKSI	Bulukumba	5.51	234	P	Pn	14 06 25.2	0.0
	22nm,0.9s,0.1nm						
KAPI	Kappang	5.65	239	Pn	Pn	14 06 26.9	-0.2
	4.0nm,0.3s,baz=149,slow=18,SNR=5.3						
KAPI				Sn	Sn	14 07 28.9	-2.1
	0.9nm,0.3s,baz=183,slow=23,SNR=1.3						
KAPI				LR	LR	14 08 50.2	
	comp=Z,71nm,18.9s,baz=1.5,slow=40						
	14nm,0.4s						
SWI	Sorong	6.77	80	P	Pn	14 06 44.0	+1.4
	19nm,0.7s,0.1nm						
EDFI	Ende, Flores	7.24	203	P	Pn	14 06 49.6	+0.5
	48nm,0.6s,805nm0.2nm						
FAKI	Fak Fak	7.70	97	Pn	Pn	14 06 56.2	+0.9
FAKI	Fak Fak	7.70	97	P	Pn	14 06 56.6	+1.3
	11nm,0.7s,0.1nm						
BATI	Baumata	8.14	186	Pn	Pn	14 07 03.4	+2.0
	5.3nm,0.3s,baz=16,slow=4.6,SNR=8.8						
BATI				LR	LR	14 10 16.2	
	comp=Z,140nm,19.4s,baz=353,slow=38						
	43nm,0.6s						
DAV	Davao City (W)	9.12	6	LR	LR	14 11 06.1	
	comp=Z,59nm,20.3s,baz=177,slow=41						
MYLDM	Lahad Datu	9.42	320	Pn	Pn	14 07 21.5	+2.6
MTN	Manton Dam	12.52	149	Pn	Pn	14 08 02.3	+0.9
WB0	Warramunga Arr	20.04	152	P	P	14 09 36.9	+1.0
WRA	Warramunga Arr	20.16	152	P	P	14 09 37.6	+0.3
WRA	Warramunga Arr	20.16	152	P	P	14 09 37.5	+0.3
	7.6nm,0.7s,baz=327,slow=12,SNR=29						
	7.6nm,0.7s						
WB2	Warramunga Arr	20.17	152	P	P	14 09 37.9	+0.6
WB2				IAmb	IAmb	14 09 42.0	
	comp=Z,7.2nm,0.7s						
WR0	Warramunga Arr	20.27	152	P	P	14 09 39.0	+0.5
WR0				IAmb	IAmb	14 09 43.3	
	comp=Z,8.8nm,0.8s						
AS31	Alice Springs	23.29	158	P	P	14 10 11.3	+0.7
AS31				IAmb	IAmb	14 10 23.0	
	comp=Z,1.2nm,0.8s						
ASAR	Alice Springs	23.30	158	P	P	14 10 11.6	+1.0
ASAR	Alice Springs	23.30	158	P	P	14 10 11.3	+0.7
	comp=Z,3.5nm,0.8s,baz=334,slow=9.7,SNR=37						
	comp=Z,3.5nm,0.8s						
CMAR	Chiang Mai Arr	32.45	310	P	P	14 11 33.1	+0.2
	comp=Z,0.7nm,0.4s,baz=138,slow=7.3,SNR=8.6						
	comp=Z,0.7nm,0.4s						
KSRS	Korea Array	39.44	4	P	P	14 12 31.8	-0.7
	comp=Z,1.5nm,0.8s,baz=185,slow=9.6,SNR=4.8						
	comp=Z,1.5nm,0.8s						
SONM	Songino Array	52.18	345	P	P	14 14 12.4	-0.7
	comp=Z,0.4nm,0.6s,baz=160,slow=11,SNR=2.1						
	comp=Z,0.4nm,0.6s						
MKAR	Makanchi Array	61.19	328	P	P	14 15 16.9	-0.2
MKAR	Makanchi Array	61.19	328	P	P	14 15 16.4	-0.7
	comp=Z,0.3nm,0.5s,baz=126,slow=8.3,SNR=4.3						
	comp=Z,0.3nm,0.5s						
PETK	Petropavlovsk-	61.56	22	P	P	14 15 17.5	-1.9
	comp=Z,9.7nm,1.0s,baz=256,slow=4.2,SNR=3.6						
	comp=Z,9.7nm,1.0s						
KURBB	Kurchatov Arra	65.53	330	P	P	14 15 44.6	-1.0
	comp=Z,0.9nm,0.7s,baz=130,slow=5.8,SNR=10						
	comp=Z,0.9nm,0.7s						
KURK	Kurchatov	65.55	330	P	P	14 15 45.0	-0.7
KURK				IAmb	IAmb	14 15 47.2	
	comp=Z,2.4nm,0.7s						
BVAR	Borovoye Array	71.06	329	P	P	14 16 19.0	-1.2
	comp=Z,2.5nm,0.9s,baz=132,slow=6.2,SNR=8.0						
	comp=Z,2.5nm,0.9s						
ABKAR	Akbulak array	75.32	322	P	P	14 16 46.0	+0.4
QSPA	South Pole Qui	87.88	180	P	P	14 17 51.6	0.0
QSPA	South Pole Qui	87.88	180	P	P	14 17 51.5	-0.2
	comp=Z,0.7nm,0.7s,baz=328,slow=0.8,SNR=6.3						
	comp=Z,0.7nm,0.7s						

*LDG **01** 14:14:53.7±0.1, 45.41N×6.34E, h2km, Md2.6/2, Ml2.3/12, Error ellipse: s-maj=1.8km s-min=1.5km az=93.0*
*STR **01** 14:14:53.7±0.9, 45°N±2°×°±°, h1km±7km, MLv2.2/21, Error ellipse: s-maj=0.0km s-min=0.0km az=69.7, preliminary*
GEN 01 14:14:52.6, 45.45N×6.32E, h11km±3km, Ml1.3, France

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GDM	Grand'Maison	0.29	210	Pg	Pg	14 14 58.8	+0.3
GDM				Sg	Sg	14 15 02.4	-0.1
LPL	La Plagne	0.30	78	ePg	Pg	14 14 59.3	+0.6
LPL				eSg	Sg	14 15 03.2	+0.4
	24nm,0.2s						
LPG	La Plagne	0.31	81	ePg	Pg	14 14 59.4	+0.5
LPG				eSg	Sg	14 15 03.5	+0.4
	54nm,0.4s						
RSL	Roselend	0.32	42	P	Pb	14 14 59.8	-0.6
RSL				S	Sg	14 15 03.8	+0.4
RSL	Roselend	0.32	42	Pg	Pg	14 14 59.7	+0.7
RSL				Sg	Sg	14 15 03.9	+0.5
OGMO	Fort Saint-Gob	0.35	133	P	Pb	14 15 00.6	-0.4
OGMO				S	Sg	14 15 05.2	+0.7
OGMO	Fort Saint-Gob	0.35	133	Pg	Pb	14 15 00.4	-0.6
OGMO				Sg	Sg	14 15 05.3	+0.8
OGSM	Saint Maurice	0.47	290	Pg	Pb	14 15 03.4	+0.5
OGSM				Sg	Sb	14 15 10.3	+0.5
BNI	Bardonecchia	0.47	148	P	Pg	14 15 02.4	+0.5
BNI				S	Sg	14 15 08.2	0.0
BNI	Bardonecchia	0.47	148	P	Pg	14 15 02.4	+0.5
BNI				S	Sg	14 15 08.2	0.0
LSD	Lago del Serru	0.57	89	P	Pb	14 15 04.3	-0.5
LSD				S	Sg	14 15 11.6	+0.1
LSD	Lago del Serru	0.57	89	P	Pb	14 15 04.3	-0.5
LSD				S	Sg	14 15 11.6	+0.1
LSD	Lago del Serru	0.57	89	Pg	Pb	14 15 04.4	-0.4
LSD	Lago del Serru	0.57	89	Sg	Sg	14 15 11.6	+0.2
MRGE	Morge	0.61	58	P	Pb	14 15 05.2	-0.1
ORIF	Oris-en-Rattie	0.62	210	ePg	Pg	14 15 04.5	-0.1
ORIF				eSg	Sg	14 15 12.1	-0.7
	77nm,0.3s						
ORIF	Oris-en-Rattie	0.62	210	Pg	Pg	14 15 04.8	+0.2
RRL	Rocca Remolon	0.63	148	P	Pb	14 15 05.5	-0.2
RRL				S	Sg	14 15 13.7	+0.6
RRL	Rocca Remolon	0.63	148	P	Pb	14 15 05.5	-0.2
RRL				S	Sg	14 15 13.7	+0.6
RRL	Rocca Remolon	0.63	148	Pg	Pb	14 15 05.4	-0.3
RRL	Rocca Remolon	0.63	148	Sg	Sg	14 15 13.5	+0.4
OGSI	Sixt	0.68	26	Pg	Pb	14 15 06.2	-0.4
OGSI				Pn	Pn	14 15 10.9	+2.6
RSP	Reno Superiore	0.73	114	P	Pb	14 15 07.7	+0.3
RSP				S	Sg	14 15 16.4	0.0
RSP	Reno Superiore	0.73	114	P	Pb	14 15 07.7	+0.3
RSP				S	Sg	14 15 16.4	+0.1
RSP	Reno Superiore	0.73	114	Pg	Pb	14 15 07.5	+0.1
RSP	Reno Superiore	0.73	114	Sg	Sg	14 15 16.5	+0.1
OG35	Corcelles	0.79	319	Pg	Pn	14 15 09.4	-0.3
OG35				Pn	Pb	14 15 11.7	+3.3
OG35				Sg	Sb	14 15 20.1	+0.9
OG35				Sn	Sn	14 15 23.9	+2.3
MBDF	Montbardon	0.79	156	ePg	Pg	14 15 08.0	+0.1
MBDF				eSg	Sg	14 15 16.6	-1.7
	3.8nm,0.3s						
CIRO	Champorcher	0.89	80	Pg	Pg	14 15 09.8	0.0
CREF	Crivoux	0.93	167	Pg	Pb	14 15 10.7	-0.1
CREF				Sg	Sg	14 15 22.9	+0.3
OGAG	Argentiere	1.01	171	P	Pg	14 15 06.3	-5.8
OGAG				S	Sg	14 15 15.2	-10
OGAG	Argentiere	1.01	171	P	Pg	14 15 06.3	-5.8
OGAG				S	Sg	14 15 15.2	-10
OGAG	Argentiere	1.01	171	Pg	Pg	14 15 06.2	-5.8
JAUF	Jausiers	1.07	163	Pg	Pb	14 15 13.3	+0.2
GIMEL	St. Georges /	1.08	358	Pg	Pn	14 15 15.2	+1.3
CABF	La Chapelle	1.17	352	ePg	Pg	14 15 16.3	+1.2
CABF	La Chapelle	1.17	352	eP	Pg	14 15 17.5	+2.4
CABF				eSg	Sn	14 15 32.3	+1.3
	5.9nm,0.2s						
SSB	Saint Sauveur	1.27	263	Pn	Pg	14 15 17.5	+0.6
SSB				Sg	Sg	14 15 33.8	+0.4
VIVF	Saint-Julien-l	1.31	243	ePg	Pg	14 15 18.4	+0.7
VIVF				eSg	Sg	14 15 35.4	+0.7
	20nm,0.3s						
RIVEL	MONT RIVEL	1.33	348	Pn	Pg	14 15 20.1	+1.9
OGDI	Digne	1.34	181	Pn	Pg	14 15 19.5	+1.1
TORNY	Torny/Romont	1.39	18	Pn	Pg	14 15 21.7	+2.4
BRANT	Les Verrieres	1.49	4	Pn	Pg	14 15 22.3	+1.1
BRANT				Sn	Sg	14 15 43.4	+2.9
SMRF	Simiane la Rot	1.57	200	ePg	Pg	14 15 22.7	0.0
SMRF				eSg	Sg	14 15 43.7	+0.6
	13nm,0.8s						
RUSF	Rustrel	1.62	202	Pg	Pg	14 15 26.4	+2.6
TURF	col de Turini	1.66	152	Pg	Pg	14 15 26.2	+1.7
TURF				Sg	Sg	14 15 49.6	+3.5
TRIGF	Trigance	1.71	178	Pn	Pg	14 15 25.3	0.0
SAOF	Saorge	1.71	149	Pg	Pg	14 15 26.9	+1.5
CALF	Calern	1.75	166	Pg	Pg	14 15 27.0	+0.8
BOUC	Bouclans	1.79	359	Pn	Pg	14 15 26.9	-0.1
BOUC				Sn	Sg	14 15 51.5	+1.2
SMF	Signal de Mont	2.10	306	ePg	Pg	14 15 33.4	+0.6
SMF				eSg	Sg	14 16 00.8	+0.8
	6.1nm,0.3s						
LMR	La Mourre	2.12	176	eSg	Sb	14 15 58.8	+1.4
	2.0nm,0.3s						
LASF	Ste Croix	2.23	233	ePg	Pg	14 15 34.2	-1.1
LASF				eSg	Sg	14 16 02.4	-1.8
	2.8nm,0.3s						
HINF	Hinteralfeld	2.39	9	ePg	Pg	14 15 39.2	+0.8
HINF				eSg	Sg	14 16 10.0	+0.5
	1.3nm,0.2s						
SSF	Saint Saulge	2.53	310	eSg	Sg	14 16 12.5	-1.3
	2.3nm,0.4s						
HAU	Haudompre	2.55	0	ePg	Pg	14 15 41.6	+0.1
HAU				eSg	Sg	14 16 15.2	+0.6
	8.3nm,0.3s						
BGF	Bois d'Agland	2.66	296	eP	Pn	14 15 37.8	+2.4
BGF				eSg	Sg	14 16 17.8	-0.2
	3.0nm,0.2s						
CDF	Champ du Feu	3.03	12	eSg	Sg	14 16 29.9	0.0
	1.1nm,0.2s						
MEZF	Maizieres J'vi	3.17	345	eSn	Sn	14 16 17.4	-2.8
	2.7nm,0.2s						

*LDG **01** 14:15:32.6±0.1, 45.43N×6.33E, h2km, Md1.6/2, Error ellipse: s-maj=2.4km s-min=1.7km az=119.0*
STR 01 14:15:32.7±0.5, 45°N±3°×°±°, h4km, MLv1.5/6, Error ellipse: s-maj=0.0km s-min=0.0km az=98.0, preliminary, France

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GDM	Grand'Maison	0.27	211	Pg	Pg	14 15 38.1	+0.1
GDM				Sg	Sg	14 15 41.7	+0.2
LPL	La Plagne	0.30	75	ePg	Pg	14 15 38.2	-0.5
LPL				eSg	Sg	14 15 42.3	-0.4
	3.9nm,0.4s						
LPG	La Plagne	0.31	79	ePg	Pg	14 15 38.6	-0.2
LPG				eSg	Sg	14 15 43.2	+0.2
	2.2nm,0.2s						
RSL	Roselend	0.33	41	Pg	Pg	14 15 39.1	-0.1
RSL				Sg	Sg	14 15 43.2	-0.4
OGMO	Fort Saint-Gob	0.35	131	Pg	Pg	14 15 39.7	+0.3
OGMO				Sg	Sg	14 15 44.6	+0.6
ORIF	Oris-en-Rattie	0.60	211	ePg	Pg	14 15 43.8	-0.4
ORIF				eSg	Sg	14 15 51.5	-0.6
	9.7nm,0.4s						
RRL	Rocca Remolon	0.62	147	Pg	Pg	14 15 44.3	-0.2
RRL				Sg	Sg	14 15 52.9	+0.4
MBDF	Montbardon	0.78	155	eSg	Sg	14 15 56.4	-1.4
	0.8nm,0.4s						
OG35	Corcelles	0.80	320	Pg	Pg	14 15 48.6	+0.5
OG35				Pn	Pn	14 15 50.9	+0.1
OGAG	Argentiere	0.99	171	Pg	Pg	14 15 45.6	-6.2
CABF	La Chapelle	1.19	352	ePg	Pg	14 15 54.2	-1.2
CABF	La Chapelle	1.19	352	eP	Pn	14 15 56.2	0.0

*IDC **01** 14:43:45.9±0.8, 7.49S×105.73E, h0km, mb4.0/10, mbtmp4.1/11, ML5.1/1, MS3.6/2, Error ellipse: s-maj=27.7km s-min=15.0km az=43.0*
*DJA **01** 14:43:48.9±0.3, 8°S±3°×10°6E±°, h10km, M4.1/13, MLv4.1/13*
*NEIC **01** 14:43:50.2±3.0, 7.58S±0.08×105.79E±0.07, h29km±7km, mb4.2/6, Error ellipse: s-maj=12.4km s-min=8.6km az=206.0*
ISC 01 14:43:50.4±0.6, 7.56S±0.05×105.87E±0.04, h32km, n51, σ1.47/46, mb4.0/13, Jawa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.88	51	Pg	Pn	14 44 05.7	-0.8
CGJI	Cibinong	0.96	349	Pg	Pb	14 44 08.8	+0.2
CGJI				S	Sb	14 44 21.5	+0.6
CNJI	Cibinong	1.27	79	P	Pn	14 44 10.8	-1.1
CNJI				S	Sn	14 44 26.4	-1.5
DBJI	Dramaga	1.33	41	P	Pb	14 44 13.7	-1.1
SBJI	Serang	1.46	10	P	Pb	14 44 16.3	-0.6
CBJI	Citeko	1.49	41	P	Pn	14 44 14.9	-0.1
LEM	Lembang	1.88	67	P	Pb	14 44 23.2	-1.0
LEM	Lembang	1.88	67	Pn	Pb	14 44 23.0	-1.2
	53nm,0.3s,baz=9.4,slow=19,SNR=32						
LEM				Sn	Sb	14 44 46.6	-0.7
	54nm,0.3s,baz=118,slow=22,SNR=16						
LEM				LR	LR	14 45 20.2	
	comp=Z,131nm,19.5s,baz=231,slow=47						
KASI	Kota Agung	2.44	326	P	Pb	14 44 31.1	-2.6
CMJI	Cimerak	2.56	95	P	Pn	14 44 28.9	-0.8
CMJI				S	Sn	14 44 55.6	-4.2
XMIS	Christmas Isla	2.91	184		Pn	14 44 32.9	-1.6
KPJI	Karang Pucung	3.04	86	P	Pn	14 44 38.8	+2.5
LWLI	Liwa	3.11	324	P	Pn	14 44 40.3	+3.0
MNAI	Manna	4.30	317		Pn	14 44 55.5	+1.8
MNAI	Manna	4.30	317	P	Pn	14 44 56.0	+2.3
UGM	Wanagama	4.62	95	Pn	Pn	14 44 58.9	+0.8
UGM	Wanagama	4.62	95	P	Pn	14 44 59.9	+1.8
JAGI	Jajag, Banyuwa	8.25	97		Pn	14 45 50.4	+2.5
GSI	Gunungsitoli	12.09	316	Pn	Pn	14 46 39.2	-1.3
BATI	Baumata	17.77	100	P	P	14 47 57.1	+1.0
	6.5nm,0.3s,baz=183,slow=4.5,SNR=6.6						
	19nm,0.5s						
MTN	Manton Dam	25.40	104	P	P	14 49 14.9	-0.3
MTN				IAmb	IAmb	14 49 32.3	
	comp=Z,15nm,1.5s						
H01W3	Cape Leeuwin H	28.23	166	T	T	15 19 26.1	
	baz=354,slow=73,SNR=7.1						
H01W1	Cape Leeuwin H	28.25	166	T	T	15 19 27.0	
	baz=354,slow=73,SNR=6.5						
H01W2	Cape Leeuwin H	28.25	166	T	T	15 19 23.9	
	baz=354,slow=73,SNR=11						
WB0	Warramunga Arr	30.19	117	P	P	14 49 59.3	+1.2
WRA	Warramunga Arr	30.20	117	P	P	14 49 58.8	+0.6
	comp=Z,0.6nm,0.8s,baz=290,slow=10,SNR=15						
WRA				PcP	PcP	14 53 00.2	+1.3
	comp=Z,0.2nm,0.4s,baz=301,slow=2.1,SNR=2.1						
	comp=Z,0.6nm,0.8s						
WR0	Warramunga Arr	30.39	117	P	P	14 49 59.9	+0.1
WR0				IAmb	IAmb	14 50 16.1	
	comp=Z,8.9nm,1.4s						
ASAR	Alice Springs	31.29	124	P	P	14 50 08.6	+0.8
ASAR	Alice Springs	31.29	124	P	P	14 50 08.9	+1.2
	comp=Z,1.0nm,0.6s,baz=303,slow=7.6,SNR=25						
ASAR				PcP	PcP	14 53 03.4	+1.7
	comp=Z,0.1nm,0.3s,baz=306,slow=2.3,SNR=2.1						
	comp=Z,1.0nm,0.6s						
AS31	Alice Springs	31.29	124	P	P	14 50 09.0	+1.2
H08S2	Diego Garcia H	33.08	268	T	T	15 25 46.4	
	baz=92,slow=74						
H08S3	Diego Garcia H	33.09	268	T	T	15 25 47.8	
	baz=92,slow=74						
H08S1	Diego Carcia H	33.10	268	T	T	15 25 41.2	
	baz=92						
STKA	Stephens Creek	41.11	131	P	P	14 51 33.1	+1.5
	comp=Z,1.3nm,0.5s,baz=218,slow=24,SNR=6.5						
	comp=Z,1.3nm,0.5s						
SONM	Songino Array	55.16	0	P	P	14 53 19.3	-0.6
	comp=Z,0.4nm,0.4s,baz=180,slow=9.6,SNR=2.1						
	comp=Z,0.4nm,0.4s						
MK31	Makanchi Array	58.04	341	P	P	14 53 39.9	-0.5
MK31				IAmb	IAmb	14 53 40.4	
	comp=Z,1.4nm,0.9s						
MKAR	Makanchi Array	58.04	341	P	P	14 53 39.0	-1.3
MKAR	Makanchi Array	58.04	341	P	P	14 53 39.8	-0.5
	comp=Z,0.7nm,0.3s,baz=152,slow=8.7,SNR=17						
	comp=Z,0.7nm,0.3s						
H04N2	CROZET ISLANDS	60.11	220	T	T	15 59 40.9	
	baz=68,slow=75,SNR=16						
H04N1	CROZET ISLANDS	60.12	220	T	T	15 59 40.6	
	baz=68,slow=75,SNR=12						
H04N3	CROZET ISLANDS	60.13	220	T	T	15 59 42.0	
	baz=68,slow=75,SNR=12						
KURBB	Kurchatov Arra	62.60	341	P	P	14 54 11.0	-0.4
	comp=Z,1.4nm,0.2s,baz=162,slow=5.7,SNR=2.9						
	comp=Z,1.4nm,0.2s						
ZALV	Zalesovo Beam	63.80	346	P	P	14 54 18.2	-1.0
	comp=Z,0.7nm,0.3s,baz=158,slow=5.8,SNR=4.7						
	comp=Z,0.7nm,0.3s						
BVAR	Borovoye Array	67.45	338	P	P	14 54 43.1	+0.2
	comp=Z,2.2nm,0.6s,baz=141,slow=9.0,SNR=14						
	comp=Z,2.2nm,0.6s						
ABKAR	Akbulak array	69.33	330	P	P	14 54 54.5	-0.1
MA2	Magadan	75.83	22	LR	LR	15 33 16.3	
	comp=Z,16nm,18.1s,baz=146,slow=39						
SEY	Seymchan	78.70	20	LR	LR	15 33 25.6	
	comp=Z,56nm,18.3s,baz=302,slow=38						
BRTR	Keskin Array B	81.37	312	P	P	14 56 04.4	+0.1
	comp=Z,1.3nm,0.7s,baz=139,slow=6.6,SNR=6.0						
	comp=Z,1.3nm,0.7s						
QSPA	South Pole Qui	82.43	180	P	P	14 56 08.6	-0.8
QSPA				IAmb	IAmb	14 56 41.7	
	comp=Z,2.3nm,1.2s						
QSPA	South Pole Qui	82.43	180	P	P	14 56 11.2	+1.8
	comp=Z,0.6nm,1.0s,baz=99,slow=22,SNR=1.3						
	comp=Z,0.6nm,1.0s						
TXAR	Lajitas Array	144.78	48	PKP	PKPdf	15 03 24.5	-0.4
	comp=Z,0.3nm,0.8s,baz=222,slow=1.7,SNR=4.2						

IDC 01 14:59:22.3±5.7, 21.13S×168.32E, h0km, mb3.3/2, mbtmp3.3/2, MS3.0/2, Error ellipse: s-maj=202.5km s-min=35.6km az=141.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	1.98	241	Pn	Pn	14 59 56.9	-0.2
	7.5nm,0.3s,baz=120,slow=7.0,SNR=22						
DZM				LR	LR	15 00 21.7	
	comp=Z,91nm,19.9s,baz=262,slow=30						
DZM				Sn	Sb	15 00 24.4	-0.2
	7.0nm,0.3s,baz=324,slow=20,SNR=4.1						
CTA	Charters Tower	20.68	269	LR	LR	15 12 25.5	
	comp=Z,52nm,19.0s,baz=84,slow=38						
WRA	Warramunga Arr	31.81	266	P	P	15 05 48.2	-0.7
	0.1nm,0.4s,baz=97,slow=8.1,SNR=1.4						
	0.1nm,0.4s						
ASAR	Alice Springs	31.88	259	P	P	15 05 49.9	+0.4
	0.7nm,1.0s,baz=88,slow=7.9,SNR=2.6						
ASAR				LR	LR	15 18 48.2	
	comp=Z,20nm,18.2s,baz=100,slow=37						
	0.7nm,1.0s						
GERES	GERESS Array B	145.71	330	PKPbc	PKPdf	15 19 02.5	-0.3
	0.5nm,0.7s,baz=27,slow=2.4,SNR=2.9						

*MOS **01** 15:12:28.8±0.8, 36.01N×139.77E, h64km, mb4.8/25, Error ellipse: s-maj=10.9km s-min=6.0km az=120.2*
*NIED **01** 15:12:29.9, 36.05N×139.89E, h43km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.24; $M_{\theta\theta}$-1.81; $M_{\phi\phi}$0.58; $M_{r\theta}$1.08; $M_{\theta\phi}$-0.62; $M_{\phi r}$1.76; Fault plane solution: $M_0$2.68000×10^{15} NP1:ϕ_s43.00000°, δ74.00000°, λ61.00000°. NP2:ϕ_s287.00000°, δ32.00000°, λ150.00000°.*
*JMA **01** 15:12:29.9±0.1, 36.1N±0.3×139.9E±0.3, h43km±1km, MD4.4/40, MW4.3/40, SW IBARAKI PREF*
JMA Felt IV J1 at SW IBARAKI PREF .
*IDC **01** 15:12:30.6±1.0, 35.93N×139.77E, h66km±9km, mb4.0/30, mbtmp4.3/36, MS3.3/17, Error ellipse: s-maj=12.8km s-min=6.9km az=66.0*
*NEIC **01** 15:12:30.2±1.8, 36.09N±0.05×139.81E±0.04, h56km±7km, mb4.6/109, Error ellipse: s-maj=8.2km s-min=2.1km az=152.0*

ISC 01 15:12:29.3±0.4**, 36.03N**±0.03×**139.92E**±0.04**, h55**km±3km**,**
h55km**:pP-P, n310,** σ**1.32**/289**, mb4.5**/98**, MS3.4**/14**, 7C-13D,**
Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.30**	**49**	P	**Pn**	**15 12 38.4**	**-0.5**
JYT				S	**Sn**	**15 12 44.6**	**-1.1**
JYT	**Yasato**	**0.30**	**49**	A	A	15 12 38.4	
	comp=E,117nm,0.3s,comp=N,229nm,0.3s						
TOK	**Tokyo**	**0.37**	**200**	P	**Pn**	**15 12 40.4**	**+1.0**
TOK				S	**Sn**	**15 12 48.7**	**+2.1**
TOK	**Tokyo**	**0.37**	**200**	A	A	15 12 40.4	
	comp=E,80nm,0.3s,comp=N,95nm,0.4s						
JIHU	**Itakohorinouch**	**0.50**	**97**	A	A	15 12 40.9	
	comp=E,40nm,1.0s,comp=N,60nm,0.6s						
JAG	**Ashikaga**	**0.54**	**316**	⇓*i*P	**Pn**	**15 12 41.0**	**-0.3**
JAG				⇓S	**Sn**	**15 12 49.0**	**-1.1**
JAG	**Ashikaga**	**0.54**	**316**	A	A	15 12 41.0	
	comp=E,22nm,1.0s,comp=N,27nm,0.6s						
JHU	**Hanno**	**0.55**	**251**	*i*P	**Pn**	**15 12 40.8**	**-0.6**
JHU				S	**Sn**	**15 12 48.8**	**-1.3**
JHU	**Hanno**	**0.55**	**251**	A	A	15 12 40.8	
	comp=E,11nm,1.1s,comp=N,10.0nm,1.3s						
JSMT	**Sammumatsuo**	**0.58**	**132**	A	A	15 12 42.1	
	comp=E,28nm,0.4s,comp=N,22nm,0.8s						
JHYU	**Hitachinakayam**	**0.62**	**60**	A	A	15 12 42.5	
	comp=E,31nm,0.3s,comp=N,122nm,0.4s						
JCN	**Nagara**	**0.66**	**159**	A	A	15 12 43.1	
	comp=E,25nm,1.9s,comp=N,39nm,1.1s						
JSGW	**Sagamiharawaka**	**0.72**	**233**	A	A	15 12 43.6	
	comp=E,16nm,1.1s,comp=N,19nm,2.0s						
JHO	**Hitachi**	**0.78**	**42**	A	A	15 12 44.6	
	comp=E,26nm,0.6s,comp=N,21nm,0.5s						
JRY	**Ryogami san**	**0.82**	**269**	⇓*i*P	**Pn**	**15 12 44.5**	**-0.3**
JRY				⇓S	**Sn**	**15 12 55.1**	**-1.1**
JRY	**Ryogami san**	**0.82**	**269**	A	A	15 12 44.5	
	comp=E,5.0nm,1.2s,comp=N,7.0nm,1.5s						
JYO	**Yokosk**	**0.83**	**194**	A	A	15 12 45.5	
	comp=E,27nm,1.6s,comp=N,23nm,0.6s						
JKUC	**kamogawauchiur**	**0.90**	**165**	A	A	15 12 46.7	
	comp=E,12nm,1.9s,comp=N,12nm,3.0s						
JKT	**Katashina**	**0.91**	**324**	⇓*i*P	**Pn**	**15 12 45.6**	**-0.4**
JKT				⇓S	**Sn**	**15 12 57.7**	**-0.6**
JKT	**Katashina**	**0.91**	**324**	A	A	15 12 45.6	
	comp=E,28nm,0.2s,comp=N,22nm,0.2s						
JSB	**Shiboa**	**0.93**	**0**	A	A	15 12 46.5	
	comp=E,24nm,0.9s,comp=N,17nm,0.3s						
TATJ	**Tateyama 2**	**1.00**	**181**	A	A	15 12 48.0	
	comp=E,25nm,1.6s,comp=N,29nm,1.7s						
JOD2	**Odawara 2**	**1.02**	**222**	⇓*i*P	**Pn**	**15 12 47.6**	**+0.2**
JOD2				⇓S	**Sn**	**15 13 01.0**	**+0.2**
JOD2	**Odawara 2**	**1.02**	**222**	A	A	15 12 47.6	
	comp=E,13nm,1.3s,comp=N,17nm,2.4s						
JGK	**Kuni**	**1.16**	**298**	A	A	15 12 49.7	
	comp=E,8.0nm,2.9s,comp=N,7.0nm,2.9s						
JFFD	**Fukushimafurud**	**1.18**	**26**	A	A	15 12 50.2	
	comp=E,12nm,1.5s,comp=N,13nm,0.4s						
JYN	**Shimob**	**1.24**	**245**	*i*P	**Pn**	**15 12 51.1**	**+0.8**
JYN				S	**Sn**	**15 13 07.9**	**+1.9**
JYN	**Shimob**	**1.24**	**245**	A	A	15 12 51.1	
	comp=E,15nm,1.1s,comp=N,14nm,1.8s						
ONAJ	**Iwakimizuishiy**	**1.28**	**33**	A	A	15 12 51.8	
	comp=E,40nm,0.2s,comp=N,32nm,0.3s						
JHTM	**Izuhatsuma**	**1.30**	**215**	A	A	15 12 52.2	
	comp=E,23nm,0.9s,comp=N,21nm,0.3s						
JFNN	**Fujinakano**	**1.31**	**231**	P	**Pn**	**15 12 52.6**	**+1.4**
JFNN				S	**Sn**	**15 13 08.8**	**+1.2**
JFNN	**Fujinakano**	**1.31**	**231**	A	A	15 12 52.6	
	comp=E,9.0nm,2.7s,comp=N,7.0nm,2.4s						
BSO3	**Boso 3**	**1.32**	**158**	⇓*i*P	**Pn**	**15 12 51.5**	**+0.3**
BSO3				⇓S	**Sn**	**15 13 08.8**	**+1.2**
JIM2	**Oshima 3**	**1.37**	**197**	A	A	15 12 53.3	
	comp=E,16nm,0.4s,comp=N,16nm,0.4s						
JFY	**Yanaizu**	**1.38**	**353**	A	A	15 12 53.1	
	comp=E,8.0nm,1.2s,comp=N,4.0nm,1.0s						
JNT	**Takato**	**1.45**	**264**	A	A	15 12 54.1	
	comp=E,8.0nm,0.6s,comp=N,6.0nm,2.0s						
MJAR	**Matsushiro Arr**	**1.47**	**291**	P	**Pn**	**15 12 53.6**	**+0.2**
	comp=N,265nm,0.3s,baz=89,slow=20,SNR=1542						
MJAR				S	**Sn**	**15 13 11.0**	**-0.6**
	comp=N,162nm,0.3s,baz=144,slow=15,SNR=6.3						
MJAR				LR	LR	15 13 31.8	
	comp=N,618nm,18.9s,baz=144,slow=44						
MAJO	**Matsushiro**	**1.47**	**291**	Pn	**Pn**	**15 12 53.0**	**-0.5**
MAJO				Sn	**Sn**	**15 13 08.0**	**-3.7**
MAJO	**Matsushiro**	**1.47**	**291**	P	**Pn**	**15 12 53.0**	**-0.5**
MAJO						15 13 08.0	
MJB9	**Matsu-Tunnel**	**1.48**	**291**		**Pn**	**15 12 53.0**	**-0.5**
JFK	**Kawauchi**	**1.54**	**30**	A	A	15 12 55.5	
	comp=E,6.0nm,1.3s,comp=N,6.0nm,1.3s						
JOTO	**OTAMA OYAMA**	**1.56**	**12**	A	A	15 12 55.7	
	comp=E,17nm,0.5s,comp=N,14nm,0.3s						
JIZS	**Izushimoda**	**1.56**	**213**	A	A	15 12 56.0	
	comp=E,7.0nm,1.0s,comp=N,5.0nm,1.5s						
SHZ3	**Shizuoka 3**	**1.69**	**236**	A	A	15 12 57.7	
	comp=E,6.0nm,1.3s,comp=N,8.0nm,0.5s						
JNY	**Yasuok**	**1.80**	**249**	A	A	15 12 59.2	
	comp=E,6.0nm,1.1s,comp=N,6.0nm,0.6s						
JMST	**Minamisoumatoc**	**1.86**	**24**	A	A	15 13 00.1	
	comp=E,9.0nm,0.5s,comp=N,8.0nm,0.3s						
JYAR	**Yonezawaarcadi**	**1.89**	**5**	A	A	15 13 00.3	
	comp=E,9.0nm,1.3s,comp=N,8.0nm,0.6s						
JSG	**Sagara**	**1.96**	**227**		**Pn**	**15 13 02.0**	**+1.9**
JMM	**Marumori**	**1.96**	**21**		**Pn**	**15 13 01.0**	**+0.9**
JGF	**Kuroka**	**2.12**	**259**	A	A	15 13 03.9	
	comp=E,3.0nm,0.9s,comp=N,5.0nm,2.1s						
JYS	**Shirataka**	**2.19**	**3**	A	A	15 13 04.7	
	comp=E,9.0nm,2.4s,comp=N,4.0nm,3.3s						
JOU	**Okura**	**2.40**	**14**	A	A	15 13 07.8	
	comp=E,5.0nm,2.0s,comp=N,7.0nm,0.7s						
JHJ	**Hachijo jima 2**	**2.91**	**182**	P	**Pn**	**15 13 13.2**	**+0.1**
	comp=N,949nm,0.3s,baz=319,slow=17,SNR=173						
JHJ				S	**Sn**	**15 13 45.9**	**-0.9**
	comp=N,757nm,0.4s,baz=62,slow=23,SNR=8.1						
JHJ2	**Mitsune**	**2.92**	**182**		**Pn**	**15 13 13.1**	**-0.1**
JTM	**Tenmabayashi**	**4.83**	**10**	Pn	**Pn**	**15 13 40.4**	**+1.0**
JMN	**Monobe**	**5.47**	**247**	Pn	**Pn**	**15 13 49.6**	**+1.4**
ERM	**Erimo**	**6.48**	**22**	Pn	**Pn**	**15 14 03.0**	**+1.0**
ERM	**Erimo**	**6.48**	**22**	*i*P	**Pn**	**15 14 02.0**	**0.0**
JNU	**Nakatsue**	**8.00**	**251**	Pn	**Pn**	**15 14 24.2**	**+1.3**
JNU	**Nakatsue**	**8.00**	**251**	P	**Pn**	**15 14 23.8**	**+1.0**
	comp=N,14nm,0.8s,baz=136,slow=6.4,SNR=11						
JNU				LR	LR	15 17 51.1	
	comp=N,181nm,20.9s,baz=41,slow=41						
ASAJ	**Asahikawa**	**8.33**	**13**	P	**Pn**	**15 14 29.4**	**+2.0**
	comp=N,8.7nm,0.5s,baz=219,slow=15,SNR=19						
ASAJ				S	**Sn**	**15 15 58.4**	**-1.5**
	comp=N,6.8nm,0.7s,baz=223,slow=20,SNR=1.4						
JKA	**Kamikawa-asahi**	**8.33**	**13**	Pn	**Pn**	**15 14 28.4**	**+1.1**
JCJ	**Chichijima**	**9.12**	**167**	Pn	**Pn**	**15 14 35.5**	**-2.7**
JCJ	**Chichijima**	**9.12**	**167**	P	Pn	15 14 30.4	-7.8
	comp=N,72nm,0.3s,baz=12,slow=4.9,SNR=25						
JCJ				S	Sn	15 16 06.7	-13
	comp=N,46nm,0.5s,baz=305,slow=23,SNR=2.6						
YUK	**Yuzh-Kuril'sk**	**9.20**	**28**	*e*P	**Pn**	**15 14 36.5**	**-2.7**
SHO	**Shikotan**	**9.45**	**32**	*e*P	Pn	15 14 38.2	-4.5
KSRS	**Korea Array**	**9.73**	**282**	P	**Pn**	**15 14 47.2**	**+0.7**
	comp=N,2.3nm,0.5s,baz=94,slow=14,SNR=12						
KSRS				LR	LR	15 18 16.7	
	comp=N,177nm,21.9s,baz=90,slow=36						
KSAR	**Wonju Array Be**	**9.76**	**282**	Pn	**Pn**	**15 14 50.3**	**+3.4**
KSAR	**Wonju Array Be**	**9.76**	**282**	P	**Pn**	**15 14 50.3**	**+3.4**
USA0B	**Ussuriysk Arra**	**10.16**	**326**	Pn	**Pn**	**15 14 50.2**	**-2.2**
USA0B	**Ussuriysk Arra**	**10.16**	**326**	P	**Pn**	**15 14 50.2**	**-2.2**
USRK	**Ussuriysk Ar.**	**10.16**	**326**	Pn	**Pn**	**15 14 50.3**	**-2.1**
USRK	**Ussuriysk Ar.**	**10.16**	**326**	P	**Pn**	**15 14 54.3**	**+2.0**
	comp=N,12nm,0.8s,baz=132,slow=13,SNR=18						
USRK				LR	LR	15 18 41.6	
	comp=N,101nm,19.1s,baz=177,slow=36						
MDJ	**Mudanjiang**	**11.63**	**321**	P	**Pn**	**15 15 16.7**	**+4.2**
MDJ				pmax	pmax		
	comp=Z,20nm,2.1s						
MDJ				pmax	pmax		
	comp=Z,160nm,7.1s						
BNX	**BinXian**	**13.53**	**320**	⇑P	**Pn**	**15 15 39.8**	**+1.4**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.5s						
BNX				pmax	pmax		
	comp=Z,190nm,6.0s						
KLR	**Kul'dur**	**14.48**	**338**	*i*P	**Pn**	**15 15 51.9**	**+0.9**
KLR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KLR	**Kul'dur**	**14.48**	**338**	P	**Pn**	**15 15 53.0**	**+2.0**
	comp=Z,1.3nm,0.5s,baz=128,slow=19,SNR=4.0						
KLR				LR	LR	15 20 57.6	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,76nm,21.7s,baz=132,slow=35						
NJ2	**Nanjing**	**17.90**	**263**	*e*P	**Pn**	**15 16 33.7**	**-0.6**
NJ2				pP	**pP**	**15 16 45.7**	**-0.7**
NJ2				sP	**sP**	**15 16 52.0**	**-1.4**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,290nm,4.4s						
TIA	**Tai'an**	**18.41**	**277**	P	**Pn**	**15 16 42.2**	**+1.7**
TIA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
YHNB	**Yeheng**	**19.57**	**240**	P	**P**	**15 16 51.8**	**-0.9**
NACB	**Ninganchiao**	**19.73**	**238**	P	**P**	**15 16 53.6**	**-0.9**
NACB				IAmb	IAmb	15 17 18.4	
	comp=Z,23nm,0.9s						
ZEA	**Zeya**	**19.79**	**337**	*e*P	**Pn**	**15 16 56.6**	**-0.2**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
XLT	**XiLinHaoTe**	**19.84**	**301**	*e*P	**Pn**	**15 16 57.7**	**+0.1**
XLT				pP	pP	15 17 08.0	+0.2
XLT				sP	sP	15 17 14.7	0.0
XLT				PP	**PnPn**	**15 17 20.7**	**+7.8**
XLT				PcP	**PcP**	**15 21 13.1**	**+1.8**
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,72nm,4.9s						
HNS	**HongShan**	**20.24**	**281**	*e*P	**P**	**15 16 57.9**	**-2.0**
SSLB	**Suanglung**	**20.43**	**239**	P	**P**	**15 17 02.3**	**+0.2**
TPUB	**Ta-pu**	**20.97**	**238**	P	**P**	**15 17 06.1**	**-1.8**
PETK	**Petropavlovsk-**	**21.16**	**31**	P	**P**	**15 17 06.6**	**-3.1**
PETK	**Petropavlovsk-**	**21.16**	**31**	P	**P**	**15 17 12.5**	**+2.8**
	comp=Z,5.7nm,1.0s,baz=211,slow=8.2,SNR=1.6						
	comp=Z,5.7nm,1.0s						
HHC	**Hu-ho-hao-te**	**22.67**	**291**	*e*P	**P**	**15 17 25.2**	**-0.9**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,64nm,4.5s						
XAN	**Xi'an**	**25.41**	**275**	P	**P**	**15 17 52.2**	**+0.5**
ENH	**Enshi**	**26.05**	**266**	P	**P**	**15 17 53.6**	**-3.9**
ENH				IAmb	IAmb	15 17 57.7	
	comp=Z,9.3nm,0.6s						
YAK	**Yakutsk**	**26.80**	**349**	*e*P	**P**	**15 18 04.3**	**+0.4**
YAK				pmax	pmax		
	comp=Z,18nm,1.4s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.6s						
YAK	**Yakutsk**	**26.80**	**349**	P	**P**	**15 18 03.5**	**-0.4**
	comp=E,0.3nm,0.4s,baz=112,slow=0.4,SNR=5.4						
ULN	**Ulaanbaatar**	**26.95**	**306**	*ce*P	**P**	**15 18 06.9**	**+1.3**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.3s						
SONM	**Songino Array**	**27.37**	**306**	P	**P**	**15 18 08.4**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=107,slow=8.4,SNR=6.5						
SONM				LR	LR	15 29 35.1	
	comp=Z,75nm,18.3s,baz=124,slow=38						
	comp=Z,1.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.72**	**117**	T	T	15 48 31.2	
	baz=312,slow=74,SNR=107						
H11N1	**WAKE ISLAND Hy**	**28.73**	**117**	T	T	15 48 35.6	
	baz=312,slow=74,SNR=141						
H11N3	**WAKE ISLAND Hy**	**28.74**	**117**	T	T	15 48 38.9	
	baz=312,slow=74,SNR=111						
LZH	**Lanzhou**	**29.06**	**281**	*e*P	**P**	**15 18 28.4**	**+3.8**
LZH				pP	pP	15 18 40.6	+2.3
LZH				sP	sP	15 18 53.3	+8.5
LZH				pmax	pmax		
	comp=Z,11nm,0.9s						
H11S1	**WAKE ISLAND Hy**	**29.38**	**119**	T	T	15 49 23.8	
	baz=314,slow=76,SNR=181						
H11S3	**WAKE ISLAND Hy**	**29.38**	**119**	T	T	15 49 22.5	
	baz=314,slow=76,SNR=140						
H11S2	**WAKE ISLAND Hy**	**29.39**	**119**	T	T	15 49 21.6	
	baz=314,slow=76,SNR=101						
AMKA	**Amchitka**	**31.90**	**49**	P	**P**	**15 18 48.0**	**-1.2**
PZH	**PanZhiHua**	**33.80**	**265**	P	**P**	**15 19 06.6**	**+0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,170nm,5.3s						
ATKA	**Atka Island**	**36.02**	**49**	P	**P**	**15 19 23.4**	**-1.5**
TIXI	**Tiksi**	**36.15**	**354**	P	**P**	**15 19 24.2**	**-1.6**
TIXI				IAmb	IAmb	15 19 27.1	
	comp=Z,3.0nm,0.5s						
TIXI	**Tiksi**	**36.15**	**354**	P	**P**	**15 19 24.2**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TIXI	**Tiksi**	**36.15**	**354**	P	**P**	**15 19 25.7**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=157,slow=5.2,SNR=15						
FAKI	**Fak Fak**	**39.41**	**192**	P	**P**	**15 19 54.8**	**+0.9**
FAKI				IAmb	IAmb	15 19 58.0	
	comp=Z,6.7nm,1.1s						
DGZ	**Jazzator, Alta**	**40.01**	**307**	*i*P	**P**	**15 19 59.6**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,13nm,0.6s						
CMAR	**Chiang Mai Arr**	**40.08**	**255**	P	**P**	**15 19 58.0**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=40,slow=7.2,SNR=1.8						
CMAR				LR	LR	15 38 05.2	
	comp=Z,18nm,18.5s,baz=45,slow=38						
	comp=Z,0.3nm,0.4s						
WMQ	**Urumqi**	**40.22**	**298**	*e*P	**P**	**15 20 01.6**	**+1.1**
ZAA0	**Zalesovo Array**	**41.71**	**313**	P	**P**	**15 20 12.1**	**-0.4**
ZALV	**Zalesovo Beam**	**41.71**	**313**	P	**P**	**15 20 12.0**	**-0.5**
ZALV	**Zalesovo Beam**	**41.71**	**313**	*i*P	**P**	**15 20 12.8**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,16nm,0.6s						
ZALV	**Zalesovo Beam**	**41.71**	**313**	P	**P**	**15 20 12.4**	**0.0**
	comp=Z,16nm,0.6s,baz=96,slow=7.1,SNR=60						
ZALV				PcP	**PcP**	**15 22 08.2**	**+0.1**
	comp=Z,1.9nm,0.4s,baz=95,slow=3.4,SNR=6.4						
ZALV				LR	LR	15 39 54.8	
	comp=Z,30nm,20.2s,baz=65,slow=39						
	comp=Z,16nm,0.6s						
J14K	**Nanvaranak Lak**	**43.47**	**34**	P	**P**	**15 20 25.5**	**-1.2**
J14K				IAmb	IAmb	15 20 32.9	
	comp=Z,17nm,1.1s						
MK31	**Makanchi Array**	**43.64**	**303**	P	**P**	**15 20 27.3**	**-1.0**
MK31	**Makanchi Array**	**43.64**	**303**	*ce*P	**P**	**15 20 28.2**	**-0.1**
MKAR	**Makanchi Array**	**43.64**	**303**	P	**P**	**15 20 27.3**	**-1.0**
MKAR	**Makanchi Array**	**43.64**	**303**	P	**P**	**15 20 28.4**	**+0.1**
	comp=Z,3.8nm,0.6s,baz=86,slow=8.9,SNR=34						
MKAR				LR	LR	15 37 45.9	
	comp=Z,36nm,21.4s,baz=4.5,slow=35						
	comp=Z,3.8nm,0.6s						
MAKZ	**Makanchi**	**43.85**	**303**	P	**P**	**15 20 29.0**	**-1.0**
MAKZ	**Makanchi**	**43.85**	**303**	P	**P**	**15 20 29.0**	**-1.0**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.2s						
C16K	**Lisburne Hills**	**44.13**	**26**	P	**P**	**15 20 32.2**	**+0.4**
N15K	**Kwethluk River**	**44.77**	**38**	P	**P**	**15 20 36.1**	**-1.0**
F17K	**Baldwin Pennin**	**45.18**	**29**	P	**P**	**15 20 41.2**	**+1.0**
F17K				IAmb	IAmb	15 20 47.6	
	comp=Z,19nm,1.4s						
L16K	**Owhat River**	**45.22**	**36**	P	**P**	**15 20 41.8**	**+1.2**
L16K				IAmb	IAmb	15 21 02.4	
	comp=Z,14nm,1.2s						
M16K	**Timber Creek**	**45.40**	**37**		**P**	**15 20 42.6**	**+0.5**
KURK	**Kurchatov**	**45.61**	**309**	P	**P**	**15 20 44.0**	**+0.1**
KURK	**Kurchatov**	**45.61**	**309**	*ce*P	**P**	**15 20 43.9**	**+0.1**
KURK				pmax	pmax		
	comp=Z,34nm,1.3s						
E18K	**Tukpahlearik C**	**45.64**	**28**	P	**P**	**15 20 45.8**	**+1.9**
E18K				IAmb	IAmb	15 21 04.1	
	comp=Z,6.1nm,1.1s						
KURBB	**Kurchatov Arra**	**45.67**	**309**	P	**P**	**15 20 44.3**	**-0.1**
	comp=Z,12nm,0.5s,baz=84,slow=8.0,SNR=85						
	comp=Z,12nm,0.5s						
C18K	**Utukok River**	**45.71**	**26**	P	**P**	**15 20 45.3**	**+0.8**
C18K				IAmb	IAmb	15 20 47.1	
	comp=Z,4.8nm,0.7s						
RAMN	**Ramite**	**45.87**	**274**	*e*P	**P**	**15 20 46.8**	**+0.2**
	comp=Z,30nm,0.8s						
JIRN	**Jiri**	**45.91**	**275**	*e*P	**P**	**15 20 47.4**	**+0.4**
	comp=Z,17nm,0.6s						
GUN	**Gumba**	**46.05**	**276**	*e*P	**P**	**15 20 48.2**	**+0.1**
G18K	**Tagagawik**	**46.12**	**30**	P	**P**	**15 20 48.8**	**+1.1**
G18K				IAmb	IAmb	15 21 08.5	
	comp=Z,8.7nm,1.5s						
H18K	**Honhosa River**	**46.13**	**31**	P	**P**	**15 20 47.5**	**-0.3**
H18K				IAmb	IAmb	15 20 54.7	
	comp=Z,12nm,1.3s						
M17K	**Holitna River**	**46.16**	**36**	P	**P**	**15 20 47.9**	**-0.2**
C19K	**Lookout Ridge**	**46.38**	**26**	P	**P**	**15 20 51.5**	**+1.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
C19K				IAmb	IAmb	15 20 55.4	
	comp=Z,14nm,1.4s						
L18K	**Granite Mounta**	**46.57**	**35**	P	**P**	**15 20 51.2**	**-0.1**
PKI	**Pulchoki**	**46.57**	**276**	*e*P	**P**	**15 20 51.8**	**-0.4**
PKIN	**Phulchoki**	**46.58**	**276**	*e*P	**P**	**15 20 51.8**	**-0.4**
	comp=Z,9.1nm,0.6s						
F19K	**Shaleruckik Mo**	**46.62**	**29**	P	**P**	**15 20 50.6**	**-1.0**
D19K	**Kuna River**	**46.78**	**27**	P	**P**	**15 20 52.8**	**0.0**
D19K				IAmb	IAmb	15 21 08.4	
	comp=Z,8.5nm,1.1s						
G19K	**Purcell Mounta**	**46.79**	**30**	P	**P**	**15 20 52.8**	**-0.1**
E19K	**Redstone River**	**46.92**	**28**	P	**P**	**15 20 54.8**	**+0.8**
E19K				IAmb	IAmb	15 20 57.0	
	comp=Z,3.9nm,0.6s						
H19K	**Roundabout Mou**	**46.97**	**31**	P	**P**	**15 20 56.2**	**+1.9**
H19K				IAmb	IAmb	15 21 25.2	
	comp=Z,11nm,1.5s						
GKN	**Gorkha**	**47.02**	**277**	*e*P	**P**	**15 20 55.6**	**+0.1**
	comp=Z,29nm,0.6s						
J19K	**Poorman**	**47.18**	**33**	P	**P**	**15 20 55.2**	**-0.8**
J19K				IAmb	IAmb	15 20 58.8	
	comp=Z,11nm,1.4s						
O18K	**Koktuh Hills**	**47.21**	**39**	P	**P**	**15 20 58.4**	**+2.0**
O18K				IAmb	IAmb	15 21 12.2	
	comp=Z,8.8nm,1.1s						
B20K	**Meade River**	**47.41**	**25**	P	**P**	**15 20 57.9**	**+0.2**
DANN	**Dangsing**	**47.58**	**277**	*e*P	**P**	**15 21 00.4**	**+0.4**
	comp=Z,74nm,0.7s						
TARG	**Taragay, Kyrgy**	**47.77**	**297**	P	**P**	**15 21 00.7**	**-0.7**
TARG	**Taragay, Kyrgy**	**47.77**	**297**	P	**P**	**15 21 00.7**	**-0.7**
TARG				pmax	pmax		
	comp=Z,11nm,0.8s						
K20K	**Telida**	**47.83**	**34**	P	**P**	**15 21 02.0**	**+0.9**
K20K				IAmb	IAmb	15 21 21.4	
	comp=Z,5.0nm,1.1s						
J20K	**Nowinta River**	**47.84**	**33**	P	**P**	**15 21 01.9**	**+0.8**
SOEI	**Soe**	**47.87**	**201**	P	**P**	**15 21 00.6**	**-1.4**
Q19K	**Cape Douglas,**	**48.03**	**40**	P	**P**	**15 21 03.7**	**+1.0**
IMAR	**Indian Mountai**	**48.12**	**30**	P	**P**	**15 21 04.4**	**+1.1**
B21K	**Ikpikpuk River**	**48.21**	**25**	P	**P**	**15 21 04.4**	**+0.6**
B21K				IAmb	IAmb	15 21 07.4	
	comp=Z,4.4nm,0.7s						
G21K	**Allakaket**	**48.27**	**30**	P	**P**	**15 21 05.8**	**+1.4**
G21K				IAmb	IAmb	15 21 20.1	
	comp=Z,6.8nm,1.3s						
E21K	**Killik River**	**48.28**	**27**	P	**P**	**15 21 05.8**	**+1.3**
PYUN	**Piuthan**	**48.30**	**277**	*e*P	**P**	**15 21 05.8**	**+0.3**
	comp=Z,42nm,0.8s						
H21K	**Melozitna Rive**	**48.49**	**31**	P	**P**	**15 21 08.2**	**+2.0**
KDAK	**Kodiak Island**	**48.65**	**41**	P	**P**	**15 21 08.6**	**+1.2**
KDAK	**Kodiak Island**	**48.65**	**41**	P	**P**	**15 21 08.6**	**+1.2**
KDAK				pmax	pmax		
	comp=Z,15nm,1.2s						
B22K	**Teshekpuk Lake**	**48.72**	**24**	P	**P**	**15 21 09.0**	**+1.2**
B22K				IAmb	IAmb	15 21 11.6	
	comp=Z,5.3nm,0.8s						
CAST	**Castle Rocks**	**48.73**	**34**	P	**P**	**15 21 09.1**	**+1.1**
D22K	**Ayikyak River**	**48.80**	**26**	P	**P**	**15 21 07.7**	**-0.8**
D22K				IAmb	IAmb	15 21 17.5	
	comp=Z,10nm,1.2s						
BOOM	**Boomskoye usch**	**48.91**	**298**	P	**P**	**15 21 09.1**	**-0.8**
BOOM				IAmb	IAmb	15 21 11.6	
	comp=Z,6.0nm,0.8s						
BOOM	**Boomskoye usch**	**48.91**	**298**	P	**P**	**15 21 09.1**	**-0.8**
BOOM				pmax	pmax		
	comp=Z,6.0nm,0.8s						
E22K	**Anaktuvuk Pass**	**49.05**	**27**	P	**P**	**15 21 10.3**	**-0.2**
E22K				IAmb	IAmb	15 21 13.1	
	comp=Z,3.5nm,0.8s						
TKM2	**Tokmak 2**	**49.05**	**299**	P	**P**	**15 21 12.2**	**+1.1**
	SNR=15						
MTN	**Manton Dam**	**49.31**	**191**	P	**P**	**15 21 12.8**	**-0.1**
MLY	**Manley**	**49.34**	**32**	P	**P**	**15 21 13.6**	**+1.0**
SUA	**Susitna One**	**49.38**	**36**	P	**P**	**15 21 14.7**	**+1.6**
SUA				IAmb	IAmb	15 21 17.5	
	comp=Z,9.0nm,1.3s						
KZA	**Kyzart**	**49.52**	**298**	P	**P**	**15 21 16.2**	**+1.4**
	SNR=9.0						
TRF	**Thorofare Moun**	**49.53**	**34**	P	**P**	**15 21 16.5**	**+2.2**
TRF				IAmb	IAmb	15 21 27.8	
	comp=Z,7.1nm,1.4s						
KBK	**Karagaybulak**	**49.58**	**299**	P	**P**	**15 21 16.0**	**+1.0**
	SNR=11						
COLD	**Coldfoot**	**49.61**	**29**	P	**P**	**15 21 15.9**	**+1.3**
C23K	**Itkillik River**	**49.62**	**25**	P	**P**	**15 21 16.5**	**+1.8**
C23K				IAmb	IAmb	15 21 30.7	
	comp=Z,4.4nm,0.9s						
G23K	**Bananza Creek**	**49.66**	**29**	P	**P**	**15 21 16.4**	**+1.2**
KSH	**Kashi**	**49.72**	**294**	P	**P**	**15 21 20.2**	**+4.2**
KSH				sP	sP	15 21 42.3	+5.4
KSH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
USP	**Ospenovka**	**49.74**	**299**	P	**P**	**15 21 16.6**	**+0.5**
	SNR=9.3						
COEN	**Coen**	**49.81**	**176**	P	**P**	**15 21 15.4**	**-1.3**
AAK	**Ala-Archa**	**49.91**	**299**	P	**P**	**15 21 16.6**	**-0.9**
AAK				IAmb	IAmb	15 21 18.8	
	comp=Z,5.7nm,0.8s						
AAK	**Ala-Archa**	**49.91**	**299**	P	**P**	**15 21 16.6**	**-0.9**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AAK	**Ala-Archa**	**49.91**	**299**	LR	LR	15 42 22.1	
	comp=Z,34nm,20.1s,baz=54,slow=36						
TOLK	**Toolik Lake Re**	**49.91**	**27**	P	**P**	**15 21 17.6**	**+0.6**
UCH	**Uchtor**	**50.00**	**298**	P	**P**	**15 21 19.9**	**+1.3**
	SNR=6.6						
RND	**Reindeer**	**50.18**	**34**	P	**P**	**15 21 19.3**	**+0.2**
RND				IAmb	IAmb	15 21 21.4	
	comp=Z,5.9nm,1.2s						
RND	**Reindeer**	**50.18**	**34**	P	**P**	**15 21 19.3**	**+0.2**
RND				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GHO	**Glory Hole Cre**	**50.23**	**36**	P	**P**	**15 21 21.0**	**+1.4**
GHO				IAmb	IAmb	15 21 46.5	
	comp=Z,4.5nm,0.9s						
E24K	**Your Creek**	**50.29**	**28**	P	**P**	**15 21 20.1**	**+0.2**
E24K				IAmb	IAmb	15 21 41.5	
	comp=Z,6.2nm,1.4s						
BVAR	**Borovoye Array**	**50.36**	**313**	P	**P**	**15 21 20.4**	**-0.1**
	comp=Z,3.1nm,0.5s,baz=79,slow=7.5,SNR=17						
BVAR				LR	LR	15 43 15.1	
	comp=Z,24nm,18.6s,baz=44,slow=37						
	comp=Z,3.1nm,0.5s						
MDM	**Murphy Dome**	**50.40**	**32**	P	**P**	**15 21 19.8**	**-0.9**
EKS2	**Erkin-Say**	**50.41**	**299**	P	**P**	**15 21 21.8**	**+0.6**
	SNR=5.8						
BRVK	**Borovoye**	**50.41**	**313**	P	**P**	**15 21 20.9**	**-0.1**
BRVK				IAmb	IAmb	15 21 22.1	
	comp=Z,3.2nm,0.6s						
BRVK	**Borovoye**	**50.41**	**313**	*ce*P	**P**	**15 21 21.4**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SML	**Sawmill**	**50.51**	**36**	P	**P**	**15 21 22.7**	**+1.0**
SML				IAmb	IAmb	15 21 32.9	
	comp=Z,5.7nm,0.9s						
F24K	**Squaw Lake**	**50.51**	**28**	P	**P**	**15 21 22.6**	**+1.0**
F24K				IAmb	IAmb	15 21 49.8	
	comp=Z,6.0nm,1.3s						
H24K	**Noodor Dome**	**50.53**	**31**	P	**P**	**15 21 22.9**	**+1.2**
PWL	**Port Wells**	**50.58**	**37**	P	**P**	**15 21 22.8**	**+0.7**
PWL				IAmb	IAmb	15 21 34.2	
	comp=Z,11nm,1.3s						
AML	**Almayashu**	**50.62**	**298**	P	**P**	**15 21 24.4**	**+1.3**
	SNR=7.4						
G24K	**Hadweenzic Riv**	**50.68**	**29**	P	**P**	**15 21 24.5**	**+1.7**
G24K				IAmb	IAmb	15 21 37.2	
	comp=Z,8.1nm,1.5s						
POKR	**Poker Plat Res**	**50.73**	**31**	P	**P**	**15 21 22.9**	**-0.3**
DHY	**Denali Highway**	**50.87**	**34**	P	**P**	**15 21 25.2**	**+0.8**
DHY				IAmb	IAmb	15 21 29.5	
	comp=Z,6.5nm,1.4s						
HDA	**Harding Lake**	**50.98**	**32**	P	**P**	**15 21 26.0**	**+1.0**
HDA				IAmb	IAmb	15 21 28.6	
	comp=Z,8.7nm,1.4s						
IL31		**50.98**	**32**	P	**P**	**15 21 26.5**	**+1.5**
ILAR	**Eielson Array**	**50.98**	**32**	P	**P**	**15 21 24.4**	**-0.7**
ILAR	**Eielson Array**	**50.98**	**32**	P	**P**	**15 21 26.4**	**+1.3**
	comp=Z,1.7nm,0.7s,baz=272,slow=5.4,SNR=17						
	comp=Z,1.7nm,0.7s						
SCM	**Sheep Creek Mo**	**50.98**	**36**	P	**P**	**15 21 26.7**	**+1.5**
SCM	**Sheep Creek Mo**	**50.98**	**36**	P	**P**	**15 21 26.7**	**+1.5**
SCM				pmax	pmax		
	comp=Z,21nm,1.4s						
IL03	**Eielson Array**	**51.00**	**32**	P	**P**	**15 21 25.8**	**+0.7**
D25K	**Kavik River**	**51.08**	**26**	P	**P**	**15 21 26.9**	**+1.1**

ARSB Arslanbob 51.36 297 P P 15 21 28.8 +0.3
ARSB IAmb IAmb 15 21 30.3
comp=Z,3.2nm,0.7s
ARSB Arslanbob 51.36 297 P P 15 21 28.8 +0.3
ARSB pmax pmax
comp=Z,3.0nm,0.7s
E25K Arctic Village 51.39 28 P P 15 21 27.5 -0.6
KLU Klutina 51.69 36 P P 15 21 30.7 +0.3
KLU IAmb IAmb 15 21 55.9
comp=Z,11nm,1.4s
SCRK Sand Creek 52.30 33 P P 15 21 33.9 -1.2
KNRA Kununurra 52.50 194 P P 15 21 35.6 -1.2
KK31 Karatay Array 52.59 300 P P 15 21 37.6 +0.2
KK31 IAmb IAmb 15 21 38.7
comp=Z,8.6nm,0.9s
KK31 Karatay Array 52.59 300 *i* P P 15 21 37.2 -0.2
KKAR Karatay Array 52.59 300 P P 15 21 36.0 -1.3
KKAR IAmb IAmb 15 21 38.7
comp=Z,8.5nm,0.9s
KKAR Karatay Array 52.59 300 P P 15 21 37.3 -0.1
KKAR Karatay Array 52.59 300 P P 15 21 37.3 -0.1
KKAR pmax pmax
comp=Z,9.0nm,1.0s
E27K Coleen River 52.87 27 P P 15 21 39.8 +0.7
E27K IAmb IAmb 15 21 42.4
comp=Z,6.7nm,1.5s
K27K Chicken 53.13 33 P P 15 21 41.7 +0.6
EGAK Eagle 53.42 32 P P 15 21 44.1 +1.0
EGAK IAmb IAmb 15 21 47.5
comp=Z,8.7nm,1.4s
E28M Babbage River 53.58 27 P P 15 21 45.7 +1.4
I28M Miner Creek 53.84 31 P P 15 21 47.5 +1.2
H29M Whitestone 54.36 30 P P 15 21 50.7 +0.7
H29M IAmb IAmb 15 22 13.9
comp=Z,8.1nm,1.4s
G29M Pine Creek 54.38 29 P P 15 21 50.4 +0.2
G29M IAmb IAmb 15 22 06.7
comp=Z,6.2nm,0.9s
I29M Ogilvie Camp, 54.53 31 P P 15 21 53.1 +1.9
EPYK Eagle Plains 54.99 29 P P 15 21 56.5 +1.9
G30M tAoh Zraii Nji 55.07 28 P P 15 21 56.1 +0.9
SVE Sverdlovsk 55.10 319 *e*P P 15 21 55.7 +0.2
I30M Mount Dempster 55.35 31 P P 15 21 58.7 +1.4
I30M IAmb IAmb 15 22 13.4
comp=Z,6.8nm,0.8s
WB0 Warramunga Arr 55.74 186 P P 15 22 00.2 -0.2
WB0 IAmb IAmb 15 22 15.5
comp=Z,6.2nm,0.7s
HYT Haines Junctio 55.82 36 P P 15 22 01.4 +0.7
HYT IAmb IAmb 15 22 10.7
comp=Z,6.9nm,1.2s
INK Inuvik 55.82 27 P P 15 22 01.9 +1.4
INK Inuvik 55.82 27 P P 15 22 01.9 +1.4
INK pmax pmax
comp=Z,3.0nm,0.8s
G31M Satah River 55.84 28 P P 15 22 02.3 +1.7
G31M IAmb IAmb 15 22 20.2
comp=Z,4.6nm,0.9s
WRAB Tennant Creek 55.91 186 P P 15 22 01.5 -0.1
WRAB IAmb IAmb 15 22 16.8
comp=Z,5.2nm,0.9s
WRAB Tennant Creek 55.91 186 P P 15 22 01.5 -0.1
WRAB pmax pmax
comp=Z,5.0nm,0.9s
WB2 Warramunga Arr 55.92 186 P P 15 22 02.3 +0.6
WB2 IAmb IAmb 15 22 26.1
comp=Z,7.9nm,0.9s
WR0 Warramunga Arr 55.92 186 P P 15 22 01.8 +0.1
WRA Warramunga Arr 55.92 186 P P 15 22 01.6 -0.1
WRA Warramunga Arr 55.92 186 *i* P P 15 22 01.7 0.0
WRA pmax pmax
comp=Z,4.0nm,0.4s
WRA Warramunga Arr 55.92 186 P P 15 22 00.8 -0.8
comp=Z,3.6nm,0.5s,baz=0.6,slow=7.6,SNR=47
comp=Z,3.6nm,0.5s
ARU Arti 56.31 319 P P 15 22 03.6 -0.6
ARU Arti 56.31 319 *d i*P P 15 22 03.7 -0.5
ARU *PP pP 15 22 18.4 -0.5
ARU 15 22 56.9
ARU S S 15 29 51.3 +1.2
ARU SS SS 15 33 32.8 -4.2
ARU pmax pmax
comp=Z,21nm,1.5s
ARU Arti 56.31 319 P P 15 22 03.8 -0.3
comp=Z,9.1nm,0.4s,baz=73,slow=3.1,SNR=17
comp=Z,9.1nm,0.4s
A36M Sachs Harbour 57.63 22 P P 15 22 13.4 +0.2
AB31 Akbulak array 57.66 310 *e*P P 15 22 13.8 0.0
ABKAR Akbulak array 57.66 310 P P 15 22 13.8 0.0
ABKAR IAmb IAmb 15 22 14.9
comp=Z,4.1nm,0.6s
AKTO Aktyubinsk 58.45 312 P P 15 22 19.4 +0.1
comp=Z,2.4nm,0.4s,baz=72,slow=8.1,SNR=10
comp=Z,2.4nm,0.4s
C36M Paulatuk 58.84 24 P P 15 22 23.2 +1.5
AS31 Alice Springs 59.65 186 P P 15 22 28.6 +0.8
ASAR Alice Springs 59.65 186 P P 15 22 27.9 0.0
ASAR Alice Springs 59.65 186 P P 15 22 27.7 -0.1
comp=Z,0.8nm,0.5s,baz=4.2,slow=6.6,SNR=19
comp=Z,0.8nm,0.5s
MBWA Marble Bar 60.00 202 P P 15 22 30.2 -0.1
KIRV Kirov 60.32 323 *ce*P P 15 22 32.3 +0.3
KIRV Kirov 60.32 323 P P 15 22 32.4 +0.4
comp=Z,12nm,0.5s,baz=42,slow=1.5,SNR=6.7
KIRV LR LR 15 50 08.2
comp=Z,27nm,18.6s,baz=31,slow=37
comp=Z,12nm,0.5s
SPITS Spitsbergen Ar 61.27 349 P P 15 22 39.0 +0.7
SPITS Spitsbergen Ar 61.27 349 P P 15 22 39.0 +0.7
comp=Z,18nm,1.1s,baz=88,slow=8.8,SNR=2.1
comp=Z,18nm,1.1s
GEYT Alibeck 63.26 299 P P 15 22 52.3 +0.1
comp=Z,3.6nm,0.8s,baz=297,slow=1.0,SNR=7.4
GEYT LR LR 15 50 58.1
comp=Z,39nm,19.9s,baz=208,slow=36
comp=Z,3.6nm,0.8s
BELG Belogornoye 63.71 317 *i* P P 15 22 54.7 -0.1
BELG pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 64.50 339 P P 15 23 00.7 +0.8
ARCES ARCESS Array B 64.50 339 P P 15 23 00.7 +0.8
ARCES pmax pmax
comp=Z,44nm,1.4s
ARCES ARCESS Array B 64.50 339 P P 15 23 00.4 +0.5
comp=Z,2.8nm,0.7s,baz=58,slow=8.0,SNR=10
comp=Z,2.8nm,0.7s
YKA Yellowknife Ar 65.28 30 P P 15 23 04.8 -0.2
YKA Yellowknife Ar 65.28 30 P P 15 23 06.2 +1.3
comp=Z,1.3nm,0.8s,baz=303,slow=7.1,SNR=15
comp=Z,1.3nm,0.8s
MAK Makhachkala 68.12 308 *d i*P P 15 23 22.2 -1.2
MAK *e**PP pP 15 23 37.9 -0.6
MAK *e**SP sP 15 23 44.4 -0.3
MAK *e* 15 25 52.6
MAK *e*PPP PPP 15 27 31.7
MAK *e*S S 15 32 18.0 -1.1
MAK *e**SS sS 15 32 46.2 +1.6
MAK *e*SS SS 15 36 40.5 -1.3
MAK MLR MLR
comp=Z,99nm,14.0s
OBN Obninsk 68.17 323 ⇓*e*P P 15 23 23.7 +0.2
OBN *e**PP pP 15 23 35.8 -2.8
OBN 15 23 56.0
OBN S S 15 32 22.0 +2.8
OBN pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 69.13 332 P P 15 23 29.3 -0.1
FINES FINESS Array B 69.13 332 *i* P P 15 23 29.6 +0.2
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 69.13 332 P P 15 23 29.1 -0.3
comp=Z,5.1nm,0.9s,baz=51,slow=6.2,SNR=13
comp=Z,5.1nm,0.9s
KBZ Khabaz 70.63 310 *ce*P P 15 23 38.9 0.0
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 70.63 310 P P 15 23 38.2 -0.6
comp=Z,3.3nm,0.9s,baz=53,slow=3.2,SNR=4.8
comp=Z,3.3nm,0.9s
KIV Kislovodsk 70.64 311 *e*P P 15 23 40.4 +1.3
KIV pmax pmax
comp=Z,11nm,1.1s
SUMG Summit 71.68 359 P P 15 23 46.1 +0.8
SUMG IAmb IAmb 15 23 53.1
comp=Z,12nm,1.2s
SUMG Summit 71.68 359 P P 15 23 46.1 +0.8
SUMG pmax pmax
comp=Z,12nm,1.2s
SUMG Summit 71.68 359 *i* P P 15 23 46.0 +0.8
AKASG Malin Array Be 74.34 322 P P 15 24 00.3 -0.6
comp=Z,0.9nm,0.3s,baz=49,slow=6.0,SNR=8.3
AKASG LR LR 15 57 28.7
comp=Z,38nm,19.3s,baz=212,slow=36
comp=Z,0.9nm,0.3s
HFS Hagfors 74.50 335 P P 15 24 01.5 0.0
comp=Z,4.4nm,0.9s,baz=53,slow=5.9,SNR=8.2
comp=Z,4.4nm,0.9s
NB2 NORSAR Subarra 74.64 337 P P 15 24 02.8 +0.4
comp=Z,0.8nm,0.5s,baz=41,slow=6.2
NOA NORSAR Array B 74.64 337 P P 15 24 02.5 +0.1
comp=Z,1.2nm,0.5s,baz=55,slow=7.8,SNR=10
NOA LR LR 15 59 58.4
comp=Z,17nm,19.0s,baz=350,slow=38
comp=Z,1.2nm,0.5s
NVAR Mina Array Bea 76.55 52 P P 15 24 15.2 +1.1
comp=Z,1.0nm,0.6s,baz=289,slow=5.2,SNR=8.4
comp=Z,1.0nm,0.6s
BORG Borgarnes 78.47 352 LR LR 16 01 05.5
comp=Z,16nm,18.1s,baz=331,slow=37
BRTR Keskin Array B 78.60 311 *i* P P 15 24 26.2 +0.8
BRTR pmax pmax
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 78.60 311 P P 15 24 25.7 +0.3
comp=Z,0.5nm,0.5s,baz=141,slow=4.2,SNR=5.4
comp=Z,0.5nm,0.5s
PDAR Pinedale Array 79.23 45 P P 15 24 30.4 +1.5
comp=Z,0.7nm,0.6s,baz=291,slow=2.0,SNR=6.7
comp=Z,0.7nm,0.6s
CLL Collm 81.35 329 *e*P P 15 24 40.0 +0.2
CLL Collm 81.35 329 *e*P P 15 24 40.0 +0.2
MMAI Mount Meron Ar 81.55 305 P P 15 24 41.8 +0.5
comp=Z,1.7nm,0.7s,baz=255,slow=39,SNR=2.7
MMAI LR LR 16 04 10.2
comp=Z,19nm,18.9s,baz=28,slow=38
comp=Z,1.7nm,0.7s
GERES GERESS Array B 82.92 328 P P 15 24 47.8 -0.4
comp=Z,0.6nm,0.6s,baz=39,slow=6.3,SNR=2.6
comp=Z,0.6nm,0.6s
EKA Eskdalemuir Ar 83.66 340 P P 15 24 51.4 -0.3
comp=Z,1.8nm,0.8s,baz=32,slow=5.8,SNR=2.1
comp=Z,1.8nm,0.8s
DAVOX Davos/Dischmat 86.15 328 LR LR 16 09 33.0
comp=Z,24nm,18.0s,baz=80,slow=40
SCHQ Schefferville 86.62 15 P P 15 25 08.1 +1.5
comp=Z,5.6nm,0.9s,baz=280,slow=3.6,SNR=3.2
comp=Z,5.6nm,0.9s
TXAR Lajitas Array 91.69 51 P P 15 25 32.2 +1.1
comp=Z,0.7nm,0.5s,baz=303,slow=3.0,SNR=12
comp=Z,0.7nm,0.5s
TORD Torodi Ar. Bea 117.16 313 PKP PKPdf 15 31 07.6 -1.2
comp=Z,0.4nm,0.4s,baz=2.9,slow=1.8,SNR=2.9
MAW Mawson 118.12 205 PKP PKPdf 15 31 08.7 -0.3
comp=Z,3.3nm,0.7s,baz=224,slow=16,SNR=3.3
QSPA South Pole Qui 125.78 180 PKPdf PKiKP 15 31 24.2 -0.1
QSPA South Pole Qui 125.78 180 PKP PKPdf 15 31 23.1 -0.7
comp=Z,0.7nm,0.7s,baz=160,slow=3.8,SNR=2.1
H03N2 Juan Fernandez 148.11 97 T T 18 17 29.8
baz=292,slow=76,SNR=12
H03N3 Juan Fernandez 148.12 97 T T 18 17 30.9
baz=292,slow=76,SNR=12
H03N1 Juan Fernandez 148.13 97 T T 18 17 30.8
baz=292,slow=76,SNR=21
LPAZ La Paz 148.24 59 PKPbc PKPbc 15 32 09.3 -1.1
comp=Z,0.9nm,0.5s,baz=5.9,slow=4.0,SNR=4.1

IDC 01 15:24:05.5±2.2**, 33°.90S**×**179°.85E, h0km, mb4.0**/4**, mbtmp4.0**/4**, Error ellipse: s-maj=68.7km s-min=31.4km az=44.0, South of Kermadec Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ASAR Alice Springs 41.24 272 P P 15 31 52.5 0.0
2.2nm,0.7s,baz=112,slow=7.9,SNR=28
2.2nm,0.7s
WRA Warramunga Arr 42.56 277 P P 15 32 03.0 -0.3
1.6nm,0.7s,baz=119,slow=7.6,SNR=8.0
1.6nm,0.7s
QSPA South Pole Qui 56.22 180 P P 15 33 47.7 +0.5
2.0nm,1.1s,baz=32,slow=3.6,SNR=4.2
2.0nm,1.1s
SNAA Sanae 74.71 179 P P 15 35 46.1 -0.6
0.9nm,0.8s,baz=177,slow=17,SNR=2.2
0.9nm,0.8s
FINES FINESS Array B 147.71 337 PKPbc PKPbc 15 43 50.7 -0.6
3.7nm,1.1s,baz=32,slow=5.4,SNR=1.4

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*WEL **01** 15:36:10.8±1.1, 34°S±10°×18°0W±2°2, h13km±8km, M4.2/23, mB4.8/6, ML4.5/24, MLv4.4/23, Mw(mB)4.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=112.5, confirmed*
*IDC **01** 15:36:19.1±5.7, 34°.44S×179°.38E, h78km±48km, mb4.0/5, mbtmp4.3/6, ML3.7/1, Error ellipse: s-maj=40.0km s-min=23.7km az=35.0*
ISC 01 15:36:13.9±0.8**, 34°.19S**±0°.08×**179°.8E**±0°.1**, h35km, n43, σ1s.54**/48**, mb4.2**/5**, South of Kermadec Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MXZ Matakaoa Point 3.59 200 P Pn 15 37 07.7 +0.6
WMGZ Waiomatatini S 3.80 197 P Pn 15 37 09.8 -0.1
HAZ Te Kaha 3.93 204 P Pn 15 37 12.7 +1.0
HAZ S Sn 15 37 58.8 +2.2
PKGZ Pakihiroa 3.96 201 P Pn 15 37 12.9 +0.7
PKGZ S Sn 15 37 58.4 +1.0
PUZ Puketiti 4.08 198 P Pn 15 37 13.2 -0.6
PUZ S Sn 15 38 00.1 -0.2
RUGZ Raukumara Rang 4.15 204 P Pn 15 37 14.5 -0.4
TWGZ Tauwhareparae 4.25 200 P Pn 15 37 16.1 -0.1
CNGZ Carnagh Statio 4.48 196 P Pn 15 37 18.7 -0.6
TKGZ Te Karaka 4.53 200 P Pn 15 37 18.8 -1.2
TKGZ S Sn 15 38 13.8 +2.3
MWZ Matawai 4.54 204 P Pn 15 37 19.6 -0.5
MWZ S Sn 15 38 15.3 +3.7
MARZ Manawahe 4.57 213 P Pn 15 37 20.7 +0.1
URZ Urewera 4.62 208 P Pn 15 37 20.6 -0.6
3.8nm,0.3s,baz=41,slow=2.3,SNR=18
URZ S Sn 15 38 10.0 -3.6
35nm,0.6s,baz=184,slow=14,SNR=1.1
11nm,0.3s
URZ Urewera 4.62 208 P Pn 15 37 20.7 -0.6
EDRZ Edgecumbe 4.64 212 P Pn 15 37 22.8 +1.2
MKRZ Makatiti 4.79 214 P Pn 15 37 25.8 +2.2
KMRZ Kaimai 4.82 220 P Pn 15 37 25.5 +1.5
PRGZ Paritu Road 4.98 198 P Pn 15 37 24.8 -1.4
SNGZ Shannon Statio 5.00 203 P Pn 15 37 25.5 -1.0
SNGZ S Sn 15 38 25.1 +2.0
RAHZ Arahi 5.21 204 P Pn 15 37 28.7 -0.7
MTHZ Maungataniwha 5.24 206 P Pn 15 37 29.3 -0.5
MTHZ S Sn 15 38 30.3 +1.3
GLKZ Green Lake 5.27 22 P Pn 15 37 28.9 -1.4
GLKZ S Sn 15 38 31.5 +1.7
WHHZ Waihua 5.30 202 P Pn 15 37 30.7 +0.1
WHHZ S Sn 15 38 31.4 +0.9
MRHZ Matea Rd 5.39 210 P Pn 15 37 30.9 -1.0
NMHZ Naumai 5.47 205 P Pn 15 37 31.9 -1.1
NMHZ S Sn 15 38 36.4 +1.8
ARHZ Aropaoanui 5.55 203 P Pn 15 37 33.0 -1.1
BKZ Black Stump Fm 5.64 207 P Pn 15 37 34.2 -1.1
RATZ Rangitukua 5.70 214 P Pn 15 37 36.7 +0.6
MCHZ McNeill Hill 5.81 205 P Pn 15 37 36.1 -1.6
OTVZ Oturere 5.99 213 P Pn 15 37 40.0 -0.1
SNVZ South Ngauruho 6.02 213 P Pn 15 37 40.4 -0.2
KAHZ Kahuranaki 6.07 202 P Pn 15 37 38.2 -3.0
ASAR Alice Springs 41.24 272 P P 15 43 54.0 -1.7
4.5nm,0.8s,baz=112,slow=7.7,SNR=39
4.5nm,0.8s
WRA Warramunga Arr 42.58 277 P P 15 44 04.7 -2.0
5.6nm,1.1s,baz=120,slow=7.5,SNR=15
5.6nm,1.1s
SNAA Sanae 74.42 179 P P 15 47 46.1 -1.8
3.2nm,1.1s,baz=177,slow=10,SNR=5.1
3.2nm,1.1s
H03S2 Juan Fernandez 79.90 124 T T 17 16 31.6
baz=233,slow=74,SNR=6.8
H03S1 Juan Fernandez 79.91 124 T T 17 16 34.2
baz=233,slow=74,SNR=5.5
H03S3 Juan Fernandez 79.91 124 T T 17 16 25.6
baz=233,slow=74,SNR=7.2
H03N3 Juan Fernandez 80.11 124 T T 17 16 40.6
baz=238,slow=72,SNR=93
H03N2 Juan Fernandez 80.11 124 T T 17 16 42.4
baz=238,slow=72,SNR=71
H03N1 Juan Fernandez 80.13 124 T T 17 16 39.4
baz=238,slow=72,SNR=76
PLCA Paso Flores 81.25 134 P P 15 48 28.5 +1.9
2.5nm,0.9s,baz=243,slow=2.3,SNR=4.7
2.5nm,0.9s
NVAR Mina Array Bea 92.25 44 P P 15 49 22.5 +2.2
1.2nm,0.7s,baz=224,slow=7.6,SNR=7.2
1.2nm,0.7s
FINES FINESS Array B 147.97 336 PKPbc PKPbc 15 55 53.0 -1.7
2.4nm,0.9s,baz=40,slow=2.7,SNR=1.6

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*WEL **01** 15:44:44.8±1.0, 34°S±8°×17°9W±1°6, h33km, M4.2/45, mB4.8/28, ML4.8/45, MLv4.6/45, Mw(mB)4.1/28, Error ellipse: s-maj=0.0km s-min=0.0km az=107.6, confirmed*
*IDC **01** 15:44:55.1±5.0, 34°.36S×179°.36E, h74km±41km, mb4.0/7, mbtmp4.3/8, ML4.2/1, MS3.7/20, Error ellipse: s-maj=33.6km s-min=21.0km az=36.0*
ISC 01 15:44:50.4±0.8**, 34°.22S**±0°.08×**179°.8E**±0°.1**, h35km, n106, σ1s.60**/88**, mb4.3**/9**, MS3.8**/19**, 3C-1D, South of Kermadec Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MXZ Matakaoa Point 3.55 200 P Pn 15 45 40.3 -2.8
WMGZ Waiomatatini S 3.77 197 P Pn 15 45 45.8 -0.2
WMGZ S Sn 15 46 32.3 +3.2
HAZ Te Kaha 3.89 204 P Pn 15 45 44.9 -2.8
PKGZ Pakihiroa 3.92 200 P Pn 15 45 46.3 -1.9
PUZ Puketiti 4.04 198 P Pn 15 45 49.4 -0.5
PUZ S Sn 15 46 37.0 +1.0
RUGZ Raukumara Rang 4.12 204 P Pn 15 45 50.3 -0.6
TWGZ Tauwhareparae 4.22 200 P Pn 15 45 52.3 +0.1
TWGZ S Sn 15 46 43.0 +2.8
WHRZ Whale Island 4.29 212 P Pn 15 45 55.8 +2.5
CNGZ Carnagh Statio 4.45 196 P Pn 15 45 54.9 -0.5
OPRZ Ohinepanea 4.48 215 P Pn 15 45 55.7 -0.1
TKGZ Te Karaka 4.50 200 P Pn 15 45 55.2 -0.8
TKGZ S Sn 15 46 49.9 +2.8
MWZ Matawai 4.50 204 P Pn 15 45 55.1 -1.1
TGRZ Tauranga 4.53 218 P Pn 15 45 57.4 +0.9
MARZ Manawahe 4.54 213 P Pn 15 45 56.6 0.0
URZ Urewera 4.58 208 P Pn 15 45 56.0 -1.2
13nm,0.3s,baz=118,slow=6.0,SNR=61
URZ S Sn 15 46 48.4 -0.8
46nm,0.5s,baz=34,slow=22,SNR=1.1
115nm,0.6s
URZ Urewera 4.58 208 P Pn 15 45 55.6 -1.6
WIAZ Waiheke Island 4.60 235 P Pn 15 46 00.6 +3.2
EDRZ Edgecumbe 4.61 212 P Pn 15 45 59.1 +1.6
RAGZ Rawiri 4.69 204 P Pn 15 45 58.3 -0.4
MKRZ Makatiti 4.75 214 P Pn 15 45 59.9 +0.3
KARZ Kaharoa 4.77 216 P Pn 15 46 00.6 +0.8
RIGZ Rimuhau 4.77 200 P Pn 15 45 58.6 -1.2
OMRZ Omania 4.77 215 P Pn 15 46 01.5 +1.6
KMRZ Kaimai 4.79 220 P Pn 15 45 59.5 -0.5
TARZ Mount Tarawera 4.82 213 P Pn 15 46 02.4 +1.9
ETAZ East Tamaki Re 4.82 234 P Pn 15 46 03.8 +3.3
NGRZ Ngongotaha 4.86 216 P Pn 15 46 00.4 -0.6
HLRZ Highlands Stat 4.90 214 P Pn 15 46 03.5 +1.9
MUGZ Murupara 4.91 209 P Pn 15 46 00.6 -1.0
MUGZ S Sn 15 47 01.0 +3.8
PRGZ Paritu Road 4.94 198 P Pn 15 46 00.7 -1.5
RTZ Ruatahuna 4.95 207 P Pn 15 46 00.8 -1.4
SNGZ Shannon Statio 4.97 203 P Pn 15 46 01.8 -0.7
SNGZ S Sn 15 47 00.9 +2.1
GRRZ Galatos Road 5.09 215 P Pn 15 46 06.2 +2.0
MHGZ Mahia Peninsul 5.16 197 P Pn 15 46 03.2 -1.9
MHGZ S Sn 15 47 04.4 +1.0
RAHZ Arahi 5.17 204 P Pn 15 46 04.8 -0.6
MTHZ Maungataniwha 5.21 206 P Pn 15 46 05.1 -0.7
WHHZ Waihua 5.27 202 P Pn 15 46 06.6 0.0
MRHZ Matea Rd 5.35 210 P Pn 15 46 07.1 -0.7
TLZ Tolley Road 5.36 219 P Pn 15 46 07.3 -0.6
NMHZ Naumai 5.43 205 P Pn 15 46 08.1 -0.9
ARHZ Aropaoanui 5.52 203 P Pn 15 46 08.9 -1.1
BKZ Black Stump Fm 5.61 207 P Pn 15 46 10.2 -1.1
RATZ Rangitukua 5.66 214 P Pn 15 46 12.4 +0.3
MCHZ McNeill Hill 5.78 205 P Pn 15 46 11.8 -1.9
KATZ Kakaramea 5.79 214 P Pn 15 46 14.9 +1.0
HIZ Hauiti 5.86 222 P Pn 15 46 15.0 +0.2
KWHZ Kaweka Forest 5.86 207 P Pn 15 46 13.1 -1.8
NTVZ North Tongarir 5.89 213 P Pn 15 46 15.2 -0.1
TMVZ Te Maari 5.90 213 P Pn 15 46 15.1 -0.2
KRVZ Karewarewa 5.91 213 P Pn 15 46 15.7 +0.2
ETVZ East Tongariro 5.91 213 P Pn 15 46 15.5 -0.1
WTVZ West Tongariro 5.95 214 P Pn 15 46 16.1 0.0
NNVZ North Ngauruho 5.95 213 P Pn 15 46 16.3 +0.2
OTVZ Oturere 5.95 213 P Pn 15 46 16.0 -0.1
SNVZ South Ngauruho 5.98 213 P Pn 15 46 16.3 -0.2
TWVZ Taurewa 5.98 215 P Pn 15 46 17.0 +0.5
NGZ Ngauruhoe 5.99 213 P Pn 15 46 17.0 +0.3
KAHZ Kahuranaki 6.04 202 P Pn 15 46 14.9 -2.4
TUVZ Tukino 6.04 212 P Pn 15 46 17.4 0.0
BHHZ Black Hill Sta 6.06 209 P Pn 15 46 17.0 -0.5
KRHZ Kereru 6.07 206 P Pn 15 46 15.1 -2.6
FWVZ Far West T-bar 6.08 213 P Pn 15 46 18.2 +0.3
MOVZ Moawhango 6.12 211 P Pn 15 46 17.1 -1.2
WNVZ Wahianoa 6.12 212 P Pn 15 46 17.6 -0.9
PXZ Pawanui 6.26 201 P Pn 15 46 17.2 -3.0
PNHZ Pukenui 6.37 206 P Pn 15 46 18.8 -3.1
PRHZ Porangahau 6.55 202 P Pn 15 46 20.6 -3.5
TSZ Takapari Road 6.59 207 P Pn 15 46 21.8 -3.0
RPZ Rata Peaks 11.67 213 P Pn 15 47 26.8 -7.6
4.4nm,0.6s,baz=59,slow=2.2,SNR=6.3
DZM Mont Dzumac 16.87 312 LR LR 15 53 46.7
comp=Z,788nm,19.5s,baz=162,slow=32
HNR Honiara 30.67 319 LR LR 16 00 45.4
comp=Z,334nm,20.8s,baz=114,slow=31
STKA Stephens Creek 32.00 263 P P 15 51 10.7 -2.7
2.4nm,0.8s,baz=76,slow=9.8,SNR=3.5
STKA LR LR 16 02 20.8
comp=Z,102nm,20.3s,baz=39,slow=33
2.4nm,0.8s
CTA Charters Tower 32.84 287 LR LR 16 02 40.5
comp=Z,68nm,18.5s,baz=84,slow=33
ASAR Alice Springs 41.23 272 P P 15 52 30.4 -1.7
8.1nm,0.8s,baz=113,slow=7.8,SNR=67
ASAR LR LR 16 08 40.3
comp=Z,114nm,19.2s,baz=136,slow=35
8.1nm,0.8s
WRA Warramunga Arr 42.57 278 P P 15 52 41.1 -2.0
6.2nm,0.9s,baz=118,slow=7.7,SNR=31
6.2nm,0.9s
VNDA Vanda 44.12 186 LR LR 16 07 57.0
comp=Z,61nm,18.4s,baz=357,slow=31
QSPA South Pole Qui 55.90 180 LR LR 16 15 37.7
comp=Z,80nm,18.4s,baz=48,slow=33
BATI Baumata 56.43 281 LR LR 16 16 55.1
comp=Z,96nm,22.0s,baz=144,slow=34
GUMO Guam 58.01 319 LR LR 16 16 29.0
comp=Z,27nm,21.5s,baz=116,slow=33
RPN Rapa Nui 60.26 104 LR LR 16 14 34.0
comp=Z,59nm,20.3s,baz=345,slow=29
KAPI Kappang 62.57 283 LR LR 16 23 43.2
comp=Z,35nm,18.2s,baz=123,slow=37
DAV Davao City (W) 65.65 298 LR LR 16 23 37.6
comp=Z,17nm,20.9s,baz=128,slow=36
MAW Mawson 68.09 202 LR LR 16 24 49.7
comp=Z,71nm,18.2s,baz=109,slow=35
JCJ Chichijima 70.64 325 LR LR 16 21 35.9
comp=Z,27nm,21.8s,baz=181,slow=31
TROLL Troll, Antarti 74.05 181 ⇑P P 15 56 22.1 -0.2
comp=Z,78nm,0.6s
SNAA Sanae 74.39 179 ⇑P P 15 56 23.4 -0.8
comp=Z,40nm,0.6s
SNAA Sanae 74.39 179 P P 15 56 23.4 -0.8
comp=Z,3.6nm,0.9s,baz=190,slow=9.8,SNR=9.4
comp=Z,3.6nm,0.9s
VNA3 Neumayer Olymp 74.62 177 ⇓P P 15 56 25.4 -0.1
comp=Z,5.4nm,0.9s
VNA2 Neumayer--Watz 75.03 178 ⇑P P 15 56 27.9 +0.1
comp=Z,3.7nm,0.5s,baz=181,slow=5.0
H03S2 Juan Fernandez 79.89 124 T T 17 25 26.9
baz=233,slow=74,SNR=13
H03S1 Juan Fernandez 79.90 124 T T 17 25 09.5
baz=233,slow=74,SNR=10
H03S3 Juan Fernandez 79.91 124 T T 17 25 06.8
baz=233,slow=74,SNR=13
H03N3 Juan Fernandez 80.11 124 T T 17 25 24.2
baz=238,slow=72,SNR=198

H03N2	Juan Fernandez	80.11	124	T	T	17 25 25.0	
	baz=238,slow=72,SNR=149						
H03N1	Juan Fernandez	80.12	124	T	T	17 25 19.7	
	baz=238,slow=72,SNR=137						
PLCA	Paso Flores	81.25	134	P	P	15 57 05.2	+2.3
	comp=Z,1.6nm,0.7s,baz=253,slow=7.2,SNR=4.0						
PLCA				LR	LR	16 28 06.9	
	comp=Z,49nm,18.3s,baz=204,slow=32						
	comp=Z,1.6nm,0.7s						
KSRS	Korea Array	86.10	321	LR	LR	16 31 36.0	
	comp=Z,13nm,21.1s,baz=105,slow=33						
NVAR	Mina Array Bea	92.28	44	P	P	15 57 58.4	+1.5
	comp=Z,0.7nm,0.7s,baz=221,slow=9.3,SNR=5.3						
	comp=Z,0.7nm,0.7s						
NNA	Nana	94.11	107	LR	LR	16 30 48.7	
	comp=Z,56nm,21.8s,baz=200,slow=29						
ATAH	Atahualpa	95.68	103	LR	LR	16 31 49.9	
	comp=Z,31nm,20.5s,baz=285,slow=29						
TXAR	Lajitas Array	95.98	59	P	P	15 58 17.5	+3.5
	comp=Z,0.1nm,0.6s,baz=238,slow=5.0,SNR=2.1						
	comp=Z,0.1nm,0.6s						
MA2	Magadan	96.50	346	LR	LR	16 33 57.1	
	comp=Z,33nm,21.9s,baz=127,slow=30						
CPUP	Villa Florida	99.01	130	LR	LR	16 35 10.8	
	comp=Z,67nm,21.7s,baz=220,slow=30						
FINES	FINESS Array B	147.99	336	PKPbc	PKPbc	16 04 29.5	-1.8
	comp=Z,3.1nm,0.8s,baz=288,slow=1.2,SNR=5.8						
DBIC	Dimbokro	152.25	170	PKPbc	PKPbc	16 04 42.3	-0.7
	comp=Z,3.5nm,0.8s,baz=84,slow=8.2,SNR=4.1						
TORD	Torodi Ar. Bea	158.95	185	PKPab	PKPab	16 05 19.9	-1.5
	comp=Z,0.8nm,0.7s,baz=155,slow=3.9,SNR=4.4						

*NNC **01** 15:49:09.9±2.3, 39°.01N×70°.70E, h0km, mb2.9, mpv2.3, Error ellipse: s-maj=17.2km s-min=14.3km az=12.0*
*KRNET **01** 15:49:11.4±0.1, 39°.22N×70°.87E, h14km, mb2.6*
ISC 01 15:49:13.8±1.9, 39°.28N±0°.09×70°.87E±0°.06, h10km, n12, σ2.03s/24, 17C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.75	74	⇑eP	Pg	15 49 26.4	-1.9
	baz=70						
DRK				⇑eS	Sg	15 49 37.4	-0.7
	baz=70						
BTK	Batken	0.78	357	⇑eP	Pg	15 49 27.6	-1.3
	baz=57						
BTK				⇑eS	Sg	15 49 39.5	+0.3
	baz=57						
OHH	Osh	1.93	49	⇑eP	Pb	15 49 48.2	-0.9
	baz=48						
OHH				⇑eS	Sg	15 50 15.0	-0.8
	baz=48						
SFK	Sufi-Kurgan	2.16	69	⇑eP	Pn	15 49 51.4	+1.3
	baz=68						
SFK				⇑eS	Sb	15 50 20.6	+0.5
	baz=68						
TRKS	Terek-Say	2.26	5	⇑eP	Pn	15 49 52.1	+0.7
	baz=6.0						
TRKS				⇑eS	Sb	15 50 21.7	-1.2
	baz=6.0						
ARSB	Arslanbob	2.61	38	⇓eP	Pn	15 49 57.7	+1.5
	baz=37						
ARSB				⇓eS	Sb	15 50 31.7	-1.1
	baz=37						
AML	Almayashu	3.57	36	⇑eP	Pn	15 50 11.4	+1.8
	baz=36						
AML				⇑eS	Sn	15 50 55.2	+3.2
	baz=36						
AML	Almayashu	3.57	36	⇑Pn	Pn	15 50 10.3	+0.7
	0.1nm,0.4s						
AML				⇑Sn	Sb	15 50 58.5	-2.3
	0.5nm,0.5s						
ARLS	Aral	3.69	44	⇓eP	Pn	15 50 12.7	+1.7
	baz=44						
ARLS				⇓eS	Sn	15 50 57.4	+2.8
	baz=44						
KK31	Karatay Array	3.83	356	⇓Pn	Pn	15 50 14.7	+1.8
	0.2nm,0.2s,baz=180,slow=16,SNR=8.6						
KK31				⇑Pg	Pb	15 50 24.2	+2.6
	0.5nm,0.3s,baz=182,slow=14,SNR=3.9						
KK31				⇓Sn	Sb	15 51 03.6	-4.4
	0.9nm,0.4s,baz=186,slow=24,SNR=3.7						
KK31				⇑Lg	Lg	15 51 18.0	
	1.2nm,0.3s,baz=182,slow=32,SNR=6.7						
UCH	Uchtor	4.04	42	⇓eP	Pn	15 50 17.9	+1.7
	baz=42						
UCH				⇓eS	Sn	15 51 06.4	+2.6
	baz=42						
AB31	Akbulak array	12.67	326	⇑Pn	Pn	15 52 12.3	-1.6
	0.2nm,0.3s,baz=126,slow=57,SNR=15						

*EAF **01** 16:06:23.6±2.1, 18°.54S×26°.28E, h10km, MD3.6*
*BUL **01** 16:06:24.3±0.7, 18°.54S×26°.35E, h10km, MD3.8*
ISC 01 16:06:21.4±1.4, 18°.56S±0°.05×26°.22E±0°.09, h10km, n12, σ1.56s/22, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLWY	Bulawayo	2.75	125	i P	Pn	16 07 06.6	+1.0
BLWY				i S	Sn	16 07 38.4	-0.7
BLWY	Bulawayo	2.75	125	i P	Pn	16 07 06.6	+1.0
BLWY				i S	Sn	16 07 38.4	-0.7
MATP	Matopo	2.84	131	i P	Pn	16 07 08.0	+1.2
MATP				i S	Sn	16 07 40.9	-0.3
MATP	Matopo	2.84	131	i P	Pn	16 07 08.0	+1.2
MATP				i S	Sn	16 07 40.9	-0.3
LSZ	Lusaka	3.77	30	i P	Pn	16 07 21.0	+1.3
LSZ				i S	Sn	16 08 03.0	-1.2
LSZ	Lusaka	3.77	30	i P	Pn	16 07 21.0	+1.3
LSZ				i S	Sn	16 08 03.0	-1.2
MUSN	Musina, Limpop	5.04	138	i P	Pn	16 07 38.0	+1.0
MUSN				i S	Sn	16 08 32.6	-2.8
MUSN	Musina, Limpop	5.04	138	i P	Pn	16 07 38.0	+1.0
MUSN				i S	Sn	16 08 32.6	-2.8
LBTB	Lobatse	6.45	185	i P	Pn	16 07 58.9	+2.4
LBTB				i S	Sn	16 09 08.8	-1.5
LBTB	Lobatse	6.45	185	i P	Pn	16 07 58.9	+2.4
LBTB				i S	Sn	16 09 08.8	-1.5
BOSA	Boshof	10.05	185	i P	Pn	16 08 46.6	+0.7
BOSA	Boshof	10.05	185	i P	Pn	16 08 46.6	+0.7

IDC 01 16:10:25.1±1.9, 2°.04N×126°.30E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=178.8km s-min=27.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.23	161	P	P	16 15 33.8	-0.3
	0.9nm,0.6s,baz=339,slow=11,SNR=20						
	0.9nm,0.6s						
ASAR	Alice Springs	26.60	164	P	P	16 16 05.8	+0.4
	0.2nm,0.4s,baz=341,slow=8.4,SNR=13						
ASAR				PcP	PcP	16 19 29.2	-0.7
	0.3nm,1.0s,baz=335,slow=2.7,SNR=1.7						
	0.2nm,0.4s						
MKAR	Makanchi Array	58.70	326	P	P	16 20 24.5	-0.1
	0.2nm,0.5s,baz=115,slow=7.2,SNR=2.1						
	0.2nm,0.5s						

*IDC **01** 16:19:47.9±2.7, 22°.80N×143°.04E, h0km, mb3.6/5, mbtmp3.6/6, ML3.0/1, MS3.0/1, Error ellipse: s-maj=126.4km s-min=23.1km az=82.0*
ISC 01 16:19:53.5±2.7, 23°.0N±0°.1×143°.4E±0°.8, h50km, n13, σ1.79s/7, mb3.4/5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	4.23	345	Pn	Pn	16 20 54.2	-1.2
	0.8nm,0.3s,baz=258,slow=22,SNR=1.6						
JCJ				Sn	Sn	16 21 42.7	-0.9
	4.2nm,0.3s,baz=131,slow=23,SNR=5.7						
	25nm,0.8s						
H11N1	WAKE ISLAND Hy	22.13	94	T	T	16 46 49.7	
	baz=290						
H11N2	WAKE ISLAND Hy	22.13	94	T	T	16 46 51.9	
	baz=290						
H11N3	WAKE ISLAND Hy	22.14	94	T	T	16 46 50.4	
	baz=290						
H11S3	WAKE ISLAND Hy	22.24	97	T	T	16 47 14.1	
	baz=287						
H11S1	WAKE ISLAND Hy	22.25	97	T	T	16 47 17.3	
	baz=287						
H11S2	WAKE ISLAND Hy	22.25	97	T	T	16 47 09.5	
	baz=287						
USRK	Ussuriysk Ar.	23.14	339	LR	LR	16 32 08.3	
	comp=Z,41nm,21.9s,baz=334,slow=32						
WRA	Warramunga Arr	43.57	192	P	P	16 27 51.8	-1.0
	0.4nm,0.6s,baz=13,slow=9.1,SNR=6.2						
	0.4nm,0.6s						
ASAR	Alice Springs	47.28	192	P	P	16 28 20.9	-1.2
	0.1nm,0.4s,baz=11,slow=7.4,SNR=1.3						
	0.1nm,0.4s						
MKAR	Makanchi Array	53.97	312	P	P	16 29 11.6	-0.7
	0.3nm,0.7s,baz=106,slow=5.9,SNR=1.7						
	0.3nm,0.7s						
BVAR	Borovoye Array	61.82	319	P	P	16 30 09.4	+2.2
	0.7nm,0.5s,baz=90,slow=6.1,SNR=4.4						
	0.7nm,0.5s						
FINES	FINESS Array B	82.10	334	P	P	16 32 10.1	+1.7
	3.0nm,1.0s,baz=64,slow=4.4,SNR=6.2						
	3.0nm,1.0s						

*IDC **01** 16:22:16.3±1.9, 61°.48N×150°.77W, h58km±21km, mb3.4/8, mbtmp3.5/12, ML3.0/4, Error ellipse: s-maj=18.4km s-min=14.3km az=97.0*
*AEIC **01** 16:22:17.9±1.2, 61°.60N±0°.03×150°.73W±0°.05, h67km±6km, ML3.3, ML3.5/206(NEIC), Error ellipse: s-maj=4.7km s-min=3.6km az=182.0*
*NEIC **01** 16:22:17.3±1.6, 61°.63N±0°.03×150°.73W±0°.05, h67km±8km, Error ellipse: s-maj=4.6km s-min=3.5km az=202.0*
ISC 01 16:22:17.1±0.7, 61°.61N±0°.03×150°.73W±0°.03, h69km±5km, n375, σ0.82s/365, mb3.6/8, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	Susitna One	0.14	184		Pn	16 22 27.1	-0.3
SUA				Sn	Sn	16 22 34.7	-0.2
SUA	Susitna One	0.14	184	P	Pn	16 22 27.4	-0.1
	baz=1.4						
SUA				S	Sn	16 22 35.0	+0.1
	baz=1.4						
M22K	Willow	0.33	63		Pn	16 22 27.9	-0.3
M22K	Willow	0.33	63		Sn	16 22 36.7	+0.3
M22K	Willow	0.33	63	P	Pn	16 22 28.0	-0.2
	baz=243						
M22K				S	Sn	16 22 36.7	+0.3
	baz=243						
FIS	Fire Island	0.52	152		Pn	16 22 30.7	+0.7
FIS	Fire Island	0.52	152		Sn	16 22 42.3	+2.9
SKT	Skwentna	0.54	315	Pn	Pn	16 22 29.3	-0.8
SKT				Sn	Sn	16 22 39.4	-0.4
SKT	Skwentna	0.54	315	P	Pn	16 22 29.9	-0.2
	baz=135						
SKT				S	Sn	16 22 39.3	-0.4
	baz=135						
STLK	Strandline Lak	0.54	259		Pn	16 22 30.2	0.0
STLK					Sn	16 22 40.1	+0.2
SPCG	Spurr Capps Gl	0.70	244		Pn	16 22 31.8	-0.1
SPCG					Sn	16 22 43.1	+0.2
RC01	Rabbit Creek A	0.70	137	Pn	Pn	16 22 31.7	-0.2
RC01				Sn	Sn	16 22 42.4	-0.5
RC01				IAML		16 22 43.7	
	comp=E,2μm,0.5s						
RC01	Rabbit Creek A	0.70	137	P	Pn	16 22 31.7	-0.2
	baz=317						
RC01				S	Sn	16 22 42.9	+0.1
	baz=317						
PMR	Palmer	0.76	90	Pn	Pn	16 22 32.0	-0.6
PMR				IAML		16 22 45.1	
	comp=E,2μm,0.2s						
PMR	Palmer	0.76	90		Sn	16 22 44.0	0.0
PMR	Palmer	0.76	90	P	Pn	16 22 32.1	-0.4
	baz=271						
PMR				S	Sn	16 22 44.0	0.0
	baz=271						
SPCP	Crater Peak Br	0.77	244		Pn	16 22 32.8	0.0
SPCN	Chakachatna No	0.80	242		Pn	16 22 33.1	+0.1
N20K	Mount Spurr	0.82	241	P	Pn	16 22 33.1	-0.3
	baz=60						
N20K				S	Sn	16 22 45.3	-0.1
	baz=60						
SPCR	Spurr Chakacha	0.82	241		Pn	16 22 33.1	-0.3
SPCR	Spurr Chakacha	0.82	241		Sn	16 22 45.3	-0.1
SPCR	Spurr Chakacha	0.82	241	P	Pn	16 22 33.0	-0.3
	baz=60						
CUT	Chulitna	0.83	15		Pn	16 22 33.3	-0.1
CUT	Chulitna	0.83	15		Sn	16 22 45.9	+0.5
CUT	Chulitna	0.83	15	P	Pn	16 22 33.3	-0.1
	baz=196						
CUT				S	Sn	16 22 45.9	+0.5
	baz=196						
CAPN	Captain Cook N	0.87	194		Pn	16 22 35.4	+1.6
CAPN	Captain Cook N	0.87	194	P	Pn	16 22 35.4	+1.6
	baz=13						
GHO	Glory Hole Cre	0.88	78		Pn	16 22 33.9	-0.1
GHO	Glory Hole Cre	0.88	78		Sn	16 22 47.4	+0.9
SPNN	North Nagishla	0.98	257		Sn	16 22 49.7	+0.8
KNK	Knik Glacier	1.10	99		Pn	16 22 36.9	+0.1
KNK	Knik Glacier	1.10	99		Sn	16 22 52.3	+0.8
KNK	Knik Glacier	1.10	99	P	Pn	16 22 36.8	0.0
	baz=281						
KNK				S	Sn	16 22 52.4	+0.8
	baz=281						
SML	Sawmill	1.16	79		Pn	16 22 37.3	-0.2
SML				IAML		16 22 54.1	
	comp=E,1μm,0.6s						
SML	Sawmill	1.16	79	P	Pn	16 22 37.3	-0.2
	baz=261						
M20K	Styx River	1.18	285		Pn	16 22 38.0	+0.2
M20K	Styx River	1.18	285	IAML		16 22 55.5	
	comp=E,1μm,0.8s						
M20K	Styx River	1.18	285	P	Pn	16 22 38.0	+0.2
	baz=103						
O22K	Cooper Landing	1.23	156		Pn	16 22 38.0	-0.4
O22K	Cooper Landing	1.23	156	P	Pn	16 22 38.0	-0.4
	baz=337						
RDT	Redoubt	1.32	219		Pn	16 22 39.6	0.0
PWL	Port Wells	1.38	122	Pn	Pn	16 22 39.9	-0.5
PWL	Port Wells	1.38	122	P	Pn	16 22 39.8	-0.5
	baz=304						
RDJH	Redoubt Jeurge	1.43	226		Pn	16 22 41.5	+0.3
M23K	Glacier View	1.44	81	P	Pn	16 22 41.1	-0.1
	baz=264						
PPLA	Purkeypile	1.47	333		Pn	16 22 41.5	-0.1
PPLA	Purkeypile	1.47	333	P	Pn	16 22 41.5	-0.1
	baz=152						
RSO	Redoubt South	1.51	222		Pn	16 22 42.6	+0.3
WAT7	Susitna Watana	1.51	35		Pn	16 22 42.5	+0.3
WAT1	Susitna Watana	1.60	39	P	Pn	16 22 43.4	+0.1
	baz=221						
SEW	Seward	1.63	157		Pn	16 22 42.8	-0.9
SEW	Seward	1.63	157	P	Pn	16 22 43.8	+0.2
	baz=338						
SCM	Sheep Creek Mo	1.64	80		Pn	16 22 43.6	-0.2
SCM	Sheep Creek Mo	1.64	80	P	Pn	16 22 43.9	+0.1
	baz=263						
WAT6	Susitna Watana	1.71	54	P	Pn	16 22 44.8	-0.1
	baz=236						
L20K	Farewell, AK	1.72	302		Pn	16 22 44.9	-0.1
L20K	Farewell, AK	1.72	302	P	Pn	16 22 44.9	-0.1
	baz=119						
M19K	Big River Lodg	1.77	281		Pn	16 22 45.4	-0.2
M19K	Big River Lodg	1.77	281	IAML		16 23 08.8	
	comp=E,264nm,0.6s						
M19K				IAML		16 23 14.3	
	comp=N,287nm,0.5s						
M19K	Big River Lodg	1.77	281	P	Pn	16 22 45.4	-0.2
	baz=98						
O20K	Slope Mountain	1.79	212	P	Pn	16 22 46.8	+0.9
	baz=30						
BRLK	Bradley Lake	1.85	182		Pn	16 22 46.5	-0.1
TRF	Thorofare Moun	1.86	6		Pn	16 22 47.1	+0.2
TRF				IAML		16 23 13.7	
	comp=N,454nm,0.5s						
TRF				IAML		16 23 16.5	
	comp=E,227nm,0.4s						
TRF	Thorofare Moun	1.86	6	P	Pn	16 22 47.9	+1.0
	baz=187						
BRSE	Bradley Lake S	1.87	180		Pn	16 22 46.3	-0.6
BRSE	Bradley Lake S	1.87	180	P	Pn	16 22 46.5	-0.4
	baz=0.0						
GLI	Glacier Island	1.90	111		Pn	16 22 46.0	-1.2
GLI				IAML		16 23 22.9	
	comp=N,496nm,0.7s						
GLI				IAML		16 23 23.1	
	comp=E,589nm,0.5s						
GLI	Glacier Island	1.90	111	P	Pn	16 22 46.1	-1.2
	baz=294						
CAST	Castle Rocks	1.93	342	Pn	Pn	16 22 47.7	0.0
CAST				IAML		16 23 12.4	
	comp=N,221nm,0.7s						
CAST				IAML		16 23 13.9	
	comp=E,290nm,0.6s						
CAST	Castle Rocks	1.93	342	P	Pn	16 22 47.6	0.0
	baz=160						
IVE	Iliamna Volcan	1.95	216		Pn	16 22 48.6	+0.5
KTH	Kantishna Hill	1.96	357	Pn	Pn	16 22 48.5	+0.4
KTH				IAML		16 23 13.3	
	comp=E,257nm,0.8s						
KTH				IAML		16 23 29.7	
	comp=N,238nm,0.9s						
N19K	Bonanza Creek	1.98	248		Pn	16 22 48.6	+0.1
N19K	Bonanza Creek	1.98	248	P	Pn	16 22 48.6	+0.1
	baz=65						
HOM	Homer	2.01	193		Pn	16 22 49.1	+0.4
HOM	Homer	2.01	193	IAML		16 23 20.3	
	comp=N,460nm,0.9s						
HOM	Homer	2.01	193	P	Pn	16 22 49.1	+0.4
	baz=13						
RND	Reindeer	2.01	25		Pn	16 22 49.1	+0.3
ILSW	Iliamna Southw	2.01	217		Pn	16 22 49.7	+0.8
ILSW				IAML		16 23 16.5	
	comp=E,250nm,0.6s						
L19K	White Mountain	2.04	288	Pn	Pn	16 22 49.3	+0.1
L19K				IAML		16 23 30.1	
	comp=N,205nm,0.6s						
L19K				IAML		16 23 30.6	
	comp=E,239nm,0.5s						
L19K	White Mountain	2.04	288	P	Pn	16 22 49.3	+0.1
	baz=105						
CNPM	China Poot	2.10	187		Pn	16 22 49.7	-0.3
CNPM				IAML		16 23 21.0	
	comp=N,235nm,0.4s						
CNPM				IAML		16 23 21.2	
	comp=E,207nm,0.7s						
DHY	Denali Highway	2.15	45		Pn	16 22 51.0	+0.2
DHY				IAML		16 23 31.3	
	comp=E,228nm,0.6s						
DHY	Denali Highway	2.15	45	P	Pn	16 22 50.9	+0.2
	baz=228						
M24K	Tolsona, Glenn	2.22	75	Pn	Pn	16 22 52.4	+0.7
M24K	Tolsona, Glenn	2.22	75	P	Pn	16 22 52.3	+0.7
	baz=259						
FID	Port Fidalgo	2.23	111		Pn	16 22 50.1	-1.6
O19K	Port Alsworth	2.25	233		Pn	16 22 52.0	-0.1
O19K	Port Alsworth	2.25	233	IAML		16 23 37.6	
	comp=E,307nm,0.5s						
O19K				IAML		16 23 57.3	
	comp=N,226nm,0.4s						
O19K	Port Alsworth	2.25	233	P	Pn	16 22 52.1	+0.1
	baz=50						
MCK	McKinley	2.29	20		Pn	16 22 53.0	+0.5
MCK	McKinley	2.29	20	P	Pn	16 22 53.1	+0.5
	baz=202						
P23K	Montague Islan	2.29	133		Pn	16 22 51.1	-1.5
P23K	Montague Islan	2.29	133	P	Pn	16 22 51.1	-1.5
	baz=316						
KLU	Klutina	2.30	91		Pn	16 22 52.0	-0.8
KLU	Klutina	2.30	91	P	Pn	16 22 52.0	-0.8
	baz=275						
P19K	Oil Pt	2.32	213		Pn	16 22 54.4	+1.4
P19K				IAML		16 23 25.2	
	comp=E,346nm,0.5s						
P19K				IAML		16 23 37.2	
	comp=N,216nm,0.5s						
P19K	Oil Pt	2.32	213	P	Pn	16 22 53.8	+0.9
	baz=31						
K20K	Telida	2.34	320		Pn	16 22 53.4	+0.1
K20K	Telida	2.34	320	IAML		16 23 27.1	
	comp=E,214nm,0.6s						
K20K	Telida	2.34	320	P	Pn	16 22 53.4	+0.1
	baz=137						
HIN	Hinchinbrook I	2.39	119		Pn	16 22 52.9	-1.0
HIN				IAML		16 23 34.9	
	comp=E,246nm,0.6s						
HIN				IAML		16 23 41.0	
	comp=N,333nm,0.7s						
SVW2	Sparrevohn	2.39	260	Pn	Pn	16 22 53.6	-0.3
CHUM	Lake Minchumin	2.40	343		Pn	16 22 54.1	+0.1
CHUM	Lake Minchumin	2.40	343	P	Pn	16 22 54.2	+0.2
	baz=162						
DIV	Divide	2.43	99		Pn	16 22 53.4	-1.2
M18K	Stony River	2.44	270		Pn	16 22 54.5	-0.1
M18K	Stony River	2.44	270	P	Pn	16 22 54.5	-0.1
	baz=85						
BPAW	Bear Paw Mtn.	2.51	357	Pn	Pn	16 22 55.2	-0.3
BPAW	Bear Paw Mtn.	2.51	357	P	Pn	16 22 55.1	-0.3
	baz=177						
AUL	Augustine Lava	2.60	212		Pn	16 22 57.3	+0.5
AUQ	Augustine Qik'	2.62	212		Pn	16 22 57.5	+0.4
EYAK	Cordova Ski Ar	2.64	111		Pn	16 22 57.8	+0.6
EYAK	Cordova Ski Ar	2.64	111	P	Pn	16 22 57.8	+0.6
	baz=296						
N18K	Kilae Creek	2.67	252		Pn	16 22 57.6	-0.1
N18K	Kilae Creek	2.67	252	P	Pn	16 22 57.6	-0.1
	baz=67						
HARP	HAARP	2.75	71	P	Pn	16 22 59.6	+0.9
	baz=256						
TTA	Tatalina	2.81	301	Pn	Pn	16 22 59.5	-0.1
TTA				IAML		16 23 51.4	
	comp=N,145nm,0.7s						
TTA	Tatalina	2.81	301	P	Pn	16 22 59.4	-0.1
	baz=116						
PAX	Paxson	2.81	59	P	Pn	16 23 00.5	+0.8
	baz=243						
O18K	Koktuh Hills	2.82	233	Pn	Pn	16 22 59.9	+0.1
O18K	Koktuh Hills	2.82	233	P	Pn	16 22 59.8	+0.1
	baz=49						
L18K	Granite Mounta	2.89	285		Pn	16 23 00.6	0.0
L18K	Granite Mounta	2.89	285	IAML		16 24 02.1	
	comp=N,102nm,1.1s						
L18K	Granite Mounta	2.89	285	P	Pn	16 23 00.6	0.0
	baz=100						
N25K	Chitina, Valde	2.93	87	Pn	Pn	16 23 01.2	-0.1
N25K				IAML		16 23 42.8	
	comp=E,135nm,0.5s						
N25K				IAML		16 23 46.8	
	comp=N,184nm,0.6s						
N25K	Chitina, Valde	2.93	87	P	Pn	16 23 00.9	-0.4
	baz=273						
J20K	Nowinta River	3.02	330		Pn	16 23 02.3	-0.1
J20K	Nowinta River	3.02	330	P	Pn	16 23 02.3	-0.1
	baz=147						
BMRM	Bremner River	3.02	100		Pn	16 23 00.9	-1.7
BMRM	Bremner River	3.02	100	P	Pn	16 23 02.3	-0.2
	baz=285						
Q19K	Cape Douglas,	3.05	210		Pn	16 23 03.1	+0.2
Q19K	Cape Douglas,	3.05	210	IAML		16 24 15.5	
	comp=N,167nm,0.7s						
Q19K	Cape Douglas,	3.05	210	P	Pn	16 23 03.1	+0.2
	baz=27						
WACK	Wrangell Chich	3.06	80		Pn	16 23 03.1	-0.2
GOAT	Goat Mountain	3.09	107		Pn	16 23 02.2	-1.3
NEA2	Nenana	3.09	13		Pn	16 23 03.2	-0.2
NEA2	Nenana	3.09	13	P	Pn	16 23 03.0	-0.4
	baz=195						
SYI	Shuyak Island	3.12	196	Pn	Pn	16 23 04.3	+0.5
SYI				IAML		16 23 49.7	
	comp=E,75nm,1.0s						
Q20K	Shuyak Island	3.12	196	P	Pn	16 23 04.3	+0.5
	baz=15						
WASW	Wrangell South	3.13	81		Pn	16 23 04.2	0.0
P18K	Big Mountain,	3.15	227		Pn	16 23 04.3	+0.1
P18K	Big Mountain,	3.15	227	P	Pn	16 23 04.5	+0.3
	baz=43						
WAZA	Wrangell Mount	3.15	79		Pn	16 23 05.0	+0.4
K24K	Donnelly Dome	3.17	44		Pn	16 23 07.0	+2.5
K24K	Donnelly Dome	3.17	44	P	Pn	16 23 07.2	+2.6
	baz=228						
M17K	Holitna River	3.22	269		Pn	16 23 05.2	0.0
M17K	Holitna River	3.22	269	IAML		16 24 14.9	
	comp=N,134nm,0.8s						
M17K	Holitna River	3.22	269	P	Pn	16 23 05.2	0.0
	baz=84						
J19K	Poorman	3.29	319		Pn	16 23 06.0	-0.1
J19K				IAML		16 23 60.0	
	comp=N,96nm,0.8s						
J19K				IAML		16 24 01.0	
	comp=E,94nm,0.4s						
J19K	Poorman	3.29	319	P	Pn	16 23 06.0	-0.1
	baz=135						
HDA	Harding Lake	3.30	30		Pn	16 23 08.3	+2.0
HDA				IAML		16 24 04.5	

comp=E,83nm,0.6s
HDA IAML 16 24 05.9
comp=N,110nm,0.5s
GLB Gilahina Butte 3.32 90 Pn Pn 16 23 07.3 +0.7
GLB IAML 16 23 44.4
comp=N,86nm,0.3s
GLB IAML 16 24 00.1
comp=E,61nm,0.7s
N17K Nushagak Hills 3.32 254 Pn 16 23 06.3 -0.2
N17K Nushagak Hills 3.32 254 IAML 16 23 59.9
comp=N,65nm,0.9s
N17K Nushagak Hills 3.32 254 P Pn 16 23 06.4 -0.2
baz=68
CCB Clear Creek Bu 3.33 22 Pn 16 23 06.8 +0.2
J18K Innoko River 3.34 307 Pn 16 23 07.1 +0.2
J18K Innoko River 3.34 307 IAML 16 24 07.0
comp=N,63nm,0.6s
J18K IAML 16 24 07.5
comp=E,62nm,0.8s
J18K Innoko River 3.34 307 P Pn 16 23 07.1 +0.2
baz=121
HMT Hamilton 3.40 109 Pn Pn 16 23 06.5 -1.2
MLY Manley 3.44 360 Pn Pn 16 23 08.2 0.0
MLY Manley 3.44 360 P Pn 16 23 08.5 +0.3
baz=180
VRDI Verde Repeater 3.52 93 Pn 16 23 08.2 -1.2
VRDI IAML 16 24 07.2
comp=N,75nm,0.6s
COLA College 3.53 20 Pn Pn 16 23 09.9 +0.6
COLA IAML 16 24 18.0
comp=N,150nm,0.5s
COLA IAML 16 24 25.9
comp=N,139nm,0.6s
MENT Mentasta 3.54 65 Pn 16 23 09.4 -0.1
MDM Murphy Dome 3.55 17 Pn 16 23 09.4 -0.2
I23K Minto, Yukon-K 3.61 9 Pn Pn 16 23 11.2 +0.8
I23K Minto, Yukon-K 3.61 9 P Pn 16 23 10.9 +0.5
baz=190
IL31 3.62 27 Pn Pn 16 23 11.1 +0.5
ILAR Eielson Array 3.62 27 Pn Pn 16 23 12.9 +2.2
ILAR Eielson Array 3.62 27 P Pn 16 23 10.7 0.0
comp=N,0.6nm,0.3s,baz=216,slow=14,SNR=41
ILAR S Sn 16 23 50.2 -1.9
comp=N,7.3nm,0.4s,baz=225,slow=16,SNR=1.7
comp=N,2.9nm,0.4s
L17K Donlin 3.62 282 Pn 16 23 10.6 -0.1
L17K Donlin 3.62 282 P Pn 16 23 10.6 -0.1
baz=95
I20K Naaghedeneel 3.62 334 Pn 16 23 10.9 +0.3
I20K Naaghedeneel 3.62 334 P Pn 16 23 10.9 +0.3
baz=150
O17K Koliganek Bris 3.63 242 Pn 16 23 11.0 +0.3
O17K Koliganek Bris 3.63 242 P Pn 16 23 11.0 +0.3
baz=57
BERG Berg Lake 3.63 106 Pn 16 23 11.3 +0.5
I21K Tanana 3.63 352 Pn Pn 16 23 10.9 +0.1
I21K IAML 16 24 23.7
comp=N,50nm,1.4s
I21K Tanana 3.63 352 P Pn 16 23 10.9 +0.1
baz=171
KAHC Katmai Hardscr 3.66 218 Pn 16 23 11.3 +0.1
Q18K Katmai Hardscr 3.66 218 P Pn 16 23 11.5 +0.2
baz=34
KAHG Katmai Hook Gl 3.66 213 Pn 16 23 11.1 -0.1
MCARA McCarthy VSAT 3.70 90 Pn Pn 16 23 13.1 +1.4
MCARA McCarthy VSAT 3.70 90 P Pn 16 23 11.8 +0.1
baz=277
K17K Iditarod 3.72 291 Pn 16 23 12.2 +0.1
K17K Iditarod 3.72 291 IAML 16 24 16.5
comp=N,84nm,1.1s
K17K IAML 16 24 25.4
comp=E,89nm,0.8s
K17K Iditarod 3.72 291 P Pn 16 23 12.2 +0.1
baz=104
P17K Kvichak River 3.73 232 P Pn 16 23 12.7 +0.7
baz=47
L26K Log Cabin Wild 3.73 64 Pn Pn 16 23 12.9 +0.8
L26K IAML 16 24 15.2
comp=N,120nm,0.4s
L26K IAML 16 24 17.7
comp=E,94nm,0.5s
M26K Nabesna, AK 3.73 74 Pn 16 23 12.3 +0.1
M26K Nabesna, AK 3.73 74 IAML 16 24 11.7
comp=E,69nm,0.8s
M26K IAML 16 24 11.7
comp=N,107nm,0.8s
M26K Nabesna, AK 3.73 74 P Pn 16 23 12.3 +0.1
baz=261
SUCK Suckling Hills 3.73 111 Pn Pn 16 23 13.8 +1.6
SUCK IAML 16 23 58.5
comp=N,114nm,1.9s
SUCK IAML 16 24 25.9
comp=E,112nm,4.0s
CRQM Cirque 3.77 100 Pn Pn 16 23 12.0 -0.9
CRQM IAML 16 24 19.1
comp=N,116nm,0.9s
CRQE Cirque 3.79 100 P Pn 16 23 12.5 -0.6
baz=286
KHIT Khitrov Hills 3.82 104 Pn 16 23 12.9 -0.5
POKR Poker Plat Res 3.82 21 Pn Pn 16 23 13.7 +0.3
POKR Poker Plat Res 3.82 21 P Pn 16 23 13.4 0.0
baz=204
J25K Salcha River, 3.88 37 Pn 16 23 15.3 +1.2
J25K Salcha River, 3.88 37 IAML 16 24 13.1
comp=E,45nm,0.5s
J25K Salcha River, 3.88 37 P Pn 16 23 15.3 +1.2
baz=221
SCRK Sand Creek 3.90 50 Pn Pn 16 23 14.8 +0.2
SCRK IAML 16 24 29.7
comp=E,43nm,0.6s
SCRK Sand Creek 3.90 50 P Pn 16 23 14.7 +0.2
baz=236
TGL Tana Glacier 3.92 99 Pn Pn 16 23 14.2 -0.6
TGL IAML 16 24 15.4
comp=N,105nm,0.8s
TGL IAML 16 24 17.7
comp=E,94nm,0.7s
KDAK Kodiak Island 3.95 195 Pn Pn 16 23 15.2 +0.1
KDAK IAML 16 24 14.5
comp=E,37nm,0.8s
KDAK IAML 16 24 18.1
comp=E,42nm,1.6s
KDAK Kodiak Island 3.95 195 P Pn 16 23 14.1 -1.0
comp=E,0.7nm,0.3s,baz=66,slow=9.7,SNR=64
KDAK S Sn 16 23 56.2 -3.9
comp=E,6.9nm,0.3s,baz=13,slow=16,SNR=4.1
comp=E,2.6nm,0.3s
KAKN Katmai Knife C 3.97 215 Pn 16 23 15.6 +0.1
PTPK Patty Peak 4.00 92 Pn 16 23 15.2 -0.7
WAX Waxell Ridge 4.00 103 Pn Pn 16 23 14.8 -1.2
WAX IAML 16 24 05.2
comp=E,104nm,0.5s
M16K Timber Creek 4.01 265 Pn 16 23 15.8 -0.1
M16K Timber Creek 4.01 265 IAML 16 24 30.0
comp=N,41nm,1.2s
M16K IAML 16 24 35.1
comp=E,44nm,0.8s
M16K Timber Creek 4.01 265 P Pn 16 23 15.8 -0.1
baz=78
KABU Katmai Buttres 4.05 216 Pn 16 23 17.1 +0.4
N16K Nishlik Lake 4.07 257 Pn 16 23 16.9 +0.1
N16K Nishlik Lake 4.07 257 P Pn 16 23 16.9 +0.1
baz=70
KIAG Kiagna River 4.10 96 Pn 16 23 15.7 -1.6
ACHA Angle Creek He 4.12 216 Pn 16 23 17.8 +0.3
O16K Kokwok River B 4.15 244 Pn 16 23 18.1 +0.2
O16K Kokwok River B 4.15 244 IAML 16 24 31.0
comp=N,32nm,0.9s
O16K Kokwok River B 4.15 244 P Pn 16 23 18.1 +0.2
baz=58
H21K Melozitna Rive 4.17 348 Pn 16 23 18.2 +0.1
H21K Melozitna Rive 4.17 348 P Pn 16 23 18.4 +0.3
baz=166
L16K Owhat River 4.17 275 Pn Pn 16 23 18.1 0.0
L16K IAML 16 24 38.0
comp=N,41nm,0.8s
L16K IAML 16 24 38.9
comp=E,32nm,1.1s
L16K Owhat River 4.17 275 P Pn 16 23 18.1 0.0
baz=88
ANCK Angle Creek 4.18 217 Pn 16 23 18.6 +0.4
BARK Barkley Ridge 4.19 103 Pn 16 23 17.2 -1.3
ISLE Juniper Island 4.19 100 Pn Pn 16 23 17.9 -0.7
ISLE IAML 16 24 08.5
comp=E,66nm,0.4s
ISLE IAML 16 24 31.7
comp=N,79nm,0.9s
GCSA Galena City Sc 4.21 321 Pn 16 23 18.5 -0.1
GCSA Galena City Sc 4.21 321 P Pn 16 23 18.5 -0.1
baz=136
CNTC Contact Creek 4.24 220 Pn 16 23 19.5 +0.4
Q17K Contact Creek 4.24 220 P Pn 16 23 19.6 +0.4
baz=36
M27K Edge Creek, AK 4.24 76 Pn 16 23 19.5 +0.3
M27K Edge Creek, AK 4.24 76 IAML 16 24 27.8
comp=N,34nm,0.8s
M27K Edge Creek, AK 4.24 76 P Pn 16 23 19.4 +0.1
baz=264
H22K Ishtalitna Cre 4.32 356 Pn 16 23 20.5 +0.4
H22K Ishtalitna Cre 4.32 356 P Pn 16 23 20.5 +0.4
baz=176
H20K Anotleneega Mo 4.32 336 Pn 16 23 20.1 -0.1
H20K Anotleneega Mo 4.32 336 P Pn 16 23 20.5 +0.3
baz=153
BAGL Bagley Icefiel 4.35 101 Pn 16 23 19.4 -1.1
L27K Beaver Creek, 4.40 67 Pn 16 23 21.0 -0.3
L27K Beaver Creek, 4.40 67 P Pn 16 23 21.4 +0.1
baz=255
BARN Barnard Glacie 4.40 93 Pn Pn 16 23 21.5 0.0
BARN IAML 16 24 16.8
comp=E,53nm,0.5s
BARN IAML 16 24 34.8
comp=N,50nm,0.7s
BCAR Beaver Creek A 4.42 67 Pn Pn 16 23 22.1 +0.5
H24K Noodor Dome 4.43 15 Pn 16 23 22.2 +0.5
H24K Noodor Dome 4.43 15 P Pn 16 23 22.2 +0.5
baz=188
GRNC Granite Creek 4.43 97 Pn Pn 16 23 22.2 +0.3
GRNC IAML 16 24 13.2
comp=E,43nm,0.4s
GRNC IAML 16 24 13.7
comp=N,71nm,0.7s
P16K Nushagak River 4.44 238 Pn 16 23 22.4 +0.7
P16K Nushagak River 4.44 238 P Pn 16 23 22.4 +0.7
baz=51
MESA MESA 4.52 105 Pn Pn 16 23 22.4 -0.7
MESA MESA 4.52 105 P Pn 16 23 22.6 -0.5
baz=292
PRP Porcupine Dome 4.56 28 Pn Pn 16 23 23.2 -0.4
PRP IAML 16 24 51.0
comp=E,24nm,1.2s
PRP Porcupine Dome 4.56 28 P Pn 16 23 25.1 +1.5
baz=213
CTG Chitna Glacier 4.58 94 P Pn 16 23 23.8 +0.1
baz=282
CTGM Chitina Glacie 4.58 94 Pn Pn 16 23 23.8 -0.1
CTGM IAML 16 24 18.1
comp=E,34nm,0.4s
CTGM IAML 16 24 39.3
comp=N,33nm,1.5s
IMAR Indian Mountai 4.59 344 Pn Pn 16 23 23.9 0.0
H19K Roundabout Mou 4.69 329 Pn Pn 16 23 25.5 +0.3
H19K Roundabout Mou 4.69 329 IAML 16 24 38.8
comp=E,32nm,1.4s
H19K IAML 16 24 41.7
comp=N,30nm,0.7s
H19K Roundabout Mou 4.69 329 P Pn 16 23 25.5 +0.3
baz=144
YUK2 White River 4.71 83 Pn 16 23 25.3 -0.3
BVCY Beaver Creek 4.72 76 Pn 16 23 26.2 +0.5
BVCY Beaver Creek 4.72 76 P Pn 16 23 26.2 +0.5
baz=264
LOGN Logan Glacier 4.77 95 Pn Pn 16 23 26.0 -0.4
LOGN IAML 16 24 20.7
comp=N,51nm,0.4s
LOGN IAML 16 24 22.6
comp=E,45nm,0.5s
N15K Kwethluk River 4.80 257 Pn 16 23 27.2 +0.5
N15K Kwethluk River 4.80 257 IAML 16 25 00.2
comp=N,39nm,2.6s
N15K IAML 16 25 03.3
comp=E,40nm,0.8s
N15K Kwethluk River 4.80 257 P Pn 16 23 27.2 +0.5
baz=68
TABL Table Mountain 4.81 100 Pn Pn 16 23 26.5 -0.5
TABL IAML 16 24 44.6
comp=N,43nm,1.8s
TABL IAML 16 24 49.8
comp=E,43nm,4.2s
J16K Anvik River 4.88 294 Pn 16 23 27.8 -0.1
J16K Anvik River 4.88 294 IAML 16 24 56.7
comp=N,25nm,1.6s
J16K IAML 16 24 58.1
comp=E,31nm,1.9s
J16K Anvik River 4.88 294 P Pn 16 23 27.8 -0.1
baz=106
YUK3 Moose Creek 4.89 83 P Pn 16 23 28.1 -0.1
baz=272
R17K Ugashik Creek 4.91 218 Pn 16 23 27.7 -0.5
R17K Ugashik Creek 4.91 218 IAML 16 24 26.4
comp=E,33nm,4.9s
R17K IAML 16 24 30.4
comp=N,30nm,2.4s
R17K Ugashik Creek 4.91 218 P Pn 16 23 27.7 -0.5
baz=33
M15K Kasigluk River 4.91 264 Pn 16 23 27.5 -0.7
M15K Kasigluk River 4.91 264 P Pn 16 23 27.9 -0.3
baz=75
H18K Honhosa River 4.95 319 Pn 16 23 29.1 +0.4
H18K Honhosa River 4.95 319 IAML 16 25 06.0
comp=N,25nm,3.4s
H18K IAML 16 25 08.7
comp=E,26nm,1.0s
H18K Honhosa River 4.95 319 P Pn 16 23 29.1 +0.4
baz=133
G21K Allakaket 5.08 347 Pn 16 23 30.8 +0.3
G21K Allakaket 5.08 347 IAML 16 24 29.2
comp=N,23nm,1.1s
G21K IAML 16 25 00.1
comp=E,19nm,1.1s
G21K Allakaket 5.08 347 P Pn 16 23 31.0 +0.5
baz=165
I17K Unalakleet 5.12 301 Pn Pn 16 23 31.6 +0.5
I17K IAML 16 25 02.6
comp=N,26nm,2.6s
I17K IAML 16 25 13.9
comp=E,22nm,4.5s
I17K Unalakleet 5.12 301 P Pn 16 23 30.9 -0.1
baz=112
O15K Ungalikthiuk R 5.13 246 Pn 16 23 31.6 +0.4
O15K Ungalikthiuk R 5.13 246 P Pn 16 23 31.1 -0.1
baz=58
L15K Ungalak Mounta 5.13 276 Pn 16 23 31.0 -0.2
L15K Ungalak Mounta 5.13 276 P Pn 16 23 31.2 -0.1
baz=86
G23K Bananza Creek 5.13 3 Pn 16 23 31.8 +0.5
G23K Bananza Creek 5.13 3 P Pn 16 23 31.8 +0.5
baz=184
K15K Wolf Creek Mou 5.15 282 Pn 16 23 31.6 +0.1
K15K Wolf Creek Mou 5.15 282 IAML 16 25 13.1
comp=E,28nm,2.9s
K15K IAML 16 26 05.7
comp=N,36nm,3.5s
K15K Wolf Creek Mou 5.15 282 P Pn 16 23 31.6 +0.1
baz=93
O28M Mount Upton 5.17 95 Pn 16 23 32.3 +0.3
O28M Mount Upton 5.17 95 P Pn 16 23 32.3 +0.3
baz=284
G24K Hadweenzic Riv 5.31 14 Pn 16 23 34.4 +0.7
G24K Hadweenzic Riv 5.31 14 IAML 16 25 33.4
comp=N,16nm,2.5s
G24K Hadweenzic Riv 5.31 14 P Pn 16 23 34.4 +0.7
baz=197
H17K Granite Mounta 5.32 313 Pn 16 23 34.0 +0.1
H17K Granite Mounta 5.32 313 IAML 16 24 35.9
comp=E,19nm,1.2s
H17K IAML 16 24 54.6
comp=N,18nm,4.1s
H17K Granite Mounta 5.32 313 P Pn 16 23 34.0 +0.1
baz=125
PCA Pinnacle 5.34 102 Pn 16 23 34.0 -0.2
PINM Pinnacle 5.34 102 P Pn 16 23 34.0 -0.2
baz=291
G19K Purcell Mounta 5.35 331 Pn 16 23 34.2 0.0
G19K Purcell Mounta 5.35 331 IAML 16 24 46.5
comp=E,14nm,1.1s
G19K IAML 16 25 05.0
comp=N,16nm,1.1s
G19K Purcell Mounta 5.35 331 P Pn 16 23 34.2 0.0
baz=146
EGAK Eagle 5.37 50 P Pn 16 23 34.5 -0.1
baz=238
M14K Bethel 5.50 266 Pn Pn 16 23 36.0 -0.3
M14K Bethel 5.50 266 P Pn 16 23 36.5 +0.3
baz=76
FYU Fort Yukon 5.53 23 Pn Pn 16 23 38.7 +2.0
G18K Tagagawik 5.56 324 Pn 16 23 37.2 +0.2
G18K Tagagawik 5.56 324 P Pn 16 23 37.2 +0.2
baz=137
L14K Kuka Creek 5.74 273 Pn 16 23 39.7 +0.2
L14K Kuka Creek 5.74 273 P Pn 16 23 38.5 -1.0
baz=82
DAWY Dawson 5.75 60 Pn Pn 16 23 39.5 -0.3
DAWY Dawson 5.75 60 P Pn 16 23 39.8 +0.1
baz=250
F21K Alatna River 5.76 349 Pn 16 23 40.2 +0.3
F21K Alatna River 5.76 349 P Pn 16 23 39.9 0.0
baz=167
YUK4 Talbot Arm 5.80 87 P Pn 16 23 40.1 -0.5
baz=277
M29M Somme Creek 5.83 76 Pn 16 23 40.8 -0.2
M29M Somme Creek 5.83 76 P Pn 16 23 40.8 -0.2
baz=267
F20K Avaraart Lake 5.88 341 Pn 16 23 42.1 +0.6
F20K Avaraart Lake 5.88 341 P Pn 16 23 42.0 +0.6
baz=156
G17K Kiwalik Mounta 5.91 316 Pn 16 23 42.0 +0.2
G17K Kiwalik Mounta 5.91 316 P Pn 16 23 42.0 +0.2
baz=127
F24K Squaw Lake 6.06 10 Pn Pn 16 23 45.9 +2.0
F19K Shaleruckik Mo 6.08 333 Pn Pn 16 23 44.7 +0.6
J14K Nanvaranak Lak 6.12 286 Pn Pn 16 23 44.9 +0.3
I28M Miner Creek 6.17 47 Pn Pn 16 23 46.6 +1.1
BMAR Burnt Mountain 6.42 22 Pn Pn 16 23 50.3 +1.5
HYT Haines Junctio 6.44 91 Pn Pn 16 23 49.0 -0.2
G16K Koyuk River 6.44 311 Pn Pn 16 23 49.5 +0.5
K29M Barlow Dome 6.47 64 Pn Pn 16 23 50.1 +0.5
E19K Redstone River 6.51 337 Pn 16 23 50.2 +0.2
E19K Redstone River 6.51 337 P Pn 16 23 50.1 +0.1
baz=152
N30M Aishikik Lake 6.53 85 Pn Pn 16 23 49.4 -1.0
G27K Doyon Strip 6.55 33 Pn Pn 16 23 51.3 +0.7
E24K Your Creek 6.57 7 Pn Pn 16 23 53.3 +2.5
E22K Anaktuvuk Pass 6.57 356 Pn Pn 16 23 52.8 +1.9
P29M Windy Craggy 6.69 101 Pn Pn 16 23 52.7 +0.1
F17K Baldwin Pennin 6.70 321 Pn Pn 16 23 53.7 +1.1
E25K Arctic Village 6.90 16 Pn Pn 16 23 56.4 +1.0
E21K Killik River 7.00 350 Pn Pn 16 23 59.3 +2.5
E20K Nigu River 7.07 343 Pn 16 23 58.0 +0.2
E20K Nigu River 7.07 343 P Pn 16 23 58.0 +0.2
baz=158
TOLK Toolik Lake Re 7.08 3 Pn Pn 16 24 00.5 +2.6
O30N Mendenhall 7.12 90 Pn Pn 16 23 57.8 -0.7
H29M Whitestone 7.14 44 Pn Pn 16 23 59.8 +1.1
J30M Hart River 7.18 59 Pn Pn 16 24 00.5 +1.2
E18K Tukpahlearik C 7.22 328 Pn Pn 16 24 01.2 +1.5
ANM Nome 7.28 300 Pn Pn 16 24 01.6 +1.2
E17K Hotham Inlet 7.30 324 Pn 16 24 00.2 -0.6
E17K Hotham Inlet 7.30 324 P Pn 16 24 00.2 -0.6
baz=134
D22K Ayikyak River 7.35 354 Pn Pn 16 24 04.7 +3.2
F15K North Star Dit 7.43 310 Pn Pn 16 24 03.6 +1.0
D19K Kuna River 7.58 339 Pn Pn 16 24 06.3 +1.6
F28M Old Crow 7.61 33 Pn Pn 16 24 06.2 +1.0
E27K Koleen River 7.65 26 Pn Pn 16 24 06.2 +0.6
FARO Faro, Yukon 8.22 78 Pn Pn 16 24 13.6 +0.1
C23K Itkillik River 8.27 0 Pn Pn 16 24 13.8 -0.2
C18K Utukok River 8.32 333 Pn Pn 16 24 15.6 +0.8
E29M Blow River 8.69 33 Pn Pn 16 24 21.0 +1.2
G31M Satah River 8.91 46 Pn Pn 16 24 21.8 -0.9
Q32M Nakina River 9.54 98 Pn Pn 16 24 31.2 -0.4
INK Inuvik 9.88 40 P Pn 16 24 37.8 +1.8
comp=N,0.1nm,0.3s,baz=306,slow=7.2,SNR=1.7
INK S Sn 16 26 19.1 -6.0
comp=N,0.4nm,0.3s,baz=205,slow=11,SNR=1.1
comp=N,0.5nm,0.6s
YKA Yellowknife Ar 16.82 71 P Pn 16 26 07.5 -0.3
comp=N,0.1nm,0.3s,baz=299,slow=10,SNR=2.5
comp=N,0.1nm,0.4s
NVAR Mina Array Bea 30.62 124 P P 16 28 24.7 +0.1
comp=N,0.6nm,0.6s,baz=340,slow=7.8,SNR=1.5
comp=N,0.6nm,0.6s
PDAR Pinedale Array 30.77 109 P P 16 28 25.3 -0.6
comp=N,0.2nm,0.4s,baz=331,slow=3.0,SNR=4.3
comp=N,0.2nm,0.4s
TXAR Lajitas Array 44.57 114 P P 16 30 22.3 +0.2
comp=N,0.5nm,0.5s,baz=327,slow=6.5,SNR=7.5
comp=N,0.5nm,0.5s
SONM Songino Array 54.74 306 P P 16 31 39.3 +0.2
comp=N,0.8nm,0.6s,baz=46,slow=4.8,SNR=2.9
comp=N,0.8nm,0.6s
ZALV Zalesovo Beam 56.73 324 P P 16 31 53.6 +0.6
comp=N,0.8nm,0.4s,baz=33,slow=7.8,SNR=4.0
comp=N,0.8nm,0.4s
BVAR Borovoye Array 61.15 333 P P 16 32 24.7 +1.0
comp=N,0.5nm,0.5s,baz=29,slow=9.1,SNR=3.0
comp=N,0.5nm,0.5s
KURBB Kurchatov Arra 61.42 327 P P 16 32 27.5 +2.0
comp=N,0.2nm,0.3s,baz=33,slow=6.5,SNR=1.5
comp=N,0.2nm,0.3s
MKAR Makanchi Array 63.85 322 P P 16 32 42.9 +1.1
comp=N,0.2nm,0.6s,baz=27,slow=7.7,SNR=1.5
comp=N,0.2nm,0.6s

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*DJA **01** 16:51:26.8±0.6,9°S±3'×10°9E±°, h28km±5km, M4.3/19, mb4.5/7, MLv4.2/19*
*IDC **01** 16:51:29.1±4.0,8.69S×108.39E, h85km±31km, mb3.4/4, mbtmp3.7/5, MS2.5/3, Error ellipse: s-maj=104.6km s-min=20.1km az=53.0*
ISC 01 16:51:25.7±2.3,8.6S±0.1×108.74E±0.06, h32km±16km, n30,σ1.985/28, mb3.5/4, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**0.81**	**339**	P	**Pb**	**16 51 41.0**	**-0.3**
CMJI				S	**Sb**	**16 51 50.9**	**-1.1**
KPJI	**Karang Pucung**	**1.22**	**9**	P	**Pb**	**16 51 48.1**	**-0.1**
YOGI	**Yogyakarta**	**1.70**	**65**	P	**Pn**	**16 51 53.0**	**-0.2**
UGM	**Wanagama**	**1.88**	**71**	P	**Pn**	**16 51 55.5**	**-0.1**
UGM				S	**Sn**	**16 52 16.6**	**-1.6**
CNJI	**Cibinong**	**2.01**	**308**	P	**Pn**	**16 51 57.9**	**+0.4**
CNJI				S	**Sn**	**16 52 20.3**	**-1.2**
LEM	**Lembang**	**2.04**	**327**	P	**Pn**	**16 51 59.5**	**+1.5**
LEM	**Lembang**	**2.04**	**327**	P	**Pn**	**16 52 00.2**	**+2.3**
	36nm,0.3s,baz=108,slow=20,SNR=13						
LEM				S	**Sb**	**16 52 26.7**	**-0.5**
	161nm,0.4s,baz=266,slow=19,SNR=8.8						
LEM				LR	LR	16 52 59.9	
	comp=Z,121nm,21.6s,baz=198,slow=45						
SMRI	**Semarang**	**2.25**	**49**	P	**Pn**	**16 52 02.7**	**+2.0**
WOJI	**Wonogiri, Jawa**	**2.27**	**72**	P	**Pn**	**16 52 03.1**	**+2.0**
SKJI	**Sukabumi**	**2.65**	**305**	P	**Pn**	**16 52 07.9**	**+1.7**
SKJI				S	**Sn**	**16 52 37.2**	**-0.1**
DBJI	**Dramaga**	**2.79**	**315**	P	**Pn**	**16 52 10.5**	**+2.3**
DBJI				S	**Sn**	**16 52 44.3**	**+3.4**
NGJI	**Ngawi**	**2.94**	**67**	P	**Pn**	**16 52 13.0**	**+2.8**
CGJI	**Cibinong**	**3.58**	**302**	P	**Pn**	**16 52 19.9**	**+0.9**
KASI	**Kota Agung**	**5.17**	**305**	P	**Pn**	**16 52 42.9**	**+2.0**
	54nm,1.6s,0.3nm						
JAGI	**Jajag, Banyuwa**	**5.36**	**90**	P	**Pn**	**16 52 44.8**	**+1.3**
	28nm,1.0s,0.2nm						
ABJI	**Asem Bagus**	**5.49**	**83**	P	**Pn**	**16 52 45.9**	**+0.6**
	20nm,0.4s,0.3nm						
IGBI	**Denpasar**	**6.34**	**93**	P	**Pn**	**16 53 00.4**	**+3.4**
	48nm,1.5s,0.2nm						
PLAI	**Plampang**	**8.94**	**92**	P	**Pn**	**16 53 35.5**	**+2.8**
KAPI	**Kappang**	**11.48**	**73**	LR	LR	16 59 03.8	
	comp=Z,20nm,19.1s,baz=292,slow=38						
WRA	**Warramunga Arr**	**27.23**	**117**	P	**P**	**16 57 07.3**	**+0.2**
	1.1nm,0.8s,baz=289,slow=11,SNR=15						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**28.40**	**125**	P	**P**	**16 57 17.2**	**-0.3**
	0.8nm,0.8s,baz=301,slow=9.1,SNR=16						
	0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**28.52**	**340**	LR	LR	17 09 19.7	
	comp=Z,11nm,21.4s,baz=265,slow=38						
H08S2	**Diego Garcia H**	**35.89**	**269**	T	T	17 36 09.4	
	baz=94,slow=76,SNR=5.3						
H08S3	**Diego Garcia H**	**35.90**	**269**	T	T	17 36 10.2	
	baz=94,slow=76,SNR=15						
H08S1	**Diego Carcia H**	**35.91**	**269**	T	T	17 36 00.0	
	baz=94,slow=76,SNR=3.8						
STKA	**Stephens Creek**	**38.33**	**132**	P	**P**	**16 58 44.0**	**+0.2**
	1.6nm,0.5s,baz=311,slow=9.3,SNR=5.7						
	1.6nm,0.5s						
MKAR	**Makanchi Array**	**59.92**	**339**	P	**P**	**17 01 26.1**	**-2.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.2nm,0.5s,baz=163,slow=7.6,SNR=4.6						
	0.2nm,0.5s						
H04N2	**CROZET ISLANDS**	**61.24**	**222**	T	T	18 08 45.7	
	baz=71,slow=75,SNR=28						
H04N1	**CROZET ISLANDS**	**61.25**	**222**	T	T	18 08 43.0	
	baz=71,slow=75,SNR=28						
H04N3	**CROZET ISLANDS**	**61.26**	**222**	T	T	18 08 39.2	
	baz=71,slow=75,SNR=30						

*IDC **01** 16:58:26.9±3.4, 20°.61N×144°.78E, h142km±30km, mb3.7/17, mbtmp4.1/20, Error ellipse: s-maj=20.7km s-min=14.0km az=85.0*

ISC 01 16:58:25.8±0.8**, 20°.7N**±0°.1×**144°.8E**±0°.2**, h129**km**, n27,** σ**1s.31**/24**, mb3.9**/17**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**6.81**	**340**	P	**Pn**	**17 00 04.1**	**+1.0**
	15nm,0.5s,baz=244,slow=18,SNR=1.4						
JCJ				S	**Sn**	**17 01 15.2**	**-4.1**
	28nm,0.7s,baz=96,slow=23,SNR=1.8						
MJAR	**Matsushiro Arr**	**16.81**	**341**	P	**Pn**	**17 02 14.2**	**+0.7**
	0.6nm,0.4s,baz=167,slow=19,SNR=2.1						
JNU	**Nakatsue**	**17.50**	**318**	P	**Pn**	**17 02 23.0**	**+1.2**
	7.9nm,0.8s,baz=145,slow=8.5,SNR=2.8						
H11S3	**WAKE ISLAND Hy**	**20.77**	**92**	T	T	17 23 33.9	
	baz=269,slow=75,SNR=7.2						
H11S1	**WAKE ISLAND Hy**	**20.78**	**92**	T	T	17 23 34.6	
	baz=269,slow=75,SNR=8.2						
H11S2	**WAKE ISLAND Hy**	**20.79**	**92**	T	T	17 23 35.6	
	baz=269,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**20.79**	**89**	T	T	17 23 49.2	
	baz=268,slow=75,SNR=16						
H11N2	**WAKE ISLAND Hy**	**20.80**	**89**	T	T	17 23 48.7	
	baz=268,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**20.81**	**89**	T	T	17 23 50.9	
	baz=268,slow=75,SNR=18						
KSRS	**Korea Array**	**22.21**	**322**	P	**P**	**17 03 12.2**	**+0.5**
	4.4nm,0.8s,baz=148,slow=8.7,SNR=15						
	4.4nm,0.8s						
ASAJ	**Asahikawa**	**23.44**	**356**	P	**P**	**17 03 25.7**	**+2.4**
	9.2nm,1.0s,baz=117,slow=16,SNR=1.6						
	9.2nm,1.0s						
KLR	**Kul'dur**	**30.33**	**343**	P	**P**	**17 04 25.9**	**+1.0**
	2.4nm,0.4s,baz=160,slow=10,SNR=12						
	2.4nm,0.4s						
SONM	**Songino Array**	**41.06**	**320**	P	**P**	**17 05 57.4**	**+0.8**
	0.6nm,0.3s,baz=138,slow=6.7,SNR=5.2						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**41.64**	**195**	P	**P**	**17 06 00.9**	**-0.7**
	0.4nm,0.7s,baz=11,slow=8.2,SNR=7.4						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**45.33**	**194**	P	**P**	**17 06 30.2**	**-0.9**
	0.4nm,0.6s,baz=14,slow=6.5,SNR=11						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**55.92**	**322**	P	**P**	**17 07 50.2**	**+0.1**
	1.9nm,0.5s,baz=106,slow=8.0,SNR=10.0						
ZALV				PcP	**PcP**	**17 08 45.5**	**-1.7**
	0.4nm,0.4s,baz=108,slow=7.7,SNR=1.9						
	1.9nm,0.5s						
MKAR	**Makanchi Array**	**56.47**	**313**	P	**P**	**17 07 54.9**	**+0.6**
	0.6nm,0.5s,baz=86,slow=8.2,SNR=9.2						
MKAR				PcP	**PcP**	**17 08 49.1**	**-0.6**
	0.4nm,0.5s,baz=78,slow=5.2,SNR=2.7						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**59.27**	**317**	P	**P**	**17 08 13.9**	**+0.3**
	1.5nm,0.5s,baz=92,slow=7.5,SNR=19						
	1.5nm,0.5s						
ILAR	**Eielson Array**	**62.27**	**27**	P	**P**	**17 08 32.9**	**-0.9**
	0.7nm,0.8s,baz=260,slow=6.3,SNR=6.7						
	0.7nm,0.8s						
BVAR	**Borovoye Array**	**64.40**	**320**	P	**P**	**17 08 48.2**	**+0.2**
	2.4nm,0.5s,baz=87,slow=7.3,SNR=12						
	2.4nm,0.5s						
YKA	**Yellowknife Ar**	**76.66**	**28**	P	**P**	**17 10 02.3**	**+0.1**
	1.3nm,0.6s,baz=291,slow=5.8,SNR=19						
	1.3nm,0.6s						
ARCES	**ARCESS Array B**	**80.35**	**342**	P	**P**	**17 10 21.5**	**-0.8**
	6.5nm,1.1s,baz=73,slow=9.5,SNR=1.9						
	6.5nm,1.1s						
NVAR	**Mina Array Bea**	**82.62**	**52**	P	**P**	**17 10 35.5**	**+0.4**
	1.2nm,0.6s,baz=286,slow=5.7,SNR=7.9						
	1.2nm,0.6s						
FINES	**FINESS Array B**	**84.72**	**335**	P	**P**	**17 10 43.9**	**-1.2**
	1.8nm,0.3s,baz=68,slow=4.9,SNR=30						
	1.8nm,0.3s						
PDAR	**Pinedale Array**	**87.07**	**45**	P	**P**	**17 10 57.5**	**+0.2**
	0.2nm,0.6s,baz=308,slow=4.4,SNR=2.4						
	0.2nm,0.6s						
HFS	**Hagfors**	**90.23**	**338**	P	**P**	**17 11 11.4**	**-0.1**
	0.6nm,0.4s,baz=98,slow=11,SNR=1.2						
	0.6nm,0.4s						
LPAZ	**La Paz**	**148.53**	**88**	PKPbc	**PKPbc**	**17 17 58.8**	**-0.3**
	0.5nm,0.4s,baz=218,slow=3.2,SNR=4.2						

*IDC **01** 17:01:43.8±5.6, 16°.25S×174°.22W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=182.1km s-min=111.3km az=156.0*

*NEIC **01** 17:01:58.7±1.7, 16°.98S±0°.07×174°.2W±0°.1, h106km±15km, mb4.4/6, Error ellipse: s-maj=16.9km s-min=9.8km az=79.0*

ISC 01 17:01:57.6±0.8**, 17°.02S**±0°.08×**174°.09W**±0°.08**, h100**km**, n13,** σ**1s.73**/17**, mb4.4**/6**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.81**	**36**		**Pn**	**17 02 56.3**	**+2.0**
AFI				Sn	**Sn**	**17 03 36.6**	**-1.6**
NIUE	**Niue**	**4.46**	**118**	Pn	**Pn**	**17 03 05.2**	**+2.2**
NIUE				Sn	**Sn**	**17 03 50.8**	**-3.0**
FUNA	**Funafuti**	**10.68**	**321**	Pn	**Pn**	**17 04 27.5**	**-0.1**
QRZ	**Quartz Range**	**26.39**	**203**	P	**P**	**17 07 27.8**	**+3.1**
LTZ	**Lake Taylor**	**28.19**	**202**	P	**P**	**17 07 41.0**	**+0.3**
LTZ				IAmb	IAmb	17 07 57.1	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**42.67**	**241**	P	**P**	**17 09 44.6**	**0.0**
	comp=Z,1.1nm,0.4s,baz=80,slow=12,SNR=2.9						
	comp=Z,1.1nm,0.4s						
BBOO	**Buckleboo**	**47.44**	**241**	P	**P**	**17 10 22.8**	**+0.4**
WB0	**Warramunga Arr**	**48.81**	**258**	P	**P**	**17 10 32.0**	**-1.1**
WB0				IAmb	IAmb	17 10 47.6	
	comp=Z,6.4nm,1.4s						
WRA	**Warramunga Arr**	**48.84**	**258**	P	**P**	**17 10 32.0**	**-1.4**
WRA	**Warramunga Arr**	**48.84**	**258**	P	**P**	**17 10 31.6**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=94,slow=7.1,SNR=20						
	comp=Z,0.9nm,0.7s						
AS31	**Alice Springs**	**48.99**	**253**	P	**P**	**17 10 33.7**	**-0.8**
AS31				IAmb	IAmb	17 10 34.7	
	comp=Z,2.6nm,0.6s						
ASAR	**Alice Springs**	**48.99**	**253**	P	**P**	**17 10 32.8**	**-1.7**
ASAR				PcP	**PcP**	**17 11 56.4**	**-0.8**
ASAR	**Alice Springs**	**48.99**	**253**	P	**P**	**17 10 33.5**	**-0.9**
	comp=Z,7.7nm,0.6s,baz=87,slow=8.8,SNR=210						
ASAR				PcP	**PcP**	**17 11 56.7**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=97,slow=3.1,SNR=2.6						
	comp=Z,7.7nm,0.6s						

*IDC **01** 17:10:24.0±1.8, 13°.35S×169°.92E, h0km, mb3.9/7, mbtmp3.9/7, MS3.8/17, Error ellipse: s-maj=108.0km s-min=21.5km az=143.0*

*NEIC **01** 17:10:25.4±2.1, 13°.5S±0°.1×169°.9E±0°.2, h10km±1km, mb4.4/9, Error ellipse: s-maj=42.0km s-min=11.4km az=120.0*

ISC 01 17:10:25.3±0.9**, 13°.3S**±0°.2×**169°.8E**±0°.2**, h10**km**, n41,** σ**0s.97**/19**, mb4.2**/12**, MS3.8**/16**, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOUNC	**Koumac, New Ca**	**8.94**	**216**	Pn	Pn	17 12 31.0	-3.5
DZM	**Mont Dzumac**	**9.28**	**200**	Pn	Pn	17 12 35.2	-4.2
DZM	**Mont Dzumac**	**9.28**	**200**	LR	LR	17 15 45.6	
	comp=Z,602nm,19.1s,baz=27,slow=35						
ONTNC	**Ouen Toro**	**9.50**	**199**	Pn	**Pn**	**17 12 42.1**	**-0.2**
CTA	**Charters Tower**	**23.55**	**250**	P	**P**	**17 15 35.7**	**-0.4**
	2.5nm,0.8s,baz=54,slow=8.7,SNR=2.0						
CTA				LR	LR	17 23 33.2	
	comp=Z,223nm,19.8s,baz=80,slow=33						
	2.5nm,0.8s						
ARMA	**Armidale**	**23.92**	**222**	P	**P**	**17 15 39.3**	**-0.4**
URZ	**Urewera**	**25.67**	**167**	LR	LR	17 23 03.5	
	comp=Z,219nm,21.3s,baz=36,slow=30						
RPZ	**Rata Peaks**	**30.31**	**178**	LR	LR	17 27 10.4	
	comp=Z,77nm,18.9s,baz=350,slow=33						
H11S2	**WAKE ISLAND Hy**	**31.76**	**354**	T	T	17 51 16.3	
	baz=172,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**31.76**	**354**	T	T	17 51 07.9	
	baz=172,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**31.77**	**354**	T	T	17 51 23.5	
	baz=172,slow=76,SNR=11						
STKA	**Stephens Creek**	**31.80**	**230**	P	**P**	**17 16 51.3**	**+1.2**
STKA	**Stephens Creek**	**31.80**	**230**	P	**P**	**17 16 51.3**	**+1.2**
	7.5nm,1.1s,baz=53,slow=8.7,SNR=5.5						
STKA				LR	LR	17 29 48.0	
	comp=Z,94nm,18.4s,baz=39,slow=37						
	7.5nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**32.95**	**355**	T	T	17 52 33.2	
	baz=172,slow=76,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**32.95**	**355**	T	T	17 52 34.8	
	baz=172,slow=76,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**32.97**	**355**	T	T	17 52 30.9	
	baz=172,slow=76,SNR=6.3						
WR0	**Warramunga Arr**	**34.40**	**254**	P	**P**	**17 17 12.4**	**-0.6**
WR0				IAmb	IAmb	17 17 36.7	
	comp=Z,7.6nm,1.3s						
WB0	**Warramunga Arr**	**34.52**	**254**	P	**P**	**17 17 14.4**	**+0.3**
WB0				IAmb	IAmb	17 17 28.2	
	comp=Z,6.0nm,1.2s						
WRA	**Warramunga Arr**	**34.59**	**254**	P	**P**	**17 17 16.5**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=85,slow=8.9,SNR=3.2						
	comp=Z,0.7nm,0.7s						
AS31	**Alice Springs**	**35.50**	**248**	P	**P**	**17 17 22.1**	**-0.5**
ASAR	**Alice Springs**	**35.50**	**248**	P	**P**	**17 17 21.8**	**-0.7**
ASAR	**Alice Springs**	**35.50**	**248**	P	**P**	**17 17 23.6**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=77,slow=8.9,SNR=27						
ASAR				LR	LR	17 30 39.7	
	comp=Z,243nm,20.5s,baz=84,slow=34						
	comp=Z,1.7nm,0.7s						
GUMO	**Guam**	**36.42**	**316**	LR	LR	17 29 59.6	
	comp=Z,128nm,20.6s,baz=118,slow=32						
MTN	**Manton Dam**	**37.67**	**266**	P	**P**	**17 17 40.0**	**-1.1**
MTN				IAmb	IAmb	17 18 12.3	
	comp=Z,6.9nm,1.0s						
KNRA	**Kununurra**	**39.79**	**261**	P	**P**	**17 17 58.3**	**-0.5**
KNRA				IAmb	IAmb	17 18 10.2	
	comp=Z,9.6nm,0.9s						
NWAO	**Narrogin (SRO)**	**51.60**	**238**	LR	LR	17 40 36.7	
	comp=Z,132nm,21.1s,baz=52,slow=35						
JNU	**Nakatsue**	**59.28**	**322**	LR	LR	17 43 04.8	
	comp=Z,13nm,21.5s,baz=132,slow=33						
ASAJ	**Asahikawa**	**62.31**	**338**	LR	LR	17 43 02.4	
	comp=Z,114nm,21.1s,baz=152,slow=31						
KSRS	**Korea Array**	**64.03**	**324**	LR	LR	17 44 59.8	
	comp=Z,27nm,22.0s,baz=140,slow=32						
MA2	**Magadan**	**74.26**	**350**	LR	LR	17 50 05.3	
	comp=Z,51nm,19.9s,baz=156,slow=32						
CAST	**Castle Rocks**	**81.94**	**16**	P	**P**	**17 22 45.0**	**+0.1**
PFO	**Pinyon Flats O**	**84.16**	**54**	LR	LR	17 53 26.7	
	comp=Z,140nm,18.9s,baz=272,slow=31						
IL31		**84.44**	**17**	P	**P**	**17 22 58.7**	**+1.0**
IL31				IAmb	IAmb	17 23 09.3	
	comp=Z,1.8nm,0.8s						
ILAR	**Eielson Array**	**84.44**	**17**	P	**P**	**17 22 59.0**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=236,slow=5.3,SNR=15						
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**84.47**	**49**	P	**P**	**17 22 58.4**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=270,slow=6.3,SNR=1.9						
	comp=Z,0.2nm,0.3s						
LPIG	**La Paz**	**86.35**	**64**	LR	LR	17 57 05.2	
	comp=Z,54nm,18.2s,baz=227,slow=32						
ELK	**Elko**	**87.51**	**47**	LR	LR	17 56 13.2	
	comp=Z,69nm,19.1s,baz=280,slow=31						
ANMO	**Albuquerque**	**92.46**	**55**	LR	LR	17 58 17.1	
	comp=Z,68nm,18.7s,baz=14,slow=31						
YKA	**Yellowknife Ar**	**95.17**	**27**	P	**P**	**17 23 48.4**	**-0.2**
	comp=Z,0.2nm,0.8s,baz=249,slow=4.5,SNR=2.8						
	comp=Z,0.2nm,0.8s						
MKAR	**Makanchi Array**	**97.91**	**316**	LR	LR	18 10 40.2	
	comp=Z,27nm,18.2s,baz=134,slow=37						
TORD	**Torodi Ar. Bea**	**168.45**	**271**	PKPab	**PKPab**	**17 31 41.1**	**-1.5**
	comp=Z,0.5nm,0.9s,baz=85,slow=3.6,SNR=2.5						

*NEIC **01** 17:12:00.0±1.8, 34°.30N±0°.05×106°.80W±0°.06, h7km±1km, ML3.8/22, Error ellipse: s-maj=7.8km s-min=7.3km az=144.0*

*ANF **01** 17:12:00.2±0.5, 34°.33N×106°.77W, h5km, ML3.7/7, Error ellipse: s-maj=9.4km s-min=3.4km az=112.0*

ISC 01 17:12:00.8±1.0**, 34°.32N**±0°.03×**106°.78W**±0°.05**, h7**km±9km**, n106,** σ**1s.39**/119**, New Mexico**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
Y22D	**IRIS PASSCAL I**	**0.28**	**206**		**Pg**	**17 12 05.3**	**-1.1**
Y22D				Sg	**Sg**	**17 12 09.7**	**-0.4**
Y22D				IAML		17 12 11.9	
	comp=N,25µm,0.3s						
Y22D	**IRIS PASSCAL I**	**0.28**	**206**	P	**Pg**	**17 12 06.7**	**+0.3**
	baz=24						
Y22D				S	**Sg**	**17 12 10.6**	**+0.5**
	baz=24						
Y22D	**IRIS PASSCAL I**	**0.28**	**206**	P	**Pg**	**17 12 06.7**	**+0.3**
	baz=24						
Y22D				S	**Sg**	**17 12 11.4**	**+1.3**
	baz=24						
Y22A	**Socorro**	**0.42**	**202**	P	**Pg**	**17 12 08.8**	**-0.3**
	baz=21						
Y22A				S	**Sg**	**17 12 14.6**	**+0.1**
	baz=21						
ANMO	**Albuquerque**	**0.67**	**23**	Pg	**Pg**	**17 12 13.3**	**-0.5**
ANMO				Sg	**Sg**	**17 12 22.2**	**-0.5**
ANMO				IAML		17 12 22.9	
	comp=N,3µm,0.5s						
ANMO				IAML		17 12 22.9	
	comp=N,2µm,0.5s						
ANMO	**Albuquerque**	**0.67**	**23**	P	**Pg**	**17 12 13.6**	**-0.2**
	baz=203						
ANMO				S	**Sg**	**17 12 22.2**	**-0.5**
	baz=203						
ANMO	**Albuquerque**	**0.67**	**23**	P	**Pg**	**17 12 13.5**	**-0.4**
	baz=203						
ANMO				S	**Sg**	**17 12 22.2**	**-0.5**
	baz=203						
121A	**Cookes Peak, D**	**1.98**	**206**		**Pn**	**17 12 34.0**	**-0.8**
121A	**Cookes Peak, D**	**1.98**	**206**	P	**Pn**	**17 12 33.7**	**-1.2**
	baz=25						
121A				S	**Sn**	**17 12 59.2**	**-0.8**
	baz=25						
121A	**Cookes Peak, D**	**1.98**	**206**	P	**Pn**	**17 12 34.1**	**-0.8**
	baz=25						
121A				S	**Sb**	**17 13 03.6**	**+1.5**
	baz=25						
KIDD	**KIDD Seismic O**	**2.56**	**175**	S	**Sb**	**17 13 19.8**	**+1.0**
	baz=354						
W18A	**Petrified Fore**	**2.56**	**289**		**Pn**	**17 12 44.2**	**+1.3**
W18A				IAML		17 13 22.1	
	comp=E,226nm,0.6s						
W18A				IAML		17 13 22.4	
	comp=N,273nm,0.7s						
W18A	**Petrified Fore**	**2.56**	**289**	P	**Pn**	**17 12 43.8**	**+0.9**
	baz=108						
W18A				S	**Sn**	**17 13 13.8**	**-0.7**
	baz=108						
DUN6	**Lazy B Ranch**	**2.62**	**228**		**Pn**	**17 12 43.1**	**-0.6**
X18A	**Snowflake**	**2.63**	**275**		**Pn**	**17 12 44.7**	**+0.8**
MNTX	**Cornudas Mount**	**2.87**	**156**	P	**Pn**	**17 12 46.6**	**-0.4**
	baz=336						
MNTX				S	**Sn**	**17 13 21.6**	**-0.2**
	baz=336						
MNTX	**Cornudas Mount**	**2.87**	**156**	P	**Pn**	**17 12 46.7**	**-0.3**
	baz=336						
MNTX				Sb	**Sb**	**17 13 28.9**	**+1.3**
	baz=336						
MVCO	**Mesa Verde**	**3.20**	**335**		**Pn**	**17 12 53.1**	**+1.3**
HTMS	**Hat Mesa**	**3.21**	**124**	Pn	**Pn**	**17 12 52.4**	**+0.6**
MSTX	**Muleshoe**	**3.34**	**95**		**Pn**	**17 12 55.3**	**+1.7**
MSTX	**Muleshoe**	**3.34**	**95**	P	**Pn**	**17 12 53.0**	**-0.5**
	baz=277						
MSTX	**Muleshoe**	**3.34**	**95**	P	**Pn**	**17 12 53.4**	**-0.1**
	baz=277						
MSTX				S	**Sb**	**17 13 41.1**	**-0.2**
	baz=277						
T25A	**Trinidad**	**3.41**	**34**		**Pn**	**17 12 55.3**	**+0.8**
T25A	**Trinidad**	**3.41**	**34**	P	**Pn**	**17 12 54.7**	**+0.1**
	baz=215						
S22A	**4UR Ranch, Cre**	**3.42**	**359**		**Pn**	**17 12 56.3**	**+1.5**
SDCO	**Great Sand Dun**	**3.57**	**16**		**Pn**	**17 12 56.0**	**-0.8**
SDCO	**Great Sand Dun**	**3.57**	**16**	Sb	**Sb**	**17 13 50.7**	**+2.7**
	baz=197						
319A	**Douglas**	**3.62**	**216**		**Pn**	**17 12 56.6**	**-0.8**
PECS	**Pecos**	**3.83**	**139**		**Pn**	**17 13 00.7**	**+0.4**
PECS				IAML		17 14 05.4	
	comp=N,203nm,0.5s						
PECS				IAML		17 14 08.0	
	comp=N,219nm,0.6s						
425A	**Indio Mountain**	**3.84**	**156**		**Pn**	**17 13 01.0**	**+0.6**
425A				IAML		17 14 17.5	
	comp=N,71nm,0.9s						
X16A	**Lo Mia Camp, P**	**3.86**	**273**		**Pn**	**17 13 00.7**	**-0.1**
TUC	**Tucson**	**3.91**	**240**		**Pn**	**17 13 01.1**	**-0.4**
RTBA	**Rita Blanca**	**3.92**	**56**		**Pn**	**17 13 02.0**	**+0.5**
WUAZ	**Wupatki**	**3.96**	**289**		**Pn**	**17 13 04.3**	**+2.1**
WUAZ				IAML		17 14 07.3	
	comp=N,151nm,0.5s						
WUAZ				IAML		17 14 09.8	
	comp=N,218nm,0.5s						
PV01	**Paradox Valley**	**4.07**	**340**	Pn	**Pn**	**17 13 05.6**	**+1.9**
PV13	**Radium Mtn., P**	**4.17**	**337**	Pn	**Pn**	**17 13 08.0**	**+2.9**
ODSA	**Odessa**	**4.17**	**121**		**Pn**	**17 13 06.4**	**+1.4**
ODSA				IAML		17 14 10.2	
	comp=N,246nm,0.6s						
ODSA				IAML		17 14 11.2	
	comp=N,517nm,0.5s						
PV02	**Paradox Valley**	**4.19**	**338**	Pn	**Pn**	**17 13 08.6**	**+3.3**
PV15	**Paradox Valley**	**4.24**	**342**	Pn	**Pn**	**17 13 08.8**	**+2.7**
AMTX	**Amarillo**	**4.24**	**81**		**Pn**	**17 13 09.7**	**+3.8**
PV18	**Skein Mesa, Pa**	**4.28**	**337**	Pn	**Pn**	**17 13 08.4**	**+1.8**
PV17	**East Wray Mesa**	**4.32**	**337**	Pn	**Pn**	**17 13 08.3**	**+1.1**
PV20	**West Nyswonger**	**4.38**	**337**	Pn	**Pn**	**17 13 08.5**	**+0.6**
PV23	**Carpenter Ridg**	**4.50**	**337**	Pn	**Pn**	**17 13 10.5**	**+0.9**
MNHN	**Monahans**	**4.50**	**130**		**Pn**	**17 13 10.9**	**+1.4**
MNHN				IAML		17 14 24.4	
	comp=N,183nm,0.7s						
MNHN				IAML		17 14 26.7	
	comp=N,179nm,0.5s						
POST	**Post**	**4.57**	**104**		**Pn**	**17 13 12.8**	**+2.3**
ALPN	**Alpine**	**4.75**	**145**		**Pn**	**17 13 14.9**	**+1.9**
HMU	**Henry Mountain**	**4.83**	**319**		**Pn**	**17 13 17.2**	**+3.0**
SMCO	**Snowmass**	**4.85**	**358**		**Pn**	**17 13 14.0**	**-0.5**
DKNS	**Dickens**	**4.91**	**96**		**Pn**	**17 13 13.7**	**-1.4**
U15A	**North Rim**	**4.97**	**297**		**Pn**	**17 13 16.3**	**+0.2**
SN01	**Snyder 1**	**5.12**	**105**		**Pn**	**17 13 18.0**	**0.0**
Y14A	**Wickenburg**	**5.18**	**267**		**Pn**	**17 13 19.5**	**+0.7**
SGCY	**Sterling City**	**5.32**	**115**		**Pn**	**17 13 20.0**	**-0.7**
SMWD	**Samnorwood**	**5.44**	**80**		**Pn**	**17 13 21.7**	**-0.7**
PKCU	**Pink Cliffs**	**5.47**	**306**		**Pn**	**17 13 24.5**	**+1.5**
ISCO	**Idaho Springs**	**5.54**	**9**	Pn	**Pn**	**17 13 25.5**	**+1.5**
214A	**Organ Pipe Nat**	**5.59**	**247**	Pn	**Pn**	**17 13 23.9**	**-0.5**
KNB	**Kanab**	**5.61**	**300**		**Pn**	**17 13 24.1**	**-0.7**
APMT	**Aspermont**	**5.63**	**98**		**Pn**	**17 13 25.8**	**+0.9**
TX31	**Lajitas Ar. Si**	**5.63**	**151**		**Pn**	**17 13 24.6**	**-0.5**
TX32	**Lajitas Array**	**5.63**	**151**		**Pn**	**17 13 26.0**	**+0.9**
TXAR	**Lajitas Array**	**5.63**	**151**		**Pn**	**17 13 24.7**	**-0.4**
SRU	**San Rafael Swe**	**5.65**	**329**		**Pn**	**17 13 26.3**	**+1.0**
MTPU	**Mount Pierson**	**5.73**	**312**		**Pn**	**17 13 27.9**	**+1.2**
KSCO	**Kaye Shedlock'**	**5.74**	**34**	Pn	**Pn**	**17 13 26.5**	**-0.1**
OZNA	**Ozona**	**5.85**	**124**		**Pn**	**17 13 30.2**	**+2.1**
SAND	**Sanderson**	**5.88**	**137**	Pn	**Pn**	**17 13 30.5**	**+2.1**
W13A	**Hualapai Mount**	**5.91**	**280**		**Pn**	**17 13 29.4**	**+0.5**
LCMT	**Little Creek M**	**5.91**	**299**	Pn	**Pn**	**17 13 29.0**	**+0.1**
O20A	**White River Ci**	**5.92**	**349**		**Pn**	**17 13 30.3**	**+1.2**
MSU	**Marysvale**	**6.04**	**315**		**Pn**	**17 13 31.6**	**+0.9**
113A	**Mohawk Valley,**	**6.04**	**257**	Pn	**Pn**	**17 13 30.7**	**+0.1**
P17A	**Butcher Ranch,**	**6.04**	**329**		**Pn**	**17 13 32.4**	**+1.7**
MVU	**Marysvale**	**6.05**	**315**	Pn	**Pn**	**17 13 30.6**	**-0.3**
SZCU	**Shurtz Canyon**	**6.07**	**304**		**Pn**	**17 13 32.1**	**+0.9**
TMUT	**Trail Mountain**	**6.10**	**326**		**Pn**	**17 13 32.7**	**+1.0**
ABTX	**Abilene, Hawle**	**6.20**	**104**		**Pn**	**17 13 32.6**	**-0.1**
CCUT	**Cedar City**	**6.24**	**303**		**Pn**	**17 13 33.2**	**-0.3**
TCRU	**Three Creeks R**	**6.26**	**315**		**Pn**	**17 13 31.2**	**-2.6**
PIX	**Pinacate**	**6.26**	**246**	Pn	**Pn**	**17 13 32.4**	**-1.1**
ELIS	**Ellis County**	**6.27**	**72**	Pn	**Pn**	**17 13 31.7**	**-2.0**
WMOK	**Wichita Mounta**	**6.61**	**84**		**Pn**	**17 13 37.4**	**-1.0**
RDMU	**Red Mountain**	**6.62**	**341**		**Pn**	**17 13 37.8**	**-0.9**
V12A	**Nelson**	**6.77**	**284**	Pn	**Pn**	**17 13 39.9**	**-0.8**
MPU	**Maple Canyon**	**6.88**	**327**	Pn	**Pn**	**17 13 43.3**	**+1.0**
WTFS	**Witchita Falls**	**6.92**	**92**		**Pn**	**17 13 42.9**	**+0.2**
BSUT	**Blindstream Ca**	**6.96**	**334**		**Pn**	**17 13 44.1**	**+0.6**
JCT	**Junction City**	**7.03**	**121**		**Pn**	**17 13 44.7**	**+0.4**
NLU	**North Lily Min**	**7.03**	**325**		**Pn**	**17 13 45.0**	**+0.6**
PSUT	**Pine Spring**	**7.08**	**308**		**Pn**	**17 13 47.9**	**+2.8**
DRIO	**Del Rio**	**7.16**	**131**		**Pn**	**17 13 43.5**	**-2.5**
BRDY	**Brady**	**7.21**	**113**		**Pn**	**17 13 46.7**	**-0.1**
CBKS	**Cedar Bluff**	**7.22**	**50**		**Pn**	**17 13 47.1**	**+0.2**
PLPT	**Palo Pinto**	**7.22**	**100**		**Pn**	**17 13 45.1**	**-1.7**
PRN	**Pahroc Range**	**7.39**	**297**		**Pn**	**17 13 49.2**	**0.0**
DUG	**Dugway, Tooele**	**7.58**	**322**		**Pn**	**17 13 52.5**	**+0.7**
SPR3	**Spring Creek 3**	**7.66**	**310**		**Pn**	**17 13 53.2**	**+0.2**
TCUT	**Toone Canyon**	**7.71**	**333**		**Pn**	**17 13 58.0**	**+4.2**
FW06	**Azle**	**7.80**	**97**		**Pn**	**17 13 56.7**	**+1.9**
HNDO	**Hondo**	**7.96**	**125**		**Pn**	**17 14 00.1**	**+3.1**
Q12A	**Willow Creek R**	**8.00**	**308**		**Pn**	**17 13 56.4**	**-1.2**
R11B	**Troy Canyon, C**	**8.16**	**302**		**Pn**	**17 13 57.9**	**-2.0**
HWUT	**Hardware Ranch**	**8.19**	**334**		**Pn**	**17 13 58.5**	**-1.8**
GWY	**Greenwater Val**	**8.30**	**286**		**Pn**	**17 13 59.7**	**-2.1**
TKX	**Tecate**	**8.40**	**261**		**Pn**	**17 14 01.5**	**-1.5**

IDC 01 17:15:07.7±1.8**, 2°.03N**×**127°.52E, h0**km**, mb3.4**/5**, mbtmp3.4**/5**, Error ellipse: s-maj=167.3km s-min=21.6km az=68.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.84**	**163**	P	P	17 20 11.9	-0.7
	0.3nm,0.6s,baz=342,slow=10,SNR=1.4						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**26.29**	**167**	P	P	17 20 45.2	+0.2
	0.1nm,0.6s,baz=355,slow=7.9,SNR=4.7						
	0.1nm,0.6s						
MKAR	**Makanchi Array**	**59.39**	**325**	P	P	17 25 12.6	+0.6
	0.5nm,0.5s,baz=124,slow=8.4,SNR=8.1						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**63.59**	**328**	P	P	17 25 40.1	-0.1
	0.7nm,0.7s,baz=128,slow=6.1,SNR=10						
	0.7nm,0.7s						
BVAR	**Borovoye Array**	**69.17**	**327**	P	P	17 26 15.6	-0.4
	0.2nm,0.4s,baz=97,slow=9.4,SNR=2.5						
	0.2nm,0.4s						

*IDC **01** 17:29:20.7±2.0, 30°.40N×57°.41E, h0km, mb3.6/7, mbtmp3.5/8, ML3.0/1, MS2.7/1, Error ellipse: s-maj=40.5km s-min=24.1km az=145.0*

*TEH **01** 17:29:21.4, 30°.71N×57°.29E, h16km±48km, ML3.7*

ISC 01 17:29:24.0±0.7**, 30°.67N**±0°.04×**57°.31E**±0°.04**, h15**km**, n36,** σ**1s.15**/37**, mb3.6**/7**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.73**	**294**	Pg	**Pg**	**17 29 36.6**	**-1.8**
KHGB	**Koh Gabri**	**0.78**	**248**	Pg	**Pg**	**17 29 38.0**	**-1.2**
KHGB				Sg	**Sg**	**17 29 47.9**	**-1.5**
CHMN	**Cheshme madani**	**0.83**	**166**	Pg	**Pg**	**17 29 39.0**	**-1.1**
TVBK	**TV Kerman**	**0.83**	**215**	Pg	**Pg**	**17 29 39.6**	**-0.6**
NGRK	**Negar Kerman**	**1.14**	**207**	Pg	**Pn**	**17 29 45.6**	**-0.1**
IBAF	**Bafgh**	**1.76**	**302**	Pg	**Pn**	**17 29 55.6**	**+1.5**
KBAM	**BAM**	**1.82**	**147**	Pn	**Pb**	**17 29 55.9**	**-1.1**
BSRN	**Basiran**	**2.02**	**50**	Pn	**Pn**	**17 29 57.2**	**-0.5**
IKOO	**Kooshah**	**2.27**	**39**	Pn	**Pn**	**17 30 01.2**	**0.0**
TPRV	**Parvadeh(Tabas**	**2.42**	**347**	Pn	**Pn**	**17 30 02.7**	**-0.3**
IMEH	**Mehriz**	**2.43**	**288**	Pn	**Pn**	**17 30 03.9**	**+0.5**
NHDN	**Nehbandan**	**2.46**	**72**	Pn	**Pn**	**17 30 03.7**	**0.0**
ITEG	**Tejag**	**2.54**	**28**	Pn	**Pn**	**17 30 04.4**	**-0.4**
BAGH	**Bagheran - Bir**	**2.66**	**37**	Pn	**Pn**	**17 30 06.2**	**-0.3**
ICHK	**Chekchek**	**2.94**	**303**	Pn	**Pn**	**17 30 10.6**	**+0.2**
TKDS	**Koohdasht(Taba**	**2.94**	**357**	Pn	**Pn**	**17 30 10.0**	**-0.4**
IDAH	**Dahanechah**	**3.00**	**46**	Pn	**Pn**	**17 30 10.9**	**-0.4**
AFRZ	**Afriz**	**3.11**	**27**	Pn	**Pn**	**17 30 12.2**	**-0.5**
ZHDN	**Zahedan**	**3.29**	**112**	Pn	**Pn**	**17 30 16.2**	**+1.1**
TNSJ	**Nastanj**	**3.34**	**350**	Pn	**Pn**	**17 30 14.8**	**-1.0**
SHRT	**Shahrakht**	**3.90**	**40**	Pn	**Pn**	**17 30 22.6**	**-0.9**
ANAR	**Anarak**	**3.95**	**310**	Pn	**Pn**	**17 30 25.2**	**+0.9**
TBJM	**Torbat-e-JAM**	**5.24**	**28**	Pn	**Pn**	**17 30 41.8**	**-0.2**
KRSH	**Karshahi**	**5.48**	**308**	Pn	**Pn**	**17 30 45.5**	**+0.2**
SRVN	**Saravan**	**5.51**	**125**	Pn	**Pn**	**17 30 47.6**	**+1.9**
IAKL	**Akhelmad**	**6.04**	**11**	Pn	**Pn**	**17 30 53.5**	**+0.5**
IDMV	**Damavand**	**6.60**	**319**	Pn	**Pn**	**17 31 01.3**	**+0.5**
GEYT	**Alibeck**	**7.28**	**5**	Pn	**Pn**	**17 31 13.4**	**+3.6**
	0.2nm,0.3s,baz=175,slow=19,SNR=1.8						
GEYT				Lg	Lg	17 33 17.9	
	0.2nm,0.3s,baz=234,slow=26,SNR=1.5						
GEYT				LR	LR	17 34 35.6	
	comp=Z,59nm,19.0s,baz=207,slow=42						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.6nm,0.3s						
WBK	Wadi Bani Khal	8.16	169	Pn	Pn	17 31 23.9	+2.0
BRTR	Keskin Array B	21.30	302	P	P	17 34 11.2	+0.9
	0.2nm,0.6s,baz=117,slow=18,SNR=1.5						
	0.2nm,0.6s						
BVAR	Borovoye Array	24.30	19	P	P	17 34 41.6	+0.9
	1.0nm,0.6s,baz=194,slow=6.3,SNR=6.8						
	1.0nm,0.6s						
MKAR	Makanchi Array	25.12	43	P	P	17 34 48.1	-0.2
	0.3nm,0.6s,baz=227,slow=9.7,SNR=2.2						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	25.46	32	P	P	17 34 52.1	+0.8
	0.7nm,0.3s,baz=232,slow=9.0,SNR=5.1						
	0.7nm,0.3s						
ZALV	Zalesovo Beam	30.56	32	P	P	17 35 37.2	+0.4
	1.3nm,0.6s,baz=239,slow=9.6,SNR=7.6						
	1.3nm,0.6s						
FINES	FINESS Array B	36.96	336	P	P	17 36 33.9	+1.6
	2.5nm,0.8s,baz=164,slow=16,SNR=2.1						
	2.5nm,0.8s						
TORD	Torodi Ar. Bea	53.94	264	P	P	17 38 46.5	-0.9
	0.4nm,0.7s,baz=46,slow=5.2,SNR=2.3						
	0.4nm,0.7s						

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*NEIC **01** 17:29:58.4±1.6, 5°.88S±0°.05×151°.81E±0°.08, h10km±1km, mb4.6/42, Error ellipse: s-maj=13.8km s-min=7.6km az=104.0*

*IDC **01** 17:30:05.8±1.1, 5°.59S×151°.50E, h70km±10km, mb3.8/14, mbtmp4.1/16, MS3.6/26, Error ellipse: s-maj=20.6km s-min=10.3km az=107.0*

ISC 01 17:30:01.9±0.5, **5°.82S**±0°.06×**151°.74E**±0°.08, **h35**km, **n91**, σ**1.s58**/74, **mb4.4**/32, **MS3.6**/24, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.53	11	P	Pn	17 30 27.3	+0.5
	2µm,0.4s,baz=179,slow=1.1,SNR=166						
KRVT				S	Sn	17 30 47.0	+1.5
	6µm,0.5s,baz=252,slow=0.0,SNR=14						
RABL	Rabaul	1.67	15		Pn	17 30 29.3	+0.5
RABL				Sn	Sn	17 30 51.0	+2.0
MANU	Manus Island	5.75	311		Pn	17 31 28.0	+3.1
PMG	Port Moresby	5.77	232		Pn	17 31 26.2	+1.1
PMG				Sn	Sn	17 32 29.9	-0.2
PMG	Port Moresby	5.77	232	P	Pn	17 31 27.8	+2.7
	79nm,0.7s,baz=34,slow=10,SNR=37						
PMG				S	Sn	17 32 31.0	+0.9
	117nm,0.6s,baz=134,slow=21,SNR=10						
HNR	Honiara	8.89	114	P	Pn	17 32 15.2	+7.2
	539nm,0.4s,baz=265,slow=6.3,SNR=2.1						
HNR				LR	LR	17 35 02.8	
	comp=Z,2µm,21.3s,baz=324,slow=32						
COEN	Coen	11.68	226	Pn	Pn	17 32 45.6	-0.6
CTA	Charters Tower	15.15	200	P	P	17 33 39.0	+0.8
	12nm,1.2s,baz=23,slow=14,SNR=6.2						
CTA				LR	LR	17 39 18.8	
	comp=Z,295nm,18.5s,baz=26,slow=36						
CTAO	Charters Tower	15.15	200		Pn	17 33 37.6	+4.1
EIDS	Eidsvold	19.45	182	P	P	17 34 23.4	-2.2
GUMO	Guam	20.45	341	LR	LR	17 42 53.1	
	comp=Z,94nm,18.2s,baz=106,slow=38						
MTN	Manton Dam	21.48	250		P	17 34 44.8	-2.9
DZM	Mont Dzumac	21.52	140	P	P	17 34 46.6	-1.6
DZM				IAmb	IAmb	17 34 57.2	
	comp=Z,39nm,1.5s						
DZM	Mont Dzumac	21.52	140	P	P	17 34 52.9	+4.6
	comp=Z,5.5nm,0.7s,baz=356,slow=19,SNR=2.0						
DZM				LR	LR	17 42 47.1	
	comp=Z,302nm,18.9s,baz=270,slow=35						
	comp=Z,5.5nm,0.7s						
WB0	Warramunga Arr	21.83	229		P	17 34 51.1	-0.4
WR0	Warramunga Arr	21.84	228	P	P	17 34 49.9	-1.6
WR0				IAmb	IAmb	17 35 13.0	
	comp=Z,19nm,1.2s						
WRAB	Tennant Creek	21.97	229	P	P	17 34 52.2	-0.7
WRAB				IAmb	IAmb	17 35 03.9	
	comp=Z,9.3nm,0.6s						
WB2	Warramunga Arr	21.97	229	P	P	17 34 52.5	-0.4
WB2				IAmb	IAmb	17 35 12.0	
	comp=Z,13nm,0.7s						
WRA	Warramunga Arr	21.98	229	P	P	17 34 52.5	-0.6
WRA	Warramunga Arr	21.98	229	P	P	17 34 53.1	0.0
	comp=Z,5.1nm,0.6s,baz=52,slow=10,SNR=38						
WRA				PcP	PcP	17 38 50.9	-0.2
	comp=Z,0.4nm,0.5s,baz=44,slow=1.7,SNR=2.6						
	comp=Z,5.1nm,0.6s						
PINNC	Pines Island,	22.56	139	P	P	17 34 56.2	-3.0
ARMA	Armidale	24.47	180	P	P	17 35 17.6	-0.3
ARMA				IAmb	IAmb	17 35 59.5	
	comp=Z,19nm,1.3s						
KNRA	Kununurra	24.58	245	P	P	17 35 18.2	-0.7
KNRA				IAmb	IAmb	17 35 52.4	
	comp=Z,13nm,0.7s						
AS31	Alice Springs	24.68	222	P	P	17 35 19.1	-0.8
ASAR	Alice Springs	24.69	222	P	P	17 35 18.9	-0.9
ASAR	Alice Springs	24.69	222	P	P	17 35 20.6	+0.7
	comp=Z,5.3nm,0.6s,baz=58,slow=8.8,SNR=140						
ASAR				LR	LR	17 46 39.2	
	comp=Z,117nm,18.6s,baz=56,slow=40						
	comp=Z,5.3nm,0.6s						
SOEI	Soe	27.49	260	P	P	17 35 44.8	-0.6
STKA	Stephens Creek	27.61	199	P	P	17 35 49.2	+3.1
	comp=Z,1.9nm,0.7s,baz=25,slow=16,SNR=3.4						
STKA				LR	LR	17 47 21.6	
	comp=Z,110nm,18.1s,baz=30,slow=37						
	comp=Z,1.9nm,0.7s						
DAV	Davao City (W)	29.07	296	LR	LR	17 47 12.3	
	comp=Z,106nm,18.8s,baz=116,slow=36						
KAPI	Kappang	31.85	270	LR	LR	17 52 29.8	
	comp=Z,34nm,18.7s,baz=88,slow=42						
FORT	Forrest	33.33	219	P	P	17 36 36.1	-0.7
JCJ	Chichijima	34.00	345	LR	LR	17 49 07.8	
	comp=Z,102nm,21.4s,baz=148,slow=34						
MBWA	Marble Bar	34.55	241	P	P	17 36 46.8	-0.6
MBWA				IAmb	IAmb	17 36 50.1	
	comp=Z,7.5nm,0.7s						
PSA00	Pilbara Seismi	34.60	240	P	P	17 36 47.7	-0.2
PSA00				IAmb	IAmb	17 36 51.4	
	comp=Z,7.5nm,1.1s						
PSA00	Pilbara Seismi	34.60	240	P	P	17 36 46.6	-1.3
PSA00				IAmb	IAmb	17 36 51.4	
	comp=Z,22nm,1.2s						
MYLDM	Lahad Datu	34.94	288	P	P	17 36 51.0	+0.2
URZ	Urewera	39.67	148	LR	LR	17 52 59.0	
	comp=Z,123nm,19.3s,baz=25,slow=34						
MORW	Morawa	40.88	231	P	P	17 37 40.0	-0.9
MORW				IAmb	IAmb	17 38 07.0	
	comp=Z,13nm,1.0s						
RPZ	Rata Peaks	41.40	159	LR	LR	17 52 45.4	
	comp=Z,179nm,21.5s,baz=298,slow=33						
NWAO	Narrogin (SRO)	41.92	225	LR	LR	17 55 20.1	
	comp=Z,108nm,20.8s,baz=142,slow=36						
SSLB	Suanglung	42.05	316	P	P	17 37 50.0	-0.5
JNU	Nakatsue	43.49	334	LR	LR	17 56 17.4	
	comp=Z,28nm,18.3s,baz=161,slow=36						
LEM	Lembang	43.85	266	LR	LR	18 00 38.6	
	comp=Z,35nm,19.1s,baz=130,slow=42						
MJAR	Matsushiro Arr	44.00	344	LR	LR	17 54 35.6	
	comp=Z,72nm,18.4s,baz=174,slow=34						
RAR	Rarotonga	49.35	113	LR	LR	17 59 07.1	
	comp=Z,48nm,18.4s,baz=202,slow=35						
CMAR	Chiang Mai Arr	57.36	296	P	P	17 39 46.8	-0.3
	comp=Z,0.4nm,0.4s,baz=117,slow=5.9,SNR=5.4						
CMAR				LR	LR	18 04 16.6	
	comp=Z,15nm,18.9s,baz=105,slow=36						
	comp=Z,0.4nm,0.4s						
KLR	Kul'dur	57.53	345	LR	LR	18 03 31.6	
	comp=Z,41nm,20.2s,baz=136,slow=35						
PETK	Petropavlovsk-	58.92	4	P	P	17 39 57.4	0.0
	comp=Z,7.1nm,1.1s,baz=158,slow=7.2,SNR=2.0						
PETK				LR	LR	17 59 46.9	
	comp=Z,56nm,20.2s,baz=155,slow=30						
	comp=Z,7.1nm,1.1s						
MA2	Magadan	65.19	359	LR	LR	18 09 23.9	
	comp=Z,40nm,18.9s,baz=154,slow=36						
SONM	Songino Array	66.63	329	P	P	17 40 48.3	-0.7
SONM				IAmb	IAmb	17 40 48.5	
	comp=Z,8.2nm,1.5s						
SONM	Songino Array	66.63	329	P	P	17 40 47.0	-2.1
	comp=Z,1.0nm,0.5s,baz=128,slow=5.6,SNR=3.6						
	comp=Z,1.0nm,0.5s						
SEY	Seymchan	68.56	0	LR	LR	18 15 01.2	
	comp=Z,28nm,18.0s,baz=126,slow=39						
VNDA	Vanda	71.86	178	P	P	17 41 22.0	+1.2
VNDA				IAmb	IAmb	17 41 23.6	
	comp=Z,4.9nm,1.4s						
VNDA	Vanda	71.86	178	P	P	17 41 22.4	+1.6
	comp=Z,0.6nm,0.6s,baz=328,slow=7.0,SNR=5.6						
	comp=Z,0.6nm,0.6s						
SVW2	Sparrevohn	78.17	23	P	P	17 41 58.5	+1.1
SVW2				IAmb	IAmb	17 42 16.4	
	comp=Z,7.1nm,1.1s						
P19K	Oil Pt	78.30	25	P	P	17 41 59.0	+0.8
N19K	Bonanza Creek	78.44	24	P	P	17 41 58.4	-0.7
L19K	White Mountain	79.09	23	P	P	17 42 02.4	-0.2
MKAR	Makanchi Array	80.40	319	P	P	17 42 08.1	-1.9
	comp=Z,0.6nm,0.7s,baz=94,slow=7.5,SNR=4.7						
	comp=Z,0.6nm,0.7s						
CAST	Castle Rocks	80.84	22	P	P	17 42 11.7	-0.2
CAST				IAmb	IAmb	17 42 32.2	
	comp=Z,5.5nm,1.2s						
ZALV	Zalesovo Beam	81.41	327	P	P	17 42 12.4	-2.7
	comp=Z,0.7nm,0.3s,baz=103,slow=6.5,SNR=4.7						
	comp=Z,0.7nm,0.3s						
E19K	Redstone River	81.47	18	P	P	17 42 15.6	+0.4
E19K				IAmb	IAmb	17 42 42.0	
	comp=Z,6.9nm,1.2s						
IMAR	Indian Mountai	81.69	20	P	P	17 42 16.8	+0.4
MLY	Manley	82.21	21	P	P	17 42 18.1	-1.1
MLY				IAmb	IAmb	17 42 19.7	
	comp=Z,6.7nm,1.4s						
CCB	Clear Creek Bu	83.09	22	P	P	17 42 22.2	-1.5
CRQM	Cirque	83.24	27	P	P	17 42 24.7	-0.1
ILAR	Eielson Array	83.50	22	P	P	17 42 24.3	-1.5
ILAR	Eielson Array	83.50	22	P	P	17 42 23.4	-2.4
	comp=Z,0.9nm,0.6s,baz=249,slow=5.3,SNR=16						
	comp=Z,0.9nm,0.6s						
D22K	Ayikyak River	83.69	18	P	P	17 42 26.0	-0.8
D22K				IAmb	IAmb	17 42 29.3	
	comp=Z,7.8nm,1.4s						
KURBB	Kurchatov Arra	83.95	322	P	P	17 42 25.6	-2.8
	comp=Z,1.0nm,0.9s,baz=111,slow=4.2,SNR=6.3						
	comp=Z,1.0nm,0.9s						
J25K	Salcha River,	84.00	23	P	P	17 42 27.2	-1.3
J25K				IAmb	IAmb	17 42 28.7	
	comp=Z,6.0nm,1.3s						
BARN	Barnard Glacie	84.02	27	P	P	17 42 29.0	+0.2
QSPA	South Pole Qui	84.15	180	P	P	17 42 29.6	+0.2
MAW	Mawson	84.23	203	LR	LR	18 18 13.5	
	comp=Z,43nm,19.3s,baz=94,slow=34						
B22K	Teshekpuk Lake	84.31	16	P	P	17 42 29.6	-0.2
L29M	L29M	86.33	25	P	P	17 42 40.2	0.0
L29M				IAmb	IAmb	17 43 05.5	
	comp=Z,9.4nm,1.4s						
I28M	Miner Creek	86.44	23	P	P	17 42 39.7	-1.0
E27K	Coleen River	86.91	20	P	P	17 42 43.2	+0.3
E27K				IAmb	IAmb	17 42 44.0	
	comp=Z,5.4nm,1.4s						
J30M	Hart River	87.57	24	P	P	17 42 46.6	+0.3
J30M				IAmb	IAmb	17 42 47.7	
	comp=Z,1.9nm,0.9s						
I30M	Mount Dempster	87.77	24	P	P	17 42 46.2	-1.0
I30M				IAmb	IAmb	17 43 12.6	
	comp=Z,5.8nm,1.4s						
BVAR	Borovoye Array	89.42	323	P	P	17 42 52.5	-2.6
	comp=Z,0.7nm,0.6s,baz=100,slow=6.3,SNR=5.3						
	comp=Z,0.7nm,0.6s						
INK	Inuvik	89.78	21	LR	LR	18 20 49.0	
	comp=Z,43nm,20.9s,baz=203,slow=34						
NVAR	Mina Array Bea	93.54	52	P	P	17 43 15.9	+1.1
	comp=Z,1.3nm,0.8s,baz=255,slow=7.7,SNR=6.9						
NVAR				LR	LR	18 17 06.4	
	comp=Z,78nm,21.8s,baz=271,slow=30						
	comp=Z,1.3nm,0.8s						
ELK	Elko	96.05	50	LR	LR	18 21 44.6	
	comp=Z,64nm,19.1s,baz=282,slow=32						
ARU	Arti	96.57	326	LR	LR	18 26 58.6	
	comp=Z,66nm,20.5s,baz=86,slow=36						
H03S2	Juan Fernandez	117.98	133	T	T	19 57 20.5	
	baz=242,slow=75,SNR=6.6						
H03S1	Juan Fernandez	117.99	133	T	T	19 57 20.6	
	baz=242,slow=75,SNR=5.8						
H03S3	Juan Fernandez	117.99	133	T	T	19 57 19.4	
	baz=242,slow=75,SNR=7.4						
GERES	GERESS Array B	124.35	328	PKP	PKPdf	17 48 56.7	-0.8
	comp=Z,0.3nm,0.3s,baz=106,slow=2.4,SNR=2.7						
EKA	Eskdalemuir Ar	126.69	342	PKP	PKPdf	17 49 00.7	-0.9
	comp=Z,1.4nm,0.8s,baz=19,slow=2.7,SNR=4.2						
TORD	Torodi Ar. Bea	149.59	286	PKPbc	PKPdf	17 49 47.5	+3.2
	comp=Z,4.3nm,0.6s,baz=74,slow=3.5,SNR=26						

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*IDC **01** 17:31:31.2±0.7, 38°.66N×104°.75E, h0km, mb3.9/11, mbtmp3.8/14, ML3.5/3, MS3.4/3, Error ellipse: s-maj=22.4km s-min=14.3km az=61.0*

*NEIC **01** 17:31:32.1±2.0, 38°.7N±0°.1×104°.9E±0°.1, h10km±1km, mb4.2/22, Error ellipse: s-maj=20.9km s-min=6.8km az=216.0*

ISC 01 17:31:32.7±0.7, **38°.73N**±0°.08×**104°.80E**±0°.09, **h10**km, **n55**, σ**0.s96**/51, **mb4.0**/18, **3C-1D**, **Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	9.18	7	Pn	Pn	17 33 45.1	-0.1
SONM	Songino Array	9.18	7	Pn	Pn	17 33 45.7	+0.5
	0.2nm,0.3s,baz=188,slow=15,SNR=5.3						
SONM				Pg		17 34 20.7	
	1.7nm,0.3s,baz=193,slow=18,SNR=9.9						
SONM				Sn	Sn	17 35 27.0	-1.6
	0.7nm,0.3s,baz=187,slow=22,SNR=1.4						
SONM				Lg	Lg	17 36 24.3	
	2.1nm,0.3s,baz=205,slow=31,SNR=6.1						
	0.5nm,0.4s						
ULN	Ulaanbaatar	9.28	9	Pn	Pn	17 33 45.5	-1.2
KSRS	Korea Array	18.24	87	P	Pn	17 35 45.3	-0.6
	0.3nm,0.3s,baz=296,slow=12,SNR=2.6						
	0.7nm,0.5s						
MK31	Makanchi Array	18.34	303	P	Pn	17 35 46.5	-0.6
MKAR	Makanchi Array	18.34	303	P	Pn	17 35 45.4	-1.8
MKAR	Makanchi Array	18.34	303	P	Pn	17 35 46.4	-0.8
	0.1nm,0.3s,baz=105,slow=14,SNR=6.8						
MKAR				LR	LR	17 43 07.3	
	comp=Z,40nm,18.2s,baz=62,slow=38						
	0.6nm,0.6s						
MAKZ	Makanchi	18.55	303	P	P	17 35 47.4	-2.1
JIRN	Jiri	19.05	240	eP	P	17 35 56.7	+1.2
	5.1nm,0.5s						
GUN	Gumba	19.10	241	eP	P	17 35 56.6	+0.6
	10nm,0.7s						
DANN	Dangsing	20.32	246	eP	P	17 36 10.1	+0.8
	12nm,0.6s						
ZAA0	Zalesovo Array	20.43	325		P	17 36 08.8	-1.2
ZAA0				IAmb	IAmb	17 36 11.6	
	comp=Z,6.3nm,0.7s						
ZALV	Zalesovo Beam	20.43	325		P	17 36 09.8	-0.2
ZALV	Zalesovo Beam	20.43	325	P	P	17 36 10.4	+0.4
	comp=Z,6.8nm,0.6s,baz=124,slow=11,SNR=35						
	comp=Z,6.8nm,0.6s						
TARG	Taragay, Kyrgy	20.80	287	P	P	17 36 13.8	-0.7
TARG				IAmb	IAmb	17 36 24.2	
	comp=Z,5.7nm,0.7s						
CMAR	Chiang Mai Arr	20.83	196	P	P	17 36 12.3	-2.2
	comp=Z,0.2nm,0.4s,baz=357,slow=15,SNR=1.6						
PYUN	Piuthan	21.02	246	eP	P	17 36 17.3	+0.6
	comp=Z,25nm,0.8s						
KLR	Kul'dur	21.94	53	LR	LR	17 45 13.0	
	comp=Z,64nm,19.5s,baz=122,slow=37						
KURK	Kurchatov	22.00	312		P	17 36 26.4	-0.4
KURK				IAmb	IAmb	17 36 30.4	
	comp=Z,4.7nm,0.8s						
KURK	Kurchatov	22.00	312	⇑Pg	P	17 36 26.8	-0.1
	comp=Z,5.4nm,0.8s						
KURK				⇑Lg	Lg	17 38 04.3	
	comp=Z,2.7nm,0.8s						
KURBB	Kurchatov Arra	22.02	311	P	P	17 36 26.7	-0.4
	comp=Z,3.8nm,0.7s,baz=115,slow=9.8,SNR=19						
	comp=Z,3.8nm,0.7s						
KURBB	Kurchatov Arra	22.02	311	⇑Pg	P	17 36 26.8	-0.3
	comp=Z,4.8nm,0.8s,baz=116,slow=12						
KURBB				⇓Lg	Lg	17 38 05.7	
	comp=Z,4.3nm,0.5s						
ARSB	Arslanbob	24.43	286	P	P	17 36 52.0	+0.3
KK31	Karatay Array	26.16	291	P	P	17 37 06.2	-1.0
KK31				IAmb	IAmb	17 37 10.8	
	comp=Z,2.4nm,0.9s						
KKAR	Karatay Array	26.16	291	P	P	17 37 06.2	-1.0
KKAR				IAmb	IAmb	17 37 10.8	
	comp=Z,2.4nm,0.9s						
KKAR	Karatay Array	26.16	291	P	P	17 37 06.5	-0.7
BVAR	Borovoye Array	27.58	313	P	P	17 37 20.5	+0.7
	comp=Z,0.8nm,0.4s,baz=117,slow=9.6,SNR=5.9						
	comp=Z,0.8nm,0.4s						
ABKAR	Akbulak array	33.49	303	P	P	17 38 12.3	+0.3
ABKAR				IAmb	IAmb	17 38 13.8	
	comp=Z,2.5nm,1.1s						
ABKAR	Akbulak array	33.49	303	P	P	17 38 12.6	+0.6
ARU	Arti	35.05	316	P	P	17 38 25.6	+0.1
ARU				IAmb	IAmb	17 38 28.1	
	comp=Z,12nm,1.5s						
TIXI	Tiksi	35.20	13	P	P	17 38 26.8	+0.3
TIXI				IAmb	IAmb	17 38 27.2	
	comp=Z,3.1nm,1.1s						
GEYT	Alibeck	36.32	284	P	P	17 38 37.6	+0.9
	comp=Z,2.0nm,0.7s,baz=113,slow=3.3,SNR=4.2						
	comp=Z,2.0nm,0.7s						
FINES	FINESS Array B	51.69	323	P	P	17 40 39.6	+0.1
FINES	FINESS Array B	51.69	323	P	P	17 40 39.7	+0.2
	comp=Z,2.3nm,0.8s,baz=50,slow=6.0,SNR=9.5						
	comp=Z,2.3nm,0.8s						
D19K	Kuna River	57.07	26	P	P	17 41 19.9	+1.2
HFS	Hagfors	57.87	324	P	P	17 41 24.0	-0.3
	comp=Z,1.7nm,0.5s,baz=64,slow=6.8,SNR=16						
	comp=Z,1.7nm,0.5s						
NC405	NORSAR Array S	58.38	325	P	P	17 41 27.2	-0.7
NB201	NORSAR Array S	58.59	325	P	P	17 41 29.5	0.0
NC602	NORSAR Array S	58.61	325	P	P	17 41 29.1	-0.5
NB2	NORSAR Subarra	58.63	325	P	P	17 41 29.4	-0.3
	comp=Z,0.6nm,0.5s,baz=66,slow=6.9						
NOA	NORSAR Array B	58.63	325	P	P	17 41 29.4	-0.3
	comp=Z,0.7nm,0.5s,baz=71,slow=6.1,SNR=5.9						
	comp=Z,0.7nm,0.5s						
C23K	Itkillik River	58.93	23	P	P	17 41 33.5	+1.9
BMAR	Burnt Mountain	62.07	24	P	P	17 41 55.6	+2.5
ILAR	Eielson Array	62.77	27	P	P	17 41 58.5	+0.7
	comp=Z,0.5nm,0.8s,baz=293,slow=7.1,SNR=6.7						
	comp=Z,0.5nm,0.8s						
CNPM	China Poot	63.91	33	P	P	17 42 03.1	-2.3
BRLK	Bradley Lake	63.93	33	P	P	17 42 03.7	-1.9
KDAK	Kodiak Island	64.24	35	LR	LR	18 10 49.8	
	comp=Z,99nm,19.2s,baz=222,slow=37						
WB0	Warramunga Arr	64.46	149	P	P	17 42 08.0	-1.5
WB0				IAmb	IAmb	17 42 27.5	
	comp=Z,5.3nm,1.2s						
WRA	Warramunga Arr	64.60	149	P	P	17 42 10.0	-0.3
	comp=Z,0.3nm,0.5s,baz=338,slow=7.1,SNR=6.6						
	comp=Z,0.3nm,0.5s						
WR0	Warramunga Arr	64.70	149	P	P	17 42 08.7	-2.3
WR0				IAmb	IAmb	17 42 36.8	
	comp=Z,5.7nm,1.5s						
G31M	Satah River	65.54	22	P	P	17 42 15.5	-0.3
AS31	Alice Springs	67.80	151	P	P	17 42 31.1	+0.2
ASAR	Alice Springs	67.80	151	P	P	17 42 30.6	-0.3
ASAR	Alice Springs	67.80	151	P	P	17 42 31.3	+0.4
	comp=Z,0.7nm,0.5s,baz=337,slow=6.8,SNR=29						
	comp=Z,0.7nm,0.5s						
YKA	Yellowknife Ar	74.26	18	P	P	17 43 10.5	+0.9
	comp=Z,0.3nm,0.5s,baz=328,slow=5.4,SNR=6.8						
	comp=Z,0.3nm,0.5s						

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*IDC **01** 17:35:15.7±2.6, 38°.62N×144°.96E, h0km, mb3.5/4, mbtmp3.4/5, ML2.5/1, MS3.4/1, Error ellipse: s-maj=68.2km s-min=30.5km az=64.0*

*JMA **01** 17:35:21.5±0.3, 39°N±1°×14°5E±°, h47km, MV3.5/30, FAR E OFF NORTH HONSHU*

ISC 01 17:35:20.5±1.3, **38°.62N**±0°.06×**144°.78E**±0°.09, **h35**km, **n24**, σ**1.s82**/30, **mb3.6**/4, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.47	282	P	Pn	17 35 58.8	+0.5
OFUJ				eS	Sn	17 36 27.0	-0.2
MIYJ	Miyakonagasawa	2.49	293	P	Pn	17 35 59.1	+0.6
JKMT	Kesennumamotoy	2.59	275	P	Pn	17 36 00.4	+0.5
JMK	Ichinoseki	2.80	278	P	Pn	17 36 03.6	+0.8
JMK				eS	Sn	17 36 35.3	-0.1
JOM	Ohasama	2.84	288	P	Pn	17 36 04.3	+0.9
JOM				eS	Sn	17 36 36.5	0.0
JANG	Nango	3.07	306	P	Pn	17 36 06.8	+0.3
JYK	Kaneyama	3.47	276	P	Pn	17 36 13.4	+1.5
JYK				eS	Sn	17 36 52.2	+0.4
JOTO	OTAMA OYAMA	3.67	255	P	Pn	17 36 15.6	+0.9
JOTO				S	Sn	17 36 55.9	-0.8
JOT	Ohata	3.98	315	eS	Sn	17 37 03.5	-0.8
JCH	Churui	4.13	345	P	Pn	17 36 21.1	+0.1
JCH				eS	Sn	17 37 06.2	-1.9
NEM2	Nemuro 2	4.79	8	P	Pn	17 36 29.1	-1.0
NEM2				S	Sn	17 37 21.1	-3.3
BSO1	Boso 1	5.00	219	eS	Sn	17 37 26.7	-2.2
JRY	Ryogami san	5.36	243	P	Pn	17 36 37.9	-0.1
JRY				eS	Sn	17 37 34.8	-3.7
JTKR	Abashiri--Toko	5.38	353	P	Pn	17 36 38.6	+0.4
JTKR				S	Sn	17 37 37.3	-1.6
MJAR	Matsushiro Arr	5.62	250	Pn	Pn	17 36 42.4	+0.9
	0.1nm,0.3s,baz=61,slow=12,SNR=9.1						
MJAR				Sn	Sn	17 37 40.2	-4.6
	baz=113,slow=37,SNR=1.3						
	1.1nm,0.4s						
JOD2	Odawara 2	5.66	235	eS	Sn	17 37 41.6	-4.2
H11N2	WAKE ISLAND Hy	26.85	128	T	T	18 08 53.2	
	baz=320						
H11N1	WAKE ISLAND Hy	26.86	128	T	T	18 08 49.8	
	baz=320						
H11N3	WAKE ISLAND Hy	26.87	128	T	T	18 08 55.6	
	baz=320						
MKAR	Makanchi Array	45.55	301	P	P	17 43 36.6	-0.2
	0.6nm,0.9s,baz=61,slow=8.9,SNR=2.3						
	0.6nm,0.9s						
KURBB	Kurchatov Arra	47.14	307	P	P	17 43 51.4	+2.3
	0.4nm,0.5s,baz=83,slow=8.6,SNR=5.3						
	0.4nm,0.5s						
AAK	Ala-Archa	52.08	298	LR	LR	18 08 25.4	
	comp=Z,37nm,19.1s,baz=84,slow=38						
WRA	Warramunga Arr	59.07	191	P	P	17 45 17.7	+0.6
	0.4nm,0.7s,baz=12,slow=7.3,SNR=3.0						
	0.4nm,0.7s						
ASAR	Alice Springs	62.79	191	P	P	17 45 43.2	+0.8
	0.4nm,0.9s,baz=17,slow=7.7,SNR=3.1						
	0.4nm,0.9s						

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*TRN **01** 17:39:36.2, 18°.66N×64°.35W, h38km, M3.6*

*NEIC **01** 17:39:38.3±0.9, 18°.6N±0°.2×64°.37W±0°.04, h35km±2km, ML2.5/12, Md3.6/3(RSPR), Error ellipse: s-maj=34.8km s-min=3.7km az=10.0*

*RSPR **01** 17:39:39.4, 18°.60N×64°.37W, h40km±9km, MD3.6/3*

ISC 01 17:39:38.4±6.5, **18°.6N**±0°.3×**64°.36W**±0°.05, **h39**km±20km, **n30**, σ**0.s65**/36, **3C-8D**, **Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	St. Maarten	1.33	113⇓	eP	Pn	17 40 00.1	-0.4
SMRT	St. Maarten	1.33	113		Sn	17 40 17.3	+0.3
SMRT	St. Maarten	1.33	113		Pn	17 39 59.8	-0.7
SMRT	St. Maarten	1.33	113	IAML		17 40 24.2	
	comp=E,154nm,0.2s						
SMRT				IAML		17 40 25.7	
	comp=N,149nm,0.2s						
SMRT	St. Maarten	1.33	113⇓	eP	Pn	17 40 00.1	-0.4
SMRT				eS	Sn	17 40 17.3	+0.3
SJG	San Juan	1.76	255	eS	Sn	17 40 27.2	-0.3
SJG	San Juan	1.76	255	Pn	Pn	17 40 04.2	-2.1
SJG				Sn	Sn	17 40 25.9	-1.5
SJG				IAML		17 40 32.3	
	comp=N,42nm,0.2s						
SJG				IAML		17 40 39.6	
	comp=N,46nm,0.4s						
SJG	San Juan	1.76	255	eP	Pn	17 40 06.3	0.0
SJG				eS	Sn	17 40 28.6	+1.1
OBIP	Obispado Ponce	2.19	256⇑	eP	Pn	17 40 12.7	+0.4
OBIP	Obispado Ponce	2.19	256		Pn	17 40 12.4	0.0
OBIP	Obispado Ponce	2.19	256		Sn	17 40 39.3	+1.0
OBIP	Obispado Ponce	2.19	256	IAML		17 40 42.8	
	comp=E,16nm,1.0s						
OBIP				IAML		17 40 45.8	
	comp=N,18nm,1.8s						
OBIP	Obispado Ponce	2.19	256⇑	eP	Pn	17 40 12.7	+0.4
OBIP				eS	Sn	17 40 39.3	+1.0
AOPR	Arecibo Observ	2.28	265⇓	eP	Pn	17 40 13.6	+0.1
AOPR	Arecibo Observ	2.28	265		Pn	17 40 13.4	-0.2
AOPR	Arecibo Observ	2.28	265		Sn	17 40 40.5	0.0
AOPR	Arecibo Observ	2.28	265	IAML		17 40 47.5	
	comp=E,70nm,0.4s						
AOPR				IAML		17 40 51.0	
	comp=N,39nm,0.3s						
AOPR	Arecibo Observ	2.28	265⇓	eP	Pn	17 40 13.6	+0.1

AOPR				eS	Sn	17 40 40.5	0.0
LSP	**Las Mesas**	**2.62**	**262**	⇓iP	**Pn**	**17 40 18.3**	**+0.1**
LSP	**Las Mesas**	**2.62**	**262**		**Pn**	**17 40 18.3**	**+0.1**
LSP					**Sn**	**17 40 48.9**	**+0.2**
LSP	**Las Mesas**	**2.62**	**262**	⇓iP	**Pn**	**17 40 18.3**	**+0.1**
LSP				eS	**Sn**	**17 40 48.9**	**+0.2**
MLPR	**Magueyes Islan**	**2.62**	**257**	⇑eP	**Pn**	**17 40 18.5**	**+0.4**
MLPR	**Magueyes Islan**	**2.62**	**257**	eS	**Sn**	**17 40 48.1**	**-0.6**
MLPR	**Magueyes Islan**	**2.62**	**257**		**Pn**	**17 40 18.5**	**+0.4**
MLPR					**Sn**	**17 40 48.1**	**-0.6**
MLPR	**Magueyes Islan**	**2.62**	**257**	IAML		17 41 04.3	
	comp=N,14nm,1.6s						
CRPR	**Cabo Rojo, PR**	**2.67**	**258**	⇓eP	**Pn**	**17 40 19.1**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.67**	**258**		**Pn**	**17 40 19.1**	**+0.3**
CRPR					**Sn**	**17 40 50.0**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.67**	**258**	IAML		17 41 19.2	
	comp=N,15nm,3.0s						
CRPR				IAML		17 41 34.9	
	comp=E,12nm,2.9s						
CRPR	**Cabo Rojo, PR**	**2.67**	**258**	⇓eP	**Pn**	**17 40 19.1**	**+0.3**
CRPR				eS	**Sn**	**17 40 50.0**	**0.0**
ANBD	**Bethesda, Anti**	**2.91**	**121**	eP	**Pn**	**17 40 22.2**	**+0.1**
ANBD				eS	**Sn**	**17 40 56.2**	**+0.4**

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*UPA **01** 17:43:05.1±2.1, 8°.98N×77°.77W, h33^{km}±11^{km}, MW4.2*
*RSNC **01** 17:43:06.6±1.6, 8°.98N×77°.79W, h30^{km}±6^{km}, ML2.8*
ISC 01 17:43:04.4±1.4**, 9°.08N**±0°.06×**77°.76W**±0°.03**, h26^{km}**±12^{km}**, n22,** σ1^{s}**63**/41**, 1C-2D, Near north coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TOTI	**Torti**	**0.56**	**255**	⇓iP	**Pb**	**17 43 16.1**	**+0.4**
TOTI				i S	**Sb**	**17 43 23.4**	**+0.1**
UPD2	**Meteti**	**0.58**	**205**	⇑iP	**Pb**	**17 43 15.8**	**-0.3**
UPD2				i S	**Sb**	**17 43 22.9**	**-1.0**
UPD2	**Meteti**	**0.58**	**205**	eP	**Pb**	**17 43 15.8**	**-0.3**
UPD2				eS	**Sb**	**17 43 23.2**	**-0.8**
UPD2				i		17 43 25.8	
	comp=Z,421nm,0.2s						
CAPC	**Capurgana**	**0.60**	**137**	eP	**Pb**	**17 43 16.8**	**+0.5**
CAPC				eS	**Sn**	**17 43 26.1**	**0.0**
CAPC				i		17 43 27.4	
	comp=Z,1μm,0.7s						
CNTA3	**Canitas, Panam**	**1.12**	**277**	i P	**Pn**	**17 43 24.0**	**-0.4**
CNTA3				i S	**Sn**	**17 43 38.2**	**-0.8**
CHPO	**Chepo, Panama**	**1.34**	**274**	eP	**Pn**	**17 43 25.9**	**-1.5**
CHPO				i S	**Sn**	**17 43 43.8**	**-0.6**
LCBC	**Los crdobas,**	**1.40**	**99**	eP	**Pn**	**17 43 29.0**	**+0.8**
LCBC				i S	**Sn**	**17 43 43.9**	**-1.9**
UPA	**Univ. de Panam**	**1.75**	**267**	i P	**Pn**	**17 43 34.0**	**+0.9**
UPA				eS	**Sn**	**17 43 54.5**	**-0.1**
UPA	**Univ. de Panam**	**1.75**	**267**	eP	**Pn**	**17 43 34.0**	**+0.9**
UPA				eS	**Sn**	**17 43 54.5**	**-0.1**
PTAC	**Punta Ardita,**	**1.92**	**181**	⇓iP	**Pn**	**17 43 35.1**	**-0.4**
PTAC				eS	**Sn**	**17 43 55.3**	**-3.4**
PTAC	**Punta Ardita,**	**1.92**	**181**	eP	**Pn**	**17 43 35.0**	**-0.4**
PTAC				eS	**Sn**	**17 43 57.5**	**-1.2**
PTAC				i		17 44 02.8	
	comp=Z,66nm,0.2s						
BCIP	**Isla Barro Col**	**2.05**	**273**	eP	**Pn**	**17 43 37.4**	**+0.3**
BCIP				i S	**Sn**	**17 44 02.7**	**+0.7**
BCIP	**Isla Barro Col**	**2.05**	**273**	eP	**Pn**	**17 43 37.5**	**+0.3**
BCIP				eS	**Sn**	**17 44 03.0**	**+1.0**
BCIP				i		17 44 12.3	
	comp=Z,49nm,0.3s						
DBBC	**Dabeiba**	**2.56**	**143**	eP	**Pn**	**17 43 46.6**	**+2.2**
DBBC				i		17 44 26.0	
	comp=Z,29nm,0.4s						
UREC	**San Jos de Ur**	**2.57**	**121**	eP	**Pn**	**17 43 44.7**	**+0.3**
UREC				i S	**Sn**	**17 44 12.9**	**-2.0**
UREC	**San Jos de Ur**	**2.57**	**121**	eP	**Pn**	**17 43 44.6**	**+0.2**
UREC				eS	**Sn**	**17 44 12.5**	**-2.3**
UREC				i		17 44 15.8	
	comp=Z,40nm,0.2s						
AZU	**Azuero**	**2.79**	**243**	eP	**Pn**	**17 43 48.1**	**+0.7**
CHIT3	**Chitre**	**2.85**	**247**	eP	**Pn**	**17 43 47.6**	**-0.6**
CHIT3				i S	**Sn**	**17 44 18.8**	**-3.0**
ZARC	**Zaragoza, Cauc**	**3.28**	**118**	eP	**Pn**	**17 43 54.7**	**+0.6**
ZARC				eS	**Sn**	**17 44 30.3**	**-2.0**
ZARC				i		17 44 32.6	
	comp=Z,46nm,0.2s						
CACAO	**El Cacao, Vera**	**3.52**	**241**	eP	**Pn**	**17 44 01.8**	**+4.4**
PTBC	**PUERTO BERRIO,**	**4.13**	**127**	eP	**Pn**	**17 44 06.7**	**+0.8**
PTBC				eS	**Sn**	**17 44 52.6**	**-0.9**
PTBC				i		17 44 55.4	
	comp=Z,7.8nm,0.2s						
GUY2C	**Guyana, Caldas**	**4.51**	**148**	eP	**Pn**	**17 44 14.2**	**+2.8**
GUY2C				eS	**Sn**	**17 45 07.2**	**+3.9**
GUY2C				i		17 45 10.8	
	comp=Z,4.5nm,0.7s						

TEH 01 18:44:25.2, 30°.74N×57°.31E, h8^{km}±60^{km}**, ML3.6, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.70**	**289**	Pg	Pg	18 44 39.2	+0.4
ZRDN				Sg	Sb	18 44 50.0	+0.2
KHGB	**Koh Gabri**	**0.80**	**243**	Pg	Pg	18 44 40.8	+0.1
TVBK	**TV Kerman**	**0.89**	**212**	Pg	Pb	18 44 43.1	+0.1
CHMN	**Cheshme madani**	**0.90**	**167**	Pg	Pg	18 44 42.3	-0.2
NGRK	**Negar Kerman**	**1.20**	**205**	Pg	Pn	18 44 48.7	+0.1
IBAF	**Bafgh**	**1.72**	**300**	Pg	Pb	18 44 57.5	+0.4
KBAM	**BAM**	**1.88**	**148**	Pn	Pb	18 44 59.5	-0.4
BSRN	**Basiran**	**1.98**	**51**	Pn	Pb	18 45 00.8	-0.7
IKOO	**Kooshah**	**2.22**	**40**	Pn	Pb	18 45 04.9	-0.8
TPRV	**Parvadeh(Tabas**	**2.34**	**347**	Pn	Pn	18 45 05.8	+1.7
IMEH	**Mehriz**	**2.40**	**286**	Pn	Pb	18 45 07.1	-1.8
NHDN	**Nehbandan**	**2.44**	**74**	Pn	Pb	18 45 08.4	-1.0
ITEG	**Tejag**	**2.48**	**29**	Pn	Pn	18 45 07.6	+1.6
BAGH	**Bagheran - Bir**	**2.60**	**38**	Pn	Pn	18 45 09.7	+1.9
TKDS	**Koohdasht(Taba**	**2.87**	**357**	Pn	Pn	18 45 13.4	+2.1
ICHK	**Chekchek**	**2.90**	**302**	Pn	Pb	18 45 14.6	-2.7
IDAH	**Dahanechah**	**2.95**	**47**	Pn	Pn	18 45 14.2	+1.6
AFRZ	**Afriz**	**3.04**	**28**	Pn	Pn	18 45 15.6	+1.8
TNSJ	**Nastanj**	**3.27**	**350**	Pn	Pn	18 45 19.0	+2.2
SHRT	**Shahrakht**	**3.85**	**40**	Pn	Pn	18 45 27.1	+2.4
IZEF	**Zefreh**	**4.75**	**298**	Pn	Pn	18 45 38.7	+1.3
IAKL	**Akhelmad**	**5.97**	**11**	Pn	Pn	18 45 56.3	+2.2

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*UPA **01** 18:46:00.9±1.6, 7°.47N×82°.45W, h10^{km}±18^{km}, MW4.1*
*CATAC **01** 18:46:01.6±1.8, 7°.40N×82°.39W, h30^{km}, ML3.2*
ISC 01 18:46:00.2±3.5**, 7°.5N**±0°.1×**82°.42W**±0°.09**, h13^{km}**±26^{km}**, n16,** σ**0^{s}74**/25**, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVD	**David**	**0.97**	**358**	eP	**Pb**	**18 46 19.1**	**+0.2**
DVD				eS	**Sb**	**18 46 31.8**	**+0.3**
NANC3	**Nancito, Chiri**	**1.03**	**41**	eP	**Pb**	**18 46 19.5**	**-0.3**
GUAL3	**Gualaca, Chiri**	**1.07**	**6**	eP	**Pb**	**18 46 20.3**	**-0.3**
GUAL3				eS	**Sn**	**18 46 35.6**	**0.0**
PSOM3	**Paja de Sombre**	**1.22**	**4**	eP	**Pn**	**18 46 22.3**	**-0.7**
BCO2	**Palmira**	**1.25**	**355**	eP	**Pn**	**18 46 23.6**	**0.0**
BCO2				eS	**Sn**	**18 46 40.5**	**+0.2**
BRU2	**Volcan**	**1.35**	**348**	eP	**Pn**	**18 46 25.4**	**+0.5**
BRU2				eS	**Sb**	**18 46 43.7**	**+1.0**
BRU2	**Volcan**	**1.35**	**348**	i P	**Pn**	**18 46 25.3**	**+0.4**
BRU2				i S	**Sb**	**18 46 43.7**	**+1.0**
BRU2				IAML		18 46 45.5	
	comp=Z,500nm,1.0s						
BC3P	**Paso Ancho**	**1.36**	**352**	eP	**Pn**	**18 46 25.3**	**+0.3**
BC3P				eS	**Sn**	**18 46 42.5**	**-0.6**
CTCR	**Cotoan**	**1.46**	**347**	i P	**Pn**	**18 46 27.0**	**+0.5**
CTCR				i S	**Sb**	**18 46 46.1**	**+0.1**
CTCR				IAML		18 46 51.7	
	comp=Z,2μm,1.0s						
CACAO	**El Cacao, Vera**	**1.55**	**94**	eP	**Pn**	**18 46 27.8**	**+0.3**
CACAO				eS	**Sn**	**18 46 47.5**	**+0.1**
SRBA	**San Rafael, Bu**	**1.99**	**332**	i P	**Pn**	**18 46 33.4**	**-0.3**
SRBA				IAML		18 46 34.2	
	comp=Z,69nm,1.0s						
AZU	**Azuero**	**2.15**	**81**	eP	**Pb**	**18 46 39.2**	**+0.2**
AZU				eS	**Sb**	**18 47 05.1**	**-0.5**
CDM	**Cerro de Muert**	**2.47**	**327**	i P	**Pn**	**18 46 41.0**	**+0.4**
CDM				IAML		18 47 35.5	
	comp=Z,55nm,1.0s						
RIMA	**Rio Macho**	**2.70**	**328**	i P	**Pn**	**18 46 44.1**	**+0.6**
RIMA				IAML		18 46 48.6	
	comp=Z,47nm,1.0s						
TBLN	**Tablon, Guarco**	**2.82**	**326**	i P	**Pn**	**18 46 45.7**	**+0.5**
TBLN				IAML		18 46 52.5	
	comp=Z,58nm,1.0s						
COVE	**Coope Vega, Sa**	**3.78**	**329**	i P	**Pn**	**18 46 55.7**	**-2.6**

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*IDC **01** 18:46:16.1±1.2, 4°.97S×153°.40E, h0^{km}, mb3.6/6, mbtmp3.7/7, ML1.8/1, MS3.0/1, Error ellipse: s-maj=27.1km s-min=24.7km az=105.0*
ISC 01 18:46:22.6±1.1**, 5°.03S**±0°.09×**153°.3E**±0°.1**, h35^{km}, n13,** σ**2^{s}02**/13**, mb3.6**/6**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.43**	**300**	Pn	**Pn**	**18 46 45.6**	**-0.4**
	162nm,0.3s,baz=108,slow=20,SNR=68						
KRVT				Sn	**Sn**	**18 47 05.8**	**+2.1**
	542nm,0.3s,baz=47,slow=0.6,SNR=15						
PMG	**Port Moresby**	**7.46**	**234**	Pn	**Pn**	**18 48 09.6**	**+0.6**
	0.9nm,0.3s,baz=19,slow=11,SNR=2.1						
PMG				Sn	**Sn**	**18 49 31.3**	**-1.1**
	5.3nm,0.3s,baz=150,slow=18,SNR=10						
	2.9nm,0.5s						
WRA	**Warramunga Arr**	**23.64**	**230**	P	**P**	**18 51 29.7**	**-1.3**
	1.1nm,0.6s,baz=52,slow=9.8,SNR=13						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**26.30**	**223**	P	**P**	**18 51 55.4**	**+0.2**
	0.3nm,0.5s,baz=54,slow=8.5,SNR=12						
ASAR				PcP	**PcP**	**18 55 21.6**	**+0.5**
	0.2nm,0.7s,baz=56,slow=3.5,SNR=1.7						
ASAR				ScP	**ScP**	**18 59 01.6**	**+3.2**
	0.4nm,0.9s,baz=48,slow=3.4,SNR=2.0						
	0.3nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**26.86**	**29**	T	T	19 20 22.1	
	baz=208						
H11S2	**WAKE ISLAND Hy**	**26.87**	**29**	T	T	19 20 30.1	
	baz=208						
H11S1	**WAKE ISLAND Hy**	**26.88**	**29**	T	T	19 20 21.9	
	baz=208						
MJAR	**Matsushiro Arr**	**43.69**	**342**	LR	LR	19 10 40.6	
	comp=Z,21nm,21.0s,baz=86,slow=34						
CMAR	**Chiang Mai Arr**	**58.39**	**295**	P	**P**	**18 56 14.3**	**-0.9**
	0.5nm,0.7s,baz=113,slow=4.9,SNR=5.7						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**80.80**	**319**	P	**P**	**18 58 31.6**	**-1.3**
	0.5nm,0.7s,baz=98,slow=8.7,SNR=3.5						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**82.20**	**22**	P	**P**	**18 58 39.3**	**-0.4**
	0.2nm,0.8s,baz=252,slow=5.9,SNR=1.1						
	0.2nm,0.8s						
BVAR	**Borovoye Array**	**89.70**	**323**	P	**P**	**18 59 15.4**	**-1.7**
	1.2nm,0.8s,baz=102,slow=4.5,SNR=6.4						
	1.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.82**	**288**	PKPbc	**PKPdf**	**19 06 11.0**	**+4.1**
	0.2nm,0.4s,baz=62,slow=1.9,SNR=4.6						

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*NEIC **01** 19:05:16.1±1.7, 35°.414N±0°.007×97°.02W±0°.02, h10^{km}±7^{km}, Error ellipse: s-maj=1.9km s-min=1.0km az=97.0*
TUL 01 19:05:16.2±1.5**, 35°.42N**±0°.01×**97°.023W**±0°.010**, h5^{km}**±4^{km}**, ML2.6, mb_Lg2.5**/22(NEIC)**, ML2.9**/32(NEIC)**, Error ellipse: s-maj=1.9km s-min=0.7km az=148.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
W35A	**Tecumseh**	**0.29**	**156**	Pg	Pg	19 05 22.2	+0.3
W35A				Sg	Sg	19 05 26.5	+0.8
OKCSW	**OKLAHOMA CITY**	**0.34**	**268**	Pg	Pg	19 05 23.2	+0.4
OKCSW				Sg	Sg	19 05 28.2	+1.0
OKCSW				IAML		19 05 28.4	
	comp=N,2μm,0.2s						
FNO	**Franklin**	**0.35**	**242**	Pg	Pg	19 05 23.3	+0.3
FNO				Sg	Sg	19 05 28.6	+1.1
FNO				IAML		19 05 28.7	
	comp=E,723nm,0.3s						
FNO				IAML		19 05 28.7	
	comp=N,847nm,0.2s						
ADOK	**Arcadia Dam**	**0.37**	**309**	Pg	Pg	19 05 23.8	+0.5
ADOK				Sg	Sg	19 05 29.1	+0.9
OK029	**Liberty Lake**	**0.52**	**317**	Pg	Pg	19 05 26.4	+0.3
OK029				Sg	Sg	19 05 33.6	+0.7
OK030	**Cody Creek RV**	**0.54**	**21**		Pg	19 05 26.7	+0.1
OK030				Sg	Sg	19 05 34.7	+1.0
OK030				IAML		19 05 35.1	
	comp=N,1μm,0.2s						
DEOK	**Depew**	**0.60**	**45**	Pg	Pg	19 05 27.9	+0.2
DEOK				Sg	Sg	19 05 36.4	+0.9
OK052	**Battle Ridge R**	**0.60**	**17**	Pg	Pg	19 05 27.8	0.0
OK052				Sg	Sg	19 05 36.4	+0.8
OK052				IAML		19 05 36.8	
	comp=N,516nm,0.2s						
OK033	**Mehan**	**0.63**	**6**	Pg	Pg	19 05 28.1	-0.2
OK033				Sg	Sg	19 05 37.2	+0.8
OK033				IAML		19 05 37.7	
	comp=N,582nm,0.2s						
OK033				IAML		19 05 39.6	
	comp=N,295nm,0.2s						
QUOK	**Quay**	**0.79**	**19**	Pg	Pg	19 05 31.3	-0.1
QUOK				Sg	Sg	19 05 42.4	+0.7
QUOK				IAML		19 05 45.0	
	comp=N,630nm,0.2s						
OK048	**Pawnee Station**	**1.00**	**4**		Pg	19 05 34.2	-1.2
OK048				Sg	Sg	19 05 48.5	+0.2
OK048				IAML		19 05 51.9	
	comp=N,184nm,0.2s						
OK051	**E0350 and S346**	**1.09**	**8**	Pg	Pg	19 05 36.5	-0.7
OK051				Sg	Sg	19 05 51.6	+0.2
TUL3	**Leonard**	**1.11**	**64**		Pg	19 05 36.8	-0.8
TUL3				Sg	Sg	19 05 52.0	-0.1
TUL3				IAML		19 05 57.0	
	comp=E,439nm,0.4s						
CROK	**Carrier**	**1.33**	**325**		Pn	19 05 40.5	-1.0
CROK					Sb	19 05 59.1	0.0
CROK				IAML		19 06 02.5	
	comp=N,360nm,0.3s						
CROK				IAML		19 06 06.1	
	comp=E,281nm,0.3s						
BLOK	**Blackwell**	**1.35**	**353**		Pn	19 05 40.7	-1.0
CSTR	**Hydro, Custer**	**1.38**	**280**		Pn	19 05 41.6	-0.5
LOOK	**Love County**	**1.43**	**185**		Pn	19 05 42.9	0.0
T35A	**Sooner Cattle**	**1.55**	**15**		Pn	19 05 44.3	-0.3
GC02	**Grant County #**	**1.58**	**335**		Pn	19 05 44.1	-0.9
X37A	**Clayton**	**1.59**	**121**		Pn	19 05 45.1	+0.1
WMOK	**Wichita Mounta**	**1.59**	**245**		Pn	19 05 44.9	-0.3
KAN13	**South Haven SW**	**1.63**	**347**		Pn	19 05 44.8	-0.9
OK032	**Salt Plains WL**	**1.68**	**325**		Pn	19 05 46.0	-0.4
KAN14	**Manchester OK**	**1.71**	**334**		Pn	19 05 46.0	-0.7
KAN17	**Caldwell West**	**1.73**	**340**		Pn	19 05 46.2	-0.8
OK038	**West end E0370**	**1.75**	**308**		Pn	19 05 46.7	-0.6
KAN09	**Caldwell North**	**1.78**	**344**	Pn	Pn	19 05 47.0	-0.7
RLO	**Rose Lookout**	**1.79**	**65**		Pn	19 05 47.5	-0.3
U32A	**Winter Ranch,**	**1.87**	**301**		Pn	19 05 49.0	+0.1
OK035	**E0210 Rd and N**	**1.88**	**314**	Pn	Pn	19 05 48.6	-0.4
KS21	**Milan North St**	**1.93**	**345**	Pn	Pn	19 05 49.0	-0.9
KAN06	**Argonia West S**	**1.94**	**340**	IAmb_Lg		19 06 21.6	
	comp=Z,24nm,0.9s						
KAN08	**Anthony NE Sta**	**1.96**	**337**		Pn	19 05 50.5	+0.3
NOKA	**Waynoka**	**1.97**	**309**	Pn	Pn	19 05 50.0	-0.3
KAN12	**Harper NE Stat**	**2.03**	**337**		Pn	19 05 51.5	+0.3
KAN12				IAmb_Lg		19 06 26.5	
	comp=Z,18nm,0.8s						
WTFS	**Witchita Falls**	**2.03**	**216**		Pn	19 05 51.5	+0.3
ELIS	**Ellis County**	**2.05**	**289**		Pn	19 05 52.4	+0.9
Z35A	**Perchaven, San**	**2.09**	**185**	Pn	Pn	19 05 50.6	-1.4
U38A	**Gravette**	**2.37**	**64**		Pn	19 05 56.2	+0.4
FW06	**Azle**	**2.48**	**190**	Pn	Pn	19 05 56.4	-0.9
FW06				IAmb_Lg		19 06 38.4	
	comp=Z,12nm,0.9s						
FW03	**Perrin-Whitt E**	**2.53**	**200**	Pn	Pn	19 05 56.6	-1.3
HHAR	**Hobbs**	**2.65**	**70**		Pn	19 05 58.5	-1.2
SMWD	**Samnorwood**	**2.65**	**264**		Pn	19 05 58.3	-1.4
Z38A	**Mt. Pleasant**	**2.74**	**141**	Pn	Pn	19 06 01.0	+0.2
FW07	**Weatherford**	**2.78**	**193**	Pn	Pn	19 05 59.8	-1.7
FW07				IAmb_Lg		19 06 43.7	
	comp=Z,13nm,0.9s						
TREL	**Terrell**	**2.79**	**164**	Pn	Pn	19 06 00.6	-1.0
PLPT	**Palo Pinto**	**2.81**	**203**		Pn	19 06 00.5	-1.4
PLPT				IAmb_Lg		19 06 49.8	
	comp=Z,6.5nm,0.8s						
FW16	**Waxahatchie**	**2.93**	**178**	Pn	Pn	19 06 02.4	-1.1
MIAR	**Mount Ida**	**2.96**	**106**		Pn	19 06 02.4	-1.5
R32A	**Long Quarter,**	**3.29**	**336**	Pn	Pn	19 06 07.1	-1.4
R32A				IAmb_Lg		19 07 04.7	
	comp=Z,10nm,0.8s						
APMT	**Aspermont**	**3.31**	**232**		Pn	19 06 08.7	0.0
X40A	**Basin Creek Fa**	**3.56**	**104**		Pn	19 06 12.1	-0.1
X40A				IAmb_Lg		19 07 17.1	
	comp=Z,11nm,0.8s						
WLAR	**White Oak Lake**	**3.66**	**117**	Pn	Pn	19 06 12.8	-0.8
DKNS	**Dickens**	**3.66**	**243**	Pn	Pn	19 06 11.8	-1.8
S39A	**Bolivar**	**3.74**	**52**		Pn	19 06 13.0	-1.7
S39A				IAmb_Lg		19 07 24.9	
	comp=Z,12nm,1.1s						
AMTX	**Amarillo**	**3.85**	**263**	Pn	Pn	19 06 15.2	-1.1
AMTX				IAmb_Lg		19 07 26.7	
	comp=Z,9.8nm,0.8s						
UALR	**University of**	**3.89**	**98**		Pn	19 06 16.7	0.0
UALR				IAmb_Lg		19 07 24.4	
	comp=Z,16nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.02**	**82**	IAmb_Lg		19 07 29.3	
	comp=Z,7.6nm,0.7s						
CBKS	**Cedar Bluff**	**4.02**	**328**	Pn	Pn	19 06 18.6	0.0
MGMO	**Mountain Grove**	**4.21**	**64**	IAmb_Lg		19 07 32.9	
	comp=Z,11nm,0.7s						
POST	**Post**	**4.39**	**239**		Pn	19 06 23.1	-0.5
BRDY	**Brady**	**4.44**	**202**	Pn	Pn	19 06 23.3	-1.0
BRDY				IAmb_Lg		19 07 39.8	
	comp=Z,11nm,0.9s						
RTBA	**Rita Blanca**	**4.75**	**284**	Pn	Pn	19 06 25.9	-2.7
CCM	**Cathedral Cave**	**5.33**	**59**		Pn	19 06 33.7	-2.8
JCT	**Junction City**	**5.45**	**206**	IAmb_Lg		19 08 12.2	
	comp=Z,7.8nm,0.8s						
HNDO	**Hondo**	**6.18**	**199**	IAmb_Lg		19 08 36.7	
	comp=Z,9.6nm,1.0s						
T25A	**Trinidad**	**6.21**	**288**		Pn	19 06 46.0	-2.8
SAND	**Sanderson**	**6.94**	**220**	Pn	Pn	19 06 57.1	-1.5

IDC 01 19:05:37.0±5.5**, 13°.26S**×**169°.46E, h0^{km}, mb3.6**/3**, mbtmp3.6**/3**, Error ellipse: s-maj=267.4km s-min=34.1km az=141.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.26**	**254**	P	P	19 12 25.4	+0.3
	0.2nm,0.6s,baz=85,slow=9.1,SNR=2.1						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**35.19**	**248**	P	P	19 12 32.9	-0.3
	0.9nm,0.7s,baz=77,slow=8.9,SNR=15						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**84.49**	**17**	P	P	19 18 11.4	0.0
	0.5nm,0.7s,baz=235,slow=4.6,SNR=5.9						
	0.5nm,0.7s						

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*NEIC **01** 19:06:19.5±1.4, 13°.9S±0°.1×170°.6E±0°.2, h10^{km}±1^{km}, mb4.5/7, Error ellipse: s-maj=31.7km s-min=18.3km az=122.0*
*IDC **01** 19:06:19.4±4.0, 14°.04S×170°.42E, h0^{km}, mb3.9/4, mbtmp3.9/4, MS3.8/8, Error ellipse: s-maj=152.6km s-min=31.5km az=139.0*
ISC 01 19:06:19.9±0.9**, 14°.0S**±0°.1×**170°.6E**±0°.2**, h10^{km}, n24,** σ**1^{s}61**/16**, mb4.3**/8**, MS3.8**/6**, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOUNC	**Koumac, New Ca**	**8.89**	**222**	Pn	**Pn**	**19 08 28.6**	**+0.2**
DZM	**Mont Dzumac**	**8.95**	**206**	Pn	**Pn**	**19 08 29.5**	**+0.1**
DZM	**Mont Dzumac**	**8.95**	**206**	LR	LR	19 11 32.0	
	comp=Z,640nm,21.3s,baz=24,slow=35						
PINNC	**Pines Island,**	**9.07**	**199**	Pn	**Pn**	**19 08 31.3**	**+0.3**
HNR	**Honiara**	**11.41**	**292**	LR	LR	19 13 11.0	
	comp=Z,3μm,18.1s,baz=126,slow=37						
WR0	**Warramunga Arr**	**34.97**	**255**	P	**P**	**19 13 11.4**	**-1.2**
WB0	**Warramunga Arr**	**35.10**	**256**	P	**P**	**19 13 12.6**	**-1.1**
WB0				IAmb	IAmb	19 13 32.2	
	comp=Z,8.9nm,1.5s						
WRA	**Warramunga Arr**	**35.16**	**255**	P	**P**	**19 13 13.0**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=86,slow=8.6,SNR=5.2						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**35.97**	**249**	P	**P**	**19 13 19.1**	**-2.0**
ASAR	**Alice Springs**	**35.97**	**249**	P	**P**	**19 13 20.4**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=73,slow=9.1,SNR=9.5						
	comp=Z,2.2nm,0.8s						
MTN	**Manton Dam**	**38.41**	**267**	P	**P**	**19 13 41.6**	**-0.3**
MTN				IAmb	IAmb	19 13 51.9	
	comp=Z,8.7nm,1.1s						
KNRA	**Kununurra**	**40.46**	**262**	P	**P**	**19 13 58.3**	**-0.7**
KNRA				IAmb	IAmb	19 14 18.3	
	comp=Z,14nm,1.1s						
DAV	**Davao City (W)**	**49.37**	**292**	LR	LR	19 35 29.8	
	comp=Z,61nm,18.1s,baz=100,slow=36						
VNDA	**Vanda**	**63.67**	**182**	LR	LR	19 39 56.1	
	comp=Z,27nm,20.2s,baz=339,slow=32						
SBA	**Scott Base**	**63.88**	**181**	P	**P**	**19 16 53.3**	**+1.0**
SBA				IAmb	IAmb	19 17 12.7	
	comp=Z,12nm,1.2s						
CASY	**Casey**	**65.43**	**203**	P	**P**	**19 17 02.9**	**+0.2**
I21K	**Tanana**	**83.84**	**15**	P	**P**	**19 18 51.5**	**+2.2**
SONM	**Songino Array**	**83.89**	**322**	P	**P**	**19 18 52.1**	**+2.0**
	comp=Z,1.1nm,1.0s,baz=134,slow=4.2,SNR=4.6						
	comp=Z,1.1nm,1.0s						
ILAR	**Eielson Array**	**84.87**	**17**	P	**P**	**19 18 55.5**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=236,slow=5.0,SNR=9.4						
	comp=Z,0.9nm,0.7s						
BEMT	**Mount Belmont**	**91.43**	**42**	P	**P**	**19 19 23.1**	**-3.6**
PDAR	**Pinedale Array**	**92.08**	**46**	LR	LR	19 53 43.3	
	comp=Z,42nm,19.6s,baz=294,slow=31						
ANMO	**Albuquerque**	**92.22**	**55**	LR	LR	19 52 31.8	
	comp=Z,62nm,21.6s,baz=12,slow=30						
TXAR	**Lajitas Array**	**93.08**	**61**	LR	LR	19 54 12.9	
	comp=Z,32nm,18.9s,baz=294,slow=31						
YKA	**Yellowknife Ar**	**95.43**	**27**	LR	LR	19 58 33.6	
	comp=Z,45nm,18.5s,baz=263,slow=33						

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*NEIC **01** 19:09:47.4±2.5, 5°.86S±0°.08×151°.9E±0°.2, h19^{km}±6^{km}, mb4.4/10, Error ellipse: s-maj=24.8km s-min=8.2km az=113.0*
*IDC **01** 19:09:53.0±1.0, 5°.33S×151°.14E, h69^{km}±13^{km}, mb3.5/5, mbtmp3.8/6, Error ellipse: s-maj=65.7km s-min=9.5km az=129.0*
ISC 01 19:09:47.9±1.0**, 5°.92S**±0°.09×**151°.9E**±0°.1**, h35^{km}, n24,** σ**1^{s}81**/29**, mb4.0**/11**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.60**	**3**	P	**Pn**	**19 10 13.6**	**-0.1**
	1μm,0.5s,baz=94,slow=0.2,SNR=140						
KRVT				S	**Sn**	**19 10 33.3**	**+0.1**
	1μm,0.4s,baz=80,slow=0.1,SNR=14						
RABL	**Rabaul**	**1.73**	**8**		**Pn**	**19 10 15.5**	**0.0**
RABL				Sn	**Sn**	**19 10 37.5**	**+1.1**
PMG	**Port Moresby**	**5.87**	**233**		**Pn**	**19 11 13.7**	**+1.2**
PMG				Sn	**Sn**	**19 12 15.5**	**-3.0**
PMG	**Port Moresby**	**5.87**	**233**	P	**Pn**	**19 11 13.9**	**+1.5**
	12nm,0.3s,baz=32,slow=11,SNR=16						
PMG				S	**Sn**	**19 12 19.5**	**+1.0**
	44nm,0.6s,baz=142,slow=23,SNR=11						
MANU	**Manus Island**	**5.96**	**310**	Pn	**Pn**	**19 11 15.4**	**+1.6**
COEN	**Coen**	**11.75**	**227**	Pn	**Pn**	**19 12 33.2**	**-0.1**
MTN	**Manton Dam**	**21.63**	**250**	P	**P**	**19 14 33.5**	**-1.8**
MTN				IAmb	IAmb	19 14 38.3	
	comp=Z,4.6nm,0.8s						
WR0	**Warramunga Arr**	**21.92**	**229**	P	**P**	**19 14 37.4**	**-1.1**
WRAB	**Tennant Creek**	**22.05**	**229**	P	**P**	**19 14 39.8**	**-0.1**
WRAB				IAmb	IAmb	19 14 42.4	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**22.06**	**229**	P	**P**	**19 14 39.7**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=53,slow=9.9,SNR=30						
WRA				PcP	**PcP**	**19 18 38.5**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=35,slow=1.8,SNR=2.7						
	comp=Z,0.8nm,0.3s						
KNRA	**Kununurra**	**24.71**	**245**	P	**P**	**19 15 04.8**	**-1.3**
KNRA				IAmb	IAmb	19 15 32.2	
	comp=Z,12nm,0.9s						
AS31	**Alice Springs**	**24.75**	**223**	P	**P**	**19 15 07.8**	**+1.3**
ASAR	**Alice Springs**	**24.75**	**223**	P	**P**	**19 15 07.8**	**+1.3**
ASAR	**Alice Springs**	**24.75**	**223**	P	**P**	**19 15 07.5**	**+1.1**
	comp=Z,1.9nm,0.5s,baz=58,slow=9.0,SNR=29						
	comp=Z,1.9nm,0.5s						
MBWA	**Marble Bar**	**34.67**	**241**	P	**P**	**19 16 35.8**	**+1.3**
MBWA				IAmb	IAmb	19 17 11.6	
	comp=Z,10.0nm,1.1s						
MORW	**Morawa**	**40.98**	**232**	P	**P**	**19 17 29.6**	**+2.0**
MKAR	**Makanchi Array**	**80.60**	**319**	P	**P**	**19 21 53.8**	**-3.2**
	comp=Z,0.2nm,0.6s,baz=90,slow=6.4,SNR=2.3						

	comp=Z,0.2nm,0.6s						
ZALV	Zalesovo Beam	81.60	327	P	P	19 21 58.1	-4.0
	comp=Z,0.5nm,0.4s,baz=116,slow=7.9,SNR=4.2						
	comp=Z,0.5nm,0.4s						
IMAR	Indian Mountai	81.72	20	P	P	19 22 04.1	+1.5
MLY	Manley	82.23	21	P	P	19 22 05.3	0.0
MLY				IAmb	IAmb	19 22 06.0	
	comp=Z,6.7nm,1.5s						
E21K	Killik River	83.08	18	P	P	19 22 12.1	+2.4
E21K				IAmb	IAmb	19 22 43.4	
	comp=Z,8.8nm,1.4s						
TGL	Tana Glacier	83.37	27	P	P	19 22 14.7	+3.2
ILAR	Eielson Array	83.51	22	P	P	19 22 10.4	-1.5
	comp=Z,0.5nm,0.6s,baz=243,slow=5.2,SNR=7.2						
	comp=Z,0.5nm,0.6s						
TORD	Torodi Ar. Bea	149.81	286	PKPbc	PKPbc	19 29 34.0	-1.4
	comp=Z,1.6nm,0.7s,baz=81,slow=2.0,SNR=16						

*IDC **01** 19:24:31.0±3.0, 43.°48N×105.°14W, h0^{km}, mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=69.8km s-min=10.4km az=154.0*

*NEIC **01** 19:24:33.0±1.2, 44.°05N±0.°05×105.°35W±0.°08, h0^{km}±1^{km}, ML3.0/52, Error ellipse: s-maj=10.9km s-min=6.1km az=123.0*

ISC 01 19:24:32.4±1.4**, 44.°03N**±0.°06×**105.°30W**±0.°07**, h0^{km}, n40,** σ1.^{s}**20**/39**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	Black Hills	0.92	84		Pn	19 24 52.0	-0.7
K22A	Casper	1.64	213		Pn	19 25 02.6	0.0
K22A				IAML		19 25 30.7	
	comp=E,192nm,0.8s						
K22A				IAML		19 25 30.9	
	comp=N,142nm,0.3s						
PHWY	Pilot Hill	2.73	183	Pn	Pn	19 25 18.1	+0.4
PHWY				IAML		19 26 02.6	
	comp=N,43nm,0.8s						
RWWY	Rawlins	2.73	212	Pn	Pn	19 25 17.6	-0.1
RWWY				IAML		19 25 58.0	
	comp=N,50nm,1.3s						
LAO	LASA Array	2.74	347		Pn	19 25 16.3	-1.4
LAO				IAML		19 26 11.9	
	comp=N,71nm,0.8s						
LAO				IAML		19 26 16.3	
	comp=N,72nm,0.8s						
RLMT	Red Lodge	3.04	292	Pn	Pn	19 25 22.1	+0.1
RLMT				IAML		19 26 19.2	
	comp=N,40nm,1.6s						
RLMT				IAML		19 26 21.3	
	comp=N,36nm,2.5s						
N23A	Red Feather La	3.17	189		Pn	19 25 24.4	+0.6
N23A				IAML		19 26 28.3	
	comp=E,35nm,1.7s						
N23A				IAML		19 26 36.3	
	comp=N,32nm,1.7s						
PD31	Pinedale Array	3.35	249		Pn	19 25 26.4	+0.2
PDAR	Pinedale Array	3.35	249	Pn	Pn	19 25 27.6	+1.4
	comp=N,1.7nm,0.3s,baz=71,slow=17,SNR=33						
PDAR				Lg	Lg	19 26 13.8	
	comp=N,3.5nm,0.3s,baz=66,slow=33,SNR=20						
	comp=N,1.2nm,0.2s						
BW06	Boulder Array	3.35	249		Pn	19 25 26.2	-0.1
BW06				IAML		19 26 19.5	
	comp=N,36nm,1.4s						
YMP	Mirror Lake Pl	3.55	283	Pn	Pn	19 25 30.1	+1.0
YMP				IAML		19 26 45.4	
	comp=E,34nm,1.2s						
YMP				IAML		19 26 45.5	
	comp=N,30nm,0.8s						
GCMT	Greycliff	3.57	301	Pn	Pn	19 25 27.7	-1.5
H17A	Grant Village	3.81	277		Pn	19 25 33.5	+0.9
H17A				IAML		19 26 39.8	
	comp=E,19nm,3.3s						
LOHW	Long Hollow	3.86	266		Pn	19 25 34.0	+0.7
LOHW				IAML		19 26 37.4	
	comp=E,18nm,1.0s						
FLWY	Flagg Ranch	3.89	273		Pn	19 25 34.8	+1.1
OGNE	Ogallala	3.91	141	Pn	Pn	19 25 33.6	-0.2
MOOW	Moose Ponds	3.95	268	Pn	Pn	19 25 35.4	+0.9
IMW	Indian Meadow	4.07	270	Pn	Pn	19 25 37.1	+0.9
IMW				IAML		19 26 46.3	
	comp=E,18nm,0.9s						
IMW				IAML		19 26 51.0	
	comp=E,24nm,1.7s						
REDW	Red Top Meadow	4.08	263	Pn	Pn	19 25 38.6	+2.3
YMR	Madison River	4.12	281	Pn	Pn	19 25 38.0	+1.3
ISCO	Idaho Springs	4.23	183	Pn	Pn	19 25 40.1	+1.7
YHL	Hebgen Lake	4.29	283	Pn	Pn	19 25 40.7	+1.4
YHL				IAML		19 27 01.1	
	comp=E,17nm,1.1s						
YHL				IAML		19 27 12.1	
	comp=N,20nm,1.4s						
DGMT	Dagmar	4.51	9		Pn	19 25 43.4	+1.5
RDMU	Red Mountain	4.69	224		Pn	19 25 43.6	-0.9
RDMU				IAML		19 27 21.8	
	comp=N,17nm,1.6s						
BOZ	Bozeman (W)	4.77	291	Pn	Pn	19 25 46.1	+0.4
BOZ				IAML		19 27 02.6	
	comp=N,12nm,2.4s						
BOZ				IAML		19 27 53.2	
	comp=N,9.4nm,3.9s						
HWUT	Hardware Ranch	5.21	244		Pn	19 25 49.8	-1.9
BSUT	Blindstream Ca	5.35	231	Pn	Pn	19 25 53.6	-0.2
TCUT	Toone Canyon	5.37	239	Pn	Pn	19 25 52.5	-1.5
LRM	Limekiln Ridge	5.39	292	Pn	Pn	19 25 54.5	+0.3
MCMT	McKenzie Canyo	5.47	281	Pn	Pn	19 25 54.0	-1.4
ELMT	Elliston	5.66	299	Pn	Pn	19 25 56.0	-1.8
HVU	Hansel Valley	5.93	250	Pn	Pn	19 26 02.5	+0.9
OVMT	Ovando	6.20	302	Pn	Pn	19 26 05.8	+0.6
BPMT	Black Pine Rid	6.24	296	Pn	Pn	19 26 07.7	+1.8
SRU	San Rafael Swe	6.28	220	Pn	Pn	19 26 06.8	+0.3
PV12	Saucer Basin,	6.29	206	Pn	Pn	19 26 04.5	-2.1
PV11	David Mesa, Pa	6.33	206	Pn	Pn	19 26 08.3	+1.3
PV16	Nyswonger Mesa	6.33	207	Pn	Pn	19 26 05.8	-1.4
I10CA	LAC DU BONNET	8.83	42	I	I	20 18 10.0	
	comp=N,0.1nm,1.4s,baz=222,slow=326,SNR=1.5						
ULM	Lac du Bonnet	8.94	43	Pn	Pn	19 26 43.6	+1.0
	comp=N,0.4nm,0.3s,baz=241,slow=12,SNR=2.3						
ULM				Lg	Lg	19 29 16.2	
	comp=N,0.1nm,0.3s,baz=132,slow=1.8,SNR=3.2						
	comp=N,1.6nm,0.4s						

*NAO **01** 19:27:00.1, 33.°38N×47.°44E, h33^{km}, mb3.8*

*ISN **01** 19:27:05.9±0.5, 34.°40N×46.°63E, h4^{km}±5^{km}, ML4.1*

*IDC **01** 19:27:06.5±0.8, 34.°33N×46.°52E, h0^{km}, mb3.9/17, mbtmp4.0/23, ML3.7/6, MS3.3/18, Error ellipse: s-maj=17.6km s-min=12.0km az=162.0*

*TEH **01** 19:27:07.4, 34.°39N×46.°62E, h8^{km}±16^{km}, ML4.0*

*NEIC **01** 19:27:08.8±1.8, 34.°37N±0.°05×46.°44E±0.°07, h10^{km}±1^{km}, mb4.3/27, Error ellipse: s-maj=11.1km s-min=7.2km az=230.0*

*OMAN **01** 19:27:14.0±2.0, 33.°70N×46.°79E, h10^{km}, mb4.1/20, ms3.2/5, Error ellipse: s-maj=49.9km s-min=12.8km az=39.0*

*GII **01** 19:27:42.4±0.0, 33.°32N×43.°44E, h1^{km}*

*AZER **01** 19:27:47.6±0.5, 36.°45N×44.°81E, h89^{km}±18^{km}, Error ellipse: s-maj=5.1km s-min=3.3km az=13.0*

ISC 01 19:27:08.0±0.8**, 34.°36N**±0.°02×**46.°62E**±0.°02**, h12^{km}**±5^{km}**, n225,** σ2.^{s}**77**/246**, mb4.1**/28**, MS3.2**/11**, 6C-9D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGHG	Ghaleghazi	0.05	240	Pg	Pg	19 27 09.8	-0.7
IGHG				Sg	Sg	19 27 12.1	-0.3
KCHF	Cheshme Sefid,	0.35	103	Pg	Pg	19 27 14.8	-0.3
KCHF				Sg	Sb	19 27 20.9	-1.1
IDHR	Dehrash	0.40	330	Pg	Pg	19 27 14.2	-1.7
IDHR				Sg	Sg	19 27 20.1	-1.1
ILIN	Lien	0.63	26	Pg	Pg	19 27 18.7	-1.6
IKOM	Komasi	0.76	104	Pg	Pg	19 27 22.2	-0.4
IKOM				Sg	Sb	19 27 33.6	0.0
ILBA	Ilam Banvizeh	0.81	205	Pg	Pg	19 27 23.3	-0.3
ILBA				Sg	Sb	19 27 35.4	+0.5
KGS1	Ghasr-e-Shirin	0.87	280	Pg	Pg	19 27 24.1	-0.6
KGS1				Sg	Sb	19 27 37.0	+0.3
IBZA	Bozab	1.03	83	Pg	Pb	19 27 27.5	-0.4
IKFM	Kafar-mosalman	1.31	129	Pg	Pb	19 27 32.6	0.0
SDS1	Sardasht. Az.	2.02	333	Pn	Pb	19 27 44.2	-0.5
HAGD	Aghdareh	2.13	77	Pn	Pb	19 27 45.9	-0.8
IKRK	Kirkuk	2.15	300	*e*Pn	Pn	19 27 44.0	+0.3
IKRK				*e*Sn	Sb	19 28 12.0	-1.4
IKRK				AML	AML	19 28 23.6	
	comp=E,5µm,0.4s						
BHD	Baghdad	2.16	241	*e*Pn	Pn	19 27 45.0	+1.2
BHD				*e*Sn	Sb	19 28 13.0	-0.7
BHD				AML	AML	19 28 25.5	
	comp=E,2µm,0.4s						
MAHB	Mahabad	2.52	343	Pn	Pb	19 27 51.3	-2.0
RAFI	Al-Rafai	2.66	189	*e*Pn	Pn	19 27 52.0	+1.3
RAFI				*e*Sn	Sn	19 28 26.0	+3.1
RAFI				AML	AML	19 28 45.8	
	comp=Z,330nm,0.8s						
IRAZ	Razeghan	2.91	68	Pn	Pb	19 27 57.1	-2.9
IHSH	Hashtrud	2.99	10	Pn	Pn	19 27 57.4	+1.9
IAZR	Azarshahr	3.36	351	Pn	Pn	19 28 01.8	+1.3
AMIS	Naft Sefid	3.49	139	Pn	Pn	19 28 04.4	+2.2
ISRB	Sarab	3.56	13	Pn	Pn	19 28 05.8	+2.5
IQOM	Qom	3.70	81	Pn	Pn	19 28 08.1	+2.8
ITBZ	Tabriz	3.89	354	Pn	Pn	19 28 10.2	+2.5
IPIR	Pirpir	3.94	114	Pn	Pn	19 28 10.8	+2.3
IHRS	Heris	3.97	5	Pn	Pn	19 28 10.7	+1.8
JHBN	Jahan bin	3.99	121	Pn	Pn	19 28 11.9	+2.5
ISHB	Shabestar	4.00	349	Pn	Pn	19 28 11.6	+2.2
ZNGN	Zangian	4.19	121	Pn	Pn	19 28 13.7	+1.6
IKLH	Kolahrood	4.25	103	Pn	Pn	19 28 15.5	+2.6
IVRN	Varamin	4.25	80	Pn	Pn	19 28 15.3	+2.6
LRK	Lerik	4.50	17	P	Pg	19 28 40.7	+6.6
	SNR=10						
LRK				S	Sb	19 29 22.1	+0.9
ASTR	Astara	4.54	22	P	Pg	19 28 43.7	+8.7
ASTR				S	Sg	19 29 28.1	-5.8
GRMI	Germi	4.56	13	Pn	Pn	19 28 19.3	+2.3
KRSH	Karshahi	4.59	93	Pn	Pn	19 28 19.7	+2.3
ORD	Ordubad	4.59	354	P	Pb	19 28 28.6	0.0
	SNR=25						
ORD				S	Sn	19 29 00.4	-10
IBRJ	Brojen	4.59	121	Pn	Pn	19 28 19.3	+1.7
IDMV	Damavand	4.61	73	Pn	Pn	19 28 19.5	+1.8
SIRT	Sirnak	4.62	314	Pn	Pn	19 28 18.2	+0.4
ISFB	Sefidab	4.65	88	Pn	Pn	19 28 20.6	+2.5
LKRN	Lenkeran, Azer	4.68	21	P	Pg	19 28 45.0	+7.4
	SNR=4.1						
LKRN				S	Sb	19 29 29.9	+3.6
YRD	Yardimli	4.73	15	P	Pg	19 28 42.0	+3.4
YRD				S	Sb	19 29 25.1	-2.9
GEVA	Gevas	4.88	325	Pn	Pn	19 28 20.4	-1.1
NAX	Nakhchivan	4.89	350	P	Pb	19 28 30.1	-3.5
	SNR=7.9						
NAX				S	Sn	19 29 03.6	-15
IGAR	Gharneh	4.93	112	Pn	Pn	19 28 24.2	+2.0
IZEF	Zefreh	4.98	105	Pn	Pn	19 28 25.6	+2.8
GLBA	Clilabad	5.08	16	P	Pg	19 28 46.1	+0.9
	SNR=9.4						
GLBA				S	Sb	19 29 32.4	-5.4
SBZ	Shahbuz	5.10	351	P	Pb	19 28 33.2	-4.1
	SNR=12						
SBZ				S	Sn	19 29 09.1	-14
QRD	Qoradiz	5.13	6	P	Pg	19 28 41.6	-4.6
QRD				S	Sn	19 29 23.3	-0.5
IFIR	Firoozkooh	5.19	74	Pn	Pn	19 28 28.6	+2.8
MAKU	Maku	5.23	343	Pn	Pn	19 28 28.8	+2.7
ILAS	Lasjerd	5.31	77	Pn	Pn	19 28 30.5	+3.1
KLNJ	Kolanjah	5.36	127	Pn	Pn	19 28 29.7	+1.6
BLQ	Beylaqan	5.41	8	P	Pb	19 28 45.6	+3.2
	SNR=7.2						
BLQ				S	Sn	19 29 31.2	+0.5
IRAM	Ramesheh	5.46	116	Pn	Pn	19 28 31.8	+2.3
HYR	Heyderabad	5.54	346	P	Pb	19 28 36.8	-7.8
	SNR=10						
HYR				S	Sn	19 29 15.4	-19
GURO	Guroymak-BITLI	5.59	320	Pn	Pn	19 28 31.9	+0.8
MARD	Mardin	5.59	304	Pn	Pn	19 28 30.0	-1.1
AGDM	Agdam	5.75	4	P	Pb	19 28 47.7	-0.6
AGDM				S	Sn	19 29 34.8	-4.4
BRDA	Brd	5.91	4	P	Pb	19 28 49.9	-1.1
	SNR=5.4						
BRDA				S	Sn	19 29 38.7	-4.4
GNI	Garni	5.97	346		Pn	19 28 38.9	+2.5
GNI	Garni	5.97	346	Pn	Pn	19 28 40.2	+3.8
	comp=Z,0.4nm,0.3s,baz=200,slow=14,SNR=2.5						
GNI				Pg	Pb	19 28 54.1	+2.0
	comp=Z,0.6nm,0.3s,baz=177,slow=18,SNR=5.0						
GNI				Lg	Lg	19 30 18.2	
	baz=253,slow=13						
	comp=Z,3.3nm,0.6s						
ANAR	Anarak	6.03	99	Pn	Pn	19 28 39.6	+2.4
IGLO	Ghaloghah	6.26	68	Pn	Pn	19 28 43.5	+3.1
GANJ	Ganja	6.28	358	P	Pb	19 28 51.6	-5.7
	SNR=6.4						
GANJ				S	Sn	19 29 42.0	-10
GDB	GEDABAY	6.39	354	P	Pb	19 28 51.4	-7.9
	SNR=5.7						
GDB				S	Sn	19 29 41.0	-14
QZX	Qazax, Azerbai	6.76	352	P	Pn	19 28 55.0	+7.9
	SNR=5.6						
QZX				S	Sn	19 29 48.0	-16
KARS	Kars	6.86	337	Pn	Pn	19 28 48.3	-0.3
DSBU	Dashti - Bushe	7.17	145	Pn	Pn	19 28 54.6	+1.8
KOPT	Kop Dagi	7.47	321	Pn	Pn	19 28 54.5	-2.5
GAZ	Gaziantep	8.15	293	Pn	Pn	19 29 04.6	-1.6
ARPR	Arapgir-MALATY	8.16	308		Pn	19 29 05.9	-0.6
ASF	Jabal al Asfar	8.43	258	P	Pn	19 29 09.5	-0.6
ASF	Jabal al Asfar	8.43	258	Pn	Pn	19 29 09.4	-0.6
	comp=Z,1.3nm,0.3s,baz=66,slow=11,SNR=23						
ASF				Sn	Sn	19 30 41.9	-3.3
	comp=Z,1.7nm,0.3s,baz=85,slow=7.8,SNR=1.5						
ASF				Lg	Lg	19 31 32.3	
	comp=Z,2.6nm,0.3s,baz=263,slow=21,SNR=2.6						
	comp=Z,2.8nm,0.3s						
ONI	Oni	8.59	344	Pn	Pn	19 29 13.9	+1.7
HSUJ	Al Zarqa	9.02	258	P	Pn	19 29 21.0	+2.9
KSHT	Keshet	9.12	264	Pn	Pn	19 29 19.6	+0.1
NATI	Neve Ativ	9.12	266	P	Pn	19 29 20.8	+1.3
GEM	Giv'at Ha'Em	9.20	266	Pn	Pn	19 29 20.1	-0.4
GEM	Giv'at Ha'Em	9.20	266	P	Pn	19 29 25.4	+4.9
SHMJ	Saham	9.21	263	P	Pn	19 29 21.8	+1.1
MMA0B	Mount Meron ar	9.45	265	Pn	Pn	19 29 24.8	+0.8
MMAI	Mount Meron Ar	9.45	265	Pn	Pn	19 29 24.1	+0.1
	comp=Z,2.8nm,0.3s,baz=76,slow=15,SNR=19						
MMAI				Lg	Lg	19 32 03.3	
	comp=Z,2.8nm,0.3s,baz=66,slow=29,SNR=3.6						
MMAI				LR	LR	19 33 26.8	
	comp=Z,88nm,18.9s,baz=41,slow=41						
	comp=Z,2.2nm,0.4s						
HMDT	Nahal Hemdat	9.52	260	Pn	Pn	19 29 24.5	-0.5
HMDT	Nahal Hemdat	9.52	260	P	Pn	19 29 28.8	+3.9
MMLI	Mount Malkishu	9.56	262	Pn	Pn	19 29 24.8	-0.7
HNTI	Hanita	9.62	266	Pn	Pn	19 29 27.1	+0.8
BLGI	Bet Lehem HaGe	9.68	264	P	Pn	19 29 31.0	+3.9
KARJ	KARJ	9.79	254	P	Pn	19 29 27.1	-1.5
GHAJ	Ghor Haditha	9.79	255	Pn	Pn	19 29 26.1	-2.5
DSI	Dead Sea	9.85	257	Pn	Pn	19 29 28.1	-1.3
SLTI	Sal'it	9.92	261	Pn	Pn	19 29 30.8	+0.4
SLTI	Sal'it	9.92	261	P	Pn	19 29 31.7	+1.3
GEYT	Alibeck	9.96	66	Pn	Pn	19 29 33.9	+2.9
GEYT	Alibeck	9.96	66	Pn	Pn	19 29 37.5	+6.6
	comp=Z,0.1nm,0.3s,baz=197,slow=30,SNR=2.6						
GEYT				LR	LR	19 33 57.1	
	comp=Z,205nm,20.0s,baz=267,slow=41						
YTIR	Yattir	10.13	256	P	Pn	19 29 36.1	+2.8
ZFRI	Zfri	10.38	252	P	Pn	19 29 41.7	+4.9
PRNI	Paran	10.61	251	Pn	Pn	19 29 38.1	-1.7
PRNI	Paran	10.61	251	P	Pn	19 29 43.7	+3.9
KZIT	Kziot	10.87	255	P	Pn	19 29 47.3	+3.9
MBRI	Mt Berech	10.92	249	P	Pn	19 29 47.7	+3.5
EIL	Elat	10.95	248	Pn	Pn	19 29 43.6	-1.0
EIL	Elat	10.95	248	P	Pn	19 29 44.8	+0.2
EIL	Elat	10.95	248	Pn	Pn	19 29 43.9	-0.7
	comp=Z,0.6nm,0.3s,baz=74,slow=5.0,SNR=9.2						
EIL				Lg	Lg	19 32 56.6	
	comp=Z,0.5nm,0.3s,baz=68,slow=21,SNR=2.2						
EIL				LR	LR	19 35 09.6	
	comp=Z,125nm,19.5s,baz=66,slow=44						
	comp=Z,4.0nm,0.8s						
CSS	Mathiatis	10.97	277	Pn	Pn	19 29 46.0	+1.3
SHME	Shamm	11.67	133	Pn	Pn	19 29 53.5	-0.9
SHME	Shamm	11.67	133	P	Pn	19 29 53.5	-0.9
SHME				S	Sn	19 31 57.6	-7.0
BRTR	Keskin Array B	11.67	301	Pn	Pn	19 29 58.4	+3.9
	comp=Z,0.1nm,0.3s,baz=124,slow=12,SNR=16						
BRTR				LR	LR	19 35 24.8	
	comp=Z,114nm,19.4s,baz=115,slow=43						
	comp=Z,2.4nm,0.8s						
AJN	Ajban	12.17	141	P	Pn	19 30 01.1	-0.2
AJN				S	Sn	19 32 09.3	-7.7
MASF	Masafi	12.19	135	P	Pn	19 30 00.9	-0.6
MASF				S	Sn	19 32 11.0	-6.3
MSFE	Esma-Masafi	12.19	135	*i* Pn	Pn	19 30 00.6	-1.1
	SNR=10						
NAZ	Nazwa, Dubai	12.20	138	*i* Pn	Pn	19 30 00.8	-0.8
	SNR=12						
NAZ	Nazwa, Dubai	12.20	138	P	Pn	19 30 02.0	+0.4
NAZ				S	Sn	19 32 12.6	-4.9
ASUD	Al Ashush, Dub	12.30	140	*i* Pn	Pn	19 30 03.0	-0.1
	SNR=20						
ASUD	Al Ashush, Dub	12.30	140	P	Pn	19 30 03.9	+0.9
	SNR=20						
ASUD				S	Sn	19 32 15.7	-4.4
FAQ	Al Faqa, Dubai	12.35	138	*i* Pn	Pn	19 30 03.0	-0.7
	SNR=6.1						
FAQ	Al Faqa, Dubai	12.35	138	P	Pn	19 30 04.0	+0.3
FAQ				S	Sn	19 32 15.1	-6.2
UOSS	Minazif	12.54	136	Pn	Pn	19 30 04.7	-1.6
UOSS	Minazif	12.54	136	*i* Pn	Pn	19 30 04.7	-1.6
	SNR=8.6						
UOSS				Sn	Sn	19 32 17.1	-8.8
UOSS	Minazif	12.54	136	P	Pn	19 30 06.0	-0.3
UOSS				S	Sn	19 32 18.8	-7.1
HATD	Hatta, Dubai	12.59	136	*i* Pn	Pn	19 30 05.9	-1.1
	SNR=11						
HATD				Sn	Sn	19 32 19.5	-7.7
HATD	Hatta, Dubai	12.59	136	P	Pn	19 30 06.8	-0.2
HATD				P	Pn	19 30 06.8	-0.2
HATD				S	Sn	19 32 20.0	-7.1
HATD				S	Sn	19 32 20.0	-7.1
ASHO	Ashiyiah	12.66	137	*i* Pn	Pn	19 30 06.5	-1.4
	SNR=30						
ASHO				Sn	Sn	19 32 20.2	-8.7
ASHO	Ashiyiah	12.66	137	P	Pn	19 30 07.0	-1.0
ASHO				S	Sn	19 32 21.6	-7.3
MZR	Muzera	12.81	150	P	Pn	19 30 10.8	+0.9
MZR				S	Sn	19 32 25.3	-7.3
JASK	Jask - Hormozg	12.89	128	P	Pn	19 30 09.0	-2.0
JASK				S	Sn	19 32 28.7	-5.8
ALNE	Al Ain	12.99	140	*i* Pn	Pn	19 30 11.3	-1.2
	SNR=18						
ALNE	Al Ain	12.99	140	P	Pn	19 30 12.2	-0.2
	SNR=14						
ALNE				S	Sn	19 32 29.8	-7.1
SOHO	SOHO	13.35	137	*i* Pn	Pn	19 30 14.9	-2.5
	SNR=9.1						
SOHO	SOHO	13.35	137	P	Pn	19 30 15.7	-1.7
SOHO				S	Sn	19 32 37.0	-8.8
ARQ	Araqi	13.98	139	P	Pn	19 30 24.4	-1.6
	SNR=16						
ARQ				S	Sn	19 32 51.8	-9.4
HOQ	Hoqain	14.23	136	P	Pn	19 30 26.8	-2.6
HOQ				P	Pn	19 30 26.8	-2.6
HOQ				S	Sn	19 33 01.8	-5.4
HOQ				S	Sn	19 33 01.8	-5.4
BSY	Bisya	14.83	139	P	Pn	19 30 36.0	-1.5
BSY				S	Sn	19 33 15.4	-6.5
SMDO	Samad	15.06	135	P	Pn	19 30 38.4	-2.3
SMDO				P	Pn	19 30 38.4	-2.3
SMDO				S	Sn	19 33 17.6	-10
SMDO				S	Sn	19 33 17.6	-10
WSAR	Wadi Sarin	15.27	133	P	Pn	19 30 40.9	-2.6
WSAR				S	Sn	19 33 18.5	-14
WSAR	Wadi Sarin	15.27	133	Pn	Pn	19 30 41.1	-2.4
	comp=Z,1.3nm,0.3s,baz=349,slow=13,SNR=22						
WSAR				Sn	Sn	19 33 20.2	-12
	comp=Z,0.1nm,0.3s,baz=188,slow=23,SNR=1.1						
WSAR				LR	LR	19 37 19.8	
	comp=Z,133nm,20.9s,baz=28,slow=40						
WBK	Wadi Bani Khal	15.94	134	P	Pn	19 30 51.0	-1.3
	SNR=7.8						
WBK				P	Pn	19 30 51.0	-1.3
	SNR=7.8						
KARP	Karpathos	16.00	280	P	P	19 30 54.9	-1.6
MHTO	MHTO	16.66	140	P	Pn	19 30 59.3	-2.2
WHFO	Wadi Hawf	17.57	157	P	Pn	19 31 11.2	-1.7
WHFO				S	Sn	19 34 16.6	-12
ABKAR	Akbulak array	17.85	29	P	P	19 31 17.8	+1.0
ABKAR	Akbulak array	17.85	29	P	P	19 31 18.1	+1.3
IDI	Anoyia	17.87	279	P	Pn	19 31 15.8	-0.8
IDI				IAmb	IAmb	19 31 30.4	
	comp=Z,62nm,1.3s						
IDI	Anoyia	17.87	279	P	Pn	19 31 16.1	-0.5
	comp=Z,1.4nm,0.3s,baz=264,slow=22,SNR=2.7						
	comp=Z,15nm,0.9s						
ABTO	Aybut	17.96	159	P	Pn	19 31 16.5	-1.2
ABTO				P	Pn	19 31 16.5	-1.2
ABTO				S	Sn	19 34 26.6	-11
ABTO				S	Sn	19 34 26.6	-11
BELG	Belogornoye	18.05	2	LR	LR	19 40 08.3	
	comp=Z,108nm,19.0s,baz=71,slow=43						
AKTO	Aktyubinsk	18.10	24	P	P	19 31 24.2	+4.6
	comp=Z,1.1nm,0.5s,baz=208,slow=7.7,SNR=4.8						
AKTO				LR	LR	19 40 13.4	
	comp=Z,57nm,18.3s,baz=190,slow=43						
SHAO	Shalim	18.14	151	P	Pn	19 31 13.0	-7.0
MLR	Muntele Rosu	19.31	311	P	Pn	19 31 36.0	+1.9
	comp=Z,1.9nm,0.5s,baz=235,slow=20,SNR=5.3						
TURR	Turia	19.54	313	⇑P	Pn	19 31 36.1	-0.6
VOIR		19.85	310	⇓P	Pn	19 31 41.0	+0.6
DOPR	Dopca	19.88	312	⇓P	Pn	19 31 40.7	0.0
ARR	Arges	20.08	310	⇓P	Pn	19 31 43.5	+0.3
PRAR	RASCA	20.09	316	⇑P	Pn	19 31 42.7	-0.5
KK31	Karatay Array	20.53	58	P	Pn	19 31 48.2	-0.2
KKAR	Karatay Array	20.53	58	P	Pn	19 31 48.6	+0.2
LOT	Lotru	20.67	309	⇑P	Pn	19 31 48.9	-1.2
AKASG	Malin Array Be	20.68	327	P	P	19 31 46.7	-1.0
	comp=Z,0.9nm,0.4s,baz=135,slow=9.9,SNR=11						
AKASG				LR	LR	19 41 16.9	
	comp=Z,103nm,19.9s,baz=184,slow=41						
	comp=Z,0.9nm,0.4s						
KIEV	Kiev	20.68	327	⇓P	P	19 31 46.9	-0.8
KIEV	Kiev	20.68	327	P	P	19 31 46.9	-0.8
KIEV				IAmb	IAmb	19 31 54.2	
	comp=Z,19nm,1.3s						
BLKB	Belogradchik	20.73	304	⇓P	Pn	19 31 50.6	-0.1
BURAR	Bucovina Array	20.81	316	⇓P	P	19 31 50.0	+0.8
BURAR	Bucovina Array	20.81	316	P	P	19 31 48.6	-0.6
BURAR				IAmb	IAmb	19 31 58.8	
	comp=Z,7.5nm,0.8s						
BUR08	Bucovina Ar. S	20.83	316	P	P	19 31 48.7	-0.9
BUR08				IAmb	IAmb	19 32 16.6	
	comp=Z,8.7nm,1.0s						
GZR	Gura Zlata	21.29	308	⇑P	P	19 31 55.1	+0.7
BOVS	Bovan	21.40	303	⇓P	P	19 31 57.9	+2.3
MARR	Marisel-Cluj	21.60	312	⇓P	P	19 31 58.7	+0.9
BZS	Buzias	22.12	308	⇑P	P	19 32 04.3	+0.9
SIRR	Siria	22.35	310	⇑P	P	19 32 06.6	+0.9
AAK	Ala-Archa	23.25	61	LR	LR	19 42 54.3	
	comp=Z,82nm,18.2s,baz=254,slow=41						
ARU	Arti	23.54	17	LR	LR	19 42 29.4	
	comp=Z,25nm,21.3s,baz=210,slow=39						
CRVS	Cervenica-Dubn	23.62	316	*e*P	P	19 32 23.5	+4.6
PSZ	Piszkesteto	24.12	312	P	P	19 32 22.1	-1.6
PSZ				IAmb	IAmb	19 32 29.3	
	comp=Z,9.0nm,1.1s						
MORH	Mrgy, Hungar	24.28	308	⇓P	P	19 32 26.2	+1.2
KIRV	Kirov	24.31	4	LR	LR	19 43 44.5	
	comp=Z,89nm,21.3s,baz=182,slow=41						
BRVK	Borovoye	25.14	35	P	P	19 32 34.3	+1.5
BRVK				IAmb	IAmb	19 33 17.8	
	comp=Z,3.7nm,0.8s						
BVAR	Borovoye Array	25.17	35	P	P	19 32 34.3	+1.2
	comp=Z,0.9nm,0.5s,baz=242,slow=43,SNR=5.5						
BVAR				LR	LR	19 43 14.2	
	comp=Z,73nm,19.6s,baz=231,slow=38						
	comp=Z,0.9nm,0.5s						
OJC	Ojcow	25.21	317	P	P	19 32 32.2	-1.2
OJC				IAmb	IAmb	19 32 38.5	
	comp=Z,8.9nm,0.9s						
ZST	Bratislava	25.95	311	*e*P	P	19 32 46.1	+5.9
MAUC	Maruska	25.97	314	*e*P	P	19 32 41.8	+1.4
RONA	Rosalia, Austr	26.29	310	*i* pP	pP	19 32 45.7	-1.6
	comp=Z,5.4nm,0.8s						
CONA	Conrad Observa	26.64	310	*i* P	P	19 32 50.5	+3.9
	comp=Z,4.4nm,1.1s						
VRAC	Vranov	26.68	313	LR	LR	19 43 42.8	
	comp=Z,55nm,18.4s,baz=108,slow=37						
ZVC	Zvikov	28.19	312	*e*P	P	19 33 03.4	+3.0
GERES	GERESS Array B	28.30	311	P	P	19 33 02.4	+1.0

	comp=Z,0.4nm,0.4s,baz=120,slow=5.8,SNR=2.3						
	comp=Z,0.4nm,0.4s						
KURBB	Kurchatov Arra	28.31	45	P	P	19 33 02.8	+1.5
	comp=Z,1.0nm,0.8s,baz=250,slow=9.2,SNR=4.2						
	comp=Z,1.0nm,0.8s						
KHC	Kasperske Hory	28.47	311	eP	P	19 33 05.2	+2.3
MK31	Makanchi Array	29.55	54	P	P	19 33 15.1	+2.6
MKAR	Makanchi Array	29.55	54	P	P	19 33 14.3	+1.8
MKAR	Makanchi Array	29.55	54	P	P	19 33 14.1	+1.6
	comp=Z,0.7nm,0.6s,baz=250,slow=8.7,SNR=8.4						
	comp=Z,0.7nm,0.6s						
VSL	Villasalto	30.07	291	P	P	19 33 17.9	+0.8
FIA0	FINESS Array S	30.13	340	P	P	19 33 18.3	+0.9
FIA1	FINESS Array S	30.13	340	P	P	19 33 16.9	-0.5
FINES	FINESS Array B	30.13	340	P	P	19 33 16.7	-0.7
FINES	FINESS Array B	30.13	340	P	P	19 33 16.8	-0.6
	comp=Z,1.9nm,0.7s,baz=148,slow=11,SNR=7.7						
	comp=Z,1.9nm,0.7s						
KEST	Kesra	30.43	283	P	P	19 33 21.4	+1.0
KEST	Kesra	30.43	283	P	P	19 33 19.9	-0.6
	comp=Z,3.5nm,0.9s,baz=359,slow=20,SNR=2.4						
	comp=Z,3.5nm,0.9s						
SENIN	Lac Senin/Sane	31.96	304	P	P	19 33 33.5	-0.4
BNI	Bardonecchia	32.24	301	P	P	19 33 35.4	-0.9
WMQ	Urumqi	32.96	61	eP	P	19 33 47.2	+4.6
ZAA0	Zalesovo Array	33.13	42	P	P	19 33 44.5	+0.6
ZALV	Zalesovo Beam	33.13	42	P	P	19 33 44.3	+0.5
ZALV	Zalesovo Beam	33.13	42	P	P	19 33 44.7	+0.9
	comp=Z,1.1nm,0.7s,baz=245,slow=7.3,SNR=5.6						
	comp=Z,1.1nm,0.7s						
HFS	Hagfors	33.50	330	P	P	19 33 46.5	-0.5
	comp=Z,2.0nm,0.3s,baz=130,slow=7.2,SNR=24						
HFS				LR	LR	19 48 48.2	
	comp=Z,83nm,18.1s,baz=141,slow=39						
	comp=Z,2.0nm,0.3s						
NC602	NORSAR Array S	34.72	330	P	P	19 33 56.9	-0.8
NB2	NORSAR Subarra	35.02	331	P	P	19 33 59.3	-1.0
	comp=Z,1.2nm,0.7s,baz=123,slow=8.6						
NOA	NORSAR Array B	35.02	331	P	P	19 33 59.5	-0.8
	comp=Z,0.9nm,0.6s,baz=124,slow=8.6,SNR=3.9						
NOA				LR	LR	19 49 55.0	
	comp=Z,49nm,20.2s,baz=325,slow=39						
	comp=Z,0.9nm,0.6s						
KEV	Kevo	37.07	349	P	P	19 34 18.5	+0.9
ARCES	ARCESS Array B	37.13	348	P	P	19 34 17.2	-0.9
	comp=Z,4.1nm,1.0s,baz=26,slow=8.5,SNR=1.5						
	comp=Z,4.1nm,1.0s						
EKA	Eskdalemuir Ar	39.98	317	P	P	19 34 41.6	-0.7
	comp=Z,0.8nm,0.4s,baz=106,slow=8.9,SNR=8.5						
	comp=Z,0.8nm,0.4s						
ESDC	Sonseca Array	40.31	293	P	P	19 34 45.1	-0.2
	comp=Z,2.4nm,0.8s,baz=78,slow=7.2,SNR=8.0						
ESDC				PcP	PcP	19 36 51.0	+2.3
	comp=Z,0.5nm,0.4s,baz=53,slow=3.4,SNR=5.1						
	comp=Z,2.4nm,0.8s						
PESTR	Estremoz	43.22	292	P	P	19 35 07.4	-1.7
PESTR				IAmb	IAmb	19 35 17.6	
	comp=Z,11nm,1.0s						
TOA0	Torodi Ar. Sit	45.77	254	P	P	19 35 27.5	-2.1
TOA0				IAmb	IAmb	19 35 36.2	
	comp=Z,1.8nm,0.9s						
TORD	Torodi Ar. Bea	45.77	254	P	P	19 35 28.8	-0.9
TORD	Torodi Ar. Bea	45.77	254	P	P	19 35 28.2	-1.5
	comp=Z,1.0nm,0.7s,baz=54,slow=5.7,SNR=9.4						
	comp=Z,1.0nm,0.7s						
PZH	PanZhiHua	47.68	84	P	P	19 35 47.5	+2.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,140nm,5.1s						
CHTO	Chiang Mai	48.77	95	P	P	19 35 55.0	+1.9
CHTO				IAmb	IAmb	19 35 56.3	
	comp=Z,3.2nm,1.1s						
CMAR	Chiang Mai Arr	48.95	95	P	P	19 35 55.0	+0.6
	comp=Z,1.5nm,0.7s,baz=292,slow=8.3,SNR=12						
	comp=Z,1.5nm,0.7s						
CRAI	Chiangrai	49.27	92	P	P	19 36 00.2	+3.3
CRAI				IAmb	IAmb	19 36 36.0	
	comp=Z,4.6nm,1.5s						
HHC	Hu-ho-hao-te	50.81	62	eP	P	19 36 09.3	+0.8
HHC				pmax	pmax		
	comp=Z,33nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,5.0s						
XLT	XiLinHaoTe	53.27	58	eP	P	19 36 28.6	+1.9
XLT				pP	sP	19 36 33.9	+1.4
XLT				sP	pP	19 36 39.0	+8.1
XLT				PcP	PcP	19 37 35.0	+0.6
XLT				PP	PP	19 38 31.9	+5.2
XLT				pmax	pmax		
	comp=Z,4.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,140nm,5.0s						
DBIC	Dimbokro	54.79	252	P	P	19 36 37.6	-0.4
DBIC				IAmb	IAmb	19 36 49.5	
	comp=Z,9.4nm,1.2s						
DBIC	Dimbokro	54.79	252	P	P	19 36 37.6	-0.4
	comp=Z,2.0nm,0.6s,baz=84,slow=6.2,SNR=5.0						
	comp=Z,2.0nm,0.6s						
SFJD	Kangerlussuaq	61.60	334	LR	LR	20 03 32.9	
	comp=Z,80nm,19.8s,baz=42,slow=36						
KSRS	Korea Array	63.91	61	LR	LR	20 09 36.0	
	comp=Z,17nm,21.2s,baz=85,slow=40						
SCHQ	Schefferville	74.47	327	LR	LR	20 11 15.2	
	comp=Z,64nm,18.2s,baz=262,slow=36						
YKA	Yellowknife Ar	82.31	351	P	P	19 39 29.5	+0.3
	comp=Z,0.8nm,0.9s,baz=11,slow=5.4,SNR=8.2						
	comp=Z,0.8nm,0.9s						

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*SJA **01** 19:31:32.4±0.6, 24°.23S×67°.22W, h202km±4km, ML3.4, MW3.6*
*NEIC **01** 19:31:33.8±2.3, 24°.23S±0°.05×67°.5W±0°.1, h207km±13km, mb4.0/2, ML3.8(GUC), Error ellipse: s-maj=19.0km s-min=4.7km az=110.0*
*GUC **01** 19:31:35.3±0.6, 24°.15S×67°.50W, h209km±5km, ML3.7*
*IDC **01** 19:31:36.0±1.8, 23°.92S×67°.06W, h179km±18km, mb3.0/2, mbtmp3.8/7, Error ellipse: s-maj=25.6km s-min=19.0km az=148.0*
ISC 01 19:31:32.6±0.8**, 24°.22S**±0°.04×**67°.26W**±0°.04**, h201**km±8km**, n82,** σ1.s21/120**, 8C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.52	326		Pn	19 32 08.1	+1.2
AF01				Sn	S	19 32 34.1	+0.9
AF01	San Pedro de A	1.52	326	⇑eP	Pn	19 32 08.0	+1.0
AF01				eS	S	19 32 33.5	+0.3
AF01				IAML		19 32 35.3	
	comp=E,182nm,0.4s						
SLA	San Lorenzo	1.67	108	eP	Pn	19 32 08.5	+0.4
SLA				eS	S	19 32 34.6	-0.7
AZAP	Zapla	2.00	90	eP	Pn	19 32 11.5	0.0
AZAP				IAML		19 32 42.0	
	comp=Z,93nm,0.9s						
FSA	Cafayete	2.21	149	eP	Pn	19 32 13.9	+0.4
LVC	Limon Verde	2.21	316		Pn	19 32 14.5	+0.6
LVC				Sn	S	19 32 44.5	-0.7
LVC	Limon Verde	2.21	316	eP	Pn	19 32 14.8	+1.0
LVC				eS	S	19 32 45.6	+0.4
LVC	Limon Verde	2.21	316	P	Pn	19 32 14.9	+1.0
	comp=Z,51nm,0.4s,baz=123,slow=7.7,SNR=118						
LVC				S	S	19 32 45.0	-0.2
	comp=Z,36nm,0.3s,baz=276,slow=23,SNR=5.7						
LVC	Limon Verde	2.21	316	⇑iP	Pn	19 32 14.7	+1.0
LVC				eS	S	19 32 44.5	-0.7
LVC				IAML		19 32 48.0	
	comp=Z,636nm,0.5s						
PB15	IPOC Station P	2.27	296		Pn	19 32 15.2	+0.9
PB15				Sn	S	19 32 45.4	-0.5
PB15	IPOC Station P	2.27	296	eP	Pn	19 32 14.8	+0.6
PB15				eS	S	19 32 46.4	+0.5
PB15	IPOC Station P	2.27	296	⇑iP	Pn	19 32 15.4	+1.1
PB15				i S	S	19 32 45.5	-0.5
GO02	Mina Guanaco	2.32	246		Pn	19 32 15.6	+0.7
GO02				Sn	S	19 32 47.0	-0.1
GO02	Mina Guanaco	2.32	246	eP	Pn	19 32 15.8	+0.9
GO02				eS	S	19 32 48.0	+0.9
GO02	Mina Guanaco	2.32	246	⇑iP	Pn	19 32 15.8	+0.9
GO02				eS	S	19 32 47.7	+0.6
GO02				IAML		19 32 52.1	
	comp=E,280nm,0.2s						
PB06	IPOC Station P	2.61	305		Pn	19 32 18.9	+0.9
PB06				Sn	S	19 32 51.4	-1.2
PB06	IPOC Station P	2.61	305	eP	Pn	19 32 18.9	+0.9
PB06				eS	S	19 32 52.9	+0.3
PB06				IAML		19 32 55.6	
	comp=Z,172nm,0.2s						
PB06	IPOC Station P	2.61	305	⇑iP	Pn	19 32 18.9	+0.9
PB06				i S	S	19 32 51.6	-1.0
PB06				IAML		19 32 55.6	
	comp=N,264nm,0.1s						
PB14	IPOC Station P	2.90	261	Pn	Pn	19 32 22.1	+0.6
PB14				Sn	S	19 32 56.0	-2.7
PB14	IPOC Station P	2.90	261	eP	Pn	19 32 22.5	+1.1
PB14				IAML		19 33 03.2	
	comp=Z,75nm,0.1s						
ALOL	LOMAS DE OLMED	3.02	83	eP	Pn	19 32 22.9	+0.3
PB05	IPOC Station P	3.03	296		Pn	19 32 23.5	+0.7
PB05	IPOC Station P	3.03	296	eP	Pn	19 32 23.6	+0.8
PB05				eP	Pn	19 32 23.6	+0.8
PB05				eS	S	19 33 00.2	-1.0
PB05				IAML		19 33 05.2	
	comp=Z,62nm,0.3s						
PB05	IPOC Station P	3.03	296	⇑iP	Pn	19 32 23.6	+0.8
PB05				eS	S	19 32 59.4	-1.9
PB05				IAML		19 33 04.3	
	comp=E,83nm,0.2s						
PB09	IPOC Station P	3.03	322		Pn	19 32 24.2	+1.3
PB09	IPOC Station P	3.03	322	eP	Pn	19 32 24.1	+1.3
PB09				eS	S	19 33 02.2	+0.7
PB09				IAML		19 33 06.5	
	comp=Z,57nm,0.2s						
PB09	IPOC Station P	3.03	322	⇑iP	Pn	19 32 24.5	+1.6
PB09				eS	S	19 33 01.6	+0.1
AHML	Horco Molle	3.09	146	eP	Pn	19 32 23.6	+0.3
PB04	IPOC Station P	3.26	305		Pn	19 32 26.0	+0.5
PB04	IPOC Station P	3.26	305	eP	Pn	19 32 26.6	+1.0
PB04				eS	S	19 33 06.2	0.0
PB04				IAML		19 33 12.9	
	comp=Z,102nm,0.2s						
PB04	IPOC Station P	3.26	305	eP	Pn	19 32 26.0	+0.5
PB04				eS	S	19 33 04.5	-1.7
PB04				IAML		19 33 07.5	
	comp=N,208nm,0.2s						
PB07	IPOC Station P	3.47	315		Pn	19 32 28.8	+0.6
PB07	IPOC Station P	3.47	315	eP	Pn	19 32 28.9	+0.8
PB07				eS	S	19 33 10.5	-0.4
PB07				IAML		19 33 12.7	
	comp=Z,155nm,0.2s						
PB07	IPOC Station P	3.47	315	⇑iP	Pn	19 32 29.1	+0.8
PB07				eS	S	19 33 09.1	-1.8
AC01	Pan de Azucar	3.58	237		Pn	19 32 28.8	-0.5
AC01	Pan de Azucar	3.58	237	eP	Pn	19 32 29.3	0.0
AC01				eS	S	19 33 12.0	-1.1
AC01				IAML		19 33 13.9	
	comp=Z,46nm,0.2s						
AC01	Pan de Azucar	3.58	237	eP	Pn	19 32 29.3	0.0
AC01				eS	S	19 33 11.2	-1.9
PB01	IPOC Station P	3.78	327		Pn	19 32 32.1	+0.3
PB01	IPOC Station P	3.78	327	eP	Pn	19 32 32.5	+0.7
PB01				eS	S	19 33 17.4	-0.2
PB01				IAML		19 33 22.1	
	comp=Z,36nm,0.2s						
PB01	IPOC Station P	3.78	327	eP	Pn	19 32 32.5	+0.7
PB01				eS	S	19 33 16.4	-1.3
PB02	IPOC Station P	3.78	319		Pn	19 32 32.1	+0.3
PB02	IPOC Station P	3.78	319	eP	Pn	19 32 32.6	+0.8
PB02				eS	S	19 33 17.3	-0.3
PB02				IAML		19 33 27.3	
	comp=Z,122nm,0.3s						
PB02	IPOC Station P	3.78	319	eP	Pn	19 32 32.4	+0.5
PB02				eS	S	19 33 15.3	-2.4
AC06	Mina Casimiro	4.19	221		Pn	19 32 36.5	-0.3
AC06	Mina Casimiro	4.19	221	eP	Pn	19 32 36.9	+0.1
AC06				eS	S	19 33 26.0	-0.7
GO03	Copiap	4.29	218		Pn	19 32 38.0	-0.2
GO03	Copiap	4.29	218	eP	Pn	19 32 38.2	+0.1
GO03				eS	S	19 33 28.0	-1.2
GO03	Copiap	4.29	218	eP	Pn	19 32 38.0	-0.2
GO03				eS	S	19 33 27.9	-1.4
PATCX	Punta Patache	4.32	321		Pn	19 32 38.6	+0.1
PATCX	Punta Patache	4.32	321	eP	Pn	19 32 39.6	+1.1
PB08	IPOC Station P	4.43	336		Pn	19 32 40.6	+0.4
PB08	IPOC Station P	4.43	336	eP	Pn	19 32 40.8	+0.6
PB08				eS	S	19 33 34.3	+1.6
PB08				IAML		19 33 38.1	
	comp=Z,13nm,0.5s						
TA01	Diego Aracena	4.54	323		Pn	19 32 40.9	-0.3
HMBC	Humberstone	4.62	328	eP	Pn	19 32 42.7	+0.3
HMBC				eS	S	19 33 35.6	-1.2
TA02	Huaiquique	4.75	325		Pn	19 32 42.3	-1.6
GO01	Chusmiza	4.88	338		Pn	19 32 44.5	-1.5
PB11	IPOC Station P	4.97	333		Pn	19 32 46.2	-0.6
ACLC	CERRO LA CRUZ	5.19	177	eP	Pn	19 32 51.2	+1.6
AC04	Llanos de Chal	5.24	220	Pn	Pn	19 32 49.4	-0.7
AC04	Llanos de Chal	5.24	220	eP	Pn	19 32 49.4	-0.7
AC04	Llanos de Chal	5.24	220	eP	Pn	19 32 49.5	-0.7
AC04				i S	S	19 33 48.3	-2.6
AC05	El Transito	5.33	210		Pn	19 32 51.0	-0.4
AC05	El Transito	5.33	210	eP	Pn	19 32 50.9	-0.4
LCO	Las Campanas	5.68	212	Pn	Pn	19 32 55.0	-1.0
PB16	IPOC Station P	6.22	340		Pn	19 33 03.5	+0.1
CO01	Juntas del Tor	6.26	203	Pn	Pn	19 33 03.0	-0.6
PB12	IPOC Station P	6.27	332	Pn	Pn	19 33 02.2	-1.4
GO04	Tololo Observa	6.71	207	Pn	Pn	19 33 07.8	-1.6
CO03	El Pedregal	7.26	204		Pn	19 33 15.4	-0.9
CO06	Fray Jorge	7.51	210	Pn	Pn	19 33 17.8	-1.6
CO02	Combarbal	7.70	205	Pn	Pn	19 33 21.3	-0.8
LPAZ	La Paz	7.94	354		Pn	19 33 27.6	+1.8
LPAZ	La Paz	7.94	354	P	Pn	19 33 26.8	+1.0
	comp=Z,4.5nm,0.3s,baz=164,slow=6.7,SNR=20						
LPAZ				S	S	19 34 52.3	-3.3
	comp=Z,0.8nm,0.4s,baz=45,slow=7.6,SNR=1.3						
SIV	San Ignacio	10.04	36	P	Pn	19 33 51.7	-0.8
	comp=Z,2.5nm,0.4s,baz=227,slow=12,SNR=11						
SIV				S	S	19 35 40.4	-4.9
	comp=Z,0.8nm,0.3s,baz=230,slow=15,SNR=1.7						
TRQA	Tornquist	14.51	163		P	19 34 51.8	+1.9
SAML	Samuel	15.68	15		Pn	19 35 03.9	+0.7
SAML				IAmb	IAmb	19 35 04.5	
	comp=Z,3.8nm,1.1s						
PLCA	Paso Flores	16.69	189	P	Pn	19 35 23.3	+8.1
	comp=Z,1.1nm,0.5s,baz=353,slow=12,SNR=4.1						
BDFB	Brasilia	19.99	68	P	Pn	19 35 52.7	-1.8
BDFB				IAmb	IAmb	19 35 53.1	
	comp=Z,6.9nm,0.7s						
BDFB	Brasilia	19.99	68	P	Pn	19 35 52.2	-2.3
	comp=Z,6.9nm,0.7s,baz=239,slow=11,SNR=8.8						
TXAR	Lajitas Array	63.72	325	P	P	19 41 48.2	+5.0
	comp=Z,0.1nm,0.4s,baz=143,slow=7.7,SNR=2.6						
	comp=Z,0.1nm,0.4s						
TORD	Torodi Ar. Bea	76.87	69	P	P	19 43 06.6	+3.6
	comp=Z,0.4nm,0.6s,baz=260,slow=6.1,SNR=5.7						
	comp=Z,0.4nm,0.6s						
PZH	PanZhiHua	169.80	75	PKP	PKPdf	19 51 15.6	-1.2

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*NEIC **01** 19:42:46.0±1.6, 35°.657N±0°.009×97°.39W±0°.02, h13km±7km, Error ellipse: s-maj=2.0km s-min=1.3km az=72.0*
TUL 01 19:42:46.1±1.4**, 35°.668N**±0°.008×**97°.39W**±0°.01**, h7**km±5km**, ML2.7, mb_Lg2.2**/9(NEIC)**, ML2.4**/36(NEIC)**, Error ellipse: s-maj=1.5km s-min=0.9km az=53.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	Arcadia Dam	0.02	134		Pg	19 42 47.7	+0.3
OK029	Liberty Lake	0.14	338		Pg	19 42 49.5	+0.5
OK029				IAML		19 42 52.0	
	2µm,0.3s						
FNO	Franklin	0.41	181		Pg	19 42 54.3	+0.2
FNO				Sg	Sg	19 43 00.3	+0.9
FNO				IAML		19 43 00.5	
	comp=E,463nm,0.3s						
OK033	Mehan	0.53	44		Pg	19 42 56.5	+0.3
OK033				Sg	Sg	19 43 04.0	+0.8
OK033				IAML		19 43 04.6	
	comp=E,197nm,0.2s						
OK033				IAML		19 43 07.0	
	comp=E,222nm,0.1s						
OK030	Cody Creek RV	0.56	62		Pg	19 42 56.3	-0.6
OK030				Sg	Sg	19 43 04.9	+0.7
OK030				IAML		19 43 05.2	
	comp=E,171nm,0.1s						
OK030				IAML		19 43 05.3	
	comp=E,185nm,0.1s						
OK052	Battle Ridge R	0.58	56	Pg	Pg	19 42 57.4	+0.1
OK052				Sg	Sg	19 43 05.5	+0.7
W35A	Tecumseh	0.67	140		Pg	19 42 58.8	-0.1
W35A				Sg	Sg	19 43 08.1	+0.6
DEOK	Depew	0.75	76		Pg	19 43 00.0	-0.4
DEOK				Sg	Sg	19 43 10.7	+0.5
DEOK				IAML		19 43 10.9	
	comp=N,126nm,0.2s						
QUOK	Quay	0.75	48		Pg	19 42 59.9	-0.6
QUOK				Sg	Sg	19 43 10.6	+0.4
QUOK				IAML		19 43 11.2	
	comp=N,207nm,0.3s						
QUOK				IAML		19 43 11.6	
	comp=E,129nm,0.2s						
OK048	Pawnee Station	0.83	26	Pg	Pg	19 43 01.8	-0.2
OK048				Sg	Sg	19 43 13.2	+0.3
OK048				IAML		19 43 13.3	
	comp=E,172nm,0.2s						
OK048				IAML		19 43 13.5	
	comp=E,122nm,0.1s						
OK051	E0350 and S346	0.95	28	Pg	Pg	19 43 03.7	-0.6
OK051				Sg	Sg	19 43 16.4	-0.2
CROK	Carrier	0.96	330		Pg	19 43 04.3	-0.3
CROK				IAML		19 43 28.9	
	comp=E,129nm,0.2s						
CSTR	Hydro, Custer	1.06	269	Pg	Pg	19 43 06.0	-0.4
CSTR				Sg	Sg	19 43 20.2	+0.1
BLOK	Blackwell	1.10	7	Pg	Pg	19 43 06.6	-0.6
BLOK				Sg	Sg	19 43 21.4	-0.1
GC02	Grant County #	1.24	342		Pg	19 43 09.0	-0.9
GC02				Sg	Sg	19 43 26.1	+0.1
OK032	Salt Plains WL	1.31	330		Pn	19 43 09.9	-1.0
OK032				Sg	Sb	19 43 27.7	-0.5
TUL3	Leonard	1.32	79		Pn	19 43 09.7	-1.3
TUL3				Sg	Sb	19 43 27.9	-0.6
TUL3				IAML		19 43 29.4	
	comp=E,61nm,0.2s						
TUL3				IAML		19 43 31.4	
	comp=N,48nm,0.6s						
KAN13	South Haven SW	1.34	357		Pn	19 43 10.4	-0.9
KAN13					Sb	19 43 29.1	0.0
OK038	West end E0370	1.36	307		Pn	19 43 10.6	-1.0
OK038					Sb	19 43 29.5	-0.1
KAN14	Manchester OK	1.37	340		Pn	19 43 11.0	-0.7
KAN14					Sb	19 43 29.5	-0.3
KAN17	Caldwell West	1.41	348		Pn	19 43 12.0	-0.2
KAN17					Sb	19 43 30.5	-0.4
T35A	Sooner Cattle	1.43	29		Pn	19 43 12.1	-0.5
T35A					Sb	19 43 31.7	0.0
WMOK	Wichita Mounta	1.47	231		Pn	19 43 12.6	-0.5
KAN09	Caldwell North	1.48	353		Pn	19 43 13.1	-0.1
KAN09					Sb	19 43 33.1	+0.1
U32A	Winter Ranch,	1.49	299		Pn	19 43 12.9	-0.4
U32A					Sb	19 43 33.2	0.0
OK035	E0210 Rd and N	1.49	315		Pn	19 43 12.8	-0.5
KAN05	Bluff City Nor	1.49	345		Pn	19 43 13.6	+0.3
KAN05					Sn	19 43 32.9	-0.2
KAN01	Argonia South	1.51	349		Pn	19 43 13.7	0.0
KAN01					Sb	19 43 34.2	+0.2
KAN10	Anthony SW Sta	1.56	339		Pn	19 43 12.4	-1.9
NOKA	Waynoka	1.58	308		Pn	19 43 14.9	+0.3
KAN06	Argonia West S	1.62	347		Pn	19 43 15.0	-0.1
KAN08	Anthony NE Sta	1.62	343		Pn	19 43 15.5	+0.3
KAN08				IAmb_Lg		19 43 37.3	
	comp=Z,10nm,0.9s						
LOOK	Love County	1.68	174		Pn	19 43 15.0	-1.0
ELIS	Ellis County	1.69	284		Pn	19 43 15.5	-0.7
X37A	Clayton	1.98	122	Pn	Pn	19 43 21.1	+1.0
RLO	Rose Lookout	1.98	75	Pn	Pn	19 43 20.1	-0.1
Z35A	Perchaven, San	2.33	177	Pn	Pn	19 43 23.6	-1.4
U38A	Gravette	2.55	72		Pn	19 43 27.2	-0.8
HHAR	Hobbs	2.87	77	Pn	Pn	19 43 31.2	-1.1
TREL	Terrell	3.12	159		Pn	19 43 35.5	-0.3
MIAR	Mount Ida	3.32	109		Pn	19 43 38.6	+0.1
S39A	Bolivar	3.84	57		Pn	19 43 44.4	-1.3
S39A				IAmb_Lg		19 44 46.6	
	comp=Z,3.2nm,0.8s						
X40A	Basin Creek Fa	3.92	106		Pn	19 43 45.9	-0.8
X40A				IAmb_Lg		19 44 56.9	
	comp=Z,7.2nm,0.8s						
POST	Post	4.28	234	Pn	Pn	19 43 49.1	-2.6
FCAR	Ozark Folk Cen	4.29	86		Pn	19 43 49.3	-2.5
MGMO	Mountain Grove	4.39	69	Pn	Pn	19 43 48.5	-4.7
RTBA	Rita Blanca	4.40	282		Pn	19 43 51.9	-1.5
BRDY	Brady	4.57	198		Pn	19 43 52.4	-3.4
BRDY				IAmb_Lg		19 45 14.7	
	comp=Z,5.6nm,0.9s						
R40A	Maddies Statio	4.87	56	Pn	Pn	19 43 56.9	-2.9
R40A				IAmb_Lg		19 45 26.3	
	comp=Z,4.6nm,1.3s						
CCM	Cathedral Cave	5.47	62	Pn	Pn	19 44 06.6	-1.5
P40A	Paris	5.73	46	Pn	Pn	19 44 10.2	-1.4
PBMO	Poplar Bluff	5.74	77	Pn	Pn	19 44 08.5	-3.2
T25A	Trinidad	5.85	287	Pn	Pn	19 44 11.4	-2.1

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*NEIC **01** 19:45:28.8±2.8, 17°.16S±0°.06×170°.12W±0°.06, h10km±2km, mb4.3/4, Error ellipse: s-maj=11.4km s-min=7.5km az=40.0*
*IDC **01** 19:45:33.5±2.7, 17°.07S×170°.95W, h0km, mb3.8/3, mbtmp3.8/3, MS3.0/1, Error ellipse: s-maj=222.1km s-min=31.2km az=155.0*
ISC 01 19:45:37.7±1.2**, 17°.7S**±0°.2×**170°.7W**±0°.2**, h35**km**, n11,** σ**0.s96**/10**, mb3.9**/5**, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	1.54	151		Pn	19 46 02.6	-0.1
NIUE				Sn	Sn	19 46 21.6	+0.1
AFI	Afiamalu	3.92	345		Pn	19 46 24.8	-11
AFI				Sn	Sn	19 47 04.6	-16
RAR	Rarotonga	10.88	110	LR	LR	19 51 44.8	
	comp=Z,77nm,18.0s,baz=175,slow=33						
CTAO	Charters Tower	40.70	260	P	P	19 53 16.0	+0.7
WB0	Warramunga Arr	51.84	259	P	P	19 54 42.2	-0.7
WB0				IAmb	IAmb	19 54 43.9	
	comp=Z,2.9nm,0.8s						
WRAB	Tennant Creek	51.86	258	P	P	19 54 41.4	-1.5
WRAB				IAmb	IAmb	19 54 49.7	
	comp=Z,5.3nm,1.3s						
WRA	Warramunga Arr	51.87	258	P	P	19 54 41.4	-1.6
WRA	Warramunga Arr	51.87	258	P	P	19 54 43.3	+0.2
	comp=Z,1.1nm,0.8s,baz=94,slow=6.5,SNR=13						
	comp=Z,1.1nm,0.8s						
ASAR	Alice Springs	51.89	254	P	P	19 54 43.9	+0.6
	comp=Z,1.2nm,0.9s,baz=94,slow=7.2,SNR=11						
	comp=Z,1.2nm,0.9s						
TXAR	Lajitas Array	79.79	55	P	P	19 57 43.0	+0.2
	comp=Z,0.5nm,0.9s,baz=203,slow=8.8,SNR=4.1						
	comp=Z,0.5nm,0.9s						
BRTR	Keskin Array B	149.57	321	PKPbc	PKPbc	20 05 23.7	-0.2
	comp=Z,0.8nm,0.8s,baz=148,slow=1.9,SNR=5.0						

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*NEIC **01** 19:49:12.8±2.2, 36°.460N±0°.010×98°.78W±0°.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.1km az=295.0*
TUL 01 19:49:13.7±2.2**, 36°.46N**±0°.01×**98°.81W**±0°.02**, h6**km±2km**, ML2.8, mb_Lg2.5**/22(NEIC)**, ML2.7**/16(NEIC)**, Error ellipse: s-maj=2.4km s-min=1.1km az=118.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	West end E0370	0.06	74		Pg	19 49 15.7	+0.5
OK038				Sg	Sg	19 49 17.2	+0.9
U32A	Winter Ranch,	0.18	242	Pg	Pg	19 49 17.5	+0.3
U32A				Sg	Sg	19 49 20.1	+0.5
U32A				IAML		19 49 20.7	
	comp=N,2µm,0.2s						
U32A				IAML		19 49 20.9	
	comp=E,2µm,0.1s						
NOKA	Waynoka	0.20	330	Pg	Pg	19 49 18.2	+0.5
NOKA				Sg	Sg	19 49 21.5	+1.1
OK035	E0210 Rd and N	0.26	18	Pg	Pg	19 49 19.2	+0.5
OK035				Sg	Sg	19 49 21.6	-0.6
OK035				IAML		19 49 27.5	
	comp=E,1µm,0.2s						
OK032	Salt Plains WL	0.59	54		Pg	19 49 25.1	+0.1
OK032				Sg	Sg	19 49 33.3	+0.6
OK032				IAML		19 49 37.3	
	comp=E,475nm,0.2s						
OK032				IAML		19 49 38.0	
	comp=E,419nm,0.2s						
ELIS	Ellis County	0.63	231		Pg	19 49 26.0	+0.1

ELIS				Sg	Sg	19 49 34.7	+0.6
ELIS				IAML		19 49 36.2	
	comp=E,427nm,0.2s						
ELIS				IAML		19 49 39.9	
	comp=N,484nm,0.2s						
CROK	Carrier	0.67	86		Pg	19 49 26.0	-0.5
CROK				Sg	Sg	19 49 34.2	-0.9
CROK				IAML		19 49 49.4	
	comp=N,316nm,0.2s						
CSTR	Hydro, Custer	0.82	173	Pg	Pg	19 49 28.4	-1.0
CSTR				Sg	Sg	19 49 38.4	-1.7
KAN14	Manchester OK	0.84	54	Pg	Pg	19 49 29.4	-0.4
GC02	Grant County #	0.85	63	Pg	Pg	19 49 29.6	-0.6
GC02				Sg	Sg	19 49 40.8	-0.5
KAN10	Anthony SW Sta	0.87	41	Pg	Pg	19 49 29.4	-1.1
KAN10				Sg	Sg	19 49 39.8	-2.0
KAN05	Bluff City Nor	0.99	49	Pg	Pg	19 49 32.3	-0.4
KAN05					Pb	19 49 32.5	-0.7
KAN05				Sg	Sg	19 49 43.3	-2.2
KAN05				IAmb_Lg		19 49 46.5	
	comp=Z,52nm,0.9s						
KAN08	Anthony NE Sta	1.02	41	Pg	Pg	19 49 32.4	-0.8
KAN08					Sg	19 49 43.8	-2.6
KAN17	Caldwell West	1.02	55	Pg	Pg	19 49 32.7	-0.5
KAN17				Sg	Sg	19 49 43.4	-3.1
KAN12	Harper NE Stat	1.06	38		Pg	19 49 33.2	-0.8
KAN01	Argonia South	1.09	50	Pg	Pg	19 49 33.6	-1.0
KAN06	Argonia West S	1.09	44	Pg	Pg	19 49 33.4	-1.2
KAN09	Caldwell North	1.17	54	Pg	Pg	19 49 34.6	-1.5
KAN09				IAmb_Lg		19 49 50.8	
	comp=Z,24nm,0.8s						
KAN13	South Haven SW	1.20	62	Pg	Pg	19 49 35.2	-1.5
KS21	Milan North St	1.23	48	Pg	Pg	19 49 36.4	-1.0
OK029	Liberty Lake	1.28	121		Pn	19 49 36.2	-2.0
BLOK	Blackwell	1.31	76		Pn	19 49 36.6	-2.0
ADOK	Arcadia Dam	1.42	124		Pn	19 49 38.6	-1.4
OK048	Pawnee Station	1.50	91		Pn	19 49 40.1	-1.1
OK033	Mehan	1.57	105	Pg	Pn	19 49 40.5	-1.6
OK051	E0350 and S346	1.59	88		Pn	19 49 40.3	-2.1
FNO	Franklin	1.66	136		Pn	19 49 40.8	-2.6
OK052	Battle Ridge R	1.69	106		Pn	19 49 41.4	-2.4
QUOK	Quay	1.72	99		Pn	19 49 41.9	-2.3
WMOK	Wichita Mounta	1.72	179		Pn	19 49 43.0	-1.2
OK030	Cody Creek RV	1.72	107		Pn	19 49 42.1	-2.1
SMWD	Samnorwood	1.79	221	Pn	Pn	19 49 43.5	-1.7
SMWD				IAmb_Lg		19 50 09.2	
	comp=Z,8.7nm,0.7s						
T35A	Sooner Cattle	1.90	76	Pn	Pn	19 49 44.2	-2.5
T35A				IAmb_Lg		19 50 15.6	
	comp=Z,21nm,1.0s						
R32A	Long Quarter,	1.96	2	Pn	Pn	19 49 45.8	-1.7
DEOK	Depew	1.97	108	Pn	Pn	19 49 43.7	-3.9
W35A	Tecumseh	2.04	129	Pn	Pn	19 49 46.1	-2.6
CBKS	Cedar Bluff	2.46	343		Pn	19 49 52.0	-2.4
WTFS	Witchita Falls	2.71	174		Pn	19 49 55.8	-2.0
LOOK	Love County	2.80	151	Pn	Pn	19 49 56.3	-2.8
AMTX	Amarillo	2.82	237		Pn	19 49 57.3	-2.1
RLO	Rose Lookout	3.07	94		Pn	19 50 00.6	-2.2
RTBA	Rita Blanca	3.17	271		Pn	19 50 02.0	-2.3
RTBA				IAmb_Lg		19 50 54.9	
	comp=Z,8.8nm,1.1s						
DKNS	Dickens	3.29	213	Pn	Pn	19 50 02.5	-3.3
DKNS				IAmb_Lg		19 50 56.2	
	comp=Z,7.4nm,0.8s						
APMT	Aspermont	3.31	199	Pn	Pn	19 50 03.1	-3.0
APMT				IAmb_Lg		19 51 02.9	
	comp=Z,8.3nm,0.8s						
X37A	Clayton	3.37	123	Pn	Pn	19 50 03.2	-3.7
FW03	Perrin-Whitt E	3.47	170	Pn	Pn	19 50 06.0	-2.2
FW03				IAmb_Lg		19 51 06.3	
	comp=Z,11nm,0.7s						
U38A	Gravette	3.56	89	IAmb_Lg		19 51 13.6	
	comp=Z,8.7nm,0.7s						
PLPT	Palo Pinto	3.66	174	IAmb_Lg		19 51 08.2	
	comp=Z,5.6nm,1.0s						
HHAR	Hobbs	3.93	91		Pn	19 50 11.8	-2.9
KSCO	Kaye Shedlock'	3.96	311		Pn	19 50 12.4	-2.6
KSCO				IAmb_Lg		19 51 29.2	
	comp=Z,15nm,1.1s						
POST	Post	4.05	214		Pn	19 50 14.8	-1.5
MSTX	Muleshoe	4.09	234	IAmb_Lg		19 51 25.6	
	comp=Z,11nm,0.8s						
T25A	Trinidad	4.55	280		Pn	19 50 17.5	-5.8
T25A				IAmb_Lg		19 51 40.1	
	comp=Z,8.7nm,0.7s						
S39A	Bolivar	4.55	73	Pn	Pn	19 50 18.5	-4.7
WHTX	Lake Whitney,	4.60	166	Pn	Pn	19 50 20.6	-3.1
MIAR	Mount Ida	4.68	113		Pn	19 50 21.2	-3.7
SGCY	Sterling City	4.93	204	IAmb_Lg		19 51 56.5	
	comp=Z,12nm,0.9s						
OGNE	Ogallala	5.14	332	Pn	Pn	19 50 27.9	-3.4
BRDY	Brady	5.17	182	Pn	Pn	19 50 28.3	-3.3
P38A	Dawn	5.22	51	Pn	Pn	19 50 29.4	-3.0
X40A	Basin Creek Fa	5.26	110	Pn	Pn	19 50 29.4	-3.4
MGMO	Mountain Grove	5.29	81	Pn	Pn	19 50 29.9	-3.5
ODSA	Odessa	5.32	217	Pn	Pn	19 50 30.7	-3.1
FCAR	Ozark Folk Cen	5.44	94	Pn	Pn	19 50 32.1	-3.2
SDCO	Great Sand Dun	5.50	285	Pn	Pn	19 50 33.1	-3.4
R40A	Maddies Statio	5.52	69	Pn	Pn	19 50 33.9	-2.5
CCM	Cathedral Cave	6.24	73	IAmb_Lg		19 52 47.5	
	comp=Z,9.5nm,0.8s						

*IDC **01** 20:02:16.9±0.7, 44.°49S×82.°01W, h0^{km}, mb4.4/9, mbtmp4.3/11, ML3.8/2, MS4.1/26, Error ellipse: s-maj=25.9km s-min=18.8km az=115.0*

*NEIC **01** 20:02:18.6±1.9, 44.°42S±0.°04×81.°9W±0.°1, h10^{km}±1^{km}, mb4.6/59, Error ellipse: s-maj=14.3km s-min=5.2km az=247.0*

*GCMT **01** 20:02:18.5±0.4, 44.°28S±0.°03×82.°28W±0.°03, h19^{km}±1^{km}, MW4.9/82, Moment Tensor Solution. s24,c27; s82,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.17±.19; $M_{\theta\theta}$-0.18±.11; $M_{\phi\phi}$2.35±.14; $M_{r\theta}$1.35±.30; $M_{\theta\phi}$-0.74±.08; $M_{\phi r}$-1.31±.23; Best double couple: $M_0$3.03600×10^{16} NP1:ϕ_s326.00000°, δ65.00000°, λ-109.00000°. NP2: ϕ_s185.00000°, δ31.00000°, λ-55.00000°. Principal axes: T 3.0760, Plg18.0000°, Azm70.0000°; N -0.0840, Plg17.0000°, Azm334.0000°; P -2.9950, Plg65.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 20:02:18.3±0.5, **44.°40S**±0.°07×**81.°89W**±0.°06, **h10**^{km}, **n130**, σ**1.^{s}17**/102, **mb4.6**/34, **MS4.0**/26, **5D**, **West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GO07	Milladeo Hill,	6.10	81	Pn	Pn	20 03 48.6	+0.2
GO07				Sn	Sn	20 04 58.4	+0.2
LL07	Hotel Espejo d	6.31	79	Pn	Pn	20 03 51.1	-0.2
AY02	Valle Explorad	6.47	112		Pn	20 03 54.7	+1.2
AY01	Puyuhuapi	6.62	93		Pn	20 03 56.2	+0.6
LL05	Los Muermos	6.87	67	Pn	Pn	20 03 58.6	-0.3
COYC	Coyhaique	7.06	103	Pn	Pn	20 04 01.6	0.0
LL01	San Ignacio de	7.20	77	Pn	Pn	20 04 02.2	-1.3
LL02	Futaleuf	7.37	84		Pn	20 04 05.3	-0.6
LL02					Sn	20 05 29.6	0.0
GO08	Villa O'Higgin	7.62	126		Pn	20 04 10.4	+1.0
GO06	Curarrehue	9.13	62	Pn	Pn	20 04 28.8	-1.3
PLCA	Paso Flores	9.13	70	Pn	Pn	20 04 29.7	-0.5
PLCA	Paso Flores	9.13	70	Pn	Pn	20 04 29.9	-0.2
	0.2nm,0.3s,baz=239,slow=14,SNR=8.8						
PLCA				LR	LR	20 07 38.5	
	comp=Z,2µm,19.7s,baz=300,slow=35						
	6.5nm,1.0s						
H03S1	Juan Fernandez	10.79	13	T	T	20 16 06.7	
	baz=190,slow=73,SNR=297						
H03S2	Juan Fernandez	10.79	13	T	T	20 16 16.3	
	baz=190,slow=73,SNR=303						
H03S3	Juan Fernandez	10.81	13	T	T	20 16 11.9	
	baz=190,slow=73,SNR=415						
BO02	Sierra Bellavi	12.85	46	Pn	Pn	20 05 18.7	-2.4
MT09	Talagante	13.56	42	Pn	Pn	20 05 29.0	-1.8
USHA	Ushuaia	13.58	145	LR	LR	20 09 38.1	
	comp=Z,622nm,18.8s,baz=54,slow=33						
ROC1	El Roble	14.20	40		Pn	20 05 39.0	-0.7
PEL	Peldehue	14.22	42		Pn	20 05 38.6	-1.2
MT08	Bocatoma Ro	14.30	44		Pn	20 05 39.9	-1.1
VA03	San Esteban	14.60	41		Pn	20 05 44.0	-0.9
CO02	Combarbal	15.71	37	Pn	Pn	20 05 58.9	-0.9
CO03	El Pedregal	16.16	37		Pn	20 06 06.1	+0.5
TRQA	Tornquist	16.25	74		Pn	20 06 06.7	+0.1
TRQA				IAmb	IAmb	20 06 16.1	
	comp=Z,46nm,1.0s						
ZON	Zonda	16.50	43	P	P	20 06 12.3	-0.2
CFA	Coronel Fontan	16.67	45	Pn	Pn	20 06 13.8	+1.8
	comp=Z,0.3nm,0.3s,baz=215,slow=11,SNR=16						
CFA				LR	LR	20 11 35.4	
	comp=Z,844nm,21.8s,baz=190,slow=33						
	comp=Z,12nm,0.9s						
GO04	Tololo Observa	16.70	35	P	P	20 06 15.3	+0.4
GO04				IAmb	IAmb	20 06 18.5	
	comp=Z,62nm,1.1s						
CO01	Juntas del Tor	17.16	37	P	P	20 06 20.5	+0.4
LCO	Las Campanas	17.76	34	P	Pn	20 06 24.0	-1.8
AC05	El Transito	18.09	35	P	Pn	20 06 27.5	-2.3
GO03	Copiap	19.20	33	P	P	20 06 43.5	+1.1
GO03				IAmb	IAmb	20 06 51.6	
	comp=Z,43nm,1.3s						
AC01	Pan de Azucar	20.37	30	P	P	20 06 55.4	+0.4
AC01				IAmb	IAmb	20 06 59.5	
	comp=Z,55nm,1.2s						
GO02	Mina Guanaco	21.64	32	P	P	20 07 10.3	+1.2
GO02				IAmb	IAmb	20 07 13.6	
	comp=Z,39nm,1.2s						
PB15	IPOC Station P	23.47	30	P	P	20 07 28.9	+0.7
PB05	IPOC Station P	23.54	28	P	P	20 07 29.8	+1.0
PB05				IAmb	IAmb	20 07 33.4	
	comp=Z,26nm,1.3s						
PB04	IPOC Station P	24.04	28	P	P	20 07 34.3	+0.6
PB04				IAmb	IAmb	20 07 37.7	
	comp=Z,28nm,1.1s						
AF01	San Pedro de A	24.18	32	P	P	20 07 35.1	0.0
LVC	Limon Verde	24.22	30	P	P	20 07 36.4	+0.8
LVC				IAmb	IAmb	20 07 41.0	
	comp=Z,14nm,0.9s						
LVC	Limon Verde	24.22	30	LR	LR	20 14 52.0	
	comp=Z,276nm,20.7s,baz=208,slow=31						
PB07	IPOC Station P	24.69	28	P	P	20 07 40.8	+1.1
PB07				IAmb	IAmb	20 07 47.6	
	comp=Z,25nm,1.3s						
ITQB	Itaqui	24.83	62	P	P	20 07 42.6	+2.0
PB09	IPOC Station P	24.85	29	P	P	20 07 42.3	+1.3
PB02	IPOC Station P	25.07	27	P	P	20 07 43.7	+0.8
PB02				IAmb	IAmb	20 07 49.1	
	comp=Z,15nm,1.0s						
PATCX	Punta Patache	25.45	26	P	P	20 07 47.0	+0.6
PLTB	Pedras Altas	25.45	70	P	P	20 07 47.1	+0.7
PLTB				IAmb	IAmb	20 07 51.9	
	comp=Z,24nm,1.2s						
PB01	IPOC Station P	25.46	28	P	P	20 07 47.2	+0.7
PB01				IAmb	IAmb	20 07 52.1	
	comp=Z,18nm,1.2s						
TA01	Diego Aracena	25.68	26	P	P	20 07 48.6	+0.2
TA01				IAmb	IAmb	20 07 52.4	
	comp=Z,22nm,1.1s						
PB11	IPOC Station P	26.60	26	P	P	20 07 57.4	+0.4
PB11				IAmb	IAmb	20 08 05.8	
	comp=Z,13nm,1.0s						
CPUP	Villa Florida	26.79	56	P	P	20 07 59.2	+0.8
CPUP				IAmb	IAmb	20 08 04.7	
	comp=Z,11nm,1.0s						
CPUP	Villa Florida	26.79	56	P	P	20 07 59.9	+1.5
	comp=Z,9.3nm,1.0s,baz=231,slow=11,SNR=10						
CPUP				LR	LR	20 18 46.6	
	comp=Z,1µm,18.1s,baz=220,slow=37						
	comp=Z,9.3nm,1.0s						
GO01	Chusmiza	26.84	27	P	P	20 07 59.6	+0.2
RPN	Rapa Nui	27.97	299	LR	LR	20 15 59.7	
	comp=Z,534nm,20.9s,baz=104,slow=30						
PB16	IPOC Station P	27.98	26	P	P	20 08 09.5	-0.3
PB16				IAmb	IAmb	20 08 32.0	
	comp=Z,14nm,1.3s						
VA02	Isla de Pascua	28.01	299	P	P	20 08 08.7	-0.6
LPAZ	La Paz	30.34	27	P	P	20 08 30.8	0.0
LPAZ				IAmb	IAmb	20 08 34.9	
	comp=Z,13nm,1.1s						
LPAZ	La Paz	30.34	27	P	P	20 08 33.4	+2.6
	comp=Z,8.0nm,1.1s,baz=180,slow=7.8,SNR=14						
	comp=Z,8.0nm,1.1s						
AQDB	Aquidauana	32.27	51	P	P	20 08 47.5	+0.5
AQDB				IAmb	IAmb	20 08 50.0	
	comp=Z,9.9nm,1.0s						
NNA	Nana	32.59	9	LR	LR	20 18 28.4	
	comp=Z,195nm,21.0s,baz=192,slow=30						
SIV	San Ignacio	33.35	38	LR	LR	20 22 10.3	
	comp=Z,195nm,21.1s,baz=182,slow=36						
PTLB	Pontes e Lacer	34.71	41	P	P	20 09 08.8	+0.5
PTLB				IAmb	IAmb	20 09 12.2	
	comp=Z,13nm,1.2s						
ETMB	Extrema	37.03	26	P	P	20 09 29.2	+0.9
ETMB				IAmb	IAmb	20 09 31.9	
	comp=Z,13nm,1.2s						
ATAH	Atahualpa	37.24	6	LR	LR	20 21 02.0	
	comp=Z,173nm,19.1s,baz=206,slow=30						
BELA	Belgrano 2	38.34	166	P	P	20 09 38.2	-0.6
SAML	Samuel	38.87	30	P	P	20 09 44.4	+0.6
BDFB	Brasilia	40.52	56	P	P	20 09 58.1	+0.4
BDFB				IAmb	IAmb	20 10 00.8	
	comp=Z,20nm,1.2s						
BDFB	Brasilia	40.52	56	P	P	20 09 58.3	+0.6
	comp=Z,14nm,1.1s,baz=239,slow=8.6,SNR=7.7						
BDFB				LR	LR	20 27 14.3	
	comp=Z,543nm,18.4s,baz=206,slow=37						
	comp=Z,14nm,1.1s						
VNA3	Neumayer Olymp	43.07	153	⇓P	P	20 10 18.4	+0.5
	comp=Z,14nm,0.8s						
VNA1	Neumayer--Stat	43.56	152	P	P	20 10 22.6	+0.9
	comp=Z,12nm,0.9s						
VNA2	Neumayer--Watz	43.83	153	⇓P	P	20 10 24.6	+0.7
	comp=Z,11nm,0.7s,baz=273,slow=8.0						
SNAA	Sanae	45.21	154	P	P	20 10 34.5	-0.6
SNAA				IAmb	IAmb	20 10 36.5	
	comp=Z,8.8nm,1.0s						
SNAA	Sanae	45.21	154	⇓P	P	20 10 35.4	+0.3
	comp=Z,117nm,0.8s						
SNAA	Sanae	45.21	154	P	P	20 10 35.1	0.0
	comp=Z,4.7nm,0.8s,baz=251,slow=6.6,SNR=16						
	comp=Z,4.7nm,0.8s						
QSPA	South Pole Qui	45.84	180	P	P	20 10 40.1	-0.2
QSPA				IAmb	IAmb	20 10 41.9	
	comp=Z,14nm,1.4s						
TROLL	Troll, Antarti	46.82	155	⇓P	P	20 10 48.1	+0.3
	comp=Z,184nm,0.7s						
ROSC	El Rosal	49.48	10	LR	LR	20 29 18.3	
	comp=Z,334nm,21.3s,baz=240,slow=33						
VNDA	Vanda	52.30	194	P	P	20 11 29.3	0.0
VNDA	Vanda	52.30	194	P	P	20 11 30.2	+0.9
	comp=Z,2.6nm,0.9s,baz=132,slow=4.6,SNR=7.8						
VNDA				LR	LR	20 30 53.9	
	comp=Z,124nm,18.2s,baz=123,slow=33						
	comp=Z,2.6nm,0.9s						
ELIB	Princess Elisa	52.86	158	dP	P	20 11 32.6	-1.2
	comp=Z,4.8nm,0.8s						
SDV	Santo Domingo	54.00	14	P	P	20 11 41.5	-1.3
SDV	Santo Domingo	54.00	14	LR	LR	20 32 26.4	
	comp=Z,115nm,21.9s,baz=210,slow=33						
JTS	Las Juntas de	54.50	356	LR	LR	20 29 47.4	
	comp=Z,72nm,19.6s,baz=158,slow=30						
BAUV	El Baul	54.55	17	P	P	20 11 46.5	0.0
RCBR	Riachuelo	55.54	60	LR	LR	20 36 24.2	
	comp=Z,259nm,18.2s,baz=231,slow=37						
MDP	Montagnes des	55.85	36	LR	LR	20 34 23.2	
	comp=Z,130nm,20.9s,baz=232,slow=34						
TBI	Tubuai	58.25	267	eLR	LR	20 29 05.7	
	comp=Z,1µm,28.2s						
PPT2	Papeete2	62.03	272	eS	S	20 21 10.4	+6.6
	comp=Z,71nm,30.2s						
PPT2				eSS	SS	20 25 04.2	-2.0
	comp=Z,37nm,23.2s						
PPT2				eLR	LR	20 30 43.7	
	comp=Z,199nm,25.8s						
PPT2				eLR	LR	20 30 49.7	
	comp=Z,135nm,25.8s						
PPT	Papeete	62.04	272	LR	LR	20 31 29.0	
	comp=Z,121nm,22.0s,baz=356,slow=28						
MAW	Mawson	65.19	166	LR	LR	20 41 15.9	
	comp=Z,64nm,18.1s,baz=222,slow=36						
RAR	Rarotonga	66.97	262	LR	LR	20 33 54.2	
	comp=Z,245nm,20.6s,baz=138,slow=28						
RPZ	Rata Peaks	70.87	227	LR	LR	20 36 24.0	
	comp=Z,238nm,21.8s,baz=111,slow=29						
URZ	Urewera	71.20	235	LR	LR	20 37 32.5	
	comp=Z,140nm,19.1s,baz=222,slow=30						
INZ	Inchbonnie	71.34	228	P	P	20 13 36.4	-1.7
TXAR	Lajitas Array	76.03	341		P	20 14 06.1	+0.4
TXAR	Lajitas Array	76.03	341	P	P	20 14 06.8	+1.1
	comp=Z,1.0nm,1.0s,baz=171,slow=8.9,SNR=7.1						
	comp=Z,1.0nm,1.0s						
SUR	Sutherland	76.22	122	LR	LR	20 41 14.2	
	comp=Z,69nm,19.7s,baz=222,slow=31						
SAND	Sanderson	76.27	342	P	P	20 14 06.7	-0.2
SAND				IAmb	IAmb	20 14 08.8	
	comp=Z,4.1nm,1.1s						
WMOK	Wichita Mounta	80.25	346	P	P	20 14 28.8	-0.1
WMOK				IAmb	IAmb	20 14 43.2	
	comp=Z,6.7nm,1.4s						
BOSA	Boshof	81.59	122	LR	LR	20 46 46.6	
	comp=Z,61nm,18.2s,baz=218,slow=33						
ANMO	Albuquerque	82.07	340		P	20 14 38.4	-0.4
ANMO				IAmb	IAmb	20 14 52.3	
	comp=Z,5.1nm,1.1s						
TSUM	Tsumeb	83.32	110	LR	LR	20 53 03.7	
	comp=Z,42nm,18.0s,baz=333,slow=37						
LBTB	Lobatse	84.39	120	LR	LR	20 45 01.0	
	comp=Z,50nm,20.7s,baz=227,slow=30						
DBIC	Dimbokro	85.45	76	P	P	20 14 56.7	+0.3
DBIC	Dimbokro	85.45	76	P	P	20 14 57.5	+1.1
	comp=Z,4.0nm,1.0s,baz=211,slow=5.7,SNR=4.7						
	comp=Z,4.0nm,1.0s						
CCUT	Cedar City	86.40	335	P	P	20 15 01.2	+0.5
WCT	Wildcat Mounta	86.72	333	P	P	20 15 03.0	+0.9
WCT				IAmb	IAmb	20 15 05.1	
	comp=Z,7.7nm,1.4s						
PRN	Pahroc Range	86.78	334	P	P	20 15 03.5	+0.9
GMN	Gold Mountain	87.39	332	P	P	20 15 05.6	0.0
R11B	Troy Canyon, C	87.81	334	P	P	20 15 08.2	+0.7
R11B				IAmb	IAmb	20 15 09.4	
	comp=Z,4.4nm,1.2s						
SPR3	Spring Creek 3	88.03	335	P	P	20 15 09.2	+0.5
SPR3				IAmb	IAmb	20 15 23.7	
	comp=Z,5.4nm,1.3s						
NLU	North Lily Min	88.26	337		P	20 15 10.4	+0.7
BSUT	Blindstream Ca	88.45	338	P	P	20 15 10.9	+0.2
DUG	Dugway, Tooele	88.69	337	P	P	20 15 11.9	+0.3
NVAR	Mina Array Bea	88.77	332	P	P	20 15 12.9	+0.8
	comp=Z,1.0nm,0.8s,baz=182,slow=6.1,SNR=6.0						
	comp=Z,1.0nm,0.8s						
DZM	Mont Dzumac	89.14	240	eLR	LR	20 43 50.3	
	comp=Z,287nm,24.2s						
HWUT	Hardware Ranch	89.66	338		P	20 15 15.8	-0.4
HWUT				IAmb	IAmb	20 15 17.9	
	comp=Z,8.2nm,1.2s						
PDAR	Pinedale Array	90.24	340	P	P	20 15 19.3	+0.4
	comp=Z,1.6nm,0.9s,baz=158,slow=4.8,SNR=8.7						
	comp=Z,1.6nm,0.9s						
LSZ	Lusaka	93.15	115	LR	LR	20 52 09.9	
	comp=Z,93nm,20.0s,baz=232,slow=32						
H11S2	WAKE ISLAND Hy	117.91	269	T	T	22 29 41.3	
	baz=133,slow=76,SNR=12						
H11S1	WAKE ISLAND Hy	117.92	269	T	T	22 29 54.3	
	baz=133,slow=76,SNR=7.4						
H11S3	WAKE ISLAND Hy	117.92	269	T	T	22 29 42.6	
	baz=133,slow=76,SNR=7.8						
H11N3	WAKE ISLAND Hy	118.56	270	T	T	22 30 26.7	
	baz=130,slow=75,SNR=4.8						
H11N1	WAKE ISLAND Hy	118.57	270	T	T	22 30 24.3	
	baz=130,slow=75,SNR=9.4						
H11N2	WAKE ISLAND Hy	118.57	270	T	T	22 30 30.1	
	baz=130,slow=75,SNR=5.5						
ILAR	Eielson Array	120.00	333	PKP	PKPdf	20 21 06.9	-1.0
	comp=Z,0.7nm,0.8s,baz=169,slow=1.8,SNR=8.3						
GERES	GERESS Array B	124.72	53	PKP	PKPdf	20 21 16.3	-1.3
	comp=Z,0.7nm,0.7s,baz=297,slow=4.3,SNR=3.9						
MJAR	Matsushiro Arr	148.75	270	PKPbc	PKPbc	20 22 04.3	-1.3
	comp=Z,1.5nm,0.8s,baz=144,slow=2.9,SNR=3.3						
CMAR	Chiang Mai Arr	154.13	182	PKPbc	PKPbc	20 22 17.6	-0.9
	comp=Z,0.4nm,0.3s,baz=212,slow=3.2,SNR=6.1						
PZH	PanZhiHua	161.91	191	PKP	PKPdf	20 22 18.5	-1.4
ZALV	Zalesovo Beam	167.10	37	PKP	PKPdf	20 22 21.3	-2.1
	comp=Z,0.2nm,0.3s,baz=354,slow=1.4,SNR=4.1						
ZALV				PKPab	PKPab	20 23 28.2	+0.5
	comp=Z,0.2nm,0.4s,baz=255,slow=3.9,SNR=3.7						

*SNET **01** 20:04:21.4±2.1, 13.°00N×90.°02W, h20^{km}, ML4.2*

*CATAC **01** 20:04:22.2±0.7, 13.°04N×89.°98W, h8^{km}±4^{km}, ML4.2*

*IDC **01** 20:04:23.2±1.7, 13.°85N×89.°36W, h0^{km}, mb4.0/5, mbtmp4.0/8, ML3.3/3, MS3.6/1, Error ellipse: s-maj=50.0km s-min=21.7km az=35.0*

*NEIC **01** 20:04:24.9±1.6, 13.°16N±0.°06×89.°89W±0.°05, h20^{km}±7^{km}, mb4.0/12, Error ellipse: s-maj=9.2km s-min=5.8km az=204.0*

*GCG **01** 20:04:25.5±0.7, 13.°24N×89.°97W, h92^{km}±43^{km}, MD4.1*

ISC 01 20:04:22.1±1.6, **13.°08N**±0.°04×**89.°91W**±0.°03, **h9**^{km}±10^{km}, **n128**, σ**0.^{s}98**/152, **mb4.1**/8, **3D**, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.70	55	eP	Pn	20 04 37.7	-0.5
LALI				eS	Sn	20 04 47.6	-1.5
LALI	Alcalda de L	0.70	55	i P	Pn	20 04 37.8	-0.4
LALI				IAML		20 04 55.3	
	comp=Z,2µm,1.0s						
JAYA	Jayaque - finc	0.72	38	⇓eP	Pn	20 04 38.2	-0.4
JAYA				eS	Sn	20 04 48.5	-1.5
JAYA	Jayaque - finc	0.72	38	i P	Pn	20 04 38.3	-0.4
JAYA				i S	Sn	20 04 49.5	-0.4
JAYA				IAML		20 04 52.0	
	comp=Z,22µm,1.0s						
CEVE	Cerro Verde	0.79	20	eP	Pb	20 04 39.2	+1.0
CEVE				eS	Sn	20 04 50.9	-0.8
CEVE	Cerro Verde	0.79	20	i P	Pb	20 04 39.2	+1.0
CEVE				IAML		20 04 54.1	
	comp=Z,9µm,1.0s						
SBLS	San Blas	0.80	20	eP	Pb	20 04 39.2	+0.8
NUBE	Las Nubes	0.82	9	⇓eP	Pb	20 04 39.3	+0.6
NUBE				eS	Sb	20 04 50.0	+0.1
NUBE	Las Nubes	0.82	9	i P	Pb	20 04 39.3	+0.6
NUBE				i S	Sb	20 04 51.1	+1.1
NUBE				IAML		20 04 53.4	
	comp=Z,5µm,1.0s						
SNJE	San Jose	0.83	20	eP	Pb	20 04 39.7	+0.8
ITCA	Escuela Especi	0.85	46	i P	Pn	20 04 40.1	-0.2
ITCA				IAML		20 04 57.9	
	comp=Z,11µm,1.0s						
RTR	El Retiro	0.85	17	eP	Pb	20 04 39.9	+0.7
MAGS	Ministerio de	0.85	45	i P	Pn	20 04 40.0	-0.4
MAGS				IAML		20 05 14.3	
	comp=Z,5µm,1.0s						
PMON	Piamonte	0.85	43	i P	Pn	20 04 40.1	-0.3
PMON				i S	Sn	20 04 55.1	+2.1
PMON				IAML		20 04 55.7	
	comp=Z,6µm,1.0s						
CEDA	San Andres	0.87	35	eP	Pb	20 04 40.2	+0.8
CEDA				eS	Sb	20 04 52.1	+0.9
CEDA	San Andres	0.87	35	i P	Pn	20 04 40.7	+0.1
CEDA				i S	Sn	20 04 53.6	+0.1
CEDA				IAML		20 05 02.4	
	comp=Z,15µm,1.0s						
BOQS	Boqueron	0.89	43	eP	Pn	20 04 40.8	-0.2
BOQS				eS	Sn	20 04 53.6	-0.6
SNET	Serv Nac Est T	0.89	47		Pb	20 04 40.5	+0.7
SNET	Serv Nac Est T	0.89	47	eP	Pb	20 04 40.4	+0.7
SNET	Serv Nac Est T	0.89	47	i P	Pn	20 04 40.6	-0.3
SNET				IAML		20 04 56.3	
	comp=Z,8µm,1.0s						
UEES	Universidad Ev	0.91	46	eP	Pb	20 04 40.6	+0.6
UEES	Universidad Ev	0.91	46	i P	Pn	20 04 40.9	-0.2
UEES				IAML		20 04 57.3	
	comp=Z,3µm,1.0s						
LOMA	Loma Larga	0.91	52	⇓eP	Pn	20 04 41.0	-0.1
LOMA				eS	Sn	20 04 54.2	-0.3
LOMA	Loma Larga	0.91	52	i P	Pn	20 04 41.1	-0.1
LOMA				IAML		20 04 56.3	
	comp=Z,6µm,1.0s						
LOAL	Lomas de Alarc	0.92	8	i P	Pb	20 04 41.2	+0.9
LOAL				IAML		20 05 05.7	
	comp=Z,8µm,1.0s						
SLOZ	Alcaldia de Sa	0.95	7	eP	Pb	20 04 41.3	+0.6
IGN	Direccin Gen	0.95	49	i P	Pn	20 04 41.7	0.0
IGN				IAML		20 05 01.7	
	comp=Z,15µm,1.0s						
UNIC	Universidad Ca	0.96	21	i P	Pb	20 04 41.6	+0.6
UNIC				IAML		20 05 00.8	
	comp=Z,1µm,1.0s						
UDBS	Universidad Do	0.96	49	i P	Pn	20 04 41.9	0.0
UDBS				IAML		20 04 59.6	
	comp=Z,4µm,1.0s						
QUEZ	Alcaldia de Qu	0.97	39	i P	Pb	20 04 41.8	+0.7
QUEZ				i S	Sn	20 04 55.9	0.0

QUEZ IAML 20 05 01.5
comp=Z,15µm,1.0s
LFRS El Faro 0.98 57 *e*P **Pn 20 04 42.1 -0.1**
LFRS *e*S **Sn 20 04 56.1 -0.1**
LFU La Fuente 1.02 49 *e*P **Pn 20 04 42.7 +0.1**
LFU *e*S **Sn 20 04 56.5 -0.6**
SJTE Alcalda de S 1.02 59 *e*P **Pn 20 04 42.6 0.0**
SJTE *e*S **Sn 20 04 57.6 +0.4**
SJTE Alcalda de S 1.02 59 *i* P **Pn 20 04 42.7 0.0**
SJTE IAML 20 04 43.3
comp=Z,5µm,1.0s
SJTE *i* S **Sn 20 04 57.9 +0.7**
LBRS Las Brisas 1.06 52 *e*P **Pn 20 04 43.7 +0.4**
LBRS *e*S **Sn 20 04 58.6 +0.4**
COEG Centro de Oper 1.13 62 *e*P **Pn 20 04 44.3 +0.1**
COEG Centro de Oper 1.13 62 *i* P **Pn 20 04 44.4 +0.1**
COEG IAML 20 05 06.3
comp=Z,3µm,1.0s
PAVA Las Pavas 1.13 56 *e*P **Pn 20 04 44.5 +0.2**
PAVA Las Pavas 1.13 56 *i* P **Pn 20 04 44.8 +0.6**
PAVA IAML 20 05 06.9
comp=Z,6µm,1.0s
SNVI San Vicente 1.17 63 *e*P **Pn 20 04 45.1 +0.4**
SNVI *e*S **Sn 20 05 01.6 +0.7**
TECO Alcaldia de Te 1.19 67 *e*P **Pb 20 04 44.8 0.0**
TECO Alcaldia de Te 1.19 67 *i* P **Pb 20 04 44.9 +0.1**
TECO IAML 20 04 45.1
comp=Z,1µm,1.0s
UESV Universidad de 1.22 63 *i* P **Pn 20 04 45.8 +0.4**
UESV IAML 20 05 08.9
comp=Z,2µm,1.0s
JUAM Asuncion Mita 1.26 9 *i* P **Pg 20 04 46.4 +0.1**
JUAM *i* S **Sn 20 05 03.8 +0.7**
JUAM IAML 20 05 06.1
comp=Z,5µm,1.0s
SCLA Alcaldia de Sa 1.30 62 *e*P **Pn 20 04 47.1 +0.6**
SCLA Alcaldia de Sa 1.30 62 *i* P **Pn 20 04 47.5 +1.0**
SCLA IAML 20 05 18.6
comp=Z,930nm,1.0s
ALJI Alcalda de J 1.32 79 *e*P **Pg 20 04 46.2 -1.3**
COEB Comit de Eme 1.40 73 *e*P **Pn 20 04 48.1 +0.2**
MTO3 Montecristo 1.41 22 Pn 20 04 48.8 +0.6
MTO3 Sn **Sb 20 05 06.7 -0.3**
MTO3 Montecristo 1.41 22 *e*P **Pn 20 04 48.6 +0.4**
MTO3 Montecristo 1.41 22 *i* P **Pn 20 04 48.8 +0.6**
MTO3 IAML 20 05 13.0
comp=Z,1µm,1.0s
PQSS Presa 15 de Se 1.42 67 *e*P **Pb 20 04 48.7 0.0**
LLGN La Laguna 1.42 41 *i* P **Pg 20 04 49.0 -0.5**
LLGN IAML 20 05 10.9
comp=Z,2µm,1.0s
TECA Tecapa 1.43 73 *e*P **Pn 20 04 48.5 +0.2**
PCG Pacaya 1.47 332 *i* P **Pn 20 04 49.8 +0.7**
PCG *i* S **Sb 20 05 09.1 +0.4**
NBG Las Nubes 1.56 344 *i* P **Pn 20 04 51.4 +1.2**
NBG *i* S **Sn 20 05 10.7 0.0**
ESQI Esquipulas 1.57 20 Pn 20 04 50.3 +0.1
ESQI Sn **Sn 20 05 11.0 +0.2**
ESQI Esquipulas 1.57 20 *i* P **Pg 20 04 52.0 -0.2**
ESQI IAML 20 05 16.0
comp=Z,3µm,1.0s
PACA Pacayal 1.59 76 *e*P **Pn 20 04 51.0 +0.4**
PACA Pacayal 1.59 76 *i* P **Pb 20 04 51.7 0.0**
PACA *i* S **Sg 20 05 13.1 -0.1**
PACA IAML 20 05 22.8
comp=Z,12µm,1.0s
JUCU Jucuar¡n 1.62 84 *e*P **Pn 20 04 51.3 +0.3**
FUG Fuego 3 1.63 326 *i* P **Pn 20 04 51.3 +0.1**
LCND La Caada 1.98 83 *e*P **Pn 20 04 56.3 +0.5**
LCND La Caada 1.98 83 *i* P **Pn 20 04 56.5 +0.7**
LCND IAML 20 05 24.8
comp=Z,900nm,1.0s
SARH Santa Rosa de 2.02 33 *i* P **Pb 20 04 58.1 -0.9**
CNCH Conchagua 2.03 84 *e*P **Pn 20 04 57.1 +0.5**
CNCH Conchagua 2.03 84 *i* P **Pn 20 04 57.1 +0.5**
CNCH IAML 20 05 29.9
comp=Z,2µm,1.0s
AMPH Amapala 2.20 84 *i* P **Pn 20 04 59.4 +0.6**
RTAL Retalhuleu 2.25 310 Pn 20 05 01.1 +1.5
RTAL Sn **Sn 20 05 24.6 -2.9**
STG3 Santiaguito 3, 2.29 315 *i* P **Pn 20 05 00.5 +0.3**
CSGN Cosiguina Volc 2.29 92 *i* P **Pn 20 05 00.1 0.0**
CSGN IAML 20 05 39.4
comp=Z,2µm,1.0s
COMHN El Horno 2.65 59 *i* P **Pn 20 05 06.8 +1.5**
HUEH Huehuetenango 2.71 325 Pn 20 05 06.7 +0.7
TGUH Tegucigalpa,Un 2.74 69 Pn **Pn 20 05 06.7 +0.3**
CRIN San Cristobal 2.81 97 Pn 20 05 08.0 +0.7
CRIN San Cristobal 2.81 97 *i* P **Pn 20 05 10.2 +2.9**
CRIN IAML 20 05 46.5
comp=Z,930nm,1.0s
PKGN Cerro Pekin 2.88 98 *i* P **Pn 20 05 09.1 +0.8**
PKGN IAML 20 05 51.1
comp=Z,1µm,1.0s
POLN Al Sur del Vol 3.05 98 *i* P **Pn 20 05 10.3 -0.2**
YUSH Yuscaran 3.10 73 *i* P **Pn 20 05 13.2 +1.8**
ROCN Rota Cerro Neg 3.13 100 *i* P **Pn 20 05 13.1 +1.4**
ROCN IAML 20 05 57.5
comp=Z,210nm,1.0s
CNGA Al SSO del Vol 3.18 100 *i* P **Pn 20 05 13.1 +0.7**
CNGN Cerro Negro 3.18 100 Pn 20 05 12.3 -0.1
CNGN Cerro Negro 3.18 100 *i* P **Pn 20 05 14.6 +2.2**
CNGN IAML 20 05 59.3
comp=Z,270nm,1.0s
SOMN Somoto 3.22 84 *i* P **Pn 20 05 15.1 +2.1**
SOMN IAML 20 05 18.0
comp=Z,73nm,1.0s
COPN Copaltepe 3.36 105 *i* P **Pn 20 05 15.6 +0.8**
COPN IAML 20 06 04.1
comp=Z,410nm,1.0s
YORHN Yoro 3.38 53 *i* P **Pn 20 05 16.5 +1.4**
MOM2 El Cardon 3.40 100 *i* P **Pn 20 05 16.7 +1.4**
MOM2 IAML 20 06 12.8
comp=Z,140nm,1.0s
LIMN Finca el Limon 3.45 90 *i* P **Pn 20 05 17.0 +0.9**
LIMN IAML 20 05 25.6
comp=Z,140nm,1.0s
RCVN Varillal2 3.65 82 *i* P **Pn 20 05 19.5 +0.6**
RCVN IAML 20 05 22.7
comp=Z,2µm,1.0s
PETF Flores 3.81 1 Pn **Pn 20 05 23.1 +2.0**
CCIG Comitan 3.84 326 Pn **Pn 20 05 22.2 +0.5**
MATN Matagalpa 3.88 92 Pn 20 05 22.1 +0.1
MATN Matagalpa 3.88 92 *i* P **Pn 20 05 23.5 +1.4**
MATN IAML 20 05 40.0
comp=Z,54nm,1.0s
ACON Acoyapa 4.75 103 Pn **Pn 20 05 33.7 -0.3**
HZTE Horizontes, Gu 4.83 119 Pn 20 05 36.0 +0.9
ORTG Ortega, Santa 5.12 121 Pn 20 05 41.2 +2.1
ESPN Las Esperanzas 5.54 99 Pn **Pn 20 05 45.3 +0.5**
JTS Las Juntas de 5.59 119 Pn **Pn 20 05 46.7 +1.2**
JTS Las Juntas de 5.59 119 Pn **Pn 20 05 48.1 +2.6**
comp=Z,1.3nm,0.3s,baz=298,slow=22,SNR=2.2
JTS Sn **Sn 20 06 48.7 -1.2**
comp=Z,0.3nm,0.3s,baz=249,slow=22,SNR=1.0
JTS Lg Lg 20 07 14.1
comp=Z,1.8nm,0.3s,baz=96,slow=22,SNR=2.2
comp=Z,5.1nm,0.5s
ARE1 Arenal 1 5.71 117 Pn **Pn 20 05 50.4 +3.2**
JACO JACO, Garabito 6.17 123 Pn 20 05 54.8 +1.4
CMIG Matias Romero 6.25 310 Pn **Pn 20 05 57.2 +2.7**
comp=Z,1.1nm,0.3s,baz=129,slow=11,SNR=6.7
CMIG Sn **Sn 20 07 05.3 -0.8**
comp=Z,0.7nm,0.3s,baz=295,slow=19,SNR=1.7
CMIG LR LR 20 07 57.9
comp=Z,21nm,21.4s,baz=28,slow=34
comp=Z,9.2nm,0.7s
RIMA Rio Macho 6.78 118 Pn 20 06 03.1 +1.1
TEIG Tepich 7.27 12 Pn **Pn 20 06 08.2 -0.4**
TEIG Tepich 7.27 12 Pn **Pn 20 06 07.8 -0.8**
comp=Z,22nm,0.3s,baz=345,slow=2.8,SNR=16
TEIG Lg Lg 20 07 54.5
comp=Z,7.4nm,0.3s,baz=196,slow=22,SNR=1.5
SRBA San Rafael, Bu 7.47 120 Pn 20 06 13.0 +1.5
SDV Santo Domingo 19.37 100 P 20 08 49.0 +0.5
SDV IAmb IAmb 20 08 51.0
comp=Z,7.0nm,1.1s
SDV Santo Domingo 19.37 100 P **P 20 08 48.6 +0.1**
comp=Z,0.5nm,0.3s,baz=296,slow=3.0,SNR=6.2
comp=Z,3.6nm,0.5s
BRDY Brady 19.96 337 P **P 20 08 53.4 -1.3**
BRDY IAmb IAmb 20 08 55.3
comp=Z,4.1nm,0.8s
TX32 Lajitas Array 20.61 324 P **P 20 09 02.0 +0.2**
TXAR Lajitas Array 20.61 324 P **P 20 09 02.7 +0.9**
TXAR Lajitas Array 20.61 324 P **P 20 09 02.9 +1.0**
comp=Z,2.0nm,0.6s,baz=146,slow=11,SNR=26
comp=Z,2.0nm,0.6s
BAUV El Baul 21.85 99 P **P 20 09 15.7 +0.5**
BAUV IAmb IAmb 20 09 33.1
comp=Z,8.2nm,1.1s
425A Indio Mountain 22.45 324 P **P 20 09 21.2 -0.4**
425A IAmb IAmb 20 09 23.3
comp=Z,3.2nm,0.9s
MNTX Cornudas Mount 23.36 325 P **P 20 09 30.5 -0.5**
121A Cookes Peak, D 25.35 323 P **P 20 09 49.8 +0.1**
121A IAmb IAmb 20 09 51.8
comp=Z,6.2nm,1.0s
P49A Miami Univ. Ec 26.74 9 P **P 20 10 02.0 0.0**
O49A Covington 27.44 9 P **P 20 10 07.2 -1.1**
NV11 Mina Array Sit 35.58 320 P 20 11 19.9 -0.2
NVAR Mina Array Bea 35.67 320 P **P 20 11 21.5 +0.5**
NVAR Mina Array Bea 35.67 320 P **P 20 11 22.2 +1.2**
comp=Z,5.9nm,0.9s,baz=137,slow=8.7,SNR=30
comp=Z,5.9nm,0.9s
KVN Kaiserville 35.92 321 P 20 11 23.6 +0.5
KVN IAmb IAmb 20 11 24.3
comp=Z,3.6nm,1.1s
ULM Lac du Bonnet 37.38 354 P P 20 11 31.4 -3.8
comp=Z,1.3nm,0.5s,baz=174,slow=12,SNR=3.4
comp=Z,1.3nm,0.5s
SCHQ Schefferville 45.41 19 P P 20 12 36.6 -4.4
comp=Z,2.1nm,0.4s,baz=220,slow=5.6,SNR=8.0
comp=Z,2.1nm,0.4s
YKA Yellowknife Ar 52.40 346 P **P 20 13 31.4 -3.0**
comp=Z,0.7nm,0.8s,baz=155,slow=10,SNR=7.5
comp=Z,0.7nm,0.8s
DBIC Dimbokro 83.72 85 LR LR 20 49 02.4
comp=Z,33nm,21.2s,baz=234,slow=32
WRA Warramunga Arr 137.13 255 PKP **PKiKP 20 23 49.7 +1.2**
comp=Z,0.2nm,0.6s,baz=89,slow=2.4,SNR=4.6
CMAR Chiang Mai Arr 147.47 344 PKPbc **PKPdf 20 24 05.8 +0.8**
comp=Z,1.0nm,0.6s,baz=344,slow=3.1,SNR=7.8

IDC 01 20:04:55.2±210.0**, 45.62S**×**58.92W, h0**km**, Error ellipse: s-maj=515.1km s-min=23.0km az=98.0, South Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H10S3	**ASCENSION HYDR**	**52.65**	**60**	H	H	21 10 51.9	
	baz=218,slow=74,SNR=27						
H10S2	**ASCENSION HYDR**	**52.65**	**60**	H	H	21 10 52.1	
	baz=1.5,slow=74,SNR=9.7						
H10N3	**ASCENSION HYDR**	**53.62**	**59**	H	H	21 12 04.8	
	baz=217,slow=75,SNR=25						
H10N1	**ASCENSION HYDR**	**53.62**	**59**	H	H	21 12 05.2	
	baz=217,slow=75,SNR=34						
H10N2	**ASCENSION HYDR**	**53.63**	**59**	H	H	21 12 05.5	
	baz=217,slow=75,SNR=33						
H04S2	**CROZET ISLANDS**	**69.70**	**137**	H	H	21 32 51.4	
	baz=224,slow=75,SNR=7.1						
H04S3	**CROZET ISLANDS**	**69.71**	**137**	H	H	21 32 59.2	
	baz=224,slow=75,SNR=5.9						
H04S1	**CROZET ISLANDS**	**69.72**	**137**	H	H	21 32 59.9	
	baz=224,slow=75,SNR=5.6						

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*NAO **01** 20:16:35.7, 30.47N×48.27E, h33km, mb3.7*
*TEH **01** 20:17:05.9, 34.41N×46.59E, h8km±18km, ML4.5*
*MOS **01** 20:17:05.6±1.2, 34.44N×46.45E, h14km, mb4.5/18, Error ellipse: s-maj=6.6km s-min=4.5km az=106.0*
*AZER **01** 20:17:05.4±0.2, 34.40N×46.58E, h10km, Error ellipse: s-maj=1.6km s-min=1.3km az=105.0*
*IDC **01** 20:17:05.4±0.8, 34.32N×46.53E, h0km, mb4.2/22, mbtmp4.1/32, ML3.7/9, MS3.7/31, Error ellipse: s-maj=17.5km s-min=10.5km az=168.0*
*ISN **01** 20:17:05.3±1.1, 34.37N×46.56E, h10km±13km, ML4.4*
*NEIC **01** 20:17:07.0±2.6, 34.40N±0.05×46.44E±0.05, h10km±1km, mb4.5/58, Error ellipse: s-maj=8.0km s-min=7.0km az=213.0*
*OMAN **01** 20:17:20.1±2.5, 33.06N×46.80E, h10km, mb4.7/27, ms3.6/7, Error ellipse: s-maj=20.4km s-min=16.4km az=32.0*
ISC 01 20:17:06.7±0.5**, 34.36N**±0.03×**46.57E**±0.02**, h11**km±2km**, h12**km**:pP-P, n415,** σ**2.23**/433**, mb4.4**/75**, MS3.6**/25**, 14C-15D, Western Iran**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
IGHG Ghaleghazi 0.03 178 Pg **Pg 20 17 08.4 -0.7**
IGHG Sg **Sg 20 17 10.9 +0.2**
IDHR Dehrash 0.37 336 Pg **Pg 20 17 12.6 -1.7**
IDHR Sg **Sg 20 17 18.1 -1.2**
KCHF Cheshme Sefid, 0.40 102 Pg **Pg 20 17 13.7 -1.0**
KCHF Sg **Sg 20 17 20.5 +0.4**
ILIN Lien 0.65 30 Pg **Pg 20 17 17.6 -1.8**
ILBA Ilam Banvizeh 0.79 202 Pg **Pg 20 17 21.9 -0.2**
IKOM Komasi 0.80 103 Pg **Pg 20 17 21.4 -0.9**
IKOM Sg **Sb 20 17 33.7 0.0**
KGS1 Ghasr-e-Shirin 0.82 281 Pg **Pg 20 17 22.1 -0.5**
IBZA Bozab 1.07 84 Pg **Pb 20 17 25.5 -2.0**
IBZA Sg **Sg 20 17 41.7 +0.2**
IKFM Kafar-mosalman 1.35 128 Pg **Pn 20 17 31.9 +0.5**
SDS1 Sardasht. Az. 1.99 334 Pn **Pb 20 17 42.1 -1.0**
IKRK Kirkuk 2.10 300 *e*Pn **Pb 20 17 43.0 -1.9**
IKRK *e*Sn **Sb 20 18 09.0 -2.0**
IKRK AML AML 20 18 16.9
comp=N,3µm,0.4s
IKRK AML AML 20 18 21.6
comp=E,4µm,0.8s
BHD Baghdad 2.12 240 *e*Pn **Pn 20 17 42.0 0.0**
BHD *e*Sn **Sn 20 18 10.0 +1.7**
HAGD Aghdareh 2.17 77 Pn **Pb 20 17 45.2 -1.0**
MAHB Mahabad 2.50 344 Pn **Pb 20 17 49.2 -2.5**
RAFI Al-Rafai 2.66 188 *e*Pn **Pn 20 17 50.0 +0.6**
RAFI *e*Sn **Sn 20 18 23.0 +1.5**
IRAZ Razeghan 2.95 68 Pn **Pn 20 17 55.8 +2.1**
IHSH Hashtrud 2.99 11 Pn **Pn 20 17 56.0 +1.6**
IAZR Azarshahr 3.35 352 Pn **Pn 20 18 00.9 +1.8**
AMIS Naft Sefid 3.53 139 Pn **Pn 20 18 03.4 +2.0**
ISRB Sarab 3.57 14 Pn **Pn 20 18 04.4 +2.2**
IMHD Mahdasht 3.62 67 Pn **Pn 20 18 04.7 +1.9**
IQOM Qom 3.75 81 Pn **Pn 20 18 06.0 +1.4**
CSN1 Caspian 3.80 32 Pn **Pn 20 18 05.9 +0.8**
ITBZ Tabriz 3.88 355 Pn **Pn 20 18 07.5 +1.1**
IHRS Heris 3.97 5 Pn **Pn 20 18 09.3 +1.6**
IPIR Pirpir 3.98 114 Pn **Pn 20 18 09.1 +1.2**
LHJ2 Lahijan - Gila 3.99 44 Pn **Pn 20 18 09.3 +1.6**
ISHB Shabestar 3.99 349 Pn **Pn 20 18 09.4 +1.4**
IHSB Hasanabad 4.02 73 Pn **Pn 20 18 10.9 +2.7**
JHBN Jahan bin 4.04 121 Pn **Pn 20 18 09.8 +1.1**
QAMS Qamsar 4.06 97 Pn **Pn 20 18 11.6 +2.7**
ZNGN Zangian 4.23 121 Pn **Pn 20 18 12.6 +1.2**
KLST Kelardasht - M 4.25 58 Pn **Pn 20 18 12.9 +1.3**
IKLH Kolahrood 4.30 103 Pn **Pn 20 18 14.7 +2.5**
IVRN Varamin 4.30 80 Pn **Pn 20 18 14.0 +1.9**
IMRD Marand 4.40 351 Pn **Pn 20 18 16.0 +2.4**
GAS1 Astara - Iran 4.42 24 Pn **Pn 20 18 15.2 +1.6**
LRK Lerik 4.51 18 P **Pn 20 18 13.2 -1.8**
SNR=8.2
LRK S **Sn 20 19 06.5 -1.0**
ASTR Astara 4.56 22 P **Pn 20 18 14.1 -1.5**
SNR=4.8
ASTR S **Sn 20 19 07.8 -0.7**
GRMI Germi 4.57 13 Pn **Pn 20 18 17.4 +1.6**
MZPU Pul - Mazandar 4.58 62 Pn **Pn 20 18 18.5 +2.4**
ORD Ordubad 4.58 354 P **Pn 20 18 14.6 -1.4**
SNR=33
ORD S **Sn 20 19 08.7 -0.5**
SIRT Sirnak 4.59 314 Pn **Pn 20 18 16.3 +0.2**
IBRJ Brojen 4.63 121 Pn **Pn 20 18 17.4 +0.5**
KRSH Karshahi 4.63 93 Pn **Pn 20 18 18.6 +1.9**
IDMV Damavand 4.65 73 Pn **Pn 20 18 18.9 +1.8**
ISFB Sefidab 4.69 88 Pn **Pn 20 18 18.9 +1.4**
LKRN Lenkeran, Azer 4.69 22 P **Pn 20 18 15.9 -1.5**
SNR=7.7
LKRN S **Sn 20 19 11.1 -0.7**
YRD Yardimli 4.74 16 P **Pn 20 18 16.5 -1.8**
SNR=8.6
YRD S **Sn 20 19 12.3 -1.0**
GEVA Gevas 4.86 325 Pn **Pn 20 18 20.1 +0.3**
NAX Nakhchivan 4.88 350 P **Pn 20 18 18.6 -1.5**
SNR=15
NAX S **Sn 20 19 16.0 -0.6**
NAX Nakhchivan 4.88 350 P **Pn 20 18 18.6 -1.5**
IGAR Gharneh 4.98 112 Pn **Pn 20 18 23.1 +1.5**
IZEF Zefreh 5.02 105 Pn **Pn 20 18 24.1 +1.8**
IPRN Peran 5.08 67 Pn **Pn 20 18 25.3 +2.5**
GLBA Clilabad 5.09 16 P **Pn 20 18 21.3 -1.6**
SNR=28
GLBA S **Sn 20 19 20.9 -0.7**
SBZ Shahbuz 5.09 351 P **Pn 20 18 21.6 -1.4**
SNR=32
SBZ S **Sn 20 19 21.2 -0.7**
QRD Qoradiz 5.13 7 P **Pn 20 18 21.9 -1.5**
SNR=11
QRD S **Sn 20 19 22.1 -0.4**
MAKU Maku 5.21 344 Pn **Pn 20 18 27.0 +2.3**
IFIR Firoozkooh 5.24 74 Pn **Pn 20 18 27.0 +1.9**
ILAS Lasjerd 5.35 77 Pn **Pn 20 18 28.2 +1.5**
KLNJ Kolanjah 5.39 127 Pn **Pn 20 18 27.6 +0.2**
BLQ Beylaqan 5.41 8 P **Pn 20 18 25.8 -1.5**
SNR=17
BLQ S **Sn 20 19 29.0 -0.5**
IRAM Ramesheh 5.50 116 Pn **Pn 20 18 29.6 +0.8**
HYR Heyderabad 5.52 346 P **Pn 20 18 27.6 -1.3**
SNR=20
HYR S **Sn 20 19 31.9 -0.5**
MARD Mardin 5.55 304 Pn **Pn 20 18 29.3 0.0**
GURO Guroymak-BITLI 5.55 320 Pn **Pn 20 18 29.9 +0.5**
SAAT Saatly 5.69 15 P **Pn 20 18 30.4 -0.7**
SNR=4.3
SAAT S **Sn 20 19 37.1 +0.8**
AGDM Agdam 5.76 4 P **Pn 20 18 30.7 -1.4**
SNR=5.3
AGDM S **Sn 20 19 37.5 -0.6**
BRDA Brd 5.91 5 P **Pn 20 18 33.0 -1.2**
SNR=9.6
BRDA S **Sn 20 19 41.4 -0.5**
GNI Garni 5.96 346 Pn **Pn 20 18 35.6 +0.6**
GNI Garni 5.96 346 Pn Pn 20 18 39.8 +4.8
GNI Garni 5.96 346 *i* P Pn 20 18 41.6 +6.6
GNI Garni 5.96 346 Pn Pn 20 18 40.0 +5.0
comp=E,0.5nm,0.3s,baz=42,slow=18,SNR=2.9
GNI Lg Lg 20 20 22.5
comp=E,0.8nm,0.3s,baz=238,slow=22,SNR=7.1
comp=E,1.9nm,0.4s
ANAR Anarak 6.08 99 Pn **Pn 20 18 37.1 +0.6**
GANJ Ganja 6.28 358 P **Pn 20 18 37.9 -1.4**
SNR=9.5
GANJ S **Sn 20 19 50.6 -0.3**
GANJ Ganja 6.28 358 P **Pn 20 18 37.8 -1.4**
GDB GEDABAY 6.38 354 P **Pn 20 18 39.2 -1.6**
SNR=4.2
GDB S **Sn 20 19 53.1 -0.6**
GBS Qobustan 6.45 16 P **Pn 20 18 40.1 -1.5**
SNR=4.9
GBS S **Sn 20 19 54.6 -0.6**
ISAD Sadrabad 6.45 110 Pn **Pn 20 18 42.6 +0.7**
IML Ismayilli 6.55 11 P **Pn 20 18 41.5 -1.5**
IML S **Sn 20 19 57.0 -0.6**
PQL Pirkuli 6.62 13 P **Pn 20 18 42.3 -1.7**
QBL Gabala 6.65 8 P **Pn 20 18 43.1 -1.2**
QZX Qazax, Azerbai 6.75 352 P **Pn 20 18 44.3 -1.4**
SNR=11
QZX S **Sn 20 20 02.0 -0.7**
ATGJ Altiaghaj 6.76 15 P **Pn 20 18 44.2 -1.6**
KARS Kars 6.84 337 Pn **Pn 20 18 45.0 -2.1**
KARS Kars 6.84 337 P **Pn 20 18 45.0 -2.1**
ICHK Chekchek 6.89 106 Pn **Pn 20 18 48.6 +0.7**
SHI Shiraz 6.90 131 Pn **Pn 20 18 49.2 +1.3**
XNQ Khinaliq 6.92 10 P **Pn 20 18 45.9 -2.2**
SIZA Siyzn 6.96 15 P **Pn 20 18 46.7 -1.9**
QUBA Quba, Azerbaij 7.15 12 P **Pn 20 18 49.0 -2.2**
DSBU Dashti - Bushe 7.20 145 Pn **Pn 20 18 53.3 +1.3**
QSAR Qusar 7.27 10 P **Pn 20 18 51.2 -1.6**
KOPT Kop Dagi 7.44 321 Pn **Pn 20 18 54.0 -1.4**
AKH Akhalkalaki 7.45 342 Pn **Pn 20 18 53.7 -1.7**
AKH Akhalkalaki 7.45 342 P **Pn 20 18 53.7 -1.7**
QIR1 Qir 8.06 135 Pn **Pn 20 19 03.9 +0.1**
GAZ Gaziantep 8.11 293 Pn **Pn 20 19 02.0 -2.3**
ARPR Arapgir-MALATY 8.12 308 Pn 20 19 04.9 +0.2
JHRM Jahrom 8.36 132 Pn **Pn 20 19 08.3 +0.4**
ASF Jabal al Asfar 8.39 258 P **Pn 20 19 09.0 +0.8**
ASF S **Sn 20 20 42.4 -0.5**
ASF Jabal al Asfar 8.39 258 Pn **Pn 20 19 08.8 +0.6**
comp=E,1.0nm,0.3s,baz=111,slow=3.0,SNR=19
ASF Sn **Sn 20 20 39.3 -3.6**
comp=E,2.1nm,0.3s,baz=353,slow=5.7,SNR=1.7
ASF Lg Lg 20 21 31.4
comp=E,2.9nm,0.3s,baz=303,slow=20,SNR=2.0
comp=E,2.5nm,0.3s
MRVT Maraveh tapeh 8.39 64 Pn **Pn 20 19 10.4 +2.2**
TPRV Parvadeh(Tabas 8.54 96 Pn **Pn 20 19 12.1 +1.8**
ONI Oni 8.57 344 Pn 20 19 11.0 +0.3
ONI Oni 8.57 344 P **Pn 20 19 11.0 +0.3**
ZEI Tsey 8.67 347 *e*P Pn 20 19 20.8 +8.6
ZEI pmax pmax
comp=Z,8.0nm,1.2s
TKDS Koohdasht(Taba 8.80 92 Pn **Pn 20 19 15.6 +1.7**
HSUJ Al Zarqa 8.98 258 P **Pn 20 19 18.0 +1.7**
NATI Neve Ativ 9.08 266 P **Pn 20 19 19.3 +1.7**
GEM Giv'at Ha'Em 9.15 266 P **Pn 20 19 19.6 +1.0**
SHMJ Saham 9.16 263 P **Pn 20 19 20.4 +1.6**
SBZV Sabzevar 9.24 74 Pn **Pn 20 19 22.2 +2.1**
SHMA Al-Shehemyia 9.29 155 P **Pn 20 19 24.5 +4.0**
SHMA S Sn 20 20 53.4 -12
NEUR Neytrino 9.39 342 *i* P Pn 20 19 28.3 +6.3
MMAI Mount Meron Ar 9.40 265 Pn **Pn 20 19 22.6 +0.5**
comp=Z,2.0nm,0.3s,baz=76,slow=17,SNR=9.4
MMAI Lg Lg 20 22 01.9
comp=Z,2.7nm,0.3s,baz=94,slow=39,SNR=2.7
MMAI LR LR 20 23 25.0
comp=Z,194nm,18.6s,baz=44,slow=40
comp=Z,0.9nm,0.3s
QRNJ Al-Qirein 9.41 261 P **Pn 20 19 26.3 +4.1**
HMDT Nahal Hemdat 9.48 260 P **Pn 20 19 25.2 +2.1**
HNTI Hanita 9.58 266 P **Pn 20 19 26.5 +2.0**
BLGI Bet Lehem HaGe 9.63 263 P **Pn 20 19 28.4 +3.2**
BNN Bunyan 9.71 301 Pn **Pn 20 19 26.0 -0.5**
KARJ KARJ 9.74 254 P **Pn 20 19 27.6 +0.9**
GHAJ Ghor Haditha 9.74 255 Pn **Pn 20 19 27.0 +0.3**
GHAJ Ghor Haditha 9.74 255 P **Pn 20 19 29.8 +3.1**
KBZ Khabaz 9.78 344 *i* P Pn 20 19 32.3 +5.1
KBZ Khabaz 9.78 344 Pn **Pn 20 19 30.9 +3.7**
comp=Z,1.2nm,0.9s,baz=314,slow=18,SNR=2.0
KBZ LR LR 20 23 28.3
comp=Z,303nm,22.0s,baz=151,slow=39
DSI Dead Sea 9.80 257 P **Pn 20 19 30.4 +2.8**
OFRI `Ofer 9.83 263 P **Pn 20 19 30.8 +2.9**
SHA1 Shidzhatmaz 9.85 343 *e*P Pn 20 19 34.4 +6.1
SLTI Sal'it 9.88 261 P **Pn 20 19 30.6 +2.0**
TOKA Tokat 9.99 309 Pn **Pn 20 19 29.9 -0.3**
GEYT Alibeck 10.00 66 Pn 20 19 32.3 +2.1
GEYT Alibeck 10.00 66 P **Pn 20 19 32.3 +2.1**
GEYT Alibeck 10.00 66 Pn **Pn 20 19 31.9 +1.7**
comp=Z,0.5nm,0.3s,baz=240,slow=13,SNR=7.8
GEYT LR LR 20 23 57.0
comp=Z,491nm,21.7s,baz=272,slow=41
comp=Z,2.1nm,0.6s
GYA0B ALIBECK ARRAY 10.00 66 Pn **Pn 20 19 31.9 +1.6**
KVAR Kislovodsk Arr 10.04 344 LR LR 20 23 01.3
comp=Z,632nm,20.4s,baz=86,slow=35
KIV Kislovodsk 10.04 344 Pn **Pn 20 19 31.0 +0.1**
KIV Kislovodsk 10.04 344 *e*P Pn 20 19 36.2 +5.3
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,71nm,10.0s
YTIR Yattir 10.08 256 P **Pn 20 19 34.2 +2.7**
AMAZ Amatzia 10.19 257 P **Pn 20 19 36.6 +3.7**
ZFRI Zfri 10.34 252 P **Pn 20 19 39.3 +4.4**
TRNA Turayna 10.40 156 P **Pn 20 19 36.1 +0.2**
SNR=10
TRNA S Sn 20 21 15.9 -17
PRNI Paran 10.56 251 P Pn 20 19 43.0 +5.0
IKOO Kooshah 10.57 97 Pn **Pn 20 19 40.1 +1.7**
SOC Sochi 10.64 332 *e*P Pn 20 19 46.7 +7.7
SOC *e* 20 21 41.0
SOC MLR MLR
comp=Z,239nm,15.0s
HRFI Mount Harif 10.68 249 P **Pn 20 19 44.3 +4.7**
KZIT Kziot 10.82 255 P **Pn 20 19 44.7 +3.2**
MBRI Mt Berech 10.88 248 P **Pn 20 19 46.0 +3.6**
EIL Elat 10.91 248 P **Pn 20 19 44.9 +2.2**
EIL Elat 10.91 248 Pn **Pn 20 19 41.7 -1.1**

comp=Z,0.4nm,0.3s,baz=42,slow=16,SNR=2.1
EIL Lg Lg 20 23 01.5
comp=Z,0.5nm,0.3s,baz=328,slow=23,SNR=2.9
EIL LR LR 20 25 08.3
comp=Z,287nm,19.7s,baz=66,slow=44
comp=Z,2.7nm,0.8s
CSS Mathiatis 10.92 277 Pn **Pn 20 19 42.9 +0.1**
BRTR Keskin Array B 11.63 301 Pn **Pn 20 19 51.2 -1.5**
BRTR Keskin Array B 11.63 301 Pn **Pn 20 19 56.7 +4.0**
comp=Z,0.1nm,0.3s,baz=119,slow=10.0,SNR=8.6
BRTR LR LR 20 24 51.0
comp=Z,484nm,18.4s,baz=114,slow=40
comp=Z,1.7nm,0.8s
SHME Shamm 11.70 132 *i* Pn **Pn 20 19 51.3 -2.4**
SNR=9.6
SHME Sn **Sn 20 21 56.1 -8.2**
SHME Shamm 11.70 132 P **Pn 20 19 52.2 -1.4**
SNR=9.6
SHME S **Sn 20 21 57.5 -6.8**
ILGA Ilgaz 12.17 307 Pn **Pn 20 19 59.5 -0.6**
AJN Ajban 12.20 141 *i* Pn **Pn 20 20 00.3 -0.2**
SNR=8.4
AJN Ajban 12.20 141 P **Pn 20 20 00.5 +0.1**
SNR=13
AJN S **Sn 20 22 10.8 -5.7**
MASF Masafi 12.22 135 P **Pn 20 19 60.0 -0.7**
SNR=69
MASF S Sn 20 22 03.8 -13
NAZ Nazwa, Dubai 12.23 137 *i* Pn **Pn 20 19 59.6 -1.2**
SNR=61
NAZ Nazwa, Dubai 12.23 137 P **Pn 20 20 01.0 +0.2**
SNR=62
NAZ S **Sn 20 22 09.4 -7.7**
SNR=11
MSFE Esma-Masafi 12.23 135 *i* Pn **Pn 20 19 58.4 -2.5**
SNR=69
ANTO Ankara 12.29 301 Pn **Pn 20 19 59.8 -1.8**
ANTO Ankara 12.29 301 P **Pn 20 19 59.8 -1.8**
ASUD Al Ashush, Dub 12.33 140 *i* Pn **Pn 20 20 02.1 -0.2**
SNR=16
ASUD Al Ashush, Dub 12.33 140 P **Pn 20 20 02.5 +0.3**
SNR=58
ASUD S **Sn 20 22 13.2 -6.5**
SNR=11
FAQ Al Faqa, Dubai 12.38 138 *i* Pn **Pn 20 20 03.0 +0.1**
SNR=40
FAQ Al Faqa, Dubai 12.38 138 P **Pn 20 20 02.2 -0.7**
SNR=40
FAQ S **Sn 20 22 13.4 -7.5**
SNR=5.8
UOSS Minazif 12.57 136 Pn **Pn 20 20 03.2 -2.3**
UOSS Minazif 12.57 136 *i* Pn **Pn 20 20 03.3 -2.2**
SNR=33
UOSS Minazif 12.57 136 P **Pn 20 20 04.4 -1.1**
UOSS S **Sn 20 22 17.1 -8.4**
SNR=10.0
HATD Hatta, Dubai 12.62 136 *i* Pn **Pn 20 20 04.6 -1.6**
SNR=51
HATD Hatta, Dubai 12.62 136 P **Pn 20 20 05.5 -0.7**
SNR=51
HATD P **Pn 20 20 05.5 -0.7**
SNR=51
HATD S Sn 20 22 16.6 -10
HATD S Sn 20 22 16.6 -10
ASHO Ashiyiah 12.69 137 *i* Pn **Pn 20 20 05.7 -1.5**
SNR=131
ASHO Ashiyiah 12.69 137 P **Pn 20 20 06.2 -0.9**
SNR=131
ASHO S Sn 20 22 19.8 -8.7
SNR=9.4
MZR Muzera 12.83 150 P **Pn 20 20 08.9 -0.2**
SNR=6.5
MZR S Sn 20 22 23.4 -8.6
SNR=5.8
JASK Jask - Hormozg 12.93 128 P **Pn 20 20 08.3 -2.0**
SNR=5.5
JASK S Sn 20 22 24.1 -10
HRA Herat 12.95 85 Pn **Pn 20 20 11.3 +0.4**
ALNE Al Ain 13.02 140 *i* Pn **Pn 20 20 10.4 -1.3**
SNR=38
ALNE Al Ain 13.02 140 P **Pn 20 20 10.6 -1.1**
SNR=107
ALNE S **Sn 20 22 29.6 -6.9**
SNR=7.8
SOHO SOHO 13.39 137 *i* Pn **Pn 20 20 13.9 -2.7**
SNR=17
SOHO SOHO 13.39 137 P **Pn 20 20 14.8 -1.8**
SOHO S Sn 20 22 34.4 -11
MDUB Mudurnu 13.65 301 Pn **Pn 20 20 15.6 -4.6**
ELL Elmali 13.77 285 Pn **Pn 20 20 19.0 -3.0**
ELL Elmali 13.77 285 P **Pn 20 20 19.0 -3.0**
BORA Eskisehir 13.98 298 Pn **Pn 20 20 23.6 -1.2**
ARQ Araqi 14.01 139 P **Pn 20 20 23.7 -1.6**
SNR=59
ARQ S Sn 20 22 51.1 -10
HOQ Hoqain 14.26 136 P **Pn 20 20 25.2 -3.4**
SNR=11
HOQ P **Pn 20 20 25.2 -3.4**
SNR=11
HOQ S Sn 20 22 55.6 -11
HOQ S Sn 20 22 55.6 -11
BSY Bisya 14.86 138 P **Pn 20 20 34.0 -2.8**
SNR=48
BSY S Sn 20 23 11.5 -10
MANT Manisa 15.07 291 Pn **Pn 20 20 38.6 -1.2**
SMDO Samad 15.09 135 P **Pn 20 20 37.0 -3.0**
SNR=32
SMDO P **Pn 20 20 37.0 -3.0**
SNR=32
SMDO S Sn 20 23 16.3 -11
SNR=7.1
SMDO S Sn 20 23 16.3 -11
SNR=7.1
ARG Arkhangelos 15.18 282 P **Pn 20 20 40.7 -0.2**
ARG Arkhangelos 15.18 282 P **Pn 20 20 40.7 -0.2**
ARG pmax pmax
comp=Z,160nm,1.2s
WSAR Wadi Sarin 15.30 133 P **Pn 20 20 39.3 -3.4**
SNR=31
WSAR S Sn 20 23 19.7 -12
WSAR Wadi Sarin 15.30 133 Pn **Pn 20 20 39.5 -3.2**
comp=Z,9.3nm,0.3s,baz=322,slow=9.8,SNR=13.3
WSAR Sn Sn 20 23 19.1 -13
comp=Z,0.4nm,0.3s,baz=145,slow=18,SNR=2.6
WSAR LR LR 20 27 18.7
comp=Z,259nm,20.2s,baz=3.5,slow=40
JMDO Jabal Madar 15.66 137 P **Pn 20 20 44.2 -3.2**
SNR=22
JMDO S **Sn 20 23 31.4 -9.5**
KARP Karpathos 15.96 280 P **Pn 20 20 49.6 -1.6**
WBK Wadi Bani Khal 15.98 134 P **Pn 20 20 48.1 -3.4**
SNR=6.8
WBK P **Pn 20 20 48.1 -3.4**
SNR=6.8
WBK S Sn 20 23 35.6 -13
WBK S Sn 20 23 35.6 -13
JLN Jalan Bani Buh 16.59 134 P **Pn 20 20 56.4 -2.9**
SNR=18
JLN P **Pn 20 20 56.4 -2.9**
SNR=18
JLN S **Sn 20 23 53.9 -10**
JLN S **Sn 20 23 53.9 -10**
MHTO MHTO 16.70 140 P **Pn 20 20 58.2 -2.5**
SNR=23
MHTO S Sn 20 23 54.3 -12
VRH Novokhopyorsk 17.20 350 *e*P **Pn 20 21 05.9 -0.8**
VRH pmax pmax
comp=Z,10.0nm,0.8s
TIRR Tirgusor 17.24 311 P **Pn 20 21 05.4 -2.0**
TIRR IAmb IAmb 20 21 20.2
comp=Z,69nm,1.3s
TIRR Tirgusor 17.24 311 P **Pn 20 21 05.4 -2.0**
TIRR pmax pmax
comp=Z,69nm,1.3s
VORD Divnogorie 17.42 344 *e*P **P 20 21 09.5 -1.3**
VORD pmax pmax
comp=Z,20nm,0.7s
WHFO Wadi Hawf 17.59 157 P **Pn 20 21 08.5 -3.4**
SNR=11
WHFO S Sn 20 24 10.2 -18
VSR Storozhevoye 17.69 345 *e*P **Pn 20 21 11.8 -1.0**
VSR pmax pmax
comp=Z,30nm,0.7s
IDI Anoyia 17.82 279 P **Pn 20 21 13.1 -1.6**
IDI IAmb IAmb 20 21 39.5
comp=Z,60nm,1.4s
IDI Anoyia 17.82 279 P **P 20 21 16.2 +0.8**
comp=Z,0.9nm,0.3s,baz=73,slow=17,SNR=3.5
comp=Z,13nm,0.8s
ABKAR Akbulak array 17.87 30 **Pn 20 21 14.2 -1.0**
ABKAR Akbulak array 17.87 30 P **Pn 20 21 14.1 -1.1**
ABTO Aybut 17.97 159 P **Pn 20 21 13.4 -3.2**
SNR=16
ABTO P **Pn 20 21 13.4 -3.2**
SNR=16
ABTO S Sn 20 24 23.4 -14
ABTO S Sn 20 24 23.4 -14
BELG Belogornoye 18.04 2 *i* P **P 20 21 16.9 -0.7**
BELG Belogornoye 18.04 2 P **P 20 21 19.1 +1.4**
comp=Z,0.6nm,0.3s,baz=53,slow=5.6,SNR=5.7
BELG LR LR 20 29 37.0
comp=Z,153nm,18.1s,baz=135,slow=42
comp=Z,8.8nm,0.7s
VORR Voronezh 18.11 345 *e*P **Pn 20 21 15.6 -2.4**
VORR pmax pmax
comp=Z,50nm,0.4s
AKTO Aktyubinsk 18.12 24 P **P 20 21 20.4 +1.9**
comp=Z,0.3nm,0.3s,baz=230,slow=9.9,SNR=3.6
AKTO LR LR 20 30 12.8
comp=Z,162nm,19.5s,baz=218,slow=43
comp=Z,2.4nm,0.6s
RBK Rabkut 18.12 156 P **Pn 20 21 15.6 -2.9**
SNR=9.4
RBK S Sn 20 24 28.3 -12
SHAO Shalim 18.17 151 P **Pn 20 21 17.2 -1.8**
SNR=15
SHAO S Sn 20 24 30.9 -11
DMTO DMTO 18.19 154 P **Pn 20 21 16.3 -2.9**
SNR=20
DMTO P **Pn 20 21 16.3 -2.9**
SNR=20
DMTO S Sn 20 24 29.2 -13
DMTO S Sn 20 24 29.2 -13
NEHR Nehoiu 19.03 312 ⇑P **Pn 20 21 32.5 +3.2**
LPSR Galich'ya Gora 19.04 346 *e*P **P 20 21 26.8 -1.8**
LPSR pmax pmax
comp=Z,60nm,0.8s
MLR Muntele Rosu 19.28 311 P **Pn 20 21 35.9 +3.5**
comp=Z,1.4nm,0.4s,baz=25,slow=18,SNR=2.5
MLR LR LR 20 30 16.6
comp=Z,109nm,19.1s,baz=110,slow=41
SORM Soroca 19.35 321 ⇓P **P 20 21 31.4 -0.6**
HUMR Humele 19.47 308 ⇓P **Pn 20 21 39.0 +4.5**
TURR Turia 19.50 313 ⇑P **Pn 20 21 35.7 +0.7**
OZUR 19.66 313 ⇓P **Pn 20 21 36.6 -0.3**
BOSR Bodos 19.73 313 ⇑P **Pn 20 21 37.9 +0.2**
VOIR 19.81 310 ⇑P **Pn 20 21 39.0 +0.3**
DOPR Dopca 19.84 312 ⇑P **Pn 20 21 38.6 -0.5**
ARR Arges 20.04 310 ⇓P Pn 20 21 42.4 +0.9
PRAR RASCA 20.06 316 ⇓P Pn 20 21 40.5 -1.1
BTK Batken 20.11 66 P Pn 20 21 41.9 -0.4
BTK Batken 20.11 66 P Pn 20 21 41.9 -0.4
BTK pmax pmax
comp=Z,11nm,1.2s
MDB Medias 20.55 312 ⇓P Pn 20 21 48.2 +0.9
KK31 Karatay Array 20.57 58 Pn 20 21 46.6 -1.0
KK31 Karatay Array 20.57 58 P Pn 20 21 46.6 -1.0
KK31 pmax pmax
comp=Z,16nm,1.4s
KKAR Karatay Array 20.57 58 P Pn 20 21 46.6 -1.0
KKAR Karatay Array 20.57 58 P Pn 20 21 46.4 -1.2
KKAR IAmb IAmb 20 22 07.6
comp=Z,16nm,1.4s
KKAR Karatay Array 20.57 58 P Pn 20 21 46.4 -1.2
KKAR pmax pmax
comp=Z,16nm,1.4s
LOT Lotru 20.63 309 ⇑P Pn 20 21 47.4 -1.0
AKASG Malin Array Be 20.65 327 P **P 20 21 45.3 -0.9**
comp=Z,7.5nm,0.8s,baz=137,slow=10,SNR=12
AKASG LR LR 20 31 04.2
comp=Z,211nm,18.9s,baz=148,slow=41
comp=Z,7.5nm,0.8s
KIEV Kiev 20.66 327 ⇓P Pn 20 21 48.5 0.0
KIEV Kiev 20.66 327 **P 20 21 45.4 -0.8**
KIEV IAmb IAmb 20 21 49.3
comp=Z,16nm,1.0s
KIEV Kiev 20.66 327 P **P 20 21 45.4 -0.8**
KIEV pmax pmax
comp=Z,16nm,1.0s
BLKB Belogradchik 20.69 304 ⇓P Pn 20 21 50.6 +1.6
BURAR Bucovina Array 20.77 316 ⇑P Pn 20 21 48.6 -1.4
BURAR Bucovina Array 20.77 316 P **P 20 21 47.7 0.0**
BURAR IAmb IAmb 20 21 53.9
comp=Z,14nm,0.8s
BUR08 Bucovina Ar. S 20.80 316 P **P 20 21 46.5 -1.4**
BUR08 IAmb IAmb 20 21 53.9
comp=Z,12nm,0.8s
FNA Florina 20.93 295 P **P 20 21 49.0 -0.4**
FNA Florina 20.93 295 P **P 20 21 49.0 -0.4**
FNA pmax pmax
comp=Z,11nm,1.3s
ARCR ARCALIA 21.01 314 ⇓P 20 21 51.7
DJES Djerdap 21.14 306 P **P 20 21 49.4 -2.2**
GZR Gura Zlata 21.25 308 ⇑P **P 20 21 56.3 +3.6**
CJR Cluj-Napoca 21.29 312 ⇓P **P 20 21 57.3 +4.1**
BOVS Bovan 21.36 303 ⇑P **P 20 21 54.8 +0.9**
MARR Marisel-Cluj 21.57 312 ⇓P **P 20 21 57.2 +1.0**
MESR Meseseni 21.89 313 ⇑P **P 20 22 03.7 +4.2**
OBN Obninsk 21.89 344 P **P 20 21 58.4 -1.1**
OBN IAmb IAmb 20 22 04.9
comp=Z,21nm,0.7s
OBN Obninsk 21.89 344 ⇓ *e*P **P 20 21 58.8 -0.6**
OBN *i* *SP **pP 20 22 03.9 +0.7**
OBN *e*PPP PPP 20 22 23.7
OBN *e*S **S 20 26 00.7 -0.3**
OBN SS **SnSn 20 26 28.0 +1.7**
OBN SSS SSS 20 26 39.0
OBN pmax pmax
comp=Z,22nm,1.6s
OBN MLR MLR
comp=Z,91nm,16.0s
OBN Obninsk 21.89 344 P **P 20 22 00.9 +1.5**
comp=Z,17nm,0.5s,baz=111,slow=15,SNR=5.3
comp=Z,17nm,0.5s
ARSB Arslanbob 21.94 64 P **P 20 22 01.2 +0.9**
ARSB Arslanbob 21.94 64 P **P 20 22 01.2 +0.9**
ARSB pmax pmax
comp=Z,3.0nm,1.2s
BZS Buzias 22.09 308 ⇑P **P 20 22 02.2 +0.5**
NIL Nilore 22.12 84 P **P 20 22 01.8 -0.4**
NIL IAmb IAmb 20 22 37.3
comp=Z,11nm,0.8s
NIL Nilore 22.12 84 P **P 20 22 01.8 -0.4**
NIL pmax pmax
comp=Z,11nm,0.8s
TIR Tirane 22.16 296 P **P 20 22 00.9 -1.6**
TIR IAmb IAmb 20 22 32.3
comp=Z,61nm,1.4s
TIR Tirane 22.16 296 P **P 20 22 00.9 -1.6**
TIR pmax pmax
comp=Z,61nm,1.4s
MOS Moscow 22.26 347 *e*P **P 20 22 02.4 -1.0**
MOS *e*S S 20 25 56.9 -11
SIRR Siria 22.31 310 ⇓P **P 20 22 06.2 +2.1**
LVV L'vov 22.64 320 *e*P **P 20 22 06.1 -1.5**
DIVS Divibare 22.68 303 P **P 20 22 06.3 -1.9**
DIVS IAmb IAmb 20 22 16.1
comp=Z,16nm,1.2s
ATD Arta Tunnel 22.98 189 P **P 20 22 10.4 -1.0**
ATD IAmb IAmb 20 22 46.6
comp=Z,12nm,1.1s
KOLS Kolonicke sedl 23.14 316 *e*P **P 20 22 13.8 +1.0**
KOLS Kolonicke sedl 23.14 316 *e*P **P 20 22 13.8 +1.0**
AAK Ala-Archa 23.29 61 P **P 20 22 18.5 +4.0**
comp=Z,1.8nm,0.7s,baz=53,slow=22,SNR=1.3
AAK LR LR 20 32 53.3
comp=Z,186nm,18.5s,baz=270,slow=41
ARU Arti 23.55 17 P **P 20 22 16.0 -0.9**
ARU IAmb IAmb 20 22 48.1
comp=Z,7.8nm,0.9s
ARU Arti 23.55 17 *d* *i*P **P 20 22 13.6 -3.3**
ARU pmax pmax
comp=Z,12nm,2.0s
ARU Arti 23.55 17 LR LR 20 34 03.3
comp=Z,145nm,18.5s,baz=210,slow=43
CRVS Cervenica-Dubn 23.59 316 *e*P P 20 22 24.5 +7.2
CRVS Cervenica-Dubn 23.59 316 *e*P P 20 22 24.6 +7.3
PSZ Piszkesteto 24.08 312 P **P 20 22 21.3 -0.8**
PSZ IAmb IAmb 20 22 26.3
comp=Z,7.5nm,0.9s
PSZ Piszkesteto 24.08 312 P **P 20 22 21.3 -0.8**
PSZ pmax pmax
comp=Z,7.0nm,0.9s
MORH Mrgy, Hungar 24.24 308 ⇑P **P 20 22 23.9 +0.4**
KIRV Kirov 24.31 4 LR LR 20 33 42.9
comp=Z,198nm,18.2s,baz=190,slow=41
SVE Sverdlovsk 24.43 19 *e*P **P 20 22 26.8 +1.7**
NACGM Naroch 24.74 332 *e*P **P 20 22 26.2 -1.7**
comp=Z,30nm,0.8s,baz=132
SRO Srobarova 25.02 311 P **P 20 22 36.5 +6.0**
BRVK Borovoye 25.17 35 P **P 20 22 32.5 +0.7**
BRVK IAmb IAmb 20 22 44.1
comp=Z,15nm,1.4s
BRVK Borovoye 25.17 35 *ce*P **P 20 22 31.9 +0.1**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
OJC Ojcow 25.17 317 P **P 20 22 30.6 -1.3**
OJC IAmb IAmb 20 22 36.9
comp=Z,30nm,1.2s
OJC Ojcow 25.17 317 P **P 20 22 30.6 -1.3**
OJC pmax pmax
comp=Z,30nm,1.2s
BVAR Borovoye Array 25.20 35 P **P 20 22 33.5 +1.4**
comp=Z,4.3nm,0.6s,baz=231,slow=7.5,SNR=16
BVAR LR LR 20 34 36.8
comp=Z,106nm,18.1s,baz=237,slow=42
comp=Z,4.3nm,0.6s
JAVC Velka Javorina 25.82 313 *e*P **P 20 22 40.2 +2.3**
MAUC Maruska 25.93 314 *e*P **P 20 22 39.8 +1.0**
RONA Rosalia, Austr 26.25 310 *e*P **P 20 22 44.1 +2.3**
comp=Z,10.0nm,1.2s
MORC Moravsky Berou 26.27 315 P **P 20 22 41.2 -0.7**
MORC IAmb IAmb 20 22 47.1
comp=Z,7.8nm,1.1s
MORC Moravsky Berou 26.27 315 *e*P **P 20 22 42.9 +1.0**
MORC Moravsky Berou 26.27 315 P **P 20 22 41.2 -0.7**
MORC pmax pmax
comp=Z,8.0nm,1.1s
CONA Conrad Observa 26.60 310 *i* P **P 20 22 48.3 +3.3**
comp=Z,8.5nm,1.1s
ARSA Arzberg 26.60 308 *e*P **P 20 22 47.3 +2.3**
comp=Z,4.2nm,0.7s
VRAC Vranov 26.65 313 *e*P **P 20 22 48.2 +2.9**
VRAC Vranov 26.65 313 LR LR 20 34 55.8
comp=Z,121nm,19.8s,baz=112,slow=40
INTR Introdacqua 26.67 296 P **P 20 22 45.3 -0.3**
INTR IAmb IAmb 20 22 48.9
comp=Z,13nm,1.3s
KRUC Moravsky 26.67 313 *e*P **P 20 22 47.6 +2.1**
KRLC Kraliky 26.84 315 *e*P **P 20 22 45.1 -2.0**
KRLC Kraliky 26.84 315 *e*P **P 20 22 45.1 -2.0**
KLMR Klimovskoe 26.90 352 *e*P **P 20 22 43.3 -4.1**
KLMR AMP 20 22 45.9
comp=Z,33nm,1.9s
KLMR Klimovskoe 26.90 352 *e*P **P 20 22 43.3 -4.1**
KLMR pmax pmax
comp=Z,33nm,1.9s
AQU L'Aquila 27.07 297 P **P 20 22 49.9 +0.6**
AQU IAmb IAmb 20 23 06.6
comp=Z,24nm,1.0s
AQU L'Aquila 27.07 297 P **P 20 22 49.9 +0.6**
AQU pmax pmax
comp=Z,24nm,1.0s
CAMP Campotosto 27.09 297 P **P 20 22 46.8 -2.7**
CAMP IAmb IAmb 20 23 04.7
comp=Z,28nm,1.4s
CLTB Caltabellotta 27.10 287 P **P 20 22 47.8 -1.8**
DPC Dobruska-Polom 27.23 315 *e*P **P 20 22 52.3 +1.8**
DPC Dobruska-Polom 27.23 315 *e*P **P 20 22 52.3 +1.8**
MOA Molln 27.60 309 *i* pP pP 20 22 55.8 -2.0
comp=Z,8.6nm,1.4s
BIOA Bad Ischl, Aus 27.96 308 *i* pP **P 20 22 57.8 +0.8**
comp=Z,9.5nm,1.3s
KBA Koelnbreinsper 27.98 307 *e*P **P 20 22 55.8 -1.7**
comp=Z,10nm,1.4s
ZVC Zvikov 28.16 312 *e*P **P 20 23 01.3 +2.5**
GERES GERESS Array B 28.26 311 P **P 20 23 02.0 +2.2**
comp=Z,0.3nm,0.3s,baz=108,slow=16,SNR=2.8
comp=Z,0.3nm,0.3s
KURBB Kurchatov Arra 28.34 45 P **P 20 23 01.9 +1.5**
comp=Z,1.6nm,0.2s,baz=251,slow=9.2,SNR=7.9
KURBB LR LR 20 36 40.3
comp=Z,140nm,19.6s,baz=162,slow=41
comp=Z,1.6nm,0.2s
KURK Kurchatov 28.43 45 P **P 20 23 02.0 +0.8**
KURK IAmb IAmb 20 23 37.0
comp=Z,9.6nm,1.2s
KURK Kurchatov 28.43 45 *ce*P **P 20 23 01.3 +0.1**
KURK pmax pmax
comp=Z,11nm,1.7s
KHC Kasperske Hory 28.43 311 *e*P P 20 23 10.9 +10
WTTA Wattenberg 29.16 307 *e*P **P 20 23 05.9 -2.0**
comp=Z,9.4nm,1.7s
WATA Walderalm 29.21 307 *e*P **P 20 23 07.5 -0.9**
comp=Z,12nm,1.3s
MAKZ Makanchi 29.38 54 P **P 20 23 09.9 +0.3**
MAKZ Makanchi 29.38 54 P **P 20 23 10.0 +0.3**
MAKZ pmax pmax
comp=Z,5.0nm,1.2s
SQTA Sankt Quirin 29.43 307 *i* P **P 20 23 09.1 -1.2**
comp=Z,3.8nm,0.4s
MOTA Moosalm 29.53 307 *e*P **P 20 23 09.6 -1.6**
comp=Z,8.5nm,1.1s
CLL Collm 29.54 315 *e*P **P 20 23 10.0 -1.0**
comp=Z,6.0nm,1.2s
CLL *e*S **S 20 28 12.0 +6.5**
CLL AMS AMS 20 36 00.0
comp=N,100nm,20.9s
CLL AMS AMS 20 36 00.0
comp=E,100nm,21.8s
CLL AMS AMS 20 36 00.0
comp=Z,100nm,19.0s
CLL Collm 29.54 315 *e*P **P 20 23 13.0 +2.0**
CLL pmax pmax
comp=Z,6.0nm,1.2s
MK31 Makanchi Array 29.58 54 P **P 20 23 12.4 +0.9**
MK31 Makanchi Array 29.58 54 *i* P **P 20 23 12.1 +0.6**
MKAR Makanchi Array 29.58 54 P **P 20 23 12.3 +0.8**
MKAR Makanchi Array 29.58 54 P **P 20 23 12.3 +0.8**
MKAR Makanchi Array 29.58 54 P **P 20 23 13.0 +1.4**
comp=Z,3.0nm,0.8s,baz=252,slow=7.5,SNR=10
MKAR LR LR 20 36 18.4
comp=Z,148nm,18.3s,baz=271,slow=39
comp=Z,3.0nm,0.8s
RETA Reutte 29.79 307 *e*P **P 20 23 12.9 -0.5**
comp=Z,3.5nm,1.0s
FIA0 FINESS Array S 30.11 340 P **P 20 23 15.3 -0.7**
FIA0 FINESS Array S 30.11 340 P **P 20 23 15.3 -0.7**
FIA1 FINESS Array S 30.11 340 P **P 20 23 14.1 -1.9**
FIA1 IAmb IAmb 20 23 55.0
comp=Z,20nm,1.1s
FINES FINESS Array B 30.11 340 P **P 20 23 14.9 -1.1**
FINES FINESS Array B 30.11 340 P **P 20 23 15.8 -0.1**
comp=Z,1.3nm,0.5s,baz=152,slow=8.8,SNR=11
FINES LR LR 20 35 50.6
comp=Z,137nm,19.6s,baz=146,slow=37
comp=Z,1.3nm,0.5s
DAVOX Davos/Dischmat 30.23 305 LR LR 20 37 06.0
comp=Z,127nm,19.2s,baz=64,slow=40
DAVA Damuels 30.33 306 *e*P **P 20 23 17.9 -0.4**
comp=Z,7.4nm,0.9s
SENIN Lac Senin/Sane 31.92 304 P **P 20 23 30.4 -2.0**
DANN Dangsing 32.20 90 *e*P **P 20 23 38.7 +3.6**
comp=Z,36nm,1.0s
BNI Bardonecchia 32.20 301 P **P 20 23 34.5 -0.2**
BNI Bardonecchia 32.20 301 P **P 20 23 34.5 -0.2**
BNI pmax pmax
comp=Z,27nm,1.0s
LODK Lodwar 32.50 201 P **P 20 23 38.1 +0.6**
WMQ Urumqi 33.00 61 *e*P **P 20 23 45.2 +3.5**
ZAA0 Zalesovo Array 33.16 42 P **P 20 23 43.0 +0.1**
ZAA0 IAmb IAmb 20 23 48.0
comp=Z,5.1nm,1.0s
ZALV Zalesovo Beam 33.16 42 P **P 20 23 43.1 +0.3**
ZALV Zalesovo Beam 33.16 42 P **P 20 23 43.5 +0.6**
comp=Z,3.5nm,0.8s,baz=254,slow=8.7,SNR=9.5
ZALV LR LR 20 39 58.0
comp=Z,69nm,20.9s,baz=259,slow=41
comp=Z,3.5nm,0.8s
HFS Hagfors 33.48 330 P **P 20 23 45.5 -0.1**
comp=Z,9.0nm,0.8s,baz=122,slow=7.2,SNR=17
HFS LR LR 20 38 56.4
comp=Z,158nm,20.2s,baz=122,slow=39
comp=Z,9.0nm,0.8s
DGZ Jazzator, Alta 33.54 50 *i* P **P 20 23 47.5 +1.0**
DGZ pmax pmax

	comp=Z,9.0nm,1.8s						
PKI	**Pulchoki**	**33.83**	**91**	*e*P	**P**	**20 23 52.2**	**+2.7**
MAHO	**Mahon**	**33.94**	**292**	P	**P**	**20 23 48.6**	**-1.2**
GUN	**Gumba**	**34.10**	**90**	*e*P	**P**	**20 23 54.2**	**+2.4**
	comp=Z,14nm,0.7s						
JIRN	**Jiri**	**34.45**	**90**	*e*P	**P**	**20 23 56.9**	**+2.1**
	comp=Z,16nm,0.6s						
NC602	**NORSAR Array S**	**34.70**	**330**	P	**P**	**20 23 55.5**	**-0.6**
NC405	**NORSAR Array S**	**34.84**	**331**	P	**P**	**20 23 55.6**	**-1.8**
NB2	**NORSAR Subarra**	**35.00**	**331**	P	**P**	**20 23 59.3**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=124,slow=8.6						
NB2	**NORSAR Subarra**	**35.00**	**331**	P	**P**	**20 24 02.0**	**+3.2**
NOA	**NORSAR Array B**	**35.00**	**331**	P	**P**	**20 23 57.4**	**-1.4**
	comp=Z,1.5nm,0.8s,baz=124,slow=8.6,SNR=4.8						
NOA				LR	LR	20 39 43.1	
	comp=Z,107nm,21.4s,baz=125,slow=39						
	comp=Z,1.5nm,0.8s						
NC303	**NORSAR Array S**	**35.04**	**331**	P	**P**	**20 23 57.3**	**-1.8**
NC303				IAmb	IAmb	20 24 06.4	
	comp=Z,20nm,1.3s						
RAMN	**Ramite**	**35.05**	**91**	*e*P	**P**	**20 24 02.5**	**+2.6**
	comp=Z,15nm,0.6s						
TAPN	**Taplejung**	**35.82**	**90**	*e*P	**P**	**20 24 07.9**	**+1.3**
	comp=Z,15nm,0.6s						
KMBO	**Kilima Mbogo**	**36.37**	**196**	LR	LR	20 38 14.1	
	comp=Z,76nm,18.3s,baz=84,slow=35						
KEV	**Kevo**	**37.06**	**349**	P	**P**	**20 24 15.7**	**-0.6**
KEV	**Kevo**	**37.06**	**349**	P	**P**	**20 24 15.7**	**-0.6**
ARCES	**ARCESS Array B**	**37.12**	**348**	P	**P**	**20 24 16.8**	**-0.1**
	comp=Z,5.9nm,0.9s,baz=170,slow=6.8,SNR=7.1						
ARCES				LR	LR	20 40 22.5	
	comp=Z,70nm,19.4s,baz=140,slow=38						
	comp=Z,5.9nm,0.9s						
TAM	**Tamanrasset**	**37.61**	**263**	P	**P**	**20 24 21.9**	**+0.3**
TAM	**Tamanrasset**	**37.61**	**263**	P	**P**	**20 24 22.0**	**+0.3**
TAM				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GOMU	**GeErMu**	**39.11**	**73**	P	P	20 24 38.9	+4.4
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**39.95**	**317**	P	**P**	**20 24 40.4**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=102,slow=8.7,SNR=8.5						
	comp=Z,1.4nm,0.5s						
EKB	**Eskdalemuir**	**39.97**	**317**	P	**P**	**20 24 39.5**	**-1.4**
ESK	**Eskdalemuir**	**39.97**	**317**	P	**P**	**20 24 39.3**	**-1.6**
ESK				IAmb	IAmb	20 25 15.5	
	comp=Z,38nm,1.4s						
ESK	**Eskdalemuir**	**39.97**	**317**	P	**P**	**20 24 39.3**	**-1.6**
ESK				pmax	pmax		
	comp=Z,38nm,1.5s						
ESBB	**Sonseca Array**	**40.26**	**293**	P	**P**	**20 24 42.1**	**-1.6**
ESBB				IAmb	IAmb	20 24 47.7	
	comp=Z,12nm,1.1s						
ESDC	**Sonseca Array**	**40.26**	**293**	P	**P**	**20 24 44.1**	**+0.4**
	comp=Z,5.3nm,1.0s,baz=64,slow=7.8,SNR=11						
ESDC				PcP	**PcP**	**20 26 49.6**	**+2.2**
	comp=Z,2.2nm,0.8s,baz=32,slow=3.0,SNR=8.5						
	comp=Z,5.3nm,1.0s						
PALK	**Pallekele**	**41.41**	**123**	LR	LR	20 43 34.1	
	comp=Z,144nm,18.7s,baz=54,slow=38						
GTA	**Gaotai**	**42.38**	**67**	*e*P	**P**	**20 25 03.2**	**+2.1**
GTA				pP	sP	20 25 09.5	+2.7
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PESTR	**Estremoz**	**43.18**	**292**	P	**P**	**20 25 07.1**	**-0.3**
PESTR				IAmb	IAmb	20 25 34.7	
	comp=Z,14nm,1.1s						
MORF	**Marmelete**	**44.33**	**290**	P	**P**	**20 25 16.0**	**-0.8**
MORF	**Marmelete**	**44.33**	**290**	P	**P**	**20 25 16.0**	**-0.8**
MORF				pmax	pmax		
	comp=Z,24nm,1.2s						
TOA0	**Torodi Ar. Sit**	**45.73**	**254**	P	**P**	**20 25 27.3**	**-0.8**
TORD	**Torodi Ar. Bea**	**45.73**	**254**	P	**P**	**20 25 27.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**45.73**	**254**	P	**P**	**20 25 28.2**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=46,slow=10,SNR=8.0						
TORD				PcP	**PcP**	**20 27 07.5**	**+1.6**
	comp=Z,1.4nm,0.8s,baz=30,slow=5.5,SNR=5.4						
	comp=Z,1.1nm,0.8s						
SPITS	**Spitsbergen Ar**	**45.80**	**352**	P	**P**	**20 25 30.2**	**+2.3**
	comp=Z,14nm,1.0s,baz=130,slow=13,SNR=2.0						
	comp=Z,14nm,1.0s						
SONM	**Songino Array**	**45.95**	**54**	P	**P**	**20 25 30.6**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=288,slow=9.7,SNR=4.5						
	comp=Z,0.5nm,0.4s						
LZH	**Lanzhou**	**46.24**	**71**	*e*P	**P**	**20 25 36.4**	**+4.3**
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
LZH				LR	LR		
	comp=N,250nm,12.4s						
LZH				LR	LR		
	comp=E,270nm,15.1s						
LZH				LR	LR		
	comp=Z,210nm,18.6s						
ULN	**Ulaanbaatar**	**46.39**	**54**	P	**P**	**20 25 33.9**	**+0.7**
ULN				IAmb	IAmb	20 25 40.2	
	comp=Z,4.6nm,1.1s						
ULN	**Ulaanbaatar**	**46.39**	**54**	*i* P	**P**	**20 25 36.0**	**+2.9**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
JMIC	**Jan Mayen**	**46.69**	**338**	LR	LR	20 44 31.9	
	comp=Z,68nm,20.9s,baz=122,slow=35						
PZH	**PanZhiHua**	**47.72**	**84**	P	**P**	**20 25 46.0**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,220nm,5.3s						
CHTO	**Chiang Mai**	**48.82**	**95**	P	**P**	**20 25 52.4**	**+0.2**
CHTO				IAmb	IAmb	20 25 55.4	
	comp=Z,4.3nm,0.6s						
CHTO	**Chiang Mai**	**48.82**	**95**	P	**P**	**20 25 52.4**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**48.99**	**95**	P	**P**	**20 25 53.6**	**0.0**
	comp=Z,1.5nm,0.5s,baz=293,slow=8.5,SNR=11						
CMAR				LR	LR	20 49 04.9	
	comp=Z,48nm,19.7s,baz=300,slow=39						
	comp=Z,1.5nm,0.5s						
CRAI	**Chiangrai**	**49.32**	**92**	P	**P**	**20 25 58.3**	**+2.3**
CRAI				IAmb	IAmb	20 26 04.5	
	comp=Z,5.9nm,1.3s						
BTO	**Baotou**	**49.78**	**63**	*e*P	**P**	**20 26 00.4**	**+1.0**
BTO				pP	**sP**	**20 26 05.0**	**-0.1**
BTO				sP	**pP**	**20 26 07.4**	**+3.9**
BTO				PP	**PP**	**20 27 55.1**	**+1.2**
BTO				pmax	pmax		
	comp=Z,11nm,0.5s						
BTO				pmax	pmax		
	comp=Z,130nm,3.6s						
PHRA	**Phrae**	**50.03**	**94**	P	**P**	**20 26 01.9**	**+0.4**
XAN	**Xi'an**	**50.82**	**72**	⇓P	**P**	**20 26 09.2**	**+1.9**
XAN				pmax	pmax		
	comp=Z,13nm,1.3s						
HHC	**Hu-ho-hao-te**	**50.85**	**62**	*e*P	**P**	**20 26 08.9**	**+1.3**
HHC				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,3.5s						
XLT	**XiLinHaoTe**	**53.31**	**58**	*e*P	**P**	**20 26 29.0**	**+3.2**
XLT				pP	sP	20 26 45.1	+14
XLT				sP	pP	20 26 50.1	+20
XLT				PcP	**PcP**	**20 27 37.4**	**+4.1**
XLT				pmax	pmax		
	comp=Z,4.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,120nm,4.2s						
XLT				LR	LR		
	comp=N,31nm,14.0s						
XLT				LR	LR		
	comp=E,340nm,16.6s						
XLT				LR	LR		
	comp=Z,390nm,15.3s						
DBIC	**Dimbokro**	**54.74**	**252**	P	**P**	**20 26 35.4**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=52,slow=5.5,SNR=3.4						
	comp=Z,2.8nm,0.9s						
NJ2	**Nanjing**	**59.31**	**70**	*e*P	**P**	**20 27 08.4**	**-0.2**
NJ2				pP	**pP**	**20 27 11.4**	**-1.4**
NJ2				sP	**sP**	**20 27 13.8**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,12nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,410nm,4.3s						
SFJD	**Kangerlussuaq**	**61.58**	**334**	LR	LR	20 53 55.8	
	comp=Z,90nm,21.8s,baz=77,slow=36						
MDJ	**Mudanjiang**	**62.29**	**53**	P	**P**	**20 27 28.7**	**0.0**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,170nm,5.8s						
KSRS	**Korea Array**	**63.95**	**61**	P	**P**	**20 27 39.7**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=280,slow=6.7,SNR=6.2						
	comp=Z,1.7nm,0.6s						
USRK	**Ussuriysk Ar.**	**64.04**	**53**	P	**P**	**20 27 41.4**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=280,slow=3.4,SNR=4.7						
	comp=Z,2.5nm,0.8s						
FRB	**Frobisher Bay**	**69.69**	**335**	LR	LR	20 58 28.8	
	comp=Z,84nm,20.9s,baz=344,slow=36						
KKM	**Kota Kinabalu**	**69.82**	**97**	P	**P**	**20 28 19.8**	**+2.1**
SUR	**Sutherland**	**70.67**	**203**	LR	LR	20 58 26.8	
	comp=Z,79nm,18.6s,baz=20,slow=35						
ILAR	**Eielson Array**	**80.63**	**6**	P	**P**	**20 29 19.2**	**+0.1**
	comp=Z,1.0nm,1.0s,baz=311,slow=4.3,SNR=5.5						
	comp=Z,1.0nm,1.0s						
YKA	**Yellowknife Ar**	**82.30**	**351**	P	**P**	**20 29 27.6**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=12,slow=5.4,SNR=9.1						
	comp=Z,0.9nm,0.9s						

*JMA **01** 20:27:17.2±0.1, 24°N±2°×123.°0E±0.°5, h47km±1km, MV2.4/14, NW OFF ISHIGAKIJIMA IS*
*TAP **01** 20:27:17.7, 24.°27N×122.°88E, h33km, ML3.1, D*
ISC 01 20:27:16.6±1.1, **24.°19N**±0.°03×**122.°95E**±0.°02, **h33**km±3km, **n98**, σ**1.s76**/193, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.26**	**358**	*i* P	**Pb**	**20 27 24.6**	**+0.8**
JYNG				S	**Sb**	**20 27 30.0**	**+1.2**
YOJ	**Yonaguni jima**	**0.27**	**11**	P	**Pb**	**20 27 24.8**	**+0.8**
YOJ				S	**Sb**	**20 27 30.1**	**+0.9**
YOJ	**Yonaguni jima**	**0.27**	**11**	*i* P	**Pb**	**20 27 24.9**	**+0.8**
	baz=28						
YOJ				*i* S	**Sb**	**20 27 30.0**	**+0.9**
	baz=28						
EOS4	**EOS4**	**0.58**	**263**	*e*P	**Pn**	**20 27 30.2**	**+2.0**
	baz=256						
EOS4				*e*S	**Sn**	**20 27 41.3**	**+5.0**
	baz=256						
EOS3	**EOS3**	**0.59**	**279**	P	**Pn**	**20 27 29.3**	**+0.9**
	baz=271						
EOS3				*e*S	**Sn**	**20 27 39.6**	**+2.8**
	baz=271						
EOS2	**EOS2**	**0.70**	**289**	P	**Pb**	**20 27 30.4**	**+0.1**
	baz=287						
EOS2				S	**Sn**	**20 27 40.6**	**+1.2**
	baz=287						
IRIF	**Iriomote-Funau**	**0.72**	**78**	P	**Pn**	**20 27 30.5**	**+0.1**
IRIF				*e*S	**Sn**	**20 27 39.8**	**-0.5**
HATJ	**Hateruma jima**	**0.79**	**100**	*e*S	**Sn**	**20 27 43.7**	**+1.8**
JKRS	**Kuro-shima**	**0.96**	**87**	P	**Pn**	**20 27 34.6**	**+0.9**
JKRS				S	**Sn**	**20 27 47.6**	**+1.3**
TWC	**Suao**	**1.09**	**293**	*i* P	**Pn**	**20 27 34.9**	**-0.5**
	baz=301						
TWC				*i* S	**Sn**	**20 27 48.7**	**-0.7**
	baz=301						
JIJ	**Ishigaki jima**	**1.10**	**81**	P	**Pn**	**20 27 35.6**	**0.0**
JIJ				S	**Sn**	**20 27 49.1**	**-0.5**
EWUT	**Wuta**	**1.10**	**283**	P	**Pn**	**20 27 35.9**	**+0.3**
	baz=291						
EWUT				S	**Sb**	**20 27 49.8**	**-1.4**
	baz=291						
ENA	**Nanau**	**1.13**	**282**	*i* P	**Pn**	**20 27 36.5**	**+0.5**
	baz=288						
ENA				S	**Sb**	**20 27 50.5**	**-1.5**
	baz=288						
NDS	**Dongshan**	**1.21**	**292**	P	**Pn**	**20 27 37.1**	**-0.1**
	baz=299						
NDS				S	**Sn**	**20 27 51.9**	**-0.5**
	baz=299						
NACB	**Ninganchiao**	**1.24**	**269**	P	**Pn**	**20 27 38.4**	**+0.9**
	baz=250						
NACB				*i* S	**Sb**	**20 27 54.8**	**-0.4**
	baz=250						
TWD	**Chiawan**	**1.25**	**265**	*i* P	**Pn**	**20 27 38.2**	**+0.6**
	baz=246						
TWD				S	**Sb**	**20 27 54.5**	**-0.8**
	baz=246						
TWE	**Neicheng**	**1.29**	**294**	*i* P	**Pn**	**20 27 38.3**	**+0.1**
	baz=302						
TWE				*i* S	**Sn**	**20 27 53.9**	**-0.4**
	baz=302						
TIPB	**Shuangxi**	**1.29**	**307**	*i* P	**Pn**	**20 27 37.9**	**-0.4**
	baz=316						
TIPB				*i* S	**Sn**	**20 27 53.3**	**-1.0**
	baz=316						
JISG	**Ishigakijimahi**	**1.30**	**72**	*e*P	**Pn**	**20 27 38.2**	**-0.1**
JISG				*e*S	**Sn**	**20 27 53.8**	**-0.7**
SXI1	**Grass Mountain**	**1.33**	**313**	P	**Pn**	**20 27 38.6**	**-0.3**
	baz=321						
SXI1				S	**Sn**	**20 27 54.7**	**-0.8**
	baz=321						
ENTT	**Nioudou**	**1.34**	**290**	*i* P	**Pn**	**20 27 39.4**	**+0.5**
	baz=295						
ENTT				*e*S	**Sb**	**20 27 55.8**	**-2.3**
	baz=295						
ETLH	**Xiulin Townshi**	**1.34**	**271**	P	**Pn**	**20 27 40.2**	**+1.2**
	baz=267						
ETLH				*e*S	**Sb**	**20 27 56.9**	**-1.3**
	baz=267						
LATG	**Datong**	**1.35**	**285**	P	**Pb**	**20 27 40.3**	**-1.1**
	baz=290						
LATG				*e*S	**Sb**	**20 27 57.4**	**-0.9**
	baz=290						
ETM	**Tongmen**	**1.35**	**261**	P	**Pn**	**20 27 39.9**	**+0.8**
	baz=256						
ETM				S	**Sb**	**20 27 57.1**	**-1.3**
	baz=256						
FUSB	**Fushanzhiwuyua**	**1.37**	**295**	P	**Pn**	**20 27 40.2**	**+0.8**
	baz=300						
FUSB				*e*S	**Sb**	**20 27 58.0**	**-0.8**
	baz=300						
NDT	**Datong Townshi**	**1.38**	**288**	P	**Pb**	**20 27 40.8**	**-0.9**
	baz=293						
NDT				S	**Sb**	**20 27 56.9**	**-2.2**
	baz=293						
WFSB	**Wu-fen Shan**	**1.38**	**310**	S	**Sn**	**20 27 55.9**	**-0.7**
	baz=307						
LXIB	**Xiulin Townshi**	**1.42**	**263**	P	**Pn**	**20 27 40.9**	**+0.8**
	baz=249						
LXIB				*i* S	**Sb**	**20 27 58.8**	**-1.5**
	baz=249						
ESL	**Shilin**	**1.44**	**255**	*i* P	**Pn**	**20 27 40.6**	**+0.3**
	baz=250						
ESL				S	**Sn**	**20 27 58.6**	**+0.5**
	baz=250						
NWLT	**Wulai**	**1.45**	**294**	*e*P	**Pn**	**20 27 41.4**	**+1.0**
	baz=303						
NWLT				S	**Sn**	**20 27 57.8**	**-0.4**
	baz=303						
NNSB	**Datong**	**1.45**	**280**	P	**Pb**	**20 27 41.9**	**-1.2**
	baz=263						
NNSB				*e*S	**Sb**	**20 27 59.4**	**-1.9**
	baz=263						
NNS	**Nan Shan**	**1.46**	**280**	*i* P	**Pn**	**20 27 41.5**	**+0.7**
	baz=263						
NNS				*e*S	**Sb**	**20 28 00.3**	**-1.4**
	baz=263						
EGFH	**Guangfu**	**1.49**	**250**	P	**Pn**	**20 27 41.9**	**+0.9**
	baz=245						
EGFH				S	**Sn**	**20 28 00.4**	**+1.1**
	baz=245						
WARBT	**Fenglin Townsh**	**1.51**	**252**	P	**Pn**	**20 27 41.6**	**+0.4**
	baz=248						
WARBT				*i* S	**Sn**	**20 28 00.6**	**+0.8**
	baz=248						
YHNB	**Yeheng**	**1.52**	**289**	P	**Pb**	**20 27 42.9**	**-1.3**
	baz=296						
YHNB				S	**Sn**	**20 28 00.3**	**+0.2**
	baz=296						
NSK	**Sanguang**	**1.53**	**289**	*i* P	**Pb**	**20 27 43.5**	**-0.9**
	baz=295						
NSK				S	**Sb**	**20 28 02.2**	**-1.3**
	baz=295						
WHF	**Hehuan Shan**	**1.54**	**269**	*i* P	**Pn**	**20 27 43.4**	**+1.3**
	baz=250						
WHF				*i* S	**Sb**	**20 28 02.6**	**-1.6**
	baz=250						
HGSD	**Ruisui**	**1.56**	**244**	P	**Pn**	**20 27 42.5**	**+0.5**
	baz=239						
HGSD				S	**Sn**	**20 28 01.5**	**+0.4**
	baz=239						
TWT	**Tachien**	**1.62**	**273**	*i* P	**Pb**	**20 27 44.9**	**-1.1**
	baz=269						
TWT				*i* S	**Sb**	**20 28 05.0**	**-1.3**
	baz=269						
ECBN	**Changbin**	**1.63**	**238**	*e*P	**Pn**	**20 27 43.5**	**+0.6**
	baz=234						
ECBN				S	**Sn**	**20 28 03.6**	**+0.9**
	baz=234						
CHGB	**Renai**	**1.63**	**266**	P	**Pn**	**20 27 44.3**	**+1.2**
	baz=248						
CHGB				S	**Sn**	**20 28 02.2**	**-0.9**
	baz=248						
OWD	**Renai**	**1.64**	**262**	P	**Pn**	**20 27 44.2**	**+1.0**
	baz=258						
OWD				S	**Sn**	**20 28 04.1**	**+0.9**
	baz=258						
JTJ	**Tarama**	**1.66**	**74**	*e*S	**Sn**	**20 28 02.2**	**-1.1**
WUSB	**Renai**	**1.69**	**264**	P	**Pn**	**20 27 45.2**	**+1.3**
	baz=260						
WUSB				S	**Sn**	**20 28 05.6**	**+1.1**
	baz=260						
YULB	**Yu-li**	**1.71**	**243**	P	**Pn**	**20 27 44.9**	**+0.8**
	baz=239						
YULB				S	**Sn**	**20 28 05.3**	**+0.5**
	baz=239						
VWDT	**VWDT**	**1.71**	**256**	P	**Pn**	**20 27 45.5**	**+1.5**
	baz=252						
VWDT				S	**Sn**	**20 28 05.8**	**+0.9**
	baz=252						
EYUL	**Yuli**	**1.72**	**241**	*i* P	**Pn**	**20 27 45.0**	**+0.9**
	baz=237						
EYUL				*i* S	**Sn**	**20 28 06.4**	**+1.5**
	baz=237						
NFF	**Wufeng Townshi**	**1.73**	**285**	P	**Pb**	**20 27 46.6**	**-1.2**
	baz=282						
NFF				S	**Sb**	**20 28 09.1**	**-0.1**
	baz=282						
TWF1	**Yuli**	**1.73**	**242**	*i* P	**Pn**	**20 27 45.3**	**+1.0**
	baz=237						
TWF1				S	**Sn**	**20 28 06.7**	**+1.4**
	baz=237						
FULB	**Fuli**	**1.81**	**237**	*i* P	**Pn**	**20 27 45.9**	**+0.4**
	baz=224						
FULB				*i* S	**Sn**	**20 28 07.8**	**+0.5**
	baz=224						
CHKT	**Chengkung**	**1.82**	**234**	*e*P	**Pn**	**20 27 46.8**	**+1.4**
	baz=219						
CHKT				*i* S	**Sn**	**20 28 06.7**	**-0.7**
	baz=219						
LIOB	**Emei**	**1.82**	**285**	*i* P	**Pb**	**20 27 48.5**	**-0.9**
	baz=295						
LIOB				S	**Sb**	**20 28 11.5**	**-0.3**
	baz=295						
NSTT	**Nanjuang**	**1.83**	**284**	*i* P	**Pb**	**20 27 48.3**	**-1.2**
	baz=281						
NSTT				*i* S	**Sb**	**20 28 11.7**	**-0.4**
	baz=281						
WHP	**Taichung City**	**1.83**	**273**	P	**Pb**	**20 27 48.6**	**-1.0**
	baz=258						
WHP				S	**Sb**	**20 28 10.3**	**-1.9**
	baz=258						
WCS	**Beigang Elemen**	**1.87**	**266**	P	**Pn**	**20 27 48.0**	**+1.8**
	baz=253						
WCS				S	**Sn**	**20 28 10.4**	**+1.7**
	baz=253						
SSLB	**Suanglung**	**1.87**	**258**	P	**Pn**	**20 27 47.5**	**+1.2**
	baz=254						
SSLB				*e*S	**Sn**	**20 28 09.1**	**+0.3**
	baz=254						
SMLT	**Sun Moon Lake**	**1.90**	**261**	*i* P	**Pn**	**20 27 48.5**	**+1.7**
	baz=257						
SMLT				S	**Sn**	**20 28 11.4**	**+1.8**
	baz=257						
EHD	**Haiduan**	**1.91**	**237**	*i* P	**Pn**	**20 27 47.6**	**+0.8**
	baz=224						
EHD				*i* S	**Sn**	**20 28 10.4**	**+0.7**
	baz=224						
ECS	**Chishang**	**1.93**	**236**	P	**Pn**	**20 27 48.0**	**+1.0**
	baz=222						
ECS				S	**Sn**	**20 28 11.7**	**+1.5**
	baz=222						
WHYT	**Xinyi Township**	**1.98**	**256**	P	**Pn**	**20 27 50.0**	**+2.2**
	baz=241						
WHYT				*e*S	**Sn**	**20 28 13.9**	**+2.4**
	baz=241						
TWQ1	**Liyutan**	**2.00**	**275**	*i* P	**Pb**	**20 27 50.7**	**-1.6**
	baz=272						
TWQ1				*i* S	**Sb**	**20 28 14.9**	**-1.9**
	baz=272						
LDUT	**Ludao**	**2.04**	**222**	*e*P	**Pn**	**20 27 49.1**	**+0.6**
	baz=219						
LDUT				S	**Sn**	**20 28 12.2**	**-0.5**
	baz=219						
ELDTW	**Lidau**	**2.04**	**241**	*i* P	**Pn**	**20 27 49.3**	**+0.7**
	baz=237						
ELDTW				*e*S	**Sn**	**20 28 13.5**	**+0.5**
	baz=237						
WJS	**Zhushan**	**2.07**	**260**	P	**Pb**	**20 27 52.1**	**-1.4**
	baz=257						
WJS				*i* S	**Sb**	**20 28 17.5**	**-1.3**
	baz=257						
ALS	**Alishan**	**2.08**	**251**	*i* P	**Pn**	**20 27 51.5**	**+2.1**
	baz=248						
ALS				*i* S	**Sn**	**20 28 16.3**	**+2.0**
	baz=248						
TCU	**Taichung**	**2.08**	**269**	*e*P	**Pb**	**20 27 51.8**	**-1.9**
	baz=253						
TCU				*i* S	**Sb**	**20 28 18.0**	**-1.1**
	baz=253						
WNT	**Mingjian**	**2.10**	**262**	*i* P	**Pb**	**20 27 52.4**	**-1.6**
	baz=259						
WNT				*i* S	**Sb**	**20 28 18.4**	**-1.2**
	baz=259						
LONT	**Longtian**	**2.11**	**233**	*i* P	**Pn**	**20 27 49.6**	**+0.1**
	baz=222						
LONT				*i* S	**Sn**	**20 28 15.7**	**+1.1**
	baz=222						
TWGBT	**Beinan**	**2.20**	**232**	P	**Pn**	**20 27 50.8**	**0.0**
	baz=220						
TWGBT				S	**Sn**	**20 28 16.9**	**+0.1**
	baz=220						
TWG	**Pinlang**	**2.20**	**232**	*i* P	**Pn**	**20 27 51.8**	**+1.0**
	baz=220						
TWG				*i* S	**Sn**	**20 28 17.2**	**+0.4**
	baz=220						
STYH	**Taoyuan**	**2.24**	**243**	P	**Pn**	**20 27 53.2**	**+1.9**
	baz=232						
STYH				*e*S	**Sn**	**20 28 19.7**	**+1.9**
	baz=232						
WDLH	**Douliu**	**2.27**	**258**	P	**Pn**	**20 27 54.7**	**+3.0**
	baz=254						
WDLH				*i* S	**Sb**	**20 28 22.2**	**-2.3**
	baz=254						
WCKO	**Fanlu**	**2.28**	**251**	*i* P	**Pb**	**20 27 55.1**	**-1.9**
	baz=248						
WCKO				*i* S	**Sb**	**20 28 22.9**	**-1.9**
	baz=248						
TPUB	**Ta-pu**	**2.31**	**248**	P	**Pn**	**20 27 55.1**	**+2.9**
	baz=244						
TPUB				S	**Sb**	**20 28 23.2**	**-2.4**
	baz=244						
CHN4	**Tsaushan**	**2.32**	**249**	*i* P	**Pn**	**20 27 55.5**	**+3.1**
	baz=246						
CHN4				*i* S	**Sb**	**20 28 23.7**	**-2.4**
	baz=246						
WTP	**Ta-pu**	**2.34**	**247**	*i* P	**Pn**	**20 27 55.7**	**+3.0**
	baz=243						
WTP				*i* S	**Sb**	**20 28 24.1**	**-2.6**
	baz=243						
WRL	**Guolierlin Hig**	**2.37**	**264**	P	**Pn**	**20 27 55.7**	**+2.6**
	baz=261						
WRL				*i* S	**Sb**	**20 28 24.8**	**-2.8**
	baz=261						
WTK	**Tuku**	**2.40**	**258**	P	**Pn**	**20 27 56.5**	**+3.0**
	baz=255						
WTK				*i* S	**Sb**	**20 28 25.8**	**-2.5**
	baz=255						
CHY	**Chiayi**	**2.42**	**254**	P	**Pb**	**20 27 57.2**	**-2.2**
	baz=250						
CHY				S	**Sb**	**20 28 25.9**	**-2.9**
	baz=250						
ECL	**Taimali**	**2.43**	**230**	P	**Pn**	**20 27 54.9**	**+1.0**
	baz=237						
ECL				*i* S	**Sn**	**20 28 21.9**	**-0.5**
	baz=237						
SLGT	**Liugui**	**2.43**	**241**	P	**Pn**	**20 27 57.1**	**+3.2**
	baz=230						
SLGT				S	**Sn**	**20 28 26.1**	**+3.6**
	baz=230						
CHN1	**Nanshi**	**2.44**	**246**	*i* P	**Pn**	**20 27 57.2**	**+3.1**
	baz=243						
CHN1				*i* S	**Sb**	**20 28 26.8**	**-2.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=243						
SGST	**Jiashian**	**2.44**	**244**	P	**Pn**	**20 27 56.6**	**+2.5**
	baz=240						
SGST				*i* S	**Sn**	**20 28 26.2**	**+3.5**
	baz=240						
TWK	**Hsinying**	**2.44**	**248**	*i* P	**Pn**	**20 27 57.0**	**+2.9**
	baz=245						
TWK				*i* S	**Sb**	**20 28 26.8**	**-2.8**
	baz=245						
SNST	**Tainan City**	**2.45**	**247**	*e*P	**Pn**	**20 27 57.6**	**+3.4**
	baz=244						
SNST				*e*S	**Sn**	**20 28 26.4**	**+3.4**
	baz=244						
WSF	**Szhu**	**2.56**	**258**	P	**Pn**	**20 27 59.1**	**+3.4**
	baz=255						
WSF				*i* S	**Sb**	**20 28 29.9**	**-3.0**
	baz=255						
WSL	**Shuilin Townsh**	**2.58**	**256**	*e*P	**Pn**	**20 27 59.1**	**+3.1**
	baz=252						
WSL				S	**Sb**	**20 28 31.6**	**-2.0**
	baz=252						
ICHU	**Yijhu**	**2.59**	**252**	P	**Pn**	**20 27 59.2**	**+3.2**
	baz=248						
ICHU				*i* S	**Sn**	**20 28 29.9**	**+3.6**
	baz=248						
TSMG	**Majia**	**2.59**	**236**	*i* P	**Pn**	**20 27 58.8**	**+2.7**
	baz=228						
TSMG				*i* S	**Sn**	**20 28 28.8**	**+2.4**
	baz=228						
SCST	**Cishan**	**2.60**	**241**	*i* P	**Pn**	**20 28 00.1**	**+3.8**
	baz=237						
SCST				S	**Sb**	**20 28 33.8**	**-0.4**
	baz=237						
EAST	**Anshuo**	**2.64**	**228**	P	**Pn**	**20 27 57.7**	**+0.8**
	baz=233						
EAST				*e*S	**Sn**	**20 28 27.4**	**-0.4**
	baz=233						
TAWH	**Dawu Township**	**2.65**	**226**	*e*P	**Pn**	**20 27 57.2**	**+0.3**
	baz=232						
TAWH				S	**Sn**	**20 28 28.5**	**+0.6**
	baz=232						
MASBT	**Mashibuluo**	**2.65**	**234**	P	**Pn**	**20 27 58.3**	**+1.4**
	baz=226						
MASBT				*e*S	**Sn**	**20 28 30.1**	**+2.2**
	baz=226						
CHN8	**Yiju**	**2.65**	**252**	*e*P	**Pn**	**20 27 59.4**	**+2.4**
	baz=249						
CHN8				S	**Sn**	**20 28 31.9**	**+3.9**
	baz=249						
SHHT	**Tainan City**	**2.66**	**245**	*e*P	**Pn**	**20 28 01.0**	**+3.9**
	baz=241						
SHHT				*e*S	**Sb**	**20 28 33.7**	**-2.1**
	baz=241						
SCZT	**Fangliau**	**2.81**	**230**	*i* P	**Pn**	**20 28 02.6**	**+3.5**
	baz=221						
SCZT				S	**Sn**	**20 28 34.2**	**+2.3**
	baz=221						
TSCK	**Chigu Township**	**2.83**	**249**	P	**Pn**	**20 28 02.3**	**+2.9**
	baz=246						
TSCK				*e*S	**Sn**	**20 28 35.8**	**+3.4**
	baz=246						
PHUB	**P'eng-hu**	**3.17**	**258**	*e*P	**Pn**	**20 28 05.1**	**+1.1**
	baz=255						
PHUB				S	**Sn**	**20 28 42.0**	**+1.3**
	baz=255						

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*BJI **01** 20:47:58.4, 41˚96N×142˚55E, h69km, mb5.3/79, mB5.1/42, Ms4.2/47, Ms7 4.0/49*

*MOS **01** 20:47:59.8±0.9, 42˚09N×142˚47E, h63km, mb5.6/61, MS4.0/7, Error ellipse: s-maj=5.8km s-min=3.6km az=117.2*

*NIED **01** 20:48:01.0, 42˚04N×142˚51E, h67km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.72; $M_{\theta\theta}$-0.49; $M_{\phi\phi}$-1.23; $M_{r\theta}$0.26; $M_{\theta\phi}$-0.72; $M_{\phi r}$1.57; Fault plane solution: $M_0$2.32000×10^{16} NP1:ϕ_s17.00000°, δ67.00000°, λ79.00000°. NP2:ϕ_s223.00000°, δ25.00000°, λ114.00000°.*

*IDC **01** 20:48:00.8±1.0, 42˚06N×142˚53E, h59km±8km, mb4.8/34, mbtmp5.1/44, MS3.9/61 Error ellipse: s-maj=10.0km s-min=7.5km az=100.0*

*JMA **01** 20:48:01.0±0.2, 42˚0N±0˚9×142˚5E±0˚8, h67km±2km, MD4.9/40, MW4.9/40, S OFF URAKAWA*

JMA Felt III J1 at S OFF URAKAWA .

*NEIC **01** 20:48:01.2, 42˚12N×142˚89E, h70km, Moment Tensor Solution. Duration: 1s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.48; $M_{\theta\theta}$-0.40; $M_{\phi\phi}$-1.08; $M_{r\theta}$0.58; $M_{\theta\phi}$-0.10; $M_{\phi r}$1.27; Fault plane solution: $M_0$1.89000×10^{16} NP1:ϕ_s19.77000°, δ68.71000°, λ95.18000°. NP2:ϕ_s185.75000°, δ21.88000°, λ76.96000°. Principal axes: T 2.1035, Plg66.0000°, Azm299.0000°; N -0.4235, Plg5.0000°, Azm198.0000°; P -1.6800, Plg24.0000°, Azm106.0000°;*

*NEIC **01** 20:48:01.2±1.6, 42˚08N±0˚05×142˚45E±0˚07, h61km±4km, mb5.2/482, Mwr5.0/10, Mww4.8/9 Error ellipse: s-maj=8.1km s-min=6.0km az=126.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.89; $M_{\theta\theta}$-0.58; $M_{\phi\phi}$-1.31; $M_{r\theta}$0.96; $M_{\theta\phi}$-1.41; $M_{\phi r}$2.48; Fault plane solution: $M_0$3.45000×10^{16} NP1:ϕ_s23.71000°, δ71.20000°, λ78.48000°. NP2:ϕ_s236.01000°, δ21.94000°, λ120.39000°. Principal axes: T 3.2527, Plg62.0000°, Azm276.0000°; N 0.3578, Plg11.0000°, Azm27.0000°; P -3.6104, Plg25.0000°, Azm123.0000°;*

*BGR **01** 20:48:01.7, 42˚76N×142˚98E, h33km, mb5.3, Ms4.2*

*NEIC **01** 20:48:01.2, 42˚12N×142˚49E, h70km*

*NEIC **01** 20:48:01.1, 42˚09N×142˚45E, h59km*

*GCMT **01** 20:48:02.2±0.2, 42˚13N±0˚02×142˚54E±0˚03, h60km±2km, MW5.0/95, Moment Tensor Solution. s63,c81; s95,c134; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.79±.13; $M_{\theta\theta}$-0.74±.13; $M_{\phi\phi}$-2.04±.12; $M_{r\theta}$0.91±.09; $M_{\theta\phi}$-1.00±.08; $M_{\phi r}$2.05±.09; Best double couple: $M_0$3.49900×10^{16} NP1:ϕ_s26.00000°, δ65.00000°, λ88.00000°. NP2: ϕ_s211.00000°, δ25.00000°, λ95.00000°. Principal axes: T 3.6060, Plg70.0000°, Azm291.0000°; N -0.2080, Plg2.0000°, Azm27.0000°; P -3.3930, Plg20.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 20:48:00.8±0.3**, 42˚06N**±0˚03×**142˚51E**±0˚03**, h62**km±2km**, h62**km**:pP-P, n1471,** σ1s**24**/1374**, mb5.2**/434**, 143C-69D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.28**	**39**	P	**Pn**	**20 48 11.6**	**+0.6**
JNBK				*e*S	**Sn**	**20 48 19.7**	**+1.3**
JNBK	**Urakawa-nobuka**	**0.28**	**39**	A	A	20 48 11.6	
	comp=E,332nm,1.3s,comp=N,321nm,0.8s						
JSHD	**Hidakashinhida**	**0.35**	**354**	⇓*i*P	**Pn**	**20 48 12.4**	**+0.9**
JSHD				⇓*e*S	**Sn**	**20 48 21.1**	**+1.9**
JSHD	**Hidakashinhida**	**0.35**	**354**	A	A	20 48 12.4	
	comp=E,818nm,1.3s,comp=N,407nm,1.1s						
ERM	**Erimo**	**0.48**	**96**		**Pn**	**20 48 13.5**	**+0.8**
ERM				Sn	**Sn**	**20 48 22.7**	**+1.3**
ERM	**Erimo**	**0.48**	**96**	*i* PN	**Pn**	**20 48 13.0**	**+0.3**
JEM	**Erimo**	**0.48**	**95**	P	**Pn**	**20 48 13.8**	**+1.1**
JEM	**Erimo**	**0.48**	**95**	A	A	20 48 13.8	
	comp=E,89nm,3.6s,comp=N,61nm,2.8s						
JTHR	**Tokachihiroo**	**0.63**	**68**	*i* P	**Pn**	**20 48 15.3**	**+1.0**
JTHR				*e*S	**Sn**	**20 48 25.7**	**+1.6**
JTHR	**Tokachihiroo**	**0.63**	**68**	A	A	20 48 15.3	
	comp=E,86nm,2.0s,comp=N,86nm,1.2s						
JIAM	**Iburiatsuma**	**0.71**	**322**	P	**Pn**	**20 48 16.8**	**+1.5**
JIAM				*e*S	**Sn**	**20 48 28.6**	**+2.7**
JIAM	**Iburiatsuma**	**0.71**	**322**	A	A	20 48 16.8	
	comp=E,406nm,1.3s,comp=N,410nm,0.4s						
JBT2	**Biratori 2**	**0.72**	**351**	⇓P	**Pn**	**20 48 16.1**	**+0.6**
JBT2				⇓*e*S	**Sn**	**20 48 27.4**	**+1.2**
JBT2	**Biratori 2**	**0.72**	**351**	A	A	20 48 16.1	
	comp=E,84nm,0.9s,comp=N,61nm,0.8s						
JCH	**Churui**	**0.84**	**49**	P	**Pn**	**20 48 17.7**	**+0.9**
JCH				*e*S	**Sn**	**20 48 30.4**	**+1.8**
JCH	**Churui**	**0.84**	**49**	A	A	20 48 17.7	
	comp=E,69nm,2.3s,comp=N,74nm,2.2s						
JFR	**Furan**	**1.10**	**3**	⇓P	**Pn**	**20 48 20.8**	**+0.6**
JFR	**Furan**	**1.10**	**3**	A	A	20 48 20.8	
	comp=E,55nm,0.6s,comp=N,51nm,2.9s						
JEW	**Eniwo**	**1.10**	**315**	⇓P	**Pn**	**20 48 21.2**	**+0.9**
JEW				⇓*e*S	**Sn**	**20 48 36.2**	**+1.4**
JEW	**Eniwo**	**1.10**	**315**	A	A	20 48 21.2	
	comp=E,99nm,0.9s,comp=N,106nm,1.8s						
JKB	**Kayabe**	**1.12**	**261**	⇓P	**Pn**	**20 48 20.7**	**+0.3**
JKB				⇓*e*S	**Sn**	**20 48 35.1**	**+0.1**
JKB	**Kayabe**	**1.12**	**261**	A	A	20 48 20.7	
	comp=E,111nm,0.4s,comp=N,128nm,0.6s						
JNB	**Noboribetsu**	**1.17**	**291**	⇓*e*P	**Pn**	**20 48 20.9**	**-0.2**
JNB				⇓*e*S	**Sn**	**20 48 36.0**	**-0.2**
JNB	**Noboribetsu**	**1.17**	**291**	A	A	20 48 20.9	
	comp=E,50nm,0.3s,comp=N,33nm,0.7s						
JAHD	**Aomorihigashid**	**1.19**	**228**	A	A	20 48 21.7	
	comp=E,203nm,0.8s,comp=N,172nm,0.9s						
JOB	**Onbets**	**1.29**	**49**	P	**Pn**	**20 48 24.4**	**+1.7**
JOB	**Onbets**	**1.29**	**49**	A	A	20 48 24.4	
	comp=E,47nm,2.8s,comp=N,78nm,0.9s						
JOT	**Ohata**	**1.29**	**239**	⇓*e*P	**Pn**	**20 48 22.9**	**+0.2**
JOT				⇓*e*S	**Sn**	**20 48 39.0**	**-0.1**
JOT	**Ohata**	**1.29**	**239**	A	A	20 48 22.9	
	comp=E,38nm,0.7s,comp=N,61nm,0.7s						
JARK	**Aomorirokkasho**	**1.36**	**220**	A	A	20 48 24.0	
	comp=E,37nm,0.8s,comp=N,36nm,0.8s						
JAB	**Ashibetsu**	**1.46**	**352**	⇓*e*P	**Pn**	**20 48 26.1**	**+1.1**
JAB	**Ashibetsu**	**1.46**	**352**	A	A	20 48 26.1	
	comp=E,68nm,1.0s,comp=N,81nm,1.0s						
JISS	**Ishikarishitsu**	**1.46**	**327**	⇓*e*P	**Pn**	**20 48 25.8**	**+0.9**
JISS				⇓*e*S	**Sn**	**20 48 44.3**	**+1.3**
JISS	**Ishikarishitsu**	**1.46**	**327**	A	A	20 48 25.8	
	comp=E,126nm,0.6s,comp=N,111nm,1.9s						
JAR	**Ashorobuto**	**1.54**	**37**	*e*P	**Pn**	**20 48 26.9**	**+0.8**
JAR	**Ashorobuto**	**1.54**	**37**	A	A	20 48 26.9	
	comp=E,26nm,1.2s,comp=N,29nm,1.5s						
JYM2	**Yakumo 2**	**1.60**	**273**	⇓*e*P	**Pn**	**20 48 27.0**	**+0.2**
JYM2	**Yakumo 2**	**1.60**	**273**	A	A	20 48 27.0	
	comp=E,13nm,1.5s,comp=N,19nm,3.2s						
JSR	**Shiriuchi**	**1.65**	**252**	⇓*e*P	**Pn**	**20 48 27.8**	**+0.2**
JSR	**Shiriuchi**	**1.65**	**252**	A	A	20 48 27.8	
	comp=E,22nm,0.9s,comp=N,29nm,0.7s						
JTM	**Tenmabayashi**	**1.68**	**221**		**Pn**	**20 48 28.4**	**+0.5**
JTM				Sn	**Sn**	**20 48 48.4**	**+0.1**
JTM	**Tenmabayashi**	**1.68**	**221**	A	A	20 48 28.4	
	comp=E,25nm,1.8s,comp=N,15nm,3.4s						
JHR	**Hokuryu**	**1.78**	**341**	A	A	20 48 30.4	
	comp=E,131nm,1.5s,comp=N,66nm,1.1s						
JKK2	**Kamakawa 2**	**1.82**	**5**	A	A	20 48 31.0	
	comp=E,22nm,2.5s,comp=N,31nm,1.6s						
JANG	**Nango**	**1.85**	**204**	A	A	20 48 30.7	
	comp=E,16nm,1.1s,comp=N,13nm,1.1s						
JAK	**Akkeshi**	**1.86**	**59**	A	A	20 48 31.5	
	comp=E,49nm,1.7s,comp=N,25nm,2.2s						
JSI2	**Shiura 2**	**1.87**	**238**	A	A	20 48 31.1	
	comp=E,47nm,2.0s,comp=N,50nm,0.7s						
JSH	**Shimam**	**1.92**	**288**	A	A	20 48 32.2	
	comp=E,10.0nm,1.4s,comp=N,8.0nm,1.1s						
JOMM	**Oshimamatsumae**	**1.95**	**255**	A	A	20 48 32.3	
	comp=E,10.0nm,0.4s,comp=N,12nm,0.6s						
JKEN	**Kujiedanarisaw**	**1.95**	**198**	A	A	20 48 32.2	
	comp=E,45nm,1.8s,comp=N,48nm,0.3s						
JSK	**Shakotan**	**1.98**	**311**	A	A	20 48 33.1	
	comp=E,20nm,1.5s,comp=N,16nm,1.7s						
JHST	**Hiyamasetana**	**1.99**	**281**	A	A	20 48 33.1	
	comp=E,20nm,0.9s,comp=N,20nm,1.3s						
JMP	**Maruseppu**	**2.04**	**17**	A	A	20 48 34.1	
	comp=E,13nm,3.1s,comp=N,10.0nm,2.5s						
ASAJ	**Asahikawa**	**2.05**	**2**	A	A	20 48 34.3	
	comp=E,18nm,1.1s,comp=N,19nm,1.8s						
ASAJ	**Asahikawa**	**2.05**	**2**	P	**Pn**	**20 48 34.5**	**+1.5**
	comp=N,2µm,0.4s,baz=214,slow=11,SNR=1240						
ASAJ				S	**Sn**	**20 48 59.4**	**+1.9**
	comp=N,4µm,0.5s,baz=243,slow=32,SNR=5.8						
JKA	**Kamikawa-asahi**	**2.05**	**2**		**Pn**	**20 48 34.4**	**+1.4**
JKA				Sn	**Sn**	**20 48 59.2**	**+1.7**
JHHS	**Hirosakihyakuz**	**2.15**	**230**	A	A	20 48 35.0	
	comp=E,46nm,1.0s,comp=N,39nm,2.7s						
JTKR	**Abashiri--Toko**	**2.16**	**28**	A	A	20 48 35.9	
	comp=E,13nm,1.9s,comp=N,12nm,1.8s						
JKHN	**Kushirohamanak**	**2.21**	**62**	A	A	20 48 36.3	
	comp=E,15nm,1.8s,comp=N,20nm,2.3s						
JKZ	**Kuzumaki**	**2.26**	**204**	A	A	20 48 36.5	
	comp=E,10.0nm,2.5s,comp=N,18nm,1.1s						
JOSM	**Okushiri--Mats**	**2.26**	**272**	A	A	20 48 36.8	
	comp=E,12nm,1.1s,comp=N,10.0nm,4.5s						
JAH	**Hinai**	**2.35**	**218**	A	A	20 48 37.7	
	comp=E,17nm,2.3s,comp=N,12nm,2.2s						
JSS	**Shosan**	**2.38**	**349**	A	A	20 48 39.0	
	comp=E,29nm,0.7s,comp=N,33nm,0.6s						
JIW	**Iwasaki**	**2.39**	**233**	A	A	20 48 38.4	
	comp=E,13nm,1.5s,comp=N,13nm,1.1s						
JYG	**Yagishiri**	**2.49**	**342**	A	A	20 48 40.5	
	comp=E,13nm,1.5s,comp=N,10.0nm,2.0s						
JNSB	**Nemuroshibetsu**	**2.51**	**46**	A	A	20 48 40.6	
	comp=E,15nm,1.1s,comp=N,25nm,5.6s						
MIYJ	**Miyakonagasawa**	**2.54**	**192**	A	A	20 48 40.4	
	comp=E,11nm,0.9s,comp=N,6.0nm,1.2s						
JSZI	**Iwateshizukuis**	**2.60**	**208**	A	A	20 48 41.3	
	comp=E,18nm,2.2s,comp=N,23nm,3.3s						
JRA	**Rausu**	**2.68**	**45**	A	A	20 48 43.0	
	comp=E,15nm,2.2s,comp=N,9.0nm,4.2s						
JOM	**Ohasama**	**2.75**	**200**	A	A	20 48 43.3	
	comp=E,13nm,0.3s,comp=N,11nm,0.3s						
JRG	**Rokugo**	**3.02**	**209**	A	A	20 48 47.1	
	comp=E,8.0nm,0.9s,comp=N,9.0nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**3.15**	**50**	*d i*PN	**Pn**	**20 48 49.3**	**+1.4**
YUK				*i* S	**Sn**	**20 49 26.3**	**+2.1**
YUK				pmax	pmax		
	comp=E,724nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2µm,0.2s						
YUK				pmax	pmax		
	comp=N,847nm,0.3s						
YUK				smax	smax		
	comp=N,7µm,0.4s						
YUK				smax	smax		
	comp=E,5µm,0.3s						
SHO	**Shikotan**	**3.65**	**59**	*d i*PN	**Pn**	**20 48 55.0**	**+0.3**
SHO				*i* S	**Sn**	**20 49 34.9**	**-1.6**
SHO				pmax	pmax		
	comp=N,554nm,0.2s						
SHO				pmax	pmax		
	comp=E,801nm,0.2s						
SHO				pmax	pmax		
	comp=Z,975nm,0.2s						
SHO				smax	smax		
	comp=N,3µm,0.4s						
SHO				smax	smax		
	comp=E,3µm,0.3s						
JOU	**Okura**	**3.96**	**202**	A	A	20 49 00.2	
	comp=E,7.0nm,4.1s,comp=N,8.0nm,0.8s						
JYA	**Atsumi**	**4.07**	**213**	A	A	20 49 01.9	
	comp=E,8.0nm,3.9s,comp=N,12nm,1.3s						
JYS	**Shirataka**	**4.27**	**207**	A	A	20 49 04.6	
	comp=E,9.0nm,1.9s,comp=N,7.0nm,4.0s						
JMM	**Marumori**	**4.39**	**198**		**Pn**	**20 49 04.9**	**-0.1**
JMM				Sn	**Sn**	**20 49 52.7**	**-2.2**
JMST	**Minamisoumatoc**	**4.51**	**197**	A	A	20 49 08.0	
	comp=E,4.0nm,1.1s,comp=N,5.0nm,3.2s						
JYAR	**Yonezawaarcadi**	**4.53**	**204**	A	A	20 49 08.2	
	comp=E,8.0nm,1.1s,comp=N,8.0nm,1.3s						
JFK	**Kawauchi**	**4.86**	**196**	A	A	20 49 12.8	
	comp=E,3.0nm,5.7s,comp=N,3.0nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.89**	**2**	*e*PN	**Pn**	**20 49 14.9**	**+3.1**
YSS				*e*S	**Sn**	**20 50 05.7**	**-1.3**
YSS				pmax	pmax		
	comp=Z,330nm,1.0s						
YSS				pmax	pmax		
	comp=Z,600nm,3.9s						
YSS				pmax	pmax		
	comp=N,600nm,3.7s						
YSS				pmax	pmax		
	comp=E,600nm,3.9s						
YSS				MLR	MLR		
	comp=Z,800nm,13.0s						
KUR	**Kuril'sk**	**5.01**	**49**	*e*PN	**Pn**	**20 49 14.2**	**+0.8**
KUR				*e*S	**Sn**	**20 50 12.2**	**+2.2**
KUR				pmax	pmax		
	comp=E,290nm,0.3s						
KUR				pmax	pmax		
	comp=Z,590nm,0.3s						
KUR				pmax	pmax		
	comp=N,140nm,0.2s						
KUR				smax	smax		
	comp=E,1µm,0.8s						
KUR				smax	smax		
	comp=N,979nm,0.9s						
TEY	**Ternei**	**5.22**	**307**	⇑*e*PN	**Pn**	**20 49 15.5**	**-0.8**
TEY				pmax	pmax		
	comp=N,100nm,0.7s						
TEY				pmax	pmax		
	comp=E,100nm,0.7s						
TEY				pmax	pmax		
	comp=Z,200nm,0.7s						
TEY				pmax	pmax		
	comp=N,120nm,0.7s						
TEY				pmax	pmax		
	comp=E,190nm,0.7s						
TEY				pmax	pmax		
	comp=Z,210nm,0.6s						
MJB9	**Matsu-Tunnel**	**6.44**	**213**	Pn	**Pn**	**20 49 34.1**	**+1.0**
MAJO	**Matsushiro**	**6.44**	**213**	Pn	**Pn**	**20 49 34.3**	**+1.2**
MAJO	**Matsushiro**	**6.44**	**213**	*i* PN	**Pn**	**20 49 34.5**	**+1.4**
MJAR	**Matsushiro Arr**	**6.44**	**213**	P	**Pn**	**20 49 34.9**	**+1.8**
	comp=Z,21nm,0.5s,baz=19,slow=14,SNR=58						
MJAR				LR	LR	20 52 36.1	
	comp=Z,614nm,19.7s,baz=22,slow=43						
USA0B	**Ussuriysk Arra**	**7.99**	**289**	Pn	**Pn**	**20 49 53.8**	**-0.3**
USA0B	**Ussuriysk Arra**	**7.99**	**289**	*i* PN	**Pn**	**20 49 54.7**	**+0.6**
USRK	**Ussuriysk Ar.**	**7.99**	**289**	Pn	**Pn**	**20 49 54.1**	**0.0**
USRK	**Ussuriysk Ar.**	**7.99**	**289**	P	**Pn**	**20 49 54.9**	**+0.7**
	comp=Z,162nm,0.7s,baz=100,slow=17,SNR=122						
USRK				LR	LR	20 53 03.1	
	comp=Z,678nm,19.8s,baz=112,slow=38						
JSG	**Sagara**	**8.12**	**206**	Pn	**Pn**	**20 49 55.8**	**-0.2**
MSHR	**Mys Shultsa**	**8.43**	**277**	*ce*PN	**Pn**	**20 50 01.5**	**+1.3**
MSHR				pmax	pmax		
	comp=Z,136nm,0.8s						
PSTR	**Posyet**	**8.69**	**278**	*i* PN	**Pn**	**20 50 05.2**	**+1.5**
TYV	**Tymovskoe**	**8.80**	**1**	*e*PN	**Pn**	**20 50 08.2**	**+3.0**
TYV				*e*S	**Sn**	**20 51 49.7**	**+6.9**
TYV				pmax	pmax		
	comp=Z,59nm,0.9s						
TYV				pmax	pmax		
	comp=Z,400nm,2.9s						
TYV				smax	smax		
	comp=N,20nm,2.5s						
TYV				smax	smax		
	comp=E,16nm,2.5s						
TYV				smax	smax		
	comp=N,1µm,4.8s						
TYV				smax	smax		
	comp=E,1µm,4.8s						
JHJ	**Hachijo jima 2**	**9.19**	**194**	P	**Pn**	**20 50 09.1**	**-1.5**
	comp=E,69nm,0.3s,baz=264,slow=23,SNR=13						
JHJ				S	Sn	20 51 43.4	-9.0
	comp=E,159nm,0.3s,baz=85,slow=21,SNR=7.5						
JHJ2	**Mitsune**	**9.19**	**194**	Pn	**Pn**	**20 50 08.1**	**-2.5**
GRNR	**Gornyy**	**9.67**	**336**	⇑*i*PN	**Pn**	**20 50 19.0**	**+1.9**
GRNR				*e*S	**Sn**	**20 52 09.4**	**+5.4**
GRNR				pmax	pmax		
	comp=N,20nm,0.8s						
GRNR				pmax	pmax		
	comp=E,20nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,20nm,0.7s						
GRNR				smax	smax		
	comp=E,6.0nm,0.8s						
GRNR				MLR	MLR		
	comp=E,260nm,14.0s						
GRNR				MLR	MLR		
	comp=N,260nm,15.0s						
GRNR				MLR	MLR		
	comp=Z,320nm,15.0s						
MDJ	**Mudanjiang**	**9.75**	**290**	Pn	**Pn**	**20 50 20.0**	**+1.7**
MDJ	**Mudanjiang**	**9.75**	**290**	P	**Pn**	**20 50 20.0**	**+1.7**
MDJ				PP		20 50 27.5	
MDJ				S	**Sn**	**20 52 13.7**	**+7.5**
MDJ				SS		20 52 27.4	
MDJ				PcP	**PcP**	**20 56 29.7**	**+2.0**
MDJ				pmax	pmax		
	comp=Z,27nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,210nm,3.9s						
MDJ				LR	LR		
	comp=Z,290nm,11.2s						
MDJ				LR	LR		
	comp=Z,780nm,22.2s						
MDJ				LR	LR		
	comp=Z,940nm,16.3s						
KLR	**Kul'dur**	**10.39**	**317**	*ce*PN	**Pn**	**20 50 28.5**	**+1.5**
KLR				pmax	pmax		
	comp=Z,65nm,1.0s						
KLR	**Kul'dur**	**10.39**	**317**	P	**Pn**	**20 50 28.4**	**+1.4**
	comp=Z,63nm,0.9s,baz=118,slow=16,SNR=70						
JMN	**Monobe**	**10.75**	**222**		**Pn**	**20 50 32.3**	**+0.2**
BNX	**BinXian**	**11.50**	**294**	⇓P	**Pn**	**20 50 43.6**	**+1.5**
BNX				S	**Sn**	**20 52 52.9**	**+4.0**
BNX				pmax	pmax		
	comp=Z,56nm,0.8s						
BNX				pmax	pmax		
	comp=Z,180nm,3.0s						
BNX				LR	LR		
	comp=Z,280nm,10.5s						
BNX				LR	LR		
	comp=Z,160nm,9.6s						
BNX				LR	LR		
	comp=Z,770nm,19.0s						
KSRS	**Korea Array**	**12.13**	**253**	P	**Pn**	**20 50 53.0**	**+2.2**
	comp=Z,55nm,0.9s,baz=68,slow=13,SNR=50						
KSRS				S	**Sn**	**20 53 10.4**	**+6.1**
	comp=Z,20nm,0.6s,baz=68,slow=24,SNR=13						
KSRS				LR	LR	20 55 04.3	
	comp=Z,693nm,20.9s,baz=60,slow=35						
KS19	**Wonju Array Si**	**12.15**	**253**		**Pn**	**20 50 52.1**	**+1.1**
KSAR	**Wonju Array Be**	**12.16**	**253**	Pn	**Pn**	**20 50 51.8**	**+0.6**
KSAR	**Wonju Array Be**	**12.16**	**253**	PN	**Pn**	**20 50 51.8**	**+0.6**
CN2	**Changchun**	**12.63**	**284**	*e*P	**Pn**	**20 50 59.2**	**+1.7**
CN2				*e*S	**Sn**	**20 53 15.5**	**-0.9**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2				pmax	pmax		
	comp=Z,100nm,4.0s						
CN2				LR	LR		
	comp=Z,500nm,15.0s						
CN2				LR	LR		
	comp=Z,600nm,15.0s						
CN2				LR	LR		
	comp=Z,600nm,15.0s						
JTU	**Tsushima**	**12.75**	**238**	Pn	**Pn**	**20 51 00.9**	**+1.7**
JNU	**Nakatsue**	**12.82**	**230**	P	**Pn**	**20 51 00.5**	**+0.2**
	comp=Z,17nm,0.7s,baz=216,slow=4.6,SNR=9.3						
JNU				LR	LR	20 55 55.9	
	comp=Z,296nm,21.8s,baz=38,slow=37						
TJN	**Taejon**	**13.04**	**249**	Pn	**Pn**	**20 51 03.8**	**+0.6**
TJN	**Taejon**	**13.04**	**249**	*ce*PN	**Pn**	**20 51 05.8**	**+2.7**
HEH	**HeiHe**	**13.27**	**313**	*e*P	**Pn**	**20 51 06.4**	**+0.2**
HEH				pP	**P**	**20 51 15.2**	**+1.3**
HEH				S	**Sn**	**20 53 32.7**	**+0.8**
HEH				SS	**SnSn**	**20 53 48.9**	**+4.2**
HEH				pmax	pmax		
	comp=Z,52nm,0.9s						
HEH				pmax	pmax		
	comp=Z,230nm,5.2s						
HEH				LR	LR		
	comp=Z,450nm,10.4s						
HEH				LR	LR		
	comp=Z,460nm,9.8s						
HEH				LR	LR		
	comp=Z,680nm,14.2s						
SNY	**Shenyang**	**14.10**	**275**	⇓P	**Pn**	**20 51 18.8**	**+1.5**
SNY				S	**Sn**	**20 53 51.9**	**-0.2**
SNY				pmax	pmax		
	comp=Z,35nm,0.8s						
SNY				pmax	pmax		
	comp=Z,98nm,3.8s						
SNY				LR	LR		
	comp=Z,170nm,8.4s						
SNY				LR	LR		
	comp=Z,190nm,9.0s						
SNY				LR	LR		
	comp=Z,190nm,10.0s						
JCJ	**Chichijima**	**14.93**	**181**	Pn	**Pn**	**20 51 24.7**	**-3.6**
JCJ	**Chichijima**	**14.93**	**181**	P	Pn	20 51 20.9	-7.4
	comp=Z,33nm,0.3s,baz=83,slow=22,SNR=20						
JCJ				S	Sn	20 53 53.8	-19
	comp=Z,31nm,0.4s,baz=248,slow=23,SNR=1.7						
JCJ				LR	LR	20 57 52.2	
	comp=Z,87nm,21.6s,baz=300,slow=40						
PEA0B	**Petropavlovsk-**	**15.03**	**38**	Pn	**Pn**	**20 51 27.3**	**-2.1**
PEA0B	**Petropavlovsk-**	**15.03**	**38**	P	**Pn**	**20 51 27.3**	**-2.1**
PETK	**Petropavlovsk-**	**15.03**	**38**	Pn	**Pn**	**20 51 27.4**	**-2.0**
PETK	**Petropavlovsk-**	**15.03**	**38**	P	**Pn**	**20 51 27.9**	**-1.5**
	comp=Z,6.0nm,0.7s,baz=205,slow=8.2,SNR=14						
PETK				LR	LR	20 58 47.4	
	comp=Z,277nm,18.4s,baz=219,slow=43						
ZEA	**Zeya**	**15.49**	**324**	*e*P	**Pn**	**20 51 34.9**	**-0.3**
ZEA				pmax	pmax		

comp=N,30nm,0.8s
ZEA pmax pmax
comp=E,20nm,0.7s
ZEA pmax pmax
comp=Z,60nm,0.7s
ZEA MLR MLR
comp=N,300nm,14.0s
DL2 Dalian 16.20 266 P **Pn** **20 51 44.7 +0.4**
DL2 pmax pmax
comp=N,100nm,0.8s
DL2 LR LR
comp=N,410nm,16.1s
DL2 LR LR
comp=N,480nm,22.9s
DL2 LR LR
comp=N,490nm,18.4s
HIA Hailar 17.43 302 Pn **Pn** **20 51 57.3 -2.3**
HIA Hailar 17.43 302 P **Pn** **20 51 57.3 -2.3**
HIA pmax pmax
comp=Z,60nm,1.2s
MA2 Magadan 18.27 13 P **P** **20 52 07.6 -1.6**
MA2 Magadan 18.27 13 *i*P **P** **20 52 07.2 -1.9**
MA2 Magadan 18.27 13 P **P** **20 52 08.2 -1.0**
comp=Z,31nm,0.8s,baz=181,slow=9.6,SNR=7.6
JMZ Minamidaito 2 18.68 213 Pn **Pn** **20 52 15.1 +0.2**
JOW Kunigami 19.16 222 P **P** **20 52 17.4 -1.8**
JOW IAmb IAmb 20 52 25.9
comp=Z,123nm,1.3s
JOW Kunigami 19.16 222 P **P** **20 52 19.0 -0.2**
comp=Z,32nm,0.6s,baz=8.0,slow=7.5,SNR=3.5
XLT XiLinHaoTe 19.40 284 ⇓*i*P **P** **20 52 20.5 -1.3**
XLT pP pP 20 52 30.9 -3.9
XLT PP **PnPn** **20 52 39.6 +1.3**
XLT sP sP 20 52 42.3 -0.2
XLT S **S** **20 55 49.4 -8.5**
XLT SS **SnSn** **20 56 19.2 +3.9**
XLT pmax pmax
comp=Z,53nm,0.7s
XLT pmax pmax
comp=Z,140nm,3.0s
XLT LR LR
comp=Z,340nm,16.2s
XLT LR LR
comp=Z,400nm,17.0s
BJI Beijing 19.94 273 P **P** **20 52 25.7 -1.9**
BJI pmax pmax
comp=Z,48nm,1.0s
BJT Baijiatuau 19.95 273 P **P** **20 52 25.3 -2.4**
BJT IAmb IAmb 20 52 27.9
comp=Z,82nm,0.9s
BJT Baijiatuau 19.95 273 P **P** **20 52 25.3 -2.4**
BJT pmax pmax
comp=Z,82nm,0.9s
TIA Tai'an 20.50 262 P **P** **20 52 31.7 -2.0**
TIA pmax pmax
comp=Z,150nm,0.7s
NJ2 Nanjing 21.30 250 ⇓P **P** **20 52 40.4 -1.9**
NJ2 sP **sP** **20 53 02.6 -0.4**
NJ2 pmax pmax
comp=Z,51nm,0.6s
NJ2 pmax pmax
comp=Z,530nm,3.5s
NJ2 LR LR
comp=Z,670nm,15.2s
NJ2 LR LR
comp=Z,470nm,14.2s
NJ2 LR LR
comp=Z,730nm,18.5s
YAK Yakutsk 21.42 343 **P** **20 52 39.9 -3.3**
YAK IAmb IAmb 20 53 03.7
comp=Z,126nm,0.8s
YAK Yakutsk 21.42 343 *e*P **P** **20 52 40.0 -3.3**
YAK *e**PP **sP** **20 53 01.3 -3.3**
YAK *e*S **S** **20 56 31.7 -5.6**
YAK *e**SS Sn 20 56 43.6 -4.7
YAK pmax pmax
comp=Z,83nm,0.9s
YAK pmax pmax
comp=N,7.0nm,0.7s
YAK pmax pmax
comp=E,12nm,1.1s
YAK smax smax
comp=E,281nm,3.1s
YAK smax smax
comp=N,95nm,2.3s
YAK Yakutsk 21.42 343 P **P** **20 52 39.9 -3.3**
comp=N,5.2nm,0.7s,baz=136,slow=3.8,SNR=32
YAK S **S** **20 56 27.5 -10**
comp=N,0.4nm,0.5s,baz=261,slow=24,SNR=1.7
YAK LR LR 21 01 31.2
comp=N,4.5nm,20.1s,baz=136,slow=38
SEY Seymchan 21.70 12 *ce*P **P** **20 52 44.8 -1.5**
SEY pmax pmax
comp=Z,111nm,2.5s
SEY Seymchan 21.70 12 P **P** **20 52 45.0 -1.3**
comp=Z,23nm,0.8s,baz=181,slow=9.7,SNR=47
SEY LR LR 21 02 22.2
comp=Z,216nm,19.1s,baz=208,slow=40
comp=Z,23nm,0.8s
HNS HongShan 21.84 267 ⇑P **P** **20 52 44.8 -3.2**
HNS *e*S S 20 56 32.9 -13
HNS pmax pmax
comp=Z,47nm,1.0s
HNS LR LR
comp=Z,200nm,12.6s
HNS LR LR
comp=Z,420nm,13.0s
HNS LR LR
comp=Z,410nm,16.0s
CIT Chita 21.97 307 *e*P **P** **20 52 46.0 -3.4**
CIT *e* 20 53 28.6
CIT *e* 20 56 37.8
CIT *e* 20 56 50.6
CIT *e* 20 57 22.6
CIT pmax pmax
comp=Z,124nm,2.0s
HHC Hu-ho-hao-te 23.17 277 *e*P **P** **20 52 59.1 -3.0**
HHC S **S** **20 57 03.7 -5.2**
HHC pmax pmax
comp=Z,27nm,0.7s
HHC pmax pmax
comp=Z,150nm,3.9s
HHC LR LR
comp=Z,280nm,19.0s
HHC LR LR
comp=Z,570nm,19.8s
HHC LR LR
comp=Z,630nm,18.9s
SHEM Shemya Is, Ala 23.71 52 P **P** **20 53 08.2 +1.3**
comp=Z,66nm,0.7s,baz=269,slow=18,SNR=2.1
SHEM LR LR 21 04 00.1
comp=Z,65nm,18.9s,baz=296,slow=40
comp=Z,66nm,0.7s
BOD Bodaibo 23.93 321 *e*P **P** **20 53 06.1 -2.7**
BOD pmax pmax
comp=Z,24nm,0.7s
TATO Taipei 24.34 232 P **P** **20 53 11.4 -1.4**
TATO Taipei 24.34 232 P **P** **20 53 12.1 -0.8**
TATO S **S** **20 57 33.7 +5.8**
BTO Baotou 24.36 278 *e*P **P** **20 53 11.8 -1.3**
BTO pP **pP** **20 53 25.9 -1.9**
BTO sP **sP** **20 53 33.4 -1.7**
BTO PP **PnPn** **20 53 49.5 +3.3**
BTO S **S** **20 57 25.2 -3.0**
BTO sS **sS** **20 57 48.4 -5.0**
BTO SS **SnSn** **20 58 21.8 +5.0**
BTO pmax pmax
comp=Z,54nm,1.0s
BTO pmax pmax
comp=Z,420nm,5.1s
BTO LR LR
comp=Z,770nm,19.0s
BTO LR LR
comp=Z,510nm,13.4s
BTO LR LR
comp=Z,780nm,21.4s
YHNB Yeheng 24.64 232 P **P** **20 53 13.3 -2.4**
YHNB IAmb IAmb 20 53 23.4
comp=Z,194nm,1.4s
LYN LuoYang 24.65 262 ⇓P **P** **20 53 13.0 -2.6**
LYN pP pP 20 53 27.7 -2.6
LYN ScP **ScP** **21 00 24.8 -0.1**
LYN pmax pmax
comp=Z,58nm,1.3s
NACB Ninganchiao 24.89 231 P **P** **20 53 15.4 -2.5**
NACB IAmb IAmb 20 53 17.5
comp=Z,183nm,1.8s
WHN Wuhan 25.33 252 ⇓*i*P **P** **20 53 20.8 -0.9**
WHN sP **sP** **20 53 45.2 +1.6**
WHN pmax pmax
comp=Z,230nm,0.6s
SSLB Suanglung 25.56 231 P **P** **20 53 22.4 -1.6**
SSLB IAmb IAmb 20 53 33.2
comp=Z,207nm,2.0s
ULN Ulaanbaatar 25.59 295 P **P** **20 53 23.2 -1.1**
ULN IAmb IAmb 20 53 26.2
comp=Z,28nm,0.6s
ULN Ulaanbaatar 25.59 295 P **P** **20 53 24.4 +0.1**
ULN S **S** **20 57 45.9 -1.8**
ULN Ulaanbaatar 25.59 295 *i*P **P** **20 53 23.5 -0.7**
ULN pmax pmax
comp=Z,31nm,0.7s
YULB Yu-li 25.67 230 P **P** **20 53 23.4 -1.5**
YULB IAmb IAmb 20 53 24.9
comp=Z,160nm,2.0s
SONM Songino Array 26.04 295 P **P** **20 53 27.5 -0.7**
SONM IAmb IAmb 20 53 29.4
comp=Z,30nm,0.7s
SONM Songino Array 26.04 295 P **P** **20 53 27.5 -0.7**
SONM pmax pmax
comp=Z,30nm,0.7s
SONM Songino Array 26.04 295 P **P** **20 53 28.3 +0.1**
comp=Z,24nm,0.5s,baz=75,slow=8.8,SNR=144
SONM PcP **PcP** **20 56 55.3 +0.7**
comp=Z,1.8nm,0.5s,baz=133,slow=2.5,SNR=3.4
SONM ScP **ScP** **21 00 29.0 +0.2**
comp=Z,1.8nm,0.9s,baz=65,slow=3.2,SNR=4.7
SONM LR LR 21 04 19.2
comp=Z,460nm,19.7s,baz=105,slow=38
comp=Z,24nm,0.5s
QZH Quanzhou 26.12 237 ⇓*i*P **P** **20 53 31.5 +2.5**
TPUB Ta-pu 26.13 231 P **P** **20 53 27.9 -1.2**
TWG Pinlang 26.25 230 P **P** **20 53 28.6 -1.6**
TWG IAmb IAmb 20 53 37.7
comp=Z,285nm,2.0s
KNMB Chin-men Tao 26.60 236 P **P** **20 53 32.6 -0.6**
KNMB IAmb IAmb 20 53 37.7
comp=Z,98nm,0.9s
XAN Xi'an 27.50 264 ⇓P **P** **20 53 40.0 -1.4**
XAN pP pP 20 53 54.4 -1.8
XAN sP sP 20 54 00.7 -2.7
XAN PcP **PcP** **20 56 58.9 +0.7**
XAN pmax pmax
comp=Z,72nm,1.1s
XAN LR LR
comp=Z,460nm,19.2s
XAN LR LR
comp=Z,440nm,16.1s
IRK Irkutsk 27.63 305 *e*P **P** **20 53 41.8 -0.5**
IRK pmax pmax
comp=Z,72nm,1.3s
ZAK Zakamensk 28.11 301 *e*P **P** **20 53 46.1 -0.7**
ZAK pmax pmax
comp=Z,22nm,1.0s
GUMO Guam 28.44 175 LR LR 21 03 49.0
comp=Z,142nm,21.0s,baz=30,slow=33
KIWB Kanaga Island 28.88 56 P **P** **20 53 52.9 -0.6**
ENH Enshi 28.97 257 P **P** **20 53 52.6 -1.9**
ENH IAmb IAmb 20 53 57.9
comp=Z,55nm,0.7s
BILL Bilibino 28.98 18 P **P** **20 53 52.9 -1.2**
BILL Bilibino 28.98 18 *e*P **P** **20 53 53.2 -0.9**
MOY Mondy 29.61 303 *e*P **P** **20 54 00.2 +0.2**
MOY pmax pmax
comp=Z,63nm,1.9s
H11N2 WAKE ISLAND Hy 30.36 130 T T 21 25 46.3
baz=324,slow=75,SNR=1189
H11N1 WAKE ISLAND Hy 30.37 130 T T 21 25 49.1
baz=324,slow=75,SNR=37
H11N3 WAKE ISLAND Hy 30.38 130 T T 21 25 46.2
baz=324,slow=75,SNR=224
LZH Lanzhou 30.42 272 *e*P **P** **20 54 07.2 -0.2**
LZH pP pP 20 54 22.4 +0.1
LZH sP sP 20 54 29.2 -0.2
LZH S **S** **20 59 05.1 +1.2**
LZH SS **SnSn** **21 00 49.0 +4.5**
LZH pmax pmax
comp=Z,32nm,1.1s
LZH LR LR
comp=Z,340nm,14.1s
LZH LR LR
comp=Z,370nm,14.1s
LZH LR LR
comp=Z,370nm,15.8s
TIXI Tiksi 30.42 352 P **P** **20 54 03.2 -3.7**
TIXI Tiksi 30.42 352 *ce*P **P** **20 54 03.9 -2.9**
TIXI Tiksi 30.42 352 LR LR 21 07 12.1
comp=Z,6.3nm,21.9s,baz=191,slow=38
HKPS Hong Kong Po S 30.86 239 P **P** **20 54 12.5 +1.3**
H11S1 WAKE ISLAND Hy 31.22 131 T T 21 26 37.8
baz=318
H11S3 WAKE ISLAND Hy 31.23 131 T T 21 26 49.4
baz=318,slow=74
H11S2 WAKE ISLAND Hy 31.24 131 T T 21 26 54.0
baz=318,slow=74
GTA Gaotai 32.22 280 *e*P **P** **20 54 22.9 -0.3**
GTA PcP **PcP** **20 57 12.0 +1.6**
GTA pmax pmax
comp=Z,17nm,0.6s
GTA LR LR
comp=Z,91nm,11.9s
GTA LR LR
comp=Z,210nm,12.4s
GTA LR LR
comp=Z,250nm,13.9s
CD2 Chengdu 32.83 263 P **P** **20 54 27.1 -1.4**
CD2 pP pP 20 54 42.5 -1.0
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,250nm,4.9s
GYA Guiyang 33.19 254 P **P** **20 54 32.0 +0.2**
GYA pmax pmax
comp=Z,24nm,0.6s
QIZ Qiongzhong 35.97 240 P **P** **20 54 55.0 -0.7**
TNA Tin City 36.11 33 P **P** **20 54 54.6 -1.7**
baz=254
PZH PanZhiHua 36.72 258 P **P** **20 55 01.1 -1.0**
PZH pmax pmax
comp=Z,30nm,0.8s
PZH pmax pmax
comp=Z,170nm,4.7s
F14K Arctic Creek 36.73 33 P **P** **20 55 01.2 -0.4**
baz=256
KMI Kunming 36.81 255 ⇓P **P** **20 55 02.9 -0.2**
KMI pmax pmax
comp=Z,29nm,0.7s
GOMU GeErMu 37.08 277 P **P** **20 55 05.6 +0.2**
GOMU S **S** **21 00 44.6 -2.6**
GOMU pmax pmax
comp=Z,16nm,0.7s
GOMU LR LR
comp=Z,140nm,16.3s
GOMU LR LR
comp=Z,170nm,16.9s
GOMU LR LR
comp=Z,220nm,16.4s
FALS False Pass 37.13 51 P **P** **20 55 04.5 -0.7**
baz=273
F15K North Star Dit 37.46 33 P **P** **20 55 08.2 +0.3**
baz=257
G15K Niukluk 37.56 34 P **P** **20 55 08.9 +0.2**
baz=259
L14K Kuka Creek 37.66 40 P **P** **20 55 08.4 -1.1**
L14K IAmb IAmb 20 55 22.7
comp=Z,88nm,1.9s
L14K Kuka Creek 37.66 40 P **P** **20 55 09.6 +0.1**
baz=265
C16K Lisburne Hills 37.85 29 P **P** **20 55 10.0 -1.1**
C16K IAmb IAmb 20 55 12.0
comp=Z,109nm,1.9s
C16K Lisburne Hills 37.85 29 P **P** **20 55 10.2 -0.9**
baz=253
DAV Davao City (W) 37.94 208 LR LR 21 09 01.7
comp=Z,82nm,20.7s,baz=352,slow=33
M14K Bethel 37.96 41 P **P** **20 55 11.4 -0.7**
baz=266
N14K Kuskokwak Cree 38.05 43 P **P** **20 55 13.0 +0.1**
baz=268
L15K Ungalak Mounta 38.26 40 P **P** **20 55 14.8 +0.2**
baz=266
H16K Elim 38.26 35 P **P** **20 55 15.2 +0.7**
baz=261
K15K Wolf Creek Mou 38.29 39 P **P** **20 55 15.2 +0.4**
baz=265
DGZ Jazzator, Alta 38.34 301 *i*P **P** **20 55 16.4 +0.8**
DGZ pmax pmax
comp=Z,78nm,1.0s
G16K Koyuk River 38.34 34 P **P** **20 55 14.9 -0.3**
G16K IAmb IAmb 20 55 57.8
comp=Z,72nm,1.9s
G16K Koyuk River 38.34 34 P **P** **20 55 15.9 +0.7**
baz=260
SLVN Son La 38.38 250 P **P** **20 55 15.2 -1.0**
SLVN IAmb IAmb 20 55 19.3
comp=Z,31nm,0.8s
D17K Noatak River 38.52 30 P **P** **20 55 16.4 -0.3**
baz=256
C17K DeLong Mountai 38.68 29 P **P** **20 55 17.7 -0.4**
baz=256
SDPT Sand Point 38.79 50 P **P** **20 55 19.3 +0.2**
SDPT Sand Point 38.79 50 P **P** **20 55 19.1 0.0**
baz=274
I17K Unalakleet 38.83 36 P **P** **20 55 19.7 +0.3**
baz=264
N15K Kwethluk River 38.86 42 P **P** **20 55 18.6 -1.1**
baz=269
E17K Hotham Inlet 38.86 31 P **P** **20 55 20.2 +0.7**
baz=259
F17K Baldwin Pennin 38.97 32 P **P** **20 55 19.0 -1.4**
F17K IAmb IAmb 20 55 31.8
comp=Z,97nm,1.9s
F17K Baldwin Pennin 38.97 32 P **P** **20 55 20.8 +0.4**
baz=260
G17K Kiwalik Mounta 39.06 34 P **P** **20 55 21.6 +0.3**
baz=262
L16K Owhat River 39.22 40 P **P** **20 55 22.6 0.0**
baz=267
H17K Granite Mounta 39.29 35 P **P** **20 55 23.4 +0.2**
H17K IAmb IAmb 20 56 31.2
comp=Z,34nm,1.4s
H17K Granite Mounta 39.29 35 P **P** **20 55 23.0 -0.2**
baz=263
ZAA0 Zalesovo Array 39.32 308 P **P** **20 55 23.0 -0.5**
ZAA0 **S** **21 01 13.5 -6.4**
ZALV Zalesovo Beam 39.32 308 P **P** **20 55 23.5 0.0**
ZALV **S** **21 01 13.6 -6.4**
ZALV Zalesovo Beam 39.32 308 P **P** **20 55 23.6 0.0**
comp=Z,84nm,0.7s,baz=89,slow=8.1,SNR=298
ZALV PcP **PcP** **20 57 31.5 +0.5**
comp=Z,20nm,0.8s,baz=84,slow=3.1,SNR=8.4
ZALV ScP **ScP** **21 01 14.4 +0.4**
comp=Z,4.4nm,0.7s,baz=84,slow=3.3,SNR=10
ZALV LR LR 21 12 19.7
comp=Z,212nm,20.0s,baz=76,slow=37
comp=Z,84nm,0.7s
CHNA Chernabura Isl 39.34 51 P **P** **20 55 23.1 -0.6**
baz=276
B18K Kokolik River 39.38 27 P **P** **20 55 23.6 -0.3**
baz=256
E18K Tukpahlearik C 39.40 31 P **P** **20 55 23.9 -0.1**
E18K IAmb IAmb 20 55 38.3
comp=Z,32nm,1.6s
E18K Tukpahlearik C 39.40 31 P **P** **20 55 22.6 -1.4**
baz=259
C18K Utukok River 39.43 29 P **P** **20 55 23.3 -1.0**
C18K IAmb IAmb 20 56 22.7
comp=Z,81nm,1.9s
C18K Utukok River 39.43 29 P **P** **20 55 22.5 -1.9**
baz=257
M16K Timber Creek 39.44 41 P **P** **20 55 22.6 -1.9**
baz=269
N16K Nishlik Lake 39.52 42 P **P** **20 55 23.9 -1.3**
baz=270
WMQ Urumqi 39.55 292 ⇑P **P** **20 55 26.1 +0.4**
WMQ pP sP 20 55 46.1 -2.0
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ pmax pmax
comp=Z,160nm,3.7s
WMQ LR LR
comp=Z,240nm,14.5s
WMQ LR LR
comp=Z,600nm,17.3s
WMQ LR LR
comp=Z,240nm,18.5s
L17K Donlin 39.79 39 P **P** **20 55 24.8 -2.6**
baz=268
K17K Iditarod 39.81 38 P **P** **20 55 25.2 -2.4**
baz=267
A19K Wainwright 39.84 26 P **P** **20 55 25.6 -2.0**
baz=256
CHGN Chignik 39.87 48 P **P** **20 55 27.3 -0.8**
CHGN Chignik 39.87 48 P **P** **20 55 27.1 -1.0**
baz=275
G18K Tagagawik 39.93 33 P **P** **20 55 28.0 -0.5**
G18K IAmb IAmb 20 55 45.0
comp=Z,12nm,0.7s
G18K Tagagawik 39.93 33 P **P** **20 55 28.4 -0.1**
baz=263
TNCH TengChong 39.93 259 ⇑P **P** **20 55 29.8 +0.6**
TNCH pP pP 20 55 45.3 +0.9
TNCH PcP **PcP** **20 57 34.7 +1.0**
TNCH S **S** **21 01 30.6 +0.5**
TNCH pmax pmax
comp=Z,100nm,0.9s
TNCH pmax pmax
comp=Z,180nm,3.8s
TNCH LR LR
comp=Z,250nm,10.6s
TNCH LR LR
comp=Z,120nm,12.9s
TNCH LR LR
comp=Z,130nm,17.7s
H18K Honhosa River 39.97 34 IAmb IAmb 20 56 13.3
comp=Z,75nm,1.9s
H18K Honhosa River 39.97 34 P **P** **20 55 28.2 -0.6**
baz=264
C19K Lookout Ridge 40.09 28 P **P** **20 55 28.2 -1.7**
baz=258
M17K Holitna River 40.18 40 IAmb IAmb 20 56 05.2
comp=Z,98nm,1.9s
M17K Holitna River 40.18 40 P **P** **20 55 30.0 -0.6**
baz=270
R16K Pilot Point 40.23 46 P **P** **20 55 30.4 -0.7**
baz=274
O17K Koliganek Bris 40.37 43 P **P** **20 55 32.2 0.0**
baz=272
F19K Shaleruckik Mo 40.40 32 P **P** **20 55 31.2 -1.1**
F19K IAmb IAmb 20 55 55.8
comp=Z,30nm,1.4s
F19K Shaleruckik Mo 40.40 32 P **P** **20 55 30.8 -1.5**
baz=263
ZSN Zaisan 40.48 298 *e*P **P** **20 55 33.8 +0.4**
comp=Z,35nm,1.0s,baz=298
ZSN Zaisan 40.48 298 *e*P **P** **20 55 33.7 +0.4**
ZSN pmax pmax
comp=Z,35nm,1.0s
D19K Kuna River 40.51 29 IAmb IAmb 20 55 46.0
comp=Z,24nm,1.1s
D19K Kuna River 40.51 29 P **P** **20 55 32.4 -0.9**
baz=261
L18K Granite Mounta 40.55 39 IAmb IAmb 20 56 30.7
comp=Z,53nm,1.9s
L18K Granite Mounta 40.55 39 P **P** **20 55 33.6 -0.1**
baz=269
J18K Innoko River 40.57 37 P **P** **20 55 33.2 -0.6**
baz=268
G19K Purcell Mounta 40.59 33 P **P** **20 55 33.2 -0.8**
baz=264
E19K Redstone River 40.69 31 P **P** **20 55 32.6 -2.1**
E19K IAmb IAmb 20 55 39.4
comp=Z,19nm,0.7s
E19K Redstone River 40.69 31 P **P** **20 55 33.7 -1.0**
baz=263
H19K Roundabout Mou 40.80 34 IAmb IAmb 20 55 39.8
comp=Z,18nm,0.8s
H19K Roundabout Mou 40.80 34 P **P** **20 55 35.7 0.0**
baz=266,SNR=9.7
TTA Tatalina 40.87 38 P **P** **20 55 35.9 -0.5**
baz=269
N18K Kilae Creek 40.94 41 P **P** **20 55 36.5 -0.4**
baz=272
M18K Stony River 40.96 40 P **P** **20 55 36.9 -0.1**
baz=271
J19K Poorman 41.07 36 P **P** **20 55 37.9 -0.1**
baz=268
Q17K Contact Creek 41.08 45 P **P** **20 55 38.6 +0.4**
baz=275

SVW2 Sparrevohn 41.08 41 P P 20 55 36.9 -1.2
D20K Etivluk River 41.09 29 P P 20 55 37.2 -0.8
baz=262
B20K Meade River 41.10 27 IAmb IAmb 20 55 57.7
comp=Z,24nm,0.7s
B20K Meade River 41.10 27 P P 20 55 37.3 -0.8
baz=260
E20K Nigu River 41.18 30 P P 20 55 39.0 +0.1
baz=263
F20K Avaraart Lake 41.22 32 P P 20 55 39.4 +0.3
baz=265
O18K Koktuh Hills 41.32 43 P P 20 55 40.2 +0.2
baz=273
P18K Big Mountain, 41.34 43 P P 20 55 40.0 -0.3
baz=274
H20K Anotleneega Mo 41.45 34 P P 20 55 40.7 -0.3
baz=267
CHIR Chirikof Islan 41.48 49 P P 20 55 40.4 -0.9
baz=278
Q18K Katmai Hardscr 41.51 44 P P 20 55 42.1 +0.4
baz=275
A21K Barrow 41.52 25 P P 20 55 41.2 -0.3
baz=259
CRAI Chiangrai 41.59 252 P P 20 55 42.9 +0.2
I20K Naaghedeneel 41.59 35 P P 20 55 41.5 -0.6
baz=268
N19K Bonanza Creek 41.63 41 P P 20 55 43.1 +0.4
baz=273
M19K Big River Lodg 41.63 39 P P 20 55 41.2 -1.3
baz=272
J20K Nowinta River 41.72 36 P P 20 55 44.0 +0.7
J20K Nowinta River 41.72 36 P P 20 55 44.0 +0.7
baz=269
K20K Telida 41.75 37 P P 20 55 43.1 -0.4
baz=270
C21K Knifeblade Rid 41.80 29 P P 20 55 44.2 +0.3
baz=263
L20K Farewell, AK 41.85 39 P P 20 55 44.3 -0.2
baz=272
B21K Ikpikpuk River 41.92 28 P P 20 55 44.1 -0.6
B21K PcP PcP 20 57 40.7 +1.6
B21K Ikpikpuk River 41.92 28 P P 20 55 44.5 -0.3
baz=263
IMAR Indian Mountai 41.94 33 P P 20 55 45.0 -0.1
IMAR PcP 20 57 39.8 +0.6
A22K Sinclair Lake 41.99 26 P P 20 55 45.0 -0.4
baz=261
E21K Killik River 42.02 30 P P 20 55 45.2 -0.5
baz=265
G21K Allakaket 42.06 33 P P 20 55 45.9 -0.1
baz=267
F21K Alatna River 42.11 31 P P 20 55 46.4 -0.1
F21K PcP PcP 20 57 40.8 +0.9
F21K Alatna River 42.11 31 P P 20 55 46.3 -0.1
baz=267
DLV T Lat 42.17 235 P P 20 55 48.0 +0.3
DLV IAmb IAmb 20 55 50.1
comp=Z,43nm,0.8s
SII Sitkinak Islan 42.18 47 P P 20 55 47.0 -0.2
baz=278
Q19K Cape Douglas, 42.19 44 P P 20 55 46.9 -0.2
baz=276
M20K Styx River 42.23 39 P P 20 55 48.2 +0.7
M20K Styx River 42.23 39 P P 20 55 46.7 -0.8
baz=273
H21K Melozitna Rive 42.32 34 IAmb IAmb 20 56 06.8
comp=Z,50nm,2.0s
H21K Melozitna Rive 42.32 34 P P 20 55 47.7 -0.4
baz=269
P19K Oil Pt 42.33 43 P P 20 55 48.2 -0.2
baz=275
MK31 Makanchi Array 42.35 298 P P 20 55 48.3 -0.3
MK31 IAmb IAmb 20 55 49.6
comp=Z,59nm,0.8s
MK31 Makanchi Array 42.35 298 *i* P P 20 55 48.5 -0.1
MK31 pmax pmax
comp=Z,65nm,0.7s
MKAR Makanchi Array 42.35 298 P P 20 55 48.0 -0.7
MKAR PcP PcP 20 57 41.1 +0.1
MKAR Makanchi Array 42.35 298 P P 20 55 48.6 -0.1
comp=Z,69nm,0.9s,baz=82,slow=9.1,SNR=280
MKAR ScP ScP 21 01 26.3 +0.1
comp=Z,0.6nm,0.8s,baz=26,slow=3.7,SNR=3.9
MKAR LR LR 21 14 32.2
comp=Z,131nm,18.4s,baz=137,slow=38
comp=Z,69nm,0.9s
ILSW Iliamna Southw 42.35 42 P P 20 55 48.4 -0.2
B22K Teshekpuk Lake 42.41 27 P P 20 55 47.9 -0.9
B22K PcP PcP 20 57 41.4 +0.7
B22K Teshekpuk Lake 42.41 27 P P 20 55 47.5 -1.3
baz=263
D22K Ayikyak River 42.53 29 P P 20 55 49.6 -0.1
baz=266
CHUM Lake Minchumin 42.53 36 P P 20 55 50.3 +0.5
baz=271
MAKZ Makanchi 42.55 298 P P 20 55 49.8 -0.5
MAKZ Makanchi 42.55 298 P P 20 55 49.8 -0.5
MAKZ pmax pmax
comp=Z,84nm,0.9s
MAKZ Makanchi 42.55 298 P P 20 55 50.3 0.0
MAKZ PcP PcP 20 57 41.3 -0.4
OHAK Old Harbor 42.58 46 P P 20 55 49.8 -0.5
OHAK IAmb IAmb 20 55 57.9
comp=Z,79nm,1.7s
OHAK PcP PcP 20 57 42.6 +1.1
OHAK Old Harbor 42.58 46 P P 20 55 50.4 +0.2
baz=278
O20K Slope Mountain 42.60 42 P P 20 55 50.4 -0.1
baz=275
PPLA Purkeypile 42.62 38 P P 20 55 51.3 +0.5
baz=272
F22K John River 42.63 31 P P 20 55 51.2 +0.6
baz=268
CAST Castle Rocks 42.65 37 P P 20 55 51.6 +0.8
CAST PcP PcP 20 57 43.5 +1.8
CAST Castle Rocks 42.65 37 P P 20 55 52.2 +1.4
baz=272,SNR=13
I21K Tanana 42.66 35 P P 20 55 50.9 0.0
I21K PcP 20 57 43.1 +1.4
I21K Tanana 42.66 35 P P 20 55 52.0 +1.2
baz=270
N20K Mount Spurr 42.71 40 P P 20 55 52.8 +1.3
baz=274
SEM Semipalatinsk 42.72 303⇑*i*P P 20 55 52.5 +0.6
comp=Z,31nm,0.8s,baz=303
SEM Semipalatinsk 42.72 303*c i*P P 20 55 52.4 +0.6
SEM pmax pmax
comp=Z,31nm,0.8s
E22K Anaktuvuk Pass 42.80 30 P P 20 55 52.0 0.0
baz=267,SNR=20
LSA Lhasa 42.81 270 P P 20 55 53.2 +0.1
LSA IAmb IAmb 20 55 55.7
comp=Z,78nm,1.3s
LSA Lhasa 42.81 270 P P 20 55 54.3 +1.1
LSA Lhasa 42.81 270 P P 20 55 53.2 +0.1
LSA pmax pmax
comp=Z,78nm,1.3s
LSA Lhasa 42.81 270 P P 20 55 54.5 +1.4
LSA pmax pmax
comp=Z,46nm,0.9s
LSA Lhasa 42.81 270 P P 20 55 54.3 +1.1
LSA pP pP 20 56 09.1 +0.5
Q20K Shuyak Island 42.87 44 P P 20 55 51.6 -1.1
baz=277
SYI Shuyak Island 42.87 44 P P 20 55 53.1 +0.5
SYI IAmb IAmb 20 56 26.8
comp=Z,87nm,1.6s
KDAK Kodiak Island 42.88 45 P P 20 55 52.8 +0.1
KDAK IAmb IAmb 20 57 02.7
comp=Z,50nm,1.6s
KDAK Kodiak Island 42.88 45 P P 20 55 52.6 -0.1
baz=278
KDAK Kodiak Island 42.88 45 P P 20 55 52.8 +0.1
KDAK pmax pmax
comp=Z,49nm,1.6s
KDAK Kodiak Island 42.88 45 LR LR 21 14 48.8
comp=Z,143nm,20.6s,baz=266,slow=38
KDAK Kodiak Island 42.88 45 P P 20 55 52.9 +0.2
KDAK PcP PcP 20 57 43.7 +1.2
H22K Ishtalitna Cre 42.91 33 P P 20 55 51.7 -1.2
baz=270
SKT Skwentna 42.98 39 P P 20 55 53.2 -0.4
baz=274
BPAW Bear Paw Mtn. 43.11 36 P P 20 55 55.0 +0.4
BPAW PcP PcP 20 57 44.1 +0.9
BPAW Bear Paw Mtn. 43.11 36 P P 20 55 54.7 +0.1

baz=272
KTH Kantishna Hill 43.16 37 IAmb IAmb 20 56 14.7
comp=Z,20nm,0.8s
MLY Manley 43.19 35 P P 20 55 55.6 +0.4
baz=272
D23K Nanushuk River 43.25 29 P P 20 55 56.1 +0.5
baz=267
C23K Itkillik River 43.33 28 P P 20 55 55.4 -0.8
C23K PcP PcP 20 57 45.1 +1.3
C23K Itkillik River 43.33 28 P P 20 55 55.6 -0.6
baz=266
COLD Coldfoot 43.39 32 P P 20 55 57.2 +0.5
baz=270
SUA Susitna One 43.39 40 P P 20 55 57.6 +0.6
baz=275
TRF Thorofare Moun 43.45 37 P P 20 55 58.1 +0.6
baz=274,SNR=7.5
G23K Bananza Creek 43.45 32 P P 20 55 57.4 +0.1
baz=270
CHTO Chiang Mai 43.53 251 P P 20 55 58.6 +0.2
CHTO PcP PcP 20 57 44.2 -1.1
CHTO Chiang Mai 43.53 251 P P 20 55 59.9 +1.4
CHTO S S 21 02 26.7 +3.7
CHTO Chiang Mai 43.53 251 P P 20 55 59.1 +0.7
CHTO sP sP 20 56 21.6 +0.7
CHTO PcP PcP 20 57 46.3 +0.9
CUT Chulitna 43.53 39 P P 20 55 58.1 +0.2
CUT IAmb IAmb 20 56 04.0
comp=Z,18nm,0.9s
CUT Chulitna 43.53 39 P P 20 55 58.5 +0.5
baz=275
BRSE Bradley Lake S 43.58 42 P P 20 55 58.8 +0.4
baz=277
E23K Chandalar 43.62 30 P P 20 55 58.5 -0.2
baz=269
TOLK Toolik Lake Re 43.65 29 P P 20 55 59.2 +0.3
TOLK IAmb IAmb 20 56 19.6
comp=Z,44nm,1.8s
TOLK PcP PcP 20 57 46.5 +1.5
TOLK Toolik Lake Re 43.65 29 P P 20 55 59.0 +0.2
baz=269,SNR=5.5
KURK Kurchatov 43.65 304 P P 20 55 59.0 0.0
KURK Kurchatov 43.65 304 P P 20 55 59.1 0.0
KURK Kurchatov 43.65 304 *i* P P 20 55 58.7 -0.3
KURK pmax pmax
comp=Z,138nm,0.9s
KURK Kurchatov 43.65 304 P P 20 55 59.1 0.0
M22K Willow 43.66 39 P P 20 55 59.2 +0.2
baz=276
KURBB Kurchatov Arra 43.73 304 P P 20 55 59.7 0.0
comp=Z,116nm,0.8s,baz=76,slow=8.6,SNR=434
KURBB PcP PcP 20 57 46.0 +0.4
comp=Z,8.9nm,0.8s,baz=76,slow=3.2,SNR=4.6
KURBB S S 21 02 26.8 +1.6
comp=Z,0.6nm,1.0s,baz=77,slow=18,SNR=4.1
KURBB LR LR 21 14 55.4
comp=Z,124nm,19.2s,baz=158,slow=37
comp=Z,116nm,0.8s
I23K Minto, Yukon-K 43.77 35 P P 20 56 00.2 +0.4
I23K PcP 20 57 46.7 +1.4
I23K Minto, Yukon-K 43.77 35 P P 20 56 00.1 +0.4
baz=273
CM31 Chiang Mai Arr 43.77 251 P P 20 55 60.0 -0.4
CM31 IAmb IAmb 20 56 07.2
comp=Z,27nm,0.9s
CM31 Chiang Mai Arr 43.77 251 P P 20 56 01.4 +1.0
SNR=7.7
CMAR Chiang Mai Arr 43.77 251 P P 20 55 59.7 -0.6
CMAR PcP PcP 20 57 47.9 +1.7
CMAR Chiang Mai Arr 43.77 251 P P 20 56 01.2 +0.8
comp=Z,8.8nm,0.6s,baz=42,slow=7.4,SNR=59
CMAR PcP PcP 20 57 47.5 +1.3
comp=Z,6.1nm,0.7s,baz=18,slow=1.8,SNR=9.8
CMAR ScP ScP 21 01 33.9 +1.6
comp=Z,1.0nm,0.3s,baz=11,slow=3.7,SNR=6.1
CMAR LR LR 21 15 41.3
comp=Z,169nm,18.1s,baz=50,slow=38
comp=Z,8.8nm,0.6s
RC01 Rabbit Creek A 43.91 40 P P 20 56 01.0 0.0
baz=276
NEA2 Nenana 43.92 35 P P 20 56 01.2 +0.2
NEA2 IAmb IAmb 20 56 08.1
comp=Z,16nm,0.7s
NEA2 PcP PcP 20 57 46.8 +0.8
NEA2 Nenana 43.92 35 P P 20 56 01.7 +0.7
baz=273,SNR=18
D24K Happy Valley 43.93 29 IAmb IAmb 20 56 04.7
comp=Z,23nm,0.7s
D24K Happy Valley 43.93 29 P P 20 56 01.0 0.0
baz=269
C24K Franklin Bluff 43.98 28 P P 20 56 00.6 -0.9
baz=268
MCK McKinley 44.04 37 P P 20 56 02.5 +0.5
baz=274
E24K Your Creek 44.04 30 P P 20 56 01.1 -1.0
baz=270
RND Reindeer 44.10 37 P P 20 56 02.6 0.0
RND PcP PP 20 57 46.4 +0.4
PMR Palmer 44.15 40 P P 20 56 03.6 +0.7
baz=276
SEW Seward 44.18 42 P P 20 56 03.7 +0.6
baz=278
GHO Glory Hole Cre 44.23 39 IAmb IAmb 20 56 33.1
comp=Z,19nm,0.7s
F24K Squaw Lake 44.28 31 P P 20 56 04.2 +0.3
baz=272
WAT1 Susitna Watana 44.29 38 P P 20 56 04.1 0.0
baz=276
H24K Noodor Dome 44.35 34 P P 20 56 05.3 +0.8
H24K PP 20 57 48.8 +0.2
H24K Noodor Dome 44.35 34 P P 20 56 05.1 +0.6
baz=273
COLA College 44.42 35 P P 20 56 05.7 +0.7
COLA College 44.42 35 P P 20 56 05.8 +0.7
baz=274
COLA College 44.42 35 P P 20 56 05.7 +0.7
COLA pmax pmax
comp=Z,55nm,0.3s
COLA College 44.42 35 P P 20 56 05.9 +0.9
G24K Hadweenzic Riv 44.47 32 P P 20 56 06.0 +0.5
baz=273
KNK Knik Glacier 44.49 40 P P 20 56 06.2 +0.6
KNK Knik Glacier 44.49 40 P P 20 56 05.6 -0.1
baz=277
SML Sawmill 44.50 39 IAmb IAmb 20 56 29.1
comp=Z,23nm,0.8s
SML Sawmill 44.50 39 P P 20 56 05.2 -0.6
baz=277
POKR Poker Plat Res 44.58 35 P P 20 56 06.3 0.0
POKR Poker Plat Res 44.58 35 P P 20 56 06.4 +0.1
baz=274
PWL Port Wells 44.62 41 P P 20 56 06.6 -0.2
PWL IAmb IAmb 20 56 23.1
comp=Z,24nm,1.2s
PWL PcP PcP 20 57 49.2 +0.8
PWL Port Wells 44.62 41 P P 20 56 06.2 -0.5
baz=278
WAT6 Susitna Watana 44.69 38 P P 20 56 06.0 -1.3
baz=277
M23K Glacier View 44.79 39 P P 20 56 07.9 -0.2
baz=277
DHY Denali Highway 44.80 37 P P 20 56 08.5 +0.3
DHY PcP 20 57 50.5 +1.3
DHY IAmb IAmb 20 57 51.5
comp=Z,14nm,0.7s
DHY Denali Highway 44.80 37 P P 20 56 08.0 -0.2
baz=276,SNR=9.8
D25K Kavik River 44.80 28 P P 20 56 07.3 -0.7
baz=271
IL31 44.84 35 P P 20 56 07.9 -0.4
IL31 PcP PcP 20 57 47.8 -1.3
ILAR Eielson Array 44.84 35 P P 20 56 08.5 +0.1
comp=Z,6.6nm,0.9s,baz=255,slow=5.0,SNR=69
ILAR PcP PcP 20 57 48.6 -0.5
comp=Z,2.4nm,0.6s,baz=278,slow=3.7,SNR=4.9
ILAR LR LR 21 15 39.1
comp=Z,36nm,18.3s,baz=258,slow=37
comp=Z,6.6nm,0.9s
HDA Harding Lake 44.85 35 P P 20 56 08.5 +0.1
baz=276,SNR=6.3
HDA P P 20 56 08.5 +0.1
baz=276,SNR=6.3
IL03 Eielson Array 44.86 35 P P 20 56 07.3 -1.2
IL03 PcP PcP 20 57 46.8 -2.3
SCM Sheep Creek Mo 44.97 39 P P 20 56 10.3 +0.8
baz=278

G25K Bearman Lake 45.01 32 P P 20 56 09.9 +0.2
baz=274
E25K Arctic Village 45.14 30 P P 20 56 11.4 +0.7
baz=273
F25K Christian Rive 45.14 31 P P 20 56 11.1 +0.4
baz=273
H25L Birch Creek 45.16 33 P P 20 56 11.3 +0.5
baz=275
TOLI2 Tolitoli 45.22 211 P P 20 56 11.4 -0.5
C26K Camden Bay 45.30 28 P P 20 56 12.4 +0.5
baz=272
PRP Porcupine Dome 45.34 34 P P 20 56 12.4 -0.2
PRP IAmb IAmb 20 56 19.4
comp=Z,16nm,0.8s
PRP Porcupine Dome 45.34 34 P P 20 56 13.4 +0.9
baz=276,SNR=13
MRSI Marisa 45.36 210 P P 20 56 13.7 +0.7
comp=Z,99nm,1.0s,comp=Z,840nm
SHLS Shalkode 45.42 294⇑*i*P P 20 56 11.0 -2.5
baz=294
SHLS Shalkode 45.42 294*c i*P P 20 56 10.9 -2.5
K24K Donnelly Dome 45.42 36 P P 20 56 11.5 -1.6
baz=277
M24K Tolsona, Glenn 45.47 39 IAmb IAmb 20 57 15.5
comp=Z,21nm,0.9s
M24K Tolsona, Glenn 45.47 39 P P 20 56 13.7 +0.2
baz=278
TDK Taldyqorghan 45.48 296⇑*i*P P 20 56 14.4 +0.5
comp=Z,70nm,0.6s,baz=296
TDK Taldyqorghan 45.48 296*c i*P P 20 56 14.3 +0.5
TDK pmax pmax
comp=Z,70nm,0.6s
J25K Salcha River, 45.51 35 P P 20 56 12.7 -1.0
baz=277
BMAR Burnt Mountain 45.55 31 P P 20 56 14.5 +0.4
BMAR PcP PcP 20 57 52.2 +0.6
KLU Klutina 45.69 40 P P 20 56 15.7 +0.4
KLU IAmb IAmb 20 56 37.7
comp=Z,23nm,1.1s
KLU Klutina 45.69 40 P P 20 56 15.6 +0.4
baz=279,SNR=8.4
F26K Sheenjek River 45.70 31 P P 20 56 16.0 +0.8
baz=275
UZB Uzynbulak 45.73 294⇑*i*P P 20 56 15.7 -0.2
baz=294
UZB Uzynbulak 45.73 294*c i*P P 20 56 15.6 -0.2
FAKI Fak Fak 45.73 194 P P 20 56 15.5 -0.4
FAKI IAmb IAmb 20 56 42.5
comp=Z,32nm,0.8s
FAKI Fak Fak 45.73 194 P P 20 56 16.1 +0.2
comp=Z,44nm,0.9s
KPKS Kokpek 45.84 294⇑*i*P P 20 56 16.8 +0.1
baz=294
KPKS Kokpek 45.84 294*c i*P P 20 56 16.8 +0.1
HARP HAARP 45.90 38 P P 20 56 17.9 +1.1
baz=279,SNR=7.9
G26K Porcupine Rive 45.91 32 P P 20 56 17.9 +1.2
baz=276,SNR=9.1
EYAK Cordova Ski Ar 45.93 41 P P 20 56 17.8 +0.8
baz=280
ZHN Zhinishke 46.12 294⇑*i*P P 20 56 19.1 +0.1
baz=294
ZHN Zhinishke 46.12 294*c i*P P 20 56 19.0 +0.1
SATY Saty 46.18 294⇑*i*P P 20 56 19.6 +0.2
baz=294
SATY Saty 46.18 294*c i*P P 20 56 19.6 +0.2
SCRK Sand Creek 46.19 36 P P 20 56 18.7 -0.5
SCRK IAmb IAmb 20 56 25.1
comp=Z,14nm,0.8s
SCRK PcP PcP 20 57 53.8 -0.2
SCRK Sand Creek 46.19 36 P P 20 56 19.2 0.0
baz=278,SNR=25
MPSI Mapaga 46.27 212 P P 20 56 20.3 +0.1
comp=Z,12nm,0.8s
N25K Chitina, Valde 46.29 39 P P 20 56 20.6 +0.6
baz=280
J26L Joseph Creek 46.29 35 IAmb IAmb 20 57 17.4
comp=Z,32nm,1.9s
J26L Joseph Creek 46.29 35 P P 20 56 20.3 +0.3
baz=278
WUS Wushi 46.33 291 P P 20 56 21.1 +0.4
SANI Sanana 46.39 203 P P 20 56 19.0 -2.1
comp=Z,25nm,1.2s
BMRM Bremner River 46.40 40 P P 20 56 21.7 +0.9
baz=281
LUWI Luwuk 46.47 208 P P 20 56 21.3 -0.4
comp=Z,46nm,0.8s
E27K Coleen River 46.61 30 P P 20 56 22.7 +0.4
baz=276
L26K Log Cabin Wild 46.62 37 P P 20 56 23.2 +0.8
L26K IAmb IAmb 20 56 42.4
comp=Z,21nm,1.2s
L26K Log Cabin Wild 46.62 37 P P 20 56 23.4 +0.9
baz=280,SNR=8.2
TAPN Taplejung 46.62 270 *e*P P 20 56 24.0 +0.7
comp=Z,82nm,0.5s
D27M Malcolm River 46.73 28 P P 20 56 23.3 0.0
baz=276
G27K Doyon Strip 46.76 32 P P 20 56 24.0 +0.5
baz=278
CHKK Chushkaly 46.84 296⇑*i*P P 20 56 24.4 -0.1
baz=296
CHKK Chushkaly 46.84 296⇑*i*P P 20 56 24.4 -0.1
H27K Steamboat Moun 46.89 33 P P 20 56 24.5 0.0
baz=278
M26K Nabesna, AK 46.89 38 P P 20 56 25.6 +0.9
baz=281
VRDI Verde Repeater 46.90 40 IAmb IAmb 20 56 47.6
comp=Z,14nm,1.0s
I27K Kandik River 46.95 33 P P 20 56 25.7 +0.6
baz=279
K27K Chicken 47.01 36 IAmb IAmb 20 56 43.2
comp=Z,17nm,0.9s
K27K Chicken 47.01 36 P P 20 56 25.5 +0.1
baz=280
MDOK Medeo 47.06 295 *i* P P 20 56 26.8 +0.5
baz=295
MDOK *e*S S 21 03 14.4 +0.6
baz=295
MDOK Medeo 47.06 295 *i* P P 20 56 26.8 +0.5
MDOK *e*S S 21 03 14.4 +0.6
MCARA McCarthy VSAT 47.07 39 P P 20 56 25.9 -0.1
MCARA IAmb IAmb 20 56 43.8
comp=Z,20nm,0.8s
MCARA PcP PcP 20 57 59.1 +2.1
MCARA McCarthy VSAT 47.07 39 P P 20 56 27.0 +1.0
baz=282
ODAN Odare 47.13 270 *e*P P 20 56 27.7 +0.5
comp=Z,101nm,0.7s
AAA Alma-Ata 47.13 295 *e*P P 20 56 27.3 +0.4
comp=Z,59nm,0.6s,baz=295
AAA Alma-Ata 47.13 295 *e*P P 20 56 27.2 +0.4
AAA pmax pmax
comp=Z,59nm,0.6s
TNSS Tian-Shan 47.18 294⇑*i*P P 20 56 28.2 +0.6
baz=294
TNSS Tian-Shan 47.18 294⇑*i*P P 20 56 28.1 +0.6
KUU Kurty 47.26 296⇑*i*P P 20 56 27.3 -0.4
comp=Z,75nm,0.7s,baz=296
KUU *e*S S 21 03 16.2 -0.2
baz=296
KUU Kurty 47.26 296*c i*P P 20 56 27.3 -0.4
KUU *e*S S 21 03 16.1 -0.2
KUU pmax pmax
comp=Z,75nm,0.7s
EGAK Eagle 47.27 35 P P 20 56 27.5 0.0
EGAK IAmb IAmb 20 56 38.8
comp=Z,12nm,0.8s
EGAK Eagle 47.27 35 P P 20 56 27.9 +0.4
baz=280
L27K Beaver Creek, 47.30 37 IAmb IAmb 20 56 51.6
comp=Z,14nm,0.7s
L27K Beaver Creek, 47.30 37 P P 20 56 29.0 +1.3
baz=281
E28M Babbage River 47.32 29 P P 20 56 28.0 +0.2
E28M PcP PcP 20 57 59.3 +1.6
E28M Babbage River 47.32 29 P P 20 56 28.2 +0.4
baz=278
F28M Old Crow 47.33 31 P P 20 56 28.6 +0.7
F28M PcP PcP 20 57 58.5 +0.7
F28M Old Crow 47.33 31 P P 20 56 28.9 +1.0
baz=278
WAX Waxell Ridge 47.35 41 P P 20 56 28.2 0.0
WAX IAmb IAmb 20 57 00.7
comp=Z,32nm,1.1s
WAX PcP PcP 20 57 59.7 +1.6
M27K Edge Creek, AK 47.41 38 IAmb IAmb 20 56 53.3

comp=Z,18nm,0.9s
M27K Edge Creek, AK 47.41 38 P P 20 56 29.9 +1.1
baz=282
D28M Stokes Point 47.50 28 P P 20 56 29.6 +0.4
baz=278
BRZS Berezniki 47.51 305⇑ *i*P P 20 56 29.6 +0.1
baz=305
BRZS Berezniki 47.51 305 *c* iP P 20 56 29.6 +0.1
ISLE Juniper Island 47.57 40 P P 20 56 30.3 +0.3
ISLE IAmb IAmb 20 57 05.7
comp=Z,43nm,1.4s
JIRN Jiri 47.59 271 *e*P P 20 56 31.4 +0.5
comp=Z,83nm,0.5s
I28M Miner Creek 47.66 34 IAmb IAmb 20 57 00.0
comp=Z,53nm,1.6s
I28M Miner Creek 47.66 34 P P 20 56 31.6 +0.9
baz=280
RAMN Ramite 47.67 270 *e*P P 20 56 32.0 +0.6
comp=Z,241nm,0.7s
GUN Gumba 47.68 272 *e*P P 20 56 32.1 +0.5
comp=Z,408nm,0.5s
BARN Barnard Glacie 47.79 40 IAmb IAmb 20 56 40.6
comp=Z,11nm,0.6s
MESA MESA 47.85 41 P P 20 56 33.3 +1.1
baz=284
BVCY Beaver Creek 47.86 38 P P 20 56 33.1 +0.9
baz=282
SBUM Sibu 47.88 223 P P 20 56 33.2 +0.5
BVAR Borovoye Array 47.93 309 P P 20 56 33.1 +0.4
comp=Z,86nm,0.4s,baz=74,slow=9.1,SNR=694
BVAR PcP PcP 20 58 01.1 +0.9
comp=Z,24nm,0.7s,baz=63,slow=2.0,SNR=8.4
BVAR S S 21 03 30.8 +5.3
comp=Z,1.1nm,0.8s,baz=66,slow=16,SNR=2.8
BVAR LR LR 21 17 55.7
comp=Z,207nm,18.2s,baz=63,slow=37
comp=Z,86nm,0.4s
E29M Blow River 47.95 29 P P 20 56 33.2 +0.6
baz=280
CTG Chitna Glacier 47.96 40 P P 20 56 34.0 +1.0
baz=283
CTGM Chitina Glacie 47.97 40 P P 20 56 33.7 +0.6
CTGM IAmb IAmb 20 56 59.6
comp=Z,12nm,0.7s
ULHL Ulahol 47.97 294 P P 20 56 33.8 +0.3
SNR=20
BRVK Borovoye 47.98 309 P P 20 56 33.4 +0.2
BRVK PcP PcP 20 58 00.9 +0.5
BRVK Borovoye 47.98 309 P P 20 56 33.6 +0.4
BRVK S S 21 03 26.0 -0.3
BRVK Borovoye 47.98 309 *i* P P 20 56 33.1 0.0
BRVK pmax pmax
comp=Z,42nm,0.6s
BRVK Borovoye 47.98 309 P P 20 56 33.7 +0.6
BRVK PcP PcP 20 58 01.1 +0.7
TKM2 Tokmak 2 48.14 295 P P 20 56 35.5 +0.7
SNR=25
H29M Whitestone 48.15 32 IAmb IAmb 20 58 02.7
comp=Z,9.4nm,0.7s
H29M Whitestone 48.15 32 P P 20 56 35.2 +0.9
baz=281
G29M Pine Creek 48.16 31 P P 20 56 35.5 +1.1
G29M IAmb IAmb 20 56 56.9
comp=Z,18nm,1.1s
G29M PcP PcP 20 58 01.9 +1.1
G29M Pine Creek 48.16 31 P P 20 56 35.4 +1.1
baz=281
DAWY Dawson 48.16 35 P P 20 56 34.8 +0.4
baz=282
YUK3 Moose Creek 48.19 38 P P 20 56 35.6 +0.7
baz=283
KKN Kakani 48.19 272 *e*P P 20 56 35.7 +0.3
comp=Z,239nm,0.9s
PKI Pulchoki 48.22 272 *e*P P 20 56 35.8 +0.1
comp=Z,75nm,0.6s
PKIN Phulchoki 48.22 272 *e*P P 20 56 35.8 +0.1
comp=Z,55nm,0.5s
I29M Ogilvie Camp, 48.35 33 P P 20 56 36.4 +0.5
baz=282,SNR=9.2
BTLS Baital 48.36 298⇑ *i*P P 20 56 35.8 -0.4
baz=298
BTLS Baital 48.36 298 *c* iP P 20 56 35.7 -0.4
DMN Daman 48.42 272 *e*P P 20 56 37.5 +0.3
comp=Z,116nm,0.6s
O28M Mount Upton 48.55 40 P P 20 56 38.2 +0.4
baz=284
GKN Gorkha 48.56 273 *e*P P 20 56 38.2 +0.1
comp=Z,83nm,0.5s
SGDS Sogindy 48.58 296⇑ *i*P P 20 56 37.1 -0.9
baz=296
SGDS Sogindy 48.58 296 *c* iP P 20 56 37.9 -0.1
YUK8 Steele Glacier 48.63 39 P P 20 56 38.3 0.0
baz=284
CHMS Chumysh 48.68 295 P P 20 56 38.7 0.0
SNR=19
KBK Karagaybulak 48.68 295 P P 20 56 39.5 +0.6
SNR=140
PINM Pinnacle 48.70 41 P P 20 56 38.9 +0.3
baz=285
KZA Kyzart 48.71 294 P P 20 56 40.5 +1.2
SNR=8.5
USP Ospenovka 48.74 296 P P 20 56 39.4 +0.2
SNR=26
EPYK Eagle Plains 48.78 32 IAmb IAmb 20 56 58.4
comp=Z,19nm,1.0s
EPYK Eagle Plains 48.78 32 P P 20 56 39.6 +0.5
baz=282,SNR=12
FRU1 Bishkek 48.83 295 P P 20 56 40.1 +0.2
FRU1 Bishkek 48.83 295 P P 20 56 40.1 +0.2
FRU1 pmax pmax
comp=Z,74nm,0.6s
G30M tAoh Zraii Nji 48.84 31 P P 20 56 39.4 -0.2
G30M IAmb IAmb 20 56 53.3
comp=Z,14nm,0.8s
G30M PcP PcP 20 58 04.2 +0.9
G30M tAoh Zraii Nji 48.84 31 P P 20 56 40.2 +0.6
baz=282
F30M Barrier River 48.87 30 P P 20 56 40.6 +0.8
baz=282
L29M L29M 48.93 36 IAmb IAmb 20 57 08.8
comp=Z,19nm,0.9s
L29M L29M 48.93 36 P P 20 56 42.3 +2.0
baz=284
M29M Somme Creek 48.94 37 P P 20 56 41.1 +0.5
baz=284
AAK Ala-Archa 48.99 295 P P 20 56 41.5 +0.2
SNR=59
AAK Ala-Archa 48.99 295 P P 20 56 40.8 -0.5
AAK Ala-Archa 48.99 295 *i* P P 20 56 41.5 +0.2
SNR=14
AAK Ala-Archa 48.99 295 P P 20 56 41.3 0.0
AAK S S 21 03 31.6 -10
AAK Ala-Archa 48.99 295 P P 20 56 40.8 -0.5
AAK pmax pmax
comp=Z,41nm,0.5s
AAK Ala-Archa 48.99 295 LR LR 21 19 05.8
comp=Z,139nm,19.7s,baz=64,slow=38
AAK Ala-Archa 48.99 295 P P 20 56 41.3 0.0
K29M Barlow Dome 49.02 35 IAmb IAmb 20 56 48.7
comp=Z,9.7nm,0.8s
K29M Barlow Dome 49.02 35 P P 20 56 41.7 +0.6
baz=284
DANN Dangsing 49.02 274 *e*P P 20 56 42.6 +0.8
comp=Z,362nm,0.6s
YUK4 Talbot Arm 49.14 39 P P 20 56 42.7 +0.6
baz=285
UCH Uchtor 49.15 294 P P 20 56 43.2 +0.4
SNR=24
I30M Mount Dempster 49.17 33 IAmb IAmb 20 56 44.2
comp=Z,21nm,0.8s
I30M Mount Dempster 49.17 33 P P 20 56 43.4 +1.1
baz=284,SNR=30
KSH Kashi 49.28 291 P P 20 56 47.5 +4.0
KSH pP sP 20 57 03.1 -3.3
KSH pmax pmax
comp=Z,51nm,0.8s
KSH LR LR
comp=Z,180nm,17.2s
KSH LR LR
comp=Z,210nm,18.5s
KSH LR LR
comp=Z,300nm,16.7s
J30M Hart River 49.35 34 IAmb IAmb 20 57 03.5
comp=Z,24nm,1.3s
J30M Hart River 49.35 34 P P 20 56 44.0 +0.4
baz=284
YUK6 Outpost Mounta 49.37 39 P P 20 56 44.0 0.0
baz=286
O29M Mount Kennedy 49.45 40 P P 20 56 46.2 +1.7
baz=286
KOLN Koldanda 49.45 273 *e*P P 20 56 45.6 +0.6
EKS2 Erkin-Say 49.47 295 P P 20 56 45.0 +0.2
SNR=21
INK Inuvik 49.55 29 P P 20 56 45.3 +0.4
baz=283,SNR=12
INK Inuvik 49.55 29 LR LR 21 21 45.2
comp=Z,96nm,18.6s,baz=157,slow=41
G31M Satah River 49.60 31 P P 20 56 45.4 +0.1
G31M PcP PcP 20 58 06.1 +0.2
G31M IAmb IAmb 20 58 08.0
comp=Z,12nm,0.8s
G31M Satah River 49.60 31 P P 20 56 45.8 +0.5
baz=284,SNR=10.0
M30M Minto, Yukon 49.66 37 P P 20 56 47.1 +1.2
baz=286
F31M Tsiigehtchic 49.68 30 IAmb IAmb 20 57 05.2
comp=Z,13nm,0.8s
F31M Tsiigehtchic 49.68 30 P P 20 56 47.2 +1.3
baz=284
PYUN Piuthan 49.73 274 *e*P P 20 56 47.6 +0.5
comp=Z,114nm,0.5s
AML Almayashu 49.74 295 P P 20 56 48.0 +0.7
SNR=29
HYT Haines Junctio 49.81 39 IAmb IAmb 20 57 14.9
comp=Z,33nm,0.9s
HYT Haines Junctio 49.81 39 P P 20 56 49.4 +2.2
baz=286,SNR=19
P29M Windy Craggy 50.04 41 IAmb IAmb 20 57 16.7
comp=Z,34nm,0.9s
P29M Windy Craggy 50.04 41 P P 20 56 50.3 +1.5
baz=287
P30M Million Dollar 50.27 40 P P 20 56 51.0 +0.4
baz=287
STKI Sintang 50.30 222 P P 20 56 52.7 +1.5
comp=Z,36nm,1.0s
N31M Braeburn, Yuko 50.42 38 P P 20 56 52.9 +1.2
N31M IAmb IAmb 20 56 59.3
comp=Z,16nm,0.8s
N31M Braeburn, Yuko 50.42 38 P P 20 56 53.5 +1.9
baz=287,SNR=8.6
O30N Mendenhall 50.49 39 P P 20 56 53.7 +1.5
baz=288
M31M Drury Creek, Y 50.84 37 P P 20 56 56.0 +1.2
baz=288
DZA Taraz 51.01 296⇑ *i*P P 20 56 56.7 +0.3
comp=Z,42nm,0.6s,baz=296
DZA Taraz 51.01 296 *c* iP P 20 56 56.7 +0.3
DZA pmax pmax
comp=Z,42nm,0.6s
WHY Whitehorse 51.09 39 P P 20 56 57.2 +0.4
WHY PcP PcP 20 58 13.0 +1.3
WHY Whitehorse 51.09 39 P P 20 56 58.6 +1.7
baz=288
KAPI Kappang 51.24 210 P P 20 57 03.6 +5.4
SKAG Skagway 51.26 40 P P 20 57 00.2 +2.2
baz=289
FARO Faro, Yukon 51.29 37 P P 20 56 59.0 +0.8
FARO Faro, Yukon 51.29 37 P P 20 56 59.4 +1.2
baz=288
A36M Sachs Harbour 51.30 23 IAmb IAmb 20 57 21.3
comp=Z,26nm,1.0s
A36M Sachs Harbour 51.30 23 P P 20 56 59.0 +0.9
baz=288,SNR=9.2
KK31 Karatay Array 51.47 297 P P 20 56 59.1 -0.7
KK31 Karatay Array 51.47 297 P P 20 56 59.1 -0.7
KK31 pmax pmax
comp=Z,55nm,0.7s
BBKI Banjar Baru 51.81 216 P P 20 57 02.5 -0.1
comp=Z,66nm,1.0s
P32M Atlin 51.99 40 P P 20 57 04.0 +0.5
baz=290
SVE Sverdlovsk 52.02 316 *d* iP P 20 57 04.2 +0.6
SVE eS S 21 04 26.6 +4.3
SVE pmax pmax
comp=Z,123nm,0.9s
R32K Eaglecrest 52.06 42 P P 20 57 05.5 +1.6
baz=290
MMPY Sheldon Lake, 52.08 36 P P 20 57 05.9 +1.8
baz=290
SIT Sitka 52.08 43 P P 20 57 05.4 +1.3
baz=291
KULM Kulim 52.17 237 P P 20 57 06.0 +0.8
IUG Iuzhnay 52.20 296⇑ *i*P P 20 57 05.6 +0.2
comp=Z,14nm,0.5s,baz=296
IUG Iuzhnay 52.20 296 *c* iP P 20 57 05.5 +0.2
IUG pmax pmax
comp=Z,15nm,0.5s
P33M Teslin, Yukon 52.20 39 P P 20 57 06.8 +1.8
baz=290
S32K Killisnoo 52.32 43 P P 20 57 05.5 -0.3
baz=291
CHM Chimkent 52.41 297⇑ *i*P P 20 57 07.3 +0.4
comp=Z,42nm,0.5s,baz=296
CHM Chimkent 52.41 297 *c* iP P 20 57 07.2 +0.4
CHM pmax pmax
comp=Z,41nm,0.5s
C36M Paulatuk 52.53 26 IAmb IAmb 20 57 07.9
comp=Z,11nm,0.7s
C36M Paulatuk 52.53 26 P P 20 57 07.6 +0.3
baz=291,SNR=9.1
Q32M Nakina River 52.91 40 P P 20 57 11.4 +0.9
baz=292
ARU Arti 53.23 316 P P 20 57 12.6 0.0
ARU PcP PcP 20 58 19.8 +0.2
ARU Arti 53.23 316 *c* iP P 20 57 12.6 0.0
ARU *PP pP 20 57 30.9 +2.2
ARU 20 58 19.5
ARU 20 59 10.5
ARU S S 21 04 40.8 +2.0
ARU SS SS 21 08 15.6 -2.9
ARU pmax pmax
comp=Z,94nm,0.9s
ARU Arti 53.23 316 LR LR 21 22 27.2
comp=Z,228nm,18.6s,baz=58,slow=39
ARU Arti 53.23 316 P P 20 57 12.7 +0.1
ARU pP pP 20 57 28.8 +0.1
ARU sP sP 20 57 35.8 0.0
TPRI Tanjung Pinang 53.31 230 P P 20 57 14.7 +1.0
comp=Z,38nm,0.9s
R33M Jennings River 53.37 40 P P 20 57 14.9 +1.1
baz=292
HNR Honiara 53.68 158 LR LR 21 16 49.1
comp=Z,758nm,21.0s,baz=354,slow=32
TGTN Hyland Airport 53.79 36 P P 20 57 17.9 +1.2
baz=293
S34M Telegraph Cree 53.87 41 P P 20 57 18.8 +1.5
baz=293
NIL Nilore 53.98 285 P P 20 57 18.7 +0.2
NIL Nilore 53.98 285 P P 20 57 18.7 +0.2
NIL pmax pmax
comp=Z,90nm,0.8s
NIL Nilore 53.98 285 P P 20 57 19.3 +0.8
WTLY Watson Lake, Y 54.11 38 P P 20 57 20.4 +1.3
baz=293
DLBC Dease Lake 54.20 40 P P 20 57 21.5 +1.7
baz=294
DLBC Dease Lake 54.20 40 LR LR 21 20 59.0
comp=Z,43nm,18.5s,baz=264,slow=36
SOEI Soe 54.22 202 P P 20 57 19.9 -0.4
comp=Z,46nm,0.8s,comp=Z,842nm
DSRI Dabo 54.43 229 P P 20 57 21.3 -0.5
comp=Z,24nm,1.3s
V35K Ketchikan 54.66 44 P P 20 57 24.0 +0.9
baz=294
T35M Bob Quinn 54.68 42 IAmb IAmb 20 57 32.9
comp=Z,25nm,1.2s
T35M Bob Quinn 54.68 42 P P 20 57 25.4 +2.3
baz=294
BATI Baumata 54.82 203 LR LR 21 23 38.2
comp=Z,40nm,19.0s,baz=45,slow=39
ALE Alert 55.04 4 P P 20 57 25.2 -0.2
ALE pP pP 20 57 42.5 +0.8
EUNU Eureka 55.09 9 P P 20 57 24.7 -1.2
RPSI Rantau Prapat 55.25 237 IAmb IAmb 20 57 29.6
comp=Z,21nm,0.9s
ABKAR Akbulak array 55.44 308 P P 20 57 28.6 -0.1
ABKAR PcP PcP 20 58 27.7 -0.6
ABKAR Akbulak array 55.44 308 P P 20 57 28.4 -0.3
ABKAR IAmb IAmb 20 57 29.8
comp=Z,38nm,0.6s
ABKAR PcP PcP 20 58 27.4 -0.8
MTN Manton Dam 55.63 193 P P 20 57 30.5 +0.1
MTN IAmb IAmb 20 57 53.3
comp=Z,20nm,0.9s
LIRD Liard River Hi 55.64 38 P P 20 57 31.6 +1.5
baz=296
MLSI Meulaboh, Aceh 55.66 241 P P 20 57 30.3 -0.4
comp=Z,59nm,0.7s
TWSI Taliwang, Sumb 55.74 211 P P 20 57 29.6 -1.6
comp=Z,23nm,1.3s
SPA0 Spitsbergen Ar 55.77 348 *e*P P 20 57 30.4 -0.3
SPITS Spitsbergen Ar 55.77 348 P P 20 57 30.4 -0.3
comp=Z,12nm,0.6s,baz=76,slow=8.0,SNR=14
comp=Z,12nm,0.6s
BASI Baing, Sumba 55.79 206 P P 20 57 29.9 -1.6
comp=Z,53nm,1.4s
SRBI Singaraja 55.81 213 P P 20 57 31.6 -0.1
comp=Z,49nm,0.8s
BKNI Bangkinang 55.83 233 P P 20 57 32.3 +0.4
comp=Z,56nm,0.5s
KBS Kingsbay 55.86 350 *e*P P 20 57 31.7 +0.3
KBS Kingsbay 55.86 350 *i* P P 20 57 30.4 -0.9
AKTO Aktyubinsk 56.03 310 LR LR 21 22 53.2
comp=Z,192nm,21.9s,baz=107,slow=37
NOR Nord 56.09 356 *i* P P 20 57 31.1 -1.9
NOR IAmb IAmb 20 57 33.4
comp=Z,5.9nm,0.9s
KBL Kabul 56.52 288 P P 20 57 35.9 -1.1
KBL PcP PcP 20 58 34.7 +1.6
KBL Kabul 56.52 288 P P 20 57 36.0 -0.9
SNR=19
HSPB Hornsund (broa 56.72 348 *e*P P 20 57 37.6 +0.1
KIRV Kirov 56.80 321 *i* P P 20 57 37.7 -0.6
KIRV Kirov 56.80 321 LR LR 21 24 17.7
comp=Z,152nm,18.2s,baz=56,slow=38
PRGR Permogore 57.06 326 *e*P P 20 57 39.7 -0.3
PRGR pmax pmax
comp=Z,59nm,0.9s
PDSI Padang 57.16 233 P P 20 57 40.3 -1.1
comp=Z,16nm,1.1s
GSI Gunungsitoli 57.17 237 P P 20 57 43.1 +1.6
comp=Z,74nm,1.6s
LVZ Lovozero 57.90 335 *i* P P 20 57 44.0 -2.0
LVZ pmax pmax
comp=Z,27nm,1.1s
KLI Kotabumi 57.91 226 P P 20 57 47.1 +0.5
comp=Z,168nm,0.7s
KPJI Karang Pucung 57.95 220 P P 20 57 46.3 -0.5
comp=Z,59nm,0.7s
LEM Lembang 58.15 222 P P 20 57 49.0 +0.5
comp=Z,44nm,1.0s
LWLI Liwa 58.47 227 P P 20 57 49.5 -1.2
comp=Z,76nm,0.7s
KEV Kevo 59.06 339 P P 20 57 53.5 -0.5
YKA Yellowknife A 59.06 32 P P 20 57 54.4 +0.4
comp=Z,5.0nm,0.8s,baz=303,slow=6.9,SNR=60
YKA ScP ScP 21 02 38.3 +0.9
comp=Z,0.5nm,0.8s,baz=301,slow=4.3,SNR=4.2
YKA LR LR 21 25 04.8
comp=Z,70nm,18.9s,baz=351,slow=38
comp=Z,5.0nm,0.8s
HYB Hyderabad 59.29 266 *e*P P 20 57 56.1 -0.2
HYB *e*pP pP 20 58 12.4 0.0
HYB *e*PcP PcP 20 58 43.9 0.0
HYB *e*S S 21 06 01.2 +1.0
ARCES ARCESS Array B 59.61 339 P P 20 57 57.3 -0.5
comp=Z,3.6nm,0.5s,baz=45,slow=8.0,SNR=43
ARCES LR LR 21 26 30.0
comp=Z,93nm,20.7s,baz=80,slow=39
comp=Z,3.6nm,0.5s
KLMR Klimovskoe 60.00 327 *e*P P 20 57 57.2 -3.3
KLMR AMP 20 58 01.1
comp=Z,44nm,0.8s
KLMR *e*PP PP 21 00 08.9 -4.0
KLMR Klimovskoe 60.00 327 *e*P P 20 57 57.2 -3.3
KLMR pmax pmax
comp=Z,44nm,0.8s
NEEM North Greenlan 60.47 3 *i* P P 20 58 03.3 -0.6
KTK1 Kautokeino 60.56 339 *e*P P 20 58 04.3 0.0
SGF Sodankyl 60.67 337 P P 20 58 05.8 +0.8
BELG Belogornoye 60.75 316 *c* iP P 20 58 05.9 +0.1
BELG pmax pmax
comp=Z,17nm,0.9s
BELG Belogornoye 60.75 316 LR LR 21 26 39.9
comp=Z,291nm,19.7s,baz=48,slow=38
DAG Danmarks Havn 60.84 355 *i* P P 20 58 05.0 -1.0
DAG IAmb IAmb 20 58 06.3
comp=Z,7.9nm,0.6s
JETT Jettan, Norway 60.93 340 *e*P P 20 58 06.7 -0.1
TRO Tromso 61.25 341 *e*P P 20 58 08.7 -0.2
HRA Herat 61.36 292 P P 20 58 10.7 +0.2
CTA Charters Tower 61.93 176 P P 20 58 14.7 +0.6
comp=Z,1.5nm,0.5s,baz=18,slow=8.2,SNR=1.5
CTA LR LR 21 22 49.1
comp=Z,42nm,21.6s,baz=324,slow=34
comp=Z,1.5nm,0.5s
WB0 Warramunga Arr 61.97 189 P P 20 58 14.1 -0.2
WB0 IAmb IAmb 20 58 35.1
comp=Z,29nm,1.1s
WRAB Tennant Creek 62.14 189 P P 20 58 15.1 -0.4
WRAB IAmb IAmb 20 58 36.3
comp=Z,27nm,1.1s
WRAB Tennant Creek 62.14 189 P P 20 58 15.1 -0.4
WRAB pmax pmax
comp=Z,27nm,1.1s
WR0 Warramunga Arr 62.15 188 IAmb IAmb 20 58 36.4
comp=Z,24nm,1.1s
WB2 Warramunga Arr 62.15 189 IAmb IAmb 20 58 36.4
comp=Z,26nm,1.0s
WRA Warramunga Arr 62.15 189 *i* P P 20 58 15.1 -0.4
WRA pmax pmax
comp=Z,8.0nm,0.7s
WRA Warramunga Arr 62.15 189 P P 20 58 15.2 -0.3
comp=Z,8.1nm,0.7s,baz=6.7,slow=6.8,SNR=52
WRA PKP2bc 21 27 29.0
comp=Z,1.4nm,0.8s,baz=191,slow=3.1,SNR=12
comp=Z,8.1nm,0.7s
GEYT Alibeck 62.22 297 P P 20 58 16.0 0.0
comp=Z,41nm,0.8s,baz=37,slow=3.7,SNR=93
GEYT LR LR 21 27 08.3
comp=Z,240nm,19.5s,baz=68,slow=38
comp=Z,41nm,0.8s
GYA0B ALIBECK ARRAY 62.22 297 P P 20 58 15.7 -0.3
KULLO Kullorsuaq 62.90 6 *i* P P 20 58 19.3 -0.6
KULLO IAmb IAmb 20 58 22.1
comp=Z,24nm,0.7s
DBG Daneborg 63.34 355 *i* P P 20 58 21.8 -1.0
DBG IAmb IAmb 20 58 24.6
comp=Z,3.3nm,0.9s
MOS Moscow 63.75 322 *e*P P 20 58 23.9 -1.9
MOS *e**PP pP 20 58 42.2 -0.1
MOS *e* 20 59 00.0
MOS *e*S S 21 06 50.5 -5.0
MOS pmax pmax
comp=Z,42nm,1.2s
FAUS Fauske 63.81 340 *e*P P 20 58 25.9 -0.1
PALK Pallekele 64.35 256 LR LR 21 27 43.3
comp=Z,54nm,20.7s,baz=165,slow=37
PALK Pallekele 64.35 256 P P 20 58 30.7 +0.3
VRH Novokhopyorsk 64.46 317 *e*P P 20 58 27.7 -2.8
VRH pmax pmax
comp=Z,40nm,0.7s
OBN Obninsk 64.61 322 P P 20 58 30.8 -0.6
OBN Obninsk 64.61 322 *c* iP P 20 58 30.9 -0.5
OBN *e**PP pP 20 58 49.1 +1.1
OBN *e**SP sP 20 58 57.5 +2.6
OBN *i* 20 59 03.6
OBN *i* 21 00 54.6
OBN pmax pmax
comp=Z,36nm,0.6s
OBN MLR MLR
comp=Z,140nm,17.0s
OBN Obninsk 64.61 322 P P 20 58 31.0 -0.3
FINES FINESS Array B 64.78 332 P P 20 58 32.0 -0.4
FINES FINESS Array B 64.78 332 P P 20 58 31.9 -0.4
comp=Z,58nm,0.6s,baz=48,slow=8.1,SNR=182
FINES LR LR 21 29 07.8
comp=Z,223nm,19.4s,baz=38,slow=38
comp=Z,58nm,0.6s
MOR8 Moi Rana 64.95 339 *e*P P 20 58 31.8 -1.7
LPSR Galich'ya Gora 65.02 319 *e*P P 20 58 32.1 -2.0
LPSR pmax pmax
comp=Z,50nm,0.7s
KONS Konsvik 65.04 340 *e*P P 20 58 33.5 -0.6
VORR Voronezh 65.45 318 *e*P P 20 58 34.7 -2.2
VORR pmax pmax
comp=Z,50nm,0.5s
SUMG Summit 65.66 0 P P 20 58 38.7 +0.3
SUMG IAmb IAmb 20 58 39.8

comp=Z,28nm,0.7s
SUMG Summit 65.66 0 P **P** **20 58 38.7 +0.3**
SUMG pmax pmax
comp=Z,28nm,0.7s
SUMG Summit 65.66 0 *i* P **P** **20 58 38.0 -0.5**
SUMG IAmb IAmb 20 58 40.1
comp=Z,21nm,0.7s
VSR Storozhevoye 65.74 318 *e*P **P** **20 58 36.7 -2.1**
VSR pmax pmax
comp=Z,50nm,0.8s
VORD Divnogorie 65.83 318 *e*P **P** **20 58 37.3 -2.1**
VORD pmax pmax
comp=Z,40nm,0.9s
AS31 Alice Springs 65.88 189 P **P** **20 58 40.1 +0.1**
ASAR Alice Springs 65.88 189 P **P** **20 58 40.3 +0.3**
comp=Z,3.9nm,0.8s,baz=4.7,slow=6.8,SNR=38
ASAR PKP2bc 21 27 14.7
comp=Z,0.5nm,0.6s,baz=187,slow=3.7,SNR=4.3
ASAR LR LR 21 27 21.7
comp=Z,55nm,21.0s,baz=352,slow=36
comp=Z,3.9nm,0.8s
NEW Newport 65.98 46 P **P** **20 58 41.3 +0.8**
baz=307
NEW Newport 65.98 46 LR LR 21 30 06.9
comp=Z,77nm,18.0s,baz=286,slow=38
MAK Makhachkala 66.08 307 *e*P **P** **20 58 40.0 -1.1**
MAK *e**PP **pP** **20 58 56.6 -1.0**
MAK *e**SP **sP** **20 59 04.0 -0.4**
MAK *e* 21 01 06.4
MAK *e*PPP PPP 21 02 40.6
MAK *e*S **S** **21 07 23.2 -1.2**
MAK *e**SS **sS** **21 07 52.7 +0.1**
MAK *e*SS **SS** **21 11 44.4 +4.2**
MAK MLR MLR
comp=Z,144nm,16.0s
MEF Metsahovi 66.22 331 *e*P **P** **20 58 41.5 -0.2**
RAF Rauma 66.57 333 *e*P **P** **20 58 43.7 -0.2**
YBH Yreka Blue Hor 66.66 54 IAmb IAmb 20 59 54.5
comp=Z,22nm,1.6s
SEKA Sheki 67.29 305 P **P** **20 58 47.2 -1.8**
ZKTA Zakatala 67.39 306 P **P** **20 58 48.2 -1.3**
GOF Gofitskoye 67.42 311 *c*eP **P** **20 58 50.4 +0.8**
MTSE Matsula 67.49 330 *e*P **P** **20 58 50.3 +0.5**
DZM Mont Dzumac 67.54 156 *e*LR LR 21 19 09.0
comp=Z,233nm,32.5s
DZM Mont Dzumac 67.54 156 LR LR 21 24 20.9
comp=Z,74nm,21.8s,baz=30,slow=32
MNGR Mingechevir, A 67.62 305 P **P** **20 58 49.7 -1.3**
LKRN Lenkeran, Azer 67.80 303 P **P** **20 58 50.9 -1.2**
GANJ Ganja 68.16 305 P **P** **20 58 53.1 -1.3**
J08A Circle Bar Ran 68.19 51 P **P** **20 58 55.5 +0.8**
KIV Kislovodsk 68.29 310 ⇑P **P** **20 58 56.4 +1.1**
KIV Kislovodsk 68.29 310 P **P** **20 58 55.5 +0.3**
KIV Kislovodsk 68.29 310 *i* P **P** **20 58 55.6 +0.3**
SNR=41
KIV Kislovodsk 68.29 310 P **P** **20 58 55.9 +0.7**
KIV S **S** **21 07 48.8 -2.6**
KIV Kislovodsk 68.29 310 *e*P **P** **20 58 55.3 0.0**
KIV pmax pmax
comp=Z,115nm,1.1s
KIV MLR MLR
comp=Z,51nm,17.0s
KIV Kislovodsk 68.29 310 P **P** **20 58 55.6 +0.4**
KIV pP **pP** **20 59 11.8 -0.1**
ZEI Tsey 68.30 308 *e*P **P** **20 58 54.4 -1.1**
ZEI pmax pmax
comp=Z,30nm,0.9s
KBZ Khabaz 68.31 310 *i* P **P** **20 58 53.9 -1.3**
KBZ pmax pmax
comp=Z,35nm,0.8s
KBZ Khabaz 68.31 310 P **P** **20 58 55.5 +0.3**
comp=Z,28nm,0.7s,baz=39,slow=2.7,SNR=74
comp=Z,28nm,0.7s
TBLU Trondheim 68.37 339 *e*P **P** **20 58 54.2 -1.0**
PLID Pearl Lake 68.53 48 P **P** **20 58 56.9 0.0**
MSO Missoula 68.56 46 P **P** **20 58 57.8 +0.9**
baz=309
IZAR Zarasai 68.64 327 *e*P **P** **20 58 57.6 +0.5**
ONI Oni 68.69 308 IAmb IAmb 20 58 60.0
comp=Z,37nm,1.0s
IDID Didziasalis 68.74 326 *e*P **P** **20 58 57.6 -0.1**
ISAL Salakas 68.81 327 *e*P **P** **20 58 58.7 +0.5**
UPP Uppsala 68.82 334 *e*P **P** **20 58 58.0 -0.1**
MNK Minsk 68.83 325 *i* P **P** **20 58 58.9 +0.6**
comp=E,9.0nm,1.1s
MNK *i* P **P** **20 58 58.9 +0.6**
comp=N,24nm,1.1s
MNK *i* P **P** **20 58 58.9 +0.6**
comp=Z,74nm,1.1s,baz=46
MNK *i* pP **pP** **20 59 16.2 +1.1**
MNK *i* sP PcP 20 59 36.8 +14
MNK *i* PP **PP** **21 01 29.7 -0.6**
MNK *i* PPP PPP 21 03 08.7
MNK *i* S **S** **21 07 57.7 +0.6**
MNK *i* SS **SS** **21 12 25.9 +3.8**
MNK *i* SSS SSS 21 15 39.8
MNK *i* LQ LQ 21 24 49.7
MNK *i* LR LR 21 28 22.4
MNK *i* LRM MLR 21 31 22.9
comp=E,89nm,15.5s
MNK *i* LRM MLR 21 31 24.1
comp=N,195nm,20.6s
MNK *i* LRM MLR 21 31 42.2
comp=Z,188nm,18.1s
MNK Minsk 68.83 325 *i* P **P** **20 58 58.8 +0.6**
MNK *i* *PP **pP** **20 59 16.1 +1.1**
MNK *i* 21 01 29.7
MNK *i* PPP PPP 21 03 08.7
MNK *i* S **S** **21 07 57.6 +0.6**
MNK *i* SS **SS** **21 12 25.9 +3.8**
MNK pmax pmax
comp=Z,74nm,1.0s
MNK pmax pmax
comp=N,24nm,1.0s
MNK pmax pmax
comp=E,9.0nm,1.0s
MNK MLR MLR
comp=E,89nm,15.0s
MNK MLR MLR
comp=N,195nm,21.0s
MNK MLR MLR
comp=Z,188nm,18.0s
NACGM Naroch 69.01 326 *e*P **P** **20 59 00.2 +0.8**
comp=Z,95nm,0.9s,baz=46
FFC Flin Flon 69.04 34 P **P** **20 58 59.5 -0.1**
FFC IAmb IAmb 20 59 01.3
comp=Z,20nm,0.9s
FFC Flin Flon 69.04 34 P **P** **20 58 59.5 -0.1**
FFC pmax pmax
comp=Z,20nm,0.9s
FFC Flin Flon 69.04 34 P **P** **20 59 00.4 +0.8**
FFC pP **pP** **20 59 17.3 +0.9**
FFC PcP **PcP** **20 59 24.2 +0.8**
FCC Fort Churchill 69.14 28 P **P** **20 58 59.8 -0.3**
FCC IAmb IAmb 20 59 00.8
comp=Z,10nm,0.7s
FCC Fort Churchill 69.14 28 P **P** **20 58 59.8 -0.3**
FCC pmax pmax
comp=Z,10.0nm,0.7s
ICESG Greenland Ices 69.16 1 *i* P **P** **20 59 00.4 -0.1**
ICESG IAmb IAmb 20 59 01.7
comp=Z,21nm,0.8s
JASK Jask - Hormozg 69.38 287 P **P** **20 59 03.6 +1.5**
JASK S **S** **21 08 01.8 -2.7**
GNI Garni 69.42 306 P **P** **20 59 02.8 +0.4**
GNI IAmb IAmb 20 59 11.0
comp=Z,31nm,0.8s
GNI Garni 69.42 306 P **P** **20 59 03.3 +0.9**
GNI Garni 69.42 306 P **P** **20 59 04.0 +1.5**
GNI Garni 69.42 306 *i* P **P** **20 59 02.5 +0.1**
GNI pmax pmax
comp=Z,32nm,0.7s
GNI Garni 69.42 306 LR LR 21 33 36.7
comp=Z,40nm,18.1s,baz=42,slow=39
GNI Garni 69.42 306 P **P** **20 59 03.7 +1.3**
GNI pP **pP** **20 59 19.4 +0.3**
MFID Camas Ranch 69.67 50 IAmb IAmb 20 59 06.7
comp=Z,37nm,1.9s
DOMB Dombas 69.67 339 *e*P **P** **20 59 03.0 -0.4**
NC303 NORSAR Array S 69.69 337 IAmb IAmb 20 59 04.7
comp=Z,44nm,0.8s
PABE Paberze 69.73 328 P **P** **20 59 03.3 -0.5**
PABE Paberze 69.73 328 *e*P **P** **20 59 04.2 +0.4**
NB201 NORSAR Array S 69.86 337 P **P** **20 59 04.0 -0.6**

HFS Hagfors 69.86 335 P **P** **20 59 04.4 -0.2**
comp=Z,42nm,0.6s,baz=47,slow=6.5,SNR=201
HFS LR LR 21 32 25.8
comp=Z,112nm,18.7s,baz=54,slow=38
comp=Z,42nm,0.6s
NB2 NORSAR Subarra 69.89 337 P **P** **20 59 04.1 -0.7**
comp=Z,35nm,0.7s,baz=37,slow=6.2
NB2 NORSAR Subarra 69.89 337 P **P** **20 59 04.1 -0.7**
baz=37,slow=6.2
NB2 NORSAR Subarra 69.89 337 P **P** **20 59 00.2 -4.6**
NOA NORSAR Array B 69.89 337 P **P** **20 59 04.0 -0.7**
NOA NORSAR Array B 69.89 337 P **P** **20 59 04.0 -0.7**
comp=Z,31nm,0.7s,baz=16,slow=4.9,SNR=19
NOA LR LR 21 33 19.1
comp=Z,88nm,20.4s,baz=35,slow=39
comp=Z,31nm,0.7s
EGMT Eagleton 69.97 43 P **P** **20 59 06.7 +1.1**
baz=311,SNR=5.0
NC602 NORSAR Array S 70.03 337 IAmb IAmb 20 59 50.7
comp=Z,110nm,1.9s
NC602 NORSAR Array S 70.03 337 *e*P **P** **20 59 05.0 -0.6**
AKN Aaknes 70.11 340 *e*P **P** **20 59 06.4 +0.3**
KARS Kars 70.12 307 P **P** **20 59 07.8 +1.1**
KARS Kars 70.12 307 P **P** **20 59 07.8 +1.1**
KARS pmax pmax
comp=Z,160nm,0.9s
NAO01 NORSAR Array S 70.14 337 IAmb IAmb 20 59 06.7
comp=Z,29nm,0.8s
VIKU Vikbolandet 70.17 333 *e*P **P** **20 59 06.3 -0.1**
SOC Sochi 70.20 311 *e*P **P** **20 59 09.5 +2.6**
SOC *e* 21 01 49.5
SOC *e*PPP PPP 21 03 30.6
SOC *e*S **S** **21 08 19.5 +5.9**
SOC *e*SS **SS** **21 12 43.4 -0.4**
HLID Hailey 70.37 49 P **P** **20 59 09.5 +1.3**
baz=310
WSAR Wadi Sarin 70.44 284 P **P** **20 59 09.3 +0.6**
WSAR Wadi Sarin 70.44 284 LR LR 21 33 01.3
comp=Z,93nm,20.9s,baz=53,slow=38
SHME Shamm 70.49 288 *i* P **P** **20 59 08.8 -0.2**
SNR=16
SHME Shamm 70.49 288 P **P** **20 59 09.0 0.0**
SNR=5.6
JLN Jalan Bani Buh 70.54 283 P **P** **20 59 10.0 +0.7**
WBK Wadi Bani Khal 70.58 283 P **P** **20 59 10.7 +1.1**
SNR=7.2
WBK S **S** **21 08 20.9 +2.3**
BOZ Bozeman (W) 70.58 46 P **P** **20 59 10.8 +1.3**
baz=311,SNR=14
ANN Anapa 70.68 313 *e*P **P** **20 59 08.3 -1.5**
ANN *e**PP **pP** **20 59 26.4 -0.1**
ANN *e*S **S** **21 08 18.4 -0.7**
ANN MLR MLR
comp=Z,97nm,21.0s
BMN Battle Mountai 70.74 53 P **P** **20 59 11.1 +0.6**
BMN Battle Mountai 70.74 53 P **P** **20 59 11.1 +0.6**
BMN pmax pmax
comp=Z,5.0nm,1.0s
SFJD Kangerlussuaq 70.81 5 LR LR 21 30 53.5
comp=Z,123nm,21.4s,baz=336,slow=36
AKASG Malin Array Be 70.86 322 P **P** **20 59 10.5 -0.3**
comp=Z,33nm,0.6s,baz=44,slow=6.0,SNR=135
AKASG LR LR 21 33 08.0
comp=Z,139nm,19.4s,baz=16,slow=38
comp=Z,33nm,0.6s
KIEV Kiev 70.87 322 ⇑P **P** **20 59 10.6 -0.3**
KIEV Kiev 70.87 322 P **P** **20 59 10.1 -0.8**
KIEV Kiev 70.87 322 *i* P **P** **20 59 10.1 -0.8**
SNR=23
KIEV Kiev 70.87 322 P **P** **20 59 10.1 -0.8**
KIEV pmax pmax
comp=Z,47nm,0.7s
KIEV Kiev 70.87 322 P **P** **20 59 10.4 -0.4**
KIEV PcP **PcP** **20 59 31.0 -0.1**
MASF Masafi 70.90 287 P **P** **20 59 11.8 +0.3**
SNR=5.3
MASF S **S** **21 08 23.2 +0.9**
MSFE Esma-Masafi 70.90 287 *i* P **P** **20 59 11.4 -0.2**
SNR=13
OSL Oslo 70.92 337 *e*P **P** **20 59 11.6 +0.6**
SKAR Skarslia 71.00 338 *e*P **P** **20 59 11.8 +0.2**
UOSS Minazif 71.13 287 P **P** **20 59 12.6 -0.3**
UOSS IAmb IAmb 20 59 13.7
comp=Z,35nm,0.7s
UOSS Minazif 71.13 287 *i* P **P** **20 59 12.6 -0.3**
SNR=22
UOSS Minazif 71.13 287 P **P** **20 59 13.0 +0.1**
UOSS Minazif 71.13 287 P **P** **20 59 12.8 -0.1**
HYA Hoyanger 71.17 339 *e*P **P** **20 59 12.4 0.0**
HOQ Hoqain 71.17 285 P **P** **20 59 13.6 +0.4**
SNR=8.9
HATD Hatta, Dubai 71.25 287 *i* P **P** **20 59 13.7 0.0**
SNR=36
HATD Hatta, Dubai 71.25 287 P **P** **20 59 14.1 +0.5**
SNR=9.4
YHL Hebgen Lake 71.31 46 P **P** **20 59 15.2 +1.1**
NVAR Mina Array Bea 71.35 55 P **P** **20 59 16.0 +1.7**
comp=Z,4.4nm,0.7s,baz=289,slow=6.0,SNR=34
NVAR LR LR 21 31 41.4
comp=Z,60nm,18.0s,baz=280,slow=37
comp=Z,4.4nm,0.7s
JMDO Jabal Madar 71.35 284 P **P** **20 59 14.8 +0.5**
MDPB Devils Postpil 71.37 56 IAmb IAmb 21 00 45.9
comp=Z,15nm,0.9s
ASHO Ashiyiah 71.39 287 *i* P **P** **20 59 14.4 -0.1**
SNR=19
ASHO Ashiyiah 71.39 287 P **P** **20 59 15.0 +0.4**
SNR=7.6
SOHO SOHO 71.39 286 *i* P **P** **20 59 14.3 -0.2**
SNR=21
SOHO SOHO 71.39 286 P **P** **20 59 14.7 +0.3**
NAZ Nazwa, Dubai 71.49 287 P **P** **20 59 14.8 -0.2**
KONO Kongsberg 71.49 337 *e*P **P** **20 59 14.4 0.0**
KONO Kongsberg 71.49 337 P **P** **20 59 14.4 0.0**
STRU Stroemstad 71.52 336 *i* P **P** **20 59 13.6 -1.0**
YHH Holmes Hill 71.53 46 **P** **20 59 16.1 +0.8**
DY2G Dye2 71.58 4 *i* P **P** **20 59 14.4 -0.8**
DY2G IAmb IAmb 20 59 19.4
comp=Z,19nm,0.7s
YNR Norris Junctio 71.67 46 P **P** **20 59 16.7 +0.6**
FAQ Al Faqa, Dubai 71.69 287 *i* P **P** **20 59 15.7 -0.5**
SNR=12
FRB Frobisher Bay 71.69 14 LR LR 21 34 02.9
comp=Z,83nm,19.7s,baz=1.0,slow=38
BSY Bisya 71.77 284 P **P** **20 59 17.6 +0.7**
SNR=6.8
KTUT Trabzon 71.84 309 ⇓P **P** **20 59 17.3 +0.4**
ARQ Araqi 71.89 285 P **P** **20 59 18.3 +0.8**
SNR=5.8
H17A Grant Village 71.94 46 P **P** **20 59 18.5 +0.7**
H17A Grant Village 71.94 46 P **P** **20 59 20.5 +2.7**
baz=312,SNR=6.7
ASUD Al Ashush, Dub 71.95 287 *i* P **P** **20 59 18.1 +0.3**
SNR=34
ALNE Al Ain 72.00 286 *i* P **P** **20 59 18.2 0.0**
SNR=37
ALNE Al Ain 72.00 286 P **P** **20 59 18.5 +0.3**
SNR=5.1
ASK Askoy 72.01 339 *e*P **P** **20 59 18.6 +1.1**
GURO Guroymak-BITLI 72.06 306 P **P** **20 59 19.2 +0.8**
BER Bergen 72.06 339 *e*P **P** **20 59 18.0 +0.2**
IMW Indian Meadow 72.07 47 IAmb IAmb 21 00 36.4
comp=Z,30nm,1.1s
ODD1 Odda 72.11 338 *e*P **P** **20 59 18.3 +0.1**
BORU Boraas 72.14 334 *i* P **P** **20 59 16.8 -1.6**
BLEU Blekinge 72.17 332 *i* P **P** **20 59 16.8 -1.7**
TJOU Tjoern 72.19 335 *i* P **P** **20 59 16.6 -2.0**
FXWY Fox Creek 72.19 47 IAmb IAmb 21 00 34.1
comp=Z,39nm,1.4s
AJN Ajban 72.23 287 P **P** **20 59 18.8 -0.7**
TPH Tonopah 72.23 55 IAmb IAmb 20 59 40.4
comp=Z,62nm,1.4s
MOOW Moose Ponds 72.27 47 P **P** **20 59 20.8 +1.1**
MOOW IAmb IAmb 21 01 00.2
comp=Z,86nm,1.9s
MHTO MHTO 72.31 282 P **P** **20 59 20.9 +0.8**
SNR=13
TPAW Teton Pass 72.33 47 IAmb IAmb 21 01 06.3
comp=Z,70nm,1.6s
SIM Simferopol' 72.36 315 *e*P **P** **20 59 20.1 +0.2**
SIM pmax pmax
comp=Z,59nm,0.8s
DGMT Dagmar 72.41 40 IAmb IAmb 21 01 16.5
comp=Z,29nm,0.8s
DGMT Dagmar 72.41 40 P **P** **20 59 20.7 +0.5**
baz=314,SNR=5.2

LOHW Long Hollow 72.44 47 P **P** **20 59 21.8 +1.1**
LOHW IAmb IAmb 21 01 14.8
comp=Z,45nm,1.4s
HVU Hansel Valley 72.45 49 IAmb IAmb 21 01 56.8
comp=Z,53nm,2.0s
BLS5 Blasjo 72.57 338 *e*P **P** **20 59 21.4 +0.4**
ONAU Onsala 72.61 334 *i* P **P** **20 59 19.7 -1.5**
FABU Falkenberg 72.67 334 *i* P **P** **20 59 20.3 -1.2**
GMN Gold Mountain 72.70 55 P **P** **20 59 22.9 +0.5**
DEL Delary 72.71 333 *e*P **P** **20 59 20.6 -1.2**
DEL Delary 72.71 333 *i* P **P** **20 59 20.1 -1.7**
AHID Auburn Hatcher 72.73 48 IAmb IAmb 21 01 06.0
comp=Z,72nm,1.8s
CWC Cottonwood Cre 72.75 56 P **P** **20 59 23.7 +1.1**
baz=310
BORG Borgarnes 72.77 353 LR LR 21 32 14.4
comp=Z,22nm,19.1s,baz=350,slow=36
GRAC Grapevine Rang 72.83 56 IAmb IAmb 20 59 25.8
comp=Z,12nm,0.7s
GRAC Grapevine Rang 72.83 56 P **P** **20 59 24.4 +1.4**
baz=310,SNR=5.4
SPUT South Promonto 72.94 50 IAmb IAmb 21 01 53.9
comp=Z,27nm,1.5s
HOMB Homborsund 72.95 337 *e*P **P** **20 59 23.3 +0.2**
HOMB Homborsund 72.95 337 *i* P **P** **20 59 21.1 -2.0**
ISA Isabella, Lake 73.00 57 P **P** **20 59 24.8 +0.8**
baz=310
R11B Troy Canyon, C 73.04 54 P **P** **20 59 25.5 +1.1**
baz=310,SNR=5.7
SORM Soroca 73.06 320 ⇑P **P** **20 59 23.7 -0.4**
SORM Soroca 73.06 320 P **P** **20 59 23.6 -0.4**
HWUT Hardware Ranch 73.24 49 IAmb IAmb 21 01 22.2
comp=Z,13nm,0.8s
SNART Snartemo 73.27 337 *e*P **P** **20 59 25.3 +0.3**
SNART Snartemo 73.27 337 *i* P **P** **20 59 24.3 -0.7**
BJUU Bjuv 73.31 333 *i* P **P** **20 59 24.5 -0.8**
MPMC Manual Prospec 73.36 56 P **P** **20 59 27.8 +1.5**
baz=310,SNR=6.2
BSD Bornholm Skovb 73.42 332 *e*P **P** **20 59 25.2 -0.8**
BSD Bornholm Skovb 73.42 332 *i* P **P** **20 59 25.4 -0.7**
BSD IAmb IAmb 20 59 26.4
comp=Z,35nm,0.9s
DUG Dugway, Tooele 73.47 51 P **P** **20 59 28.2 +1.5**
baz=311,SNR=6.8
FURC Furnace Creek, 73.48 56 P **P** **20 59 28.5 +1.8**
baz=310
LUNU Lund 73.52 333 *i* P **P** **20 59 26.0 -0.6**
TPNV Topopah Spring 73.55 55 P **P** **20 59 28.3 +1.0**
TPNV Topopah Spring 73.55 55 P **P** **20 59 28.5 +1.2**
baz=311,SNR=9.3
TPNV Topopah Spring 73.55 55 P **P** **20 59 28.3 +1.0**
TPNV pmax pmax
comp=Z,11nm,0.9s
BW06 Boulder Array 73.57 47 P **P** **20 59 28.5 +1.0**
baz=312,SNR=11
PDAR Pinedale Array 73.58 47 P **P** **20 59 28.1 +0.6**
comp=Z,5.9nm,0.7s,baz=274,slow=2.6,SNR=64
PDAR LR LR 21 33 06.7
comp=Z,42nm,18.7s,baz=324,slow=37
comp=Z,5.9nm,0.7s
STKA Stephens Creek 73.58 181 P **P** **20 59 28.2 +1.1**
comp=Z,2.1nm,0.6s,baz=355,slow=7.5,SNR=5.7
STKA LR LR 21 31 24.2
comp=Z,29nm,21.6s,baz=23,slow=35
comp=Z,2.1nm,0.6s
LRMC Laurel Mtn Rad 73.61 57 P **P** **20 59 28.1 +0.4**
baz=310
MILM Milestii Mici 73.69 319 ⇑*i*P **P** **20 59 27.1 -0.6**
comp=Z,70nm,0.8s
MILM Milestii Mici 73.69 319 ⇑P **P** **20 59 27.4 -0.4**
MILM Milestii Mici 73.69 319 ⇑*i*P **P** **20 59 27.1 -0.6**
MILM pmax pmax
comp=Z,70nm,0.8s
BEL Belsk 73.71 327 *e*P **P** **20 59 28.5 +0.7**
EDW2 Edwards Air Fo 73.80 58 P **P** **20 59 29.5 +0.8**
baz=310
COP Copenhagen 73.82 333 *i* P **P** **20 59 28.0 -0.4**
COP IAmb IAmb 20 59 28.9
comp=Z,85nm,0.7s
LVV L'vov 73.83 324 *e*P **P** **20 59 28.4 -0.1**
SNCC San Nicolas Is 73.87 60 P **P** **20 59 30.4 +1.4**
baz=310
DIKM Dikmen 73.96 312 ⇑P **P** **20 59 30.5 +1.1**
GKP Gorka Klasztor 74.02 329 *e*P **P** **20 59 29.8 +0.3**
GKP Gorka Klasztor 74.02 329 *e*P **P** **20 59 29.8 +0.3**
MUD Monsted U'grnd 74.25 335 *i* P **P** **20 59 30.2 -0.6**
MUD *i* P PcP 20 59 31.0 -14
MUD IAmb IAmb 20 59 31.3
comp=Z,24nm,0.9s
MUD IAmb IAmb 20 59 32.3
comp=Z,16nm,0.7s
SHMA Al-Shehemyia 74.25 291 P **P** **20 59 31.0 -0.4**
GSC Goldstone, Bar 74.27 57 P **P** **20 59 32.7 +1.2**
baz=311
MZR Muzera 74.28 287 P **P** **20 59 31.5 -0.2**
LEOM Leova 74.28 319 ⇑P **P** **20 59 31.8 +0.5**
LEOM Leova 74.28 319 P **P** **20 59 31.7 +0.5**
VASR Vaslui 74.38 319 ⇓P **P** **20 59 32.7 +0.9**
BSUT Blindstream Ca 74.41 49 IAmb IAmb 21 02 13.2
comp=Z,68nm,1.7s
BFSC Mount Baldy Ra 74.42 58 P **P** **20 59 32.8 +0.4**
baz=311
CIS Catalina Islan 74.48 59 P **P** **20 59 33.7 +1.0**
baz=310
PRAR RASCA 74.61 321 ⇑P **P** **20 59 33.3 +0.1**
TUQ Turquoise Moun 74.73 56 P **P** **20 59 35.3 +1.1**
baz=311,SNR=5.5
BIR Birlad 74.73 319 ⇓P **P** **20 59 35.3 +1.4**
BIR Birlad 74.73 319 P **P** **20 59 35.2 +1.4**
VLDR Vladesti 74.81 319 ⇓P **P** **20 59 34.9 +0.6**
ULM Lac du Bonnet 74.86 34 P **P** **20 59 33.8 -0.7**
ULM IAmb IAmb 20 59 35.5
comp=Z,16nm,1.1s
ULM Lac du Bonnet 74.86 34 P **P** **20 59 33.8 -0.7**
ULM pmax pmax
comp=Z,16nm,1.1s
ULM Lac du Bonnet 74.86 34 P **P** **20 59 34.4 -0.1**
comp=Z,9.9nm,0.8s,baz=305,slow=7.7,SNR=18
comp=Z,9.9nm,0.8s
HEC Hector,Ludlow 74.87 57 P **P** **20 59 36.3 +1.3**
baz=311
BBRC Big Bear Solar 74.87 58 P **P** **20 59 35.4 +0.2**
baz=311
VARL Varlezi 74.88 319 ⇓P **P** **20 59 35.2 +0.5**
BUR08 Bucovina Ar. S 74.89 322 IAmb IAmb 20 59 36.2
comp=Z,35nm,0.7s
BURAR Bucovina Array 74.90 321 ⇑P **P** **20 59 35.6 +0.6**
BURAR Bucovina Array 74.90 321 P **P** **20 59 35.5 +0.6**
SSRD Sdr. Stenderup 74.91 334 *i* P **P** **20 59 34.5 -0.1**
SSRD *i* P PcP 20 59 35.0 -13
SSRD IAmb IAmb 20 59 36.0
comp=Z,36nm,0.7s
SSRD IAmb IAmb 20 59 36.1
comp=Z,35nm,0.6s
MVU Marysvale 74.94 52 IAmb IAmb 21 00 06.2
comp=Z,16nm,0.9s
GHRR 74.98 319 ⇑P **P** **20 59 36.5 +1.2**
MDND Maddock 75.00 38 P **P** **20 59 36.3 +0.9**
baz=317
TESR Tescani 75.03 320 ⇑P **P** **20 59 36.0 +0.4**
RDMU Red Mountain 75.05 49 IAmb IAmb 20 59 38.6
comp=Z,24nm,0.8s
P17A Butcher Ranch, 75.14 50 P **P** **20 59 37.7 +1.2**
P17A IAmb IAmb 20 59 39.0
comp=Z,12nm,0.7s
IZVR Izvoarele 75.18 319 ⇑P **P** **20 59 37.1 +0.7**
JURR Jurilovca 75.18 318 ⇑P **P** **20 59 37.0 +0.6**
PANC Panciu 75.25 319 ⇓P **P** **20 59 37.9 +1.1**
CFR Carcaliu 75.26 318 ⇓P **P** **20 59 37.4 +0.5**
CFR Carcaliu 75.26 318 P **P** **20 59 37.3 +0.5**
KOLS Kolonicke sedl 75.26 324 *e*P **P** **20 59 37.3 +0.5**
KOLS Kolonicke sedl 75.26 324 *e*P **P** **20 59 37.3 +0.5**
KOLS pmax pmax
comp=Z,20nm,0.8s
GMRC Granite Mounta 75.32 56 P **P** **20 59 38.8 +1.2**
baz=311
STHS Stebnicka Huta 75.34 325 *e*P **P** **20 59 37.9 +0.6**
STHS Stebnicka Huta 75.34 325 *e*P **P** **20 59 37.9 +0.6**
STHS pmax pmax
comp=Z,23nm,0.6s
OJC Ojcow 75.34 326 *e*P **P** **20 59 37.9 +0.6**
TPGR Topolog 75.34 318 ⇑P **P** **20 59 37.9 +0.4**
ODBI Odobesti 75.37 319 ⇑P **P** **20 59 39.3 +1.8**
VRI Vrincioaia 75.45 319 ⇓P **P** **20 59 39.0 +0.9**
VRI Vrincioaia 75.45 319 P **P** **20 59 38.9 +0.9**

PLOR Plostina 75.50 319 ⇑P P 20 59 39.5 +1.1
PLOR Plostina 75.50 319 P P 20 59 39.4 +1.1
SRU San Rafael Swe 75.50 50 IAmb IAmb 20 59 40.9
comp=Z,14nm,0.8s
PFO Pinyon Flats O 75.59 58 P P 20 59 40.4 +1.3
baz=311
PFO Pinyon Flats O 75.59 58 LR LR 21 38 26.5
comp=Z,28nm,18.0s,baz=290,slow=40
TPFO Pinon Flats 75.59 58 P P 20 59 40.1 +0.9
baz=311
BELC Belle Mtn. Jos 75.62 57 P P 20 59 39.7 +0.4
baz=311
TIRR Tirgusor 75.63 318 ⇑P P 20 59 39.3 +0.2
TIRR Tirgusor 75.63 318 P P 20 59 39.2 +0.2
CRVS Cervenica-Dubn 75.64 324 *eP* P 20 59 39.6 +0.6
CRVS Cervenica-Dubn 75.64 324 *eP* P 20 59 39.6 +0.6
CRVS pmax pmax
comp=Z,26nm,0.7s
BMR Baia Mare 75.65 322 ⇓P P 20 59 40.5 +1.4
BMR Baia Mare 75.65 322 P P 20 59 40.4 +1.4
TURR Turia 75.66 320 ⇓P P 20 59 41.1 +1.8
HARR Harsova 75.71 318 ⇑P P 20 59 40.1 +0.6
HARR Harsova 75.71 318 P P 20 59 40.0 +0.6
COVR Voineasa-Covas 75.72 320 ⇓P P 20 59 40.6 +1.0
OZUR 75.74 320 ⇑P P 20 59 41.1 +1.4
NIE Niedzica 75.74 325 *eP* P 20 59 41.2 +1.5
TLBR Topalu 75.75 318 ⇑P P 20 59 40.3 +0.6
BOSR Bodos 75.81 320 ⇑P P 20 59 41.6 +1.5
SHAO Shalim 75.89 282 P P 20 59 40.8 -0.2
CVDA Cernavoda 75.91 318 ⇑P P 20 59 41.3 +0.7
RUE Ruedersdorf 75.93 331 *eP* P 20 59 41.0 +0.5
comp=Z,35nm,0.7s,baz=34,slow=5.5
BSEG Bad Segeberg 75.96 333 *eP* P 20 59 41.2 +0.5
comp=Z,32nm,0.8s,baz=34,slow=5.5
DOPR Dopca 76.02 320 ⇑P P 20 59 42.7 +1.4
IRM Iron Mountain 76.05 57 P P 20 59 42.4 +0.7
baz=312
O20A White River Ci 76.09 48 P P 20 59 42.2 +0.2
O20A IAmb IAmb 21 01 37.8
comp=Z,116nm,2.0s
O20A White River Ci 76.09 48 P P 20 59 42.6 +0.6
baz=314
MLR Muntele Rosu 76.10 320 ⇓P P 20 59 42.5 +0.6
MLR Muntele Rosu 76.10 320 P P 20 59 41.9 0.0
MLR Muntele Rosu 76.10 320 P P 20 59 41.9 0.0
MLR pmax pmax
comp=Z,11nm,0.8s
MLR Muntele Rosu 76.10 320 LR LR 21 35 58.8
comp=Z,138nm,20.4s,baz=36,slow=38
BR131 Keskin Array S 76.17 311 P P 20 59 43.0 +0.7
SNR=9.0
BRTR Keskin Array B 76.17 311 P P 20 59 42.8 +0.4
comp=Z,15nm,0.7s,baz=78,slow=3.5,SNR=98
BRTR PP **PP 21 02 33.9 +0.4**
comp=Z,3.7nm,0.8s,baz=62,slow=6.3,SNR=8.8
BRTR LR LR 21 38 35.4
comp=Z,49nm,18.7s,baz=36,slow=40
comp=Z,15nm,0.7s
HMU Henry Mountain 76.17 51 IAmb IAmb 20 59 44.9
comp=Z,14nm,0.7s
ICOR Ion Corvin 76.18 318 ⇓P P 20 59 43.5 +1.3
BC3 Big Chuckawall 76.19 57 P P 20 59 43.8 +1.2
baz=312
KSP Ksiaz 76.28 328 *eP* P 20 59 43.3 +0.7
U15A North Rim 76.28 53 IAmb IAmb 20 59 46.3
comp=Z,41nm,1.9s
MESR Meseseni 76.29 322 ⇑P P 20 59 44.0 +1.2
OKC Ostrava-Krasne 76.32 327 ⇑*iP* P 20 59 43.5 +0.6
OKC Ostrava-Krasne 76.32 327 ⇑*iP* P 20 59 43.5 +0.6
AGMN Agassiz Nation 76.34 36 IAmb IAmb 20 59 43.8
comp=Z,13nm,0.8s
AGMN Agassiz Nation 76.34 36 P P 20 59 43.0 0.0
baz=319,SNR=7.6
GORT1 Trebel 76.40 332 *eP* P 20 59 43.8 +0.7
comp=Z,26nm,1.0s,baz=34,slow=5.5
LEHL Lehliu 76.42 310 ⇓P P 20 59 44.8 +1.3
OSTC Ostas 76.53 318 ⇑*iP* P 20 59 44.7 +0.6
OSTC Ostas 76.53 328 ⇑*iP* P 20 59 44.7 +0.6
ANTO Ankara 76.54 312 ⇑P P 20 59 46.0 +1.6
ANTO Ankara 76.54 312 P P 20 59 45.2 +0.8
ANTO Ankara 76.54 312 P P 20 59 45.1 +0.8
ANTO Ankara 76.54 312 P P 20 59 45.2 +0.8
ANTO pmax pmax
comp=Z,60nm,0.7s
MARR Marisel-Cluj 76.56 322 ⇑P P 20 59 45.0 +0.5
CHVC Chvalec 76.57 328 ⇑*iP* P 20 59 45.0 +0.7
CHVC Chvalec 76.57 328 ⇑*iP* P 20 59 45.0 +0.7
VOIR 76.57 320 ⇓P P 20 59 45.6 +1.0
VOIR 76.57 320 P P 20 59 45.5 +1.0
PDMCI Parker Dam,Lak 76.58 56 P P 20 59 45.7 +1.1
baz=312
MORC Moravsky Berou 76.61 327 ⇑P P 20 59 45.4 +0.7
MORC Moravsky Berou 76.61 327 IAmb IAmb 20 59 46.2
comp=Z,29nm,0.8s
MORC Moravsky Berou 76.61 327 *eP* P 20 59 45.1 +0.5
MORC Moravsky Berou 76.61 327 P P 20 59 45.3 +0.7
UPC Upice 76.65 328 ⇑*iP* P 20 59 45.4 +0.7
UPC Upice 76.65 328 ⇑*iP* P 20 59 45.4 +0.7
DPC Dobruska-Polom 76.65 328 ⇑*iP* P 20 59 45.6 +0.8
DPC Dobruska-Polom 76.65 328 ⇑*iP* P 20 59 45.6 +0.8
KRLC Kraliky 76.69 327 ⇑*iP* P 20 59 45.5 +0.5
KRLC Kraliky 76.69 327 ⇑*iP* P 20 59 45.5 +0.5
MAUC Maruska 76.82 326 ⇑*iP* P 20 59 46.4 +0.7
N23A Red Feather La 76.82 46 pP pP 21 00 03.1 -0.1
N23A IAmb IAmb 21 01 05.9
comp=Z,48nm,1.1s
N23A Red Feather La 76.82 46 P P 20 59 47.4 +1.2
baz=315
ARR Arges 76.82 320 ⇑P P 20 59 47.4 +1.5
FLTG Flechtingen 76.97 332 *eP* P 20 59 46.4 0.0
comp=Z,54nm,0.8s,baz=34,slow=5.5
SGRR Singureni 77.01 319 ⇓P P 20 59 47.0 +0.1
PSZ Piszkesteto 77.06 324 ⇓P P 20 59 48.4 +1.1
PSZ Piszkesteto 77.06 324 IAmb IAmb 20 59 49.0
comp=Z,32nm,1.1s
PSZ Piszkesteto 77.06 324 P P 20 59 48.3 +1.1
BRG Berggiesshubel 77.16 329 *i* P P 20 59 48.6 +1.0
BRG Amp 20 59 51.5
comp=Z,9.5nm,0.8s
BRG Berggiesshubel 77.16 329 *i* P P 20 59 48.6 +1.0
BRG pmax pmax
comp=Z,10.0nm,0.8s
BRG Berggiesshubel 77.16 329 *eP* P 20 59 48.6 +1.0
comp=Z,9.5nm,0.8s,baz=34,slow=5.5
CLL Collm 77.16 330 IAmb IAmb 20 59 48.4
comp=Z,37nm,0.8s
CLL Collm 77.16 330 ⇑*iP* P 20 59 47.5 0.0
comp=Z,36nm,0.8s
CLL *ep*P **pP 21 00 03.0 -1.5**
CLL *ex* x 21 00 09.0
CLL AMS AMS 21 16 00.0
comp=Z,100nm,20.6s
CLL Collm 77.16 330 ⇑*iP* P 20 59 47.5 0.0
CLL *e**PP **pP 21 00 03.0 -1.5**
CLL pmax pmax
comp=Z,36nm,0.8s
CLL Collm 77.16 330 *eP* P 20 59 47.6 0.0
comp=Z,35nm,0.8s,baz=34,slow=5.5
LOT Lotru 77.17 321 ⇑P P 20 59 48.4 +0.5
PVCC Panska Ves 77.20 329 ⇑*iP* P 20 59 48.5 +0.7
PVCC Panska Ves 77.20 329 ⇑*iP* P 20 59 48.5 +0.7
B35A Bob, Littlefor 77.21 35 IAmb IAmb 20 59 48.9
comp=Z,31nm,0.7s
NRDL Niedersach Rie 77.22 332 *eP* P 20 59 48.0 +0.2
comp=Z,16nm,0.7s,baz=34,slow=5.5
RAZG Razgrad 77.23 318 ⇑P P 20 59 48.2 +0.1
DEV Deva 77.25 321 ⇓P P 20 59 49.2 +0.9
DEV Deva 77.25 321 P P 20 59 49.1 +0.9
HUMR Humele 77.28 319 ⇑P P 20 59 48.3 -0.1
JAVC Velka Javorina 77.28 326 *eP* P 20 59 49.9 +1.5
RETH Rethem/Aller, 77.28 333 *eP* P 20 59 48.6 +0.5
comp=Z,25nm,1.0s,baz=34,slow=5.5
WHFO Wadi Hawf 77.31 283 P P 20 59 48.4 -0.6
ASSE Asse, Remlinge 77.33 332 *eP* P 20 59 48.6 +0.2
comp=Z,10.0nm,0.9s,baz=34,slow=5.5
FBE Freiberg 77.34 330 *eP* P 20 59 49.0 +0.4
comp=Z,26nm,0.9s,baz=34,slow=5.5
RICC Richard 77.36 329 ⇑*eP* P 20 59 49.3 +0.6
VRAC Vranov 77.36 327 ⇓P P 20 59 50.1 +1.3
VRAC Vranov 77.36 327 *eP* P 20 59 49.4 +0.6
VRAC Vranov 77.36 327 P P 20 59 50.0 +1.3
VRAC Vranov 77.36 327 LR LR 21 36 47.7
comp=Z,111nm,19.0s,baz=34,slow=38
BSZH Besenyszg 77.37 324 ⇓P P 20 59 50.5 +1.7

KPL Plockton 77.42 343 *eP* P 20 59 49.2 +0.4
KPL IAmb IAmb 20 59 49.9
comp=Z,22nm,0.6s
WUAZ Wupatki 77.44 53 P P 20 59 50.5 +0.9
WUAZ Wupatki 77.44 53 P P 20 59 51.4 +1.7
baz=313
SIRR Siria 77.54 322 ⇑*iP* P 20 59 50.4 +0.6
HSKC Hora Svate Kat 77.57 330 ⇑*iP* P 20 59 50.3 +0.4
GOPC GO Pecny, Ondr 77.60 328 ⇑*iP* P 20 59 50.6 +0.5
GOPC GO Pecny, Ondr 77.60 328 ⇑*iP* P 20 59 50.6 +0.5
PRA Prague 77.61 329 ⇑*iP* P 20 59 50.7 +0.6
PRA Prague 77.61 329 ⇑*iP* P 20 59 50.7 +0.6
PRU Pruhonice 77.64 329 ⇑*eP* P 20 59 50.8 +0.5
PRU Pruhonice 77.64 329 *eP* P 20 59 50.8 +0.5
KRUC Moravsky 77.64 327 *eP* P 20 59 50.9 +0.6
SMOL Smolenice 77.65 326 *eP* P 20 59 51.7 +1.3
SMOL pmax pmax
comp=Z,11nm,0.8s
GZR Gura Zlata 77.68 321 ⇑P P 20 59 51.2 +0.5
GZR Gura Zlata 77.68 321 P P 20 59 51.1 +0.5
NEUB Neuenburg 77.69 331 *eP* P 20 59 50.6 +0.1
comp=Z,42nm,0.8s,baz=34,slow=5.5
SURR Surduc 77.71 322 ⇑P P 20 59 51.3 +0.5
ZIMR 77.73 319 ⇓P P 20 59 51.2 +0.3
ZIMR 77.73 319 P P 20 59 51.1 +0.3
ISCO Idaho Springs 77.77 47 P P 20 59 52.7 +1.1
baz=315,SNR=6.2
SUSD Miller 77.82 40 P P 20 59 51.9 +0.5
baz=318
TREC Trest 77.82 328 ⇑*iP* P 20 59 51.9 +0.6
TREC Trest 77.82 328 ⇑*iP* P 20 59 51.9 +0.6
SRO Srobarova 77.82 325 *eP* P 20 59 52.7 +1.4
SRO Srobarova 77.82 325 *eP* P 20 59 52.7 +1.4
SRO pmax pmax
comp=Z,40nm,0.8s
INVG Invergeldie, C 77.89 342 *eP* P 20 59 51.4 -0.1
VLAD Vladila 77.94 319 ⇓P P 20 59 52.8 +0.7
MVCO Mesa Verde 77.97 51 P P 20 59 53.7 +1.0
baz=314
F33A 5 Mile Ranch, 78.02 38 IAmb IAmb 20 59 53.7
comp=Z,20nm,0.9s
ABTO Aybut 78.02 283 P P 20 59 52.7 -0.3
BZS Buzias 78.05 322 ⇓P P 20 59 52.6 -0.1
BZS Buzias 78.05 322 P P 20 59 52.5 -0.1
GTTG Gottingen 78.06 332 *eP* P 20 59 53.0 +0.4
comp=Z,38nm,0.8s,baz=34,slow=5.5
TANN Tannenbergstha 78.09 330 *eP* P 20 59 52.9 +0.1
comp=Z,7.1nm,0.9s,baz=34,slow=5.5
WERD Werda 78.12 330 *eP* P 20 59 53.1 +0.2
comp=Z,10.0nm,0.8s,baz=34,slow=5.5
PLN Plauen 78.14 330 *eP* P 20 59 53.3 +0.2
comp=Z,10nm,0.8s,baz=34,slow=5.5
NWAO Narrogin (SRO) 78.16 202 P P 21 00 01.0 +7.8
IBBN Ibbenburen 78.17 334 *eP* P 20 59 53.3 +0.2
comp=Z,47nm,0.8s,baz=34,slow=5.5
GUNZ Gunzen 78.18 330 *eP* P 20 59 53.6 +0.3
comp=Z,14nm,0.8s,baz=34,slow=5.5
MOX Moxa 78.21 333 *eP* P 20 59 53.8 +0.3
comp=Z,11nm,0.7s,baz=34,slow=5.5
MOX *eL* L 21 35 27.8
comp=Z,118nm,21.5s
ZVC Zvikov 78.22 328 ⇑*iP* P 20 59 54.0 +0.5
WERN Wernitzgruen 78.22 330 *eP* P 20 59 53.9 +0.4
comp=Z,18nm,0.8s,baz=34,slow=5.5
PLVB Pleven 78.29 319 ⇑P P 20 59 54.3 +0.3
DJES Djerdap 78.35 321 ⇑P P 20 59 54.5 +0.2
LAWE Loch Awe, Argy 78.36 342 *eP* P 20 59 54.2 +0.1
LAWE IAmb IAmb 20 59 55.0
comp=Z,16nm,0.8s
BAIL Bailesti 78.44 320 ⇑P P 20 59 56.5 +1.7
BANR Banloc 78.45 322 ⇓P P 20 59 55.5 +0.7
EYMN Ely 78.47 34 IAmb IAmb 20 59 56.0
comp=Z,24nm,0.8s
EYMN Ely 78.47 34 P P 20 59 55.0 +0.1
baz=322,SNR=9.4
S22A 4UR Ranch, Cre 78.54 49 P P 20 59 56.7 +0.8
baz=315
PGBU Glenifferbraes 78.56 342 *eP* P 20 59 55.5 +0.3
PGBU IAmb IAmb 20 59 56.8
comp=Z,72nm,1.1s
MANZ Manzenberg 78.57 330 *eP* P 20 59 55.6 +0.2
comp=Z,2.9nm,0.7s,baz=34,slow=5.5
MDVR Moldovita 78.64 321 ⇑P P 20 59 56.1 +0.1
UBBA Unterbreizbach 78.65 332 *eP* P 20 59 55.8 +0.1
comp=Z,9.2nm,0.6s,baz=34,slow=5.5
CKRC Cesky Krumlov 78.67 328 ⇑*iP* P 20 59 56.3 +0.3
CKRC Cesky Krumlov 78.67 328 ⇑*iP* P 20 59 56.3 +0.3
EKA Eskdalemuir Ar 78.67 341 P P 20 59 55.9 +0.1
comp=Z,9.9nm,0.6s,baz=23,slow=5.0,SNR=46
comp=Z,9.9nm,0.6s
W18A Petrified Fore 78.69 53 P P 20 59 57.7 +1.1
baz=314
ESK Eskdalemuir 78.70 341 *eP* P 20 59 56.1 0.0
KHC Kasperske Hory 78.70 329 IAmb IAmb 20 59 57.8
comp=Z,28nm,0.7s
KHC Kasperske Hory 78.70 329 ⇑*iP* P 20 59 56.8 +0.6
KHC *es*P **sP 21 00 19.5 -0.5**
KHC Kasperske Hory 78.70 329 ⇑*iP* P 20 59 56.8 +0.6
KHC *e* 21 00 19.5
ROTZ Rotzenmuhle 78.71 330 *eP* P 20 59 56.8 +0.5
comp=Z,4.1nm,0.9s,baz=34,slow=5.5
CONA Conrad Observa 78.75 327 *i* P P 20 59 57.6 +1.0
comp=Z,11nm,0.6s,SNR=10
RONA Rosalia, Austr 78.76 326 *i* P P 20 59 57.6 +1.0
comp=Z,23nm,0.6s,SNR=15
K30B Basset 78.81 42 IAmb IAmb 20 59 58.8
comp=Z,51nm,0.9s
OGNE Ogallala 78.86 44 IAmb IAmb 20 59 59.1
comp=Z,36nm,1.1s
OGNE Ogallala 78.86 44 P P 20 59 58.0 +0.7
baz=317
KASTN Kahler Asten 78.88 333 *eP* P 20 59 57.3 +0.1
comp=Z,17nm,0.7s,baz=34,slow=5.5
GEC2 GERESS Array S 78.89 328 *eP* P 20 59 57.5 +0.2
comp=Z,12nm,0.9s,baz=34,slow=5.5
GERES GERESS Array B 78.89 328 P P 20 59 56.9 -0.4
GERES GERESS Array B 78.89 328 P P 20 59 56.9 -0.4
GERES GERESS Array B 78.89 328 P P 20 59 57.4 +0.1
comp=Z,8.6nm,0.7s,baz=36,slow=5.8,SNR=48
comp=Z,8.6nm,0.7s
MORH Mrqy, Hungar 78.92 324 ⇑P P 20 59 56.4 -1.0
WET Wettzell 78.96 329 *eP* P 20 59 58.3 +0.6
comp=Z,20nm,0.8s,baz=34,slow=5.5
214A Organ Pipe Nat 78.98 57 P P 20 59 58.9 +0.8
baz=313
BLKB Belogradchik 79.06 320 ⇑P P 20 59 58.4 +0.1
BUG Bochum--Univer 79.07 333 *eP* P 20 59 58.2 +0.1
comp=Z,37nm,0.8s,baz=34,slow=5.5
GRA1 Grafenberg Arr 79.14 330 P P 20 59 58.6 +0.1
GRF Grafenberg Arr 79.14 330 P P 20 59 58.6 +0.1
GRF pmax pmax
comp=Z,54nm,0.7s
GRF Grafenberg Arr 79.14 330 *eP* P 20 59 59.3 +0.8
comp=Z,54nm,0.7s,baz=34,slow=5.5
GRF *eL* L 21 37 18.0
comp=Z,111nm,21.4s
GRFO Grafenberg 79.14 330 P P 20 59 58.9 +0.3
GRFO Grafenberg 79.14 330 P P 20 59 58.9 +0.3
GRFO pmax pmax
comp=Z,50nm,0.7s
FRGS Fruska Gora 79.22 323 ⇑P P 20 59 59.5 +0.4
FRGS Fruska Gora 79.22 323 ⇑*iP* P 20 59 59.2 +0.1
SDCO Great Sand Dun 79.29 48 P P 21 00 01.0 +1.0
baz=316,SNR=8.7
KESW Keswick, Cumbr 79.33 340 *eP* P 20 59 59.8 +0.3
KESW IAmb IAmb 21 00 00.7
comp=Z,34nm,0.9s
ARSA Arzberg 79.43 326 *i* P P 21 00 00.1 -0.1
comp=Z,13nm,1.1s
MOA Molln 79.46 327 *i* P P 21 00 00.7 +0.4
comp=Z,8.4nm,0.7s
ECSD EROS Data Cent 79.47 39 IAmb IAmb 21 00 01.8
comp=Z,20nm,0.8s
ECSD EROS Data Cent 79.47 39 P P 21 00 00.9 +0.5
baz=320,SNR=15
GAL1 Galloway 79.47 341 *eP* P 21 00 00.3 +0.1
GAL1 IAmb IAmb 21 00 01.0
comp=Z,30nm,0.7s
E38A The Farm, Brul 79.50 35 IAmb IAmb 21 00 01.5
comp=Z,32nm,1.1s
BOVS Bovan 79.51 321 ⇑P P 21 00 00.2 -0.5
HPK Haverah Park 79.52 339 *eP* P 21 00 01.0 +0.4
CLGH Cloghs, Cushen 79.60 342 *eP* P 21 00 01.2 +0.3
CLGH IAmb IAmb 21 00 02.0
comp=Z,54nm,0.9s

CSS Mathiatis 79.64 308 IAmb IAmb 21 00 02.9
comp=Z,34nm,0.7s
TNS Taunus Mts 79.69 332 *eP* P 21 00 01.8 +0.2
comp=Z,17nm,1.0s,baz=34,slow=5.5
MMAI Mount Meron Ar 79.75 305 P P 21 00 03.4 +1.1
comp=Z,41nm,0.7s,baz=36,slow=7.2,SNR=83
MMAI LR LR 21 39 08.8
comp=Z,62nm,19.6s,baz=10,slow=38
comp=Z,41nm,0.7s
TEKS Tekeris 79.82 322 ⇑*iP* P 21 00 02.1 -0.3
BIOA Bad Ischl, Aus 79.84 328 *i* P P 21 00 03.0 +0.5
comp=Z,16nm,0.7s,SNR=6.9
DIVS Divibare 79.95 322 IAmb IAmb 21 00 04.2
comp=Z,17nm,0.8s
DIVS Divibare 79.95 322 ⇑*i* P P 21 00 03.0 -0.2
LBWR Ladybower, Pea 80.05 339 *eP* P 21 00 03.6 +0.2
LBWR IAmb IAmb 21 00 06.4
comp=Z,42nm,0.8s
SPMN Marine on St. 80.05 36 P P 21 00 03.7 +0.2
baz=322
GROS Grobnik 80.07 326 *i* P P 21 00 03.8 0.0
SOKA Soboth 80.09 326 *eP* P 21 00 04.3 +0.4
comp=Z,30nm,0.7s,SNR=11
WIM Isle of Man 80.12 341 *eP* P 21 00 04.1 +0.3
BEBN Eben Emael 80.15 334 *dP* P 21 00 04.0 0.0
BTNL Ternell 80.18 333 *dP* P 21 00 04.0 -0.2
comp=Z,18nm,0.8s
MEM Membach 80.20 334 *dP* P 21 00 04.1 -0.2
comp=Z,23nm,0.8s
SCHQ Schefferville 80.28 17 P P 21 00 04.8 +0.1
comp=Z,12nm,0.7s,baz=346,slow=6.8,SNR=11
comp=Z,12nm,0.7s
T25A Trinidad 80.33 48 P P 21 00 06.8 +1.3
baz=316,SNR=10
PEHC Pehcevo 80.34 319 *i* P P 21 00 06.3 +1.0
ELL Elmali 80.34 311 P P 21 00 05.5 0.0
ELL Elmali 80.34 311 P P 21 00 05.5 0.0
ELL pmax pmax
comp=Z,129nm,0.6s
BSTI Sart Tilman 80.36 334 *dP* P 21 00 05.3 +0.2
comp=Z,8.1nm,0.7s
FUR Furstenfeldbru 80.37 329 *eP* P 21 00 05.8 +0.5
comp=Z,55nm,0.8s,baz=34,slow=5.5
BBLS Lazi?i 80.40 322 ⇑*iP* P 21 00 06.1 +0.5
BHOU Houvegnez 80.42 333 *dP* P 21 00 05.5 0.0
comp=Z,12nm,0.8s
OBKA Obir 80.43 326 *i* P P 21 00 05.8 +0.1
comp=Z,22nm,0.7s
OBKA Obir 80.43 326 ⇑*iP* P 21 00 05.6 -0.1
LESA Schwarzleotal 80.44 328 *i* P P 21 00 06.4 +0.6
comp=Z,25nm,0.8s
KBA Koelnbreinsper 80.45 327 *i* P P 21 00 06.2 +0.2
comp=Z,22nm,0.8s
ELMS Elmsett, Ipswi 80.47 337 *eP* P 21 00 05.5 -0.2
ELMS IAmb IAmb 21 00 06.4
comp=Z,71nm,0.7s
BGNE Belgrade 80.48 42 P P 21 00 06.7 +0.7
baz=319
BCLA Clavier 80.59 334 *dP* P 21 00 06.2 -0.2
comp=Z,18nm,0.8s
CRES Cresnjev 80.60 326 ⇑*iP* P 21 00 06.4 -0.1
SJES Sjenica 80.61 321 ⇑*iP* P 21 00 06.9 +0.1
RUDO Rudo 80.61 322 ⇑*iP* P 21 00 06.5 -0.1
STU Stuttgart 80.64 331 IAmb IAmb 21 00 07.9
comp=Z,37nm,0.8s
STU Stuttgart 80.64 331 *eP* P 21 00 06.9 +0.2
comp=Z,89nm,0.7s,baz=34,slow=5.5
BGES Gesves 80.69 334 *dP* P 21 00 06.7 -0.3
comp=Z,9nm,0.8s
MYKA Terra Mystica 80.70 327 *i* P P 21 00 07.0 -0.1
comp=Z,14nm,0.6s,SNR=6.0
BLY Banja Luka 80.71 324 *eP* P 21 00 07.0 -0.1
ANMO Albuquerque 80.73 51 P P 21 00 08.8 +1.2
ANMO Albuquerque 80.73 51 P P 21 00 08.7 +1.0
baz=315
ANMO Albuquerque 80.73 51 P P 21 00 08.9 +1.2
ANMO pmax pmax
comp=Z,7.0nm,1.1s
I37A Lemond, Waseca 80.73 37 IAmb IAmb 21 00 08.4
comp=Z,26nm,0.7s
STIP Stip 80.75 319 *i* P P 21 00 06.7 -0.7
LJU Ljubljana 80.81 326 *i* P P 21 00 07.3 -0.3
RCHB Rochefort 80.84 334 *dP* P 21 00 07.5 -0.2
comp=Z,13nm,1.0s
VAY Valandovo 80.85 319 *i* P P 21 00 08.2 +0.3
DUN6 Lazy B Ranch 80.85 54 IAmb IAmb 21 00 10.7
comp=Z,17nm,0.8s
BMRD Maredsous 80.87 334 *dP* P 21 00 07.5 -0.4
comp=Z,29nm,0.8s
PRED Cave del Predi 80.88 327 IAmb IAmb 21 00 08.4
comp=Z,29nm,0.6s
FOEL Foel Wylfa 80.90 340 *eP* P 21 00 08.4 +0.4
FOEL IAmb IAmb 21 00 11.3
comp=Z,38nm,0.7s
SKO Skopje 80.90 320 *i* P P 21 00 09.2 +0.9
BOJS Bojanci 80.94 325 ⇑*iP* P 21 00 08.2 -0.1
WATA Walderalm 80.94 329 *i* P P 21 00 08.9 +0.3
comp=Z,18nm,0.6s,SNR=10
WLF Walferdange 80.96 333 P P 21 00 07.8 -0.6
WLF IAmb IAmb 21 00 10.7
comp=Z,15nm,0.8s
WLF Walferdange 80.96 333 *dP* P 21 00 08.3 0.0
comp=Z,11nm,0.8s
WLF Walferdange 80.96 333 P P 21 00 07.8 -0.6
WLF pmax pmax
comp=Z,15nm,0.8s
WTTA Wattenberg 80.98 329 *i* P P 21 00 09.2 +0.4
comp=Z,29nm,0.7s,SNR=11
MGRS Mrkonjic Grad 81.01 324 ⇑*iP* P 21 00 09.5 +0.7
GIVF Givet 81.02 334 P P 21 00 07.9 -0.8
ABTA Abfaltersbach 81.06 328 *i* P P 21 00 08.4 -0.7
comp=Z,6.3nm,0.7s
CEY Cerknica 81.10 326 ⇑*iP* P 21 00 08.9 -0.3
CEY Cerknica 81.10 326 *i* P P 21 00 08.9 -0.3
DOU Dourbes 81.10 334 *dP* P 21 00 08.9 -0.2
comp=Z,8.7nm,1.0s
MOTA Moosalm 81.12 329 *i* P P 21 00 09.8 +0.4
comp=Z,46nm,0.7s,SNR=17
RETA Reutte 81.13 329 *i* P P 21 00 09.9 +0.5
comp=Z,27nm,0.8s,SNR=7.7
UPM Unac-Piva 81.14 322 ⇑*iP* P 21 00 09.5 -0.2
CLUD Cludinico 81.15 327 IAmb IAmb 21 00 09.9
comp=Z,29nm,0.8s
SQTA Sankt Quirin 81.18 329 *i* P P 21 00 10.2 +0.4
comp=Z,24nm,0.7s,SNR=8.5
A050A Klekovaca 81.20 324 ⇑*iP* P 21 00 09.8 -0.1
BAIF Baives 81.26 334 P P 21 00 09.2 -0.7
BFO Black Forest 81.33 331 P P 21 00 10.3 -0.1
BFO IAmb IAmb 21 00 11.4
comp=Z,14nm,0.8s
BFO Black Forest 81.33 331 P P 21 00 10.3 -0.1
BFO pmax pmax
comp=Z,14nm,0.8s
STAL STALIGIAL 81.38 327 IAmb IAmb 21 00 10.4
comp=Z,34nm,0.6s
SKDS Skadanscina 81.42 326 ⇑*iP* P 21 00 10.1 -0.8
NEVS Nevesinje 81.44 322 *eP* P 21 00 08.9 -2.2
CIMO Cimolais 81.44 328 IAmb IAmb 21 00 10.8
comp=Z,10nm,0.6s
FETA Feichten 81.53 329 *i* P P 21 00 12.0 +0.4
comp=Z,21nm,0.8s,SNR=7.4
319A Douglas 81.56 55 IAmb IAmb 21 00 14.7
comp=Z,11nm,0.8s
PDG Podgorica 81.58 321 ⇓P P 21 00 11.9 +0.1
PDG Podgorica 81.58 321 ⇑*iP* P 21 00 11.9 +0.1
CBKS Cedar Bluff 81.62 44 IAmb IAmb 21 00 13.1
comp=Z,15nm,0.8s
CBKS Cedar Bluff 81.62 44 P P 21 00 12.3 +0.2
baz=318
DAVA Damuels 81.63 330 *i* P P 21 00 12.4 +0.2
comp=Z,42nm,0.8s,SNR=11
STRD Stroud 81.63 339 *eP* P 21 00 11.8 0.0
STRD IAmb IAmb 21 00 12.7
comp=Z,83nm,1.0s
121A Cookes Peak, D 81.65 53 P P 21 00 14.2 +1.6
baz=315,SNR=7.0
MCH1 Michaelchurch 81.65 339 *eP* P 21 00 11.7 -0.3
MCH1 IAmb IAmb 21 00 14.9
comp=Z,25nm,0.7s
HMNX Herstmonceux 81.74 337 *eP* P 21 00 12.5 0.0
HMNX IAmb IAmb 21 00 13.8
comp=Z,134nm,0.9s
MONM Monmouth 81.75 339 *eP* P 21 00 12.6 +0.1
RTBA Rita Blanca 81.76 48 IAmb IAmb 21 00 14.8
comp=Z,16nm,1.2s
SWN1 Swindon 81.77 338 *eP* P 21 00 12.6 +0.1

TREB	Trebinje	81.78	322	eP	P	21 00 12.0	-0.8
DRME	Dracevica, Mon	81.81	321	⇑iP	P	21 00 13.3	+0.3
FNA	Florina	81.84	319	P	P	21 00 13.0	-0.3
FNA	Florina	81.84	319	P	P	21 00 13.0	-0.3
FNA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ECH	Echery	81.84	332	IAmb	IAmb	21 00 13.9	
	comp=Z,21nm,0.8s						
IGLA	Glengowla, Co	81.86	343	eP	P	21 00 12.8	-0.2
OHR	Ohrid	81.87	320	iP	P	21 00 13.9	+0.5
CTI	Castel Tesino	81.97	328	IAmb	IAmb	21 00 13.9	
	comp=Z,29nm,0.6s						
DAVOX	Davos/Dischmat	82.05	329	P	P	21 00 14.8	+0.4
	comp=Z,17nm,0.5s,baz=169,slow=0.7,SNR=34						
DAVOX				LR	LR	21 40 24.3	
	comp=Z,122nm,18.0s,baz=52,slow=38						
	comp=Z,17nm,0.5s						
N35A	Tabor	82.13	41	IAmb	IAmb	21 00 16.4	
	comp=Z,33nm,0.8s						
TIR	Tirane	82.14	320	⇑P	P	21 00 15.1	+0.3
TIR	Tirane	82.14	320	P	P	21 00 15.0	+0.3
HINF	Hinteralfeld	82.29	332	P	P	21 00 15.2	-0.3
HAU	Haudompre	82.31	332	P	P	21 00 15.2	-0.3
SCIA	State Center	82.46	38	P	P	21 00 17.0	+0.6
SCIA				IAmb	IAmb	21 00 18.2	
	comp=Z,35nm,0.7s						
SCIA	State Center	82.46	38	P	P	21 00 17.2	+0.8
	baz=322						
TUE	Stuetta	82.51	329	IAmb	IAmb	21 00 18.4	
	comp=Z,22nm,0.7s						
TEOL	Teolo	82.53	327	P	P	21 00 16.2	-0.5
TEOL				IAmb	IAmb	21 00 17.5	
	comp=Z,38nm,1.0s						
I42A	Draeger Farm,	82.79	35	IAmb	IAmb	21 00 18.8	
	comp=Z,12nm,0.8s						
H43A	Windswept, Lux	82.80	34	IAmb	IAmb	21 00 19.4	
	comp=Z,34nm,0.8s						
KSU1	Kansas State U	83.00	42	IAmb	IAmb	21 00 20.1	
	comp=Z,18nm,0.7s						
KSU1	Kansas State U	83.00	42	P	P	21 00 19.0	-0.3
	baz=320						
JFWS	Jewell Farm	83.00	36	P	P	21 00 19.1	-0.2
	baz=324						
L40A	Anamosa	83.25	37	IAmb	IAmb	21 00 21.4	
	comp=Z,20nm,0.8s						
AMTX	Amarillo	83.48	48	IAmb	IAmb	21 00 24.3	
	comp=Z,23nm,1.3s						
AMTX	Amarillo	83.48	48	P	P	21 00 23.1	+1.1
	baz=318						
VLDQ	Val d'Or	83.52	26	P	P	21 00 21.0	-0.7
MSTX	Muleshoe	83.54	49	P	P	21 00 23.2	+0.9
	baz=317						
ZCCA	Zocca	83.64	327	IAmb	IAmb	21 00 32.5	
	comp=Z,29nm,0.8s						
MNTX	Cornudas Mount	83.67	53	P	P	21 00 24.1	+1.2
	baz=316,SNR=11						
GLMI	Grayling	83.78	32	P	P	21 00 23.6	+0.4
	baz=327						
LOR	Lormes	83.80	333	P	P	21 00 22.6	-0.6
FLN	La Foliniere	83.86	336	P	P	21 00 22.7	-0.8
LDF	La Druitiere	83.90	336	P	P	21 00 23.2	-0.5
L42A	Oliver, Polo	83.99	36	IAmb	IAmb	21 00 24.9	
	comp=Z,17nm,0.8s						
NRCA	Norcia	84.00	325	P	P	21 00 24.4	0.0
SSF	Saint Saulge	84.10	333	P	P	21 00 25.0	+0.3
P38A	Dawn	84.10	40	IAmb	IAmb	21 00 26.4	
	comp=Z,29nm,0.8s						
SMWD	Samnorwood	84.11	47	IAmb	IAmb	21 00 27.4	
	comp=Z,22nm,0.8s						
CAMP	Campotosto	84.12	325	IAmb	IAmb	21 00 26.3	
	comp=Z,41nm,0.9s						
IDI	Anoyia	84.18	313	⇑P	P	21 00 24.7	-0.8
IDI	Anoyia	84.18	313	LR	LR	21 41 43.2	
	comp=Z,39nm,21.2s,baz=16,slow=38						
OSSC	Osservatorio P	84.22	327	IAmb	IAmb	21 00 25.9	
	comp=Z,22nm,0.6s						
CROK	Carrier	84.27	45	P	P	21 00 25.9	+0.1
CROK				IAmb	IAmb	21 00 27.6	
	comp=Z,27nm,1.0s						
LPL	La Plagne	84.29	330	P	P	21 00 25.9	-0.2
LPG	La Plagne	84.30	330	P	P	21 00 25.9	-0.3
GRR	Gorron	84.31	336	P	P	21 00 26.1	+0.4
INTR	Introdacqua	84.33	324	IAmb	IAmb	21 00 27.9	
	comp=Z,21nm,0.7s						
SMF	Signal de Mont	84.34	333	P	P	21 00 25.6	-0.4
AVF	Avril sur Loir	84.38	333	P	P	21 00 25.8	-0.4
CESX	Cesi	84.41	325	IAmb	IAmb	21 00 27.5	
	comp=Z,17nm,0.9s						
L44A	Lake County Fo	84.61	35	P	P	21 00 27.2	-0.2
	baz=325						
BNI	Bardonecchia	84.71	330	IAmb	IAmb	21 00 32.9	
	comp=Z,13nm,0.8s						
T35A	Sooner Cattle	84.72	44	IAmb	IAmb	21 00 30.0	
	comp=Z,21nm,0.9s						
BGF	Bois d'Agland	84.76	333	P	P	21 00 28.3	+0.2
DKNS	Dickens	84.80	49	IAmb	IAmb	21 00 31.8	
	comp=Z,18nm,0.8s						
PECS	Pecos	84.81	52	P	P	21 00 29.6	+0.9
PECS				IAmb	IAmb	21 00 31.0	
	comp=Z,17nm,0.8s						
P40A	Paris	84.88	39	IAmb	IAmb	21 00 30.4	
	comp=Z,26nm,0.8s						
SGMF	Saint Gilles	84.92	337	P	P	21 00 29.0	+0.1
POST	Post	84.92	49	IAmb	IAmb	21 00 31.3	
	comp=Z,20nm,0.8s						
ORIF	Oris-en-Rattie	85.12	331	P	P	21 00 29.8	-0.3
OK033	Mehan	85.17	44	IAmb	IAmb	21 00 32.1	
	comp=Z,29nm,1.2s						
WMOK	Wichita Mounta	85.18	46	IAmb	IAmb	21 00 32.2	
	comp=Z,10nm,0.9s						
WMOK	Wichita Mounta	85.18	46	P	P	21 00 31.4	+0.9
	baz=319,SNR=8.0						
QUOK	Quay	85.19	44	IAmb	IAmb	21 00 32.3	
	comp=Z,20nm,1.1s						
M44A	Midewin, Midew	85.20	36	IAmb	IAmb	21 00 31.6	
	comp=Z,34nm,0.9s						
TCF	Toulx Ste Croi	85.20	334	P	P	21 00 29.4	-1.0
I49A	Point Hope	85.22	31	P	P	21 00 30.7	+0.3
SSB	Saint Sauveur	85.29	332	IAmb	IAmb	21 00 32.0	
	comp=Z,13nm,0.7s						
TIP	Timpagrande	85.31	321	⇓P	P	21 00 31.6	+0.5
TIP	Timpagrande	85.31	321	IAmb	IAmb	21 00 33.5	
	comp=Z,36nm,1.1s						
HDIL	Hopedale	85.33	37	P	P	21 00 31.2	+0.2
	baz=324						
SBF	Sospel	85.44	329	P	P	21 00 31.2	-0.4
PMOR	Pomariorio Ree	85.46	115	eT	T	22 34 28.0	
	comp=Z,17nm,0.2s						
MNHN	Monahans	85.47	51	IAmb	IAmb	21 00 34.1	
	comp=Z,8.8nm,0.8s						
LDAQ	Lac Daran	85.52	22	IAmb	IAmb	21 00 32.8	
	comp=Z,19nm,0.8s						
VIVF	Saint-Julien-l	85.61	331	P	P	21 00 32.3	-0.1
ALPN	Alpine	85.66	52	IAmb	IAmb	21 00 35.2	
	comp=Z,7.1nm,0.8s						
MFF	Saint Martin d	85.68	335	P	P	21 00 32.8	+0.1
S39A	Bolivar	85.72	41	P	P	21 00 32.5	-0.6
S39A				IAmb	IAmb	21 00 33.8	
	comp=Z,14nm,0.9s						
R40A	Maddies Statio	85.76	40	IAmb	IAmb	21 00 34.4	
	comp=Z,14nm,0.7s						
SADO	Sadowa	85.86	28	LR	LR	21 44 18.2	
	comp=Z,44nm,19.1s,baz=14,slow=39						
TUL3	Leonard	85.86	44	P	P	21 00 34.7	+0.9
	baz=321						
LPIG	La Paz	85.98	61	LR	LR	21 33 16.3	
	comp=Z,28nm,19.5s,baz=290,slow=32						
SGCY	Sterling City	85.99	50	IAmb	IAmb	21 00 37.7	
	comp=Z,39nm,0.8s						
LMQ	La Malbaie	86.15	22	IAmb	IAmb	21 00 36.0	
	comp=Z,19nm,1.0s						
PPT	Papeete	86.17	118	LR	LR	21 30 54.5	
	comp=Z,82nm,21.6s,baz=340,slow=30						
U38A	Gravette	86.17	43	IAmb	IAmb	21 00 36.6	
	comp=Z,11nm,0.9s						
PPT2	Papeete2	86.18	118	eLR	LR	21 27 29.8	
	comp=Z,225nm,36.2s						
PPT2				eLR	LR	21 27 55.3	
	comp=Z,254nm,26.5s						
LMR	La Mourre	86.24	329	P	P	21 00 34.9	-0.6
TX31	Lajitas Ar. Si	86.40	53	IAmb	IAmb	21 00 38.9	
	comp=Z,24nm,0.8s						
TX32	Lajitas Array	86.40	53	P	P	21 00 37.2	+0.5
TX32				IAmb	IAmb	21 00 38.9	
	comp=Z,8.2nm,0.8s						
TXAR	Lajitas Array	86.40	53	P	P	21 00 37.8	+1.1
	comp=Z,6.8nm,0.7s,baz=294,slow=3.5,SNR=99						
TXAR				PKKPbc	PKKPbc	21 18 34.3	+2.8
	comp=Z,0.3nm,0.7s,baz=134,slow=6.4,SNR=5.9						
	comp=Z,6.8nm,0.7s						
CCM	Cathedral Cave	86.43	40	P	P	21 00 36.7	+0.1
CCM				IAmb	IAmb	21 00 37.9	
	comp=Z,21nm,0.8s						
CCM	Cathedral Cave	86.43	40	P	P	21 00 37.0	+0.4
	baz=323						
CCM	Cathedral Cave	86.43	40	P	P	21 00 36.7	+0.1
CCM				pmax	pmax		
	comp=Z,21nm,0.9s						
SFIN	Lafayette	86.44	36	IAmb	IAmb	21 00 37.8	
	comp=Z,14nm,0.8s						
SFIN	Lafayette	86.44	36	P	P	21 00 36.9	+0.4
	baz=326						
CAF	Calviac	86.45	333	P	P	21 00 37.1	+0.5
HHAR	Hobbs	86.52	42	IAmb	IAmb	21 00 38.1	
	comp=Z,7.0nm,0.7s						
TAOE	Nuku Hiva Isla	86.61	105	eLR	LR	21 28 10.7	
	comp=Z,304nm,27.9s						
DELO	Deloro Mine	86.61	28	P	P	21 00 37.1	-0.2
DELO				IAmb	IAmb	21 00 38.2	
	comp=Z,17nm,0.9s						
MGMO	Mountain Grove	86.66	41	IAmb	IAmb	21 00 38.8	
	comp=Z,12nm,0.8s						
OZNA	Ozona	86.72	50	IAmb	IAmb	21 00 39.8	
	comp=Z,5.2nm,0.8s						
SAND	Sanderson	86.86	52	IAmb	IAmb	21 00 40.2	
	comp=Z,7.7nm,1.4s						
FVM	French Village	86.88	39	IAmb	IAmb	21 00 40.2	
	comp=Z,14nm,1.0s						
LFF	La Frestale	86.88	334	P	P	21 00 39.1	+0.5
D62A	Allapoint, All	86.92	21	IAmb	IAmb	21 00 39.9	
	comp=Z,18nm,0.7s						
WBO	Williamsburg	86.97	26	IAmb	IAmb	21 00 39.7	
	comp=Z,18nm,0.8s						
MNTQ	Montreal, Queb	87.05	25	P	P	21 00 39.4	0.0
MNTQ				IAmb	IAmb	21 00 40.8	
	comp=Z,21nm,0.9s						
N49A	Columbus Grove	87.22	34	IAmb	IAmb	21 00 41.8	
	comp=Z,22nm,1.0s						
E62A	Clayton Lake	87.22	21	IAmb	IAmb	21 00 41.2	
	comp=Z,16nm,0.8s						
OLIL	Olney	87.34	37	IAmb	IAmb	21 00 42.7	
	comp=Z,27nm,0.9s						
O48B	Farmland	87.37	34	P	P	21 00 41.5	+0.5
	baz=327						
BATG	Bathurst New B	87.50	19	P	P	21 00 42.4	+0.8
BATG				IAmb	IAmb	21 00 43.2	
	comp=Z,22nm,0.8s						
LONY	Lake Ozonia	87.53	26	P	P	21 00 41.8	0.0
	baz=333						
J55A	Hilton	87.64	28	IAmb	IAmb	21 00 43.3	
	comp=Z,31nm,0.9s						
BRDY	Brady	87.66	49	IAmb	IAmb	21 00 44.5	
	comp=Z,5.1nm,0.8s						
FCAR	Ozark Folk Cen	87.73	42	IAmb	IAmb	21 00 43.9	
	comp=Z,12nm,0.8s						
F62A	Pittston Farm,	87.76	22	IAmb	IAmb	21 00 44.3	
	comp=Z,22nm,0.9s						
PBMO	Poplar Bluff	87.84	40	IAmb	IAmb	21 00 45.1	
	comp=Z,27nm,0.9s						
ERPA	Erie	87.85	30	P	P	21 00 43.8	+0.4
	baz=330						
N51A	Ashland	87.95	32	IAmb	IAmb	21 00 45.2	
	comp=Z,23nm,0.8s						
WHTX	Lake Whitney,	87.98	47	P	P	21 00 44.8	+0.6
	baz=320						
MIAR	Mount Ida	88.06	43	IAmb	IAmb	21 00 46.3	
	comp=Z,12nm,0.8s						
MIAR	Mount Ida	88.06	43	P	P	21 00 45.4	+0.9
	baz=322,SNR=9.8						
LCAR	Lake Charles	88.06	41	IAmb	IAmb	21 00 46.0	
	comp=Z,20nm,1.7s						
WHAR	Wooly Hollow	88.12	42	IAmb	IAmb	21 00 46.1	
	comp=Z,18nm,0.8s						
J57A	Williamstown	88.14	27	IAmb	IAmb	21 00 45.8	
	comp=Z,12nm,0.8s						
P49A	Miami Univ. Ec	88.16	35	P	P	21 00 45.4	+0.5
	baz=327,SNR=6.8						
M53A	Wl Miller and	88.17	31	P	P	21 00 45.2	+0.3
	baz=330						
NCB	Newcomb	88.23	26	P	P	21 00 45.1	-0.1
NCB				IAmb	IAmb	21 00 46.3	
	comp=Z,11nm,0.7s						
ACSO	Alum Creek Sta	88.29	33	P	P	21 00 46.2	+0.7
	baz=328,SNR=6.8						
J58A	Remsen	88.42	27	IAmb	IAmb	21 00 47.2	
	comp=Z,19nm,0.8s						
PKME	Peaks-Kenny Pk	88.53	22	P	P	21 00 47.1	+0.6
	baz=337						
WCI	Wyandotte Cave	88.56	36	P	P	21 00 47.5	+0.7
WCI				IAmb	IAmb	21 00 48.4	
	comp=Z,19nm,0.8s						
WCI	Wyandotte Cave	88.56	36	P	P	21 00 47.3	+0.5
	baz=326						
WCI	Wyandotte Cave	88.56	36	P	P	21 00 47.5	+0.7
WCI				pmax	pmax		
	comp=Z,19nm,0.8s						
J59A	Piesco	88.59	26	IAmb	IAmb	21 00 48.0	
	comp=Z,19nm,0.8s						
LBNH	Lisbon	88.70	24	P	P	21 00 47.7	+0.3
	baz=335						
EPF	Esparros	88.71	333	P	P	21 00 48.0	+0.5
L56A	Greenwood	88.72	29	IAmb	IAmb	21 00 49.3	
	comp=Z,11nm,0.7s						
O53A	New Philadelph	88.99	32	P	P	21 00 49.4	+0.7
	baz=329,SNR=8.3						
P52A	Corning	89.14	33	IAmb	IAmb	21 00 50.8	
	comp=Z,22nm,0.9s						
P52A	Corning	89.14	33	P	P	21 00 50.2	+0.7
	baz=329,SNR=5.1						
RPZ	Rata Peaks	89.16	160	LR	LR	21 33 22.8	
	comp=Z,53nm,21.2s,baz=289,slow=30						
BINY	Binghamton	89.22	28	P	P	21 00 50.2	+0.3
	baz=332						
ATD	Arta Tunnel	89.43	285	IAmb	IAmb	21 00 53.8	
	comp=Z,17nm,0.9s						
ATD	Arta Tunnel	89.43	285	P	P	21 00 53.3	+2.0
WVT	Waverly	89.59	39	P	P	21 00 51.8	+0.1
WVT				IAmb	IAmb	21 00 53.3	
	comp=Z,9.9nm,0.8s						
WVT	Waverly	89.59	39	P	P	21 00 52.5	+0.8
	baz=325						
WVT	Waverly	89.59	39	P	P	21 00 51.8	+0.1
WVT				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KSPA	Keystone Colle	89.86	28	IAmb	IAmb	21 00 54.2	
	comp=Z,22nm,0.9s						
SSPA	Standing Stone	89.92	30	P	P	21 00 53.5	+0.4
SSPA	Standing Stone	89.92	30	P	P	21 00 53.8	+0.7
	baz=331						
MCWV	Mont Chateau	90.03	31	P	P	21 00 54.7	+1.0
	baz=330						
L61B	Northampton	90.09	25	P	P	21 00 53.9	0.0
	baz=335						
OXF	Oxford	90.16	41	P	P	21 00 54.5	+0.2
	baz=324						
T50A	Nancy	90.21	36	IAmb	IAmb	21 00 56.0	
	comp=Z,18nm,0.8s						
U49A	Red Boiling Sp	90.21	37	IAmb	IAmb	21 00 56.2	
	comp=Z,13nm,0.8s						
S51A	Beattyville	90.23	35	IAmb	IAmb	21 01 15.5	
	comp=Z,16nm,0.9s						
CLTN	Cedars of Leba	90.31	38	IAmb	IAmb	21 00 56.8	
	comp=Z,8.6nm,0.9s						
V48A	Smith Brothers	90.38	38	IAmb	IAmb	21 00 57.4	
	comp=Z,10nm,1.1s						
HRV	Adam Dziewonsk	90.39	24	P	P	21 00 56.2	+1.0
	baz=336						
TBI	Tubuai	90.40	122	eLR	LR	21 29 56.3	
	comp=Z,573nm,29.8s						
TBI	Tubuai	90.40	122	eT	T	22 40 32.0	
	comp=Z,16nm,0.3s						
PLAL	Pickwick Lake	90.42	39	IAmb	IAmb	21 00 56.6	
	comp=Z,5.7nm,0.8s						
ODNJ	Ogdensburg	90.68	27	P	P	21 00 57.0	+0.4
ODNJ				IAmb	IAmb	21 00 58.0	
	comp=Z,13nm,0.8s						
PAL	Palisades	90.99	27	P	P	21 00 58.2	+0.2
	baz=334						
HBVL	Hebbronville	91.03	51	IAmb	IAmb	21 01 01.7	
	comp=Z,13nm,0.8s						
TZTN	Tazewell	91.17	35	IAmb	IAmb	21 01 00.6	
	comp=Z,15nm,0.9s						
TZTN	Tazewell	91.17	35	P	P	21 00 59.4	+0.4
	baz=328						
SWET	Sewanee	91.22	38	IAmb	IAmb	21 01 00.4	
	comp=Z,9.0nm,0.9s						
V51A	Loudon	91.44	36	IAmb	IAmb	21 01 02.2	
	comp=Z,9.9nm,0.9s						
KEST	Kesra	91.51	324	P	P	21 01 00.2	-0.5
	comp=Z,5.1nm,0.7s,baz=351,slow=5.2,SNR=6.8						
KEST				LR	LR	21 46 56.1	
	comp=Z,117nm,18.4s,baz=256,slow=39						
	comp=Z,5.1nm,0.7s						
W50A	Signal Mountai	91.51	37	IAmb	IAmb	21 01 02.0	
	comp=Z,11nm,1.1s						
CPCT	Cooper Cave	91.66	37	IAmb	IAmb	21 01 02.7	
	comp=Z,6.4nm,0.9s						
TKL	Tuckaleechee C	91.82	36	IAmb	IAmb	21 01 03.5	
	comp=Z,10nm,0.9s						
TKL	Tuckaleechee C	91.82	36	LR	LR	21 44 30.1	
	comp=Z,34nm,20.9s,baz=340,slow=37						
PBRG	Braganca	92.02	338	eP	P	21 01 02.7	-0.2
	comp=Z,20nm,1.7s						
LRAL	Lakeview Retre	92.52	40	P	P	21 01 04.3	-1.0
	baz=326						
MVO	Moncorvo	92.69	337	eP	P	21 01 06.0	0.0
	comp=Z,28nm,1.8s						
POLO	Lamas de Olo	92.71	338	eP	P	21 01 06.0	-0.2
	comp=Z,15nm,1.6s						
BG3	Lake Jocassee	92.75	36	IAmb	IAmb	21 01 50.8	
	comp=Z,12nm,0.9s						
PVRL	Vila Real	92.78	338	eP	P	21 01 06.6	+0.2
	comp=Z,43nm,1.7s						
ESDC	Sonseca Array	93.13	335	IAmb	IAmb	21 01 09.1	
	comp=Z,6.3nm,0.9s						
ESDC	Sonseca Array	93.13	335	P	P	21 01 08.1	0.0
	comp=Z,5.1nm,0.8s,baz=12,slow=4.1,SNR=21						
ESDC				LR	LR	21 48 48.1	
	comp=Z,56nm,19.2s,baz=24,slow=39						
	comp=Z,5.1nm,0.8s						
PESTR	Estremoz	94.98	337	eP	P	21 01 14.9	-1.6
	comp=Z,20nm,1.4s						
NHSC	New Hope	95.54	35	P	P	21 01 16.0	-3.1
	baz=330						
KMBO	Kilima Mbogo	102.06	279	P	Pdif	21 01 49.3	+0.3
	comp=Z,0.6nm,0.5s,baz=41,slow=12,SNR=6.6						
TORD	Torodi Ar. Bea	114.29	318	PKP	PKiKP	21 06 33.1	-0.7
	comp=Z,0.7nm,0.5s,baz=38,slow=1.0,SNR=6.8						
TORD				PP	PP	21 07 20.1	-9.0
	comp=Z,0.8nm,0.6s,baz=22,slow=8.7,SNR=3.6						
VNDA	Vanda	119.91	175	PKP	PKPdf	21 06 43.0	+0.3
	comp=Z,0.9nm,0.7s,baz=304,slow=5.5,SNR=7.4						
DBIC	Dimbokro	123.09	320	PKP	PKPdf	21 06 50.5	-0.3
	comp=Z,3.3nm,0.6s,baz=12,slow=1.0,SNR=6.9						
MAW	Mawson	124.42	207	PKP	PKiKP	21 06 52.3	+0.5
	comp=Z,3.3nm,0.7s,baz=47,slow=2.4,SNR=9.3						
BOSA	Boshof	128.16	264	PKP	PKPdf	21 06 59.4	-0.7
	comp=Z,1.4nm,0.7s,baz=27,slow=1.7,SNR=3.7						
QSPA	South Pole Qui	131.80	180	PKP	PKPdf	21 07 06.4	+0.6
	baz=320,slow=1.7						
ELIB	Princess Elisa	138.36	204	dPKPdf	PKPdf	21 07 18.9	+0.9
ELIB				dPKiKP	PKiKP	21 07 21.5	+1.4
ELIB				dpPKiKP	pPKiKP	21 07 39.9	+2.2
LPAZ	La Paz	143.26	55		PKPbc	21 07 26.4	+0.2
LPAZ	La Paz	143.26	55	PKIKP	PKPbc	21 07 26.4	+0.2
LPAZ	La Paz	143.26	55	PKP	PKPbc	21 07 27.1	+0.9
	comp=Z,1.8nm,0.9s,baz=304,slow=4.5,SNR=4.9						
BELA	Belgrano 2	144.06	181	PKPdf	PKPab	21 07 24.8	-0.7
TROLL	Troll, Antarti	144.26	200	⇑PKPdf	PKPbc	21 07 27.4	+0.4
	comp=Z,888nm,0.6s						
PB11	IPOC Station P	144.88	61	PKPdf	PKPdf	21 07 31.3	+0.1
VILB	Vilhena	144.91	41	PKPdf	PKPdf	21 07 31.2	-0.1
TA02	Huaiquique	144.94	62	PKPdf	PKPdf	21 07 31.3	+0.2
GO01	Chusmiza	145.12	60		PKPdf	21 07 32.6	+0.6
PATCX	Punta Patache	145.31	63		PKPab	21 07 32.3	+0.4
SNAA	Sanae	145.79	199	PKPdf	PKPdf	21 07 31.4	+0.4
SNAA	Sanae	145.79	199	⇑PKPdf	PKPbc	21 07 31.8	0.0
	comp=Z,198nm,0.7s						
SNAA	Sanae	145.79	199	PKP2	PKPdf	21 07 31.5	+0.4
SNAA	Sanae	145.79	199	PKPbc	PKPbc	21 07 32.1	+0.4
	comp=Z,7.8nm,0.6s,baz=177,slow=3.8,SNR=53						
PB04	IPOC Station P	146.37	64		PKPbc	21 07 35.1	0.0
H03N2	Juan Fernandez	146.39	89	T	T	23 50 58.4	
	baz=300,slow=77,SNR=32						
H03N3	Juan Fernandez	146.40	89	T	T	23 50 57.1	
	baz=300,slow=77,SNR=36						
H03N1	Juan Fernandez	146.41	89	T	T	23 50 58.9	
	baz=300,slow=77,SNR=2.9						
VNA2	Neumayer--Watz	147.37	198	⇑PKPdf	PKPdf	21 07 34.8	+1.1
	comp=Z,32nm,0.6s,baz=136,slow=2.0						
PTLB	Pontes e Lacer	147.58	42	PKPdf	PKPdf	21 07 35.7	0.0
VNA3	Neumayer Olymp	147.63	196	⇑PKPdf	PKPdf	21 07 34.9	+0.8
	comp=Z,12nm,0.7s						
VNA1	Neumayer--Stat	147.77	198	PKPdf	PKPbc	21 07 37.4	+0.1
	comp=Z,25nm,0.8s						
AC01	Pan de Azucar	148.56	70		PKPdf	21 07 38.4	+1.3
BDFB	Brasilia	152.15	22	PKPbc	PKiKP	21 07 50.4	+0.4
	comp=Z,14nm,0.7s,baz=235,slow=1.6,SNR=23						

IDC 01 20:53:20.5±3.9, 9.°05S×151.°40E, h0km, mb3.4/2, mbtmp3.5/3, ML2.8/1, MS2.9/1, Error ellipse: s-maj=296.5km s-min=33.6km az=132.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	12.05	204	LR	LR	21 00 17.8	
	comp=Z,52nm,18.7s,baz=78,slow=35						
WRA	Warramunga Arr	19.73	235	P	P	20 57 52.4	+0.4
	baz=62,slow=10,SNR=4.2						
	1.4nm,0.9s						
ASAR	Alice Springs	22.16	227	P	P	20 58 18.0	-0.3
	0.6nm,0.8s,baz=58,slow=9.8,SNR=5.8						
	0.6nm,0.8s						
ILAR	Eielson Array	86.59	22	P	P	21 06 05.5	0.0
	0.6nm,1.0s,baz=234,slow=5.5,SNR=3.3						
	0.6nm,1.0s						

NEIC 01 20:58:41.7±1.7, 45.°24N±0.°03×106.°88W±0.°08, h0km±1km, ML3.1/28, Error ellipse: s-maj=10.4km s-min=3.4km az=71.0

IDC 01 20:58:43.5±1.1, 44.°70N×106.°53W, h0km, mbtmp3.6/2, ML3.2/2, Error ellipse: s-maj=55.6km s-min=8.2km az=139.0

ISC 01 20:58:43.4±1.3, 45.°24N±0.°06×106.°85W±0.°07, h0km, n26, σ0.s78/24, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LAO	LASA Array	1.52	17		Pg	20 59 12.9	+0.4
LAO				IAML		20 59 42.6	
	273nm,2.4s						
LAO				IAML		20 59 46.9	
	183nm,1.8s						
RLMT	Red Lodge	1.71	267		Pn	20 59 13.7	-1.0
RSSD	Black Hills	2.30	118		Pn	20 59 22.9	+0.2
RSSD				IAML		20 59 56.5	
	100nm,0.7s						
YMP	Mirror Lake Pl	2.40	259		Pn	20 59 23.6	-0.6
YMP				IAML		20 59 59.0	
	comp=N,129nm,0.9s						
K22A	Casper	2.60	175		Pn	20 59 25.5	-1.3
K22A				IAML		21 00 06.5	
	comp=N,95nm,0.7s						
K22A				IAML		21 00 47.3	
	comp=E,90nm,3.0s						
H17A	Grant Village	2.78	254	Pn	Pn	20 59 30.6	+1.1
H17A				IAML		21 00 10.8	
	comp=N,53nm,1.4s						
H17A				IAML		21 00 10.9	
	comp=E,54nm,2.3s						
YHH	Holmes Hill	2.87	262	Pn	Pn	20 59 30.8	+0.1
PD31	Pinedale Array	3.15	219	Pn	Pn	20 59 34.3	-0.2
PDAR	Pinedale Array	3.15	219	Pn	Pn	20 59 35.4	+1.0
PDAR	Pinedale Array	3.15	219	Pn	Pn	20 59 34.8	+0.3
	comp=E,2.5nm,0.3s,baz=57,slow=16,SNR=18						
PDAR				Lg	Lg	21 00 14.2	
	comp=E,2.8nm,0.3s,baz=52,slow=31,SNR=14						
	comp=E,2.2nm,0.3s						
BW06	Boulder Array	3.15	219	Pn	Pn	20 59 34.7	+0.3
BW06				IAML		21 00 27.1	
	comp=E,36nm,2.5s						
BW06				IAML		21 00 36.0	
	comp=E,35nm,2.2s						
MOOW	Moose Ponds	3.16	243	Pn	Pn	20 59 34.0	-0.6
BOZ	Bozeman (W)	3.39	278	Pn	Pn	20 59 37.0	-0.7
BOZ				IAML		21 00 31.7	
	comp=E,47nm,2.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TPAW	**Teton Pass**	**3.42**	**241**	Pn	**Pn**	**20 59 37.4**	**-0.9**
TPAW				IAML		21 01 07.4	
	comp=E,36nm,3.6s						
REDW	**Red Top Meadow**	**3.43**	**238**		**Pn**	**20 59 37.2**	**-1.2**
EGMT	**Eagleton**	**3.43**	**325**		**Pn**	**20 59 37.4**	**-0.8**
DGMT	**Dagmar**	**3.71**	**28**	Pn	**Pn**	**20 59 41.3**	**-0.7**
AHID	**Auburn Hatcher**	**3.94**	**233**	Pn	**Pn**	**20 59 43.9**	**-1.3**
AHID				IAML		21 00 50.9	
	comp=E,30nm,1.7s						
AHID				IAML		21 01 59.6	
	comp=E,32nm,4.7s						
ELMT	**Elliston**	**4.15**	**290**	Pn	**Pn**	**20 59 47.7**	**-0.4**
OVMT	**Ovando**	**4.65**	**295**	Pn	**Pn**	**20 59 55.4**	**+0.4**
CHMT	**Chamberlain Mo**	**4.76**	**293**	Pn	**Pn**	**20 59 56.5**	**0.0**
BPMT	**Black Pine Rid**	**4.76**	**287**	Pn	**Pn**	**20 59 55.8**	**-0.9**
MSO	**Missoula**	**5.19**	**290**	Pn	**Pn**	**21 00 01.9**	**-0.5**
NEW	**Newport**	**7.68**	**297**	Lg	Lg	21 02 54.6	
	comp=E,0.2nm,0.3s,baz=10,slow=20,SNR=5.6						
I10CA	**LAC DU BONNET**	**8.82**	**52**	I	I	21 52 25.0	
	comp=E,0.2nm,2.0s,baz=233,slow=315,SNR=6.4						
ULM	**Lac du Bonnet**	**8.93**	**52**	Pn	**Pn**	**21 00 53.9**	**+0.3**
	comp=E,0.6nm,0.3s,baz=244,slow=10,SNR=15						
ULM				Lg	Lg	21 03 24.0	
	comp=E,0.1nm,0.3s,baz=142,slow=21,SNR=3.0						
	comp=E,2.5nm,0.2s						

*DSN **01** 21:11:54.5±1.3, 27°.37N×55°.79E, h10km, ML3.0/9, Error ellipse: s-maj=24.7km s-min=9.4km az=61.0*
*TEH **01** 21:11:55.2, 26°.93N×55°.43E, h7km±23km, ML3.3*
*OMAN **01** 21:11:55.9±1.1, 27°.22N×55°.39E, h10km, mb3.9/4, ml3.0/12, Error ellipse: s-maj=12.3km s-min=8.7km az=14.0*
ISC 01 21:11:55.0±1.3**, 27°.22N**±0°.04×**55°.44E**±0°.03**, h5**km±11km**, n40,** σ**1**s**.27**/56**, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.67**	**74**	Pg	**Pn**	**21 12 11.4**	**+0.1**
IBND	**Bandar-abas**	**1.00**	**77**	Pg	**Pn**	**21 12 17.6**	**+1.9**
IBND				Sg	**Sn**	**21 12 33.6**	**+3.4**
LAR1	**LAR**	**1.05**	**295**	Pg	**Pn**	**21 12 18.9**	**+2.4**
SHME	**Shamm**	**1.32**	**152**	*e*P	**Pn**	**21 12 20.0**	**-0.2**
	SNR=14						
SHME				S	**Sg**	**21 12 38.6**	**+1.1**
SHME	**Shamm**	**1.32**	**152**	P	**Pg**	**21 12 20.6**	**+0.2**
	SNR=14						
SHME				S	**Sg**	**21 12 39.5**	**+2.0**
UMQ	**Umm Al-Quwin**	**1.70**	**173**	P	**Pb**	**21 12 26.9**	**+0.2**
UMQ	**Umm Al-Quwin**	**1.70**	**173**	P	**Pb**	**21 12 26.2**	**-0.5**
UMQ				S	**Sg**	**21 12 49.2**	**-0.4**
MSFE	**Esma-Masafi**	**1.96**	**161**	P	**Pn**	**21 12 29.4**	**+0.4**
LMD1	**Lamerd**	**2.03**	**274**	Pn	**Pg**	**21 12 33.3**	**-0.6**
JHRM	**Jahrom**	**2.09**	**308**	Pn	**Pg**	**21 12 35.8**	**+0.8**
KHNJ	**Kahnooj**	**2.13**	**70**	Pn	**Pb**	**21 12 33.5**	**-0.7**
NAZ	**Nazwa, Dubai**	**2.23**	**175**	P	**Pn**	**21 12 33.9**	**+1.3**
UOSS	**Minazif**	**2.37**	**163**	P	**Pn**	**21 12 34.9**	**+0.4**
UOSS	**Minazif**	**2.37**	**163**	P	**Pn**	**21 12 35.1**	**+0.6**
UOSS				S	**Sb**	**21 13 06.0**	**-1.7**
HATD	**Hatta, Dubai**	**2.46**	**165**	*e*P	**Pn**	**21 12 36.3**	**+0.4**
	SNR=8.8						
HATD	**Hatta, Dubai**	**2.46**	**165**	P	**Pn**	**21 12 36.7**	**+0.8**
	SNR=8.8						
FAQ	**Al Faqa, Dubai**	**2.47**	**177**	*e*P	**Pn**	**21 12 36.4**	**+0.5**
	SNR=7.0						
FAQ	**Al Faqa, Dubai**	**2.47**	**177**	P	**Pn**	**21 12 37.1**	**+1.1**
	SNR=7.0						
FAQ				S	**Sn**	**21 13 07.9**	**+1.4**
JASK	**Jask - Hormozg**	**2.56**	**121**	P	**Pn**	**21 12 37.4**	**+0.2**
JASK				S	**Sn**	**21 13 10.3**	**+1.7**
JASK	**Jask - Hormozg**	**2.56**	**121**	Pn	**Pn**	**21 12 38.0**	**+0.9**
ASHO	**Ashiyiah**	**2.59**	**168**	*e*P	**Pn**	**21 12 38.5**	**+0.9**
	SNR=20						
ASHO	**Ashiyiah**	**2.59**	**168**	P	**Pn**	**21 12 38.6**	**+1.1**
	SNR=34						
ASUD	**Al Ashush, Dub**	**2.59**	**182**	*e*P	**Pn**	**21 12 38.2**	**+0.7**
	SNR=13						
ASUD	**Al Ashush, Dub**	**2.59**	**182**	P	**Pn**	**21 12 38.6**	**+1.0**
	SNR=13						
ASUD				S	**Sb**	**21 13 11.0**	**-2.9**
ALNE	**Al Ain**	**3.16**	**175**	P	**Pn**	**21 12 46.4**	**+0.9**
	SNR=5.8						
ALNE				S	**Sn**	**21 13 25.5**	**+1.9**
SOHO	**SOHO**	**3.23**	**162**	P	**Pn**	**21 12 45.4**	**-0.9**
SOHO	**SOHO**	**3.23**	**162**	P	**Pn**	**21 12 46.9**	**+0.5**
SOHO				S	**Sn**	**21 13 27.1**	**+1.9**
KBAM	**BAM**	**3.27**	**54**	Pn	**Pb**	**21 12 51.1**	**-2.5**
ARQ	**Araqi**	**3.99**	**166**	P	**Pn**	**21 12 57.3**	**+0.5**
	SNR=28						
ARQ				S	**Sn**	**21 13 45.3**	**+1.3**
HOQ	**Hoqain**	**4.00**	**155**	Pn	**Pn**	**21 12 56.0**	**-0.9**
BSY	**Bisya**	**4.73**	**160**	P	**Pn**	**21 13 07.6**	**+0.5**
	SNR=8.0						
BSY				S	**Sn**	**21 14 04.1**	**+1.7**
SMDO	**Samad**	**4.77**	**150**	P	**Pn**	**21 13 08.4**	**+0.8**
	SNR=6.0						
SMDO				S	**Sn**	**21 14 03.6**	**+0.2**
SMRA	**Abu-Samra**	**4.83**	**240**	P	**Pn**	**21 13 08.9**	**+0.5**
SMRA				S	**Sn**	**21 14 04.0**	**-0.8**
	SNR=5.5						
WSAR	**Wadi Sarin**	**4.90**	**143**	P	**Pn**	**21 13 09.5**	**+0.1**
JMDO	**Jabal Madar**	**5.40**	**153**	P	**Pn**	**21 13 16.6**	**+0.3**
	SNR=10						
JMDO				S	**Sn**	**21 14 19.0**	**+0.2**
WBK	**Wadi Bani Khal**	**5.60**	**144**	Pn	**Pn**	**21 13 18.6**	**-0.4**
MHTO	**MHTO**	**6.62**	**159**	P	**Pn**	**21 13 33.5**	**+0.5**
	SNR=11						
MHTO				S	**Sn**	**21 14 46.8**	**-2.1**
SHAO	**Shalim**	**9.16**	**179**	P	**Pn**	**21 14 08.8**	**+0.9**
	SNR=7.1						
WHFO	**Wadi Hawf**	**9.38**	**190**	P	**Pn**	**21 14 11.2**	**+0.2**
	SNR=9.7						
ABTO	**Aybut**	**10.02**	**192**	P	**Pn**	**21 14 18.6**	**-1.1**
	SNR=12						

*IDC **01** 21:18:17.6±1.0, 53°.86S×2°.07E, h0km, mb4.1/5, mbtmp4.1/6, ML4.1/1, MS3.7/19, Error ellipse: s-maj=40.3km s-min=23.3km az=75.0*
*NEIC **01** 21:18:19.3±1.8, 53°.88S±0°.06×1°.9E±0°.2, h10km±1km, mb4.9/42, Error ellipse: s-maj=18.4km s-min=9.1km az=73.0*
ISC 01 21:18:18.9±0.5**, 53°.80S**±0°.08×**2°.04E**±0°.09**, h10**km**, n81,** σ**1**s**.34**/60**, mb4.8**/26**, MS3.8**/18**, Bouvet Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.53**	**191**	P	**P**	**21 22 27.7**	**+3.6**
	comp=Z,5.4nm,0.3s						
VNA2	**Neumayer--Watz**	**17.69**	**190**	P	**P**	**21 22 29.1**	**+3.2**
	comp=Z,7.8nm,0.4s,baz=17,slow=14						
SNAA	**Sanae**	**18.07**	**185**	P	**Pn**	**21 22 28.7**	**-0.9**
SNAA	**Sanae**	**18.07**	**185**	P	**P**	**21 22 31.7**	**+1.6**
	comp=Z,48nm,0.4s						
SNAA	**Sanae**	**18.07**	**185**	P	**P**	**21 22 30.3**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=8.7,slow=15,SNR=29						
SNAA				LR	LR	21 28 07.5	
	comp=Z,218nm,18.7s,baz=360,slow=33						
	comp=Z,2.8nm,0.4s						
VNA3	**Neumayer Olymp**	**18.25**	**192**	P	**P**	**21 22 36.6**	**+4.5**
	comp=Z,3.6nm,0.3s						
TROLL	**Troll, Antarti**	**18.28**	**180**	P	**P**	**21 22 34.5**	**+1.9**
	comp=Z,41nm,0.3s						
SUR	**Sutherland**	**25.27**	**40**	LR	LR	21 31 00.9	
	comp=Z,125nm,19.1s,baz=201,slow=30						
BOSA	**Boshof**	**30.36**	**43**	LR	LR	21 34 40.1	
	comp=Z,63nm,18.3s,baz=196,slow=32						
MAW	**Mawson**	**31.31**	**140**	LR	LR	21 35 03.7	
	comp=Z,52nm,21.9s,baz=250,slow=32						
H04S2	**CROZET ISLANDS**	**32.01**	**98**	T	T	21 58 07.7	
	baz=239,slow=75,SNR=17						
H04S3	**CROZET ISLANDS**	**32.01**	**98**	T	T	21 58 03.3	
	baz=239,slow=75,SNR=16						
H04S1	**CROZET ISLANDS**	**32.02**	**98**	T	T	21 58 00.9	
	baz=239,slow=75,SNR=16						
LBTB	**Lobatse**	**33.71**	**41**	LR	LR	21 37 20.1	
	comp=Z,44nm,18.0s,baz=203,slow=34						
POGA	**Pongola**	**34.28**	**51**	P	**P**	**21 25 04.6**	**-0.4**
POGA				IAmb	IAmb	21 25 22.4	
	comp=Z,14nm,1.2s						
QSPA	**South Pole Qui**	**36.44**	**180**	P	**P**	**21 25 22.9**	**-0.6**
QSPA	**South Pole Qui**	**36.44**	**180**	P	**P**	**21 25 21.3**	**-2.2**
	comp=Z,1.6nm,0.4s,baz=90,slow=7.2,SNR=2.2						
QSPA				LR	LR	21 40 15.1	
	comp=Z,1μm,21.7s,baz=238,slow=36						
	comp=Z,1.6nm,0.4s						
TSUM	**Tsumeb**	**36.55**	**25**	LR	LR	21 37 17.2	
	comp=Z,146nm,21.5s,baz=172,slow=31						
SHEL	**Horse Pasture**	**38.25**	**348**	P	**P**	**21 25 40.0**	**+0.9**
PAF	**Port-aux-Franc**	**41.13**	**113**	P	**P**	**21 26 01.7**	**-1.0**
LSZ	**Lusaka**	**43.56**	**38**	LR	LR	21 42 37.1	
	comp=Z,147nm,18.1s,baz=197,slow=34						
FOMA	**Nahampoana Res**	**44.02**	**67**	P	**P**	**21 26 27.1**	**+0.6**
FOMA				IAmb	IAmb	21 26 31.3	
	comp=Z,43nm,1.0s						
PLTB	**Pedras Altas**	**45.02**	**276**	P	**P**	**21 26 35.1**	**+0.7**
PLTB				IAmb	IAmb	21 27 03.5	
	comp=Z,15nm,1.3s						
VOI	**Vohitsoka**	**46.39**	**65**	P	**P**	**21 26 45.3**	**-0.1**
VOI				IAmb	IAmb	21 26 54.3	
	comp=Z,28nm,1.4s						
COYC	**Coyhaique**	**46.60**	**248**	P	**P**	**21 26 47.2**	**+0.5**
COYC				IAmb	IAmb	21 27 05.3	
	comp=Z,8.2nm,1.2s						
ITAB	**Concordia**	**47.49**	**282**	P	**P**	**21 26 54.0**	**+0.1**
ITQB	**Itaqui**	**48.32**	**276**	P	**P**	**21 27 00.3**	**0.0**
ITQB				IAmb	IAmb	21 27 09.4	
	comp=Z,26nm,1.4s						
VNDA	**Vanda**	**48.34**	**174**	P	**P**	**21 26 59.9**	**0.0**
VNDA	**Vanda**	**48.34**	**174**	P	**P**	**21 27 00.8**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=188,slow=7.3,SNR=8.1						
VNDA				LR	LR	21 45 32.0	
	comp=Z,62nm,21.1s,baz=224,slow=34						
	comp=Z,2.2nm,0.9s						
LL01	**San Ignacio de**	**48.82**	**252**	P	**P**	**21 27 04.0**	**+0.1**
PLCA	**Paso Flores**	**48.84**	**254**	P	**P**	**21 27 03.9**	**-0.4**
LL06	**Loncomilla**	**49.60**	**251**	P	**P**	**21 27 10.3**	**+0.3**
LL05	**Los Muermos**	**50.05**	**252**	P	**P**	**21 27 13.0**	**-0.4**
CPUP	**Villa Florida**	**51.21**	**278**	P	**P**	**21 27 22.7**	**+0.4**
BO02	**Sierra Bellavi**	**53.02**	**260**	P	**P**	**21 27 35.0**	**-0.8**
BO02				IAmb	IAmb	21 27 51.4	
	comp=Z,25nm,1.4s						
MT01	**Popeta**	**53.95**	**260**	P	**P**	**21 27 40.9**	**-1.7**
MT01				IAmb	IAmb	21 27 43.1	
	comp=Z,49nm,1.5s						
ZON	**Zonda**	**54.10**	**264**	P	**P**	**21 27 42.6**	**-1.2**
VA05	**Santo Domingo**	**54.31**	**260**	P	**P**	**21 27 44.1**	**-1.1**
AQDB	**Aquidauana**	**54.77**	**284**	P	**P**	**21 27 48.5**	**-0.2**
CO01	**Juntas del Tor**	**56.07**	**264**	P	**P**	**21 27 57.5**	**-0.7**
CO01				IAmb	IAmb	21 28 05.3	
	comp=Z,8.2nm,1.2s						
CO05	**La Serena**	**56.79**	**264**	P	**P**	**21 28 02.4**	**-0.7**
LCO	**Las Campanas**	**57.14**	**265**	P	**P**	**21 28 03.9**	**-2.0**
LCO				IAmb	IAmb	21 28 31.2	
	comp=Z,21nm,1.1s						
GO03	**Copiap**	**57.91**	**266**	P	**P**	**21 28 08.5**	**-2.6**
GO03				IAmb	IAmb	21 28 19.6	
	comp=Z,7.4nm,0.8s						
GO02	**Mina Guanaco**	**59.34**	**269**	P	**P**	**21 28 20.0**	**-1.4**
GO02				IAmb	IAmb	21 28 35.6	
	comp=Z,8.5nm,1.2s						
KMBO	**Kilima Mbogo**	**59.98**	**42**	LR	LR	21 52 23.5	
	comp=Z,81nm,21.0s,baz=90,slow=34						
DBIC	**Dimbokro**	**60.52**	**352**	P	**P**	**21 28 29.6**	**+0.5**
DBIC				IAmb	IAmb	21 28 57.6	
	comp=Z,14nm,1.4s						
DBIC	**Dimbokro**	**60.52**	**352**	LR	LR	21 50 28.1	
	comp=Z,60nm,18.3s,baz=30,slow=32						
LVC	**Limon Verde**	**60.88**	**271**	P	**P**	**21 28 31.8**	**-0.2**
LVC				IAmb	IAmb	21 28 58.1	
	comp=Z,5.4nm,1.2s						
GO01	**Chusmiza**	**63.31**	**273**	P	**P**	**21 28 46.7**	**-1.8**
GO01				IAmb	IAmb	21 29 02.7	
	comp=Z,11nm,1.5s						
TA02	**Huaiquique**	**63.40**	**272**	P	**P**	**21 28 49.0**	**+0.5**
TA02				IAmb	IAmb	21 29 03.4	
	comp=Z,13nm,0.9s						
LPAZ	**La Paz**	**65.31**	**276**	P	**P**	**21 29 00.0**	**-1.8**
LPAZ				IAmb	IAmb	21 29 13.6	
	comp=Z,3.7nm,0.9s						
LPAZ	**La Paz**	**65.31**	**276**		**P**	**21 29 00.1**	**-1.7**
LPAZ	**La Paz**	**65.31**	**276**	P	**P**	**21 29 01.7**	**-0.1**
	comp=Z,1.9nm,0.4s,baz=210,slow=4.0,SNR=18						
	comp=Z,1.9nm,0.4s						
MSEY	**Mahe Island**	**65.33**	**62**	P	**P**	**21 29 02.1**	**+0.8**
TOA0	**Torodi Ar. Sit**	**66.68**	**360**	P	**P**	**21 29 10.9**	**+1.2**
TORD	**Torodi Ar. Bea**	**66.68**	**360**	P	**P**	**21 29 10.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**66.68**	**360**	P	**P**	**21 29 10.0**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=183,slow=5.5,SNR=5.4						
TORD				LR	LR	21 52 44.3	
	comp=Z,43nm,18.8s,baz=316,slow=31						
	comp=Z,0.9nm,0.8s						
SAML	**Samuel**	**68.28**	**285**	P	**P**	**21 29 19.9**	**-0.1**
MCQ	**Macquarie Isla**	**70.39**	**166**	P	**P**	**21 29 33.3**	**+0.8**
NNA	**Nana**	**73.85**	**272**	P	**P**	**21 29 53.1**	**-0.8**
NNA				IAmb	IAmb	21 29 57.1	
	comp=Z,18nm,1.1s						
H01W2	**Cape Leeuwin H**	**74.03**	**128**	T	T	22 51 10.2	
	baz=215,slow=75,SNR=5.5						
H01W1	**Cape Leeuwin H**	**74.05**	**128**	T	T	22 51 11.0	
	baz=215,slow=75,SNR=6.3						
H01W3	**Cape Leeuwin H**	**74.05**	**128**	T	T	22 51 08.5	
	baz=215,slow=75,SNR=5.3						
MDP	**Montagnes des**	**74.30**	**302**	LR	LR	21 58 58.2	
	comp=Z,51nm,18.6s,baz=31,slow=33						
PYZ	**Puysegur Point**	**79.55**	**169**	P	**P**	**21 30 25.0**	**-0.6**
WHZ	**Wether Hill Ro**	**79.96**	**170**	P	**P**	**21 30 28.7**	**+0.8**
WHZ				IAmb	IAmb	21 30 50.7	
	comp=Z,45nm,1.5s						
COHC	**Cochancay**	**82.87**	**276**	P	**P**	**21 30 43.9**	**+0.2**
LTZ	**Lake Taylor**	**83.43**	**173**	P	**P**	**21 30 46.6**	**+0.3**
LTZ				IAmb	IAmb	21 31 10.8	
	comp=Z,9.3nm,0.8s						
DSZ	**Denniston Nort**	**84.42**	**172**	P	**P**	**21 30 50.1**	**-1.3**
DSZ				IAmb	IAmb	21 30 52.6	
	comp=Z,21nm,1.2s						
OTAV	**Otavalo**	**84.56**	**278**	P	**P**	**21 30 53.5**	**+0.6**
OTAV				IAmb	IAmb	21 31 06.0	
	comp=Z,6.4nm,1.4s						
PLWZ	**Palliser**	**84.83**	**175**	P	**P**	**21 30 53.4**	**0.0**
TUWZ	**Tuamarina**	**84.89**	**174**	P	**P**	**21 30 51.7**	**-1.9**
MDT	**Midelt**	**86.45**	**354**	LR	LR	22 04 40.1	
	comp=Z,63nm,20.3s,baz=162,slow=32						
EIL	**Elat**	**87.89**	**28**	LR	LR	22 08 02.5	
	comp=Z,55nm,20.8s,baz=164,slow=34						
URZ	**Urewera**	**88.21**	**176**	LR	LR	22 07 22.9	
	comp=Z,87nm,19.6s,baz=213,slow=33						
KEST	**Kesra**	**89.39**	**6**	LR	LR	22 10 36.8	
	comp=Z,24nm,18.9s,baz=282,slow=35						
MMAI	**Mount Meron Ar**	**91.17**	**28**	LR	LR	22 10 39.6	
	comp=Z,124nm,20.1s,baz=182,slow=34						
ASAR	**Alice Springs**	**92.39**	**137**	P	**P**	**21 31 28.6**	**-1.1**
	comp=Z,1.0nm,1.0s,baz=218,slow=5.9,SNR=3.2						
	comp=Z,1.0nm,1.0s						
ESDC	**Sonseca Array**	**93.25**	**355**	LR	LR	22 09 59.1	
	comp=Z,24nm,19.3s,baz=124,slow=33						
MJAR	**Matsushiro Arr**	**145.28**	**102**	PKPbc	**PKPbc**	**21 37 55.5**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=201,slow=5.6,SNR=4.1						
YKA	**Yellowknife Ar**	**146.77**	**311**	PKPbc	**PKPab**	**21 38 01.3**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=99,slow=2.7,SNR=28						

*KNET **01** 21:31:55.5±0.3, 42°.60N×75°.14E, h20km±4km, ml1.1, Error ellipse: s-maj=2.6km s-min=2.2km az=127.0*
*SOME **01** 21:31:55.9, 42°.58N×75°.13E, h5km*
*NNC **01** 21:31:57.3±0.8, 42°.66N×75°.13E, h0km, mpv2.6, Error ellipse: s-maj=6.8km s-min=3.2km az=174.0*
ISC 01 21:31:56.5±0.9**, 42°.62N**±0°.03×**75°.13E**±0°.02**, h11**km±7km**, n29,** σ**0**s**.64**/56**, 8C-7D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.14**	**286**	⇑P	**Pg**	**21 32 00.2**	**+0.2**
	7.7nm,0.1s,SNR=68						
KBK				⇓S	**Sg**	**21 32 03.1**	**+0.7**
	57nm,0.2s						
TKM2	**Tokmak 2**	**0.46**	**49**	⇓P	**Pg**	**21 32 05.5**	**-0.2**
	5.2nm,0.1s,SNR=40						
TKM2				⇑S	**Sg**	**21 32 11.6**	**-0.1**
	46nm,0.1s						
AAK	**Ala-Archa**	**0.47**	**272**	⇑P	**Pb**	**21 32 06.1**	**-0.9**
	3.1nm,0.3s,SNR=6.6						
AAK				⇓S	**Sb**	**21 32 12.9**	**-1.1**
	5.1nm,0.3s						
CHMS	**Chumysh**	**0.47**	**324**	⇓P	**Pb**	**21 32 06.2**	**-0.7**
	3.8nm,0.1s,SNR=8.9						
CHMS				⇑S	**Sb**	**21 32 13.1**	**-0.7**
	28nm,0.2s						
KZA	**Kyzart**	**0.55**	**170**	⇑P	**Pg**	**21 32 06.9**	**-0.5**
	4.3nm,0.1s,SNR=16						
KZA				⇑S	**Sg**	**21 32 14.4**	**-0.3**
	7.1nm,0.2s						
UCH	**Uchtor**	**0.60**	**229**	⇓P	**Pg**	**21 32 08.1**	**-0.2**
	1.7nm,0.4s,SNR=7.2						
UCH				⇑S	**Sg**	**21 32 16.4**	**+0.1**
	3.0nm,0.1s						
KST	**Kastek**	**0.75**	**55**	*e*P	**Pg**	**21 32 10.2**	**-0.8**
	0.8nm,0.1s						
KST				*e*S	**Sg**	**21 32 20.8**	**0.0**
	4.2nm,0.3s						
KST	**Kastek**	**0.75**	**55**	P	**Pb**	**21 32 11.0**	**-0.7**
	0.8nm,0.1s						
KST				S	**Sg**	**21 32 20.8**	**0.0**
	4.2nm,0.3s						
DGS	**Degeres**	**0.78**	**37**	*e*P	**Pg**	**21 32 11.3**	**-0.4**
	0.9nm,0.2s						
DGS				*e*S	**Sg**	**21 32 22.0**	**+0.1**
	4.0nm,0.2s						
DGS	**Degeres**	**0.78**	**37**	P	**Pg**	**21 32 11.6**	**-0.1**
	0.9nm,0.2s						
DGS				S	**Sg**	**21 32 22.0**	**+0.1**
	4.0nm,0.2s						
USP	**Ospenovka**	**0.79**	**325**	⇓P	**Pb**	**21 32 12.0**	**-0.4**
	3.1nm,0.1s,SNR=28						
USP				⇓S	**Sb**	**21 32 23.0**	**-0.2**
	3.8nm,0.2s						
ULHL	**Ulahol**	**0.91**	**114**	⇑P	**Pg**	**21 32 13.2**	**-0.9**
	0.4nm,0.1s						
SGDS	**Sogindy**	**0.91**	**337**	P	**Pb**	**21 32 14.3**	**-0.1**
	1.1nm,0.0s						
SGDS				S	**Sb**	**21 32 26.5**	**0.0**
	2.6nm,0.1s						
MTBS	**Maitube**	**1.08**	**61**	*e*P	**Pg**	**21 32 16.6**	**-0.8**
	0.8nm,0.1s						
MTBS				*e*S	**Sg**	**21 32 31.3**	**-0.2**
	5.6nm,0.3s						
MTBS	**Maitube**	**1.08**	**61**	P	**Pg**	**21 32 16.9**	**-0.5**
	0.8nm,0.1s						
MTBS				S	**Sg**	**21 32 30.9**	**-0.7**
	5.6nm,0.3s						
TNSS	**Tian-Shan**	**1.40**	**72**	*e*P	**Pb**	**21 32 23.0**	**0.0**
	0.3nm,0.1s						
TNSS				*e*S	**Sn**	**21 32 42.4**	**+1.3**
	2.2nm,0.6s						
TNSS	**Tian-Shan**	**1.40**	**72**	P	**Pb**	**21 32 23.5**	**+0.5**
	0.3nm,0.1s						
TNSS				S	**Sn**	**21 32 42.4**	**+1.3**
	2.2nm,0.6s						
MRKS	**Merke**	**1.41**	**276**	*e*P	**Pb**	**21 32 22.7**	**-0.2**
	0.6nm,0.1s						
MRKS				*e*S	**Sn**	**21 32 42.2**	**+1.4**
	2.8nm,0.2s						
MRKS	**Merke**	**1.41**	**276**	P	**Pg**	**21 32 23.4**	**-0.2**
	0.6nm,0.1s						
MRKS				S	**Sn**	**21 32 42.0**	**+1.2**
	2.8nm,0.2s						
MDOK	**Medeo**	**1.51**	**68**	*e*P	**Pb**	**21 32 24.6**	**-0.2**
	0.7nm,0.1s						
MDOK				*e*S	**Sg**	**21 32 45.1**	**-0.1**
	1.7nm,0.1s						
KUU	**Kurty**	**1.55**	**34**	*e*P	**Pb**	**21 32 25.2**	**-0.1**
	1.0nm,0.1s						
KUU				*e*S	**Sg**	**21 32 46.0**	**-0.4**
	4.5nm,0.2s						
KUU	**Kurty**	**1.55**	**34**	P	**Pb**	**21 32 25.5**	**+0.2**
	1.0nm,0.1s						
KUU				S	**Sg**	**21 32 46.1**	**-0.3**
	4.5nm,0.2s						
KTBS	**Karatobe**	**1.58**	**46**	*e*P	**Pb**	**21 32 25.5**	**-0.3**
	1.1nm,0.2s						
KTBS				*e*S	**Sb**	**21 32 46.4**	**+0.7**
	3.5nm,0.5s						
KTBS	**Karatobe**	**1.58**	**46**	P	**Pb**	**21 32 26.0**	**+0.2**
	1.1nm,0.2s						
KTBS				S	**Sb**	**21 32 46.4**	**+0.7**
	3.5nm,0.5s						
KOTS	**Kotyrbulak**	**1.58**	**66**	*e*P	**Pg**	**21 32 26.5**	**-0.4**
	0.8nm,0.2s						
KOTS				*e*S	**Sg**	**21 32 48.2**	**+0.7**
	3.2nm,0.3s						
KOTS	**Kotyrbulak**	**1.58**	**66**	P	**Pg**	**21 32 27.1**	**+0.2**
	0.8nm,0.2s						
KOTS				S	**Sg**	**21 32 48.2**	**+0.7**
	3.2nm,0.3s						
CHKK	**Chushkaly**	**1.84**	**47**	*e*P	**Pb**	**21 32 30.5**	**+0.4**
	0.5nm,0.1s						
CHKK				*e*S	**Sg**	**21 32 55.1**	**-0.5**
	8.3nm,0.2s						
CHKK	**Chushkaly**	**1.84**	**47**	P	**Pg**	**21 32 31.0**	**-0.7**
	0.5nm,0.1s						
CHKK				S	**Sg**	**21 32 55.1**	**-0.5**
	8.3nm,0.2s						
ARXS	**Arharly**	**2.53**	**50**	Pg	**Pg**	**21 32 43.3**	**-1.8**
	0.7nm,0.1s						
ARXS				Lg	Lg	21 33 16.2	
	2.0nm,0.3s						

*TEH **01** 21:34:25.8, 30°.72N×57°.34E, h11km±39km, ML3.7*
*IDC **01** 21:34:26.6±1.1, 30°.65N×57°.33E, h0km, mb3.6/9, mbtmp3.6/12, ML3.4/3, Error ellipse: s-maj=24.6km s-min=20.8km az=135.0*
*DSN **01** 21:34:29.2±1.7, 30°.29N×58°.82E, h10km, ML3.1/7, Error ellipse: s-maj=93.4km s-min=15.3km az=114.0*
ISC 01 21:34:28.9±0.6**, 30°.72N**±0°.03×**57°.34E**±0°.04**, h15**km**, n54,** σ**1**s**.30**/59**, mb3.5**/9**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.73**	**290**	Pg	**Pg**	**21 34 41.5**	**-1.8**
KHGB	**Koh Gabri**	**0.82**	**245**	Pg	**Pg**	**21 34 43.1**	**-1.9**
KHGB				Sg	**Sg**	**21 34 54.2**	**-1.6**
CHMN	**Cheshme madani**	**0.88**	**169**	Pg	**Pg**	**21 34 43.5**	**-2.5**
TVBK	**TV Kerman**	**0.89**	**214**	Pg	**Pb**	**21 34 44.9**	**-1.4**
NGRK	**Negar Kerman**	**1.20**	**206**	Pg	**Pn**	**21 34 50.7**	**-0.8**
NGRK				Sg	**Sb**	**21 35 07.4**	**+0.4**
IBAF	**Bafgh**	**1.75**	**300**	Pg	**Pb**	**21 34 59.7**	**-1.1**
KBAM	**BAM**	**1.85**	**148**	Pn	**Pn**	**21 35 00.3**	**0.0**
BSRN	**Basiran**	**1.97**	**51**	Pn	**Pn**	**21 35 01.5**	**-0.4**
IKOO	**Kooshah**	**2.21**	**40**	Pn	**Pn**	**21 35 05.3**	**-0.1**
TPRV	**Parvadeh(Tabas**	**2.36**	**347**	Pn	**Pn**	**21 35 07.4**	**+0.1**
NHDN	**Nehbandan**	**2.42**	**73**	Pn	**Pn**	**21 35 08.7**	**+0.6**
IMEH	**Mehriz**	**2.43**	**287**	Pn	**Pn**	**21 35 09.2**	**+0.9**
ITEG	**Tejag**	**2.48**	**29**	Pn	**Pn**	**21 35 08.9**	**0.0**
KHNJ	**Kahnooj**	**2.79**	**173**	Pn	**Pn**	**21 35 13.9**	**+0.9**
TKDS	**Koohdasht(Taba**	**2.89**	**356**	Pn	**Pn**	**21 35 14.5**	**0.0**
ICHK	**Chekchek**	**2.93**	**302**	Pn	**Pn**	**21 35 15.8**	**+0.7**
IDAH	**Dahanechah**	**2.95**	**46**	Pn	**Pn**	**21 35 15.4**	**-0.1**
AFRZ	**Afriz**	**3.05**	**27**	Pn	**Pn**	**21 35 16.6**	**-0.2**
ZHDN	**Zahedan**	**3.29**	**113**	Pn	**Pn**	**21 35 20.3**	**+0.2**
TNSJ	**Nastanj**	**3.29**	**349**	Pn	**Pn**	**21 35 20.3**	**+0.3**
ISAD	**Sadrabad**	**3.34**	**292**	Pn	**Pn**	**21 35 21.9**	**+0.9**
SHRT	**Shahrakht**	**3.84**	**40**	Pn	**Pn**	**21 35 28.0**	**+0.4**
ANAR	**Anarak**	**3.93**	**310**	Pn	**Pn**	**21 35 29.7**	**+0.8**
IRAM	**Ramesheh**	**4.38**	**286**	Pn	**Pn**	**21 35 36.4**	**+1.3**
SHME	**Shamm**	**4.78**	**193**	P	**Pn**	**21 35 43.1**	**+2.7**
IZEF	**Zefreh**	**4.78**	**298**	Pn	**Pn**	**21 35 41.7**	**+1.0**
JASK	**Jask - Hormozg**	**4.86**	**174**	Pn	**Pn**	**21 35 43.4**	**+1.8**
TBJM	**Torbat-e-JAM**	**5.18**	**28**	Pn	**Pn**	**21 35 45.8**	**-0.3**
MSFE	**Esma-Masafi**	**5.44**	**191**	P	**Pn**	**21 35 49.9**	**+0.3**
MSFE				S	**Sn**	**21 36 54.2**	**+2.2**
KRSH	**Karshahi**	**5.46**	**308**	Pn	**Pn**	**21 35 50.9**	**+0.9**
SRVN	**Saravan**	**5.53**	**126**	Pn	**Pn**	**21 35 52.6**	**+1.8**
IKLH	**Kolahrood**	**5.53**	**299**	Pn	**Pn**	**21 35 52.7**	**+1.7**
ISFB	**Sefidab**	**5.62**	**311**	Pn	**Pn**	**21 35 53.1**	**+1.0**
SBZV	**Sabzevar**	**5.65**	**2**	Pn	**Pn**	**21 35 54.0**	**+1.3**
UOSS	**Minazif**	**5.84**	**190**	P	**Pn**	**21 35 56.4**	**+1.4**
NAZ	**Nazwa, Dubai**	**5.90**	**195**	P	**Pn**	**21 35 57.3**	**+1.4**
HATD	**Hatta, Dubai**	**5.97**	**191**	P	**Pn**	**21 35 59.2**	**+2.3**
IAKL	**Akhelmad**	**5.98**	**11**	Pn	**Pn**	**21 35 58.2**	**+1.0**
ASHO	**Ashiyiah**	**6.12**	**191**	P	**Pn**	**21 36 00.6**	**+1.7**
ASHO				S	**Sn**	**21 37 11.3**	**+2.5**
FAQ	**Al Faqa, Dubai**	**6.15**	**195**	P	**Pn**	**21 35 60.0**	**+0.7**
SOHO	**SOHO**	**6.60**	**186**	P	**Pn**	**21 36 03.3**	**-2.2**
HOQ	**Hoqain**	**7.11**	**180**	Pn	**Pn**	**21 36 12.8**	**+0.3**
GEYT	**Alibeck**	**7.22**	**5**	Pn	**Pn**	**21 36 14.4**	**+0.4**
	0.2nm,0.3s,baz=206,slow=13,SNR=1.7						
	1.5nm,0.7s						
WSAR	**Wadi Sarin**	**7.54**	**171**	Pn	**Pn**	**21 36 19.0**	**+0.6**
	1.3nm,0.3s,baz=1.4,slow=10,SNR=32						
WSAR				Sn	**Sn**	**21 37 47.4**	**+3.7**
	baz=96,slow=19						
	4.7nm,0.6s						
AKTO	**Aktyubinsk**	**19.70**	**1**	P	**Pn**	**21 38 58.9**	**-0.2**
	0.1nm,0.3s,baz=163,slow=8.6,SNR=3.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.0nm,0.5s						
BRTR	Keskin Array B	21.29	301	P	P	21 39 16.3	+1.2
	0.6nm,0.6s,baz=118,slow=10,SNR=5.7						
	0.6nm,0.6s						
BVAR	Borovoye Array	24.23	19	P	P	21 39 45.9	+0.8
	0.9nm,0.6s,baz=200,slow=7.9,SNR=6.7						
	0.9nm,0.6s						
MKAR	Makanchi Array	25.07	43	P	P	21 39 53.2	+0.5
	0.3nm,0.7s,baz=230,slow=8.7,SNR=2.3						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	25.40	32	P	P	21 39 56.5	+0.8
	0.8nm,0.6s,baz=232,slow=9.2,SNR=9.2						
	0.8nm,0.6s						
ZALV	Zalesovo Beam	30.50	33	P	P	21 40 41.5	+0.3
	1.5nm,0.5s,baz=233,slow=9.7,SNR=8.6						
	1.5nm,0.5s						
FINES	FINESS Array B	36.91	335	P	P	21 41 37.5	+0.6
	1.5nm,0.7s,baz=162,slow=13,SNR=3.5						
	1.5nm,0.7s						
GERES	GERESS Array B	37.50	312	P	P	21 41 42.5	+0.4
	0.6nm,0.8s,baz=74,slow=7.3,SNR=3.5						
	0.6nm,0.8s						
TORD	Torodi Ar. Bea	53.96	264	P	P	21 43 51.6	-0.9
	0.7nm,0.7s,baz=64,slow=7.8,SNR=6.8						
	0.7nm,0.7s						
WRA	Warramunga Arr	89.44	114	P	P	21 47 24.9	-0.7
	0.3nm,0.7s,baz=308,slow=5.0,SNR=2.2						
	0.3nm,0.7s						

*TEH **01** 21:41:19.3,30.°69N×57.°39E,h8km±74km,ML3.7*
*DSN **01** 21:41:23.0±2.2,30.°66N×55.°23E,h10km,ML3.1/5,Error ellipse: s-maj=176.6km s-min=18.6km az=81.0*
ISC 01 21:41:21.3±1.1**,30.°69N**±0.°04×**57.°38E**±0.°05**,h10km,n32,** σ1s**15**/32**,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.78	291	Pg	Pg	21 41 34.8	-1.6
CHMN	Cheshme madani	0.84	170	Pg	Pg	21 41 35.3	-2.2
KHGB	Koh Gabri	0.84	248	Pg	Pg	21 41 35.6	-1.9
TVBK	TV Kerman	0.88	217	Pg	Pg	21 41 37.7	-0.7
NGRK	Negar Kerman	1.18	208	Pg	Pg	21 41 42.3	-1.8
IBAF	Bafgh	1.79	301	Pg	Pn	21 41 53.1	+0.6
KBAM	BAM	1.81	149	Pn	Pn	21 41 52.1	-0.5
BSRN	Basiran	1.96	49	Pn	Pn	21 41 54.8	-0.1
IKOO	Kooshah	2.22	38	Pn	Pn	21 41 59.2	+0.8
TPRV	Parvadeh(Tabas	2.40	346	Pn	Pn	21 42 00.9	0.0
IMEH	Mehriz	2.47	287	Pn	Pn	21 42 02.1	+0.1
TKDS	Koohdasht(Taba	2.92	356	Pn	Pn	21 42 08.5	+0.5
IDAH	Dahanechah	2.95	45	Pn	Pn	21 42 09.2	+0.8
ICHK	Chekchek	2.97	302	Pn	Pn	21 42 09.8	+1.0
ZHDN	Zahedan	3.24	113	Pn	Pn	21 42 12.8	+0.3
TNSJ	Nastanj	3.33	349	Pn	Pn	21 42 13.6	0.0
ISAD	Sadrabad	3.39	292	Pn	Pn	21 42 15.9	+1.4
SHRT	Shahrakht	3.85	39	Pn	Pn	21 42 21.7	+1.0
ANAR	Anarak	3.98	310	Pn	Pn	21 42 22.4	-0.1
IRAM	Ramesheh	4.42	286	Pn	Pn	21 42 29.8	+1.1
SHME	Shamm	4.75	194	P	Pn	21 42 34.0	+1.0
IZEF	Zefreh	4.83	298	Pn	Pn	21 42 34.9	+0.6
TBJM	Torbat-e-JAM	5.20	28	Pn	Pn	21 42 39.9	+0.6
MSFE	Esma-Masafi	5.42	192	P	Pn	21 42 43.1	+0.8
MSFE				S	Sn	21 43 44.2	-0.5
SRVN	Saravan	5.48	125	Pn	Pn	21 42 44.0	+0.8
KRSH	Karshahi	5.51	308	Pn	Pn	21 42 43.7	+0.1
ISFB	Sefidab	5.67	311	Pn	Pn	21 42 47.2	+1.4
UOSS	Minazif	5.82	191	P	Pn	21 42 49.4	+1.7
HATD	Hatta, Dubai	5.95	191	P	Pn	21 42 51.8	+2.3
IAKL	Akhelmad	6.01	11	Pn	Pn	21 42 51.0	+0.4
ASHO	Ashiyiah	6.10	191	P	Pn	21 42 50.9	-0.6
ASHO				S	Sn	21 44 04.1	+2.7
FAQ	Al Faqa, Dubai	6.13	195	P	Pn	21 42 49.9	-2.1

*VAO **01** 21:49:04.1±0.5,8.°19S×75.°55W,h10km,mb4.7*
*IDC **01** 21:49:08.7±0.5,8.°28S×76.°20W,h134km±5km,mb3.9/16, mbtmp4.4/21,MS3.5/4,Error ellipse: s-maj=12.5km s-min=7.5km az=51.0*
*NEIC **01** 21:49:08.7±1.3,8.°22S±0.°06×76.°14W±0.°05,h134km±6km, mb4.6/203,Error ellipse: s-maj=8.8km s-min=7.8km az=182.0*
ISC 01 21:49:08.6±0.5**,8.°24S**±0.°04×**76.°13W**±0.°05**,h134km**±4km**, h134km:pP-P,n535,** σ1s**17**/540**,mb4.6**/117**,2C-4D,Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	2.50	296	P	Pn	21 49 49.2	-0.1
	712nm,0.7s,baz=112,slow=1.9,SNR=921						
ATAH				S	Sn	21 50 20.0	-0.5
	779nm,0.9s,baz=319,slow=18,SNR=11						
CZSB	Cruzeiro do Su	3.43	82		Pn	21 50 00.3	-0.6
CZSB				Sn	Sn	21 50 41.2	-0.2
CZSB	Cruzeiro do Su	3.43	82	eP	Pn	21 50 00.5	-0.5
NNA	Nana	3.79	191	eP	Pn	21 50 05.6	-0.2
NNA	Nana	3.79	191	P	Pn	21 50 05.5	-0.2
	44nm,0.3s,baz=18,slow=12						
NNA				S	Sn	21 50 47.5	-2.6
	186nm,0.3s,baz=216,slow=21,SNR=3.7						
MCRA	Macar, Loja	5.40	315	Pn	Pn	21 50 23.3	-3.9
MCRA	Macar, Loja	5.40	315	eP	Pn	21 50 23.7	-3.6
BOSC	San Juan Bosco	5.57	335		Pn	21 50 26.0	-3.6
COHC	Cochancay	6.52	331		Pn	21 50 40.6	-1.6
COHC	Cochancay	6.52	331	eP	Pn	21 50 41.4	-0.8
CHSH	Refugio Sur-Vo	7.23	338		Pn	21 50 52.3	0.0
TBTG	Tabatinga, AM	7.38	57	Pn	Pn	21 50 52.5	-1.3
TBTG	Tabatinga, AM	7.38	57	eP	Pn	21 50 52.4	-1.3
PIAT	Ana Tenorio	7.50	343	eP	Pn	21 50 54.9	-0.8
SALI	Salinas	7.72	321	Pn	Pn	21 50 56.6	-1.6
SLOR	San Lorenzo -	7.82	342		Pn	21 50 59.7	-0.5
PTLC	Puerto Leguiza	8.46	9	eP	Pn	21 51 02.5	-5.8
OTAV	Otavalo	8.73	345		Pn	21 51 11.9	-0.4
OTAV	Otavalo	8.73	345	eP	Pn	21 51 13.9	+1.6
TULM	Tulcn-Chalpat	9.05	349		Pn	21 51 16.0	-0.6
FLOC	Florencia	9.77	3	eP	Pn	21 51 24.1	-1.8
CRUC	La Cruz	9.77	355	eP	Pn	21 51 26.3	0.0
ETMB	Extrema	9.92	100		Pn	21 51 24.3	-3.6
BBAC	Balboa, Cauca	10.25	354	eP	Pn	21 51 33.4	+0.9
GARC	Garzon, Huila	10.38	4	eP	Pn	21 51 33.2	-1.0
LPAZ	La Paz	11.18	136	Pn	Pn	21 51 44.4	-0.9
LPAZ	La Paz	11.18	136	eP	Pn	21 51 44.1	-1.1
LPAZ	La Paz	11.18	136	P	Pn	21 51 44.2	-1.1
	6.9nm,0.5s,baz=323,slow=13,SNR=24						
PB18	Visviri	11.33	146	Pn	Pn	21 51 44.5	-2.7
PB12	IPOC Station P	11.76	152	Pn	Pn	21 51 52.1	-0.3
PB16	IPOC Station P	11.93	148		Pn	21 51 54.7	-0.3
ORTC	Ortega, Tolima	12.10	4	eP	Pn	21 51 57.5	+0.7
VILC	Villavicencio,	12.51	11	eP	Pn	21 52 01.8	-0.4
SAML	Samuel	12.82	94	Pn	Pn	21 52 02.0	-4.2
SAML	Samuel	12.82	94	eP	Pn	21 52 01.6	-4.6
CHIC	Chingaza	13.00	11	eP	Pn	21 52 09.0	+0.1
PLMC	San Jos del P	13.06	359	eP	P	21 52 16.6	+2.0
PB11	IPOC Station P	13.06	152	Pn	Pn	21 52 08.3	-1.1
ROSC	El Rosal	13.12	8	Pn	Pn	21 52 08.9	-1.4
ROSC	El Rosal	13.12	8	P	P	21 52 18.7	+3.1
	12nm,0.4s,baz=257,slow=3.5,SNR=6.9						
GO01	Chusmiza	13.20	150		Pn	21 52 09.6	-1.9
NORC	Norcasia	13.77	5	eP	P	21 52 24.6	+2.2
CBOC	Ciudad Bolivar	14.01	0	eP	P	21 52 26.8	+1.6
PB02	IPOC Station P	14.33	156		Pn	21 52 26.7	+1.1
HELC	Santa Helena	14.35	2	eP	P	21 52 30.7	+1.5
RUSC	La Rusia	14.36	12	eP	P	21 52 28.8	-0.7
PB07	IPOC Station P	14.70	157		Pn	21 52 30.1	-0.2
PTBC	PUERTO BERRIO,	14.77	7	eP	P	21 52 34.5	+0.9
PB09	IPOC Station P	15.03	155	P	Pn	21 52 34.8	+0.4
ZARC	Zaragoza, Cauc	15.68	5	eP	P	21 52 44.8	+1.2
PAMC	Pamplona, Colo	15.85	13	eP	P	21 52 47.1	+1.2
LVC	Limon Verde	15.89	155	P	P	21 52 48.2	+2.0
	6.3nm,0.8s,baz=218,slow=15,SNR=4.1						
UREC	San Jos de Ur	15.89	2	eP	P	21 52 47.8	+1.8
MACA	Manacapuru-AM	16.17	73	Pn	Pn	21 52 45.4	-3.1
MACA	Manacapuru-AM	16.17	73	eP	Pn	21 52 45.2	-3.2
VILB	Vilhena	16.34	108	Pn	Pn	21 52 48.1	-2.5
OCAC	Ocana	16.61	10	eP	P	21 52 54.2	+0.2
SIV	San Ignacio	16.61	119	P	Pn	21 52 52.7	-1.1
	27nm,0.6s,baz=294,slow=11,SNR=44						
BBSD	Serra de San D	17.55	122	eP	P	21 53 02.9	-1.4
SDV	Santo Domingo	17.87	18		P	21 53 07.4	-0.6
SDV	Santo Domingo	17.87	18	eP	Pn	21 53 09.2	0.0
SDV	Santo Domingo	17.87	18	eP	Pn	21 53 10.6	+1.5
SDV	Santo Domingo	17.87	18	P	Pn	21 53 08.4	-0.7
	12nm,0.7s,baz=184,slow=11,SNR=18						
SJCC	San Jacinto, C	18.04	3	eP	Pn	21 53 11.1	+0.1
PTLB	Pontes e Lacer	18.10	115		P	21 53 09.8	-0.5
PTLB				IAmb	IAmb	21 53 14.4	
	comp=Z,23nm,0.7s						
PTLB	Pontes e Lacer	18.10	115	eP	P	21 53 10.6	+0.3
BBRB	Robore, Bolivi	18.75	124	eP	P	21 53 17.2	-0.1
BOAV	Boa Vista	18.81	56	P	P	21 53 18.5	+0.4
BOAV	Boa Vista	18.81	56	eP	Pn	21 53 19.8	-0.3
BAUV	El Baul	18.87	25	P	P	21 53 19.4	+0.7
CRJC	Cerrejon, Guaj	19.40	10	eP	P	21 53 23.6	-0.9
HDC	Heredia	19.79	336	eP	Pn	21 53 35.9	+4.3
CLDB	Colider	20.22	99	eP	P	21 53 33.4	0.0
URIC	Uribia, Colomb	20.23	12	eP	P	21 53 31.6	-1.7
NPGB	Novo Progresso	20.62	88	eP	P	21 53 36.7	-1.0
ITTB	Itaituba	20.63	81	eP	P	21 53 37.8	0.0
SALV	Santo Antonio	21.37	113	eP	P	21 53 46.6	+0.9
PCRV	Puerto La Cruz	21.58	32	P	P	21 53 48.2	+0.3
	comp=Z,6.6nm,0.6s,baz=230,slow=0.6,SNR=1.5						
	comp=Z,6.6nm,0.6s						
PANT	Pantanal (Braz	21.74	121	eP	P	21 53 49.9	+0.3
BDQN	Bodoquena, MS	22.33	125	eP	P	21 53 56.1	+0.6
MALB	Monte Alegre	22.68	75	eP	P	21 53 58.7	-0.3
PP1B	Ponte de Pedra	22.68	116	eP	P	21 54 00.3	+1.2
RVDE	Rio Verde (Bra	23.19	120	eP	P	21 54 05.6	+1.8
AQDB	Aquidauana	23.20	124	P	P	21 54 04.2	+0.4
AQDB	Aquidauana	23.20	124	eP	P	21 54 06.0	+2.2
ANTJ	Antonio Joao (	23.72	127	eP	P	21 54 11.6	+2.9
SNDB	Serra Nova Dou	24.73	101	eP	P	21 54 20.1	+2.3
MCPB	Macapa, AP	25.23	73	eP	P	21 54 24.7	+2.3
CPUP	Villa Florida	25.35	138	eP	P	21 54 28.8	+5.4
CPUP	Villa Florida	25.35	138	P	P	21 54 25.0	+1.7
	comp=Z,1.1nm,0.6s,baz=1.3,slow=9.7,SNR=1.5						
	comp=Z,1.1nm,0.6s						
PRPB	Parauapebas	26.19	87	eP	P	21 54 33.9	+2.9
MCR1	Marechal Candi	26.57	130	eP	P	21 54 38.4	+4.0
PCMB	Pacaembu	27.40	122	eP	P	21 54 45.7	+3.9
ITRB	Iturama	27.44	117	eP	P	21 54 46.1	+3.9
SJG	San Juan	27.97	21	LR	LR	22 07 57.9	
	comp=Z,21nm,18.1s,baz=212,slow=40						
ITQB	Itaqui	28.10	142	eP	P	21 54 54.2	+6.2
PTGB	Pitanga	28.22	128	eP	P	21 54 53.1	+3.9
LDASE	Londrina, Braz	28.32	125	eP	P	21 54 53.8	+3.8
BDFB	Brasilia	28.45	108	P	P	21 54 52.4	+1.1
	comp=Z,1.7nm,0.5s,baz=270,slow=10.0,SNR=3.8						
	comp=Z,1.7nm,0.5s						
SMRT	St. Maarten	29.13	26	P	P	21 54 56.2	-1.0
ALGR	Alto Alegre (B	29.86	136	eP	P	21 55 09.6	+6.0
SPB	Sao Paulo	31.44	122	eP	P	21 55 23.2	+5.7
JANB	Januaria	31.86	105	eP	P	21 55 27.2	+5.8
PLCA	Paso Flores	32.74	172	P	P	21 55 29.2	+0.5
	comp=Z,1.6nm,0.7s,baz=347,slow=19,SNR=1.1						
	comp=Z,1.6nm,0.7s						
DIAM	Diamantina, MG	33.08	111	eP	P	21 55 36.5	+4.4
GOGA	Godfrey	42.00	351	P	P	21 56 46.4	-0.3
	baz=169						
LRAL	Lakeview Retre	42.33	346	P	P	21 56 48.2	-1.1
LRAL	Lakeview Retre	42.33	346	P	P	21 56 49.4	0.0
	baz=164						
833A	Chaparral WMA,	42.73	329	P	P	21 56 53.6	+0.9
	baz=145						
KMSC	Kings Mountain	43.42	354	P	P	21 56 58.6	+0.4
	baz=172						
NATX	Nacogdoches	43.54	337	P	P	21 57 00.4	+1.2
	baz=153						
HNDO	Hondo	43.66	330	P	P	21 57 00.8	+0.6
HNDO				IAmb	IAmb	21 57 02.5	
	comp=Z,26nm,0.7s						
DRIO	Del Rio	44.25	329	P	P	21 57 04.8	-0.1
DRIO				IAmb	IAmb	21 57 06.4	
	comp=Z,12nm,0.6s						
JCT	Junction City	44.70	330	P	P	21 57 09.6	+1.0
	baz=146						
V48A	Smith Brothers	44.89	348	P	P	21 57 08.7	-1.2
V48A				IAmb	IAmb	21 57 09.8	
	comp=Z,10.0nm,0.8s						
WHTX	Lake Whitney,	44.89	334	P	P	21 57 10.2	+0.3
WHTX				IAmb	IAmb	21 57 11.9	
	comp=Z,10nm,0.8s						
WHTX	Lake Whitney,	44.89	334	P	P	21 57 11.4	+1.5
	baz=149						
Z38A	Mt. Pleasant	45.00	337	P	P	21 57 10.9	+0.2
MIAR	Mount Ida	45.64	340	P	P	21 57 16.2	+0.4
	baz=156						
TXAR	Lajitas Array	45.81	326	P	P	21 57 18.0	+0.6
	comp=Z,2.0nm,0.7s,baz=148,slow=8.8,SNR=21						
TXAR				PcP	PcP	21 58 52.8	+0.1
	comp=Z,1.1nm,0.7s,baz=149,slow=6.3,SNR=7.7						
	comp=Z,2.0nm,0.7s						
TX32	Lajitas Array	45.81	326	P	P	21 57 17.6	+0.3
Z35A	Perchaven, San	45.96	335	P	P	21 57 18.4	+0.1
CBN	Corbin Frederi	46.22	359	P	P	21 57 21.7	+1.5
	baz=178						
LCAR	Lake Charles	46.28	343	P	P	21 57 19.9	-0.9
LCAR				IAmb	IAmb	21 57 20.8	
	comp=Z,11nm,1.1s						
ABTX	Abilene, Hawle	46.41	332	P	P	21 57 23.0	+1.2
	baz=147						
PBMO	Poplar Bluff	46.75	344	P	P	21 57 22.8	-1.6
PBMO				IAmb	IAmb	21 57 24.2	
	comp=Z,7.3nm,0.6s						
WTFS	Witchita Falls	46.85	334	P	P	21 57 24.0	-1.3
WTFS				IAmb	IAmb	21 57 26.9	
	comp=Z,19nm,1.1s						
MNHN	Monahans	46.89	328	P	P	21 57 25.1	-0.5
MNHN				IAmb	IAmb	21 57 27.3	
	comp=Z,8.4nm,0.6s						
CGM3	Cape Girardeau	47.03	345	P	P	21 57 25.0	-1.6
CGM3				IAmb	IAmb	21 57 27.1	
	comp=Z,16nm,1.5s						
Q56A	Snyder Ridge,	47.12	357	P	P	21 57 26.7	-0.6
Q56A				IAmb	IAmb	21 57 28.7	
	comp=Z,9.5nm,0.9s						
APMT	Aspermont	47.21	332	P	P	21 57 28.1	0.0
APMT				IAmb	IAmb	21 57 29.9	
	comp=Z,16nm,0.9s						
S44A	Carbondale	47.31	346	P	P	21 57 27.3	-1.5
S44A				IAmb	IAmb	21 57 28.4	
	comp=Z,13nm,1.1s						
SIUC	Southern Illin	47.32	346	P	P	21 57 26.8	-2.0
SIUC				IAmb	IAmb	21 57 28.0	
	comp=Z,9.6nm,0.9s						
HHAR	Hobbs	47.34	340	P	P	21 57 28.1	-1.0
HHAR				IAmb	IAmb	21 57 29.7	
	comp=Z,8.0nm,0.8s						
RLO	Rose Lookout	47.61	339	P	P	21 57 29.9	-1.2
RLO				IAmb	IAmb	21 57 32.2	
	comp=Z,15nm,0.8s						
MGMO	Mountain Grove	47.62	343	P	P	21 57 30.2	-1.0
U38A	Gravette	47.64	340	P	P	21 57 30.2	-1.1
POST	Post	47.65	331	P	P	21 57 31.0	-0.5
POST				IAmb	IAmb	21 57 32.9	
	comp=Z,21nm,0.7s						
425A	Indio Mountain	47.66	326	P	P	21 57 31.7	-0.1
TUL3	Leonard	47.66	338	P	P	21 57 31.8	+0.3
TUL3	Leonard	47.66	338	P	P	21 57 32.0	+0.5
	baz=153						
FNO	Franklin	47.69	336	P	P	21 57 30.7	-1.1
WMOK	Wichita Mounta	47.81	335	P	P	21 57 33.0	+0.3
	baz=149						
DKNS	Dickens	47.87	332	P	P	21 57 33.4	+0.2
DKNS				IAmb	IAmb	21 57 34.9	
	comp=Z,15nm,0.9s						
FVM	French Village	47.88	345	P	P	21 57 31.5	-1.7
FVM				IAmb	IAmb	21 57 33.1	
	comp=Z,11nm,0.8s						
CCM	Cathedral Cave	48.16	344	P	P	21 57 34.4	-1.0
CCM				IAmb	IAmb	21 57 36.7	
	comp=Z,6.9nm,0.7s						
CCM	Cathedral Cave	48.16	344	P	P	21 57 35.4	0.0
	baz=160						
S39A	Bolivar	48.43	342	P	P	21 57 36.0	-1.4
OK048	Pawnee Station	48.53	338	P	P	21 57 38.0	-0.2
OK048				IAmb	IAmb	21 57 39.5	
	comp=Z,10nm,0.7s						
MNTX	Cornudas Mount	48.57	326	P	P	21 57 39.1	+0.5
	baz=140						
SSPA	Standing Stone	48.66	358	P	P	21 57 38.5	-0.6
SSPA				IAmb	IAmb	21 57 40.5	
	comp=Z,8.0nm,0.8s						
SSPA	Standing Stone	48.66	358	P	P	21 57 39.7	+0.7
	baz=178						
R40A	Maddies Statio	48.67	343	P	P	21 57 38.0	-1.2
R40A				IAmb	IAmb	21 57 39.1	
	comp=Z,11nm,1.2s						
SMWD	Samnorwood	48.76	334	P	P	21 57 39.2	-0.8
SMWD				IAmb	IAmb	21 57 41.4	
	comp=Z,28nm,0.7s						
T35A	Sooner Cattle	48.81	338	P	P	21 57 40.0	-0.4
T35A				IAmb	IAmb	21 57 41.2	
	comp=Z,6.6nm,0.9s						
N58A	Sunbury	48.84	359	P	P	21 57 40.8	+0.4
N58A				IAmb	IAmb	21 57 50.7	
	comp=Z,10nm,1.0s						
O48B	Farmland	48.97	351	P	P	21 57 40.0	-1.5
O48B				IAmb	IAmb	21 57 41.5	
	comp=Z,11nm,0.9s						
P43A	Skaggs, Pawnee	49.23	346	P	P	21 57 42.2	-1.2
N47A	Urbana	49.66	350	P	P	21 57 45.3	-1.4
P40A	Paris	49.76	344	P	P	21 57 46.0	-1.5
P40A				IAmb	IAmb	21 57 47.3	
	comp=Z,6.3nm,0.9s						
HDIL	Hopedale	50.05	347	P	P	21 57 49.0	-0.6
	baz=163						
BINY	Binghamton	50.19	0	P	P	21 57 52.1	+1.4
	baz=180						
ERPA	Erie	50.23	356	P	P	21 57 51.0	0.0
	baz=175						
121A	Cookes Peak, D	50.54	325	P	P	21 57 52.9	-0.8
	baz=138						
L61B	Northampton	50.54	3	P	P	21 57 53.8	+0.5
	baz=184						
N41A	Harden Midland	50.56	346	P	P	21 57 51.9	-1.6
319A	Douglas	50.57	323	P	P	21 57 54.0	+0.1
319A				IAmb	IAmb	21 57 56.0	
	comp=Z,9.1nm,1.2s						
HRV	Adam Dziewonsk	50.67	4	P	P	21 57 55.7	+1.4
	baz=186						
R32A	Long Quarter,	50.97	337	P	P	21 57 55.8	-0.8
MEDO	Medina	51.20	358	P	P	21 57 57.4	-0.8
J56A	Wolcott	51.27	359	P	P	21 57 58.1	-0.6
J56A				IAmb	IAmb	21 58 03.5	
	comp=Z,16nm,1.0s						
J55A	Hilton	51.28	358	P	P	21 57 57.4	-1.4
DUN6	Lazy B Ranch	51.30	324	P	P	21 57 58.9	-0.5
DUN6				IAmb	IAmb	21 58 03.2	
	comp=Z,20nm,1.4s						
ANMO	Albuquerque	51.63	328	P	P	21 58 01.8	-0.1
ANMO				IAmb	IAmb	21 58 03.6	
	comp=Z,8.2nm,1.2s						
ANMO	Albuquerque	51.63	328	P	P	21 58 02.7	+0.9
	baz=140						
CBKS	Cedar Bluff	51.70	337	P	P	21 58 01.2	-1.0
CBKS				IAmb	IAmb	21 58 03.5	
	comp=Z,10nm,0.9s						
CBKS	Cedar Bluff	51.70	337	P	P	21 58 03.4	+1.3
	baz=150						
N35A	Tabor	52.06	341	P	P	21 58 03.9	-0.7
T25A	Trinidad	52.34	331	P	P	21 58 06.7	-0.3
T25A				IAmb	IAmb	21 58 08.9	
	comp=Z,11nm,0.9s						
T25A	Trinidad	52.34	331	P	P	21 58 08.5	+1.4
	baz=144						
LBNH	Lisbon	52.37	4	P	P	21 58 08.7	+1.8
	baz=185						
JFWS	Jewell Farm	52.51	347	P	P	21 58 07.0	-1.0
	baz=162						
LONY	Lake Ozonia	52.63	1	P	P	21 58 09.1	+0.3
	baz=182						
KSCO	Kaye Shedlock'	53.06	334	P	P	21 58 13.2	+0.9
	baz=147						
214A	Organ Pipe Nat	53.14	321	P	P	21 58 14.0	+1.1
	baz=132						
SDCO	Great Sand Dun	53.34	331	P	P	21 58 13.8	-0.8
SDCO				IAmb	IAmb	21 58 16.1	
	comp=Z,11nm,0.8s						
SDCO	Great Sand Dun	53.34	331	P	P	21 58 15.3	+0.8
	baz=143,SNR=28						
GLMI	Grayling	53.37	352	P	P	21 58 16.9	+2.7
	baz=170						
H43A	Windswept, Lux	53.51	350	P	P	21 58 14.8	-0.4
W18A	Petrified Fore	53.54	326	P	P	21 58 16.8	+0.9
	baz=137						
PKME	Peaks-Kenny Pk	53.61	6	P	P	21 58 17.2	+1.3
	baz=188						
S22A	4UR Ranch, Cre	53.99	330	P	P	21 58 20.5	+1.2
	baz=141						
X16A	Lo Mia Camp, P	54.01	324	P	P	21 58 18.5	-0.8
WUAZ	Wupatki	54.75	325	P	P	21 58 25.0	+0.4
	baz=136						
ECSD	EROS Data Cent	54.96	342	P	P	21 58 24.6	-1.3
ECSD				IAmb	IAmb	21 58 25.9	
	comp=Z,7.9nm,0.8s						
ECSD	EROS Data Cent	54.96	342	P	P	21 58 25.0	-0.8
	baz=155,SNR=6.5						
ISCO	Idaho Springs	55.04	332	P	P	21 58 27.6	+0.8
	baz=144						
SMCO	Snowmass	55.18	331	P	P	21 58 27.7	-0.2
SMCO				IAmb	IAmb	21 58 29.7	
	comp=Z,6.5nm,1.1s						
BC3	Big Chuckawall	55.93	320	P	P	21 58 33.9	+0.8
	baz=131						
MONP2	Monument Peak	56.06	319	P	P	21 58 34.8	+0.6
	baz=130						
F36A	Milaca	56.06	345	P	P	21 58 32.0	-1.7
F36A				IAmb	IAmb	21 58 33.6	
	comp=Z,7.2nm,0.8s						
N23A	Red Feather La	56.07	333	P	P	21 58 35.0	+0.9
	baz=144						
IRM	Iron Mountain	56.07	321	P	P	21 58 35.5	+1.5
	baz=131						
LDAQ	Lac Daran	56.12	4	P	P	21 58 34.3	+0.2
BELC	Belle Mtn. Jos	56.50	320	P	P	21 58 38.4	+1.2
	baz=131						
TPFO	Pinon Flats	56.54	320	P	P	21 58 37.5	+0.1
	baz=130						
O20A	White River Ci	56.54	331	P	P	21 58 38.5	+1.1
	baz=141						
KNB	Kanab	56.64	325	P	P	21 58 39.4	+1.3
KNB				IAmb	IAmb	21 58 40.3	
	comp=Z,5.6nm,0.9s						
ESPZ	Base Esperanza	56.76	170	P	P	21 58 35.6	-2.7
F33A	5 Mile Ranch,	56.78	343	P	P	21 58 37.3	-1.4
F33A				IAmb	IAmb	21 58 38.3	
	comp=Z,5.9nm,0.8s						
GMRC	Granite Mounta	56.80	321	P	P	21 58 40.5	+1.3
	baz=131						
LCMT	Little Creek M	56.87	325	P	P	21 58 37.8	-2.0
LCMT				IAmb	IAmb	21 58 41.8	
	comp=Z,3.9nm,0.8s						
SRU	San Rafael Swe	56.91	328	P	P	21 58 39.1	-0.9
SRU				IAmb	IAmb	21 58 41.3	
	comp=Z,6.5nm,1.1s						
V12A	Nelson	56.93	323	P	P	21 58 39.3	-0.8
Q16A	Castle Valley	57.10	328	P	P	21 58 41.2	-0.2
HEC	Hector,Ludlow	57.25	321	P	P	21 58 43.9	+1.6
	baz=131						
BBRC	Big Bear Solar	57.25	320	P	P	21 58 44.2	+1.6
	baz=130						
P17A	Butcher Ranch,	57.29	328	P	P	21 58 42.1	-0.5
P17A				IAmb	IAmb	21 58 44.0	
	comp=Z,5.9nm,0.9s						
CCUT	Cedar City	57.32	325	P	P	21 58 42.7	-0.2
MVU	Marysvale	57.36	327	P	P	21 58 42.3	-0.9
TUQ	Turquoise Moun	57.39	322	P	P	21 58 44.3	+0.9
	baz=131						
RDMU	Red Mountain	57.52	330	P	P	21 58 43.7	-0.6
RDMU				IAmb	IAmb	21 58 45.5	
	comp=Z,7.8nm,0.9s						
EYMN	Ely	57.57	348	P	P	21 58 42.4	-1.8
EYMN				IAmb	IAmb	21 58 44.0	
	comp=Z,11nm,1.0s						
EYMN	Ely	57.57	348	P	P	21 58 43.0	-1.2
	baz=162						
SHPR	Sheep Range	57.64	323	P	P	21 58 44.1	-1.0
CIS	Catalina Islan	57.68	318	P	P	21 58 45.1	-0.3
	baz=128						
K22A	Casper	57.74	334	P	P	21 58 45.4	-0.3
K22A				IAmb	IAmb	21 58 46.9	
	comp=Z,7.2nm,0.9s						
K22A	Casper	57.74	334	P	P	21 58 46.5	+0.8
	baz=144						
GSC	Goldstone, Bar	57.85	321	P	P	21 58 47.8	+1.2
	baz=130						
RSSD	Black Hills	57.91	337	P	P	21 58 47.0	0.0
RSSD				IAmb	IAmb	21 58 48.9	
	comp=Z,5.0nm,0.8s						
RSSD	Black Hills	57.91	337	P	P	21 58 48.2	+1.2
	baz=147						
BSUT	Blindstream Ca	58.09	329	P	P	21 58 46.9	-1.6
BSUT				IAmb	IAmb	21 58 50.0	
	comp=Z,4.8nm,0.9s						

PRN Pahroc Range 58.19 324 P P 21 58 49.0 0.0
PSUT Pine Spring 58.28 326 P P 21 58 50.3 +0.6
PSUT IAmb IAmb 21 58 51.5
comp=Z,6.2nm,1.1s
EDW2 Edwards Air Fo 58.33 320 P P 21 58 50.4 +0.5
baz=129
NLU North Lily Min 58.34 328 P P 21 58 49.3 -0.7
GWY Greenwater Val 58.34 322 P P 21 58 50.0 0.0
GWY IAmb IAmb 21 58 58.2
comp=Z,7.4nm,1.5s
B35A Bob, Littlefor 58.45 346 P P 21 58 49.2 -1.2
JLU Jordanelle 58.49 329 P P 21 58 50.5 -0.6
JLU IAmb IAmb 21 58 52.6
comp=Z,4.9nm,1.0s
LRMC Laurel Mtn Rad 58.51 321 P P 21 58 51.7 +0.5
baz=130
TPNV Topopah Spring 58.59 323 P P 21 58 51.0 -0.7
TPNV IAmb IAmb 21 58 53.9
comp=Z,5.9nm,1.1s
TPNV Topopah Spring 58.59 323 P P 21 58 52.9 +1.1
baz=132
MPMC Manual Prospec 58.76 321 P P 21 58 54.0 +1.0
baz=130
E28A Huff 58.80 340 P P 21 58 52.8 -0.1
TCUT Toone Canyon 58.85 329 P P 21 58 52.8 -0.8
SPR3 Spring Creek 3 58.87 326 P P 21 58 53.3 -0.6
SPR3 IAmb IAmb 21 58 55.2
comp=Z,4.8nm,0.8s
DUG Dugway, Tooele 58.90 328 P P 21 58 53.6 -0.2
DUG IAmb IAmb 21 58 55.7
comp=Z,7.2nm,0.9s
DUG Dugway, Tooele 58.90 328 P P 21 58 55.2 +1.3
baz=136
AGMN Agassiz Nation 58.92 345 P P 21 58 52.7 -0.9
AGMN Agassiz Nation 58.92 345 P P 21 58 53.5 -0.1
baz=157
ISA Isabella, Lake 59.13 320 P P 21 58 55.2 -0.2
ISA Isabella, Lake 59.13 320 P P 21 58 56.9 +1.5
baz=129
R11B Troy Canyon, C 59.14 324 P P 21 58 55.1 -0.4
R11B Troy Canyon, C 59.14 324 P P 21 58 56.8 +1.3
baz=133
PD31 Pinedale Array 59.20 332 P P 21 58 55.0 -1.0
PDAR Pinedale Array 59.20 332 P P 21 58 55.1 -0.9
PDAR Pinedale Array 59.20 332 P P 21 58 55.7 -0.3
comp=Z,1.7nm,0.9s,baz=140,slow=9.4,SNR=9.7
PDAR PcP sP 21 59 42.4 -0.2
comp=Z,0.7nm,0.6s,baz=126,slow=7.5,SNR=4.0
comp=Z,1.7nm,0.9s
BW06 Boulder Array 59.20 332 P P 21 58 56.0 0.0
baz=141
HWUT Hardware Ranch 59.29 330 P P 21 58 55.6 -1.0
CWC Cottonwood Cre 59.37 321 P P 21 58 57.8 +0.6
baz=130
GMN Gold Mountain 59.43 322 P P 21 58 57.1 -0.5
SPUT South Promonto 59.52 329 P P 21 58 57.3 -0.8
SPUT IAmb IAmb 21 58 58.9
comp=Z,6.2nm,1.0s
DRLN Deer Lake 59.53 14 P P 21 58 57.0 -0.7
BGU Big Grassy Mou 59.54 328 P P 21 58 57.4 -0.8
BGU IAmb IAmb 21 58 59.5
comp=Z,4.2nm,0.9s
MDND Maddock 59.58 342 P P 21 58 57.7 -0.5
MDND Maddock 59.58 342 P P 21 58 59.3 +1.1
baz=153
TPH Tonopah 59.91 323 P P 21 59 00.5 -0.4
AHID Auburn Hatcher 59.93 331 P P 21 59 00.3 -0.7
AHID IAmb IAmb 21 59 01.7
comp=Z,5.7nm,0.9s
HVU Hansel Valley 60.03 329 P P 21 59 01.4 -0.2
HVU IAmb IAmb 21 59 02.6
comp=Z,5.0nm,0.9s
REDW Red Top Meadow 60.27 331 P P 21 59 02.1 -1.2
LOHW Long Hollow 60.34 332 P P 21 59 02.8 -1.0
TPAW Teton Pass 60.41 331 P P 21 59 03.6 -0.6
MOOW Moose Ponds 60.51 332 P P 21 59 04.1 -0.7
FXWY Fox Creek 60.56 332 P P 21 59 04.0 -1.2
ELK Elko 60.59 327 P P 21 59 05.3 -0.2
OMMB Old Mammoth Mi 60.69 322 P P 21 59 05.2 -1.1
OMMB IAmb IAmb 21 59 08.0
comp=Z,7.1nm,1.0s
NV11 Mina Array Sit 60.70 323 P P 21 59 04.6 -1.6
IMW Indian Meadow 60.71 332 P P 21 59 05.4 -1.0
ULM Lac du Bonnet 60.73 346 P P 21 59 04.0 -1.9
ULM Lac du Bonnet 60.73 346 P P 21 59 05.3 -0.6
comp=Z,13nm,0.7s,baz=159,slow=6.6,SNR=28
comp=Z,13nm,0.7s
FLWY Flagg Ranch 60.74 332 P P 21 59 05.6 -0.8
FLWY IAmb IAmb 21 59 08.0
comp=Z,6.6nm,1.0s
NVAR Mina Array Bea 60.79 323 P P 21 59 06.7 -0.2
NVAR Mina Array Bea 60.79 323 P P 21 59 07.4 +0.5
comp=Z,1.4nm,0.7s,baz=140,slow=7.1,SNR=9.8
comp=Z,1.4nm,0.7s
RLMT Red Lodge 60.90 334 P P 21 59 07.8 +0.3
baz=142
KVN Kaiserville 61.07 323 P P 21 59 07.9 -0.9
YFT Old Faithful 61.09 332 P P 21 59 09.0 +0.2
YFT IAmb IAmb 21 59 12.3
comp=Z,11nm,1.4s
YMR Madison River 61.31 332 P P 21 59 10.1 -0.2
YMR IAmb IAmb 21 59 12.3
comp=Z,6.7nm,1.0s
BMN Battle Mountai 61.48 325 P P 21 59 10.9 -0.5
WAKR Walker 61.52 322 P P 21 59 11.3 -0.4
WAKR IAmb IAmb 21 59 14.0
comp=Z,4.6nm,0.9s
YHL Hebgen Lake 61.55 332 P P 21 59 12.1 +0.1
HLID Hailey 62.16 329 P P 21 59 16.0 +0.1
HLID Hailey 62.16 329 P P 21 59 17.0 +1.1
baz=136
PAHR Pah Rah Range 62.25 323 P P 21 59 16.6 0.0
MCMT McKenzie Canyo 62.32 331 P P 21 59 16.9 -0.1
BOZ Bozeman (W) 62.33 333 P P 21 59 16.0 -1.0
BOZ IAmb IAmb 21 59 18.4
comp=Z,9.4nm,1.3s
BOZ Bozeman (W) 62.33 333 P P 21 59 18.1 +1.1
baz=140
MFID Camas Ranch 62.77 328 P P 21 59 19.0 -0.9
LRM Limekiln Ridge 62.87 332 P P 21 59 18.6 -2.1
SCHQ Schefferville 63.32 6 P P 21 59 23.2 +0.1
comp=Z,6.8nm,0.9s,baz=237,slow=8.7,SNR=4.1
comp=Z,6.8nm,0.9s
ORV Oroville 63.43 322 P P 21 59 22.6 -1.6
ORV IAmb IAmb 21 59 26.4
comp=Z,16nm,1.3s
WVOR Wild Horse Val 63.61 326 P P 21 59 23.9 -1.5
BPMT Black Pine Rid 63.79 332 P P 21 59 26.0 -0.7
PLID Pearl Lake 64.04 330 P P 21 59 27.5 -0.9
MSO Missoula 64.31 332 P P 21 59 29.6 -0.4
MSO IAmb IAmb 21 59 32.2
comp=Z,9.2nm,1.1s
MSO Missoula 64.31 332 P P 21 59 30.9 +0.9
baz=138
BMO Blue Mountains 64.54 329 P P 21 59 31.0 -0.5
I07A Izee 65.17 327 P P 21 59 35.6 0.0
I07A IAmb IAmb 21 59 37.5
comp=Z,7.7nm,0.9s
F10A Beach Ranch, E 65.28 330 P P 21 59 37.0 +0.8
F10A IAmb IAmb 21 59 38.1
comp=Z,7.2nm,1.1s
PINE Pine Mountain 65.77 326 P P 21 59 39.5 0.0
PINE IAmb IAmb 21 59 42.6
comp=Z,7.6nm,0.8s
NEW Newport 66.84 332 P P 21 59 46.2 +0.1
baz=135
FCC Fort Churchill 68.33 350 P P 21 59 54.2 -0.9
FCC IAmb IAmb 21 59 55.6
comp=Z,15nm,1.2s
EDM Edmonton 68.89 337 P P 21 59 58.3 -0.5
EDM IAmb IAmb 21 59 59.2
comp=Z,18nm,1.2s
DBIC Dimbokro 72.59 80 P P 22 00 19.9 -2.1
DBIC IAmb IAmb 22 00 23.1
comp=Z,7.8nm,0.9s
DBIC Dimbokro 72.59 80 P P 22 00 22.3 +0.4
comp=Z,6.7nm,0.8s,baz=260,slow=7.1,SNR=7.0
comp=Z,6.7nm,0.8s
NRS Narsarsuaq 73.25 15 *i* P P 22 00 21.1 -3.8
NRS IAmb IAmb 22 00 23.2
comp=Z,34nm,0.9s
VNA1 Neumayer--Stat 75.02 161 ⇓P P 22 00 36.1 +1.0
comp=Z,5.9nm,0.8s
VNA2 Neumayer--Watz 75.38 162 ⇓P P 22 00 37.6 +0.5
comp=Z,2.0nm,0.4s,baz=273,slow=5.0

YKA Yellowknife Ar 76.48 343 P P 22 00 43.4 -0.1
comp=Z,1.7nm,0.7s,baz=158,slow=10,SNR=24
YKA pP pP 22 01 18.3 +1.3
comp=Z,0.5nm,0.7s,baz=135,slow=6.0,SNR=2.5
comp=Z,1.7nm,0.7s
SNAA Sanae 77.00 162 P P 22 00 46.9 +0.5
SNAA Sanae 77.00 162 ⇓P P 22 00 47.1 +0.8
comp=Z,122nm,0.9s
SNAA ⇑pP pP 22 01 20.1 -0.1
comp=Z,54nm,0.8s
SNAA Sanae 77.00 162 P P 22 00 47.3 +0.9
comp=Z,4.6nm,0.8s,baz=285,slow=6.6,SNR=20
SNAA pP pP 22 01 19.9 -0.3
comp=Z,2.9nm,1.0s,baz=249,slow=6.3,SNR=4.4
comp=Z,4.6nm,0.8s
DY2G Dye2 77.63 12 *i* P P 22 00 48.8 -1.3
KOTAN Kotaneelee Air 77.95 338 P P 22 00 52.9 +1.3
baz=131
LIRD Liard River Hi 78.27 336 P P 22 00 54.0 +0.6
baz=129
T35M Bob Quinn 78.55 333 P P 22 00 56.6 +1.6
baz=125
TROLL Troll, Antarti 78.71 162 ⇓P P 22 00 57.1 +1.1
comp=Z,309nm,0.6s
TROLL ⇑pP pP 22 01 30.2 +0.4
comp=Z,146nm,0.8s
DLBC Dease Lake 79.30 334 P P 22 01 00.4 +1.2
baz=126
DLBC Dease Lake 79.30 334 LR LR 22 38 43.9
comp=Z,98nm,18.4s,baz=234,slow=38
S34M Telegraph Cree 79.47 334 P P 22 01 00.9 +0.8
baz=124
TOA0 Torodi Ar. Sit 80.14 75 P P 22 01 03.3 -1.3
TORD Torodi Ar. Bea 80.14 75 P P 22 01 03.1 -1.5
TORD pP 22 01 39.7 +1.5
TORD Torodi Ar. Bea 80.14 75 P P 22 01 04.3 -0.3
comp=Z,5.0nm,0.7s,baz=296,slow=5.8,SNR=34
TORD pP pP 22 01 39.0 +0.8
comp=Z,2.6nm,0.9s,baz=292,slow=6.1,SNR=4.6
comp=Z,5.0nm,0.7s
R33M Jennings River 80.25 335 P P 22 01 03.5 -0.8
R33M Jennings River 80.25 335 P P 22 01 05.5 +1.1
baz=125
TGTN Hyland Airport 80.43 337 P P 22 01 06.7 +1.5
baz=128
S32K Killisnoo 80.79 332 P P 22 01 08.3 +1.2
baz=121
R32K Eaglecrest 81.18 333 P P 22 01 10.5 +1.3
baz=122
P33M Teslin, Yukon 81.48 335 P P 22 01 11.5 +0.7
baz=123
P32M Atlin 81.52 334 P P 22 01 11.8 +0.8
baz=122
ESDC Sonseca Array 81.75 48 P P 22 01 12.2 -0.5
ESDC Sonseca Array 81.75 48 P P 22 01 13.3 +0.6
comp=Z,1.5nm,0.9s,baz=268,slow=5.7,SNR=6.0
comp=Z,1.5nm,0.9s
QSPA South Pole Qui 81.87 180 P P 22 01 13.1 +0.2
SKAG Skagway 82.16 334 P P 22 01 14.2 0.0
SKAG IAmb IAmb 22 01 42.5
comp=Z,12nm,1.4s
MMPY Sheldon Lake, 82.22 337 P P 22 01 14.9 +0.3
MMPY IAmb IAmb 22 01 16.9
comp=Z,10nm,1.4s
MMPY Sheldon Lake, 82.22 337 P P 22 01 15.5 +0.9
baz=125
WHY Whitehorse 82.59 335 P P 22 01 17.5 +0.8
baz=122
FARO Faro, Yukon 82.80 337 P P 22 01 18.0 +0.4
FARO IAmb IAmb 22 01 19.2
comp=Z,6.3nm,0.9s
FARO Faro, Yukon 82.80 337 P P 22 01 18.5 +0.9
baz=123
O30N Mendenhall 83.15 335 P P 22 01 19.5 0.0
O30N IAmb IAmb 22 01 21.7
comp=Z,12nm,1.4s
O30N Mendenhall 83.15 335 P P 22 01 21.0 +1.5
baz=120
M31M Drury Creek, Y 83.20 336 P P 22 01 20.0 +0.4
M31M Drury Creek, Y 83.20 336 P P 22 01 20.8 +1.1
baz=122
P30M Million Dollar 83.20 334 P P 22 01 20.6 +0.9
baz=120
N31M Braeburn, Yuko 83.39 335 P P 22 01 21.1 +0.5
N31M IAmb IAmb 22 01 22.3
comp=Z,17nm,1.1s
N31M Braeburn, Yuko 83.39 335 P P 22 01 21.9 +1.3
baz=121
RES Resolute Bay 83.58 355 P P 22 01 21.6 +0.3
HYT Haines Junctio 83.78 334 P P 22 01 23.9 +1.1
baz=119
N30M Aishikik Lake 83.92 335 P P 22 01 23.6 +0.2
N30M IAmb IAmb 22 01 25.5
comp=Z,6.1nm,0.8s
N30M Aishikik Lake 83.92 335 P P 22 01 24.8 +1.4
baz=120
O29M Mount Kennedy 84.00 334 P P 22 01 24.9 +1.0
baz=118
YUK6 Outpost Mounta 84.21 334 P P 22 01 26.6 +1.5
baz=118
SUMG Summit 84.24 11 P P 22 01 25.4 +0.1
SUMG Summit 84.24 11 *i* P P 22 01 24.0 -1.3
SUMG IAmb IAmb 22 01 26.4
comp=Z,15nm,0.9s
M30M Minto, Yukon 84.35 336 P P 22 01 25.8 +0.2
M30M Minto, Yukon 84.35 336 P P 22 01 26.5 +0.9
baz=120
YUK4 Talbot Arm 84.52 335 P P 22 01 28.3 +1.7
baz=118
PINM Pinnacle 84.65 333 P P 22 01 28.2 +1.1
baz=117
O28M Mount Upton 84.92 334 P P 22 01 29.8 +1.1
baz=117
M29M Somme Creek 84.97 336 P P 22 01 29.1 +0.4
M29M IAmb IAmb 22 01 30.5
comp=Z,10nm,0.9s
M29M Somme Creek 84.97 336 P P 22 01 30.0 +1.3
baz=118
YUK8 Steele Glacier 84.97 334 P P 22 01 30.0 +1.0
baz=117
L29M L29M 85.15 336 P P 22 01 29.5 -0.1
L29M L29M 85.15 336 P P 22 01 30.7 +1.1
baz=119
J30M Hart River 85.18 338 P P 22 01 29.5 -0.3
J30M Hart River 85.18 338 P P 22 01 30.9 +1.1
baz=120
K29M Barlow Dome 85.27 337 P P 22 01 30.1 -0.1
K29M Barlow Dome 85.27 337 P P 22 01 30.6 +0.4
baz=119
YUK3 Moose Creek 85.49 335 P P 22 01 32.3 +0.8
baz=116
CTG Chitna Glacier 85.51 334 P P 22 01 32.4 +0.9
baz=116
I30M Mount Dempster 85.53 338 P P 22 01 31.7 +0.2
I30M IAmb IAmb 22 01 32.8
comp=Z,5.9nm,0.8s
I30M Mount Dempster 85.53 338 P P 22 01 32.3 +0.8
baz=120,SNR=6.4
TAM Tamanrasset 85.54 66 P P 22 01 31.9 -0.6
G31M Satah River 85.69 340 P P 22 01 32.0 0.0
baz=122
F31M Tsiigehtchic 85.80 341 P P 22 01 33.1 +0.5
baz=123
BVCY Beaver Creek 85.94 335 P P 22 01 34.3 +0.8
baz=116
DAWY Dawson 86.10 337 P P 22 01 34.8 +0.5
baz=118
A36M Sachs Harbour 86.20 346 P P 22 01 33.8 -0.6
A36M IAmb IAmb 22 01 34.7
comp=Z,10nm,0.8s
A36M Sachs Harbour 86.20 346 P P 22 01 34.5 +0.1
baz=131
CRQE Cirque 86.20 333 P P 22 01 35.7 +0.8
baz=114
INK Inuvik 86.21 342 P P 22 01 34.1 -0.4
INK IAmb IAmb 22 01 35.5
comp=Z,7.1nm,1.0s
INK Inuvik 86.21 342 P P 22 01 34.7 +0.1
baz=123,SNR=6.4
I29M Ogilvie Camp, 86.30 338 P P 22 01 34.6 -0.5
I29M Ogilvie Camp, 86.30 338 P P 22 01 35.4 +0.3
baz=119
M27K Edge Creek, AK 86.35 335 P P 22 01 35.2 -0.3
M27K Edge Creek, AK 86.35 335 P P 22 01 36.2 +0.6
baz=115
MCARA McCarthy VSAT 86.43 334 P P 22 01 36.1 +0.3
MCARA McCarthy VSAT 86.43 334 P P 22 01 36.9 +1.1
baz=114
KAIM Kayak Island 86.48 332 P P 22 01 37.1 +1.0
baz=113
F30M Barrier River 86.56 341 P P 22 01 36.8 +0.5
baz=121
VRDI Verde Repeater 86.56 333 P P 22 01 36.8 +0.2
VRDI IAmb IAmb 22 01 38.0
comp=Z,9.2nm,0.9s
BCAR Beaver Creek A 86.61 335 P P 22 01 37.0 +0.2
L27K Beaver Creek, 86.63 335 P P 22 01 37.0 +0.2
L27K Beaver Creek, 86.63 335 P P 22 01 37.9 +1.1
baz=115
NEEM North Greenlan 86.72 5 *i* P P 22 01 36.0 -1.3
NEEM IAmb IAmb 22 01 38.7
comp=Z,12nm,0.9s
H29M Whitestone 86.74 339 P P 22 01 37.0 -0.2
H29M IAmb IAmb 22 01 38.3
comp=Z,6.7nm,0.8s
H29M Whitestone 86.74 339 P P 22 01 37.8 +0.5
baz=119
M26K Nabesna, AK 86.84 335 P P 22 01 37.4 -0.5
M26K IAmb IAmb 22 01 38.9
comp=Z,10.0nm,1.1s
M26K Nabesna, AK 86.84 335 P P 22 01 38.3 +0.4
baz=114
I28M Miner Creek 86.95 338 P P 22 01 37.6 -0.8
I28M Miner Creek 86.95 338 P P 22 01 38.2 -0.2
baz=117
G29M Pine Creek 86.95 340 P P 22 01 37.6 -0.7
G29M IAmb IAmb 22 01 39.1
comp=Z,10.0nm,0.8s
G29M Pine Creek 86.95 340 P P 22 01 38.4 +0.1
baz=119
BMRM Bremner River 86.97 333 P P 22 01 39.0 +0.5
baz=113
EGAK Eagle 87.11 337 P P 22 01 39.0 -0.1
EGAK IAmb IAmb 22 01 40.1
comp=Z,9.9nm,0.9s
EGAK Eagle 87.11 337 P P 22 01 39.6 +0.6
baz=116,SNR=7.4
K27K Chicken 87.14 336 P P 22 01 39.1 -0.1
K27K Chicken 87.14 336 P P 22 01 40.8 +1.6
baz=115
EKA Eskdalemuir Ar 87.20 33 P P 22 01 39.8 +0.1
comp=Z,2.4nm,0.8s,baz=264,slow=4.7,SNR=3.4
comp=Z,2.4nm,0.8s
N25K Chitina, Valde 87.21 334 P P 22 01 40.1 +0.4
baz=113
E29M Blow River 87.64 341 P P 22 01 40.9 -0.6
E29M Blow River 87.64 341 P P 22 01 41.8 +0.3
baz=119
I27K Kandik River 87.64 338 P P 22 01 41.8 +0.2
baz=116
KLU Klutina 87.76 333 P P 22 01 42.9 +0.6
baz=112,SNR=8.1
H27K Steamboat Moun 87.88 338 P P 22 01 43.1 +0.3
baz=116
SCRK Sand Creek 87.89 336 P P 22 01 42.8 -0.1
SCRK IAmb IAmb 22 01 44.0
comp=Z,7.2nm,0.8s
SCRK Sand Creek 87.89 336 P P 22 01 43.5 +0.5
baz=114,SNR=8.7
P23K Montague Islan 87.90 332 P P 22 01 42.7 -0.2
baz=110
F28M Old Crow 87.92 340 P P 22 01 42.6 -0.3
F28M IAmb IAmb 22 01 43.6
comp=Z,6.0nm,0.9s
F28M Old Crow 87.92 340 P P 22 01 43.0 +0.1
baz=117,SNR=7.1
J26L Joseph Creek 87.93 336 P P 22 01 42.8 -0.3
J26L Joseph Creek 87.93 336 P P 22 01 43.7 +0.6
baz=114
GLI Glacier Island 88.06 332 P P 22 01 43.6 0.0
baz=111
M24K Tolsona, Glenn 88.09 334 P P 22 01 43.8 -0.1
M24K Tolsona, Glenn 88.09 334 P P 22 01 44.7 +0.8
baz=111
PAX Paxson 88.11 335 P P 22 01 44.1 +0.2
baz=112,SNR=6.8
G27K Doyon Strip 88.18 339 P P 22 01 42.7 -1.5
G27K IAmb IAmb 22 01 44.7
comp=Z,3.9nm,0.8s
G27K Doyon Strip 88.18 339 P P 22 01 43.8 -0.3
baz=116
E28M Babbage River 88.27 341 P P 22 01 43.1 -1.4
E28M Babbage River 88.27 341 P P 22 01 44.1 -0.4
baz=118
D28M Stokes Point 88.36 342 P P 22 01 45.3 +0.5
baz=118
SCM Sheep Creek Mo 88.50 333 P P 22 01 46.4 +0.6
baz=110
PWL Port Wells 88.63 332 P P 22 01 46.5 +0.2
baz=110
M23K Glacier View 88.67 333 P P 22 01 46.8 +0.3
baz=110
J25K Salcha River, 88.69 336 P P 22 01 45.9 -0.7
J25K Salcha River, 88.69 336 P P 22 01 47.2 +0.6
baz=112
E27K Coleen River 88.76 340 P P 22 01 46.2 -0.6
E27K IAmb IAmb 22 01 47.9
comp=Z,4.4nm,0.9s
E27K Coleen River 88.76 340 P P 22 01 47.2 +0.4
baz=116
KNK Knik Glacier 88.87 333 P P 22 01 48.0 +0.5
baz=109
SML Sawmill 88.94 333 P P 22 01 47.1 -0.8
SML Sawmill 88.94 333 P P 22 01 48.3 +0.4
baz=110,SNR=6.0
WAT6 Susitna Watana 88.94 334 P P 22 01 48.1 +0.1
baz=110,SNR=6.8
DHY Denali Highway 88.96 334 P P 22 01 47.8 -0.2
baz=110
G26K Porcupine Rive 89.00 339 P P 22 01 48.2 +0.3
baz=114
D27M Malcolm River 89.02 341 P P 22 01 48.9 +0.8
baz=116
PRP Porcupine Dome 89.09 337 P P 22 01 48.1 -0.5
PRP IAmb IAmb 22 01 49.4
comp=Z,6.0nm,0.9s
PRP Porcupine Dome 89.09 337 P P 22 01 49.1 +0.4
baz=112
HDA Harding Lake 89.25 336 P P 22 01 49.8 +0.6
baz=111
HDA P P 22 01 49.8 +0.6
baz=111
RC01 Rabbit Creek A 89.35 332 P P 22 01 50.2 +0.5
baz=108
ILAR Eielson Array 89.36 336 P P 22 01 49.3 -0.4
comp=Z,2.2nm,0.9s,baz=135,slow=3.2,SNR=19
ILAR pP pP 22 02 24.6 +0.4
comp=Z,0.8nm,0.9s,baz=130,slow=2.8,SNR=3.6
comp=Z,2.2nm,0.9s
WAT1 Susitna Watana 89.38 334 P P 22 01 49.9 0.0
baz=109
BRSE Bradley Lake S 89.41 331 P P 22 01 50.5 +0.4
baz=107
F26K Sheenjek River 89.43 339 P P 22 01 50.9 +0.9
baz=113
H25L Birch Creek 89.49 338 P P 22 01 51.3 +1.1
baz=112
POKR Poker Plat Res 89.70 336 P P 22 01 51.7 +0.5
baz=110
COLA College 89.78 336 P P 22 01 52.4 +0.8
baz=110
G25K Bearman Lake 89.78 338 P P 22 01 53.2 +1.6
baz=112
MCK McKinley 89.84 335 P P 22 01 52.6 +0.6
baz=109
F25K Christian Rive 89.92 339 P P 22 01 53.1 +0.8
baz=112
SUA Susitna One 89.93 332 P P 22 01 52.5 0.0
baz=107
MDM Murphy Dome 89.96 336 P P 22 01 52.4 -0.1
CUT Chulitna 90.00 333 P P 22 01 53.9 +1.2
baz=108
E25K Arctic Village 90.09 339 P P 22 01 52.0 -1.1
E25K IAmb IAmb 22 01 54.8
comp=Z,8.0nm,1.2s
E25K Arctic Village 90.09 339 P P 22 01 53.6 +0.5
baz=112
H24K Noodor Dome 90.12 337 P P 22 01 53.3 0.0
H24K IAmb IAmb 22 01 54.5
comp=Z,9.8nm,1.1s
H24K Noodor Dome 90.12 337 P P 22 01 54.2 +0.9
baz=110
NEA2 Nenana 90.18 336 P P 22 01 52.4 -1.1
NEA2 Nenana 90.18 336 P P 22 01 53.4 -0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=109						
G24K	Hadweenzic Riv	90.27	338	P	P	22 01 53.4	-0.5
G24K				IAmb	IAmb	22 01 55.6	
	comp=Z,7.8nm,1.0s						
G24K	Hadweenzic Riv	90.27	338	P	P	22 01 54.7	+0.9
	baz=110						
TRF	Thorofare Moun	90.33	334	P	P	22 01 54.3	-0.1
	baz=108						
SKT	Skwentna	90.44	333	P	P	22 01 54.6	-0.2
SKT				IAmb	IAmb	22 01 55.8	
	comp=Z,9.0nm,1.1s						
SKT	Skwentna	90.44	333	P	P	22 01 55.2	+0.4
	baz=107						
N20K	Mount Spurr	90.53	332	P	P	22 01 55.9	+0.6
	baz=106						
C26K	Camden Bay	90.56	341	P	P	22 01 56.3	+1.1
	baz=113						
P19K	Oil Pt	90.60	330	P	P	22 01 54.6	-1.0
	baz=105						
TSUM	Tsumeb	90.81	109	LR	LR	22 40 00.4	
	comp=Z,26nm,19.8s,baz=166,slow=34						
D25K	Kavik River	90.81	340	P	P	22 01 56.4	-0.1
D25K	Kavik River	90.81	340	P	P	22 01 56.8	+0.4
	baz=111						
BPAW	Bear Paw Mtn.	90.82	335	P	P	22 01 56.3	-0.2
BPAW				IAmb	IAmb	22 01 57.2	
	comp=Z,5.4nm,0.9s						
BPAW	Bear Paw Mtn.	90.82	335	P	P	22 01 56.3	-0.2
	baz=107						
DAG	Danmarks Havn	90.91	11	*i* P	P	22 01 55.5	-1.2
DAG				IAmb	IAmb	22 01 57.5	
	comp=Z,4.1nm,0.8s						
MLY	Manley	90.99	336	P	P	22 01 57.1	-0.2
MLY				IAmb	IAmb	22 01 57.9	
	comp=Z,3.1nm,0.8s						
MLY	Manley	90.99	336	P	P	22 01 57.5	+0.1
	baz=107						
CAST	Castle Rocks	91.09	334	P	P	22 01 57.3	-0.5
CAST				IAmb	IAmb	22 01 58.2	
	comp=Z,5.7nm,0.9s						
CAST	Castle Rocks	91.09	334	P	P	22 01 57.7	-0.1
	baz=106						
E24K	Your Creek	91.10	339	P	P	22 01 58.8	+1.0
	baz=109						
G23K	Bananza Creek	91.23	338	P	P	22 01 58.0	-0.4
G23K				IAmb	IAmb	22 02 00.1	
	comp=Z,3.9nm,0.8s						
G23K	Bananza Creek	91.23	338	P	P	22 01 59.3	+0.9
	baz=108						
COLD	Coldfoot	91.45	338	P	P	22 02 00.1	+0.7
	baz=108						
L20K	Farewell, AK	91.63	333	P	P	22 01 59.9	-0.4
	baz=105						
TOLK	Toolik Lake Re	91.67	339	P	P	22 02 01.3	+0.9
	baz=108						
C24K	Franklin Bluff	91.72	341	P	P	22 02 01.3	+0.8
	baz=109						
G22K	Bettles	91.85	338	P	P	22 02 02.0	+0.8
	baz=107						
K20K	Telida	91.94	334	P	P	22 02 01.9	+0.2
	baz=104						
P17K	Kvichak River	92.08	329	P	P	22 02 02.5	+0.2
	baz=102						
D23K	Nanushuk River	92.15	340	P	P	22 02 04.0	+1.4
	baz=107						
E22K	Anaktuvuk Pass	92.31	339	P	P	22 02 04.4	+1.1
	baz=106						
C23K	Itkillik River	92.39	340	P	P	22 02 03.7	0.0
C23K	Itkillik River	92.39	340	P	P	22 02 04.1	+0.4
	baz=107						
G21K	Allakaket	92.50	337	P	P	22 02 04.3	+0.1
	baz=105						
CHGN	Chignik	92.53	326	P	P	22 02 05.9	+1.4
	baz=101						
H20K	Anotleneega Mo	92.80	336	P	P	22 02 05.8	+0.1
	baz=104						
D22K	Ayikyak River	92.82	339	P	P	22 02 06.7	+1.0
	baz=106						
P16K	Nushagak River	92.83	329	P	P	22 02 06.1	+0.3
	baz=101						
E21K	Killik River	93.16	339	P	P	22 02 08.1	+0.8
	baz=104						
H19K	Roundabout Mou	93.44	336	P	P	22 02 09.5	+1.0
	baz=102						
B22K	Teshekpuk Lake	93.45	341	P	P	22 02 08.9	+0.4
	baz=105						
L17K	Donlin	93.57	332	P	P	22 02 10.8	+1.6
	baz=101						
B21K	Ikpikpuk River	93.67	340	P	P	22 02 09.8	+0.2
	baz=104						
K17K	Iditarod	93.68	333	P	P	22 02 10.5	+0.7
	baz=101						
G18K	Tagagawik	94.41	336	P	P	22 02 14.0	+1.0
	baz=100						
L14K	Kuka Creek	95.51	331	P	P	22 02 18.5	+0.4
	baz=97						
LBTB	Lobatse	97.05	116	LR	LR	22 45 37.6	
	comp=Z,22nm,18.4s,baz=206,slow=35						
STKA	Stephens Creek	126.25	220	PKP	PKPdf	22 07 55.6	-0.4
	comp=Z,2.1nm,0.7s,baz=160,slow=4.4,SNR=3.9						
BVAR	Borovoye Array	127.74	25	PKP	PKPdf	22 07 58.0	-0.2
	comp=Z,0.9nm,0.7s,baz=321,slow=1.8,SNR=5.2						
ZALV	Zalesovo Beam	131.90	15	PKP	PKPdf	22 08 06.3	+0.3
	comp=Z,1.9nm,0.4s,baz=270,slow=1.5,SNR=15						
ZALV				pPKP	pPKPdf	22 08 41.8	-0.4
	comp=Z,2.4nm,0.9s,baz=282,slow=2.9,SNR=3.6						
KURBB	Kurchatov Arra	132.81	22	PKP	PKiKP	22 08 08.6	-0.4
	comp=Z,0.9nm,0.7s,baz=308,slow=2.5,SNR=12						
KLR	Kul'dur	132.92	335	PKP	PKPdf	22 08 07.9	-0.2
	comp=Z,1.7nm,0.5s,baz=105,slow=3.9,SNR=9.5						
ASAR	Alice Springs	136.79	222	PKhKP	PKPpre	22 08 07.4	
	comp=Z,0.4nm,0.8s,baz=132,slow=2.1,SNR=5.3						
ASAR				PKP	PKPdf	22 08 16.2	0.0
	comp=Z,1.8nm,1.0s,baz=117,slow=2.1,SNR=9.4						
MKAR	Makanchi Array	137.38	22	PKP	PKPdf	22 08 17.1	+0.5
	comp=Z,0.7nm,0.6s,baz=298,slow=2.2,SNR=5.9						
WRA	Warramunga Arr	138.97	227	PKhKP	PKPpre	22 08 12.4	
	comp=Z,0.3nm,0.6s,baz=139,slow=1.7,SNR=3.1						
WRA				PKP	PKPdf	22 08 20.0	-0.3
	comp=Z,1.9nm,0.8s,baz=129,slow=1.7,SNR=7.7						
SONM	Songino Array	140.48	357	PKhKP	PKPpre	22 08 15.1	
	comp=Z,1.3nm,1.2s,baz=342,slow=2.1,SNR=3.7						
SONM				PKP	PKPdf	22 08 22.5	+0.1
	comp=Z,0.6nm,0.6s,baz=318,slow=5.4,SNR=3.7						
KSRS	Korea Array	143.66	327	PKP	PKPbc	22 08 25.5	-0.4
	comp=Z,3.9nm,0.8s,baz=55,slow=1.3,SNR=11						
PZH	PanZhiHua	161.72	6	PKP	PKPdf	22 08 53.1	-1.6
CMAR	Chiang Mai Arr	168.77	25	PKP	PKPdf	22 09 01.2	+0.6
	comp=Z,0.6nm,0.4s,baz=284,slow=1.9,SNR=4.7						
CMAR				PKPab	PKPab	22 10 11.3	-0.1
	comp=Z,0.6nm,0.3s,baz=324,slow=5.2,SNR=6.0						

IDC 01 21:53:32.6±2.3, 2°.55N×128°.87E, h0km, mb3.6/5, mbtmp3.6/5, MS2.5/1, Error ellipse: s-maj=198.4km s-min=21.1km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.99	167	P	P	21 58 38.1	-1.1
	0.3nm,0.6s,baz=345,slow=9.8,SNR=1.8						
	0.3nm,0.6s						
ASAR	Alice Springs	26.52	170	P	P	21 59 11.8	-0.3
	0.6nm,1.1s,baz=357,slow=8.3,SNR=5.0						
	0.6nm,1.1s						
CMAR	Chiang Mai Arr	33.30	300	LR	LR	22 15 31.9	
	comp=Z,7.3nm,18.2s,baz=210,slow=40						
H11S3	WAKE ISLAND Hy	40.28	64	T	T	22 44 16.7	
	baz=244						
H11S2	WAKE ISLAND Hy	40.30	64	T	T	22 44 27.7	
	baz=244						
H11S1	WAKE ISLAND Hy	40.30	64	T	T	22 44 22.7	
	baz=244						
H11N1	WAKE ISLAND Hy	40.87	62	T	T	22 45 01.1	
	baz=250,slow=75,SNR=7.8						
H11N2	WAKE ISLAND Hy	40.88	62	T	T	22 45 04.0	
	baz=250,slow=75,SNR=5.4						
H11N3	WAKE ISLAND Hy	40.88	62	T	T	22 45 04.1	
	baz=250,slow=75,SNR=8.0						
MKAR	Makanchi Array	59.74	325	P	P	22 03 39.7	+0.3
	0.8nm,0.5s,baz=110,slow=7.7,SNR=15						
	0.8nm,0.5s						
KURBB	Kurchatov Arra	63.88	327	P	P	22 04 07.2	0.0
	1.1nm,0.6s,baz=128,slow=6.1,SNR=22						
	1.1nm,0.6s						
BVAR	Borovoye Array	69.47	327	P	P	22 04 43.0	+0.2
	0.7nm,0.6s,baz=122,slow=5.4,SNR=3.3						
	0.7nm,0.6s						

IDC 01 21:58:07.6±1.5, 2°.06N×127°.59E, h0km, mb3.7/6, mbtmp3.7/6, MS2.4/1, Error ellipse: s-maj=149.0km s-min=19.6km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	Davao City (W)	5.37	338	LR	LR	22 01 39.7	
	comp=Z,33nm,19.6s,baz=32,slow=40						
WRA	Warramunga Arr	22.84	163	P	P	22 03 11.9	-0.7
	0.5nm,0.6s,baz=340,slow=11,SNR=7.3						
	0.5nm,0.6s						
ASAR	Alice Springs	26.30	167	P	P	22 03 45.5	+0.4
	0.3nm,0.7s,baz=350,slow=6.5,SNR=5.2						
	0.3nm,0.7s						
H11S3	WAKE ISLAND Hy	41.65	64	T	T	22 48 54.9	
	baz=249						
H11S2	WAKE ISLAND Hy	41.67	64	T	T	22 48 57.2	
	baz=249						
H11S1	WAKE ISLAND Hy	41.67	64	T	T	22 48 53.9	
	baz=249						
H11N1	WAKE ISLAND Hy	42.23	63	T	T	22 49 39.8	
	baz=242,slow=75						
H11N2	WAKE ISLAND Hy	42.24	63	T	T	22 49 44.0	
	baz=242						
H11N3	WAKE ISLAND Hy	42.25	63	T	T	22 49 49.3	
	baz=242,slow=75						
SONM	Songino Array	49.15	341	P	P	22 06 55.8	-1.5
	0.4nm,0.5s,baz=150,slow=6.0,SNR=2.7						
	0.4nm,0.5s						
MKAR	Makanchi Array	59.41	325	P	P	22 08 12.9	+0.9
	1.0nm,0.5s,baz=121,slow=8.3,SNR=13						
	1.0nm,0.5s						
KURBB	Kurchatov Arra	63.60	328	P	P	22 08 40.4	+0.1
	1.2nm,0.6s,baz=128,slow=6.2,SNR=22						
	1.2nm,0.6s						
BVAR	Borovoye Array	69.18	327	P	P	22 09 15.7	-0.3
	1.3nm,0.8s,baz=120,slow=8.5,SNR=5.8						
	1.3nm,0.8s						

ANF 01 22:05:07.0±0.2, 36°.01N×97°.95W, h5km, ML3.6/7, Error ellipse: s-maj=2.8km s-min=2.2km az=24.0
NEIC 01 22:05:07.8±0.5, 36°.006N±0°.009×97°.93W±0°.01, h5km±7km, Error ellipse: s-maj=1.8km s-min=0.8km az=47.0
TUL 01 22:05:07.1±0.6, 36°.012N±0°.010×97°.93W±0°.01, h5km±6km, ML3.1, mb_Lg3.1/90(NEIC), ML3.1/66(NEIC), Error ellipse: s-maj=1.5km s-min=1.0km az=145.0
ISC 01 22:05:07.3±1.2, 36°.02N±0°.02×97°.92W±0°.02, h5km±10km, n101, σ0s.58/72, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.44	120	Pg	Pg	22 05 15.7	-0.1
OK029				Sg	Sg	22 05 22.3	+0.7
OK029				IAML		22 05 22.5	
	1μm,0.3s						
CROK	Carrier	0.48	354	Pg	Pg	22 05 16.3	-0.3
CROK				Sg	Sg	22 05 24.0	+1.0
CROK				IAML		22 05 29.0	
	comp=N,1μm,0.3s						
ADOK	Arcadia Dam	0.58	129		Pg	22 05 18.4	0.0
ADOK				Sg	Sg	22 05 26.7	+0.7
CSTR	Hydro, Custer	0.73	239	Pg	Pg	22 05 21.1	-0.1
CSTR				Sg	Sg	22 05 30.7	+0.1
OKCSW	OKLAHOMA CITY	0.73	147	Pg	Pg	22 05 20.5	-0.8
OKCSW				Sg	Sg	22 05 31.1	+0.4
OKCSW				IAML		22 05 36.3	
	comp=N,871nm,0.3s						
OK033	Mehan	0.80	88	Pg	Pg	22 05 22.6	-0.1
OK033				IAML		22 05 36.2	
	comp=N,580nm,0.1s						
OK033				IAML		22 05 37.8	
	comp=N,566nm,0.2s						
OK038	West end E0370	0.80	305		Pg	22 05 22.4	-0.3
OK032	Salt Plains WL	0.81	344		Pg	22 05 22.8	-0.1
OK032				IAML		22 05 40.2	
	comp=N,879nm,0.2s						
OK032				IAML		22 05 43.1	
	comp=N,843nm,0.2s						
GC02	Grant County #	0.83	4		Pg	22 05 23.1	-0.1
FNO	Franklin	0.87	151	Pg	Pg	22 05 23.5	-0.5
OK048	Pawnee Station	0.89	63	Pg	Pg	22 05 24.1	-0.1
OK048				IAML		22 05 42.9	
	comp=N,478nm,0.4s						
OK052	Battle Ridge R	0.91	91	Pg	Pg	22 05 24.5	-0.2
OK052				IAML		22 05 44.5	
	comp=N,564nm,0.2s						
OK052				IAML		22 05 50.3	
	comp=N,462nm,0.2s						
OK030	Cody Creek RV	0.93	95		Pg	22 05 23.8	-1.3
OK030				IAML		22 05 44.1	
	comp=N,544nm,0.3s						
OK030				IAML		22 05 47.0	
	comp=N,708nm,0.3s						
BLOK	Blackwell	0.93	38		Pg	22 05 25.1	-0.1
KAN14	Manchester OK	0.93	358		Pg	22 05 24.8	-0.4
KAN14				IAML		22 05 40.8	
	comp=E,468nm,0.1s						
KAN14				IAML		22 05 41.9	
	comp=N,491nm,0.1s						
OK035	E0210 Rd and N	0.93	317		Pg	22 05 24.9	-0.3
OK035				IAML		22 05 48.0	
	comp=N,787nm,0.5s						
OK035				IAML		22 05 57.7	
	comp=N,804nm,0.8s						
U32A	Winter Ranch,	0.94	293	Pg	Pg	22 05 24.9	-0.4
U32A				IAML		22 05 40.2	
	comp=E,488nm,0.1s						
U32A				IAML		22 05 58.5	
	comp=N,573nm,0.8s						
QUOK	Quay	1.00	81		Pg	22 05 25.8	-0.6
QUOK				IAML		22 05 44.9	
	comp=N,659nm,0.2s						
QUOK				IAML		22 05 48.0	
	comp=E,549nm,0.2s						
OK051	E0350 and S346	1.00	61		Pg	22 05 26.2	-0.3
NOKA	Waynoka	1.02	307		Pg	22 05 26.4	-0.4
KAN17	Caldwell West	1.03	7		Pg	22 05 26.6	-0.4
KAN13	South Haven SW	1.05	20		Pg	22 05 27.3	-0.2
KAN05	Bluff City Nor	1.09	2		Pg	22 05 27.8	-0.3
KAN05				IAML		22 05 44.0	
	comp=N,647nm,0.2s						
KAN05				IAML		22 05 45.0	
	comp=E,570nm,0.2s						
KAN10	Anthony SW Sta	1.11	353		Pg	22 05 28.1	-0.4
KAN10				IAML		22 05 48.6	
	comp=E,365nm,0.1s						
KAN10				IAML		22 05 49.2	
	comp=N,373nm,0.1s						
KAN01	Argonia South	1.14	7		Pg	22 05 28.7	-0.4
KAN01				IAML		22 05 44.8	
	comp=E,806nm,0.2s						
KAN01				IAML		22 05 46.0	
	comp=N,410nm,0.2s						
KAN09	Caldwell North	1.14	12		Pg	22 05 28.6	-0.6
DEOK	Depew	1.17	98		Pg	22 05 29.1	-0.6
DEOK				IAML		22 05 49.3	
	comp=N,438nm,0.3s						
DEOK				IAML		22 05 49.5	
	comp=E,457nm,0.2s						
KAN08	Anthony NE Sta	1.20	358		Pg	22 05 29.6	-0.8
ELIS	Ellis County	1.21	272		Pg	22 05 29.9	-0.6
ELIS				IAML		22 05 51.6	
	comp=E,616nm,0.2s						
W35A	Tecumseh	1.22	135		Pg	22 05 29.6	-1.0
W35A				IAML		22 05 50.2	
	comp=E,767nm,0.4s						
W35A				IAML		22 05 53.2	
	comp=N,518nm,0.6s						
KAN06	Argonia West S	1.23	2		Pg	22 05 30.1	-0.7
KAN06				IAML		22 05 47.3	
	comp=E,556nm,0.2s						
KAN06				IAML		22 05 47.3	
	comp=N,321nm,0.4s						
KAN12	Harper NE Stat	1.27	357		Pg	22 05 30.8	-0.9
KS21	Milan North St	1.28	9	Pg	Pn	22 05 31.2	-0.7
T35A	Sooner Cattle	1.45	51		Pn	22 05 34.2	0.0
WMOK	Wichita Mounta	1.46	209		Pn	22 05 33.4	-1.0
WMOK	Wichita Mounta	1.46	209	P	Pn	22 05 33.8	-0.5
	baz=28						
WMOK				S	Sb	22 05 52.8	-1.0
	baz=28						
TUL3	Leonard	1.73	93		Pn	22 05 38.3	+0.2
TUL3	Leonard	1.73	93	P	Pn	22 05 37.6	-0.5
	baz=274						
TUL3				S	Sn	22 06 00.8	+0.2
	baz=274						
SMWD	Samnorwood	2.10	245		Pn	22 05 43.8	+0.6
LOOK	Love County	2.11	163		Pn	22 05 44.2	+0.8
LOOK				IAmb_Lg		22 06 18.7	
	comp=Z,57nm,0.8s						
WTFS	Witchita Falls	2.29	191		Pn	22 05 46.7	+0.9
R32A	Long Quarter,	2.48	346	IAmb_Lg		22 06 28.0	
	comp=Z,49nm,1.0s						
Z35A	Perchaven, San	2.74	168	IAmb_Lg		22 06 39.6	
	comp=Z,33nm,1.1s						
U38A	Gravette	2.89	81		Pn	22 05 54.5	+0.5
FW03	Perrin-Whitt E	2.98	182	IAmb_Lg		22 06 48.6	
	comp=Z,12nm,0.8s						
CBKS	Cedar Bluff	3.14	333		Pn	22 05 58.0	+0.6
CBKS	Cedar Bluff	3.14	333	P	Pn	22 05 56.8	-0.7
	baz=152						
CBKS				S	Sn	22 06 35.6	+0.2
	baz=152						
PLPT	Palo Pinto	3.22	186		Pn	22 05 58.8	+0.3
PLPT				IAmb_Lg		22 06 57.8	
	comp=Z,19nm,1.1s						
HHAR	Hobbs	3.23	84		Pn	22 05 58.6	-0.1
APMT	Aspermont	3.24	215		Pn	22 06 00.0	+1.2
APMT				IAmb_Lg		22 06 55.3	
	comp=Z,6.1nm,0.8s						
KSU1	Kansas State U	3.25	18	P	Pn	22 05 58.9	0.0
	baz=199						
KSU1				S	Sn	22 06 38.9	+0.9
	baz=199						
AMTX	Amarillo	3.27	251		Pn	22 05 59.8	+0.5
AMTX	Amarillo	3.27	251	P	Pn	22 05 58.9	-0.5
	baz=69						
DKNS	Dickens	3.41	227	Pn	Pn	22 06 01.6	+0.4
DKNS				IAmb_Lg		22 06 59.0	
	comp=Z,42nm,0.9s						
FW16	Waxahatchie	3.63	166	IAmb_Lg		22 07 09.9	
	comp=Z,21nm,0.8s						
Z38A	Mt. Pleasant	3.67	138	IAmb_Lg		22 07 13.6	
	comp=Z,32nm,0.8s						
ABTX	Abilene, Hawle	3.68	203	IAmb_Lg		22 07 08.0	
	comp=Z,39nm,1.1s						
MIAR	Mount Ida	3.85	111		Pn	22 06 07.8	+0.6
MIAR				IAmb_Lg		22 07 14.8	
	comp=Z,27nm,0.7s						
MIAR	Mount Ida	3.85	111	P	Pn	22 06 07.0	-0.1
	baz=294						
MIAR				S	Sn	22 06 53.1	+0.3
	baz=294						
RTBA	Rita Blanca	3.91	278		Pn	22 06 08.8	+0.6
RTBA				IAmb_Lg		22 07 13.4	
	comp=Z,14nm,0.8s						
SN01	Snyder 1	3.99	219	IAmb_Lg		22 07 17.8	
	comp=Z,64nm,0.9s						
S39A	Bolivar	4.05	64		Pn	22 06 09.8	-0.1
S39A				IAmb_Lg		22 07 15.6	
	comp=Z,40nm,0.9s						
POST	Post	4.17	226		Pn	22 06 11.9	+0.2
POST				IAmb_Lg		22 07 24.0	
	comp=Z,43nm,1.1s						
X40A	Basin Creek Fa	4.44	109	IAmb_Lg		22 07 28.0	
	comp=Z,45nm,1.1s						
WLAR	White Oak Lake	4.59	119	IAmb_Lg		22 07 34.1	
	comp=Z,27nm,0.7s						
WHAR	Wooly Hollow	4.65	97		Pn	22 06 18.3	+0.1
WHAR				IAmb_Lg		22 07 40.0	
	comp=Z,26nm,0.8s						
MGMO	Mountain Grove	4.69	74	IAmb_Lg		22 07 33.9	
	comp=Z,57nm,0.8s						
FCAR	Ozark Folk Cen	4.71	90	Pn	Pn	22 06 17.9	-1.1
FCAR				IAmb_Lg		22 07 41.7	
	comp=Z,20nm,0.7s						
UALR	University of	4.72	104	IAmb_Lg		22 07 44.9	
	comp=Z,43nm,1.1s						
KSCO	Kaye Shedlock'	4.78	310	IAmb_Lg		22 07 51.9	
	comp=Z,50nm,1.0s						
BRDY	Brady	4.81	191	Pn	Pn	22 06 21.1	+0.7
BRDY				IAmb_Lg		22 07 46.7	
	comp=Z,13nm,0.9s						
SGCY	Sterling City	4.88	214	IAmb_Lg		22 07 49.0	
	comp=Z,49nm,1.2s						
P38A	Dawn	5.00	43	IAmb_Lg		22 07 56.9	
	comp=Z,28nm,0.7s						
Z41A	Richland Creek	5.04	122	IAmb_Lg		22 07 55.2	
	comp=Z,25nm,0.8s						
R40A	Maddies Statio	5.05	62		Pn	22 06 23.6	-0.2
R40A				IAmb_Lg		22 07 44.5	
	comp=Z,31nm,0.9s						
435B	Jarrell	5.23	177	IAmb_Lg		22 07 55.6	
	comp=Z,38nm,1.2s						
T25A	Trinidad	5.34	284	IAmb_Lg		22 08 11.4	
	comp=Z,34nm,0.9s						
T25A	Trinidad	5.34	284	P	Pn	22 06 27.3	-0.6
	baz=100						
BGNE	Belgrade	5.38	358	IAmb_Lg		22 08 11.7	
	comp=Z,29nm,0.7s						
BGNE	Belgrade	5.38	358	P	Pn	22 06 28.4	+0.2
	baz=178						
LCAR	Lake Charles	5.49	88	IAmb_Lg		22 08 03.6	
	comp=Z,23nm,1.2s						
CCM	Cathedral Cave	5.71	67	IAmb_Lg		22 08 10.7	
	comp=Z,37nm,0.9s						
JCT	Junction City	5.75	196	IAmb_Lg		22 08 18.9	
	comp=Z,48nm,1.2s						
OZNA	Ozona	5.75	209	IAmb_Lg		22 08 13.6	
	comp=Z,19nm,0.8s						
FVM	French Village	6.31	70	IAmb_Lg		22 08 41.6	
	comp=Z,26nm,0.8s						
HNDO	Hondo	6.58	190	IAmb_Lg		22 08 36.2	
	comp=Z,22nm,1.0s						
SLM	Saint Louis	6.66	65	IAmb_Lg		22 08 42.2	
	comp=Z,40nm,0.7s						
CGM3	Cape Girardeau	6.76	77	IAmb_Lg		22 08 39.0	
	comp=Z,24nm,0.9s						
K30B	Basset	6.77	349	IAmb_Lg		22 08 58.5	
	comp=Z,26nm,0.8s						
BRIGG	Briggsdale	6.78	314	IAmb_Lg		22 08 45.7	
	comp=Z,37nm,0.9s						
DRIO	Del Rio	6.96	200	IAmb_Lg		22 08 55.5	
	comp=Z,10nm,0.8s						
SAND	Sanderson	7.00	211	IAmb_Lg		22 09 08.7	
	comp=Z,20nm,1.1s						
OXF	Oxford	7.13	100	IAmb_Lg		22 09 06.7	
	comp=Z,21nm,0.8s						
S44A	Carbondale	7.15	74	IAmb_Lg		22 08 52.4	
	comp=Z,33nm,1.0s						
ISCO	Idaho Springs	7.15	304	IAmb_Lg		22 09 04.2	
	comp=Z,14nm,1.0s						
SIUC	Southern Illin	7.18	74	IAmb_Lg		22 08 56.1	
	comp=Z,27nm,0.7s						
ALPN	Alpine	7.39	222	IAmb_Lg		22 09 02.5	
	comp=Z,8.7nm,0.9s						
OLIL	Olney	8.28	68	IAmb_Lg		22 09 34.2	
	comp=Z,21nm,0.9s						
Z47A	Carrollton	8.60	106	IAmb_Lg		22 09 51.6	
	comp=Z,14nm,1.1s						
K22A	Casper	9.39	317	IAmb_Lg		22 10 24.8	
	comp=Z,15nm,0.9s						
F33A	5 Mile Ranch,	9.89	7	IAmb_Lg		22 10 27.1	
	comp=Z,6.4nm,0.9s						

LDG 01 22:22:09.6±0.1, 45°.53N×0°.49W, h2km, Ml3.3/42, Error ellipse: s-maj=1.3km s-min=1.0km az=84.0
STR 01 22:22:10.0±0.3, 45°N±3°×°±°, h5km, MLv3.6/37, Error ellipse: s-maj=0.0km s-min=0.0km az=75.9, preliminary
ISC 01 22:22:08.0±1.0, 45°.55N±0°.02×0°.48W±0°.02, h16km±9km, n103, σ1s.58/183, France

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHIF	Chize	0.58	5	Pg	Pn	22 22 22.5	+0.9
CHIF				Sg	Sb	22 22 29.9	+2.1
LRVF	chteau la Riv	0.61	169	Pg	Pb	22 22 20.9	+0.7
LRVF				Sg	Sg	22 22 28.4	+0.2
LFF	La Frestale	1.06	125	*e*Pg	Pb	22 22 28.6	+0.8
LFF				*e*Sg	Sb	22 22 43.0	+1.6
	214nm,0.2s						
MFF	Saint Martin d	1.08	12	*e*Pg	Pn	22 22 30.5	+2.1
MFF				*e*Sg	Sn	22 22 45.6	+2.6
	117nm,0.2s						
MFF	Saint Martin d	1.08	12	Pg	Pn	22 22 30.8	+2.5
MFF				Sg	Sn	22 22 45.5	+2.5
RJF	Les Rejaudoux	1.43	99	*e*Pn	Pn	22 22 34.5	+1.3
RJF	Les Rejaudoux	1.43	99	*e*Pg	Pg	22 22 35.6	+0.1
RJF				*e*Sg	Sg	22 22 54.4	+0.3

	152nm,0.2s						
MONQ	**Montcuq**	**1.68**	**134**	Pn	**Pn**	**22 22 38.2**	**+1.6**
MONQ				Pg	**Pg**	**22 22 40.0**	**-0.2**
CAF	**Calviac**	**1.90**	**108**	*e*Pn	**Pn**	**22 22 41.0**	**+1.2**
CAF	**Calviac**	**1.90**	**108**	*e*Pg	**Pg**	**22 22 44.5**	**0.0**
CAF				*e*Sn	**Sn**	**22 23 04.1**	**+0.7**
CAF				*e*Sg	**Sg**	**22 23 09.6**	**+0.4**
	55nm,0.2s						
TERF	**Tercis-les-Bai**	**1.93**	**194**	Pn	**Pn**	**22 22 41.2**	**+1.2**
TERF				Pg	**Pg**	**22 22 45.8**	**+0.9**
TCF	**Toulx Ste Croi**	**2.02**	**68**	*e*Pg	**Pg**	**22 22 47.7**	**+1.0**
TCF				*e*Sn	**Sn**	**22 23 07.5**	**+1.3**
TCF				*e*Sg	**Sg**	**22 23 12.1**	**-0.8**
OSSF	**Osses**	**2.36**	**194**	Pn	**Pn**	**22 22 46.8**	**+0.8**
OSSF				Pg	**Pg**	**22 22 53.8**	**+0.5**
EALK	**Alkurruntz**	**2.44**	**198**	Pn	**Pn**	**22 22 48.1**	**+0.9**
PYM	**Petit Puy Mans**	**2.46**	**84**	Pn	**Pn**	**22 22 49.3**	**+1.9**
PYM	**Petit Puy Mans**	**2.46**	**84**	Pg	**Pg**	**22 22 55.8**	**+0.7**
ATE	**Arette**	**2.47**	**184**	Pn	**Pn**	**22 22 47.8**	**+0.3**
ATE				Pg	**Pg**	**22 22 55.0**	**-0.2**
PYLO	**Lourdes**	**2.47**	**173**	Pg	**Pg**	**22 22 56.3**	**+0.9**
SJPF	**Ste Jean**	**2.49**	**193**	*e*Pn	**Pn**	**22 22 47.9**	**0.0**
SJPF	**Ste Jean**	**2.49**	**193**	*e*Pg	**Pg**	**22 22 55.7**	**-0.1**
SJPF				*e*Sn	**Sn**	**22 23 17.4**	**-0.5**
SJPF				*e*Sg	**Sb**	**22 23 26.2**	**+3.4**
	27nm,0.3s						
BGF	**Bois d'Agland**	**2.53**	**65**	*e*Pg	**Pg**	**22 22 57.3**	**+0.9**
BGF				*e*Sg	**Sg**	**22 23 28.2**	**-1.0**
	279nm,0.4s						
CFF	**Clermont-Ferra**	**2.53**	**84**	Pn	**Pb**	**22 22 52.0**	**-1.0**
EPF	**Esparros**	**2.59**	**167**	*e*Pn	**Pn**	**22 22 49.9**	**+0.7**
EPF	**Esparros**	**2.59**	**167**	*e*Pg	**Pg**	**22 22 56.9**	**-0.7**
EPF				*e*Sn	**Sn**	**22 23 19.9**	**-0.4**
EPF				*e*Sg	**Sg**	**22 23 29.5**	**-1.6**
	51nm,0.2s						
LBL	**Lubilhac**	**2.65**	**96**	Pn	**Pn**	**22 22 52.2**	**+2.2**
LBL				Pg	**Pg**	**22 22 59.6**	**+0.9**
ETSF	**Etsaut**	**2.65**	**181**	*e*Pn	**Pn**	**22 22 50.1**	**0.0**
ETSF	**Etsaut**	**2.65**	**181**	*e*Pg	**Pg**	**22 22 58.0**	**-0.8**
ETSF				*e*Sn	**Sn**	**22 23 21.0**	**-0.9**
ETSF				*e*Sg	**Sb**	**22 23 30.0**	**+2.6**
	16nm,0.3s						
HYF	**Humbligny**	**2.76**	**50**	*e*Pg	**Pg**	**22 23 01.6**	**+0.8**
HYF				*e*Sg	**Sg**	**22 23 36.8**	**+0.2**
CANF	**Canfranc**	**2.79**	**181**	Pn	**Pn**	**22 22 52.2**	**+0.2**
CANF				Pg	**Pb**	**22 22 56.0**	**-1.4**
MLS	**Moulis**	**2.83**	**156**	Pn	**Pn**	**22 22 53.9**	**+1.5**
GRR	**Gorron**	**2.85**	**355**	*e*Pn	**Pn**	**22 22 54.1**	**+1.4**
GRR	**Gorron**	**2.85**	**355**	*e*Pg	**Pg**	**22 23 01.6**	**-1.0**
GRR				*e*Sn	**Sn**	**22 23 26.9**	**+0.2**
GRR				*e*Sg	**Sg**	**22 23 38.0**	**-1.5**
	40nm,0.2s						
COLF	**Collangettes**	**2.94**	**89**	Pn	**Pn**	**22 22 56.0**	**+2.0**
COLF				Pg	**Pg**	**22 23 04.7**	**+0.5**
MTLF	**Montolieu**	**2.94**	**138**	*e*Pn	**Pn**	**22 22 54.8**	**+0.9**
MTLF	**Montolieu**	**2.94**	**138**	*e*Pg	**Pg**	**22 23 03.3**	**-0.9**
MTLF				*e*Sn	**Sn**	**22 23 28.8**	**0.0**
MTLF				*e*Sg	**Sg**	**22 23 41.4**	**-0.8**
	31nm,0.2s						
MTLF	**Montolieu**	**2.94**	**138**	Pn	**Pn**	**22 22 55.2**	**+1.3**
MTLF	**Montolieu**	**2.94**	**138**	Pg	**Pg**	**22 23 04.3**	**+0.1**
AVF	**Avril sur Loir**	**2.94**	**64**	*e*Pn	**Pn**	**22 22 55.1**	**+1.2**
AVF				*e*Sn	**Sn**	**22 23 29.3**	**+0.4**
AVF				*e*Sg	**Sg**	**22 23 41.4**	**-0.9**
	26nm,0.3s						
QUIF	**Quistinic**	**3.00**	**323**	*e*Pn	**Pn**	**22 22 57.4**	**+2.6**
QUIF	**Quistinic**	**3.00**	**323**	*e*Pg	**Pg**	**22 23 05.4**	**-0.1**
QUIF				*e*Sg	**Sg**	**22 23 42.9**	**-1.4**
	26nm,0.2s						
SALF	**Salau**	**3.04**	**156**	Pn	**Pn**	**22 22 56.4**	**+1.0**
SALF				Pg	**Pg**	**22 23 05.3**	**-0.8**
LDF	**La Druitiere**	**3.06**	**4**	*e*Pn	**Pn**	**22 22 57.5**	**+2.0**
LDF	**La Druitiere**	**3.06**	**4**	*e*Pg	**Pg**	**22 23 05.7**	**-0.8**
LDF				*e*Sn	**Sn**	**22 23 31.5**	**-0.2**
LDF				*e*Sg	**Sg**	**22 23 45.8**	**-0.3**
	42nm,0.3s						
SGMF	**Saint Gilles**	**3.06**	**333**	*e*Pn	**Pn**	**22 22 58.3**	**+2.7**
SGMF	**Saint Gilles**	**3.06**	**333**	*e*Pg	**Pg**	**22 23 07.1**	**+0.6**
SGMF				*e*Sg	**Sg**	**22 23 44.8**	**-1.3**
	22nm,0.3s						
CLF	**Chambon-Foret**	**3.11**	**36**	Pn	**Pn**	**22 22 57.7**	**+1.4**
SSF	**Saint Saulge**	**3.15**	**60**	*e*Pn	**Pn**	**22 22 58.3**	**+1.4**
SSF	**Saint Saulge**	**3.15**	**60**	*e*Pg	**Pg**	**22 23 08.2**	**-0.1**
SSF				*e*Sn	**Sn**	**22 23 34.4**	**+0.3**
SSF				*e*Sg	**Sg**	**22 23 47.2**	**-1.9**
	39nm,0.3s						
SMF	**Signal de Mont**	**3.20**	**68**	*e*Pn	**Pn**	**22 22 59.2**	**+1.6**
SMF	**Signal de Mont**	**3.20**	**68**	*e*Pg	**Pg**	**22 23 09.2**	**-0.1**
SMF				*e*Sn	**Sn**	**22 23 36.0**	**+0.6**
SMF				*e*Sg	**Sg**	**22 23 50.7**	**0.0**
	60nm,0.3s						
FLN	**La Foliniere**	**3.21**	**360**	*e*Pn	**Pn**	**22 22 59.9**	**+2.2**
	baz=180						
FLN	**La Foliniere**	**3.21**	**360**	*e*Pg	**Pg**	**22 23 08.8**	**-0.7**
FLN				*e*Sn	**Sn**	**22 23 35.0**	**-0.6**
FLN				*e*Sg	**Sg**	**22 23 50.3**	**-0.8**
	34nm,0.2s						
FNEB	**Nbias**	**3.23**	**144**	Pn	**Pn**	**22 23 02.1**	**+4.1**
FNEB				Pg	**Pg**	**22 23 11.4**	**+1.5**
ROSF	**Rostrenen**	**3.38**	**327**	*e*Pn	**Pn**	**22 23 02.5**	**+2.5**
ROSF	**Rostrenen**	**3.38**	**327**	*e*Pg	**Pg**	**22 23 12.0**	**-0.7**
ROSF				*e*Sn	**Sn**	**22 23 39.1**	**-0.6**
ROSF				*e*Sg	**Sg**	**22 23 54.0**	**-2.5**
	25nm,0.3s						
ROSF	**Rostrenen**	**3.38**	**327**	Pn	**Pn**	**22 23 02.6**	**+2.5**
ROSF	**Rostrenen**	**3.38**	**327**	Pg	**Pg**	**22 23 13.4**	**+0.7**
CARF	**Carcanieres**	**3.39**	**146**	Pn	**Pn**	**22 23 01.9**	**+1.6**
LASF	**Ste Croix**	**3.42**	**114**	*e*Pn	**Pn**	**22 23 02.6**	**+2.0**
LASF	**Ste Croix**	**3.42**	**114**	*e*Pg	**Pg**	**22 23 12.7**	**-0.8**
LASF				*e*Sn	**Sn**	**22 23 40.8**	**0.0**
LASF				*e*Sg	**Sg**	**22 23 57.3**	**-0.5**
	18nm,0.3s						
LOR	**Lormes**	**3.46**	**59**	*e*Pn	**Pn**	**22 23 02.9**	**+1.8**
LOR	**Lormes**	**3.46**	**59**	*e*Pg	**Pg**	**22 23 13.9**	**-0.3**
LOR				*e*Sn	**Sn**	**22 23 41.8**	**0.0**
LOR				*e*Sg	**Sg**	**22 23 57.4**	**-1.6**
	26nm,0.3s						
LOR	**Lormes**	**3.46**	**59**	Pn	**Pn**	**22 23 03.7**	**+2.6**
LOR	**Lormes**	**3.46**	**59**	Pg	**Pg**	**22 23 14.7**	**+0.5**
CLAF	**Gruissan**	**3.52**	**132**	Pn	**Pn**	**22 23 03.7**	**+1.8**
CLAF				Pg	**Pg**	**22 23 14.8**	**-0.6**
SSB	**Saint Sauveur**	**3.55**	**93**	Pn	**Pn**	**22 23 04.1**	**+1.7**
SSB				Pg	**Pg**	**22 23 16.0**	**+0.1**
FILF	**Fillols**	**3.71**	**143**	Pn	**Pn**	**22 23 05.9**	**+1.3**
VIVF	**Saint-Julien-l**	**3.71**	**99**	*e*Pn	**Pn**	**22 23 06.4**	**+1.8**
VIVF	**Saint-Julien-l**	**3.71**	**99**	*e*Pg	**Pg**	**22 23 18.4**	**-0.6**
VIVF				*e*Sn	**Sn**	**22 23 47.5**	**-0.4**
VIVF				*e*Sg	**Sg**	**22 24 06.1**	**-0.9**
	11nm,0.2s						
JSA	**Saint Aubin**	**3.82**	**343**	Pn	**Pn**	**22 23 08.3**	**+2.3**
SJAF	**Saint Jean de**	**3.91**	**140**	Pn	**Pn**	**22 23 08.8**	**+1.5**
CAMF	**Camaret-sur-Me**	**3.93**	**315**	Pn	**Pn**	**22 23 09.9**	**+2.4**
ORIF	**Oris-en-Rattie**	**4.54**	**96**	*e*Pn	**Pn**	**22 23 18.5**	**+2.5**
ORIF	**Oris-en-Rattie**	**4.54**	**96**	*e*Pg	**Pg**	**22 23 33.7**	**-1.1**
ORIF				*e*Sg	**Sg**	**22 24 32.1**	**-1.5**
	2.9nm,0.4s						
RUSF	**Rustrel**	**4.54**	**109**	Pn	**Pn**	**22 23 18.1**	**+2.1**
RUSF				Pg	**Pg**	**22 23 35.2**	**+0.3**
SMRF	**Simiane la Rot**	**4.59**	**108**	*e*Pn	**Pn**	**22 23 18.7**	**+2.0**
SMRF	**Simiane la Rot**	**4.59**	**108**	*e*Pg	**Pg**	**22 23 34.9**	**-1.0**
SMRF				*e*Sn	**Sn**	**22 24 08.4**	**-1.3**
SMRF				*e*Sg	**Sg**	**22 24 34.4**	**-0.9**
	7.2nm,0.5s						
SFTF	**Sexfontaines**	**4.62**	**53**	*e*Pg	**Pg**	**22 23 34.8**	**-1.7**
SFTF				*e*Sn	**Sn**	**22 24 09.6**	**-0.8**
SFTF				*e*Sg	**Sg**	**22 24 34.9**	**-1.4**
	15nm,0.4s						
CABF	**La Chapelle**	**4.69**	**75**	*e*Pn	**Pn**	**22 23 19.6**	**+1.5**
CABF				*e*Sn	**Sn**	**22 24 11.3**	**-0.9**
CABF				*e*Sg	**Sg**	**22 24 38.1**	**-0.4**
	12nm,0.5s						
MEZF	**Maizieres J'vi**	**4.80**	**50**	*e*Pg	**Pg**	**22 23 39.2**	**-0.6**
MEZF				*e*Sn	**Sn**	**22 24 13.8**	**-0.9**
MEZF				*e*Sg	**Sg**	**22 24 40.4**	**-1.5**
	21nm,0.5s						
SAVF	**Savonnieres en**	**4.91**	**49**	*e*Pn	**Pn**	**22 23 22.4**	**+1.5**
SAVF				*e*Sn	**Sn**	**22 24 16.3**	**-1.0**
SAVF				*e*Sg	**Sg**	**22 24 43.1**	**-2.2**
	13nm,0.6s						
LPL	**La Plagne**	**5.07**	**88**	*e*Pn	**Pn**	**22 23 25.7**	**+2.3**
LPL	**La Plagne**	**5.07**	**88**	*e*Pg	**Pg**	**22 23 44.1**	**-0.9**
LPL				*e*Sn	**Sn**	**22 24 20.1**	**-1.6**
LPL				*e*Sg	**Sg**	**22 24 48.4**	**-2.2**
	2.9nm,0.3s						
LPG	**La Plagne**	**5.08**	**88**	*e*Pn	**Pn**	**22 23 25.3**	**+1.6**
LPG	**La Plagne**	**5.08**	**88**	*e*Pg	**Pg**	**22 23 44.6**	**-0.7**
LPG				*e*Sn	**Sn**	**22 24 20.8**	**-1.4**
LPG				*e*Sg	**Sg**	**22 24 49.3**	**-1.8**
	2.5nm,0.3s						
MBDF	**Montbardon**	**5.20**	**97**	*e*Pn	**Pn**	**22 23 27.8**	**+2.7**
MBDF	**Montbardon**	**5.20**	**97**	*e*Pg	**Pg**	**22 23 45.8**	**-1.7**
MBDF				*e*Sg	**Sg**	**22 24 53.2**	**-1.5**
	1.5nm,0.3s						
PAGF	**Fort de Pagny**	**5.20**	**52**	*e*Pn	**Pn**	**22 23 25.5**	**+0.5**
PAGF	**Fort de Pagny**	**5.20**	**52**	*e*Pg	**Pg**	**22 23 46.2**	**-1.2**
PAGF				*e*Sn	**Sn**	**22 24 23.0**	**-1.6**
PAGF				*e*Sg	**Sg**	**22 24 53.3**	**-1.4**
	6.9nm,0.4s						
HAU	**Haudompre**	**5.29**	**60**	*e*Pn	**Pn**	**22 23 27.0**	**+0.7**
HAU				*e*Sn	**Sn**	**22 24 25.1**	**-1.9**
HAU				*e*Sg	**Sg**	**22 24 55.2**	**-2.6**
	11nm,0.3s						
LMR	**La Mourre**	**5.47**	**111**	*e*Pn	**Pn**	**22 23 28.9**	**+0.1**
LMR				*e*Sn	**Sn**	**22 24 29.1**	**-2.2**
	0.2nm,0.1s						
LMR				*e*Sg	**Sg**	**22 25 00.5**	**-3.1**
	0.7nm,0.3s						
BAIF	**Baives**	**5.51**	**33**	*e*Pn	**Pn**	**22 23 29.7**	**+0.5**
BAIF	**Baives**	**5.51**	**33**	*e*Pg	**Pg**	**22 23 51.5**	**-1.8**
BAIF				*e*Sn	**Sn**	**22 24 31.3**	**-0.8**
HINF	**Hinteralfeld**	**5.53**	**63**	*e*P	**Pn**	**22 23 34.2**	**+4.6**
HINF	**Hinteralfeld**	**5.53**	**63**	*e*Pg	**Pg**	**22 23 52.4**	**-1.4**
HINF				*e*Sn	**Sn**	**22 24 31.0**	**-1.9**
HINF				*e*Sg	**Sg**	**22 25 03.2**	**-2.2**
	9.9nm,0.3s						
DOU	**Dourbes**	**5.69**	**35**	Pn	**Pn**	**22 23 33.6**	**+1.9**
SPIF	**crte de Spivo**	**5.69**	**102**	Pn	**Pn**	**22 23 34.8**	**+2.9**
GIVF	**Givet**	**5.79**	**36**	*e*P	Pn	22 23 38.6	+5.5
GIVF				*e*Sn	**Sn**	**22 24 36.6**	**-2.4**
	1.7nm,0.3s						
PBRG	**Braganca**	**5.88**	**233**	*e*Sn	**Sn**	**22 24 37.6**	**-3.9**
PBRG				A	A	22 25 02.6	
	1.3nm,0.4s						
MVO	**Moncorvo**	**6.48**	**230**	*e*Pn	Pn	22 23 47.5	+4.8
MVO				*e*Sn	**Sn**	**22 24 53.6**	**-2.6**
MVO				A	A	22 24 58.7	
	3.6nm,0.6s						
PMRV	**Marv??o**	**7.97**	**222**	*e*Pn	**Pn**	**22 24 05.1**	**+2.1**
PESTR	**Estremoz**	**8.51**	**221**	*e*Pn	**Pn**	**22 24 11.8**	**+1.4**
PBAR	**Barrancos**	**8.84**	**216**	*e*Pn	**Pn**	**22 24 15.4**	**+0.4**
PBAR				*e*Sn	**Sn**	**22 25 49.3**	**-4.9**

*TEH **01** 22:58:10.8, 32°.91N×46°.36E, h11km±26km, ML3.5*
*ISN **01** 22:58:11.4±1.6, 32°.90N×46°.20E, h6km±39km, ML3.3*
*OMAN **01** 22:58:20.8±0.9, 32°.30N×46°.97E, h10km, mb3.9/6, Error ellipse: s-maj=52.7km s-min=9.0km az=40.0*
ISC 01 22:58:10.4±0.8**, 32°.79N**±0°.04×**46°.37E**±0°.04**, h13km, n48, σ3s12**/64**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.85**	**351**	Pg	**Pg**	**22 58 25.7**	**-1.1**
RAFI	**Al-Rafai**	**1.08**	**192**	*e*Pg	**Pn**	**22 58 35.0**	**+3.7**
RAFI				*e*Sg	**Sn**	**22 58 50.0**	**+3.9**
RAFI				AML	AML	22 58 58.6	
	comp=N,580nm,0.5s						
RAFI				AML	AML	22 58 59.0	
	comp=E,827nm,0.5s						
IKFM	**Kafar-mosalman**	**1.44**	**59**	Pg	**Pn**	**22 58 38.6**	**+2.4**
IGHG	**Ghaleghazi**	**1.55**	**6**	Pg	**Pn**	**22 58 39.6**	**+1.6**
IGHG				Sg	**Sn**	**22 58 59.5**	**+1.5**
KCHF	**Cheshme Sefid,**	**1.59**	**20**	Pg	**Pn**	**22 58 40.0**	**+1.6**
KCHF				Sg	**Sn**	**22 59 01.2**	**+2.4**
IKOM	**Komasi**	**1.68**	**34**	Pg	**Pn**	**22 58 42.0**	**+2.4**
BHD	**Baghdad**	**1.74**	**287**	*e*Pn	**Pn**	**22 58 41.0**	**+0.7**
BHD				*e*Sn	**Sb**	**22 59 04.0**	**0.0**
KGS1	**Ghasr-e-Shirin**	**1.83**	**339**	Pg	**Pb**	**22 58 44.1**	**+0.3**
IDHR	**Dehrash**	**1.91**	**0**	Pg	**Pn**	**22 58 45.0**	**+2.1**
IBZA	**Bozab**	**2.09**	**36**	Pn	**Pn**	**22 58 47.8**	**+2.4**
ILIN	**Lien**	**2.18**	**13**	Pn	**Pn**	**22 58 48.5**	**+1.9**
AMIS	**Naft Sefid**	**2.71**	**114**	Pn	**Pb**	**22 58 58.4**	**-0.4**
HAGD	**Aghdareh**	**3.07**	**48**	Pn	**Pn**	**22 59 02.0**	**+3.1**
IKRK	**Kirkuk**	**3.10**	**328**	*e*Pn	**Pn**	**22 59 00.0**	**+0.9**
IKRK				*e*Sn	**Sn**	**22 59 37.0**	**+0.9**
SDS1	**Sardasht. Az.**	**3.43**	**348**	Pn	**Pn**	**22 59 06.0**	**+2.2**
JHBN	**Jahan bin**	**3.67**	**98**	Pn	**Pn**	**22 59 10.9**	**+3.8**
IPIR	**Pirpir**	**3.81**	**90**	Pn	**Pn**	**22 59 13.0**	**+3.9**
ZNGN	**Zangian**	**3.85**	**99**	Pn	**Pn**	**22 59 13.0**	**+3.4**
MAHB	**Mahabad**	**4.01**	**352**	Pn	**Pn**	**22 59 13.7**	**+2.1**
IBRJ	**Brojen**	**4.23**	**101**	Pn	**Pn**	**22 59 18.3**	**+3.5**
QAMS	**Qamsar**	**4.31**	**76**	Pn	**Pn**	**22 59 19.6**	**+3.6**
IKLH	**Kolahrood**	**4.40**	**82**	Pn	**Pn**	**22 59 20.7**	**+3.5**
KLNJ	**Kolanjah**	**4.78**	**110**	Pn	**Pn**	**22 59 26.1**	**+3.7**
KRSH	**Karshahi**	**4.96**	**75**	Pn	**Pn**	**22 59 28.0**	**+3.2**
IZEF	**Zefreh**	**5.01**	**87**	Pn	**Pn**	**22 59 29.3**	**+3.7**
ISRB	**Sarab**	**5.14**	**12**	Pn	**Pn**	**22 59 29.6**	**+2.3**
ISFB	**Sefidab**	**5.14**	**71**	Pn	**Pn**	**22 59 30.3**	**+3.1**
IRAM	**Ramesheh**	**5.18**	**99**	Pn	**Pn**	**22 59 31.4**	**+3.6**
IDMV	**Damavand**	**5.45**	**58**	Pn	**Pn**	**22 59 33.7**	**+2.1**
DSBU	**Dashti - Bushe**	**6.10**	**135**	Pn	**Pn**	**22 59 44.5**	**+4.2**
GRMI	**Germi**	**6.13**	**11**	Pn	**Pn**	**22 59 42.9**	**+2.1**
AJN	**Ajban**	**11.14**	**135**	P	**Pn**	**23 00 50.5**	**+1.0**
	SNR=7.4						
NAZ	**Nazwa, Dubai**	**11.25**	**131**	P	**Pn**	**23 00 52.5**	**+1.6**
NAZ				S	**Sn**	**23 02 51.5**	**-5.0**
MASF	**Masafi**	**11.30**	**128**	P	**Pn**	**23 00 53.4**	**+1.7**
MASF				S	**Sn**	**23 02 53.8**	**-4.1**
ASUD	**Al Ashush, Dub**	**11.30**	**134**	P	**Pn**	**23 00 53.0**	**+1.3**
	SNR=10						
ASUD				S	**Sn**	**23 02 52.1**	**-5.8**
FAQ	**Al Faqa, Dubai**	**11.38**	**132**	P	**Pn**	**23 00 54.4**	**+1.7**
FAQ				S	**Sn**	**23 02 55.9**	**-3.9**
UOSS	**Minazif**	**11.62**	**130**	P	**Pn**	**23 00 57.7**	**+1.6**
UOSS				S	**Sn**	**23 02 59.6**	**-6.2**
HATD	**Hatta, Dubai**	**11.66**	**130**	P	**Pn**	**23 00 58.2**	**+1.6**
HATD				S	**Sn**	**23 03 01.9**	**-4.8**
ASHO	**Ashiyiah**	**11.72**	**131**	P	**Pn**	**23 00 59.0**	**+1.6**
ASHO				S	**Sn**	**23 03 03.3**	**-4.7**
ALNE	**Al Ain**	**11.98**	**134**	P	**Pn**	**23 01 02.5**	**+1.5**
	SNR=5.6						
ARQ	**Araqi**	**12.99**	**134**	P	**Pn**	**23 01 16.7**	**+2.0**
	SNR=7.4						
ARQ				S	**Sn**	**23 03 33.7**	**-5.5**
HOQ	**Hoqain**	**13.30**	**131**	P	**Pn**	**23 01 20.5**	**+1.5**
HOQ				S	**Sn**	**23 03 40.5**	**-6.2**
BSY	**Bisya**	**13.84**	**134**	P	**Pn**	**23 01 27.7**	**+1.3**
BSY				S	**Sn**	**23 03 54.4**	**-5.7**
SMDO	**Samad**	**14.15**	**130**	P	**Pn**	**23 01 32.9**	**+2.2**
SMDO				S	**Sn**	**23 04 03.2**	**-4.3**
WSAR	**Wadi Sarin**	**14.40**	**128**	P	**Pn**	**23 01 34.2**	**+0.2**
WSAR				S	Sn	23 04 06.7	-6.9
JMDO	**Jabal Madar**	**14.68**	**132**	P	**Pn**	**23 01 39.1**	**+1.2**
MHTO	**MHTO**	**15.64**	**136**	P	**Pn**	**23 01 51.4**	**+0.8**
JLN	**Jalan Bani Buh**	**15.67**	**129**	P	**Pn**	**23 01 51.6**	**+0.6**

*TEH **01** 23:23:14.4, 30°.71N×57°.38E, h9km±31km, ML4.4*
*IDC **01** 23:23:14.3±0.6, 30°.61N×57°.49E, h0km, mb4.1/24, mbtmp4.1/33, ML3.5/8, MS3.3/12, Error ellipse: s-maj=13.1km s-min=12.0km az=166.0*
*MOS **01** 23:23:14.3±1.3, 30°.69N×57°.50E, h10km, mb4.6/20, Error ellipse: s-maj=6.6km s-min=5.0km az=95.1*
*NEIC **01** 23:23:16.0±1.8, 30°.68N±0°.05×57°.40E±0°.08, h10km±1km, mb4.4/39, Error ellipse: s-maj=12.3km s-min=8.1km az=259.0*
*DSN **01** 23:23:16.6±0.5, 30°.68N×57°.69E, h10km, mb4.5/1, ML3.9/8, Error ellipse: s-maj=12.5km s-min=5.0km az=106.0*
*OMAN **01** 23:23:17.5±0.3, 30°.54N×57°.35E, h10km, mb4.9/27, ml4.1/2, ms3.3/2, Error ellipse: s-maj=6.7km s-min=4.2km az=255.0*
ISC 01 23:23:16.5±0.3**, 30°.66N**±0°.03×**57°.39E**±0°.03**, h15km, n271, σ1s67**/307**, mb4.4**/57**, MS3.4**/7**, 4C-4D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.80**	**293**	Pg	Pg	23 23 29.2	-2.8
ZRDN				Sg	**Sg**	**23 23 39.8**	**-2.7**
CHMN	**Cheshme madani**	**0.81**	**171**	Pg	**Pg**	**23 23 30.3**	**-1.9**
CHMN				Sg	**Sg**	**23 23 42.5**	**-0.4**
KHGB	**Koh Gabri**	**0.83**	**250**	Pg	Pg	23 23 30.2	-2.5
TVBK	**TV Kerman**	**0.86**	**219**	Pg	**Pg**	**23 23 32.0**	**-1.3**
NGRK	**Negar Kerman**	**1.16**	**210**	Pg	**Pn**	**23 23 37.1**	**-1.4**
NGRK				Sg	**Sb**	**23 23 53.6**	**+0.1**
KBAM	**BAM**	**1.78**	**148**	Pn	**Pn**	**23 23 47.4**	**+0.6**
IBAF	**Bafgh**	**1.82**	**301**	Pg	**Pn**	**23 23 47.9**	**+0.5**
BSRN	**Basiran**	**1.98**	**48**	Pn	**Pn**	**23 23 49.1**	**-0.5**
IKOO	**Kooshah**	**2.24**	**38**	Pn	**Pn**	**23 23 53.3**	**0.0**
NHDN	**Nehbandan**	**2.40**	**72**	Pn	**Pn**	**23 23 55.5**	**+0.1**
TPRV	**Parvadeh(Tabas**	**2.44**	**346**	Pn	**Pn**	**23 23 55.4**	**-0.5**
IMEH	**Mehriz**	**2.49**	**288**	Pn	**Pn**	**23 23 56.7**	**0.0**
ITEG	**Tejag**	**2.51**	**27**	Pn	**Pn**	**23 23 56.7**	**-0.3**
BAGH	**Bagheran - Bir**	**2.62**	**36**	Pn	**Pn**	**23 23 58.2**	**-0.4**
KHNJ	**Kahnooj**	**2.72**	**174**	Pn	**Pn**	**23 24 01.1**	**+1.4**
TKDS	**Koohdasht(Taba**	**2.95**	**356**	Pn	**Pn**	**23 24 02.9**	**-0.2**
IDAH	**Dahanechah**	**2.96**	**45**	Pn	**Pn**	**23 24 03.2**	**0.0**
ICHK	**Chekchek**	**3.00**	**303**	Pn	**Pn**	**23 24 04.2**	**+0.5**
AFRZ	**Afriz**	**3.08**	**26**	Pn	**Pn**	**23 24 04.7**	**-0.2**
ZHDN	**Zahedan**	**3.22**	**112**	Pn	**Pn**	**23 24 07.6**	**+0.8**
TNSJ	**Nastanj**	**3.36**	**349**	Pn	**Pn**	**23 24 08.3**	**-0.3**
ISAD	**Sadrabad**	**3.41**	**292**	Pn	**Pn**	**23 24 10.5**	**+1.1**
GENO	**Geno**	**3.42**	**198**	Pn	**Pn**	**23 24 12.1**	**+2.7**
SHRT	**Shahrakht**	**3.86**	**39**	Pn	**Pn**	**23 24 16.0**	**+0.5**
LAR1	**LAR**	**3.98**	**222**	Pn	**Pn**	**23 24 18.2**	**+1.2**
ANAR	**Anarak**	**4.00**	**310**	Pn	**Pn**	**23 24 18.5**	**+1.0**
SHI	**Shiraz**	**4.34**	**258**	Pn	**Pn**	**23 24 23.2**	**+1.0**
QIR1	**Qir**	**4.36**	**241**	Pn	**Pn**	**23 24 23.5**	**+1.2**
IRAM	**Ramesheh**	**4.44**	**286**	Pn	**Pn**	**23 24 24.5**	**+1.0**
SHME	**Shamm**	**4.72**	**194**	*i* P	**Pn**	**23 24 28.9**	**+1.7**
	SNR=12						
SHME	**Shamm**	**4.72**	**194**	P	**Pn**	**23 24 29.3**	**+2.1**
	SNR=12						
SHME				S	**Sn**	**23 25 22.7**	**+1.0**
JASK	**Jask - Hormozg**	**4.79**	**175**	P	**Pn**	**23 24 31.1**	**+2.9**
	SNR=6.9						
JASK				S	**Sn**	**23 25 26.6**	**+3.1**
JASK	**Jask - Hormozg**	**4.79**	**175**	Pn	**Pn**	**23 24 30.2**	**+2.0**
IZEF	**Zefreh**	**4.85**	**299**	Pn	**Pn**	**23 24 30.4**	**+1.1**
TBHD	**Torbat heydari**	**4.99**	**18**	Pn	**Pn**	**23 24 30.8**	**-0.2**
KLNJ	**Kolanjah**	**5.00**	**275**	Pn	**Pn**	**23 24 32.6**	**+1.3**
TBJM	**Torbat-e-JAM**	**5.22**	**27**	Pn	**Pn**	**23 24 34.0**	**-0.2**
MASF	**Masafi**	**5.38**	**192**	P	**Pn**	**23 24 39.2**	**+2.9**
	SNR=23						
MASF				S	**Sn**	**23 25 40.4**	**+2.5**
MSFE	**Esma-Masafi**	**5.39**	**192**	*i* P	**Pn**	**23 24 38.4**	**+2.0**
	SNR=23						
MSFE				S	**Sn**	**23 25 43.7**	**+5.5**
SRVN	**Saravan**	**5.46**	**125**	Pn	**Pn**	**23 24 38.9**	**+1.5**
HRA	**Herat**	**5.54**	**47**	Pn	**Pn**	**23 24 38.9**	**+0.3**
KRSH	**Karshahi**	**5.54**	**308**	Pn	**Pn**	**23 24 39.6**	**+1.0**
IKLH	**Kolahrood**	**5.60**	**300**	Pn	**Pn**	**23 24 41.1**	**+1.6**
IANJ	**Anjilo**	**5.61**	**330**	Pn	**Pn**	**23 24 40.2**	**+0.5**
IMOG	**Moghan**	**5.67**	**16**	Pn	**Pn**	**23 24 41.2**	**+0.6**
ISFB	**Sefidab**	**5.70**	**312**	Pn	**Pn**	**23 24 41.6**	**+0.9**
SBZV	**Sabzevar**	**5.72**	**2**	Pn	**Pn**	**23 24 41.5**	**+0.4**
CHBR	**Chabahar**	**5.74**	**151**	Pn	**Pn**	**23 24 42.1**	**+0.9**
ZNGN	**Zangian**	**5.77**	**286**	Pn	**Pn**	**23 24 43.5**	**+1.6**
UOSS	**Minazif**	**5.79**	**191**	Pn	**Pn**	**23 24 42.4**	**+0.5**
UOSS	**Minazif**	**5.79**	**191**	*i* P	**Pn**	**23 24 43.3**	**+1.5**
	SNR=9.1						
UOSS	**Minazif**	**5.79**	**191**	P	**Pn**	**23 24 44.5**	**+2.7**
UOSS				S	**Sn**	**23 25 49.3**	**+1.3**
NAZ	**Nazwa, Dubai**	**5.85**	**196**	*i* P	**Pn**	**23 24 45.3**	**+2.5**
	SNR=22						
NAZ	**Nazwa, Dubai**	**5.85**	**196**	P	**Pn**	**23 24 46.0**	**+3.2**
	SNR=21						
NAZ				S	**Sn**	**23 25 49.7**	**+0.1**
IPIR	**Pirpir**	**5.89**	**292**	Pn	**Pn**	**23 24 44.7**	**+1.1**
HATD	**Hatta, Dubai**	**5.92**	**191**	P	**Pn**	**23 24 46.7**	**+3.1**
	SNR=5.7						
HATD				S	**Sn**	**23 25 53.0**	**+1.8**
IPAY	**Payeh**	**5.93**	**13**	Pn	**Pn**	**23 24 44.4**	**+0.4**
QAMS	**Qamsar**	**5.93**	**303**	Pn	**Pn**	**23 24 45.5**	**+1.4**
JHBN	**Jahan bin**	**5.95**	**287**	Pn	**Pn**	**23 24 45.3**	**+0.9**
ILAS	**Lasjerd**	**6.00**	**323**	Pn	**Pn**	**23 24 45.3**	**+0.3**
IAKL	**Akhelmad**	**6.04**	**11**	Pn	**Pn**	**23 24 45.4**	**-0.2**
ASHO	**Ashiyiah**	**6.07**	**192**	*i* P	**Pn**	**23 24 47.8**	**+2.0**
	SNR=24						
ASHO	**Ashiyiah**	**6.07**	**192**	P	**Pn**	**23 24 48.4**	**+2.6**
	SNR=17						
ASHO				S	**Sn**	**23 25 51.3**	**-3.7**
FAQ	**Al Faqa, Dubai**	**6.10**	**196**	*i* P	**Pn**	**23 24 48.4**	**+2.2**
	SNR=23						
FAQ	**Al Faqa, Dubai**	**6.10**	**196**	P	**Pn**	**23 24 48.8**	**+2.6**
	SNR=23						
FAQ				S	**Sn**	**23 25 56.6**	**+0.8**
IMYA	**Miami**	**6.10**	**21**	Pn	**Pn**	**23 24 47.0**	**+0.7**
NGCH	**Negor - Chabah**	**6.23**	**147**	P	**Pn**	**23 24 48.1**	**+0.1**
NGCH				S	**Sn**	**23 25 56.0**	**-3.0**
NGCH	**Negor - Chabah**	**6.23**	**147**	Pn	**Pn**	**23 24 48.6**	**+0.6**
ASUD	**Al Ashush, Dub**	**6.28**	**197**	*i* P	**Pn**	**23 24 50.9**	**+2.3**
	SNR=10.0						
ASUD	**Al Ashush, Dub**	**6.28**	**197**	P	**Pn**	**23 24 51.4**	**+2.8**
	SNR=10.0						
ASUD				S	**Sn**	**23 26 02.7**	**+2.5**
IFIR	**Firoozkooh**	**6.31**	**323**	Pn	**Pn**	**23 24 49.4**	**+0.2**
IKRD	**Kardeh**	**6.35**	**16**	Pn	**Pn**	**23 24 50.5**	**+0.7**
ISFR	**Sfrayin**	**6.40**	**4**	Pn	**Pn**	**23 24 51.1**	**+0.6**
AJN	**Ajban**	**6.43**	**200**	P	**Pn**	**23 24 53.3**	**+2.5**
AJN				S	**Sn**	**23 26 06.2**	**+2.3**
IGLO	**Ghaloghah**	**6.54**	**334**	Pn	**Pn**	**23 24 53.0**	**+0.6**
SOHO	**SOHO**	**6.54**	**187**	*i* P	**Pn**	**23 24 52.8**	**+0.5**
	SNR=25						
SOHO	**SOHO**	**6.54**	**187**	P	**Pn**	**23 24 53.0**	**+0.8**
SOHO				S	**Sn**	**23 26 07.0**	**+0.4**
IDMV	**Damavand**	**6.65**	**319**	Pn	**Pn**	**23 24 54.3**	**+0.3**
ALNE	**Al Ain**	**6.74**	**193**	*i* P	**Pn**	**23 24 56.3**	**+1.4**
	SNR=15						
ALNE	**Al Ain**	**6.74**	**193**	P	**Pn**	**23 24 56.9**	**+2.0**
	SNR=15						
ALNE				S	**Sn**	**23 26 14.1**	**+2.7**
IPRN	**Peran**	**6.99**	**324**	Pn	**Pn**	**23 24 58.9**	**+0.5**
HOQ	**Hoqain**	**7.05**	**181**	P	**Pn**	**23 25 00.5**	**+1.3**
	SNR=14						
HOQ				S	**Sn**	**23 26 19.0**	**-0.1**
HOQ	**Hoqain**	**7.05**	**181**	Pn	**Pn**	**23 25 00.4**	**+1.2**
MRVT	**Maraveh tapeh**	**7.07**	**352**	Pn	**Pn**	**23 24 59.9**	**+0.4**
BIDO	**Bidbid**	**7.14**	**175**	P	**Pn**	**23 25 03.1**	**+2.6**
	SNR=6.2						
BIDO				S	**Sn**	**23 26 21.6**	**+0.2**
GEYT	**Alibeck**	**7.28**	**5**	Pn	**Pn**	**23 25 03.4**	**+1.1**
GEYT	**Alibeck**	**7.28**	**5**	Pn	**Pn**	**23 25 01.9**	**-0.4**
	0.3nm,0.3s,baz=168,slow=7.6,SNR=8.1						
GEYT				Sn	**Sn**	**23 26 27.3**	**+2.6**
	0.6nm,0.3s,baz=161,slow=18,SNR=1.4						
GEYT				LR	LR	23 28 24.5	
	comp=Z,128nm,21.8s,baz=189,slow=42						
	2.5nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**7.28**	**5**	Pn	**Pn**	**23 25 03.1**	**+0.8**
ARQ	**Araqi**	**7.33**	**186**	P	**Pn**	**23 25 06.1**	**+3.0**
	SNR=18						
ARQ				S	**Sn**	**23 26 26.3**	**+0.2**
WSAR	**Wadi Sarin**	**7.47**	**171**	P	**Pn**	**23 25 06.7**	**+1.7**
	SNR=21						
WSAR				S	**Sn**	**23 26 28.9**	**-0.6**
WSAR	**Wadi Sarin**	**7.47**	**171**	Pn	**Pn**	**23 25 05.7**	**+0.7**
	3.3nm,0.3s,baz=9.4,slow=11,SNR=83						
WSAR				Sn	**Sn**	**23 26 28.9**	**-0.6**
	baz=291,slow=20						
	24nm,0.6s						
MZPU	**Pul - Mazandar**	**7.54**	**321**	Pn	**Pn**	**23 25 07.0**	**+0.9**
SMDO	**Samad**	**7.59**	**175**	P	**Pn**	**23 25 08.6**	**+1.9**
	SNR=5.9						
SMDO				S	**Sn**	**23 26 30.2**	**-2.4**
KLST	**Kelardasht - M**	**7.87**	**320**	Pn	**Pn**	**23 25 11.6**	**+0.9**
BSY	**Bisya**	**7.88**	**181**	P	**Pn**	**23 25 13.5**	**+2.8**
	SNR=12						
BSY				S	**Sn**	**23 26 40.2**	**+0.5**
TRNA	**Turayna**	**8.05**	**224**	P	**Pn**	**23 25 13.1**	**+0.2**
	SNR=13						
TRNA				S	**Sn**	**23 26 43.3**	**-0.3**
WBK	**Wadi Bani Khal**	**8.14**	**170**	P	**Pn**	**23 25 14.7**	**+0.4**
	SNR=25						
SMRA	**Abu-Samra**	**8.28**	**226**	P	**Pn**	**23 25 16.1**	**+0.1**
	SNR=7.0						
SMRA				S	**Sn**	**23 26 44.8**	**-4.5**
JMDO	**Jabal Madar**	**8.28**	**175**	P	**Pn**	**23 25 20.2**	**+4.1**
JMDO				P	**Pn**	**23 25 20.2**	**+4.1**
IKFM	**Kafar-mosalman**	**8.58**	**292**	Pn	**Pn**	**23 25 21.6**	**+1.4**
JLN	**Jalan Bani Buh**	**8.67**	**167**	P	**Pn**	**23 25 22.5**	**+1.1**
MHTO	**MHTO**	**9.65**	**177**	P	**Pn**	**23 25 38.2**	**+3.4**
	SNR=5.2						
MHTO				S	**Sn**	**23 27 26.0**	**+3.0**
KBL	**Kabul**	**10.56**	**65**	Pn	**Pn**	**23 25 47.4**	**-0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KBL	Kabul	10.56	65	P	Pn	23 25 47.4	-0.2
DMTO	DMTO	13.07	190	P	Pn	23 26 20.0	-1.8
WHFO	Wadi Hawf	13.10	195	P	Pn	23 26 20.8	-1.4
WHFO				S	Sn	23 28 43.4	-4.3
ABTO	Aybut	13.76	197	P	Pn	23 26 29.0	-2.2
	SNR=40						
GNI	Garni	13.99	316	iP	Pn	23 26 32.6	-1.7
GNI	Garni	13.99	316	Pn	Pn	23 26 37.6	+3.3
	0.1nm,0.3s,baz=198,slow=18,SNR=1.5						
GNI				LR	LR	23 32 50.0	
	comp=Z,37nm,18.2s,baz=109,slow=41						
	2.9nm,1.0s						
SIRT	Sirnak	14.13	303	Pn	Pn	23 26 36.7	+0.4
BTK	Batken	14.41	46		Pn	23 26 39.1	-0.9
BTK	Batken	14.41	46	P	Pn	23 26 39.1	-0.9
GURO	Guroymak-BITLI	14.88	306		Pn	23 26 45.9	-0.6
KARS	Kars	15.29	314	Pn	Pn	23 26 51.6	-0.3
KARS				IAmb	IAmb	23 27 04.0	
	comp=Z,31nm,1.4s						
KARS	Kars	15.29	314	P	Pn	23 26 51.6	-0.3
KARS				pmax	pmax		
	comp=Z,31nm,1.4s						
AKH	Akhalkalaki	15.52	318	Pn	Pn	23 26 53.9	-1.0
AKH				IAmb	IAmb	23 27 03.6	
	comp=Z,19nm,1.2s						
AKH	Akhalkalaki	15.52	318	P	Pn	23 26 53.9	-1.0
AKH				pmax	pmax		
	comp=Z,19nm,1.2s						
ZEI	Tsey	16.20	322	eP	P	23 27 09.5	+2.6
ZEI				pmax	pmax		
	comp=Z,14nm,1.6s						
KK31	Karatay Array	16.24	36		Pn	23 27 01.6	-2.5
KK31	Karatay Array	16.24	36	P	Pn	23 27 01.6	-2.5
KK31				pmax	pmax		
	comp=Z,13nm,1.3s						
KKAR	Karatay Array	16.24	36		Pn	23 27 03.9	-0.1
KKAR	Karatay Array	16.24	36	Pn	Pn	23 27 02.7	-1.3
KKAR	Karatay Array	16.24	36	P	Pn	23 27 03.9	-0.1
KKAR				pmax	pmax		
	comp=Z,13nm,1.3s						
ONI	Oni	16.31	321		Pn	23 27 04.6	-0.4
ONI	Oni	16.31	321	P	Pn	23 27 04.6	-0.4
ONI				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ARSB	Arslanbob	16.48	46		Pn	23 27 06.5	-0.8
ARSB	Arslanbob	16.48	46	P	Pn	23 27 06.5	-0.8
ARSB				pmax	pmax		
	comp=Z,9.0nm,1.3s						
NCK	Nalchik	16.86	323	iP	Pn	23 27 13.1	+1.2
KBZ	Khabaz	17.39	323	iP	Pn	23 27 20.6	+2.1
KBZ	Khabaz	17.39	323	P	Pn	23 27 20.9	+2.5
	baz=163,slow=11,SNR=2.4						
	comp=Z,1.6nm,1.0s						
ASF	Jabal al Asfar	17.56	280	P	Pn	23 27 23.0	+2.2
ASF	Jabal al Asfar	17.56	280	P	Pn	23 27 23.0	+2.2
	comp=Z,0.2nm,0.3s,baz=92,slow=3.9,SNR=10						
	comp=Z,7.1nm,0.8s						
KSH	Kashi	17.57	55	P	Pn	23 27 15.5	-5.4
KSH				pP	P	23 27 18.6	-3.4
KSH				sP	pP	23 27 22.2	-4.4
KSH				pmax	pmax		
	comp=Z,13nm,0.9s						
KSH				pmax	pmax		
	comp=Z,170nm,4.4s						
KIV	Kislovodsk	17.65	323		Pn	23 27 20.7	-1.2
KIV	Kislovodsk	17.65	323	P	Pn	23 27 22.5	+0.6
KIV	Kislovodsk	17.65	323	iP	Pn	23 27 21.7	-0.2
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
ARPR	Arapgir-MALATY	17.73	303	P	Pn	23 27 22.7	-0.3
GAZ	Gaziantep	17.95	297		Pn	23 27 24.7	-0.9
AAK	Ala-Archa	18.16	44	Pn	Pn	23 27 25.1	-3.2
AAK				IAmb	IAmb	23 27 34.3	
	comp=Z,23nm,1.5s						
AAK	Ala-Archa	18.16	44	iP	Pn	23 27 27.3	-1.0
	SNR=5.9						
AAK	Ala-Archa	18.16	44	P	Pn	23 27 25.1	-3.2
AAK				pmax	pmax		
	comp=Z,23nm,1.5s						
AAK	Ala-Archa	18.16	44	P	Pn	23 27 28.3	0.0
	comp=Z,0.3nm,0.3s,baz=198,slow=5.8,SNR=11						
AAK				LR	LR	23 35 22.9	
	comp=Z,87nm,21.0s,baz=250,slow=40						
	comp=Z,1.8nm,0.4s						
FRU1	Bishkek	18.34	44		Pn	23 27 29.0	-1.4
FRU1	Bishkek	18.34	44	P	Pn	23 27 29.0	-1.4
FRU1				pmax	pmax		
	comp=Z,14nm,1.1s						
ABKAR	Akbulak array	18.68	5	P	P	23 27 32.1	-1.8
ABKAR	Akbulak array	18.68	5	P	P	23 27 31.9	-2.0
GHAJ	Ghor Haditha	18.72	278	P	P	23 27 30.5	-4.0
GHAJ				IAmb	IAmb	23 27 41.4	
	comp=Z,37nm,1.0s						
MMAI	Mount Meron Ar	18.82	283	P	P	23 27 37.0	+1.2
	comp=Z,0.5nm,0.4s,baz=105,slow=15,SNR=1.8						
MMAI				LR	LR	23 36 26.2	
	comp=Z,74nm,18.9s,baz=74,slow=42						
SOC	Sochi	19.05	317	eP	P	23 27 35.3	-2.8
SOC				e		23 31 07.3	
SOC				MLR	MLR		
	comp=Z,27nm,11.0s						
EIL	Elat	19.42	273	P	P	23 27 42.9	+0.6
	comp=Z,0.1nm,0.3s,baz=350,slow=3.1,SNR=6.2						
	comp=Z,8.5nm,1.1s						
BNN	Bunyan	19.46	301		P	23 27 42.3	-0.5
BNN				IAmb	IAmb	23 27 52.0	
	comp=Z,17nm,0.9s						
AKTO	Aktyubinsk	19.76	1	P	P	23 27 46.0	+0.2
AKTO	Aktyubinsk	19.76	1	P	P	23 27 46.0	+0.2
	comp=Z,0.4nm,0.3s,baz=183,slow=8.9,SNR=14						
AKTO				LR	LR	23 36 14.6	
	comp=Z,64nm,21.1s,baz=216,slow=39						
	comp=Z,5.2nm,0.7s						
TARG	Taragay, Kyrgy	19.79	50	P	P	23 27 45.2	-1.5
TARG				IAmb	IAmb	23 27 55.2	
	comp=Z,33nm,1.5s						
TARG	Taragay, Kyrgy	19.79	50	P	P	23 27 45.2	-1.5
TARG				pmax	pmax		
	comp=Z,33nm,1.5s						
PRZ	Przheval'sk	20.53	49	P	P	23 27 53.0	-1.4
PRZ				IAmb	IAmb	23 28 05.0	
	comp=Z,19nm,1.4s						
PRZ	Przheval'sk	20.53	49	P	P	23 27 53.1	-1.4
PRZ				pmax	pmax		
	comp=Z,19nm,1.4s						
CSS	Mathiatis	20.66	288	P	P	23 27 56.4	+0.7
CSS				IAmb	IAmb	23 28 15.2	
	comp=Z,24nm,1.3s						
BR131	Keskin Array S	21.36	302	P	P	23 28 05.6	+2.1
	SNR=6.1						
BR131	Keskin Array S	21.36	302	iP	P	23 28 04.3	+0.9
BRTR	Keskin Array B	21.36	302	P	P	23 28 03.4	0.0
BRTR	Keskin Array B	21.36	302	P	P	23 28 04.5	+1.1
	comp=Z,7.0nm,1.0s,baz=114,slow=11,SNR=19						
	comp=Z,7.0nm,1.0s						
PYUN	Piuthan	22.44	90	eP	P	23 28 17.2	+2.0
	comp=Z,59nm,1.2s						
BELG	Belogornoye	22.87	344	iP	P	23 28 17.2	-2.0
BELG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KOLN	Koldanda	23.04	91	eP	P	23 28 22.5	+1.0
	comp=Z,103nm,1.8s						
DANN	Dangsing	23.05	89	eP	P	23 28 22.3	+0.6
	comp=Z,104nm,1.1s						
SIM	Simferopol'	23.16	315	eP	P	23 28 24.8	+2.4
SIM				pmax	pmax		
	comp=Z,41nm,1.0s						
ISP	Isparta	23.28	295	P	P	23 28 24.3	+0.6
ISP	Isparta	23.28	295	P	P	23 28 24.3	+0.6
ISP				pmax	pmax		
	comp=Z,22nm,0.9s						
ATD	Arta Tunnel	23.33	218	P	P	23 28 23.9	-0.4
ATD				IAmb	IAmb	23 28 34.5	
	comp=Z,7.3nm,1.0s						
ELL	Elmali	23.61	292	P	P	23 28 27.4	+0.4
ELL	Elmali	23.61	292	P	P	23 28 27.4	+0.4
ELL				pmax	pmax		
	comp=Z,76nm,0.8s						
GKN	Gorkha	23.88	89	eP	P	23 28 30.7	+0.9
	comp=Z,16nm,0.6s						
BRVK	Borovoye	24.28	19	P	P	23 28 32.9	-0.1
BRVK				IAmb	IAmb	23 28 34.6	
	comp=Z,11nm,1.1s						
BRVK	Borovoye	24.28	19	P	P	23 28 33.7	+0.7
BRVK				P	P	23 28 33.7	+0.7
BRVK				S	S	23 32 57.3	+6.0
BRVK				S	S	23 32 57.3	+6.0
BRVK	Borovoye	24.28	19	ceP	P	23 28 33.2	+0.1
BRVK				pmax	pmax		
	comp=Z,11nm,1.0s						
BVAR	Borovoye Array	24.28	19	P	P	23 28 33.8	+0.7
	comp=Z,12nm,0.9s,baz=199,slow=7.2,SNR=57						
BVAR				PcP	PcP	23 32 12.7	0.0
	comp=Z,0.9nm,0.6s,baz=215,slow=2.2,SNR=5.1						
BVAR				LR	LR	23 39 16.3	
	comp=Z,105nm,19.0s,baz=212,slow=40						
	comp=Z,12nm,0.9s						
PKIN	Phulchoki	24.64	90	eP	P	23 28 37.5	+0.6
	comp=Z,31nm,0.8s						
PKI	Pulchoki	24.65	90	eP	P	23 28 37.7	+0.7
	comp=Z,59nm,1.2s						
MAKZ	Makanchi	24.91	43	P	P	23 28 38.9	0.0
MAKZ				IAmb	IAmb	23 28 41.0	
	comp=Z,12nm,1.1s						
MAKZ	Makanchi	24.91	43	P	P	23 28 38.9	0.0
MAKZ				pmax	pmax		
	comp=Z,13nm,1.1s						
GUN	Gumba	24.98	89	eP	P	23 28 41.0	+1.0
	comp=Z,60nm,1.0s						
MK31	Makanchi Array	25.09	43	P	P	23 28 39.9	-0.6
MK31				IAmb	IAmb	23 28 44.4	
	comp=Z,4.6nm,1.1s						
MK31	Makanchi Array	25.09	43	ceP	P	23 28 40.8	+0.3
MKAR	Makanchi Array	25.09	43	P	P	23 28 40.2	-0.3
MKAR	Makanchi Array	25.09	43	P	P	23 28 40.2	-0.3
MKAR	Makanchi Array	25.09	43	P	P	23 28 41.2	+0.7
	comp=Z,3.2nm,0.8s,baz=227,slow=8.9,SNR=18						
MKAR				LR	LR	23 40 03.4	
	comp=Z,138nm,18.1s,baz=242,slow=40						
	comp=Z,3.2nm,0.8s						
JIRN	Jiri	25.30	90	eP	P	23 28 43.8	+0.8
	comp=Z,20nm,0.7s						
KURBB	Kurchatov Arra	25.43	32	P	P	23 28 44.4	+0.9
	comp=Z,3.3nm,0.2s,baz=232,slow=9.0,SNR=29						
	comp=Z,3.3nm,0.2s						
KURK	Kurchatov	25.54	32	P	P	23 28 44.2	-0.3
KURK				IAmb	IAmb	23 28 48.5	
	comp=Z,9.9nm,0.9s						
KURK	Kurchatov	25.54	32	P	P	23 28 45.3	+0.9
KURK	Kurchatov	25.54	32	ceP	P	23 28 43.7	-0.8
KURK				pmax	pmax		
	comp=Z,20nm,1.7s						
ARU	Arti	25.77	2	P	P	23 28 46.8	+0.3
ARU				IAmb	IAmb	23 28 51.9	
	comp=Z,13nm,1.1s						
ARU	Arti	25.77	2	d iP	P	23 28 48.9	+2.4
ARU						23 29 26.2	
ARU				S	S	23 33 20.7	+5.7
ARU				SS	SnSn	23 34 13.7	+3.2
ARU				pmax	pmax		
	comp=Z,17nm,1.2s						
RAMN	Ramite	25.83	91	eP	P	23 28 48.5	+0.8
	comp=Z,39nm,0.8s						
SVE	Sverdlovsk	26.26	4	eP	P	23 28 54.1	+3.2
SVE				pmax	pmax		
	comp=Z,17nm,1.4s						
WMQ	Urumqi	27.30	53	eP	P	23 29 02.8	+2.2
KIRV	Kirov	28.45	351	ceP	P	23 29 09.5	-1.0
KIRV	Kirov	28.45	351	LR	LR	23 42 38.4	
	comp=Z,82nm,18.6s,baz=158,slow=41						
OBN	Obninsk	28.59	335	⇓iP	P	23 29 11.5	-0.3
OBN				e*PP	pP	23 29 15.5	-1.4
OBN				e*SP	sP	23 29 17.2	-1.8
OBN						23 30 00.0	
OBN						23 32 17.0	
OBN				SSS	SSS	23 35 29.0	
OBN				pmax	pmax		
	comp=Z,36nm,1.7s						
MOS	Moscow	28.71	337	eP	P	23 29 11.2	-1.6
MOS				ePPP	PPP	23 30 14.4	
AKASG	Malin Array Be	28.99	322	P	P	23 29 17.6	+2.2
	comp=Z,1.9nm,0.8s,baz=124,slow=8.5,SNR=5.1						
	comp=Z,1.9nm,0.8s						
DGZ	Jazzator, Alta	29.52	41	iP	P	23 29 20.5	+0.2
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZAA0	Zalesovo Array	30.53	32	P	P	23 29 28.5	-0.6
ZAA0				IAmb	IAmb	23 29 32.4	
	comp=Z,8.7nm,1.0s						
ZALV	Zalesovo Beam	30.53	32	P	P	23 29 28.6	-0.4
ZALV	Zalesovo Beam	30.53	32	P	P	23 29 29.2	+0.2
	comp=Z,5.4nm,0.6s,baz=237,slow=9.5,SNR=25						
ZALV				LR	LR	23 43 35.5	
	comp=Z,56nm,18.9s,baz=214,slow=40						
	comp=Z,5.4nm,0.6s						
KOLS	Kolonicke sedl	32.19	315	eP	P	23 29 45.8	+2.0
KOLS	Kolonicke sedl	32.19	315	eP	P	23 29 45.9	+2.1
LODK	Lodwar	34.16	222	P	P	23 30 00.9	-0.4
LODK				IAmb	IAmb	23 30 04.5	
	comp=Z,3.0nm,1.1s						
OJC	Ojcow	34.16	316	P	P	23 29 59.9	-1.0
OJC				IAmb	IAmb	23 30 04.2	
	comp=Z,5.7nm,1.0s						
OJC	Ojcow	34.16	316	P	P	23 29 59.9	-1.0
OJC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CHVC	Chvalec	36.54	315	eP	P	23 30 24.0	+2.5
CHVC	Chvalec	36.54	315	eP	P	23 30 24.0	+2.5
KMBO	Kilima Mbogo	36.97	215	P	P	23 30 26.9	+1.3
	comp=Z,0.8nm,0.4s,baz=52,slow=13,SNR=4.4						
KMBO				LR	LR	23 47 17.2	
	comp=Z,11nm,18.6s,baz=86,slow=39						
	comp=Z,0.8nm,0.4s						
FINES	FINESS Array B	36.99	335	iP	P	23 30 27.7	+2.6
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	FINESS Array B	36.99	335	P	P	23 30 26.0	+0.9
	comp=Z,2.3nm,0.8s,baz=148,slow=8.7,SNR=8.2						
	comp=Z,2.3nm,0.8s						
CKRC	Cesky Krumlov	37.18	312	eP	P	23 30 28.9	+2.0
CKRC	Cesky Krumlov	37.18	312	eP	P	23 30 28.9	+2.0
ZVC	Zvikov	37.40	313	eP	P	23 30 30.9	+2.2
GEC2	GERESS Array S	37.57	312	P	P	23 30 29.5	-0.9
GEC2				IAmb	IAmb	23 30 34.0	
	comp=Z,4.7nm,0.8s						
GERES	GERESS Array B	37.57	312	P	P	23 30 29.4	-1.0
GERES	GERESS Array B	37.57	312	P	P	23 30 30.4	+0.1
	comp=Z,3.8nm,0.8s,baz=86,slow=8.2,SNR=14						
GERES				PcP	PcP	23 32 48.2	+0.1
	comp=Z,0.2nm,0.4s,baz=134,slow=2.8,SNR=2.3						
	comp=Z,3.8nm,0.8s						
KHC	Kasperske Hory	37.72	312	eP	P	23 30 34.3	+2.8
KHC	Kasperske Hory	37.72	312	iP	P	23 30 30.6	-0.9
KHC				pmax	pmax		
	comp=Z,28nm,2.7s						
CLL	Collm	38.60	315	eP	P	23 30 40.0	+1.2
	comp=Z,7.0nm,1.2s						
CLL				ePP	PP	23 32 02.0	-5.1
CLL	Collm	38.60	315	eP	P	23 30 40.0	+1.2
CLL				pmax	pmax		
	comp=Z,7.0nm,1.2s						
WTTA	Wattenberg	38.64	309	eP	P	23 30 40.2	+0.8
	comp=Z,7.1nm,0.9s						
WATA	Walderalm	38.70	309	eP	P	23 30 40.4	+0.5
	comp=Z,4.1nm,0.6s						
LZH	Lanzhou	38.89	69	eP	P	23 30 42.1	+0.5
LZH				pP	pP	23 30 46.7	0.0
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
SQTA	Sankt Quirin	38.93	308	iP	P	23 30 42.1	+0.3
	comp=Z,5.2nm,0.8s						
PZH	PanZhiHua	38.98	85	P	P	23 30 43.7	+1.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PZH				pmax	pmax		
	comp=Z,150nm,4.3s						
FETA	Feichten	39.22	308	eP	P	23 30 45.0	+0.7
	comp=Z,8.6nm,1.2s						
CMAR	Chiang Mai Arr	39.49	98	P	P	23 30 46.7	0.0
	comp=Z,0.5nm,0.3s,baz=298,slow=7.8,SNR=1.2						
	comp=Z,0.5nm,0.3s						
KMI	Kunming	40.26	86	⇓P	P	23 30 52.0	-1.2
KMI				pmax	pmax		
	comp=Z,11nm,1.0s						
SONM	Songino Array	40.91	51	P	P	23 30 58.2	-0.1
	comp=Z,1.4nm,0.9s,baz=263,slow=10,SNR=6.5						
	comp=Z,1.4nm,0.9s						
HFS	Hagfors	41.31	328	P	P	23 31 03.3	+2.0
	comp=Z,3.8nm,0.8s,baz=140,slow=9.5,SNR=6.3						
	comp=Z,3.8nm,0.8s						
NOA	NORSAR Array B	42.80	329	P	P	23 31 15.1	+1.6
	comp=Z,0.6nm,0.7s,baz=102,slow=7.2,SNR=2.0						
	comp=Z,0.6nm,0.7s						
ARCES	ARCESS Array B	42.92	344	P	P	23 31 15.0	+0.8
ARCES	ARCESS Array B	42.92	344	P	P	23 31 15.0	+0.8
	comp=Z,5.3nm,1.1s,baz=127,slow=10,SNR=1.7						
	comp=Z,5.3nm,1.1s						
XAN	Xi'an	43.30	71	⇓P	P	23 31 17.8	0.0
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC	Hu-ho-hao-te	44.50	61	eP	P	23 31 27.7	+0.2
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,160nm,4.7s						
XLT	XiLinHaoTe	47.60	57	eP	P	23 31 46.4	-5.5
XLT				pP	pP	23 31 51.5	-5.5
XLT				sP	sP	23 31 55.3	-3.8
XLT				PcP	PcP	23 33 22.2	+0.7
XLT				PP	PP	23 33 31.5	-12
XLT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,100nm,4.4s						
EKA	Eskdalemuir Ar	48.81	319	P	P	23 32 01.0	+0.1
EKA	Eskdalemuir Ar	48.81	319	P	P	23 32 00.9	+0.1
	comp=Z,0.6nm,0.5s,baz=100,slow=7.0,SNR=4.8						
	comp=Z,0.6nm,0.5s						
ESDC	Sonseca Array	50.10	298	P	P	23 32 11.6	+0.5
	comp=Z,0.6nm,0.6s,baz=70,slow=6.8,SNR=4.9						
	comp=Z,0.6nm,0.6s						
TOA0	Torodi Ar. Sit	54.00	264	P	P	23 32 39.2	-1.1
TOA0				IAmb	IAmb	23 32 45.0	
	comp=Z,4.7nm,0.8s						
TOA0	Torodi Ar. Sit	54.00	264	P	P	23 32 38.7	-1.7
	SNR=8.4						
TORD	Torodi Ar. Bea	54.00	264	P	P	23 32 39.2	-1.2
TORD				IAmb	IAmb	23 32 45.1	
	comp=Z,3.2nm,0.9s						
TORD	Torodi Ar. Bea	54.00	264	P	P	23 32 39.9	-0.5
	comp=Z,4.4nm,0.8s,baz=56,slow=7.9,SNR=16						
	comp=Z,4.4nm,0.8s						
MORF	Marmelete	54.18	296	P	P	23 32 41.0	-0.5
MORF	Marmelete	54.18	296	P	P	23 32 41.0	-0.5
MORF				pmax	pmax		
	comp=Z,44nm,1.4s						
YAK	Yakutsk	55.18	33	iP	P	23 32 47.3	-0.9
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TIXI	Tiksi	55.39	21	P	P	23 32 49.1	-0.5
TIXI				IAmb	IAmb	23 32 51.9	
	comp=Z,7.0nm,1.4s						
TIXI	Tiksi	55.39	21	P	P	23 32 49.1	-0.5
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.4s						
MNAI	Manna	55.72	120	P	P	23 32 53.2	+0.4
NACB	Ninganchiao	56.70	80	P	P	23 32 59.0	-0.7
YULB	Yu-li	56.74	81	P	P	23 32 58.7	-1.3
KSRS	Korea Array	57.60	63	P	P	23 33 04.5	-1.4
	comp=Z,1.1nm,0.6s,baz=292,slow=6.4,SNR=2.5						
KSRS				LR	LR	00 00 24.2	
	comp=Z,33nm,18.3s,baz=315,slow=39						
	comp=Z,1.1nm,0.6s						
KLR	Kul'dur	57.63	48	iP	P	23 33 05.1	-0.8
KLR				pmax	pmax		
	comp=Z,5.0nm,1.7s						
KLR	Kul'dur	57.63	48	P	P	23 33 05.0	-0.9
	comp=Z,1.8nm,0.8s,baz=286,slow=8.6,SNR=5.4						
KLR				LR	LR	00 00 28.9	
	comp=Z,66nm,18.5s,baz=303,slow=39						
	comp=Z,1.8nm,0.8s						
USA0B	Ussuriysk Arra	58.86	54	P	P	23 33 14.3	-0.3
USA0B	Ussuriysk Arra	58.86	54	eP	P	23 33 15.9	+1.3
JTU	Tsushima	59.60	66	P	P	23 33 20.2	+0.3
WIN	Windhoek	65.54	221	P	P	23 33 59.0	-0.8
WIN	Windhoek	65.54	221	P	P	23 33 59.0	-0.8
WIN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BOSA	Boshof	66.43	211	P	P	23 34 06.3	+1.0
	comp=Z,2.3nm,0.9s,baz=64,slow=3.9,SNR=3.9						
	comp=Z,2.3nm,0.9s						
ILAR	Eielson Array	83.01	10	P	P	23 35 39.9	-0.9
	comp=Z,0.3nm,0.6s,baz=320,slow=4.6,SNR=4.7						
	comp=Z,0.3nm,0.6s						
YKA	Yellowknife Ar	86.95	356	P	P	23 36 00.5	-0.2
	comp=Z,0.2nm,0.3s,baz=359,slow=5.2,SNR=5.8						
	comp=Z,0.2nm,0.3s						
WRA	Warramunga Arr	89.37	114	iP	P	23 36 12.8	-0.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	89.37	114	P	P	23 36 12.3	-0.6
	comp=Z,0.8nm,0.7s,baz=311,slow=4.3,SNR=12						
	comp=Z,0.8nm,0.7s						
ASAR	Alice Springs	91.05	117	P	P	23 36 20.1	-0.5
	comp=Z,1.4nm,0.8s,baz=305,slow=4.6,SNR=12						
	comp=Z,1.4nm,0.8s						

ATH 01 23:23:44.7,38.34N×20.44E,h12^{km}±3^{km},ML1.8/1,Error ellipse: s-maj=3.3km s-min=0.9km az=244.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF4	Livadi, Kephal	0.09	188	P	Pg	23 23 47.3	-0.1
KEF4				S	Sg	23 23 49.6	+0.2
DMLN	Damoulianata-K	0.12	207	P	Pg	23 23 47.9	+0.1
DMLN				S	Sg	23 23 50.2	0.0
FSK	Fiskardo	0.15	40	P	Pg	23 23 47.9	-0.4
FSK				S	Sg	23 23 50.5	-0.4
KEF3	Kipouria, Keph	0.16	207	P	Pg	23 23 48.1	-0.4
KEF3				S	Sg	23 23 50.7	-0.3
VLS	Valsamata	0.20	145	P	Pg	23 23 48.9	-0.3
VLS				S	Sg	23 23 52.3	0.0
VLS				AML	AML	23 23 52.3	
	comp=E,788μm,0.2s						
VLS				AML	AML	23 23 52.5	
	comp=N,701μm,0.1s						
EVGI	Lefkada island	0.33	31	P	Pg	23 23 51.0	-0.4
EVGI				S	Sb	23 23 56.8	-0.8
NYDR	Nydri-Lefkada	0.42	29	P	Pg	23 23 52.9	-0.3
NYDR				S	Sg	23 23 58.6	-0.2
PVO	Paravola	0.90	72	P	Pg	23 24 01.9	-0.1

ATH 01 23:24:19.8,38.33N×22.07E,h7^{km}±3^{km},ML1.1/3,Manual Solution by M.Papanikolaou This location: 2019/12/26 22:51:35 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAKA	Lakka	0.11	222	P	Pg	23 24 22.5	+0.2
LAKA				S	Sg	23 24 24.3	+0.3
EFP	Efpalio	0.17	308	P	Pg	23 24 23.3	+0.1
EFP				S	Sg	23 24 26.4	+0.9
KLV	Kalavryta, Ach	0.29	168	P	Pg	23 24 25.4	0.0
KLV				S	Sg	23 24 29.3	0.0
ANX	Ano Chora	0.29	336	P	Pg	23 24 25.6	0.0
ANX				S	Sg	23 24 29.8	+0.3
GUR	Goura	0.44	151	P	Pg	23 24 29.1	+0.7
GUR				S	Sg	23 24 34.8	+0.6
THAL	Thalero	0.55	122	P	Pb	23 24 31.1	-0.6
THAL				S	Sg	23 24 37.5	+0.1

*SJA **01** 23:26:48.6±0.4, 34.90S×73.56W, h10^{km}, ML3.5, MW3.1*
*IDC **01** 23:26:50.1±0.8, 34.85S×73.58W, h0^{km}, mb4.1/8, mbtmp4.1/12, ML4.1/4, MS3.1/5, Error ellipse: s-maj=27.1km s-min=18.3km az=90.0*
*NEIC **01** 23:26:52.2±1.5, 34.79S±0.04×73.75W±0.06, h23^{km}±4^{km}, mb4.3/8, Mwr4.0/18, ML4.3(GUC), Error ellipse: s-maj=8.1km s-min=5.1km az=121.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.74; $M_{\theta\theta}$-0.64; $M_{\phi\phi}$-0.10; $M_{r\theta}$0.25; $M_{\theta\phi}$0.88; $M_{\phi r}$0.43; Fault plane solution: $M_0$1.23000×10^{15} NP1:ϕ_s338.83000°, δ58.30000°, λ138.21000°. NP2:ϕ_s94.00000°, δ55.46000°, λ39.64000°. Principal axes: T 1.1510, Plg51.0000°, Azm305.0000°; N 0.1404, Plg39.0000°, Azm128.0000°; P -1.2915, Plg2.0000°, Azm37.0000°;*
*GUC **01** 23:26:53.2±0.6, 34.85S×73.66W, h37^{km}±3^{km}, ML4.3*
*NEIC **01** 23:26:53.3, 34.79S×73.75W, h36^{km}*

ISC 01 23:26:50.6±1.7, 34.°80S±0.°04×73.°61W±0.°05, h5km±10km, n100, σ1.s50/130, mb4.2/10, MS3.4/3, 5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BO03	Pichilemu	1.39	78	eP	Pb	23 27 17.4	+0.4
BO03				iS	Sg	23 27 35.3	0.0
GO05	Huala	1.40	99		Pg	23 27 17.9	+0.6
GO05				Sn	Sg	23 27 35.9	+0.4
GO05	Huala	1.40	99	eP	Pg	23 27 17.6	+0.3
GO05				iS	Sg	23 27 35.6	+0.1
BI05	Punta Hualpn	1.97	170	Pn	Pn	23 27 24.4	-0.3
BI05				Sn	Sn	23 27 46.5	-3.3
BI05	Punta Hualpn	1.97	170	eP	Pn	23 27 24.2	-0.5
BI05				iS	Sn	23 27 46.6	-3.2
VA05	Santo Domingo	2.01	56		Pn	23 27 25.4	+0.3
VA05				Sn	Sn	23 27 50.6	0.0
VA05	Santo Domingo	2.01	56	eP	Pn	23 27 25.2	+0.1
VA05				iS	Sn	23 27 50.0	-0.6
VA05				IAML		23 27 51.4	
	comp=N,3μm,0.2s						
ML02	Panimavida	2.03	119	Pn	Pb	23 27 27.1	-0.9
ML02				Sn	Sb	23 27 53.6	0.0
ML02	Panimavida	2.03	119	eP	Pb	23 27 27.1	-0.9
ML02				iS	Sb	23 27 53.4	-0.2
BO01	Tunca	2.12	80	Pn	Pn	23 27 27.7	+1.0
BO01				Sn	Sb	23 27 54.9	-1.3
BO01	Tunca	2.12	80	eP	Pn	23 27 27.8	+1.0
BO01				iS	Sn	23 27 53.7	+0.2
MT01	Popeta	2.16	65		Pn	23 27 27.6	+0.2
MT01	Popeta	2.16	65	eP	Pn	23 27 27.5	+0.2
MT01				iS	Sn	23 27 53.3	-1.2
MT01				IAML		23 27 55.0	
	comp=E,1μm,0.3s						
BO02	Sierra Bellavi	2.33	91	Pn	Pb	23 27 31.4	-1.6
BO02	Sierra Bellavi	2.33	91	eP	Pb	23 27 31.4	-1.6
BO02				iS	Sb	23 28 00.5	-1.7
MT09	Talagante	2.40	66		Pn	23 27 31.2	+0.6
MT09	Talagante	2.40	66	eP	Pn	23 27 31.1	+0.4
MT09				iS	Sn	23 28 00.4	-0.1
MT09				IAML		23 28 01.6	
	comp=N,1μm,0.1s						
VA01	Torpederas	2.41	43		Pn	23 27 30.4	-0.2
MT02	Curacav	2.56	54	Pn	Pn	23 27 33.0	+0.2
MT02	Curacav	2.56	54	eP	Pn	23 27 32.9	+0.2
MT02				iS	Sn	23 28 03.7	-0.7
BO04	La Punta	2.61	73		Pn	23 27 35.0	+1.6
BO04	La Punta	2.61	73	eP	Pn	23 27 34.8	+1.4
BO04				iS	Sn	23 28 06.5	+0.9
MT05	Renca	2.77	60	Pn	Pn	23 27 36.3	+0.7
MT05	Renca	2.77	60	eP	Pn	23 27 36.7	+1.1
MT05				iS	Sn	23 28 10.2	+0.8
MT05				IAML		23 28 11.9	
	comp=N,896nm,0.3s						
ROC1	El Roble	2.82	51		Pn	23 27 37.1	+0.5
ROCH	El Roble	2.83	51	eP	Pn	23 27 37.2	+0.6
ROCH				iS	Sn	23 28 11.0	-0.2
ROCH				IAML		23 28 15.8	
	comp=N,660nm,0.4s						
MT15	Las Vizcachas	2.84	66	eP	Pn	23 27 37.7	+1.1
MT15				iS	Sn	23 28 11.6	+0.4
MT15				IAML		23 28 14.7	
	comp=E,1μm,0.3s						
MT03	Universidad Ad	2.88	64		Pn	23 27 37.6	+0.4
MT14	Cerro Cal¡n	2.91	62	eP	Pn	23 27 38.8	+1.1
MT14				iS	Sn	23 28 13.8	+0.8
MT14				IAML		23 28 15.7	
	comp=E,833nm,0.4s						
PEL	Peldehue	2.94	57		Pn	23 27 38.2	+0.3
PEL	Peldehue	2.94	57	eP	Pn	23 27 39.3	+1.3
PEL				iS	Sn	23 28 14.4	+0.7
PEL				IAML		23 28 16.4	
	comp=N,859nm,0.6s						
MT13	San Alfonso	2.95	70		Pn	23 27 39.5	+1.3
MT13	San Alfonso	2.95	70	eP	Pn	23 27 39.2	+1.0
MT13				iS	Sn	23 28 15.6	+1.6
MT13				IAML		23 28 17.4	
	comp=E,718nm,0.2s						
MT10	Hacienda Santa	2.97	60	eP	Pn	23 27 39.8	+1.2
MT10				iS	Sn	23 28 15.1	+0.4
LMEL	Las Melosas	2.97	72		Pn	23 27 40.3	+1.7
LMEL	Las Melosas	2.97	72	eP	Pn	23 27 39.6	+1.0
LMEL				iS	Sn	23 28 15.3	+0.6
LMEL				IAML		23 28 20.7	
FCH	Farellones	3.12	63	eP	Pn	23 27 41.8	+1.1
FCH				iS	Sn	23 28 19.2	+0.6
FCH				IAML		23 28 21.7	
	comp=N,818nm,0.2s						
VA03	San Esteban	3.26	52		Pn	23 27 43.5	+1.0
VA03	San Esteban	3.26	52	eP	Pn	23 27 43.5	+1.0
VA03				iS	Sn	23 28 21.4	-0.3
MT08	Bocatoma Ro	3.27	67		Pn	23 27 44.5	+1.8
LC02	Puerto Saavedr	3.99	177	Pn	Pn	23 27 51.0	-1.3
CO02	Combarbal	4.20	32		Pn	23 27 55.5	0.0
CO06	Fray Jorge	4.44	23	Pn	Pn	23 27 58.0	-0.6
VA04	Juan Fernndez	4.48	283	Pn	Pn	23 27 57.9	-1.2
H03S1	Juan Fernandez	4.49	281	Pn	Pn	23 27 55.5	-3.5
	baz=122,slow=76						
H03S1				T	T	23 33 09.1	
	baz=109,slow=74						
H03S3	Juan Fernandez	4.49	281	Pn	Pn	23 27 58.3	-0.8
	baz=122,slow=76						
H03S3				T	T	23 33 15.2	
	baz=109						
H03S2	Juan Fernandez	4.50	281	Pn	Pn	23 27 59.0	-0.2
	baz=122,slow=76						
H03S2				T	T	23 33 36.7	
	baz=109,slow=74						
H03N1	Juan Fernandez	4.60	286	Pn	Pn	23 28 02.2	+1.6
	baz=132,slow=23						
H03N3	Juan Fernandez	4.61	285	Pn	Pn	23 28 04.0	+3.4
	baz=132,slow=23						
H03N2	Juan Fernandez	4.62	286	Pn	Pn	23 28 02.1	+1.4
	baz=132,slow=23						
CO03	El Pedregal	4.65	33	Pn	Pn	23 28 01.9	+0.2
GO06	Curarrehue	5.07	161		Pn	23 28 09.0	+1.6
GO04	Tololo Observa	5.19	28		Pn	23 28 08.7	-0.4
ZON	Zonda	5.25	53		Pn	23 28 12.6	+2.8
CO05	La Serena	5.26	23	Pn	Pn	23 28 09.4	-0.5
CFA	Coronel Fontan	5.52	56	Pn	Pn	23 28 14.9	+1.5
	comp=N,12nm,0.3s,baz=232,slow=12,SNR=69						
CFA				Sn	Sn	23 29 18.9	+1.7
	comp=N,9.5nm,0.3s,baz=322,slow=19,SNR=9.2						
	comp=N,32nm,0.3s						
CO01	Juntas del Tor	5.65	33		Pn	23 28 16.2	+0.7
ACCO	Cerro Coronel	5.68	44	eP	Pn	23 28 19.4	+3.4
ACCO				eS	Sn	23 29 25.7	+3.9
ACCO				IAML		23 29 26.7	
	comp=Z,36nm,0.3s						
AROD	Rodeo	5.79	38	eP	Pn	23 28 20.0	+2.5
AROD				eS	Sn	23 29 26.7	+2.2
LCO	Las Campanas	6.28	24	Pn	Pn	23 28 23.3	-0.8
PLCA	Paso Flores	6.40	159	Pn	Pn	23 28 26.9	+1.3
	comp=Z,0.4nm,0.3s,baz=316,slow=8.9,SNR=6.2						
PLCA				Sn	Sn	23 29 37.6	-1.4
	comp=Z,0.4nm,0.3s,baz=315,slow=9.0,SNR=3.3						
PLCA				LR	LR	23 30 31.4	
	comp=Z,54nm,20.5s,baz=344,slow=35						
	comp=Z,1.9nm,0.6s						
AC05	El Transito	6.59	26		Pn	23 28 28.6	+0.3
AVFE	Valle Fertil	6.63	53	eP	Pn	23 28 29.8	+1.1
AVFE				eS	Sn	23 29 44.9	+0.2
AVFE				IAML		23 29 52.6	
	comp=Z,16nm,0.6s						
ACHE	Chepes	6.87	60	eP	Pn	23 28 33.2	+1.1
ACHE				eS	Sn	23 29 50.6	-0.3
AC04	Llanos de Chal	6.92	19	Pn	Pn	23 28 31.9	-0.8
APLL	PUNTA DE LOS L	7.41	56	eP	Pn	23 28 39.8	+0.3
APLL				⇓eS	Sn	23 30 03.3	-0.8
APLL				IAML		23 30 24.7	
	comp=Z,1.8nm,0.7s						
VCA	Vinchina	7.59	39	eP	Pn	23 28 44.2	+2.1
VCA				eS	Sn	23 30 01.3	-7.4
GO03	Copiap	7.74	23	Pn	Pn	23 28 41.9	-2.2
ACLC	CERRO LA CRUZ	7.78	48	eP	Pn	23 28 44.5	-0.2
ACLC				eS	Sn	23 30 14.3	+1.0
TRQA	Tornquist	9.92	112	Pn	Pn	23 29 17.1	+3.3
LVC	Limon Verde	12.82	20	Pn	Pn	23 29 55.2	+1.2
	comp=Z,4.9nm,0.3s,baz=230,slow=7.9,SNR=4.6						
	comp=Z,13nm,0.4s						
CPUP	Villa Florida	16.35	63	Pn	Pn	23 30 39.3	-1.6
CPUP	Villa Florida	16.35	63	Pn	Pn	23 30 41.0	0.0
	comp=Z,0.2nm,0.3s,baz=310,slow=9.7,SNR=2.0						
CPUP				LR	LR	23 37 52.8	
	comp=Z,51nm,18.3s,baz=236,slow=40						
	comp=Z,2.4nm,0.8s						
GO09	Cerro Castillo	16.49	177	Pn	Pn	23 30 37.9	-4.7
GO09				IAmb	IAmb	23 30 44.7	
	comp=Z,23nm,1.1s						
ITAB	Concordia	19.87	74		Pn	23 31 24.1	-0.2
ITAB				IAmb	IAmb	23 31 35.7	
	comp=Z,23nm,1.1s						
EFI	East Falkland	20.24	151	Pn	Pn	23 31 28.1	-0.3
EFI				IAmb	IAmb	23 31 38.0	
	comp=Z,22nm,1.1s						
NNA	Nana	22.90	352	LR	LR	23 39 01.9	
	comp=Z,30nm,18.7s,baz=176,slow=32						
BOAV	Boa Vista	38.99	21	P	P	23 34 16.3	-1.7
BAUV	El Baul	43.82	8	P	P	23 34 57.4	-0.2
VNA3	Neumayer Olymp	49.12	157	⇓P	P	23 35 40.3	+1.6
	comp=Z,1.7nm,0.7s						
VNA2	Neumayer--Watz	49.78	157	⇓P	P	23 35 45.7	+2.0
	comp=Z,2.9nm,0.7s,baz=292,slow=8.0						
SNAA	Sanae	51.34	158	P	P	23 35 56.5	+0.9
SNAA				IAmb	IAmb	23 35 57.9	
	comp=Z,2.6nm,0.8s						
SNAA	Sanae	51.34	158	⇓P	P	23 35 57.4	+1.8
	comp=Z,49nm,0.7s						
SNAA	Sanae	51.34	158	P	P	23 35 55.8	+0.2
	comp=Z,1.9nm,0.7s,baz=279,slow=9.3,SNR=14						
	comp=Z,1.9nm,0.7s						
TROLL	Troll, Antarti	53.04	158	⇓P	P	23 36 10.1	+1.8
	comp=Z,52nm,0.5s						
QSPA	South Pole Qui	55.44	180	P	P	23 36 24.8	-1.1
QSPA	South Pole Qui	55.44	180	P	P	23 36 25.2	-0.7
	comp=Z,3.6nm,0.9s,baz=132,slow=2.2						
	comp=Z,3.6nm,0.9s						
TXAR	Lajitas Array	69.82	332	P	P	23 38 03.3	+1.1
	comp=Z,1.1nm,0.6s,baz=151,slow=8.3,SNR=14						
	comp=Z,1.1nm,0.6s						
MAW	Mawson	72.78	164	P	P	23 38 20.1	+0.7
	comp=Z,3.0nm,0.9s,baz=210,slow=8.1,SNR=2.0						
	comp=Z,3.0nm,0.9s						
DBIC	Dimbokro	76.66	72	P	P	23 38 42.6	-0.3
	comp=Z,2.0nm,0.7s,baz=172,slow=6.6,SNR=3.3						
	comp=Z,2.0nm,0.7s						
TSUM	Tsumeb	80.24	107	LR	LR	00 11 06.2	
	comp=Z,18nm,20.0s,baz=150,slow=33						
BOSA	Boshof	80.84	118	P	P	23 39 05.9	0.0
	comp=Z,2.1nm,0.8s,baz=239,slow=5.2,SNR=4.9						
	comp=Z,2.1nm,0.8s						
NVAR	Mina Array Bea	83.81	326	P	P	23 39 22.0	+0.9
	comp=Z,0.4nm,0.5s,baz=127,slow=5.8,SNR=1.7						
	comp=Z,0.4nm,0.5s						
TORD	Torodi Ar. Bea	85.70	71	P	P	23 39 31.2	+0.3
	comp=Z,0.6nm,0.8s,baz=287,slow=2.7,SNR=4.1						
	comp=Z,0.6nm,0.8s						
LSZ	Lusaka	90.78	109	LR	LR	00 17 39.4	
	comp=Z,22nm,18.8s,baz=266,slow=34						
BVAR	Borovoye Array	148.75	43	PKPbc	PKPdf	23 46 36.0	+1.4
	comp=Z,1.3nm,0.6s,baz=252,slow=2.9,SNR=3.8						
KURBB	Kurchatov Arra	154.34	43	PKPbc	PKiKP	23 46 52.3	+0.8
	comp=Z,0.1nm,0.3s,baz=304,slow=2.1,SNR=4.2						
ZALV	Zalesovo Beam	155.59	32	PKP	PKPdf	23 46 44.8	0.0
	comp=Z,0.2nm,0.3s,baz=29,slow=3.3,SNR=2.4						
ZALV				PKPbc	pPKPbc	23 46 54.6	+0.7
	comp=Z,0.8nm,0.6s,baz=228,slow=1.8,SNR=4.2						
MKAR	Makanchi Array	158.27	49	PKPab	PKPab	23 47 23.5	+0.8
	comp=Z,0.2nm,0.4s,baz=267,slow=5.8,SNR=2.8						
PZH	PanZhiHua	170.81	153	PKP	PKPdf	23 46 57.8	-2.5

GUC 01 23:28:27.9±0.8, 18.°28S×69.°95W, h85km±4km, ML3.8
IDC 01 23:28:28.4±2.0, 18.°26S×69.°72W, h108km±15km, mb3.6/2, mbtmp3.9/5, Error ellipse: s-maj=31.8km s-min=10.2km az=103.0
ISC 01 23:28:26.6±1.0, 18.°19S±0.°04×70.°00W±0.°08, h92km±6km, n20, σ1.s47/33, 2C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AP01	Chacalluta	0.38	241	⇑iP	Pn	23 28 40.5	-0.1
AP01				eS	Sn	23 28 51.1	+0.1
PB16	IPOC Station P	0.48	107	⇓iP	Pn	23 28 42.3	+0.2
PB16				eS	Sn	23 28 53.9	+0.3
PB16				IAML		23 28 55.0	
	comp=N,3μm,0.2s						
PB12	IPOC Station P	0.53	217	⇑iP	Pn	23 28 41.6	-0.2
PB12				iS	Sn	23 28 52.7	-0.5
PB12				IAML		23 28 54.7	
	comp=N,5μm,0.3s						
PB18	Visviri	0.77	39	⇓iP	Pn	23 28 46.2	+1.7
PB18				eS	Sn	23 29 00.1	+2.1
PX02	IPOC Station P	0.79	194	eP	Pn	23 28 43.4	-0.9
PX02				eS	Sn	23 28 56.2	-1.4
PX02				IAML		23 28 58.6	
	comp=N,2μm,0.6s						
PB11	IPOC Station P	1.59	168	eP	Pn	23 28 54.5	+0.7
PB11				eS	Sn	23 29 16.1	+1.7
PB11				IAML		23 29 18.1	
	comp=E,1μm,0.4s						
GO01	Chusmiza	1.65	153	eP	Pn	23 28 57.2	+2.3
GO01				IAML		23 29 22.3	
	comp=E,2μm,0.1s						
HMBC	Humberstone	2.08	177	eP	Pn	23 29 00.2	+0.2
PB08	IPOC Station P	2.10	158	eP	Pn	23 29 02.6	+2.1
PB08				eS	Sn	23 29 29.1	+2.8
PB08				IAML		23 29 33.9	
	comp=E,632nm,0.1s						
TA01	Diego Aracena	2.37	184	eP	Pn	23 29 03.8	+0.1
TA01				iS	Sn	23 29 30.4	-1.7
TA01				IAML		23 29 43.7	
	comp=E,571nm,0.3s						
LPAZ	La Paz	2.60	44	P	Pn	23 29 09.6	+2.1
	comp=E,9.8nm,0.3s,baz=218,slow=8.3,SNR=67						
LPAZ				S	Sn	23 29 38.8	+0.2
	comp=E,14nm,0.6s,baz=237,slow=7.8,SNR=5.4						
PATCX	Punta Patache	2.62	183	eP	Pn	23 29 07.1	-0.1
PATCX				iS	Sn	23 29 37.2	-1.1
PATCX				IAML		23 29 48.8	
	comp=E,284nm,0.4s						
PB01	IPOC Station P	2.88	171	eP	Pn	23 29 11.1	+0.4
PB01				iS	Sn	23 29 43.3	-1.2
PB01				IAML		23 29 56.2	
	comp=E,407nm,0.6s						
PB02	IPOC Station P	3.11	178	eP	Pn	23 29 14.4	+0.6
PB02				eS	Sn	23 29 48.4	-1.8
PB02				IAML		23 30 01.1	
	comp=N,564nm,0.5s						
PB07	IPOC Station P	3.52	178	IAML		23 30 20.9	
	comp=E,347nm,0.5s						
LVC	Limon Verde	4.51	167	P	Pn	23 29 34.2	+1.3
	comp=E,4.7nm,0.3s,baz=345,slow=12,SNR=22						
LVC				S	Sn	23 30 23.8	-0.6
	comp=E,22nm,0.5s,baz=240,slow=23,SNR=12						
SIV	San Ignacio	8.81	77	P	Pn	23 30 29.9	-1.3
	comp=E,9.0nm,0.3s,baz=263,slow=14,SNR=43						
SIV				S	Sn	23 32 05.4	-3.4
	comp=E,2.2nm,0.7s,baz=325,slow=23,SNR=2.2						
TORD	Torodi Ar. Bea	77.25	71	P	P	23 40 10.2	-1.2
	comp=E,0.6nm,0.5s,baz=258,slow=5.7,SNR=12						
	comp=E,0.6nm,0.5s						
YKA	Yellowknife Ar	87.74	341	P	P	23 41 04.9	+0.1
	comp=E,0.6nm,0.7s,baz=136,slow=4.5,SNR=12						
	comp=E,0.6nm,0.7s						
SONM	Songino Array	150.29	5	PKPbc	PKPbc	23 48 07.1	-0.2
	comp=E,0.2nm,0.3s,baz=341,slow=3.1,SNR=2.7						

SJA 01 23:31:24.3±0.7, 30.°58S×71.°52W, h24km±2km, ML3.5, MW3.6
GUC 01 23:31:25.8±0.7, 30.°57S×71.°43W, h49km±1km, ML3.7
ISC 01 23:31:25.6±2.2, 30.°57S±0.°02×71.°42W±0.°03, h13km±16km, n53, σ1.s46/94, 4C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.21	241	⇑iP	Pb	23 31 33.8	+2.5
CO06				eS	Sb	23 31 39.3	+4.3
CO06				IAML		23 31 40.5	
	comp=N,8μm,0.3s						
CO05	La Serena	0.67	14	eP	Pb	23 31 39.2	+0.1
CO05				eS	Sb	23 31 48.9	+0.6
CO05				IAML		23 31 51.1	
	comp=N,3μm,0.4s						
GO04	Tololo Observa	0.67	54	eP	Pb	23 31 39.5	+0.2
GO04				eS	Sn	23 31 50.5	-0.9
GO04	Tololo Observa	0.67	54	⇓iP	Pb	23 31 39.5	+0.2
GO04				eS	Sb	23 31 49.4	+0.8
GO04				IAML		23 31 51.2	
	comp=N,7μm,0.1s						
CO03	El Pedregal	0.69	113	eP	Pb	23 31 39.5	+0.1
CO03				eS	Sb	23 31 49.9	+1.0
CO03				IAML		23 31 50.0	
	comp=Z,1μm,0.1s						
CO03	El Pedregal	0.69	113	⇓iP	Pb	23 31 39.6	+0.1
CO03				eS	Sb	23 31 49.7	+0.8
CO03				IAML		23 31 50.1	
	comp=N,8μm,0.1s						
CO02	Combarbal	0.73	150	eP	Pb	23 31 40.1	-0.1
CO02				eS	Sb	23 31 50.6	+0.5
CO02				IAML		23 31 56.0	
	comp=Z,1μm,0.6s						
CO02	Combarbal	0.73	150	⇓iP	Pb	23 31 40.1	-0.1
CO02				eS	Sb	23 31 50.4	+0.3
CO02				IAML		23 31 51.9	
	comp=N,7μm,0.3s						
CO01	Juntas del Tor	1.29	63	eP	Pn	23 31 48.8	-0.8
CO01				eS	Sb	23 32 06.4	-0.1
CO01				IAML		23 32 07.9	
	comp=Z,584nm,0.1s						
CO01	Juntas del Tor	1.29	63	⇓iP	Pn	23 31 49.0	-0.6
CO01				eS	Sb	23 32 05.9	-0.7
CO01				IAML		23 32 07.7	
	comp=N,1μm,0.2s						
LCO	Las Campanas	1.68	22	eP	Pn	23 31 53.9	-1.0
LCO				eS	Sn	23 32 16.1	-0.2
LCO				IAML		23 32 17.6	
	comp=Z,1μm,0.5s						
LCO	Las Campanas	1.68	22	eP	Pn	23 31 53.6	-1.3
LCO				eS	Sn	23 32 14.9	-1.4
AROD	Rodeo	1.73	77	eP	Pb	23 31 56.9	-0.5
AROD				eS	Sb	23 32 19.8	+0.5
AC05	El Transito	2.00	30	eP	Pn	23 31 59.0	-0.2
AC05				eS	Sb	23 32 25.8	-0.9
AC05				IAML		23 32 26.1	
	comp=Z,251nm,1.4s						
AC05	El Transito	2.00	30	⇓iP	Pn	23 31 59.1	-0.1
ACDV	Cuesta del Vie	2.03	79	eS	Sb	23 32 28.6	+0.9
ACDV				IAML		23 32 29.9	
	comp=Z,134nm,0.2s						
ACCO	Cerro Coronel	2.03	91	eP	Pb	23 32 01.9	-0.7
ACCO				eS	Sb	23 32 29.9	+1.9
ACCO				IAML		23 32 33.2	
	comp=Z,238nm,0.4s						
DOCA	Reserva Natura	2.05	101	eP	Pn	23 32 01.5	+1.4
DOCA				eS	Sb	23 32 30.3	+1.9
RTLS	Leoncito	2.19	124	eP	Pn	23 32 03.7	+1.6
RTLS				IAML		23 32 38.0	
	comp=Z,336nm,0.7s						
VA03	San Esteban	2.31	161	eP	Pn	23 32 03.7	+0.3
VA03				eS	Sb	23 32 34.5	-1.1
VA03				IAML		23 32 35.8	
	comp=Z,156nm,0.2s						
VA03	San Esteban	2.31	161	eP	Pn	23 32 04.2	+0.8
AC04	Llanos de Chal	2.38	7	eP	Pn	23 32 02.7	-1.6
AC04				IAML		23 32 39.7	
	comp=Z,121nm,0.3s						
AC04	Llanos de Chal	2.38	7	eP	Pn	23 32 03.1	-1.1
AC04				iS	Sn	23 32 32.6	-0.7
AC04				IAML		23 32 47.2	
	comp=E,967nm,0.1s						
ROCH	El Roble	2.42	172	eP	Pn	23 32 04.0	-1.0
ROCH				eP	Pn	23 32 04.0	-1.0
ROCH				iS	Sn	23 32 33.5	-1.1
ROCH				iS		23 32 33.6	
ROCH				IAML		23 32 42.8	
	comp=N,373nm,0.4s						
ROCH				IAML		23 32 42.8	
	comp=N,280nm,0.4s						
ROC1	El Roble	2.42	172	eP	Pn	23 32 04.4	-0.7
ROC1				eS	Sb	23 32 38.2	-0.8
ZON	Zonda	2.55	113	eP	Pb	23 32 09.3	-1.9
ZON				eS	Sb	23 32 41.4	-1.1
ZON				IAML		23 32 47.8	
	comp=Z,118nm,0.3s						
PEL	Peldehue	2.64	166	eP	Pn	23 32 09.8	+1.9
PEL	Peldehue	2.64	166	eP	Pn	23 32 07.3	-0.6
PEL				iS	Sn	23 32 38.8	-1.0
PEL				IAML		23 32 47.1	
	comp=N,146nm,0.6s						
MT02	Curacav	2.69	175	eP	Pn	23 32 08.3	-0.3
MT02				eS	Sb	23 32 46.3	-0.2
MT02				IAML		23 32 54.2	
	comp=Z,90nm,0.5s						
RTCV	Cerro Valdivia	2.79	118	eP	Pn	23 32 12.8	+2.8
MT10	Hacienda Santa	2.80	165	eP	Pn	23 32 09.8	-0.4
MT10				iS	Sn	23 32 42.7	-1.1
MT10				IAML		23 32 57.6	
	comp=N,360nm,0.1s						
MT05	Renca	2.87	168	eP	Pn	23 32 12.3	+1.2
MT05				iS	Sn	23 32 44.3	-1.3
FCH	Farellones	2.91	161	⇑eP	Pb	23 32 14.9	-2.7
CFA	Coronel Fontan	2.92	111	eP	Pn	23 32 13.2	+1.4
CFA				IAML		23 32 57.6	
	comp=Z,123nm,0.3s						
MT03	Universidad Ad	3.02	165	eP	Pn	23 32 14.7	+1.6
MT03				eS	Sb	23 32 56.6	+0.7
MT03				IAML		23 33 04.9	
	comp=Z,170nm,0.5s						
MT03	Universidad Ad	3.02	165	eP	Pn	23 32 14.4	+1.3
MT03				iS	Sn	23 32 49.0	-0.2
MT08	Bocatoma Ro	3.10	158	eP	Pn	23 32 16.7	+2.2
MT08				iS	Sn	23 32 55.0	+3.4
MT08				IAML		23 33 03.1	
	comp=E,78nm,0.4s						
GO03	Copiap	3.15	20	eP	Pn	23 32 14.3	-0.6
GO03				eS	Sb	23 33 01.3	+1.6
GO03	Copiap	3.15	20	eP	Pn	23 32 14.2	-0.7
MT09	Talagante	3.22	174	eP	Pn	23 32 15.2	-0.7
MT09				iS	Sn	23 32 52.7	-1.5
MT09				IAML		23 33 05.5	
	comp=N,154nm,0.4s						
MT12	Pirque	3.24	167	iS	Sn	23 32 53.0	-1.7
MT12				IAML		23 33 09.3	
	comp=E,243nm,0.3s						
MT01	Popeta	3.29	177	eP	Pn	23 32 17.1	+0.3
MT01				eS	Sb	23 33 02.0	-1.7
MT01				IAML		23 33 07.8	
	comp=Z,69nm,0.7s						
MT01	Popeta	3.29	177	eP	Pn	23 32 15.9	-0.9
MT01				iS	Sn	23 32 53.9	-1.8
MT01				IAML		23 33 09.8	
	comp=N,107nm,0.3s						
MT13	San Alfonso	3.31	163	eP	Pn	23 32 17.4	+0.3
MT13				iS	Sn	23 32 57.2	+0.9
MT13				IAML		23 33 09.9	
	comp=E,156nm,0.5s						
VCA	Vinchina	3.34	58	eP	Pn	23 32 20.5	+2.8
VCA				eS	Sg	23 33 13.4	+0.3
VCA				IAML		23 33 14.3	
	comp=Z,268nm,0.3s						
VCA	Vinchina	3.34	58	⇑eP	Pn	23 32 20.6	+2.9
VCA				eS	Sb	23 33 02.1	-3.5
AVFE	Valle Fertil	3.42	92	eP	Pn	23 32 19.9	+1.2
AVFE				eS	Sn	23 33 03.4	+4.2
AVFE				IAML		23 33 11.6	
	comp=Z,62nm,0.3s						
LMEL	Las Melosas	3.43	163	⇑eP	Pn	23 32 18.9	0.0
LMEL				eS	Sn	23 32 56.9	-2.5
BO04	La Punta	3.48	169	eP	Pn	23 32 19.1	-0.3
ACLC	CERRO LA CRUZ	4.04	75	eP	Pn	23 32 28.5	+1.2
ACLC				eS	Sn	23 33 17.0	+2.3
ACLC				IAML		23 33 28.6	
	comp=Z,127nm,0.4s						
ACHE	Chepes	4.13	99	eP	Pn	23 32 29.2	+0.7
ACHE				eS	Sn	23 33 16.6	-0.3
APLL	PUNTA DE LOS L	4.23	89	eP	Pn	23 32 31.1	+1.3
MRA	San Martin	5.21	112	eP	Pn	23 32 43.2	-0.1
MRA				eS	Sn	23 33 43.8	+0.4
MRA				IAML		23 33 50.7	
	comp=Z,99nm,0.5s						

IDC 01 23:40:04.3±19.0, 19.°40S×178.°78W, h489km±170km, mb2.7/3, mbtmp3.5/3, Error ellipse: s-maj=292.1km s-min=64.9km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.03	261	P	P	23 47 28.2	+0.2

	0.3nm,0.3s,baz=96,slow=7.4,SNR=8.8						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**44.06**	**256**	P	P	23 47 27.9	-0.4
	0.5nm,0.5s,baz=97,slow=7.9,SNR=10						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**87.41**	**13**	P	P	23 51 58.4	0.0
	0.2nm,0.8s,baz=222,slow=5.8,SNR=1.5						
	0.2nm,0.8s						
MMAI	**Mount Meron Ar**	**146.63**	**301**	PKPbc	PKPbc	23 58 50.2	-0.8
	0.9nm,0.6s,baz=64,slow=6.6,SNR=4.7						

*ISK **01** 23:43:02.7, 40°.92N×39°.65E, h5km, ML2.6/12*
*AFAD **01** 23:43:03.4±0.0, 40°.90N×39°.68E, h10km, ML2.3*
ISC 01 23:43:00.9±1.0**, 41°.07N**±0°.04×**39°.74E**±0°.02**, h17**km±5km**,**
n25, σ**1°.14**/43**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTUT	**Trabzon**	**0.08**	**165**	Pg	**Pg**	**23 43 05.6**	**+1.3**
KTUT				Sg	**Sg**	**23 43 07.5**	**+1.0**
MACK	**Trabzon**	**0.13**	**169**	P	**Pb**	**23 43 06.1**	**+1.2**
MACK				S	**Sg**	**23 43 07.8**	**+0.4**
GUMT	**Gumushane**	**0.64**	**198**	Pg	**Pg**	**23 43 12.3**	**-1.3**
GUMT				Sg	**Sg**	**23 43 19.5**	**-2.6**
IZDR	**Rize**	**0.69**	**114**	P	**Pb**	**23 43 15.0**	**+0.5**
IZDR				S	**Sb**	**23 43 23.8**	**+0.1**
BAYT	**Aydıntepe-Bayb**	**0.74**	**155**	Pg	**Pb**	**23 43 15.7**	**+0.2**
BAYT				Sg	**Sb**	**23 43 24.9**	**-0.5**
CHOM	**Cayeli-Rize**	**0.78**	**88**	Pg	**Pn**	**23 43 17.3**	**+0.2**
ESPY	**Espiye-Giresun**	**0.78**	**259**	Pg	**Pg**	**23 43 16.2**	**0.0**
ESPY				Sg	**Sg**	**23 43 26.8**	**+0.3**
BAYB	**BAYBURT**	**0.90**	**154**	P	**Pb**	**23 43 18.5**	**+0.3**
BAYB				S	**Sb**	**23 43 29.7**	**-0.3**
BAYB				*i* AML	AML	23 43 30.0	
	comp=N,140nm,0.5s						
BAYB				*i* AML	AML	23 43 30.0	
	comp=E,120nm,0.3s						
KELT	**Kelkit**	**0.99**	**202**	P	**Pg**	**23 43 19.4**	**-0.7**
KELT				S	**Sg**	**23 43 31.7**	**-1.4**
KELT				*i* AML	AML	23 43 32.0	
	comp=N,130nm,0.1s						
KELT				*i* AML	AML	23 43 32.0	
	comp=E,163nm,0.1s						
ALUC	**Giresun/Alucra**	**1.03**	**226**	P	**Pg**	**23 43 20.7**	**-0.3**
ALUC				S	**Sg**	**23 43 33.5**	**-1.1**
ALUC				*i* AML	AML	23 43 34.0	
	comp=N,236nm,0.3s						
ALUC				*i* AML	AML	23 43 36.0	
	comp=E,224nm,0.4s						
KRIK	**Erzurum-spir**	**1.16**	**128**	P	**Pn**	**23 43 24.5**	**+1.9**
KRIK				S	**Sn**	**23 43 39.9**	**+1.6**
KRIK				*i* AML	AML	23 43 45.0	
	comp=N,13nm,0.3s						
KRIK				*i* AML	AML	23 43 45.0	
	comp=E,25nm,0.9s						
KOPT	**Kop Dagi**	**1.20**	**151**	P	**Pn**	**23 43 24.4**	**+1.2**
KOPT				*i* AML	AML	23 43 41.0	
	comp=N,108nm,0.2s						
KOPT				*i* AML	AML	23 43 41.0	
	comp=E,104nm,0.3s						
EUZM	**Uzumlu**	**1.36**	**181**	P	**Pb**	**23 43 26.2**	**+0.1**
EUZM				S	**Sb**	**23 43 43.4**	**+0.3**
EUZM				*i* AML	AML	23 43 44.0	
	comp=N,22nm,0.3s						
EUZM				*i* AML	AML	23 43 44.0	
	comp=E,38nm,0.8s						
EMRE	**Erzurum,Aziziy**	**1.40**	**137**	P	**Pg**	**23 43 28.6**	**+0.6**
EMRE				S	**Sg**	**23 43 48.4**	**+2.1**
EMRE				*i* AML	AML	23 43 49.0	
	comp=N,83nm,0.6s						
EMRE				*i* AML	AML	23 43 49.0	
	comp=E,66nm,0.7s						
ORDU	**Ordu-Boztepe**	**1.42**	**268**	P	**Pn**	**23 43 27.0**	**+0.9**
ORDU				S	**Sn**	**23 43 45.6**	**+1.1**
SUSE	**Susehri**	**1.45**	**234**	P	**Pb**	**23 43 27.9**	**+0.3**
SUSE				*i* AML	AML	23 43 46.0	
	comp=N,129nm,0.5s						
SUSE				S	**Sn**	**23 43 46.5**	**+1.2**
SUSE				*i* AML	AML	23 43 48.0	
	comp=E,98nm,0.3s						
ERZN	**Erzincan**	**1.48**	**180**	Pn	**Pg**	**23 43 28.6**	**-0.9**
ERZN				Sn	**Sg**	**23 43 47.5**	**-1.2**
DBAD	**Bademkaya**	**1.48**	**91**	S	**Sg**	**23 43 48.1**	**-0.7**
DDEM	**Demirkent**	**1.54**	**96**	P	**Pb**	**23 43 29.6**	**+0.6**
DDEM				S	**Sg**	**23 43 50.3**	**-0.2**
ILIC	**ilic-Erzincan**	**1.84**	**209**	Pn	**Pn**	**23 43 33.5**	**+1.5**
KOPR	**Koprukoy-ERZUR**	**1.94**	**123**	Pn	**Pg**	**23 43 36.9**	**-1.3**
SENK	**Senkaya-Erzuru**	**2.05**	**103**	Pn	**Pg**	**23 43 39.2**	**-1.1**
SENK				Sn	**Sg**	**23 44 05.9**	**-1.0**
PTK	**Pertek**	**2.19**	**187**	Pn	**Pn**	**23 43 38.6**	**+1.8**
PTK				Sn	**Sn**	**23 44 04.6**	**+1.0**
ARPR	**Arapgir-MALATY**	**2.25**	**209**	Pn	**Pn**	**23 43 39.3**	**+1.8**
VRTB	**Varto-Mus**	**2.32**	**145**	Pn	**Pb**	**23 43 41.6**	**-0.8**

*MEX **01** 23:55:12.5±0.8, 14°.63N×93°.37W, h18km±35km, MD4.1*
*CATAC **01** 23:55:18.9±0.4, 15°.10N×91°.23W, h90km, ML3.6*
*GCG **01** 23:55:19.4±0.7, 14°.81N×92°.76W, h50km±101km, MD3.9*
ISC 01 23:55:11.4±1.3**, 14°.57N**±0°.06×**93°.35W**±0°.03**, h36**km**, n34,**
σ**2°.25**/55**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.10**	**72**	*e*P	**Pn**	**23 55 28.6**	**-1.6**
THIG				*e*S	**Sn**	**23 55 41.8**	**-2.3**
PCIG		**1.14**	**6**	*e*P	**Pn**	**23 55 29.6**	**-1.1**
PCIG				*i* S	**Sn**	**23 55 42.2**	**-2.9**
PATR	**El Naranjo**	**1.21**	**63**	*e*P	**Pn**	**23 55 30.8**	**-1.1**
PATR				*e*S	**Sn**	**23 55 45.2**	**-1.9**
SMCA	**Catarina**	**1.26**	**77**	*i* P	**Pn**	**23 55 32.1**	**-0.4**
SMCA				*i* S	**Sn**	**23 55 46.8**	**-1.4**
SMCA				IAML		23 55 49.9	
	comp=Z,1μm,1.0s						
PAVE	**Pavencul**	**1.29**	**61**	*e*P	**Pn**	**23 55 32.2**	**-0.8**
PAVE				*e*S	**Sn**	**23 55 48.5**	**-0.7**
CHUJ	**Union Juarez**	**1.30**	**66**	*e*P	**Pn**	**23 55 32.5**	**-0.8**
CHUJ				*e*S	**Sn**	**23 55 47.0**	**-2.6**
RTAL	**Retalhuleu**	**1.60**	**91**	*i* P	**Pn**	**23 55 38.0**	**+0.9**
RTAL				*i* S	**Sn**	**23 55 51.4**	**-5.1**
RTAL				IAML		23 56 07.7	
	comp=Z,800nm,1.0s						
STG3	**Santiaguito 3,**	**1.73**	**85**	*i* P	**Pn**	**23 55 39.9**	**+0.9**
STG3				*i* S	**Sn**	**23 55 55.8**	**-4.1**
SULM	**Suchitepequez,**	**1.75**	**98**	*i* P	**Pn**	**23 55 40.8**	**+1.7**
CARR	**Arriaga**	**1.75**	**342**	*i* P	**Pn**	**23 55 39.3**	**+0.1**
CARR				*i* S	**Sn**	**23 55 59.0**	**-1.3**
CCIG	**Comitan**	**2.06**	**34**	*e*P	**Pn**	**23 55 45.2**	**+1.6**
CCIG				*i* S	**Sn**	**23 56 08.4**	**+0.2**
CCIG	**Comitan**	**2.06**	**34**	*i* P	**Pn**	**23 55 45.4**	**+1.7**
CCIG				*i* S	**Sn**	**23 56 09.1**	**+0.9**
CCIG				IAML		23 56 13.8	
	comp=Z,1μm,1.0s						
TGIG		**2.21**	**6**	*e*P	**Pn**	**23 55 46.2**	**+0.7**
TGIG				*e*S	**Sn**	**23 56 11.3**	**-0.3**
TGBT	**Tuxtla Gutierr**	**2.21**	**6**	*i* P	**Pn**	**23 55 47.1**	**+1.6**
TGBT				*i* S	**Sn**	**23 56 10.7**	**-0.8**
NILT	**Santiago Nilte**	**2.33**	**328**	*i* P	**Pn**	**23 55 47.5**	**+0.3**
NILT				*e*S	**Sn**	**23 56 11.0**	**-3.6**
FUG	**Fuego 3**	**2.43**	**93**	*i* P	**Pn**	**23 55 49.3**	**+0.7**
UXUV	**UXUV**	**2.84**	**344**	*e*P	**Pn**	**23 55 55.7**	**+1.5**
UXUV				*e*S	**Sn**	**23 56 29.6**	**+2.5**
NBG	**Las Nubes**	**2.90**	**89**	*i* P	**Pn**	**23 55 59.9**	**+4.6**
CMIG	**Matias Romero**	**2.91**	**330**	*e*P	**Pn**	**23 55 55.4**	**+0.3**
CMIG				*e*S	**Sn**	**23 56 26.9**	**-2.0**
HUIG	**Huatulco**	**2.92**	**294**	*e*P	**Pn**	**23 55 56.1**	**+0.9**
HUIG				*e*S	**Sn**	**23 56 25.7**	**-3.5**
NEUV	**Arroyo Zacate**	**3.92**	**323**	*e*P	**Pn**	**23 56 09.0**	**0.0**
NEUV				*e*S	**Sn**	**23 56 52.4**	**-1.3**
PEIG	**Puerto Escondi**	**3.93**	**292**	*e*P	**Pn**	**23 56 09.5**	**+0.2**
PEIG				*e*S	**Sn**	**23 56 51.9**	**-2.3**
MAGS	**Ministerio de**	**4.04**	**102**	*i* P	Pn	23 55 56.9	-14
PETF	**Flores**	**4.08**	**55**	*i* P	Pn	23 55 58.7	-13
PETF				*i* S	**Pn**	**23 56 14.9**	**+3.6**
PETF				IAML		23 57 04.9	
	comp=Z,210nm,1.0s						
VHO	**Vista Hermosa**	**4.10**	**308**	*e*P	**Pn**	**23 56 12.6**	**+0.9**
VHO				*e*S	**Sn**	**23 56 57.0**	**-1.5**
UDBS	**Universidad Do**	**4.15**	**101**	*i* P	Pn	23 56 01.1	-11
UDBS				IAML		23 56 04.2	
	comp=Z,660nm,1.0s						
YOIG	**Yosondua**	**4.64**	**300**	*e*P	**Pn**	**23 56 22.5**	**+3.3**
YOIG				*e*S	**Sn**	**23 57 10.2**	**-1.8**
PNIG	**Pinotepa**	**4.95**	**292**	*e*P	**Pn**	**23 56 25.2**	**+1.9**
PNIG				*e*S	**Sn**	**23 57 15.4**	**-3.9**
HLIG	**Huajuapan de L**	**5.37**	**308**	*e*P	**Pn**	**23 56 31.9**	**+2.7**
HLIG				*e*S	**Sn**	**23 57 29.6**	**-0.3**
FTIG	**Fresnillo de T**	**5.67**	**306**	*e*P	**Pn**	**23 56 36.2**	**+3.0**
FTIG				*e*S	**Sn**	**23 57 37.2**	**0.0**
JAUV	**Jalcomulco**	**5.80**	**326**	*e*P	**Pn**	**23 56 34.8**	**-0.2**
JAUV				*i* S	**Sn**	**23 57 35.0**	**-5.3**
LEVN	**Ruinas Leon Vi**	**6.89**	**107**	*i* P	Pn	23 56 43.3	-6.6
VACR	**Volcan Arenal**	**9.39**	**115**	*i* P	**Pn**	**23 57 27.3**	**+3.1**
RIFO	**Rio Frio, Sara**	**10.13**	**114**	*i* P	Pn	23 57 23.6	-11

*IDC **02** 00:09:22.1±8.2, 21°.14S×179°.95W, h609km±104km,*
mb2.7/5, mbtmp3.8/6, Error ellipse: s-maj=53.8km
s-min=28.2km az=36.0
ISC 02 00:09:21.5±1.3**, 21°.1S**±0°.2×**179°.9W**±0°.2**, h600**km**, n6,**
σ**0°.61**/6**, mb3.4**/5**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.28**	**188**	P	**P**	**00 12 50.5**	**+0.2**
	1.7nm,0.3s,baz=13,slow=9.5,SNR=2.2						
CTA	**Charters Tower**	**31.64**	**266**	P	**P**	**00 14 57.9**	**+0.5**
	1.0nm,0.3s,baz=13,slow=17,SNR=1.3						
	1.0nm,0.3s						
ASAR	**Alice Springs**	**42.63**	**258**	P	**P**	**00 16 27.0**	**+0.2**
	0.7nm,0.5s,baz=94,slow=7.8,SNR=15						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**42.74**	**263**	P	**P**	**00 16 26.8**	**-0.9**
	0.3nm,0.5s,baz=97,slow=8.5,SNR=7.7						
	0.3nm,0.5s						
QSPA	**South Pole Qui**	**68.96**	**180**	P	**P**	**00 19 27.3**	**-0.2**
	0.6nm,0.3s,baz=307,slow=3.3,SNR=1.7						
	0.6nm,0.3s						
TXAR	**Lajitas Array**	**88.90**	**58**	P	**P**	**00 21 13.5**	**+0.1**
	0.3nm,0.9s,baz=207,slow=9.1,SNR=1.3						
	0.3nm,0.9s						

*IDC **02** 00:19:44.4±4.3, 17°.80S×178°.52W, h523km±47km,*
mb3.3/17, mbtmp4.2/17, Error ellipse: s-maj=20.4km
s-min=18.1km az=97.0
*NEIC **02** 00:19:44.8±1.5, 17°.8S±0°.2×178°.3W±0°.2, h538km±12km,*
mb4.2/23, Error ellipse: s-maj=25.4km s-min=19.1km
az=140.0
ISC 02 00:19:45.8±0.5**, 17°.89S**±0°.10×**178°.5W**±0°.1**, h550**km**, n77,**
σ**0°.89**/77**, mb4.0**/29**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.18**	**100**	P	**P**	**00 21 42.4**	**-3.0**
DZM	**Mont Dzumac**	**14.79**	**251**	P	**P**	**00 22 51.3**	**-1.9**
URZ	**Urewera**	**20.66**	**190**	P	**P**	**00 23 47.6**	**0.0**
	4.2nm,0.5s,baz=60,slow=8.3,SNR=2.9						
	4.2nm,0.5s						
MRZ	**Mangatainoka R**	**23.27**	**192**	P	**P**	**00 24 10.7**	**-0.3**
TCW	**Tory Channel**	**24.07**	**194**	P	**P**	**00 24 19.1**	**+1.0**
TKNZ	**Takaka Hill**	**24.22**	**196**	P	**P**	**00 24 20.2**	**+0.8**
LHI	**Lord Howe Isla**	**24.45**	**232**	P	**P**	**00 24 20.8**	**-0.8**
THZ	**Tophouse**	**24.92**	**195**	P	**P**	**00 24 26.4**	**+0.8**
THZ				IAmb	IAmb	00 24 44.5	
	comp=Z,11nm,1.2s						
GVZ	**Greta Valley S**	**26.02**	**194**	P	**P**	**00 24 35.9**	**+0.6**
PYZ	**Puysegur Point**	**30.77**	**200**	P	**P**	**00 25 15.7**	**-1.0**
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**00 26 22.1**	**0.0**
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**00 26 23.2**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=110,slow=12,SNR=3.9						
	comp=Z,2.0nm,0.6s						
BBOO	**Buckleboo**	**43.37**	**241**	P	**P**	**00 27 01.1**	**+1.0**
BBOO				IAmb	IAmb	00 27 03.3	
	comp=Z,12nm,1.1s						
WR0	**Warramunga Arr**	**44.40**	**260**	P	**P**	**00 27 08.7**	**+0.6**
WB0	**Warramunga Arr**	**44.55**	**260**	P	**P**	**00 27 09.3**	**0.0**
WB2	**Warramunga Arr**	**44.58**	**260**	P	**P**	**00 27 09.0**	**-0.5**
WB2				IAmb	IAmb	00 27 18.5	
	comp=Z,4.3nm,0.9s						
WRA	**Warramunga Arr**	**44.59**	**260**	P	**P**	**00 27 09.7**	**0.0**
WRA	**Warramunga Arr**	**44.59**	**260**	P	**P**	**00 27 09.2**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=94,slow=6.8,SNR=22						
WRA				PcP	**PcP**	**00 28 41.6**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=86,slow=3.8,SNR=4.6						
	comp=Z,1.0nm,0.6s						
AS31	**Alice Springs**	**44.75**	**254**	P	**P**	**00 27 11.5**	**+0.7**
AS31				IAmb	IAmb	00 27 11.9	
	comp=Z,3.8nm,0.6s						
ASAR	**Alice Springs**	**44.75**	**254**	P	**P**	**00 27 11.4**	**+0.6**
ASAR	**Alice Springs**	**44.75**	**254**	P	**P**	**00 27 11.2**	**+0.4**
	comp=Z,12nm,0.6s,baz=88,slow=8.2,SNR=180						
	comp=Z,12nm,0.6s						
FORT	**Forrest**	**49.97**	**245**	P	**P**	**00 27 50.4**	**+0.5**
FORT				IAmb	IAmb	00 27 51.1	
	comp=Z,11nm,0.7s						
MJAR	**Matsushiro Arr**	**67.86**	**323**	P	**P**	**00 29 49.4**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=156,slow=5.2,SNR=5.6						
	comp=Z,2.3nm,0.6s						
QSPA	**South Pole Qui**	**72.17**	**180**	P	**P**	**00 30 16.9**	**+2.0**
	comp=Z,1.1nm,0.7s,baz=310,slow=4.6,SNR=2.7						
	comp=Z,1.1nm,0.7s						
PEA0B	**Petropavlovsk-**	**73.65**	**345**	P	**P**	**00 30 23.4**	**+0.2**
PETK	**Petropavlovsk-**	**73.65**	**345**	P	**P**	**00 30 23.2**	**-0.1**
PETK	**Petropavlovsk-**	**73.65**	**345**	P	**P**	**00 30 23.5**	**+0.2**
	comp=Z,5.2nm,0.8s,baz=134,slow=6.2,SNR=3.8						
	comp=Z,5.2nm,0.8s						
KSRS	**Korea Array**	**74.65**	**318**	P	**P**	**00 30 29.8**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=130,slow=5.4,SNR=1.8						
	comp=Z,1.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**76.57**	**326**	P	**P**	**00 30 40.5**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=99,slow=8.9,SNR=2.3						
	comp=Z,1.8nm,0.8s						
NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	**00 30 57.1**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=224,slow=9.8,SNR=4.0						
	comp=Z,0.5nm,0.7s						
CAST	**Castle Rocks**	**83.62**	**12**	P	**P**	**00 31 14.9**	**-1.3**
CAST				IAmb	IAmb	00 31 16.0	
	comp=Z,5.1nm,0.8s						
TABL	**Table Mountain**	**83.66**	**18**	P	**P**	**00 31 17.4**	**+0.7**
TABL				IAmb	IAmb	00 31 22.1	
	comp=Z,10nm,1.2s						
GRNC	**Granite Creek**	**83.73**	**17**	P	**P**	**00 31 17.1**	**0.0**
GRNC				IAmb	IAmb	00 31 29.3	
	comp=Z,6.5nm,1.2s						
GLB	**Gilahina Butte**	**83.76**	**16**	P	**P**	**00 31 16.8**	**-0.1**
GLB				IAmb	IAmb	00 31 17.8	
	comp=Z,5.9nm,1.2s						
MAW	**Mawson**	**83.86**	**200**	P	**P**	**00 31 17.6**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=53,slow=5.1,SNR=1.6						
	comp=Z,1.2nm,0.4s						
J20K	**Nowinta River**	**83.94**	**10**	P	**P**	**00 31 17.9**	**+0.2**
TRF	**Thorofare Moun**	**84.00**	**12**	P	**P**	**00 31 17.3**	**-0.9**
TRF				IAmb	IAmb	00 31 18.9	
	comp=Z,6.0nm,0.8s						
LOGN	**Logan Glacier**	**84.02**	**17**	P	**P**	**00 31 18.0**	**-0.4**
LOGN				IAmb	IAmb	00 31 18.9	
	comp=Z,6.9nm,1.0s						
CTGM	**Chitina Glacie**	**84.04**	**17**	P	**P**	**00 31 18.2**	**-0.2**
CTGM				IAmb	IAmb	00 31 23.4	
	comp=Z,1.9nm,1.0s						
RND	**Reindeer**	**84.26**	**13**	P	**P**	**00 31 19.6**	**+0.2**
RND				IAmb	IAmb	00 31 35.3	
	comp=Z,3.6nm,1.0s						
ILAR	**Eielson Array**	**85.88**	**13**	P	**P**	**00 31 26.4**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=225,slow=5.4,SNR=12						
	comp=Z,0.5nm,0.4s						
TXAR	**Lajitas Array**	**86.03**	**58**	P	**P**	**00 31 30.8**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=216,slow=6.3,SNR=6.3						
	comp=Z,0.4nm,0.7s						
PDAR	**Pinedale Array**	**87.37**	**43**	P	**P**	**00 31 35.9**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=209,slow=1.9,SNR=4.8						
	comp=Z,0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**88.83**	**290**	P	**P**	**00 31 42.3**	**+0.2**
	comp=Z,2.2nm,0.3s,baz=103,slow=3.4,SNR=5.5						
	comp=Z,2.2nm,0.3s						
SNAA	**Sanae**	**90.62**	**179**	P	**P**	**00 31 50.2**	**+0.8**
	comp=Z,0.8nm,0.9s,baz=200,slow=12,SNR=6.4						
	comp=Z,0.8nm,0.9s						
YKA	**Yellowknife Ar**	**94.33**	**25**	P	**P**	**00 32 07.0**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=242,slow=4.1,SNR=3.8						
	comp=Z,0.4nm,0.8s						
BVAR	**Borovoye Array**	**116.80**	**321**	PKP	**PKiKP**	**00 37 27.8**	**0.0**
	comp=Z,0.8nm,0.4s,baz=121,slow=2.0,SNR=10						
FINES	**FINESS Array B**	**133.16**	**344**	PKP	**PKPdf**	**00 37 57.2**	**-1.5**
	comp=Z,2.9nm,1.0s,baz=72,slow=6.0,SNR=1.5						
HFS	**Hagfors**	**136.91**	**351**	PKhKP	PKPpre	00 37 58.1	
	comp=Z,5.0nm,1.0s,baz=90,slow=4.3,SNR=4.4						
BRTR	**Keskin Array B**	**144.73**	**315**	PKP	**PKPab**	**00 38 21.4**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=127,slow=3.5,SNR=24						
OSTC	**Ostas**	**145.36**	**343**	*e*PKP	**PKiKP**	**00 38 23.8**	**-1.6**
CHVC	**Chvalec**	**145.37**	**344**	*e*PKP	**PKPab**	**00 38 23.4**	**-0.2**
CLL	**Collm**	**145.43**	**347**	*i* PKPbc	**PKPab**	**00 38 23.1**	**-0.7**
	comp=Z,9.0nm,0.8s						
OKC	**Ostrava-Krasne**	**145.44**	**341**	*e*PKP	**PKiKP**	**00 38 24.3**	**-1.2**
UPC	**Upice**	**145.46**	**344**	*e*PKP	**PKPab**	**00 38 23.5**	**-0.4**
DPC	**Dobruska-Polom**	**145.51**	**343**	*e*PKP	**PKPab**	**00 38 23.5**	**-0.7**
KRLC	**Kraliky**	**145.63**	**343**	*e*PKP	**PKPab**	**00 38 23.3**	**-1.4**
PVCC	**Panska Ves**	**145.81**	**345**	*e*PKP	**PKiKP**	**00 38 24.8**	**-1.4**
MAUC	**Maruska**	**145.95**	**341**	*e*PKP	**PKPab**	**00 38 25.1**	**-0.9**
MMAI	**Mount Meron Ar**	**146.09**	**303**	PKPbc	**PKPab**	**00 38 26.0**	**-1.2**
	comp=Z,3.2nm,0.6s,baz=72,slow=6.2,SNR=17						
PRU	**Pruhonice**	**146.31**	**345**	*e*PKP	**PKiKP**	**00 38 25.9**	**-1.4**
ZVC	**Zvikov**	**146.91**	**345**	*e*PKP	**PKiKP**	**00 38 27.5**	**-1.1**
KHC	**Kasperske Hory**	**147.34**	**345**	*e*PKP	**PKiKP**	**00 38 28.9**	**-0.6**
CKRC	**Cesky Krumlov**	**147.45**	**344**	*e*PKP	**PKiKP**	**00 38 29.1**	**-0.6**
GERES	**GERESS Array B**	**147.58**	**345**	PKPbc	**PKiKP**	**00 38 29.2**	**-0.9**
	comp=Z,2.6nm,0.5s,baz=13,slow=3.6,SNR=18						
CONA	**Conrad Observa**	**147.83**	**342**	*e*PKP	**PKiKP**	**00 38 30.5**	**-0.2**
	comp=Z,3.4nm,0.6s,SNR=6.0						
RONA	**Rosalia, Austr**	**147.90**	**341**	*i* PKP	**PKiKP**	**00 38 30.5**	**-0.2**
	comp=Z,4.5nm,0.9s						
MOA	**Molln**	**148.35**	**344**	*i* PKP	**PKiKP**	**00 38 31.2**	**-0.4**
	comp=Z,4.9nm,1.3s						
LESA	**Schwarzleotal**	**149.15**	**345**	*i* PKP	**PKiKP**	**00 38 33.2**	**-0.2**
	comp=Z,3.3nm,0.4s						
KBA	**Koelnbreinsper**	**149.31**	**344**	*i* PKP	**PKiKP**	**00 38 33.0**	**-0.8**
	comp=Z,2.8nm,0.4s						
WATA	**Walderalm**	**149.49**	**346**	*i* PKP	**PKiKP**	**00 38 33.9**	**-0.3**
	comp=Z,1.9nm,0.5s						
OBKA	**Obir**	**149.50**	**342**	*i* PKP	**PKiKP**	**00 38 33.6**	**-0.5**
	comp=Z,11nm,0.7s						
WTTA	**Wattenberg**	**149.55**	**346**	*i* PKP	**PKiKP**	**00 38 34.3**	**0.0**
	comp=Z,6.9nm,0.5s						
MOTA	**Moosalm**	**149.59**	**347**	*i* PKP	**PKiKP**	**00 38 34.1**	**-0.2**
	comp=Z,8.6nm,1.2s						
MYKA	**Terra Mystica**	**149.64**	**343**	*i* PKP	**PKiKP**	**00 38 33.6**	**-0.8**
	comp=Z,2.3nm,0.5s						
SQTA	**Sankt Quirin**	**149.68**	**347**	*i* PKP	**PKiKP**	**00 38 34.5**	**0.0**
	comp=Z,3.0nm,0.5s						
ABTA	**Abfaltersbach**	**149.83**	**345**	*i* PKP	**PKiKP**	**00 38 34.3**	**-0.4**
	comp=Z,4.0nm,0.5s						

*SKHL **02** 00:24:50.0±0.1, 45°.20N×146°.10E, h85km±5km, mb3.9/3,*
msh4.7/3
JMA 02 00:24:49.1±0.1**, 42°.8N**±0°.4×**145°.3E**±0°.6**, h49**km±1km**,**
MV3.0/34**, OFF NEMURO PENINSULA, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.30**	**338**	P	Pn	00 24 58.1	0.0
JKHN				*e*S	Sn	00 25 04.7	+0.2
JAK	**Akkeshi**	**0.49**	**293**	P	Pn	00 25 00.2	0.0
JAK				*e*S	Sn	00 25 08.2	+0.1
NEM2	**Nemuro 2**	**0.64**	**29**	*e*P	Pn	00 25 01.9	-0.1
NEM2				*e*S	Sn	00 25 11.1	-0.2
JNK	**Nakash**	**0.89**	**331**	*e*P	Pn	00 25 05.2	-0.1
JNK				*e*S	Sn	00 25 17.1	-0.1
JOB	**Onbets**	**1.09**	**276**	*e*P	Pn	00 25 08.1	+0.1
JOB				*e*S	Sn	00 25 22.2	+0.2
JRA	**Rausu**	**1.14**	**353**	*e*P	Pn	00 25 09.0	+0.3
JRA				*e*S	Sn	00 25 23.7	+0.6
JAR	**Ashorobuto**	**1.23**	**294**	*e*P	Pn	00 25 10.1	+0.2
JAR				*e*S	Sn	00 25 25.5	+0.1
YUK	**Yuzh-Kuril'sk**	**1.29**	**18**	*e*P	Pn	00 25 10.9	+0.2
YUK				AMB	AMB	00 25 11.6	
	60nm,0.3s						
YUK				*e*S	Sn	00 25 26.6	-0.2
YUK				A	A	00 25 28.8	
	280nm,0.4s						
YUK				A	A	00 25 28.8	
	190nm,0.4s						
JCH	**Churui**	**1.45**	**263**	*e*P	Pn	00 25 13.2	+0.3
JCH				*e*S	Sn	00 25 30.8	0.0
SHO	**Shikotan**	**1.53**	**46**	*e*P	Pn	00 25 13.9	-0.1
SHO				AMB	AMB	00 25 15.3	
	10.0nm,0.2s						
SHO				*e*S	Sn	00 25 31.9	-0.9
SHO				A	A	00 25 34.4	
	100nm,0.2s						
SHO				A	A	00 25 34.4	
	80nm,0.2s						

*SJA **02** 00:28:09.6±1.0, 24°.09S×66°.90W, h220km±7km, ML3.8,*
MW3.6
*NEIC **02** 00:28:11.6±1.7, 24°.03S±0°.03×67°.0W±0°.2, h202km±10km,*
mb4.2/5, ML4.1(GUC), Error ellipse: s-maj=20.1km
s-min=4.1km az=96.0
*GUC **02** 00:28:12.6±0.5, 23°.94S×67°.38W, h234km±6km, ML4.0*
ISC 02 00:28:10.4±0.8**, 24°.00S**±0°.04×**66°.92W**±0°.04**, h207**km±8km**,**
n67, σ**1°.28**/97**, 2C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.48**	**120**	*i* P	**Pn**	**00 28 45.5**	**+0.7**
SLA				*i* S	**S**	**00 29 11.3**	**+0.1**
AF01	**San Pedro de A**	**1.56**	**312**	Pn	**Pn**	**00 28 47.0**	**+1.3**
AF01					**S**	**00 29 13.9**	**+1.3**
AZAP	**Zapla**	**1.71**	**98**	*i* P	**Pn**	**00 28 47.3**	**+0.4**
AZAP				*i* S	**S**	**00 29 15.6**	**+0.8**
LVC	**Limon Verde**	**2.29**	**307**	Pn	**Pn**	**00 28 53.6**	**+0.6**
LVC				Sn	**S**	**00 29 27.3**	**+1.7**
LVC	**Limon Verde**	**2.29**	**307**	*e*P	**Pn**	**00 28 54.8**	**+1.8**
LVC				*i* S	**S**	**00 29 27.2**	**+1.7**
PB15	**IPOC Station P**	**2.47**	**288**		**Pn**	**00 28 55.4**	**+0.7**
PB15				Sn	**S**	**00 29 29.6**	**+0.9**
PB15	**IPOC Station P**	**2.47**	**288**	*i* P	**Pn**	**00 28 55.9**	**+1.2**
PB15				*i* S	**S**	**00 29 29.6**	**+0.9**
PB15	**IPOC Station P**	**2.47**	**288**	*e*P	**Pn**	**00 28 56.4**	**+1.7**
PB15				*e*S	**S**	**00 29 29.5**	**+0.9**
ALOL	**LOMAS DE OLMED**	**2.69**	**87**	*i* P	**Pn**	**00 28 57.5**	**+0.5**
ALOL				*i* S	**S**	**00 29 32.8**	**0.0**
GO02	**Mina Guanaco**	**2.69**	**244**		**Pn**	**00 28 58.5**	**+1.3**
GO02				Sn	**S**	**00 29 33.5**	**+0.2**
GO02	**Mina Guanaco**	**2.69**	**244** ⇑	*i*P	**Pn**	**00 28 58.5**	**+1.3**
GO02				*e*S	**S**	**00 29 34.5**	**+1.1**
PB06	**IPOC Station P**	**2.76**	**297**		**Pn**	**00 28 59.1**	**+1.2**
PB06				Sn	**S**	**00 29 34.7**	**+0.3**
PB06	**IPOC Station P**	**2.76**	**297**	*i* P	**Pn**	**00 28 59.4**	**+1.6**
PB06	**IPOC Station P**	**2.76**	**297**	*e*P	**Pn**	**00 28 59.4**	**+1.6**
PB06				*i* S	**S**	**00 29 34.7**	**+0.3**
PB06				IAML		00 29 36.5	
	comp=N,425nm,0.3s						
PB09	**IPOC Station P**	**3.06**	**315**		**Pn**	**00 29 03.0**	**+1.5**
PB09				Sn	**S**	**00 29 42.1**	**+1.3**
PB09	**IPOC Station P**	**3.06**	**315**	*i* P	**Pn**	**00 29 03.3**	**+1.9**
PB09				IAML		00 29 44.4	
	comp=Z,106nm,0.4s						
PB09	**IPOC Station P**	**3.06**	**315**	*e*P	**Pn**	**00 29 03.8**	**+2.3**
PB09				*e*S	**S**	**00 29 42.2**	**+1.5**
PB09				IAML		00 29 44.5	
	comp=N,189nm,0.2s						
PB05	**IPOC Station P**	**3.22**	**290**		**Pn**	**00 29 03.8**	**+0.5**
PB05				Sn	**S**	**00 29 43.8**	**-0.2**
PB05	**IPOC Station P**	**3.22**	**290**	*i* P	**Pn**	**00 29 03.9**	**+0.7**
PB05				IAML		00 29 49.0	
	comp=Z,90nm,0.3s						
PB05	**IPOC Station P**	**3.22**	**290**	*e*P	**Pn**	**00 29 04.3**	**+1.1**
PB05				*i* S	**S**	**00 29 43.2**	**-0.8**
PB05				IAML		00 29 45.3	
	comp=E,179nm,0.5s						
PB14	**IPOC Station P**	**3.24**	**258**		**Pn**	**00 29 02.9**	**-0.7**
PB14					**S**	**00 29 44.5**	**-0.2**
PB14	**IPOC Station P**	**3.24**	**258**	*i* P	**Pn**	**00 29 04.8**	**+1.2**
PB14				IAML		00 29 47.7	
	comp=Z,62nm,0.2s						
PB04	**IPOC Station P**	**3.40**	**298**		**Pn**	**00 29 06.0**	**+0.6**
PB04				Sn	**S**	**00 29 47.9**	**-0.1**
PB04	**IPOC Station P**	**3.40**	**298**	*e*P	**Pn**	**00 29 06.8**	**+1.3**
PB04				*i* S	**S**	**00 29 47.6**	**-0.4**
PB07	**IPOC Station P**	**3.55**	**309**		**Pn**	**00 29 07.8**	**+0.6**
PB07				Sn	**S**	**00 29 50.6**	**-0.6**
PB07	**IPOC Station P**	**3.55**	**309**	*i* P	**Pn**	**00 29 07.8**	**+0.6**
PB07				IAML		00 29 56.7	
	comp=Z,166nm,0.4s						
PB07	**IPOC Station P**	**3.55**	**309**	*e*P	**Pn**	**00 29 08.4**	**+1.2**
PB07				*e*S	**S**	**00 29 50.4**	**-0.8**
PB01	**IPOC Station P**	**3.78**	**321**		**Pn**	**00 29 09.8**	**-0.1**
PB01				Sn	**S**	**00 29 55.6**	**-0.5**
PB01	**IPOC Station P**	**3.78**	**321**	*i* P	**Pn**	**00 29 11.1**	**+1.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB01				IAML		00 30 00.8	
	comp=Z,102nm,0.2s						
PB01	IPOC Station P	3.78	321	*i* P	Pn	00 29 11.1	+1.2
PB01				*e*S	S	00 29 55.9	-0.2
PB02	IPOC Station P	3.83	314		Pn	00 29 10.7	+0.1
PB02				Sn	S	00 29 56.3	-0.9
PB02	IPOC Station P	3.83	314	*i* P	Pn	00 29 11.8	+1.2
PB02				IAML		00 30 02.3	
	comp=Z,294nm,0.3s						
PB02	IPOC Station P	3.83	314	*e*P	Pn	00 29 12.1	+1.5
PB02				*e*S	S	00 29 56.0	-1.3
AC01	Pan de Azucar	3.96	237	Pn	Pn	00 29 11.5	-0.5
AC01	Pan de Azucar	3.96	237	*i* P	Pn	00 29 11.2	-0.9
AC01	Pan de Azucar	3.96	237	⇑*i*P	Pn	00 29 11.8	-0.2
PATCX	Punta Patache	4.35	316	Pn	Pn	00 29 24.1	+7.1
PATCX	Punta Patache	4.35	316	*i* P	Pn	00 29 17.6	+0.6
PATCX				IAML		00 30 15.5	
	comp=Z,59nm,0.3s						
PATCX	Punta Patache	4.35	316	*e*P	Pn	00 29 17.2	+0.2
PATCX				*i* S	S	00 30 06.6	-2.4
PB08	IPOC Station P	4.36	331		Pn	00 29 18.7	+1.3
PB08	IPOC Station P	4.36	331	*e*P	Pn	00 29 20.1	+2.7
PB08				*i* S	S	00 30 10.5	+0.9
TA01	Diego Aracena	4.56	318	Pn	Pn	00 29 19.7	+0.2
TA01	Diego Aracena	4.56	318	*i* P	Pn	00 29 20.3	+0.8
TA01				IAML		00 30 15.5	
	comp=Z,29nm,0.5s						
TA01	Diego Aracena	4.56	318	*e*P	Pn	00 29 20.1	+0.7
TA01				*i* S	S	00 30 11.4	-2.0
AC06	Mina Casimiro	4.56	222	Pn	Pn	00 29 18.9	-0.6
HMBC	Humberstone	4.61	323	*i* P	Pn	00 29 21.0	+0.7
HMBC				IAML		00 30 15.9	
	comp=Z,83nm,0.3s						
HMBC	Humberstone	4.61	323	*e*P	Pn	00 29 20.1	-0.2
HMBC				*i* S	S	00 30 12.5	-2.4
GO03	Copiap	4.67	219	Pn	Pn	00 29 20.2	-0.6
GO03	Copiap	4.67	219	*i* P	Pn	00 29 19.9	-0.9
TA02	Huaiquique	4.76	321	Pn	Pn	00 29 22.6	+0.6
GO01	Chusmiza	4.80	333		Pn	00 29 23.7	+0.7
PB11	IPOC Station P	4.92	328		Pn	00 29 24.3	0.0
PB11	IPOC Station P	4.92	328	*i* P	Pn	00 29 25.3	+1.0
PB11				IAML		00 30 24.9	
	comp=Z,53nm,0.1s						
ACLC	CERRO LA CRUZ	5.41	180	*i* P	Pn	00 29 29.8	-0.5
AC04	Llanos de Chal	5.61	221	Pn	Pn	00 29 32.1	-0.7
AC05	El Transito	5.68	211	Pn	Pn	00 29 33.2	-0.6
LCO	Las Campanas	6.03	213	Pn	Pn	00 29 37.3	-1.1
PB16	IPOC Station P	6.13	336	Pn	Pn	00 29 40.9	+0.8
PB12	IPOC Station P	6.23	329	Pn	Pn	00 29 41.3	+0.4
AP01	Chacalluta	6.45	330		Pn	00 29 40.0	-3.6
LPAZ	La Paz	7.75	351	Pn	Pn	00 30 01.8	+0.7
GO06	Curarrehue	16.01	193		Pn	00 31 44.6	0.0
GO06				IAmb	IAmb	00 32 00.2	
	comp=Z,5.6nm,1.0s						
PLCA	Paso Flores	16.96	189	Pn	Pn	00 31 57.2	+1.3
PLCA				IAmb	IAmb	00 32 08.8	
	comp=Z,5.5nm,1.1s						
GO07	Milladeo Hill,	19.86	195	P	P	00 32 26.2	+0.5
SALI	Salinas	25.60	326	P	P	00 33 22.0	+1.1
SALI				IAmb	IAmb	00 33 31.5	
	comp=Z,21nm,0.8s						
OTAV	Otavalo	26.56	333	P	P	00 33 30.9	+0.9
RIOS	Rincon, Osa	36.32	332		pP	00 35 33.5	-5.5
RIOS					PcP	00 37 15.6	+0.9

*UPP **02** 00:32:35.6±0.0, 67.°83N×20.°20E, h0km, ML2.5, Suspected explosion*
*HEL **02** 00:32:35.2±0.3, 67.°78N×20.°14E, h0km, ML1.6, Suspected explosion*
ISC 02 00:32:34.9±0.9**, 67.°77N**±0.°03×**20.°25E**±0.°04**, h0km, n25,** σ**0.s90**/38**, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.19	10	P	Pg	00 32 38.4	-0.1
KUA				S	Sg	00 32 40.3	-0.7
RATU	Laukkuluspa	0.26	283	P	Pg	00 32 40.2	+0.4
DUNU	Dundret	0.66	169	P	Pb	00 32 49.2	-0.1
LANU	Lannavaara	0.72	66	P	Pg	00 32 49.0	+0.4
LANU	Lannavaara	0.72	66	PG	Pg	00 32 48.9	+0.3
LANU				SG	Sg	00 32 58.3	+0.5
MASU	Masugnsbyn	0.74	114	P	Pb	00 32 50.5	-0.1
KIF	Kilpisjarvi	1.26	9	*e*P	Pg	00 32 58.8	-0.1
KIF	Kilpisjarvi	1.26	9	PG	Pg	00 32 58.7	-0.3
KIF				MSG		00 33 14.3	
	comp=Z,8.3nm,0.2s						
KIF				SG	Sg	00 33 14.6	-0.6
PAJU	Pajala	1.33	123	P	Pb	00 33 00.9	+0.1
PAJU	Pajala	1.33	123	PN	Pn	00 33 00.8	0.0
PAJU				SN	Sn	00 33 19.3	+0.1
HEF	Hetta	1.43	62	*e*P	Pn	00 33 01.7	-0.3
HEF	Hetta	1.43	62	PG	Pn	00 33 01.8	-0.3
HEF				MSG		00 33 19.3	
	comp=Z,4.4nm,0.2s						
HEF				SG	Sg	00 33 20.4	-0.4
ERTU	Ertsjaerv	1.44	147	P	Pb	00 33 03.3	+0.9
ERTU				S	Sn	00 33 23.7	+2.1
KLF	Kolari	1.53	109	PG	Pb	00 33 04.0	0.0
KLF				MSG		00 33 22.1	
	comp=Z,2.5nm,0.2s						
KLF				SN	Sn	00 33 25.2	+1.4
HARU	Harads	1.64	170	P	Pg	00 33 06.5	+0.2
KTK1	Kautokeino	1.67	40	PG	Pn	00 33 05.3	0.0
KTK1				SG	Sn	00 33 27.3	-0.1
TRO	Tromso	1.93	346	PG	Pn	00 33 09.6	+0.7
TRO				SG	Sn	00 33 34.2	+0.3
KALU	Kalix	2.28	146	PG	Pb	00 33 16.2	-0.6
KALU				SG	Sg	00 33 47.0	-1.0
TOF	Tornio	2.33	135	PG	Pb	00 33 17.4	-0.4
	baz=319						
TOF				MSG		00 33 45.4	
	comp=Z,2.6nm,0.2s						
TOF				SG	Sg	00 33 49.2	-0.6
SGF	Sodankyl	2.42	95	PG	Pb	00 33 18.9	-0.4
SGF				SB	Sb	00 33 48.9	-0.8
RNF	Rovaniemi	2.53	115	PG	Pb	00 33 20.5	-0.6
RNF				SG	Sb	00 33 53.4	+0.7
KEV	Kevo	3.17	48	SN	Sn	00 34 05.2	+1.0
BURU	Burvik	3.23	171	PB	Pb	00 33 31.1	-1.9
VRF	Varrio	3.56	86	SG	Sb	00 34 24.0	+1.7
OLKF	Oulanka, Finla	3.87	108	SG	Sg	00 34 36.2	-2.8

TEH 02 00:51:46.1, 30.°70N×57.°39E, h6km±145km, ML3.7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.78	290	Pg	Pb	00 52 02.5	+0.3
CHMN	Cheshme madani	0.85	171	Pg	Pb	00 52 03.3	-0.2
KHGB	Koh Gabri	0.85	248	Pg	Pb	00 52 03.6	+0.1
TVBK	TV Kerman	0.90	217	Pg	Pn	00 52 05.1	-0.5
NGRK	Negar Kerman	1.20	209	Pg	Pn	00 52 10.7	+0.9
IBAF	Bafgh	1.79	300	Pg	Pg	00 52 21.1	+0.6
KBAM	BAM	1.81	149	Pn	Pg	00 52 20.7	-0.2
BSRN	Basiran	1.95	49	Pn	Pb	00 52 22.4	+0.3
IKOO	Kooshah	2.20	38	Pn	Pb	00 52 26.3	-0.2
NHDN	Nehbandan	2.38	73	Pn	Pb	00 52 28.9	-0.6
TPRV	Parvadeh(Tabas	2.39	346	Pn	Pb	00 52 28.6	-1.1
ITEG	Tejag	2.47	28	Pn	Pb	00 52 30.3	-0.7
IMEH	Mehriz	2.48	287	Pn	Pb	00 52 30.1	-1.1
TKDS	Koohdasht(Taba	2.91	356	Pn	Pb	00 52 36.3	-2.2
ICHK	Chekchek	2.98	302	Pn	Pb	00 52 37.6	-2.0
AFRZ	Afriz	3.04	27	Pn	Pb	00 52 37.9	-2.9
ZHDN	Zahedan	3.24	113	Pn	Pb	00 52 41.0	-3.1
TNSJ	Nastanj	3.32	349	Pn	Pn	00 52 41.7	+3.1
ISAD	Sadrabad	3.39	292	Pn	Pb	00 52 43.7	-3.1
SHRT	Shahrakht	3.83	39	Pn	Pn	00 52 49.3	+3.6
ANAR	Anarak	3.98	309	Pn	Pn	00 52 51.3	+3.5
IZEF	Zefreh	4.83	298	Pn	Pn	00 53 03.0	+3.4
TBJM	Torbat-e-JAM	5.18	28	Pn	Pn	00 53 06.8	+2.4
SRVN	Saravan	5.48	126	Pn	Pn	00 53 12.1	+3.6

TEH 02 00:59:47.2, 30.°72N×57.°40E, h8km±73km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.78	289	Pg	Pb	01 00 03.3	+0.1
CHMN	Cheshme madani	0.86	172	Pg	Pg	01 00 03.8	+0.1
KHGB	Koh Gabri	0.86	247	Pg	Pb	01 00 04.4	-0.2
KHGB				Sg	Sg	01 00 15.6	+0.5
TVBK	TV Kerman	0.91	217	Pg	Pb	01 00 05.6	+0.1
NGRK	Negar Kerman	1.21	209	Pg	Pn	01 00 11.1	+0.2
IBAF	Bafgh	1.79	300	Pg	Pg	01 00 21.1	-0.5
KBAM	BAM	1.82	150	Pn	Pb	01 00 20.7	-0.2
BSRN	Basiran	1.93	49	Pn	Pb	01 00 22.0	-0.8
IKOO	Kooshah	2.19	38	Pn	Pb	01 00 26.0	-1.2
NHDN	Nehbandan	2.38	73	Pn	Pn	01 00 28.4	+1.8
TPRV	Parvadeh(Tabas	2.38	345	Pn	Pb	01 00 29.2	-1.3
ITEG	Tejag	2.46	28	Pn	Pn	01 00 29.1	+1.2
IMEH	Mehriz	2.48	286	Pn	Pb	01 00 30.8	-1.4
TKDS	Koohdasht(Taba	2.90	355	Pn	Pn	01 00 35.9	+2.1
ICHK	Chekchek	2.97	302	Pn	Pn	01 00 37.7	+2.7
AFRZ	Afriz	3.03	27	Pn	Pn	01 00 37.5	+1.8
ZHDN	Zahedan	3.24	113	Pn	Pn	01 00 41.1	+2.7
TNSJ	Nastanj	3.31	349	Pn	Pn	01 00 41.5	+2.1
ISAD	Sadrabad	3.39	292	Pn	Pn	01 00 43.0	+2.3
SHRT	Shahrakht	3.82	39	Pn	Pn	01 00 48.9	+2.5
ANAR	Anarak	3.98	309	Pn	Pn	01 00 51.1	+2.5
IZEF	Zefreh	4.83	298	Pn	Pn	01 01 03.6	+3.1
IAKL	Akhelmad	5.98	11	Pn	Pn	01 01 19.2	+2.9

*OMAN **02** 01:03:07.2±0.2, 32.°50N×58.°01E, h10km, mb4.2/16, ms2.2/4, Error ellipse: s-maj=7.9km s-min=3.6km az=294.0*
*DSN **02** 01:03:27.7±1.1, 30.°95N×57.°56E, h10km, ML3.3/7, Error ellipse: s-maj=64.7km s-min=10.7km az=102.0*
*TEH **02** 01:03:28.8, 30.°70N×57.°34E, h8km±86km, ML4.0*
*IDC **02** 01:03:29.1±0.8, 30.°72N×57.°31E, h0km, mb3.8/13, mbtmp3.8/18, ML3.4/5, MS3.2/6, Error ellipse: s-maj=19.1km s-min=15.5km az=131.0*
ISC 02 01:03:30.8±0.5**, 30.°76N**±0.°03×**57.°34E**±0.°04**, h10km, n98,** σ**2.s01**/117**, mb3.7**/13**, MS3.5**/4**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.72	287	Pg	Pg	01 03 43.2	-1.6
KHGB	Koh Gabri	0.83	243	Pg	Pg	01 03 44.3	-2.5
CHMN	Cheshme madani	0.91	169	Pg	Pg	01 03 45.7	-2.6
TVBK	TV Kerman	0.91	213	Pg	Pg	01 03 46.5	-1.9
NGRK	Negar Kerman	1.23	205	Pg	Pb	01 03 52.2	-2.1
IBAF	Bafgh	1.73	299	Pg	Pn	01 04 01.5	+0.4
KBAM	BAM	1.88	149	Pn	Pn	01 04 03.3	+0.2
BSRN	Basiran	1.95	51	Pn	Pn	01 04 04.7	+0.6
IKOO	Kooshah	2.19	40	Pn	Pn	01 04 08.1	+0.6
TPRV	Parvadeh(Tabas	2.33	346	Pn	Pn	01 04 10.5	+1.2
NHDN	Nehbandan	2.42	74	Pn	Pn	01 04 11.5	+1.0
IMEH	Mehriz	2.42	286	Pn	Pn	01 04 11.0	+0.3
ITEG	Tejag	2.45	29	Pn	Pn	01 04 11.8	+0.8
BAGH	Bagheran - Bir	2.57	38	Pn	Pn	01 04 13.8	+1.0
KHNJ	Kahnooj	2.82	173	Pn	Pn	01 04 17.0	+1.1
TKDS	Koohdasht(Taba	2.86	356	Pn	Pn	01 04 17.8	+1.3
ICHK	Chekchek	2.91	301	Pn	Pn	01 04 18.4	+1.1
IDAH	Dahanechah	2.93	47	Pn	Pn	01 04 18.6	+1.0
AFRZ	Afriz	3.02	28	Pn	Pn	01 04 20.1	+1.3
IMON	Monand	3.13	39	Pn	Pn	01 04 22.2	+1.7
TNSJ	Nastanj	3.26	349	Pn	Pn	01 04 23.8	+1.7
ZHDN	Zahedan	3.30	113	Pn	Pn	01 04 22.6	-0.1
ISAD	Sadrabad	3.33	291	Pn	Pn	01 04 23.8	+0.6
IBND	Bandar-abas	3.37	192	Pn	Pn	01 04 23.6	+0.2
GENO	Geno	3.50	197	Pn	Pn	01 04 26.5	+1.1
SHRT	Shahrakht	3.82	40	Pn	Pn	01 04 30.8	+1.1
ANAR	Anarak	3.91	309	Pn	Pn	01 04 32.2	+1.2
LAR1	LAR	4.02	221	Pn	Pn	01 04 32.8	+0.3
IRAM	Ramesheh	4.37	285	Pn	Pn	01 04 38.6	+1.2
IZEF	Zefreh	4.76	298	Pn	Pn	01 04 43.7	+0.7
SHME	Shamm	4.80	193	P	Pn	01 04 43.2	0.0
SHME	Shamm	4.80	193	P	Pn	01 04 46.1	+2.8
SHME				S	Sg	01 06 03.9	-1.2
JASK	Jask - Hormozg	4.89	174	P	Pn	01 04 46.5	+2.0
	SNR=9.6						
JASK				S	Sb	01 06 01.5	+6.0
JASK	Jask - Hormozg	4.89	174	Pn	Pn	01 04 45.3	+0.8
KLNJ	Kolanjah	4.94	274	Pn	Pn	01 04 45.7	+0.3
TBJM	Torbat-e-JAM	5.16	28	Pn	Pn	01 04 49.7	+1.5
KRSH	Karshahi	5.44	307	Pn	Pn	01 04 53.0	+0.9
MASF	Masafi	5.46	191	P	Pn	01 04 54.9	+2.6
MASF				S	Sb	01 06 17.3	+5.3
MSFE	Esma-Masafi	5.47	191	P	Pn	01 04 53.5	+1.0
MSFE				S	Sn	01 05 59.6	+4.1
SRVN	Saravan	5.55	126	Pn	Pn	01 04 55.2	+1.6
SBZV	Sabzevar	5.62	2	Pn	Pn	01 04 56.0	+1.3
IPAY	Payeh	5.85	13	Pn	Pn	01 04 59.4	+1.6
UOSS	Minazif	5.87	190	P	Pn	01 04 59.6	+1.7
UOSS				P	Pn	01 04 59.6	+1.7
UOSS				S	Sb	01 06 28.6	+4.8
UOSS				S	Sb	01 06 28.6	+4.8
NAZ	Nazwa, Dubai	5.93	195	P	Pn	01 04 58.8	0.0
NAZ	Nazwa, Dubai	5.93	195	P	Pn	01 05 01.0	+2.3
NAZ				P	Pn	01 05 01.0	+2.3
NAZ				S	Sb	01 06 31.2	+5.8
NAZ				S	Sb	01 06 31.2	+5.8
IAKL	Akhelmad	5.95	11	Pn	Pn	01 05 00.7	+1.5
HATD	Hatta, Dubai	6.00	191	P	Pn	01 04 59.7	0.0
HATD	Hatta, Dubai	6.00	191	P	Pn	01 05 02.4	+2.7
HATD				S	Sb	01 06 32.1	+4.6
ASHO	Ashiyiah	6.15	191	P	Pn	01 05 03.0	+1.2
ASHO	Ashiyiah	6.15	191	P	Pn	01 05 03.9	+2.1
ASHO				P	Pn	01 05 03.9	+2.1
FAQ	Al Faqa, Dubai	6.18	195	P	Pn	01 05 02.6	+0.5
FAQ	Al Faqa, Dubai	6.18	195	P	Pn	01 05 04.2	+2.1
FAQ				S	Sb	01 06 37.3	+4.6
IFIR	Firoozkooh	6.20	323	Pn	Pn	01 05 03.4	+0.7
IKRD	Kardeh	6.27	16	Pn	Pn	01 05 05.7	+2.1
SOHO	SOHO	6.63	186	P	Pn	01 05 08.1	-0.3
SOHO	SOHO	6.63	186	P	Pn	01 05 09.5	+1.2
SOHO				P	Pn	01 05 09.5	+1.2
SOHO				S	Sb	01 06 46.3	+0.7
SOHO				S	Sb	01 06 46.3	+0.7
MRVT	Maraveh tapeh	6.96	352	Pn	Pn	01 05 14.4	+1.5
HOQ	Hoqain	7.14	180	P	Pn	01 05 15.7	+0.3
HOQ				S	Sb	01 06 59.1	-1.2
GEYT	Alibeck	7.19	5	Pn	Pn	01 05 16.4	+0.5
	0.2nm,0.3s,baz=178,slow=16,SNR=1.9						
GEYT				Sn	Sn	01 06 38.7	+1.1
	0.2nm,0.3s,baz=182,slow=20,SNR=2.1						
	0.8nm,0.5s						
ARQ	Araqi	7.42	186	P	Pn	01 05 20.9	+1.7
	SNR=15						
ARQ				S	Sb	01 07 06.6	-1.8
WSAR	Wadi Sarin	7.58	171	P	Pn	01 05 22.1	+0.8
	SNR=14						
WSAR				S	Sb	01 07 06.4	-6.3
WSAR	Wadi Sarin	7.58	171	Pn	Pn	01 05 21.3	0.0
	2.3nm,0.3s,baz=8.7,slow=9.3,SNR=42						
WSAR				Sn	Sn	01 06 48.5	+1.2
	baz=311,slow=17						
	13nm,0.5s						
SMDO	Samad	7.69	175	P	Pn	01 05 23.3	+0.3
BSY	Bisya	7.98	181	P	Pn	01 05 29.0	+2.1
TRNA	Turayna	8.08	224	P	Pn	01 05 27.8	-0.4
	SNR=13						
TRNA				S	Sb	01 07 16.4	-11
WBK	Wadi Bani Khal	8.24	169	P	Pn	01 05 30.6	+0.1
	SNR=11						
WBK				S	Sb	01 07 21.8	-10
SMRA	Abu-Samra	8.31	226	P	Pn	01 05 30.6	-0.7
SMRA				S	Sb	01 07 22.3	-12
JMDO	Jabal Madar	8.38	175	P	Pn	01 05 32.6	+0.3
JLN	Jalan Bani Buh	8.77	167	P	Pn	01 05 38.0	+0.3
JLN				S	Sn	01 07 35.1	+19
MHTO	MHTO	9.74	177	P	Pn	01 05 50.9	-0.2
MHTO				S	Sn	01 08 01.6	+21
WHFO	Wadi Hawf	13.18	195	P	Pn	01 06 38.5	+0.3
WHFO				S	S	01 09 29.2	-0.7
ABTO	Aybut	13.84	196	P	Pn	01 06 44.2	-3.0
	SNR=8.3						
ABTO				S	S	01 09 40.4	-2.9
GNI	Garni	13.89	316	LR	LR	01 11 24.0	
	comp=Z,16nm,21.5s,baz=86,slow=34						
ASF	Jabal al Asfar	17.50	280	Pn	Pn	01 07 34.5	-0.5
	baz=358,slow=15,SNR=1.6						
	1.3nm,0.8s						
AAK	Ala-Archa	18.12	44	P	P	01 07 44.0	+0.9
	0.1nm,0.3s,baz=222,slow=8.7,SNR=5.2						
	1.4nm,0.7s						
AKTO	Aktyubinsk	19.67	1	P	Pn	01 08 00.7	-0.5
	0.2nm,0.3s,baz=188,slow=11,SNR=5.7						
AKTO				LR	LR	01 16 50.4	
	comp=Z,40nm,19.5s,baz=192,slow=41						
	1.7nm,0.6s						
BRTR	Keskin Array B	21.27	301	P	P	01 08 17.7	+0.2
	1.5nm,0.8s,baz=126,slow=12,SNR=7.0						
	1.5nm,0.8s						
PYUN	Piuthan	22.49	90	*e*P	P	01 08 33.2	+2.5
	9.4nm,0.7s						
DANN	Dangsing	23.10	89	*e*P	P	01 08 38.7	+1.5
	36nm,0.9s						
BVAR	Borovoye Array	24.20	19	P	P	01 08 47.9	+0.5
	1.1nm,0.6s,baz=191,slow=6.9,SNR=7.8						
	1.1nm,0.6s						
PKI	Pulchoki	24.69	90	*e*P	P	01 08 53.5	+1.0
	13nm,0.9s						
GUN	Gumba	25.02	89	*e*P	P	01 08 56.9	+1.5
	33nm,1.1s						
MKAR	Makanchi Array	25.05	43	P	P	01 08 55.1	0.0
	1.0nm,0.9s,baz=224,slow=6.8,SNR=4.9						
	1.0nm,0.9s						
JIRN	Jiri	25.34	90	*e*P	P	01 08 59.5	+1.1
	13nm,0.5s						
KURBB	Kurchatov Arra	25.38	33	P	P	01 08 58.1	+0.1
	2.7nm,1.0s,baz=232,slow=9.2,SNR=16						
	2.7nm,1.0s						
RAMN	Ramite	25.88	91	*e*P	P	01 09 04.1	+1.0
	20nm,0.8s						
KIRV	Kirov	28.35	351	LR	LR	01 23 01.7	
	comp=Z,38nm,19.5s,baz=65,slow=41						
ZALV	Zalesovo Beam	30.47	33	P	P	01 09 43.9	+0.3
	1.8nm,0.6s,baz=236,slow=9.5,SNR=12						
	1.8nm,0.6s						
FINES	FINESS Array B	36.88	335	P	P	01 10 40.0	+0.7
	1.2nm,0.8s,baz=148,slow=12,SNR=3.3						
FINES				LR	LR	01 27 26.4	
	comp=Z,18nm,20.1s,baz=305,slow=39						
	1.2nm,0.8s						
KMBO	Kilima Mbogo	37.02	215	P	P	01 10 41.0	-0.2
	0.5nm,0.3s,baz=56,slow=18,SNR=2.1						
	0.5nm,0.3s						
GERES	GERESS Array B	37.48	311	P	P	01 10 43.8	-0.8
	0.6nm,0.7s,baz=108,slow=9.4,SNR=2.7						
	0.6nm,0.7s						
CMAR	Chiang Mai Arr	39.55	98	P	P	01 11 01.6	-0.6
	1.4nm,0.3s,baz=228,slow=9.4,SNR=1.8						
	1.4nm,0.3s						
SONM	Songino Array	40.88	51	P	P	01 11 13.6	+0.5
	0.7nm,0.9s,baz=277,slow=12,SNR=3.6						
	0.7nm,0.9s						
TORD	Torodi Ar. Bea	53.96	264	P	P	01 12 54.2	-1.0
	0.7nm,0.8s,baz=53,slow=7.3,SNR=5.6						
	0.7nm,0.8s						
USRK	Ussuriysk Ar.	58.84	54	P	P	01 13 29.3	-0.2
	2.5nm,0.8s,baz=231,slow=7.3,SNR=3.5						
	2.5nm,0.8s						
BOSA	Boshof	66.49	211	LR	LR	01 46 08.1	
	comp=Z,134nm,18.4s,baz=191,slow=38						
YKA	Yellowknife Ar	86.85	356	P	P	01 16 14.1	-1.1
	0.1nm,0.4s,baz=354,slow=4.5,SNR=2.5						
	0.1nm,0.4s						
DLBC	Dease Lake	90.93	4	LR	LR	02 01 35.1	
	comp=Z,55nm,18.2s,baz=236,slow=38						

*UPA **02** 01:54:14.2±0.6, 9.°29N×84.°98W, h13km±20km, MW4.0*
*CATAC **02** 01:54:19.5±0.3, 9.°32N×84.°48W, h5km±2km, ML3.8*
*UCR **02** 01:54:20.7±1.4, 9.°31N×84.°49W, h10km±3km, MW4.0*
ISC 02 01:54:19.5±1.1**, 9.°32N**±0.°02×**84.°49W**±0.°02**, h8km**±9km**, n148,** σ**0.s71**/214**, 6C-44D, Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RITA	Parrita	0.26	37	⇑*e*P	Pb	01 54 26.6	+0.2
RITA				*e*S	Sb	01 54 31.8	+0.8
SVQ2	Quepos	0.34	70	⇓*i*P	Pb	01 54 27.8	0.0
SVQ2				*e*P	Pb	01 54 27.8	0.0
SVQ2				*e*S	Sb	01 54 33.2	-0.1
JACO	JACO, Garabito	0.38	334	⇓*e*P	Pb	01 54 28.7	+0.1
JACO				*e*S	Sb	01 54 35.3	+0.6
JACO	JACO, Garabito	0.38	334	*i* P	Pb	01 54 28.7	+0.1
JACO				*i* S	Sb	01 54 34.2	-0.4
JACO				IAML		01 54 35.7	
	comp=Z,3μm,1.0s						
LLNJ	Naranjito	0.41	68	*e*P	Pb	01 54 29.0	-0.1
LLNJ				⇓*e*P	Pb	01 54 29.1	-0.1
LLNJ				*e*S	Sb	01 54 35.6	+0.1
RAZU	San Marcos de	0.57	53	*e*P	Pb	01 54 31.7	-0.2
ACOS	Acosta	0.57	34	⇓*i*P	Pb	01 54 31.6	-0.3
ACOS				*e*S	Sg	01 54 39.1	+0.9
ABE2	San Pablo	0.58	48	⇓*i*P	Pb	01 54 31.8	-0.2
ABE2				*e*P	Pb	01 54 31.8	-0.2
EDDO	Dominical	0.62	96	⇓*i*P	Pb	01 54 32.6	+0.1
EDDO				*e*P	Pb	01 54 32.7	+0.1
LCR2	La Lucha 2	0.64	48	⇓*i*P	Pb	01 54 32.6	-0.4
LCR2				*e*S	Sb	01 54 41.5	-0.7
LCR2	La Lucha 2	0.64	48	*i* P	Pg	01 54 32.2	+0.3
LCR2				IAML		01 54 32.7	
	comp=Z,6μm,1.0s						
LCR2				*i* S	Sg	01 54 40.6	+0.3
LAFE	Finca La Fe, P	0.64	320	⇓*e*P	Pn	01 54 33.9	-1.0
CBL1	Cabuya	0.65	294	⇓*i*P	Pb	01 54 33.6	+0.5
ARZA	Esparza	0.69	345	*e*P	Pn	01 54 34.8	-0.9
AMPA	Desamparados	0.71	36	⇓*i*P	Pb	01 54 33.8	-0.5
AMPA				*e*S	Sg	01 54 42.4	-0.2
BELE	Belen	0.72	24	⇓*e*P	Pb	01 54 34.9	+0.5
LUJA	Lujan	0.73	34	⇓*i*P	Pb	01 54 35.2	+0.6
MEXI	Barrio Mexico	0.74	33	*e*P	Pb	01 54 34.3	-0.4
TCS1	Tacares	0.74	14	⇓*i*P	Pb	01 54 34.8	0.0
TCS1				*e*S	Sn	01 54 46.5	-1.5
CDM	Cerro de Muert	0.75	72	⇓*e*P	Pb	01 54 34.6	-0.5
CDM	Cerro de Muert	0.75	72	*i* P	Pg	01 54 34.4	+0.3
CDM				*i* S	Sb	01 54 45.1	-0.6
CDM				IAML		01 54 47.9	
	comp=Z,2μm,1.0s						
SJS	Escuela Geolog	0.75	35	⇓*i*P	Pb	01 54 34.6	-0.3
SJS3	Mercedes San J	0.75	35	⇓*i*P	Pb	01 54 34.8	-0.1
TRIO	Tres Rios	0.76	40	*e*P	Pg	01 54 34.3	0.0
SRA1	San Ramn	0.76	1	⇓*i*P	Pg	01 54 34.5	+0.2
RAMO	San Ramon	0.77	2	*e*P	Pb	01 54 34.7	-0.4
BUS1	Rivas	0.77	72	⇓*e*P	Pg	01 54 34.7	+0.3
DOMI	Santo Domingo	0.77	31	⇓*i*P	Pb	01 54 35.2	-0.1
GREC	Grecia	0.77	13	*e*P	Pn	01 54 36.1	-0.7
ZELE	Perez Zeledon	0.77	86	*e*P	Pb	01 54 35.8	+0.5
HDC	Heredia	0.77	28	*e*P	Pb	01 54 35.0	-0.4
OCM	Ochomogo	0.78	42	*e*P	Pg	01 54 34.6	+0.1
OCM	Ochomogo	0.78	42	*i* P	Pg	01 54 34.7	+0.1
OCM				IAML		01 54 36.5	
	comp=Z,5μm,1.0s						
OCM				*i* S	Sg	01 54 45.3	+0.7
HDC3	Heredia 3	0.78	29	⇓*i*P	Pb	01 54 35.2	-0.2
HDC3				*e*S	Sb	01 54 45.9	-0.3
HDC3	Heredia 3	0.78	29	*i* P	Pg	01 54 34.9	+0.4
HDC3				*i* S	Sg	01 54 43.2	-1.5
HDC3				IAML		01 54 50.9	
	comp=Z,4μm,1.0s						
TAGO	Cartago	0.78	46	*e*P	Pb	01 54 35.1	-0.4
SARCI	Sarchi	0.78	10	⇓*e*P	Pb	01 54 35.6	+0.2
NARAN	Naranjo de Ala	0.78	8	*e*P	Pn	01 54 36.6	-0.4
REPA	Paraso	0.79	50	⇓*i*P	Pn	01 54 36.3	-0.9
CORON	Coronado	0.81	36	⇓*i*P	Pb	01 54 35.9	-0.1
CORON				*e*S	Sn	01 54 50.2	+0.5
OCHAL	Ojochal	0.86	105	*i* P	Pb	01 54 36.6	-0.1
OCHAL				IAML		01 54 37.6	
	comp=Z,32nm,1.0s						
OCHAL				*i* S	Sg	01 54 45.7	-1.6
ZARE	Zarcero	0.87	6	*e*P	Pb	01 54 37.2	+0.2
CVIMO	Finca Echandi	0.89	37	*e*P	Pg	01 54 36.9	+0.2
PCAYA	Pacayas	0.90	48	⇓*e*P	Pb	01 54 37.2	-0.3
VPTE	Poasito	0.90	19	*i* P	Pb	01 54 37.3	-0.2
VPS6	Volcano Poas	0.90	16	*e*P	Pg	01 54 37.2	+0.2
HAYA	Volcan Irazu	0.92	44	*i* P	Pg	01 54 37.5	+0.3
HAYA				*i* S	Sb	01 54 50.6	+0.2
HAYA				IAML		01 54 53.6	
	comp=Z,8μm,1.0s						
POA5	Crater Von Fra	0.92	16	⇓*i*P	Pg	01 54 37.3	+0.1
VICA	Volcano Irazu	0.92	44	*e*P	Pg	01 54 37.4	+0.2
ICR3	Volcano Irazu	0.92	45	⇓*e*P	Pb	01 54 37.8	-0.3
RAFA	San Farael, Vo	0.92	46	⇓*i*P	Pb	01 54 37.8	-0.2
VINA	Juan Vinas	0.93	52	*e*P	Pb	01 54 37.8	-0.2
CPMI	Catarata Coope	0.96	6	⇓*e*P	Pg	01 54 38.3	+0.2
VTRT	Volcan Turrial	0.97	45	⇓*e*P	Pg	01 54 38.3	+0.2
VTLA	Turrialba Volc	0.98	46	⇓*e*P	Pb	01 54 38.8	-0.2
TURIB	Turrialba	0.98	53	*e*P	Pn	01 54 39.2	-0.5
CVTQ	Turrialba Volc	0.99	46	⇓*e*P	Pb	01 54 38.9	-0.2
CVTV	Tajo	1.00	47	⇓*e*P	Pb	01 54 39.2	-0.1
VERB	Verbena	1.00	51	*e*P	Pb	01 54 39.0	-0.2

VERB				eP	Pb	01 54 39.0	-0.2
VTR0	Volcan Turrial	1.00	46⇓	eP	Pb	01 54 39.2	-0.1
VTCV	VTCV, Calle Va	1.00	49⇓	iP	Pb	01 54 39.0	-0.2
CVTR	Volcan Turrial	1.00	46⇓	iP	Pb	01 54 39.2	-0.2
CVTR				eS	Sn	01 54 55.1	+0.4
NYURE	Nandayure	1.01	312	eP	Pb	01 54 39.4	+0.1
MONTE	Monteverde	1.03	342	eP	Pg	01 54 39.4	0.0
VTLO	VTLO	1.04	46	eP	Pg	01 54 39.5	-0.1
MTEVE	Monteverde	1.05	341	eP	Pb	01 54 40.0	-0.1
RVSTA	Santa Teresita	1.06	52	eP	Pg	01 54 39.9	0.0
RVSTA				eP	Pg	01 54 39.9	0.0
JUNT	Juntas	1.06	334	eP	Pb	01 54 40.0	-0.2
JUNT				eS	Sb	01 54 54.2	-0.1
SOCE	Pocosol	1.07	353	eP	Pb	01 54 40.4	+0.1
SOCE	Pocosol	1.07	353	iP	Pb	01 54 40.3	+0.1
SOCE				iS	Sg	01 54 51.6	-2.4
SOCE				IAML		01 55 00.0	
	comp=Z,5μm,1.0s						
EDPN	Palmar Norte	1.08	109	eP	Pg	01 54 40.4	+0.1
EDPN				eP	Pg	01 54 40.4	+0.1
CASO	Castillo	1.14	348	eP	Pg	01 54 41.4	0.0
CASO				eS	Sn	01 54 57.8	+0.2
INDI	Punta indio, G	1.14	299	iP	Pb	01 54 40.3	-1.2
INDI				iS	Sb	01 54 55.3	-1.1
INDI				IAML		01 55 05.1	
	comp=Z,1μm,1.0s						
RIFO	Rio Frio, Sara	1.14	29⇓	iP	Pb	01 54 41.3	-0.2
BURE	Buenos Aires	1.14	97	eP	Pb	01 54 41.3	-0.3
TUNA	La Fortuna	1.16	352	eP	Pg	01 54 42.4	+0.6
FORC	Fortuna	1.16	351⇓	iP	Pg	01 54 42.5	+0.7
FORC				eS	Sn	01 54 58.8	+0.8
CMARA	Lajas Hojancha	1.16	307⇑	iP	Pb	01 54 40.8	-1.0
ARE1	Arenal 1	1.16	349⇓	eP	Pg	01 54 42.1	+0.3
VACR	Volcan Arenal	1.16	351	eP	Pg	01 54 42.4	+0.4
VACR	Volcan Arenal	1.16	351	iP	Pb	01 54 41.8	-0.1
VACR				iS	Sb	01 54 55.6	-1.6
VACR				IAML		01 55 04.6	
	comp=Z,2μm,1.0s						
CEDE	Laguna Cedeo	1.18	350	eP	Pg	01 54 42.8	+0.6
CEDE				eS	Sn	01 54 59.8	+1.1
SGBR	La Fortuna	1.18	347	eP	Pg	01 54 42.3	0.0
SGBR				eS	Sn	01 54 59.3	+0.6
LCOCO	El Coco	1.19	50⇓	eP	Pn	01 54 42.3	-0.2
LCOCO				eP	Pg	01 54 42.4	0.0
EDBA	Buenos Aires	1.21	97	eP	Pn	01 54 42.0	-0.7
EDBA				eP	Pb	01 54 42.2	-0.5
SARA	Sarapiqu	1.22	22	eP	Pn	01 54 42.5	-0.4
NARJA	Naranjal	1.23	302	eP	Pn	01 54 41.5	-1.5
NICO	Nicoya	1.25	311	eP	Pn	01 54 41.8	-1.5
CARI	Cariari	1.28	35⇓	iP	Pg	01 54 44.8	+0.7
COTE	Lago Cote	1.32	341	eP	Pg	01 54 44.7	-0.2
EDP2	Potrero Grande	1.33	103	eP	Pb	01 54 44.7	0.0
PLVR	Palo Verde	1.33	320	eP	Pn	01 54 44.2	-0.3
JUD3	Juan Diaz 3	1.34	309	eP	Pn	01 54 43.8	-0.7
POTG	Potrero Grande	1.38	101⇑	iP	Pb	01 54 45.3	-0.3
COVE	Coope Vega, Sa	1.40	3	eP	Pb	01 54 45.6	-0.2
COVE	Coope Vega, Sa	1.40	3	iP	Pb	01 54 45.7	-0.2
COVE				iS	Sg	01 55 05.5	+1.0
COVE				IAML		01 55 13.1	
	comp=Z,1μm,1.0s						
ORTG	Ortega, Santa	1.41	317	eP	Pn	01 54 45.0	-0.7
ORTG	Ortega, Santa	1.41	317	iS	Sb	01 55 04.4	0.0
ACAL	Aguas Claras	1.42	338⇓	iP	Pb	01 54 46.0	-0.2
ACAL				eS	Sg	01 55 05.1	0.0
SAJU	San Juanillo,	1.42	302	eP	Pg	01 54 49.7	+2.9
BAGA	Bagaces	1.42	328	eP	Pn	01 54 45.5	-0.2
EDAD	Golfito	1.46	117	eP	Pn	01 54 45.4	-0.9
EDAD				eP	Pb	01 54 45.7	-1.4
PTEN	Parque Tenorio	1.47	341⇑	iP	Pb	01 54 47.2	0.0
PTEN				eS	Sg	01 55 07.4	+0.4
MOTZ	Rio Naranjo	1.48	337⇓	iP	Pb	01 54 47.3	0.0
MOTZ				eS	Sg	01 55 07.1	0.0
CUI	Cuipilapa	1.49	334	eP	Pb	01 54 47.1	-0.4
CUI				eS	Sg	01 55 07.2	-0.3
COLC	Colonia	1.51	332	eP	Pb	01 54 47.4	-0.5
COLC				eS	Sb	01 55 07.5	+0.3
CAMAV	Centro de Prod	1.54	333	eP	Pb	01 54 48.1	-0.3
CAMAV				eS	Sg	01 55 09.2	0.0
HORNC	Hornillas	1.54	334⇓	iP	Pb	01 54 48.0	-0.5
VERA	Finca Concepci	1.57	346	eP	Pb	01 54 48.4	-0.5
VERA				eS	Sg	01 55 10.8	+0.7
MESS	Mesas	1.58	334	eP	Pb	01 54 48.4	-0.6
CLARA	Aguas Claras	1.61	335⇑	eP	Pb	01 54 49.3	-0.2
CLARA				eS	Sg	01 55 13.1	+1.8
VMAR	Armenia, Volca	1.61	338	eP	Pb	01 54 49.2	-0.4
VMAR				eP	Pg	01 54 49.3	-1.1
VMAR				eS	Sg	01 55 11.1	-0.2
VMAR	Armenia, Volca	1.61	338	iP	Pb	01 54 49.4	-0.1
VMAR				iS	Sg	01 55 10.6	-0.7
VMAR				IAML		01 55 18.4	
	comp=Z,2μm,1.0s						
BRIBI	Bribri	1.65	79	eP	Pg	01 54 50.7	-0.4
GP77	Hacienda Santa	1.66	330⇑	iP	Pb	01 54 49.5	-0.8
GP77				eS	Sb	01 55 11.7	+0.3
GPS2	Hotel Rincn d	1.66	329	eP	Pb	01 54 49.6	-0.8
GPS3	Bodega del ICE	1.67	329	eP	Pb	01 54 49.8	-0.7
GP03	Hacienda Santa	1.68	330	eP	Pb	01 54 50.2	-0.5
GPS1	Guardaparques	1.68	330	eP	Pn	01 54 49.5	+0.2
VRLE	La Escondida,	1.70	330⇓	iP	Pb	01 54 50.3	-0.8
VRLE	La Escondida,	1.70	330	iP	Pn	01 54 50.1	+0.5
VRLE				iS	Sn	01 55 11.0	-0.5
VRLE				IAML		01 55 17.1	
	comp=Z,440nm,1.0s						
LAPC	Finca la Perla	1.72	327	eP	Pn	01 54 49.7	0.0
MLIR3	Monte Lirio, C	1.72	107	eP	Pn	01 54 50.4	+0.5
BUEV	Buena Vista	1.73	328	eP	Pb	01 54 51.2	-0.4
GBS3	Finca Las Img	1.74	327	eP	Pn	01 54 50.6	+0.5
GB1A	Borinquen Arri	1.74	329	eP	Pb	01 54 50.9	-0.9
CTCR	Cotoan	1.76	104	iP	Pn	01 54 50.9	+0.4
CTCR				iS	Sn	01 55 11.6	-1.5
CTCR				IAML		01 55 21.6	
	comp=Z,3μm,1.0s						
BUAI	Buenos Aires	1.76	332	eP	Pb	01 54 51.3	-0.7
BUAI				eS	Sb	01 55 14.4	+0.1
CDITO	Canoas	1.76	115	eP	Pn	01 54 50.3	0.0
CDITO				eS	Sg	01 55 17.1	+1.0
HZTE	Horizontes, Gu	1.77	322	eP	Pb	01 54 52.1	-0.1
HZTE	Horizontes, Gu	1.77	322	iP	Pb	01 54 51.1	-1.1
HZTE				IAML		01 54 56.3	
	comp=Z,630nm,1.0s						
HZTE				iS	Sb	01 55 14.4	-0.1
BRU2	Volcan	1.85	106	eP	Pn	01 54 51.7	0.0
BRU2				eS	Sg	01 55 21.0	+1.9
BRU2				eS	Sg	01 55 21.0	+1.9
BRU2	Volcan	1.85	106	eP	Pn	01 54 51.5	-0.2
BRU2	Volcan	1.85	106	iP	Pn	01 54 52.3	+0.6
BRU2				iS	Sn	01 55 15.3	0.0
BRU2				IAML		01 55 40.4	
	comp=Z,540nm,1.0s						
BC3P	Paso Ancho	1.92	105	eP	Pn	01 54 52.8	+0.1
BC3P				eS	Sg	01 55 22.8	+1.4
PTPM	Petroterminale	1.94	125	eP	Pn	01 54 52.9	+0.2
PTPM				eS	Sg	01 55 20.8	-1.1
CNI2	El Empalme, Bo	1.99	87	eP	Pn	01 54 53.1	-0.4
CNI2				eS	Sg	01 55 22.6	-1.1
LIMO3	Limones	2.01	127	eP	Pn	01 54 52.8	-0.9
BCO2	Palmira	2.02	107	eP	Pn	01 54 54.4	+0.3
BCO2				eS	Sg	01 55 25.1	+0.4
PTAR3	Potrerillos Ar	2.06	107	eP	Pn	01 54 55.0	+0.4
LNBQ3	Los Naranjos,	2.09	104	eP	Pn	01 54 55.6	+0.7
DVD	David	2.19	113	eP	Pn	01 54 55.7	-0.6
DVD				eS	Sb	01 55 27.2	+0.3
PSOM3	Paja de Sombre	2.23	106	eP	Pn	01 54 57.0	+0.2
PEDE3	Pedregal, Chir	2.24	114	eP	Pn	01 54 57.0	+0.1
CHGR2	Aguacate	2.34	99	eP	Pn	01 54 59.0	+0.6
CHGR2				eS	Sb	01 55 31.9	+0.7
ACON	Acoyapa	2.72	346	iP	Pb	01 55 05.9	-2.5
ACON				iS	Sn	01 55 37.7	+1.1
ACON				IAML		01 55 52.5	
	comp=Z,230nm,1.0s						
BLUN	Bluefields	2.76	15	iP	Pn	01 55 04.8	+0.7
BLUN				iS	Sn	01 55 37.5	-0.2
BLUN				IAML		01 55 47.8	
	comp=Z,210nm,1.0s						
BOAB	BOACO BROADBAN	3.32	340	iP	Pn	01 55 12.5	+0.7
BOAB				iS	Sn	01 55 54.5	+3.0
BOAB				IAML		01 56 13.1	
	comp=Z,68nm,1.0s						

*DJA **02** 02:06:08.1±0.4,2°S±3°×10°1E±°,h32km±7km,M4.1/10, MLv4.1/10*

*IDC **02** 02:06:24.7±19.0,1°.27S×102°.21E,h180km±164km, mb3.4/5,mbtmp3.9/5,Error ellipse: s-maj=249.3km s-min=15.8km az=56.0*

ISC 02 02:06:07.7±1.0**,2°.26S**±0°.08×**100°.76E**±0°.07**,h50km,n15, σ1.s20**/17**,mb3.9**/5**,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	Kerinci	0.72	76	P	Pn	02 06 22.8	+1.0
KRJI				S	Sn	02 06 33.8	+1.8
PPSI	Pulau Pagai	0.90	237	P	Pn	02 06 25.1	+1.0
PDSI	Padang	1.38	347	P	Pn	02 06 31.4	+0.9
PDSI				S	Sn	02 06 48.7	+1.1
BKNI	Bangkinang	2.59	6	P	Pn	02 06 47.3	+0.2
MNAI	Manna	3.02	134	P	Pn	02 06 54.7	+1.6
PBSI	Pulau Batu	3.31	311	P	Pn	02 06 58.9	+1.9
DSRI	Dabo	4.21	65	P	Pn	02 07 10.5	+1.2
GSI	Gunungsitoli	4.76	318	P	Pn	02 07 17.7	+0.7
KASI	Kota Agung	4.94	131	P	Pn	02 07 19.2	-0.1
WRA	Warramunga Arr	37.20	121	P	P	02 13 13.1	-1.4
	0.4nm,0.4s,baz=309,slow=9.8,SNR=12						
	0.4nm,0.4s						
ASAR	Alice Springs	38.48	126	P	P	02 13 24.7	-0.6
	1.1nm,0.6s,baz=303,slow=7.8,SNR=16						
ASAR				PcP	PcP	02 15 36.8	-0.8
	0.2nm,0.6s,baz=306,slow=2.2,SNR=1.6						
	1.1nm,0.6s						
MKAR	Makanchi Array	51.49	344	P	P	02 15 08.0	-0.2
	1.7nm,0.6s,baz=161,slow=8.9,SNR=17						
	1.7nm,0.6s						
KURBB	Kurchatov Arra	56.02	343	P	P	02 15 40.6	-0.6
	0.3nm,0.3s,baz=166,slow=6.9,SNR=4.4						
	0.3nm,0.3s						
ZALV	Zalesovo Beam	57.57	349	P	P	02 15 50.5	-1.6
	0.7nm,0.3s,baz=161,slow=6.3,SNR=6.4						
	0.7nm,0.3s						
TXAR	Lajitas Array	144.44	38	PKP	PKPab	02 25 37.6	0.0
	0.5nm,0.6s,baz=307,slow=1.2,SNR=6.2						

IDC 02 02:13:01.5±1.7**,7°.96S**×**127°.04E,h0km,mb3.7**/2**, mbtmp3.6**/4**,ML3.7**/2**,MS3.0**/3**,Error ellipse: s-maj=218.8km s-min=29.7km az=63.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.86	150	Pn	Pn	02 16 17.6	-1.8
	0.3nm,0.3s,baz=325,slow=15,SNR=16						
WRA				Sn	Sn	02 18 37.4	-17
	0.6nm,0.3s,baz=335,slow=23,SNR=6.8						
	0.5nm,0.4s						
DAV	Davao City (W)	15.00	354	LR	LR	02 23 28.9	
	comp=Z,27nm,19.5s,baz=4.0,slow=42						
ASAR	Alice Springs	16.95	158	Pn	P	02 17 02.3	0.0
	0.2nm,0.3s,baz=343,slow=9.7,SNR=19						
ASAR				Sn	Sn	02 19 58.9	-11
	0.2nm,0.3s,baz=343,slow=24,SNR=3.5						
	0.4nm,0.5s						
CMAR	Chiang Mai Arr	38.17	314	LR	LR	02 37 35.5	
	comp=Z,8.0nm,18.2s,baz=310,slow=39						
MKAR	Makanchi Array	67.45	328	P	P	02 23 59.7	+0.6
	0.5nm,0.4s,baz=118,slow=7.6,SNR=11						
	0.5nm,0.4s						
KURBB	Kurchatov Arra	71.82	330	P	P	02 24 25.3	-0.6
	0.2nm,0.4s,baz=121,slow=5.5,SNR=2.5						
	0.2nm,0.4s						
KIRV	Kirov	90.34	329	LR	LR	03 11 30.4	
	comp=Z,47nm,18.4s,baz=19,slow=39						
TORD	Torodi Ar. Bea	126.10	280	PKP	PKPdf	02 32 06.1	-0.8
	0.3nm,0.9s,baz=97,slow=3.1,SNR=1.5						

*IDC **02** 02:28:26.9±0.6,51°.93N×170°.48W,h0km,mb4.1/34, mbtmp4.1/36,ML4.0/2,MS3.8/36,Error ellipse: s-maj=19.6km s-min=10.9km az=1.0*

*AEIC **02** 02:28:32.0±2.1,51°.84N±0°.09×170°.39W±0°.08,h33km±5km, Error ellipse: s-maj=13.8km s-min=5.6km az=157.0*

*NEIC **02** 02:28:32.4±1.7,51°.91N±0°.08×170°.45W±0°.08,h36km±7km, mb4.3/173,ML4.0/8,ML3.9(AEIC),Error ellipse: s-maj=12.6km s-min=6.0km az=158.0*

ISC 02 02:28:31.7±0.5**,51°.93N**±0°.08×**170°.43W**±0°.04**,h31km, n269,σ1.s15**/185**,mb4.4**/101**,MS3.9**/40**,2D,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	Cleveland East	0.95	20		Pb	02 28 49.7	0.0
CLES	Cleveland East	0.95	20		Sb	02 29 02.8	+0.9
CLCO	Concord Point,	0.96	27		Pn	02 28 49.4	+0.4
NIKH	Nikolski High	1.42	42		Pn	02 28 55.1	-0.2
NIKH					Sb	02 29 14.5	-0.7
OKSP	Okmok Steeple	1.86	44		Pn	02 29 01.2	-0.2
OKCE	Okmok Cone E	2.03	42		Pn	02 29 04.7	+0.8
OKNC	Okmok New Cone	2.07	42		Pn	02 29 04.9	+0.5
OKER	Okmok East Rim	2.10	43		Pn	02 29 05.8	+1.0
OKFG	Magazine Ridge	2.13	45		Pn	02 29 05.2	+0.1
KOFP	Korovin Flat P	2.29	280		Pn	02 29 07.3	0.0
ATKA	Atka Island	2.34	278	Pn	Pn	02 29 07.7	-0.3
ATKA	Atka Island	2.34	278		Sn	02 29 36.1	+0.4
KOKL	Mount Kliuchef	2.36	281		Pn	02 29 09.0	+0.7
MAPS	Pakushin South	2.83	47		Pn	02 29 15.1	+0.4
MGOD	Makushin Gods	2.85	48		Pn	02 29 15.4	+0.3
MGOD					Sn	02 29 48.6	+0.3
MSW	Makushin Switc	2.97	47		Pn	02 29 17.3	+0.7
MTBL	Makushin Table	3.05	47		Pn	02 29 18.8	+1.0
AKRB	Akutan Reef Bi	3.43	48		Pn	02 29 24.0	+1.1
ZRO	Akutan Zero	3.45	49		Pn	02 29 24.5	+1.2
AKBBA	Akutan Broad B	3.48	50		Pn	02 29 24.9	+1.3
AKV	Akutan Volcano	3.48	49		Pn	02 29 25.2	+1.5
GSMY	Great Sitkin M	3.48	274		Pn	02 29 24.1	+0.3
GSTR	Great Sitkin T	3.48	275		Pn	02 29 24.2	+0.4
AKLV	Akutan Long Va	3.50	49		Pn	02 29 25.4	+1.4
AKUT	Akutan	3.57	50	Pn	Pn	02 29 25.9	+1.0
AKUT				IAML		02 30 39.3	
	comp=E,196nm,1.6s						
AKUT				IAML		02 30 41.4	
	comp=N,183nm,2.3s						
AKSA	Akutan Strait	3.61	50		Pn	02 29 26.9	+1.5
ADK	Adak	3.88	272		Pn	02 29 29.3	+0.2
ADK				IAML		02 30 20.8	
	comp=N,230nm,0.6s						
ADK				IAML		02 30 20.9	
	comp=N,327nm,0.4s						
ADK	Adak	3.88	272		Sn	02 30 14.8	+1.3
KIWB	Kanaga Island	4.17	272		Pn	02 29 33.6	+0.6
KIKV	Kanaga Island	4.18	272		Pn	02 29 33.7	+0.5
ISLZ	Isanotski Laza	4.90	53		Pn	02 29 44.0	+0.7
ISNN	Isanotski Nort	4.93	51		Pn	02 29 45.2	+1.7
FALS	False Pass	5.12	52		Pn	02 29 47.4	+1.3
SPIA	Saint Paul Isl	5.25	1		Pn	02 29 48.8	+0.7
PN7A	Pavlof North-7	6.11	52		Pn	02 30 01.9	+2.0
SDPT	Sand Point	6.83	56	Pn	Pn	02 30 10.8	+1.1
CNBA	Chernabura Isl	7.10	62	Pn	Pn	02 30 14.0	+0.7
O16K	Kokwok River B	10.34	37	Pn	Pn	02 31 04.3	+6.7
OHAK	Old Harbor	11.26	55	Pn	Pn	02 31 09.0	-1.2
P18K	Big Mountain,	11.36	43		Pn	02 31 11.2	-0.5
L16K	Owhat River	11.47	27	Pn	Pn	02 31 20.5	+7.4
Q19K	Cape Douglas,	11.81	47		Pn	02 31 17.4	-0.4
KDAK	Kodiak Island	11.81	53	Pn	Pn	02 31 16.5	-1.3
KDAK	Kodiak Island	11.81	53	Pn	Pn	02 31 15.3	-2.5
	comp=N,2.4nm,0.3s,baz=234,slow=8.0,SNR=50						
KDAK				Sn	Sn	02 33 23.9	-4.6
	comp=N,0.2nm,0.3s,baz=100,slow=23,SNR=1.4						
SYI	Shuyak Island	12.24	50	Pn	Pn	02 31 23.9	+0.2
L19K	White Mountain	13.27	33	Pn	Pn	02 31 36.7	-1.1
O22K	Cooper Landing	14.29	45		Pn	02 31 51.0	-0.6
RC01	Rabbit Creek A	14.58	43	Pn	Pn	02 31 54.5	-1.2
CAST	Castle Rocks	15.05	33		Pn	02 32 01.4	-0.5
PWL	Port Wells	15.08	45		Pn	02 32 00.4	-1.9
PWL				IAmb	IAmb	02 32 12.2	
	comp=Z,14nm,1.0s						
GHO	Glory Hole Cre	15.26	41		Pn	02 32 05.2	+0.4
KNK	Knik Glacier	15.28	43		Pn	02 32 04.3	-0.6
SML	Sawmill	15.53	42		Pn	02 32 08.6	+0.5
SML				IAmb	IAmb	02 32 28.7	
	comp=Z,21nm,1.3s						
KTH	Kantishna Hill	15.53	34		Pn	02 32 08.3	+0.1
KTH				IAmb	IAmb	02 32 35.7	
	comp=Z,15nm,1.0s						
HIN	Hinchinbrook I	15.71	48		Pn	02 32 08.6	-2.0
HIN				IAmb	IAmb	02 32 09.2	
	comp=Z,46nm,1.3s						
BPAW	Bear Paw Mtn.	15.87	32	Pn	Pn	02 32 13.1	+0.6
BPAW				IAmb	IAmb	02 32 27.4	
	comp=Z,13nm,0.8s						
SCM	Sheep Creek Mo	15.96	43		Pn	02 32 12.1	-1.6
SCM				IAmb	IAmb	02 32 30.5	
	comp=Z,28nm,1.0s						
I21K	Tanana	16.30	28	IAmb	IAmb	02 32 26.2	
	comp=Z,21nm,1.1s						
KLU	Klutina	16.41	45		Pn	02 32 17.1	-2.4
DHY	Denali Highway	16.56	39	Pn	Pn	02 32 20.0	-1.4
M24K	Tolsona, Glenn	16.57	43	IAmb	IAmb	02 32 24.8	
	comp=Z,24nm,0.8s						
BERG	Berg Lake	17.02	50	IAmb	IAmb	02 32 40.0	
	comp=Z,41nm,1.1s						
I23K	Minto, Yukon-K	17.08	31	IAmb	IAmb	02 32 40.5	
	comp=Z,37nm,1.4s						
GLB	Gilahina Butte	17.32	46	Pn	Pn	02 32 29.1	-1.8
GLB				IAmb	IAmb	02 32 36.8	
	comp=Z,31nm,1.4s						
CRQM	Cirque	17.39	49	IAmb	IAmb	02 32 52.1	
	comp=Z,18nm,1.0s						
VRDI	Verde Repeater	17.41	47	Pn	Pn	02 32 30.1	-2.0
VRDI				IAmb	IAmb	02 32 50.9	
	comp=Z,31nm,1.3s						
WAX	Waxell Ridge	17.44	50	IAmb	IAmb	02 32 46.1	
	comp=Z,27nm,0.9s						
TGL	Tana Glacier	17.54	49	IAmb	IAmb	02 32 42.7	
	comp=Z,34nm,1.3s						
MCARA	McCarthy VSAT	17.65	47	IAmb	IAmb	02 32 54.6	
	comp=Z,21nm,0.9s						
ILAR	Eielson Array	17.68	34	P	Pn	02 32 33.3	-2.0
	comp=Z,0.5nm,0.3s,baz=230,slow=11,SNR=25						
	comp=Z,0.7nm,0.3s						
ISLE	Juniper Island	17.72	50	IAmb	IAmb	02 32 48.7	
	comp=Z,56nm,1.4s						
GRNC	Granite Creek	18.04	50	IAmb	IAmb	02 32 50.8	
	comp=Z,22nm,1.0s						
M26K	Nabesna, AK	18.04	44	IAmb	IAmb	02 33 04.4	
	comp=Z,31nm,1.5s						
L26K	Log Cabin Wild	18.15	42		Pn	02 32 40.3	-0.7
TABL	Table Mountain	18.25	51	P	P	02 32 42.3	-0.2
CTGM	Chitina Glacie	18.30	49	IAmb	IAmb	02 32 49.3	
	comp=Z,29nm,1.1s						
LOGN	Logan Glacier	18.42	50	IAmb	IAmb	02 32 53.6	
	comp=Z,26nm,1.0s						
PRP	Porcupine Dome	18.58	33	P	P	02 32 45.8	-0.3
G24K	Hadweenzic Riv	18.69	29	IAmb	IAmb	02 33 03.1	
	comp=Z,18nm,1.1s						
J26L	Joseph Creek	18.74	38	IAmb	IAmb	02 32 57.9	
	comp=Z,14nm,0.5s						
BCPM	Bancas Point	18.87	53	IAmb	IAmb	02 32 55.5	
	comp=Z,38nm,1.0s						
D22K	Ayikyak River	18.98	20	IAmb	IAmb	02 32 56.4	
	comp=Z,17nm,1.1s						
K27K	Chicken	19.10	40	P	Pn	02 32 52.3	-0.2
B21K	Ikpikpuk River	19.23	17	IAmb	IAmb	02 33 22.8	
	comp=Z,27nm,1.4s						
PETK	Petropavlovsk-	19.35	286	P	P	02 32 54.2	-0.2
	comp=Z,1.8nm,0.3s,baz=90,slow=14,SNR=8.1						
PETK				LR	LR	02 39 49.5	
	comp=Z,146nm,21.2s,baz=93,slow=35						
	comp=Z,3.7nm,0.4s						
O29M	Mount Kennedy	19.46	52	IAmb	IAmb	02 33 00.4	
	comp=Z,26nm,1.0s						
TOLK	Toolik Lake Re	19.50	23	P	P	02 32 56.5	+0.6
TOLK				IAmb	IAmb	02 33 15.8	
	comp=Z,43nm,1.4s						
BMAR	Burnt Mountain	20.03	29	P	P	02 33 02.1	+0.3
M29M	Somme Creek	20.04	46	IAmb	IAmb	02 33 09.2	
	comp=Z,17nm,1.1s						
D24K	Happy Valley	20.07	23	IAmb	IAmb	02 33 16.0	
	comp=Z,18nm,1.2s						
HYT	Haines Junctio	20.08	51		Pn	02 33 04.0	-0.4
DAWY	Dawson	20.19	41		Pn	02 33 04.9	-0.6
DAWY				IAmb	IAmb	02 33 23.7	
	comp=Z,23nm,1.4s						
C23K	Itkillik River	20.19	20	IAmb	IAmb	02 33 09.6	
	comp=Z,24nm,1.1s						
L29M	L29M	20.39	44	IAmb	IAmb	02 33 22.2	
	comp=Z,16nm,1.0s						
D25K	Kavik River	20.79	24	IAmb	IAmb	02 33 14.8	
	comp=Z,15nm,1.1s						
SKAG	Skagway	20.96	55	P	P	02 33 12.7	+1.0
N31M	Braeburn, Yuko	21.03	49	IAmb	IAmb	02 33 38.3	
	comp=Z,19nm,0.9s						
I29M	Ogilvie Camp,	21.13	38	IAmb	IAmb	02 33 19.5	
	comp=Z,14nm,1.0s						
WHY	Whitehorse	21.32	52	P	P	02 33 17.2	+1.3
WHY				IAmb	IAmb	02 33 43.7	
	comp=Z,17nm,1.0s						
E27K	Coleen River	21.39	30	IAmb	IAmb	02 33 21.3	
	comp=Z,20nm,1.4s						
J30M	Hart River	21.62	41	IAmb	IAmb	02 33 23.6	
	comp=Z,21nm,1.4s						
F28M	Old Crow	21.62	32	P	P	02 33 19.1	+0.2
P32M	Atlin	21.79	55	IAmb	IAmb	02 33 27.1	
	comp=Z,17nm,0.9s						
M31M	Drury Creek, Y	21.82	48	IAmb	IAmb	02 33 25.8	
	comp=Z,9.9nm,0.9s						
I30M	Mount Dempster	21.82	39	IAmb	IAmb	02 33 24.4	
	comp=Z,9.6nm,1.0s						
G29M	Pine Creek	21.91	35	IAmb	IAmb	02 33 34.9	
	comp=Z,20nm,1.1s						
EPYK	Eagle Plains	22.14	36	IAmb	IAmb	02 33 28.3	
	comp=Z,14nm,0.9s						
D27M	Malcolm River	22.20	28	IAmb	IAmb	02 33 29.0	
	comp=Z,19nm,1.0s						
E28M	Babbage River	22.26	30	IAmb	IAmb	02 33 31.4	
	comp=Z,19nm,1.4s						
P33M	Teslin, Yukon	22.29	53	IAmb	IAmb	02 33 49.4	
	comp=Z,20nm,0.9s						
FARO	Faro, Yukon	22.30	48	P	P	02 33 27.9	+1.6
SEY	Seymchan	22.49	314	P	P	02 33 27.7	-0.5
	comp=Z,1.6nm,0.5s,baz=103,slow=11,SNR=6.1						
SEY				LR	LR	02 42 31.6	
	comp=Z,301nm,19.0s,baz=80,slow=38						
	comp=Z,1.6nm,0.5s						
Q32M	Nakina River	22.50	57	IAmb	IAmb	02 33 53.5	
	comp=Z,18nm,0.9s						
G30M	tAoh Zraii Nji	22.57	35	IAmb	IAmb	02 33 54.2	
	comp=Z,23nm,1.3s						
E29M	Blow River	22.66	31	IAmb	IAmb	02 33 35.3	
	comp=Z,9.4nm,1.1s						
MA2	Magadan	22.85	305	P	P	02 33 32.7	+0.7
	comp=Z,4.0nm,0.5s,baz=166,slow=20,SNR=1.5						
	comp=Z,4.0nm,0.5s						
S34M	Telegraph Cree	23.10	59	IAmb	IAmb	02 33 56.2	
	comp=Z,13nm,0.9s						
G31M	Satah River	23.25	36	P	P	02 33 35.7	-0.3
G31M				IAmb	IAmb	02 34 04.0	
	comp=Z,9.5nm,1.1s						
F31M	Tsiigehtchic	23.64	35	IAmb	IAmb	02 33 43.6	
	comp=Z,7.2nm,0.8s						
INK	Inuvik	24.07	33	P	P	02 33 43.2	-0.6
INK	Inuvik	24.07	33	LR	LR	02 44 35.0	
	comp=Z,453nm,19.7s,baz=188,slow=40						
C36M	Paulatuk	27.65	34	IAmb	IAmb	02 34 17.1	
	comp=Z,13nm,1.4s						
A36M	Sachs Harbour	28.11	28	IAmb	IAmb	02 34 34.7	
	comp=Z,11nm,1.1s						
YKA	Yellowknife Ar	31.02	48	P	P	02 34 46.6	+0.5
	comp=Z,1.9nm,0.8s,baz=240,slow=9.6,SNR=23						
YKA				LR	LR	02 47 38.0	
	comp=Z,185nm,18.9s,baz=258,slow=37						
	comp=Z,1.9nm,0.8s						
ASAJ	Asahikawa	31.89	275	LR	LR	02 48 27.8	
	comp=Z,83nm,20.6s,baz=88,slow=38						
TIXI	Tiksi	32.77	329	LR	LR	02 49 50.9	
	comp=Z,8.5nm,18.3s,baz=110,slow=39						
YAK	Yakutsk	32.97	311	LR	LR	02 49 52.9	
	comp=Z,8.3nm,18.2s,baz=104,slow=39						
YBH	Yreka Blue Hor	33.64	88	LR	LR	02 45 12.3	
	comp=Z,152nm,18.3s,baz=290,slow=30						
NEW	Newport	33.75	75	P	P	02 35 10.8	+0.5
	comp=Z,1.7nm,0.7s,baz=340,slow=7.1,SNR=4.0						
	comp=Z,1.7nm,0.7s						
EDM	Edmonton	33.92	65	P	P	02 35 11.9	+0.2
KLR	Kul'dur	35.99	289	LR	LR	02 51 33.4	
	comp=Z,153nm,18.7s,baz=70,slow=39						
H11N2	WAKE ISLAND Hy	36.71	217	T	T	03 15 21.3	
	baz=22,slow=75,SNR=4.9						
H11N3	WAKE ISLAND Hy	36.72	217	T	T	03 15 19.1	
	baz=22,slow=75,SNR=4.9						
H11N1	WAKE ISLAND Hy	36.73	217	T	T	03 15 22.9	
	baz=22,slow=75,SNR=5.7						
H11S1	WAKE ISLAND Hy	37.90	217	T	T	03 16 50.6	
	baz=23,slow=76,SNR=29						
H11S2	WAKE ISLAND Hy	37.91	217	T	T	03 16 32.5	

baz=23,slow=76,SNR=18
H11S3 WAKE ISLAND Hy 37.92 217 T T 03 16 59.8
baz=23,slow=76,SNR=23
HEH HeiHe 38.02 293 *e*P **P** **02 35 44.6 -2.1**
HEH pmax pmax
comp=Z,10.0nm,1.1s
HEH pmax pmax
comp=Z,97nm,5.0s
NVAR Mina Array Bea 38.31 90 P **P** **02 35 50.8 +1.2**
comp=Z,1.1nm,0.8s,baz=298,slow=9.6,SNR=6.3
comp=Z,1.1nm,0.8s
USRK Ussuriysk Ar. 38.34 282 P **P** **02 35 48.5 -1.0**
comp=Z,0.6nm,0.5s,baz=132,slow=6.0,SNR=1.5
comp=Z,0.6nm,0.5s
ELK Elko 38.82 84 P **P** **02 35 55.3 +1.5**
ELK IAmb IAmb 02 36 11.6
comp=Z,5.2nm,1.4s
ELK Elko 38.82 84 P **P** **02 35 53.5 -0.3**
comp=Z,0.6nm,0.9s,baz=276,slow=9.7,SNR=1.8
comp=Z,0.6nm,0.9s
MJAR Matsushiro Arr 39.03 267 P **P** **02 35 54.8 -0.5**
comp=Z,1.2nm,0.3s,baz=294,slow=10,SNR=1.4
MJAR LR LR 02 51 55.2
comp=Z,121nm,19.1s,baz=54,slow=36
comp=Z,1.2nm,0.3s
FFC Flin Flon 39.50 58 P **P** **02 35 59.6 +0.5**
FFC IAmb IAmb 02 36 08.8
comp=Z,3.9nm,0.9s
R11B Troy Canyon, C 40.05 88 IAmb IAmb 02 36 17.7
comp=Z,5.2nm,1.2s
TPNV Topopah Spring 40.51 90 IAmb IAmb 02 36 21.8
comp=Z,4.6nm,0.8s
DUG Dugway, Tooele 40.64 83 P **P** **02 36 10.5 +1.7**
DUG IAmb IAmb 02 36 27.3
comp=Z,7.8nm,1.2s
PRN Pahroc Range 40.96 88 IAmb IAmb 02 36 25.6
comp=Z,8.2nm,1.1s
BW06 Boulder Array 41.13 78 IAmb IAmb 02 36 28.6
comp=Z,5.5nm,1.2s
PD31 Pinedale Array 41.13 78 P **P** **02 36 13.8 +0.8**
PD31 IAmb IAmb 02 36 27.8
comp=Z,8.6nm,1.4s
PDAR Pinedale Array 41.13 78 P **P** **02 36 12.3 -0.7**
comp=Z,0.6nm,0.5s,baz=314,slow=4.8,SNR=8.1
comp=Z,0.6nm,0.5s
NLU North Lily Min 41.23 83 P **P** **02 36 15.4 +1.6**
FCC Fort Churchill 41.72 50 P **P** **02 36 18.0 +0.7**
TMUT Trail Mountain 42.17 83 IAmb IAmb 02 36 34.9
comp=Z,5.6nm,1.0s
RDMU Red Mountain 42.40 81 IAmb IAmb 02 36 44.7
comp=Z,7.5nm,1.0s
Q16A Castle Valley 42.42 84 IAmb IAmb 02 36 42.3
comp=Z,12nm,1.4s
CN2 Changchun 42.50 285 *e*P **P** **02 36 24.7 +0.8**
CN2 *e*PP **PP** **02 38 05.5 +3.1**
CN2 *e*S **S** **02 42 41.9 -1.9**
CN2 *e*sS pS 02 42 54.2 +1.2
CN2 LR LR
comp=N,190nm,17.0s
CN2 LR LR
comp=E,310nm,17.0s
CN2 LR LR
comp=Z,210nm,19.0s
P18A Preston Nutter 42.56 82 IAmb IAmb 02 36 50.5
comp=Z,13nm,1.3s
KNB Kanab 42.59 87 IAmb IAmb 02 36 50.4
comp=Z,7.0nm,1.2s
SRU San Rafael Swe 42.70 83 P **P** **02 36 25.5 -0.3**
SRU IAmb IAmb 02 36 39.9
comp=Z,4.8nm,0.9s
U15A North Rim 43.29 87 IAmb IAmb 02 36 44.7
comp=Z,8.0nm,1.0s
WUAZ Wupatki 44.45 88 P **P** **02 36 40.2 +0.4**
WUAZ IAmb IAmb 02 36 53.8
comp=Z,7.2nm,0.9s
Y14A Wickenburg 44.48 91 IAmb IAmb 02 36 53.4
comp=Z,6.2nm,1.2s
KSRS Korea Array 44.81 276 P **P** **02 36 41.9 -0.6**
comp=Z,2.3nm,0.9s,baz=73,slow=6.6,SNR=4.8
KSRS LR LR 02 53 53.1
comp=Z,62nm,20.9s,baz=60,slow=34
comp=Z,2.3nm,0.9s
ULM Lac du Bonnet 44.93 61 P **P** **02 36 42.8 -0.5**
comp=Z,3.3nm,0.9s,baz=313,slow=9.5,SNR=4.3
comp=Z,3.3nm,0.9s
X16A Lo Mia Camp, P 45.13 89 IAmb IAmb 02 36 59.3
comp=Z,4.0nm,0.9s
NEEM North Greenlan 45.59 15 *i* P **P** **02 36 47.9 -0.6**
NEEM IAmb IAmb 02 36 50.5
comp=Z,19nm,0.5s
JNU Nakatsue 45.81 270 LR LR 02 55 52.9
comp=Z,107nm,19.9s,baz=44,slow=36
214A Organ Pipe Nat 45.93 93 IAmb IAmb 02 37 04.5
comp=Z,4.8nm,0.9s
AGMN Agassiz Nation 46.01 63 P **P** **02 36 51.7 -0.1**
TUC Tucson 46.95 91 P **P** **02 37 00.4 +0.8**
TUC IAmb IAmb 02 37 13.2
comp=Z,6.2nm,1.0s
ANMO Albuquerque 47.86 85 P **P** **02 37 07.5 +0.8**
ANMO IAmb IAmb 02 37 11.4
comp=Z,3.1nm,1.0s
SPITS Spitsbergen Ar 50.09 358 P **P** **02 37 22.7 -0.3**
comp=Z,1.7nm,0.4s,baz=39,slow=6.8,SNR=5.1
SPITS LR LR 02 59 46.5
comp=Z,121nm,18.9s,baz=343,slow=38
comp=Z,1.7nm,0.4s
DAG Danmarks Havn 50.32 8 *i* P **P** **02 37 23.0 -1.7**
DAG IAmb IAmb 02 37 26.1
comp=Z,4.5nm,0.7s
SONM Songino Array 50.96 301 P **P** **02 37 30.3 +0.2**
SONM IAmb IAmb 02 37 31.1
comp=Z,8.1nm,1.5s
SONM Songino Array 50.96 301 P **P** **02 37 30.0 -0.1**
comp=Z,1.1nm,0.7s,baz=37,slow=7.1,SNR=7.7
comp=Z,1.1nm,0.7s
SUMG Summit 51.39 17 P **P** **02 37 33.2 -0.1**
SUMG Summit 51.39 17 *i* P **P** **02 37 33.0 -0.3**
SUMG IAmb IAmb 02 37 37.0
comp=Z,5.7nm,1.0s
DBG Daneborg 52.45 10 *i* P **P** **02 37 39.9 -0.8**
DBG IAmb IAmb 02 37 42.1
comp=Z,3.4nm,0.5s
HHC Hu-ho-hao-te 52.47 291 *e*P **P** **02 37 41.7 +0.2**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,290nm,5.6s
MNHN Monahans 52.57 85 IAmb IAmb 02 37 55.0
comp=Z,6.1nm,1.0s
WMOK Wichita Mounta 52.70 79 IAmb IAmb 02 37 53.0
comp=Z,4.3nm,1.1s
HNS HongShan 52.87 285 ⇓P **P** **02 37 44.9 +0.6**
HNS *e*S **S** **02 45 06.2 -4.7**
HNS pmax pmax
comp=Z,11nm,0.9s
HNS LR LR
comp=N,200nm,20.2s
HNS LR LR
comp=Z,200nm,20.2s
SFJD Kangerlussuaq 53.05 25 LR LR 03 04 37.8
comp=Z,99nm,18.4s,baz=324,slow=41
LPIG La Paz 53.08 98 LR LR 02 55 48.4
comp=Z,48nm,18.9s,baz=230,slow=31
SGCY Sterling City 53.19 84 IAmb IAmb 02 37 59.5
comp=Z,11nm,1.1s
TXAR Lajitas Array 53.41 88 P **P** **02 37 48.5 -0.1**
comp=Z,3.5nm,0.8s,baz=298,slow=5.4,SNR=34
comp=Z,3.5nm,0.8s
OZNA Ozona 53.87 84 IAmb IAmb 02 37 52.1
comp=Z,5.3nm,1.0s
HPIG 53.88 91 P **P** **02 37 51.9 -0.2**
ICESG Greenland Ices 54.00 20 *i* P **P** **02 37 52.0 -0.6**
ICESG IAmb IAmb 02 38 09.1
comp=Z,4.6nm,0.7s
DY2G Dye2 54.57 24 *i* P **P** **02 37 57.3 +0.7**
DY2G IAmb IAmb 02 38 00.4
comp=Z,4.8nm,0.5s
BRDY Brady 54.93 83 IAmb IAmb 02 38 12.5
comp=Z,3.9nm,0.9s
DRIO Del Rio 55.23 85 IAmb IAmb 02 38 13.6
comp=Z,4.2nm,0.9s
SCHQ Schefferville 56.20 43 P **P** **02 38 08.5 +0.2**
comp=Z,3.9nm,0.6s,baz=305,slow=7.1,SNR=8.3
SCHQ LR LR 03 05 27.5
comp=Z,140nm,21.1s,baz=301,slow=40
comp=Z,3.9nm,0.6s
JMIC Jan Mayen 56.70 7 LR LR 03 02 34.1
comp=Z,54nm,20.1s,baz=35,slow=36

SADO Sadowa 57.23 58 LR LR 03 03 09.3
comp=Z,109nm,19.1s,baz=54,slow=36
ZALV Zalesovo Beam 57.30 317 P **P** **02 38 15.4 -0.6**
comp=Z,0.9nm,0.4s,baz=48,slow=6.8,SNR=4.8
ZALV PcP **PcP** **02 39 10.1 +0.1**
comp=Z,0.7nm,0.4s,baz=33,slow=4.5,SNR=4.1
ZALV LR LR 03 03 57.7
comp=Z,60nm,19.9s,baz=56,slow=37
comp=Z,0.9nm,0.4s
ARCES ARCESS Array B 58.28 353 P **P** **02 38 22.4 -0.4**
comp=Z,8.7nm,1.0s,baz=16,slow=7.5,SNR=7.8
ARCES PcP **PcP** **02 39 14.1 +0.5**
comp=Z,5.0nm,1.0s,baz=18,slow=6.1,SNR=1.5
ARCES LR LR 03 03 07.6
comp=Z,82nm,21.9s,baz=354,slow=36
comp=Z,8.7nm,1.0s
XAN Xi'an 58.60 286 ⇓P **P** **02 38 25.4 -0.1**
XAN pmax pmax
comp=Z,11nm,1.5s
LZH Lanzhou 60.14 291 *e*P **P** **02 38 39.0 +2.7**
LZH sP pwP 02 38 49.4 -0.3
LZH pmax pmax
comp=Z,16nm,1.0s
TKL Tuckaleechee C 60.98 68 P **P** **02 38 42.1 +0.3**
comp=Z,1.7nm,0.8s,baz=336,slow=5.3,SNR=1.6
comp=Z,1.7nm,0.8s
KURK Kurchatov 62.26 318 P **P** **02 38 49.2 -1.0**
KURBB Kurchatov Array 62.37 318 P **P** **02 38 50.8 -0.2**
comp=Z,3.5nm,0.9s,baz=42,slow=7.0,SNR=16
KURBB LR LR 03 10 25.2
comp=Z,62nm,19.1s,baz=170,slow=40
comp=Z,3.5nm,0.9s
WMQ Urumqi 63.28 308 *e*P **P** **02 38 59.6 +2.4**
WMQ LR LR
comp=N,320nm,13.3s
WMQ LR LR
comp=E,320nm,27.7s
WMQ LR LR
comp=Z,91nm,21.1s
MKAR Makanchi Array 63.63 313 P **P** **02 38 58.7 -0.8**
MKAR Makanchi Array 63.63 313 P **P** **02 38 59.2 -0.3**
comp=Z,1.6nm,0.8s,baz=48,slow=6.7,SNR=13
MKAR LR LR 03 09 49.9
comp=Z,90nm,18.0s,baz=44,slow=39
comp=Z,1.6nm,0.8s
BVAR Borovoye Array 63.67 324 P **P** **02 38 59.5 -0.1**
comp=Z,4.3nm,0.4s,baz=55,slow=6.6,SNR=49
BVAR LR LR 03 09 24.6
comp=Z,97nm,18.5s,baz=37,slow=39
comp=Z,4.3nm,0.4s
BRVK Borovoye 63.69 324 P **P** **02 38 59.7 +0.1**
ARU Arti 64.71 332 LR LR 03 12 58.8
comp=Z,63nm,18.7s,baz=36,slow=41
GOMU GeErMu 65.15 297 P **P** **02 39 10.5 +0.5**
GOMU pmax pmax
comp=Z,5.0nm,0.5s
FINES FINESS Array B 66.21 351 P **P** **02 39 15.4 -0.5**
comp=Z,3.8nm,0.9s,baz=10,slow=6.6,SNR=14
FINES LR LR 03 12 42.3
comp=Z,64nm,18.2s,baz=18,slow=40
comp=Z,3.8nm,0.9s
NB2 NORSAR Subarra 67.37 359 P **P** **02 39 23.1 -0.3**
comp=Z,3.0nm,0.8s,baz=1.3,slow=6.9
NOA NORSAR Array B 67.37 359 P **P** **02 39 23.5 +0.2**
comp=Z,0.8nm,0.6s,baz=360,slow=7.7,SNR=5.5
NOA LR LR 03 11 53.5
comp=Z,37nm,18.3s,baz=5.0,slow=39
comp=Z,0.8nm,0.6s
HFS Hagfors 68.24 358 P **P** **02 39 28.4 -0.4**
comp=Z,3.0nm,0.4s,baz=36,slow=2.8,SNR=40
HFS LR LR 03 08 44.6
comp=Z,33nm,20.5s,baz=38,slow=35
comp=Z,3.0nm,0.4s
PZH PanZhiHua 68.31 285 P **P** **02 39 30.1 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.4s
PZH pmax pmax
comp=Z,130nm,4.5s
AKTO Aktyubinsk 70.06 329 LR LR 03 14 04.0
comp=Z,75nm,19.9s,baz=264,slow=39
AAK Ala-Archa 70.35 315 P **P** **02 39 41.7 -0.7**
AAK Ala-Archa 70.35 315 LR LR 03 12 22.4
comp=Z,58nm,19.9s,baz=38,slow=38
ABKAR Akbulak array 70.46 328 P **P** **02 39 42.5 -0.1**
OBN Obninsk 70.99 344 LR LR 03 15 01.7
comp=Z,56nm,18.0s,baz=188,slow=39
KK31 Karatay Array 71.67 318 P **P** **02 39 50.0 -0.2**
KK31 IAmb IAmb 02 39 50.3
comp=Z,3.1nm,0.8s
KKAR Karatay Array 71.67 318 P **P** **02 39 49.2 -1.0**
KKAR IAmb IAmb 02 39 50.3
comp=Z,3.1nm,0.8s
ARSB Arslanbob 72.07 315 P **P** **02 39 52.4 -0.4**
EKA Eskdalemuir Ar 72.58 8 P **P** **02 39 55.7 +0.3**
comp=Z,1.0nm,0.6s,baz=351,slow=4.5,SNR=11
comp=Z,1.0nm,0.6s
BTK Batken 74.05 316 P **P** **02 40 04.4 0.0**
CMAR Chiang Mai Arr 76.07 282 P **P** **02 40 16.4 +0.1**
comp=Z,2.3nm,0.3s,baz=29,slow=6.8,SNR=8.2
comp=Z,2.3nm,0.3s
GUN Gumba 76.35 298 *e*P **P** **02 40 18.1 -0.1**
JIRN Jiri 76.38 297 *e*P **P** **02 40 18.5 +0.1**
comp=Z,23nm,0.3s
AKASG Malin Array Be 76.39 347 P **P** **02 40 16.7 -0.9**
comp=Z,0.5nm,0.3s,baz=12,slow=5.1,SNR=9.7
AKASG LR LR 03 15 18.5
comp=Z,65nm,21.9s,baz=9.5,slow=37
comp=Z,0.5nm,0.3s
RAMN Ramite 76.71 297 *e*P **P** **02 40 20.2 +0.1**
comp=Z,20nm,0.5s
DANN Dangsing 77.16 300 *e*P **P** **02 40 21.8 -0.9**
comp=Z,18nm,0.6s
OSTC Ostas 77.73 356 *e*P **P** **02 40 27.3 +2.2**
PYUN Piuthan 77.77 300 *e*P **P** **02 40 24.7 -1.3**
comp=Z,4.6nm,0.4s
HSKC Hora Svate Kat 77.78 357 *e*P **P** **02 40 27.6 +2.2**
DPC Dobruska-Polom 77.93 356 *e*P **P** **02 40 27.3 +1.0**
NKC Novy Kostel 78.18 358 *e*P **P** **02 40 28.5 +0.8**
KRLC Kraliky 78.18 355 *e*P **P** **02 40 28.4 +0.7**
NIL Nilore 78.22 310 P **P** **02 40 26.9 -1.3**
MORC Moravsky Berou 78.44 355 *e*P **P** **02 40 28.4 -0.7**
VRAC Vranov 78.96 355 *e*P **P** **02 40 32.9 +1.0**
KRUC Moravsky 79.21 355 *e*P **P** **02 40 33.8 +0.5**
KHC Kasperske Hory 79.25 357 *e*P **P** **02 40 34.8 +1.2**
JAVC Velka Javorina 79.35 355 *e*P **P** **02 40 35.1 +1.0**
KBL Kabul 79.42 314 P **P** **02 40 33.8 -1.2**
GERES GERESS Array B 79.54 357 P **P** **02 40 35.4 +0.2**
comp=Z,0.4nm,0.4s,baz=70,slow=1.6,SNR=4.4
comp=Z,0.4nm,0.4s
BURAR Bucovina Array 79.93 349 P **P** **02 40 36.9 -0.4**
CONA Conrad Observa 80.37 356 *e*P **P** **02 40 40.5 +0.7**
comp=Z,3.1nm,0.9s
KBZ Khabaz 80.45 336 P **P** **02 40 40.7 +0.6**
comp=Z,1.4nm,0.7s,baz=157,slow=3.9,SNR=2.5
KBZ LR LR 03 20 39.8
comp=Z,46nm,18.0s,baz=16,slow=39
comp=Z,1.4nm,0.7s
BIOA Bad Ischl, Aus 80.69 357 *e*P **P** **02 40 43.0 +1.7**
comp=Z,7.0nm,1.2s
GEYT Alibeck 80.99 323 P **P** **02 40 43.0 -0.2**
GEYT IAmb IAmb 02 40 44.7
comp=Z,2.6nm,0.8s
GEYT Alibeck 80.99 323 P **P** **02 40 43.6 +0.4**
comp=Z,1.2nm,0.4s,baz=294,slow=14,SNR=5.7
GEYT LR LR 03 20 32.6
comp=Z,131nm,18.3s,baz=20,slow=39
comp=Z,1.2nm,0.4s
ARSA Arzberg 81.06 356 *e*P **P** **02 40 43.5 +0.1**
comp=Z,4.2nm,0.8s
WATA Walderalm 81.09 359 *e*PcP **P** **02 40 46.8 +3.1**
comp=Z,11nm,1.3s
SQTA Sankt Quirin 81.21 359 *e*PcP **P** **02 40 47.0 +2.7**
comp=Z,12nm,1.4s
KBA Koenbreinsper 81.31 357 *e*PcP **P** **02 40 46.9 +2.0**
comp=Z,20nm,1.7s
SOKA Soboth 81.66 356 *e*P **P** **02 40 48.2 +1.6**
comp=Z,11nm,1.4s
MLR Muntele Rosu 81.93 348 LR LR 03 20 31.4
comp=Z,88nm,20.1s,baz=16,slow=38
HRA Herat 82.47 318 P **P** **02 40 50.6 -0.7**
GNI Garni 83.31 334 LR LR 03 23 41.1
comp=Z,26nm,19.7s,baz=14,slow=40
WRA Warramunga Arr 86.22 231 P **P** **02 41 09.6 -0.4**
comp=Z,0.2nm,0.7s,baz=36,slow=5.8,SNR=2.1
comp=Z,0.2nm,0.7s
BRTR Keskin Array B 86.34 342 P **P** **02 41 10.9 +0.3**
comp=Z,0.8nm,0.8s,baz=64,slow=5.6,SNR=4.8
comp=Z,0.8nm,0.8s

ESDC Sonseca Array 88.01 10 P **P** **02 41 19.0 +0.3**
comp=Z,2.3nm,1.1s,baz=3.2,slow=5.0,SNR=5.8
comp=Z,2.3nm,1.1s
ASAR Alice Springs 89.61 229 P **P** **02 41 25.6 -0.6**
comp=Z,1.2nm,0.9s,baz=32,slow=3.6,SNR=6.9
comp=Z,1.2nm,0.9s
STKA Stephens Creek 93.44 219 LR LR 03 19 41.6
comp=Z,45nm,19.5s,baz=24,slow=33
WSAR Wadi Sarin 93.73 316 LR LR 03 29 51.2
comp=Z,86nm,19.0s,baz=52,slow=39
RPZ Rata Peaks 96.61 193 LR LR 03 26 07.2
comp=Z,34nm,18.1s,baz=266,slow=36
TORD Torodi Ar. Bea 114.83 8 PKP **PKiKP** **02 47 08.5 -0.8**
comp=Z,0.2nm,0.6s,baz=32,slow=8.5,SNR=1.9
MAW Mawson 150.13 218 PKPbc **PKPbc** **02 48 16.7 -1.0**
comp=Z,4.0nm,0.9s,baz=348,slow=16,SNR=3.9
BOSA Boshof 153.92 327 PKPbc **PKPbc** **02 48 30.4 +2.6**
comp=Z,1.0nm,0.4s,baz=10,slow=3.6,SNR=10.0

TEH 02 02:43:28.9, 30.77N×57.33E, h6km±128km, ML3.8,
Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.71**	**287**	Pg	Pb	02 43 44.0	+0.1
KHGB	**Koh Gabri**	**0.83**	**242**	Pg	Pb	02 43 45.8	-0.1
CHMN	**Cheshme madani**	**0.92**	**169**	Pg	Pb	02 43 47.6	+0.2
TVBK	**TV Kerman**	**0.92**	**212**	Pg	Pn	02 43 48.4	-0.3
NGRK	**Negar Kerman**	**1.23**	**205**	Pg	Pn	02 43 54.1	+1.1
IBAF	**Bafgh**	**1.72**	**299**	Pg	Pg	02 44 02.4	+0.5
KBAM	**BAM**	**1.89**	**149**	Pn	Pg	02 44 04.9	-0.3
BSRN	**Basiran**	**1.95**	**52**	Pn	Pb	02 44 05.2	+0.3
IKOO	**Kooshah**	**2.18**	**40**	Pn	Pb	02 44 09.1	+0.1
TPRV	**Parvadeh(Tabas**	**2.32**	**346**	Pn	Pb	02 44 10.7	-0.6
IMEH	**Mehriz**	**2.41**	**286**	Pn	Pb	02 44 12.2	-0.7
NHDN	**Nehbandan**	**2.42**	**74**	Pn	Pb	02 44 12.3	-0.6
ITEG	**Tejag**	**2.44**	**29**	Pn	Pb	02 44 12.4	-0.9
BAGH	**Bagheran - Bir**	**2.57**	**38**	Pn	Pb	02 44 14.4	-1.1
TKDS	**Koohdasht(Taba**	**2.84**	**356**	Pn	Pb	02 44 18.2	-2.0
ICHK	**Chekchek**	**2.90**	**301**	Pn	Pb	02 44 19.0	-2.1
IDAH	**Dahanechah**	**2.92**	**47**	Pn	Pb	02 44 19.4	-2.2
AFRZ	**Afriz**	**3.01**	**28**	Pn	Pb	02 44 20.5	-2.6
TNSJ	**Nastanj**	**3.25**	**349**	Pn	Pb	02 44 23.8	-3.2
ZHDN	**Zahedan**	**3.31**	**113**	Pn	Pn	02 44 24.3	+2.9
ISAD	**Sadrabad**	**3.32**	**291**	Pn	Pn	02 44 24.1	+2.4
SHRT	**Shahrakht**	**3.81**	**40**	Pn	Pn	02 44 31.8	+3.6
ANAR	**Anarak**	**3.90**	**309**	Pn	Pn	02 44 32.1	+2.6
IZEF	**Zefreh**	**4.76**	**298**	Pn	Pn	02 44 44.7	+3.3
TBJM	**Torbat-e-JAM**	**5.15**	**28**	Pn	Pn	02 44 50.4	+3.7
KRSH	**Karshahi**	**5.43**	**307**	Pn	Pn	02 44 53.6	+2.9
SRVN	**Saravan**	**5.56**	**126**	Pn	Pn	02 44 56.0	+3.7
ISFB	**Sefidab**	**5.59**	**311**	Pn	Pn	02 44 55.6	+2.9
SBZV	**Sabzevar**	**5.61**	**2**	Pn	Pn	02 44 57.0	+3.9
IPAY	**Payeh**	**5.84**	**13**	Pn	Pn	02 44 59.7	+3.5
IKRD	**Kardeh**	**6.26**	**16**	Pn	Pn	02 45 06.5	+4.4
ISFR	**Sfrayin**	**6.30**	**5**	Pn	Pn	02 45 06.2	+3.7
MRVT	**Maraveh tapeh**	**6.95**	**352**	Pn	Pn	02 45 15.3	+3.9

*JMA **02** 02:56:20.5±0.3, 25°N±3°×123°0E±0°.9, h135km, MV2.2/9,*
NW OFF ISHIGAKIJIMA IS
*TAP **02** 02:56:21.0, 24°.87N×122°.78E, h160km±1km, ML2.7, D*
ISC 02 02:56:22.2±2.9, 24°.9N±0°.1×122°.98E±0°.04, h118km±27km,
n25, σ0°.81/41, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKRS	**Kuro-shima**	**1.14**	**125**	P	**Pn**	**02 56 45.9**	**+0.4**
JKRS				eS	**Sn**	**02 57 04.6**	**+1.5**
JIJ	**Ishigaki jima**	**1.18**	**116**	P	**Pn**	**02 56 45.6**	**-0.3**
JIJ				eS	**Sn**	**02 57 03.5**	**-0.5**
JISG	**Ishigakijimahi**	**1.25**	**104**	P	**Pn**	**02 56 46.2**	**-0.5**
JISG				S	**Sn**	**02 57 05.5**	**+0.3**
LATG	**Datong** baz=250	**1.37**	**255**	*e*S	**Sn**	**02 57 09.3**	**+1.4**
NACB	**Ninganchiao** baz=237	**1.45**	**241**	S	**Sn**	**02 57 09.2**	**-0.1**
YHNB	**Yeheng** baz=264	**1.48**	**262**	S	**Sn**	**02 57 10.4**	**+0.4**
NSK	**Sanguang** baz=264	**1.49**	**262**	S	**Sn**	**02 57 10.4**	**+0.1**
NNSB	**Datong** baz=248	**1.52**	**253**	S	**Sn**	**02 57 11.3**	**+0.3**
ETLH	**Xiulin Townshi** baz=238	**1.53**	**244**	*e*S	**Sn**	**02 57 10.6**	**-0.4**
JTJ	**Tarama**	**1.58**	**99**	P	**Pn**	**02 56 50.1**	**-0.4**
JTJ				S	**Sn**	**02 57 12.1**	**+0.1**
ETM	**Tongmen** baz=240	**1.64**	**236**	S	**Sn**	**02 57 12.7**	**-0.6**
LXIB	**Xiulin Townshi** baz=230	**1.67**	**239**	S	**Sn**	**02 57 13.4**	**-0.8**
FUSS	**Fushou** baz=241	**1.71**	**248**	P	**Pn**	**02 56 52.2**	**-0.1**
FUSS				S	**Sn**	**02 57 14.9**	**-0.1**
NFF	**Wufeng Townshi** baz=268	**1.71**	**262**	*e*P	**Pn**	**02 56 51.5**	**-0.7**
NFF				S	**Sn**	**02 57 14.4**	**-0.5**
WHF	**Hehuan Shan** baz=242	**1.73**	**245**	P	**Pn**	**02 56 52.3**	**-0.4**
WHF				*e*S	**Sn**	**02 57 15.9**	**0.0**
ESL	**Shilin** baz=226	**1.77**	**233**	*e*S	**Sn**	**02 57 15.5**	**-0.6**
TDCB	**Techi** baz=243	**1.78**	**249**	*e*P	**Pn**	**02 56 53.2**	**+0.2**
TDCB				*e*S	**Sn**	**02 57 16.7**	**+0.3**
CHGB	**Renai** baz=237	**1.84**	**244**	P	**Pn**	**02 56 53.2**	**-0.7**
CHGB				S	**Sn**	**02 57 18.7**	**+0.7**
WARBT	**Fenglin Townsh** baz=228	**1.87**	**232**	P	**Pn**	**02 56 53.0**	**-1.0**
WARBT				S	**Sn**	**02 57 16.7**	**-1.4**
WUSB	**Renai** baz=240	**1.92**	**243**	P	**Pn**	**02 56 54.6**	**-0.1**
WUSB				S	**Sn**	**02 57 19.8**	**+0.3**
HGSD	**Ruisui** baz=218	**1.99**	**226**	P	**Pn**	**02 56 56.2**	**+0.8**
HGSD				*e*S	**Sn**	**02 57 21.6**	**+0.7**
VWDT	**VWDT** baz=231	**2.02**	**236**	*e*P	**Pn**	**02 56 56.1**	**+0.2**
VWDT				*e*S	**Sn**	**02 57 22.0**	**+0.4**
YULB	**Yu-li** baz=230	**2.14**	**226**	*e*P	**Pn**	**02 56 56.8**	**-0.7**
YULB				*e*S	**Sn**	**02 57 22.4**	**-2.0**
SSLB	**Suanglung** baz=232	**2.15**	**240**	*e*P	**Pn**	**02 56 58.3**	**+0.7**
SSLB				*e*S	**Sn**	**02 57 25.6**	**+1.1**
WHYT	**Xinyi Township** baz=236	**2.28**	**239**	P	**Pn**	**02 56 60.0**	**+0.8**
WHYT				*e*S	**Sn**	**02 57 29.4**	**+1.9**
	baz=236						

IDC 02 03:04:34.7±7.3, 13.19S×169.13E, h0km, mb3.4/3,
mbtmp3.4/3, Error ellipse: s-maj=362.6km
s-min=35.5km az=141.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.3nm,0.9s,baz=86,slow=8.8,SNR=2.2 0.3nm,0.9s	**33.96**	**254**	P	P	03 11 19.5	-0.8
ASAR	**Alice Springs** 0.4nm,0.7s,baz=77,slow=8.9,SNR=7.5 0.4nm,0.7s	**34.91**	**248**	P	P	03 11 28.9	+0.4
ILAR	**Eielson Array** 0.4nm,0.7s,baz=234,slow=5.3,SNR=5.0 0.4nm,0.7s	**84.52**	**17**	P	P	03 17 09.3	0.0

*IDC **02** 03:04:55.0±0.8, 43°.67N×105°.51E, h0km, mb3.9/10,*
mbtmp3.9/14, ML3.9/3, MS3.1/2, Error ellipse:
s-maj=21.1km s-min=15.3km az=75.0
*NEIC **02** 03:04:59.1±1.4, 43°.87N±0°.07×105°.1E±0°.2, h10km±2km,*

mb4.0/10, Error ellipse: s-maj=23.0km s-min=11.2km az=80.0

ISC 02 03:04:56.6±1.0**, 43°.66N**±0°.10×**105°.4E**±0°.1**, h10**km**, n30, σ1.02**/29**, mb4.0**/15**, Mongolia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	Songino Array	4.23	9	Pn	Pn	03 06 01.8	+0.6
	10.0nm,0.3s,baz=191,slow=14,SNR=139						
SONM				Pg	Pb	03 06 11.5	+0.3
	9.6nm,0.3s,baz=190,slow=15,SNR=32						
SONM				Sn	Sn	03 06 49.5	-1.3
	9.6nm,0.3s,baz=196,slow=14,SNR=5.8						
SONM				Lg	Lg	03 07 07.4	
	34nm,0.3s,baz=200,slow=28,SNR=14						
	26nm,0.5s						
ULN	Ulaanbaatar	4.36	15		Pn	03 06 03.5	+0.4
MKAR	Makanchi Array	16.56	289	Pn	Pn	03 08 48.7	-0.1
MKAR	Makanchi Array	16.56	289	Pn	Pn	03 08 51.3	+2.6
	0.6nm,0.3s,baz=91,slow=15,SNR=25						
MKAR				Lg	Lg	03 13 32.3	
	0.1nm,0.3s,baz=88,slow=39,SNR=2.2						
	2.1nm,0.5s						
MAKZ	Makanchi	16.77	289	Pn	Pn	03 08 50.4	-1.1
ZALV	Zalesovo Beam	16.95	315	Pn	Pn	03 08 51.4	-2.2
ZALV	Zalesovo Beam	16.95	315	P	Pn	03 08 55.1	+1.5
	0.3nm,0.3s,baz=100,slow=7.9,SNR=2.1						
ZALV				Lg	Lg	03 13 44.8	
	0.3nm,0.3s,baz=125,slow=18,SNR=1.5						
KLR	Kul'dur	18.95	64	LR	LR	03 16 49.7	
	comp=Z,53nm,18.4s,baz=182,slow=38						
KURK	Kurchatov	19.44	301	P	P	03 09 22.8	-0.3
KURBB	Kurchatov Arra	19.48	300	P	P	03 09 24.2	+0.8
	0.1nm,0.3s,baz=107,slow=11,SNR=21						
	0.9nm,0.5s						
TARG	Taragay, Kyrgy	20.33	274	P	P	03 09 33.4	+0.1
BOOM	Boomskoye usch	21.50	277	P	P	03 09 43.5	-2.1
BOOM				IAmb	IAmb	03 09 51.6	
	comp=Z,7.2nm,1.1s						
AAK	Ala-Archa	22.50	278	P	P	03 09 56.1	-0.2
AAK				IAmb	IAmb	03 10 13.6	
	comp=Z,5.8nm,1.4s						
BVAR	Borovoye Array	24.85	304	P	P	03 10 19.7	+0.7
	comp=Z,5.2nm,0.5s,baz=105,slow=9.8,SNR=44						
	comp=Z,5.2nm,0.5s						
BRVK	Borovoye	24.92	305	P	P	03 10 19.6	0.0
KK31	Karatay Array	25.25	281	P	P	03 10 23.4	+0.7
KK31				IAmb	IAmb	03 10 26.1	
	comp=Z,5.4nm,1.2s						
KKAR	Karatay Array	25.25	281	P	P	03 10 23.9	+1.2
KKAR				IAmb	IAmb	03 10 26.1	
	comp=Z,5.4nm,1.2s						
ABKAR	Akbulak array	31.42	296	P	P	03 11 17.2	-0.5
ABKAR				IAmb	IAmb	03 11 52.7	
	comp=Z,2.4nm,1.2s						
MA2	Magadan	31.61	44	LR	LR	03 23 24.2	
	comp=Z,28nm,18.1s,baz=58,slow=35						
BR131	Keskin Array S	52.18	292	P	P	03 14 05.7	-1.8
BR131				IAmb	IAmb	03 14 07.1	
	comp=Z,3.6nm,1.2s						
BRTR	Keskin Array B	52.18	292	P	P	03 14 07.4	-0.1
	comp=Z,0.7nm,0.9s,baz=107,slow=2.0,SNR=5.0						
	comp=Z,0.7nm,0.9s						
HFS	Hagfors	54.20	322	P	P	03 14 21.6	-0.3
	comp=Z,3.6nm,0.8s,baz=61,slow=3.6,SNR=6.4						
	comp=Z,3.6nm,0.8s						
NB2	NORSAR Subarra	54.88	324	P	P	03 14 27.1	+0.2
	comp=Z,0.7nm,0.6s,baz=60,slow=7.4						
NOA	NORSAR Array B	54.88	324	P	P	03 14 26.8	0.0
	comp=Z,1.1nm,0.6s,baz=60,slow=7.1,SNR=5.2						
	comp=Z,1.1nm,0.6s						
ILAR	Eielson Array	58.20	29	P	P	03 14 50.6	+0.2
	comp=Z,1.3nm,0.7s,baz=293,slow=5.9,SNR=27						
	comp=Z,1.3nm,0.7s						
EKA	Eskdalemuir Ar	64.36	323	P	P	03 15 31.4	-0.8
	comp=Z,0.3nm,0.5s,baz=46,slow=6.1,SNR=1.3						
	comp=Z,0.3nm,0.5s						
WRA	Warramunga Arr	68.64	151	P	P	03 15 59.6	-0.4
	comp=Z,0.6nm,0.7s,baz=341,slow=6.1,SNR=5.3						
	comp=Z,0.6nm,0.7s						
YKA	Yellowknife Ar	69.44	19	P	P	03 16 04.4	0.0
	comp=Z,0.9nm,0.8s,baz=331,slow=6.4,SNR=12						
	comp=Z,0.9nm,0.8s						
ASAR	Alice Springs	71.94	153	P	P	03 16 19.8	-0.3
	comp=Z,1.3nm,0.7s,baz=348,slow=7.6,SNR=13						
	comp=Z,1.3nm,0.7s						
ESDC	Sonseca Array	75.41	311	P	P	03 16 41.7	+1.1
	comp=Z,0.3nm,0.5s,baz=55,slow=5.4,SNR=2.4						
	comp=Z,0.3nm,0.5s						

*IDC **02** 03:15:19.4±0.8, 21°.27N×45°.75W, h0km, mb3.7/12, mbtmp3.7/12, MS3.6/51, Error ellipse: s-maj=25.3km s-min=17.7km az=0.0*

*GCMT **02** 03:15:23.0±0.5, 21°.50N±0°.06×45°.66W±0°.04, h18km±1km, MW4.7/76, Moment Tensor Solution. s18,c20; s76,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.45±.17; $M_{\theta\theta}$0.28±.10; $M_{\phi\phi}$1.17±.11; $M_{r\theta}$0.90±.34; $M_{\theta\phi}$0.12±.06; $M_{\phi r}$-0.28±.24; Best double couple: $M_0$1.53200×10^{16} NP1:ϕ_s342.00000°, δ55.00000°, λ-119.00000°. NP2: ϕ_s205.00000°, δ44.00000°, λ-56.00000°. Principal axes: T 1.2010, Plg5.0000°, Azm92.0000°; N 0.6630, Plg23.0000°, Azm360.0000°; P -1.8630, Plg66.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 02 03:15:20.9±0.7**, 21°.3N**±0°.2×**45°.8W**±0°.1**, h10**km**, n61, σ0.85**/13**, mb3.7**/12**, MS3.6**/50**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H05S1	Guadeloupe/Mar	15.88	247	T	T	03 35 03.6	
	SNR=10.0						
MDP	Montagnes des	17.39	204	LR	LR	03 23 41.8	
	comp=Z,18nm,20.3s,baz=39,slow=29						
SJG	San Juan	19.46	264	LR	LR	03 25 41.3	
	comp=Z,239nm,21.9s,baz=87,slow=32						
PCRV	Puerto La Cruz	21.23	242	P	P	03 20 08.1	+1.0
	3.9nm,0.6s,baz=37,slow=14,SNR=1.6						
PCRV				LR	LR	03 27 10.6	
	comp=Z,106nm,20.2s,slow=34						
	3.9nm,0.6s						
SDV	Santo Domingo	26.94	247	LR	LR	03 31 00.2	
	comp=Z,95nm,21.1s,baz=84,slow=35						
RCBR	Riachuelo	28.60	159	LR	LR	03 29 35.5	
	comp=Z,96nm,20.8s,baz=130,slow=30						
ROSC	El Rosal	32.16	244	LR	LR	03 35 57.4	
	comp=Z,65nm,19.4s,baz=66,slow=38						
SADO	Sadowa	36.12	318	LR	LR	03 34 33.2	
	comp=Z,93nm,20.4s,baz=98,slow=32						
TKL	Tuckaleechee C	36.14	302	LR	LR	03 35 01.4	
	comp=Z,107nm,18.9s,baz=116,slow=33						
BDFB	Brasilia	36.73	184	LR	LR	03 35 05.1	
	comp=Z,63nm,20.5s,baz=34,slow=32						
SCHQ	Schefferville	37.11	340	LR	LR	03 36 11.8	
	comp=Z,55nm,19.1s,baz=126,slow=34						
MDT	Midelt	38.20	64	LR	LR	03 35 46.5	
	comp=Z,97nm,19.4s,baz=279,slow=32						
JTS	Las Juntas de	39.16	260	LR	LR	03 36 41.6	
	comp=Z,48nm,21.4s,baz=82,slow=33						
SIV	San Ignacio	39.95	203	LR	LR	03 38 13.7	
	comp=Z,47nm,18.7s,baz=308,slow=34						
ESDC	Sonseca Array	40.01	53	P	P	03 22 57.0	+0.9
	0.9nm,0.9s,baz=263,slow=10,SNR=2.5						
ESDC				LR	LR	03 35 07.2	
	comp=Z,59nm,19.1s,baz=260,slow=30						
	0.9nm,0.9s						
DBIC	Dimbokro	42.10	104	P	P	03 23 12.3	-1.2
	4.5nm,0.7s,baz=278,slow=8.8,SNR=7.4						
DBIC				LR	LR	03 38 59.8	
	comp=Z,133nm,18.6s,baz=304,slow=34						
	4.5nm,0.7s						
H10N3	ASCENSION HYDR	42.16	130	T	T	04 08 04.4	
	baz=314,slow=75,SNR=43						
H10N2	ASCENSION HYDR	42.16	130	T	T	04 08 02.1	
	baz=314,slow=75,SNR=51						
H10N1	ASCENSION HYDR	42.18	130	T	T	04 08 02.4	
	baz=314,slow=75,SNR=49						
H10S3	ASCENSION HYDR	42.82	131	T	T	04 08 50.1	
	baz=313,slow=74,SNR=69						
H10S2	ASCENSION HYDR	42.84	131	T	T	04 08 51.4	
	baz=267,slow=74,SNR=31						
LPAZ	La Paz	43.29	212	P	P	03 23 23.8	+0.1
	1.6nm,0.8s,baz=29,slow=7.5,SNR=6.8						
LPAZ				LR	LR	03 40 37.6	
	comp=Z,120nm,20.4s,baz=39,slow=35						
	1.6nm,0.8s						
NNA	Nana	44.99	226	LR	LR	03 41 42.2	
	comp=Z,67nm,20.8s,baz=48,slow=35						
FRB	Frobisher Bay	45.15	346	LR	LR	03 39 59.3	
	comp=Z,47nm,21.1s,baz=14,slow=33						
SFJD	Kangerlussuaq	45.84	357	LR	LR	03 39 38.4	
	comp=Z,26nm,19.6s,baz=254,slow=32						
TORD	Torodi Ar. Bea	45.90	92	P	P	03 23 44.1	+0.1
	0.6nm,0.7s,baz=300,slow=6.7,SNR=4.7						
TORD				LR	LR	03 41 09.6	
	comp=Z,143nm,19.2s,baz=320,slow=34						
	0.6nm,0.7s						
CMIG	Matias Romero	46.45	274	LR	LR	03 44 27.2	
	comp=Z,51nm,18.5s,baz=94,slow=38						
CPUP	Villa Florida	48.62	194	LR	LR	03 43 47.5	
	comp=Z,42nm,18.9s,baz=16,slow=35						
ULM	Lac du Bonnet	48.68	319	LR	LR	03 41 57.0	
	comp=Z,76nm,20.4s,baz=140,slow=33						
LVC	Limon Verde	49.10	209	LR	LR	03 45 15.9	
	comp=Z,70nm,18.4s,baz=15,slow=37						
KEST	Kesra	49.93	61	LR	LR	03 42 35.2	
	comp=Z,70nm,22.0s,baz=274,slow=33						
TXAR	Lajitas Array	52.53	291	P	P	03 24 33.7	-1.1
	0.3nm,0.9s,baz=120,slow=3.6,SNR=2.6						
TXAR				PcP	PcP	03 25 45.0	-0.2
	0.8nm,1.0s,baz=92,slow=6.3,SNR=5.1						
TXAR				LR	LR	03 46 39.7	
	comp=Z,52nm,20.8s,baz=66,slow=36						
	0.3nm,0.9s						
ANMO	Albuquerque	54.52	298	LR	LR	03 45 28.4	
	comp=Z,39nm,22.0s,baz=196,slow=33						
NOA	NORSAR Array B	55.78	30	LR	LR	03 44 47.8	
	comp=Z,53nm,19.9s,baz=250,slow=32						
VRAC	Vranov	56.23	44	LR	LR	03 47 14.9	
	comp=Z,17nm,18.2s,baz=320,slow=34						
HFS	Hagfors	56.68	31	LR	LR	03 44 24.9	
	comp=Z,34nm,21.8s,baz=254,slow=31						
CFA	Coronel Fontan	56.81	203	LR	LR	03 50 07.8	
	comp=Z,36nm,20.3s,baz=305,slow=37						
PDAR	Pinedale Array	56.84	308	P	P	03 25 05.7	-0.3
	0.8nm,0.9s,baz=95,slow=10,SNR=6.0						
PDAR				LR	LR	03 46 35.1	
	comp=Z,78nm,21.7s,baz=99,slow=33						
	0.8nm,0.9s						
ELK	Elko	61.14	306	LR	LR	03 50 57.3	
	comp=Z,117nm,18.8s,baz=74,slow=35						
YKA	Yellowknife Ar	61.61	331	P	P	03 25 37.7	-0.7
	1.2nm,1.0s,baz=98,slow=7.6,SNR=11						
	1.2nm,1.0s						
NEW	Newport	62.14	314	LR	LR	03 50 04.3	
	comp=Z,77nm,21.5s,baz=98,slow=34						
FINES	FINESS Array B	62.88	31	LR	LR	03 49 42.6	
	comp=Z,63nm,18.3s,baz=258,slow=33						
PFO	Pinyon Flats O	62.88	298	LR	LR	03 52 12.1	
	comp=Z,44nm,18.8s,baz=74,slow=35						
NVAR	Mina Array Bea	63.72	303	P	P	03 25 54.2	+1.0
	0.4nm,0.8s,baz=89,slow=12,SNR=1.7						
NVAR				LR	LR	03 51 42.4	
	comp=Z,64nm,20.8s,baz=90,slow=34						
	0.4nm,0.8s						
AKASG	Malin Array Be	64.41	43	P	P	03 25 56.7	-0.5
	0.1nm,0.2s,baz=277,slow=5.3,SNR=1.7						
	0.1nm,0.2s						
OBN	Obninsk	68.50	38	LR	LR	03 54 08.3	
	comp=Z,61nm,19.4s,baz=202,slow=34						
BRTR	Keskin Array B	68.79	54	P	P	03 26 26.6	+1.0
	0.3nm,0.6s,baz=293,slow=7.5,SNR=2.0						
	0.3nm,0.6s						
BBB	Bella Bella	68.88	319	LR	LR	03 55 09.0	
	comp=Z,90nm,18.3s,baz=86,slow=35						
INK	Inuvik	69.63	337	LR	LR	03 56 43.8	
	comp=Z,59nm,18.1s,baz=358,slow=36						
EIL	Elat	72.02	65	LR	LR	04 00 18.4	
	comp=Z,48nm,18.5s,baz=307,slow=38						
TSUM	Tsumeb	73.87	118	LR	LR	03 52 14.2	
	comp=Z,60nm,21.6s,baz=329,slow=30						
KIRV	Kirov	74.75	33	LR	LR	03 55 28.7	
	comp=Z,51nm,21.1s,baz=296,slow=32						
ILAR	Eielson Array	75.62	334	P	P	03 27 06.3	+0.5
	2.2nm,1.0s,baz=67,slow=4.8,SNR=20						
ILAR				LR	LR	04 00 55.9	
	comp=Z,48nm,18.2s,baz=104,slow=36						
	2.2nm,1.0s						
ARU	Arti	80.12	33	LR	LR	03 59 08.1	
	comp=Z,56nm,20.8s,baz=307,slow=33						
AKTO	Aktyubinsk	82.24	39	LR	LR	04 02 09.5	
	comp=Z,35nm,19.0s,baz=93,slow=34						
SUR	Sutherland	83.00	129	LR	LR	03 55 48.8	
	comp=Z,52nm,19.4s,baz=306,slow=29						
LBTB	Lobatse	83.16	120	LR	LR	03 57 55.5	
	comp=Z,58nm,20.2s,baz=320,slow=31						
KMBO	Kilima Mbogo	83.89	94	LR	LR	04 02 46.5	
	comp=Z,61nm,21.1s,baz=80,slow=34						
BVAR	Borovoye Array	87.77	33	LR	LR	04 04 09.3	
	comp=Z,23nm,19.7s,baz=311,slow=33						
ZALV	Zalesovo Beam	93.89	27	LR	LR	04 07 27.8	
	comp=Z,26nm,21.4s,baz=350,slow=33						
WSAR	Wadi Sarin	94.11	63	LR	LR	04 11 59.7	
	comp=Z,24nm,21.8s,baz=44,slow=36						

*IDC **02** 03:29:38.6±3.0, 17°.63S×178°.82W, h556km±33km, mb3.4/14, mbtmp4.2/14, Error ellipse: s-maj=23.1km s-min=12.9km az=145.0*

*NEIC **02** 03:29:41.4±1.4, 17°.9S±0°.2×179°.0W±0°.2, h572km±9km, mb4.3/21, Error ellipse: s-maj=26.5km s-min=22.3km az=69.0*

ISC 02 03:29:36.5±0.6**, 17°.6S**±0°.1×**178°.8W**±0°.1**, h539**km**, n75, σ0.72**/76**, mb4.2**/24**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOUNC	Koumac, New Ca	16.27	257	P	P	03 32 59.8	+0.7
TOZ	Tahuroa Road	20.64	193	P	P	03 33 39.8	+1.0
TOZ				IAmb	IAmb	03 33 42.2	
	comp=Z,9.2nm,0.9s						
EIDS	Eidsvold	29.04	249	P	P	03 34 53.7	+0.4
EIDS				IAmb	IAmb	03 34 54.6	
	comp=Z,5.1nm,0.8s						
ARMA	Armidale	29.78	239	P	P	03 34 59.3	-0.6
ARMA				IAmb	IAmb	03 35 02.0	
	comp=Z,7.1nm,0.8s						
CTAO	Charters Tower	33.15	260	P	P	03 35 28.6	0.0
CTAO				IAmb	IAmb	03 35 30.1	
	comp=Z,8.3nm,0.8s						
PMG	Port Moresby	34.07	279	P	P	03 35 36.8	+0.4
COEN	Coen	36.76	270	P	P	03 35 58.5	-0.3
COEN				IAmb	IAmb	03 36 00.4	
	comp=Z,7.0nm,0.7s						
STKA	Stephens Creek	38.46	241	P	P	03 36 12.4	-0.1
STKA	Stephens Creek	38.46	241	P	P	03 36 13.8	+1.3
	comp=Z,6.0nm,0.8s,baz=90,slow=10,SNR=7.9						
	comp=Z,6.0nm,0.8s						
BBOO	Buckleboo	43.23	241	P	P	03 36 50.4	0.0
WR0	Warramunga Arr	44.15	259	P	P	03 36 57.6	-0.1
WR0				IAmb	IAmb	03 36 58.2	
	comp=Z,11nm,1.4s						
WB0	Warramunga Arr	44.30	260	P	P	03 36 58.0	-1.0
WB0				IAmb	IAmb	03 36 59.5	
	comp=Z,7.1nm,1.0s						
WB2	Warramunga Arr	44.33	259	P	P	03 36 58.1	-1.0
WB2				IAmb	IAmb	03 36 59.9	
	comp=Z,5.9nm,0.7s						
WRA	Warramunga Arr	44.34	259	P	P	03 36 59.0	-0.2
WRA	Warramunga Arr	44.34	259	P	P	03 36 58.8	-0.4
	comp=Z,3.5nm,0.7s,baz=94,slow=7.0,SNR=63						
WRA				PcP	PcP	03 38 31.1	-0.5
	comp=Z,0.4nm,1.0s,baz=91,slow=3.2,SNR=1.9						
	comp=Z,3.5nm,0.7s						
AS31	Alice Springs	44.53	254	P	P	03 37 01.0	+0.4
AS31				IAmb	IAmb	03 37 01.7	
	comp=Z,9.0nm,0.6s						
ASAR	Alice Springs	44.53	254	P	P	03 37 01.2	+0.5
ASAR	Alice Springs	44.53	254	P	P	03 37 00.8	+0.2
	comp=Z,29nm,0.6s,baz=88,slow=8.1,SNR=441						
ASAR				PcP	PcP	03 38 32.2	0.0
	comp=Z,1.2nm,0.7s,baz=91,slow=4.2,SNR=4.1						
ASAR				S	S	03 42 55.4	-1.8
	comp=Z,1.2nm,0.9s,baz=91,slow=17,SNR=7.9						
	comp=Z,29nm,0.6s						
FORT	Forrest	49.81	244	P	P	03 37 40.0	-0.1
KNRA	Kununurra	50.17	264	P	P	03 37 41.8	-1.2
SOEI	Soe	55.72	270	P	P	03 38 22.5	-0.3
SOEI				IAmb	IAmb	03 38 25.7	
	comp=Z,23nm,0.8s						
PSA00	Pilbara Seismi	57.64	255	P	P	03 38 35.9	+0.1
MJAR	Matsushiro Arr	67.48	324	P	P	03 39 39.2	+0.3
	comp=Z,4.3nm,0.7s,baz=157,slow=6.1,SNR=10						
	comp=Z,4.3nm,0.7s						
QSPA	South Pole Qui	72.42	180	P	P	03 40 08.4	+0.4
QSPA	South Pole Qui	72.42	180	P	P	03 40 08.7	+0.7
	comp=Z,2.5nm,0.7s,baz=31,slow=2.8,SNR=5.1						
	comp=Z,2.5nm,0.7s						
PETK	Petropavlovsk-	73.33	345	P	P	03 40 11.9	-1.2
	comp=Z,6.0nm,0.9s,baz=148,slow=8.4,SNR=2.6						
	comp=Z,6.0nm,0.9s						
KSRS	Korea Array	74.27	318	P	P	03 40 19.8	+1.0
	comp=Z,1.3nm,0.7s,baz=154,slow=5.1,SNR=4.2						
	comp=Z,1.3nm,0.7s						
USRK	Ussuriysk Ar.	76.19	326	P	P	03 40 31.7	+2.3
	comp=Z,1.2nm,0.5s,baz=153,slow=4.8,SNR=2.4						
	comp=Z,1.2nm,0.5s						
MDJ	Mudanjiang	77.76	325	P	P	03 40 39.7	+1.8
MDJ				IAmb	IAmb	03 40 40.8	
	comp=Z,16nm,1.2s						
NVAR	Mina Array Bea	79.47	44	P	P	03 40 46.6	-0.9
	comp=Z,0.3nm,0.7s,baz=243,slow=6.0,SNR=2.2						
	comp=Z,0.3nm,0.7s						
BELA	Belgrano 2	82.48	173	P	P	03 41 00.8	-1.3
ILAR	Eielson Array	85.70	13	P	P	03 41 17.4	-0.5
	comp=Z,0.6nm,0.5s,baz=223,slow=5.5,SNR=17						
	comp=Z,0.6nm,0.5s						
TXAR	Lajitas Array	86.14	58	P	P	03 41 21.5	+0.5
	comp=Z,0.4nm,0.6s,baz=224,slow=6.2,SNR=5.4						
	comp=Z,0.4nm,0.6s						
PDAR	Pinedale Array	87.39	44	P	P	03 41 27.4	+0.5
	comp=Z,0.3nm,0.5s,baz=216,slow=4.5,SNR=5.0						
	comp=Z,0.3nm,0.5s						
CMAR	Chiang Mai Arr	88.46	290	P	P	03 41 32.5	+0.5
	comp=Z,1.9nm,0.3s,baz=104,slow=3.8,SNR=5.1						
	comp=Z,1.9nm,0.3s						
YKA	Yellowknife Ar	94.23	25	P	P	03 41 57.6	+0.1
	comp=Z,0.2nm,0.7s,baz=231,slow=4.0,SNR=4.2						
	comp=Z,0.2nm,0.7s						
BVAR	Borovoye Array	116.41	321	PKP	PKPdf	03 47 18.3	-0.5
	comp=Z,0.7nm,0.4s,baz=64,slow=3.4,SNR=3.7						
BNN	Bunyan	143.21	312		PKPbc	03 48 08.0	-0.1
LODK	Lodwar	143.68	251		PKPbc	03 48 10.4	+0.2
BUR08	Bucovina Ar. S	144.19	332	PKPdf	PKPdf	03 48 12.7	+1.4
BR131	Keskin Array S	144.34	315		PKPab	03 48 12.2	+0.2
BRTR	Keskin Array B	144.34	315	PKP	PKPdf	03 48 11.7	-0.1
	comp=Z,2.3nm,0.8s,baz=84,slow=3.4,SNR=16						
OSTC	Ostas	145.03	343	*e*PKP	PKPab	03 48 14.1	0.0
CHVC	Chvalec	145.04	343	*e*PKP	PKPab	03 48 14.1	0.0
CLL	Collm	145.12	347	PKPbc	PKPab	03 48 13.8	-0.5
CLL	Collm	145.12	347	*i* PKPbc	PKPbc	03 48 13.7	+0.3
	comp=Z,8.0nm,0.7s						
CLL				*i* x	x	03 48 14.8	
	comp=Z,7.0nm,0.8s						
UPC	Upice	145.13	343	*e*PKP	PKPbc	03 48 13.7	+0.2
DPC	Dobruska-Polom	145.19	343	*e*PKP	PKPdf	03 48 13.1	+0.4
KRLC	Kraliky	145.30	342	*e*PKP	PKPab	03 48 14.5	-0.7
MORC	Moravsky Berou	145.34	341	*e*PKP	PKPab	03 48 14.7	-0.6
PVCC	Panska Ves	145.49	345	*e*PKP	PKPab	03 48 15.2	-0.6
MDUB	Mudurnu	145.57	318	PKPbc	PKPbc	03 48 15.5	+0.3
MAUC	Maruska	145.61	341	*e*PKP	PKPab	03 48 15.6	-0.8
MMAI	Mount Meron Ar	145.70	303	PKPbc	PKPab	03 48 16.6	-0.7
	comp=Z,2.9nm,0.5s,baz=59,slow=4.3,SNR=13						
PRU	Pruhonice	145.99	345	*e*PKP	PKPbc	03 48 16.6	+0.7
VRAC	Vranov	146.04	342	*e*PKP	PKPbc	03 48 16.9	+0.8
JAVC	Velka Javorina	146.11	340	*e*PKP	PKPab	03 48 18.1	-0.3
KRUC	Moravsky	146.32	342	*e*PKP	PKPbc	03 48 17.3	+0.4
ZVC	Zvikov	146.58	345	*e*PKP	PKPbc	03 48 18.4	+0.8
ZVC				*e*x	x	03 48 21.2	
KHC	Kasperske Hory	147.02	345	*e*PKP	PKPbc	03 48 19.2	+0.4
KHC				*e*x	x	03 48 23.0	
CKRC	Cesky Krumlov	147.12	344	*e*PKP	PKPdf	03 48 16.3	+0.3
CKRC				*e*x	x	03 48 19.5	
GERES	GERESS Array B	147.26	345	PKPbc	PKPbc	03 48 19.5	-0.1
GERES	GERESS Array B	147.26	345	PKPbc	PKPbc	03 48 20.0	+0.5
	comp=Z,2.0nm,0.5s,baz=15,slow=4.1,SNR=11						
CONA	Conrad Observa	147.49	342	*i* PKP	PKiKP	03 48 21.2	-0.6
	comp=Z,3.1nm,0.7s						
RONA	Rosalia, Austr	147.56	341	*i* PKP	PKiKP	03 48 21.2	-0.7
	comp=Z,3.9nm,0.8s						
LESA	Schwarzleotal	148.83	345	*i* PKP	PKPbc	03 48 23.9	+0.4
	comp=Z,1.8nm,0.4s						
SOKA	Soboth	148.87	341	*i* PKP	PKPbc	03 48 23.5	-0.1
	comp=Z,12nm,1.3s						
KBA	Koelnbreinsper	148.98	344	*i* PKP	PKPbc	03 48 23.7	-0.4
	comp=Z,5.3nm,0.9s						
WATA	Walderalm	149.18	346	*i* PKP	PKPbc	03 48 24.5	0.0
	comp=Z,2.2nm,0.5s						
WTTA	Wattenberg	149.23	346	*i* PKP	PKPbc	03 48 24.9	+0.3
	comp=Z,2.1nm,0.3s						
MOTA	Moosalm	149.27	347	*i* PKP	PKPbc	03 48 24.9	+0.2
	comp=Z,1.6nm,0.6s						
SQTA	Sankt Quirin	149.37	347	*i* PKP	PKPbc	03 48 25.1	+0.2
	comp=Z,3.1nm,0.5s						
ABTA	Abfaltersbach	149.50	345	*i* PKP	PKPbc	03 48 25.0	-0.2
	comp=Z,3.2nm,0.7s						
FETA	Feichten	149.66	347	*i* PKP	PKiKP	03 48 26.1	-0.3
	comp=Z,1.4nm,0.6s						
FNA	Florina	151.13	327		PKPbc	03 48 28.0	-1.1

*IDC **02** 04:01:31.9±0.9, 34°.60N×24°.32E, h0km, mb4.0/11, mbtmp3.9/17, ML3.4/6, MS2.7/2, Error ellipse: s-maj=18.1km s-min=10.3km az=136.0*

*NEIC **02** 04:01:34.6±0.6, 34°.69N±0°.05×24°.30E±0°.07, h10km±7km, mb4.1/4, Error ellipse: s-maj=10.2km s-min=4.5km az=127.0*

*THE **02** 04:01:35.0, 34°.63N×24°.34E, h0km±1km, ML3.6/9, Error ellipse: s-maj=2.5km s-min=0.7km az=192.0*

*ISK **02** 04:01:35.1, 34°.71N×24°.35E, h23km, ML4.0/7*

*ATH **02** 04:01:35.1, 34°.59N×24°.34E, h5km±2km, ML3.6/7, Error ellipse: s-maj=3.7km s-min=1.2km az=18.0*

*AFAD **02** 04:01:36.0±0.0, 34°.62N×24°.36E, h15km, MW3.8*

ISC 02 04:01:35.4±0.6**, 34°.66N**±0°.05×**24°.34E**±0°.03**, h20**km±3km**, n126, σ1.86**/150**, mb3.9**/13**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GVD	Gavdhos	0.28	311	Pg	Pb	04 01 41.5	-0.3
GVD				Sg	Sb	04 01 46.6	+0.5
GVD	Gavdhos	0.28	311	P	Pb	04 01 41.4	-0.3
GVD				S	Sb	04 01 46.5	+0.5
	82μm,0.4s						
GVD	Gavdhos	0.28	311	P	Pb	04 01 41.5	-0.3
GVD				S	Sb	04 01 46.4	+0.3
GVD				AML	AML	04 01 47.2	
GVD				AML	AML	04 01 47.8	
GVDS	Gavdos	0.28	312	Pg	Pb	04 01 41.7	-0.1
GVDS				Sg	Sb	04 01 46.9	+0.8
GVDS	Gavdos	0.28	312	P	Pb	04 01 41.5	-0.3
GVDS				S	Sb	04 01 47.1	+1.0
	74μm,0.3s						
TMBK	Timbaki Herakl	0.54	40	P	Pb	04 01 46.5	+0.2
TMBK	Timbaki Herakl	0.54	40	P	Pb	04 01 46.6	+0.4
PRNS	Prines Rethymn	0.72	11	P	Pb	04 01 48.2	-1.0
PRNS				S	Sb	04 01 59.9	+1.2
	2μm,0.3s						
IDI	Anoyia	0.78	35	Pg	Pb	04 01 49.8	-0.4
IDI				Sg	Sb	04 02 00.6	+0.2
IDI	Anoyia	0.78	35		Pb	04 01 49.4	-0.9
IDI	Anoyia	0.78	35	P	Pb	04 01 49.9	-0.3
IDI				S	Sn	04 02 03.0	+0.7
	2μm,0.4s						
IDI	Anoyia	0.78	35	Pg	Pb	04 01 49.6	-0.7
	53nm,0.3s,baz=214,slow=16,SNR=128						
IDI				Lg	Lg	04 01 58.9	
	200nm,0.3s,baz=215,slow=15,SNR=18						
IDI	Anoyia	0.78	35	P	Pb	04 01 49.8	-0.4
IDI				AML	AML	04 02 08.8	
	comp=N,4199μm,0.4s						
IDI				AML	AML	04 02 09.6	
	comp=E,5726μm,0.3s						
IMMV	Iera Moni Meta	0.85	340	Pg	Pb	04 01 51.2	-0.4
IMMV	Iera Moni Meta	0.85	340	P	Pb	04 01 51.1	-0.5
IMMV				S	Sn	04 02 05.0	+0.8
	comp=E,11μm,0.2s						
IMMV	Iera Moni Meta	0.85	340	P	Pb	04 01 51.0	-0.5
IMMV				S	Sn	04 02 04.5	+0.3
IMMV				AML	AML	04 02 05.4	
	comp=N,23071μm,0.2s						
IMMV				AML	AML	04 02 05.6	
	comp=E,20827μm,0.2s						
KSTL	Kastelli Herak	0.88	43	P	Pn	04 01 54.0	+1.4
KSTL	Kastelli Herak	0.88	43	P	Pn	04 01 54.0	+1.4
KSTL				AML	AML	04 02 14.1	

	comp=N,4758µm,0.6s						
KSTL				AML	AML	04 02 17.9	
	comp=E,2415µm,0.4s						
IACM	**Heraklion**	**0.88**	**43**	P	**Pb**	**04 01 52.5**	**+0.5**
IACM				S	**Sn**	**04 02 06.3**	**+1.4**
	comp=E,14µm,0.5s						
IACM	**Heraklion**	**0.88**	**43**	P	**Pn**	**04 01 52.9**	**+0.2**
CHAN	**Chania**	**0.90**	**344**	P	**Pb**	**04 01 52.1**	**-0.2**
CHAN				S	**Sn**	**04 02 06.7**	**+1.5**
CHAN				AML	AML	04 02 13.2	
	comp=E,6377µm,0.6s						
CHAN				AML	AML	04 02 17.7	
	comp=N,6542µm,0.4s						
HRKL	**Herakleio**	**0.91**	**44**	Pg	**Pb**	**04 01 52.2**	**-0.2**
HRKL	**Herakleio**	**0.91**	**44**	P	**Pb**	**04 01 52.9**	**+0.5**
HRKL	**Herakleio**	**0.91**	**44**	P	**Pb**	**04 01 52.9**	**+0.5**
RODP	**Rodopos**	**1.02**	**332**	Pg	**Pb**	**04 01 54.1**	**-0.3**
RODP	**Rodopos**	**1.02**	**332**	P	**Pb**	**04 01 54.1**	**-0.3**
RODP				S	**Sn**	**04 02 10.3**	**+2.0**
	comp=N,660nm,0.3s						
FRMA	**Ierapetra Chan**	**1.20**	**72**	P	**Pb**	**04 01 59.1**	**+1.7**
FRMA				S	**Sb**	**04 02 18.6**	**+6.1**
	comp=N,415nm,0.6s						
FRMA	**Ierapetra Chan**	**1.20**	**72**	P	**Pb**	**04 01 59.2**	**+1.8**
FRMA				AML	AML	04 02 28.3	
	comp=E,2422µm,0.6s						
FRMA				AML	AML	04 02 31.9	
	comp=N,2481µm,0.6s						
ZKR	**Zakros**	**1.61**	**73**	Pn	**Pn**	**04 02 02.8**	**+0.1**
ZKR	**Zakros**	**1.61**	**73**	P	**Pb**	**04 02 03.9**	**-0.5**
ZKR				S	**Sb**	**04 02 26.2**	**+1.9**
	comp=N,618nm,0.7s						
ZKR	**Zakros**	**1.61**	**73**	P	**Pb**	**04 02 04.3**	**-0.1**
ZKR				AML	AML	04 02 42.9	
	comp=N,753µm,0.5s						
ZKR				AML	AML	04 02 50.3	
	comp=E,1716µm,1.0s						
SANT	**Santorini**	**1.94**	**28**	Pn	**Pn**	**04 02 07.4**	**+0.2**
SANT	**Santorini**	**1.94**	**28**	Pn	**Pn**	**04 02 07.5**	**+0.2**
SANT	**Santorini**	**1.94**	**28**	P	**Pn**	**04 02 08.3**	**+1.1**
SANT				S	**Sn**	**04 02 30.9**	**-0.1**
SANT	**Santorini**	**1.94**	**28**	P	**Pb**	**04 02 08.9**	**-1.1**
SNT5	**Nea Kammeni, S**	**1.94**	**26**	P	**Pb**	**04 02 09.6**	**-0.5**
MHLO	**Agia Marina, M**	**2.03**	**1**	P	**Pb**	**04 02 10.8**	**-0.8**
KARP	**Karpathos**	**2.48**	**68**	Pn	**Pn**	**04 02 15.7**	**+1.1**
KARP	**Karpathos**	**2.48**	**68**		**Pn**	**04 02 15.5**	**+0.9**
KARP	**Karpathos**	**2.48**	**68**	P	**Pn**	**04 02 17.1**	**+2.5**
APE	**Apeiranthos**	**2.59**	**22**	Pn	**Pn**	**04 02 16.6**	**+0.4**
APE	**Apeiranthos**	**2.59**	**22**	P	**Pn**	**04 02 18.2**	**+1.9**
APE				S	**Sn**	**04 02 43.2**	**-4.0**
APE	**Apeiranthos**	**2.59**	**22**	P	**Pn**	**04 02 17.8**	**+1.6**
KRND	**KRANIDI**	**2.89**	**341**	P	**Pn**	**04 02 22.5**	**+2.3**
EPID	**Epidavros**	**3.11**	**342**	P	**Pn**	**04 02 25.9**	**+2.5**
VLY	**Voula,Athens**	**3.22**	**352**	P	**Pn**	**04 02 26.4**	**+1.6**
ATHU	**Athens Univers**	**3.33**	**352**	P	**Pn**	**04 02 28.3**	**+1.9**
PTL	**Penteli**	**3.41**	**354**	P	**Pn**	**04 02 30.1**	**+2.7**
DION	**Dionisos Attik**	**3.43**	**355**	P	**Pn**	**04 02 30.6**	**+2.9**
ARG	**Arkhangelos**	**3.46**	**62**	Pn	**Pn**	**04 02 29.4**	**+1.3**
ARG	**Arkhangelos**	**3.46**	**62**	Pn	**Pn**	**04 02 28.5**	**+0.4**
ARG	**Arkhangelos**	**3.46**	**62**	P	**Pn**	**04 02 30.1**	**+2.0**
BDRM	**Kayabasi**	**3.48**	**45**	P	**Pn**	**04 02 30.7**	**+2.3**
LTK	**Loutraki**	**3.54**	**342**	P	**Pn**	**04 02 31.3**	**+2.1**
GUR	**Goura**	**3.65**	**334**	P	**Pn**	**04 02 32.9**	**+2.1**
VIL2	**Platees**	**3.65**	**347**	P	**Pn**	**04 02 31.9**	**+1.2**
SMG	**Samos**	**3.66**	**33**	P	**Pn**	**04 02 34.0**	**+3.2**
KLV	**Kalavryta, Ach**	**3.81**	**333**	P	**Pn**	**04 02 35.5**	**+2.5**
TURN	**Turunc**	**3.82**	**55**	P	**Pn**	**04 02 32.8**	**-0.1**
TURN				S	**Sn**	**04 03 10.8**	**-6.5**
YER	**Yerkesik**	**4.04**	**51**	P	**Pn**	**04 02 39.0**	**+2.8**
YER				S	**Sn**	**04 03 18.1**	**-4.9**
LAKA	**Lakka**	**4.05**	**333**	P	**Pn**	**04 02 38.6**	**+2.3**
MULA	**Mugla, Merkez-**	**4.14**	**50**	P	**Pn**	**04 02 39.9**	**+2.3**
MULA				S	**Sn**	**04 03 18.9**	**-6.5**
IZZE	**Mula-Seydike**	**4.36**	**65**	P	**Pn**	**04 02 41.3**	**+0.8**
IZZE				S	Sn	04 03 21.1	-10
AGG	**Agios Georgios**	**4.65**	**340**	Pn	**Pn**	**04 02 44.2**	**-0.2**
AGG	**Agios Georgios**	**4.65**	**340**	P	**Pn**	**04 02 47.3**	**+2.9**
TAVA	**DENIZLI_Tavas**	**4.65**	**52**	P	**Pn**	**04 02 46.5**	**+2.0**
TAVA				S	**Sn**	**04 03 32.9**	**-4.9**
CAEL	**Denizli, Camel**	**4.73**	**57**	P	**Pn**	**04 02 47.9**	**+2.2**
DNIZ	**Denizli-Tavas-**	**4.82**	**51**	P	**Pn**	**04 02 48.7**	**+1.8**
GOLH	**Golhisar**	**4.96**	**57**	P	**Pn**	**04 02 50.6**	**+1.8**
GOLH				S	Sn	04 03 36.6	-9.0
ELL	**Elmali**	**4.99**	**64**		**Pn**	**04 02 49.3**	**+0.1**
ELL	**Elmali**	**4.99**	**64**	P	**Pn**	**04 02 50.5**	**+1.2**
ELL				S	Sn	04 03 33.4	-13
MANT	**Manisa**	**5.12**	**40**	Pn	**Pn**	**04 02 51.3**	**+0.3**
AKUM	**Antalya-Kumluc**	**5.17**	**70**	P	**Pn**	**04 02 51.2**	**-0.4**
AKUM				S	Sn	04 03 43.2	-7.4
USAK	**Uak-Merkez**	**5.53**	**42**	P	**Pn**	**04 02 59.3**	**+2.8**
KEK	**Kerkira**	**6.21**	**326**	Pn	**Pn**	**04 03 05.8**	**-0.2**
KEPZ	**Antalya-Kepez**	**6.32**	**67**	P	**Pn**	**04 03 08.9**	**+1.5**
KEPZ				S	Sn	04 04 07.9	-11
FNA	**Florina**	**6.55**	**340**	Pn	**Pn**	**04 03 10.3**	**-0.3**
SEDI	**Konya, Seydise**	**6.62**	**63**	P	**Pn**	**04 03 12.9**	**+1.2**
SEDI				S	Sn	04 04 13.5	-13
CSS	**Mathiatis**	**7.40**	**85**	Pn	**Pn**	**04 03 23.0**	**+0.7**
TIP	**Timpagrande**	**7.56**	**309**	Pn	**Pn**	**04 03 24.1**	**-0.4**
CEL	**Celeste**	**7.70**	**300**	Pn	**Pn**	**04 03 25.6**	**-0.7**
RAFF	**Raffo Rosso**	**8.49**	**290**	Pn	**Pn**	**04 03 36.8**	**-0.4**
VAE	**Valguarnera**	**8.52**	**292**	Pn	**Pn**	**04 03 41.7**	**+4.1**
	comp=E,0.3nm,0.3s,baz=213,slow=20,SNR=1.7						
VAE				Sn	**Sn**	**04 05 13.3**	**+0.2**
	comp=E,0.5nm,0.3s,baz=133,slow=20,SNR=2.1						
CUC	**Castrocucco**	**8.63**	**311**	Pn	**Pn**	**04 03 39.5**	**+0.4**
BRTR	**Keskin Array B**	**8.98**	**53**	Pn	**Pn**	**04 03 45.0**	**+1.1**
	comp=E,0.1nm,0.3s,baz=230,slow=11,SNR=4.8						
	comp=E,0.9nm,0.8s						
BR131	**Keskin Array S**	**8.98**	**53**	Pn	**Pn**	**04 03 44.8**	**+0.8**
MMAI	**Mount Meron Ar**	**9.35**	**97**	Pn	**Pn**	**04 03 47.5**	**-1.5**
	comp=E,2.0nm,0.3s,baz=287,slow=10,SNR=13						
MMAI				Sn	**Sn**	**04 05 29.5**	**-4.1**
	comp=E,1.4nm,0.3s,baz=270,slow=22,SNR=1.7						
	comp=E,0.5nm,0.2s						
GHAJ	**Ghor Haditha**	**10.00**	**106**		**Pn**	**04 03 59.2**	**+1.2**
EIL	**Elat**	**10.27**	**116**	Pn	**Pn**	**04 04 00.2**	**-1.4**
	comp=E,0.6nm,0.3s,baz=332,slow=2.1,SNR=9.5						
EIL				Sn	Sn	04 05 47.4	-8.8
	comp=E,0.2nm,0.3s,baz=208,slow=23,SNR=2.0						
	comp=E,3.2nm,0.6s						
ASF	**Jabal al Asfar**	**10.78**	**100**	Pn	**Pn**	**04 04 08.1**	**-0.6**
	comp=E,0.3nm,0.3s,baz=279,slow=23,SNR=1.9						
ASF				Sn	**Sn**	**04 06 05.2**	**-3.7**
	comp=E,0.2nm,0.3s,baz=237,slow=19,SNR=1.5						
	comp=E,1.2nm,0.3s						
MLR	**Muntele Rosu**	**10.89**	**6**	Pn	**Pn**	**04 04 12.1**	**+2.0**
	comp=E,0.1nm,0.3s,baz=105,slow=22,SNR=2.3						
MLR				LR	LR	04 09 05.8	
	comp=E,53nm,19.2s,baz=74,slow=41						
	comp=E,2.1nm,0.9s						
KBA	**Koelnbreinsper**	**14.92**	**330**	*i* Pn	**P**	**04 05 14.9**	**+4.2**
	comp=E,2.0nm,0.6s						
ABTA	**Abfaltersbach**	**15.02**	**327**	*i* Pn	**P**	**04 05 14.1**	**+2.3**
	comp=E,3.2nm,0.7s						
MOA	**Molln**	**15.18**	**333**	*i* Pn	**P**	**04 05 15.7**	**+2.2**
	comp=E,2.9nm,0.6s						
MAUC	**Maruska**	**15.46**	**344**	*e*P	**P**	**04 05 17.7**	**+1.1**
LESA	**Schwarzleotal**	**15.47**	**329**	*i* Pn	**P**	**04 05 19.7**	**+2.9**
	comp=E,2.9nm,0.6s						
WTTA	**Wattenberg**	**15.81**	**327**	*i* Pn	**P**	**04 05 24.2**	**+3.6**
	comp=E,4.0nm,0.9s						
WATA	**Walderalm**	**15.89**	**327**	*i* Pn	**P**	**04 05 24.8**	**+3.3**
	comp=E,3.1nm,0.7s						
CKRC	**Cesky Krumlov**	**15.99**	**335**	*e*P	**P**	**04 05 23.4**	**+1.0**
FETA	**Feichten**	**16.05**	**324**	*i* Pn	**P**	**04 05 26.2**	**+2.9**
	comp=E,2.5nm,0.5s						
GERES	**GERESS Array B**	**16.22**	**334**	Pn	**Pn**	**04 05 22.0**	**-0.1**
GERES	**GERESS Array B**	**16.22**	**334**	Pn	**P**	**04 05 26.1**	**+1.0**
	comp=E,0.1nm,0.3s,baz=127,slow=11,SNR=5.2						
DAVOX	**Davos/Dischmat**	**16.30**	**322**	Pn	**P**	**04 05 27.0**	**+0.9**
	comp=E,0.1nm,0.3s,baz=150,slow=18,SNR=1.4						
AKASG	**Malin Array Be**	**16.43**	**11**	Pn	**P**	**04 05 26.1**	**-1.1**
	comp=E,2.0nm,0.3s,baz=201,slow=10.0,SNR=6.9						
KHC	**Kasperske Hory**	**16.51**	**334**	*e*P	**P**	**04 05 29.4**	**+1.2**
ZVC	**Zvikov**	**16.56**	**336**	*e*P	**P**	**04 05 29.3**	**+0.6**
KBZ	**Khabaz**	**16.97**	**52**	Pn	**P**	**04 05 33.6**	**+0.4**
	comp=E,0.1nm,0.3s,baz=211,slow=18,SNR=5.6						
	comp=E,5.9nm,1.0s						
CHVC	**Chvalec**	**17.03**	**342**	*e*P	**P**	**04 05 33.3**	**-0.7**
PABE	**Paberze**	**20.85**	**359**	P	**P**	**04 06 15.6**	**-0.1**
ESDC	**Sonseca Array**	**23.06**	**291**	P	**P**	**04 06 39.9**	**+0.4**
	comp=E,0.7nm,0.7s,baz=80,slow=8.5,SNR=6.0						
	comp=E,0.7nm,0.7s						
HFS	**Hagfors**	**26.42**	**348**	P	**P**	**04 07 10.3**	**-0.1**
	comp=E,2.5nm,0.8s,baz=170,slow=13,SNR=7.7						
	comp=E,2.5nm,0.8s						
FINES	**FINESS Array B**	**26.83**	**2**	P	**P**	**04 07 12.6**	**-1.4**
	comp=E,2.6nm,0.9s,baz=173,slow=12,SNR=2.2						
	comp=E,2.6nm,0.9s						
NOA	**NORSAR Array B**	**27.72**	**346**	P	**P**	**04 07 21.6**	**-0.6**
	comp=E,1.1nm,0.8s,baz=147,slow=9.0,SNR=1.9						
NOA				LR	LR	04 20 22.6	
	comp=E,12nm,18.0s,baz=345,slow=41						
	comp=E,1.1nm,0.8s						
EKA	**Eskdalemuir Ar**	**28.07**	**326**	P	**P**	**04 07 24.6**	**-0.7**
	comp=E,1.5nm,0.8s,baz=116,slow=8.0,SNR=1.9						
	comp=E,1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.65**	**229**	P	**P**	**04 07 38.8**	**-0.9**
	comp=E,1.3nm,0.6s,baz=36,slow=9.8,SNR=10						
	comp=E,1.3nm,0.6s						
KK31	**Karatay Array**	**36.53**	**63**	P	**P**	**04 08 39.8**	**+0.3**
KKAR	**Karatay Array**	**36.53**	**63**	P	**P**	**04 08 39.8**	**+0.3**
BRVK	**Borovoye**	**37.12**	**46**	P	**P**	**04 08 44.7**	**+0.3**
BRVK				IAmb	IAmb	04 09 25.4	
	comp=Z,2.0nm,1.1s						
KURBB	**Kurchatov Arra**	**41.96**	**51**	P	**P**	**04 09 24.6**	**-0.1**
	comp=Z,1.0nm,0.2s,baz=281,slow=8.4,SNR=4.9						
	comp=Z,1.0nm,0.2s						
MK31	**Makanchi Array**	**44.61**	**56**	P	**P**	**04 09 46.0**	**-0.2**
MK31				IAmb	IAmb	04 09 47.1	
	comp=Z,3.4nm,0.7s						
MKAR	**Makanchi Array**	**44.61**	**56**	P	**P**	**04 09 46.3**	**0.0**
MKAR	**Makanchi Array**	**44.61**	**56**	P	**P**	**04 09 46.4**	**+0.2**
	comp=Z,4.2nm,0.6s,baz=273,slow=7.9,SNR=33						
	comp=Z,4.2nm,0.6s						
ZALV	**Zalesovo Beam**	**45.84**	**46**	P	**P**	**04 09 54.9**	**-0.9**
ZALV	**Zalesovo Beam**	**45.84**	**46**	P	**P**	**04 09 55.1**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=274,slow=7.9,SNR=8.3						
	comp=Z,1.4nm,0.3s						
SONM	**Songino Array**	**60.33**	**50**	P	**P**	**04 11 43.6**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=289,slow=8.8,SNR=3.7						
	comp=Z,0.3nm,0.3s						
SCHQ	**Schefferville**	**63.13**	**320**	P	**P**	**04 12 01.9**	**+0.5**
	comp=Z,2.9nm,0.9s,baz=62,slow=12,SNR=2.0						
	comp=Z,2.9nm,0.9s						

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*SOME **02** 04:31:19.6, 46°.55N×83°.68E, h0km*
*NNC **02** 04:31:20.1±4.0, 46°.89N×83°.74E, h0km, mb2.6, mpv2.6,*
Error ellipse: s-maj=26.2km s-min=24.6km az=147.0
ISC 02 04:31:21.0±1.3**, 46°.9N**±0°.2×**83°.69E**±0°.09**, h12**km**, n8,**
σ**0s.68**/9**, 4C-1D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**0.97**	**264**	P	**Pg**	**04 31 39.1**	**-0.6**
	0.8nm,0.1s,baz=78,slow=26,SNR=298						
MK31				⇑S	**Sb**	**04 31 53.0**	**+0.6**
	4.8nm,0.2s,baz=267,slow=46,SNR=9.4						
ZSN	**Zaisan**	**0.97**	**55**	*e*P	**Pb**	**04 31 39.5**	**-0.3**
	35nm,0.1s						
ZSN				*e*S	**Sb**	**04 31 53.8**	**+1.1**
	48nm,0.1s						
MAKZ	**Makanchi**	**1.18**	**266**	⇓P	**Pn**	**04 31 42.9**	**-0.5**
	3.3nm,0.2s						
MAKZ				⇑S	**Sn**	**04 31 59.9**	**+0.5**
	6.4nm,0.3s						
KAPS	**Kapalarasan**	**3.42**	**243**	*e*Pg	**Pb**	**04 32 22.0**	**+0.4**
	0.7nm,0.1s						
KAPS				*e*Lg	Lg	04 33 06.0	
	4.0nm,0.3s						
DJR	**Jarkent**	**3.75**	**228**	*e*Pg	**Pb**	**04 32 27.0**	**-0.2**
	0.8nm,0.1s						
DJR				*e*Lg	Lg	04 33 14.5	
	2.9nm,0.3s						
KPKS	**Kokpek**	**4.93**	**228**	*e*Pg	**Pb**	**04 32 47.4**	**+0.1**
	1.0nm,0.1s						
KPKS				*e*Lg	Lg	04 33 49.8	
	8.8nm,0.5s						
KURBB	**Kurchatov Arra**	**5.05**	**319**	⇑Lg	Lg	04 34 05.8	
	5.9nm,0.6s						
KURK	**Kurchatov**	**5.08**	**321**	⇑Lg	Lg	04 34 05.5	
	2.1nm,0.4s						

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*NEIC **02** 04:40:33.5±0.5, 36°.01N±0°.01×97°.93W±0°.01, h5km±2km,*
Error ellipse: s-maj=3.0km s-min=2.6km az=231.0
TUL 02 04:40:33.7±0.5**, 36°.01N**±0°.01×**97°.93W**±0°.02**, h5**km±6km**,**
ML2.5, mb_Lg2.3/18(NEIC)**, ML2.3**/58(NEIC)**, Error ellipse: s-maj=1.9km s-min=1.8km az=194.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.44**	**119**	Pg	Pg	04 40 42.4	+0.1
OK029				IAML		04 40 49.1	
	275nm,0.4s						
CROK	**Carrier**	**0.49**	**355**	Pg	Pg	04 40 43.5	+0.3
CROK				IAML		04 40 55.5	
	comp=N,152nm,0.3s						
CROK				IAML		04 40 55.6	
	comp=E,156nm,0.3s						
CSTR	**Hydro, Custer**	**0.72**	**240**	Pg	Pg	04 40 47.8	+0.3
OK038	**West end E0370**	**0.80**	**306**	Pg	Pg	04 40 49.0	-0.1
OK033	**Mehan**	**0.81**	**87**	Pg	Pg	04 40 49.2	0.0
OK032	**Salt Plains WL**	**0.82**	**344**	Pg	Pg	04 40 49.4	-0.1
OK032				IAML		04 41 09.6	
	comp=E,117nm,0.2s						
OK032				IAML		04 41 12.5	
	comp=E,121nm,0.1s						
GC02	**Grant County #**	**0.84**	**4**	Pg	Pg	04 40 49.6	-0.2
FNO	**Franklin**	**0.87**	**150**	Pg	Pg	04 40 50.3	-0.1
FNO				IAML		04 41 10.3	
	comp=N,79nm,0.2s						
FNO				IAML		04 41 12.3	
	comp=E,110nm,0.7s						
OK048	**Pawnee Station**	**0.90**	**63**		Pg	04 40 50.7	-0.2
OK052	**Battle Ridge R**	**0.92**	**91**	Pg	Pg	04 40 51.0	-0.3
OK052				IAML		04 41 11.4	
	comp=E,76nm,0.2s						
OK052				IAML		04 41 17.2	
	comp=E,76nm,0.3s						
OK030	**Cody Creek RV**	**0.93**	**95**		Pg	04 40 51.3	-0.3
OK030				IAML		04 41 13.6	
	comp=E,92nm,0.2s						
OK030				IAML		04 41 15.6	
	comp=E,74nm,0.2s						
U32A	**Winter Ranch,**	**0.94**	**293**	Pg	Pg	04 40 51.6	-0.2
U32A				IAML		04 41 09.7	
	comp=E,106nm,0.1s						
U32A				IAML		04 41 12.0	
	comp=N,121nm,0.7s						
KAN14	**Manchester OK**	**0.94**	**358**		Pg	04 40 51.5	-0.3
QUOK	**Quay**	**1.00**	**80**		Pg	04 40 52.6	-0.3
QUOK				IAML		04 41 14.3	
	comp=N,72nm,0.3s						
QUOK				IAML		04 41 14.6	
	comp=E,84nm,0.3s						
OK051	**E0350 and S346**	**1.01**	**61**		Pg	04 40 53.1	-0.1
OK051				IAML		04 41 12.7	
	comp=E,129nm,0.2s						
OK051				IAML		04 41 13.4	
	comp=E,103nm,0.2s						
NOKA	**Waynoka**	**1.02**	**308**	Pg	Pg	04 40 53.3	0.0
KAN17	**Caldwell West**	**1.04**	**7**		Pg	04 40 53.2	-0.4
KAN17				IAML		04 41 11.3	
	comp=N,129nm,0.3s						
KAN13	**South Haven SW**	**1.06**	**20**	Pg	Pg	04 40 53.9	-0.3
KAN05	**Bluff City Nor**	**1.10**	**2**		Pg	04 40 54.5	-0.2
KAN05				IAML		04 41 16.3	
	comp=N,72nm,0.2s						
KAN05				IAML		04 41 17.6	
	comp=E,74nm,0.2s						
KAN10	**Anthony SW Sta**	**1.12**	**353**		Pg	04 40 54.7	-0.4
KAN10				IAML		04 41 16.9	
	comp=N,49nm,0.3s						
KAN01	**Argonia South**	**1.15**	**7**		Pg	04 40 55.3	-0.5
KAN01				IAML		04 41 11.4	
	comp=E,62nm,0.2s						
KAN09	**Caldwell North**	**1.15**	**13**		Pg	04 40 55.0	-0.8
DEOK	**Depew**	**1.18**	**98**		Pg	04 40 55.5	-0.7
DEOK				IAML		04 41 15.9	
	comp=N,85nm,0.3s						
DEOK				IAML		04 41 16.1	
	comp=E,68nm,0.2s						
KAN08	**Anthony NE Sta**	**1.21**	**358**	Pg	Pg	04 40 56.3	-0.7
W35A	**Tecumseh**	**1.22**	**135**	Pg	Pg	04 40 56.1	-0.9
KAN06	**Argonia West S**	**1.23**	**3**	Pg	Pg	04 40 56.9	-0.5
KAN06				IAML		04 41 13.9	
	comp=E,54nm,0.2s						
KAN06				IAML		04 41 20.0	
	comp=N,54nm,0.3s						
WMOK	**Wichita Mounta**	**1.45**	**209**		Pn	04 41 00.2	-0.4
T35A	**Sooner Cattle**	**1.46**	**51**		Pn	04 41 00.6	-0.1
TUL3	**Leonard**	**1.74**	**93**	Pn	Pn	04 41 04.6	+0.1
SMWD	**Samnorwood**	**2.09**	**245**	Pn	Pn	04 41 09.4	0.0
SMWD				IAmb_Lg		04 41 43.9	
	comp=Z,16nm,0.8s						
LOOK	**Love County**	**2.11**	**163**	Pn	Pn	04 41 10.4	+0.8
R32A	**Long Quarter,**	**2.49**	**346**	Pn	Pn	04 41 14.2	-0.6
Z35A	**Perchaven, San**	**2.73**	**168**	Pn	Pn	04 41 18.3	0.0
U38A	**Gravette**	**2.90**	**80**	Pn	Pn	04 41 20.5	0.0
FW06	**Azle**	**3.05**	**174**	IAmb_Lg		04 42 10.0	
	comp=Z,5.6nm,0.7s						
HHAR	**Hobbs**	**3.24**	**84**	Pn	Pn	04 41 25.1	-0.1
HHAR				IAmb_Lg		04 42 20.8	
	comp=Z,6.4nm,1.0s						
AMTX	**Amarillo**	**3.26**	**251**	IAmb_Lg		04 42 16.2	
	comp=Z,7.6nm,0.8s						
MIAR	**Mount Ida**	**3.85**	**111**	Pn	Pn	04 41 34.5	+0.9
RTBA	**Rita Blanca**	**3.91**	**278**	Pn	Pn	04 41 34.5	0.0
SN01	**Snyder 1**	**3.98**	**219**	IAmb_Lg		04 42 45.2	
	comp=Z,22nm,1.1s						
S39A	**Bolivar**	**4.06**	**64**	Pn	Pn	04 41 36.8	+0.3
S39A				IAmb_Lg		04 42 42.7	
	comp=Z,4.8nm,0.7s						
POST	**Post**	**4.16**	**226**	IAmb_Lg		04 42 57.1	
	comp=Z,7.8nm,0.9s						
X40A	**Basin Creek Fa**	**4.44**	**109**	Pn	Pn	04 41 42.4	+0.7
MGMO	**Mountain Grove**	**4.70**	**74**	IAmb_Lg		04 43 02.9	
	comp=Z,6.9nm,0.7s						
BRDY	**Brady**	**4.80**	**191**	Pn	Pn	04 41 46.5	-0.1
P38A	**Dawn**	**5.01**	**43**	IAmb_Lg		04 43 18.6	
	comp=Z,5.1nm,0.7s						
N35A	**Tabor**	**5.16**	**20**	IAmb_Lg		04 43 20.5	
	comp=Z,8.1nm,0.8s						
T25A	**Trinidad**	**5.33**	**284**	IAmb_Lg		04 43 37.5	
	comp=Z,8.2nm,1.0s						
JCT	**Junction City**	**5.74**	**196**	IAmb_Lg		04 43 45.9	
	comp=Z,8.8nm,1.1s						

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*SJA **02** 04:54:09.1±0.5, 26°.43S×71°.49W, h10km±5km, ML3.7, MW3.3*
*GUC **02** 04:54:16.3±0.7, 26°.56S×70°.83W, h38km±4km, ML3.5*
ISC 02 04:54:13.9±1.7**, 26°.56S**±0°.02×**70°.97W**±0°.06**, h13**km±13km**,**
n38, σ**1s.89**/64**, 2C-1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.53**	**39**	*e*P	**Pb**	**04 54 25.5**	**+0.4**
AC01				*e*S	**Sb**	**04 54 32.9**	**+0.2**
AC01				IAML		04 54 33.2	
	comp=Z,2µm,0.6s						
AC01	**Pan de Azucar**	**0.53**	**39**	*i* P	**Pb**	**04 54 26.0**	**+0.8**
AC01				*e*S	**Sb**	**04 54 32.5**	**-0.2**
AC01				IAML		04 54 33.2	
	comp=E,6µm,0.3s						
AC06	**Mina Casimiro**	**0.96**	**145**	*e*P	**Pb**	**04 54 32.8**	**+0.2**
AC06				*e*S	**Sb**	**04 54 44.5**	**-0.7**
AC06				IAML		04 54 45.2	
	comp=E,4µm,0.2s						
GO03	**Copiap**	**1.22**	**148**	*e*P	**Pn**	**04 54 37.0**	**+0.2**
GO03				*e*S	**Sb**	**04 54 52.1**	**-0.5**
GO03				IAML		04 54 54.9	
	comp=Z,952nm,0.3s						
GO03	**Copiap**	**1.22**	**148**	*e*P	**Pn**	**04 54 36.8**	**0.0**
GO03				*e*S	**Sb**	**04 54 51.9**	**-0.7**
GO03				IAML		04 54 55.3	
	comp=N,1µm,0.1s						
AC04	**Llanos de Chal**	**1.64**	**183**	*e*P	**Pn**	**04 54 42.3**	**-0.2**
AC04				*e*S	**Sg**	**04 55 06.6**	**-0.1**
AC04	**Llanos de Chal**	**1.64**	**183**	⇑*e*P	**Pn**	**04 54 42.5**	**0.0**
GO02	**Mina Guanaco**	**1.87**	**42**	*e*P	**Pn**	**04 54 47.1**	**+1.1**
GO02				*e*S	**Sn**	**04 55 06.0**	**-3.5**
GO02				IAML		04 55 12.3	
	comp=Z,437nm,0.2s						
GO02	**Mina Guanaco**	**1.87**	**42**	*e*P	**Pn**	**04 54 47.0**	**+1.1**
GO02				*e*S	**Sb**	**04 55 10.7**	**-0.8**
GO02				IAML		04 55 18.4	
	comp=E,1µm,0.6s						
AC05	**El Transito**	**2.35**	**165**	*e*P	**Pn**	**04 54 54.4**	**+2.0**
AC05				IAML		04 55 31.7	
	comp=Z,149nm,0.5s						
AC05				*e*S	**Sg**	**04 55 31.8**	**+2.3**
AC05	**El Transito**	**2.35**	**165**	*e*P	**Pn**	**04 54 54.4**	**+2.0**
LCO	**Las Campanas**	**2.45**	**174**	*e*P	**Pn**	**04 54 54.9**	**+1.0**
LCO				*e*S	**Sg**	**04 55 33.7**	**+1.0**
LCO				IAML		04 55 36.2	
	comp=Z,311nm,0.2s						
LCO	**Las Campanas**	**2.45**	**174**	*e*P	**Pn**	**04 54 55.9**	**+2.0**
LCO				*i* S	**Sn**	**04 55 25.5**	**+1.6**
VCA	**Vinchina**	**3.27**	**132**	*e*P	**Pb**	**04 55 09.8**	**-2.2**
VCA				*e*S	**Sg**	**04 55 57.5**	**-1.5**
VCA				IAML		04 56 01.9	
	comp=Z,68nm,1.0s						
VCA	**Vinchina**	**3.27**	**132**	*e*P	**Pb**	**04 55 10.1**	**-1.9**
VCA				*e*S	**Sb**	**04 55 51.8**	**0.0**
CO01	**Juntas del Tor**	**3.49**	**167**	*e*P	**Pn**	**04 55 10.6**	**+2.4**
CO01				*e*S	**Sb**	**04 55 57.0**	**-1.1**
CO01				IAML		04 56 05.5	
	comp=Z,59nm,0.7s						
GO04	**Tololo Observa**	**3.60**	**178**	*e*P	**Pn**	**04 55 10.6**	**+0.9**
GO04				*e*S	**Sb**	**04 56 00.0**	**-1.3**
GO04				IAML		04 56 12.6	
	comp=Z,135nm,0.8s						
PB15	**IPOC Station P**	**3.61**	**22**	*e*P	**Pn**	**04 55 10.3**	**+0.5**
PB15				*e*S	**Sg**	**04 56 07.9**	**-1.9**
PB15				IAML		04 56 13.9	
	comp=Z,432nm,0.3s						
PB15	**IPOC Station P**	**3.61**	**22**	*e*P	**Pn**	**04 55 10.6**	**+0.8**
PB05	**IPOC Station P**	**3.76**	**11**	*e*P	**Pn**	**04 55 10.0**	**-1.8**
PB05				*e*S	**Sb**	**04 56 07.0**	**+1.2**
PB05	**IPOC Station P**	**3.76**	**11**	⇑*i*P	**Pn**	**04 55 10.6**	**-1.2**
AROD	**Rodeo**	**3.83**	**160**	*e*P	**Pn**	**04 55 16.9**	**+4.0**
AROD				*e*S	**Sb**	**04 56 07.5**	**-0.4**
PB06	**IPOC Station P**	**4.05**	**19**	*e*P	**Pn**	**04 55 15.3**	**-0.5**
PB06				*e*S	**Sb**	**04 56 14.0**	**-0.1**
PB06				IAML		04 56 26.0	
	comp=Z,86nm,0.4s						
PB06	**IPOC Station P**	**4.05**	**19**	⇓*i*P	**Pn**	**04 55 15.3**	**-0.5**
CO06	**Fray Jorge**	**4.14**	**188**	*e*P	**Pn**	**04 55 16.2**	**-0.7**
CO03	**El Pedregal**	**4.27**	**177**	*e*P	**Pn**	**04 55 20.3**	**+1.5**
CO03				*e*S	**Sn**	**04 56 10.6**	**+2.1**
CO03				IAML		04 56 29.6	
	comp=Z,54nm,0.5s						
PB04	**IPOC Station P**	**4.28**	**10**	*e*P	**Pn**	**04 55 17.5**	**-1.4**
PB04				*e*S	**Sb**	**04 56 23.5**	**+2.7**
PB04				IAML		04 56 32.8	
	comp=Z,61nm,0.4s						
PB04	**IPOC Station P**	**4.28**	**10**	*e*P	**Pn**	**04 55 17.6**	**-1.4**
LVC	**Limon Verde**	**4.36**	**26**	*e*P	**Pn**	**04 55 20.8**	**+0.5**
LVC				*e*S	**Sb**	**04 56 28.6**	**+5.3**
LVC				IAML		04 56 34.1	
	comp=Z,120nm,0.7s						
ACLC	**CERRO LA CRUZ**	**4.55**	**130**	*e*P	**Pn**	**04 55 25.8**	**+3.0**
ACLC				*e*S	**Sn**	**04 56 13.0**	**-2.7**
ACLC				IAML		04 56 28.0	
	comp=Z,28nm,0.5s						
CO02	**Combarbal**	**4.62**	**180**	*e*P	**Pn**	**04 55 24.6**	**+0.9**
CO02				*e*S	**Sb**	**04 56 25.5**	**-5.2**
CO02				*e*S	Sg	04 56 32.2	-10
CO02				IAML		04 56 44.3	
	comp=Z,81nm,0.4s						
DOCA	**Reserva Natura**	**4.67**	**160**	*e*P	**Pn**	**04 55 27.7**	**+3.2**
DOCA				IAML		04 56 37.9	
	comp=Z,39nm,0.7s						
PB07	**IPOC Station P**	**4.92**	**12**	*e*P	**Pn**	**04 55 26.8**	**-1.0**
PB07				*e*S	**Sb**	**04 56 42.0**	**+2.8**
PB07				IAML		04 56 58.7	
	comp=Z,48nm,0.3s						
PB07	**IPOC Station P**	**4.92**	**12**	*e*P	**Pn**	**04 55 26.3**	**-1.4**
PB09	**IPOC Station P**	**5.00**	**19**	*e*P	**Pn**	**04 55 29.4**	**+0.5**
PB09				IAML		04 56 58.6	
	comp=Z,75nm,0.5s						
PB09	**IPOC Station P**	**5.00**	**19**	*e*P	**Pn**	**04 55 28.2**	**-0.7**
AVFE	**Valle Fertil**	**5.12**	**144**	*e*P	**Pn**	**04 55 33.6**	**+3.2**
AVFE				*e*S	**Sn**	**04 56 29.5**	**+0.1**
AVFE				IAML		04 56 44.3	
	comp=Z,57nm,0.7s						
PB02	**IPOC Station P**	**5.31**	**11**	*e*P	**Pn**	**04 55 31.2**	**-1.9**
PB02				IAML		04 57 11.7	
	comp=Z,46nm,0.3s						

*CATAC **02** 05:15:37.5±0.2, 9°.50N×83°.79W, h14km±2km, ML2.8*
*UPA **02** 05:15:39.8±0.4, 9°.36N×83°.80W, h11km±23km, MW4.2*
ISC 02 05:15:37.2±1.1**, 9°.50N**±0°.03×**83°.77W**±0°.03**, h10**km±10km**, n25,** σ**0s.73**/46**, 1C, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCR2	La Lucha 2	0.33	316	i P	Pb	05 15 45.5	+0.2
LCR2				IAML		05 15 46.8	
	comp=Z,2μm,1.0s						
LCR2				i S	Sb	05 15 50.1	-0.7
OCHAL	Ojochal	0.42	163	i P	Pb	05 15 47.5	+0.8
OCHAL				IAML		05 15 48.4	
	comp=Z,9.6nm,1.0s						
OCHAL				i S	Sb	05 15 53.0	-0.2
OCM	Ochomogo	0.43	335	i P	Pb	05 15 47.8	+0.8
OCM				IAML		05 15 48.5	
	comp=Z,530nm,1.0s						
OCM				i S	Sb	05 15 53.5	-0.2
HAYA	Volcan Irazu	0.48	352	i P	Pb	05 15 49.0	+1.0
HAYA				i S	Sb	05 15 54.9	-0.4
HAYA				IAML		05 15 57.9	
	comp=Z,2μm,1.0s						
HDC3	Heredia 3	0.60	326	i P	Pb	05 15 50.3	+0.4
HDC3				IAML		05 15 51.2	
	comp=Z,530nm,1.0s						
HDC3				i S	Sg	05 15 57.6	+0.8
POTG	Potrero Grande	0.79	125	i P	Pn	05 15 53.7	-0.7
POTG				i S	Sb	05 16 03.6	-0.1
POTG				IAML		05 16 08.0	
	comp=Z,410nm,1.0s						
VPTE	Poasito	0.79	328	i P	Pb	05 15 53.8	+0.7
VPTE				i S	Sb	05 16 04.9	+1.0
VPTE				IAML		05 16 07.0	
	comp=Z,460nm,1.0s						
RIFO	Rio Frio, Sara	0.82	350	i P	Pb	05 15 54.1	+0.5
RIFO				i S	Sb	05 16 05.9	+1.2
RIFO				IAML		05 16 13.7	
	comp=Z,160nm,1.0s						
JACO	JACO, Garabito	0.89	280	i P	Pg	05 15 54.1	-0.3
JACO				i S	Sg	05 16 05.4	-0.6
JACO				IAML		05 16 12.3	
	comp=Z,110nm,1.0s						
CPMI	Catarata Coope	0.98	322	i P	Pg	05 15 56.3	+0.2
CPMI				i S	Sg	05 16 08.2	-0.8
CPMI				IAML		05 16 11.2	
	comp=Z,140nm,1.0s						
TRT2	Tortugero	1.05	2	i P	Pg	05 15 57.4	0.0
TRT2				i S	Sg	05 16 11.1	0.0
TRT2				IAML		05 16 15.7	
	comp=Z,81nm,1.0s						
LAFE	Finca La Fe, P	1.16	285	i P	Pb	05 15 59.5	+0.1
LAFE				i S	Sg	05 16 15.1	+0.4
LAFE				IAML		05 16 24.2	
	comp=Z,72nm,1.0s						
CTCR	Cotoan	1.17	121	i P	Pn	05 15 59.6	-0.2
CTCR				i S	Sb	05 16 14.4	-0.5
CTCR				IAML		05 16 18.1	
	comp=Z,830nm,1.0s						
MLIR3	Monte Lirio, C	1.17	127⇑	i P	Pn	05 16 01.0	+1.2
MLIR3				i S	Sn	05 16 15.8	0.0
SOCE	Pocosol	1.21	316	i P	Pb	05 16 00.4	+0.2
SOCE				i S	Sb	05 16 15.9	0.0
SOCE				IAML		05 16 18.8	
	comp=Z,240nm,1.0s						
BRU2	Volcan	1.28	123	i P	Pg	05 16 02.2	+0.3
BRU2				i S	Sn	05 16 19.4	+0.8
BRU2	Volcan	1.28	123	i P	Pg	05 16 01.5	-0.3
BRU2				IAML		05 16 02.7	
	comp=Z,290nm,1.0s						
BRU2				i S	Sn	05 16 18.4	-0.1
CNI2	El Empalme, Bo	1.29	93	e P	Pg	05 16 02.3	+0.4
BC3P	Paso Ancho	1.33	121	i P	Pg	05 16 03.3	+0.4
COVE	Coope Vega, Sa	1.36	333	i P	Pn	05 16 01.5	-0.7
COVE				i S	Sb	05 16 17.6	-2.6
COVE				IAML		05 16 24.0	
	comp=Z,89nm,1.0s						
BCO2	Palmira	1.46	122	i P	Pg	05 16 04.7	-0.5
BCO2				e S	Sg	05 16 23.4	-0.8
LNBQ3	Los Naranjos,	1.49	118	i P	Pg	05 16 05.2	-0.7
LNBQ3				i S	Sb	05 16 23.6	-0.6
PTAR3	Potrerillos Ar	1.50	122	e P	Pg	05 16 05.2	-0.7
PTPM	Petroterminale	1.56	146	e P	Pg	05 16 08.5	+1.2
CHGR2	Aguacate	1.70	109	e P	Pb	05 16 08.2	-0.4
CHGR2				i S	Sb	05 16 29.8	-0.3

IDC 02 05:43:37.1±4.3**, 16°.77S**×**174°.71W, h0**km**, mb3.7**/3**, mbtmp3.7**/3**, MS3.0**/1**, Error ellipse: s-maj=292.7km s-min=33.0km az=151.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	18.53	250	LR	LR	05 53 17.6	
	comp=Z,46nm,18.5s,baz=280,slow=31						
WRA	Warramunga Arr	48.31	258	P	P	05 52 21.5	+0.8
	0.3nm,0.8s,baz=94,slow=13,SNR=1.9						
	0.3nm,0.8s						
ASAR	Alice Springs	48.50	253	P	P	05 52 21.4	-0.7
	2.3nm,0.8s,baz=85,slow=8.4,SNR=24						
	2.3nm,0.8s						
PDAR	Pinedale Array	84.12	42	P	P	05 56 10.4	0.0
	0.7nm,0.8s,baz=193,slow=3.6,SNR=6.3						
	0.7nm,0.8s						
BRTR	Keskin Array B	146.39	319	PKPbc	PKPdf	06 03 19.6	+0.3
	0.9nm,0.8s,baz=74,slow=2.1,SNR=3.6						

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*IDC **02** 05:50:55.3±0.9, 30°.72N×57°.24E, h0km, mb3.8/13, mbtmp3.9/18, ML3.8/5, MS3.1/19, Error ellipse: s-maj=19.3km s-min=17.3km az=151.0*
*TEH **02** 05:50:55.6, 30°.73N×57°.42E, h8km±47km, ML4.3*
*OMAN **02** 05:50:57.8±0.7, 30°.69N×57°.43E, h10km, mb4.5/19, ml4.1/1, ms2.5/2, Error ellipse: s-maj=8.0km s-min=4.6km az=83.0*
*DSN **02** 05:50:57.6±1.2, 30°.50N×58°.33E, h10km, ML3.6/9, Error ellipse: s-maj=53.3km s-min=11.6km az=110.0*
ISC 02 05:50:57.4±0.5**, 30°.75N**±0°.04×**57°.40E**±0°.04**, h15**km**, n129,** σ**1s.44**/137**, mb3.9**/13**, MS3.1**/15**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.77	287	Pg	Pg	05 51 10.7	-1.7
ZRDN				Sg	Sg	05 51 22.5	-0.2
KHGB	Koh Gabri	0.88	245	Pg	Pb	05 51 12.3	-2.1
CHMN	Cheshme madani	0.89	172	Pg	Pg	05 51 12.1	-2.7
TVBK	TV Kerman	0.94	216	Pg	Pb	05 51 13.8	-1.8
NGRK	Negar Kerman	1.24	208	Pg	Pn	05 51 19.6	-1.0
IBAF	Bafgh	1.78	299	Pg	Pn	05 51 28.8	+1.1
KBAM	BAM	1.85	150	Pn	Pn	05 51 28.9	+0.2
BSRN	Basiran	1.91	50	Pn	Pn	05 51 30.2	+0.6
IKOO	Kooshah	2.16	39	Pn	Pn	05 51 33.7	+0.6
TPRV	Parvadeh(Tabas	2.35	345	Pn	Pn	05 51 36.4	+0.8
NHDN	Nehbandan	2.37	74	Pn	Pn	05 51 37.2	+1.4
ITEG	Tejag	2.43	28	Pn	Pn	05 51 37.3	+0.5
IMEH	Mehriz	2.47	286	Pn	Pn	05 51 38.7	+1.3
BAGH	Bagheran - Bir	2.55	37	Pn	Pn	05 51 38.6	+0.1
KHNJ	Kahnooj	2.80	174	Pn	Pn	05 51 43.0	+1.3
TKDS	Koohdasht(Taba	2.87	355	Pn	Pn	05 51 43.2	+0.6
IDAH	Dahanechah	2.89	46	Pn	Pn	05 51 43.7	+0.5
ICHK	Chekchek	2.96	301	Pn	Pn	05 51 45.1	+1.1
AFRZ	Afriz	3.00	27	Pn	Pn	05 51 45.7	+1.1
ZHDN	Zahedan	3.25	114	Pn	Pn	05 51 48.1	+0.1
TNSJ	Nastanj	3.27	348	Pn	Pn	05 51 49.2	+0.9
ISAD	Sadrabad	3.38	291	Pn	Pn	05 51 51.3	+1.4
GENO	Geno	3.50	198	Pn	Pn	05 51 53.0	+1.5
SHRT	Shahrakht	3.79	40	Pn	Pn	05 51 56.9	+1.6
ANAR	Anarak	3.96	309	Pn	Pn	05 51 58.7	+1.0
IRAM	Ramesheh	4.42	285	Pn	Pn	05 52 05.7	+1.6
SHME	Shamm	4.81	194	P	Pn	05 52 10.5	+1.2
SHME	Shamm	4.81	194	P	Pn	05 52 10.4	+1.1
SHME				S	Sn	05 53 07.0	+2.2
IZEF	Zefreh	4.81	298	Pn	Pn	05 52 11.3	+1.7
IGAR	Gharneh	4.86	291	Pn	Pn	05 52 11.9	+1.8
JASK	Jask - Hormozg	4.88	175	P	Pn	05 52 11.0	+0.8
	SNR=8.9						
JASK				S	Sn	05 53 08.6	+2.1
JASK	Jask - Hormozg	4.88	175	Pn	Pn	05 52 11.9	+1.6
TBHD	Torbat heydari	4.90	18	Pn	Pn	05 52 11.8	+1.1
KLNJ	Kolanjah	5.00	274	Pn	Pn	05 52 13.2	+1.0
TBJM	Torbat-e-JAM	5.14	28	Pn	Pn	05 52 15.2	+1.3
MASF	Masafi	5.47	192	P	Pn	05 52 19.3	+1.0
	SNR=12						
MASF				S	Sn	05 53 23.1	+2.1
MSFE	Esma-Masafi	5.48	192	P	Pn	05 52 19.8	+1.3
MSFE				S	Sn	05 53 23.7	+2.4
KRSH	Karshahi	5.49	307	Pn	Pn	05 52 19.9	+1.1
SRVN	Saravan	5.50	126	Pn	Pn	05 52 20.2	+1.2
IANJ	Anjilo	5.54	329	Pn	Pn	05 52 20.4	+0.9
IMOG	Moghan	5.59	16	Pn	Pn	05 52 21.6	+1.4
SBZV	Sabzevar	5.63	2	Pn	Pn	05 52 22.1	+1.3
ISFB	Sefidab	5.64	311	Pn	Pn	05 52 21.6	+0.8
IPAY	Payeh	5.84	13	Pn	Pn	05 52 25.1	+1.4
UOSS	Minazif	5.88	191	P	Pn	05 52 25.1	+1.1
UOSS	Minazif	5.88	191	P	Pn	05 52 25.6	+1.6
UOSS				S	Sn	05 53 33.3	+2.2
QAMS	Qamsar	5.89	302	Pn	Pn	05 52 25.2	+0.8
JHBN	Jahan bin	5.94	286	Pn	Pn	05 52 27.3	+2.3
NAZ	Nazwa, Dubai	5.94	195	P	Pn	05 52 25.6	+0.7
NAZ	Nazwa, Dubai	5.94	195	P	Pn	05 52 26.7	+1.9
	SNR=5.7						
NAZ				S	Sn	05 53 35.0	+2.4
IAKL	Akhelmad	5.95	11	Pn	Pn	05 52 26.3	+1.1
HATD	Hatta, Dubai	6.01	191	P	Pn	05 52 27.0	+1.3
HATD	Hatta, Dubai	6.01	191	P	Pn	05 52 27.3	+1.6
HATD				S	Sn	05 53 36.4	+2.1
IMYA	Miami	6.02	21	Pn	Pn	05 52 28.0	+2.0
ASHO	Ashiyiah	6.16	191	P	Pn	05 52 29.5	+1.6
ASHO	Ashiyiah	6.16	191	P	Pn	05 52 29.5	+1.6
	SNR=18						
ASHO				S	Sn	05 53 40.2	+2.2
FAQ	Al Faqa, Dubai	6.19	195	P	Pn	05 52 29.6	+1.3
FAQ	Al Faqa, Dubai	6.19	195	P	Pn	05 52 29.8	+1.6
	SNR=7.3						
FAQ				S	Sn	05 53 41.2	+2.4
IFIR	Firoozkooh	6.24	323	Pn	Pn	05 52 29.9	+0.8
IKRD	Kardeh	6.26	16	Pn	Pn	05 52 31.2	+1.7
NGCH	Negor - Chabah	6.30	147	P	Pn	05 52 30.2	+0.4
ISFR	Sfrayin	6.31	4	Pn	Pn	05 52 31.2	+1.1
ASUD	Al Ashush, Dub	6.37	197	P	Pn	05 52 32.8	+2.1
ASUD	Al Ashush, Dub	6.37	197	P	Pn	05 52 31.8	+1.0
ASUD				S	Sn	05 53 45.7	+2.5
IVRN	Varamin	6.38	313	Pn	Pn	05 52 32.5	+1.6
IGLO	Ghaloghah	6.46	334	Pn	Pn	05 52 34.1	+1.9
AJN	Ajban	6.52	200	P	Pn	05 52 33.7	+0.9
AJN				S	Sn	05 53 48.1	+1.1
IDMV	Damavand	6.59	318	Pn	Pn	05 52 35.2	+1.2
SOHO	SOHO	6.63	187	P	Pn	05 52 33.4	-1.0
SOHO	SOHO	6.63	187	P	Pn	05 52 35.2	+0.9
IEMG	Emamgholi	6.73	9	Pn	Pn	05 52 37.1	+1.2
ALNE	Al Ain	6.83	193	P	Pn	05 52 37.6	+0.6
ALNE	Al Ain	6.83	193	P	Pn	05 52 37.8	+0.8
ALNE				S	Sn	05 53 56.9	+2.4
MRVT	Maraveh tapeh	6.98	351	Pn	Pn	05 52 40.4	+1.2
JRN	Qarnain Island	7.05	216	P	Pn	05 52 41.1	+1.1
HOQ	Hoqain	7.14	181	P	Pn	05 52 42.3	+0.9
HOQ				P	Pn	05 52 42.3	+0.9
HOQ	Hoqain	7.14	181	Pn	Pn	05 52 40.9	-0.4
GEYT	Alibeck	7.19	5	Pn	Pn	05 52 43.3	+1.3
	1.5nm,0.3s,baz=168,slow=15,SNR=5.9						
GEYT				Sn	Sn	05 54 04.7	+1.3
	1.8nm,0.3s,baz=215,slow=20,SNR=1.7						
GEYT				LR	LR	05 55 26.0	
	comp=Z,38nm,18.2s,baz=175,slow=37						
	2.3nm,0.3s						
BIDO	Bidbid	7.23	175	P	Pn	05 52 43.1	+0.5
ARQ	Araqi	7.42	186	P	Pn	05 52 46.1	+0.8
	SNR=12						
ARQ				P	Pn	05 52 46.1	+0.8
	SNR=12						
SHMA	Al-Shehemyia	7.48	231	P	Pn	05 52 46.8	+0.9
WSAR	Wadi Sarin	7.56	171	P	Pn	05 52 47.3	+0.2
	SNR=16						
WSAR				S	Sn	05 54 15.1	+2.5
WSAR	Wadi Sarin	7.56	171	Pn	Pn	05 52 46.4	-0.7
	2.4nm,0.3s,baz=0.8,slow=12,SNR=22						
WSAR				Sn	Sn	05 54 09.8	-2.8
	0.1nm,0.3s,baz=270,slow=20,SNR=1.0						
	16nm,0.8s						
SMDO	Samad	7.68	176	P	Pn	05 52 49.2	+0.3
SAKB	Bahrain	7.69	233	P	Pn	05 52 49.5	+0.7
KLST	Kelardasht - M	7.81	319	Pn	Pn	05 52 52.8	+2.0
BSY	Bisya	7.97	181	P	Pn	05 52 53.5	+0.7
TRNA	Turayna	8.12	224	P	Pn	05 52 55.4	+0.7
	SNR=7.3						
TRNA				S	Sn	05 54 28.6	+2.4
WBK	Wadi Bani Khal	8.23	170	P	Pn	05 52 56.5	+0.3
	SNR=12						
WBK				S	Sn	05 54 31.0	+2.0
WBK	Wadi Bani Khal	8.23	170	Pn	Pn	05 52 55.8	-0.4
SMRA	Abu-Samra	8.35	226	P	Pn	05 52 58.3	+0.5
JMDO	Jabal Madar	8.37	176	P	Pn	05 52 58.5	+0.3
JMDO				S	Sn	05 54 35.0	+2.5
JLN	Jalan Bani Buh	8.75	168	P	Pn	05 53 03.1	-0.4
MHTO	MHTO	9.73	177	P	Pn	05 53 17.2	+0.3
DMTO	DMTO	13.16	190	P	Pn	05 54 01.7	-2.1
DMTO				S	Sn	05 56 32.4	+2.4
WHFO	Wadi Hawf	13.19	195	P	Pn	05 54 02.2	-2.1
	SNR=9.5						
RBK	Rabkut	13.50	193	P	Pn	05 54 06.2	-2.3
ABTO	Aybut	13.85	197	P	Pn	05 54 10.2	-3.1
GNI	Garni	13.93	316	LR	LR	06 00 17.8	
	comp=Z,68nm,18.4s,baz=86,slow=41						
KBZ	Khabaz	17.32	322	P	Pn	05 54 59.2	+0.7
	0.1nm,0.3s,baz=155,slow=5.8,SNR=4.4						
	4.3nm,1.0s						
AAK	Ala-Archa	18.09	44	P	P	05 55 10.5	+1.8
	0.2nm,0.3s,baz=216,slow=5.6,SNR=5.0						
AAK				LR	LR	06 03 02.2	
	comp=Z,91nm,19.0s,baz=260,slow=40						
	1.8nm,0.8s						
EIL	Elat	19.43	273	LR	LR	06 04 28.9	
	comp=Z,42nm,18.3s,baz=247,slow=42						
AKTO	Aktyubinsk	19.67	1	P	P	05 55 26.2	+0.5
	0.7nm,0.3s,baz=182,slow=9.7,SNR=26						
AKTO				LR	LR	06 04 51.9	
	comp=Z,65nm,21.7s,baz=74,slow=42						
	7.6nm,0.7s						
BRTR	Keskin Array B	21.32	301	P	P	05 55 43.7	-0.2
	1.3nm,0.7s,baz=123,slow=12,SNR=8.0						
	1.3nm,0.7s						
BELG	Belogornoye	22.79	344	LR	LR	06 07 49.9	
	comp=Z,42nm,19.9s,baz=129,slow=44						
BVAR	Borovoye Array	24.19	19	P	P	05 56 14.5	+1.3
	5.2nm,0.7s,baz=201,slow=7.8,SNR=21						
BVAR				LR	LR	06 06 30.5	
	comp=Z,29nm,19.5s,baz=216,slow=38						
	5.2nm,0.7s						
MKAR	Makanchi Array	25.02	43	P	P	05 56 21.6	+0.9
	0.7nm,0.6s,baz=226,slow=10.0,SNR=6.2						
MKAR				LR	LR	06 07 00.3	
	comp=Z,34nm,20.7s,baz=248,slow=38						
	0.7nm,0.6s						
KURBB	Kurchatov Arra	25.35	32	P	P	05 56 25.1	+1.4
	1.8nm,0.7s,baz=231,slow=9.1,SNR=17						
	1.8nm,0.7s						
ARU	Arti	25.68	1	LR	LR	06 07 49.4	
	comp=Z,37nm,18.6s,baz=184,slow=39						
KIRV	Kirov	28.36	351	LR	LR	06 10 25.2	
	comp=Z,85nm,19.2s,baz=139,slow=41						
ZALV	Zalesovo Beam	30.45	32	P	P	05 57 10.2	+0.9
	2.4nm,0.5s,baz=238,slow=9.4,SNR=13						
ZALV				LR	LR	06 11 23.4	
	comp=Z,41nm,21.6s,baz=56,slow=40						
	2.4nm,0.5s						
PALK	Pallekele	31.96	132	LR	LR	06 12 06.9	
	comp=Z,28nm,19.2s,baz=37,slow=40						
FINES	FINESS Array B	36.91	335	P	P	05 58 04.0	-1.3
	1.3nm,0.6s,baz=131,slow=8.6,SNR=6.8						
	1.3nm,0.6s						
GERES	GERESS Array B	37.52	311	P	P	05 58 10.1	-0.7
	1.7nm,0.8s,baz=95,slow=8.6,SNR=5.9						
	1.7nm,0.8s						
CLL	Collm	38.54	315	e Px	Px	05 58 21.0	
CMAR	Chiang Mai Arr	39.49	98	LR	LR	06 18 28.3	
	comp=Z,8.3nm,18.8s,baz=140,slow=42						
SONM	Songino Array	40.84	51	LR	LR	06 17 40.6	
	comp=Z,32nm,20.3s,baz=214,slow=39						
HFS	Hagfors	41.24	328	LR	LR	06 17 01.7	
	comp=Z,23nm,18.3s,baz=58,slow=38						
EKA	Eskdalemuir Ar	48.75	319	P	P	05 59 41.1	-0.2
	0.5nm,0.5s,baz=104,slow=7.1,SNR=4.0						
EKA				PcP	PcP	06 01 06.2	+0.1
	0.9nm,0.7s,baz=108,slow=9.7,SNR=3.4						
	0.5nm,0.5s						
ESDC	Sonseca Array	50.06	298	P	P	05 59 50.1	-1.6
	0.6nm,0.9s,baz=87,slow=6.4,SNR=1.6						
	0.6nm,0.9s						
TORD	Torodi Ar. Bea	54.02	264	P	P	06 00 21.2	-0.1
	1.5nm,0.8s,baz=49,slow=7.9,SNR=11						
	1.5nm,0.8s						
TSUM	Tsumeb	62.70	223	LR	LR	06 31 30.8	
	comp=Z,31nm,18.1s,baz=192,slow=39						
DBIC	Dimbokro	62.82	261	LR	LR	06 31 03.4	
	comp=Z,28nm,18.1s,baz=359,slow=38						
LBTB	Lobatse	63.26	212	LR	LR	06 28 41.0	
	comp=Z,34nm,18.3s,baz=35,slow=36						
SUR	Sutherland	71.71	212	LR	LR	06 36 52.2	
	comp=Z,26nm,19.6s,baz=66,slow=38						
YKA	Yellowknife Ar	86.86	356	P	P	06 03 41.6	+0.6
	0.3nm,0.9s,baz=355,slow=6.1,SNR=5.2						
	0.3nm,0.9s						
WRA	Warramunga Arr	89.40	114	P	P	06 03 53.6	-0.3
	0.6nm,0.8s,baz=320,slow=4.0,SNR=3.1						
	0.6nm,0.8s						
ASAR	Alice Springs	91.08	117	P	P	06 04 03.5	+1.8
	0.5nm,0.8s,baz=288,slow=3.9,SNR=4.9						
	0.5nm,0.8s						
BBB	Bella Bella	97.28	3	LR	LR	06 54 07.0	
	comp=Z,105nm,18.1s,baz=209,slow=39						

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*IDC **02** 06:04:12.5±0.8, 10°.12S×152°.55E, h0km, mb4.1/12, mbtmp4.1/13, ML3.9/1, MS3.7/33, Error ellipse: s-maj=29.6km s-min=18.1km az=101.0*
*GCMT **02** 06:04:17.0±0.4, 10°.09S±0°.02×152°.20E±0°.04, h20km±1km, MW4.8/65, Moment Tensor Solution. s22,c28; s65,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.06±.17; $M_{\theta\theta}$1.83±.11; $M_{\phi\phi}$0.22±.10; $M_{r\theta}$0.54±.16; $M_{\theta\phi}$-0.39±.06; $M_{\phi r}$0.67±.19; Best double couple: $M_0$2.14600×10^{16} NP1:ϕ_s265.00000°,δ53.00000°,λ-111.00000°. NP2: ϕ_s119.00000°,δ42.00000°,λ-64.00000°. Principal axes: T 1.9560, Plg6.0000°, Azm10.0000°; N 0.3760, Plg17.0000°, Azm279.0000°; P -2.3360, Plg72.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 02 06:04:14.7±0.7**, 10°.28S**±0°.09×**152°.53E**±0°.09**, h10**km**, n39,** σ**2s.17**/17**, mb4.2**/11**, MS3.7**/30**, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.36	279	Pn	Pn	06 05 38.2	+3.4
	1.3nm,0.3s,baz=210,slow=20,SNR=1.9						
PMG				Sn	Sb	06 06 51.2	-1.8
	0.5nm,0.3s,baz=183,slow=16,SNR=1.4						
HNR	Honiara	7.36	84	LR	LR	06 07 52.5	
	comp=Z,1μm,20.7s,baz=276,slow=30						
CTA	Charters Tower	11.48	211	Pn	Pn	06 06 58.2	-0.6
	0.6nm,0.3s,baz=35,slow=15,SNR=6.9						
CTA				Sn	Sn	06 09 04.0	-3.2
	0.5nm,0.3s,baz=129,slow=16,SNR=2.4						
CTA				LR	LR	06 11 22.7	
	comp=Z,584nm,18.4s,baz=45,slow=37						
	1.5nm,0.4s						
DZM	Mont Dzumac	17.76	133	LR	LR	06 14 31.3	
	comp=Z,675nm,18.7s,baz=322,slow=35						
WRA	Warramunga Arr	20.00	239	P	P	06 08 47.6	-0.1
	1.7nm,0.6s,baz=62,slow=10,SNR=19						
	1.7nm,0.6s						
ASAR	Alice Springs	22.20	231	P	P	06 09 12.5	+1.0
	3.0nm,0.8s,baz=59,slow=10,SNR=30						
ASAR				LR	LR	06 17 44.1	
	comp=Z,320nm,18.3s,baz=59,slow=36						
	3.0nm,0.8s						
STKA	Stephens Creek	23.76	204	P	P	06 09 28.4	+1.0
	1.7nm,0.7s,baz=60,slow=19,SNR=1.6						
STKA				LR	LR	06 19 10.9	
	comp=Z,380nm,18.6s,baz=21,slow=38						
	1.7nm,0.7s						
GUMO	Guam	24.90	342	LR	LR	06 20 23.1	
	comp=Z,51nm,18.0s,baz=128,slow=39						
BATI	Baumata	28.40	268	LR	LR	06 23 17.9	
	comp=Z,119nm,19.8s,baz=98,slow=40						
KAPI	Kappang	32.89	277	LR	LR	06 26 00.3	
	comp=Z,43nm,18.6s,baz=122,slow=40						
URZ	Urewera	35.53	146	LR	LR	06 23 43.4	
	comp=Z,223nm,21.1s,baz=32,slow=33						
RPZ	Rata Peaks	37.00	157	LR	LR	06 24 40.6	
	comp=Z,449nm,20.7s,baz=290,slow=33						
NWAO	Narrogin (SRO)	39.52	230	LR	LR	06 28 06.6	
	comp=Z,224nm,18.9s,baz=122,slow=36						
JOW	Kunigami	43.76	328	LR	LR	06 28 17.6	
	comp=Z,65nm,21.8s,baz=115,slow=33						
JHJ	Hachijo jima 2	44.83	345	LR	LR	06 27 48.3	
	comp=Z,75nm,19.8s,baz=213,slow=32						
KSRS	Korea Array	52.79	335	P	P	06 13 29.6	-0.5
	0.5nm,0.3s,baz=165,slow=9.3,SNR=2.6						
KSRS				LR	LR	06 34 22.9	
	comp=Z,25nm,20.2s,baz=155,slow=34						
	0.5nm,0.3s						
ASAJ	Asahikawa	54.88	351	LR	LR	06 34 46.5	
	comp=Z,24nm,21.5s,baz=133,slow=34						
CMAR	Chiang Mai Arr	60.08	298	P	P	06 14 22.1	-0.5
	2.1nm,0.3s,baz=129,slow=7.1,SNR=1.9						
CMAR				LR	LR	06 43 01.3	
	comp=Z,10nm,18.3s,baz=185,slow=39						
	2.1nm,0.3s						
KLR	Kul'dur	62.01	345	LR	LR	06 38 01.2	
	comp=Z,34nm,21.6s,baz=184,slow=33						
PETK	Petropavlovsk-	63.28	3	LR	LR	06 36 48.4	
	comp=Z,63nm,19.9s,baz=159,slow=31						
VNDA	Vanda	67.40	178	P	P	06 15 10.4	+0.5
	1.6nm,0.8s,baz=329,slow=6.5,SNR=5.6						
VNDA				LR	LR	06 43 46.0	
	comp=Z,42nm,18.2s,baz=332,slow=35						
	1.6nm,0.8s						
MA2	Magadan	69.63	359	LR	LR	06 47 02.1	
	comp=Z,21nm,18.8s,baz=172,slow=37						
SONM	Songino Array	70.82	329	P	P	06 15 30.4	-1.3
	1.8nm,0.9s,baz=156,slow=6.0,SNR=7.1						
SONM				LR	LR	06 45 50.0	
	comp=Z,30nm,21.4s,baz=54,slow=35						
	1.8nm,0.9s						
SEY	Seymchan	72.98	360	LR	LR	06 42 30.6	
	comp=Z,49nm,21.3s,baz=306,slow=32						
QSPA	South Pole Qui	79.72	180	P	P	06 16 23.3	+0.6
	3.2nm,0.8s,baz=200,slow=7.7,SNR=3.2						
	3.2nm,0.8s						
MAW	Mawson	80.45	203	LR	LR	06 50 17.2	
	comp=Z,80nm,19.1s,baz=80,slow=34						
KDAK	Kodiak Island	81.16	26	LR	LR	06 46 17.6	
	comp=Z,71nm,21.0s,baz=230,slow=31						
MKAR	Makanchi Array	84.27	319	P	P	06 16 45.4	-1.3
	0.8nm,0.9s,baz=99,slow=7.5,SNR=5.5						
MKAR				LR	LR	06 54 37.3	
	comp=Z,29nm,19.4s,baz=50,slow=36						
	0.8nm,0.9s						
ZALV	Zalesovo Beam	85.54	327	P	P	06 16 51.0	-1.9
	1.2nm,0.6s,baz=98,slow=4.8,SNR=6.3						
ZALV				LR	LR	06 53 54.0	
	comp=Z,27nm,20.4s,baz=82,slow=35						
	1.2nm,0.6s						
ILAR	Eielson Array	87.30	22	P	P	06 17 00.2	-1.2
	1.5nm,0.7s,baz=249,slow=4.8,SNR=17						
ILAR				LR	LR	06 51 37.7	
	comp=Z,74nm,21.4s,baz=212,slow=33						
	1.5nm,0.7s						
AAK	Ala-Archa	88.22	314	LR	LR	06 58 01.9	
	comp=Z,15nm,18.2s,baz=62,slow=37						
YBH	Yreka Blue Hor	92.88	48	LR	LR	06 54 40.1	
	comp=Z,73nm,18.5s,baz=239,slow=33						
BVAR	Borovoye Array	93.44	323	LR	LR	07 00 53.8	
	comp=Z,15nm,18.7s,baz=64,slow=36						
INK	Inuvik	93.63	21	LR	LR	06 57 58.6	
	comp=Z,30nm,21.0s,baz=237,slow=34						
NVAR	Mina Array Bea	95.65	52	P	P	06 17 39.0	-2.1
	0.5nm,0.8s,baz=240,slow=7.2,SNR=2.6						
	0.5nm,0.8s						
SNAA	Sanae	96.60	188	LR	LR	06 59 40.7	
	comp=Z,98nm,21.4s,baz=170,slow=34						
ELK	Elko	98.30	50	LR	LR	06 54 38.5	
	comp=Z,41nm,19.5s,baz=268,slow=31						
BDFB	Brasilia	147.18	141	PKPbc	PKPdf	06 23 59.3	+2.1
	2.0nm,0.8s,baz=159,slow=1.6,SNR=4.1						
TORD	Torodi Ar. Bea	151.31	279	PKPbc	PKPdf	06 24 08.5	+4.8
	0.8nm,0.8s,baz=55,slow=3.4,SNR=10						

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*IDC **02** 06:11:10.2±0.9, 6°.87S×155°.53E, h0km, mb3.8/7, mbtmp3.7/7, MS2.9/1, Error ellipse: s-maj=39.1km*

s-min=25.1km az=127.0
ISC 02 06:11:17.8±0.9**,6°8S**±0°2×**155°4E**±0°3**,h50^{km},n13, σ0^{s}83**/11**,mb3.7**/7**,Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	4.16	307	LR	LR	06 14 12.3	
	comp=Z,151nm,19.0s,baz=61,slow=42						
WRA	Warramunga Arr	24.23	235	P	P	06 16 29.9	-0.3
	0.9nm,0.5s,baz=58,slow=9.4,SNR=25						
WRA				PcP	PcP	06 20 10.2	+0.4
	0.3nm,0.5s,baz=62,slow=2.6,SNR=6.4						
	0.9nm,0.5s						
ASAR	Alice Springs	26.58	229	P	P	06 16 50.6	-0.8
	0.3nm,0.6s,baz=59,slow=8.6,SNR=5.9						
ASAR				PcP	PcP	06 20 15.8	+0.7
	0.2nm,0.6s,baz=64,slow=2.6,SNR=1.7						
	0.3nm,0.6s						
H11S3	WAKE ISLAND Hy	27.51	24	T	T	06 45 32.0	
	baz=202,slow=76,SNR=16						
H11S2	WAKE ISLAND Hy	27.52	24	T	T	06 45 35.7	
	baz=202,slow=76,SNR=19						
H11S1	WAKE ISLAND Hy	27.53	24	T	T	06 45 31.3	
	baz=202,slow=76,SNR=9.5						
CMAR	Chiang Mai Arr	61.05	295	P	P	06 21 28.0	+1.0
	2.4nm,0.7s,baz=123,slow=5.0,SNR=6.7						
	2.4nm,0.7s						
ILAR	Eielson Array	83.07	21	P	P	06 23 38.0	+0.2
	0.3nm,0.7s,baz=235,slow=4.8,SNR=7.5						
	0.3nm,0.7s						
QSPA	South Pole Qui	83.16	180	P	P	06 23 38.6	+0.1
	0.5nm,0.5s,baz=86,slow=3.7,SNR=2.0						
	0.5nm,0.5s						
ZALV	Zalesovo Beam	84.24	326	P	P	06 23 43.4	-0.6
	0.3nm,0.4s,baz=112,slow=3.9,SNR=1.8						
	0.3nm,0.4s						
YKA	Yellowknife Ar	96.00	28	P	P	06 24 38.7	-0.6
	0.2nm,0.6s,baz=267,slow=5.0,SNR=5.0						
	0.2nm,0.6s						
BDFB	Brasilia	147.83	134	PKPbc	PKPdf	06 30 56.5	+1.0
	1.4nm,0.6s,baz=249,slow=2.7,SNR=4.7						
TORD	Torodi Ar. Bea	153.34	286	PKPbc	PKPbc	06 31 10.5	-1.1
	0.5nm,0.9s,baz=66,slow=2.8,SNR=2.5						

*SOME **02** 06:22:22.3, 44°23N×81°20E, h25^{km}*
*NNC **02** 06:22:24.3±0.9, 44°32N×80°99E, h0^{km}, mb4.0, mpv3.9, Error ellipse: s-maj=7.1km s-min=4.8km az=115.0*
ISC 02 06:22:21.2±1.6**,44°27N**±0°04×**81°21E**±0°05**,h1**^{km}±12^{km}**, n55,σ1^{s}47**/67**,7C-2D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DJR	Jarkent	1.02	274	eP	Pg	06 22 40.3	-0.5
	76nm,0.2s						
DJR				eS	Sg	06 22 51.7	-2.4
	79nm,0.1s						
DJR	Jarkent	1.02	274	P	Pg	06 22 40.5	-0.4
	76nm,0.2s						
DJR				S	Sg	06 22 51.5	-2.6
	79nm,0.1s						
KTMS	Ketmen	1.03	218	eP	Pn	06 22 43.6	+0.7
	18nm,0.1s						
KTMS				eS	Sn	06 22 58.7	+0.6
	21nm,0.3s						
KTMS	Ketmen	1.03	218	P	Pb	06 22 43.4	+1.5
	18nm,0.1s						
KTMS				S	Sn	06 22 58.7	+0.6
	21nm,0.3s						
KNOS	Konyrlen	1.46	274	P	Pb	06 22 50.6	+1.2
	144nm,0.2s						
KNOS				S	Sn	06 23 10.2	+1.4
	69nm,0.3s						
PDGK	Podgornoye	1.56	234	P	Pb	06 22 51.6	+0.6
	16nm,0.2s						
PDGK				S	Sg	06 23 12.0	+0.7
	60nm,0.5s						
PDGK	Podgornoye	1.56	234	⇑P	Pb	06 22 51.4	+0.4
	21nm,0.9s						
PDGK				⇓S	Sg	06 23 12.1	+0.7
	80nm,0.5s						
KAPS	Kapalarasan	1.67	308	eP	Pg	06 22 54.0	+0.8
	61nm,0.3s						
KAPS				eS	Sg	06 23 16.7	+1.9
	146nm,0.3s						
KAPS	Kapalarasan	1.67	308	P	Pg	06 22 54.0	+0.8
	61nm,0.3s						
KAPS				S	Sg	06 23 16.7	+1.9
	146nm,0.3s						
SHLS	Shalkode	1.69	229	eP	Pn	06 22 50.5	-1.4
	66nm,0.1s						
SHLS				eS	Sn	06 23 11.1	-3.2
	162nm,0.5s						
SHLS	Shalkode	1.69	229	P	Pn	06 22 50.9	-1.0
	66nm,0.1s						
SHLS				S	Sn	06 23 11.7	-2.6
	162nm,0.5s						
BLB	Baldybastay	1.98	266	P	Pb	06 22 57.5	-0.6
	208nm,0.2s						
BLB				S	Sb	06 23 22.5	-0.7
	166nm,0.5s						
KPKS	Kokpek	2.00	247	ePg	Pb	06 22 58.2	-0.2
	87nm,0.1s						
KPKS				eLg	Lg	06 23 24.2	
	356nm,0.5s						
KPKS	Kokpek	2.00	247	Pg	Pb	06 22 58.2	-0.2
	87nm,0.1s						
KPKS				Lg	Lg	06 23 24.2	
	356nm,0.5s						
TDK	Taldyqorghan	2.13	291	ePg	Pb	06 22 59.3	-1.4
	104nm,0.3s						
TDK				eLg	Lg	06 23 26.8	
	141nm,0.7s						
TDK	Taldyqorghan	2.13	291	Pg	Pb	06 22 59.3	-1.4
	104nm,0.3s						
TDK				Lg	Lg	06 23 26.8	
	141nm,0.7s						
ZHN	Zhinishke	2.29	242	ePg	Pb	06 23 03.2	-0.3
	36nm,0.3s						
ZHN				eLg	Lg	06 23 33.5	
	102nm,0.3s						
ZHN	Zhinishke	2.29	242	Pg	Pb	06 23 03.2	-0.3
	36nm,0.3s						
ZHN				Lg	Lg	06 23 33.5	
	102nm,0.3s						
KURS	Kuram	2.33	252	ePg	Pb	06 23 03.7	-0.4
	12nm,0.4s						
KURS				eLg	Lg	06 23 34.1	
	54nm,0.7s						
KURS	Kuram	2.33	252	Pg	Pb	06 23 03.7	-0.4
	12nm,0.4s						
KURS				Lg	Lg	06 23 34.1	
	54nm,0.7s						
SATY	Saty	2.37	240	ePg	Pb	06 23 04.2	-0.5
	46nm,0.2s						
SATY				eLg	Lg	06 23 35.7	
	68nm,0.2s						
SATY	Saty	2.37	240	Pg	Pb	06 23 04.2	-0.5
	46nm,0.2s						
SATY				Lg	Lg	06 23 35.7	
	68nm,0.2s						
ARXS	Arharly	2.44	270	ePg	Pb	06 23 04.9	-1.0
	32nm,0.5s						
ARXS				eLg	Lg	06 23 35.2	
	75nm,0.3s						
ARXS	Arharly	2.44	270	Pg	Pb	06 23 04.9	-1.0
	32nm,0.5s						
ARXS				Lg	Lg	06 23 35.2	
	75nm,0.3s						
MAKZ	Makanchi	2.60	12	⇑Pn	Pb	06 23 07.4	-1.2
	4.0nm,0.7s						
MAKZ				⇓Lg	Lg	06 23 41.6	
	8.0nm,0.5s						
MK31	Makanchi Array	2.64	16	Pn	Pb	06 23 08.4	-0.9
	0.8nm,0.2s,baz=199,slow=13,SNR=195						
MK31				⇑Lg	Lg	06 23 42.2	
	4.3nm,0.3s,baz=193,slow=25,SNR=15						
CHKK	Chushkaly	3.07	264	ePg	Pb	06 23 15.3	-1.4
	15nm,0.2s						
CHKK				eLg	Lg	06 23 54.5	
	52nm,0.4s						
CHKK	Chushkaly	3.07	264	Pg	Pb	06 23 15.3	-1.4
	15nm,0.2s						
CHKK				Lg	Lg	06 23 54.5	
	52nm,0.4s						
KOTS	Kotyrbulak	3.15	252	ePg	Pb	06 23 18.0	-0.1
	26nm,0.4s						
KOTS				eLg	Lg	06 23 57.8	
	68nm,0.4s						
KOTS	Kotyrbulak	3.15	252	Pg	Pb	06 23 18.0	-0.1
	26nm,0.4s						
KOTS				Lg	Lg	06 23 57.8	
	68nm,0.4s						
MDOK	Medeo	3.21	251	ePg	Pb	06 23 18.9	-0.3
	20nm,0.4s						
MDOK				eLg	Lg	06 23 59.5	
	16nm,0.4s						
MDOK	Medeo	3.21	251	⇑Pn	Pn	06 23 15.5	+2.4
	15nm,0.6s						
MDOK				Pg	Pb	06 23 18.9	-0.3
	20nm,0.4s						
MDOK				⇑Lg	Lg	06 23 58.4	
	15nm,0.6s						
MDOK				Lg	Lg	06 23 59.5	
	16nm,0.4s						
KTBS	Karatobe	3.32	262	ePg	Pb	06 23 20.0	-0.9
	7.0nm,0.2s						
KTBS				eLg	Lg	06 24 01.3	
	55nm,0.7s						
KTBS	Karatobe	3.32	262	Pg	Pb	06 23 20.0	-0.9
	7.0nm,0.2s						
KTBS				Lg	Lg	06 24 01.3	
	55nm,0.7s						
TNSS	Tian-Shan	3.33	250	ePg	Pb	06 23 20.2	-1.1
	8.6nm,0.3s						
TNSS				eLg	Lg	06 24 02.6	
	16nm,0.4s						
TNSS	Tian-Shan	3.33	250	Pg	Pb	06 23 20.2	-1.1
	8.6nm,0.3s						
TNSS				Lg	Lg	06 24 02.6	
	16nm,0.4s						
KUU	Kurty	3.53	266	ePg	Pb	06 23 23.3	-1.2
	15nm,0.5s						
KUU				eLg	Lg	06 24 07.0	
	27nm,0.6s						
KUU	Kurty	3.53	266	Pg	Pb	06 23 23.3	-1.2
	15nm,0.5s						
KUU				Lg	Lg	06 24 07.0	
	27nm,0.6s						
IZV	Izvestkoviy	3.56	251	ePg	Pb	06 23 25.3	+0.2
	7.5nm,0.4s						
IZV				eLg	Lg	06 24 10.3	
	35nm,0.7s						
IZV	Izvestkoviy	3.56	251	Pg	Pb	06 23 25.3	+0.2
	7.5nm,0.4s						
IZV				Lg	Lg	06 24 10.3	
	35nm,0.7s						
MTBS	Maitube	3.65	254	ePg	Pb	06 23 27.5	+0.9
	14nm,0.3s						
MTBS				eLg	Lg	06 24 12.6	
	20nm,0.5s						
MTBS	Maitube	3.65	254	Pg	Pb	06 23 27.5	+0.9
	14nm,0.3s						
MTBS				Lg	Lg	06 24 12.6	
	20nm,0.5s						
KST	Kastek	4.00	254	ePg	Pb	06 23 34.6	+2.0
	8.1nm,0.5s						
KST				eLg	Lg	06 24 26.4	
	25nm,0.6s						
KST	Kastek	4.00	254	Pg	Pb	06 23 34.6	+2.0
	8.1nm,0.5s						
KST				Lg	Lg	06 24 26.4	
	25nm,0.6s						
DGS	Degeres	4.07	257	ePg	Pb	06 23 33.4	-0.4
	13nm,0.4s						
DGS				eLg	Lg	06 24 24.2	
	30nm,0.6s						
DGS	Degeres	4.07	257	Pg	Pb	06 23 33.4	-0.4
	13nm,0.4s						
DGS				Lg	Lg	06 24 24.2	
	30nm,0.6s						
ZSN	Zaisan	4.08	37	ePg	Pb	06 23 36.1	+2.3
	2.5nm,0.2s						
ZSN				eLg	Lg	06 24 29.6	
	10.0nm,0.6s						
ZSN	Zaisan	4.08	37	Pg	Pb	06 23 36.5	+2.6
	9.6nm,0.3s						
ZSN				Lg	Lg	06 24 30.8	
	10.0nm,0.6s						
TKM2	Tokmak 2	4.30	254	⇑Pg	Pb	06 23 40.0	+2.3
	7.2nm,0.6s						
TKM2				⇑Lg	Lg	06 24 36.8	
	24nm,0.8s						
SGDS	Sogindy	4.83	263	Pg	Pb	06 23 47.6	+0.9
	2.6nm,0.4s						
SGDS				Lg	Lg	06 24 49.2	
	11nm,0.8s						
BTLS	Baital	5.17	281	ePg	Pb	06 23 55.7	+3.3
	2.4nm,0.7s						
BTLS				eLg	Lg	06 25 02.4	
	3.8nm,0.7s						
BTLS	Baital	5.17	281	Pg	Pb	06 23 55.7	+3.3
	2.4nm,0.7s						
BTLS				Lg	Lg	06 25 02.4	
	3.8nm,0.7s						
MRKS	Merke	6.00	258	Pg	Pb	06 24 09.4	+2.7
	0.7nm,0.1s						
MRKS				Lg	Lg	06 25 26.1	
	5.8nm,0.7s						
SEM	Semipalatinsk	6.18	354	ePg	Pg	06 24 17.9	-1.7
	2.1nm,0.1s						
SEM				eLg	Lg	06 25 41.1	
	7.7nm,0.2s						
KK31	Karatay Array	7.84	265	Lg	Lg	06 26 27.2	
	3.8nm,0.8s,baz=74,slow=28,SNR=8.1						

*AEIC **02** 06:30:54.8±1.6, 52°6N±0°3×171°1W±0°2, h157^{km}±6^{km}, Error ellipse: s-maj=40.7km s-min=7.2km az=163.0*
*NEIC **02** 06:30:54.5±1.6, 52°7N±0°3×171°1W±0°2, h150^{km}±10^{km}, mb3.7/21, ML3.6/8, ML3.1(AEIC), Error ellipse: s-maj=45.0km s-min=7.3km az=162.0*
ISC 02 06:30:54.1±1.7**,52°6N**±0°3×**171°0W**±0°1**,h152**^{km}±13^{km}**, n46,σ0^{s}83**/52**,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CLES	Cleveland East	0.71	71		Pn	06 31 16.9	0.0
CLES					Sn	06 31 34.9	+0.6
CLES	Cleveland East	0.71	71	IAML		06 31 40.3	
	comp=E,827nm,1.3s						
CLES				IAML		06 31 42.4	
	comp=N,860nm,1.1s						
CLCO	Concord Point,	0.81	76		Pn	06 31 17.4	-0.1
CLCO					Sn	06 31 36.6	+1.2
NIKH	Nikolski High	1.36	73		Pn	06 31 22.2	-0.1
NIKH					Sn	06 31 42.5	-1.5
OKSP	Okmok Steeple	1.77	67		Pn	06 31 27.0	+0.3
OKWR	Okmok West Rim	1.89	62		Pn	06 31 28.6	+0.5
KOFP	Korovin Flat P	1.92	262		Pn	06 31 29.1	+0.6
KOFP					Sn	06 31 55.8	+1.1
OKTU	Okmok Mt. Tuli	1.96	65		Pn	06 31 29.0	+0.2
OKTU					Sn	06 31 56.9	+1.2
KOKL	Mount Kliuchef	1.97	263		Pn	06 31 29.3	+0.3
ATKA	Atka Island	1.99	260		Pn	06 31 29.2	0.0
ATKA	Atka Island	1.99	260		Sn	06 31 54.1	-2.0
ATKA	Atka Island	1.99	260	IAML		06 31 51.7	
	comp=E,124nm,3.6s						
KOWE	Korovin West	2.00	265		Pn	06 31 29.3	0.0
OKFG	Magazine Ridge	2.04	65		Pn	06 31 30.7	+0.9
OKFG					Sn	06 31 56.9	-0.4
MAPS	Pakushin South	2.73	62		Pn	06 31 38.2	0.0
MAPS					Sn	06 32 10.6	-1.5
UNV	Unalaska Valle	2.98	63		Pn	06 31 41.6	+0.3
UNV					Sn	06 32 18.5	+0.8
GSTR	Great Sitkin T	3.14	263	Pn	Pn	06 31 43.2	-0.1
GSMY	Great Sitkin M	3.15	262		Pn	06 31 43.7	+0.3
GSCK	Great Sitkin C	3.22	262		Pn	06 31 44.8	+0.5
AKRB	Akutan Reef Bi	3.33	61		Pn	06 31 46.7	+1.0
AKUT	Akutan	3.50	62	Pn	Pn	06 31 48.0	+0.2
AKUT				IAML		06 33 08.6	
	comp=E,92nm,2.8s						
AKUT				IAML		06 33 15.3	
	comp=N,89nm,3.3s						
ADK	Adak	3.56	261	Pn	Pn	06 31 48.3	-0.3
SDPT	Sand Point	6.80	62	Pn	Pn	06 32 29.7	-1.6
CHGN	Chignik	8.22	58	Pn	Pn	06 32 49.0	-1.3
M24K	Tolsona, Glenn	16.33	45	P	P	06 34 35.3	+0.7
I23K	Minto, Yukon-K	16.71	33		P	06 34 38.8	+0.2
N25K	Chitina, Valde	16.83	47	P	P	06 34 39.6	-0.6
CCB	Clear Creek Bu	16.95	36	P	P	06 34 41.5	+0.2
CCB				IAmb	IAmb	06 34 57.5	
	comp=Z,4.0nm,1.4s						
VRDI	Verde Repeater	17.23	49	P	P	06 34 44.0	-0.7
VRDI				IAmb	IAmb	06 34 51.1	
	comp=Z,7.9nm,1.3s						
IL31		17.34	36	P	P	06 34 45.4	-0.2
IL31				IAmb	IAmb	06 35 05.1	
	comp=Z,6.6nm,1.4s						
H24K	Noodor Dome	17.62	32	P	P	06 34 48.4	-0.4
H24K				IAmb	IAmb	06 35 24.5	
	comp=Z,6.6nm,1.4s						
J25K	Salcha River,	17.81	38	P	P	06 34 49.9	-1.0
J25K				IAmb	IAmb	06 34 51.0	
	comp=Z,5.0nm,1.2s						
M26K	Nabesna, AK	17.82	46	P	P	06 34 50.5	-0.5
M26K				IAmb	IAmb	06 35 08.7	
	comp=Z,9.7nm,1.5s						
SCRK	Sand Creek	18.04	40	P	P	06 34 52.5	-0.9
TABL	Table Mountain	18.12	53	P	Pn	06 34 56.0	0.0
LOGN	Logan Glacier	18.27	51	P	P	06 34 56.7	+0.7
M27K	Edge Creek, AK	18.30	46	P	P	06 34 56.1	-0.1
M27K				IAmb	IAmb	06 34 59.3	
	comp=Z,6.5nm,1.4s						
J26L	Joseph Creek	18.44	39	P	P	06 34 56.6	-1.2
BCAR	Beaver Creek A	18.58	44	P	P	06 35 00.4	+1.2
E24K	Your Creek	18.91	26	P	P	06 35 03.2	+0.4
E24K				IAmb	IAmb	06 35 41.3	
	comp=Z,4.8nm,1.4s						
FYU	Fort Yukon	18.92	32	P	P	06 35 03.5	+0.6
FYU				IAmb	IAmb	06 35 26.1	
	comp=Z,5.7nm,1.3s						
O29M	Mount Kennedy	19.34	54	P	P	06 35 08.0	+0.4
O29M				IAmb	IAmb	06 35 44.5	
	comp=Z,7.1nm,1.4s						
P29M	Windy Craggy	19.67	56	P	P	06 35 12.9	+1.8
C23K	Itkillik River	19.70	21	P	P	06 35 11.4	+0.3
I28M	Miner Creek	20.25	39	P	P	06 35 16.5	-0.7
I28M				IAmb	IAmb	06 35 25.3	
	comp=Z,4.0nm,1.4s						
K29M	Barlow Dome	20.64	44	P	P	06 35 21.6	0.0

IDC 02 06:41:28.6±2.7**,6°94S**×**128°38E,h0**^{km}**,mb3.7**/1**, mbtmp3.3**/3**,ML3.1**/2**,Error ellipse: s-maj=304.5km s-min=32.0km az=66.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.16	156	Pn	Pn	06 44 50.4	-0.2
	0.1nm,0.3s,baz=333,slow=14,SNR=1.9						
WRA				Sn	Sn	06 47 15.0	-14
	0.3nm,0.3s,baz=337,slow=23,SNR=8.1						
	0.2nm,0.3s						
ASAR	Alice Springs	17.46	163	P	Pn	06 45 33.9	+0.2
	0.1nm,0.3s,baz=349,slow=8.9,SNR=4.5						
	0.2nm,0.7s						
MKAR	Makanchi Array	67.30	328	P	P	06 52 25.4	0.0
	0.3nm,0.4s,baz=130,slow=6.6,SNR=7.7						
	0.3nm,0.4s						

*IDC **02** 06:56:51.6±8.5, 17°62S×178°58W, h482^{km}±100^{km}, mb3.1/9, mbtmp3.9/9, Error ellipse: s-maj=35.0km s-min=26.1km az=12.0*
ISC 02 06:56:53.0±0.8**,17°6S**±0°2×**178°6W**±0°2**,h500**^{km}**,n10, σ1^{s}37**/10**,mb3.2**/8**,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	20.90	190	P	P	07 00 57.7	-1.9
	2.8nm,0.5s,baz=296,slow=23,SNR=1.7						
	2.8nm,0.5s						
STKA	Stephens Creek	38.61	241	P	P	07 03 34.0	+1.3
	1.5nm,0.4s,baz=101,slow=11,SNR=5.4						
	1.5nm,0.4s						
WRA	Warramunga Arr	44.51	259	P	P	07 04 19.1	-0.6
	0.6nm,0.6s,baz=95,slow=7.0,SNR=15						
	0.6nm,0.6s						
ASAR	Alice Springs	44.70	254	P	P	07 04 21.4	+0.2
	5.6nm,0.6s,baz=88,slow=8.2,SNR=136						
	5.6nm,0.6s						
VNDA	Vanda	60.71	185	P	P	07 06 15.8	+0.9
	0.6nm,0.8s,baz=354,slow=14,SNR=1.8						
	0.6nm,0.8s						
NVAR	Mina Array Bea	79.35	44	P	P	07 08 07.8	+0.9
	0.4nm,0.6s,baz=222,slow=8.5,SNR=4.4						
	0.4nm,0.6s						
ILAR	Eielson Array	85.66	13	P	P	07 08 36.5	-1.4
	0.2nm,0.4s,baz=218,slow=5.4,SNR=5.0						
	0.2nm,0.4s						
TXAR	Lajitas Array	86.00	58	P	P	07 08 41.6	+1.2
	1.3nm,0.9s,baz=217,slow=5.9,SNR=13						
	1.3nm,0.9s						
PDAR	Pinedale Array	87.27	44	P	P	07 08 46.2	-0.1
	0.2nm,0.5s,baz=230,slow=3.7,SNR=3.7						
	0.2nm,0.5s						
TORD	Torodi Ar. Bea	175.54	184	PKP	PKPdf	07 16 04.5	-1.6
	0.6nm,0.7s,baz=191,slow=4.4,SNR=3.8						

INMG 02 07:06:25.4±1.5**,36°17N**×**7°60W,h23**^{km}**,ML1.6,Error ellipse: s-maj=8.2km s-min=3.9km az=67.0,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBDV	Barranco-do-Ve	1.11	346	eP	Pn	07 06 43.5	-2.1
PBDV				eS	Sb	07 06 56.7	-3.3
PBDV				A	A	07 07 00.5	
	5.7nm,0.8s						
PVAQ	Vaqueiros	1.24	356	eP	Pn	07 06 45.4	-1.9
PFVI	Vila Bisbo	1.38	315	eS	Sn	07 07 04.8	-2.1
PFVI				A	A	07 07 07.8	
	5.2nm,0.3s						
MORF	Marmelete	1.42	324	eS	Sn	07 07 06.0	-1.8
MORF				A	A	07 07 08.4	
	7.0nm,0.1s						
PCVE	Castro Verde	1.51	346	eP	Pn	07 06 46.9	-4.1
PCVE				eS	Sn	07 07 06.3	-3.6
PCVE				A	A	07 07 11.3	
	3.5nm,0.3s						
PTEO	Sao Teotonio	1.65	327	eS	Sn	07 07 10.7	-2.7
PTEO				A	A	07 07 14.5	
	6.1nm,0.6s						
MESJ	Messejana	1.74	344	eS	Sn	07 07 12.6	-3.2
MESJ				A	A	07 07 18.7	
	2.8nm,0.2s						
PBAR	Barrancos	2.06	12	eP	Pn	07 06 57.1	-1.4
PBAR				eS	Sn	07 07 20.9	-2.6
PBAR				A	A	07 07 30.5	
	1.4nm,0.5s						
PNCL	Nicolau / Gran	2.08	339	eS	Sn	07 07 21.6	-2.5
PNCL				A	A	07 07 28.6	
	2.4nm,0.1s						
EVO	Evora	2.39	352	eS	Sn	07 07 28.7	-2.9
PMTG	Montargil	2.94	350	eP	Pn	07 07 10.4	-0.3
PMTG				eS	Sn	07 07 41.8	-3.5
PMTG				A	A	07 08 02.2	
	2.0nm,0.9s						
PMRV	Marv??o	3.26	3	eP	Pn	07 07 13.5	-1.7
PMRV				eS	Sn	07 07 49.4	-3.9
PMRV				A	A	07 08 10.9	
	0.8nm,0.5s						

*IGIL **02** 07:06:35.1, 37°23N×8°68W, h7^{km}, ML0.7*
INMG 02 07:06:35.7±1.1**,37°22N**×**8°67W,h2**^{km}**,ML0.9,2C-1D, Error ellipse: s-maj=3.8km s-min=2.0km az=117.0, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MORF	Marmelete	0.08	10	⇓iP	Pg	07 06 36.9	-0.5
MORF				eS	Sg	07 06 38.3	-0.2
MORF				A	A	07 06 38.7	
	36nm,0.4s						
MORF	Marmelete	0.08	10	eP	Pg	07 06 36.9	-0.5
MORF				eS	Sg	07 06 38.2	-0.2
MORF				IAML		07 06 38.7	
	comp=E,51nm,0.2s						
PFVI	Vila Bisbo	0.15	234	⇑iP	Pg	07 06 38.3	-0.4
PFVI				eS	Sg	07 06 40.8	+0.1
PFVI				A	A	07 06 42.1	
	comp=E,11nm,0.3s						
PTEO	Sao Teotonio	0.33	352	⇑iP	Pg	07 06 41.4	-0.6
PTEO				eS	Sg	07 06 46.0	-0.2
PCVE	Castro Verde	0.65	51	eS	Sb	07 06 58.7	-0.5
MESJ	Messejana	0.71	30	eP	Pg	07 06 49.2	-0.2
MESJ				eS	Sg	07 06 58.6	0.0
PVAQ	Vaqueiros	0.78	76	eP	Pg	07 06 49.6	-1.1

PVAQ				eS	Sg	07 07 00.7	-0.1
PNCL	Nicolau / Gran	0.89	7	eP	Pg	07 06 52.4	-0.5
PNCL				eS	Sg	07 07 04.1	-0.4
PNCL				A	A	07 07 05.1	
	comp=E,2.3nm,0.2s						

*NEIC **02** 07:10:26.8±1.5, 51°.3N±0°.2×173°.6E±0°.2, h28km±8km, mb3.8/17, Error ellipse: s-maj=23.5km s-min=14.1km az=153.0*

*IDC **02** 07:10:30.9±2.7, 51°.77N×174°.59E, h0km, mb3.3/4, mbtmp3.3/4, MS2.8/1, Error ellipse: s-maj=76.6km s-min=26.9km az=3.0*

ISC 02 07:10:25.0±1.4**, 51°.3N**±0°.3×**173°.61E**±0°.10**, h10**km**, n35, σ1.s57**/26**, mb3.8**/14**, Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	Shemya Is, Ala	1.49	12	LR	LR	07 11 07.5	
	comp=Z,149nm,20.2s,baz=279,slow=36						
AMKA	Amchitka	3.57	86	Pn	Pn	07 11 20.4	0.0
AMKA				Sn	Sn	07 12 00.2	-2.4
ADK	Adak	6.08	80	Pn	Pn	07 11 54.9	0.0
J18K	Innoko River	19.89	41	P	P	07 14 52.3	-3.9
K20K	Telida	20.96	42	P	P	07 15 10.7	+2.9
C18K	Utukok River	21.22	26	P	P	07 15 10.3	-0.3
J20K	Nowinta River	21.22	40	P	P	07 15 09.8	-0.8
E19K	Redstone River	21.65	31	P	P	07 15 14.9	-0.3
E19K				IAmb	IAmb	07 15 20.2	
	comp=Z,4.6nm,1.2s						
F20K	Avaraart Lake	21.93	32	P	P	07 15 17.0	-1.1
F20K				IAmb	IAmb	07 15 18.3	
	comp=Z,4.4nm,1.2s						
D19K	Kuna River	21.99	28	P	P	07 15 18.6	-0.2
IMAR	Indian Mountai	22.12	36	P	P	07 15 21.1	+0.9
E22K	Anaktuvuk Pass	23.77	32	P	P	07 15 35.6	-1.7
E22K				IAmb	IAmb	07 15 42.6	
	comp=Z,4.4nm,1.2s						
CCB	Clear Creek Bu	23.98	41	P	P	07 15 38.0	-1.2
H24K	Noodor Dome	24.30	39	P	P	07 15 40.9	-1.4
H24K				IAmb	IAmb	07 15 49.9	
	comp=Z,3.2nm,1.2s						
ILAR	Eielson Array	24.39	41	P	P	07 15 42.4	-0.7
	comp=Z,0.2nm,0.6s,baz=251,slow=7.5,SNR=7.4						
	comp=Z,0.2nm,0.6s						
TOLK	Toolik Lake Re	24.74	32	P	P	07 15 46.2	0.0
TOLK				IAmb	IAmb	07 15 59.3	
	comp=Z,4.0nm,1.2s						
J26L	Joseph Creek	25.73	43	P	P	07 15 54.6	-0.7
K27K	Chicken	26.30	44	P	P	07 16 00.5	+0.2
K27K				IAmb	IAmb	07 16 07.7	
	comp=Z,2.5nm,1.2s						
KLR	Kul'dur	26.58	282	LR	LR	07 28 18.6	
	comp=Z,21nm,19.1s,baz=65,slow=39						
EGAK	Eagle	26.80	42	P	P	07 16 03.8	-1.0
EGAK				IAmb	IAmb	07 16 23.0	
	comp=Z,2.8nm,1.1s						
F28M	Old Crow	27.83	37	P	P	07 16 12.4	-1.7
F28M				IAmb	IAmb	07 16 37.8	
	comp=Z,1.7nm,1.0s						
G29M	Pine Creek	28.41	38	P	P	07 16 19.6	+0.4
G29M				IAmb	IAmb	07 16 38.1	
	comp=Z,4.1nm,1.3s						
USA0B	Ussuriysk Arra	28.56	272	P	P	07 16 19.8	-0.9
USRK	Ussuriysk Ar.	28.56	272	P	P	07 16 19.3	-1.4
G31M	Satah River	29.87	39	P	P	07 16 31.4	-0.7
H11N2	WAKE ISLAND Hy	31.92	192	T	T	07 51 59.4	
	baz=9.3,slow=76,SNR=7.5						
H11N3	WAKE ISLAND Hy	31.93	192	T	T	07 51 57.9	
	baz=9.3,slow=76,SNR=8.6						
H11N1	WAKE ISLAND Hy	31.94	192	T	T	07 51 56.1	
	baz=9.3,slow=76,SNR=8.0						
H11S1	WAKE ISLAND Hy	33.15	192	T	T	07 53 29.6	
	baz=8.1,slow=74						
H11S3	WAKE ISLAND Hy	33.16	192	T	T	07 53 31.9	
	baz=8.1,slow=74						
H11S2	WAKE ISLAND Hy	33.17	192	T	T	07 53 32.9	
	baz=8.1						
YKA	Yellowknife Ar	38.71	45	P	P	07 17 49.6	+1.0
	comp=Z,0.2nm,0.7s,baz=286,slow=8.3,SNR=2.4						
	comp=Z,0.2nm,0.7s						
KURBB	Kurchatov Arra	55.64	310	P	P	07 20 09.3	+8.6
	comp=Z,2.8nm,0.2s,baz=54,slow=6.2,SNR=5.1						
BVAR	Borovoye Array	57.77	316	P	P	07 20 23.9	+8.1
	comp=Z,1.4nm,0.6s,baz=43,slow=6.6,SNR=7.3						
	comp=Z,1.4nm,0.6s						
TXAR	Lajitas Array	63.34	76	P	P	07 20 57.2	+3.0
	comp=Z,0.2nm,0.4s,baz=316,slow=5.9,SNR=6.7						
	comp=Z,0.2nm,0.4s						

*NCEDC **02** 07:15:19.0±2.0, 36°.676N±0°.008×121°.30W±0°.01, h4km±6km, ML3.3/36, ML3.2/30(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=87.0*

*NEIC **02** 07:15:19.0±1.4, 36°.649N±0°.007×121°.35W±0°.01, h16km±1km, Error ellipse: s-maj=1.6km s-min=1.0km az=98.0*

*ANF **02** 07:15:20.1±1.7, 36°.51N×121°.26W, h4km±25km, ML3.3/15, ML3.3/15, Error ellipse: s-maj=23.8km s-min=7.0km az=120.0*

ISC 02 07:15:18.9±0.9**, 36°.65N**±0°.02×**121°.35W**±0°.02**, h13**km±5km**, n151, σ0.s77**/160**, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJOM	Mount Johnson	0.04	123		Pg	07 15 21.7	+0.5
SCZ	Santa Cruz	0.07	220		Pg	07 15 22.9	+1.4
BJCM	Johnson Can.	0.11	198		Pg	07 15 21.9	0.0
BSRM	Salinas Radio	0.14	278		Pg	07 15 22.5	+0.1
SAO	San Andreas Ge	0.14	326		Pg	07 15 22.0	-0.4
BVL	Bear Valley	0.15	119		Pg	07 15 22.0	-0.5
FRP	Fremont Peak	0.15	313		Pg	07 15 22.4	-0.3
BEMM	Emmet	0.20	86		Pg	07 15 23.1	-0.3
BPIM	Pinnacles	0.22	137		Pg	07 15 23.3	-0.3
BPCNC	Pine Canyon	0.23	252		Pb	07 15 24.8	-0.2
BSGM	Shirttail Gulc	0.25	161		Pg	07 15 24.0	-0.1
BAVM	Antelope Valle	0.26	90		Pg	07 15 24.3	-0.1
HBTM	San Juan Bauti	0.26	322		Pg	07 15 24.5	+0.2
BBGB	Big Mountain B	0.26	105		Pg	07 15 24.5	0.0
BSMM	Soledad Missio	0.27	193		Pg	07 15 25.2	+0.6
HTUM	Tustin Road	0.29	307		Pg	07 15 25.1	+0.1
HTUM					Sg	07 15 29.8	+0.7
OCR	O'Connell Ranc	0.30	335		Pg	07 15 24.6	-0.4
ANZ	Anzar Road	0.30	321		Pg	07 15 25.2	0.0
HAST	Hastings Reser	0.30	212		Pb	07 15 25.8	-0.4
HAST					Sb	07 15 30.7	-0.4
HERM	Elkhorn Road	0.33	298		Pb	07 15 26.1	-0.5
HFEM	San Felipe	0.34	353		Pg	07 15 26.2	+0.4
LRV	Little Rabbit	0.35	130		Pg	07 15 26.1	+0.2
PACP	Pacheco Peak	0.36	8		Pg	07 15 26.5	+0.3
PACP					Sb	07 15 32.4	-0.5
HCOM	Corn Cob Canyo	0.37	310		Pg	07 15 26.8	+0.4
HCBM	Chamberlain	0.38	319		Pg	07 15 26.5	0.0
BCWM	Chews Ridge	0.38	207		Pb	07 15 27.4	-0.3
BPRM	Ponciano Ridge	0.39	232		Pb	07 15 27.5	-0.2
BPRM					Sb	07 15 33.7	+0.1
CDC	Canada Road	0.39	344		Pb	07 15 27.3	-0.4
HCAM	Canada Road	0.39	344		Pb	07 15 27.5	-0.2
HPCM	Pacheco Lake	0.42	8		Pg	07 15 27.4	+0.2
SLD	San Luis Dam	0.44	14		Pg	07 15 27.6	0.0
HLPM	Lions Peak	0.45	330		Pg	07 15 28.3	+0.4
JELB	Ellicott, Sant	0.47	306		Pg	07 15 28.6	+0.4
BPOM	Post Ranch	0.54	219		Pb	07 15 30.1	-0.1
CADM	Anderson Res.	0.56	337		Pg	07 15 30.2	+0.3
PCCM	Crazy Canyon	0.58	165		Pb	07 15 30.6	-0.2
SCKWR	San Luis Creek	0.58	23		Pb	07 15 30.7	-0.2
JLAB	Laurel Hill	0.59	329		Pb	07 15 31.1	0.0
PMPB	Monarch Peak	0.62	134		Pg	07 15 30.6	-0.4
HULI	Fort Hunter Li	0.63	171		Pg	07 15 31.5	+0.3
CCOB	Coe Ranch Numb	0.66	337		Pb	07 15 32.7	+0.4
CMPM	Mikes Peak	0.71	2		Pb	07 15 33.1	0.0
ARN	Arnold Ranch	0.71	348		Pb	07 15 33.2	-0.1
C072	Blauer Lane Sa	0.71	333		Pb	07 15 33.1	-0.1
PSAM	San Ardo	0.72	149		Pg	07 15 32.8	-0.1
MHC	Mount Hamilton	0.73	341		Pb	07 15 33.5	-0.1
PJUM	Juniper Ridge	0.74	124		Pg	07 15 33.4	+0.1
PPTM	Peach Tree Val	0.74	136		Pg	07 15 33.0	-0.3
JJOM	Saint Joseph's	0.75	318		Pg	07 15 33.3	-0.1
SCCB	Santa Clara Co	0.76	327		Pb	07 15 34.2	+0.2
CMMM	Mount Mocho	0.81	352		Pg	07 15 35.0	+0.3
C041	El Campo Drive	0.82	333		Pn	07 15 36.0	-0.2
PSMM	Smith Mountain	0.84	133		Pb	07 15 35.1	-0.3
PDRM	Domengine Ranc	0.85	111		Pg	07 15 35.8	+0.4
MTOS	Mt Oso, Westle	0.86	1		Pg	07 15 35.9	+0.4
PHSB	Hesperia Broad	0.86	164		Pb	07 15 35.5	-0.2
CMLM	Mount Lewis	0.86	344		Pg	07 15 36.0	+0.4
CALM	Calaveras Res.	0.88	336		Pg	07 15 36.2	+0.3
PHPM	Hope Ranch	0.90	138		Pb	07 15 35.6	-0.7
JSJM	St Joseph	0.91	319		Pg	07 15 36.5	+0.1
JBMM	Black Mountain	0.93	316		Pb	07 15 36.4	-0.5
PANM	San Antonio Re	0.94	157		Pb	07 15 36.9	-0.1
PWMM	Westland Maint	0.94	103		Pn	07 15 37.7	-0.1
PKD	Bear Valley Ra	0.96	137		Pb	07 15 36.7	-0.7
JPSM		0.97	305		Pb	07 15 37.2	-0.3
PHCM	Hearst Castle	0.98	171		Pb	07 15 37.7	0.0
JFP	Foothills Park	0.98	317		Pb	07 15 37.2	-0.5
PVCM	Vineyard Canyo	0.98	137		Pb	07 15 37.2	-0.5
PPO	Portuguese Can	0.98	142		Pb	07 15 37.6	-0.1
PSTM	Stockdale Moun	0.99	136		Pb	07 15 37.1	-0.8
CSTL	Corral Hollow	1.00	353		Pn	07 15 38.4	-0.1
JSFB	Stanford Teles	1.00	319		Pb	07 15 37.7	-0.4
WENL	Wente Vineyard	1.02	342		Pb	07 15 37.6	-0.9
JRSC	Jasper Ridge	1.04	317		Pb	07 15 37.9	-0.7
MYLM	Yosemite Lake	1.05	45		Pb	07 15 38.1	-0.7
CVLM	Vallecito	1.05	338		Pn	07 15 39.0	-0.4
PWKM	Work Ranch	1.07	141		Pb	07 15 38.8	-0.6
CNIC	Niles Canyon	1.08	333		Pb	07 15 38.9	-0.5
RAMR	Ramage Ranch	1.08	159		Pb	07 15 39.2	-0.2
PHFM	Heflinger Ranc	1.08	135		Pb	07 15 39.1	-0.4
CTM	Castle Mountai	1.09	131		Pg	07 15 40.0	+0.2
PHAM	Harlan Ranch	1.12	136		Pb	07 15 39.3	-0.8
CDOM	Doolan Road	1.15	340		Pg	07 15 41.9	+0.9
GHC	Gold Hill	1.15	135		Pn	07 15 39.9	-0.8
PKEM	Kettleman Hill	1.16	120		Pg	07 15 41.5	+0.2
PSRM	Scobie Ranch	1.17	132		Pn	07 15 40.3	-0.7
JCHM	Cahill Ridge	1.19	317		Pn	07 15 40.2	-1.1
PKLM	Kerr Lake	1.20	137		Pn	07 15 40.7	-0.7
PSNM	Stone Corral	1.21	135		Pn	07 15 40.7	-0.8
CMOB	Morgan Territo	1.22	343		Pg	07 15 43.6	+1.3
JCPM	Coyote Point	1.22	321		Pn	07 15 40.6	-1.0
TCAS	Cass Winery, P	1.22	148		Pn	07 15 41.4	-0.2
TCHL	Shandon	1.23	141		Pn	07 15 41.5	-0.3
SAC	San Andreas	1.26	318		Pn	07 15 41.3	-0.9
JSBM	San Bruno Moun	1.33	321		Pn	07 15 41.6	-1.5
JMGM	Milagra Ridge	1.33	318		Pn	07 15 42.2	-1.0
PTAM	Tassajara Cree	1.36	157		Pg	07 15 44.6	-0.3
TSCN	Private Proper	1.37	143		Pn	07 15 43.4	-0.3
LSDC	Los Osos Digit	1.41	163		Pg	07 15 46.6	+0.6
CVPM	Vollmer Peak	1.42	331		Pn	07 15 43.1	-1.3
EFD	Emergency Oper	1.42	159		Pb	07 15 45.5	+0.3
VAK	Adit at Lawren	1.42	330		Pn	07 15 43.1	-1.3
MCUB	Copperopolis B	1.45	24		Pn	07 15 44.1	-0.7
TSCS	Shell Creek So	1.45	146		Pn	07 15 44.4	-0.5
JPRM	Presidio of Sa	1.45	322		Pn	07 15 43.2	-1.6
TRAY	Twisselman Ran	1.48	137		Pn	07 15 43.5	-1.8
PBPM	Bitterwater Pu	1.48	136		Pn	07 15 45.1	-0.2
DPD	Davis Peak	1.49	162		Pn	07 15 45.1	-0.2
CMB	Columbia Colle	1.58	29	Pn	Pn	07 15 45.9	-0.8
VOG	Valley Oaks Go	1.62	101	P	Pn	07 15 47.3	+0.2
	baz=284						
VOG				S	Sb	07 16 08.6	-0.4
	baz=284						
SMMC	Simmler	1.73	140	P	Pn	07 15 49.2	+0.5
	baz=323,SNR=22						
SMMC				S	Sn	07 16 10.8	+0.2
	baz=323						
KCC	Kaiser Creek	1.76	67		Pb	07 15 50.1	-1.0
CARC	Carrizo Plain	1.81	137		Pn	07 15 49.5	-0.3
MRHM	Rocky Hill	1.86	101		Pn	07 15 51.0	+0.5
CVS	Carmenet Viney	1.91	333		Pn	07 15 50.3	-0.9
VES	Vestal, Richgr	2.00	113	P	Pn	07 15 52.4	+0.1
	baz=296						
VES				S	Sn	07 16 17.8	+0.5
	baz=296						
MDPB	Devils Postpil	2.06	61		Pn	07 15 54.1	+0.6
MDPB				IAML		07 16 23.7	
	comp=N,170nm,0.9s						
MDPB				IAML		07 16 24.6	
	comp=E,209nm,0.3s						
MINS	Minaret Summit	2.09	61		Pb	07 15 55.3	-1.5
MMPM	Mammoth Pass	2.09	62		Pb	07 15 55.5	-1.4
OMMB	Old Mammoth Mi	2.11	62	Pn	Pn	07 15 55.5	+1.2
OMMB				IAML		07 16 29.7	
	comp=E,138nm,0.6s						
OMMB				IAML		07 16 32.1	
	comp=N,130nm,0.8s						
MDYM	Dry Creek	2.12	61		Pb	07 15 57.0	-0.4
NBPM	Berryessa Peak	2.12	342		Pn	07 15 54.3	+0.2
MDCM	Deadman Creek	2.13	59		Pb	07 15 55.9	-1.6
MMLB	Mammoth Lakes	2.15	61		Pb	07 15 57.2	-0.6
PKM	Mcpherson Peak	2.15	144	P	Pn	07 15 55.1	+0.4
	baz=326,SNR=16						
MLAC	Mammoth, Mammo	2.24	63		Pb	07 15 58.8	-0.5
MLAC	Mammoth, Mammo	2.24	63	P	Pb	07 15 58.5	-0.7
	baz=245,SNR=34						
MLAC				S	Sb	07 16 27.3	+0.3
	baz=245						
AFDM	Forest Hills D	2.32	7	Pn	Pn	07 15 56.5	-0.2
BCW	Bitter Crk WRg	2.32	137		Pn	07 15 58.2	+1.4
BCW				IAML		07 16 44.2	
	comp=N,140nm,0.7s						
EMB	Emerald Bay	2.52	23		Pn	07 16 00.8	+1.0
EMB				IAML		07 16 42.4	
	comp=E,122nm,0.8s						
EMB				IAML		07 16 42.4	
	comp=N,156nm,0.9s						
ISA	Isabella, Lake	2.53	112	Pn	Pn	07 15 59.8	+0.1
ISA				IAML		07 16 47.2	
	comp=E,65nm,1.1s						
ISA	Isabella, Lake	2.53	112	P	Pn	07 16 00.5	+0.8
	baz=295,SNR=61						
ISA				S	Sn	07 16 31.9	+1.5
	baz=295						
ARVC	Arvin	2.55	126	P	Pn	07 16 00.6	+0.6
	baz=308						
SBC	Santa Barbara	2.58	148	P	Pn	07 16 00.7	+0.4
	baz=330						
CWC	Cottonwood Cre	2.64	94	S	Sb	07 16 36.5	-2.1
	baz=276						
PNTR	Pine Nut	2.80	29	Pn	Pn	07 16 04.6	+1.0
PNTR				IAML		07 16 54.8	
	comp=E,120nm,0.9s						
MPK	Martis Peak	2.84	21		Pn	07 16 05.3	+1.0
MPK				IAML		07 16 52.3	
	comp=N,103nm,1.0s						
MPK				IAML		07 16 53.9	
	comp=E,104nm,0.9s						
YERR	Yerington	2.87	35		Pn	07 16 05.2	+0.7
YERR				IAML		07 16 54.4	
	comp=N,83nm,0.7s						
ORV	Oroville	2.90	358	Pn	Pn	07 16 04.9	0.0
SCZ2	Santa Cruz Isl	3.00	152	P	Pn	07 16 06.5	+0.5
	baz=334						
MPMC	Manual Prospec	3.17	100	P	Pn	07 16 11.2	+2.5
	baz=282,SNR=21						
GRAC	Grapevine Rang	3.22	83	Sb	Sg	07 16 59.7	-2.5
	baz=265						
EDW2	Edwards Air Fo	3.25	122	P	Pn	07 16 11.0	+1.4
	baz=305,SNR=7.1						
BFSC	Mount Baldy Ra	3.85	127	P	Pn	07 16 18.5	+0.4
	baz=310						
GSC	Goldstone, Bar	3.92	109	P	Pn	07 16 19.3	+0.4
	baz=292,SNR=8.3						
CIS	Catalina Islan	4.04	143	P	Pn	07 16 20.4	-0.1
	baz=325						
TPNV	Topopah Spring	4.11	84	P	Pn	07 16 23.7	+2.2
	baz=268						
HEC	Hector,Ludlow	4.46	112	P	Pn	07 16 27.3	+0.9
	baz=296						
R11B	Troy Canyon, C	4.89	68	Pb	Pb	07 16 47.4	+2.9
	baz=252						
GMRC	Granite Mounta	4.99	110	P	Pn	07 16 32.9	-0.7
	baz=294						
PFO	Pinyon Flats O	5.02	126	P	Pn	07 16 34.8	+0.7
	baz=309						

TRN 02 07:23:19.4, 15°.98N×61°.09W, h30km**, MD3.8, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAGL	Barre de l'ile	0.19	261	eP	Pn	07 23 27.3	+1.1
MAGL				eS	Sn	07 23 31.4	+0.9
CBE	Ff, Capester	0.51	280	eP	Pn	07 23 32.2	+1.5
CBE				eS	Sn	07 23 40.2	+1.8
TDBA	Terre de Bas,	0.54	256	eP	Pn	07 23 33.2	+2.0
ABD	La Joyeuse, An	0.62	322	eP	Pn	07 23 33.0	+0.8
ABD				eS	Sn	07 23 42.9	+1.7
SVN	Savane Anatole	1.14	184	eS	Sb	07 23 55.4	+0.4
BAMF	Morne Balai	1.16	183	eP	Pb	07 23 41.5	+0.5
CXM	Morne La Croix	1.17	184	eP	Pb	07 23 42.2	+1.1
GBMF	Grand Be	1.18	184	eP	Pb	07 23 41.6	+0.3
ILAM	Ilet Lapin Mar	1.22	170	eS	Sb	07 23 57.5	+0.3
FDF	Fort de France	1.24	183	eP	Pb	07 23 42.5	+0.2
ANBD	Bethesda, Anti	1.24	329	eP	Pb	07 23 42.6	+0.3
ANBD				eS	Sb	07 23 58.8	+0.7
MLYT	Lee's Yard	1.29	305	e	Pb	07 23 45.9	+2.8
MLYT	Lee's Yard	1.29	305	e	Sb	07 24 03.5	+4.1
MBFL	Flemmings, Mon	1.32	305	eP	Pb	07 23 44.7	+1.0
MBFL				eS	Sb	07 24 01.4	+1.2
ANDO	Antigua, Disas	1.33	328	eP	Pb	07 23 44.1	+0.3
ANDO				eS	Sb	07 24 01.3	+0.8
ZAM	Aeronautique	1.40	178	eP	Pb	07 23 44.7	-0.3
LPMF	Morne Lapointe	1.40	175	eP	Pb	07 23 44.4	-0.6
MVM	Montagne Vaucl	1.43	173	eP	Pb	07 23 45.6	+0.1
BIM	Bigot	1.46	179	eP	Pn	07 23 44.6	+0.9
BIM				eS	Sb	07 24 04.1	0.0
MPOM	Morne Pois Mar	1.54	172	eP	Pb	07 23 46.8	-0.6
MPOM				eS	Sb	07 24 05.8	-0.7
SLBI	Saint Lucia, B	1.95	177	eP	Pb	07 23 52.4	-1.9
SLBI				eS	Sn	07 24 15.7	+1.7

*SOME **02** 07:49:08.7, 39°.08N×71°.38E, h10km*

*KRNET **02** 07:49:10.1±0.1, 39°.13N×71°.36E, h12km, mb3.5*

*NNC **02** 07:49:12.7±6.6, 38°.78N×71°.24E, h28km±180km, mb3.8, mpv3.3, Error ellipse: s-maj=133.9km s-min=26.0km az=7.0*

ISC 02 07:49:12.2±1.8**, 39°.16N**±0°.09×**71°.29E**±0°.05**, h10**km**, n36, σ2.s36**/58**, 25C-20D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.51	51	⇑eP	Pg	07 49 19.8	-2.4
	baz=45						
DRK				⇑eS	Sg	07 49 27.0	-2.0
	baz=45						
BTK	Batken	0.97	338	⇓iP	Pg	07 49 29.6	-1.3
	baz=36						
BTK				⇓iS	Sg	07 49 43.9	+0.4
	baz=36						
OHH	Osh	1.79	40	⇑iP	Pn	07 49 43.4	+0.2
	baz=38						
OHH				⇑iS	Sg	07 50 07.6	-2.0
	baz=38						
SFK	Sufi-Kurgan	1.91	63	⇓iP	Pn	07 49 45.4	+0.3
	baz=61						
SFK				⇓iS	Sb	07 50 11.0	-0.4
	baz=61						
TRKS	Terek-Say	2.37	357	⇑iP	Pn	07 49 51.9	+0.6
	baz=57						
TRKS				⇑iS	Sb	07 50 22.6	-1.9
	baz=57						
ARSB	Arslanbob	2.52	30	⇓iP	Pn	07 49 54.7	+1.3
	baz=29						
ARSB				⇓iS	Sb	07 50 26.7	-2.1
	baz=29						
ARK	Arkit	2.69	11	⇑iP	Pn	07 49 56.9	+1.3
	baz=10.0						
ARK				⇑iS	Sb	07 50 31.7	-1.8
	baz=10.0						
AML	Almayashu	3.49	31	P	Pn	07 50 11.0	+4.1
	SNR=8.5						
AML	Almayashu	3.49	31	⇓iP	Pn	07 50 08.2	+1.3
	baz=30						
AML				⇓iS	Sn	07 50 50.3	+1.9
	baz=30						
AML	Almayashu	3.49	31	⇓P	Pn	07 50 10.2	+3.3
	1.0nm,0.5s						
AML				⇓S	Sb	07 50 55.1	-1.8
	8.2nm,0.6s						
ARLS	Aral	3.56	40	⇑eP	Pn	07 50 08.6	+1.0
	baz=39						
ARLS				⇑iS	Sn	07 50 51.3	+1.5
	baz=39						
MRKS	Merke	3.87	22	ePg	Pb	07 50 22.9	+2.2
	11nm,0.9s						
MRKS				eLg	Lg	07 51 17.0	
	33nm,0.8s						
UCH	Uchtor	3.93	38	P	Pn	07 50 15.8	+2.8
	SNR=27						
UCH	Uchtor	3.93	38	⇑eP	Pn	07 50 14.2	+1.3
	baz=37						
UCH				⇑iS	Sn	07 51 00.6	+1.3
	baz=37						
EKS2	Erkin-Say	3.98	28	P	Pn	07 50 17.1	+3.8
	SNR=6.2						
EKS2	Erkin-Say	3.98	28	⇑iP	Pn	07 50 14.8	+1.5
	baz=27						
EKS2				⇑iS	Sn	07 51 02.3	+2.2
	baz=27						
KK31	Karatay Array	3.98	352	⇑P	Pn	07 50 17.0	+3.6
	3.2nm,0.3s,baz=176,slow=14,SNR=68						
KK31				S	Sb	07 51 07.1	-3.6
	35nm,0.8s,baz=184,slow=23,SNR=8.6						
KKAR	Karatay Array	3.98	352	⇓iP	Pn	07 50 15.2	+1.9
	baz=51						
KKAR				⇓iS	Sn	07 51 02.8	+2.7
	baz=51						
KZA	Kyzart	4.20	45	P	Pn	07 50 19.7	+3.1
	SNR=12						
KZA	Kyzart	4.20	45	⇑eP	Pn	07 50 17.8	+1.2
	baz=44						
KZA				⇑iS	Sn	07 51 06.9	+1.0
	baz=44						
AAK	Ala-Archa	4.24	34	P	Pn	07 50 20.2	+3.2
	SNR=16						
AAK	Ala-Archa	4.24	34	⇑iP	Pn	07 50 18.4	+1.4
	baz=33						
AAK				⇑iS	Sn	07 51 08.7	+2.0
	baz=33						
FRU1	Bishkek	4.44	34	⇓iP	Pn	07 50 21.0	+1.4
	baz=33						
FRU1				⇓iS	Sn	07 51 12.7	+1.3
	baz=33						
KBK	Karagaybulak	4.46	37	P	Pn	07 50 24.3	+4.2
	SNR=7.0						
KBK	Karagaybulak	4.46	37	⇑iP	Pn	07 50 21.3	+1.2
	baz=37						
KBK				⇑iS	Sn	07 51 13.8	+1.7
	baz=37						
CHMS	Chumysh	4.64	33	P	Pn	07 50 25.5	+3.1
	SNR=8.8						
CHMS	Chumysh	4.64	33	⇓iP	Pn	07 50 23.9	+1.5
	baz=32						
CHMS				⇓iS	Sn	07 51 18.1	+1.7
	baz=32						
USP	Ospenovka	4.77	30	P	Pn	07 50 27.7	+3.6
	SNR=5.4						
USP	Ospenovka	4.77	30	⇑iP	Pn	07 50 25.7	+1.6
	baz=29						
USP				⇑iS	Sn	07 51 21.3	+1.9
	baz=29						
TKM2	Tokmak 2	4.97	40	P	Pn	07 50 30.6	+3.5
	SNR=9.0						
TKM2	Tokmak 2	4.97	40	⇑iP	Pn	07 50 28.7	+1.6
	baz=39						
TKM2				⇑iS	Sn	07 51 26.2	+1.4
	baz=39						
TKM2	Tokmak 2	4.97	40	⇓P	Pn	07 50 29.7	+2.6
	4.6nm,0.6s						
TKM2				⇓S	Sn	07 51 30.6	+5.8
	11nm,0.7s						
KST	Kastek	5.25	41	ePg	Pb	07 50 45.6	+1.6
	3.3nm,0.5s						
KST				eLg	Lg	07 51 55.0	
	11nm,0.7s						
DGS	Degeres	5.30	38	ePg	Pb	07 50 47.4	+2.5
	8.4nm,0.7s						
DGS				eLg	Lg	07 51 58.7	
	16nm,0.7s						
AB31	Akbulak array	12.95	325	⇓P	Pn	07 52 13.6	-2.6
	0.6nm,0.6s,baz=140,slow=11,SNR=6.1						
AKTO	Aktyubinsk	14.66	325	⇓P	P	07 52 45.1	-0.8
	3.0nm,0.9s						

IDC 02 07:58:44.1±1.9**, 11°.72S**×**165°.14E, h0**km**, mb3.4**/3**, mbtmp3.5**/4**, ML3.7**/1**, MS3.2**/7**, Error ellipse: s-maj=52.4km s-min=34.9km az=124.0, Santa Cruz**

Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.37	173	Pn	Pn	08 01 14.0	-0.3
	0.7nm,0.3s,baz=318,slow=16,SNR=17						
DZM				LR	LR	08 04 45.2	
	comp=Z,103nm,19.5s,baz=42,slow=35						
	1.6nm,0.3s						
CTA	Charters Tower	19.96	243	LR	LR	08 09 59.9	
	comp=Z,74nm,21.2s,baz=84,slow=34						
URZ	Urewera	28.51	160	LR	LR	08 15 10.5	
	comp=Z,51nm,20.4s,baz=27,slow=35						
WRA	Warramunga Arr	30.69	251	P	P	08 05 01.1	+0.1
	0.2nm,0.7s,baz=80,slow=9.5,SNR=2.1						
	0.2nm,0.7s						
ASAR	Alice Springs	31.96	244	P	P	08 05 12.0	-0.1
	0.6nm,0.9s,baz=67,slow=10,SNR=3.2						
ASAR				LR	LR	08 17 46.0	
	comp=Z,52nm,19.7s,baz=64,slow=36						
	0.6nm,0.9s						
PPT	Papeete	44.12	103	LR	LR	08 22 00.3	
	comp=Z,73nm,19.5s,baz=44,slow=32						
NWAO	Narrogin (SRO)	48.59	236	LR	LR	08 28 27.8	
	comp=Z,44nm,20.9s,baz=248,slow=37						
JNU	Nakatsue	55.28	325	LR	LR	08 29 23.6	
	comp=Z,9.4nm,19.4s,baz=161,slow=33						
ILAR	Eielson Array	84.34	19	P	P	08 11 17.8	0.0
	0.3nm,0.7s,baz=236,slow=6.3,SNR=4.2						
	0.3nm,0.7s						

*HEL **02** 08:13:55.9±0.3, 67°.87N×19°.95E, h0km, ML1.4, Explosion*
*UPP **02** 08:13:57.1±0.0, 67°.86N×20°.20E, h0km, ML2.6, Confirmed Induced event*
ISC 02 08:13:56.3±0.9**, 67°.80N**±0°.03×**20°.19E**±0°.03**, h0**km**, n24, σ0s.96**/36**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.16	20	P	Pg	08 13 59.5	+0.1
KUA				S	Sg	08 14 01.6	0.0
RATU	Laukkuluspa	0.23	276	P	Pg	08 14 01.8	+1.1
DUNU	Dundret	0.70	168	P	Pb	08 14 11.3	-0.1
LANU	Lannavaara	0.72	69	P	Pg	08 14 10.5	+0.3
LANU	Lannavaara	0.72	69	PG	Pg	08 14 10.3	+0.2
	baz=259						
LANU				SG	Sg	08 14 20.1	+0.6
SALU	Saltoluokta	0.77	238	P	Pb	08 14 11.9	-0.7
KIF	Kilpisjarvi	1.23	10	eP	Pb	08 14 20.3	0.0
KIF	Kilpisjarvi	1.23	10	PN	Pb	08 14 20.0	-0.3
KIF				MSG		08 14 33.0	
	comp=Z,3.8nm,0.2s						
KIF				SN	Sb	08 14 36.3	-0.5
PAJU	Pajala	1.37	123	P	Pb	08 14 22.8	-0.1
HEF	Hetta	1.44	63	eP	Pn	08 14 23.5	-0.1
HEF	Hetta	1.44	63	PG	Pn	08 14 23.1	-0.5
HEF				MSG		08 14 40.7	
	comp=Z,2.1nm,0.2s						
HEF				SG	Sb	08 14 42.7	0.0
ERTU	Ertsjaerv	1.48	147	P	Pb	08 14 24.7	+0.1
ERTU	Ertsjaerv	1.48	147	PG	Pb	08 14 24.5	-0.1
	baz=329						
ERTU				SN	Sn	08 14 46.5	+2.4
KLF	Kolari	1.56	110	PG	Pb	08 14 25.8	-0.2
KLF				MSG		08 14 45.7	
	comp=Z,2.2nm,0.2s						
KLF				SG	Sg	08 14 47.6	+1.4
KTK1	Kautokeino	1.66	41	PG	Pb	08 14 27.5	-0.2
KTK1				SN	Sg	08 14 49.6	+0.1
HARU	Harads	1.67	169	P	Pg	08 14 28.7	+0.4
KALU	Kalix	2.32	146	PG	Pb	08 14 38.0	-0.9
	baz=326						
KALU				SG	Sg	08 15 10.2	-0.4
TOF	Tornio	2.38	135	PB	Pb	08 14 38.6	-1.3
TOF				MSG		08 15 09.5	
	comp=Z,1.8nm,0.2s						
TOF				SG	Sg	08 15 11.8	-0.7
SGF	Sodankyl	2.45	96	PG	Pb	08 14 40.5	-0.7
SGF				SG	Sg	08 15 14.4	-0.6
RNF	Rovaniemi	2.56	115	PB	Pb	08 14 41.4	-1.7
RNF				SB	Sb	08 15 16.0	+0.8
KEV	Kevo	3.16	49	SN	Sn	08 15 24.6	-1.0
BURU	Burvik	3.27	171	PB	Pb	08 14 52.6	-2.5
OLKF	Oulanka, Finla	3.90	108	SG	Sg	08 16 00.7	-0.7
KU6	Riekki	4.21	110	PG	Pb	08 15 13.1	+1.9
KU6				SG	Sg	08 16 10.8	-0.7

*SFS **02** 08:19:34.9, 36°.24N×9°.81W, h70km, ML3.3/13, ML3.5/7, MLv3.2/13*
*INMG **02** 08:19:35.2±1.2, 36°.18N×9°.80W, h39km, ML1.6, Error ellipse: s-maj=5.8km s-min=3.3km az=90.0*
*IGIL **02** 08:19:35.0, 36°.17N×9°.80W, h33km, ML1.5*
*MDD **02** 08:19:35.3±1.2, 36°.25N×9°.76W, h30km, mb_Lg2.6/5, Error ellipse: s-maj=9.4km s-min=8.2km az=17.0*
ISC 02 08:19:33.7±1.5**, 36°.20N**±0°.04×**9°.75W**±0°.08**, h35**km**, n37, σ1s.34**/61**, 1D, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	1.19	38	⇓iP	Pn	08 19 54.9	+0.9
PFVI				eS	Sn	08 20 09.4	+0.5
PFVI				A	A	08 20 12.2	
	5.6nm,0.5s						
PFVI	Vila Bisbo	1.19	38	P	Pn	08 19 54.9	+0.9
MORF	Marmelete	1.41	38	eP	Pn	08 19 58.0	+1.0
MORF				eS	Sn	08 20 14.7	+0.2
MORF				A	A	08 20 16.1	
	4.6nm,0.3s						
MORF	Marmelete	1.41	38	eP	Pn	08 19 58.0	+1.0
MORF				eS	Sn	08 20 14.7	+0.2
MORF				IAML		08 20 15.0	
	comp=E,4.8nm,0.1s						
PTEO	Sao Teotonio	1.58	31	eP	Pn	08 20 00.2	+1.0
PTEO				eS	Sn	08 20 18.8	+0.4
PTEO				A	A	08 20 29.3	
	comp=E,5.7nm,0.5s						
PBDV	Barranco-do-Ve	1.80	54	eP	Pn	08 20 03.5	+1.2
PBDV				eS	Sn	08 20 24.3	+0.4
PBDV				A	A	08 20 25.7	
	comp=E,4.5nm,0.4s						
PCVE	Castro Verde	1.98	43	eP	Pn	08 20 06.0	+1.2
PCVE				eS	Sn	08 20 28.9	+0.5
PCVE				A	A	08 20 29.9	
	comp=E,2.2nm,0.5s						
PCVE	Castro Verde	1.98	43	P	Pn	08 20 06.0	+1.2
PVAQ	Vaqueiros	2.03	53	eP	Pn	08 20 06.6	+1.2
PVAQ				eS	Sn	08 20 29.7	+0.1
PVAQ	Vaqueiros	2.03	53	P	Pn	08 20 06.6	+1.2
MESJ	Messejana	2.05	36	eP	Pn	08 20 06.7	+1.0
MESJ				eS	Sn	08 20 30.8	+0.8
MESJ				A	A	08 20 34.5	
	comp=E,3.3nm,0.7s						
MESJ	Messejana	2.05	36	eP	Pn	08 20 06.6	+1.0
PNCL	Nicolau / Gran	2.15	27	eP	Pn	08 20 07.6	+0.6
PNCL				eS	Sn	08 20 32.1	-0.3
PNCL				A	A	08 20 34.2	
	comp=E,1.6nm,0.4s						
PNCL	Nicolau / Gran	2.15	27	P	Pn	08 20 07.7	+0.6
EGRO	El Granado	2.26	53	P	Pn	08 20 09.5	+0.9
EGRO				S	Sn	08 20 34.9	-0.2
EGRO				i Vmb_Lg		08 20 37.4	
PACT	Alcochete	2.67	16	eP	Pn	08 20 15.8	+1.6
PACT				eS	Sn	08 20 44.9	-0.4
EVO	Evora	2.71	30	eP	Pn	08 20 15.5	+0.7
EVO				eS	Sn	08 20 45.3	-1.1
EVO				A	A	08 20 46.1	
	comp=E,3.0nm,0.3s						
EVO	Evora	2.71	30	P	Pn	08 20 15.1	+0.2
EVO				S	Sn	08 20 45.2	-1.2
PMAFR	Mafra	2.78	8	eP	Pn	08 20 16.1	+0.4
PMAFR				eS	Sn	08 20 46.8	-1.2
PMAFR	Mafra	2.78	8	P	Pn	08 20 16.0	+0.2
EMIN	Mina Concepcio	2.92	57	P	Pn	08 20 18.6	+0.9
EMIN				S	Sn	08 20 50.3	-1.3
EMIN				i Vmb_Lg		08 22 06.1	
EMIN	Mina Concepcio	2.92	57	P	Pn	08 20 18.6	+0.9
EMIN				S	Sn	08 20 49.9	-1.7
PBAR	Barrancos	2.93	47	eP	Pn	08 20 18.7	+0.9
PBAR				eS	Sn	08 20 51.0	-0.8
PBAR				A	A	08 20 52.8	
	comp=E,0.9nm,0.4s						
PBAR	Barrancos	2.93	47	P	Pn	08 20 18.7	+0.9
PMTG	Montargil	3.11	22	eP	Pn	08 20 21.0	+0.7
PMTG				eS	Sn	08 20 55.0	-1.3
PMTG				A	A	08 20 55.6	
	comp=E,0.8nm,0.2s						
PESTR	Estremoz	3.17	32	P	Pn	08 20 21.7	+0.6
ESPR	Espera	3.21	77	S	Sn	08 20 58.4	-0.2
ESPR	Espera	3.21	77	S	Sn	08 20 58.5	-0.2
EBAD	Badajoz	3.36	40	P	Pn	08 20 24.2	+0.5
EBAD				i Vmb_Lg		08 21 25.9	
EBAD	Badajoz	3.36	40	P	Pn	08 20 24.2	+0.5
AVE	Averroes	3.48	146	P	Pn	08 20 27.6	+2.2
AVE				S	Sn	08 21 06.8	+1.5
PMRV	Marv??o	3.73	29	eP	Pn	08 20 29.2	+0.4
PMRV				eS	Sn	08 21 09.9	-1.6
PMRV				A	A	08 21 11.2	
	comp=E,1.6nm,0.7s						
ECAB	El Cabril	3.94	60	P	Pn	08 20 32.4	+0.6
ECAB				S	Sn	08 21 13.9	-2.8
ECAB				i Vmb_Lg		08 23 14.4	
ECAB	El Cabril	3.94	60	P	Pn	08 20 32.6	+0.8
ECAB				S	Sn	08 21 14.7	-2.0
EADA	Adamuz	4.58	63	P	Pn	08 20 40.7	+0.2
EADA				S	Sn	08 21 28.4	-4.1
EADA				i Vmb_Lg		08 24 02.3	
EADA	Adamuz	4.58	63	P	Pn	08 20 41.6	+1.1
TIO	Tiouine	5.66	158	P	Pn	08 20 56.5	+1.1
TIO				S	Sn	08 21 54.0	-5.2

*JMA **02** 08:20:40.7±0.3, 46°N±1°×14°2E±°, h13km, MV2.5/10, SOUTH SAKHALIN*
*SKHL **02** 08:20:43.1±0.7, 46°.30N×141°.80E, h12km±2km, mb3.6/2*
ISC 02 08:20:42.6±2.3**, 46°.36N**±0°.05×**141°.6E**±0°.1**, h20**km±9km**, n6, σ0s.44**/11**, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLM	Kholmsk	0.77	25	ePg	Pn	08 20 58.2	-0.1
KHLM				eSg	Sn	08 21 09.1	-0.2
YSS	Yuzh-Sakhalins	1.00	54	ePg	Pn	08 21 02.3	+0.7
YSS				AMB	AMB	08 21 03.2	
	20nm,0.4s						
YSS				eSg	Sn	08 21 15.1	0.0
YSS				A	A	08 21 16.0	
	108nm,0.3s						
YSS				A	A	08 21 16.0	
	102nm,0.3s						
JRBN	Rebuntou	1.01	201	eP	Pb	08 21 01.0	-0.4
JRBN				eS	Sb	08 21 14.7	+0.6
JWK2	Keihoku	1.07	168	eP	Pb	08 21 01.9	-0.5
JWK2				eS	Sn	08 21 17.0	+0.2
JRR	Rishiri	1.24	189	eS	Sg	08 21 22.9	+0.1
JSE	Soyaes	1.57	153	eP	Pn	08 21 09.4	0.0
JSE				eS	Sb	08 21 30.3	-0.1

*IDC **02** 08:26:39.5±2.4, 31°.03S×177°.89W, h58km±16km, mb4.1/3, mbtmp4.3/5, Error ellipse: s-maj=37.8km s-min=11.5km az=109.0*
*NEIC **02** 08:26:39.0±0.8, 30°.90S±0°.05×178°.7W±0°.1, h10km±1km, mb4.3/11, Error ellipse: s-maj=17.9km s-min=7.4km az=259.0*
ISC 02 08:26:37.0±0.8**, 30°.90S**±0°.06×**178°.3W**±0°.1**, h10**km**, n78, σ2s.02**/92**, mb4.3**/9**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.67	13	P	Pn	08 27 09.0	+2.7
GLKZ				S	Sn	08 27 27.7	0.0
RAO	Raoul Island	1.68	13		Pn	08 27 09.5	+3.1
RAO	Raoul Island	1.68	13	P	Pn	08 27 09.2	+2.8
	2μm,0.2s,baz=96,slow=7.9,SNR=19						
RAO				S	Sn	08 27 29.3	+1.3
	2μm,0.3s,baz=180,slow=20,SNR=6.1						
MXZ	Matakaoa Point	7.21	202	Pn	Pn	08 28 22.6	+0.2
MXZ	Matakaoa Point	7.21	202	P	Pn	08 28 22.6	+0.2
MXZ				S	Sn	08 29 46.3	+2.0
WMGZ	Waiomatatini S	7.41	200	P	Pn	08 28 26.4	+1.2
WMGZ				S	Sn	08 29 52.6	+3.3
HAZ	Te Kaha	7.56	204	P	Pn	08 28 29.1	+1.9
HAZ				S	Sn	08 29 57.6	+4.6
PKGZ	Pakihiroa	7.58	202	P	Pn	08 28 28.7	+1.1
KUZ	Kuaotunu	7.65	219	P	Pn	08 28 35.0	+6.6
PUZ	Puketiti	7.69	201	P	Pn	08 28 29.5	+0.4
PUZ				S	Sn	08 29 56.7	+0.4
RUGZ	Raukumara Rang	7.78	204	P	Pn	08 28 31.1	+0.7
RUGZ				S	Sn	08 30 00.2	+1.5
TWGZ	Tauwhareparae	7.87	202	P	Pn	08 28 32.4	+0.8
TWGZ				S	Sn	08 30 02.7	+1.9
WCZ	Waipu Caves	7.92	229	P	Pb	08 28 45.7	-8.6
OUZ	Omahuta	8.03	235	P	Pb	08 28 45.5	-11
CNGZ	Carnagh Statio	8.09	200	P	Pn	08 28 35.0	+0.5
CNGZ				S	Sn	08 30 08.1	+2.1
TKGZ	Te Karaka	8.15	202	P	Pn	08 28 34.9	-0.5
TKGZ				S	Sn	08 30 08.2	+0.5
MWZ	Matawai	8.17	204	P	Pn	08 28 35.7	+0.1
MWZ				S	Sn	08 30 09.2	+1.2
URZ	Urewera	8.25	206	P	Pn	08 28 36.6	-0.1
	9.5nm,0.3s,baz=343,slow=3.9,SNR=75						
URZ				S	Sn	08 30 09.9	-0.1
	23nm,0.3s,baz=338,slow=17,SNR=16						
URZ	Urewera	8.25	206	P	Pn	08 28 37.0	+0.3
URZ				S	Sn	08 30 09.9	-0.1
RIGZ	Rimuhau	8.43	201	P	Pn	08 28 38.8	-0.4
RIGZ				S	Sn	08 30 14.6	+0.2
TOZ	Tahuroa Road	8.51	215	Pn	Pn	08 28 42.1	+1.8
MUGZ	Murupara	8.57	207	P	Pn	08 28 41.4	+0.3
MUGZ				S	Sn	08 30 19.1	+1.3
PRGZ	Paritu Road	8.59	200	P	Pn	08 28 40.7	-0.7
PRGZ				S	Sn	08 30 14.8	-3.6
RTZ	Ruatahuna	8.61	205		Pn	08 28 41.1	-0.7
RTZ	Ruatahuna	8.61	205	P	Pn	08 28 41.5	-0.3
RTZ				S	Sn	08 30 15.9	-3.1
SNGZ	Shannon Statio	8.63	203	P	Pn	08 28 43.0	+1.0
SNGZ				S	Sn	08 30 18.4	-1.0
KNZ	Kokohu	8.74	201	P	Pn	08 28 42.5	-1.0
KNZ				S	Sn	08 30 18.3	-3.8
MHGZ	Mahia Peninsul	8.79	199	P	Pn	08 28 43.2	-1.0
RAHZ	Arahi	8.84	204	P	Pn	08 28 45.0	+0.1
MTHZ	Maungataniwha	8.87	205	P	Pn	08 28 45.9	+0.6
NMHZ	Naumai	9.10	205	P	Pn	08 28 48.2	-0.3
ARHZ	Aropaoanui	9.18	203	P	Pn	08 28 48.4	-1.1
HIZ	Hauiti	9.44	215	Pn	Pn	08 28 56.1	+3.1
MCHZ	McNeill Hill	9.45	204	P	Pn	08 28 52.4	-0.7
NTVZ	North Tongarir	9.54	209	P	Pn	08 28 54.9	+0.4
TMVZ	Te Maari	9.54	209	P	Pn	08 28 55.1	+0.5
OTVZ	Oturere	9.60	209	P	Pn	08 28 55.6	+0.2
SNVZ	South Ngauruho	9.63	209	P	Pn	08 28 56.1	+0.3
NGZ	Ngauruhoe	9.64	209	P	Pn	08 28 56.5	+0.6
KAHZ	Kahuranaki	9.70	202	P	Pn	08 28 54.9	-1.8
BHHZ	Black Hill Sta	9.72	207	P	Pn	08 28 55.4	-1.6
KRHZ	Kereru	9.74	205	P	Pn	08 28 54.8	-2.4
PXZ	Pawanui	9.92	202	P	Pn	08 28 56.7	-2.9
PNHZ	Pukenui	10.04	205	P	Pn	08 28 58.8	-2.5
PRHZ	Porangahau	10.21	202	P	Pn	08 29 01.1	-2.5
TSZ	Takapari Road	10.26	205	P	Pn	08 29 01.4	-2.9
BFZ	Birch Farm	10.71	203	P	Pn	08 29 06.9	-3.5
MRZ	Mangatainoka R	10.92	205	P	Pn	08 29 09.2	-4.2
HOWZ	Holdsworth Sta	11.15	205	P	Pn	08 29 12.6	-3.9
TMWZ	Te Maipa	11.21	203	P	Pn	08 29 13.0	-4.3
OGWZ	Otaki Gorge	11.21	206	P	Pn	08 29 14.3	-3.0
KIW	Kapiti Island	11.35	207	P	Pn	08 29 15.1	-4.1
MTW	Mount Morrison	11.39	204	P	Pn	08 29 15.3	-4.5
CAW	Cannon Point	11.50	206	P	Pn	08 29 16.3	-5.0
QRZ	Quartz Range	12.37	214	Pn	Pn	08 29 33.6	+0.5
BSWZ	Blackbirch Sta	12.48	208	Pn	Pn	08 29 33.4	-1.3
MRNZ	Matariki Terra	12.71	212	Pn	Pn	08 29 36.5	-1.3
RPZ	Rata Peaks	15.31	210	P	Pn	08 30 11.4	-1.8
	2.0nm,0.3s,baz=354,slow=9.2,SNR=3.2						
RPZ				S	Sn	08 32 48.0	-15
	3.8nm,0.5s,baz=72,slow=18,SNR=2.1						
CTAO	Charters Tower	33.60	280	P	P	08 33 18.2	+0.6
CTAO				IAmb	IAmb	08 33 40.5	
	comp=Z,8.3nm,1.3s						
STKA	Stephens Creek	34.09	258	P	P	08 33 22.3	+0.5
STKA				IAmb	IAmb	08 33 24.2	
	comp=Z,2.0nm,0.8s						
STKA	Stephens Creek	34.09	258	P	P	08 33 23.2	+1.4
	comp=Z,8.2nm,0.6s,baz=100,slow=11,SNR=20						
	comp=Z,8.2nm,0.6s						
BBOO	Buckleboo	38.56	255	P	P	08 33 58.9	-1.1
COEN	Coen	39.13	287	P	P	08 34 04.2	-0.8
COEN				IAmb	IAmb	08 34 26.9	
	comp=Z,12nm,1.5s						
AS31	Alice Springs	42.80	268	P	P	08 34 33.6	-1.5
ASAR	Alice Springs	42.80	268	P	P	08 34 33.6	-1.6
ASAR	Alice Springs	42.80	268	P	P	08 34 33.9	-1.3
	comp=Z,0.9nm,0.5s,baz=105,slow=7.4,SNR=28						
	comp=Z,0.9nm,0.5s						
WR0	Warramunga Arr	43.65	273	P	P	08 34 40.6	-1.4
WR0				IAmb	IAmb	08 34 42.6	
	comp=Z,4.1nm,0.9s						
WB2	Warramunga Arr	43.82	273	P	P	08 34 42.5	-1.0
WB2				IAmb	IAmb	08 34 44.3	
	comp=Z,5.2nm,0.8s						
WRA	Warramunga Arr	43.83	273	P	P	08 34 42.5	-1.0
WRA	Warramunga Arr	43.83	273	P	P	08 34 42.3	-1.3
	comp=Z,2.4nm,0.5s,baz=111,slow=8.1,SNR=72						
	comp=Z,2.4nm,0.5s						
MTN	Manton Dam	49.78	280	P	P	08 35 28.0	-2.1
QSPA	South Pole Qui	59.22	180	P	P	08 36 41.1	+2.9
QSPA				IAmb	IAmb	08 37 20.9	
	comp=Z,5.8nm,1.3s						
BELA	Belgrano 2	69.33	172	P	P	08 37 46.7	+2.5
BELA				IAmb	IAmb	08 37 50.6	
	comp=Z,2.3nm,1.1s						
KURBB	Kurchatov Arra	121.22	314	PKP	PKPdf	08 45 24.8	-5.0
	comp=Z,0.3nm,0.5s,baz=117,slow=1.6,SNR=2.6						
FINES	FINESS Array B	145.51	339	PKPbc	PKPbc	08 46 10.6	-4.1
	comp=Z,3.0nm,0.5s,baz=57,slow=5.5,SNR=21						
NOA	NORSAR Array B	149.19	351	PKPbc	PKPdf	08 46 21.3	+0.4
	comp=Z,0.4nm,0.6s,baz=16,slow=4.1,SNR=1.7						
HFS	Hagfors	149.67	348	PKPbc	PKPdf	08 46 21.6	0.0
	comp=Z,3.6nm,1.0s,baz=76,slow=5.7,SNR=5.5						
AKASG	Malin Array Be	151.51	322	PKPbc	PKPdf	08 46 27.2	+2.4
	comp=Z,0.3nm,0.4s,baz=52,slow=1.0,SNR=4.2						

*IDC **02** 08:28:00.8±0.6, 38°.93N×71°.46E, h0km, mb4.0/19, mbtmp4.0/27, ML3.4/8, MS3.1/18, Error ellipse: s-maj=12.0km s-min=9.0km az=140.0*
*NNC **02** 08:28:02.8±2.9, 38°.93N×71°.18E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=22.7km s-min=16.2km az=173.0*
*SOME **02** 08:28:04.9, 39°.42N×71°.37E, h15km*
*KRNET **02** 08:28:05.3±0.1, 39°.25N×71°.35E, h13km, mb4.3*
*MOS **02** 08:28:07.3±0.9, 39°.11N×71°.32E, h56km, mb4.3/11, Error ellipse: s-maj=8.6km s-min=4.8km az=73.1*
*NEIC **02** 08:28:08.6±2.5, 39°.14N±0°.05×71°.18E±0°.03, h52km±9km, mb4.3/15, Error ellipse: s-maj=7.0km s-min=3.9km az=177.0*
ISC 02 08:28:06.3±0.6**, 39°.19N**±0°.03×**71°.35E**±0°.03**, h28**km±4km**, n189, σ2s.75**/219**, mb4.3**/39**, MS3.0**/14**, 36C-34D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.46	50	⇑eP	Pb	08 28 13.4	-2.8
	baz=56						
DRK				⇑eS	Sb	08 28 19.8	-3.1
	baz=56						
BTK	Batken	0.96	335	⇓iP	Pb	08 28 22.6	-1.8
	baz=33						
BTK				⇓iS	Sb	08 28 35.2	-1.5
	baz=33						
BTK	Batken	0.96	335		Pb	08 28 22.8	-1.6
BTK	Batken	0.96	335	P	Pb	08 28 22.8	-1.6
OHH	Osh	1.73	39	⇑iP	Pb	08 28 37.0	-0.5
	baz=40						
OHH				⇑iS	Sb	08 28 59.8	+0.9
	baz=40						
SFK	Sufi-Kurgan	1.86	63	⇓iP	Pb	08 28 38.1	-1.6
	baz=65						
SFK				⇓iS	Sb	08 29 04.2	+1.5
	baz=65						
TRKS	Terek-Say	2.34	356	⇓iP	Pn	08 28 45.0	+1.9
	baz=57						
TRKS				⇓iS	Sb	08 29 13.9	-2.6
	baz=57						
ARSB	Arslanbob	2.47	30	⇑iP	Pb	08 28 47.9	-2.2
	baz=31						
ARSB				⇑iS	Sb	08 29 18.8	-1.4
	baz=31						
ARSB	Arslanbob	2.47	30		Pb	08 28 47.8	-2.4
ARSB	Arslanbob	2.47	30	PN	Pb	08 28 47.8	-2.4
ARK	Arkit	2.65	10	⇑iP	Pb	08 28 50.4	-2.7
	baz=10.0						
ARK				⇑iS	Sb	08 29 22.9	-2.4
	baz=10.0						
IUG	Iuzhnay	3.12	342	ePg	Pb	08 29 00.1	-1.0
	89nm,0.2s						
IUG				eLg	Lg	08 29 38.8	
	797nm,0.5s						
AML	Almayashu	3.44	31	P	Pb	08 29 02.5	-4.2
	SNR=55						
AML	Almayashu	3.44	31	⇑iP	Pn	08 29 01.7	+3.3
	baz=31						
AML				⇑iS	Sn	08 29 42.6	+4.2
	baz=31						
AML	Almayashu	3.44	31	PN	Pb	08 29 02.2	-4.5
AML				S	Sb	08 29 48.8	+0.5
AML	Almayashu	3.44	31	⇑P	Pb	08 29 02.2	-4.5
	8.7nm,0.6s						
AML				⇑S	Sb	08 29 48.1	-0.2
	58nm,0.7s						
ARLS	Aral	3.50	39	⇑iP	Pn	08 29 02.2	+3.1
	baz=40						
ARLS				⇑iS	Sn	08 29 43.8	+4.1
	baz=40						
KSH	Kashi	3.60	83	P	Pn	08 28 58.7	-1.7
KSH				S	Sn	08 29 41.8	-0.3
KSH				pmax	pmax		
	comp=Z,240nm,0.8s						
KSH				smax	smax		
	comp=N,900nm,0.8s						
KSH				smax	smax		
	comp=E,820nm,0.8s						
DZA	Taraz	3.70	360	ePg	Pb	08 29 07.2	-3.7
	comp=E,208nm,0.6s						
DZA				eLg	Lg	08 29 51.4	
	comp=E,578nm,0.4s						
MRKS	Merke	3.83	21	ePg	Pb	08 29 09.5	-3.7
	comp=E,35nm,0.2s						
MRKS				eLg	Lg	08 29 55.6	
	comp=E,232nm,0.5s						
UCH	Uchtor	3.88	37	P	Pn	08 29 08.5	+4.1
	SNR=94						
UCH	Uchtor	3.88	37	⇓eP	Pn	08 29 07.7	+3.3
	baz=38						
UCH				⇓iS	Sn	08 29 52.8	+3.6
	baz=38						
EKS2	Erkin-Say	3.93	27	P	Pb	08 29 09.4	-5.5
	SNR=39						
EKS2	Erkin-Say	3.93	27	⇓iP	Pn	08 29 08.1	+3.2
	baz=28						
EKS2				⇓iS	Sn	08 29 53.9	+3.8
	baz=28						
KK31	Karatay Array	3.96	351	Pn	Pn	08 29 08.4	+3.2
KK31	Karatay Array	3.96	351	PN	Pn	08 29 08.5	+3.2
KK31	Karatay Array	3.96	351	⇑P	Pn	08 29 09.5	+4.2
	comp=E,24nm,0.3s,baz=180,slow=13,SNR=474						
KK31				⇑S	Sb	08 29 59.5	-3.4
	comp=E,65nm,0.4s,baz=175,slow=23,SNR=8.9						
KKAR	Karatay Array	3.96	351	⇓iP	Pn	08 29 08.5	+3.3
	baz=51						
KKAR				⇓iS	Sn	08 29 54.5	+3.7
	baz=51						
KKAR	Karatay Array	3.96	351		Pn	08 29 08.3	+3.1
KKAR	Karatay Array	3.96	351	PN	Pn	08 29 08.3	+3.1
KZA	Kyzart	4.14	45	P	Pn	08 29 12.5	+4.4
	SNR=94						
KZA	Kyzart	4.14	45	⇓iP	Pn	08 29 11.7	+3.6
	baz=45						
KZA				⇓iS	Sn	08 29 59.6	+3.8
	baz=45						
AAK	Ala-Archa	4.19	34	P	Pn	08 29 12.8	+4.3
	SNR=38						
AAK	Ala-Archa	4.19	34	⇓iP	Pn	08 29 12.0	+3.5
	baz=34						
AAK				⇓iS	Sn	08 30 00.6	+4.0
	baz=34						
AAK	Ala-Archa	4.19	34	Pn	Pn	08 29 12.5	+4.0
	comp=E,18nm,0.3s,baz=200,slow=6.9,SNR=83						
AAK				Sn	Sb	08 30 05.0	-4.6
	comp=E,15nm,0.3s,baz=115,slow=17,SNR=9.1						
AAK				Lg	Lg	08 30 17.0	
	comp=E,18nm,0.3s,baz=359,slow=20,SNR=8.8						
	comp=E,75nm,0.5s						

FRU1 Bishkek 4.39 33⇑*i*P Pn 08 29 14.9 +3.8
baz=34
FRU1 ⇑*i*S Sn 08 30 05.3 +3.9
baz=34
FRU1 Bishkek 4.39 33 Pn 08 29 15.5 +4.4
FRU1 Bishkek 4.39 33 PN Pn 08 29 15.5 +4.4
KBK Karagaybulak 4.41 37 P Pn 08 29 16.4 +4.9
SNR=70
KBK Karagaybulak 4.41 37⇓*i*P Pn 08 29 15.1 +3.6
baz=38
KBK ⇓*i*S Sn 08 30 05.7 +3.6
baz=38
CHMS Chumysh 4.59 33 P Pn 08 29 18.3 +4.3
SNR=19
CHMS Chumysh 4.59 33⇑*i*P Pn 08 29 17.3 +3.4
baz=33
CHMS ⇑*i*S Sn 08 30 09.9 +3.5
baz=33
CHMS Chumysh 4.59 33 PN Pn 08 29 18.1 +4.2
CHMS S Sb 08 30 15.0 -6.1
CHMS Chumysh 4.59 33 ⇑P Pn 08 29 18.1 +4.2
comp=E,77nm,0.5s
CHMS ⇑S Sb 08 30 15.0 -6.1
comp=E,235nm,0.8s
USP Ospenovka 4.72 29 P Pn 08 29 19.7 +4.1
SNR=41
USP Ospenovka 4.72 29⇑*i*P Pn 08 29 19.1 +3.5
baz=30
USP ⇑*i*S Sn 08 30 12.7 +3.3
baz=30
BOOM Boomskoye usch 4.80 45⇓*e*P Pn 08 29 20.5 +3.6
baz=46
BOOM ⇓*i*S Sn 08 30 15.1 +3.5
baz=46
BOOM Boomskoye usch 4.80 45 Pn 08 29 20.0 +3.1
BOOM Boomskoye usch 4.80 45 PN Pn 08 29 20.0 +3.1
ULHL Ulahol 4.81 49⇓*e*P Pn 08 29 20.4 +3.3
baz=50
ULHL ⇓*i*S Sn 08 30 15.5 +3.5
baz=50
TKM2 Tokmak 2 4.92 39 P Pn 08 29 23.9 +5.2
SNR=11
TKM2 Tokmak 2 4.92 39⇑*i*P Pn 08 29 21.9 +3.3
baz=40
TKM2 ⇑*i*S Sn 08 30 18.1 +3.4
baz=40
TKM2 Tokmak 2 4.92 39 PN Pn 08 29 22.6 +4.0
TKM2 S Sb 08 30 23.3 -7.4
TKM2 Tokmak 2 4.92 39 ⇓P Pn 08 29 22.6 +4.0
comp=E,30nm,0.6s
TKM2 ⇑S Sb 08 30 23.3 -7.4
comp=E,76nm,0.8s
KBL Kabul 4.99 202 Pn Pn 08 29 19.7 +0.1
KBL Kabul 4.99 202 PN Pn 08 29 19.7 +0.1
KST Kastek 5.20 41 *e*Pg Pb 08 29 35.9 -0.6
comp=E,17nm,0.5s
KST *e*Lg Lg 08 30 41.1
comp=E,56nm,0.6s
DGS Degeres 5.25 38 *e*Pg Pb 08 29 35.0 -2.3
comp=E,32nm,0.6s
DGS *e*Lg Lg 08 30 39.2
comp=E,99nm,0.6s
TARG Taragay, Kyrgy 5.54 61 Pn Pn 08 29 30.7 +3.4
TARG Taragay, Kyrgy 5.54 61 PN Pn 08 29 30.7 +3.4
TNSS Tian-Shan 5.72 46 *e*Pg Pb 08 29 46.1 +0.6
comp=E,11nm,0.5s
TNSS *e*Lg Lg 08 30 58.2
comp=E,13nm,0.6s
NIL Nilore 5.74 164 Pn Pn 08 29 31.8 +2.1
NIL Nilore 5.74 164 PN Pn 08 29 31.8 +2.1
KUU Kurty 6.01 37 *e*Pg Pb 08 29 50.0 -0.3
comp=E,16nm,0.8s
KUU *e*Lg Lg 08 31 04.9
comp=E,53nm,0.6s
KTBS Karatobe 6.04 40 *e*Pg Pb 08 29 51.3 +0.5
comp=E,13nm,0.7s
KTBS *e*Lg Lg 08 31 07.9
comp=E,40nm,0.7s
PRZ Przheval'sk 6.28 56 Pn Pn 08 29 39.8 +2.5
PRZ Przheval'sk 6.28 56 PN Pn 08 29 39.8 +2.5
JMU Jammu 7.07 155 *e*P Pn 08 29 49.1 +1.2
JMU *e*S Sn 08 31 08.5 +1.2
THN Thein Dam 7.62 151 *e*P Pn 08 29 55.8 +0.4
THN *e*S Sn 08 31 19.8 -1.0
THN IAML 08 31 27.4
comp=E,176nm,0.6s
DHRM DHARAMSHALA 8.01 148 *e*P Pn 08 30 01.3 +0.3
DHRM *e*S Sn 08 31 29.0 -1.7
DHRM IAML 08 31 36.8
comp=N,202nm,0.6s
DHRM IAML 08 31 37.9
comp=E,203nm,0.4s
HRA Herat 8.73 240 Pn Pn 08 30 10.2 -0.7
BHK Bhakra 8.79 150 *e*S Sn 08 31 47.1 -2.6
SMLA Simla 9.34 148 *e*P Pn 08 30 18.7 -0.4
SMLA *e*S Sn 08 31 58.1 -5.2
SMLA IAML 08 32 05.0
comp=N,150nm,0.7s
SMLA IAML 08 32 05.4
comp=E,148nm,0.4s
GEYT Alibeck 10.44 267 Pn Pn 08 30 34.6 +0.5
GEYT Alibeck 10.44 267 PN Pn 08 30 32.1 -2.0
comp=E,0.8nm,0.3s,baz=118,slow=25,SNR=1.9
GEYT Sn Sn 08 32 28.6 -1.5
comp=E,0.5nm,0.3s,baz=65,slow=35,SNR=1.6
GEYT LR LR 08 35 29.5
comp=E,133nm,19.5s,baz=100,slow=43
comp=E,1.4nm,0.3s
MAKZ Makanchi 10.88 42 Pn 08 30 43.6 +3.5
MAKZ Makanchi 10.88 42 P Pn 08 30 43.6 +3.5
MK31 Makanchi Array 11.04 43 Pn 08 30 44.9 +2.7
MK31 Makanchi Array 11.04 43 *ce*P Pn 08 30 45.0 +2.7
MKAR Makanchi Array 11.04 43 Pn 08 30 44.5 +2.2
MKAR Makanchi Array 11.04 43 *i*P Pn 08 30 44.9 +2.6
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 11.04 43 Pn Pn 08 30 44.1 +1.8
comp=Z,0.2nm,0.3s,baz=234,slow=13,SNR=21
MKAR Lg Lg 08 33 53.5
comp=Z,0.1nm,0.3s,baz=266,slow=33,SNR=2.0
comp=Z,2.5nm,0.7s
KUDL Kundal 11.81 157 *e*P Pn 08 30 50.4 -2.6
PTH Pithoragarh 12.08 140 *e*P Pn 08 30 55.1 -1.7
KURBB Kurchatov Arra 12.51 22 Pn Pn 08 31 01.9 -0.4
comp=Z,0.2nm,0.3s,baz=215,slow=13,SNR=4.2
KURBB Sn Sn 08 33 20.1 -0.5
comp=Z,0.1nm,0.3s,baz=198,slow=32,SNR=1.5
KURBB Lg Lg 08 34 38.4
comp=Z,0.1nm,0.3s,baz=212,slow=32,SNR=6.3
comp=Z,0.7nm,0.3s
KURK Kurchatov 12.62 22 Pn Pn 08 31 07.0 +3.2
KURK Kurchatov 12.62 22 ⇓*i*P Pn 08 31 07.8 +4.0
KURK pmax pmax
comp=Z,4.0nm,1.3s
AB31 Akbulak array 12.95 325 ⇓P Pn 08 31 06.9 -1.5
comp=Z,2.8nm,0.5s,baz=136,slow=13,SNR=53
ABKAR Akbulak array 12.95 325 Pn 08 31 07.1 -1.3
ABKAR Akbulak array 12.95 325 Pn 08 31 07.6 -0.8
WMQ Urumqi 13.10 64 *e*P P 08 31 16.4 -4.0
BVAR Borovoye Array 13.86 358 Pn Pn 08 31 19.8 -0.9
comp=Z,0.1nm,0.3s,baz=156,slow=13,SNR=5.2
BVAR Sn Sn 08 33 49.5 -4.0
comp=Z,0.1nm,0.3s,baz=159,slow=21,SNR=3.3
BVAR Lg Lg 08 35 33.6
baz=184,slow=21,SNR=2.7
BVAR LR LR 08 37 14.4
comp=Z,44nm,21.3s,baz=183,slow=39
comp=Z,1.7nm,0.7s
BRVK Borovoye 13.89 357 Pn 08 31 21.8 +0.6
BRVK Borovoye 13.89 357⇓*e*P Pn 08 31 24.3 +3.1
AKTO Aktyubinsk 14.67 324 Pn Pn 08 31 30.4 -1.4
comp=Z,0.3nm,0.3s,baz=135,slow=12,SNR=8.3
AKTO Sn Sn 08 34 10.8 -2.4
comp=Z,1.8nm,0.3s,baz=135,slow=19,SNR=11
AKTO LR LR 08 37 47.6
comp=Z,114nm,21.4s,baz=328,slow=39
comp=Z,4.9nm,0.9s
AKTO Aktyubinsk 14.67 324 ⇓P Pn 08 31 30.4 -1.4
comp=Z,8.2nm,0.8s
PYUN Piuthan 14.69 135 *e*P Pn 08 31 27.7 -4.7
comp=Z,18nm,0.3s
DANN Dangsing 14.93 133 *e*P Pn 08 31 28.0 -7.7
comp=Z,26nm,0.4s
KOLN Koldanda 15.29 134 *e*P Pn 08 31 34.3 -6.1
comp=Z,52nm,1.2s
DGZ Jazzator, Alta 15.54 42⇑*e*P Pn 08 31 43.3 -0.1

PKIN Phulchoki 16.46 130 *e*P Pn 08 31 45.0 -11
comp=Z,41nm,0.4s
PKI Pulchoki 16.48 130 *e*P Pn 08 31 45.0 -11
comp=Z,23nm,0.4s
GUN Gumba 16.51 129 *e*P Pn 08 31 43.1 -13
comp=Z,52nm,0.3s
BHPL Bhopal 16.72 160 *e*P Pn 08 31 57.4 -1.2
ZAA0 Zalesovo Array 17.38 27 Pn Pn 08 32 06.8 +0.1
ZALV Zalesovo Beam 17.38 27 Pn Pn 08 32 05.8 -0.8
ZALV Zalesovo Beam 17.38 27 P Pn 08 32 05.8 -0.8
ZALV Zalesovo Beam 17.38 27 P Pn 08 32 06.5 -0.1
comp=Z,1.4nm,0.3s,baz=222,slow=11,SNR=16
ZALV Lg Lg 08 37 16.2
comp=Z,0.3nm,0.3s,baz=227,slow=36,SNR=2.4
ZALV LR LR 08 39 04.9
comp=Z,66nm,18.1s,baz=209,slow=38
comp=Z,5.5nm,0.5s
RAMN Ramite 17.64 129 *e*P Pn 08 31 57.5 -13
comp=Z,44nm,0.7s
ODAN Odare 18.19 128 *e*P Pn 08 32 02.0 -15
comp=Z,48nm,1.2s
GOMU GeErMu 18.80 92 P P 08 32 23.9 -0.1
GOMU pmax pmax
comp=Z,7.0nm,0.5s
LSA Lhasa 18.84 114 P P 08 32 24.7 +0.1
LSA Lhasa 18.84 114 P P 08 32 24.7 +0.1
LSA pmax pmax
comp=Z,10.0nm,1.2s
SVE Sverdlovsk 19.01 342 *e*P Pn 08 32 27.7 +1.2
SVE *e*S S 08 36 00.1 +0.6
ARU Arti 19.21 338 P P 08 32 27.6 -0.3
ARU IAmb IAmb 08 32 45.9
comp=Z,7.3nm,0.8s
ARU Arti 19.21 338 *c*P P 08 32 27.6 -0.3
ARU S S 08 36 04.4 +0.7
ARU pmax pmax
comp=Z,8.0nm,0.9s
ARU Arti 19.21 338 P Pn 08 32 28.7 -0.3
baz=144,slow=8.8,SNR=6.5
ARU S Sn 08 35 55.4 -7.9
comp=Z,1.3nm,0.3s,baz=120,slow=20,SNR=1.2
ARU LR LR 08 41 03.8
comp=Z,24nm,19.8s,baz=142,slow=40
comp=Z,2.4nm,0.3s
GNI Garni 20.48 281⇓*e*P Pn 08 32 44.7 +0.4
GNI pmax pmax
comp=Z,13nm,1.0s
GNI Garni 20.48 281 P P 08 32 42.7 +0.7
comp=Z,4.4nm,0.3s,baz=111,slow=13,SNR=1.4
comp=Z,4.4nm,0.3s
ZEI Tsey 20.99 289 *e*P Pn 08 32 52.8 +2.6
ZEI pmax pmax
comp=Z,6.0nm,0.7s
BELG Belogornoye 21.04 317⇓*i*P P 08 32 48.2 +0.4
BELG pmax pmax
comp=Z,4.0nm,1.0s
BELG Belogornoye 21.04 317 P P 08 32 49.0 +1.2
comp=Z,14nm,1.0s,baz=171,slow=4.3,SNR=3.8
BELG S S 08 36 41.3 +0.8
comp=Z,4.2nm,0.7s,baz=219,slow=22,SNR=1.6
comp=Z,14nm,1.0s
NCK Nalchik 21.23 291⇓*e*P P 08 32 54.7 +4.8
NCK pmax pmax
comp=Z,12nm,0.3s
KBZ Khabaz 21.75 291⇑*e*P P 08 32 56.5 +1.1
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 21.75 291 P P 08 32 57.0 +1.7
comp=Z,3.0nm,0.9s,baz=117,slow=4.5,SNR=3.9
KBZ LR LR 08 42 20.1
comp=Z,31nm,18.4s,baz=108,slow=39
comp=Z,3.0nm,0.9s
KVAR Kislovodsk Arr 21.90 292 LR LR 08 43 37.2
comp=Z,33nm,19.1s,baz=34,slow=42
KIV Kislovodsk 21.91 292 *e*P P 08 32 58.3 +1.0
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,23nm,14.0s
GTA Gaotai 22.00 80 *e*P P 08 32 59.6 +1.3
GTA pP pP 08 33 04.0 -2.7
GTA pmax pmax
comp=Z,6.0nm,1.2s
KIRV Kirov 23.98 331⇓*e*P P 08 33 22.2 +4.1
ZAK Zakamensk 25.09 53 *e*P P 08 33 29.2 +0.7
ZAK pmax pmax
comp=Z,7.0nm,1.2s
ANN Anapa 25.70 294 *e*P P 08 33 33.2 -0.7
ANN *e**PP sP 08 33 46.8 +0.4
ANN *e* 08 34 13.5
ANN *e*S S 08 37 58.3 -2.5
ANN *e*SS SnSn 08 39 02.0 +5.7
ANN pmax pmax
comp=Z,57nm,1.0s
LZH Lanzhou 25.85 87 *e*P P 08 33 39.4 +3.8
LZH PP PnPn 08 34 30.1 +17
LZH S S 08 38 04.5 +0.8
LZH SS SnSn 08 39 17.6 +17
LZH pmax pmax
comp=Z,13nm,1.1s
SONM Songino Array 26.66 60 P P 08 33 42.2 -0.5
comp=Z,2.5nm,1.0s,baz=243,slow=10,SNR=8.5
SONM LR LR 08 45 22.4
comp=Z,66nm,19.0s,baz=282,slow=39
comp=Z,2.5nm,1.0s
ULN Ulaanbaatar 27.10 60 P P 08 33 46.9 0.0
ULN Ulaanbaatar 27.10 60⇓*e*P P 08 33 47.3 +0.5
ULN pmax pmax
comp=Z,6.0nm,1.7s
OBN Obninsk 28.14 316 *e*P P 08 33 56.4 +0.7
OBN *e**PP sP 08 34 12.2 +3.8
OBN *e**SP pP 08 34 19.6 +15
OBN *e* 08 34 47.1
OBN pmax pmax
comp=Z,7.0nm,0.9s
PZH PanZhiHua 28.36 107 P P 08 34 01.8 +3.6
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,6.1s
BR131 Keskin Array S 28.98 283⇑*e*P P 08 34 06.5 +2.9
BRTR Keskin Array B 28.98 283 P P 08 34 00.9 -2.7
BRTR Keskin Array B 28.98 283 P P 08 34 00.9 -2.7
BRTR Keskin Array B 28.98 283 P P 08 34 05.0 +1.4
comp=Z,0.8nm,0.8s,baz=55,slow=5.1,SNR=2.0
comp=Z,0.8nm,0.8s
HHC Hu-ho-hao-te 30.66 74 *e*P P 08 34 21.8 +3.4
HHC pmax pmax
comp=Z,21nm,0.5s
HHC pmax pmax
comp=Z,180nm,5.1s
EIL Elat 31.31 264 LR LR 08 49 43.7
comp=Z,52nm,18.6s,baz=58,slow=42
AKASG Malin Array Be 31.54 305 LR LR 08 49 12.2
comp=Z,24nm,19.3s,baz=242,slow=40
BOD Bodaibo 33.13 42 *e*P P 08 34 40.0 +0.3
BOD pmax pmax
comp=Z,16nm,0.9s
MLR Muntele Rosu 33.78 296 P P 08 34 46.8 +1.0
comp=Z,1.3nm,0.5s,baz=144,slow=14,SNR=3.1
MLR LR LR 08 50 55.8
comp=Z,46nm,18.2s,baz=331,slow=40
comp=Z,1.3nm,0.5s
FINES FINESS Array B 35.44 324 P P 08 34 59.8 +0.1
FINES FINESS Array B 35.44 324 *i*P P 08 35 03.2 +3.5
FINES pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 35.44 324 P P 08 35 00.3 +0.6
comp=Z,2.6nm,0.9s,baz=126,slow=9.7,SNR=5.7
FINES LR LR 08 49 52.5
comp=Z,18nm,21.0s,baz=46,slow=37
comp=Z,2.6nm,0.9s
ARCES ARCESS Array B 38.78 336 P P 08 35 28.4 +0.4
comp=Z,3.9nm,0.8s,baz=62,slow=5.6,SNR=4.8
ARCES LR LR 08 50 49.8
comp=Z,14nm,19.3s,baz=195,slow=35
comp=Z,3.9nm,0.8s
ZEA Zeya 40.09 50 *e*P P 08 35 40.4 +1.3
ZEA pmax pmax
comp=Z,10.0nm,1.3s
HEH HeiHe 40.45 55 *e*P P 08 35 42.7 +0.6
HEH pmax pmax
comp=Z,14nm,0.9s
HEH pmax pmax
comp=Z,170nm,4.4s
HFS Hagfors 41.15 320 P P 08 35 48.0 +0.2

HFS Hagfors 41.15 320 P P 08 35 48.0 +0.2
comp=Z,2.2nm,0.6s,baz=98,slow=11,SNR=14
HFS LR LR 08 54 07.1
comp=Z,42nm,20.1s,baz=62,slow=38
comp=Z,2.2nm,0.6s
YAK Yakutsk 41.64 37⇓*e*P P 08 35 51.7 0.0
YAK pmax pmax
comp=Z,7.0nm,0.5s
KHC Kasperske Hory 41.69 303⇓*e*P P 08 35 55.3 +2.9
KHC pmax pmax
comp=Z,39nm,2.8s
CLL Collm 41.76 307 *e*P P 08 35 53.0 +0.1
CLL Collm 41.76 307 *e*P P 08 35 53.0 +0.1
NOA NORSAR Array B 42.43 321 P P 08 35 58.5 +0.2
comp=Z,0.3nm,0.5s,baz=101,slow=7.3,SNR=1.6
NOA LR LR 08 55 04.7
comp=Z,24nm,18.1s,baz=335,slow=38
comp=Z,0.3nm,0.5s
TIXI Tiksi 43.19 23 P P 08 36 04.5 +0.3
TIXI IAmb IAmb 08 36 05.5
comp=Z,8.4nm,0.8s
TIXI Tiksi 43.19 23 *ce*P P 08 36 04.8 +0.6
KLR Kul'dur 43.38 56⇑*e*P P 08 36 05.1 -1.0
KLR pmax pmax
comp=Z,6.0nm,1.7s
KLR Kul'dur 43.38 56 P P 08 36 05.5 -0.6
comp=Z,1.1nm,0.6s,baz=298,slow=9.0,SNR=4.4
comp=Z,1.1nm,0.6s
KSRS Korea Array 43.80 74 LR LR 08 55 58.3
comp=Z,18nm,20.0s,baz=30,slow=38
EKA Eskdalemuir Ar 50.57 315 P P 08 37 02.3 +0.1
comp=Z,0.6nm,0.6s,baz=108,slow=5.5,SNR=2.1
comp=Z,0.6nm,0.6s
MJAR Matsushiro Arr 51.76 71 P P 08 37 09.8 -1.5
comp=Z,1.4nm,0.6s,baz=282,slow=6.1,SNR=2.9
comp=Z,1.4nm,0.6s
ASAJ Asahikawa 51.94 60 LR LR 09 01 23.8
comp=Z,59nm,18.8s,baz=146,slow=38
DAG Danmarks Havn 52.24 343 *i*P P 08 37 14.0 -0.3
SHO Shikotan 54.87 59 *e*P P 08 37 34.6 +0.6
ESDC Sonseca Array 56.48 296 P P 08 37 46.0 +0.2
comp=Z,1.0nm,0.9s,baz=64,slow=5.9,SNR=2.8
comp=Z,1.0nm,0.9s
KAPI Kappang 62.66 123 LR LR 09 08 24.6
comp=Z,12nm,19.2s,baz=265,slow=39
TOA0 Torodi Ar. Sit 66.08 268 P P 08 38 50.0 -1.0
TOA0 IAmb IAmb 08 38 50.7
comp=Z,2.6nm,0.8s
TORD Torodi Ar. Bea 66.08 268 P P 08 38 49.3 -1.7
TORD IAmb IAmb 08 38 53.9
comp=Z,1.8nm,0.9s
TORD Torodi Ar. Bea 66.08 268 P P 08 38 49.8 -1.3
comp=Z,1.6nm,0.6s,baz=52,slow=6.3,SNR=15
comp=Z,1.6nm,0.6s
B21K Ikpikpuk River 66.41 16 P P 08 38 52.6 +0.3
C23K Itkillik River 67.05 15 P P 08 38 57.6 +1.3
E19K Redstone River 67.52 18 P P 08 38 59.5 +0.1
E19K IAmb IAmb 08 39 13.8
comp=Z,6.6nm,1.2s
TOLK Toolik Lake Re 68.26 15 P P 08 39 04.7 +0.6
A36M Sachs Harbour 68.51 5 P P 08 39 06.3 +0.8
A36M IAmb IAmb 08 39 07.5
comp=Z,5.3nm,0.9s
E24K Your Creek 68.95 15 P P 08 39 08.3 -0.1
E24K IAmb IAmb 08 39 31.9
comp=Z,3.2nm,1.0s
G21K Allakaket 69.16 18 P P 08 39 09.4 -0.3
G21K IAmb IAmb 08 39 46.4
comp=Z,3.8nm,1.1s
ILAR Eielson Array 72.12 16 P P 08 39 27.4 -0.4
comp=Z,1.2nm,0.8s,baz=316,slow=4.9,SNR=13
comp=Z,1.2nm,0.8s
YKA Yellowknife Ar 78.55 3 *ce*P P 08 40 05.1 +0.4
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 78.55 3 P P 08 40 04.8 +0.1
comp=Z,1.0nm,0.9s,baz=348,slow=5.6,SNR=13
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 83.19 122 *ce*P P 08 40 28.7 -1.3
WRA pmax pmax
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 83.19 122 P P 08 40 28.1 -1.9
comp=Z,2.9nm,0.8s,baz=324,slow=4.9,SNR=30
comp=Z,2.9nm,0.8s
ASAR Alice Springs 85.57 125 P P 08 40 40.5 -1.6
comp=Z,1.6nm,0.7s,baz=319,slow=5.2,SNR=17
comp=Z,1.6nm,0.7s
QSPA South Pole Qui 128.98 180 PKP PKPdf 08 47 09.0 -1.4
comp=Z,1.6nm,1.1s,baz=205,slow=2.4,SNR=4.1
PLCA Paso Flores 150.90 255 PKPbc PKPdf 08 47 52.5 +2.2
comp=Z,2.4nm,1.1s,baz=45,slow=2.9,SNR=2.3

IDC ***02*** *08:29:26.7±0.8, 43°.64N×150°.31E, h0km, mb3.7/9, mbtmp3.7/12, ML3.1/3, Error ellipse: s-maj=23.5km s-min=18.0km az=131.0*
JMA ***02*** *08:29:30.4±0.9, 44°N±4°×15°0E±°, h30km, MV4.3/12, SE OFF ETOROFU*
SKHL ***02*** *08:29:31.1±0.5, 43°.60N×150°.10E, h55km±2km, mb4.5/3*
ISC 02 08:29:31.4±0.8, 43°.58N±0°.08×150°.12E±0°.07, h35km, n29, σ1°72/35, mb3.6/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.31**	**316**	*e*P	**Pn**	**08 30 06.3**	**-0.6**
KUR				AMB	AMB	08 30 08.7	
	100nm,0.5s						
KUR				*e*S	**Sn**	**08 30 32.9**	**-1.1**
KUR				A	A	08 30 36.0	
	190nm,0.3s						
KUR				A	A	08 30 36.0	
	260nm,0.3s						
SHO	**Shikotan**	**2.40**	**278**	*e*P	**Pn**	**08 30 07.3**	**-0.9**
SHO				AMB	AMB	08 30 08.3	
	40nm,0.3s						
SHO				*e*S	**Sn**	**08 30 34.6**	**-1.8**
SHO				A	A	08 30 38.8	
	300nm,0.5s						
SHO				A	A	08 30 38.8	
	110nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.12**	**280**	*e*P	**Pn**	**08 30 17.4**	**-0.6**
YUK				AMB	AMB	08 30 25.0	
	70nm,0.3s						
YUK				*e*S	**Sn**	**08 30 51.7**	**-2.3**
YUK				A	A	08 30 57.4	
	160nm,0.4s						
YUK				A	A	08 30 57.4	
	230nm,0.4s						
NEM2	**Nemuro 2**	**3.20**	**268**	*e*P	**Pn**	**08 30 18.3**	**-0.7**
NEM2				*e*S	**Sn**	**08 30 52.9**	**-2.9**
JRA	**Rausu**	**3.64**	**277**	*e*P	**Pn**	**08 30 25.4**	**+0.2**
JNK	**Nakash**	**3.93**	**272**	*e*P	**Pn**	**08 30 28.7**	**-0.4**
JAK	**Akkeshi**	**4.00**	**263**	*e*P	**Pn**	**08 30 30.1**	**0.0**
JAK				*e*S	**Sn**	**08 31 14.1**	**-1.7**
JTKR	**Abashiri--Toko**	**4.52**	**277**	*e*P	**Pn**	**08 30 38.1**	**+0.9**
JAR	**Ashorobuto**	**4.64**	**269**	*e*P	**Pn**	**08 30 39.3**	**+0.4**
JAR				*e*S	**Sn**	**08 31 29.8**	**-1.6**
JOB	**Onbets**	**4.64**	**264**	*e*P	**Pn**	**08 30 39.0**	**+0.1**
JCH	**Churui**	**5.04**	**261**	*e*P	**Pn**	**08 30 44.4**	**-0.1**
JCH				*e*S	**Sn**	**08 31 38.5**	**-3.0**
ASAJ	**Asahikawa**	**5.47**	**278**	Pn	**Pn**	**08 30 52.4**	**+2.1**
	1.3nm,0.3s,baz=131,slow=4.7,SNR=11						
ASAJ				Sn	**Sn**	**08 31 57.0**	**+5.0**
	0.5nm,0.3s,baz=210,slow=11,SNR=1.3						
	11nm,0.7s						
JNBK	**Urakawa-nobuka**	**5.57**	**259**	*e*P	**Pn**	**08 30 51.8**	**+0.2**
JNBK				*e*S	**Sn**	**08 31 51.8**	**-2.5**
JANG	**Nango**	**7.17**	**246**	*e*P	**Pn**	**08 31 12.3**	**-1.3**
JANG				*e*S	Sn	08 32 27.3	-6.6
PETK	**Petropavlovsk-**	**10.78**	**25**	Pn	**Pn**	**08 32 00.2**	**-2.8**
	0.1nm,0.3s,baz=183,slow=13,SNR=1.1						
	2.9nm,0.9s						
MJAR	**Matsushiro Arr**	**11.52**	**236**	Pn	**Pn**	**08 32 13.9**	**+0.7**
	baz=285,slow=17,SNR=4.1						
	0.5nm,0.4s						
H11S1	**WAKE ISLAND Hy**	**28.64**	**146**	T	T	09 05 28.0	
	baz=335,slow=76,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**28.65**	**146**	T	T	09 05 26.0	
	baz=335,slow=76,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**28.66**	**146**	T	T	09 05 28.2	
	baz=335,slow=76,SNR=3.5						
SONM	**Songino Array**	**30.52**	**294**	P	**P**	**08 35 42.8**	**+1.6**
	0.5nm,0.5s,baz=69,slow=7.9,SNR=3.3						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**40.35**	**36**	P	**P**	**08 37 05.3**	**+0.2**
	0.3nm,0.5s,baz=261,slow=8.1,SNR=7.2						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
	0.3nm,0.5s						
KURBB	Kurchatov Arra	47.49	305	P	P	08 38 03.8	+1.2
	0.7nm,0.6s,baz=72,slow=8.6,SNR=0.9						
	0.7nm,0.6s						
YKA	Yellowknife Ar	54.73	34	P	P	08 38 55.3	-1.5
	0.3nm,0.8s,baz=295,slow=6.7,SNR=3.6						
	0.3nm,0.8s						
WRA	Warramunga Arr	64.85	196	P	P	08 40 07.7	+0.9
	0.4nm,0.5s,baz=14,slow=6.8,SNR=8.4						
	0.4nm,0.5s						
FINES	FINESS Array B	65.98	334	P	P	08 40 14.2	+0.5
	0.9nm,0.5s,baz=35,slow=7.0,SNR=7.9						
	0.9nm,0.5s						
ASAR	Alice Springs	68.56	196	P	P	08 40 32.0	+1.6
ASAR	Alice Springs	68.56	196	P	P	08 40 31.9	+1.6
	0.4nm,0.7s,baz=13,slow=6.2,SNR=7.1						
	0.4nm,0.7s						
HFS	Hagfors	70.66	339	P	P	08 40 43.5	+0.6
	1.3nm,0.6s,baz=48,slow=2.2,SNR=1.6						
	1.3nm,0.6s						
TXAR	Lajitas Array	80.93	58	P	P	08 41 43.0	+0.7
	0.4nm,0.6s,baz=302,slow=4.1,SNR=8.0						
	0.4nm,0.6s						

IDC 02 08:38:24.1±25.0, 24°.57S×176°.70W, h491km±296km, mb2.9/5, mbtmp3.8/5, Error ellipse: s-maj=113.2km s-min=85.6km az=149.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CTA	Charters Tower	34.49	270	P	P	08 44 30.7	+0.2
	1.9nm,0.4s,baz=124,slow=11,SNR=7.0						
	1.9nm,0.4s						
STKA	Stephens Creek	37.28	249	P	P	08 44 53.2	-0.4
	1.0nm,0.5s,baz=85,slow=8.0,SNR=5.1						
	1.0nm,0.5s						
ASAR	Alice Springs	44.90	260	P	P	08 45 54.5	+0.1
	0.3nm,0.6s,baz=91,slow=7.1,SNR=5.8						
	0.3nm,0.6s						
WRA	Warramunga Arr	45.36	266	P	P	08 45 57.8	-0.3
	0.6nm,0.5s,baz=105,slow=7.9,SNR=12						
	0.6nm,0.5s						
TXAR	Lajitas Array	88.26	57	P	P	08 50 22.9	-0.1
	0.3nm,0.9s,baz=235,slow=5.2,SNR=2.3						
	0.3nm,0.9s						

IDC 02 08:55:11.4±999.0, 52°.39N×29°.94E, h0km, Error ellipse: s-maj=527.5km s-min=134.2km az=47.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	6.06	41	I	I	09 29 00.0	
	baz=226,slow=293,SNR=1.4						
I31KZ	AKTYUBINSK INF	17.60	85	I	I	10 40 10.0	
	baz=288,slow=329,SNR=1.8						
I46RU	ZALESOVO INFRA	32.24	65	I	I	12 15 00.0	
	baz=288,slow=330,SNR=2.6						

IDC 02 09:30:22.9±2.1, 28°.34S×70°.15W, h91km±16km, mb3.8/4, mbtmp4.0/9, Error ellipse: s-maj=39.8km s-min=10.3km az=86.0
NEIC 02 09:30:22.4±1.9, 28°.41S±0°.04×70°.3W±0°.1, h122km±7km, mb4.2/2, ML4.2(GUC), Error ellipse: s-maj=17.6km s-min=5.0km az=84.0
SJA 02 09:30:22.3±0.8, 28°.38S×70°.34W, h75km±4km, ML4.0, MW3.9
GUC 02 09:30:23.6±0.7, 28°.41S×70°.19W, h112km±3km, ML4.2
ISC 02 09:30:22.7±0.6, 28°.35S±0°.03×70°.30W±0°.04, h117km±5km, n97, σ1s.47/140, mb4.1/4, 1C-8D, Central Chile

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
AC05	El Transito	0.49	177	Pn	Pn	09 30 40.4	0.0
AC05				Sn	Sn	09 30 52.3	-1.4
AC05	El Transito	0.49	177	eP	Sn	09 30 52.5	-1.2
AC05	El Transito	0.49	177	i P	Pn	09 30 40.3	0.0
AC05				i S	Sn	09 30 52.3	-1.4
AC05				IAML		09 30 52.9	
	comp=N,18µm,0.2s						
AC04	Llanos de Chal	0.70	282	Pn	Pn	09 30 43.1	+1.4
AC04				Sn	Sn	09 30 57.3	+1.3
AC04	Llanos de Chal	0.70	282	eP	Pn	09 30 42.4	+0.8
AC04				eS	Sn	09 30 57.9	+2.0
AC04				IAML		09 30 59.6	
	comp=Z,2µm,0.3s						
AC04	Llanos de Chal	0.70	282	⇓iP	Pn	09 30 43.2	+1.6
AC04				i S	Sn	09 30 57.2	+1.3
AC04				IAML		09 30 59.1	
	comp=E,10µm,0.1s						
LCO	Las Campanas	0.75	208	Pn	Pn	09 30 42.5	+0.1
LCO				Sn	Sn	09 30 57.2	0.0
LCO	Las Campanas	0.75	208	eP	Pn	09 30 43.8	+1.4
LCO				eS	Sn	09 30 57.4	+0.1
LCO				IAML		09 30 58.0	
	comp=Z,8µm,0.2s						
LCO	Las Campanas	0.75	208	i P	Pn	09 30 42.7	+0.3
LCO				i S	Sn	09 30 56.7	-0.6
GO03	Copiap	0.75	4		Pn	09 30 43.1	+0.8
GO03	Copiap	0.75	4	eP	Pn	09 30 43.8	+1.6
GO03				eP	Pn	09 30 43.8	+1.6
GO03				eS	Sn	09 30 59.5	+2.6
GO03	Copiap	0.75	4	⇓iP	Pn	09 30 42.9	+0.7
GO03				i S	Sn	09 30 57.3	+0.4
GO03				IAML		09 30 58.8	
	comp=N,5µm,0.2s						
AC06	Mina Casimiro	0.99	357		Pn	09 30 45.4	+1.1
AC06	Mina Casimiro	0.99	357	⇓iP	Pn	09 30 45.7	+1.3
AC06				i S	Sn	09 31 01.7	+1.1
AC06				IAML		09 31 03.7	
	comp=E,4µm,0.3s						
CO01	Juntas del Tor	1.64	174		Pn	09 30 52.5	+0.8
CO01	Juntas del Tor	1.64	174	eP	Pn	09 30 52.5	+0.8
CO01				eS	Sn	09 31 14.4	+0.5
CO01				IAML		09 31 15.6	
	comp=Z,445nm,0.3s						
CO01	Juntas del Tor	1.64	174	i P	Pn	09 30 52.5	+0.8
CO01				i S	Sn	09 31 13.8	0.0
CO05	La Serena	1.77	207		Pn	09 30 53.7	+0.6
CO05	La Serena	1.77	207	⇓iP	Pn	09 30 53.7	+0.6
CO05				i S	Sn	09 31 16.3	0.0
CO05				IAML		09 31 18.1	
	comp=N,3µm,0.2s						
GO04	Tololo Observa	1.87	193		Pn	09 30 55.0	+0.4
GO04	Tololo Observa	1.87	193	eP	Pn	09 30 55.1	+0.5
GO04				eS	Sn	09 31 18.9	0.0
GO04				eS	Sn	09 31 19.1	+0.2
GO04	Tololo Observa	1.87	193	⇓iP	Pn	09 30 55.0	+0.5
GO04				i S	Sn	09 31 18.6	-0.3
VCA	Vinchina	1.88	102	eP	Pn	09 30 55.9	+1.3
VCA				eS	Sn	09 31 22.0	+3.0
VCA				IAML		09 31 28.3	
	comp=Z,344nm,0.3s						
VCA	Vinchina	1.88	102	⇑iP	Pn	09 30 55.9	+1.3
VCA				eS	Sn	09 31 19.4	+0.3
AROD	Rodeo	1.95	158	eP	Pn	09 30 57.2	+1.5
AROD				eS	Sn	09 31 21.9	+1.0
ACDV	Cuesta del Vie	2.09	151	eP	Pn	09 30 59.0	+1.7
ACDV				eS	Sn	09 31 13.1	-11
AC01	Pan de Azucar	2.21	353	Pn	Pn	09 31 00.4	+1.8
AC01	Pan de Azucar	2.21	353	eP	Pn	09 30 59.6	+1.0
AC01				eS	Sn	09 31 19.1	-7.0
AC01				eS	Sn	09 31 25.9	-0.2
AC01				IAML		09 31 30.4	
	comp=Z,589nm,0.4s						
AC01	Pan de Azucar	2.21	353	⇓iP	Pn	09 31 00.4	+1.8
AC01				IAML		09 31 30.8	
	comp=E,981nm,0.2s						
ACCO	Cerro Coronel	2.48	155	eP	Pn	09 31 04.0	+1.6
ACCO				eS	Sn	09 31 33.8	+1.0
CO03	El Pedregal	2.51	188	Pn	Pn	09 31 03.1	+0.6
CO03	El Pedregal	2.51	188	eP	Pn	09 31 03.1	+0.6
CO03				eS	Sn	09 31 33.4	+0.3
CO03				IAML		09 31 34.9	
	comp=Z,436nm,0.3s						
CO03	El Pedregal	2.51	188	⇓iP	Pn	09 31 03.1	+0.6
CO03				i S	Sn	09 31 32.6	-0.5
CO03				IAML		09 31 34.4	
	comp=E,1µm,0.3s						
CO06	Fray Jorge	2.59	206		Pn	09 31 03.6	0.0
CO06	Fray Jorge	2.59	206	i P	Pn	09 31 03.4	-0.1
DOCA	Reserva Natura	2.80	158	eP	Pn	09 31 07.6	+1.0
DOCA				eS	Sn	09 31 41.2	+0.8
DOCA				IAML		09 31 42.4	
	comp=Z,826nm,0.6s						
CO02	Combarbal	2.91	192		Pn	09 31 07.8	+0.1
CO02	Combarbal	2.91	192	eP	Pn	09 31 08.0	+0.2
CO02				eS	Sn	09 31 31.6	-11
CO02				eS	Sn	09 31 42.1	-0.5
CO02				IAML		09 31 42.4	
	comp=Z,505nm,0.3s						
CO02	Combarbal	2.91	192	⇓iP	Pn	09 31 07.9	+0.1
CO02				i S	Sn	09 31 40.8	-1.7
ACLC	CERRO LA CRUZ	3.13	111	eP	Pn	09 31 11.0	+0.3
ACLC				eS	Sn	09 31 46.8	-0.9
ACLC				IAML		09 31 47.8	
	comp=Z,291nm,0.3s						
GO02	Mina Guanaco	3.23	11	Pn	Pn	09 31 13.4	+1.2
GO02	Mina Guanaco	3.23	11	eP	Pn	09 31 13.6	+1.3
GO02				eS	Sn	09 31 39.1	-11
ZON	Zonda	3.48	157	Pn	Pn	09 31 16.2	+0.9
ZON	Zonda	3.48	157	eP	Pn	09 31 15.6	+0.3
ZON				eS	Sn	09 31 56.2	+0.2
ZON				IAML		09 32 03.2	
	comp=Z,140nm,0.4s						
RTLS	Leoncito	3.55	166	eP	Pn	09 31 18.0	+1.6
RTLS				eS	Sn	09 31 43.6	-14
RTLS				IAML		09 32 00.9	
	comp=Z,698nm,0.7s						
CFA	Coronel Fontan	3.71	152	eP	Pn	09 31 18.9	+0.7
CFA				eS	Sn	09 32 00.8	-0.5
CFA	Coronel Fontan	3.71	152	P	Pn	09 31 18.9	+0.7
	comp=Z,17nm,0.3s,baz=327,slow=9.9,SNR=58						
CFA				S	Sn	09 31 59.2	-2.0
	comp=Z,177nm,0.3s,baz=317,slow=15,SNR=12						
RTCV	Cerro Valdivia	3.82	157	eP	Pn	09 31 21.2	+1.4
RTCV				eS	Sn	09 32 03.4	-0.6
APLL	PUNTA DE LOS L	3.87	123	eP	Pn	09 31 20.6	+0.1
APLL				eS	Sn	09 32 02.8	-2.5
ASAL	Salagasta	4.42	164	eP	Pn	09 31 29.1	+1.3
ASAL				eS	Sn	09 32 19.7	+1.4
ARCO	CERRO ARCO	4.63	166	eP	Pn	09 31 31.6	+0.9
ARCO				eS	Sn	09 32 24.1	+0.5
ROC1	El Roble	4.66	187		Pn	09 31 29.7	-1.4
AHML	Horco Molle	4.67	72	eP	Pn	09 31 31.5	+0.2
PEL	Peldehue	4.79	184		Pn	09 31 32.5	-0.3
PEL	Peldehue	4.79	184	eP	Pn	09 31 32.3	-0.5
PEL				eS	Sn	09 32 25.8	-1.6
MT02	Curacav	4.95	188	Pn	Pn	09 31 33.7	-1.2
MT02	Curacav	4.95	188	eP	Pn	09 31 33.6	-1.3
MT02				eS	Sn	09 32 28.9	-2.1
MT05	Renca	5.04	184		Pn	09 31 35.3	-0.8
MT05	Renca	5.04	184	eP	Pn	09 31 35.8	-0.4
MT05				eS	Sn	09 32 33.4	0.0
MT03	Universidad Ad	5.13	182	eP	Pn	09 31 37.7	+0.2
MT03				eS	Sn	09 32 31.6	-4.0
PB15	IPOC Station P	5.17	8		Pn	09 31 38.5	+0.4
PB15	IPOC Station P	5.17	8	eP	Pn	09 31 38.9	+0.8
PB15				eS	Sn	09 32 37.3	+0.5
MT09	Talagante	5.44	186		Pn	09 31 40.0	-1.7
PB05	IPOC Station P	5.47	1		Pn	09 31 40.7	-1.4
MT01	Popeta	5.56	188		Pn	09 31 41.2	-1.9
BO04	La Punta	5.63	183		Pn	09 31 42.8	-1.3
PB06	IPOC Station P	5.66	7	Pn	Pn	09 31 44.0	-0.6
AF01	San Pedro de A	5.70	20		Pn	09 31 46.0	+0.6
LVC	Limon Verde	5.85	13	P	Pn	09 31 47.3	-0.1
	comp=Z,8.9nm,0.5s,baz=179,slow=6.8,SNR=33						
LVC				S	Sn	09 32 51.8	-1.6
	comp=Z,14nm,0.4s,baz=190,slow=15,SNR=4.3						
PB04	IPOC Station P	5.99	1	Pn	Pn	09 31 47.5	-1.6
BO01	Tunca	6.06	186	Pn	Pn	09 31 47.8	-2.1
BO02	Sierra Bellavi	6.44	184	Pn	Pn	09 31 53.4	-1.6
PB09	IPOC Station P	6.59	9		Pn	09 31 57.5	+0.2
PB07	IPOC Station P	6.60	3		Pn	09 31 55.6	-1.8
PB02	IPOC Station P	7.01	3		Pn	09 32 01.3	-1.5
PB01	IPOC Station P	7.31	6		Pn	09 32 05.2	-1.7
PB12	IPOC Station P	9.69	360	Pn	Pn	09 32 37.0	-2.2
CPUP	Villa Florida	11.71	83	Pn	Pn	09 33 03.8	-2.2
CPUP	Villa Florida	11.71	83	P	P	09 33 11.7	-2.7
	comp=Z,0.8nm,0.4s,baz=258,slow=13,SNR=4.8						
TRQA	Tornquist	11.92	146	Pn	Pn	09 33 07.7	-1.2
ITQB	Itaqui	12.04	100	Pn	Pn	09 33 09.5	-1.0
LPAZ	La Paz	12.17	10	P	Pn	09 33 12.5	-0.3
	comp=Z,1.4nm,0.3s,baz=128,slow=14,SNR=12						
PLCA	Paso Flores	12.36	181	Pn	Pn	09 33 15.8	+1.2
PLCA	Paso Flores	12.36	181	P	Pn	09 33 16.2	+1.5
	comp=Z,1.8nm,1.0s,baz=2.4,slow=12,SNR=3.4						
PLTB	Pedras Altas	14.85	107	Pn	Pn	09 33 44.7	-2.1
SIV	San Ignacio	14.96	37	P	P	09 33 49.7	-1.2
	comp=Z,0.3nm,0.5s,baz=205,slow=14,SNR=1.6						
SNAA	Sanae	56.29	159	P	P	09 39 49.8	-1.0
SNAA				IAmb	IAmb	09 39 56.1	
	comp=Z,1.6nm,0.9s						
SNAA	Sanae	56.29	159	P	P	09 39 53.4	+2.6
	comp=Z,2.0nm,0.5s,baz=282,slow=10,SNR=12						
	comp=Z,2.0nm,0.5s						
QSPA	South Pole Qui	61.87	180	P	P	09 40 28.4	-1.1
QSPA				IAmb	IAmb	09 40 33.3	
	comp=Z,2.8nm,0.7s						
QSPA	South Pole Qui	61.87	180	P	P	09 40 32.3	+2.9
	comp=Z,2.4nm,0.6s,baz=154,slow=0.7,SNR=21						
	comp=Z,2.4nm,0.6s						
TORD	Torodi Ar. Bea	80.87	70	P	P	09 42 26.7	+2.5
	comp=Z,0.5nm,0.6s,baz=297,slow=3.0,SNR=3.8						
	comp=Z,0.5nm,0.6s						
BOSA	Boshof	81.37	118	P	P	09 42 29.2	+2.3
	comp=Z,1.0nm,0.4s,baz=236,slow=4.2,SNR=5.9						
	comp=Z,1.0nm,0.4s						
ASAR	Alice Springs	123.27	207	PKP	PKiKP	09 49 09.1	+2.4
	comp=Z,0.2nm,0.5s,baz=138,slow=2.1,SNR=4.1						
WRA	Warramunga Arr	126.41	209	PKP	PKiKP	09 49 15.4	+2.5
	comp=Z,0.5nm,0.8s,baz=157,slow=1.5,SNR=9.9						
ZALV	Zalesovo Beam	148.61	29	PKPbc	PKPab	09 49 58.9	-0.6
	comp=Z,1.1nm,0.5s,baz=242,slow=3.2,SNR=5.2						
MKAR	Makanchi Array	151.74	42	PKPbc	PKiKP	09 50 06.6	+2.9
	comp=Z,1.0nm,0.7s,baz=308,slow=1.9,SNR=8.9						
PZH	PanZhiHua	172.69	103	PKP	PKPdf	09 50 16.7	-1.8

IDC 02 09:31:11.5±2.0, 3°.02S×148°.67E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=171.8km s-min=30.4km az=122.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.88	219	P	P	09 36 05.6	-0.6
	0.7nm,0.9s,baz=44,slow=10,SNR=9.8						
	0.7nm,0.9s						
ASAR	Alice Springs	25.01	214	P	P	09 36 37.9	+0.6
	0.3nm,0.6s,baz=40,slow=7.2,SNR=5.7						
	0.3nm,0.6s						
H11S3	WAKE ISLAND Hy	27.78	39	T	T	10 07 04.0	
	baz=223,slow=76,SNR=63						
H11S2	WAKE ISLAND Hy	27.79	39	T	T	10 07 05.2	
	baz=223,slow=76,SNR=65						
H11S1	WAKE ISLAND Hy	27.80	39	T	T	10 07 07.9	
	baz=223,slow=76,SNR=66						
H11N1	WAKE ISLAND Hy	28.82	38	T	T	10 08 21.4	
	baz=222,slow=76,SNR=19						
H11N3	WAKE ISLAND Hy	28.84	38	T	T	10 08 20.9	
	baz=222,slow=76,SNR=30						
H11N2	WAKE ISLAND Hy	28.84	38	T	T	10 08 21.5	
	baz=222,slow=76,SNR=23						
ILAR	Eielson Array	82.10	23	P	P	09 43 33.6	-0.1
	0.9nm,1.1s,baz=238,slow=5.2,SNR=4.0						
	0.9nm,1.1s						

MOS 02 09:36:10.9, 43°.08N×46°.35E, h13km, MPVA3.5
NORS 02 09:36:10.9, 43°.09N×46°.37E, h18km, MPVA3.5
DRS 02 09:36:11.9, 43°.13N×46°.28E, h15km
TIF 02 09:36:12.7, 43°.07N×46°.25E, h15km±2km
ISC 02 09:36:12.2±0.9, 43°.10N±0°.03×46°.34E±0°.02, h16km±7km, n34, σ1s.02/68, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
DVE	Vedeno	0.21	228	ePg	Pb	09 36 17.4	-0.3
DVE				eSg	Sb	09 36 21.7	+0.3
DLMR	Dylym	0.22	97	ePg	Pg	09 36 17.2	0.0
DLMR				eSg	Sb	09 36 21.5	-0.1
DBC	Dubki	0.37	102	i Pg	Pg	09 36 19.4	-0.4
	39nm,0.5s						
DBC				eSg	Sg	09 36 25.4	+0.3
	9.0nm,0.3s						
BTLR	Botlikh	0.44	191	ePg	Pg	09 36 21.3	+0.2
	50nm,0.4s						
BTLR				eSg	Sb	09 36 28.3	+0.2
	578nm,0.2s						
KRNR	Karanay	0.50	123	ePg	Pg	09 36 21.9	-0.3
	13nm,0.2s						
KRNR				eSg	Sb	09 36 29.6	-0.2
	354nm,0.5s						
UNCR	Uncukul	0.51	139	i Pg	Pg	09 36 22.4	0.0
	28nm,0.2s						
UNCR				eSg	Sb	09 36 30.4	+0.3
	90nm,0.4s						
XNZR	Khunzakh	0.62	154	ePg	Pg	09 36 24.4	-0.1
	16nm,0.4s						
XNZR				eSg	Sb	09 36 33.6	+0.3
	17nm,0.2s						
BUJR	Buynaksk	0.63	115	ePg	Pb	09 36 25.2	+0.4
	52nm,0.4s						
BUJR				eSg	Sn	09 36 35.4	-0.8
	87nm,0.4s						
ARKR	Arakani	0.69	135	ePg	Pg	09 36 25.7	-0.1
	9.0nm,0.3s						
ARKR				eSg	Sb	09 36 36.0	+0.7
	90nm,0.2s						
GNBR	Gunib	0.85	147	ePg	Pb	09 36 28.3	-0.3
	14nm,0.1s						
GNBR				eSg	Sn	09 36 41.0	-0.6
	143nm,0.2s						
MAK	Makhachkala	0.87	99	ePg	Pb	09 36 28.4	-0.5
MAK				eSg	Sn	09 36 43.2	+1.1
KMGR	Komgaron	1.08	268	eSg	Sn	09 36 50.0	+2.6
KMGR				ePg	Sn	09 36 50.0	+2.6
KMKR	Kumukh	1.12	150	ePg	Pg	09 36 34.1	+0.2
	17nm,0.3s						
KMKR				eSg	Sn	09 36 50.3	+1.7
	143nm,0.4s						
SGKR	Sergokala	1.16	123	ePg	Pb	09 36 34.0	0.0
	17nm,0.2s						
SGKR				eSg	Sg	09 36 50.9	+1.0
	65nm,0.4s						
LGD	Lagodekhi	1.27	183	P	Pg	09 36 36.1	-0.5
LGD				S	Sg	09 36 53.1	+0.1
LGD	Lagodekhi	1.27	183	ePg	Pg	09 36 36.1	-0.5
LGD				eSg	Sg	09 36 53.1	+0.1
CHRG	Chargali	1.29	234	P	Pb	09 36 36.3	0.0
CHRG				S	Sg	09 36 53.6	-0.4
CHRG	Chargali	1.29	234	ePg	Pb	09 36 36.3	0.0
CHRG				eSg	Sg	09 36 53.6	-0.4
TRKR	Terskaya	1.33	299	ePg	Pb	09 36 36.6	-0.1
TRKR				eSg	Sg	09 36 56.9	+1.9
BTKR	Batakoyurt	1.34	282	ePg	Pg	09 36 38.4	+0.4
BTKR				eSg	Sg	09 36 57.2	+1.7
MTEO	Meteo	1.39	253	P	Pn	09 36 37.0	-0.4
MTEO				S	Sb	09 36 55.7	0.0
MTEO	Meteo	1.39	253	ePg	Pn	09 36 37.0	-0.4
MTEO				eSg	Sb	09 36 55.7	0.0
GUDG	Gudauri	1.51	246	ePg	Pn	09 36 35.6	-3.2
GUDG				eSg	Sn	09 36 58.0	-0.3
LACR	Lac	1.52	260	ePg	Pb	09 36 39.9	-0.2
LACR				eSg	Sg	09 37 00.5	-0.8
KORR	Kora	1.66	270	ePg	Pb	09 36 41.9	-0.6
KORR				eSg	Sg	09 37 04.8	-1.0
ZEI	Tsey	1.81	261	ePg	Pb	09 36 44.2	-0.9
ZEI				eSg	Sb	09 37 07.9	+0.1
AKT	Akhty	1.92	147	ePg	Pb	09 36 47.4	+0.5
AKT				eSg	Sb	09 37 11.3	+0.6
DIGR	Digorskoe uzhe	2.03	265	ePg	Pn	09 36 46.5	+0.5
DIGR				eSg	Sb	09 37 14.0	0.0
TRLG	Trialeti	2.27	228	P	Pb	09 36 53.2	+0.2
TRLG				S	Sb	09 37 22.7	+1.7
TRLG	Trialeti	2.27	228	ePn	Pb	09 36 53.2	+0.2
TRLG				eSn	Sb	09 37 22.7	+1.7
KBZ	Khabaz	2.58	285	ePn	Pn	09 36 50.0	-3.3
KBZ				eSn	Sn	09 37 23.1	-1.3
NEUR	Neytrino	2.66	275	ePn	Pn	09 36 55.7	+1.0
NEUR				eSn	Sn	09 37 26.2	-0.5
SHA1	Shidzhatmaz	2.76	285	ePn	Pn	09 36 54.9	-1.0
SHA1				eSn	Sn	09 37 28.3	-0.8
KIV	Kislovodsk	2.79	289	ePn	Pn	09 36 56.2	-0.1
KIV				eSn	Sn	09 37 30.6	+0.9

NNC 02 09:49:33.4±3.3, 51°.39N×75°.27E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=106.3km s-min=18.3km az=24.0, Suspected Mining explosion.
IDC 02 09:49:36.2±1.4, 51°.66N×75°.64E, h0km, mbtmp2.6/3, ML2.0/3, Error ellipse: s-maj=33.0km s-min=11.8km az=29.0
ISC 02 09:49:27.5±1.3, 52°.8N±0°.1×76°.24E±0°.08, h0km, n9, σ0s.45/6, 4C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KURK	Kurchatov	2.53	143	⇓Pg	Pb	09 50 13.7	-0.1
	4.8nm,1.1s						
KURK				⇑Lg	Lg	09 50 42.3	
	6.5nm,0.8s						
KURBB	Kurchatov Arra	2.58	146	Pg	Pb	09 50 13.9	-0.6
	0.2nm,0.3s,baz=304,slow=19,SNR=18						
KURBB				Lg	Lg	09 50 42.2	
	0.3nm,0.3s,baz=304,slow=31,SNR=8.3						
KURBB	Kurchatov Arra	2.58	146	⇑Pg	Pb	09 50 14.4	-0.1
	2.3nm,0.5s						
KURBB				⇓Lg	Lg	09 50 44.3	
	18nm,0.5s						
BVA0	Borovoye Array	3.56	277	⇑Lg	Lg	09 51 20.8	
	2.8nm,0.5s,baz=114,slow=26,SNR=5.9						
BVAR	Borovoye Array	3.56	277	Pn	Pb	09 50 31.1	-0.2
	0.1nm,0.3s,baz=114,slow=16,SNR=2.9						
BVAR				Lg	Lg	09 51 18.4	
	0.1nm,0.3s,baz=113,slow=26,SNR=6.3						
	0.6nm,0.4s						
I46RU	ZALESOVO INFRA	5.27	74	I	I	10 24 40.0	
	baz=248,slow=297,SNR=1.3						
ZALV	Zalesovo Beam	5.27	74	Pn	Pg	09 51 08.5	0.0
	0.2nm,0.3s,baz=248,slow=15,SNR=2.5						
	0.5nm,0.4s						
MK31	Makanchi Array	7.14	144	⇑Lg	Lg	09 52 54.6	
	1.8nm,0.7s,baz=328,slow=24,SNR=3.8						
MKAR	Makanchi Array	7.14	144	Pn	Pn	09 51 13.6	+0.4
	baz=315,slow=13,SNR=1.6						
MKAR				Lg	Lg	09 53 00.8	
	0.1nm,0.3s,baz=313,slow=26,SNR=4.9						
	0.3nm,0.5s						

KRNET 02 09:59:09.0±0.1, 43°.25N×78°.76E, h12km, mb2.6
NNC 02 09:59:08.7±0.2, 43°.25N×78°.77E, h0km, mb2.5, mpv2.7, Error ellipse: s-maj=2.2km s-min=1.6km az=173.0
SOME 02 09:59:09.8, 43°.27N×78°.72E, h10km
ISC 02 09:59:08.8±0.9, 43°.25N±0°.02×78°.77E±0°.02, h9km±8km, n27, σ0s.28/54, 7C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
UZB	Uzynbulak	0.21	118	eP	Pg	09 59 13.5	+0.2
	baz=18						
UZB				eS	Sg	09 59 16.3	+0.1
	baz=18						
UZB	Uzynbulak	0.21	118	eP	Pg	09 59 13.5	+0.2
	2.3nm,0.0s						
UZB				eS	Sg	09 59 16.3	+0.1
	24nm,0.1s						
UZB	Uzynbulak	0.21	118	P	Pg	09 59 13.3	+0.1
	1.8nm,0.1s						
UZB				S	Sg	09 59 16.1	-0.1
	24nm,0.1s						
KPKS	Kokpek	0.23	344	eP	Pg	09 59 13.6	0.0
	baz=46						
KPKS				eS	Sg	09 59 16.7	0.0
	baz=46						
KPKS	Kokpek	0.23	344	eP	Pg	09 59 13.6	0.0
	41nm,0.1s						
KPKS				eS	Sg	09 59 16.7	0.0
	154nm,0.2s						
KPKS	Kokpek	0.23	344	P	Pg	09 59 13.6	0.0
	41nm,0.1s						
KPKS				S	Sg	09 59 16.7	0.0
	154nm,0.2s						
ZHN	Zhinishke	0.26	252	eP	Pg	09 59 14.0	-0.1
	baz=51						
ZHN				eS	Sg	09 59 17.3	-0.3
	baz=51						
ZHN	Zhinishke	0.26	252	eP	Pg	09 59 14.0	-0.1
	4.7nm,0.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZHN				eS	Sg	09 59 17.3	-0.3
	52nm,0.1s						
ZHN	Zhinishke	0.26	252	P	Pg	09 59 14.0	-0.1
	5.1nm,0.1s						
ZHN				S	Sg	09 59 17.3	-0.3
	52nm,0.2s						
SATY	Saty	0.33	235	eP	Pg	09 59 15.5	+0.1
	baz=33						
SATY				eS	Sg	09 59 19.6	-0.1
	baz=33						
SATY	Saty	0.33	235	eP	Pg	09 59 15.5	+0.1
	5.9nm,0.1s						
SATY				eS	Sg	09 59 19.6	-0.1
	54nm,0.1s						
SATY	Saty	0.33	235	P	Pg	09 59 15.5	+0.1
	5.9nm,0.1s						
SATY				S	Sg	09 59 19.6	-0.1
	54nm,0.1s						
PDGK	Podgornoye	0.53	81	P	Pg	09 59 19.2	-0.1
	1.0nm,0.1s						
PDGK				S	Sg	09 59 26.2	-0.1
	2.8nm,0.2s						
PDGK	Podgornoye	0.53	81	⇑P	Pg	09 59 19.1	-0.1
	0.5nm,0.3s						
PDGK				⇓S	Sg	09 59 25.9	-0.3
	0.8nm,0.2s						
PRZ	Przheval'sk	0.81	200	⇓eP	Pg	09 59 24.4	0.0
	baz=99						
PRZ				⇓eS	Sg	09 59 34.9	-0.1
	baz=99						
BLB	Baldybastay	0.88	346	P	Pg	09 59 25.4	-0.3
	5.2nm,0.1s						
BLB				S	Sg	09 59 37.0	-0.1
	3.2nm,0.2s						
ANVS	Anan'yevo	0.93	241	⇓eP	Pg	09 59 26.8	0.0
	baz=40						
ANVS				⇓eS	Sb	09 59 39.8	0.0
	baz=40						
KNOS	Konyrlen	1.15	15	P	Pb	09 59 30.8	-0.2
	5.6nm,0.1s						
KNOS				S	Sg	09 59 46.1	+0.1
	1.7nm,0.2s						
TNSS	Tian-Shan	1.35	262	eP	Pb	09 59 34.6	+0.1
	baz=62						
TNSS				eS	Sn	09 59 52.3	-0.1
	baz=62						
TNSS	Tian-Shan	1.35	262	eP	Pb	09 59 34.6	+0.1
	0.5nm,0.1s						
TNSS				eS	Sn	09 59 52.3	-0.1
	0.9nm,0.1s						
TNSS	Tian-Shan	1.35	262	P	Pb	09 59 34.6	+0.1
	0.4nm,0.1s						
TNSS				S	Sn	09 59 52.3	-0.1
	1.8nm,0.3s						
KTBS	Karatobe	1.59	288	eP	Pb	09 59 38.4	0.0
	baz=88						
KTBS				eS	Sb	09 59 59.1	+0.5
	baz=88						
KTBS	Karatobe	1.59	288	eP	Pb	09 59 38.4	0.0
	1.2nm,0.2s						
KTBS				eS	Sb	09 59 59.0	+0.5
	2.5nm,0.2s						
KTBS	Karatobe	1.59	288	P	Pb	09 59 38.4	0.0
	1.3nm,0.3s						
KTBS				S	Sb	09 59 59.0	+0.5
	2.5nm,0.3s						
TARG	Taragay, Kyrgy	1.68	205	⇑iP	Pb	09 59 39.7	-0.4
	baz=5.0						
TARG				⇑iS	Sg	10 00 02.8	+0.1
	baz=5.0						
ULHL	Ulahol	2.11	243	⇑iP	Pb	09 59 46.9	-0.5
	baz=42						
ULHL				⇑iS	Sb	10 00 14.8	+1.0
	baz=42						
BOOM	Boomskoye usch	2.21	251	⇑iP	Pb	09 59 48.2	-0.9
	baz=51						
BOOM				⇑iS	Sb	10 00 17.0	+0.4
	baz=51						

IDC 02 10:00:03.3±1.4**, 25°.56N×141°.92E, h0km, mb3.6**/2**, mbtmp3.6**/3**, ML3.4**/1**, MS2.7**/1**, Error ellipse: s-maj=69.5km s-min=20.1km az=98.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	1.55	9	Pn	Pn	10 00 30.8	-1.4
	14nm,0.3s,baz=200,slow=22,SNR=13						
JCJ				Sn	Sn	10 00 52.9	-0.2
	25nm,0.3s,baz=127,slow=23,SNR=15						
MJAR	Matsushiro Arr	11.40	345	LR	LR	10 06 45.3	
	comp=Z,36nm,18.6s,baz=88,slow=35						
KSRS	Korea Array	16.80	318	Pn	P	10 04 02.2	0.0
	0.1nm,0.3s,baz=122,slow=12,SNR=4.5						
	1.5nm,0.9s						
H11N1	WAKE ISLAND Hy	23.75	99	T	T	10 30 37.6	
	baz=287,slow=74,SNR=8.3						
H11N2	WAKE ISLAND Hy	23.75	99	T	T	10 30 37.8	
	baz=287,slow=74,SNR=8.3						
H11N3	WAKE ISLAND Hy	23.77	99	T	T	10 30 39.5	
	baz=287,slow=74,SNR=5.6						
H11S3	WAKE ISLAND Hy	23.99	102	T	T	10 30 54.7	
	baz=291,slow=75,SNR=60						
H11S1	WAKE ISLAND Hy	24.00	102	T	T	10 30 55.2	
	baz=291,slow=75,SNR=70						
H11S2	WAKE ISLAND Hy	24.01	102	T	T	10 30 56.0	
	baz=291,slow=75,SNR=136						
WRA	Warramunga Arr	45.82	190	P	P	10 08 26.4	-0.8
	1.3nm,0.8s,baz=8.2,slow=8.5,SNR=12						
	1.3nm,0.8s						
YKA	Yellowknife Ar	73.61	28	P	P	10 11 39.6	+1.5
	0.3nm,0.7s,baz=285,slow=6.2,SNR=3.7						
	0.3nm,0.7s						

*KRSZO **02** 10:16:13.3±1.0, 45°.28N×18°.49E, h5km, ML2.6/10, Error ellipse: s-maj=6.4km s-min=4.4km az=51.0*
*RHSSO **02** 10:16:14.1±0.3, 45°.22N×18°.47E, h5km±2km, ML2.3/11*
*BEO **02** 10:16:14.2±0.3, 45°.27N×18°.51E, h10km±3km, ML2.2/9*
ISC 02 10:16:12.6±1.1**, 45°.28N**±0°.02×**18°.54E**±0°.02**, h7**km±9km**, n42, σ0s.83**/72**, 12C-6D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
A252A	Venje	0.51	288	ePg	Pg	10 16 22.3	-0.1
A252A				Sg	Sg	10 16 29.0	-0.1
DOB	Doboj	0.63	210	eSg	Sg	10 16 32.9	0.0
KOVH	Kovagotottos	0.86	339	Pg	Pb	10 16 30.2	+0.3
	comp=Z,19nm,SNR=6.0						
FRGS	Fruska Gora	0.91	97	⇑P	Pn	10 16 31.7	-0.1
FRGS				⇑S	Sn	10 16 45.1	0.0
FRGS	Fruska Gora	0.91	97	ePg	Pn	10 16 31.0	-0.8
FRGS				eSg	Sn	10 16 44.9	-0.2
FRGS	Fruska Gora	0.91	97	⇑iPg	Pn	10 16 31.2	-0.6
FRGS				eSg	Sn	10 16 44.7	-0.4
FRGS	Fruska Gora	0.91	97	Pg	Pn	10 16 31.6	-0.1
	comp=Z,58nm,SNR=20						
FRGS				Lg	Lg	10 16 45.0	
MORH	Mrgy, Hungar	0.94	4	⇑P	Pn	10 16 32.4	+0.2
MORH				⇓S	Sn	10 16 45.1	-0.7
MORH	Mrgy, Hungar	0.94	4	⇑iPg	Pn	10 16 31.6	-0.6
MORH				eSg	Sn	10 16 45.2	-0.7
MORH	Mrgy, Hungar	0.94	4	Pn	Pn	10 16 32.0	-0.1
	comp=Z,18nm,SNR=15						
MORH				Lg	Lg	10 16 44.6	
TEKS	Tekeris	1.02	136	ePg	Pn	10 16 32.7	-0.6
TEKS				eSg	Sn	10 16 46.7	-1.1
TEKS	Tekeris	1.02	136	ePg	Pb	10 16 32.0	-0.5
TEKS				eSg	Sb	10 16 46.4	+0.4
BLY	Banja Luka	1.10	241	ePg	Pg	10 16 33.4	-0.2
BLY				eSg	Sg	10 16 48.2	+0.4
BLY	Banja Luka	1.10	241	⇑iPg	Pg	10 16 32.9	-0.7
BLY				eSg	Sg	10 16 46.7	-1.1
BLY	Banja Luka	1.10	241	Pn	Pg	10 16 33.5	-0.1
	comp=Z,13nm,SNR=2.2						
BLY				Lg	Lg	10 16 48.4	
MOSL	Moslavina	1.30	285	ePg	Pn	10 16 36.4	-0.8
MOSL				Sg	Sg	10 16 53.2	-1.1
BBLS	Lazići	1.54	156	ePg	Pn	10 16 40.6	0.0
BBLS				eSg	Sg	10 17 03.6	+1.4
BBLS	Lazići	1.54	156	⇑iPg	Pg	10 16 41.9	-0.3
BBLS				eSg	Sg	10 17 01.9	-0.3
BBLS	Lazići	1.54	156	Pn	Pb	10 16 40.9	-0.6
	comp=Z,42nm,SNR=2.6						
BBLS				Lg	Lg	10 17 03.9	
DIVS	Divibare	1.57	138	ePg	Pg	10 16 42.5	-0.2
DIVS				eSg	Sg	10 17 03.9	+0.8
DIVS	Divibare	1.57	138	ePn	Pg	10 16 42.3	-0.4
DIVS				eSn	Sg	10 17 03.2	+0.1
DIVS	Divibare	1.57	138	Pg	Pg	10 16 43.1	+0.4
	comp=Z,10nm,SNR=2.2						
DIVS				Sn	Sg	10 17 04.0	+0.9
KNYS	Krupa na Uni	1.62	257	ePn	Pb	10 16 42.8	0.0
KNYS				eSn	Sn	10 17 03.0	+0.4
A050A	Klekovaca	1.64	241	ePn	Pn	10 16 42.6	+0.8
A050A				eSn	Sn	10 17 03.4	+0.2
TRUS	Trudelj	1.70	128	ePg	Pg	10 16 45.3	+0.2
TRUS				eSg	Sg	10 17 07.7	+0.5
BEHE	Becsehely	1.71	315	ePn	Pg	10 16 45.3	-0.1
BEHE				eSn	Sg	10 17 07.6	+0.1
BEHE	Becsehely	1.71	315	Pn	Pn	10 16 42.4	-0.5
	comp=Z,20nm,SNR=1.5						
RUDO	Rudo	1.77	160	ePn	Pb	10 16 44.8	-0.5
RUDO				eSn	Sn	10 17 07.1	+0.8
IVAS	Ivanjica	2.06	145	ePn	Pn	10 16 47.6	-0.1
IVAS				eSn	Sb	10 17 15.6	-0.5
GRUS	Gruza	2.09	131	ePn	Pn	10 16 48.0	0.0
GRUS				eSn	Sb	10 17 16.1	-0.8
BZS	Buzias	2.19	80	⇑P	Pg	10 16 54.9	+0.3
BZS				⇑S	Sg	10 17 24.4	+1.4
BZS	Buzias	2.19	80	Pn	Pb	10 16 50.6	-2.0
	comp=Z,3.9nm,SNR=1.7						
CRES	Cresnjev	2.23	285	ePn	Pn	10 16 51.6	+1.6
CRES				eSn	Sn	10 17 18.9	+1.1
MDVR	Moldovita	2.31	101	⇓P	Pg	10 16 58.8	+2.0
MDVR				⇑S	Sg	10 17 28.9	+2.3
BOJS	Bojanci	2.33	277	ePn	Pn	10 16 52.1	+0.9
BOJS				eSn	Sn	10 17 20.6	+0.5
SIRR	Siria	2.40	65	⇑P	Pg	10 17 02.4	+3.9
SIRR				⇓S	Sg	10 17 29.9	+0.4
SURR	Surduc	2.57	78	⇑P	Pg	10 17 03.4	+1.7
SURR				⇓S	Sg	10 17 35.2	+0.3
TREB	Trebinje	2.57	183	eSn	Sn	10 17 26.7	+0.7
ARSA	Arzberg	2.87	314	Pn	Pn	10 16 58.6	-0.2
	comp=Z,4.8nm,SNR=1.5						
GZR	Gura Zlata	2.99	86	⇓P	Pg	10 17 08.4	-1.5
GZR				⇓S	Sn	10 17 35.7	-0.9
CONA	Conrad Observa	3.23	326	Pn	Pn	10 17 03.9	+0.2
	comp=Z,6.0nm,SNR=1.8						
CONA				Sn	Sn	10 17 44.4	+2.0
BARS	Barje	3.41	135	ePn	Pn	10 17 07.0	+0.8

*IDC **02** 10:20:32.5±0.8, 12°.41N×144°.64E, h0km, mb4.1/14, mbtmp4.1/14, MS3.7/19, Error ellipse: s-maj=28.8km s-min=13.7km az=95.0*
*NEIC **02** 10:20:36.1±0.9, 12°.46N±0°.09×144°.7E±0°.1, h18km±5km, mb4.6/35, Error ellipse: s-maj=20.8km s-min=12.4km az=96.0*
ISC 02 10:20:37.2±0.5**, 12°.42N**±0°.06×**144°.6E**±0°.1**, h30**km**, n76, σ0s.66**/59**, mb4.5**/33**, MS3.8**/20**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.18	11		Pn	10 20 57.0	-0.7
GUMO	Guam	1.18	11	Pn	Pn	10 20 57.9	+0.2
	235nm,0.3s,baz=6.4,slow=6.9,SNR=68						
GUMO				Sn	Sb	10 21 14.2	+0.2
	718nm,0.3s,baz=21,slow=20,SNR=17						
JHJ	Hachijo jima 2	21.08	349	LR	LR	10 32 48.4	
	comp=Z,474nm,18.5s,baz=165,slow=35						
PMG	Port Moresby	21.83	173	P	P	10 25 26.0	-1.3
PMG				IAmb	IAmb	10 25 38.4	
	comp=Z,11nm,0.8s						
PMG	Port Moresby	21.83	173	P	P	10 25 26.7	-0.5
	comp=Z,3.5nm,0.5s,baz=231,slow=3.8,SNR=3.0						
	comp=Z,3.5nm,0.5s						
H11S3	WAKE ISLAND Hy	22.08	71	T	T	10 48 55.8	
	baz=253						
H11S1	WAKE ISLAND Hy	22.10	71	T	T	10 48 52.5	
	baz=253,SNR=3.0						
H11S2	WAKE ISLAND Hy	22.10	71	T	T	10 48 53.6	
	baz=253						
YOJ	Yonaguni jima	23.71	303	P	P	10 25 45.5	-1.2
JNU	Nakatsue	24.15	331	P	P	10 25 50.0	-0.8
JNU				IAmb	IAmb	10 26 03.6	
	comp=Z,19nm,1.1s						
MJAR	Matsushiro Arr	24.70	348	P	P	10 25 55.0	-0.7
	comp=Z,1.7nm,0.9s,baz=168,slow=6.0,SNR=6.2						
MJAR				LR	LR	10 34 03.0	
	comp=Z,378nm,21.9s,baz=156,slow=33						
	comp=Z,1.7nm,0.9s						
YULB	Yu-li	24.70	299	P	P	10 25 56.9	+1.0
YULB				IAmb	IAmb	10 26 11.1	
	comp=Z,27nm,1.1s						
YHNB	Yeheng	25.15	302	P	P	10 26 00.5	+0.5
YHNB				IAmb	IAmb	10 26 09.5	
	comp=Z,19nm,1.0s						
TPUB	Ta-pu	25.24	299	P	P	10 26 01.0	+0.3
TPUB				IAmb	IAmb	10 26 20.4	
	comp=Z,16nm,0.9s						
COEN	Coen	26.25	183	P	P	10 26 09.6	-0.2
HNR	Honiara	26.51	144	LR	LR	10 35 05.3	
	comp=Z,2μm,18.8s,baz=94,slow=33						
MTN	Manton Dam	28.45	209	P	P	10 26 29.6	0.0
MTN				IAmb	IAmb	10 26 54.2	
	comp=Z,11nm,1.1s						
KAPI	Kappang	30.20	236	LR	LR	10 39 28.2	
	comp=Z,74nm,20.6s,baz=58,slow=38						
BATI	Baumata	30.65	224	LR	LR	10 39 21.7	
	comp=Z,127nm,21.4s,baz=61,slow=37						
CTA	Charters Tower	32.34	177	LR	LR	10 39 37.0	
	comp=Z,92nm,18.0s,baz=19,slow=35						
WB0	Warramunga Arr	33.54	198	P	P	10 27 14.3	-0.2
WB0				IAmb	IAmb	10 27 19.2	
	comp=Z,7.5nm,0.7s						
SBUM	Sibu	33.59	255	P	P	10 27 14.9	-0.2
WR0	Warramunga Arr	33.68	197	P	P	10 27 15.6	0.0
WR0				IAmb	IAmb	10 27 20.8	
	comp=Z,5.4nm,0.8s						
WRAB	Tennant Creek	33.71	198	P	P	10 27 16.0	+0.1
WRAB				IAmb	IAmb	10 27 21.1	
	comp=Z,8.3nm,0.7s						
WB2	Warramunga Arr	33.72	198	P	P	10 27 16.0	-0.1
WRA	Warramunga Arr	33.72	198	P	P	10 27 16.1	+0.1
WRA	Warramunga Arr	33.72	198	P	P	10 27 15.8	-0.3
	comp=Z,5.6nm,0.6s,baz=20,slow=9.6,SNR=93						
	comp=Z,5.6nm,0.6s						
AS31	Alice Springs	37.37	196	P	P	10 27 47.4	0.0
ASAR	Alice Springs	37.37	196	P	P	10 27 47.3	-0.1
ASAR	Alice Springs	37.37	196	P	P	10 27 47.1	-0.4
	comp=Z,0.7nm,0.4s,baz=23,slow=9.4,SNR=27						
ASAR				LR	LR	10 43 30.8	
	comp=Z,115nm,18.1s,baz=16,slow=37						
	comp=Z,0.7nm,0.4s						
KLR	Kul'dur	38.22	346	LR	LR	10 43 03.2	
	comp=Z,132nm,18.1s,baz=166,slow=35						
DZM	Mont Dzumac	40.41	148	LR	LR	10 44 17.6	
	comp=Z,125nm,18.1s,baz=36,slow=35						
MBWA	Marble Bar	41.38	216	P	P	10 28 21.7	+0.9
MBWA				IAmb	IAmb	10 28 41.4	
	comp=Z,6.1nm,0.8s						
PETK	Petropavlovsk-	41.91	12	LR	LR	10 45 54.4	
	comp=Z,47nm,19.2s,baz=186,slow=36						
STKA	Stephens Creek	44.14	184	LR	LR	10 48 17.2	
	comp=Z,139nm,18.1s,baz=26,slow=38						
CMAR	Chiang Mai Arr	44.36	284	P	P	10 28 46.0	+0.8
	comp=Z,1.2nm,0.4s,baz=84,slow=6.3,SNR=5.6						
CMAR				LR	LR	10 46 50.4	
	comp=Z,58nm,19.9s,baz=60,slow=36						
	comp=Z,1.2nm,0.4s						
BBOO	Buckleboo	45.72	190	P	P	10 28 55.1	-0.6
SHEM	Shemya Is, Ala	46.61	24	LR	LR	10 43 57.8	
	comp=Z,100nm,20.6s,baz=0.0,slow=30						
MA2	Magadan	47.29	4	LR	LR	10 45 56.5	
	comp=Z,44nm,21.9s,baz=148,slow=32						
SONM	Songino Array	47.56	326	P	P	10 29 09.6	-0.6
SONM	Songino Array	47.56	326	P	P	10 29 10.0	-0.1
	comp=Z,0.7nm,0.6s,baz=146,slow=5.8,SNR=5.6						
SONM				PcP	PcP	10 30 40.2	+0.5
	comp=Z,0.7nm,0.5s,baz=141,slow=5.0,SNR=4.8						
	comp=Z,0.7nm,0.6s						
NWAO	Narrogin (SRO)	52.14	209	LR	LR	10 51 55.0	
	comp=Z,118nm,21.3s,baz=312,slow=36						
QRZ	Quartz Range	58.93	156	P	P	10 30 34.3	+0.7
RPZ	Rata Peaks	60.84	158	LR	LR	10 55 57.8	
	comp=Z,71nm,18.0s,baz=310,slow=35						
MK31	Makanchi Array	62.17	317	P	P	10 30 55.5	-0.3
MKAR	Makanchi Array	62.17	317	P	P	10 30 56.3	+0.5
MKAR	Makanchi Array	62.17	317	P	P	10 30 55.5	-0.3
	comp=Z,0.7nm,0.6s,baz=94,slow=8.8,SNR=5.3						
	comp=Z,0.7nm,0.6s						
ZALV	Zalesovo Beam	62.44	325	P	P	10 30 56.6	-0.8
ZALV	Zalesovo Beam	62.44	325	P	P	10 30 57.4	0.0
	comp=Z,0.6nm,0.5s,baz=108,slow=6.4,SNR=2.1						
ZALV				PcP	PcP	10 31 36.4	-0.2
	comp=Z,1.3nm,0.4s,baz=113,slow=4.5,SNR=5.4						
	comp=Z,0.6nm,0.5s						
K15K	Wolf Creek Mou	62.72	25	P	P	10 30 59.2	+0.1
K15K				IAmb	IAmb	10 31 17.6	
	comp=Z,6.1nm,1.1s						
RAR	Rarotonga	64.01	121	LR	LR	10 55 18.5	
	comp=Z,34nm,20.1s,baz=254,slow=33						
L18K	Granite Mounta	64.74	26	P	P	10 31 13.3	+0.9
L18K				IAmb	IAmb	10 31 40.6	
	comp=Z,5.4nm,1.1s						
H18K	Honhosa River	65.26	23	P	P	10 31 16.4	+0.6
H18K				IAmb	IAmb	10 31 20.9	
	comp=Z,4.4nm,1.0s						
KURK	Kurchatov	65.33	320	P	P	10 31 16.8	+0.4
KURK				IAmb	IAmb	10 31 24.3	
	comp=Z,2.5nm,0.8s						
KURBB	Kurchatov Arra	65.37	320	P	P	10 31 16.5	-0.3
	comp=Z,1.7nm,0.6s,baz=101,slow=6.7,SNR=17						
	comp=Z,1.7nm,0.6s						
CAST	Castle Rocks	67.14	26	P	P	10 31 27.7	-0.2
CAST				IAmb	IAmb	10 31 43.3	
	comp=Z,4.1nm,0.9s						
IMAR	Indian Mountai	67.35	23	P	P	10 31 29.8	+0.6
NIL	Nilore	67.79	301		P	10 31 32.5	-0.1
B22K	Teshekpuk Lake	69.11	19	P	P	10 31 40.2	+0.2
MDM	Murphy Dome	69.21	25	P	P	10 31 41.3	+0.4
MDM				IAmb	IAmb	10 31 59.1	
	comp=Z,2.6nm,0.8s						
ILAR	Eielson Array	69.71	25	P	P	10 31 41.6	-2.3
	comp=Z,0.6nm,0.5s,baz=253,slow=5.7,SNR=22						
ILAR				LR	LR	11 01 59.3	
	comp=Z,49nm,19.0s,baz=284,slow=36						
D24K	Happy Valley	70.20	20	P	P	10 31 47.9	+1.1
BVAR	Borovoye Array	70.70	322	P	P	10 31 50.6	+0.4
	comp=Z,2.0nm,0.4s,baz=105,slow=7.8,SNR=13						
	comp=Z,2.0nm,0.4s						
M29M	Somme Creek	73.01	28	P	P	10 32 04.4	+0.4
HYT	Haines Junctio	73.32	30	P	P	10 32 06.7	+0.8
HYT				IAmb	IAmb	10 32 35.1	
	comp=Z,4.6nm,1.1s						
G31M	Satah River	75.16	24	IAmb	IAmb	10 32 33.9	
	comp=Z,8.0nm,1.1s						
ABKAR	Akbulak array	77.25	318	P	P	10 32 28.5	-0.1
A36M	Sachs Harbour	78.32	19	P	P	10 32 34.6	+0.6
A36M				IAmb	IAmb	10 32 42.1	
	comp=Z,5.1nm,0.9s						
BBB	Bella Bella	78.62	39	LR	LR	11 00 09.6	
	comp=Z,95nm,20.5s,baz=240,slow=30						
GEYT	Alibeck	79.76	307	P	P	10 32 43.7	+0.9
	comp=Z,1.4nm,0.4s,baz=285,slow=7.5,SNR=3.8						
	comp=Z,1.4nm,0.4s						
YKA	Yellowknife Ar	83.99	27	P	P	10 33 04.3	-0.1
	comp=Z,0.7nm,0.6s,baz=286,slow=5.4,SNR=10.0						
	comp=Z,0.7nm,0.6s						
NVAR	Mina Array Bea	87.82	51	P	P	10 33 24.7	+0.5
	comp=Z,0.4nm,0.5s,baz=290,slow=3.6,SNR=3.9						
	comp=Z,0.4nm,0.5s						
VNDA	Vanda	90.32	176	LR	LR	11 13 54.0	
	comp=Z,24nm,18.8s,baz=342,slow=35						
FINES	FINESS Array B	92.12	335	P	P	10 33 42.1	-1.4
	comp=Z,2.2nm,0.6s,baz=93,slow=4.2,SNR=19						
	comp=Z,2.2nm,0.6s						
TORD	Torodi Ar. Bea	135.33	303	PKP	PKiKP	10 39 57.1	+0.5
	comp=Z,0.6nm,0.8s,baz=6.3,slow=2.5,SNR=3.6						
DBIC	Dimbokro	144.23	300	PKP	PKPdf	10 40 10.2	-1.1
	comp=Z,4.1nm,0.6s,baz=40,slow=3.0,SNR=5.7						

*NEIC **02** 10:24:05.3±0.3, 36°.10N±0°.01×97°.83W±0°.01, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.1km az=245.0*
TUL 02 10:24:05.4±0.3**, 36°.10N**±0°.01×**97°.84W**±0°.02**, h7**km±6km**, ML2.5, mb_Lg2.3**/13(NEIC)**, ML2.4**/58(NEIC)**, Error ellipse: s-maj=1.9km s-min=1.2km az=57.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CROK	Carrier	0.42	343	Pg	Pg	10 24 13.8	+0.2
CROK				IAML		10 24 24.9	
	comp=N,511nm,0.2s						
OK029	Liberty Lake	0.43	135	Pg	Pg	10 24 14.0	+0.1
OK029				IAML		10 24 20.5	
	comp=N,397nm,0.3s						
ADOK	Arcadia Dam	0.59	140	Pg	Pg	10 24 16.9	+0.2
OK033	Mehan	0.73	94	Pg	Pg	10 24 19.4	0.0
OK033				IAML		10 24 34.2	
	comp=N,179nm,0.1s						
GC02	Grant County #	0.75	358		Pg	10 24 19.7	-0.1
OK032	Salt Plains WL	0.76	337	Pg	Pg	10 24 19.9	-0.2
OK048	Pawnee Station	0.79	66	Pg	Pg	10 24 20.4	-0.1
OK038	West end E0370	0.82	297	Pg	Pg	10 24 20.9	-0.3
BLOK	Blackwell	0.82	37	Pg	Pg	10 24 21.1	-0.2
BLOK				IAML		10 24 36.9	
	comp=E,146nm,0.2s						
BLOK				IAML		10 24 38.4	
	comp=N,218nm,0.2s						
CSTR	Hydro, Custer	0.83	237	Pg	Pg	10 24 21.4	0.0
OK052	Battle Ridge R	0.84	97	Pg	Pg	10 24 21.4	-0.2
KAN14	Manchester OK	0.86	353		Pg	10 24 21.6	-0.3
KAN14				IAML		10 24 35.9	
	comp=E,123nm,0.1s						
KAN14				IAML		10 24 39.7	
	comp=N,102nm,0.1s						
OK030	Cody Creek RV	0.87	101		Pg	10 24 21.9	-0.2
OK030				IAML		10 24 35.5	
	comp=N,102nm,0.1s						
OK030				IAML		10 24 40.3	
	comp=N,129nm,0.2s						
FNO	Franklin	0.92	157	Pg	Pg	10 24 22.6	-0.3
FNO				IAML		10 24 38.1	
	comp=N,87nm,0.4s						
FNO				IAML		10 24 38.1	
	comp=E,160nm,0.4s						
QUOK	Quay	0.92	85	Pg	Pg	10 24 22.7	-0.2
QUOK				IAML		10 24 37.6	
	comp=E,105nm,0.2s						
QUOK				IAML		10 24 40.9	
	comp=N,89nm,0.3s						
KAN17	Caldwell West	0.94	3	Pg	Pg	10 24 23.2	-0.3
KAN17				IAML		10 24 39.2	
	comp=N,133nm,0.2s						
KAN17				IAML		10 24 40.9	
	comp=E,127nm,0.2s						
KAN13	South Haven SW	0.95	17	Pg	Pg	10 24 23.5	-0.2
KAN13				IAML		10 24 46.5	
	comp=E,167nm,0.3s						
KAN13				IAML		10 24 50.0	
	comp=N,152nm,0.2s						
U32A	Winter Ranch,	0.98	287		Pg	10 24 23.9	-0.4
U32A				IAML		10 24 43.7	
	comp=E,85nm,0.1s						
KAN05	Bluff City Nor	1.00	358		Pg	10 24 24.5	-0.2
KAN05				IAML		10 24 40.2	
	comp=N,139nm,0.2s						
KAN10	Anthony SW Sta	1.04	348	Pg	Pg	10 24 25.0	-0.3
KAN10				IAML		10 24 43.7	
	comp=E,130nm,0.1s						
KAN10				IAML		10 24 45.2	
	comp=N,86nm,0.1s						
KAN09	Caldwell North	1.05	10		Pg	10 24 25.2	-0.3
KAN01	Argonia South	1.05	3		Pg	10 24 25.3	-0.2
KAN01				IAML		10 24 40.5	
	comp=E,76nm,0.1s						
DEOK	Depew	1.11	103		Pg	10 24 26.0	-0.8
KS21	Milan North St	1.19	7	IAML		10 24 48.7	
	comp=E,83nm,0.1s						
KS21				IAML		10 24 50.3	
	comp=E,75nm,0.1s						
KS21	Milan North St	1.19	7	Pg	Pg	10 24 27.8	-0.5
W35A	Tecumseh	1.23	140		Pb	10 24 28.1	-0.9
W35A				IAML		10 24 49.2	
	comp=N,109nm,0.3s						
ELIS	Ellis County	1.28	269	Pg	Pn	10 24 29.5	-0.3
T35A	Sooner Cattle	1.34	52	Pg	Pn	10 24 30.4	-0.2
WMOK	Wichita Mounta	1.57	210		Pn	10 24 33.2	-0.4
TUL3	Leonard	1.67	96		Pn	10 24 35.1	+0.1
LOOK	Love County	2.17	166	IAmb_Lg		10 25 16.6	
	comp=Z,13nm,0.9s						
SMWD	Samnorwood	2.20	244	IAmb_Lg		10 25 14.4	
	comp=Z,15nm,0.8s						

AMTX	Amarillo	3.37	250	IAmb_Lg		10 26 00.2	
	comp=Z,6.8nm,1.0s						
DKNS	Dickens	3.52	227	IAmb_Lg		10 25 59.4	
	comp=Z,9.5nm,0.9s						
MIAR	Mount Ida	3.81	113	Pn	Pn	10 25 04.7	+0.2
RTBA	Rita Blanca	3.98	276	Pn	Pn	10 25 07.1	+0.2
KSCO	Kaye Shedlock'	4.79	309	IAmb_Lg		10 26 49.4	
	comp=Z,6.1nm,0.7s						
P38A	Dawn	4.89	43	IAmb_Lg		10 26 53.0	
	comp=Z,5.3nm,0.9s						
R40A	Maddies Statio	4.95	62	IAmb_Lg		10 26 49.0	
	comp=Z,5.9nm,0.8s						

*IDC **02** 10:47:01.8±0.4, 30.°66N×57.°39E, h0km, mb5.1/38, mbtmp5.1/47, ML4.4/9, MS4.5/60, Error ellipse: s-maj=9.9km s-min=9.2km az=30.0*

*DSN **02** 10:47:02.9±0.5, 30.°76N×57.°54E, h10km, mb5.5/2, ML5.1/11, Ms4.2/9, Error ellipse: s-maj=11.3km s-min=5.0km az=96.0*

*THR **02** 10:47:02.7±1.1, 30.°74N×57.°37E, h15km±6km, ML5.1*

*BJI **02** 10:47:02.3, 30.°71N×57.°18E, h21km, mb5.1/80, mB5.1/55, Ms5.0/71, Ms7 4.8/70*

*MOS **02** 10:47:02.6±0.9, 30.°72N×57.°43E, h15km, mb5.4/67, MS4.5/19, Error ellipse: s-maj=4.1km s-min=3.1km az=93.5*

*TEH **02** 10:47:02.1, 30.°70N×57.°35E, h14km±41km, ML5.3*

*GCMT **02** 10:47:03.0±0.2, 30.°66N±0.°01×57.°19E±0.°02, h12km, MW5.1/103, Moment Tensor Solution. s61,c74; s103,c171; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.87±.13; $M_{\theta\theta}$-4.52±.11; $M_{\phi\phi}$0.65±.12; $M_{r\theta}$-1.06±.32; $M_{\theta\phi}$3.23±.10; $M_{\phi r}$3.51±.35; Best double couple: $M_0$6.45000×10^{16} NP1:ϕ_s325.00000°, δ66.00000°, λ125.00000°. NP2:ϕ_s85.00000°, δ41.00000°, λ38.00000°. Principal axes: T 6.2000, Plg55.0000°, Azm279.0000°; N 0.5030, Plg31.0000°, Azm129.0000°; P -6.7000, Plg14.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **02** 10:47:04.0±1.3, 30.°73N±0.°06×57.°36E±0.°08, h10km±1km, mb5.3/280, Ms_20 4.7/56, Mww5.2/13 Error ellipse: s-maj=11.8km s-min=10.7km az=291.0*

*NEIC **02** 10:47:04.7, 30.°57N×57.°58E, h12km, Moment Tensor Solution. Duration: 1s1.0 Moment tensor: Scale 10^{16} Nm; M_{rr}5.41; $M_{\theta\theta}$-4.58; $M_{\phi\phi}$-0.82; $M_{r\theta}$4.51; $M_{\theta\phi}$1.05; $M_{\phi r}$7.37; Fault plane solution: $M_0$9.39000×10^{16} NP1: ϕ_s43.54000°, δ78.28000°, λ76.75000°. NP2:ϕ_s272.77000°, δ17.62000°, λ137.86000°. Principal axes: T 11.4817, Plg55.0000°, Azm297.0000°; N -4.1786, Plg13.0000°, Azm46.0000°; P -7.3032, Plg32.0000°, Azm145.0000°;*

*NEIC **02** 10:47:04.7, 30.°77N×57.°35E, h12km*

*OMAN **02** 10:47:05.1±0.5, 30.°75N×57.°38E, h15km±3km, mb5.6/44, ml5.3/1, ms4.2/11, Mwp5.2/11, Error ellipse: s-maj=2.6km s-min=2.2km az=23.0*

*BGR **02** 10:47:18.7, 30.°94N×55.°20E, h33km, mb5.0, Ms4.0*

ISC 02 10:47:03.7±0.4**, 30.°74N**±0.°03×**57.°34E**±0.°02**, h10**km±2km**, h10**km**:pP-P, n1252, σ1s49**/1242**, mb5.3**/322**, MS4.7**/124**, 35C-51D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.73	289	Pg	Pg	10 47 16.4	-1.5
KHGB	Koh Gabri	0.83	244	Pg	Pg	10 47 18.2	-1.5
KHGB				Sg	Sg	10 47 29.5	-1.1
CHMN	Cheshme madani	0.89	169	Pg	Pg	10 47 18.8	-2.1
TVBK	TV Kerman	0.90	214	Pg	Pg	10 47 19.9	-1.3
KRBR	Kerman	0.91	214	ePg	Pg	10 47 19.8	-1.4
KRBR				IAML		10 47 40.0	
	comp=E,50µm,0.8s						
KRBR				IAML		10 47 43.1	
	comp=N,33µm,0.5s						
NGRK	Negar Kerman	1.21	206	Pg	Pb	10 47 24.8	-2.2
NGRK				Sg	Sg	10 47 40.4	-2.4
IBAF	Bafgh	1.74	300	Pg	Pn	10 47 34.8	+0.5
KBAM	BAM	1.86	149	Pn	Pn	10 47 34.9	-0.9
BSRN	Basiran	1.96	51	ePn	Pn	10 47 37.3	+0.1
BSRN				eSg	Sb	10 48 03.8	-0.3
BSRN				IAML		10 48 06.4	
	comp=E,14µm,0.1s						
BSRN				IAML		10 48 08.8	
	comp=N,13µm,0.6s						
BSRN	Basiran	1.96	51	Pn	Pn	10 47 36.6	-0.6
IKOO	Kooshah	2.20	40	Pn	Pn	10 47 40.0	-0.6
TPRV	Parvadeh(Tabas	2.35	346	Pn	Pn	10 47 42.7	+0.1
NHDN	Nehbandan	2.41	74	Pn	Pn	10 47 43.4	-0.1
IMEH	Mehriz	2.43	286	Pn	Pn	10 47 44.3	+0.5
ITEG	Tejag	2.46	29	Pn	Pn	10 47 43.6	-0.6
KHNJ	Kahnooj	2.80	173	Pn	Pn	10 47 49.0	+0.3
YZKH	Yazd	2.87	306	ePn	Pn	10 47 50.2	+0.5
YZKH				IAML		10 48 46.6	
	comp=N,5µm,0.7s						
TKDS	Koohdasht(Taba	2.87	356	Pn	Pn	10 47 49.7	-0.1
TABS	Tabas	2.91	356	ePn	Pn	10 47 50.5	+0.2
TABS				IAML		10 48 44.6	
	comp=N,6µm,0.7s						
ICHK	Chekchek	2.92	302	Pn	Pn	10 47 50.9	+0.4
IDAH	Dahanechah	2.94	46	Pn	Pn	10 47 50.3	-0.4
AFRZ	Afriz	3.03	27	Pn	Pn	10 47 51.9	-0.1
ZHSF	Zahedan	3.18	110	ePn	Pn	10 47 50.9	-3.1
TNSJ	Nastanj	3.28	349	Pn	Pn	10 47 55.2	-0.1
ZHDN	Zahedan	3.29	113	Pn	Pn	10 47 55.4	-0.1
ISAD	Sadrabad	3.34	291	Pn	Pn	10 47 56.6	+0.2
IBND	Bandar-abas	3.35	192	Pn	Pn	10 47 58.3	+2.1
GENO	Geno	3.48	197	Pn	Pn	10 47 59.4	+1.2
BNDS	Bandar-Abbas	3.48	197	ePn	Pn	10 48 00.1	+1.9
BNDS				IAML		10 49 02.5	
	comp=E,2µm,0.7s						
SHRT	Shahrakht	3.83	40	ePn	Pn	10 48 03.4	+0.5
SHRT	Shahrakht	3.83	40	Pn	Pn	10 48 03.2	+0.3
ANAR	Anarak	3.93	309	Pn	Pn	10 48 04.4	+0.1
JHRM	Jahrom	3.96	237	Pn	Pn	10 48 05.1	+0.4
LAR1	LAR	4.01	221	Pn	Pn	10 48 06.5	+1.1
SHI	Shiraz	4.32	257	Pn	Pn	10 48 09.9	+0.2
QIR1	Qir	4.37	240	Pn	Pn	10 48 10.8	+0.5
NASN	Na'in	4.38	299	ePn	Pn	10 48 11.2	+0.6
IRAM	Ramesheh	4.38	285	Pn	Pn	10 48 11.4	+0.9
GHIR	Ghir-Karzin	4.51	238	ePn	Pn	10 48 13.1	+0.7
GHIR				IAML		10 49 46.1	
	comp=N,835nm,0.8s						
IZEF	Zefreh	4.78	298	Pn	Pn	10 48 17.1	+1.0
SHME	Shamm	4.79	193	iP	Pn	10 48 16.9	+0.9
	SNR=34						
SHME	Shamm	4.79	193	P	Pn	10 48 17.7	+1.7
	SNR=34						
SHME				P	Pn	10 48 17.7	+1.7
	SNR=34						
IGAR	Gharneh	4.82	292	Pn	Pn	10 48 17.5	+0.9
JASK	Jask - Hormozg	4.87	174	P	Pn	10 48 18.8	+1.6
	SNR=219						
JASK	Jask - Hormozg	4.87	174	Pn	Pn	10 48 17.7	+0.5
TBHD	Torbat heydari	4.93	18	Pn	Pn	10 48 18.3	+0.2
KLNJ	Kolanjah	4.95	275	Pn	Pn	10 48 19.5	+0.9
LMD1	Lamerd	4.98	228	Pn	Pn	10 48 19.6	+0.9
TBJM	Torbat-e-JAM	5.17	28	Pn	Pn	10 48 21.5	+0.1
IBRJ	Brojen	5.33	284	Pn	Pn	10 48 25.0	+1.3
SHRO	Shahrood	5.36	348	ePn	Pn	10 48 24.1	+0.2
SHRO				IAML		10 50 05.8	
	comp=N,781nm,0.6s						
SHRO				IAML		10 50 18.3	
	comp=E,2µm,0.8s						
UMQ	Umm Al-Quwin	5.40	196	iP	Pn	10 48 25.4	+1.1
	SNR=17						
UMQ	Umm Al-Quwin	5.40	196	P	Pn	10 48 26.6	+2.3
	SNR=17						
MASF	Masafi	5.45	191	P	Pn	10 48 27.3	+2.2
	SNR=284						
MASF				P	Pn	10 48 27.3	+2.2
	SNR=284						
MASF				S	Sn	10 49 33.5	+5.6
MASF				S	Sn	10 49 33.5	+5.6
MSFE	Esma-Masafi	5.46	191	iP	Pn	10 48 26.4	+1.1
	SNR=284						
MSFE				S	Sn	10 49 28.4	+0.3
KRSH	Karshahi	5.46	308	Pn	Pn	10 48 25.9	+0.5
HRA	Herat	5.51	47	Pn	Pn	10 48 26.8	+0.7
IANJ	Anjilo	5.53	330	Pn	Pn	10 48 26.8	+0.4
IKLH	Kolahrood	5.53	299	Pn	Pn	10 48 27.3	+0.9
SRVN	Saravan	5.53	126	Pn	Pn	10 48 26.5	+0.2
IMOG	Moghan	5.61	17	Pn	Pn	10 48 28.0	+0.4
ISFB	Sefidab	5.62	311	Pn	Pn	10 48 28.1	+0.6
SBZV	Sabzevar	5.64	2	Pn	Pn	10 48 28.1	+0.2
ZNGN	Zangian	5.71	286	Pn	Pn	10 48 30.1	+1.1
DSBU	Dashti - Bushe	5.80	247	Pn	Pn	10 48 31.0	+1.0
CHBR	Chabahar	5.82	151	ePn	Pn	10 48 29.5	-0.7
CHBR	Chabahar	5.82	151	Pn	Pn	10 48 28.1	-2.1
IPIR	Pirpir	5.83	291	Pn	Pn	10 48 31.2	+0.6
UOSS	Minazif	5.86	190	Pn	Pn	10 48 31.6	+0.9
UOSS	Minazif	5.86	190	iP	Pn	10 48 31.2	+0.5
	SNR=153						
UOSS	Minazif	5.86	190	P	Pn	10 48 32.1	+1.4
UOSS				P	Pn	10 48 32.1	+1.4
QAMS	Qamsar	5.86	302	Pn	Pn	10 48 32.7	+1.8
JHBN	Jahan bin	5.89	286	Pn	Pn	10 48 32.7	+1.2
ILAS	Lasjerd	5.92	323	Pn	Pn	10 48 32.1	+0.4
NAZ	Nazwa, Dubai	5.92	195	iP	Pn	10 48 32.9	+1.4
	SNR=225						
NAZ	Nazwa, Dubai	5.92	195	P	Pn	10 48 34.0	+2.5
	SNR=225						
IAKL	Akhelmad	5.97	11	Pn	Pn	10 48 32.7	+0.2
HATD	Hatta, Dubai	5.99	191	iP	Pn	10 48 33.0	+0.6
	SNR=87						
HATD	Hatta, Dubai	5.99	191	P	Pn	10 48 34.0	+1.5
	SNR=87						
HATD				P	Pn	10 48 34.0	+1.5
	SNR=87						
IMYA	Miami	6.05	22	Pn	Pn	10 48 33.9	+0.5
ABEH	Behbahan	6.11	271	Pn	Pn	10 48 34.3	+0.1
ASHO	Ashiyiah	6.14	191	iP	Pn	10 48 35.5	+0.9
	SNR=332						
ASHO	Ashiyiah	6.14	191	P	Pn	10 48 36.3	+1.8
	SNR=332						
ASHO				S	Sn	10 49 47.5	+2.6
FAQ	Al Faqa, Dubai	6.17	195	iP	Pn	10 48 36.1	+1.2
	SNR=95						
FAQ	Al Faqa, Dubai	6.17	195	P	Pn	10 48 36.7	+1.8
	SNR=95						
IFIR	Firoozkooh	6.22	323	Pn	Pn	10 48 36.8	+0.9
IKRD	Kardeh	6.29	16	Pn	Pn	10 48 37.5	+0.6
NGCH	Negor - Chabah	6.32	147	P	Pn	10 48 37.7	+0.7
	SNR=39						
NGCH	Negor - Chabah	6.32	147	Pn	Pn	10 48 36.6	-0.4
GHVR	GHOM	6.32	308	ePn	Pn	10 48 38.2	+1.1
ISFR	Sfrayin	6.33	5	Pn	Pn	10 48 38.5	+1.1
ASUD	Al Ashush, Dub	6.34	197	iP	Pn	10 48 38.7	+1.4
	SNR=51						
ASUD	Al Ashush, Dub	6.34	197	P	Pn	10 48 39.3	+2.0
	SNR=51						
ASUD				P	Pn	10 48 39.3	+2.0
	SNR=51						
IVRN	Varamin	6.35	313	Pn	Pn	10 48 39.0	+1.5
IGLO	Ghaloghah	6.45	334	Pn	Pn	10 48 40.5	+1.4
AJN	Ajban	6.50	199	iP	Pn	10 48 40.9	+1.5
	SNR=40						
AJN	Ajban	6.50	199	P	Pn	10 48 41.1	+1.7
	SNR=39						
AJN				S	Sn	10 49 55.6	+1.9
IALA	Alasht	6.54	326	Pn	Pn	10 48 42.7	+2.4
IDMV	Damavand	6.57	319	Pn	Pn	10 48 41.2	+0.5
SOHO	SOHO	6.62	186	iP	Pn	10 48 40.2	-0.9
	SNR=126						
SOHO	SOHO	6.62	186	P	Pn	10 48 41.5	+0.4
DAMV	Damavand	6.64	319	ePn	Pn	10 48 42.3	+0.6
IQOM	Qom	6.68	309	Pn	Pn	10 48 43.5	+1.3
IMND	Minoodasht	6.70	347	Pn	Pn	10 48 42.5	+0.2
IEMG	Emamgholi	6.75	9	Pn	Pn	10 48 43.7	+0.5
ALNE	Al Ain	6.80	192	iP	Pn	10 48 44.0	+0.3
	SNR=46						
ALNE	Al Ain	6.80	192	P	Pn	10 48 44.9	+1.2
	SNR=39						
ALNE				P	Pn	10 48 44.9	+1.2
	SNR=39						
ALNE				S	Sn	10 50 03.0	+1.7
ALNE				S	Sn	10 50 03.0	+1.7
IPRN	Peran	6.90	324	Pn	Pn	10 48 46.5	+1.4
IHSB	Hasanabad	6.92	314	Pn	Pn	10 48 45.8	+0.4
KHMZ	Khomeyn	6.93	297	ePn	Pn	10 48 47.2	+1.6
BJRD	Bojnurd	6.95	0	ePn	Pn	10 48 46.9	+1.2
AMIS	Naft Sefid	6.96	280	Pn	Pn	10 48 45.8	-0.1
MRVT	Maraveh tapeh	6.98	352	ePn	Pn	10 48 46.9	+0.7
MRVT	Maraveh tapeh	6.98	352	Pn	Pn	10 48 46.9	+0.7
JRN	Qarnain Island	7.01	216	P	Pn	10 48 47.7	+1.2
	SNR=15						
JRN				S	Sn	10 50 06.9	+0.6
HOQ	Hoqain	7.13	180	P	Pn	10 48 50.3	+2.2
	SNR=102						
HOQ				P	Pn	10 48 50.3	+2.2
	SNR=102						
HOQ				S	Sn	10 50 12.0	+2.7
HOQ				S	Sn	10 50 12.0	+2.7
HOQ	Hoqain	7.13	180	Pn	Pn	10 48 47.4	-0.8
GEYT	Alibeck	7.20	5	Pn	Pn	10 48 49.8	+0.6
	comp=E,3.4nm,0.3s,baz=192,slow=12,SNR=29						
GEYT				Sn	Sn	10 50 13.8	+2.7
	comp=E,4.6nm,0.3s,baz=218,slow=17,SNR=3.6						
GEYT				Lg	Lg	10 50 53.6	
	comp=E,3.7nm,0.3s,baz=201,slow=15,SNR=1.8						
GEYT				LR	LR	10 52 15.3	
	comp=E,7µm,20.6s,baz=192,slow=43						
	comp=E,20nm,0.6s						
GYA0	ALIBECK ARRAY	7.20	5	P	Pn	10 48 49.3	+0.1
GYA0B	ALIBECK ARRAY	7.20	5		Pn	10 48 49.4	+0.2
BIDO	Bidbid	7.22	174	P	Pn	10 48 51.2	+1.8
	SNR=21						
BIDO				P	Pn	10 48 51.2	+1.8
	SNR=21						
ASAO	Ashtian	7.25	304	ePn	Pn	10 48 51.4	+1.4
CHTH	Charan	7.32	316	ePn	Pn	10 48 52.2	+1.1
ARQ	Araqi	7.41	186	P	Pn	10 48 54.1	+2.1
	SNR=175						
ARQ				P	Pn	10 48 54.1	+2.1
	SNR=175						
ARQ				P	Pn	10 48 54.1	+2.1
	SNR=175						
SHMA	Al-Shehemyia	7.43	231	P	Pn	10 48 54.3	+2.0
	SNR=16						
SHMA				S	Sn	10 50 17.8	+1.1
MZPU	Pul - Mazandar	7.45	321	Pn	Pn	10 48 53.9	+1.1
IMHD	Mahdasht	7.46	313	Pn	Pn	10 48 53.7	+0.9
THKV	Tehran--Karaj	7.48	315	ePn	Pn	10 48 54.1	+1.0
WSAR	Wadi Sarin	7.56	171	P	Pn	10 48 55.5	+1.5
	SNR=70						
WSAR	Wadi Sarin	7.56	171	Pn	Pn	10 48 54.1	+0.1
	comp=E,38nm,0.3s,baz=14,slow=9.3,SNR=148						
WSAR				Sn	Sn	10 50 20.0	+0.2
	comp=E,0.8nm,0.3s,baz=0.3,slow=4.8,SNR=1.4						
	comp=E,237nm,0.6s						
SAKB	Bahrain	7.64	233	P	Pn	10 48 56.8	+1.6
SAKB				S	Sn	10 50 23.1	+1.2
SMDO	Samad	7.67	175	P	Pn	10 48 56.3	+0.6
	SNR=65						
SMDO				P	Pn	10 48 56.3	+0.6
	SNR=65						
SMDO				S	Sn	10 50 25.1	+2.3
SMDO				S	Sn	10 50 25.1	+2.3
IRAZ	Razeghan	7.77	309	Pn	Pn	10 48 58.7	+1.6
KLST	Kelardasht - M	7.79	319	Pn	Pn	10 48 58.7	+1.2
BSY	Bisya	7.96	181	P	Pn	10 49 01.2	+1.6
	SNR=105						
HAGD	Aghdareh	8.02	303	Pn	Pn	10 49 02.2	+1.6
TRNA	Turayna	8.08	224	P	Pn	10 49 00.9	-0.2
	SNR=43						
TRNA				S	Sn	10 50 35.5	+3.0
WBK	Wadi Bani Khal	8.22	169	P	Pn	10 49 02.7	-0.5
	SNR=37						
WBK				S	Sn	10 50 38.8	+2.5
WBK	Wadi Bani Khal	8.22	169	Pn	Pn	10 49 02.9	-0.3
SMRA	Abu-Samra	8.30	226	P	Pn	10 49 04.0	-0.3
	SNR=48						
JMDO	Jabal Madar	8.36	175	P	Pn	10 49 06.0	+0.9
	SNR=39						
JMDO				P	Pn	10 49 06.0	+0.9
	SNR=39						
MZR	Muzera	8.44	205	P	Pn	10 49 08.2	+2.1
MZR				S	Sn	10 50 42.5	+1.0
IKFM	Kafar-mosalman	8.52	292	Pn	Pn	10 49 07.6	+0.4
JIR1	Jirandeh	8.65	315	Pn	Pn	10 49 10.5	+1.3
GIDE	GILAN DEYLAMAN	8.73	317	ePn	Pn	10 49 11.0	+0.7
JLN	Jalan Bani Buh	8.75	167	P	Pn	10 49 12.1	+1.7
	SNR=53						
IKOM	Komasi	8.99	295	Pn	Pn	10 49 13.8	+0.1
ZNJK	Zanjan	9.33	312	ePn	Pn	10 49 19.6	+1.1
KCHF	Cheshme Sefid,	9.39	295	Pn	Pn	10 49 19.3	0.0
SNGE	Sanandaj	9.46	300	ePn	Pn	10 49 21.3	+1.0
MHTO	MHTO	9.73	177	P	Pn	10 49 25.1	+1.3
	SNR=56						
MHTO				P	Pn	10 49 25.1	+1.3
	SNR=56						
MHTO				P	Pn	10 49 25.1	+1.3
	SNR=56						
MHTO				S	Sn	10 51 15.8	+2.7
MHTO				S	Sn	10 51 15.8	+2.7
MHTO				S	Sn	10 51 15.8	+2.7
IGHG	Ghaleghazi	9.77	294	Pn	Pn	10 49 24.5	-0.1
ILBA	Ilam Banvizeh	9.87	290	ePn	Pn	10 49 24.8	-0.9
IDHR	Dehrash	10.04	296	Pn	Pn	10 49 27.7	-0.6
GAS1	Astara - Iran	10.36	320	Pn	Pn	10 49 32.7	+0.3
KBL	Kabul	10.57	66	Pn	Pn	10 49 36.6	+1.1
KBL	Kabul	10.57	66	P	Pn	10 49 36.6	+1.1
KGS1	Ghasr-e-Shirin	10.60	294	Pn	Pn	10 49 35.7	0.0
IHSH	Hashtrud	10.62	311	Pn	Pn	10 49 36.8	+0.5
ISRB	Sarab	10.68	314	Pn	Pn	10 49 38.4	+1.5
DQM	DQM	10.76	179	P	Pn	10 49 39.4	+1.3
	SNR=9.9						
DQM				P	Pn	10 49 39.4	+1.3
	SNR=9.9						
DQM				S	Sn	10 51 39.7	+1.1
DQM				S	Sn	10 51 39.7	+1.1
GRMI	Germi	11.18	319	ePn	Pn	10 49 45.5	+1.6
GRMI	Germi	11.18	319	Pn	Pn	10 49 45.4	+1.6
IHRS	Heris	11.37	314	Pn	Pn	10 49 47.2	+0.7
IAZR	Azarshahr	11.67	309	Pn	Pn	10 49 53.0	+2.4
ISHB	Shabestar	12.25	311	Pn	Pn	10 49 58.5	+0.1
IMRD	Marand	12.44	313	Pn	Pn	10 50 03.0	+1.9
SHAO	Shalim	12.75	187	iP	Pn	10 50 03.9	-1.4
	SNR=30						
SHAO	Shalim	12.75	187	P	Pn	10 50 04.4	-0.9
	SNR=29						
SHAO				P	Pn	10 50 04.4	-0.9
	SNR=29						
DMTO	DMTO	13.14	190	P	Pn	10 50 08.3	-2.3
	SNR=35						
DMTO				P	Pn	10 50 08.3	-2.3
	SNR=35						
DMTO				S	Sn	10 52 35.8	-1.2
DMTO				S	Sn	10 52 35.8	-1.2
WHFO	Wadi Hawf	13.17	195	P	Pn	10 50 08.8	-2.2
	SNR=62						
MAKU	Maku	13.46	313	ePn	Pn	10 50 15.2	+0.2
MAKU	Maku	13.46	313	Pn	Pn	10 50 16.1	+1.1
RBK	Rabkut	13.48	193	P	Pn	10 50 13.1	-2.1
	SNR=28						
NIL	Nilore	13.78	74	Pn	Pn	10 50 19.3	0.0
NIL	Nilore	13.78	74	P	Pn	10 50 19.1	-0.2
NIL	Nilore	13.78	74	P	Pn	10 50 19.3	0.0
ABTO	Aybut	13.82	196	P	Pn	10 50 17.0	-2.9
	SNR=198						
VANB	Van	13.89	308	eP	Pn	10 50 24.6	+3.8
GNI	Garni	13.90	316	Pn	Pn	10 50 21.1	+0.1
GNI	Garni	13.90	316	P	Pn	10 50 22.1	+1.0
GNI	Garni	13.90	316	d iP	Pn	10 50 25.0	+4.0
GNI	Garni	13.90	316	Pn	Pn	10 50 24.2	+3.2
	comp=E,1.2nm,0.3s,baz=180,slow=13,SNR=3.2						
GNI				LR	LR	10 55 55.6	
	comp=E,1µm,18.8s,baz=103,slow=38						
	comp=E,32nm,0.9s						
AKDM	Akdamar-Van	14.04	306	eP	Pn	10 50 25.2	+2.2
SIRT	Sirnak	14.06	303	Pn	Pn	10 50 23.5	+0.4
BTK	Batken	14.38	46	Pn	Pn	10 50 26.5	-1.0
BTK	Batken	14.38	46	P	Pn	10 50 26.5	-1.0
MAK	Makhachkala	14.51	330	eP	Pn	10 50 24.9	-4.2
MAK				eS	Sn	10 53 05.3	-4.6
MAK				pmax	pmax		
	comp=Z,370nm,1.0s						
MAK				MLR	MLR		
	comp=Z,1µm,13.0s						
AGRB	Hanur-Agry	14.67	311	eP	P	10 50 34.7	-3.1
GURO	Guroymak-BITLI	14.81	306	Pn	Pn	10 50 33.7	+0.4
CHM	Chimkent	15.17	37	eP	Pn	10 50 37.0	-1.1
	baz=37						
CHM	Chimkent	15.17	37	eP	Pn	10 50 37.0	-1.1
KARS	Kars	15.21	314		Pn	10 50 37.8	-0.9
KARS	Kars	15.21	314	P	Pn	10 50 37.8	-0.9
KARS				pmax	pmax		
	comp=Z,372nm,1.4s						
AKH	Akhalkalaki	15.43	317	eP	Pn	10 50 43.0	+1.3
AKH	Akhalkalaki	15.43	317	Pn	Pn	10 50 41.1	-0.6
AKH				IAmb	IAmb	10 50 52.1	
	comp=Z,181nm,1.0s						
AKH	Akhalkalaki	15.43	317	P	Pn	10 50 41.1	-0.6
AKH				pmax	pmax		
	comp=Z,181nm,1.0s						
VRTB	Varto-Mus	15.49	307	eP	P	10 50 48.9	+2.0
MAZI	Mazidag	15.51	300	eP	Pn	10 50 40.1	-2.6
SENK	Senkaya-Erzuru	15.62	313	eP	P	10 50 47.3	-1.1
KOPR	Koprukoy-ERZUR	15.63	310	eP	P	10 50 47.5	-1.0
OHH	Osh	15.88	48	P	Pn	10 50 47.6	+0.1
DYBB	Diyarbakir	15.92	302	eP	P	10 50 50.6	-1.0
BNGB	Bingl	15.95	306	eP	P	10 50 50.4	-1.6
ZEI	Tsey	16.12	322	eP	Pn	10 50 51.7	+1.1
ZEI				pmax	pmax		
	comp=Z,144nm,1.0s						
KK31	Karatay Array	16.20	37	Pn	Pn	10 50 50.2	-1.3
KK31	Karatay Array	16.20	37	P	Pn	10 50 50.2	-1.3
KK31				pmax	pmax		
	comp=Z,46nm,1.1s						
KKAR	Karatay Array	16.20	37	Pn	Pn	10 50 49.5	-2.0
KKAR	Karatay Array	16.20	37		Pn	10 50 49.5	-2.0
KKAR	Karatay Array	16.20	37	P	Pn	10 50 49.5	-2.0
ONI	Oni	16.23	321	eP	P	10 50 54.3	-0.7
ONI	Oni	16.23	321		Pn	10 50 51.8	-0.1
ONI	Oni	16.23	321	P	Pn	10 50 51.8	-0.1
ONI				pmax	pmax		
	comp=Z,74nm,1.1s						
DZA	Taraz	16.48	39	eP	Pn	10 50 53.4	-1.7
	baz=38						
DZA	Taraz	16.48	39	eP	Pn	10 50 53.4	-1.7
URFA	Urfa	16.73	299	eP	Pn	10 50 58.4	+0.1
NCK	Nalchik	16.77	323	⇓eP	P	10 51 00.7	-0.3
PTK	Pertek	16.82	304	eP	Pn	10 51 00.4	+0.8
KBZ	Khabaz	17.30	323	deP	P	10 51 07.9	+1.1
KBZ	Khabaz	17.30	323	P	P	10 51 07.1	+0.4
	comp=Z,0.3nm,0.3s,baz=143,slow=10,SNR=23						
	comp=Z,37nm,0.9s						
AML	Almayashu	17.36	45	P	Pn	10 51 07.1	+0.6
	SNR=8.4						
AML	Almayashu	17.36	45	P	Pn	10 51 05.3	-1.2
ASF	Jabal al Asfar	17.51	280	P	Pn	10 51 08.2	+0.1
	comp=Z,2.8nm,0.3s,baz=75,slow=10.0,SNR=23						
	comp=Z,121nm,1.2s						
KTUT	Trabzon	17.51	311	eP	P	10 51 12.9	+3.8
KSH	Kashi	17.55	55	P	Pn	10 51 02.3	-6.4
KSH				pP	P	10 51 06.6	-3.2
KSH				pmax	pmax		
	comp=Z,150nm,0.9s						
KSH				pmax	pmax		
	comp=Z,350nm,5.2s						
KSH				LR	LR		
	comp=Z,3µm,8.6s						
KSH				LR	LR		
	comp=Z,3µm,7.7s						
KSH				LR	LR		
	comp=Z,2µm,9.6s						
KVAR	Kislovodsk Arr	17.56	323	P	P	10 51 12.1	+2.3
	comp=Z,42nm,1.1s,baz=119,slow=19,SNR=8.0						
KIV	Kislovodsk	17.57	323	⇓P	P	10 51 11.0	+1.1
KIV	Kislovodsk	17.57	323	P	P	10 51 10.2	+0.3
KIV	Kislovodsk	17.57	323	P	Pn	10 51 09.1	+0.3
KIV	Kislovodsk	17.57	323	P	P	10 51 09.9	0.0
KIV				P	P	10 51 09.9	0.0
KIV	Kislovodsk	17.57	323	eP	P	10 51 09.9	0.0
KIV				eS	Sn	10 54 27.8	+3.3
KIV				pmax	pmax		
	comp=Z,240nm,1.1s						
KIV				MLR	MLR		
	comp=Z,332nm,14.0s						
ILIC	ilic-Erzincan	17.63	305	eP	P	10 51 11.6	+1.0
ARPR	Arapgir-MALATY	17.66	303	eP	P	10 51 12.1	+1.2
ARPR	Arapgir-MALATY	17.66	303		P	10 51 11.1	+0.1
EKS2	Erkin-Say	17.72	43	P	Pn	10 51 10.2	-0.5
	SNR=28						
GAZ	Gaziantep	17.88	296	eP	P	10 51 13.1	-0.2
GAZ	Gaziantep	17.88	296	P	Pn	10 51 12.3	-0.4
UCH	Uchtor	17.91	45	P	Pn	10 51 12.2	-1.2
	SNR=25						
DARE	Darende-Malaty	18.09	301	eP	P	10 51 16.2	+0.5
AAK	Ala-Archa	18.13	44	P	Pn	10 51 15.8	0.0

SNR=35
AAK Ala-Archa 18.13 44 Pn 10 51 14.7 -1.1
AAK Ala-Archa 18.13 44 P Pn 10 51 12.9 -3.0
AAK Ala-Archa 18.13 44 P P 10 51 16.6 +0.4
AAK Ala-Archa 18.13 44 P Pn 10 51 14.7 -1.1
AAK pmax pmax
comp=Z,94nm,1.2s
AAK Ala-Archa 18.13 44 P Pn 10 51 15.9 0.0
comp=Z,0.3nm,0.3s,baz=221,slow=11,SNR=32
comp=Z,39nm,1.0s
ESPY Espiye-Giresun 18.16 309 *eP* **P 10 51 17.4 +1.1**
GOF Gofitskoye 18.17 326*c* **P P 10 51 18.2 +1.8**
KMRS Kahramanmaras 18.21 297 *eP* **P 10 51 16.8 -0.1**
BEIL Beino 18.21 288 *eP* **P 10 51 18.3 +1.3**
KZA Kyzart 18.29 47 P **Pn 10 51 17.6 -0.4**
SNR=8.3
HWQ Hawqa 18.39 287 *eP* **P 10 51 20.2 +1.3**
KBK Karagaybulak 18.42 45 P **P 10 51 18.8 -0.6**
SNR=25
RCY Rachaya 18.42 284 *eP* **Pn 10 51 20.7 +1.2**
SHBL Chebaa 18.49 284 *eP* **Pn 10 51 21.4 +1.1**
TAHT Tahtakopru-Hat 18.50 293 *eP* **Pn 10 51 21.9 +1.7**
CHMS Chumysh 18.50 44 P **Pn 10 51 22.8 +2.6**
SNR=8.8
USP Ospenovka 18.51 43 P **Pn 10 51 21.9 +1.6**
SNR=6.8
BHL Bhannes 18.60 285 *eP* **Pn 10 51 23.3 +1.8**
AB31 Akbulak array 18.60 5 *i* P **P 10 51 19.4 -1.7**
ABKAR Akbulak array 18.60 5 P **P 10 51 19.7 -1.4**
ABKAR Akbulak array 18.60 5 P **P 10 51 20.7 -0.4**
ABKAR IAmb IAmb 10 51 34.9
comp=Z,61nm,1.1s
GHAJ Ghor Haditha 18.67 277 P **Pn 10 51 22.9 +0.6**
SGDS Sogindy 18.70 42 *eP* **P 10 51 20.7 -1.5**
baz=42
SGDS Sogindy 18.70 42 *eP* **P 10 51 20.7 -1.5**
MMLI Mount Malkishu 18.75 281 *i* P **Pn 10 51 24.9 +1.5**
MMAI Mount Meron Ar 18.77 283 P **Pn 10 51 24.6 +1.0**
comp=Z,1.3nm,0.3s,baz=93,slow=12,SNR=20
MMAI LR LR 10 59 30.7
comp=Z,589nm,21.0s,baz=67,slow=40
comp=Z,35nm,0.9s
SARI SarD1z-Kayseri 18.83 300 *i* P **Pn 10 51 25.6 +1.2**
RSDY Resadiye-TOKAT 18.89 306 *eP* **Pn 10 51 25.9 +1.0**
SVSK Karacayir 18.93 304 *i* P **Pn 10 51 26.5 +1.2**
BOOM Boomskoye usch 18.94 47 P **P 10 51 24.4 -0.7**
BOOM Boomskoye usch 18.94 47 P **P 10 51 24.4 -0.7**
BOOM pmax pmax
comp=Z,61nm,1.1s
TKM2 Tokmak 2 18.96 45 P **P 10 51 25.4 0.0**
SNR=37
TKM2 Tokmak 2 18.96 45 P **P 10 51 24.8 -0.6**
SOC Sochi 18.97 317 *eP* **Pn 10 51 25.8 -0.1**
SOC *e* 10 55 00.0
SOC pmax pmax
comp=Z,53nm,1.0s
SOC MLR MLR
comp=Z,597nm,15.0s
CEYT Ceyhan 18.97 295 *i* P **Pn 10 51 29.1 +3.1**
KOZT Kozan 19.02 296 *i* P **Pn 10 51 27.1 +0.5**
HRFI Mount Harif 19.26 274 *eP* **Pn 10 51 30.2 +0.7**
EIL Elat 19.38 273 *eP* **Pn 10 51 30.6 -0.3**
EIL Elat 19.38 273 P **Pn 10 51 30.8 -0.1**
comp=Z,0.7nm,0.3s,baz=64,slow=3.6,SNR=36
EIL LR LR 11 00 19.7
comp=Z,2μm,18.1s,baz=91,slow=41
comp=Z,56nm,1.1s
BNN Bunyan 19.39 300 *eP* **Pn 10 51 31.5 +0.4**
BNN Bunyan 19.39 300 P **Pn 10 51 31.0 -0.2**
BNN IAmb IAmb 10 51 38.4
comp=Z,258nm,1.1s
TOKT Tokat 19.40 305 *eP* **Pn 10 51 32.1 +0.9**
KARA Karaisali 19.57 295 P **Pn 10 51 33.7 +0.5**
AKTO Aktyubinsk 19.68 1 P **P 10 51 33.4 +0.4**
comp=Z,3.3nm,0.3s,baz=180,slow=10,SNR=66
AKTO LR LR 11 00 35.5
comp=Z,4μm,18.9s,baz=192,slow=41
comp=Z,42nm,0.7s
TNSS Tian-Shan 19.86 46 *eP* **P 10 51 34.4 -1.0**
baz=46
TNSS Tian-Shan 19.86 46 *eP* **P 10 51 34.3 -1.0**
AAA Alma-Ata 19.93 46 *eP* **P 10 51 36.2 +0.4**
baz=46
AAA Alma-Ata 19.93 46 *eP* **P 10 51 36.1 +0.4**
KUU Kurty 19.96 44 *eP* **P 10 51 35.1 -0.9**
comp=Z,48nm,1.2s,baz=43
KUU Kurty 19.96 44 *eP* **P 10 51 35.1 -0.9**
KUU pmax pmax
comp=Z,48nm,1.2s
MDOK Medeo 19.99 46 *eP* **P 10 51 35.3 -1.3**
baz=46
MDOK Medeo 19.99 46 *eP* **P 10 51 35.2 -1.3**
YOZ Yozgat 20.03 302 *eP* **P 10 51 36.9 -0.1**
KVT Kavak 20.05 307 *eP* **P 10 51 37.4 +0.3**
KIZK Mersin 20.13 293 *eP* **P 10 51 38.1 +0.1**
CHKK Chushkaly 20.32 44 *eP* **P 10 51 40.1 0.0**
baz=44
CHKK Chushkaly 20.32 44 *eP* **P 10 51 40.0 0.0**
IKL Isikli 20.46 292 *eP* **P 10 51 42.4 +0.9**
LFK Lefkose 20.46 289 *eP* **P 10 51 42.2 +0.6**
PRZ Przheval'sk 20.51 49 P **P 10 51 42.1 -0.1**
PRZ Przheval'sk 20.51 49 P **P 10 51 42.1 -0.1**
PRZ pmax pmax
comp=Z,98nm,1.2s
AKKU Akkuyu-Mersin 20.56 292 *i* P Pn 10 51 43.9 -0.9
CSS Mathiatis 20.59 288 *eP* **P 10 51 44.1 +1.1**
CSS Mathiatis 20.59 288 P **P 10 51 43.1 +0.1**
CSS IAmb IAmb 10 51 50.5
comp=Z,102nm,1.0s
CORM Corum 20.71 303 *eP* **P 10 51 45.5 +1.1**
SATY Saty 20.79 48 *eP* **P 10 51 45.2 -0.1**
comp=Z,78nm,1.8s,baz=48
SATY Saty 20.79 48 *eP* **P 10 51 45.1 -0.1**
SATY pmax pmax
comp=Z,78nm,1.8s
DIKM Dikmen 20.83 308 *eP* **P 10 51 46.3 +0.8**
BERE Bereket-Mersin 20.85 292 *eP* **Pn 10 51 47.4 -0.9**
ZHN Zhinishke 20.86 48 *eP* **P 10 51 45.6 -0.4**
baz=47
ZHN Zhinishke 20.86 48 *eP* **P 10 51 45.5 -0.4**
OTUK Ortayu 20.90 29 P **P 10 51 45.9 -0.3**
YAYX Yaylak 20.94 299 *eP* **P 10 51 46.9 +0.1**
LEF Lefka 20.97 289 *eP* **Pn 10 51 48.6 -1.0**
SULT Sultanhani-AKS 20.97 297 *eP* **P 10 51 47.8 +0.6**
ARXS Arharly 21.03 45 *eP* **P 10 51 48.4 +0.7**
SERE Serefiikochisa 21.12 299 P **P 10 51 49.2 +0.4**
KAMT Kaman 21.13 300 *eP* **P 10 51 49.2 +0.3**
KPKS Kokpek 21.17 47 *eP* **P 10 51 48.8 -0.4**
baz=47
KPKS Kokpek 21.17 47 *eP* **P 10 51 48.8 -0.4**
UZB Uzynbulak 21.23 48 *eP* **P 10 51 49.6 -0.4**
baz=48
UZB Uzynbulak 21.23 48 *eP* **P 10 51 49.6 -0.4**
BR131 Keskin Array S 21.29 301 P **P 10 51 50.5 0.0**
BR131 IAmb IAmb 10 51 55.0
comp=Z,223nm,1.1s
BR131 Keskin Array S 21.29 301 P **P 10 51 51.3 +0.7**
SNR=81
BR131 Keskin Array S 21.29 301*c* *i*P **P 10 51 50.7 0.0**
BRTR Keskin Array B 21.29 301 P **P 10 51 50.6 0.0**
BRTR Keskin Array B 21.29 301 *i* P **P 10 51 50.7 0.0**
BRTR pmax pmax
comp=Z,139nm,1.1s
BRTR Keskin Array B 21.29 301 P **P 10 51 50.9 +0.2**
comp=Z,138nm,1.1s,baz=124,slow=11,SNR=94
BRTR PcP **PcP 10 55 56.4 +1.2**
comp=Z,4.3nm,0.8s,baz=134,slow=3.5,SNR=3.6
BRTR LR LR 11 00 44.5
comp=Z,1μm,18.1s,baz=100,slow=38
comp=Z,138nm,1.1s
SHLS Shalkode 21.52 49 *eP* **P 10 51 55.4 +2.3**
comp=Z,50nm,1.2s,baz=49
SHLS Shalkode 21.52 49 *eP* **P 10 51 55.3 +2.3**
SHLS pmax pmax
comp=Z,49nm,1.2s
HDMB Hadim 21.53 293 *eP* **P 10 51 53.5 +0.2**
CHBY Cihanbeyli 21.54 298 *eP* **P 10 51 53.3 0.0**
GAZI Gazipasa 21.56 291 *eP* **P 10 51 54.2 +0.8**
KULU Kulu 21.57 299 *eP* **P 10 51 52.7 -0.9**
PDGK Podgornoye 21.61 48 P **P 10 51 54.1 0.0**
AFSR Afar-Bala (An 21.63 300 *i* P **P 10 51 53.5 -0.7**
TDK Taldyqorghan 21.80 43 *eP* **P 10 51 56.4 +0.3**
comp=Z,63nm,1.1s,baz=43
TDK Taldyqorghan 21.80 43 *eP* **P 10 51 56.3 +0.3**
TDK pmax pmax
comp=Z,63nm,1.1s
KONT Konya--Tatoy 21.81 296 *eP* **P 10 51 56.1 0.0**
LADK Ladik-KONYA 21.86 297 *eP* **P 10 51 57.8 +1.1**
ANTO Ankara 21.95 301 P **P 10 51 57.1 -0.6**
ANTO IAmb IAmb 10 52 02.3
comp=Z,119nm,1.2s
ANTO Ankara 21.95 301 P **P 10 51 57.1 -0.6**
ANTO pmax pmax
comp=Z,119nm,1.3s
KIZT Kizilcal 22.38 298 *eP* **P 10 52 01.6 -0.7**
BRZS Berezniki 22.41 27 *eP* **P 10 52 01.7 -0.8**
comp=Z,48nm,1.6s,baz=26
BRZS Berezniki 22.41 27 *eP* **P 10 52 01.7 -0.8**
BRZS pmax pmax
comp=Z,48nm,1.6s
PYUN Piuthan 22.48 90 *eP* **P 10 52 05.2 +1.6**
comp=Z,792nm,1.1s
KURC Kurucasile-Bar 22.64 306 *eP* **P 10 52 04.3 -0.6**
SVRH Sivrihisar-ESK 22.79 299 *i* P **P 10 52 06.3 -0.3**
BELG Belogornoye 22.79 345*d* *i*P **P 10 52 05.6 -0.7**
BELG pmax pmax
comp=Z,72nm,1.0s
BELG Belogornoye 22.79 345 P **P 10 52 06.0 -0.3**
comp=Z,298nm,0.9s,baz=316,slow=2.3,SNR=21
BELG LR LR 11 03 42.8
comp=Z,2μm,18.4s,baz=149,slow=44
comp=Z,298nm,0.9s
KOLN Koldanda 23.08 91 *eP* **P 10 52 10.4 +0.5**
comp=Z,1μm,1.7s
SIM Simferopol' 23.08 314 *eP* **P 10 52 11.2 +1.7**
SIM *eS* **S 10 56 13.1 -7.5**
SIM pmax pmax
comp=Z,503nm,1.3s
SIM smax smax
comp=N,136nm,12.2s
DANN Dangsing 23.09 89 *eP* **P 10 52 10.8 +0.7**
comp=N,2μm,1.2s
CIFT Cifteler, Eski 23.11 299 *eP* **P 10 52 08.9 -1.1**
ISP Isparta 23.21 295 *eP* **P 10 52 11.4 +0.3**
ISP Isparta 23.21 295 P **P 10 52 11.1 0.0**
ISP Isparta 23.21 295*c* *i*P **P 10 52 10.9 -0.2**
ISP pmax pmax
comp=Z,436nm,1.3s
KORT Korkueli 23.22 293 *i* P **P 10 52 12.6 +1.4**
MDUB Mudurnu 23.30 302 *i* P **P 10 52 11.1 -0.8**
MDUB Mudurnu 23.30 302 P **P 10 52 11.6 -0.3**
SHUT Suhut-Afyon 23.32 297 *i* P **P 10 52 13.0 +0.8**
ATD Arta Tunnel 23.36 218 P **P 10 52 12.3 -0.3**
ATD IAMs_20 IAMs_20 11 02 53.7
comp=Z,4μm,18.0s
ATD Arta Tunnel 23.36 218 *eP* P 10 52 03.5 -9.2
ATD Arta Tunnel 23.36 218 *eP* **P 10 52 12.1 -0.5**
ATD *eS* S **10 56 32.9 +7.1**
ATD IAMs_20 IAMs_20 11 02 56.4
comp=N,14μm,18.0s
ATD Arta Tunnel 23.36 218 P **P 10 52 14.0 +1.4**
SNR=9.0
ATD Arta Tunnel 23.36 218 LR LR 11 03 05.1
comp=N,187nm,18.6s,baz=33,slow=41
ATD Arta Tunnel 23.36 218 *eP* P 10 52 03.5 -9.2
ATD Arta Tunnel 23.36 218 *eP* **P 10 52 12.1 -0.5**
ATD *eS* S **10 56 32.9 +7.1**
ATD IAMs_20 IAMs_20 11 02 56.4
comp=N,14μm,18.0s
ATD Arta Tunnel 23.36 218 *eP* **P 10 52 12.1 -0.5**
ATD Arta Tunnel 23.36 218 *eS* S **10 56 32.9 +7.1**
VRH Novokhopyorsk 23.51 335 *eP* **P 10 52 13.2 -0.5**
VRH pmax pmax
comp=Z,210nm,1.5s
ELL Elmali 23.54 292 *eP* **P 10 52 14.8 +0.4**
SRCK Saricakaya, Es 23.61 300 *eP* **P 10 52 13.1 -1.7**
GULT Gulveren 23.79 301 *eP* **P 10 52 17.7 +1.0**
GKN Gorkha 23.92 90 *eP* **P 10 52 18.3 +0.1**
comp=Z,899nm,1.2s
SAUV Serdivan-Sakar 24.01 302 *eP* **P 10 52 17.9 -0.8**
APMY Acipayam-Deniz 24.12 294 *eP* **P 10 52 19.3 -0.6**
BRVK Borovoye 24.22 19 P **P 10 52 20.3 -0.3**
BRVK IAmb IAmb 10 52 25.4
comp=Z,110nm,1.3s
BRVK Borovoye 24.22 19 P **P 10 52 21.2 +0.7**
BRVK P **P 10 52 21.2 +0.7**
BRVK Borovoye 24.22 19*d* *i*P **P 10 52 20.8 +0.3**
BRVK pmax pmax
comp=Z,87nm,1.3s
BVA0 Borovoye Array 24.22 19 P **P 10 52 19.8 -0.7**
BVAR Borovoye Array 24.22 19 P **P 10 52 21.0 +0.4**
comp=Z,50nm,0.9s,baz=203,slow=6.4,SNR=88
BVAR PcP **PcP 10 56 00.0 -0.7**
comp=Z,11nm,0.5s,baz=211,slow=2.1,SNR=13
comp=Z,50nm,0.9s
CAVI Cavuskoy 24.23 300 *eP* **P 10 52 20.0 -0.8**
VORD Divnogorie 24.27 332 *eP* **P 10 52 20.8 -0.2**
VORD pmax pmax
comp=Z,40nm,0.5s
TVSB Tavsanli 24.34 299 *eP* **P 10 52 21.4 -0.5**
ADVT Abdulvahap 24.36 301 *eP* **P 10 52 21.2 -0.8**
HMAD Nubian desert 24.41 249 *i* P **P 10 52 22.5 -0.1**
DMN Daman 24.42 90 *eP* **P 10 52 22.7 -0.2**
comp=Z,502nm,1.3s
VSR Storozhevoye 24.51 332 *eP* **P 10 52 22.5 -0.7**
VSR pmax pmax
comp=Z,70nm,0.8s
HRT Hereke 24.51 302 *eP* **P 10 52 21.8 -1.6**
KKN Kakani 24.52 90 *eP* **P 10 52 23.8 0.0**
comp=Z,2μm,2.1s
SILT Sile 24.62 303 *eP* **P 10 52 21.9 -2.4**
YLV Yalova 24.66 301 *eP* **P 10 52 23.9 -0.9**
PKIN Phulchoki 24.68 90 *eP* **P 10 52 25.3 +0.1**
comp=Z,678nm,1.1s
PKI Pulchoki 24.69 90 *eP* **P 10 52 25.8 +0.4**
comp=Z,842nm,1.2s
KULA Kula-Manisa 24.77 296 *eP* **P 10 52 25.9 +0.1**
VORR Voronezh 24.84 333 *eP* **P 10 52 26.4 +0.2**
VORR pmax pmax
comp=Z,120nm,0.5s
MAKZ Makanchi 24.88 43 P **P 10 52 27.1 +0.5**
MAKZ IAmb IAmb 10 52 29.7
comp=Z,65nm,1.0s
MAKZ IAMs_20 IAMs_20 11 03 16.0
comp=Z,2μm,22.0s
MAKZ Makanchi 24.88 43 P **P 10 52 27.1 +0.5**
MAKZ pmax pmax
comp=Z,65nm,1.0s
MAKZ MLR MLR
comp=Z,2μm,22.0s
ARG Arkhangelos 24.92 290 P **P 10 52 26.6 -0.5**
ARG Arkhangelos 24.92 290 P **P 10 52 26.6 -0.5**
ARG pmax pmax
comp=Z,159nm,1.0s
GUN Gumba 25.01 89 *eP* **P 10 52 28.8 +0.4**
comp=Z,1μm,1.1s
MK31 Makanchi Array 25.05 43 P **P 10 52 28.4 +0.2**
MK31 Makanchi Array 25.05 43*d* *i*P **P 10 52 28.5 +0.2**
MKAR Makanchi Array 25.05 43 P **P 10 52 28.7 +0.5**
MKAR Makanchi Array 25.05 43 P **P 10 52 28.5 +0.3**
comp=Z,21nm,0.9s,baz=231,slow=7.7,SNR=68
MKAR PcP **PcP 10 56 01.8 -0.9**
comp=Z,3.1nm,0.8s,baz=250,slow=2.8,SNR=6.2
MKAR LR LR 11 03 54.1
comp=Z,3μm,18.6s,baz=249,slow=40
comp=Z,21nm,0.9s
JIRN Jiri 25.34 90 *eP* **P 10 52 31.4 +0.1**
comp=Z,661nm,1.2s
KURBB Kurchatov Arra 25.39 32 P **P 10 52 31.5 +0.4**
comp=Z,32nm,0.9s,baz=231,slow=8.7,SNR=101
KURBB PcP **PcP 10 56 03.8 +0.5**
comp=Z,5.5nm,0.8s,baz=226,slow=3.0,SNR=6.8
KURBB LR LR 11 03 56.3
comp=Z,3μm,20.4s,baz=218,slow=40
comp=Z,32nm,0.9s
KURK Kurchatov 25.49 32 P **P 10 52 32.8 +0.7**
KURK Kurchatov 25.49 32 IAMs_20 IAMs_20 11 04 19.1
comp=Z,4μm,18.0s
KURK Kurchatov 25.49 32 P **P 10 52 32.6 +0.5**
KURK P **P 10 52 32.6 +0.5**
KURK Kurchatov 25.49 32*d* *i*P **P 10 52 32.6 +0.5**
KURK pmax pmax
comp=Z,88nm,1.7s
DESE Dese 25.52 224 *eP* **P 10 52 25.9 -7.1**
DESE Dese 25.52 224 *eP* **P 10 52 34.7 +1.7**
DESE *eS* S 10 57 15.1 +14
DESE IAMs_20 IAMs_20 11 03 38.7
comp=N,5μm,26.8s
DESE Dese 25.52 224 *eP* **P 10 52 25.9 -7.1**
DESE Dese 25.52 224 *eP* **P 10 52 34.7 +1.7**
DESE *eS* S 10 57 15.1 +14
BALB Balikesir 25.57 298 P **P 10 52 33.0 0.0**
BALB IAmb IAmb 10 52 36.0
comp=Z,49nm,0.6s
KARP Karpathos 25.67 289 P **P 10 52 33.6 -0.3**
LPSR Galich'ya Gora 25.67 334 *eP* **P 10 52 33.4 -0.3**
LPSR pmax pmax
comp=Z,90nm,0.7s
ARU Arti 25.70 2 P **P 10 52 34.6 +0.7**
ARU Arti 25.70 2*d* *i*P **P 10 52 35.8 +1.9**
ARU 10 53 11.2
ARU S **S 10 57 07.6 +5.2**
ARU SS **SnSn 10 58 01.2 +4.4**
ARU pmax pmax
comp=Z,54nm,1.1s
ARU MLR MLR
comp=Z,1μm,17.0s
ARU Arti 25.70 2 P **P 10 52 35.1 +1.2**
comp=Z,28nm,0.8s,baz=183,slow=7.0,SNR=29
ARU LR LR 11 03 28.1
comp=Z,1μm,21.7s,baz=176,slow=38
comp=Z,28nm,0.8s
MRWI Hamdab 25.86 248 *i* P **P 10 52 36.6 +0.9**
MRWI *i* 10 52 39.7
baz=8.1,slow=1.1
RAMN Ramite 25.87 91 *eP* **P 10 52 36.1 +0.1**
comp=Z,748nm,1.1s
SEM Semipalatinsk 26.06 35 *eP* **P 10 52 36.6 -1.0**
comp=Z,31nm,1.0s,baz=34
SEM Semipalatinsk 26.06 35 *eP* **P 10 52 36.5 -1.0**
SEM pmax pmax
comp=Z,31nm,1.0s
SVE Sverdlovsk 26.18 4 *eP* **P 10 52 39.2 +0.9**
SVE *eS* **S 10 57 13.2 +3.1**
SVE pmax pmax
comp=Z,89nm,1.4s
SVE MLR MLR
comp=Z,2μm,16.0s
TIRR Tirgusor 26.54 309 ⇑P **P 10 52 42.7 +1.0**
TIRR Tirgusor 26.54 309 P **P 10 52 42.6 +1.0**
ODAN Odare 26.57 91 *eP* **P 10 52 42.0 -0.4**
comp=Z,958nm,1.3s
TPGR Topolog 26.68 310 ⇑P **P 10 52 45.1 +2.1**
ZSN Zaisan 26.91 44 *eP* **P 10 52 44.2 -0.8**
comp=Z,38nm,1.9s,baz=44
ZSN Zaisan 26.91 44 *eP* **P 10 52 44.1 -0.8**
ZSN pmax pmax
comp=Z,37nm,1.9s
CFR Carcaliu 26.99 310 ⇓P **P 10 52 47.6 +1.9**
CFR Carcaliu 26.99 310 P **P 10 52 47.5 +1.9**
MILM Milestii Mici 27.27 314 *eP* **P 10 52 48.0 -0.2**
comp=Z,200nm,2.1s
MILM *eL* L 11 06 22.0
MILM LRM MLR 11 08 10.0
comp=Z,400nm,13.5s
MILM Milestii Mici 27.27 314 ⇑P **P 10 52 50.3 +2.0**
MILM Milestii Mici 27.27 314 *eP* **P 10 52 48.0 -0.2**
MILM pmax pmax
comp=Z,200nm,2.1s
WMQ Urumqi 27.29 53 ⇑*i*P **P 10 52 50.9 +2.4**
WMQ pP sP 10 52 56.0 +2.8
WMQ PP **PnPn 10 53 39.2 +7.1**
WMQ S **S 10 57 33.0 +5.0**
WMQ sS sS 10 57 43.8 +10
WMQ pmax pmax
comp=Z,31nm,1.5s
WMQ pmax pmax
comp=Z,220nm,4.9s
WMQ LR LR
comp=Z,2μm,20.7s
WMQ LR LR
WMQ comp=Z,840nm,20.1s
WMQ LR LR
comp=Z,1μm,21.7s
KIS Kishinev 27.31 315 *eP* **P 10 52 49.0 +0.5**
comp=Z,50nm,0.4s
KIS LRM MLR 11 07 09.0
comp=Z,240nm,14.0s
KIS Kishinev 27.31 315 *eP* **P 10 52 49.0 +0.5**
KIS *e* 10 58 55.0
KIS pmax pmax
comp=Z,50nm,0.4s
KIS MLR MLR
comp=Z,240nm,14.0s
JAWL J.Aulia 27.50 241 *i* P **P 10 52 51.1 +0.5**
IDI Anoyia 27.52 288 ⇓P **P 10 52 51.9 +1.3**
RDO Rodhopi 27.63 301 P **P 10 52 51.6 +0.1**
RDO IAmb IAmb 10 52 55.2
comp=Z,82nm,1.5s
FURI Furi 27.85 223 IAMs_20 IAMs_20 11 05 08.5
comp=Z,2μm,21.0s
FURI Furi 27.85 223 *eP* P 10 52 41.2 -13
FURI Furi 27.85 223 *eP* **P 10 52 55.8 +1.8**
FURI *eS* S 10 57 49.4 +12
FURI IAMs_20 IAMs_20 11 06 11.5
comp=Z,4μm,13.9s
FURI Furi 27.85 223 *eP* P 10 52 41.2 -13
FURI Furi 27.85 223 *eP* **P 10 52 55.8 +1.8**
FURI *eS* S 10 57 49.4 +12
FURI IAMs_20 IAMs_20 11 06 11.5
comp=Z,4μm,13.9s
FURI Furi 27.85 223 *eP* **P 10 52 55.8 +1.8**
FURI *eS* S 10 57 49.4 +12
SORM Soroca 28.10 316 ⇑P **P 10 52 56.2 +0.5**
SORM Soroca 28.10 316 P **P 10 52 56.1 +0.5**
VRI Vrincioaia 28.17 311 ⇓P **P 10 52 58.3 +2.1**
VRI Vrincioaia 28.17 311 P **P 10 52 58.3 +2.1**
PLOR Plostina 28.21 311 ⇑P **P 10 52 58.4 +1.6**
PLOR Plostina 28.21 311 P **P 10 52 58.3 +1.6**
NEHR Nehoiu 28.29 310 ⇓P **P 10 52 59.3 +1.9**
KIRV Kirov 28.37 351*c* *i*P **P 10 52 59.4 +1.6**
KIRV Kirov 28.37 351 P **P 10 52 59.3 +1.5**
comp=Z,37nm,0.8s,baz=164,slow=3.9,SNR=14
KIRV LR LR 11 06 46.6
comp=Z,3μm,18.3s,baz=166,slow=42
comp=Z,37nm,0.8s
TESR Tescani 28.46 312 ⇓P **P 10 53 00.6 +1.7**
COVR Voineasa-Covas 28.50 311 ⇓P **P 10 53 00.7 +1.4**
OBN Obninsk 28.50 335 ⇑P **P 10 53 00.3 +1.2**
OBN Obninsk 28.50 335 P **P 10 52 59.5 +0.4**
OBN Obninsk 28.50 335 *eP* **P 10 52 59.8 +0.7**
OBN *e* 10 53 49.7
OBN *e*PPP PPP 10 53 58.2
OBN pmax pmax
comp=Z,84nm,0.8s
OBN MLR MLR
comp=Z,487nm,17.0s
OBN Obninsk 28.50 335 P **P 10 52 59.7 +0.7**
comp=Z,83nm,0.8s,baz=221,slow=0.5,SNR=12
OBN LR LR 11 06 24.7
comp=Z,555nm,19.1s,baz=172,slow=41
comp=Z,83nm,0.8s
MLR Muntele Rosu 28.55 310 ⇑P **P 10 53 01.2 +1.4**
MLR Muntele Rosu 28.55 310 IAmb IAmb 10 53 13.7
comp=Z,48nm,1.2s
MLR Muntele Rosu 28.55 310 P **P 10 53 00.6 +0.8**
comp=Z,14nm,0.9s,baz=266,slow=8.5,SNR=19
MLR PcP **PcP 10 56 11.8 +0.7**
comp=Z,9.1nm,0.7s,baz=217,slow=2.4,SNR=4.3
comp=Z,14nm,0.9s
MOS Moscow 28.62 337 *eP* **P 10 52 59.5 -0.6**
MOS pmax pmax
comp=Z,75nm,0.7s
TURR Turia 28.70 311 ⇑P **P 10 53 02.7 +1.7**
AKASG Malin Array Be 28.91 322 P **P 10 53 01.9 -0.9**
AKASG Malin Array Be 28.91 322 P **P 10 53 01.9 -0.9**
AKASG pmax pmax
comp=Z,14nm,1.3s
AKASG Malin Array Be 28.91 322 P **P 10 53 02.9 +0.1**
comp=Z,5.3nm,0.5s,baz=126,slow=8.4,SNR=29
AKASG PcP **PcP 10 56 12.0 +0.3**
comp=Z,5.1nm,0.8s,baz=85,slow=2.3,SNR=7.7
AKASG LR LR 11 08 06.4
comp=Z,397nm,19.6s,baz=160,slow=44
comp=Z,5.3nm,0.5s
AKBB Malin Array Si 28.91 322 IAmb IAmb 10 53 10.9
comp=Z,63nm,1.2s
KIEV Kiev 28.91 322 ⇓P **P 10 53 03.5 +0.8**
KIEV Kiev 28.91 322 P **P 10 53 02.2 -0.6**
KIEV IAmb IAmb 10 53 10.9

comp=Z,66nm,1.3s
KIEV Kiev 28.91 322 P **P** **10 53 02.2 -0.6**
KIEV pmax pmax
comp=Z,66nm,1.3s
SRS Serrai 29.07 300 P **P** **10 53 05.3 +1.0**
DOPR Dopca 29.07 311 ⇓P **P** **10 53 05.2 +0.9**
VOIR 29.12 309 ⇑P **P** **10 53 05.9 +1.1**
VOIR 29.12 309 P **P** **10 53 05.9 +1.1**
LSA Lhasa 29.17 83 P **P** **10 53 05.5 -0.4**
LSA IAMs_20 IAMs_20 11 05 47.9
comp=Z,1µm,21.0s
LSA Lhasa 29.17 83 P **P** **10 53 05.5 -0.4**
LSA pmax pmax
comp=Z,34nm,1.1s
LSA MLR MLR
comp=Z,1µm,21.0s
LSA Lhasa 29.17 83 P **P** **10 53 07.1 +1.2**
LSA pmax pmax
comp=Z,35nm,1.7s
LSA pmax pmax
comp=Z,78nm,2.7s
LSA LR LR
comp=Z,1µm,19.9s
LSA LR LR
comp=Z,1µm,17.1s
LSA LR LR
comp=Z,2µm,21.4s
ARR Arges 29.38 309 ⇑P **P** **10 53 07.6 +0.5**
DGZ Jazzator, Alta 29.48 41 *d* iP **P** **10 53 08.7 +0.6**
DGZ pmax pmax
comp=Z,13nm,0.9s
BURAR Bucovina Array 29.79 314 ⇓P **P** **10 53 11.7 +0.9**
BURAR Bucovina Array 29.79 314 P **P** **10 53 10.6 -0.2**
BURAR Bucovina Array 29.79 314 P **P** **10 53 11.7 +0.9**
BUR08 Bucovina Ar. S 29.81 314 P **P** **10 53 10.8 -0.2**
VAY Valandovo 29.86 300 *i* P **P** **10 53 13.2 +1.9**
GRG Griva 29.93 300 P **P** **10 53 12.7 +0.7**
LOT Lotru 29.98 309 ⇑P **P** **10 53 13.6 +1.2**
BLKB Belogradchik 30.24 305 ⇑P **P** **10 53 16.2 +1.5**
ZAA0 Zalesovo Array 30.49 33 P **P** **10 53 16.3 -0.4**
ZAA0 IAmb IAmb 10 53 19.1
comp=Z,48nm,0.8s
ZALV Zalesovo Beam 30.49 33 P **P** **10 53 16.7 0.0**
ZALV Zalesovo Beam 30.49 33 P **P** **10 53 16.7 0.0**
ZALV Zalesovo Beam 30.49 33 P **P** **10 53 16.6 -0.1**
comp=Z,46nm,0.8s,baz=240,slow=9.5,SNR=99
ZALV PcP **PcP** **10 56 15.8 +0.1**
comp=Z,5.6nm,0.7s,baz=238,slow=4.8,SNR=4.3
ZALV LR LR 11 07 16.7
comp=Z,2µm,19.0s,baz=228,slow=40
comp=Z,46nm,0.8s
GZR Gura Zlata 30.63 308 ⇓P **P** **10 53 19.6 +1.4**
GZR Gura Zlata 30.63 308 P **P** **10 53 19.6 +1.4**
MARR Marisel-Cluj 30.80 311 ⇓P **P** **10 53 20.5 +0.9**
SKO Skopje 30.80 301 *i* P **P** **10 53 19.3 -0.3**
BOVS Bovan 30.93 305 ⇓P **P** **10 53 21.6 +0.9**
OHR Ohrid 31.15 300 *i* P **P** **10 53 23.0 +0.2**
MDVR Moldovita 31.20 307 ⇑P **P** **10 53 23.7 +0.5**
LVV L'vov 31.40 317 *e*P **P** **10 53 24.7 -0.1**
LVV *e*S **S** **10 58 29.5 -2.8**
BZS Buzias 31.48 308 ⇓P **P** **10 53 25.9 +0.3**
BZS Buzias 31.48 308 P **P** **10 53 25.8 +0.3**
GOMU GeErMu 31.59 70 P **P** **10 53 27.9 +0.7**
GOMU sP sP 10 53 35.2 +3.4
GOMU pmax pmax
comp=Z,7.0nm,0.8s
SIRR Siria 31.63 310 ⇓P **P** **10 53 28.2 +1.3**
MNK Minsk 31.75 327 *i* P **P** **10 53 29.0 +1.2**
comp=E,18nm,0.8s
MNK *i* P **P** **10 53 29.0 +1.2**
comp=N,20nm,0.8s
MNK *i* P **P** **10 53 29.0 +1.2**
comp=Z,89nm,0.8s,baz=126
MNK *i* PP **PnPn** **10 54 33.2 +1.4**
MNK *i* S **S** **10 58 40.3 +2.7**
MNK *i* SS **SS** **11 00 42.7 -11**
MNK *i* LR LR 11 05 31.6
MNK *i* LRM MLR 11 08 35.9
comp=E,169nm,17.7s
MNK *i* LRM MLR 11 08 42.5
comp=Z,459nm,17.7s
MNK *i* LRM MLR 11 08 44.5
comp=N,302nm,17.7s
MNK Minsk 31.75 327 *d* iP **P** **10 53 29.0 +1.2**
PRGR Permogore 31.85 349 *e*P **P** **10 53 29.7 +1.1**
PRGR *e* 10 54 40.2
PRGR pmax pmax
comp=Z,13nm,0.4s
TIR Tirane 31.88 300 IAmb IAmb 10 53 48.0
comp=Z,49nm,0.9s
PALK Pallekele 31.99 132 P **P** **10 53 30.7 +0.3**
PALK Pallekele 31.99 132 LR LR 11 07 14.6
comp=Z,457nm,18.1s,baz=54,slow=38
KOLS Kolonicke sedl 32.11 315 *e*P **P** **10 53 32.6 +1.5**
KOLS Kolonicke sedl 32.11 315 *e*P **P** **10 53 32.6 +1.5**
KOLS pmax pmax
comp=Z,101nm,0.8s
KLMR Klimovskoe 32.36 344 *e*P **P** **10 53 31.3 -1.8**
KLMR *e*P **P** **10 53 31.3 -1.8**
KLMR *e*P **P** **10 53 31.3 -1.8**
KLMR AMP 10 53 36.8
comp=Z,81nm,1.6s
KLMR S **S** **10 58 49.2 +2.3**
KLMR S **S** **10 58 49.2 +2.3**
KLMR LQ LQ 11 04 29.8
KLMR LQ LQ 11 04 29.8
KLMR LR LR 11 06 10.9
KLMR AMP 11 09 50.4
comp=Z,1µm,14.7s
KLMR Klimovskoe 32.36 344 *e*P **P** **10 53 31.2 -1.8**
KLMR S **S** **10 58 49.1 +2.2**
KLMR pmax pmax
comp=Z,81nm,1.6s
KLMR MLR MLR
comp=Z,1µm,15.0s
NACGM Naroch 32.50 327 *e*P **P** **10 53 36.4 +2.0**
comp=E,2µm,0.8s
CRVS Cervenica-Dubn 32.60 314 *e*P **P** **10 53 36.5 +1.1**
CRVS Cervenica-Dubn 32.60 314 *e*P **P** **10 53 36.6 +1.1**
CRVS pmax pmax
comp=Z,39nm,1.0s
IDID Didziasalis 32.76 327 *e*P **P** **10 53 37.9 +1.2**
ISAL Salakas 33.20 327 *e*P **P** **10 53 41.5 +1.0**
PSZ Piszkesteto 33.27 312 ⇑P **P** **10 53 42.4 +1.1**
PSZ Piszkesteto 33.27 312 P **P** **10 53 43.6 +2.3**
PSZ Piszkesteto 33.27 312 P **P** **10 53 43.6 +2.3**
PSZ pmax pmax
comp=Z,19nm,1.0s
MORH Mrgy, Hungar 33.64 308 ⇑P **P** **10 53 45.1 +0.6**
SUW Suwalki 33.80 323 *e*P **P** **10 53 46.2 +0.5**
LANS Liptovska Anna 33.92 314 *e*P **P** **10 53 47.6 +0.6**
LANS Liptovska Anna 33.92 314 *e*P **P** **10 53 47.6 +0.6**
LANS pmax pmax
comp=Z,5.0nm,1.4s
OJC Ojcow 34.08 316 *e*P **P** **10 53 48.9 +0.6**
OJC Ojcow 34.08 316 IAmb IAmb 10 53 56.5
comp=Z,43nm,1.0s
PABE Paberze 34.18 326 P **P** **10 53 49.1 +0.1**
PABE Paberze 34.18 326 *e*P **P** **10 53 50.8 +1.8**
LODK Lodwar 34.19 222 P **P** **10 53 50.7 +1.1**
LODK IAmb IAmb 10 53 54.6
comp=Z,57nm,1.2s
LODK Lodwar 34.19 222 *e*P **P** **10 53 47.7 -1.9**
LODK Lodwar 34.19 222 P **P** **10 53 51.4 +1.8**
SNR=22
LODK Lodwar 34.19 222 *e*P **P** **10 53 47.7 -1.9**
PUL Pulkovo 34.23 336 ⇑*e*P **P** **10 53 51.8 +2.4**
PUL pmax pmax
comp=Z,175nm,0.8s
SRO Srobarova 34.26 311 *e*P **P** **10 53 50.4 +0.6**
SRO Srobarova 34.26 311 *e*P **P** **10 53 50.4 +0.6**
OKC Ostrava-Krasne 34.95 314 AMS AMS 11 12 30.0
comp=Z,400nm,13.7s
JAVC Velka Javorina 34.96 313 *e*P **P** **10 53 56.7 +0.7**
MAUC Maruska 35.01 314 *e*P **P** **10 53 57.1 +0.7**
SMOL Smolenice 35.02 312 *e*P **P** **10 53 58.3 +1.9**
VALR Valaam 35.21 338 ⇓*e*P **P** **10 53 59.8 +1.9**
VALR pmax pmax
comp=Z,76nm,0.8s
MORC Moravsky Berou 35.31 314 ⇓P **P** **10 53 59.3 +0.3**
MORC Moravsky Berou 35.31 314 *e*P **P** **10 53 58.7 -0.3**
MORC *e* 10 56 30.9
MORC Moravsky Berou 35.31 314 P **P** **10 53 59.2 +0.3**
RONA Rosalia, Austr 35.55 310 *e*P **P** **10 54 00.8 -0.3**
comp=Z,27nm,1.2s,SNR=7.7
GTA Gaotai 35.55 64 *e*P **P** **10 54 01.8 +0.5**
GTA sP sP 10 54 10.0 +4.0
GTA PcP **PcP** **10 56 31.5 +1.2**
GTA S **S** **10 59 42.0 +4.9**
GTA ScP **ScP** **11 00 17.2 +0.8**
GTA pmax pmax
comp=Z,15nm,1.2s
GTA pmax pmax
comp=Z,240nm,4.4s
GTA LR LR
comp=Z,690nm,16.3s
GTA LR LR
comp=Z,1µm,14.3s
GTA LR LR
comp=Z,2µm,18.3s
VRAC Vranov 35.77 313 ⇑P **P** **10 54 03.8 +0.9**
VRAC Vranov 35.77 313 *e*P **P** **10 54 02.6 -0.3**
VRAC Vranov 35.77 313 P **P** **10 54 03.7 +0.9**
VRAC Vranov 35.77 313 P **P** **10 54 03.1 +0.3**
comp=Z,10nm,0.8s,baz=124,slow=7.1,SNR=13
VRAC LR LR 11 12 59.4
comp=Z,212nm,18.5s,baz=104,slow=44
comp=Z,10nm,0.8s
KRUC Moravsky 35.82 313 *e*P **P** **10 54 02.9 -0.4**
PAOL Paolisi 35.83 299 P **P** **10 54 03.3 -0.3**
PAOL IAmb IAmb 10 54 08.8
comp=Z,46nm,1.3s
KRLC Kraliky 35.87 314 *e*P **P** **10 54 03.8 0.0**
KRLC *e*pP **pP** **10 54 05.3 -1.9**
KRLC Kraliky 35.87 314 *e*P **P** **10 54 03.8 0.0**
KRLC *e* 10 54 05.3
CONA Conrad Observa 35.88 311 *e*P **P** **10 54 03.6 -0.4**
comp=Z,9.2nm,1.0s
VAE Valguarnera 35.94 293 LR LR 11 09 51.5
comp=Z,133nm,18.9s,baz=38,slow=38
ARSA Arzberg 35.96 309 *i* P **P** **10 54 05.3 +0.7**
comp=Z,14nm,0.9s
ARSA *i* PcP **PcP** **10 56 32.6 +1.3**
comp=Z,7.2nm,0.8s
SOKA Soboth 36.17 308 *e*P **P** **10 54 05.1 -1.4**
comp=Z,14nm,1.1s
SOKA *i* PcP **PcP** **10 56 33.4 +1.5**
comp=Z,14nm,1.1s
DPC Dobruska-Polom 36.23 315 *e*P **P** **10 54 07.2 +0.3**
DPC *e*pP **pP** **10 54 08.9 -1.4**
DPC Dobruska-Polom 36.23 315 *e*P **P** **10 54 07.2 +0.3**
DPC *e* 10 54 08.9
KSP Ksiaz 36.39 315 *e*P **P** **10 54 08.7 +0.5**
TREC Trest 36.46 313 *e*P **P** **10 54 08.9 +0.1**
TREC Trest 36.46 313 *e*P **P** **10 54 08.9 +0.1**
CHVC Chvalec 36.46 315 *e*P **P** **10 54 08.6 -0.2**
CHVC Chvalec 36.46 315 *e*P **P** **10 54 08.6 -0.2**
UPC Upice 36.46 315 *e*P **P** **10 54 09.2 +0.4**
UPC Upice 36.46 315 *e*P **P** **10 54 09.2 +0.4**
TNCH TengChong 36.69 89 P **P** **10 54 12.4 +1.2**
TNCH pP pP 10 54 15.3 +0.5
TNCH S **S** **10 59 53.7 -1.2**
TNCH ScS **ScS** **11 04 27.1 -0.8**
TNCH pmax pmax
comp=Z,280nm,1.0s
TNCH LR LR
comp=Z,420nm,14.1s
TNCH LR LR
comp=Z,670nm,13.8s
TNCH LR LR
comp=Z,640nm,12.7s
MEF Metsahovi 36.74 333 *e*P **P** **10 54 12.1 +1.1**
AQU L'Aquila 36.78 301 IAmb IAmb 10 54 35.5
comp=Z,54nm,1.1s
FINES FINESS Array B 36.90 335 P **P** **10 54 12.4 +0.1**
FINES FINESS Array B 36.90 335 P **P** **10 54 12.6 +0.2**
comp=Z,45nm,0.8s,baz=125,slow=10.0,SNR=50
comp=Z,45nm,0.8s
MOA Molln 36.92 310 *e*P **P** **10 54 12.2 -0.5**
comp=Z,30nm,1.1s,SNR=12
KMBO Kilima Mbogo 37.01 215 P **P** **10 54 14.2 +0.1**
KMBO Kilima Mbogo 37.01 215 IAMs_20 IAMs_20 11 10 44.4
comp=Z,803nm,20.0s
KMBO Kilima Mbogo 37.01 215 *e*P **P** **10 54 14.4 +0.4**
KMBO *e*S S 10 59 23.3 -37
KMBO Kilima Mbogo 37.01 215 *e*P P 10 54 07.3 -6.7
KMBO Kilima Mbogo 37.01 215 P **P** **10 54 14.2 +0.1**
KMBO pmax pmax
comp=Z,20nm,1.0s
KMBO MLR MLR
comp=Z,800nm,20.0s
KMBO Kilima Mbogo 37.01 215 P **P** **10 54 14.7 +0.6**
comp=Z,17nm,0.8s,baz=22,slow=11,SNR=21
KMBO LR LR 11 10 46.7
comp=Z,790nm,19.8s,baz=90,slow=38
comp=Z,17nm,0.8s
KMBO Kilima Mbogo 37.01 215 *e*P **P** **10 54 14.4 +0.4**
KMBO *e*S S 10 59 23.3 -37
KMBO Kilima Mbogo 37.01 215 *e*P P 10 54 07.3 -6.7
GOPC GO Pecny, Ondr 37.06 313 AMS AMS 11 13 40.0
comp=Z,500nm,15.5s
CKRC Cesky Krumlov 37.10 312 *e*P **P** **10 54 14.2 0.0**
CKRC *e*pP **pP** **10 54 16.1 -1.6**
CKRC AMS AMS 11 14 10.0
comp=Z,400nm,14.3s
CKRC Cesky Krumlov 37.10 312 *e*P **P** **10 54 14.2 0.0**
CKRC *e* 10 54 16.1
CKRC MLR MLR
comp=Z,400nm,14.3s
MYKA Terra Mystica 37.11 308 *e*P **P** **10 54 15.0 +0.6**
comp=Z,15nm,0.9s
PRU Pruhonice 37.23 314 *e*P **P** **10 54 15.1 -0.2**
PRU AMS AMS 11 13 50.0
comp=Z,400nm,14.5s
PRU Pruhonice 37.23 314 *e*P **P** **10 54 15.1 -0.2**
PRU MLR MLR
comp=Z,400nm,14.5s
BIOA Bad Ischl, Aus 37.30 310 *i* P **P** **10 54 15.4 -0.6**
comp=Z,20nm,1.3s
ZVC Zvikov 37.31 313 *e*P **P** **10 54 15.9 -0.2**
ZVC *ex* x 10 54 18.1
PVCC Panska Ves 37.35 314 *e*P **P** **10 54 17.4 +1.0**
PVCC AMS AMS 11 12 40.0
comp=Z,400nm,13.3s
PVCC Panska Ves 37.35 314 *e*P **P** **10 54 17.4 +1.0**
PVCC MLR MLR
comp=Z,400nm,13.3s
KBA Koelnbreinsper 37.39 309 *e*P **P** **10 54 15.7 -1.2**
comp=Z,18nm,0.9s
MURB Monte Urbino 37.49 302 IAmb IAmb 10 54 22.0
comp=Z,65nm,1.0s
GEC2 GERESS Array S 37.49 311 P **P** **10 54 17.2 -0.6**
GEC2 IAmb IAmb 10 54 21.5
comp=Z,46nm,0.8s
GEC2 GERESS Array S 37.49 311 *e*P **P** **10 54 17.4 -0.3**
comp=Z,45nm,0.8s,baz=105,slow=8.4
GERES GERESS Array B 37.49 311 P **P** **10 54 17.3 -0.3**
GERES GERESS Array B 37.49 311 P **P** **10 54 17.6 -0.1**
comp=Z,36nm,0.8s,baz=99,slow=8.4,SNR=49
GERES PcP **PcP** **10 56 35.0 -1.0**
comp=Z,7.4nm,0.8s,baz=116,slow=3.1,SNR=6.8
GERES ScP **ScP** **11 00 25.5 +2.2**
comp=Z,0.8nm,0.8s,baz=134,slow=4.2,SNR=4.7
comp=Z,36nm,0.8s
KHC Kasperske Hory 37.64 312 *e*P **P** **10 54 18.5 -0.3**
KHC *e*pP **pP** **10 54 20.3 -1.9**
KHC AMS AMS 11 14 30.0
comp=Z,300nm,14.5s
KHC Kasperske Hory 37.64 312 *c* iP **P** **10 54 17.9 -0.9**
KHC pmax pmax
comp=Z,61nm,0.9s
KIBK Kibwezi 37.69 213 P **P** **10 54 20.2 +0.6**
KIBK IAmb IAmb 10 54 23.5
comp=Z,68nm,1.4s
KIBK IAMs_20 IAMs_20 11 10 53.9
comp=Z,718nm,19.0s
KIBK Kibwezi 37.69 213 P **P** **10 54 20.8 +1.2**
SNR=29
BRG Berggiesshubel 37.83 315 *e*P **P** **10 54 21.8 +1.3**
BRG Amp 10 54 25.4
comp=Z,8.1nm,0.9s
BRG Berggiesshubel 37.83 315 P P 10 54 31.0 +11
BRG Amp 10 54 31.9
comp=Z,9.6nm,0.9s
BRG Berggiesshubel 37.83 315 *e*P **P** **10 54 21.7 +1.3**
BRG *e* 10 54 30.9
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG MLR MLR
comp=Z,401nm,16.2s
BRG MLR MLR
comp=E,248nm,17.7s
BRG MLR MLR
comp=N,212nm,16.4s
CIMO Cimolais 37.88 307 IAmb IAmb 10 54 37.8
comp=Z,16nm,1.1s
LESA Schwarzleotal 37.89 309 *i* P **P** **10 54 20.1 -1.0**
comp=Z,12nm,0.7s
LESA *i* PcP **PcP** **10 56 37.8 +0.6**
comp=Z,7.3nm,0.6s
ABTA Abfaltersbach 37.90 308 *e*P **P** **10 54 20.4 -0.7**
comp=Z,29nm,1.1s,SNR=7.0
HSKC Hora Svate Kat 38.08 314 *e*P **P** **10 54 21.6 -0.9**
HSKC AMS AMS 11 13 30.0
comp=Z,400nm,20.8s
WET Wettzell 38.09 312 *e*P **P** **10 54 21.7 -1.0**
comp=Z,12nm,1.1s,baz=105,slow=8.4
MOY Mondy 38.20 44 *e*P **P** **10 54 26.5 +2.9**
MOY pmax pmax
comp=Z,68nm,1.6s
RUE Ruedersdorf 38.38 317 *e*P **P** **10 54 26.6 +1.7**
CLL Collm 38.52 315 IAmb IAmb 10 54 33.0
comp=Z,42nm,0.9s
CLL Collm 38.52 315 *i* P **P** **10 54 26.7 +0.5**
comp=Z,60nm,1.4s
CLL *e*Pmax 10 54 29.0
CLL *i* x x 10 54 31.6
comp=Z,47nm,1.0s
CLL *e*PP **PP** **10 55 55.0 +0.8**
CLL *e*PPP PPP 10 56 15.0
CLL *e*PPPP 10 56 23.0
CLL *e*PcP **PcP** **10 56 39.0 +0.1**
CLL *e*S **S** **11 00 26.0 +4.3**
CLL *ex* x 11 02 42.0
CLL *e*SS **SS** **11 03 12.0 +1.0**
CLL *ex* x 11 04 57.0
CLL AMS AMS 11 14 00.0
comp=Z,400nm,19.1s
CLL Collm 38.52 315 *i* P **P** **10 54 26.7 +0.5**
CLL *i* 10 54 31.6
CLL *e*S **S** **11 00 26.0 +4.3**
CLL pmax pmax
comp=Z,60nm,1.4s
CLL MLR MLR
comp=Z,400nm,19.1s
CLL Collm 38.52 315 *e*P **P** **10 54 26.3 +0.1**
comp=Z,44nm,0.9s,baz=105,slow=8.4
WTTA Wattenberg 38.57 309 *e*P **P** **10 54 25.8 -1.0**
comp=Z,48nm,1.1s,SNR=12
WTTA *i* PcP **PcP** **10 56 40.5 +1.1**
comp=Z,7.6nm,0.6s
BSD Bornholm Skovb 38.61 322 *e*P **P** **10 54 27.6 +0.7**
BSD Bornholm Skovb 38.61 322 *i* P **P** **10 54 26.0 -0.9**
BSD IAmb IAmb 10 54 29.3
comp=Z,60nm,0.7s
WATA Walderalm 38.62 309 *e*P **P** **10 54 25.7 -1.6**
comp=Z,37nm,0.8s,SNR=9.8
WATA *i* PcP **PcP** **10 56 40.3 +0.9**
comp=Z,15nm,1.0s
ROTZ Rotzenmuhle 38.65 313 *e*P **P** **10 54 26.6 -0.7**
comp=Z,2.9nm,1.0s,baz=105,slow=8.4
SQTA Sankt Quirin 38.85 308 *e*P **P** **10 54 27.7 -1.4**
comp=Z,39nm,0.7s,SNR=11
SQTA *i* PcP **PcP** **10 56 41.5 +1.3**
comp=Z,18nm,0.6s,SNR=4.5
LZH Lanzhou 38.89 69 *e*P **P** **10 54 30.6 +0.8**
LZH sP sP 10 54 38.3 +3.8
LZH PcP **PcP** **10 56 42.1 +1.5**
LZH S **S** **11 00 27.1 -1.0**
LZH sS sS 11 00 35.7 +2.0
LZH pmax pmax
comp=Z,77nm,1.1s
LZH pmax pmax
comp=Z,270nm,4.3s
LZH LR LR
comp=Z,1µm,16.2s
LZH LR LR
comp=Z,1µm,15.5s
LZH LR LR
comp=Z,1µm,17.2s
MOTA Moosalm 38.94 309 *e*P **P** **10 54 27.7 -2.2**
comp=Z,33nm,0.8s
MOTA *i* PcP **PcP** **10 56 41.6 +1.2**
comp=Z,22nm,0.7s,SNR=6.6
PZH PanZhiHua 39.01 85 P **P** **10 54 30.5 -0.3**
PZH S **S** **11 00 28.8 -1.3**
PZH SS **SnSn** **11 03 18.5 -2.7**
PZH pmax pmax
comp=Z,40nm,1.7s
PZH pmax pmax
comp=Z,300nm,3.5s
PZH LR LR
comp=Z,700nm,17.7s
PZH LR LR
comp=Z,600nm,15.7s
PZH LR LR
comp=Z,590nm,17.2s
FETA Feichten 39.15 308 *e*P **P** **10 54 30.5 -1.2**
comp=Z,37nm,0.8s,SNR=16
FETA *i* PcP **PcP** **10 56 42.5 +1.3**
comp=Z,18nm,0.9s
RETA Reutte 39.19 309 *i* P **P** **10 54 30.2 -1.7**
comp=Z,16nm,0.7s
RETA *i* PcP **PcP** **10 56 42.5 +1.3**
comp=Z,7.5nm,0.6s
MSF Maaselka 39.20 342 P **P** **10 54 32.1 +0.4**
MSF Maaselka 39.20 342 SN **P** **10 54 31.9 +0.2**
MOX Moxa 39.21 314 P **P** **10 54 32.2 +0.2**
MOX Moxa 39.21 314 *e*L L 11 12 34.0
comp=Z,228nm,21.9s
GRF Grafenberg Arr 39.26 312 *e*L L 11 13 50.4
comp=Z,295nm,19.1s
GRFO Grafenberg 39.26 312 P **P** **10 54 32.0 -0.4**
GRFO Grafenberg 39.26 312 P **P** **10 54 32.0 -0.4**
GRFO pmax pmax
comp=Z,26nm,0.9s
RGN Rugen 39.28 320 *e*P **P** **10 54 33.2 +0.7**
RGN Rugen 39.28 320 *e*P **P** **10 54 33.2 +0.7**
comp=Z,151nm,0.8s,baz=105,slow=8.4
ZAK Zakamensk 39.28 47 *e*P **P** **10 54 33.0 +0.2**
ZAK *e* 10 56 41.6
ZAK pmax pmax
comp=Z,15nm,1.2s
ZAK pmax pmax
comp=Z,15nm,1.4s
CHTO Chiang Mai 39.38 98 P **P** **10 54 33.5 -0.3**
CHTO IAmb IAmb 10 54 36.1
comp=Z,101nm,1.1s
CHTO Chiang Mai 39.38 98 P **P** **10 54 33.6 -0.2**
CHTO Chiang Mai 39.38 98 P **P** **10 54 33.5 -0.3**
CHTO pmax pmax
comp=Z,101nm,1.1s
CHTO MLR MLR
comp=Z,400nm,20.0s
APA Apatity 39.50 346 ⇓*i* P **P** **10 54 34.0 -0.2**
APA pmax pmax
comp=Z,6.0nm,0.8s
APA MLR MLR
comp=Z,2µm,13.0s
LVZ Lovozero 39.52 347 ⇓*e*P **P** **10 54 35.1 +0.7**
LVZ pmax pmax
comp=Z,121nm,2.3s
CM31 Chiang Mai Arr 39.54 98 P **P** **10 54 34.6 -0.6**
SNR=13
CMAR Chiang Mai Arr 39.54 98 P **P** **10 54 34.9 -0.2**
comp=Z,14nm,1.0s,baz=295,slow=7.4,SNR=48
CMAR PcP **PcP** **10 56 42.6 0.0**
comp=Z,5.4nm,0.7s,baz=288,slow=4.3,SNR=8.4
comp=Z,14nm,1.0s
LUNU Lund 39.58 322 *i* P **P** **10 54 35.0 +0.1**
UBR Ueberruh 39.65 309 *e*P **P** **10 54 33.9 -1.9**
comp=Z,33nm,0.8s,baz=105,slow=8.4
DEL Delary 39.66 323 *e*P **P** **10 54 36.7 +1.0**
DEL Delary 39.66 323 *i* P **P** **10 54 34.9 -0.8**
DAVA Damuels 39.75 308 *e*P **P** **10 54 35.2 -1.5**
comp=Z,55nm,0.8s,SNR=16
DAVA *i* PcP **PcP** **10 56 44.5 +1.4**
comp=Z,19nm,1.0s
FLTG Flechtingen 39.84 316 *e*P **P** **10 54 37.4 +0.2**
comp=Z,31nm,0.9s,baz=105,slow=8.4
GORT1 Trebel 39.96 317 *e*P **P** **10 54 38.5 +0.4**
comp=Z,71nm,1.2s,baz=105,slow=8.4
CRAI Chiangrai 40.02 95 P **P** **10 54 39.3 +0.2**
CRAI IAmb IAmb 10 54 42.9
comp=Z,42nm,0.9s

COP Copenhagen 40.14 322 *i* P **P 10 54 41.5 +1.9**
COP IAmb IAmb 10 54 42.8
comp=Z,80nm,0.8s
KMI Kunming 40.29 86 ⇑P **P 10 54 41.2 -0.4**
KMI S **S 11 00 47.4 -2.0**
KMI pmax pmax
comp=Z,140nm,1.1s
KMI LR LR
comp=Z,800nm,16.6s
KMI LR LR
comp=Z,650nm,17.7s
KMI LR LR
comp=Z,520nm,16.3s
IRK Irkutsk 40.30 44 *e*P **P 10 54 41.7 +0.6**
IRK pmax pmax
comp=Z,69nm,2.3s
NRDL Niedersach Rie 40.55 316 *e*P **P 10 54 44.0 +1.0**
comp=Z,56nm,1.4s,baz=105,slow=8.4
BSEG Bad Segeberg 40.78 319 *e*P **P 10 54 45.5 +0.5**
comp=Z,34nm,0.9s,baz=105,slow=8.4
SONM Songino Array 40.89 51 P **P 10 54 46.4 +0.3**
SONM Songino Array 40.89 51 P **P 10 54 46.4 +0.3**
SONM pmax pmax
comp=Z,32nm,1.2s
SONM Songino Array 40.89 51 P **P 10 54 46.7 +0.6**
comp=Z,16nm,1.0s,baz=263,slow=8.0,SNR=52
SONM PP **PnPn 10 56 23.5 -1.0**
comp=Z,6.3nm,1.1s,baz=255,slow=11,SNR=3.6
SONM PcP **PcP 10 56 46.5 -0.2**
comp=Z,3.7nm,1.0s,baz=267,slow=2.8,SNR=2.7
SONM LR LR 11 13 34.8
comp=Z,1μm,19.3s,baz=264,slow=39
comp=Z,16nm,1.0s
TNS Taunus Mts 41.12 313 *e*P **P 10 54 47.9 0.0**
comp=Z,30nm,1.0s,baz=105,slow=8.4
HFS Hagfors 41.23 328 P **P 10 54 48.4 -0.1**
comp=Z,9.5nm,0.8s,baz=134,slow=8.5,SNR=14
HFS LR LR 11 14 27.1
comp=Z,374nm,20.3s,baz=109,slow=40
comp=Z,9.5nm,0.8s
KASTN Kahler Asten 41.30 314 *e*P **P 10 54 49.8 +0.4**
comp=Z,16nm,0.8s,baz=105,slow=8.4
ULN Ulaanbaatar 41.33 51 P **P 10 54 50.3 +0.5**
ULN Ulaanbaatar 41.33 51 IAMs_20 IAMs_20 11 13 38.5
comp=Z,1μm,19.0s
ULN Ulaanbaatar 41.33 51 P **P 10 54 49.2 -0.6**
ULN P **P 10 54 49.2 -0.6**
ULN Ulaanbaatar 41.33 51 P **P 10 54 50.3 +0.5**
ULN pmax pmax
comp=Z,27nm,1.2s
ULN MLR MLR
comp=Z,1μm,19.0s
SENIN Lac Senin/Sane 41.43 307 IAmb IAmb 10 54 59.8
comp=Z,34nm,0.8s
SSRD Sdr. Stenderup 41.59 321 *i* P **P 10 54 53.2 +1.6**
SSRD IAmb IAmb 10 54 57.7
comp=Z,174nm,1.0s
BNI Bardonecchia 41.79 305 P **P 10 54 51.7 -1.9**
BNI IAmb IAmb 10 55 01.7
comp=Z,41nm,1.0s
BNI Bardonecchia 41.79 305 P **P 10 54 51.7 -1.9**
BNI pmax pmax
comp=Z,41nm,1.0s
BUG Bochum--Univer 42.05 314 *e*P **P 10 54 55.7 +0.3**
comp=Z,35nm,1.0s,baz=105,slow=8.4
MUD Monsted U'grnd 42.12 322 *i* P **P 10 54 56.6 +0.8**
MUD IAmb IAmb 10 54 59.3
comp=Z,27nm,0.9s
VADS Vadso 42.44 346 *e*P **P 10 54 59.0 +0.6**
WLF Walferdange 42.51 311 P **P 10 54 58.8 -0.4**
WLF Walferdange 42.51 311 *d*P **P 10 55 00.1 +1.0**
WLF Walferdange 42.51 311 P **P 10 54 58.8 -0.4**
WLF pmax pmax
comp=Z,22nm,1.1s
SLVN Son La 42.62 91 IAmb IAmb 10 55 03.6
comp=Z,84nm,1.2s
BTNL Ternell 42.64 313 *d*P **P 10 55 01.0 +0.7**
BHOU Houvegnez 42.69 312 *d*P **P 10 55 00.8 +0.2**
comp=Z,13nm,1.0s
MEM Membach 42.72 313 *d*P **P 10 55 01.6 +0.7**
comp=Z,14nm,0.9s
MEM Membach 42.72 313 P **P 10 55 01.9 +1.0**
NB2 NORSAR Subarra 42.72 329 P **P 10 55 00.0 -0.8**
comp=Z,25nm,1.2s,baz=116,slow=7.9
NB2 PP **PP 10 56 33.6 -6.1**
comp=Z,0.9nm,0.7s,baz=115,slow=9.3
NB2 NORSAR Subarra 42.72 329 P **P 10 55 00.0 -0.8**
baz=116,slow=7.9
NB2 NORSAR Subarra 42.72 329 P **P 10 55 01.5 +0.7**
NOA NORSAR Array B 42.72 329 P **P 10 55 01.0 +0.2**
NOA NORSAR Array B 42.72 329 P **P 10 55 00.9 +0.2**
comp=Z,5.2nm,1.0s,baz=116,slow=8.0,SNR=10
NOA PP **PP 10 56 33.5 -6.3**
comp=Z,2.8nm,0.8s,baz=126,slow=9.6,SNR=5.5
comp=Z,5.2nm,1.0s
ARA0 ARCESS Array S 42.83 344 *e*P **P 10 55 02.0 +0.5**
ARCES ARCESS Array B 42.83 344 P **P 10 55 02.1 +0.5**
ARCES ARCESS Array B 42.83 344 P **P 10 55 02.1 +0.5**
ARCES pmax pmax
comp=Z,23nm,0.9s
ARCES ARCESS Array B 42.83 344 P **P 10 55 01.8 +0.2**
comp=Z,18nm,0.7s,baz=131,slow=5.5,SNR=19
comp=Z,18nm,0.7s
KTK1 Kautokeino 43.01 343 *e*P **P 10 55 03.4 +0.4**
BCLA Clavier 43.14 312 *d*P **P 10 55 04.9 +0.6**
comp=Z,8.5nm,0.8s
BCLA *d*PcP **PcP 10 56 53.4 -0.5**
RCHB Rochefort 43.16 312 *d*P **P 10 55 04.7 +0.2**
GYA Guiyang 43.24 83 P **P 10 55 06.0 +0.4**
GYA sP sP 10 55 13.6 +3.0
GYA SS SS 11 04 35.0 -11
GYA pmax pmax
comp=Z,54nm,0.9s
GYA pmax pmax
comp=Z,280nm,4.5s
GYA LR LR
comp=Z,560nm,13.0s
GYA LR LR
comp=Z,630nm,16.9s
GYA LR LR
comp=Z,910nm,14.7s
BGES Gesves 43.27 312 *d*P **P 10 55 05.9 +0.5**
comp=Z,11nm,1.2s
XAN Xi'an 43.31 72 ⇑P **P 10 55 05.2 -0.8**
XAN pP sP 10 55 10.9 -0.1
XAN sP pP 10 55 13.8 +4.2
XAN pmax pmax
comp=Z,34nm,1.2s
XAN LR LR
comp=Z,2μm,20.6s
XAN LR LR
comp=Z,610nm,19.2s
XAN LR LR
comp=Z,1μm,15.1s
BTO Baotou 43.35 62 *e*P **P 10 55 06.4 +0.1**
BTO pP **sP 10 55 11.2 +0.2**
BTO sP **pP 10 55 13.6 +3.9**
BTO PP **PP 10 56 49.6 +2.7**
BTO S **S 11 01 32.7 -1.5**
BTO SS **SS 11 04 37.8 -10**
BTO pmax pmax
comp=Z,56nm,1.3s
BTO pmax pmax
comp=Z,550nm,7.0s
BTO LR LR
comp=Z,2μm,16.1s
BTO LR LR
comp=Z,3μm,18.0s
BTO LR LR
comp=Z,5μm,18.6s
BMRD Maredsous 43.47 312 *d*P **P 10 55 07.6 +0.6**
DOU Dourbes 43.55 312 *d*P **P 10 55 07.9 +0.3**
comp=Z,20nm,0.9s
MOR8 Moi Rana 43.87 336 *e*P **P 10 55 11.2 +1.2**
NSS Namsos 43.94 334 *e*P **P 10 55 12.7 +2.1**
HAMF Hammerfest 44.08 345 *e*P **P 10 55 13.5 +1.9**
JETT Jettan, Norway 44.11 342 *e*P **P 10 55 12.5 +0.5**
FAUS Fauske 44.25 338 *e*P **P 10 55 12.9 -0.1**
STOK Stokkvaagen 44.44 336 *e*P **P 10 55 16.2 +1.7**
KONS Konsvik 44.49 336 *e*P **P 10 55 16.5 +1.6**
HHC Hu-ho-hao-te 44.50 61 *e*P **P 10 55 16.9 +1.3**
HHC sP sP 10 55 24.7 +4.4
HHC S **S 11 01 54.9 +3.9**
HHC sS sS 11 02 01.4 +4.8
HHC SS **SS 11 05 00.6 -10**
HHC pmax pmax
comp=Z,56nm,1.0s
HHC pmax pmax
comp=Z,270nm,4.1s
HHC LR LR
comp=Z,760nm,12.0s
HHC LR LR
comp=Z,2μm,18.0s
HHC LR LR
comp=Z,2μm,17.0s
SBV Sambava 44.52 190 P **P 10 55 19.0 +3.4**
TRO Tromso 44.56 342 *e*P **P 10 55 16.0 +0.6**
STEI Steigen 44.58 339 *e*P **P 10 55 15.8 +0.2**
ENH Enshi 44.59 77 P **P 10 55 15.9 -0.4**
ENH IAmb IAmb 10 55 20.8
comp=Z,47nm,1.2s
ENH IAMs_20 IAMs_20 11 15 48.7
comp=Z,970nm,19.0s
HYA Hoyanger 45.04 328 *e*P **P 10 55 22.4 +3.0**
TIY Taiyuan 45.53 66 *e*P **P 10 55 24.8 +1.1**
TIY S **S 11 02 09.9 +4.1**
TIY pmax pmax
comp=Z,35nm,0.5s
TIY LR LR
comp=Z,780nm,17.2s
TIY LR LR
comp=Z,310nm,19.2s
TIY LR LR
comp=Z,560nm,20.6s
LYN LuoYang 46.09 70 ⇓*i*P **P 10 55 29.0 +0.9**
LYN sP sP 10 55 36.1 +2.9
LYN S **S 11 02 12.0 -1.9**
LYN pmax pmax
comp=Z,120nm,1.1s
LYN LR LR
comp=Z,1μm,15.8s
LYN LR LR
comp=Z,2μm,16.1s
LYN LR LR
comp=Z,2μm,21.3s
TAM Tamanrasset 46.60 273 P **P 10 55 31.7 -0.8**
TAM IAmb IAmb 10 55 39.5
comp=Z,34nm,1.4s
TAM IAMs_20 IAMs_20 11 17 26.2
comp=Z,426nm,19.0s
TAM Tamanrasset 46.60 273 P **P 10 55 31.7 -0.8**
TAM pmax pmax
comp=Z,34nm,1.4s
TAM MLR MLR
comp=Z,400nm,19.0s
GULI GuiLin 46.77 83 ⇓P **P 10 55 34.5 +0.9**
GULI pmax pmax
comp=Z,40nm,1.1s
GULI pmax pmax
comp=Z,150nm,4.8s
BOD Bodaibo 46.93 38 *e*P **P 10 55 33.9 -0.5**
BOD pmax pmax
comp=Z,67nm,1.6s
HNS HongShan 47.36 66 ⇑P **P 10 55 38.8 +0.8**
HNS *e*S **S 11 02 31.0 -0.9**
HNS pmax pmax
comp=Z,24nm,1.2s
HNS LR LR
comp=Z,410nm,14.3s
HNS LR LR
comp=Z,620nm,18.5s
HNS LR LR
comp=Z,720nm,16.9s
XLT XiLinHaoTe 47.59 57 ⇓*i*P **P 10 55 42.0 +2.1**
XLT pP sP 10 55 47.7 +3.1
XLT S **S 11 02 38.0 +2.7**
XLT sS sS 11 02 46.1 +5.2
XLT pmax pmax
comp=Z,24nm,1.2s
XLT pmax pmax
comp=Z,140nm,3.6s
XLT LR LR
comp=Z,120nm,18.0s
XLT LR LR
comp=Z,370nm,11.8s
XLT LR LR
comp=Z,510nm,22.5s
CNSH ChangSha 48.05 78 ⇑P **P 10 55 44.6 +1.1**
CNSH S **S 11 02 44.7 +2.7**
CNSH pmax pmax
comp=Z,68nm,1.1s
CNSH LR LR
comp=Z,670nm,11.9s
CNSH LR LR
comp=Z,460nm,15.1s
CNSH LR LR
comp=Z,590nm,22.2s
BJT Baijiatuau 48.09 62 P **P 10 55 42.8 -0.8**
BJT Baijiatuau 48.09 62 IAMs_20 IAMs_20 11 18 15.6
comp=Z,1μm,21.0s
BJT Baijiatuau 48.09 62 P **P 10 55 42.8 -0.8**
BJT pmax pmax
comp=Z,14nm,1.0s
BJT MLR MLR
comp=Z,1μm,21.0s
BJI Beijing 48.09 62 P **P 10 55 44.6 +1.0**
BJI PcP **PcP 10 57 12.7 +1.4**
BJI S **S 11 02 47.2 +5.0**
BJI pmax pmax
comp=Z,7.0nm,1.0s
BJI pmax pmax
comp=Z,75nm,4.4s
BJI LR LR
comp=Z,690nm,20.8s
BJI LR LR
comp=Z,390nm,23.5s
BJI LR LR
comp=Z,680nm,21.0s
PSI Prapat 48.09 117 P **P 10 55 42.3 -1.7**
PSI pmax pmax
comp=Z,21nm,1.3s
RPSI Rantau Prapat 48.16 117 P **P 10 55 42.3 -2.1**
QIZ Qiongzhong 48.65 91 P **P 10 55 47.0 -1.2**
QIZ S **S 11 02 51.1 +0.5**
QIZ LR LR
comp=Z,480nm,22.4s
QIZ LR LR
comp=Z,560nm,19.6s
QIZ LR LR
comp=Z,560nm,19.3s
EKA Eskdalemuir Ar 48.73 319 P **P 10 55 48.0 -0.4**
comp=Z,32nm,1.1s,baz=100,slow=6.7,SNR=19
comp=Z,32nm,1.1s
TIA Tai'an 49.49 67 ⇓P **P 10 55 54.5 0.0**
TIA pmax pmax
comp=Z,44nm,1.4s
TIA pmax pmax
comp=Z,320nm,6.3s
TIA LR LR
comp=Z,650nm,23.5s
TIA LR LR
comp=Z,340nm,20.6s
TIA LR LR
comp=Z,610nm,21.1s
HIA Hailar 49.79 49 P **P 10 55 55.7 -0.9**
HIA Hailar 49.79 49 IAMs_20 IAMs_20 11 18 09.2
comp=Z,734nm,20.0s
HIA Hailar 49.79 49 P **P 10 55 55.7 -0.9**
HIA pmax pmax
comp=Z,23nm,1.1s
HIA MLR MLR
comp=Z,700nm,20.0s
OPO Ambohidratompo 49.99 193 LR LR 11 15 31.1
comp=Z,459nm,20.8s,baz=180,slow=34
ESDC Sonseca Array 50.03 298 P **P 10 55 57.2 -1.4**
ESDC Sonseca Array 50.03 298 P **P 10 55 57.2 -1.4**
comp=Z,5.1nm,0.9s,baz=65,slow=7.4,SNR=16
ESDC PcP **PcP 10 57 19.0 +0.5**
comp=Z,4.1nm,0.8s,baz=61,slow=4.7,SNR=5.6
ESDC LR LR 11 20 11.9
comp=Z,140nm,18.7s,baz=98,slow=40
comp=Z,5.1nm,0.9s
ABPO Ambohimpanom 50.41 192 P **P 10 56 01.1 -0.6**
ABPO IAmb IAmb 10 56 06.0
comp=Z,36nm,1.2s
ABPO IAMs_20 IAMs_20 11 14 56.0
comp=Z,633nm,20.0s
ABPO Ambohimpanom 50.41 192 P **P 10 56 01.1 -0.6**
ABPO pmax pmax
comp=Z,36nm,1.2s
DLV T Lat 50.71 100 IAmb IAmb 10 56 06.9
comp=Z,59nm,1.1s
SPA0 Spitsbergen Ar 50.83 350 *e*P **P 10 56 05.9 +1.8**
SPITS Spitsbergen Ar 50.83 350 P **P 10 56 04.6 +0.6**
SPITS pmax pmax
comp=Z,129nm,1.4s
SPITS Spitsbergen Ar 50.83 350 P **P 10 56 04.6 +0.6**
comp=Z,36nm,0.9s,baz=135,slow=14,SNR=8.1
SPITS LR LR 11 21 15.2
comp=Z,1μm,18.8s,baz=106,slow=40
comp=Z,36nm,0.9s
RER Riviere de l'E 51.62 182 P **P 10 56 11.4 +0.8**
NJ2 Nanjing 51.88 72 *e*P **P 10 56 12.5 0.0**
NJ2 pP **pP 10 56 16.1 -0.1**
NJ2 pmax pmax
comp=Z,21nm,0.7s
NJ2 LR LR
comp=Z,930nm,17.0s
NJ2 LR LR
comp=Z,590nm,17.6s
NJ2 LR LR
comp=Z,1μm,22.1s
KBS Kingsbay 51.99 350 *e*P **P 10 56 15.0 +2.3**
KBS Kingsbay 51.99 350 ⇑*e*P **P 10 56 14.5 +1.8**
KBS pmax pmax
comp=Z,43nm,1.3s
MVO Moncorvo 52.07 300 *e*P **P 10 56 16.4 +2.4**
comp=Z,28nm,1.7s
MYKOM Kota Tinggi 52.55 114 IAmb IAmb 10 56 19.7
comp=Z,38nm,1.1s
PVRL Vila Real 52.56 301 *e*P **P 10 56 18.8 +1.2**
comp=Z,33nm,1.8s
POLO Lamas de Olo 52.60 301 *e*P **P 10 56 19.0 +1.1**
comp=Z,16nm,1.6s
PCBR Castelo Branco 52.66 299 *e*P **P 10 56 17.1 -1.1**
comp=Z,39nm,1.8s
PBAR Barrancos 52.67 297 *e*P **P 10 56 17.3 -1.0**
comp=Z,40nm,1.2s
PMRV Marv??o 52.68 298 *e*P **P 10 56 18.7 +0.3**
comp=Z,25nm,1.3s
VOI Vohitsoka 53.31 192 P **P 10 56 22.3 -0.9**
VOI IAMs_20 IAMs_20 11 17 04.7
comp=Z,813nm,20.0s
VOI Vohitsoka 53.31 192 P **P 10 56 25.9 +2.6**
VOI Vohitsoka 53.31 192 P **P 10 56 24.7 +1.5**
SNR=6.4
SNY Shenyang 53.33 59 ⇓P **P 10 56 19.2 -3.9**
SNY pmax pmax
comp=Z,8.0nm,1.0s
SNY pmax pmax
comp=Z,38nm,2.7s
SNY LR LR
comp=Z,690nm,14.7s
SNY LR LR
comp=Z,370nm,23.7s
SNY LR LR
comp=Z,2μm,16.6s
JMIC Jan Mayen 53.42 338 LR LR 11 20 56.1
comp=Z,232nm,18.6s,baz=79,slow=38
LSZ Lusaka 53.66 216 P **P 10 56 25.6 -0.3**
LSZ IAmb IAmb 10 56 31.1
comp=Z,35nm,1.2s
LSZ Lusaka 53.66 216 P **P 10 56 29.1 +3.1**
LSZ Lusaka 53.66 216 P **P 10 56 25.6 -0.3**
LSZ pmax pmax
comp=Z,35nm,1.2s
LSZ MLR MLR
comp=Z,2μm,18.0s
LSZ Lusaka 53.66 216 LR LR 11 21 16.3
comp=Z,2μm,18.2s,baz=24,slow=38
TOA0 Torodi Ar. Sit 53.97 264 P **P 10 56 27.1 -1.1**
SNR=57
TORD Torodi Ar. Bea 53.97 264 P **P 10 56 27.1 -1.1**
TORD IAmb IAmb 10 56 30.6
comp=Z,45nm,1.1s
TORD Torodi Ar. Bea 53.97 264 P **P 10 56 27.1 -1.1**
comp=Z,24nm,0.6s,baz=54,slow=7.8,SNR=101
TORD LR LR 11 20 25.6
comp=Z,461nm,18.9s,baz=63,slow=37
comp=Z,24nm,0.6s
SSE Sheshan 54.06 72 P **P 10 56 29.7 +1.1**
SSE S **S 11 04 04.0 -1.1**
SSE pmax pmax
comp=Z,10.0nm,1.0s
SSE pmax pmax
comp=Z,160nm,3.7s
SSE LR LR
comp=Z,450nm,15.3s
SSE LR LR
comp=Z,170nm,15.2s
ZEA Zeya 54.21 43 *e*P **P 10 56 31.5 +2.1**
ZEA *e*S **S 11 04 13.0 +6.5**
ZEA pmax pmax
comp=Z,30nm,1.5s
ZEA MLR MLR
comp=E,700nm,15.0s
CN2 Changchun 54.32 56 *e*P **P 10 56 31.3 +0.9**
CN2 *e*sP sP 10 56 46.2 +11
CN2 *e*S **S 11 04 04.5 -3.8**
CN2 *e*sS sS 11 04 21.1 +7.2
CN2 pmax pmax
comp=E,20nm,1.4s
CN2 LR LR
comp=E,590nm,18.0s
CN2 LR LR
comp=E,1μm,18.0s
CN2 LR LR
comp=E,2μm,20.0s
DSRI Dabo 54.52 116 P **P 10 56 32.2 0.0**
comp=E,37nm,1.6s
HEH HeiHe 54.66 48 *e*P **P 10 56 32.2 -0.6**
HEH pP **pP 10 56 36.3 +0.1**
HEH PcP **PcP 10 57 35.2 -0.3**
HEH S **S 11 04 12.9 +0.2**
HEH pmax pmax
comp=E,51nm,1.1s
HEH pmax pmax
comp=E,140nm,5.0s
HEH LR LR
comp=E,1μm,14.4s
HEH LR LR
comp=E,4μm,14.9s
HEH LR LR
comp=E,6μm,14.9s
YAK Yakutsk 55.13 33 P **P 10 56 35.1 -0.8**
YAK Yakutsk 55.13 33 *d*iP **P 10 56 35.5 -0.5**
YAK *e**PP **sP 10 56 45.8 +5.0**
YAK *e* 10 57 36.4
YAK *e* 10 58 39.1
YAK *e*PPP PPP 10 59 50.1
YAK *e*S **S 11 04 16.3 -2.3**
YAK *e**SS sS 11 04 33.8 +9.3
YAK *e* 11 06 22.9
YAK *e*SS **SS 11 07 57.4 -4.7**
YAK pmax pmax
comp=Z,66nm,1.1s
YAK pmax pmax
comp=N,12nm,1.8s
YAK pmax pmax
comp=E,28nm,1.8s
YAK pmax pmax
comp=Z,118nm,4.9s
YAK pmax pmax
comp=N,92nm,2.5s
YAK pmax pmax
comp=E,79nm,3.5s
YAK smax smax
comp=N,131nm,4.2s
YAK smax smax
comp=E,95nm,3.8s
YAK MLR MLR
comp=Z,2μm,23.0s
YAK MLR MLR
comp=E,2μm,23.0s
YAK MLR MLR
comp=N,582nm,22.0s
YAK Yakutsk 55.13 33 LR LR 11 22 34.1
comp=N,87nm,18.5s,baz=274,slow=39
TIXI Tiksi 55.33 21 P **P 10 56 36.8 -0.5**
TIXI IAmb IAmb 10 56 40.6
comp=Z,26nm,1.1s
TIXI Tiksi 55.33 21 *ce*P **P 10 56 37.0 -0.2**
TIXI Tiksi 55.33 21 PcP **PcP 10 57 37.6 -0.1**
comp=Z,0.7nm,0.9s,baz=347,slow=2.4,SNR=7.2
TIXI LR LR 11 23 35.5
comp=Z,39nm,19.7s,baz=279,slow=40
BNX BinXian 55.34 53 ⇓P **P 10 56 37.0 -0.8**
BNX pmax pmax

comp=Z,28nm,1.4s
LHSI Lahat 55.87 120 P **P** **10 56 42.5 +0.6**
comp=Z,38nm,0.8s
FOMA Nahampoana Res 56.28 191 P **P** **10 56 45.2 +0.7**
INCN Inchon 56.61 63 IAMs_20 IAMs_20 11 24 00.1
comp=Z,987nm,20.0s
PPBI Pangkal Pinang 56.79 116 P **P** **10 56 49.0 +0.5**
LWLI Liwa 57.05 120 P **P** **10 56 48.7 -1.7**
comp=Z,138nm,1.1s
MDJ Mudanjiang 57.08 54 IAMs_20 IAMs_20 11 23 38.4
comp=Z,926nm,19.0s
MDJ Mudanjiang 57.08 54 P **P** **10 56 50.0 -0.2**
MDJ ScP **ScP** **11 01 39.0 -5.9**
MDJ PcS **PcS** **11 01 41.4 -4.5**
MDJ S **S** **11 04 50.8 +5.7**
MDJ ScS **ScS** **11 06 36.9 -2.9**
MDJ pmax pmax
comp=Z,15nm,1.6s
MDJ pmax pmax
comp=Z,260nm,4.1s
MDJ LR LR
comp=Z,1μm,18.2s
MDJ LR LR
comp=Z,1μm,16.8s
MDJ LR LR
comp=Z,1μm,17.9s
DAG Danmarks Havn 57.12 345 *i* P **P** **10 56 49.0 -1.0**
DAG IAmb IAmb 10 56 52.6
comp=Z,10nm,0.9s
DBG Daneborg 57.33 342 *i* P **P** **10 56 50.4 -1.0**
DBG IAmb IAmb 10 56 55.0
comp=Z,6.6nm,0.8s
NOR Nord 57.46 350 *i* P **P** **10 56 51.4 -0.9**
NOR IAmb IAmb 10 56 55.4
comp=Z,10nm,0.8s
TJN Taejon 57.47 64⇓ *e*P **P** **10 56 51.4 -1.7**
KS19 Wonju Array Si 57.55 63 P **P** **10 56 53.8 +0.2**
KS19 IAmb IAmb 10 56 55.2
comp=Z,31nm,1.1s
KSAR Wonju Array Be 57.58 63 P **P** **10 56 53.8 0.0**
KSAR Wonju Array Be 57.58 63 P **P** **10 56 53.8 0.0**
KSRS Korea Array 57.60 63 P **P** **10 56 53.1 -0.8**
comp=Z,14nm,1.0s,baz=277,slow=6.7,SNR=24
KSRS LR LR 11 24 27.1
comp=Z,702nm,20.8s,baz=275,slow=39
comp=Z,14nm,1.0s
KLR Kul'dur 57.60 48 *d i*P **P** **10 56 52.8 -1.0**
KLR pmax pmax
comp=Z,33nm,1.0s
KLR Kul'dur 57.60 48 LR LR 11 24 40.1
comp=Z,1μm,19.9s,baz=278,slow=39
BORG Borgarnes 57.86 330 LR LR 11 24 32.7
comp=Z,162nm,19.6s,baz=93,slow=39
KSM Kuching 57.90 110 IAmb IAmb 10 56 57.5
comp=Z,55nm,1.2s
MATP Matopo 57.93 212 LR LR 11 22 41.8
comp=Z,445nm,20.5s,baz=56,slow=37
USA0B Ussuriysk Arra 58.85 54⇑ *e*P **P** **10 57 03.0 +0.4**
USRK Ussuriysk Ar. 58.85 54 P **P** **10 57 02.4 -0.2**
comp=Z,6.1nm,0.8s,baz=268,slow=5.9,SNR=12
USRK LR LR 11 25 56.7
comp=Z,896nm,18.2s,baz=278,slow=40
comp=Z,6.1nm,0.8s
SBUM Sibu 58.90 107 IAmb IAmb 10 57 04.8
comp=Z,20nm,1.2s
STKI Sintang 59.67 110 P **P** **10 57 08.1 -0.5**
comp=Z,51nm,0.5s
JNU Nakatsue 61.23 67 LR LR 11 27 53.9
comp=Z,422nm,18.1s,baz=293,slow=40
JOW Kunigami 61.34 74 LR LR 11 27 05.7
comp=Z,341nm,18.1s,baz=278,slow=39
MYLDM Lahad Datu 62.66 101 P **P** **10 57 26.9 -2.0**
MYLDM IAmb IAmb 10 57 31.6
comp=Z,37nm,1.1s
TSUM Tsumeb 62.66 223 P **P** **10 57 28.8 -0.2**
TSUM IAmb IAmb 10 57 34.6
comp=Z,27nm,1.1s
TSUM Tsumeb 62.66 223 IAMs_20 IAMs_20 11 28 55.1
comp=Z,840nm,18.0s
TSUM Tsumeb 62.66 223 LR LR 11 28 09.1
comp=Z,715nm,18.4s,baz=334,slow=39
SUMG Summit 62.70 340 P **P** **10 57 28.7 -0.1**
SUMG Summit 62.70 340 P **P** **10 57 28.7 -0.1**
SUMG pmax pmax
comp=Z,52nm,1.1s
SUMG Summit 62.70 340 *i* P **P** **10 57 28.0 -0.8**
SUMG IAmb IAmb 10 57 32.3
comp=Z,14nm,0.8s
DBIC Dimbokro 62.77 261 P **P** **10 57 28.3 -1.4**
DBIC Dimbokro 62.77 261 P **P** **10 57 28.3 -1.4**
DBIC pmax pmax
comp=Z,72nm,1.4s
DBIC Dimbokro 62.77 261 P **P** **10 57 28.7 -1.0**
comp=Z,44nm,1.2s,baz=32,slow=6.5,SNR=16
DBIC LR LR 11 26 39.0
comp=Z,694nm,18.1s,baz=42,slow=38
comp=Z,44nm,1.2s
KIC Kosan Boka 62.83 261⇑ *e*P **P** **10 57 28.8 -1.3**
comp=Z,7.1nm,0.4s
TIC Toumodi 62.92 261⇑ *e*P **P** **10 57 29.3 -1.4**
comp=Z,14nm,0.7s
LIC Lamto 63.14 261⇑ *e*P **P** **10 57 30.6 -1.6**
comp=Z,35nm,1.1s
LBTB Lobatse 63.23 212 P **P** **10 57 32.4 -0.1**
LBTB IAmb IAmb 10 57 35.7
comp=Z,28nm,1.1s
LBTB Lobatse 63.23 212 P **P** **10 57 32.4 -0.1**
LBTB pmax pmax
comp=Z,28nm,1.1s
LBTB Lobatse 63.23 212 LR LR 11 27 04.8
comp=Z,815nm,19.3s,baz=23,slow=38
TYV Tymovskoe 64.02 45 *e*P **P** **10 57 37.5 0.0**
TYV *e*S **S** **11 06 17.9 +4.2**
TYV pmax pmax
comp=Z,33nm,1.1s
TYV pmax pmax
comp=Z,300nm,3.8s
TYV smax smax
comp=N,400nm,6.8s
TYV smax smax
comp=E,300nm,6.8s
ICESG Greenland Ices 64.09 337 *i* P **P** **10 57 37.2 -0.8**
ICESG IAmb IAmb 10 57 41.4
comp=Z,21nm,0.8s
NEEM North Greenlan 64.10 347 *i* P **P** **10 57 36.3 -1.7**
NEEM IAmb IAmb 10 57 40.4
comp=Z,7.6nm,0.7s
BBKI Banjar Baru 64.45 111 P **P** **10 57 40.7 -0.1**
YSS Yuzh-Sakhalins 65.31 49 *e*P **P** **10 57 46.9 +1.0**
YSS *e*S **S** **11 06 29.3 -0.4**
YSS pmax pmax
comp=Z,80nm,1.0s
SEY Seymchan 65.31 30⇑ *e*P **P** **10 57 45.6 -0.1**
SEY pmax pmax
comp=Z,79nm,1.0s
SEY Seymchan 65.31 30 LR LR 11 29 26.8
comp=Z,2μm,18.7s,baz=280,slow=39
MA2 Magadan 65.69 34⇓ *e*P **P** **10 57 48.6 +0.4**
MA2 pmax pmax
comp=Z,36nm,1.0s
MA2 Magadan 65.69 34 LR LR 11 29 18.0
comp=Z,433nm,18.9s,baz=290,slow=39
MAJO Matsushiro 65.69 61 IAMs_20 IAMs_20 11 27 55.6
comp=Z,421nm,19.0s
MAJO Matsushiro 65.69 61 *de*P **P** **10 57 48.5 -0.2**
MAJO pmax pmax
comp=Z,21nm,1.4s
MJAR Matsushiro Arr 65.70 61 P **P** **10 57 47.7 -1.0**
comp=Z,4.3nm,1.0s,baz=294,slow=9.4,SNR=11
MJAR LR LR 11 29 40.2
comp=Z,425nm,19.4s,baz=296,slow=39
comp=Z,4.3nm,1.0s
BLJI Banyuglugur 66.05 116 P **P** **10 57 51.0 -0.1**
comp=Z,35nm,1.3s,comp=Z,3μm
ASAJ Asahikawa 66.17 52 LR LR 11 29 14.6
comp=Z,396nm,18.3s,baz=236,slow=38
MPSI Mapaga 66.43 104 P **P** **10 57 53.4 -0.2**
comp=Z,70nm,1.2s
BOSA Boshof 66.48 211 P **P** **10 57 53.2 -0.5**
comp=Z,17nm,0.9s,baz=30,slow=6.2,SNR=15
BOSA LR LR 11 29 11.0
comp=Z,490nm,18.7s,baz=26,slow=38
comp=Z,17nm,0.9s
DY2G Dye2 67.39 335 *i* P **P** **10 57 59.2 0.0**
DY2G IAmb IAmb 10 58 01.9
comp=Z,22nm,0.8s
JHJ Hachijo jima 2 68.18 64 LR LR 11 30 43.7
comp=Z,384nm,18.9s,baz=287,slow=38
TTSI Tana Toraja 68.25 108 P **P** **10 58 02.3 -2.9**
comp=Z,25nm,1.1s
BILL Bilibino 68.52 22 P **P** **10 58 06.4 +0.4**
BILL IAmb IAmb 10 58 09.1
comp=Z,40nm,1.3s
BILL IAMs_20 IAMs_20 11 32 12.5
comp=Z,700nm,19.0s
BILL Bilibino 68.52 22 *i* P **P** **10 58 06.0 0.0**
SFJD Kangerlussuaq 68.70 336 LR LR 11 29 40.9
comp=Z,292nm,18.3s,baz=52,slow=37
SPSI Sidrap Palu 68.73 108 P **P** **10 58 07.7 -0.5**
comp=Z,26nm,1.1s
GTOI Gorontalo 68.88 102 P **P** **10 58 06.9 -2.2**
comp=Z,12nm,1.2s,comp=Z,213nm
KAPI Kappang 69.32 109 P **P** **10 58 10.7 -1.1**
KAPI Kappang 69.32 109 P **P** **10 58 11.3 -0.6**
KAPI Kappang 69.32 109 P **P** **10 58 10.7 -1.1**
KAPI pmax pmax
comp=Z,56nm,1.2s
KAPI Kappang 69.32 109 P **P** **10 58 10.7 -1.1**
comp=Z,36nm,1.0s,baz=275,slow=6.1,SNR=6.7
KAPI LR LR 11 29 41.1
comp=Z,108nm,21.7s,baz=311,slow=37
comp=Z,36nm,1.0s
NRS Narsarsuaq 69.36 330 *i* P **P** **10 58 12.1 +0.8**
NRS IAmb IAmb 10 58 19.3
comp=Z,26nm,0.8s
BKSI Bulukumba 69.80 109 P **P** **10 58 13.8 -1.0**
comp=Z,23nm,1.4s
SOE Somerset East 69.91 208 IAmb IAmb 10 58 20.4
comp=Z,22nm,0.8s
IVI Ivigtut 70.52 330 *i* P **P** **10 58 19.1 +0.7**
IVI IAmb IAmb 10 58 20.6
comp=Z,26nm,0.9s
SUR Sutherland 71.68 212 P **P** **10 58 26.1 +0.1**
SUR IAmb IAmb 10 58 28.7
comp=Z,46nm,1.4s
SUR Sutherland 71.68 212 LR LR 11 32 33.3
comp=Z,732nm,19.3s,baz=14,slow=38
PETK Petropavlovsk- 71.79 39 P **P** **10 58 24.6 -1.8**
comp=Z,25nm,1.1s,baz=343,slow=3.1,SNR=5.1
PETK LR LR 11 32 37.8
comp=Z,724nm,19.6s,baz=295,slow=38
comp=Z,25nm,1.1s
BBSI Bau Bau 71.89 108 P **P** **10 58 27.8 +0.3**
comp=Z,50nm,1.1s
PET Petropavlovsk 72.34 38 *e*P **P** **10 58 30.5 +0.9**
PET *e*S **S** **11 07 50.7 -2.2**
PET MLR MLR
comp=Z,1μm,16.0s
TNTI Ternate 72.49 100 P **P** **10 58 30.2 -0.9**
TNTI Ternate 72.49 100 P **P** **10 58 31.0 -0.1**
comp=Z,89nm,2.1s,comp=Z,1μm
JCJ Chichijima 72.58 69 LR LR 11 33 24.3
comp=Z,247nm,20.0s,baz=108,slow=38
SANI Sanana 72.83 103 P **P** **10 58 31.4 -1.7**
comp=Z,83nm,1.2s,comp=Z,885nm
BASI Bang, Sumba 73.02 113 P **P** **10 58 32.3 -1.9**
comp=Z,97nm,1.1s
EDFI Ende, Flores 73.05 111 P **P** **10 58 31.6 -2.9**
comp=Z,25nm,1.1s,comp=Z,451nm
RES Resolute Bay 73.28 353 LR LR 11 34 04.6
comp=Z,644nm,21.8s,baz=18,slow=38
LBMI Labuha 73.34 101 P **P** **10 58 36.2 0.0**
comp=Z,100nm,1.7s
NLAI Namlea 74.40 103 P **P** **10 58 43.2 +0.8**
comp=Z,18nm,0.9s,comp=Z,3μm
A21K Barrow 75.44 11 P **P** **10 58 47.8 +0.4**
baz=330
BATI Baumata 75.47 111 P **P** **10 58 47.5 -1.0**
comp=Z,182nm,1.0s,comp=Z,2μm
BATI Baumata 75.47 111 P **P** **10 58 47.5 -1.0**
comp=Z,122nm,0.8s,baz=138,slow=1.0,SNR=15
comp=Z,122nm,0.8s
SOEI Soe 75.70 111 P **P** **10 58 48.5 -1.5**
comp=Z,158nm,1.2s,comp=Z,2μm
A22K Sinclair Lake 75.98 10 P **P** **10 58 51.0 +0.4**
baz=332
B18K Kokolik River 76.18 13 P **P** **10 58 52.8 +1.1**
baz=326
C16K Lisburne Hills 76.33 15 P **P** **10 58 54.1 +1.5**
baz=323
B20K Meade River 76.50 12 P **P** **10 58 54.5 +1.0**
baz=330
C17K DeLong Mountai 76.64 14 P **P** **10 58 55.2 +0.8**
baz=325
SWI Sorong 76.65 99 P **P** **10 58 54.2 -1.1**
comp=Z,97nm,1.1s
B22K Teshekpuk Lake 76.81 10 P **P** **10 58 56.2 +0.9**
baz=333,SNR=20
C19K Lookout Ridge 76.83 13 P **P** **10 58 56.4 +0.9**
baz=328
C18K Utuk River 76.90 14 P **P** **10 58 56.4 +0.4**
baz=327
RDOG Red Dog Mine 77.04 14 IAmb IAmb 10 58 59.0
comp=Z,41nm,1.2s
RDOG Red Dog Mine 77.04 14 P **P** **10 58 57.3 +0.7**
baz=325
B21K Ikpikpuk River 77.27 11 P **P** **10 58 59.2 +1.4**
baz=332
D17K Noatak River 77.30 15 P **P** **10 58 59.0 +1.0**
baz=325
BNDI Bandanaira 77.44 103 P **P** **10 58 58.2 -1.5**
comp=Z,364nm,1.1s
A36M Sachs Harbour 77.54 1 P **P** **10 58 59.2 -0.2**
baz=358,SNR=84
D19K Kuna River 77.64 13 P **P** **10 59 00.7 +0.7**
baz=329
C21K Knifeblade Rid 77.65 11 P **P** **10 59 01.0 +1.0**
baz=332,SNR=9.4
C23K Itkillik River 77.69 10 P **P** **10 59 00.9 +0.7**
baz=336
D20K Etivluk River 77.72 12 P **P** **10 59 01.2 +0.7**
baz=330
C24K Franklin Bluff 78.06 9 P **P** **10 59 03.6 +1.3**
baz=337
E18K Tukpahlearik C 78.06 14 IAmb IAmb 10 59 04.8
comp=Z,32nm,1.0s
E18K Tukpahlearik C 78.06 14 P **P** **10 59 02.6 +0.2**
baz=327
E17K Hotham Inlet 78.08 15 P **P** **10 59 02.7 +0.3**
baz=326
E20K Nigu River 78.20 12 P **P** **10 59 03.8 +0.6**
baz=331
D22K Ayikyak River 78.24 11 P **P** **10 59 04.0 +0.6**
baz=334,SNR=18
C26K Camden Bay 78.35 8 P **P** **10 59 04.7 +0.8**
baz=341
E21K Killik River 78.42 11 IAmb IAmb 10 59 06.9
comp=Z,25nm,1.1s
E21K Killik River 78.42 11 P **P** **10 59 04.8 +0.4**
baz=333
D23K Nanushuk River 78.47 10 P **P** **10 59 05.8 +1.3**
baz=336
F15K North Star Dit 78.56 16 P **P** **10 59 05.9 +0.7**
baz=324
D24K Happy Valley 78.57 9 IAmb IAmb 10 59 08.2
comp=Z,20nm,0.9s
D24K Happy Valley 78.57 9 P **P** **10 59 06.0 +0.9**
baz=337
FAKI Fak Fak 78.57 100 P **P** **10 59 07.1 +1.1**
comp=Z,85nm,1.5s,comp=Z,1μm
E19K Redstone River 78.70 13 IAmb IAmb 10 59 08.3
comp=Z,50nm,1.4s
E19K IAMs_20 IAMs_20 11 36 60.0
comp=Z,665nm,22.0s
E19K Redstone River 78.70 13 P **P** **10 59 06.7 +0.8**
baz=330
D25K Kavik River 78.73 8 IAmb IAmb 10 59 09.2
comp=Z,42nm,1.1s
D25K Kavik River 78.73 8 P **P** **10 59 06.5 +0.4**
baz=339
F17K Baldwin Pennin 78.75 15 IAmb IAmb 10 59 08.7
comp=Z,20nm,0.9s
F17K Baldwin Pennin 78.75 15 P **P** **10 59 06.5 +0.4**
baz=327
TOLK Toolik Lake Re 78.93 10 IAmb IAmb 10 59 10.3
comp=Z,45nm,0.9s
TOLK Toolik Lake Re 78.93 10 P **P** **10 59 07.4 +0.2**
baz=337,SNR=25
F18K Selawik 78.95 14 P **P** **10 59 08.0 +0.7**
baz=328
MBWA Marble Bar 79.05 123 P **P** **10 59 06.8 -1.6**
MBWA IAmb IAmb 10 59 09.5
comp=Z,42nm,1.1s
E22K Anaktuvuk Pass 79.06 11 IAmb IAmb 10 59 10.7
comp=Z,31nm,1.1s
E22K Anaktuvuk Pass 79.06 11 P **P** **10 59 08.3 +0.4**
baz=335
F19K Shaleruckik Mo 79.14 13 IAmb IAmb 10 59 10.2
comp=Z,33nm,1.1s
F19K Shaleruckik Mo 79.14 13 P **P** **10 59 07.7 -0.5**
baz=330
G15K Niukluk 79.30 17 P **P** **10 59 09.0 -0.2**
baz=325
ANM Nome 79.31 17 P **P** **10 59 09.7 +0.5**
baz=324
F20K Avaraart Lake 79.35 13 IAMs_20 IAMs_20 11 39 40.0
comp=Z,594nm,20.0s
F20K Avaraart Lake 79.35 13 P **P** **10 59 09.9 +0.5**
baz=331
G16K Koyuk River 79.37 16 IAmb IAmb 10 59 13.2
comp=Z,66nm,1.5s
G16K Koyuk River 79.37 16 P **P** **10 59 09.4 -0.2**
baz=326
PSA00 Pilbara Seismi 79.39 123 IAmb IAmb 10 59 11.3
comp=Z,38nm,1.1s
PSA00 Pilbara Seismi 79.39 123 IAmb IAmb 10 59 11.3
comp=Z,21nm,1.1s
D27M Malcolm River 79.41 7 P **P** **10 59 08.9 -0.9**
baz=344
E23K Chandalar 79.46 10 P **P** **10 59 10.7 +0.5**
baz=337,SNR=33
D28M Stokes Point 79.53 6 P **P** **10 59 10.9 +0.5**
baz=346
F22K John River 79.56 11 P **P** **10 59 11.3 +0.7**
baz=334
F21K Alatna River 79.60 12 P **P** **10 59 11.3 +0.5**
baz=333
E24K Your Creek 79.61 10 IAmb IAmb 10 59 14.2
comp=Z,49nm,1.1s
E24K Your Creek 79.61 10 P **P** **10 59 10.8 -0.1**
baz=338,SNR=31
G17K Kiwalik Mounta 79.67 15 P **P** **10 59 11.3 +0.1**
baz=327
G18K Tagagawik 79.77 14 IAmb IAmb 10 59 13.9
comp=Z,30nm,1.2s
G18K Tagagawik 79.77 14 P **P** **10 59 11.5 -0.2**
baz=329
G19K Purcell Mounta 79.88 14 IAmb IAmb 10 59 14.8
comp=Z,42nm,1.1s
G19K Purcell Mounta 79.88 14 P **P** **10 59 13.0 +0.7**
baz=330
E25K Arctic Village 79.97 9 IAmb IAmb 10 59 15.8
comp=Z,34nm,1.1s
E25K Arctic Village 79.97 9 P **P** **10 59 13.5 +0.7**
baz=340
H16K Elim 80.03 16 P **P** **10 59 13.1 0.0**
baz=326
COLD Coldfoot 80.14 11 P **P** **10 59 14.5 +0.8**
baz=336,SNR=13
E28M Babbage River 80.17 6 IAmb IAmb 10 59 16.9
comp=Z,33nm,1.3s
E28M Babbage River 80.17 6 P **P** **10 59 14.6 +0.8**
baz=345
C36M Paulatuk 80.21 1 IAmb IAmb 10 59 15.7
comp=Z,65nm,1.4s
C36M Paulatuk 80.21 1 P **P** **10 59 13.6 -0.3**
baz=359,SNR=35
G22K Bettles 80.21 11 P **P** **10 59 14.7 +0.7**
baz=335
F24K Squaw Lake 80.22 10 P **P** **10 59 13.8 -0.4**
baz=338
G21K Allakaket 80.23 12 P **P** **10 59 13.4 -0.8**
baz=333
H17K Granite Mounta 80.32 15 IAmb IAmb 10 59 17.2
comp=Z,39nm,1.3s
H17K Granite Mounta 80.32 15 P **P** **10 59 14.3 -0.4**
baz=328
E27K Coleen River 80.37 7 IAmb IAmb 10 59 18.1
comp=Z,45nm,1.3s
E27K Coleen River 80.37 7 P **P** **10 59 15.2 +0.2**
baz=344
F25K Christian River 80.45 9 P **P** **10 59 15.7 +0.2**
baz=340
H18K Honhosa River 80.47 14 IAmb IAmb 10 59 17.5
comp=Z,36nm,1.3s
H18K IAMs_20 IAMs_20 11 41 59.8
comp=Z,547nm,19.0s
H18K Honhosa River 80.47 14 P **P** **10 59 15.5 -0.1**
baz=329
SAUI Saumlaki 80.47 105 P **P** **10 59 17.8 +1.4**
comp=Z,351nm,1.1s,comp=Z,20μm
E29M Blow River 80.52 6 IAmb IAmb 10 59 18.6
comp=Z,35nm,1.2s
E29M Blow River 80.52 6 P **P** **10 59 15.3 -0.5**
baz=347
H19K Roundabout Mou 80.55 14 P **P** **10 59 15.9 0.0**
baz=331,SNR=8.4
F26K Sheenjek River 80.55 8 P **P** **10 59 16.6 +0.6**
baz=341
G23K Bananza Creek 80.64 11 IAmb IAmb 10 59 19.5
comp=Z,24nm,1.1s
G23K Bananza Creek 80.64 11 P **P** **10 59 16.8 +0.3**
baz=336
H20K Anotleneega Mo 80.89 13 P **P** **10 59 17.6 -0.2**
baz=332
INK Inuvik 80.92 4 IAmb IAmb 10 59 20.3
comp=Z,33nm,1.2s
INK Inuvik 80.92 4 P **P** **10 59 17.8 -0.1**
baz=350,SNR=28
INK Inuvik 80.92 4 LR LR 11 39 21.3
comp=Z,171nm,20.9s,baz=0.0,slow=39
I17K Unalakleet 81.03 16 P **P** **10 59 18.6 +0.1**
baz=328
G24K Hadweenzic Riv 81.04 10 P **P** **10 59 18.8 +0.2**
baz=338
GUMO Guam 81.09 80 LR LR 11 36 30.4
comp=Z,116nm,21.8s,baz=100,slow=37
F28M Old Crow 81.10 7 IAmb IAmb 10 59 21.7
comp=Z,25nm,1.1s
F28M Old Crow 81.10 7 P **P** **10 59 18.5 -0.4**
baz=345,SNR=24
H21K Melozitna Rive 81.13 12 IAmb IAmb 10 59 21.9
comp=Z,34nm,1.2s
H21K Melozitna Rive 81.13 12 P **P** **10 59 19.1 0.0**
baz=334,SNR=11
GCSA Galena City Sc 81.14 14 P **P** **10 59 19.2 +0.1**
baz=331
H22K Ishtalitna Cre 81.17 12 P **P** **10 59 19.4 +0.1**
baz=335
G25K Bearman Lake 81.17 9 P **P** **10 59 19.3 +0.1**
baz=340
J14K Nanvaranak Lak 81.26 18 P **P** **10 59 20.0 +0.2**
baz=325
G26K Porcupine Rive 81.30 8 P **P** **10 59 20.2 +0.3**
baz=342
F30M Barrier River 81.46 5 P **P** **10 59 20.7 -0.1**
baz=349
FYU Fort Yukon 81.48 9 IAmb IAmb 10 59 25.0
comp=Z,34nm,1.2s
J16K Anvik River 81.56 16 IAmb IAmb 10 59 24.4
comp=Z,38nm,1.1s
J16K Anvik River 81.56 16 P **P** **10 59 20.9 -0.4**
baz=328
I20K Naaghedeneel 81.59 13 P **P** **10 59 21.3 -0.1**
baz=333
MORW Morawa 81.62 131 P **P** **10 59 21.9 -0.2**
MORW IAmb IAmb 10 59 23.1
comp=Z,37nm,1.4s
K13K Kusilvak Mount 81.64 19 IAmb IAmb 10 59 25.3
comp=Z,50nm,1.4s
K13K Kusilvak Mount 81.64 19 P **P** **10 59 21.6 -0.2**
baz=324
H25L Birch Creek 81.68 9 P **P** **10 59 22.6 +0.7**
baz=340
G27K Doyon Strip 81.69 7 IAmb IAmb 10 59 25.4
comp=Z,28nm,1.2s
G27K Doyon Strip 81.69 7 P **P** **10 59 21.6 -0.5**
baz=344
I21K Tanana 81.71 12 IAmb IAmb 10 59 25.1
comp=Z,28nm,1.4s
I21K Tanana 81.71 12 P **P** **10 59 21.7 -0.4**
baz=335,SNR=6.4
F31M Tsiigehtchic 81.77 4 P **P** **10 59 22.3 -0.1**
F31M Tsiigehtchic 81.77 4 P **P** **10 59 22.7 +0.3**
baz=350,SNR=42
H24K Noodor Dome 81.79 10 IAmb IAmb 10 59 25.9
comp=Z,31nm,1.4s
H24K Noodor Dome 81.79 10 P **P** **10 59 23.1 +0.5**
baz=338
G29M Pine Creek 81.96 6 IAmb IAmb 10 59 26.0
comp=Z,24nm,1.2s
G29M Pine Creek 81.96 6 P **P** **10 59 23.7 +0.3**
baz=347

G30M	tAoh Zraii Nji	82.04	5	IAmb	IAmb	10 59 26.2	
	comp=Z,48nm,1.2s						
G30M	tAoh Zraii Nji	82.04	5	P	P	10 59 23.6	-0.4
	baz=348,SNR=29						
MLY	Manley	82.07	12	IAmb	IAmb	10 59 26.9	
	comp=Z,28nm,1.2s						
MLY	Manley	82.07	12	P	P	10 59 23.8	-0.3
	baz=336,SNR=11						
J19K	Poorman	82.07	14	IAmb	IAmb	10 59 27.0	
	comp=Z,44nm,1.4s						
J19K	Poorman	82.07	14	P	P	10 59 24.3	+0.2
	baz=332						
K15K	Wolf Creek Mou	82.17	17	P	P	10 59 25.3	+0.7
	baz=327						
I23K	Minto, Yukon-K	82.19	11	IAmb	IAmb	10 59 27.6	
	comp=Z,36nm,1.3s						
I23K	Minto, Yukon-K	82.19	11	P	P	10 59 24.4	-0.2
	baz=337,SNR=14						
J20K	Nowinta River	82.21	13	IAmb	IAmb	10 59 27.6	
	comp=Z,47nm,1.4s						
J20K	Nowinta River	82.21	13	P	P	10 59 25.5	+0.7
	baz=333						
SCHQ	Schefferville	82.24	331	P	P	10 59 24.5	-0.7
	comp=Z,7.4nm,0.7s,baz=45,slow=2.1,SNR=9.6						
SCHQ				LR	LR	11 37 28.2	
	comp=Z,95nm,21.1s,baz=45,slow=37						
	comp=Z,7.4nm,0.7s						
G31M	Satah River	82.25	5	P	P	10 59 24.5	-0.4
	baz=350,SNR=32						
H27K	Steamboat Moun	82.26	8	P	P	10 59 25.2	+0.2
	baz=344						
J18K	Innoko River	82.30	15	IAmb	IAmb	10 59 28.1	
	comp=Z,51nm,1.4s						
J18K	Innoko River	82.30	15	P	P	10 59 25.1	-0.2
	baz=331						
PRP	Porcupine Dome	82.43	9	P	P	10 59 25.3	-0.9
PRP				IAmb	IAmb	10 59 29.2	
	comp=Z,29nm,1.2s						
PRP	Porcupine Dome	82.43	9	P	P	10 59 26.2	+0.1
	baz=340,SNR=16						
POKR	Poker Plat Res	82.53	10	IAmb	IAmb	10 59 29.4	
	comp=Z,33nm,1.1s						
POKR	Poker Plat Res	82.53	10	P	P	10 59 25.5	-1.0
	baz=339,SNR=12						
MDM	Murphy Dome	82.55	11	IAmb	IAmb	10 59 29.2	
	comp=Z,43nm,1.1s						
K17K	Iditarod	82.59	16	P	P	10 59 27.2	+0.4
	baz=330						
H29M	Whitestone	82.60	6	IAmb	IAmb	10 59 29.4	
	comp=Z,50nm,1.4s						
H29M	Whitestone	82.60	6	P	P	10 59 26.1	-0.7
	baz=346,SNR=19						
EPYK	Eagle Plains	82.60	6	IAmb	IAmb	10 59 28.9	
	comp=Z,29nm,1.2s						
EPYK	Eagle Plains	82.60	6	P	P	10 59 26.3	-0.5
	baz=348,SNR=8.4						
L14K	Kuka Creek	82.66	18	IAmb	IAmb	10 59 29.6	
	comp=Z,18nm,0.9s						
L14K	Kuka Creek	82.66	18	P	P	10 59 27.7	+0.5
	baz=326						
COLA	College	82.69	11	P	P	10 59 27.6	+0.4
COLA				IAmb	IAmb	10 59 29.6	
	comp=Z,41nm,1.2s						
COLA	College	82.69	11	P	P	10 59 27.8	+0.5
	baz=338						
COLA	College	82.69	11	P	P	10 59 27.7	+0.5
COLA				pmax	pmax		
	comp=Z,41nm,1.3s						
L15K	Ungalak Mounta	82.70	18	P	P	10 59 28.1	+0.8
	baz=327						
NEA2	Nenana	82.75	11	IAmb	IAmb	10 59 29.8	
	comp=Z,16nm,1.1s						
NEA2	Nenana	82.75	11	P	P	10 59 28.1	+0.5
	baz=337,SNR=6.0						
CHUM	Lake Minchumin	82.83	13	P	P	10 59 28.5	+0.5
	baz=335,SNR=9.9						
BPAW	Bear Paw Mtn.	82.88	12	P	P	10 59 28.3	0.0
	baz=336,SNR=19						
TTA	Tatalina	82.92	15	IAmb	IAmb	10 59 31.6	
	comp=Z,48nm,1.5s						
TTA	Tatalina	82.92	15	P	P	10 59 28.9	+0.3
	baz=332,SNR=6.7						
ILAR	Eielson Array	82.94	10	P	P	10 59 27.7	-0.9
	comp=Z,5.1nm,1.0s,baz=333,slow=3.7,SNR=26						
ILAR				PP	PP	11 02 38.3	0.0
	comp=Z,1.6nm,1.0s,baz=330,slow=7.2,SNR=4.6						
ILAR				PKKPbc	PKKPbc	11 17 51.0	-0.8
	comp=Z,0.5nm,0.6s,baz=178,slow=2.6,SNR=7.8						
ILAR				LR	LR	11 41 54.9	
	comp=Z,342nm,18.9s,baz=308,slow=40						
	comp=Z,5.1nm,1.0s						
K20K	Telida	82.95	14	IAmb	IAmb	10 59 31.6	
	comp=Z,25nm,1.1s						
K20K	Telida	82.95	14	P	P	10 59 28.8	+0.1
	baz=333						
MTN	Manton Dam	82.99	109	P	P	10 59 29.3	-0.3
MTN				IAmb	IAmb	10 59 30.4	
	comp=Z,21nm,0.9s						
L17K	Donlin	83.10	16	P	P	10 59 30.3	+0.8
	baz=330						
L16K	Owhat River	83.18	17	P	P	10 59 29.6	-0.2
	baz=329,SNR=6.2						
I28M	Miner Creek	83.19	7	P	P	10 59 30.0	0.0
	baz=345						
M13K	Dall Lake	83.25	19	P	P	10 59 30.6	+0.4
	baz=326						
HDA	Harding Lake	83.27	10	P	P	10 59 30.7	+0.5
	baz=339						
HDA				P	P	10 59 30.7	+0.5
	baz=339						
CAST	Castle Rocks	83.29	13	P	P	10 59 30.4	-0.1
	baz=335,SNR=22						
J25K	Salcha River,	83.31	10	IAmb	IAmb	10 59 33.0	
	comp=Z,34nm,1.3s						
J25K	Salcha River,	83.31	10	P	P	10 59 30.8	+0.3
	baz=340						
M14K	Bethel	83.35	18	P	P	10 59 30.9	+0.2
	baz=327						
L18K	Granite Mounta	83.40	15	IAmb	IAmb	10 59 34.6	
	comp=Z,32nm,1.4s						
L18K	Granite Mounta	83.40	15	P	P	10 59 31.6	+0.6
	baz=331						
I29M	Ogilvie Camp,	83.45	7	IAmb	IAmb	10 59 33.2	
	comp=Z,30nm,1.2s						
I29M	Ogilvie Camp,	83.45	7	P	P	10 59 31.0	-0.3
	baz=346,SNR=20						
MCK	McKinley	83.57	11	P	P	10 59 31.6	-0.3
	baz=337,SNR=9.1						
SMPI	Sarmi	83.59	96	P	P	10 59 33.1	+0.3
	comp=Z,58nm,1.4s,comp=Z,10µm						
TRF	Thorofare Moun	83.60	12	IAmb	IAmb	10 59 36.9	
	comp=Z,31nm,1.4s						
TRF	Thorofare Moun	83.60	12	P	P	10 59 32.4	+0.2
	baz=336						
J26L	Joseph Creek	83.67	9	IAmb	IAmb	10 59 34.8	
	comp=Z,24nm,1.1s						
J26L	Joseph Creek	83.67	9	P	P	10 59 33.1	+0.7
	baz=342						
EGAK	Eagle	83.70	8	IAmb	IAmb	10 59 35.0	
	comp=Z,28nm,1.2s						
EGAK	Eagle	83.70	8	P	P	10 59 33.0	+0.5
	baz=344,SNR=13						
M15K	Kasigluk River	83.74	18	P	P	10 59 33.4	+0.7
	baz=328						
PPLA	Purkeypile	83.75	13	P	P	10 59 33.4	+0.5
	baz=335						
I30M	Mount Dempster	83.76	6	P	P	10 59 32.5	-0.5
	baz=348,SNR=14						
L20K	Farewell, AK	83.78	14	P	P	10 59 33.1	+0.2
	baz=333						
L19K	White Mountain	83.84	15	P	P	10 59 33.9	+0.6
	baz=332						
RND	Reindeer	83.89	12	IAmb	IAmb	10 59 35.1	
	comp=Z,36nm,1.2s						
M16K	Timber Creek	83.90	17	IAmb	IAmb	10 59 49.4	
	comp=Z,28nm,1.4s						
M16K	Timber Creek	83.90	17	P	P	10 59 34.3	+0.7
	baz=329						
M17K	Holitna River	83.94	16	P	P	10 59 34.5	+0.7
	baz=330						
K24K	Donnelly Dome	84.02	10	P	P	10 59 34.2	+0.1
	baz=340,SNR=6.7						
SCRK	Sand Creek	84.11	9	P	P	10 59 35.0	+0.3
	baz=342,SNR=26						
N14K	Kuskokwak Cree	84.12	19	P	P	10 59 35.4	+0.7
	baz=327						
M19K	Big River Lodg	84.19	14	P	P	10 59 35.9	+0.9
	baz=333						

M18K	Stony River	84.24	15	P	P	10 59 36.3	+1.0
	baz=332						
K27K	Chicken	84.31	8	P	P	10 59 36.5	+0.9
	baz=343						
N15K	Kwethluk River	84.34	18	P	P	10 59 36.4	+0.5
	baz=328						
J30M	Hart River	84.40	6	P	P	10 59 36.9	+0.7
	baz=348						
N16K	Nishlik Lake	84.42	17	P	P	10 59 36.8	+0.5
	baz=329						
DHY	Denali Highway	84.45	11	IAmb	IAmb	10 59 38.5	
	comp=Z,21nm,1.3s						
DHY	Denali Highway	84.45	11	P	P	10 59 36.7	+0.2
	baz=339,SNR=6.6						
M20K	Styx River	84.47	14	P	P	10 59 36.4	-0.2
	baz=334						
WAT1	Susitna Watana	84.48	12	P	P	10 59 36.8	+0.2
	baz=338						
CUT	Chulitna	84.56	13	P	P	10 59 37.0	+0.1
	baz=336						
DAWY	Dawson	84.60	7	P	P	10 59 37.1	0.0
	baz=346,SNR=20						
SKT	Skwentna	84.71	13	P	P	10 59 37.1	-0.6
	baz=335,SNR=12						
N17K	Nushagak Hills	84.77	16	P	P	10 59 37.1	-0.8
	baz=331						
O14K	Tigyukauivet M	84.80	19	P	P	10 59 37.7	-0.5
	baz=327						
PAX	Paxson	84.85	10	P	P	10 59 38.3	-0.2
	baz=340						
WAT6	Susitna Watana	84.85	11	P	P	10 59 38.0	-0.6
	baz=338,SNR=7.2						
N18K	Kilae Creek	84.94	16	P	P	10 59 38.9	0.0
	baz=332						
NWAO	Narrogin (SRO)	84.94	133	P	P	10 59 37.7	-1.5
NWAO				IAMs_20	IAMs_20	11 38 21.3	
	comp=Z,176nm,19.0s						
NWAO	Narrogin (SRO)	84.94	133	IAmb	IAmb	10 59 40.0	
	comp=Z,135nm,1.0s						
NWAO	Narrogin (SRO)	84.94	133	P	P	10 59 37.7	-1.5
NWAO				pmax	pmax		
	comp=Z,41nm,1.0s						
NWAO				MLR	MLR		
	comp=Z,200nm,19.0s						
NWAO	Narrogin (SRO)	84.94	133	LR	LR	11 34 15.8	
	comp=Z,70nm,20.2s,baz=244,slow=33						
K29M	Barlow Dome	85.01	7	IAmb	IAmb	10 59 42.1	
	comp=Z,40nm,1.5s						
K29M	Barlow Dome	85.01	7	P	P	10 59 39.6	+0.3
	baz=347						
L26K	Log Cabin Wild	85.11	9	P	P	10 59 39.7	0.0
	baz=342						
N19K	Bonanza Creek	85.14	15	IAmb	IAmb	10 59 43.4	
	comp=Z,14nm,0.8s						
N19K	Bonanza Creek	85.14	15	P	P	10 59 40.7	+0.8
	baz=333						
M22K	Willow	85.19	13	P	P	10 59 40.1	+0.1
	baz=336,SNR=6.4						
O15K	Ungalikthiuk R	85.26	18	P	P	10 59 41.4	+0.9
	baz=329						
L27K	Beaver Creek,	85.28	9	IAmb	IAmb	10 59 43.7	
	comp=Z,39nm,1.3s						
L27K	Beaver Creek,	85.28	9	P	P	10 59 41.1	+0.5
	baz=344						
N20K	Mount Spurr	85.28	14	P	P	10 59 41.2	+0.5
	baz=335						
SPCR	Spurr Chakacha	85.28	14	P	P	10 59 41.2	+0.6
	baz=335						
SUA	Susitna One	85.33	13	P	P	10 59 41.6	+0.6
	baz=336,SNR=6.8						
O16K	Kokwok River B	85.35	17	IAmb	IAmb	10 59 44.0	
	comp=Z,38nm,1.3s						
O16K	Kokwok River B	85.35	17	P	P	10 59 41.2	+0.3
	baz=330						
MAYO	Mayo, Yukon	85.40	6	P	P	10 59 41.2	+0.1
	baz=349						
HARP	HAARP	85.44	10	P	P	10 59 41.8	+0.4
	baz=341,SNR=5.6						
O17K	Koliganek Bris	85.45	17	P	P	10 59 42.3	+0.9
	baz=331						
SML	Sawmill	85.47	12	IAmb	IAmb	10 59 43.8	
	comp=Z,35nm,1.1s						
SML	Sawmill	85.47	12	P	P	10 59 41.6	0.0
	baz=338,SNR=5.9						
PMR	Palmer	85.52	12	P	P	10 59 42.5	+0.8
	baz=337,SNR=7.9						
M24K	Tolsona, Glenn	85.55	11	P	P	10 59 42.3	+0.3
	baz=340,SNR=12						
M23K	Glacier View	85.59	12	P	P	10 59 42.8	+0.7
	baz=339						
L29M	L29M	85.66	7	P	P	10 59 43.0	+0.5
	baz=347						
O19K	Port Alsworth	85.73	15	P	P	10 59 43.6	+0.8
	baz=333						
M26K	Nabesna, AK	85.75	9	IAmb	IAmb	10 59 45.8	
	comp=Z,19nm,1.1s						
M26K	Nabesna, AK	85.75	9	P	P	10 59 43.4	+0.4
	baz=342,SNR=8.2						
KNK	Knik Glacier	85.81	12	IAmb	IAmb	10 59 45.9	
	comp=Z,39nm,1.2s						
KNK	Knik Glacier	85.81	12	P	P	10 59 43.6	+0.4
	baz=338						
O18K	Koktuh Hills	85.83	16	P	P	10 59 43.3	0.0
	baz=332						
RC01	Rabbit Creek A	85.87	13	P	P	10 59 44.0	+0.5
	baz=337						
M27K	Edge Creek, AK	85.95	9	P	P	10 59 43.9	-0.1
	baz=344						
BVCY	Beaver Creek	86.03	8	P	P	10 59 44.0	-0.2
	baz=344						
P17K	Kvichak River	86.12	17	P	P	10 59 44.6	-0.1
	baz=331						
KLU	Klutina	86.17	11	IAmb	IAmb	10 59 48.2	
	comp=Z,38nm,1.2s						
KLU	Klutina	86.17	11	P	P	10 59 45.7	+0.6
	baz=340,SNR=11						
N25K	Chitina, Valde	86.28	10	P	P	10 59 45.0	-0.6
	baz=341						
M29M	Somme Creek	86.28	7	IAmb	IAmb	10 59 48.8	
	comp=Z,27nm,1.2s						
M29M	Somme Creek	86.28	7	P	P	10 59 45.5	-0.1
	baz=346						
M30M	Minto, Yukon	86.32	7	P	P	10 59 45.8	0.0
	baz=348						
PWL	Port Wells	86.35	12	P	P	10 59 45.7	-0.2
	baz=338						
WRGLY	Wrigley	86.36	0	IAmb	IAmb	10 59 49.8	
	comp=Z,28nm,1.1s						
WRGLY	Wrigley	86.36	0	P	P	10 59 45.7	-0.2
	baz=359,SNR=18						
O22K	Cooper Landing	86.44	13	P	P	10 59 46.1	-0.2
	baz=337						
Q16K	King Salmon	86.52	17	P	P	10 59 46.7	0.0
	baz=331						
GLI	Glacier Island	86.55	12	P	P	10 59 46.2	-0.7
	baz=339						
YUK3	Moose Creek	86.69	8	P	P	10 59 48.4	+0.6
	baz=345,SNR=13						
MCARA	McCarthy VSAT	86.72	10	IAmb	IAmb	10 59 51.2	
	comp=Z,19nm,1.2s						
MCARA	McCarthy VSAT	86.72	10	P	P	10 59 47.8	+0.1
	baz=342						
SEW	Seward	86.84	13	P	P	10 59 48.2	-0.1
	baz=337						
YKA	Yellowknife Ar	86.87	356	*i* P	P	10 59 48.0	-0.3
YKA				pmax	pmax		
	comp=Z,11nm,1.0s						
YKA	Yellowknife Ar	86.87	356	P	P	10 59 48.1	-0.3
	comp=Z,7.6nm,0.9s,baz=356,slow=5.1,SNR=74						
YKA				LR	LR	11 42 55.3	
	comp=Z,346nm,20.7s,baz=10.0,slow=39						
	comp=Z,7.6nm,0.9s						
BMRM	Bremner River	86.88	11	P	P	10 59 48.2	-0.4
	baz=341,SNR=7.7						
M31M	Drury Creek, Y	86.91	5	IAmb	IAmb	10 59 51.0	
	comp=Z,41nm,1.4s						
M31M	Drury Creek, Y	86.91	5	P	P	10 59 48.4	-0.2
	baz=350,SNR=11						
FARO	Faro, Yukon	86.96	5	IAmb	IAmb	10 59 51.5	
	comp=Z,29nm,1.3s						
FARO	Faro, Yukon	86.96	5	P	P	10 59 49.1	+0.3
	baz=351,SNR=11						
EYAK	Cordova Ski Ar	87.09	11	P	P	10 59 50.4	+0.9
	baz=340						
BARN	Barnard Glacie	87.23	9	IAmb	IAmb	10 59 53.3	
	comp=Z,37nm,1.4s						
YUK8	Steele Glacier	87.25	8	P	P	10 59 51.6	+1.0
	baz=345						

CRQM	Cirque	87.31	10	IAmb	IAmb	10 59 53.2	
	comp=Z,24nm,1.3s						
CRQE	Cirque	87.32	10	P	P	10 59 51.0	+0.2
	baz=342						
YUK4	Talbot Arm	87.33	8	P	P	10 59 51.3	+0.3
	baz=346,SNR=7.1						
CTG	Chitna Glacier	87.36	9	P	P	10 59 51.5	+0.5
	baz=344,SNR=6.2						
CTGM	Chitina Glacie	87.36	9	IAmb	IAmb	10 59 54.0	
	comp=Z,30nm,1.2s						
N30M	Aishikik Lake	87.39	7	P	P	10 59 51.6	+0.6
	baz=348						
N31M	Braeburn, Yuko	87.49	6	P	P	10 59 51.9	+0.4
	baz=349,SNR=5.7						
GRNC	Granite Creek	87.53	9	IAmb	IAmb	10 59 54.6	
	comp=Z,16nm,1.2s						
LOGN	Logan Glacier	87.54	9	IAmb	IAmb	10 59 54.7	
	comp=Z,22nm,1.0s						
O28M	Mount Upton	87.70	9	P	P	10 59 53.6	+0.8
	baz=345						
FCC	Fort Churchill	87.71	346	P	P	10 59 52.3	-0.2
FCC				IAmb	IAmb	10 59 54.6	
	comp=Z,16nm,1.0s						
FCC	Fort Churchill	87.71	346	P	P	10 59 52.3	-0.2
FCC				pmax	pmax		
	comp=Z,16nm,1.0s						
YUK6	Outpost Mounta	87.75	8	P	P	10 59 53.9	+0.9
	baz=346						
TGTN	Hyland Airport	87.95	3	P	P	10 59 54.8	+1.1
	baz=355,SNR=9.5						
HYT	Haines Junctio	87.96	7	P	P	10 59 54.5	+0.6
	baz=347,SNR=20						
N32M	Quiet Lake	88.05	5	IAmb	IAmb	10 59 56.1	
	comp=Z,22nm,1.3s						
N32M	Quiet Lake	88.05	5	P	P	10 59 54.5	+0.3
	baz=351						
CHGN	Chignik	88.12	19	P	P	10 59 54.6	+0.1
	baz=330						
O30N	Mendenhall	88.16	7	IAmb	IAmb	10 59 56.5	
	comp=Z,11nm,1.1s						
O30N	Mendenhall	88.16	7	P	P	10 59 55.0	+0.3
	baz=348						
KDAK	Kodiak Island	88.30	16	P	P	10 59 56.2	+0.9
	baz=335						
SDPT	Sand Point	88.34	21	P	P	10 59 56.2	+0.6
	baz=328						
PINM	Pinnacle	88.35	9	P	P	10 59 56.6	+1.0
	baz=345						
WHY	Whitehorse	88.39	6	P	P	10 59 56.0	+0.1
	baz=350						
P30M	Million Dollar	88.71	7	P	P	10 59 58.3	+1.0
	baz=348						
P33M	Teslin, Yukon	89.00	5	IAmb	IAmb	11 00 00.9	
	comp=Z,20nm,1.3s						
P33M	Teslin, Yukon	89.00	5	P	P	10 59 59.6	+0.8
	baz=351,SNR=7.8						
WTLY	Watson Lake, Y	89.34	3	P	P	11 00 01.0	+0.7
	baz=355						
FLDN	Fort Liard	89.36	0	IAmb	IAmb	11 00 03.8	
	comp=Z,23nm,1.0s						
FLDN	Fort Liard	89.36	0	P	P	11 00 01.6	+1.3
	baz=359						
WB0	Warramunga Arr	89.38	113	IAmb	IAmb	11 00 08.6	
	comp=Z,16nm,0.9s						
WRA	Warramunga Arr	89.44	114	P	P	11 00 00.1	-1.2
	comp=Z,15nm,0.9s,baz=312,slow=4.2,SNR=74						
WRA				PKKPbc	PKKPbc	11 17 35.7	-0.4
	comp=Z,1.1nm,0.8s,baz=126,slow=2.5,SNR=12						
	comp=Z,15nm,0.9s						
WB2	Warramunga Arr	89.45	114	IAmb	IAmb	11 00 02.2	
	comp=Z,24nm,0.8s						
KOTAN	Kotaneelee Air	89.46	1	P	P	11 00 01.4	+0.7
	baz=359						
SKAG	Skagway	89.53	6	P	P	11 00 01.3	+0.2
	baz=349						
P32M	Atlin	89.55	6	P	P	11 00 01.8	+0.5
	baz=350						
WR0	Warramunga Arr	89.60	113	P	P	11 00 01.3	-0.8
WR0				IAmb	IAmb	11 00 02.7	
	comp=Z,12nm,0.8s						
R33M	Jennings River	89.94	4	P	P	11 00 04.3	+1.1
	baz=353						
LIRD	Liard River Hi	90.15	2	P	P	11 00 05.3	+1.3
	baz=357						
Q32M	Nakina River	90.28	5	P	P	11 00 06.3	+1.4
	baz=352						
FORT	Forrest	90.81	126	P	P	11 00 07.6	+0.1
DLBC	Dease Lake	90.95	4	IAmb	IAmb	11 00 11.9	
	comp=Z,14nm,1.3s						
DLBC	Dease Lake	90.95	4	P	P	11 00 09.0	+1.1
	baz=354						
DLBC	Dease Lake	90.95	4	LR	LR	11 45 29.7	
	comp=Z,141nm,18.7s,baz=339,slow=38						
AS31	Alice Springs	91.12	117	P	P	11 00 07.8	-1.3
ASAR	Alice Springs	91.12	117	P	P	11 00 07.6	-1.4
ASAR	Alice Springs	91.12	117	P	P	11 00 07.8	-1.3
	comp=Z,18nm,0.9s,baz=306,slow=4.1,SNR=90						
ASAR				PKKPbc	PKKPbc	11 17 32.8	+0.8
	comp=Z,0.3nm,0.8s,baz=114,slow=2.6,SNR=5.9						
	comp=Z,18nm,0.9s						
S34M	Telegraph Cree	91.41	5	IAmb	IAmb	11 00 12.7	
	comp=Z,19nm,1.4s						
S34M	Telegraph Cree	91.41	5	P	P	11 00 11.0	+1.2
	baz=353,SNR=6.5						
LBNH	Lisbon	92.19	326	P	P	11 00 15.0	+1.3
	baz=42						
T35M	Bob Quinn	92.39	4	P	P	11 00 15.1	+0.7
	baz=354						
FFC	Flin Flon	93.04	348	P	P	11 00 17.0	-0.5
FFC				IAmb	IAmb	11 00 19.4	
	comp=Z,9.0nm,1.0s						
FFC	Flin Flon	93.04	348	P	P	11 00 17.0	-0.5
FFC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
COEN	Coen	93.50	104	IAmb	IAmb	11 00 21.2	
	comp=Z,16nm,1.1s						
L61B	Northampton	93.89	325	P	P	11 00 21.4	-0.2
	baz=41						
V35K	Ketchikan	93.94	5	P	P	11 00 22.0	+0.5
	baz=352						
PMG	Port Moresby	94.58	98	P	P	11 00 24.8	-0.4
PMG	Port Moresby	94.58	98	P	P	11 00 24.8	-0.4
PMG				pmax	pmax		
	comp=Z,56nm,1.1s						
PAL	Palisades	95.58	325	P	P	11 00 29.0	-0.4
	baz=40						
RCBR	Riachuelo	95.73	267	LR	LR	11 43 48.2	
	comp=Z,148nm,19.2s,baz=64,slow=36						
ULM	Lac du Bonnet	95.94	343	IAmb	IAmb	11 00 31.9	
	comp=Z,10nm,0.8s						
ULM	Lac du Bonnet	95.94	343	*ce*P	P	11 00 30.0	-0.9
ULM	Lac du Bonnet	95.94	343	P	P	11 00 29.8	-1.1
	comp=Z,8.3nm,0.8s,baz=48,slow=4.1,SNR=17						
ULM				LR	LR	11 46 41.9	
	comp=Z,227nm,19.9s,baz=32,slow=37						
	comp=Z,8.3nm,0.8s						
EDM	Edmonton	96.00	354	IAmb	IAmb	11 00 33.5	
	comp=Z,12nm,1.0s						
EYMN	Ely	96.83	339	IAmb	IAmb	11 00 37.6	
	comp=Z,15nm,1.5s						
AGMN	Agassiz Nation	97.74	342	P	P	11 00 38.7	-0.3
	baz=23						
MAW	Mawson	98.12	178	LR	LR	11 39 23.4	
	comp=Z,146nm,19.4s,baz=336,slow=32						
STKA	Stephens Creek	101.18	120⇓	*e*P	Pdif	11 00 54.0	-0.6
SMRT	St. Maarten	104.96	302	IAMs_20	IAMs_20	11 54 38.6	
	comp=Z,158nm,18.0s						
MOD	Modoc Plateau	107.69	358	IAMs_20	IAMs_20	11 44 33.1	
	comp=Z,105nm,18.0s						
OK038	West end E0370	109.47	340	IAMs_20	IAMs_20	11 54 01.9	
	comp=Z,306nm,20.0s						
NVAR	Mina Array Bea	111.07	356	PKiKP	PKiKP	11 05 39.2	+1.2
	comp=Z,0.3nm,0.5s,baz=318,slow=2.0,SNR=3.6						
DZM	Mont Dzumac	116.83	101	*e*LR	LR	11 41 09.9	
	comp=Z,134nm,25.4s						
TX31	Lajitas Ar. Si	117.58	341		PKPdf	11 05 50.1	-0.5
TX32	Lajitas Array	117.58	341		PKPdf	11 05 50.0	-0.5
TXAR	Lajitas Array	117.58	341	PKP	PKPdf	11 05 49.1	-1.5
	comp=Z,0.5nm,0.6s,baz=168,slow=1.3,SNR=11						
QSPA	South Pole Qui	120.56	180	PKP	PKPdf	11 05 53.6	-1.4
	comp=Z,5.9nm,0.9s,baz=270,slow=1.2,SNR=17						
CPUP	Villa Florida	123.16	257	PKP	PKPdf	11 06 01.1	0.0
	comp=Z,2.1nm,1.0s,baz=0.0,slow=4.0,SNR=3.6						
LCR2	La Lucha 2	125.27	311		PKiKP	11 06 06.0	-0.1
HUEH	Huehuetenango	125.27	322		PKPdf	11 06 04.1	-1.7
SNET	Serv Nac Est T	125.37	319	IAMs_20	IAMs_20	11 56 58.7	
	comp=Z,267nm,20.0s						
JTS	Las Juntas de	125.46	312	IAMs_20	IAMs_20	11 57 31.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,259nm,22.0s						
OTAV	**Otavalo**	**127.96**	**298**	PKPdf	**PKPdf**	**11 06 10.5**	**-0.8**
OTAV	**Otavalo**	**127.96**	**298**	PKIKP	**PKPdf**	**11 06 10.5**	**-0.8**
LPAZ	**La Paz**	**128.44**	**273**	PKPdf	**PKPdf**	**11 06 10.9**	**-1.3**
LPAZ	**La Paz**	**128.44**	**273**	PKIKP	**PKPdf**	**11 06 10.9**	**-1.3**
LPAZ	**La Paz**	**128.44**	**273**	PKP	**PKPdf**	**11 06 11.5**	**-0.7**
	comp=Z,3.8nm,1.0s,baz=21,slow=2.8,SNR=8.1						
TRQA	**Tornquist**	**130.17**	**244**	PKPdf	**PKiKP**	**11 06 14.6**	**-0.4**
TRQA	**Tornquist**	**130.17**	**244**	PKIKP	**PKiKP**	**11 06 14.6**	**-0.4**
PLCA	**Paso Flores**	**137.09**	**242**	PKIKP	**PKPdf**	**11 06 27.0**	**-0.2**
PLCA	**Paso Flores**	**137.09**	**242**	PKP	**PKPdf**	**11 06 26.9**	**-0.2**
	comp=Z,3.4nm,1.0s,baz=132,slow=4.6,SNR=4.0						
PPT2	**Papeete2**	**152.25**	**68**	*e*LR	LR	11 57 44.2	
	comp=Z,276nm,27.5s						
PPT2				*e*LR	LR	11 57 45.0	
	comp=Z,301nm,24.2s						
TBI	**Tubuai**	**155.06**	**79**	*e*LR	LR	11 58 42.0	
	comp=Z,936nm,25.2s						

IDC 02 10:49:42.4±307.0**,62°.33N×43°.22E,h0km,Error ellipse: s-maj=161.6km s-min=103.0km az=33.0,Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I37NO	**I37NO**	**12.10**	**314**	I	I	12 01 30.0	
	baz=114,slow=329,SNR=0.4						
I31KZ	**AKTYUBINSK INF**	**14.45**	**139**	I	I	12 15 10.0	
	0.2nm,0.9s,baz=334,slow=324,SNR=7.4						
I46RU	**ZALESOVO INFRA**	**23.12**	**92**	I	I	13 12 04.6	
	0.1nm,2.3s,baz=310,slow=324,SNR=1.8						
I18DK	**QAANAAQ INFRAS**	**34.51**	**339**	I	I	14 20 40.0	
	0.1nm,1.0s,baz=41,slow=334,SNR=2.3						
I34MN	**SONGINO INFRAS**	**37.33**	**83**	I	I	14 37 40.0	
	baz=313,slow=334,SNR=4.7						
I53US	**FAIRBANKS INFR**	**52.83**	**6**	I	I	16 13 10.0	
	baz=358,slow=335,SNR=2.0						

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*IDC **02** 10:50:39.2±0.9,30°.68N×57°.35E,h0km,mb4.1/10, mbtmp4.1/11,ML4.4/1,MS3.9/3,Error ellipse: s-maj=23.9km s-min=19.9km az=74.0*
*TEH **02** 10:50:39.8,30°.71N×57°.37E,h8km±117km,ML4.4*
ISC 02 10:50:41.7±0.7**,30°.69N**±0°.04×**57°.32E**±0°.05**,h15km,n26,** σ**0.99**/25**,mb4.1**/10**,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.73**	**292**	Pg	**Pg**	**10 50 54.7**	**-1.2**
KHGB	**Koh Gabri**	**0.79**	**247**	Pg	**Pg**	**10 50 56.0**	**-1.1**
CHMN	**Cheshme madani**	**0.85**	**167**	Pg	**Pg**	**10 50 56.8**	**-1.5**
TVBK	**TV Kerman**	**0.85**	**214**	Pg	**Pg**	**10 50 58.0**	**-0.3**
NGRK	**Negar Kerman**	**1.17**	**206**	Pg	**Pn**	**10 51 03.7**	**-0.1**
IBAF	**Bafgh**	**1.75**	**301**	Pg	**Pn**	**10 51 12.6**	**+1.0**
KBAM	**BAM**	**1.84**	**147**	Pn	**Pn**	**10 51 13.8**	**+1.0**
BSRN	**Basiran**	**2.00**	**50**	Pn	**Pn**	**10 51 15.6**	**+0.6**
IKOO	**Kooshah**	**2.25**	**39**	Pn	**Pn**	**10 51 18.7**	**+0.2**
IMEH	**Mehriz**	**2.42**	**287**	Pn	**Pn**	**10 51 22.8**	**+1.8**
NHDN	**Nehbandan**	**2.44**	**73**	Pn	**Pn**	**10 51 22.7**	**+1.6**
ITEG	**Tejag**	**2.51**	**29**	Pn	**Pn**	**10 51 22.7**	**+0.6**
BAGH	**Bagheran - Bir**	**2.63**	**37**	Pn	**Pn**	**10 51 23.3**	**-0.6**
WSAR	**Wadi Sarin**	**7.52**	**171**	Pn	**Pn**	**10 52 31.6**	**+0.8**
	5.9nm,0.3s,baz=190,slow=13,SNR=1.8						
WSAR				Sn	**Sn**	**10 53 58.0**	**+2.2**
	0.8nm,0.3s,baz=80,slow=12,SNR=1.2						
	20nm,0.4s						
KVAR	**Kislovodsk Arr**	**17.58**	**323**	LR	LR	11 03 51.7	
	comp=Z,638nm,19.1s,baz=86,slow=45						
BRTR	**Keskin Array B**	**21.30**	**301**	P	**P**	**10 55 28.7**	**+0.9**
	4.0nm,0.9s,baz=127,slow=13,SNR=4.0						
	4.0nm,0.9s						
KURBB	**Kurchatov Arra**	**25.43**	**32**	P	**P**	**10 56 08.9**	**+0.2**
	3.1nm,0.8s,baz=232,slow=8.4,SNR=4.8						
	3.1nm,0.8s						
ZALV	**Zalesovo Beam**	**30.53**	**32**	P	**P**	**10 56 54.0**	**-0.2**
	2.4nm,0.5s,baz=243,slow=10,SNR=4.4						
	2.4nm,0.5s						
FINES	**FINESS Array B**	**36.93**	**335**	P	**P**	**10 57 49.6**	**-0.1**
	3.2nm,0.7s,baz=128,slow=12,SNR=3.8						
	3.2nm,0.7s						
GERES	**GERESS Array B**	**37.51**	**312**	P	**P**	**10 57 55.1**	**+0.2**
	1.9nm,0.8s,baz=95,slow=9.0,SNR=3.4						
	1.9nm,0.8s						
EKA	**Eskdalemuir Ar**	**48.75**	**319**	P	**P**	**10 59 25.3**	**-0.2**
	0.3nm,0.4s,baz=94,slow=7.7,SNR=3.6						
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**53.94**	**264**	P	**P**	**11 00 04.5**	**-0.6**
	2.9nm,0.7s,baz=58,slow=7.6,SNR=5.1						
	2.9nm,0.7s						
BOSA	**Boshof**	**66.43**	**211**	P	**P**	**11 01 30.3**	**-0.2**
	2.3nm,1.0s,baz=27,slow=6.8,SNR=1.7						
	2.3nm,1.0s						
WRA	**Warramunga Arr**	**89.44**	**114**	P	**P**	**11 03 37.5**	**-0.8**
	0.6nm,0.7s,baz=313,slow=4.1,SNR=2.0						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**91.12**	**117**	P	**P**	**11 03 45.8**	**-0.4**
	1.3nm,0.9s,baz=309,slow=4.8,SNR=3.6						
ASAR				LR	LR	11 47 35.5	
	comp=Z,42nm,18.9s,baz=315,slow=38						
	1.3nm,0.9s						
CTA	**Charters Tower**	**99.11**	**108**	LR	LR	11 56 13.1	
	comp=Z,45nm,18.1s,baz=308,slow=40						

HEL 02 10:52:44.7±0.3**,67°.79N×20°.29E,h0km,ML1.6, Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.70**	**68**	PG	Pg	10 52 57.3	-0.7
LANU				SG	Sg	10 53 06.9	-0.1
KIF	**Kilpisjarvi**	**1.23**	**9**	*e*P	Pg	10 53 08.1	-0.1
KIF	**Kilpisjarvi**	**1.23**	**9**	PG	Pg	10 53 07.9	-0.4
KIF				SG	Sg	10 53 22.9	-1.3
KIF				MSG		10 53 23.1	
	comp=Z,6.6nm,0.2s						
PAJU	**Pajala**	**1.34**	**124**	PG	Pg	10 53 08.4	-1.9
	baz=304						
PAJU				SN	Sn	10 53 28.8	-0.3
HEF	**Hetta**	**1.41**	**62**	PG	Pn	10 53 10.0	-1.6
HEF				MSG		10 53 27.2	
	comp=Z,3.2nm,0.2s						
HEF				SN	Sb	10 53 30.1	-0.2
ERTU	**Ertsjaerv**	**1.45**	**148**	PG	Pn	10 53 11.2	-0.9
ERTU				SN	Sn	10 53 34.1	+2.3
KLF	**Kolari**	**1.52**	**110**	PN	Pn	10 53 12.4	-0.7
KLF				MSG		10 53 30.3	
	comp=Z,4.0nm,0.2s						
KLF				SN	Sn	10 53 34.6	+1.0
KTK1	**Kautokeino**	**1.64**	**40**	PG	Pn	10 53 14.3	-0.5
KTK1				SN	Sg	10 53 37.6	+0.3
TRO	**Tromso**	**1.91**	**346**	PG	Pn	10 53 19.2	+0.7
TRO				SG	Sn	10 53 43.3	+0.1
KALU	**Kalix**	**2.29**	**147**	PG	Pn	10 53 24.8	+1.2
	baz=327						
TOF	**Tornio**	**2.34**	**135**	PG	Pn	10 53 26.0	+1.6
TOF				MSG		10 53 54.1	
	comp=Z,2.2nm,0.2s						
TOF				SG	Sg	10 53 59.0	-0.8
SGF	**Sodankyl**	**2.42**	**96**	PG	Pb	10 53 28.0	-0.9
SGF				SG	Sb	10 53 59.1	-0.1
RNF	**Rovaniemi**	**2.53**	**115**	PG	Pn	10 53 28.5	+1.5
RNF				SG	Sb	10 54 03.6	+1.1
ARA0	**ARCESS Array S**	**2.59**	**45**	*e*P	Pn	10 53 28.2	+0.4
ARA0	**ARCESS Array S**	**2.59**	**45**	PB	Pn	10 53 28.2	+0.4
	baz=228						
ARA0				SB	Sn	10 54 00.7	+0.8
KEV	**Kevo**	**3.14**	**48**	SB	Sn	10 54 15.1	+1.7
KEV				MSG		10 54 16.9	
	comp=Z,1.6nm,0.2s						
BURU	**Burvik**	**3.25**	**172**	PB	Pn	10 53 39.9	+3.1
VRF	**Varrio**	**3.54**	**86**	PG	Pb	10 53 47.8	-0.4
OBF0	**Syolatti, Pyha**	**3.68**	**152**	PN	Pn	10 53 41.6	-1.1
OLKF	**Oulanka, Finla**	**3.86**	**108**	PB	Pn	10 53 49.2	+4.0
UMAU	**Umeaa**	**3.93**	**177**	PB	Pn	10 53 50.0	+3.9
	baz=357						

IDC 02 10:53:41.1±2.2**,1°.67N×126°.00E,h0km,mb3.3**/3**, mbtmp3.3**/3**,MS3.7**/1**,Error ellipse: s-maj=182.5km s-min=27.9km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.98**	**160**	P	P	10 58 47.4	-0.1
	0.5nm,0.5s,baz=338,slow=10,SNR=14						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**26.33**	**163**	P	P	10 59 18.9	-0.1
	0.2nm,0.4s,baz=343,slow=8.4,SNR=4.9						
	0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**31.34**	**304**	LR	LR	11 15 43.9	
	comp=Z,137nm,18.2s,baz=285,slow=42						
MKAR	**Makanchi Array**	**58.84**	**326**	P	P	11 03 41.7	+0.2
	0.2nm,0.4s,baz=126,slow=7.5,SNR=2.2						
	0.2nm,0.4s						

IDC 02 10:57:57.5±350.0**,66°.96N×71°.19E,h0km,Error ellipse: s-maj=227.9km s-min=113.3km az=63.0,Northwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**14.62**	**147**	I	I	12 24 00.0	
	0.1nm,1.3s,baz=340,slow=331,SNR=2.1						
I34MN	**SONGINO INFRAS**	**26.40**	**119**	I	I	13 39 30.0	
	baz=326,slow=334,SNR=0.6						
I18DK	**QAANAAQ INFRAS**	**33.81**	**346**	I	I	14 20 20.0	
	baz=20,slow=337,SNR=0.8						
I53US	**FAIRBANKS INFR**	**45.51**	**22**	I	I	15 40 20.0	
	baz=349,slow=332,SNR=2.2						
I10CA	**LAC DU BONNET**	**62.76**	**351**	I	I	17 26 10.0	
	baz=357,slow=343,SNR=1.9						

IDC 02 11:03:30.6±999.0**,63°.30N×51°.48E,h0km,Error ellipse: s-maj=542.8km s-min=215.0km az=135.0,Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**13.40**	**162**	I	I	12 23 42.2	
	baz=347,slow=326						
I46RU	**ZALESOVO INFRA**	**19.49**	**103**	I	I	13 02 36.5	
	0.1nm,1.7s,baz=315,slow=335,SNR=1.7						
I34MN	**SONGINO INFRAS**	**33.50**	**91**	I	I	14 27 10.0	
	baz=315,slow=335,SNR=0.5						

TEH 02 11:10:16.5,30°.72N×57°.33E,h8km±28km,ML3.7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.73**	**290**	Pg	Pb	11 10 31.9	+0.3
KHGB	**Koh Gabri**	**0.81**	**245**	Pg	Pb	11 10 33.3	+0.3
CHMN	**Cheshme madani**	**0.88**	**168**	Pg	Pb	11 10 34.2	0.0
TVBK	**TV Kerman**	**0.88**	**214**	Pg	Pn	11 10 35.3	-0.2
NGRK	**Negar Kerman**	**1.19**	**206**	Pg	Pn	11 10 40.8	+1.0
NGRK				Sg	Sn	11 10 58.1	+1.8
IBAF	**Bafgh**	**1.74**	**300**	Pg	Pg	11 10 50.2	+0.3
KBAM	**BAM**	**1.85**	**148**	Pn	Pg	11 10 51.8	-0.3
BSRN	**Basiran**	**1.98**	**51**	Pn	Pb	11 10 53.2	+0.4
IKOO	**Kooshah**	**2.22**	**40**	Pn	Pb	11 10 56.8	-0.2
TPRV	**Parvadeh(Tabas**	**2.37**	**347**	Pn	Pb	11 10 58.6	-0.8
IMEH	**Mehriz**	**2.42**	**287**	Pn	Pb	11 10 59.5	-1.0
NHDN	**Nehbandan**	**2.43**	**73**	Pn	Pb	11 10 59.6	-0.9
ITEG	**Tejag**	**2.48**	**29**	Pn	Pb	11 10 60.0	-1.5
TKDS	**Koohdasht(Taba**	**2.89**	**357**	Pn	Pb	11 11 06.3	-2.1
IDAH	**Dahanechah**	**2.95**	**46**	Pn	Pb	11 11 07.4	-2.1
AFRZ	**Afriz**	**3.05**	**27**	Pn	Pn	11 11 07.9	+2.7
ZHDN	**Zahedan**	**3.29**	**113**	Pn	Pn	11 11 11.4	+2.9
ISAD	**Sadrabad**	**3.34**	**292**	Pn	Pn	11 11 12.4	+3.2
SHRT	**Shahrakht**	**3.85**	**40**	Pn	Pn	11 11 18.0	+2.0
IZEF	**Zefreh**	**4.78**	**298**	Pn	Pn	11 11 32.9	+3.9
KRSH	**Karshahi**	**5.46**	**308**	Pn	Pn	11 11 42.6	+4.3

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*IDC **02** 11:37:54.2±1.5,5°.87S×149°.83E,h0km,mb3.4/2, mbtmp3.7/4,ML1.6/1,MS3.1/1,Error ellipse: s-maj=80.4km s-min=19.3km az=136.0*
ISC 02 11:37:57.7±1.6**,5°.6S**±0°.3×**149°.5E**±0°.2**,h35km,n6,**σ**1.06**/5**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.79**	**64**	Pn	**Pn**	**11 38 39.0**	**-0.9**
	228nm,0.5s,baz=48,slow=23,SNR=16						
KRVT				Sn	**Sn**	**11 39 13.5**	**+1.0**
	12nm,0.3s,baz=280,slow=1.6,SNR=3.7						
PMG	**Port Moresby**	**4.48**	**211**	Pn	Pn	11 39 04.1	+1.0
	2.3nm,0.3s,baz=48,slow=6.7,SNR=8.3						
PMG				Sn	**Sn**	**11 39 54.2**	**+0.1**
	3.7nm,0.3s,baz=108,slow=22,SNR=7.4						
	5.7nm,0.3s						
GUMO	**Guam**	**19.57**	**346**	LR	LR	11 49 01.1	
	comp=Z,56nm,20.0s,baz=109,slow=33						
WRA	**Warramunga Arr**	**20.55**	**225**	P	Pn	11 42 34.6	-1.2
	2.6nm,0.8s,baz=52,slow=11,SNR=31						
	2.6nm,0.8s						
ASAR	**Alice Springs**	**23.46**	**218**	P	**P**	**11 43 04.7**	**+0.5**
	0.5nm,0.6s,baz=55,slow=9.3,SNR=7.8						
	0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**147.39**	**286**	PKPbc	**PKPab**	**11 57 41.0**	**+0.2**
	0.4nm,0.6s,baz=70,slow=3.7,SNR=4.3						

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*NEIC **02** 11:40:27.9±2.2,6°.01S±0°.09×154°.6E±0°.1,h35km±2km, mb4.1/8,Error ellipse: s-maj=21.9km s-min=7.6km az=48.0*
*IDC **02** 11:40:32.6±4.2,6°.23S×154°.53E,h58km±33km,mb3.5/8, mbtmp3.9/11,ML3.4/3,MS3.8/2,Error ellipse: s-maj=32.2km s-min=16.9km az=93.0*
ISC 02 11:40:29.5±0.7**,6°.19S**±0°.08×**154°.67E**±0°.09**,h35km,n32,** σ**1.59**/29**,mb3.9**/10**,Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.19**	**308**		**Pn**	**11 41 14.7**	**-2.5**
KRVT	**Keravat (AS076**	**3.23**	**305**	P	**Pn**	**11 41 18.9**	**+1.1**
	13nm,0.3s,baz=45,slow=23,SNR=7.1						
KRVT				S	**Sn**	**11 41 57.0**	**+1.9**
	135nm,0.5s,baz=224,slow=24,SNR=2.1						
	156nm,0.7s						
HNR	**Honiara**	**6.14**	**122**	LR	LR	11 44 28.4	
	comp=Z,2μm,20.9s,baz=334,slow=38						
PMG	**Port Moresby**	**8.09**	**246**		**Pn**	**11 42 25.1**	**+0.5**
PMG	**Port Moresby**	**8.09**	**246**	P	**Pn**	**11 42 26.0**	**+1.4**
	8.5nm,0.3s,baz=54,slow=11,SNR=11						
PMG				S	**Sn**	**11 43 54.8**	**-0.2**
	31nm,1.0s,baz=168,slow=23,SNR=6.9						
	44nm,0.5s						
CTA	**Charters Tower**	**16.05**	**210**	P	**Pn**	**11 44 13.7**	**+1.0**
	0.1nm,0.3s,baz=2.6,slow=7.5,SNR=8.0						
	5.6nm,0.8s						
CTAO	**Charters Tower**	**16.05**	**210**	P	**Pn**	**11 44 13.4**	**+0.7**
CTAO				IAmb	IAmb	11 44 18.2	
	comp=Z,7.7nm,0.9s						
DZM	**Mont Dzumac**	**19.46**	**145**	P	**P**	**11 44 53.1**	**-0.4**
DZM				IAmb	IAmb	11 45 29.0	
	comp=Z,21nm,1.2s						
WR0	**Warramunga Arr**	**23.86**	**233**	P	**P**	**11 45 37.4**	**-2.6**
WR0				IAmb	IAmb	11 45 54.9	
	comp=Z,6.8nm,0.8s						
WB0	**Warramunga Arr**	**23.88**	**234**	P	**P**	**11 45 38.2**	**-1.9**
WB0				IAmb	IAmb	11 46 16.0	
	comp=Z,8.6nm,1.2s						
WB2	**Warramunga Arr**	**24.01**	**233**	P	**P**	**11 45 39.4**	**-1.9**
WRA	**Warramunga Arr**	**24.02**	**233**	P	**P**	**11 45 38.6**	**-2.8**
WRA	**Warramunga Arr**	**24.02**	**233**	P	**P**	**11 45 40.8**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=58,slow=9.1,SNR=4.8						
	comp=Z,1.2nm,0.9s						
AS31	**Alice Springs**	**26.47**	**227**	P	**P**	**11 46 01.1**	**-2.5**
ASAR	**Alice Springs**	**26.47**	**227**	P	**P**	**11 45 59.8**	**-3.8**
ASAR	**Alice Springs**	**26.47**	**227**	P	**P**	**11 46 03.0**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=57,slow=8.9,SNR=4.8						
	comp=Z,0.6nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**27.25**	**26**	T	T	12 14 47.2	
	baz=202,slow=74						
H11S2	**WAKE ISLAND Hy**	**27.25**	**26**	T	T	12 14 33.9	
	baz=202,slow=74,SNR=5.2						
H11S1	**WAKE ISLAND Hy**	**27.26**	**26**	T	T	12 14 43.6	
	baz=202						
NWAO	**Narrogin (SRO)**	**43.78**	**228**	LR	LR	12 05 42.8	
	comp=Z,55nm,19.4s,baz=217,slow=35						
CMAR	**Chiang Mai Arr**	**60.15**	**295**	P	**P**	**11 50 34.7**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=112,slow=5.1,SNR=4.6						
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**68.49**	**327**	P	**P**	**11 51 28.2**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=108,slow=4.7,SNR=3.4						
	comp=Z,0.5nm,0.7s						
JIRN	**Jiri**	**74.09**	**301**	*e*P	**P**	**11 52 03.0**	**0.0**
	comp=Z,15nm,0.8s						
GUN	**Gumba**	**74.43**	**301**	*e*P	**P**	**11 52 05.0**	**0.0**
DANN	**Dangsing**	**76.35**	**301**	*e*P	**P**	**11 52 15.1**	**-0.8**
	comp=Z,12nm,0.6s						
PYUN	**Piuthan**	**76.94**	**301**	*e*P	**P**	**11 52 18.9**	**-0.3**
	comp=Z,26nm,0.9s						
MKAR	**Makanchi Array**	**82.59**	**319**	P	**P**	**11 52 49.5**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=103,slow=5.2,SNR=3.9						
	comp=Z,0.4nm,0.7s						
ILAR	**Eielson Array**	**82.75**	**22**	P	**P**	**11 52 49.0**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=246,slow=5.6,SNR=3.3						
	comp=Z,0.6nm,0.9s						
QSPA	**South Pole Qui**	**83.78**	**180**	P	**P**	**11 52 55.1**	**0.0**
QSPA	**South Pole Qui**	**83.78**	**180**	P	**P**	**11 52 55.7**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=224,slow=1.0,SNR=11						
	comp=Z,1.4nm,0.8s						
NVAR	**Mina Array Bea**	**91.48**	**52**	P	**P**	**11 53 35.1**	**+2.2**
	comp=Z,0.5nm,0.7s,baz=248,slow=6.7,SNR=5.2						
	comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**152.49**	**287**	PKPbc	**PKPbc**	**12 00 22.8**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=51,slow=3.1,SNR=7.0						

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*DSN **02** 11:50:15.2±1.0,30°.96N×57°.81E,h10km,ML3.2/5,Error ellipse: s-maj=91.8km s-min=9.0km az=103.0*
*IDC **02** 11:50:15.5±1.1,30°.46N×57°.37E,h0km,mb3.6/8, mbtmp3.7/11,ML3.3/3,MS3.9/3,Error ellipse: s-maj=26.3km s-min=21.4km az=131.0*
*TEH **02** 11:50:17.8,30°.77N×57°.30E,h11km±44km,ML3.9*
ISC 02 11:50:19.0±0.7**,30°.77N**±0°.04×**57°.30E**±0°.04**,h10km,n52,** σ**1.16**/48**,mb3.6**/9**,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.68**	**287**	Pg	Pg	11 50 30.5	-1.8
KHGB	**Koh Gabri**	**0.81**	**241**	Pg	**Pg**	**11 50 32.9**	**-1.8**
TVBK	**TV Kerman**	**0.91**	**211**	Pg	**Pg**	**11 50 35.8**	**-0.8**
CHMN	**Cheshme madani**	**0.93**	**167**	Pg	**Pg**	**11 50 35.8**	**-1.2**
NGRK	**Negar Kerman**	**1.23**	**204**	Pg	**Pg**	**11 50 41.5**	**-1.1**
NGRK				Sg	**Sg**	**11 50 57.3**	**-1.3**
IBAF	**Bafgh**	**1.69**	**299**	Pg	**Pn**	**11 50 49.7**	**+0.9**
KBAM	**BAM**	**1.91**	**148**	Pn	**Pn**	**11 50 51.9**	**+0.2**
BSRN	**Basiran**	**1.96**	**52**	Pn	**Pn**	**11 50 52.9**	**+0.4**
IKOO	**Kooshah**	**2.20**	**41**	Pn	**Pn**	**11 50 56.7**	**+0.9**
TPRV	**Parvadeh(Tabas**	**2.31**	**347**	Pn	**Pn**	**11 50 57.9**	**+0.7**
IMEH	**Mehriz**	**2.38**	**286**	Pn	**Pn**	**11 50 59.1**	**+0.7**
ITEG	**Tejag**	**2.45**	**30**	Pn	**Pn**	**11 50 59.6**	**+0.3**
BAGH	**Bagheran - Bir**	**2.58**	**39**	Pn	**Pn**	**11 51 01.4**	**+0.3**
KHNJ	**Kahnooj**	**2.84**	**173**	Pn	**Pn**	**11 51 05.9**	**+1.5**
TKDS	**Koohdasht(Taba**	**2.84**	**357**	Pn	**Pn**	**11 51 04.5**	**0.0**
IDAH	**Dahanechah**	**2.94**	**47**	Pn	**Pn**	**11 51 06.9**	**+0.9**
AFRZ	**Afriz**	**3.02**	**28**	Pn	**Pn**	**11 51 07.7**	**+0.7**
ISAD	**Sadrabad**	**3.29**	**291**	Pn	**Pn**	**11 51 11.7**	**+0.8**
ZHDN	**Zahedan**	**3.34**	**113**	Pn	**Pn**	**11 51 11.1**	**-0.3**
GENO	**Geno**	**3.50**	**197**	Pn	**Pn**	**11 51 15.2**	**+1.5**
SHRT	**Shahrakht**	**3.83**	**41**	Pn	**Pn**	**11 51 17.9**	**-0.1**
ANAR	**Anarak**	**3.87**	**309**	Pn	**Pn**	**11 51 19.9**	**+1.2**
IRAM	**Ramesheh**	**4.33**	**285**	Pn	**Pn**	**11 51 25.9**	**+0.7**
IZEF	**Zefreh**	**4.73**	**298**	Pn	**Pn**	**11 51 31.6**	**+0.9**
KLNJ	**Kolanjah**	**4.91**	**274**	Pn	**Pn**	**11 51 34.1**	**+0.8**
TBJM	**Torbat-e-JAM**	**5.16**	**29**	Pn	**Pn**	**11 51 37.2**	**+0.8**
KRSH	**Karshahi**	**5.41**	**307**	Pn	**Pn**	**11 51 40.0**	**+0.2**
MSFE	**Esma-Masafi**	**5.49**	**191**	P	**Pn**	**11 51 41.0**	**+0.2**
MSFE				S	**Sn**	**11 52 48.6**	**+4.5**
ISFB	**Sefidab**	**5.56**	**311**	Pn	**Pn**	**11 51 42.9**	**+1.0**
SBZV	**Sabzevar**	**5.61**	**3**	Pn	**Pn**	**11 51 42.4**	**-0.3**
IAKL	**Akhelmad**	**5.94**	**11**	Pn	**Pn**	**11 51 48.7**	**+1.4**
NAZ	**Nazwa, Dubai**	**5.94**	**195**	P	**Pn**	**11 51 47.6**	**+0.6**
HATD	**Hatta, Dubai**	**6.01**	**190**	P	**Pn**	**11 51 48.9**	**+0.8**
ASHO	**Ashiyiah**	**6.16**	**191**	P	**Pn**	**11 51 49.8**	**-0.4**
FAQ	**Al Faqa, Dubai**	**6.19**	**195**	P	**Pn**	**11 51 51.1**	**+0.7**
IKRD	**Kardeh**	**6.27**	**17**	Pn	**Pn**	**11 51 51.8**	**0.0**
IDMV	**Damavand**	**6.51**	**319**	Pn	**Pn**	**11 51 55.2**	**0.0**
GEYT	**Alibeck**	**7.17**	**5**	Pn	**Pn**	**11 52 07.0**	**+3.1**
	1.0nm,0.3s,baz=182,slow=13,SNR=2.0						
	1.4nm,0.3s						
WSAR	**Wadi Sarin**	**7.60**	**171**	Pn	Pn	11 52 03.4	-6.4
	0.1nm,0.3s,baz=5.7,slow=10,SNR=1.7						
	2.6nm,0.8s						
GNI	**Garni**	**13.85**	**316**	LR	LR	12 00 06.9	
	comp=Z,468nm,18.5s,baz=155,slow=42						
AKTO	**Aktyubinsk**	**19.65**	**1**	P	**P**	**11 54 48.2**	**+0.4**
	0.2nm,0.3s,baz=191,slow=11,SNR=4.0						
	1.5nm,0.6s						
BRTR	**Keskin Array B**	**21.24**	**301**	P	**P**	**11 55 05.7**	**+0.4**
	1.1nm,0.8s,baz=99,slow=15,SNR=3.9						
	1.1nm,0.8s						
BVAR	**Borovoye Array**	**24.20**	**19**	P	**P**	**11 55 36.2**	**+0.7**
	1.0nm,0.6s,baz=197,slow=4.6,SNR=4.3						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**25.05**	**43**	P	**P**	**11 55 42.7**	**-0.7**
	0.5nm,0.7s,baz=232,slow=9.7,SNR=4.9						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**25.38**	**33**	P	**P**	**11 55 46.7**	**+0.5**
	0.6nm,0.6s,baz=232,slow=9.0,SNR=6.4						
	0.6nm,0.6s						
IDI	**Anoyia**	**27.47**	**288**	LR	LR	12 09 26.8	
	comp=Z,157nm,20.4s,baz=78,slow=42						
ZALV	**Zalesovo Beam**	**30.48**	**33**	P	**P**	**11 56 32.0**	**+0.2**
	1.9nm,0.7s,baz=242,slow=10.0,SNR=7.7						
	1.9nm,0.7s						
FINES	**FINESS Array B**	**36.86**	**335**	P	**P**	**11 57 27.1**	**-0.1**
	1.8nm,0.8s,baz=155,slow=10,SNR=3.9						
	1.8nm,0.8s						
DAVOX	**Davos/Dischmat**	**39.64**	**308**	LR	LR	12 17 31.5	
	comp=Z,212nm,19.7s,baz=98,slow=41						
TORD	**Torodi Ar. Bea**	**53.94**	**264**	P	**P**	**11 59 41.6**	**-1.5**
	0.9nm,0.7s,baz=51,slow=8.4,SNR=7.4						
	0.9nm,0.7s						
PETK	**Petropavlovsk-**	**71.79**	**39**	P	**P**	**12 01 41.3**	**-0.3**
	8.1nm,0.9s,baz=272,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**89.48**	**114**	P	P	12 03 13.6	-3.1
	0.2nm,0.7s,baz=319,slow=4.2,SNR=1.7						
	0.2nm,0.7s						

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*GII **02** 11:57:08.7±0.0,39°.97N×48°.39E,h1km*
*DSN **02** 11:57:52.2±1.9,37°.27N×43°.36E,h10km,mb4.8/10,Error ellipse: s-maj=35.6km s-min=4.2km az=87.0*
*AFAD **02** 11:57:53.3±0.0,37°.64N×44°.98E,h2km±2km,MW4.7*
*NAO **02** 11:57:56.9,37°.63N×44°.68E,h0km,mb4.1*
*IDC **02** 11:57:57.6±0.6,37°.64N×44°.69E,h0km,mb4.2/23, mbtmp4.3/36,ML4.1/10,MS3.7/33,Error ellipse: s-maj=10.6km s-min=8.6km az=143.0*
*MOS **02** 11:57:58.2±1.8,37°.63N×44°.68E,h10km,mb4.6/21,Error ellipse: s-maj=5.8km s-min=3.7km az=100.1*
*TEH **02** 11:57:58.5,37°.83N×44°.76E,h6km±44km,ML4.5*
*NEIC **02** 11:58:00.2±2.2,37°.72N±0°.05×44°.74E±0°.07,h10km±1km, mb4.4/38,Error ellipse: s-maj=9.5km s-min=8.1km az=51.0*
*AZER **02** 11:58:03.5±0.1,37°.65N×44°.79E,h2km,Error ellipse: s-maj=1.0km s-min=0.9km az=68.0*
*GCMT **02** 11:58:04.2±0.5,37°.79N±0°.06×44°.66E±0°.03,h13km±1km, MW4.8/72,Moment Tensor Solution. s12,c12; s72,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.26±.17; $M_{\theta\theta}$-0.22±.10; $M_{\phi\phi}$1.48±.11; $M_{r\theta}$-0.95±.35; $M_{\theta\phi}$-0.43±.06; $M_{\phi r}$0.03±.19; Best double couple: $M_0$1.72000×10^{16} NP1:ϕ_s138.00000°,δ58.00000°,λ-127.00000°. NP2: ϕ_s13.00000°,δ47.00000°,λ-46.00000°. Principal axes: T 1.6090, Plg6.0000°, Azm254.0000°; N 0.2260, Plg31.0000°, Azm160.0000°; P -1.8300, Plg59.0000°, Azm354.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 02 11:57:59.2±0.6**,37°.68N**±0°.02×**44°.77E**±0°.02**,h10km**±4km**, n436,**σ**2.08**/476**,mb4.4**/63**,MS3.7**/33**,17C-20D, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOVA	**Hakkari_Yksek**	**0.39**	**256**	P	**Pg**	**11 58 04.2**	**-2.8**
YOVA				S	**Sg**	**11 58 09.0**	**-3.2**
YOVA				*i* AML	AML	11 58 15.0	
	comp=N,2μm,0.3s						
YOVA				*i* AML	AML	11 58 16.0	
	comp=E,2μm,0.5s						
ISHB	**Shabestar**	**0.90**	**48**	Pg	**Pg**	**11 58 13.4**	**-3.2**
ISHB				Sg	**Sg**	**11 58 25.4**	**-3.0**
IAZR	**Azarshahr**	**0.96**	**90**	Pg	**Pg**	**11 58 17.2**	**-0.5**

CUKT Cukurca 1.02 245 P **Pg** 11 58 17.0 -1.8
CUKT S **Sn** 11 58 33.1 -1.0
CUKT *i* AML AML 11 58 37.0
comp=E,1µm,0.6s
CUKT *i* AML AML 11 58 43.0
comp=N,1µm,1.2s
OZAP Van, Ozalp-Mer 1.15 328 P **Pg** 11 58 17.8 -3.5
OZAP S **Sn** 11 58 40.3 +2.9
OZAP *i* AML AML 11 58 45.0
comp=N,7µm,0.9s
OZAP *i* AML AML 11 58 55.0
comp=E,8µm,1.1s
IMRD Marand 1.27 35 Pg **Pn** 11 58 20.2 -2.8
VANB Van 1.42 310 P **Pn** 11 58 20.9 -4.2
VANB Van 1.42 310 Pg **Pn** 11 58 21.8 -3.3
AKDM Akdamar-Van 1.55 295 P **Pn** 11 58 24.5 -2.5
AKDM Akdamar-Van 1.55 295 Pg **Pn** 11 58 25.0 -2.0
ORD Ordubad 1.57 37 P **Pg** 11 58 32.8 +3.4
SNR=430
ORD S **Sg** 11 58 54.8 +5.0
NAX Nakhchivan 1.59 21 P **Pg** 11 58 33.2 +3.5
SNR=889
NAX S **Sg** 11 58 55.6 +5.1
NAX Nakhchivan 1.59 21 P **Pg** 11 58 33.3 +3.5
CLDR Caldiran 1.60 336 P **Pn** 11 58 26.1 -1.7
CLDR Caldiran 1.60 336 P **Pn** 11 58 25.0 -2.7
CLDR S **Sg** 11 58 50.8 0.0
CLDR *i* AML AML 11 58 54.0
comp=E,6µm,0.9s
CLDR *i* AML AML 11 58 55.0
comp=N,7µm,0.8s
CLDR Caldiran 1.60 336 Pg **Pn** 11 58 26.8 -0.9
SDS1 Sardasht. Az. 1.64 159 Pg **Pg** 11 58 31.3 +0.7
MAKU Maku 1.67 358 Pg **Pn** 11 58 27.5 -1.1
ERCV ERCIS-VAN 1.74 320 *eP* **Pn** 11 58 29.7 +0.1
PERV Siirt/Pervari- 1.78 279 P **Pn** 11 58 29.9 -0.2
PERV *i* AML AML 11 59 01.0
comp=E,7µm,0.8s
PERV *i* AML AML 11 59 04.0
comp=N,9µm,0.9s
SBZ Shahbuz 1.82 20 P **Pg** 11 58 36.3 +2.3
SNR=704
SBZ S **Sg** 11 59 01.2 +3.5
SIRT Sirnak 1.86 265 P **Pn** 11 58 30.4 -0.7
SIRT Sirnak 1.86 265 Pn **Pn** 11 58 30.8 -0.3
SIRT Sirnak 1.86 265 Pn **Pb** 11 58 31.3 -2.0
IHRS Heris 1.91 70 Pn **Pb** 11 58 32.7 +0.8
ADCV BITLIS_Adilcev 1.96 306 P **Pb** 11 58 33.9 -1.2
ADCV *i* AML AML 11 59 06.0
comp=N,1µm,0.9s
ADCV *i* AML AML 11 59 13.0
comp=E,2µm,1.4s
IHSH Hashtrud 2.02 100 Pn **Pb** 11 58 35.9 -0.3
HYR Heyderabad 2.03 2 P **Pg** 11 58 39.4 +1.2
SNR=270
HYR S **Sg** 11 59 06.8 +2.2
BLIS Bitlis-Merkez 2.22 290 P **Pn** 11 58 37.1 +1.0
BLIS *i* AML AML 11 59 12.0
comp=E,1µm,1.3s
BLIS *i* AML AML 11 59 16.0
comp=N,1.6nm,0.9s
MLAZ Malazgirt-MUS 2.27 311 *eP* **Pn** 11 58 36.3 -0.6
MLAZ Malazgirt-MUS 2.27 311 Pn **Pn** 11 58 37.3 +0.5
ISRB Sarab 2.30 86 Pn **Pb** 11 58 39.5 -1.4
DORK Agr/Tutak/Do 2.31 318 P **Pn** 11 58 36.3 -1.1
DORK S **Sb** 11 59 10.8 +1.3
DORK *i* AML AML 11 59 17.0
comp=E,2µm,1.0s
DORK *i* AML AML 11 59 29.0
comp=N,2µm,1.0s
GURO Guroymak-BITLI 2.32 293 *eP* **Pn** 11 58 38.2 +0.6
GURO Guroymak-BITLI 2.32 293 Pn **Pn** 11 58 38.6 +1.1
GURO Guroymak-BITLI 2.32 293 Pn **Pn** 11 58 37.9 +0.4
TASB TASBURUN-IGDIR 2.33 350 *eP* **Pn** 11 58 37.7 0.0
AGRB Hanur-Agry 2.35 324 *eP* **Pn** 11 58 37.7 -0.2
AGRB Hanur-Agry 2.35 324 Pn **Pn** 11 58 38.5 +0.5
GNI Garni 2.46 360 Pn **Pb** 11 58 41.8 -1.8
GNI Garni 2.46 360 P **Pn** 11 58 40.3 +0.8
GNI S **Sg** 11 59 19.5 +1.2
GNI Garni 2.46 360 P **Pb** 11 58 44.4 +0.8
GNI S **Sg** 11 59 22.7 +4.3
GNI Garni 2.46 360 *d iP* **Pn** 11 58 40.3 +0.8
GNI Garni 2.46 360 Pn **Pb** 11 58 42.8 -0.8
22nm,0.3s,baz=180,slow=11,SNR=53
GNI Sn **Sb** 11 59 14.1 +0.1
46nm,0.3s,baz=213,slow=10,SNR=5.0
602nm,0.8s
QRD Qoradiz 2.67 48 P **Pb** 11 58 47.8 +0.7
SNR=117
QRD S **Sb** 11 59 22.0 +2.0
MIDY Mardin/Midyat- 2.69 265 P **Pn** 11 58 41.9 -0.7
MIDY S **Sb** 11 59 21.3 +0.7
MIDY *i* AML AML 11 59 36.0
comp=E,1µm,1.0s
MIDY *i* AML AML 11 59 41.0
comp=N,1µm,0.8s
GRMI Germi 2.71 65 Pn **Pn** 11 58 44.6 +1.7
MUSM Mu-Merkez 2.77 293 P **Pn** 11 58 45.1 +1.5
MUSM *i* AML AML 11 59 36.0
comp=E,532nm,1.2s
MUSM *i* AML AML 11 59 42.0
comp=N,584nm,1.6s
SVAN Silvan-Diyarba 2.86 280 *eP* **Pn** 11 58 44.1 -0.8
SVAN Silvan-Diyarba 2.86 280 P **Pn** 11 58 46.7 +1.9
SVAN *i* AML AML 11 59 30.0
comp=N,315nm,1.4s
SVAN *i* AML AML 11 59 32.0
comp=E,296nm,0.5s
SVAN Silvan-Diyarba 2.86 280 Pn **Pn** 11 58 45.8 +0.9
LRK Lerik 2.98 70 P **Pb** 11 58 51.7 -0.7
SNR=221
LRK S **Sb** 11 59 28.7 -0.1
BLQ Beylaqan 2.98 46 P **Pb** 11 58 52.2 -0.2
SNR=34
BLQ S **Sb** 11 59 29.7 +0.8
VRTB Varto-Mus 2.99 301 *eP* **Pn** 11 58 47.5 +0.8
VRTB Varto-Mus 2.99 301 P **Pn** 11 58 47.5 +0.8
VRTB *i* AML AML 11 59 27.0
comp=E,474nm,1.2s
VRTB *i* AML AML 11 59 29.0
comp=N,930nm,1.6s
YRD Yardimli 3.00 65 P **Pb** 11 58 52.0 -0.7
SNR=215
YRD S **Sb** 11 59 29.5 0.0
AGDM Agdam 3.03 36 P **Pb** 11 58 53.0 -0.3
SNR=61
AGDM S **Sb** 11 59 31.2 +0.8
GDB GEDABAY 3.13 14 P **Pb** 11 58 54.6 -0.4
SNR=72
GDB S **Sb** 11 59 34.1 +0.8
BRDA Brd 3.19 35 P **Pb** 11 58 55.1 -0.8
SNR=48
BRDA S **Sb** 11 59 35.0 +0.3
GANJ Ganja 3.20 22 P **Pb** 11 58 55.5 -0.6
SNR=27
GANJ S **Sb** 11 59 35.7 +0.6
GANJ Ganja 3.20 22 P **Pb** 11 58 55.4 -0.6
KARS Kars 3.22 336 *eP* **Pn** 11 58 52.1 +2.2
KARS Kars 3.22 336 **Pn** 11 58 52.1 +2.2
KARS Kars 3.22 336 P **Pn** 11 58 52.1 +2.2
KOPR Koprukoy-ERZUR 3.24 316 *eP* **Pn** 11 58 52.4 +2.2
KGS1 Ghasr-e-Shirin 3.24 168 Pn **Pb** 11 58 53.8 -2.9
GLBA Clilabad 3.24 60 P **Pb** 11 58 55.5 -1.3
SNR=81
GLBA S **Sb** 11 59 35.8 -0.6
IDHR Dehrash 3.25 156 Pn **Pb** 11 58 54.0 -3.1
ILIN Lien 3.28 147 Pn **Pb** 11 58 54.4 -3.1
ASTR Astara 3.29 73 P **Pb** 11 58 56.0 -1.6
SNR=57
ASTR S **Sb** 11 59 36.6 -1.2
GAS1 Astara - Iran 3.29 76 Pn **Pn** 11 58 52.3 +1.5
LKRN Lenkeran, Azer 3.32 71 P **Pb** 11 58 56.4 -1.7
SNR=53
LKRN S **Sb** 11 59 37.4 -1.2
LKRN Lenkeran, Azer 3.32 71 P **Pb** 11 58 56.4 -1.7
QZX Qazax, Azerbai 3.40 8 P **Pb** 11 58 58.1 -1.5
SNR=70
QZX S **Sb** 11 59 40.6 -0.4
SENK Senkaya-Erzuru 3.43 328 *eP* **Pb** 11 59 01.5 +1.3
MAZI Mazidag 3.44 268 *eP* **Pn** 11 58 52.6 -0.3
MAZI Mazidag 3.44 268 Pn **Pn** 11 58 54.7 +1.8
ZRD Zardab 3.45 40 P **Pb** 11 58 58.6 -1.7
SNR=69
ZRD S **Sb** 11 59 41.4 -0.8

BNGB Bingl 3.47 293 *eP* **Pn** 11 58 53.1 -0.2
HANI Diyarbakir_Han 3.52 283 P **Pn** 11 58 54.0 0.0
MNGR Mingechevir, A 3.57 30 P **Pb** 11 59 00.5 -2.0
SNR=54
MNGR S **Sb** 11 59 44.7 -1.1
MNGR Mingechevir, A 3.57 30 P **Pb** 11 59 00.4 -2.0
SAAT Saatly 3.59 52 P **Pb** 11 59 00.4 -2.3
SAAT S **Sb** 11 59 44.7 -1.6
IGHG Ghaleghazi 3.65 156 Pn **Pb** 11 58 59.5 -4.4
DYBB Diyarbakir 3.67 276 *eP* **Pn** 11 58 52.6 -3.5
YEDI Yedisu-Bingol 3.75 299 *eP* **Pn** 11 58 57.8 +0.7
KDMR Kurdemir 3.78 44 P **Pb** 11 59 03.2 -2.8
SNR=16
KDMR S **Sb** 11 59 49.5 -2.3
AKH Akhalkalaki 3.85 346 *eP* **Pn** 11 59 01.4 +2.8
AKH Akhalkalaki 3.85 346 Pn **Pn** 11 58 60.0 +1.4
AKH Akhalkalaki 3.85 346 P **Pn** 11 59 00.0 +1.4
KCHF Cheshme Sefid, 3.87 151 Pn **Pb** 11 59 02.6 -5.0
SEKA Sheki 3.99 27 P **Pb** 11 59 06.8 -2.9
SNR=43
SEKA S **Sb** 11 59 56.0 -2.0
SEKA Sheki 3.99 27 P **Pb** 11 59 06.7 -2.9
ALIB Äli-Bayra 4.01 54 P **Pb** 11 59 06.2 -3.8
SNR=13
ALIB S **Sb** 11 59 54.9 -3.6
QBL Gabala 4.04 35 P **Pb** 11 59 06.7 -3.6
SNR=33
QBL S **Sb** 11 59 56.1 -3.1
IBZA Bozab 4.07 141 Pn **Pn** 11 59 05.3 +3.6
IML Ismayilli 4.08 39 P **Pb** 11 59 07.3 -3.8
SNR=6.5
IML S **Sb** 11 59 57.0 -3.6
JIR1 Jirandeh 4.14 102 Pn **Pn** 11 59 05.3 +2.8
IKOM Komasi 4.15 147 Pn **Pn** 11 59 06.1 +3.4
ZKTA Zakatala 4.20 19 P **Pb** 11 59 09.3 -3.9
SNR=10.0
ZKTA S **Sb** 12 00 00.5 -3.4
ZKTA Zakatala 4.20 19 P **Pb** 11 59 09.2 -3.9
ILBA Ilam Banvizeh 4.22 163 Pn **Pn** 11 59 05.8 +2.3
PQL Pirkuli 4.29 43 P **Pb** 11 59 10.2 -4.6
SNR=5.9
PQL S **Sb** 12 00 02.2 -4.6
GBS Qobustan 4.32 47 P **Pb** 11 59 10.5 -4.7
SNR=9.3
GBS S **Sb** 12 00 02.6 -4.7
XNQ Khinaliq 4.35 36 P **Pb** 11 59 11.2 -4.7
SNR=11
XNQ S **Sb** 12 00 04.0 -4.5
BAYT Aydıntepe-Bayb 4.50 308 *eP* **Pn** 11 59 08.8 +1.2
ATGJ Altiaghaj 4.53 44 P **Pn** 11 59 13.4 +5.5
SNR=5.8
ATGJ S **Sb** 12 00 08.0 -5.6
HAGD Aghdareh 4.54 128 Pn **Pn** 11 59 11.3 +3.1
SIZA Siyzn 4.66 42 P **Pn** 11 59 15.2 +5.6
SNR=7.5
SIZA S **Sn** 12 00 11.2 +7.4
QUBA Quba, Azerbaij 4.66 37 P **Pn** 11 59 15.3 +5.7
SNR=6.9
QUBA S **Sb** 12 00 11.4 -5.8
QSAR Qusar 4.68 34 P **Pn** 11 59 15.6 +5.7
SNR=6.0
QSAR S **Sb** 12 00 11.9 -5.9
QSAR S **Sb** 12 00 11.9 -5.9
GOBA Gobu 4.72 53 P **Pn** 11 59 19.5 +5.5
GOBA S **Sn** 12 00 12.5 +7.2
IRAZ Razeghan 4.74 117 Pn **Pn** 11 59 14.3 +3.5
IKFM Kafar-mosalman 4.85 148 Pn **Pn** 11 59 15.8 +3.7
NDR Nardaran 4.98 53 P **Pn** 11 59 19.5 +5.5
NDR S **Sn** 12 00 18.9 +7.3
ONI Oni 5.00 349 Pn **Pn** 11 59 15.1 +0.8
ONI Oni 5.00 349 P **Pn** 11 59 15.1 +0.8
ZEI Tsey 5.14 353 *eP* **Pn** 11 59 19.7 +3.3
ZEI pmax pmax
comp=Z,83nm,1.4s
IMHD Mahdasht 5.14 111 Pn **Pn** 11 59 19.0 +2.7
KLST Kelardasht - M 5.16 101 Pn **Pn** 11 59 20.1 +3.3
ARPR Arapgir-MALATY 5.25 288 Pn **Pn** 11 59 18.3 +0.5
MZPU Pul - Mazandar 5.58 101 Pn **Pn** 11 59 25.7 +3.3
MAK Makhachkala 5.67 21 *eP* **Pn** 11 59 21.0 -2.4
MAK *eS* **Sn** 12 00 23.5 -5.0
MAK pmax pmax
comp=Z,335nm,1.3s
MAK MLR MLR
comp=Z,899nm,10.0s
NCK Nalchik 5.87 352⇑ *eP* Pn 11 59 31.5 +5.3
GAZ Gaziantep 6.04 267 Pn **Pn** 11 59 28.6 +0.1
KBZ Khabaz 6.20 347 *d iP* **Pn** 11 59 34.4 +3.7
KBZ Khabaz 6.20 347 Pn **Pn** 11 59 34.2 +3.5
comp=Z,7.8nm,0.9s,baz=161,slow=10,SNR=12
IDMV Damavand 6.21 108 Pn **Pn** 11 59 34.6 +3.5
KVAR Kislovodsk Arr 6.46 347 Pn **Pn** 11 59 37.5 +3.2
baz=264,slow=19
comp=Z,3.5nm,0.4s
KIV Kislovodsk 6.46 347 Pn **Pn** 11 59 36.6 +2.3
KIV Kislovodsk 6.46 347 *eP* Pn 11 59 39.3 +4.9
KIV pmax pmax
comp=Z,35nm,1.1s
KIV MLR MLR
comp=Z,84nm,10.0s
ISFB Sefidab 6.91 117 Pn **Pn** 11 59 44.0 +3.5
SOC Sochi 7.03 329 *eP* **Pn** 11 59 43.3 +1.2
SOC *e* 12 01 02.8
SOC pmax pmax
comp=Z,41nm,0.7s
SOC MLR MLR
comp=Z,638nm,13.0s
AMIS Naft Sefid 7.06 147 Pn **Pn** 11 59 45.8 +3.2
IPIR Pirpir 7.07 133 Pn **Pn** 11 59 47.1 +4.2
BNN Bunyan 7.12 282 **Pn** 11 59 43.7 +0.3
JHBN Jahan bin 7.28 137 Pn **Pn** 11 59 48.6 +2.7
IGLO Ghaloghah 7.34 96 Pn **Pn** 11 59 50.1 +3.6
ZNGN Zangian 7.47 136 Pn **Pn** 11 59 52.5 +4.0
IBRJ Brojen 7.85 135 Pn **Pn** 11 59 56.2 +2.5
ASF Jabal al Asfar 8.48 232 P **Pn** 12 00 01.7 -0.4
ASF Jabal al Asfar 8.48 232 Pn **Pn** 12 00 01.5 -0.6
comp=Z,8.2nm,0.3s,baz=56,slow=8.4,SNR=32
ASF Lg Lg 12 02 24.4
comp=Z,0.8nm,0.3s,baz=136,slow=18,SNR=3.2
comp=Z,16nm,0.3s
ANAR Anarak 8.58 119 Pn **Pn** 12 00 07.2 +3.7
IRAM Ramesheh 8.58 131 Pn **Pn** 12 00 07.6 +4.0
NATI Neve Ativ 8.58 242 Pn **Pn** 12 00 03.4 0.0
NATI Neve Ativ 8.58 242 P **Pn** 12 00 03.9 +0.5
GEM Giv'at Ha'Em 8.66 242 Pn **Pn** 12 00 04.7 +0.2
GEM Giv'at Ha'Em 8.66 242 P **Pn** 12 00 04.8 +0.2
KLNJ Kolanjah 8.72 138 Pn **Pn** 12 00 08.7 +3.0
BR131 Keskin Array S 8.94 287 P Pn 12 00 14.7 +6.3
SNR=6.6
BR131 Keskin Array S 8.94 287 *d iP* Pn 12 00 13.3 +4.9
BRTR Keskin Array B 8.94 287 **Pn** 12 00 11.6 +3.2
BRTR Keskin Array B 8.94 287 *i* P Pn 12 00 13.3 +4.9
BRTR pmax pmax
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 8.94 287 Pn **Pn** 12 00 11.1 +2.8
comp=Z,7.3nm,0.9s,baz=112,slow=13,SNR=26
BRTR Lg Lg 12 02 41.9
comp=Z,0.2nm,0.3s,baz=85,slow=30,SNR=5.2
MMA0B Mount Meron ar 8.95 241 Pn **Pn** 12 00 08.6 0.0
MMAI Mount Meron Ar 8.95 241 Pn **Pn** 12 00 08.9 +0.3
comp=Z,5.7nm,0.3s,baz=65,slow=15,SNR=17
MMAI Lg Lg 12 02 41.9
comp=Z,1.2nm,0.3s,baz=65,slow=26,SNR=1.6
MMAI LR LR 12 04 20.7
comp=Z,554nm,18.7s,baz=34,slow=43
comp=Z,6.6nm,0.4s
MRVT Maveh tapeh 8.98 87 Pn **Pn** 12 00 11.0 +2.1
ANN Anapa 9.00 324 *eP* **Pn** 12 00 10.0 +0.9
ANN *eS* **Sn** 12 01 52.8 +2.4
ANN pmax pmax
comp=Z,19nm,0.6s
ANN MLR MLR
comp=Z,560nm,15.0s
ANN MLR MLR
comp=N,495nm,12.0s
ANN MLR MLR
comp=E,166nm,8.0s
HNTI Hanita 9.08 242 P **Pn** 12 00 13.2 +3.0
QRNJ Al-Qirein 9.23 237 P **Pn** 12 00 14.4 +2.1
BLGI Bet Lehem HaGe 9.26 241 P **Pn** 12 00 15.4 +2.7
MMLI Mount Malkishu 9.28 238 Pn **Pn** 12 00 13.5 +0.6
HMDT Nahal Hemdat 9.32 237 Pn **Pn** 12 00 14.1 +0.6
HMDT Nahal Hemdat 9.32 237 P **Pn** 12 00 17.0 +3.5
OFRI `Ofer 9.47 241 Pn **Pn** 12 00 15.7 +0.1

OFRI `Ofer 9.47 241 P **Pn** 12 00 16.5 +0.9
ANTO Ankara 9.60 287 P Pn 12 00 21.8 +4.3
SLTI Sal'it 9.65 239 P **Pn** 12 00 19.5 +1.4
DSI Dead Sea 9.85 235 Pn **Pn** 12 00 20.3 -0.4
DSI Dead Sea 9.85 235 P **Pn** 12 00 20.8 +0.1
GHAJ Ghor Haditha 9.90 233 Pn **Pn** 12 00 21.4 -0.1
SBZV Sabzevar 10.35 93 Pn **Pn** 12 00 30.5 +2.7
ISFR Sfrayin 10.55 89 Pn **Pn** 12 00 33.1 +2.4
GEYT Alibeck 10.57 85 Pn **Pn** 12 00 31.7 +1.1
GEYT Alibeck 10.57 85 Pn **Pn** 12 00 31.9 +1.2
comp=E,0.8nm,0.3s,baz=304,slow=11,SNR=7.8
GEYT LR LR 12 05 50.3
comp=E,361nm,20.6s,baz=312,slow=44
comp=E,4.7nm,0.6s
GYA0B ALIBECK ARRAY 10.57 85 **Pn** 12 00 32.1 +1.5
ZFRI Zfri 10.66 231 P **Pn** 12 00 35.6 +3.7
TKDS Koohdasht(Taba 10.84 108 Pn **Pn** 12 00 38.3 +3.8
HRFI Mount Harif 11.11 230 Pn **Pn** 12 00 39.1 +1.0
IAKL Akhelmad 11.22 91 Pn **Pn** 12 00 42.5 +2.7
MBRI Mt Berech 11.36 229 P **Pn** 12 00 42.5 +1.0
EIL Elat 11.43 228 Pn **Pn** 12 00 42.5 +0.1
EIL Elat 11.43 228 Pn **Pn** 12 00 41.8 -0.7
comp=E,0.5nm,0.3s,baz=8.3,slow=7.4,SNR=6.5
EIL Lg Lg 12 03 59.2
comp=E,0.2nm,0.3s,baz=97,slow=23,SNR=2.2
EIL LR LR 12 05 15.9
comp=E,392nm,19.9s,baz=80,slow=39
comp=E,5.2nm,0.7s
IKRD Kardeh 11.79 90 Pn **Pn** 12 00 50.4 +2.8
SAKB Bahrain 12.65 156 P **Pn** 12 00 58.3 -0.8
SHMA Al-Shehemyia 12.91 154 P **Pn** 12 01 03.5 +0.8
SHMA S **Sn** 12 03 25.1 -1.3
VRH Novokhopyorsk 13.69 352 *eP* **Pn** 12 01 12.3 -0.9
VRH pmax pmax
comp=Z,20nm,0.9s
TRNA Turayna 14.03 155 P **Pn** 12 01 18.1 +0.1
TRNA S **Sn** 12 03 52.2 -1.6
VSR Storozhevoye 14.10 345 *eP* Pn 12 01 13.3 -5.5
VSR pmax pmax
comp=Z,20nm,0.7s
HRA Herat 14.52 98 P **P** 12 01 28.6 -3.0
BELG Belogornoye 14.85 7*c iP* **Pn** 12 01 27.8 -1.1
BELG pmax pmax
comp=Z,40nm,1.0s
BELG Belogornoye 14.85 7 Pn **Pn** 12 01 28.4 -0.6
comp=Z,1.1nm,0.3s,baz=246,slow=19,SNR=14
BELG LR LR 12 08 50.3
comp=Z,124nm,19.4s,baz=120,slow=44
comp=Z,70nm,1.0s
LPSR Galich'ya Gora 15.47 347 *eP* **Pn** 12 01 33.3 -3.9
LPSR pmax pmax
comp=Z,50nm,0.8s
MASF Masafi 15.63 138 P **Pn** 12 01 39.0 -0.6
MASF S **Sn** 12 04 36.2 +3.2
MSFE Esma-Masafi 15.64 138 P **Pn** 12 01 38.3 -1.4
NAZ Nazwa, Dubai 15.69 141 P **Pn** 12 01 39.3 -1.0
NAZ Nazwa, Dubai 15.69 141 P **Pn** 12 01 40.3 0.0
AJN Ajban 15.72 143 P **Pn** 12 01 40.5 -0.2
AJN Ajban 15.72 143 P **Pn** 12 01 40.5 -0.2
AJN S **Sn** 12 04 35.6 +0.7
VRI Vrincioaia 15.72 307 ⇓P **P** 12 01 46.3 +1.7
VRI Vrincioaia 15.72 307 ⇓P **P** 12 01 46.3 +1.7
ASUD Al Ashush, Dub 15.83 142 P **Pn** 12 01 40.7 -1.4
ASUD Al Ashush, Dub 15.83 142 P **Pn** 12 01 42.6 +0.5
ASUD S **Sn** 12 04 38.3 +0.7
FAQ Al Faqa, Dubai 15.86 141 P **Pn** 12 01 41.2 -1.3
FAQ Al Faqa, Dubai 15.86 141 P **Pn** 12 01 43.0 +0.5
AKTO Aktyubinsk 15.88 32 P **Pn** 12 01 42.0 -0.6
AKTO Aktyubinsk 15.88 32 Pn **Pn** 12 01 42.0 -0.6
comp=Z,0.5nm,0.3s,baz=222,slow=12,SNR=11
AKTO LR LR 12 09 06.5
comp=Z,174nm,18.4s,baz=296,slow=42
comp=Z,5.0nm,0.6s
SORM Soroca 15.90 316 ⇑P **Pn** 12 01 43.4 +0.6
SORM Soroca 15.90 316 ⇑P **Pn** 12 01 43.4 +0.6
ABKAR Akbulak array 15.94 39 **Pn** 12 01 43.9 +0.5
ABKAR Akbulak array 15.94 39 **Pn** 12 01 43.8 +0.5
ABKAR IAmb IAmb 12 02 20.4
comp=Z,11nm,1.0s
UOSS Minazif 16.00 139 Pn **Pn** 12 01 42.8 -1.6
UOSS IAmb IAmb 12 02 01.5
comp=Z,30nm,0.9s
UOSS Minazif 16.00 139 P **Pn** 12 01 43.3 -1.1
UOSS P **Pn** 12 01 43.3 -1.1
UOSS S **Sn** 12 04 43.5 +1.7
UOSS S **Sn** 12 04 43.5 +1.7
TESR Tescani 16.05 309 ⇓P **P** 12 01 48.8 +0.5
HATD Hatta, Dubai 16.07 140 P **Pn** 12 01 43.8 -1.4
HATD Hatta, Dubai 16.07 140 P **Pn** 12 01 45.4 +0.2
HATD P **Pn** 12 01 45.4 +0.2
HATD S **Sn** 12 04 45.6 +2.2
HATD S **Sn** 12 04 45.6 +2.2
MLR Muntele Rosu 16.07 305 ⇓P **P** 12 01 48.1 -0.6
MLR Muntele Rosu 16.07 305 P **P** 12 01 47.2 -1.5
MLR Muntele Rosu 16.07 305 P **P** 12 01 47.2 -1.5
MLR pmax pmax
comp=Z,17nm,1.1s
MLR Muntele Rosu 16.07 305 Pn **P** 12 01 46.8 -1.9
comp=Z,0.1nm,0.3s,baz=202,slow=14,SNR=4.1
comp=Z,7.8nm,1.1s
ASHO Ashiyiah 16.14 140 P **Pn** 12 01 44.3 -1.9
ASHO Ashiyiah 16.14 140 P **Pn** 12 01 46.2 0.0
ASHO P **Pn** 12 01 46.2 0.0
ASHO S **Sn** 12 04 46.5 +1.1
ASHO S **Sn** 12 04 46.5 +1.1
IDI Anoyia 16.16 268 Pn **P** 12 01 47.8 -1.8
comp=Z,0.3nm,0.3s,baz=140,slow=17,SNR=2.5
ALNE Al Ain 16.52 142 P **Pn** 12 01 49.8 -1.2
ALNE Al Ain 16.52 142 P **Pn** 12 01 50.5 -0.5
DOPR Dopca 16.62 306 ⇑P **P** 12 01 55.9 +1.3
VOIR 16.64 304 ⇓P **P** 12 01 55.0 +0.1
VOIR 16.64 304 ⇓P **P** 12 01 55.0 +0.1
SOHO SOHO 16.84 140 P **Pn** 12 01 53.9 -1.1
SOHO SOHO 16.84 140 P **Pn** 12 01 54.5 -0.5
SOHO P **Pn** 12 01 54.5 -0.5
SOHO S **Sn** 12 05 03.2 +1.1
SOHO S **Sn** 12 05 03.2 +1.1
ARR Arges 16.89 303 ⇑P **P** 12 02 02.2 +4.5
AKASG Malin Array Be 17.09 325 **Pn** 12 01 56.2 -1.8
AKASG Malin Array Be 17.09 325 P **Pn** 12 01 56.2 -1.8
AKASG pmax pmax
comp=Z,8.0nm,1.1s
AKASG Malin Array Be 17.09 325 P **Pn** 12 01 56.6 -1.3
comp=Z,11nm,0.9s,baz=134,slow=12,SNR=36
AKBB Malin Array Si 17.09 325 P **Pn** 12 01 57.4 -0.5
AKBB IAmb IAmb 12 01 59.4
comp=Z,40nm,1.4s
KIEV Kiev 17.09 325 ⇑P **Pn** 12 01 56.4 -1.6
KIEV Kiev 17.09 325 P **Pn** 12 01 57.3 -0.7
KIEV IAmb IAmb 12 01 59.4
comp=Z,35nm,1.3s
KIEV Kiev 17.09 325 P **Pn** 12 01 57.3 -0.7
KIEV pmax pmax
comp=Z,35nm,1.3s
BURAR Bucovina Array 17.43 311 ⇓P **P** 12 02 04.0 +0.4
BURAR Bucovina Array 17.43 311 P **P** 12 02 04.4 +0.7
BURAR Bucovina Array 17.43 311 ⇓P **P** 12 02 04.0 +0.4
BUR08 Bucovina Ar. S 17.45 311 P **P** 12 02 04.6 +0.7
ARQ Araqi 17.50 141 P **P** 12 02 04.5 0.0
ARQ P **P** 12 02 04.5 0.0
ARQ S **Sn** 12 05 18.5 +0.3
ARQ S **Sn** 12 05 18.5 +0.3
HOQ Hoqain 17.70 139 P **P** 12 02 07.8 +1.2
BLKB Belogradchik 17.76 296 ⇑P **P** 12 02 07.2 -0.1
GZR Gura Zlata 18.14 302 ⇑P **P** 12 02 11.9 +0.4
BIDO Bidbid 18.18 137 P **P** 12 02 11.9 0.0
OBN Obninsk 18.31 345 *eP* **P** 12 02 14.1 +1.0
OBN pmax pmax
comp=Z,39nm,1.2s
OBN MLR MLR
comp=Z,283nm,12.0s
OBN Obninsk 18.31 345 P **Pn** 12 02 12.5 -0.5
comp=Z,4.2nm,0.3s,baz=192,slow=20,SNR=4.2
OBN LR LR 12 10 50.2
comp=Z,79nm,19.7s,baz=171,slow=42
comp=Z,24nm,0.3s
BSY Bisya 18.33 141 P **Pn** 12 02 12.9 -0.7
SNR=5.0
BSY S **Sn** 12 05 38.6 +0.2
MARR Marisel-Cluj 18.34 306 ⇓P **P** 12 02 15.9 +2.2
SMDO Samad 18.51 138 P **Pn** 12 02 16.1 +0.3
SNR=7.5
SMDO P **Pn** 12 02 16.1 +0.3

SNR=7.5
NGCH Negor - Chabah 18.56 127 P **Pn** **12 02 18.4 +2.1**
WSAR Wadi Sarin 18.68 137 P **Pn** **12 02 20.0 +2.2**
WSAR Wadi Sarin 18.68 137 P **Pn** **12 02 20.2 +2.5**
comp=Z,7.0nm,0.6s,baz=330,slow=12,SNR=5.1
WSAR LR LR 12 09 47.5
comp=Z,166nm,21.8s,baz=350,slow=38
MOS Moscow 18.69 347 *e*P **P** **12 02 16.2 -1.2**
BZS Buzias 18.98 302 ⇑P **Pn** **12 02 20.6 -0.7**
BZS Buzias 18.98 302 ⇑P **Pn** **12 02 20.6 -0.7**
JMDO Jabal Madar 19.10 139 P **Pn** **12 02 22.4 -0.6**
SIRR Siria 19.15 304 ⇓P **Pn** **12 02 23.4 0.0**
WBK Wadi Bani Khal 19.37 137 P **Pn** **12 02 26.6 +0.5**
DIVS Divibare 19.76 297 P **P** **12 02 29.2 0.0**
DIVS IAmb IAmb 12 02 32.3
comp=Z,29nm,1.0s
KOLS Kolonicke sedl 19.78 312 *e*P **Pn** **12 02 31.5 +0.6**
KOLS Kolonicke sedl 19.78 312 *e*P **Pn** **12 02 31.5 +0.6**
KBL Kabul 19.85 92 P **Pn** **12 02 32.8 +0.8**
KBL IAmb IAmb 12 02 42.7
comp=Z,24nm,1.4s
KBL Kabul 19.85 92 P **Pn** **12 02 32.8 +0.8**
KBL pmax pmax
comp=Z,24nm,1.4s
JLN Jalan Bani Buh 19.98 137 P **Pn** **12 02 33.3 0.0**
JLN P **Pn** **12 02 33.3 0.0**
MHTO MHTO 20.19 142 P Pn 12 02 35.5 -0.4
SNR=5.2
CRVS Cervenica-Dubn 20.25 311 *e*P Pn 12 02 37.0 +0.6
CRVS Cervenica-Dubn 20.25 311 *e*P Pn 12 02 37.0 +0.6
KK31 Karatay Array 20.30 66 P Pn 12 02 37.5 +0.4
KK31 IAmb IAmb 12 02 45.3
comp=Z,12nm,0.8s
KK31 Karatay Array 20.30 66 P Pn 12 02 37.5 +0.4
KK31 pmax pmax
comp=Z,12nm,0.8s
KKAR Karatay Array 20.30 66 P Pn 12 02 38.0 +0.8
KKAR IAmb IAmb 12 02 45.3
comp=Z,12nm,0.8s
KKAR Karatay Array 20.30 66 P Pn 12 02 38.0 +0.9
KKAR Karatay Array 20.30 66 P Pn 12 02 38.0 +0.9
BTK Batken 20.40 75 P Pn 12 02 37.3 -1.0
BTK Batken 20.40 75 P Pn 12 02 37.3 -1.1
BTK pmax pmax
comp=Z,57nm,1.5s
MNK Minsk 20.40 331 *i* P Pn 12 02 37.4 -0.7
comp=E,5.0nm,0.8s
MNK *i* P Pn 12 02 37.4 -0.7
comp=N,17nm,0.8s
MNK *i* P Pn 12 02 37.4 -0.7
comp=Z,7.0nm,0.8s,baz=139
MNK *i* PP **PnPn** **12 02 57.6 +4.6**
MNK *i* S **S** **12 06 24.3 0.0**
MNK *i* SS **SnSn** **12 06 47.0 +4.6**
MNK *i* LQ LQ 12 09 20.5
MNK *i* LR LR 12 10 02.4
MNK *i* LRM MLR 12 11 22.4
comp=N,103nm,16.6s
MNK *i* LRM MLR 12 11 26.5
comp=Z,75nm,16.5s
MNK *i* LRM MLR 12 11 41.7
comp=E,41nm,16.1s
MNK Minsk 20.40 331 *i* P Pn 12 02 37.3 -0.8
MNK *i* 12 02 57.6
MNK *i* S **S** **12 06 24.3 0.0**
MNK *i* SS **SnSn** **12 06 47.0 +4.6**
MNK *i* 12 06 47.3
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK pmax pmax
comp=E,5.0nm,0.8s
MNK pmax pmax
comp=N,17nm,0.8s
MNK MLR MLR
comp=N,103nm,17.0s
MNK MLR MLR
comp=Z,75nm,17.0s
MNK MLR MLR
comp=E,41nm,16.0s
PSZ Piszkesteto 20.84 307 P **P** **12 02 41.6 +0.7**
PSZ IAmb IAmb 12 02 49.1
comp=Z,22nm,1.2s
PSZ Piszkesteto 20.84 307 P **P** **12 02 41.6 +0.7**
PSZ pmax pmax
comp=Z,22nm,1.2s
DQM DQM 20.89 144 P Pn 12 02 42.9 -1.2
ARU Arti 20.90 22 P **P** **12 02 41.4 0.0**
ARU Arti 20.90 22*d* *i*P **P** **12 02 41.5 0.0**
ARU 12 02 59.2
ARU S **S** **12 06 33.1 -1.1**
ARU SS **SnSn** **12 06 55.4 +0.8**
ARU pmax pmax
comp=Z,26nm,0.8s
ARU Arti 20.90 22 P **P** **12 02 41.6 +0.2**
comp=Z,20nm,0.7s,baz=214,slow=8.4,SNR=26
ARU LR LR 12 13 00.1
comp=Z,180nm,18.7s,baz=210,slow=43
comp=Z,20nm,0.7s
NACGM Naroch 21.13 330 *e*P **P** **12 02 45.7 +1.8**
comp=Z,11nm,0.7s,baz=137
KIRV Kirov 21.14 7*de*P **P** **12 02 42.8 -1.1**
KIRV Kirov 21.14 7 P **P** **12 02 43.3 -0.6**
comp=Z,84nm,1.0s,baz=181,slow=9.4,SNR=23
KIRV LR LR 12 12 04.6
comp=Z,93nm,19.5s,baz=192,slow=40
comp=Z,84nm,1.0s
MORH Mrgy, Hungar 21.14 302 ⇑P **P** **12 02 42.3 -1.9**
WHFO Wadi Hawf 21.22 156 P **P** **12 02 48.0 +2.8**
SNR=5.9
WHFO S **S** **12 06 39.2 -1.8**
LANS Liptovska Anna 21.55 310 *e*P **P** **12 02 50.2 +1.7**
LANS Liptovska Anna 21.55 310 *e*P **P** **12 02 50.2 +1.7**
ABTO Aybut 21.60 157 P **P** **12 02 48.6 -0.6**
RBK Rabkut 21.75 155 P **P** **12 02 50.3 -0.5**
SHAO Shalim 21.78 151 P **P** **12 02 47.8 -3.4**
SHAO Shalim 21.78 151 P **P** **12 02 50.8 -0.4**
SHAO S **S** **12 06 54.8 +2.7**
OJC Ojcow 21.79 313 P **P** **12 02 50.4 -0.7**
OJC IAmb IAmb 12 03 17.7
comp=Z,20nm,1.3s
OJC Ojcow 21.79 313 P **P** **12 02 50.4 -0.7**
OJC pmax pmax
comp=Z,20nm,1.3s
DMTO DMTO 21.81 153 P **P** **12 02 50.6 -0.8**
DMTO S **S** **12 06 52.3 -0.3**
SVE Sverdlovsk 21.87 24 *e*P **P** **12 02 55.6 +3.8**
SVE pmax pmax
comp=Z,43nm,1.1s
TIP Timpagrande 21.96 283 ⇓P **P** **12 02 52.7 -0.5**
TIP Timpagrande 21.96 283 P **P** **12 02 52.6 -0.5**
ARSB Arslanbob 22.03 72 P **P** **12 02 55.4 +1.5**
ARSB Arslanbob 22.03 72 P **P** **12 02 55.4 +1.5**
ARSB pmax pmax
comp=Z,10.0nm,1.1s
SUW Suwalki 22.06 325 P **P** **12 02 53.6 -0.3**
SUW Suwalki 22.06 325 P **P** **12 02 53.6 -0.3**
SUW pmax pmax
comp=Z,87nm,1.1s
JAVC Velka Javorina 22.55 308 *e*P **P** **12 03 02.3 +3.0**
MAUC Maruska 22.63 310 *e*P **P** **12 03 01.9 +1.8**
MORC Moravsky Berou 22.95 310 P **P** **12 03 03.3 -0.2**
MORC IAmb IAmb 12 03 10.7
comp=Z,18nm,1.5s
MORC Moravsky Berou 22.95 310 *e*P **P** **12 03 04.3 +0.8**
MORC Moravsky Berou 22.95 310 P **P** **12 03 03.3 -0.2**
MORC pmax pmax
comp=Z,17nm,1.5s
RONA Rosalia, Austr 23.08 305 *e*P **P** **12 03 04.5 -0.3**
comp=Z,15nm,1.3s
AAK Ala-Archa 23.19 68 P **P** **12 03 08.8 +2.7**
AAK IAmb IAmb 12 03 35.2
comp=Z,13nm,0.9s
AAK Ala-Archa 23.19 68 P **P** **12 03 11.8 +5.7**
AAK P **P** **12 03 11.8 +5.7**
AAK Ala-Archa 23.19 68 P **P** **12 03 08.8 +2.7**
AAK pmax pmax
comp=Z,13nm,1.0s
AAK Ala-Archa 23.19 68 P **P** **12 03 08.6 +2.5**
comp=Z,4.2nm,0.9s,baz=265,slow=11,SNR=5.7
AAK LR LR 12 14 04.1
comp=Z,305nm,18.6s,baz=281,slow=42
comp=Z,4.2nm,0.9s
VRAC Vranov 23.37 309 *e*P **P** **12 03 09.1 +1.4**
VRAC Vranov 23.37 309 P **P** **12 03 08.4 +0.7**
comp=Z,4.2nm,0.7s,baz=118,slow=10,SNR=4.7
comp=Z,4.2nm,0.7s
KRUC Moravsky 23.41 308 *e*P **P** **12 03 10.3 +2.2**
CONA Conrad Observa 23.42 305 *e*P **P** **12 03 07.6 -0.7**
comp=Z,8.2nm,1.1s
KLMR Klimovskoe 23.43 354 *e*P **P** **12 03 05.7 -2.4**
KLMR AMP 12 03 17.8
comp=Z,22nm,1.3s
KLMR *e*PP **PnPn** **12 03 35.4 +1.0**
KLMR Klimovskoe 23.43 354 *e*P **P** **12 03 05.7 -2.4**
KLMR *e* 12 03 35.3
KLMR pmax pmax
comp=Z,22nm,1.3s
BRVK Borovoye 23.44 41 P **P** **12 03 10.3 +2.0**
BRVK IAmb IAmb 12 03 38.5
comp=Z,14nm,0.8s
BRVK Borovoye 23.44 41 P **P** **12 03 13.4 +5.0**
BRVK Borovoye 23.44 41⇑*e*P **P** **12 03 10.5 +2.2**
BRVK pmax pmax
comp=Z,19nm,1.7s
NIL Nilore 23.45 91 P **P** **12 03 10.7 +2.0**
NIL Nilore 23.45 91 P **P** **12 03 10.7 +2.0**
NIL pmax pmax
comp=Z,44nm,1.3s
BVAR Borovoye Array 23.48 41 P **P** **12 03 09.6 +0.9**
comp=Z,2.3nm,0.6s,baz=251,slow=9.2,SNR=9.7
BVAR LR LR 12 14 39.9
comp=Z,137nm,18.7s,baz=237,slow=43
comp=Z,2.3nm,0.6s
ARSA Arzberg 23.48 303 *i* P **P** **12 03 08.6 -0.2**
comp=Z,5.8nm,0.8s
DPC Dobruska-Polom 23.89 311 *e*P **P** **12 03 14.2 +1.3**
DPC Dobruska-Polom 23.89 311 *e*P **P** **12 03 14.2 +1.3**
PRGR Permogore 23.98 1 *e*P **P** **12 03 08.6 -4.9**
PRGR pmax pmax
comp=Z,14nm,0.6s
CHVC Chvalec 24.14 312 *e*P **P** **12 03 15.0 -0.1**
CHVC Chvalec 24.14 312 *e*P **P** **12 03 15.0 -0.1**
MOA Molln 24.44 304 *e*P **P** **12 03 17.6 -0.4**
comp=Z,13nm,0.7s
CKRC Cesky Krumlov 24.66 307 *e*P **P** **12 03 19.7 -0.2**
CKRC AMS AMS 12 13 30.0
comp=Z,200nm,24.8s
CKRC Cesky Krumlov 24.66 307 *e*P **P** **12 03 19.7 -0.2**
CKRC MLR MLR
comp=Z,200nm,24.8s
BIOA Bad Ischl, Aus 24.82 304 *e*P **P** **12 03 21.0 -0.4**
comp=Z,12nm,1.0s
KBA Koelnbreinsper 24.89 302 *e*P **P** **12 03 21.9 -0.4**
comp=Z,18nm,1.0s
ZVC Zvikov 24.90 308 *e*P **P** **12 03 21.7 -0.4**
GEC2 GERESS Array S 25.05 306 P **P** **12 03 23.5 -0.1**
GEC2 IAmb IAmb 12 03 26.1
comp=Z,6.9nm,0.9s
GERES GERESS Array B 25.05 306 P **P** **12 03 23.0 -0.5**
GERES GERESS Array B 25.05 306 P **P** **12 03 23.0 -0.5**
GERES GERESS Array B 25.05 306 P **P** **12 03 23.7 +0.2**
comp=Z,4.4nm,0.7s,baz=104,slow=12,SNR=18
comp=Z,4.4nm,0.7s
KHC Kasperske Hory 25.20 307 P **P** **12 03 24.4 -0.4**
KHC IAmb IAmb 12 03 29.4
comp=Z,16nm,1.4s
KHC Kasperske Hory 25.20 307 *e*P **P** **12 03 24.5 -0.4**
KHC AMS AMS 12 13 30.0
comp=Z,200nm,15.9s
KHC Kasperske Hory 25.20 307*c* *i*P **P** **12 03 25.0 +0.2**
KHC pmax pmax
comp=Z,48nm,2.5s
ABTA Abfaltersbach 25.40 301 *e*P **P** **12 03 26.6 -0.1**
comp=Z,7.2nm,0.9s
LESA Schwarzleotal 25.41 303 *e*P **P** **12 03 26.3 -0.5**
comp=Z,8.3nm,1.0s
BRG Berggiesshubel 25.50 311 *e*P P 12 03 34.5 +7.1
BRG Amp 12 03 37.7
comp=Z,3.9nm,1.0s
BRG Berggiesshubel 25.50 311 *e*P P 12 03 34.4 +7.0
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG MLR MLR
comp=N,118nm,17.1s
BRG MLR MLR
comp=Z,190nm,12.4s
BRG MLR MLR
comp=E,151nm,14.4s
TEOL Teolo 25.80 298 P **P** **12 03 30.4 +0.1**
ATD Arta Tunnel 26.10 184 LR LR 12 14 15.2
comp=E,7.1nm,18.7s,baz=22,slow=38
WATA Walderalm 26.13 302 *i* P **P** **12 03 32.8 -0.5**
comp=E,6.4nm,0.8s
CLL Collm 26.20 312 *i* P **P** **12 03 36.0 +2.2**
comp=Z,10.0nm,1.2s
CLL *e*S **S** **12 08 06.0 +0.4**
CLL *e*SSS SSS 12 09 18.0
CLL AMS AMS 12 15 00.0
comp=N,100nm,19.8s
CLL AMS AMS 12 15 00.0
comp=E,200nm,19.9s
CLL AMS AMS 12 15 00.0
comp=Z,200nm,21.1s
CLL Collm 26.20 312 *i* P **P** **12 03 36.0 +2.2**
CLL *e*S **S** **12 08 06.0 +0.4**
CLL pmax pmax
comp=Z,10.0nm,1.2s
SQTA Sankt Quirin 26.36 302 *e*P **P** **12 03 34.3 -1.1**
comp=Z,4.6nm,0.7s
FINES FINESS Array B 26.50 340 P **P** **12 03 37.2 +0.8**
comp=Z,2.3nm,0.8s,baz=153,slow=16,SNR=2.0
comp=Z,2.3nm,0.8s
FETA Feichten 26.65 301 *e*P **P** **12 03 36.9 -1.2**
comp=Z,6.4nm,0.8s
GRA1 Grafenberg Arr 26.83 307 P **P** **12 03 37.9 -1.7**
GRF Grafenberg Arr 26.83 307 P **P** **12 03 37.9 -1.7**
GRF pmax pmax
comp=Z,20nm,1.1s
KURBB Kurchatov Arra 27.20 51 P **P** **12 03 43.8 +0.9**
comp=Z,0.9nm,0.3s,baz=262,slow=9.8,SNR=13
KURBB LR LR 12 17 18.8
comp=Z,147nm,18.4s,baz=226,slow=43
comp=Z,0.9nm,0.3s
DAVA Damuels 27.26 302 *e*P **P** **12 03 42.1 -1.5**
comp=Z,11nm,1.2s
KURK Kurchatov 27.28 51⇓*i*P **P** **12 03 45.6 +2.0**
KURK pmax pmax
comp=Z,10.0nm,1.3s
MK31 Makanchi Array 29.00 60 P **P** **12 04 00.3 +1.4**
MK31 Makanchi Array 29.00 60*d* *i*P **P** **12 03 59.9 +0.9**
MKAR Makanchi Array 29.00 60 P **P** **12 03 59.7 +0.7**
MKAR Makanchi Array 29.00 60 P **P** **12 03 59.7 +0.7**
MKAR Makanchi Array 29.00 60 P **P** **12 04 00.3 +1.4**
comp=Z,1.3nm,0.6s,baz=264,slow=7.2,SNR=8.4
MKAR LR LR 12 17 48.1
comp=Z,213nm,20.0s,baz=270,slow=41
comp=Z,1.3nm,0.6s
HFS Hagfors 29.88 329 P **P** **12 04 05.6 -1.0**
comp=Z,9.4nm,0.8s,baz=134,slow=11,SNR=9.0
comp=Z,9.4nm,0.8s
NB2 NORSAR Subarra 31.40 329 P **P** **12 04 18.7 -1.3**
comp=Z,2.0nm,0.8s,baz=123,slow=9.3
NOA NORSAR Array B 31.40 329 P **P** **12 04 19.1 -0.9**
comp=Z,1.5nm,0.8s,baz=126,slow=8.9,SNR=5.5
comp=Z,1.5nm,0.8s
ZAA0 Zalesovo Array 31.79 46 P **P** **12 04 23.7 +0.2**
ZAA0 IAmb IAmb 12 04 28.6
comp=Z,5.3nm,1.1s
ZALV Zalesovo Beam 31.79 46 P **P** **12 04 23.8 +0.3**
ZALV Zalesovo Beam 31.79 46 P **P** **12 04 24.4 +0.9**
comp=Z,1.0nm,0.7s,baz=269,slow=7.4,SNR=6.7
ZALV LR LR 12 19 16.1
comp=Z,152nm,20.1s,baz=257,slow=40
comp=Z,1.0nm,0.7s
DGZ Jazzator, Alta 32.67 55⇓*e*P **P** **12 04 32.7 +1.2**
DGZ pmax pmax
comp=Z,8.0nm,1.0s
WMQ Urumqi 32.81 65 *e*P **P** **12 04 36.8 +4.2**
WMQ LR LR
comp=Z,150nm,21.7s
PYUN Piuthan 33.30 95 *e*P **P** **12 04 39.2 +2.0**
comp=Z,19nm,1.1s
DANN Dangsing 33.79 94 *e*P **P** **12 04 43.6 +1.9**
comp=Z,28nm,0.8s
LODK Lodwar 35.17 196 P **P** **12 04 54.7 +1.3**
DMN Daman 35.19 95 *e*P **P** **12 04 55.8 +2.1**
comp=Z,27nm,0.9s
PKIN Phulchoki 35.43 94 *e*P **P** **12 04 57.2 +1.4**
comp=Z,22nm,0.9s
PKI Pulchoki 35.45 94 *e*P **P** **12 04 57.3 +1.3**
comp=Z,22nm,1.0s
GUN Gumba 35.66 94 *e*P **P** **12 04 59.4 +1.5**
comp=Z,30nm,0.9s
JIRN Jiri 36.02 94 *e*P **P** **12 05 02.5 +1.5**
comp=Z,22nm,0.8s
EKA Eskdalemuir Ar 36.55 315 P **P** **12 05 03.1 -1.6**
comp=Z,2.7nm,0.8s,baz=109,slow=7.7,SNR=6.7
comp=Z,2.7nm,0.8s
RAMN Ramite 36.67 95 *e*P **P** **12 05 08.2 +1.8**
comp=Z,21nm,0.8s
ESDC Sonseca Array 37.72 289 P **P** **12 05 14.2 -0.8**
comp=Z,1.4nm,0.9s,baz=62,slow=8.8,SNR=6.6
comp=Z,1.4nm,0.9s
KMBO Kilima Mbogo 39.24 192 *i* P **P** **12 05 31.8 +3.7**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 39.24 192 LR LR 12 21 14.4
comp=Z,188nm,18.3s,baz=284,slow=36
KIBK Kibwezi 40.31 190 P **P** **12 05 37.8 +1.0**
SPITS Spitsbergen Ar 42.31 352 P **P** **12 05 53.1 +0.6**
comp=Z,13nm,0.8s,baz=190,slow=4.4,SNR=2.4
comp=Z,13nm,0.8s
PALK Pallekele 44.45 124 LR LR 12 25 35.8
comp=Z,84nm,19.2s,baz=62,slow=37
SONM Songino Array 45.27 57 P **P** **12 06 17.6 +0.8**
comp=Z,0.8nm,0.8s,baz=268,slow=8.7,SNR=3.5
SONM LR LR 12 27 44.1
comp=Z,182nm,19.6s,baz=262,slow=39
comp=Z,0.8nm,0.8s
TOA0 Torodi Ar. Sit 45.40 249 P **P** **12 06 17.6 -0.5**
TOA0 IAmb IAmb 12 06 19.8
comp=Z,6.4nm,1.2s
TORD Torodi Ar. Bea 45.40 249 P **P** **12 06 16.7 -1.4**
comp=Z,2.5nm,1.1s,baz=50,slow=12,SNR=11
TORD LR LR 12 29 08.7
comp=Z,53nm,19.4s,baz=77,slow=41
comp=Z,2.5nm,1.1s
ULN Ulaanbaatar 45.69 56 P **P** **12 06 21.6 +1.4**
ULN IAmb IAmb 12 06 22.7
comp=Z,6.9nm,1.2s
ULN Ulaanbaatar 45.69 56⇑*i*P **P** **12 06 21.7 +1.4**
ULN pmax pmax
comp=Z,7.0nm,1.3s
LZH Lanzhou 46.59 73 *e*P **P** **12 06 29.4 +1.9**
LZH pP sP 12 06 38.2 +5.4
LZH sP pP 12 06 43.2 +12
LZH pmax pmax
comp=Z,15nm,1.0s
PZH PanZhiHua 48.88 86 P **P** **12 06 47.5 +2.2**
PZH pmax pmax
comp=Z,10.0nm,0.4s
PZH pmax pmax
comp=Z,130nm,6.0s
BTO Baotou 49.65 65 *e*P **P** **12 06 51.7 +0.7**
BTO pP **sP** **12 06 56.3 0.0**
BTO sP **pP** **12 06 58.7 +3.9**
BTO PP **PP** **12 08 46.8 +1.6**
BTO pmax pmax
comp=Z,32nm,0.7s
BTO pmax pmax
comp=Z,300nm,4.5s
CHTO Chiang Mai 50.58 96 P **P** **12 06 58.3 +0.1**
CHTO IAmb IAmb 12 07 08.8
comp=Z,4.7nm,0.9s
CHTO Chiang Mai 50.58 96 P **P** **12 06 58.3 +0.1**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
HHC Hu-ho-hao-te 50.67 64 *e*P **P** **12 06 59.6 +0.8**
HHC pmax pmax
comp=Z,39nm,0.5s
HHC pmax pmax
comp=Z,200nm,4.1s
CM31 Chiang Mai Arr 50.78 97 P **P** **12 06 59.7 0.0**
CMAR Chiang Mai Arr 50.78 97 P **P** **12 06 59.9 +0.2**
CMAR Chiang Mai Arr 50.78 97 P **P** **12 07 00.5 +0.8**
comp=Z,3.9nm,0.8s,baz=300,slow=8.1,SNR=19
CMAR LR LR 12 34 00.5
comp=Z,42nm,18.3s,baz=290,slow=42
comp=Z,3.9nm,0.8s
XAN Xi'an 51.22 73 ⇓P **P** **12 07 03.4 +0.5**
XAN pmax pmax
comp=Z,12nm,1.0s
TIXI Tiksi 52.90 23 P **P** **12 07 14.9 +0.1**
TIXI IAmb IAmb 12 07 15.8
comp=Z,5.9nm,1.2s
TIXI Tiksi 52.90 23*ce*P **P** **12 07 15.4 +0.6**
DBIC Dimbokro 54.49 248 P **P** **12 07 26.8 -0.4**
comp=Z,3.9nm,0.8s,baz=26,slow=8.9,SNR=4.5
comp=Z,3.9nm,0.8s
LSZ Lusaka 54.94 200 LR LR 12 31 42.7
comp=Z,116nm,18.9s,baz=8.5,slow=37
ZEA Zeya 56.54 45 *e*P P 12 07 50.6 +9.1
HEH HeiHe 57.86 49 *e*P **P** **12 07 50.8 0.0**
HEH pmax pmax
comp=Z,4.0nm,0.9s
HEH pmax pmax
comp=Z,110nm,4.6s
CN2 Changchun 59.14 56 *e*P **P** **12 07 59.8 -0.1**
CN2 *e*PP **PP** **12 10 12.3 +2.0**
CN2 *e*S S 12 15 57.6 -10
KLR Kul'dur 60.85 49 LR LR 12 37 21.6
comp=Z,66nm,19.1s,baz=290,slow=39
TSUM Tsumeb 62.10 209 LR LR 12 36 38.4
comp=Z,73nm,19.4s,baz=345,slow=37
USRK Ussuriysk Ar. 63.22 54 LR LR 12 39 13.6
comp=Z,59nm,19.4s,baz=318,slow=39
KSAR Wonju Array Be 63.63 62 P **P** **12 08 29.6 -0.7**
KSAR Wonju Array Be 63.63 62 P **P** **12 08 29.6 -0.7**
KSRS Korea Array 63.65 62 P **P** **12 08 30.6 +0.1**
comp=Z,4.4nm,0.8s,baz=282,slow=7.0,SNR=19
KSRS LR LR 12 39 20.7
comp=Z,58nm,19.2s,baz=325,slow=39
comp=Z,4.4nm,0.8s
SEY Seymchan 64.44 29⇑*i*P **P** **12 08 36.3 +1.1**
SEY pmax pmax
comp=Z,16nm,1.1s
SEY Seymchan 64.44 29 LR LR 12 39 02.1
comp=Z,52nm,20.3s,baz=360,slow=38
LBTB Lobatse 64.92 199 P **P** **12 08 39.1 +0.2**
LBTB Lobatse 64.92 199 P **P** **12 08 39.1 +0.2**
LBTB pmax pmax
comp=Z,7.0nm,1.0s
LBTB Lobatse 64.92 199 LR LR 12 38 42.7
comp=Z,56nm,18.7s,baz=23,slow=38
MA2 Magadan 65.63 32 LR LR 12 40 20.9
comp=Z,81nm,20.6s,baz=294,slow=39
JNU Nakatsue 67.90 65 LR LR 12 42 18.0
comp=Z,45nm,19.9s,baz=266,slow=39
BOSA Boshof 68.44 198 P **P** **12 09 01.6 +0.3**
comp=Z,4.9nm,1.1s,baz=11,slow=6.4,SNR=3.3
comp=Z,4.9nm,1.1s
MJAR Matsushiro Arr 71.19 58 LR LR 12 43 25.9
comp=Z,79nm,19.0s,baz=316,slow=38
PETK Petropavlovsk- 72.58 36 LR LR 12 45 37.4
comp=Z,44nm,19.6s,baz=104,slow=39
SUR Sutherland 73.20 201 LR LR 12 41 52.0
comp=Z,116nm,18.5s,baz=346,slow=36
ILAR Eielson Array 77.47 5 P **P** **12 09 55.9 +1.6**
comp=Z,0.4nm,0.8s,baz=326,slow=2.8,SNR=2.4
ILAR LR LR 12 49 32.1
comp=Z,44nm,18.0s,baz=234,slow=40
comp=Z,0.4nm,0.8s
DAV Davao City (W) 78.45 90 LR LR 12 48 23.3
comp=Z,75nm,19.0s,baz=326,slow=38
YKA Yellowknife Ar 78.79 350 P **P** **12 10 00.5 -1.2**
comp=Z,1.2nm,1.0s,baz=14,slow=5.8,SNR=13
comp=Z,1.2nm,1.0s
QSPA South Pole Qui 127.51 180 PKP **PKPdf** **12 17 01.4 -1.9**
comp=Z,2.6nm,0.8s,baz=223,slow=0.8,SNR=16

IDC ***02*** *12:01:48.0±1.2,6.°13S×150.°18E,h0km,mb4.0/4, mbtmp4.0/6,ML2.0/1,MS3.1/3,Error ellipse: s-maj=50.4km s-min=19.2km az=131.0*
NEIC ***02*** *12:01:49.5±1.0,6.°5S±0.°2×150.°7E±0.°2,h15km±4km, mb4.1/9,Error ellipse: s-maj=35.2km s-min=11.2km az=129.0*
ISC 02 12:01:52.1±0.8,**6.°5S**±0.°2×**150.°6E**±0.°2,**h33**km,**n21,**
σ1§**05**/20,**mb3.8/3,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.56**	**34**	Pn		**Pn**		**12 02 31.9**	**+0.5**
	85nm,0.4s,baz=225,slow=24,SNR=24								
RABL	**Rabaul**	**2.73**	**35**			**Pn**		**12 02 33.2**	**-0.6**
PMG	**Port Moresby**	**4.49**	**229**			**Pn**		**12 02 59.1**	**+1.2**
PMG	**Port Moresby**	**4.49**	**229**	Pn		**Pn**		**12 02 57.0**	**-0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	6.1nm,0.3s,baz=49,slow=8.9,SNR=21						
PMG				Sn	Sn	12 03 49.4	+0.3
	2.3nm,0.3s,baz=127,slow=15,SNR=5.0						
	19nm,0.4s						
CTA	Charters Tower	14.20	197	LR	LR	12 10 36.2	
	comp=Z,56nm,19.2s,baz=5.5,slow=37						
EIDS	Eidsvold	18.82	179	P	Pn	12 06 08.9	-0.9
EIDS				IAmb	IAmb	12 06 11.7	
	comp=Z,15nm,1.3s						
MTN	Manton Dam	20.20	250	P	P	12 06 24.1	-0.2
WB0	Warramunga Arr	20.57	228	P	P	12 06 28.2	-0.1
WB0				IAmb	IAmb	12 06 32.6	
	comp=Z,9.6nm,0.8s						
WR0	Warramunga Arr	20.58	228	P	P	12 06 27.9	-0.5
WR0				IAmb	IAmb	12 06 32.7	
	comp=Z,9.3nm,0.8s						
WB2	Warramunga Arr	20.70	228	P	P	12 06 29.7	-0.1
WB2				IAmb	IAmb	12 06 34.2	
	comp=Z,9.6nm,0.8s						
WRA	Warramunga Arr	20.71	228	P	P	12 06 29.3	-0.6
WRA	Warramunga Arr	20.71	228	P	P	12 06 29.5	-0.4
	comp=Z,6.9nm,0.8s,baz=53,slow=11,SNR=32						
	comp=Z,6.9nm,0.8s						
DZM	Mont Dzumac	21.81	137	LR	LR	12 13 59.7	
	comp=Z,54nm,19.3s,baz=320,slow=33						
AS31	Alice Springs	23.46	221	P	P	12 06 58.2	-0.7
ASAR	Alice Springs	23.46	221	P	P	12 06 58.0	-0.9
ASAR	Alice Springs	23.46	221	P	P	12 06 58.8	-0.2
	comp=Z,1.6nm,0.6s,baz=55,slow=9.7,SNR=14						
	comp=Z,1.6nm,0.6s						
STKA	Stephens Creek	26.66	197	P	P	12 07 26.8	-1.2
STKA				IAmb	IAmb	12 07 58.0	
	comp=Z,3.2nm,1.4s						
STKA	Stephens Creek	26.66	197	P	P	12 07 31.1	+3.1
	comp=Z,1.7nm,0.7s,baz=20,slow=14,SNR=3.2						
STKA				LR	LR	12 18 28.8	
	comp=Z,45nm,18.7s,baz=25,slow=37						
	comp=Z,1.7nm,0.7s						
QSPA	South Pole Qui	83.52	180	P	P	12 14 16.6	-0.1
NVAR	Mina Array Bea	94.83	52	P	P	12 15 12.2	+0.9
	comp=Z,0.4nm,0.6s,baz=262,slow=6.3,SNR=4.3						
	comp=Z,0.4nm,0.6s						
TORD	Torodi Ar. Bea	148.66	285	PKPbc	PKPbc	12 21 36.0	-1.0
	comp=Z,0.7nm,0.5s,baz=68,slow=3.3,SNR=7.7						

SNET 02 12:02:20.3±1.3, 12°.74N×90°.25W, h10km, ML3.6
CATAC 02 12:02:22.2±0.5, 12°.78N×90°.17W, h24km±7km, ML3.8
ISC 02 12:02:19.7±1.9, 12°.78N±0°.05×90°.23W±0°.05, h17km±9km, n81, σ1s.05/135, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LALI	Alcalda de L	1.13	51	eP	Pg	12 02 41.9	+0.2
LALI	Alcalda de L	1.13	51	i P	Pg	12 02 41.3	-0.4
LALI				IAML		12 02 54.7	
	comp=Z,140nm,1.0s						
LALI				i S	Sn	12 02 56.3	+0.2
LALI	Alcalda de L	1.13	51	i P	Pg	12 02 42.0	+0.3
LALI				IAML		12 02 54.7	
	comp=Z,140nm,1.0s						
LALI				i S	Sn	12 02 56.2	+0.2
JAYA	Jayaque - finc	1.16	41	eP	Pg	12 02 42.5	+0.3
JAYA	Jayaque - finc	1.16	41	i P	Pg	12 02 42.0	-0.2
JAYA				IAML		12 02 42.8	
	comp=Z,3µm,1.0s						
JAYA				i S	Sb	12 02 56.8	+0.6
JAYA	Jayaque - finc	1.16	41	i P	Pg	12 02 42.5	+0.3
JAYA				IAML		12 02 42.8	
	comp=Z,3µm,1.0s						
JAYA				i S	Sg	12 02 57.3	-0.1
CEVE	Cerro Verde	1.20	30	eP	Pg	12 02 43.2	+0.2
CEVE				eS	Sg	12 03 00.2	+1.5
CEVE	Cerro Verde	1.20	30	i P	Pg	12 02 42.6	-0.4
CEVE				i S	Sg	12 02 59.3	+0.6
CEVE				IAML		12 03 03.2	
	comp=Z,2µm,1.0s						
NUBE	Las Nubes	1.20	21	eP	Pg	12 02 42.7	-0.3
NUBE				eS	Sn	12 02 58.0	+0.1
NUBE	Las Nubes	1.20	21	i P	Pb	12 02 42.4	+0.2
NUBE				i S	Sn	12 02 58.1	+0.1
NUBE				IAML		12 03 03.6	
	comp=Z,510nm,1.0s						
SBLS	San Blas	1.21	29	eP	Pg	12 02 43.3	+0.1
SNJE	San Jose	1.24	29	eP	Pg	12 02 43.8	0.0
RTR	El Retiro	1.25	27	eP	Pg	12 02 44.0	0.0
ITCA	Escuela Especi	1.29	46	i P	Pn	12 02 43.0	-0.1
ITCA				i S	Sb	12 02 58.4	-1.5
ITCA				IAML		12 03 10.5	
	comp=Z,3µm,1.0s						
MAGS	Ministerio de	1.29	46	i P	Pg	12 02 44.2	-0.5
MAGS				IAML		12 03 07.9	
	comp=Z,900nm,1.0s						
LOAL	Lomas de Alarc	1.29	20	i P	Pb	12 02 43.8	+0.2
LOAL				IAML		12 02 44.6	
	comp=Z,3µm,1.0s						
LOAL				i S	Sb	12 03 00.0	+0.1
SLOZ	Alcaldia de Sa	1.31	19	eP	Pg	12 02 44.7	-0.5
SLOZ				eS	Sg	12 03 01.9	-0.4
PANCS	Alcalda de	1.32	51	i P	Pb	12 02 43.9	-0.2
PANCS				IAML		12 02 44.6	
	comp=Z,2µm,1.0s						
PANCS				i S	Sb	12 02 59.7	-1.1
PANCS	Alcalda de	1.32	51	i P	Pn	12 02 43.4	-0.1
PANCS				IAML		12 02 44.6	
	comp=Z,2µm,1.0s						
PANCS				i S	Sb	12 02 59.4	-1.4
BOQS	Boqueron	1.33	44	eP	Pg	12 02 45.1	-0.4
SNET	Serv Nac Est T	1.33	47	i P	Pb	12 02 44.4	+0.1
SNET				IAML		12 02 45.3	
	comp=Z,1µm,1.0s						
SNET				i S	Sg	12 03 02.3	-0.5
UEES	Universidad Ev	1.34	46	i P	Pb	12 02 44.4	-0.2
UEES				IAML		12 02 47.0	
	comp=Z,520nm,1.0s						
UEES				i S	Sg	12 03 02.8	-0.5
LOMA	Loma Larga	1.34	50	eP	Pb	12 02 45.0	+0.4
LOMA	Loma Larga	1.34	50	i P	Pb	12 02 44.7	+0.1
LOMA				IAML		12 02 45.3	
	comp=Z,1µm,1.0s						
LOMA				i S	Sn	12 03 01.6	+0.1
UNIC	Universidad Ca	1.37	29	i P	Pb	12 02 45.0	0.0
UNIC				i S	Sb	12 03 03.0	+0.8
UNIC				IAML		12 03 06.7	
	comp=Z,330nm,1.0s						
QUEZ	Alcaldia de Qu	1.41	42	i P	Pb	12 02 45.3	-0.3
QUEZ				IAML		12 02 48.7	
	comp=Z,3µm,1.0s						
QUEZ				i S	Sg	12 03 05.5	+0.3
LFRS	El Faro	1.42	54	eP	Pb	12 02 46.1	+0.3
SJTE	Alcalda de S	1.45	55	eP	Pb	12 02 46.6	+0.2
SJTE	Alcalda de S	1.45	55	i P	Pb	12 02 46.3	-0.1
SJTE				IAML		12 02 47.1	
	comp=Z,860nm,1.0s						
SJTE				i S	Sn	12 03 04.4	+0.3
COEG	Centro de Oper	1.56	57	eP	Pb	12 02 48.1	-0.1
COEG				eP	Pg	12 02 48.3	-1.5
COEG	Centro de Oper	1.56	57	i P	Pb	12 02 47.7	-0.5
COEG				IAML		12 02 48.5	
	comp=Z,1µm,1.0s						
COEG				i S	Sb	12 03 07.6	-0.1
PAVA	Las Pavas	1.57	53	eP	Pb	12 02 48.8	+0.4
PAVA	Las Pavas	1.57	53	i P	Pb	12 02 48.6	+0.2
PAVA				IAML		12 02 49.5	
	comp=Z,2µm,1.0s						
PAVA				i S	Sb	12 03 08.4	+0.4
SNVI	San Vicente	1.59	58	eP	Pb	12 02 48.8	0.0
TECO	Alcaldia de Te	1.60	62	eP	Pb	12 02 48.4	-0.5
TECO	Alcaldia de Te	1.60	62	i P	Pn	12 02 47.8	+0.5
TECO				IAML		12 02 48.8	
	comp=Z,480nm,1.0s						
TECO				i S	Sb	12 03 09.2	+0.3
JUAM	Asuncion Mita	1.63	18	i P	Pb	12 02 48.8	-0.6
JUAM				IAML		12 02 49.7	
	comp=Z,2µm,1.0s						
JUAM				i S	Sb	12 03 09.8	+0.1
JUAM	Asuncion Mita	1.63	18	i P	Pn	12 02 48.6	+0.8
JUAM				IAML		12 02 49.7	
	comp=Z,2µm,1.0s						
JUAM				i S	Sn	12 03 06.6	-1.8
UESV	Universidad de	1.65	59	i P	Pb	12 02 49.0	-0.7
UESV				IAML		12 02 49.7	
	comp=Z,1µm,1.0s						
UESV				i S	Sn	12 03 08.9	+0.1
ESSG	Sabana Grande	1.70	340	i P	Pb	12 02 51.0	+0.4
ESSG				i S	Sn	12 03 10.4	+0.3
ESSG				IAML		12 03 15.3	
	comp=Z,610nm,1.0s						
SCLA	Alcaldia de Sa	1.73	58	eP	Pb	12 02 50.9	-0.2
SCLA	Alcaldia de Sa	1.73	58	i P	Pn	12 02 50.0	+0.9
SCLA				IAML		12 02 58.3	
	comp=Z,140nm,1.0s						
SCLA				i S	Sb	12 03 12.2	-0.4
GUNB	GUNB	1.81	357	i P	Pn	12 02 51.1	+0.6
GUNB				i S	Sn	12 03 10.6	-2.6
GUNB				IAML		12 03 17.2	
	comp=Z,270nm,1.0s						
MTO3	Montecristo	1.82	28	eP	Pb	12 02 52.2	-0.6
MTO3	Montecristo	1.82	28	i P	Pb	12 02 52.0	-0.8
MTO3				IAML		12 02 53.1	
	comp=Z,880nm,1.0s						
MTO3				i S	Sn	12 03 13.0	-0.3
TECA	Tecapa	1.83	67	eP	Pb	12 02 52.0	-0.9
PQSS	Presa 15 de Se	1.83	63	eP	Pb	12 02 52.1	-0.8
PQSS	Presa 15 de Se	1.83	63	i P	Pb	12 02 51.7	-1.1
PQSS				IAML		12 02 52.7	
	comp=Z,420nm,1.0s						
LLGN	La Laguna	1.86	42	i P	Pb	12 02 52.4	-1.0
LLGN				IAML		12 02 55.2	
	comp=Z,320nm,1.0s						
LLGN				i S	Sn	12 03 15.2	+1.0
ESQI	Esquipulas	1.97	26	i P	Pn	12 02 53.5	+1.0
ESQI				IAML		12 02 58.5	
	comp=Z,370nm,1.0s						
ESQI				i S	Sb	12 03 19.1	-0.5
ESQI	Esquipulas	1.97	26	i P	Pn	12 02 52.5	0.0
ESQI				IAML		12 02 58.5	
	comp=Z,370nm,1.0s						
ESQI				i S	Sn	12 03 12.1	-4.8
PACA	Pacayal	1.98	70	eP	Pb	12 02 54.9	-0.6
PACA	Pacayal	1.98	70	i P	Pb	12 02 55.4	-0.1
PACA				i S	Sb	12 03 19.4	-0.6
PACA				IAML		12 03 25.8	
	comp=Z,2µm,1.0s						
LCND	La Caada	2.34	77	eP	Pn	12 02 59.2	+1.7
LCND				eS	Sb	12 03 28.1	-2.1
LCND	La Caada	2.34	77	i P	Pn	12 02 59.1	+1.6
LCND				IAML		12 03 00.0	
	comp=Z,470nm,1.0s						
LCND				i S	Sn	12 03 26.3	+0.4
CNCH	Conchagua	2.39	78	eP	Pn	12 02 59.9	+1.7
CNCH	Conchagua	2.39	78	i P	Pn	12 02 58.8	+0.5
CNCH				i S	Sn	12 03 27.3	0.0
CNCH				IAML		12 03 33.6	
	comp=Z,470nm,1.0s						
SARH	Santa Rosa de	2.45	36	i P	Pn	12 03 00.6	+1.6
SARH				i S	Sn	12 03 29.8	+1.2
AMPH	Amapala	2.56	78	i P	Pn	12 03 01.9	+1.4
AMPH				i S	Sn	12 03 32.7	+1.5
CSGN	Cosiguina Volc	2.62	85	i P	Pn	12 03 01.9	+0.6
CSGN				IAML		12 03 03.7	
	comp=Z,770nm,1.0s						
COMHN	El Horno	3.08	57	i P	Pn	12 03 08.8	+0.9
CRIN	San Cristobal	3.11	91	i P	Pn	12 03 09.5	+1.4
CRIN				i S	Sn	12 03 45.8	+0.9
CRIN				IAML		12 04 05.1	
	comp=Z,500nm,1.0s						
PKGN	Cerro Pekin	3.18	92	i P	Pn	12 03 10.1	+1.1
PKGN				i S	Sn	12 03 46.5	-0.1
PKGN				IAML		12 03 48.0	
	comp=Z,510nm,1.0s						
PKGN	Cerro Pekin	3.18	92	i P	Pn	12 03 10.3	+1.3
PKGN				i S	Sn	12 03 44.4	-2.2
PKGN				IAML		12 03 48.0	
	comp=Z,510nm,1.0s						
POLN	Al Sur del Vol	3.34	92	i P	Pn	12 03 12.0	+0.7
POLN				IAML		12 03 13.4	
	comp=Z,230nm,1.0s						
POLN	Al Sur del Vol	3.34	92	i P	Pn	12 03 11.8	+0.5
POLN				IAML		12 03 13.4	
	comp=Z,230nm,1.0s						
POLN				i S	Sn	12 03 49.5	-1.1
ROCN	Rota Cerro Neg	3.42	94	i P	Pn	12 03 11.3	-1.0
ROCN				IAML		12 03 14.0	
	comp=Z,76nm,1.0s						
ROCN				i S	Sn	12 03 51.1	-1.3
CNGA	Al SSO del Vol	3.46	94	i P	Pn	12 03 14.2	+1.3
CNGA				i S	Sn	12 03 53.3	-0.2
CNGA				IAML		12 04 01.5	
	comp=Z,190nm,1.0s						
CNGA	Al SSO del Vol	3.46	94	i P	Pn	12 03 14.3	+1.3
CNGA				i S	Sn	12 03 52.0	-1.5
CNGA				IAML		12 04 01.5	
	comp=Z,190nm,1.0s						
CNGN	Cerro Negro	3.46	94	i P	Pn	12 03 14.7	+1.8
CNGN				i S	Sn	12 03 52.6	-1.0
CNGN				IAML		12 03 59.6	
	comp=Z,180nm,1.0s						
CNGN	Cerro Negro	3.46	94	i P	Pn	12 03 14.4	+1.5
CNGN				i S	Sn	12 03 52.4	-1.2
CNGN				IAML		12 03 59.6	
	comp=Z,180nm,1.0s						
YUSH	Yuscaran	3.50	70	i P	Pn	12 03 14.0	+0.5
YUSH				i S	Sn	12 03 55.0	+0.3
SOMN	Somoto	3.58	79	i P	Pn	12 03 17.0	+2.3
SOMN				IAML		12 03 18.1	
	comp=Z,68nm,1.0s						
SOMN				i S	Sn	12 03 59.7	+2.9
COPN	Copaltepe	3.60	99	i P	Pn	12 03 16.8	+1.9
COPN				IAML		12 03 59.3	
	comp=Z,130nm,1.0s						
COPN	Copaltepe	3.60	99	i P	Pn	12 03 15.1	+0.2
COPN				IAML		12 03 59.3	
	comp=Z,130nm,1.0s						
MOMN	Momotombo	3.62	95	i P	Pn	12 03 16.1	+0.9
MOMN				i S	Sn	12 03 56.8	-0.8
MOMN				IAML		12 03 59.1	
	comp=Z,6.9nm,1.0s						
MOMN	Momotombo	3.62	95	i P	Pn	12 03 16.3	+1.1
MOMN				i S	Sn	12 03 56.5	-1.1
MOMN				IAML		12 03 59.1	
	comp=Z,6.9nm,1.0s						
MOM2	El Cardon	3.67	95	i P	Pn	12 03 17.0	+1.2
MOM2				IAML		12 03 38.9	
	comp=Z,110nm,1.0s						
MOM2				i S	Sn	12 03 58.8	0.0
LIMN	Finca el Limon	3.78	85	i P	Pn	12 03 18.3	+0.9
LIMN				IAML		12 03 19.4	
	comp=Z,95nm,1.0s						
LIMN				i S	Sn	12 04 02.1	+0.5
YORHN	Yoro	3.81	52	i P	Pn	12 03 19.4	+1.6
JUTIH	Juticalpa Olan	4.33	64	i P	Pn	12 03 27.3	+2.4

DJA 02 12:14:27.4±0.2, 0°S±2°×12°5E±°, h10km, M4.4/18, mb4.5/10, mB4.9/5, MLv4.5/18, Mw(mB)4.2/5
IDC 02 12:14:30.0±4.0, 0°.13S×124°.66E, h74km±39km, mb4.0/14, mbtmp4.3/15, ML4.7/1, MS3.3/3, Error ellipse: s-maj=27.8km s-min=13.7km az=63.0
NEIC 02 12:14:31.7±2.1, 0°.18S±0°.07×124°.75E±0°.07, h91km±9km, mb4.1/17, Error ellipse: s-maj=10.7km s-min=9.9km az=78.0
ISC 02 12:14:28.5±0.4, 0°.16S±0°.05×124°.78E±0°.06, h53km, n74, σ1s.67/74, mb4.3/26, 1D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMSI	Cibinong	1.08	312	P	Pn	12 14 47.0	-0.3
GTOI	Gorontalo	1.94	294	P	Pn	12 15 01.9	+2.9
LUWI	Luwuk	2.19	246	Pn	Pn	12 15 06.2	+3.7
LUWI	Luwuk	2.19	246	P	Pn	12 15 05.1	+2.6
SANI	Sanana	2.24	147	P	Pn	12 15 02.4	-0.7
TNTI	Ternate	2.75	70	Pn	Pn	12 15 14.3	+4.2
TNTI	Ternate	2.75	70	P	Pn	12 15 13.1	+3.0
LBMI	Labuha	2.76	100	P	Pn	12 15 12.3	+2.0
NLAI	Namlea	3.84	143	P	Pn	12 15 25.8	+0.7
SGSI	Sangihe	3.89	11	P	Pn	12 15 27.7	+1.9
TOLI2	Tolitoli	4.19	287	Pn	Pn	12 15 33.2	+3.3
TTSI	Tana Toraja	5.73	240	P	Pn	12 15 51.2	+0.2
	77nm,0.6s,1µm0.4nm						
BBSI	Bau Bau	5.74	203	P	Pn	12 15 51.3	+0.1
	40nm,0.7s,0.1nm						
SPSI	Sidrap Palu	6.28	233	P	Pn	12 15 59.3	+0.8
BKSI	Bulukumba	6.93	222	P	Pn	12 16 08.3	+0.8
	42nm,0.5s,584nm0.2nm						
KAPI	Kappang	6.96	226	P	Pn	12 16 08.8	+0.9
	14nm,0.3s,baz=68,slow=7.3,SNR=9.1						
KAPI				S	Sn	12 17 27.6	+1.7
	16nm,0.3s,baz=158,slow=14,SNR=1.5						
	29nm,0.3s						
DAV	Davao City (W)	7.22	6	LR	LR	12 19 26.8	
	comp=Z,131nm,20.1s,baz=150,slow=41						
FAKI	Fak Fak	7.96	110	Pn	Pn	12 16 24.0	+2.4
FAKI	Fak Fak	7.96	110	P	Pn	12 16 22.8	+1.2
	16nm,0.9s,0.1nm						
MYLDM	Lahad Datu	8.21	310	Pn	Pn	12 16 30.0	+4.9
EDFI	Ende, Flores	9.08	200	P	Pn	12 16 38.3	+1.3
SOEI	Soe	9.55	183	Pn	Pn	12 16 48.2	+4.6
SOEI	Soe	9.55	183	P	Pn	12 16 44.3	+0.8
	24nm,0.7s						
KMPI	Kaimana, Papua	9.57	111	P	Pn	12 16 45.0	+1.2
	241nm,0.8s						
BATI	Baumata	10.05	186	LR	LR	12 21 16.8	
	comp=Z,80nm,18.2s,baz=320,slow=40						
KKM	Kota Kinabalu	10.54	306	Pn	Pn	12 16 57.9	+0.9
MTN	Manton Dam	14.09	154	Pn	Pn	12 17 46.0	+0.6
KNRA	Kununurra	15.92	166		P	12 18 11.7	-0.2
KNRA				IAmb	IAmb	12 18 34.3	
	comp=Z,12nm,1.0s						
MBWA	Marble Bar	21.45	193	P	P	12 19 12.1	-0.4
MBWA				IAmb	IAmb	12 19 22.0	
	comp=Z,21nm,1.4s						
WB0	Warramunga Arr	21.65	155	P	P	12 19 13.4	-1.3
WB0				IAmb	IAmb	12 19 14.7	
	comp=Z,6.0nm,0.7s						
WRAB	Tennant Creek	21.78	155	P	P	12 19 14.1	-1.9
WRA	Warramunga Arr	21.78	155	P	P	12 19 14.3	-1.7
WRA	Warramunga Arr	21.78	155	P	P	12 19 15.2	-0.9
	comp=Z,2.4nm,0.5s,baz=332,slow=11,SNR=24						
	comp=Z,2.4nm,0.5s						
WB2	Warramunga Arr	21.79	155	P	P	12 19 14.0	-2.1
WB2				IAmb	IAmb	12 19 36.8	
	comp=Z,7.4nm,0.8s						
PSA00	Pilbara Seismi	21.82	192	P	P	12 19 15.7	-0.8
WR0	Warramunga Arr	21.88	155	P	P	12 19 16.3	-0.8
WR0				IAmb	IAmb	12 19 37.8	
	comp=Z,5.7nm,0.8s						
AS31	Alice Springs	24.99	160	P	P	12 19 48.6	+1.1
ASAR	Alice Springs	24.99	160	P	P	12 19 48.6	+1.1
ASAR	Alice Springs	24.99	160	P	P	12 19 47.4	-0.1
	comp=Z,5.8nm,0.8s,baz=326,slow=6.8,SNR=42						
ASAR				PcP	PcP	12 23 22.2	+0.5
	comp=Z,0.6nm,0.4s,baz=341,slow=2.0,SNR=7.8						
	comp=Z,5.8nm,0.8s						
FORT	Forrest	30.61	174	P	P	12 20 37.1	-0.5
CMAR	Chiang Mai Arr	31.41	307	P	P	12 20 42.7	-2.2
	comp=Z,4.9nm,0.3s,baz=130,slow=7.0,SNR=3.5						
	comp=Z,4.9nm,0.3s						
PZH	PanZhiHua	34.57	322	P	P	12 21 13.9	+1.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,6.2s						
STKA	Stephens Creek	35.33	155	P	P	12 21 18.9	0.0
STKA				IAmb	IAmb	12 22 01.6	
	comp=Z,2.3nm,1.4s						
STKA	Stephens Creek	35.33	155	P	P	12 21 19.1	+0.3
	comp=Z,2.3nm,0.5s,baz=340,slow=8.5,SNR=8.8						
	comp=Z,2.3nm,0.5s						
XAN	Xi'an	37.13	338	⇓P	P	12 21 34.5	+0.3
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MJAR	Matsushiro Arr	38.58	17	P	P	12 21 46.0	-0.4
	comp=Z,1.9nm,0.7s,baz=185,slow=8.8,SNR=4.3						
	comp=Z,1.9nm,0.7s						
HHC	Hu-ho-hao-te	42.54	345	eP	P	12 22 20.0	+0.9
HHC				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC				pmax	pmax		
	comp=Z,150nm,5.4s						
CN2	Changchun	43.77	1	eP	P	12 22 31.4	+2.6
CN2				esP	sP	12 22 58.8	+11
CN2				ePP	PcP	12 24 16.2	+1.4
CN2				eS	S	12 28 56.0	+0.5
CN2				esS	sS	12 29 28.0	+11
USRK	Ussuriysk Ar.	44.63	7	P	P	12 22 36.2	+0.5
	comp=Z,2.5nm,0.4s,baz=191,slow=7.1,SNR=10						
	comp=Z,2.5nm,0.4s						
GTA	Gaotai	45.52	333	eP	P	12 22 43.6	+0.5
GTA				pP	pP	12 22 47.5	-8.4
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
JIRN	Jiri	46.21	310	eP	P	12 22 49.0	0.0
	comp=Z,4.6nm,0.2s						
GUN	Gumba	46.57	310	eP	P	12 22 50.4	-1.4
	comp=Z,7.3nm,0.4s						
DANN	Dangsing	48.41	309	eP	P	12 23 04.7	-1.3
	comp=Z,23nm,0.6s						
PYUN	Piuthan	48.90	309	eP	P	12 23 08.8	-0.8
	comp=Z,22nm,0.5s						
HEH	HeiHe	50.27	2	eP	P	12 23 19.2	-0.2
HEH				pmax	pmax		
	comp=Z,14nm,0.8s						
HEH				pmax	pmax		
	comp=Z,200nm,5.0s						
SONM	Songino Array	50.40	344	P	P	12 23 20.9	+0.2
SONM				IAmb	IAmb	12 23 22.1	
	comp=Z,2.2nm,0.9s						
SONM	Songino Array	50.40	344	P	P	12 23 19.7	-0.9
	comp=Z,1.9nm,0.8s,baz=140,slow=5.7,SNR=9.9						
	comp=Z,1.9nm,0.8s						
WMQ	Urumqi	54.86	328	eP	P	12 23 55.4	+1.8
KSH	Kashi	59.49	317	P	P	12 24 27.3	+0.8
KSH				pmax	pmax		
	comp=Z,5.0nm,1.2s						
MK31	Makanchi Array	59.69	327	P	P	12 24 25.8	-1.8
MKAR	Makanchi Array	59.69	327	P	P	12 24 25.4	-2.2
MKAR	Makanchi Array	59.69	327	P	P	12 24 25.7	-1.9
	comp=Z,3.6nm,0.5s,baz=122,slow=8.5,SNR=45						
	comp=Z,3.6nm,0.5s						
ZALV	Zalesovo Beam	63.20	335	P	P	12 24 49.6	-1.4
	comp=Z,1.1nm,0.4s,baz=120,slow=6.0,SNR=7.3						
	comp=Z,1.1nm,0.4s						
KURBB	Kurchatov Arra	64.00	329	P	P	12 24 54.5	-1.9
	comp=Z,2.9nm,0.6s,baz=132,slow=6.4,SNR=22						
	comp=Z,2.9nm,0.6s						
KURK	Kurchatov	64.01	329	P	P	12 24 54.5	-1.9
BVAR	Borovoye Array	69.54	328	P	P	12 25 30.5	-1.2
	comp=Z,1.5nm,0.6s,baz=138,slow=9.1,SNR=5.8						
	comp=Z,1.5nm,0.6s						
ABKAR	Akbulak array	73.94	322	P	P	12 25 56.7	-1.5
ABKAR	Akbulak array	73.94	322	P	P	12 25 56.5	-1.7
OPO	Ambohidratompo	78.19	251	LR	LR	12 56 32.0	
	comp=Z,43nm,19.9s,baz=182,slow=32						
VNDA	Vanda	79.85	172	P	P	12 26 28.8	-2.2
VNDA				IAmb	IAmb	12 26 52.0	
	comp=Z,3.7nm,1.3s						
ILAR	Eielson Array	89.42	25	P	P	12 27 18.0	-1.4
	comp=Z,0.2nm,0.7s,baz=241,slow=4.6,SNR=5.6						
	comp=Z,0.2nm,0.7s						
QSPA	South Pole Qui	89.78	180		P	12 27 19.9	-1.2
QSPA				IAmb	IAmb	12 28 00.0	
	comp=Z,1.8nm,1.1s						
ARCES	ARCESS Array B	93.39	340	P	P	12 27 36.9	-0.8
	comp=Z,2.2nm,0.8s,baz=78,slow=7.6,SNR=4.9						
	comp=Z,2.2nm,0.8s						
FINES	FINESS Array B	94.30	332	P	P	12 27 40.2	-1.8
	comp=Z,1.4nm,0.8s,baz=54,slow=3.3,SNR=5.1						
	comp=Z,1.4nm,0.8s						

TAP 02 12:15:59.9, 23°.31N×120°.96E, h4km±1km, ML1.2, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELDTW	Lidau	0.13	156	i P	Pg	12 16 03.9	+1.3
	baz=153						
ELDTW				i S	Sg	12 16 05.9	+1.6
	baz=153						
STYH	Taoyuan	0.22	231	i P	Pg	12 16 05.1	+1.0
	baz=231						
STYH				S	Sg	12 16 08.0	+0.9
	baz=231						
ALS	Alishan	0.25	325	P	Pg	12 16 06.0	+1.2
	baz=325						
ALS				S	Sg	12 16 09.6	+1.5
	baz=325						
EHD	Haiduan	0.28	125	i P	Pb	12 16 06.7	-0.8
	baz=125						
EHD				S	Sg	12 16 10.2	+1.3
	baz=125						
TPUB	Ta-pu	0.30	269	i P	Pb	12 16 07.4	-0.6

	baz=268								
TPUB				*i*	S		Sb	12 16 11.8	-1.5
	baz=268								
TWF1	**Yuli**	**0.31**	**82**		P		Pb	12 16 07.4	-0.7
	baz=82								
TWF1				*e*	S		Sg	12 16 11.6	+1.4
	baz=82								
YULB	**Yu-li**	**0.32**	**75**	*i*	P		Pb	12 16 07.3	-0.9
	baz=74								
YULB				*e*	S		Sg	12 16 11.3	+0.9
	baz=74								
WTP	**Ta-pu**	**0.32**	**259**	*i*	P		Pb	12 16 07.7	-0.6
	baz=258								
WTP				*i*	S		Sb	12 16 12.5	-1.4
	baz=258								
FULB	**Fuli**	**0.33**	**109**	*i*	P		Pb	12 16 08.4	+0.1
	baz=109								
FULB				*e*	S		Sb	12 16 13.7	-0.2
	baz=109								
CHN4	**Tsaushan**	**0.34**	**277**		P		Pb	12 16 08.3	-0.2
	baz=277								
CHN4					S		Sb	12 16 13.5	-0.9
	baz=277								
WCKO	**Fanlu**	**0.35**	**292**	*e*	P		Pb	12 16 08.7	-0.1
	baz=291								
WCKO					S		Sb	12 16 14.1	-0.6
	baz=291								
WHYT	**Xinyi Township**	**0.40**	**346**		P		Pb	12 16 08.9	-0.7
	baz=345								
WHYT				*e*	S		Sb	12 16 15.1	-0.9
	baz=345								
CHN1	**Nanshi**	**0.42**	**253**		P		Pb	12 16 09.9	+0.1
	baz=252								
CHN1					S		Sb	12 16 16.4	-0.1
	baz=252								
SLGT	**Liugui**	**0.43**	**223**	*e*	P		Pb	12 16 09.3	-0.7
	baz=222								
SLGT				*e*	S		Sb	12 16 15.8	-1.0
	baz=222								
LONT	**Longtian**	**0.43**	**159**	*e*	S		Sg	12 16 15.0	+1.2
	baz=158								
TWK	**Hsinying**	**0.44**	**265**		S		Sb	12 16 17.0	-0.1
	baz=264								
HGSD	**Ruisui**	**0.46**	**67**	*e*	P		Pb	12 16 11.5	+0.8
	baz=66								
HGSD				*e*	S		Sb	12 16 18.4	+0.6
	baz=66								
VWDT	**VWDT**	**0.47**	**21**		P		Pg	12 16 09.8	+0.7
	baz=20								
VWDT				*e*	S		Sb	12 16 19.4	+1.3
	baz=20								
SSLB	**Suanglung**	**0.48**	**359**		P		Pg	12 16 09.9	+0.8
	baz=359								
WARBT	**Fenglin Townsh**	**0.56**	**44**		P		Pb	12 16 12.0	-0.5
	baz=43								
WARBT				*e*	S		Sb	12 16 20.0	-0.9
	baz=43								

TAP 02 12:16:12.9, 23.59N×120.74E, h15km, ML1.3, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN5	**Tsauling**	**0.06**	**277**	*i* S	Sg	12 16 18.4	+0.5
	baz=276						
ALS	**Alishan**	**0.10**	**144**	*i* P	Pg	12 16 17.0	+0.5
	baz=141						
ALS				*i* S	Sg	12 16 20.0	+1.2
	baz=141						
WHYT	**Xinyi Township**	**0.15**	**44**	*i* P	Pb	12 16 17.3	-0.2
	baz=44						
WHYT				*i* S	Sb	12 16 20.3	-0.1
	baz=44						
WGK	**Gukeng**	**0.19**	**300**	*e*P	Pb	12 16 18.1	-0.1
	baz=300						
WCKO	**Fanlu**	**0.20**	**220**	S	Sb	12 16 21.5	-0.3
	baz=219						
WDLH	**Douliu**	**0.21**	**298**	P	Pb	12 16 18.4	-0.1
	baz=297						
WDLH				*e*S	Sb	12 16 22.3	+0.1
	baz=297						
WJS	**Zhushan**	**0.23**	**357**	S	Sb	12 16 23.1	+0.3
	baz=356						
CHN4	**Tsaushan**	**0.27**	**210**	P	Pb	12 16 19.7	+0.2
	baz=209						
CHN4				S	Sb	12 16 24.9	+0.9
	baz=209						
SSLB	**Suanglung**	**0.28**	**45**	*i* P	Pb	12 16 19.5	-0.1
	baz=44						
SSLB				*i* S	Sb	12 16 24.2	+0.1
	baz=44						
WNT	**Mingjian**	**0.29**	**350**	S	Sb	12 16 25.2	+0.6
	baz=350						
CHY	**Chiayi**	**0.31**	**253**	*e*S	Sb	12 16 25.2	+0.3
	baz=251						
TPUB	**Ta-pu**	**0.31**	**200**	*i* P	Pb	12 16 19.9	-0.2
	baz=199						
TPUB				S	Sb	12 16 25.1	+0.2
	baz=199						
TYC	**Yuchr**	**0.33**	**19**	*e*P	Pb	12 16 20.9	+0.4
	baz=20						
WTK	**Tuku**	**0.34**	**287**	P	Pb	12 16 20.6	-0.1
	baz=286						
WTK				S	Sb	12 16 26.1	+0.3
	baz=286						
WTP	**Ta-pu**	**0.36**	**199**	*e*P	Pb	12 16 20.8	-0.3
	baz=197						
WTP				S	Sb	12 16 26.8	+0.2
	baz=197						
TWK	**Hsinying**	**0.40**	**216**	S	Sb	12 16 28.0	+0.4
	baz=214						
VWDT	**VWDT**	**0.40**	**66**	S	Sb	12 16 28.4	+0.7
	baz=66						
STYH	**Taoyuan**	**0.42**	**176**	*e*P	Pb	12 16 22.0	0.0
	baz=174						
STYH				S	Sb	12 16 27.8	-0.4
	baz=174						
SNST	**Tainan City**	**0.43**	**211**	*e*S	Sb	12 16 29.7	+1.2
	baz=211						
CHN1	**Nanshi**	**0.45**	**206**	P	Pb	12 16 23.1	+0.5
	baz=205						
CHN1				S	Sb	12 16 29.7	+0.6
	baz=205						
WCS	**Beigang Elemen**	**0.49**	**18**	P	Pb	12 16 23.3	+0.1
	baz=18						
WCS				*e*S	Sb	12 16 30.7	+0.5
	baz=18						
WARBT	**Fenglin Townsh**	**0.60**	**78**	*e*S	Sb	12 16 33.7	+0.1
	baz=77						
EHD	**Haiduan**	**0.61**	**136**	*e*P	Pb	12 16 25.7	+0.3
	baz=135						
EHD				*e*S	Sb	12 16 34.2	+0.5
	baz=135						
ECS	**Chishang**	**0.66**	**138**	*e*P	Pb	12 16 26.4	+0.2
	baz=138						
ECS				*e*S	Sb	12 16 35.0	-0.1
	baz=138						

*AFAD **02** 12:17:30.6±0.0, 40.84N×28.20E, h7km±3km, ML3.0*
*THE **02** 12:17:31.9, 40.92N×28.24E, h11km±8km, ML2.5/4, Error ellipse: s-maj=9.8km s-min=1.1km az=117.0*
ISC 02 12:17:30.8±1.2, 40.88N±0.04×28.22E±0.03, h7km±10km, n19, σ0.68/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAND	**Balkesir-Ban**	**0.54**	**190**	P	**Pg**	**12 17 40.8**	**-0.3**
BAND				*i* AML	AML	12 17 48.0	
	comp=N,411nm,0.3s						
BAND				*i* AML	AML	12 17 48.0	
	comp=E,411nm,0.3s						
BAND				S	**S**	**12 17 48.0**	**-0.2**
ISK	**Istanbul-Kandi**	**0.66**	**74**	P	**Pg**	**12 17 43.9**	**+0.4**
ISK				S	**Sg**	**12 17 53.4**	**+1.4**
	308nm,0.3s						
TUZL	**Tuzla-Istanbul**	**0.79**	**95**	P	**Pg**	**12 17 44.2**	**-1.8**
IGD	**Bursa**	**0.97**	**129**	P	**Pg**	**12 17 49.0**	**-0.4**
IGD				*i* AML	AML	12 18 04.0	
	comp=N,175nm,0.4s						
ULDT	**Uludag**	**1.02**	**137**	P	**Pg**	**12 17 49.7**	**-0.6**
SEMS	**Kocaeli-K¶rfe**	**1.15**	**90**	P	**Pb**	**12 17 52.8**	**-0.2**
SEMS				S	**Sb**	**12 18 08.8**	**+0.8**
SEMS				*i* AML	AML	12 18 10.0	
	comp=N,633nm,0.4s						
SEMS				*i* AML	AML	12 18 10.0	
	comp=E,502nm,0.4s						
BKES	**Balkesir-Mer**	**1.17**	**191**	P	**Pb**	**12 17 52.5**	**-0.9**
BKES				S	**Sg**	**12 18 08.1**	**-0.3**
BKES				*i* AML	AML	12 18 09.0	
	comp=N,291nm,0.3s						
BKES				*i* AML	AML	12 18 10.0	
	comp=E,466nm,0.5s						
KIRK	**Kırklareli**	**1.23**	**317**	P	**Pn**	**12 17 54.5**	**0.0**
KIRK				S	**Sn**	**12 18 11.6**	**+0.2**
KIRK				*i* AML	AML	12 18 14.0	
	comp=N,108nm,0.2s						
HISA	**Bilecik-Osmane**	**1.36**	**107**	P	**Pn**	**12 17 55.9**	**-0.4**
HISA				S	**Sg**	**12 18 15.0**	**+0.6**
HISA				*i* AML	AML	12 18 16.0	
	comp=N,326nm,0.7s						
HISA				*i* AML	AML	12 18 16.0	
	comp=E,225nm,0.6s						
BILE	**Bilecik/Merkez**	**1.45**	**119**	P	**Pn**	**12 17 57.6**	**+0.1**
BILE				S	**Sb**	**12 18 17.4**	**+0.5**
EDRB	**Edirne**	**1.47**	**311**	P	**Pn**	**12 17 57.8**	**+0.1**
EDRB				S	**Sn**	**12 18 17.1**	**-0.1**
	95nm,0.3s						
STEP	**BALIKESIR_Sava**	**1.56**	**195**	P	**Pg**	**12 18 01.0**	**+0.4**
STEP				S	**Sn**	**12 18 19.4**	**+0.1**
STEP				*i* AML	AML	12 18 25.0	
	comp=N,224nm,0.6s						
STEP				*i* AML	AML	12 18 26.0	
	comp=E,316nm,0.9s						
ENEZ	**Enez**	**1.58**	**265**	P	**Pn**	**12 17 58.5**	**-0.7**
BUHA	**Balikesir, Bur**	**1.64**	**213**	P	**Pb**	**12 18 01.7**	**+0.4**
BUHA				S	**Sb**	**12 18 22.8**	**+0.7**
BUHA				*i* AML	AML	12 18 25.0	
	comp=N,349nm,0.4s						
BUHA				*i* AML	AML	12 18 25.0	
	comp=E,377nm,0.6s						
ALN	**Alexandroupoli**	**1.65**	**271**	P	**Pn**	**12 17 59.2**	**-1.0**
ALN				S	**Sn**	**12 18 21.4**	**-0.2**
	115nm,0.6s						
BAYC	**CANAKKALE_Bayr**	**1.72**	**229**	P	**Pn**	**12 18 01.7**	**+0.6**
BAYC				S	**Sn**	**12 18 22.5**	**-0.8**
BAYC				*i* AML	AML	12 18 26.0	
	comp=N,190nm,0.4s						
BAYC				*i* AML	AML	12 18 26.0	
	comp=E,157nm,0.2s						
EZN	**Ezine**	**1.79**	**235**	P	**Pn**	**12 18 02.9**	**+0.8**
RDO	**Rodhopi**	**2.05**	**278**	P	**Pn**	**12 18 05.6**	**-0.1**
RDO				S	**Sn**	**12 18 30.8**	**-0.7**
	108nm,0.3s						
PRK	**Paraskevi**	**2.22**	**223**	P	**Pn**	**12 18 08.8**	**+0.8**

*NNC **02** 12:27:50.9±0.7, 42.99N×77.67E, h0km, mb3.0, mpv2.9, Error ellipse: s-maj=6.3km s-min=2.5km az=179.0*
*KRNET **02** 12:27:51.1±0.1, 42.97N×77.68E, h20km, mb2.6*
*SOME **02** 12:27:51.4, 42.97N×77.68E, h15km*
ISC 02 12:27:51.1±0.9, 42.98N±0.02×77.69E±0.01, h11km±8km, n55, σ0.58/108, 14C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo**	**0.20**	**185**	⇓*e*P	**Pg**	**12 27 55.7**	**+0.2**
	baz=84						
ANVS				⇓*e*S	**Sg**	**12 27 58.6**	**+0.1**
	baz=84						
KOTS	**Kotyrbulak**	**0.49**	**301**	*e*P	**Pg**	**12 28 00.9**	**+0.1**
	baz=2.0						
KOTS				*e*S	**Sg**	**12 28 07.7**	**+0.3**
	baz=2.0						
KOTS	**Kotyrbulak**	**0.49**	**301**	*e*P	**Pg**	**12 28 00.8**	**+0.1**
	2.7nm,0.1s						
KOTS				*e*S	**Sg**	**12 28 07.6**	**+0.3**
	9.3nm,0.1s						
KOTS	**Kotyrbulak**	**0.49**	**301**	P	**Pg**	**12 28 00.8**	**+0.1**
	2.7nm,0.1s						
KOTS				S	**Sg**	**12 28 07.6**	**+0.3**
	9.3nm,0.1s						
MDOK	**Medeo**	**0.50**	**291**	*e*P	**Pg**	**12 28 00.9**	**-0.1**
	baz=92						
MDOK				*e*S	**Sg**	**12 28 08.0**	**+0.3**
	baz=92						
MDOK	**Medeo**	**0.50**	**291**	*e*P	**Pg**	**12 28 00.9**	**-0.1**
	4.2nm,0.2s						
MDOK				*e*S	**Sg**	**12 28 08.0**	**+0.3**
	18nm,0.2s						
MDOK	**Medeo**	**0.50**	**291**	Pg	**Pg**	**12 28 00.9**	**-0.1**
	4.2nm,0.2s						
MDOK				Lg	Lg	12 28 08.0	
	18nm,0.2s						
SATY	**Saty**	**0.53**	**81**	*e*P	**Pg**	**12 28 01.4**	**-0.1**
	baz=81						
SATY				*e*S	**Sg**	**12 28 08.9**	**+0.3**
	baz=81						
SATY	**Saty**	**0.53**	**81**	*e*P	**Pg**	**12 28 01.4**	**-0.1**
	4.4nm,0.1s						
SATY				*e*S	**Sg**	**12 28 08.9**	**+0.3**
	104nm,0.1s						
SATY	**Saty**	**0.53**	**81**	P	**Pg**	**12 28 01.4**	**-0.1**
	4.4nm,0.1s						
SATY				S	**Sg**	**12 28 08.9**	**+0.3**
	104nm,0.1s						
TNSS	**Tian-Shan**	**0.55**	**276**	*e*P	**Pg**	**12 28 01.7**	**-0.2**
	baz=77						
TNSS				*e*S	**Sg**	**12 28 09.3**	**+0.1**
	baz=77						
TNSS	**Tian-Shan**	**0.55**	**276**	*e*P	**Pg**	**12 28 01.7**	**-0.2**
	2.6nm,0.1s						
TNSS				*e*S	**Sg**	**12 28 09.3**	**+0.1**
	5.9nm,0.1s						
TNSS	**Tian-Shan**	**0.55**	**276**	P	**Pg**	**12 28 01.7**	**-0.2**
	2.6nm,0.1s						
TNSS				S	**Sg**	**12 28 09.3**	**+0.1**
	5.9nm,0.1s						
ZHN	**Zhinishke**	**0.58**	**71**	*e*P	**Pg**	**12 28 02.3**	**-0.1**
	baz=70						
ZHN				*e*S	**Sg**	**12 28 10.2**	**+0.1**
	baz=70						
ZHN	**Zhinishke**	**0.58**	**71**	*e*P	**Pg**	**12 28 02.3**	**-0.1**
	5.6nm,0.1s						
ZHN				*e*S	**Sg**	**12 28 10.1**	**+0.1**
	92nm,0.1s						
ZHN	**Zhinishke**	**0.58**	**71**	P	**Pg**	**12 28 02.3**	**-0.1**
	5.6nm,0.1s						
ZHN				S	**Sg**	**12 28 10.1**	**+0.1**
	92nm,0.1s						
KURS	**Kuram**	**0.61**	**35**	*e*P	**Pg**	**12 28 03.4**	**+0.3**
	baz=35						
KURS				*e*S	**Sg**	**12 28 12.1**	**+0.9**
	baz=35						
KURS	**Kuram**	**0.61**	**35**	*e*P	**Pg**	**12 28 03.4**	**+0.3**
	1.7nm,0.1s						
KURS				*e*S	**Sg**	**12 28 12.1**	**+0.9**
	14nm,0.1s						
KURS	**Kuram**	**0.61**	**35**	P	**Pg**	**12 28 03.4**	**+0.3**
	1.7nm,0.1s						
KURS				S	**Sg**	**12 28 12.1**	**+0.9**
	14nm,0.1s						
PRZ	**Przheval'sk**	**0.72**	**133**	⇑*i*P	**Pg**	**12 28 05.1**	**-0.1**
	baz=32						
PRZ				⇑*i*S	**Sg**	**12 28 14.6**	**0.0**
	baz=32						
KPKS	**Kokpek**	**0.87**	**56**	*e*P	**Pg**	**12 28 07.9**	**-0.1**
	baz=56						
KPKS				*e*S	**Sg**	**12 28 19.9**	**+0.5**
	baz=56						
KPKS	**Kokpek**	**0.87**	**56**	*e*P	**Pg**	**12 28 07.8**	**-0.1**
	1.7nm,0.1s						
KPKS				*e*S	**Sg**	**12 28 19.8**	**+0.5**
	9.1nm,0.2s						
KPKS	**Kokpek**	**0.87**	**56**	P	**Pg**	**12 28 08.2**	**+0.3**
	1.7nm,0.1s						
KPKS				S	**Sg**	**12 28 19.8**	**+0.5**
	9.1nm,0.2s						
UZB	**Uzynbulak**	**0.99**	**80**	*e*P	**Pg**	**12 28 09.4**	**-0.8**
	baz=80						
UZB				*e*S	**Sg**	**12 28 22.4**	**-0.8**
	baz=80						
UZB	**Uzynbulak**	**0.99**	**80**	*e*P	**Pg**	**12 28 09.4**	**-0.8**
	1.7nm,0.1s						
UZB				*e*S	**Sg**	**12 28 22.4**	**-0.8**
	4.3nm,0.1s						
UZB	**Uzynbulak**	**0.99**	**80**	P	**Pg**	**12 28 09.4**	**-0.8**
	1.7nm,0.1s						
UZB				S	**Sg**	**12 28 22.4**	**-0.8**
	4.3nm,0.1s						
CHKK	**Chushkaly**	**1.01**	**330**	*e*P	**Pg**	**12 28 10.1**	**-0.5**
	baz=31						
CHKK				*e*S	**Sg**	**12 28 23.8**	**+0.1**
	baz=31						
CHKK	**Chushkaly**	**1.01**	**330**	*e*P	**Pg**	**12 28 10.1**	**-0.5**
	7.2nm,0.2s						
CHKK				*e*S	**Sg**	**12 28 23.8**	**+0.1**
	21nm,0.2s						
CHKK	**Chushkaly**	**1.01**	**330**	P	**Pg**	**12 28 10.1**	**-0.5**
	7.2nm,0.2s						
CHKK				S	**Sg**	**12 28 23.8**	**+0.1**
	21nm,0.2s						
KTBS	**Karatobe**	**1.03**	**315**	*e*P	**Pg**	**12 28 10.5**	**-0.6**
	baz=16						
KTBS				*e*S	**Sg**	**12 28 24.3**	**-0.2**
	baz=16						
KTBS	**Karatobe**	**1.03**	**315**	*e*P	**Pg**	**12 28 10.5**	**-0.6**
	2.8nm,0.2s						
KTBS				*e*S	**Sg**	**12 28 24.3**	**-0.2**
	11nm,0.2s						
KTBS	**Karatobe**	**1.03**	**315**	P	**Pg**	**12 28 10.5**	**-0.6**
	2.8nm,0.2s						
KTBS				S	**Sg**	**12 28 24.3**	**-0.2**
	11nm,0.2s						
ARXS	**Arharly**	**1.23**	**5**	*e*P	**Pn**	**12 28 14.2**	**-0.2**
	6.8nm,0.2s						
ARXS				*e*S	**Sb**	**12 28 30.6**	**0.0**
	17nm,0.2s						
ARXS	**Arharly**	**1.23**	**5**	P	**Pn**	**12 28 14.2**	**-0.2**
	6.8nm,0.2s						
ARXS				S	**Sb**	**12 28 30.6**	**0.0**
	17nm,0.2s						
BLB	**Baldybastay**	**1.25**	**27**	P	**Pn**	**12 28 14.6**	**-0.2**
	4.0nm,0.1s						
BLB				S	**Sb**	**12 28 31.3**	**+0.1**
	8.3nm,0.3s						
KST	**Kastek**	**1.27**	**273**	*e*P	**Pn**	**12 28 14.5**	**-0.5**
	baz=74						
KST				*e*S	**Sb**	**12 28 31.2**	**-0.4**
	baz=74						
KST	**Kastek**	**1.27**	**273**	*e*P	**Pn**	**12 28 14.5**	**-0.5**
	2.0nm,0.1s						
KST				*e*S	**Sb**	**12 28 31.1**	**-0.4**
	2.5nm,0.1s						
KST	**Kastek**	**1.27**	**273**	P	**Pn**	**12 28 14.5**	**-0.5**
	2.0nm,0.1s						
KST				S	**Sb**	**12 28 31.1**	**-0.4**
	2.5nm,0.1s						
ULHL	**Ulahol**	**1.30**	**236**	⇑*i*P	**Pn**	**12 28 15.0**	**-0.5**
	baz=36						
ULHL				⇑*i*S	**Sb**	**12 28 31.9**	**-0.6**
	baz=36						
KUU	**Kurty**	**1.34**	**313**	*e*P	**Pn**	**12 28 15.9**	**0.0**
	baz=14						
KUU				*e*S	**Sb**	**12 28 33.6**	**0.0**
	baz=14						
KUU	**Kurty**	**1.34**	**313**	*e*P	**Pn**	**12 28 15.9**	**0.0**
	2.6nm,0.3s						
KUU				*e*S	**Sb**	**12 28 33.5**	**0.0**
	30nm,0.4s						
KUU	**Kurty**	**1.34**	**313**	P	**Pn**	**12 28 15.9**	**0.0**
	2.6nm,0.3s						
KUU				S	**Sb**	**12 28 33.5**	**0.0**
	30nm,0.4s						
PDGK	**Podgornoye**	**1.36**	**75**	P	**Pn**	**12 28 16.5**	**+0.2**
	0.3nm,0.1s						
PDGK				S	**Sb**	**12 28 34.2**	**-0.1**
	0.9nm,0.3s						
BOOM	**Boomskoye usch**	**1.38**	**250**	⇑*i*P	**Pn**	**12 28 16.4**	**-0.2**
	baz=50						
BOOM				⇑*i*S	**Sb**	**12 28 34.7**	**-0.1**
	baz=50						
DGS	**Degeres**	**1.43**	**281**	*e*P	**Pn**	**12 28 17.4**	**+0.3**
	baz=81						
DGS				*e*S	**Sn**	**12 28 35.5**	**-0.5**
	baz=81						
DGS	**Degeres**	**1.43**	**281**	*e*P	**Pn**	**12 28 17.4**	**+0.3**
	1.3nm,0.2s						
DGS				*e*S	**Sn**	**12 28 35.6**	**-0.5**
	3.9nm,0.2s						
DGS	**Degeres**	**1.43**	**281**	P	**Pn**	**12 28 17.4**	**+0.3**
	1.3nm,0.2s						
DGS				S	**Sn**	**12 28 35.6**	**-0.5**
	3.9nm,0.2s						
TKM2	**Tokmak 2**	**1.54**	**268**	⇑*i*P	**Pn**	**12 28 19.3**	**+0.5**
	baz=69						
TKM2				⇑*i*S	**Sb**	**12 28 39.7**	**+0.3**
	baz=69						
KNOS	**Konyrlen**	**1.75**	**38**	P	**Pb**	**12 28 23.0**	**-0.4**
	2.1nm,0.2s						
KNOS				S	**Sb**	**12 28 46.2**	**+0.7**
	5.1nm,0.3s						
KZA	**Kyzart**	**2.02**	**244**	*i* P	**Pb**	**12 28 26.9**	**-1.2**
	baz=44						
KZA				*i* S	**Sb**	**12 28 53.1**	**-0.3**
	baz=44						
KBK	**Karagaybulak**	**2.04**	**262**	⇑*i*P	**Pn**	**12 28 27.1**	**+1.4**
	baz=62						
KBK				⇑*i*S	**Sb**	**12 28 53.6**	**-0.3**
	baz=62						
SGDS	**Sogindy**	**2.29**	**283**	Pg	**Pb**	**12 28 31.5**	**-1.0**
	2.2nm,0.3s						
SGDS				Lg	Lg	12 29 01.3	
	4.2nm,0.2s						
UCH	**Uchtor**	**2.46**	**253**	⇑*i*P	**Pn**	**12 28 33.3**	**+1.6**
	baz=53						
UCH				⇑*i*S	**Sn**	**12 29 03.6**	**+1.6**
	baz=53						
EKS2	**Erkin-Say**	**2.90**	**265**	⇑*i*P	**Pn**	**12 28 39.1**	**+1.7**
	baz=65						
EKS2				⇑*i*S	**Sn**	**12 29 13.9**	**+1.6**
	baz=65						
AML	**Almayashu**	**3.07**	**255**	⇓*i*P	**Pn**	**12 28 41.8**	**+1.8**
	baz=55						
AML				⇓*i*S	**Sn**	**12 29 18.6**	**+1.6**
	baz=55						

*SOME **02** 12:27:55.3, 42.77N×83.03E, h10km*
*NNC **02** 12:27:58.6±2.7, 42.76N×82.74E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=22.1km s-min=10.5km az=140.0*
ISC 02 12:27:59.9±2.4, 42.9N±0.1×82.7E±0.1, h10km, n26, σ2.37/30, 8C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.78**	**288**	*e*Pg	**Pb**	**12 28 33.6**	**+0.8**
	26nm,0.5s						
KTMS				*e*Lg	Lg	12 29 01.4	
	91nm,0.1s						
KTMS	**Ketmen**	**1.78**	**288**	Pg	**Pb**	**12 28 33.7**	**+0.9**
	26nm,0.5s						
PDGK	**Podgornoye**	**2.37**	**281**	⇓Pg	**Pb**	**12 28 42.7**	**-0.1**
	8.0nm,0.3s						
PDGK				⇑Lg	Lg	12 29 18.7	
	215nm,0.8s						
SHLS	**Shalkode**	**2.37**	**277**	*e*Pg	**Pn**	**12 28 38.2**	**-0.9**
	31nm,0.3s						
SHLS				*e*Lg	Lg	12 29 09.3	
	368nm,0.4s						
DJR	**Jarkent**	**2.53**	**305**	*e*Pg	**Pb**	**12 28 46.3**	**+0.9**
	19nm,0.3s						
DJR				*e*Lg	Lg	12 29 23.1	
	105nm,0.5s						
UZB	**Uzynbulak**	**2.69**	**276**	*e*Pg	**Pb**	**12 28 49.9**	**+1.6**
	11nm,0.2s						
UZB				*e*Lg	Lg	12 29 29.0	
	63nm,0.3s						
KPKS	**Kokpek**	**2.97**	**282**	*e*Pg	**Pb**	**12 28 54.2**	**+1.1**
	3.9nm,0.1s						
KPKS				*e*Lg	Lg	12 29 36.5	
	124nm,0.4s						
ZHN	**Zhinishke**	**3.12**	**276**	*e*Pg	**Pb**	**12 28 57.0**	**+1.4**
	5.5nm,0.1s						
ZHN				*e*Lg	Lg	12 29 41.1	
	49nm,0.2s						
SATY	**Saty**	**3.14**	**274**	*e*Pg	**Pb**	**12 28 56.9**	**+1.0**
	5.3nm,0.2s						
SATY				*e*Lg	Lg	12 29 41.2	
	38nm,0.3s						
KURS	**Kuram**	**3.35**	**281**	*e*Pg	**Pb**	**12 29 01.3**	**+1.9**
	6.2nm,0.6s						
KURS				*e*Lg	Lg	12 29 48.7	
	23nm,0.5s						
KAPS	**Kapalarasan**	**3.36**	**316**	*e*Pg	**Pb**	**12 29 01.4**	**+1.8**
	6.6nm,0.2s						
KAPS				*e*Lg	Lg	12 29 49.3	
	90nm,0.5s						
ARXS	**Arharly**	**3.76**	**292**	*e*Pg	**Pb**	**12 29 09.1**	**+2.7**
	11nm,0.4s						
ARXS				*e*Lg	Lg	12 30 02.3	
	34nm,0.5s						
MK31	**Makanchi Array**	**3.87**	**356**	⇓Pn	Pb	12 29 02.6	-5.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.5nm,0.3s,baz=183,slow=14,SNR=188						
MK31				⇓Pg	Pg	12 29 12.8	-1.3
	6.4nm,0.4s,baz=173,slow=17,SNR=36						
MK31				⇓Sn	Sb	12 29 52.6	-2.7
	9.9nm,0.5s,baz=169,slow=22,SNR=8.8						
MK31				⇑Lg	Lg	12 30 08.6	
	17nm,0.6s,baz=175,slow=25,SNR=4.4						
MAKZ	Makanchi	3.91	353	⇑Pn	Pn	12 29 02.5	+2.5
	0.8nm,0.3s						
MAKZ				⇑Pg	Pg	12 29 12.9	-1.9
	7.4nm,0.5s						
MAKZ				⇑Sn	Sb	12 29 52.6	-3.7
	0.9nm,0.2s						
MAKZ				⇓Lg	Lg	12 30 08.6	
	9.4nm,0.4s						
KOTS	Kotyrbulak	4.09	276	ePg	Pb	12 29 15.5	+3.3
	8.1nm,0.3s						
KOTS				eLg	Lg	12 30 13.5	
	69nm,0.6s						
MDOK	Medeo	4.14	275	ePg	Pg	12 29 16.4	-2.8
	6.8nm,0.5s						
MDOK				eLg	Lg	12 30 14.7	
	26nm,0.7s						
CHKK	Chushkaly	4.25	284	ePg	Pb	12 29 17.8	+3.0
	3.2nm,0.3s						
CHKK				eLg	Lg	12 30 17.2	
	20nm,0.5s						
KTBS	Karatobe	4.45	282	ePg	Pg	12 29 23.4	-1.8
	6.0nm,0.5s						
KTBS				eLg	Lg	12 30 26.1	
	23nm,0.5s						
MTBS	Maitube	4.59	275	ePg	Pb	12 29 23.9	+3.3
	3.0nm,0.4s						
MTBS				eLg	Lg	12 30 28.1	
	16nm,0.5s						
KUU	Kurty	4.72	284	ePg	Pg	12 29 27.2	-3.2
	2.5nm,0.1s						
KUU				eLg	Lg	12 30 33.5	
	47nm,0.7s						
ZSN	Zaisan	4.77	18	ePg	Pb	12 29 23.4	-0.3
	8.6nm,0.4s						
ZSN				eLg	Lg	12 30 26.5	
	39nm,0.8s						
KST	Kastek	4.93	274	ePg	Pb	12 29 30.2	+3.7
	3.9nm,0.4s						
KST				eLg	Lg	12 30 38.4	
	12nm,0.4s						
DGS	Degeres	5.07	276	ePg	Pg	12 29 33.6	-3.4
	6.5nm,0.4s						
DGS				eLg	Lg	12 30 44.0	
	18nm,0.5s						
TKM2	Tokmak 2	5.21	272	⇑Lg	Lg	12 30 46.0	
	12nm,0.7s						
KURBB	Kurchatov Arra	8.20	341	⇓Pn	Pn	12 30 00.6	+1.7
	2.1nm,0.6s						
KURBB				⇑Sn	Sn	12 31 34.7	+3.1
	12nm,0.7s						
KURK	Kurchatov	8.27	342	⇓Pn	Pn	12 30 00.6	+0.8
	4.3nm,1.5s						
KURK				⇑Sn	Sn	12 31 35.3	+2.1
	6.8nm,0.6s						

*KRSC **02** 12:29:00.8±1.0, 49°.09N×156°.55E, h66km±21km, Ml4.2*
*IDC **02** 12:29:04.1±3.0, 49°.72N×154°.82E, h135km±28km, mb3.3/6, mbtmp3.8/9, Error ellipse: s-maj=73.5km s-min=15.9km az=140.0*
ISC 02 12:29:00.2±0.9**, 49°.1N**±0°.1×**155°.7E**±0°.1**, h100km, n28, σ1s.25**/29**, mb3.5**/6**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.59	9	eP	Pn	12 29 28.5	+1.0
SKR				eS	Sn	12 29 48.6	+0.3
PAU	Pauzhetka	2.46	16	eP	Pn	12 29 40.4	+1.7
PAU				eS	Sn	12 30 09.2	+1.0
KDTR	Khodutka, Kamc	3.09	28	eP	Pn	12 29 47.5	+0.4
KDTR				eS	Sn	12 30 21.3	-1.9
ASAK	Asacha	3.55	22	eP	Pn	12 29 54.7	+1.3
ASAK				eS	Sn	12 30 34.6	+0.1
MTVR	Mutnovka	3.72	24	eP	Pn	12 29 56.7	+1.0
MTVR				eS	Sn	12 30 37.7	-0.8
GRL	Gorelyy	3.75	23	eP	Pn	12 29 57.7	+1.6
GRL				eS	Sn	12 30 39.3	0.0
KRMR	Karymshinskiy	4.02	21	eP	Pn	12 30 00.8	+1.2
PETK	Petropavlovsk-	4.19	17	P	Pn	12 30 01.8	-0.1
	16nm,0.5s,baz=182,slow=12,SNR=79						
PET	Petropavlovsk	4.33	24	eP	Pn	12 30 04.1	+0.4
DALK	Dalny	4.36	25	eP	Pn	12 30 05.1	+0.8
DALK				eS	Sn	12 30 51.5	-2.3
UGLR	Uglovaya	4.54	24	eP	Pn	12 30 08.5	+1.7
SMAR	Somma	4.58	24	eP	Pn	12 30 08.6	+1.2
KRX	Arik	4.63	22	eP	Pn	12 30 09.2	+1.2
SPN	Mys Shipunski	4.82	33	eP	Pn	12 30 10.8	+0.3
ASAJ	Asahikawa	10.31	246	P	Pn	12 31 25.1	+0.1
	6.7nm,0.4s,baz=61,slow=12,SNR=20						
MJAR	Matsushiro Arr	17.91	232	P	P	12 33 02.4	+0.4
	1.3nm,0.8s,baz=23,slow=9.3,SNR=5.0						
KSRS	Korea Array	23.21	250	P	P	12 33 56.2	-2.1
	1.3nm,0.7s,baz=63,slow=8.6,SNR=4.9						
	1.3nm,0.7s						
H11N2	WAKE ISLAND Hy	30.66	159	T	T	13 07 43.1	
	baz=346,slow=74,SNR=3.0						
H11N1	WAKE ISLAND Hy	30.68	159	T	T	13 07 32.5	
	baz=346,slow=74,SNR=6.1						
H11N3	WAKE ISLAND Hy	30.68	159	T	T	13 08 37.5	
	baz=346						
H11S1	WAKE ISLAND Hy	31.80	160	T	T	13 09 33.9	
	baz=346,slow=76,SNR=44						
H11S3	WAKE ISLAND Hy	31.81	160	T	T	13 09 30.9	
	baz=346,slow=76,SNR=53						
H11S2	WAKE ISLAND Hy	31.82	160	T	T	13 09 32.2	
	baz=346,slow=76,SNR=33						
ILAR	Eielson Array	33.61	41	P	P	12 35 30.1	-0.5
	0.4nm,0.7s,baz=260,slow=5.6,SNR=12						
	0.4nm,0.7s						
YKA	Yellowknife Ar	47.98	39	P	P	12 37 28.1	-0.3
	0.6nm,0.7s,baz=299,slow=7.9,SNR=7.9						
	0.6nm,0.7s						
PDAR	Pinedale Array	61.96	56	P	P	12 39 11.0	+1.4
	0.3nm,0.6s,baz=238,slow=2.8,SNR=3.6						
	0.3nm,0.6s						
SCHQ	Schefferville	70.44	25	P	P	12 40 01.4	-1.9
	4.2nm,1.0s,baz=340,slow=6.9,SNR=5.8						
	4.2nm,1.0s						
TXAR	Lajitas Array	74.83	63	P	P	12 40 31.1	+1.2
	0.5nm,0.5s,baz=292,slow=4.5,SNR=10						
	0.5nm,0.5s						

*NEIC **02** 12:36:42.7±0.6, 36°.189N±0°.010×98°.69W±0°.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.5km az=238.0*
TUL 02 12:36:43.3±0.7**, 36°.20N**±0°.01×**98°.67W**±0°.01**, h3km**±3km**, ML2.5, mb_Lg2.2**/10(NEIC)**, ML2.3**/14(NEIC)**, Error ellipse: s-maj=2.3km s-min=0.6km az=220.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK038	West end E0370	0.28	349	Pg	Pg	12 36 49.2	+0.5
OK038				Sg	Sg	12 36 53.1	+0.7
OK038				IAML		12 36 57.5	
	591nm,0.2s						
OK038				IAML		12 36 59.1	
	454nm,0.4s						
U32A	Winter Ranch,	0.32	304		Pg	12 36 49.4	0.0
U32A				Sg	Sg	12 36 53.8	+0.2
U32A				IAML		12 36 54.6	
	comp=E,304nm,0.3s						
U32A				IAML		12 36 54.6	
	comp=N,278nm,0.4s						
NOKA	Waynoka	0.48	334	Pg	Pg	12 36 52.5	0.0
NOKA				IAML		12 36 59.8	
	comp=E,347nm,0.2s						
NOKA				Sg	Sg	12 36 59.0	+0.3
NOKA				IAML		12 37 00.4	
	comp=N,242nm,0.2s						
CSTR	Hydro, Custer	0.56	181		Pg	12 36 54.3	+0.3
CROK	Carrier	0.63	61	Pg	Pg	12 36 55.3	-0.2
CROK				IAML		12 37 10.4	
	comp=E,220nm,0.3s						
GC02	Grant County #	0.92	45	Pg	Pg	12 37 00.4	-0.6
KAN14	Manchester OK	0.94	37	Pg	Pg	12 37 01.1	-0.4
KAN10	Anthony SW Sta	1.03	27	Pg	Pg	12 37 02.5	-0.6
OK029	Liberty Lake	1.07	112		Pg	12 37 03.0	-0.8
KAN05	Bluff City Nor	1.11	35	Pg	Pg	12 37 04.2	-0.4
KAN17	Caldwell West	1.11	41		Pg	12 37 03.2	-1.4
KAN13	South Haven SW	1.26	50		Pg	12 37 06.7	-0.7
KAN09	Caldwell North	1.26	42		Pg	12 37 06.3	-1.1
BLOK	Blackwell	1.30	64		Pg	12 37 07.1	-1.1
FNO	Franklin	1.40	132		Pn	12 37 08.9	-0.8
OK048	Pawnee Station	1.41	81		Pn	12 37 09.7	-0.2
WMOK	Wichita Mounta	1.47	183		Pn	12 37 09.6	-1.0
OK051	E0350 and S346	1.51	78		Pn	12 37 11.1	-0.2
OK052	Battle Ridge R	1.53	97	Pg	Pn	12 37 11.5	0.0
OK030	Cody Creek RV	1.56	100		Pn	12 37 11.9	0.0
QUOK	Quay	1.59	91		Pn	12 37 11.7	-0.6
SMWD	Samnorwood	1.68	230		Pn	12 37 13.8	+0.1
DEOK	Depew	1.80	101		Pn	12 37 15.0	-0.2
W35A	Tecumseh	1.80	125		Pn	12 37 15.5	+0.3
T35A	Sooner Cattle	1.88	67		Pn	12 37 16.6	+0.2
T35A				IAmb_Lg		12 37 43.4	
	comp=Z,8.8nm,0.8s						
R32A	Long Quarter,	2.22	359		Pn	12 37 21.2	+0.2
R32A				IAmb_Lg		12 37 53.3	
	comp=Z,5.9nm,0.8s						
TUL3	Leonard	2.35	96	Pn	Pn	12 37 23.3	+0.5
TUL3				IAmb_Lg		12 37 57.6	
	comp=Z,18nm,0.8s						
DKNS	Dickens	3.13	217	IAmb_Lg		12 38 30.6	
	comp=Z,3.4nm,0.8s						
POST	Post	3.90	218	IAmb_Lg		12 38 56.0	
	comp=Z,5.4nm,0.8s						
S39A	Bolivar	4.54	69	IAmb_Lg		12 39 09.0	
	comp=Z,8.7nm,1.3s						

TEH 02 12:40:46.2, 30°.74N×57°.39E, h8km±43km**, ML4.0, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.77	287	Pg	Pg	12 41 01.2	+0.1
KHGB	Koh Gabri	0.87	245	Pg	Pg	12 41 02.8	-0.2
CHMN	Cheshme madani	0.89	172	Pg	Pg	12 41 02.9	-0.4
CHMN				Sg	Sg	12 41 15.2	+0.3
TVBK	TV Kerman	0.93	216	Pg	Pb	12 41 04.5	-0.3
NGRK	Negar Kerman	1.23	208	Pg	Pg	12 41 09.7	-0.3
NGRK				Sg	Sb	12 41 26.5	+0.4
IBAF	Bafgh	1.78	299	Pg	Pb	12 41 19.2	0.0
KBAM	BAM	1.84	150	Pn	Pb	12 41 19.8	-0.4
BSRN	Basiran	1.92	50	Pn	Pn	12 41 20.3	+1.0
IKOO	Kooshah	2.17	39	Pn	Pb	12 41 24.5	-1.4
TPRV	Parvadeh(Tabas	2.36	345	Pn	Pn	12 41 27.0	+1.7
NHDN	Nehbandan	2.37	73	Pn	Pb	12 41 27.9	-1.3
ITEG	Tejag	2.44	28	Pn	Pn	12 41 27.6	+1.2
IMEH	Mehriz	2.47	286	Pn	Pn	12 41 28.9	+1.9
BAGH	Bagheran - Bir	2.55	37	Pn	Pn	12 41 29.1	+1.0
TKDS	Koohdasht(Taba	2.87	355	Pn	Pn	12 41 33.8	+1.5
IDAH	Dahanechah	2.90	46	Pn	Pn	12 41 34.3	+1.4
ICHK	Chekchek	2.96	301	Pn	Pn	12 41 36.3	+2.6
AFRZ	Afriz	3.01	27	Pn	Pn	12 41 35.7	+1.4
TNSJ	Nastanj	3.28	349	Pn	Pn	12 41 39.6	+1.6
ISAD	Sadrabad	3.38	291	Pn	Pn	12 41 42.0	+2.5
SHRT	Shahrakht	3.80	40	Pn	Pn	12 41 47.0	+2.0
ANAR	Anarak	3.96	309	Pn	Pn	12 41 49.1	+1.8
IRAM	Ramesheh	4.42	285	Pn	Pn	12 41 56.2	+2.4
IZEF	Zefreh	4.82	298	Pn	Pn	12 42 01.6	+2.4
KRSH	Karshahi	5.49	307	Pn	Pn	12 42 09.8	+1.4
SRVN	Saravan	5.50	126	Pn	Pn	12 42 10.9	+2.4
SBZV	Sabzevar	5.63	2	Pn	Pn	12 42 12.6	+2.2
ISFB	Sefidab	5.65	311	Pn	Pn	12 42 12.3	+1.8
IAKL	Akhelmad	5.96	11	Pn	Pn	12 42 17.2	+2.3
IKRD	Kardeh	6.27	16	Pn	Pn	12 42 21.7	+2.5
IGLO	Ghaloghah	6.47	334	Pn	Pn	12 42 24.2	+2.4

*OMAN **02** 12:50:10.8±3.7, 28°.05N×57°.05E, h10km, mb3.9/1, ml3.0/13, Error ellipse: s-maj=24.1km s-min=12.1km az=8.0*
*DSN **02** 12:50:11.4±1.0, 27°.97N×57°.10E, h10km, ML2.8/5, Error ellipse: s-maj=33.1km s-min=8.6km az=119.0*
*TEH **02** 12:50:15.1, 27°.87N×56°.62E, h20km±66km, ML3.0*
ISC 02 12:50:15.4±1.1**, 27°.83N**±0°.05×**56°.68E**±0°.04**, h10km, n50, σ1s.61**/62**, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IBND	Bandar-abas	0.40	199	Pg	Pb	12 50 24.2	-0.4
GENO	Geno	0.62	227	Pg	Pg	12 50 27.1	-0.5
KHNJ	Kahnooj	0.91	82	Pg	Pg	12 50 33.2	+0.2
KHNJ				Sg	Sb	12 50 47.1	+1.6
NGRK	Negar Kerman	1.81	1	Pg	Pn	12 50 46.3	-0.6
SHME	Shamm	1.84	195	P	Pn	12 50 46.1	-0.9
SHME				S	Sg	12 51 13.8	-0.7
SHME	Shamm	1.84	195	P	Pn	12 50 46.6	-0.4
SHME				S	Sg	12 51 19.4	+4.9
KBAM	BAM	2.03	50	Pn	Pn	12 50 50.5	+0.7
LAR1	LAR	2.05	266	Pn	Pn	12 50 50.2	+0.1
TVBK	TV Kerman	2.15	2	Pn	Pn	12 50 51.7	+0.1
CHMN	Cheshme madani	2.16	20	Pn	Pn	12 50 51.8	0.0
JASK	Jask - Hormozg	2.22	151	P	Pn	12 50 48.9	-3.4
JASK	Jask - Hormozg	2.22	151	Pn	Pn	12 50 52.6	+0.3
UMQ	Umm Al-Quwin	2.47	202	P	Pn	12 50 56.0	+0.3
MASF	Masafi	2.50	191	P	Pn	12 50 56.3	+0.2
KHGB	Koh Gabri	2.54	356	Pn	Pn	12 50 56.8	-0.2
UOSS	Minazif	2.91	189	P	Pn	12 51 00.8	-0.9
UOSS	Minazif	2.91	189	P	Pn	12 51 01.5	-0.2
UOSS				S	Sn	12 51 40.2	+3.5
NAZ	Nazwa, Dubai	2.98	198	P	Pn	12 51 03.1	+0.5
NAZ	Nazwa, Dubai	2.98	198	P	Pn	12 51 02.9	+0.2
NAZ				S	Sb	12 51 42.7	-2.3
HATD	Hatta, Dubai	3.03	190	P	Pn	12 51 02.4	-1.0
HATD	Hatta, Dubai	3.03	190	P	Pn	12 51 03.3	-0.2
ASHO	Ashiyiah	3.18	190	P	Pn	12 51 04.8	-0.8
ASHO	Ashiyiah	3.18	190	P	Pn	12 51 05.7	+0.1
	SNR=21						
FAQ	Al Faqa, Dubai	3.23	198	P	Pn	12 51 06.1	0.0
FAQ	Al Faqa, Dubai	3.23	198	P	Pn	12 51 06.2	+0.1
	SNR=9.3						
FAQ				S	Sn	12 51 46.7	+2.1
ASUD	Al Ashush, Dub	3.42	201	P	Pn	12 51 08.3	-0.4
ASUD	Al Ashush, Dub	3.42	201	P	Pn	12 51 08.5	-0.2
AJN	Ajban	3.59	205	P	Pn	12 51 10.7	-0.5
SOHO	SOHO	3.68	182	P	Pn	12 51 11.2	-1.2
ALNE	Al Ain	3.85	193	P	Pn	12 51 14.3	-0.4
	SNR=7.2						
HOQ	Hoqain	4.27	172	P	Pn	12 51 18.3	-2.2
ARQ	Araqi	4.48	182	P	Pn	12 51 22.1	-1.3
	SNR=10						
ARQ				S	Sn	12 52 17.0	+1.4
JRN	Qarnain Island	4.48	231	P	Pn	12 51 23.4	0.0
BIDO	Bidbid	4.49	163	P	Pn	12 51 20.4	-3.0
BIDO				S	Sn	12 52 16.6	+0.9
WSAR	Wadi Sarin	4.90	159	P	Pn	12 51 26.3	-2.9
	SNR=16						
WSAR				S	Sn	12 52 28.7	+2.7
SMDO	Samad	4.91	165	P	Pn	12 51 26.4	-3.0
IRAM	Ramesheh	5.45	318	Pn	Pn	12 51 35.6	-1.2
KLNJ	Kolanjah	5.45	307	Pn	Pn	12 51 35.8	-1.2
SHMA	Al-Shehemyia	5.47	250	P	Pn	12 51 36.2	-0.8
WBK	Wadi Bani Khal	5.59	158	P	Pn	12 51 35.8	-3.0
WBK				S	Sn	12 52 42.3	-0.8
MZR	Muzera	5.61	212	P	Pn	12 51 37.9	-1.0
TRNA	Turayna	5.80	239	P	Pn	12 51 40.9	-0.6
JLN	Jalan Bani Buh	6.17	156	P	Pn	12 51 43.4	-3.2
JLN				S	Sn	12 52 56.2	-1.2
MHTO	MHTO	6.91	170	P	Pn	12 51 55.5	-1.3
MHTO				S	Sn	12 53 13.1	-2.5
DQM	DQM	7.91	174	P	Pn	12 52 09.1	-1.3
SHAO	Shalim	9.81	186	P	Pn	12 52 35.9	-0.7
DMTO	DMTO	10.19	189	P	Pn	12 52 41.5	-0.3
WHFO	Wadi Hawf	10.22	196	P	Pn	12 52 41.3	-1.0
RBK	Rabkut	10.53	193	P	Pn	12 52 45.7	-0.8
ABTO	Aybut	10.89	197	P	Pn	12 52 49.4	-2.0

IDC 02 13:11:56.9±2.7**, 1°.21S×69°.76E, h0km, mb3.7**/2**, mbtmp3.7**/2**, Error ellipse: s-maj=118.0km s-min=42.9km az=58.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	56.38	11	P	P	13 21 39.7	-0.1
	0.8nm,0.5s,baz=190,slow=7.3,SNR=3.5						
	0.8nm,0.5s						
ASAR	Alice Springs	65.91	115	P	P	13 22 45.3	0.0
	0.4nm,0.6s,baz=279,slow=6.2,SNR=5.5						
	0.4nm,0.6s						
TXAR	Lajitas Array	151.34	348	PKPbc	PKPbc	13 31 53.3	-0.2
	0.7nm,0.8s,baz=107,slow=1.7,SNR=7.3						

IDC 02 13:13:20.8±4.9**, 2°.66S×139°.43E, h0km, mb3.4**/2**, mbtmp3.5**/3**, ML3.7**/1**, MS3.0**/3**, Error ellipse: s-maj=194.4km s-min=31.3km az=88.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.89	196	P	Pn	13 17 31.2	-0.1
	0.3nm,0.3s,baz=17,slow=13,SNR=12						
	1.5nm,0.8s						
CTA	Charters Tower	18.56	159	LR	LR	13 25 33.1	
	comp=Z,66nm,18.4s,baz=292,slow=40						
ASAR	Alice Springs	21.56	194	P	P	13 18 12.2	+0.1
	0.7nm,0.4s,baz=21,slow=10.0,SNR=33						
	0.7nm,0.4s						
KSRS	Korea Array	41.31	346	LR	LR	13 37 22.0	
	comp=Z,9.7nm,20.7s,baz=200,slow=35						
ASAJ	Asahikawa	46.65	3	LR	LR	13 40 53.1	
	comp=Z,25nm,19.3s,baz=160,slow=35						
MKAR	Makanchi Array	70.19	322	P	P	13 24 35.6	0.0
	0.2nm,0.5s,baz=109,slow=7.8,SNR=1.9						
	0.2nm,0.5s						

*IDC **02** 13:13:44.4±1.5, 6°.18S×150°.73E, h42km±16km, mb3.7/6, mbtmp3.9/8, ML1.4/1, Error ellipse: s-maj=39.9km s-min=9.1km az=128.0*
ISC 02 13:13:44.9±0.9**, 6°.2S**±0°.2×**150°.7E**±0°.2**, h48km, n9, σ0s.47**/11**, mb3.8**/6**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	2.26	35	P	Pn	13 14 19.5	-0.2
	62nm,0.3s,baz=42,slow=24,SNR=18						
KRVT				S	Sn	13 14 46.6	+0.2
	122nm,0.4s,baz=45,slow=23,SNR=4.2						
PMG	Port Moresby	4.78	228	P	Pn	13 14 54.5	+0.1
	1.0nm,0.3s,baz=26,slow=9.6,SNR=8.1						
PMG				S	Sn	13 15 48.0	-0.5
	42nm,0.7s,baz=39,slow=18,SNR=6.2						
	10nm,0.7s						
WRA	Warramunga Arr	21.00	228	P	P	13 18 24.4	-0.1
	2.0nm,0.5s,baz=52,slow=11,SNR=10						
	2.0nm,0.5s						
ASAR	Alice Springs	23.76	221	P	P	13 18 53.2	+0.1
	2.7nm,0.8s,baz=54,slow=8.9,SNR=13						
	2.7nm,0.8s						
STKA	Stephens Creek	26.96	197	P	P	13 19 22.1	+0.1
	1.8nm,0.5s,baz=350,slow=8.5,SNR=3.7						
	1.8nm,0.5s						
KSRS	Korea Array	48.34	336	P	P	13 22 22.2	+0.4
	0.7nm,0.7s,baz=155,slow=9.1,SNR=2.3						
	0.7nm,0.7s						
QSPA	South Pole Qui	83.79	180	P	P	13 26 09.4	+0.4
	1.2nm,0.7s,baz=327,slow=2.5,SNR=16						
	1.2nm,0.7s						
ILAR	Eielson Array	84.20	22	P	P	13 26 09.9	-0.9
	0.6nm,0.8s,baz=256,slow=5.1,SNR=7.2						
	0.6nm,0.8s						
TORD	Torodi Ar. Bea	148.73	285	PKPbc	PKPbc	13 33 28.4	+0.4
	0.8nm,0.7s,baz=45,slow=3.7,SNR=7.2						

*SOME **02** 13:16:06.6, 39°.17N×74°.20E, h15km*
*IDC **02** 13:16:07.2±5.8, 38°.37N×73°.84E, h104km±50km, mb3.5/5, mbtmp3.8/7, Error ellipse: s-maj=47.7km s-min=29.0km az=41.0*
*NNC **02** 13:16:09.3±5.7, 38°.78N×73°.53E, h0km, mb3.5, mpv2.9, Error ellipse: s-maj=47.2km s-min=35.3km az=145.0*
ISC 02 13:16:06.1±2.1**, 38°.3N**±0°.2×**73°.7E**±0°.1**, h100km, n24, σ1s.91**/26**, mb4.0**/5**, 6C-1D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.79	0	P	Pn	13 17 04.5	+1.7
	SNR=24						
AML	Almayashu	3.79	0	⇑P	Pn	13 17 04.3	+1.5
	0.4nm,0.4s						
AML				⇑S	Sn	13 17 45.7	-0.9
	11nm,0.7s						
KZA	Kyzart	3.93	18	P	Pn	13 17 05.9	+1.2
	SNR=7.1						
UCH	Uchtor	3.94	9	P	Pn	13 17 06.6	+1.8
	SNR=39						
EKS2	Erkin-Say	4.32	1	P	Pn	13 17 12.6	+3.0
	SNR=7.5						
AAK	Ala-Archa	4.34	8	P	Pn	13 17 12.9	+2.9
	SNR=12						
AAK	Ala-Archa	4.34	8	P	Pn	13 17 11.7	+1.7
	5.1nm,0.4s,baz=170,slow=6.7,SNR=29						
AAK				S	Sn	13 17 59.6	0.0
	7.1nm,0.4s,baz=198,slow=20,SNR=5.4						
ULHL	Ulahol	4.38	26	P	Pn	13 17 12.2	+1.7
	SNR=9.1						
MRKS	Merke	4.42	356	ePg	Pn	13 17 13.1	+2.1
	5.3nm,0.3s						
MRKS				eLg	Lg	13 18 00.9	
	74nm,0.2s						
KBK	Karagaybulak	4.43	12	P	Pn	13 17 13.7	+2.5
	SNR=7.9						
TKM2	Tokmak 2	4.81	17	⇑P	Pn	13 17 18.7	+2.4
	0.7nm,0.3s						
TKM2				⇑S	Sn	13 18 09.9	-1.1
	22nm,0.6s						
KST	Kastek	5.02	20	ePg	Pn	13 17 20.9	+1.8
	3.2nm,0.2s						
KST				eLg	Lg	13 18 14.8	
	72nm,0.4s						
DGS	Degeres	5.16	17	ePg	Pn	13 17 23.0	+2.0
	2.1nm,0.3s						
DGS				eLg	Lg	13 18 18.4	
	24nm,0.4s						
KK31	Karatay Array	5.33	334	P	Pn	13 17 25.4	+2.2
	2.6nm,0.4s,baz=137,slow=12,SNR=21						
KK31				⇓S	Sn	13 18 22.9	-0.4
	7.1nm,0.3s,baz=155,slow=22,SNR=15						
KURBB	Kurchatov Arra	12.76	14	P	P	13 19 09.9	-0.8
	2.9nm,0.5s,baz=204,slow=10.0,SNR=8.9						
AB31	Akbulak array	14.71	322	⇑P	P	13 19 29.3	-3.1
	0.5nm,0.4s,baz=132,slow=14,SNR=20						
BVAR	Borovoye Array	14.87	352	P	P	13 19 34.6	+0.5
	4.5nm,0.6s,baz=157,slow=10,SNR=23						
AKTO	Aktyubinsk	16.43	322	⇑P	P	13 19 50.0	-1.5
	2.5nm,0.8s						
ZALV	Zalesovo Beam	17.39	23	P	Pn	13 20 00.5	-1.7
	1.8nm,0.6s,baz=213,slow=11,SNR=7.3						
FINES	FINESS Array B	37.19	324	P	P	13 23 08.6	+1.4
	1.5nm,0.8s,baz=113,slow=10.0,SNR=8.8						
	1.5nm,0.8s						
ARCES	ARCESS Array B	40.29	336	P	P	13 23 34.0	+1.0
	2.5nm,0.9s,baz=109,slow=8.6,SNR=9.9						
	2.5nm,0.9s						
HFS	Hagfors	42.96	321	P	P	13 23 56.2	+1.3
	2.0nm,0.5s,baz=102,slow=14,SNR=8.0						
	2.0nm,0.5s						
TORD	Torodi Ar. Bea	67.87	269	P	P	13 26 54.8	+0.9
	0.2nm,0.3s,baz=51,slow=6.1,SNR=1.9						
	0.2nm,0.3s						
WRA	Warramunga Arr	81.21	124	P	P	13 28 11.1	+0.1
	0.1nm,0.5s,baz=310,slow=6.6,SNR=1.6						
	0.1nm,0.5s						

*IDC **02** 13:31:20.1±1.2, 10°.17S×152°.59E, h0km, mb3.8/6, mbtmp3.8/7, ML3.6/1, MS3.1/9, Error ellipse: s-maj=45.4km s-min=22.9km az=109.0*
ISC 02 13:31:21.5±1.2**, 10°.2S**±0°.2×**152°.6E**±0°.3**, h10km, n16, σ0s.96**/7**, mb3.8**/5**, MS3.0**/7**, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.40	278	Pn	Pb	13 32 49.2	-6.8
	0.2nm,0.3s,baz=87,slow=22,SNR=3.2						
CTA	Charters Tower	11.56	211	Pn	Pn	13 34 06.0	-0.7
	0.3nm,0.3s,baz=27,slow=16,SNR=1.5						
CTA				LR	LR	13 38 20.1	
	comp=Z,140nm,18.9s,baz=57,slow=36						
	1.1nm,0.4s						
DZM	Mont Dzumac	17.77	133	LR	LR	13 41 18.5	
	comp=Z,154nm,19.1s,baz=282,slow=34						
WRA	Warramunga Arr	20.07	239	P	Pn	13 35 55.4	-1.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2.5nm,0.7s,baz=62,slow=10.0,SNR=6.5						
	2.5nm,0.7s						
ASAR	**Alice Springs**	**22.28**	**231**	P	**P**	**13 36 20.0**	**+0.8**
	2.0nm,0.8s,baz=60,slow=9.6,SNR=14						
	2.0nm,0.8s						
STKA	**Stephens Creek**	**23.84**	**204**	LR	LR	13 46 18.7	
	comp=Z,72nm,19.4s,baz=26,slow=38						
GUMO	**Guam**	**24.85**	**342**	LR	LR	13 45 58.8	
	comp=Z,20nm,21.0s,baz=75,slow=35						
URZ	**Urewera**	**35.55**	**146**	LR	LR	13 51 02.3	
	comp=Z,59nm,22.0s,baz=32,slow=33						
RPZ	**Rata Peaks**	**37.04**	**158**	LR	LR	13 51 57.6	
	comp=Z,92nm,20.9s,baz=300,slow=33						
MJAR	**Matsushiro Arr**	**48.43**	**345**	P	**P**	**13 40 04.2**	**+0.1**
	0.9nm,0.9s,baz=180,slow=7.1,SNR=1.4						
MJAR				LR	LR	13 58 54.7	
	comp=Z,15nm,20.0s,baz=176,slow=34						
	0.9nm,0.9s						
KSRS	**Korea Array**	**52.75**	**335**	LR	LR	14 01 20.8	
	comp=Z,6.3nm,20.8s,baz=125,slow=34						
ASAJ	**Asahikawa**	**54.82**	**351**	LR	LR	14 02 38.7	
	comp=Z,9.8nm,19.8s,baz=300,slow=34						
SONM	**Songino Array**	**70.79**	**329**	P	**P**	**13 42 38.7**	**+0.3**
	0.4nm,0.6s,baz=145,slow=5.4,SNR=4.1						
	0.4nm,0.6s						
QSPA	**South Pole Qui**	**79.78**	**180**	P	**P**	**13 43 30.8**	**+0.9**
	1.5nm,0.8s,baz=280,slow=1.6,SNR=11						
	1.5nm,0.8s						
ILAR	**Eielson Array**	**87.23**	**22**	P	**P**	**13 44 07.5**	**-0.4**
	0.7nm,0.8s,baz=252,slow=5.2,SNR=4.1						
	0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**151.34**	**279**	PKPbc	**PKiKP**	**13 51 15.9**	**-1.2**
	0.6nm,0.6s,baz=34,slow=2.5,SNR=5.4						

*IDC **02** 13:50:44.6±2.7, 24°.31S×177°.28W, h0km, mb4.4/4, mbtmp4.4/4, Error ellipse: s-maj=112.2km s-min=43.3km az=161.0*

ISC 02 13:51:02.9±2.3**, 24°.2S**±0°.8×**177°.5W**±0°.3**, h150**km**, n7,** σ**1s.06**/7**, mb4.3**/4**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.74**	**270**	P	**P**	**13 57 31.0**	**+0.7**
	4.2nm,0.5s,baz=89,slow=8.2,SNR=20						
	4.2nm,0.5s						
PMG	**Port Moresby**	**36.73**	**287**	P	**P**	**13 57 56.0**	**+0.1**
	6.6nm,0.8s,baz=79,slow=2.2,SNR=3.6						
	6.6nm,0.8s						
ASAR	**Alice Springs**	**44.22**	**260**	P	**P**	**13 58 57.3**	**-0.2**
	2.1nm,0.7s,baz=99,slow=6.9,SNR=22						
	2.1nm,0.7s						
WRA	**Warramunga Arr**	**44.64**	**266**	P	**P**	**13 58 59.8**	**-1.1**
	3.5nm,0.6s,baz=103,slow=8.2,SNR=58						
	3.5nm,0.6s						
HFS	**Hagfors**	**143.22**	**351**	PKP	**PKPdf**	**14 10 19.3**	**+0.6**
	1.4nm,0.4s,baz=82,slow=3.1,SNR=11						
AKASG	**Malin Array Be**	**146.40**	**329**	PKPbc	**PKiKP**	**14 10 27.5**	**-1.3**
	0.9nm,0.5s,baz=39,slow=3.8,SNR=5.1						
MMAI	**Mount Meron Ar**	**149.87**	**294**	PKPbc	**PKiKP**	**14 10 37.5**	**+0.8**
	0.9nm,0.4s,baz=92,slow=4.6,SNR=4.2						

TEH 02 13:53:34.6, 30°.73N×**57°.31E, h8**km±46km**, ML3.6, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.71**	**290**	Pg	Pg	13 53 48.7	+0.5
KHGB	**Koh Gabri**	**0.80**	**244**	Pg	Pb	13 53 50.5	-0.4
KHGB				Sg	Sb	13 54 01.6	-0.3
TVBK	**TV Kerman**	**0.88**	**213**	Pg	Pb	13 53 52.3	0.0
CHMN	**Cheshme madani**	**0.89**	**167**	Pg	Pg	13 53 51.2	-0.5
NGRK	**Negar Kerman**	**1.19**	**205**	Pg	Pn	13 53 58.1	+0.2
NGRK				Sg	Sn	13 54 15.2	+0.7
IBAF	**Bafgh**	**1.72**	**300**	Pg	Pg	13 54 07.3	-0.4
KBAM	**BAM**	**1.87**	**148**	Pn	Pb	13 54 08.7	-0.4
BSRN	**Basiran**	**1.98**	**51**	Pn	Pb	13 54 10.1	-1.0
IKOO	**Kooshah**	**2.23**	**40**	Pn	Pb	13 54 13.8	-1.4
TPRV	**Parvadeh(Tabas**	**2.35**	**347**	Pn	Pb	13 54 15.5	-1.8
IMEH	**Mehriz**	**2.41**	**287**	Pn	Pb	13 54 16.9	-1.4
NHDN	**Nehbandan**	**2.44**	**74**	Pn	Pb	13 54 17.3	-1.6
ITEG	**Tejag**	**2.48**	**29**	Pn	Pn	13 54 17.6	+2.0
TKDS	**Koohdasht(Taba**	**2.88**	**357**	Pn	Pn	13 54 22.7	+1.8
ICHK	**Chekchek**	**2.90**	**302**	Pn	Pb	13 54 24.2	-2.5
AFRZ	**Afriz**	**3.05**	**28**	Pn	Pn	13 54 25.3	+2.0
ZHDN	**Zahedan**	**3.31**	**113**	Pn	Pn	13 54 29.4	+2.5
ISAD	**Sadrabad**	**3.32**	**292**	Pn	Pn	13 54 30.3	+3.2
SHRT	**Shahrakht**	**3.85**	**40**	Pn	Pn	13 54 36.8	+2.6
ANAR	**Anarak**	**3.91**	**310**	Pn	Pn	13 54 37.4	+2.4
IZEF	**Zefreh**	**4.76**	**298**	Pn	Pn	13 54 49.5	+2.6
TBJM	**Torbat-e-JAM**	**5.19**	**28**	Pn	Pn	13 54 54.5	+1.8
SRVN	**Saravan**	**5.55**	**125**	Pn	Pn	13 55 00.9	+3.2
IAKL	**Akhelmad**	**5.98**	**11**	Pn	Pn	13 55 06.0	+2.3

*NEIC **02** 14:17:53.3±0.2, 36°.01N±0°.01×97°.94W±0°.02, h5km±5km, Error ellipse: s-maj=1.9km s-min=1.5km az=100.0*

TUL 02 14:17:53.5±0.3**, 36°.01N**±0°.01×**97°.93W**±0°.02**, h6**km±5km**, ML2.6, mb_Lg2.7**/57(NEIC)**, ML2.7**/54(NEIC)**, Error ellipse: s-maj=1.8km s-min=1.8km az=215.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.44**	**119**	Sg	Sg	14 18 08.6	+0.8
CROK	**Carrier**	**0.49**	**355**	Pg	Pg	14 18 03.3	+0.2
CROK				IAML		14 18 15.4	
	comp=N,371nm,0.3s						
CROK				IAML		14 18 20.6	
	comp=E,373nm,0.3s						
ADOK	**Arcadia Dam**	**0.58**	**128**	Sg	Sg	14 18 12.9	+0.8
CSTR	**Hydro, Custer**	**0.72**	**240**	Pg	Pg	14 18 07.1	-0.2
OKCSW	**OKLAHOMA CITY**	**0.73**	**147**		Pg	14 18 07.4	0.0
OKCSW				IAML		14 18 22.6	
	comp=N,441nm,0.7s						
OK038	**West end E0370**	**0.81**	**305**	Pg	Pg	14 18 08.7	-0.2
OK032	**Salt Plains WL**	**0.82**	**344**	Pg	Pg	14 18 09.0	-0.3
OK032				IAML		14 18 29.1	
	comp=N,255nm,0.2s						
OK032				IAML		14 18 29.2	
	comp=N,276nm,0.1s						
GC02	**Grant County #**	**0.84**	**4**	Pg	Pg	14 18 09.4	-0.2
FNO	**Franklin**	**0.87**	**150**	Pg	Pg	14 18 10.0	-0.2
FNO				IAML		14 18 32.1	
	comp=E,222nm,0.6s						
OK048	**Pawnee Station**	**0.89**	**63**	Pg	Pg	14 18 10.4	-0.2
OK048				IAML		14 18 29.5	
	comp=E,157nm,0.3s						
OK052	**Battle Ridge R**	**0.91**	**91**	Pg	Pg	14 18 10.8	-0.3
OK052				IAML		14 18 26.1	
	comp=E,166nm,0.2s						
OK052				IAML		14 18 32.0	
	comp=E,154nm,0.3s						
OK030	**Cody Creek RV**	**0.93**	**95**		Pg	14 18 11.1	-0.3
OK030				IAML		14 18 30.5	
	comp=E,172nm,0.2s						
OK030				IAML		14 18 30.6	
	comp=E,222nm,0.2s						
OK035	**E0210 Rd and N**	**0.94**	**318**	Pg	Pg	14 18 10.8	-0.7
OK035				IAML		14 18 29.3	
	comp=E,314nm,0.4s						
OK035				IAML		14 18 30.6	
	comp=E,300nm,0.4s						
U32A	**Winter Ranch,**	**0.94**	**293**	Pg	Pg	14 18 11.1	-0.5
U32A				IAML		14 18 29.5	
	comp=N,227nm,0.8s						
U32A				IAML		14 18 33.3	
	comp=E,177nm,0.3s						
BLOK	**Blackwell**	**0.94**	**37**	Pg	Pg	14 18 11.4	-0.1
KAN14	**Manchester OK**	**0.94**	**358**		Pg	14 18 11.2	-0.3
KAN14				IAML		14 18 33.6	
	comp=E,149nm,0.1s						
QUOK	**Quay**	**1.00**	**81**		Pg	14 18 12.4	-0.4
QUOK				IAML		14 18 30.9	
	comp=N,192nm,0.2s						
QUOK				IAML		14 18 34.6	
	comp=E,236nm,0.2s						
OK051	**E0350 and S346**	**1.01**	**61**		Pg	14 18 11.8	-1.1
KAN13	**South Haven SW**	**1.06**	**20**		Pg	14 18 13.4	-0.5
KAN05	**Bluff City Nor**	**1.09**	**2**		Pg	14 18 14.0	-0.5
KAN05				IAML		14 18 32.2	
	comp=E,186nm,0.2s						
KAN05				IAML		14 18 33.2	
	comp=N,194nm,0.2s						
KAN10	**Anthony SW Sta**	**1.12**	**353**		Pg	14 18 14.4	-0.6
KAN10				IAML		14 18 34.3	
	comp=N,141nm,0.1s						
KAN10				IAML		14 18 36.1	
	comp=E,144nm,0.1s						
KAN01	**Argonia South**	**1.15**	**7**		Pg	14 18 15.0	-0.5
KAN01				IAML		14 18 31.1	
	comp=E,171nm,0.2s						
KAN09	**Caldwell North**	**1.15**	**12**		Pg	14 18 14.8	-0.7
DEOK	**Depew**	**1.17**	**98**		Pg	14 18 15.2	-0.8
DEOK				IAML		14 18 35.6	
	comp=N,157nm,0.4s						
DEOK				IAML		14 18 35.8	
	comp=E,174nm,0.2s						
W35A	**Tecumseh**	**1.22**	**135**		Pg	14 18 15.9	-0.9
W35A				IAML		14 18 39.5	
	comp=N,220nm,0.6s						
KAN12	**Harper NE Stat**	**1.28**	**358**		Pn	14 18 17.2	-0.8
KAN12				IAML		14 18 53.4	
	comp=N,207nm,0.4s						
WMOK	**Wichita Mounta**	**1.45**	**209**		Pn	14 18 19.8	-0.5
T35A	**Sooner Cattle**	**1.45**	**51**		Pn	14 18 20.2	-0.1
TUL3	**Leonard**	**1.74**	**93**		Pn	14 18 24.5	+0.3
SMWD	**Samnorwood**	**2.09**	**245**	IAmb_Lg		14 19 02.5	
	comp=Z,30nm,0.8s						
LOOK	**Love County**	**2.11**	**163**		Pb	14 18 30.8	-1.4
LOOK				IAmb_Lg		14 19 04.1	
	comp=Z,27nm,0.8s						
WTFS	**Witchita Falls**	**2.29**	**191**		Pn	14 18 33.1	+1.3
WTFS				IAmb_Lg		14 19 06.9	
	comp=Z,7.4nm,0.8s						
RLO	**Rose Lookout**	**2.36**	**85**		Pn	14 18 34.1	+1.3
X37A	**Clayton**	**2.53**	**123**	IAmb_Lg		14 19 17.9	
	comp=Z,20nm,0.8s						
U38A	**Gravette**	**2.90**	**81**		Pn	14 18 41.1	+0.9
APMT	**Aspermont**	**3.23**	**215**	IAmb_Lg		14 19 42.2	
	comp=Z,6.8nm,0.8s						
AMTX	**Amarillo**	**3.26**	**251**	IAmb_Lg		14 19 36.1	
	comp=Z,14nm,0.8s						
DKNS	**Dickens**	**3.40**	**227**	IAmb_Lg		14 19 43.4	
	comp=Z,22nm,0.8s						
Z38A	**Mt. Pleasant**	**3.67**	**138**	IAmb_Lg		14 19 55.5	
	comp=Z,19nm,0.9s						
ABTX	**Abilene, Hawle**	**3.67**	**203**	IAmb_Lg		14 19 51.9	
	comp=Z,14nm,1.1s						
MIAR	**Mount Ida**	**3.85**	**111**		Pn	14 18 54.4	+1.1
MIAR				IAmb_Lg		14 19 59.6	
	comp=Z,11nm,0.8s						
RTBA	**Rita Blanca**	**3.91**	**278**	IAmb_Lg		14 20 08.2	
	comp=Z,5.8nm,0.7s						
SN01	**Snyder 1**	**3.98**	**219**	IAmb_Lg		14 20 05.0	
	comp=Z,31nm,0.9s						
S39A	**Bolivar**	**4.06**	**64**	IAmb_Lg		14 20 01.9	
	comp=Z,13nm,0.9s						
X40A	**Basin Creek Fa**	**4.44**	**109**	IAmb_Lg		14 20 14.3	
	comp=Z,15nm,1.0s						
WHAR	**Wooly Hollow**	**4.65**	**97**	IAmb_Lg		14 20 25.9	
	comp=Z,8.2nm,0.8s						
MGMO	**Mountain Grove**	**4.70**	**74**	IAmb_Lg		14 20 19.8	
	comp=Z,17nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.71**	**90**	IAmb_Lg		14 20 19.2	
	comp=Z,10nm,0.9s						
UALR	**University of**	**4.73**	**104**	IAmb_Lg		14 20 33.1	
	comp=Z,12nm,0.7s						
SGCY	**Sterling City**	**4.88**	**214**	IAmb_Lg		14 20 33.7	
	comp=Z,19nm,1.2s						
R40A	**Maddies Statio**	**5.06**	**62**	IAmb_Lg		14 20 38.0	
	comp=Z,12nm,0.9s						
T25A	**Trinidad**	**5.34**	**284**	IAmb_Lg		14 20 43.0	
	comp=Z,14nm,0.9s						
CCM	**Cathedral Cave**	**5.72**	**67**	IAmb_Lg		14 21 09.0	
	comp=Z,9.6nm,0.7s						
JCT	**Junction City**	**5.74**	**196**	IAmb_Lg		14 21 05.1	
	comp=Z,16nm,1.1s						
OZNA	**Ozona**	**5.74**	**209**	IAmb_Lg		14 21 07.0	
	comp=Z,8.1nm,0.7s						
OGNE	**Ogallala**	**5.88**	**328**	IAmb_Lg		14 21 10.3	
	comp=Z,16nm,0.7s						
L34A	**Svendsen Farm,**	**6.07**	**11**	IAmb_Lg		14 21 09.9	
	comp=Z,14nm,0.8s						
MNHN	**Monahans**	**6.16**	**222**	IAmb_Lg		14 21 09.9	
	comp=Z,5.5nm,0.8s						
HNDO	**Hondo**	**6.57**	**190**	IAmb_Lg		14 21 25.5	
	comp=Z,9.2nm,0.9s						
CGM3	**Cape Girardeau**	**6.77**	**77**	IAmb_Lg		14 21 35.9	
	comp=Z,9.4nm,1.0s						
DRIO	**Del Rio**	**6.95**	**200**	IAmb_Lg		14 21 40.2	
	comp=Z,5.2nm,0.8s						
SAND	**Sanderson**	**6.99**	**211**	IAmb_Lg		14 21 47.6	
	comp=Z,15nm,1.2s						
SIUC	**Southern Illin**	**7.19**	**74**	IAmb_Lg		14 21 36.6	
	comp=Z,12nm,0.9s						
PHWY	**Pilot Hill**	**7.91**	**314**	IAmb_Lg		14 22 17.3	
	comp=Z,5.0nm,1.0s						
L40A	**Anamosa**	**7.98**	**39**	IAmb_Lg		14 22 11.8	
	comp=Z,11nm,0.8s						

*IDC **02** 14:32:57.2±0.9, 15°.27S×173°.52W, h0km, mb3.7/7, mbtmp3.7/7, MS3.2/1, Error ellipse: s-maj=44.3km s-min=22.9km az=142.0*

ISC 02 14:33:02.7±0.9**, 15°.3S**±0°.3×**173°.6W**±0°.3**, h35**km**, n15,** σ**0s.34**/8**, mb3.7**/7**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**24.35**	**198**	LR	LR	14 46 27.6	
	comp=Z,56nm,18.2s,baz=36,slow=33						
H11S2	**WAKE ISLAND Hy**	**38.76**	**329**	T	T	15 21 41.6	
	baz=154,slow=74,SNR=3.6						
H11S3	**WAKE ISLAND Hy**	**38.77**	**329**	T	T	15 21 40.4	
	baz=154,slow=74,SNR=2.5						
H11S1	**WAKE ISLAND Hy**	**38.77**	**329**	T	T	15 21 41.0	
	baz=154						
H11N3	**WAKE ISLAND Hy**	**39.70**	**330**	T	T	15 23 01.1	
	baz=150,slow=76,SNR=4.0						
H11N1	**WAKE ISLAND Hy**	**39.71**	**330**	T	T	15 22 56.4	
	baz=150,slow=76,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**39.72**	**330**	T	T	15 23 01.9	
	baz=150,slow=76,SNR=3.9						
WRA	**Warramunga Arr**	**49.72**	**257**	P	**P**	**14 41 51.8**	**0.0**
	0.2nm,0.5s,baz=91,slow=6.9,SNR=5.4						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**50.00**	**252**	P	**P**	**14 41 54.0**	**0.0**
	1.3nm,0.6s,baz=87,slow=8.6,SNR=40						
	1.3nm,0.6s						
NVAR	**Mina Array Bea**	**74.33**	**42**	P	**P**	**14 44 37.6**	**+0.5**
	0.3nm,0.6s,baz=245,slow=7.9,SNR=2.8						
	0.3nm,0.6s						
QSPA	**South Pole Qui**	**74.79**	**180**	P	**P**	**14 44 39.2**	**0.0**
	1.0nm,0.7s,baz=6.9,slow=1.4,SNR=8.0						
	1.0nm,0.7s						
TXAR	**Lajitas Array**	**80.67**	**56**	P	**P**	**14 45 12.5**	**-0.1**
	0.6nm,1.0s,baz=235,slow=4.4,SNR=4.4						
	0.6nm,1.0s						
PDAR	**Pinedale Array**	**82.27**	**42**	P	**P**	**14 45 20.4**	**-0.5**
	0.6nm,0.8s,baz=242,slow=3.2,SNR=5.6						
	0.6nm,0.8s						
ILAR	**Eielson Array**	**82.34**	**11**	P	**P**	**14 45 20.3**	**-0.1**
	0.9nm,1.1s,baz=229,slow=6.6,SNR=2.8						
	0.9nm,1.1s						
BRTR	**Keskin Array B**	**145.94**	**321**	PKPbc	**PKPdf**	**14 52 38.8**	**+0.4**
	0.9nm,0.7s,baz=90,slow=3.7,SNR=4.6						

WEL 02 14:35:23.4±0.4**, 42°S**±2°×**17°3E**±°**, h68**km±5km**, M3.6**/25**, ML3.8**/25**, MLv3.6**/25**, Error ellipse: s-maj=0.0km s-min=0.0km az=122.0, confirmed, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.24**	**354**	P	Pn	14 35 35.7	+1.7
THZ				S	Sn	14 35 44.3	+2.6
WVFS	**Wairau Valley**	**0.49**	**39**	P	Pn	14 35 36.0	+0.1
WVFS				S	Sn	14 35 45.9	+0.9
MCASZ	**Murchison**	**0.50**	**294**	P	Pn	14 35 36.7	+0.8
MCASZ				S	Sn	14 35 46.9	+1.8
MATW	**Matariki Wadsw**	**0.60**	**343**	P	Pn	14 35 38.5	+1.5
MATW				S	Sn	14 35 49.4	+2.4
KHZ	**Kahutara**	**0.61**	**133**	P	Pn	14 35 38.5	+1.5
KHZ				S	Sn	14 35 49.5	+2.3
MRNZ	**Matariki Terra**	**0.61**	**347**	P	Pn	14 35 38.5	+1.3
MRNZ				S	Sn	14 35 49.5	+2.2
BTWS	**Nelson Brightw**	**0.63**	**13**	P	Pn	14 35 37.6	+0.3
BTWS				S	Sn	14 35 49.0	+1.5
SJFS	**Springs Juncti**	**0.65**	**239**	P	Pn	14 35 39.1	+1.5
SJFS				S	Sn	14 35 50.2	+2.1
KIKS	**Kaikoura**	**0.70**	**128**	P	Pn	14 35 39.6	+1.6
KIKS				S	Sn	14 35 51.5	+2.6
WIGC	**Waiau Gorge**	**0.71**	**188**	P	Pn	14 35 38.4	+0.2
INGS	**Inangahua Fire**	**0.75**	**281**	P	Pn	14 35 40.0	+1.4
NELH	**Nelson Hospita**	**0.76**	**20**	P	Pn	14 35 39.1	+0.4
NELH				S	Sn	14 35 51.7	+1.7
BSWZ	**Blackbirch Sta**	**0.76**	**68**	P	Pn	14 35 39.9	+1.1
BSWZ				S	Sn	14 35 52.7	+2.5
CULC	**Culverden Airl**	**0.77**	**187**	P	Pn	14 35 39.4	+0.6
CULC				S	Sn	14 35 51.5	+1.2
KEKS	**Kekerengu Vall**	**0.78**	**87**	P	Pn	14 35 40.2	+1.1
KEKS				S	Sn	14 35 53.0	+2.3
RDCS	**Reefton DOC Ce**	**0.81**	**261**	P	Pn	14 35 39.3	-0.1
RDCS				S	Sn	14 35 51.7	+0.5
NNZ	**Nelson**	**0.85**	**23**	P	Pn	14 35 40.9	+1.0
NNZ				S	Sn	14 35 53.7	+1.7
CECS	**Cheviot Emerge**	**0.85**	**163**	P	Pn	14 35 41.2	+1.4
CECS				S	Sn	14 35 53.9	+1.8
DSZ	**Denniston Nort**	**0.88**	**286**	P	Pn	14 35 41.3	+1.0
DSZ				S	Sn	14 35 54.3	+1.5
LTZ	**Lake Taylor**	**0.92**	**212**	P	Pn	14 35 41.7	+0.9
LTZ				S	Sn	14 35 55.2	+1.4
TUWZ	**Tuamarina**	**0.94**	**53**	P	Pn	14 35 41.8	+0.7
TUWZ				S	Sn	14 35 54.5	+0.4
TKNZ	**Takaka Hill**	**0.97**	**1**	P	Pn	14 35 42.5	+1.1
TKNZ				S	Sn	14 35 56.2	+1.5
GVZ	**Greta Valley S**	**0.97**	**176**	P	Pn	14 35 42.5	+1.1
GVZ				S	Sn	14 35 55.8	+1.1
CMWZ	**Cape Campbell**	**0.99**	**76**	P	Pn	14 35 42.8	+1.2
CMWZ				S	Sn	14 35 57.4	+2.3
AMCZ	**Amberley**	**1.19**	**190**	P	Pn	14 35 44.8	+0.6
AMCZ				S	Sn	14 36 00.8	+1.0
QRZ	**Quartz Range**	**1.21**	**345**	P	Pn	14 35 45.1	+0.6
QRZ				S	Sn	14 36 00.5	+0.3
TCW	**Tory Channel**	**1.28**	**52**	P	Pn	14 35 45.7	+0.4
TCW				S	Sn	14 36 00.9	-0.9
INZ	**Inchbonnie**	**1.32**	**236**	P	Pn	14 35 46.3	+0.5
INZ				S	Sn	14 36 03.8	+1.1
DUWZ	**D'Urville Isla**	**1.41**	**32**	P	Pn	14 35 48.1	+1.0
DUWZ				S	Sn	14 36 05.7	+0.9
OXZ	**Oxford**	**1.48**	**206**	P	Pn	14 35 47.8	-0.2
OXZ				S	Sn	14 36 06.4	-0.2
WEL	**Wellington**	**1.55**	**63**	P	Pn	14 35 48.8	-0.1
WEL				S	Sn	14 36 07.9	-0.2
BHW	**Baring Head**	**1.56**	**68**	P	Pn	14 35 48.7	-0.4
BHW				S	Sn	14 36 07.4	-1.1
MQZ	**McQueen's Vall**	**1.72**	**187**	P	Pn	14 35 50.3	-0.8
MQZ				S	Sn	14 36 10.7	-1.4
OKCZ	**Okains Bay**	**1.72**	**177**	P	Pn	14 35 51.2	-0.1
PLWZ	**Palliser**	**1.79**	**77**	P	Pn	14 35 51.1	-1.0
RACZ	**Rakaia**	**1.82**	**198**	P	Pn	14 35 52.0	-0.5
CAW	**Cannon Point**	**1.83**	**62**	P	Pn	14 35 52.2	-0.5
MHCZ	**Mount Hutt**	**1.83**	**213**	P	Pn	14 35 52.4	-0.3
AKCZ	**Akaroa Harbour**	**1.87**	**181**	P	Pn	14 35 52.7	-0.5
KIW	**Kapiti Island**	**1.87**	**53**	P	Pn	14 35 53.2	0.0
WVZ	**Waitaha Valley**	**1.95**	**236**	P	Pn	14 35 54.2	0.0
PAWZ	**Paruwai Farm**	**1.96**	**72**	P	Pn	14 35 53.2	-1.3
OGWZ	**Otaki Gorge**	**2.06**	**56**	P	Pn	14 35 55.2	-0.5
MTW	**Mount Morrison**	**2.10**	**67**	P	Pn	14 35 55.0	-1.3
WACZ	**Wakanui South**	**2.10**	**202**	P	Pn	14 35 55.6	-0.7
TRWZ	**Traveller**	**2.15**	**75**	P	Pn	14 35 55.5	-1.4
RPZ	**Rata Peaks**	**2.20**	**218**	P	Pn	14 35 57.1	-0.6
HOWZ	**Holdsworth Sta**	**2.23**	**61**	P	Pn	14 35 56.8	-1.3
GCSZ	**Gaunt Creek Bo**	**2.33**	**235**	P	Pn	14 35 59.2	-0.2
ARCZ	**Arundel**	**2.33**	**213**	P	Pn	14 35 58.9	-0.5
TMWZ	**Te Maipa**	**2.39**	**69**	P	Pn	14 35 58.6	-1.7
MRZ	**Mangatainoka R**	**2.40**	**57**	P	Pn	14 35 59.2	-1.1
TIWZ	**Tintock**	**2.53**	**62**	P	Pn	14 36 00.7	-1.5
POWZ	**Post Office Ro**	**2.67**	**54**	P	Pn	14 36 02.7	-1.4
NMEZ	**Namu Road**	**2.68**	**16**	P	Pn	14 36 05.2	+1.0
PRWZ	**Pori Road**	**2.71**	**59**	P	Pn	14 36 03.0	-1.5
WAZ	**Wanganui**	**2.73**	**35**	P	Pn	14 36 05.7	+0.8
FOZ	**Fox Glacier**	**2.76**	**235**	P	Pn	14 36 04.5	-0.7
TMZ	**Timaru**	**2.77**	**210**	P	Pn	14 36 04.7	-0.7
LREZ	**Lake Rotokare**	**2.77**	**24**	P	Pn	14 36 07.1	+1.7
PREZ	**Palmer Road**	**2.81**	**20**	P	Pn	14 36 07.1	+1.1
NBEZ	**Newall Road No**	**2.82**	**15**	P	Pn	14 36 07.3	+1.2
KHEZ	**Kahui Hut**	**2.83**	**17**	P	Pn	14 36 07.0	+0.8
NEZ	**North Egmont**	**2.87**	**18**	P	Pn	14 36 07.6	+0.8
PKE	**Pukeiti**	**2.92**	**16**	P	Pn	14 36 08.4	+1.0
DREZ	**Durham Road**	**2.97**	**19**	P	Pn	14 36 08.9	+0.8
DVHZ	**Dannevirke**	**2.97**	**56**	P	Pn	14 36 06.1	-2.1
TSZ	**Takapari Road**	**3.00**	**51**	P	Pn	14 36 07.0	-1.6
ANWZ	**Angora Road**	**3.08**	**61**	P	Pn	14 36 07.3	-2.3
MHEZ	**Mangahewa**	**3.11**	**20**	P	Pn	14 36 11.1	+1.1
LBZ	**Lake Benmore**	**3.12**	**219**	P	Pn	14 36 09.1	-1.0
VRZ	**Vera Road**	**3.19**	**26**	P	Pn	14 36 11.8	+0.7
PNHZ	**Pukenui**	**3.23**	**51**	P	Pn	14 36 09.8	-1.9
MTVZ	**Mangateitei**	**3.25**	**37**	P	Pn	14 36 12.3	+0.3
PKVZ	**Pokaka**	**3.27**	**35**	P	Pn	14 36 12.5	+0.3
WPHZ	**Waipukurau**	**3.28**	**55**	P	Pn	14 36 10.3	-2.1
PRHZ	**Porangahau**	**3.29**	**59**	P	Pn	14 36 09.9	-2.6
TRVZ	**Turoa**	**3.35**	**37**	P	Pn	14 36 13.7	+0.1
WNVZ	**Wahianoa**	**3.35**	**38**	P	Pn	14 36 13.4	-0.1
MOVZ	**Moawhango**	**3.36**	**41**	P	Pn	14 36 12.7	-0.8
TUVZ	**Tukino**	**3.42**	**38**	P	Pn	14 36 14.5	+0.1
BHHZ	**Black Hill Sta**	**3.46**	**44**	P	Pn	14 36 13.6	-1.2
ODZ	**Otahua Downs**	**3.47**	**208**	P	Pn	14 36 14.2	-0.7
NGZ	**Ngauruhoe**	**3.48**	**37**	P	Pn	14 36 15.6	+0.4
SNVZ	**South Ngauruho**	**3.48**	**37**	P	Pn	14 36 15.9	+0.6
TWVZ	**Taurewa**	**3.49**	**34**	P	Pn	14 36 15.6	+0.2
KRHZ	**Kereru**	**3.51**	**49**	P	Pn	14 36 13.6	-1.9
OTVZ	**Oturere**	**3.51**	**37**	P	Pn	14 36 15.6	-0.1
NNVZ	**North Ngauruho**	**3.52**	**36**	P	Pn	14 36 15.5	-0.3
WTVZ	**West Tongariro**	**3.52**	**36**	P	Pn	14 36 15.5	-0.2
ETVZ	**East Tongariro**	**3.56**	**37**	P	Pn	14 36 16.1	-0.1
PXZ	**Pawanui**	**3.56**	**58**	P	Pn	14 36 13.4	-2.8
TMVZ	**Te Maari**	**3.57**	**37**	P	Pn	14 36 16.6	+0.2
NTVZ	**North Tongarir**	**3.57**	**37**	P	Pn	14 36 16.8	+0.3
JCZ	**Jackson Bay**	**3.68**	**234**	P	Pn	14 36 16.2	-1.6
KWHZ	**Kaweka Forest**	**3.69**	**47**	P	Pn	14 36 18.0	-0.1
KAHZ	**Kahuranaki**	**3.71**	**55**	P	Pn	14 36 15.7	-2.5
HIZ	**Hauiti**	**3.78**	**23**	P	Pn	14 36 19.3	+0.1
WKZ	**Wanaka**	**4.02**	**224**	P	Pn	14 36 19.9	-2.5
ARHZ	**Aropaoanui**	**4.12**	**50**	P	Pn	14 36 21.6	-2.3
MRHZ	**Matea Rd**	**4.13**	**41**	P	Pn	14 36 21.5	-2.5
NMHZ	**Naumai**	**4.14**	**47**	P	Pn	14 36 22.1	-2.0
EAZ	**Earnscleugh**	**4.17**	**218**	P	Pn	14 36 23.0	-1.5
TLZ	**Tolley Road**	**4.17**	**29**	P	Pn	14 36 24.8	+0.2
MTHZ	**Maungataniwha**	**4.33**	**45**	P	Pn	14 36 24.3	-2.4
MSZ	**Milford Sound**	**4.53**	**232**	P	Pn	14 36 28.9	-0.4
TUZ	**Tuapeka**	**4.62**	**210**	P	Pn	14 36 29.7	-0.8
SNGZ	**Shannon Statio**	**4.65**	**48**	P	Pn	14 36 29.6	-1.5
MHGZ	**Mahia Peninsul**	**4.74**	**55**	P	Pn	14 36 28.8	-3.4
MLZ	**Mavora Lakes**	**4.85**	**224**	P	Pn	14 36 31.9	-1.9
PRGZ	**Paritu Road**	**4.87**	**52**	P	Pn	14 36 30.7	-3.3
RIGZ	**Rimuhau**	**4.94**	**50**	P	Pn	14 36 33.2	-1.9
AWAZ	**Awhitu Peninsu**	**5.10**	**16**	P	Pn	14 36 37.4	+0.2
TKGZ	**Te Karaka**	**5.17**	**48**	P	Pn	14 36 35.7	-2.5
MKAZ	**Moumakai**	**5.18**	**20**	P	Pn	14 36 38.6	+0.3
SYZ	**Scrubby Hill**	**5.29**	**210**	P	Pn	14 36 38.5	-1.3
WHZ	**Wether Hill Ro**	**5.30**	**221**	P	Pn	14 36 37.6	-2.3
RVAZ	**Riverhead Bore**	**5.38**	**14**	P	Pn	14 36 42.3	+1.3
RUGZ	**Raukumara Rang**	**5.43**	**44**	P	Pn	14 36 38.8	-3.0
WIAZ	**Waiheke Island**	**5.47**	**19**	P	Pn	14 36 42.5	+0.2
WCZ	**Waipu Caves**	**6.15**	**11**	P	Pn	14 36 52.0	+0.4
CTZ	**Chatham Island**	**7.87**	**106**	P	Pn	14 37 12.5	-2.5

*IDC **02** 15:05:27.1±2.6, 15°.48N×94°.51W, h0km, mb3.7/6, mbtmp3.7/7, ML4.7/2, MS3.4/11, Error ellipse: s-maj=49.3km s-min=28.5km az=14.0*

*NEIC **02** 15:05:31.1±3.6, 15°.52N±0°.07×94°.73W±0°.04, h26km±8km, mb4.2/47, Md4.5/57(MEX), Error ellipse: s-maj=10.2km s-min=5.2km az=187.0*

*MEX **02** 15:05:32.0±1.4, 15°.45N×94°.77W, h16km±12km, MD4.4*

ISC 02 15:05:28.8±2.3**, 15°.55N**±0°.04×**94°.77W**±0°.03**, h13**km±15km**, n118,** σ**2s.09**/145**, mb4.1**/12**, MS3.4**/8**, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**1.02**	**8**	*i* P	**Pb**	**15 05 48.4**	**0.0**
NILT				*i* S	**Sb**	**15 06 00.6**	**-1.1**
CARR	**Arriaga**	**1.08**	**50**	*i* P	**Pb**	**15 05 48.6**	**-0.8**
CARR				*i* S	**Sb**	**15 06 01.1**	**-2.3**
HUIG	**Huatulco**	**1.30**	**280**		**Pn**	**15 05 52.6**	**-0.2**
HUIG					**Sn**	**15 06 07.5**	**-2.6**
HUIG	**Huatulco**	**1.30**	**280**	*e*P	**Pn**	**15 05 52.6**	**-0.2**
HUIG				*e*S	**Sn**	**15 06 07.5**	**-2.6**
PCIG		**1.50**	**84**		**Pn**	**15 05 54.7**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PCIG					Sn	15 06 11.6	-3.5
PCIG		1.50	84	*i* P	Pn	15 05 54.7	-0.8
PCIG				*i* S	Sn	15 06 11.6	-3.5
CMIG	Matias Romero	1.54	356	Pn	Pn	15 05 56.8	+0.8
	266nm,0.3s,baz=166,slow=11,SNR=1691						
CMIG				Sn	Sn	15 06 15.1	-0.8
	287nm,0.3s,baz=112,slow=14,SNR=22						
CMIG				LR	LR	15 06 45.7	
	comp=Z,616nm,19.9s,baz=198,slow=48						
CMIG	Matias Romero	1.54	356	*i* P	Pn	15 05 56.8	+0.8
CMIG				*i* S	Sn	15 06 15.3	-0.5
UXUV	UXUV	1.86	19	*i* P	Pb	15 06 02.0	-0.7
UXUV				*e*S	Sb	15 06 24.4	-1.4
TGIG		2.00	52		Pn	15 06 03.5	+1.1
TGIG					Sn	15 06 27.3	-0.1
TGIG		2.00	52	*i* P	Pn	15 06 03.5	+1.1
TGIG				*e*S	Sn	15 06 27.3	-0.1
TGBT	Tuxtla Gutierr	2.02	53		Pn	15 06 04.4	+1.7
TGBT					Sb	15 06 29.5	-1.2
TGBT	Tuxtla Gutierr	2.02	53	*i* P	Pn	15 06 04.4	+1.7
TGBT				*i* S	Sb	15 06 29.5	-1.2
PEIG	Puerto Escondi	2.33	281		Pn	15 06 07.0	+0.1
PEIG					Sn	15 06 31.6	-3.9
PEIG	Puerto Escondi	2.33	281	*e*P	Pn	15 06 07.0	+0.1
PEIG				*e*S	Sn	15 06 31.6	-3.9
NEUV	Arroyo Zacate	2.37	335	*e*P	Pn	15 06 08.0	+0.6
NEUV				*e*S	Sn	15 06 38.2	+1.9
OXLC	Oaxaca	2.39	309	*e*P	Pn	15 06 09.9	+2.0
OXLC				*e*S	Sn	15 06 38.2	+1.0
OXIG	Oaxaca	2.42	309		Pn	15 06 11.2	+2.9
OXIG					Sn	15 06 38.8	+1.0
VHO	Vista Hermosa	2.42	309	*e*P	Pn	15 06 11.2	+2.9
VHO				*e*S	Sn	15 06 38.8	+1.0
TUIG	Tuzandepetl	2.49	8	*e*P	Pn	15 06 10.7	+1.5
TUIG				*e*S	Sg	15 06 47.1	-1.9
CCIG	Comitan	2.64	74		Pn	15 06 12.6	+1.3
CCIG	Comitan	2.64	74	*e*P	Pn	15 06 12.8	+1.5
CCIG				*e*S	Sb	15 06 47.6	-0.9
YOIG	Yosondua	2.96	296		Pn	15 06 18.1	+2.3
YOIG					Sn	15 06 50.4	-1.1
YOIG	Yosondua	2.96	296	*e*P	Pn	15 06 18.1	+2.3
YOIG				*e*S	Sn	15 06 50.4	-1.1
PMUV	Sontecomapan	3.00	354	*e*P	Pn	15 06 15.9	-0.2
PMUV				*e*S	Sn	15 06 51.4	-0.6
RTAL	Retalhuleu	3.14	109	Pn	Pn	15 06 20.3	+2.2
HUEH	Huehuetenango	3.16	94		Pn	15 06 20.5	+1.9
PNIG	Pinotepa	3.33	285		Pn	15 06 21.7	+1.0
PNIG					Sn	15 06 54.2	-6.1
PNIG	Pinotepa	3.33	285	*e*P	Pn	15 06 21.7	+1.0
PNIG				*e*S	Sn	15 06 54.2	-6.1
TXIG	Tlaxiaco	3.34	301		Pn	15 06 24.2	+3.2
TXIG					Sn	15 06 57.7	-3.0
TXIG	Tlaxiaco	3.34	301	*e*P	Pn	15 06 24.2	+3.2
TXIG				*e*S	Sn	15 06 57.7	-3.0
HLIG	Huajuapan de L	3.69	308		Pn	15 06 29.8	+4.1
HLIG					Sn	15 07 08.4	-0.8
HLIG	Huajuapan de L	3.69	308	*e*P	Pn	15 06 29.8	+4.1
HLIG				*e*S	Sn	15 07 08.4	-0.8
FTIG	Fresnillo de T	3.98	307		Pn	15 06 33.8	+4.0
FTIG					Sn	15 07 13.3	-3.1
FTIG	Fresnillo de T	3.98	307	*e*P	Pn	15 06 33.8	+4.0
FTIG				*e*S	Sn	15 07 13.3	-3.1
TLIG	Tlapa	4.15	299	Pn	Pn	15 06 35.7	+3.6
TLIG	Tlapa	4.15	299	*e*P	Pn	15 06 35.7	+3.6
TLIG				*e*S	Sn	15 07 11.9	-8.7
JAUV	Jalcomulco	4.26	333	*e*P	Pn	15 06 33.1	-0.4
JAUV				*e*S	Sn	15 07 18.5	-4.7
CRIG	Cruz Grande	4.35	286		Pn	15 06 35.7	+0.9
CRIG					Sn	15 07 18.1	-7.2
CRIG	Cruz Grande	4.35	286	*e*P	Pn	15 06 35.7	+0.9
CRIG				*e*S	Sn	15 07 18.1	-7.2
LVIG	Laguna Verde	4.44	340	*e*P	Pn	15 06 35.9	0.0
LVIG				*e*S	Sn	15 07 19.7	-7.8
SCIG	Sabancuy	4.83	45	*e*P	Pn	15 06 41.2	0.0
SCIG				*e*S	Sn	15 07 27.3	-10
PETF	Flores	4.90	73		Pn	15 06 43.9	+1.5
MTO3	Montecristo	5.35	102	Pn	Pn	15 06 52.8	+4.1
TEIG	Tepich	7.74	52	Pn	Pn	15 07 21.0	-0.2
TEIG	Tepich	7.74	52	Pn	Pn	15 07 20.3	-0.9
	110nm,0.3s,baz=211,slow=1.1,SNR=46						
TEIG				Sn	Sn	15 08 47.0	-1.8
	125nm,0.3s,baz=50,slow=24,SNR=6.8						
TEIG				LR	LR	15 10 53.5	
	comp=Z,2µm,18.2s,baz=8.0,slow=43						
833A	Chaparral WMA,	13.41	342	Pn	Pn	15 08 37.3	-1.6
HNDO	Hondo	14.52	344		Pn	15 08 56.7	+2.5
DRIO	Del Rio	14.82	340	Pn	Pn	15 08 59.6	+1.4
435B	Jarrell	15.38	351	Pn	Pn	15 09 05.2	-0.5
JCT	Junction City	15.56	344	Pn	Pn	15 09 08.4	+0.3
JCT				IAmb	IAmb	15 09 25.7	
	comp=Z,13nm,0.8s						
TXAR	Lajitas Array	15.98	331	Pn	Pn	15 09 14.4	+0.8
TXAR	Lajitas Array	15.98	331	Pn	Pn	15 09 16.2	+2.6
	comp=Z,0.1nm,0.3s,baz=148,slow=13,SNR=13						
TXAR				LR	LR	15 16 48.5	
	comp=Z,52nm,20.1s,baz=177,slow=42						
	comp=Z,1.7nm,0.8s						
TX31	Lajitas Ar. Si	15.98	331		Pn	15 09 12.5	-1.1
TX31				IAmb	IAmb	15 09 50.6	
	comp=Z,21nm,1.4s						
TX32	Lajitas Array	15.98	331		Pn	15 09 12.5	-1.1
BRDY	Brady	16.13	347		P	15 09 20.3	+1.6
BRDY				IAmb	IAmb	15 09 31.1	
	comp=Z,12nm,0.8s						
OZNA	Ozona	16.37	340	Pn	Pn	15 09 19.1	+0.6
OZNA				IAmb	IAmb	15 09 35.8	
	comp=Z,19nm,0.7s						
WHTX	Lake Whitney,	16.55	352	Pn	Pn	15 09 20.1	-0.6
WHTX				IAmb	IAmb	15 09 39.3	
	comp=Z,16nm,0.6s						
LPIG	La Paz	16.90	303	LR	LR	15 16 10.0	
	comp=Z,63nm,20.6s,baz=330,slow=38						
SGCY	Sterling City	17.29	342	P	Pn	15 09 31.5	+1.4
SGCY				IAmb	IAmb	15 09 55.9	
	comp=Z,11nm,0.7s						
MNHN	Monahans	17.33	336	P	P	15 09 32.7	+0.7
MNHN				IAmb	IAmb	15 09 56.7	
	comp=Z,6.8nm,0.9s						
PLPT	Palo Pinto	17.48	350	P	P	15 09 34.8	+1.2
PLPT				IAmb	IAmb	15 09 51.4	
	comp=Z,13nm,0.8s						
FW06	Azle	17.53	352	P	Pn	15 09 31.4	-1.6
FW06				IAmb	IAmb	15 09 51.4	
	comp=Z,14nm,0.7s						
ABTX	Abilene, Hawle	17.56	346	P	Pn	15 09 32.5	-1.0
ABTX				IAmb	IAmb	15 09 40.8	
	comp=Z,16nm,0.9s						
FW03	Perrin-Whitt E	17.67	351	P	Pn	15 09 34.1	-0.6
FW03				IAmb	IAmb	15 09 52.1	
	comp=Z,15nm,0.6s						
425A	Indio Mountain	17.82	330		P	15 09 40.0	+2.5
250A	Grady	18.10	24	P	Pn	15 09 37.5	-2.5
WLAR	White Oak Lake	18.12	4	P	Pn	15 09 39.8	-0.5
WLAR				IAmb	IAmb	15 09 44.3	
	comp=Z,15nm,1.1s						
APMT	Aspermont	18.35	346	P	Pn	15 09 43.5	+0.3
APMT				IAmb	IAmb	15 10 26.6	
	comp=Z,7.4nm,0.8s						
WTFS	Witchita Falls	18.44	350	P	Pn	15 09 44.5	+0.3
WTFS				IAmb	IAmb	15 09 54.7	
	comp=Z,20nm,0.7s						
DKNS	Dickens	18.88	344	P	P	15 09 50.3	+1.3
DKNS				IAmb	IAmb	15 09 52.5	
	comp=Z,10nm,0.9s						
MIAR	Mount Ida	18.95	3	P	P	15 09 49.4	-0.3
X37A	Clayton	18.97	358	P	P	15 09 50.3	+0.4
X37A				IAmb	IAmb	15 10 00.9	
	comp=Z,9.7nm,0.7s						
WMOK	Wichita Mounta	19.44	350	P	P	15 09 54.2	-1.0
MSTX	Muleshoe	19.71	340	P	P	15 09 56.3	-1.9
MSTX				IAmb	IAmb	15 10 22.1	
	comp=Z,6.6nm,0.7s						
FNO	Franklin	19.77	354	P	P	15 09 56.9	-1.8
SMWD	Samnorwood	20.08	347	P	P	15 10 04.2	+2.0
SMWD				IAmb	IAmb	15 10 15.6	
	comp=Z,11nm,0.6s						
AMTX	Amarillo	20.23	343	P	P	15 10 05.7	+1.9
AMTX				IAmb	IAmb	15 10 12.0	
	comp=Z,11nm,0.8s						
OK052	Battle Ridge R	20.44	355	P	P	15 10 04.6	-1.4
OK033	Mehan	20.50	355	P	P	15 10 06.9	+0.2
OK033				IAmb	IAmb	15 10 10.6	
	comp=Z,21nm,1.3s						
QUOK	Quay	20.61	356	P	P	15 10 07.8	-0.1
QUOK				IAmb	IAmb	15 10 13.8	
	comp=Z,11nm,0.8s						
121A	Cookes Peak, D	20.63	327	P	P	15 10 09.9	+1.6
121A				IAmb	IAmb	15 10 14.5	
	comp=Z,10nm,1.0s						
CBOC	Ciudad Bolivar	20.78	116	*e*P	P	15 10 11.3	+1.2
ELIS	Ellis County	20.85	349	P	P	15 10 11.1	+0.6
OK051	E0350 and S346	20.95	355	P	P	15 10 12.0	+0.5
U32A	Winter Ranch,	21.08	350	P	P	15 10 14.6	+1.6
OK038	West end E0370	21.14	351	P	P	15 10 14.9	+1.3
T35A	Sooner Cattle	21.34	356	P	P	15 10 13.9	-1.8
T35A				IAmb	IAmb	15 10 34.3	
	comp=Z,9.8nm,0.9s						
KAN09	Caldwell North	21.65	354	P	P	15 10 19.3	+0.2
KAN09				IAmb	IAmb	15 10 33.6	
	comp=Z,12nm,1.0s						
GUY2C	Guyana, Caldas	21.65	116	*e*P	P	15 10 21.0	+1.3
ANMO	Albuquerque	21.98	334	P	P	15 10 25.8	+2.9
	comp=Z,0.9nm,0.6s,baz=214,slow=9.6,SNR=4.2						
	comp=Z,0.9nm,0.6s						
TUC	Tucson	22.14	322	P	P	15 10 25.2	+0.6
ORTC	Ortega, Tolima	22.43	119	*e*P	P	15 10 30.0	+2.3
T25A	Trinidad	23.14	340	P	P	15 10 35.7	+0.5
T25A				IAmb	IAmb	15 10 48.7	
	comp=Z,9.6nm,1.1s						
RUSC	La Rusia	23.35	112	*e*P	P	15 10 38.9	+1.2
CHIC	Chingaza	23.36	115	*e*P	P	15 10 39.4	+1.7
X16A	Lo Mia Camp, P	24.04	324	P	P	15 10 46.4	+2.4
SDCO	Great Sand Dun	24.06	339	P	P	15 10 45.4	+1.2
SDV	Santo Domingo	24.49	103	LR	LR	15 21 14.8	
	comp=Z,62nm,20.4s,baz=286,slow=39						
WUAZ	Wupatki	24.82	326	P	P	15 10 54.3	+3.2
WUAZ				IAmb	IAmb	15 10 56.4	
	comp=Z,5.9nm,0.9s						
PFO	Pinyon Flats O	26.59	316	LR	LR	15 22 20.8	
	comp=Z,106nm,19.6s,baz=171,slow=38						
SJG	San Juan	27.50	81	LR	LR	15 22 34.0	
	comp=Z,37nm,18.8s,baz=221,slow=38						
PDAR	Pinedale Array	29.94	338	P	P	15 11 38.6	+1.6
	comp=Z,0.4nm,0.8s,baz=140,slow=4.7,SNR=3.0						
	comp=Z,0.4nm,0.8s						
NVAR	Mina Array Bea	30.80	322	P	P	15 11 47.9	+3.2
	comp=Z,0.7nm,0.7s,baz=134,slow=7.8,SNR=6.3						
NVAR				LR	LR	15 24 13.6	
	comp=Z,85nm,18.9s,baz=134,slow=36						
	comp=Z,0.7nm,0.7s						
NNA	Nana	32.61	146	LR	LR	15 22 38.6	
	comp=Z,68nm,18.1s,baz=343,slow=32						
PLID	Pearl Lake	34.46	333	P	P	15 12 17.4	+0.8
PLID				IAmb	IAmb	15 12 19.7	
	comp=Z,4.1nm,0.9s						
CHMT	Chamberlain Mo	34.85	338	P	P	15 12 20.4	+0.5
YBH	Yreka Blue Hor	35.51	323	LR	LR	15 26 57.6	
	comp=Z,126nm,20.9s,baz=198,slow=36						
MDP	Montagnes des	42.65	99	LR	LR	15 31 26.8	
	comp=Z,35nm,20.6s,baz=213,slow=37						
YKA	Yellowknife Ar	48.93	348	P	P	15 14 14.8	+0.4
	comp=Z,0.9nm,0.7s,baz=156,slow=7.0,SNR=11						
	comp=Z,0.9nm,0.7s						
F28M	Old Crow	59.55	342	P	P	15 15 31.8	0.0
PRP	Porcupine Dome	60.24	338	P	P	15 15 36.0	-0.8
PRP				IAmb	IAmb	15 15 50.8	
	comp=Z,3.6nm,1.4s						
ILAR	Eielson Array	60.37	337	P	P	15 15 37.4	-0.1
ILAR	Eielson Array	60.37	337	P	P	15 15 38.6	+1.2
	comp=Z,0.8nm,0.9s,baz=147,slow=3.9,SNR=8.0						
	comp=Z,0.8nm,0.9s						
SUA	Susitna One	60.48	333	P	P	15 15 38.5	0.0
BMAR	Burnt Mountain	60.93	340	P	P	15 15 41.5	+0.2
ESDC	Sonseca Array	80.86	51	P	P	15 17 42.3	-0.6
	comp=Z,1.6nm,0.9s,baz=274,slow=5.3,SNR=6.7						
	comp=Z,1.6nm,0.9s						
HFS	Hagfors	85.53	28	LR	LR	15 55 40.6	
	comp=Z,38nm,19.3s,baz=42,slow=35						

*KRSC **02** 15:11:38.2±1.0, 52.54N×159.88E, h44km±12km, Ml4.9*

*MOS **02** 15:11:40.2±1.2, 52.60N×159.57E, h59km, mb5.1/29, Error ellipse: s-maj=7.0km s-min=3.3km az=94.0*

*NEIC **02** 15:11:41.3±1.9, 52.71N±0.08×159.6E±0.1, h56km±5km, mb4.7/133, Error ellipse: s-maj=13.0km s-min=11.4km az=114.0*

*BGR **02** 15:11:42.6, 53.22N×159.04E, h33km, mb5.0*

*IDC **02** 15:11:43.6±1.2, 52.70N×159.57E, h75km±8km, mb4.2/32, mbtmp4.5/36, MS3.5/39, Error ellipse: s-maj=13.1km s-min=9.8km az=145.0*

ISC 02 15:11:40.9±0.4**, 52.62N**±0.03×**159.71E**±0.04**, h57**km±2km**, h56**km**:pP-P, n510,** σ1.43/534**, mb4.7**/163**, MS3.6**/39**, 35C-29D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.51	21	*e*P	Pn	15 11 50.6	-2.1
SPN				*e*S	Sn	15 11 58.7	-2.5
SPN	Mys Shipunski	0.51	21	PN	Pn	15 11 50.6	-2.1
SPN				S	Sn	15 11 58.7	-2.5
NLC	Nalytchevo	0.59	338	*e*P	Pn	15 11 54.1	+0.5
NLC				*e*S	Sn	15 12 04.5	+1.7
NLC	Nalytchevo	0.59	338	PN	Pn	15 11 54.1	+0.5
NLC				S	Sn	15 12 04.5	+1.7
DALK	Dalny	0.71	305	*i* P	Pn	15 11 54.4	-0.6
DALK				*e*S	Sn	15 12 05.4	0.0
DALK	Dalny	0.71	305	PN	Pn	15 11 54.4	-0.6
DALK				S	Sn	15 12 05.4	0.0
PET	Petropavlovsk	0.76	302		Pn	15 11 55.0	-0.6
PET	Petropavlovsk	0.76	302	*e*P	Pn	15 11 55.1	-0.6
PET				*e*S	Sn	15 12 06.6	+0.2
PET	Petropavlovsk	0.76	302	PN	Pn	15 11 55.1	-0.6
PET				S	Sn	15 12 06.6	+0.2
UGLR	Uglovaya	0.80	318	*i* P	Pn	15 11 56.2	0.0
UGLR	Uglovaya	0.80	318	PN	Pn	15 11 56.2	0.0
SMAR	Somma	0.85	320	*e*P	Pn	15 11 56.4	-0.6
SMAR	Somma	0.85	320	PN	Pn	15 11 56.4	-0.6
AVH	Avacha	0.87	318	*i* P	Pn	15 11 57.4	+0.2
AVH	Avacha	0.87	318	PN	Pn	15 11 57.4	+0.2
KOK	Koryaka	0.93	316	*e*P	Pn	15 11 58.2	+0.2
KOK	Koryaka	0.93	316	PN	Pn	15 11 58.2	+0.2
MTVR	Mutnovka	0.95	262	*i* P	Pn	15 11 57.6	-0.5
MTVR	Mutnovka	0.95	262	PN	Pn	15 11 57.7	-0.5
KRX	Arik	0.98	319	*e*P	Pn	15 11 58.5	-0.1
KRX	Arik	0.98	319	PN	Pn	15 11 58.5	-0.1
KRMR	Karymshinskiy	0.98	283	*i* P	Pn	15 11 58.4	-0.2
KRMR				*e*S	Sn	15 12 12.6	+1.0
KRMR	Karymshinskiy	0.98	283	PN	Pn	15 11 58.4	-0.2
KRMR				S	Sn	15 12 12.6	+1.0
GRL	Gorelyy	1.00	267	*e*P	Pn	15 11 59.1	+0.2
GRL	Gorelyy	1.00	267	PN	Pn	15 11 59.1	+0.2
ASAK	Asacha	1.14	258	*i* P	Pn	15 12 00.8	+0.1
ASAK	Asacha	1.14	258	PN	Pn	15 12 00.8	+0.1
KDTR	Khodutka, Kamc	1.30	232	*e*P	Pn	15 12 01.9	-0.8
KDTR				*e*S	Sn	15 12 19.1	+0.1
KDTR	Khodutka, Kamc	1.30	232	PN	Pn	15 12 01.9	-0.8
KDTR				S	Sn	15 12 19.1	+0.1
PEA0B	Petropavlovsk-	1.31	292	Pn	Pn	15 12 03.6	+0.7
PEA0B	Petropavlovsk-	1.31	292*d*	*i*PN	Pn	15 12 03.5	+0.5
PETK	Petropavlovsk-	1.31	292	Pn	Pn	15 12 02.5	-0.5
PETK	Petropavlovsk-	1.31	292	P	Pn	15 12 02.6	-0.4
	2µm,0.5s,baz=103,slow=20,SNR=4344						
PETK				S	Sn	15 12 21.2	+1.7
	778nm,0.6s,baz=237,slow=25,SNR=14						
PETK				LR	LR	15 12 41.1	
	comp=Z,2µm,18.5s,baz=160,slow=48						
APC	Apacha	1.58	282	*i* P	Pn	15 12 08.1	+1.5
APC				*e*S	Sn	15 12 30.1	+4.2
APC	Apacha	1.58	282	PN	Pn	15 12 08.1	+1.5
PAU	Pauzhetka	2.13	238	*e*P	Pn	15 12 15.8	+1.7
PAU	Pauzhetka	2.13	238	PN	Pn	15 12 15.8	+1.7
TUMD	Tumrok D	2.62	9	*e*P	Pn	15 12 21.6	+0.9
TUMD				*e*S	Sn	15 12 54.0	+2.7
TUMR	Tumrok	2.68	5	*e*P	Pn	15 12 23.3	+1.7
TUMR	Tumrok	2.68	5	PN	Pn	15 12 21.6	0.0
TUMR				S	Sn	15 12 54.0	+1.2
SKR	Severo-Kuril's	2.97	230	*e*P	Pn	15 12 25.3	-0.1
SKR				*e*S	Sn	15 12 59.9	+0.2
SKR	Severo-Kuril's	2.97	230	*e*PN	Pn	15 12 25.4	-0.1
SKR				*e*S	Sn	15 13 00.1	+0.3
SKR				pmax	pmax		
	comp=Z,311nm,0.5s						
SKR				smax	smax		
	comp=N,2µm,0.6s						
SKR				smax	smax		
	comp=E,3µm,0.5s						
SKR				MLR	MLR		
	comp=Z,1µm,14.0s						
KMNR	Kamenistaya	3.15	5	*e*P	Pn	15 12 30.0	+1.9
KMNR	Kamenistaya	3.15	5	PN	Pn	15 12 30.0	+1.9
BZP	Bezymyannyi-Pe	3.33	8	*e*P	Pn	15 12 32.3	+1.7
BZMR	Bezymyannaya	3.35	7	*e*P	Pn	15 12 32.8	+2.0
BZMR	Bezymyannaya	3.35	7	PN	Pn	15 12 32.8	+2.0
ESO	Esso	3.36	350	*e*P	Pn	15 12 33.6	+2.7
ESO	Esso	3.36	350	PN	Pn	15 12 33.6	+2.7
KPT	Kopyto	3.36	5	*e*P	Pn	15 12 32.7	+1.7
KPT	Kopyto	3.36	5	PN	Pn	15 12 32.7	+1.7
KOZ	Kozyrevsk	3.44	1	*e*P	Pn	15 12 33.8	+1.8
KOZ	Kozyrevsk	3.44	1	PN	Pn	15 12 33.8	+1.8
ZLN	Zelenaya	3.46	10	*e*P	Pn	15 12 34.6	+2.3
ZLN	Zelenaya	3.46	10	PN	Pn	15 12 34.6	+2.3
CIRR	Tsirk	3.55	9	*e*P	Pn	15 12 35.8	+2.3
CIRR	Tsirk	3.55	9	PN	Pn	15 12 35.8	+2.3
SRDR	Sredinnyy	3.70	0	*e*P	Pn	15 12 37.0	+1.5
SRDR	Sredinnyy	3.70	0	PN	Pn	15 12 37.0	+1.5
KLY	Klyuchi	3.74	8	*e*P	Pn	15 12 38.2	+2.3
KLY	Klyuchi	3.74	8	PN	Pn	15 12 38.2	+2.3
KBTR	Krutoberegovo	4.02	26	*e*P	Pn	15 12 41.1	+1.2
KBTR	Krutoberegovo	4.02	26	PN	Pn	15 12 41.1	+1.2
BDR	Baidarnaya	4.05	12	*e*P	Pn	15 12 43.2	+2.9
BDR	Baidarnaya	4.05	12	PN	Pn	15 12 43.2	+2.9
SMKR	Semkarok	4.09	14	*e*P	Pn	15 12 42.3	+1.4
SMKR	Semkarok	4.09	14	PN	Pn	15 12 42.3	+1.4
SRKR	Sorokina	4.13	11	*e*P	Pn	15 12 44.6	+3.2
SRKR	Sorokina	4.13	11	PN	Pn	15 12 44.6	+3.2
PALN	Palana	6.48	1	*e*P	Pn	15 13 18.4	+4.9
PALN	Palana	6.48	1	PN	Pn	15 13 18.4	+4.9
OSSR	Ossora	6.90	14	*e*P	Pn	15 13 23.2	+4.0
OSSR	Ossora	6.90	14	PN	Pn	15 13 23.2	+4.0
MA2	Magadan	8.57	328	PN	Pn	15 13 42.0	-0.1
MA2	Magadan	8.57	328	P	Pn	15 13 42.0	-0.1
	comp=Z,7.7nm,0.6s,baz=131,slow=11,SNR=5.1						
MA2				LR	LR	15 17 31.5	
	comp=Z,459nm,19.4s,baz=116,slow=41						
SHEM	Shemya Is, Ala	8.74	84	P	Pn	15 13 42.8	-1.7
	comp=Z,26nm,0.3s,baz=288,slow=6.4,SNR=1.5						
SHEM				S	Sn	15 15 14.7	-6.8
	comp=Z,47nm,0.8s,baz=270,slow=21,SNR=1.4						
SHEM				LR	LR	15 17 00.4	
	comp=Z,151nm,21.4s,baz=169,slow=36						
SEY	Seymchan	11.04	342	P	Pn	15 14 17.4	+1.5
	comp=Z,1.5nm,0.8s,baz=114,slow=20,SNR=1.7						
SEY				LR	LR	15 19 01.2	
	comp=Z,367nm,19.5s,baz=156,slow=40						
SHO	Shikotan	12.25	229	*e*PN	Pn	15 14 28.3	-4.1
SHO				pmax	pmax		
	comp=N,11nm,0.6s						
SHO				pmax	pmax		
	comp=Z,39nm,0.6s						
SHO				pmax	pmax		
	comp=E,21nm,0.3s						
YSS	Yuzh-Sakhalins	12.33	249	*e*PN	Pn	15 14 38.1	+4.6
YSS				*e*S	Sn	15 16 54.1	+5.0
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YUK	Yuzh-Kuril'sk	12.58	232	*e*PN	Pn	15 14 34.9	-2.0
YUK				S	Sn	15 16 59.2	+3.8
YUK				pmax	pmax		
	comp=Z,135nm,0.4s						
YUK				pmax	pmax		
	comp=N,31nm,0.3s						
YUK				pmax	pmax		
	comp=E,45nm,0.4s						
JKA	Kamikawa-asahi	14.18	240		Pn	15 14 59.1	+0.5
ASAJ	Asahikawa	14.18	240	P	Pn	15 14 59.0	+0.4
	comp=E,16nm,0.4s,baz=61,slow=15,SNR=33						
ASAJ				LR	LR	15 20 25.3	
	comp=E,147nm,19.1s,baz=43,slow=37						
GRNR	Gornyy	14.55	272⥣	*i*P	P	15 15 10.4	+1.9
GRNR				pmax	pmax		
	comp=E,10.0nm,0.6s						
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GRNR				MLR	MLR		
	comp=E,130nm,14.0s						
GRNR				MLR	MLR		
	comp=Z,160nm,14.0s						
GRNR				MLR	MLR		
	comp=N,120nm,15.0s						
ERM	Erimo	15.41	233	Pn	Pn	15 15 08.8	-5.8
ERM				IAmb	IAmb	15 15 15.1	
	comp=Z,56nm,0.9s						
ERM	Erimo	15.41	233	P	Pn	15 15 08.8	-5.8
ERM				pmax	pmax		
	comp=Z,56nm,0.9s						
BILL	Bilibino	15.79	9	P	P	15 15 21.5	-0.6
BILL	Bilibino	15.79	9	*e*P	Pn	15 15 20.8	+1.6
JTM	Tenmabayashi	17.36	234	Pn	Pn	15 15 32.8	-6.3
KLR	Kul'dur	17.90	270⥣	*e*P	P	15 15 46.9	+1.3
KLR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KLR				MLR	MLR		
	comp=Z,111nm,16.0s						
KLR	Kul'dur	17.90	270	P	Pn	15 15 45.4	-0.2
	comp=Z,6.3nm,0.6s,baz=73,slow=8.1,SNR=19						
KLR				LR	LR	15 23 18.3	
	comp=Z,122nm,18.5s,baz=75,slow=39						
YAK	Yakutsk	18.58	312	P	P	15 15 49.8	-3.1
YAK	Yakutsk	18.58	312	*e*P	P	15 15 52.1	-0.8
YAK				*e*S	S	15 19 19.6	-1.8
YAK				pmax	pmax		
	comp=Z,63nm,0.9s						
YAK				pmax	pmax		
	comp=E,23nm,1.1s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,162nm,4.6s						
YAK				pmax	pmax		
	comp=N,113nm,3.6s						
YAK				pmax	pmax		
	comp=E,210nm,4.9s						
YAK				smax	smax		
	comp=N,40nm,2.3s						
YAK				smax	smax		
	comp=E,195nm,4.6s						
YAK	Yakutsk	18.58	312	P	P	15 15 52.6	-0.3
	comp=E,3.2nm,0.7s,baz=90,slow=2.3,SNR=20						
YAK				LR	LR	15 23 17.5	
	comp=E,6.2nm,20.4s,baz=108,slow=38						
ZEA	Zeya	19.40	286	*e*P	Pn	15 16 02.7	-0.9
JMM	Marumori	19.79	229	P	P	15 16 05.4	-0.9
JMM				IAmb	IAmb	15 16 09.3	
	comp=Z,36nm,1.0s						
USA0B	Ussuriysk Arra	20.14	256⥣	*e*P	P	15 16 10.8	+0.7
USRK	Ussuriysk Ar.	20.14	256	P	P	15 16 09.4	-0.7
	comp=Z,4.8nm,0.5s,baz=55,slow=13,SNR=13						
USRK				LR	LR	15 24 17.5	
	comp=Z,143nm,20.6s,baz=32,slow=38						
	comp=Z,4.8nm,0.5s						
HEH	HeiHe	20.18	276	*e*P	P	15 16 11.0	+0.5
HEH				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HEH				pmax	pmax		
	comp=Z,160nm,4.5s						
MDJ	Mudanjiang	21.34	260	P	P	15 16 24.2	+1.2
MDJ				PP	PnPn	15 16 45.1	+0.4
MDJ				sP	sP	15 16 46.2	+4.4
MDJ				S	S	15 20 14.5	-2.2
MDJ				PcP	PcP	15 20 28.0	+3.0
MDJ				sS	sS	15 20 36.5	-0.2
MDJ				ScP	ScP	15 23 56.3	-0.5
MDJ				PcS	PcS	15 24 03.2	+0.1
MDJ				pmax	pmax		
	comp=Z,11nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,220nm,4.1s						
MDJ				LR	LR		
	comp=Z,230nm,17.9s						
MJB9	Matsu-Tunnel	22.07	232	P	P	15 16 31.4	+0.5
MAJO	Matsushiro	22.07	232	P	P	15 16 29.9	-1.1
MAJO	Matsushiro	22.07	232*c*	*i*P	P	15 16 31.9	+0.9
MAJO				pmax	pmax		
	comp=Z,44nm,0.6s						
MJAR	Matsushiro Arr	22.07	232	P	P	15 16 31.7	+0.7
	comp=Z,23nm,0.7s,baz=18,slow=11,SNR=155						
MJAR				LR	LR	15 25 11.8	
	comp=Z,100nm,22.0s,baz=36,slow=37						
	comp=Z,23nm,0.7s						

BNX **BinXian** 22.08 265 ⇓P P 15 16 30.1 -0.8
BNX pmax pmax
comp=Z,20nm,0.7s
BNX pmax pmax
comp=Z,96nm,4.8s
TIXI Tiksi 23.41 336 P P 15 16 43.6 -0.7
TIXI Tiksi 23.41 336 P P 15 16 43.7 -0.7
TIXI pmax pmax
comp=Z,13nm,0.8s
TIXI Tiksi 23.41 336 LR LR 15 26 57.4
comp=Z,12nm,18.8s,baz=178,slow=39
JHJ Hachijo jima 2 24.21 224 LR LR 15 29 30.8
comp=Z,19nm,18.6s,baz=100,slow=44
CN2 Changchun 24.28 262 *eP* P 15 16 48.3 -4.3
CN2 pmax pmax
comp=Z,10.0nm,1.0s
C18K Utukok River 24.37 34 P P 15 16 53.6 +0.3
C18K IAmb IAmb 15 16 55.7
comp=Z,25nm,0.8s
G18K Tagagawik 24.51 41 P P 15 16 55.3 +0.8
J18K Innoko River 24.96 47 P P 15 16 59.1 +0.5
J18K IAmb IAmb 15 17 11.8
comp=Z,46nm,1.8s
F19K Shaleruckik Mo 25.07 39 P P 15 17 00.3 +0.8
F19K IAmb IAmb 15 17 11.2
comp=Z,38nm,1.4s
C19K Lookout Ridge 25.08 34 P P 15 17 00.8 +1.2
HIA Hailar 25.18 278 P P 15 16 57.2 -3.5
HIA IAmb IAmb 15 17 02.3
comp=Z,12nm,0.7s
HIA Hailar 25.18 278 P P 15 16 57.2 -3.5
HIA pmax pmax
comp=Z,12nm,0.7s
G19K Purcell Mounta 25.19 41 P P 15 17 01.3 +0.7
TTA Tatalina 25.23 49 P P 15 17 01.4 +0.2
TTA Tatalina 25.23 49 P P 15 17 01.4 +0.2
TTA pmax pmax
comp=Z,8.0nm,0.9s
H19K Roundabout Mou 25.34 42 P P 15 17 03.4 +1.4
H19K IAmb IAmb 15 17 04.0
comp=Z,11nm,0.8s
E19K Redstone River 25.42 38 P P 15 17 03.9 +1.1
E19K IAmb IAmb 15 17 16.7
comp=Z,18nm,1.2s
N19K Bonanza Creek 25.94 53 P P 15 17 08.3 +0.7
N19K IAmb IAmb 15 17 42.5
comp=Z,75nm,1.9s
K20K Telida 26.14 48 P P 15 17 09.4 +0.1
K20K IAmb IAmb 15 17 21.1
comp=Z,27nm,1.6s
J20K Nowinta River 26.15 46 P P 15 17 09.6 +0.3
J20K IAmb IAmb 15 17 22.6
comp=Z,26nm,1.6s
B20K Meade River 26.19 32 P P 15 17 10.4 +0.8
JMN Monobe 26.44 235 P P 15 17 10.8 -1.5
IMAR Indian Mountai 26.50 42 P P 15 17 12.2 -0.3
G21K Allakaket 26.68 41 P P 15 17 13.9 -0.2
KS19 Wonju Array Si 26.83 248 P P 15 17 15.0 -0.7
KS19 IAmb IAmb 15 17 59.1
comp=Z,32nm,1.4s
KSRS Korea Array 26.83 248 P P 15 17 16.4 +0.7
comp=Z,5.3nm,0.7s,baz=42,slow=9.3,SNR=25
KSRS LR LR 15 26 58.5
comp=Z,75nm,21.8s,baz=65,slow=34
comp=Z,5.3nm,0.7s
H21K Melozitna Rive 26.85 43 P P 15 17 16.5 +0.8
KSAR Wonju Array Be 26.86 248 P P 15 17 16.3 +0.3
KSAR Wonju Array Be 26.86 248 P P 15 17 16.3 +0.3
B21K Ikpikpuk River 26.91 34 P P 15 17 17.3 +1.2
B21K IAmb IAmb 15 17 22.0
comp=Z,36nm,1.4s
KDAK Kodiak Island 27.23 60 LR LR 15 28 27.1
comp=Z,76nm,19.8s,baz=230,slow=37
D22K Ayikyak River 27.41 36 P P 15 17 21.7 +1.1
D22K IAmb IAmb 15 17 33.2
comp=Z,16nm,1.2s
HOM Homer 27.45 56 P P 15 17 22.2 +1.2
B22K Teshekpuk Lake 27.50 32 P P 15 17 21.5 +0.1
B22K IAmb IAmb 15 17 34.0
comp=Z,48nm,1.6s
BPAW Bear Paw Mtn. 27.53 46 P P 15 17 21.8 0.0
KTH Kantishna Hill 27.56 47 P P 15 17 22.9 +0.8
KTH IAmb IAmb 15 17 35.1
comp=Z,20nm,1.5s
E22K Anaktuvuk Pass 27.58 37 P P 15 17 22.9 +0.7
E22K IAmb IAmb 15 17 34.7
comp=Z,24nm,1.4s
TRF Thorofare Moun 27.84 47 P P 15 17 25.1 +0.4
TRF IAmb IAmb 15 18 02.5
comp=Z,19nm,1.4s
JTU Tsushima 28.15 242 P P 15 17 28.4 +0.8
I23K Minto, Yukon-K 28.26 44 P P 15 17 28.8 +0.6
C23K Itkillik River 28.32 34 P P 15 17 29.6 +0.9
C23K IAmb IAmb 15 17 58.0
comp=Z,38nm,1.6s
JNU Nakatsue 28.45 238 P P 15 17 30.6 +0.3
JNU IAmb IAmb 15 17 36.3
comp=Z,19nm,0.7s
JNU Nakatsue 28.45 238 LR LR 15 28 26.2
comp=Z,66nm,21.8s,baz=48,slow=35
TOLK Toolik Lake Re 28.48 36 P P 15 17 30.2 0.0
MDM Murphy Dome 28.73 44 P P 15 17 30.6 -1.9
E24K Your Creek 28.81 38 P P 15 17 31.8 -1.3
KNK Knik Glacier 28.81 52 P P 15 17 31.7 -1.5
KNK IAmb IAmb 15 18 13.1
comp=Z,25nm,1.4s
D24K Happy Valley 28.82 36 P P 15 17 33.3 +0.2
D24K IAmb IAmb 15 17 38.7
comp=Z,43nm,1.9s
SML Sawmill 28.83 51 P P 15 17 32.1 -1.3
SML IAmb IAmb 15 17 38.0
comp=Z,56nm,1.8s
CCB Clear Creek Bu 28.92 45 P P 15 17 33.6 -0.5
F24K Squaw Lake 28.98 39 P P 15 17 34.7 0.0
HDA Harding Lake 29.29 45 P P 15 17 37.4 -0.1
SCM Sheep Creek Mo 29.30 51 P P 15 17 37.2 -0.4
SCM Sheep Creek Mo 29.30 51 P P 15 17 37.2 -0.4
SCM pmax pmax
comp=Z,66nm,1.6s
IL31 29.31 45 P P 15 17 36.5 -1.0
ILAR Eielson Array 29.31 45 P P 15 17 36.8 -0.7
ILAR Eielson Array 29.31 45 P P 15 17 37.5 -0.1
comp=Z,1.3nm,0.7s,baz=263,slow=7.4,SNR=16
ILAR PcP PcP 15 20 42.3 -0.3
comp=Z,0.5nm,0.6s,baz=277,slow=3.5,SNR=6.5
comp=Z,1.3nm,0.7s
D25K Kavik River 29.71 35 P P 15 17 41.3 +0.2
D25K IAmb IAmb 15 17 46.6
comp=Z,11nm,0.6s
PRP Porcupine Dome 29.87 43 P P 15 17 40.7 -2.0
E25K Arctic Village 29.90 38 P P 15 17 42.8 0.0
E25K IAmb IAmb 15 17 55.3
comp=Z,20nm,1.6s
J25K Salcha River, 29.97 45 P P 15 17 41.2 -2.2
J25K IAmb IAmb 15 17 43.9
comp=Z,23nm,1.9s
FYU Fort Yukon 29.98 41 P P 15 17 43.2 -0.2
FYU IAmb IAmb 15 17 58.1
comp=Z,34nm,1.5s
BMAR Burnt Mountain 30.25 39 P P 15 17 46.3 +0.4
SCRK Sand Creek 30.61 46 P P 15 17 49.3 0.0
N25K Chitina, Valde 30.62 51 P P 15 17 47.8 -1.5
N25K IAmb IAmb 15 18 06.8
comp=Z,18nm,1.6s
G27K Doyon Strip 31.40 40 P P 15 17 56.3 +0.3
K27K Chicken 31.45 46 P P 15 17 55.7 -0.7
D27M Malcolm River 31.62 36 P P 15 17 59.0 +1.0
D27M IAmb IAmb 15 18 03.7
comp=Z,5.3nm,0.6s
L27K Beaver Creek, 31.68 48 P P 15 17 59.1 +0.5
L27K IAmb IAmb 15 18 11.0
comp=Z,14nm,1.4s
BCAR Beaver Creek A 31.70 48 P P 15 17 58.4 -0.4
EGAK Eagle 31.76 44 P P 15 17 58.0 -1.1
E28M Babbage River 32.15 37 P P 15 18 04.9 +2.4
E28M IAmb IAmb 15 18 16.2
comp=Z,14nm,1.7s
I28M Miner Creek 32.20 43 P P 15 18 03.8 +0.6
DAWY Dawson 32.61 45 P P 15 18 06.7 0.0
DAWY IAmb IAmb 15 18 12.4
comp=Z,17nm,1.9s
H29M Whitestone 32.76 41 P P 15 18 08.5 +0.6
H29M IAmb IAmb 15 18 19.9
comp=Z,30nm,1.9s

E29M Blow River 32.76 37 P P 15 18 09.0 +1.1
G29M Pine Creek 32.82 40 P P 15 18 09.6 +1.1
G29M IAmb IAmb 15 18 45.9
comp=Z,9.3nm,1.1s
H11N2 WAKE ISLAND Hy 33.30 168 T T 15 54 15.0
baz=352,slow=76
H11N3 WAKE ISLAND Hy 33.32 168 T T 15 54 04.4
baz=352,slow=76
H11N1 WAKE ISLAND Hy 33.32 168 T T 15 54 01.5
baz=352,slow=76
M29M Somme Creek 33.32 48 P P 15 18 13.5 +0.5
L29M L29M 33.34 47 P P 15 18 12.3 -0.8
L29M IAmb IAmb 15 18 16.0
comp=Z,6.6nm,0.9s
ULN Ulaanbaatar 33.38 283⇑ *i*P P 15 18 13.0 -0.7
ULN pmax pmax
comp=Z,12nm,2.5s
K29M Barlow Dome 33.46 46 P P 15 18 14.8 +0.6
K29M IAmb IAmb 15 19 02.0
comp=Z,18nm,1.9s
G30M tAoh Zraii Nji 33.52 40 P P 15 18 15.1 +0.6
G30M IAmb IAmb 15 18 29.4
comp=Z,31nm,1.9s
I30M Mount Dempster 33.71 43 P P 15 18 15.1 -1.2
SONM Songino Array 33.79 284 P P 15 18 17.2 +0.1
SONM Songino Array 33.79 284 P P 15 18 17.3 +0.1
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM Songino Array 33.79 284 P P 15 18 17.1 -0.1
comp=Z,3.2nm,0.5s,baz=63,slow=7.2,SNR=24
SONM PcP PcP 15 20 56.4 +1.2
comp=Z,3.1nm,0.6s,baz=81,slow=1.6,SNR=16
SONM LR LR 15 33 35.4
comp=Z,157nm,18.8s,baz=44,slow=39
comp=Z,3.2nm,0.5s
J30M Hart River 33.84 44 P P 15 18 17.7 +0.2
J30M IAmb IAmb 15 18 29.8
comp=Z,15nm,1.9s
G31M Satah River 34.29 40 P P 15 18 21.5 +0.4
G31M IAmb IAmb 15 19 19.2
comp=Z,25nm,1.9s
INK Inuvik 34.38 37 P P 15 18 21.4 -0.4
INK Inuvik 34.38 37 P P 15 18 21.5 -0.4
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 34.38 37 LR LR 15 32 43.5
comp=Z,109nm,20.0s,baz=186,slow=37
HHC Hu-ho-hao-te 34.41 270 *eP* P 15 18 21.4 -1.2
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,220nm,5.0s
F31M Tsiigehtchic 34.42 39 P P 15 18 22.2 0.0
F31M IAmb IAmb 15 18 33.6
comp=Z,10nm,1.2s
H11S1 WAKE ISLAND Hy 34.48 168 T T 15 55 27.6
baz=352,slow=76
H11S3 WAKE ISLAND Hy 34.49 168 T T 15 55 33.5
baz=352,slow=76
H11S2 WAKE ISLAND Hy 34.50 168 T T 15 55 32.5
baz=352,slow=76
N31M Braeburn, Yuko 34.78 49 P P 15 18 24.6 -0.8
N31M IAmb IAmb 15 18 42.5
comp=Z,16nm,1.4s
M31M Drury Creek, Y 35.22 48 P P 15 18 30.1 +0.8
M31M IAmb IAmb 15 18 31.9
comp=Z,4.8nm,0.8s
BTO Baotou 35.49 270 *eP* P 15 18 32.8 +0.8
BTO pP pP 15 18 45.0 -0.9
BTO sP sP 15 18 50.6 -1.8
BTO PP PP 15 19 53.5 +0.3
BTO pmax pmax
comp=Z,22nm,0.9s
BTO pmax pmax
comp=Z,200nm,8.8s
NJ2 Nanjing 35.89 251 *eP* P 15 18 33.7 -1.6
NJ2 pP pP 15 18 49.6 +0.5
NJ2 sP sP 15 18 55.2 -0.3
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,170nm,3.9s
A36M Sachs Harbour 36.65 30 P P 15 18 41.2 -0.1
A36M IAmb IAmb 15 18 47.8
comp=Z,11nm,0.8s
C36M Paulatuk 37.56 34 P P 15 18 49.1 +0.1
C36M IAmb IAmb 15 18 55.3
comp=Z,11nm,0.8s
R33M Jennings River 37.70 52 P P 15 18 50.8 +0.3
TPUB Ta-pu 41.68 241 P P 15 19 24.3 +0.4
LZH Lanzhou 42.11 270 *eP* P 15 19 27.5 +0.1
LZH pP pP 15 19 40.7 -0.9
LZH sP sP 15 19 48.7 +0.7
LZH pmax pmax
comp=Z,14nm,1.1s
EUNU Eureka 42.46 14 P P 15 19 29.8 +0.1
ZAA0 Zalesovo Array 42.84 303 P P 15 19 30.6 -2.3
ZALV Zalesovo Beam 42.84 303 P P 15 19 30.9 -2.0
ZALV Zalesovo Beam 42.84 303 P P 15 19 31.6 -1.3
comp=Z,3.7nm,0.5s,baz=60,slow=7.5,SNR=19
ZALV PcP PcP 15 21 23.5 +0.6
comp=Z,1.2nm,0.5s,baz=86,slow=3.4,SNR=5.2
ZALV LR LR 15 38 34.5
comp=Z,79nm,18.8s,baz=60,slow=38
comp=Z,3.7nm,0.5s
YKA Yellowknife Ar 43.66 42 P P 15 19 40.4 +1.0
comp=Z,1.7nm,0.9s,baz=297,slow=8.3,SNR=9.2
YKA LR LR 15 41 24.7
comp=Z,66nm,18.1s,baz=14,slow=41
comp=Z,1.7nm,0.9s
DGZ Jazzator, Alta 43.67 296⇓ *i*P P 15 19 39.6 -0.3
DGZ pmax pmax
comp=Z,3.0nm,0.6s
RES Resolute Bay 43.84 22 P P 15 19 40.1 -0.6
RES Resolute Bay 43.84 22 P P 15 19 40.1 -0.6
RES pmax pmax
comp=Z,13nm,1.6s
WMQ Urumqi 46.91 289 *eP* P 15 20 02.8 -2.7
WMQ pmax pmax
comp=Z,10.0nm,0.9s
WMQ LR LR
comp=Z,55nm,21.3s
SPITS Spitsbergen Ar 47.56 350 P P 15 20 10.5 +0.5
SPITS pmax pmax
comp=Z,237nm,2.0s
SPITS Spitsbergen Ar 47.56 350 P P 15 20 10.0 0.0
comp=Z,6.9nm,0.3s,baz=58,slow=8.7,SNR=41
comp=Z,6.9nm,0.3s
SPB2 Spitsbergen Ar 47.56 350 P P 15 20 10.2 +0.2
KURK Kurchatov 47.79 302 P P 15 20 10.6 -1.5
KURK Kurchatov 47.79 302 *c i*P P 15 20 10.8 -1.3
KURK pmax pmax
comp=Z,36nm,1.3s
KURBB Kurchatov Arra 47.89 302 P P 15 20 11.9 -0.9
comp=Z,9.6nm,0.5s,baz=60,slow=7.5,SNR=76
KURBB PcP PcP 15 21 40.7 +0.2
comp=Z,1.6nm,0.7s,baz=54,slow=3.3,SNR=5.9
comp=Z,9.6nm,0.5s
MK31 Makanchi Array 48.15 296 P P 15 20 13.6 -1.4
MK31 IAmb IAmb 15 20 15.4
comp=Z,5.3nm,0.6s
MK31 Makanchi Array 48.15 296 *d i*P P 15 20 14.0 -1.0
MKAR Makanchi Array 48.15 296 P P 15 20 13.3 -1.7
MKAR Makanchi Array 48.15 296 P P 15 20 14.1 -0.9
comp=Z,4.2nm,0.5s,baz=58,slow=7.0,SNR=63
MKAR LR LR 15 41 12.9
comp=Z,68nm,20.8s,baz=41,slow=37
comp=Z,4.2nm,0.5s
NEEM North Greenlan 48.78 9 *i*P P 15 20 18.5 -1.3
NEEM IAmb IAmb 15 20 21.0
comp=Z,18nm,1.0s
PZH PanZhiHua 50.09 262 P P 15 20 30.2 0.0
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,5.4s
BVA0 Borovoye Array 50.50 308 *i*P P 15 20 31.4 -1.4
BVAR Borovoye Array 50.50 308 P P 15 20 31.7 -1.1
comp=Z,6.7nm,0.4s,baz=60,slow=8.1,SNR=56
BVAR PcP PcP 15 21 50.5 +0.5
comp=Z,2.6nm,0.6s,baz=67,slow=3.6,SNR=6.4
BVAR LR LR 15 42 55.3
comp=Z,67nm,19.6s,baz=47,slow=37
comp=Z,6.7nm,0.4s
BRVK Borovoye 50.53 309 P P 15 20 31.6 -1.5
BRVK IAmb IAmb 15 20 33.3
comp=Z,7.3nm,0.6s
BRVK Borovoye 50.53 309 *c i*P P 15 20 31.7 -1.3
BRVK pmax pmax
comp=Z,5.0nm,0.5s
DAG Danmarks Havn 50.87 360 *i* P P 15 20 35.0 -0.3
DAG IAmb IAmb 15 20 36.4
comp=Z,15nm,0.9s
YBH Yreka Blue Hor 51.40 69 LR LR 15 39 28.9
comp=Z,44nm,20.7s,baz=38,slow=32
OTUK Ortayu 52.54 303 P P 15 20 46.8 -1.3
DBG Daneborg 53.35 360 *i* P P 15 20 52.4 -1.4
ARU Arti 53.59 317 P P 15 20 53.2 -2.4
ARU IAmb IAmb 15 20 55.4
comp=Z,6.4nm,0.6s
ARU Arti 53.59 317 *d i*P P 15 20 54.8 -0.8
ARU *PP pP 15 21 09.6 -1.1
ARU 15 21 58.8
ARU 15 22 54.6
ARU S S 15 28 22.2 -2.2
ARU SS SS 15 31 59.5 -5.1
ARU pmax pmax
comp=Z,13nm,1.2s
ARU Arti 53.59 317 LR LR 15 47 15.0
comp=Z,54nm,18.5s,baz=32,slow=40
ARCES ARCESS Array B 53.66 342 P P 15 20 55.3 -0.7
comp=Z,7.1nm,0.8s,baz=39,slow=5.4,SNR=18
comp=Z,7.1nm,0.8s
FCC Fort Churchill 53.99 38 P P 15 20 58.3 -0.2
FCC IAmb IAmb 15 21 12.5
comp=Z,4.0nm,0.7s
FCC Fort Churchill 53.99 38 P P 15 20 58.3 -0.2
FCC pmax pmax
comp=Z,4.0nm,0.7s
SUMG Summit 54.45 7 P P 15 21 01.2 -1.0
SUMG Summit 54.45 7 P P 15 21 01.3 -1.0
SUMG pmax pmax
comp=Z,16nm,0.8s
SUMG Summit 54.45 7 *i* P P 15 21 02.5 +0.3
SUMG IAmb IAmb 15 21 04.0
comp=Z,26nm,1.2s
AAK Ala-Archa 55.08 296 P P 15 21 06.0 -0.9
AAK IAmb IAmb 15 21 07.1
comp=Z,5.2nm,0.7s
AAK Ala-Archa 55.08 296 P P 15 21 06.0 -0.9
AAK pmax pmax
comp=Z,5.0nm,0.7s
KIRV Kirov 55.63 323 *ce*P P 15 21 10.1 -0.3
KIRV Kirov 55.63 323 LR LR 15 47 46.9
comp=Z,134nm,18.5s,baz=29,slow=39
NVAR Mina Array Bea 56.12 70 P P 15 21 15.8 +1.3
comp=Z,0.9nm,0.8s,baz=300,slow=6.8,SNR=5.7
comp=Z,0.9nm,0.8s
KSH Kashi 56.37 293 P P 15 21 19.3 +3.1
KSH pmax pmax
comp=Z,5.0nm,1.2s
KK31 Karatay Array 56.91 299 P P 15 21 18.6 -1.2
KK31 IAmb IAmb 15 21 19.5
comp=Z,4.6nm,0.7s
KK31 Karatay Array 56.91 299 P P 15 21 18.6 -1.2
KK31 pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 56.91 299 P P 15 21 18.6 -1.2
KKAR Karatay Array 56.91 299 P P 15 21 18.6 -1.2
PHRA Phrae 57.06 257 P P 15 21 22.1 +1.0
CHTO Chiang Mai 57.58 258 P P 15 21 23.9 -0.9
CHTO Chiang Mai 57.58 258 P P 15 21 23.9 -0.9
CHTO pmax pmax
comp=Z,14nm,0.6s
ICESG Greenland Ices 57.77 8 *i* P P 15 21 25.7 -0.1
CMAR Chiang Mai Arr 57.86 258 *i* P P 15 21 28.3 +1.6
CMAR pmax pmax
comp=Z,8.0nm,0.6s
CMAR Chiang Mai Arr 57.86 258 P P 15 21 28.4 +1.7
comp=Z,7.3nm,0.6s,baz=28,slow=6.9,SNR=61
CMAR LR LR 15 47 35.3
comp=Z,35nm,19.9s,baz=45,slow=37
comp=Z,7.3nm,0.6s
AB31 Akbulak array 57.92 310 *i* P P 15 21 25.5 -1.3
ABKAR Akbulak array 57.92 310 IAmb IAmb 15 21 26.4
comp=Z,3.8nm,0.8s
PDAR Pinedale Array 57.95 60 P P 15 21 29.1 +1.7
comp=Z,1.8nm,0.7s,baz=315,slow=2.1,SNR=19
comp=Z,1.8nm,0.7s
AKTO Aktyubinsk 57.97 312 P P 15 21 25.8 -1.3
AKTO Aktyubinsk 57.97 312 LR LR 15 48 35.9
comp=Z,74nm,19.4s,baz=123,slow=38
SFJD Kangerlussuaq 58.52 13 LR LR 15 49 57.7
comp=Z,27nm,18.0s,baz=332,slow=39
JIRN Jiri 58.71 276 *eP* P 15 21 33.0 0.0
comp=Z,7.5nm,0.5s
GUN Gumba 58.71 276 *eP* P 15 21 33.5 +0.5
comp=Z,11nm,0.5s
RAMN Ramite 58.98 275 *eP* P 15 21 34.4 -0.3
comp=Z,20nm,0.3s
PKI Pulchoki 59.25 276 *eP* P 15 21 36.1 -0.6
comp=Z,9.0nm,0.5s
PKIN Phulchoki 59.25 276 *eP* P 15 21 35.8 -0.9
comp=Z,6.8nm,0.4s
ULM Lac du Bonnet 59.31 46 P P 15 21 36.1 -0.3
comp=Z,1.2nm,0.5s,baz=312,slow=6.7,SNR=3.1
comp=Z,1.2nm,0.5s
GKN Gorkha 59.40 277 *eP* P 15 21 37.6 0.0
comp=Z,5.4nm,0.3s
DMN Daman 59.40 276 *eP* P 15 21 36.6 -1.1
comp=Z,11nm,0.5s
DANN Dangsing 59.68 278 *eP* P 15 21 39.3 -0.3
comp=Z,8.6nm,0.5s
RSSD Black Hills 59.86 56 P P 15 21 41.2 +0.6
RSSD Black Hills 59.86 56 P P 15 21 41.2 +0.6
RSSD pmax pmax
comp=Z,14nm,0.7s
SRU San Rafael Swe 60.00 64 IAmb IAmb 15 21 55.0
comp=Z,4.4nm,0.9s
PYUN Piuthan 60.32 278 *eP* P 15 21 42.5 -1.5
comp=Z,13nm,0.6s
FINES FINESS Array B 60.46 336 *i* P P 15 21 44.4 +0.3
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES FINESS Array B 60.46 336 P P 15 21 43.9 -0.1
comp=Z,5.7nm,0.6s,baz=44,slow=7.8,SNR=42
FINES LR LR 15 52 31.4
comp=Z,50nm,18.1s,baz=40,slow=41
comp=Z,5.7nm,0.6s
BELG Belogornoye 60.93 319 *ce*P P 15 21 46.5 -0.9
BELG pmax pmax
comp=Z,1.0nm,0.6s
BELG Belogornoye 60.93 319 LR LR 15 51 57.1
comp=Z,98nm,19.1s,baz=283,slow=40
OBN Obninsk 62.79 327 *eP* P 15 21 59.2 -0.6
OBN *e**PP pP 15 22 17.1 +1.9
OBN *e**SP sP 15 22 23.5 +1.9
OBN *e* 15 24 17.9
OBN pmax pmax
comp=Z,49nm,2.8s
OBN MLR MLR
comp=Z,49nm,16.0s
SBUM Sibu 63.56 235 P P 15 22 08.1 +2.5
SBUM IAmb IAmb 15 22 09.0
comp=Z,3.5nm,0.8s
ECSD EROS Data Cent 63.79 52 P P 15 22 07.6 +0.9
ECSD IAmb IAmb 15 22 08.2
comp=Z,4.1nm,0.9s
NB2 NORSAR Subarra 63.93 344 P P 15 22 08.0 +0.6
comp=Z,4.5nm,0.5s,baz=22,slow=6.9
NB2 NORSAR Subarra 63.93 344 P P 15 22 04.0 -3.4
NOA NORSAR Array B 63.93 344 P P 15 22 07.8 +0.4
comp=Z,9.4nm,0.7s,baz=28,slow=6.0,SNR=39
comp=Z,9.4nm,0.7s
HFS Hagfors 64.33 342 P P 15 22 10.3 +0.3
comp=Z,7.6nm,0.5s,baz=44,slow=4.4,SNR=60
comp=Z,7.6nm,0.5s
VIKU Vikbolandet 65.23 340 *eP* P 15 22 16.7 +0.8
ANMO Albuquerque 65.25 64⇓ *eP* P 15 22 18.4 +1.7
ANMO pmax pmax
comp=Z,6.0nm,2.5s
KSM Kuching 65.37 237 P P 15 22 19.8 +2.5
IDID Didziasalis 65.62 333 *eP* P 15 22 19.1 +0.7
NACGM Naroch 65.96 332 *eP* P 15 22 20.4 -0.3
comp=Z,25nm,1.1s,baz=29
MNK Minsk 66.00 332 *i* P P 15 22 21.2 +0.4
comp=E,6.0nm,0.8s
MNK *i* P P 15 22 21.2 +0.4
comp=N,9.0nm,0.8s
MNK *i* P P 15 22 21.2 +0.4
comp=Z,27nm,0.8s,baz=30
MNK *i* pP pP 15 22 38.5 +2.2

MNK *i* sP **sP** **15 22 43.7 +1.0**
MNK *i* PP **PP** **15 24 46.8 +0.8**
MNK *i* PPP PPP 15 26 48.6
MNK *i* S **S** **15 31 04.5 +0.6**
MNK *i* sS **sS** **15 31 32.6 +2.6**
MNK *i* SS SS 15 34 21.1 -58
MNK *i* LQ LQ 15 45 12.3
MNK *i* LR LR 15 50 24.3
MNK *i* LRM MLR 15 55 17.7
comp=Z,66nm,16.4s
MNK *i* LRM MLR 15 58 49.3
comp=N,82nm,17.1s
MNK *i* LRM MLR 15 59 08.3
comp=E,35nm,17.1s
MNK Minsk 66.00 332 *i* P **P** **15 22 21.2 +0.4**
MNK *i* *PP **pP** **15 22 38.5 +2.2**
MNK *i* *SP **sP** **15 22 43.7 +1.0**
MNK *i* 15 22 54.4
MNK *i* 15 24 46.7
MNK *i* S **S** **15 31 04.5 +0.6**
MNK *i* *SS **sS** **15 31 32.6 +2.6**
MNK pmax pmax
comp=Z,27nm,0.8s
MNK pmax pmax
comp=E,6.0nm,0.8s
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK MLR MLR
comp=Z,66nm,16.0s
SCHQ Schefferville 66.17 27 P **P** **15 22 23.1 +1.1**
comp=Z,2.4nm,0.4s,baz=344,slow=7.4,SNR=4.3
SCHQ LR LR 15 53 12.4
comp=Z,19nm,21.6s,baz=76,slow=38
comp=Z,2.4nm,0.4s
PABE Paberze 66.20 334 *eP* **P** **15 22 22.8 +0.7**
BORU Boraas 66.83 341 *i* P **P** **15 22 26.0 -0.1**
GEYT Alibeck 67.15 303 P **P** **15 22 28.0 -0.5**
GEYT IAmb IAmb 15 22 29.0
comp=Z,7.7nm,0.6s
GEYT Alibeck 67.15 303 P **P** **15 22 28.0 -0.5**
GEYT pmax pmax
comp=Z,8.0nm,0.6s
GEYT Alibeck 67.15 303 P **P** **15 22 28.2 -0.3**
comp=Z,6.6nm,0.6s,baz=35,slow=3.6,SNR=22
comp=Z,6.6nm,0.6s
GYA0B ALIBECK ARRAY 67.15 303 P **P** **15 22 28.5 0.0**
GYA0B IAmb IAmb 15 22 29.0
comp=Z,6.1nm,0.6s
ONAU Onsala 67.22 342 *i* P **P** **15 22 28.3 -0.3**
BLEU Blekinge 67.44 339 *i* P **P** **15 22 29.9 -0.1**
DEL Delary 67.70 340 *eP* **P** **15 22 32.5 +0.9**
DEL Delary 67.70 340 *i* P **P** **15 22 31.5 -0.1**
SUW Suwalki 67.74 344 *eP* **P** **15 22 32.3 +0.4**
BJUU Bjuv 68.24 341 *i* P **P** **15 22 35.4 +0.3**
MAK Makhachkala 68.34 313 *d* *iP **P** **15 22 33.7 -2.1**
MAK *e*PP **pP** **15 22 50.8 -0.6**
MAK *e*SP **sP** **15 22 57.7 0.0**
MAK *e* 15 25 04.6
MAK *e*PPP PPP 15 26 43.9
MAK *e*S **S** **15 31 30.2 -2.2**
MAK *e**SS **sS** **15 31 59.1 +0.5**
MAK *e*SS **SS** **15 35 55.3 -0.2**
SMWD Samnorwood 68.49 60 IAmb IAmb 15 22 39.6
comp=Z,8.3nm,1.0s
LUNU Lund 68.57 340 *i* P **P** **15 22 37.6 +0.5**
BSD Bornholm Skovb 68.74 339 *eP* **P** **15 22 38.9 +0.8**
BSD Bornholm Skovb 68.74 339 *i* P **P** **15 22 38.7 +0.6**
BSD IAmb IAmb 15 22 39.6
comp=Z,43nm,0.7s
AKASG Malin Array Be 68.90 329 P **P** **15 22 38.9 -0.3**
comp=Z,7.1nm,0.6s,baz=30,slow=6.2,SNR=26
AKASG LR LR 15 55 39.1
comp=Z,49nm,19.7s,baz=24,slow=38
comp=Z,7.1nm,0.6s
AKBB Malin Array Si 68.90 329 *ce* *eP **P** **15 22 38.7 -0.5**
AKBB pmax pmax
comp=Z,15nm,0.9s
KIEV Kiev 68.91 329 ⇑P **P** **15 22 38.7 -0.6**
KIEV Kiev 68.91 329 P **P** **15 22 38.8 -0.5**
KIEV IAmb IAmb 15 22 40.3
comp=Z,16nm,1.0s
KIEV Kiev 68.91 329 P **P** **15 22 38.8 -0.5**
KIEV pmax pmax
comp=Z,16nm,1.0s
WMOK Wichita Mounta 69.54 59 P **P** **15 22 44.4 +0.9**
WMOK IAmb IAmb 15 22 45.2
comp=Z,5.7nm,0.9s
WMOK Wichita Mounta 69.54 59 P **P** **15 22 44.4 +0.9**
WMOK pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 69.62 317 *eP* **P** **15 22 45.1 +1.2**
KIV pmax pmax
comp=Z,5.0nm,0.9s
KIV MLR MLR
comp=Z,28nm,17.0s
KBZ Khabaz 69.72 316 ⇑ *iP **P** **15 22 44.4 0.0**
KBZ pmax pmax
comp=Z,2.0nm,0.6s
KBZ Khabaz 69.72 316 P **P** **15 22 44.6 +0.2**
comp=Z,1.3nm,0.5s,baz=45,slow=18,SNR=8.3
KBZ LR LR 15 56 39.0
comp=Z,24nm,20.4s,baz=3.0,slow=39
comp=Z,1.3nm,0.5s
GKP Gorka Klasztor 69.92 337 *eP* **P** **15 22 46.6 +1.2**
BEL Belsk 70.34 334 *eP* **P** **15 22 49.3 +1.2**
BSEG Bad Segeberg 70.79 341 *eP* **P** **15 22 52.3 +1.6**
comp=Z,26nm,1.0s,baz=20,slow=6.0
HHAR Hobbs 70.83 55 P **P** **15 22 51.7 +0.3**
HHAR IAmb IAmb 15 22 52.2
comp=Z,4.8nm,0.7s
TX31 Lajitas Ar. Si 71.03 67 IAmb IAmb 15 22 55.1
comp=Z,12nm,0.8s
TXAR Lajitas Array 71.03 67 P **P** **15 22 54.1 +1.3**
comp=Z,3.5nm,0.8s,baz=296,slow=4.6,SNR=37
comp=Z,3.5nm,0.8s
LVV L'vov 71.25 331 *eP* **P** **15 22 54.4 +0.7**
SORM Soroca 71.42 328 ⇑P **P** **15 22 54.1 -0.5**
RUE Ruedersdorf 71.44 339 *eP* **P** **15 22 56.3 +1.6**
RUE Ruedersdorf 71.44 339 *eP* **P** **15 22 56.0 +1.3**
comp=Z,46nm,1.0s,baz=20,slow=6.0
EKA Eskdalemuir Ar 71.48 350 P **P** **15 22 55.5 +0.6**
comp=Z,2.5nm,0.5s,baz=17,slow=5.5,SNR=24
comp=Z,2.5nm,0.5s
GNI Garni 71.83 313 LR LR 15 59 30.8
comp=Z,47nm,18.5s,baz=3.5,slow=40
OJC Ojcow 72.07 334 *eP* **P** **15 22 59.5 +0.9**
OJC Ojcow 72.07 334 IAmb IAmb 15 23 00.4
comp=Z,14nm,0.9s
FLTG Flechtingen 72.12 340 *eP* **P** **15 22 59.5 +0.7**
comp=Z,19nm,0.9s,baz=20,slow=6.0
NRDL Niedersach Rie 72.20 341 *eP* **P** **15 23 00.4 +1.3**
comp=Z,13nm,1.0s,baz=20,slow=6.0
MILM Milestii Mici 72.33 327 *eP* **P** **15 22 59.0 -1.1**
comp=Z,16nm,0.7s
MILM Milestii Mici 72.33 327 *eP* **P** **15 22 59.0 -1.1**
MILM pmax pmax
comp=Z,16nm,0.7s
KSP Ksiaz 72.38 337 *eP* **P** **15 23 01.4 +1.0**
STHS Stebnicka Huta 72.41 333 *eP* **P** **15 23 01.5 +0.9**
STHS Stebnicka Huta 72.41 333 *eP* **P** **15 23 01.5 +0.9**
STHS pmax pmax
comp=Z,13nm,0.7s
ASSE Asse, Remlinge 72.43 341 *eP* **P** **15 23 01.9 +1.3**
comp=Z,14nm,1.1s,baz=20,slow=6.0
KOLS Kolonicke sedl 72.55 332 *eP* **P** **15 23 02.5 +1.0**
KOLS Kolonicke sedl 72.55 332 *eP* **P** **15 23 02.5 +1.0**
KOLS pmax pmax
comp=Z,18nm,0.6s
OSTC Ostas 72.67 337 *eP* **P** **15 23 03.2 +1.0**
OSTC Ostas 72.67 337 *eP* **P** **15 23 03.2 +1.0**
CHVC Chvalec 72.68 337 *eP* **P** **15 23 03.3 +1.1**
CHVC Chvalec 72.68 337 *eP* **P** **15 23 03.3 +1.1**
CLL Collm 72.71 339 *i* P **P** **15 23 03.1 +0.8**
comp=Z,25nm,0.9s
CLL *e*PcP **PcP** **15 23 20.0 +0.6**
CLL *e*S **SKiKP** **15 32 32.0 +1.4**
CLL *e*sS **sS** **15 32 46.0 -3.5**
CLL Collm 72.71 339 *i* P **P** **15 23 03.1 +0.8**
CLL pmax pmax
comp=Z,25nm,0.9s
CLL Collm 72.71 339 *eP* **P** **15 23 03.2 +0.8**
comp=Z,20nm,0.8s,baz=20,slow=6.0
UPC Upice 72.76 337 *eP* **P** **15 23 03.7 +1.0**
UPC Upice 72.76 337 *eP* **P** **15 23 03.7 +1.0**
CRVS Cervenica-Dubn 72.81 333 *eP* **P** **15 23 04.2 +1.2**
CRVS Cervenica-Dubn 72.81 333 *eP* **P** **15 23 04.2 +1.2**
DPC Dobruska-Polom 72.83 336 *eP* **P** **15 23 04.4 +1.2**
DPC Dobruska-Polom 72.83 336 *eP* **P** **15 23 04.4 +1.2**
BUR08 Bucovina Ar. S 72.84 330 IAmb IAmb 15 23 04.8
comp=Z,13nm,0.8s
BURAR Bucovina Array 72.86 330 ⇑P **P** **15 23 03.7 +0.2**
BURAR Bucovina Array 72.86 330 ⇑P **P** **15 23 03.7 +0.2**
BRG Berggiesshubel 72.91 338 *i* P **P** **15 23 05.3 +1.8**
BRG Amp 15 23 07.5
comp=Z,11nm,1.1s
BRG Berggiesshubel 72.91 338 *i* P **P** **15 23 05.3 +1.8**
BRG pmax pmax
comp=Z,11nm,1.1s
BRG Berggiesshubel 72.91 338 *eP* **P** **15 23 05.0 +1.4**
comp=Z,11nm,1.1s,baz=20,slow=6.0
KRLC Kraliky 72.97 336 *eP* **P** **15 23 05.0 +1.0**
KRLC Kraliky 72.97 336 *eP* **P** **15 23 05.0 +1.0**
FBE Freiberg 72.99 338 *eP* **P** **15 23 05.2 +1.2**
comp=Z,18nm,1.1s,baz=20,slow=6.0
MORC Moravsky Berou 73.06 335 ⇓P **P** **15 23 06.1 +1.6**
MORC Moravsky Berou 73.06 335 *eP* **P** **15 23 05.4 +0.9**
MORC Moravsky Berou 73.06 335 ⇓P **P** **15 23 06.1 +1.6**
LANS Liptovska Anna 73.13 334 *eP* **P** **15 23 06.8 +1.8**
LANS Liptovska Anna 73.13 334 *eP* **P** **15 23 06.8 +1.8**
LANS pmax pmax
comp=Z,16nm,0.6s
RICC Richard 73.18 338 *eP* **P** **15 23 06.5 +1.4**
HSKC Hora Svate Kat 73.27 338 *eP* **P** **15 23 06.8 +1.1**
CTA Charters Tower 73.35 193 LR LR 15 49 00.8
comp=Z,25nm,20.9s,baz=50,slow=30
MAUC Maruska 73.36 335 *eP* **P** **15 23 07.5 +1.2**
TESR Tescani 73.39 328 ⇑P **P** **15 23 03.3 -3.2**
PRU Pruhonice 73.59 337 *eP* **P** **15 23 08.8 +1.2**
PRU Pruhonice 73.59 337 *eP* **P** **15 23 08.8 +1.2**
ARCR ARCALIA 73.60 330 ⇓P **P** **15 23 09.4 +1.7**
GOPC GO Pecny, Ondr 73.61 337 *eP* **P** **15 23 08.9 +1.2**
GOPC GO Pecny, Ondr 73.61 337 *eP* **P** **15 23 08.9 +1.2**
MOX Moxa 73.63 339 P **P** **15 23 09.4 +1.6**
MOX Moxa 73.63 339 *eP* **P** **15 23 09.0 +1.1**
comp=Z,8.0nm,0.9s,baz=20,slow=6.0
PLN Plauen 73.67 339 *eP* **P** **15 23 09.2 +1.1**
comp=Z,8.0nm,0.9s,baz=20,slow=6.0
TANN Tannenbergstha 73.67 339 *eP* **P** **15 23 09.2 +1.1**
comp=Z,6.3nm,1.0s,baz=20,slow=6.0
WERD Werda 73.67 339 *eP* **P** **15 23 09.2 +1.1**
comp=Z,10nm,1.0s,baz=20,slow=6.0
VRAC Vranov 73.73 336 ⇑P **P** **15 23 10.1 +1.7**
VRAC Vranov 73.73 336 *eP* **P** **15 23 09.8 +1.4**
VRAC Vranov 73.73 336 ⇑P **P** **15 23 10.1 +1.7**
GUNZ Gunzen 73.74 339 *eP* **P** **15 23 09.8 +1.2**
comp=Z,7.2nm,0.8s,baz=20,slow=6.0
KASTN Kahler Asten 73.75 342 *eP* **P** **15 23 09.8 +1.3**
comp=Z,12nm,1.1s,baz=20,slow=6.0
WERN Wernitzgruen 73.81 339 *eP* **P** **15 23 10.1 +1.2**
comp=Z,10.0nm,0.9s,baz=20,slow=6.0
NKC Novy Kostel 73.84 339 *eP* **P** **15 23 10.5 +1.4**
NKC Novy Kostel 73.84 339 *eP* **P** **15 23 10.5 +1.4**
TLCR 73.85 326 ⇑P **P** **15 23 09.8 +0.7**
TLCR 73.85 326 ⇑P **P** **15 23 09.9 +0.7**
JAVC Velka Javorina 73.87 335 *eP* **P** **15 23 11.4 +2.1**
VRI Vrincioaia 73.94 328 ⇑P **P** **15 23 10.6 +0.9**
VRI Vrincioaia 73.94 328 ⇑P **P** **15 23 10.6 +0.9**
TURR Turia 74.00 328 ⇑P **P** **15 23 11.1 +1.0**
KRUC Moravsky 74.01 336 *eP* **P** **15 23 11.3 +1.3**
CFR Carcaliu 74.08 327 ⇓P **P** **15 23 10.9 +0.4**
CFR Carcaliu 74.08 327 ⇓P **P** **15 23 10.9 +0.4**
COVR Voineasa-Covas 74.13 328 ⇓P **P** **15 23 12.2 +1.4**
CBBR Cluj-Babes-Bol 74.13 330 ⇑P **P** **15 23 08.9 -1.9**
PSZ Piszkesteto 74.14 333 P **P** **15 23 12.5 +1.6**
PSZ IAmb IAmb 15 23 13.2
comp=Z,8.9nm,0.8s
PSZ Piszkesteto 74.14 333 P **P** **15 23 12.5 +1.6**
PSZ pmax pmax
comp=Z,9.0nm,0.8s
CJR Cluj-Napoca 74.17 330 ⇓P **P** **15 23 12.5 +1.4**
CJR Cluj-Napoca 74.17 330 ⇓P **P** **15 23 12.5 +1.4**
ZVC Zvikov 74.19 337 *eP* **P** **15 23 12.2 +1.1**
MARR Marisel-Cluj 74.34 331 ⇑P **P** **15 23 12.6 +0.4**
MLR Muntele Rosu 74.53 328 ⇓P **P** **15 23 14.6 +1.3**
MLR Muntele Rosu 74.53 328 P **P** **15 23 13.0 -0.3**
MLR Muntele Rosu 74.53 328 P **P** **15 23 13.0 -0.3**
MLR pmax pmax
comp=Z,17nm,0.8s
MLR Muntele Rosu 74.53 328 LR LR 16 00 39.4
comp=Z,72nm,18.9s,baz=21,slow=40
GRF Grafenberg Arr 74.62 339 P **P** **15 23 15.6 +2.0**
GRF Grafenberg Arr 74.62 339 *eP* **P** **15 23 15.3 +1.7**
comp=Z,16nm,0.8s,baz=20,slow=6.0
KHC Kasperske Hory 74.62 338 *eP* **P** **15 23 15.1 +1.4**
KHC Kasperske Hory 74.62 338 ⇑ *eP **P** **15 23 15.0 +1.4**
KHC pmax pmax
comp=Z,47nm,1.1s
ISR Istrita 74.66 328 ⇑P **P** **15 23 15.6 +1.6**
ISR Istrita 74.66 328 ⇑P **P** **15 23 15.6 +1.6**
SRO Srobarova 74.67 334 *eP* **P** **15 23 15.6 +1.7**
SRO Srobarova 74.67 334 *eP* **P** **15 23 15.6 +1.7**
SRO pmax pmax
comp=Z,14nm,0.8s
CKRC Cesky Krumlov 74.74 337 *eP* **P** **15 23 15.3 +1.0**
CKRC Cesky Krumlov 74.74 337 *eP* **P** **15 23 15.3 +1.0**
BTNL Ternell 74.77 343 *dP* **P** **15 23 15.9 +1.5**
comp=Z,12nm,1.0s
MEM Membach 74.77 343 *dP* **P** **15 23 15.6 +1.2**
comp=Z,18nm,1.0s
MEM Membach 74.77 343 P **P** **15 23 15.7 +1.3**
WET Wettzell 74.77 338 P **P** **15 23 16.1 +1.6**
GEC2 GERESS Array S 74.86 338 IAmb IAmb 15 23 17.0
comp=Z,7.1nm,0.8s
GEC2 GERESS Array S 74.86 338 *eP* **P** **15 23 16.1 +1.0**
comp=Z,7.1nm,0.8s,baz=20,slow=6.0
GERES GERESS Array B 74.86 338 P **P** **15 23 16.1 +1.0**
comp=Z,3.6nm,0.7s,baz=35,slow=4.9,SNR=19
comp=Z,3.6nm,0.7s
VOIR 74.86 329 ⇑P **P** **15 23 16.3 +1.2**
VOIR 74.86 329 P **P** **15 23 16.2 +1.1**
BSTI Sart Tilman 74.87 343 *dP* **P** **15 23 17.0 +2.0**
ARR Arges 75.05 329 ⇑P **P** **15 23 17.8 +1.6**
ICOR Ion Corvin 75.13 326 ⇓P **P** **15 23 17.9 +1.3**
SIRR Siria 75.14 331 ⇑P **P** **15 23 17.6 +0.9**
BGES Gesves 75.15 344 *dP* **P** **15 23 18.8 +2.2**
comp=Z,5.1nm,1.1s
CONA Conrad Observa 75.19 336 *i* P **P** **15 23 18.7 +1.7**
comp=Z,9.3nm,0.8s
BMRD Maredsous 75.28 344 *dP* **P** **15 23 18.9 +1.5**
RONA Rosalia, Austr 75.30 335 *i* P **P** **15 23 19.4 +1.8**
comp=Z,8.6nm,0.8s
RCHB Rochefort 75.34 343 *dP* **P** **15 23 18.4 +0.7**
SURR Surduc 75.47 331 ⇓P **P** **15 23 18.9 +0.3**
WRA Warramunga Arr 75.56 205 P **P** **15 23 19.6 +0.4**
comp=Z,5.7nm,0.7s,baz=19,slow=6.1,SNR=26
comp=Z,5.7nm,0.7s
BAIF Baives 75.61 344 *eP* **P** **15 23 20.2 +1.0**
WLF Walferdange 75.65 343 *dP* **P** **15 23 20.7 +1.2**
MOA Molln 75.66 337 *i* P **P** **15 23 20.9 +1.3**
comp=Z,5.8nm,0.7s,SNR=4.4
BZS Buzias 75.75 331 ⇑P **P** **15 23 20.5 +0.4**
BZS Buzias 75.75 331 ⇑P **P** **15 23 20.5 +0.4**
ARSA Arzberg 75.91 336 *i* P **P** **15 23 22.4 +1.3**
comp=Z,8.0nm,0.8s
MORH Mrgy, Hungar 76.05 333 ⇑P **P** **15 23 22.0 +0.2**
LESA Schwarzleotal 76.43 338 *i* P **P** **15 23 25.5 +1.4**
comp=Z,6.5nm,1.0s
SOKA Soboth 76.56 336 *eP* **P** **15 23 26.0 +1.1**
comp=Z,16nm,1.1s,SNR=5.4
KBA Koelnbreinsper 76.60 337 *i* P **P** **15 23 27.0 +1.8**
comp=Z,32nm,0.9s
FRGS Fruska Gora 76.69 332 ⇓P **P** **15 23 25.8 +0.3**
WATA Walderalm 76.77 338 *i* P **P** **15 23 27.7 +1.6**
comp=Z,20nm,1.2s,SNR=5.6
RETA Reutte 76.80 339 *i* P **P** **15 23 27.9 +1.7**
comp=Z,14nm,1.3s
WTTA Wattenberg 76.82 338 *i* P **P** **15 23 28.1 +1.7**
comp=Z,21nm,1.3s
ELND Elena 76.83 327 ⇓P **P** **15 23 26.7 +0.4**
PLVB Pleven 76.83 328 ⇑P **P** **15 23 27.1 +0.8**
BR131 Keskin Array S 76.83 320 *dP* **P** **15 23 27.1 +0.5**
BRTR Keskin Array B 76.83 320 *i* P **P** **15 23 27.2 +0.6**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR Keskin Array B 76.83 320 P **P** **15 23 26.7 +0.1**
comp=Z,4.1nm,0.7s,baz=50,slow=2.7,SNR=25
BRTR LR LR 16 02 48.0
comp=Z,44nm,18.3s,baz=40,slow=40
comp=Z,4.1nm,0.7s
ECH Echery 76.85 342 IAmb IAmb 15 23 29.1
comp=Z,9.0nm,1.0s
MOTA Moosalm 76.86 339 *i* P **P** **15 23 28.0 +1.4**
comp=Z,12nm,0.9s,SNR=5.0
SQTA Sankt Quirin 76.96 339 *eP* **P** **15 23 28.6 +1.5**
comp=Z,17nm,1.0s,SNR=4.2
ABTA Abfaltersbach 77.11 338 *i* P **P** **15 23 29.3 +1.4**
comp=Z,9.0nm,0.7s,SNR=7.5
FETA Feichten 77.25 339 *i* P **P** **15 23 30.3 +1.5**
comp=Z,14nm,1.0s,SNR=5.7
HINF Hinteralfeld 77.29 342 P **P** **15 23 29.6 +0.7**
BOVS Bovan 77.52 330 ⇓P **P** **15 23 30.0 -0.1**
PALK Pallekele 77.59 266 LR LR 16 02 47.6
comp=Z,23nm,19.1s,baz=214,slow=40
FLN La Foliniere 77.59 347 P **P** **15 23 30.9 +0.4**
DIVS Divibare 77.61 332 IAmb IAmb 15 23 32.0
comp=Z,11nm,0.8s
GRR Gorron 78.01 347 P **P** **15 23 33.5 +0.7**
UOSS Minazif 78.28 296 P **P** **15 23 34.2 -0.4**
LOR Lormes 78.37 343 P **P** **15 23 35.5 +0.7**
SSF Saint Saulge 78.63 344 P **P** **15 23 37.0 +0.7**
AVF Avril sur Loir 78.92 344 P **P** **15 23 38.7 +0.9**
SMF Signal de Mont 78.97 343 P **P** **15 23 39.8 +1.6**
AS31 Alice Springs 79.23 204 P **P** **15 23 41.1 +1.4**
ASAR Alice Springs 79.23 204 P **P** **15 23 40.8 +1.1**
comp=Z,3.9nm,0.7s,baz=14,slow=5.4,SNR=47
comp=Z,3.9nm,0.7s
LPL La Plagne 79.52 341 P **P** **15 23 43.1 +1.6**
LPG La Plagne 79.54 341 P **P** **15 23 43.9 +2.3**
TCF Toulx Ste Croi 79.60 344 P **P** **15 23 42.6 +1.0**
MFF Saint Martin d 79.66 346 P **P** **15 23 42.9 +1.0**
GRG Griva 79.73 329 P **P** **15 23 43.6 +1.2**
ORIF Orif 80.26 341 P **P** **15 23 47.7 +2.4**
VIVF Saint-Julien-l 80.55 342 P **P** **15 23 48.3 +1.5**
LFF La Frestale 81.15 345 P **P** **15 23 52.9 +3.0**
MMAI Mount Meron Ar 81.89 315 P **P** **15 23 54.9 +0.8**
comp=Z,14nm,0.6s,baz=34,slow=6.1,SNR=34
comp=Z,14nm,0.6s
PPT Papeete 82.50 132 LR LR 15 55 05.2
comp=Z,51nm,18.7s,baz=66,slow=32
EPF Esparros 83.07 345 P **P** **15 24 03.1 +3.0**
ETSF Etsaut 83.34 346 P **P** **15 24 03.2 +1.7**
IDI Anoyia 84.01 324 LR LR 16 04 07.4
comp=Z,24nm,21.9s,baz=120,slow=38
EIL Elat 84.96 314 LR LR 16 07 04.4
comp=Z,25nm,19.2s,baz=296,slow=39
CMIG Matias Romero 85.60 68 LR LR 16 02 20.6
comp=Z,19nm,19.0s,baz=7.5,slow=36
STKA Stephens Creek 85.62 195 P **P** **15 24 13.6 +0.8**
comp=Z,1.5nm,0.6s,baz=27,slow=6.7,SNR=3.2
comp=Z,1.5nm,0.6s
ESDC Sonseca Array 86.99 347 P **P** **15 24 20.2 +0.5**
comp=Z,4.4nm,1.0s,baz=0.1,slow=4.6,SNR=13
ESDC LR LR 16 09 01.1
comp=Z,7.8nm,19.1s,baz=334,slow=40
comp=Z,4.4nm,1.0s

IDC 02 15:17:50.2±2.0, 10°38S×152°76E, h0km, mb3.4/3, mbtmp3.6/5, ML1.0/1, MS3.5/17, Error ellipse: s-maj=48.6km s-min=29.2km az=140.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.60**	**279**	Pn		Pn	15 19 14.7	-0.2
	0.3nm,0.3s,baz=223,slow=14,SNR=2.0							
PMG				Sn		Sn	15 20 23.2	+3.2
	0.1nm,0.3s,baz=333,slow=5.0,SNR=1.5							
	1.3nm,0.3s							
HNR	**Honiara**	**7.14**	**83**	LR		LR	15 22 02.3	
	comp=Z,1m,18.1s,baz=298,slow=35							
CTA	**Charters Tower**	**11.51**	**212**	Pn		Pn	15 20 36.8	+0.8
	1.4nm,0.5s,baz=32,slow=17,SNR=8.1							
CTA				Sn		Sn	15 22 35.2	-10
	0.1nm,0.3s,baz=28,slow=23,SNR=2.2							
CTA				LR		LR	15 24 59.9	
	comp=Z,366nm,18.2s,baz=30,slow=37							
DZM	**Mont Dzumac**	**17.53**	**133**	LR		LR	15 27 50.4	
	comp=Z,180nm,18.1s,baz=35,slow=34							
WRA	**Warramunga Arr**	**20.14**	**240**	P		P	15 22 25.7	-0.5
	1.5nm,0.7s,baz=60,slow=10,SNR=9.5							
	1.5nm,0.7s							
ASAR	**Alice Springs**	**22.31**	**231**	P		P	15 22 49.4	-0.2
	0.7nm,0.8s,baz=59,slow=10,SNR=7.2							
ASAR				LR		LR	15 31 21.3	
	comp=Z,236nm,18.1s,baz=54,slow=36							
	0.7nm,0.8s							
STKA	**Stephens Creek**	**23.76**	**204**	LR		LR	15 32 48.4	
	comp=Z,195nm,18.8s,baz=25,slow=38							
BATI	**Baumata**	**28.62**	**268**	LR		LR	15 37 03.3	
	comp=Z,169nm,18.7s,baz=100,slow=40							
URZ	**Urewera**	**35.31**	**146**	LR		LR	15 37 20.5	
	comp=Z,97nm,20.4s,baz=30,slow=33							
RPZ	**Rata Peaks**	**36.81**	**158**	LR		LR	15 38 07.9	
	comp=Z,189nm,20.8s,baz=336,slow=33							
NWAO	**Narrogin (SRO)**	**39.62**	**230**	LR		LR	15 41 43.8	
	comp=Z,140nm,19.1s,baz=206,slow=36							
JOW	**Kunigami**	**43.97**	**328**	LR		LR	15 42 45.5	
	comp=Z,63nm,19.0s,baz=77,slow=34							
JHJ	**Hachijo jima 2**	**44.99**	**345**	LR		LR	15 43 12.2	
	comp=Z,26nm,19.1s,baz=74,slow=34							
JNU	**Nakatsue**	**48.03**	**335**	LR		LR	15 44 42.3	
	comp=Z,19nm,20.5s,baz=131,slow=34							
MJAR	**Matsushiro Arr**	**48.64**	**344**	LR		LR	15 45 59.1	
	comp=Z,15nm,20.0s,baz=149,slow=35							
ASAJ	**Asahikawa**	**55.02**	**351**	LR		LR	15 48 04.9	
	comp=Z,17nm,20.9s,baz=167,slow=33							
KLR	**Kul'dur**	**62.17**	**345**	LR		LR	15 54 17.6	
	comp=Z,21nm,19.1s,baz=174,slow=35							
PETK	**Petropavlovsk-**	**63.38**	**3**	LR		LR	15 50 02.5	
	comp=Z,29nm,21.6s,baz=145,slow=30							
MA2	**Magadan**	**69.74**	**359**	LR		LR	15 56 16.6	
	comp=Z,10nm,21.4s,baz=121,slow=33							
ILAR	**Eielson Array**	**87.32**	**22**	P		P	15 30 38.9	+0.2
	0.6nm,1.0s,baz=250,slow=4.9,SNR=4.2							
	0.6nm,1.0s							

IDC 02 15:51:34.1±6.8, 3°79N×123°48E, h516km±81km, mb2.6/4, mbtmp3.6/4, Error ellipse: s-maj=191.3km s-min=19.6km az=61.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**13.90**	**179**	P		P	15 54 32.0	-0.7
	19nm,0.5s,baz=6.8,slow=3.2,SNR=6.0							
WRA	**Warramunga Arr**	**25.89**	**156**	P		P	15 56 24.6	0.0
	0.3nm,0.3s,baz=337,slow=9.4,SNR=14							
	0.3nm,0.3s							
ASAR	**Alice Springs**	**29.12**	**160**	P		P	15 56 53.2	+0.2
	0.2nm,0.3s,baz=333,slow=8.3,SNR=7.0							
ASAR				PcP		PcP	15 59 43.9	-0.8
	0.1nm,0.4s,baz=344,slow=3.5,SNR=1.5							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**55.69**	**327**	P		P	16 00 21.4	+0.1
	0.3nm,0.4s,baz=124,slow=7.7,SNR=5.9							
	0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**59.97**	**329**	P		P	16 00 50.2	-0.1
	0.3nm,0.5s,baz=130,slow=7.1,SNR=2.1							
	0.3nm,0.5s							

CATAC 02 16:03:06.6±0.8, 9°74N×84°38W, h128km±4km, mb4.6, MB5.6, ML2.8, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TBLN	**Tablon, Guarco**	**0.39**	**77**	*i* P		Pn	16 03 26.4	+1.3
TBLN				*i* S		Sn	16 03 34.9	-4.1
TBLN				IAML			16 03 36.5	
	comp=Z,240nm,1.0s							
OCM	**Ochomogo**	**0.44**	**69**	*i* P		Pn	16 03 24.1	-1.3
OCM				*i* S		Sn	16 03 37.6	-1.9
OCM				IAML			16 03 41.5	
	comp=Z,100nm,1.0s							
LAFE	**Finca La Fe, P**	**0.53**	**278**	*i* P		Pn	16 03 26.4	+0.8
LAFE				*i* S		Sn	16 03 35.8	-4.1
LAFE				IAML			16 03 40.8	
	comp=Z,110nm,1.0s							
CPMI	**Catarata Coope**	**0.54**	**360**	*i* P		Pn	16 03 30.2	+4.2
CPMI				*i* S		Sn	16 03 42.7	+2.1
CPMI				IAML			16 03 47.4	
	comp=Z,61nm,1.0s							
HAYA	**Volcan Irazu**	**0.58**	**65**	*i* P		Pn	16 03 31.8	+5.3
HAYA				*i* S		Sn	16 03 42.7	+1.3
HAYA				IAML			16 03 50.0	

	comp=Z,220nm,1.0s						
SOCE	**Pocosol**	**0.68**	**340**	*i* P	Pn	16 03 33.8	+7.1
SOCE				*i* S	Sn	16 03 47.7	+5.7
SOCE				IAML		16 03 51.1	
	comp=Z,180nm,1.0s						
INDI	**Punta indio, G**	**1.11**	**277**	*i* P	Pn	16 03 33.5	+3.1
INDI				IAML		16 03 37.8	
	comp=Z,64nm,1.0s						
INDI				*i* S	Sn	16 03 52.6	+4.1
HOYN	**Al Sur del Vol**	**3.72**	**320**	*i* P	Pn	16 04 07.8	+5.1
HOYN				IAML		16 04 08.1	
	comp=Z,820nm,1.0s						
SCLA	**Alcaldia de Sa**	**5.80**	**313**	*i* P	Pn	16 04 22.2	-8.3
SCLA				IVmB_BB		16 04 41.5	
	comp=Z,2µm,1.0s						
SCLA				IAML		16 04 42.0	
	comp=Z,80nm,1.0s						
SCLA				IAmb	IAmb	16 04 42.2	
	comp=Z,46nm,0.5s						
JAYA	**Jayaque - finc**	**6.31**	**309**	*i* P	Pn	16 04 30.2	-7.2
JAYA				IAML		16 04 59.0	
	comp=Z,560nm,1.0s						
JAYA				IAmb	IAmb	16 05 00.0	
	comp=Z,79nm,0.8s						
JAYA				IVmB_BB		16 05 08.9	
	comp=Z,24µm,1.0s						

*NIED **02** 16:05:35.0, 24°.52N×122°.62E, h90km, MW4.0, Moment Tensor Solution. s1 Moment tensor: Scale 10^{15}Nm; Mrr0.54; Mθθ-0.49; Mφφ-0.05; Mrθ0.58; Mθφ-0.07; Mφr-0.88; Fault plane solution: M0 1.12000×10^{15} NP1: φs138.00000°, δ80.00000°, λ102.00000°. NP2: φs268.00000°, δ15.00000°, λ40.00000°.*

*ASIES **02** 16:05:35.1, 24°.54N×122°.64E, h89km, ML4.5, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; Mrr3.03; Mθθ-3.46; Mφφ0.43; Mrθ3.37; Mθφ0.79; Mφr-4.44; Fault plane solution: M0 6.50791×10^{21} NP1: φs134.30000°, δ76.69000°, λ108.60000°. NP2: φs258.69000°, δ22.73000°, λ36.57000°. Principal axes: T Plg54.5850°, Azm67.2080°; N Plg18.0790°, Azm309.8800°; P Plg29.3020°, Azm209.3230°;*

*JMA **02** 16:05:35.0±0.1, 24°.5N±0°.9×122°.6E±0°.3, h90km, MV3.9/19, NW OFF ISHIGAKIJIMA IS*

*TAP **02** 16:05:35.1, 24°.54N×122°.64E, h89km, ML4.5, C*

*IDC **02** 16:05:36.8±4.4, 24°.70N×122°.79E, h113km±43km, mb3.4/10, mbtmp3.8/12, Error ellipse: s-maj=34.6km s-min=15.9km az=67.0*

ISC 02 16:05:34.6±0.7**, 24°.53N**±0°.03×**122°.63E**±0°.02**, h91**km±4km**, n165, σ1s.30**/293**, mb3.5**/10**, 49C-4D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.30**	**105**	*i* P	**Pn**	**16 05 48.7**	**+0.6**
JYNG				S	**Sn**	**16 05 58.3**	**+0.2**
JYNG	**Yonagunijimaku**	**0.30**	**105**	A	A	16 05 48.7	
	comp=E,11nm,1.0s,comp=N,8.0nm,0.4s						
YOJ	**Yonaguni jima**	**0.36**	**101**	P	**Pn**	**16 05 48.9**	**+0.5**
YOJ				S	**Sn**	**16 05 58.9**	**+0.2**
YOJ	**Yonaguni jima**	**0.36**	**101**	⇓*i*P	**Pn**	**16 05 48.9**	**+0.5**
	baz=106						
YOJ				*i* S	**Sn**	**16 05 58.5**	**-0.2**
	baz=106						
EOS3	**EOS3**	**0.37**	**229**	⇑P	**Pn**	**16 05 49.4**	**+1.1**
	baz=242						
EOS3				*e*S	**Sn**	**16 06 00.5**	**+2.0**
	baz=242						
EOS2	**EOS2**	**0.38**	**253**	⇑*i*P	**Pn**	**16 05 49.3**	**+0.9**
	baz=261						
EOS2				S	**Sn**	**16 06 00.5**	**+1.8**
	baz=261						
EOS4	**EOS4**	**0.50**	**215**	P	**Pn**	**16 05 49.6**	**+0.6**
	baz=224						
EGS		**0.70**	**296**	P	**Pn**	**16 05 52.0**	**+0.9**
	baz=293						
TWC	**Suao**	**0.71**	**276**	⇑*i*P	**Pn**	**16 05 51.5**	**+0.2**
	baz=280						
TWC				*i* S	**Sn**	**16 06 03.1**	**-0.6**
	baz=280						
TWB1	**Santiao Chiao**	**0.75**	**309**	P	**Pn**	**16 05 52.1**	**+0.5**
	baz=308						
TWB1				*e*S	**Sn**	**16 06 04.3**	**-0.1**
	baz=308						
EWUT	**Wuta**	**0.78**	**264**	P	**Pn**	**16 05 52.3**	**+0.4**
	baz=258						
EWUT				S	**Sn**	**16 06 05.2**	**+0.3**
	baz=258						
NTC	**Toucheng**	**0.79**	**294**	P	**Pn**	**16 05 52.9**	**+0.8**
	baz=293						
NTC				S	**Sn**	**16 06 05.5**	**+0.3**
	baz=293						
ENA	**Nanau**	**0.81**	**263**	⇑P	**Pn**	**16 05 52.6**	**+0.3**
	baz=258						
ENA				S	**Sn**	**16 06 06.0**	**+0.5**
	baz=258						
ILA	**Ilan**	**0.83**	**286**	P	**Pn**	**16 05 53.3**	**+0.9**
	baz=285						
ILA				S	**Sn**	**16 06 06.2**	**+0.3**
	baz=285						
NDS	**Dongshan**	**0.84**	**277**	P	**Pn**	**16 05 53.1**	**+0.6**
	baz=276						
NDS				S	**Sn**	**16 06 06.4**	**+0.5**
	baz=276						
TIPB	**Shuangxi**	**0.85**	**301**	⇑*i*P	**Pn**	**16 05 53.3**	**+0.6**
	baz=297						
TIPB				S	**Sn**	**16 06 05.9**	**-0.4**
	baz=297						
SXI1	**Grass Mountain**	**0.88**	**309**	⇑*i*P	**Pn**	**16 05 54.0**	**+0.8**
	baz=308						
SXI1				S	**Sn**	**16 06 07.7**	**+0.6**
	baz=308						
TWE	**Neicheng**	**0.89**	**282**	⇑*i*P	**Pn**	**16 05 53.8**	**+0.7**
	baz=281						
TWE				*i* S	**Sn**	**16 06 07.3**	**+0.2**
	baz=281						
NWF	**Wu-fen Shan**	**0.94**	**305**	⇑*i*P	**Pn**	**16 05 54.7**	**+1.0**
	baz=297						
NWF				*i* S	**Sn**	**16 06 08.2**	**+0.1**
	baz=297						
WFSB	**Wu-fen Shan**	**0.94**	**305**	⇑*i*P	**Pn**	**16 05 54.7**	**+1.1**
	baz=298						
WFSB				*i* S	**Sn**	**16 06 08.1**	**+0.2**
	baz=298						
ENTT	**Nioudou**	**0.97**	**277**	⇑*i*P	**Pn**	**16 05 55.0**	**+0.9**
	baz=276						
ENTT				S	**Sn**	**16 06 09.0**	**+0.4**
	baz=276						
FUSB	**Fushanzhiwuyua**	**0.97**	**284**	⇑*i*P	**Pn**	**16 05 55.0**	**+0.9**
	baz=290						
FUSB				S	**Sn**	**16 06 08.8**	**+0.1**
	baz=290						
ETL	**Fush Village**	**0.99**	**248**	⇑P	**Pn**	**16 05 54.4**	**+0.1**
	baz=240						
ETL				*e*S	**Sn**	**16 06 08.6**	**-0.4**
	baz=240						
TNOU	**National Taiwa**	**0.99**	**309**	P	**Pn**	**16 05 55.0**	**+0.8**
	baz=302						
TNOU				S	**Sn**	**16 06 08.7**	**-0.3**
	baz=302						
LATG	**Datong**	**1.00**	**270**	⇑*i*P	**Pn**	**16 05 55.3**	**+0.8**
	baz=274						
LATG				*i* S	**Sn**	**16 06 09.8**	**+0.4**
	baz=274						
NACB	**Ninganchiao**	**1.01**	**249**	⇑P	**Pn**	**16 05 54.4**	**-0.1**
	baz=242						
NACB				*e*S	**Sn**	**16 06 09.0**	**-0.3**
	baz=242						
NDT	**Datong Townshi**	**1.02**	**274**	⇑*i*P	**Pn**	**16 05 55.7**	**+1.2**
	baz=276						
NDT				S	**Sn**	**16 06 10.2**	**+0.7**
	baz=276						
IRIF	**Iriomote-Funau**	**1.02**	**101**	P	**Pn**	**16 05 55.1**	**+0.6**
IRIF				S	**Sn**	**16 06 10.0**	**+0.4**
TWD	**Chiawan**	**1.04**	**245**	⇑*i*P	**Pn**	**16 05 54.9**	**+0.1**
	baz=237						
TWD				*i* S	**Sn**	**16 06 09.8**	**-0.2**
	baz=237						
TWA	**Mucha**	**1.05**	**295**	⇑*i*P	**Pn**	**16 05 55.7**	**+0.8**
	baz=287						
TWA				*i* S	**Sn**	**16 06 10.0**	**-0.2**
	baz=287						
NWLT	**Wulai**	**1.05**	**284**	P	**Pn**	**16 05 55.9**	**+0.9**
	baz=289						
NWLT				S	**Sn**	**16 06 10.0**	**-0.3**
	baz=289						
HWA	**Hwalien**	**1.08**	**240**	⇑*i*P	**Pn**	**16 05 55.8**	**+0.5**
	baz=239						
HWA				*i* S	**Sn**	**16 06 11.1**	**+0.2**
	baz=239						
NHY	**Taipei**	**1.09**	**298**	P	**Pn**	**16 05 56.4**	**+1.1**
	baz=292						
NHY				S	**Sn**	**16 06 11.4**	**+0.5**
	baz=292						
ETLH	**Xiulin Townshi**	**1.09**	**253**	⇑P	**Pn**	**16 05 55.7**	**+0.2**
	baz=247						
ETLH				S	**Sn**	**16 06 11.2**	**0.0**
	baz=247						
TAP	**Taipei**	**1.14**	**297**	P	**Pn**	**16 05 56.6**	**+0.7**
	baz=287						
TAP				S	**Sn**	**16 06 11.9**	**-0.1**
	baz=287						
NNSB	**Datong**	**1.14**	**265**	⇑*i*P	**Pn**	**16 05 56.6**	**+0.5**
	baz=257						
NNSB				*e*S	**Sn**	**16 06 11.3**	**-0.9**
	baz=257						
YM01	**YM01**	**1.14**	**303**	⇑*i*P	**Pn**	**16 05 56.9**	**+0.9**
	baz=295						
YM01				S	**Sn**	**16 06 12.0**	**-0.1**
	baz=295						
NNS	**Nan Shan**	**1.15**	**266**	⇑*i*P	**Pn**	**16 05 56.7**	**+0.5**
	baz=258						
NNS				S	**Sn**	**16 06 12.4**	**0.0**
	baz=258						
YM08	**YM08**	**1.15**	**305**	P	**Pn**	**16 05 56.6**	**+0.5**
	baz=298						
YM08				*e*S	**Sn**	**16 06 11.2**	**-1.0**
	baz=298						
YHNB	**Yeheng**	**1.15**	**277**	⇑*i*P	**Pn**	**16 05 57.2**	**+1.1**
	baz=276						
YHNB				S	**Sn**	**16 06 12.5**	**+0.2**
	baz=276						
NSK	**Sanguang**	**1.16**	**277**	⇑*i*P	**Pn**	**16 05 57.3**	**+1.0**
	baz=276						
NSK				*i* S	**Sn**	**16 06 12.9**	**+0.2**
	baz=276						
HATJ	**Hateruma jima**	**1.17**	**114**	P	**Pn**	**16 05 57.2**	**+0.9**
HATJ				S	**Sn**	**16 06 13.5**	**+0.8**
ETM	**Tongmen**	**1.18**	**242**	⇑*i*P	**Pn**	**16 05 56.5**	**+0.1**
	baz=236						
ETM				S	**Sn**	**16 06 12.3**	**-0.6**
	baz=236						
TWY	**Chenhua**	**1.19**	**309**	P	**Pn**	**16 05 57.6**	**+1.1**
	baz=301						
TWY				*e*S	**Sn**	**16 06 13.6**	**+0.5**
	baz=301						
ANP	**Anpu**	**1.20**	**303**	*e*P	**Pn**	**16 05 57.4**	**+0.6**
	baz=292						
LXIB	**Xiulin Townshi**	**1.22**	**246**	⇑*i*P	**Pn**	**16 05 57.1**	**0.0**
	baz=245						
LXIB				S	**Sn**	**16 06 13.2**	**-0.8**
	baz=245						
TWS1	**Kuangyinshan**	**1.24**	**298**	⇑*i*P	**Pn**	**16 05 58.1**	**+1.0**
	baz=291						
TWS1				*i* S	**Sn**	**16 06 14.5**	**+0.4**
	baz=291						
NTST	**Danshui**	**1.24**	**301**	P	**Pn**	**16 05 58.3**	**+1.1**
	baz=293						
NTST				S	**Sn**	**16 06 14.9**	**+0.7**
	baz=293						
TEGC	**Jichi Village**	**1.29**	**231**	P	**Pn**	**16 05 58.2**	**+0.4**
	baz=238						
TEGC				S	**Sn**	**16 06 15.3**	**+0.1**
	baz=238						
JKRS	**Kuro-shima**	**1.29**	**103**	P	**Pn**	**16 05 58.5**	**+0.7**
JKRS				*e*S	**Sn**	**16 06 16.0**	**+0.7**
WHF	**Hehuan Shan**	**1.30**	**253**	⇓P	**Pn**	**16 05 58.7**	**+0.4**
	baz=259						
WHF				S	**Sn**	**16 06 15.6**	**-0.5**
	baz=259						
ESL	**Shilin**	**1.30**	**237**	⇑*i*P	**Pn**	**16 05 57.8**	**-0.1**
	baz=236						
ESL				S	**Sn**	**16 06 14.7**	**-0.9**
	baz=236						
TWT	**Tachien**	**1.35**	**258**	⇑*i*P	**Pn**	**16 06 00.0**	**+1.3**
	baz=254						
TWT				*i* S	**Sn**	**16 06 17.5**	**+0.6**
	baz=254						
TDCB	**Techi**	**1.37**	**259**	⇑P	**Pn**	**16 06 00.1**	**+1.2**
	baz=255						
TDCB				S	**Sn**	**16 06 17.2**	**0.0**
	baz=255						
NFF	**Wufeng Townshi**	**1.38**	**274**	⇑P	**Pn**	**16 05 60.0**	**+1.1**
	baz=281						
NFF				S	**Sn**	**16 06 17.7**	**+0.4**
	baz=281						
NCUH	**Zhongli**	**1.38**	**289**	P	**Pn**	**16 06 00.1**	**+1.2**
	baz=288						
NCUH				S	**Sn**	**16 06 18.2**	**+1.0**
	baz=288						
JIJ	**Ishigaki jima**	**1.39**	**97**	P	**Pn**	**16 05 59.6**	**+0.6**
JIJ				S	**Sn**	**16 06 17.1**	**-0.4**
JIJ	**Ishigaki jima**	**1.39**	**97**	A	A	16 05 59.6	
	comp=E,2.0nm,6.1s,comp=N,2.0nm,4.7s						
EGFH	**Guangfu**	**1.39**	**232**	⇑P	**Pn**	**16 05 59.0**	**0.0**
	baz=231						
EGFH				*e*S	**Sn**	**16 06 17.5**	**-0.1**
	baz=231						
WARBT	**Fenglin Townsh**	**1.39**	**235**	⇑*i*P	**Pn**	**16 05 59.0**	**-0.1**
	baz=241						
WARBT				S	**Sn**	**16 06 16.4**	**-1.2**
	baz=241						
CHGB	**Renai**	**1.41**	**251**	⇑*i*P	**Pn**	**16 06 00.2**	**+0.8**
	baz=243						
CHGB				S	**Sn**	**16 06 18.0**	**-0.2**
	baz=243						
OWD	**Renai**	**1.44**	**247**	⇑*i*P	**Pn**	**16 06 00.4**	**+0.6**
	baz=241						
OWD				S	**Sn**	**16 06 18.6**	**-0.3**
	baz=241						
LIOB	**Emei**	**1.47**	**275**	P	**Pn**	**16 06 01.2**	**+1.2**
	baz=274						
LIOB				S	**Sn**	**16 06 20.2**	**+0.9**
	baz=274						
WUSB	**Renai**	**1.48**	**249**	⇑P	**Pn**	**16 06 01.2**	**+0.9**
	baz=243						
WUSB				*e*S	**Sn**	**16 06 19.5**	**-0.2**
	baz=243						
NSTT	**Nanjuang**	**1.48**	**274**	⇑*i*P	**Pn**	**16 06 01.2**	**+1.0**
	baz=273						
NSTT				*i* S	**Sn**	**16 06 20.1**	**+0.5**
	baz=273						
HGSD	**Ruisui**	**1.51**	**227**	⇑P	**Pn**	**16 06 00.7**	**+0.1**
	baz=224						
HGSD				S	**Sn**	**16 06 19.3**	**-0.9**
	baz=224						
SBCB	**Hsinchu**	**1.52**	**280**	*i* P	**Pn**	**16 06 01.7**	**+1.1**
	baz=279						
SBCB				S	**Sn**	**16 06 21.1**	**+0.9**
	baz=279						
HSN	**Hsinchu**	**1.53**	**280**	P	**Pn**	**16 06 01.5**	**+0.7**
	baz=281						
HSN				S	**Sn**	**16 06 20.6**	**0.0**
	baz=281						
JISG	**Ishigakijimahi**	**1.53**	**88**	P	**Pn**	**16 06 01.3**	**+0.5**
JISG				*e*S	**Sn**	**16 06 20.8**	**+0.2**
WHP	**Taichung City**	**1.55**	**261**	⇑*i*P	**Pn**	**16 06 03.1**	**+1.9**
	baz=257						
WHP				S	**Sn**	**16 06 22.3**	**+1.1**
	baz=257						
VWDT	**VWDT**	**1.56**	**241**	⇑P	**Pn**	**16 06 02.1**	**+0.9**
	baz=234						
VWDT				S	**Sn**	**16 06 21.2**	**-0.1**
	baz=234						
EHY	**Hungye**	**1.57**	**230**	⇑*i*P	**Pn**	**16 06 01.1**	**-0.2**
	baz=229						
EHY				*e*S	**Sn**	**16 06 20.2**	**-1.4**
	baz=229						
ECBN	**Changbin**	**1.62**	**222**	P	**Pn**	**16 06 02.1**	**+0.2**
	baz=215						
ECBN				S	**Sn**	**16 06 22.1**	**-0.5**
	baz=215						
WCS	**Beigang Elemen**	**1.64**	**254**	⇓P	**Pn**	**16 06 03.7**	**+1.6**
	baz=250						
WCS				S	**Sn**	**16 06 24.8**	**+1.8**
	baz=250						
YULB	**Yu-li**	**1.66**	**227**	*e*P	**Pn**	**16 06 02.3**	**-0.2**
	baz=235						
YULB				*e*S	**Sn**	**16 06 22.3**	**-1.4**
	baz=235						
NMLH	**Miaoli**	**1.67**	**271**	P	**Pn**	**16 06 04.0**	**+1.4**
	baz=270						
NMLH				S	**Sn**	**16 06 24.2**	**+0.4**
	baz=270						
EYUL	**Yuli**	**1.68**	**226**	P	**Pn**	**16 06 03.0**	**+0.3**
	baz=234						
EYUL				*e*S	**Sn**	**16 06 24.8**	**+0.8**
	baz=234						
TWF1	**Yuli**	**1.69**	**226**	⇑*i*P	**Pn**	**16 06 03.0**	**+0.1**
	baz=234						
TWF1				*e*S	**Sn**	**16 06 23.1**	**-1.2**
	baz=234						
SSLB	**Suanglung**	**1.70**	**244**	⇑P	**Pn**	**16 06 03.7**	**+0.8**
	baz=240						
SSLB				*e*S	**Sn**	**16 06 24.4**	**-0.1**
	baz=240						
NSY	**Sanyi**	**1.71**	**266**	⇑P	**Pn**	**16 06 04.4**	**+1.4**
	baz=266						
NSY				*e*S	**Sn**	**16 06 24.5**	**-0.1**
	baz=266						
SMLT	**Sun Moon Lake**	**1.71**	**248**	⇑*i*P	**Pn**	**16 06 04.2**	**+1.1**
	baz=244						
SMLT				S	**Sn**	**16 06 25.9**	**+1.2**
	baz=244						
TYC	**Yuchr**	**1.73**	**249**	⇑P	**Pn**	**16 06 04.5**	**+1.1**
	baz=243						
TYC				*e*S	**Sn**	**16 06 26.5**	**+1.3**
	baz=243						
FULB	**Fuli**	**1.80**	**223**	P	**Pn**	**16 06 04.3**	**0.0**
	baz=216						
FULB				*e*S	**Sn**	**16 06 26.4**	**-0.5**
	baz=216						
WDJ	**Dajia District**	**1.82**	**265**	*e*P	**Pn**	**16 06 05.8**	**+1.3**
	baz=264						
WDJ				*e*S	**Sn**	**16 06 28.2**	**+1.0**
	baz=264						
TCU	**Taichung**	**1.82**	**258**	*e*P	**Pn**	**16 06 06.0**	**+1.5**
	baz=268						
TCU				*e*S	**Sn**	**16 06 28.9**	**+1.6**
	baz=268						
WHYT	**Xinyi Township**	**1.82**	**243**	*e*P	**Pn**	**16 06 06.0**	**+1.4**
	baz=241						
WHYT				*e*S	**Sn**	**16 06 28.2**	**+0.9**
	baz=241						
CHKT	**Chengkung**	**1.84**	**219**	P	**Pn**	**16 06 04.3**	**-0.4**
	baz=215						
CHKT				S	**Sn**	**16 06 25.7**	**-1.9**
	baz=215						
WJS	**Zhushan**	**1.87**	**248**	*e*P	**Pn**	**16 06 07.2**	**+2.0**
	baz=240						
WJS				*e*S	**Sn**	**16 06 30.6**	**+2.1**
	baz=240						
WNT	**Mingjian**	**1.89**	**250**	P	**Pn**	**16 06 07.2**	**+1.8**
	baz=261						
WNT				S	**Sn**	**16 06 31.1**	**+2.2**
	baz=261						
JTJ	**Tarama**	**1.89**	**86**	P	**Pn**	**16 06 06.5**	**+1.1**
JTJ				S	**Sn**	**16 06 30.3**	**+1.4**
EHD	**Haiduan**	**1.90**	**224**	P	**Pn**	**16 06 05.3**	**-0.2**
	baz=232						
EHD				S	**Sn**	**16 06 27.3**	**-1.6**
	baz=232						
ECS	**Chishang**	**1.93**	**222**	P	**Pn**	**16 06 06.4**	**+0.5**
	baz=231						
ECS				S	**Sn**	**16 06 28.7**	**-1.1**
	baz=231						
WCHH	**Zhanghua**	**1.94**	**257**	*e*P	**Pn**	**16 06 07.3**	**+1.2**
	baz=266						
WCHH				*e*S	**Sn**	**16 06 31.8**	**+1.8**
	baz=266						
ALS	**Alishan**	**1.95**	**239**	⇑*i*P	**Pn**	**16 06 07.8**	**+1.3**
	baz=232						
ALS				S	**Sn**	**16 06 31.9**	**+1.1**
	baz=232						
ELDTW	**Lidau**	**1.99**	**228**	⇑*i*P	**Pn**	**16 06 07.0**	**+0.1**
	baz=227						
ELDTW				S	**Sn**	**16 06 30.0**	**-1.3**
	baz=227						
CHN5	**Tsauling**	**2.01**	**243**	P	**Pn**	**16 06 08.7**	**+1.6**
	baz=235						
CHN5				S	**Sn**	**16 06 34.0**	**+2.2**
	baz=235						
WGK	**Gukeng**	**2.07**	**246**	P	**Pn**	**16 06 10.0**	**+2.3**
	baz=257						
WGK				S	**Sn**	**16 06 35.8**	**+2.8**
	baz=257						
WDLH	**Douliu**	**2.09**	**247**	*e*P	**Pn**	**16 06 10.1**	**+2.1**
	baz=258						
WDLH				*e*S	**Sn**	**16 06 35.9**	**+2.5**
	baz=258						
LONT	**Longtian**	**2.12**	**221**	P	**Pn**	**16 06 08.4**	**0.0**
	baz=220						
LONT				S	**Sn**	**16 06 33.5**	**-0.8**
	baz=220						
LDUT	**Ludao**	**2.13**	**210**	P	**Pn**	**16 06 08.3**	**-0.3**
	baz=206						
LDUT				S	**Sn**	**16 06 32.5**	**-2.0**
	baz=206						
WCKO	**Fanlu**	**2.15**	**240**	P	**Pn**	**16 06 10.9**	**+2.1**
	baz=239						
WCKO				S	**Sn**	**16 06 37.1**	**+2.2**
	baz=239						
WRL	**Guolierlin Hig**	**2.15**	**253**	*e*P	**Pn**	**16 06 09.5**	**+0.8**
	baz=263						
WRL				*e*S	**Sn**	**16 06 34.7**	**-0.2**
	baz=263						
STYH	**Taoyuan**	**2.17**	**232**	P	**Pn**	**16 06 10.6**	**+1.5**
	baz=227						
STYH				S	**Sn**	**16 06 36.0**	**+0.6**
	baz=227						
TPUB	**Ta-pu**	**2.20**	**237**	⇓*i*P	**Pn**	**16 06 11.2**	**+1.6**
	baz=228						
TPUB				S	**Sn**	**16 06 38.2**	**+2.0**
	baz=228						
WTK	**Tuku**	**2.21**	**248**	*e*P	**Pn**	**16 06 11.0**	**+1.4**
	baz=258						
WTK				*e*S	**Sn**	**16 06 38.0**	**+1.6**
	baz=258						
TWG	**Pinlang**	**2.22**	**220**	⇑*i*P	**Pn**	**16 06 09.5**	**-0.3**
	baz=219						
TWG				S	**Sn**	**16 06 35.2**	**-1.5**
	baz=219						
TTN	**Taitung**	**2.23**	**218**	*e*S	**Sn**	**16 06 39.2**	**+2.3**
	baz=213						
WTCT	**Ta-ch'eng**	**2.24**	**253**	*e*P	**Pn**	**16 06 11.2**	**+1.2**
	baz=252						
WTCT				S	**Sn**	**16 06 37.9**	**+0.7**
	baz=252						
WTP	**Ta-pu**	**2.24**	**236**	P	**Pn**	**16 06 12.0**	**+1.9**
	baz=245						
WTP				S	**Sn**	**16 06 38.9**	**+1.7**
	baz=245						
CHY	**Chiayi**	**2.26**	**243**	P	**Pn**	**16 06 12.2**	**+1.9**
	baz=254						
CHY				S	**Sn**	**16 06 40.3**	**+2.7**
	baz=254						
TWK	**Hsinying**	**2.33**	**238**	P	**Pn**	**16 06 12.8**	**+1.5**
	baz=236						
TWK				S	**Sn**	**16 06 41.1**	**+1.8**
	baz=236						
JIRB	**Irabujima**	**2.33**	**82**	*e*P	**Pn**	**16 06 12.1**	**+0.9**
JIRB				*e*S	**Sn**	**16 06 40.4**	**+1.1**
CHN1	**Nanshi**	**2.34**	**236**	P	**Pn**	**16 06 13.1**	**+1.7**
	baz=245						
CHN1				S	**Sn**	**16 06 41.9**	**+2.3**
	baz=245						
SNST	**Tainan City**	**2.35**	**237**	P	**Pn**	**16 06 13.7**	**+2.3**
	baz=236						
SNST				S	**Sn**	**16 06 41.6**	**+2.0**
	baz=236						
SGST	**Jiashian**	**2.36**	**233**	P	**Pn**	**16 06 12.8**	**+1.1**
	baz=242						
SGST				S	**Sn**	**16 06 42.0**	**+1.9**
	baz=242						
WSF	**Szhu**	**2.37**	**248**	P	**Pn**	**16 06 13.0**	**+1.3**
	baz=257						
WSF				S	**Sn**	**16 06 41.4**	**+1.2**
	baz=257						
SLGT	**Liugui**	**2.38**	**230**	P	**Pn**	**16 06 14.3**	**+2.5**
	baz=236						
SLGT				S	**Sn**	**16 06 42.8**	**+2.4**
	baz=236						
WSL	**Shuilin Townsh**	**2.41**	**246**	P	**Pn**	**16 06 13.7**	**+1.4**
	baz=255						
WSL				S	**Sn**	**16 06 42.7**	**+1.5**
	baz=255						
JIKM	**Ikemajima**	**2.41**	**80**	*e*P	**Pn**	**16 06 13.4**	**+1.1**
JIKM				*e*S	**Sn**	**16 06 42.2**	**+1.0**
ICHU	**Yijhu**	**2.44**	**242**	*e*P	**Pn**	**16 06 14.5**	**+1.8**
	baz=241						
ICHU				*e*S	**Sn**	**16 06 43.9**	**+2.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=241						
ECL	**Taimali**	**2.46**	**219**	eP	**Pn**	**16 06 12.5**	**-0.5**
	baz=218						
ECL				eS	**Sn**	**16 06 40.3**	**-2.1**
	baz=218						
JMJ2	**Miyako jima3**	**2.47**	**85**	i P	**Pn**	**16 06 14.1**	**+1.1**
JMJ2				eS	**Sn**	**16 06 44.0**	**+1.6**
CHN8	**Yiju**	**2.51**	**242**	eP	**Pn**	**16 06 15.3**	**+1.8**
	baz=241						
CHN8				eS	**Sn**	**16 06 45.0**	**+1.7**
	baz=241						
CHN3	**Shinhua**	**2.53**	**235**	eP	**Pn**	**16 06 16.9**	**+3.1**
	baz=244						
JOGS	**Gusukube**	**2.54**	**84**	eP	**Pn**	**16 06 15.5**	**+1.5**
JOGS				S	**Sn**	**16 06 45.7**	**+1.6**
SSD	**Sandimen**	**2.55**	**226**	P	**Pn**	**16 06 15.5**	**+1.4**
	baz=225						
SSD				eS	**Sn**	**16 06 46.5**	**+2.1**
	baz=225						
SCST	**Cishan**	**2.55**	**230**	eP	**Pn**	**16 06 16.5**	**+2.4**
	baz=239						
TSMG	**Majia**	**2.57**	**225**	eP	**Pn**	**16 06 16.3**	**+1.9**
	baz=224						
TSMG				eS	**Sn**	**16 06 46.6**	**+1.7**
	baz=224						
SHHT	**Tainan City**	**2.57**	**235**	eP	**Pn**	**16 06 17.1**	**+2.6**
	baz=244						
SHHT				eS	**Sn**	**16 06 49.0**	**+4.0**
	baz=244						
SCLT	**Jiali**	**2.61**	**239**	eS	**Sn**	**16 06 47.4**	**+1.6**
	baz=238						
TWM1	**Shoushan**	**2.64**	**230**	eP	**Pn**	**16 06 17.9**	**+2.6**
	baz=240						
MASBT	**Mashibuluo**	**2.65**	**224**	P	**Pn**	**16 06 16.6**	**+1.2**
	baz=223						
MASBT				S	**Sn**	**16 06 47.1**	**+0.4**
	baz=223						
SGLT	**Jiouru**	**2.66**	**228**	eP	**Pn**	**16 06 19.4**	**+3.8**
	baz=227						
SGLT				eS	**Sn**	**16 06 52.6**	**+5.5**
	baz=227						
LAY	**Lan-yu**	**2.67**	**202**	eP	**Pn**	**16 06 15.3**	**-0.5**
	baz=201						
EAST	**Anshuo**	**2.69**	**218**	eP	**Pn**	**16 06 16.2**	**+0.2**
	baz=217						
LYUB	**Lan-yu**	**2.69**	**201**	eP	**Pn**	**16 06 14.9**	**-1.2**
	baz=201						
TAWH	**Dawu Township**	**2.71**	**217**	eP	**Pn**	**16 06 16.7**	**+0.5**
	baz=220						
TSCK	**Chigu Township**	**2.71**	**240**	eP	**Pn**	**16 06 17.8**	**+1.6**
	baz=239						
TSCK				eS	**Sn**	**16 06 48.7**	**+0.6**
	baz=239						
SNJT	**Kaohsiung City**	**2.75**	**230**	eP	**Pn**	**16 06 20.2**	**+3.5**
	baz=229						
SCZT	**Fangliau**	**2.83**	**221**	eP	**Pn**	**16 06 19.6**	**+1.7**
	baz=231						
SCZT				eS	**Sn**	**16 06 53.0**	**+1.8**
	baz=231						
MATB	**Ma-tsu**	**2.91**	**304**	eP	**Pn**	**16 06 19.1**	**+0.2**
	baz=302						
VWUC	**VWUC**	**2.92**	**280**	P	**Pn**	**16 06 19.2**	**+0.1**
	baz=278						
PNG	**Penghu**	**2.97**	**252**	eP	**Pn**	**16 06 21.5**	**+1.8**
	baz=251						
PNG				S	**Sn**	**16 06 52.7**	**-1.7**
	baz=251						
PHUB	**P'eng-hu**	**2.97**	**251**	eP	**Pn**	**16 06 19.8**	**0.0**
	baz=250						
PHUB				eS	**Sn**	**16 06 52.0**	**-2.5**
	baz=250						
TWKBT	**Hengchun**	**3.07**	**213**	eP	**Pn**	**16 06 22.2**	**+1.1**
	baz=213						
XPSS	**Dashiqiu**	**3.25**	**318**	eP	**Pn**	**16 06 23.4**	**0.0**
	baz=316						
LYJJ	**Jianjiangzhen**	**3.28**	**308**	eP	**Pn**	**16 06 23.9**	**0.0**
	baz=306						
MHZQ	**Yeshan**	**3.61**	**296**	eP	**Pn**	**16 06 28.2**	**-0.1**
	baz=294						
KNM	**Kinmen**	**3.82**	**269**	eP	**Pn**	**16 06 33.5**	**+2.3**
	baz=267						
KNMB	**Chin-men Tao**	**3.86**	**270**	eP	**Pn**	**16 06 31.9**	**+0.1**
	baz=268						
KNMB				eS	**Sn**	**16 07 13.0**	**-3.1**
	baz=268						
AXDP	**Jialang**	**4.25**	**276**	eP	**Pn**	**16 06 37.5**	**+0.4**
	baz=266						
AXDP				eS	**Sn**	**16 07 22.7**	**-2.8**
	baz=266						
ZPLA	**Ao Xicun**	**4.49**	**263**	eP	**Pn**	**16 06 40.8**	**+0.4**
	baz=261						
JOW	**Kunigami**	**5.59**	**65**	P	**Pn**	**16 06 54.5**	**-0.8**
	comp=N,20nm,0.3s,baz=151,slow=12,SNR=26						
JOW				S	**Sn**	**16 07 55.4**	**-2.7**
	comp=N,20nm,0.5s,baz=102,slow=25,SNR=4.5						
JNU	**Nakatsue**	**11.20**	**38**	P	**Pn**	**16 08 12.4**	**+0.7**
	comp=N,3.7nm,0.8s,baz=203,slow=13,SNR=2.1						
KSRS	**Korea Array**	**13.65**	**18**	P	**Pn**	**16 08 45.9**	**+1.6**
	comp=N,4.3nm,0.7s,baz=198,slow=12,SNR=18						
USRK	**Ussuriysk Ar.**	**21.06**	**19**	P	**P**	**16 10 10.2**	**-1.0**
	comp=N,1.3nm,0.6s,baz=208,slow=8.7,SNR=2.7						
	comp=N,1.3nm,0.6s						
SONM	**Songino Array**	**26.58**	**335**	P	**P**	**16 11 03.9**	**-0.4**
	comp=N,0.9nm,0.6s,baz=149,slow=8.6,SNR=7.0						
	comp=N,0.9nm,0.6s						
MKAR	**Makanchi Array**	**39.01**	**315**	P	**P**	**16 12 52.0**	**-0.3**
	comp=N,0.2nm,0.4s,baz=94,slow=8.8,SNR=4.3						
	comp=N,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**40.68**	**326**	P	**P**	**16 13 04.6**	**-1.3**
	comp=N,0.8nm,0.5s,baz=108,slow=9.5,SNR=4.1						
	comp=N,0.8nm,0.5s						
WRA	**Warramunga Arr**	**45.65**	**165**	P	**P**	**16 13 46.8**	**+0.5**
	comp=N,0.6nm,0.4s,baz=345,slow=8.6,SNR=7.2						
	comp=N,0.6nm,0.4s						
BVAR	**Borovoye Array**	**48.24**	**320**	P	**P**	**16 14 05.4**	**-0.8**
	comp=N,0.3nm,0.3s,baz=100,slow=6.6,SNR=1.6						
	comp=N,0.3nm,0.3s						
ASAR	**Alice Springs**	**49.15**	**166**	P	**P**	**16 14 14.7**	**+1.3**
	comp=N,0.3nm,0.6s,baz=346,slow=6.7,SNR=5.6						
	comp=N,0.3nm,0.6s						
ARCES	**ARCESS Array B**	**69.71**	**338**	P	**P**	**16 16 33.9**	**-0.4**
	comp=N,2.4nm,0.8s,baz=77,slow=5.6,SNR=1.4						
	comp=N,2.4nm,0.8s						
FINES	**FINESS Array B**	**71.81**	**330**	P	**P**	**16 16 46.3**	**-0.8**
	comp=N,2.6nm,0.8s,baz=39,slow=5.3,SNR=9.0						
	comp=N,2.6nm,0.8s						
YKA	**Yellowknife Ar**	**82.14**	**23**	P	**P**	**16 17 43.3**	**-1.7**
	comp=N,0.2nm,0.5s,baz=309,slow=5.5,SNR=3.1						
	comp=N,0.2nm,0.5s						

DJA 02 16:05:52.0±0.3**,10°S**±4°×**12°4E**±°**,h41**km±8km**,M3.6**/11**, mb4.0**/6**,MLv3.4**/11**,Timor region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.20**	**205**	P	Pn	16 06 01.0	+1.5
SOEI	**Soe**	**0.57**	**63**	P	Pn	16 06 04.0	+0.1
MMRI	**Maumere**	**2.03**	**313**	P	Pn	16 06 23.5	-0.2
EDFI	**Ende, Flores**	**2.39**	**302**	P	Pn	16 06 28.8	0.0
BASI	**Baing, Sumba**	**3.13**	**266**	P	Pn	16 06 39.0	+0.1
PLAI	**Plampang**	**6.01**	**281**	P	Pn	16 07 18.8	+0.3
	16nm,1.5s,0.1nm						
TWSI	**Taliwang, Sumb**	**6.90**	**280**	P	Pn	16 07 30.2	-0.4
	14nm,0.9s,0.1nm						
NLAI	**Namlea**	**7.51**	**26**	P	Pn	16 07 38.9	-0.2
	3.5nm,0.6s,0.0nm						

*IDC **02** 16:17:30.8±0.6, 35°.96N×141°.14E, h0km, mb3.9/18, mbtmp3.9/21, ML4.0/2, MS2.8/8, Error ellipse: s-maj=16.5km s-min=14.6km az=98.0*
*NIED **02** 16:17:35.9, 36°.05N×141°.07E, h41km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.14; $M_{\theta\theta}$-1.03; $M_{\phi\phi}$-0.10; $M_{r\theta}$-0.26; $M_{\theta\phi}$-0.36; $M_{\phi r}$0.63; Fault plane solution: $M_0$1.31000×10^{15} NP1: ϕ_s275.00000°, δ51.00000°, λ123.00000°. NP2: ϕ_s48.00000°, δ49.00000°, λ56.00000°.*
*JMA **02** 16:17:35.9±0.2, 36°.1N±0°.4×141°.1E±0°.9, h41km±1km, MV3.7/39, E OFF IBARAKI PREF*
JMA Felt I J1 at E OFF IBARAKI PREF .
*NEIC **02** 16:17:37.8±2.6, 36°.10N±0°.05×141°.10E±0°.06, h46km±8km, mb4.5/33, Error ellipse: s-maj=9.2km s-min=3.9km az=220.0*
ISC 02 16:17:36.7±1.1**,36°.06N**±0°.04×**141°.11E**±0°.07**,h41**km±10km**, n104,**σ**1§28**/100**,mb4.3**/35**,MS3.0**/3**,6D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.48**	**258**	i P	**Pn**	**16 17 46.5**	**-0.7**
JIHU				S	**Sn**	**16 17 54.2**	**-0.4**
JHYU	**Hitachinakayam**	**0.50**	**303**	i P	**Pn**	**16 17 46.7**	**-0.8**
JHYU				S	**Sn**	**16 17 54.3**	**-0.8**
JSMT	**Sammumatsuo**	**0.68**	**232**	i P	**Pn**	**16 17 49.2**	**-0.6**
JHO	**Hitachi**	**0.70**	**322**	⇓iP	**Pn**	**16 17 49.1**	**-1.0**
JHO				⇓S	**Sn**	**16 17 58.5**	**-1.2**
JYT	**Yasato**	**0.76**	**283**	i P	**Pn**	**16 17 49.7**	**-1.2**
JYT				eS	**Sn**	**16 17 58.9**	**-2.2**
ONAJ	**Iwakimizuishiy**	**1.07**	**347**	⇓iP	**Pn**	**16 17 54.3**	**-0.9**
ONAJ				⇓S	**Sn**	**16 18 07.6**	**-1.2**
JFK	**Kawauchi**	**1.31**	**352**	⇓iP	**Pn**	**16 17 57.7**	**-0.9**
JFK				⇓S	**Sn**	**16 18 13.4**	**-1.6**
BSO3	**Boso 3**	**1.35**	**201**	P	**Pn**	**16 17 59.1**	**+0.3**
JAG	**Ashikaga**	**1.39**	**286**	i P	**Pn**	**16 17 58.8**	**-0.7**
BSO1	**Boso 1**	**1.41**	**184**	P	**Pn**	**16 17 59.3**	**-0.1**
JMM	**Marumori**	**1.82**	**352**		**Pn**	**16 18 04.9**	**-0.5**
MJAR	**Matsushiro Arr**	**2.39**	**282**	Pn	**Pn**	**16 18 13.4**	**+0.1**
	9.8nm,0.5s,baz=115,slow=7.1,SNR=130						
MJAR				Sn	**Sn**	**16 18 42.1**	**+0.7**
	2.4nm,0.3s,baz=101,slow=8.4,SNR=3.8						
MJAR				LR	LR	16 19 16.4	
	comp=Z,202nm,19.0s,baz=120,slow=43						
MAJO	**Matsushiro**	**2.39**	**282**	Pn	**Pn**	**16 18 14.3**	**+1.0**
MJB9	**Matsu-Tunnel**	**2.39**	**282**	Pn	**Pn**	**16 18 14.4**	**+1.0**
JSG	**Sagara**	**2.76**	**241**		**Pn**	**16 18 21.3**	**+2.9**
JHJ2	**Mitsune**	**3.13**	**200**	Pn	**Pn**	**16 18 25.0**	**+1.5**
JHJ	**Hachijo jima 2**	**3.13**	**201**	Pn	**Pn**	**16 18 21.8**	**-1.7**
	24nm,0.3s,baz=330,slow=20,SNR=14						
JHJ				Sn	**Sn**	**16 18 58.4**	**-1.3**
	48nm,0.3s,baz=92,slow=24,SNR=5.6						
JHJ				LR	LR	16 19 28.3	
	comp=Z,50nm,21.9s,baz=354,slow=39						
	56nm,0.3s						
JTM	**Tenmabayashi**	**4.72**	**360**	Pn	**Pn**	**16 18 46.4**	**+1.2**
ERM	**Erimo**	**6.15**	**14**	Pn	**Pn**	**16 19 03.7**	**-1.2**
JMN	**Monobe**	**6.38**	**251**	Pn	**Pn**	**16 19 10.6**	**+2.4**
ASAJ	**Asahikawa**	**8.12**	**8**	Pn	**Pn**	**16 19 30.8**	**-1.3**
	2.5nm,0.3s,baz=233,slow=10,SNR=13						
ASAJ				Sn	**Sn**	**16 21 00.8**	**-1.7**
	1.0nm,0.3s,baz=268,slow=32,SNR=1.8						
	7.3nm,0.4s						
JKA	**Kamikawa-asahi**	**8.12**	**8**	Pn	**Pn**	**16 19 31.3**	**-0.7**
JNU	**Nakatsue**	**8.93**	**254**	Pn	**Pn**	**16 19 41.0**	**-2.2**
JNU	**Nakatsue**	**8.93**	**254**	Pn	**Pn**	**16 19 44.9**	**+1.7**
	0.3nm,0.3s,baz=83,slow=4.7,SNR=5.5						
JNU				LR	LR	16 22 26.9	
	comp=Z,30nm,20.7s,baz=64,slow=33						
JCJ	**Chichijima**	**8.99**	**174**	Pn	Pn	16 19 36.3	-7.6
	13nm,0.3s,baz=90,slow=23,SNR=11						
JCJ				Sn	Sn	16 21 12.3	-12
	10nm,0.3s,baz=289,slow=21,SNR=2.1						
KSRS	**Korea Array**	**10.67**	**281**	Pn	**Pn**	**16 20 09.7**	**+2.8**
	0.1nm,0.3s,baz=94,slow=14,SNR=2.5						
KSRS				LR	LR	16 24 01.8	
	comp=Z,62nm,20.9s,baz=105,slow=36						
USRK	**Ussuriysk Ar.**	**10.71**	**322**	Pn	**Pn**	**16 20 09.8**	**+2.4**
	0.2nm,0.3s,baz=131,slow=12,SNR=8.4						
JOW	**Kunigami**	**14.29**	**234**	Pn	**Pn**	**16 20 58.0**	**+1.6**
KLR	**Kul'dur**	**14.83**	**335**	LR	LR	16 26 26.3	
	comp=Z,48nm,19.4s,slow=36						
BJT	**Baijiatuau**	**20.01**	**289**	P	**P**	**16 22 04.1**	**-1.8**
MA2	**Magadan**	**24.35**	**12**	LR	LR	16 31 32.3	
	comp=Z,28nm,21.3s,baz=256,slow=34						
SEY	**Seymchan**	**27.79**	**11**	LR	LR	16 36 22.4	
	comp=Z,47nm,18.0s,baz=63,slow=41						
H11N2	**WAKE ISLAND Hy**	**27.88**	**119**	T	T	16 52 31.7	
	baz=311,slow=75,SNR=53						
H11N1	**WAKE ISLAND Hy**	**27.89**	**119**	T	T	16 52 28.2	
	baz=311,slow=75,SNR=52						
H11N3	**WAKE ISLAND Hy**	**27.90**	**119**	T	T	16 52 29.0	
	baz=311,slow=75,SNR=55						
SONM	**Songino Array**	**28.14**	**306**	P	**P**	**16 23 23.9**	**-1.0**
SONM	**Songino Array**	**28.14**	**306**	P	**P**	**16 23 25.1**	**+0.2**
	0.6nm,0.4s,baz=109,slow=10,SNR=5.8						
SONM				LR	LR	16 34 40.7	
	comp=Z,39nm,18.7s,baz=156,slow=36						
	0.6nm,0.4s						
H11S1	**WAKE ISLAND Hy**	**28.56**	**121**	T	T	16 53 21.0	
	baz=313,slow=76,SNR=92						
H11S3	**WAKE ISLAND Hy**	**28.56**	**121**	T	T	16 53 20.3	
	baz=313,slow=76,SNR=71						
H11S2	**WAKE ISLAND Hy**	**28.57**	**121**	T	T	16 53 28.3	
	baz=313,slow=76,SNR=58						
CMAR	**Chiang Mai Arr**	**41.02**	**256**	P	**P**	**16 25 15.3**	**-0.7**
	0.4nm,0.5s,baz=42,slow=9.7,SNR=3.0						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**42.39**	**313**	P	**P**	**16 25 27.8**	**+1.0**
	0.9nm,0.5s,baz=89,slow=6.6,SNR=5.8						
	0.9nm,0.5s						
MK31	**Makanchi Array**	**44.43**	**303**	P	**P**	**16 25 43.7**	**+0.3**
MKAR	**Makanchi Array**	**44.43**	**303**	P	**P**	**16 25 43.2**	**-0.2**
MKAR	**Makanchi Array**	**44.43**	**303**	P	**P**	**16 25 44.1**	**+0.7**
	2.5nm,0.6s,baz=86,slow=10.0,SNR=18						
	2.5nm,0.6s						
C18K	**Utukok River**	**45.26**	**26**	P	**P**	**16 25 50.7**	**+1.0**
KURK	**Kurchatov**	**46.34**	**309**	P	**P**	**16 25 58.5**	**+0.1**
KURK				IAmb	IAmb	16 25 59.8	
	comp=Z,6.2nm,0.8s						
KURBB	**Kurchatov Arra**	**46.41**	**309**	P	**P**	**16 25 59.5**	**+0.5**
	comp=Z,4.0nm,0.6s,baz=84,slow=7.7,SNR=41						
	comp=Z,4.0nm,0.6s						
E19K	**Redstone River**	**46.44**	**28**	P	**P**	**16 25 59.4**	**+0.3**
E19K				IAmb	IAmb	16 26 27.1	
	comp=Z,14nm,1.5s						
RAMN	**Ramite**	**46.83**	**275**	eP	**P**	**16 26 03.0**	**+0.1**
	comp=Z,13nm,1.0s						
JIRN	**Jiri**	**46.87**	**276**	eP	**P**	**16 26 03.2**	**-0.1**
	comp=Z,6.6nm,0.5s						
B20K	**Meade River**	**46.98**	**24**	P	**P**	**16 26 04.6**	**+1.5**
K20K	**Telida**	**47.27**	**34**	P	**P**	**16 26 05.1**	**-0.4**
K20K				IAmb	IAmb	16 26 06.8	
	comp=Z,13nm,1.5s						
IMAR	**Indian Mountai**	**47.61**	**30**	P	**P**	**16 26 05.8**	**-2.3**
B21K	**Ikpikpuk River**	**47.77**	**25**	P	**P**	**16 26 08.2**	**-1.0**
D22K	**Ayikyak River**	**48.34**	**26**	P	**P**	**16 26 15.7**	**+1.9**
D22K				IAmb	IAmb	16 26 35.9	
	comp=Z,8.4nm,1.1s						
DANN	**Dangsing**	**48.53**	**278**	eP	**P**	**16 26 16.5**	**+0.3**
	comp=Z,28nm,0.8s						
E22K	**Anaktuvuk Pass**	**48.58**	**27**	P	**P**	**16 26 16.7**	**+1.1**
E22K				IAmb	IAmb	16 26 29.8	
	comp=Z,3.7nm,1.1s						
PYUN	**Piuthan**	**49.26**	**278**	eP	**P**	**16 26 22.1**	**+0.5**
	comp=Z,24nm,1.0s						
MTN	**Manton Dam**	**49.55**	**193**	P	**P**	**16 26 22.4**	**-1.1**
E24K	**Your Creek**	**49.82**	**28**	P	**P**	**16 26 26.5**	**+1.4**
E24K				IAmb	IAmb	16 26 58.5	
	comp=Z,4.5nm,1.4s						
MDM	**Murphy Dome**	**49.87**	**32**	P	**P**	**16 26 26.0**	**+0.5**
MDM				IAmb	IAmb	16 26 42.8	
	comp=Z,7.1nm,1.4s						
ILAR	**Eielson Array**	**50.45**	**32**	P	**P**	**16 26 28.9**	**-0.9**
ILAR	**Eielson Array**	**50.45**	**32**	P	**P**	**16 26 30.9**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=265,slow=5.9,SNR=9.9						
	comp=Z,0.7nm,0.7s						
BVAR	**Borovoye Array**	**51.05**	**313**	P	**P**	**16 26 35.0**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=81,slow=8.9,SNR=3.5						
	comp=Z,0.8nm,0.5s						
BMAR	**Burnt Mountain**	**51.30**	**28**	P	**P**	**16 26 38.6**	**+2.3**
SCRK	**Sand Creek**	**51.75**	**33**	P	**P**	**16 26 39.5**	**-0.3**
BCAR	**Beaver Creek A**	**52.83**	**34**	P	**P**	**16 26 45.7**	**-2.0**
GSI	**Gunungsitoli**	**53.09**	**239**	P	**P**	**16 26 48.4**	**-1.8**
F28M	**Old Crow**	**53.09**	**28**	P	**P**	**16 26 50.4**	**+0.8**
I28M	**Miner Creek**	**53.32**	**31**	P	**P**	**16 26 53.0**	**+1.6**
I28M				IAmb	IAmb	16 27 20.4	
	comp=Z,3.9nm,1.1s						
KKAR	**Karatay Array**	**53.40**	**301**	P	**P**	**16 26 50.4**	**-1.8**
G29M	**Pine Creek**	**53.89**	**29**	P	**P**	**16 26 57.9**	**+2.4**
G29M				IAmb	IAmb	16 27 31.2	
	comp=Z,4.0nm,1.1s						
M29M	**Somme Creek**	**54.44**	**34**	P	**P**	**16 26 59.3**	**-0.4**
M29M				IAmb	IAmb	16 27 20.7	
	comp=Z,7.1nm,1.4s						
G30M	**tAoh Zraii Nji**	**54.58**	**29**	P	**P**	**16 27 02.3**	**+1.8**
G30M				IAmb	IAmb	16 27 21.9	
	comp=Z,8.5nm,1.4s						
I30M	**Mount Dempster**	**54.83**	**31**	P	**P**	**16 27 04.2**	**+1.8**
HYT	**Haines Junctio**	**55.22**	**36**	P	**P**	**16 27 07.5**	**+2.2**
G31M	**Satah River**	**55.35**	**28**	P	**P**	**16 27 06.8**	**+0.9**
G31M				IAmb	IAmb	16 27 19.7	
	comp=Z,5.7nm,1.2s						
INK	**Inuvik**	**55.36**	**27**	P	**P**	**16 27 06.7**	**+0.7**
INK				IAmb	IAmb	16 27 08.3	
	comp=Z,5.8nm,1.4s						
CHGR	**Chuyangaron**	**55.86**	**296**	P	**P**	**16 27 10.2**	**0.0**
WB0	**Warramunga Arr**	**55.89**	**188**	P	**P**	**16 27 09.9**	**-0.4**
WB0				IAmb	IAmb	16 27 36.2	
	comp=Z,7.3nm,1.3s						
WR0	**Warramunga Arr**	**56.06**	**187**	P	**P**	**16 27 10.9**	**-0.6**
WR0				IAmb	IAmb	16 27 20.6	
	comp=Z,4.4nm,1.1s						
WB2	**Warramunga Arr**	**56.07**	**188**	P	**P**	**16 27 09.3**	**-2.2**
WRA	**Warramunga Arr**	**56.07**	**188**	P	**P**	**16 27 10.3**	**-1.3**
WRA	**Warramunga Arr**	**56.07**	**188**	P	**P**	**16 27 10.5**	**-1.1**
	comp=Z,1.1nm,0.4s,baz=3.4,slow=7.6,SNR=25						
	comp=Z,1.1nm,0.4s						
ABKAR	**Akbulak array**	**58.38**	**311**	P	**P**	**16 27 27.1**	**-0.6**
ABKAR				IAmb	IAmb	16 27 28.8	
	comp=Z,1.9nm,0.7s						
C36M	**Paulatuk**	**58.41**	**25**	P	**P**	**16 27 27.7**	**+0.1**
C36M				IAmb	IAmb	16 27 41.7	
	comp=Z,5.3nm,1.4s						
AS31	**Alice Springs**	**59.79**	**188**	P	**P**	**16 27 36.7**	**-1.0**
ASAR	**Alice Springs**	**59.80**	**188**	P	**P**	**16 27 36.2**	**-1.5**
ASAR	**Alice Springs**	**59.80**	**188**	P	**P**	**16 27 37.0**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=0.4,slow=5.2,SNR=14						
	comp=Z,1.1nm,0.8s						
YKA	**Yellowknife Ar**	**64.77**	**30**	P	**P**	**16 28 11.2**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=298,slow=6.9,SNR=4.7						
	comp=Z,0.5nm,0.8s						
ARCES	**ARCESS Array B**	**64.82**	**339**	P	**P**	**16 28 11.5**	**+0.7**
	comp=Z,4.6nm,1.0s,baz=45,slow=10,SNR=2.0						
	comp=Z,4.6nm,1.0s						
FINES	**FINESS Array B**	**69.56**	**332**	P	**P**	**16 28 41.2**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=77,slow=7.3,SNR=5.4						
	comp=Z,2.3nm,0.8s						
HFS	**Hagfors**	**74.87**	**336**	P	**P**	**16 29 13.6**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=54,slow=7.3,SNR=7.0						
	comp=Z,0.6nm,0.4s						
AKASG	**Malin Array Be**	**74.91**	**322**	P	**P**	**16 29 13.5**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=49,slow=6.6,SNR=2.8						
	comp=Z,0.4nm,0.4s						
NB2	**NORSAR Subarra**	**74.98**	**337**	P	**P**	**16 29 13.6**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**74.98**	**337**	P	**P**	**16 29 13.5**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=41,slow=5.9,SNR=4.2						
	comp=Z,0.7nm,0.5s						
NVAR	**Mina Array Bea**	**75.77**	**53**	P	**P**	**16 29 19.8**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=260,slow=8.1,SNR=2.3						
	comp=Z,0.2nm,0.4s						
PDAR	**Pinedale Array**	**78.52**	**45**	P	**P**	**16 29 34.9**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=282,slow=0.9,SNR=5.8						
	comp=Z,0.3nm,0.5s						
TXAR	**Lajitas Array**	**90.91**	**52**	P	**P**	**16 30 36.9**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=276,slow=3.5,SNR=2.4						
	comp=Z,0.1nm,0.4s						
H03N2	**Juan Fernandez**	**147.16**	**97**	T	T	19 21 46.2	
	baz=290,slow=76,SNR=6.7						
H03N3	**Juan Fernandez**	**147.17**	**97**	T	T	19 21 50.9	
	baz=290,slow=76,SNR=3.9						
H03N1	**Juan Fernandez**	**147.17**	**97**	T	T	19 21 55.7	
	baz=290,slow=76,SNR=5.1						
LPAZ	**La Paz**	**147.39**	**61**	PKPbc	**PKPbc**	**16 37 17.1**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=329,slow=3.2,SNR=5.2						

*IDC **02** 16:20:47.0±3.1, 20°.90S×168°.21E, h0km, mb3.9/3, mbtmp3.9/4, ML3.3/1, MS3.3/6, Error ellipse: s-maj=120.2km s-min=24.6km az=138.0*
ISC 02 16:20:49.5±1.0**,21°.7S**±0°.3×**168°.7E**±0°.1**,h35**km**,n17, **σ**0§65**/13**,mb3.9**/3**,MS3.2**/4**,1C,Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.13**	**258**	Pn	**Pn**	**16 21 22.2**	**-0.5**
	11nm,0.3s,baz=99,slow=12,SNR=255						
DZM				Sn	**Sn**	**16 21 48.8**	**+0.8**
	110nm,0.3s,baz=4.6,slow=21,SNR=16						
DZM				LR	LR	16 22 06.3	
	comp=Z,297nm,18.9s,baz=112,slow=39						
	134nm,0.6s						
URZ	**Urewera**	**18.07**	**158**	LR	LR	16 30 09.2	
	comp=Z,68nm,19.4s,baz=66,slow=30						
CTA	**Charters Tower**	**21.02**	**270**	LR	LR	16 33 24.1	
	comp=Z,133nm,18.2s,baz=99,slow=37						
RPZ	**Rata Peaks**	**22.08**	**175**	LR	LR	16 33 50.9	
	comp=Z,71nm,18.3s,baz=21,slow=34						
STKA	**Stephens Creek**	**26.18**	**241**	LR	LR	16 36 49.2	
	comp=Z,70nm,18.6s,baz=26,slow=37						
RAR	**Rarotonga**	**29.33**	**95**	LR	LR	16 38 25.9	
	comp=Z,41nm,18.1s,baz=186,slow=36						
ASAR	**Alice Springs**	**32.12**	**260**	P	**P**	**16 27 13.8**	**0.0**
	1.7nm,0.8s,baz=85,slow=8.8,SNR=14						
	1.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**79.04**	**295**	P	**P**	**16 32 49.2**	**-1.3**
	1.1nm,0.9s,baz=114,slow=4.4,SNR=6.7						
	1.1nm,0.9s						
TROLL	**Troll, Antarti**	**86.10**	**184**	⇑P	**P**	**16 33 26.5**	**0.0**
	comp=Z,233nm,0.9s						
ILAR	**Eielson Array**	**92.68**	**17**	P	**P**	**16 33 57.4**	**+0.1**
	comp=Z,0.5nm,1.0s,baz=225,slow=5.9,SNR=2.7						
	comp=Z,0.5nm,1.0s						
CLL	**Collm**	**144.86**	**333**	i PKPbc	**PKPdf**	**16 40 22.8**	**+0.2**
	comp=Z,11nm,1.0s						
CLL				ex	x	16 40 29.0	
ZVC	**Zvikov**	**145.70**	**330**	ePKP	**PKPab**	**16 40 25.6**	**+0.7**
ZVC				ex	x	16 40 32.3	
EKA	**Eskdalemuir Ar**	**145.82**	**352**	PKPbc	**PKPdf**	**16 40 24.0**	**-0.1**
	comp=Z,7.5nm,1.1s,baz=12,slow=4.4,SNR=5.1						
NKC	**Novy Kostel**	**145.90**	**333**	ePKP	**PKPab**	**16 40 26.5**	**+0.9**
CKRC	**Cesky Krumlov**	**146.07**	**329**	ePKP	**PKPab**	**16 40 26.7**	**+0.4**
KHC	**Kasperske Hory**	**146.20**	**330**	ePKP	**PKPdf**	**16 40 25.5**	**+0.4**
GERES	**GERESS Array B**	**146.34**	**330**	PKPbc	**PKPbc**	**16 40 27.0**	**+0.4**
	comp=Z,2.9nm,0.9s,baz=27,slow=3.3,SNR=10.0						

*IDC **02** 16:23:19.7±1.2, 38°.11N×142°.57E, h0km, mb3.5/6, mbtmp3.6/10, ML3.2/4, Error ellipse: s-maj=28.1km s-min=18.1km az=92.0*
*NIED **02** 16:23:26.4, 38°.11N×142°.17E, h44km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.61; $M_{\theta\theta}$-2.05; $M_{\phi\phi}$-0.56; $M_{r\theta}$-0.80; $M_{\theta\phi}$-0.85; $M_{\phi r}$-1.12; Fault plane solution: $M_0$2.86000×10^{14} NP1: ϕ_s233.00000°, δ59.00000°, λ77.00000°. NP2: ϕ_s76.00000°, δ33.00000°, λ110.00000°.*
*JMA **02** 16:23:26.4±0.1, 38°.1N±0°.4×142°.2E±0°.7, h44km±1km, MV3.9/40, E OFF MIYAGI PREF*
ISC 02 16:23:24.1±2.1**,38°.05N**±0°.05×**142°.29E**±0°.09**,h26**km±13km**, n30,σ**1§42**/40,mb3.5**/6**,11D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.70**	**292**	i P	**Pb**	**16 23 38.4**	**+0.7**
JIKH				S	**Sb**	**16 23 47.0**	**0.0**
JIO	**Ouri**	**0.84**	**299**	i P	**Pb**	**16 23 40.4**	**+0.3**
JIO				S	**Sb**	**16 23 50.4**	**-0.7**
JKMT	**Kesennumamotoy**	**1.00**	**320**	⇓iP	**Pn**	**16 23 42.7**	**+0.3**
JKMT				⇓S	**Sb**	**16 23 54.4**	**-1.0**
OFUJ	**Ofunato**	**1.14**	**335**	⇓iP	**Pn**	**16 23 44.5**	**+0.2**
OFUJ				⇓S	**Sn**	**16 23 57.9**	**-1.2**
JMM	**Marumori**	**1.20**	**262**	i P	**Pn**	**16 23 45.5**	**+0.4**
JMM				S	**Sn**	**16 23 59.3**	**-1.2**
JMK	**Ichinoseki**	**1.23**	**317**	⇓iP	**Pn**	**16 23 46.1**	**+0.5**
JMK				⇓S	**Sn**	**16 24 00.6**	**-0.8**
JFK	**Kawauchi**	**1.31**	**239**	i P	**Pn**	**16 23 47.3**	**+0.6**
JFK				S	**Sn**	**16 24 02.5**	**-1.0**
JOU	**Okura**	**1.32**	**284**	⇓iP	**Pn**	**16 23 47.5**	**+0.7**
JOU				⇓eS	**Sn**	**16 24 03.0**	**-0.6**
JOM	**Ohasama**	**1.62**	**332**	⇓iP	**Pn**	**16 23 51.8**	**+0.9**
JOM				⇓S	**Sn**	**16 24 11.4**	**+0.4**
JOTO	**OTAMA OYAMA**	**1.62**	**253**	P	**Pn**	**16 23 52.4**	**+1.4**
JOTO				S	**Sn**	**16 24 11.8**	**+0.7**
JYK	**Kaneyama**	**1.75**	**300**	i P	**Pn**	**16 23 53.5**	**+0.8**
JYK				S	**Sn**	**16 24 14.7**	**+0.6**
JYS	**Shirataka**	**1.76**	**276**	P	**Pn**	**16 23 54.5**	**+1.6**
JYS				S	**Sn**	**16 24 15.1**	**+0.6**
JRG	**Rokugo**	**1.87**	**317**	⇓iP	**Pn**	**16 23 55.5**	**+1.2**
JYA	**Atsumi**	**2.10**	**286**	P	**Pn**	**16 23 58.7**	**+1.2**
JYA				eS	**Sn**	**16 24 23.8**	**+1.0**
MJAR	**Matsushiro Arr**	**3.58**	**246**	Pn	**Pn**	**16 24 21.3**	**+3.3**
	0.2nm,0.3s,baz=263,slow=32,SNR=13						
MJAR				Sn	**Sb**	**16 25 06.3**	**-3.6**
	0.2nm,0.3s,baz=74,slow=18,SNR=1.9						
	1.0nm,0.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JHJ	Hachijo jima 2	5.33	203	Pn	Pn	16 24 42.8	+0.9
	7.0nm,0.3s,baz=262,slow=21,SNR=1.3						
JHJ				Sn	Sn	16 25 38.5	-3.8
	1.5nm,0.3s,baz=82,slow=15,SNR=1.6						
	61nm,0.6s						
ASAJ	Asahikawa	6.07	2	Pn	Pn	16 24 50.4	-1.6
	0.7nm,0.3s,baz=222,slow=12,SNR=7.6						
ASAJ				Sn	Sn	16 25 58.3	-2.3
	0.2nm,0.3s,baz=169,slow=30,SNR=1.3						
	13nm,1.0s						
USRK	Ussuriysk Ar.	9.90	312	Pn	Pn	16 25 46.0	+1.3
	0.2nm,0.3s,baz=117,slow=14,SNR=5.7						
	1.6nm,0.5s						
H11N2	WAKE ISLAND Hy	28.10	124	T	T	16 59 34.7	
	baz=316,slow=75,SNR=33						
H11N1	WAKE ISLAND Hy	28.11	124	T	T	16 59 39.0	
	baz=316,slow=75,SNR=19						
H11N3	WAKE ISLAND Hy	28.11	124	T	T	16 59 39.7	
	baz=316,slow=75,SNR=32						
H11S1	WAKE ISLAND Hy	28.85	126	T	T	17 00 32.3	
	baz=318,slow=76,SNR=5.2						
H11S3	WAKE ISLAND Hy	28.85	126	T	T	17 00 32.6	
	baz=318,slow=76,SNR=5.8						
H11S2	WAKE ISLAND Hy	28.87	126	T	T	17 00 34.0	
	baz=318,slow=76,SNR=5.1						
ZALV	Zalesovo Beam	41.76	312	P	P	16 31 12.5	+1.7
	0.3nm,0.4s,baz=88,slow=9.4,SNR=2.6						
	0.3nm,0.4s						
MKAR	Makanchi Array	44.18	301	P	P	16 31 30.6	0.0
	0.4nm,0.6s,baz=82,slow=8.7,SNR=4.4						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	45.94	307	P	P	16 31 43.7	-0.7
	0.5nm,0.4s,baz=82,slow=8.5,SNR=6.6						
	0.5nm,0.4s						
ILAR	Eielson Array	48.27	33	P	P	16 32 01.7	-0.7
	0.3nm,0.7s,baz=259,slow=8.7,SNR=2.3						
	0.3nm,0.7s						
WRA	Warramunga Arr	58.16	189	P	P	16 33 15.4	-0.2
	0.6nm,0.7s,baz=5.6,slow=6.9,SNR=5.0						
	0.6nm,0.7s						
ASAR	Alice Springs	61.89	189	P	P	16 33 41.5	+0.3
	0.4nm,0.7s,baz=17,slow=6.8,SNR=6.2						
	0.4nm,0.7s						

AUST 02 16:26:00.9±1.3, 33°.35S×116°.25E, h10km, Error ellipse: s-maj=14.4km s-min=9.5km az=80.0, Mining explosion., Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	0.93	63	P	Pb	16 26 19.4	+0.3
	baz=0.9,SNR=13						
NWAO				P	Pb	16 26 19.4	+0.3
	baz=0.9,SNR=13						
NWAO				S	Sb	16 26 31.4	-0.1
	baz=0.9,SNR=10						
NWAO				S	Sb	16 26 31.4	-0.1
	baz=0.9,SNR=10						
MUN	Mundaring	1.37	359	P	Pb	16 26 26.6	-0.1
	baz=1.4						
MUN				S	Sb	16 26 44.0	-0.2
	baz=1.4,SNR=9.8						
RKGY	Rocky Gully	1.40	154	P	Pb	16 26 27.1	0.0
	baz=1.4,SNR=64						
RKGY				S	Sn	16 26 44.5	-0.4
	baz=1.4,SNR=6.9						
KLBR	Kellerberrin	2.17	36	P	Pb	16 26 38.7	-1.5
	baz=2.2,SNR=57						
KLBR				S	Sn	16 27 05.1	+1.1
	baz=2.2						
BLDU	Ballidu	2.75	8	P	Pn	16 26 46.3	+1.1
	baz=2.8						
BLDU				S	Sn	16 27 19.3	+0.8
	baz=2.8						
MORW	Morawa	4.27	358	P	Pn	16 27 06.7	+0.7
	baz=4.3						
MEEK	Meekatharra	7.00	18	P	Pn	16 27 43.3	-0.3
	baz=7.0						

DJA 02 16:30:07.8±1.0, 4°S±4°×13°4E±°, h11km±8km, M4.2/8, mB5.0/2, mb4.3/8, MLv4.2/8, Mw(mB)4.3/2, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	0.73	343	P	Pg	16 30 22.1	+0.2
FAKI	Fak Fak	2.20	311	P	Pn	16 30 42.5	-1.8
RKPI	Ransiki, Papua	2.84	5	P	Pn	16 30 53.3	+0.1
BNDI	Bandanaira	4.01	268	P	Pn	16 31 08.7	-0.5
NLAI	Namlea	6.90	279	P	Pn	16 31 50.0	+1.1
	7.8nm,0.6s,0.1nm						
LBMI	Labuha	7.40	300	P	Pn	16 31 55.5	-0.4
	26nm,1.1s,0.1nm						
SANI	Sanana	8.24	286	P	Pn	16 32 05.2	-2.3
	13nm,0.5s						
SOEI	Soe	10.97	240	P	Pn	16 32 44.9	-0.1
	24nm,0.8s						
BATI	Baumata	11.71	240	P	Pn	16 32 55.1	+0.1
	19nm,1.0s						

*IDC **02** 16:30:13.8±2.1, 43°.90N×105°.74W, h0km, mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=62.2km s-min=10.6km az=148.0*
*NEIC **02** 16:30:15.0±1.0, 43°.76N±0°.04×105°.33W±0°.07, h0km±2km, ML2.9/54, Error ellipse: s-maj=8.4km s-min=7.3km az=120.0*
ISC 02 16:30:14.1±1.1, 43°.76N±0°.06×105°.35W±0°.06, h0km, n41, σ1s.19/40, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	Black Hills	1.02	69	Pg	Pg	16 30 33.4	-0.2
K22A	Casper	1.40	218		Pg	16 30 39.7	-1.3
PHWY	Pilot Hill	2.46	182		Pn	16 30 56.5	+0.7
PHWY				IAML		16 31 32.4	
	65nm,0.3s						
PHWY				IAML		16 31 33.1	
	43nm,0.3s						
RWWY	Rawlins	2.48	214		Pn	16 30 57.6	+1.6
N23A	Red Feather La	2.90	189	Pn	Pn	16 31 02.7	+1.0
N23A				IAML		16 31 44.8	
	comp=N,53nm,0.4s						
N23A				IAML		16 31 47.4	
	comp=E,51nm,0.5s						
LAO	LASA Array	2.99	348	Pn	Pn	16 31 03.3	+0.4
RLMT	Red Lodge	3.12	297		Pn	16 31 05.8	+1.1
RLMT				IAML		16 31 57.9	
	comp=E,39nm,0.3s						
PD31	Pinedale Array	3.23	254		Pn	16 31 07.3	+1.0
PDAR	Pinedale Array	3.23	254	Pn	Pn	16 31 07.0	+0.8
	comp=E,2.7nm,0.3s,baz=72,slow=17,SNR=56						
PDAR				Lg	Lg	16 31 45.8	
	comp=E,1.4nm,0.3s,baz=74,slow=24,SNR=1.3						
	comp=E,4.1nm,0.3s						
BW06	Boulder Array	3.23	254		Pn	16 31 07.3	+1.0
BW06				IAML		16 31 54.1	
	comp=E,29nm,0.3s						
BW06				IAML		16 31 57.9	
	comp=E,26nm,0.3s						
YMP	Mirror Lake Pl	3.59	288	Pn	Pn	16 31 12.1	+0.8
OGNE	Ogallala	3.74	138	Pn	Pn	16 31 13.6	+0.5
LOHW	Long Hollow	3.81	270	Pn	Pn	16 31 14.2	-0.1
FLWY	Flagg Ranch	3.88	277	Pn	Pn	16 31 15.9	+0.8
FLWY				IAML		16 32 31.2	
	comp=E,17nm,3.0s						
FLWY				IAML		16 32 34.9	
	comp=E,18nm,2.2s						
MOOW	Moose Ponds	3.91	272	Pn	Pn	16 31 17.5	+1.9
ISCO	Idaho Springs	3.96	183	Pn	Pn	16 31 16.9	+0.4
REDW	Red Top Meadow	4.02	266	Pn	Pn	16 31 19.3	+2.2
IMW	Indian Meadow	4.04	274	Pn	Pn	16 31 19.4	+1.9
IMW				IAML		16 32 29.5	
	comp=E,14nm,0.8s						
IMW				IAML		16 32 32.9	
	comp=E,16nm,0.7s						
TPAW	Teton Pass	4.07	268	Pn	Pn	16 31 19.8	+1.8
TPAW				IAML		16 31 46.1	
	comp=E,18nm,4.5s						
TPAW				IAML		16 32 45.3	
	comp=E,10nm,1.3s						
FXWY	Fox Creek	4.12	270		Pn	16 31 20.2	+1.7
O20A	White River Ci	4.21	212	Pn	Pn	16 31 21.1	+1.3
O20A				IAML		16 32 34.3	
	comp=N,20nm,0.6s						
AHID	Auburn Hatcher	4.31	259	Pn	Pn	16 31 21.1	-0.1
AHID				IAML		16 32 34.5	
	comp=N,18nm,0.4s						
AHID				IAML		16 32 40.7	
	comp=N,13nm,0.9s						
E28A	Huff	4.33	48	Pn	Pn	16 31 21.7	+0.5
RDMU	Red Mountain	4.47	226	Pn	Pn	16 31 25.5	+2.2
RDMU				IAML		16 32 42.1	
	comp=E,14nm,0.7s						
RDMU				IAML		16 32 45.7	
	comp=N,16nm,1.0s						
DGMT	Dagmar	4.78	9	Pn	Pn	16 31 29.3	+2.0
BOZ	Bozeman (W)	4.84	294	Pn	Pn	16 31 29.3	+1.0
BOZ				IAML		16 32 49.6	
	comp=N,8.5nm,0.8s						
BOZ				IAML		16 33 01.1	
	comp=N,8.8nm,4.0s						
BSUT	Blindstream Ca	5.15	233		Pn	16 31 33.5	+0.7
BSUT				IAML		16 33 04.3	
	comp=N,6.2nm,3.0s						
BSUT				IAML		16 33 16.3	
	comp=E,12nm,4.8s						
P18A	Preston Nutter	5.52	223		Pn	16 31 38.9	+1.0
ELMT	Elliston	5.76	301		Pn	16 31 41.7	+0.7
HVU	Hansel Valley	5.81	253		Pn	16 31 42.3	+0.6
P17A	Butcher Ranch,	5.88	225		Pn	16 31 43.0	+0.2
SRU	San Rafael Swe	6.05	222	Pn	Pn	16 31 46.1	+1.1
TMUT	Trail Mountain	6.26	227		Pn	16 31 48.2	+0.3
NLU	North Lily Min	6.29	235	Pn	Pn	16 31 48.9	+0.5
OVMT	Ovando	6.31	304	Pn	Pn	16 31 49.8	+1.2
ECSD	EROS Data Cent	6.33	87	Pn	Pn	16 31 49.4	+0.7
CHMT	Chamberlain Mo	6.40	302		Pn	16 31 50.1	+0.3
CBKS	Cedar Bluff	6.50	138	Pn	Pn	16 31 52.1	+1.0
Q16A	Castle Valley	6.52	224	Pn	Pn	16 31 52.3	+0.8
I10CA	LAC DU BONNET	9.06	41	I	I	17 26 40.0	
	baz=221,slow=320,SNR=2.0						
ULM	Lac du Bonnet	9.16	42	Pn	Pn	16 32 25.9	-1.6
	comp=E,0.4nm,0.3s,baz=230,slow=13,SNR=2.9						
ULM				Lg	Lg	16 34 58.2	
	comp=E,0.1nm,0.3s,baz=146,slow=19,SNR=1.2						
	comp=E,0.7nm,0.3s						

*IDC **02** 16:38:13.7±1.2, 10°.13S×152°.49E, h0km, mb3.7/6, mbtmp3.7/8, ML0.8/1, MS4.0/8, Error ellipse: s-maj=32.1km s-min=23.1km az=118.0*
ISC 02 16:38:19.1±1.1, 10°.4S±0°.1×152°.5E±0°.1, h35km, n14, σ2s.27/11, mb3.8/5, MS3.8/5, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.31	280	Pn	Pn	16 39 34.7	-1.2
	0.2nm,0.3s,baz=182,slow=6.0,SNR=1.8						
PMG				Sn	Sn	16 40 38.6	+2.7
	0.6nm,0.3s,baz=158,slow=7.3,SNR=2.4						
	1.6nm,0.4s						
HNR	Honiara	7.45	83	LR	LR	16 42 25.0	
	comp=Z,2μm,18.8s,baz=292,slow=34						
CTA	Charters Tower	11.33	211	Pn	Pn	16 40 58.8	+0.2
	0.9nm,0.3s,baz=28,slow=17,SNR=8.7						
CTA				Sn	Sn	16 43 00.3	-3.7
	0.1nm,0.3s,baz=198,slow=15,SNR=3.0						
CTA				LR	LR	16 45 13.7	
	comp=Z,682nm,18.9s,baz=34,slow=36						
DZM	Mont Dzumac	17.73	133	LR	LR	16 48 31.7	
	comp=Z,495nm,18.1s,baz=322,slow=35						
WRA	Warramunga Arr	19.87	239	P	Pn	16 42 48.0	-1.3
	1.9nm,0.8s,baz=60,slow=10,SNR=5.8						
	1.9nm,0.8s						
ASAR	Alice Springs	22.06	231	P	P	16 43 12.8	+1.7
	1.3nm,0.8s,baz=59,slow=10,SNR=12						
ASAR				LR	LR	16 51 44.2	
	comp=Z,356nm,18.1s,baz=58,slow=36						
	1.3nm,0.8s						
STKA	Stephens Creek	23.61	204	P	P	16 43 29.2	+2.3
	1.5nm,0.8s,baz=31,slow=12,SNR=2.2						
STKA				LR	LR	16 53 11.3	
	comp=Z,336nm,18.6s,baz=21,slow=38						
	1.5nm,0.8s						
GUMO	Guam	25.00	342	LR	LR	16 54 12.4	
	comp=Z,49nm,18.7s,baz=95,slow=39						
URZ	Urewera	35.47	146	LR	LR	16 57 43.1	
	comp=Z,175nm,20.3s,baz=40,slow=33						
RPZ	Rata Peaks	36.91	157	LR	LR	16 58 50.9	
	comp=Z,351nm,20.1s,baz=322,slow=33						
VNDA	Vanda	67.28	178	P	P	16 49 12.1	+2.4
	1.0nm,0.9s,baz=356,slow=13,SNR=3.7						
	1.0nm,0.9s						
SONM	Songino Array	70.89	329	P	P	16 49 31.8	-0.9
	0.9nm,1.0s,baz=134,slow=4.3,SNR=3.8						
	0.9nm,1.0s						
ILAR	Eielson Array	87.45	22	P	P	16 51 01.3	-1.3
	0.8nm,0.9s,baz=252,slow=4.9,SNR=7.6						
	0.8nm,0.9s						
TORD	Torodi Ar. Bea	151.25	278	PKPbc	PKPbc	16 58 09.1	-0.8
	0.6nm,0.7s,baz=61,slow=3.3,SNR=3.9						

*IDC **02** 16:40:43.5±0.5, 71°.43N×11°.06W, h0km, mb4.0/26, mbtmp4.1/33, ML4.6/7, MS4.0/53, Error ellipse: s-maj=14.5km s-min=10.1km az=22.0*
*NAO **02** 16:40:43.6±2.9, 71°.45N×10°.84W, h4km±18km, ML5.1*
*BER **02** 16:40:43.2±4.7, 71°.53N×10°.94W, h10km, mb(Pn)5.0, ML5.1(NAO)*
*NEIC **02** 16:40:44.6±1.9, 71°.46N±0°.08×11°.0W±0°.2, h10km±1km, mb4.7/53, Error ellipse: s-maj=12.9km s-min=11.1km az=191.0*
*REY **02** 16:40:46.0, 70°.88N×9°.68W, h10km*
*DNK **02** 16:40:47.5±5.8, 71°.47N×10°.87W, h33km±64km, ML2.9*
*GCMT **02** 16:40:47.6±0.2, 71°.53N±0°.01×10°.86W±0°.03, h22km±1km, MW5.1/124, Moment Tensor Solution. s70,c89; s124,c201; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.42±.14; $M_{\theta\theta}$3.61±.14; $M_{\phi\phi}$-3.19±.12; $M_{r\theta}$0.14±.20; $M_{\theta\phi}$4.29±.11; $M_{\phi r}$1.58±.21; Best double couple: $M_0$5.70900×10^{16} NP1:ϕ_s200.00000°, δ85.00000°, λ-164.00000°. NP2:ϕ_s109.00000°, δ74.00000°, λ-5.00000°. Principal axes: T 5.7930, Plg8.0000°, Azm333.0000°; N -0.1650, Plg73.0000°, Azm217.0000°; P -5.6250, Plg15.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IEPN **02** 16:40:48.0, 71°.34N×9°.59W, h10km*
*BGR **02** 16:40:56.7, 71°.05N×7°.98W, h33km, mb4.8, Ms3.7*
ISC 02 16:40:44.9±0.3, 71°.48N±0°.03×10°.81W±0°.04, h10km, n411, σ1s.97/386, mb4.7/105, MS4.1/68, 2C-15D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMI	Jan Mayen	0.87	129	eP	Pg	16 41 00.7	-0.9
JMI				eS	Sg	16 41 11.7	-1.3
JMI				IAML		16 41 12.5	
	comp=Z,28μm,0.3s						
JMI	Jan Mayen	0.87	129	Pg	Pg	16 41 00.7	-0.9
JMI				Lg	Lg	16 41 11.9	
JMIC	Jan Mayen	0.90	123	eP	Pg	16 41 00.8	-1.3
JMIC				eS	Sg	16 41 12.1	-1.6
JMIC				IAML		16 41 15.1	
	comp=Z,14μm,0.4s						
JMIC	Jan Mayen	0.90	123	Pn	Pg	16 41 00.6	-1.5
	comp=Z,5μm,0.3s,baz=228,slow=1.7,SNR=1363						
JMIC				Sn	Sg	16 41 12.1	-1.6
	comp=Z,4μm,0.3s,baz=251,slow=23,SNR=12						
JMIC	Jan Mayen	0.90	123	Pg	Pg	16 41 01.0	-1.1
JMIC				Lg	Lg	16 41 12.3	
JNE	Jan Mayen East	0.95	120	eP	Pg	16 41 01.4	-1.7
JNE				eS	Sg	16 41 13.6	-1.8
JNE				IAML		16 41 16.0	
	comp=Z,3μm,0.3s						
SCO	Scoresbysund	3.78	260	Pn	Pn	16 41 41.0	-2.1
SCO	Scoresbysund	3.78	260	i P	Pn	16 41 41.2	-1.9
SCO				IAML		16 42 26.8	
	comp=Z,16nm,0.3s						
SCO	Scoresbysund	3.78	260	i P	Pn	16 41 41.2	-1.9
SCO				IAML		16 42 26.8	
	comp=Z,16nm,0.3s						
DBG	Daneborg	3.97	320	i P	Pn	16 41 43.1	-2.6
DBG				eS	Sn	16 42 25.1	-7.1
DBG				IAML		16 42 28.7	
	comp=Z,124nm,0.4s						
DBG	Daneborg	3.97	320	i P	Pn	16 41 43.1	-2.6
DBG				eS	Sn	16 42 25.1	-7.1
DBG				IAML		16 42 28.7	
	comp=Z,124nm,0.4s						
DBG	Daneborg	3.97	320	Pn	Pn	16 41 43.7	-2.0
DBG				Sn	Sn	16 42 25.1	-7.1
ILEI	Leirhofn	5.49	205	P	Pn	16 42 03.4	-3.2
	baz=212						
ILEI				S	Sn	16 43 05.8	-3.8
	baz=212						
IGRI	Grimsey	5.59	211	P	Pn	16 42 06.7	-1.3
	baz=219						
IGRI				S	Sn	16 43 09.1	-3.0
	baz=219						
DAG	Danmarks Havn	5.73	342	i P	Pn	16 42 07.9	-1.9
DAG				i S	Sn	16 43 09.0	-6.5
DAG				IAML		16 43 17.8	
	comp=Z,117nm,0.4s						
DAG	Danmarks Havn	5.73	342	i P	Pn	16 42 07.9	-1.9
DAG				i S	Sn	16 43 09.0	-6.5
DAG				IAML		16 43 17.8	
	comp=Z,117nm,0.4s						
IGIL	Gilhagi	5.79	203	P	Pn	16 42 07.7	-3.0
	baz=210						
IGIL				S	Sn	16 43 13.6	-3.4
	baz=210						
IHED	Heoinshofoi	5.91	207	P	Pn	16 42 10.0	-2.3
	baz=214						
IHED				S	Sn	16 43 16.3	-3.8
	baz=214						
IBRE	Brettingsstaoi	5.96	209	P	Pn	16 42 11.4	-1.6
	baz=216						
IBRE				S	Sn	16 43 19.2	-2.0
	baz=216						
IGHA	Grjothals	6.05	203	P	Pn	16 42 11.4	-2.8
	baz=210						
IGHA				S	Sn	16 43 20.9	-2.6
	baz=210						
ISKI	Skildingahlsh	6.07	205	P	Pn	16 42 12.8	-1.7
	baz=212						
ISKI				S	Sn	16 43 20.7	-3.3
	baz=212						
ISIG	Siglufjorour	6.12	213	P	Pn	16 42 14.3	-0.8
	baz=220						
ISIG				S	Sn	16 43 23.2	-1.8
	baz=220						
IGRS	Grimsstaoir	6.18	201	P	Pn	16 42 13.1	-3.0
	baz=208						
IGRS				S	Sn	16 43 24.0	-2.8
	baz=208						
IKVO	Krokottuvotn	6.20	204	P	Pn	16 42 14.0	-2.4
	baz=211						
IHLA	Hella	6.21	210	P	Pn	16 42 14.8	-1.5
	baz=217						
IHLA				S	Sn	16 43 24.7	-2.5
	baz=217						
IMEL	Melhnausar	6.31	203	P	Pn	16 42 15.4	-2.5
	baz=209						
IHRN	Hraun	6.36	217	P	Pn	16 42 19.2	+0.7
	baz=224						
IHRN				S	Sn	16 43 31.1	+0.1
	baz=224						
ISVA	Svartarkot	6.61	204	P	Pn	16 42 20.5	-1.5
	baz=211						
IADA	Aoalbol	6.73	198	P	Pn	16 42 20.6	-3.0
	baz=204						
IADA				S	Sn	16 43 37.2	-2.9
	baz=204						
IVSH	V-Sauoahnukur	6.95	198	P	Pn	16 42 23.6	-3.0
	baz=204						
IVSH				S	Sn	16 43 43.0	-2.7
	baz=204						
IKRE	Kreppuhraun	7.04	200	P	Pn	16 42 25.3	-2.6
	baz=206						
SOEG	Soedalen	7.80	255	i P	Pn	16 42 39.4	+1.2
SOEG	Soedalen	7.80	255	i P	Pn	16 42 39.4	+1.2
BORG	Borgarnes	7.81	215	Pn	Pn	16 42 42.5	+4.2
BORG	Borgarnes	7.81	215	eP	Pn	16 42 42.4	+4.0
BORG	Borgarnes	7.81	215	Pn	Pn	16 42 36.9	-1.4
	comp=Z,6.6nm,0.3s,baz=20,slow=6.5,SNR=21						
BORG				Sn	Sn	16 44 05.6	-1.0
	baz=243,slow=4.8						
BORG				LR	LR	16 44 40.9	
	comp=Z,292nm,20.9s,baz=30,slow=31						
	comp=Z,19nm,0.9s						
SUMG	Summit	8.57	290	Pn	Pn	16 42 49.7	+0.5
SUMG	Summit	8.57	290	i P	Pn	16 42 49.9	+0.7
SUMG				IAML		16 43 31.5	
	comp=Z,21nm,0.5s						
SUMG				e		16 44 22.4	
SUMG	Summit	8.57	290	i P	Pn	16 42 49.9	+0.7
SUMG				IAML		16 43 31.5	
	comp=Z,21nm,0.5s						
SUMG				e		16 44 22.4	
HSPB	Hornsund (broa	8.96	40	eP	Pn	16 42 53.7	-0.3
HSPB	Hornsund (broa	8.96	40	Pn	Pn	16 42 53.7	-0.3
LOF	Lofoten	9.02	100	eP	Pn	16 42 54.0	-0.9
BJO1	Bjornoya	9.17	57	eP	Pn	16 42 58.2	+1.3
BRBA	Barentsburg A	9.21	33	Pn	Pn	16 42 57.7	+0.2
BRBA	Barentsburg A	9.21	33	Pn	Pn	16 42 57.7	+0.2
BRBB	Barentsburg B	9.23	33	Pn	Pn	16 42 57.8	0.0
BRBB				Sn	Sn	16 44 34.2	-7.3
KBS	Kingsbay	9.37	27		Pn	16 42 59.1	-0.5
KBS	Kingsbay	9.37	27	eP	Pn	16 42 58.3	-1.3
KBS				S	Sn	16 44 35.4	-9.4
KBS	Kingsbay	9.37	27	eP	Pn	16 42 58.6	-1.0
KBS				eS	Sn	16 44 36.0	-8.8
KBS				IAML		16 44 41.2	
	comp=Z,44nm,0.6s						
KBS	Kingsbay	9.37	27	eP	Pn	16 42 58.4	-1.2
KBS				i S	Sn	16 44 34.7	-10
KBS	Kingsbay	9.37	27	Pn	Pn	16 42 58.6	-1.0
KBS				Sn	Sn	16 44 36.0	-8.8
SOFL	Sornfelli, Far	9.57	169	eP	Pn	16 43 04.7	+2.1
SOFL	Sornfelli, Far	9.57	169	eP	Pn	16 43 06.5	+3.9
SPA0	Spitsbergen Ar	9.66	34	eP	Pn	16 43 04.6	+1.0
SPA0				eS	Sn	16 44 49.2	-2.8
SPA0	Spitsbergen Ar	9.66	34	Pn	Pn	16 43 04.7	+1.0
	baz=229,slow=14						
SPA0	Spitsbergen Ar	9.66	34	Pn	Pn	16 43 04.7	+1.0
	baz=229,slow=14						
SPITS	Spitsbergen Ar	9.66	34	Pn	Pn	16 43 04.3	+0.7
	baz=217,slow=14						
SPITS				Sn	Sn	16 44 49.5	-2.5
	baz=267,slow=27						
	comp=Z,34nm,0.3s						
SPB2	Spitsbergen Ar	9.66	34		Pn	16 43 04.2	+0.6
KONS	Konsvik	9.88	109	eP	Pn	16 43 05.5	-1.1
KONS				eS	Sn	16 44 49.1	-8.2
KONS				IAML		16 44 57.1	
	comp=Z,37nm,0.4s						
KONS	Konsvik	9.88	109	Pn	Pn	16 43 05.5	-1.1
STOK	Stokkvaagen	9.96	109	eP	Pn	16 43 06.7	-1.0
STOK				eS	Sn	16 44 50.8	-8.5
STOK				IAML		16 44 57.4	
	comp=Z,39nm,0.4s						
ICESG	Greenland Ices	9.97	270	eP	Pn	16 43 09.2	+0.9
ICESG				IAML		16 44 15.2	
	comp=Z,9.7nm,0.8s						
ICESG	Greenland Ices	9.97	270	eP	Pn	16 43 09.2	+0.9
ICESG				IAML		16 44 15.2	
	comp=Z,9.7nm,0.8s						
FAUS	Fauske	10.00	101	eP	Pn	16 43 07.2	-1.1
FAUS				eS	Sn	16 44 51.5	-8.8
FAUS				IAML		16 44 57.0	
	comp=E,26nm,0.5s						
TRO	Tromso	10.02	86	eP	Pn	16 43 08.3	-0.2
TRO	Tromso	10.02	86	Pn	Pn	16 43 08.2	-0.4
NOR	Nord	10.26	355	i P	Pn	16 43 10.2	-1.6
NOR				IAML		16 43 30.4	
	comp=Z,46nm,0.7s						
NOR				e		16 44 56.0	
NOR	Nord	10.26	355	i P	Pn	16 43 10.2	-1.6
NOR				IAML		16 43 30.4	
	comp=Z,46nm,0.7s						
NOR				e		16 44 56.0	
NOR	Nord	10.26	355	Pn	Pn	16 43 10.2	-1.6
NOR				Sn	Sn	16 45 00.7	-5.9
MOR8	Moi Rana	10.50	108	eP	Pn	16 43 14.9	-0.3
MOR8				eS	Sn	16 45 06.1	-6.5
MOR8				IAML		16 45 13.1	
	comp=Z,72nm,1.1s						
JETT	Jettan, Norway	10.53	85	eP	Pn	16 43 15.3	-0.2
JETT	Jettan, Norway	10.53	85	Pn	Pn	16 43 15.6	+0.1
KIF	Kilpisjarvi	10.89	88	Pn	Pn	16 43 20.6	0.0
KIF	Kilpisjarvi	10.89	88	Pn	Pn	16 43 20.6	0.0

HOPEN **Hopen** 10.91 47 *e*P Pn 16 43 22.2 +1.4
HOPEN S Sn 16 45 16.7 -6.0
HOPEN **Hopen** 10.91 47 *e*P Pn 16 43 22.6 +1.9
HOPEN **Hopen** 10.91 47 Pn Pn 16 43 22.6 +1.9
NSS **Namsos** 10.95 118 *e*P Pn 16 43 19.9 -1.3
HAMF **Hammerfest** 11.14 78 Pn Pn 16 43 23.5 -0.3
HAMF **Hammerfest** 11.14 78 Pn Pn 16 43 23.5 -0.3
MOL **Molde** 11.39 132 *e*P Pn 16 43 27.4 0.0
AKN **Aaknes** 11.61 135 *e*P Pn 16 43 29.3 -1.0
AKN *e*S Sn 16 45 29.4 -10
AKN IAML 16 45 39.4
comp=Z,30nm,0.5s
AKN **Aaknes** 11.61 135 Pn Pn 16 43 29.7 -0.6
AKN Sn Sn 16 45 30.0 -10
KTK1 **Kautokeino** 11.67 86 *e*P Pn 16 43 32.0 +0.9
LRW **Lerwick** 12.03 156 *e*P Pn 16 43 35.8 -0.3
LRW IAmb IAmb 16 43 37.0
comp=Z,236nm,1.5s
LRW **Lerwick** 12.03 156 *e*P Pn 16 43 35.6 -0.4
LRW Sn Sn 16 45 40.2 -10
LRW **Lerwick** 12.03 156 Pn Pn 16 43 35.6 -0.4
LRW Sn Sn 16 45 40.2 -10
NEEM **North Greenlan** 12.05 317 *i* P Pn 16 43 32.3 -4.2
NEEM IAML 16 44 10.4
comp=Z,26nm,0.6s
NEEM *i* 16 45 43.8
NEEM **North Greenlan** 12.05 317 *i* P Pn 16 43 32.3 -4.2
NEEM IAML 16 44 10.4
comp=Z,26nm,0.6s
NEEM *i* 16 45 43.8
HEF **Hetta** 12.10 88 *e*P Pn 16 43 37.5 +0.5
SUE **Sulen** 12.14 142 *e*P Pn 16 43 35.7 -1.8
ARA0 **ARCESS Array S** 12.15 82 Pn Pn 16 43 38.2 +0.4
baz=287,slow=12
ARA0 **ARCESS Array S** 12.15 82 Pn Pn 16 43 38.2 +0.4
baz=287,slow=12
ARCES **ARCESS Array B** 12.15 82 Pn Pn 16 43 38.5 +0.8
ARCES **ARCESS Array B** 12.15 82 Pn Pn 16 43 38.0 +0.3
comp=Z,7.3nm,0.3s,baz=294,slow=12,SNR=226
ARCES LR LR 16 47 38.9
comp=Z,506nm,21.5s,baz=298,slow=34
comp=Z,17nm,0.3s
DOMB **Dombas** 12.21 131 *e*P Pn 16 43 38.3 -0.3
HYA **Hoyanger** 12.33 138 *e*P Pn 16 43 38.7 -1.5
KEV **Kevo** 12.53 80 Pn Pn 16 43 42.5 -0.4
KEV **Kevo** 12.53 80 Pn Pn 16 43 43.6 +0.8
KEV **Kevo** 12.53 80 Pn Pn 16 43 43.6 +0.8
NOD **Norderasen** 12.60 117 *e*P Pn 16 43 42.5 -1.4
ASK **Askoy** 12.75 142 *e*P Pn 16 43 44.6 -1.3
ASK IAML 16 43 46.4
comp=Z,28nm,0.4s
ASK *e*S Sn 16 45 57.5 -10
BER **Bergen** 12.87 142 *e*P Pn 16 43 45.6 -1.9
VADS **Vadso** 13.11 77 *e*P Pn 16 43 50.6 -0.2
SKAR **Skarslia** 13.23 135 *e*P Pn 16 43 51.4 -1.2
NC204 **NORSAR Array S** 13.29 129 Pn Pn 16 43 50.1 -3.2
BIGH **Upper Bighouse** 13.35 164 *e*P Pn 16 43 54.9 +0.9
BIGH **Upper Bighouse** 13.35 164 *e*P Pn 16 43 55.0 +0.9
NC303 **NORSAR Array S** 13.48 128 Pn Pn 16 43 56.0 0.0
NBO00 **NORSAR Array S** 13.50 130 Pn Pn 16 43 56.1 -0.2
LINV **Loch Inver, As** 13.59 167 *e*P Pn 16 43 59.0 +1.7
NB2 **NORSAR Subarra** 13.60 129 Pn Pn 16 43 56.7 -0.9
NB2 **NORSAR Subarra** 13.60 129 Pn Pn 16 43 56.7 -0.9
NOA **NORSAR Array B** 13.60 129 Pn Pn 16 43 55.9 -1.7
comp=Z,0.2nm,0.3s,baz=331,slow=13,SNR=26
NOA Sn Sn 16 46 21.2 -7.4
comp=Z,0.1nm,0.3s,baz=324,slow=22,SNR=2.3
NOA LR LR 16 48 29.4
comp=Z,586nm,21.4s,baz=330,slow=34
comp=Z,2.4nm,0.4s
NB201 **NORSAR Array S** 13.62 129 Pn Pn 16 43 58.3 +0.6
NC405 **NORSAR Array S** 13.67 128 Pn Pn 16 43 56.9 -1.5
NAO01 **NORSAR Array S** 13.69 130 Pn Pn 16 43 57.2 -1.6
KMY **Karmoy** 13.94 144 *e*P Pn 16 43 59.4 -2.7
NC602 **NORSAR Array S** 13.95 129 Pn Pn 16 44 00.1 -2.1
NRA0 **NORESS Array S** 13.95 129 Pn Pn 16 44 01.0 -1.3
baz=332,slow=14
NRA0 **NORESS Array S** 13.95 129 Pn Pn 16 44 01.0 -1.3
baz=332,slow=14
BLS5 **Blasjo** 13.98 141 *e*P Pn 16 44 00.7 -2.0
MCD **Coleburn Disti** 14.31 163 *e*P Pn 16 44 08.8 +1.6
MCD IAmb IAmb 16 44 11.2
comp=Z,133nm,1.3s
KPL **Plockton** 14.36 169 *e*P Pn 16 44 09.9 +2.0
KPL **Plockton** 14.36 169 *e*P Pn 16 44 10.2 +2.3
KONO **Kongsberg** 14.45 135 Pn Pn 16 44 04.6 -4.5
KONO **Kongsberg** 14.45 135 *e*P Pn 16 44 08.0 -1.1
SFJD **Kangerlussuaq** 14.58 272 Pn Pn 16 44 09.3 -1.6
SFJD **Kangerlussuaq** 14.58 272 *i* P Pn 16 44 08.1 -2.8
SFJD **Kangerlussuaq** 14.58 272 *i* P Pn 16 44 08.1 -2.8
SFJD **Kangerlussuaq** 14.58 272 Pn Pn 16 44 08.2 -2.7
comp=Z,1.7nm,0.3s,baz=57,slow=11,SNR=11
SFJD LR LR 16 48 29.0
comp=Z,360nm,21.9s,baz=56,slow=32
comp=Z,13nm,0.6s
HFS **Hagfors** 15.01 127 P Pn 16 44 14.7 -2.0
baz=329,slow=12
HFS **Hagfors** 15.01 127 Pn Pn 16 44 14.2 -2.6
comp=Z,1.9nm,0.3s,baz=320,slow=10,SNR=43
HFS Sn Sn 16 46 56.2 -6.5
comp=Z,0.7nm,0.3s,baz=350,slow=24,SNR=1.9
HFS LR LR 16 49 23.9
comp=Z,717nm,21.4s,baz=327,slow=35
HFS **Hagfors** 15.01 127 P Pn 16 44 14.7 -2.0
baz=329,slow=12
DRUM **Mains of Drumt** 15.04 162 *e*P Pn 16 44 18.2 +1.0
DRUM **Mains of Drumt** 15.04 162 *e*P Pn 16 44 18.7 +1.6
SNART **Snartemo** 15.13 141 *e*P Pn 16 44 16.5 -1.8
SNART **Snartemo** 15.13 141 *i* P Pn 16 44 16.5 -1.5
STRU **Stroemstad** 15.36 133 *e*P Pn 16 44 20.0 -1.3
INVG **Invergeldie, C** 15.38 166 *e*P Pn 16 44 22.8 +1.1
INVG IAmb IAmb 16 44 25.8
comp=Z,50nm,0.8s
LAWE **Loch Awe, Argy** 15.45 169 *e*P Pn 16 44 24.8 +2.2
HOMB **Homborsund** 15.46 139 *i* P Pn 16 44 20.9 -1.7
APA0 **Apatity Array** 15.50 83 P Pn 16 44 23.1 -0.1
baz=306,slow=12
APA0 **Apatity Array** 15.50 83 P Pn 16 44 23.1 -0.1
baz=306,slow=12
ZFI2 **Zemlya Franca-** 15.82 30 *e*P Pn 16 44 28.8 +1.6
ZFI2 S Sn 16 47 13.6 -8.6
OMEGA **Omega** 15.83 30 *e*P Pn 16 44 28.7 +1.3
OMEGA *e*S Sn 16 47 16.7 -5.8
LVZ **Lovozero** 15.86 81 Pn Pn 16 44 26.6 -1.2
EDI **Edinburgh** 15.96 164 *e*P Pn 16 44 29.8 +0.8
PGBU **Glenifferbraes** 15.96 167 *e*P Pn 16 44 30.9 +1.7
PGBU IAmb IAmb 16 44 35.5
comp=Z,285nm,1.4s
TULEG **Thule** 16.09 314 Pn Pn 16 44 24.2 -6.5
TULEG IAmb IAmb 16 44 36.8
comp=Z,108nm,1.3s
EKA **Eskdalemuir Ar** 16.54 165 P Pn 16 44 37.9 +1.3
EKA **Eskdalemuir Ar** 16.54 165 Pn Pn 16 44 36.5 -0.1
baz=359,slow=13
comp=Z,4.9nm,0.3s
EKA **Eskdalemuir Ar** 16.54 165 P Pn 16 44 37.9 +1.3
ESK **Eskdalemuir** 16.55 165 *e*P Pn 16 44 38.0 +1.3
ESK IAmb IAmb 16 44 41.3
comp=Z,39nm,1.2s
ESK **Eskdalemuir** 16.55 165 P Pn 16 44 38.1 +1.3
ESK IAmb IAmb 16 44 50.3
comp=Z,63nm,1.4s
NEWG **New Galloway** 16.67 167 *e*P Pn 16 44 39.5 +1.3
NEWG IAmb IAmb 16 44 43.7
comp=Z,174nm,1.6s
BORU **Boraas** 16.99 133 *i* P Pn 16 44 42.4 +0.1
BORU **Boraas** 16.99 133 *i* P Pn 16 44 42.4 +0.1
EDMD **Edmundbyers** 17.15 162 *e*P Pn 16 44 46.0 +1.8
MUD **Monsted U'grnd** 17.28 140 *i* P Pn 16 44 46.9 +1.1
MUD **Monsted U'grnd** 17.28 140 *i* P Pn 16 44 46.9 +1.1
KESW **Keswick, Cumbr** 17.29 165 *e*P Pn 16 44 47.3 +1.4
FIA0 **FINESS Array S** 17.48 106 P Pn 16 44 47.9 -0.4
baz=318,slow=12
FIA0 **FINESS Array S** 17.48 106 P Pn 16 44 47.9 -0.4
baz=318,slow=12
FINES **FINESS Array B** 17.48 106 P Pn 16 44 48.4 +0.1
comp=Z,2.7nm,0.3s,baz=317,slow=11,SNR=120
FINES LR LR 16 50 33.3
comp=Z,463nm,20.1s,baz=322,slow=34
comp=Z,6.3nm,0.3s
BJUU **Bjuv** 18.47 134 *i* P P 16 44 59.9 -0.5
BJUU **Bjuv** 18.47 134 *i* P P 16 44 59.9 -0.5
LBWR **Ladybower, Pea** 18.58 163 *e*P P 16 45 02.2 +0.5
LBWR IAmb IAmb 16 45 03.9
comp=Z,113nm,1.1s
COP **Copenhagen** 18.69 136 *i* P P 16 45 03.6 +0.8
COP **Copenhagen** 18.69 136 *i* P P 16 45 03.6 +0.8
EUNU **Eureka** 18.75 328 P P 16 44 59.8 -3.7
EUNU IAmb IAmb 16 45 03.5
comp=Z,55nm,0.8s
LUNU **Lund** 18.97 134 *i* P P 16 45 05.2 -0.7
LUNU **Lund** 18.97 134 *i* P P 16 45 05.2 -0.7
BSD **Bornholm Skovb** 19.79 133 *i* P P 16 45 13.9 -0.9
BSD **Bornholm Skovb** 19.79 133 *i* P P 16 45 13.9 -0.9
BSEG **Bad Segeberg** 19.88 141 *e*P P 16 45 18.1 +2.2
comp=Z,31nm,1.4s,baz=345,slow=10
RETH **Rethem/Aller,** 20.83 144 *e*P P 16 45 27.4 +1.3
comp=Z,62nm,1.5s,baz=345,slow=10
IBBN **Ibbenburen** 20.95 147 *e*P P 16 45 29.1 +1.7
baz=345,slow=10
NRDL **Niedersach Rie** 21.20 143 *e*P P 16 45 31.1 +1.0
comp=Z,112nm,1.2s,baz=345,slow=10
VSVD **Vaisvydziai** 21.36 118 *e*P P 16 45 34.1 +2.3
FLTG **Flechtingen** 21.58 141 *e*P P 16 45 34.2 -0.1
comp=Z,42nm,1.1s,baz=345,slow=10
ASSE **Asse, Remlinge** 21.66 142 *e*P P 16 45 35.5 +0.6
comp=Z,37nm,1.0s,baz=345,slow=10
BUG **Bochum--Univer** 21.70 148 *e*P P 16 45 36.4 +0.9
comp=Z,55nm,1.2s,baz=345,slow=10
PABE **Paberze** 21.78 119 P P 16 45 36.9 +0.5
PABE **Paberze** 21.78 119 *e*P P 16 45 37.8 +1.4
RUE **Ruedersdorf** 21.97 137 *e*P P 16 45 40.2 +1.8
RUE **Ruedersdorf** 21.97 137 *e*P P 16 45 39.0 +0.6
baz=345,slow=10
GKP **Gorka Klasztor** 22.03 131 *e*P P 16 45 40.5 +1.5
GKP **Gorka Klasztor** 22.03 131 *e*P P 16 45 40.8 +1.8
BEBN **Eben Emael** 22.07 151 *d*P P 16 45 40.3 +0.8
BEBN *d*PP PnPn 16 45 58.5 -2.6
GTTG **Gottingen** 22.08 144 *e*P P 16 45 40.5 +0.9
comp=Z,55nm,1.3s,baz=345,slow=10
KLMR **Klimovskoe** 22.16 93 *e*P P 16 45 40.4 0.0
comp=Z,134nm,1.3s
KLMR *e*S S 16 49 30.7 -13
KLMR **Klimovskoe** 22.16 93 *e*P P 16 45 39.1 -1.3
KLMR *e*P P 16 45 39.1 -1.3
KLMR *e*P P 16 45 39.1 -1.3
KLMR AMP 16 45 53.0
comp=Z,134nm,1.3s
KLMR S S 16 49 36.8 -7.3
KLMR S S 16 49 36.8 -7.3
KLMR LQ LQ 16 51 08.9
KLMR LQ LQ 16 51 08.9
KLMR LR LR 16 51 52.6
IZAR **Zarasai** 22.22 116 *e*P P 16 45 43.3 +2.2
BSTI **Sart Tilman** 22.25 152 *d*P P 16 45 42.7 +1.2
MEM **Membach** 22.30 151 *d*P P 16 45 42.5 +0.5
ISAL **Salakas** 22.34 116 *e*P P 16 45 44.6 +2.3
BTNL **Ternell** 22.34 151 *d*P P 16 45 43.1 +0.6
BCLA **Clavier** 22.38 152 *d*P P 16 45 42.3 -0.5
BCLA *d*PP PnPn 16 46 02.3 -3.1
BGES **Gesves** 22.38 153 *d*P P 16 45 44.7 +1.8
FRB **Frobisher Bay** 22.40 279 P P 16 45 42.4 -0.6
comp=Z,6.4nm,1.0s,baz=61,slow=10,SNR=2.0
FRB LR LR 16 53 04.9
comp=Z,493nm,20.6s,baz=44,slow=33
comp=Z,6.4nm,1.0s
BMRD **Maredsous** 22.41 153 *d*P P 16 45 44.0 +0.9
BHOU **Houvegnez** 22.55 151 *d*P P 16 45 45.8 +1.1
BHOU *d*PP PnPn 16 46 04.5 -3.2
DOU **Dourbes** 22.59 154 *d*P P 16 45 45.8 +0.7
DOU *d*PP PnPn 16 46 07.2 -1.1
RCHB **Rochefort** 22.62 152 *d*P P 16 45 43.9 -1.5
IDID **Didziasalis** 22.73 116 *e*P P 16 45 48.9 +2.3
RES **Resolute Bay** 22.75 317 P P 16 45 45.7 -0.9
RES **Resolute Bay** 22.75 317 P P 16 45 46.5 0.0
comp=Z,5.2nm,0.8s,baz=47,slow=13,SNR=7.0
RES S S 16 49 45.0 -10
comp=Z,1.4nm,0.7s,baz=299,slow=21,SNR=2.1
RES LR LR 16 54 26.9
comp=Z,763nm,19.7s,baz=44,slow=36
comp=Z,5.2nm,0.8s
UBBA **Unterbreizbach** 22.78 144 *e*P P 16 45 50.2 +3.2
comp=Z,93nm,1.5s,baz=345,slow=10
SUW **Suwalki** 22.88 122 P P 16 45 49.5 +1.3
SUW **Suwalki** 22.88 122 *e*P P 16 45 50.3 +2.2
CLL **Collm** 22.91 139 P P 16 45 48.3 -0.1
CLL IAmb IAmb 16 45 57.4
comp=Z,38nm,1.0s
CLL **Collm** 22.91 139 *i* P P 16 45 48.9 +0.5
comp=Z,69nm,1.6s
CLL *i* x x 16 45 53.6
CLL *i* x x 16 45 55.6
comp=Z,43nm,1.1s
CLL *e*PP PnPn 16 46 17.0 +4.4
CLL *e*x x 16 47 32.0
CLL *e*S S 16 50 00.0 +2.1
comp=N,200nm,33.2s
CLL *e*S S 16 50 00.0 +2.1
comp=E,500nm,42.1s
CLL AMS AMS 16 56 00.0
TNS **Taunus Mts** 23.07 147 *e*P P 16 45 51.0 +0.8
comp=E,33nm,1.2s,baz=345,slow=10
NACGM **Naroch** 23.10 116 *e*P P 16 45 51.4 +0.9
comp=E,4μm,1.3s
WLF **Walferdange** 23.24 151 *e*P P 16 45 52.8 +0.9
baz=345,slow=10
MOX **Moxa** 23.25 142 *e*P P 16 45 52.7 +0.7
comp=E,45nm,1.3s,baz=345,slow=10
MOX *e*L L 16 54 32.2
comp=E,304nm,19.7s
FBE **Freiberg** 23.34 139 *e*P P 16 45 53.4 +0.5
comp=E,38nm,1.0s,baz=345,slow=10
PLN **Plauen** 23.51 141 *e*P P 16 45 55.3 +0.7
comp=E,106nm,1.3s,baz=345,slow=10
BRG **Berggiesshubel** 23.51 138 *i* P P 16 45 56.8 +2.2
BRG Amp 16 46 00.5
comp=Z,23nm,1.3s
BRG **Berggiesshubel** 23.51 138 P P 16 46 05.2 +11
BRG Amp 16 46 06.2
comp=Z,23nm,1.0s
BRG PP PnPn 16 46 25.4 +4.5
BRG Amp 16 46 28.0
comp=Z,15nm,1.2s
BRG **Berggiesshubel** 23.51 138 S S 16 50 13.0 +5.0
BRG Amp 16 58 13.0
comp=Z,0.7nm,11.4s
BRG Amp 16 58 17.0
comp=N,0.5nm,13.3s
BRG Amp 16 58 18.0
comp=E,0.3nm,15.4s
PRGR **Permogore** 23.52 86 *e*P P 16 45 59.2 +4.6
comp=E,72nm,1.4s
TANN **Tannenbergstha** 23.64 141 *e*P P 16 45 56.8 +0.8
comp=E,141nm,1.4s,baz=345,slow=10
HSKC **Hora Svate Kat** 23.66 139 *e*P P 16 45 57.3 +1.3
HSKC AMS AMS 16 57 10.0
comp=E,600nm,13.4s
GUNZ **Gunzen** 23.66 141 *e*P P 16 45 56.8 +0.7
comp=E,45nm,1.1s,baz=345,slow=10
WERN **Wernitzgruen** 23.74 141 *e*P P 16 45 57.7 +0.8
comp=E,95nm,1.4s,baz=345,slow=10
MNK **Minsk** 23.77 115 *i* P P 16 45 58.1 +1.1
comp=E,7.0nm,0.8s
MNK *i* P P 16 45 58.1 +1.1
comp=N,28nm,0.8s
MNK *i* P P 16 45 58.1 +1.1
comp=Z,22nm,0.8s,baz=331
MNK *i* PP PnPn 16 46 26.0 +1.6
MNK *i* S S 16 50 15.0 +3.0
MNK *i* SS SnSn 16 51 24.1 +34
MNK *i* LQ LQ 16 52 38.5
MNK *i* LR LR 16 53 14.3
MNK *i* LRM MLR 16 53 57.6
comp=N,309nm,16.4s
MNK *i* LRM MLR 16 54 30.4
comp=E,188nm,16.4s
MNK *i* LRM MLR 16 54 35.0
comp=Z,479nm,16.4s
NKC **Novy Kostel** 23.81 141 *e*P P 16 45 58.7 +1.2
PVCC **Panska Ves** 23.97 138 AMS AMS 16 58 00.0
comp=Z,500nm,13.6s
MANZ **Manzenberg** 23.98 142 *e*P P 16 45 59.5 +0.3
comp=Z,6.5nm,1.3s,baz=345,slow=10
KSP **Ksiaz** 24.06 135 *e*P P 16 46 01.0 +1.1
GRA1 **Grafenberg Arr** 24.09 143 P P 16 45 57.3 -2.9
GRF **Grafenberg Arr** 24.09 143 *e*P P 16 46 01.6 +1.5
comp=Z,113nm,1.5s,baz=345,slow=10
GRF *e*L L 16 55 08.4
comp=Z,288nm,21.2s
ROTZ **Rotzenmuhle** 24.21 142 *e*P P 16 46 01.9 +0.7
comp=Z,7.4nm,1.1s,baz=345,slow=10
CHVC **Chvalec** 24.24 135 *e*P P 16 46 02.8 +1.2
OSTC **Ostas** 24.31 135 *e*P P 16 46 03.4 +1.2
OSTC *e*S S 16 50 22.3 +1.5
OSTC AMS AMS 16 58 00.0
comp=Z,600nm,13.1s
UPC **Upice** 24.31 136 *e*P P 16 46 03.2 +1.0
UPC AMS AMS 16 58 10.0
comp=Z,600nm,12.5s
PRA **Prague** 24.38 138 *e*P P 16 46 04.2 +1.5
PRA AMS AMS 16 58 30.0
comp=Z,500nm,14.3s
PRU **Pruhonice** 24.48 138 *e*P P 16 46 05.1 +1.4
PRU AMS AMS 16 58 30.0
comp=Z,500nm,12.9s
DPC **Dobruska-Polom** 24.52 135 *e*P P 16 46 05.5 +1.3
DPC AMS AMS 16 57 30.0
comp=Z,500nm,15.1s
GOPC **GO Pecny, Ondr** 24.60 138 *e*P P 16 46 06.5 +1.7
GOPC *e*S S 16 50 35.3 +10
GOPC AMS AMS 16 58 30.0
comp=Z,600nm,12.3s
ECH **Echery** 24.80 151 P P 16 46 04.9 -1.8
BFO **Black Forest** 24.88 149 P P 16 46 07.1 -0.3
BFO IAmb IAmb 16 46 20.1
comp=Z,22nm,1.1s
BFO **Black Forest** 24.88 149 *e*P P 16 46 09.5 +2.2
baz=345,slow=10
KRLC **Kraliky** 24.89 135 *e*P P 16 46 08.9 +1.5
KRLC *e*x x 16 46 15.5
KRLC AMS AMS 16 57 50.0
comp=Z,500nm,11.9s
ZVC **Zvikov** 24.92 139 *e*P P 16 46 09.0 +1.3
WET **Wettzell** 24.93 141 *e*P P 16 46 09.5 +1.7
comp=Z,44nm,1.6s,baz=345,slow=10
KHC **Kasperske Hory** 25.09 140 P P 16 46 09.0 -0.2
KHC IAmb IAmb 16 46 14.2
comp=Z,23nm,1.1s
KHC **Kasperske Hory** 25.09 140 *e*P P 16 46 11.0 +1.8
KHC *e*x x 16 46 23.0
KHC *e*S S 16 50 40.9 +7.5
KHC AMS AMS 16 59 00.0
comp=Z,700nm,15.0s
TREC **Trest** 25.33 137 AMS AMS 16 58 50.0
comp=Z,800nm,13.3s
MORC **Moravsky Berou** 25.34 134 P P 16 46 09.4 -2.1
MORC IAmb IAmb 16 46 23.7
comp=Z,23nm,1.3s
MORC **Moravsky Berou** 25.34 134 *e*P P 16 46 13.1 +1.6
GEC2 **GERESS Array S** 25.39 140 *e*P P 16 46 13.8 +1.8
comp=Z,36nm,1.2s,baz=345,slow=10
GERES **GERESS Array B** 25.39 140 P P 16 46 09.4 -2.6
GERES **GERESS Array B** 25.39 140 P P 16 46 12.8 +0.8
comp=Z,9.2nm,0.6s,baz=342,slow=8.4,SNR=39
comp=Z,9.2nm,0.6s
OKC **Ostrava-Krasne** 25.42 133 *e*P P 16 46 13.5 +1.3
OKC AMS AMS 16 58 10.0
comp=Z,900nm,13.6s
OJC **Ojcow** 25.46 130 P P 16 46 12.7 +0.1
CKRC **Cesky Krumlov** 25.53 139 *e*P P 16 46 14.9 +1.6
CKRC *e*x x 16 46 20.9
CKRC *e*S S 16 50 48.7 +8.2
CKRC AMS AMS 16 59 00.0
comp=Z,500nm,14.7s
VRAC **Vranov** 25.57 136 *e*P P 16 46 15.0 +1.5
VRAC **Vranov** 25.57 136 LR LR 16 56 06.2
comp=Z,262nm,18.4s,baz=335,slow=36
KRUC **Moravsky** 25.75 136 *e*P P 16 46 16.5 +1.3
MAUC **Maruska** 25.79 134 *e*P P 16 46 18.8 +3.2
UBR **Ueberruh** 25.82 146 *e*P P 16 46 18.8 +2.9
comp=Z,44nm,1.5s,baz=345,slow=10
OBN **Obninsk** 25.86 104 LR LR 16 55 34.9
comp=Z,297nm,20.2s,baz=318,slow=34
RETA **Reutte** 26.12 146 *e*pP P 16 46 21.1 +2.5
comp=Z,18nm,1.2s
DAVA **Damuels** 26.16 147 *e*pP P 16 46 21.9 +2.8
comp=Z,18nm,1.1s
JAVC **Velka Javorina** 26.23 135 *e*P P 16 46 23.6 +4.0
MOTA **Moosalm** 26.32 145 *e*P P 16 46 23.0 +2.5
comp=Z,21nm,1.3s
LANS **Liptovska Anna** 26.38 132 *e*P P 16 46 23.2 +2.3
WATA **Walderalm** 26.41 144 *e*P P 16 46 23.1 +1.7
comp=Z,16nm,1.1s
MOA **Molln** 26.45 140 *i* pP P 16 46 25.3 +3.7
comp=Z,16nm,1.5s
SQTA **Sankt Quirin** 26.46 145 *e*P P 16 46 23.4 +1.7
comp=Z,28nm,1.4s
BIOA **Bad Ischl, Aus** 26.47 141 *e*P P 16 46 23.7 +1.9
comp=Z,17nm,1.0s
WTTA **Wattenberg** 26.50 144 *e*pP P 16 46 25.0 +2.9
comp=Z,20nm,0.9s
LESA **Schwarzleotal** 26.54 143 *e*P P 16 46 25.1 +2.7
comp=Z,30nm,1.1s
STHS **Stebnicka Huta** 26.56 129 *e*P P 16 46 24.2 +1.6
FETA **Feichten** 26.56 146 *e*P P 16 46 25.4 +2.6
comp=Z,25nm,1.9s
DAVOX **Davos/Dischmat** 26.65 147 LR LR 16 57 22.9
comp=Z,275nm,18.2s,baz=336,slow=38
CONA **Conrad Observa** 26.71 138 *e*P P 16 46 25.9 +1.9
comp=Z,19nm,1.5s
TUE **Stuetta** 26.85 148 P P 16 46 25.4 0.0
TUE IAmb IAmb 16 46 38.6
comp=Z,24nm,1.1s
KBA **Koelnbreinsper** 27.00 142 *e*P P 16 46 29.7 +3.0
comp=Z,24nm,1.6s
RONA **Rosalia, Austr** 27.02 137 *e*P P 16 46 28.6 +1.8
comp=Z,21nm,1.0s
KIRV **Kirov** 27.09 87 LR LR 16 56 15.9
comp=Z,207nm,20.8s,baz=321,slow=34
ABTA **Abfaltersbach** 27.16 143 *e*pP pP 16 46 32.5 +2.0
comp=Z,29nm,1.1s
KOLS **Kolonicke sedl** 27.26 128 *e*P P 16 46 32.3 +3.4
SRO **Srobarova** 27.36 134 *e*P P 16 46 31.1 +1.4
AKASG **Malin Array Be** 27.52 118 P P 16 46 31.7 +0.6
comp=Z,2.1nm,0.5s,baz=331,slow=9.4,SNR=11
AKASG LR LR 16 57 11.8
comp=Z,438nm,18.5s,baz=334,slow=36
comp=Z,2.1nm,0.5s
KIEV **Kiev** 27.52 118 P P 16 46 34.3 +3.2
KIEV IAmb IAmb 16 46 40.1
comp=Z,14nm,1.0s
KIEV **Kiev** 27.52 118 P 16 46 35.0 +3.9
SCHQ **Schefferville** 28.82 265 LR LR 16 57 06.0
comp=Z,521nm,19.0s,baz=41,slow=34
BUR08 **Bucovina Ar. S** 29.20 125 P P 16 46 49.1 +2.8
BUR08 IAmb IAmb 16 47 15.5
comp=Z,26nm,1.3s
BURAR **Bucovina Array** 29.24 125 P P 16 46 50.8 +4.2
PGAV **Gavieira, Arco** 29.62 176 *e*P P 16 47 02.7 +13
comp=Z,26nm,1.9s
PGAV *e*LR LR 16 54 50.9
comp=Z,504nm,18.0s
POLO **Lamas de Olo** 30.22 175 *e*P P 16 47 03.5 +8.2
comp=Z,13nm,2.0s
PVRL **Vila Real** 30.32 175 *e*P P 16 47 02.4 +6.3
comp=Z,36nm,1.5s
MVO **Moncorvo** 30.45 174 *e*P P 16 47 06.9 +10
comp=Z,37nm,1.6s
MVO *e*LR LR 16 54 29.6
comp=Z,423nm,18.0s
A36M **Sachs Harbour** 30.75 326 P P 16 47 01.1 +1.5
A36M IAmb IAmb 16 47 45.0
comp=Z,9.2nm,1.0s
PVIS **Viseu** 30.88 176 *e*P P 16 47 10.8 +10
DIVS **Divibare** 31.25 135 P P 16 47 02.3 -2.1
PCAS **Casmilo, Conde** 31.52 177 *e*P P 16 47 16.7 +10
comp=Z,31nm,1.7s
BELG **Belogornoye** 31.64 96 LR LR 16 58 49.8
comp=Z,213nm,18.1s,baz=281,slow=34
ARU **Arti** 31.74 81 P P 16 47 08.4 0.0
ARU IAmb IAmb 16 47 47.6
comp=Z,15nm,1.2s
PCBR **Castelo Branco** 31.76 175 *e*P P 16 47 17.1 +8.3
comp=Z,24nm,1.7s
ESDC **Sonseca Array** 32.07 170 P P 16 47 12.6 +1.0
comp=Z,0.6nm,0.7s,baz=7.8,slow=10,SNR=2.5
ESDC LR LR 17 01 14.4
comp=Z,227nm,18.0s,baz=338,slow=38
comp=Z,0.6nm,0.7s
PMRV **Marv??o** 32.17 175 *e*P P 16 47 20.7 +8.3
comp=Z,41nm,1.2s
PMRV *e*LR LR 16 56 23.4
comp=Z,488nm,18.0s
PMTG **Montargil** 32.51 176 *e*P P 16 47 24.8 +9.4
comp=Z,27nm,1.2s

PDG Podgorica 32.68 137 P P 16 47 13.6 -3.1
PESTR Estremoz 32.73 175 *e*P P 16 47 26.7 +9.4
comp=Z,32nm,1.3s
PBAR Barrancos 33.43 175 *e*P P 16 47 33.0 +10
comp=Z,15nm,2.1s
PNCL Nicolau / Gran 33.46 177 *e*P P 16 47 32.5 +8.8
comp=Z,28nm,1.8s
PBEJ Beja 33.56 176 *e*P P 16 47 34.4 +10
comp=Z,16nm,2.0s
PEHC Pehcevo 34.13 132 *i* P P 16 47 35.9 +6.4
VAY Valandovo 34.48 133 *i* P P 16 47 44.2 +12
FNA Florina 34.72 135 P **P 16 47 33.1 -1.6**
INK Inuvik 35.37 327 P **P 16 47 38.3 -1.6**
INK IAmb IAmb 16 48 02.6
comp=Z,8.0nm,1.2s
INK Inuvik 35.37 327 LR LR 17 02 40.4
comp=Z,544nm,22.0s,baz=0.5,slow=37
E29M Blow River 36.02 330 P P 16 47 43.2 -2.3
E29M IAmb IAmb 16 47 48.8
comp=Z,9.7nm,1.2s
VAE Valguarnera 36.48 145 LR LR 17 04 02.2
comp=Z,260nm,18.8s,baz=8.0,slow=38
YKA Yellowknife Ar 36.50 311 P **P 16 47 48.9 -0.7**
YKA Yellowknife Ar 36.50 311 P **P 16 47 49.4 -0.2**
comp=Z,3.9nm,0.8s,baz=29,slow=8.7,SNR=33
YKA LR LR 17 02 36.1
comp=Z,629nm,18.0s,baz=46,slow=36
comp=Z,3.9nm,0.8s
AKTO Aktyubinsk 36.65 87 P **P 16 47 51.7 +0.7**
comp=Z,1.1nm,0.6s,baz=313,slow=8.7,SNR=5.1
AKTO LR LR 17 01 57.2
comp=Z,214nm,19.0s,baz=24,slow=35
comp=Z,1.1nm,0.6s
G31M Satah River 36.74 327 P **P 16 47 51.6 0.0**
G31M IAmb IAmb 16 47 53.3
comp=Z,14nm,0.9s
F28M Old Crow 37.05 330 P **P 16 47 55.7 +1.4**
KEST Kesra 37.35 152 LR LR 17 02 42.7
comp=Z,241nm,21.2s,baz=324,slow=35
G29M Pine Creek 37.39 329 P **P 16 47 56.1 -1.0**
G29M IAmb IAmb 16 47 59.0
comp=Z,11nm,0.9s
EPYK Eagle Plains 37.66 328 P **P 16 47 58.7 -0.8**
EPYK IAmb IAmb 16 48 15.0
comp=Z,9.4nm,1.1s
KBZ Khabaz 37.83 108 P **P 16 48 02.9 +1.8**
comp=Z,2.9nm,1.0s,baz=313,slow=12,SNR=2.1
comp=Z,2.9nm,1.0s
BMAR Burnt Mountain 37.93 333 P **P 16 48 03.9 +2.1**
BRVK Borovoye 38.24 74 P **P 16 48 05.2 +0.7**
BRVK IAmb IAmb 16 48 16.1
comp=Z,15nm,1.1s
ABKAR Akbulak array 38.29 87 P **P 16 48 03.9 -1.1**
BVAR Borovoye Array 38.30 74 P **P 16 48 06.0 +1.0**
comp=Z,1.1nm,0.5s
BVAR LR LR 17 04 00.8
comp=Z,160nm,21.9s,baz=323,slow=36
comp=Z,1.1nm,0.5s
I30M Mount Dempster 38.65 327 P **P 16 48 07.5 -0.5**
BR131 Keskin Array S 38.82 121 P **P 16 48 09.6 -0.1**
BRTR Keskin Array B 38.82 121 P **P 16 48 10.7 +1.0**
comp=Z,1.4nm,0.9s,baz=331,slow=4.6,SNR=9.1
comp=Z,1.4nm,0.9s
FYU Fort Yukon 38.83 333 P **P 16 48 08.6 -0.6**
FYU IAmb IAmb 16 48 23.1
comp=Z,37nm,1.5s
I29M Ogilvie Camp, 38.85 328 P **P 16 48 09.2 -0.4**
MDT Midelt 38.87 172 LR LR 17 03 04.2
comp=Z,239nm,21.4s,baz=2.5,slow=34
F20K Avaraart Lake 39.73 339 P **P 16 48 17.4 +0.6**
FFC Flin Flon 39.82 295 P **P 16 48 18.4 +0.7**
EGAK Eagle 39.87 329 P **P 16 48 18.1 +0.2**
K29M Barlow Dome 40.12 327 P **P 16 48 22.0 +1.8**
IMAR Indian Mountai 40.52 338 P **P 16 48 22.9 -0.4**
J25K Salcha River, 40.68 332 P **P 16 48 26.2 +1.4**
K27K Chicken 40.71 330 P **P 16 48 26.3 +1.3**
ILAR Eielson Array 40.76 333 P **P 16 48 25.8 +0.5**
ILAR Eielson Array 40.76 333 P **P 16 48 26.3 +1.0**
comp=Z,1.4nm,0.8s,baz=16,slow=6.8,SNR=16
ILAR LR LR 17 08 34.8
comp=Z,163nm,18.6s,baz=34,slow=41
comp=Z,1.4nm,0.8s
IDI Anoyia 40.78 133 LR LR 17 07 00.5
comp=Z,218nm,19.1s,baz=261,slow=39
HDA Harding Lake 41.11 333 P **P 16 48 28.1 -0.1**
HDA IAmb IAmb 16 48 30.8
comp=Z,9.2nm,1.0s
SADO Sadowa 41.49 268 LR LR 17 04 51.2
comp=Z,361nm,18.8s,baz=36,slow=35
BCAR Beaver Creek A 41.57 329 P **P 16 48 32.9 +0.8**
GNI Garni 41.66 108 P **P 16 48 34.9 +1.7**
comp=Z,1.6nm,0.3s,baz=307,slow=15,SNR=4.0
GNI LR LR 17 06 09.6
comp=Z,257nm,19.2s,baz=339,slow=37
comp=Z,1.6nm,0.3s
ZALV Zalesovo Beam 41.77 62 P **P 16 48 32.8 -0.9**
ZALV Zalesovo Beam 41.77 62 P **P 16 48 34.7 +0.9**
comp=Z,0.6nm,0.3s,baz=326,slow=7.5,SNR=5.3
ZALV LR LR 17 07 23.4
comp=Z,208nm,21.6s,baz=339,slow=38
comp=Z,0.6nm,0.3s
WTLY Watson Lake, Y 41.83 318 P P 16 48 31.7 -2.5
ULM Lac du Bonnet 41.91 287 P **P 16 48 34.9 0.0**
comp=Z,2.0nm,0.8s,baz=14,slow=8.6,SNR=4.9
ULM LR LR 17 05 01.1
comp=Z,168nm,20.0s,baz=26,slow=35
comp=Z,2.0nm,0.8s
KURBB Kurchatov Arra 42.88 69 P **P 16 48 43.2 +0.4**
comp=Z,3.1nm,0.9s,baz=329,slow=7.7,SNR=11
KURBB PP **PP 16 50 23.4 +1.5**
comp=Z,5.3nm,1.0s,baz=330,slow=9.8,SNR=12
KURBB LR LR 17 10 23.1
comp=Z,143nm,18.8s,baz=158,slow=41
comp=Z,3.1nm,0.9s
DLBC Dease Lake 43.63 318 LR LR 17 08 54.4
comp=Z,361nm,20.0s,baz=22,slow=39
SEY Seymchan 45.36 11 LR LR 17 07 00.1
comp=Z,180nm,18.2s,baz=328,slow=35
MMAI Mount Meron Ar 45.60 122 P **P 16 49 05.3 +0.4**
comp=Z,0.3nm,0.3s,baz=335,slow=6.4,SNR=1.9
comp=Z,0.3nm,0.3s
ASF Jabal al Asfar 46.80 121 P **P 16 49 14.3 0.0**
comp=Z,1.3nm,0.5s,baz=354,slow=5.6,SNR=1.7
ASF LR LR 17 09 02.9
comp=Z,182nm,21.8s,baz=314,slow=36
comp=Z,1.3nm,0.5s
MK31 Makanchi Array 47.42 69 P **P 16 49 18.9 -0.1**
MK31 IAmb IAmb 16 49 28.6
comp=Z,9.3nm,1.1s
MKAR Makanchi Array 47.42 69 P **P 16 49 18.9 -0.1**
MKAR Makanchi Array 47.42 69 P **P 16 49 19.3 +0.3**
comp=Z,1.0nm,0.5s,baz=324,slow=5.9,SNR=14
MKAR LR LR 17 12 55.6
comp=Z,112nm,19.8s,baz=349,slow=41
comp=Z,1.0nm,0.5s
GEYT Alibeck 47.86 96 P **P 16 49 23.2 +0.7**
GEYT IAmb IAmb 16 49 36.8
comp=Z,13nm,1.4s
GEYT Alibeck 47.86 96 P **P 16 49 23.1 +0.6**
comp=Z,1.2nm,0.6s,baz=333,slow=1.6,SNR=1.9
GEYT LR LR 17 08 36.5
comp=Z,276nm,18.9s,baz=353,slow=35
comp=Z,1.2nm,0.6s
EGMT Eagleton 48.01 297 P **P 16 49 23.8 +0.2**
MA2 Magadan 48.59 12 LR LR 17 08 57.0
comp=Z,108nm,19.0s,baz=350,slow=35
AAK Ala-Archa 48.79 78 P **P 16 49 30.8 +1.0**
comp=Z,1.5nm,0.9s,baz=273,slow=7.1,SNR=1.8
AAK LR LR 17 10 09.2
comp=Z,91nm,18.5s,baz=327,slow=36
comp=Z,1.5nm,0.9s
BBB Bella Bella 48.97 314 LR LR 17 10 36.1
comp=Z,241nm,19.2s,baz=24,slow=37
TAM Tamanrasset 49.61 160 P **P 16 49 38.0 +1.8**
TAM IAmb IAmb 16 49 39.4
comp=Z,6.4nm,1.1s
NEW Newport 49.83 303 LR LR 17 09 41.3
comp=Z,342nm,19.3s,baz=22,slow=35
Q44A Meyer Farm, Va 49.94 274 P P 16 49 36.0 -2.4
CHMT Chamberlain Mo 50.01 299 P **P 16 49 38.4 -0.7**
CHGR Chuyangaron 50.72 85 P **P 16 49 46.4 +1.9**
TKL Tuckaleechee C 51.23 267 LR LR 17 10 44.8
comp=Z,382nm,18.3s,baz=22,slow=35
CGM3 Cape Girardeau 51.61 273 P **P 16 49 51.6 +0.6**
CGM3 IAmb IAmb 16 50 01.5
comp=Z,11nm,1.2s
WMQ Urumqi 51.71 66 *e*P **P 16 49 53.2 +1.4**

WMQ LR LR
comp=Z,250nm,15.9s
WMQ LR LR
comp=Z,460nm,20.7s
WMQ LR LR
comp=Z,230nm,21.3s
KSH Kashi 52.09 78 P **P 16 49 59.5 +4.8**
KSH pP sP 16 50 05.3 +6.8
KSH sP pP 16 50 06.5 +9.1
KSH pmax pmax
comp=Z,4.0nm,1.4s
KSH LR LR
comp=Z,250nm,17.7s
KSH LR LR
comp=Z,340nm,18.7s
KSH LR LR
comp=Z,260nm,14.9s
T42A Van Buren 52.31 275 P **P 16 49 55.2 -1.0**
T42A IAmb IAmb 16 50 06.3
comp=Z,12nm,1.4s
MGMO Mountain Grove 52.57 276 P **P 16 49 57.6 -0.6**
MGMO IAmb IAmb 16 50 08.6
comp=Z,9.6nm,0.8s
PDAR Pinedale Array 52.75 294 P **P 16 49 59.4 -0.3**
comp=Z,0.3nm,0.5s,baz=60,slow=6.4,SNR=5.1
comp=Z,0.3nm,0.5s
SONM Songino Array 53.00 49 P **P 16 50 02.3 +1.0**
comp=Z,0.9nm,1.1s,baz=350,slow=7.9,SNR=2.1
SONM LR LR 17 16 35.4
comp=Z,151nm,18.9s,baz=334,slow=40
comp=Z,0.9nm,1.1s
HLID Hailey 53.41 298 P **P 16 50 03.4 -1.1**
ELK Elko 56.25 298 LR LR 17 14 53.2
comp=Z,146nm,19.7s,baz=22,slow=36
YBH Yreka Blue Hor 57.37 304 LR LR 17 14 22.9
comp=Z,372nm,18.6s,baz=21,slow=35
TORD Torodi Ar. Bea 58.80 166 P **P 16 50 42.4 -0.6**
comp=Z,4.4nm,0.9s,baz=2.6,slow=8.1,SNR=24
comp=Z,4.4nm,0.9s
ANMO Albuquerque 59.04 288 LR LR 17 16 46.1
comp=Z,303nm,19.1s,baz=122,slow=37
GTA Gaotai 59.20 58 *e*P **P 16 50 46.5 +0.7**
GTA sP sP 16 50 54.4 +4.8
GTA pmax pmax
comp=Z,3.0nm,1.8s
GTA LR LR
comp=Z,200nm,13.1s
GTA LR LR
comp=Z,190nm,16.3s
GTA LR LR
comp=Z,240nm,15.5s
NVAR Mina Array Bea 59.26 299 LR LR 17 16 06.9
comp=Z,287nm,19.9s,baz=14,slow=36
BNX BinXian 59.37 33 ⇑P **P 16 50 47.5 +0.9**
BNX pmax pmax
comp=Z,3.0nm,1.1s
BNX pmax pmax
comp=Z,110nm,4.4s
HHC Hu-ho-hao-te 60.81 47 *e*P **P 16 50 57.5 +0.7**
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,270nm,5.3s
HHC LR LR
comp=Z,530nm,16.9s
HHC LR LR
comp=Z,370nm,16.9s
HHC LR LR
comp=Z,430nm,20.0s
GOMU GeErMu 60.82 63 P **P 16 50 59.4 +2.2**
GOMU pP sP 16 51 03.4 +2.3
GOMU sP pP 16 51 06.5 +6.5
GOMU pmax pmax
comp=Z,6.0nm,0.9s
MDJ Mudanjiang 60.83 31 P **P 16 50 57.2 +0.5**
MDJ PP **PP 16 53 10.0 -0.1**
MDJ PcS **PcS 16 55 46.6 +3.8**
MDJ S **S 16 59 12.1 -1.5**
MDJ SS **SS 17 03 11.0 -0.6**
MDJ pmax pmax
comp=Z,11nm,1.6s
MDJ pmax pmax
comp=Z,110nm,4.6s
WSAR Wadi Sarin 61.64 102 LR LR 17 18 38.1
comp=Z,90nm,20.3s,baz=34,slow=37
PFO Pinyon Flats O 63.25 296 LR LR 17 17 48.6
comp=Z,151nm,21.1s,baz=12,slow=35
TXAR Lajitas Array 63.39 283 P **P 16 51 12.9 -1.3**
comp=Z,0.4nm,0.7s,baz=61,slow=5.9,SNR=5.3
TXAR LR LR 17 17 44.0
comp=Z,305nm,19.5s,baz=8.0,slow=35
comp=Z,0.4nm,0.7s
LZH Lanzhou 63.40 55 *e*P P 16 51 11.2 -3.1
LZH pmax pmax
comp=Z,14nm,1.1s
XAN Xi'an 66.65 52 ⇑P **P 16 51 33.4 -1.9**
XAN pmax pmax
comp=Z,8.0nm,0.9s
XAN LR LR
comp=E,470nm,17.2s
MJAR Matsushiro Arr 70.05 26 P **P 16 51 59.2 +2.6**
comp=E,1.1nm,1.0s,baz=7.8,slow=4.3,SNR=2.4
comp=E,1.1nm,1.0s
LPIG La Paz 70.33 287 LR LR 17 21 36.1
comp=E,202nm,18.3s,baz=8.5,slow=35
NJ2 Nanjing 70.90 44 *e*P P 16 51 59.4 -2.3
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
MDP Montagnes des 71.29 225 LR LR 17 14 36.0
comp=Z,49nm,19.3s,baz=1.0,slow=29
PZH PanZhiHua 71.89 61 P **P 16 52 07.3 -0.6**
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,130nm,4.6s
SDV Santo Domingo 72.30 244 LR LR 17 19 37.0
comp=Z,35nm,21.5s,baz=38,slow=32
ROSC El Rosal 77.21 246 LR LR 17 24 60.0
comp=Z,44nm,19.7s,baz=145,slow=34
CMAR Chiang Mai Arr 78.71 66 P **P 16 52 47.5 +0.3**
comp=Z,0.6nm,0.4s,baz=323,slow=5.9,SNR=4.5
CMAR LR LR 17 32 42.3
comp=Z,46nm,20.4s,baz=325,slow=40
comp=Z,0.6nm,0.4s
PPT2 Papeete2 120.92 313 *e*LR LR 17 36 37.7
comp=Z,139nm,30.0s
PPT2 *e*LR LR 17 36 49.5
comp=Z,131nm,25.8s
WRA Warramunga Arr 124.61 41 PKP **PKPdf 16 59 43.0 -1.0**
comp=Z,1.6nm,1.1s,baz=337,slow=2.0,SNR=4.1
TBI Tubuai 126.44 311 *e*LR LR 17 39 10.2
comp=Z,636nm,32.0s
ASAR Alice Springs 128.12 42 PKP **PKPdf 16 59 51.8 +1.2**
comp=Z,0.8nm,1.0s,baz=360,slow=1.7,SNR=3.9

OMAN ***02*** *16:41:00.1±1.1,32°.16N×57°.87E,h10km,mb4.6/19, ms2.5/4, Error ellipse: s-maj=14.1km s-min=7.2km az=82.0*
IDC ***02*** *16:41:16.5±0.9,30°.55N×57°.37E,h0km,mb3.8/12, mbtmp3.9/16,ML3.7/4, Error ellipse: s-maj=21.0km s-min=17.2km az=27.0*
DSN ***02*** *16:41:17.3±1.9,30°.76N×58°.12E,h10km,ML3.6/8, Error ellipse: s-maj=106.4km s-min=16.7km az=105.0*
TEH ***02*** *16:41:17.6,30°.68N×57°.37E,h8km±43km,ML4.1*
ISC 02 16:41:19.4±0.5,30.71N±0.03×57.35E±0.04,h15km,n105,
σ2s26/131,mb4.0/13,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.74**	**291**	Pg	**Pg**	**16 41 32.6**	**-1.4**
KHGB	**Koh Gabri**	**0.82**	**246**	Pg	**Pg**	**16 41 33.5**	**-1.8**
KHGB				Sg	**Sg**	**16 41 45.0**	**-1.2**
CHMN	**Cheshme madani**	**0.86**	**169**	Pg	**Pg**	**16 41 33.6**	**-2.5**
TVBK	**TV Kerman**	**0.88**	**215**	Pg	**Pg**	**16 41 34.9**	**-1.6**
NGRK	**Negar Kerman**	**1.19**	**207**	Pg	**Pn**	**16 41 40.2**	**-1.5**
NGRK				Sg	**Sb**	**16 41 55.0**	**-2.1**
IBAF	**Bafgh**	**1.76**	**300**	Pg	**Pb**	**16 41 51.0**	**-0.5**
KBAM	**BAM**	**1.84**	**148**	Pn	**Pn**	**16 41 50.2**	**-0.2**
BSRN	**Basiran**	**1.97**	**50**	Pn	**Pn**	**16 41 52.4**	**0.0**
IKOO	**Kooshah**	**2.22**	**39**	Pn	**Pn**	**16 41 56.0**	**+0.1**
TPRV	**Parvadeh(Tabas**	**2.38**	**346**	Pn	**Pn**	**16 41 59.2**	**+1.2**
NHDN	**Nehbandan**	**2.42**	**73**	Pn	**Pn**	**16 41 58.9**	**+0.4**
IMEH	**Mehriz**	**2.44**	**287**	Pn	**Pn**	**16 42 00.6**	**+1.7**
ITEG	**Tejag**	**2.49**	**28**	Pn	**Pn**	**16 42 00.1**	**+0.6**
KHNJ	**Kahnooj**	**2.77**	**173**	Pn	**Pn**	**16 42 03.8**	**+0.6**
TKDS	**Koohdasht(Taba**	**2.90**	**356**	Pn	**Pn**	**16 42 06.4**	**+1.2**
ICHK	**Chekchek**	**2.94**	**302**	Pn	**Pn**	**16 42 07.0**	**+1.2**
IDAH	**Dahanechah**	**2.95**	**46**	Pn	**Pn**	**16 42 06.5**	**+0.6**
AFRZ	**Afriz**	**3.06**	**27**	Pn	**Pn**	**16 42 07.8**	**+0.5**
ZHDN	**Zahedan**	**3.27**	**113**	Pn	**Pn**	**16 42 10.5**	**+0.3**
TNSJ	**Nastanj**	**3.31**	**349**	Pn	**Pn**	**16 42 11.9**	**+1.3**
ISAD	**Sadrabad**	**3.36**	**292**	Pn	**Pn**	**16 42 13.8**	**+2.3**
GENO	**Geno**	**3.45**	**198**	Pn	**Pn**	**16 42 14.4**	**+1.6**
SHRT	**Shahrakht**	**3.85**	**40**	Pn	**Pn**	**16 42 19.5**	**+1.4**
ANAR	**Anarak**	**3.95**	**310**	Pn	**Pn**	**16 42 21.0**	**+1.5**
IRAM	**Rameshesh**	**4.39**	**286**	Pn	**Pn**	**16 42 27.9**	**+2.2**
SHME	**Shamm**	**4.76**	**193**	P	**Pn**	**16 42 31.5**	**+0.9**
SHME	**Shamm**	**4.76**	**193**	P	**Pn**	**16 42 32.9**	**+2.3**
SHME				S	**Sg**	**16 43 46.4**	**-5.8**
JASK	**Jask - Hormozg**	**4.84**	**174**	P	**Pn**	**16 42 34.0**	**+2.3**
	SNR=12						
JASK				S	**Sb**	**16 43 47.1**	**+5.1**
JASK	**Jask - Hormozg**	**4.84**	**174**	Pn	**Pn**	**16 42 33.0**	**+1.2**
TBJM	**Torbat-e-JAM**	**5.19**	**28**	Pn	**Pn**	**16 42 37.7**	**+1.0**
UMQ	**Umm Al-Quwin**	**5.37**	**196**	P	**Pn**	**16 42 38.4**	**-0.6**
UMQ				S	**Sb**	**16 44 02.1**	**+4.9**
MASF	**Masafi**	**5.42**	**191**	P	**Pn**	**16 42 42.3**	**+2.6**
	SNR=12						
MASF				S	**Sb**	**16 43 58.6**	**0.0**
MSFE	**Esma-Masafi**	**5.43**	**191**	*i* P	**Pn**	**16 42 41.6**	**+1.8**
	SNR=12						
KRSH	**Karshahi**	**5.48**	**308**	Pn	**Pn**	**16 42 42.3**	**+1.6**
SRVN	**Saravan**	**5.51**	**125**	Pn	**Pn**	**16 42 41.3**	**+0.3**
SBZV	**Sabzevar**	**5.67**	**2**	Pn	**Pn**	**16 42 45.2**	**+2.0**
CHBR	**Chabahar**	**5.80**	**151**	Pn	**Pn**	**16 42 44.6**	**-0.2**
UOSS	**Minazif**	**5.83**	**190**	*i* P	**Pn**	**16 42 46.0**	**+0.7**
	SNR=8.7						
UOSS	**Minazif**	**5.83**	**190**	P	**Pn**	**16 42 47.7**	**+2.4**
UOSS				P	**Pn**	**16 42 47.7**	**+2.4**
UOSS				S	**Sb**	**16 44 13.8**	**+3.4**
UOSS				S	**Sb**	**16 44 13.8**	**+3.4**
NAZ	**Nazwa, Dubai**	**5.89**	**195**	*i* P	**Pn**	**16 42 49.2**	**+3.1**
	SNR=9.4						
NAZ	**Nazwa, Dubai**	**5.89**	**195**	P	**Pn**	**16 42 49.3**	**+3.1**
	SNR=9.4						
NAZ				S	**Sb**	**16 44 14.9**	**+2.8**
JHBN	**Jahan bin**	**5.91**	**287**	Pn	**Pn**	**16 42 49.1**	**+2.5**
HATD	**Hatta, Dubai**	**5.96**	**191**	P	**Pn**	**16 42 48.7**	**+1.6**
HATD	**Hatta, Dubai**	**5.96**	**191**	P	**Pn**	**16 42 49.3**	**+2.2**
IAKL	**Akhelmad**	**6.00**	**11**	Pn	**Pn**	**16 42 49.0**	**+1.2**
ASHO	**Ashiyiah**	**6.11**	**191**	*i* P	**Pn**	**16 42 51.0**	**+1.9**
	SNR=16						
ASHO				S	**Sn**	**16 44 04.7**	**+5.8**
ASHO	**Ashiyiah**	**6.11**	**191**	P	**Pn**	**16 42 52.0**	**+2.8**
	SNR=16						
ASHO				S	**Sb**	**16 44 18.8**	**+0.3**
FAQ	**Al Faqa, Dubai**	**6.14**	**195**	*i* P	**Pn**	**16 42 51.6**	**+2.0**
	SNR=6.7						
FAQ	**Al Faqa, Dubai**	**6.14**	**195**	P	**Pn**	**16 42 52.6**	**+3.0**
	SNR=6.9						
FAQ				S	**Sb**	**16 44 20.4**	**+1.1**
IFIR	**Firoozkooh**	**6.25**	**323**	Pn	**Pn**	**16 42 52.7**	**+1.5**
NGCH	**Negor - Chabah**	**6.29**	**147**	P	**Pn**	**16 42 51.5**	**-0.2**
NGCH				S	**Sn**	**16 44 09.8**	**+6.5**
IKRD	**Kardeh**	**6.32**	**16**	Pn	**Pn**	**16 42 53.7**	**+1.5**
ASUD	**Al Ashush, Dub**	**6.32**	**197**	*i* P	Pn	16 42 57.0	+5.0
	SNR=7.6						
ASUD	**Al Ashush, Dub**	**6.32**	**197**	P	**Pn**	**16 42 55.4**	**+3.4**
	SNR=7.6						
ASUD				S	**Sb**	**16 44 24.2**	**-0.2**
ISFR	**Sfrayin**	**6.35**	**5**	Pn	**Pn**	**16 42 54.5**	**+1.8**
IVRN	**Varamin**	**6.37**	**314**	Pn	**Pn**	**16 42 54.9**	**+2.1**
SOHO	**SOHO**	**6.59**	**186**	*i* P	**Pn**	**16 42 58.0**	**+2.3**
	SNR=8.4						
SOHO	**SOHO**	**6.59**	**186**	P	**Pn**	**16 42 57.3**	**+1.6**
SOHO				P	**Pn**	**16 42 57.3**	**+1.6**
SOHO				S	**Sb**	**16 44 27.6**	**-4.6**
SOHO				S	**Sb**	**16 44 27.6**	**-4.6**
IDMV	**Damavand**	**6.59**	**319**	Pn	**Pn**	**16 42 57.5**	**+1.5**
ALNE	**Al Ain**	**6.78**	**192**	P	**Pn**	**16 43 00.8**	**+2.5**
	SNR=5.8						
ALNE				S	**Sb**	**16 44 35.3**	**-2.4**
IEMG	**Emamgholi**	**6.78**	**9**	Pn	**Pn**	**16 42 59.2**	**+0.6**
IPRN	**Peran**	**6.92**	**324**	Pn	**Pn**	**16 43 02.2**	**+1.7**
HOQ	**Hoqain**	**7.10**	**180**	P	**Pn**	**16 43 04.5**	**+1.7**
HOQ				S	**Sb**	**16 44 42.1**	**-4.8**
HOQ	**Hoqain**	**7.10**	**180**	Pn	**Pn**	**16 43 02.2**	**-0.5**
GEYT	**Alibeck**	**7.23**	**5**	Pn	**Pn**	**16 43 07.8**	**+3.3**
	0.5nm,0.3s,baz=202,slow=17,SNR=3.3						
GEYT				Sn	**Sb**	**16 44 43.7**	**-7.0**
	0.1nm,0.3s,baz=210,slow=26,SNR=5.1						
	2.1nm,0.5s						
ARQ	**Araqi**	**7.38**	**186**	P	**Pn**	**16 43 09.4**	**+2.8**
	SNR=12						
ARQ				P	**Pn**	**16 43 09.4**	**+2.8**
	SNR=12						
ARQ				S	**Sb**	**16 44 52.7**	**-2.3**
ARQ				S	**Sb**	**16 44 52.7**	**-2.3**
WSAR	**Wadi Sarin**	**7.53**	**171**	P	**Pn**	**16 43 10.6**	**+2.0**
	SNR=14						
WSAR				S	Sb	16 44 49.6	-10
WSAR	**Wadi Sarin**	**7.53**	**171**	Pn	**Pn**	**16 43 07.3**	**-1.3**
	3.6nm,0.3s,baz=7.8,slow=10,SNR=33						
	3.6nm,0.6s						
SMDO	**Samad**	**7.64**	**175**	P	**Pn**	**16 43 13.8**	**+3.5**
TRNA	**Turayna**	**8.06**	**224**	P	**Pn**	**16 43 14.1**	**-1.8**
	SNR=8.3						
TRNA				S	Sb	16 45 03.5	-11
WBK	**Wadi Bani Khal**	**8.20**	**169**	Pn	**Pn**	**16 43 18.0**	**+0.2**
SMRA	**Abu-Samra**	**8.29**	**226**	P	**Pn**	**16 43 20.1**	**+1.1**
SMRA				S	Sb	16 45 09.7	-11
JMDO	**Jabal Madar**	**8.33**	**175**	P	**Pn**	**16 43 23.1**	**+3.4**
JMDO				S	Sb	16 45 10.5	-12
IKFM	**Kafar-mosalman**	**8.53**	**292**	Pn	**Pn**	**16 43 25.0**	**+2.7**
JLN	**Jalan Bani Buh**	**8.72**	**167**	P	**Pn**	**16 43 25.2**	**+0.2**
JLN				S	Sn	16 45 16.2	+13
MHTO	**MHTO**	**9.70**	**177**	P	**Pn**	**16 43 41.0**	**+2.6**
DMTO	**DMTO**	**13.12**	**190**	P	**Pn**	**16 44 24.5**	**-0.7**
DMTO				S	**Sg**	**16 47 15.6**	**-0.3**
WHFO	**Wadi Hawf**	**13.14**	**195**	P	**Pn**	**16 44 24.1**	**-1.5**
	SNR=14						
RBK	**Rabkut**	**13.45**	**193**	P	**Pn**	**16 44 32.1**	**+2.3**
RBK				S	**S**	**16 47 19.8**	**-3.0**
ABTO	**Aybut**	**13.80**	**196**	P	**Pn**	**16 44 32.2**	**-2.4**
	SNR=7.8						
ABTO				S	**S**	**16 47 27.2**	**-2.7**
ASF	**Jabal al Asfar**	**17.51**	**280**	P	**P**	**16 45 24.0**	**-0.2**
	0.1nm,0.3s,baz=94,slow=16,SNR=1.9						
	1.0nm,0.4s						
AKTO	**Aktyubinsk**	**19.71**	**1**	P	**P**	**16 45 49.0**	**+0.8**
	0.3nm,0.3s,baz=174,slow=9.3,SNR=12						
	4.2nm,0.7s						
BRTR	**Keskin Array B**	**21.31**	**301**	P	**P**	**16 46 07.2**	**+1.5**
	3.4nm,0.9s,baz=119,slow=13,SNR=16						
	3.4nm,0.9s						
PYUN	**Piuthan**	**22.48**	**90**	*e*P	**P**	**16 46 20.8**	**+2.4**
	31nm,1.2s						
DANN	**Dangsing**	**23.09**	**89**	*e*P	**P**	**16 46 26.2**	**+1.3**
	56nm,1.1s						
GKN	**Gorkha**	**23.92**	**90**	*e*P	**P**	**16 46 33.4**	**+0.4**
	19nm,1.0s						
BVAR	**Borovoye Array**	**24.25**	**19**	P	**P**	**16 46 36.0**	**+0.4**
	3.2nm,0.8s						
	3.2nm,0.8s						
PKIN	**Phulchoki**	**24.67**	**90**	*e*P	**P**	**16 46 40.5**	**+0.5**
	17nm,0.9s						
PKI	**Pulchoki**	**24.68**	**90**	*e*P	**P**	**16 46 40.4**	**+0.2**
	18nm,0.9s						
GUN	**Gumba**	**25.01**	**89**	*e*P	**P**	**16 46 43.5**	**+0.3**
	34nm,1.0s						
MKAR	**Makanchi Array**	**25.07**	**43**	P	**P**	**16 46 43.4**	**+0.2**
	1.3nm,0.8s,baz=220,slow=7.4,SNR=6.1						
	1.3nm,0.8s						
JIRN	**Jiri**	**25.33**	**90**	*e*P	**P**	**16 46 46.7**	**+0.6**
	14nm,0.7s						
KURBB	**Kurchatov Arra**	**25.41**	**32**	P	**P**	**16 46 47.1**	**+1.0**
	1.0nm,0.4s,baz=232,slow=9.1,SNR=15						
	1.0nm,0.4s						
RAMN	**Ramite**	**25.86**	**91**	*e*P	**P**	**16 46 51.5**	**+0.7**
	24nm,0.9s						
TAPN	**Taplejung**	**26.72**	**90**	*e*P	**P**	**16 46 58.7**	**+0.1**
	27nm,1.4s						
ZALV	**Zalesovo Beam**	**30.51**	**32**	P	**P**	**16 47 32.2**	**+0.5**
	2.4nm,0.6s,baz=240,slow=9.7,SNR=10						
	2.4nm,0.6s						
OHR	**Ohrid**	**31.17**	**300**	*i* P	**P**	**16 47 38.5**	**+0.7**
GTA	**Gaotai**	**35.56**	**64**	*e*P	**P**	**16 48 17.7**	**+1.5**
GTA				pP	sP	16 48 24.4	+0.9
GTA				sP	pP	16 48 30.7	+9.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GERES	GERESS Array B	37.52	312	P	P	16 48 33.2	+0.6
	comp=Z,2.4nm,0.8s,baz=112,slow=10,SNR=5.4						
	comp=Z,2.4nm,0.8s						
CMAR	Chiang Mai Arr	39.53	98	P	P	16 48 49.8	-0.1
	comp=Z,0.3nm,0.5s,baz=294,slow=7.7,SNR=4.5						
	comp=Z,0.3nm,0.5s						
SONM	Songino Array	40.90	51	P	P	16 49 01.5	+0.4
	comp=Z,0.7nm,0.9s,baz=278,slow=10,SNR=4.2						
	comp=Z,0.7nm,0.9s						
EKA	Eskdalemuir Ar	48.75	319	P	P	16 50 03.0	-0.3
	comp=Z,1.3nm,0.8s,baz=95,slow=7.9,SNR=2.4						
	comp=Z,1.3nm,0.8s						
ESDC	Sonseca Array	50.04	298	P	P	16 50 12.4	-1.0
	comp=Z,0.7nm,0.8s,baz=74,slow=8.2,SNR=2.2						
	comp=Z,0.7nm,0.8s						
WRA	Warramunga Arr	89.42	114	P	P	16 54 14.3	-1.6
	comp=Z,0.7nm,0.7s,baz=314,slow=4.1,SNR=8.5						
	comp=Z,0.7nm,0.7s						
ASAR	Alice Springs	91.10	117	P	P	16 54 22.4	-1.4
	comp=Z,0.8nm,0.9s,baz=309,slow=4.9,SNR=9.5						
	comp=Z,0.8nm,0.9s						

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*AFAD **02** 16:54:30.7±0.0, 38.°86N×26.°41E, h7km±3km, ML2.6*
*ISK **02** 16:54:30.5, 38.°88N×26.°35E, h9km, ML2.7/18*
*ATH **02** 16:54:30.9, 38.°89N×26.°36E, h13km±2km, ML2.6/5, Error ellipse: s-maj=2.4km s-min=0.8km az=328.0*
*THE **02** 16:54:31.1, 38.°89N×26.°35E, h4km±1km, ML2.5/5, Error ellipse: s-maj=1.4km s-min=0.4km az=357.0*
ISC 02 16:54:30.8±0.9, **38.°88N**±0.°02×**26.°35E**±0.°02, **h12**km±7km, **n51**, σ**0.s46**/76, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
KARB	zmir-Karabur	0.22	167	P	Pg	16 54 35.5	0.0
KARB				S	Sg	16 54 38.2	-0.6
KARB				*i* AML	AML	16 54 39.0	
	comp=E,1µm,0.3s						
EAG3	Mitilini, Lesv	0.27	40	P	Pg	16 54 36.2	-0.1
EAG3				S	Sg	16 54 40.1	+0.1
EAG3				AML	AML	16 54 41.5	
	comp=E,4755µm,0.3s						
EAG3				AML	AML	16 54 42.4	
	comp=N,2653µm,0.4s						
LESV	Lesvos island,	0.28	36	P	Pg	16 54 36.3	-0.3
LESV				S	Sg	16 54 41.0	+0.5
	comp=N,3µm,0.2s						
FOCM	Foa	0.34	119	Pg	Pg	16 54 37.8	+0.1
FOCM				Sg	Sg	16 54 42.7	+0.5
PRK	Paraskevi	0.37	351	P	Pg	16 54 38.1	-0.1
PRK				S	Sg	16 54 43.5	+0.3
	comp=N,652nm,0.4s						
PRK	Paraskevi	0.37	351	P	Pg	16 54 38.2	-0.1
PRK				S	Sg	16 54 43.3	+0.1
PRK				AML	AML	16 54 44.5	
	comp=N,1326µm,0.4s						
PRK				AML	AML	16 54 46.8	
	comp=E,1280µm,0.4s						
EAG2	Marmaro, Chios	0.39	210	P	Pg	16 54 38.9	+0.4
EAG2				S	Sg	16 54 44.0	+0.4
EAG2				AML	AML	16 54 46.0	
	comp=N,12569µm,0.3s						
EAG2				AML	AML	16 54 48.7	
	comp=E,9033µm,0.3s						
RFT7	Candarli	0.45	80	Pg	Pg	16 54 39.7	0.0
RFT7				Sg	Sb	16 54 46.7	-0.7
DKL	Dikili	0.47	66	Pg	Pg	16 54 40.2	+0.1
DKL				Sg	Sb	16 54 47.7	-0.3
AYVA	Ayvalik	0.50	32	P	Pg	16 54 40.2	-0.5
SIGR	SIGRI	0.51	311	Pg	Pg	16 54 40.9	+0.2
SIGR				Sg	Sg	16 54 48.3	+0.8
SIGR	SIGRI	0.51	311	P	Pg	16 54 41.0	+0.2
SIGR	SIGRI	0.51	311	P	Pg	16 54 41.0	+0.2
SIGR				S	Sg	16 54 47.6	+0.1
CHOS	Chios island	0.54	205	P	Pg	16 54 41.7	+0.2
CHOS	Chios island	0.54	205	P	Pg	16 54 41.6	+0.1
CHOS				AML	AML	16 54 54.1	
	comp=N,924µm,0.2s						
CHOS				AML	AML	16 54 54.1	
	comp=E,1828µm,0.3s						
CESE	eme	0.55	184	Pg	Pg	16 54 41.6	+0.1
URLA	Izmir	0.55	160	Pg	Pg	16 54 41.7	+0.1
URLA				Sg	Sb	16 54 49.8	-0.5
URLA	Izmir	0.55	160	P	Pg	16 54 41.8	+0.1
URLA				S	Sg	16 54 48.6	-0.4
URLA				*i* AML	AML	16 54 50.0	
	comp=E,335nm,0.4s						
GPNR	Gulpinar-Canak	0.60	344	Pg	Pg	16 54 42.7	+0.2
KOCA	Canakkale, Ayv	0.64	345	P	Pb	16 54 44.8	+0.8
ZEYE	Izmir, Urla-Ze	0.65	169	P	Pg	16 54 42.8	-0.7
ZEYE				S	Sb	16 54 53.2	+0.2
ZEYE				*i* AML	AML	16 54 56.0	
	comp=E,500nm,0.3s						
ZEYE				*i* AML	AML	16 54 57.0	
	comp=E,265nm,0.2s						
RFT1	Sazli	0.66	6	Pg	Pg	16 54 43.7	+0.1
BLCB	Balcova	0.73	132	Pg	Pg	16 54 45.3	+0.3
BLCB	Balcova	0.73	132	P	Pb	16 54 45.6	+0.1
BUHA	Balikesir, Bur	0.84	42	P	Pg	16 54 46.7	-0.4
BUHA				S	Sb	16 54 58.9	+0.3
BUHA				*i* AML	AML	16 55 01.0	
	comp=E,305nm,0.3s						
BAYC	CANAKKALE_Bayr	0.87	10	P	Pg	16 54 47.5	-0.2
DGB	zmir	0.93	153	P	Pg	16 54 48.4	-0.3
DGB				S	Sg	16 55 00.3	-0.4
EZN	Ezine	0.94	359	Pg	Pg	16 54 49.0	-0.1
EZN	Ezine	0.94	359	P	Pg	16 54 48.8	-0.3
EZN				S	Sn	16 55 02.9	-0.4
	comp=E,282nm,0.4s						
BOZC	Bozcaada	0.99	347	P	Pg	16 54 49.7	-0.2
BOZC				S	Sg	16 55 02.6	-0.2
BOZC				*i* AML	AML	16 55 04.0	
	comp=E,260nm,0.3s						
STEP	BALIKESIR_Sava	1.17	65	P	Pb	16 54 52.7	-0.4
STEP				S	Sb	16 55 08.4	+0.2
STEP				*i* AML	AML	16 55 11.0	
	comp=E,288nm,0.5s						
CNKL	anakkale-Mer	1.19	1	P	Pb	16 54 52.8	-0.4
CNKL				P	Pn	16 54 53.2	0.0
CNKL				S	Sb	16 55 08.6	+0.1
CNKL				*i* AML	AML	16 55 10.0	
	comp=E,168nm,0.5s						
CNKL				*i* AML	AML	16 55 11.0	
	comp=E,83nm,0.3s						
COMU	Canakkale	1.22	4	Pn	Pn	16 54 53.8	+0.1
SMG	Samos	1.23	162	P	Pn	16 54 53.8	0.0
SMG				S	Sn	16 55 11.9	+1.5
	comp=E,280nm,0.2s						
SMG	Samos	1.23	162	P	Pn	16 54 53.3	-0.6
SMG				S	Sb	16 55 09.1	-0.7
SMG				AML	AML	16 55 14.6	
	comp=E,564µm,0.2s						
SMG				AML	AML	16 55 15.1	
	comp=N,549µm,0.3s						
CANM	Can-anakkale	1.25	25	Pn	Pb	16 54 54.5	+0.1
BALY	Balya	1.31	48	P	Pb	16 54 55.3	0.0
GOKA	anakkale-Gk	1.35	345	P	Pn	16 54 53.9	-1.6
GADA	Gvkgeada	1.35	345	Pn	Pb	16 54 56.1	0.0
BALB	Balikesir	1.41	57	Pn	Pb	16 54 57.1	+0.1
IZMR	zmir-demi	1.46	120	P	Pb	16 54 58.1	+0.2
IZMR				S	Sg	16 55 17.3	-0.5
BKES	Balkesir-Mer	1.49	55	P	Pb	16 54 58.3	-0.1
BKES				S	Sb	16 55 17.5	+0.1
GELI	Tayfur-Gelibol	1.52	4	Pn	Pb	16 54 58.5	-0.4
LPK	Lapseki	1.52	12	Pn	Pb	16 54 58.7	-0.3
GONE	Gonen-Balikesi	1.56	41	Pn	Pn	16 54 58.7	+0.4
KRBG	Karabiga-Canak	1.68	26	Pn	Pn	16 55 00.8	+0.8
DURS	Dursunbey	1.80	66	P	Pb	16 55 03.5	-0.2
KULA	Kula-Manisa	1.84	101	Pn	Pn	16 55 03.1	+0.7
DEMI	Demirci	1.85	84	P	Pb	16 55 05.3	+0.7
APE	Apeiranthos	1.92	200	P	Pn	16 55 02.4	-0.9
ALN	Alexandroupoli	2.03	353	P	Pn	16 55 04.6	-0.2

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*BJI **02** 16:56:26.0, 10.°30S×152.°60E, h10km, mb4.7/44, mB5.2/20, Ms4.7/4, Ms7 4.3/6*
*IDC **02** 16:56:26.7±0.8, 10.°16S×152.°40E, h0km, mb4.1/13, mbtmp4.2/17, ML4.3/3, MS4.3/30, Error ellipse: s-maj=25.5km s-min=15.8km az=104.0*
*NEIC **02** 16:56:28.2±1.0, 10.°07S±0.°06×152.°4E±0.°1, h10km±1km, mb4.7/17, Error ellipse: s-maj=17.8km s-min=9.3km az=74.0*
*GCMT **02** 16:56:31.2±0.2, 10.°14S±0.°01×152.°31E±0.°01, h17km±1km, MW5.0/103, Moment Tensor Solution. s21,c24; s103,c155; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.05±.17; $M_{\theta\theta}$3.19±.12; $M_{\phi\phi}$-1.14±.09; $M_{r\theta}$1.24±.27; $M_{\theta\phi}$-2.15±.08; $M_{\phi r}$-0.25±.28; Best double couple: $M_0$3.37400×10^{16} NP1:ϕ_s268.00000°,δ62.00000°, λ-124.00000°. NP2:ϕ_s144.00000°,δ43.00000°, λ-43.00000°. Principal axes: T 4.3190, Plg11.0000°, Azm22.0000°; N -1.8910, Plg29.0000°, Azm286.0000°; P -2.4280, Plg58.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **02** 16:56:33.6±1.5, 10°S±3°×15°2E±°, h18km±10km, M5.1/36, mB5.6/6, mb4.9/36, MLv5.1/2, Mw(mB)5.1/6*
ISC 02 16:56:32.1±0.5, **10.°26S**±0.°05×**152.°42E**±0.°07, **h35**km, **n111**, σ**2.s31**/98, **mb4.8**/40, **MS4.4**/31, **2C-1D**, **D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
PMG	Port Moresby	5.25	279	Pn	Pn	16 57 46.0	-2.1
PMG	Port Moresby	5.25	279	Pn	Pn	16 57 45.3	-2.8
	5.0nm,0.5s,baz=85,slow=6.2,SNR=8.4						
PMG				Sn	Sn	16 58 48.8	+1.4
	2.2nm,0.3s,baz=99,slow=4.6,SNR=4.1						
KRVT	Keravat (AS076	5.93	356	Pn	Pn	16 57 54.5	-2.9
	4.3nm,0.3s,baz=226,slow=24,SNR=2.5						
KRVT				Sn	Sn	16 58 58.3	-5.9
	13nm,0.3s,baz=226,slow=23,SNR=5.8						
	45nm,0.6s						
RABL	Rabaul	6.04	358	Pn	Pn	16 57 54.2	-4.8
HNR	Honiara	7.47	84	LR	LR	17 00 38.2	
	comp=Z,13µm,18.9s,baz=282,slow=34						
COEN	Coen	9.75	247	Pn	Pn	16 58 49.1	-0.9
CTA	Charters Tower	11.44	211	Pn	Pn	16 59 11.4	-1.6
	1.5nm,0.3s,baz=28,slow=16,SNR=43						
CTA				Sn	Sn	17 01 13.5	-6.1
	0.6nm,0.3s,baz=276,slow=15,SNR=1.7						
CTA				LR	LR	17 03 35.3	
	comp=Z,2µm,18.3s,baz=31,slow=37						
	5.5nm,0.4s						
CTAO	Charters Tower	11.44	211	Pn	Pn	16 59 12.2	-0.8
SMPI	Sarmi	15.90	300	P	P	17 00 14.9	-1.8
	112nm,1.5s						
QIS	Mount Isa	16.03	229	P	P	17 00 20.0	+1.9
	baz=17,SNR=13						
RMQ	Roma	16.51	192	P	P	17 00 27.2	+3.9
	baz=17,SNR=6.9						
DZM	Mont Dzumac	17.86	133	*e*LR	LR	17 04 43.7	
	comp=Z,707nm,22.6s						
DZM	Mont Dzumac	17.86	133	LR	LR	17 06 18.0	
	comp=Z,696nm,18.3s,baz=324,slow=33						
KDU	Kakadu	19.69	261	P	P	17 00 58.6	+0.1
	baz=20,SNR=6.1						
WR0	Warramunga Arr	19.75	239	P	P	17 00 59.4	+0.2
WR0				IAmb	IAmb	17 01 05.3	
	comp=Z,40nm,1.0s						
WB0	Warramunga Arr	19.79	239	P	P	17 00 59.3	-0.2
WB0				IAmb	IAmb	17 01 05.8	
	comp=Z,51nm,1.1s						
WB2	Warramunga Arr	19.90	239	P	P	17 01 00.0	-0.8
WB2				IAmb	IAmb	17 01 07.5	
	comp=Z,21nm,0.8s						
WRA	Warramunga Arr	19.91	239	P	P	17 01 00.4	-0.5
WRA	Warramunga Arr	19.91	239	P	P	17 01 00.7	-0.2
	comp=Z,0.9nm,0.3s,baz=61,slow=10,SNR=70						
	comp=Z,7.6nm,0.6s						
MTN	Manton Dam	21.01	261	P	P	17 01 13.7	+0.9
	baz=22,SNR=8.0						
MTN	Manton Dam	21.01	261	P	P	17 01 11.5	-1.3
FAKI	Fak Fak	21.31	289	P	P	17 01 12.1	-3.9
FAKI				IAmb	IAmb	17 01 39.7	
	comp=Z,44nm,1.0s						
FAKI	Fak Fak	21.31	289	P	P	17 01 15.4	-0.6
	comp=Z,60nm,1.1s,comp=Z,1µm						
CMSA	Cobar Meteorol	22.07	195	P	P	17 01 27.1	+3.0
	baz=23,SNR=8.9						
AS31	Alice Springs	22.12	231	P	P	17 01 24.7	-0.1
ASAR	Alice Springs	22.12	231	P	P	17 01 24.7	-0.1
ASAR	Alice Springs	22.12	231	P	P	17 01 25.1	+0.2
	comp=Z,7.2nm,0.8s,baz=63,slow=8.9,SNR=76						
ASAR				LR	LR	17 09 56.8	
	comp=Z,1µm,18.4s,baz=57,slow=36						
	comp=Z,7.2nm,0.8s						
MGCD	Mangrove Creek	22.87	183	P	P	17 01 34.4	+1.8
	baz=24,SNR=5.3						
KNRA	Kununurra	23.66	254	P	P	17 01 39.3	-1.3
	baz=24,SNR=5.6						
KNRA	Kununurra	23.66	254	P	P	17 01 40.0	-0.6
STKA	Stephens Creek	23.73	203	P	P	17 01 42.9	+1.8
	baz=24,SNR=6.2						
STKA	Stephens Creek	23.73	203	P	P	17 01 41.2	+0.1
STKA	Stephens Creek	23.73	203	P	P	17 01 42.1	+1.0
	comp=Z,17nm,0.9s,baz=12,slow=10,SNR=12						
STKA				LR	LR	17 11 14.3	
	comp=Z,1µm,19.0s,baz=20,slow=37						
	comp=Z,17nm,0.9s						
GUMO	Guam	24.85	342	LR	LR	17 11 55.3	
	comp=Z,153nm,19.2s,baz=132,slow=38						
NLAI	Namlea	26.07	284	P	P	17 02 05.8	+3.2
	comp=Z,17nm,1.3s,comp=Z,3µm						
HTT	Hallett	26.18	206	P	P	17 02 04.4	+0.9
	baz=27,SNR=5.5						
LBMI	Labuha	26.55	290	P	P	17 02 08.5	+1.5
	comp=Z,55nm,1.6s						
FITZ	Fitzroy Crossi	27.08	250	P	P	17 02 11.8	+0.1
	baz=28,SNR=8.0						
WRKA	Warakurna	27.21	234	P	P	17 02 12.4	-0.4
	baz=28,SNR=15						
SANI	Sanana	27.49	286	P	P	17 02 16.3	+0.9
	comp=Z,40nm,1.2s,comp=Z,540nm						
SOEI	Soe	27.72	269	P	P	17 02 17.2	-0.4
	comp=Z,22nm,1.0s						
BATI	Baumata	28.29	268	P	P	17 02 23.3	+0.7
	comp=Z,33nm,1.2s						
BATI	Baumata	28.29	268	LR	LR	17 15 38.5	
	comp=Z,1µm,18.1s,baz=110,slow=41						
KMSI	Cibinong	30.27	289	P	P	17 02 41.5	+1.4
	comp=Z,64nm,0.7s						
EDFI	Ende, Flores	30.33	270	P	P	17 02 41.3	+0.5
	comp=Z,8.8nm,0.4s						
FORT	Forrest	30.48	224	P	P	17 02 41.4	-0.5
BASI	Baing, Sumba	31.32	267	P	P	17 02 48.6	-0.8
	comp=Z,76nm,1.4s						
KAPI	Kappang	32.77	277	LR	LR	17 18 18.9	
	comp=Z,192nm,18.1s,baz=111,slow=40						
PSA00	Pilbara Seismi	33.20	246	P	P	17 03 05.9	0.0
KMBL	Kambalda	35.23	229	P	P	17 03 22.8	-0.6
	baz=36,SNR=7.5						
URZ	Urewera	35.60	146	LR	LR	17 16 52.6	
	comp=Z,523nm,18.2s,baz=33,slow=34						
MEEK	Meekatharra	35.81	238	P	P	17 03 27.4	-1.0
	baz=36,SNR=4.4						
RPZ	Rata Peaks	37.05	157	LR	LR	17 16 54.0	
	comp=Z,1µm,20.6s,baz=322,slow=33						
JCJ	Chichijima	38.44	345	LR	LR	17 17 40.3	
	comp=Z,226nm,20.7s,baz=120,slow=33						
KLBR	Kellerberrin	38.45	231	P	P	17 03 49.5	-1.3
	baz=39,SNR=6.5						
MORW	Morawa	38.81	236	P	P	17 03 53.4	-0.4
	baz=40,SNR=3.9						
NWAO	Narrogin (SRO)	39.44	230	LR	LR	17 20 28.1	
	comp=Z,872nm,18.2s,baz=56,slow=36						
SBUM	Sibu	41.96	285	P	P	17 04 18.8	-1.3
JHJ	Hachijo jima 2	44.79	345	LR	LR	17 20 34.4	
	comp=Z,122nm,20.3s,baz=182,slow=32						
RAR	Rarotonga	47.13	109	LR	LR	17 22 25.8	
	comp=Z,66nm,18.7s,baz=203,slow=33						
MJAR	Matsushiro Arr	48.43	345	P	P	17 05 10.3	-0.8
	comp=Z,0.8nm,0.7s,baz=174,slow=7.1,SNR=1.9						
	comp=Z,0.8nm,0.7s						
KSRS	Korea Array	52.73	336	P	P	17 05 43.5	0.0
	comp=Z,2.1nm,1.0s,baz=151,slow=9.0,SNR=4.4						
	comp=Z,2.1nm,1.0s						
NJ2	Nanjing	52.92	324	*e*P	P	17 05 45.4	+0.5
NJ2				sP	pP	17 05 50.7	-4.0
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WHN	Wuhan	54.62	319	P	P	17 06 00.0	+2.6
WHN				pmax	pmax		
	comp=Z,98nm,1.1s						
PPT2	Papeete2	56.60	104	*e*S	S	17 14 01.4	-0.7
	comp=Z,110nm,26.8s						
PPT2				*e*LR	LR	17 22 28.9	
	comp=Z,168nm,27.2s						
PPT2				*e*LR	LR	17 22 54.3	
	comp=Z,205nm,27.0s						
TBI	Tubuai	56.81	111	*e*S	S	17 14 05.5	+0.9
	comp=Z,763nm,29.0s						
TBI				*e*LR	LR	17 22 31.0	
	comp=Z,1µm,34.0s						
USRK	Ussuriysk Ar.	57.29	343	P	P	17 06 16.0	-0.3
	comp=Z,2.1nm,0.8s,baz=171,slow=9.8,SNR=2.4						
	comp=Z,2.1nm,0.8s						
MDJ	Mudanjiang	58.40	341	P	P	17 06 38.2	+14
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,160nm,4.3s						
CN2	Changchun	59.13	338	*e*P	P	17 06 33.6	+4.4
HNS	HongShan	59.13	325	*e*P	P	17 06 27.1	-2.2
CRAI	Chiangrai	59.49	301	P	P	17 06 33.4	+1.2
CRAI				IAmb	IAmb	17 06 46.8	
	comp=Z,9.2nm,1.2s						
KMI	Kunming	59.83	307	⇑P	P	17 06 37.4	+2.8
KMI				sP	pP	17 06 41.7	-3.0
KMI				pmax	pmax		
	comp=Z,13nm,1.2s						
CMAR	Chiang Mai Arr	59.98	298		P	17 06 33.9	-1.7
CMAR	Chiang Mai Arr	59.98	298	P	P	17 06 35.7	+0.2
	comp=Z,2.3nm,1.1s,baz=115,slow=5.0,SNR=10						
	comp=Z,2.3nm,1.1s						
BNX	BinXian	60.11	340	⇓P	P	17 06 37.6	+1.7
BNX				pmax	pmax		
	comp=Z,7.0nm,1.5s						
BNX				pmax	pmax		
	comp=Z,200nm,5.1s						
CHTO	Chiang Mai	60.12	299	P	P	17 06 32.1	-4.4
CHTO				IAmb	IAmb	17 06 50.9	
	comp=Z,5.2nm,1.1s						
XAN	Xi'an	60.38	319	⇑P	P	17 06 37.2	-0.8
XAN				pP	pP	17 06 42.7	-5.2
XAN				sP	pwP	17 06 46.2	-5.1
XAN				pmax	pmax		
	comp=Z,30nm,1.2s						
PZH	PanZhiHua	61.29	308	P	P	17 06 45.8	+1.3
PZH				pmax	pmax		
	comp=Z,10.0nm,1.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
KLR	Kul'dur	61.96	345	LR	LR	17 32 45.3	
	comp=Z,58nm,19.1s,baz=172,slow=35						
CD2	Chengdu	62.07	313	P	P	17 06 49.1	-0.5
CD2				S	S	17 15 15.0	+2.6
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
CD2				LR	LR		
	comp=Z,250nm,17.9s						
CD2				LR	LR		
	comp=Z,380nm,22.3s						
CD2				LR	LR		
	comp=Z,240nm,23.8s						
TNCH	TengChong	63.15	305	P	P	17 06 56.9	-0.1
TNCH				sP	pP	17 07 03.2	-3.9
TNCH				PP	PP	17 09 14.3	-2.0
TNCH				pmax	pmax		
	comp=Z,15nm,1.5s						
TNCH				pmax	pmax		
	comp=Z,84nm,3.9s						
XLT	XiLinHaoTe	63.20	331	*e*P	P	17 06 58.3	+1.4
XLT				pP	pP	17 07 02.9	-3.8
XLT				sP	pwP	17 07 07.6	-2.8
XLT				pmax	pmax		
	comp=Z,10.0nm,1.6s						
PETK	Petropavlovsk-	63.28	4	LR	LR	17 28 50.8	
	comp=Z,142nm,21.6s,baz=180,slow=31						
HHC	Hu-ho-hao-te	63.29	326	*e*P	P	17 06 59.6	+2.0
HHC				pmax	pmax		
	comp=Z,32nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,4.2s						
BTO	Baotou	63.98	325	*e*P	P	17 07 05.2	+3.1
BTO				pP	pP	17 07 09.9	-2.1
BTO				sP	pwP	17 07 12.2	-3.5
BTO				PP	PP	17 09 28.7	+5.4
BTO				S	S	17 15 43.5	+7.5
BTO				sS	sS	17 15 50.4	-1.9
BTO				SS	SS	17 19 53.3	+7.9
BTO				pmax	pmax		
	comp=Z,21nm,0.7s						
BTO				pmax	pmax		
	comp=Z,200nm,6.7s						
LZH	Lanzhou	64.93	318	*e*P	P	17 07 09.3	+0.8
LZH				sP	pP	17 07 16.8	-1.8
LZH				S	S	17 15 50.9	+2.9
LZH				pmax	pmax		
	comp=Z,27nm,1.4s						
LZH				LR	LR		
	comp=Z,360nm,14.4s						
LZH				LR	LR		
	comp=Z,200nm,13.1s						
LZH				LR	LR		
	comp=Z,250nm,16.8s						
VNDA	Vanda	67.42	178	P	P	17 07 24.8	+1.2
VNDA				IAmb	IAmb	17 07 40.1	
	comp=Z,5.5nm,1.1s						
VNDA	Vanda	67.42	178	P	P	17 07 24.6	+0.9
	comp=Z,1.3nm,0.7s,baz=321,slow=7.8,SNR=6.7						
VNDA				LR	LR	17 35 50.7	
	comp=Z,136nm,18.2s,baz=342,slow=35						
	comp=Z,1.3nm,0.7s						
GTA	Gaotai	69.44	319	*e*P	P	17 07 39.4	+2.4
GTA				pP	pP	17 07 43.2	-4.1
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
MA2	Magadan	69.61	359	LR	LR	17 37 59.3	
	comp=Z,58nm,19.2s,baz=170,slow=36						
SONM	Songino Array	70.75	329	P	P	17 07 45.1	+0.2
SONM				IAmb	IAmb	17 08 02.9	
	comp=Z,10nm,1.2s						
SONM	Songino Array	70.75	329	P	P	17 07 44.6	-0.2
	comp=Z,3.0nm,1.0s,baz=145,slow=5.3,SNR=11						
SONM				LR	LR	17 38 05.1	
	comp=Z,102nm,21.5s,baz=152,slow=35						
	comp=Z,3.0nm,1.0s						
WMQ	Urumqi	79.51	318	*e*P	P	17 08 37.4	+2.0
WMQ				pP	PcP	17 08 40.1	-3.2
WMQ				sP	pP	17 08 42.3	-3.5
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
QSPA	South Pole Qui	79.73	180	P	P	17 08 37.3	+1.0
QSPA				IAmb	IAmb	17 08 51.3	
	comp=Z,21nm,1.1s						
MAW	Mawson	80.42	203	LR	LR	17 41 20.8	
	comp=Z,276nm,20.8s,baz=60,slow=34						
KDAK	Kodiak Island	81.20	26	LR	LR	17 38 57.7	
	comp=Z,140nm,20.4s,baz=259,slow=31						
MKAR	Makanchi Array	84.19	319	P	P	17 08 57.9	-1.9
MKAR	Makanchi Array	84.19	319	P	P	17 08 58.9	-1.0
	comp=Z,5.8nm,1.3s,baz=121,slow=4.7,SNR=7.6						
	comp=Z,5.8nm,1.3s						
ZALV	Zalesovo Beam	85.47	327	P	P	17 09 03.1	-3.0
ZALV	Zalesovo Beam	85.47	327	P	P	17 09 04.4	-1.7
	comp=Z,0.9nm,0.7s,baz=123,slow=5.5,SNR=6.5						
	comp=Z,0.9nm,0.7s						
ILAR	Eielson Array	87.33	22	P	P	17 09 13.8	-1.2
	comp=Z,1.1nm,0.7s,baz=248,slow=4.5,SNR=16						
ILAR				LR	LR	17 44 12.2	
	comp=Z,162nm,20.4s,baz=226,slow=33						
	comp=Z,1.1nm,0.7s						
KURBB	Kurchatov Arra	87.84	322	P	P	17 09 17.6	-0.2
	comp=Z,0.6nm,0.9s,baz=106,slow=3.4,SNR=4.1						
	comp=Z,0.6nm,0.9s						
DLBC	Dease Lake	92.23	31	LR	LR	17 45 04.1	
	comp=Z,159nm,19.4s,baz=266,slow=32						
YBH	Yreka Blue Hor	92.95	48	LR	LR	17 43 43.8	
	comp=Z,225nm,22.0s,baz=226,slow=30						
INK	Inuvik	93.66	21	LR	LR	17 46 41.7	
	comp=Z,159nm,21.9s,baz=202,slow=32						
NVAR	Mina Array Bea	95.73	52	P	P	17 09 56.8	+1.8
	comp=Z,0.2nm,0.4s,baz=258,slow=7.1,SNR=1.7						
NVAR				LR	LR	17 48 59.5	
	comp=Z,92nm,18.4s,baz=272,slow=33						
	comp=Z,0.2nm,0.4s						
PFO	Pinyon Flats O	96.53	57	LR	LR	17 47 20.8	
	comp=Z,160nm,19.5s,baz=236,slow=32						
SNAA	Sanae	96.60	188	LR	LR	17 52 04.2	
	comp=Z,324nm,20.2s,baz=160,slow=34						
NEW	Newport	97.87	42	LR	LR	17 46 39.9	
	comp=Z,262nm,22.0s,baz=278,slow=31						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ELK	Elko	98.38	50	LR	LR	17 47 07.4	
	comp=Z,105nm,21.1s,baz=261,slow=31						
TORD	Torodi Ar. Bea	151.19	279	PKPbc	PKPbc	17 16 21.2	-1.6
	comp=Z,1.6nm,0.9s,baz=68,slow=3.0,SNR=5.9						

IDC ***02*** *17:17:37.3±1.2, 60°14N×153°06W, h83km±14km, mb3.6/10, mbtmp3.9/15, MS3.6/3, Error ellipse: s-maj=15.6km s-min=9.6km az=99.0*

NEIC ***02*** *17:17:39.3±1.1, 60°09N±0°03×152°80W±0°07, h115km±2km, Error ellipse: s-maj=4.9km s-min=4.8km az=113.0*

AEIC ***02*** *17:17:40.6±1.1, 60°09N±0°04×152°80W±0°06, h108km±3km, ML3.3, mb4.0/11(NEIC), ML3.5/188(NEIC), Error ellipse: s-maj=5.1km s-min=4.2km az=171.0*

ISC 02 17:17:39.7±0.6**, 60°08N**±0°03×**152°81W**±0°03**, h111**km±5km**, n361, σ0.88**/383**, mb3.9**/16**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	Slope Mountain	0.09	89		Pn	17 17 55.1	0.0
O20K					Sn	17 18 07.0	+0.3
O20K	Slope Mountain	0.09	89	P	Pn	17 17 55.1	0.0
	baz=273						
O20K				S	Sn	17 18 07.0	+0.3
	baz=273						
IVE	Iliamna Volcan	0.12	239		Pn	17 17 54.9	-0.3
IVE					Sn	17 18 06.8	0.0
RED	Redoubt Volcan	0.34	3		Pn	17 17 55.7	-0.2
RED					Sn	17 18 07.8	-0.3
RDSO	Redoubt South	0.38	5		Pn	17 17 55.9	-0.2
RDSO					Sn	17 18 08.2	-0.4
RSO	Redoubt South	0.39	4		Pn	17 17 56.1	-0.1
RDWB	Redoubt West	0.41	358		Pn	17 17 56.0	-0.3
P19K	Oil Pt	0.48	207		Pn	17 17 56.7	+0.1
P19K	Oil Pt	0.48	207		Sn	17 18 09.6	+0.3
P19K	Oil Pt	0.48	207	P	Pn	17 17 56.7	+0.1
	baz=26						
P19K				S	Sn	17 18 09.6	+0.3
	baz=26						
NCT	North Crescent	0.49	353		Pn	17 17 56.6	-0.1
RDJH	Redoubt Jeurge	0.51	0		Pn	17 17 56.7	-0.2
DFR	Drift River	0.52	7		Pn	17 17 56.7	-0.2
RDT	Redoubt	0.54	22		Sn	17 18 09.3	-0.7
HOM	Homer	0.72	125		Pn	17 17 58.6	+0.3
HOM				Sn	Sn	17 18 12.9	+0.6
HOM	Homer	0.72	125	P	Pn	17 17 58.7	+0.3
	baz=307						
AU22	Augustine Moun	0.76	202		Sn	17 18 13.1	+0.1
O19K	Port Alsworth	0.76	279		Pn	17 17 58.5	-0.2
O19K				Sn	Sn	17 18 12.6	-0.3
O19K				IAML		17 18 14.3	
	comp=N,1μm,0.4s						
O19K	Port Alsworth	0.76	279	P	Pn	17 17 58.5	-0.2
	baz=98						
O19K				S	Sn	17 18 12.8	-0.2
	baz=98						
AUL	Augustine Lava	0.77	205		Pn	17 17 58.9	+0.1
CNPM	China Poot	0.97	124		Pn	17 18 00.7	0.0
CNPM					Sn	17 18 16.2	-0.3
BRLK	Bradley Lake	1.02	107		Pn	17 18 01.0	-0.2
BRLK				Sn	Sn	17 18 16.4	-1.1
CAPN	Captain Cook N	1.07	49	Pn	Pn	17 18 02.9	+1.2
CAPN	Captain Cook N	1.07	49	P	Pn	17 18 03.3	+1.6
	baz=231						
BRSE	Bradley Lake S	1.10	107		Pn	17 18 01.9	-0.1
BRSE	Bradley Lake S	1.10	107	P	Pn	17 18 02.0	0.0
	baz=289						
N19K	Bonanza Creek	1.11	312		Pn	17 18 02.1	-0.1
N19K					Sn	17 18 18.4	-0.8
N19K				IAML		17 18 19.7	
	comp=N,1μm,0.7s						
N19K				IAML		17 18 19.7	
	comp=E,599nm,0.9s						
N19K	Bonanza Creek	1.11	312	P	Pn	17 18 02.0	-0.1
	baz=130						
N19K				S	Sn	17 18 18.9	-0.3
	baz=130						
N20K	Mount Spurr	1.16	15	P	Pn	17 18 02.7	-0.1
	baz=195						
N20K				S	Sn	17 18 20.1	-0.1
	baz=195						
SPCR	Spurr Chakacha	1.16	14		Sn	17 18 20.1	-0.1
SPCN	Chakachatna No	1.19	15		Sn	17 18 21.5	+0.8
O18K	Koktuh Hills	1.23	260		Pn	17 18 03.4	0.0
O18K				Sn	Sn	17 18 21.1	-0.3
O18K				IAML		17 18 21.6	
	comp=N,626nm,0.8s						
O18K	Koktuh Hills	1.23	260	P	Pn	17 18 03.4	0.0
	baz=78						
O18K				S	Sn	17 18 21.2	-0.2
	baz=78						
Q19K	Cape Douglas,	1.23	201		Pn	17 18 03.0	-0.4
Q19K				Sn	Sn	17 18 20.8	-0.7
Q19K				IAML		17 18 22.4	
	comp=E,886nm,0.7s						
Q19K				IAML		17 18 24.0	
	comp=N,770nm,0.6s						
Q19K	Cape Douglas,	1.23	201	P	Pn	17 18 03.1	-0.4
	baz=20						
Q19K				S	Sn	17 18 21.7	+0.2
	baz=20						
SLKM	Skilak Lake	1.36	70		Pn	17 18 04.6	-0.3
P18K	Big Mountain,	1.41	242		Pn	17 18 05.1	-0.4
P18K				Sn	Sn	17 18 23.8	-1.2
P18K				IAML		17 18 24.9	
	comp=E,318nm,0.9s						
P18K	Big Mountain,	1.41	242	P	Pn	17 18 05.0	-0.4
	baz=59						
P18K				S	Sn	17 18 24.2	-0.8
	baz=59						
Q20K	Shuyak Island	1.49	172	P	Pn	17 18 06.2	-0.2
	baz=352						
Q20K				S	Sn	17 18 26.6	-0.1
	baz=352						
SYI	Shuyak Island	1.49	172		Pn	17 18 06.0	-0.4
SYI				Sn	Sn	17 18 26.0	-0.6
SYI				IAML		17 18 28.6	
	comp=N,501nm,0.6s						
SYI				IAML		17 18 29.9	
	comp=E,535nm,0.7s						
STLK	Strandline Lak	1.50	18		Pn	17 18 06.9	+0.3
O22K	Cooper Landing	1.59	74		Pn	17 18 07.4	-0.1
O22K				Sn	Sn	17 18 26.7	-2.1
O22K	Cooper Landing	1.59	74	P	Pn	17 18 07.5	-0.1
	baz=257						
N18K	Kilae Creek	1.64	293		Pn	17 18 08.2	-0.1
N18K					Sn	17 18 29.1	-0.9
N18K	Kilae Creek	1.64	293	P	Pn	17 18 08.1	-0.1
	baz=110						
N18K				S	Sn	17 18 29.1	-0.9
	baz=110						
FIS	Fire Island	1.67	49	Pn	Pn	17 18 08.4	0.0
FIS				IAML		17 18 34.2	
	comp=N,450nm,0.7s						
FIS				IAML		17 18 41.3	
	comp=E,481nm,0.4s						
SEW	Seward	1.68	88		Pn	17 18 07.9	-0.8
SEW	Seward	1.68	88	P	Pn	17 18 08.1	-0.5
	baz=271						
SVW2	Sparrevohn	1.71	308		Pn	17 18 08.7	-0.3
SVW2				IAML		17 18 31.2	
	comp=N,226nm,0.8s						
SUA	Susitna One	1.72	35		Pn	17 18 09.4	+0.1
SUA				IAML		17 18 34.0	
	comp=N,449nm,0.5s						
SUA				IAML		17 18 34.1	
	comp=E,661nm,0.9s						
SUA	Susitna One	1.72	35		Sn	17 18 32.5	+0.7
SUA	Susitna One	1.72	35	P	Pn	17 18 09.6	+0.4
	baz=217						
SUA				S	Sn	17 18 32.5	+0.7
	baz=217						
M20K	Styx River	1.82	355		Pn	17 18 10.9	+0.5
M20K	Styx River	1.82	355	P	Pn	17 18 10.9	+0.5
	baz=175						
KAHC	Katmai Hardscr	1.82	219		Pn	17 18 10.6	0.0
KAHC					Sn	17 18 33.6	-0.6
KAHC	Katmai Hardscr	1.82	219	P	Pn	17 18 10.6	0.0
	baz=37						
Q18K	Katmai Hardscr	1.82	219	P	Pn	17 18 10.6	0.0
	baz=37						
Q18K				S	Sn	17 18 33.6	-0.6
	baz=37						
RC01	Rabbit Creek A	1.82	55		Pn	17 18 10.2	-0.2
RC01				IAML		17 18 34.0	
	comp=N,489nm,0.3s						
RC01				IAML		17 18 35.0	
	comp=E,551nm,0.5s						
RC01	Rabbit Creek A	1.82	55	P	Pn	17 18 10.3	-0.2
	baz=238						
M19K	Big River Lodg	1.99	338		Pn	17 18 12.8	+0.3
M19K	Big River Lodg	1.99	338	P	Pn	17 18 12.5	0.0
	baz=156						
SKT	Skwentna	2.01	18		Pn	17 18 12.6	-0.2
SKT	Skwentna	2.01	18	P	Pn	17 18 12.7	0.0
	baz=199						
P17K	Kvichak River	2.05	246		Pn	17 18 13.3	+0.1
P17K	Kvichak River	2.05	246	P	Pn	17 18 13.3	+0.1
	baz=63						
M18K	Stony River	2.05	315		Pn	17 18 13.1	-0.2
M18K	Stony River	2.05	315	P	Pn	17 18 13.1	-0.2
	baz=132						
KVTA	Katmai Vly 10	2.13	218		Pn	17 18 14.6	+0.3
KAKN	Katmai Knife C	2.13	214		Pn	17 18 14.5	0.0
M22K	Willow	2.13	37		Pn	17 18 14.4	+0.1
M22K	Willow	2.13	37	P	Pn	17 18 14.5	+0.1
	baz=219						
O17K	Koliganek Bris	2.18	264		Pn	17 18 15.0	+0.1
O17K	Koliganek Bris	2.18	264	P	Pn	17 18 15.0	+0.1
	baz=80						
N17K	Nushagak Hills	2.22	284		Pn	17 18 15.4	-0.1
N17K	Nushagak Hills	2.22	284	P	Pn	17 18 15.6	0.0
	baz=100						
KDAK	Kodiak Island	2.31	177	Pn	Pn	17 18 15.1	-1.5
KDAK				IAML		17 18 44.5	
	comp=E,179nm,0.3s						
KDAK				IAML		17 18 44.6	
	comp=E,171nm,0.3s						
KDAK	Kodiak Island	2.31	177	P	Pn	17 18 15.2	-1.5
	comp=E,81nm,0.3s,baz=15,slow=12,SNR=452						
KDAK				S	Sn	17 18 42.8	-2.1
	comp=E,66nm,0.4s,baz=322,slow=20,SNR=12						
L19K	White Mountain	2.33	336		Pn	17 18 17.0	+0.1
L19K				IAML		17 18 46.1	
	comp=N,129nm,1.0s						
L19K				IAML		17 18 46.7	
	comp=E,155nm,0.8s						
L19K	White Mountain	2.33	336	P	Pn	17 18 16.9	-0.1
	baz=154						
ANCK	Angle Creek	2.34	217		Pn	17 18 17.4	+0.3
PWL	Port Wells	2.35	69		Pn	17 18 17.0	-0.2
PWL				IAML		17 18 44.7	
	comp=E,238nm,0.3s						
PWL				IAML		17 18 47.4	
	comp=N,279nm,0.3s						
PWL	Port Wells	2.35	69	P	Pn	17 18 15.9	-1.3
	baz=253						
PMR	Palmer	2.36	48	Pn	Pn	17 18 16.2	-1.0
PMR	Palmer	2.36	48	P	Pn	17 18 16.1	-1.0
	baz=232						
Q17K	Contact Creek	2.41	222	P	Pn	17 18 18.2	+0.1
	baz=40						
L20K	Farewell, AK	2.46	348		Pn	17 18 19.0	+0.4
L20K	Farewell, AK	2.46	348	P	Pn	17 18 19.0	+0.4
	baz=167						
KNK	Knik Glacier	2.52	56		Pn	17 18 18.1	-1.3
KNK				IAML		17 18 48.7	
	comp=E,294nm,0.7s						
KNK				IAML		17 18 49.0	
	comp=N,260nm,0.5s						
KNK	Knik Glacier	2.52	56	P	Pn	17 18 18.4	-1.0
	baz=240						
GHO	Glory Hole Cre	2.55	46		Pn	17 18 18.6	-1.2
GHO				IAML		17 18 56.5	
	comp=E,255nm,0.9s						
GHO				IAML		17 19 03.8	
	comp=N,150nm,0.7s						
M17K	Holitna River	2.63	302		Pn	17 18 20.6	-0.2
M17K				IAML		17 18 53.3	
	comp=E,132nm,1.2s						
M17K				IAML		17 18 55.9	
	comp=N,155nm,0.8s						
M17K	Holitna River	2.63	302	P	Pn	17 18 20.6	-0.2
	baz=118						
CUT	Chulitna	2.64	27		Pn	17 18 20.6	-0.2
CUT	Chulitna	2.64	27	P	Pn	17 18 21.1	+0.3
	baz=209						
R18K	Karluk	2.66	199		Pn	17 18 20.1	-1.0
R18K	Karluk	2.66	199	IAML		17 18 53.3	
	comp=E,300nm,0.3s						
R18K	Karluk	2.66	199	P	Pn	17 18 20.2	-1.0
	baz=18						
O16K	Kokwok River B	2.71	262		Pn	17 18 22.1	+0.3
O16K	Kokwok River B	2.71	262	P	Pn	17 18 22.1	+0.3
	baz=77						
P23K	Montague Islan	2.71	89		Pn	17 18 21.6	-0.3
P23K	Montague Islan	2.71	89	P	Pn	17 18 21.6	-0.3
	baz=274						
SML	Sawmill	2.79	50	Pn	Pn	17 18 21.8	-1.1
SML				IAML		17 18 55.8	
	comp=N,112nm,1.3s						
SML				IAML		17 19 06.8	
	comp=E,140nm,0.8s						
SML	Sawmill	2.79	50	P	Pn	17 18 21.9	-1.0
	baz=234						
P16K	Nushagak River	2.84	251		Pn	17 18 24.3	+0.8
P16K	Nushagak River	2.84	251	P	Pn	17 18 24.3	+0.8
	baz=66						
PPLA	Purkeypile	2.84	6		Pn	17 18 24.4	+0.7
PPLA	Purkeypile	2.84	6	P	Pn	17 18 24.5	+0.7
	baz=186						
L18K	Granite Mounta	2.85	320		Pn	17 18 23.4	-0.3
L18K	Granite Mounta	2.85	320	P	Pn	17 18 23.6	-0.1
	baz=137						
OHAK	Old Harbor	2.88	185		Pn	17 18 22.4	-1.6
OHAK				IAML		17 18 57.0	
	comp=E,102nm,0.3s						
OHAK				IAML		17 19 07.7	
	comp=N,87nm,0.5s						
OHAK	Old Harbor	2.88	185	P	Pn	17 18 22.5	-1.6
	baz=4.8						
GLI	Glacier Island	2.94	72		Pn	17 18 22.7	-2.2
GLI	Glacier Island	2.94	72	IAML		17 18 58.3	
	comp=N,155nm,0.5s						
GLI				IAML		17 19 01.3	
	comp=E,134nm,0.5s						
GLI	Glacier Island	2.94	72	P	Pn	17 18 24.1	-0.7
	baz=257						
N16K	Nishlik Lake	3.00	280		Pn	17 18 25.9	+0.3
N16K	Nishlik Lake	3.00	280	P	Pn	17 18 25.4	-0.2
	baz=95						
PLK3	Peulik 3	3.00	218		Pn	17 18 26.1	+0.5
PLK1	Peulik 1	3.02	222		Pn	17 18 26.3	+0.5
M23K	Glacier View	3.02	53	P	Pn	17 18 25.2	-0.7
	baz=238						
R17K	Ugashik Creek	3.07	219		Pn	17 18 26.9	+0.3
R17K	Ugashik Creek	3.07	219	IAML		17 19 04.2	
	comp=E,100nm,0.6s						
R17K	Ugashik Creek	3.07	219	P	Pn	17 18 26.9	+0.3
	baz=36						
HIN	Hinchinbrook I	3.16	81	Pn	Pn	17 18 27.3	-0.5
HIN				IAML		17 19 06.3	
	comp=N,162nm,0.7s						
HIN				IAML		17 19 08.0	
	comp=E,150nm,0.5s						
M16K	Timber Creek	3.18	290		Pn	17 18 28.0	-0.1
M16K	Timber Creek	3.18	290	P	Pn	17 18 28.2	+0.2
	baz=104						
SCM	Sheep Creek Mo	3.20	54		Pn	17 18 27.9	-0.5
SCM				IAML		17 19 07.4	
	comp=N,159nm,0.6s						
SCM	Sheep Creek Mo	3.20	54	P	Pn	17 18 27.6	-0.8
	baz=239						
FID	Port Fidalgo	3.21	75		Pn	17 18 27.3	-1.1
FID				IAML		17 19 05.9	
	comp=E,154nm,0.2s						
FID				IAML		17 19 06.8	
	comp=N,128nm,0.2s						
TTA	Tatalina	3.25	333		Pn	17 18 28.5	-0.4
TTA	Tatalina	3.25	333	P	Pn	17 18 28.6	-0.4
	baz=150						
Q23K	Middleton Isla	3.33	98	Pn	Pn	17 18 29.6	-0.5
MID	Middleton Isla	3.34	98	Pn	Pn	17 18 29.5	-0.6
K20K	Telida	3.34	350		Pn	17 18 30.4	+0.2
K20K	Telida	3.34	350	P	Pn	17 18 30.3	+0.2
	baz=169						
WAT7	Susitna Watana	3.35	33		Pn	17 18 29.9	-0.6
L17K	Donlin	3.37	310		Pn	17 18 30.4	-0.1
L17K	Donlin	3.37	310	P	Pn	17 18 30.4	-0.1
	baz=125						
CAST	Castle Rocks	3.37	6	Pn	Pn	17 18 30.3	-0.2
CAST	Castle Rocks	3.37	6	P	Pn	17 18 30.5	0.0
	baz=186						
WAT1	Susitna Watana	3.43	35		Pn	17 18 30.9	-0.5
WAT1	Susitna Watana	3.43	35	P	Pn	17 18 31.2	-0.3
	baz=218						
WAT6	Susitna Watana	3.50	42	P	Pn	17 18 31.7	-0.8
	baz=226						
EYAK	Cordova Ski Ar	3.54	79		Pn	17 18 32.5	-0.4
EYAK	Cordova Ski Ar	3.54	79	P	Pn	17 18 32.3	-0.6
	baz=266						
TRF	Thorofare Moun	3.59	18		Pn	17 18 33.2	-0.4
TRF				IAML		17 19 18.7	
	comp=E,64nm,0.5s						
TRF	Thorofare Moun	3.59	18	P	Pn	17 18 33.2	-0.4
	baz=201						
KTH	Kantishna Hill	3.60	14		Pn	17 18 33.0	-0.6
KTH				IAML		17 19 15.8	
	comp=E,77nm,0.9s						
KTH				IAML		17 19 16.8	
	comp=N,95nm,0.6s						
SII	Sitkinak Islan	3.60	192	Pn	Pn	17 18 32.0	-1.7
SII	Sitkinak Islan	3.60	192	P	Pn	17 18 32.1	-1.6
	baz=11						
L16K	Owhat River	3.64	300		Pn	17 18 33.9	-0.3
L16K	Owhat River	3.64	300	P	Pn	17 18 34.1	0.0
	baz=114						
N15K	Kwethluk River	3.65	275		Pn	17 18 35.1	+0.9
N15K				IAML		17 19 17.4	
	comp=N,47nm,0.8s						
N15K	Kwethluk River	3.65	275	P	Pn	17 18 35.1	+0.9
	baz=88						
KLU	Klutina	3.66	64		Pn	17 18 33.1	-1.5
KLU				IAML		17 19 18.1	
	comp=E,118nm,0.5s						
KLU	Klutina	3.66	64	P	Pn	17 18 33.2	-1.3
	baz=250						
O15K	Ungalikthiuk R	3.68	259		Pn	17 18 35.6	+0.9
O15K	Ungalikthiuk R	3.68	259	P	Pn	17 18 35.6	+0.9
	baz=73						
K17K	Iditarod	3.74	317		Pn	17 18 35.0	-0.4
K17K	Iditarod	3.74	317	IAML		17 19 38.5	
	comp=E,46nm,0.9s						
K17K				IAML		17 19 39.9	
	comp=N,49nm,0.8s						
K17K	Iditarod	3.74	317	P	Pn	17 18 35.0	-0.4
	baz=132						
M24K	Tolsona, Glenn	3.81	55		Pn	17 18 36.0	-0.5
M24K				IAML		17 19 23.1	
	comp=N,88nm,0.6s						
M24K	Tolsona, Glenn	3.81	55	P	Pn	17 18 36.2	-0.2
	baz=241						
CHUM	Lake Minchumin	3.82	3		Pn	17 18 36.5	-0.1
CHUM	Lake Minchumin	3.82	3	P	Pn	17 18 36.5	-0.1
	baz=184						
RND	Reindeer	3.83	28	Pn	Pn	17 18 36.3	-0.4
RND				IAML		17 19 20.3	
	comp=E,48nm,0.5s						
J18K	Innoko River	3.87	333		Pn	17 18 37.1	-0.1
J18K	Innoko River	3.87	333	P	Pn	17 18 37.1	-0.1
	baz=150						
M15K	Kasigluk River	3.96	282		Pn	17 18 38.6	+0.2
M15K	Kasigluk River	3.96	282	P	Pn	17 18 38.6	+0.2
	baz=95						
DHY	Denali Highway	3.97	38		Pn	17 18 38.0	-0.7
DHY				IAML		17 19 24.8	
	comp=N,107nm,0.4s						
DHY				IAML		17 19 24.8	
	comp=E,100nm,0.4s						
DHY	Denali Highway	3.97	38	P	Pn	17 18 38.1	-0.6
	baz=223						
GOAT	Goat Mountain	4.05	79		Pn	17 18 38.0	-1.7
MCK	McKinley	4.10	25		Pn	17 18 40.2	-0.1
MCK	McKinley	4.10	25	P	Pn	17 18 40.4	+0.1
	baz=208						
BPAW	Bear Paw Mtn.	4.12	11	Pn	Pn	17 18 39.6	-1.1
BPAW				IAML		17 19 26.6	
	comp=N,49nm,0.8s						
BPAW				IAML		17 19 27.6	
	comp=E,33nm,0.5s						
BPAW	Bear Paw Mtn.	4.12	11	P	Pn	17 18 39.9	-0.8
	baz=193						
J19K	Poorman	4.14	343		Pn	17 18 40.9	0.0
J19K	Poorman	4.14	343	P	Pn	17 18 40.7	-0.2
	baz=160						
BMRM	Bremner River	4.15	74		Pn	17 18 40.3	-0.8
BMRM	Bremner River	4.15	74	P	Pn	17 18 40.6	-0.5
	baz=261						
J20K	Nowinta River	4.16	352		Pn	17 18 41.3	+0.2
J20K	Nowinta River	4.16	352	P	Pn	17 18 41.3	+0.2
	baz=171						
KAIM	Kayak Island	4.22	88	Pn	Pn	17 18 41.8	-0.1
KAIM	Kayak Island	4.22	88	P	Pn	17 18 41.8	-0.1
	baz=276						
HMT	Hamilton	4.27	83	Pn	Pn	17 18 42.4	-0.3
N25K	Chitina, Valde	4.30	66		Pn	17 18 42.9	-0.2
N25K				IAML		17 19 31.8	
	comp=E,60nm,0.5s						
N25K				IAML		17 19 32.8	
	comp=N,56nm,0.8s						
N25K	Chitina, Valde	4.30	66	P	Pn	17 18 41.9	-1.2
	baz=253						
O14K	Tigyukauivet M	4.37	263		Pn	17 18 44.8	+0.9
O14K	Tigyukauivet M	4.37	263	IAML		17 20 11.9	
	comp=N,37nm,1.9s						
O14K	Tigyukauivet M	4.37	263	P	Pn	17 18 44.8	+0.9
	baz=75						
BWN	Browne	4.40	19		Pn	17 18 44.1	-0.1
BWN				IAML		17 19 53.5	
	comp=E,55nm,0.6s						
BWN				IAML		17 19 54.1	
	comp=N,64nm,1.0s						
N14K	Kuskokwak Cree	4.46	272		Pn	17 18 46.0	+1.0
N14K	Kuskokwak Cree	4.46	272	P	Pn	17 18 46.1	+1.0
	baz=84						
CHIR	Chirikof Islan	4.53	201	Pn	Pn	17 18 44.1	-1.9
SUCK	Suckling Hills	4.53	86	Pn	Pn	17 18 44.5	-1.6
SUCK				IAML		17 19 47.0	
	comp=E,60nm,1.8s						
SUCK				IAML		17 21 19.6	
	comp=N,60nm,1.8s						
L15K	Ungalak Mounta	4.53	294		Pn	17 18 46.0	0.0
L15K	Ungalak Mounta	4.53	294	P	Pn	17 18 46.0	0.0
	baz=107						
BERG	Berg Lake	4.55	82		Pn	17 18 46.0	-0.4
PAX	Paxson	4.55	47		Pn	17 18 46.1	-0.3
PAX	Paxson	4.55	47	P	Pn	17 18 46.2	-0.3
	baz=234						
M14K	Bethel	4.59	282	Pn	Pn	17 18 46.8	+0.1
M14K				IAML		17 19 26.6	
	comp=N,52nm,3.2s						
M14K				IAML		17 19 30.9	
	comp=E,59nm,3.6s						
GLB	Gilahina Butte	4.62	69		Pn	17 18 46.1	-1.3
GLB				IAML		17 19 39.9	
	comp=E,25nm,0.6s						
GLB				IAML		17 19 41.3	
	comp=N,29nm,0.4s						
VRDI	Verde Repeater	4.75	72		Pn	17 18 48.7	-0.5
VRDI				IAML		17 19 43.9	
	comp=N,32nm,0.6s						
VRDI				IAML		17 19 44.1	
	comp=E,26nm,0.4s						
K15K	Wolf Creek Mou	4.77	302		Pn	17 18 49.4	+0.2
K15K	Wolf Creek Mou	4.77	302	IAML		17 20 45.8	
	comp=N,21nm,3.9s						
KHIT	Khitrov Hills	4.78	81		Pn	17 18 48.5	-0.9
CHGN	Chignik	4.81	220	Pn	Pn	17 18 49.4	-0.4
CHGN				IAML		17 19 48.9	
	comp=E,56nm,0.1s						
CHGN				IAML		17 20 39.4	
	comp=N,37nm,2.5s						
CRQM	Cirque	4.84	78		Pn	17 18 50.2	-0.3
CRQM				IAML		17 19 45.5	
	comp=E,43nm,0.7s						
NEA2	Nenana	4.85	19		Pn	17 18 49.5	-0.9
NEA2	Nenana	4.85	19	P	Pn	17 18 49.6	-0.8
	baz=203						
CRQE	Cirque	4.86	78	P	Pn	17 18 50.1	-0.6
	baz=266						
J16K	Anvik River	4.91	314		Pn	17 18 50.8	-0.4
J16K				IAML		17 19 45.2	
	comp=N,19nm,2.4s						
J16K				IAML		17 20 21.7	
	comp=E,19nm,2.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
J16K	Anvik River	4.91	314	P	Pn	17 18 50.7	-0.4
	baz=127						
WRH	Wood River Hil	4.93	25	Pn	Pn	17 18 50.7	-0.7
WRH				IAML		17 19 46.4	
	comp=N,32nm,0.5s						
WAX	Waxell Ridge	4.97	81		Pn	17 18 51.5	-0.6
MCARA	McCarthy VSAT	4.98	71		Pn	17 18 51.9	-0.1
MCARA	McCarthy VSAT	4.98	71	P	Pn	17 18 52.0	-0.1
	baz=259						
SNH	Sunshine Point	4.99	85	Pn	Pn	17 18 52.2	-0.1
SNH				IAML		17 19 57.3	
	comp=E,44nm,2.4s						
SNH				IAML		17 19 59.4	
	comp=N,52nm,2.1s						
TGL	Tana Glacier	4.99	78		Pn	17 18 51.9	-0.5
TGL				IAML		17 19 49.9	
	comp=N,29nm,0.5s						
TGL				IAML		17 19 50.1	
	comp=E,31nm,1.2s						
L14K	Kuka Creek	5.01	289	Pn	Pn	17 18 52.6	+0.1
L14K				IAML		17 20 54.0	
	comp=E,27nm,2.7s						
L14K				IAML		17 21 49.9	
	comp=N,31nm,2.8s						
GCSA	Galena City Sc	5.05	340		Pn	17 18 53.2	+0.2
MLY	Manley	5.06	10		Pn	17 18 52.3	-1.0
I21K	Tanana	5.13	4		Pn	17 18 53.7	-0.5
I21K				IAML		17 19 51.2	
	comp=E,21nm,3.5s						
I21K				IAML		17 19 51.2	
	comp=N,21nm,3.1s						
HDA	Harding Lake	5.13	30		Pn	17 18 53.6	-0.6
CCB	Clear Creek Bu	5.14	25		Pn	17 18 53.2	-1.0
CCB				IAML		17 19 51.5	
	comp=N,21nm,0.4s						
CCB				IAML		17 19 53.2	
	comp=E,35nm,0.5s						
MENT	Mentasta	5.21	53		Pn	17 18 55.1	-0.2
MENT				IAML		17 20 13.0	
	comp=N,38nm,0.8s						
MENT				IAML		17 20 15.0	
	comp=E,34nm,0.5s						
ISLE	Juniper Island	5.23	80		Pn	17 18 54.9	-0.7
ISLE				IAML		17 19 54.3	
	comp=E,30nm,0.5s						
ISLE				IAML		17 20 22.3	
	comp=N,30nm,1.7s						
M13K	Dall Lake	5.26	278		Pn	17 18 57.5	+1.6
I17K	Unalakleet	5.33	319	Pn	Pn	17 18 56.5	-0.2
I17K				IAML		17 20 36.8	
	comp=N,20nm,2.9s						
I17K				IAML		17 20 37.0	
	comp=E,17nm,3.1s						
I23K	Minto, Yukon-K	5.33	16		Pn	17 18 56.6	-0.2
I23K				IAML		17 20 37.4	
	comp=N,15nm,1.5s						
COLA	College	5.33	23		Pn	17 18 56.5	-0.3
MDM	Murphy Dome	5.34	21		Pn	17 18 56.1	-0.9
MDM				IAML		17 19 57.0	
	comp=N,19nm,0.6s						
L26K	Log Cabin Wild	5.40	53	Pn	Pn	17 18 57.3	-0.5
L26K				IAML		17 20 19.2	
	comp=N,28nm,0.8s						
L26K				IAML		17 20 21.0	
	comp=E,33nm,0.5s						
MESA	MESA	5.43	84		Pn	17 18 58.3	-0.1
IL31		5.45	28		Pn	17 18 57.6	-0.8
ILAR	Eielson Array	5.45	28		Pn	17 18 57.6	-0.9
ILAR	Eielson Array	5.45	28	P	Pn	17 18 57.4	-1.1
	comp=E,14nm,0.4s,baz=214,slow=14,SNR=370						
ILAR				S	Sn	17 19 56.6	-3.3
	comp=E,7.3nm,0.5s,baz=199,slow=28,SNR=14						
H20K	Anotleneega Mo	5.52	351		Pn	17 18 59.3	-0.1
GRNC	Granite Creek	5.52	78		Pn	17 18 59.6	0.0
BARN	Barnard Glacie	5.59	75		Pn	17 19 00.6	+0.1
POKR	Poker Plat Res	5.63	24		Pn	17 19 00.2	-0.7
H18K	Honhosa River	5.70	336		Pn	17 19 01.7	-0.1
SCRK	Sand Creek	5.70	43		Pn	17 19 00.5	-1.5
J25K	Salcha River,	5.72	34		Pn	17 19 01.6	-0.6
H19K	Roundabout Mou	5.72	345		Pn	17 19 02.0	0.0
CTGM	Chitina Glacie	5.74	76		Pn	17 19 02.6	+0.1
M27K	Edge Creek, AK	5.75	62	Pn	Pn	17 18 60.0	-2.8
J14K	Nanvaranak Lak	5.81	302	Pn	Pn	17 19 04.2	+0.9
TABL	Table Mountain	5.82	81		Pn	17 19 03.7	0.0
H17K	Granite Mounta	5.88	329		Pn	17 19 03.9	-0.4
LOGN	Logan Glacier	5.89	78		Pn	17 19 04.7	+0.1
IMAR	Indian Mountai	5.94	356		Pn	17 19 05.0	0.0
SAMH	Samovar Hills	6.02	84		Pn	17 19 05.1	-1.1
BCAR	Beaver Creek A	6.06	56	Pn	Pn	17 19 06.2	-0.5
J26L	Joseph Creek	6.18	40		Pn	17 19 07.8	-0.6
H24K	Noodor Dome	6.20	19		Pn	17 19 08.0	-0.6
SDPT	Sand Point	6.27	224	Pn	Pn	17 19 10.3	+0.7
PCA	Pinnacle	6.28	84		Pn	17 19 09.8	0.0
O28M	Mount Upton	6.29	78		Pn	17 19 10.5	+0.4
G19K	Purcell Mounta	6.39	344		Pn	17 19 10.8	-0.3
PRP	Porcupine Dome	6.39	28		Pn	17 19 10.6	-0.7
G18K	Tagagawik	6.41	338		Pn	17 19 11.1	-0.4
CNBA	Chernabura Isl	6.42	218	Pn	Pn	17 19 11.0	-0.6
G21K	Allakaket	6.47	358		Pn	17 19 12.2	0.0
G17K	Kiwalik Mounta	6.52	330		Pn	17 19 12.2	-0.7
BCPM	Bancas Point	6.61	85	Pn	Pn	17 19 14.1	-0.1
YKU2	Yakutat	6.66	89	Pn	Pn	17 19 14.4	-0.4
PNL	Peninsula	6.77	88		Pn	17 19 15.4	-0.9
G23K	Bananza Creek	6.77	9		Pn	17 19 15.5	-0.9
G16K	Koyuk River	6.90	325	Pn	Pn	17 19 17.4	-0.6
G24K	Hadweenzic Riv	7.06	18		Pn	17 19 19.5	-0.8
O29M	Mount Kennedy	7.10	82		Pn	17 19 20.6	-0.3
F20K	Avaraart Lake	7.12	351		Pn	17 19 21.2	+0.3
F19K	Shaleruckik Mo	7.13	344		Pn	17 19 20.1	-1.0
EGAK	Eagle	7.17	44		Pn	17 19 20.5	-1.2
F21K	Alatna River	7.18	358		Pn	17 19 21.7	-0.1
COLD	Coldfoot	7.27	8		Pn	17 19 22.9	-0.1
M29M	Somme Creek	7.31	65		Pn	17 19 23.8	+0.1
FYU	Fort Yukon	7.34	24		Pn	17 19 22.4	-1.6
ANM	Nome	7.37	313	Pn	Pn	17 19 24.5	+0.1
F17K	Baldwin Pennin	7.43	333		Pn	17 19 24.9	-0.2
YUK5	Granite Creek	7.43	75		Pn	17 19 25.4	-0.1
DAWY	Dawson	7.46	52	Pn	Pn	17 19 25.6	-0.1
P29M	Windy Craggy	7.60	87		Pn	17 19 27.7	+0.1
HYT	Haines Junctio	7.61	78	Pn	Pn	17 19 27.0	-0.8
E19K	Redstone River	7.66	347		Pn	17 19 28.9	+0.5
F24K	Squaw Lake	7.78	14		Pn	17 19 29.0	-0.9
F15K	North Star Dit	7.81	321	Pn	Pn	17 19 30.0	-0.4
N30M	Aishikik Lake	7.82	73	Pn	Pn	17 19 29.3	-1.3
I28M	Miner Creek	7.98	42		Pn	17 19 32.2	-0.6
M30M	Minto, Yukon	8.10	65	Pn	Pn	17 19 33.9	-0.4
E22K	Anaktuvuk Pass	8.10	3		Pn	17 19 35.5	+1.2
K29M	Barlow Dome	8.12	56	Pn	Pn	17 19 34.2	-0.5
E18K	Tukpahlearik C	8.13	338	Pn	Pn	17 19 34.7	0.0
E23K	Chandalar	8.13	9		Pn	17 19 33.9	-0.9
BMAR	Burnt Mountain	8.22	23	Pn	Pn	17 19 33.9	-2.0
O30N	Mendenhall	8.30	78	Pn	Pn	17 19 36.1	-1.0
G27K	Doyon Strip	8.39	32		Pn	17 19 36.9	-1.3
I29M	Ogilvie Camp,	8.50	45	Pn	Pn	17 19 38.5	-1.2
E25K	Arctic Village	8.66	18		Pn	17 19 40.5	-1.5
TOLK	Toolik Lake Re	8.71	8		Pn	17 19 42.1	-0.4
S31K	Pelican	8.81	97		Pn	17 19 43.1	-0.8
SKAG	Skagway	8.84	86		Pn	17 19 44.4	+0.1
J30M	Hart River	8.88	52		Pn	17 19 44.1	-0.9
WHY	Whitehorse	8.90	78	Pn	Pn	17 19 44.4	-0.9
BESE	Bessie Mountai	9.30	91	Pn	Pn	17 19 51.7	+1.1
C18K	Utukok River	9.33	341	Pn	Pn	17 19 47.6	-3.3
F28M	Old Crow	9.45	31		Pn	17 19 50.6	-2.0
E27K	Coleen River	9.48	26	Pn	Pn	17 19 50.0	-3.0
G29M	Pine Creek	9.50	38	Pn	Pn	17 19 53.3	+0.1
R32K	Eaglecrest	9.56	93	Pn	Pn	17 19 55.0	+0.9
B21K	Ikpikpuk River	9.61	356	Pn	Pn	17 19 53.5	-1.2
SIT	Sitka	9.62	101	Pn	Pn	17 19 52.9	-2.0
P32M	Atlin	9.62	85	Pn	Pn	17 19 53.5	-1.5
JIS	Juneau Island	9.63	93	Pn	Pn	17 19 54.5	-0.4
FARO	Faro, Yukon	9.64	69	Pn	Pn	17 19 55.2	0.0
N32M	Quiet Lake	9.75	75	Pn	Pn	17 19 56.9	+0.2
S32K	Killisnoo	9.82	97	Pn	Pn	17 19 58.8	+1.2
P33M	Teslin, Yukon	9.96	81	Pn	Pn	17 19 60.0	+0.3
G30M	tAoh Zraii Nji	10.10	40	Pn	Pn	17 20 01.2	-0.2
E28M	Babbage River	10.28	28	Pn	Pn	17 20 01.7	-2.1
B22K	Teshekpuk Lake	10.31	359		Pn	17 20 02.2	-1.9
Q32M	Nakina River	10.49	87	Pn	Pn	17 20 07.2	+0.3
E29M	Blow River	10.53	31		Pn	17 20 06.1	-1.1
G31M	Satah River	10.71	42	Pn	Pn	17 20 07.7	-1.9
R33M	Jennings River	11.03	84	Pn	Pn	17 20 12.4	-1.8
U33K	Whale Pass	11.13	102		Pn	17 20 12.6	-2.8
F31M	Tsiigehtchic	11.16	41	Pn	Pn	17 20 13.6	-2.0
NIKH	Nikolski High	11.34	238	Pn	Pn	17 20 16.7	-1.5
WRAK	Wrangell Islan	11.37	100	Pn	Pn	17 20 17.5	-1.0
CRAG	Craig	11.46	105	Pn	Pn	17 20 17.6	-2.2
INK	Inuvik	11.72	37	Pn	Pn	17 20 23.2	+0.2
INK	Inuvik	11.72	37	P	Pn	17 20 22.6	-0.4
	comp=E,1.4nm,0.8s,baz=237,slow=14,SNR=4.9						
DLBC	Dease Lake	11.76	88	Pn	Pn	17 20 25.5	+1.7
DLBC	Dease Lake	11.76	88	P	Pn	17 20 25.2	+1.4
	comp=E,1.2nm,0.3s,baz=270,slow=11,SNR=3.4						
DLBC				S	Sn	17 22 32.8	-0.2
	comp=E,1.0nm,0.4s,baz=17,slow=15,SNR=2.3						
A36M	Sachs Harbour	16.14	31		Pn	17 21 18.4	-1.2
A36M				IAmb	IAmb	17 21 24.8	
	comp=Z,6.4nm,0.7s						
YKA	Yellowknife Ar	18.33	66	P	P	17 21 44.0	-1.0
YKA	Yellowknife Ar	18.33	66	P	Pn	17 21 45.5	-0.8
	comp=Z,1.6nm,0.5s,baz=277,slow=10,SNR=24						
NEW	Newport	23.68	104	P	P	17 22 42.3	+1.4
SEY	Seymchan	25.63	300	LR	LR	17 33 43.0	
	comp=Z,158nm,21.0s,baz=191,slow=38						
BMO	Blue Mountains	26.04	110	P	P	17 23 03.6	+1.2
BMO				IAmb	IAmb	17 23 08.4	
	comp=Z,3.3nm,1.4s						
BOZ	Bozeman (W)	28.23	102	P	P	17 23 24.3	+2.3
IMW	Indian Meadow	29.81	104	P	P	17 23 38.6	+2.5
IMW				IAmb	IAmb	17 23 39.6	
	comp=Z,4.2nm,0.8s						
FXWY	Fox Creek	29.95	104	P	P	17 23 39.8	+2.5
FXWY				IAmb	IAmb	17 23 40.5	
	comp=Z,1.6nm,0.6s						
TPAW	Teton Pass	30.10	104	P	P	17 23 40.7	+2.0
NVAR	Mina Array Bea	30.68	119	P	P	17 23 45.7	+2.0
	comp=Z,0.2nm,0.3s,baz=323,slow=9.4,SNR=4.2						
	comp=Z,0.2nm,0.3s						
PDAR	Pinedale Array	31.32	104	P	P	17 23 51.1	+1.8
	comp=Z,0.8nm,0.5s,baz=323,slow=5.2,SNR=7.7						
	comp=Z,0.8nm,0.5s						
RSSD	Black Hills	33.05	97	P	P	17 24 06.2	+1.8
RSSD				IAmb	IAmb	17 24 07.4	
	comp=Z,2.2nm,0.7s						
SRU	San Rafael Swe	33.68	109	P	P	17 24 12.2	+2.2
SRU				IAmb	IAmb	17 24 13.1	
	comp=Z,3.0nm,0.7s						
EYMN	Ely	36.65	81	P	P	17 24 35.6	+0.6
SDCO	Great Sand Dun	37.16	105	P	P	17 24 42.1	+2.2
SDCO				IAmb	IAmb	17 24 42.6	
	comp=Z,1.2nm,0.7s						
SPITS	Spitsbergen Ar	41.83	3	P	P	17 25 18.0	+0.2
	comp=Z,1.3nm,0.3s,baz=349,slow=7.6,SNR=12						
	comp=Z,1.3nm,0.3s						
TXAR	Lajitas Array	44.92	111	P	P	17 25 44.5	+1.3
	comp=Z,0.8nm,0.8s,baz=316,slow=6.1,SNR=10						
	comp=Z,0.8nm,0.8s						
SONM	Songino Array	54.82	306	P	P	17 26 58.6	+0.7
	comp=Z,1.0nm,0.8s,baz=31,slow=7.5,SNR=4.4						
	comp=Z,1.0nm,0.8s						
ZALV	Zalesovo Beam	57.37	324	P	P	17 27 15.7	-0.1
	comp=Z,1.8nm,0.6s,baz=36,slow=7.2,SNR=8.4						
	comp=Z,1.8nm,0.6s						
FINES	FINESS Array B	58.80	1	P	P	17 27 25.7	+0.1
	comp=Z,2.2nm,0.8s,baz=358,slow=8.3,SNR=4.2						
	comp=Z,2.2nm,0.8s						
KURBB	Kurchatov Arra	62.12	326	P	P	17 27 47.6	-0.7
	comp=Z,1.0nm,0.6s,baz=28,slow=6.8,SNR=8.1						
	comp=Z,1.0nm,0.6s						
EKA	Eskdalemuir Ar	62.42	19	P	P	17 27 50.8	+0.6
	comp=Z,0.9nm,0.7s,baz=327,slow=6.0,SNR=3.8						
	comp=Z,0.9nm,0.7s						
MKAR	Makanchi Array	64.43	321	P	P	17 28 02.9	-0.8
	comp=Z,0.4nm,0.5s,baz=45,slow=7.6,SNR=8.4						
	comp=Z,0.4nm,0.5s						
BELG	Belogornoye	66.68	347	LR	LR	17 58 04.9	
	comp=Z,53nm,21.5s,baz=226,slow=36						
GERES	GERESS Array B	70.88	9	LR	LR	18 00 09.5	
	comp=Z,40nm,19.0s,baz=179,slow=36						

*MOS **02** 17:20:23.5±0.9, 2˚72S×28˚62E, h10km, mb5.2/73, Error ellipse: s-maj=8.2km s-min=3.6km az=88.0*
*IDC **02** 17:20:24.4±0.4, 2˚71S×28˚59E, h0km, mb4.5/33, mbtmp4.5/37, ML3.1/2, MS3.9/34, Error ellipse: s-maj=15.0km s-min=8.6km az=98.0*
*BJI **02** 17:20:25.0, 2˚63S×28˚72E, h8km, mb4.9/47, mB5.3/20, Ms4.8/9, Ms7 4.4/9*
*NEIC **02** 17:20:26.4±1.5, 2˚70S±0˚08×28˚66E±0˚08, h12km±4km, mb5.1/128, Mww4.8/9, Error ellipse: s-maj=11.9km s-min=10.7km az=136.0*
*NEIC **02** 17:20:26.4, 2˚65S×28˚70E, h18km*
*NEIC **02** 17:20:26.4, 2˚75S×28˚40E, h18km, Moment Tensor Solution. Duration: 1s2 Moment tensor: Scale 10^16Nm; Mrr-1.89; Mθθ1.43; Mϕϕ0.46; Mrθ0.33; Mθϕ0.83; Mϕr0.50; Fault plane solution: M0 1.99000×10^16 NP1: ϕs232.50000°, δ53.34000°, λ-99.21000°. NP2: ϕs67.69000°, δ37.64000°, λ-77.87000°. Principal axes: T 1.9745, Plg8.0000°, Azm329.0000°; N 0.0221, Plg7.0000°, Azm238.0000°; P -1.9966, Plg79.0000°, Azm106.0000°;*
*GCMT **02** 17:20:29.4±0.3, 2˚43S±0˚02×28˚49E±0˚03, h18km, MW4.9/82, Moment Tensor Solution. s41,c48; s82,c116; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.38±.15; Mθθ2.19±.10; Mϕϕ0.19±.13; Mrθ0.40±.22; Mθϕ1.08±.07; Mϕr-1.09±.36; Best double couple: M0 2.77900×10^16 NP1: ϕs44.00000°, δ51.00000°, λ-122.00000°. NP2: ϕs268.00000°, δ49.00000°, λ-57.00000°. Principal axes: T 2.6640, Plg1.0000°, Azm156.0000°; N 0.2350, Plg24.0000°, Azm66.0000°; P -2.8950, Plg66.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **02** 17:20:33.9, 1˚29S×30˚58E, h14km, mb5.0, Ms3.8*
ISC 02 17:20:26.6±0.6, **2˚69S**±0˚04×**28˚68E**±0˚04, **h16**km±3km, **n566**, σ**1˚71**/603, **mb4.9**/204, **MS4.0**/37, **28C-35D, Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DODT	Dodoma, Tanzan	7.86	116	*i* S	Sb	17 24 18.7	+2.6
DODT				*i* P	Sn	17 23 46.6	-2.6
KMBO	Kilima Mbogo	8.71	80	Pn	Pn	17 22 32.0	-0.2
KMBO				Sn	Sn	17 24 05.7	-4.6
KMBO	Kilima Mbogo	8.71	80	*e*P	Pn	17 22 32.3	+0.1
KMBO				*e*S	Sn	17 23 57.6	-13
KMBO				IAML		17 25 06.1	
	comp=Z,370nm,0.7s						
KMBO	Kilima Mbogo	8.71	80	*e*P	Pn	17 22 33.6	+1.4
KMBO				*e*S	Sn	17 24 37.4	+27
KMBO				IAMs_20	IAMs_20	17 25 09.9	
	comp=Z,5µm,11.5s						
KMBO	Kilima Mbogo	8.71	80	*e*P	Pn	17 22 31.5	-0.7
KMBO				*e*S	Sn	17 24 52.4	+42
KMBO				IAMs_20	IAMs_20	17 25 10.0	
	comp=Z,5µm,9.3s						
KMBO	Kilima Mbogo	8.71	80	P	Pn	17 22 32.5	+0.4
KMBO				S	Sn	17 24 09.9	-0.4
KMBO	Kilima Mbogo	8.71	80⇑	*i*P	Pn	17 22 32.4	+0.2
KMBO	Kilima Mbogo	8.71	80	*de*P	Pn	17 22 32.6	+0.4
KMBO	Kilima Mbogo	8.71	80	Pn	Pn	17 22 32.1	-0.1
	11nm,0.3s,baz=233,slow=18,SNR=33						
KMBO				Sn	Sn	17 24 11.4	+1.1
	4.4nm,0.3s,baz=0.1,slow=18,SNR=5.9						
KMBO				Lg	Lg	17 24 57.5	
	10nm,0.3s,baz=348,slow=17,SNR=13						
KMBO	Kilima Mbogo	8.71	80	*e*P	Pn	17 22 31.5	-0.7
KMBO				*e*S	Sn	17 24 52.4	+42
KMBO				IAMs_20	IAMs_20	17 25 10.0	
	comp=Z,5µm,9.3s						
KMBO	Kilima Mbogo	8.71	80	*e*P	Pn	17 22 32.5	+0.4
KMBO				*e*S	Sn	17 24 44.5	+34
KMBO	Kilima Mbogo	8.71	80	*e*P	Pn	17 22 33.6	+1.4
KMBO				*e*S	Sn	17 24 37.4	+27
KMBO				IAMs_20	IAMs_20	17 25 09.9	
	comp=Z,5µm,11.5s						
KMBO	Kilima Mbogo	8.71	80	*e*P	Pn	17 22 32.3	+0.1
KMBO				*e*S	Sn	17 23 57.6	-13
KMBO				IAML		17 25 06.1	
	comp=Z,370nm,0.7s						
LODK	Lodwar	9.03	48	Pn	Pn	17 22 34.3	-2.1
LODK				Sn	Sn	17 24 11.8	-6.1
LODK	Lodwar	9.03	48	*e*P	Pn	17 22 35.8	-0.6
LODK				*e*S	Sn	17 24 03.8	-14
LODK	Lodwar	9.03	48	*e*P	Pn	17 22 41.0	+4.6
LODK				*e*S	Sn	17 24 53.8	+36
LODK				IAMs_20	IAMs_20	17 25 47.8	
	comp=N,8µm,6.5s						
LODK	Lodwar	9.03	48	*e*P	Pn	17 22 34.8	-1.7
LODK				*e*S	Sn	17 25 02.7	+45
LODK				IAMs_20	IAMs_20	17 25 47.9	
	comp=N,8µm,6.5s						
LODK	Lodwar	9.03	48	P	Pn	17 22 34.4	-2.0
	SNR=26						
LODK	Lodwar	9.03	48	*e*P	Pn	17 22 34.8	-1.7
LODK				*e*S	Sn	17 25 02.7	+45
LODK				IAMs_20	IAMs_20	17 25 47.9	
	comp=N,8µm,6.5s						
LODK	Lodwar	9.03	48	*e*P	Pn	17 22 34.9	-1.5
LODK				*e*S	Sn	17 24 47.7	+30
LODK	Lodwar	9.03	48	*e*P	Pn	17 22 41.0	+4.6
LODK				*e*S	Sn	17 24 53.8	+36
LODK				IAMs_20	IAMs_20	17 25 47.8	
	comp=N,8µm,6.5s						
LODK	Lodwar	9.03	48	*e*P	Pn	17 22 35.8	-0.6
LODK				*e*S	Sn	17 24 03.8	-14
KIBK	Kibwezi	9.36	88	Pn	Pn	17 22 39.2	-1.9
KIBK				Sn	Sn	17 24 21.5	-4.7
KIBK	Kibwezi	9.36	88	P	Pn	17 22 40.1	-1.0
	SNR=19						
LSZ	Lusaka	12.51	182	Pn	Pn	17 23 23.1	-1.2
LSZ	Lusaka	12.51	182	P	Pn	17 23 25.0	+0.7
LSZ	Lusaka	12.51	182	Pn	Pn	17 23 23.8	-0.4
	comp=N,14nm,0.8s,baz=4.9,slow=12,SNR=11						
LSZ				Sn	Sn	17 25 35.2	-8.2
	comp=N,2.7nm,0.3s,baz=107,slow=14,SNR=4.6						
LSZ				Lg	Lg	17 26 57.3	
	comp=N,8.9nm,0.3s,baz=120,slow=15,SNR=5.5						
LSZ				LR	LR	17 28 25.1	
	comp=N,2µm,18.8s,baz=7.5,slow=38						
FURI	Furi	15.23	41	Pn	Pn	17 24 01.5	0.0
FURI	Furi	15.23	41	*e*P	P	17 24 09.9	+3.6
FURI				*e*S	Sn	17 26 51.6	+1.5
FURI	Furi	15.23	41	*e*P	P	17 24 04.7	-1.6
FURI				*e*S	S	17 27 22.2	+15
FURI				IAMs_20	IAMs_20	17 30 03.4	
	comp=N,3µm,13.9s						
FURI	Furi	15.23	41	*e*P	Pn	17 23 56.9	-4.6
FURI				*e*S	S	17 27 21.9	+15
FURI				IAMs_20	IAMs_20	17 30 03.6	
	comp=N,3µm,13.9s						
FURI	Furi	15.23	41	*e*P	Pn	17 23 56.9	-4.6
FURI				*e*S	S	17 27 21.9	+15
FURI				IAMs_20	IAMs_20	17 30 03.6	
	comp=N,3µm,13.9s						
FURI	Furi	15.23	41	*e*P	P	17 24 04.7	-1.6
FURI				*e*S	S	17 27 22.2	+15
FURI				IAMs_20	IAMs_20	17 30 03.4	
	comp=N,3µm,13.9s						
FURI	Furi	15.23	41	*e*P	P	17 24 09.9	+3.6
FURI				*e*S	Sn	17 26 51.6	+1.5
DESE	Dese	17.52	38	*e*P	P	17 24 36.8	+5.0
DESE				*e*S	S	17 27 50.5	-3.2
DESE	Dese	17.52	38	*e*P	P	17 24 34.2	+2.4
DESE				*e*S	S	17 28 19.6	+26
DESE				IAMs_20	IAMs_20	17 31 17.0	
	comp=N,7µm,9.1s						
DESE	Dese	17.52	38	*e*P	Pn	17 24 26.4	-4.3
DESE				*e*S	S	17 28 13.0	+19
DESE				IAMs_20	IAMs_20	17 31 17.2	
	comp=N,7µm,9.1s						
DESE	Dese	17.52	38	*e*P	Pn	17 24 26.4	-4.3
DESE				*e*S	S	17 28 13.0	+19
DESE				IAMs_20	IAMs_20	17 31 17.2	
	comp=N,7µm,9.1s						
DESE	Dese	17.52	38	*e*P	P	17 24 34.2	+2.4
DESE				*e*S	S	17 28 19.6	+26
DESE				IAMs_20	IAMs_20	17 31 17.0	
	comp=N,7µm,9.1s						
DESE	Dese	17.52	38	*e*P	P	17 24 36.8	+5.0
DESE				*e*S	S	17 27 50.5	-3.2
MATP	Matopo	17.63	181	P	Pn	17 24 32.1	+0.4
	comp=N,0.3nm,0.3s,baz=357,slow=14,SNR=9.5						
MATP				S	Sn	17 27 39.7	-8.3
	comp=N,7.0nm,0.7s,baz=104,slow=4.7,SNR=2.7						
MATP				Lg	Lg	17 29 40.4	
	comp=N,0.6nm,0.3s,baz=79,slow=23,SNR=5.8						
MATP				LR	LR	17 31 23.0	
	comp=N,609nm,18.3s,baz=9.0,slow=37						
	comp=N,1.4nm,0.5s						
MUSN	Musina, Limpop	19.51	177	*e*P	Pn	17 24 55.3	+0.6
TSUM	Tsumeb	19.67	213	P	P	17 24 53.2	-2.0
TSUM	Tsumeb	19.67	213	*e*P	P	17 24 55.4	+0.2
TSUM	Tsumeb	19.67	213	P	P	17 24 55.7	+0.5
	comp=N,1.8nm,0.3s,baz=25,slow=11,SNR=5.3						
TSUM				S	S	17 28 22.1	-15
	comp=N,11nm,0.8s,baz=322,slow=16,SNR=2.0						
TSUM				Lg	Lg	17 30 43.8	
	comp=N,0.9nm,0.3s,baz=116,slow=18,SNR=7.0						
TSUM				LR	LR	17 33 06.0	
	comp=N,245nm,20.5s,baz=140,slow=39						
	comp=N,18nm,0.8s						
ATD	Arta Tunnel	19.95	45	*e*P	Pn	17 25 04.8	+4.8
ATD				*e*S	Sn	17 28 46.7	+2.4
ATD	Arta Tunnel	19.95	45	*e*P	Pn	17 24 59.1	-0.9
ATD				*e*S	Sn	17 29 05.1	+21
ATD				IAMs_20	IAMs_20	17 32 21.0	
	comp=N,6µm,8.0s						
ATD	Arta Tunnel	19.95	45	*e*P	Pn	17 24 59.1	-0.9
ATD				*e*S	Sn	17 29 10.1	+26
ATD				AMP		17 32 21.1	
	comp=N,6µm,8.0s						
ATD	Arta Tunnel	19.95	45	P	Pn	17 24 59.3	-0.6
ATD				S	S	17 28 41.1	-1.4
ATD	Arta Tunnel	19.95	45	LR	LR	17 32 60.0	
	comp=N,54nm,18.8s,baz=204,slow=38						
ATD	Arta Tunnel	19.95	45	*e*P	Pn	17 24 59.1	-0.9
ATD				*e*S	Sn	17 29 10.1	+26
ATD				AMP		17 32 21.1	
	comp=N,6µm,8.0s						
ATD	Arta Tunnel	19.95	45	*e*P	Pn	17 24 59.1	-0.9
ATD				*e*S	Sn	17 29 05.1	+21
ATD				IAMs_20	IAMs_20	17 32 21.0	
	comp=N,6µm,8.0s						
ATD	Arta Tunnel	19.95	45	*e*P	Pn	17 25 04.8	+4.8
ATD				*e*S	Sn	17 28 46.7	+2.4
MPHEP	Siloam, Limpop	20.15	176	*e*P	Pn	17 25 02.8	+0.6
MPHEP				IAmb	IAmb	17 25 09.8	
	comp=Z,73nm,1.2s						
MOPA	Mopani	20.87	173	*e*P	Pn	17 25 10.6	0.0
LEPH	Lephalale, Lim	21.06	182	*e*P	P	17 25 11.3	+1.1
LEPH				IAmb	IAmb	17 25 24.1	
	comp=Z,76nm,1.5s						
LBTB	Lobatse	22.39	187	P	P	17 25 23.3	-1.2
LBTB	Lobatse	22.39	187⇓	*i*P	P	17 25 27.3	+2.8
LBTB				IAmb	IAmb	17 25 32.8	
	comp=Z,74nm,1.4s						
LBTB	Lobatse	22.39	187	P	P	17 25 23.3	-1.2
LBTB				pmax	pmax		
	comp=Z,50nm,1.1s						
LBTB	Lobatse	22.39	187	P	P	17 25 25.2	+0.7
	comp=Z,16nm,0.8s,baz=5.0,slow=11,SNR=17						
LBTB				S	S	17 29 27.4	-2.8
	comp=Z,6.9nm,0.8s,baz=21,slow=18,SNR=2.3						
LBTB				Lg	Lg	17 32 05.9	
	comp=Z,0.3nm,0.3s,baz=269,slow=10,SNR=3.9						
LBTB				LR	LR	17 34 29.8	
	comp=Z,807nm,19.7s,baz=10,slow=38						
	comp=Z,16nm,0.8s						
DULL	Dullstroom, Mp	22.59	176	*e*P	P	17 25 28.5	+1.8
DULL				IAmb	IAmb	17 25 33.1	
	comp=Z,58nm,1.2s						
WIN	Windhoek	22.73	209	P	P	17 25 26.1	-2.2
WIN	Windhoek	22.73	209	P	P	17 25 26.1	-2.2
WIN				pmax	pmax		
	comp=Z,38nm,1.2s						
HRAO	HartRAO	23.08	182	*e*P	P	17 25 33.9	+2.1
HRAO				IAmb	IAmb	17 25 38.3	
	comp=Z,83nm,1.3s						
KSR	Koster	23.09	184	*e*P	P	17 25 36.5	+4.5
KSR				IAmb	IAmb	17 25 38.5	
	comp=Z,105nm,1.8s						
OPO	Ambohidratompo	24.03	132	P	P	17 25 43.4	+2.1
	comp=Z,3.4nm,0.9s,baz=346,slow=8.3,SNR=2.7						
OPO				LR	LR	17 33 49.8	
	comp=Z,304nm,21.3s,baz=199,slow=33						
	comp=Z,3.4nm,0.9s						
BOSA	Boshof	25.98	187	P	P	17 25 57.5	-1.3
BOSA	Boshof	25.98	187	*e*P	P	17 25 59.1	+0.2
BOSA				IAmb	IAmb	17 26 07.2	

comp=Z,23nm,1.0s
BOSA Boshof 25.98 187 P **P** **17 25 57.6 -1.3**
BOSA pmax pmax
comp=Z,24nm,1.1s
BOSA Boshof 25.98 187 P **P** **17 25 59.5 +0.6**
comp=Z,7.7nm,0.8s,baz=4.7,slow=8.7,SNR=17
BOSA Lg Lg 17 34 02.9
comp=Z,0.1nm,0.3s,baz=106,slow=16,SNR=2.1
BOSA LR LR 17 36 29.9
comp=Z,970nm,19.5s,baz=7.0,slow=37
comp=Z,7.7nm,0.8s
MSEY Mahe Island 26.81 95 P **P** **17 26 05.2 -1.3**
MSEY IAmb IAmb 17 26 07.6
comp=Z,72nm,1.1s
MSEY Mahe Island 26.81 95 P **P** **17 26 05.2 -1.3**
MSEY pmax pmax
comp=Z,72nm,1.1s
SUR Sutherland 30.44 193 LR LR 17 37 42.7
comp=Z,300nm,19.6s,baz=24,slow=34
GRHM Grahamstown, E 30.50 184 P **P** **17 26 38.2 -0.9**
GRHM IAmb IAmb 17 27 33.1
comp=Z,44nm,1.4s
TOA0 Torodi Ar. Sit 31.07 301 P **P** **17 26 42.4 -1.9**
TOA0 Torodi Ar. Sit 31.07 301 P **P** **17 26 43.2 -1.0**
TORD Torodi Ar. Bea 31.07 301 P **P** **17 26 43.0 -1.3**
TORD Torodi Ar. Bea 31.07 301 P **P** **17 26 43.0 -1.3**
comp=Z,6.1nm,0.7s,baz=99,slow=7.7,SNR=22
TORD Lg Lg 17 36 44.0
comp=Z,0.1nm,0.3s,baz=107,slow=22,SNR=6.7
TORD LR LR 17 38 24.6
comp=Z,199nm,18.2s,baz=124,slow=35
comp=Z,6.1nm,0.7s
WHFO Wadi Hawf 32.11 49 P **P** **17 26 56.7 +3.3**
WHFO S **S** **17 32 06.0 +0.5**
RER Riviere de l'E 32.11 127 P **P** **17 26 53.7 +0.2**
EIL Elat 32.73 10 LR LR 17 39 00.9
comp=Z,271nm,18.5s,baz=134,slow=34
DMTO DMTO 32.89 51 P **P** **17 27 03.2 +2.9**
DMTO S **S** **17 32 19.7 +2.1**
TAM Tamanrasset 33.94 319 P **P** **17 27 08.0 -1.6**
TAM Tamanrasset 33.94 319 P **P** **17 27 08.0 -1.6**
TAM pmax pmax
comp=Z,9.0nm,1.3s
GHAJ Ghor Haditha 34.44 10 P **P** **17 27 12.6 -0.9**
GHAJ IAmb IAmb 17 27 16.2
comp=Z,25nm,0.9s
KIC Kosan Boka 34.56 285⇑ *e*P **P** **17 27 13.8 -1.1**
comp=Z,18nm,0.9s
DBIC Dimbokro 34.75 286 P **P** **17 27 14.7 -1.8**
DBIC Dimbokro 34.75 286 *e*P **P** **17 27 19.8 +3.3**
DBIC Dimbokro 34.75 286 P **P** **17 27 14.7 -1.8**
DBIC pmax pmax
comp=Z,16nm,0.9s
DBIC Dimbokro 34.75 286 P **P** **17 27 14.9 -1.5**
comp=Z,4.9nm,0.6s,baz=92,slow=8.6,SNR=7.1
DBIC LR LR 17 41 40.4
comp=Z,177nm,18.4s,baz=72,slow=37
comp=Z,4.9nm,0.6s
LIC Lamto 34.80 285⇑ *e*P **P** **17 27 15.7 -1.3**
comp=Z,22nm,0.7s
TIC Toumodi 34.90 286⇑ *e*P **P** **17 27 16.8 -1.0**
comp=Z,14nm,0.5s
SAKB Bahrain 35.49 35 P **P** **17 27 24.6 +1.9**
MMAI Mount Meron Ar 36.08 10 P **P** **17 27 28.2 +0.5**
comp=Z,2.4nm,0.8s,baz=209,slow=12,SNR=4.9
MMAI LR LR 17 41 39.9
comp=Z,181nm,18.2s,baz=160,slow=35
comp=Z,2.4nm,0.8s
MHTO MHTO 37.11 49 P **P** **17 27 38.4 +1.8**
MHTO S **S** **17 33 21.1 -1.4**
ALNE Al Ain 37.42 43 *i* P **P** **17 27 41.4 +2.3**
SNR=12
ALNE Al Ain 37.42 43 P **P** **17 27 41.5 +2.3**
ARQ Araqi 37.49 45 P **P** **17 27 43.2 +3.3**
BSY Bisya 37.60 46 P **P** **17 27 43.3 +2.5**
CSS Mathiatis 37.71 6 P **P** **17 27 40.9 -0.7**
CSS IAmb IAmb 17 27 44.3
comp=Z,23nm,1.0s
FAQ Al Faqa, Dubai 37.77 42 P **P** **17 27 44.9 +2.7**
IDI Anoyia 37.95 355 P **P** **17 27 43.9 +0.3**
NAZ Nazwa, Dubai 37.98 42 P **P** **17 27 46.2 +2.3**
NAZ S **S** **17 33 37.1 +1.4**
SOHO SOHO 38.01 44 *i* P **P** **17 27 46.7 +2.5**
SNR=17
SOHO SOHO 38.01 44 P **P** **17 27 46.9 +2.7**
ASHO Ashiyiah 38.05 43 *i* P **P** **17 27 46.9 +2.3**
SNR=19
ASHO Ashiyiah 38.05 43 P **P** **17 27 47.1 +2.6**
SNR=6.2
HATD Hatta, Dubai 38.19 43 *i* P **P** **17 27 48.1 +2.3**
SNR=15
HATD Hatta, Dubai 38.19 43 P **P** **17 27 48.6 +2.8**
SNR=5.8
HOQ Hoqain 38.20 45 P **P** **17 27 48.4 +2.5**
SNR=8.3
HOQ P **P** **17 27 48.4 +2.5**
SNR=8.3
UOSS Minazif 38.32 43 P **P** **17 27 47.6 +0.8**
UOSS IAmb IAmb 17 27 50.1
comp=Z,25nm,1.0s
UOSS Minazif 38.32 43 *i* P **P** **17 27 49.0 +2.2**
SNR=11
UOSS Minazif 38.32 43 P **P** **17 27 49.2 +2.4**
UOSS S **S** **17 33 41.3 +0.5**
SMDO Samad 38.41 47 P **P** **17 27 50.1 +2.4**
SNR=8.7
MSFE Esma-Masafi 38.56 42 *i* P **P** **17 27 50.8 +1.9**
SNR=7.6
ARG Arkhangelos 38.71 359 P **P** **17 27 50.8 +0.9**
ARG Arkhangelos 38.71 359 P **P** **17 27 50.8 +0.9**
ARG pmax pmax
comp=Z,107nm,1.1s
BIDO Bidbid 38.75 46 P **P** **17 27 54.0 +3.5**
SNR=14
WBK Wadi Bani Khal 38.81 48 P **P** **17 27 53.3 +2.2**
JLN Jalan Bani Buh 38.87 49 P **P** **17 27 54.2 +2.7**
SANT Santorini 38.98 356 P **P** **17 27 50.0 -2.3**
SHME Shamm 39.02 41 *i* P **P** **17 27 54.6 +1.9**
SNR=13
SHME Shamm 39.02 41 P **P** **17 27 55.1 +2.5**
SNR=7.0
ELL Elmali 39.26 2 **P** **17 27 55.2 +0.6**
ELL IAmb IAmb 17 28 12.9
comp=Z,91nm,1.3s
ELL Elmali 39.26 2 P **P** **17 27 55.2 +0.6**
ELL pmax pmax
comp=Z,91nm,1.3s
JASK Jask - Hormozg 40.05 43 P **P** **17 28 03.9 +2.6**
ISP Isparta 40.35 2 P **P** **17 28 04.1 +0.4**
ISP IAmb IAmb 17 28 11.9
comp=Z,60nm,1.2s
ISP Isparta 40.35 2⇓ *e*P **P** **17 28 06.4 +2.7**
ISP pmax pmax
comp=Z,68nm,1.4s
GAZ Gaziantep 40.45 11 P **P** **17 28 04.3 -0.2**
BNN Bunyan 41.87 8 P **P** **17 28 16.5 +0.3**
BNN IAmb IAmb 17 28 25.7
comp=Z,30nm,1.1s
AGG Agios Georgios 41.92 353 P **P** **17 28 16.5 0.0**
AGG Agios Georgios 41.92 353 P **P** **17 28 16.5 0.0**
AGG pmax pmax
comp=Z,21nm,1.1s
SIRT Sirnak 41.98 16 P **P** **17 28 15.2 -1.9**
NGCH Negor - Chabah 42.04 46 P **P** **17 28 18.2 +0.6**
VAE Valguarnera 42.11 343 LR LR 17 46 17.7
comp=Z,352nm,19.0s,baz=148,slow=37
BALB Balikesir 42.13 359 P **P** **17 28 17.7 -0.5**
BALB IAmb IAmb 17 28 28.8
comp=Z,89nm,1.6s
KEST Kesra 42.29 336 P **P** **17 28 21.0 +1.3**
KEST Kesra 42.29 336 P **P** **17 28 20.2 +0.6**
comp=Z,13nm,1.0s,baz=176,slow=12,SNR=6.2
KEST LR LR 17 46 07.1
comp=Z,109nm,18.6s,baz=332,slow=36
comp=Z,13nm,1.0s
BR131 Keskin Array S 42.46 6 *i* P **P** **17 28 22.9 +1.9**
SNR=12
BR131 Keskin Array S 42.46 6 *d* *i* P **P** **17 28 22.2 +1.2**
BRTR Keskin Array B 42.46 6 P **P** **17 28 21.6 +0.5**
BRTR Keskin Array B 42.46 6 P **P** **17 28 22.2 +1.2**
comp=Z,7.8nm,0.8s,baz=182,slow=8.7,SNR=44
BRTR LR LR 17 46 54.2
comp=Z,77nm,19.3s,baz=198,slow=37
comp=Z,7.8nm,0.8s
ARPR Arapgir-MALATY 42.52 11 P **P** **17 28 21.3 -0.3**
ARPR IAmb IAmb 17 28 29.8
comp=Z,41nm,1.0s
ANTO Ankara 42.52 5 P **P** **17 28 21.1 -0.4**
ANTO Ankara 42.52 5 P **P** **17 28 23.4 +2.0**
ANTO Ankara 42.52 5 P **P** **17 28 21.1 -0.4**
ANTO pmax pmax
comp=Z,31nm,1.4s
GURO Guroymak-BITLI 42.85 15 P **P** **17 28 23.9 -0.3**
KEK Kerkira 42.98 350 P **P** **17 28 24.7 -0.4**
KEK IAmb IAmb 17 28 26.6
comp=Z,55nm,1.2s
MDUB Mudurnu 43.02 3 P **P** **17 28 27.2 +1.7**
KBN Korca 43.71 351 P **P** **17 28 32.5 +1.4**
KBN IAmb IAmb 17 28 39.1
comp=Z,34nm,1.0s
KBN Korca 43.71 351 P **P** **17 28 32.5 +1.4**
KBN pmax pmax
comp=Z,34nm,1.0s
RDO Rodhopi 43.73 357 P **P** **17 28 30.2 -0.8**
RDO IAmb IAmb 17 28 37.6
comp=Z,40nm,1.3s
FNA Florina 43.78 352 P **P** **17 28 30.7 -0.9**
FNA Florina 43.78 352 P **P** **17 28 30.7 -0.9**
FNA pmax pmax
comp=Z,9.0nm,1.2s
MATE Matera 44.50 347⇑ P **P** **17 28 37.7 +0.4**
GNI Garni 45.11 17 P **P** **17 28 42.7 +0.4**
GNI IAmb IAmb 17 28 50.8
comp=Z,41nm,1.3s
GNI Garni 45.11 17 P **P** **17 28 45.4 +3.0**
GNI Garni 45.11 17 *d* *i* P **P** **17 28 44.4 +2.0**
GNI pmax pmax
comp=Z,40nm,1.3s
GNI Garni 45.11 17 LR LR 17 47 48.1
comp=Z,216nm,18.3s,baz=202,slow=36
PAOL Paolisi 45.38 345 P **P** **17 28 43.9 -0.5**
PDG Podgorica 45.72 350 P **P** **17 28 46.9 -0.1**
PDG IAmb IAmb 17 28 53.4
comp=Z,28nm,1.2s
AKH Akhalkalaki 45.92 16 P **P** **17 28 48.6 -0.2**
AKH Akhalkalaki 45.92 16 P **P** **17 28 48.6 -0.2**
AKH pmax pmax
comp=Z,81nm,1.3s
BOVS Bovan 46.54 353⇑ P **P** **17 28 54.0 +0.6**
ONI Oni 47.02 15 P **P** **17 28 58.4 +1.2**
ONI IAmb IAmb 17 29 04.9
comp=Z,31nm,1.4s
ONI Oni 47.02 15 P **P** **17 28 58.4 +1.2**
ONI pmax pmax
comp=Z,31nm,1.4s
DIVS Divibare 47.23 351 P **P** **17 28 59.6 +0.7**
DIVS IAmb IAmb 17 29 01.3
comp=Z,14nm,1.0s
MDT Midelt 47.31 321 LR LR 17 50 38.3
comp=Z,118nm,18.8s,baz=124,slow=38
ZEI Tsey 47.32 15 *e*P **P** **17 29 00.3 +0.5**
ZEI pmax pmax
comp=Z,19nm,1.4s
NRCA Norcia 47.45 344 P **P** **17 29 00.2 -0.4**
NEUR Neytrino 47.46 14 *e*P **P** **17 29 02.5 +1.6**
DJES Djerdap 47.47 354 P **P** **17 29 00.0 -0.7**
MDVR Moldovita 47.67 353⇓ P **P** **17 29 02.2 -0.1**
SIM Simferopol' 47.68 5 *e*P **P** **17 29 03.9 +1.6**
SIM *e*S **S** **17 35 55.6 -2.0**
SIM *e*SS **SS** **17 39 20.5 -5.6**
SIM pmax pmax
comp=Z,33nm,1.2s
NCK Nalchik 47.90 15⇑ *i* P **P** **17 29 06.3 +2.2**
NCK pmax pmax
comp=Z,39nm,1.5s
ANN Anapa 47.92 8 *e*P P 17 28 50.8 -13
*e**PP pP 17 28 56.5 -13
ANN pmax pmax
comp=Z,47nm,1.1s
KBZ Khabaz 47.95 14⇓ *e*P **P** **17 29 05.4 +1.1**
KBZ pmax pmax
comp=Z,5.0nm,1.1s
KBZ Khabaz 47.95 14 P **P** **17 29 05.5 +1.2**
comp=Z,2.2nm,0.9s,baz=147,slow=9.4,SNR=3.9
KBZ LR LR 17 49 47.7
comp=Z,75nm,18.1s,baz=176,slow=37
comp=Z,2.2nm,0.9s
ARR Arges 47.99 356⇓ P **P** **17 29 05.2 +0.5**
VOIR 48.03 357⇑ P **P** **17 29 05.7 +0.5**
VOIR 48.03 357 P **P** **17 29 05.6 +0.5**
MLR Muntele Rosu 48.04 357⇑ P **P** **17 29 06.4 +1.2**
MLR Muntele Rosu 48.04 357 P **P** **17 29 04.7 -0.5**
MLR IAmb IAmb 17 29 17.8
comp=Z,38nm,1.6s
MLR Muntele Rosu 48.04 357 P **P** **17 29 04.7 -0.5**
MLR pmax pmax
comp=Z,38nm,1.6s
KIV Kislovodsk 48.11 14 P **P** **17 29 05.8 0.0**
KIV IAmb IAmb 17 29 17.3
comp=Z,19nm,1.4s
KIV Kislovodsk 48.11 14 P **P** **17 29 07.8 +2.0**
KIV Kislovodsk 48.11 14 *e*P **P** **17 29 07.4 +1.6**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,57nm,17.0s
LOT Lotru 48.13 355⇑ P **P** **17 29 07.1 +1.1**
GZR Gura Zlata 48.16 354⇓ P **P** **17 29 06.9 +0.7**
GZR Gura Zlata 48.16 354 P **P** **17 29 06.8 +0.7**
FRGS Fruska Gora 48.29 352⇑ P **P** **17 29 08.7 +1.6**
PLOR Plostina 48.37 358⇑ P **P** **17 29 08.5 +0.9**
PLOR Plostina 48.37 358 P **P** **17 29 08.5 +0.9**
COVR Voineasa-Covas 48.38 358⇓ P **P** **17 29 08.0 +0.3**
VRI Vrincioaia 48.38 358⇑ P **P** **17 29 08.7 +1.0**
VRI Vrincioaia 48.38 358 P **P** **17 29 08.7 +1.0**
BZS Buzias 48.51 353⇓ P **P** **17 29 09.5 +0.8**
BZS Buzias 48.51 353 P **P** **17 29 09.5 +0.8**
MAK Makhachkala 48.52 18 *c* *i* P **P** **17 29 04.7 -4.1**
MAK *e* 17 30 59.0
MAK *e*S **S** **17 36 02.9 -6.6**
MAK *e*SS **SS** **17 39 37.9 -1.8**
MAK *e*SSS SSS 17 40 47.8
MAK MLR MLR
comp=Z,299nm,14.0s
DOPR Dopca 48.54 357⇑ P **P** **17 29 08.5 -0.5**
HRA Herat 48.54 38 P **P** **17 29 09.3 -0.1**
HRA IAmb IAmb 17 29 17.6
comp=Z,46nm,1.7s
SURR Surduc 48.59 354⇑ P **P** **17 29 09.9 +0.6**
CART Cartagena 48.62 328 P **P** **17 29 09.5 -0.1**
BOSR Bodos 48.63 357⇑ P **P** **17 29 10.2 +0.5**
OZUR 48.65 357⇑ P **P** **17 29 10.0 +0.2**
GEYT Alibeck 48.75 31 P **P** **17 29 10.3 -0.4**
GEYT IAmb IAmb 17 29 39.1
comp=Z,26nm,1.8s
GEYT Alibeck 48.75 31 P **P** **17 29 10.3 -0.4**
GEYT pmax pmax
comp=Z,26nm,1.8s
GEYT Alibeck 48.75 31 P **P** **17 29 11.4 +0.6**
comp=Z,2.7nm,0.8s,baz=224,slow=14,SNR=4.0
GEYT LR LR 17 49 43.8
comp=Z,234nm,19.6s,baz=225,slow=36
comp=Z,2.7nm,0.8s
GYA0B ALIBECK ARRAY 48.75 31 P **P** **17 29 10.7 -0.1**
SIRR Siria 49.15 354⇓ P **P** **17 29 14.7 +1.1**
CJR Cluj-Napoca 49.40 355⇑ P **P** **17 29 17.1 +1.4**
CJR Cluj-Napoca 49.40 355 P **P** **17 29 17.0 +1.4**
MARR Marisel-Cluj 49.40 355⇓ P **P** **17 29 16.8 +1.1**
AVE Averroes 49.42 319 P **P** **17 29 14.8 -1.2**
AVE IAmb IAmb 17 29 22.3
comp=Z,28nm,1.0s
MORH Mrgy, Hungar 49.50 351⇓ P **P** **17 29 17.2 +0.9**
BURAR Bucovina Array 50.19 357⇑ P **P** **17 29 23.4 +1.7**
BURAR Bucovina Array 50.19 357 P **P** **17 29 22.7 +1.0**
BURAR IAmb IAmb 17 29 29.7
comp=Z,22nm,1.4s
BURAR Bucovina Array 50.19 357 P **P** **17 29 23.3 +1.7**
BUR08 Bucovina Ar. S 50.22 357 P **P** **17 29 22.7 +0.8**
BUR08 IAmb IAmb 17 29 30.4
comp=Z,63nm,1.6s
BMR Baia Mare 50.36 355⇓ P **P** **17 29 22.4 -0.5**
BMR Baia Mare 50.36 355 P **P** **17 29 22.3 -0.5**
OBKA Obir 50.56 347 *i* P **P** **17 29 25.4 +1.0**
comp=Z,18nm,1.3s
SOKA Soboth 50.62 348 *e*P **P** **17 29 26.2 +1.3**
comp=Z,12nm,1.4s
SORM Soroca 50.62 360⇑ P **P** **17 29 24.7 -0.1**
SORM Soroca 50.62 360 P **P** **17 29 24.6 -0.1**
PRED Cave del Predi 50.72 347 P **P** **17 29 26.2 +0.6**
PRED IAmb IAmb 17 29 32.4
comp=Z,68nm,1.7s
SALO Salr 50.73 344 P **P** **17 29 25.8 0.0**
CTI Castel Tesino 50.82 345 P **P** **17 29 26.4 -0.1**
CTI Castel Tesino 50.82 345 P **P** **17 29 26.4 -0.1**
CTI pmax pmax
comp=Z,96nm,1.8s
CIMO Cimolais 50.87 346 P **P** **17 29 27.2 +0.5**
CIMO IAmb IAmb 17 29 28.2
comp=Z,13nm,0.9s
MYKA Terra Mystica 50.88 347 *e*P **P** **17 29 28.1 +1.3**
comp=Z,22nm,1.7s
CLUD Cludinico 50.89 346 P **P** **17 29 26.9 0.0**
CLUD IAmb IAmb 17 29 34.5
comp=Z,36nm,1.3s
PSZ Piszkesteto 50.99 352⇑ P **P** **17 29 28.5 +0.9**
PSZ Piszkesteto 50.99 352 P **P** **17 29 27.9 +0.3**
PSZ IAmb IAmb 17 29 29.3
comp=Z,25nm,1.0s
PSZ Piszkesteto 50.99 352 P **P** **17 29 27.9 +0.3**
PSZ pmax pmax
comp=Z,25nm,1.0s
ARSA Arzberg 51.06 349 *i* P **P** **17 29 29.7 +1.5**
comp=Z,11nm,0.9s
SRO Srobarova 51.11 351 *e*P **P** **17 29 29.5 +1.1**
SRO Srobarova 51.11 351 *e*P **P** **17 29 29.5 +1.1**
SRO pmax pmax
comp=Z,20nm,1.0s
ABTA Abfaltersbach 51.26 346 *i* P **P** **17 29 31.0 +1.3**
comp=Z,16nm,1.3s
RONA Rosalia, Austr 51.34 349 *i* P **P** **17 29 31.5 +1.2**
comp=Z,12nm,1.0s
KBA Koelnbreinsper 51.37 347 *e*P **P** **17 29 31.6 +1.0**
comp=Z,25nm,1.3s
BNI Bardonecchia 51.42 340 P **P** **17 29 31.4 +0.4**
BNI IAmb IAmb 17 30 59.8
comp=Z,58nm,1.8s
BNI Bardonecchia 51.42 340 P **P** **17 29 31.4 +0.4**
BNI pmax pmax
comp=Z,58nm,1.8s
KECS Kecovo 51.47 353 *e*P **P** **17 29 32.5 +1.4**
KECS Kecovo 51.47 353 *e*P **P** **17 29 32.5 +1.4**
KECS pmax pmax
comp=Z,32nm,1.2s
CONA Conrad Observa 51.65 349 *i* P **P** **17 29 33.8 +1.2**
comp=Z,14nm,1.1s
KOLS Kolonicke sedl 51.72 355 *e*P **P** **17 29 34.3 +1.3**
KOLS Kolonicke sedl 51.72 355 *e*P **P** **17 29 34.3 +1.3**
KOLS pmax pmax
comp=Z,12nm,1.1s
ESBB Sonseca Array 51.72 328 P **P** **17 29 33.3 0.0**
ESDC Sonseca Array 51.72 328 P **P** **17 29 33.8 +0.5**
ESDC Sonseca Array 51.72 328 P **P** **17 29 33.0 -0.3**
comp=Z,6.5nm,1.0s,baz=139,slow=7.1,SNR=22
ESDC PcP **PcP** **17 30 48.9 +2.3**
comp=Z,2.2nm,0.8s,baz=139,slow=2.3,SNR=5.2
ESDC LR LR 17 53 03.2
comp=Z,107nm,18.1s,baz=148,slow=38
comp=Z,6.5nm,1.0s
FUORN Ofenpass-Fuorn 51.73 344 P **P** **17 29 33.2 -0.2**
FUORN IAmb IAmb 17 29 40.2
comp=Z,49nm,1.8s
CRVS Cervenica-Dubn 51.77 354 *e*P **P** **17 29 34.8 +1.4**
CRVS Cervenica-Dubn 51.77 354 *e*P **P** **17 29 34.8 +1.4**
CRVS pmax pmax
comp=Z,27nm,1.1s
LPG La Plagne 51.79 340 *e*P **P** **17 29 33.8 -0.2**
LPL La Plagne 51.81 340 *e*P **P** **17 29 34.0 0.0**
PAB San Pablo 51.83 328 P **P** **17 29 33.7 -0.5**
PAB IAmb IAmb 17 29 43.1
comp=Z,52nm,1.9s
PAB San Pablo 51.83 328 P **P** **17 29 33.7 -0.5**
PAB pmax pmax
comp=Z,52nm,1.9s
LESA Schwarzleotal 51.85 346 *i* P **P** **17 29 34.7 +0.6**
comp=Z,12nm,0.8s
TUE Stuetta 51.85 343 P **P** **17 29 33.6 -0.6**
TUE IAmb IAmb 17 29 43.2
comp=Z,44nm,1.4s
BIOA Bad Ischl, Aus 51.88 347 *i* P **P** **17 29 34.4 +0.1**
comp=Z,6.1nm,0.9s
MOA Molln 51.89 348 *e*P **P** **17 29 35.2 +0.9**
comp=Z,20nm,0.8s,SNR=7.2
WTTA Wattenberg 51.95 345 *i* P **P** **17 29 35.8 +0.8**
comp=Z,23nm,1.2s
FETA Feichten 51.97 344 *i* P **P** **17 29 35.4 +0.3**
comp=Z,13nm,1.1s
DAVOX Davos/Dischmat 51.98 344 P **P** **17 29 35.0 -0.3**
DAVOX Davos/Dischmat 51.98 344 P **P** **17 29 35.0 -0.3**
comp=Z,6.0nm,0.8s,baz=146,slow=12,SNR=6.2
DAVOX LR LR 17 52 50.7
comp=Z,97nm,19.6s,baz=112,slow=37
comp=Z,6.0nm,0.8s
SQTA Sankt Quirin 52.02 345 *i* P **P** **17 29 36.0 +0.5**
comp=Z,13nm,0.8s
WATA Walderalm 52.04 345 *i* P **P** **17 29 36.1 +0.5**
comp=Z,18nm,1.2s,SNR=6.2
MOTA Moosalm 52.17 345 *i* P **P** **17 29 36.8 +0.2**
comp=Z,11nm,0.8s
EPF Esparros 52.20 334 *e*P **P** **17 29 37.4 +0.6**
JAVC Velka Javorina 52.23 351 *e*P **P** **17 29 37.9 +1.0**
LANS Liptovska Anna 52.25 352 *e*P **P** **17 29 38.4 +1.4**
LANS Liptovska Anna 52.25 352 *e*P **P** **17 29 38.4 +1.4**
LANS pmax pmax
comp=Z,23nm,0.9s
PBDV Barranco-do-Ve 52.28 323 *e*P **P** **17 29 38.4 +0.9**
comp=Z,38nm,1.6s
STHS Stebnicka Huta 52.30 354 *e*P **P** **17 29 37.7 +0.3**
STHS Stebnicka Huta 52.30 354 *e*P **P** **17 29 37.7 +0.3**
STHS pmax pmax
comp=Z,13nm,0.7s
SSB Saint Sauveur 52.37 339 P **P** **17 29 37.6 -0.3**
SSB IAmb IAmb 17 29 51.0
comp=Z,80nm,1.7s
SSB Saint Sauveur 52.37 339 P **P** **17 29 37.7 -0.3**
SSB pmax pmax
comp=Z,80nm,1.7s
SENIN Lac Senin/Sane 52.38 341 P **P** **17 29 37.7 -0.5**
PBAR Barrancos 52.38 324 *e*P **P** **17 29 42.3 +4.2**
comp=Z,32nm,1.4s
RETA Reutte 52.39 345 *i* P **P** **17 29 38.3 +0.1**
comp=Z,11nm,0.8s
DAVA Damuels 52.44 344 *i* P **P** **17 29 38.7 0.0**
comp=Z,20nm,0.7s
PCVE Castro Verde 52.60 323 *e*P **P** **17 29 43.8 +4.0**
comp=Z,26nm,2.0s
KRUC Moravsky 52.64 350 *e*P **P** **17 29 39.7 -0.1**
PBEJ Beja 52.76 324 *e*P **P** **17 29 41.6 +0.6**
comp=Z,20nm,2.2s
CKRC Cesky Krumlov 52.80 348 *e*P **P** **17 29 41.6 +0.5**
CKRC Cesky Krumlov 52.80 348 *e*P **P** **17 29 41.6 +0.5**
VRAC Vranov 52.84 350⇑ P **P** **17 29 41.7 +0.4**
VRAC Vranov 52.84 350 *e*P **P** **17 29 41.6 +0.2**
VRAC Vranov 52.84 350 P **P** **17 29 41.7 +0.4**
MESJ Messejana 52.85 323 *e*P **P** **17 29 42.6 +1.0**
comp=Z,27nm,1.7s
GEC2 GERESS Array S 52.96 348 P **P** **17 29 42.5 +0.2**
GEC2 GERESS Array S 52.96 348 *e*P **P** **17 29 42.6 +0.2**
comp=Z,14nm,1.0s,baz=156,slow=7.3
GERES GERESS Array B 52.96 348 P **P** **17 29 42.3 0.0**
GERES GERESS Array B 52.96 348 P **P** **17 29 42.5 +0.2**
comp=Z,6.8nm,0.7s,baz=157,slow=7.2,SNR=31
comp=Z,6.8nm,0.7s
KBL Kabul 52.99 42 P **P** **17 29 45.3 +2.3**
CAF Calviac 53.02 337 *e*P **P** **17 29 43.6 +0.8**
MORC Moravsky Berou 53.14 351⇓ P **P** **17 29 44.0 +0.3**
MORC Moravsky Berou 53.14 351 P **P** **17 29 43.7 +0.1**
MORC IAmb IAmb 17 29 45.1
comp=Z,30nm,1.4s
MORC Moravsky Berou 53.14 351 *e*P **P** **17 29 43.9 +0.3**
MORC Moravsky Berou 53.14 351 P **P** **17 29 43.7 +0.1**
MORC pmax pmax
comp=Z,30nm,1.4s
PESTR Estremoz 53.16 325 *e*P **P** **17 29 45.0 +1.1**
comp=Z,22nm,1.8s
PESTR Estremoz 53.16 325 P **P** **17 29 43.2 -0.7**
PESTR IAmb IAmb 17 29 49.1
comp=Z,18nm,1.0s
KIEV Kiev 53.18 0 P **P** **17 29 42.8 -1.0**
KIEV Kiev 53.18 0 P **P** **17 29 42.8 -1.0**
KIEV pmax pmax
comp=Z,12nm,1.1s
EVO Evora 53.19 324 *e*P **P** **17 29 44.8 +0.7**
comp=Z,39nm,1.7s
AKASG Malin Array Be 53.19 0 P **P** **17 29 42.6 -1.2**
AKASG Malin Array Be 53.19 0 P **P** **17 29 43.6 -0.3**
comp=Z,1.7nm,0.6s,baz=182,slow=6.3,SNR=13

comp=Z,1.7nm,0.6s
AKBB Malin Array Si 53.19 0 P **P** **17 29 42.6 -1.2**
AKBB Malin Array Si 53.19 0⇑ *i*P **P** **17 29 43.1 -0.8**
AKBB pmax pmax
comp=Z,13nm,1.1s
MACI Morro de la Ar 53.19 309 P **P** **17 29 44.2 -0.4**
PNCL Nicolau / Gran 53.21 323 *e*P **P** **17 29 45.4 +1.1**
comp=Z,16nm,1.6s
KHC Kasperske Hory 53.25 348 P **P** **17 29 43.7 -0.8**
KHC lAmb lAmb 17 29 45.5
comp=Z,22nm,0.9s
KHC Kasperske Hory 53.25 348 *e*P **P** **17 29 44.3 -0.1**
KHC *ex* x 17 30 00.0
KHC Kasperske Hory 53.25 348 P **P** **17 29 43.7 -0.8**
KHC pmax pmax
comp=Z,22nm,0.9s
OJC Ojcow 53.26 353 P **P** **17 29 43.8 -0.6**
OJC Ojcow 53.26 353 P **P** **17 29 43.8 -0.6**
OJC pmax pmax
comp=Z,19nm,1.3s
ZVC Zvikov 53.42 348 *e*P **P** **17 29 45.5 -0.1**
WET Wettzell 53.42 347 *e*P **P** **17 29 45.6 0.0**
comp=Z,19nm,1.4s,baz=156,slow=7.3
WET *e*pP **pP** **17 29 49.5 -1.8**
PMRV Marv??o 53.43 325 *e*P **P** **17 29 46.3 +0.4**
comp=Z,24nm,1.8s
RJF Les Rejaudoux 53.55 336 *e*P **P** **17 29 47.4 +0.8**
KRLC Kraliky 53.55 350 *e*P **P** **17 29 46.6 0.0**
KRLC Kraliky 53.55 350 *e*P **P** **17 29 46.6 0.0**
LFF La Frestale 53.57 336 *e*P **P** **17 29 47.1 +0.4**
PMTG Montargil 53.67 325 *e*P **P** **17 29 48.2 +0.6**
comp=Z,21nm,1.6s
PCBR Castelo Branco 53.76 326 *e*P **P** **17 29 48.6 +0.3**
comp=Z,15nm,1.4s
SMF Signal de Mont 53.79 339 *e*P **P** **17 29 48.6 +0.2**
BFO Black Forest 53.83 343 P **P** **17 29 48.3 -0.4**
BFO lAmb lAmb 17 29 54.1
comp=Z,28nm,1.5s
BFO Black Forest 53.83 343 P **P** **17 29 48.3 -0.4**
BFO pmax pmax
comp=Z,28nm,1.5s
DPC Dobruska-Polom 53.90 350 *e*P **P** **17 29 49.0 -0.1**
DPC Dobruska-Polom 53.90 350 *e*P **P** **17 29 49.0 -0.1**
ECH Echery 54.07 342 P **P** **17 29 50.0 -0.4**
ECH lAmb lAmb 17 29 55.9
comp=Z,28nm,1.5s
ECH Echery 54.07 342 P **P** **17 29 50.0 -0.4**
ECH pmax pmax
comp=Z,28nm,1.5s
AVF Avril sur Loir 54.09 339 *e*P **P** **17 29 51.0 +0.4**
TCF Toulx Ste Croi 54.09 338 *e*P **P** **17 29 51.8 +1.1**
UPC Upice 54.10 350 *e*P **P** **17 29 50.1 -0.5**
UPC Upice 54.10 350 *e*P **P** **17 29 50.1 -0.5**
OSTC Ostas 54.11 350 *e*P **P** **17 29 50.6 -0.1**
OSTC Ostas 54.11 350 *e*P **P** **17 29 50.6 -0.1**
ROTZ Rotzenmuhle 54.16 347 *e*P **P** **17 29 50.9 -0.1**
comp=Z,17nm,0.9s,baz=156,slow=7.3
CHVC Chvalec 54.17 350 *e*P **P** **17 29 51.0 -0.1**
CHVC Chvalec 54.17 350 *e*P **P** **17 29 51.0 -0.1**
VORD Divnogorie 54.22 8 *e*P **P** **17 29 48.8 -2.6**
VORD pmax pmax
comp=Z,5.0nm,0.8s
SSF Saint Saulge 54.27 339 *e*P **P** **17 29 54.7 +2.8**
GRA1 Grafenberg Arr 54.31 346 P **P** **17 29 51.0 -1.2**
GRF Grafenberg Arr 54.31 346 P **P** **17 29 51.0 -1.2**
GRF pmax pmax
comp=Z,60nm,1.5s
GRF Grafenberg Arr 54.31 346 *e*pP **pP** **17 29 56.3 -1.6**
GRF *e*L L 17 42 27.2
comp=Z,77nm,21.4s
GRFO Grafenberg 54.31 346 P **P** **17 29 51.4 -0.7**
GRFO Grafenberg 54.31 346 P **P** **17 29 51.4 -0.7**
GRFO pmax pmax
comp=Z,68nm,1.6s
LOR Lormes 54.32 339 *e*P **P** **17 29 52.3 0.0**
MANZ Manzenberg 54.38 347 *e*P **P** **17 29 52.7 0.0**
comp=Z,3.6nm,1.0s,baz=156,slow=7.3
MVO Moncorvo 54.42 327 *e*P **P** **17 29 56.4 +3.2**
comp=Z,44nm,1.7s
VSR Storozhevoye 54.45 8 *e*P **P** **17 29 51.3 -1.7**
VSR pmax pmax
comp=Z,53nm,1.0s
COI Coimbra 54.53 325 *e*P **P** **17 29 55.1 +1.2**
NKC Novy Kostel 54.54 347 *e*P **P** **17 29 54.0 +0.2**
NKC Novy Kostel 54.54 347 *e*P **P** **17 29 54.0 +0.2**
PVIS Viseu 54.59 326 *e*P **P** **17 29 54.8 +0.4**
WERN Wernitzgruen 54.61 347 *e*P **P** **17 29 54.5 +0.2**
comp=Z,5.5nm,0.9s,baz=156,slow=7.3
GUNZ Gunzen 54.69 347 *e*P **P** **17 29 55.1 +0.3**
comp=Z,27nm,1.6s,baz=156,slow=7.3
TANN Tannenbergstha 54.71 347 *e*P **P** **17 29 55.3 +0.2**
comp=Z,18nm,1.5s,baz=156,slow=7.3
PBRG Braganca 54.72 328 *e*P **P** **17 29 56.2 +0.9**
comp=Z,24nm,1.7s
BRG Berggiesshubel 54.83 349 *i*P **P** **17 29 56.7 +0.8**
BRG Amp 17 30 02.0
comp=Z,7.6nm,1.1s
BRG Berggiesshubel 54.83 349 *i*P **P** **17 29 56.7 +0.8**
BRG pmax pmax
comp=Z,8.0nm,1.1s
VRH Novokhopyorsk 54.83 10 *e*P **P** **17 29 54.3 -1.5**
VRH pmax pmax
comp=Z,10.0nm,1.0s
PLN Plauen 54.84 347 *e*P **P** **17 29 56.1 +0.2**
comp=Z,11nm,0.8s,baz=156,slow=7.3
VORR Voronezh 54.90 8 *e*P **P** **17 29 55.7 -0.6**
VORR pmax pmax
comp=Z,10.0nm,0.8s
POLO Lamas de Olo 54.98 327 *e*P **P** **17 29 58.2 +0.9**
comp=Z,18nm,1.6s
MOX Moxa 55.11 347 *e*L L 17 56 40.6
comp=Z,100nm,18.7s
NIL Nilore 55.40 45 P **P** **17 30 00.3 0.0**
NIL lAmb lAmb 17 30 03.8
comp=Z,37nm,1.3s
NIL Nilore 55.40 45 P **P** **17 30 00.4 0.0**
NIL pmax pmax
comp=Z,37nm,1.3s
CLL Collm 55.43 348 P **P** **17 30 00.3 +0.1**
CLL lAmb lAmb 17 30 05.4
comp=Z,24nm,1.6s
CLL Collm 55.43 348 *i*P **P** **17 29 59.8 -0.4**
comp=Z,18nm,1.5s
CLL *i*pP **pP** **17 30 04.2 -1.8**
comp=Z,20nm,1.5s
CLL *e*PP **PP** **17 32 03.0 -1.3**
CLL *e*S **S** **17 37 50.0 +5.7**
CLL *e*SS **SS** **17 41 26.0 -3.3**
CLL *e*SSS SSS 17 43 48.0
CLL AMS AMS 17 57 00.0
comp=N,100nm,18.0s
CLL AMS AMS 17 57 00.0
comp=E,100nm,19.3s
CLL Collm 55.43 348 *i*P **P** **17 29 59.8 -0.4**
CLL *i* 17 30 04.2
CLL *e*S **S** **17 37 50.0 +5.7**
CLL pmax pmax
comp=Z,18nm,1.5s
TNS Taunus Mts 55.51 344 *e*pP pP 17 30 05.3 -1.3
CLF Chambon-Foret 55.53 339 P **P** **17 30 01.0 +0.1**
CHGR Chuyangaron 55.54 38 P **P** **17 30 01.4 +0.1**
CHGR Chuyangaron 55.54 38 P **P** **17 30 01.4 +0.1**
CHGR pmax pmax
comp=Z,36nm,0.9s
NEUB Neuenburg 55.60 347 *e*P **P** **17 30 01.6 +0.2**
comp=Z,14nm,0.8s,baz=156,slow=7.3
WLF Walferdange 55.66 342 P **P** **17 30 01.7 -0.2**
WLF lAmb lAmb 17 30 02.9
comp=Z,12nm,0.9s
WLF Walferdange 55.66 342 *d*P **P** **17 30 02.4 +0.5**
WLF Walferdange 55.66 342 *e*P **P** **17 30 01.7 -0.2**
WLF Walferdange 55.66 342 *e*pP pP 17 30 06.4 -1.3
RCHB Rochefort 56.38 342 *d*P **P** **17 30 06.7 -0.3**
GIVF Givet 56.46 342 *e*P **P** **17 30 07.7 +0.1**
GAR Garm 56.46 38 P **P** **17 30 07.6 -0.4**
GAR lAmb lAmb 17 30 10.7
comp=Z,18nm,0.9s
DOU Dourbes 56.52 342 *d*P **P** **17 30 07.7 -0.4**
MEM Membach 56.54 343 *d*P **P** **17 30 09.0 +0.8**
BCLA Clavier 56.59 342 *d*P **P** **17 30 06.4 -2.0**
BGES Gesves 56.62 342 *d*P **P** **17 30 09.1 +0.4**
SUW Suwalki 56.69 356 P **P** **17 30 08.6 -0.6**
SUW Suwalki 56.69 356 P **P** **17 30 08.6 -0.6**
SUW pmax pmax
comp=Z,95nm,1.1s
ASSE Asse, Remlinge 56.71 347 *e*P **P** **17 30 10.0 +0.8**
comp=Z,11nm,1.0s,baz=156,slow=7.3
LDF La Druitiere 56.89 338 *e*P **P** **17 30 11.5 +0.8**
MNK Minsk 57.00 359 *i*P **P** **17 30 10.0 -1.4**
comp=E,7.0nm,0.8s
MNK *i*P **P** **17 30 10.0 -1.4**
comp=N,17nm,0.8s
MNK *i*P **P** **17 30 10.0 -1.4**
comp=Z,9.0nm,0.8s,baz=179
MNK *i*PcP **PcP** **17 31 05.2 -1.2**
MNK *i*PP **PP** **17 32 16.5 -1.7**
MNK *i*PPP PPP 17 33 32.1
MNK *i*S **S** **17 38 04.6 -0.4**
MNK *i*SS **SKiKP** **17 41 13.8 +7.9**
MNK *i*LR LR 17 52 59.4
MNK *i*LRM MLR 17 54 44.5
comp=Z,59nm,18.0s
MNK *i*LRM MLR 17 55 23.2
comp=E,44nm,18.1s
MNK *i*LRM MLR 17 55 52.4
comp=N,128nm,18.3s
MNK Minsk 57.00 359 *i*P **P** **17 30 09.9 -1.4**
MNK *i* 17 31 05.1
MNK *i* 17 32 16.4
MNK *i*S **S** **17 38 04.6 -0.4**
MNK pmax pmax
comp=Z,9.0nm,0.8s
MNK pmax pmax
comp=N,17nm,0.9s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK MLR MLR
comp=Z,59nm,18.0s
MNK MLR MLR
comp=E,44nm,18.0s
MNK MLR MLR
comp=N,128nm,18.0s
GRR Gorron 57.01 337 *e*P **P** **17 30 11.8 +0.3**
BELG Belogornoye 57.17 14⇓ *e*P **P** **17 30 13.5 +0.9**
BELG pmax pmax
comp=Z,4.0nm,1.3s
BELG Belogornoye 57.17 14 P **P** **17 30 12.2 -0.4**
comp=Z,7.3nm,0.7s,baz=174,slow=9.2,SNR=2.7
comp=Z,7.3nm,0.7s
NRDL Niedersach Rie 57.18 347 *e*P **P** **17 30 13.9 +1.3**
comp=Z,43nm,1.1s,baz=156,slow=7.3
BTK Batken 57.41 38 P **P** **17 30 15.4 +0.7**
BTK Batken 57.41 38 P **P** **17 30 15.4 +0.7**
BTK pmax pmax
comp=Z,14nm,1.2s
NACGM Naroch 57.42 359 *e*P **P** **17 30 14.5 +0.3**
comp=Z,26nm,0.8s,baz=178
RETH Rethem/Aller, 57.58 346 *e*P **P** **17 30 17.0 +1.6**
comp=Z,40nm,1.3s,baz=156,slow=7.3
OBN Obninsk 57.98 5 P **P** **17 30 17.8 -0.4**
OBN lAmb lAmb 17 30 22.8
comp=Z,45nm,1.4s
OBN Obninsk 57.98 5 *e*P **P** **17 30 19.2 +1.0**
OBN *e* 17 31 12.0
OBN *e* 17 32 27.5
OBN *e*PPP PPP 17 33 47.4
OBN pmax pmax
comp=Z,61nm,2.5s
OBN MLR MLR
comp=Z,85nm,15.0s
PABE Paberze 58.13 357 P **P** **17 30 18.9 -0.3**
PABE PcP **PcP** **17 31 11.2 +0.5**
IUG Iuzhnay 58.23 35 *e*P **P** **17 30 21.4 +1.0**
comp=Z,14nm,1.5s,baz=35
IUG Iuzhnay 58.23 35 *e*P **P** **17 30 21.4 +1.0**
IUG pmax pmax
comp=Z,14nm,1.5s
ABKAR Akbulak array 58.39 24 P **P** **17 30 21.2 0.0**
ABKAR lAmb lAmb 17 30 29.2
comp=Z,25nm,1.9s
ABKAR PcP **PcP** **17 31 10.0 -2.0**
ABKAR Akbulak array 58.39 24 P **P** **17 30 20.8 -0.4**
ABKAR PcP **PcP** **17 31 10.6 -1.4**
BSEG Bad Segeberg 58.47 347 *e*P **P** **17 30 22.5 +0.8**
comp=Z,59nm,1.3s,baz=156,slow=7.3
AKTO Aktyubinsk 58.60 22 P **P** **17 30 23.1 +0.4**
comp=Z,4.5nm,0.7s,baz=216,slow=7.7,SNR=10
comp=Z,4.5nm,0.7s
MOS Moscow 58.70 6 *e*P **P** **17 30 22.8 -0.4**
MOS pmax pmax
comp=Z,38nm,1.3s
KK31 Karatay Array 59.11 35 P **P** **17 30 26.2 -0.2**
KK31 lAmb lAmb 17 30 28.7
comp=Z,13nm,1.0s
KK31 Karatay Array 59.11 35 P **P** **17 30 26.2 -0.2**
KK31 pmax pmax
comp=Z,13nm,1.0s
KKAR Karatay Array 59.11 35 P **P** **17 30 25.7 -0.7**
KKAR lAmb lAmb 17 30 28.7
comp=Z,13nm,1.0s
KKAR Karatay Array 59.11 35 P **P** **17 30 26.6 +0.1**
KKAR PcP **PcP** **17 31 09.9 -5.1**
KKAR Karatay Array 59.11 35 P **P** **17 30 25.7 -0.7**
KKAR pmax pmax
comp=Z,13nm,1.0s
HLG Helgoland 59.26 346 *e*P **P** **17 30 28.7 +1.5**
comp=Z,174nm,0.9s,baz=156,slow=7.3
DZA Taraz 59.45 35 *e*P **P** **17 30 29.8 +1.0**
baz=35
DZA Taraz 59.45 35 *e*P **P** **17 30 29.8 +1.0**
ARSB Arslanbob 59.49 38 P **P** **17 30 28.7 -0.5**
ARSB Arslanbob 59.49 38 P **P** **17 30 28.7 -0.5**
ARSB pmax pmax
comp=Z,2.0nm,1.1s
PYUN Piuthan 60.46 56 *e*P **P** **17 30 36.9 +0.6**
comp=Z,88nm,1.2s
KOLN Koldanda 60.85 56 *e*P **P** **17 30 39.6 +0.7**
comp=Z,96nm,1.4s
AAK Ala-Archa 61.17 37 P **P** **17 30 40.2 -0.5**
AAK Ala-Archa 61.17 37 P **P** **17 30 43.7 +3.0**
AAK Ala-Archa 61.17 37 P **P** **17 30 40.2 -0.5**
AAK pmax pmax
comp=Z,14nm,1.6s
DANN Dangsing 61.19 56 *e*P **P** **17 30 41.4 +0.1**
comp=Z,63nm,0.9s
SGDS Sogindy 61.72 36 *e*P **P** **17 30 44.7 +0.4**
baz=36
SGDS Sogindy 61.72 36 *e*P **P** **17 30 44.7 +0.4**
GKN Gorkha 61.79 56 *e*P **P** **17 30 45.8 +0.6**
comp=Z,76nm,0.8s
DMN Daman 62.05 57 *e*P **P** **17 30 47.7 +0.6**
comp=Z,49nm,1.0s
KKN Kakani 62.26 57 *e*P **P** **17 30 48.9 +0.5**
comp=Z,162nm,1.7s
PKIN Phulchoki 62.28 57 *e*P **P** **17 30 48.7 0.0**
comp=Z,9.0nm,0.6s
PKI Pulchoki 62.29 57 *e*P **P** **17 30 49.0 +0.2**
comp=Z,38nm,1.2s
BTLS Baital 62.31 35 *e*P **P** **17 30 48.7 +0.5**
comp=Z,6.5nm,1.2s,baz=35
BTLS Baital 62.31 35 *e*P **P** **17 30 48.7 +0.5**
BTLS pmax pmax
comp=Z,7.0nm,1.2s
GUN Gumba 62.80 57 *e*P **P** **17 30 52.9 +0.7**
comp=Z,139nm,1.1s
TNSS Tian-Shan 62.88 38 *e*P **P** **17 30 53.5 +0.9**
baz=38
TNSS Tian-Shan 62.88 38 *e*P **P** **17 30 53.4 +0.9**
JIRN Jiri 62.98 57 *e*P **P** **17 30 53.6 +0.2**
comp=Z,68nm,1.0s
MDOK Medeo 63.02 38 *e*P **P** **17 30 53.4 +0.3**
baz=38
MDOK Medeo 63.02 38 *e*P **P** **17 30 53.4 +0.3**
RAMN Ramite 63.09 58 *e*P **P** **17 30 54.8 +0.7**
comp=Z,30nm,1.0s
KIRV Kirov 63.28 12⇑ *e*P **P** **17 30 54.5 +0.2**
KIRV Kirov 63.28 12 LR LR 17 57 57.8
comp=Z,111nm,21.7s,baz=102,slow=36
EKA Eskdalemuir Ar 63.48 340 P **P** **17 30 56.4 +0.7**
comp=Z,7.9nm,0.9s,baz=126,slow=6.7,SNR=10
comp=Z,7.9nm,0.9s
HFS Hagfors 63.73 352 P **P** **17 30 57.2 -0.1**
comp=Z,4.4nm,0.6s,baz=141,slow=9.3,SNR=10.0
comp=Z,4.4nm,0.6s
ARU Arti 63.75 18 P **P** **17 30 56.9 -0.5**
ARU lAmb lAmb 17 31 03.4
comp=Z,40nm,1.6s
ARU Arti 63.75 18*c* *i*P **P** **17 30 57.9 +0.5**
ARU 17 33 15.2
ARU S **S** **17 39 32.7 +1.3**
ARU pmax pmax
comp=Z,24nm,1.4s
ARU Arti 63.75 18 P **P** **17 30 57.2 -0.2**
comp=Z,6.6nm,0.6s,baz=200,slow=4.8,SNR=11
comp=Z,6.6nm,0.6s
SATY Saty 63.80 39 *e*P **P** **17 30 59.0 +0.8**
baz=39
SATY Saty 63.80 39 *e*P **P** **17 30 59.0 +0.8**
KLMR Klimovskoe 63.92 6 *e*P **P** **17 30 57.3 -1.3**
KLMR AMP 17 31 04.1
comp=Z,41nm,1.4s
KLMR Klimovskoe 63.92 6 *e*P **P** **17 30 57.2 -1.3**
KLMR pmax pmax
comp=Z,41nm,1.4s
KONO Kongsberg 63.95 349⇓ *i*P **P** **17 30 59.0 +0.3**
KONO pmax pmax
comp=Z,46nm,1.7s
FINES FINESS Array B 63.99 359 P **P** **17 30 59.3 +0.4**
FINES FINESS Array B 63.99 359 P **P** **17 30 59.3 +0.4**
FINES FINESS Array B 63.99 359 P **P** **17 30 59.1 +0.2**
comp=Z,9.4nm,1.0s,baz=193,slow=5.9,SNR=14
FINES LR LR 17 59 28.5
comp=Z,44nm,20.4s,baz=66,slow=37
comp=Z,9.4nm,1.0s
TAPN Taplejung 64.16 58 *e*P **P** **17 31 02.0 +0.9**
comp=Z,53nm,1.0s
UZB Uzynbulak 64.23 39 *e*P **P** **17 31 01.6 +0.5**
comp=Z,4.5nm,0.6s,baz=39
UZB Uzynbulak 64.23 39 *e*P **P** **17 31 01.6 +0.5**
UZB pmax pmax
comp=Z,4.0nm,0.6s
SHLS Shalkode 64.51 39 *e*P **P** **17 31 05.0 +2.1**
baz=39
SHLS Shalkode 64.51 39 *e*P **P** **17 31 05.0 +2.1**
BRZS Berezniki 64.64 30 *e*P **P** **17 31 03.8 +0.2**
baz=30
BRZS Berezniki 64.64 30 *e*P **P** **17 31 03.7 +0.2**
SVE Sverdlovsk 64.73 19 *e*P **P** **17 31 04.8 +0.9**
SVE pmax pmax
comp=Z,12nm,1.4s
TDK Taldyqorghan 64.83 37 *e*P **P** **17 31 05.0 0.0**
baz=37
TDK Taldyqorghan 64.83 37 *e*P **P** **17 31 04.9 0.0**
NAO01 NORSAR Array S 64.85 350 P **P** **17 31 04.8 +0.2**
NB2 NORSAR Subarra 64.98 351 P **P** **17 31 05.8 +0.3**
comp=Z,17nm,0.8s,baz=163,slow=6.5
NB2 NORSAR Subarra 64.98 351 P **P** **17 31 05.8 +0.3**
baz=163,slow=6.5
NB2 NORSAR Subarra 64.98 351 *e*P **P** **17 31 05.0 -0.5**
NOA NORSAR Array B 64.98 351 P **P** **17 31 06.0 +0.5**
NOA NORSAR Array B 64.98 351 P **P** **17 31 06.0 +0.5**
comp=Z,9.8nm,0.9s,baz=163,slow=6.4,SNR=16
NOA LR LR 18 05 02.3
comp=Z,40nm,18.2s,baz=190,slow=41
comp=Z,9.8nm,0.9s
NBO00 NORSAR Array S 65.04 350 P **P** **17 31 05.7 -0.1**
NC303 NORSAR Array S 65.13 351 P **P** **17 31 06.4 0.0**
BRVK Borovoye 65.57 26 P **P** **17 31 08.7 -0.8**
BRVK Borovoye 65.57 26⇑ *e*P **P** **17 31 08.6 -0.8**
BRVK pmax pmax
comp=Z,5.0nm,1.3s
BVAR Borovoye Array 65.59 26 P **P** **17 31 09.7 +0.1**
comp=Z,1.6nm,0.6s
comp=Z,1.6nm,0.6s
LSA Lhasa 67.75 56 P **P** **17 31 26.4 +2.0**
KURBB Kurchatov Arra 68.02 32 P **P** **17 31 25.8 +0.7**
comp=Z,1.2nm,0.3s,baz=239,slow=6.7,SNR=24
KURBB LR LR 18 05 23.9
comp=Z,200nm,18.8s,baz=185,slow=40
comp=Z,1.2nm,0.3s
MK31 Makanchi Array 68.08 37 P **P** **17 31 25.5 -0.2**
MK31 Makanchi Array 68.08 37 P **P** **17 31 25.5 -0.2**
MK31 pmax pmax
comp=Z,7.0nm,0.9s
MKAR Makanchi Array 68.08 37 P **P** **17 31 24.9 -0.8**
MKAR Makanchi Array 68.08 37 P **P** **17 31 26.4 +0.8**
comp=Z,10nm,0.9s,baz=243,slow=5.8,SNR=31
MKAR LR LR 18 03 59.3
comp=Z,149nm,18.7s,baz=314,slow=38
comp=Z,10nm,0.9s
KURK Kurchatov 68.12 32 P **P** **17 31 25.2 -0.6**
KURK lAmb lAmb 17 31 28.1
comp=Z,20nm,1.4s
KURK Kurchatov 68.12 32*d* *i*P **P** **17 31 26.6 +0.9**
KURK pmax pmax
comp=Z,32nm,2.5s
NVL N'lazarevskaya 68.85 186 *e*P **P** **17 31 33.1 +3.2**
NVL pmax pmax
comp=Z,18nm,1.5s
MAW Mawson 68.92 167 P **P** **17 31 31.5 +1.2**
comp=Z,4.7nm,0.8s,baz=302,slow=16,SNR=6.0
MAW LR LR 17 57 33.9
comp=Z,95nm,21.1s,baz=352,slow=32
comp=Z,4.7nm,0.8s
ELIB Princess Elisa 69.24 182 *d*P **P** **17 31 35.8 +3.2**
comp=Z,6.0nm,1.3s
ZSN Zaisan 69.94 37 *e*P **P** **17 31 38.6 +1.4**
comp=Z,11nm,1.1s,baz=37
ZSN Zaisan 69.94 37 *e*P **P** **17 31 38.5 +1.4**
ZSN pmax pmax
comp=Z,11nm,1.1s
WMQ Urumqi 70.12 41 *e*P **P** **17 31 39.8 +1.4**
WMQ pP pP 17 31 44.9 +0.6
WMQ pmax pmax
comp=Z,12nm,1.7s
WMQ LR LR
comp=Z,240nm,15.1s
WMQ LR LR
comp=Z,230nm,18.7s
TROLL Troll, Antarti 71.16 188⇓ P **P** **17 31 47.7 +3.4**
comp=Z,454nm,0.8s
SNAA Sanae 71.72 190 P **P** **17 31 48.2 +0.7**
SNAA lAmb lAmb 17 31 54.7
comp=Z,22nm,1.7s
SNAA Sanae 71.72 190⇓ P **P** **17 31 50.5 +3.0**
comp=Z,61nm,0.9s
SNAA Sanae 71.72 190⇓ *i*P **P** **17 31 50.4 +2.8**
SNAA pmax pmax
comp=Z,12nm,1.6s
SNAA Sanae 71.72 190 P **P** **17 31 49.6 +2.0**
comp=Z,3.5nm,1.0s,baz=62,slow=7.9,SNR=7.0
comp=Z,3.5nm,1.0s
VNA2 Neumayer--Watz 71.97 192⇓ P **P** **17 31 51.9 +2.8**
comp=Z,6.2nm,0.8s,baz=28,slow=6.0
ARCES ARCESS Array B 72.12 359 P **P** **17 31 50.5 +0.5**
comp=Z,5.0nm,0.9s,baz=178,slow=5.4,SNR=7.7
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 72.21 70 P **P** **17 31 51.3 -0.2**
CMAR Chiang Mai Arr 72.21 70 P **P** **17 31 52.9 +1.4**
comp=Z,3.6nm,0.9s,baz=260,slow=6.4,SNR=17
CMAR LR LR 18 02 00.2
comp=Z,29nm,20.3s,baz=280,slow=34
comp=Z,3.6nm,0.9s
CHTO Chiang Mai 72.27 69 P **P** **17 31 51.9 0.0**
CHTO Chiang Mai 72.27 69 P **P** **17 31 51.9 0.0**
CHTO pmax pmax
comp=Z,8.0nm,1.2s
DGZ Jazzator, Alta 72.48 36*d* *i*P **P** **17 31 53.5 +0.8**
DGZ pmax pmax
comp=Z,8.0nm,1.0s
GOMU GeErMu 72.58 51 P **P** **17 31 55.7 +1.9**
GOMU pP pP 17 31 59.5 -0.2
GOMU pmax pmax
comp=Z,8.0nm,0.7s
VNA3 Neumayer Olymp 72.69 192⇓ P **P** **17 31 55.8 +2.5**
comp=Z,13nm,0.9s
TNCH TengChong 72.98 63 P **P** **17 31 56.5 +0.3**
TNCH sP pP 17 32 01.6 -0.5
TNCH S **S** **17 41 18.4 -4.7**
TNCH sS pS 17 41 30.2 -0.2
TNCH SS **SS** **17 46 00.1 -3.9**
TNCH pmax pmax
comp=Z,16nm,1.1s
TNCH pmax pmax
comp=Z,89nm,3.7s
ZAA0 Zalesovo Array 73.06 31 P **P** **17 31 55.5 -0.3**
ZAA0 lAmb lAmb 17 31 57.2
comp=Z,16nm,1.4s
ZALV Zalesovo Beam 73.06 31 P **P** **17 31 55.5 -0.3**
ZALV Zalesovo Beam 73.06 31 P **P** **17 31 56.4 +0.5**
comp=Z,5.2nm,1.0s,baz=261,slow=5.9,SNR=19
ZALV PP **PP** **17 34 38.2 -0.4**
comp=Z,2.5nm,0.8s,baz=256,slow=5.8,SNR=5.5
ZALV LR LR 18 08 52.9
comp=Z,129nm,18.1s,baz=230,slow=40
comp=Z,5.2nm,1.0s
PHRA Phrae 73.42 70 P **P** **17 31 58.8 +0.2**

CRAI	Chiangrai	73.82	68	P	P	17 32 01.4	+0.4
CRAI				IAmb	IAmb	17 32 04.1	
	comp=Z,28nm,1.4s						
MYKOM	Kota Tinggi	75.28	87	P	P	17 32 10.2	+0.6
MYKOM				IAmb	IAmb	17 32 11.9	
	comp=Z,23nm,0.9s						
PZH	PanZhiHua	76.11	62	P	P	17 32 15.5	+1.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,130nm,5.8s						
BDFB	Brasilia	76.47	255	P	P	17 32 17.0	+0.5
BDFB				IAmb	IAmb	17 32 22.4	
	comp=Z,15nm,0.8s						
BDFB	Brasilia	76.47	255	P	P	17 32 17.0	+0.5
BDFB				pmax	pmax		
	comp=Z,15nm,0.8s						
BDFB	Brasilia	76.47	255	P	P	17 32 17.4	+1.0
	comp=Z,14nm,0.9s,baz=78,slow=5.8,SNR=13						
	comp=Z,14nm,0.9s						
BORG	Borgarnes	76.51	340	LR	LR	18 08 45.3	
	comp=Z,46nm,18.3s,baz=46,slow=38						
KMI	Kunming	76.76	64	⇓P	P	17 32 19.1	+1.0
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KMI				LR	LR		
	comp=Z,210nm,20.1s						
KMI				LR	LR		
	comp=Z,270nm,21.6s						
KMI				LR	LR		
	comp=Z,520nm,39.2s						
GTA	Gaotai	77.25	49	⇓P	P	17 32 22.3	+1.8
GTA				pP	pP	17 32 25.4	-1.0
GTA				sP	sP	17 32 29.3	+0.8
GTA				pmax	pmax		
	comp=Z,13nm,1.2s						
CD2	Chengdu	78.62	58	P	P	17 32 29.7	+1.5
CD2				pmax	pmax		
	comp=Z,30nm,0.9s						
LZH	Lanzhou	79.64	53	*e*P	P	17 32 36.2	+2.4
LZH				pP	pP	17 32 40.2	+0.5
LZH				sP	sP	17 32 44.4	+2.5
LZH				pmax	pmax		
	comp=Z,16nm,1.2s						
SCO	Scoresbysund	80.27	345	*i* P	P	17 32 40.9	+4.7
BELA	Belgrano 2	81.92	191	P	P	17 32 47.1	+2.1
XAN	Xi'an	83.42	55	⇑P	P	17 32 55.4	+1.7
XAN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
DAG	Danmarks Havn	83.66	350	*i* P	P	17 32 55.0	+1.1
DAG				IAmb	IAmb	17 33 00.5	
	comp=Z,12nm,1.2s						
SBUM	Sibu	83.67	87	P	P	17 32 56.4	+1.0
SONM	Songino Array	83.76	41	P	P	17 32 56.8	+1.5
SONM				IAmb	IAmb	17 32 59.1	
	comp=Z,26nm,1.9s						
SONM	Songino Array	83.76	41	P	P	17 32 56.8	+1.5
SONM				pmax	pmax		
	comp=Z,26nm,1.9s						
SONM	Songino Array	83.76	41	P	P	17 32 57.3	+2.0
	comp=Z,2.3nm,0.9s,baz=241,slow=4.8,SNR=11						
SONM				LR	LR	18 14 47.2	
	comp=Z,61nm,19.2s,baz=258,slow=39						
	comp=Z,2.3nm,0.9s						
AQDB	Aquidauana	83.80	250	P	P	17 32 54.9	-1.0
AQDB				IAmb	IAmb	17 33 03.0	
	comp=Z,29nm,1.5s						
ULN	Ulaanbaatar	84.20	42	P	P	17 32 56.6	-1.0
ULN				IAmb	IAmb	17 33 00.8	
	comp=Z,11nm,1.2s						
ULN	Ulaanbaatar	84.20	42	*de*P	P	17 32 59.5	+2.0
ULN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BTO	Baotou	85.17	49	*e*P	P	17 33 02.6	+0.1
BTO				pP	pP	17 33 07.4	-1.1
BTO				sP	sP	17 33 09.7	-0.9
BTO				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BTO				pmax	pmax		
	comp=Z,410nm,10.9s						
CPUP	Villa Florida	85.24	244	LR	LR	18 05 39.4	
	comp=Z,74nm,21.4s,baz=211,slow=32						
SUMG	Summit	85.85	344	P	P	17 33 06.0	+0.4
SUMG				IAmb	IAmb	17 33 11.7	
	comp=Z,21nm,1.2s						
SUMG	Summit	85.85	344	P	P	17 33 06.0	+0.4
SUMG				pmax	pmax		
	comp=Z,21nm,1.2s						
SUMG	Summit	85.85	344	*i* P	P	17 33 08.0	+2.4
HHC	Hu-ho-hao-te	86.36	49	*e*P	P	17 33 10.3	+1.8
HHC				pmax	pmax		
	comp=Z,42nm,0.7s						
HHC				pmax	pmax		
	comp=Z,190nm,5.0s						
LYN	LuoYang	86.40	55	P	P	17 33 10.2	+1.6
LYN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
QSPA	South Pole Qui	87.36	180	P	P	17 33 14.1	+1.4
TWSI	Taliwang, Sumb	87.82	99	P	P	17 33 16.0	+0.1
HNS	HongShan	88.46	53	*e*P	P	17 33 21.4	+2.9
TRQA	Tornquist	88.88	232	P	P	17 33 21.2	+0.7
TRQA	Tornquist	88.88	232	P	P	17 33 21.2	+0.7
TRQA				pmax	pmax		
	comp=Z,48nm,2.0s						
SIV	San Ignacio	89.03	254	LR	LR	18 08 37.8	
	comp=Z,72nm,21.8s,baz=108,slow=32						
BOAV	Boa Vista	89.31	272	P	P	17 33 22.6	-0.4
BOAV				IAmb	IAmb	17 33 29.1	
	comp=Z,16nm,1.2s						
SAML	Samuel	91.43	261	P	P	17 33 31.5	-1.4
SAML				IAmb	IAmb	17 33 38.4	
	comp=Z,8.7nm,0.9s						
SAML	Samuel	91.43	261	P	P	17 33 31.5	-1.4
SAML				pmax	pmax		
	comp=Z,9.0nm,1.0s						
NJ2	Nanjing	91.56	58	*e*P	P	17 33 33.1	0.0
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SOEI	Soe	95.05	100	P	P	17 33 47.6	-2.1
LPAZ	La Paz	95.78	253	P	P	17 33 50.2	-3.4
LPAZ				IAmb	IAmb	17 33 58.8	
	comp=Z,19nm,1.9s						
LPAZ	La Paz	95.78	253	P	P	17 33 50.2	-3.4
LPAZ				pmax	pmax		
	comp=Z,19nm,1.9s						
LPAZ	La Paz	95.78	253	P	P	17 33 53.9	+0.3
	comp=Z,1.9nm,0.9s,baz=92,slow=3.1,SNR=3.7						
	comp=Z,1.9nm,0.9s						
VNDA	Vanda	95.92	171	LR	LR	18 14 54.9	
	comp=Z,82nm,20.4s,baz=288,slow=34						
CN2	Changchun	96.74	46	*e*P	P	17 33 56.6	0.0
CN2				*e*PP	PP	17 37 54.5	+3.0
CN2				*e*S	S	17 45 13.2	-4.7
CN2				*e*SS	SS	17 51 51.4	-1.4
KSRS	Korea Array	98.97	53	P	P	17 34 05.7	-1.1
	comp=Z,1.8nm,0.9s,baz=272,slow=4.7,SNR=4.3						
	comp=Z,1.8nm,0.9s						
MDJ	Mudanjiang	99.66	45	P	Pdif	17 34 12.6	+2.9
MDJ				pP	pP	17 34 16.6	+0.9
MDJ				sP	sP	17 34 18.1	+0.2
MDJ				S	S	17 45 31.1	-12
MDJ				pmax	pmax		
	comp=Z,12nm,2.1s						
MDJ				pmax	pmax		
	comp=Z,68nm,5.2s						
ASAR	Alice Springs	102.82	115	P	Pdif	17 34 25.1	+0.8
	comp=Z,0.6nm,0.8s,baz=259,slow=4.2,SNR=6.2						
ILAR	Eielson Array	117.97	358	PKP	PKiKP	17 39 12.3	0.0
	comp=Z,0.1nm,0.6s,baz=340,slow=3.1,SNR=5.5						
ILAR				PP	PP	17 40 25.2	-0.6
	comp=Z,0.8nm,1.1s,baz=359,slow=8.1,SNR=5.2						
PDAR	Pinedale Array	125.47	323	PKP	PKiKP	17 39 28.3	+0.3
	comp=Z,0.8nm,0.9s,baz=116,slow=2.1,SNR=5.2						
TXAR	Lajitas Array	127.61	305	PKP	PKiKP	17 39 33.6	+1.1
	comp=Z,0.6nm,0.6s,baz=118,slow=3.0,SNR=8.1						
NVAR	Mina Array Bea	133.37	324	PKP	PKiKP	17 39 44.6	+0.6
	comp=Z,0.2nm,0.4s,baz=66,slow=1.8,SNR=4.3						

*IDC **02** 17:32:25.3±1.4, 55°.88S×28°.55W, h0km, mb4.1/2, mbtmp4.2/3, ML4.8/1, Error ellipse: s-maj=75.2km s-min=35.7km az=79.0*

*NEIC **02** 17:32:43.0±2.0, 56°.0S±0°.2×28°.3W±0°.3, h140km±12km, mb4.1/7, Error ellipse: s-maj=28.7km s-min=15.2km az=217.0*

ISC 02 17:32:43.1±0.9**, 56°.0S**±0°.1×**28°.5W**±0°.1**, h150km, n16, σ1s.10**/17**, mb3.9**/4**, 1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	4.93	287	Pn	Pn	17 33 56.7	+1.2
HOPE				Sn	Sn	17 34 50.6	-1.3
VNA3	Neumayer Olymp	17.26	159	⇓P	P	17 36 32.8	-1.0
	comp=Z,3.8nm,0.7s						
VNA2	Neumayer--Watz	17.49	157	P	P	17 36 35.8	-0.5
	comp=Z,3.1nm,0.3s,baz=316,slow=13						
SNAA	Sanae	19.06	155	P	P	17 36 52.4	-1.1
SNAA				IAmb	IAmb	17 36 53.5	
	comp=Z,6.6nm,0.5s						
SNAA	Sanae	19.06	155	P	P	17 36 52.2	-1.3
	comp=Z,190nm,0.4s						
SNAA	Sanae	19.06	155	P	P	17 36 52.2	-1.3
	comp=Z,2.8nm,0.3s,baz=310,slow=11,SNR=124						
	comp=Z,7.1nm,0.4s						
TROLL	Troll, Antarti	20.59	153	P	P	17 37 08.4	-1.5
	comp=Z,222nm,0.3s						
BELA	Belgrano 2	22.06	183	P	P	17 37 25.4	+0.1
BELA				IAmb	IAmb	17 37 27.8	
	comp=Z,7.5nm,1.1s						
QSPA	South Pole Qui	34.23	180	P	P	17 39 15.5	+1.3
QSPA				IAmb	IAmb	17 39 52.5	
	comp=Z,2.5nm,1.2s						
BOAV	Boa Vista	63.83	324	P	P	17 42 57.8	-1.5
TOA0	Torodi Ar. Sit	73.39	31	P	P	17 43 59.2	+0.7
TOA0				IAmb	IAmb	17 44 30.6	
	comp=Z,4.8nm,1.4s						
TORD	Torodi Ar. Bea	73.39	31	P	P	17 43 59.0	+0.6
TORD	Torodi Ar. Bea	73.39	31	P	P	17 43 59.0	+0.6
	comp=Z,0.6nm,0.5s,baz=197,slow=6.6,SNR=5.1						
	comp=Z,0.6nm,0.5s						
ASAR	Alice Springs	99.22	164	P	Pdif	17 46 08.0	+0.3
	comp=Z,0.3nm,0.8s,baz=187,slow=3.5,SNR=2.5						
	comp=Z,0.3nm,0.8s						
ILAR	Eielson Array	149.57	312	PKPbc	PKiKP	17 52 14.8	+0.6
	comp=Z,1.5nm,0.9s,baz=127,slow=3.2,SNR=17						
SONM	Songino Array	151.43	87	PKPbc	PKiKP	17 52 18.5	-0.1
	comp=Z,0.7nm,0.4s,baz=223,slow=3.1,SNR=6.3						

*NEIC **02** 17:45:25.2±0.7, 19°.21N±0°.01×155°.491W±0°.009, h17km±2km, Error ellipse: s-maj=2.2km s-min=1.1km az=177.0*

HVO 02 17:45:25.2±1.2**, 19°.22N**±0°.01×**155°.485W**±0°.008**, h1**km±9km**, ML2.3**/15**, ML2.5**/50(NEIC)**, Error ellipse: s-maj=1.8km s-min=1.0km az=171.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.09	75		Pg	17 45 28.1	+1.2
KHU	Kahuku	0.13	284		Pg	17 45 29.2	+1.5
KHU				Sg	Sg	17 45 31.3	+1.9
HPO	Honuapo	0.14	208		Pg	17 45 29.1	+1.2
HPO					Sg	17 45 32.6	+2.8
HLP	Hilina Pali	0.18	64		Pg	17 45 30.4	+1.6
HLP				Sg	Sg	17 45 33.3	+2.0
HLP				IAML		17 45 34.8	
	comp=E,834nm,0.3s						
SDHHI	Sand Hill	0.25	46		Sb	17 45 35.7	-2.0
SDHHI	Sand Hill	0.25	46		Pg	17 45 31.2	+1.2
SDHHI				IAML		17 45 38.2	
	comp=N,2μm,0.3s						
SDHHI				IAML		17 45 38.7	
	comp=E,1μm,0.3s						
WRMHI	West Rim	0.26	42		Sg	17 45 35.2	+1.6
WRMHI				IAML		17 45 36.7	
	comp=E,1μm,0.7s						
WRMHI				IAML		17 45 37.9	
	comp=N,773nm,0.7s						
WRMHI	West Rim	0.26	42		Pg	17 45 31.3	+1.1
RIM	Rim	0.27	48	Pg	Pb	17 45 32.0	-1.0
RIM					Sg	17 45 34.6	+0.7
RIM				IAML		17 45 36.8	
	comp=N,904nm,1.4s						
RIM				IAML		17 45 39.0	
	comp=E,676nm,0.9s						
UWE	Uwekahuna	0.27	41		Pg	17 45 31.8	+1.3
UWE				Sg	Sb	17 45 36.8	-1.6
KKO	Keanakako`i	0.28	49	Pg	Pg	17 45 31.6	+1.1
KKO					Sg	17 45 35.4	+1.3
KKO				IAML		17 45 37.0	
	comp=E,902nm,1.0s						
NPH	North Pit	0.28	44	Pg	Pg	17 45 31.6	+1.0
NPH				Sg	Sg	17 45 35.5	+1.4
OBL	Observatory Le	0.28	43	Pg	Pg	17 45 31.6	+1.0
OBL					Sg	17 45 35.7	+1.5
UWB	Uwekahuna B	0.29	43		Pg	17 45 31.6	+0.9
UWB					Sg	17 45 36.0	+1.6
BYL	Byron's Ledge	0.29	47	Pg	Pg	17 45 31.8	+1.0
BYL					Sg	17 45 35.7	+1.1
BYL				IAML		17 45 37.1	
	comp=N,574nm,0.4s						
BYL				IAML		17 45 37.6	
	comp=E,660nm,0.8s						
MWH	Moku'aweowe	0.29	338		Pg	17 45 31.5	+0.7
MLH	Mauna Loa	0.29	19		Pg	17 45 32.1	+1.3
MLH				Sg	Sb	17 45 37.3	-1.7
MLH				IAML		17 45 38.0	
	comp=E,530nm,0.6s						
SBLHI	Steaming Bluff	0.29	44		Pg	17 45 31.9	+1.0
SBLHI					Sg	17 45 35.5	+0.8
SBLHI				IAML		17 45 37.2	
	comp=E,536nm,0.2s						
SBLHI				IAML		17 45 37.2	
	comp=N,806nm,0.4s						
HATHI	Halema'uma'u T	0.30	46		Sg	17 45 36.2	+1.4
HATHI				IAML		17 45 37.5	
	comp=N,699nm,0.6s						
HATHI				IAML		17 45 39.5	
	comp=E,1000nm,0.2s						
HATHI	Halema'uma'u T	0.30	46		Pg	17 45 31.9	+1.0
PUH	Pauahi	0.30	58		Pg	17 45 31.7	+0.7
PUH				Sg	Sg	17 45 36.4	+1.5
PUH				IAML		17 45 37.2	
	comp=E,427nm,0.1s						
PUH				IAML		17 45 38.2	
	comp=N,628nm,0.2s						
RSD	Rainshed	0.32	38		Pg	17 45 31.8	+0.5
RSD				Sg	Sg	17 45 37.1	+1.7
RSD				IAML		17 45 37.9	
	comp=N,438nm,1.0s						
RSD				IAML		17 45 40.7	
	comp=E,444nm,1.2s						
MLOA	Mauna Loa Obse	0.33	345	Pg	Pg	17 45 32.3	+0.7
KNHH	Kane Nui o Ham	0.34	61		Pg	17 45 32.5	+0.8
ALEP	Alea Permanent	0.36	335		Pg	17 45 32.5	+0.4
ALEP					Sb	17 45 39.0	-2.0
STCH	Steam Cracks	0.38	63		Sg	17 45 38.9	+1.4
STCH	Steam Cracks	0.38	63	Pg	Pg	17 45 33.1	+0.5
STCH				IAML		17 45 38.9	
	comp=N,478nm,0.5s						
STCH				IAML		17 45 39.2	
	comp=E,544nm,0.5s						
HMH	Humu'ula Sheep	0.39	0		Pb	17 45 33.9	-1.2
HMH					Sg	17 45 39.6	+1.9
HMH				IAML		17 45 45.5	
	comp=E,396nm,0.3s						
NPOC	North of Pu'u	0.40	63		Sg	17 45 39.2	+1.2
NPOC	North of Pu'u	0.40	63	Pg	Pg	17 45 33.6	+0.7
NPOC				IAML		17 45 44.4	
	comp=E,355nm,0.7s						
NPOC				IAML		17 45 44.6	
	comp=N,498nm,0.7s						
JCUZ	Jacuzzi	0.40	65	Pg	Pg	17 45 33.4	+0.5
JCUZ					Sg	17 45 39.3	+1.2
JCUZ				IAML		17 45 39.6	
	comp=N,453nm,0.6s						
JCUZ				IAML		17 45 39.9	
	comp=E,324nm,0.8s						
CPH	Captain Cook	0.49	304		Pg	17 45 34.9	+0.3
JOKA	Jonika Flow	0.50	64		Pg	17 45 34.7	-0.2
JOKA					Sg	17 45 42.1	+0.7
KHLU	Kahalu`u	0.54	314		Pg	17 45 35.8	+0.3
KHLU					Sb	17 45 44.2	-1.7
POHA	Pohakuloa	0.54	355		Pg	17 45 35.8	+0.1
POHA				Sg	Sg	17 45 44.2	+1.5
POHA				IAML		17 45 45.7	
	comp=E,432nm,0.6s						
POHA				IAML		17 45 54.7	
	comp=E,399nm,0.7s						
HUH	Hualalai	0.57	325		Pg	17 45 36.7	+0.5
HUH				Sg	Sb	17 45 46.4	-0.7
MHA	Mahukona	1.04	338	Pg	Pg	17 45 44.1	-1.1

*MOS **02** 17:49:04.5±0.9, 28°.11S×177°.32W, h62km, mb5.1/26, Error ellipse: s-maj=13.2km s-min=9.7km az=58.8*

*IDC **02** 17:49:04.7±1.7, 28°.03S×177°.30W, h53km±14km, mb4.4/18, mbtmp4.6/19, ML3.1/1, MS4.0/26, Error ellipse: s-maj=16.5km s-min=12.5km az=107.0*

*NEIC **02** 17:49:04.4±1.9, 28°.00S±0°.08×177°.4W±0°.1, h47km±5km, mb5.1/163, Error ellipse: s-maj=17.0km s-min=9.3km az=114.0*

*GCMT **02** 17:49:05.4±0.4, 28°.15S±0°.03×176°.86W±0°.03, h67km±2km, MW5.0/57, Moment Tensor Solution. s43,c49; s57,c76; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.88±.18; $M_{\theta\theta}$0.75±.17; $M_{\phi\phi}$-3.64±.13; $M_{r\theta}$-0.11±.12; $M_{\theta\phi}$-0.42±.15; $M_{\phi r}$0.40±.11; Best double couple: $M_0$3.30700×10^{16} NP1:ϕ_s2.00000°,δ48.00000°,λ85.00000°. NP2: ϕ_s190.00000°,δ42.00000°,λ96.00000°. Principal axes: T 2.9130, Plg85.0000°, Azm225.0000°; N 0.7820, Plg4.0000°, Azm5.0000°; P -3.7020, Plg3.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 17:49:03.8±0.3**, 28°.28S**±0°.04×**177°.17W**±0°.06**, h48km, h48km:pP-P, n533, σ1s.70**/495**, mb5.0**/122**, MS4.1**/28**, 6C-18D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.17	214		Pn	17 49 26.8	+3.1
RAO				Sn	Sn	17 49 42.4	+3.9
RAO	Raoul Island	1.17	214	P	Pn	17 49 26.8	+3.1
RAO						17 49 42.4	
RAO	Raoul Island	1.17	214	P	Pn	17 49 26.8	+3.1
	18μm,0.4s,baz=78,slow=19,SNR=88						
RAO				S	Sn	17 49 43.9	+5.4
	92μm,0.4s,baz=281,slow=23,SNR=23						
GLKZ	Green Lake	1.18	214	P	Pn	17 49 27.3	+3.5
GLKZ				S	Sn	17 49 44.4	+5.7
MXZ	Matakaoa Point	10.00	201	Pn	Pn	17 51 22.9	-1.9
MXZ	Matakaoa Point	10.00	201	P	Pn	17 51 22.7	-2.1
MXZ				S	Sn	17 53 11.9	-3.7
WMGZ	Waiomatatini S	10.20	200	P	Pn	17 51 25.3	-2.3
WMGZ				S	Sn	17 53 17.0	-3.5
HAZ	Te Kaha	10.35	203	P	Pn	17 51 24.6	-4.9
HAZ				S	Sn	17 53 23.1	-1.0
OUZ	Omahuta	10.46	226	P	Pn	17 51 39.8	+8.7
WCZ	Waipu Caves	10.48	221	P	Pn	17 51 41.8	+10
PUZ	Puketiti	10.48	200	P	Pn	17 51 28.5	-3.0
PUZ				S	Sn	17 53 23.8	-3.6
RUGZ	Raukumara Rang	10.57	203	P	Pn	17 51 28.3	-4.5
RUGZ				S	Sn	17 53 27.5	-2.3
TWGZ	Tauwhareparae	10.66	201	S	Sn	17 53 29.5	-2.5
TKGZ	Te Karaka	10.95	201	S	Sn	17 53 34.2	-4.5
MWZ	Matawai	10.96	202	P	Pn	17 51 34.4	-3.5
MWZ				S	Sn	17 53 34.1	-5.0
URZ	Urewera	11.04	204	P	Pn	17 51 32.9	-6.1
	2.2nm,0.3s,baz=300,slow=23,SNR=9.3						
URZ				S	Sn	17 53 36.3	-4.5
	26nm,0.3s,baz=242,slow=22,SNR=16						
URZ	Urewera	11.04	204	P	Pn	17 51 34.2	-4.7
URZ				S	Sn	17 53 37.1	-3.8
RAGZ	Rawiri	11.14	203	S	Sn	17 53 40.6	-3.0
RIGZ	Rimuhau	11.22	201	P	Pn	17 51 38.3	-3.2
RIGZ				S	Sn	17 53 39.0	-6.4
NIUE	Niue	11.31	37	Pn	Pn	17 51 35.6	-7.2
PRGZ	Paritu Road	11.38	200	S	Sn	17 53 41.1	-8.3
RTZ	Ruatahuna	11.40	204	Pn	Pn	17 51 40.2	-3.8
SNGZ	Shannon Statio	11.42	202	P	Pn	17 51 38.7	-5.6
SNGZ				S	Sn	17 53 45.3	-5.2
KNZ	Kokohu	11.54	200	P	Pn	17 51 45.0	-0.7
RAHZ	Arahi	11.63	203	P	Pn	17 51 47.8	+0.7
MTHZ	Maungataniwha	11.66	204	P	Pn	17 51 46.1	-1.4
NMHZ	Naumai	11.89	203	P	Pn	17 51 51.4	+0.7
HIZ	Hauiti	12.18	211	P	Pn	17 51 58.2	+3.7
TMVZ	Te Maari	12.32	207	P	P	17 52 02.2	-5.3
KRHZ	Kereru	12.53	204	P	Pn	17 51 58.8	-0.6
PXZ	Pawanui	12.71	201	P	Pn	17 52 00.4	-1.5
MRZ	Mangatainoka R	13.71	204		Pn	17 52 02.7	-13
TUWZ	Tuamarina	14.99	207	P	Pn	17 52 21.2	-11
MARNC	Mare, Loyalty	15.03	293	P	Pn	17 52 23.6	-10
AFI	Afiamalu	15.16	20	P	Pn	17 52 22.1	-13
AFI	Afiamalu	15.16	20	P	Pn	17 52 22.1	-13
THZ	Tophouse	15.70	208	P	Pn	17 52 35.6	-6.1
ONTNC	Ouen Toro	15.95	288	P	Pn	17 52 42.6	-2.5
KHZ	Kahutara	15.99	206	P	Pn	17 52 36.9	-8.5
LIFNC	LIFOU	16.02	294	P	Pn	17 52 43.8	-2.1
LIFNC				IAmb	IAmb	17 52 47.9	
	comp=Z,158nm,1.7s						
DZM	Mont Dzumac	16.06	289	*e*Pn	P	17 52 51.5	+2.3
	comp=Z,83nm,1.3s						
DZM				*e*S	Sn	17 55 46.7	+3.0
	comp=Z,938nm,26.2s						
DZM				*e*LR	LR	17 56 33.4	
	comp=Z,2μm,24.9s						
DZM	Mont Dzumac	16.06	289	P	Pn	17 52 34.9	-12
DZM	Mont Dzumac	16.06	289	P	Pn	17 52 44.3	-2.3
	comp=Z,0.1nm,0.3s,baz=134,slow=15,SNR=1.7						
	comp=Z,5.5nm,1.0s						
LTZ	Lake Taylor	16.80	208	Pn	Pn	17 52 46.6	-9.1
INZ	Inchbonnie	17.11	210	P	Pn	17 52 51.5	-7.9
RAR	Rarotonga	17.29	70	P	Pn	17 53 00.2	-1.6
	comp=Z,33nm,0.5s,baz=256,slow=4.2,SNR=4.3						
RAR				LR	LR	17 57 46.8	
	comp=Z,756nm,21.2s,baz=262,slow=30						
OXZ	Oxford	17.35	207	P	Pn	17 52 54.2	-8.2
RPZ	Rata Peaks	18.08	208	P	P	17 53 08.2	-3.0
	comp=Z,9.3nm,0.3s,baz=38,slow=19,SNR=4.7						
RPZ				S	Sn	17 56 16.2	-16
	comp=Z,4.8nm,0.3s,baz=354,slow=5.2,SNR=1.2						
RPZ				LR	LR	18 00 16.1	
	comp=Z,279nm,20.7s,baz=28,slow=37						
TBI	Tubuai	25.40	85	*e*S	S	17 58 46.3	-4.0
	comp=Z,1μm,28.8s						
TBI				*e*LR	LR	18 00 48.5	
	comp=Z,4μm,26.2s						
TBI				*e*LR	LR	18 00 54.2	
	comp=Z,1μm,24.2s						
TBI	Tubuai	25.40	85	*e*T	T	18 20 36.0	
	comp=Z,51nm,0.3s						
ARMA	Armidale	27.23	258	P	P	17 54 44.3	+0.8
PAE	Paea	27.45	73	*e*T	T	18 22 49.3	
	comp=Z,31nm,0.3s						
PPT2	Papeete2	27.49	73	*e*S	S	17 59 09.7	-14
	comp=Z,183nm,32.0s						
PPT2				*e*LR	LR	18 01 41.3	
	comp=Z,934nm,26.0s						
PPT2				*e*LR	LR	18 01 49.1	
	comp=Z,524nm,24.5s						
PPT2	Papeete2	27.49	73	*e*T	T	18 22 55.4	
	comp=Z,20nm,0.3s						
TVO	Taravao	27.68	74	*e*T	T	18 23 13.0	
	comp=Z,5.2nm,0.3s						
EIDS	Eidsvold	28.43	268	P	P	17 54 54.3	+0.1
HNR	Honiara	28.54	307	LR	LR	18 04 38.2	
	comp=Z,2μm,20.7s,baz=149,slow=33						
CAN	Canberra	29.49	248	P	P	17 55 04.7	+1.2
CAN	Canberra	29.49	248	P	P	17 55 04.7	+1.2
CAN				pmax	pmax		
	comp=Z,224nm,2.0s						
TAU	Tasmania Unive	32.09	233	P	P	17 55 28.4	+2.2
TAU	Tasmania Unive	32.09	233	P	P	17 55 28.4	+2.2
TAU				pmax	pmax		
	comp=Z,251nm,1.7s						
TOO	Toolangi	32.50	244	P	P	17 55 30.8	+0.8
TOO				IAmb	IAmb	17 56 01.2	
	comp=Z,105nm,1.9s						
TOO	Toolangi	32.50	244	P	P	17 55 30.8	+0.8
TOO				pmax	pmax		
	comp=Z,105nm,1.9s						
CTA	Charters Tower	34.24	276	LR	LR	18 08 20.2	
	comp=Z,430nm,18.8s,baz=100,slow=34						
CTAO	Charters Tower	34.24	276	P	P	17 55 45.2	-0.1
CTAO	Charters Tower	34.24	276	P	P	17 55 45.2	-0.1
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CTAO	Charters Tower	34.24	276	P	P	17 55 41.8	-3.5
CTAO				pP	pP	17 55 53.8	-3.5
STKA	Stephens Creek	35.71	254	P	P	17 55 58.7	+0.9

STKA Stephens Creek 35.71 254 ⇓eP P 17 55 59.1 +1.3
STKA Stephens Creek 35.71 254 P P 17 55 58.1 +0.3
comp=Z,8.3nm,0.8s,baz=96,slow=8.2,SNR=12
comp=Z,8.3nm,0.8s
BBOO Buckleboo 40.28 252 P P 17 56 35.0 -1.4
BBOO IAmb IAmb 17 56 36.9
comp=Z,22nm,0.9s
AS31 Alice Springs 43.99 264 P P 17 57 05.5 -1.2
ASAR Alice Springs 43.99 264 P P 17 57 05.2 -1.4
ASAR Alice Springs 43.99 264 P P 17 57 05.3 -1.4
ASAR Alice Springs 43.99 264 P P 17 57 05.8 -0.9
comp=Z,8.4nm,0.7s,baz=95,slow=7.4,SNR=138
ASAR PcP PcP 17 58 50.9 -1.0
comp=Z,1.3nm,0.6s,baz=111,slow=4.8,SNR=2.5
ASAR ScP ScP 18 02 40.5 +0.7
comp=Z,0.4nm,1.0s,baz=117,slow=3.2,SNR=2.0
ASAR LR LR 18 14 08.4
comp=Z,328nm,21.4s,baz=99,slow=34
comp=Z,8.4nm,0.7s
WR0 Warramunga Arr 44.60 270 P P 17 57 10.2 -1.5
WB2 Warramunga Arr 44.78 270 P P 17 57 11.5 -1.5
WB2 IAmb IAmb 17 57 13.1
comp=Z,20nm,0.8s
WRAB Tennant Creek 44.78 270 P P 17 57 11.5 -1.5
WRAB IAmb IAmb 17 57 13.1
comp=Z,16nm,0.8s
WRAB Tennant Creek 44.78 270 P P 17 57 11.5 -1.5
WRAB pmax pmax
comp=Z,16nm,0.9s
WRA Warramunga Arr 44.79 270 P P 17 57 10.9 -2.2
WRA PcP PcP 17 58 54.8 +0.2
WRA Warramunga Arr 44.79 270 P P 17 57 11.9 -1.2
comp=Z,12nm,0.7s,baz=107,slow=7.7,SNR=70
WRA PcP PcP 17 58 54.5 -0.1
comp=Z,2.5nm,0.9s,baz=118,slow=3.5,SNR=2.8
WRA ScP ScP 18 02 44.8 +1.8
comp=Z,1.0nm,1.1s,baz=106,slow=3.5,SNR=3.2
comp=Z,12nm,0.7s
WB0 Warramunga Arr 44.80 270 P P 17 57 11.1 -2.1
WB0 IAmb IAmb 17 57 13.7
comp=Z,16nm,0.7s
DRV Dumont d'Urvil 46.37 202 P P 17 57 24.9 0.0
FORT Forrest 47.32 253 P P 17 57 31.2 -1.7
FORT PcP PcP 17 59 01.1 -2.2
SBA Scott Base 50.19 184 P P 17 57 58.3 +4.0
SBA IAmb IAmb 17 58 02.9
comp=Z,33nm,0.8s
SBA Scott Base 50.19 184 P P 17 57 58.3 +4.0
SBA pmax pmax
comp=Z,33nm,0.8s
VNDA Vanda 50.27 186 P P 17 57 58.1 +3.3
VNDA Vanda 50.27 186 P P 17 57 58.1 +3.3
VNDA pmax pmax
comp=Z,7.0nm,1.2s
VNDA Vanda 50.27 186 P P 17 57 57.7 +2.9
comp=Z,2.3nm,0.6s,baz=11,slow=6.8,SNR=16
comp=Z,2.3nm,0.6s
VNDA Vanda 50.27 186 P P 17 57 58.0 +3.3
KNRA Kununurra 51.31 272 P P 17 58 02.3 -1.2
KNRA IAmb IAmb 17 58 21.5
comp=Z,14nm,0.9s
CCD Concordia, Ant 55.18 196 P P 17 58 32.4 +0.8
GUMO Guam 55.52 313 LR LR 18 20 18.5
comp=Z,71nm,20.0s,baz=107,slow=34
NWAO Narrogin (SRO) 55.84 248 P P 17 58 34.9 -1.6
NWAO Narrogin (SRO) 55.84 248 P P 17 58 34.7 -1.8
NWAO IAmb IAmb 18 00 13.9
comp=Z,75nm,1.6s
NWAO Narrogin (SRO) 55.84 248 P P 17 58 34.9 -1.6
NWAO pmax pmax
comp=Z,250nm,1.7s
PSA00 Pilbara Seismi 56.96 262 P P 17 58 41.7 -2.9
PSA00 IAmb IAmb 17 59 14.6
comp=Z,9.5nm,0.8s
PSA00 Pilbara Seismi 56.96 262 P P 17 58 41.5 -3.2
PSA00 IAmb IAmb 17 59 14.7
comp=Z,5.7nm,0.9s
MBWA Marble Bar 57.20 262 P P 17 58 44.6 -1.8
MBWA IAmb IAmb 17 58 46.0
comp=Z,13nm,0.8s
MBWA Marble Bar 57.20 262 P P 17 58 44.5 -1.8
MBWA pP pP 17 58 58.1 -0.9
CASY Casey 57.34 207 P P 17 58 46.9 +0.3
SOEI Soe 57.80 276 P P 17 58 50.2 -0.6
SOEI IAmb IAmb 17 59 06.2
comp=Z,18nm,1.0s
MORW Morawa 57.85 252 P P 17 58 48.8 -2.0
BATI Baumata 58.13 276 LR LR 18 23 18.8
comp=Z,319nm,20.1s,baz=137,slow=35
RPN Rapa Nui 59.32 106 LR LR 18 20 37.6
comp=Z,28nm,20.4s,baz=278,slow=32
GIRL Giralia 61.46 258 P P 17 59 15.1 -0.6
QSPA South Pole Qui 61.82 180 P P 17 59 19.6 +2.0
QSPA South Pole Qui 61.82 180 P P 17 59 19.9 +2.2
QSPA pP pwP 17 59 33.3 -0.6
KAPI Kappang 63.97 279 ⇓eP P 17 59 33.5 +0.9
KAPI pmax pmax
comp=Z,19nm,1.3s
KAPI Kappang 63.97 279 LR LR 18 28 58.1
comp=Z,99nm,18.7s,baz=124,slow=38
SMAI San Martin Ant 71.12 158 P P 18 00 18.5 +1.7
BELA Belgrano 2 71.78 172 P P 18 00 21.7 +1.1
BELA IAmb IAmb 18 00 39.7
comp=Z,19nm,1.4s
KKM Kota Kinabalu 72.61 287 P P 18 00 25.1 -1.6
KKM IAmb IAmb 18 00 26.9
comp=Z,12nm,0.9s
LEM Lembang 73.78 271 LR LR 18 33 11.0
comp=Z,95nm,19.6s,baz=169,slow=36
SBUM Sibu 74.18 282 P P 18 00 33.8 -2.1
MAW Mawson 74.54 200 P P 18 00 39.4 +2.4
MAW Mawson 74.54 200 P P 18 00 39.4 +2.4
MAW pmax pmax
comp=Z,2.0nm,0.7s
MAW Mawson 74.54 200 P P 18 00 38.4 +1.4
comp=Z,8.0nm,0.6s,baz=130,slow=9.9,SNR=12
MAW LR LR 18 31 42.1
comp=Z,82nm,20.2s,baz=106,slow=34
comp=Z,8.0nm,0.6s
JSG Sagara 75.51 323 P P 18 00 40.9 -2.1
MJAR Matsushiro Arr 76.93 325 P P 18 00 50.0 -1.1
comp=Z,9.2nm,0.8s,baz=158,slow=5.8,SNR=19
MJAR LR LR 18 29 07.9
comp=Z,34nm,20.4s,baz=144,slow=31
comp=Z,9.2nm,0.8s
MAJO Matsushiro 76.93 325 P P 18 00 50.2 -0.9
MAJO IAmb IAmb 18 00 53.6
comp=Z,14nm,0.8s
MAJO Matsushiro 76.93 325 ceP P 18 00 52.0 +0.9
MAJO pmax pmax
comp=Z,14nm,0.8s
MJB9 Matsu-Tunnel 76.94 325 P P 18 00 50.6 -0.6
MJB9 IAmb IAmb 18 00 54.6
comp=Z,13nm,0.8s
JNU Nakatsue 78.47 318 P P 18 00 58.8 -1.1
ELIB Princess Elisa 79.03 186 dP P 18 01 03.3 +0.8
comp=Z,20nm,0.6s
KIWB Kanaga Island 79.79 0 P P 18 01 06.1 -0.4
ADK Adak 79.82 0 P P 18 01 05.6 -1.0
ADK Adak 79.82 0 P P 18 01 05.6 -1.0
ADK pmax pmax
comp=Z,132nm,1.3s
TROLL Troll, Antarti 79.98 180 ⇓P P 18 01 08.8 +1.1
comp=Z,2μm,0.7s
SNAA Sanae 80.24 178 P P 18 01 09.3 +0.3
SNAA IAmb IAmb 18 01 11.0
comp=Z,15nm,0.8s
SNAA Sanae 80.24 178 P P 18 01 10.0 +1.0
comp=Z,283nm,0.7s
SNAA Sanae 80.24 178 deP P 18 01 08.7 -0.3
SNAA pmax pmax
comp=Z,19nm,0.9s
SNAA Sanae 80.24 178 P P 18 01 09.4 +0.3
comp=Z,14nm,0.8s,baz=188,slow=4.2,SNR=40
SNAA LR LR 18 32 33.4
comp=Z,30nm,21.8s,baz=172,slow=32
comp=Z,14nm,0.8s
VNA3 Neumayer Olymp 80.36 176 ⇓P P 18 01 10.1 +0.6
comp=Z,39nm,0.7s
VNA2 Neumayer--Watz 80.80 177 P P 18 01 13.1 +1.1
comp=Z,36nm,0.6s,baz=181,slow=4.0
ASAJ Asahikawa 80.91 332 LR LR 18 32 42.3
comp=Z,123nm,19.5s,baz=162,slow=32
NVL N'lazarevskaya 81.02 183 eP P 18 01 13.1 0.0
NVL pmax pmax
comp=Z,9.0nm,0.8s

H03S2 Juan Fernandez 81.03 123 T T 19 31 13.7
baz=241,slow=74
VNA1 Neumayer--Stat 81.03 176 ⇓P P 18 01 14.2 +1.1
comp=Z,34nm,0.8s
H03S1 Juan Fernandez 81.04 124 T T 19 31 14.7
baz=241,slow=74
H03S3 Juan Fernandez 81.05 123 T T 19 31 13.5
baz=241,slow=74
H03N3 Juan Fernandez 81.21 123 T T 19 31 25.9
baz=245,slow=73
H03N2 Juan Fernandez 81.21 123 T T 19 31 20.9
baz=245,slow=73
H03N1 Juan Fernandez 81.22 123 T T 19 31 21.3
baz=245,slow=73
AKUT Akutan 82.67 7 P P 18 01 20.9 -0.8
LPIG La Paz 82.81 58 LR LR 18 29 49.6
comp=Z,53nm,19.0s,baz=218,slow=30
TJN Taejon 82.81 318 ⇓eP P 18 01 25.6 +2.7
YSS Yuzh-Sakhalins 83.17 334 eP P 18 01 27.8 +3.3
YSS eS S 18 11 43.9 +3.3
YSS pmax pmax
comp=Z,30nm,1.1s
KSRS Korea Array 83.22 319 P P 18 01 24.9 0.0
comp=Z,1.8nm,0.8s,baz=139,slow=5.6,SNR=5.6
comp=Z,1.8nm,0.8s
PLCA Paso Flores 83.42 133 P P 18 01 27.3 +1.0
PLCA Paso Flores 83.42 133 P P 18 01 27.3 +1.0
PLCA pmax pmax
comp=Z,5.0nm,0.8s
PLCA Paso Flores 83.42 133 P P 18 01 27.3 +1.0
comp=Z,3.1nm,0.7s,baz=216,slow=4.0,SNR=9.7
PLCA LR LR 18 29 30.6
comp=Z,74nm,19.4s,baz=240,slow=29
comp=Z,3.1nm,0.7s
ESJX Sierra Juarez 83.57 49 P P 18 01 27.5 +0.4
MURC Murrieta 83.76 47 P P 18 01 29.2 +1.3
baz=230
MONP2 Monument Peak 83.81 48 P P 18 01 28.9 +0.5
baz=231
HOPS Hopland Field 83.82 39 P P 18 01 29.5 +1.5
IKP In-Ko-Pah, Jac 83.86 48 P P 18 01 29.5 +1.0
baz=231
BFSC Mount Baldy Ra 83.88 46 P P 18 01 29.1 +0.5
baz=230
PEA0B Petropavlovsk- 83.95 345 P P 18 01 27.8 -0.6
PEA0B Petropavlovsk- 83.95 345 P P 18 01 27.8 -0.6
PEA0B pmax pmax
comp=Z,239nm,1.7s
PETK Petropavlovsk- 83.95 345 P P 18 01 27.3 -1.0
PETK Petropavlovsk- 83.95 345 P P 18 01 27.2 -1.2
comp=Z,5.8nm,0.7s,baz=112,slow=8.0,SNR=9.5
comp=Z,5.8nm,0.7s
VES Vestal, Richgr 84.03 44 P P 18 01 30.0 +0.8
baz=229
EDW2 Edwards Air Fo 84.08 45 P P 18 01 30.5 +0.9
baz=230
EFI East Falkland 84.16 147 P P 18 01 30.3 +0.5
EFI East Falkland 84.16 147 P P 18 01 30.3 +0.5
EFI pmax pmax
comp=Z,169nm,1.7s
KMPM Mount Pierce 84.24 38 P P 18 01 30.0 -0.3
KMPM IAmb IAmb 18 01 50.8
comp=Z,41nm,1.2s
PFO Pinyon Flats O 84.24 47 P P 18 01 31.8 +1.3
baz=231
PFO Pinyon Flats O 84.24 47 LR LR 18 30 01.2
comp=Z,96nm,21.8s,baz=227,slow=29
SWSC Sam W. Stewart 84.25 48 P P 18 01 31.5 +1.1
baz=231
ISA Isabella, Lake 84.29 44 P P 18 01 30.9 +0.3
ISA Isabella, Lake 84.29 44 P P 18 01 31.6 +1.0
baz=229
ISA Isabella, Lake 84.29 44 P P 18 01 30.9 +0.3
ISA pmax pmax
comp=Z,7.0nm,0.9s
SDPT Sand Point 84.52 9 P P 18 01 30.2 -0.9
LRMC Laurel Mtn Rad 84.66 45 P P 18 01 33.8 +1.2
baz=230
CMB Columbia Colle 84.71 42 P P 18 01 31.7 -0.9
CMB Columbia Colle 84.71 42 P P 18 01 31.7 -0.9
CMB pmax pmax
comp=Z,8.0nm,1.0s
BELC Belle Mtn. Jos 84.79 47 P P 18 01 34.9 +1.6
baz=231
BC3 Big Chuckawall 84.92 48 P P 18 01 35.7 +1.8
baz=231
AFDM Forest Hills D 84.98 41 P P 18 01 33.1 -0.8
AFDM IAmb IAmb 18 01 52.9
comp=Z,8.3nm,1.1s
CWC Cottonwood Cre 85.04 44 P P 18 01 35.4 +0.9
baz=230
HEC Hector,Ludlow 85.09 46 P P 18 01 35.9 +1.2
baz=231
ORV Oroville 85.09 40 P P 18 01 34.7 +0.2
ORV Oroville 85.09 40 P P 18 01 34.7 +0.2
ORV pmax pmax
comp=Z,6.0nm,0.8s
GSC Goldstone, Bar 85.10 46 P P 18 01 35.0 +0.3
GSC IAmb IAmb 18 01 36.8
comp=Z,8.4nm,0.8s
GSC Goldstone, Bar 85.10 46 P P 18 01 36.0 +1.3
baz=230
GSC Goldstone, Bar 85.10 46 P P 18 01 35.0 +0.3
GSC pmax pmax
comp=Z,8.0nm,0.9s
MPMC Manual Prospec 85.15 45 P P 18 01 36.5 +1.4
baz=230
HSIG 85.19 54 P P 18 01 35.6 +0.4
HSIG IAmb IAmb 18 01 36.9
comp=Z,5.9nm,0.8s
OMMB Old Mammoth Mi 85.25 43 P P 18 01 35.3 -0.4
KSXB Camp Six Broad 85.37 37 P P 18 01 37.1 +1.1
NJ2 Nanjing 85.43 310 eP P 18 01 37.2 +0.9
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
IRM Iron Mountain 85.44 47 P P 18 01 37.9 +1.6
baz=232
QSM Queen of Sheba 85.48 45 P P 18 01 36.6 +0.1
QSM IAmb IAmb 18 01 38.5
comp=Z,11nm,1.0s
GMRC Granite Mounta 85.50 47 P P 18 01 38.1 +1.3
baz=231
S14K Fog Glacier 85.56 10 P P 18 01 36.9 +0.4
baz=196
WAKR Walker 85.58 42 P P 18 01 37.5 +0.3
WAKR IAmb IAmb 18 01 56.7
comp=Z,13nm,1.2s
214A Organ Pipe Nat 85.64 50 P P 18 01 38.6 +1.2
baz=233
TUQ Turquoise Moun 85.74 46 P P 18 01 39.3 +1.3
baz=231
GWY Greenwater Val 85.75 45 P P 18 01 38.4 +0.4
GWY IAmb IAmb 18 01 39.7
comp=Z,7.4nm,0.7s
USRK Ussuriysk Ar. 85.81 326 P P 18 01 38.8 +0.9
USRK Ussuriysk Ar. 85.81 326 P P 18 01 38.8 +0.9
USRK Ussuriysk Ar. 85.81 326 P P 18 01 38.0 +0.1
comp=Z,2.4nm,0.6s,baz=157,slow=7.8,SNR=4.2
comp=Z,2.4nm,0.6s
SHOC Shoshone, Teco 85.81 45 P P 18 01 39.9 +1.7
baz=231
GRAC Grapevine Rang 85.83 44 P P 18 01 38.3 0.0
GRAC IAmb IAmb 18 01 40.7
comp=Z,11nm,0.8s
PNTR Pine Nut 85.87 41 P P 18 01 38.8 +0.2
PNTR IAmb IAmb 18 01 40.5
comp=Z,13nm,0.8s
RPSI Rantau Prapat 85.90 275 P P 18 01 37.0 -2.1
RPSI IAmb IAmb 18 01 56.1
comp=Z,9.5nm,0.9s
YBH Yreka Blue Hor 85.92 38 P P 18 01 38.9 +0.2
comp=Z,3.2nm,0.8s,baz=243,slow=2.3,SNR=6.5
comp=Z,3.2nm,0.8s
PSI Prapat 85.95 275 P P 18 01 37.0 -2.5
PSI pmax pmax
comp=Z,9.0nm,0.9s
YERR Yerington 86.01 41 P P 18 01 39.2 -0.1
YERR IAmb IAmb 18 01 58.3
comp=Z,8.7nm,1.0s
GMN Gold Mountain 86.09 44 P P 18 01 39.4 -0.4
WCT Wildcat Mounta 86.16 44 P P 18 01 39.8 -0.1
PDMCI Parker Dam,Lak 86.18 48 P P 18 01 41.4 +1.4
baz=232
NVAR Mina Array Bea 86.20 42 P P 18 01 39.9 -0.4
NVAR Mina Array Bea 86.20 42 P P 18 01 41.0 +0.7
comp=Z,6.2nm,0.8s,baz=223,slow=8.4,SNR=41
comp=Z,6.2nm,0.8s
RYN Ryan 86.20 42 P P 18 01 39.3 -0.9
NV11 Mina Array Sit 86.29 42 P P 18 01 39.8 -0.9
NV11 IAmb IAmb 18 01 59.8
comp=Z,6.9nm,0.9s
BO02 Sierra Bellavi 86.39 128 P P 18 01 42.4 +1.0
BO02 IAmb IAmb 18 03 17.8
comp=Z,24nm,1.3s
PAHR Pah Rah Range 86.41 41 P P 18 01 40.7 -0.4
PAHR IAmb IAmb 18 02 00.1
comp=Z,11nm,1.2s
TYV Tymovskoe 86.42 336 eP P 18 01 36.4 -4.3
TYV eS SKSac 18 12 02.7 -0.1
TYV pmax pmax
comp=Z,18nm,1.3s
TYV pmax pmax
comp=Z,100nm,3.5s
TYV smax smax
comp=N,200nm,5.4s
GSI Gunungsitoli 86.42 273 P P 18 01 41.7 0.0
TPNV Topopah Spring 86.49 45 P P 18 01 40.7 -1.0
TPNV IAmb IAmb 18 01 43.9
comp=Z,10nm,0.9s
TPNV Topopah Spring 86.49 45 P P 18 01 42.3 +0.7
baz=231
TPNV Topopah Spring 86.49 45 P P 18 01 40.7 -1.0
TPNV pmax pmax
comp=Z,10.0nm,1.0s
V12A Nelson 86.60 46 P P 18 01 41.9 -0.3
V12A IAmb IAmb 18 02 01.9
comp=Z,12nm,1.5s
TPH Tonopah 86.61 43 P P 18 01 42.3 0.0
TPH Tonopah 86.61 43 P P 18 01 42.3 0.0
TPH pmax pmax
comp=Z,42nm,0.8s
Y14A Wickenburg 86.70 49 P P 18 01 42.6 0.0
Y14A IAmb IAmb 18 01 45.0
comp=Z,8.6nm,1.0s
KVN Kaiserville 86.72 42 P P 18 01 42.9 +0.1
KVN IAmb IAmb 18 02 01.6
comp=Z,6.7nm,0.9s
KVN Kaiserville 86.72 42 P P 18 01 42.9 +0.1
KVN pmax pmax
comp=Z,7.0nm,0.9s
MT09 Talagante 86.78 127 P P 18 01 44.5 +1.1
WTNK Soaring Height 86.79 46 P P 18 01 43.7 +0.7
W13A Hualapai Mount 86.83 47 P P 18 01 43.4 -0.1
SHPR Sheep Range 86.89 45 P P 18 01 42.9 -0.8
TUC Tucson 87.23 51 P P 18 01 46.8 +1.5
baz=234
MDJ Mudanjiang 87.30 325 P P 18 01 47.9 +2.7
MDJ PcP PcP 18 01 49.6 +2.4
MDJ sP pP 18 01 53.0 -5.5
MDJ PP PP 18 05 07.5 -2.8
MDJ Mudanjiang 87.30 325 S S 18 12 28.2 +6.6
MDJ Mudanjiang 87.30 325 ScS ScS 18 12 34.5 +5.9
MDJ Mudanjiang 87.30 325 SS SS 18 18 13.7 +6.1
MDJ pmax pmax
comp=Z,11nm,1.0s
MDJ pmax pmax
comp=Z,110nm,5.0s
R17K Ugashik Creek 87.36 11 P P 18 01 44.0 -1.2
R17K Ugashik Creek 87.36 11 P P 18 01 46.7 +1.6
baz=198
PRN Pahroc Range 87.52 45 P P 18 01 47.7 +1.1
PRN IAmb IAmb 18 02 06.6
comp=Z,14nm,1.1s
K05A Summer Lake 87.59 38 P P 18 01 47.9 +1.0
319A Douglas 87.73 52 P P 18 01 48.5 +0.8
319A IAmb IAmb 18 01 50.4
comp=Z,7.1nm,0.9s
R11B Troy Canyon, C 87.78 44 P P 18 01 47.6 -0.3
X16A Lo Mia Camp, P 88.03 49 P P 18 01 51.0 +1.8
X16A IAmb IAmb 18 01 52.0
comp=Z,7.7nm,0.8s
Q17K Contact Creek 88.04 11 P P 18 01 48.7 +0.1
baz=199
BMN Battle Mountai 88.13 41 P P 18 01 49.3 -0.2
BMN IAmb IAmb 18 02 08.3
comp=Z,5.4nm,0.9s
BMN Battle Mountai 88.13 41 P P 18 01 49.3 -0.2
BMN pmax pmax
comp=Z,5.0nm,0.9s
O14K Tigyukauivet M 88.20 8 P P 18 01 48.7 -0.4
PINE Pine Mountain 88.29 37 P P 18 01 51.1 +0.9
Q16K King Salmon 88.31 11 P P 18 01 50.0 +0.4
baz=198
LCMT Little Creek M 88.41 46 P P 18 01 51.4 +0.5
LCMT IAmb IAmb 18 01 53.2
comp=Z,4.7nm,0.8s
DUN6 Lazy B Ranch 88.53 52 P P 18 01 52.5 +0.9
Q18K Katmai Hardscr 88.56 11 P P 18 01 50.8 -0.2
baz=200
U15A North Rim 88.67 47 P P 18 01 53.6 +1.3
U15A IAmb IAmb 18 01 54.9
comp=Z,11nm,0.8s
Q12A Willow Creek R 88.68 44 P P 18 01 52.1 0.0
Q12A IAmb IAmb 18 01 54.0
comp=Z,6.8nm,0.9s
KNB Kanab 88.68 46 P P 18 01 53.0 +0.8
KNB IAmb IAmb 18 01 54.8
comp=Z,8.5nm,0.9s
KNB Kanab 88.68 46 P P 18 01 53.0 +0.8
KNB pmax pmax
comp=Z,9.0nm,0.9s
WUAZ Wupatki 88.72 48 P P 18 01 53.0 +0.6
WUAZ IAmb IAmb 18 01 55.0
comp=Z,9.9nm,0.9s
WUAZ Wupatki 88.72 48 P P 18 01 53.6 +1.2
baz=234
M11K Mekoryuk 88.80 5 P P 18 01 53.2 +1.3
baz=190
N14K Kuskokwak Cree 88.80 8 P P 18 01 53.1 +1.2
baz=194
CN2 Changchun 88.90 322 eP P 18 01 55.2 +2.4
SPR3 Spring Creek 3 88.95 44 P P 18 01 54.2 +0.6
PSUT Pine Spring 88.96 44 P P 18 01 53.6 0.0
X18A Snowflake 89.09 50 P P 18 01 54.2 0.0
X18A IAmb IAmb 18 01 56.8
comp=Z,5.8nm,0.8s
N15K Kwethluk River 89.24 8 P P 18 01 54.3 +0.3
N15K Kwethluk River 89.24 8 P P 18 01 55.0 +1.0
baz=195
I07A Izee 89.25 38 P P 18 01 54.0 -0.7
I07A IAmb IAmb 18 02 13.3
comp=Z,6.5nm,1.0s
ELK Elko 89.50 42 P P 18 01 56.3 +0.3
comp=Z,1.1nm,0.8s,baz=203,slow=3.9,SNR=2.4
comp=Z,1.1nm,0.8s
W18A Petrified Fore 89.57 49 P P 18 01 56.6 +0.1
W18A IAmb IAmb 18 02 16.3
comp=Z,12nm,1.2s
W18A Petrified Fore 89.57 49 P P 18 01 57.8 +1.4
baz=235
KLR Kul'dur 89.58 329 ⇓iP P 18 01 55.9 0.0
KLR pmax pmax
comp=Z,12nm,1.7s
O18K Koktuh Hills 89.66 11 P P 18 01 55.6 -0.4
M15K Kasigluk River 89.67 8 P P 18 01 57.3 +1.2
baz=195
MTPU Mount Pierson 89.70 46 P P 18 01 58.4 +1.2
MTPU IAmb IAmb 18 02 00.1
comp=Z,6.3nm,0.9s
N16K Nishlik Lake 89.71 9 P P 18 01 57.1 +0.9
baz=196
GNW Green Mountain 89.93 33 P P 18 01 58.3 +0.8
GNW IAmb IAmb 18 01 59.5
comp=Z,9.7nm,0.8s
MVU Marysvale 89.97 45 P P 18 01 58.8 +0.5
MVU IAmb IAmb 18 02 18.2
comp=Z,20nm,1.0s
MSU Marysvale 89.99 45 P P 18 01 58.3 -0.1
MSU Marysvale 89.99 45 P P 18 01 58.3 -0.1
CNPM China Poot 90.08 13 P P 18 01 57.9 0.0
L14K Kuka Creek 90.08 7 P P 18 01 57.9 0.0
L14K Kuka Creek 90.08 7 P P 18 01 59.4 +1.6
baz=193
O19K Port Alsworth 90.13 11 P P 18 01 57.8 -0.3
O19K Port Alsworth 90.13 11 P P 18 01 57.9 -0.3
baz=200
G08A Pilot Rock 90.34 37 P P 18 01 59.4 -0.3
G08A IAmb IAmb 18 02 18.8
comp=Z,16nm,1.0s
L15K Ungalak Mounta 90.54 7 P P 18 02 00.1 0.0
baz=194

DUG	Dugway, Tooele	90.61	44	P	P	18 02 01.8	+0.7
	baz=233						
TX32	Lajitas Array	90.64	57	IAmb	IAmb	18 02 21.9	
	comp=Z,11nm,1.6s						
TXAR	Lajitas Array	90.64	57	P	P	18 02 02.2	+0.8
	comp=Z,1.5nm,0.9s,baz=217,slow=6.0,SNR=13						
TXAR				LR	LR	18 39 11.0	
	comp=Z,54nm,18.8s,baz=212,slow=33						
	comp=Z,1.5nm,0.9s						
MNTX	Cornudas Mount	90.66	54	P	P	18 02 02.4	+1.0
	baz=237						
E07A	Sunnyside	90.72	36	P	P	18 02 02.5	+1.2
E07A				IAmb	IAmb	18 02 20.6	
	comp=Z,17nm,0.9s						
HAWA	Hanford	90.77	36	P	P	18 02 01.4	-0.1
HAWA				IAmb	IAmb	18 02 20.7	
	comp=Z,11nm,0.8s						
M17K	Holitna River	90.79	9	P	P	18 02 02.5	+1.3
	baz=198						
L16K	Owhat River	90.81	8	P	P	18 02 02.1	+0.8
	baz=196						
BBB	Bella Bella	90.90	28	LR	LR	18 31 43.1	
	comp=Z,52nm,22.0s,baz=10,slow=28						
BMO	Blue Mountains	90.94	38	P	P	18 02 01.5	-1.0
BMO	Blue Mountains	90.94	38	P	P	18 02 01.5	-1.0
BMO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TMUT	Trail Mountain	91.07	45	IAmb	IAmb	18 02 05.7	
	comp=Z,9.6nm,0.7s						
M18K	Stony River	91.12	10	P	P	18 02 03.3	+0.6
	baz=199						
K15K	Wolf Creek Mou	91.13	7	P	P	18 02 03.5	+0.7
	baz=194						
ALPN	Alpine	91.21	56	IAmb	IAmb	18 02 05.8	
	comp=Z,7.8nm,1.2s						
MPU	Maple Canyon	91.23	44	IAmb	IAmb	18 04 53.6	
	comp=Z,20nm,1.7s						
L17K	Donlin	91.38	9	P	P	18 02 04.7	+0.8
	baz=197						
CMIG	Matias Romero	91.41	71	LR	LR	18 33 39.5	
	comp=Z,40nm,21.9s,baz=204,slow=29						
N20K	Mount Spurr	91.45	12	P	P	18 02 04.2	-0.2
	baz=202						
SPUT	South Promonto	91.51	43	IAmb	IAmb	18 02 07.1	
	comp=Z,8.8nm,1.1s						
D08A	Wollman Farm,	91.53	36	IAmb	IAmb	18 02 24.1	
	comp=Z,15nm,0.9s						
E09A	Wood Farm, Sta	91.57	36	IAmb	IAmb	18 02 24.0	
	comp=Z,12nm,0.9s						
MVCO	Mesa Verde	91.59	48	P	P	18 02 07.1	+1.2
	baz=236						
HVU	Hansel Valley	91.60	42	P	P	18 02 06.2	+0.5
HVU				IAmb	IAmb	18 02 24.8	
	comp=Z,13nm,1.4s						
HVU	Hansel Valley	91.60	42	P	P	18 02 06.2	+0.5
HVU				pmax	pmax		
	comp=Z,13nm,1.4s						
L18K	Granite Mounta	91.68	9	P	P	18 02 05.9	+0.6
	baz=198						
ANMO	Albuquerque	91.69	51	P	P	18 02 05.8	-0.6
ANMO				IAmb	IAmb	18 02 25.8	
	comp=Z,8.7nm,1.4s						
ANMO	Albuquerque	91.69	51	P	P	18 02 07.1	+0.8
	baz=237						
ANMO	Albuquerque	91.69	51⇓	*i*P	P	18 02 07.7	+1.4
ANMO	Albuquerque	91.69	51	P	P	18 02 06.7	+0.4
	comp=Z,2.7nm,0.8s,baz=175,slow=5.5,SNR=8.9						
ANMO				LR	LR	18 34 40.1	
	comp=Z,70nm,21.8s,baz=308,slow=30						
	comp=Z,2.7nm,0.8s						
F10A	Beach Ranch, E	91.71	37	IAmb	IAmb	18 02 06.9	
	comp=Z,12nm,0.8s						
HLID	Hailey	91.73	40	P	P	18 02 07.3	+1.0
	baz=232						
M19K	Big River Lodg	91.73	11	P	P	18 02 05.3	-0.3
	baz=200						
PLID	Pearl Lake	91.80	38	P	P	18 02 05.8	-0.9
PLID				IAmb	IAmb	18 02 25.3	
	comp=Z,9.9nm,0.9s						
L19K	White Mountain	91.92	10	P	P	18 02 07.6	+1.0
	baz=200						
SUA	Susitna One	91.96	12	P	P	18 02 07.1	+0.3
	baz=203						
SIT	Sitka	92.05	21	P	P	18 02 08.5	+1.4
	baz=216						
BSUT	Blindstream Ca	92.08	44	IAmb	IAmb	18 04 57.9	
	comp=Z,16nm,1.3s						
J16K	Anvik River	92.20	7	P	P	18 02 08.1	+0.3
	baz=195						
KNK	Knik Glacier	92.36	13	P	P	18 02 08.1	-0.5
	baz=205						
TTA	Tatalina	92.46	10	P	P	18 02 09.0	0.0
	baz=199						
WRAK	Wrangell Islan	92.54	23	P	P	18 02 10.0	+0.6
	baz=219						
MESA	MESA	92.76	17	P	P	18 02 11.4	+0.7
	baz=211						
BMRM	Bremner River	92.81	15	P	P	18 02 10.5	-0.2
	baz=208						
M23K	Glacier View	92.86	14	P	P	18 02 11.4	+0.6
	baz=206						
J18K	Innoko River	92.87	9	P	P	18 02 10.9	+0.1
	baz=198						
CUT	Chulitna	92.92	12	P	P	18 02 11.0	-0.1
	baz=204						
DRIO	Del Rio	92.95	58	IAmb	IAmb	18 02 13.2	
	comp=Z,3.9nm,0.8s						
S22A	4UR Ranch, Cre	92.99	48	IAmb	IAmb	18 02 14.3	
	comp=Z,3.4nm,0.8s						
S22A	4UR Ranch, Cre	92.99	48	P	P	18 02 13.2	+0.8
	baz=236						
K20K	Telida	93.15	10	P	P	18 02 12.3	+0.2
	baz=200						
AHID	Auburn Hatcher	93.18	42	IAmb	IAmb	18 02 45.8	
	comp=Z,17nm,1.2s						
H16K	Elim	93.35	6	P	P	18 02 13.2	+0.2
	baz=193						
N25K	Chitina, Valde	93.37	15	P	P	18 02 13.5	+0.2
	baz=209						
CMAR	Chiang Mai Arr	93.39	289	P	P	18 02 13.6	-0.7
CMAR	Chiang Mai Arr	93.39	289	*i* P	P	18 02 16.0	+1.7
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR	Chiang Mai Arr	93.39	289	P	P	18 02 15.2	+0.8
	comp=Z,1.6nm,0.8s,baz=150,slow=3.3,SNR=9.8						
	comp=Z,1.6nm,0.8s						
O20A	White River Ci	93.42	46	P	P	18 02 14.5	+0.3
	baz=236						
KMI	Kunming	93.52	297	⇓P	P	18 02 12.2	-2.8
KMI				pmax	pmax		
	comp=Z,12nm,0.6s						
J19K	Poorman	93.53	9	P	P	18 02 14.0	+0.2
	baz=199						
G15K	Niukluk	93.53	6	P	P	18 02 13.9	+0.1
	baz=192						
CAST	Castle Rocks	93.53	11	P	P	18 02 12.2	-1.7
CAST				IAmb	IAmb	18 02 13.3	
	comp=Z,8.6nm,1.0s						
CAST	Castle Rocks	93.53	11	P	P	18 02 12.8	-1.1
	baz=202						
MCARA	McCarthy VSAT	93.54	16	P	P	18 02 13.5	-0.5
	baz=210						
WAT6	Susitna Watana	93.57	13	P	P	18 02 14.4	+0.1
	baz=206						
CTG	Chitna Glacier	93.59	17	P	P	18 02 14.6	+0.2
	baz=211						
WAT1	Susitna Watana	93.63	13	P	P	18 02 15.1	+0.7
	baz=205						
SMCO	Snowmass	93.69	47	IAmb	IAmb	18 04 20.5	
	comp=Z,16nm,1.2s						
TPAW	Teton Pass	93.70	42	IAmb	IAmb	18 02 45.6	
	comp=Z,8.0nm,0.8s						
O28M	Mount Upton	93.72	17	P	P	18 02 16.1	+0.9
	baz=212						
MSTX	Muleshoe	93.73	53	IAmb	IAmb	18 02 16.8	
	comp=Z,8.3nm,0.8s						
MSTX	Muleshoe	93.73	53	P	P	18 02 15.9	+0.2
	baz=238						
FXWY	Fox Creek	93.74	42	P	P	18 02 14.8	-0.9
FXWY				IAmb	IAmb	18 02 40.3	
	comp=Z,6.8nm,0.8s						
KTH	Kantishna Hill	93.86	11	P	P	18 02 14.2	-1.3
KTH				IAmb	IAmb	18 02 15.9	
	comp=Z,15nm,1.1s						
SDCO	Great Sand Dun	93.87	49	P	P	18 02 17.1	+0.7
	baz=237						
TRF	Thorofare Moun	93.88	12	P	P	18 02 15.4	-0.2
	baz=204						

H17K	Granite Mounta	93.88	7	P	P	18 02 15.1	-0.4
	baz=195						
J20K	Nowinta River	93.92	10	P	P	18 02 15.7	+0.1
	baz=200						
SEY	Seymchan	94.09	347⇑	*e*P	P	18 02 16.4	0.0
SEY				pmax	pmax		
	comp=Z,40nm,2.7s						
RND	Reindeer	94.10	12	IAmb	IAmb	18 02 17.6	
	comp=Z,9.3nm,0.9s						
LVC	Limon Verde	94.31	118	LR	LR	18 35 27.4	
	comp=Z,74nm,21.9s,baz=239,slow=29						
ATAH	Atahualpa	94.33	100	LR	LR	18 34 58.7	
	comp=Z,96nm,21.1s,baz=249,slow=29						
MCK	McKinley	94.38	12	P	P	18 02 17.8	0.0
	baz=205						
BOZ	Bozeman (W)	94.55	40	P	P	18 02 19.9	+0.7
	baz=234						
M27K	Edge Creek, AK	94.66	16	P	P	18 02 19.9	+0.6
	baz=211						
ZEA	Zeya	94.76	331	*e*P	P	18 02 18.7	-1.0
O30N	Mendenhall	94.84	19	P	P	18 02 20.4	+0.4
	baz=216						
H19K	Roundabout Mou	94.87	9	P	P	18 02 19.6	-0.3
	baz=198						
PZH	PanZhiHua	94.97	297	P	P	18 02 21.5	-0.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,200nm,5.3s						
H20K	Anotleneega Mo	95.05	9	P	P	18 02 20.9	+0.1
	baz=200						
MLY	Manley	95.25	11	P	P	18 02 22.2	+0.4
	baz=203						
HHC	Hu-ho-hao-te	95.29	314	*e*P	P	18 02 24.5	+1.9
HHC				pmax	pmax		
	comp=Z,25nm,0.5s						
HHC				pmax	pmax		
	comp=Z,180nm,3.9s						
P33M	Teslin, Yukon	95.37	21	P	P	18 02 23.0	+0.6
	baz=218						
HDA	Harding Lake	95.37	13	P	P	18 02 21.2	-1.1
HDA				IAmb	IAmb	18 02 39.9	
	comp=Z,6.5nm,0.6s						
HDA	Harding Lake	95.37	13	P	P	18 02 21.9	-0.4
	baz=207						
HDA				P	P	18 02 21.9	-0.4
	baz=207						
G19K	Purcell Mounta	95.38	8	P	P	18 02 22.4	+0.1
	baz=198						
CCB	Clear Creek Bu	95.42	12	IAmb	IAmb	18 02 22.1	
	comp=Z,4.2nm,0.8s						
N31M	Braeburn, Yuko	95.51	19	P	P	18 02 23.6	+0.5
	baz=216						
CD2	Chengdu	95.58	302	P	P	18 02 23.4	-0.7
M29M	Somme Creek	95.58	17	P	P	18 02 23.9	+0.4
	baz=214						
SCRK	Sand Creek	95.59	14	P	P	18 02 23.7	+0.2
	baz=209						
I23K	Minto, Yukon-K	95.60	11	P	P	18 02 23.0	-0.3
	baz=205						
IL31		95.71	13	IAmb	IAmb	18 02 24.3	
	comp=Z,23nm,1.9s						
ILAR	Eielson Array	95.71	13	P	P	18 02 22.9	-0.9
	comp=Z,2.1nm,0.7s,baz=217,slow=5.2,SNR=32						
ILAR				LR	LR	18 40 48.6	
	comp=Z,49nm,18.9s,baz=200,slow=32						
	comp=Z,2.1nm,0.7s						
E17K	Hotham Inlet	95.78	6	P	P	18 02 24.4	+0.4
	baz=194						
J25K	Salcha River,	95.87	13	P	P	18 02 24.8	+0.1
	baz=208						
K27K	Chicken	96.06	15	P	P	18 02 26.4	+1.0
	baz=211						
J26L	Joseph Creek	96.14	14	P	P	18 02 26.5	+0.5
	baz=210						
L29M	L29M	96.22	17	P	P	18 02 26.9	+0.7
	baz=214						
E18K	Tukpahlearik C	96.22	6	P	P	18 02 26.1	0.0
	baz=195						
F20K	Avaraart Lake	96.41	8	P	P	18 02 27.3	+0.4
	baz=199						
E19K	Redstone River	96.62	8	P	P	18 02 28.3	+0.4
	baz=198						
PRP	Porcupine Dome	96.64	13	P	P	18 02 27.5	-0.7
PRP				IAmb	IAmb	18 02 29.6	
	comp=Z,4.6nm,1.0s						
PRP	Porcupine Dome	96.64	13	P	P	18 02 28.6	+0.3
	baz=208						
JTS	Las Juntas de	96.74	82	LR	LR	18 36 36.4	
	comp=Z,75nm,21.0s,baz=334,slow=30						
BILL	Bilibino	96.82	354	*e*P	P	18 02 27.8	-1.0
TNCH	TengChong	96.83	295	P	P	18 02 33.2	+3.1
TNCH				pP	sP	18 02 52.1	+3.6
TNCH				pmax	pmax		
	comp=Z,6.0nm,1.9s						
TNCH				pmax	pmax		
	comp=Z,110nm,4.8s						
K29M	Barlow Dome	96.98	17	P	P	18 02 30.5	+0.7
	baz=215						
C18K	Utukok River	97.36	6	P	P	18 02 30.6	-0.7
	baz=194						
COLD	Coldfoot	97.37	10	P	P	18 02 31.0	-0.3
	baz=204						
E20K	Nigu River	97.51	8	P	P	18 02 31.4	-0.6
	baz=199						
F24K	Squaw Lake	98.01	11	P	Pdif	18 02 35.1	+0.8
	baz=206						
LZH	Lanzhou	98.04	307	*e*P	Pdif	18 02 38.3	+3.0
LZH				pP	sP	18 02 59.7	+6.0
LZH	Lanzhou	98.04	307	sS	sS	18 14 33.9	+12
LZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
H27K	Steamboat Moun	98.07	14	P	Pdif	18 02 35.7	+1.1
	baz=211						
LPAZ	La Paz	98.33	113	LR	LR	18 38 11.3	
	comp=Z,47nm,21.3s,baz=258,slow=30						
D22K	Ayikyak River	98.54	9	P	Pdif	18 02 37.4	+0.8
	baz=202						
G30M	tAoh Zraii Nji	99.87	15	P	Pdif	18 02 42.9	+0.3
	baz=216						
G31M	Satah River	100.28	16	P	Pdif	18 02 44.1	-0.2
	baz=218						
E28M	Babbage River	100.50	13	P	Pdif	18 02 45.9	+0.6
	baz=213						
C26K	Camden Bay	100.65	11	P	Pdif	18 02 47.3	+1.4
	baz=209						
ULN	Ulaanbaatar	101.69	318⇓	*e*P	Pdif	18 02 48.8	-2.5
ULN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
DGZ	Jazzator, Alta	114.35	315⇑	*i*PKIKP	PKiKP	18 07 38.9	+0.8
ZALV	Zalesovo Beam	116.92	319	PKP	PKPdf	18 07 40.6	-2.0
	comp=Z,1.5nm,0.7s,baz=129,slow=2.0,SNR=7.9						
MK31	Makanchi Array	116.95	311⇓	*i*PKIKP	PKPdf	18 07 41.7	-1.3
MKAR	Makanchi Array	116.95	311	PKP	PKPdf	18 07 40.5	-2.6
	comp=Z,2.4nm,0.7s,baz=172,slow=0.8,SNR=16						
KSH	Kashi	119.77	301	PKP	PKiKP	18 07 49.2	+0.3
KURK	Kurchatov	120.10	315	PKPdf	PKPdf	18 07 47.1	-1.8
KURK	Kurchatov	120.10	315*d*	*i*PKIKP	PKPdf	18 07 47.6	-1.3
KURBB	Kurchatov Arra	120.14	314	PKP	PKPdf	18 07 47.6	-1.4
	comp=Z,3.5nm,0.7s,baz=105,slow=1.9,SNR=38						
BTK	Batken	123.77	301	PKPdf	PKPdf	18 07 54.5	-1.9
BTK	Batken	123.77	301	PKIKP	PKPdf	18 07 54.5	-1.9
KBL	Kabul	124.03	294	PKPdf	PKPdf	18 07 56.0	-1.3
KBL	Kabul	124.03	294	PKIKP	PKPdf	18 07 56.0	-1.3
KK31	Karatay Array	124.49	305	PKPdf	PKPdf	18 07 56.4	-1.3
KK31	Karatay Array	124.49	305	PKIKP	PKPdf	18 07 56.4	-1.3
KKAR	Karatay Array	124.49	305	PKPdf	PKPdf	18 07 56.2	-1.4
KKAR	Karatay Array	124.49	305	PKIKP	PKPdf	18 07 56.2	-1.4
BVAR	Borovoye Array	125.38	317	PKP	PKPdf	18 07 58.2	-0.7
	comp=Z,5.4nm,0.6s,baz=107,slow=0.8,SNR=35						
BRVK	Borovoye	125.44	317*d*	*e*PKIKP	PKPdf	18 07 58.4	-0.7
ARU	Arti	131.90	322	PKPdf	PKPdf	18 08 10.2	-1.1
ARU	Arti	131.90	322	*i* PKIKP	PKPdf	18 08 10.9	-0.4
ARU						18 10 31.4	
ARU				SS	SS	18 27 58.0	-7.3
GEYT	Alibeck	133.29	297	PKP	PKiKP	18 08 15.5	-0.3
	comp=Z,3.2nm,0.7s,baz=76,slow=6.7,SNR=6.5						
KIRV	Kirov	135.97	327⇓	*e*PKIKP	PKPdf	18 08 18.4	-0.4
ARCES	ARCESS Array B	136.67	349	PKP	PKPdf	18 08 18.4	-1.5
	comp=Z,3.4nm,0.8s,baz=52,slow=1.5,SNR=6.7						
BELG	Belogornoye	139.11	319⇑	*e*PKIKP	PKPdf	18 08 23.5	-1.3
H10S3	ASCENSION HYDR	139.30	153	T	T	20 44 24.8	
	baz=205,slow=74						
H10S2	ASCENSION HYDR	139.31	153	T	T	20 44 27.2	
	baz=15,slow=74						
H10N3	ASCENSION HYDR	140.38	152	T	T	20 46 08.7	
	baz=204,slow=75						

H10N1	ASCENSION HYDR	140.38	152	T	T	20 46 00.6	
	baz=204,slow=75						
H10N2	ASCENSION HYDR	140.40	152	T	T	20 46 09.5	
	baz=204,slow=75						
FINES	FINESS Array B	143.39	341	PKhKP	PKPpre	18 08 27.5	
	comp=Z,4.2nm,0.5s,baz=66,slow=3.1,SNR=39						
OBN	Obninsk	143.82	327	*e*PKHKP	PKPpre	18 08 28.7	
OBN				*e*		18 11 41.4	
OBN				*e*PPP	PPP	18 15 02.1	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ZEI	Tsey	143.94	305	*e*PKHKP	PKPpre	18 08 26.8	
ZEI				pmax	pmax		
	comp=Z,12nm,1.4s						
NCK	Nalchik	144.03	306⇓	*e*PKIKP	PKPdf	18 08 34.2	+0.2
AKH	Akhalkalaki	144.47	302	PKPdf	PKPbc	18 08 33.6	-0.1
AKH	Akhalkalaki	144.47	302	PKIKP	PKPbc	18 08 33.6	-0.1
KBZ	Khabaz	144.48	307⇓	*e*PKIKP	PKPab	18 08 33.0	-0.1
KBZ	Khabaz	144.48	307	PKP	PKPdf	18 08 34.1	-0.6
	comp=Z,3.1nm,0.8s,baz=22,slow=4.4,SNR=5.6						
KIV	Kislovodsk	144.58	307	*i* PKIKP	PKPdf	18 08 34.5	-0.5
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,44nm,25.0s						
TBLU	Trondheim	144.69	354	*e*PKPdf	PKPab	18 08 32.4	-0.9
TBLU				*e*PKPdf	PKPab	18 08 32.4	-0.9
NEUR	Neytrino	144.72	306	*e*PKIKP	PKPab	18 08 34.2	-0.1
MEF	Metsahovi	144.87	341	*e*P	PKPab	18 08 32.6	-1.4
RAF	Rauma	144.88	344	*e*P	PKPab	18 08 32.9	-1.1
SIRT	Sirnak	145.70	296	PKPdf	PKPdf	18 08 36.9	-0.3
DOMB	Dombas	145.99	355	*e*PKPab	PKPdf	18 08 37.1	+0.3
AKN	Aaknes	145.99	357	*e*PKPdf	PKPdf	18 08 35.5	-1.2
MTSE	Matsula	146.28	340	*e*P	PKPdf	18 08 37.8	+0.5
NB2	NORSAR Subarra	146.76	353	PKP	PKPdf	18 08 38.7	+0.5
	comp=Z,6.4nm,0.7s,baz=13,slow=2.9						
NB2	NORSAR Subarra	146.76	353	PKP	PKPdf	18 08 38.7	+0.5
	baz=13,slow=2.9						
NOA	NORSAR Array B	146.76	353	PKPbc	PKPdf	18 08 38.2	+0.1
	comp=Z,10nm,0.8s,baz=13,slow=4.5,SNR=22						
UPP	Uppsala	146.85	346	*e*P	PKPdf	18 08 38.5	+0.3
NC602	NORSAR Array S	147.02	352	*e*PKPbc	PKPbc	18 08 39.6	-1.0
HFS	Hagfors	147.31	350	PKPbc	PKPbc	18 08 40.3	-1.1
	comp=Z,22nm,0.8s,baz=66,slow=3.6,SNR=25						
SKAR	Skarslia	147.40	355	*e*PKPbc	PKPbc	18 08 41.2	-0.6
IZAR	Zarasai	147.82	335	*e*P	PKPab	18 08 45.7	+0.2
IDID	Didziasalis	147.96	334	*e*P	PKPbc	18 08 42.9	-0.4
ISAL	Salakas	148.00	335	*e*P	PKPbc	18 08 44.3	+0.8
MNK	Minsk	148.09	332	*i* PKP	PKPbc	18 08 43.1	-0.6
	comp=E,2.0nm,0.9s						
MNK				*i* PKP	PKPbc	18 08 43.1	-0.6
	comp=N,18nm,0.9s						
MNK				*i* PKP	PKPbc	18 08 43.1	-0.6
	comp=Z,39nm,0.9s,baz=46						
MNK				*i* pPKP	pPKPab	18 09 00.1	+0.2
MNK				*i* sPKP		18 09 20.8	
MNK				*i* SKP		18 11 42.8	
MNK				*i* PP	PP	18 12 15.7	+3.8
MNK				*i* PKS	PKSdf	18 12 18.3	+3.0
MNK				*i* PPP	PPP	18 14 20.6	
MNK				*i* SKS		18 17 22.2	
MNK				*i* SKKS	SKKSac	18 19 32.5	+33
MNK				*i* SPP	SPP	18 27 16.4	
MNK				*i* SS	SS	18 31 17.0	+2.7
MNK				*i* SSS	SSS	18 39 42.9	
MNK	Minsk	148.09	332	*i* PKP2	PKPbc	18 08 43.1	-0.6
MNK				*i*		18 12 15.6	
MNK				*i* SS	SS	18 31 17.0	+2.7
MNK				pmax	pmax		
	comp=Z,39nm,0.9s						
MNK				pmax	pmax		
	comp=N,18nm,0.9s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.9s						
NACGM	Naroch	148.24	334	*e*PKP	PKPbc	18 08 43.7	-0.4
	comp=E,915nm,0.7s						
VIKU	Vikbolandet	148.29	346	*e*P	PKPbc	18 08 42.6	-1.5
KONO	Kongsberg	148.30	353	*e*PKPbc	PKPbc	18 08 43.3	-0.8
VSVD	Vaisvydziai	148.47	337	*e*P	PKPbc	18 08 44.0	-0.6
STRU	Stroemstad	148.72	352	*e*P	PKPbc	18 08 43.5	-1.7
ARPR	Arapgir-MALATY	148.73	299		PKPbc	18 08 46.4	+0.3
PABE	Paberze	148.83	337		PKPbc	18 08 44.8	-0.7
PABE	Paberze	148.83	337	*e*P	PKPbc	18 08 44.3	-1.3
HOMB	Homborsund	149.76	354	*e*PKPbc	PKPbc	18 08 47.2	-0.6
HOMB	Homborsund	149.76	354	*i* P	PKPbc	18 08 47.2	-0.6
SNART	Snartemo	149.80	355	*e*PKPbc	PKPbc	18 08 47.1	-0.8
SNART	Snartemo	149.80	355	*e*P	PKPbc	18 08 47.0	-0.9
AKASG	Malin Array Be	150.01	326	PKPbc	PKPbc	18 08 47.8	-0.9
	comp=E,17nm,0.7s,baz=42,slow=3.2,SNR=72						
AKBB	Malin Array Si	150.01	326		PKPbc	18 08 47.1	-1.6
KIEV	Kiev	150.03	326		PKPbc	18 08 47.2	-1.5
SUW	Suwalki	150.29	336	*e*P	PKPbc	18 08 49.4	+0.2
DEL	Delary	150.75	347	*e*P	PKPbc	18 08 49.6	-0.7
DEL	Delary	150.75	347	*i* P	PKPbc	18 08 48.6	-1.6
MUD	Monsted U'grnd	151.48	353	*e*P	PKPbc	18 08 51.3	-0.6
MMAI	Mount Meron Ar	151.65	288	PKPbc	PKiKP	18 08 53.7	+0.1
	comp=E,22nm,0.6s,baz=81,slow=5.4,SNR=53						
BSD	Bornholm Skovb	151.80	345	*e*P	PKPbc	18 08 51.6	-1.1
BSD	Bornholm Skovb	151.80	345	*e*P	PKPbc	18 08 51.0	-1.7
BRTR	Keskin Array B	152.16	302	PKPdf	PKPdf	18 08 45.1	-2.4
BRTR					PKPbc	18 08 52.3	-1.9
BRTR	Keskin Array B	152.16	302	PKIKP	PKPbc	18 08 52.3	-1.9
BRTR	Keskin Array B	152.16	302	PKPbc	PKPbc	18 08 52.8	-1.5
	comp=E,4.1nm,0.6s,baz=138,slow=4.9,SNR=30						
EKA	Eskdalemuir Ar	152.63	7	PKPbc	PKPbc	18 08 53.2	-1.4
	comp=E,0.8nm,0.5s,baz=333,slow=2.4,SNR=7.1						
EKA				PKPab	PKPab	18 09 04.5	-0.7
	comp=E,6.0nm,0.6s,baz=326,slow=2.9,SNR=18						
ANTO	Ankara	152.75	303		PKPbc	18 08 54.8	-0.7
ANTO	Ankara	152.75	303	PKIKP	PKPbc	18 08 54.8	-0.7
KOLS	Kolonicke sedl	154.52	329	*e*PKP	PKiKP	18 08 59.6	+0.6
KOLS				*e*		18 09 14.2	
KOLS	Kolonicke sedl	154.52	329	*e*PKIKP	PKiKP	18 08 59.6	+0.6
KOLS				*e*		18 09 14.2	
OJC	Ojcow	154.57	334	PKPdf	PKPdf	18 08 49.3	-1.2
OJC					PKPbc	18 08 58.1	-0.9
OJC	Ojcow	154.57	334	PKIKP	PKPbc	18 08 58.1	-0.9
OSTC	Ostas	155.54	339⇑	*e*PKP	PKPdf	18 09 01.8	+10
OSTC				*e*PKPAB	PKPab	18 09 17.9	+0.1
OSTC	Ostas	155.54	339	*e*PKIKP	PKPdf	18 09 01.8	+10
OSTC				*e*		18 09 17.9	
LANS	Liptovska Anna	155.55	333	*e*PKP	PKPdf	18 09 02.3	+10
LANS	Liptovska Anna	155.55	333	*e*PKIKP	PKPdf	18 09 02.3	+10
DPC	Dobruska-Polom	155.69	339⇑	*e*PKP	PKPdf	18 09 01.9	+10
DPC				*e*PKPAB	PKPab	18 09 18.6	+0.1
DPC	Dobruska-Polom	155.69	339	*e*PKIKP	PKPdf	18 09 01.9	+10
DPC				*e*		18 09 18.6	
CLL	Collm	155.76	344	*e*PKPdf	PKPdf	18 08 52.0	-0.1
CLL				*e*PKPdif	pPKPdf	18 09 01.0	-4.8
CLL				*i* PKPab	pPKPbc	18 09 16.8	+1.6
	comp=Z,19nm,1.6s						
CLL				*e*pPKPab	pPKPab	18 09 33.0	+1.0
CLL				AMS	AMS	19 44 00.0	
	comp=Z,100nm,18.9s						
CLL	Collm	155.76	344	*e*PKIKP	PKPdf	18 08 52.0	-0.1
CLL				*i*		18 09 16.8	
CLL				pmax	pmax		
	comp=Z,19nm,1.6s						
BRG	Berggiesshubel	155.92	343	*e*PKP2	PKPab	18 09 20.0	+0.6
BRG				pmax	pmax		
	comp=Z,6.0nm,1.1s						
JAVC	Velka Javorina	156.49	335	*e*PKP	PKPab	18 09 21.7	-0.3
VRAC	Vranov	156.50	337	*e*PKP	PKPab	18 09 22.2	+0.2
KRUC	Moravsky	156.77	337	*e*PKP	PKPab	18 09 23.0	-0.1
DBIC	Dimbokro	157.31	160	PKPab	PKPab	18 09 29.2	+2.9
	comp=Z,2.0nm,0.6s,baz=169,slow=4.4,SNR=3.0						
KHC	Kasperske Hory	157.60	341	*e*PKPDF	PKPdf	18 09 02.0	+7.4
KHC				*e*PKPAB	PKPab	18 09 26.6	-0.1
KHC	Kasperske Hory	157.60	341	*e*PKP2	PKPab	18 09 26.6	-0.1
CKRC	Cesky Krumlov	157.66	340	*e*PKPAB	PKPab	18 09 26.6	-0.4
CKRC	Cesky Krumlov	157.66	340	*e*PKP2	PKPab	18 09 26.6	-0.4
GERES	GERESS Array B	157.82	341	PKPab	PKPab	18 09 27.4	-0.4
	comp=Z,0.9nm,0.7s,baz=1.9,slow=4.0,SNR=4.5						
TOA0	Torodi Ar. Sit	164.90	176	PKPdf	PKPdf	18 09 02.4	-0.9
TOA0				PKPab	PKPab	18 09 59.6	+0.3
TORD	Torodi Ar. Bea	164.90	176		PKPdf	18 09 02.0	-1.3
TORD				PKPab	PKPab	18 09 59.5	+0.2
TORD	Torodi Ar. Bea	164.90	176	PKP	PKPdf	18 09 03.1	-0.2
	comp=Z,1.6nm,0.8s,baz=38,slow=1.3,SNR=10						
TORD				PKPab	PKPab	18 10 00.2	+0.9
	comp=Z,4.9nm,0.6s,baz=176,slow=2.4,SNR=20						
ESDC	Sonseca Array	167.32	25	PKPab	PKPab	18 10 08.8	-0.8
	comp=Z,1.4nm,0.8s,baz=336,slow=3.7,SNR=6.4						

*NEIC **02** 17:50:59.6±2.1, 11.°42S±0.°08×166.°4E±0.°1, h70km±6km, mb4.6/26, Error ellipse: s-maj=16.4km s-min=11.1km az=74.0*
*IDC **02** 17:51:01.5±6.2, 11.°18S×166.°24E, h73km±49km, mb3.9/8, mbtmp4.1/9, ML2.4/1, MS3.8/4, Error ellipse: s-maj=42.3km s-min=37.2km az=136.0*
ISC 02 17:50:58.5±0.7, **11.°45S**±0.°08×**166.°33E**±0.°09, **h59**km, **n51**, σ**1.s21**/45, **mb4.5**/19, **MS3.8**/4, **1D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.59**	**287**		**Pn**	**17 52 33.8**	**+1.0**
HNR				Sn	**Sn**	**17 53 46.5**	**-0.3**
HNR	**Honiara**	**6.59**	**287**	P	**Pn**	**17 52 34.1**	**+1.2**
	4µm,0.5s,baz=113,slow=1.1,SNR=21						
HNR				S	**Sn**	**17 53 45.9**	**-0.8**
	700nm,0.4s,baz=115,slow=22,SNR=0.9						
KOUNC	**Koumac, New Ca**	**9.26**	**192**		**Pn**	**17 53 10.4**	**+1.1**
KOUNC				Sn	**Sn**	**17 54 50.1**	**-1.8**
KOUNC	**Koumac, New Ca**	**9.26**	**192**	P	**Pn**	**17 53 10.9**	**+1.6**
PMG	**Port Moresby**	**18.97**	**274**	P	**Pn**	**17 55 16.5**	**+0.2**
PMG	**Port Moresby**	**18.97**	**274**	P	**P**	**17 55 15.2**	**+0.1**
	0.3nm,0.3s,baz=106,slow=7.4,SNR=1.8						
	1.8nm,0.5s						
EIDS	**Eidsvold**	**19.99**	**224**	P	Pn	17 55 28.8	+0.3
EIDS				IAmb	IAmb	17 55 45.0	
	comp=Z,21nm,1.1s						
MANU	**Manus Island**	**21.01**	**295**	P	**P**	**17 55 39.9**	**+2.5**
CTA	**Charters Tower**	**21.13**	**244**	P	**P**	**17 55 41.1**	**+2.5**
	comp=Z,5.5nm,0.8s,baz=72,slow=13,SNR=8.9						
	comp=Z,5.5nm,0.8s						
CTAO	**Charters Tower**	**21.13**	**244**	P	**P**	**17 55 38.2**	**-0.4**
CTAO				IAmb	IAmb	17 55 47.3	
	comp=Z,8.8nm,0.7s						
COEN	**Coen**	**22.73**	**261**	P	**P**	**17 55 56.2**	**+0.4**
URZ	**Urewera**	**28.38**	**162**	LR	LR	18 06 33.9	
	comp=Z,180nm,19.4s,baz=32,slow=32						
H11S2	**WAKE ISLAND Hy**	**29.76**	**1**	T	T	18 28 07.7	
	baz=181,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**29.76**	**1**	T	T	18 28 11.7	
	baz=181,slow=76,SNR=5.2						
H11S1	**WAKE ISLAND Hy**	**29.77**	**1**	T	T	18 28 06.6	
	baz=181,slow=76,SNR=4.6						
WRA	**Warramunga Arr**	**31.89**	**251**	PcP	**PcP**	**18 00 08.8**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=82,slow=3.3,SNR=1.4						
ASAR	**Alice Springs**	**33.13**	**244**	PcP	**PcP**	**18 00 10.9**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=66,slow=1.9,SNR=5.7						
RAR	**Rarotonga**	**33.88**	**111**	LR	LR	18 08 36.4	
	comp=Z,78nm,19.1s,baz=274,slow=31						
MTN	**Manton Dam**	**34.42**	**264**	P	**P**	**17 57 38.4**	**-2.3**
PSA00	**Pilbara Seismi**	**45.54**	**251**	P	**P**	**17 59 13.3**	**+0.5**
PSA00	**Pilbara Seismi**	**45.54**	**251**	P	**P**	**17 59 13.6**	**+0.9**
MBWA	**Marble Bar**	**45.61**	**252**	P	**P**	**17 59 13.3**	**+0.1**
MBWA				IAmb	IAmb	17 59 30.2	
	comp=Z,9.6nm,0.8s						
TOLI2	**Tolitoli**	**46.95**	**282**	P	**P**	**17 59 22.9**	**-1.0**
TOLI2				IAmb	IAmb	17 59 24.3	
	comp=Z,7.4nm,0.9s						
NWAO	**Narrogin (SRO)**	**49.72**	**236**	P	**P**	**17 59 45.1**	**+0.1**
MORW	**Morawa**	**49.94**	**242**	P	**P**	**17 59 47.4**	**+0.7**
KKM	**Kota Kinabalu**	**52.81**	**287**	P	**P**	**18 00 08.3**	**-0.1**
MJAR	**Matsushiro Arr**	**54.60**	**332**	P	**P**	**18 00 20.4**	**-0.6**
	comp=Z,2.9nm,0.9s,baz=162,slow=7.5,SNR=9.2						
	comp=Z,2.9nm,0.9s						
KSRS	**Korea Array**	**60.54**	**325**	P	**P**	**18 01 03.0**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=130,slow=7.5,SNR=2.5						
	comp=Z,0.9nm,0.7s						
XAN	**Xi'an**	**70.82**	**312**	⇓P	**P**	**18 02 10.1**	**+0.9**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MA2	**Magadan**	**71.89**	**352**	LR	LR	18 30 25.3	
	comp=Z,78nm,18.4s,baz=161,slow=33						
CRAI	**Chiangrai**	**72.11**	**296**	P	**P**	**18 02 13.7**	**-3.5**
CRAI				IAmb	IAmb	18 02 15.3	
	comp=Z,4.5nm,0.8s						
CHTO	**Chiang Mai**	**72.92**	**294**	P	P	18 02 16.5	-5.5
HOM	**Homer**	**78.48**	**20**	P	**P**	**18 02 51.0**	**-1.9**
QSPA	**South Pole Qui**	**78.55**	**180**	P	**P**	**18 02 53.1**	**-0.4**
QSPA				IAmb	IAmb	18 02 55.0	
	comp=Z,12nm,1.0s						
BRLK	**Bradley Lake**	**78.81**	**21**	P	**P**	**18 02 53.5**	**-1.3**
L18K	**Granite Mounta**	**78.89**	**17**	P	**P**	**18 02 54.7**	**-0.4**
L18K				IAmb	IAmb	18 02 57.8	
	comp=Z,8.0nm,1.1s						
ULN	**Ulaanbaatar**	**78.97**	**324**	P	**P**	**18 02 55.9**	**-0.2**
M19K	**Big River Lodg**	**79.31**	**18**	P	**P**	**18 02 56.6**	**-0.8**
SONM	**Songino Array**	**79.33**	**324**	P	**P**	**18 02 57.8**	**-0.2**
	comp=Z,1.9nm,1.0s,baz=150,slow=6.3,SNR=7.3						
	comp=Z,1.9nm,1.0s						
L19K	**White Mountain**	**79.39**	**17**	P	**P**	**18 02 56.1**	**-1.8**
L19K				IAmb	IAmb	18 03 21.8	
	comp=Z,8.3nm,1.2s						
GTA	**Gaotai**	**79.75**	**314**	*e*P	**P**	**18 03 02.0**	**+1.5**
GTA				sP	PcP	18 03 09.9	+1.8
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ILAR	**Eielson Array**	**83.72**	**18**	P	**P**	**18 03 19.8**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=246,slow=5.2,SNR=4.8						
	comp=Z,0.6nm,0.7s						
J25K	**Salcha River,**	**84.08**	**19**	P	**P**	**18 03 22.3**	**-0.3**
J25K				IAmb	IAmb	18 03 25.4	
	comp=Z,3.6nm,0.7s						
SCRK	**Sand Creek**	**84.10**	**20**	P	**P**	**18 03 22.9**	**+0.1**
SCRK				IAmb	IAmb	18 03 59.0	
	comp=Z,11nm,1.5s						
EGAK	**Eagle**	**85.56**	**20**	P	**P**	**18 03 30.7**	**+0.8**
EGAK				IAmb	IAmb	18 03 32.5	
	comp=Z,7.0nm,1.2s						
NVAR	**Mina Array Bea**	**85.85**	**50**	P	**P**	**18 03 33.6**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=235,slow=7.4,SNR=2.8						
	comp=Z,0.7nm,0.7s						
INK	**Inuvik**	**90.10**	**19**	LR	LR	18 37 16.9	
	comp=Z,61nm,20.9s,baz=192,slow=31						
MK31	**Makanchi Array**	**94.21**	**317**		**P**	**18 04 10.7**	**-0.5**
MKAR	**Makanchi Array**	**94.21**	**317**		**P**	**18 04 10.9**	**-0.3**
MKAR	**Makanchi Array**	**94.21**	**317**	P	**P**	**18 04 11.5**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=92,slow=5.7,SNR=23						
	comp=Z,2.9nm,0.6s						
ZALV	**Zalesovo Beam**	**94.22**	**324**	P	**P**	**18 04 10.8**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=119,slow=5.8,SNR=8.4						
	comp=Z,2.0nm,0.8s						

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*CATAC **02** 18:01:13.4±0.2, 9.°69N×83.°98W, h6km±2km, ML3.3*
*UCR **02** 18:01:13.7±0.9, 9.°72N×83.°98W, h10km, MW3.6*
*UPA **02** 18:01:14.2±0.8, 9.°57N×83.°97W, h0km±26km, MW4.2*
ISC 02 18:01:13.4±0.7, **9.°69N**±0.°02×**83.°98W**±0.°02, **h17**km±4km, **n116**, σ**0.s69**/177, **2C-5D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAZU	**San Marcos de**	**0.06**	**235**	*e*P	**Pg**	**18 01 16.2**	**-0.5**
RAZU				*e*S	**Sg**	**18 01 18.3**	**-0.6**
LCR2	**La Lucha 2**	**0.06**	**331**	*e*P	**Pg**	**18 01 16.3**	**-0.6**
LCR2				*e*S	**Sg**	**18 01 18.2**	**-0.9**
LCR2	**La Lucha 2**	**0.06**	**331**	*i* P	**Pg**	**18 01 16.2**	**-0.6**
LCR2				IAML		18 01 16.3	
	comp=Z,46µm,1.0s						
LCR2				*i* S	**Sg**	**18 01 18.1**	**-0.9**
ABE2	**San Pablo**	**0.08**	**280**	*e*P	**Pg**	**18 01 16.5**	**-0.5**
ABE2				*e*S	**Sg**	**18 01 18.6**	**-0.7**
TBLN	**Tablon, Guarco**	**0.13**	**350**	*i* P	**Pg**	**18 01 16.9**	**-0.6**
TBLN				IAML		18 01 17.1	
	comp=Z,14µm,1.0s						
TBLN				*i* S	**Sg**	**18 01 19.4**	**-0.8**
REPA	**Paraso**	**0.17**	**38**	*e*P	**Pg**	**18 01 18.9**	**+1.0**
TAGO	**Cartago**	**0.18**	**17**	*e*P	**Pg**	**18 01 18.1**	**0.0**
TAGO				*e*S	**Sg**	**18 01 21.6**	**+0.4**
OCM	**Ochomogo**	**0.20**	**4**	*e*P	**Pg**	**18 01 18.1**	**-0.3**
OCM				*e*S	**Sg**	**18 01 21.4**	**-0.4**
OCM	**Ochomogo**	**0.20**	**4**	*i* P	**Pg**	**18 01 18.1**	**-0.3**
OCM				IAML		18 01 18.1	
	comp=Z,16µm,1.0s						
OCM				*i* S	**Sg**	**18 01 21.3**	**-0.5**
ACOS	**Acosta**	**0.21**	**299**	*e*P	**Pg**	**18 01 18.3**	**-0.2**
ACOS				*e*S	**Sg**	**18 01 21.8**	**-0.2**
TRIO	**Tres Rios**	**0.21**	**355**	*e*P	**Pg**	**18 01 18.3**	**-0.3**
TRIO				*e*S	**Sg**	**18 01 21.8**	**-0.2**
AMPA	**Desamparados**	**0.22**	**338**	*e*P	**Pg**	**18 01 18.3**	**-0.3**
LLNJ	**Naranjito**	**0.25**	**210**	*e*P	**Pb**	**18 01 19.6**	**+0.1**
LLNJ				*e*S	**Sb**	**18 01 24.4**	**+0.8**
CDM	**Cerro de Muert**	**0.25**	**123**	*e*P	**Pg**	**18 01 19.1**	**-0.2**
CDM				*e*S	**Sg**	**18 01 23.3**	**-0.1**
CDM	**Cerro de Muert**	**0.25**	**123**	*i* P	**Pg**	**18 01 19.1**	**-0.2**
CDM				IAML		18 01 19.4	
	comp=Z,2µm,1.0s						
CDM				*i* S	**Sg**	**18 01 23.1**	**-0.2**
LUJA	**Lujan**	**0.25**	**338**	*e*P	**Pg**	**18 01 20.0**	**+0.9**
LUJA				*e*S	**Sg**	**18 01 23.8**	**+0.8**
SJS3	**Mercedes San J**	**0.26**	**343**	*e*P	**Pg**	**18 01 19.3**	**+0.1**
SJS	**Escuela Geolog**	**0.26**	**343**	*e*P	**Pg**	**18 01 19.2**	**-0.1**
BUS1	**Rivas**	**0.26**	**121**	*e*P	**Pb**	**18 01 19.2**	**-0.8**
MEXI	**Barrio Mexico**	**0.27**	**337**	*e*P	**Pb**	**18 01 19.4**	**-0.6**
MEXI				*e*S	**Sb**	**18 01 23.7**	**-0.7**
CORON	**Coronado**	**0.28**	**355**	*e*P	**Pb**	**18 01 19.9**	**-0.2**
TIBA	**Tibas**	**0.28**	**341**	*e*P	**Pb**	**18 01 19.7**	**-0.5**
VINA	**Juan Vinas**	**0.30**	**48**	*e*P	**Pb**	**18 01 20.2**	**-0.3**
DOMI	**Santo Domingo**	**0.31**	**339**	*e*P	**Pb**	**18 01 20.2**	**-0.4**
DOMI				*e*S	**Sb**	**18 01 25.3**	**-0.2**
RAFA	**San Farael, Vo**	**0.31**	**32**	*e*P	**Pb**	**18 01 20.4**	**-0.3**
RAFA	**San Farael, Vo**	**0.31**	**32**	*i* P	**Pb**	**18 01 20.5**	**-0.3**
RAFA				IAML		18 01 25.4	
	comp=Z,130µm,1.0s						
HAYA	**Volcan Irazu**	**0.32**	**25**	*i* P	**Pb**	**18 01 20.4**	**-0.5**
HAYA				*i* S	**Sb**	**18 01 25.4**	**-0.5**
HAYA				IAML		18 01 26.2	
	comp=Z,16µm,1.0s						
SVQ2	**Quepos**	**0.32**	**216**	*e*P	**Pb**	**18 01 21.2**	**+0.6**
ICR3	**Volcano Irazu**	**0.32**	**27**	*e*P	**Pb**	**18 01 20.5**	**-0.4**
VICA	**Volcano Irazu**	**0.32**	**24**	*e*P	**Pb**	**18 01 20.5**	**-0.5**
CVIMO	**Finca Echandi**	**0.33**	**6**	*e*P	**Pb**	**18 01 20.7**	**-0.3**
HDC	**Heredia**	**0.34**	**336**	*e*P	**Pb**	**18 01 20.1**	**-0.9**
HDC				*e*S	**Sb**	**18 01 25.9**	**-0.4**
HDC3	**Heredia 3**	**0.34**	**337**	*e*P	**Pb**	**18 01 20.6**	**-0.5**
HDC3				*e*S	**Sb**	**18 01 25.9**	**-0.4**
BELE	**Belen**	**0.35**	**324**	*e*P	**Pb**	**18 01 21.5**	**+0.2**
TURIB	**Turrialba**	**0.36**	**53**	*e*P	**Pb**	**18 01 21.8**	**+0.4**
TURIB				*e*S	**Sb**	**18 01 27.1**	**+0.3**
CVTQ	**Turrialba Volc**	**0.37**	**33**	*e*P	**Pb**	**18 01 21.6**	**-0.3**
VERB	**Verbena**	**0.38**	**48**	*e*P	**Pb**	**18 01 21.5**	**-0.3**
VTCV	**VTCV, Calle Va**	**0.38**	**40**	*e*P	**Pb**	**18 01 21.6**	**-0.3**
CVTV	**Tajo**	**0.38**	**36**	*e*P	**Pb**	**18 01 21.8**	**-0.2**
CVTV				*e*S	**Sb**	**18 01 27.6**	**-0.1**
VTR0	**Volcan Turrial**	**0.39**	**33**	*e*P	**Pb**	**18 01 21.9**	**-0.2**
CVTR	**Volcan Turrial**	**0.39**	**33**	*e*P	**Pb**	**18 01 21.9**	**-0.3**
VTLO	**VTLO**	**0.43**	**35**	*e*P	**Pb**	**18 01 22.3**	**-0.4**
RVSTA	**Santa Teresita**	**0.43**	**49**	*e*P	**Pb**	**18 01 22.4**	**-0.2**
EDDO	**Dominical**	**0.45**	**166**	*e*P	**Pb**	**18 01 22.8**	**-0.1**
EDDO				*e*S	**Sb**	**18 01 29.9**	**+0.6**
VPTE	**Poasito**	**0.53**	**335**	*e*P	**Pb**	**18 01 24.1**	**-0.2**
LCOCO	**El Coco**	**0.57**	**47**	*e*P	**Pb**	**18 01 24.8**	**-0.1**
POA5	**Crater Von Fra**	**0.57**	**334**	*e*P	**Pb**	**18 01 24.6**	**-0.5**
IRES	**Siquirres**	**0.61**	**49**	*e*P	**Pb**	**18 01 25.8**	**+0.1**
IRES				*e*S	**Sb**	**18 01 35.2**	**+1.1**
RIFO	**Rio Frio, Sara**	**0.62**	**5**	*e*P	**Pb**	**18 01 25.6**	**-0.3**
SRA1	**San Ramn**	**0.63**	**308**	*e*P	**Pg**	**18 01 25.1**	**-0.8**
SRA1				*e*S	**Sg**	**18 01 33.8**	**-0.6**
ZARE	**Zarcero**	**0.64**	**320**	*e*P	**Pb**	**18 01 25.9**	**-0.3**
ZARE				*e*S	**Sb**	**18 01 35.5**	**+0.5**
JACO	**JACO, Garabito**	**0.67**	**268**	*e*P	**Pg**	**18 01 25.9**	**-0.8**
JACO	**JACO, Garabito**	**0.67**	**268**	*i* P	**Pg**	**18 01 25.8**	**-0.8**
JACO				IAML		18 01 26.2	
	comp=Z,600nm,1.0s						
JACO				*i* S	**Sb**	**18 01 36.2**	**+0.4**
CPMI	**Catarata Coope**	**0.71**	**326**	*e*P	**Pb**	**18 01 26.8**	**-0.7**
ARZA	**Esparza**	**0.74**	**294**	*e*P	**Pb**	**18 01 28.3**	**+0.3**
ARZA				*e*S	**Sb**	**18 01 38.3**	**+0.5**
SRBA	**San Rafael, Bu**	**0.76**	**127**	*e*P	**Pg**	**18 01 27.2**	**-1.1**
SRBA				*e*S	**Sb**	**18 01 38.7**	**+0.3**
EDBA	**Buenos Aires**	**0.87**	**127**	*e*P	**Pg**	**18 01 29.3**	**-1.1**
EDPN	**Palmar Norte**	**0.89**	**145**	*e*P	**Pn**	**18 01 31.8**	**+0.6**
LAFE	**Finca La Fe, P**	**0.93**	**277**	*e*P	**Pg**	**18 01 31.0**	**-0.5**
LAFE	**Finca La Fe, P**	**0.93**	**277**	*i* P	**Pg**	**18 01 30.9**	**-0.5**
LAFE				IAML		18 01 31.3	
	comp=Z,400nm,1.0s						
LAFE				*i* S	**Sb**	**18 01 44.9**	**+1.8**
SOCE	**Pocosol**	**0.93**	**317**	*e*P	**Pb**	**18 01 30.8**	**-0.5**
SOCE	**Pocosol**	**0.93**	**317**	*i* P	**Pb**	**18 01 30.7**	**-0.5**
SOCE				*i* S	**Sb**	**18 01 43.5**	**+0.1**
SOCE				IAML		18 01 44.4	
	comp=Z,3µm,1.0s						
MONTE	**Monteverde**	**1.02**	**307**	⇑*e*P	**Pg**	**18 01 32.1**	**-1.1**
MONTE				*e*S	**Sb**	**18 01 46.1**	**0.0**
FORC	**Fortuna**	**1.03**	**319**	*e*P	**Pg**	**18 01 32.2**	**-1.1**
FORC				*e*S	**Sb**	**18 01 46.4**	**+0.3**
EDP2	**Potrero Grande**	**1.04**	**130**	*e*P	**Pn**	**18 01 33.2**	**0.0**
VACR	**Volcan Arenal**	**1.04**	**318**	*e*P	**Pg**	**18 01 32.6**	**-1.0**
CASO	**Castillo**	**1.05**	**315**	*e*P	**Pg**	**18 01 32.6**	**-1.2**
CASO				*e*S	**Sb**	**18 01 46.7**	**0.0**
ARE1	**Arenal 1**	**1.06**	**316**	*e*P	**Pg**	**18 01 32.9**	**-1.0**
CEDE	**Laguna Cedeo**	**1.07**	**318**	*e*P	**Pb**	**18 01 33.3**	**-0.2**
CEDE				*e*S	**Sb**	**18 01 47.8**	**+0.6**
CBL1	**Cabuya**	**1.10**	**265**	*e*P	**Pg**	**18 01 33.5**	**-1.3**
COVE	**Coope Vega, Sa**	**1.10**	**338**	*e*P	**Pb**	**18 01 33.7**	**-0.5**
COVE	**Coope Vega, Sa**	**1.10**	**338**	*i* P	**Pb**	**18 01 33.6**	**-0.5**
COVE				*i* S	**Sb**	**18 01 48.5**	**+0.3**
COVE				IAML		18 01 49.8	
	comp=Z,630nm,1.0s						
TABAC	**Tabacon**	**1.12**	**316**	⇓*i*P	**Pb**	**18 01 34.2**	**-0.2**
TABAC				*e*S	**Sb**	**18 01 49.3**	**+0.6**
COTE	**Lago Cote**	**1.28**	**314**	⇓*i*P	**Pn**	**18 01 36.5**	**-0.1**
COTE				*e*S	**Sn**	**18 01 54.9**	**+1.5**
EDAD	**Golfito**	**1.31**	**142**	*e*P	**Pn**	**18 01 36.2**	**-0.8**
EDSV	**San Vito**	**1.32**	**131**	*e*P	**Pg**	**18 01 38.6**	**-0.2**
ACAL	**Aguas Claras**	**1.40**	**312**	*e*P	**Pb**	**18 01 38.9**	**-0.3**
PTEN	**Parque Tenorio**	**1.42**	**316**	*e*P	**Pn**	**18 01 38.8**	**+0.2**
PTEN				*e*S	**Sn**	**18 01 57.9**	**+0.9**
PIRO	**Carate, Puerto**	**1.43**	**154**	*e*P	**Pg**	**18 01 39.9**	**-1.0**
MLIR3	**Monte Lirio, C**	**1.45**	**128**	*i* P	**Pg**	**18 01 40.5**	**-0.8**
MLIR3				*i* S	**Sg**	**18 02 01.3**	**+1.1**
MOTZ	**Rio Naranjo**	**1.46**	**313**	*e*P	**Pb**	**18 01 40.1**	**-0.1**
MOTZ				*e*S	**Sg**	**18 01 59.3**	**-1.4**
PLVR	**Palo Verde**	**1.50**	**296**	*e*P	**Pn**	**18 01 39.7**	**-0.1**
CNI2	**El Empalme, Bo**	**1.51**	**100**	*e*P	**Pb**	**18 01 40.5**	**-0.5**
INDI	**Punta indio, G**	**1.51**	**277**	*e*P	**Pn**	**18 01 40.0**	**+0.3**
INDI	**Punta indio, G**	**1.51**	**277**	*i* P	**Pn**	**18 01 39.8**	**0.0**
INDI				IAML		18 01 41.2	
	comp=Z,210nm,1.0s						
INDI				*i* S	**Sb**	**18 02 01.3**	**+1.3**
COLC	**Colonia**	**1.55**	**309**	*e*P	**Pn**	**18 01 40.8**	**+0.6**
BRU2	**Volcan**	**1.55**	**125**	*i* P	**Pg**	**18 01 42.0**	**-1.3**
BRU2				*i* S	**Sg**	**18 02 02.0**	**-1.5**
BRU2	**Volcan**	**1.55**	**125**	*i* P	**Pb**	**18 01 41.5**	**-0.3**
BRU2				*i* S	**Sg**	**18 02 02.3**	**-1.2**
BRU2				IAML		18 02 05.2	
	comp=Z,880nm,1.0s						
CANAL	**Canalete**	**1.55**	**317**	*e*P	**Pn**	**18 01 40.6**	**+0.2**
HORNC	**Hornillas**	**1.56**	**311**	*e*P	**Pn**	**18 01 41.0**	**+0.6**
HORNC				*e*S	**Sb**	**18 02 01.8**	**+0.4**
NARJA	**Naranjal**	**1.57**	**280**	*e*P	**Pn**	**18 01 40.9**	**+0.3**
VMAR	**Armenia, Volca**	**1.58**	**315**	⇓*i*P	**Pn**	**18 01 41.3**	**+0.6**
VMAR				*e*S	**Sb**	**18 02 02.5**	**+0.6**
MESS	**Mesas**	**1.59**	**311**	⇓*e*P	**Pn**	**18 01 41.6**	**+0.7**
MESS				*e*S	**Sg**	**18 02 03.8**	**-0.9**
CLARA	**Aguas Claras**	**1.60**	**313**	⇑*i*P	**Pb**	**18 01 42.5**	**-0.1**
BC3P	**Paso Ancho**	**1.60**	**123**	*e*P	**Pb**	**18 01 42.4**	**-0.4**
BC3P				*i* S	**Sg**	**18 02 04.0**	**-1.2**
ORTG	**Ortega, Santa**	**1.60**	**295**	*e*P	**Pn**	**18 01 41.1**	**0.0**
ORTG	**Ortega, Santa**	**1.60**	**295**	*i* P	**Pn**	**18 01 41.3**	**+0.2**
ORTG				IAML		18 01 43.6	
	comp=Z,140nm,1.0s						
ORTG				*i* S	**Sn**	**18 02 02.8**	**+1.3**
JUD3	**Juan Diaz 3**	**1.61**	**287**	*e*P	**Pn**	**18 01 41.6**	**+0.5**
GPS2	**Hotel Rincn d**	**1.72**	**308**	*e*P	**Pb**	**18 01 43.9**	**-0.7**
GPS2				*e*S	**Sb**	**18 02 06.8**	**+0.8**
BCO2	**Palmira**	**1.73**	**124**	*i* P	**Pb**	**18 01 44.1**	**-0.7**
BCO2				*i* S	**Sb**	**18 02 07.1**	**+0.8**
GPS1	**Guardaparques**	**1.73**	**309**	*e*P	**Pb**	**18 01 44.1**	**-0.7**
GPS1				*e*S	**Sb**	**18 02 07.2**	**+0.9**
VRLE	**La Escondida,**	**1.75**	**309**	*i* P	**Pn**	**18 01 44.2**	**+1.1**
VRLE				*i* S	**Sb**	**18 02 07.6**	**+0.7**
VRLE				IAML		18 02 09.1	
	comp=Z,250nm,1.0s						
LNBQ3	**Los Naranjos,**	**1.76**	**120**	*e*P	**Pn**	**18 01 43.8**	**+0.5**
LNBQ3				*i* S	**Sb**	**18 02 07.5**	**+0.2**
PTAR3	**Potrerillos Ar**	**1.77**	**124**	*i* P	**Pb**	**18 01 44.5**	**-1.0**
PTAR3				*i* S	**Sb**	**18 02 07.0**	**-0.4**
BUEV	**Buena Vista**	**1.79**	**308**	*e*P	**Pb**	**18 01 45.1**	**-0.7**
BUEV				*e*S	**Sb**	**18 02 08.4**	**+0.4**
LAPC	**Finca la Perla**	**1.79**	**307**	*e*P	**Pn**	**18 01 44.4**	**+0.8**
LAPC				*e*S	**Sb**	**18 02 08.2**	**+0.3**
GB1A	**Borinquen Arri**	**1.79**	**309**	*e*P	**Pb**	**18 01 45.0**	**-0.9**
GBS3	**Finca Las Img**	**1.81**	**307**	⇓*i*P	**Pn**	**18 01 44.9**	**+0.9**
GBS3				*e*S	**Sb**	**18 02 09.2**	**+0.4**
PTPM	**Petroterminale**	**1.83**	**144**	*e*P	**Pn**	**18 01 45.0**	**+0.8**
PTPM				*i* S	**Sn**	**18 02 08.2**	**+1.2**
HZTE	**Horizontes, Gu**	**1.89**	**303**	*i* P	**Pb**	**18 01 46.6**	**-0.9**
HZTE				*i* S	**Sg**	**18 02 12.9**	**-1.4**
HZTE				IAML		18 02 18.8	
	comp=Z,210nm,1.0s						
PSOM3	**Paja de Sombre**	**1.92**	**121**	*i* P	**Pb**	**18 01 46.9**	**-1.1**
PSOM3				*i* S	**Sb**	**18 02 11.8**	**+0.2**
DVD	**David**	**1.96**	**129**	*e*P	**Pn**	**18 01 46.8**	**+0.9**
CHGR2	**Aguacate**	**1.96**	**112**	*i* P	**Pb**	**18 01 47.6**	**-1.0**
CHGR2				*i* S	**Sb**	**18 02 12.4**	**-0.4**
GMAL	**Guarumal, Vera**	**3.32**	**125**	*e*P	**Pn**	**18 02 05.3**	**+0.7**
MARI3	**Mariato, Verag**	**3.58**	**124**	*e*P	**Pn**	**18 02 09.6**	**+1.4**
CACAO	**El Cacao, Vera**	**3.86**	**127**	*e*P	**Pn**	**18 02 13.6**	**+1.5**

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*IDC **02** 18:39:40.0±1.6, 59.°80N×153.°29W, h90km±27km, mb3.3/4, mbtmp3.8/8, Error ellipse: s-maj=35.2km s-min=10.9km az=106.0*
*NEIC **02** 18:39:41.6±1.4, 59.°67N±0.°03×153.°12W±0.°07, h121km±3km, Error ellipse: s-maj=5.3km s-min=4.6km az=121.0*
*AEIC **02** 18:39:43.3±1.2, 59.°68N±0.°03×153.°07W±0.°07, h111km±3km, ML3.3, mb4.0/2(NEIC), ML3.6/166(NEIC), Error ellipse: s-maj=5.2km s-min=4.5km az=107.0*
ISC 02 18:39:41.8±0.7, **59.°70N**±0.°04×**153.°04W**±0.°04, **h118**km±5km, **n341**, σ**0.s82**/357, **mb3.6**/4, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.11**	**247**		**Pn**	**18 39 58.2**	**+0.2**
OPT	**Oil Point**	**0.11**	**247**	P	**Pn**	**18 39 58.2**	**+0.2**
	baz=73						
P19K	**Oil Pt**	**0.11**	**246**		**Pn**	**18 39 57.9**	**-0.2**
P19K					**Sn**	**18 40 10.1**	**-0.2**
P19K				IAML		18 40 11.1	
	comp=N,3µm,0.4s						
P19K				IAML		18 40 11.6	
	comp=E,3µm,0.5s						
P19K	**Oil Pt**	**0.11**	**246**	P	**Pn**	**18 39 58.0**	**0.0**
	baz=73						
P19K				S	**Sn**	**18 40 10.3**	**+0.1**
	baz=73						
IVE	**Iliamna Volcan**	**0.32**	**2**		**Pn**	**18 39 58.6**	**-0.1**
IVE					**Sn**	**18 40 11.1**	**-0.4**
AU22	**Augustine Moun**	**0.36**	**207**		**Pn**	**18 39 58.8**	**+0.1**
AU22					**Sn**	**18 40 11.6**	**+0.1**
ILW	**Iliamna West**	**0.37**	**352**		**Pn**	**18 39 58.9**	**-0.1**
ILW					**Sn**	**18 40 11.8**	**-0.2**
AUL	**Augustine Lava**	**0.37**	**213**		**Pn**	**18 39 59.1**	**+0.3**
AUL					**Sn**	**18 40 11.6**	**0.0**
AUQ	**Augustine Qik'**	**0.39**	**209**		**Pn**	**18 39 59.2**	**+0.2**
AUCH	**Augustine Cone**	**0.39**	**212**		**Pn**	**18 39 59.2**	**+0.2**
O20K	**Slope Mountain**	**0.44**	**28**		**Pn**	**18 39 59.5**	**+0.3**
O20K					**Sn**	**18 40 12.5**	**+0.1**
O20K	**Slope Mountain**	**0.44**	**28**	P	**Pn**	**18 39 59.5**	**+0.3**
	baz=209						
O20K				S	**Sn**	**18 40 12.5**	**+0.1**
	baz=209						
HOM	**Homer**	**0.71**	**92**		**Pn**	**18 40 01.5**	**+0.5**
HOM				Sn	**Sn**	**18 40 16.3**	**+0.9**
HOM				IAML		18 40 19.6	
	comp=N,1µm,0.3s						
HOM				IAML		18 40 20.4	
	comp=E,1µm,0.4s						
HOM	**Homer**	**0.71**	**92**	P	**Pn**	**18 40 01.6**	**+0.6**
	baz=272						
RED	**Redoubt Volcan**	**0.74**	**10**		**Pn**	**18 40 01.5**	**+0.2**
RED					**Sn**	**18 40 15.6**	**-0.5**
RDSO	**Redoubt South**	**0.78**	**11**		**Pn**	**18 40 01.9**	**+0.2**
RSO	**Redoubt South**	**0.78**	**10**		**Pn**	**18 40 02.2**	**+0.3**
RDWB	**Redoubt West**	**0.80**	**7**		**Pn**	**18 40 02.1**	**+0.2**
RDWB					**Sn**	**18 40 16.6**	**-0.6**
O19K	**Port Alsworth**	**0.82**	**308**		**Pn**	**18 40 01.9**	**0.0**
O19K				IAML		18 40 17.1	
	comp=E,1µm,0.5s						
O19K				IAML		18 40 17.1	
	comp=N,2µm,0.4s						
O19K	**Port Alsworth**	**0.82**	**308**		**Sn**	**18 40 16.4**	**-0.7**
O19K	**Port Alsworth**	**0.82**	**308**	P	**Pn**	**18 40 01.9**	**0.0**
	baz=129						
O19K				S	**Sn**	**18 40 16.4**	**-0.7**
	baz=129						
Q19K	**Cape Douglas,**	**0.83**	**202**		**Pn**	**18 40 01.8**	**-0.3**
Q19K				IAML		18 40 21.6	
	comp=N,2µm,0.9s						
Q19K				IAML		18 40 24.4	
	comp=E,1µm,1.3s						
Q19K	**Cape Douglas,**	**0.83**	**202**		**Sn**	**18 40 17.1**	**-0.2**
Q19K	**Cape Douglas,**	**0.83**	**202**	P	**Pn**	**18 40 02.0**	**0.0**
	baz=21						
Q19K				S	**Sn**	**18 40 17.1**	**-0.2**
	baz=21						
NCT	**North Crescent**	**0.87**	**4**		**Pn**	**18 40 02.8**	**+0.3**
RDJH	**Redoubt Jeurge**	**0.91**	**7**		**Pn**	**18 40 03.1**	**+0.3**
DFR	**Drift River**	**0.92**	**11**		**Pn**	**18 40 03.2**	**+0.3**
CNPM	**China Poot**	**0.93**	**100**		**Pn**	**18 40 03.1**	**+0.2**
CNPM				IAML		18 40 20.8	
	comp=E,927nm,0.4s						
CNPM				IAML		18 40 21.9	
	comp=N,594nm,0.3s						
CNPM	**China Poot**	**0.93**	**100**		**Sn**	**18 40 18.9**	**-0.1**
RDT	**Redoubt**	**0.94**	**19**		**Pn**	**18 40 03.3**	**+0.2**
RDT					**Sn**	**18 40 18.6**	**-0.6**
BRLK	**Bradley Lake**	**1.09**	**85**		**Pn**	**18 40 04.7**	**+0.1**
BRLK				Sn	**Sn**	**18 40 21.2**	**-0.7**
BRLK				IAML		18 40 22.3	
	comp=N,718nm,0.2s						
BRLK				IAML		18 40 23.1	
	comp=E,725nm,0.2s						
O18K	**Koktuh Hills**	**1.11**	**279**		**Pn**	**18 40 04.3**	**-0.4**
O18K				IAML		18 40 21.8	
	comp=N,283nm,0.7s						
O18K	**Koktuh Hills**	**1.11**	**279**	P	**Pn**	**18 40 04.3**	**-0.4**
	baz=98						
Q20K	**Shuyak Island**	**1.14**	**163**	P	**Pn**	**18 40 05.3**	**+0.3**
	baz=342						
SYI	**Shuyak Island**	**1.14**	**163**	Pn	**Pn**	**18 40 05.0**	**0.0**
SYI				Sn	**Sn**	**18 40 22.5**	**-0.1**
SYI				IAML		18 40 23.5	
	comp=E,2µm,0.3s						
P18K	**Big Mountain,**	**1.16**	**256**		**Pn**	**18 40 04.4**	**-0.8**
P18K	**Big Mountain,**	**1.16**	**256**	P	**Pn**	**18 40 04.7**	**-0.5**
	baz=74						
BRSE	**Bradley Lake S**	**1.17**	**87**		**Pn**	**18 40 05.5**	**+0.2**
BRSE	**Bradley Lake S**	**1.17**	**87**	P	**Pn**	**18 40 05.5**	**+0.2**
	baz=268						
KAPH	**Katmai Pasha**	**1.29**	**212**		**Pn**	**18 40 06.9**	**+0.2**
N19K	**Bonanza Creek**	**1.33**	**328**		**Pn**	**18 40 07.4**	**+0.2**
N19K				IAML		18 40 26.8	
	comp=N,200nm,0.8s						
N19K	**Bonanza Creek**	**1.33**	**328**	P	**Pn**	**18 40 07.3**	**0.0**
	baz=148						
CAPN	**Captain Cook N**	**1.43**	**40**	Pn	**Pn**	**18 40 10.6**	**+2.4**
CAPN				Sn	**Sn**	**18 40 32.1**	**+3.8**
CAPN	**Captain Cook N**	**1.43**	**40**	P	**Pn**	**18 40 10.6**	**+2.4**
	baz=222						
KAHG	**Katmai Hook Gl**	**1.43**	**214**		**Pn**	**18 40 08.5**	**+0.1**
KAHC	**Katmai Hardscr**	**1.46**	**225**		**Pn**	**18 40 08.7**	**0.0**
KAHC	**Katmai Hardscr**	**1.46**	**225**		**Pn**	**18 40 08.7**	**0.0**
KAHC	**Katmai Hardscr**	**1.46**	**225**	P	**Pn**	**18 40 08.7**	**0.0**
	baz=43						
Q18K	**Katmai Hardscr**	**1.46**	**225**	P	**Pn**	**18 40 08.7**	**0.0**
	baz=43						
N20K	**Mount Spurr**	**1.56**	**15**	P	**Pn**	**18 40 10.0**	**+0.1**
	baz=196						
SPCR	**Spurr Chakacha**	**1.56**	**15**		**Pn**	**18 40 10.3**	**+0.4**
SPCR	**Spurr Chakacha**	**1.56**	**15**	P	**Pn**	**18 40 10.3**	**+0.4**
	baz=196						
SPCN	**Chakachatna No**	**1.59**	**15**		**Pn**	**18 40 10.8**	**+0.6**
SPBG	**Spurr Blockage**	**1.60**	**12**		**Pn**	**18 40 11.1**	**+0.7**
SLKM	**Skilak Lake**	**1.63**	**59**		**Pn**	**18 40 10.7**	**+0.1**
SPCP	**Crater Peak Br**	**1.64**	**15**		**Pn**	**18 40 11.4**	**+0.6**
SPCG	**Spurr Capps Gl**	**1.68**	**17**		**Pn**	**18 40 11.8**	**+0.5**
SPNN	**North Nagishla**	**1.69**	**6**		**Pn**	**18 40 11.9**	**+0.5**
N18K	**Kilae Creek**	**1.73**	**306**		**Pn**	**18 40 11.6**	**-0.2**
N18K	**Kilae Creek**	**1.73**	**306**	P	**Pn**	**18 40 11.6**	**-0.2**
	baz=124						
KAKN	**Katmai Knife C**	**1.75**	**218**		**Pn**	**18 40 12.1**	**-0.1**
KVTA	**Katmai Vly 10**	**1.76**	**222**		**Pn**	**18 40 12.2**	**+0.1**
P17K	**Kvichak River**	**1.81**	**255**		**Pn**	**18 40 12.8**	**+0.1**
P17K	**Kvichak River**	**1.81**	**255**	P	**Pn**	**18 40 12.8**	**+0.1**

	baz=73						
KCE	**Katmai Mt Cerb**	**1.83**	**218**		**Pn**	**18 40 13.4**	**+0.3**
O22K	**Cooper Landing**	**1.84**	**63**		**Pn**	**18 40 13.7**	**+0.7**
O22K	**Cooper Landing**	**1.84**	**63**	P	**Pn**	**18 40 13.8**	**+0.7**
	baz=246						
KABU	**Katmai Buttres**	**1.84**	**220**		**Pn**	**18 40 13.4**	**+0.2**
SEW	**Seward**	**1.85**	**76**		**Pn**	**18 40 13.4**	**+0.1**
SEW	**Seward**	**1.85**	**76**	P	**Pn**	**18 40 13.5**	**+0.3**
	baz=258						
SVW2	**Sparrevohn**	**1.89**	**319**	Pn	**Pn**	**18 40 13.5**	**-0.2**
ACHA	**Angle Creek He**	**1.90**	**220**		**Pn**	**18 40 13.9**	**-0.1**
STLK	**Strandline Lak**	**1.91**	**18**		**Pn**	**18 40 14.5**	**+0.5**
KDAK	**Kodiak Island**	**1.93**	**173**	Pn	**Pn**	**18 40 13.3**	**-1.0**
KDAK				IAML		18 40 39.3	
	comp=N,423nm,0.4s						
KDAK				IAML		18 40 39.3	
	comp=N,306nm,0.5s						
KDAK	**Kodiak Island**	**1.93**	**173**	P	**Pn**	**18 40 13.0**	**-1.3**
	comp=N,90nm,0.3s,baz=33,slow=8.4,SNR=524						
KDAK				S	**Sn**	**18 40 38.3**	**-0.7**
	comp=N,71nm,0.3s,baz=219,slow=20,SNR=27						
ANCK	**Angle Creek**	**1.97**	**221**		**Pn**	**18 40 14.8**	**+0.1**
FIS	**Fire Island**	**2.02**	**43**	Pn	**Pn**	**18 40 15.2**	**0.0**
FIS				IAML		18 40 49.2	
	comp=N,701nm,0.4s						
FIS				IAML		18 40 50.3	
	comp=E,677nm,0.4s						
CNTC	**Contact Creek**	**2.06**	**227**		**Pn**	**18 40 15.8**	**-0.1**
O17K	**Koliganek Bris**	**2.06**	**274**		**Pn**	**18 40 15.8**	**+0.1**
O17K	**Koliganek Bris**	**2.06**	**274**	P	**Pn**	**18 40 15.8**	**+0.1**
	baz=91						
Q17K	**Contact Creek**	**2.06**	**227**	P	**Pn**	**18 40 15.8**	**-0.1**
	baz=45						
SUA	**Susitna One**	**2.10**	**32**		**Pn**	**18 40 17.2**	**+0.7**
SUA				IAML		18 40 45.1	
	comp=N,654nm,0.9s						
SUA	**Susitna One**	**2.10**	**32**	P	**Pn**	**18 40 17.3**	**+0.7**
	baz=214						
Q16K	**King Salmon**	**2.12**	**243**		**Pn**	**18 40 16.9**	**+0.3**
Q16K	**King Salmon**	**2.12**	**243**	P	**Pn**	**18 40 16.9**	**+0.3**
	baz=60						
RC01	**Rabbit Creek A**	**2.15**	**48**	Pn	**Pn**	**18 40 17.6**	**+0.5**
RC01				IAML		18 40 44.7	
	comp=N,609nm,0.5s						
RC01				IAML		18 40 46.1	
	comp=E,520nm,0.4s						
RC01	**Rabbit Creek A**	**2.15**	**48**	P	**Pn**	**18 40 17.6**	**+0.5**
	baz=231						
M20K	**Styx River**	**2.19**	**359**		**Pn**	**18 40 18.2**	**+0.6**
M20K	**Styx River**	**2.19**	**359**	P	**Pn**	**18 40 18.2**	**+0.6**
	baz=179						
N17K	**Nushagak Hills**	**2.24**	**294**		**Pn**	**18 40 18.1**	**+0.1**
N17K	**Nushagak Hills**	**2.24**	**294**	P	**Pn**	**18 40 18.2**	**+0.1**
	baz=111						
R18K	**Karluk**	**2.26**	**200**		**Pn**	**18 40 17.3**	**-1.1**
R18K	**Karluk**	**2.26**	**200**	IAML		18 40 47.2	
	comp=E,217nm,0.2s						
R18K				IAML		18 40 48.1	
	comp=N,211nm,0.5s						
R18K	**Karluk**	**2.26**	**200**	P	**Pn**	**18 40 17.3**	**-1.1**
	baz=18						
M18K	**Stony River**	**2.27**	**324**		**Pn**	**18 40 18.1**	**-0.3**
M18K	**Stony River**	**2.27**	**324**	P	**Pn**	**18 40 18.1**	**-0.3**
	baz=142						
M19K	**Big River Lodg**	**2.31**	**344**		**Pn**	**18 40 19.2**	**+0.1**
M19K	**Big River Lodg**	**2.31**	**344**	P	**Pn**	**18 40 19.0**	**0.0**
	baz=163						
SKT	**Skwentna**	**2.41**	**17**		**Pn**	**18 40 20.5**	**+0.2**
SKT				IAML		18 40 54.3	
	comp=E,105nm,0.6s						
SKT				IAML		18 40 55.1	
	comp=N,94nm,0.5s						
SKT	**Skwentna**	**2.41**	**17**	P	**Pn**	**18 40 20.4**	**+0.2**
	baz=199						
OHAK	**Old Harbor**	**2.48**	**183**		**Pn**	**18 40 20.0**	**-1.3**
OHAK	**Old Harbor**	**2.48**	**183**	P	**Pn**	**18 40 19.9**	**-1.3**
	baz=2.6						
M22K	**Willow**	**2.51**	**34**		**Pn**	**18 40 22.3**	**+0.8**
M22K	**Willow**	**2.51**	**34**	P	**Pn**	**18 40 22.3**	**+0.8**
	baz=216						
O16K	**Kokwok River B**	**2.57**	**270**	Pn	**Pn**	**18 40 22.5**	**+0.2**
O16K	**Kokwok River B**	**2.57**	**270**	P	**Pn**	**18 40 22.6**	**+0.4**
	baz=86						
PWL	**Port Wells**	**2.62**	**61**		**Pn**	**18 40 22.9**	**-0.1**
PWL	**Port Wells**	**2.62**	**61**	P	**Pn**	**18 40 22.9**	**-0.1**
	baz=245						
P16K	**Nushagak River**	**2.62**	**257**		**Pn**	**18 40 23.4**	**+0.5**
P16K	**Nushagak River**	**2.62**	**257**	P	**Pn**	**18 40 23.4**	**+0.5**
	baz=73						
PLK3	**Peulik 3**	**2.62**	**221**		**Pn**	**18 40 23.4**	**+0.3**
L19K	**White Mountain**	**2.65**	**341**		**Pn**	**18 40 23.3**	**-0.1**
L19K	**White Mountain**	**2.65**	**341**	P	**Pn**	**18 40 23.1**	**-0.3**
	baz=160						
PLK1	**Peulik 1**	**2.66**	**226**		**Pn**	**18 40 23.7**	**+0.2**
R17K	**Ugashik Creek**	**2.70**	**222**		**Pn**	**18 40 24.3**	**+0.2**
R17K	**Ugashik Creek**	**2.70**	**222**	P	**Pn**	**18 40 24.3**	**+0.2**
	baz=39						
PMR	**Palmer**	**2.71**	**44**	Pn	**Pn**	**18 40 23.5**	**-0.6**
PMR				IAML		18 40 55.9	
	comp=E,141nm,0.6s						
PMR				IAML		18 41 03.1	
	comp=N,137nm,0.6s						
PMR	**Palmer**	**2.71**	**44**	P	**Pn**	**18 40 23.7**	**-0.4**
	baz=227						
M17K	**Holitna River**	**2.77**	**310**		**Pn**	**18 40 24.9**	**+0.1**
M17K	**Holitna River**	**2.77**	**310**	IAML		18 41 34.4	
	comp=N,57nm,0.8s						
M17K	**Holitna River**	**2.77**	**310**	P	**Pn**	**18 40 24.9**	**+0.1**
	baz=127						
L20K	**Farewell, AK**	**2.82**	**352**		**Pn**	**18 40 26.1**	**+0.5**
L20K	**Farewell, AK**	**2.82**	**352**	P	**Pn**	**18 40 26.1**	**+0.5**
	baz=172						
KNK	**Knik Glacier**	**2.84**	**51**		**Pn**	**18 40 25.6**	**-0.3**
KNK				IAML		18 40 59.0	
	comp=N,327nm,0.5s						
KNK	**Knik Glacier**	**2.84**	**51**	P	**Pn**	**18 40 25.6**	**-0.3**
	baz=235						
P23K	**Montague Islan**	**2.86**	**81**		**Pn**	**18 40 26.5**	**+0.4**
P23K	**Montague Islan**	**2.86**	**81**	P	**Pn**	**18 40 26.5**	**+0.4**
	baz=266						
GHO	**Glory Hole Cre**	**2.90**	**42**		**Pn**	**18 40 26.4**	**-0.3**
GHO				IAML		18 41 12.2	
	comp=N,190nm,0.5s						
GHO				IAML		18 41 12.4	
	comp=E,236nm,0.7s						
N16K	**Nishlik Lake**	**2.98**	**288**		**Pn**	**18 40 28.2**	**+0.6**
N16K	**Nishlik Lake**	**2.98**	**288**	P	**Pn**	**18 40 28.2**	**+0.6**
	baz=103						
CUT	**Chulitna**	**3.03**	**25**		**Pn**	**18 40 27.9**	**-0.4**
CUT				IAML		18 41 07.8	
	comp=E,248nm,0.5s						
CUT				IAML		18 41 08.8	
	comp=N,192nm,0.4s						
CUT	**Chulitna**	**3.03**	**25**	P	**Pn**	**18 40 28.9**	**+0.6**
	baz=208						
L18K	**Granite Mounta**	**3.10**	**326**		**Pn**	**18 40 28.8**	**-0.4**
L18K	**Granite Mounta**	**3.10**	**326**	P	**Pn**	**18 40 28.9**	**-0.2**
	baz=144						
SML	**Sawmill**	**3.13**	**45**	Pn	**Pn**	**18 40 28.8**	**-0.9**
SML				IAML		18 41 13.2	
	comp=N,159nm,0.7s						
SML				IAML		18 41 15.4	
	comp=E,164nm,0.8s						
SML	**Sawmill**	**3.13**	**45**	P	**Pn**	**18 40 29.4**	**-0.3**
	baz=230						
GLI	**Glacier Island**	**3.19**	**66**		**Pn**	**18 40 29.5**	**-0.9**
GLI				IAML		18 41 08.3	
	comp=N,226nm,0.6s						
GLI				IAML		18 41 08.6	
	comp=E,223nm,0.5s						
GLI	**Glacier Island**	**3.19**	**66**	P	**Pn**	**18 40 30.6**	**+0.2**
	baz=250						
R16K	**Pilot Point**	**3.19**	**230**		**Pn**	**18 40 31.1**	**+0.7**
R16K	**Pilot Point**	**3.19**	**230**	IAML		18 41 32.7	
	comp=N,181nm,2.3s						
R16K				IAML		18 41 36.1	
	comp=E,159nm,2.4s						
R16K	**Pilot Point**	**3.19**	**230**	P	**Pn**	**18 40 31.1**	**+0.7**
	baz=46						
SII	**Sitkinak Islan**	**3.20**	**191**	Pn	**Pn**	**18 40 29.2**	**-1.4**
SII				IAML		18 41 08.1	
	comp=E,109nm,1.0s						
SII				IAML		18 41 18.0	
	comp=N,122nm,1.0s						
SII	**Sitkinak Islan**	**3.20**	**191**	P	**Pn**	**18 40 29.3**	**-1.4**
	baz=10						
M16K	**Timber Creek**	**3.23**	**297**		**Pn**	**18 40 31.5**	**+0.6**
M16K	**Timber Creek**	**3.23**	**297**	P	**Pn**	**18 40 31.5**	**+0.6**
	baz=112						
PPLA	**Purkeypile**	**3.24**	**7**		**Pn**	**18 40 32.2**	**+1.0**
PPLA	**Purkeypile**	**3.24**	**7**	P	**Pn**	**18 40 32.2**	**+1.0**
	baz=188						
M23K	**Glacier View**	**3.35**	**49**		**Pn**	**18 40 32.3**	**-0.3**
M23K	**Glacier View**	**3.35**	**49**	P	**Pn**	**18 40 32.4**	**-0.1**
	baz=233						
HIN	**Hinchinbrook I**	**3.35**	**75**		**Pn**	**18 40 32.8**	**+0.2**
HIN				IAML		18 41 12.3	
	comp=N,199nm,0.9s						
HIN				IAML		18 41 13.4	
	comp=E,188nm,0.5s						
Q23K	**Middleton Isla**	**3.42**	**92**	Pn	**Pn**	**18 40 33.3**	**-0.1**
Q23K	**Middleton Isla**	**3.42**	**92**	P	**Pn**	**18 40 33.3**	**-0.1**
	baz=277						
MID	**Middleton Isla**	**3.42**	**92**	Pn	**Pn**	**18 40 33.5**	**+0.1**
FID	**Port Fidalgo**	**3.44**	**69**		**Pn**	**18 40 32.8**	**-1.0**
O15K	**Ungalikthiuk R**	**3.50**	**264**		**Pn**	**18 40 35.5**	**+0.9**
O15K	**Ungalikthiuk R**	**3.50**	**264**	P	**Pn**	**18 40 35.5**	**+0.9**
	baz=79						
SCM	**Sheep Creek Mo**	**3.53**	**50**		**Pn**	**18 40 35.0**	**0.0**
SCM				IAML		18 41 18.3	
	comp=N,205nm,0.7s						
SCM				IAML		18 41 19.2	
	comp=E,192nm,0.5s						
SCM	**Sheep Creek Mo**	**3.53**	**50**	P	**Pn**	**18 40 35.0**	**0.0**
	baz=235						
L17K	**Donlin**	**3.55**	**316**		**Pn**	**18 40 34.9**	**-0.2**
L17K	**Donlin**	**3.55**	**316**	P	**Pn**	**18 40 34.9**	**-0.2**
	baz=132						
TTA	**Tatalina**	**3.55**	**337**		**Pn**	**18 40 34.9**	**-0.4**
TTA	**Tatalina**	**3.55**	**337**	P	**Pn**	**18 40 34.9**	**-0.4**
	baz=155						
N15K	**Kwethluk River**	**3.58**	**281**	Pn	**Pn**	**18 40 36.4**	**+0.8**
N15K				IAML		18 41 59.8	
	comp=E,40nm,2.5s						
N15K	**Kwethluk River**	**3.58**	**281**	P	**Pn**	**18 40 36.0**	**+0.4**
	baz=95						
K20K	**Telida**	**3.71**	**353**		**Pn**	**18 40 37.6**	**+0.3**
K20K	**Telida**	**3.71**	**353**	P	**Pn**	**18 40 37.6**	**+0.3**
	baz=172						
WAT7	**Susitna Watana**	**3.74**	**31**		**Pn**	**18 40 38.0**	**+0.1**
EYAK	**Cordova Ski Ar**	**3.75**	**74**		**Pn**	**18 40 37.4**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.75**	**74**	P	**Pn**	**18 40 38.0**	**+0.2**
	baz=260						
L16K	**Owhat River**	**3.75**	**305**	Pn	**Pn**	**18 40 38.1**	**+0.2**
L16K	**Owhat River**	**3.75**	**305**	P	**Pn**	**18 40 38.0**	**+0.2**
	baz=120						
CAST	**Castle Rocks**	**3.77**	**7**	Pn	**Pn**	**18 40 37.8**	**-0.2**
CAST	**Castle Rocks**	**3.77**	**7**	P	**Pn**	**18 40 37.9**	**-0.2**
	baz=188						
WAT1	**Susitna Watana**	**3.82**	**33**		**Pn**	**18 40 38.8**	**0.0**
WAT1	**Susitna Watana**	**3.82**	**33**	P	**Pn**	**18 40 38.8**	**0.0**
	baz=217						
WAT6	**Susitna Watana**	**3.87**	**39**		**Pn**	**18 40 39.3**	**-0.3**
WAT6	**Susitna Watana**	**3.87**	**39**	P	**Pn**	**18 40 39.3**	**-0.3**
	baz=224						
DIV	**Divide**	**3.88**	**65**		**Pn**	**18 40 39.6**	**0.0**
KLU	**Klutina**	**3.94**	**60**		**Pn**	**18 40 40.5**	**0.0**
KLU	**Klutina**	**3.94**	**60**	P	**Pn**	**18 40 40.5**	**0.0**
	baz=246						
M15K	**Kasigluk River**	**3.95**	**288**		**Pn**	**18 40 41.1**	**+0.6**
M15K	**Kasigluk River**	**3.95**	**288**	P	**Pn**	**18 40 41.1**	**+0.6**
	baz=102						
K17K	**Iditarod**	**3.96**	**322**		**Pn**	**18 40 40.4**	**-0.2**
K17K				IAML		18 41 42.4	
	comp=E,22nm,2.5s						
K17K				IAML		18 42 05.7	
	comp=N,32nm,3.1s						
K17K	**Iditarod**	**3.96**	**322**	P	**Pn**	**18 40 40.6**	**0.0**
	baz=138						
TRF	**Thorofare Moun**	**3.99**	**18**		**Pn**	**18 40 40.9**	**-0.3**
TRF				IAML		18 41 29.4	
	comp=N,54nm,0.6s						
TRF				IAML		18 41 32.4	
	comp=E,48nm,0.8s						
TRF	**Thorofare Moun**	**3.99**	**18**	P	**Pn**	**18 40 41.0**	**-0.2**
	baz=201						
KTH	**Kantishna Hill**	**4.00**	**14**	Pn	**Pn**	**18 40 40.9**	**-0.3**
KTH				IAML		18 41 56.8	
	comp=E,32nm,0.7s						
KTH				IAML		18 42 00.9	
	comp=N,40nm,1.1s						
CHIR	**Chirikof Islan**	**4.12**	**201**	Pn	**Pn**	**18 40 41.2**	**-1.6**
CHIR				IAML		18 42 16.2	
	comp=E,106nm,2.4s						
M24K	**Tolsona, Glenn**	**4.13**	**51**	Pn	**Pn**	**18 40 43.3**	**+0.3**
M24K	**Tolsona, Glenn**	**4.13**	**51**	P	**Pn**	**18 40 43.4**	**+0.4**
	baz=237						
J18K	**Innoko River**	**4.17**	**337**	Pn	**Pn**	**18 40 43.3**	**-0.1**
J18K	**Innoko River**	**4.17**	**337**	P	**Pn**	**18 40 43.3**	**-0.1**
	baz=154						
CHUM	**Lake Minchumin**	**4.22**	**4**		**Pn**	**18 40 44.3**	**+0.3**
CHUM	**Lake Minchumin**	**4.22**	**4**	P	**Pn**	**18 40 44.3**	**+0.3**
	baz=185						
O14K	**Tigyukauivet M**	**4.22**	**268**	Pn	**Pn**	**18 40 44.7**	**+0.6**
O14K				IAML		18 43 22.6	
	comp=N,32nm,2.9s						
O14K				IAML		18 43 28.1	
	comp=E,27nm,2.6s						
RND	**Reindeer**	**4.23**	**26**	Pn	**Pn**	**18 40 44.4**	**+0.1**
RND				IAML		18 41 32.9	
	comp=E,56nm,0.6s						
RND				IAML		18 41 33.3	
	comp=N,79nm,0.6s						
GOAT	**Goat Mountain**	**4.25**	**74**		**Pn**	**18 40 44.9**	**+0.3**
RAGM	**Ragged Mountai**	**4.25**	**77**	Pn	**Pn**	**18 40 45.0**	**+0.5**
DHY	**Denali Highway**	**4.35**	**36**		**Pn**	**18 40 45.8**	**-0.2**
DHY				IAML		18 41 37.1	
	comp=E,80nm,0.3s						
DHY				IAML		18 41 38.6	
	comp=N,76nm,0.5s						
DHY	**Denali Highway**	**4.35**	**36**	P	**Pn**	**18 40 45.8**	**-0.2**
	baz=221						
KAIM	**Kayak Island**	**4.36**	**83**	Pn	**Pn**	**18 40 46.9**	**+0.9**
KAIM	**Kayak Island**	**4.36**	**83**	P	**Pn**	**18 40 46.8**	**+0.9**
	baz=270						
BMRM	**Bremner River**	**4.38**	**69**		**Pn**	**18 40 45.8**	**-0.5**
BMRM	**Bremner River**	**4.38**	**69**	P	**Pn**	**18 40 46.8**	**+0.5**
	baz=257						
CHGN	**Chignik**	**4.44**	**222**	Pn	**Pn**	**18 40 46.8**	**-0.3**
CHGN				IAML		18 41 38.5	
	comp=N,46nm,0.1s						
CHGN				IAML		18 41 38.7	
	comp=E,77nm,0.1s						
CHGN	**Chignik**	**4.44**	**222**	P	**Pn**	**18 40 47.2**	**0.0**
	baz=38						
J19K	**Poorman**	**4.48**	**345**		**Pn**	**18 40 47.2**	**-0.4**
J19K	**Poorman**	**4.48**	**345**	P	**Pn**	**18 40 47.4**	**-0.2**
	baz=163						
MCK	**McKinley**	**4.50**	**24**		**Pn**	**18 40 47.8**	**0.0**
MCK	**McKinley**	**4.50**	**24**	P	**Pn**	**18 40 48.2**	**+0.4**
	baz=208						
BPAW	**Bear Paw Mtn.**	**4.53**	**11**	Pn	**Pn**	**18 40 47.2**	**-1.0**
BPAW				IAML		18 41 38.7	
	comp=N,17nm,0.8s						
BPAW				IAML		18 41 52.3	
	comp=E,16nm,0.7s						
BPAW	**Bear Paw Mtn.**	**4.53**	**11**	P	**Pn**	**18 40 47.5**	**-0.7**
	baz=193						
J20K	**Nowinta River**	**4.53**	**354**		**Pn**	**18 40 48.0**	**-0.2**
J20K				IAML		18 41 39.5	
	comp=E,16nm,3.8s						
J20K				IAML		18 42 44.0	
	comp=N,16nm,4.3s						
J20K	**Nowinta River**	**4.53**	**354**	P	**Pn**	**18 40 48.5**	**+0.3**
	baz=173						
M14K	**Bethel**	**4.57**	**287**	Pn	**Pn**	**18 40 49.0**	**+0.3**
M14K				IAML		18 42 53.0	
	comp=N,36nm,2.8s						
M14K				IAML		18 43 25.8	
	comp=E,45nm,2.8s						
N25K	**Chitina, Valde**	**4.58**	**62**		**Pn**	**18 40 49.1**	**+0.1**
N25K				IAML		18 41 41.3	
	comp=E,82nm,0.7s						
N25K	**Chitina, Valde**	**4.58**	**62**	P	**Pn**	**18 40 49.2**	**+0.2**
	baz=249						
NICHA	**Nichawak Mount**	**4.59**	**79**		**Pn**	**18 40 49.8**	**+0.7**
SUCK	**Suckling Hills**	**4.68**	**81**	Pn	**Pn**	**18 40 50.5**	**+0.2**
SUCK				IAML		18 41 31.9	
	comp=N,70nm,1.7s						
SUCK				IAML		18 43 10.8	
	comp=E,68nm,1.9s						
HARP	**HAARP**	**4.69**	**51**		**Pn**	**18 40 52.2**	**+1.7**
HARP	**HAARP**	**4.69**	**51**	P	**Pn**	**18 40 52.2**	**+1.7**
	baz=238						
BERG	**Berg Lake**	**4.73**	**77**		**Pn**	**18 40 51.1**	**+0.1**
BWN	**Browne**	**4.80**	**19**		**Pn**	**18 40 52.1**	**+0.3**
BWN				IAML		18 41 59.1	
	comp=N,49nm,1.9s						
BWN				IAML		18 42 42.5	
	comp=E,46nm,1.3s						
S14K	**Fog Glacier**	**4.87**	**228**	P	**Pn**	**18 40 52.8**	**-0.1**
	baz=43						
VNFG	**Fog Glacier, M**	**4.87**	**228**		**Pn**	**18 40 52.8**	**-0.1**
GLB	**Gilahina Butte**	**4.88**	**65**	Pn	**Pn**	**18 40 52.9**	**0.0**
PAX	**Paxson**	**4.91**	**45**		**Pn**	**18 40 53.5**	**+0.2**
PAX	**Paxson**	**4.91**	**45**	P	**Pn**	**18 40 53.8**	**+0.5**
	baz=231						
GRIN	**Grindle Hills**	**4.92**	**79**		**Pn**	**18 40 54.0**	**+0.5**
KHIT	**Khitrov Hills**	**4.96**	**77**		**Pn**	**18 40 54.3**	**+0.2**
VRDI	**Verde Repeater**	**4.99**	**68**	Pn	**Pn**	**18 40 54.5**	**-0.1**
L14K	**Kuka Creek**	**5.04**	**293**		**Pn**	**18 40 56.2**	**+1.1**
L14K	**Kuka Creek**	**5.04**	**293**	IAML		18 41 46.7	
	comp=N,26nm,2.1s						
L14K				IAML		18 44 17.2	
	comp=E,22nm,3.4s						
CRQM	**Cirque**	**5.05**	**74**		**Pn**	**18 40 55.4**	**0.0**
J16K	**Anvik River**	**5.11**	**318**	Pn	**Pn**	**18 40 55.8**	**-0.2**
J16K				IAML		18 42 25.3	
	comp=N,19nm,3.2s						
J16K				IAML		18 42 30.0	
	comp=E,15nm,3.0s						
J16K	**Anvik River**	**5.11**	**318**	P	**Pn**	**18 40 55.9**	**-0.2**
	baz=132						
SNH	**Sunshine Point**	**5.15**	**80**	Pn	**Pn**	**18 40 56.7**	**0.0**
SNH				IAML		18 41 56.1	
	comp=N,65nm,1.5s						
SNH				IAML		18 41 57.2	
	comp=E,55nm,0.7s						
WAX	**Waxell Ridge**	**5.16**	**77**		**Pn**	**18 40 56.9**	**+0.1**
TGL	**Tana Glacier**	**5.20**	**74**		**Pn**	**18 40 57.5**	**+0.1**
TGL				IAML		18 41 57.2	
	comp=N,67nm,0.6s						
TGL				IAML		18 41 59.8	
	comp=E,49nm,0.8s						
MCARA	**McCarthy VSAT**	**5.23**	**67**		**Pn**	**18 40 58.0**	**+0.4**
NEA2	**Nenana**	**5.25**	**19**		**Pn**	**18 40 57.2**	**-0.8**
NEA2				IAML		18 41 55.6	
	comp=E,14nm,0.7s						
NEA2				IAML		18 41 56.2	
	comp=N,10nm,0.9s						
WRH	**Wood River Hil**	**5.33**	**24**		**Pn**	**18 40 58.5**	**-0.4**
WRH				IAML		18 41 58.3	
	comp=N,25nm,0.7s						
ISLE	**Juniper Island**	**5.42**	**76**		**Pn**	**18 41 00.7**	**+0.3**
MLY	**Manley**	**5.46**	**10**	Pn	**Pn**	**18 41 00.3**	**-0.5**
HDA	**Harding Lake**	**5.53**	**29**		**Pn**	**18 41 01.4**	**-0.3**
I21K	**Tanana**	**5.53**	**5**		**Pn**	**18 41 01.2**	**-0.4**
BAGL	**Bagley Icefiel**	**5.54**	**77**		**Pn**	**18 41 02.8**	**+1.0**
CCB	**Clear Creek Bu**	**5.54**	**24**		**Pn**	**18 41 01.1**	**-0.6**
MENT	**Mentasta**	**5.54**	**50**		**Pn**	**18 41 02.8**	**+0.9**
M26K	**Nabesna, AK**	**5.58**	**57**		**Pn**	**18 41 03.6**	**+1.1**
MESA	**MESA**	**5.60**	**80**		**Pn**	**18 41 03.4**	**+0.6**
GRNC	**Granite Creek**	**5.72**	**75**		**Pn**	**18 41 05.0**	**+0.5**
COLA	**College**	**5.73**	**23**		**Pn**	**18 41 04.1**	**-0.2**
I23K	**Minto, Yukon-K**	**5.73**	**16**		**Pn**	**18 41 04.1**	**-0.3**
L26K	**Log Cabin Wild**	**5.73**	**50**	Pn	**Pn**	**18 41 06.0**	**+1.6**
MDM	**Murphy Dome**	**5.74**	**21**		**Pn**	**18 41 03.9**	**-0.6**
BARN	**Barnard Glacie**	**5.81**	**71**		**Pn**	**18 41 06.5**	**+0.9**
IL31		**5.85**	**27**		**Pn**	**18 41 05.3**	**-0.6**
ILAR	**Eielson Array**	**5.85**	**27**		**Pn**	**18 41 05.1**	**-0.9**
ILAR	**Eielson Array**	**5.85**	**27**	P	**Pn**	**18 41 05.3**	**-0.6**
	comp=N,16nm,0.5s,baz=218,slow=14,SNR=327						
ILAR				S	**Sn**	**18 42 07.8**	**-3.8**
	comp=N,11nm,0.8s,baz=214,slow=22,SNR=14						
H20K	**Anotleneega Mo**	**5.88**	**352**		**Pn**	**18 41 06.6**	**+0.2**
SDPT	**Sand Point**	**5.92**	**226**	Pn	**Pn**	**18 41 06.3**	**-0.6**
CTGM	**Chitina Glacie**	**5.95**	**73**		**Pn**	**18 41 07.5**	**0.0**
H21K	**Melozitna Rive**	**5.99**	**1**	Pn	**Pn**	**18 41 07.4**	**-0.4**
TABL	**Table Mountain**	**6.00**	**78**		**Pn**	**18 41 08.9**	**+0.6**
H18K	**Honhosa River**	**6.01**	**338**		**Pn**	**18 41 07.8**	**-0.4**
POKR	**Poker Plat Res**	**6.03**	**23**		**Pn**	**18 41 07.9**	**-0.5**
CNBA	**Chernabura Isl**	**6.04**	**219**	Pn	**Pn**	**18 41 07.0**	**-1.6**
M27K	**Edge Creek, AK**	**6.04**	**59**		**Pn**	**18 41 08.6**	**-0.2**
H19K	**Roundabout Mou**	**6.06**	**346**	Pn	**Pn**	**18 41 08.6**	**-0.2**
SCRK	**Sand Creek**	**6.07**	**41**	Pn	**Pn**	**18 41 07.7**	**-1.3**
LOGN	**Logan Glacier**	**6.10**	**74**		**Pn**	**18 41 09.6**	**+0.1**
J25K	**Salcha River,**	**6.10**	**33**		**Pn**	**18 41 09.1**	**-0.3**
H17K	**Granite Mounta**	**6.16**	**332**	Pn	**Pn**	**18 41 09.8**	**-0.4**
SAMH	**Samovar Hills**	**6.18**	**81**		**Pn**	**18 41 12.0**	**+1.4**
IMAR	**Indian Mountai**	**6.32**	**357**	Pn	**Pn**	**18 41 12.2**	**-0.2**
L27K	**Beaver Creek,**	**6.36**	**53**		**Pn**	**18 41 13.0**	**+0.1**
BCAR	**Beaver Creek A**	**6.38**	**53**	Pn	**Pn**	**18 41 13.3**	**+0.2**
PCA	**Pinnacle**	**6.45**	**81**		**Pn**	**18 41 14.3**	**+0.1**
O28M	**Mount Upton**	**6.49**	**75**		**Pn**	**18 41 16.3**	**+1.4**
J26L	**Joseph Creek**	**6.55**	**39**		**Pn**	**18 41 15.2**	**-0.4**
H24K	**Noodor Dome**	**6.60**	**19**		**Pn**	**18 41 15.4**	**-0.8**
G19K	**Purcell Mounta**	**6.73**	**346**	Pn	**Pn**	**18 41 17.7**	**-0.1**
G18K	**Tagagawik**	**6.73**	**340**	Pn	**Pn**	**18 41 17.8**	**-0.1**
BCPM	**Bancas Point**	**6.76**	**82**	Pn	**Pn**	**18 41 19.3**	**+0.9**
PRP	**Porcupine Dome**	**6.79**	**27**		**Pn**	**18 41 17.9**	**-0.9**
G21K	**Allakaket**	**6.85**	**358**	Pn	**Pn**	**18 41 19.0**	**-0.5**
PNL	**Peninsula**	**6.91**	**84**		**Pn**	**18 41 20.6**	**+0.2**
G23K	**Bananza Creek**	**7.17**	**10**	Pn	**Pn**	**18 41 23.3**	**-0.6**
G24K	**Hadweenzic Riv**	**7.46**	**17**	Pn	**Pn**	**18 41 26.1**	**-1.7**
EGAK	**Eagle**	**7.53**	**42**		**Pn**	**18 41 27.8**	**-0.8**
F21K	**Alatna River**	**7.56**	**359**		**Pn**	**18 41 28.2**	**-0.9**
M29M	**Somme Creek**	**7.58**	**62**		**Pn**	**18 41 30.1**	**+0.5**
F17K	**Baldwin Pennin**	**7.72**	**335**	Pn	**Pn**	**18 41 30.1**	**-1.1**
FYU	**Fort Yukon**	**7.74**	**24**	Pn	**Pn**	**18 41 29.9**	**-1.6**
P29M	**Windy Craggy**	**7.75**	**84**	Pn	**Pn**	**18 41 30.7**	**-1.0**
G25K	**Bearman Lake**	**7.75**	**21**		**Pn**	**18 41 31.1**	**-0.5**
DAWY	**Dawson**	**7.79**	**50**	Pn	**Pn**	**18 41 29.4**	**-2.9**
HYT	**Haines Junctio**	**7.81**	**75**	Pn	**Pn**	**18 41 30.8**	**-1.8**
F22K	**John River**	**7.85**	**2**		**Pn**	**18 41 33.3**	**+0.2**
L29M	**L29M**	**7.92**	**58**	Pn	**Pn**	**18 41 32.7**	**-1.4**
E19K	**Redstone River**	**8.01**	**348**	Pn	**Pn**	**18 41 33.8**	**-1.4**
F15K	**North Star Dit**	**8.04**	**323**	Pn	**Pn**	**18 41 34.0**	**-1.5**
N30M	**Aishikik Lake**	**8.05**	**70**		**Pn**	**18 41 33.4**	**-2.4**
F24K	**Squaw Lake**	**8.18**	**14**	Pn	**Pn**	**18 41 36.4**	**-1.0**
I28M	**Miner Creek**	**8.35**	**41**	Pn	**Pn**	**18 41 39.3**	**-0.5**
M30M	**Minto, Yukon**	**8.37**	**63**	Pn	**Pn**	**18 41 40.7**	**+0.6**
E22K	**Anaktuvuk Pass**	**8.49**	**3**		**Pn**	**18 41 41.3**	**-0.3**
O30N	**Mendenhall**	**8.50**	**75**	Pn	**Pn**	**18 41 41.5**	**-0.4**
BMAR	**Burnt Mountain**	**8.62**	**22**	Pn	**Pn**	**18 41 42.0**	**-1.5**
G27K	**Doyon Strip**	**8.78**	**31**	Pn	**Pn**	**18 41 44.0**	**-1.6**
I29M	**Ogilvie Camp,**	**8.85**	**44**	Pn	**Pn**	**18 41 45.1**	**-1.4**
TOLK	**Toolik Lake Re**	**9.11**	**8**		**Pn**	**18 41 48.6**	**-1.4**
F28M	**Old Crow**	**9.84**	**31**	Pn	**Pn**	**18 41 58.7**	**-1.2**
G29M	**Pine Creek**	**9.88**	**37**	Pn	**Pn**	**18 42 00.7**	**+0.3**
E27K	**Coleen River**	**9.88**	**26**	Pn	**Pn**	**18 41 58.8**	**-1.6**
S32K	**Killisnoo**	**9.89**	**95**	Pn	**Pn**	**18 42 00.3**	**-0.2**
P33M	**Teslin, Yukon**	**10.15**	**78**	Pn	**Pn**	**18 42 05.5**	**+1.3**
C23K	**Itkillik River**	**10.23**	**5**	Pn	**Pn**	**18 42 04.8**	**-0.4**
E28M	**Babbage River**	**10.68**	**28**	Pn	**Pn**	**18 42 10.3**	**-0.8**
E29M	**Blow River**	**10.92**	**31**		**Pn**	**18 42 12.9**	**-1.4**
G31M	**Satah River**	**11.08**	**41**	Pn	**Pn**	**18 42 15.0**	**-1.5**
U33K	**Whale Pass**	**11.17**	**100**	Pn	**Pn**	**18 42 18.5**	**+0.7**
R33M	**Jennings River**	**11.20**	**82**	Pn	**Pn**	**18 42 19.9**	**+1.6**
CRAG	**Craig**	**11.48**	**103**	Pn	**Pn**	**18 42 22.2**	**+0.4**
S34M	**Telegraph Cree**	**11.49**	**89**	Pn	**Pn**	**18 42 24.2**	**+2.2**
F31M	**Tsiigehtchic**	**11.53**	**40**	Pn	**Pn**	**18 42 21.5**	**-1.0**
DLBC	**Dease Lake**	**11.89**	**86**	Pn	**Pn**	**18 42 30.9**	**+3.5**
DLBC	**Dease Lake**	**11.89**	**86**	P	**Pn**	**18 42 31.5**	**+4.1**
	comp=N,2.7nm,0.3s,baz=245,slow=7.9,SNR=23						
DLBC				S	**Sn**	**18 44 36.0**	**-2.2**
	comp=N,1.3nm,0.7s,baz=188,slow=21,SNR=2.1						
INK	**Inuvik**	**12.09**	**36**	Pn	**Pn**	**18 42 30.3**	**+0.4**
INK	**Inuvik**	**12.09**	**36**	P	**Pn**	**18 42 30.6**	**+0.7**
	comp=N,2.2nm,0.7s,baz=236,slow=16,SNR=11						
T35M	**Bob Quinn**	**12.26**	**93**	Pn	**Pn**	**18 42 35.1**	**+3.0**
V35K	**Ketchikan**	**12.30**	**101**	Pn	**Pn**	**18 42 34.2**	**+1.6**
ADK	**Adak**	**15.36**	**250**	Pn	**Pn**	**18 43 11.8**	**0.0**
A36M	**Sachs Harbour**	**16.53**	**31**	Pn	**Pn**	**18 43 25.5**	**-0.6**
A36M				IAmb	IAmb	18 43 29.4	
	comp=Z,7.3nm,0.7s						
YKA	**Yellowknife Ar**	**18.60**	**65**		**P**	**18 43 49.2**	**-0.3**
YKA	**Yellowknife Ar**	**18.60**	**65**	P	**P**	**18 43 50.1**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=276,slow=10,SNR=22						
SONM	**Songino Array**	**54.95**	**306**	P	**P**	**18 49 01.2**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=24,slow=8.3,SNR=3.4						
	comp=Z,0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**57.61**	**324**	P	**P**	**18 49 18.9**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=46,slow=8.5,SNR=3.6						
	comp=Z,0.6nm,0.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	62.38	326	P	P	18 49 51.4	0.0
	comp=Z,0.3nm,0.4s,baz=28,slow=6.5,SNR=3.0						
	comp=Z,0.3nm,0.4s						
MKAR	Makanchi Array	64.66	321	P	P	18 50 05.8	-0.7
	comp=Z,0.4nm,0.7s,baz=35,slow=6.1,SNR=4.5						
	comp=Z,0.4nm,0.7s						

IDC ***02*** *18:50:23.5±0.7, 18.°83N×121.°32E, h0km, mb4.0/19, mbtmp4.1/22, ML4.1/3, MS3.5/33, Error ellipse: s-maj=18.6km s-min=16.7km az=82.0*

BJI ***02*** *18:50:28.6, 19.°19N×120.°89E, h10km, mb4.4/43, mB4.8/18, ML4.2/4, Ms4.1/10, Ms7 3.8/13*

NEIC ***02*** *18:50:31.5±1.4, 19.°12N±0.°06×121.°17E±0.°09, h42km±7km, mb4.6/97, Error ellipse: s-maj=12.2km s-min=9.0km az=90.0*

ISC 02 18:50:30.3±0.4, 19.°02N±0.°05×121.°11E±0.°06, h39km, n198, σ1.s79/183, mb4.6/68, MS3.5/35, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWG	Pinlang	3.79	360		Pn	18 51 24.9	-1.2
TWG				Sn	Sn	18 52 06.3	-3.1
TPUB	Ta-pu	4.29	354		Pn	18 51 32.2	-0.8
TPUB				Sn	Sn	18 52 17.7	-4.1
YULB	Yu-li	4.36	2		Pn	18 51 33.7	-0.3
YULB				Sn	Sn	18 52 18.1	-5.4
SSLB	Suanglung	4.75	358	Pn	Pn	18 51 39.2	-0.2
SSLB				Sn	Sn	18 52 30.3	-3.0
TGY	Tagaytay City	4.89	182	Pn	Pn	18 51 44.8	+3.4
	41nm,0.3s,baz=228,slow=5.3,SNR=9.7						
NACB	Ninganchiao	5.15	5		Pn	18 51 44.3	-0.6
YHNB	Yeheng	5.63	3	Pn	Pn	18 51 52.5	+1.0
YOJ	Yonaguni jima	5.70	18	Pn	Pn	18 51 52.2	-0.2
TATO	Taipei	5.94	3		Pn	18 51 55.5	-0.3
KNMB	Chin-men Tao	5.98	336	Pn	Pn	18 51 54.5	-1.7
QZH	Quanzhou	6.34	339	Pn	Pn	18 51 59.5	-1.7
QZH				Sn	Sn	18 53 05.2	-7.2
QZH				smax	smax		
	comp=N,72nm,0.5s						
QZH				smax	smax		
	comp=E,110nm,0.7s						
HKPS	Hong Kong Po S	7.28	298		Pn	18 52 12.9	-1.2
JOW	Kunigami	10.20	39	Pn	Pn	18 52 52.7	-1.5
JOW	Kunigami	10.20	39	Pn	Pn	18 52 53.9	-0.3
	7.1nm,0.3s,baz=224,slow=14,SNR=8.2						
	57nm,0.7s						
QIZ	Qiongzhong	10.65	272	Pn	Pn	18 52 58.0	-2.4
QIZ	Qiongzhong	10.65	272	P	Pn	18 52 58.8	-1.6
QIZ				S	Sn	18 54 56.1	-2.4
QIZ				pmax	pmax		
	comp=Z,43nm,1.1s						
QIZ				LR	LR		
	comp=N,610nm,9.3s						
QIZ				LR	LR		
	comp=E,620nm,9.3s						
QIZ				LR	LR		
	comp=Z,470nm,17.7s						
JMZ	Minamidaito 2	11.55	52	Pn	Pn	18 53 10.2	-2.4
NJ2	Nanjing	13.14	352	eP	Pn	18 53 35.4	+1.1
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
DLV	T Lat	14.04	242	Pn	Pn	18 53 46.8	-0.1
GYA	Guiyang	15.24	302	P	Pn	18 54 03.7	+0.9
GYA				pmax	pmax		
	comp=Z,12nm,0.8s						
ENH	Enshi	15.39	319	P	Pn	18 54 05.6	+0.9
JNU	Nakatsue	16.55	30		Pn	18 54 19.5	0.0
JNU	Nakatsue	16.55	30	Pn	Pn	18 54 19.4	0.0
	0.3nm,0.3s,baz=172,slow=6.0,SNR=10						
JNU				LR	LR	19 01 09.4	
	comp=Z,164nm,18.9s,baz=208,slow=39						
	23nm,0.9s						
JTU	Tsushima	17.12	24		Pn	18 54 25.7	-0.8
JTU				IAmb	IAmb	18 54 43.2	
	comp=Z,65nm,1.4s						
TOLI2	Tolitoli	17.80	181		Pn	18 54 35.3	+0.2
TJN	Taejon	18.15	16	P	Pn	18 54 37.9	-1.4
TJN				IAmb	IAmb	18 55 14.0	
	comp=Z,139nm,1.3s						
XAN	Xi'an	18.49	326	⇓P	Pn	18 54 44.7	+1.2
XAN				pP	pP	18 54 52.5	+0.5
XAN				sP	sP	18 54 57.6	+0.6
XAN				pmax	pmax		
	comp=Z,17nm,1.2s						
XAN				LR	LR		
	comp=Z,400nm,12.6s						
XAN				LR	LR		
	comp=Z,320nm,11.0s						
SBUM	Sibu	18.62	209	P	P	18 54 45.5	+1.0
HNS	HongShan	19.15	344	⇓P	Pn	18 54 52.5	+1.1
HNS				pmax	pmax		
	comp=Z,17nm,1.0s						
KSAR	Wonju Array Be	19.29	17	P	P	18 54 49.8	-2.0
KSRS	Korea Array	19.32	17	P	P	18 54 51.8	-0.3
	comp=Z,0.9nm,0.3s,baz=198,slow=11,SNR=30						
KSRS				LR	LR	19 02 53.5	
	comp=Z,181nm,20.2s,baz=200,slow=39						
	comp=Z,5.2nm,0.6s						
PZH	PanZhiHua	19.34	296	P	Pn	18 54 55.0	+1.2
PZH				S	S	18 58 29.4	0.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,5.1s						
PZH				LR	LR		
	comp=Z,250nm,12.7s						
PZH				LR	LR		
	comp=Z,190nm,16.1s						
PZH				LR	LR		
	comp=Z,180nm,13.9s						
KS19	Wonju Array Si	19.34	16	P	P	18 54 50.7	-1.7
KS19				IAmb	IAmb	18 54 58.5	
	comp=Z,29nm,1.3s						
CRAI	Chiangrai	19.57	277	P	P	18 54 55.7	+0.7
CD2	Chengdu	19.66	310	P	Pn	18 54 58.0	+0.5
CD2				pmax	pmax		
	comp=Z,30nm,0.8s						
CHTO	Chiang Mai	20.97	273	P	P	18 55 11.4	+1.2
JCJ	Chichijima	20.98	64	LR	LR	19 02 33.7	
	comp=Z,74nm,20.9s,baz=120,slow=35						
CM31	Chiang Mai Arr	21.00	272	P	P	18 55 10.8	+0.3
CMAR	Chiang Mai Arr	21.00	272	P	P	18 55 11.8	+1.3
CMAR	Chiang Mai Arr	21.00	272	P	P	18 55 12.4	+1.9
	comp=Z,2.9nm,0.9s,baz=80,slow=7.9,SNR=16						
CMAR				LR	LR	19 03 44.4	
	comp=Z,87nm,18.1s,baz=100,slow=38						
	comp=Z,2.9nm,0.9s						
BJT	Baijiatuau	21.36	350	P	P	18 55 13.3	-0.8
TNCH	TengChong	21.76	290	P	P	18 55 16.9	-2.0
TNCH				sP	pP	18 55 30.6	+2.7
TNCH				pmax	pmax		
	comp=Z,120nm,3.3s						
JHJ	Hachijo jima 2	21.83	46	LR	LR	19 02 28.6	
	comp=Z,71nm,21.5s,baz=270,slow=33						
LZH	Lanzhou	22.82	322	eP	P	18 55 30.8	+0.8
LZH				pP	pP	18 55 40.1	+1.0
LZH				sP	pwP	18 55 44.3	+1.1
LZH				pmax	pmax		
	comp=Z,34nm,1.0s						
LZH				LR	LR		
	comp=Z,200nm,12.0s						
LZH				LR	LR		
	comp=Z,170nm,11.3s						
LZH				LR	LR		
	comp=Z,230nm,14.8s						
MJAR	Matsushiro Arr	23.04	37	P	P	18 55 31.7	-0.4
	comp=Z,3.4nm,1.1s,baz=215,slow=8.5,SNR=10						
	comp=Z,3.4nm,1.1s						
HHC	Hu-ho-hao-te	23.25	341	eP	P	18 55 36.4	+2.1
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,4.5s						
HHC				LR	LR		
	comp=Z,410nm,15.2s						
HHC				LR	LR		
	comp=Z,360nm,13.2s						
HHC				LR	LR		
	comp=Z,300nm,16.3s						
GUMO	Guam	23.43	100	LR	LR	19 03 15.4	
	comp=Z,88nm,20.6s,baz=114,slow=33						
BTO	Baotou	23.53	338	eP	P	18 55 39.9	+2.9
BTO				PP	PnPn	18 56 13.5	+8.7
BTO				S	S	18 59 54.8	+6.5
BTO				pmax	pmax		
	comp=Z,25nm,1.8s						
BTO				pmax	pmax		
	comp=Z,230nm,4.6s						
BTO				LR	LR		
	comp=Z,320nm,16.7s						
BTO				LR	LR		
	comp=Z,350nm,15.3s						
BTO				LR	LR		
	comp=Z,250nm,12.5s						
KAPI	Kappang	23.91	183	LR	LR	19 05 23.7	
	comp=Z,113nm,21.1s,baz=358,slow=38						
JMM	Marumori	25.45	38	P	P	18 55 52.8	-1.7
JMM				IAmb	IAmb	18 56 13.1	
	comp=Z,10nm,0.9s						
MDJ	Mudanjiang	26.49	14	P	P	18 56 16.2	+12
MDJ				PP	PnPn	18 56 52.2	+7.1
MDJ				PcP	PcP	18 59 44.7	+17
MDJ				S	S	19 00 43.7	+8.4
MDJ				sS	sS	19 00 59.0	+5.3
MDJ				SS	SnSn	19 01 41.6	+2.4
MDJ				PcS	PcS	19 03 26.0	+17
USRK	Ussuriysk Ar.	26.71	18	LR	LR	19 06 03.4	
	comp=Z,82nm,21.9s,baz=183,slow=35						
LEM	Lembang	28.92	209	LR	LR	19 08 14.8	
	comp=Z,113nm,20.2s,baz=199,slow=37						
BATI	Baumata	29.15	175	LR	LR	19 12 06.6	
	comp=Z,49nm,18.0s,baz=17,slow=45						
ASAJ	Asahikawa	30.83	31	LR	LR	19 08 29.2	
	comp=Z,58nm,21.6s,baz=279,slow=35						
SONM	Songino Array	31.14	341	P	P	18 56 47.1	+1.7
SONM	Songino Array	31.14	341	P	P	18 56 46.5	+1.1
	comp=Z,2.8nm,0.9s,baz=161,slow=9.3,SNR=11						
SONM				LR	LR	19 10 38.3	
	comp=Z,107nm,18.7s,baz=180,slow=39						
	comp=Z,2.8nm,0.9s						
KLR	Kul'dur	31.34	13	LR	LR	19 09 48.9	
	comp=Z,132nm,21.5s,baz=221,slow=37						
TAPN	Taplejung	31.72	291	eP	P	18 56 52.2	+1.2
	comp=Z,36nm,1.5s						
RAMN	Ramite	32.66	290	eP	P	18 56 59.6	+0.5
	comp=Z,19nm,0.8s						
JIRN	Jiri	33.10	292	eP	P	18 57 04.2	+1.1
	comp=Z,22nm,1.1s						
GUN	Gumba	33.41	292	eP	P	18 57 06.8	+1.0
PKI	Pulchoki	33.78	291	eP	P	18 57 09.3	+0.3
	comp=Z,10nm,1.0s						
PKIN	Phulchoki	33.79	291	eP	P	18 57 09.7	+0.7
	comp=Z,6.7nm,0.8s						
GKN	Gorkha	34.51	292	eP	P	18 57 15.5	+0.4
	comp=Z,19nm,1.0s						
DANN	Dangsing	35.32	292	eP	P	18 57 22.9	+0.6
	comp=Z,15nm,1.0s						
PYUN	Piuthan	35.97	292	eP	P	18 57 28.2	+0.5
	comp=Z,19nm,1.1s						
WMQ	Urumqi	37.34	319	eP	P	18 57 41.1	+2.1
KRVT	Keravat (AS076	38.26	124	LR	LR	19 11 27.8	
	comp=Z,74nm,20.9s,baz=244,slow=33						
WB0	Warramunga Arr	40.69	161	P	P	18 58 04.2	-2.9
WRA	Warramunga Arr	40.83	161	P	P	18 58 04.4	-3.9
WRA	Warramunga Arr	40.83	161	P	P	18 58 04.7	-3.6
	comp=Z,0.7nm,0.7s,baz=342,slow=9.0,SNR=6.6						
WRA				PcP	PcP	19 00 09.1	+0.3
	comp=Z,0.3nm,0.4s,baz=342,slow=3.2,SNR=7.3						
	comp=Z,0.7nm,0.7s						
WB2	Warramunga Arr	40.84	161	P	P	18 58 04.0	-4.4
PALK	Pallekele	40.93	259	LR	LR	19 15 26.8	
	comp=Z,72nm,18.2s,baz=180,slow=37						
MK31	Makanchi Array	42.11	320	P	P	18 58 17.1	-1.6
MKAR	Makanchi Array	42.11	320	P	P	18 58 18.0	-0.6
MKAR	Makanchi Array	42.11	320	P	P	18 58 20.5	+1.8
	comp=Z,2.0nm,0.7s,baz=118,slow=8.6,SNR=14						
MKAR				PcP	PcP	19 00 13.1	+0.4
	comp=Z,1.3nm,0.7s,baz=100,slow=4.1,SNR=3.6						
MKAR				LR	LR	19 17 44.1	
	comp=Z,51nm,19.1s,baz=74,slow=39						
	comp=Z,2.0nm,0.7s						
MAKZ	Makanchi	42.31	320		P	18 58 19.9	-0.4
H11S3	WAKE ISLAND Hy	43.07	83	T	T	19 44 04.9	
	baz=279,slow=75,SNR=33						
H11S1	WAKE ISLAND Hy	43.08	83	T	T	19 44 03.0	
	baz=279,slow=75,SNR=21						
H11S2	WAKE ISLAND Hy	43.09	83	T	T	19 44 10.4	
	baz=279,slow=75,SNR=30						
H11N1	WAKE ISLAND Hy	43.10	81	T	T	19 44 04.1	
	baz=277,slow=75,SNR=214						
H11N2	WAKE ISLAND Hy	43.10	81	T	T	19 44 04.3	
	baz=277,slow=75,SNR=134						
H11N3	WAKE ISLAND Hy	43.12	81	T	T	19 44 05.4	
	baz=277,slow=75,SNR=135						
KSH	Kashi	43.82	308	P	P	18 58 37.0	+4.3
KSH				pP	pP	18 58 45.8	+2.8
KSH				pmax	pmax		
	comp=Z,12nm,0.7s						
ASAR	Alice Springs	44.22	163	P	P	18 58 33.0	-2.9
	comp=Z,0.4nm,0.5s,baz=342,slow=7.3,SNR=3.6						
	comp=Z,0.4nm,0.5s						
PETK	Petropavlovsk-	44.25	31	P	P	18 58 35.4	-0.4
	comp=Z,9.1nm,1.0s,baz=220,slow=5.4,SNR=5.8						
PETK				LR	LR	19 18 16.2	
	comp=Z,40nm,19.8s,baz=188,slow=38						
	comp=Z,9.1nm,1.0s						
ZAA0	Zalesovo Array	44.60	330	P	P	18 58 35.5	-3.0
ZALV	Zalesovo Beam	44.60	330	P	P	18 58 37.2	-1.4
ZALV	Zalesovo Beam	44.60	330	P	P	18 58 39.4	+0.9
	comp=Z,1.7nm,0.7s,baz=119,slow=8.6,SNR=8.6						
ZALV				LR	LR	19 18 20.5	
	comp=Z,58nm,18.1s,baz=100,slow=37						
	comp=Z,1.7nm,0.7s						
NIL	Nilore	44.91	299	P	P	18 58 40.6	-0.8
AAK	Ala-Archa	45.72	311	LR	LR	19 20 23.8	
	comp=Z,47nm,19.2s,baz=119,slow=39						
MA2	Magadan	45.80	21	LR	LR	19 18 02.7	
	comp=Z,60nm,21.9s,baz=184,slow=36						
CTA	Charters Tower	46.02	146	LR	LR	19 18 33.8	
	comp=Z,24nm,20.8s,baz=340,slow=37						
KURK	Kurchatov	46.09	323	P	P	18 58 50.3	-0.1
KURK				IAmb	IAmb	18 59 22.5	
	comp=Z,4.2nm,0.8s						
KURBB	Kurchatov Arra	46.10	323	P	P	18 58 51.9	+1.5
	comp=Z,2.2nm,0.6s,baz=119,slow=7.9,SNR=20						
	comp=Z,2.2nm,0.6s						
ARSB	Arslanbob	46.47	309	P	P	18 58 53.9	+0.1
HNR	Honiara	47.60	123	LR	LR	19 16 09.1	
	comp=Z,869nm,21.0s,baz=322,slow=33						
KK31	Karatay Array	48.67	311	P	P	18 59 11.6	+0.9
KK31				IAmb	IAmb	18 59 13.1	
	comp=Z,5.8nm,0.9s						
KK31				PcP	PcP	19 00 34.1	-1.4
KKAR	Karatay Array	48.67	311	P	P	18 59 11.5	+0.8
KKAR				IAmb	IAmb	18 59 13.1	
	comp=Z,5.8nm,0.9s						
KKAR	Karatay Array	48.67	311	P	P	18 59 11.7	+1.1
KKAR				PcP	PcP	19 00 35.2	-0.4
SEY	Seymchan	48.86	18	P	P	18 59 12.5	+0.8
	comp=Z,2.2nm,0.7s,baz=227,slow=7.1,SNR=6.1						
	comp=Z,2.2nm,0.7s						
BVAR	Borovoye Array	51.69	323	P	P	18 59 35.1	+1.8
	comp=Z,2.0nm,0.6s,baz=102,slow=5.1,SNR=4.6						
BVAR				PcP	PcP	19 00 46.5	+0.1
	comp=Z,2.5nm,0.7s,baz=117,slow=5.2,SNR=6.5						
BVAR				LR	LR	19 23 54.1	
	comp=Z,47nm,19.3s,baz=116,slow=39						
	comp=Z,2.0nm,0.6s						
BRVK	Borovoye	51.76	323	P	P	18 59 33.6	-0.2
BRVK				IAmb	IAmb	18 59 36.2	
	comp=Z,4.9nm,0.8s						
TIXI	Tiksi	52.83	3	P	P	18 59 40.8	-0.6
TIXI				IAmb	IAmb	18 59 42.1	
	comp=Z,6.3nm,0.8s						
BBOO	Buckleboo	53.48	164	P	P	18 59 45.9	-0.8
BILL	Bilibino	56.56	19	P	P	19 00 08.4	-0.2
BILL				IAmb	IAmb	19 00 16.8	
	comp=Z,4.9nm,0.8s						
ABKAR	Akbulak array	57.07	317	P	P	19 00 13.4	+0.9
ABKAR				PcP	PcP	19 01 05.3	-1.8
ABKAR	Akbulak array	57.07	317	P	P	19 00 12.9	+0.5
ABKAR				IAmb	IAmb	19 00 14.5	
	comp=Z,4.7nm,1.1s						
ABKAR				PcP	PcP	19 01 04.9	-2.2
ARU	Arti	59.23	325	P	P	19 00 27.6	+0.2
ARU	Arti	59.23	325	LR	LR	19 27 21.6	
	comp=Z,46nm,20.3s,baz=155,slow=37						
DZM	Mont Dzumac	60.27	131	LR	LR	19 22 56.3	
	comp=Z,58nm,21.5s,baz=254,slow=32						
KIRV	Kirov	64.43	327	LR	LR	19 31 06.2	
	comp=Z,53nm,18.1s,baz=94,slow=38						
J14K	Nanvaranak Lak	66.56	29	P	P	19 01 15.7	-0.4
L14K	Kuka Creek	66.89	31		P	19 01 18.2	+0.1
M14K	Bethel	67.22	31	P	P	19 01 20.4	+0.1
K15K	Wolf Creek Mou	67.48	30	P	P	19 01 21.8	-0.1
F17K	Baldwin Pennin	67.79	25	P	P	19 01 24.2	+0.4
F17K				IAmb	IAmb	19 02 03.9	
	comp=Z,17nm,1.4s						
J16K	Anvik River	67.93	29	P	P	19 01 24.8	0.0
C18K	Utukok River	67.96	23	P	P	19 01 25.3	+0.3
C18K				IAmb	IAmb	19 01 47.7	
	comp=Z,13nm,1.1s						
E18K	Tukpahlearik C	68.11	24	P	P	19 01 25.8	0.0
E18K				IAmb	IAmb	19 01 27.6	
	comp=Z,7.9nm,1.1s						
N15K	Kwethluk River	68.14	32	P	P	19 01 26.0	-0.1
ONI	Oni	68.42	309	P	P	19 01 29.5	+1.2
ONI				IAmb	IAmb	19 01 30.9	
	comp=Z,11nm,1.4s						
L16K	Owhat River	68.44	30	P	P	19 01 28.1	+0.2
AKH	Akhalkalaki	68.53	308	P	P	19 01 29.9	+0.8
M16K	Timber Creek	68.69	31	P	P	19 01 29.7	+0.1
KVAR	Kislovodsk Arr	68.82	311	LR	LR	19 35 52.8	
	comp=Z,35nm,20.9s,baz=104,slow=40						
G18K	Tagagawik	68.83	26	P	P	19 01 31.3	+0.9
KIV	Kislovodsk	68.83	311	P	P	19 01 31.2	+0.3
KIV				IAmb	IAmb	19 01 32.5	
	comp=Z,9.0nm,0.9s						
K17K	Iditarod	68.98	29	P	P	19 01 31.8	+0.5
K17K				IAmb	IAmb	19 01 58.2	
	comp=Z,7.2nm,1.1s						
D19K	Kuna River	69.09	23	P	P	19 01 31.7	-0.2
GEVA	Gevas	69.26	305	P	P	19 01 34.1	+0.3
GEVA				IAmb	IAmb	19 02 18.2	
	comp=Z,7.0nm,1.0s						
E19K	Redstone River	69.41	24	P	P	19 01 33.8	-0.1
E19K				IAmb	IAmb	19 01 37.2	
	comp=Z,6.3nm,1.1s						
G19K	Purcell Mounta	69.47	25	P	P	19 01 34.7	+0.4
G19K				IAmb	IAmb	19 01 57.4	
	comp=Z,9.7nm,1.5s						
N17K	Nushagak Hills	69.58	31	P	P	19 01 35.0	-0.1
N17K				IAmb	IAmb	19 01 59.7	
	comp=Z,8.0nm,1.1s						
J18K	Innoko River	69.68	28	P	P	19 01 35.6	-0.1
J18K				IAmb	IAmb	19 01 52.4	
	comp=Z,12nm,1.5s						
H19K	Roundabout Mou	69.74	26	P	P	19 01 36.1	+0.2
H19K				IAmb	IAmb	19 01 49.0	
	comp=Z,13nm,1.4s						
L18K	Granite Mounta	69.74	30	P	P	19 01 35.6	-0.4
L18K				IAmb	IAmb	19 01 48.7	
	comp=Z,11nm,1.3s						
TTA	Tatalina	70.02	29	P	P	19 01 38.1	+0.2
TTA				IAmb	IAmb	19 01 39.3	
	comp=Z,14nm,1.4s						
O18K	Koktuh Hills	70.60	32	P	P	19 01 41.9	+0.4
IMAR	Indian Mountai	70.84	26	P	P	19 01 42.8	+0.2
H21K	Melozitna Rive	71.25	26	P	P	19 01 45.2	0.0
H21K				IAmb	IAmb	19 02 14.8	
	comp=Z,6.2nm,1.2s						
E22K	Anaktuvuk Pass	71.44	23	P	P	19 01 46.6	+0.2
E22K				IAmb	IAmb	19 01 50.7	
	comp=Z,9.4nm,1.4s						
C23K	Itkillik River	71.72	21	P	P	19 01 48.6	+0.6
C23K				IAmb	IAmb	19 02 03.4	
	comp=Z,9.0nm,1.4s						
CAST	Castle Rocks	71.76	28	P	P	19 01 48.9	+0.5
CAST				IAmb	IAmb	19 02 00.5	
	comp=Z,17nm,1.4s						
PPLA	Purkeypile	71.77	29	P	P	19 01 48.4	-0.2
PPLA				IAmb	IAmb	19 02 09.2	
	comp=Z,20nm,1.4s						
MLY	Manley	72.17	26	P	P	19 01 51.8	+0.9
MLY				IAmb	IAmb	19 01 53.0	
	comp=Z,5.3nm,1.0s						
KDAK	Kodiak Island	72.18	34	P	P	19 01 50.8	-0.1
KDAK	Kodiak Island	72.18	34	P	P	19 01 50.1	-0.7
	comp=Z,6.8nm,0.9s,baz=296,slow=12,SNR=4.0						
	comp=Z,6.8nm,0.9s						
KTH	Kantishna Hill	72.27	28	P	P	19 01 51.6	+0.1
KTH				IAmb	IAmb	19 02 17.6	
	comp=Z,18nm,1.4s						
TRF	Thorofare Moun	72.56	28	P	P	19 01 53.7	+0.4
TRF				IAmb	IAmb	19 02 07.5	
	comp=Z,11nm,1.4s						
I23K	Minto, Yukon-K	72.74	26	P	P	19 01 55.2	+1.1
I23K				IAmb	IAmb	19 02 18.3	
	comp=Z,15nm,1.5s						
RND	Reindeer	73.21	28	P	P	19 01 56.7	-0.3
RND				IAmb	IAmb	19 01 57.6	
	comp=Z,5.5nm,0.7s						
SML	Sawmill	73.70	30	P	P	19 01 59.4	-0.6
KEV	Kevo	73.73	339	P	P	19 01 59.9	0.0
ILAR	Eielson Array	73.83	26	P	P	19 02 00.0	-0.6
ILAR	Eielson Array	73.83	26	P	P	19 01 59.1	-1.5
	comp=Z,0.6nm,0.6s,baz=271,slow=4.8,SNR=10						
	comp=Z,0.6nm,0.6s						
SCM	Sheep Creek Mo	74.17	30	P	P	19 02 02.3	-0.4
BMAR	Burnt Mountain	74.26	24	P	P	19 02 04.0	+0.9
ARCES	ARCESS Array B	74.29	339	P	P	19 02 02.7	-0.5
	comp=Z,2.3nm,0.7s,baz=54,slow=6.2,SNR=5.8						
	comp=Z,2.3nm,0.7s						
M24K	Tolsona, Glenn	74.65	29	P	P	19 02 05.8	+0.4
E27K	Coleen River	75.20	23	P	P	19 02 08.9	+0.4
E27K				IAmb	IAmb	19 02 28.7	
	comp=Z,6.0nm,1.4s						
SCRK	Sand Creek	75.23	27	P	P	19 02 08.7	-0.1
J26L	Joseph Creek	75.29	26	P	P	19 02 09.0	-0.2
E28M	Babbage River	75.83	22	P	P	19 02 12.1	0.0
F28M	Old Crow	75.97	23	P	P	19 02 12.4	-0.5
BRTR	Keskin Array B	76.21	308	P	P	19 02 13.8	-1.2
BRTR	Keskin Array B	76.21	308	P	P	19 02 14.7	-0.3
	comp=Z,0.4nm,0.5s,baz=98,slow=3.1,SNR=3.5						
	comp=Z,0.4nm,0.5s						
L27K	Beaver Creek,	76.39	28	P	P	19 02 15.7	+0.3
L27K				IAmb	IAmb	19 02 33.5	
	comp=Z,4.7nm,1.1s						
BCAR	Beaver Creek A	76.41	28	P	P	19 02 16.1	+0.5
AKASG	Malin Array Be	76.69	319	P	P	19 02 16.9	-0.4
	comp=Z,0.2nm,0.3s,baz=56,slow=5.2,SNR=4.7						
AKASG				LR	LR	19 39 37.0	
	comp=Z,28nm,21.8s,baz=300,slow=38						
	comp=Z,0.2nm,0.3s						
G29M	Pine Creek	76.86	23	P	P	19 02 17.5	-0.5
G29M				IAmb	IAmb	19 02 19.4	
	comp=Z,6.4nm,1.1s						
H29M	Whitestone	76.94	24	P	P	19 02 18.3	-0.2
H29M				IAmb	IAmb	19 02 52.5	
	comp=Z,6.9nm,1.4s						
BARN	Barnard Glacie	77.00	30	P	P	19 02 19.0	-0.1
BARN				IAmb	IAmb	19 02 20.2	
	comp=Z,6.6nm,0.9s						
CTGM	Chitina Glacie	77.17	30	P	P	19 02 19.8	-0.2
LOGN	Logan Glacier	77.37	30	P	P	19 02 21.2	+0.1
LOGN				IAmb	IAmb	19 02 22.8	
	comp=Z,15nm,1.3s						
PCA	Pinnacle	77.93	30	P	P	19 02 24.2	+0.1
L29M	L29M	77.99	27	P	P	19 02 25.3	+0.9
L29M				IAmb	IAmb	19 02 26.2	
	comp=Z,3.3nm,0.7s						
K29M	Barlow Dome	78.02	26	P	P	19 02 24.7	+0.1
K29M				IAmb	IAmb	19 02 42.0	
	comp=Z,8.5nm,1.5s						
I30M	Mount Dempster	78.04	25	P	P	19 02 24.5	-0.2
M29M	Somme Creek	78.05	28	P	P	19 02 25.5	+0.7
M29M				IAmb	IAmb	19 02 27.0	
	comp=Z,4.9nm,0.7s						
G31M	Satah River	78.26	23	P	P	19 02 23.8	-1.9
G31M				IAmb	IAmb	19 02 39.0	
	comp=Z,10nm,1.4s						
J30M	Hart River	78.27	25	P	P	19 02 24.5	-1.5
A36M	Sachs Harbour	79.06	17	P	P	19 02 29.0	-1.0
A36M				IAmb	IAmb	19 02 30.7	
	comp=Z,5.3nm,0.8s						
O30N	Mendenhall	79.67	29	P	P	19 02 33.3	-0.3
O30N				IAmb	IAmb	19 03 12.4	
	comp=Z,8.9nm,1.3s						
WHY	Whitehorse	80.27	29	P	P	19 02 37.3	+0.3
S31K	Pelican	80.59	32	P	P	19 02 39.2	+0.7
R32K	Eaglecrest	81.32	31	P	P	19 02 40.6	-1.9
HFS	Hagfors	82.03	331	P	P	19 02 45.3	-0.9
	comp=Z,5.1nm,1.1s,baz=54,slow=7.3,SNR=1.6						
HFS				LR	LR	19 42 33.9	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,50nm,18.4s,baz=76,slow=38						
	comp=Z,5.1nm,1.1s						
Q32M	**Nakina River**	**82.14**	**30**	P	**P**	**19 02 45.8**	**-1.2**
Q32M				IAmb	IAmb	19 02 50.0	
	comp=Z,17nm,1.5s						
NC405	**NORSAR Array S**	**82.50**	**332**	P	**P**	**19 02 48.7**	**0.0**
NC405				IAmb	IAmb	19 03 28.4	
	comp=Z,16nm,1.3s						
NOA	**NORSAR Array B**	**82.75**	**333**	LR	LR	19 43 53.4	
	comp=Z,64nm,18.1s,baz=70,slow=39						
DLBC	**Dease Lake**	**83.42**	**30**	P	**P**	**19 02 52.9**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=315,slow=13,SNR=5.4						
	comp=Z,1.1nm,0.7s						
RES	**Resolute Bay**	**83.75**	**9**	LR	LR	19 45 28.2	
	comp=Z,18nm,18.3s,baz=11,slow=39						
YKA	**Yellowknife Ar**	**87.74**	**23**	P	**P**	**19 03 13.6**	**-1.2**
	comp=Z,1.9nm,0.9s,baz=311,slow=4.8,SNR=20						
	comp=Z,1.9nm,0.9s						
BORG	**Borgarnes**	**91.67**	**345**	LR	LR	19 49 08.2	
	comp=Z,18nm,18.6s,baz=22,slow=38						
FRB	**Frobisher Bay**	**97.17**	**4**	LR	LR	19 52 19.9	
	comp=Z,21nm,18.2s,baz=338,slow=38						
LSZ	**Lusaka**	**97.54**	**256**	LR	LR	19 45 44.2	
	comp=Z,29nm,18.3s,baz=82,slow=34						

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*IDC **02** 19:08:24.0±1.1, 26°.76N×128°.80E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=25.7km s-min=15.3km az=31.0*

*JMA **02** 19:08:26.9±0.2, 26°.7N±0°.5×129°.0E±0°.8, h22km±2km, MV3.3/14, NEAR OKINAWAJIMA ISLAND*

ISC 02 19:08:26.1±1.3, **26°.71N**±0°.04×**129°.00E**±0°.04, **h19**km±4km, **n20**, σ**0ˢ.65**/31, **mb3.6**/8, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**0.58**	**303**	*i* P	**Pb**	**19 08 37.4**	**-0.1**
JYRO				*e*S	**Sb**	**19 08 45.4**	**0.0**
JOW	**Kunigami**	**0.66**	**281**	P	**Pg**	**19 08 38.9**	**-0.3**
JOW				S	**Sb**	**19 08 47.0**	**-0.7**
JOW	**Kunigami**	**0.66**	**281**	Pn	**Pg**	**19 08 38.8**	**-0.3**
	225nm,0.3s,baz=104,slow=26,SNR=493						
JOW				Sn	**Sb**	**19 08 46.8**	**-0.9**
	606nm,0.3s,baz=123,slow=30,SNR=20						
JOKE	**Okinoerabujima**	**0.75**	**330**	P	**Pg**	**19 08 40.8**	**-0.2**
JOKE				S	**Sb**	**19 08 49.9**	**-0.6**
JNTH	**Nagotoyohara**	**0.89**	**258**	P	**Pg**	**19 08 43.0**	**-0.5**
JNTH				S	**Sb**	**19 08 54.3**	**-0.1**
JIH	**Iheya**	**0.97**	**290**	P	**Pn**	**19 08 44.6**	**-0.2**
JIH				S	**Sb**	**19 08 56.9**	**+0.1**
JTK	**Tokunoshima**	**1.07**	**358**	P	**Pb**	**19 08 46.1**	**0.0**
JTK				*e*S	**Sb**	**19 08 59.6**	**-0.1**
JJT3	**Tamagusuku3**	**1.22**	**243**	*e*P	**Pn**	**19 08 48.1**	**-0.1**
JJT3				*e*S	**Sb**	**19 09 03.7**	**-0.3**
JAMN	**Amaminishikomi**	**1.54**	**6**	P	**Pn**	**19 08 52.8**	**+0.3**
JAGN	**Aguni-jima**	**1.57**	**266**	P	**Pn**	**19 08 53.5**	**+0.5**
JAGN				*e*S	**Sn**	**19 09 13.2**	**+0.3**
JMZ	**Minamidaito 2**	**2.19**	**113**	*i* P	**Pn**	**19 09 01.3**	**-0.1**
JMZ				*e*S	**Sn**	**19 09 26.6**	**-1.4**
JKDJ	**Kitadaitoujima**	**2.20**	**110**	*i* P	**Pn**	**19 09 02.0**	**+0.4**
JKDJ				S	**Sn**	**19 09 28.1**	**-0.2**
SONM	**Songino Array**	**27.53**	**326**	P	**P**	**19 14 12.1**	**+0.5**
	0.2nm,0.3s,baz=129,slow=10,SNR=2.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**41.73**	**311**	P	**P**	**19 16 14.1**	**+0.2**
	0.2nm,0.4s,baz=92,slow=9.8,SNR=5.0						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**42.29**	**322**	P	**P**	**19 16 17.3**	**-1.0**
	0.3nm,0.4s,baz=116,slow=10,SNR=2.0						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**44.98**	**316**	P	**P**	**19 16 38.9**	**-1.1**
	0.4nm,0.5s,baz=101,slow=8.8,SNR=2.6						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**46.66**	**173**	P	**P**	**19 16 54.0**	**+0.5**
	0.7nm,0.7s,baz=352,slow=8.3,SNR=6.2						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**50.30**	**174**	P	**P**	**19 17 23.5**	**+1.9**
	0.7nm,1.0s,baz=4.3,slow=15,SNR=9.2						
	0.7nm,1.0s						
KVAR	**Kislovodsk Arr**	**69.46**	**310**	P	**P**	**19 19 33.2**	**-0.1**
	2.7nm,0.2s,baz=63,slow=6.8,SNR=2.4						
FINES	**FINESS Array B**	**72.78**	**331**	P	**P**	**19 19 52.7**	**-0.3**
	3.1nm,1.0s,baz=54,slow=7.1,SNR=4.1						
	3.1nm,1.0s						

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*IDC **02** 19:10:43.1±1.3, 16°.64N×121°.51E, h0km, mb3.5/5, mbtmp3.6/6, ML4.0/1, Error ellipse: s-maj=42.6km s-min=18.4km az=71.0*

ISC 02 19:10:47.9±1.3, **16°.67N**±0°.09×**121°.5E**±0°.2, **h35**km, **n6**, σ**1ˢ.31**/7, **mb3.6**/5, **Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.62**	**193**	Pn	**Pn**	**19 11 26.8**	**-1.0**
	32nm,0.3s,baz=14,slow=22,SNR=2.2						
TGY				Sn	**Sn**	**19 11 59.9**	**+1.5**
	68nm,0.3s,baz=287,slow=10,SNR=5.8						
	113nm,0.4s						
CMAR	**Chiang Mai Arr**	**21.61**	**278**	P	**P**	**19 15 34.0**	**-1.1**
	0.4nm,0.6s,baz=96,slow=9.2,SNR=4.3						
	0.4nm,0.6s						
SONM	**Songino Array**	**33.48**	**341**	P	**P**	**19 17 23.5**	**-0.4**
	0.6nm,0.6s,baz=169,slow=8.7,SNR=5.5						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**38.50**	**160**	P	**P**	**19 18 06.7**	**-0.3**
	0.9nm,0.8s,baz=340,slow=9.0,SNR=6.5						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**41.87**	**163**	P	**P**	**19 18 35.0**	**0.0**
	0.9nm,0.9s,baz=329,slow=7.6,SNR=6.6						
	0.9nm,0.9s						
KURBB	**Kurchatov Arra**	**48.22**	**324**	P	**P**	**19 19 26.6**	**+1.5**
	0.5nm,0.4s,baz=123,slow=7.9,SNR=5.9						
	0.5nm,0.4s						

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*IDC **02** 19:34:12.2±1.9, 2°.76N×128°.12E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=140.8km s-min=25.7km az=68.0*

*DJA **02** 19:34:22.1±1.5, 3°N±5°×12°8E±°, h28km±15km, M4.0/13, mb4.0/7, MLv4.0/13*

ISC 02 19:34:20.1±1.4, **2°.7N**±0°.1×**128°.0E**±0°.1, **h51**km, **n12**, σ**1ˢ.76**/13, **mb3.9**/3, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.06**	**199**	P	**Pn**	**19 34 53.6**	**+1.3**
SGSI	**Sangihe**	**2.67**	**291**	P	**Pn**	**19 35 02.1**	**+1.5**
LBMI	**Labuha**	**3.40**	**189**	P	**Pn**	**19 35 11.3**	**+0.7**
KMSI	**Cibinong**	**4.58**	**242**	P	**Pn**	**19 35 27.6**	**+0.7**
SWI	**Sorong**	**4.82**	**138**	P	**Pn**	**19 35 32.8**	**+2.7**
SANI	**Sanana**	**5.18**	**203**	P	**Pn**	**19 35 34.7**	**-0.3**
	8.0nm,0.7s,0.0nm						
MRSI	**Marisa**	**6.49**	**250**	P	**Pn**	**19 35 54.8**	**+1.8**
	22nm,0.5s,0.1nm						
FAKI	**Fak Fak**	**7.03**	**143**	P	**Pn**	**19 36 03.2**	**+2.8**
	20nm,1.6s,0.1nm						
SPSI	**Sidrap Palu**	**10.61**	**231**	P	**Pn**	**19 36 49.9**	**+0.4**
WRA	**Warramunga Arr**	**23.38**	**165**	P	**P**	**19 39 22.0**	**-2.4**
	3.6nm,0.8s,baz=344,slow=10,SNR=24						
	3.6nm,0.8s						
ASAR	**Alice Springs**	**26.86**	**168**	P	**P**	**19 39 55.4**	**-0.8**
	0.3nm,0.4s,baz=352,slow=9.2,SNR=5.1						
ASAR				PcP	**PcP**	**19 43 16.5**	**-1.3**
	0.2nm,0.4s,baz=355,slow=2.1,SNR=1.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**59.10**	**325**	P	**P**	**19 44 15.4**	**+0.1**
	0.5nm,0.5s,baz=120,slow=8.4,SNR=5.8						
	0.5nm,0.5s						

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*IDC **02** 19:36:16.0±0.9, 12°.04N×95°.03E, h0km, mb4.0/14, mbtmp4.0/15, ML3.5/1, MS3.3/26, Error ellipse: s-maj=27.8km s-min=17.4km az=50.0*

*NEIC **02** 19:36:18.4±1.0, 12°.20N±0°.08×95°.1E±0°.1, h10km±1km, mb4.4/27, Error ellipse: s-maj=17.9km s-min=12.6km az=257.0*

*NDI **02** 19:36:21.3±3.1, 12°.20N×95°.09E, h10km, ML3.7, MW4.7, mb4.4(NEIC)*

ISC 02 19:36:19.5±0.5, **12°.15N**±0°.07×**95°.11E**±0°.05, **h21**km, **n88**, σ**1ˢ.02**/70, **mb4.2**/25, **MS3.4**/24, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MYB	**Mayabunder**	**2.25**	**289**	*e*P	**Pb**	**19 36 57.9**	**-1.6**
MYB				*e*S	**Sb**	**19 37 27.1**	**+0.2**
PBA	**Port Blair**	**2.37**	**258**	*e*P	**Pn**	**19 36 58.0**	**+1.0**
PBA				*e*S	**Sb**	**19 37 30.3**	**+0.2**
PBA				IAML		19 37 37.9	
	comp=E,625nm,0.3s						
SRIT	**Nakonsritamara**	**5.66**	**128**		**Pn**	**19 37 40.8**	**-1.6**
CM31	**Chiang Mai Arr**	**7.28**	**30**	Pn	**Pn**	**19 38 03.2**	**-1.5**
CMAR	**Chiang Mai Arr**	**7.28**	**30**	Pn	**Pn**	**19 38 05.8**	**+1.2**
	comp=E,0.2nm,0.3s,baz=220,slow=14,SNR=10.0						
CMAR				LR	LR	19 40 53.5	
	comp=E,96nm,20.2s,baz=215,slow=37						
	comp=E,6.9nm,1.3s						
CHTO	**Chiang Mai**	**7.59**	**29**	Pn	**Pn**	**19 38 08.3**	**-0.6**
PHRA	**Phrae**	**8.02**	**37**	Pn	**Pn**	**19 38 14.3**	**-0.4**
KULM	**Kulim**	**8.74**	**141**		**Pn**	**19 38 23.1**	**-1.6**
RPSI	**Rantau Prapat**	**10.12**	**158**	Pn	**Pn**	**19 38 44.1**	**+0.4**
BKNI	**Bangkinang**	**13.14**	**153**	Pn	**Pn**	**19 39 25.4**	**+0.4**
PALK	**Pallekele**	**15.00**	**252**	LR	LR	19 45 35.7	
	comp=E,50nm,18.6s,baz=171,slow=38						
TAPN	**Taplejung**	**16.64**	**336**	*e*P	P	19 40 23.0	+8.9
	comp=E,62nm,1.3s						
RAMN	**Ramite**	**16.75**	**333**	*e*P	**P**	**19 40 16.8**	**+1.4**
	comp=E,71nm,1.2s						
HYB	**Hyderabad**	**16.84**	**290**	*e*P	**P**	**19 40 15.9**	**-0.2**
HYB				*e*S	**Sn**	**19 43 22.5**	**+1.7**
JIRN	**Jiri**	**17.55**	**333**	*e*P	**P**	**19 40 27.5**	**+3.2**
	comp=E,87nm,1.6s						
PKI	**Pulchoki**	**17.84**	**331**	*e*P	**P**	**19 40 27.9**	**+0.5**
PKIN	**Phulchoki**	**17.85**	**331**	*e*P	**P**	**19 40 28.1**	**+0.7**
LSA	**Lhasa**	**17.85**	**349**	P	**P**	**19 40 27.6**	**0.0**
GUN	**Gumba**	**17.91**	**333**	*e*P	**P**	**19 40 31.3**	**+3.1**
	comp=E,70nm,1.5s						
KSM	**Kuching**	**18.43**	**124**	P	**Pn**	**19 40 33.8**	**0.0**
DANN	**Dangsing**	**19.30**	**328**	*e*P	**Pn**	**19 40 44.9**	**+0.4**
	comp=E,132nm,1.7s						
SBUM	**Sibu**	**19.50**	**118**	P	**P**	**19 40 45.4**	**-0.1**
SBUM				IAmb	IAmb	19 40 57.0	
	comp=Z,14nm,1.4s						
PYUN	**Piuthan**	**19.50**	**326**	*e*P	**Pn**	**19 40 46.9**	**0.0**
KKM	**Kota Kinabalu**	**21.70**	**104**	P	**P**	**19 41 10.3**	**+0.9**
KKM				IAmb	IAmb	19 41 25.1	
	comp=Z,33nm,1.1s						
LEM	**Lembang**	**22.58**	**146**	LR	LR	19 51 39.0	
	comp=Z,105nm,19.3s,baz=272,slow=41						
MYLDM	**Lahad Datu**	**24.12**	**105**	P	**P**	**19 41 35.5**	**+1.4**
KAPI	**Kappang**	**29.85**	**123**	LR	LR	19 56 21.5	
	comp=Z,53nm,20.2s,baz=308,slow=40						
BTK	**Batken**	**35.10**	**327**	P	**P**	**19 43 11.7**	**+0.2**
BTK				IAmb	IAmb	19 43 21.8	
	comp=Z,5.0nm,1.1s						
AAK	**Ala-Archa**	**35.26**	**333**	LR	LR	19 59 21.3	
	comp=Z,122nm,21.6s,baz=144,slow=39						
MK31	**Makanchi Array**	**36.19**	**345**	P	**P**	**19 43 19.7**	**-0.9**
MK31				IAmb	IAmb	19 43 31.1	
	comp=Z,3.8nm,1.1s						
MKAR	**Makanchi Array**	**36.19**	**345**	P	**P**	**19 43 20.2**	**-0.4**
MKAR	**Makanchi Array**	**36.19**	**345**	P	**P**	**19 43 21.6**	**+1.0**
	comp=Z,2.1nm,0.9s,baz=146,slow=8.8,SNR=7.2						
MKAR				LR	LR	20 02 50.8	
	comp=Z,28nm,18.6s,baz=72,slow=44						
	comp=Z,2.1nm,0.9s						
WSAR	**Wadi Sarin**	**36.36**	**293**	LR	LR	19 58 04.2	
	comp=Z,63nm,20.0s,baz=60,slow=36						
SONM	**Songino Array**	**36.81**	**13**	P	**P**	**19 43 27.0**	**+0.9**
	comp=Z,1.6nm,1.0s,baz=200,slow=9.2,SNR=7.1						
	comp=Z,1.6nm,1.0s						
KKAR	**Karatay Array**	**37.48**	**330**	P	**P**	**19 43 29.5**	**-2.1**
KSRS	**Korea Array**	**38.68**	**44**	P	**P**	**19 43 42.3**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=236,slow=11,SNR=3.2						
	comp=Z,1.1nm,0.9s						
JNU	**Nakatsue**	**38.78**	**52**	LR	LR	20 00 20.9	
	comp=Z,32nm,18.6s,baz=194,slow=37						
KURBB	**Kurchatov Arra**	**40.70**	**344**	P	**P**	**19 43 58.7**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=161,slow=7.6,SNR=16						
KURBB				LR	LR	20 04 07.7	
	comp=Z,52nm,18.8s,baz=167,slow=41						
	comp=Z,2.2nm,0.8s						
KURK	**Kurchatov**	**40.76**	**344**	P	**P**	**19 43 58.8**	**-0.1**
KURK				IAmb	IAmb	19 44 00.7	
	comp=Z,5.9nm,1.2s						
GEYT	**Alibeck**	**41.79**	**314**	P	**P**	**19 44 07.0**	**-0.6**
GEYT				IAmb	IAmb	19 44 09.8	
	comp=Z,9.5nm,0.8s						
GEYT	**Alibeck**	**41.79**	**314**	P	**P**	**19 44 08.7**	**+1.1**
	comp=Z,6.4nm,0.7s,baz=150,slow=6.0,SNR=12						
GEYT				LR	LR	20 04 03.0	
	comp=Z,38nm,19.3s,baz=132,slow=40						
	comp=Z,6.4nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**41.79**	**314**	P	**P**	**19 44 07.2**	**-0.4**
GYA0B				IAmb	IAmb	19 44 09.7	
	comp=Z,9.2nm,0.9s						
ZAA0	**Zalesovo Array**	**42.49**	**351**	P	**P**	**19 44 12.7**	**-0.3**
ZALV	**Zalesovo Beam**	**42.49**	**351**	P	**P**	**19 44 13.0**	**-0.1**
ZALV	**Zalesovo Beam**	**42.49**	**351**	P	**P**	**19 44 13.4**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=168,slow=7.6,SNR=7.9						
	comp=Z,1.6nm,0.8s						
BVAR	**Borovoye Array**	**45.32**	**339**	P	**P**	**19 44 36.2**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=128,slow=9.6,SNR=6.1						
BVAR				LR	LR	20 06 48.1	
	comp=Z,16nm,20.2s,baz=113,slow=40						
	comp=Z,1.2nm,0.8s						
ABKAR	**Akbulak array**	**47.02**	**329**	P	**P**	**19 44 49.2**	**0.0**
AKTO	**Aktyubinsk**	**48.73**	**329**	LR	LR	20 08 02.1	
	comp=Z,39nm,19.4s,baz=316,slow=39						
WB0	**Warramunga Arr**	**50.02**	**129**	P	**P**	**19 45 12.8**	**0.0**
WB0				IAmb	IAmb	19 45 21.4	
	comp=Z,5.7nm,0.9s						
WRA	**Warramunga Arr**	**50.08**	**129**	P	**P**	**19 45 13.9**	**+0.6**
WRA	**Warramunga Arr**	**50.08**	**129**	P	**P**	**19 45 13.0**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=310,slow=8.4,SNR=15						
	comp=Z,1.0nm,0.9s						
AS31	**Alice Springs**	**52.02**	**133**	P	**P**	**19 45 29.3**	**+1.5**
ASAR	**Alice Springs**	**52.02**	**133**	P	**P**	**19 45 29.6**	**+1.7**
ASAR	**Alice Springs**	**52.02**	**133**	P	**P**	**19 45 28.2**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=308,slow=6.7,SNR=5.8						
	comp=Z,0.8nm,0.9s						
GNI	**Garni**	**52.24**	**312**	LR	LR	20 10 49.8	
	comp=Z,22nm,19.1s,baz=94,slow=40						
ARU	**Arti**	**52.39**	**335**	LR	LR	20 11 10.7	
	comp=Z,16nm,18.5s,baz=168,slow=40						
GURO	**Guroymak-BITLI**	**53.81**	**309**	P	**P**	**19 45 40.4**	**-0.6**
GURO				IAmb	IAmb	19 46 04.8	
	comp=Z,3.2nm,1.1s						
KIRV	**Kirov**	**57.60**	**334**	LR	LR	20 12 53.7	
	comp=Z,60nm,20.7s,baz=119,slow=38						
MMAI	**Mount Meron Ar**	**58.14**	**301**	LR	LR	20 14 42.9	
	comp=Z,33nm,18.8s,baz=70,slow=40						
EIL	**Elat**	**58.23**	**297**	LR	LR	20 13 59.4	
	comp=Z,19nm,18.3s,baz=214,slow=39						
BR131	**Keskin Array S**	**60.44**	**309**	P	**P**	**19 46 26.6**	**-1.4**
BR131				IAmb	IAmb	19 46 27.2	
	comp=Z,2.4nm,0.8s						
BRTR	**Keskin Array B**	**60.44**	**309**	P	**P**	**19 46 26.8**	**-1.2**
BRTR	**Keskin Array B**	**60.44**	**309**	P	**P**	**19 46 26.9**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=128,slow=7.4,SNR=8.2						
BRTR				LR	LR	20 16 22.7	
	comp=Z,26nm,19.6s,baz=123,slow=40						
	comp=Z,1.0nm,0.7s						
TIXI	**Tiksi**	**62.88**	**11**	P	**P**	**19 46 42.6**	**-1.0**
TIXI				IAmb	IAmb	19 46 44.0	
	comp=Z,9.6nm,1.1s						
MLR	**Muntele Rosu**	**66.84**	**314**	LR	LR	20 21 57.2	
	comp=Z,32nm,18.8s,baz=64,slow=41						
IDI	**Anoyia**	**66.98**	**303**	LR	LR	20 19 30.3	
	comp=Z,16nm,21.6s,baz=262,slow=39						
BURAR	**Bucovina Array**	**67.58**	**317**	P	**P**	**19 47 14.4**	**-0.2**
FINES	**FINESS Array B**	**69.42**	**331**	LR	LR	20 21 06.0	
	comp=Z,40nm,18.5s,baz=74,slow=39						
ARCES	**ARCESS Array B**	**71.60**	**340**	LR	LR	20 22 43.7	
	comp=Z,54nm,18.9s,baz=168,slow=39						
LSZ	**Lusaka**	**71.63**	**249**	LR	LR	20 15 35.2	
	comp=Z,27nm,18.4s,baz=105,slow=33						
HFS	**Hagfors**	**75.28**	**329**	LR	LR	20 24 34.9	
	comp=Z,29nm,19.2s,baz=62,slow=38						
GERES	**GERESS Array B**	**75.32**	**318**	P	**P**	**19 48 01.1**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=91,slow=6.7,SNR=9.6						
	comp=Z,2.2nm,0.8s						
NOA	**NORSAR Array B**	**76.51**	**330**	LR	LR	20 26 46.1	
	comp=Z,15nm,19.5s,baz=320,slow=40						
BOSA	**Boshof**	**78.67**	**237**	P	**P**	**19 48 20.6**	**0.0**
BOSA				IAmb	IAmb	19 48 22.4	
	comp=Z,4.7nm,1.1s						
D19K	**Kuna River**	**84.82**	**21**	P	**P**	**19 48 52.8**	**+0.6**
G19K	**Purcell Mounta**	**86.02**	**23**	P	**P**	**19 48 58.9**	**+0.7**
G19K				IAmb	IAmb	19 49 00.0	
	comp=Z,6.8nm,1.0s						
F21K	**Alatna River**	**86.93**	**21**	P	**P**	**19 49 02.1**	**-0.5**
F21K				IAmb	IAmb	19 49 04.5	
	comp=Z,5.6nm,1.0s						
G21K	**Allakaket**	**87.21**	**22**	P	**P**	**19 49 04.0**	**0.0**
IMAR	**Indian Mountai**	**87.34**	**22**	P	**P**	**19 49 05.2**	**+0.6**
H21K	**Melozitna Rive**	**87.83**	**23**	P	**P**	**19 49 08.1**	**+1.0**
CAST	**Castle Rocks**	**89.07**	**25**	P	**P**	**19 49 13.2**	**+0.3**
BPAW	**Bear Paw Mtn.**	**89.21**	**24**	P	**P**	**19 49 14.5**	**+0.9**
BMAR	**Burnt Mountain**	**89.86**	**19**	P	**P**	**19 49 17.4**	**+0.7**
BORG	**Borgarnes**	**89.88**	**337**	LR	LR	20 33 21.6	
	comp=Z,22nm,18.8s,baz=47,slow=38						
ILAR	**Eielson Array**	**90.45**	**22**	P	**P**	**19 49 18.2**	**-1.1**
	comp=Z,0.9nm,1.0s,baz=296,slow=4.5,SNR=7.2						
	comp=Z,0.9nm,1.0s						
TORD	**Torodi Ar. Bea**	**90.54**	**283**	P	**P**	**19 49 20.2**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=48,slow=2.1,SNR=4.1						
	comp=Z,0.7nm,0.8s						
INK	**Inuvik**	**92.65**	**16**	P	**P**	**19 49 29.4**	**0.0**
	comp=Z,2.3nm,1.1s,baz=240,slow=4.3,SNR=4.3						
	comp=Z,2.3nm,1.1s						
NVAR	**Mina Array Bea**	**120.78**	**30**	PKP	**PKiKP**	**19 55 11.3**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=219,slow=1.2,SNR=4.2						

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*IDC **02** 19:41:08.2±1.4, 10°.14S×152°.41E, h0km, mb3.8/5, mbtmp3.8/8, ML3.8/2, MS3.5/12, Error ellipse: s-maj=40.9km s-min=24.4km az=120.0*

ISC 02 19:41:13.8±1.2, **10°.3S**±0°.1×**152°.2E**±0°.2, **h35**km, **n18**, σ**1ˢ.85**/9, **mb3.9**/5, **MS3.3**/9, **D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.07**	**280**	Pn	**Pn**	**19 42 26.9**	**-0.4**
	1.9nm,0.4s,baz=81,slow=19,SNR=2.0						
HNR	**Honiara**	**7.66**	**84**	LR	LR	19 45 27.4	
	comp=Z,2μm,20.7s,baz=302,slow=35						
CTA	**Charters Tower**	**11.29**	**210**	Pn	**Pn**	**19 43 53.1**	**+0.3**
	0.7nm,0.3s,baz=23,slow=15,SNR=12						
CTA				Sn	**Sn**	**19 45 55.2**	**-2.6**
	0.1nm,0.3s,baz=344,slow=23,SNR=1.4						
CTA				LR	LR	19 48 07.2	
	comp=Z,218nm,18.1s,baz=32,slow=36						
	1.8nm,0.3s						
DZM	**Mont Dzumac**	**17.96**	**132**	LR	LR	19 51 17.4	
	comp=Z,235nm,19.2s,baz=20,slow=34						
WRA	**Warramunga Arr**	**19.72**	**239**	P	**Pn**	**19 45 42.3**	**+0.2**
	0.2nm,0.3s,baz=62,slow=10,SNR=9.2						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**21.95**	**230**	P	**P**	**19 46 06.9**	**+2.4**
	0.8nm,0.6s,baz=59,slow=10.0,SNR=14						
	0.8nm,0.6s						
STKA	**Stephens Creek**	**23.61**	**203**	LR	LR	19 55 56.5	
	comp=Z,133nm,19.1s,baz=25,slow=37						
GUMO	**Guam**	**24.84**	**343**	LR	LR	19 56 46.0	
	comp=Z,46nm,18.9s,baz=119,slow=38						
RPZ	**Rata Peaks**	**37.08**	**157**	LR	LR	20 01 25.8	
	comp=Z,168nm,20.9s,baz=324,slow=33						
JOW	**Kunigami**	**43.64**	**328**	LR	LR	20 04 40.2	
	comp=Z,54nm,19.0s,baz=84,slow=32						
MJAR	**Matsushiro Arr**	**48.44**	**345**	LR	LR	20 09 48.4	
	comp=Z,27nm,18.3s,baz=197,slow=36						
KSRS	**Korea Array**	**52.70**	**336**	LR	LR	20 11 05.2	
	comp=Z,12nm,20.7s,baz=145,slow=34						
KLR	**Kul'dur**	**61.97**	**345**	LR	LR	20 15 07.6	
	comp=Z,18nm,21.1s,baz=182,slow=33						
SONM	**Songino Array**	**70.70**	**329**	P	**P**	**19 52 27.6**	**+1.4**
	1.1nm,0.9s,baz=151,slow=3.3,SNR=2.3						
SONM				LR	LR	20 22 36.5	
	comp=Z,17nm,20.5s,baz=165,slow=35						
	1.1nm,0.9s						
QSPA	**South Pole Qui**	**79.68**	**180**	P	**P**	**19 53 18.9**	**+1.2**
	1.1nm,0.4s,baz=352,slow=8.0,SNR=3.1						
	1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**85.41**	**327**	P	**P**	**19 53 46.4**	**-1.0**
	0.3nm,0.3s,baz=117,slow=5.0,SNR=2.0						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**87.45**	**22**	P	**P**	**19 53 55.4**	**-1.9**
	0.5nm,0.8s,baz=261,slow=6.0,SNR=5.9						
	0.5nm,0.8s						
NEW	**Newport**	**98.04**	**42**	LR	LR	20 32 39.9	
	comp=Z,32nm,18.5s,baz=252,slow=32						

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*NNC **02** 19:46:11.0±1.5, 37°.01N×71°.31E, h208km±22km, mb2.3, mpv3.2, Error ellipse: s-maj=15.5km s-min=10.7km az=18.0*

ISC 02 19:46:03.8±1.4, **36°.55N**±0°.08×**71°.1E**±0°.1, **h100**km, **n8**, σ**2ˢ.15**/14, **4C-2D**, **Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.59**	**136**	*e*P	**Pn**	**19 47 26.9**	**+2.4**
THN				*e*S	**Sn**	**19 48 28.9**	**+1.4**
THN				IAML		19 48 30.3	
	comp=E,49nm,0.4s						
THN				IAML		19 48 30.9	
	comp=N,44nm,0.3s						
AML	**Almayashu**	**5.92**	**19**	⇑P	**Pn**	**19 47 31.7**	**+2.4**
	comp=N,0.8nm,0.5s						
AML				⇑S	**Sn**	**19 48 35.9**	**0.0**
	comp=N,5.8nm,0.8s						
DHRM	**DHARAMSHALA**	**6.06**	**134**	*e*P	**Pn**	**19 47 32.1**	**+1.0**
DHRM				*e*S	**Sn**	**19 48 38.3**	**-1.0**
DHRM				IAML		19 48 42.0	
	comp=N,72nm,0.3s						
DHRM				IAML		19 48 42.3	
	comp=E,117nm,0.4s						
KK31	**Karatay Array**	**6.56**	**356**	P	**Pn**	**19 47 39.6**	**+2.0**
	comp=E,0.6nm,0.3s,baz=174,slow=12,SNR=31						
KK31				⇓S	**Sn**	**19 48 50.4**	**-0.5**
	comp=E,2.3nm,0.3s,baz=187,slow=25,SNR=15						
TKM2	**Tokmak 2**	**7.24**	**27**	⇑P	**Pn**	**19 47 47.8**	**+0.8**
	comp=E,1.9nm,0.5s						
TKM2				⇓S	**Sn**	**19 49 05.8**	**-1.9**
	comp=E,0.6nm,0.6s						
SMLA	**Simla**	**7.38**	**135**	*e*P	**Pn**	**19 47 49.0**	**+0.1**
SMLA				*e*S	**Sn**	**19 49 07.1**	**-4.0**
SMLA				IAML		19 49 11.2	
	comp=E,42nm,0.5s						
AB31	**Akbulak array**	**15.09**	**331**	P	**Pn**	**19 49 30.5**	**-0.9**
	comp=E,0.4nm,0.5s,baz=139,slow=11,SNR=12						
AKTO	**Aktyubinsk**	**16.78**	**330**	⇑P	**Pn**	**19 49 49.4**	**-3.2**
	comp=E,1.3nm,0.7s						

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*IDC **02** 20:05:49.6±0.6, 21°.17S×169°.70E, h0km, mb4.2/14, mbtmp4.2/16, ML3.7/2, MS3.6/16, Error ellipse: s-maj=19.9km s-min=17.1km az=99.0*

*NEIC **02** 20:05:51.9±0.9, 21°.18S±0°.07×169°.53E±0°.05, h10km±1km, mb4.7/22, Error ellipse: s-maj=12.1km s-min=8.6km az=355.0*

ISC 02 20:05:54.4±0.5, **21°.19S**±0°.07×**169°.51E**±0°.07, **h30**km, **n91**, σ**0ˢ.77**/85, **mb4.6**/25, **MS3.5**/13, **4C**, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.41**	**258**		**Pn**	**20 06 17.7**	**-0.3**
MARNC				Sn	**Sn**	**20 06 35.1**	**-0.4**
LIFNC	**LIFOU**	**2.16**	**281**		**Pn**	**20 06 27.9**	**-0.5**
LIFNC				Sn	**Sn**	**20 06 52.1**	**-2.0**
PINNC	**Pines Island,**	**2.38**	**233**		**Pn**	**20 06 30.8**	**-0.6**
PINNC				Sn	**Sn**	**20 06 58.2**	**-1.3**
OUENC	**Ouen Island, N**	**2.76**	**243**		**Pn**	**20 06 36.9**	**+0.3**
DZM	**Mont Dzumac**	**2.98**	**252**		**Pn**	**20 06 40.6**	**+0.8**
DZM	**Mont Dzumac**	**2.98**	**252**	Pn	**Pn**	**20 06 40.0**	**+0.2**
	5.5nm,0.3s,baz=93,slow=17,SNR=50						
DZM				Sn	**Sn**	**20 07 14.6**	**0.0**
	31nm,0.3s,baz=318,slow=22,SNR=10.0						
DZM				LR	LR	20 07 43.2	
	comp=Z,359nm,19.9s,baz=48,slow=36						
	70nm,0.6s						
ONTNC	**Ouen Toro**	**3.05**	**248**		**Pn**	**20 06 40.5**	**-0.1**
KOUNC	**Koumac, New Ca**	**4.93**	**277**		**Pn**	**20 07 07.8**	**+1.4**
HNR	**Honiara**	**14.88**	**320**	LR	LR	20 14 03.3	
	comp=Z,1μm,21.3s,baz=195,slow=33						
URZ	**Urewera**	**18.23**	**161**	P	**P**	**20 10 05.4**	**+0.2**
	0.5nm,0.3s,baz=314,slow=19,SNR=5.3						
URZ				LR	LR	20 15 50.6	
	comp=Z,146nm,21.9s,baz=31,slow=33						
	7.5nm,0.8s						
RTZ	**Ruatahuna**	**18.52**	**161**	P	**Pn**	**20 10 08.9**	**+0.2**
CTA	**Charters Tower**	**21.79**	**269**	P	**P**	**20 10 47.1**	**+3.0**
	2.7nm,0.7s,baz=92,slow=13,SNR=5.6						
CTA				LR	LR	20 19 14.1	
	comp=Z,228nm,18.3s,baz=96,slow=37						

2.7nm,0.7s
CTAO Charters Tower 21.79 269 P P 20 10 43.8 -0.3
RPZ Rata Peaks 22.50 177 LR LR 20 18 42.4
comp=Z,182nm,20.7s,baz=357,slow=34
STKA Stephens Creek 27.07 241 P P 20 11 33.9 -0.6
STKA Stephens Creek 27.07 241 P P 20 11 36.1 +1.6
2.2nm,0.7s,baz=72,slow=9.6,SNR=4.2
STKA LR LR 20 22 22.9
comp=Z,115nm,18.1s,baz=33,slow=36
2.2nm,0.7s
RAR Rarotonga 28.62 96 LR LR 20 20 52.5
comp=Z,43nm,21.6s,baz=142,slow=32
WB0 Warramunga Arr 32.89 266 P P 20 12 25.5 -0.6
WB0 IAmb IAmb 20 12 35.8
comp=Z,7.0nm,1.2s
WRA Warramunga Arr 32.91 266 P P 20 12 25.6 -0.7
WRA Warramunga Arr 32.91 266 P P 20 12 26.1 -0.2
comp=Z,0.5nm,0.4s,baz=95,slow=8.4,SNR=12
WRA PcP **PcP 20 15 10.5 +0.1**
comp=Z,0.4nm,0.7s,baz=96,slow=2.8,SNR=3.0
comp=Z,0.5nm,0.4s
AS31 Alice Springs 32.95 259 P P 20 12 26.6 -0.1
ASAR Alice Springs 32.95 259 P P 20 12 26.5 -0.1
ASAR Alice Springs 32.95 259 P P 20 12 27.1 +0.4
comp=Z,1.5nm,0.6s,baz=90,slow=9.2,SNR=44
ASAR PcP **PcP 20 15 10.9 +0.4**
comp=Z,0.6nm,0.8s,baz=92,slow=4.4,SNR=4.2
comp=Z,1.5nm,0.6s
MTN Manton Dam 37.54 276 P P 20 13 05.8 -0.4
FORT Forrest 38.28 247 P P 20 13 12.0 -0.2
FORT IAmb IAmb 20 13 25.4
comp=Z,13nm,0.8s
KNRA Kununurra 38.97 271 P P 20 13 17.4 -0.8
KNRA IAmb IAmb 20 13 44.3
comp=Z,43nm,1.4s
FAKI Fak Fak 40.54 292 P P 20 13 31.0 -0.3
FAKI IAmb IAmb 20 13 48.3
comp=Z,45nm,1.5s
BATI Baumata 45.32 277 LR LR 20 32 49.3
comp=Z,140nm,21.5s,baz=218,slow=36
NWAO Narrogin (SRO) 47.57 244 LR LR 20 35 19.8
comp=Z,83nm,18.8s,baz=288,slow=37
DAV Davao City (W) 51.46 298 LR LR 20 37 10.6
comp=Z,32nm,19.2s,baz=360,slow=36
TOLI2 Tolitoli 52.52 289 P P 20 15 04.1 -1.1
TOLI2 IAmb IAmb 20 15 06.9
comp=Z,7.2nm,0.8s
VNDA Vanda 56.50 182 P P 20 15 33.5 +0.2
VNDA IAmb IAmb 20 15 34.5
comp=Z,2.7nm,1.1s
VNDA Vanda 56.50 182 P P 20 15 33.7 +0.5
comp=Z,1.0nm,0.7s,baz=297,slow=7.1,SNR=2.5
VNDA LR LR 20 35 39.0
comp=Z,41nm,20.8s,baz=10,slow=32
comp=Z,1.0nm,0.7s
SBA Scott Base 56.72 181 P P 20 15 36.1 +1.2
SBA IAmb IAmb 20 15 53.4
comp=Z,16nm,1.2s
KKM Kota Kinabalu 58.86 291 P P 20 15 51.5 +0.5
MJAR Matsushiro Arr 64.59 332 P P 20 16 28.8 -0.1
comp=Z,3.2nm,0.8s,baz=168,slow=7.6,SNR=13
comp=Z,3.2nm,0.8s
MAJO Matsushiro 64.59 332 P P 20 16 29.2 +0.2
MAJO IAmb IAmb 20 16 34.3
comp=Z,11nm,1.1s
QSPA South Pole Qui 68.87 180 P P 20 16 55.9 -0.1
QSPA South Pole Qui 68.87 180 P P 20 16 56.2 +0.1
comp=Z,8.7nm,0.7s,baz=6.3,slow=3.5,SNR=13
comp=Z,8.7nm,0.7s
KSRS Korea Array 70.25 326 P P 20 17 05.8 +1.1
comp=Z,1.2nm,0.9s,baz=152,slow=44,SNR=3.0
KSRS LR LR 20 45 16.5
comp=Z,8.5nm,20.8s,baz=270,slow=34
comp=Z,1.2nm,0.9s
USRK Ussuriysk Ar. 73.58 333 P P 20 17 25.2 +0.7
comp=Z,2.0nm,0.6s,baz=145,slow=5.3,SNR=5.2
comp=Z,2.0nm,0.6s
PETK Petropavlovsk- 74.69 353 LR LR 20 46 04.7
comp=Z,37nm,19.3s,baz=109,slow=32
KLR Kul'dur 77.75 336 LR LR 20 48 13.6
comp=Z,24nm,20.9s,baz=186,slow=33
CMAR Chiang Mai Arr 79.54 294 P P 20 17 59.5 +0.6
CMAR Chiang Mai Arr 79.54 294 P P 20 18 01.4 +2.5
comp=Z,1.2nm,0.6s,baz=134,slow=4.2,SNR=9.6
comp=Z,1.2nm,0.6s
TROLL Troll, Antarti 86.61 184 ⇑P P 20 18 34.5 -0.2
comp=Z,549nm,0.7s
SNAA Sanae 87.23 182 P P 20 18 37.1 -0.6
SNAA IAmb IAmb 20 18 37.7
comp=Z,4.6nm,0.9s
SNAA Sanae 87.23 182 ⇑P P 20 18 37.2 -0.6
comp=Z,67nm,0.7s
SNAA Sanae 87.23 182 P P 20 18 37.0 -0.6
comp=Z,2.0nm,0.6s,baz=188,slow=7.8,SNR=20
SNAA LR LR 20 55 54.1
comp=Z,32nm,18.2s,baz=174,slow=34
comp=Z,2.0nm,0.6s
VNA3 Neumayer Olymp 87.81 180 ⇑P P 20 18 39.7 -0.7
comp=Z,12nm,0.6s
VNA2 Neumayer--Watz 88.11 181 ⇑P P 20 18 41.5 -0.3
comp=Z,13nm,0.6s,baz=185,slow=5.0
K02D Willamette Mer 88.40 43 P P 20 18 43.8 +0.1
SONM Songino Array 88.93 323 P P 20 18 46.3 +0.3
comp=Z,1.4nm,1.0s,baz=130,slow=5.3,SNR=6.1
comp=Z,1.4nm,1.0s
J20K Nowinta River 89.65 15 P P 20 18 49.9 +1.1
J20K IAmb IAmb 20 19 01.9
comp=Z,5.6nm,1.4s
I04A Tendick Farm, 89.75 42 P P 20 18 49.7 -0.2
RYN Ryan 89.84 48 P P 20 18 50.6 0.0
RYN IAmb IAmb 20 18 51.7
comp=Z,3.3nm,0.7s
NVAR Mina Array Bea 89.90 48 P P 20 18 50.7 -0.3
NVAR Mina Array Bea 89.90 48 P P 20 18 51.1 +0.2
comp=Z,2.3nm,0.7s,baz=229,slow=6.9,SNR=18
comp=Z,2.3nm,0.7s
ILAR Eielson Array 92.01 17 P P 20 18 57.6 -2.3
comp=Z,0.3nm,0.6s,baz=230,slow=5.1,SNR=5.7
ILAR LR LR 20 56 09.2
comp=Z,28nm,18.5s,baz=172,slow=33
comp=Z,0.3nm,0.6s
SPITS Spitsbergen Ar 121.56 354 PKP PKPdf 20 24 43.2 -1.0
comp=Z,14nm,0.8s,baz=104,slow=6.1,SNR=5.4
ARCES ARCESS Array B 127.01 345 PKP PKPdf 20 24 54.2 -0.6
comp=Z,2.1nm,0.5s,baz=64,slow=2.1,SNR=26
FINES FINESS Array B 132.48 337 PKP PKPdf 20 25 05.4 0.0
comp=Z,4.1nm,0.9s,baz=49,slow=1.3,SNR=14
NOA NORSAR Array B 137.38 345 PKP PKPdf 20 25 14.5 -0.2
comp=Z,0.9nm,0.9s,baz=21,slow=5.2,SNR=1.8
OSTC Ostas 143.95 331 *e*PKP PKPbc 20 25 24.9 +0.3
KRLC Kraliky 144.03 330 *e*PKP PKPbc 20 25 25.0 +0.1
DPC Dobruska-Polom 144.05 331 *e*PKP PKPbc 20 25 25.4 +0.4
PVCC Panska Ves 144.71 332 *e*PKP PKPbc 20 25 27.4 +0.4
CLL Collm 144.78 334 *i* PKPbc **PKPab 20 25 27.0 -0.1**
comp=Z,9.0nm,0.8s
PRU Pruhonice 145.11 331 *e*PKP **PKPbc 20 25 28.2 -0.1**
EKA Eskdalemuir Ar 145.47 353 PKPbc **PKPdf 20 25 28.5 -0.7**
comp=Z,7.3nm,0.4s,baz=359,slow=2.6,SNR=72
ZVC Zvikov 145.66 331 *e*PKP **PKPbc 20 25 30.3 +0.2**
CONA Conrad Observa 145.93 328 *i* PKP **PKPab 20 25 31.6 0.0**
comp=Z,3.7nm,0.7s
CKRC Cesky Krumlov 146.06 330 *e*PKP **PKPbc 20 25 31.7 +0.4**
KHC Kasperske Hory 146.17 331 *e*PKP **PKPbc 20 25 32.1 +0.4**
GERES GERESS Array B 146.32 331 PKPbc **PKPbc 20 25 32.3 0.0**
comp=Z,7.0nm,0.6s,baz=32,slow=3.2,SNR=40
ARSA Arzberg 146.56 327 *i* PKP **PKPab 20 25 33.6 -0.3**
comp=Z,2.1nm,0.7s
MOA Moln 146.76 329 *i* PKP **PKPbc 20 25 33.4 -0.1**
comp=Z,1.8nm,0.6s
BIOA Bad Ischl, Aus 147.18 329 *i* PKP **PKPbc 20 25 35.5 +0.8**
comp=Z,0.8nm,0.3s
SOKA Soboth 147.19 327 *i* PKP **PKPbc 20 25 34.9 +0.1**
comp=Z,2.5nm,0.8s
KBA Koelnbreinsper 147.75 329 *i* PKP **PKPbc 20 25 36.0 -0.4**
comp=Z,4.9nm,0.7s
LESA Schwarzleotal 147.82 330 *i* PKP **PKPbc 20 25 36.1 -0.4**
comp=Z,3.6nm,0.4s
MYKA Terra Mystica 147.92 328 *i* PKP **PKPbc 20 25 36.1 -0.7**
comp=Z,2.4nm,0.4s
ABTA Abfaltersbach 148.39 329 *i* PKP **PKPbc 20 25 37.2 -0.8**
comp=Z,5.3nm,0.7s
WATA Walderalm 148.39 331 *i* PKP **PKPbc 20 25 37.4 -0.6**
comp=Z,3.1nm,0.6s
WTTA Wattenberg 148.42 331 *i* PKP **PKPbc 20 25 38.0 -0.2**
comp=Z,2.6nm,0.6s
MOTA Moosalm 148.60 331 *i* PKP **PKPbc 20 25 38.2 -0.4**
comp=Z,9.3nm,0.9s
RETA Reutte 148.65 332 *i* PKP **PKPbc 20 25 38.4 -0.2**
comp=Z,2.1nm,0.2s
SQTA Sankt Quirin 148.65 331 *i* PKP **PKPbc 20 25 38.5 -0.2**
comp=Z,7.7nm,0.5s
FETA Feichten 149.01 331 *i* PKP **PKPbc 20 25 39.7 0.0**
comp=Z,6.1nm,0.6s
ESDC Sonseca Array 160.75 345 PKPab **PKPab 20 26 33.4 -0.3**
comp=Z,0.3nm,0.6s,baz=12,slow=3.3,SNR=6.6
DBIC Dimbokro 164.57 202 PKPab **PKPab 20 26 50.8 -0.1**
comp=Z,2.8nm,0.7s,baz=173,slow=5.0,SNR=4.0

KRNET ***02*** *20:07:37.9±0.1,39˚.77N×77˚.75E,mb3.3*
SOME ***02*** *20:07:40.4,40˚.08N×77˚.53E,h5km*
NNC ***02*** *20:07:41.1±1.4,40˚.04N×77˚.42E,h0km,mb3.7,mpv3.3,*
Error ellipse: s-maj=9.6km s-min=6.8km az=168.0
ISC 02 20:07:41.4±2.0,39.8N±0.1×77.58E±0.06,h10km,n61,
σ1§86/73,25C-13D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.65**	**338**	⇑*e*P	**Pn**	**20 08 23.5**	**-0.8**
ULHL	baz=36			⇑*i*S	**Sn**	**20 08 56.8**	**+0.2**
PRZ	**Przheval'sk**	**2.75**	**13**	⇑*e*P	**Pn**	**20 08 24.2**	**-1.6**
PRZ	baz=10.0			⇑*e*S	**Sn**	**20 08 58.1**	**-1.1**
KZA	**Kyzart**	**2.88**	**323**	⇑*e*P	**Pn**	**20 08 27.4**	**-0.3**
KZA	baz=21			⇑*i*S	**Sn**	**20 09 03.3**	**+0.6**
ANVS	**Anan'yevo**	**2.98**	**1**	⇑*e*P	**Pn**	**20 08 27.7**	**-1.2**
ANVS	baz=59			⇑*e*S	**Sn**	**20 09 03.8**	**-1.1**
SFK	**Sufi-Kurgan**	**3.14**	**275**	⇓*e*P	**Pn**	**20 08 31.1**	**-0.1**
SFK	baz=76			⇓*i*S	**Sn**	**20 09 09.9**	**+1.0**
ARLS	**Aral**	**3.22**	**311**	⇑*i*P	**Pn**	**20 08 31.5**	**-0.6**
ARLS	baz=10.0			⇑*i*S	**Sn**	**20 09 11.5**	**+0.9**
TNSS	**Tian-Shan**	**3.27**	**352**	*e*Pg	**Pn**	**20 08 37.6**	**+4.5**
TNSS	15nm,0.6s			*e*Lg	Lg	20 09 17.8	
	22nm,0.5s						
TNSS	**Tian-Shan**	**3.27**	**352**	Pg	**Pn**	**20 08 37.6**	**+4.5**
TNSS	15nm,0.5s			Lg	Lg	20 09 17.8	
	22nm,0.6s						
SATY	**Saty**	**3.32**	**11**	*e*Pg	**Pb**	**20 08 38.6**	**-1.8**
SATY	18nm,0.5s			*e*Lg	Lg	20 09 19.9	
	22nm,0.4s						
SATY	**Saty**	**3.32**	**11**	Pg	**Pb**	**20 08 38.2**	**-2.1**
SATY	18nm,1.1s			Lg	Lg	20 09 19.9	
	22nm,0.5s						
UCH	**Uchtor**	**3.36**	**317**	⇓*i*P	**Pn**	**20 08 33.9**	**-0.4**
UCH	baz=16			⇓*e*S	**Sn**	**20 09 14.9**	**+0.4**
	baz=16						
MDOK	**Medeo**	**3.39**	**353**	*e*Pg	**Pb**	**20 08 39.5**	**-2.0**
MDOK	7.5nm,0.3s			*e*Lg	Lg	20 09 21.7	
	19nm,0.7s						
MDOK	**Medeo**	**3.39**	**353**	Pg	**Pb**	**20 08 39.4**	**-2.1**
MDOK	7.5nm,0.3s			Lg	Lg	20 09 21.7	
	19nm,0.7s						
ZHN	**Zhinishke**	**3.43**	**11**	*e*Pg	**Pb**	**20 08 40.3**	**-2.0**
ZHN	2.9nm,0.2s			*e*Lg	Lg	20 09 22.8	
	22nm,0.3s						
ZHN	**Zhinishke**	**3.43**	**11**	Pg	**Pb**	**20 08 40.2**	**-2.1**
ZHN	2.9nm,0.2s			Lg	Lg	20 09 22.8	
	22nm,0.4s						
MTBS	**Maitube**	**3.44**	**346**	*e*Pg	**Pb**	**20 08 40.5**	**-1.9**
MTBS	4.0nm,0.2s			*e*Lg	Lg	20 09 23.0	
	18nm,0.3s						
MTBS	**Maitube**	**3.44**	**346**	Pg	**Pb**	**20 08 40.5**	**-1.9**
MTBS	4.1nm,0.2s			Lg	Lg	20 09 23.0	
	18nm,0.5s						
KNDC	**Almaty**	**3.45**	**352**	⇑Pg	**Pb**	**20 08 41.1**	**-1.4**
KNDC	23nm,0.6s			⇓Lg	Lg	20 09 24.6	
	45nm,0.7s						
KOTS	**Kotyrbulak**	**3.45**	**354**	*e*Pg	**Pn**	**20 08 39.8**	**+4.5**
KOTS	9.9nm,0.5s			*e*Lg	Lg	20 09 22.0	
	34nm,0.4s						
KOTS	**Kotyrbulak**	**3.45**	**354**	Pg	**Pn**	**20 08 39.7**	**+4.4**
KOTS	10.0nm,0.4s			Lg	Lg	20 09 22.0	
	34nm,0.4s						
TKM2	**Tokmak 2**	**3.46**	**335**	⇑*i*P	**Pn**	**20 08 34.5**	**-1.0**
TKM2	baz=33			⇑*i*S	**Sn**	**20 09 16.5**	**-0.1**
	baz=33						
TKM2	**Tokmak 2**	**3.46**	**335**	⇓Pg	**Pn**	**20 08 36.4**	**+0.9**
TKM2	2.1nm,0.5s			⇑Lg	Lg	20 09 23.4	
	8.1nm,0.6s						
KST	**Kastek**	**3.46**	**340**	*e*Pg	Pn	20 08 40.5	+5.0
KST	2.4nm,0.2s			*e*Lg	Lg	20 09 23.2	
	20nm,0.3s						
KST	**Kastek**	**3.46**	**340**	Pg	**Pn**	**20 08 40.2**	**+4.8**
KST	2.8nm,0.3s			Lg	Lg	20 09 23.2	
	20nm,0.4s						
KBK	**Karagaybulak**	**3.48**	**326**	⇑*i*P	**Pn**	**20 08 35.4**	**-0.3**
KBK	baz=25			⇑*i*S	**Sn**	**20 09 17.5**	**+0.4**
	baz=25						
SHLS	**Shalkode**	**3.64**	**22**	*e*Pg	**Pb**	**20 08 46.6**	**+0.8**
SHLS	2.9nm,0.2s			*e*Lg	Lg	20 09 33.4	
	11nm,0.4s						
SHLS	**Shalkode**	**3.64**	**22**	Pg	**Pb**	**20 08 46.7**	**+0.8**
SHLS	2.9nm,0.2s			Lg	Lg	20 09 33.4	
	11nm,0.4s						
AAK	**Ala-Archa**	**3.67**	**322**	⇓*i*P	**Pn**	**20 08 37.9**	**-0.4**
AAK	baz=20			⇓*i*S	**Sn**	**20 09 22.4**	**+0.6**
	baz=20						
DGS	**Degeres**	**3.70**	**339**	*e*Pg	**Pb**	**20 08 45.2**	**-1.7**
DGS	3.6nm,0.3s			*e*Lg	Lg	20 09 30.8	
	16nm,0.6s						
DGS	**Degeres**	**3.70**	**339**	Pg	**Pb**	**20 08 45.2**	**-1.7**
DGS	3.8nm,0.6s			Lg	Lg	20 09 30.8	
	16nm,0.7s						
KURS	**Kuram**	**3.71**	**7**	*e*Pg	**Pb**	**20 08 45.8**	**-1.3**
KURS	5.2nm,0.8s			*e*Lg	Lg	20 09 32.0	
	8.4nm,0.5s						
KURS	**Kuram**	**3.71**	**7**	Pg	**Pb**	**20 08 45.8**	**-1.3**
KURS	5.2nm,0.8s			Lg	Lg	20 09 32.1	
	8.4nm,0.6s						
AML	**Almayashu**	**3.75**	**310**	⇑*e*P	**Pn**	**20 08 39.6**	**-0.1**
AML	baz=9.0			⇑*i*S	**Sn**	**20 09 24.3**	**+0.1**
	baz=9.0						
AML	**Almayashu**	**3.75**	**310**	⇓Pg	**Pn**	**20 08 40.0**	**+0.3**
AML	3.1nm,0.7s			⇑Lg	Lg	20 09 32.1	
	4.5nm,0.9s						
KPKS	**Kokpek**	**3.76**	**12**	*e*Pg	**Pb**	**20 08 45.9**	**-1.9**
KPKS	13nm,0.5s			*e*Lg	Lg	20 09 32.3	
	19nm,0.3s						
KPKS	**Kokpek**	**3.76**	**12**	Pg	**Pb**	**20 08 45.9**	**-1.9**
KPKS	13nm,0.5s			Lg	Lg	20 09 32.3	
	19nm,0.5s						
PDGK	**Podgornoye**	**3.81**	**21**	⇓Pg	**Pb**	**20 08 46.6**	**-2.1**
PDGK	2.0nm,0.5s			Lg	Lg	20 09 33.4	
	4.0nm,0.5s						
PDGK	**Podgornoye**	**3.81**	**21**	⇓Pg	**Pb**	**20 08 46.6**	**-2.1**
PDGK	5.4nm,0.6s			⇑Lg	Lg	20 09 34.8	
	6.5nm,0.6s						
ARSB	**Arslanbob**	**3.82**	**295**	⇑*e*P	**Pn**	**20 08 40.4**	**0.0**
ARSB	baz=95			⇑*e*S	**Sn**	**20 09 26.6**	**+1.2**
	baz=95						
CHMS	**Chumysh**	**3.84**	**327**	⇓Pg	**Pn**	**20 08 44.8**	**+4.2**
CHMS	2.2nm,0.6s			⇑Lg	Lg	20 09 35.1	
	8.8nm,0.7s						
KTBS	**Karatobe**	**3.97**	**351**	*e*Pg	**Pb**	**20 08 49.4**	**-2.0**
KTBS	2.8nm,0.3s			*e*Lg	Lg	20 09 38.5	
	15nm,0.4s						
KTBS	**Karatobe**	**3.97**	**351**	Pg	**Pb**	**20 08 49.4**	**-2.0**
KTBS	2.7nm,0.5s			Lg	Lg	20 09 38.5	
	15nm,0.5s						
EKS2	**Erkin-Say**	**4.05**	**316**	⇑*e*P	**Pn**	**20 08 43.6**	**+0.1**
EKS2	baz=15			⇑*e*S	**Sn**	**20 09 31.6**	**+0.5**
	baz=15						
CHKK	**Chushkaly**	**4.08**	**354**	*e*Pg	**Pb**	**20 08 51.4**	**-1.8**
CHKK	3.3nm,0.3s			*e*Lg	Lg	20 09 41.5	
	17nm,0.2s						
CHKK	**Chushkaly**	**4.08**	**354**	Pg	**Pb**	**20 08 51.4**	**-1.8**
CHKK	3.3nm,0.3s			Lg	Lg	20 09 41.5	
	17nm,0.3s						
KRBS	**Karabastau**	**4.15**	**341**	*e*Pg	**Pb**	**20 08 52.0**	**-2.5**
KRBS	4.1nm,0.2s			*e*Lg	Lg	20 09 42.9	
	11nm,0.5s						
KRBS	**Karabastau**	**4.15**	**341**	Pg	**Pb**	**20 08 52.0**	**-2.5**
KRBS	4.1nm,0.4s			Lg	Lg	20 09 42.9	
	11nm,0.8s						
KTMS	**Ketmen**	**4.20**	**29**	*e*Pg	**Pb**	**20 08 54.8**	**-0.6**
KTMS	0.8nm,0.2s			*e*Lg	Lg	20 09 47.9	
	2.6nm,0.2s						
KTMS	**Ketmen**	**4.20**	**29**	Pg	**Pb**	**20 08 54.7**	**-0.6**
KTMS	0.8nm,0.2s			Lg	Lg	20 09 47.9	
	2.6nm,0.2s						
KUU	**Kurty**	**4.20**	**348**	*e*Pg	**Pb**	**20 08 53.7**	**-1.6**
KUU	1.7nm,0.3s			*e*Lg	Lg	20 09 45.5	
	23nm,0.8s						
KUU	**Kurty**	**4.20**	**348**	Pg	**Pb**	**20 08 53.7**	**-1.6**
KUU	1.8nm,0.4s			Lg	Lg	20 09 45.5	
	23nm,0.8s						
SGDS	**Sogindy**	**4.27**	**330**	Pg	**Pb**	**20 08 54.8**	**-1.8**
SGDS	0.9nm,0.2s			Lg	Lg	20 09 47.4	
	3.9nm,0.4s						
BLB	**Baldybastay**	**4.35**	**9**	Pg	**Pb**	**20 08 56.7**	**-1.3**
BLB	8.4nm,0.3s			Lg	Lg	20 09 50.5	
	7.9nm,0.5s						
MRKS	**Merke**	**4.41**	**313**	*e*Pg	**Pb**	**20 08 57.5**	**-1.4**
MRKS	2.3nm,0.3s			*e*Lg	Lg	20 09 51.9	
	8.0nm,0.4s						
MRKS	**Merke**	**4.41**	**313**	Pg	**Pb**	**20 08 57.5**	**-1.4**
MRKS	2.3nm,0.4s			Lg	Lg	20 09 51.9	
	7.4nm,0.6s						
ARXS	**Arharly**	**4.42**	**2**	*e*Pg	**Pb**	**20 08 58.2**	**-0.9**
ARXS	2.2nm,0.3s			*e*Lg	Lg	20 09 53.1	
	5.1nm,0.3s						
ARXS	**Arharly**	**4.42**	**2**	Pg	**Pb**	**20 08 58.2**	**-0.9**
ARXS	2.2nm,0.5s			Lg	Lg	20 09 53.1	
	5.2nm,0.4s						
KNOS	**Konyrlen**	**4.71**	**14**	Pg	**Pb**	**20 09 04.0**	**-0.1**
KNOS	5.8nm,0.5s			Lg	Lg	20 10 03.3	
	4.2nm,0.5s						
BTLS	**Baital**	**5.86**	**335**	*e*Pg	**Pb**	**20 09 24.4**	**+0.9**
BTLS	1.9nm,0.7s			*e*Lg	Lg	20 10 38.5	
	3.5nm,0.8s						
BTLS	**Baital**	**5.86**	**335**	Pg	**Pb**	**20 09 24.4**	**+0.9**
	2.0nm,0.6s						
KK31	**Karatay Array**	**6.25**	**304**	⇓Pg	**Pb**	**20 09 30.6**	**+0.3**
	1.1nm,0.8s,baz=125,slow=15,SNR=4.7						
KK31				⇓Lg	Lg	20 10 52.5	
	1.2nm,0.5s,baz=100,slow=27,SNR=6.3						

IDC ***02*** *20:19:42.4±1.3,21˚.57N×143˚.29E,h301km±12km,*
mb3.8/27,mbtmp4.5/32,Error ellipse: s-maj=13.5km
s-min=7.8km az=86.0
NEIC ***02*** *20:19:45.0±1.2,21˚.55N±0˚.08×143˚.2E±0˚.1,h322km±6km,*
mb4.3/69,Error ellipse: s-maj=15.4km s-min=11.1km
az=83.0
ISC 02 20:19:43.9±0.9,21˚.60N±0˚.04×143˚.20E±0˚.08,h316km±9km,
n133,σ1§04/146,mb4.2/59,1D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.55**	**351**	Pn	**Pn**	**20 21 09.8**	**+1.5**
JCJ	**Chichijima**	**5.55**	**351**	P	**Pn**	**20 21 05.7**	**-2.7**
JCJ	119nm,0.3s,baz=290,slow=23,SNR=61			S	**S**	**20 22 14.1**	**-2.4**
	392nm,0.4s,baz=140,slow=23,SNR=17						
GUMO	**Guam**	**8.12**	**168**	Pn	**Pn**	**20 21 40.5**	**+1.3**
GUMO	**Guam**	**8.12**	**168**	P	**Pn**	**20 21 40.8**	**+1.6**
	168nm,0.6s,baz=356,slow=9.5,SNR=5.5						
JHJ2	**Mitsune**	**11.86**	**346**		**Pn**	**20 22 25.1**	**+0.8**
JHJ	**Hachijo jima 2**	**11.87**	**346**	P	**Pn**	**20 22 24.4**	**-0.1**
JHJ	147nm,0.8s,baz=75,slow=21,SNR=6.3			S	**S**	**20 24 32.1**	**-4.8**
	136nm,0.9s,baz=60,slow=14,SNR=1.7						
JSG	**Sagara**	**13.76**	**342**		**Pn**	**20 22 48.8**	**+1.7**
JOW	**Kunigami**	**14.58**	**294**	P	**P**	**20 22 55.5**	**0.0**
	36nm,1.0s,baz=93,slow=16,SNR=2.4						
JMN	**Monobe**	**14.63**	**328**	P	**Pn**	**20 22 58.2**	**+0.8**
MJAR	**Matsushiro Arr**	**15.52**	**345**	P	**P**	**20 23 06.0**	**+0.3**
	2.1nm,0.3s,baz=165,slow=9.9,SNR=32						
MJAR				S	**S**	**20 25 52.2**	**-1.0**
	1.1nm,0.5s,baz=213,slow=20,SNR=3.4						
MAJO	**Matsushiro**	**15.52**	**345**	P	**P**	**20 23 07.1**	**+1.3**
MJB9	**Matsu-Tunnel**	**15.52**	**345**	P	**Pn**	**20 23 07.7**	**-0.1**
MJB9	comp=Z,8.9nm,0.4s			IAmb	IAmb	20 23 09.3	
JNU	**Nakatsue**	**15.85**	**319**	P	**Pn**	**20 23 11.9**	**+0.3**
JNU	comp=Z,15nm,1.1s			IAmb	IAmb	20 23 26.0	
JNU	**Nakatsue**	**15.85**	**319**	P	**P**	**20 23 11.1**	**+1.6**
	comp=Z,3.5nm,0.6s,baz=112,slow=16,SNR=2.6						
JMM	**Marumori**	**16.35**	**353**	P	**Pn**	**20 23 17.4**	**0.0**
TJN	**Taejon**	**20.18**	**320**	P	**P**	**20 23 55.8**	**+0.2**
YHNB	**Yeheng**	**20.30**	**283**	P	**P**	**20 23 57.0**	**-0.1**
YULB	**Yu-li**	**20.32**	**279**	P	**P**	**20 23 57.3**	**+0.1**
YULB	comp=Z,39nm,1.3s			IAmb	IAmb	20 23 58.6	
KSRS	**Korea Array**	**20.61**	**323**	P	**P**	**20 24 00.3**	**+0.5**
	comp=Z,7.0nm,0.6s,baz=149,slow=8.9,SNR=46						
	comp=Z,7.0nm,0.6s						
KSAR	**Wonju Array Be**	**20.62**	**323**	P	**P**	**20 23 59.9**	**0.0**
SSLB	**Suanglung**	**20.64**	**280**	P	**P**	**20 24 00.1**	**-0.2**
KS19	**Wonju Array Si**	**20.67**	**323**	P	**P**	**20 24 00.5**	**+0.1**
KS19	comp=Z,17nm,0.9s			IAmb	IAmb	20 24 14.1	
USRK	**Ussuriysk Ar.**	**24.38**	**340**	P	**P**	**20 24 35.0**	**+0.9**
USRK	**Ussuriysk Ar.**	**24.38**	**340**	P	**P**	**20 24 35.4**	**+1.3**
	comp=Z,3.8nm,0.7s,baz=151,slow=6.8,SNR=11						
	comp=Z,3.8nm,0.7s						
CN2	**Changchun**	**26.60**	**330**	*e*P	**P**	**20 24 52.7**	**-1.2**
CN2				*es*P	PP	20 26 11.5	+10
CN2				*e*S	**S**	**20 29 02.9**	**-1.9**
FAKI	**Fak Fak**	**26.62**	**205**	P	**P**	**20 24 53.0**	**-1.4**
FAKI	comp=Z,29nm,1.3s			IAmb	IAmb	20 25 20.8	
MYLDM	**Lahad Datu**	**28.96**	**239**	P	**P**	**20 25 15.8**	**+0.6**
TOLI2	**Tolitoli**	**29.86**	**230**	P	**P**	**20 25 22.2**	**-0.9**
TOLI2	comp=Z,11nm,0.9s			IAmb	IAmb	20 25 25.6	

KKM Kota Kinabalu 30.34 243 P P 20 25 27.4 -0.1
KKM IAmb IAmb 20 25 28.9
comp=Z,10nm,0.8s
HEH HeiHe 31.19 340 eP P 20 25 35.3 +1.0
HEH pmax pmax
comp=Z,13nm,0.9s
HEH pmax pmax
comp=Z,170nm,5.3s
BKB Balikpapan 34.30 232 P P 20 26 01.7 +0.2
DLV T Lat 34.52 260 P P 20 26 04.2 +0.6
DLV IAmb IAmb 20 26 05.7
comp=Z,20nm,1.1s
KAPI Kappang 35.03 224 P P 20 26 07.8 +0.1
comp=Z,8.6nm,0.4s,baz=84,slow=9.2,SNR=1.4
comp=Z,8.6nm,0.4s
COEN Coen 35.33 180 P P 20 26 10.2 0.0
SBUM Sibu 35.64 242 P P 20 26 12.9 0.0
SOEI Soe 36.28 213 P P 20 26 16.5 -1.9
SOEI IAmb IAmb 20 26 33.3
comp=Z,10nm,1.0s
BATI Baumata 36.97 213 P P 20 26 23.1 -1.0
comp=Z,14nm,0.4s,baz=16,slow=1.0,SNR=7.3
comp=Z,14nm,0.4s
SONM Songino Array 39.43 321 P P 20 26 45.3 +1.1
SONM Songino Array 39.43 321 P P 20 26 44.9 +0.8
comp=Z,1.4nm,0.4s,baz=128,slow=6.8,SNR=30
comp=Z,1.4nm,0.4s
KNRA Kununurra 39.66 202 P P 20 26 45.7 -0.5
CRAI Chiangrai 39.94 276 P P 20 26 49.4 +0.8
PHRA Phrae 40.39 273 P P 20 26 52.3 0.0
TNCH TengChong 41.04 284 ⇓P P 20 26 58.3 +0.6
TNCH pmax pmax
comp=Z,11nm,4.0s
TNCH pmax pmax
comp=Z,170nm,4.7s
JAGI Jajag, Banyuwa 41.30 227 P P 20 26 58.1 -1.5
YAK Yakutsk 41.47 350 P P 20 27 00.6 +0.3
YAK IAmb IAmb 20 27 01.3
comp=Z,14nm,0.6s
CHTO Chiang Mai 41.52 274 P P 20 27 01.5 0.0
CTA Charters Tower 41.54 176 P P 20 27 01.6 +0.2
comp=Z,2.6nm,0.6s,baz=337,slow=6.9,SNR=3.7
comp=Z,2.6nm,0.6s
CMAR Chiang Mai Arr 41.60 274 P P 20 27 02.7 +0.6
CMAR Chiang Mai Arr 41.60 274 P P 20 27 03.0 +0.9
comp=Z,2.2nm,0.6s,baz=83,slow=6.0,SNR=19
comp=Z,2.2nm,0.6s
WB0 Warramunga Arr 42.00 192 P P 20 27 04.7 -0.5
WRA Warramunga Arr 42.18 192 P P 20 27 05.8 -0.8
WRA Warramunga Arr 42.18 192 P P 20 27 06.4 -0.2
comp=Z,3.0nm,0.3s,baz=15,slow=9.4,SNR=83
WRA PcP PP 20 28 53.0 +1.0
comp=Z,0.7nm,0.6s,baz=12,slow=3.5,SNR=3.3
WRA ScP ScP 20 32 15.4 +1.1
comp=Z,0.3nm,0.5s,baz=10,slow=4.6,SNR=5.9
comp=Z,3.0nm,0.3s
UGM Wanagama 43.45 231 P P 20 27 16.3 -0.6
KULM Kulim 44.26 255 P P 20 27 24.1 +0.9
KULM IAmb IAmb 20 27 25.2
comp=Z,11nm,0.6s
AS31 Alice Springs 45.89 192 P P 20 27 35.3 -0.5
ASAR Alice Springs 45.89 192 P P 20 27 34.8 -1.0
ASAR Alice Springs 45.89 192 P P 20 27 35.0 -0.8
comp=Z,0.9nm,0.3s,baz=12,slow=6.6,SNR=32
ASAR PcP PcP 20 29 04.9 -2.2
comp=Z,0.5nm,0.7s,baz=16,slow=5.4,SNR=3.1
ASAR ScP ScP 20 32 30.8 +1.2
comp=Z,0.3nm,0.6s,baz=18,slow=3.3,SNR=2.5
comp=Z,0.9nm,0.3s
RPSI Rantau Prapat 46.95 253 P P 20 27 43.7 -0.5
RPSI IAmb IAmb 20 27 45.3
comp=Z,14nm,1.2s
LSA Lhasa 47.29 291 P P 20 27 47.2 0.0
MBWA Marble Bar 48.28 210 P P 20 27 53.4 -0.8
MBWA IAmb IAmb 20 27 59.5
comp=Z,19nm,1.4s
PSA00 Pilbara Seismi 48.59 209 P P 20 27 55.6 -0.8
PSA00 IAmb IAmb 20 27 56.9
comp=Z,9.8nm,1.0s
PSA00 Pilbara Seismi 48.59 209 P P 20 27 55.5 -1.0
PSA00 IAmb IAmb 20 28 21.5
comp=Z,5.3nm,1.3s
BILL Bilibino 48.62 11 P P 20 27 57.1 +1.1
GSI Gunungsitoli 48.78 252 P P 20 27 57.9 -0.2
GSI IAmb IAmb 20 27 58.4
comp=Z,28nm,1.0s
TAPN Taplejung 50.49 288 eP P 20 28 11.6 +0.4
comp=Z,6.0nm,0.3s
TIXI Tiksi 50.75 354 P P 20 28 12.7 +0.7
RAMN Ramite 51.52 288 eP P 20 28 18.9 +0.2
comp=Z,5.3nm,0.3s
JIRN Jiri 51.80 289 eP P 20 28 21.5 +0.6
comp=Z,15nm,0.5s
GUN Gumba 52.04 289 eP P 20 28 23.1 +0.4
comp=Z,7.1nm,0.4s
PKI Pulchoki 52.50 289 eP P 20 28 25.8 -0.2
comp=Z,8.7nm,0.6s
PKIN Phulchoki 52.51 289 eP P 20 28 25.9 -0.1
GKN Gorkha 53.12 289 eP P 20 28 30.6 +0.3
comp=Z,11nm,0.4s
STKA Stephens Creek 53.19 182 P P 20 28 30.1 -0.3
STKA Stephens Creek 53.19 182 P P 20 28 30.2 -0.1
comp=Z,3.7nm,0.6s,baz=8.0,slow=5.5,SNR=8.0
comp=Z,3.7nm,0.6s
DANN Dangsing 53.85 290 eP P 20 28 36.5 +0.8
comp=Z,77nm,0.5s
FORT Forrest 54.07 196 P P 20 28 36.2 -0.5
FORT IAmb IAmb 20 28 37.6
comp=Z,15nm,0.8s
ZAA0 Zalesovo Array 54.30 322 P P 20 28 38.1 0.0
ZAA0 IAmb IAmb 20 28 39.1
comp=Z,6.3nm,0.7s
ZAA0 PcP PcP 20 29 37.6 -0.2
ZALV Zalesovo Beam 54.30 322 P P 20 28 38.3 +0.2
comp=Z,5.3nm,0.6s,baz=102,slow=7.3,SNR=25
ZALV PcP PcP 20 29 37.4 -0.3
comp=Z,3.1nm,0.5s,baz=127,slow=4.0,SNR=9.6
comp=Z,5.3nm,0.6s
BBOO Buckleboo 54.53 187 P P 20 28 39.4 -0.6
BBOO IAmb IAmb 20 29 04.1
comp=Z,21nm,1.3s
PYUN Piuthan 54.55 290 eP P 20 28 40.6 -0.1
comp=Z,7.8nm,0.5s
MK31 Makanchi Array 54.78 313 P P 20 28 42.6 +0.9
MKAR Makanchi Array 54.78 313 P P 20 28 42.3 +0.6
MKAR PcP PcP 20 29 40.3 +0.5
MKAR Makanchi Array 54.78 313 P P 20 28 42.5 +0.7
comp=Z,5.0nm,0.5s,baz=90,slow=8.2,SNR=78
MKAR PcP PcP 20 29 40.0 +0.2
comp=Z,1.5nm,0.5s,baz=78,slow=4.3,SNR=6.4
comp=Z,5.0nm,0.5s
MAKZ Makanchi 54.99 313 P P 20 28 43.9 +0.7
MAKZ IAmb IAmb 20 28 45.2
comp=Z,13nm,1.2s
MORW Morawa 56.77 209 P P 20 28 55.3 -0.5
MORW IAmb IAmb 20 29 09.1
comp=Z,15nm,1.1s
SVW2 Sparrevohn 57.49 30 P P 20 29 02.3 +1.9
SVW2 IAmb IAmb 20 29 06.3
comp=Z,9.7nm,1.2s
KURK Kurchatov 57.56 317 P P 20 29 01.5 +0.4
KURK IAmb IAmb 20 29 02.3
comp=Z,9.6nm,0.8s
KURBB Kurchatov Arra 57.61 317 P P 20 29 01.9 +0.4
comp=Z,16nm,0.5s,baz=94,slow=7.5,SNR=158
KURBB PcP PcP 20 29 50.3 -0.5
comp=Z,0.3nm,0.4s,baz=93,slow=6.5,SNR=0.7
comp=Z,16nm,0.5s
KSH Kashi 59.30 304 P P 20 29 17.5 +4.1
KSH pmax pmax
comp=Z,5.0nm,0.5s
IMAR Indian Mountai 59.57 25 P P 20 29 16.3 +1.7
AAK Ala-Archa 60.24 308 P P 20 29 20.4 +0.6
AAK IAmb IAmb 20 29 21.1
comp=Z,9.8nm,1.4s
TRF Thorofare Moun 60.42 28 P P 20 29 21.3 +0.7
TRF IAmb IAmb 20 29 37.9
comp=Z,16nm,1.5s
ARSB Arslanbob 61.45 306 P P 20 29 28.6 +0.7
TOLK Toolik Lake Re 61.81 23 P P 20 29 31.5 +1.8
TOLK IAmb IAmb 20 29 32.9
comp=Z,10nm,1.4s
NIL Nilore 62.10 298 P P 20 29 32.4 +0.3
NIL IAmb IAmb 20 29 34.0
comp=Z,10nm,1.1s
ILAR Eielson Array 62.12 27 P P 20 29 31.8 0.0
comp=Z,1.2nm,0.6s,baz=258,slow=5.7,SNR=21
comp=Z,1.2nm,0.6s
BVAR Borovoye Array 62.76 320 P P 20 29 36.8 +0.7
comp=Z,15nm,0.4s,baz=96,slow=7.8,SNR=74
comp=Z,15nm,0.4s
BRVK Borovoye 62.82 320 P P 20 29 37.0 +0.5
KK31 Karatay Array 63.13 308 P P 20 29 39.2 +0.4
KK31 IAmb IAmb 20 29 40.4
comp=Z,6.7nm,0.8s
KKAR Karatay Array 63.13 308 P P 20 29 39.5 +0.7
BMAR Burnt Mountain 63.43 24 P P 20 29 42.5 +2.2
BCAR Beaver Creek A 64.19 29 P P 20 29 46.2 +0.9
KBL Kabul 65.40 299 P P 20 29 53.4 -0.4
KBL IAmb IAmb 20 29 54.9
comp=Z,7.6nm,0.9s
E28M Babbage River 65.44 23 P P 20 29 54.4 +1.2
E28M IAmb IAmb 20 29 56.2
comp=Z,6.2nm,1.4s
G30M tAoh Zraii Nji 66.65 25 P P 20 30 02.0 +1.1
G30M IAmb IAmb 20 30 26.2
comp=Z,8.9nm,1.4s
QRZ Quartz Range 67.83 156 P P 20 30 09.3 +0.8
TUWZ Tuamarina 68.88 156 P P 20 30 14.5 -0.5
ARU Arti 69.36 324 P P 20 30 17.7 0.0
ABKAR Akbulak array 69.63 316 P P 20 30 19.8 +0.2
ABKAR Akbulak array 69.63 316 P P 20 30 19.8 +0.2
ABKAR IAmb IAmb 20 30 20.5
comp=Z,8.5nm,0.8s
C36M Paulatuk 70.95 22 P P 20 30 27.4 +0.3
C36M IAmb IAmb 20 30 28.4
comp=Z,3.4nm,0.7s
GEYT Alibeck 73.32 305 P P 20 30 42.7 +1.0
comp=Z,2.0nm,0.8s,baz=268,slow=4.3,SNR=4.5
comp=Z,2.0nm,0.8s
SPITS Spitsbergen Ar 75.94 350 P P 20 30 56.5 +0.6
comp=Z,13nm,0.9s,baz=29,slow=3.3,SNR=6.9
comp=Z,13nm,0.9s
YKA Yellowknife Ar 76.54 28 P P 20 30 59.8 +0.3
comp=Z,2.3nm,0.6s,baz=292,slow=5.8,SNR=28
comp=Z,2.3nm,0.6s
RES Resolute Bay 77.17 13 P P 20 31 03.5 +0.7
RES IAmb IAmb 20 31 12.8
comp=Z,4.8nm,1.3s
KEV Kevo 78.46 341 P P 20 31 10.2 +0.3
ARCES ARCESS Array B 79.02 342 P P 20 31 13.6 +0.6
ARCES ARCESS Array B 79.02 342 P P 20 31 12.9 0.0
comp=Z,6.7nm,0.6s,baz=64,slow=8.1,SNR=65
comp=Z,6.7nm,0.6s
KBZ Khabaz 82.45 314 P P 20 31 32.2 +0.8
comp=Z,6.3nm,0.8s,baz=75,slow=6.1,SNR=13
comp=Z,6.3nm,0.8s
ONI Oni 82.51 313 P P 20 31 32.1 +0.2
ONI IAmb IAmb 20 31 34.3
comp=Z,6.1nm,1.0s
NVAR Mina Array Bea 83.19 51 P P 20 31 34.4 -1.3
comp=Z,0.2nm,0.3s,baz=308,slow=4.4,SNR=5.2
comp=Z,0.2nm,0.3s
FINES FINESS Array B 83.28 334 P P 20 31 34.7 -0.6
comp=Z,3.7nm,0.4s,baz=60,slow=4.7,SNR=53
comp=Z,3.7nm,0.4s
ELMT Elliston 83.92 42 P P 20 31 39.1 0.0
PDAR Pinedale Array 87.45 45 P P 20 31 54.4 -2.2
comp=Z,0.1nm,0.4s,baz=303,slow=5.3,SNR=1.6
AKASG Malin Array Be 87.60 324 P P 20 31 55.5 -1.2
comp=Z,0.5nm,0.3s,baz=50,slow=5.0,SNR=5.9
comp=Z,0.5nm,0.3s
HFS Hagfors 88.83 337 P P 20 32 01.1 -1.2
comp=Z,1.5nm,0.4s,baz=41,slow=4.6,SNR=21
comp=Z,1.5nm,0.4s
NOA NORSAR Array B 89.05 339 P P 20 32 02.5 -0.8
comp=Z,0.9nm,0.7s,baz=38,slow=5.0,SNR=3.7
comp=Z,0.9nm,0.7s
BRTR Keskin Array B 90.42 313 P P 20 32 09.1 -1.3
comp=Z,0.8nm,0.7s,baz=80,slow=4.2,SNR=5.8
comp=Z,0.8nm,0.7s
TXAR Lajitas Array 98.10 54 P P 20 32 43.9 -1.6
comp=Z,0.1nm,0.5s,baz=316,slow=2.5,SNR=2.3
comp=Z,0.1nm,0.5s
SNAA Sanae 126.25 193 PKP PKPdf 20 38 08.2 -0.2
comp=Z,0.8nm,0.9s,baz=199,slow=18,SNR=3.6
TORD Torodi Ar. Bea 128.82 309 PKP PKPdf 20 38 14.7 -0.2
comp=Z,0.3nm,0.5s,baz=21,slow=3.7,SNR=4.7
PLCA Paso Flores 145.68 132 PKPbc PKPab 20 38 47.1 +0.1
comp=Z,2.9nm,0.6s,baz=231,slow=3.1,SNR=7.0
LPAZ La Paz 149.93 85 PKPbc PKiKP 20 38 59.7 +0.3
comp=Z,2.4nm,0.6s,baz=6.5,slow=3.3,SNR=11

*IDC **02** 20:39:56.2±1.2, 12°.13N×95°.00E, h0km, mb3.6/9, mbtmp3.6/10, ML3.7/1, MS3.1/10, Error ellipse: s-maj=38.8km s-min=21.1km az=55.0*

ISC 02 20:39:59.7±0.9**, 12°.1N**±0°.1×**95°.23E**±0°.07**, h21**km**, n26, σ2s00**/20**, mb3.6**/9**, MS3.3**/8**, Andaman Islands region**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res ISC
MYB Mayabunder 2.40 290 eP Pn 20 40 37.5 -0.3
MYB eS Sb 20 41 11.8 +0.4
PBA Port Blair 2.47 261 eP Pn 20 40 38.4 -0.4
PBA eS Sb 20 41 14.5 +1.1
CMAR Chiang Mai Arr 7.30 29 Pn Pn 20 41 45.9 +0.6
0.3nm,0.3s,baz=218,slow=15,SNR=17
CMAR LR LR 20 44 55.7
comp=Z,38nm,20.1s,baz=225,slow=41
1.9nm,0.5s
PALK Pallekele 15.09 253 LR LR 20 49 00.3
comp=Z,46nm,18.3s,baz=203,slow=36
JIRN Jiri 17.69 333 eP P 20 44 05.7 -0.4
5.2nm,0.5s
PKI Pulchoki 17.98 331 eP P 20 44 11.0 +1.8
51nm,1.5s
PKIN Phulchoki 17.99 331 eP P 20 44 10.9 +1.6
31nm,1.2s
GUN Gumba 18.04 332 eP P 20 44 10.7 +0.7
28nm,1.2s
DANN Dangsing 19.44 328 eP Pn 20 44 29.9 +3.4
20nm,1.0s
PYUN Piuthan 19.65 326 eP Pn 20 44 34.0 +5.1
24nm,1.1s
KAPI Kappang 29.70 123 LR LR 20 59 52.2
comp=Z,23nm,19.0s,baz=306,slow=40
AAK Ala-Archa 35.40 333 LR LR 21 03 12.8
comp=Z,25nm,20.7s,baz=152,slow=40
MKAR Makanchi Array 36.31 345 P P 20 47 00.1 -1.8
0.8nm,1.0s,baz=151,slow=9.2,SNR=1.6
0.8nm,1.0s
SONM Songino Array 36.87 13 P P 20 47 05.4 -1.4
0.7nm,0.8s,baz=193,slow=5.9,SNR=3.8
0.7nm,0.8s
JNU Nakatsue 38.74 51 LR LR 21 03 32.9
comp=Z,18nm,18.1s,baz=222,slow=36
KURBB Kurchatov Arra 40.82 344 P P 20 47 38.6 -1.0
0.3nm,0.2s,baz=150,slow=7.5,SNR=4.3
0.3nm,0.2s
GEYT Alibeck 41.94 314 P P 20 47 48.4 -0.8
2.1nm,0.8s,baz=112,slow=14,SNR=3.3
2.1nm,0.8s
ZALV Zalesovo Beam 42.60 351 P P 20 47 53.1 -1.1
0.2nm,0.3s,baz=167,slow=5.4,SNR=1.6
0.2nm,0.3s
AKTO Aktyubinsk 48.88 329 LR LR 21 13 15.2
comp=Z,27nm,19.1s,baz=24,slow=41
WRA Warramunga Arr 49.93 129 P P 20 48 53.9 +1.5
0.8nm,0.9s,baz=306,slow=8.3,SNR=4.8
0.8nm,0.9s
ASAR Alice Springs 51.87 133 P P 20 49 08.3 +1.4
0.2nm,0.5s,baz=307,slow=6.8,SNR=2.2
0.2nm,0.5s
ARU Arti 52.52 335 LR LR 21 13 00.3
comp=Z,28nm,19.1s,baz=138,slow=38
BRTR Keskin Array B 60.59 309 P P 20 50 06.6 -2.7
0.3nm,0.7s,baz=116,slow=10,SNR=2.2
0.3nm,0.7s
GERES GERESS Array B 75.47 318 P P 20 51 41.2 -1.3
0.9nm,0.8s,baz=42,slow=3.1,SNR=2.2
GERES LR LR 21 29 33.7
comp=Z,22nm,20.4s,baz=40,slow=40
0.9nm,0.8s
DAVOX Davos/Dischmat 78.16 316 LR LR 21 34 39.3
comp=Z,17nm,18.6s,baz=282,slow=42
ESDC Sonseca Array 89.35 310 LR LR 21 37 09.4
comp=Z,24nm,20.6s,baz=335,slow=38

*OMAN **02** 20:59:19.2±0.7, 31°.24N×57°.47E, h10km, mb4.6/12, ml3.9/1, ms2.3/2, Error ellipse: s-maj=11.2km s-min=5.8km az=106.0*

*IDC **02** 20:59:20.4±1.2, 30°.48N×57°.29E, h0km, mb3.9/12, mbtmp3.9/14, ML3.5/2, MS2.5/1, Error ellipse: s-maj=25.6km s-min=18.5km az=175.0*

*TEH **02** 20:59:21.2, 30°.77N×57°.30E, h11km±28km, ML4.1*

*DSN **02** 20:59:22.8±2.0, 30°.78N×57°.66E, h10km, ML3.5/8, Error ellipse: s-maj=101.0km s-min=19.5km az=103.0*

ISC 02 20:59:24.7±0.6**, 30°.89N**±0°.04×**57°.30E**±0°.04**, h10**km**, n95, σ2s27**/106**, mb3.7**/12**, Northern and central Iran**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res ISC
ZRDN Zarand Kerman 0.66 277 Pg Pg 20 59 35.7 -1.8
ZRDN Sg Sg 20 59 46.4 +0.2
KHGB Koh Gabri 0.87 234 Pg Pg 20 59 37.8 -3.7
TVBK TV Kerman 1.01 207 Pg Pg 20 59 40.7 -3.6
CHMN Cheshme madani 1.05 168 Pg Pg 20 59 40.2 -4.7
NGRK Negar Kerman 1.34 202 Pg Pn 20 59 46.1 -3.7
NGRK Sg Sb 21 00 03.4 -3.9
IBAF Bafgh 1.64 296 Pg Pn 20 59 53.9 +0.2
BSRN Basiran 1.90 55 Pn Pn 20 59 57.3 +0.1
KBAM BAM 2.02 150 Pn Pn 20 59 56.4 -2.5
IKOO Kooshah 2.11 43 Pn Pn 21 00 01.1 +0.8
TPRV Parvadeh(Tabas 2.19 346 Pn Pn 21 00 02.1 +0.7
ITEG Tejag 2.35 31 Pn Pn 21 00 04.0 +0.4
IMEH Mehriz 2.35 283 Pn Pn 21 00 03.5 -0.1
NHDN Nehbandan 2.41 77 Pn Pn 21 00 04.4 +0.1
TKDS Koohdasht(Taba 2.72 357 Pn Pn 21 00 09.8 +1.2
ICHK Chekchek 2.81 299 Pn Pn 21 00 10.7 +0.7
IDAH Dahanechah 2.86 49 Pn Pn 21 00 11.2 +0.5
AFRZ Afriz 2.92 30 Pn Pn 21 00 12.5 +1.1
TNSJ Nastanj 3.12 349 Pn Pn 21 00 15.3 +1.3
ISAD Sadrabad 3.25 289 Pn Pn 21 00 17.0 +0.9
ZHDN Zahedan 3.39 115 Pn Pn 21 00 16.4 -1.4
SHRT Shahrakht 3.74 42 Pn Pn 21 00 23.8 +1.2
ANAR Anarak 3.80 308 Pn Pn 21 00 25.0 +1.6
LAR1 LAR 4.10 219 Pn Pn 21 00 26.3 -1.2
IRAM Ramesheh 4.30 284 Pn Pn 21 00 31.6 +1.1
IZEF Zefreh 4.67 297 Pn Pn 21 00 36.7 +1.1
TBHD Torbat heydari 4.79 19 Pn Pn 21 00 38.1 +0.9
SHME Shamm 4.93 192 P Pn 21 00 36.4 -2.5
SHME Shamm 4.93 192 P Pn 21 00 39.5 +0.7
SHME S Sn 21 01 41.4 +5.5
JASK Jask - Hormozg 5.03 174 P Pn 21 00 39.7 -0.5
SNR=9.1
JASK Jask - Hormozg 5.03 174 Pn Pn 21 00 38.5 -1.8
TBJM Torbat-e-JAM 5.05 29 Pn Pn 21 00 42.3 +1.6
KRSH Karshahi 5.33 306 Pn Pn 21 00 45.9 +1.3
IMOG Moghan 5.48 18 Pn Pn 21 00 48.1 +1.5
ISFB Sefidab 5.49 310 Pn Pn 21 00 48.3 +1.7
SBZV Sabzevar 5.49 3 Pn Pn 21 00 48.0 +1.3
MASF Masafi 5.59 191 P Pn 21 00 48.2 +0.2
MSFE Esma-Masafi 5.60 191 P Pn 21 00 46.2 -1.9
MSFE S Sn 21 01 51.1 -1.5
ZNGN Zangian 5.64 284 Pn Pn 21 00 49.3 +0.5
IPAY Payeh 5.72 14 Pn Pn 21 00 52.2 +2.3
IAKL Akhelmad 5.83 12 Pn Pn 21 00 53.3 +1.9
UOSS Minazif 6.00 190 P Pn 21 00 52.1 -1.5
UOSS Minazif 6.00 190 P Pn 21 00 54.1 +0.5
UOSS S Sn 21 02 07.7 +5.3
NAZ Nazwa, Dubai 6.05 194 P Pn 21 00 55.0 +0.7
NAZ S Sn 21 02 09.3 +5.6
IFIR Firoozkooh 6.08 322 Pn Pn 21 00 56.2 +1.3
HATD Hatta, Dubai 6.13 190 P Pn 21 00 54.9 -0.4
HATD Hatta, Dubai 6.13 190 P Pn 21 00 55.9 +0.5
HATD S Sn 21 02 10.7 +5.1
IKRD Kardeh 6.15 17 Pn Pn 21 00 57.4 +1.5
ISFR Sfrayin 6.17 5 Pn Pn 21 00 57.9 +1.7
ASHO Ashiyiah 6.28 190 P Pn 21 00 56.0 -1.4
ASHO Ashiyiah 6.28 190 P Pn 21 00 57.0 -0.5
SNR=9.8
ASHO S Sn 21 02 15.1 +5.8
IGLO Ghaloghah 6.30 334 Pn Pn 21 00 59.7 +1.9
FAQ Al Faqa, Dubai 6.30 194 P Pn 21 00 55.1 -2.7
FAQ Al Faqa, Dubai 6.30 194 P Pn 21 00 57.7 -0.1
FAQ S Sn 21 02 15.4 +5.5
IDMV Damavand 6.43 318 Pn Pn 21 01 01.1 +1.4
NGCH Negor - Chabah 6.47 147 P Pn 21 00 57.6 -2.4
ASUD Al Ashush, Dub 6.48 196 P Pn 21 00 57.9 -2.3
ASUD Al Ashush, Dub 6.48 196 P Pn 21 01 01.1 +1.0
SNR=8.3
ASUD S Sn 21 02 18.2 +4.0
IEMG Emamgholi 6.60 9 Pn Pn 21 01 04.0 +1.9
SOHO SOHO 6.76 186 P Pn 21 00 59.8 -4.3
SOHO SOHO 6.76 186 P Pn 21 01 04.1 +0.1
SOHO P Pn 21 01 04.1 +0.1
SOHO S Sn 21 02 26.7 +5.5
SOHO S Sn 21 02 26.7 +5.5
MRVT Maraveh tapeh 6.83 352 Pn Pn 21 01 06.9 +1.9
ALNE Al Ain 6.95 192 P Pn 21 01 04.1 -2.4
ALNE Al Ain 6.95 192 P Pn 21 01 07.6 +1.0
GEYT Alibeck 7.05 5 Pn Pn 21 01 10.5 +2.4
0.4nm,0.3s,baz=191,slow=13,SNR=2.5
GEYT Sn Sn 21 02 43.5 +15
baz=206,slow=32
GEYT LR LR 21 04 47.4
comp=Z,38nm,21.8s,baz=158,slow=44
0.9nm,0.3s
HOQ Hoqain 7.28 180 P Pn 21 01 10.9 -0.3
ARQ Araqi 7.56 185 P Pn 21 01 15.0 0.0
SNR=7.3
ARQ P Pn 21 01 15.0 0.0
SNR=7.3
ARQ S Sn 21 02 45.8 +5.1
ARQ S Sn 21 02 45.8 +5.1
WSAR Wadi Sarin 7.71 171 P Pn 21 01 14.8 -2.4
SNR=13
WSAR S Sn 21 02 47.9 +3.3
WSAR Wadi Sarin 7.71 171 Pn Pn 21 01 14.7 -2.4
1.7nm,0.3s,baz=6.8,slow=11,SNR=23
WSAR Sn Sn 21 02 39.8 -4.8
baz=305,slow=15
TRNA Turayna 8.16 223 P Pn 21 01 21.1 -2.2
SNR=14
WBK Wadi Bani Khal 8.38 169 P Pn 21 01 24.1 -2.1
SNR=5.7
WBK Wadi Bani Khal 8.38 169 Pn Pn 21 01 24.2 -2.1
SMRA Abu-Samra 8.38 225 P Pn 21 01 24.8 -1.5
JMDO Jabal Madar 8.52 175 P Pn 21 01 27.1 -1.0
JLN Jalan Bani Buh 8.91 167 P Pn 21 01 31.5 -2.0
MHTO MHTO 9.88 176 P Pn 21 01 46.0 -0.8
ASF Jabal al Asfar 17.44 280 P Pn 21 03 28.6 +0.4
1.3nm,0.5s,baz=90,slow=7.1,SNR=5.2
AKTO Aktyubinsk 19.53 1 P P 21 03 53.2 +1.0
0.3nm,0.3s,baz=179,slow=12,SNR=8.0
3.0nm,0.6s
BRTR Keskin Array B 21.18 301 P P 21 04 10.2 -0.2
1.2nm,0.8s,baz=127,slow=13,SNR=8.2
1.2nm,0.8s
PYUN Piuthan 22.52 91 eP P 21 04 25.9 +1.0
8.7nm,0.8s
DANN Dangsing 23.13 90 eP P 21 04 32.6 +1.2
22nm,1.0s
BVAR Borovoye Array 24.09 20 P P 21 04 40.0 -0.3
1.0nm,0.5s,baz=204,slow=6.3,SNR=6.8
1.0nm,0.5s
MKAR Makanchi Array 24.97 43 P P 21 04 48.9 +0.6
0.4nm,0.5s,baz=222,slow=6.8,SNR=7.0
0.4nm,0.5s
GUN Gumba 25.05 90 eP P 21 04 49.7 +0.1
34nm,1.1s
KURBB Kurchatov Arra 25.28 33 P P 21 04 51.8 +0.8
2.2nm,0.2s,baz=231,slow=9.3,SNR=4.2
2.2nm,0.2s
JIRN Jiri 25.38 90 eP P 21 04 52.4 -0.2
7.1nm,0.5s
RAMN Ramite 25.91 91 eP P 21 04 55.2 -2.1
17nm,0.7s
ZALV Zalesovo Beam 30.38 33 P P 21 05 36.9 +0.2
1.8nm,0.5s,baz=240,slow=9.5,SNR=10.0
1.8nm,0.5s
FINES FINESS Array B 36.75 335 P P 21 06 32.2 +0.3
2.2nm,0.7s,baz=145,slow=15,SNR=6.1
2.2nm,0.7s
GERES GERESS Array B 37.36 311 P P 21 06 36.3 -1.2
0.8nm,0.6s,baz=122,slow=8.4,SNR=5.2
0.8nm,0.6s
CLL Collm 38.38 315 ePx Px 21 06 47.0
CLL ePP PP 21 08 12.0 -1.6
CMAR Chiang Mai Arr 39.60 98 P P 21 06 53.6 -2.9
0.8nm,0.4s,baz=314,slow=25,SNR=3.3
0.8nm,0.4s
SONM Songino Array 40.82 51 P P 21 07 07.0 +0.5
0.6nm,0.8s,baz=262,slow=8.6,SNR=3.1
0.6nm,0.8s

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**42.67**	**344**	P	**P**	**21 07 21.9**	**+0.7**
	3.3nm,1.0s,baz=138,slow=7.3,SNR=5.3						
	3.3nm,1.0s						
TORD	**Torodi Ar. Bea**	**53.95**	**264**	P	**P**	**21 08 46.4**	**-2.6**
	1.9nm,0.8s,baz=60,slow=8.2,SNR=15						
	1.9nm,0.8s						
WRA	**Warramunga Arr**	**89.53**	**114**	P	P	21 12 17.6	-5.0
	0.4nm,1.0s,baz=302,slow=6.1,SNR=1.6						
	0.4nm,1.0s						

IDC 02 21:05:02.6±7.7**,18°.63S×177°.76W,h0**km**,mb3.6**/3**,**
mbtmp3.6/3**,Error ellipse: s-maj=332.2km**
s-min=41.4km az=143.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.11**	**260**	P	P	21 13 21.1	+0.1
	0.4nm,0.3s,baz=96,slow=7.7,SNR=12						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**45.19**	**255**	P	P	21 13 21.4	-0.3
	0.3nm,0.5s,baz=91,slow=7.2,SNR=7.3						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**86.45**	**13**	P	P	21 17 46.6	-0.1
	0.2nm,0.6s,baz=212,slow=3.2,SNR=1.7						
	0.2nm,0.6s						

IDC ***02*** *21:10:18.1±1.5,27°.91N×101°.52E,h0km,mb3.3/5,*
mbtmp3.3/5,MS2.7/2,Error ellipse: s-maj=49.2km
s-min=24.7km az=68.0
ISC 02 21:10:19.5±1.6**,27°.9N**±0°.2×**101°.6E**±0°.3**,h10**km**,n7,**
σ**0ˢ.57**/5**,mb3.5**/4**,Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.72**	**195**	Pg	Pg	21 13 20.6	
	baz=6.5,slow=18						
CMAR				Lg	Lg	21 15 22.9	
	0.1nm,0.3s,baz=7.5,slow=28,SNR=1.4						
CMAR				LR	LR	21 16 50.1	
	comp=Z,20nm,18.1s,baz=195,slow=40						
SONM	**Songino Array**	**20.24**	**9**	P	**P**	**21 14 54.7**	**-0.2**
	0.2nm,0.4s,baz=186,slow=13,SNR=3.0						
	0.2nm,0.4s						
KSRS	**Korea Array**	**24.08**	**60**	P	**P**	**21 15 35.4**	**+0.3**
	1.0nm,0.8s,baz=245,slow=11,SNR=2.8						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**24.16**	**326**	P	**P**	**21 15 36.0**	**+0.1**
	0.9nm,0.8s,baz=125,slow=10,SNR=5.6						
	0.9nm,0.8s						
GNI	**Garni**	**47.89**	**300**	LR	LR	21 41 12.0	
	comp=Z,17nm,20.4s,baz=18,slow=39						
WRA	**Warramunga Arr**	**57.19**	**143**	P	**P**	**21 20 06.4**	**-0.6**
	0.5nm,0.8s,baz=332,slow=7.8,SNR=3.3						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**60.04**	**145**	P	**P**	**21 20 27.3**	**+0.4**
	0.1nm,0.4s,baz=326,slow=7.1,SNR=8.5						
	0.1nm,0.4s						

BGR ***02*** *21:45:25.9±0.3,50°.77N×6°.68E,h10km,ML2.0/4,Error*
ellipse: s-maj=3.3km s-min=2.2km az=120.0
BUG ***02*** *21:45:25.7±0.2,50°.77N×6°.66E,h2km±2km,MD2.9/15,*
ML3.0/13
LDG ***02*** *21:45:26.3±0.1,50°.75N×6°.59E,h10km,Ml2.4/27,Error*
ellipse: s-maj=1.8km s-min=1.5km az=114.0
BNS ***02*** *21:45:26.4±0.9,50°.80N×6°.63E,h15km±3km,ML2.0*
STR ***02*** *21:45:26.5±0.9,51°N±6°×°±°,h5km,MLv3.1/10,Error*
ellipse: s-maj=0.0km s-min=0.0km az=17.1,preliminary
UCC ***02*** *21:45:26.3±0.5,50°.79N×6°.62E,h17km,ML1.9*
ISC 02 21:45:25.3±0.8**,50°.78N**±0°.01×**6°.63E**±0°.01**,h19**km±1km**,**
n111,σ**1ˢ.76**/187**,24C-37D,Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BD08	**Hambach Funkst**	**0.13**	**322**	*e*Pg	**Pg**	**21 45 30.2**	**+0.8**
BA05	**Sindorf**	**0.14**	**10**⇑	*e*Pg	**Pg**	**21 45 30.3**	**+0.8**
BD07	**Roetschberg**	**0.16**	**11**⇑	*e*Pg	**Pg**	**21 45 30.7**	**+0.8**
GSH	**Grosshau**	**0.16**	**253**	*e*Pg	**Pb**	**21 45 30.5**	**+2.0**
GSH				*e*Sg	**Sb**	**21 45 33.3**	**+2.7**
	279nm,0.1s						
BD01	**Bergheim Laure**	**0.18**	**2**⇑	*e*Pg	**Pg**	**21 45 30.8**	**+0.8**
BD03	**Millendorf**	**0.21**	**348**	*e*Pg	**Pb**	**21 45 31.2**	**+1.2**
STB	**Steinbach**	**0.23**	**144**⇓	*i*Pg	**Pb**	**21 45 31.8**	**+1.2**
STB				*i* Sg	**Sb**	**21 45 35.3**	**+1.3**
	152nm,0.5s						
KLL	**Kalltalsperre**	**0.24**	**236**⇑	*e*Pg	**Pb**	**21 45 31.6**	**+0.8**
PLH	**Pulheim**	**0.25**	**29**⇑	*i*Pg	**Pb**	**21 45 31.4**	**+0.3**
PLH				*e*Sg	**Sb**	**21 45 34.9**	**+0.1**
DREG	**Dreilaegerbach**	**0.28**	**244**⇑	*e*Pg	**Pb**	**21 45 32.2**	**+0.6**
DREG				*e*Sg	**Sb**	**21 45 36.2**	**+0.4**
	97nm,0.4s						
TDN	**Todenfeld**	**0.29**	**136**⇓	*i*Pg	**Pg**	**21 45 32.7**	**+0.9**
TDN				*e*Sg	**Sb**	**21 45 36.8**	**+0.6**
	99nm,0.1s						
OLFT	**Oleftalsperre**	**0.32**	**205**⇑	*e*Pg	**Pg**	**21 45 32.9**	**+0.7**
OLFT				*e*Sg	**Sg**	**21 45 37.5**	**+0.6**
BTNL	**Ternell**	**0.37**	**238**	*b*P	**Pg**	**21 45 33.8**	**+0.6**
BTNL				*d*S	**Sg**	**21 45 38.4**	**-0.1**
BNS	**Bensberg**	**0.39**	**62**	*e*Pg	**Pg**	**21 45 33.8**	**+0.3**
BNS				*e*Sg	**Sg**	**21 45 38.9**	**-0.1**
	93nm,0.2s						
WBS	**Wahnbachtalspe**	**0.42**	**87**	*e*Pg	**Pg**	**21 45 34.4**	**+0.5**
WBS				*e*Sg	**Sg**	**21 45 39.6**	**-0.1**
	58nm,0.2s						
MEM	**Membach**	**0.43**	**246**	*b*P	**Pg**	**21 45 34.6**	**+0.5**
MEM				*d*S	**Sg**	**21 45 40.2**	**+0.1**
	comp=E,28nm,0.2s						
MEM	**Membach**	**0.43**	**246**	*e*Pg	**Pg**	**21 45 34.6**	**+0.5**
MEM				*e*Sg	**Sg**	**21 45 40.2**	**+0.1**
RWB	**Wassenberg**	**0.44**	**317**	*e*Sg	**Sg**	**21 45 40.4**	**0.0**
HGN	**Heimansgroeve**	**0.44**	**268**	Pg	**Pg**	**21 45 34.7**	**+0.3**
HGN				Sg	**Sg**	**21 45 40.7**	**+0.2**
RODG	**Roetgen-Dahlhe**	**0.46**	**322**⇓	*i*Pg	**Pg**	**21 45 35.4**	**+0.8**
HOBG	**Hohbusch**	**0.49**	**66**⇑	*e*Pg	**Pb**	**21 45 35.5**	**+0.2**
HILG	**Hillesheim**	**0.49**	**176**⇑	*e*Pg	**Pb**	**21 45 36.1**	**+0.8**
BHE	**Schloss Buerre**	**0.56**	**141**	*e*Pg	**Pb**	**21 45 37.0**	**+0.7**
BHE				*e*Sg	**Sb**	**21 45 44.4**	**+0.6**
	comp=E,100nm,0.2s						
BHOU	**Houvegnez**	**0.58**	**223**	*b*P	**Pb**	**21 45 37.6**	**+0.8**
BHOU				*d*S	**Sb**	**21 45 45.3**	**+0.7**
	comp=N,60nm,0.1s						
BLI	**Bleialf**	**0.59**	**202**	*e*Pg	**Pb**	**21 45 37.6**	**+0.6**
BEBN	**Eben Emael**	**0.60**	**272**	*b*P	**Pb**	**21 45 37.7**	**+0.6**
BEBN				*d*S	**Sb**	**21 45 45.8**	**+0.7**
LOH	**Wallersheim-Lo**	**0.60**	**186**	*e*Pg	**Pb**	**21 45 37.7**	**+0.6**
LOH				*e*Sg	**Sb**	**21 45 45.8**	**+0.6**
	comp=N,55nm,0.2s						
HES	**Velbert-Hesper**	**0.64**	**24**	*e*Pg	**Pb**	**21 45 37.9**	**+0.1**
HES				*e*Sg	**Sb**	**21 45 46.3**	**0.0**
	comp=N,69nm,0.2s						
BLCH	**La Chartreuse**	**0.67**	**258**	*b*P	**Pb**	**21 45 39.0**	**+0.8**
BLCH				*d*P	**Sg**	**21 45 47.9**	**+0.5**
BLCH				*d*S	**Sg**	**21 45 47.9**	**+0.5**
	comp=E,17nm,0.2s						
ENTS	**Ennepetalsperr**	**0.68**	**47**⇑	*e*Pg	**Pb**	**21 45 38.2**	**-0.2**
ENTS				*e*Sg	**Sb**	**21 45 47.5**	**+0.2**
BSTI	**Sart Tilman**	**0.70**	**254**	*d*P	**Pb**	**21 45 39.8**	**+0.9**
BGG	**Burgeitz**	**0.73**	**142**	*e*Pg	**Pb**	**21 45 40.2**	**+0.8**
LKLB	**Kalborn**	**0.76**	**206**	*b*P	**Pb**	**21 45 40.5**	**+0.6**
LKLB				*d*S	**Sb**	**21 45 50.5**	**+0.7**
BKLB	**Ruhr-Universit**	**0.77**	**31**	*e*Pg	**Pb**	**21 45 40.4**	**+0.3**
BKLB				Sg	**Sb**	**21 45 50.7**	**+0.5**
BUG	**Bochum--Univer**	**0.77**	**31**	Pg	**Pb**	**21 45 40.2**	**+0.1**
BUG				*e*Sg	**Sb**	**21 45 50.2**	**0.0**
BULI	**Ruhr-Universit**	**0.78**	**30**	*e*Pg	**Pb**	**21 45 40.5**	**+0.3**
BULI				*e*Sg	**Sb**	**21 45 51.0**	**+0.5**
BTEZ	**Ruhr-Universit**	**0.78**	**31**	*e*Pg	**Pb**	**21 45 40.6**	**+0.3**
KOE	**Koeppel**	**0.79**	**117**	*e*Pg	**Pb**	**21 45 41.5**	**+1.1**
BZER	**Hlnxe**	**0.85**	**10**	*e*Pg	**Pg**	**21 45 42.6**	**+0.6**
BZER				*e*Sg	**Sg**	**21 45 53.7**	**+0.5**
LVIA	**Vianden**	**0.89**	**198**	*b*P	**Pb**	**21 45 43.1**	**+1.0**
LVIA				*d*S	**Sb**	**21 45 54.9**	**+1.3**
BCLA	**Clavier**	**0.92**	**247**	*b*P	**Pb**	**21 45 43.5**	**+0.9**
BCLA				*d*S	**Sb**	**21 45 55.3**	**+0.9**
	comp=E,29nm,0.2s						
OPLO	**Oploo**	**0.96**	**328**	*e*Sg	**Sn**	**21 45 57.7**	**+1.0**
NAST	**IGS Nastaetten**	**0.98**	**126**	*e*Pg	**Pn**	**21 45 45.0**	**+1.0**
BAVN	**Auguste-Victor**	**1.00**	**18**	*e*Pg	**Pb**	**21 45 44.8**	**+0.8**
BAVN				*e*Sg	**Sn**	**21 45 58.5**	**+0.5**
SORT	**Sorpetalsperre**	**1.02**	**56**	*e*Pg	**Pb**	**21 45 44.5**	**+0.2**
SORT				*e*Sg	**Sb**	**21 45 57.7**	**+0.4**
	comp=E,82nm,0.3s						
BGES	**Gesves**	**1.06**	**248**	*b*P	**Pb**	**21 45 45.8**	**+0.8**
BGES				*d*S	**Sb**	**21 45 59.9**	**+1.5**
BDSL	**Dessel**	**1.08**	**294**	*b*P	**Pb**	**21 45 45.9**	**+0.6**
BDSL				*d*S	**Sb**	**21 46 00.0**	**+1.1**
	comp=N,5.3nm,0.1s						
ABH	**Alteburg**	**1.08**	**147**	P	**Pb**	**21 45 45.9**	**+0.6**
ABH	**Alteburg**	**1.08**	**147**	S	**Sb**	**21 45 59.6**	**+0.6**
RCHB	**Rochefort**	**1.09**	**235**	*b*P	**Pn**	**21 45 46.2**	**+0.7**
RCHB				*d*S	**Sb**	**21 46 00.8**	**+1.5**
	comp=N,46nm,0.2s						
RCHB	**Rochefort**	**1.09**	**235**	P	**Pn**	**21 45 46.3**	**+0.7**
WLF	**Walferdange**	**1.16**	**195**	*d*P	**Pn**	**21 45 47.3**	**+0.9**
WLF				*d*S	**Sb**	**21 46 02.0**	**+0.6**
	comp=E,17nm,0.3s						
WLF	**Walferdange**	**1.16**	**195**	P	**Pn**	**21 45 47.3**	**+0.9**
WLF	**Walferdange**	**1.16**	**195**	S	**Sb**	**21 46 02.5**	**+1.2**
WLF	**Walferdange**	**1.16**	**195**	Pg	**Pb**	**21 45 47.9**	**+1.2**
WLF				*e*Sg	**Sb**	**21 46 02.7**	**+1.3**
WTSB	**Winterswijk**	**1.19**	**5**	*e*Pg	**Pb**	**21 45 48.4**	**+1.2**
WTSB				*e*Sg	**Sn**	**21 46 03.3**	**+0.9**
KASTN	**Kahler Asten**	**1.21**	**69**	*e*Pg	**Pn**	**21 45 47.6**	**+0.5**
KASTN				*e*Sg	**Sb**	**21 46 03.0**	**+0.3**
BMRD	**Maredsous**	**1.28**	**249**	*b*P	**Pn**	**21 45 49.2**	**+1.1**
BMRD				*d*S	**Sn**	**21 46 05.7**	**+0.9**
	comp=N,25nm,0.2s						
TNS	**Taunus Mts**	**1.29**	**115**	Pg	**Pb**	**21 45 50.1**	**+1.1**
TNS				*e*Sg	**Sb**	**21 46 06.5**	**+1.4**
GIVF	**Givet**	**1.34**	**240**	*e*Pg	**Pn**	**21 45 49.7**	**+0.8**
GIVF				*e*Sg	**Sn**	**21 46 07.0**	**+0.8**
	comp=N,64nm,0.3s						
DOU	**Dourbes**	**1.47**	**243**	*d*P	**Pn**	**21 45 51.7**	**+1.0**
DOU				*d*S	**Sn**	**21 46 09.8**	**+0.4**
	comp=E,13nm,0.2s						
DOU	**Dourbes**	**1.47**	**243**	P	**Pn**	**21 45 51.8**	**+1.0**
DOU				S	**Sn**	**21 46 09.8**	**+0.4**
BRQR	**Ronquire**	**1.54**	**264**	*b*P	**Pn**	**21 45 52.5**	**+0.8**
BSKQ	**Steenkerk**	**1.62**	**266**	*d*P	**Pn**	**21 45 53.7**	**+0.9**
BSKQ				*d*S	**Sn**	**21 46 13.1**	**-0.1**
	comp=N,7.9nm,0.1s						
IBBN	**Ibbenburen**	**1.68**	**24**	Pn	**Pb**	**21 45 56.0**	**+0.4**
IBBN				Sn	**Sb**	**21 46 18.1**	**+1.8**
IBBE	**Ibbenbueren Ea**	**1.68**	**25**	Pn	**Pb**	**21 45 56.3**	**+0.7**
IBBE				Sn	**Sb**	**21 46 18.2**	**+1.8**
BAIF	**Baives**	**1.71**	**246**	*e*Pn	**Pn**	**21 45 53.4**	**-0.6**
BAIF	**Baives**	**1.71**	**246**	*e*Pg	**Pn**	**21 45 55.5**	**+1.5**
BAIF				*e*Sn	**Sn**	**21 46 14.2**	**-1.1**
BAIF				*e*Sg	**Sb**	**21 46 18.0**	**+0.9**
	comp=N,17nm,0.3s						
KTD	**Kalmit**	**1.74**	**147**	P	**Pb**	**21 45 58.0**	**+1.4**
BBOU	**Bougnies**	**1.75**	**258**	*b*P	**Pb**	**21 45 57.2**	**+0.4**
LEMB	**Lembach**	**1.90**	**157**	P	**Pn**	**21 45 57.1**	**+0.5**
PAGF	**Fort de Pagny**	**2.31**	**195**	*e*Pn	**Pn**	**21 46 02.2**	**0.0**
PAGF	**Fort de Pagny**	**2.31**	**195**	*e*Pg	**Pb**	**21 46 07.5**	**+1.3**
PAGF				*e*Sg	**Sb**	**21 46 37.7**	**+3.4**
	comp=N,3.6nm,0.3s						
SAVF	**Savonnieres en**	**2.38**	**205**	*e*Pn	**Pn**	**21 46 02.5**	**-0.7**
SAVF	**Savonnieres en**	**2.38**	**205**	*e*Pg	**Pb**	**21 46 09.0**	**+1.5**
SAVF				*e*Sg	**Sb**	**21 46 39.1**	**+2.7**
	comp=N,3.7nm,0.2s						
CDF	**Champ du Feu**	**2.41**	**170**	*e*Pn	**Pn**	**21 46 04.3**	**+0.5**
CDF				*e*Sn	**Sn**	**21 46 31.7**	**-1.1**
CDF				*e*Sg	**Sb**	**21 46 40.5**	**+3.1**
	comp=N,2.0nm,0.2s						
MEZF	**Maizieres J'vi**	**2.50**	**205**	*e*Pn	**Pn**	**21 46 05.2**	**+0.3**
MEZF	**Maizieres J'vi**	**2.50**	**205**	*e*Pg	**Pb**	**21 46 11.4**	**+1.8**
MEZF				*e*Sn	**Sn**	**21 46 33.6**	**-1.3**
MEZF				*e*Sg	**Sb**	**21 46 43.6**	**+3.6**
	comp=N,3.7nm,0.2s						
OPP	**Oppenau**	**2.50**	**156**	P	**Pn**	**21 46 05.2**	**+0.2**
ECH	**Echery**	**2.59**	**172**	P	**Pn**	**21 46 06.5**	**+0.3**
BFO	**Black Forest**	**2.69**	**155**	Pn	**Pn**	**21 46 08.4**	**+0.8**
SFTF	**Sexfontaines**	**2.78**	**202**	*e*Pn	**Pn**	**21 46 09.0**	**+0.2**
SFTF	**Sexfontaines**	**2.78**	**202**	*e*Pg	**Pb**	**21 46 16.9**	**+2.6**
SFTF				*e*Sn	**Sn**	**21 46 40.4**	**-1.4**
SFTF				*e*Sg	**Sb**	**21 46 51.5**	**+3.5**
	comp=N,3.5nm,0.2s						
HAU	**Haudompre**	**2.79**	**184**	*e*Pn	**Pn**	**21 46 08.6**	**-0.3**
HAU	**Haudompre**	**2.79**	**184**	*e*Pg	**Pb**	**21 46 16.7**	**+2.3**
HAU				*e*Sg	**Sb**	**21 46 52.1**	**+3.9**
	comp=N,3.3nm,0.2s						
HINF	**Hinteralfeld**	**2.97**	**177**	*e*Pn	**Pn**	**21 46 11.8**	**+0.4**
HINF	**Hinteralfeld**	**2.97**	**177**	*e*Pg	**Pb**	**21 46 20.2**	**+2.6**
HINF				*e*Sn	**Sn**	**21 46 44.9**	**-1.7**
HINF				*e*Sg	**Sb**	**21 46 57.7**	**+4.1**
	comp=N,2.7nm,0.3s						
A102A	**Sigmaringen, J**	**3.13**	**147**	Pn	**Pn**	**21 46 14.9**	**+1.3**
GUT	**Gutenstein**	**3.16**	**148**	P	**Pn**	**21 46 15.0**	**+0.9**
SLE	**Schleitheim**	**3.26**	**157**	P	**Pn**	**21 46 16.1**	**+0.8**
BRANT	**Les Verrieres**	**3.85**	**182**	P	**Pn**	**21 46 24.3**	**+0.8**
LOR	**Lormes**	**3.96**	**208**	*e*Pn	**Pn**	**21 46 25.3**	**+0.3**
	baz=32						
LOR	**Lormes**	**3.96**	**208**	*e*Pg	**Pb**	**21 46 38.2**	**+3.7**
LOR				*e*Sn	**Sn**	**21 47 08.4**	**-2.5**
LOR				*e*Sg	**Sg**	**21 47 28.7**	**-3.7**
	comp=N,2.2nm,0.3s						
LOR	**Lormes**	**3.96**	**208**	P	**Pn**	**21 46 25.4**	**+0.3**
CABF	**La Chapelle**	**4.19**	**185**	*e*Pn	**Pn**	**21 46 28.5**	**+0.3**
CABF	**La Chapelle**	**4.19**	**185**	*e*Pg	**Pb**	**21 46 42.0**	**+3.6**
CABF				*e*Sn	**Sn**	**21 47 14.2**	**-2.5**
SSF	**Saint Saulge**	**4.25**	**210**	*e*Pn	**Pn**	**21 46 29.0**	**0.0**
SSF	**Saint Saulge**	**4.25**	**210**	*e*Pg	**Pb**	**21 46 43.3**	**+3.9**
SSF				*e*Sn	**Sn**	**21 47 15.5**	**-2.6**
SSF				*e*Sg	**Sg**	**21 47 37.7**	**-4.1**
	comp=N,1.3nm,0.3s						
SMF	**Signal de Mont**	**4.53**	**205**	*e*Pn	**Pn**	**21 46 32.8**	**0.0**
SMF	**Signal de Mont**	**4.53**	**205**	*e*Pg	**Pb**	**21 46 48.3**	**+4.1**
SMF				*e*Sn	**Sn**	**21 47 22.3**	**-2.7**
SMF				*e*Sg	**Sg**	**21 47 46.6**	**-4.1**
	comp=N,0.8nm,0.3s						
AVF	**Avril sur Loir**	**4.54**	**210**	*e*Pn	**Pn**	**21 46 33.1**	**+0.1**
AVF				*e*Sn	**Sn**	**21 47 22.7**	**-2.5**
	comp=N,0.3nm,0.2s						
LDF	**La Druitiere**	**4.90**	**246**	*e*Pn	**Pn**	**21 46 37.1**	**-0.7**
LDF				*e*Sn	**Sn**	**21 47 31.1**	**-2.8**
	comp=N,0.5nm,0.3s						
LDF				*e*Sg	**Sg**	**21 47 57.4**	**-5.0**
	comp=N,1.5nm,0.3s						
BGF	**Bois d'Agland**	**4.91**	**212**	*e*Pn	**Pn**	**21 46 37.6**	**-0.5**
FLN	**La Foliniere**	**5.03**	**249**	*e*Pn	**Pn**	**21 46 39.6**	**0.0**
FLN				*e*Sn	**Sn**	**21 47 34.3**	**-2.9**
FLN				*e*Sg	**Sg**	**21 48 01.7**	**-5.0**
	comp=N,1.0nm,0.2s						
LPL	**La Plagne**	**5.27**	**179**	*e*Pn	**Pn**	**21 46 44.0**	**+0.8**
LPL				*e*Sn	**Sn**	**21 47 40.3**	**-3.2**
	comp=N,0.5nm,0.2s						
LPG	**La Plagne**	**5.29**	**179**	*e*Pn	**Pn**	**21 46 43.2**	**-0.3**
LPG				*e*Sn	**Sn**	**21 47 41.1**	**-2.9**
	comp=N,0.8nm,0.2s						
TCF	**Toulx Ste Croi**	**5.37**	**215**	*e*Pn	**Pn**	**21 46 44.5**	**+0.1**
TCF				*e*Sn	**Sn**	**21 47 42.6**	**-3.0**
	comp=N,1.0nm,0.3s						
TCF				*e*Sg	**Sg**	**21 48 11.5**	**-6.0**
	comp=N,0.6nm,0.3s						
GRR	**Gorron**	**5.43**	**247**	*e*Pn	**Pn**	**21 46 44.0**	**-1.1**
GRR				*e*Sn	**Sn**	**21 47 43.9**	**-3.0**
	comp=N,1.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**5.89**	**185**	*e*Sn	**Sn**	**21 47 54.5**	**-4.0**
	comp=N,0.7nm,0.2s						
MFF	**Saint Martin d**	**6.13**	**230**	*e*Pn	**Pn**	**21 46 54.5**	**-0.3**
MFF				*e*Sg	**Sg**	**21 48 36.0**	**-5.9**
	comp=N,0.3nm,0.3s						
SGMF	**Saint Gilles**	**6.49**	**251**	*e*Pn	**Pn**	**21 46 59.3**	**-0.4**
SGMF				*e*Sn	**Sn**	**21 48 08.4**	**-4.8**
	comp=N,0.6nm,0.3s						

JMA ***02*** *21:55:59.2±0.1,21°.7N±0°.5×121°.4E±0°.5,h0km,MV4.2/13,*
TAIWAN REGION
ASIES ***02*** *21:56:00.2,21°.52N×121°.38E,h47km,ML3.7,Mw3.6,*
Moment Tensor Solution. Moment tensor: Scale 10²¹Nm;
Mrr1.03; Mθθ-1.21; Mφφ0.18; Mrθ-2.45; Mθφ-2.21; Mφr1.11;
Fault plane solution: M₀3.65886×10²¹ NP1:
φs274.55000°,δ77.89000°,λ132.05000°. NP2:
φs17.65000°,δ43.44000°,λ17.77000°. Principal axes: T
Plg41.4380°, Azm223.7240°; N Plg40.9040°,
Azm83.8340°; P Plg21.4100°, Azm333.9760°;
TAP ***02*** *21:56:00.2,21°.52N×121°.38E,h47km,ML3.7,D*
ISC 02 21:56:02.3±1.7**,21°.74N**±0°.06×**121°.36E**±0°.03**,h13**km±9km**,**
n106,σ**1ˢ.17**/203**,5D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**0.34**	**39**	P	**Pn**	**21 56 11.6**	**-1.3**
	baz=21						
LYUB				S	**Sn**	**21 56 20.0**	**+0.4**
	baz=21						
LAY	**Lan-yu**	**0.35**	**31**	*i* P	**Pn**	**21 56 12.1**	**-1.0**
	baz=25						
LAY				S	**Sn**	**21 56 20.2**	**+0.3**
	baz=25						
TSEB	**Hengchuen, Pin**	**0.45**	**291**⇓	*i*P	**Pn**	**21 56 13.4**	**-1.0**
	baz=308						
TSEB				*i* S	**Sn**	**21 56 23.4**	**+0.9**
	baz=308						
TWKBT	**Hengchun**	**0.55**	**292**	P	**Pn**	**21 56 14.1**	**-1.6**
	baz=301						
TWKBT				*e*S	**Sn**	**21 56 25.3**	**+0.6**
	baz=301						
TWK1	**Hengchun**	**0.55**	**292**	*i* P	**Pb**	**21 56 14.1**	**+0.3**
	baz=301						
TWK1				S	**Sn**	**21 56 25.4**	**+0.5**
	baz=301						
SMST	**Manzhou Townsh**	**0.56**	**300**	P	**Pn**	**21 56 14.4**	**-1.5**
	baz=322						
SMST				S	**Sn**	**21 56 26.1**	**+1.0**
	baz=322						
HEN	**Hengchun**	**0.63**	**295**	*i* P	**Pb**	**21 56 14.6**	**-0.6**
	baz=309						
HEN				*i* S	**Sn**	**21 56 27.4**	**+0.5**
	baz=309						
TAWH	**Dawu Township**	**0.74**	**324**	P	**Pb**	**21 56 17.2**	**+0.2**
	baz=340						
TAWH				S	**Sn**	**21 56 29.7**	**+0.2**
	baz=340						
TAW	**Tawu**	**0.75**	**325**⇓	*i*P	**Pb**	**21 56 17.2**	**0.0**
	baz=341						
TAW				*i* S	**Sn**	**21 56 29.9**	**+0.1**
	baz=341						
EAST	**Anshuo**	**0.80**	**324**⇓	*i*P	**Pb**	**21 56 18.0**	**0.0**
	baz=339						
EAST				S	**Sn**	**21 56 31.1**	**+0.1**
	baz=339						
SCZT	**Fangliau**	**0.93**	**313**⇓	*i*P	**Pn**	**21 56 20.4**	**-0.6**
	baz=321						
SCZT				S	**Sn**	**21 56 35.2**	**+1.0**
	baz=321						
ECL	**Taimali**	**0.93**	**337**⇓	*i*P	**Pb**	**21 56 19.4**	**-0.9**
	baz=340						
ECL				S	**Sn**	**21 56 33.9**	**-0.5**
	baz=340						
LDUT	**Ludao**	**0.94**	**6**	*i* P	**Pb**	**21 56 19.9**	**-0.5**
	baz=4.0						
LDUT				*i* S	**Sn**	**21 56 37.0**	**+2.5**
	baz=4.0						
MASBT	**Mashibuluo**	**1.10**	**323**	P	**Pn**	**21 56 22.7**	**-0.6**
	baz=337						
MASBT				*e*S	**Sg**	**21 56 39.4**	**+1.6**
	baz=337						
TWGBT	**Beinan**	**1.11**	**347**	P	**Pn**	**21 56 22.0**	**-1.5**
	baz=339						
TWGBT				S	**Sg**	**21 56 38.6**	**+0.6**
	baz=339						
TWG	**Pinlang**	**1.11**	**346**	*i* P	**Pn**	**21 56 21.9**	**-1.6**
	baz=339						
TWG				*e*S	**Sg**	**21 56 39.0**	**+0.8**
	baz=339						
TSMG	**Majia**	**1.17**	**326**	*i* P	**Pn**	**21 56 23.7**	**-0.6**
	baz=330						
TSMG				*e*S	**Sg**	**21 56 41.2**	**+1.2**
	baz=330						
LONT	**Longtian**	**1.18**	**350**	*i* P	**Pn**	**21 56 23.4**	**-1.1**
	baz=342						
CHKT	**Chengkung**	**1.36**	**0**	*i* P	**Pb**	**21 56 27.3**	**-0.2**
	baz=349						
CHKT				S	**Sg**	**21 56 46.4**	**+0.4**
	baz=349						
WSSB	**Gushan**	**1.36**	**312**	P	**Pg**	**21 56 28.3**	**-0.1**
	baz=305						
ECS	**Chishang**	**1.36**	**355**	P	**Pn**	**21 56 26.2**	**-0.7**
	baz=345						
ECS				*e*S	**Sg**	**21 56 46.9**	**+0.8**
	baz=345						
TWM1	**Shoushan**	**1.39**	**322**	*i* P	**Pg**	**21 56 28.9**	**0.0**
	baz=326						
TWM1				*e*S	**Sg**	**21 56 49.6**	**+2.7**
	baz=326						
SCST	**Cishan**	**1.40**	**325**	*i* P	**Pg**	**21 56 28.9**	**-0.2**
	baz=336						
SCST				*e*S	**Sg**	**21 56 49.1**	**+1.9**
	baz=336						
EHD	**Haiduan**	**1.41**	**354**	P	**Pn**	**21 56 26.1**	**-1.6**
	baz=345						
EHD				*e*S	**Sb**	**21 56 46.8**	**+0.3**
	baz=345						
SLGT	**Liugui**	**1.41**	**332**	P	**Pb**	**21 56 27.9**	**-0.6**
	baz=335						
SLGT				*e*S	**Sg**	**21 56 48.6**	**+0.8**
	baz=335						
FULB	**Fuli**	**1.46**	**358**	*i* P	**Pn**	**21 56 28.1**	**-0.2**
	baz=347						
FULB				*e*S	**Sg**	**21 56 48.8**	**-0.4**
	baz=347						
ELDTW	**Lidau**	**1.48**	**348**	*i* P	**Pn**	**21 56 27.5**	**-1.2**
	baz=356						
ELDTW				*e*S	**Sn**	**21 56 47.6**	**-0.3**
	baz=356						
SGST	**Jiashian**	**1.52**	**332**	*i* P	**Pb**	**21 56 29.6**	**-0.7**
	baz=335						
STYH	**Taoyuan**	**1.52**	**339**	P	**Pb**	**21 56 29.5**	**-0.9**
	baz=349						
STYH				*e*S	**Sg**	**21 56 51.4**	**0.0**
	baz=349						
SHHT	**Tainan City**	**1.58**	**324**	P	**Pb**	**21 56 30.9**	**-0.5**
	baz=314						
EYUL	**Yuli**	**1.60**	**359**	*i* P	**Pn**	**21 56 30.1**	**-0.2**
	baz=349						
EYUL				*e*S	**Sb**	**21 56 52.4**	**+0.5**
	baz=349						
TWF1	**Yuli**	**1.61**	**358**	*i* P	**Pn**	**21 56 29.4**	**-1.0**
	baz=349						
TWF1				*e*S	**Sb**	**21 56 51.7**	**-0.3**
	baz=349						
CHN1	**Nanshi**	**1.63**	**332**	*i* P	**Pb**	**21 56 32.1**	**-0.2**
	baz=335						
CHN1				*e*S	**Sg**	**21 56 54.5**	**-0.3**
	baz=335						
YULB	**Yu-li**	**1.65**	**358**	P	**Pn**	**21 56 29.6**	**-1.3**
	baz=350						
YULB				*e*S	**Sn**	**21 56 51.7**	**-0.3**
	baz=350						
WTP	**Ta-pu**	**1.65**	**336**	*i* P	**Pb**	**21 56 32.2**	**-0.4**
	baz=338						
WTP				*e*S	**Sb**	**21 56 54.4**	**+1.1**
	baz=338						
SNST	**Tainan City**	**1.68**	**332**	P	**Pb**	**21 56 32.8**	**-0.2**
	baz=335						
TPUB	**Ta-pu**	**1.69**	**337**	P	**Pb**	**21 56 32.6**	**-0.8**
	baz=339						
TPUB				*e*S	**Sb**	**21 56 55.0**	**+0.4**
	baz=339						
TWK	**Hsinying**	**1.72**	**332**	*i* P	**Pb**	**21 56 33.1**	**-0.7**
	baz=335						
TWK				*e*S	**Sb**	**21 56 55.9**	**+0.5**
	baz=335						
HGSD	**Ruisui**	**1.75**	**2**	P	**Pn**	**21 56 32.4**	**+0.1**
	baz=9.0						
HGSD				*e*S	**Sb**	**21 56 56.8**	**+0.7**
	baz=9.0						
EHY	**Hungye**	**1.76**	**359**	*i* P	**Pn**	**21 56 31.4**	**-1.1**
	baz=349						
EHY				*e*S	**Sn**	**21 56 55.1**	**+0.3**
	baz=349						
TSCK	**Chigu Township**	**1.83**	**320**	P	**Pn**	**21 56 33.7**	**+0.3**
	baz=311						
TSCK				S	**Sb**	**21 56 59.4**	**+1.0**
	baz=311						
WCKO	**Fanlu**	**1.83**	**338**	P	**Pb**	**21 56 34.5**	**-1.2**
	baz=340						
WCKO				*e*S	**Sb**	**21 56 58.6**	**+0.1**
	baz=340						
ALS	**Alishan**	**1.84**	**344**	*i* P	**Pb**	**21 56 34.6**	**-1.3**
	baz=345						
ALS				S	**Sb**	**21 56 59.7**	**+0.7**
	baz=345						
ICHU	**Yijhu**	**1.90**	**329**	*i* P	**Pn**	**21 56 34.9**	**+0.5**
	baz=345						
ICHU				S	**Sb**	**21 57 01.7**	**+1.3**
	baz=345						
EGFH	**Guangfu**	**1.92**	**2**	P	**Pb**	**21 56 35.9**	**-1.3**
	baz=351						

EGFH				eS	Sn	21 56 59.6	+0.8
	baz=351						
CHY	Chiayi	1.95	334	iP	Pb	21 56 36.0	-1.7
	baz=336						
CHY				eS	Sb	21 57 01.5	-0.5
	baz=336						
WARBT	Fenglin Townsh	1.97	1	P	Pn	21 56 34.2	-1.1
	baz=352						
WARBT				eS	Sn	21 56 59.9	-0.1
	baz=352						
WHYT	Xinyi Township	2.00	347	P	Pb	21 56 37.3	-1.3
	baz=334						
WHYT				eS	Sb	21 57 04.5	+1.0
	baz=334						
VWDT	VWDT	2.02	354	P	Pn	21 56 36.2	+0.3
	baz=4.0						
VWDT				eS	Sb	21 57 03.5	-0.3
	baz=4.0						
ESL	Shilin	2.07	2	iP	Pn	21 56 36.1	-0.6
	baz=353						
ESL				eS	Sn	21 57 02.6	+0.3
	baz=353						
SSLB	Suanglung	2.07	350	P	Pn	21 56 37.6	+0.8
	baz=350						
SSLB				eS	Sb	21 57 05.1	-0.4
	baz=350						
WGK	Gukeng	2.07	339	eP	Pn	21 56 37.3	+0.6
	baz=341						
WGK				eS	Sb	21 57 04.6	-0.8
	baz=341						
WDLH	Douliu	2.08	339	eP	Pn	21 56 36.5	-0.4
	baz=340						
WDLH				eS	Sb	21 57 04.7	-1.0
	baz=340						
WTK	Tuku	2.14	335	iP	Pn	21 56 38.3	+0.7
	baz=337						
WTK				S	Sb	21 57 05.8	-1.4
	baz=337						
WJS	Zhushan	2.15	344	iP	Pb	21 56 39.4	-1.7
	baz=345						
WJS				eS	Sb	21 57 07.6	-0.2
	baz=345						
WSF	Szhu	2.16	331	eP	Pn	21 56 37.6	-0.3
	baz=334						
WSF				eS	Sn	21 57 05.9	+1.3
	baz=334						
SMLT	Sun Moon Lake	2.18	349	iP	Pb	21 56 39.7	-1.9
	baz=350						
SMLT				eS	Sb	21 57 07.7	-0.8
	baz=350						
TYC	Yuchr	2.21	348	iP	Pb	21 56 39.8	-2.2
	baz=349						
TYC				eS	Sb	21 57 10.0	+0.8
	baz=349						
OWD	Renai	2.21	356	P	Pn	21 56 39.3	+0.5
	baz=341						
OWD				S	Sb	21 57 08.4	-1.2
	baz=341						
WNT	Mingjian	2.22	344	iP	Pb	21 56 40.3	-1.9
	baz=345						
WNT				eS	Sb	21 57 08.3	-1.3
	baz=345						
ETM	Tongmen	2.22	3	P	Pn	21 56 39.0	+0.2
	baz=354						
ETM				eS	Sn	21 57 06.1	0.0
	baz=354						
WUSB	Renai	2.25	354	P	Pn	21 56 39.8	+0.4
	baz=341						
WUSB				S	Sb	21 57 10.7	-0.1
	baz=341						
LXIB	Xiulin Townshi	2.27	1	P	Pn	21 56 38.7	-0.9
	baz=1.0						
LXIB				eS	Sn	21 57 07.9	+0.3
	baz=1.0						
VCHM	Qimei	2.31	310	P	Pn	21 56 38.4	-1.5
	baz=313						
VCHM				S	Sn	21 57 07.8	-0.4
	baz=313						
CHGB	Renai	2.32	356	P	Pn	21 56 40.7	+0.4
	baz=342						
CHGB				eS	Sn	21 57 10.2	+1.4
	baz=342						
WRL	Guolierlin Hig	2.34	337	P	Pn	21 56 40.8	+0.4
	baz=339						
WRL				eS	Sn	21 57 10.1	+1.2
	baz=339						
TWD	Chiawan	2.34	5	eP	Pn	21 56 40.9	+0.4
	baz=355						
TWD				eS	Sn	21 57 10.3	+1.2
	baz=355						
WCS	Beigang Elemen	2.34	350	P	Pb	21 56 42.1	-2.3
	baz=339						
WCS				S	Sn	21 57 10.8	+1.6
	baz=339						
WHF	Hehuan Shan	2.40	358	iP	Pn	21 56 42.5	+0.9
	baz=6.0						
WHF				eS	Sn	21 57 12.0	+0.9
	baz=6.0						
PHUB	P'eng-hu	2.42	317	P	Pn	21 56 40.7	-0.7
	baz=320						
PHUB				eS	Sn	21 57 09.2	-1.7
	baz=320						
NACB	Ninganchiao	2.44	5	P	Pn	21 56 41.8	+0.1
	baz=356						
NACB				eS	Sn	21 57 11.7	+0.3
	baz=356						
ETLH	Xiulin Townshi	2.46	3	P	Pn	21 56 42.0	-0.2
	baz=2.0						
ETLH				eS	Sn	21 57 13.2	+1.0
	baz=2.0						
PNG	Penghu	2.47	318	P	Pn	21 56 41.7	-0.5
	baz=321						
TCU	Taichung	2.48	345	P	Pb	21 56 44.2	-2.5
	baz=335						
TCU				eS	Sn	21 57 14.7	+2.2
	baz=335						
TWT	Tachien	2.51	356	iP	Pn	21 56 43.5	+0.6
	baz=343						
TWT				eS	Sb	21 57 16.1	-2.1
	baz=343						
TDCB	Techi	2.51	356	P	Pn	21 56 44.2	+1.3
	baz=343						
TDCB				eS	Sn	21 57 14.8	+1.3
	baz=343						
EOS4	EOS4	2.53	20	P	Pn	21 56 42.8	+0.1
	baz=26						
EOS4				S	Sn	21 57 13.5	+0.2
	baz=26						
WHP	Taichung City	2.56	352	P	Pb	21 56 45.4	-2.7
	baz=339						
WHP				eS	Sb	21 57 17.1	-2.3
	baz=339						
TWQ1	Liyutan	2.65	348	iP	Pn	21 56 45.9	+1.1
	baz=337						
TWQ1				eS	Sn	21 57 18.7	+1.9
	baz=337						
NNSB	Datong	2.68	1	P	Pn	21 56 46.2	+0.9
	baz=9.0						
NNSB				eS	Sn	21 57 18.6	+1.0
	baz=9.0						
EOS3	EOS3	2.69	19	P	Pn	21 56 46.2	+1.1
	baz=16						
EOS3				S	Sb	21 57 19.7	-3.2
	baz=16						
NNS	Nan Shan	2.69	0	iP	Pn	21 56 46.9	+1.5
	baz=9.0						
NNS				eS	Sn	21 57 19.6	+1.7
	baz=9.0						
ENA	Nanau	2.70	7	iP	Pn	21 56 45.8	+0.4
	baz=351						
ENA				eS	Sb	21 57 20.8	-2.7
	baz=351						
NSY	Sanyi	2.72	348	P	Pn	21 56 47.1	+1.3
	baz=338						
NSY				S	Sn	21 57 21.3	+2.8
	baz=338						
EWUT	Wuta	2.72	8	P	Pn	21 56 46.7	+1.0
	baz=16						
EWUT				S	Sn	21 57 20.3	+1.8
	baz=16						
EOS2	EOS2	2.79	17	P	Pn	21 56 47.6	+1.1
	baz=13						
EOS2				eS	Sn	21 57 20.6	+0.7
	baz=13						
LATG	Datong	2.79	3	P	Pn	21 56 46.5	-0.3
	baz=3.0						
LATG				S	Sn	21 57 21.4	+1.1
	baz=3.0						
NDT	Datong Townshi	2.86	3	P	Pn	21 56 48.8	+1.2
	baz=357						
NDT				eS	Sn	21 57 22.8	+1.0
	baz=357						
NFF	Wufeng Townshi	2.89	356	P	Pn	21 56 50.0	+2.0
	baz=344						
NFF				eS	Sn	21 57 24.6	+1.9
	baz=344						
TWC	Suao	2.90	9	P	Pn	21 56 49.7	+1.7
	baz=15						
TWC				eS	Sn	21 57 24.4	+1.7
	baz=15						
ENTT	Nioudou	2.90	4	iP	Pn	21 56 49.7	+1.6
	baz=3.0						
ENTT				S	Sn	21 57 23.8	+1.0
	baz=3.0						
NSTT	Nanjuang	2.90	354	P	Pn	21 56 49.5	+1.4
	baz=342						
NSTT				eS	Sn	21 57 23.3	+0.4
	baz=342						
LIOB	Emei	2.91	354	iP	Pn	21 56 49.9	+1.6
	baz=342						
YHNB	Yeheng	2.92	0	P	Pn	21 56 49.2	+0.8
	baz=350						
YHNB				eS	Sn	21 57 24.8	+1.3
	baz=350						
NSK	Sanguang	2.92	0	iP	Pn	21 56 50.0	+1.5
	baz=350						
NSK				S	Sb	21 57 26.9	-3.2
	baz=350						
TWE	Neicheng	2.98	5	iP	Pn	21 56 50.4	+1.2
	baz=358						
TWE				S	Sn	21 57 25.5	+0.6
	baz=358						
FUSB	Fushanzhiwuyua	3.02	4	P	Pn	21 56 50.5	+0.7
	baz=3.0						
FUSB				eS	Sn	21 57 27.2	+1.3
	baz=3.0						
NWLT	Wulai	3.03	3	iP	Pn	21 56 50.6	+0.7
	baz=2.0						
NWLT				eS	Sn	21 57 27.7	+1.6
	baz=2.0						
YOJ	Yonaguni jima	3.11	29	eP	Pn	21 56 52.0	+1.0
YOJ				eS	Sn	21 57 30.3	+2.3
HATJ	Hateruma jima	3.23	44	eS	Sn	21 57 32.4	+1.4
TWA	Mucha	3.23	4	iP	Pn	21 56 52.2	-0.5
	baz=3.0						
IRIF	Iriomote-Funau	3.39	40	P	Pn	21 56 55.5	+0.7
IRIF				S	Sn	21 57 36.7	+1.8
JKRS	Kuro-shima	3.49	44	P	Pn	21 56 56.7	+0.5
JKRS				eS	Sn	21 57 39.0	+1.7
JIJ	Ishigaki jima	3.66	44	P	Pn	21 56 59.0	+0.4
JIJ				S	Sn	21 57 42.7	+1.0
JISG	Ishigakijimahi	3.93	43	eP	Pn	21 57 02.3	+0.1
JISG				eS	Sn	21 57 49.8	+1.5
JTJ	Tarama	4.22	46	eP	Pn	21 57 07.1	+0.8
JTJ				eS	Sn	21 57 57.3	+1.8

CATAC ***02*** *22:07:02.7±0.5, 13°.07N×89°.23W, h27km±3km, ML4.1*
SNET ***02*** *22:07:03.5±0.8, 13°.12N×89°.23W, h49km±9km, ML4.1*
GCG ***02*** *22:07:04.7±0.3, 13°.09N×89°.57W, h0km, MD3.8*
ISC 02 22:07:02.4±1.1, **13°.02N**±0°.03×**89°.24W**±0°.03, **h32**km±10km,
n131, σ0s.95/227, **1D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.48	350	eP	Pn	22 07 13.4	+0.3
LALI	Alcalda de L	0.48	350	iP	Pn	22 07 13.4	+0.3
LALI				iS	Sn	22 07 21.4	+1.1
LALI				IAML		22 07 21.6	
	comp=Z,2μm,1.0s						
LALI	Alcalda de L	0.48	350	iP	Pn	22 07 13.3	+0.3
LALI				iS	Sn	22 07 19.8	-0.5
LALI				IAML		22 07 21.6	
	comp=Z,2μm,1.0s						
PANCS	Alcalda de	0.60	5	iP	Pn	22 07 14.6	-0.2
PANCS				iS	Sn	22 07 23.3	0.0
PANCS				IAML		22 07 24.9	
	comp=Z,41μm,1.0s						
PANCS	Alcalda de	0.60	5	iP	Pn	22 07 14.5	-0.2
PANCS				iS	Sn	22 07 23.0	-0.3
PANCS				IAML		22 07 24.9	
	comp=Z,41μm,1.0s						
LOMA	Loma Larga	0.63	6	iP	Pb	22 07 15.4	+0.2
LOMA				eS	Sn	22 07 24.9	+0.6
LOMA	Loma Larga	0.63	6	iP	Pb	22 07 15.4	+0.2
LOMA				iS	Sn	22 07 24.6	+0.3
LOMA				IAML		22 07 25.8	
	comp=Z,20μm,1.0s						
LOMA	Loma Larga	0.63	6	iP	Pb	22 07 15.3	+0.1
LOMA				iS	Sn	22 07 24.7	+0.4
LOMA				IAML		22 07 25.8	
	comp=Z,20μm,1.0s						
SJTE	Alcalda de S	0.64	20	eP	Pb	22 07 15.2	-0.2
SJTE				eS	Sn	22 07 24.3	-0.1
SJTE	Alcalda de S	0.64	20	iP	Pb	22 07 15.1	-0.2
SJTE				iS	Sn	22 07 24.1	-0.3
SJTE				IAML		22 07 24.8	
	comp=Z,4μm,1.0s						
SJTE	Alcalda de S	0.64	20	iP	Pb	22 07 15.1	-0.2
SJTE				iS	Sn	22 07 24.0	-0.3
SJTE				IAML		22 07 24.8	
	comp=Z,4μm,1.0s						
ITCA	Escuela Especi	0.66	356	iP	Pn	22 07 15.6	-0.1
ITCA				iS	Sn	22 07 25.3	+0.4
ITCA				IAML		22 07 26.2	
	comp=Z,27μm,1.0s						
ITCA	Escuela Especi	0.66	356	iP	Pn	22 07 15.5	-0.1
ITCA				iS	Sn	22 07 24.4	-0.5
ITCA				IAML		22 07 26.2	
	comp=Z,27μm,1.0s						
MAGS	Ministerio de	0.67	356	iP	Pn	22 07 15.7	-0.1
MAGS				iS	Sn	22 07 25.5	+0.3
MAGS				IAML		22 07 31.1	
	comp=Z,9μm,1.0s						
MAGS	Ministerio de	0.67	356	iP	Pn	22 07 15.7	-0.1
MAGS				iS	Sn	22 07 25.0	-0.2
MAGS				IAML		22 07 31.1	
	comp=Z,9μm,1.0s						
SNET	Serv Nac Est T	0.67	0	eP	Pb	22 07 15.8	0.0
SNET				eS	Sn	22 07 25.6	+0.4
SNET	Serv Nac Est T	0.67	0	iP	Pb	22 07 15.8	0.0
SNET				iS	Sn	22 07 25.4	+0.2
SNET				IAML		22 07 25.9	
	comp=Z,29μm,1.0s						
SNET	Serv Nac Est T	0.67	0	iP	Pb	22 07 15.7	-0.1
SNET				iS	Sn	22 07 25.3	+0.1
SNET				IAML		22 07 25.9	
	comp=Z,29μm,1.0s						
JAYA	Jayaque - finc	0.67	342	eP	Pn	22 07 15.8	-0.1
JAYA				eS	Sb	22 07 24.6	-0.4
JAYA	Jayaque - finc	0.67	342	iP	Pn	22 07 15.7	-0.1
JAYA				iS	Sb	22 07 24.1	-0.9
JAYA				IAML		22 07 26.4	
	comp=Z,60μm,1.0s						
JAYA	Jayaque - finc	0.67	342	iP	Pn	22 07 15.7	-0.1
JAYA				iS	Sb	22 07 24.4	-0.6
JAYA				IAML		22 07 26.4	
	comp=Z,60μm,1.0s						
TECO	Alcaldia de Te	0.68	40	eP	Pb	22 07 15.8	-0.2
TECO	Alcaldia de Te	0.68	40	iP	Pb	22 07 15.9	-0.2
TECO				iS	Sn	22 07 25.4	0.0
TECO				IAML		22 07 27.8	
	comp=Z,4μm,1.0s						
TECO	Alcaldia de Te	0.68	40	iP	Pb	22 07 15.8	-0.2
TECO				iS	Sn	22 07 25.3	-0.1
TECO				IAML		22 07 27.8	
	comp=Z,4μm,1.0s						
UTEC	Universidad Te	0.68	3	iP	Pb	22 07 16.0	0.0
UTEC				iS	Sn	22 07 25.8	+0.3
UTEC				IAML		22 07 26.7	
	comp=Z,8μm,1.0s						
UTEC	Universidad Te	0.68	3	iP	Pb	22 07 16.1	0.0
UTEC				iS	Sn	22 07 25.8	+0.3
UTEC				IAML		22 07 26.7	
	comp=Z,8μm,1.0s						
SEMO	Seminario San	0.69	1	eP	Pb	22 07 15.9	-0.1
SEMO	Seminario San	0.69	1	iP	Pb	22 07 16.0	-0.1
SEMO				iS	Sn	22 07 25.7	+0.1
SEMO				IAML		22 07 28.1	
	comp=Z,41μm,1.0s						
SEMO	Seminario San	0.69	1	iP	Pb	22 07 16.0	-0.1
SEMO				iS	Sn	22 07 25.5	-0.1
SEMO				IAML		22 07 28.1	
	comp=Z,41μm,1.0s						
AEIL	Aeropuerto Ilo	0.69	10	eP	Pb	22 07 16.3	+0.1
AEIL				eS	Sn	22 07 26.8	+1.1
COEG	Centro de Oper	0.69	30⇓	iP	Pb	22 07 16.0	-0.2
COEG				eS	Sn	22 07 25.7	-0.1
COEG	Centro de Oper	0.69	30	iP	Pb	22 07 15.9	-0.3
COEG				iS	Sn	22 07 25.7	-0.1
COEG				IAML		22 07 30.2	
	comp=Z,2μm,1.0s						
COEG	Centro de Oper	0.69	30	iP	Pb	22 07 15.9	-0.3
COEG				iS	Sn	22 07 25.7	-0.1
COEG				IAML		22 07 30.2	
	comp=Z,2μm,1.0s						
UEES	Universidad Ev	0.70	360	eP	Pb	22 07 16.3	-0.1
UEES				eS	Sn	22 07 26.1	+0.3
UEES	Universidad Ev	0.70	360	iP	Pb	22 07 16.2	-0.1
UEES				iS	Sn	22 07 26.2	+0.3
UEES				IAML		22 07 28.5	
	comp=Z,14μm,1.0s						
UEES	Universidad Ev	0.70	360	iP	Pb	22 07 16.2	-0.1
UEES				iS	Sn	22 07 25.9	0.0
UEES				IAML		22 07 28.5	
	comp=Z,14μm,1.0s						
IGN	Direccin Gen	0.70	5	eP	Pb	22 07 16.3	0.0
IGN	Direccin Gen	0.70	5	iP	Pb	22 07 16.4	+0.1
IGN				iS	Sn	22 07 26.1	+0.2
IGN				IAML		22 07 29.4	
	comp=Z,38μm,1.0s						
IGN	Direccin Gen	0.70	5	iP	Pb	22 07 16.3	0.0
IGN				iS	Sn	22 07 26.2	+0.3
IGN				IAML		22 07 29.4	
	comp=Z,38μm,1.0s						
PMON	Piamonte	0.70	354	eP	Pb	22 07 16.3	-0.1
PMON	Piamonte	0.70	354	iP	Pb	22 07 16.2	-0.1
PMON				iS	Sn	22 07 26.1	+0.2
PMON				IAML		22 07 27.3	
	comp=Z,25μm,1.0s						
PMON	Piamonte	0.70	354	iP	Pn	22 07 16.1	-0.1
PMON				iS	Sn	22 07 26.3	+0.4
PMON				IAML		22 07 27.3	
	comp=Z,25μm,1.0s						
SNVI	San Vicente	0.71	33	eP	Pb	22 07 16.4	-0.2
BOQS	Boqueron	0.72	357	iP	Pb	22 07 16.7	0.0
ALJI	Alcalda de J	0.72	64	eP	Pb	22 07 16.3	-0.3
ALJI	Alcalda de J	0.72	64	iP	Pb	22 07 16.2	-0.3
ALJI				IAML		22 07 26.6	
	comp=Z,3μm,1.0s						
ALJI				iS	Sb	22 07 26.8	+0.6
ALJI	Alcalda de J	0.72	64	iP	Pb	22 07 16.2	-0.3
ALJI				IAML		22 07 26.6	
	comp=Z,3μm,1.0s						
ALJI				iS	Sb	22 07 26.8	+0.6
LFU	La Fuente	0.74	9	eP	Pb	22 07 17.0	0.0
PAVA	Las Pavas	0.75	23	eP	Pb	22 07 17.0	-0.3
PAVA				eS	Sb	22 07 27.6	+0.3
PAVA	Las Pavas	0.75	23	iP	Pb	22 07 16.9	-0.3
PAVA				IAML		22 07 17.6	
	comp=Z,9μm,1.0s						
PAVA				iS	Sb	22 07 27.6	+0.3
PAVA	Las Pavas	0.75	23	iP	Pb	22 07 16.9	-0.3
PAVA				IAML		22 07 17.6	
	comp=Z,9μm,1.0s						
PAVA				iS	Sb	22 07 27.6	+0.3
UESV	Universidad de	0.76	35	eP	Pb	22 07 16.9	-0.3
UESV	Universidad de	0.76	35	iP	Pb	22 07 16.9	-0.3
UESV				iS	Sb	22 07 27.2	-0.1
UESV				IAML		22 07 29.1	
	comp=Z,2μm,1.0s						
UESV	Universidad de	0.76	35	iP	Pb	22 07 16.9	-0.3
UESV				iS	Sb	22 07 27.2	-0.1
UESV				IAML		22 07 29.1	
	comp=Z,2μm,1.0s						
CEDA	San Andres	0.80	349	eP	Pn	22 07 17.4	-0.1
CEDA	San Andres	0.80	349	iP	Pn	22 07 17.3	-0.2
CEDA				iS	Sb	22 07 28.4	-0.1
CEDA				IAML		22 07 30.6	
	comp=Z,10μm,1.0s						
CEDA	San Andres	0.80	349	iP	Pn	22 07 17.3	-0.2
CEDA				iS	Sb	22 07 28.5	-0.1
CEDA				IAML		22 07 30.6	
	comp=Z,10μm,1.0s						
QUEZ	Alcaldia de Qu	0.82	357	iP	Pn	22 07 17.8	+0.1
QUEZ				iS	Sb	22 07 30.0	+1.0
QUEZ				IAML		22 07 32.4	
	comp=Z,9μm,1.0s						
QUEZ	Alcaldia de Qu	0.82	357	iP	Pb	22 07 18.0	-0.3
QUEZ				iS	Sb	22 07 29.6	+0.6
QUEZ				IAML		22 07 32.4	
	comp=Z,9μm,1.0s						
SCLA	Alcaldia de Sa	0.84	36	eP	Pb	22 07 18.5	-0.3
SCLA				eS	Sb	22 07 30.0	+0.2
SCLA	Alcaldia de Sa	0.84	36	iP	Pb	22 07 18.4	-0.3
SCLA				iS	Sb	22 07 29.8	0.0
SCLA				IAML		22 07 30.7	
	comp=Z,1μm,1.0s						
SCLA	Alcaldia de Sa	0.84	36	iP	Pb	22 07 18.4	-0.3
SCLA				iS	Sb	22 07 29.6	-0.2
SCLA				IAML		22 07 30.7	
	comp=Z,1μm,1.0s						
CEVE	Cerro Verde	0.89	335	eP	Pn	22 07 19.0	0.0
CEVE				eS	Sb	22 07 31.4	0.0
CEVE	Cerro Verde	0.89	335	iP	Pn	22 07 19.0	0.0
CEVE				iS	Sn	22 07 30.8	-0.2
CEVE				IAML		22 07 34.7	
	comp=Z,5μm,1.0s						
CEVE	Cerro Verde	0.89	335	iP	Pn	22 07 18.9	-0.1
CEVE				iS	Sn	22 07 30.7	-0.2
CEVE				IAML		22 07 34.7	
	comp=Z,5μm,1.0s						
PQSS	Presa 15 de Se	0.89	47	eP	Pb	22 07 19.0	-0.5
PQSS	Presa 15 de Se	0.89	47	iP	Pb	22 07 18.8	-0.7
PQSS				IAML		22 07 19.8	
	comp=Z,3μm,1.0s						
PQSS				iS	Sb	22 07 31.5	+0.4
PQSS	Presa 15 de Se	0.89	47	iP	Pb	22 07 19.0	-0.5
PQSS				IAML		22 07 19.8	
	comp=Z,3μm,1.0s						
PQSS				iS	Sb	22 07 31.5	+0.4
SNJE	San Jose	0.92	337	eP	Pn	22 07 19.3	-0.1
RTR	El Retiro	0.96	336	eP	Pn	22 07 20.0	+0.1
PACA	Pacayal	1.00	63	eP	Pb	22 07 21.4	+0.1
PACA	Pacayal	1.00	63	iP	Pb	22 07 21.2	-0.1
PACA				iS	Sb	22 07 34.6	+0.4
PACA				IAML		22 07 35.2	
	comp=Z,50μm,1.0s						
UNIC	Universidad Ca	1.01	342	iP	Pn	22 07 20.4	0.0
UNIC				iS	Sb	22 07 34.1	-0.4
UNIC				IAML		22 07 35.0	
	comp=Z,2μm,1.0s						
UNIC	Universidad Ca	1.01	342	iP	Pn	22 07 20.4	0.0
UNIC				iS	Sb	22 07 33.9	-0.6
UNIC				IAML		22 07 35.0	
	comp=Z,2μm,1.0s						
VSM	San Miguel	1.02	66	eP	Pb	22 07 21.6	-0.2
NUBE	Las Nubes	1.03	329	eP	Pn	22 07 20.6	-0.2
NUBE				eS	Sn	22 07 33.5	-0.7
NUBE	Las Nubes	1.03	329	iP	Pn	22 07 20.4	-0.4
NUBE				iS	Sn	22 07 33.3	-0.9
NUBE				IAML		22 07 33.9	
	comp=Z,6μm,1.0s						
NUBE	Las Nubes	1.03	329	iP	Pn	22 07 20.4	-0.4
NUBE				iS	Sn	22 07 33.4	-0.8
NUBE				IAML		22 07 33.9	
	comp=Z,6μm,1.0s						
LOAL	Lomas de Alarc	1.11	332	iP	Pn	22 07 22.1	+0.3
LOAL				iS	Sn	22 07 36.4	+0.3
LOAL				IAML		22 07 39.0	
	comp=Z,4μm,1.0s						
LOAL	Lomas de Alarc	1.11	332	iP	Pn	22 07 22.1	+0.3
LOAL				iS	Sb	22 07 37.1	-0.3
LOAL				IAML		22 07 39.0	
	comp=Z,4μm,1.0s						
LLGN	La Laguna	1.18	14	iP	Pn	22 07 22.6	-0.1
LLGN				IAML		22 07 22.8	
	comp=Z,840nm,1.0s						
LLGN				iS	Sb	22 07 38.1	-1.2
LLGN	La Laguna	1.18	14	iP	Pn	22 07 22.6	-0.1
LLGN				IAML		22 07 22.8	
	comp=Z,840nm,1.0s						
LLGN				iS	Sb	22 07 38.1	-1.2
LCND	La Caada	1.34	77	eP	Pb	22 07 26.1	-1.0
LCND	La Caada	1.34	77	iP	Pb	22 07 26.0	-1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCND				*i* S	Sb	22 07 43.1	-0.8
LCND				IAML		22 07 47.7	
	comp=Z,2µm,1.0s						
MTO3	Montecristo	1.38	355	*e*P	Pn	22 07 25.6	-0.1
MTO3	Montecristo	1.38	355	*i* P	Pn	22 07 25.6	-0.1
MTO3				IAML		22 07 25.6	
	comp=Z,690nm,1.0s						
MTO3				*i* S	Sn	22 07 42.4	-0.6
MTO3	Montecristo	1.38	355	*i* P	Pn	22 07 25.5	-0.2
MTO3				IAML		22 07 25.6	
	comp=Z,690nm,1.0s						
MTO3				*i* S	Sn	22 07 42.3	-0.7
CNCH	Conchagua	1.39	79	*e*P	Pn	22 07 26.3	+0.6
CNCH	Conchagua	1.39	79	*i* P	Pn	22 07 26.3	+0.6
CNCH				*i* S	Sb	22 07 44.5	-0.9
CNCH				IAML		22 07 47.8	
	comp=Z,5µm,1.0s						
JUAM	Asuncion Mita	1.39	341	*i* P	Pn	22 07 25.8	+0.1
JUAM				IAML		22 07 25.8	
	comp=Z,1µm,1.0s						
JUAM				*i* S	Sn	22 07 43.2	+0.3
ESQI	Esquipulas	1.54	356	*i* P	Pn	22 07 28.1	+0.3
ESQI				IAML		22 07 28.2	
	comp=Z,1µm,1.0s						
ESQI				*i* S	Sn	22 07 46.4	-0.3
ESQI	Esquipulas	1.54	356	*i* P	Pn	22 07 28.0	+0.3
ESQI				IAML		22 07 28.2	
	comp=Z,1µm,1.0s						
ESQI				*i* S	Sn	22 07 46.9	+0.2
AMPH	Amapala	1.56	80	*i* P	Pn	22 07 28.5	+0.6
AMPH				*i* S	Sb	22 07 49.2	-0.9
CSGN	Cosiguina Volc	1.63	91	*i* P	Pn	22 07 29.1	+0.1
CSGN				IAML		22 07 59.7	
	comp=Z,3µm,1.0s						
SARH	Santa Rosa de	1.81	15	*i* P	Pn	22 07 32.0	+0.5
NBG	Las Nubes	1.90	325	*i* P	Pb	22 07 36.0	-0.7
GUNB	GUNB	1.91	326	*i* P	Pn	22 07 32.7	-0.2
GUNB				IAML		22 07 57.1	
	comp=Z,320nm,1.0s						
GUNB	GUNB	1.91	326	*i* P	Pn	22 07 32.8	-0.2
GUNB				*i* S	Sn	22 07 56.4	+0.4
GUNB				IAML		22 07 57.1	
	comp=Z,320nm,1.0s						
ESSG	Sabana Grande	2.06	311	*i* P	Pn	22 07 35.4	+0.5
ESSG				*i* S	Sn	22 07 58.3	-1.3
ESSG				IAML		22 08 06.2	
	comp=Z,780nm,1.0s						
FUG	Fuego 3	2.11	313	*i* P	Pn	22 07 35.9	+0.2
FUG				*i* S	Sn	22 08 03.7	+2.7
CRIN	San Cristobal	2.15	98	*i* P	Pn	22 07 37.3	+1.1
CRIN				*i* S	Sn	22 08 03.1	+1.3
CRIN				IAML		22 08 18.4	
	comp=Z,2µm,1.0s						
COMHN	El Horno	2.16	49	*i* P	Pn	22 07 36.0	-0.4
TGUH	Tegucigalpa,Un	2.17	61	*i* P	Pn	22 07 36.8	+0.3
TGUH				IAML		22 07 58.5	
	comp=Z,280nm,1.0s						
TGUH				*i* S	Sb	22 08 06.7	-1.1
PKGN	Cerro Pekin	2.23	99	*i* P	Pn	22 07 37.6	+0.5
PKGN				*i* S	Sn	22 08 03.2	-0.4
PKGN				IAML		22 08 11.3	
	comp=Z,1µm,1.0s						
POLN	Al Sur del Vol	2.39	98	*i* P	Pn	22 07 38.6	-0.8
POLN				*i* S	Sn	22 08 06.0	-1.6
POLN				IAML		22 08 15.5	
	comp=Z,350nm,1.0s						
ROCN	Rota Cerro Neg	2.48	101	*i* P	Pn	22 07 39.4	-1.2
ROCN				*i* S	Sn	22 08 06.7	-3.1
ROCN				IAML		22 08 20.6	
	comp=Z,190nm,1.0s						
YUSH	Yuscaran	2.51	68	*i* P	Pn	22 07 41.5	+0.4
CNGA	Al SSO del Vol	2.52	102	*i* P	Pn	22 07 43.4	+2.1
CNGA				*i* S	Sn	22 08 10.3	-0.7
CNGA				IAML		22 08 25.1	
	comp=Z,340nm,1.0s						
CNGN	Cerro Negro	2.53	101	*i* P	Pn	22 07 42.8	+1.5
CNGN				*i* S	Sn	22 08 11.5	+0.5
CNGN				IAML		22 08 22.4	
	comp=Z,290nm,1.0s						
SOMN	Somoto	2.58	81	*i* P	Pn	22 07 44.1	+1.9
SOMN				IAML		22 08 24.7	
	comp=Z,71nm,1.0s						
MOMN	Momotombo	2.70	103	*i* P	Pn	22 07 44.8	+1.2
MOMN				*i* S	Sn	22 08 13.6	-1.6
MOMN				IAML		22 08 25.3	
	comp=Z,7.8nm,1.0s						
COPN	Copaltepe	2.71	108	*i* P	Pn	22 07 45.3	+1.5
COPN				IAML		22 08 26.8	
	comp=Z,340nm,1.0s						
MOM2	El Cardon	2.75	102	*i* P	Pn	22 07 46.2	+2.0
MOM2				*i* S	Sn	22 08 16.8	+0.5
MOM2				IAML		22 08 29.6	
	comp=Z,140nm,1.0s						
LIMN	Finca el Limon	2.80	89	*i* P	Pn	22 07 45.5	+0.5
LIMN				*i* S	Sn	22 08 17.5	-0.2
LIMN				IAML		22 08 26.7	
	comp=Z,89nm,1.0s						
STG3	Santiaguito 3,	2.83	307	*i* P	Pn	22 07 47.6	+2.1
MSHP	Masachapa	2.89	114	*i* P	Pn	22 07 45.0	-1.2
MSHP				*i* S	Sn	22 08 19.4	-0.4
MSHP				IAML		22 08 31.6	
	comp=Z,440nm,1.0s						
YORHN	Yoro	2.93	44	*i* P	Pn	22 07 47.7	+0.8
RCVN	Varillal2	3.01	79	*i* P	Pn	22 07 46.9	-1.2
RCVN				IAML		22 08 59.5	
	comp=Z,1µm,1.0s						
NISHN	Nisperales Com	3.04	25	*i* P	Pn	22 07 48.8	+0.4
RCPN	Sur Rio San Ju	3.10	80	*i* P	Pn	22 07 49.8	+0.6
RCPN				IAML		22 09 59.7	
	comp=Z,0.7nm,1.0s						
MATN	Matagalpa	3.23	91	*i* P	Pn	22 07 51.3	+0.3
MATN				IAML		22 07 51.7	
	comp=Z,44nm,1.0s						
MATN				*i* S	Sn	22 08 29.0	+0.6
SMCA	Catarina	3.31	304	*i* P	Pn	22 07 53.3	+1.3
SMCA				*i* S	Sn	22 08 29.3	-1.0
SMCA				IAML		22 08 58.3	
	comp=Z,340nm,1.0s						
JUTIH	Juticalpa Olan	3.36	60	*i* P	Pn	22 07 53.5	+0.7
BOAB	BOACO BROADBAN	3.53	99	*i* P	Pn	22 07 55.2	+0.2
BOAB				IAML		22 08 14.0	
	comp=Z,36nm,1.0s						
BOAB				*i* S	Sn	22 08 38.8	+3.2
HZTE	Horizontes, Gu	4.23	122	*i* P	Pn	22 08 07.8	+3.1
HZTE				IAML		22 08 41.9	
	comp=Z,120nm,1.0s						
HZTE				*i* S	Sn	22 08 53.4	+0.3
ORTG	Ortega, Santa	4.54	125	*i* P	Pn	22 08 11.9	+2.9
ORTG				*i* S	Sn	22 09 00.6	-0.2
ORTG				IAML		22 09 47.1	
	comp=Z,61nm,1.0s						
VMAR	Armenia, Volca	4.59	118	*i* P	Pn	22 08 15.8	+6.1
VMAR				IAML		22 08 49.3	
	comp=Z,130nm,1.0s						
INDI	Punta indio, G	4.81	130	*i* P	Pn	22 08 14.2	+1.5
INDI				*i* S	Sn	22 09 01.8	-5.6
INDI				IAML		22 09 39.1	
	comp=Z,100nm,1.0s						
LAFE	Finca La Fe, P	5.30	126	*i* P	Pn	22 08 19.6	+0.1
LAFE				IAmb	IAmb	22 08 37.5	
	comp=Z,32nm,1.2s						
LAFE				*i* S	Sn	22 09 16.4	-3.1
LAFE				IAML		22 10 09.6	
	comp=Z,61nm,1.0s						
JACO	JACO, Garabito	5.59	126	*i* P	Pn	22 08 27.7	+4.3
JACO				IAmb	IAmb	22 08 30.7	
	comp=Z,34nm,1.5s						
JACO				IAML		22 09 22.5	
	comp=Z,60nm,1.0s						
JACO				*i* S	Sn	22 09 27.0	+0.5
CDM	Cerro de Muert	6.37	122	*i* P	Pn	22 08 38.5	+3.9
CDM				IAmb	IAmb	22 08 42.1	
	comp=Z,9.6nm,0.7s						
CDM				*i* S	Sn	22 09 43.9	-2.6
CDM				IAML		22 10 12.0	
	comp=Z,33nm,1.0s						

TAP ***02*** *22:14:20.6, 24°.57N×122°.46E, h102km±1km, ML2.9, D*
JMA ***02*** *22:14:20.2±0.1, 24°.6N±0°.9×122°.5E±0°.3, h97km±1km, MV2.0/13, NW OFF ISHIGAKIJIMA IS*
ISC 02 22:14:20.9±1.5**, 24°.59N**±0°.06×**122°.50E**±0°.03**, h95**km±8km**, n56, σ0s.83**/107**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EOS2	EOS2	0.29	235	*i* P	Pn	22 14 35.1	+0.4
	baz=234						
EOS2				*i* S	Sn	22 14 46.8	+1.7
	baz=234						
EOS3	EOS3	0.34	208	*i* P	Pn	22 14 35.7	+0.7
	baz=204						
EOS3				*i* S	Sn	22 14 47.6	+2.2
	baz=204						
JYNG	Yonagunijimaku	0.43	109	*e*P	Pn	22 14 35.5	-0.1
JYNG				*e*S	Sn	22 14 46.6	-0.1
YOJ	Yonaguni jima	0.49	105	P	Pn	22 14 35.9	-0.2
YOJ				S	Sn	22 14 47.4	0.0
EOS4	EOS4	0.49	199	*i* P	Pn	22 14 36.0	+0.3
	baz=195						
EOS4				*i* S	Sn	22 14 47.6	+0.8
	baz=195						
TWC	Suao	0.59	272	*i* P	Pn	22 14 36.2	-0.7
	baz=274						
TWC				*i* S	Sn	22 14 47.5	-1.3
	baz=274						
EWUT	Wuta	0.67	258	*i* P	Pn	22 14 37.4	-0.2
	baz=259						
EWUT				*i* S	Sn	22 14 49.7	-0.4
	baz=259						
ENA	Nanau	0.71	257	*i* P	Pn	22 14 37.8	-0.1
	baz=257						
ENA				S	Sn	22 14 51.0	+0.3
	baz=257						
NDS	Dongshan	0.71	274	*i* P	Pn	22 14 38.3	+0.4
	baz=275						
NDS				S	Sn	22 14 50.2	-0.5
	baz=275						
TWE	Neicheng	0.77	280	*i* P	Pn	22 14 38.2	-0.3
	baz=282						
TWE				*i* S	Sn	22 14 51.0	-0.6
	baz=282						
FUSB	Fushanzhiwuyua	0.84	282	*i* P	Pn	22 14 39.1	-0.3
	baz=283						
FUSB				S	Sn	22 14 52.0	-1.2
	baz=283						
ENTT	Nioudou	0.85	274	*i* P	Pn	22 14 39.6	+0.3
	baz=275						
ENTT				*i* S	Sn	22 14 53.1	-0.1
	baz=275						
LATG	Datong	0.88	267	*i* P	Pn	22 14 39.8	0.0
	baz=267						
LATG				*i* S	Sn	22 14 54.0	0.0
	baz=267						
NDT	Datong Townshi	0.89	271	*i* P	Pn	22 14 40.2	+0.4
	baz=272						
NDT				*i* S	Sn	22 14 54.2	+0.1
	baz=272						
NACB	Ninganchiao	0.92	243	*i* P	Pn	22 14 39.4	-0.7
	baz=243						
NACB				S	Sn	22 14 53.8	-0.7
	baz=243						
TWD	Chiawan	0.96	238	P	Pn	22 14 41.7	+1.1
	baz=238						
TWD				*i* S	Sn	22 14 54.9	-0.4
	baz=238						
ETLH	Xiulin Townshi	1.00	248	*i* P	Pn	22 14 40.8	-0.3
	baz=248						
ETLH				S	Sn	22 14 55.5	-0.7
	baz=248						
YHNB	Yeheng	1.02	275	*i* P	Pn	22 14 41.4	+0.1
	baz=276						
YHNB				*i* S	Sn	22 14 56.2	-0.4
	baz=276						
NNSB	Datong	1.03	261	*i* P	Pn	22 14 41.2	-0.1
	baz=262						
NNSB				*e*S	Sn	22 14 56.6	-0.2
	baz=262						
NNS	Nan Shan	1.03	262	*i* P	Pn	22 14 41.5	+0.1
	baz=262						
NNS				*i* S	Sn	22 14 56.6	-0.4
	baz=262						
NSK	Sanguang	1.04	275	*i* P	Pn	22 14 41.4	-0.1
	baz=276						
NSK				*i* S	Sn	22 14 56.4	-0.6
	baz=276						
ETM	Tongmen	1.11	236	*i* P	Pn	22 14 41.7	-0.5
	baz=235						
ETM				S	Sn	22 14 57.0	-1.2
	baz=235						
LXIB	Xiulin Townshi	1.14	240	*i* P	Pn	22 14 42.0	-0.7
	baz=240						
LXIB				*i* S	Sn	22 14 57.7	-1.4
	baz=240						
IRIF	Iriomote-Funau	1.15	103	P	Pn	22 14 42.6	-0.1
IRIF				*e*S	Sn	22 14 59.1	0.0
WHF	Hehuan Shan	1.21	249	*i* P	Pn	22 14 43.8	0.0
	baz=248						
WHF				*i* S	Sn	22 15 00.5	-0.5
	baz=248						
ESL	Shilin	1.24	232	*e*S	Sn	22 14 60.0	-1.0
	baz=231						
NFF	Wufeng Townshi	1.25	272	*i* P	Pn	22 14 43.9	-0.1
	baz=273						
NFF				*i* S	Sn	22 15 00.8	-0.6
	baz=273						
TDCB	Techi	1.26	255	*i* P	Pn	22 14 44.6	+0.5
	baz=255						
TDCB				S	Sn	22 15 01.3	-0.4
	baz=255						
WARBT	Fenglin Townsh	1.33	230	*i* P	Pn	22 14 44.0	-0.9
	baz=229						
WARBT				*i* S	Sn	22 15 01.5	-1.5
	baz=229						
EGFH	Guangfu	1.34	227	P	Pn	22 14 44.2	-0.7
	baz=226						
EGFH				S	Sn	22 15 02.4	-0.7
	baz=226						
LIOB	Emei	1.35	273	*i* P	Pn	22 14 45.1	0.0
	baz=273						
LIOB				*i* S	Sn	22 15 03.2	-0.1
	baz=273						
OWD	Renai	1.36	243	*i* P	Pn	22 14 45.4	+0.1
	baz=242						
OWD				*i* S	Sn	22 15 03.4	-0.4
	baz=242						
NSTT	Nanjuang	1.36	272	*i* P	Pn	22 14 45.0	-0.2
	baz=272						
NSTT				*i* S	Sn	22 15 03.1	-0.5
	baz=272						
WUSB	Renai	1.39	245	*i* P	Pn	22 14 46.0	+0.3
	baz=244						
WUSB				*i* S	Sn	22 15 04.1	-0.4
	baz=244						
JKRS	Kuro-shima	1.42	104	P	Pn	22 14 46.2	+0.3
JKRS				S	Sn	22 15 05.2	+0.3
HGSD	Ruisui	1.47	222	*i* P	Pn	22 14 46.1	-0.4
	baz=221						
HGSD				S	Sn	22 15 05.5	-0.4
	baz=221						
VWDT	VWDT	1.49	236	*i* P	Pn	22 14 47.0	+0.2
	baz=236						
VWDT				S	Sn	22 15 06.2	-0.2
	baz=236						
JIJ	Ishigaki jima	1.52	98	P	Pn	22 14 46.9	-0.2
JIJ				*e*S	Sn	22 15 06.3	-0.7
EHY	Hungye	1.52	225	*i* P	Pn	22 14 46.4	-0.8
	baz=224						
EHY				*e*S	Sn	22 15 05.3	-1.8
	baz=224						
SMLT	Sun Moon Lake	1.62	245	*i* P	Pn	22 14 49.3	+0.8
	baz=244						
SMLT				*e*S	Sn	22 15 11.3	+1.9
	baz=244						
SSLB	Suanglung	1.62	241	*i* P	Pn	22 14 48.2	-0.3
	baz=240						
SSLB				*e*S	Sn	22 15 10.4	+1.1
	baz=240						
YULB	Yu-li	1.62	223	*i* P	Pn	22 14 47.8	-0.7
	baz=222						
YULB				*i* S	Sn	22 15 07.7	-1.7
	baz=222						
EYUL	Yuli	1.64	221	P	Pn	22 14 48.3	-0.3
	baz=220						
TYC	Yuchr	1.64	246	*i* P	Pn	22 14 49.8	+1.1
	baz=245						
TYC				*e*S	Sn	22 15 11.2	+1.3
	baz=245						
TWF1	Yuli	1.65	222	*i* P	Pn	22 14 48.1	-0.7
	baz=221						
TWF1				*i* S	Sn	22 15 08.7	-1.3
	baz=221						
JISG	Ishigakijimahi	1.65	90	*e*P	Pn	22 14 48.6	-0.2
JISG				*e*S	Sn	22 15 09.7	-0.3
WHYT	Xinyi Township	1.74	240	*i* P	Pn	22 14 51.1	+1.1
	baz=239						
WHYT				S	Sn	22 15 13.1	+0.9
	baz=239						
FULB	Fuli	1.77	219	P	Pn	22 14 51.2	+0.9
	baz=218						
FULB				S	Sn	22 15 12.7	0.0
	baz=218						
WJS	Zhushan	1.79	245	*i* P	Pn	22 14 51.3	+0.8
	baz=244						
WJS				*i* S	Sn	22 15 13.7	+0.6
	baz=244						
EHD	Haiduan	1.86	220	*e*S	Sn	22 15 12.3	-2.5
	baz=219						
ALS	Alishan	1.88	236	*i* P	Pn	22 14 52.9	+0.9
	baz=234						
ALS				*e*S	Sn	22 15 17.1	+1.4
	baz=234						
ELDTW	Lidau	1.94	224	*e*P	Pn	22 14 52.6	-0.1
	baz=223						
ELDTW				*e*S	Sn	22 15 15.4	-1.5
	baz=223						
JTJ	Tarama	2.01	88	*e*P	Pn	22 14 53.6	+0.3
JTJ				*e*S	Sn	22 15 18.3	+0.1
WCKO	Fanlu	2.08	237	*e*S	Sn	22 15 22.0	+2.2
	baz=236						
STYH	Taoyuan	2.12	228	*e*P	Pn	22 14 55.6	+0.8
	baz=228						
STYH				S	Sn	22 15 21.2	+0.5
	baz=228						
CHN1	Nanshi	2.28	233	*e*S	Sn	22 15 26.4	+1.8
	baz=232						

SJA ***02*** *22:53:43.7±0.8, 27°.28S×71°.17W, h28km±3km, ML3.4, MW3.5*
GUC ***02*** *22:53:44.5±0.8, 27°.35S×71°.07W, h42km±5km, ML3.2*
ISC 02 22:53:42.1±1.5**, 27°.24S**±0°.03×**71°.29W**±0°.08**, h10**km±11km**, n35, σ1s.93**/52**, 3C-1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AC06	Mina Casimiro	0.84	98	⇓*i*P	Pb	22 53 58.8	-0.1
AC06				*i* S	Sb	22 54 07.8	-2.4
AC06				IAML		22 54 08.8	
	comp=N,2µm,0.1s						
AC04	Llanos de Chal	0.98	169	*e*P	Pg	22 54 01.8	+0.8
AC04				*e*S	Sg	22 54 13.2	-0.4
AC04				IAML		22 54 13.3	
	comp=Z,535nm,0.7s						
AC04	Llanos de Chal	0.98	169	⇑*i*P	Pg	22 54 01.7	+0.8
AC04				*i* S	Sg	22 54 13.4	-0.2
AC04				IAML		22 54 14.5	
	comp=E,1µm,0.1s						
GO03	Copiap	1.00	111	*e*P	Pb	22 54 01.2	-0.4
GO03				*e*S	Sb	22 54 12.3	-2.6
GO03	Copiap	1.00	111	*e*P	Pb	22 54 00.9	-0.7
GO03				*i* S	Sb	22 54 12.2	-2.8
GO03				IAML		22 54 13.9	
	comp=E,2µm,0.1s						
AC01	Pan de Azucar	1.26	30	*e*P	Pn	22 54 07.2	+1.5
AC01	Pan de Azucar	1.26	30	⇑*i*P	Pn	22 54 07.4	+1.6
AC01				*i* S	Sn	22 54 23.3	+0.6
AC01				IAML		22 54 25.2	
	comp=E,497nm,0.1s						
AC05	El Transito	1.82	151	*e*P	Pn	22 54 14.1	+0.5
AC05				*e*S	Sn	22 54 36.6	-0.3
AC05				IAML		22 54 37.6	
	comp=Z,317nm,0.8s						
AC05	El Transito	1.82	151	⇑*i*P	Pn	22 54 14.7	+1.0
AC05				*i* S	Sn	22 54 35.5	-1.4
AC05				IAML		22 54 42.4	
	comp=E,402nm,0.3s						
LCO	Las Campanas	1.84	164	*e*P	Pn	22 54 14.9	+0.9
LCO				*e*S	Sn	22 54 36.9	-0.5
LCO				IAML		22 54 39.9	
	comp=Z,2µm,0.5s						
LCO	Las Campanas	1.84	164	*e*P	Pn	22 54 14.6	+0.7
LCO				*e*S	Sn	22 54 36.4	-1.0
GO02	Mina Guanaco	2.58	37	*e*P	Pb	22 54 27.2	-1.4
GO02	Mina Guanaco	2.58	37	*e*P	Pb	22 54 26.7	-1.9
GO02				IAML		22 55 11.7	
	comp=N,247nm,0.5s						
CO05	La Serena	2.67	179	*e*P	Pn	22 54 25.8	+0.7
CO01	Juntas del Tor	2.92	159	*e*P	Pn	22 54 30.8	+1.9
CO01				*e*S	Sn	22 55 05.5	+1.3
CO01				IAML		22 55 16.2	
	comp=Z,98nm,0.2s						
CO01	Juntas del Tor	2.92	159	*e*P	Pn	22 54 30.6	+1.7
CO01				IAML		22 55 15.6	
	comp=N,145nm,0.5s						
GO04	Tololo Observa	2.95	172	*e*P	Pn	22 54 30.6	+1.3
GO04				*e*S	Sn	22 55 06.5	+1.6
GO04	Tololo Observa	2.95	172	*e*P	Pn	22 54 30.5	+1.3
GO04				*e*S	Sn	22 55 04.6	-0.3
VCA	Vinchina	3.11	119	*e*P	Pb	22 54 35.8	-1.8
VCA				IAML		22 55 21.5	
	comp=Z,76nm,0.4s						
AROD	Rodeo	3.32	152	*e*P	Pn	22 54 37.8	+3.3
AGUA	GUANDACOL	3.33	133	*e*P	Pb	22 54 38.4	-2.9
AGUA				IAML		22 55 33.5	
	comp=Z,88nm,1.7s						
CO03	El Pedregal	3.62	172	*e*P	Pn	22 54 39.7	+1.4
CO03				IAML		22 55 38.3	
	comp=Z,79nm,0.5s						
ACCO	Cerro Coronel	3.86	150	*e*P	Pn	22 54 45.8	+3.9
ACCO				IAML		22 55 46.7	
	comp=Z,54nm,0.6s						
DOCA	Reserva Natura	4.17	153	*e*P	Pn	22 54 49.5	+3.4
DOCA				*e*S	Sn	22 55 36.5	+1.4
PB15	IPOC Station P	4.34	23	*e*P	Pn	22 54 51.2	+2.8
PB15				*e*S	Sn	22 55 40.1	+0.8
PB15				IAML		22 56 07.2	
	comp=Z,145nm,0.4s						
ACLC	CERRO LA CRUZ	4.40	121	*e*P	Pn	22 54 52.2	+3.1
ACLC				IAML		22 56 02.2	
	comp=Z,22nm,0.6s						
PB05	IPOC Station P	4.48	13	*e*P	Pn	22 54 50.8	+0.5
PB05				*e*S	Sn	22 55 40.4	-2.2
PB05				IAML		22 56 16.3	
	comp=Z,19nm,0.7s						
RTLL	Cerro Villicun	4.76	150	*e*P	Pn	22 54 56.8	+2.9
RTLL				IAML		22 56 00.0	
	comp=Z,24nm,0.4s						
PB06	IPOC Station P	4.78	19	*e*P	Pn	22 54 55.5	+1.2
PB06				*e*S	Sn	22 55 51.4	+1.4
PB06				IAML		22 56 24.8	
	comp=Z,33nm,0.6s						
AVFE	Valle Fertil	4.78	136	*e*P	Pn	22 54 56.9	+2.6
AVFE				IAML		22 56 17.7	
	comp=Z,20nm,0.5s						
RTLS	Leoncito	4.86	160	*e*P	Pn	22 54 59.1	+3.5
RTLS				IAML		22 56 15.9	
	comp=Z,90nm,1.0s						
PB04	IPOC Station P	5.00	12	*e*P	Pn	22 54 43.3	-14
PB04				IAML		22 55 59.7	
	comp=Z,16nm,0.2s						
LVC	Limon Verde	5.10	26	*e*P	Pn	22 55 01.4	+2.5
LVC				IAML		22 56 31.3	
	comp=Z,38nm,0.5s						
CFA	Coronel Fontan	5.10	149	*e*P	Pn	22 55 00.9	+2.3
CFA				*e*S	Sn	22 55 57.9	+0.3
CFA				IAML		22 56 22.0	
	comp=Z,15nm,0.7s						
APLL	PUNTA DE LOS L	5.23	128	*e*P	Pn	22 55 02.7	+2.3

IDC 02 23:23:21.8±9.3**, 18°.64S**×**174°.39W, h0**km**, mb3.5**/3**, mbtmp3.5**/3**, Error ellipse: s-maj=431.6km s-min=39.8km az=143.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.26	260	P	P	23 32 05.3	+0.3
	0.4nm,0.9s,baz=95,slow=6.8,SNR=1.8						
	0.4nm,0.9s						
ASAR	Alice Springs	48.27	255	P	P	23 32 04.8	-0.2
	0.3nm,0.6s,baz=88,slow=7.9,SNR=6.7						
	0.3nm,0.6s						
ILAR	Eielson Array	85.79	11	P	P	23 36 03.1	+0.5
	0.7nm,1.1s,baz=222,slow=3.6,SNR=4.1						
	0.7nm,1.1s						
BRTR	Keskin Array B	147.97	317	PKPbc	PKPbc	23 43 08.2	-1.5

0.3nm,0.4s,baz=116,slow=3.4,SNR=4.9

DMN 02 23:43:40.3±0.2, 27°.15N×88°.98E, h40km, Ml4.7/9, Error ellipse: s-maj=10.0km s-min=3.5km az=12.0
IDC 02 23:43:42.8±0.7, 27°.23N×88°.19E, h0km, mb4.0/25, mbtmp4.0/27, ML3.9/2, MS2.8/3, Error ellipse: s-maj=20.5km s-min=13.0km az=35.0
NEIC 02 23:43:44.9±1.6, 27°.29N±0°.09×88°.08E±0°.10, h10km±1km, mb4.2/29, Error ellipse: s-maj=16.2km s-min=12.9km az=225.0
NDI 02 23:43:45.4±3.2, 27°.30N×88°.27E, h5km, ML3.8
ISC 02 23:43:43.8±1.1, 27°.29N±0°.04×88°.24E±0°.02, h7km±7km, n123, σ1s.66/147, mb4.3/51, Sikkim

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GTK	Tadong	0.33	84	eP	Pg	23 43 50.2	-0.1
GTK				eS	Sg	23 43 53.7	-0.9
GTK				IAML		23 43 54.6	
	comp=E,10µm,0.2s						
GTK				IAML		23 43 54.9	
	comp=N,9µm,0.2s						
RAMN	Ramite	1.50	257	ePg	Pb	23 44 13.4	+1.3
RAMN				eSg	Sg	23 44 37.6	+5.6
	comp=N,2µm,0.6s						
JIRN	Jiri	1.86	282	ePg	Pb	23 44 19.0	+0.7
JIRN				eSg	Sg	23 44 46.3	+2.7
	comp=N,2µm,0.3s						
DHUB	DHUBRI	2.02	128	IAML		23 44 59.0	
	comp=E,1µm,0.4s						
GUN	Gumba	2.18	287	ePg	Pb	23 44 23.4	-0.5
GUN				eSg	Sg	23 44 55.2	+1.2
	comp=E,2µm,0.5s						
PKI	Pulchoki	2.53	277	ePg	Pn	23 44 27.8	+2.2
PKI				eSg	Sb	23 45 03.7	+2.5
	comp=E,749nm,0.6s						
PKIN	Phulchoki	2.54	277	ePg	Pn	23 44 27.7	+2.0
PKIN				eSg	Sb	23 45 03.6	+2.1
	comp=E,720nm,0.4s						
KKN	Kakani	2.67	281	ePg	Pn	23 44 29.8	+2.3
KKN				eSg	Sb	23 45 06.1	+0.8
KKN				eSg	Sg	23 45 06.4	-3.3
KKN				eSg	Sg	23 45 06.5	-3.3
DMN	Daman	2.80	277	ePn	Pn	23 44 31.5	+2.2
DMN				eSn	Sb	23 45 09.3	+0.3
	comp=E,662nm,0.8s						
GKN	Gorkha	3.27	283	ePn	Pn	23 44 37.9	+2.2
GKN				eSn	Sb	23 45 20.1	-2.4
	comp=E,284nm,0.3s						
LSA	Lhasa	3.52	46	Pn	Pn	23 44 40.7	+1.4
LSA	Lhasa	3.52	46	Pn	Pb	23 44 43.7	-2.9
LSA				Pg	Pg	23 44 50.2	-1.0
LSA				Sn	Sb	23 45 34.1	+4.4
LSA				Sg	Sg	23 45 38.8	+2.0
LSA				smax	smax		
	comp=N,130nm,0.8s						
LSA				smax	smax		
	comp=E,130nm,0.8s						
SHL	Shillong	3.69	117	eP	Pn	23 44 42.8	+1.3
SHL				eS	Sn	23 45 25.0	-0.3
SHL				IAML		23 45 42.2	
	comp=E,474nm,0.5s						
BOK	Bokaro	4.07	212	eP	Pn	23 44 48.0	+1.4
BOK				eS	Sn	23 45 33.0	-1.5
BOK				eS	Sg	23 45 51.8	-2.9
DANN	Dangsing	4.11	286	ePn	Pn	23 44 48.8	+1.5
DANN				eSn	Sn	23 45 40.3	+4.6
	comp=E,155nm,0.5s						
TEZP	TEZPUR	4.13	98	eP	Pn	23 44 48.2	+0.9
TEZP				eS	Sn	23 45 35.8	+0.1
KOLN	Koldanda	4.15	278	ePn	Pn	23 44 49.4	+1.7
KOLN				eSn	Sn	23 45 41.6	+5.0
PYUN	Piuthan	4.72	281	ePn	Pn	23 44 56.8	+1.1
PYUN				eSn	Sn	23 45 54.9	+4.1
	comp=E,156nm,0.4s						
IMP	Imphal	5.69	114	eP	Pn	23 45 12.0	+3.2
IMP				eS	Sn	23 46 17.9	+3.4
IMP				IAML		23 46 21.7	
	comp=N,70nm,0.6s						
MOKO	MOKOCHONG	5.69	98	eP	Pn	23 45 09.8	+0.8
MOKO				eS	Sn	23 46 13.6	-1.1
MOKO				IAML		23 46 17.9	
	comp=N,163nm,0.3s						
SAIH	SAIHA	6.43	137	eP	Pn	23 45 19.9	+0.8
SAIH				eS	Sn	23 46 31.9	-1.0
MND	Mandalay	8.88	125	Pn	Pn	23 45 53.1	+0.5
SMLA	Simla	10.40	294	eP	Pn	23 46 13.4	0.0
SMLA				eS	Sn	23 48 04.7	-5.5
DHRM	DHARAMSHALA	11.49	298	eP	Pn	23 46 28.3	-0.2
DHRM				eS	Sn	23 48 31.7	-5.5
PZH	PanZhiHua	12.08	91	P	Pn	23 46 41.7	+5.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
CMAR	Chiang Mai Arr	13.21	129	Pn	Pn	23 46 51.0	-0.9
	comp=Z,0.3nm,0.3s,baz=293,slow=15,SNR=1.7						
CMAR				LR	LR	23 53 37.7	
	comp=Z,24nm,19.0s,baz=315,slow=45						
	comp=Z,0.6nm,0.3s						
HYB	Hyderabad	13.29	224	eP	Pn	23 46 52.3	-0.7
HYB				eS	Sn	23 49 20.4	-0.7
NIL	Nilore	14.39	300	Pn	Pn	23 47 05.2	-2.9
LZH	Lanzhou	15.90	53	eP	P	23 47 35.5	+3.5
LZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WMQ	Urumqi	16.50	359	eP	Pn	23 47 33.7	-2.1
WMQ				pP	P	23 47 40.5	+2.0
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TARG	Taragay, Kyrgy	16.76	332	Pn	Pn	23 47 38.0	-1.4
TARG				IAmb	IAmb	23 47 45.0	
	comp=Z,24nm,1.3s						
KBL	Kabul	17.97	298		Pn	23 47 51.5	-2.9
KBL				IAmb	IAmb	23 47 57.0	
	comp=Z,8.9nm,0.7s						
ARSB	Arslanbob	18.80	322	P	P	23 48 02.3	-1.6
AAK	Ala-Archa	18.97	327	P	P	23 48 05.4	-0.5
AAK	Ala-Archa	18.97	327	P	Pn	23 48 07.8	+1.3
	comp=Z,0.2nm,0.3s,baz=157,slow=13,SNR=6.4						
AAK				LR	LR	23 56 27.4	
	comp=Z,36nm,20.8s,baz=106,slow=40						
	comp=Z,2.2nm,0.7s						
XAN	Xi'an	19.01	64	P	Pn	23 48 08.6	+1.7
BTK	Batken	19.25	316	P	P	23 48 07.7	-1.2
BTK				IAmb	IAmb	23 48 15.2	
	comp=Z,6.8nm,0.5s						
MK31	Makanchi Array	20.03	348	P	P	23 48 17.1	-0.2
MKAR	Makanchi Array	20.03	348	P	P	23 48 17.1	-0.2
MKAR	Makanchi Array	20.03	348	P	Pn	23 48 18.9	-0.1
	comp=Z,2.5nm,0.4s,baz=167,slow=9.8,SNR=67						
	comp=Z,2.5nm,0.4s						
KK31	Karatay Array	21.35	322	P	P	23 48 30.5	-1.1
KKAR	Karatay Array	21.35	322	P	P	23 48 30.6	-1.0
KURBB	Kurchatov Arra	24.45	345	P	P	23 49 03.5	+0.3
	comp=Z,1.5nm,0.5s,baz=158,slow=9.2,SNR=14						
	comp=Z,1.5nm,0.5s						
KURK	Kurchatov	24.52	345	P	P	23 49 03.5	-0.2
KURK				IAmb	IAmb	23 49 08.3	
	comp=Z,7.0nm,1.1s						
SONM	Songino Array	24.94	30	P	P	23 49 08.9	+1.1
SONM				IAmb	IAmb	23 49 16.6	
	comp=Z,3.5nm,1.1s						
SONM	Songino Array	24.94	30	P	P	23 49 09.1	+1.3
	comp=Z,2.2nm,0.6s,baz=217,slow=9.9,SNR=15						
	comp=Z,2.2nm,0.6s						
ULN	Ulaanbaatar	25.26	31	P	P	23 49 11.2	+0.5
ULN				IAmb	IAmb	23 49 13.8	
	comp=Z,4.6nm,0.7s						
ZAA0	Zalesovo Array	26.75	356	P	P	23 49 23.1	-0.9
ZAA0				IAmb	IAmb	23 49 28.6	
	comp=Z,3.7nm,1.0s						
ZALV	Zalesovo Beam	26.75	356	P	P	23 49 23.6	-0.4
ZALV	Zalesovo Beam	26.75	356	P	P	23 49 24.2	+0.3
	comp=Z,2.9nm,0.9s,baz=182,slow=11,SNR=8.5						
ZALV				LR	LR	00 01 24.4	
	comp=Z,28nm,18.7s,baz=80,slow=40						
	comp=Z,2.9nm,0.9s						
GEYT	Alibeck	27.39	300	P	P	23 49 30.0	0.0
	comp=Z,1.2nm,0.7s,baz=36,slow=3.7,SNR=3.8						
	comp=Z,1.2nm,0.7s						
BVAR	Borovoye Array	28.94	338	P	P	23 49 44.0	+0.4
	comp=Z,0.4nm,0.4s,baz=142,slow=9.6,SNR=3.1						
	comp=Z,0.4nm,0.4s						
ABKAR	Akbulak array	30.91	323	P	P	23 50 01.2	+0.2
ABKAR				IAmb	IAmb	23 50 02.2	
	comp=Z,2.1nm,0.6s						
ABKAR	Akbulak array	30.91	323	P	P	23 50 00.9	-0.1
KSRS	Korea Array	34.80	63	P	P	23 50 34.2	-0.9
	comp=Z,0.5nm,0.4s,baz=275,slow=8.8,SNR=2.0						
	comp=Z,0.5nm,0.4s						
ARU	Arti	36.03	332	P	P	23 50 45.5	+0.1
ARU				IAmb	IAmb	23 50 46.2	
	comp=Z,3.3nm,0.6s						
USRK	Ussuriysk Ar.	38.81	53	P	P	23 51 11.0	+1.7
	comp=Z,1.0nm,0.3s,baz=262,slow=4.4,SNR=4.9						
	comp=Z,1.0nm,0.3s						
AKH	Akhalkalaki	39.11	303	P	P	23 51 13.1	+1.1
KARS	Kars	39.34	302	P	P	23 51 14.4	+0.5
SIRT	Sirnak	39.66	297	P	P	23 51 16.7	+0.1
GURO	Guroymak-BITLI	40.01	298	P	P	23 51 20.1	+0.6
GURO				IAmb	IAmb	23 51 22.6	
	comp=Z,3.4nm,1.1s						
MJAR	Matsushiro Arr	43.00	65	P	P	23 51 44.8	+0.8
	comp=Z,0.6nm,0.3s,baz=270,slow=12,SNR=2.9						
	comp=Z,0.6nm,0.3s						
MMAI	Mount Meron Ar	45.65	291	P	P	23 52 06.6	+1.3
	comp=Z,0.6nm,0.5s,baz=77,slow=25,SNR=1.6						
	comp=Z,0.6nm,0.5s						
BRTR	Keskin Array B	46.54	300	P	P	23 52 11.6	-0.7
BRTR	Keskin Array B	46.54	300	P	P	23 52 12.6	+0.3
	comp=Z,0.5nm,0.7s,baz=127,slow=7.1,SNR=5.9						
	comp=Z,0.5nm,0.7s						
ELL	Elmali	49.69	296	P	P	23 52 36.7	+0.1
TIXI	Tiksi	49.72	16	P	P	23 52 35.7	-0.5
TIXI				IAmb	IAmb	23 52 37.4	
	comp=Z,2.3nm,0.8s						
AKASG	Malin Array Be	49.96	315	P	P	23 52 38.1	-0.2
	comp=Z,0.2nm,0.3s,baz=81,slow=6.4,SNR=4.2						
	comp=Z,0.2nm,0.3s						
MLR	Muntele Rosu	52.03	308	P	P	23 52 55.7	+1.5
BURAR	Bucovina Array	52.49	311	P	P	23 52 58.0	+0.5
BURAR				IAmb	IAmb	23 52 59.1	
	comp=Z,2.7nm,0.8s						
FINES	FINESS Array B	53.16	328	P	P	23 53 01.9	-0.2
FINES	FINESS Array B	53.16	328	P	P	23 53 02.1	0.0
	comp=Z,2.3nm,0.6s,baz=108,slow=8.9,SNR=20						
	comp=Z,2.3nm,0.6s						
PABE	Paberze	53.50	320	P	P	23 53 04.8	+0.1
ARCES	ARCESS Array B	55.23	338	P	P	23 53 17.4	+0.3
	comp=Z,0.7nm,0.5s,baz=107,slow=7.0,SNR=14						
	comp=Z,0.7nm,0.5s						
LANS	Liptovska Anna	56.25	313	eP	P	23 53 24.7	-0.1
DIVS	Divibare	56.37	307	P	P	23 53 25.7	-0.1
DIVS				IAmb	IAmb	23 53 27.2	
	comp=Z,7.8nm,1.2s						
VYHS	Vyhne	56.72	312	eP	P	23 53 28.8	+0.7
SRO	Srobarova	57.13	311	eP	P	23 53 32.2	+1.2
MORC	Moravsky Berou	57.46	313	eP	P	23 53 33.7	+0.3
KRLC	Kraliky	57.92	314	eP	P	23 53 36.7	+0.1
VRAC	Vranov	58.12	313	eP	P	23 53 38.5	+0.5
DPC	Dobruska-Polom	58.19	314	eP	P	23 53 39.0	+0.5
KRUC	Moravsky	58.27	313	eP	P	23 53 38.9	-0.1
UPC	Upice	58.37	314	eP	P	23 53 41.0	+1.3
RONA	Rosalia, Austr	58.49	311	i P	P	23 53 40.9	+0.2
	comp=Z,1.9nm,0.5s						
CONA	Conrad Observa	58.76	311	eP	P	23 53 43.0	+0.4
	comp=Z,3.8nm,0.8s						
ARSA	Arzberg	59.07	311	i P	P	23 53 45.0	+0.3
	comp=Z,1.7nm,0.5s						
HFS	Hagfors	59.10	326	P	P	23 53 44.5	-0.2
	comp=Z,3.0nm,0.6s,baz=98,slow=10,SNR=15						
	comp=Z,3.0nm,0.6s						
PRU	Pruhonice	59.37	314	eP	P	23 53 47.1	+0.5
SOKA	Soboth	59.48	310	i P	P	23 53 48.1	+0.5
	comp=Z,2.7nm,0.5s						
ZVC	Zvikov	59.66	313	eP	P	23 53 49.3	+0.6
CKRC	Cesky Krumlov	59.66	313	eP	P	23 53 47.2	-1.6
SPITS	Spitsbergen Ar	59.78	347	P	P	23 53 48.5	-0.6
	comp=Z,8.3nm,0.9s,baz=124,slow=7.7,SNR=1.3						
	comp=Z,8.3nm,0.9s						
MOA	Molln	59.83	312	i P	P	23 53 50.0	+0.1
	comp=Z,4.8nm,0.7s						
OBKA	Obir	59.84	310	eP	P	23 53 49.7	-0.4
	comp=Z,2.5nm,0.6s						
GERES	GERESS Array B	60.06	313	P	P	23 53 51.8	+0.3
	comp=Z,3.8nm,0.7s,baz=82,slow=7.0,SNR=19						
	comp=Z,3.8nm,0.7s						
KHC	Kasperske Hory	60.10	313	eP	P	23 53 51.8	0.0
BIOA	Bad Ischl, Aus	60.27	311	i P	P	23 53 52.9	-0.1
	comp=Z,3.5nm,0.5s,SNR=5.2						
NB2	NORSAR Subarra	60.29	327	P	P	23 53 52.0	-0.8
	comp=Z,1.3nm,0.6s,baz=87,slow=6.9						
NOA	NORSAR Array B	60.29	327	P	P	23 53 52.0	-0.8
	comp=Z,0.7nm,0.5s,baz=86,slow=6.6,SNR=4.4						
	comp=Z,0.7nm,0.5s						
KBA	Koelnbreinsper	60.57	311	eP	P	23 53 54.8	-0.4
	comp=Z,3.6nm,0.5s						
LESA	Schwarzleotal	60.96	311	eP	P	23 53 57.5	-0.2
	comp=Z,4.8nm,0.5s						
WTTA	Wattenberg	61.68	311	i P	P	23 54 02.1	-0.6
	comp=Z,2.6nm,0.4s,SNR=4.2						
WATA	Walderalm	61.71	311	eP	P	23 54 02.1	-0.8
	comp=Z,2.3nm,0.5s						
SQTA	Sankt Quirin	61.98	311	i P	P	23 54 04.0	-0.7
	comp=Z,5.0nm,0.4s,SNR=7.4						
MOTA	Moosalm	62.02	311	i P	P	23 54 04.3	-0.7
	comp=Z,3.4nm,0.6s,SNR=7.6						
RETA	Reutte	62.23	312	eP	P	23 54 05.8	-0.4
	comp=Z,2.6nm,0.4s,SNR=5.9						
FETA	Feichten	62.34	311	eP	P	23 54 06.3	-0.8
	comp=Z,1.6nm,0.4s						
DAVA	Damuels	62.85	311	eP	P	23 54 10.2	-0.4
	comp=Z,2.8nm,0.6s						
WB0	Warramunga Arr	64.70	131	P	P	23 54 23.2	+0.3
WRA	Warramunga Arr	64.79	131	P	P	23 54 24.2	+0.8
WRA	Warramunga Arr	64.79	131	P	P	23 54 23.9	+0.5
	comp=Z,1.2nm,0.7s,baz=315,slow=8.1,SNR=16						
	comp=Z,1.2nm,0.7s						
KEST	Kesra	66.13	299	P	P	23 54 32.5	+0.4
	comp=Z,5.0nm,1.0s,baz=117,slow=4.5,SNR=2.6						
	comp=Z,5.0nm,1.0s						
AS31	Alice Springs	67.16	135	P	P	23 54 38.0	-0.6
ASAR	Alice Springs	67.16	135	P	P	23 54 38.9	+0.3
	comp=Z,1.2nm,0.6s,baz=315,slow=6.5,SNR=15						
	comp=Z,1.2nm,0.6s						
ESDC	Sonseca Array	74.72	307	P	P	23 55 24.3	-0.2
	comp=Z,0.5nm,0.8s,baz=87,slow=6.9,SNR=2.2						
	comp=Z,0.5nm,0.8s						
ILAR	Eielson Array	78.82	21	P	P	23 55 47.0	-0.1
	comp=Z,0.2nm,0.6s,baz=306,slow=5.5,SNR=1.9						
	comp=Z,0.2nm,0.6s						
TOA0	Torodi Ar. Sit	81.06	280	P	P	23 55 59.3	-0.9
TOA0				IAmb	IAmb	23 56 03.2	
	comp=Z,3.5nm,1.4s						
TORD	Torodi Ar. Bea	81.06	280	P	P	23 55 59.6	-0.5
TORD	Torodi Ar. Bea	81.06	280	P	P	23 55 59.4	-0.7
	comp=Z,0.4nm,0.6s,baz=54,slow=4.4,SNR=5.8						
	comp=Z,0.4nm,0.6s						
BCAR	Beaver Creek A	81.63	21	P	P	23 56 03.1	+0.7
L29M	L29M	82.71	19	P	P	23 56 09.8	+1.8
L29M				IAmb	IAmb	23 56 34.7	
	comp=Z,3.6nm,1.2s						
YKA	Yellowknife Ar	88.68	10	P	P	23 56 37.4	-0.2
	comp=Z,0.2nm,0.6s,baz=329,slow=4.9,SNR=2.6						
	comp=Z,0.2nm,0.6s						

IDC 03 00:23:25.3±2.4, 21°.46S×168°.68E, h0km, mb4.2/7, mbtmp4.2/8, ML3.9/1, MS3.6/21, Error ellipse: s-maj=90.2km s-min=21.6km az=154.0
NEIC 03 00:23:28.5±1.0, 21°.15S±0°.04×168°.44E±0°.03, h10km±1km, mb4.5/11, Error ellipse: s-maj=7.3km s-min=4.6km az=154.0
ISC 03 00:23:29.2±0.7, 21°.26S±0°.07×168°.48E±0°.08, h20km, n69, σ1s.30/55, mb4.3/11, MS3.6/18, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	0.47	242		Pb	00 23 39.3	+0.4
MARNC				Sg	Sb	00 23 47.0	+1.6
LIFNC	LIFOU	1.25	292		Pn	00 23 50.0	-1.7
LIFNC				Sn	Sn	00 24 06.8	-1.2
PINNC	Pines Island,	1.66	215		Pn	00 23 55.5	-1.6
PINNC				Sn	Sn	00 24 16.2	-1.6
OUENC	Ouen Island, N	1.91	233		Pn	00 24 00.3	-0.4
DZM	Mont Dzumac	2.06	246		Pn	00 24 03.0	+0.2
DZM	Mont Dzumac	2.06	246	Pn	Pn	00 24 03.9	+1.1
	38nm,0.3s,baz=105,slow=10,SNR=262						
DZM				Sn	Sb	00 24 31.3	0.0
	214nm,0.3s,baz=341,slow=22,SNR=11						
DZM				LR	LR	00 24 41.2	
	comp=Z,381nm,20.1s,baz=358,slow=35						
	121nm,0.5s						
ONTNC	Ouen Toro	2.15	241		Pn	00 24 04.5	+0.4
KOUNC	Koumac, New Ca	3.98	279		Pn	00 24 29.6	+0.4
HNR	Honiara	14.34	324	LR	LR	00 31 31.5	
	comp=Z,1µm,19.6s,baz=152,slow=33						
EIDS	Eidsvold	16.50	252		Pn	00 27 20.1	+0.6
ARMA	Armidale	17.68	236		Pn	00 27 34.9	+0.3
ARMA				IAmb	IAmb	00 27 57.8	
	comp=Z,12nm,1.4s						
URZ	Urewera	18.51	158	LR	LR	00 33 20.4	
	comp=Z,296nm,20.9s,baz=32,slow=33						
CTA	Charters Tower	20.83	269	P	P	00 28 11.8	+2.1
	comp=Z,6.5nm,0.8s,baz=105,slow=10,SNR=12						
CTA				LR	LR	00 35 50.2	
	comp=Z,132nm,19.9s,baz=93,slow=36						
	comp=Z,6.5nm,0.8s						
CTAO	Charters Tower	20.83	269	P	P	00 28 09.5	-0.3
CTAO				IAmb	IAmb	00 28 15.7	
	comp=Z,14nm,1.1s						
RPZ	Rata Peaks	22.50	175	LR	LR	00 36 19.1	
	comp=Z,128nm,18.4s,baz=336,slow=35						
PMG	Port Moresby	23.66	297	P	P	00 28 39.0	-0.6
PMG				IAmb	IAmb	00 28 43.2	
	comp=Z,20nm,1.2s						
STKA	Stephens Creek	26.20	241	LR	LR	00 38 37.3	
	comp=Z,123nm,18.6s,baz=50,slow=35						
RAR	Rarotonga	29.57	96	LR	LR	00 38 30.7	
	comp=Z,39nm,20.5s,baz=104,slow=31						
WR0	Warramunga Arr	31.76	266	P	P	00 29 51.6	-0.8
WR0				IAmb	IAmb	00 29 52.7	
	comp=Z,6.3nm,0.9s						
WRA	Warramunga Arr	31.95	266	P	P	00 29 53.6	-0.4
WRA	Warramunga Arr	31.95	266	P	P	00 29 53.3	-0.7
	comp=Z,3.3nm,0.9s,baz=95,slow=9.3,SNR=15						
	comp=Z,3.3nm,0.9s						
AS31	Alice Springs	32.00	259	P	P	00 29 54.1	-0.3
AS31				IAmb	IAmb	00 29 55.7	
	comp=Z,2.4nm,0.6s						
ASAR	Alice Springs	32.00	259	P	P	00 29 54.0	-0.5
ASAR	Alice Springs	32.00	259	P	P	00 29 54.3	-0.1
	comp=Z,5.5nm,0.7s,baz=82,slow=9.0,SNR=62						
ASAR				LR	LR	00 42 27.9	
	comp=Z,93nm,21.8s,baz=95,slow=36						
	comp=Z,5.5nm,0.7s						
BATI	Baumata	44.37	277	LR	LR	00 52 50.2	
	comp=Z,145nm,18.3s,baz=10.0,slow=40						
PSA00	Pilbara Seismi	45.13	260	P	P	00 31 44.5	-0.2
PSA00				IAmb	IAmb	00 31 45.6	
	comp=Z,8.6nm,0.8s						
MBWA	Marble Bar	45.30	261	P	P	00 31 45.4	-0.6
NWAO	Narrogin (SRO)	46.68	244	LR	LR	00 50 37.1	
	comp=Z,120nm,21.1s,baz=233,slow=35						
KAPI	Kappang	49.89	282	LR	LR	00 56 03.0	
	comp=Z,49nm,18.0s,baz=160,slow=39						
TOLI2	Tolitoli	51.63	289	P	P	00 32 34.3	-0.6
TOLI2				IAmb	IAmb	00 32 35.9	
	comp=Z,12nm,0.8s						
VNDA	Vanda	56.40	182	LR	LR	00 53 35.4	
	comp=Z,39nm,19.5s,baz=13,slow=32						
KSM	Kuching	61.15	284	P	P	00 33 41.0	-1.8
ASAJ	Asahikawa	69.24	340	LR	LR	01 01 45.5	
	comp=Z,41nm,19.6s,baz=198,slow=33						
USRK	Ussuriysk Ar.	73.21	333	P	P	00 34 59.4	+0.7
	comp=Z,2.6nm,0.8s,baz=160,slow=9.0,SNR=3.4						
	comp=Z,2.6nm,0.8s						
CMAR	Chiang Mai Arr	78.69	295	P	P	00 35 29.6	-1.0
CMAR	Chiang Mai Arr	78.69	295	P	P	00 35 31.7	+1.2
	comp=Z,1.3nm,0.5s,baz=135,slow=3.8,SNR=9.1						
	comp=Z,1.3nm,0.5s						
MA2	Magadan	81.84	351	LR	LR	01 05 51.2	
	comp=Z,23nm,21.6s,baz=238,slow=31						
KDAK	Kodiak Island	85.16	20	LR	LR	01 10 00.0	
	comp=Z,37nm,18.3s,baz=234,slow=33						
SONM	Songino Array	88.40	323	P	P	00 36 20.6	+0.7
	comp=Z,0.8nm,0.6s,baz=147,slow=2.8,SNR=4.8						
	comp=Z,0.8nm,0.6s						
YBH	Yreka Blue Hor	89.23	44	LR	LR	01 12 45.8	
	comp=Z,19nm,18.6s,baz=222,slow=33						
NVAR	Mina Array Bea	90.66	49	P	P	00 36 30.9	0.0
	comp=Z,0.3nm,0.5s,baz=226,slow=6.1,SNR=1.6						
	comp=Z,0.3nm,0.5s						
LPIG	La Paz	90.92	65	LR	LR	01 07 53.7	
	comp=Z,46nm,21.1s,baz=248,slow=29						
DLBC	Dease Lake	94.15	28	LR	LR	01 17 04.3	
	comp=Z,24nm,18.1s,baz=306,slow=34						
ANMO	Albuquerque	98.02	56	LR	LR	01 17 03.1	
	comp=Z,21nm,18.4s,baz=310,slow=33						
TXAR	Lajitas Array	98.35	62	LR	LR	01 14 57.2	
	comp=Z,25nm,18.7s,baz=249,slow=32						
INK	Inuvik	98.67	19	LR	LR	01 24 27.2	
	comp=Z,26nm,18.6s,baz=235,slow=37						
CLL	Collm	144.42	333	ePKPdf	PKPab	00 43 00.0	-2.1
	comp=Z,7.0nm,1.2s						
ZVC	Zvikov	145.25	330	ePKP	PKPbc	00 43 05.3	+0.2
RONA	Rosalia, Austr	145.39	326	ePKP	PKPdf	00 43 06.7	+0.9
	comp=Z,6.2nm,0.8s						
EKA	Eskdalemuir Ar	145.40	352	PKPbc	PKPdf	00 43 04.9	-0.6
	comp=Z,3.0nm,0.9s,baz=1.8,slow=2.2,SNR=3.5						
CONA	Conrad Observa	145.47	327	ePKP	PKPdf	00 43 06.7	+0.7
	comp=Z,6.6nm,1.1s						
CKRC	Cesky Krumlov	145.63	329	ePKP	PKPdf	00 43 06.7	+0.6
KHC	Kasperske Hory	145.75	330	ePKP	PKPdf	00 43 07.2	+0.8
GERES	GERESS Array B	145.90	330		PKPdf	00 43 06.5	-0.2
GERES	GERESS Array B	145.90	330	PKPbc	PKPdf	00 43 06.0	-0.7
	comp=Z,3.9nm,0.9s,baz=20,slow=4.3,SNR=16						
ARSA	Arzberg	146.08	326	ePKP	PKPab	00 43 10.4	+1.9
	comp=Z,6.8nm,1.4s						
MOA	Molln	146.32	328	i PKP	PKPab	00 43 10.4	+1.1
	comp=Z,4.2nm,1.1s						
KBA	Koelnbreinsper	147.30	328	ePKP	PKPdf	00 43 08.9	-0.3
	comp=Z,2.0nm,0.5s						
LESA	Schwarzleotal	147.39	329	i PKP	PKPdf	00 43 11.2	+2.0
	comp=Z,3.6nm,0.9s						
ABTA	Abfaltersbach	147.94	328	ePKP	PKPdf	00 43 09.8	-0.4
	comp=Z,10nm,1.2s						
WATA	Walderalm	147.98	330	ePKP	PKPdf	00 43 12.9	+2.6
	comp=Z,4.8nm,1.0s						
WTTA	Wattenberg	148.00	330	ePKP	PKPdf	00 43 13.0	+2.6
	comp=Z,8.6nm,1.2s						
MOTA	Moosalm	148.19	330	ePKP	PKPdf	00 43 13.4	+2.8
	comp=Z,6.5nm,0.9s						
SQTA	Sankt Quirin	148.23	330	ePKP	PKPbc	00 43 13.7	-0.3
	comp=Z,7.1nm,0.9s						
RETA	Reutte	148.24	331	i PKP	PKPbc	00 43 13.7	-0.3
	comp=Z,6.5nm,1.2s						
FETA	Feichten	148.60	330	ePKP	PKPdf	00 43 14.4	+3.1
	comp=Z,5.9nm,1.0s						
DAVA	Damuels	148.79	331	ePKP	PKPbc	00 43 15.5	+0.1
	comp=Z,6.8nm,1.2s						
FUORN	Ofenpass-Fuorn	149.11	330		PKPbc	00 43 15.8	-0.7
TUE	Stuetta	149.64	331	PKPbc	PKPdf	00 43 16.4	+3.4

CATAC 03 00:26:47.5±1.0, 8°.53N×83°.05W, h18km±7km, ML2.5
UPA 03 00:26:50.9±2.0, 8°.58N×82°.96W, h18km±4km, MD3.5
ISC 03 00:26:49.0±1.1, 8°.57N±0°.04×83°.05W±0°.04, h25km±7km, n15, σ0s.74/27, 1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CDITO	Canoas	0.17	88	eP	Pb	00 26 54.4	-0.1
CDITO				eS	Sb	00 26 56.8	-1.4
CDITO	Canoas	0.17	88	i P	Pb	00 26 50.4	-4.0
CDITO				i S	Sb	00 26 58.9	+0.8
CDITO				IAML		00 27 04.1	
	comp=Z,310nm,1.0s						
MLIR3	Monte Lirio, C	0.32	45	eP	Pn	00 26 58.8	+0.7
PIRO	Carate, Puerto	0.33	240	i P	Pb	00 26 56.1	-0.4
PIRO				i S	Sb	00 27 01.1	-0.5
PIRO				IAML		00 27 03.4	
	comp=Z,580nm,1.0s						
PTPM	Petroterminale	0.40	155	i P	Pb	00 26 57.8	+0.2
PTPM				i S	Sn	00 27 06.5	+0.6
BRU2	Volcan	0.42	58	⇓ iP	Pb	00 26 58.5	+0.4
BRU2				eS	Sn	00 27 05.4	-1.2
BRU2	Volcan	0.42	58	i P	Pb	00 26 58.3	+0.2
BRU2				i S	Sn	00 27 05.5	-1.2
BRU2				IAML		00 27 08.7	
	comp=Z,250nm,1.0s						
CTCR	Cotoan	0.43	41	i P	Pb	00 26 58.3	0.0
CTCR				i S	Sb	00 27 05.7	+1.1
CTCR				IAML		00 27 07.9	
	comp=Z,1µm,1.0s						

POTG	**Potrero Grande**	**0.49**	**352**	*i* P	**Pb**	**00 26 58.9**	**-0.2**
POTG				*i* S	**Sb**	**00 27 06.6**	**+0.7**
POTG				IAML		00 27 11.1	
	comp=Z,390nm,1.0s						
BC3P	**Paso Ancho**	**0.50**	**60**	*e*P	**Pb**	**00 26 59.2**	**-0.2**
BC3P				*i* S	**Sb**	**00 27 07.5**	**+1.1**
BCO2	**Palmira**	**0.54**	**74**	*i* P	**Pb**	**00 27 00.3**	**+0.3**
BCO2				*i* S	**Sn**	**00 27 08.5**	**-1.0**
DVD	**David**	**0.61**	**102**	*e*P	**Pn**	**00 27 02.5**	**+0.5**
LNBQ3	**Los Naranjos,**	**0.64**	**70**	*i* P	**Pb**	**00 27 01.4**	**-0.3**
LNBQ3				*i* S	**Sb**	**00 27 09.5**	**-0.9**
PSOM3	**Paja de Sombre**	**0.73**	**81**	*e*P	**Pn**	**00 27 04.4**	**+0.7**
PSOM3				*i* S	**Sb**	**00 27 12.4**	**-0.3**
CHGR2	**Aguacate**	**0.97**	**68**	*i* P	**Pb**	**00 27 06.8**	**-0.4**
CHGR2				*i* S	**Sb**	**00 27 19.0**	**-0.5**

TEH 03 00:27:41.4, 30°.77N×57°.30E, h6km±155km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.69**	**287**	Pg	Pb	00 27 56.1	+0.2
KHGB	**Koh Gabri**	**0.81**	**241**	Pg	Pb	00 27 58.0	-0.1
TVBK	**TV Kerman**	**0.91**	**211**	Pg	Pn	00 28 00.4	-0.6
CHMN	**Cheshme madani**	**0.93**	**167**	Pg	Pb	00 28 00.3	+0.2
NGRK	**Negar Kerman**	**1.23**	**204**	Pg	Pn	00 28 06.4	+0.9
IBAF	**Bafgh**	**1.69**	**299**	Pg	Pg	00 28 14.9	+0.9
KBAM	**BAM**	**1.91**	**148**	Pn	Pb	00 28 17.2	+0.5
BSRN	**Basiran**	**1.97**	**52**	Pn	Pb	00 28 18.4	+0.7
IKOO	**Kooshah**	**2.20**	**41**	Pn	Pb	00 28 21.8	+0.1
TPRV	**Parvadeh(Tabas**	**2.31**	**347**	Pn	Pb	00 28 23.0	-0.6
IMEH	**Mehriz**	**2.39**	**286**	Pn	Pb	00 28 24.8	-0.1
NHDN	**Nehbandan**	**2.44**	**75**	Pn	Pb	00 28 25.5	-0.3
ITEG	**Tejag**	**2.45**	**30**	Pn	Pb	00 28 24.9	-1.2
KHNJ	**Kahnooj**	**2.83**	**173**	Pn	Pb	00 28 30.0	-2.4
TKDS	**Koohdasht(Taba**	**2.84**	**357**	Pn	Pb	00 28 30.1	-2.5
AFRZ	**Afriz**	**3.02**	**28**	Pn	Pb	00 28 33.0	-2.7
TNSJ	**Nastanj**	**3.24**	**350**	Pn	Pn	00 28 35.9	+3.0
ISAD	**Sadrabad**	**3.29**	**291**	Pn	Pn	00 28 36.9	+3.1
ZHDN	**Zahedan**	**3.33**	**113**	Pn	Pb	00 28 37.8	-3.3
SHRT	**Shahrakht**	**3.83**	**41**	Pn	Pn	00 28 44.4	+3.4
ANAR	**Anarak**	**3.88**	**309**	Pn	Pn	00 28 44.9	+3.2
IRAM	**Ramesheh**	**4.33**	**285**	Pn	Pn	00 28 51.8	+3.7
IZEF	**Zefreh**	**4.73**	**298**	Pn	Pn	00 28 57.3	+3.7
JASK	**Jask - Hormozg**	**4.91**	**174**	Pn	Pn	00 28 58.9	+3.2
TBJM	**Torbat-e-JAM**	**5.16**	**29**	Pn	Pn	00 29 03.1	+3.7
KRSH	**Karshahi**	**5.41**	**307**	Pn	Pn	00 29 06.4	+3.6
ISFB	**Sefidab**	**5.57**	**311**	Pn	Pn	00 29 08.1	+3.2
IGLO	**Ghaloghah**	**6.41**	**334**	Pn	Pn	00 29 20.7	+4.1
IDMV	**Damavand**	**6.52**	**319**	Pn	Pn	00 29 21.1	+3.0

*KNET **03** 00:39:07.7±0.3, 42°.52N×75°.46E, h15km±5km, ml1.3, Error ellipse: s-maj=2.9km s-min=2.1km az=37.0*
*SOME **03** 00:39:08.7, 42°.52N×75°.47E, h10km*
*KRNET **03** 00:39:08.3±0.1, 42°.51N×75°.46E, h20km, mb2.1*
*NNC **03** 00:39:08.4±0.8, 42°.54N×75°.44E, h4km±6km, mb2.6, mpv2.4, Error ellipse: s-maj=8.3km s-min=3.0km az=155.0*
ISC 03 00:39:08.3±0.9**, 42°.51N**±0°.02×**75°.46E**±0°.01**, h16**km±7km**, n43,** σ0.42/82**, 28C-16D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.40**	**292**	⇑P	**Pg**	**00 39 16.7**	**+0.1**
	7.5nm,0.1s,SNR=9.4						
KBK				⇓S	**Sg**	**00 39 22.6**	**+0.4**
	44nm,0.2s						
KBK	**Karagaybulak**	**0.40**	**292**	⇓*i*P	**Pg**	**00 39 16.6**	**0.0**
	baz=91						
KBK				⇓*i*S	**Sg**	**00 39 22.2**	**0.0**
	baz=91						
TKM2	**Tokmak 2**	**0.42**	**14**	⇓P	**Pg**	**00 39 16.8**	**-0.2**
	4.9nm,0.1s,SNR=58						
TKM2				⇑S	**Sg**	**00 39 22.7**	**-0.2**
	32nm,0.1s						
TKM2	**Tokmak 2**	**0.42**	**14**	⇑*i*P	**Pg**	**00 39 16.7**	**-0.2**
	baz=14						
TKM2				⇑*i*S	**Sg**	**00 39 22.7**	**-0.2**
	baz=14						
KZA	**Kyzart**	**0.46**	**200**	⇑P	**Pg**	**00 39 17.6**	**-0.1**
	4.5nm,0.2s,SNR=13						
KZA				⇓S	**Sg**	**00 39 24.1**	**+0.2**
	19nm,0.3s						
KZA	**Kyzart**	**0.46**	**200**	⇑*i*P	**Pg**	**00 39 17.7**	**+0.1**
	baz=0.0						
KZA				⇑*i*S	**Sg**	**00 39 24.1**	**+0.2**
	baz=0.0						
ULHL	**Ulahol**	**0.64**	**114**	⇑P	**Pg**	**00 39 20.6**	**-0.3**
	2.8nm,0.1s,SNR=21						
ULHL				⇓S	**Sg**	**00 39 29.1**	**-0.3**
	9.3nm,0.2s						
ULHL	**Ulahol**	**0.64**	**114**	⇑*i*P	**Pg**	**00 39 20.6**	**-0.3**
	baz=14						
ULHL				⇑*i*S	**Sg**	**00 39 29.4**	**0.0**
	baz=14						
KST	**Kastek**	**0.65**	**35**	*e*P	**Pg**	**00 39 20.9**	**-0.3**
	2.6nm,0.1s						
KST				*e*S	**Sg**	**00 39 29.8**	**-0.1**
	14nm,0.3s						
KST	**Kastek**	**0.65**	**35**	P	**Pb**	**00 39 21.6**	**+0.2**
	3.6nm,0.5s						
KST				S	**Sg**	**00 39 29.9**	**+0.1**
	9.1nm,0.3s						
FRU1	**Bishkek**	**0.68**	**297**	⇓*e*P	**Pg**	**00 39 21.7**	**0.0**
	baz=96						
FRU1				⇓*e*S	**Sb**	**00 39 31.1**	**0.0**
	baz=96						
CHMS	**Chumysh**	**0.71**	**314**	⇑P	**Pg**	**00 39 21.9**	**-0.4**
	1.5nm,0.2s,SNR=5.4						
CHMS				⇑S	**Sg**	**00 39 31.4**	**-0.4**
	12nm,0.1s						
CHMS	**Chumysh**	**0.71**	**314**	⇑*i*P	**Pg**	**00 39 21.9**	**-0.4**
	baz=13						
CHMS				⇑*i*S	**Sg**	**00 39 31.5**	**-0.3**
	baz=13						
AAK	**Ala-Archa**	**0.72**	**281**	⇑P	**Pg**	**00 39 22.2**	**-0.3**
	4.1nm,0.2s,SNR=15						
AAK				⇓S	**Sg**	**00 39 31.7**	**-0.4**
	25nm,0.3s						
AAK	**Ala-Archa**	**0.72**	**281**	⇑*i*P	**Pg**	**00 39 22.2**	**-0.3**
	baz=80						
AAK				⇑*i*S	**Sg**	**00 39 31.9**	**-0.2**
	baz=80						
UCH	**Uchtor**	**0.75**	**248**	⇓*i*P	**Pg**	**00 39 22.6**	**-0.5**
	baz=48						
UCH				⇓*i*S	**Sg**	**00 39 33.3**	**+0.1**
	baz=48						
MTBS	**Maitube**	**0.95**	**49**	*e*P	**Pb**	**00 39 26.4**	**-0.1**
	1.5nm,0.3s						
MTBS				*e*S	**Sg**	**00 39 39.0**	**-0.1**
	5.7nm,0.2s						
MTBS	**Maitube**	**0.95**	**49**	P	**Pn**	**00 39 26.9**	**-0.2**
	1.5nm,0.3s						
MTBS				S	**Sg**	**00 39 39.0**	**-0.1**
	5.7nm,0.2s						
USP	**Ospenovka**	**1.03**	**317**	⇓P	**Pb**	**00 39 27.6**	**-0.3**
	1.9nm,0.1s,SNR=26						
USP				⇓S	**Sb**	**00 39 41.2**	**-0.1**
	4.1nm,0.1s						
USP	**Ospenovka**	**1.03**	**317**	⇑*i*P	**Pb**	**00 39 27.7**	**-0.2**
	baz=17						
USP				⇑*i*S	**Sb**	**00 39 41.4**	**+0.1**
	baz=17						
ARLS	**Aral**	**1.06**	**233**	⇑*i*P	**Pb**	**00 39 28.2**	**-0.3**
	baz=32						
ARLS				⇑*i*S	**Sb**	**00 39 42.3**	**+0.1**
	baz=32						
SGDS	**Sogindy**	**1.12**	**327**	P	**Pb**	**00 39 29.5**	**+0.1**
	1.6nm,0.1s						
SGDS				S	**Sb**	**00 39 43.4**	**-0.4**
	5.4nm,0.1s						
NRN	**Naryn**	**1.15**	**159**	⇓*e*P	**Pb**	**00 39 29.6**	**-0.4**
	baz=61						
NRN				⇓*e*S	**Sb**	**00 39 44.8**	**0.0**
	baz=61						
TNSS	**Tian-Shan**	**1.22**	**64**	*e*P	**Pb**	**00 39 31.5**	**+0.3**
	1.8nm,0.2s						
TNSS				*e*S	**Sn**	**00 39 47.5**	**+0.1**
	4.0nm,0.3s						
TNSS	**Tian-Shan**	**1.22**	**64**	P	**Pb**	**00 39 31.5**	**+0.3**
TNSS				S	**Sb**	**00 39 47.0**	**+0.1**
	3.5nm,0.4s						
EKS2	**Erkin-Say**	**1.25**	**278**	⇑*i*P	**Pn**	**00 39 31.6**	**+0.3**
	baz=77						
EKS2				⇑*i*S	**Sn**	**00 39 48.2**	**+0.3**
	baz=77						
MDOK	**Medeo**	**1.34**	**60**	*e*P	**Pg**	**00 39 33.9**	**-0.3**
	1.6nm,0.4s						
MDOK				*e*S	**Sg**	**00 39 51.7**	**0.0**
	1.8nm,0.4s						
MDOK	**Medeo**	**1.34**	**60**	Pg	**Pg**	**00 39 34.2**	**+0.1**
	1.6nm,0.4s						
MDOK				Lg	Lg	00 39 51.7	
	1.8nm,0.4s						
AML	**Almayashu**	**1.36**	**254**	⇓P	**Pb**	**00 39 33.6**	**-0.1**
AML				⇑S	**Sn**	**00 39 51.9**	**+0.9**
	0.3nm,0.7s						
KOTS	**Kotyrbulak**	**1.42**	**59**	*e*P	**Pg**	**00 39 35.2**	**-0.3**
	2.7nm,0.3s						
KOTS				*e*S	**Sg**	**00 39 54.2**	**+0.1**
	4.4nm,0.2s						
KOTS	**Kotyrbulak**	**1.42**	**59**	P	**Pb**	**00 39 34.3**	**-0.1**
	0.9nm,1.2s						
KOTS				S	**Sn**	**00 39 51.5**	**-0.6**
	4.7nm,0.8s						
KTBS	**Karatobe**	**1.50**	**36**	*e*P	**Pb**	**00 39 36.0**	**+0.1**
	1.3nm,0.2s						
KTBS				*e*S	**Sb**	**00 39 55.3**	**+0.6**
	2.6nm,0.2s						
KTBS	**Karatobe**	**1.50**	**36**	P	**Pb**	**00 39 36.3**	**+0.4**
	1.3nm,0.2s						
KTBS				S	**Sb**	**00 39 55.0**	**+0.3**
	2.6nm,0.2s						
KUU	**Kurty**	**1.53**	**25**	*e*P	**Pb**	**00 39 36.5**	**+0.2**
	1.1nm,0.3s						
KUU				*e*S	**Sb**	**00 39 56.1**	**+0.7**
	7.6nm,0.5s						
KUU	**Kurty**	**1.53**	**25**	P	**Pb**	**00 39 36.8**	**+0.5**
	1.1nm,0.3s						
KUU				S	**Sb**	**00 39 56.1**	**+0.7**
	7.6nm,0.5s						
MRKS	**Merke**	**1.66**	**279**	*e*P	**Pb**	**00 39 39.2**	**+0.6**
	2.3nm,0.1s						
MRKS				*e*S	**Sg**	**00 40 01.0**	**-0.9**
	7.2nm,0.3s						
MRKS	**Merke**	**1.66**	**279**	P	**Pb**	**00 39 39.4**	**+0.8**
MRKS				S	**Sb**	**00 40 00.5**	**+1.1**
	4.9nm,0.3s						
CHKK	**Chushkaly**	**1.75**	**39**	*e*P	**Pb**	**00 39 40.9**	**+0.9**
	1.1nm,0.1s						
CHKK				*e*S	**Sg**	**00 40 04.1**	**-0.6**
	9.9nm,0.3s						
CHKK	**Chushkaly**	**1.75**	**39**	P	**Pg**	**00 39 41.6**	**-0.4**
	1.1nm,0.1s						
CHKK				S	**Sg**	**00 40 04.1**	**-0.6**
	9.9nm,0.3s						
TARG	**Taragay, Kyrgy**	**1.91**	**113**	⇑*i*P	**Pb**	**00 39 42.7**	**-0.4**
	baz=13						
TARG				⇑*i*S	**Sb**	**00 40 07.9**	**+1.0**
	baz=13						
SATY	**Saty**	**2.24**	**75**	*e*Pg	**Pg**	**00 39 50.7**	**-0.6**
	3.8nm,0.2s						
SATY				*e*Lg	Lg	00 40 20.6	
	4.8nm,0.5s						
SATY	**Saty**	**2.24**	**75**	Pg	**Pg**	**00 39 51.2**	**-0.1**
	3.8nm,0.2s						
SATY				Lg	Lg	00 40 20.6	
	4.8nm,0.5s						
KK31	**Karatay Array**	**3.69**	**281**	⇑Pg	**Pg**	**00 40 17.7**	**-1.3**
	0.1nm,0.4s,baz=100,slow=16,SNR=4.6						
KK31				⇑Lg	Lg	00 41 09.2	
	0.4nm,0.6s,baz=95,slow=29,SNR=6.8						

IDC 03 01:10:40.9±2.3**, 1°.83N×126°.37E, h0km, mb3.2**/3**, mbtmp3.2**/3**, Error ellipse: s-maj=191.2km s-min=29.4km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.01**	**161**	P	P	01 15 47.2	-0.4
	0.3nm,0.5s,baz=339,slow=12,SNR=2.2						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**26.38**	**164**	P	P	01 16 19.9	+0.7
	0.1nm,0.4s,baz=344,slow=8.4,SNR=1.7						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**58.91**	**326**	P	P	01 20 41.6	-0.3
	0.4nm,0.7s,baz=115,slow=8.6,SNR=1.7						
	0.4nm,0.7s						

*IDC **03** 02:37:20.9±2.0, 5°.13S×145°.46E, h62km±19km, mb4.2/18, mbtmp4.6/22, MS4.0/43, Error ellipse: s-maj=16.6km s-min=9.5km az=94.0*
*NEIC **03** 02:37:21.7±1.7, 5°.13S±0°.06×145°.36E±0°.07, h63km±4km, mb4.9/111, Error ellipse: s-maj=10.7km s-min=8.6km az=122.0*
*DJA **03** 02:37:21.7±0.3, 5°S±3°×14°5E±°, h57km±4km, M5.0/41, mb5.2/41, mB5.5/24, MLv5.5/6, Mw(mB)4.9/24, MwMwp4.7/1, Mwp5.1/1*
*GCMT **03** 02:37:23.7±0.2, 5°.00S±0°.01×145°.27E±0°.01, h62km±2km, MW5.1/105, Moment Tensor Solution. s52,c66; s105,c159; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.71±.17; $M_{\theta\theta}$-5.09±.13; $M_{\phi\phi}$4.38±.15; $M_{r\theta}$-2.06±.11; $M_{\theta\phi}$1.40±.11; $M_{\phi r}$0.42±.14; Best double couple: $M_0$5.27000×10^{16} NP1:ϕ_s144.00000°, δ79.00000°, λ-166.00000°. NP2:ϕ_s52.00000°, δ76.00000°, λ-11.00000°. Principal axes: T 4.5870, Plg2.0000°, Azm278.0000°; N 1.3700, Plg72.0000°, Azm181.0000°; P -5.9540, Plg17.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 02:37:21.5±0.4**, 5°.19S**±0°.04×**145°.32E**±0°.05**, h56**km±3km**, h57**km**:pP-P, n260,** σ1.75/211**, mb4.9**/97**, MS4.1**/48**, 7C-3D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.74**	**33**		**Pn**	**02 38 14.5**	**-2.2**
TABU	**Tabubil**	**4.08**	**269**	P	**Pn**	**02 38 19.9**	**-1.6**
PMG	**Port Moresby**	**4.56**	**157**	Pn	**Pn**	**02 38 28.1**	**0.0**
PMG	**Port Moresby**	**4.56**	**157**	P	**Pn**	**02 38 27.9**	**-0.2**
PMG	**Port Moresby**	**4.56**	**157**	P	**Pn**	**02 38 27.9**	**-0.2**
	239nm,0.3s,baz=357,slow=5.2,SNR=104						
PMG				S	**Sn**	**02 39 19.6**	**-0.2**
	519nm,0.6s,baz=13,slow=10,SNR=3.8						
JAY	**Jayapura**	**5.32**	**300**	P	**Pn**	**02 38 40.1**	**+1.6**
	300nm,0.9s,3μm1.6nm						
GENI	**Genyem**	**5.75**	**296**	P	**Pn**	**02 38 41.4**	**-3.0**
GENI	**Genyem**	**5.75**	**296**	P	**Pn**	**02 38 45.6**	**+1.2**
	540nm,0.7s,9μm4μm4.3nm						
KRVT	**Keravat (AS076**	**6.74**	**83**	P	**Pn**	**02 38 56.0**	**-1.9**
	132nm,0.4s,baz=225,slow=23,SNR=2.5						
KRVT				LR	LR	02 40 57.3	
	comp=Z,2μm,19.9s,baz=230,slow=33						
RABL	**Rabaul**	**6.89**	**82**		**Pn**	**02 38 59.7**	**-0.3**
RABL	**Rabaul**	**6.89**	**82**	P	**Pn**	**02 38 59.9**	**-0.1**
SMPI	**Sarmi**	**7.33**	**296**	P	**Pn**	**02 39 08.1**	**+2.2**
	350nm,1.0s,5μm1.5nm						
COEN	**Coen**	**8.96**	**194**	Pn	**Pn**	**02 39 30.0**	**+1.6**
COEN	**Coen**	**8.96**	**194**	P	**Pn**	**02 39 30.5**	**+2.1**
FAKI	**Fak Fak**	**13.23**	**279**		**Pn**	**02 40 26.6**	**-0.2**
FAKI	**Fak Fak**	**13.23**	**279**	P	**Pn**	**02 40 25.9**	**-0.9**
	46nm,0.8s,747nm						
SWI	**Sorong**	**14.68**	**287**	P	**Pn**	**02 40 46.4**	**+0.3**
	214nm,0.8s,2μm						
CTA	**Charters Tower**	**14.83**	**177**	P	**Pn**	**02 40 48.9**	**+0.8**
	20nm,0.7s,baz=354,slow=13,SNR=38						
CTA				LR	LR	02 46 49.1	
	comp=Z,703nm,21.2s,baz=2.5,slow=38						
CTAO	**Charters Tower**	**14.83**	**177**		**Pn**	**02 40 47.6**	**-0.4**
MTN	**Manton Dam**	**15.93**	**241**	Pn	**Pn**	**02 41 01.9**	**-0.3**
MTN	**Manton Dam**	**15.93**	**241**	P	**Pn**	**02 41 03.0**	**+0.8**
WB0	**Warramunga Arr**	**17.97**	**215**	P	**P**	**02 41 26.5**	**-0.9**
WR0	**Warramunga Arr**	**18.04**	**215**	P	**P**	**02 41 27.8**	**-0.4**
WRAB	**Tennant Creek**	**18.13**	**215**	P	**P**	**02 41 29.2**	**+0.1**
WRA	**Warramunga Arr**	**18.14**	**215**	P	**P**	**02 41 28.9**	**-0.5**
WRA	**Warramunga Arr**	**18.14**	**215**	P	**Pn**	**02 41 30.0**	**+0.4**
	22nm,0.9s,baz=40,slow=12,SNR=74						
WRA				S	**Sn**	**02 44 45.8**	**-5.7**
	4.5nm,1.0s,baz=41,slow=22,SNR=2.4						
NLAI	**Namlea**	**18.27**	**275**	P	**Pn**	**02 41 32.4**	**+1.1**
	70nm,0.6s,3μm						
LBMI	**Labuha**	**18.36**	**284**	P	**Pn**	**02 41 33.7**	**+1.4**
	175nm,1.0s,2μm						
GUMO	**Guam**	**18.67**	**359**	LR	LR	02 47 51.0	
	comp=Z,376nm,21.1s,baz=146,slow=34						
RK1H	**Rockhampton Ha**	**18.76**	**165**	P	**Pn**	**02 41 37.1**	**0.0**
TNTI	**Ternate**	**18.89**	**288**	P	**P**	**02 41 37.3**	**-0.2**
KNRA	**Kununurra**	**19.31**	**236**	P	**P**	**02 41 40.9**	**-1.3**
SANI	**Sanana**	**19.54**	**278**	P	**P**	**02 41 44.8**	**+0.1**
	89nm,0.9s,1μm						
EIDS	**Eidsvold**	**20.81**	**165**	P	**P**	**02 41 57.8**	**-0.5**
SOEI	**Soe**	**21.36**	**257**	P	**P**	**02 42 04.2**	**-0.3**
SOEI	**Soe**	**21.36**	**257**	P	**P**	**02 42 04.7**	**+0.2**
	231nm,0.9s,2μm						
AS01	**Alice Springs**	**21.39**	**210**	P	**P**	**02 42 05.3**	**+0.7**
	78nm,0.9s						
AS31	**Alice Springs**	**21.41**	**210**	P	**P**	**02 42 05.3**	**+0.5**
ASAR	**Alice Springs**	**21.41**	**210**	P	**P**	**02 42 04.8**	**-0.1**
ASAR	**Alice Springs**	**21.41**	**210**	P	**P**	**02 42 05.0**	**+0.1**
	7.3nm,0.7s,baz=40,slow=7.9,SNR=42						
ASAR				S	**S**	**02 46 01.6**	**+2.1**
	3.5nm,0.9s,baz=38,slow=18,SNR=4.0						
ASAR				LR	LR	02 51 08.7	
	comp=Z,838nm,20.1s,baz=38,slow=38						
	7.3nm,0.7s						
RMQ	**Roma**	**21.43**	**172**	P	**P**	**02 42 06.4**	**+1.4**
BATI	**Baumata**	**22.03**	**256**	P	**P**	**02 42 12.1**	**+0.6**
	132nm,0.7s,1μm						
BATI	**Baumata**	**22.03**	**256**	P	**P**	**02 42 11.8**	**+0.3**
	82nm,0.7s,baz=106,slow=3.7,SNR=15						
	82nm,0.7s						
BBSI	**Bau Bau**	**22.66**	**268**	P	**P**	**02 42 20.0**	**+1.7**
	64nm,0.9s,811nm						
INKA	**Innaminka**	**22.84**	**190**	P	**P**	**02 42 22.4**	**+2.4**
LUWI	**Luwuk**	**22.89**	**280**	P	**P**	**02 42 21.3**	**+0.6**
	177nm,1.0s,10μm						
DAV	**Davao City (W)**	**23.16**	**302**	LR	LR	02 51 22.4	
	comp=Z,149nm,19.9s,baz=98,slow=36						
EDFI	**Ende, Flores**	**23.72**	**260**	P	**P**	**02 42 26.7**	**-2.1**
MRSI	**Marisa**	**24.02**	**283**	P	**P**	**02 42 32.0**	**+0.6**
	74nm,0.7s,950nm						
OOD	**Oodnadatta**	**24.27**	**201**	P	**P**	**02 42 33.9**	**+0.4**
BASI	**Baing, Sumba**	**25.02**	**257**	P	**P**	**02 42 41.5**	**+1.0**
	388nm,0.9s,4μm						
BKSI	**Bulukumba**	**25.09**	**269**	P	**P**	**02 42 42.0**	**+0.8**
	36nm,0.9s						
TOLI2	**Tolitoli**	**25.30**	**284**	P	**P**	**02 42 42.4**	**-0.7**
TOLI2	**Tolitoli**	**25.30**	**284**	P	**P**	**02 42 42.6**	**-0.5**
KAPI	**Kappang**	**25.47**	**269**	P	**P**	**02 42 43.9**	**-0.8**
KAPI	**Kappang**	**25.47**	**269**	P	**P**	**02 42 44.7**	**+0.1**
	8.9nm,0.5s,baz=108,slow=2.5,SNR=8.9						
KAPI				LR	LR	02 54 12.5	
	comp=Z,144nm,21.6s,baz=86,slow=40						
	8.9nm,0.5s						
SPSI	**Sidrap Palu**	**25.50**	**272**	P	**P**	**02 42 46.0**	**+1.1**
	26nm,0.8s						
TTSI	**Tana Toraja**	**25.52**	**274**	P	**P**	**02 42 47.6**	**+2.5**
	76nm,1.5s,1μm						
DVP	**Devils Point**	**25.59**	**121**	P	**P**	**02 42 47.7**	**+2.0**
WRKA	**Warakurna**	**25.62**	**218**	P	**P**	**02 42 45.5**	**-0.4**
ARMA	**Armidale**	**25.79**	**167**	P	**P**	**02 42 48.9**	**+1.5**
MPSI	**Mapaga**	**25.98**	**281**	P	**P**	**02 42 48.9**	**-0.3**
	25nm,0.9s,441nm						
LCRK	**Leigh Creek**	**26.00**	**194**	P	**P**	**02 42 50.9**	**+1.7**
CMSA	**Cobar Meteorol**	**26.21**	**179**	P	**P**	**02 42 52.0**	**+0.9**
LIFNC	**LIFOU**	**26.32**	**128**	P	**P**	**02 42 54.8**	**+2.6**
DZM	**Mont Dzumac**	**26.45**	**131**	*e*P	**P**	**02 42 51.8**	**-1.7**
	75nm,1.1s						
DZM				*e*S	**S**	**02 47 25.2**	**+1.7**
	274nm,28.0s						
DZM				*e*LR	LR	02 49 40.8	
	comp=Z,1μm,24.2s						
DZM	**Mont Dzumac**	**26.45**	**131**	P	**P**	**02 42 52.2**	**-1.3**
DZM				IAmb	IAmb	02 42 55.6	
	comp=Z,35nm,1.0s						
STKA	**Stephens Creek**	**26.77**	**187**	P	**P**	**02 42 56.2**	**0.0**
STKA	**Stephens Creek**	**26.77**	**187**	P	**P**	**02 42 58.3**	**+2.1**
STKA	**Stephens Creek**	**26.77**	**187**	P	**P**	**02 42 55.1**	**-1.1**
	comp=Z,6.8nm,0.7s,baz=1.6,slow=9.0,SNR=13						
STKA				LR	LR	02 55 02.2	
	comp=Z,652nm,18.6s,baz=10,slow=40						
	comp=Z,6.8nm,0.7s						
MULG	**Mulgathing**	**27.12**	**202**	P	**P**	**02 43 01.1**	**+1.8**
PLAI	**Plampang**	**27.57**	**261**	P	**P**	**02 43 04.1**	**+0.5**
PLAI	**Plampang**	**27.57**	**261**	P	**P**	**02 43 01.0**	**-2.6**
HTT	**Hallett**	**28.72**	**191**	P	**P**	**02 43 14.9**	**+1.3**
BBOO	**Buckleboo**	**28.80**	**196**	P	**P**	**02 43 15.9**	**+1.6**
MBWA	**Marble Bar**	**29.46**	**235**	P	**P**	**02 43 19.8**	**-0.5**
MBWA	**Marble Bar**	**29.46**	**235**	P	**P**	**02 43 20.9**	**+0.6**
PSA00	**Pilbara Seismi**	**29.57**	**234**	P	**P**	**02 43 20.2**	**-1.0**
PSA00				IAmb	IAmb	02 43 22.4	
	comp=Z,23nm,0.8s						
PSA00	**Pilbara Seismi**	**29.57**	**234**	P	**P**	**02 43 21.9**	**+0.6**
CAN	**Canberra**	**30.17**	**174**	P	**P**	**02 43 28.9**	**+2.4**
CAN	**Canberra**	**30.17**	**174**	P	**P**	**02 43 26.7**	**+0.3**
CAN				pP	**pP**	**02 43 41.6**	**+0.9**
CAN				sP	**sP**	**02 43 47.1**	**-0.3**
FORT	**Forrest**	**30.19**	**211**	P	**P**	**02 43 26.1**	**-0.6**
FORT	**Forrest**	**30.19**	**211**	P	**P**	**02 43 27.7**	**+1.1**
CNB	**Canberra Magne**	**30.21**	**173**	P	**P**	**02 43 28.4**	**+1.6**
H11S3	**WAKE ISLAND Hy**	**31.59**	**41**	T	T	03 16 14.6	
	baz=222,slow=74,SNR=13						
H11S2	**WAKE ISLAND Hy**	**31.60**	**41**	T	T	03 16 15.3	
	baz=222,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hy**	**31.61**	**41**	T	T	03 16 15.9	
	baz=222,slow=74,SNR=14						
H11N1	**WAKE ISLAND Hy**	**32.60**	**40**	T	T	03 17 28.8	
	baz=221,slow=75,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**32.62**	**40**	T	T	03 17 29.7	
	baz=221,slow=75,SNR=10						
H11N2	**WAKE ISLAND Hy**	**32.62**	**40**	T	T	03 17 29.6	
	baz=221,slow=75,SNR=11						
MEEK	**Meekatharra**	**33.23**	**227**	P	**P**	**02 43 54.8**	**+1.3**
SBUM	**Sibu**	**33.93**	**282**	P	**P**	**02 43 59.2**	**-0.4**
KMBL	**Kambalda**	**34.09**	**217**	P	**P**	**02 44 01.2**	**+0.4**
GIRL	**Giralia**	**34.68**	**237**	P	**P**	**02 44 07.1**	**+1.1**
KSM	**Kuching**	**35.60**	**280**	P	**P**	**02 44 12.6**	**-1.4**
KSM				IAmb	IAmb	02 44 21.8	
	comp=Z,20nm,1.1s						
JOW	**Kunigami**	**35.86**	**333**	LR	LR	02 56 04.7	
	comp=Z,224nm,20.0s,baz=187,slow=31						
KLBR	**Kellerberrin**	**36.84**	**221**	P	**P**	**02 44 26.2**	**+1.7**
BLDU	**Ballidu**	**36.94**	**223**	P	**P**	**02 44 26.2**	**+0.9**
BBJI	**Bungbulang**	**37.50**	**265**	P	**P**	**02 44 30.6**	**+0.2**
LEM	**Lembang**	**37.53**	**266**	LR	LR	03 02 12.1	
	comp=Z,135nm,20.8s,baz=124,slow=40						
NWAO	**Narrogin (SRO)**	**38.04**	**220**	LR	LR	03 01 22.9	
	comp=Z,691nm,19.4s,baz=58,slow=38						
JHJ	**Hachijo jima 2**	**38.46**	**353**	LR	LR	02 59 04.9	
	comp=Z,114nm,18.8s,baz=178,slow=34						
OUZ	**Omahuta**	**39.66**	**143**	P	**P**	**02 44 50.4**	**+2.3**
JNU	**Nakatsue**	**40.49**	**341**	LR	LR	02 58 57.6	
	comp=Z,317nm,21.3s,baz=160,slow=32						
KASI	**Kota Agung**	**40.64**	**268**	P	**P**	**02 44 54.9**	**-1.6**
DSRI	**Dabo**	**40.95**	**275**	P	P	02 45 13.5	+14
MJAR	**Matsushiro Arr**	**42.05**	**351**	P	**P**	**02 45 05.3**	**-2.4**
	comp=Z,11nm,1.1s,baz=170,slow=7.8,SNR=17						
MJAR				LR	LR	03 01 49.0	
	comp=Z,115nm,20.4s,baz=163,slow=35						
	comp=Z,11nm,1.1s						
MAJO	**Matsushiro**	**42.05**	**351**	P	**P**	**02 45 06.2**	**-1.5**
MAJO	**Matsushiro**	**42.05**	**351**	P	**P**	**02 45 06.2**	**-1.5**
MAJO	**Matsushiro**	**42.05**	**351**	P	**P**	**02 45 06.0**	**-1.7**
MAJO				pP	**pP**	**02 45 20.5**	**-2.0**
MJB9	**Matsu-Tunnel**	**42.05**	**351**	P	**P**	**02 45 05.8**	**-1.9**
MJB9				IAmb	IAmb	02 45 07.1	
	comp=Z,42nm,1.4s						
QRZ	**Quartz Range**	**43.05**	**149**	P	**P**	**02 45 18.6**	**+2.8**
AFI	**Afiamalu**	**43.12**	**105**	P	**P**	**02 45 18.9**	**+2.1**
MRNZ	**Matariki Terra**	**43.59**	**150**	P	**P**	**02 45 20.9**	**+0.8**
URZ	**Urewera**	**43.79**	**143**	LR	LR	03 02 22.7	
	comp=Z,288nm,20.9s,baz=34,slow=34						
JCZ	**Jackson Bay**	**43.88**	**156**	P	**P**	**02 45 24.7**	**+2.2**
SNZO	**South Karori**	**44.53**	**148**	P	**P**	**02 45 30.6**	**+3.0**
RPZ	**Rata Peaks**	**44.56**	**153**	P	**P**	**02 45 29.3**	**+1.4**
RPZ	**Rata Peaks**	**44.56**	**153**	LR	LR	03 02 41.1	
	comp=Z,280nm,20.2s,baz=320,slow=34						
KHZ	**Kahutara**	**44.74**	**150**	P	**P**	**02 45 30.4**	**+1.1**
NJ2	**Nanjing**	**44.80**	**328**	*e*P	**P**	**02 45 30.8**	**+0.9**
NJ2				pP	**pP**	**02 45 45.6**	**+1.0**
NJ2				sP	**sP**	**02 45 52.2**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,380nm,4.3s						
BFZ	**Birch Farm**	**44.92**	**146**	P	**P**	**02 45 30.4**	**-0.4**
BFZ	**Birch Farm**	**44.92**	**146**	P	**P**	**02 45 31.6**	**+0.8**
PDSI	**Padang**	**44.98**	**274**	P	**P**	**02 45 30.4**	**-1.4**
	comp=Z,33nm,0.6s,comp=Z,6μm						
KSRS	**Korea Array**	**45.42**	**340**	P	**P**	**02 45 34.1**	**-0.6**
	comp=Z,6.3nm,1.0s,baz=159,slow=9.5,SNR=13						

KSRS LR LR 03 01 39.1
comp=Z,363nm,21.9s,baz=155,slow=32
comp=Z,6.3nm,1.0s
KSAR Wonju Array Be 45.42 340 P P 02 45 34.1 -0.7
RPSI Rantau Prapat 47.01 279 P P 02 45 47.3 -0.3
RPSI IAmb IAmb 02 45 52.9
comp=Z,22nm,1.1s
LYN LuoYang 50.22 324 ⇑P P 02 46 18.0 +6.0
LYN pP sP 02 46 35.0 +1.5
LYN pmax pmax
comp=Z,21nm,0.5s
LYN pmax pmax
comp=Z,140nm,3.9s
USA0B Ussuriysk Arra 50.61 348 P P 02 46 13.0 -1.7
USRK Ussuriysk Ar. 50.61 348 P P 02 46 13.5 -1.2
USRK Ussuriysk Ar. 50.61 348 P P 02 46 13.7 -1.1
comp=Z,8.5nm,0.8s,baz=172,slow=9.2,SNR=16
USRK LR LR 03 07 00.6
comp=Z,39nm,18.4s,baz=168,slow=35
comp=Z,8.5nm,0.8s
HNS HongShan 51.08 329 ⇑P P 02 46 17.7 -0.7
HNS pP **pP 02 46 34.0 +0.6**
HNS *e*S **S 02 53 25.4 -6.6**
HNS pmax pmax
comp=Z,14nm,1.0s
HNS LR LR
comp=N,250nm,19.4s
HNS LR LR
comp=Z,270nm,25.0s
CM31 Chiang Mai Arr 51.40 298 P P 02 46 20.3 -0.8
CMAR Chiang Mai Arr 51.40 298 P P 02 46 20.8 -0.3
CMAR Chiang Mai Arr 51.40 298 P P 02 46 22.4 +1.2
comp=Z,1.8nm,0.4s,baz=121,slow=6.0,SNR=14
CMAR LR LR 03 06 18.8
comp=Z,55nm,20.6s,baz=100,slow=34
comp=Z,1.8nm,0.4s
CHTO Chiang Mai 51.54 299 P P 02 46 22.1 -0.1
CHTO IAmb IAmb 02 46 37.6
comp=Z,23nm,1.5s
MDJ Mudanjiang 51.56 346 P P 02 46 22.9 +1.1
MDJ sP sP 02 46 45.8 +2.4
MDJ PcP **PcP 02 47 36.4 +1.2**
MDJ PP **PP 02 48 23.7 +3.9**
MDJ PcS **PcS 02 51 35.0 +2.0**
MDJ S **S 02 53 38.4 0.0**
MDJ pmax pmax
comp=Z,13nm,1.8s
MDJ pmax pmax
comp=Z,190nm,3.7s
MDJ LR LR
comp=N,360nm,19.2s
MDJ LR LR
comp=E,220nm,17.5s
MDJ LR LR
comp=Z,460nm,20.8s
XAN Xi'an 52.01 321 ⇑P P 02 46 23.6 -1.9
XAN pmax pmax
comp=Z,12nm,1.2s
BJI Beijing 52.40 332 P P 02 46 19.2 -9.0
BJI sP pP 02 46 41.5 -1.7
BJI pmax pmax
comp=Z,2.0nm,0.6s
BJI pmax pmax
comp=Z,56nm,3.7s
PZH PanZhiHua 52.66 309 P P 02 46 31.5 +1.0
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.7s
BNX BinXian 53.17 344 ⇑P P 02 46 32.7 -1.0
BNX pmax pmax
comp=Z,11nm,1.1s
BNX pmax pmax
comp=Z,120nm,4.2s
CD2 Chengdu 53.52 315 P P 02 46 35.7 -1.0
HHC Hu-ho-hao-te 55.28 329 *e*P **P 02 46 51.4 +2.0**
HHC sP sP 02 47 11.0 0.0
HHC *e*S **S 02 54 34.1 +4.8**
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,220nm,5.9s
HHC LR LR
comp=N,310nm,17.8s
HHC LR LR
comp=E,220nm,19.0s
HHC LR LR
comp=Z,500nm,19.8s
KLR Kul'dur 55.48 349 LR LR 03 09 37.1
comp=Z,45nm,19.8s,baz=173,slow=35
RAR Rarotonga 55.48 112 LR LR 03 10 38.3
comp=Z,51nm,18.2s,baz=173,slow=36
BTO Baotou 55.91 328 *e*P **P 02 46 57.6 +3.7**
BTO pP **sP 02 47 13.5 -2.0**
BTO sP pP 02 47 20.5 +11
BTO PP **PP 02 49 04.9 +5.7**
BTO S **S 02 54 43.1 +5.5**
BTO sS **sS 02 55 07.2 +4.1**
BTO Baotou 55.91 328 SS **SS 02 58 28.3 +3.9**
BTO pmax pmax
comp=Z,15nm,0.5s
BTO pmax pmax
comp=Z,100nm,4.3s
BTO LR LR
comp=N,490nm,24.2s
BTO LR LR
comp=E,350nm,12.0s
BTO LR LR
comp=Z,630nm,22.5s
LZH Lanzhou 56.52 320 *e*P **P 02 46 59.5 +1.1**
LZH pP pP 02 47 15.2 +1.6
LZH sP sP 02 47 24.5 +4.5
LZH pmax pmax
comp=Z,18nm,1.0s
HEH HeiHe 57.36 346 *e*P **P 02 47 02.6 -1.2**
HEH pmax pmax
comp=Z,7.0nm,1.4s
HEH pmax pmax
comp=Z,170nm,4.2s
PETK Petropavlovsk- 59.02 9 P **P 02 47 14.0 -1.4**
comp=Z,5.4nm,0.8s,baz=169,slow=6.1,SNR=11
PETK LR LR 03 08 29.2
comp=Z,122nm,21.6s,baz=187,slow=32
comp=Z,5.4nm,0.8s
GTA Gaotai 61.06 321 *e*P **P 02 47 29.8 -0.1**
GTA sP pP 02 47 37.6 -7.6
GTA pmax pmax
comp=Z,5.0nm,1.2s
DRV Dumont d'Urvil 61.48 182 P **P 02 47 32.3 +0.3**
SHEM Shemya Is, Ala 62.65 19 LR LR 03 08 51.0
comp=Z,176nm,20.7s,baz=182,slow=30
SONM Songino Array 62.90 332 P **P 02 47 41.4 -0.6**
SONM IAmb IAmb 02 47 58.3
comp=Z,12nm,1.7s
SONM Songino Array 62.90 332 P **P 02 47 41.0 -1.0**
comp=Z,1.0nm,0.6s,baz=151,slow=9.2,SNR=9.1
SONM LR LR 03 12 57.8
comp=Z,113nm,21.9s,baz=130,slow=34
comp=Z,1.0nm,0.6s
MA2 Magadan 64.71 3 LR LR 03 12 46.6
comp=Z,55nm,21.8s,baz=144,slow=33
PPT Papeete 64.72 107 LR LR 03 12 11.6
comp=Z,59nm,21.6s,baz=256,slow=32
PPT2 Papeete2 64.73 107 *e*LR LR 03 07 21.3
comp=Z,154nm,25.2s
PPT2 *e*LR LR 03 07 33.1
comp=Z,163nm,29.2s
TBI Tubuai 65.22 113 *e*LR LR 03 07 22.2
comp=Z,646nm,26.0s
CASY Casey 65.60 195 P **P 02 47 59.5 +0.4**
CASY pP **pP 02 48 14.2 -0.5**
PALK Pallekele 65.66 280 LR LR 03 19 55.8
comp=Z,49nm,19.3s,baz=217,slow=39
SEY Seymchan 68.15 3 LR LR 03 13 33.9
comp=Z,71nm,21.1s,baz=195,slow=32
CCD Concordia, Ant 70.99 186 P **P 02 48 33.7 +0.3**
CCD pP **pP 02 48 48.9 -0.1**
CCD sP **PcP 02 48 54.2 +0.8**
WMQ Urumqi 71.10 320 *e*P **P 02 48 35.5 +1.4**
VNDA Vanda 72.81 176 P **P 02 48 43.2 -0.4**
VNDA Vanda 72.81 176 P **P 02 48 43.8 +0.1**
comp=Z,6.0nm,0.8s,baz=328,slow=6.4,SNR=25
VNDA LR LR 03 19 22.7
comp=Z,141nm,18.8s,baz=351,slow=35
comp=Z,6.0nm,0.8s
MK31 Makanchi Array 75.82 321 P **P 02 48 59.9 -1.8**
MKAR Makanchi Array 75.82 321 P **P 02 49 01.0 -0.8**
MKAR Makanchi Array 75.82 321 P **P 02 49 00.7 -1.1**
comp=Z,0.5nm,0.4s,baz=95,slow=8.2,SNR=12
MKAR LR LR 03 22 17.1
comp=Z,58nm,21.8s,baz=135,slow=36
comp=Z,0.5nm,0.4s
MAKZ Makanchi 76.02 321 P **P 02 49 01.6 -1.3**
ZAA0 Zalesovo Array 77.45 328 P **P 02 49 08.6 -2.1**
ZALV Zalesovo Beam 77.45 328 P **P 02 49 08.8 -1.9**
comp=Z,1.7nm,0.7s,baz=119,slow=5.6,SNR=6.1
ZALV LR LR 03 22 17.5
comp=Z,152nm,21.6s,baz=108,slow=35
comp=Z,1.7nm,0.7s
L14K Kuka Creek 77.48 23 IAmb IAmb 02 49 15.8
comp=Z,14nm,0.8s
K15K Wolf Creek Mou 78.48 22 IAmb IAmb 02 49 17.9
comp=Z,25nm,1.2s
M16K Timber Creek 78.78 24 IAmb IAmb 02 49 23.2
comp=Z,16nm,0.9s
J16K Anvik River 79.40 22 IAmb IAmb 02 49 22.6
comp=Z,23nm,1.2s
KURK Kurchatov 79.57 324 P **P 02 49 20.8 -1.7**
AAK Ala-Archa 79.59 315 LR LR 03 24 58.9
comp=Z,53nm,22.0s,baz=106,slow=36
KURBB Kurchatov Arra 79.59 323 P **P 02 49 20.8 -1.8**
comp=Z,0.5nm,0.5s,baz=116,slow=4.2,SNR=2.8
KURBB LR LR 03 25 16.8
comp=Z,69nm,20.8s,baz=175,slow=36
comp=Z,0.5nm,0.5s
M17K Holitna River 79.60 24 IAmb IAmb 02 49 38.3
comp=Z,13nm,0.9s
K17K Iditarod 79.96 23 IAmb IAmb 02 49 25.5
comp=Z,24nm,1.2s
KDAK Kodiak Island 79.99 29 LR LR 03 18 09.4
comp=Z,128nm,21.4s,baz=258,slow=31
G16K Koyuk River 80.03 20 IAmb IAmb 02 49 25.4
comp=Z,24nm,1.2s
F17K Baldwin Pennin 81.02 19 IAmb IAmb 02 49 34.9
comp=Z,9.9nm,0.8s
G18K Tagagawik 81.57 20 P **P 02 49 31.7 -1.2**
M20K Styx River 81.63 25 IAmb IAmb 02 49 38.1
comp=Z,11nm,1.0s
E18K Tukpahlearik C 81.80 18 IAmb IAmb 02 49 39.0
comp=Z,10nm,0.8s
H19K Roundabout Mou 82.14 21 IAmb IAmb 02 49 36.6
comp=Z,8nm,0.8s
G19K Purcell Mounta 82.24 20 IAmb IAmb 02 49 41.9
comp=Z,11nm,0.9s
J20K Nowinta River 82.31 23 IAmb IAmb 02 49 37.7
comp=Z,13nm,1.1s
MAW Mawson 82.35 203 P **P 02 49 36.1 -0.8**
comp=Z,3.8nm,0.6s,baz=74,slow=9.3,SNR=4.9
MAW LR LR 03 24 52.6
comp=Z,55nm,19.1s,baz=72,slow=35
comp=Z,3.8nm,0.6s
KK31 Karatay Array 82.54 315 P **P 02 49 37.6 -0.8**
KKAR Karatay Array 82.54 315 P **P 02 49 38.2 -0.3**
CAST Castle Rocks 82.77 24 P **P 02 49 38.0 -1.2**
CAST IAmb IAmb 02 49 39.6
comp=Z,21nm,1.6s
F20K Avaraart Lake 83.18 20 IAmb IAmb 02 49 41.5
comp=Z,19nm,1.4s
KTH Kantishna Hill 83.29 24 IAmb IAmb 02 49 41.1
comp=Z,20nm,1.3s
TRF Thorofare Moun 83.50 24 IAmb IAmb 02 49 41.6
comp=Z,16nm,1.3s
BPAW Bear Paw Mtn. 83.51 23 IAmb IAmb 02 49 47.2
comp=Z,17nm,1.4s
I21K Tanana 83.61 22 IAmb IAmb 02 50 02.6
comp=Z,24nm,1.4s
G21K Allakaket 83.68 21 IAmb IAmb 02 49 44.3
comp=Z,27nm,1.6s
MLY Manley 84.01 23 P **P 02 49 44.5 -1.1**
MLY IAmb IAmb 02 49 45.5
comp=Z,22nm,1.4s
RND Reindeer 84.07 24 P **P 02 49 44.1 -1.9**
RND IAmb IAmb 02 49 49.2
comp=Z,17nm,1.0s
E21K Killik River 84.46 19 IAmb IAmb 02 49 52.9
comp=Z,12nm,1.0s
NEA2 Nenana 84.47 23 IAmb IAmb 02 49 47.5
comp=Z,5.8nm,0.6s
DHY Denali Highway 84.56 25 IAmb IAmb 02 50 03.1
comp=Z,9.4nm,0.8s
I23K Minto, Yukon-K 84.59 23 IAmb IAmb 02 49 53.1
comp=Z,19nm,1.7s
QSPA South Pole Qui 84.77 180 P **P 02 49 48.4 -1.2**
CCB Clear Creek Bu 84.99 23 IAmb IAmb 02 49 53.1
comp=Z,9.6nm,0.8s
G23K Bananza Creek 85.01 21 IAmb IAmb 02 49 50.5
comp=Z,13nm,1.4s
E22K Anaktuvuk Pass 85.02 20 IAmb IAmb 02 49 55.9
comp=Z,7.8nm,0.9s
COLA College 85.07 23 P **P 02 49 48.3 -2.5**
COLA IAmb IAmb 02 49 53.4
comp=Z,11nm,0.7s
D22K Ayikyak River 85.08 19 IAmb IAmb 02 49 56.2
comp=Z,15nm,1.2s
BVAR Borovoye Array 85.14 324 P **P 02 49 49.6 -1.9**
comp=Z,1.5nm,0.5s,baz=109,slow=6.3,SNR=11
BVAR LR LR 03 27 36.4
comp=Z,50nm,21.9s,baz=87,slow=35
comp=Z,1.5nm,0.5s
BRVK Borovoye 85.21 324 P **P 02 49 51.4 -0.4**
HDA Harding Lake 85.24 24 IAmb IAmb 02 49 54.6
comp=Z,6.0nm,0.6s
IL31 85.41 23 IAmb IAmb 02 49 55.2
comp=Z,11nm,0.8s
ILAR Eielson Array 85.41 23 P **P 02 49 49.6 -3.0**
ILAR Eielson Array 85.41 23 P **P 02 49 49.8 -2.8**
comp=Z,8.8nm,0.8s,baz=250,slow=5.2,SNR=144
ILAR LR LR 03 26 27.3
comp=Z,72nm,18.5s,baz=251,slow=34
comp=Z,8.8nm,0.8s
F24K Squaw Lake 86.11 21 IAmb IAmb 02 50 11.2
comp=Z,5.8nm,0.7s
D24K Happy Valley 86.45 19 IAmb IAmb 02 50 02.9
comp=Z,9.6nm,0.8s
J26L Joseph Creek 86.65 24 IAmb IAmb 02 50 13.3
comp=Z,5.3nm,0.8s
L27K Beaver Creek, 86.92 26 IAmb IAmb 02 49 59.9
comp=Z,14nm,1.4s
K27K Chken 87.11 25 P **P 02 49 59.8 -1.2**
O29M Mount Kennedy 87.64 29 IAmb IAmb 02 50 19.0
comp=Z,8.4nm,0.9s
P29M Windy Craggy 87.89 30 IAmb IAmb 02 50 10.1
comp=Z,15nm,1.2s
G27K Doyon Strip 88.13 22 IAmb IAmb 02 50 07.0
comp=Z,14nm,1.6s
M29M Somme Creek 88.24 27 IAmb IAmb 02 50 11.3
comp=Z,6.5nm,1.1s
DAWY Dawson 88.25 25 P **P 02 50 05.2 -1.4**
DAWY IAmb IAmb 02 50 07.0
comp=Z,17nm,1.4s
HYT Haines Junctio 88.28 29 IAmb IAmb 02 50 22.4
comp=Z,7.6nm,1.0s
I28M Miner Creek 88.41 24 IAmb IAmb 02 50 12.0
comp=Z,8.5nm,1.4s
L29M L29M 88.55 26 IAmb IAmb 02 50 24.1
comp=Z,8.4nm,0.9s
M30M Minto, Yukon 89.02 27 IAmb IAmb 02 50 12.4
comp=Z,17nm,1.4s
F28M Old Crow 89.03 22 IAmb IAmb 02 50 29.1
comp=Z,4.8nm,0.9s
J30M Hart River 89.67 25 IAmb IAmb 02 50 18.4
comp=Z,8.9nm,1.3s
I30M Mount Dempster 89.80 24 IAmb IAmb 02 50 18.5
comp=Z,5.8nm,1.1s
ABKAR Akbulak array 90.88 319 P **P 02 50 17.2 -1.8**
ABKAR IAmb IAmb 02 50 27.9
comp=Z,10nm,1.8s
INK Inuvik 91.52 22 LR LR 03 28 10.0
comp=Z,119nm,19.4s,baz=187,slow=33
DLBC Dease Lake 91.58 32 LR LR 03 24 50.4
comp=Z,150nm,20.0s,baz=274,slow=31
BBB Bella Bella 91.95 38 LR LR 03 24 25.2
comp=Z,177nm,20.3s,baz=226,slow=31
ARU Arti 92.49 326 LR LR 03 32 36.3
comp=Z,68nm,21.9s,baz=108,slow=36
ELIB Princess Elisa 94.53 195 *d*P **P 02 50 35.2 -0.5**
comp=Z,12nm,0.0s
ELIB *d*pP **pP 02 50 50.6 -1.4**
KIRV Kirov 97.49 328 LR LR 03 35 18.3
comp=Z,95nm,21.9s,baz=89,slow=36
NEW Newport 98.88 42 LR LR 03 29 40.6
comp=Z,64nm,19.2s,baz=273,slow=32
YKA Yellowknife Ar 99.24 28 P **Pdif 02 50 54.8 -2.1**
comp=Z,0.2nm,0.7s,baz=275,slow=4.2,SNR=2.5
YKA LR LR 03 34 03.7
comp=Z,66nm,20.9s,baz=306,slow=34
comp=Z,0.2nm,0.7s
TROLL Troll, Antarti 99.27 191 ⇑P **Pdif 02 50 56.1 -1.0**
comp=Z,156nm,0.7s
SNAA Sanae 100.51 190 P **Pdif 02 51 01.0 -1.6**
comp=Z,0.6nm,0.8s,baz=170,slow=6.1,SNR=1.7
MNK Minsk 109.92 327 *i* P **Pdif 02 51 43.6 -0.9**
comp=E,10.0nm,0.9s
MNK *i* P **Pdif 02 51 43.6 -0.9**
comp=N,12nm,0.8s
MNK *i* P **Pdif 02 51 43.6 -0.9**
comp=Z,13nm,0.7s,baz=250
MNK *i* pP **pPdif 02 52 00.7 -0.1**
MNK *i* PP **PP 02 56 19.1 -0.4**
MNK *i* PPP PPP 02 58 38.2
MNK *i* SKS **SKSdf 03 02 52.2 -1.5**
MNK *i* PS **PS 03 05 49.0 -0.1**
MNK *i* SS **SS 03 11 41.2 +1.3**
MNK *i* SSS SSS 03 15 48.1
MNK *i* LQ LQ 03 35 10.4
MNK *i* LR LR 03 41 46.2
MNK *i* LRM MLR 03 42 07.4
comp=N,143nm,20.0s
MNK *i* LRM MLR 03 42 57.7
comp=Z,92nm,22.6s
MNK *i* LRM MLR 03 44 46.0
comp=E,48nm,21.9s
PLCA Paso Flores 123.70 148 PKP **PKPdf 02 56 12.8 -0.6**
comp=E,2.5nm,0.6s,baz=251,slow=2.0,SNR=12
LPAZ La Paz 140.62 123 PKP **PKPdf 02 56 42.9 -3.7**
comp=E,0.5nm,0.4s,baz=243,slow=4.5,SNR=1.7
CPUP Villa Florida 141.74 146 PKhKP PKPpre 02 56 41.6
comp=E,2.0nm,0.7s,baz=243,slow=2.5,SNR=3.8
TORD Torodi Ar. Bea 143.27 285 PKhKP PKPpre 02 56 45.2
comp=E,2.7nm,0.7s,baz=57,slow=5.0,SNR=16
ETMB Extrema 145.22 115 PKPbc **PKPbc 02 56 52.1 -1.6**
SJG San Juan 146.69 65 PKPbc **PKPdf 02 56 54.5 -1.8**
AQDB Aquidauana 147.18 142 PKPbc **PKPdf 02 56 56.9 -0.2**
SAML Samuel 148.30 116 PKPbc **PKPdf 02 56 59.4 +0.2**
KIC Kosan Boka 150.19 274‖ *e*PKP1 **PKPbc 02 57 07.4 +0.1**
comp=E,24nm,1.1s
DBIC Dimbokro 150.30 274 PKPbc **PKPbc 02 57 06.2 -1.4**
comp=E,11nm,0.9s,baz=89,slow=4.1,SNR=9.9
TIC Toumodi 150.47 274⇑ *e*PKP1 **PKiKP 02 57 08.5 -0.2**
comp=E,19nm,0.8s
LIC Lamto 150.48 273⇑ *e*PKP1 **PKPbc 02 57 07.8 -0.2**
comp=E,38nm,0.9s
BDFB Brasilia 155.44 148 PKPbc **PKPdf 02 57 17.4 +7.5**
comp=E,3.1nm,0.6s,baz=205,slow=3.6,SNR=6.4
BDFB PKPab **PKPab 02 57 34.6 -0.9**
comp=E,5.1nm,0.8s,baz=231,slow=4.5,SNR=5.0

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*NOU **03** 02:39:43.4,36.99S×179.88E,h0km,MLv4.2/8, Off E. Coast of N. Island, N.Z.*
*IDC **03** 02:39:50.9±3.1,36.72S×178.81E,h0km,mb4.1/2, mbtmp4.2/3,ML4.1/1,MS4.3/3,Error ellipse: s-maj=72.9km s-min=31.5km az=118.0*
*WEL **03** 02:39:52.8±0.8,37°S±4°×17°9E±°,h12km,M3.9/31, ML4.1/32,MLv3.9/31,Error ellipse: s-maj=0.0km s-min=0.0km az=101.5,confirmed*
ISC 03 02:39:48.6±2.2,37.00S±0.06×179.31E±0.09,h4km±11km, n113,σ1.958/119,MS4.3/3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
MXZ	**Matakaoa Point**	**0.98**	**235**	P	**Pb**	**02 40 08.1**	**-0.1**
MXZ	**Matakaoa Point**	**0.98**	**235**	P	**Pb**	**02 40 08.3**	**+0.1**
WMGZ	**Waiomatatini S**	**1.09**	**221**	P	**Pn**	**02 40 12.5**	**+1.9**
WMGZ				S	**Sn**	**02 40 26.8**	**+0.7**
PKGZ	**Pakihiroa**	**1.33**	**228**	P	**Pb**	**02 40 15.9**	**+1.8**
PKGZ				S	**Sn**	**02 40 31.7**	**-0.4**
PUZ	**Puketiti**	**1.36**	**218**	P	**Pb**	**02 40 16.2**	**+1.5**
PUZ				S	**Sb**	**02 40 32.8**	**+0.4**
HAZ	**Te Kaha**	**1.44**	**238**	P	**Pg**	**02 40 16.2**	**+0.1**
HAZ				S	**Sn**	**02 40 35.1**	**+0.5**
TWGZ	**Tauwhareparae**	**1.58**	**222**	P	**Pg**	**02 40 19.4**	**+0.4**
TWGZ				S	**Sg**	**02 40 39.5**	**0.0**
RUGZ	**Raukumara Rang**	**1.62**	**233**	P	**Pg**	**02 40 19.4**	**-0.3**
RUGZ				S	**Sb**	**02 40 39.9**	**-0.1**
CNGZ	**Carnagh Statio**	**1.72**	**210**	P	**Pg**	**02 40 21.9**	**+0.2**
WIZ	**White Island**	**1.77**	**252**	P	**Pb**	**02 40 21.4**	**-0.3**
TKGZ	**Te Karaka**	**1.85**	**219**	P	**Pb**	**02 40 22.5**	**-0.5**
MWZ	**Matawai**	**1.94**	**226**	P	**Pb**	**02 40 24.0**	**-0.6**
MWZ				S	**Sn**	**02 40 47.2**	**-0.1**
WHRZ	**Whale Island**	**2.05**	**245**	P	**Pb**	**02 40 26.1**	**-0.3**
RIGZ	**Rimuhau**	**2.10**	**215**	P	**Pn**	**02 40 25.8**	**+1.2**
RAGZ	**Rawiri**	**2.12**	**225**	P	**Pb**	**02 40 26.7**	**-1.0**
URZ	**Urewera**	**2.15**	**234**	P	**Pb**	**02 40 27.0**	**-1.1**
URZ	**Urewera**	**2.15**	**234**	Pn	**Pb**	**02 40 26.8**	**-1.4**
	69nm,0.3s,baz=72,slow=0.8,SNR=156						
URZ				Sn	**Sn**	**02 40 51.7**	**-0.7**
	58nm,0.3s,baz=225,slow=22,SNR=30						
	153nm,0.3s						
URZ	**Urewera**	**2.15**	**234**	P	**Pb**	**02 40 27.1**	**-1.1**
URZ				S	**Sn**	**02 40 51.6**	**-0.8**
PRGZ	**Paritu Road**	**2.23**	**210**	P	**Pn**	**02 40 27.7**	**+1.3**
EDRZ	**Edgecumbe**	**2.33**	**241**	P	**Pb**	**02 40 29.4**	**-1.7**
OPRZ	**Ohinepanea**	**2.35**	**248**	P	**Pn**	**02 40 28.7**	**+0.7**
SNGZ	**Shannon Statio**	**2.37**	**221**	P	**Pb**	**02 40 30.7**	**-1.5**
SNGZ				S	**Sn**	**02 40 57.6**	**-0.2**
KNZ	**Kokohu**	**2.40**	**212**	P	**Pn**	**02 40 29.4**	**+0.7**
MHGZ	**Mahia Peninsul**	**2.42**	**207**	P	**Pn**	**02 40 30.3**	**+1.3**
RTZ	**Ruatahuna**	**2.45**	**228**	P	**Pn**	**02 40 31.4**	**+1.9**
MYRZ	**Mayor Island**	**2.47**	**263**	P	**Pb**	**02 40 31.3**	**-2.3**
MUGZ	**Murupara**	**2.50**	**233**	P	**Pn**	**02 40 31.7**	**+1.7**
MUGZ				S	**Sn**	**02 40 59.7**	**-1.2**
TGRZ	**Tauranga**	**2.54**	**252**	P	**Pn**	**02 40 32.0**	**+1.4**
TARZ	**Mount Tarawera**	**2.55**	**240**	P	**Pb**	**02 40 33.0**	**-2.0**
OMRZ	**Omania**	**2.59**	**244**	P	**Pb**	**02 40 33.3**	**-2.3**
RRRZ	**Republican Roa**	**2.59**	**238**	P	**Pn**	**02 40 33.3**	**+2.0**
RAHZ	**Arahi**	**2.60**	**222**	P	**Pn**	**02 40 32.9**	**+1.4**
KARZ	**Kaharoa**	**2.65**	**246**	P	**Pn**	**02 40 33.9**	**+1.8**
WHHZ	**Waihua**	**2.65**	**218**	P	**Pn**	**02 40 33.3**	**+1.2**
HLRZ	**Highlands Stat**	**2.66**	**241**	P	**Pn**	**02 40 33.1**	**+0.8**
MTHZ	**Maungataniwha**	**2.69**	**226**	P	**Pn**	**02 40 34.5**	**+1.7**
NGNZ	**Ngongotaha**	**2.72**	**245**	P	**Pb**	**02 40 35.3**	**-2.5**
PRRZ	**Plateau Road**	**2.76**	**236**	P	**Pn**	**02 40 35.3**	**+1.7**
HSRZ	**Hossack Road**	**2.77**	**241**	P	**Pb**	**02 40 36.7**	**-1.9**
KMRZ	**Kaimai**	**2.81**	**252**	P	**Pn**	**02 40 34.7**	**+0.3**
NMHZ	**Naumai**	**2.88**	**223**	P	**Pn**	**02 40 36.8**	**+1.5**
KUZ	**Kuaotunu**	**2.89**	**274**	P	**Pn**	**02 40 35.2**	**-0.2**
KUZ	**Kuaotunu**	**2.89**	**274**	P	**Pn**	**02 40 35.2**	**-0.2**
ARHZ	**Aropaoanui**	**2.91**	**218**	P	**Pn**	**02 40 36.7**	**+1.1**
TOZ	**Tahuroa Road**	**3.12**	**255**	P	**Pn**	**02 40 38.6**	**0.0**
KUTZ	**Kaahu Road**	**3.14**	**241**	P	**Pn**	**02 40 41.0**	**+2.1**
CKHZ	**Cape Kidnapper**	**3.18**	**213**	P	**Pn**	**02 40 39.6**	**+0.1**
GRZ	**Great Barrier**	**3.19**	**282**	P	**Pn**	**02 40 41.7**	**+2.2**
MCHZ	**McNeill Hill**	**3.19**	**219**	P	**Pn**	**02 40 40.4**	**+0.8**
KWHZ	**Kaweka Forest**	**3.32**	**222**	P	**Pn**	**02 40 41.9**	**+0.5**
MKAZ	**Moumakai**	**3.32**	**267**	P	**Pn**	**02 40 41.6**	**+0.3**
WIAZ	**Waiheke Island**	**3.36**	**272**	P	**Pn**	**02 40 43.9**	**+2.1**
RITZ	**Rihia Road**	**3.37**	**233**	P	**Pn**	**02 40 43.9**	**+1.9**
KAHZ	**Kahuranaki**	**3.38**	**214**	P	**Pn**	**02 40 42.4**	**+0.1**
KRHZ	**Kereru**	**3.51**	**220**	P	**Pn**	**02 40 44.1**	**+0.2**
ETAZ	**East Tamaki Re**	**3.51**	**269**	P	**Pn**	**02 40 46.0**	**+2.0**
TMVZ	**Te Maari**	**3.55**	**232**	P	**Pn**	**02 40 45.9**	**+1.4**
MBAZ	**Motutapu North**	**3.55**	**272**	P	**Pn**	**02 40 45.8**	**+1.3**
ETVZ	**East Tongariro**	**3.56**	**232**	P	**Pn**	**02 40 45.7**	**+1.1**
NTVZ	**North Tongarir**	**3.56**	**233**	P	**Pn**	**02 40 46.1**	**+1.5**
BHHZ	**Black Hill Sta**	**3.57**	**225**	P	**Pn**	**02 40 45.3**	**+0.5**
KRVZ	**Karewarewa**	**3.58**	**233**	P	**Pn**	**02 40 46.4**	**+1.4**
PXZ	**Pawanui**	**3.59**	**212**	P	**Pn**	**02 40 44.4**	**-0.6**
OTVZ	**Oturere**	**3.60**	**232**	P	**Pn**	**02 40 46.5**	**+1.2**
NNVZ	**North Ngauruho**	**3.61**	**233**	P	**Pn**	**02 40 47.2**	**+1.7**
ABAZ	**Army Bay**	**3.62**	**275**	P	**Pn**	**02 40 48.0**	**+2.6**
WTVZ	**West Tongariro**	**3.62**	**233**	P	**Pn**	**02 40 47.2**	**+1.6**
SNVZ	**South Ngauruho**	**3.63**	**232**	P	**Pn**	**02 40 47.0**	**+1.2**
NGZ	**Ngauruhoe**	**3.65**	**232**	P	**Pn**	**02 40 47.3**	**+1.4**
EPAZ	**Eden Park BICE**	**3.66**	**271**	P	**Pn**	**02 40 48.9**	**+2.9**
TUVZ	**Tukino**	**3.67**	**231**	P	**Pn**	**02 40 47.4**	**+1.1**
HBAZ	**Herne Bay Bore**	**3.68**	**271**	P	**Pn**	**02 40 49.1**	**+2.9**
MOVZ	**Moawhango**	**3.69**	**228**	P	**Pn**	**02 40 47.1**	**+0.5**
TWVZ	**Taurewa**	**3.69**	**235**	P	**Pn**	**02 40 48.3**	**+1.8**
COVZ	**Chateau Observ**	**3.70**	**232**	P	**Pn**	**02 40 48.0**	**+1.4**
WHVZ	**Whangaehu Hut**	**3.72**	**231**	P	**Pn**	**02 40 48.1**	**+1.1**
FWVZ	**Far West T-bar**	**3.72**	**232**	P	**Pn**	**02 40 48.2**	**+1.1**
AWAZ	**Awhitu Peninsu**	**3.74**	**268**	P	**Pn**	**02 40 48.6**	**+1.5**
WNVZ	**Wahianoa**	**3.74**	**230**	P	**Pn**	**02 40 48.0**	**+0.7**
TRVZ	**Turoa**	**3.75**	**231**	P	**Pn**	**02 40 48.6**	**+1.1**

WTAZ	Waiatarua	3.80	270	P	Pn	02 40 50.8	+2.9
PNHZ	Pukenui	3.80	219	P	Pn	02 40 47.5	-0.4
WPHZ	Waipukurau	3.80	215	P	Pn	02 40 47.6	-0.4
RVAZ	Riverhead Bore	3.80	272	P	Pn	02 40 50.1	+2.2
HIZ	Hauiti	3.84	246	P	Pn	02 40 50.8	+2.3
HIZ	Hauiti	3.84	246	P	Pn	02 40 51.0	+2.5
MTVZ	Mangateitei	3.85	231	P	Pn	02 40 49.7	+1.0
PKVZ	Pokaka	3.87	233	P	Pn	02 40 50.6	+1.6
TSZ	Takapari Road	4.03	220	P	Pn	02 40 50.0	-1.1
WCZ	Waipu Caves	4.14	283	P	Pn	02 40 54.0	+1.4
VRZ	Vera Road	4.17	238	P	Pn	02 40 55.2	+2.1
WAZ	Wanganui	4.37	230	P	Pn	02 40 57.3	+1.5
BFZ	Birch Farm	4.39	212	P	Pn	02 40 54.2	-1.8
PRWZ	Pori Road	4.41	215	P	Pn	02 40 55.8	-0.5
LREZ	Lake Rotokare	4.58	236	P	Pn	02 41 01.5	+2.9
NEZ	North Egmont	4.70	240	P	Pn	02 41 04.1	+3.8
PKE	Pukeiti	4.74	241	P	Pn	02 41 04.9	+4.1
KHEZ	Kahui Hut	4.76	240	P	Pn	02 41 02.0	+0.8
KHEZ	Kahui Hut	4.76	240	P	Pn	02 41 05.8	+4.6
OUZ	Omahuta	4.96	289	P	Pn	02 41 05.4	+1.6
OUZ	Omahuta	4.96	289	P	Pn	02 41 05.6	+1.8
TKNZ	Takaka Hill	6.38	229	P	Pn	02 41 23.0	-0.4
QRZ	Quartz Range	6.53	232	P	Pn	02 41 24.7	-0.7
QRZ	Quartz Range	6.53	232	P	Pn	02 41 24.5	-0.9
CTZ	Chatham Island	7.41	156	P	Pn	02 41 40.9	+3.4
ASAR	Alice Springs	41.02	276	P	P	02 47 32.6	-0.5
	1.3nm,0.5s,baz=117,slow=7.7,SNR=4.7						
	1.3nm,0.5s						
WRA	Warramunga Arr	42.61	281	P	P	02 47 45.4	-0.7
	2.1nm,0.5s,baz=121,slow=7.9,SNR=5.0						
WRA				LR	LR	03 06 07.4	
	comp=Z,1μm,20.0s,baz=168,slow=37						
	2.1nm,0.5s						
H03N3	Juan Fernandez	78.91	123	T	T	04 18 48.2	
	baz=234,slow=72,SNR=9.1						
H03N2	Juan Fernandez	78.91	123	T	T	04 18 48.5	
	baz=234,slow=72,SNR=7.0						
H03N1	Juan Fernandez	78.92	123	T	T	04 18 42.5	
	baz=234,slow=72,SNR=5.5						
ELK	Elko	97.86	44	LR	LR	03 29 05.5	
	comp=Z,116nm,21.7s,baz=259,slow=30						
ANMO	Albuquerque	99.38	53	LR	LR	03 33 00.5	
	comp=Z,48nm,19.6s,baz=5.5,slow=32						
FINES	FINESS Array B	150.34	334	PKPbc	PKiKP	02 59 41.4	+0.4
	4.4nm,1.0s,baz=25,slow=3.7,SNR=4.2						

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*TEH **03** 02:47:24.8, 30.°74N×57.°29E, h9km, ML4.4*

*OMAN **03** 02:47:24.9±1.4, 30.°96N×57.°08E, h10km, mb4.9/16, ml4.4/1, ms2.6/2, Error ellipse: s-maj=13.1km s-min=10.1km az=101.0*

*DSN **03** 02:47:25.1±1.2, 30.°92N×57.°43E, h10km, ML3.8/9, Error ellipse: s-maj=58.5km s-min=11.6km az=99.0*

*MOS **03** 02:47:25.1±1.2, 30.°75N×57.°29E, h10km, mb4.6/24, Error ellipse: s-maj=8.2km s-min=5.3km az=101.9*

*NEIC **03** 02:47:26.6±2.1, 30.°80N±0.°07×57.°3E±0.°1, h10km±1km, mb4.3/26, Error ellipse: s-maj=15.3km s-min=12.2km az=105.0*

*IDC **03** 02:47:30.9±2.7, 30.°83N×57.°23E, h39km±25km, mb3.8/16, mbtmp4.0/22, ML3.7/7, MS3.3/18, Error ellipse: s-maj=14.7km s-min=14.2km az=172.0*

ISC 03 02:47:26.3±0.4, **30.°77N**±0.°03×**57.°28E**±0.°03, **h10km, n236, σ1.°65**/259, **mb4.3**/50, **MS3.1**/15, **8C-4D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.67	288	Pg	Pg	02 47 38.0	-1.3
ZRDN				Sg	Sb	02 47 48.5	-1.1
ZRDN	Zarand Kerman	0.67	288	Pg	Pg	02 47 38.1	-1.2
KHGB	Koh Gabri	0.79	241	Pg	Pg	02 47 40.1	-1.6
KHGB	Koh Gabri	0.79	241	Pg	Pg	02 47 39.4	-2.2
TVBK	TV Kerman	0.90	210	Pg	Pb	02 47 42.7	-1.5
TVBK	TV Kerman	0.90	210	Pg	Pb	02 47 42.6	-1.5
CHMN	Cheshme madani	0.93	166	Pg	Pg	02 47 42.0	-2.3
CHMN	Cheshme madani	0.93	166	Pg	Pg	02 47 42.0	-2.3
NGRK	Negar Kerman	1.21	203	Pg	Pn	02 47 48.5	-1.2
NGRK	Negar Kerman	1.21	203	Pg	Pn	02 47 48.3	-1.4
IBAF	Bafgh	1.68	300	Pg	Pb	02 47 56.7	-0.7
IBAF	Bafgh	1.68	300	Pg	Pb	02 47 56.5	-0.9
KBAM	BAM	1.92	148	Pn	Pb	02 47 59.3	-2.2
KBAM	BAM	1.92	148	Pn	Pb	02 47 59.5	-2.0
BSRN	Basiran	1.98	52	Pn	Pb	02 48 01.2	-1.5
BSRN	Basiran	1.98	52	Pn	Pb	02 48 01.4	-1.2
IKOO	Kooshah	2.21	41	Pn	Pb	02 48 04.0	-2.6
IKOO	Kooshah	2.21	41	Pn	Pb	02 48 04.0	-2.6
TPRV	Parvadeh(Tabas	2.31	348	Pn	Pn	02 48 05.1	+0.5
IMEH	Mehriz	2.37	286	Pn	Pb	02 48 06.5	-2.7
IMEH	Mehriz	2.37	286	Pn	Pb	02 48 06.5	-2.7
NHDN	Nehbandan	2.46	75	Pn	Pb	02 48 10.2	-0.5
ITEG	Tejag	2.47	30	Pn	Pn	02 48 06.9	+0.1
KHNJ	Kahnooj	2.83	172	Pn	Pn	02 48 12.3	+0.6
ICHK	Chekchek	2.86	302	Pn	Pn	02 48 13.3	+1.1
ICHK	Chekchek	2.86	302	Pn	Pn	02 48 13.6	+1.3
IDAH	Dahanechah	2.96	48	Pn	Pn	02 48 13.9	+0.2
IDAH	Dahanechah	2.96	48	Pn	Pn	02 48 13.8	+0.2
AFRZ	Afriz	3.03	29	Pn	Pn	02 48 15.1	+0.6
AFRZ	Afriz	3.03	29	Pn	Pn	02 48 15.2	+0.6
TNSJ	Nastanj	3.24	350	Pn	Pn	02 48 18.1	+0.8
ISAD	Sadrabad	3.28	291	Pn	Pn	02 48 19.2	+1.1
IBND	Bandar-abas	3.37	191	Pn	Pn	02 48 20.3	+1.3
GENO	Geno	3.49	196	Pn	Pn	02 48 22.7	+1.8
SHRT	Shahrakht	3.84	41	Pn	Pn	02 48 26.5	+0.9
ANAR	Anarak	3.86	310	Pn	Pn	02 48 27.2	+1.2
IRAM	Ramesheh	4.32	285	Pn	Pn	02 48 33.6	+1.3
IZEF	Zefreh	4.71	298	Pn	Pn	02 48 39.0	+1.2
SHME	Shamm	4.80	192	P	Pn	02 48 40.6	+1.9
SHME	Shamm	4.80	192	P	Pn	02 48 41.2	+2.5
JASK	Jask - Hormozg	4.91	174	P	Pn	02 48 42.3	+2.1
	SNR=8.8						
JASK	Jask - Hormozg	4.91	174	Pn	Pn	02 48 41.5	+1.3
TBHD	Torbat heydari	4.92	19	Pn	Pn	02 48 41.3	+0.8
TBJM	Torbat-e-JAM	5.17	29	Pn	Pn	02 48 44.9	+0.9
IBRJ	Brojen	5.27	284	Pn	Pn	02 48 47.4	+2.0
KRSH	Karshahi	5.39	308	Pn	Pn	02 48 48.0	+1.0
MASF	Masafi	5.46	191	P	Pn	02 48 50.6	+2.7
	SNR=19						
MASF				S	Sn	02 49 54.1	+3.3
MSFE	Esma-Masafi	5.48	191	P	Pn	02 48 50.1	+2.1
HRA	Herat	5.53	48	Pn	Pn	02 48 47.9	-1.1
ISFB	Sefidab	5.55	311	Pn	Pn	02 48 50.4	+1.3
SRVN	Saravan	5.60	126	Pn	Pn	02 48 51.5	+1.7
IMOG	Moghan	5.60	17	Pn	Pn	02 48 51.3	+1.3
SBZV	Sabzevar	5.61	3	Pn	Pn	02 48 51.2	+1.2
JHBN	Jahan bin	5.83	286	Pn	Pn	02 48 54.8	+1.6
IPAY	Payeh	5.85	14	Pn	Pn	02 48 54.4	+1.1
UOSS	Minazif	5.88	190		Pn	02 48 53.3	-0.3
UOSS	Minazif	5.88	190	P	Pn	02 48 55.2	+1.7
UOSS	Minazif	5.88	190	P	Pn	02 48 55.5	+2.0
UOSS				S	Sn	02 50 05.4	+4.5
NAZ	Nazwa, Dubai	5.93	194	P	Pn	02 48 55.9	+1.6
NAZ	Nazwa, Dubai	5.93	194	P	Pn	02 48 57.0	+2.7
	SNR=9.2						
NAZ				S	Sn	02 50 06.5	+4.2
HATD	Hatta, Dubai	6.00	190	P	Pn	02 48 57.3	+2.0
HATD	Hatta, Dubai	6.00	190	P	Pn	02 49 00.5	+5.2
	SNR=9.0						
HATD				S	Sn	02 50 06.7	+2.6
IMYA	Miami	6.04	22	Pn	Pn	02 48 56.9	+1.0
ASHO	Ashiyiah	6.16	190	P	Pn	02 48 58.3	+0.9
ASHO				S	Sn	02 50 12.6	+4.7
ASHO	Ashiyiah	6.16	190	P	Pn	02 48 60.0	+2.6
	SNR=11						
ASHO				S	Sn	02 50 13.9	+6.0
FAQ	Al Faqa, Dubai	6.18	194	P	Pn	02 48 59.2	+1.6
IKRD	Kardeh	6.28	17	Pn	Pn	02 49 00.6	+1.4
ISFR	Sfrayin	6.30	5	Pn	Pn	02 49 00.6	+1.0
ASUD	Al Ashush, Dub	6.36	196	P	Pn	02 49 00.6	+0.6
ASUD	Al Ashush, Dub	6.36	196	P	Pn	02 49 00.7	+0.6
	SNR=7.6						
ASUD				S	Sn	02 50 15.9	+3.2
NGCH	Negor - Chabah	6.38	147	P	Pn	02 49 01.7	+1.3
IGLO	Ghaloghah	6.40	334	Pn	Pn	02 49 02.0	+1.1
AJN	Ajban	6.50	199	P	Pn	02 49 04.9	+2.7
AJN				S	Sn	02 50 22.0	+5.6
IDMV	Damavand	6.51	319	Pn	Pn	02 49 03.5	+1.1
SOHO	SOHO	6.64	186	P	Pn	02 49 04.5	+0.5
SOHO	SOHO	6.64	186	P	Pn	02 49 04.9	+0.9
IMND	Minoodasht	6.66	347	Pn	Pn	02 49 05.1	+0.9
IEMG	Emamgholi	6.73	9	Pn	Pn	02 49 06.4	+0.9
ALNE	Al Ain	6.82	192	P	Pn	02 49 08.2	+1.8
MRVT	Maraveh tapeh	6.95	352	Pn	Pn	02 49 09.4	+1.2
HOQ	Hoqain	7.16	180	P	Pn	02 49 12.5	+1.4
HOQ				P	Pn	02 49 12.5	+1.4
HOQ	Hoqain	7.16	180	Pn	Pn	02 49 11.8	+0.7
GEYT	Alibeck	7.18	5	Pn	Pn	02 49 11.8	+0.4
GEYT	Alibeck	7.18	5	P	Pn	02 49 12.4	+1.0
GEYT						02 50 31.6	
GEYT	Alibeck	7.18	5	Pn	Pn	02 49 12.4	+1.0
	0.8nm,0.3s,baz=191,slow=15,SNR=7.7						
GEYT				Sn	Sn	02 50 31.6	-1.4
	0.3nm,0.3s,baz=191,slow=12,SNR=1.8						
GEYT				LR	LR	02 52 35.5	
	comp=Z,252nm,20.0s,baz=160,slow=43						
	2.5nm,0.5s						
GYA0B	ALIBECK ARRAY	7.18	5	Pn	Pn	02 49 11.0	-0.4
ARQ	Araqi	7.43	185	P	Pn	02 49 17.6	+2.7
	SNR=14						
WSAR	Wadi Sarin	7.59	171	P	Pn	02 49 18.6	+1.5
	SNR=12						
WSAR				S	Sn	02 50 48.8	+5.5
WSAR	Wadi Sarin	7.59	171	Pn	Pn	02 49 18.2	+1.1
	10nm,0.3s,baz=9.9,slow=8.1,SNR=86						
WSAR				Sn	Sn	02 50 45.0	+1.7
	0.7nm,0.3s,baz=201,slow=11,SNR=2.0						
WSAR				LR	LR	02 52 57.0	
	comp=Z,113nm,20.2s,baz=300,slow=42						
TRNA	Turayna	8.06	223	P	Pn	02 49 23.5	+0.1
	SNR=20						
TRNA				S	Sn	02 50 52.0	-2.6
WBK	Wadi Bani Khal	8.26	169	P	Pn	02 49 26.6	+0.3
	SNR=9.0						
WBK				P	Pn	02 49 26.6	+0.3
	SNR=9.0						
SMRA	Abu-Samra	8.28	225	P	Pn	02 49 26.8	+0.3
SMRA				S	Sn	02 51 00.7	+0.5
JLN	Jalan Bani Buh	8.79	167	P	Pn	02 49 33.7	+0.1
	SNR=5.7						
JLN				S	Sn	02 51 14.3	+1.6
MHTO	MHTO	9.76	176	P	Pn	02 49 49.8	+3.0
MHTO				S	Sn	02 51 37.6	+1.1
SHAO	Shalim	12.78	187	P	Pn	02 50 25.4	-2.7
WHFO	Wadi Hawf	13.18	195	P	Pn	02 50 32.0	-1.7
	SNR=28						
WHFO				S	Sn	02 53 01.7	+1.2
ABTO	Aybut	13.84	196	P	Pn	02 50 40.1	-2.5
	SNR=14						
ABTO				S	Sn	02 53 18.0	+1.6
GNI	Garni	13.84	316	Pn	Pn	02 50 43.0	+0.3
GNI	Garni	13.84	316	P	Pn	02 50 43.0	+0.3
GNI	Garni	13.84	316	LR	LR	02 56 17.0	
	comp=Z,50nm,18.4s,baz=130,slow=38						
SIRT	Sirnak	14.00	303	Pn	Pn	02 50 45.3	+0.5
BTK	Batken	14.40	46		Pn	02 50 49.0	-1.4
BTK	Batken	14.40	46	P	Pn	02 50 49.0	-1.4
GURO	Guroymak-BITLI	14.74	306		Pn	02 50 54.8	-0.2
AKH	Akhalkalaki	15.37	317	Pn	Pn	02 51 03.8	+0.3
AKH				IAmb	IAmb	02 51 25.6	
	comp=Z,30nm,1.5s						
AKH	Akhalkalaki	15.37	317	P	Pn	02 51 03.8	+0.3
AKH				pmax	pmax		
	comp=Z,30nm,1.5s						
ZEI	Tsey	16.06	322	eP	P	02 51 18.9	+3.0
ZEI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ONI	Oni	16.17	321		P	02 51 15.5	-1.4
ONI	Oni	16.17	321	P	P	02 51 15.5	-1.4
ONI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KK31	Karatay Array	16.21	37	Pn	Pn	02 51 13.6	-0.5
KK31	Karatay Array	16.21	37	P	Pn	02 51 13.6	-0.5
KK31				pmax	pmax		
	comp=Z,14nm,1.5s						
KKAR	Karatay Array	16.21	37	Pn	Pn	02 51 14.1	-0.1
KKAR	Karatay Array	16.21	37	P	Pn	02 51 14.1	-0.1
KKAR				pmax	pmax		
	comp=Z,14nm,1.5s						
ARSB	Arslanbob	16.48	46		Pn	02 51 17.3	-0.4
ARSB	Arslanbob	16.48	46	P	Pn	02 51 17.3	-0.4
ARSB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NCK	Nalchik	16.72	323⇓	eP	P	02 51 22.9	0.0
NEUR	Neytrino	17.03	321	eP	P	02 51 28.5	+2.0
KBZ	Khabaz	17.24	323⇓	eP	P	02 51 29.0	+0.3
KBZ	Khabaz	17.24	323	P	Pn	02 51 26.4	-0.7
	comp=Z,0.1nm,0.3s,baz=129,slow=6.5,SNR=3.6						
	comp=Z,1.6nm,0.9s						
KIV	Kislovodsk	17.51	323	Pn	Pn	02 51 28.9	-1.7
KIV				IAmb	IAmb	02 51 35.6	
	comp=Z,18nm,1.1s						
KIV	Kislovodsk	17.51	323	eP	P	02 51 32.6	+0.8
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
KSH	Kashi	17.58	55	P	Pn	02 51 26.8	-4.8
KSH				pP	P	02 51 31.7	-1.0
KSH				sP	pP	02 51 33.9	-2.0
KSH				PP	PnPn	02 51 40.9	-1.1
KSH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARPR	Arapgir-MALATY	17.59	303	P	P	02 51 31.7	-1.0
GAZ	Gaziantep	17.81	296	Pn	Pn	02 51 33.5	-0.9
AAK	Ala-Archa	18.15	45	P	P	02 51 40.1	+1.2
AAK	Ala-Archa	18.15	45	P	P	02 51 40.1	+1.2
	comp=Z,0.1nm,0.3s,baz=229,slow=4.7,SNR=5.1						
AAK				LR	LR	02 59 56.9	
	comp=Z,99nm,18.5s,baz=262,slow=41						
	comp=Z,4.8nm,1.0s						
ABKAR	Akbulak array	18.58	5	P	Pn	02 51 43.1	-0.5
MMAI	Mount Meron Ar	18.71	283	P	Pn	02 51 46.2	+0.8
	comp=Z,0.3nm,0.3s,baz=111,slow=7.9,SNR=3.0						
	comp=Z,4.3nm,1.0s						
EIL	Elat	19.32	272	P	Pn	02 51 52.7	-0.1
	comp=Z,0.1nm,0.3s,baz=77,slow=12,SNR=3.4						
EIL				LR	LR	03 00 40.9	
	comp=Z,32nm,18.3s,baz=130,slow=41						
	comp=Z,3.8nm,0.8s						
BNN	Bunyan	19.33	300	P	Pn	02 51 52.8	-0.1
BNN				IAmb	IAmb	02 51 58.2	
	comp=Z,15nm,1.0s						
AKTO	Aktyubinsk	19.66	1	P	Pn	02 51 56.1	-0.5
AKTO	Aktyubinsk	19.66	1	P	Pn	02 51 56.0	-0.5
	comp=Z,1.1nm,0.3s,baz=181,slow=9.8,SNR=14						
AKTO				LR	LR	03 00 56.3	
	comp=Z,194nm,18.3s,baz=205,slow=41						
	comp=Z,5.9nm,0.5s						
CSS	Mathiatis	20.53	288	P	Pn	02 52 06.2	-0.9
CSS				IAmb	IAmb	02 52 21.1	
	comp=Z,20nm,1.4s						
ANN	Anapa	20.95	317	eP	P	02 52 07.6	-1.7
ANN				pmax	pmax		
	comp=Z,69nm,1.4s						
BR131	Keskin Array S	21.23	301c	iP	P	02 52 13.1	+0.6
BRTR	Keskin Array B	21.23	301	P	P	02 52 12.9	+0.5
BRTR	Keskin Array B	21.23	301	P	P	02 52 13.2	+0.7
BRTR	Keskin Array B	21.23	301	P	P	02 52 13.2	+0.6
	comp=Z,5.6nm,1.0s,baz=121,slow=12,SNR=30						
BRTR				LR	LR	03 00 56.9	
	comp=Z,36nm,20.7s,baz=109,slow=38						
	comp=Z,5.6nm,1.0s						
ANTO	Ankara	21.89	301	P	P	02 52 20.0	+0.4
ANTO				IAmb	IAmb	02 52 37.3	
	comp=Z,5.9nm,0.7s						
ANTO	Ankara	21.89	301	P	P	02 52 20.0	+0.4
ANTO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BELG	Belogornoye	22.74	345⇑	eP	P	02 52 29.6	+1.2
BELG				pmax	pmax		
	comp=Z,11nm,1.1s						
BELG	Belogornoye	22.74	345	LR	LR	03 03 53.9	
	comp=Z,54nm,19.5s,baz=21,slow=43						
SIM	Simferopol'	23.02	314	eP	P	02 52 34.0	+2.6
SIM				pmax	pmax		
	comp=Z,30nm,1.1s						
ISP	Isparta	23.15	295	P	P	02 52 33.5	+0.6
ISP	Isparta	23.15	295	P	P	02 52 33.5	+0.6
ISP				pmax	pmax		
	comp=Z,21nm,0.8s						
ATD	Arta Tunnel	23.35	218	LR	LR	03 03 29.1	
	comp=Z,5.8nm,18.7s,baz=11,slow=41						
BRVK	Borovoye	24.21	19	P	P	02 52 42.7	-0.3
BRVK				IAmb	IAmb	02 52 47.3	
	comp=Z,10nm,1.0s						
BRVK	Borovoye	24.21	19c	iP	P	02 52 43.6	+0.6
BRVK				pmax	pmax		
	comp=Z,15nm,1.3s						
BVAR	Borovoye Array	24.21	20	P	P	02 52 43.8	+0.8
BVAR						02 56 23.2	
BVAR	Borovoye Array	24.21	20	P	P	02 52 43.8	+0.8
	comp=Z,12nm,1.0s,baz=204,slow=6.5,SNR=12						
BVAR				PcP	PcP	02 56 23.2	-0.1
	comp=Z,0.4nm,0.4s,baz=180,slow=4.3,SNR=2.7						
BVAR				LR	LR	03 02 49.0	
	comp=Z,55nm,20.7s,baz=191,slow=38						
	comp=Z,12nm,1.0s						
VORD	Divnogorie	24.21	332	eP	P	02 52 40.7	-2.3
VORD				pmax	pmax		
	comp=Z,7.0nm,0.7s						
VSR	Storozhevoye	24.46	332	eP	P	02 52 42.9	-2.3
VSR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MAKZ	Makanchi	24.90	43	P	P	02 52 48.8	-0.5
MAKZ				IAmb	IAmb	02 52 52.7	
	comp=Z,11nm,0.9s						
MAKZ	Makanchi	24.90	43	P	P	02 52 48.8	-0.5
MAKZ				pmax	pmax		
	comp=Z,11nm,1.0s						
MK31	Makanchi Array	25.07	43	P	P	02 52 50.3	-0.7
MK31				IAmb	IAmb	02 52 54.2	
	comp=Z,5.7nm,1.1s						
MK31	Makanchi Array	25.07	43c	eP	P	02 52 51.7	+0.8
MKAR	Makanchi Array	25.07	43	P	P	02 52 49.8	-1.1
MKAR	Makanchi Array	25.07	43	P	P	02 52 51.5	+0.6
MKAR						02 56 24.1	
MKAR	Makanchi Array	25.07	43	P	P	02 52 51.5	+0.6
	comp=Z,4.3nm,0.9s,baz=216,slow=7.4,SNR=8.3						
MKAR				PcP	PcP	02 56 24.1	-1.2
	comp=Z,0.3nm,0.8s,baz=242,slow=3.1,SNR=1.7						
MKAR				LR	LR	03 04 15.6	
	comp=Z,116nm,19.2s,baz=281,slow=40						
	comp=Z,4.3nm,0.9s						
KURBB	Kurchatov Arra	25.39	33	P	P	02 52 54.6	+0.9
	comp=Z,5.9nm,0.9s,baz=232,slow=9.1,SNR=29						
KURBB				PcP	PcP	02 56 25.1	-0.7
	comp=Z,0.3nm,0.8s,baz=223,slow=2.2,SNR=1.9						
KURBB				LR	LR	03 04 17.3	
	comp=Z,108nm,18.2s,baz=173,slow=40						
	comp=Z,5.9nm,0.9s						
KURK	Kurchatov	25.50	33	P	P	02 52 55.6	+0.9
KURK				IAmb	IAmb	02 52 59.8	
	comp=Z,9.5nm,1.0s						
KURK	Kurchatov	25.50	33c	iP	P	02 52 55.6	+0.9
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BALB	Balikesir	25.51	298	P	P	02 52 55.4	+0.5
LPSR	Galich'ya Gora	25.62	334	eP	P	02 52 52.9	-2.8
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ARU	Arti	25.67	2	P	P	02 52 56.4	+0.3
ARU				IAmb	IAmb	02 53 01.0	
	comp=Z,7.9nm,1.0s						
ARU	Arti	25.67	2c	iP	P	02 52 58.6	+2.4
ARU						02 53 33.2	
ARU				S	S	02 57 29.8	+5.3
ARU				SS	SnSn	02 58 24.3	+5.6
ARU				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ARU	Arti	25.67	2	LR	LR	03 04 01.9	
	comp=Z,70nm,21.4s,baz=182,slow=39						
WMQ	Urumqi	27.32	53	eP	P	02 53 13.8	+2.5
KIRV	Kirov	28.33	351⇓	eP	P	02 53 21.4	+1.3
KIRV	Kirov	28.33	351	LR	LR	03 07 07.3	
	comp=Z,137nm,18.1s,baz=161,slow=42						
OBN	Obninsk	28.45	335	P	P	02 53 20.7	-0.5
OBN	Obninsk	28.45	335	iP	P	02 53 18.5	-2.7
OBN				pmax	pmax		
	comp=Z,19nm,1.1s						
OBN				MLR	MLR		
	comp=Z,40nm,16.0s						
AKASG	Malin Array Be	28.85	322	P	P	02 53 24.8	0.0
AKASG	Malin Array Be	28.85	322	P	P	02 53 24.8	0.0
	comp=Z,0.7nm,0.6s,baz=116,slow=8.3,SNR=4.5						
AKASG				LR	LR	03 07 38.8	
	comp=Z,29nm,19.6s,baz=5.5,slow=42						
	comp=Z,0.7nm,0.6s						
DGZ	Jazzator, Alta	29.50	41⇑	eP	P	02 53 31.9	+1.1
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZAA0	Zalesovo Array	30.49	33	P	P	02 53 38.6	-0.7
ZALV	Zalesovo Beam	30.49	33	P	P	02 53 39.3	0.0
ZALV	Zalesovo Beam	30.49	33	iP	P	02 53 39.7	+0.4
ZALV				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ZALV	Zalesovo Beam	30.49	33	P	P	02 53 39.8	+0.4
	comp=Z,8.7nm,0.7s,baz=239,slow=9.3,SNR=27						
	comp=Z,8.7nm,0.7s						
MNK	Minsk	31.69	327	iP	P	02 53 48.7	-1.2
	comp=E,5.0nm,0.8s						
MNK				iP	P	02 53 48.7	-1.2
	comp=N,15nm,0.9s						
MNK				iP	P	02 53 48.7	-1.2
	comp=Z,6.0nm,0.9s,baz=126						
MNK				iPP	PnPn	02 54 52.9	-0.8
MNK				iS	S	02 58 59.6	+0.4
MNK				iSS	SnSn	03 00 48.0	+2.5
MNK				iSSS	SSS	03 01 03.1	
MNK				iLQ	LQ	03 03 30.8	
MNK				iLR	LR	03 06 38.8	
MNK				iLRM	MLR	03 07 38.9	
	comp=N,66nm,16.8s						
MNK				iLRM	MLR	03 07 47.3	
	comp=E,48nm,20.6s						
MNK				iLRM	MLR	03 08 00.2	
	comp=Z,60nm,21.3s						
MNK	Minsk	31.69	327	iP	P	02 53 48.6	-1.2
MNK				i		02 54 52.8	
MNK				i		02 56 36.9	
MNK				iS	S	02 58 59.6	+0.4
MNK				iSS	SnSn	03 00 47.9	+2.5
MNK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MNK				pmax	pmax		
	comp=E,5.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,15nm,0.9s						
MNK				MLR	MLR		
	comp=N,66nm,17.0s						
MNK				MLR	MLR		
	comp=E,48nm,21.0s						
MNK				MLR	MLR		
	comp=Z,60nm,21.0s						
KOLS	Kolonicke sedl	32.05	315	eP	P	02 53 55.2	+2.1
KOLS	Kolonicke sedl	32.05	315	eP	P	02 53 55.2	+2.1
KOLS				pmax	pmax		
	comp=Z,11nm,1.0s						
KLMR	Klimovskoe	32.31	344	eP	P	02 53 54.8	-0.5
KLMR				AMP		02 54 10.3	
	comp=Z,31nm,2.1s						
KLMR	Klimovskoe	32.31	344	eP	P	02 53 54.7	-0.5
KLMR				pmax	pmax		
	comp=Z,31nm,2.1s						
OJC	Ojcow	34.01	316	P	P	02 54 10.4	+0.1
OJC	Ojcow	34.01	316	P	P	02 54 10.4	+0.1
OJC				pmax	pmax		
	comp=Z,10.0nm,1.2s						
VYHS	Vyhne	34.05	312	eP	P	02 54 12.8	+2.2
VYHS	Vyhne	34.05	312	eP	P	02 54 12.8	+2.2
FINES	FINESS Array B	36.85	335	iP	P	02 54 35.2	+0.7
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	FINESS Array B	36.85	335	P	P	02 54 34.3	-0.2
	comp=Z,3.5nm,0.8s,baz=145,slow=7.0,SNR=6.5						
	comp=Z,3.5nm,0.8s						
MOA	Molln	36.85	310	eP	P	02 54 35.1	+0.4
	comp=Z,2.1nm,0.8s						
KMBO	Kilima Mbogo	37.00	215	P	P	02 54 36.1	-0.4
KMBO				IAmb	IAmb	02 54 39.0	
	comp=Z,4.4nm,1.5s						
KMBO	Kilima Mbogo	37.00	215	P	P	02 54 36.1	-0.4
KMBO				pmax	pmax		
	comp=Z,4.0nm,1.5s						
KMBO	Kilima Mbogo	37.00	215	P	P	02 54 39.1	+2.6
	comp=Z,1.0nm,0.6s,baz=12,slow=11,SNR=4.2						
KMBO				LR	LR	03 10 54.7	
	comp=Z,38nm,19.0s,baz=86,slow=38						
	comp=Z,1.0nm,0.6s						
CKRC	Cesky Krumlov	37.03	312	eP	P	02 54 36.1	-0.2
CKRC	Cesky Krumlov	37.03	312	eP	P	02 54 36.1	-0.2
BIOA	Bad Ischl, Aus	37.24	310	eP	P	02 54 38.0	0.0
	comp=Z,5.1nm,1.0s						
GERES	GERESS Array B	37.43	311	P	P	02 54 38.9	-0.8
GERES	GERESS Array B	37.43	311	P	P	02 54 38.9	-0.8

GERES	GERESS Array B	37.43	311	P	P	02 54 39.8	+0.1
	comp=Z,2.3nm,0.8s,baz=105,slow=9.8,SNR=12						
GERES				LR	LR	03 12 15.6	
	comp=Z,20nm,18.4s,baz=0.5,slow=40						
	comp=Z,2.3nm,0.8s						
KHC	Kasperske Hory	37.57	312	eP	P	02 54 34.9	-6.0
KHC	Kasperske Hory	37.57	312⇓	eP	P	02 54 41.6	+0.7
KHC				pmax	pmax		
	comp=Z,17nm,2.0s						
LESA	Schwarzleotal	37.83	309	eP	P	02 54 43.2	+0.1
	comp=Z,2.4nm,0.6s						
ABTA	Abfaltersbach	37.83	308	eP	P	02 54 42.7	-0.5
	comp=Z,3.9nm,1.0s						
CLL	Collm	38.45	315	i P	P	02 54 49.0	+0.8
	comp=Z,9.0nm,1.3s						
CLL	Collm	38.45	315	i P	P	02 54 49.5	+1.3
	comp=Z,9.0nm,1.3s						
CLL				i PP	PP	02 56 16.6	+0.6
CLL	Collm	38.45	315	i P	P	02 54 49.5	+1.3
CLL				pmax	pmax		
	comp=Z,9.0nm,1.3s						
WTTA	Wattenberg	38.50	309	i P	P	02 54 48.2	-0.7
	comp=Z,4.6nm,0.7s						
SQTA	Sankt Quirin	38.78	308	i P	P	02 54 50.7	-0.5
	comp=Z,3.2nm,0.6s						
MOTA	Moosalm	38.87	309	eP	P	02 54 51.3	-0.7
	comp=Z,6.5nm,1.1s						
PZH	PanZhiHua	39.07	85	P	P	02 54 54.6	+0.8
PZH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
FETA	Feichten	39.08	308	i P	P	02 54 53.3	-0.4
	comp=Z,6.5nm,0.8s						
CMAR	Chiang Mai Arr	39.60	98	P	P	02 54 59.9	+1.7
CMAR	Chiang Mai Arr	39.60	98	P	P	02 54 59.9	+1.7
	comp=Z,1.1nm,0.3s,baz=295,slow=8.9,SNR=4.0						
	comp=Z,1.1nm,0.3s						
DAVA	Damuels	39.69	308	eP	P	02 54 58.3	-0.5
	comp=Z,3.3nm,0.6s						
CRAI	Chiangrai	40.08	95	P	P	02 55 01.1	-1.1
CRAI				IAmb	IAmb	02 55 06.1	
	comp=Z,5.5nm,1.1s						
SONM	Songino Array	40.91	51	P	P	02 55 09.8	+0.9
SONM	Songino Array	40.91	51	P	P	02 55 09.8	+0.9
	comp=Z,1.4nm,0.9s,baz=254,slow=10.0,SNR=6.2						
	comp=Z,1.4nm,0.9s						
ARCES	ARCESS Array B	42.79	344	P	P	02 55 22.5	-1.3
ARCES	ARCESS Array B	42.79	344	P	P	02 55 22.5	-1.3
	comp=Z,1.7nm,0.7s,baz=139,slow=8.9,SNR=6.0						
	comp=Z,1.7nm,0.7s						
HHC	Hu-ho-hao-te	44.54	61	eP	P	02 55 38.9	+0.5
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,240nm,4.7s						
ESDC	Sonseca Array	49.96	298	P	P	02 56 19.4	-1.2
	comp=Z,0.5nm,0.8s,baz=78,slow=12,SNR=1.8						
	comp=Z,0.5nm,0.8s						
TOA0	Torodi Ar. Sit	53.91	264		P	02 56 49.0	-1.4
TORD	Torodi Ar. Bea	53.91	264		P	02 56 48.2	-2.1
TORD				IAmb	IAmb	02 57 00.7	
	comp=Z,6.3nm,1.4s						
BILL	Bilibino	68.52	22	eP	P	02 58 30.9	+2.4
RES	Resolute Bay	73.24	353	LR	LR	03 36 29.1	
	comp=Z,63nm,18.1s,baz=336,slow=40						
A36M	Sachs Harbour	77.51	1	P	P	02 59 21.2	-0.6
A36M				IAmb	IAmb	02 59 25.1	
	comp=Z,4.8nm,1.0s						
BCAR	Beaver Creek A	85.26	9	P	P	03 00 03.0	-0.1
YKA	Yellowknife Ar	86.84	356	ceP	P	03 00 11.1	+0.3
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	Yellowknife Ar	86.84	356	P	P	03 00 11.1	+0.3
	comp=Z,0.8nm,0.9s,baz=356,slow=5.4,SNR=12						
	comp=Z,0.8nm,0.9s						
WRA	Warramunga Arr	89.50	114	P	P	03 00 23.3	-0.8
WRA	Warramunga Arr	89.50	114	P	P	03 00 23.3	-0.8
	comp=Z,0.4nm,0.7s,baz=310,slow=4.4,SNR=2.4						
	comp=Z,0.4nm,0.7s						
ASAR	Alice Springs	91.18	117	P	P	03 00 31.8	-0.1
ASAR	Alice Springs	91.18	117	P	P	03 00 31.8	-0.1
	comp=Z,0.7nm,1.0s,baz=298,slow=5.4,SNR=3.9						
	comp=Z,0.7nm,1.0s						
SADO	Sadowa	94.98	330	LR	LR	03 45 49.9	
	comp=Z,109nm,18.2s,baz=339,slow=37						

IDC 03 03:22:21.0±2.0**,0°.96N**×**127°.28E,h0**km**,mb3.6**/4**, mbtmp3.7**/4**,Error ellipse: s-maj=192.9km s-min=21.4km az=67.0,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.90	162	P	P	03 27 15.8	-0.1
	0.8nm,0.7s,baz=342,slow=10.0,SNR=10						
	0.8nm,0.7s						
ASAR	Alice Springs	25.31	166	P	P	03 27 49.8	+0.2
	0.9nm,0.5s,baz=344,slow=11,SNR=22						
	0.9nm,0.5s						
MKAR	Makanchi Array	60.13	326	P	P	03 32 30.4	-0.1
	0.4nm,0.4s,baz=120,slow=8.5,SNR=7.8						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	64.36	328	P	P	03 32 58.4	-0.2
	0.4nm,0.2s,baz=124,slow=6.2,SNR=4.1						
	0.4nm,0.2s						

IDC 03 03:25:04.5±2.7**,6°.39S**×**129°.68E,h0**km**,mb3.6**/1**, mbtmp3.2**/3**,ML3.1**/1**,Error ellipse: s-maj=177.8km s-min=35.4km az=69.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.21	162	Pn	Pn	03 28 26.8	-0.5
	0.1nm,0.3s,baz=344,slow=13,SNR=1.2						
WRA				Sn	Sn	03 30 54.1	-12
	0.3nm,0.3s,baz=332,slow=26,SNR=5.8						
	0.1nm,0.3s						
ASAR	Alice Springs	17.65	167	Pn	Pn	03 29 12.5	+0.4
	0.1nm,0.4s,baz=351,slow=8.8,SNR=0.7						
ASAR				Sn	Sn	03 32 19.2	-10
	baz=348,slow=25,SNR=1.6						
MKAR	Makanchi Array	67.54	327	P	P	03 36 02.8	0.0
	0.2nm,0.4s,baz=110,slow=7.6,SNR=2.5						
	0.2nm,0.4s						

*CATAC **03** 04:02:10.1±1.0, 11°.75N×88°.74W, h8km±11km, ML3.5*
*SNET **03** 04:02:13.4±0.8, 12°.03N×88°.69W, h116km±19km, ML3.3*
ISC 03 04:02:08.9±3.1**,11°.78N**±0°.07×**88°.73W**±0°.06**,h5**km±18km**, n40,**σ**1§00**/51**,Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	1.54	6	i P	Pn	04 02 38.1	+1.0
ALJI				i S	Sg	04 02 58.0	-0.5
ALJI				IAML		04 02 58.5	
	comp=Z,240nm,1.0s						
CSGN	Cosiguina Volc	1.65	44	i P	Pn	04 02 38.9	+0.3
CSGN				IAML		04 03 07.6	
	comp=Z,1μm,1.0s						
PACA	Pacayal	1.72	13	i P	Pn	04 02 41.3	+1.6
PACA				i S	Sg	04 03 03.5	-0.8
PACA				IAML		04 03 05.9	
	comp=Z,2μm,1.0s						
CNCH	Conchagua	1.72	31	i P	Pn	04 02 40.6	+0.9
CNCH				i S	Sb	04 03 03.6	+0.4
CNCH				IAML		04 03 07.6	
	comp=Z,520nm,1.0s						
LCND	La Caada	1.73	28	eP	Pn	04 02 40.6	+1.1
LCND				eS	Sb	04 03 02.1	-0.9
LCND				IAML		04 03 08.8	
	comp=Z,148nm,0.3s						
LCND	La Caada	1.73	28	i P	Pn	04 02 40.2	+0.6
LCND				i S	Sg	04 03 04.4	0.0
LCND				IAML		04 03 08.7	
	comp=Z,150nm,1.0s						
TECO	Alcaldia de Te	1.74	358	i P	Pn	04 02 40.3	+0.4
TECO				IAML		04 03 07.0	
	comp=Z,190nm,1.0s						
CNRM	Centro Naciona	1.77	18	i P	Pn	04 02 41.3	+1.1
CNRM				IAML		04 03 12.6	
	comp=Z,2μm,1.0s						
CHNN	El Viejo	1.78	62	i P	Pn	04 02 41.2	+0.9
CHNN				IAML		04 04 15.6	
	comp=Z,5μm,1.0s						
LALI	Alcalda de L	1.79	341	i P	Pn	04 02 41.5	+1.0
LALI				IAML		04 03 04.4	
	comp=Z,99nm,1.0s						
AMPH	Amapala	1.82	35	i P	Pn	04 02 42.1	+1.2
AMPH				i S	Sb	04 03 06.0	+0.1
COEG	Centro de Oper	1.83	356	i P	Pn	04 02 43.0	+1.9
COEG				IAML		04 03 09.2	
	comp=Z,160nm,1.0s						
SJTE	Alcalda de S	1.84	352	eP	Pn	04 02 42.6	+1.4
SJTE				eS	Sb	04 03 05.5	-1.0
SJTE	Alcalda de S	1.84	352	i P	Pn	04 02 42.1	+0.9
SJTE				IAML		04 03 09.4	
	comp=Z,130nm,1.0s						
UESV	Universidad de	1.84	358	i P	Pn	04 02 42.1	+0.9
UESV				IAML		04 03 09.3	
	comp=Z,250nm,1.0s						
PANCS	Alcalda de	1.87	347	i P	Pn	04 02 42.7	+1.1
PANCS				IAML		04 02 54.0	
	comp=Z,1μm,1.0s						
CRIN	San Cristobal	1.88	61	i P	Pn	04 02 43.0	+1.2
CRIN				i S	Sb	04 03 07.9	+0.3
CRIN				IAML		04 03 12.0	
	comp=Z,1μm,1.0s						
LOMA	Loma Larga	1.90	347	eP	Pn	04 02 43.3	+1.2
LOMA				IAML		04 03 07.3	
	comp=Z,240nm,0.2s						
SCLA	Alcaldia de Sa	1.91	0	eP	Pn	04 02 43.2	+1.1
SCLA	Alcaldia de Sa	1.91	0	i P	Pn	04 02 43.6	+1.5
SCLA				IAML		04 03 11.2	
	comp=Z,110nm,1.0s						
PAVA	Las Pavas	1.93	354	eP	Pn	04 02 43.2	+0.8
PAVA				IAML		04 03 09.9	
	comp=Z,164nm,0.2s						
PAVA	Las Pavas	1.93	354	i P	Pn	04 02 43.3	+0.8
PAVA				IAML		04 03 10.5	
	comp=Z,410nm,1.0s						
PKGN	Cerro Pekin	1.93	63	i P	Pn	04 02 43.2	+0.8
PKGN				i S	Sb	04 03 08.6	-0.4
JAYA	Jayaque - finc	1.99	339	eP	Pn	04 02 43.9	+0.6
JAYA				eS	Sn	04 03 07.8	-0.9
JAYA				IAML		04 03 08.8	
	comp=Z,522nm,0.2s						
JAYA	Jayaque - finc	1.99	339	i P	Pn	04 02 44.1	+0.8
JAYA				IAML		04 03 10.5	
	comp=Z,1μm,1.0s						
PMON	Piamonte	2.00	344	i P	Pn	04 02 44.6	+1.1
PMON				IAML		04 03 15.7	
	comp=Z,320nm,1.0s						
POLN	Al Sur del Vol	2.06	65	i P	Pn	04 02 44.6	+0.3
CNGA	Al SSO del Vol	2.11	70	i P	Pn	04 02 46.0	+1.1
CNGA				IAML		04 03 22.8	
	comp=Z,230nm,1.0s						
COPN	Copaltepe	2.13	79	i P	Pn	04 02 45.6	+0.4
COPN				IAML		04 02 46.2	
	comp=Z,240nm,1.0s						
MOMN	Momotombo	2.23	74	i P	Pn	04 02 47.2	+0.6
MOMN				IAML		04 03 19.6	
	comp=Z,6.0nm,1.0s						
SNJE	San Jose	2.24	338	eP	Pn	04 02 48.3	+1.4
NUBE	Las Nubes	2.34	334	eP	Pn	04 02 49.0	+0.8
NUBE				eS	Sn	04 03 16.3	-1.1
NUBE	Las Nubes	2.34	334	i P	Pn	04 02 49.1	+0.9
NUBE				IAML		04 03 18.2	
	comp=Z,260nm,1.0s						
LIMN	Finca el Limon	2.64	61	i P	Pn	04 02 52.8	+0.6
LIMN				IAML		04 03 30.1	
	comp=Z,120nm,1.0s						
TGUH	Tegucigalpa,Un	2.67	32	i P	Pn	04 02 54.7	+2.0
TGUH				IAML		04 03 38.3	
	comp=Z,71nm,1.0s						
RCVN	Varillal2	3.06	54	i P	Pn	04 02 59.4	+1.4
RCVN				IAML		04 03 38.2	
	comp=Z,2μm,1.0s						
RCPN	Sur Rio San Ju	3.10	56	i P	Pn	04 02 59.0	+0.3
RCPN				IAML		04 03 40.1	
	comp=Z,0.7nm,1.0s						
HZTE	Horizontes, Gu	3.26	109	i P	Pn	04 03 00.8	+0.1
HZTE				IAML		04 04 14.5	
	comp=Z,140nm,1.0s						
ORTG	Ortega, Santa	3.51	113	i P	Pn	04 03 05.3	+1.1
ORTG				IAML		04 04 11.6	
	comp=Z,50nm,1.0s						
LAFE	Finca La Fe, P	4.24	117	i P	Pn	04 03 14.7	+0.5
LAFE				IAML		04 03 46.8	
	comp=Z,55nm,1.0s						

TEH 03 04:04:52.3,30°.77N×**57°.30E,h9**km±40km**,ML3.5, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.69	287	Pg	Pg	04 05 05.9	+0.2
KHGB	Koh Gabri	0.81	241	Pg	Pg	04 05 07.7	-0.3
TVBK	TV Kerman	0.91	211	Pg	Pg	04 05 10.0	+0.2
CHMN	Cheshme madani	0.93	167	Pg	Pg	04 05 09.5	-0.7
NGRK	Negar Kerman	1.23	204	Pg	Pb	04 05 15.7	-0.1
NGRK				Sg	Sb	04 05 32.2	+0.2
IBAF	Bafgh	1.70	299	Pg	Pb	04 05 24.0	+0.2
KBAM	BAM	1.91	148	Pn	Pb	04 05 26.5	-0.9
BSRN	Basiran	1.96	52	Pn	Pb	04 05 27.4	-0.9
IKOO	Kooshah	2.20	41	Pn	Pb	04 05 30.9	-1.5
TPRV	Parvadeh(Tabas	2.31	347	Pn	Pn	04 05 32.0	+1.3
IMEH	Mehriz	2.39	286	Pn	Pb	04 05 33.9	-1.8
NHDN	Nehbandan	2.44	75	Pn	Pb	04 05 34.5	-1.9
ITEG	Tejag	2.45	30	Pn	Pn	04 05 34.6	+1.9
TKDS	Koohdasht(Taba	2.84	357	Pn	Pn	04 05 39.2	+1.2
ICHK	Chekchek	2.88	301	Pn	Pn	04 05 40.4	+1.8
IDAH	Dahanechah	2.94	47	Pn	Pn	04 05 41.4	+1.9
AFRZ	Afriz	3.02	28	Pn	Pn	04 05 42.4	+1.9
TNSJ	Nastanj	3.24	350	Pn	Pn	04 05 44.7	+1.2
ISAD	Sadrabad	3.30	291	Pn	Pn	04 05 46.9	+2.5
SHRT	Shahrakht	3.83	41	Pn	Pn	04 05 53.6	+2.1
ANAR	Anarak	3.88	309	Pn	Pn	04 05 53.8	+1.6
IZEF	Zefreh	4.73	298	Pn	Pn	04 06 06.3	+2.1
TBJM	Torbat-e-JAM	5.16	29	Pn	Pn	04 06 11.7	+1.8

CATAC 03 04:16:34.3±0.6**,9°.65N**×**84°.92W,h15**km±4km**,ML1.9, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAFE	Finca La Fe, P	0.16	5	i P	Pb	04 16 39.9	+0.9
LAFE				IAML		04 16 40.0	
	comp=Z,350nm,1.0s						
LAFE				i S	Sb	04 16 43.9	+1.9
LAFE	Finca La Fe, P	0.16	5	i P	Pb	04 16 39.8	+0.8
JACO	JACO, Garabito	0.26	87	i P	Pb	04 16 41.9	+1.2
JACO				IAML		04 16 46.2	
	comp=Z,75nm,1.0s						
JACO	JACO, Garabito	0.26	87	i P	Pb	04 16 41.0	+0.3
JACO				i S	Sb	04 16 45.9	+0.9
INDI	Punta indio, G	0.61	291	i P	Pb	04 16 47.1	+0.4
INDI				IAML		04 16 48.4	
	comp=Z,57nm,1.0s						
INDI				i S	Sb	04 16 56.3	+1.2
SOCE	Pocosol	0.79	22	i P	Pb	04 16 50.2	+0.4
CPMI	Catarata Coope	0.82	40	i P	Pg	04 16 50.2	-0.2
CPMI				IAML		04 17 26.9	
	comp=Z,43nm,1.0s						
ORTG	Ortega, Santa	0.88	323	i P	Pb	04 16 50.5	-0.9
ORTG				IAML		04 17 17.0	
	comp=Z,40nm,1.0s						
LCR2	La Lucha 2	0.91	84	i P	Pg	04 16 52.2	+0.2
LCR2				IAML		04 17 46.1	
	comp=Z,23nm,1.0s						

*MDD **03** 04:17:38.7±0.6, 38°.29N×0°.84W, h9km±8km, mb_Lg2.6/10, Error ellipse: s-maj=4.1km s-min=2.9km az=96.0*
*SFS **03** 04:17:39.5, 38°.26N×0°.92W, h19km, ML2.8/7, ML2.8/6, MLv2.7/7*
ISC 03 04:17:35.6±1.4**,38°.29N**±0°.03×**0°.73W**±0°.05**,h17**km±10km**, n15,**σ**1§05**/31**,Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFON	Font Roja	0.41	22	Pg	Pn	04 17 46.1	-0.8
AFON				Sg	Sn	04 17 53.6	-0.5
AFON				i Vmb_Lg		04 18 00.3	
EMUR	La Murta	0.60	222	Pg	Pb	04 17 48.1	+0.4
EMUR				Sg	Sb	04 17 57.1	+1.3
EMUR				i Vmb_Lg		04 18 03.8	
EMUR	La Murta	0.60	222	Sg	Sg	04 17 55.3	-0.2
EMUR				Pg	Pb	04 17 48.1	+0.4
CART	Cartagena	0.73	197	Sg	Sn	04 18 00.9	-0.9
CART				Pg	Pn	04 17 51.6	+0.4
ETOB	Tobarra	0.73	299	Pg	Pb	04 17 50.3	+0.3
ETOB				Sg	Sn	04 18 03.3	+1.2
ETOB	Tobarra	0.73	299	Sg	Sg	04 17 59.2	-0.6
ETOB				Pg	Pb	04 17 50.3	+0.3
ECHE	Chera	1.31	352	Pn	Pg	04 18 01.8	+0.8
EQES	Quesada	1.91	256	Pn	Pb	04 18 10.5	+0.4
EQES				Pg	Pg	04 18 12.6	+0.3
EQES				Sg	Sg	04 18 38.2	+1.1
EQES				i Vmb_Lg		04 18 41.7	
EBER	Berja	2.20	232	Pn	Pb	04 18 13.7	-1.5
PSIM	Granatula de C	2.43	284	Pn	Pn	04 18 15.3	+0.7
PSIM				Pg	Pg	04 18 22.2	-0.1
PSIM				Sg	Sg	04 18 53.8	-0.1
ETOR	Torete	2.73	338	Pg	Pg	04 18 28.0	0.0
ETOR				i Vmb_Lg		04 19 04.7	
ETOR				Sg	Sg	04 19 05.6	+2.3
UCM	Universidad Co	2.81	317	Pg	Pg	04 18 28.3	-1.1
UCM				Sn	Sn	04 18 50.8	-2.4
UCM				Sg	Sg	04 19 04.9	-0.9
ESDC	Sonseca Array	2.87	300	Pg	Pg	04 18 29.9	-0.9
ESDC				Sg	Sg	04 19 08.2	+0.1
ESDC				i Vmb_Lg		04 19 13.5	
EADA	Adamuz	3.03	269	Pn	Pn	04 18 23.7	+0.9
EADA				Pg	Pg	04 18 32.8	-0.9
EADA				Sg	Sg	04 19 11.2	-1.8
EADA				i Vmb_Lg		04 19 35.9	
EADA	Adamuz	3.03	269	Pn	Pn	04 18 23.7	+0.9

*NEIC **03** 04:35:28.7±1.6, 52°.5N±0°.1×175°.83W±0°.07, h164km±6km, mb4.2/252, ML4.3(AEIC), Error ellipse: s-maj=16.2km s-min=5.8km az=169.0*
*IDC **03** 04:35:29.1±1.5, 52°.57N×175°.96W, h181km±12km, mb3.7/26, mbtmp4.2/30, Error ellipse: s-maj=12.1km s-min=7.9km az=164.0*
*AEIC **03** 04:35:29.2±3.2, 52°.2N±0°.1×175°.68W±0°.07, h168km±4km, Error ellipse: s-maj=16.1km s-min=5.6km az=168.0*
ISC 03 04:35:27.9±0.5**,52°.41N**±0°.08×**175°.80W**±0°.03**, h174**km±4km**,n398,**σ**1§33**/409**,mb4.1**/99**,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSSP	Great Sitkin S	0.40	216		Pn	04 35 51.0	-0.5
GSMY	Great Sitkin M	0.40	203		Pn	04 35 50.9	-0.7
GSIG	Igitkin Island	0.43	190		Pn	04 35 50.8	-1.0
GSIG					Sn	04 36 09.5	-0.4
GSCK	Great Sitkin C	0.46	209		Pn	04 35 51.3	-0.5
ADK	Adak	0.76	226		Pn	04 35 52.7	-0.5
ADK				Sn	Sn	04 36 11.7	-1.1
ADK	Adak	0.76	226	P	Pn	04 35 53.1	-0.2
KIRH	Kanaga Island	0.95	238		Pn	04 35 54.4	-0.2
KIRH					Sn	04 36 14.4	-0.7
KOKL	Mount Kliuchef	0.99	95		Pn	04 35 54.5	-0.4
KIWB	Kanaga Island	1.00	237		Pn	04 35 54.4	-0.6
KOKV	Korovin Volcan	1.00	92		Pn	04 35 54.6	-0.4
ATKA	Atka Island	1.01	101		Pn	04 35 53.8	-1.2
ATKA				Sn	Sn	04 36 14.2	-1.6
ATKA	Atka Island	1.01	101	P	Pn	04 35 54.3	-0.7
KONE	Korovin Northe	1.03	90		Pn	04 35 54.7	-0.4
KOFP	Korovin Flat P	1.05	97		Pn	04 35 54.9	-0.5
KIMD	Kanaga Island	1.10	234		Pn	04 35 55.5	-0.2
TAPA	Tanaga Point A	1.38	245		Pn	04 35 58.1	-0.1
TAFP	Tanaga Falls P	1.44	250		Pn	04 35 58.7	0.0
TAFP					Sn	04 36 21.7	-0.8
TANO	Tanaga North	1.51	252		Pn	04 35 59.8	+0.4
GAEA	Gareloi East	1.92	252		Pn	04 36 04.0	+0.3
GANO	Gareloi North	1.94	253		Pn	04 36 04.0	+0.1
GALAA	Gareloi Lava P	1.94	252		Pn	04 36 04.1	+0.2
CEPE	Semis' Perret	2.84	263		Pn	04 36 14.6	+0.4
CERB	Semis' Cerberu	2.85	262		Sn	04 36 51.9	+1.3
CEAP	Semis' Anvil P	2.87	264		Pn	04 36 15.1	+0.5
AMKA	Amchitka	3.21	253		Pn	04 36 18.6	-0.1
AMKA				Sn	Sn	04 36 56.6	-1.7
LSPA	Little Sitkin	3.49	265		Pn	04 36 23.0	+0.8
LSSE	Little Sitkin	3.50	264		Pn	04 36 23.1	+0.7
LSNW	Little Sitkin	3.52	265		Pn	04 36 23.5	+0.8
CLES	Cleveland East	3.62	81		Pn	04 36 23.0	-0.9
CLES				Sn	Sn	04 37 08.4	+0.8
CLCO	Concord Point,	3.73	82		Pn	04 36 24.8	-0.4
NIKH	Nikolski High	4.26	80	Pn	Pn	04 36 31.9	-0.2
NIKH	Nikolski High	4.26	80		Sn	04 37 21.3	-1.0
NIKH	Nikolski High	4.26	80	P	Pn	04 36 31.8	-0.2
OKWE	Okmok W'ng Wal	4.70	74		Pn	04 36 37.8	+0.1
OKCE	Okmok Cone E	4.73	75		Pn	04 36 38.3	+0.2
OKNC	Okmok New Cone	4.76	74		Pn	04 36 38.9	+0.4
OKER	Okmok East Rim	4.80	74		Pn	04 36 39.6	+0.5
OKFG	Magazine Ridge	4.88	75		Pn	04 36 40.2	+0.2
MAPS	Pakushin South	5.52	72		Pn	04 36 48.6	+0.2
MGOD	Makushin Gods	5.55	72		Pn	04 36 49.0	+0.1
MSW	Makushin Switc	5.63	71		Pn	04 36 49.9	0.0
MNAT	Makushin Natee	5.68	71		Pn	04 36 50.8	+0.2
MTBL	Makushin Table	5.70	71		Pn	04 36 51.4	+0.5
UNV	Unalaska Valle	5.78	72	Pn	Pn	04 36 52.1	+0.3
UNV	Unalaska Valle	5.78	72	P	Pn	04 36 52.0	+0.3
AKRB	Akutan Reef Bi	6.09	70		Pn	04 36 56.6	+0.8
LVA	Lava Point	6.11	70		Pn	04 36 56.9	+0.7
AKGG	Akutan Green G	6.15	69		Pn	04 36 57.1	+0.5
AKLV	Akutan Long Va	6.16	70		Pn	04 36 57.3	+0.5
SHEM	Shemya Is, Ala	6.17	277	P	Pn	04 36 56.8	-0.1
	128nm,0.5s,baz=71,slow=2.9,SNR=15						
SHEM				S	Sn	04 38 05.6	-1.3
	75nm,0.8s,baz=322,slow=21,SNR=0.9						
AKUT	Akutan	6.26	70	Pn	Pn	04 36 58.5	+0.4
AKSA	Akutan Strait	6.30	70		Pn	04 36 59.1	+0.5
WESP	Westdahl Peak	6.94	68		Pn	04 37 08.0	+0.8
WEBT	Westdahl Beart	6.94	67		Pn	04 37 08.1	+1.0
SSLS	Shishaldin Sou	7.40	67		Pn	04 37 13.5	+0.3
ISNN	Isanotski Nort	7.55	67		Pn	04 37 15.3	+0.1
ISLZ	Isanotski Laza	7.56	67		Pn	04 37 15.3	0.0
FALS	False Pass	7.76	67	Pn	Pn	04 37 18.4	+0.6
FALS	False Pass	7.76	67	P	Pn	04 37 18.1	+0.3
DT1	Dutton Round H	8.45	66		Pn	04 37 26.9	-0.1
PN7A	Pavlof North-7	8.69	64		Pn	04 37 30.4	+0.3
PVV	Pavlof Volcano	8.79	65		Pn	04 37 31.5	+0.1
PS1A	Pavlof South-1	8.83	64		Pn	04 37 32.0	+0.1
SDPT	Sand Point	9.52	66	Pn	Pn	04 37 39.6	-1.4
SDPT	Sand Point	9.52	66	P	Pn	04 37 39.3	-1.6
CNBA	Chernabura Isl	9.93	70		Pn	04 37 44.0	-2.4
M13K	Dall Lake	10.56	36		Pn	04 37 56.6	+2.1
CHGN	Chignik	10.86	62		Pn	04 37 57.5	-1.0
M14K	Bethel	11.29	37	Pn	Pn	04 38 03.9	-0.2
O16K	Kokwok River B	12.22	47	P	Pn	04 38 16.8	+0.8
R17K	Ugashik Creek	12.29	57		Pn	04 38 16.8	-0.2
CHIR	Chirikof Islan	12.31	66	Pn	Pn	04 38 14.7	-2.6
K15K	Wolf Creek Mou	12.51	32	P	P	04 38 26.6	+2.1
L16K	Owhat River	12.83	37	P	P	04 38 29.4	+1.3
N17K	Nushagak Hills	13.07	44		Pn	04 38 28.0	+1.1
SII	Sitkinak Islan	13.21	63		Pn	04 38 25.9	-2.9
SII	Sitkinak Islan	13.21	63	P	Pn	04 38 25.7	-3.0
ANM	Nome	13.32	20	P	P	04 38 34.7	+1.2
P18K	Big Mountain,	13.45	51	P	Pn	04 38 34.2	+2.5
J16K	Anvik River	13.53	30		Pn	04 38 33.8	+1.2
O18K	Koktuh Hills	13.64	49	P	P	04 38 37.1	0.0
OHAK	Old Harbor	13.81	61		Pn	04 38 33.2	-3.0
OHAK	Old Harbor	13.81	61	P	Pn	04 38 34.3	-1.9
K17K	Iditarod	13.90	35	Pn	Pn	04 38 38.3	+1.1
I17K	Unalakleet	13.94	29		Pn	04 38 38.5	+0.8
SVW2	Sparrevohn	14.04	44		Pn	04 38 40.2	+1.1
SVW2	Sparrevohn	14.04	44	P	Pn	04 38 40.3	+1.3
Q19K	Cape Douglas,	14.06	54		Pn	04 38 39.0	-0.3
O19K	Port Alsworth	14.19	48		P	04 38 44.2	+1.0
KDAK	Kodiak Island	14.30	59	P	Pn	04 38 39.7	-2.5
	31nm,0.2s,baz=258,slow=4.1,SNR=387						
KDAK				S	Sn	04 41 15.2	-6.0
	5.7nm,0.3s,baz=250,slow=23,SNR=8.5						
N19K	Bonanza Creek	14.38	46		Pn	04 38 44.3	+1.0
F15K	North Star Dit	14.48	19		Pn	04 38 45.1	+0.7
P19K	Oil Pt	14.49	51	Pn	Pn	04 38 45.9	+1.1
SYI	Shuyak Island	14.59	56	Pn	Pn	04 38 43.4	-2.5
TTA	Tatalina	14.86	37	P	P	04 38 51.3	+0.6
TTA	Tatalina	14.86	37	P	P	04 38 51.4	+0.7
L19K	White Mountain	14.89	41	P	Pn	04 38 50.3	+0.7
M19K	Big River Lodg	14.93	42		Pn	04 38 50.8	+0.7
J18K	Innoko River	14.93	35	P	P	04 38 53.2	+1.8

H17K Granite Mounta 14.96 27 P P 04 38 53.9 +2.2
RSO Redoubt South 15.01 48 P P 04 38 53.2 +0.7
CNPM China Poot 15.42 53 Pn Pn 04 38 55.5 -0.6
M20K Styx River 15.45 43 IAmb IAmb 04 39 07.6
comp=Z,9.4nm,0.7s
H18K Honhosa River 15.56 28 IAmb IAmb 04 39 02.5
comp=Z,9.9nm,0.8s
J19K Poorman 15.65 34 P Pn 04 38 59.7 +0.9
J19K IAmb IAmb 04 39 04.7
comp=Z,9.0nm,1.0s
BRLK Bradley Lake 15.66 52 P Pn 04 38 59.0 0.0
F17K Baldwin Pennin 15.83 22 IAmb IAmb 04 39 05.0
comp=Z,13nm,0.8s
K20K Telida 15.83 38 IAmb IAmb 04 39 08.5
comp=Z,6.1nm,0.8s
PETK Petropavlovsk- 16.03 283 P Pn 04 39 02.7 -0.9
comp=Z,7.9nm,1.0s,baz=89,slow=18,SNR=2.7
SKT Skwentna 16.17 44 P P 04 39 06.6 +1.5
J20K Nowinta River 16.27 35 P Pn 04 39 07.6 +1.2
SUA Susitna One 16.30 46 P Pn 04 39 08.3 +1.4
SEW Seward 16.45 52 P P 04 39 07.8 -0.3
CAST Castle Rocks 16.62 39 P Pn 04 39 12.8 +2.2
CAST IAmb IAmb 04 39 22.9
comp=Z,12nm,0.6s
RC01 Rabbit Creek A 16.62 48 P Pn 04 39 11.6 +1.0
RC01 IAmb IAmb 04 39 12.8
comp=Z,23nm,1.0s
G19K Purcell Mounta 16.65 27 P Pn 04 39 11.7 +0.7
G19K IAmb IAmb 04 39 20.4
comp=Z,5.8nm,0.8s
M22K Willow 16.69 46 P Pn 04 39 12.4 +1.1
E18K Tukpahlearik C 16.79 21 IAmb IAmb 04 39 14.9
comp=Z,11nm,0.9s
RDOG Red Dog Mine 16.88 17 P Pn 04 39 14.1 +0.4
RDOG IAmb IAmb 04 39 16.9
comp=Z,19nm,1.0s
CUT Chulitna 16.88 44 P Pn 04 39 14.6 +0.9
F19K Shaleruckik Mo 16.98 25 IAmb IAmb 04 39 18.7
comp=Z,8.7nm,0.9s
PMR Palmer 17.07 47 P P 04 39 15.4 +0.5
PMR IAmb IAmb 04 39 21.9
comp=Z,22nm,1.4s
PMR Palmer 17.07 47 P P 04 39 15.5 +0.6
KTH Kantishna Hill 17.14 40 P 04 39 17.2 +1.4
PWL Port Wells 17.20 50 P P 04 39 17.5 +1.1
GHO Glory Hole Cre 17.22 47 P P 04 39 15.3 -1.4
KNK Knik Glacier 17.31 48 P P 04 39 17.9 +0.3
TRF Thorofare Moun 17.34 40 P P 04 39 19.3 +1.3
TRF IAmb IAmb 04 39 23.8
comp=Z,21nm,1.2s
BPAW Bear Paw Mtn. 17.39 38 P 04 39 19.8 +1.4
BPAW IAmb IAmb 04 39 30.8
comp=Z,9.8nm,0.8s
SML Sawmill 17.50 47 P 04 39 21.2 +1.5
SML IAmb IAmb 04 39 32.0
comp=Z,25nm,1.1s
IMAR Indian Mountai 17.53 31 P P 04 39 21.0 +1.1
E19K Redstone River 17.60 24 IAmb IAmb 04 39 25.6
comp=Z,10nm,0.8s
I21K Tanana 17.62 34 P P 04 39 21.6 +0.7
I21K IAmb IAmb 04 39 36.3
comp=Z,12nm,1.3s
H21K Melozitna Rive 17.62 32 P Pn 04 39 22.8 +0.2
H21K IAmb IAmb 04 39 25.4
comp=Z,14nm,1.5s
F20K Avaraart Lake 17.68 26 P P 04 39 22.5 +0.9
F20K IAmb IAmb 04 39 26.3
comp=Z,13nm,1.1s
GLI Glacier Island 17.78 50 P P 04 39 24.3 +1.5
MID Middleton Isla 17.83 55 P P 04 39 23.2 0.0
BILL Bilibino 17.90 338 P P 04 39 25.5 +1.5
RND Reindeer 17.90 42 P P 04 39 24.4 +0.3
RND IAmb IAmb 04 39 41.8
comp=Z,10nm,0.9s
HIN Hinchinbrook I 17.95 52 P P 04 39 25.8 +1.2
G21K Allakaket 17.95 30 IAmb IAmb 04 39 27.8
comp=Z,12nm,0.8s
SCM Sheep Creek Mo 17.96 47 P P 04 39 26.1 +1.3
MLY Manley 17.97 36 P P 04 39 25.9 +1.0
MLY IAmb IAmb 04 39 41.6
comp=Z,5.5nm,0.8s
FID Port Fidalgo 18.04 51 P P 04 39 26.4 +0.8
EYAK Cordova Ski Ar 18.34 52 P P 04 39 28.1 -0.7
NEA2 Nenana 18.36 38 P P 04 39 30.2 +1.2
NEA2 IAmb IAmb 04 39 33.5
comp=Z,8.9nm,1.1s
DHY Denali Highway 18.37 43 P P 04 39 30.8 +1.5
DHY IAmb IAmb 04 39 33.5
comp=Z,15nm,0.8s
C19K Lookout Ridge 18.41 18 P P 04 39 30.8 +1.3
C19K IAmb IAmb 04 39 35.4
comp=Z,18nm,0.8s
F21K Alatna River 18.43 28 P P 04 39 31.4 +1.6
F21K IAmb IAmb 04 39 34.1
comp=Z,11nm,0.9s
DIV Divide 18.47 50 P P 04 39 32.6 +2.3
KLU Klutina 18.50 49 P P 04 39 32.1 +1.5
I23K Minto, Yukon-K 18.53 36 P P 04 39 32.3 +1.5
I23K IAmb IAmb 04 39 36.6
comp=Z,8.3nm,1.1s
M24K Tolsona, Glenn 18.56 47 P 04 39 32.8 +1.5
MDM Murphy Dome 18.85 38 P P 04 39 35.2 +0.9
MDM IAmb IAmb 04 39 41.6
comp=Z,14nm,1.3s
CCB Clear Creek Bu 18.86 39 P P 04 39 34.0 -0.4
KAIM Kayak Island 18.87 54 Pn Pn 04 39 38.5 +1.3
HDA Harding Lake 19.09 40 P P 04 39 36.9 0.0
N25K Chitina, Valde 19.14 49 P P 04 39 35.1 -2.4
PAX Paxson 19.15 45 P P 04 39 39.1 +1.4
PAX IAmb IAmb 04 39 46.5
comp=Z,12nm,0.6s
E21K Killik River 19.16 25 IAmb IAmb 04 39 53.5
comp=Z,10nm,0.9s
G23K Bananza Creek 19.16 32 P P 04 39 38.2 +0.5
G23K IAmb IAmb 04 39 44.2
comp=Z,8.7nm,1.0s
SUCK Suckling Hills 19.21 54 P Pn 04 39 41.1 -0.1
POKR Poker Plat Res 19.22 38 P P 04 39 39.7 +1.3
POKR IAmb IAmb 04 39 53.6
comp=Z,5.3nm,0.8s
IL31 19.27 39 P P 04 39 38.0 -0.8
ILAR Eielson Array 19.27 39 P P 04 39 40.2 +1.3
ILAR Eielson Array 19.27 39 P P 04 39 37.9 -1.0
comp=Z,1.4nm,0.6s,baz=236,slow=9.7,SNR=19
ILAR S S 04 43 10.6 +3.2
comp=Z,0.7nm,0.8s,baz=223,slow=17,SNR=4.6
ILAR ScP ScP 04 47 11.3 -1.3
comp=Z,0.7nm,0.6s,baz=273,slow=3.1,SNR=14
BERG Berg Lake 19.31 53 P P 04 39 40.7 +1.4
H24K Noodor Dome 19.41 35 P P 04 39 41.7 +1.2
H24K IAmb IAmb 04 39 49.0
comp=Z,22nm,1.5s
GLB Gilahina Butte 19.47 50 P P 04 39 42.6 +1.6
E22K Anaktuvuk Pass 19.52 27 P P 04 39 42.9 +1.4
E22K IAmb IAmb 04 39 49.9
comp=Z,9.4nm,1.0s
VRDI Verde Repeater 19.59 51 P P 04 39 44.7 +2.2
CRQM Cirque 19.64 52 P Pn 04 39 46.4 -0.1
CRQM IAmb IAmb 04 39 58.9
comp=Z,13nm,0.7s
SNH Sunshine Point 19.70 54 P Pn 04 39 47.6 +0.7
WAX Waxell Ridge 19.73 53 P P 04 39 46.3 +2.4
SEY Seymchan 19.78 315 P P 04 39 44.8 +0.5
comp=Z,8.3nm,0.5s,baz=96,slow=9.4,SNR=24
TGL Tana Glacier 19.79 52 P P 04 39 46.3 +1.7
TGL IAmb IAmb 04 39 51.6
comp=Z,12nm,0.9s
J25K Salcha River, 19.80 40 P P 04 39 43.8 -0.8
J25K IAmb IAmb 04 39 50.9
comp=Z,4.6nm,0.8s
D22K Ayikyak River 19.80 25 P P 04 39 45.8 +1.3
MCARA McCarthy VSAT 19.82 50 P P 04 39 46.7 +1.9
B21K Ikpikpuk River 19.88 22 P P 04 39 46.1 +0.8
MENT Mentasta 19.90 46 P P 04 39 46.9 +1.3
G24K Hadweenzic Riv 20.00 33 P P 04 39 47.7 +1.0
G24K IAmb IAmb 04 39 49.2
comp=Z,9.1nm,1.1s
ISLE Juniper Island 20.01 53 P P 04 39 49.2 +2.3
ISLE IAmb IAmb 04 39 55.5
comp=Z,12nm,0.9s
M26K Nabesna, AK 20.07 47 P Pn 04 39 52.6 +1.1
L26K Log Cabin Wild 20.09 45 P P 04 39 48.5 +0.9
L26K IAmb IAmb 04 39 57.9
comp=Z,10nm,0.6s

SCRK Sand Creek 20.12 43 P P 04 39 48.2 +0.1
SCRK IAmb IAmb 04 39 52.5
comp=Z,6.1nm,0.6s
PRP Porcupine Dome 20.12 38 P P 04 39 47.9 -0.2
MESA MESA 20.14 54 P P 04 39 50.0 +1.6
GRNC Granite Creek 20.31 52 P P 04 39 52.9 +2.6
GRNC IAmb IAmb 04 39 59.8
comp=Z,14nm,0.8s
F24K Squaw Lake 20.31 31 P P 04 39 51.5 +1.5
F24K IAmb IAmb 04 39 53.3
comp=Z,6.1nm,0.8s
BARN Barnard Glacie 20.41 52 P P 04 39 53.3 +2.0
BARN IAmb IAmb 04 40 02.8
comp=Z,11nm,1.1s
E24K Your Creek 20.45 30 P P 04 39 52.7 +1.2
E24K IAmb IAmb 04 39 54.9
comp=Z,4.5nm,0.6s
J26L Joseph Creek 20.48 41 P P 04 39 52.2 +0.3
J26L IAmb IAmb 04 40 03.1
comp=Z,5.5nm,0.8s
TOLK Toolik Lake Re 20.48 28 P P 04 39 52.7 +0.9
TOLK IAmb IAmb 04 39 59.5
comp=Z,10nm,1.1s
CTGM Chitina Glacie 20.55 52 P P 04 39 54.6 +1.9
M27K Edge Creek, AK 20.57 48 P P 04 39 54.5 +1.5
M27K IAmb IAmb 04 40 01.8
comp=Z,6.9nm,0.8s
TABL Table Mountain 20.57 53 P P 04 39 49.7 -3.3
TABL IAmb IAmb 04 40 01.7
comp=Z,10nm,0.7s
LOGN Logan Glacier 20.69 52 P P 04 39 55.8 +1.6
LOGN IAmb IAmb 04 40 07.6
comp=Z,13nm,1.0s
B22K Teshekpuk Lake 20.69 21 P P 04 39 54.0 0.0
B22K IAmb IAmb 04 39 59.4
comp=Z,14nm,1.1s
FYU Fort Yukon 20.71 35 P P 04 39 55.2 +1.1
L27K Beaver Creek, 20.76 46 P P 04 39 55.9 +1.0
L27K IAmb IAmb 04 40 03.6
comp=Z,3.9nm,0.7s
BCAR Beaver Creek A 20.78 46 P P 04 39 56.2 +1.1
PCA Pinnacle 20.97 54 P P 04 39 55.9 -1.2
D24K Happy Valley 21.02 27 P P 04 39 58.1 +0.6
D24K IAmb IAmb 04 40 00.6
comp=Z,8.0nm,0.6s
PNL Peninsula 21.36 56 P P 04 40 00.8 -0.5
E25K Arctic Village 21.38 31 P P 04 40 02.2 +0.8
E25K IAmb IAmb 04 40 03.1
comp=Z,6.6nm,1.1s
EGAK Eagle 21.54 42 P P 04 40 02.4 -0.7
EGAK IAmb IAmb 04 40 07.3
comp=Z,6.7nm,0.9s
D25K Kavik River 21.81 28 P P 04 40 06.4 +0.5
D25K IAmb IAmb 04 40 08.8
comp=Z,7.0nm,0.6s
O29M Mount Kennedy 21.82 54 P P 04 40 08.1 +1.9
DAWY Dawson 22.08 44 P P 04 40 09.5 +0.9
DAWY IAmb IAmb 04 40 26.0
comp=Z,3.3nm,0.6s
I28M Miner Creek 22.25 40 P P 04 40 10.4 +0.2
I28M IAmb IAmb 04 40 12.6
comp=Z,4.1nm,0.8s
HYT Haines Junctio 22.39 53 P P 04 40 12.0 +0.3
L29M L29M 22.41 47 P P 04 40 11.8 +0.1
N30M Aishikik Lake 22.65 51 P P 04 40 16.1 +2.1
K29M Barlow Dome 22.83 45 IAmb IAmb 04 40 17.5
comp=Z,6.1nm,0.7s
I29M Ogilvie Camp, 22.87 41 P P 04 40 16.0 +0.1
I29M IAmb IAmb 04 40 19.0
comp=Z,7.4nm,1.1s
M30M Minto, Yukon 22.93 48 P P 04 40 16.5 0.0
F28M Old Crow 23.05 35 P P 04 40 18.6 +1.1
F28M IAmb IAmb 04 40 21.9
comp=Z,5.6nm,1.1s
D27M Malcolm River 23.40 31 P P 04 40 22.0 +1.2
G29M Pine Creek 23.46 37 P P 04 40 22.9 +1.6
J30M Hart River 23.49 44 P P 04 40 23.0 +1.3
I30M Mount Dempster 23.62 42 P P 04 40 23.4 +0.6
I30M IAmb IAmb 04 40 28.7
comp=Z,4.0nm,0.8s
EPYK Eagle Plains 23.79 39 P P 04 40 25.5 +1.2
EPYK IAmb IAmb 04 40 35.7
comp=Z,10nm,1.5s
E29M Blow River 24.04 34 P P 04 40 28.1 +1.6
G30M tAoh Zraii Nji 24.16 38 P P 04 40 29.4 +1.8
G30M IAmb IAmb 04 40 37.4
comp=Z,8.0nm,1.5s
G31M Satah River 24.88 38 P P 04 40 34.5 +0.5
INK Inuvik 25.54 35 P P 04 40 40.6 +0.6
INK Inuvik 25.54 35 P P 04 40 39.9 -0.1
comp=Z,0.7nm,0.4s,baz=243,slow=9.2,SNR=14
comp=Z,0.7nm,0.4s
A36M Sachs Harbour 29.27 29 P P 04 41 14.8 +1.6
A36M IAmb IAmb 04 41 15.6
comp=Z,4.6nm,0.8s
TIXI Tiksi 30.67 329 P P 04 41 26.2 +0.7
TIXI IAmb IAmb 04 41 26.6
comp=Z,8.6nm,1.1s
CLRS Cowichan Lake 32.41 75 P P 04 41 42.7 +1.7
YKA Yellowknife Ar 33.16 48 P P 04 41 47.5 +0.2
comp=Z,0.3nm,0.6s,baz=287,slow=9.3,SNR=5.4
YKA PcP PcP 04 44 25.1 -0.7
comp=Z,0.4nm,0.4s,baz=282,slow=3.7,SNR=8.4
comp=Z,0.3nm,0.6s
USRK Ussuriysk Ar. 35.00 278 P P 04 42 02.9 -0.5
comp=Z,1.2nm,0.3s,baz=66,slow=11,SNR=2.8
comp=Z,1.2nm,0.3s
MAJO Matsushiro 35.77 262 P P 04 42 11.5 +1.4
MJAR Matsushiro Arr 35.77 262 P P 04 42 11.0 +0.9
comp=Z,5.1nm,0.6s,baz=45,slow=7.0,SNR=18
MJAR PcP PcP 04 44 33.8 0.0
comp=Z,1.7nm,0.7s,baz=53,slow=2.1,SNR=4.7
comp=Z,5.1nm,0.6s
MJB9 Matsu-Tunnel 35.77 262 P P 04 42 11.5 +1.4
K02D Willamette Mer 35.78 84 P P 04 42 12.4 +2.2
DBO Dodson Butte 35.80 84 P P 04 42 13.0 +2.6
HAWA Hanford 36.30 76 P P 04 42 16.1 +1.7
HAWA IAmb IAmb 04 42 16.8
comp=Z,6.0nm,0.9s
KRMB Red Mountain 36.30 86 P P 04 42 16.8 +2.1
NEW Newport 36.79 72 P P 04 42 19.7 +1.1
NEW IAmb IAmb 04 42 20.1
comp=Z,3.1nm,0.6s
KHMM Horse Mountain 36.79 87 P P 04 42 21.4 +2.5
KMPM Mount Pierce 36.83 88 P P 04 42 21.8 +2.8
L04D Klamath Falls 36.88 84 P P 04 42 21.2 +1.7
L04D IAmb IAmb 04 42 22.6
comp=Z,7.2nm,0.8s
YBH Yreka Blue Hor 36.92 85 P P 04 42 22.5 +2.7
YBH IAmb IAmb 04 42 23.7
comp=Z,7.6nm,0.8s
J05D Fort Rock, OR 36.93 82 P P 04 42 22.2 +2.2
J05D IAmb IAmb 04 42 23.2
comp=Z,12nm,1.3s
BMO Blue Mountains 38.44 77 P P 04 42 33.4 +0.9
ORV Oroville 38.95 87 P P 04 42 38.6 +1.9
ORV IAmb IAmb 04 42 38.8
comp=Z,4.3nm,0.7s
WVOR Wild Horse Val 38.99 81 P P 04 42 39.1 +1.9
WVOR IAmb IAmb 04 42 56.1
comp=Z,9.9nm,1.5s
PLID Pearl Lake 39.09 76 P P 04 42 39.1 +1.0
LYMT Lyon Mountain 40.26 72 P P 04 42 48.5 +0.7
PNTR Pine Nut 40.40 86 P P 04 42 51.1 +2.1
CMB Columbia Colle 40.58 88 P P 04 42 52.4 +2.2
YERR Yerington 40.68 86 P P 04 42 49.9 -1.4
SAO San Andreas Ge 40.74 90 P P 04 42 53.6 +2.1
SAO IAmb IAmb 04 43 01.0
comp=Z,9.1nm,1.1s
WAKR Walker 40.86 87 P P 04 42 55.1 +2.3
WAKR IAmb IAmb 04 42 55.7
comp=Z,5.5nm,0.6s
HLID Hailey 40.88 77 P P 04 42 54.0 +1.2
BMN Battle Mountai 41.03 83 P P 04 42 55.9 +1.8
BMN IAmb IAmb 04 43 09.9
comp=Z,4.2nm,1.0s
RYN Ryan 41.34 86 P P 04 42 58.5 +1.9
RYN IAmb IAmb 04 42 59.5
comp=Z,5.7nm,1.0s
BOZ Bozeman (W) 41.39 73 P P 04 42 56.9 0.0
KSRS Korea Array 41.47 272 P P 04 42 58.4 +1.0
comp=Z,0.6nm,0.2s,baz=57,slow=7.9,SNR=3.3
comp=Z,0.6nm,0.2s
PMPB Monarch Peak 41.49 91 P P 04 43 00.2 +2.5
PMPB IAmb IAmb 04 43 11.1
comp=Z,17nm,1.3s
NVAR Mina Array Bea 41.60 86 P P 04 43 00.7 +1.9
comp=Z,2.8nm,0.7s,baz=297,slow=7.5,SNR=20
NVAR PcP PcP 04 44 53.6 +1.2
comp=Z,1.2nm,0.7s,baz=299,slow=2.7,SNR=6.4
NVAR ScP ScP 04 48 25.9 +0.1
comp=Z,0.9nm,0.6s,baz=312,slow=4.7,SNR=8.9
comp=Z,2.8nm,0.7s
MDPB Devils Postpil 41.63 88 P P 04 43 01.6 +2.5
MDPB IAmb IAmb 04 43 02.4
comp=Z,6.5nm,0.8s
NV11 Mina Array Sit 41.69 86 P P 04 43 01.4 +1.9
OMMB Old Mammoth Mi 41.69 88 P P 04 43 02.0 +2.4
OMMB IAmb IAmb 04 43 03.5
comp=Z,5.6nm,1.2s
ELK Elko 42.04 81 P P 04 43 04.0 +1.6
YHH Holmes Hill 42.30 73 P P 04 43 05.5 +1.0
TPH Tonopah 42.49 86 P P 04 43 07.5 +1.6
JNU Nakatsue 42.53 265 P P 04 43 07.3 +1.1
HVU Hansel Valley 42.91 78 P P 04 43 10.4 +1.2
HVU IAmb IAmb 04 43 10.9
comp=Z,2.4nm,0.5s
ISA Isabella, Lake 43.28 89 P P 04 43 13.6 +1.4
ISA IAmb IAmb 04 43 14.4
comp=Z,4.9nm,0.5s
R11B Troy Canyon, C 43.31 84 P P 04 43 14.1 +1.6
Q12A Willow Creek R 43.34 83 P P 04 43 14.7 +2.0
Q12A IAmb IAmb 04 43 15.3
comp=Z,12nm,1.5s
S11A Rachel 43.66 85 P P 04 43 17.1 +1.9
S11A IAmb IAmb 04 43 18.6
comp=Z,4.3nm,0.6s
SPR3 Spring Creek 3 43.67 83 P P 04 43 17.6 +2.1
WCT Wildcat Mounta 43.67 87 P P 04 43 17.1 +1.8
TPNV Topopah Spring 43.80 86 P P 04 43 17.9 +1.5
TPNV IAmb IAmb 04 43 19.2
comp=Z,9.9nm,0.7s
DUG Dugway, Tooele 43.84 80 P P 04 43 18.2 +1.5
FCC Fort Churchill 43.89 48 P P 04 43 16.7 0.0
GWY Greenwater Val 44.04 87 P P 04 43 20.1 +1.8
GWY IAmb IAmb 04 43 20.9
comp=Z,5.1nm,0.6s
QSM Queen of Sheba 44.06 88 P P 04 43 19.5 +1.1
QSM IAmb IAmb 04 43 22.6
comp=Z,3.4nm,0.6s
BW06 Boulder Array 44.23 75 P P 04 43 20.6 +0.7
PD31 Pinedale Array 44.23 75 P P 04 43 20.6 +0.7
PDAR Pinedale Array 44.23 75 P P 04 43 20.4 +0.4
comp=Z,1.1nm,0.4s,baz=322,slow=3.2,SNR=22
PDAR ScP ScP 04 48 36.8 +0.3
comp=Z,0.2nm,0.5s,baz=280,slow=5.4,SNR=2.5
comp=Z,1.1nm,0.4s
PRN Pahroc Range 44.24 85 P P 04 43 21.7 +1.8
PRN IAmb IAmb 04 43 22.7
comp=Z,5.9nm,0.7s
PSUT Pine Spring 44.25 83 P P 04 43 21.8 +1.8
GSC Goldstone, Bar 44.54 88 P P 04 43 24.2 +2.0
GSC IAmb IAmb 04 43 24.8
comp=Z,11nm,0.8s
CCUT Cedar City 45.17 83 P P 04 43 29.3 +1.9
ELS Elsinore Mount 45.26 91 P P 04 43 29.6 +1.7
ELS IAmb IAmb 04 43 30.2
comp=Z,4.5nm,0.8s
TMUT Trail Mountain 45.37 80 P P 04 43 30.8 +1.8
TMUT IAmb IAmb 04 43 31.9
comp=Z,7.7nm,1.4s
V12A Nelson 45.45 86 P P 04 43 31.4 +1.9
RDMU Red Mountain 45.56 78 P P 04 43 31.5 +1.1
LCMT Little Creek M 45.59 84 P P 04 43 31.5 +1.0
NOR Nord 45.76 4 *i* P P 04 43 29.6 -1.5
KNB Kanab 45.85 84 P P 04 43 34.5 +1.9
PFO Pinyon Flats O 45.88 90 P P 04 43 34.5 +1.6
SRU San Rafael Swe 45.90 80 P P 04 43 34.9 +1.9
SRU IAmb IAmb 04 43 35.4
comp=Z,2.5nm,0.6s
PMD Palm Desert 45.91 90 P P 04 43 34.1 +1.2
NEEM North Greenlan 45.98 14 *i* P P 04 43 31.6 -1.7
NEEM IAmb IAmb 04 43 33.9
comp=Z,18nm,0.6s
BAR Barrett 46.38 91 P P 04 43 38.5 +1.8
BAR IAmb IAmb 04 43 39.7
comp=Z,5.8nm,0.9s
W13A Hualapai Mount 46.46 86 P P 04 43 39.1 +1.7
W13A IAmb IAmb 04 43 39.7
comp=Z,3.7nm,0.7s
HMU Henry Mountain 46.52 81 P P 04 43 39.5 +1.6
HMU IAmb IAmb 04 43 44.7
comp=Z,10nm,1.1s
U15A North Rim 46.55 84 P P 04 43 40.2 +1.9
U15A IAmb IAmb 04 43 41.0
comp=Z,5.5nm,0.9s
CBX Cerro Bola 46.64 91 P P 04 43 40.5 +1.7
CBX IAmb IAmb 04 43 41.6
comp=Z,4.3nm,0.8s
YUH Yuha Desert 46.87 90 P P 04 43 41.8 +1.5
BLYC Blythe 46.97 88 P P 04 43 42.8 +1.6
BLYC IAmb IAmb 04 43 43.6
comp=Z,7.6nm,0.7s
PV20 West Nyswonger 47.33 80 P P 04 43 46.5 +2.4
PV20 IAmb IAmb 04 43 47.6
comp=Z,6.6nm,1.3s
PV04 Paradox Valley 47.33 79 P P 04 43 45.1 +1.0
PV04 IAmb IAmb 04 43 53.5
comp=Z,4.5nm,1.0s
PV16 Nyswonger Mesa 47.38 80 P P 04 43 45.6 +1.1
PV11 David Mesa, Pa 47.41 79 P P 04 43 45.9 +1.2
PV11 IAmb IAmb 04 43 46.3
comp=Z,6.2nm,0.5s
PV18 Skein Mesa, Pa 47.42 80 P P 04 43 45.7 +0.8
PV18 IAmb IAmb 04 43 46.5
comp=Z,9.6nm,1.3s
PV12 Saucer Basin, 47.44 79 P P 04 43 46.5 +1.4
PV03 Paradox Valley 47.45 80 P P 04 43 45.7 +0.6
PV07 Paradox Valley 47.46 79 P P 04 43 46.3 +1.1
PV13 Radium Mtn., P 47.53 80 P P 04 43 46.7 +0.9
PV13 IAmb IAmb 04 43 47.5
comp=Z,6.5nm,0.8s
PV02 Paradox Valley 47.55 79 P P 04 43 46.8 +0.9
PV02 IAmb IAmb 04 43 47.7
comp=Z,9.3nm,1.3s
PV15 Paradox Valley 47.62 79 P P 04 43 47.9 +1.4
PV01 Paradox Valley 47.70 79 P P 04 43 48.1 +1.0
VTX Valle De La Tr 47.82 92 P P 04 43 49.3 +1.5
VTX IAmb IAmb 04 43 54.2
comp=Z,6.1nm,1.2s
SONM Songino Array 47.83 297 P P 04 43 48.2 +0.4
SONM Songino Array 47.83 297 P P 04 43 47.2 -0.6
comp=Z,1.3nm,0.8s,baz=47,slow=9.1,SNR=7.9
SONM PcP PcP 04 45 12.8 -0.9
comp=Z,0.6nm,0.7s,baz=72,slow=5.1,SNR=2.1
comp=Z,1.3nm,0.8s
MVCO Mesa Verde 48.34 80 P P 04 43 52.4 +0.4
MVCO IAmb IAmb 04 43 57.2
comp=Z,1.9nm,0.5s
X16A Lo Mia Camp, P 48.41 85 P P 04 43 54.5 +2.0
X16A IAmb IAmb 04 43 55.3
comp=Z,3.1nm,0.8s
KBS Kingsbay 48.84 358 P P 04 43 56.3 +1.4
S22A 4UR Ranch, Cre 49.00 79 P P 04 43 58.7 +1.6
PIX Pinacate 49.12 90 P P 04 43 59.1 +1.4
HHC Hu-ho-hao-te 49.18 287 *e*P P 04 43 57.6 -0.5
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,130nm,7.6s
214A Organ Pipe Nat 49.25 89 P P 04 44 00.4 +1.7
214A IAmb IAmb 04 44 00.9
comp=Z,8.4nm,1.1s
SPB5 Spitsbergen Ar 49.45 357 P P 04 43 60.0 +0.4
SPB1 Spitsbergen Ar 49.46 357 P P 04 44 00.1 +0.5
SPA1 Spitsbergen Ar 49.46 357 P P 04 44 00.1 +0.5
SPB4 Spitsbergen Ar 49.46 357 P P 04 43 60.0 +0.3
SPA0 Spitsbergen Ar 49.46 357 P P 04 44 00.3 +0.6
SPITS Spitsbergen Ar 49.46 357 P P 04 43 59.7 +0.1
comp=Z,12nm,0.6s,baz=56,slow=6.2,SNR=21
comp=Z,12nm,0.6s
SPA2 Spitsbergen Ar 49.46 357 P P 04 44 00.2 +0.6
SPA3 Spitsbergen Ar 49.46 357 P P 04 44 00.1 +0.5
SPB2 Spitsbergen Ar 49.46 357 P P 04 44 00.1 +0.5
SPB3 Spitsbergen Ar 49.46 357 P P 04 44 00.3 +0.7
SDCO Great Sand Dun 49.80 78 P P 04 44 04.1 +1.1
TUC Tucson 50.24 87 P P 04 44 08.0 +1.8
TUC IAmb IAmb 04 44 08.8
comp=Z,3.7nm,0.8s

DAG	Danmarks Havn	50.27	7	i P	P	04 44 03.5	-2.2
DAG				IAmb	IAmb	04 44 06.0	
	comp=Z,5.7nm,1.0s						
T25A	Trinidad	50.85	78	P	P	04 44 12.0	+1.2
T25A				IAmb	IAmb	04 44 13.1	
	comp=Z,4.7nm,1.1s						
SUMG	Summit	51.83	15	P	P	04 44 18.3	+0.5
SUMG				IAmb	IAmb	04 44 18.7	
	comp=Z,5.6nm,0.6s						
SUMG	Summit	51.83	15	i P	P	04 44 17.0	-0.9
RTBA	Rita Blanca	52.31	77	P	P	04 44 21.8	+0.2
RTBA				IAmb	IAmb	04 44 27.5	
	comp=Z,6.2nm,1.2s						
HSIG		52.45	90	P	P	04 44 23.9	+1.4
ICESG	Greenland Ices	54.61	18	i P	P	04 44 36.4	-1.8
ZALV	Zalesovo Beam	54.65	314	PcP	PcP	04 45 37.5	-1.3
	comp=Z,0.8nm,0.5s,baz=46,slow=4.2,SNR=5.0						
MNHN	Monahans	55.81	82	P	P	04 44 47.1	+0.2
MNHN				IAmb	IAmb	04 44 48.2	
	comp=Z,3.7nm,0.7s						
TXAR	Lajitas Array	56.68	84	P	P	04 44 54.1	+1.0
TXAR	Lajitas Array	56.68	84	P	P	04 44 53.8	+0.6
	comp=Z,0.7nm,0.4s,baz=302,slow=5.8,SNR=29						
TXAR				PcP	PcP	04 45 47.6	+0.4
	comp=Z,0.7nm,0.5s,baz=330,slow=3.1,SNR=8.4						
	comp=Z,0.7nm,0.4s						
ARCES	ARCESS Array B	57.37	351	P	P	04 44 56.5	-0.7
	comp=Z,6.0nm,0.7s,baz=18,slow=7.4,SNR=16						
	comp=Z,6.0nm,0.7s						
KURK	Kurchatov	59.63	315	P	P	04 45 13.0	-0.1
KURK				IAmb	IAmb	04 45 13.3	
	comp=Z,2.2nm,0.7s						
KURBB	Kurchatov Arra	59.74	315	P	P	04 45 12.9	-1.0
	comp=Z,2.2nm,0.7s,baz=43,slow=6.4,SNR=23						
KURBB				PcP	pwP	04 45 57.6	-0.1
	comp=Z,0.9nm,0.8s,baz=37,slow=6.3,SNR=5.8						
	comp=Z,2.2nm,0.7s						
WMQ	Urumqi	60.32	304	eP	P	04 45 21.9	+3.8
MK31	Makanchi Array	60.82	310	P	P	04 45 20.3	-1.0
MKAR	Makanchi Array	60.82	310	P	P	04 45 19.9	-1.5
	comp=Z,0.7nm,0.4s,baz=48,slow=5.8,SNR=12						
MKAR				PcP	pP	04 46 02.2	+1.7
	comp=Z,0.6nm,0.6s,baz=46,slow=6.9,SNR=3.9						
	comp=Z,0.7nm,0.4s						
BVAR	Borovoye Array	61.28	321	P	P	04 45 24.0	-0.3
	comp=Z,3.7nm,0.5s,baz=48,slow=6.4,SNR=25						
BVAR				PcP	pP	04 46 04.4	+1.0
	comp=Z,2.8nm,0.5s,baz=55,slow=2.7,SNR=9.2						
	comp=Z,3.7nm,0.5s						
PZH	PanZhiHua	64.98	281	P	P	04 45 51.6	+2.4
PZH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
FINES	FINESS Array B	65.16	349	P	P	04 45 47.9	-1.7
	comp=Z,3.0nm,0.8s,baz=13,slow=7.4,SNR=8.6						
	comp=Z,3.0nm,0.8s						
NB2	NORSAR Subarra	66.76	356	P	P	04 45 59.2	-0.7
	comp=Z,1.7nm,0.9s,baz=5.1,slow=6.9						
NOA	NORSAR Array B	66.76	356	P	P	04 45 58.7	-1.2
	comp=Z,1.4nm,0.7s,baz=352,slow=5.4,SNR=9.0						
	comp=Z,1.4nm,0.7s						
HFS	Hagfors	67.55	355	P	P	04 46 03.5	-1.3
	comp=Z,2.0nm,0.4s,baz=308,slow=2.4,SNR=32						
	comp=Z,2.0nm,0.4s						
ABKAR	Akbulak array	68.21	324	P	P	04 46 09.3	+0.2
ABKAR				IAmb	IAmb	04 46 09.5	
	comp=Z,5.0nm,1.4s						
KK31	Karatay Array	69.03	314	P	P	04 46 13.3	-1.0
KK31				IAmb	IAmb	04 46 14.5	
	comp=Z,2.5nm,0.8s						
KKAR	Karatay Array	69.03	314	P	P	04 46 13.6	-0.8
KKAR				IAmb	IAmb	04 46 14.5	
	comp=Z,2.5nm,0.8s						
KSH	Kashi	69.34	308	P	P	04 46 20.0	+3.5
CRAI	Chiangrai	70.51	278	P	P	04 46 23.1	-0.6
CRAI				IAmb	IAmb	04 46 24.5	
	comp=Z,5.2nm,0.7s						
BTK	Batken	71.33	312	P	P	04 46 27.9	-0.6
BTK				IAmb	IAmb	04 46 29.1	
	comp=Z,5.9nm,1.1s						
EKA	Eskdalemuir Ar	72.45	4	P	P	04 46 34.3	-0.4
	comp=Z,1.9nm,0.8s,baz=355,slow=4.3,SNR=9.0						
	comp=Z,1.9nm,0.8s						
CMAR	Chiang Mai Arr	72.73	278	P	P	04 46 36.6	-0.4
	comp=Z,1.2nm,0.4s,baz=31,slow=7.5,SNR=5.8						
	comp=Z,1.2nm,0.4s						
GUN	Gumba	73.16	294	eP	P	04 46 39.4	-0.5
	comp=Z,13nm,0.5s						
JIRN	Jiri	73.18	293	eP	P	04 46 39.7	-0.3
	comp=Z,20nm,0.5s						
RAMN	Ramite	73.50	293	eP	P	04 46 41.3	-0.4
	comp=Z,9.6nm,0.3s						
DANN	Dangsing	74.00	296	eP	P	04 46 44.2	-0.5
	comp=Z,25nm,0.7s						
PYUN	Piuthan	74.62	296	eP	P	04 46 47.8	-0.3
	comp=Z,15nm,0.7s						
AKASG	Malin Array Be	75.10	344	P	P	04 46 48.8	-1.5
	comp=Z,0.6nm,0.3s,baz=19,slow=6.0,SNR=3.8						
	comp=Z,0.6nm,0.3s						
KIEV	Kiev	75.11	344	P	P	04 46 51.0	+0.8
KIEV				IAmb	IAmb	04 47 06.5	
	comp=Z,5.1nm,1.1s						
KBL	Kabul	76.63	310	P	P	04 47 00.9	+1.4
KBL				IAmb	IAmb	04 47 15.8	
	comp=Z,3.3nm,0.4s						
SBUM	Sibu	77.12	257	P	P	04 47 02.0	-0.1
GEYT	Alibeck	78.55	319	P	P	04 47 09.2	-0.6
	comp=Z,1.5nm,0.3s,baz=24,slow=13,SNR=4.2						
	comp=Z,1.5nm,0.3s						
KBZ	Khabaz	78.58	332	P	P	04 47 08.8	-0.9
	comp=Z,2.1nm,0.9s,baz=39,slow=9.2,SNR=3.6						
	comp=Z,2.1nm,0.9s						
WRA	Warramunga Arr	84.06	226	P	P	04 47 39.0	+0.1
	comp=Z,2.6nm,0.9s,baz=33,slow=5.7,SNR=20						
	comp=Z,2.6nm,0.9s						
BRTR	Keskin Array B	84.73	338	P	P	04 47 41.5	-0.9
BRTR	Keskin Array B	84.73	338	P	P	04 47 41.8	-0.6
	comp=Z,1.3nm,0.8s,baz=29,slow=3.3,SNR=10						
	comp=Z,1.3nm,0.8s						
RPSI	Rantau Prapat	84.99	268	P	P	04 47 42.7	-1.0
AS31	Alice Springs	87.52	225	P	P	04 47 56.9	+1.1
ASAR	Alice Springs	87.52	225	P	P	04 47 56.6	+0.9
ASAR	Alice Springs	87.52	225	P	P	04 47 56.9	+1.1
	comp=Z,3.2nm,0.7s,baz=25,slow=4.9,SNR=51						
	comp=Z,3.2nm,0.7s						
ESDC	Sonseca Array	88.01	6	P	P	04 47 56.7	-1.4
	comp=Z,0.3nm,0.6s,baz=348,slow=3.9,SNR=1.9						
	comp=Z,0.3nm,0.6s						
TORD	Torodi Ar. Bea	114.67	3	PKP	PKiKP	04 53 45.6	-1.9
	comp=Z,0.2nm,0.5s,baz=356,slow=2.5,SNR=6.0						
DBIC	Dimbokro	120.64	10	PKP	PKPdf	04 53 57.6	-1.5
	comp=Z,3.5nm,1.1s,baz=6.2,slow=2.4,SNR=9.8						
CPUP	Villa Florida	127.65	85	PKP	PKPdf	04 54 11.4	-0.6
	comp=Z,1.3nm,0.7s,baz=280,slow=6.1,SNR=5.9						
PLCA	Paso Flores	129.51	108	PKP	PKPdf	04 54 15.5	+0.2
	comp=Z,2.3nm,0.8s,baz=270,slow=5.1,SNR=3.9						
QSPA	South Pole Qui	142.17	180	PKhKP	PKPpre	04 54 34.3	
	comp=Z,2.0nm,0.6s,baz=247,slow=0.4,SNR=14						
QSPA				PKiKP	PKiKP	04 54 42.0	+1.1
	comp=Z,2.9nm,0.6s,baz=56,slow=2.2,SNR=8.6						
MAW	Mawson	148.45	219	PKPbc	PKPbc	04 54 53.3	+1.1
	comp=Z,8.8nm,0.7s,baz=83,slow=2.3,SNR=13						
BOSA	Boshof	151.54	318	PKPbc	PKPbc	04 55 00.4	-0.7
	comp=Z,2.8nm,0.4s,baz=30,slow=2.4,SNR=26						
BOSA				PKPab	PKPab	04 55 09.3	-1.0
	comp=Z,1.3nm,0.3s,baz=49,slow=4.2,SNR=6.2						

NEIC 03 04:37:20.4±1.2, 8°.40S±0°.08×74°.42W±0°.08, h177km±10km, mb4.2/5, Error ellipse: s-maj=14.2km s-min=8.9km az=137.0, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	Cruzeiro do Su	1.82	69	Pn	Pn	04 37 55.8	+0.4
CZSB				Sn	Sn	04 38 21.8	-0.7
NNA	Nana	4.29	214		Pn	04 38 27.8	+2.5
NNA				Sn	Sn	04 39 15.9	-0.2
TBTG	Tabatinga, AM	6.13	47	Pn	Pn	04 38 48.7	-0.5
BOSC	San Juan Bosco	6.60	322		Pn	04 38 52.5	-3.0
MCRA	Macar, Loja	6.80	306	Pn	Pn	04 38 55.7	-2.4
COHC	Cochancay	7.61	320	Pn	Pn	04 39 08.8	+0.2
CHSH	Refugio Sur-Vo	8.16	327	Pn	Pn	04 39 16.7	+0.2
ETMB	Extrema	8.23	101	Pn	Pn	04 39 15.6	-1.2
SLOR	San Lorenzo -	8.63	332		Pn	04 39 22.2	-0.4
SALI	Salinas	8.99	313	Pn	Pn	04 39 26.3	-0.5
OTAV	Otavalo	9.47	335	Pn	Pn	04 39 34.6	+1.0
TULM	Tulcn-Chalpat	9.65	339		Pn	04 39 35.6	-0.4
LPAZ	La Paz	9.96	143		Pn	04 39 39.8	-0.4
SAML	Samuel	11.12	94	Pn	Pn	04 39 52.9	-1.9
MACA	Manacapuru-AM	14.62	70	Pn	Pn	04 40 36.7	-2.4
BOAV	Boa Vista	17.52	53	Pn	Pn	04 41 13.5	-0.7
ROC1	El Roble	24.66	173	P	P	04 42 24.6	-0.7
ITAB	Concordia	28.22	134	P	P	04 42 59.0	+2.1
ITAB				IAmb	IAmb	04 43 06.4	
	comp=Z,4.7nm,1.0s						
656A	Willston	38.35	349	P	P	04 44 23.8	-0.5
656A				IAmb	IAmb	04 44 25.2	
	comp=Z,3.2nm,0.6s						
APMT	Aspermont	48.15	331	P	P	04 45 41.8	-1.1
APMT				IAmb	IAmb	04 45 45.7	
	comp=Z,3.9nm,0.7s						

*IDC **03** 05:02:12.1±3.3, 30°.38N×57°.49E, h0km, mb3.4/5, mbtmp3.4/5, MS3.1/2, Error ellipse: s-maj=86.6km s-min=27.5km az=152.0*
*TEH **03** 05:02:13.0, 30°.74N×57°.39E, h8km±42km, ML3.6*
ISC 03 05:02:15.8±0.8, 30°.71N±0°.04×57°.37E±0°.04, h15km, n30, σ0s.94/30, mb3.3/5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.76	290	Pg	Pg	05 02 28.9	-1.7
KHGB	Koh Gabri	0.84	247	Pg	Pb	05 02 30.8	-1.4
CHMN	Cheshme madani	0.86	170	Pg	Pg	05 02 31.4	-1.1
CHMN				Sg	Sg	05 02 44.2	+0.3
TVBK	TV Kerman	0.89	216	Pg	Pb	05 02 32.8	-0.4
NGRK	Negar Kerman	1.20	208	Pg	Pn	05 02 38.3	-0.1
NGRK				Sg	Sn	05 02 55.6	+1.1
IBAF	Bafgh	1.78	300	Pg	Pn	05 02 47.1	+1.0
KBAM	BAM	1.83	149	Pn	Pb	05 02 48.2	-0.8
BSRN	Basiran	1.96	50	Pn	Pn	05 02 48.8	+0.3
IKOO	Kooshah	2.21	39	Pn	Pn	05 02 52.3	+0.2
TPRV	Parvadeh(Tabas	2.38	346	Pn	Pn	05 02 55.0	+0.6
NHDN	Nehbandan	2.40	73	Pn	Pn	05 02 55.9	+1.3
IMEH	Mehriz	2.46	287	Pn	Pn	05 02 57.0	+1.4
ITEG	Tejag	2.48	28	Pn	Pn	05 02 55.8	+0.1
TKDS	Koohdasht(Taba	2.90	356	Pn	Pn	05 03 01.8	+0.2
IDAH	Dahanechah	2.94	46	Pn	Pn	05 03 02.6	+0.5
ICHK	Chekchek	2.96	302	Pn	Pn	05 03 03.7	+1.3
AFRZ	Afriz	3.05	27	Pn	Pn	05 03 03.5	0.0
TNSJ	Nastanj	3.31	349	Pn	Pn	05 03 06.9	-0.2
ISAD	Sadrabad	3.37	292	Pn	Pn	05 03 09.4	+1.3
SHRT	Shahrakht	3.83	39	Pn	Pn	05 03 14.8	+0.4
ANAR	Anarak	3.96	310	Pn	Pn	05 03 16.6	+0.4
IZEF	Zefreh	4.81	298	Pn	Pn	05 03 29.0	+1.0
IAKL	Akhelmad	5.99	11	Pn	Pn	05 03 44.9	+0.7
BRTR	Keskin Array B	21.32	301	P	P	05 07 03.6	+1.3
	0.5nm,0.7s,baz=118,slow=12,SNR=5.1						
	0.5nm,0.7s						
BVAR	Borovoye Array	24.24	19	P	P	05 07 33.0	+1.1
	0.3nm,0.4s,baz=206,slow=9.6,SNR=2.1						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	25.40	32	P	P	05 07 43.2	+0.7
	0.3nm,0.4s,baz=231,slow=8.5,SNR=2.5						
	0.3nm,0.4s						
ZALV	Zalesovo Beam	30.50	32	P	P	05 08 28.6	+0.6
	0.6nm,0.4s,baz=245,slow=9.4,SNR=2.6						
	0.6nm,0.4s						
KMBO	Kilima Mbogo	37.00	215	LR	LR	05 26 39.5	
	comp=Z,19nm,19.5s,baz=84,slow=40						
TORD	Torodi Ar. Bea	53.99	264	P	P	05 11 38.7	-0.8
	0.7nm,0.8s,baz=55,slow=8.2,SNR=4.4						
	0.7nm,0.8s						
USRK	Ussuriysk Ar.	58.84	54	LR	LR	05 41 39.6	
	comp=Z,28nm,20.1s,baz=356,slow=40						

*IDC **03** 05:04:07.1±7.9, 7°.41S×127°.97E, h139km±83km, mb3.0/2, mbtmp3.6/5, Error ellipse: s-maj=75.6km s-min=27.4km az=35.0*
*DJA **03** 05:04:09.2±0.4, 8°S±7°×12°8E±°, h117km±16km, M4.0/6, mb3.7/4, MLv4.2/6*
ISC 03 05:04:07.7±1.0, 7°.72S±0°.08×128°.12E±0°.08, h142km, n10, σ2s.39/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	3.16	95	P	Pn	05 04 57.9	+1.1
SOEI	Soe	4.31	242	P	Pn	05 05 11.9	0.0
BATI	Baumata	5.05	240	P	Pn	05 05 23.7	+2.1
	23nm,0.6s,0.2nm						
BATI	Baumata	5.05	240	P	Pn	05 05 22.6	+1.0
	22nm,0.3s,baz=63,slow=6.2,SNR=9.0						
BATI				S	Sn	05 06 19.4	+0.1
	35nm,0.3s,baz=117,slow=17,SNR=9.3						
FAKI	Fak Fak	6.29	41	P	Pn	05 05 39.4	+1.1
	13nm,1.3s,0.1nm						
EDFI	Ende, Flores	6.44	260	P	Pn	05 05 40.9	+0.5
	5.3nm,0.9s,0.0nm						
WRA	Warramunga Arr	13.57	154	P	Pn	05 07 16.4	+1.9
	0.8nm,0.7s,baz=328,slow=13,SNR=21						
WRA				S	Sn	05 09 41.6	-3.0
	2.8nm,0.4s,baz=331,slow=21,SNR=14						
ASAR	Alice Springs	16.80	161	P	Pn	05 07 59.2	+4.5
	1.6nm,0.6s,baz=344,slow=12,SNR=35						
ASAR				S	S	05 10 59.9	-2.3
	0.4nm,0.5s,baz=329,slow=22,SNR=6.4						
MKAR	Makanchi Array	67.82	328	P	P	05 14 47.8	-2.6
	0.2nm,0.5s,baz=136,slow=8.1,SNR=2.0						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	72.16	329	P	P	05 15 14.6	-2.2
	0.2nm,0.6s,baz=140,slow=5.6,SNR=2.7						
	0.2nm,0.6s						

*ISK **03** 05:22:01.3, 34°.58N×23°.72E, h28km, ML3.7/10*
*ATH **03** 05:22:03.0, 34°.66N×23°.66E, h26km±1km, ML3.7/8, Error ellipse: s-maj=2.9km s-min=1.3km az=198.0*
*THE **03** 05:22:03.9, 34°.68N×23°.69E, h18km, ML3.7/7, Error ellipse: s-maj=1.2km s-min=0.7km az=198.0*
*IDC **03** 05:22:05.8±1.6, 34°.88N×23°.70E, h62km±12km, mb3.8/14, mbtmp4.0/19, MS2.7/4, Error ellipse: s-maj=21.9km s-min=14.8km az=171.0*
*AFAD **03** 05:22:13.0±0.0, 35°.04N×24°.48E, h33km, ML3.3*
ISC 03 05:22:02.4±0.7, 34°.66N±0°.06×23°.72E±0°.04, h33km, n142, σ1s.81/163, mb4.0/14, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.35	60	Pg	Pb	05 22 10.9	+0.1
GVD				Sg	Sb	05 22 17.6	+1.0
GVD	Gavdhos	0.35	60	P	Pb	05 22 11.4	+0.6
GVD				S	Sb	05 22 17.1	+0.5
	50µm,0.3s						
GVD	Gavdhos	0.35	60	P	Pb	05 22 11.5	+0.6
GVD				S	Sb	05 22 17.4	+0.8
GVD				AML	AML	05 22 18.2	
GVD				AML	AML	05 22 19.2	
	comp=E,68489µm,0.3s						
GVDS	Gavdos	0.36	59	Pg	Pb	05 22 10.6	-0.3
GVDS				Sg	Sb	05 22 17.1	+0.4
GVDS	Gavdos	0.36	59	P	Pb	05 22 11.1	+0.2
GVDS				S	Sb	05 22 16.9	+0.2
	comp=E,40µm,0.3s						
IMMV	Iera Moni Meta	0.83	15	Pg	Pn	05 22 18.3	+0.6
IMMV				Sg	Sb	05 22 31.1	+1.9
IMMV	Iera Moni Meta	0.83	15	P	Pn	05 22 18.4	+0.7
IMMV				S	Sn	05 22 30.3	+1.5
	comp=E,11µm,0.4s						
IMMV	Iera Moni Meta	0.83	15	P	Pn	05 22 17.9	+0.2
IMMV				S	Sn	05 22 29.7	+1.0
IMMV				AML	AML	05 22 31.3	
	comp=N,21449µm,0.5s						
IMMV				AML	AML	05 22 32.3	
	comp=E,20970µm,0.4s						
CHAN	Chania	0.90	17	P	Pn	05 22 19.6	+1.0
CHAN				S	Sn	05 22 31.9	+1.5
CHAN				AML	AML	05 22 33.4	
	comp=N,13670µm,0.7s						
CHAN				AML	AML	05 22 37.7	
	comp=E,20954µm,0.5s						
RODP	Rodopos	0.90	2	Pg	Pn	05 22 19.7	+1.0
RODP				Sg	Sb	05 22 33.0	+1.8
RODP	Rodopos	0.90	2	P	Pn	05 22 19.9	+1.2
RODP				S	Sb	05 22 32.8	+1.6
	comp=E,1µm,0.4s						
PRNS	Prines Rethymn	0.95	42	P	Pn	05 22 19.7	+0.3
PRNS				S	Sn	05 22 33.1	+1.2
	comp=E,2µm,0.6s						
TMBK	Timbaki Herakl	0.95	64	P	Pn	05 22 21.2	+1.7
TMBK				S	Sb	05 22 35.1	+2.3
TMBK	Timbaki Herakl	0.95	64	P	Pn	05 22 21.0	+1.6
IDI	Anoyia	1.15	57	Pn	Pn	05 22 22.9	+0.7
IDI				Sn	Sn	05 22 38.2	+1.4
IDI	Anoyia	1.15	57	P	Pn	05 22 23.6	+1.4
IDI				S	Sn	05 22 39.5	+2.7
	comp=E,1µm,0.5s						
IDI	Anoyia	1.15	57	P	Pn	05 22 23.4	+1.2
	comp=E,207nm,0.4s,baz=239,slow=9.5,SNR=466						
IDI				S	Sn	05 22 39.2	+2.4
	comp=E,377nm,0.3s,baz=28,slow=21,SNR=15						
IDI				LR	LR	05 23 08.7	
	comp=E,182nm,20.9s,baz=280,slow=60						
IDI	Anoyia	1.15	57	P	Pn	05 22 22.3	+0.1
IDI				AML	AML	05 22 43.1	
	comp=N,2614µm,0.7s						
IDI				AML	AML	05 22 44.9	
	comp=E,2367µm,0.4s						
ANKY	Antikythira Is	1.25	344	P	Pn	05 22 25.6	+2.1
ANKY	Antikythira Is	1.25	344	P	Pn	05 22 25.3	+1.7
ANKY				AML	AML	05 22 47.7	
	comp=E,2715µm,0.9s						
ANKY				AML	AML	05 22 53.3	
	comp=N,3220µm,0.5s						
KSTL	Kastelli Herak	1.28	60	P	Pb	05 22 28.5	+2.5
KSTL	Kastelli Herak	1.28	60	P	Pb	05 22 27.6	+1.6
KSTL				AML	AML	05 22 58.9	
	comp=N,2628µm,0.4s						
KSTL				AML	AML	05 22 59.0	
	comp=E,1148µm,0.4s						
IACM	Heraklion	1.28	60	P	Pn	05 22 26.4	+2.5
IACM				S	Sb	05 22 43.4	+1.2
	comp=E,8µm,0.8s						
IACM	Heraklion	1.28	60	P	Pn	05 22 26.5	+2.5
HRKL	Herakleio	1.31	60	Pn	Pn	05 22 24.9	+0.6
HRKL	Herakleio	1.31	60	P	Pn	05 22 26.9	+2.6
HRKL	Herakleio	1.31	60	P	Pn	05 22 26.4	+2.0
FRMA	Ierapetra Chan	1.70	77	P	Pn	05 22 33.4	+3.8
MNVA	Monemvasia	2.10	345	P	Pn	05 22 37.2	+2.0
MHLO	Agia Marina, M	2.10	15	P	Pn	05 22 35.0	-0.2
MHLO	Agia Marina, M	2.10	15	P	Pn	05 22 35.3	+0.1
MHLO				AML	AML	05 23 14.1	
	comp=E,3888µm,0.7s						
MHLO				AML	AML	05 23 18.3	
	comp=N,4125µm,0.6s						
ZKR	Zakros	2.10	77	Pn	Pn	05 22 35.8	+0.5
ZKR	Zakros	2.10	77	P	Pn	05 22 37.9	+2.6
ZKR	Zakros	2.10	77	P	Pn	05 22 37.6	+2.3
ZKR				AML	AML	05 23 20.5	
	comp=E,756µm,0.7s						
ZKR				AML	AML	05 23 31.9	
	comp=N,346µm,0.8s						
SNT5	Nea Kammeni, S	2.21	38	P	Pn	05 22 37.4	+0.6
SANT	Santorini	2.22	39	Pn	Pn	05 22 37.5	+0.6
SANT	Santorini	2.22	39	P	Pn	05 22 37.3	+0.4
CMBO	Columbo, Santo	2.27	37	P	Pn	05 22 38.3	+0.8
PYL	PYLOS	2.75	325	P	Pn	05 22 46.0	+1.9
PYL	PYLOS	2.75	325	P	Pn	05 22 44.7	+0.5
KRND	KRANIDI	2.75	351	P	Pn	05 22 45.9	+1.7
APE	Apeiranthos	2.82	31	Pn	Pn	05 22 45.1	0.0
APE	Apeiranthos	2.82	31	P	Pn	05 22 45.2	+0.1
APE	Apeiranthos	2.82	31	P	Pn	05 22 44.9	-0.3
KARP	Karpathos	2.96	72	Pn	Pn	05 22 47.8	+0.7
KARP	Karpathos	2.96	72	P	Pn	05 22 48.9	+1.8
KARP	Karpathos	2.96	72	P	Pn	05 22 48.6	+1.5
EPID	Epidavros	2.99	351	P	Pn	05 22 48.8	+1.4
EPID	Epidavros	2.99	351	P	Pn	05 22 48.6	+1.1
VLY	Voula,Athens	3.18	1	P	Pn	05 22 50.3	+0.1
VLY	Voula,Athens	3.18	1	P	Pn	05 22 50.2	+0.1
ATHU	Athens Univers	3.30	1	P	Pn	05 22 51.7	0.0
LOUT	Loutraki	3.37	350	P	Pn	05 22 53.7	+0.9
LOUT	Loutraki	3.37	350	P	Pn	05 22 53.7	+0.9
PTL	Penteli	3.38	2	P	Pn	05 22 54.3	+1.4
PTL	Penteli	3.38	2	P	Pn	05 22 54.2	+1.4
LTK	Loutraki	3.41	350	P	Pn	05 22 54.1	+0.9
DION	Dionisos Attik	3.41	3	P	Pn	05 22 54.8	+1.5
DION	Dionisos Attik	3.41	3	P	Pn	05 22 54.8	+1.5
GUR	Goura	3.45	342	P	Pn	05 22 55.9	+2.0
THAL	Thalero	3.47	346	P	Pn	05 22 55.4	+1.3
THAL	Thalero	3.47	346	P	Pn	05 22 54.9	+0.8
VILL	Villia	3.51	355	P	Pn	05 22 55.2	+0.5
VIL2	Platees	3.56	354	P	Pn	05 22 55.1	-0.2
KLV	Kalavryta, Ach	3.60	340	P	Pn	05 22 57.9	+2.0
DAT	Datca	3.76	56	P	Pn	05 22 57.7	-0.4
LAKA	Lakka	3.84	339	P	Pn	05 22 59.6	+0.5
RLS	Riolos of Patr	3.84	332	P	Pn	05 23 01.0	+1.9
ARG	Arkhangelos	3.92	65	P	Pn	05 23 01.6	+1.4
ARG	Arkhangelos	3.92	65	P	Pn	05 23 01.5	+1.2
SMG	Samos	3.95	39	P	Pn	05 23 00.8	+0.1
KYMI	Kymi, Euboea I	3.98	4	P	Pn	05 23 02.0	+1.0
KYMI	Kymi, Euboea I	3.98	4	P	Pn	05 23 02.1	+1.0
EFP	Efpalio	4.03	339	P	Pn	05 23 03.2	+1.5
CHOS	Chios island	4.17	26	P	Pn	05 23 04.5	+0.8
CHOS	Chios island	4.17	26	P	Pn	05 23 03.9	+0.2
ANX	Ano Chora	4.18	340	P	Pn	05 23 05.6	+1.7
ANX	Ano Chora	4.18	340	P	Pn	05 23 04.9	+1.0
TURN	Turunc	4.24	59	P	Pn	05 23 03.9	-0.8
TURN				S	Sn	05 23 48.6	-4.5
TURN				i AML	AML	05 23 55.0	
	comp=N,70nm,0.3s						
KEF3	Kipouria, Keph	4.46	323	P	Pn	05 23 07.4	-0.2
KEF4	Livadi, Kephal	4.46	324	P	Pn	05 23 07.8	+0.1
AGG	Agios Georgios	4.49	346	P	Pn	05 23 09.1	+0.9
MULA	Mugla, Merkez-	4.54	54	P	Pn	05 23 10.5	+1.6
EVGI	Lefkada island	4.65	329	P	Pn	05 23 11.5	+1.2
NYDR	Nydri-Lefkada	4.71	330	P	Pn	05 23 12.8	+1.7
LKD2	Lefkada island	4.79	330	P	Pn	05 23 13.6	+1.3
IZZE	Mula-Seydike	4.83	67	P	Pn	05 23 13.0	+0.2
IZZE				S	Sn	05 24 01.1	-6.4
IZZE				i AML	AML	05 24 07.0	
	comp=N,129nm,0.3s						
IZZE				i AML	AML	05 24 08.0	
	comp=N,120nm,0.5s						
IZMR	zmir-demi	4.87	43	P	Pn	05 23 13.5	+0.2
TAVA	DENIZLI_Tavas	5.05	55	P	Pn	05 23 17.7	+1.7
THL	Klokotos Trika	5.08	345	P	Pn	05 23 16.2	0.0
CAEL	Denizli, Camel	5.17	60	P	Pn	05 23 18.5	+1.0
DNIZ	Denizli-Tavas-	5.22	54	P	Pn	05 23 19.8	+1.5
GOLH	Golhisar	5.39	60	P	Pn	05 23 20.2	-0.4
GOLH				S	Sn	05 24 14.8	-6.8
GOLH				i AML	AML	05 24 29.0	
	comp=N,30nm,0.4s						
AKUM	Antalya-Kumluc	5.65	71	P	Pn	05 23 22.7	-1.3
AKUM				S	Sn	05 24 21.7	-6.2
KORT	Korkueli	5.87	65	P	Pn	05 23 27.8	+0.6
KORT				S	Sn	05 24 26.1	-7.3
KORT				i AML	AML	05 24 35.0	
	comp=N,30nm,0.5s						
PASA	Karahalli, USA	5.93	50	P	Pn	05 23 26.9	-1.0
KEK	Kerkira	5.93	329	P	Pn	05 23 28.0	+0.1
KZIL	AFYON_Kizioren	6.30	53	P	Pn	05 23 28.7	-4.3
OHR	Ohrid	6.84	341	i Pn	Pn	05 23 40.8	+0.4
OHR				i Sn	Sn	05 24 53.2	-3.9
SEDI	Konya, Seydise	7.08	65	P	Pn	05 23 45.1	+1.3
SEDI				S	Sn	05 24 56.9	-6.3
SEDI				i AML	AML	05 25 06.0	
	comp=N,14nm,0.5s						
SEDI				i AML	AML	05 25 06.0	
	comp=N,11nm,0.5s						
VAE	Valguarnera	8.04	293	S	Sn	05 25 22.4	-4.3
	comp=N,12nm,0.4s,baz=298,slow=17,SNR=6.0						
BRTR	Keskin Array B	9.39	55	P	Pn	05 24 15.7	+0.2
	comp=N,0.8nm,0.4s,baz=238,slow=15,SNR=7.8						
MMAI	Mount Meron Ar	9.86	96	P	Pn	05 24 21.4	-0.4
	comp=N,1.0nm,0.3s,baz=306,slow=12,SNR=2.7						
MMAI				S	Sn	05 26 04.2	-7.2
	comp=N,1.0nm,0.3s,baz=259,slow=20,SNR=2.5						
EIL	Elat	10.74	115	P	Pn	05 24 35.5	+1.6
	comp=N,1.5nm,0.5s,baz=311,slow=6.4,SNR=1.6						
EIL				S	Sn	05 26 24.8	-8.2
	comp=N,2.8nm,0.3s,baz=342,slow=16,SNR=6.2						
MLR	Muntele Rosu	10.95	8	P	Pn	05 24 37.0	+0.2
	comp=N,1.1nm,0.7s,baz=150,slow=8.1,SNR=1.9						
RONA	Rosalia, Austr	14.16	339	i P	P	05 25 30.1	+2.4
	comp=N,0.9nm,0.3s						
CONA	Conrad Observa	14.50	338	i P	P	05 25 35.4	+4.0
	comp=N,0.8nm,0.5s						
ABTA	Abfaltersbach	14.74	328	i P	P	05 25 35.7	+1.5
	comp=N,4.3nm,0.7s						
MOA	Molln	14.95	335	i P	P	05 25 37.4	+1.0

	comp=N,1.6nm,0.3s						
BIOA	Bad Ischl, Aus	15.05	333	eP	P	05 25 38.1	+0.6
	comp=N,1.4nm,0.4s						
LESA	Schwarzleotal	15.21	330	i P	P	05 25 41.1	+1.7
	comp=N,13nm,0.4s						
WTTA	Wattenberg	15.52	328	i P	P	05 25 45.9	+2.9
	comp=N,2.8nm,0.7s						
VRAC	Vranov	15.55	342	P	Pn	05 25 40.2	+1.1
	comp=N,2.7nm,0.6s,baz=190,slow=6.1,SNR=3.7						
WATA	Walderalm	15.60	328	i P	P	05 25 45.8	+2.0
	comp=N,0.7nm,0.3s						
SQTA	Sankt Quirin	15.68	327	i P	P	05 25 46.6	+2.0
	comp=N,2.8nm,0.5s						
FETA	Feichten	15.75	326	i P	P	05 25 48.0	+2.5
	comp=N,1.4nm,0.4s						
CKRC	Cesky Krumlov	15.77	337	eP	P	05 25 46.2	+0.7
GERES	GERESS Array B	16.00	335	P	P	05 25 49.0	+0.8
	comp=N,2.0nm,0.5s,baz=148,slow=12,SNR=14						
KRLC	Kraliky	16.22	344	eP	Pn	05 25 50.0	+2.3
KHC	Kasperske Hory	16.29	336	eP	P	05 25 52.3	+1.1
ZVC	Zvikov	16.35	337	eP	P	05 25 52.4	+0.5
AKASG	Malin Array Be	16.52	12	P	Pn	05 25 49.3	-2.2
	comp=N,0.3nm,0.3s,baz=206,slow=10,SNR=8.1						
AKASG				LR	LR	05 33 40.5	
	comp=N,31nm,18.4s,baz=228,slow=43						
DPC	Dobruska-Polom	16.58	343	eP	Pn	05 25 53.3	+1.0
PRU	Pruhonice	16.73	339	eP	Pn	05 25 55.3	+1.2
UPC	Upice	16.80	343	eP	Pn	05 25 57.5	+2.5
PRA	Prague	16.83	339	eP	Pn	05 25 57.1	+1.7
KBZ	Khabaz	17.38	53	P	Pn	05 26 04.3	+2.1
	comp=N,2.0nm,0.6s,baz=250,slow=6.3,SNR=5.8						
KBZ				LR	LR	05 33 19.5	
	comp=N,23nm,21.6s,baz=284,slow=39						
GNI	Garni	17.57	66	LR	LR	05 34 08.0	
	comp=N,44nm,18.7s,baz=276,slow=41						
ESDC	Sonseca Array	22.57	291	P	P	05 27 01.2	+1.3
	comp=N,0.6nm,0.9s,baz=85,slow=9.5,SNR=2.0						
	comp=N,0.6nm,0.9s						
HFS	Hagfors	26.31	349	P	P	05 27 33.1	-1.7
	comp=N,4.7nm,0.5s,baz=158,slow=11,SNR=38						
	comp=N,4.7nm,0.5s						
FINES	FINESS Array B	26.84	3	P	P	05 27 37.2	-2.3
	comp=N,2.6nm,0.7s,baz=174,slow=10,SNR=10						
	comp=N,2.6nm,0.7s						
NOA	NORSAR Array B	27.59	347	P	P	05 27 45.1	-1.3
	comp=N,1.1nm,0.6s,baz=152,slow=9.1,SNR=10						
NOA				LR	LR	05 40 15.4	
	comp=N,12nm,20.4s,baz=5.0,slow=40						
	comp=N,1.1nm,0.6s						
EKA	Eskdalemuir Ar	27.78	326	P	P	05 27 46.6	-1.4
	comp=N,0.8nm,0.5s,baz=133,slow=7.0,SNR=8.3						
	comp=N,0.8nm,0.5s						
TORD	Torodi Ar. Bea	29.27	228	P	P	05 28 03.2	+1.6
	comp=N,1.0nm,0.6s,baz=35,slow=9.0,SNR=9.4						
	comp=N,1.0nm,0.6s						
ARCES	ARCESS Array B	34.94	1	P	P	05 28 49.0	-1.8
	comp=N,1.5nm,0.5s,baz=181,slow=8.5,SNR=9.6						
	comp=N,1.5nm,0.5s						
BVAR	Borovoye Array	37.55	46	P	P	05 29 12.7	-0.6
	comp=N,1.3nm,0.8s,baz=282,slow=7.2,SNR=6.1						
	comp=N,1.3nm,0.8s						
KURBB	Kurchatov Arra	42.35	51	P	P	05 29 52.4	-0.8
	comp=N,1.4nm,0.4s,baz=273,slow=8.7,SNR=15						
	comp=N,1.4nm,0.4s						
SPITS	Spitsbergen Ar	43.73	358	P	P	05 30 03.3	-0.7
	comp=N,9.1nm,1.0s,baz=153,slow=11,SNR=1.1						
	comp=N,9.1nm,1.0s						
MKAR	Makanchi Array	45.04	56	P	P	05 30 14.5	-0.3
	comp=N,3.4nm,0.4s,baz=269,slow=7.6,SNR=73						
	comp=N,3.4nm,0.4s						
ZALV	Zalesovo Beam	46.20	46	P	P	05 30 22.4	-1.5
	comp=N,1.4nm,0.4s,baz=275,slow=8.2,SNR=11						
	comp=N,1.4nm,0.4s						
SONM	Songino Array	60.72	50	P	P	05 32 10.2	-0.5
	comp=N,0.4nm,0.5s,baz=282,slow=6.9,SNR=3.0						
	comp=N,0.4nm,0.5s						
SCHQ	Schefferville	62.79	319	P	P	05 32 23.8	-0.6
	comp=N,0.9nm,0.5s,baz=58,slow=7.7,SNR=3.6						
	comp=N,0.9nm,0.5s						

*KRNET **03** 05:45:43.0±0.1, 40°.27N×71°.53E, h12km, mb3.0*
*ISU **03** 05:45:44.1, 40°.24N×71°.51E, h15km*
*NNC **03** 05:45:49.7±3.6, 40°.54N×71°.68E, h16km±27km, mb3.4, mpv3.1, Error ellipse: s-maj=30.0km s-min=14.5km az=176.0*
*SOME **03** 05:45:49.0, 40°.55N×71°.63E, h5km*
ISC 03 05:45:44.1±0.8**, 40°.23N**±0°.03×**71°.59E**±0°.02**, h15**km±5km**,**
n48, σ**2.01s**/75**, 33C-11D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMI	Chimion	0.06	302	P	Pg	05 45 46.8	-0.4
CHMI				P	Pg	05 45 46.8	-0.4
CHMI				S	Sg	05 45 49.1	-0.1
CHMI				S	Sg	05 45 49.1	-0.1
FRG	Fergana	0.20	46	P	Pb	05 45 49.2	-0.3
FRG				S	Sg	05 45 53.5	+1.5
MINT	Mingtut	0.53	296	S	Sb	05 46 01.3	-1.2
BTK	Batken	0.62	254	⇑iP	Pb	05 45 54.4	-2.3
	baz=49						
BTK				⇑iS	Sb	05 46 02.3	-2.9
	baz=49						
NAM	Namangan	0.76	4	S	Sg	05 46 09.8	+0.9
TSTA	Tashata	0.76	63	P	Pb	05 45 59.0	0.0
TSTA				S	Sn	05 46 10.6	-0.9
DRK	Karamyk	0.77	168	⇑eP	Pb	05 45 58.4	-1.0
	baz=65						
DRK				⇑eS	Sb	05 46 09.6	-0.1
	baz=65						
ANR	Andizhan	0.78	48	S	Sn	05 46 12.5	+0.4
OHH	Osh	0.95	72	⇑iP	Pb	05 46 01.8	-0.6
	baz=75						
OHH				⇑iS	Sg	05 46 15.5	+0.3
	baz=75						
TRKS	Terek-Say	1.34	345	⇑iP	Pn	05 46 06.3	-2.1
	baz=47						
TRKS				⇑iS	Sn	05 46 23.1	-2.9
	baz=47						
SFK	Sufi-Kurgan	1.48	98	⇑iP	Pb	05 46 11.9	+0.4
	baz=99						
SFK				⇑iS	Sg	05 46 32.8	+0.9
	baz=99						
ARSB	Arslanbob	1.52	44	⇑iP	Pb	05 46 11.4	-0.6
	baz=46						
ARSB				⇑iS	Sg	05 46 32.3	-0.7
	baz=46						
ARK	Arkit	1.59	10	⇑iP	Pn	05 46 12.1	+0.3
	baz=12						
ARK				⇑iS	Sb	05 46 33.4	+0.3
	baz=12						
CHMG	Chimgan	1.78	318	P	Pn	05 46 15.4	+1.0
CHMG				S	Sb	05 46 38.7	0.0
YBZ	Yangibazar	1.86	306	P	Pb	05 46 17.1	-0.7
YBZ				S	Sb	05 46 41.3	+0.4
CHRV	Charvak	1.88	319	P	Pn	05 46 16.8	+1.1
CHRV				S	Sb	05 46 41.3	-0.1
TGS	TashGRES	1.97	308	P	Pb	05 46 20.6	+0.9
KUMR	Kumaryk	2.04	300	P	Sb	05 46 46.8	+0.9
TAS	Tashkent	2.06	303	P	Sb	05 46 48.0	+1.5
AML	Almayashu	2.47	39	⇑iP	Pb	05 46 26.4	-2.0
	baz=41						
AML				⇑iS	Sb	05 46 58.1	-0.7
	baz=41						
AML	Almayashu	2.47	39	⇑Pg	Pb	05 46 28.2	-0.2
AML				⇓Lg	Lg	05 47 02.0	
	6.6nm,0.9s						
ARLS	Aral	2.63	51	⇓iP	Pb	05 46 28.5	-2.5
	baz=52						
ARLS				⇓iS	Sb	05 47 01.5	-1.6
	baz=52						
MRKS	Merke	2.79	26	ePg	Pg	05 46 36.1	-1.5
	5.9nm,0.5s						
MRKS				eLg	Lg	05 47 09.8	
	31nm,0.6s						
MRKS	Merke	2.79	26	Pg	Pg	05 46 36.1	-1.5
	5.9nm,0.5s						
MRKS				Lg	Lg	05 47 10.7	
	31nm,0.6s						
EKS2	Erkin-Say	2.93	33	⇓iP	Pn	05 46 32.3	+2.1
	baz=34						
EKS2				⇓iS	Sb	05 47 08.2	-3.5
	baz=34						
UCH	Uchtor	2.97	47	⇑iP	Pn	05 46 33.4	+2.3
	baz=48						
UCH				⇑eS	Sb	05 47 10.2	-3.0
	baz=48						
KK31	Karatay Array	2.98	345	⇑Pg	Pb	05 46 37.3	+0.4
	1.8nm,0.3s,baz=165,slow=17,SNR=17						
KK31				⇑Lg	Lg	05 47 16.7	
	9.6nm,0.5s,baz=154,slow=29,SNR=6.3						
KKAR	Karatay Array	2.98	345	⇑iP	Pn	05 46 32.4	+1.6
	baz=45						
KKAR				⇑iS	Sn	05 47 08.5	+2.2
	baz=45						
AAK	Ala-Archa	3.24	41	⇓iP	Pn	05 46 37.1	+2.5
	baz=42						
AAK				⇓iS	Sn	05 47 16.4	+3.4
	baz=42						
KZA	Kyzart	3.32	55	⇑eP	Pn	05 46 38.4	+2.6
	baz=56						
KZA				⇑iS	Sb	05 47 18.8	-4.4
	baz=56						
KBK	Karagaybulak	3.49	45	⇑iP	Pn	05 46 40.7	+2.7
	baz=46						
KBK				⇑iS	Sn	05 47 22.6	+3.4
	baz=46						
CHMS	Chumysh	3.64	40	⇓iP	Pn	05 46 42.2	+2.3
	baz=40						
CHMS				⇓iS	Sn	05 47 25.7	+3.2
	baz=40						
USP	Ospenovka	3.73	35	⇑iP	Pn	05 46 43.3	+2.2
	baz=36						
USP				⇑iS	Sn	05 47 27.5	+2.7
	baz=36						
BOOM	Boomskoye usch	3.97	54	⇓iP	Pn	05 46 47.5	+2.9
	baz=55						
BOOM				⇓iS	Sn	05 47 34.3	+3.3
	baz=55						
TKM2	Tokmak 2	4.03	47	⇑iP	Pn	05 46 48.0	+2.6
	baz=48						
TKM2				⇑iS	Sn	05 47 35.3	+2.9
	baz=48						
TKM2	Tokmak 2	4.03	47	⇑Pn	Pn	05 46 47.4	+2.0
	1.0nm,0.3s						
TKM2				⇑Lg	Lg	05 47 50.1	
	7.0nm,0.8s						
KST	Kastek	4.31	48	ePg	Pg	05 47 05.0	-1.7
	2.9nm,0.6s						
KST				eLg	Lg	05 47 59.9	
	8.4nm,1.0s						
KST	Kastek	4.31	48	Pg	Pg	05 47 05.0	-1.7
	2.9nm,0.6s						
KST				Lg	Lg	05 47 59.9	
	8.4nm,1.0s						
DGS	Degeres	4.34	45	ePg	Pg	05 47 05.1	-2.0
	1.9nm,0.6s						
DGS				eLg	Lg	05 47 59.8	
	8.9nm,0.8s						
DGS	Degeres	4.34	45	Pg	Pg	05 47 05.1	-2.0
	1.9nm,0.6s						
DGS				Lg	Lg	05 48 00.8	
	8.9nm,0.8s						
KRBS	Karabastau	4.61	40	ePg	Pg	05 47 10.0	-2.3
	1.1nm,0.3s						
KRBS				eLg	Lg	05 48 08.2	
	4.5nm,0.4s						
KRBS	Karabastau	4.61	40	Pg	Pg	05 47 10.8	-1.5
	0.9nm,0.6s						
KRBS				Lg	Lg	05 48 09.8	
	4.0nm,0.6s						
MTBS	Maitube	4.63	50	ePg	Pg	05 47 11.0	-1.9
	2.1nm,0.4s						
MTBS				eLg	Lg	05 48 10.1	
	4.1nm,0.5s						
MTBS	Maitube	4.63	50	Pg	Pg	05 47 11.0	-1.9
	2.1nm,0.4s						
MTBS				Lg	Lg	05 48 10.1	
	4.1nm,0.5s						
KUU	Kurty	5.08	42	ePg	Pg	05 47 18.7	-2.7
	1.2nm,0.1s						
KUU				eLg	Lg	05 48 23.4	
	5.7nm,0.9s						
KUU	Kurty	5.08	42	Pg	Pg	05 47 18.7	-2.7
	1.2nm,0.1s						
KUU				Lg	Lg	05 48 23.3	
	5.7nm,0.9s						
KTBS	Karatobe	5.14	46	ePg	Pg	05 47 19.9	-2.7
	1.1nm,0.5s						
KTBS				eLg	Lg	05 48 25.1	
	14nm,0.5s						
KTBS	Karatobe	5.14	46	Pg	Pg	05 47 19.5	-3.0
	1.1nm,0.4s						
KTBS				Lg	Lg	05 48 25.8	
	5.8nm,0.5s						

*IDC **03** 05:53:13.9±0.8, 45°.62S×12°.51W, h0km, mb4.2/8, mbtmp4.2/8, MS3.6/25, Error ellipse: s-maj=29.1km s-min=19.0km az=67.0*
*NEIC **03** 05:53:15.6±1.0, 45°.8S±0°.1×12°.5W±0°.2, h10km±1km, mb4.7/42, Error ellipse: s-maj=21.0km s-min=20.4km az=4.0*
ISC 03 05:53:15.1±0.5**, 45°.71S**±0°.10×**12°.47W**±0°.10**, h10**km**, n85,**
σ**0.71s**/64**, mb4.6**/28**, MS3.6**/25**, 4D, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	Neumayer--Watz	25.41	176	⇓P	P	05 58 42.5	+0.2
	baz=349,slow=11						
VNA3	Neumayer Olymp	25.64	178	⇓P	P	05 58 44.4	-0.1
SNAA	Sanae	26.45	173	P	P	05 58 51.5	-0.3
SNAA	Sanae	26.45	173	⇓P	P	05 58 52.3	+0.5
SNAA	Sanae	26.45	173	P	P	05 58 54.4	+2.7
	4.8nm,1.2s,baz=348,slow=11,SNR=7.1						
SNAA				PcP	PcP	06 02 16.1	-0.4
	0.7nm,0.6s,baz=270,slow=2.2,SNR=2.7						
SNAA				LR	LR	06 06 34.6	
	comp=Z,39nm,19.3s,baz=356,slow=30						
	4.8nm,1.2s						
TROLL	Troll, Antarti	27.32	170	⇓P	P	05 58 59.6	-0.1
	comp=Z,347nm,0.7s						
SUR	Sutherland	28.85	74	P	P	05 59 13.5	-0.3
SUR	Sutherland	28.85	74	LR	LR	06 08 10.7	
	comp=Z,159nm,20.1s,baz=219,slow=31						
BELA	Belgrano 2	33.44	188	P	P	05 59 53.7	+0.1
BELA				IAmb	IAmb	06 00 09.6	
	comp=Z,8.9nm,0.6s						
PMSA	Palmer Station	33.77	217	P	P	05 59 55.0	-1.6
BOSA	Boshof	34.19	73	P	P	05 59 59.5	-1.3
BOSA				IAmb	IAmb	06 00 03.1	
	comp=Z,11nm,1.2s						
BOSA	Boshof	34.19	73	LR	LR	06 11 16.6	
	comp=Z,120nm,20.4s,baz=212,slow=32						
PLTB	Pedras Altas	34.58	279	P	P	06 00 03.8	-0.2
PLTB				IAmb	IAmb	06 00 06.5	
	comp=Z,15nm,1.2s						
TSUM	Tsumeb	36.25	53	LR	LR	06 12 13.5	
	comp=Z,50nm,18.8s,baz=190,slow=32						
H10S2	ASCENSION HYDR	36.66	356	T	T	06 39 25.5	
	baz=177,slow=74,SNR=5.2						
H10S3	ASCENSION HYDR	36.67	356	T	T	06 39 26.0	
	baz=43,slow=74,SNR=11						
LBTB	Lobatse	36.82	69	LR	LR	06 12 53.4	
	comp=Z,72nm,18.6s,baz=216,slow=32						
TRQA	Tornquist	37.14	264	P	P	06 00 26.3	+0.4
TRQA				IAmb	IAmb	06 00 27.1	
	comp=Z,8.1nm,0.9s						
ITQB	Itaqui	37.91	279	P	P	06 00 32.5	0.0
ITQB				IAmb	IAmb	06 00 34.5	
	comp=Z,22nm,1.1s						
MG04	Isla Riesco	38.23	237	P	P	06 00 34.7	-0.1
CPUP	Villa Florida	40.49	283	P	P	06 00 53.5	-0.5
CPUP	Villa Florida	40.49	283	P	P	06 00 54.3	+0.2
	comp=Z,3.3nm,0.9s,baz=130,slow=6.5,SNR=5.1						
CPUP				PcP	PcP	06 02 56.0	-0.6
	comp=Z,1.4nm,0.8s,baz=196,slow=4.0,SNR=2.3						
CPUP				LR	LR	06 15 22.1	
	comp=Z,47nm,18.1s,baz=157,slow=33						
	comp=Z,3.3nm,0.9s						
LL02	Futaleuf	41.62	251	P	P	06 01 02.9	-0.3
LL02				IAmb	IAmb	06 01 04.0	
	comp=Z,16nm,1.1s						
PLCA	Paso Flores	41.81	255	P	P	06 01 04.9	0.0
PLCA	Paso Flores	41.81	255	P	P	06 01 05.7	+0.8
	comp=Z,1.9nm,0.8s,baz=140,slow=11,SNR=5.2						
PLCA				PcP	PcP	06 03 00.7	-0.1
	comp=Z,2.0nm,1.1s,baz=45,slow=2.9,SNR=2.2						
PLCA				LR	LR	06 15 32.9	
	comp=Z,80nm,20.1s,baz=134,slow=32						
	comp=Z,1.9nm,0.8s						
BDFB	Brasilia	42.23	304	P	P	06 01 09.0	+0.5
BDFB	Brasilia	42.23	304	P	P	06 01 09.3	+0.8
	comp=Z,4.4nm,0.7s,baz=150,slow=6.6,SNR=8.2						
BDFB				LR	LR	06 15 33.2	
	comp=Z,109nm,19.3s,baz=307,slow=32						
	comp=Z,4.4nm,0.7s						
LL01	San Ignacio de	42.34	252	P	P	06 01 09.0	0.0
H04S2	CROZET ISLANDS	43.37	116	T	T	06 48 03.2	
	baz=248,slow=75,SNR=8.3						
MAW	Mawson	43.37	147	LR	LR	06 15 41.7	
	comp=Z,59nm,21.4s,baz=258,slow=31						
H04S3	CROZET ISLANDS	43.37	116	T	T	06 48 04.3	
	baz=248,slow=75,SNR=9.4						
AQDB	Aquidauana	43.38	291	P	P	06 01 17.6	-0.1
H04S1	CROZET ISLANDS	43.39	116	T	T	06 48 08.0	
	baz=248,slow=75,SNR=8.9						
QSPA	South Pole Qui	44.55	180	P	P	06 01 27.6	+0.8
QSPA				IAmb	IAmb	06 01 28.5	
	comp=Z,6.4nm,0.8s						
QSPA	South Pole Qui	44.55	180	P	P	06 01 27.2	+0.4
	comp=Z,5.8nm,0.8s,baz=222,slow=4.9,SNR=16						
QSPA				PcP	PcP	06 03 09.4	-0.3
	comp=Z,1.6nm,0.8s,baz=199,slow=0.3,SNR=3.3						
	comp=Z,5.8nm,0.8s						
CFA	Coronel Fontan	44.89	268	LR	LR	06 19 34.1	
	comp=Z,83nm,21.1s,baz=105,slow=35						
BO02	Sierra Bellavi	44.91	263	P	P	06 01 31.0	+1.0
BO02				IAmb	IAmb	06 01 47.4	
	comp=Z,11nm,1.1s						
ZON	Zonda	45.23	268	P	P	06 01 32.8	+0.2
BO01	Tunca	45.34	263	P	P	06 01 33.5	+0.3
BO01				IAmb	IAmb	06 01 34.1	
	comp=Z,7.9nm,0.8s						
LSZ	Lusaka	45.59	62	LR	LR	06 19 47.1	
	comp=Z,37nm,19.1s,baz=177,slow=35						
MT09	Talagante	45.60	264	P	P	06 01 35.6	+0.1
MT01	Popeta	45.74	264	P	P	06 01 36.8	+0.4
CO03	El Pedregal	47.05	267	P	P	06 01 47.5	+0.6
CO03				IAmb	IAmb	06 01 53.7	
	comp=Z,12nm,1.3s						
AC05	El Transito	47.94	270	P	P	06 01 54.8	+0.9
AC06	Mina Casimiro	48.89	271	P	P	06 02 02.0	+0.9
AC06				IAmb	IAmb	06 02 10.4	
	comp=Z,7.9nm,1.0s						
SIV	San Ignacio	50.13	290	LR	LR	06 20 47.5	
	comp=Z,100nm,21.2s,baz=109,slow=33						
LVC	Limon Verde	50.90	277	P	P	06 02 15.1	-1.8
LVC				IAmb	IAmb	06 02 23.2	
	comp=Z,15nm,1.4s						
LVC	Limon Verde	50.90	277	LR	LR	06 22 44.7	
	comp=Z,36nm,19.8s,baz=142,slow=35						
PB06	IPOC Station P	51.30	277	P	P	06 02 19.8	+0.2
PB05	IPOC Station P	51.64	276	P	P	06 02 21.3	-0.8
PB05				IAmb	IAmb	06 02 23.5	
	comp=Z,11nm,0.7s						
VILB	Vilhena	51.80	293	P	P	06 02 23.1	-0.2
VILB				IAmb	IAmb	06 02 24.9	
	comp=Z,6.3nm,0.7s						
PB01	IPOC Station P	52.34	278	P	P	06 02 28.0	+0.7
PB02	IPOC Station P	52.44	278	P	P	06 02 28.5	+0.5
DBIC	Dimbokro	52.59	10	LR	LR	06 19 30.7	
	comp=Z,33nm,20.2s,baz=136,slow=30						
PB08	IPOC Station P	52.71	279	P	P	06 02 31.4	+1.0
PB08				IAmb	IAmb	06 02 33.0	
	comp=Z,16nm,1.2s						
GO01	Chusmiza	53.06	280	P	P	06 02 33.6	+0.6
GO01				IAmb	IAmb	06 02 34.3	
	comp=Z,5.0nm,0.8s						
PB11	IPOC Station P	53.31	279	P	P	06 02 35.0	+0.4
PB16	IPOC Station P	54.18	281	IAmb	IAmb	06 02 45.8	
	comp=Z,5.4nm,1.0s						
LPAZ	La Paz	54.66	284	P	P	06 02 44.1	-0.8
LPAZ				IAmb	IAmb	06 02 44.9	
	comp=Z,7.5nm,1.4s						
LPAZ	La Paz	54.66	284	P	P	06 02 43.6	-1.4
	comp=Z,2.9nm,1.1s,baz=90,slow=8.7,SNR=5.2						
LPAZ				LR	LR	06 25 52.3	
	comp=Z,89nm,18.1s,baz=88,slow=36						
	comp=Z,2.9nm,1.1s						
SBA	Scott Base	56.71	180	P	P	06 02 58.0	-0.1
SBA				IAmb	IAmb	06 03 07.4	
	comp=Z,15nm,1.4s						
SAML	Samuel	56.73	294	P	P	06 02 59.2	+0.1
SAML				IAmb	IAmb	06 03 00.3	
	comp=Z,7.6nm,1.0s						
VNDA	Vanda	57.00	179	P	P	06 03 00.9	+0.7
VNDA	Vanda	57.00	179	P	P	06 03 01.3	+1.1
	comp=Z,1.8nm,0.9s,baz=218,slow=9.1,SNR=6.9						
VNDA				LR	LR	06 24 49.1	
	comp=Z,47nm,22.0s,baz=172,slow=33						
	comp=Z,1.8nm,0.9s						
ETMB	Extrema	58.04	291	P	P	06 03 08.1	-0.3
ETMB				IAmb	IAmb	06 03 08.4	
	comp=Z,5.2nm,1.0s						
TOA0	Torodi Ar. Sit	59.96	16	P	P	06 03 22.3	+0.7
TORD	Torodi Ar. Bea	59.96	16	P	P	06 03 22.4	+0.9
TORD	Torodi Ar. Bea	59.96	16	P	P	06 03 21.9	+0.4
	comp=Z,1.2nm,1.0s,baz=197,slow=4.8,SNR=5.3						
	comp=Z,1.2nm,1.0s						
CASY	Casey	60.13	157	P	P	06 03 22.3	+0.1
CASY				IAmb	IAmb	06 03 33.9	
	comp=Z,5.5nm,1.0s						
MDP	Montagnes des	61.94	313	LR	LR	06 27 23.5	
	comp=Z,76nm,18.3s,baz=142,slow=33						
NNA	Nana	63.65	280	LR	LR	06 32 32.1	
	comp=Z,28nm,18.3s,baz=140,slow=37						
ATAH	Atahualpa	68.18	283	LR	LR	06 34 03.5	
	comp=Z,49nm,19.6s,baz=130,slow=36						
ROSC	El Rosal	74.36	294	LR	LR	06 36 10.8	
	comp=Z,77nm,18.2s,baz=206,slow=35						
SDV	Santo Domingo	75.18	300	LR	LR	06 35 50.5	
	comp=Z,24nm,19.4s,baz=123,slow=34						
SJG	San Juan	79.96	309	LR	LR	06 39 18.0	
	comp=Z,28nm,18.1s,baz=143,slow=35						
JTS	Las Juntas de	85.36	290	LR	LR	06 43 39.1	
	comp=Z,24nm,18.9s,baz=90,slow=36						
EIL	Elat	86.49	40	LR	LR	06 42 57.2	
	comp=Z,39nm,18.1s,baz=303,slow=34						
TEIG	Tepich	94.81	294	LR	LR	06 51 37.1	
	comp=Z,208nm,18.4s,baz=136,slow=37						
TXAR	Lajitas Array	111.13	291	PKiKP	PKiKP	06 11 48.6	-0.3
	comp=Z,0.5nm,0.8s,baz=116,slow=2.1,SNR=3.8						
PDAR	Pinedale Array	123.12	299	PKP	PKPdf	06 12 10.8	-0.8
	comp=Z,0.6nm,0.7s,baz=123,slow=3.3,SNR=5.7						
KURBB	Kurchatov Arra	123.90	50	PKP	PKPdf	06 12 12.7	+0.2
	comp=Z,0.1nm,0.3s,baz=149,slow=2.0,SNR=1.4						
NVAR	Mina Array Bea	126.28	290	PKP	PKPdf	06 12 18.0	+0.2
	comp=Z,0.5nm,0.6s,baz=149,slow=2.8,SNR=4.7						
YKA	Yellowknife Ar	134.45	321	PKP	PKPdf	06 12 32.4	+0.2
	comp=Z,0.4nm,0.7s,baz=110,slow=1.8,SNR=5.1						
SONM	Songino Array	139.04	64	PKP	PKPdf	06 12 41.4	+0.1
	comp=Z,0.5nm,0.8s,baz=294,slow=1.4,SNR=2.5						
ILAR	Eielson Array	148.73	324	PKPbc	PKPbc	06 13 01.2	-0.1
	comp=Z,2.0nm,0.8s,baz=14,slow=0.9,SNR=39						

*UCR **03** 06:14:26.6±1.3, 9°.41N×84°.65W, h19km±5km, MW3.9*
*CATAC **03** 06:14:27.0±0.5, 9°.45N×84°.64W, h3km±2km, ML3.7*
ISC 03 06:14:27.2±1.1**, 9°.46N**±0°.03×**84°.63W**±0°.02**, h20**km±1km**,**
n116, σ**1.26s**/128**, 1C, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACO	JACO, Garabito	0.20	353	eP	Pb	06 14 32.3	-0.7
JACO				eS	Sb	06 14 37.0	+0.1
JACO	JACO, Garabito	0.20	353	i P	Pb	06 14 32.1	-0.8
JACO				IAML		06 14 32.5	
	comp=Z,9μm,1.0s						
JACO				i S	Sb	06 14 36.8	-0.1
RITA	Parrita	0.30	78	eP	Pb	06 14 33.4	-0.6
RITA				eS	Sb	06 14 39.3	+0.7
LAFE	Finca La Fe, P	0.44	322	eP	Pn	06 14 36.5	-1.8
LAFE	Finca La Fe, P	0.44	322	i P	Pb	06 14 36.3	+0.1
LAFE				i S	Sn	06 14 43.0	-2.8
LAFE				IAML		06 14 46.8	
	comp=Z,3μm,1.0s						
SVQ2	Quepos	0.46	93	eP	Pb	06 14 35.7	-0.9
SVQ2				eS	Sb	06 14 42.9	-0.1
CBL1	Cabuya	0.47	286	eP	Pb	06 14 36.7	-0.1
CBL1				eS	Sn	06 14 45.8	-0.7
TRB2	Turrubares	0.49	22	eP	Pb	06 14 36.7	-0.4
LLNJ	Naranjito	0.53	88	eP	Pb	06 14 36.9	-0.9
LLNJ				eS	Sn	06 14 45.2	-2.7
ARZA	Esparza	0.53	356	eP	Pn	06 14 37.8	-1.8
ACOS	Acosta	0.57	54	eP	Pb	06 14 38.0	-0.7
ABE2	San Pablo	0.62	67	eP	Pb	06 14 38.9	-0.8
RAZU	San Marcos de	0.63	72	eP	Pb	06 14 38.9	-0.9
SRA1	San Ramn	0.64	14	eP	Pn	06 14 39.4	-1.9

RAMO	San Ramon	0.65	15	eP	Pn	06 14 39.5	-1.9
BELE	Belen	0.68	40	eP	Pn	06 14 40.8	-1.0
LCR2	La Lucha 2	0.68	66	eP	Pb	06 14 39.5	-1.1
LCR2	La Lucha 2	0.68	66	i P	Pb	06 14 39.5	-1.1
LCR2				IAML		06 14 52.5	
	comp=Z,2µm,1.0s						
NARAN	Naranjo de Ala	0.68	22	eP	Pn	06 14 41.2	-0.6
SARCI	Sarchi	0.69	24	eP	Pn	06 14 40.7	-1.2
GREC	Grecia	0.69	28	eP	Pn	06 14 40.5	-1.4
AMPA	Desamparados	0.71	52	eP	Pb	06 14 40.2	-0.9
MEXI	Barrio Mexico	0.72	48	eP	Pn	06 14 40.6	-1.8
LUJA	Lujan	0.72	50	eP	Pn	06 14 40.8	-1.6
HDC	Heredia	0.74	43	eP	Pn	06 14 41.0	-1.7
SJS	Escuela Geolog	0.74	50	eP	Pn	06 14 41.0	-1.7
SJS3	Mercedes San J	0.74	50	eP	Pn	06 14 41.1	-1.6
DOMI	Santo Domingo	0.75	46	eP	Pb	06 14 40.2	-1.4
HDC3	Heredia 3	0.75	44	eP	Pn	06 14 41.1	-1.6
TIBA	Tibas	0.75	48	eP	Pn	06 14 41.1	-1.6
ZARE	Zarcero	0.76	18	eP	Pn	06 14 42.2	-0.8
TRIO	Tres Rios	0.77	55	eP	Pb	06 14 41.0	-1.0
EDDO	Dominical	0.79	105	eP	Pb	06 14 40.9	-1.3
OCM	Ochomogo	0.79	57	eP	Pb	06 14 41.4	-1.1
OCM	Ochomogo	0.79	57	i P	Pn	06 14 41.9	-1.5
OCM				IAML		06 14 58.9	
	comp=Z,1µm,1.0s						
CORON	Coronado	0.81	51	eP	Pn	06 14 42.2	-1.3
TAGO	Cartago	0.81	60	eP	Pb	06 14 41.9	-0.8
NYURE	Nandayure	0.81	311	eP	Pn	06 14 42.5	-1.0
VPTE	Poasito	0.83	31	eP	Pn	06 14 42.9	-1.0
REPA	Paraso	0.84	64	eP	Pn	06 14 43.2	-0.8
CPMI	Catarata Coope	0.85	17	eP	Pn	06 14 43.4	-0.9
CDM	Cerro de Muert	0.86	84	eP	Pb	06 14 42.5	-1.3
CDM	Cerro de Muert	0.86	84	i P	Pb	06 14 42.4	-1.4
CDM				i S	Sn	06 14 55.6	-1.2
CDM				IAML		06 14 57.5	
	comp=Z,5µm,1.0s						
MTEVE	Monteverde	0.88	347	eP	Pn	06 14 43.3	-1.2
BUS1	Rivas	0.88	84	eP	Pb	06 14 42.6	-1.4
JUNT	Juntas	0.88	339	eP	Pn	06 14 43.7	-0.7
CVIMO	Finca Echandi	0.88	50	eP	Pn	06 14 43.6	-1.1
ZELE	Perez Zeledon	0.92	95	eP	Pb	06 14 43.6	-0.9
SOCE	Pocosol	0.92	1	eP	Pn	06 14 44.5	-0.5
SOCE	Pocosol	0.92	1	i P	Pn	06 14 44.5	-0.5
SOCE				IAML		06 15 02.3	
	comp=Z,4µm,1.0s						
PCAYA	Pacayas	0.93	61	eP	Pn	06 14 44.2	-1.1
HAYA	Volcan Irazu	0.94	56	i P	Pn	06 14 44.4	-1.2
HAYA				IAML		06 14 45.5	
	comp=Z,4µm,1.0s						
VICA	Volcano Irazu	0.94	56	eP	Pn	06 14 44.1	-1.5
ICR3	Volcano Irazu	0.94	57	eP	Pn	06 14 44.6	-1.0
INDI	Punta indio, G	0.95	295	eP	Pb	06 14 43.9	-1.1
INDI	Punta indio, G	0.95	295	i P	Pn	06 14 45.2	-0.2
INDI				IAML		06 15 03.6	
	comp=Z,1µm,1.0s						
RAFA	San Farael, Vo	0.95	58	eP	Pn	06 14 44.7	-1.0
CMARA	Lajas Hojancha	0.96	306	eP	Pb	06 14 44.2	-0.9
VINA	Juan Vinas	0.98	64	eP	Pn	06 14 45.8	-0.1
VTRT	Volcan Turrial	0.99	57	eP	Pn	06 14 45.8	-0.5
ARE1	Arenal 1	1.00	355	eP	Pb	06 14 45.9	0.0
TUNA	La Fortuna	1.00	359	eP	Pb	06 14 47.0	+1.1
VTLA	Turrialba Volc	1.00	57	eP	Pn	06 14 45.8	-0.7
VACR	Volcan Arenal	1.01	358	eP	Pb	06 14 46.0	-0.1
CVTQ	Turrialba Volc	1.01	58	eP	Pn	06 14 46.1	-0.4
CEDE	Laguna Cedeo	1.02	356	eP	Pb	06 14 46.3	0.0
CVTR	Volcan Turrial	1.03	57	eP	Pb	06 14 46.6	0.0
CVTV	Tajo	1.03	58	eP	Pb	06 14 46.3	-0.2
NARJA	Naranjal	1.03	300	eP	Pb	06 14 46.5	+0.1
TURIB	Turrialba	1.03	64	eP	Pb	06 14 46.1	-0.4
VTCV	VTCV, Calle Va	1.03	60	eP	Pb	06 14 46.0	-0.6
VERB	Verbena	1.04	62	eP	Pb	06 14 46.0	-0.6
NICO	Nicoya	1.05	310	eP	Pb	06 14 47.3	+0.7
ITAL	Pital	1.05	20	eP	Pb	06 14 46.6	-0.1
VTLO	VTLO	1.07	57	eP	Pb	06 14 46.6	-0.6
RVSTA	Santa Teresita	1.10	62	eP	Pb	06 14 47.2	-0.4
RVSTA				eS	Sn	06 15 03.6	+1.4
RIFO	Rio Frio, Sara	1.10	39	eP	Pb	06 14 47.3	-0.3
RIFO	Rio Frio, Sara	1.10	39	IAML		06 14 48.2	
	comp=Z,2µm,1.0s						
RIFO				i P	Pb	06 14 48.3	+0.7
RIFO				i S	Sn	06 15 03.9	+1.7
PLVR	Palo Verde	1.13	321	eP	Pb	06 14 47.3	-0.9
JUD3	Juan Diaz 3	1.14	308	eP	Pb	06 14 47.5	-0.7
SARA	Sarapiqu	1.16	31	eP	Pb	06 14 47.9	-0.6
ORTG	Ortega, Santa	1.21	318	eP	Pb	06 14 48.4	-1.1
ORTG	Ortega, Santa	1.21	318	i P	Pb	06 14 48.4	-1.1
ORTG				IAML		06 15 09.8	
	comp=Z,750nm,1.0s						
BAGA	Bagaces	1.23	330	eP	Pb	06 14 49.4	-0.4
LCOCO	El Coco	1.23	60	eP	Pb	06 14 49.3	-0.5
CARI	Cariari	1.26	44	eP	Pb	06 14 51.2	+0.9
EDPN	Palmar Norte	1.26	113	eP	Pn	06 14 48.2	-1.5
COVE	Coope Vega, Sa	1.27	10	eP	Pb	06 14 49.9	-0.7
IRES	Siquirres	1.28	60	eP	Pb	06 14 50.5	-0.1
BURE	Buenos Aires	1.31	102	eP	Pn	06 14 49.5	-0.9
CAMAV	Centro de Prod	1.35	336	eP	Pb	06 14 51.7	-0.2
EDBA	Buenos Aires	1.37	102	eP	Pn	06 14 49.9	-1.4
VERA	Finca Concepci	1.41	351	eP	Pb	06 14 52.4	-0.4
TAAN	Batan	1.41	64	eP	Pb	06 14 52.5	-0.3
GPS3	Bodega del ICE	1.48	331	eP	Pb	06 14 57.2	+3.2
ELI1	Hacienda Flor	1.49	323	eP	Pb	06 14 54.1	0.0
EDP2	Potrero Grande	1.50	107⇑	iP	Pn	06 14 52.2	-0.8
VRLE	La Escondida,	1.50	331	eP	Pb	06 14 53.8	-0.7
VRLE	La Escondida,	1.50	331	i P	Pb	06 14 53.9	-0.7
VRLE				IAML		06 15 21.2	
	comp=Z,720nm,1.0s						
GB1A	Borinquen Arri	1.55	331	eP	Pb	06 14 54.5	-0.7
HZTE	Horizontes, Gu	1.57	323	eP	Pb	06 14 54.5	-1.0
HZTE	Horizontes, Gu	1.57	323	i P	Pb	06 14 54.5	-1.0
HZTE				i S	Sb	06 15 17.0	+2.1
HZTE				IAML		06 15 43.0	
	comp=Z,1µm,1.0s						
LCHIL	Los Chiles	1.57	357	eP	Pb	06 14 54.7	-0.9
JIME	Puerto Jimenez	1.58	125	eP	Pb	06 14 57.4	+1.6
PIRO	Carate, Puerto	1.66	129	eP	Pb	06 14 58.3	+1.3
EDAD	Golfito	1.66	119	eP	Pn	06 14 53.2	-1.9
EDSV	San Vito	1.76	111	eP	Pn	06 14 55.6	-1.0
BRIBI	Bribri	1.77	85	eP	Pb	06 14 59.1	+0.2
LCRUZ	La Cruz	1.89	329	eP	Pb	06 15 01.4	+0.4
BRU2	Volcan	2.03	109	eP	Pn	06 15 00.4	0.0
BRU2	Volcan	2.03	109	i P	Pb	06 15 02.6	-0.9
BRU2				i S	Sb	06 15 32.6	+4.2
BRU2				IAML		06 15 50.5	
	comp=Z,440nm,1.0s						
ACON	Acoyapa	2.55	348	i P	Pn	06 15 08.3	+0.9
ACON				i S	Sn	06 15 14.6	-23
ACON				IAML		06 16 28.0	
	comp=Z,300nm,1.0s						
COPN	Copaltepe	3.32	325	i P	Pn	06 15 14.1	-3.9
CNGA	Al SSO del Vol	3.64	326	i P	Pb	06 15 27.9	-3.0
ROCN	Rota Cerro Neg	3.68	326	i P	Pn	06 15 25.4	+2.4
LIMN	Finca el Limon	3.96	335	i P	Pn	06 15 28.4	+1.4

LDG ***03*** *06:25:48.1±0.6, 36˚45N×9˚77W, h10^{km}, Ml3.3/3, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
MDD ***03*** *06:25:51.1±0.5, 36˚45N×9˚77W, h0^{km}, mb_Lg3.6/42, Error ellipse: s-maj=4.0km s-min=2.9km az=55.0*
SFS ***03*** *06:25:52.3, 36˚29N×9˚87W, h41^{km}, mb3.8/4, ML3.8/16, ML3.9/13, MLv3.7/16*
CNRM ***03*** *06:25:52.6, 36˚18N×9˚67W, h61^{km}, ml3.6*
IGIL ***03*** *06:25:53.7, 36˚35N×9˚81W, h28^{km}, ML2.8*
INMG ***03*** *06:25:54.2±1.3, 36˚36N×9˚81W, h32^{km}, ML2.9, Error ellipse: s-maj=3.9km s-min=2.7km az=70.0*
ISC 03 06:25:50.9±1.1**, 36˚30N**±0˚03×**9˚84W**±0˚05**, h35**^{km}**, n110,** σ**2**^{s}**08**/191**, 5C-2D, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSVI	Cabo S. Vicent	0.98	43	eP	Pn	06 26 10.1	+1.8
PSVI				eS	Sn	06 26 22.1	+1.1
PSVI				A	A	06 26 27.0	
	571nm,0.6s						
PLAGO	Lagos	1.22	49	eP	Pn	06 26 12.9	+1.5
PLAGO				eS	Sn	06 26 27.0	+0.4
PLAGO				A	A	06 26 27.5	
	415nm,0.9s						
PALJ	Aljezur	1.31	39	eS	Sn	06 26 29.4	+0.4
PPOR	Portimao	1.33	51	eS	Sn	06 26 30.2	+0.7
PPOR				A	A	06 26 31.0	
	345nm,0.3s						
MORF	Marmelete	1.38	43⇑	eP	Pn	06 26 15.1	+1.4
MORF				eS	Sn	06 26 30.9	+0.1
MORF				A	A	06 26 32.8	
	179nm,0.3s						
MORF	Marmelete	1.38	43	eP	Pn	06 26 15.1	+1.4
MORF				eS	Sn	06 26 30.7	0.0
MORF				IAML		06 26 32.6	
	comp=E,204nm,0.1s						
PALBU	Albufeira	1.50	58	eP	Pn	06 26 16.9	+1.6
PALBU				eS	Sn	06 26 34.0	+0.3
PALBU				A	A	06 26 44.6	
	comp=E,342nm,0.7s						
PTEO	Sao Teotonio	1.53	35⇑	eP	Pn	06 26 17.0	+1.3
PTEO				eS	Sn	06 26 34.3	0.0
PTEO				A	A	06 26 34.8	
	comp=E,88nm,0.3s						
PFARO	Faro	1.70	64	eS	Sn	06 26 40.0	+1.4
PBDV	Barranco-do-Ve	1.79	58⇑	eP	Pn	06 26 20.9	+1.5
PBDV				eS	Sn	06 26 40.7	-0.3
PBDV				A	A	06 26 47.8	
	comp=E,37nm,0.3s						
PSINE	Sines	1.82	25	eS	Sn	06 26 41.5	-0.2
PSINE				A	A	06 26 44.5	
	comp=E,325nm,0.7s						
PCVE	Castro Verde	1.96	47⇑	eP	Pn	06 26 23.2	+1.6
PCVE				eS	Sn	06 26 44.9	-0.1
PCVE				A	A	06 26 46.2	
	comp=E,47nm,0.2s						
PCVE	Castro Verde	1.96	47	Pn	Pn	06 26 23.2	+1.6
MESJ	Messejana	2.00	40⇓	eP	Pn	06 26 23.6	+1.3
MESJ				eS	Sn	06 26 45.9	-0.3
MESJ				A	A	06 26 48.3	
	comp=E,56nm,0.2s						
MESJ	Messejana	2.00	40	eP	Pn	06 26 23.6	+1.3
MESJ				eS	Sn	06 26 45.6	-0.6
MESJ				IAML		06 26 46.8	
	comp=E,40nm,0.1s						
PVAQ	Vaqueiros	2.02	57	eP	Pn	06 26 24.0	+1.5
PVAQ				eS	Sn	06 26 46.2	-0.4
PNCL	Nicolau / Gran	2.08	30	eP	Pn	06 26 24.4	+1.0
PNCL				eS	Sn	06 26 47.6	-0.5
PNCL				A	A	06 26 49.0	
	comp=E,60nm,0.2s						
PNCL	Nicolau / Gran	2.08	30	Pn	Pn	06 26 24.4	+1.0
EGRO	El Granado	2.25	56	P	Pn	06 26 26.8	+1.1
EGRO				S	Sn	06 26 51.7	-0.5
EGRO				i Vmb_Lg		06 26 54.3	
EGRO	El Granado	2.25	56	Pn	Pn	06 26 27.0	+1.3
PBEJ	Beja	2.33	42	eP	Pn	06 26 27.8	+1.0
PBEJ				eS	Sn	06 26 53.4	-0.8
PBEJ				A	A	06 26 54.6	
	comp=E,26nm,0.1s						
PACT	Alcochete	2.59	18	eP	Pn	06 26 31.9	+1.6
PACT				eS	Sn	06 27 00.4	0.0
PACT				A	A	06 27 04.5	
	comp=E,49nm,0.2s						
EVO	Evora	2.66	33⇓	eP	Pn	06 26 32.2	+1.0
EVO				eS	Sn	06 27 01.0	-1.2
EVO				A	A	06 27 02.2	
	comp=E,84nm,0.1s						
EVO	Evora	2.66	33	Pn	Pn	06 26 32.2	+1.0
PMAFR	Mafra	2.68	9	eP	Pn	06 26 32.6	+1.0
PMAFR				eS	Sn	06 27 02.2	-0.7
PMAFR				A	A	06 27 03.6	
	comp=E,94nm,0.2s						
PMAFR	Mafra	2.68	9	Pn	Pn	06 26 32.5	+0.9
PBAR	Barrancos	2.91	49	eP	Pn	06 26 35.8	+1.0
PBAR				eS	Sn	06 27 07.2	-1.3
PBAR				A	A	06 27 08.6	
	comp=E,21nm,0.3s						
PBAR	Barrancos	2.91	49	Pn	Pn	06 26 35.7	+1.0
EMIN	Mina Concepcio	2.92	59	P	Pn	06 26 35.9	+1.0
EMIN				S	Sn	06 27 07.8	-1.0
EMIN				i Vmb_Lg		06 27 12.8	
EMIN	Mina Concepcio	2.92	59	Pn	Pn	06 26 35.8	+1.0
PMTG	Montargil	3.04	24⇑	eP	Pn	06 26 37.9	+1.4
PMTG				eS	Sn	06 27 10.4	-1.3
PMTG				A	A	06 27 10.8	
	comp=E,29nm,0.4s						
PESTR	Estremoz	3.12	34	eP	Pn	06 26 38.3	+0.6
PESTR				eS	Sn	06 27 12.4	-1.3
PESTR				A	A	06 27 13.7	
	comp=E,13nm,0.2s						
PESTR	Estremoz	3.12	34	P	Pn	06 26 40.5	+2.8
PESTR				S	Sn	06 27 13.0	-0.6
PESTR	Estremoz	3.12	34	Pn	Pn	06 26 38.2	+0.6
ESPR	Espera	3.25	79	P	Pn	06 26 41.0	+1.6
ESPR				S	Sn	06 27 15.8	-1.1
ESPR				i Vmb_Lg		06 27 18.7	
ESPR	Espera	3.25	79	Pn	Pn	06 26 41.0	+1.6
ESPR				Sn	Sn	06 27 16.1	-0.9
PSBE	So Bento	3.31	14	eP	Pn	06 26 41.3	+1.0
PSBE				eS	Sn	06 27 16.5	-1.9
PSBE				A	A	06 27 20.5	
	comp=E,27nm,0.2s						
EBAD	Badajoz	3.32	42	P	Pn	06 26 41.2	+0.8
EBAD				S	Sn	06 27 17.2	-1.4
EBAD				i Vmb_Lg		06 27 19.5	
EBAD	Badajoz	3.32	42	Pn	Pn	06 26 41.2	+0.8
RTC	Rabat Centre	3.36	133	P	Pn	06 26 39.7	-1.2
RTC				S	Sn	06 27 17.9	-1.7
RSA	Sarsar	3.57	112	P	Pn	06 26 44.3	+0.5
RSA				S	Sn	06 27 20.3	-4.5
AVE	Averroes	3.60	146	P	Pn	06 26 46.0	+1.8
AVE				S	Sn	06 27 22.8	-2.7
AVE	Averroes	3.60	146	Pn	Pn	06 26 45.6	+1.4
AVE				Sn	Sn	06 27 23.8	-1.7
ECEU	Ceuta	3.63	95	P	Pn	06 26 47.3	+2.6
ECEU				S	Sn	06 27 28.6	+2.2
ECEU				i Vmb_Lg		06 27 29.2	
SMIR	Smir Dam	3.67	98	P	Pn	06 26 46.5	+1.3
SMIR				S	Sn	06 27 24.9	-2.2
PMRV	Marv??o	3.67	31	eP	Pn	06 26 46.2	+1.0
PMRV				eS	Sn	06 27 24.7	-2.6
PMRV				A	A	06 27 27.4	
	comp=E,27nm,0.3s						
CHEFC	Chefchaouen	3.85	107	P	Pn	06 26 45.2	-2.6
CHEFC				S	Sn	06 27 30.1	-1.7
ZHG	ZHG	3.88	136	P	Pn	06 26 49.1	+1.0
ZHG				S	Sn	06 27 31.4	-1.0
PCAS	Casmilo, Conde	3.89	15	eP	Pn	06 26 49.2	+1.0
PCAS				eS	Sn	06 27 30.3	-2.3
PCAS				A	A	06 27 34.1	
	comp=E,17nm,0.3s						
ECAB	El Cabril	3.95	62	P	Pn	06 26 49.8	+0.8
ECAB				S	Sn	06 27 31.8	-2.3
ECAB				i Vmb_Lg		06 27 34.5	
ECAB	El Cabril	3.95	62	Pn	Pn	06 26 49.9	+0.9
PCBR	Castelo Branco	3.99	27	eP	Pn	06 26 50.8	+1.2
PCBR				eS	Sn	06 27 32.2	-2.9
PCBR				A	A	06 27 35.5	
	comp=E,13nm,0.4s						
EMIJ	Mijas	4.09	85	P	Pn	06 26 52.0	+1.0
EMIJ				S	Sn	06 27 37.7	0.0
EMIJ				i Vmb_Lg		06 27 39.3	
SRHM	Skhour des Reh	4.15	157	P	Pn	06 26 52.7	+0.9
SRHM				S	Sn	06 27 37.0	-2.1
SICH	Sidi Chahed	4.30	119	P	Pn	06 26 52.2	-1.7
SICH				S	Sn	06 27 42.6	-0.2
MTE	Manteigas	4.47	23	eP	Pn	06 26 57.2	+1.0
MTE				eS	Sn	06 27 44.7	-2.3
MTE				A	A	06 27 48.5	
	comp=E,12nm,0.4s						
EADA	Adamuz	4.59	65	P	Pn	06 26 58.6	+0.7
EADA				S	Sn	06 27 47.7	-2.3
EADA				i Vmb_Lg		06 27 52.4	
EADA	Adamuz	4.59	65	Pn	Pn	06 26 58.9	+1.0
EADA				Sn	Sn	06 27 47.9	-2.1
PVIS	Viseu	4.66	18	eP	Pn	06 26 59.5	+0.7
PVIS				eS	Sn	06 27 49.2	-2.5
PVIS				A	A	06 27 52.6	
	comp=E,12nm,0.3s						
EGOR	Sierra Gorda,	4.67	78	P	Pn	06 27 01.3	+2.2
EGOR				S	Sn	06 27 51.7	-0.5
EGOR				i Vmb_Lg		06 27 56.2	
EGOR	Sierra Gorda,	4.67	78	Pn	Pn	06 27 01.3	+2.2
IFR	Ifrane	4.76	124	Pn	Pn	06 27 00.7	+0.3
IFR				Sn	Sn	06 27 50.1	-4.4
EPLA	Plasencia	4.78	37	P	Pn	06 27 01.1	+0.6
EPLA				S	Sn	06 27 51.9	-2.7
EPLA				i Vmb_Lg		06 27 53.8	
LCRM	LCR	4.85	121	P	Pn	06 27 02.4	+0.9
LCRM				S	Sn	06 27 55.0	-1.6
ELGU	Los Guajares,	5.03	82	P	Pn	06 27 06.2	+2.3
ELGU				S	Sn	06 27 57.9	-2.9
ELGU				i Vmb_Lg		06 28 05.2	
ELGU	Los Guajares,	5.03	82	Pn	Pn	06 27 06.2	+2.3
EQUE	Quentar	5.21	78	P	Pn	06 27 08.4	+1.9
EQUE				S	Sn	06 28 06.0	+0.6
EQUE				i Vmb_Lg		06 28 10.4	
PVRL	Vila Real	5.23	18	eP	Pn	06 27 08.0	+1.3
PVRL				eS	Sn	06 28 02.1	-3.7
PVRL				A	A	06 28 06.0	
	comp=E,32nm,0.1s						
POLO	Lamas de Olo	5.31	17	eP	Pn	06 27 08.6	+0.8
POLO				eS	Sn	06 28 03.7	-4.0
POLO				A	A	06 28 06.7	
	comp=E,3.3nm,0.5s						
MVO	Moncorvo	5.33	23	eP	Pn	06 27 08.7	+0.7
MVO				eS	Sn	06 28 05.0	-3.1
MVO				A	A	06 28 08.3	
	comp=E,11nm,0.2s						
OUK	Oukaimeden	5.34	162	P	Pn	06 27 09.3	+0.8
OUK				S	Sn	06 28 05.6	-3.4
MD31	MD31	5.41	128	P	Pn	06 27 10.1	+0.9
MD31				S	Sn	06 28 08.5	-1.8
PAB	San Pablo	5.41	52	P	Pn	06 27 10.4	+1.2
PSIM	Granatula de C	5.44	61	P	Pn	06 27 10.7	+1.1
PSIM				S	Sn	06 28 07.2	-3.8
MDT	Midelt	5.54	127	P	Pn	06 27 11.3	+0.3
EQES	Quesada	5.61	73	P	Pn	06 27 12.6	+0.6
EQES				S	Sn	06 28 12.3	-3.0
EQES				i Vmb_Lg		06 28 16.8	
EBER	Berja	5.62	82	S	Sn	06 28 15.3	-0.3
EBER				i Vmb_Lg		06 28 31.7	
GOG	Mont Gurugu	5.67	99	P	Pn	06 27 11.4	-1.3
GOG				S	Sn	06 28 14.0	-2.6
EJUZ	Juzbado, Salam	5.69	32	S	Sn	06 28 13.8	-3.1
ELOB	Lobios	5.72	13	P	Pn	06 27 13.8	+0.4
ELOB				S	Sn	06 28 13.0	-4.9
ELOB				i Vmb_Lg		06 28 16.2	
ESDC	Sonseca Array	5.73	52	P	Pn	06 27 14.5	+1.0
ESDC				S	Sn	06 28 15.8	-2.3
ESDC				i Vmb_Lg		06 28 27.1	
TIO	Tiouine	5.78	157	Pn	Pn	06 27 14.4	+0.1
TIO				Sn	Sn	06 28 16.1	-3.4
PGAV	Gavieira, Arco	5.78	12	eP	Pn	06 27 14.4	+0.1
PGAV				eS	Sn	06 28 14.9	-4.5
PGAV				A	A	06 28 16.5	
	comp=E,7.2nm,1.0s						
OUZM	OUZ	5.96	154	P	Pn	06 27 18.0	+1.2
OUZM				S	Sn	06 28 20.9	-3.0
PBRG	Braganca	6.00	23	eP	Pn	06 27 18.3	+1.1
PBRG				eS	Sn	06 28 21.1	-3.5
PBRG				A	A	06 28 23.0	
	comp=E,9.0nm,0.2s						
ECAL	Calabor	6.12	22	P	Pn	06 27 19.4	+0.5
ECAL				S	Sn	06 28 24.6	-3.2
ECAL				i Vmb_Lg		06 28 28.0	
ECAL	Calabor	6.12	22	Pn	Pn	06 27 20.0	+1.1
GUD	Guadarrama	6.21	44	P	Pn	06 27 21.1	+0.8
GUD				S	Sn	06 28 27.2	-2.9
PMPST	Porto Santo, M	6.24	241	eP	Pn	06 27 21.5	+0.9
PMPST				eS	Sn	06 28 25.0	-5.7
PMPST				A	A	06 28 32.6	
	comp=E,24nm,0.6s						
UCM	Universidad Co	6.54	50	Pn	Pn	06 27 26.1	+1.3
UCM				Sn	Sn	06 28 34.5	-3.6
EAGO	Agolada(Pontev	6.63	11	P	Pn	06 27 26.3	+0.5
EAGO				S	Sn	06 28 34.4	-5.7
EAGO				i Vmb_Lg		06 28 39.3	
EMAZ	Mazaricos	6.67	5	P	Pn	06 27 26.1	-0.3
EMAZ				S	Sn	06 28 34.8	-6.4
EMAZ				i Vmb_Lg		06 28 37.5	
EZAR	Zarzadilla de	6.70	74	P	Pn	06 27 28.4	+1.5
EZAR				S	Sn	06 28 39.7	-2.2
EZAR				i Vmb_Lg		06 32 33.4	
ARF	Arif	6.74	135	P	Pn	06 27 25.8	-1.6
ARF				S	Sn	06 28 44.7	+1.7
PMAR	Madeira	6.85	241	eP	Pn	06 27 28.8	-0.2
PMAR				eS	Sn	06 28 40.4	-5.4
PMAR				A	A	06 28 54.3	
	comp=E,13nm,0.7s						
ETOB	Tobarra	6.99	68	P	Pn	06 27 30.6	-0.3
ETOB				S	Sn	06 28 45.3	-3.9
ETOB				i Vmb_Lg		06 28 52.1	
ETOB	Tobarra	6.99	68	Pn	Pn	06 27 31.2	+0.3
EMUR	La Murta	7.04	75	S	Sn	06 28 47.3	-3.0
EMUR				i Vmb_Lg		06 28 55.1	
ZGR	Zagora	7.11	149	P	Pn	06 27 33.9	+1.3
ZGR				S	Sn	06 28 47.6	-4.5
EPON	Pontenova	7.31	16	P	Pn	06 27 35.7	+0.5
EPON				S	Sn	06 28 53.5	-3.5
EPON				i Vmb_Lg		06 29 23.0	
EVIV	Cofrentes, Val	7.51	64	P	Pn	06 27 38.6	+0.6
EVIV				S	Sn	06 28 57.7	-4.2
EVIV				i Vmb_Lg		06 29 15.0	
ETOR	Torete	7.58	51	P	Pn	06 27 39.7	+0.7
ETOR				S	Sn	06 28 58.5	-5.2
ETOR				i Vmb_Lg		06 29 14.0	
ECHE	Chera	7.74	62	P	Pn	06 27 42.3	+1.2
ECHE				S	Sn	06 29 04.6	-2.8
ECHE				i Vmb_Lg		06 29 19.9	
AFON	Font Roja	7.76	70	P	Pn	06 27 43.1	+1.7
AFON				i Vmb_Lg		06 28 50.4	
FIGM	Figuig	8.23	118	P	Pn	06 27 46.5	-1.5
EMOS	Mosqueruela	8.40	58	P	Pn	06 27 52.7	+2.4
EMOS				S	Sn	06 29 21.5	-2.4
EMOS				i Vmb_Lg		06 29 28.5	
SJPF	Ste Jean	9.50	42	eP	Pn	06 28 06.5	+1.3
SJPF				eSn	Sn	06 29 40.6	-10
	comp=E,1.5nm,0.3s						
GGC	Guia, Gran Can	9.52	213	P	Pn	06 28 10.3	+4.7
ETSF	Etsaut	9.72	45	eP	Pn	06 28 09.4	+1.1
ETSF				eSn	Sn	06 29 43.1	-13
	comp=E,0.5nm,0.3s						
EPF	Esparros	10.32	46	eP	Pn	06 28 17.2	+0.7
EPF				eSn	Sn	06 30 00.5	-10
	comp=E,2.2nm,0.3s						

IDC ***03*** *06:58:24.2±0.8, 0˚20S×125˚17E, h0^{km}, mb3.9/8, mbtmp3.9/8, MS3.2/6, Error ellipse: s-maj=75.0km s-min=15.9km az=68.0*
ISC 03 06:58:31.0±0.8**, 0˚2S**±0˚2×**125˚4E**±0˚5**, h50**^{km}**, n14,** σ**1**^{s}**08**/11**, mb3.9**/8**, MS3.1**/6**, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.54	156	P	P	07 03 14.1	-2.1
	1.8nm,0.5s,baz=337,slow=11,SNR=18						
	1.8nm,0.5s						
GUMO	Guam	23.66	54	LR	LR	07 13 04.9	
	comp=Z,48nm,18.9s,baz=162,slow=37						
ASAR	Alice Springs	24.80	161	P	P	07 03 48.5	-0.1
	1.5nm,0.6s,baz=345,slow=8.1,SNR=26						
ASAR				PcP	PcP	07 07 24.9	+0.7
	0.3nm,0.7s,baz=324,slow=1.4,SNR=2.3						
	1.5nm,0.6s						
JOW	Kunigami	26.98	6	LR	LR	07 16 18.0	
	comp=Z,25nm,19.2s,baz=131,slow=40						
STKA	Stephens Creek	35.09	156	P	P	07 05 20.1	+0.5
	3.5nm,0.8s,baz=308,slow=9.3,SNR=6.3						
	3.5nm,0.8s						
KSRS	Korea Array	37.50	3	P	P	07 05 39.5	-0.5
	1.3nm,0.7s,baz=178,slow=9.3,SNR=4.2						
KSRS				LR	LR	07 22 00.6	
	comp=Z,12nm,19.0s,baz=325,slow=38						
	1.3nm,0.7s						
KLR	Kul'dur	49.50	6	LR	LR	07 28 52.3	
	comp=Z,26nm,19.7s,baz=291,slow=37						
SONM	Songino Array	50.57	344	P	P	07 07 24.9	+0.1
	0.9nm,0.8s,baz=160,slow=9.6,SNR=3.7						
	0.9nm,0.8s						
MKAR	Makanchi Array	60.01	327	P	P	07 08 32.1	-0.5
	1.0nm,0.6s,baz=121,slow=7.9,SNR=11						
MKAR				LR	LR	07 35 38.8	
	comp=Z,33nm,20.9s,baz=126,slow=37						
	1.0nm,0.6s						
KURBB	Kurchatov Arra	64.30	329	P	P	07 09 00.7	-0.6
	0.9nm,0.7s,baz=131,slow=5.8,SNR=10.0						
	0.9nm,0.7s						
BVAR	Borovoye Array	69.85	328	P	P	07 09 36.3	-0.2
	0.5nm,0.5s,baz=134,slow=6.2,SNR=2.7						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.5nm,0.5s						
BOSA	Boshof	98.80	241	LR	LR	07 53 39.3	
	comp=Z,20nm,18.1s,baz=172,slow=34						
TORD	Torodi Ar. Bea	122.73	285	PKP	PKiKP	07 17 23.4	+0.7
	0.5nm,0.8s,baz=67,slow=3.1,SNR=2.8						
TXAR	Lajitas Array	125.02	54	PKP	PKiKP	07 17 28.5	+1.6
	0.3nm,0.8s,baz=251,slow=2.8,SNR=3.0						

*UPP **03** 07:09:31.0±0.0, 67°.82N×20°.23E, h0^{km}, ML2.5, Confirmed Induced event*
*HEL **03** 07:09:31.0±0.1, 67°.80N×20°.15E, h0^{km}, ML1.8, Explosion*
*IDC **03** 07:09:32.1±1.1, 67°.72N×20°.56E, h0^{km}, mbtmp3.1/4, ML2.1/3, Error ellipse: s-maj=17.5km s-min=7.9km az=118.0*
ISC 03 07:09:30.8±0.7**, 67°.80N**±0°.02×**20°.25E**±0°.03**, h0^{km}, n34,** σ1^s**53**/55**, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.16	12	P	Pg	07 09 33.9	+0.1
KUA				S	Sg	07 09 36.0	+0.1
RATU	Laukkuluspa	0.25	276	P	Pg	07 09 35.8	+0.1
RATU				S	Sg	07 09 39.1	+0.2
DUNU	Dundret	0.69	170	P	Pg	07 09 44.5	+0.4
LANU	Lannavaara	0.70	69	P	Pg	07 09 44.3	0.0
LANU	Lannavaara	0.70	69	PG	Pg	07 09 44.2	-0.1
LANU				SG	Sg	07 09 53.5	0.0
MASU	Masugnsbyn	0.75	117	P	Pg	07 09 45.5	+0.3
SALU	Saltoluokta	0.79	238	P	Pg	07 09 45.9	-0.1
KIF	Kilpisjarvi	1.23	9	eP	Pg	07 09 54.5	+0.2
KIF	Kilpisjarvi	1.23	9	PG	Pg	07 09 53.7	-0.6
KIF				MSG		07 10 09.4	
	comp=Z,13nm,0.2s						
KIF				SG	Sg	07 10 10.4	+0.2
PAJU	Pajala	1.35	124	P	Pg	07 09 56.1	-0.6
PAJU	Pajala	1.35	124	PG	Pg	07 09 55.8	-0.9
	baz=301						
PAJU				SG	Sg	07 10 14.6	+0.4
HEF	Hetta	1.42	63	eP	Pn	07 09 57.1	-0.8
HEF	Hetta	1.42	63	PG	Pn	07 09 56.9	-1.0
	baz=248						
HEF				MSG		07 10 14.6	
	comp=Z,5.8nm,0.2s						
HEF				SB	Sg	07 10 16.0	-0.2
KTK1	Kautokeino	1.64	41	PG	Pn	07 10 00.9	-0.1
KTK1				SN	Sb	07 10 23.2	0.0
HARU	Harads	1.67	170	P	Pn	07 10 01.6	+0.3
TRO	Tromso	1.90	346	PG	Pn	07 10 04.9	+0.4
TRO				SG	Sb	07 10 30.2	-0.5
KALU	Kalix	2.31	146	PG	Pn	07 10 11.4	+1.4
	baz=328						
KALU				SG	Sb	07 10 41.9	-0.3
TOF	Tornio	2.36	135	PB	Pb	07 10 12.6	-1.5
	baz=316						
TOF				MSG		07 10 41.7	
	comp=Z,5.7nm,0.2s						
TOF				SG	Sb	07 10 44.8	+1.1
SGF	Sodankyl	2.43	96	PN	Pn	07 10 10.9	-0.8
SGF				SG	Sb	07 10 46.9	+1.2
RNF	Rovaniemi	2.54	115	PB	Pn	07 10 15.2	+1.9
	baz=304						
RNF				SB	Sb	07 10 48.8	-0.3
ARA0	ARCESS Array S	2.59	45	SB	Sn	07 10 47.8	+1.6
ARCES	ARCESS Array B	2.59	45	Pn	Pn	07 10 14.8	+0.8
	comp=Z,0.5nm,0.3s,baz=228,slow=15,SNR=86						
ARCES				Sn	Sn	07 10 48.2	+2.1
	comp=Z,2.1nm,0.3s,baz=224,slow=26,SNR=8.8						
	comp=Z,1.2nm,0.2s						
KEV	Kevo	3.14	48	PN	Pn	07 10 22.2	+0.7
	baz=240						
KEV				SN	Sn	07 11 00.6	+1.0
BURU	Burvik	3.26	171	PB	Pn	07 10 25.1	+1.9
BURU				SB	Sn	07 11 05.4	+2.7
OUL	Oulu	3.55	138	PB	Pn	07 10 30.3	+3.3
	baz=322						
OUL				SG	Sb	07 11 19.4	+1.6
VRF	Varrio	3.56	87	PN	Pn	07 10 28.0	+0.8
VRF				SG	Sb	07 11 18.7	+0.5
OLKF	Oulanka, Finla	3.88	108	PN	Pn	07 10 32.9	+1.3
UMAU	Umeaa	3.94	177	PN	Pn	07 10 34.4	+1.9
	baz=354						
MSF	Maaselka	3.95	115	PN	Pn	07 10 34.3	+1.6
MSF				SG	Sg	07 11 34.8	-2.9
KU6	Riekki	4.19	111	PN	Pn	07 10 37.1	+1.2
	baz=295						
HUSU	Husum	4.50	186	PG	Pb	07 10 52.5	+1.9
FINES	FINESS Array B	6.85	156	Pn	Pn	07 11 13.1	+0.7
	comp=Z,0.1nm,0.3s,baz=348,slow=11,SNR=5.3						
FINES				Sn	Sn	07 12 29.6	-1.4
	comp=Z,0.2nm,0.3s,baz=349,slow=21,SNR=5.0						
FINES				Lg	Lg	07 13 01.1	
	comp=Z,0.2nm,0.3s,baz=343,slow=28,SNR=2.1						
	comp=Z,2.7nm,0.8s						
NOA	NORSAR Array B	7.82	214	Pn	Pn	07 11 25.6	-0.2
	baz=15,slow=13,SNR=1.9						
NOA				Sn	Sn	07 12 51.1	-3.9
	baz=44,slow=18,SNR=1.9						
NOA				Lg	Lg	07 13 32.9	
	baz=38,slow=20,SNR=1.5						
	comp=Z,1.4nm,1.0s						
HFS	Hagfors	8.21	204	Pn	Pn	07 11 31.4	+0.3
	comp=Z,0.7nm,0.5s,baz=21,slow=14,SNR=1.2						
HFS				Sn	Sn	07 12 58.8	-5.7
	comp=Z,0.1nm,0.3s,baz=25,slow=24,SNR=1.3						
HFS				Lg	Lg	07 13 45.4	
	comp=Z,0.1nm,0.3s,baz=14,slow=30,SNR=1.9						

*NOU **03** 07:11:50.0, 37°.14S×177°.55E, h231^{km}, MLv3.8/10, Off E. Coast of N. Island, N.Z.*
*IDC **03** 07:11:55.0±4.7, 36°.96S×176°.60E, h137^{km}±56^{km}, mb3.2/2, mbtmp3.6/2, MS3.0/1, Error ellipse: s-maj=103.7km s-min=44.6km az=5.0*
*WEL **03** 07:11:57.0±1.0, 37°S±7°×17°7E±°, h161^{km}±8^{km}, M3.2/25, MLv3.2/25, Error ellipse: s-maj=0.0km s-min=0.0km az=38.8, confirmed*
ISC 03 07:11:54.1±1.1**, 37°.30S**±0°.06×**177°.22E**±0°.07**, h197^{km}**±7^{km}**, n140,** σ1^s**37**/148**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WHRZ	Whale Island	0.59	199	P	Pn	07 12 22.2	+0.9
HAZ	Te Kaha	0.64	136	P	Pn	07 12 21.0	-0.4
HAZ				S	Sn	07 12 40.0	-2.6
OPRZ	Ohinepanea	0.76	224	P	Pn	07 12 22.4	+0.4
RUGZ	Raukumara Rang	0.76	151	P	Pn	07 12 21.6	-0.6
RUGZ				S	Sn	07 12 41.0	-3.1
MARZ	Manawahe	0.81	212	P	Pn	07 12 23.0	+0.7
TGRZ	Tauranga	0.87	240	P	Pn	07 12 23.2	+0.5
EDRZ	Edgecumbe	0.89	205	P	Pn	07 12 23.8	+0.9
PKGZ	Pakihiroa	0.90	131	P	Pn	07 12 23.3	+0.4
PKGZ				S	Sn	07 12 44.3	-1.1
MXZ	Matakaoa Point	0.91	107	P	Pn	07 12 22.7	-0.2
MXZ	Matakaoa Point	0.91	107	P	Pn	07 12 22.5	-0.4
MXZ				S	Sn	07 12 43.4	-1.8
URZ	Urewera	0.96	185	P	Pn	07 12 23.5	+0.2
URZ	Urewera	0.96	185	P	Pn	07 12 23.4	+0.2
	41nm,0.3s,baz=353,slow=4.3,SNR=87						
URZ				S	Sn	07 12 42.5	-3.6
	143nm,0.3s,baz=323,slow=20,SNR=25						
URZ	Urewera	0.96	185	P	Pn	07 12 23.6	+0.3
URZ				S	Sn	07 12 44.5	-1.5
OMRZ	Omania	1.05	220	P	Pn	07 12 22.8	-1.1
KARZ	Kaharoa	1.05	227	P	Pn	07 12 24.0	+0.1
MWZ	Matawai	1.06	167	P	Pn	07 12 24.6	+0.6
MWZ				S	Sn	07 12 47.0	-0.3
TWGZ	Tauwhareparae	1.06	146	P	Pn	07 12 25.2	+1.2
TWGZ				S	Sn	07 12 48.0	+0.6
WMGZ	Waiomatatini S	1.08	119	P	Pn	07 12 24.5	+0.4
TARZ	Mount Tarawera	1.09	211	P	Pn	07 12 25.7	+1.4
PUZ	Puketiti	1.13	133	P	Pn	07 12 25.0	+0.5
KMRZ	Kaimai	1.15	241	P	Pn	07 12 25.7	+1.0
RAGZ	Rawiri	1.20	173	P	Pn	07 12 26.3	+1.1
RAGZ				S	Sn	07 12 49.4	0.0
MUGZ	Murupara	1.23	197	P	Pn	07 12 26.2	+1.0
TKGZ	Te Karaka	1.24	156	P	Pn	07 12 26.3	+0.9
KUZ	Kuaotunu	1.32	294	P	Pn	07 12 25.2	-0.8
KUZ	Kuaotunu	1.32	294	P	Pn	07 12 25.2	-0.8
RTZ	Ruatahuna	1.33	188	P	Pn	07 12 26.9	+0.8
PRRZ	Plateau Road	1.36	208	P	Pn	07 12 27.7	+1.3
CNGZ	Carnagh Statio	1.42	147	P	Pn	07 12 28.4	+1.6
TOZ	Tahuroa Road	1.43	252	P	Pn	07 12 28.1	+1.2
ALRZ	Allen Road	1.44	209	P	Pn	07 12 28.5	+1.5
RIGZ	Rimuhau	1.47	163	P	Pn	07 12 28.7	+1.4
WPRZ	Whakapapatarin	1.48	214	P	Pn	07 12 29.0	+1.7
MTHZ	Maungataniwha	1.58	191	P	Pn	07 12 29.5	+1.2
RAHZ	Arahi	1.62	184	P	Pn	07 12 30.2	+1.6
KUTZ	Kaahu Road	1.62	222	P	Pn	07 12 30.6	+1.9
MKAZ	Moumakai	1.65	276	P	Pn	07 12 29.5	+0.6
TLZ	Tolley Road	1.68	232	P	Pn	07 12 31.0	+1.8
PRGZ	Paritu Road	1.70	162	P	Pn	07 12 30.7	+1.2
WIAZ	Waiheke Island	1.74	286	P	Pn	07 12 30.0	+0.2
KNZ	Kokohu	1.76	168	P	Pn	07 12 31.2	+1.3
GRZ	Great Barrier	1.76	306	P	Pn	07 12 29.1	-0.9
WHHZ	Waihua	1.77	180	P	Pn	07 12 31.7	+1.6
NMHZ	Naumai	1.82	190	P	Pn	07 12 32.6	+1.9
ETAZ	East Tamaki Re	1.86	280	P	Pn	07 12 31.8	+0.8
MHGZ	Mahia Peninsul	1.93	164	P	Pn	07 12 33.2	+1.6
MBAZ	Motutapu North	1.93	285	P	Pn	07 12 32.2	+0.5
ARHZ	Aropaoanui	1.97	185	P	Pn	07 12 33.7	+1.7
RITZ	Rihia Road	1.99	212	P	Pn	07 12 35.5	+3.2
EPAZ	Eden Park BICE	2.02	281	P	Pn	07 12 33.4	+0.8
ABAZ	Army Bay	2.04	289	P	Pn	07 12 33.2	+0.5
HBAZ	Herne Bay Bore	2.04	282	P	Pn	07 12 33.7	+0.9
AWAZ	Awhitu Peninsu	2.07	276	P	Pn	07 12 34.1	+1.0
WTAZ	Waiatarua	2.15	279	P	Pn	07 12 34.8	+0.9
NTVZ	North Tongarir	2.17	214	P	Pn	07 12 36.0	+1.7
TMVZ	Te Maari	2.17	213	P	Pn	07 12 35.8	+1.5
RVAZ	Riverhead Bore	2.18	283	P	Pn	07 12 34.9	+0.6
MCHZ	McNeill Hill	2.18	191	P	Pn	07 12 36.0	+1.7
KRVZ	Karewarewa	2.18	214	P	Pn	07 12 35.9	+1.5
KWHZ	Kaweka Forest	2.21	196	P	Pn	07 12 36.0	+1.4
WTVZ	West Tongariro	2.22	215	P	Pn	07 12 36.2	+1.3
NNVZ	North Ngauruho	2.22	214	P	Pn	07 12 36.4	+1.5
HIZ	Hauiti	2.23	236	P	Pn	07 12 37.2	+2.4
HIZ	Hauiti	2.23	236	P	Pn	07 12 37.1	+2.3
OTVZ	Oturere	2.23	213	P	Pn	07 12 36.4	+1.5
SNVZ	South Ngauruho	2.26	213	P	Pn	07 12 36.8	+1.5
TWVZ	Taurewa	2.26	218	P	Pn	07 12 36.8	+1.6
NGZ	Ngauruhoe	2.26	214	P	Pn	07 12 37.2	+1.9
TUVZ	Tukino	2.32	212	P	Pn	07 12 37.4	+1.5
FWVZ	Far West T-bar	2.35	213	P	Pn	07 12 37.7	+1.4
CKHZ	Cape Kidnapper	2.36	183	P	Pn	07 12 37.6	+1.5
BHHZ	Black Hill Sta	2.37	202	P	Pn	07 12 37.2	+0.8
TRVZ	Turoa	2.39	213	P	Pn	07 12 38.2	+1.4
WNVZ	Wahianoa	2.39	212	P	Pn	07 12 37.9	+1.1
MOVZ	Moawhango	2.40	208	P	Pn	07 12 37.5	+0.8
KRHZ	Kereru	2.43	196	P	Pn	07 12 38.1	+1.0
PKVZ	Pokaka	2.47	216	P	Pn	07 12 38.8	+1.3
KAHZ	Kahuranaki	2.50	186	P	Pn	07 12 39.4	+1.6
VRZ	Vera Road	2.66	226	P	Pn	07 12 41.5	+1.9
WCZ	Waipu Caves	2.68	300	P	Pn	07 12 39.7	-0.2
PNHZ	Pukenui	2.73	197	P	Pn	07 12 41.4	+0.9
PXZ	Pawanui	2.74	186	P	Pn	07 12 41.5	+1.0
WPHZ	Waipukurau	2.83	192	P	Pn	07 12 42.8	+1.3
TSZ	Takapari Road	2.92	199	P	Pn	07 12 43.5	+0.8
PRHZ	Porangahau	3.00	189	P	Pn	07 12 44.5	+1.0
DVHZ	Dannevirke	3.10	195	P	Pn	07 12 45.3	+0.5
NEZ	North Egmont	3.15	230	P	Pn	07 12 48.3	+2.9
PREZ	Palmer Road	3.15	229	P	Pn	07 12 49.4	+4.0
PKE	Pukeiti	3.17	232	P	Pn	07 12 48.2	+2.6
ANWZ	Angora Road	3.21	190	P	Pn	07 12 47.0	+1.0
KHEZ	Kahui Hut	3.21	231	P	Pn	07 12 48.9	+2.8
KHEZ	Kahui Hut	3.21	231	P	Pn	07 12 49.0	+2.8
NBEZ	Newall Road No	3.29	232	P	Pn	07 12 46.3	-0.7
PRWZ	Pori Road	3.39	196	P	Pn	07 12 49.1	+0.9
BFZ	Birch Farm	3.46	192	P	Pn	07 12 49.7	+0.6
BFZ	Birch Farm	3.46	192	P	Pn	07 12 49.6	+0.5
OUZ	Omahuta	3.59	304	P	Pn	07 12 50.3	-0.4
OUZ	Omahuta	3.59	304	P	Pn	07 12 50.3	-0.4
MRZ	Mangatainoka R	3.59	200	P	Pn	07 12 50.7	+0.1
TIWZ	Tintock	3.62	196	P	Pn	07 12 51.6	+0.5
CPWZ	Castlepoint	3.69	192	P	Pn	07 12 53.1	+1.2
HOWZ	Holdsworth Sta	3.83	200	P	Pn	07 12 53.3	-0.3
OGWZ	Otaki Gorge	3.86	204	P	Pn	07 12 53.9	0.0
TMWZ	Te Maipa	3.94	195	P	Pn	07 12 55.3	+0.3
KIW	Kapiti Island	3.98	206	P	Pn	07 12 55.2	-0.4
MTW	Mount Morrison	4.08	199	P	Pn	07 12 56.2	-0.5
CAW	Cannon Point	4.15	203	P	Pn	07 12 57.2	-0.5
TRWZ	Traveller	4.26	196	P	Pn	07 12 59.0	0.0
DUWZ	D'Urville Isla	4.34	215	P	Pn	07 12 59.4	-0.6
WEL	Wellington	4.41	205	P	Pn	07 13 00.5	-0.4
SNZO	South Karori	4.45	205	P	Pn	07 13 01.8	+0.4
BHW	Baring Head	4.49	203	P	Pn	07 13 00.9	-0.9
TCW	Tory Channel	4.52	209	P	Pn	07 13 01.4	-0.9
PLWZ	Palliser	4.53	199	P	Pn	07 13 01.5	-0.9
NNZ	Nelson	4.92	216	P	Pn	07 13 06.4	-0.9
TKNZ	Takaka Hill	4.98	220	P	Pn	07 13 07.1	-1.1
QRZ	Quartz Range	5.07	225	P	Pn	07 13 08.3	-1.0
QRZ	Quartz Range	5.07	225	P	Pn	07 13 08.0	-1.3
BSWZ	Blackbirch Sta	5.11	209	P	Pn	07 13 09.3	-0.5
MRNZ	Matariki Terra	5.36	219	P	Pn	07 13 11.8	-1.2
THZ	Tophouse	5.56	215	P	Pn	07 13 14.9	-0.8
KHZ	Kahutara	5.84	208	P	Pn	07 13 18.1	-1.1
KHZ	Kahutara	5.84	208	P	Pn	07 13 18.0	-1.2
DSZ	Denniston Nort	6.10	222	P	Pn	07 13 21.4	-1.2
GVZ	Greta Valley S	6.50	208	P	Pn	07 13 26.5	-1.3
LTZ	Lake Taylor	6.66	213	P	Pn	07 13 28.7	-1.2
INZ	Inchbonnie	7.00	217	P	Pn	07 13 33.8	-0.5
OKCZ	Okains Bay	7.15	205	P	Pn	07 13 34.9	-1.3
OXZ	Oxford	7.20	212	P	Pn	07 13 35.0	-1.9
MQZ	McQueen's Vall	7.28	207	P	Pn	07 13 35.6	-2.3
AKCZ	Akaroa Harbour	7.34	205	P	Pn	07 13 37.2	-1.5
RACZ	Rakaia	7.49	209	P	Pn	07 13 38.8	-1.8
MHCZ	Mount Hutt	7.57	213	P	Pn	07 13 40.6	-1.1
TMZ	Timaru	8.50	212	P	Pn	07 13 52.0	-1.8
ODZ	Otahua Downs	9.18	211	P	Pn	07 14 01.6	-1.1
JCZ	Jackson Bay	9.31	221	P	Pn	07 14 02.9	-1.6
CTA	Charters Tower	31.93	294	LR	LR	07 31 17.4	
	comp=Z,28nm,18.8s,baz=266,slow=37						
ASAR	Alice Springs	39.39	278	P	P	07 19 06.8	+1.9
	0.5nm,0.6s,baz=120,slow=8.2,SNR=9.3						
	0.5nm,0.6s						
WRA	Warramunga Arr	41.03	283	P	P	07 19 20.1	+1.7
	0.4nm,0.3s,baz=120,slow=8.6,SNR=9.9						
	0.4nm,0.3s						
FINES	FINESS Array B	149.86	332	PKPbc	PKPab	07 31 26.0	-0.2
	1.9nm,0.8s,baz=54,slow=3.6,SNR=4.7						

IDC 03 07:16:56.8±2.2**, 5°.56S**×**151°.49E, h58^{km}**±23^{km}**, mb3.7**/2**, mbtmp3.9**/3**, ML1.7**/1**, Error ellipse: s-maj=63.2km s-min=15.5km az=129.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.35	23	P	Pn	07 17 19.1	-0.4
	231nm,0.5s,baz=206,slow=0.7,SNR=16						
PMG	Port Moresby	5.75	228	P	Pn	07 18 20.4	+0.7
	1.4nm,0.3s,baz=53,slow=14,SNR=2.6						
PMG				S	Sn	07 19 25.2	+0.9
	7.4nm,0.4s,baz=152,slow=20,SNR=6.7						
	11nm,0.9s						
WRA	Warramunga Arr	21.97	228	P	P	07 21 45.2	-0.8
	2.7nm,0.5s,baz=52,slow=9.8,SNR=34						
	2.7nm,0.5s						
ASAR	Alice Springs	24.72	221	P	P	07 22 13.2	+0.3
	1.5nm,0.5s,baz=59,slow=8.7,SNR=25						
	1.5nm,0.5s						
TORD	Torodi Ar. Bea	149.28	286	PKPbc	PKPbc	07 36 39.9	-0.3
	0.4nm,0.6s,baz=76,slow=2.7,SNR=2.5						

*NNC **03** 07:19:15.4±1.2, 49°.96N×78°.57E, h0^{km}, mb2.9, mpv2.7, Error ellipse: s-maj=21.1km s-min=5.8km az=85.0, Suspected Mining explosion.*
*IDC **03** 07:19:16.8±1.0, 50°.06N×78°.80E, h0^{km}, mbtmp3.0/2, ML2.4/2, Error ellipse: s-maj=13.9km s-min=6.4km az=65.0*
ISC 03 07:19:15.9±0.9**, 49°.96N**±0°.05×**78°.74E**±0°.09**, h0^{km}, n10,** σ1^s**65**/13**, 6C-5D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	0.68	349	Pg	Pg	07 19 28.1	-0.8
	1.7nm,0.3s,baz=165,slow=17,SNR=107						
KURBB				Lg	Lg	07 19 37.0	
	1.6nm,0.3s,baz=164,slow=35,SNR=19						
KURBB				Rg	Rg	07 19 41.4	
	61nm,0.9s,baz=165,slow=39,SNR=19						
KURBB	Kurchatov Arra	0.68	349	⇓P	Pg	07 19 27.9	-1.0
	26nm,0.4s						
KURBB				⇓S	Sg	07 19 37.5	-0.1
	86nm,0.7s						
KURK	Kurchatov	0.76	354	⇑P	Pg	07 19 29.5	-1.0
	8.6nm,0.4s						
KURK				⇓S	Sb	07 19 41.4	-1.5
	82nm,0.8s						
MAKZ	Makanchi	3.82	144	⇓Pg	Pg	07 20 27.4	-1.7
	0.3nm,0.3s						
MAKZ				⇓Lg	Lg	07 21 17.1	
	12nm,0.7s						
MK31	Makanchi Array	3.96	142	⇑Pn	Pn	07 20 20.0	+2.1
	0.2nm,0.3s,baz=322,slow=10,SNR=47						
MK31				⇑Pg	Pg	07 20 29.4	-2.3
	0.5nm,0.3s,baz=326,slow=13,SNR=20						
MK31				⇑Lg	Lg	07 21 22.7	
	17nm,0.6s,baz=330,slow=27,SNR=17						
MKAR	Makanchi Array	3.96	142	Pn	Pn	07 20 20.2	+2.4
	0.3nm,0.3s,baz=324,slow=10,SNR=56						
MKAR				Pg	Pb	07 20 26.8	+0.3
	0.6nm,0.3s,baz=322,slow=15,SNR=17						
MKAR				Lg	Lg	07 21 20.6	
	1.7nm,0.3s,baz=330,slow=28,SNR=14						
	0.4nm,0.2s						
OTUK	Ortayu	4.54	250	⇑Pn	Pn	07 20 26.9	+1.1
	0.5nm,0.3s						
OTUK				⇑Lg	Lg	07 21 37.8	
	6.8nm,0.8s						
I46RU	ZALESOVO INFRA	5.49	41	I	I	07 51 20.0	
	baz=219,slow=326,SNR=3.5						
ZALV	Zalesovo Beam	5.49	41	Pn	Pn	07 20 40.4	+1.6
	0.5nm,0.3s,baz=231,slow=14,SNR=10						
ZALV				Lg	Lg	07 22 04.8	
	0.1nm,0.3s,baz=220,slow=28,SNR=3.2						
	1.5nm,0.2s						
BVAR	Borovoye Array	6.05	304	Sn	Sn	07 21 56.3	-0.1
	0.1nm,0.3s,baz=115,slow=21,SNR=5.6						

IDC 03 07:30:43.2±2.4**, 6°.82S**×**129°.05E, h0^{km}, mb3.5**/1**, mbtmp3.3**/3**, ML3.3**/2**, Error ellipse: s-maj=152.8km s-min=33.2km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.02	159	Pn	Pn	07 34 03.3	-0.1
	0.1nm,0.3s,baz=342,slow=13,SNR=8.4						
WRA				Sn	Sn	07 36 24.4	-15
	0.5nm,0.3s,baz=332,slow=22,SNR=9.7						
	0.1nm,0.3s						
ASAR	Alice Springs	17.39	165	P	Pn	07 34 47.6	+0.1
	0.1nm,0.3s,baz=338,slow=10.0,SNR=13						
ASAR				S	Sn	07 37 46.8	-15
	0.5nm,0.5s,baz=345,slow=28,SNR=7.7						
	0.5nm,0.6s						
MKAR	Makanchi Array	67.56	327	P	P	07 41 41.6	0.0
	0.3nm,0.5s,baz=116,slow=6.3,SNR=2.7						
	0.3nm,0.5s						

*UPP **03** 07:50:57.5±0.1, 67°.85N×20°.24E, h0^{km}, ML2.5, Confirmed Induced event*
*HEL **03** 07:50:58.2±0.3, 67°.83N×20°.18E, h0^{km}, ML0.9, Explosion*
ISC 03 07:50:57.1±1.1**, 67°.81N**±0°.03×**20°.31E**±0°.03**, h0^{km}, n16,** σ0^s**71**/23**, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	5	P	Pg	07 50 59.8	0.0
KUA				S	Sg	07 51 01.4	-0.3
RATU	Laukkuluspa	0.27	273	P	Pg	07 51 02.4	+0.2
LANU	Lannavaara	0.68	69	P	Pg	07 51 10.7	+0.6
LANU	Lannavaara	0.68	69	PG	Pb	07 51 11.4	-0.4
LANU				SG	Sg	07 51 20.1	+1.2
MASU	Masugnsbyn	0.74	118	P	Pb	07 51 12.1	-0.7
SALU	Saltoluokta	0.81	239	P	Pg	07 51 12.8	+0.2
KIF	Kilpisjarvi	1.21	8	PG	Pg	07 51 20.3	0.0
	baz=195						
KIF				MSG		07 51 35.5	
	comp=Z,1.2nm,0.2s						
KIF				SG	Sg	07 51 36.1	+0.1
PAJU	Pajala	1.34	125	P	Pg	07 51 23.0	+0.2
PAJU	Pajala	1.34	125	PG	Pg	07 51 22.9	+0.2
PAJU				SB	Sn	07 51 41.9	+0.4
HEF	Hetta	1.39	63	PG	Pg	07 51 23.5	-0.3
	baz=243						
HEF				MSG		07 51 41.2	
	comp=Z,0.8nm,0.2s						
HEF				SB	Sg	07 51 42.0	+0.2
KTK1	Kautokeino	1.62	41	PG	Pb	07 51 27.7	-0.2
KTK1				SN	Sg	07 51 51.2	+2.0
HARU	Harads	1.68	171	P	Pb	07 51 28.8	+0.1
TOF	Tornio	2.35	136	MSG		07 52 09.2	
	comp=Z,0.4nm,0.2s						
TOF				SG	Sg	07 52 12.7	+0.2
SGF	Sodankyl	2.41	96	SG	Sg	07 52 14.4	0.0
RNF	Rovaniemi	2.53	116	PB	Pb	07 51 42.8	-0.5
RNF				SG	Sg	07 52 17.0	-1.2
ARA0	ARCESS Array S	2.57	45	PG	Pb	07 51 42.9	-1.1
	baz=226						

*NEIC **03** 07:51:28.6±2.0, 15°.10S±0°.07×75°.49W±0°.10, h25^{km}±6^{km}, mb4.5/25, Error ellipse: s-maj=16.0km s-min=7.0km az=57.0*
*VAO **03** 07:51:29.5±0.4, 15°.04S×75°.14W, h10^{km}, mb4.4*
*IDC **03** 07:51:30.4±0.7, 14°.97S×75°.24W, h39^{km}±6^{km}, mb3.9/13, mbtmp4.2/17, ML4.1/4, MS3.4/18, Error ellipse: s-maj=25.3km s-min=13.1km az=57.0*
ISC 03 07:51:29.8±0.5**, 15°.16S**±0°.05×**75°.38W**±0°.07**, h35^{km}, n176,** σ1^s**86**/155**, mb4.4**/23**, MS3.4**/14**, 5C, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNA	Nana	3.46	336	Pn	Pn	07 52 19.8	-1.3
NNA	Nana	3.46	336	eP	Pn	07 52 19.9	-1.3
NNA				eS	Sn	07 53 06.1	+5.1
NNA	Nana	3.46	336	Pn	Pn	07 52 20.0	-1.2
	37nm,0.3s,baz=146,slow=8.8,SNR=36						
NNA				Lg	Lg	07 53 08.0	
	140nm,0.3s,baz=217,slow=19,SNR=7.3						
	50nm,0.3s						
PB12	IPOC Station P	5.93	126	Pn	Pn	07 52 55.5	+0.2
PB18	Visviri	6.16	114	Pn	Pn	07 53 00.5	+1.8
PB16	IPOC Station P	6.45	120		Pn	07 53 04.9	+2.1
LPAZ	La Paz	7.07	100	Pn	Pn	07 53 12.5	+1.1
LPAZ	La Paz	7.07	100	eP	Pn	07 53 16.1	+4.7
LPAZ	La Paz	7.07	100	Pn	Pn	07 53 15.8	+4.5
	8.3nm,0.3s,baz=268,slow=9.5,SNR=141						
PB11	IPOC Station P	7.13	131	Pn	Pn	07 53 12.8	+1.1
TA02	Huaiquique	7.13	136		Pn	07 53 13.5	+1.9
TA01	Diego Aracena	7.31	138	Pn	Pn	07 53 15.1	+1.0
GO01	Chusmiza	7.41	128		Pn	07 53 17.1	+1.1
PATCX	Punta Patache	7.51	139		Pn	07 53 17.0	+0.1
PB08	IPOC Station P	7.73	131		Pn	07 53 20.6	+0.3
CZSB	Cruzeiro do Su	7.83	20	Pn	Pn	07 53 20.5	-0.8
CZSB	Cruzeiro do Su	7.83	20	eP	Pn	07 53 22.2	+0.9
CZSB	Cruzeiro do Su	7.83	20	eP	Pn	07 53 21.9	+0.6
PB02	IPOC Station P	8.04	140		Pn	07 53 24.5	+0.3
PB01	IPOC Station P	8.10	137		Pn	07 53 26.0	+0.9
PB07	IPOC Station P	8.36	142		Pn	07 53 29.6	+1.0
ATAH	Atahualpa	8.50	339	Pn	Pn	07 53 32.4	+1.5
	0.5nm,0.3s,baz=128,slow=12,SNR=1.7						
ATAH				LR	LR	07 56 27.3	
	comp=Z,48nm,20.4s,baz=182,slow=36						
PB04	IPOC Station P	8.69	146		Pn	07 53 33.7	+0.6
PB09	IPOC Station P	8.80	140		Pn	07 53 36.3	+1.6
PB05	IPOC Station P	9.09	148		Pn	07 53 39.1	+0.5
PB06	IPOC Station P	9.30	145		Pn	07 53 41.6	0.0
LVC	Limon Verde	9.61	141	Pn	Pn	07 53 47.0	+0.9
LVC	Limon Verde	9.61	141	eP	Pn	07 53 48.1	+2.1
LVC	Limon Verde	9.61	141	Pn	Pn	07 53 47.9	+1.9
	4.7nm,0.3s,baz=320,slow=9.6,SNR=35						
LVC				Sn	Sn	07 55 27.7	-5.3
	1.9nm,0.3s,baz=275,slow=23,SNR=2.1						
LVC				LR	LR	07 57 46.2	
	comp=Z,102nm,18.4s,baz=302,slow=39						
	16nm,0.4s						
PB15	IPOC Station P	9.76	146		Pn	07 53 48.8	+0.9
ETMB	Extrema	10.40	60	Pn	Pn	07 53 57.9	+1.3
ETMB	Extrema	10.40	60	eP	Pn	07 53 56.3	-0.2
GO02	Mina Guanaco	11.34	152	Pn	Pn	07 54 10.2	+0.6
TBTG	Tabatinga, AM	12.16	27		Pn	07 54 20.3	-0.3
TBTG	Tabatinga, AM	12.16	27	eP	Pn	07 54 23.6	+3.0
TBTG	Tabatinga, AM	12.16	27	eP	Pn	07 54 19.8	-0.8
BOSC	San Juan Bosco	12.32	345		Pn	07 54 21.9	-1.0

COHC	**Cochancay**	**13.18**	**343**	*e*P	**P**	**07 54 39.7**	**-4.4**
GO03	**Copiap**	**13.27**	**160**	Pn	**Pn**	**07 54 35.1**	**-0.6**
SAML	**Samuel**	**13.43**	**64**		**Pn**	**07 54 37.4**	**-0.6**
SAML	**Samuel**	**13.43**	**64**	*e*P	**Pn**	**07 54 37.1**	**-0.8**
SAML	**Samuel**	**13.43**	**64**	*e*P	**Pn**	**07 54 37.1**	**-0.8**
SIV	**San Ignacio**	**13.81**	**95**	Pn	**Pn**	**07 54 40.8**	**-2.4**
	0.1nm,0.3s,baz=280,slow=9.8,SNR=28						
SIV				LR	LR	08 00 56.2	
	comp=Z,194nm,21.9s,baz=288,slow=41						
	4.0nm,0.7s						
BBSD	**Serra de San D**	**14.33**	**100**	*e*P	**Pn**	**07 54 48.5**	**-1.8**
LCO	**Las Campanas**	**14.45**	**163**	Pn	**Pn**	**07 54 51.0**	**-1.0**
VILB	**Vilhena**	**14.89**	**83**		**Pn**	**07 54 58.2**	**+0.3**
VILB	**Vilhena**	**14.89**	**83**	*e*P	**Pn**	**07 54 56.1**	**-1.8**
BBRB	**Robore, Bolivi**	**15.23**	**104**	*e*P	**Pn**	**07 55 02.2**	**-0.2**
PTLC	**Puerto Leguiza**	**15.24**	**2**	*e*P	**Pn**	**07 54 58.8**	**-3.7**
PULU	**Pululahua**	**15.39**	**348**	Pn	**Pn**	**07 55 01.7**	**-3.2**
IMBA	**Imbabura, San**	**15.59**	**349**	Pn	**Pn**	**07 55 04.7**	**-2.7**
IMBA				IAmb	IAmb	07 55 33.4	
	comp=Z,28nm,1.1s						
OTAV	**Otavalo**	**15.60**	**349**		**Pn**	**07 55 05.5**	**-2.0**
OTAV	**Otavalo**	**15.60**	**349**	*e*P	**P**	**07 55 14.3**	**+2.9**
PTLB	**Pontes e Lacer**	**15.67**	**93**		**Pn**	**07 55 07.6**	**-0.5**
PTLB	**Pontes e Lacer**	**15.67**	**93**	*e*P	**Pn**	**07 55 07.6**	**-0.5**
FLOC	**Florencia**	**16.64**	**359**	*e*P	**Pn**	**07 55 21.5**	**+1.1**
CRUC	**La Cruz**	**16.69**	**355**	*e*P	P	07 55 36.2	+13
SGCB	**S£o Gabriel d**	**17.07**	**30**	*e*P	**Pn**	**07 55 24.7**	**-1.1**
GARC	**Garzon, Huila**	**17.23**	**360**	*e*P	P	07 55 36.9	+7.5
CFA	**Coronel Fontan**	**17.63**	**159**	P	**P**	**07 55 36.0**	**+2.7**
	comp=Z,0.3nm,0.3s,baz=332,slow=11,SNR=10						
	comp=Z,4.1nm,0.8s						
POPC	**Popayan, Colom**	**17.63**	**356**	*e*P	**P**	**07 55 38.0**	**+4.2**
MURT	**Porto Murtinho**	**18.05**	**114**	*e*P	**Pn**	**07 55 38.2**	**+0.3**
PANT	**Pantanal (Braz**	**18.34**	**105**	*e*P	**Pn**	**07 55 42.5**	**+1.1**
PDRB	**Porto dos Gac**	**18.48**	**81**	*e*P	**Pn**	**07 55 43.6**	**+0.4**
H03N1	**Juan Fernandez**	**18.48**	**189**	T	T	08 14 40.1	
	baz=11,slow=74,SNR=2272						
H03N2	**Juan Fernandez**	**18.48**	**189**	T	T	08 14 39.4	
	baz=11,slow=74,SNR=2212						
BDQN	**Bodoquena, MS**	**18.50**	**109**	*e*P	**Pn**	**07 55 44.3**	**+0.9**
H03N3	**Juan Fernandez**	**18.50**	**189**	T	T	08 14 38.9	
	baz=11,slow=74,SNR=2441						
ESFA	**Espinillo Form**	**18.61**	**124**	*e*P	**Pn**	**07 55 46.5**	**+1.8**
MACA	**Manacapuru-AM**	**18.76**	**52**	P	**P**	**07 55 44.8**	**-1.1**
MACA				IAmb	IAmb	07 56 10.7	
	comp=Z,13nm,0.7s						
MACA	**Manacapuru-AM**	**18.76**	**52**	*e*P	**P**	**07 55 46.2**	**+0.3**
SALV	**Santo Antonio**	**18.98**	**95**	*e*P	**P**	**07 55 48.2**	**-0.2**
AQDB	**Aquidauana**	**19.46**	**109**	P	**P**	**07 55 54.9**	**+1.2**
AQDB				IAmb	IAmb	07 55 56.7	
	comp=Z,24nm,1.1s						
AQDB	**Aquidauana**	**19.46**	**109**	*e*P	**Pn**	**07 55 55.1**	**0.0**
PTGC	**Puerto Gaitan,**	**19.50**	**10**	*e*P	**Pn**	**07 55 58.2**	**+2.7**
CLDB	**Colider**	**19.55**	**80**	*e*P	**P**	**07 55 55.2**	**+0.6**
ANTJ	**Antonio Joao (**	**19.57**	**113**	*e*P	**Pn**	**07 55 56.5**	**+0.1**
CHIC	**Chingaza**	**19.73**	**5**	*e*P	Pn	07 56 09.1	+10
PP1B	**Ponte de Pedra**	**19.82**	**100**	*e*P	**Pn**	**07 55 59.0**	**-0.3**
SCCA	**San Cayetano,**	**19.86**	**131**	*e*P	**Pn**	**07 56 01.2**	**+1.5**
ROSC	**El Rosal**	**19.90**	**3**	LR	LR	08 05 12.7	
	comp=Z,118nm,19.7s,baz=198,slow=42						
RVDE	**Rio Verde (Bra**	**19.91**	**104**	*e*P	**P**	**07 55 59.0**	**+0.5**
CPUP	**Villa Florida**	**20.18**	**126**	P	**P**	**07 56 02.7**	**+1.2**
CPUP	**Villa Florida**	**20.18**	**126**	*e*P	**P**	**07 56 02.9**	**+1.4**
CPUP	**Villa Florida**	**20.18**	**126**	P	**P**	**07 56 02.5**	**+1.1**
	comp=Z,2.9nm,0.8s,baz=315,slow=12,SNR=5.4						
CPUP				LR	LR	08 05 24.8	
	comp=Z,91nm,18.7s,baz=293,slow=41						
	comp=Z,2.9nm,0.8s						
GUY2C	**Guyana, Caldas**	**20.25**	**0**	*e*P	Pn	07 56 06.1	+1.3
NORC	**Norcasia**	**20.59**	**1**	*e*P	Pn	07 56 09.3	+0.9
AMBA	**Amambai (Brazi**	**20.75**	**115**	*e*P	**P**	**07 56 09.5**	**+1.9**
CBOC	**Ciudad Bolivar**	**20.89**	**358**	*e*P	Pn	07 56 14.5	+2.4
RUSC	**La Rusia**	**21.04**	**6**	*e*P	**P**	**07 56 16.6**	**+5.4**
MECA	**Mercedes**	**21.21**	**134**	*e*P	**P**	**07 56 14.9**	**+2.4**
NPGB	**Novo Progresso**	**21.22**	**70**	*e*P	**P**	**07 56 12.1**	**-0.7**
PTBC	**PUERTO BERRIO,**	**21.58**	**2**	*e*P	**P**	**07 56 17.8**	**+1.2**
C2SB	**Chapadao do Su**	**21.85**	**103**	*e*P	**P**	**07 56 22.2**	**+2.6**
MCR1	**Marechal Candi**	**22.08**	**118**	*e*P	**P**	**07 56 24.8**	**+2.8**
ITTB	**Itaituba**	**22.11**	**63**	*e*P	**P**	**07 56 21.2**	**-1.0**
ZARC	**Zaragoza, Cauc**	**22.51**	**1**	*e*P	**P**	**07 56 28.5**	**+1.9**
ITQB	**Itaqui**	**22.52**	**133**	P	**P**	**07 56 26.9**	**+0.3**
ITQB				IAmb	IAmb	07 56 29.1	
	comp=Z,20nm,1.1s						
ITQB	**Itaqui**	**22.52**	**133**	*e*P	**P**	**07 56 28.3**	**+1.8**
UREC	**San Jos de Ur**	**22.76**	**360**	*e*P	P	07 56 37.3	+8.1
BOAV	**Boa Vista**	**22.81**	**41**	P	**P**	**07 56 28.4**	**-1.4**
BOAV				IAmb	IAmb	07 56 42.4	
	comp=Z,10.0nm,1.0s						
BOAV	**Boa Vista**	**22.81**	**41**	*e*P	**P**	**07 56 28.8**	**-1.0**
OCAC	**Ocana**	**23.34**	**5**	*e*P	**P**	**07 56 42.2**	**+7.0**
FRBT	**Francisco Belt**	**23.46**	**121**	*e*P	**P**	**07 56 36.5**	**+0.1**
PCMB	**Pacaembu**	**23.75**	**109**	*e*P	**P**	**07 56 40.4**	**+1.3**
PTGB	**Pitanga**	**23.86**	**117**	*e*P	**P**	**07 56 41.8**	**+1.6**
ITRB	**Iturama**	**24.29**	**104**	*e*P	**P**	**07 56 45.0**	**+0.9**
LDASE	**Londrina, Braz**	**24.30**	**113**	*e*P	**P**	**07 56 44.6**	**+0.5**
SDV	**Santo Domingo**	**24.35**	**11**	P	**P**	**07 56 44.5**	**-0.3**
SDV				IAmb	IAmb	07 57 00.3	
	comp=Z,13nm,0.9s						
SDV	**Santo Domingo**	**24.35**	**11**	*e*P	**P**	**07 56 44.3**	**-0.4**
SDV	**Santo Domingo**	**24.35**	**11**	*e*P	**P**	**07 56 46.8**	**+2.0**
SDV	**Santo Domingo**	**24.35**	**11**	LR	LR	08 07 09.5	
	comp=Z,111nm,21.3s,baz=196,slow=39						
ALGR	**Alto Alegre (B**	**24.72**	**127**	*e*P	**P**	**07 56 50.2**	**+2.3**
ITAB	**Concordia**	**24.73**	**123**	P	**P**	**07 56 49.1**	**+1.0**
ITAB				IAmb	IAmb	07 57 04.9	
	comp=Z,36nm,1.5s						
ARGC	**Ariguani, Magd**	**24.88**	**3**	*e*P	**P**	**07 56 56.5**	**+7.1**
BAUV	**El Baul**	**25.02**	**17**	P	**P**	**07 56 50.5**	**-0.2**
FRTB	**Fartura**	**25.66**	**112**	*e*P	**P**	**07 56 58.5**	**+1.9**
TRQA	**Tornquist**	**25.70**	**155**	P	**P**	**07 56 57.2**	**+0.5**
PLCA	**Paso Flores**	**25.83**	**172**	P	**P**	**07 56 58.9**	**+1.0**
PLCA				IAmb	IAmb	07 57 12.8	
	comp=Z,9.3nm,1.1s						
PLCA	**Paso Flores**	**25.83**	**172**	*e*P	**P**	**07 57 00.5**	**+2.6**
PLCA	**Paso Flores**	**25.83**	**172**	P	**P**	**07 56 59.0**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=343,slow=11,SNR=4.6						
	comp=Z,1.7nm,0.8s						
BB19B	**Bebedouro**	**26.17**	**107**	*e*P	**P**	**07 57 03.1**	**+2.0**
IPMB	**Ipameri, GO**	**26.18**	**100**	*e*P	**P**	**07 57 01.2**	**-0.1**
BDFB	**Brasilia**	**26.38**	**95**	P	**P**	**07 57 03.3**	**+0.1**
BDFB	**Brasilia**	**26.38**	**95**	P	**P**	**07 57 02.8**	**-0.4**
	comp=Z,2.7nm,0.6s,baz=266,slow=13,SNR=8.4						
BDFB				LR	LR	08 08 37.4	
	comp=Z,88nm,18.1s,baz=184,slow=39						
	comp=Z,2.7nm,0.6s						
PRPB	**Parauapebas**	**26.63**	**73**	*e*P	**P**	**07 57 07.6**	**+2.2**
JTS	**Las Juntas de**	**27.00**	**339**	LR	LR	08 07 07.8	
	comp=Z,86nm,21.0s,baz=154,slow=35						
RCLB	**Rio Claro- Sao**	**27.30**	**110**	*e*P	**P**	**07 57 14.3**	**+2.9**
PMNB	**Patos De Minas**	**27.89**	**101**	*e*P	**P**	**07 57 16.8**	**+0.1**
JANB	**Januaria**	**29.98**	**94**	*e*P	**P**	**07 57 34.9**	**-0.5**
MDP	**Montagnes des**	**30.21**	**50**	LR	LR	08 10 10.3	
	comp=Z,68nm,19.5s,baz=240,slow=37						
DIAM	**Diamantina, MG**	**30.50**	**100**	*e*P	**P**	**07 57 40.4**	**+0.3**
ROSB	**Rosrio**	**33.12**	**72**	*e*P	**P**	**07 58 03.0**	**+0.1**
RIB01	**Linhares ES**	**33.63**	**102**	*e*P	**P**	**07 58 10.0**	**+2.7**
SJG	**San Juan**	**34.29**	**16**	LR	LR	08 13 07.4	
	comp=Z,52nm,18.8s,baz=199,slow=38						
CMIG	**Matias Romero**	**37.38**	**328**	LR	LR	08 12 35.7	
	comp=Z,23nm,20.2s,baz=158,slow=34						
TEIG	**Tepich**	**37.38**	**340**	LR	LR	08 12 24.0	
	comp=Z,404nm,18.6s,baz=82,slow=34						
TKL	**Tuckaleechee C**	**51.16**	**351**	LR	LR	08 22 32.9	
	comp=Z,40nm,19.4s,baz=177,slow=36						
TXAR	**Lajitas Array**	**51.99**	**328**	P	**P**	**08 00 35.1**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=147,slow=8.7,SNR=14						
TXAR				pP	**pP**	**08 00 46.9**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=151,slow=8.7,SNR=9.8						
	comp=Z,1.1nm,0.7s						
APMT	**Aspermont**	**53.69**	**334**	P	**P**	**08 00 47.4**	**-0.9**
APMT				IAmb	IAmb	08 01 00.5	
	comp=Z,5.8nm,0.9s						
S39A	**Bolivar**	**55.21**	**343**	P	**P**	**08 00 57.4**	**-1.8**
S39A				IAmb	IAmb	08 01 15.5	
	comp=Z,4.7nm,0.9s						
OK051	**E0350 and S346**	**55.24**	**339**	P	**P**	**08 00 57.6**	**-1.8**
SMWD	**Samnorwood**	**55.28**	**335**	P	**P**	**08 00 58.8**	**-1.0**
SMWD				IAmb	IAmb	08 01 13.7	
	comp=Z,7.3nm,0.7s						
SDCO	**Great Sand Dun**	**59.75**	**333**	P	**P**	**08 01 30.4**	**-1.1**
SDCO				IAmb	IAmb	08 01 44.1	
	comp=Z,2.5nm,0.9s						
PDAR	**Pinedale Array**	**65.64**	**333**	P	**P**	**08 02 10.4**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=115,slow=10,SNR=3.5						
	comp=Z,0.4nm,0.7s						
BELA	**Belgrano 2**	**65.88**	**171**	P	**P**	**08 02 12.8**	**+1.3**
BELA				IAmb	IAmb	08 02 26.3	
	comp=Z,9.0nm,1.3s						
ULM	**Lac du Bonnet**	**67.58**	**346**	P	**P**	**08 02 20.6**	**-1.9**
	comp=Z,1.0nm,0.4s,baz=171,slow=2.9,SNR=3.4						
ULM				pP	**pP**	**08 02 33.4**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=128,slow=5.4,SNR=4.1						
	comp=Z,1.0nm,0.4s						
VNA3	**Neumayer Olymp**	**68.02**	**161**	⇑P	**P**	**08 02 26.3**	**+1.1**
	comp=Z,3.4nm,1.0s						
PAHR	**Pah Rah Range**	**68.25**	**325**	P	**P**	**08 02 26.0**	**-1.2**
VNA1	**Neumayer--Stat**	**68.28**	**161**	⇑P	**P**	**08 02 28.3**	**+1.6**
	comp=Z,6.1nm,0.8s						
VNA2	**Neumayer--Watz**	**68.63**	**161**	⇑P	**P**	**08 02 29.8**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=281,slow=7.0						
SNAA	**Sanae**	**70.24**	**161**	P	**P**	**08 02 39.5**	**+0.5**
SNAA	**Sanae**	**70.24**	**161**	⇑P	**P**	**08 02 39.9**	**+0.9**
	comp=Z,154nm,0.7s						
SNAA	**Sanae**	**70.24**	**161**	P	**P**	**08 02 39.9**	**+0.9**
	comp=Z,6.9nm,0.8s,baz=279,slow=6.6,SNR=22						
	comp=Z,6.9nm,0.8s						
TROLL	**Troll, Antarti**	**71.95**	**161**	⇑P	**P**	**08 02 50.6**	**+1.1**
	comp=Z,210nm,1.3s						
DBIC	**Dimbokro**	**73.15**	**78**	P	**P**	**08 02 56.4**	**-1.0**
	comp=Z,2.8nm,0.8s,baz=225,slow=5.6,SNR=4.1						
DBIC				LR	LR	08 34 27.3	
	comp=Z,35nm,18.1s,baz=258,slow=35						
	comp=Z,2.8nm,0.8s						
NEW	**Newport**	**73.25**	**332**	LR	LR	08 37 56.1	
	comp=Z,23nm,18.9s,baz=244,slow=38						
TORD	**Torodi Ar. Bea**	**81.28**	**74**	P	**P**	**08 03 41.4**	**-1.6**
	comp=Z,3.3nm,0.7s,baz=270,slow=4.5,SNR=20						
	comp=Z,3.3nm,0.7s						
YKA	**Yellowknife Ar**	**83.27**	**343**	P	**P**	**08 03 51.5**	**-0.9**
	comp=Z,1.3nm,0.9s,baz=138,slow=5.1,SNR=18						
YKA				pP	**pP**	**08 04 03.9**	**+0.3**
	comp=Z,2.9nm,1.1s,baz=140,slow=4.8,SNR=5.9						
	comp=Z,1.3nm,0.9s						
ESDC	**Sonseca Array**	**85.86**	**47**	P	**P**	**08 04 06.1**	**0.0**
	comp=Z,0.3nm,0.6s,baz=256,slow=5.0,SNR=4.3						
	comp=Z,0.3nm,0.6s						
BOSA	**Boshof**	**91.89**	**120**	P	**P**	**08 04 34.2**	**-0.9**
	comp=Z,10nm,1.4s,baz=326,slow=7.3,SNR=2.1						
	comp=Z,10nm,1.4s						
MAW	**Mawson**	**92.07**	**165**	P	**P**	**08 04 35.1**	**+0.2**
	comp=Z,2.6nm,0.9s,baz=198,slow=6.4,SNR=1.9						
MAW				LR	LR	08 43 17.7	
	comp=Z,30nm,21.7s,baz=232,slow=34						
	comp=Z,2.6nm,0.9s						
INK	**Inuvik**	**92.97**	**342**	LR	LR	08 50 41.2	
	comp=Z,28nm,18.7s,baz=174,slow=38						
LBTB	**Lobatse**	**93.30**	**117**	LR	LR	08 42 08.3	
	comp=Z,15nm,18.9s,baz=208,slow=33						
H11N3	**WAKE ISLAND Hy**	**120.68**	**284**	T	T	10 22 09.1	
	baz=96,slow=74,SNR=40						
H11N2	**WAKE ISLAND Hy**	**120.69**	**284**	T	T	10 22 10.3	
	baz=96,slow=74,SNR=38						
H11N1	**WAKE ISLAND Hy**	**120.69**	**284**	T	T	10 22 10.3	
	baz=96,slow=74,SNR=16						
H11S2	**WAKE ISLAND Hy**	**120.73**	**283**	T	T	10 22 33.9	
	baz=97,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**120.73**	**283**	T	T	10 22 33.1	
	baz=97,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy**	**120.74**	**283**	T	T	10 22 33.8	
	baz=97,slow=75,SNR=12						
ASAR	**Alice Springs**	**131.95**	**217**	PKP	**PKPdf**	**08 10 40.1**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=134,slow=2.0,SNR=12						
ASAR				pPKP	**pPKPdf**	**08 10 52.8**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=98,slow=1.3,SNR=2.3						
WRA	**Warramunga Arr**	**134.50**	**221**	PKP	**PKPdf**	**08 10 45.0**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=137,slow=1.9,SNR=18						
ZALV	**Zalesovo Beam**	**138.30**	**18**	PKP	**PKPdf**	**08 10 51.1**	**0.0**
	comp=Z,1.8nm,0.7s,baz=338,slow=1.6,SNR=7.6						
MKAR	**Makanchi Array**	**143.37**	**26**	PKP	**PKPdf**	**08 11 00.4**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=336,slow=2.7,SNR=4.1						
SONM	**Songino Array**	**147.38**	**358**	PKPbc	**PKPbc**	**08 11 09.8**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=335,slow=1.2,SNR=16						
KSRS	**Korea Array**	**149.67**	**321**	PKPbc	**PKPbc**	**08 11 16.5**	**+0.4**
	comp=Z,3.1nm,1.0s,baz=15,slow=2.3,SNR=8.9						

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*NEIC **03** 08:15:05.2±1.4, 19°.8S±0°.2×175°.6W±0°.1, h223km±14km, mb4.3/19, Error ellipse: s-maj=26.6km s-min=14.7km az=181.0*

*NOU **03** 08:15:06.9, 19°.97S×175°.34W, h249km, mb4.3/11, Tonga Islands*

*IDC **03** 08:15:14.9±5.3, 20°.65S×175°.99W, h297km±53km, mb3.5/4, mbtmp4.3/6, Error ellipse: s-maj=26.1km s-min=17.2km az=115.0*

ISC 03 08:15:06.1±0.7**, 19°.9S**±0°.1×**175°.45W**±0°.07**, h250km, n38, σ1s.33**/37**, mb4.1**/13**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.27**	**82**	Pn	**Pn**	**08 16 25.3**	**+0.1**
NIUE				Sn	**S**	**08 17 26.4**	**-1.9**
NIUE	**Niue**	**5.27**	**82**	P	**Pn**	**08 16 25.6**	**+0.4**
AFI	**Afiamalu**	**6.88**	**31**	Pn	**Pn**	**08 16 44.4**	**-1.0**
AFI	**Afiamalu**	**6.88**	**31**	P	**Pn**	**08 16 46.5**	**+1.1**
DVP	**Devils Point**	**15.64**	**275**	P	**Pn**	**08 18 36.2**	**+2.2**
PINNC	**Pines Island,**	**16.18**	**257**	Pn	**Pn**	**08 18 40.0**	**-0.4**
OUENC	**Ouen Island, N**	**16.72**	**258**	Pn	**Pn**	**08 18 45.5**	**-1.2**
DZM	**Mont Dzumac**	**17.05**	**259**	P	**Pn**	**08 18 48.2**	**-2.6**
DZM	**Mont Dzumac**	**17.05**	**259**	P	**Pn**	**08 18 49.6**	**-1.2**
DZM	**Mont Dzumac**	**17.05**	**259**	P	**Pn**	**08 18 48.6**	**-2.2**
	37nm,0.7s,baz=80,slow=18,SNR=22						
MXZ	**Matakaoa Point**	**18.47**	**196**	P	**P**	**08 19 02.7**	**-1.0**
KOUNC	**Koumac, New Ca**	**19.03**	**264**	P	**P**	**08 19 08.7**	**-1.3**
KOUNC				IAmb	IAmb	08 19 17.3	
	comp=Z,21nm,1.1s						
URZ	**Urewera**	**19.45**	**198**	P	**P**	**08 19 14.2**	**+0.1**
URZ	**Urewera**	**19.45**	**198**	P	**P**	**08 19 10.0**	**-4.1**
	comp=Z,3.9nm,0.3s,baz=12,slow=5.1,SNR=10						
URZ				S	S	08 22 26.6	-14
	comp=Z,4.2nm,0.7s,baz=308,slow=19,SNR=2.3						
BFZ	**Birch Farm**	**21.94**	**197**	P	**P**	**08 19 40.5**	**+1.0**
PLWZ	**Palliser**	**23.05**	**198**	P	**P**	**08 19 50.0**	**+0.4**
QRZ	**Quartz Range**	**23.29**	**204**	P	**P**	**08 19 51.8**	**0.0**
KHZ	**Kahutara**	**24.34**	**200**	P	**P**	**08 20 01.2**	**-0.1**
INZ	**Inchbonnie**	**25.34**	**203**	P	**P**	**08 20 10.2**	**0.0**
OXZ	**Oxford**	**25.66**	**201**	P	**P**	**08 20 13.9**	**+0.8**
OXZ				IAmb	IAmb	08 20 14.1	
	comp=Z,18nm,1.1s						
EIDS	**Eidsvold**	**31.33**	**254**	P	**P**	**08 21 03.1**	**-0.4**
EIDS				IAmb	IAmb	08 21 16.4	
	comp=Z,3.8nm,1.1s						
CTAO	**Charters Tower**	**35.94**	**263**	P	**P**	**08 21 43.5**	**+0.1**
CTAO				IAmb	IAmb	08 21 43.7	
	comp=Z,8.6nm,0.7s						
BBOO	**Buckleboo**	**44.98**	**243**	P	**P**	**08 22 57.8**	**+0.9**
BBOO				IAmb	IAmb	08 23 12.1	
	comp=Z,6.9nm,0.9s						
WR0	**Warramunga Arr**	**46.87**	**261**	P	**P**	**08 23 11.2**	**-0.6**
AS31	**Alice Springs**	**47.00**	**256**	P	**P**	**08 23 13.1**	**+0.3**
ASAR	**Alice Springs**	**47.00**	**256**	P	**P**	**08 23 12.7**	**-0.1**
ASAR	**Alice Springs**	**47.00**	**256**	P	**P**	**08 23 12.2**	**-0.7**
	comp=Z,4.0nm,0.7s,baz=96,slow=8.1,SNR=53						
	comp=Z,4.0nm,0.7s						
WB0	**Warramunga Arr**	**47.04**	**261**	P	**P**	**08 23 12.7**	**-0.5**
WB0				IAmb	IAmb	08 23 13.2	
	comp=Z,7.5nm,0.6s						
WB2	**Warramunga Arr**	**47.05**	**261**	P	**P**	**08 23 13.1**	**-0.2**
WB2				IAmb	IAmb	08 23 13.4	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**47.06**	**261**	P	**P**	**08 23 12.9**	**-0.5**
WRA	**Warramunga Arr**	**47.06**	**261**	P	**P**	**08 23 12.5**	**-0.8**
	comp=Z,3.8nm,0.6s,baz=98,slow=8.8,SNR=75						
	comp=Z,3.8nm,0.6s						
MTN	**Manton Dam**	**51.56**	**269**	P	**P**	**08 23 48.4**	**+1.1**
KNRA	**Kununurra**	**53.09**	**265**	P	**P**	**08 23 59.2**	**+0.7**
KNRA				IAmb	IAmb	08 24 00.1	
	comp=Z,11nm,0.8s						
PSA00	**Pilbara Seismi**	**60.15**	**256**	P	**P**	**08 24 47.4**	**-0.5**
PSA00				IAmb	IAmb	08 24 52.2	
	comp=Z,6.2nm,1.1s						
MBWA	**Marble Bar**	**60.33**	**256**	P	**P**	**08 24 49.5**	**+0.3**
MBWA				IAmb	IAmb	08 25 18.1	
	comp=Z,7.9nm,1.1s						
QSPA	**South Pole Qui**	**70.21**	**180**	P	**P**	**08 25 54.8**	**+2.9**
NVAR	**Mina Array Bea**	**78.93**	**42**	P	P	08 26 50.9	+8.5
	comp=Z,0.6nm,0.6s,baz=220,slow=9.4,SNR=5.4						
	comp=Z,0.6nm,0.6s						
TXAR	**Lajitas Array**	**84.70**	**56**	P	P	08 27 20.8	+8.4
	comp=Z,0.7nm,0.9s,baz=218,slow=5.7,SNR=5.3						
	comp=Z,0.7nm,0.9s						

CATAC 03 08:29:22.8±0.7**, 9°.28N**×**84°.47W, h2km, ML2.6, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.42**	**334**	IAML		08 29 31.0	
	comp=Z,220nm,1.0s						
JACO				*i* P	Pg	08 29 31.1	+0.2
JACO				*i* S	Sg	08 29 36.1	-0.3
LCR2	**La Lucha 2**	**0.65**	**45**	*i* P	Pg	08 29 35.0	-0.3
LCR2				IAML		08 29 44.6	
	comp=Z,120nm,1.0s						
LAFE	**Finca La Fe, P**	**0.68**	**321**	*i* P	Pg	08 29 36.1	+0.3
LAFE				*i* SA		08 29 45.6	
CDM	**Cerro de Muert**	**0.75**	**69**	*i* P	Pg	08 29 38.0	+0.8
CDM				*i* S	Sg	08 29 46.9	-0.1
CDM				IAML		08 29 49.8	
	comp=Z,93nm,1.0s						
CPMI	**Catarata Coope**	**1.00**	**5**	*i* P	Pg	08 29 42.0	0.0
CPMI				IAML		08 30 51.9	
	comp=Z,89nm,1.0s						
RIOS	**Rincon, Osa**	**1.11**	**121**	*i* P	Pg	08 29 39.3	-4.8
INDI	**Punta indio, G**	**1.17**	**300**	*i* P	Pg	08 29 44.3	-0.9
COVE	**Coope Vega, Sa**	**1.43**	**3**	*i* P	Pn	08 29 49.6	-0.2
COVE				IAML		08 31 14.2	
	comp=Z,150nm,1.0s						
TRT2	**Tortugero**	**1.46**	**30**	*i* P	Pn	08 29 49.8	-0.4
TRT2				IAML		08 31 11.6	
	comp=Z,180nm,1.0s						

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*UCR **03** 08:30:22.8±1.1, 9°.31N×84°.49W, h15km±5km, MW3.5*

*CATAC **03** 08:30:22.6±0.5, 9°.32N×84°.44W, h1km±6km, ML2.8*

ISC 03 08:30:22.7±1.3**, 9°.34N**±0°.05×**84°.45W**±0°.03**, h13km**±10km**, n51, σ0s.41**/67**, 1C-4D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RITA	**Parrita**	**0.22**	**32**	*e*P	**Pb**	**08 30 28.4**	**-0.2**
LLNJ	**Naranjito**	**0.37**	**68**	⇓*i*P	**Pb**	**08 30 30.8**	**-0.4**
LLNJ				*e*S	**Sb**	**08 30 37.2**	**+0.3**
JACO	**JACO, Garabito**	**0.39**	**327**	*e*P	**Pg**	**08 30 30.5**	**0.0**
JACO	**JACO, Garabito**	**0.39**	**327**	*i* P	**Pg**	**08 30 30.5**	**0.0**
JACO				IAML		08 30 38.0	
	comp=Z,430nm,1.0s						
ABE2	**San Pablo**	**0.53**	**47**	*e*P	**Pg**	**08 30 33.5**	**+0.2**
ABE2				*e*S	**Sb**	**08 30 42.0**	**+0.1**
EDDO	**Dominical**	**0.58**	**98**	*e*P	**Pg**	**08 30 34.2**	**+0.1**
EDDO				*e*S	**Sb**	**08 30 43.8**	**+0.8**
LCR2	**La Lucha 2**	**0.59**	**47**	*e*P	**Pg**	**08 30 34.3**	**-0.1**
LCR2	**La Lucha 2**	**0.59**	**47**	*i* P	**Pg**	**08 30 34.3**	**-0.1**
LCR2				IAML		08 30 34.4	
	comp=Z,300nm,1.0s						
LAFE	**Finca La Fe, P**	**0.65**	**316**	*e*P	**Pg**	**08 30 35.5**	**0.0**
LAFE	**Finca La Fe, P**	**0.65**	**316**	*i* P	**Pg**	**08 30 35.6**	**0.0**
LAFE				IAML		08 30 36.2	
	comp=Z,360nm,1.0s						
CBL1	**Cabuya**	**0.68**	**292**	*e*P	**Pg**	**08 30 35.6**	**-0.5**
ARZA	**Esparza**	**0.69**	**342**	*e*P	**Pb**	**08 30 37.2**	**+0.6**
CDM	**Cerro de Muert**	**0.71**	**72**	*i* P	**Pg**	**08 30 36.3**	**-0.3**
CDM				IAML		08 30 51.1	
	comp=Z,180nm,1.0s						
BUS1	**Rivas**	**0.72**	**72**	*e*P	**Pg**	**08 30 36.5**	**-0.4**
OCM	**Ochomogo**	**0.73**	**41**	*i* P	**Pg**	**08 30 36.7**	**-0.4**
OCM				IAML		08 30 38.2	
	comp=Z,340nm,1.0s						
HDC	**Heredia**	**0.74**	**26**	*e*P	**Pg**	**08 30 36.9**	**-0.3**
HDC3	**Heredia 3**	**0.74**	**27**	*i* P	**Pg**	**08 30 36.8**	**-0.4**
HDC3				IAML		08 30 52.6	
	comp=Z,420nm,1.0s						
SRA1	**San Ramn**	**0.75**	**358**	*e*P	**Pg**	**08 30 36.9**	**-0.4**
REPA	**Paraso**	**0.75**	**49**	*e*P	**Pb**	**08 30 38.0**	**+0.1**
CORON	**Coronado**	**0.77**	**35**	*e*P	**Pg**	**08 30 37.6**	**-0.2**
OCHAL	**Ojochal**	**0.83**	**107**	*i* P	**Pg**	**08 30 38.4**	**-0.3**
OCHAL				IAML		08 30 57.3	
	comp=Z,2.0nm,1.0s						
HAYA	**Volcan Irazu**	**0.88**	**43**	*i* P	**Pg**	**08 30 39.4**	**-0.4**
HAYA				IAML		08 30 55.3	
	comp=Z,500nm,1.0s						
VICA	**Volcano Irazu**	**0.88**	**43**	*e*P	**Pb**	**08 30 40.5**	**+0.4**
RAFA	**San Farael, Vo**	**0.88**	**45**	*e*P	**Pg**	**08 30 39.5**	**-0.4**
RAFA	**San Farael, Vo**	**0.88**	**45**	*i* P	**Pg**	**08 30 39.5**	**-0.4**
RAFA				IAML		08 30 55.2	
	comp=Z,4µm,1.0s						
CPMI	**Catarata Coope**	**0.94**	**4**	*i* P	**Pg**	**08 30 40.3**	**-0.7**
CPMI				*i* S	**Sb**	**08 30 53.9**	**+0.2**
CPMI				IAML		08 30 58.1	
	comp=Z,190nm,1.0s						
VERB	**Verbena**	**0.96**	**51**	⇑*i*P	**Pb**	**08 30 40.8**	**-0.5**
VERB				*e*S	**Sn**	**08 30 55.7**	**0.0**
RVSTA	**Santa Teresita**	**1.01**	**51**	*e*P	**Pb**	**08 30 41.7**	**-0.6**
RVSTA				*e*S	**Sn**	**08 30 57.9**	**+0.9**
MONTE	**Monteverde**	**1.03**	**340**	*e*P	**Pb**	**08 30 41.5**	**-1.0**
MONTE				*e*S	**Sg**	**08 30 56.2**	**+0.1**
SOCE	**Pocosol**	**1.05**	**351**	*e*P	**Pb**	**08 30 42.5**	**-0.4**
SOCE	**Pocosol**	**1.05**	**351**	*i* P	**Pb**	**08 30 42.7**	**-0.2**
CASO	**Castillo**	**1.13**	**346**	*e*P	**Pb**	**08 30 43.7**	**-0.5**
CASO				*e*S	**Sb**	**08 30 59.0**	**+0.2**
FORC	**Fortuna**	**1.15**	**349**	*e*P	**Pb**	**08 30 44.3**	**-0.1**
LCOCO	**El Coco**	**1.15**	**50**	*e*P	**Pb**	**08 30 44.0**	**-0.6**
INDI	**Punta indio, G**	**1.17**	**297**	*i* P	**Pb**	**08 30 44.8**	**0.0**
INDI				IAML		08 31 06.8	
	comp=Z,150nm,1.0s						
CEDE	**Laguna Cedeo**	**1.17**	**348**	*e*P	**Pn**	**08 30 44.7**	**-0.3**
TABAC	**Tabacon**	**1.20**	**345**	*e*P	**Pn**	**08 30 44.8**	**-0.6**
TABAC				*e*S	**Sg**	**08 31 02.4**	**+0.9**
COTE	**Lago Cote**	**1.32**	**339**	*e*P	**Pn**	**08 30 47.0**	**+0.1**
COTE				*e*S	**Sn**	**08 31 04.7**	**+0.3**
COVE	**Coope Vega, Sa**	**1.38**	**2**	*e*P	**Pn**	**08 30 47.8**	**0.0**
ACAL	**Aguas Claras**	**1.41**	**336**	⇓*e*P	**Pn**	**08 30 47.8**	**-0.5**
ACAL				*e*S	**Sn**	**08 31 06.6**	**-0.3**
ORTG	**Ortega, Santa**	**1.43**	**316**	*i* P	**Pb**	**08 30 49.0**	**-0.3**
ORTG				IAML		08 31 13.9	
	comp=Z,60nm,1.0s						
PTEN	**Parque Tenorio**	**1.47**	**339**	*e*P	**Pn**	**08 30 49.4**	**+0.3**
MOTZ	**Rio Naranjo**	**1.48**	**335**	*e*P	**Pn**	**08 30 49.0**	**-0.1**
MOTZ				*e*S	**Sb**	**08 31 09.0**	**+0.1**
CUI	**Cuipilapa**	**1.49**	**332**	⇓*e*P	**Pn**	**08 30 48.9**	**-0.4**
CUI				*e*S	**Sb**	**08 31 09.0**	**-0.3**
COLC	**Colonia**	**1.52**	**331**	*e*P	**Pn**	**08 30 49.1**	**-0.6**
HORNC	**Hornillas**	**1.55**	**332**	*e*P	**Pn**	**08 30 49.7**	**-0.4**
MESS	**Mesas**	**1.58**	**332**	*e*P	**Pn**	**08 30 50.3**	**-0.3**
MESS				*e*S	**Sn**	**08 31 11.1**	**+0.1**
CANAL	**Canalete**	**1.60**	**338**	*e*P	**Pn**	**08 30 51.1**	**+0.2**
CANAL				*e*S	**Sb**	**08 31 13.3**	**+0.8**
VMAR	**Armenia, Volca**	**1.61**	**336**	⇓*i*P	**Pn**	**08 30 51.3**	**+0.3**
VMAR				*e*S	**Sb**	**08 31 12.7**	**0.0**
GB1A	**Borinquen Arri**	**1.75**	**328**	*e*P	**Pb**	**08 30 55.0**	**+0.3**
HZTE	**Horizontes, Gu**	**1.78**	**321**	*i* P	**Pb**	**08 30 55.1**	**-0.1**
HZTE				IAML		08 31 29.2	
	comp=Z,120nm,1.0s						

AUST 03 08:43:15.9±1.7**, 30°.44S**×**119°.91E, h10km, Error ellipse: s-maj=29.0km s-min=16.5km az=18.0, Mining explosion., Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMBL	**Kambalda**	**1.93**	**119**	P	Pn	08 43 48.1	-0.7
	baz=2.0						
KMBL				S	Sn	08 44 12.6	-0.6
	baz=2.0						
KMBL	**Kambalda**	**1.93**	**119**	P	Pn	08 43 48.2	-0.6
	baz=1.9						
KMBL				S	Sb	08 44 14.5	-0.9
	baz=1.9						
KLBR	**Kellerberrin**	**2.17**	**238**	P	Pn	08 43 52.8	+0.6
	baz=2.2						
KLBR				S	Sn	08 44 20.0	+0.9
	baz=2.2						
KLBR	**Kellerberrin**	**2.17**	**238**	P	Pn	08 43 52.2	+0.1
	baz=2.2						
KLBR				S	Sg	08 44 24.4	-1.4
	baz=2.2						
BLDU	**Ballidu**	**2.76**	**266**	P	Pn	08 43 59.0	-1.3
	baz=2.8						
BLDU	**Ballidu**	**2.76**	**266**	P	Pn	08 44 00.3	+0.1
	baz=2.8						
BLDU				S	Sb	08 44 41.3	+1.9
	baz=2.8						
NWAO	**Narrogin (SRO)**	**3.37**	**222**	P	Pn	08 44 07.5	-1.0
	baz=3.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NWAO				P	Pn	08 44 07.5	-1.0
	baz=3.5						
NWAO	Narrogin (SRO)	3.37	222	P	Pn	08 44 08.5	-0.1
	baz=3.4						
NWAO				P	Pn	08 44 08.5	-0.1
	baz=3.4						
NWAO				S	Sn	08 44 47.5	-1.0
	baz=3.4						
NWAO				S	Sn	08 44 47.5	-1.0
	baz=3.4						
MUN	Mundaring	3.52	243	P	Pn	08 44 08.8	-1.9
	baz=3.6						
MUN				S	Sn	08 44 51.0	-1.4
	baz=3.6						
MUN	Mundaring	3.52	243	S	Sn	08 44 51.2	-1.2
	baz=3.5						
MORW	Morawa	3.63	291	S	Sn	08 44 53.9	-1.1
	baz=3.6						
MEEK	Meekatharra	3.96	343	P	Pn	08 44 13.9	-2.7
	baz=3.9						
MEEK				S	Sn	08 44 59.5	-3.7
	baz=3.9						
MEEK	Meekatharra	3.96	343	P	Pn	08 44 16.9	+0.2
	baz=4.0						
MEEK				S	Sn	08 45 00.5	-2.7
	baz=4.0						
FORT	Forrest	7.04	95	S	Sn	08 46 13.7	-5.3
	baz=7.0						

*UPA **03** 08:44:23.4±2.4, 9°.37N×85°.15W, h1km±113km, MW4.7*
*NEIC **03** 08:44:27.6±1.8, 9°.27N±0°.04×84°.83W±0°.04, h9km±5km, mb4.5/43, Mwr4.4/41, Error ellipse: s-maj=6.2km s-min=5.4km az=107.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr-4.29; Mθθ4.03; Mφφ0.26; Mrθ1.91; Mθφ-2.17; Mφr0.23; Fault plane solution: M0 5.08000×10^15 NP1:φs281.54000°, δ56.18000°, λ-105.91000°. NP2:φs128.66000°, δ36.97000°, λ-67.74000°. Principal axes: T 5.3051, Plg10.0000°, Azm23.0000°; N -0.4924, Plg13.0000°, Azm291.0000°; P -4.8127, Plg73.0000°, Azm149.0000°;*
*IDC **03** 08:44:28.2±0.8, 9°.33N×84°.74W, h0km, mb3.8/12, mbtmp3.8/14, ML2.9/2, MS3.6/23 Error ellipse: s-maj=26.0km s-min=10.6km az=70.0*
*CATAC **03** 08:44:28.6±0.3, 9°.29N×84°.80W, h10km, ML4.7*
*NEIC **03** 08:44:29.2, 9°.34N×84°.79W, h17km*
*UCR **03** 08:44:30.0±1.0, 9°.37N×84°.77W, h19km±3km, MW4.9, MB4.4(NEIC)*
ISC 03 08:44:27.4±1.2, **9°.32N**±0°.03×**84°.80W**±0°.02, **h4**km±8km, **n267**, σ1°.**31**/258, **mb4.4**/31, **MS3.6**/20, **23C-6D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACO	JACO, Garabito	0.37	22		Pb	08 44 36.2	-0.4
JACO				Sg	Sb	08 44 41.5	-1.3
JACO	JACO, Garabito	0.37	22⇑	eP	Pb	08 44 36.2	-0.4
JACO				eS	Sb	08 44 41.6	-1.2
JACO	JACO, Garabito	0.37	22	iP	Pb	08 44 36.2	-0.4
JACO				iS	Sb	08 44 42.0	-0.8
JACO				IAML		08 44 43.2	
	comp=Z,98μm,1.0s						
CBL1	Cabuya	0.40	313⇓	eP	Pb	08 44 37.3	+0.3
CBL1				eS	Sb	08 44 44.6	+1.2
LAFE	Finca La Fe, P	0.50	347⇑	eP	Pb	08 44 38.9	+0.1
LAFE				eS	Sb	08 44 47.0	+0.6
LAFE	Finca La Fe, P	0.50	347	iP	Pb	08 44 39.1	+0.3
LAFE				iS	Sb	08 44 46.6	+0.1
LAFE				IAML		08 44 48.6	
	comp=Z,24μm,1.0s						
RITA	Parrita	0.51	66⇑	eP	Pb	08 44 38.9	+0.1
RITA				eS	Sb	08 44 47.5	+0.9
SVQ2	Quepos	0.64	79	eP	Pb	08 44 41.4	+0.4
ARZA	Esparza	0.68	11⇑	eP	Pb	08 44 42.5	+0.6
TRB2	Turrubares	0.69	30⇑	eP	Pg	08 44 41.5	+0.8
LLNJ	Naranjito	0.71	77	eP	Pb	08 44 42.6	+0.3
ACOS	Acosta	0.79	53	eP	Pg	08 44 43.3	+0.7
SRA1	San Ramn	0.83	22⇑	eP	Pg	08 44 43.9	+0.5
ABE2	San Pablo	0.83	62	eP	Pb	08 44 44.7	+0.1
RAMO	San Ramon	0.83	23	eP	Pg	08 44 44.0	+0.6
INDI	Punta indio, G	0.88	308	eP	Pg	08 44 45.2	+0.8
INDI	Punta indio, G	0.88	308	iP	Pb	08 44 45.6	+0.3
INDI				IAML		08 45 04.3	
	comp=Z,16μm,1.0s						
LCR2	La Lucha 2	0.89	61		Pg	08 44 45.1	+0.6
LCR2				Sg	Sb	08 44 57.8	-0.1
LCR2	La Lucha 2	0.89	61⇑	eP	Pg	08 44 45.0	+0.5
LCR2	La Lucha 2	0.89	61	iS	Sb	08 44 58.5	+0.6
SARCI	Sarchi	0.89	30⇑	eP	Pb	08 44 45.5	0.0
BELE	Belen	0.89	42⇑	eP	Pb	08 44 46.0	+0.4
GREC	Grecia	0.90	33	eP	Pn	08 44 46.6	-0.3
EDDO	Dominical	0.93	94	eP	Pb	08 44 46.4	+0.4
AMPA	Desamparados	0.93	51	eP	Pg	08 44 45.5	+0.2
ZARE	Zarcero	0.95	25	eP	Pb	08 44 46.7	+0.1
HDC	Heredia	0.96	45		Pg	08 44 46.4	+0.5
HDC				Sg	Sn	08 45 00.9	-1.1
SJS3	Mercedes San J	0.96	50	eP	Pb	08 44 46.8	0.0
HDC3	Heredia 3	0.96	45	eP	Pg	08 44 46.3	+0.4
HDC3	Heredia 3	0.96	45	iP	Pb	08 44 47.2	+0.4
HDC3				iS	Sn	08 45 01.0	-1.1
HDC3				IAML		08 45 04.7	
	comp=Z,22μm,1.0s						
TIBA	Tibas	0.96	48	eP	Pb	08 44 46.8	+0.1
JUNT	Juntas	0.97	351	eP	Pg	08 44 46.7	+0.6
JTS	Las Juntas de	0.98	351		Pg	08 44 46.4	+0.1
JTS	Las Juntas de	0.98	351	Pg	Pg	08 44 46.5	+0.3
	comp=Z,619nm,0.3s,baz=141,slow=4.0,SNR=2410						
JTS				Lg	Lg	08 45 00.4	
	comp=Z,412nm,0.3s,baz=292,slow=22,SNR=12						
MONTE	Monteverde	0.99	360	eP	Pg	08 44 46.7	+0.3
OCM	Ochomogo	1.01	55	eP	Pg	08 44 46.8	0.0
OCM	Ochomogo	1.01	55	iP	Pb	08 44 47.9	+0.3
OCM				iS	Sn	08 45 02.4	-0.9
OCM				IAML		08 45 02.8	
	comp=Z,6μm,1.0s						
CORON	Coronado	1.02	50	eP	Pb	08 44 48.4	+0.6
DUNO	Dulce Nombre,	1.02	318		Pg	08 44 46.6	-0.4
RIMA	Rio Macho	1.03	64		Pg	08 44 47.5	+0.4
RIMA	Rio Macho	1.03	64⇑	eP	Pg	08 44 47.2	+0.1
RIMA	Rio Macho	1.03	64	iP	Pg	08 44 47.8	+0.7
RIMA				iS	Sn	08 45 02.6	-1.1
RIMA				IAML		08 45 04.0	
	comp=Z,12μm,1.0s						
VPTE	Poasito	1.04	35	iP	Pn	08 44 49.1	+0.1
VPTE				IAML		08 45 09.6	
	comp=Z,34μm,1.0s						
CPMI	Catarata Coope	1.05	23⇑	eP	Pg	08 44 47.9	+0.4
CPMI	Catarata Coope	1.05	23	iP	Pn	08 44 49.2	+0.1
CPMI				IAML		08 45 07.8	
	comp=Z,24μm,1.0s						
CDM	Cerro de Muert	1.05	77	eP	Pg	08 44 48.3	+0.7
CDM	Cerro de Muert	1.05	77	iP	Pg	08 44 48.2	+0.6
CDM				iS	Sb	08 45 03.2	+0.5
CDM				IAML		08 45 14.8	
	comp=Z,9μm,1.0s						
REPA	Paraso	1.05	61	eP	Pb	08 44 48.7	+0.4
BUS1	Rivas	1.06	77	eP	Pg	08 44 48.3	+0.4
SOCE	Pocosol	1.08	10		Pg	08 44 48.5	+0.4
SOCE	Pocosol	1.08	10	eP	Pg	08 44 48.4	+0.4
SOCE	Pocosol	1.08	10	iP	Pb	08 44 48.8	+0.2
SOCE				IAML		08 45 06.8	
	comp=Z,25μm,1.0s						
CVIMO	Finca Echandi	1.10	50⇑	eP	Pg	08 44 48.9	+0.4
CASO	Castillo	1.11	3	eP	Pg	08 44 49.3	+0.5
ARE1	Arenal 1	1.14	4		Pb	08 44 49.9	+0.2
ARE1	Arenal 1	1.14	4⇑	eP	Pg	08 44 49.8	+0.4
PCAYA	Pacayas	1.14	58	eP	Pg	08 44 50.0	+0.6
FORC	Fortuna	1.15	6	eP	Pg	08 44 49.8	+0.3
HAYA	Volcan Irazu	1.15	55	iP	Pg	08 44 50.0	+0.5
HAYA				iS	Sn	08 45 07.0	-0.1
HAYA				IAML		08 45 10.0	
	comp=Z,21μm,1.0s						
SGBR	La Fortuna	1.16	2	eP	Pb	08 44 50.2	+0.2
VACR	Volcan Arenal	1.16	6	iP	Pg	08 44 50.1	+0.5
VACR				IAML		08 45 16.4	
	comp=Z,11μm,1.0s						
OCHAL	Ojochal	1.16	101	iP	Pb	08 44 49.5	-0.5
OCHAL				IAML		08 45 10.4	
	comp=Z,48nm,1.0s						
PACM	Arenal	1.16	2	eP	Pn	08 44 56.7	+6.2
RAFA	San Farael, Vo	1.17	57	iP	Pb	08 44 50.7	+0.4
RAFA				iS	Sn	08 45 07.0	-0.3
CEDE	Laguna Cedeo	1.17	5⇑	eP	Pn	08 44 50.7	0.0
SAJU	San Juanillo,	1.17	310	eP	Pn	08 44 57.8	+7.3
TABAC	Tabacon	1.18	2	eP	Pn	08 44 50.8	0.0
CVTQ	Turrialba Volc	1.23	56⇑	eP	Pg	08 44 51.4	+0.4
ORTG	Ortega, Santa	1.23	328		Pb	08 44 51.3	0.0
ORTG	Ortega, Santa	1.23	328	iP	Pg	08 44 51.7	+0.7
ORTG				iS	Sn	08 45 09.6	+1.1
ORTG				IAML		08 45 23.4	
	comp=Z,6μm,1.0s						
CVTR	Volcan Turrial	1.24	56⇑	eP	Pg	08 44 51.5	+0.3
VERB	Verbena	1.26	60	eP	Pn	08 44 51.6	-0.3
COTE	Lago Cote	1.26	355	eP	Pn	08 44 51.6	-0.2
RVSTA	Santa Teresita	1.31	60	eP	Pn	08 44 52.7	+0.1
RIFO	Rio Frio, Sara	1.32	41	iP	Pb	08 44 52.9	+0.2
RIFO				IAML		08 45 17.5	
	comp=Z,23μm,1.0s						
ACAL	Aguas Claras	1.33	350	eP	Pn	08 44 52.8	-0.1
EDPN	Palmar Norte	1.37	105	eP	Pn	08 44 52.9	-0.5
MOTZ	Rio Naranjo	1.39	349	eP	Pb	08 44 54.1	+0.1
COLC	Colonia	1.40	344	eP	Pn	08 44 54.0	+0.2
PTEN	Parque Tenorio	1.40	352	eP	Pn	08 44 54.0	+0.1
CAMAV	Centro de Prod	1.43	344	eP	Pb	08 44 54.7	0.0
MICM	Guayabo	1.43	344	eP	Pb	08 44 54.9	+0.1
HORNC	Hornillas	1.44	345	eP	Pn	08 44 54.7	+0.3
LCOCO	El Coco	1.44	58	eP	Pb	08 44 55.2	+0.3
LCOCO				eP	Pg	08 44 55.4	+0.3
LIBE	Liberia	1.45	334	iP	Pb	08 44 55.4	+0.5
LIBE				IAML		08 45 01.2	
	comp=Z,6μm,1.0s						
LIM1	Limonal	1.45	342	eP	Pb	08 44 55.1	+0.1
BURE	Buenos Aires	1.45	95	eP	Pn	08 44 54.4	0.0
COVE	Coope Vega, Sa	1.45	16		Pn	08 44 54.4	-0.1
COVE	Coope Vega, Sa	1.45	16	iP	Pg	08 44 55.8	+0.6
COVE				IAML		08 45 19.6	
	comp=Z,17μm,1.0s						
CLARA	Aguas Claras	1.51	346	eP	Pb	08 44 55.8	-0.2
EDBA	Buenos Aires	1.51	96	eP	Pn	08 44 54.6	-0.7
VMAR	Armenia, Volca	1.52	348⇑	eP	Pb	08 44 56.3	+0.1
GP77	Hacienda Santa	1.53	340	eP	Pn	08 44 55.8	+0.2
GPS2	Hotel Rincn d	1.53	339	eP	Pn	08 44 56.0	+0.4
CANAL	Canalete	1.53	351	eP	Pb	08 44 56.2	-0.1
VERA	Finca Concepci	1.53	357	eP	Pb	08 44 56.2	-0.2
GPS3	Bodega del ICE	1.54	339	eP	Pb	08 44 56.2	-0.3
GP03	Hacienda Santa	1.55	340⇑	eP	Pn	08 44 56.4	+0.5
GPS1	Guardaparques	1.55	340	eP	Pb	08 44 56.5	-0.2
VRLE	La Escondida,	1.57	339	iP	Pb	08 44 57.1	+0.1
VRLE				IAML		08 45 29.7	
	comp=Z,3μm,1.0s						
LAPC	Finca la Perla	1.57	337	eP	Pb	08 44 56.9	-0.2
VORI	VORI	1.59	340	eP	Pn	08 44 56.4	-0.2
BUEV	Buena Vista	1.59	338	eP	Pb	08 44 57.2	-0.2
GBS3	Finca Las Img	1.59	336	eP	Pn	08 44 57.1	+0.6
HZTE	Horizontes, Gu	1.60	331	Pn	Pn	08 44 57.0	+0.6
HZTE	Horizontes, Gu	1.60	331	iP	Pb	08 44 57.6	+0.1
HZTE				IAML		08 45 46.2	
	comp=Z,8μm,1.0s						
GB1A	Borinquen Arri	1.61	339	eP	Pn	08 44 57.2	+0.6
TRT2	Tortugero	1.62	40	iP	Pn	08 44 57.4	+0.6
TRT2				IAML		08 45 23.3	
	comp=Z,6μm,1.0s						
EDP2	Potrero Grande	1.63	100	eP	Pn	08 44 56.8	-0.1
BUAI	Buenos Aires	1.64	341⇓	iP	Pb	08 44 58.5	+0.3
POTG	Potrero Grande	1.68	99	iP	Pn	08 44 57.7	0.0
POTG				IAML		08 45 31.6	
	comp=Z,7μm,1.0s						
PIRO	Carate, Puerto	1.71	122	iP	Pn	08 44 57.4	-0.5
PIRO				IAML		08 45 44.0	
	comp=Z,4μm,1.0s						
EDAD	Golfito	1.74	112	eP	Pn	08 44 57.6	-0.9
EDSV	San Vito	1.87	105	eP	Pn	08 45 00.8	+0.4
BRIBI	Bribri	1.95	81	eP	Pb	08 45 02.9	-0.6
MLIR3	Monte Lirio, C	2.02	105	eP	Pb	08 45 04.0	-0.8
CDITO	Canoas	2.04	111		Pn	08 45 02.4	-0.2
CDITO	Canoas	2.04	111⇓	iP	Pn	08 45 02.3	-0.2
CDITO				iS	Sg	08 45 34.7	+1.6
CDITO	Canoas	2.04	111⇓	eP	Pn	08 45 02.3	-0.2
CDITO	Canoas	2.04	111	iP	Pn	08 45 02.7	+0.1
CDITO				iS	Sn	08 45 29.0	+0.5
CDITO				IAML		08 46 15.2	
	comp=Z,4μm,1.0s						
CTCR	Cotoan	2.06	102	eP	Pn	08 45 03.1	+0.2
CTCR	Cotoan	2.06	102	iP	Pn	08 45 03.5	+0.5
CTCR				IAML		08 45 49.2	
	comp=Z,10μm,1.0s						
LPPC	Paso Canoas	2.09	112	eP	Pn	08 45 03.5	+0.3
BRU2	Volcan	2.15	104		Pn	08 45 04.4	+0.3
BRU2	Volcan	2.15	104	iP	Pn	08 45 04.5	+0.3
BRU2				iS	Sg	08 45 36.3	-0.1
BRU2	Volcan	2.15	104	iP	Pn	08 45 04.1	0.0
BRU2				iS	Sn	08 45 32.1	+0.8
BRU2				IAML		08 45 57.2	
	comp=Z,3μm,1.0s						
RGM0	Gandoca	2.18	83		Pn	08 45 06.0	+1.6
PTPM	Petroterminale	2.19	120⇓	iP	Pn	08 45 04.5	-0.2
PTPM				eS	Sb	08 45 37.3	+2.0
BC3P	Paso Ancho	2.22	103	eP	Pn	08 45 06.0	+0.8
LIMO3	Limones	2.26	122⇑	iP	Pn	08 45 05.4	-0.2
CNI2	El Empalme, Bo	2.30	87	iP	Pn	08 45 06.6	+0.4
CNI2				iS	Sb	08 45 37.7	-0.6
BCO2	Palmira	2.32	105	iP	Pn	08 45 06.5	0.0
BCO2				iS	Sb	08 45 40.2	+1.2
PTAR3	Potrerillos Ar	2.36	105	iP	Pn	08 45 07.4	+0.4
LNBQ3	Los Naranjos,	2.39	102	eP	Pn	08 45 07.4	0.0
DVD	David	2.48	110⇑	iP	Pn	08 45 09.7	+1.1
PEDE3	Pedregal, Chir	2.52	111⇑	eP	Pn	08 45 10.0	+0.8
PSOM3	Paja de Sombre	2.53	104	eP	Pn	08 45 09.6	+0.4
GUAL3	Gualaca, Chiri	2.59	107⇑	iP	Pn	08 45 11.6	+1.4
CHGR2	Aguacate	2.65	98	iP	Pn	08 45 12.2	+1.3
CHGR2				iS	Sn	08 45 45.6	+2.1
ACON	Acoyapa	2.66	352		Pn	08 45 12.0	+0.9
ACON	Acoyapa	2.66	352	eP	Pn	08 45 11.4	+0.3
ESPN	Las Esperanzas	2.90	10		Pn	08 45 15.1	+0.7
CNGN	Cerro Negro	3.67	330		Pn	08 45 26.5	+1.4
CNGN	Cerro Negro	3.67	330	eP	Pn	08 45 28.9	+3.8
RSUS3	Rio de Jesus,	3.83	110⇓	eP	Pn	08 45 28.9	+1.6
GMAL	Guarumal, Vera	3.85	113	eP	Pb	08 45 34.4	-1.5
GMAL	Guarumal, Vera	3.85	113	eP	Pn	08 45 27.8	+0.3
CRIN	San Cristobal	4.03	327	eP	Pb	08 45 34.9	-4.1
CALO3	Calobre, Verag	4.04	104	eP	Pn	08 45 33.5	+3.4
MARI3	Mariato, Verag	4.12	113⇑	eP	Pb	08 45 39.8	-0.7
CRIS3	El Cristo, Coc	4.27	104	eP	Pb	08 45 39.0	-4.1
CACAO	El Cacao, Vera	4.36	116	iP	Pn	08 45 35.5	+1.0
CACAO				eS	Sb	08 46 35.6	-2.1
CACAO	El Cacao, Vera	4.36	116	eP	Pn	08 45 36.4	+2.0
PNME	Penonome	4.50	100	eP	Pb	08 45 43.6	-3.3
PNME	Penonome	4.50	100	eP	Pb	08 45 48.4	+1.4
CHIT3	Chitre	4.54	107	eP	Pn	08 45 38.3	+1.4
AZU	Azuero	4.72	108	eP	Pn	08 45 39.8	+0.3
AZU				eS	Sn	08 46 39.3	+4.5
AZU	Azuero	4.72	108	eP	Pn	08 45 42.5	+3.1
BCIP	Isla Barro Col	4.90	91		Pn	08 45 42.8	+0.9
BCIP	Isla Barro Col	4.90	91	iP	Pn	08 45 41.1	-0.8
BCIP	Isla Barro Col	4.90	91	eP	Pn	08 45 40.9	-1.0
UPA	Univ. de Panam	5.21	93	eP	Pn	08 45 47.2	+1.1
UPA	Univ. de Panam	5.21	93	eP	Pn	08 45 47.2	+1.1
TGUH	Tegucigalpa,Un	5.30	333	Pn	Pn	08 45 46.7	-0.8
TGUH	Tegucigalpa,Un	5.30	333	eP	Pn	08 45 52.2	+4.6
CHPO	Chepo, Panama	5.61	91	eP	Pn	08 45 54.4	+2.6
TOTI	Torti	6.42	93	eP	Pn	08 46 05.7	+2.9
APAC	Apartado, Choc	8.25	99	eP	Pn	08 46 38.1	+10
UREC	San Jos de Ur	9.29	99	eP	Pn	08 46 35.9	-6.4
UREC	San Jos de Ur	9.29	99	eP	Pn	08 46 50.0	+7.7
SJCC	San Jacinto, C	9.50	86	eP	Pn	08 46 47.7	+2.4
JAMC	Jamundi, Valle	10.10	126	eP	Pn	08 46 55.7	+2.2
GUY2C	Guyana, Caldas	10.20	113	eP	Pn	08 46 59.5	+4.3
BBAC	Balboa, Cauca	10.44	134	eP	Pn	08 47 01.2	+3.1
POPC	Popayan, Colom	10.51	129	eP	Pn	08 47 02.3	+3.0
GCUF	Volcan Galeras	10.94	137	eP	Pn	08 47 08.4	+3.2
OTAV	Otavalo	11.01	145	Pn	Pn	08 47 05.3	-0.9
OTAV	Otavalo	11.01	145	eP	Pn	08 47 09.9	+3.7
TULM	Tulcn-Chalpat	11.03	140		Pn	08 47 04.9	-1.6
IMBA	Imbabura, San	11.13	143	Pn	Pn	08 47 06.2	-1.6
PULU	Pululahua	11.16	145	Pn	Pn	08 47 06.9	-1.3
ROSC	El Rosal	11.31	112	Pn	Pn	08 47 10.0	-0.2
PAYG	Puerto Ayora	11.33	209	Pn	Pn	08 47 07.8	-2.4
TEIG	Tepich	11.36	343	Pn	Pn	08 47 09.2	-1.3
TEIG	Tepich	11.36	343	LR	LR	08 51 53.4	
	comp=Z,3μm,19.1s,baz=3.0,slow=39						
SLOR	San Lorenzo -	11.79	148	Pn	Pn	08 47 16.4	-0.6
CHSH	Refugio Sur-Vo	12.26	151	Pn	Pn	08 47 22.4	-1.0
CMIG	Matias Romero	12.49	309	Pn	Pn	08 47 28.1	+2.0
	comp=Z,0.2nm,0.3s,baz=146,slow=11,SNR=4.7						
	comp=Z,3.0nm,0.9s						
COHC	Cochancay	12.94	154	Pn	Pn	08 47 32.0	-0.3
SDV	Santo Domingo	14.00	91	Pn	Pn	08 47 45.3	-1.5
SDV	Santo Domingo	14.00	91	Pn	Pn	08 47 48.9	+2.0
	comp=Z,0.2nm,0.3s,baz=272,slow=11,SNR=2.2						
SDV				LR	LR	08 53 54.6	
	comp=Z,164nm,18.4s,baz=278,slow=41						
	comp=Z,1.7nm,0.6s						
TLIG	Tlapa	15.69	303		Pn	08 48 09.7	0.0
BAUV	El Baul	16.55	90		Pn	08 48 19.0	-1.6
BAUV				IAmb	IAmb	08 48 35.3	
	comp=Z,52nm,1.5s						
ATAH	Atahualpa	17.54	158	LR	LR	08 54 28.9	
	comp=Z,236nm,19.5s,baz=322,slow=34						
PCRV	Puerto La Cruz	19.89	86	LR	LR	08 58 53.8	
	comp=Z,302nm,18.1s,slow=44						
TBTG	Tabatinga, AM	20.00	131	P	P	08 48 59.5	-1.8
TBTG				IAmb	IAmb	08 49 06.6	
	comp=Z,42nm,1.3s						
SJG	San Juan	20.10	62	P	Pn	08 49 04.5	+0.5
	comp=Z,7.5nm,0.9s,baz=259,slow=7.4,SNR=3.0						
SJG				LR	LR	08 55 44.6	
	comp=Z,89nm,21.2s,baz=237,slow=34						
	comp=Z,7.5nm,0.9s						
CZSB	Cruzeiro do Su	20.78	144		P	08 49 10.2	+0.4
CZSB				IAmb	IAmb	08 49 18.3	
	comp=Z,38nm,1.2s						
ZAIG	Zacatecas	21.66	310	P	P	08 49 17.6	-1.8
NNA	Nana	22.59	159		P	08 49 28.6	-0.7
NNA				IAmb	IAmb	08 49 49.6	
	comp=Z,33nm,1.5s						
152A	Waverly Hall	23.24	0	P	P	08 49 33.8	-2.0
152A				IAmb	IAmb	08 49 43.8	
	comp=Z,11nm,0.7s						
833A	Chaparral WMA,	23.37	326	P	P	08 49 35.7	-1.5
833A				IAmb	IAmb	08 49 42.2	
	comp=Z,7.4nm,0.7s						
HNVL	Huntsville, TX	23.54	336	P	P	08 49 37.9	-0.9
HNVL				IAmb	IAmb	08 49 51.8	
	comp=Z,17nm,1.0s						
LRAL	Lakeview Retre	23.69	355	P	P	08 49 40.1	-0.2
LRAL				IAmb	IAmb	08 49 49.1	
	comp=Z,15nm,0.7s						
GOGA	Godfrey	24.01	3	IAmb	IAmb	08 49 51.2	
	comp=Z,9.6nm,0.9s						
HNDO	Hondo	24.26	328	P	P	08 49 46.2	+0.4
HNDO				IAmb	IAmb	08 49 53.9	
	comp=Z,4.4nm,0.7s						
Y52A	Lilburn	24.44	1	P	P	08 49 47.0	-0.3
Y49A	Blount Mountai	24.47	357	P	P	08 49 46.5	-1.1
Y49A				IAmb	IAmb	08 49 54.5	
	comp=Z,18nm,1.1s						
DRIO	Del Rio	24.90	326	P	P	08 49 50.4	-1.2
DRIO				IAmb	IAmb	08 50 00.0	
	comp=Z,12nm,0.7s						
FPAL	Fort Paine	25.12	358	IAmb	IAmb	08 50 11.9	
	comp=Z,9.8nm,1.1s						
JCT	Junction City	25.29	328	P	P	08 49 54.6	-0.5
JCT				IAmb	IAmb	08 50 02.6	
	comp=Z,15nm,1.5s						
PAULI	Pauline	25.53	6	IAmb	IAmb	08 50 05.6	
	comp=Z,7.2nm,0.7s						
BRDY	Brady	25.54	331	P	P	08 49 56.8	-0.6
BRDY				IAmb	IAmb	08 50 05.9	
	comp=Z,5.1nm,0.7s						
PLAL	Pickwick Lake	25.72	354	P	P	08 49 58.2	-0.8
PLAL				IAmb	IAmb	08 50 06.8	
	comp=Z,8.2nm,0.9s						
SAND	Sanderson	26.16	324	IAmb	IAmb	08 50 12.5	
	comp=Z,3.0nm,0.7s						
TKL	Tuckaleechee C	26.24	2	LR	LR	09 00 48.9	
	comp=Z,120nm,18.5s,baz=182,slow=37						
FW06	Azle	26.33	335	P	P	08 50 03.8	-0.6
FW06				IAmb	IAmb	08 50 18.0	
	comp=Z,4.9nm,0.8s						
MIAR	Mount Ida	26.37	344	IAmb	IAmb	08 50 12.4	
	comp=Z,7.5nm,0.8s						
V51A	Loudon	26.37	1	IAmb	IAmb	08 50 17.8	
	comp=Z,19nm,1.4s						
ETMB	Extrema	26.52	135	P	P	08 50 05.9	-0.5
TX31	Lajitas Ar. Si	26.64	321	IAmb	IAmb	08 50 18.6	
	comp=Z,8.9nm,0.7s						
TX32	Lajitas Array	26.64	321	P	P	08 50 05.9	-1.5
TXAR	Lajitas Array	26.64	321	P	P	08 50 05.7	-1.7
TXAR	Lajitas Array	26.64	321	P	P	08 50 09.5	+2.1
	comp=Z,1.0nm,0.6s,baz=142,slow=11,SNR=14						
TXAR				PcP	PcP	08 53 33.1	+1.5
	comp=Z,0.5nm,0.9s,baz=172,slow=2.7,SNR=2.9						
TXAR				LR	LR	09 01 08.4	
	comp=Z,38nm,18.1s,baz=114,slow=38						
	comp=Z,1.0nm,0.6s						
H06E1	SOCORRO T-PHAS	27.00	293	T	T	09 18 25.2	
	SNR=5.6						
MACA	Manacapuru-AM	27.04	116	P	P	08 50 09.6	-1.5
LCAR	Lake Charles	27.25	349	IAmb	IAmb	08 50 19.0	
	comp=Z,7.9nm,1.0s						
SAML	Samuel	28.15	130	P	P	08 50 20.7	-0.3
WCI	Wyandotte Cave	28.82	358	P	P	08 50 25.2	-1.6
WCI				IAmb	IAmb	08 50 33.3	
	comp=Z,9.4nm,0.9s						
CCM	Cathedral Cave	29.20	350	P	P	08 50 28.6	-1.5
CCM				IAmb	IAmb	08 50 35.6	
	comp=Z,6.5nm,0.9s						
Q51A	Peebles	29.61	2	P	P	08 50 32.1	-1.7
LPAZ	La Paz	30.32	147	P	P	08 50 42.4	+1.4
	comp=Z,1.2nm,0.8s,baz=351,slow=12,SNR=3.6						
LPAZ				LR	LR	09 03 23.2	
	comp=Z,87nm,20.8s,baz=311,slow=38						
	comp=Z,1.2nm,0.8s						
319A	Douglas	31.61	317		sP	08 51 01.2	+8.1
MDP	Montagnes des	32.17	95	LR	LR	09 04 38.1	
	comp=Z,172nm,18.9s,baz=296,slow=38						
GO01	Chusmiza	32.65	152	IAmb	IAmb	08 51 10.4	
	comp=Z,10nm,1.2s						
SIV	San Ignacio	34.41	137	LR	LR	09 05 53.8	
	comp=Z,94nm,18.5s,baz=300,slow=37						
X16A	Lo Mia Camp, P	34.94	320	P	P	08 51 19.9	-0.8
SADO	Sadowa	35.66	7	LR	LR	09 06 24.7	
	comp=Z,135nm,19.2s,baz=270,slow=37						
SPMN	Marine on St.	36.44	350	IAmb	IAmb	08 51 38.1	
	comp=Z,6.0nm,0.7s						
PFO	Pinyon Flats O	37.84	314	LR	LR	09 06 52.1	
	comp=Z,52nm,19.5s,baz=198,slow=36						
SZCU	Shurtz Canyon	38.00	322	P	P	08 51 45.5	-1.4
SZCU				IAmb	IAmb	08 52 14.6	
	comp=Z,9.3nm,0.8s						
PDAR	Pinedale Array	39.75	331	P	P	08 52 04.5	+2.9
	comp=Z,0.3nm,0.6s,baz=128,slow=12,SNR=2.6						
	comp=Z,0.3nm,0.6s						
NVAR	Mina Array Bea	41.76	319	P	P	08 52 19.8	+1.6
	comp=Z,0.9nm,0.7s,baz=129,slow=7.3,SNR=4.5						
NVAR				PcP	PcP	08 54 16.0	+1.3
	comp=Z,0.3nm,0.6s,baz=101,slow=4.7,SNR=2.3						
	comp=Z,0.9nm,0.7s						
ULM	Lac du Bonnet	41.83	349	P	P	08 52 19.6	+1.2
	comp=Z,2.5nm,0.6s,baz=160,slow=9.1,SNR=6.9						
	comp=Z,2.5nm,0.6s						
H03N2	Juan Fernandez	42.88	173	T	T	09 38 08.5	
	baz=351,slow=76,SNR=3.9						
H03N1	Juan Fernandez	42.89	173	T	T	09 38 09.4	
	baz=351,slow=76,SNR=3.7						
H03N3	Juan Fernandez	42.90	173	T	T	09 38 09.2	
	baz=351,slow=76,SNR=2.8						
RPN	Rapa Nui	43.34	213	LR	LR	09 06 55.3	
	comp=Z,74nm,18.2s,baz=91,slow=31						
SCHQ	Schefferville	47.60	14	P	P	08 53 05.4	+1.1
	comp=Z,4.7nm,0.7s,baz=218,slow=6.1,SNR=11						
SCHQ				LR	LR	09 13 56.3	
	comp=Z,156nm,18.1s,baz=213,slow=37						
	comp=Z,4.7nm,0.7s						
PLCA	Paso Flores	51.51	166	P	P	08 53 35.5	+1.1
	comp=Z,1.6nm,1.0s,baz=342,slow=11,SNR=3.3						
	comp=Z,1.6nm,1.0s						
FRB	Frobisher Bay	55.57	9	LR	LR	09 17 04.8	
	comp=Z,104nm,20.3s,baz=174,slow=35						
YKA	Yellowknife Ar	57.31	344	P	P	08 54 18.5	+2.3
	comp=Z,0.2nm,0.6s,baz=138,slow=6.6,SNR=5.7						
YKA				PcP	PcP	08 55 11.8	+1.4
	comp=Z,0.5nm,0.9s,baz=148,slow=4.6,SNR=2.3						
	comp=Z,0.2nm,0.6s						
SFJD	Kangerlussuaq	62.05	14	LR	LR	09 22 46.1	
	comp=Z,93nm,18.2s,baz=220,slow=37						
A36M	Sachs Harbour	67.26	347	P	P	08 55 21.4	-1.4
ILAR	Eielson Array	69.92	336	P	P	08 55 39.1	-0.4
	comp=Z,0.3nm,1.0s,baz=120,slow=4.2,SNR=3.0						
ILAR				LR	LR	09 31 23.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,47nm,18.4s,baz=46,slow=40						
	comp=Z,0.3nm,1.0s						
KDAK	Kodiak Island	70.39	328	LR	LR	09 28 24.0	
	comp=Z,52nm,18.0s,baz=203,slow=37						
MDT	Midelt	76.80	58	LR	LR	09 30 33.8	
	comp=Z,27nm,18.9s,baz=68,slow=36						
ESDC	Sonseca Array	77.08	51	P	P	08 56 23.4	+1.1
	comp=Z,3.6nm,1.2s,baz=280,slow=5.0,SNR=4.2						
ESDC				LR	LR	09 26 02.8	
	comp=Z,21nm,20.0s,baz=226,slow=32						
	comp=Z,3.6nm,1.2s						
TORD	Torodi Ar. Bea	84.54	78	P	P	08 57 02.4	-0.1
	comp=Z,0.5nm,0.9s,baz=244,slow=4.3,SNR=2.4						
	comp=Z,0.5nm,0.9s						
NOA	NORSAR Array B	84.83	29	LR	LR	09 35 11.8	
	comp=Z,19nm,18.1s,baz=320,slow=36						
DAVOX	Davos/Dischmat	86.47	43	LR	LR	09 31 53.1	
	comp=Z,26nm,19.1s,baz=268,slow=33						
GERES	GERESS Array B	88.61	41	LR	LR	09 33 11.8	
	comp=Z,31nm,18.4s,baz=265,slow=33						
FINES	FINESS Array B	91.60	27	LR	LR	09 37 41.5	
	comp=Z,16nm,19.1s,baz=230,slow=35						
LZH	Lanzhou	134.11	350	ePKP	PKPdf	09 03 40.5	-6.6
WRA	Warramunga Arr	140.78	250	PKP	PKPdf	09 04 00.1	+0.6
	comp=Z,0.6nm,0.6s,baz=84,slow=2.2,SNR=2.6						
PZH	PanZhiHua	143.83	350	PKP	PKPbc	09 04 03.1	+0.6
CMAR	Chiang Mai Arr	152.16	352	PKPbc	PKiKP	09 04 26.4	+0.7
	comp=Z,0.6nm,0.3s,baz=329,slow=3.4,SNR=1.5						

*IDC **03** 08:55:22.9±14.0, 16°.10S×176°.06W, h330^{km}±133^{km}, mb3.5/5, mbtmp4.2/5, Error ellipse: s-maj=44.4km s-min=31.8km az=88.0*
*NOU **03** 08:55:59.6, 14°.92S×173°.71W, h244^{km}, MLv3.6/6, Samoa Islands Region*
ISC 03 08:55:25.8±0.9**, 16°.1S**±0°.3×**176°.1W**±0°.2**, h360^{km}, n6, σ0^{s}.32**/8**, mb3.6**/5**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.70	63	P	Pn	08 56 42.5	-0.3
STKA	Stephens Creek	41.45	240	P	P	09 02 38.7	-0.1
	1.2nm,0.3s,baz=82,slow=9.1,SNR=9.3						
	1.2nm,0.3s						
WRA	Warramunga Arr	47.16	258	P	P	09 03 23.4	-0.5
	2.3nm,0.6s,baz=92,slow=7.4,SNR=53						
WRA				PcP	PcP	09 04 49.1	+0.2
	0.3nm,0.5s,baz=98,slow=3.1,SNR=1.4						
	2.3nm,0.6s						
ASAR	Alice Springs	47.43	253	P	P	09 03 25.9	0.0
	9.1nm,0.4s,baz=89,slow=7.7,SNR=308						
ASAR				PcP	PcP	09 04 50.2	+0.3
	0.2nm,0.6s,baz=106,slow=4.2,SNR=1.2						
	9.1nm,0.4s						
QSPA	South Pole Qui	73.95	180	P	P	09 06 22.5	+0.1
	1.3nm,0.8s,baz=0.0,slow=5.1,SNR=7.8						
	1.3nm,0.8s						
ILAR	Eielson Array	83.64	12	P	P	09 07 14.6	+0.3
	0.3nm,0.5s,baz=217,slow=5.4,SNR=14						
	0.3nm,0.5s						

*SOME **03** 09:02:18.3, 42°.08N×87°.48E, h5^{km}*
*IDC **03** 09:02:54.0±4.3, 42°.60N×85°.99E, h0^{km}, mb4.2/1, mbtmp3.6/4, ML2.9/3, MS2.0/1, Error ellipse: s-maj=89.3km s-min=43.4km az=56.0*
*NNC **03** 09:02:56.8±3.6, 42°.79N×86°.09E, h0^{km}, mb3.4, mpv2.9, Error ellipse: s-maj=35.0km s-min=28.0km az=107.0*
ISC 03 09:02:57.2±2.3**, 42°.8N**±0°.2×**86°.13E**±0°.10**, h10^{km}, n12, σ1^{s}.89**/14**, 2C-8D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	1.53	48	Pg	Pn	09 03 24.6	0.0
WMQ				Sg	Sn	09 03 45.6	+1.0
WMQ				smax	smax		
	comp=N,240nm,0.9s						
WMQ				smax	smax		
	comp=E,230nm,0.7s						
MK31	Makanchi Array	4.83	327	⇓Pn	Pn	09 04 12.7	+2.7
	comp=E,0.7nm,0.3s,baz=143,slow=14,SNR=75						
MK31				⇓Lg	Lg	09 05 28.9	
	comp=E,12nm,0.7s,baz=142,slow=29,SNR=8.4						
MKAR	Makanchi Array	4.83	327	Pn	Pn	09 04 11.2	+1.2
	comp=E,1.6nm,0.3s,baz=145,slow=13,SNR=59						
MKAR				Sn	Sn	09 05 08.7	+2.6
	comp=E,1.6nm,0.3s,baz=148,slow=24,SNR=5.7						
MKAR				Lg	Lg	09 05 27.1	
	comp=E,4.2nm,0.3s,baz=141,slow=30,SNR=11						
MKAR				LR	LR	09 06 34.2	
	comp=E,18nm,21.5s,baz=231,slow=44						
	comp=E,2.5nm,0.3s						
PDGK	Podgornoye	4.89	278	⇓Pn	Pn	09 04 11.4	+0.5
	comp=E,1.0nm,0.3s						
PDGK				⇓Lg	Lg	09 05 30.6	
	comp=E,18nm,0.6s						
SHLS	Shalkode	4.90	276	ePg	Pn	09 04 04.8	-6.3
	comp=E,3.4nm,0.2s						
SHLS				eLg	Lg	09 05 21.5	
	comp=E,49nm,0.4s						
MAKZ	Makanchi	4.97	325	⇑Pn	Pn	09 04 13.1	+1.2
	comp=E,0.5nm,0.4s						
MAKZ				⇓Lg	Lg	09 05 35.5	
	comp=E,11nm,0.9s						
KPKS	Kokpek	5.49	279	ePg	Pn	09 04 21.1	+2.1
	comp=E,2.7nm,0.1s						
KPKS				eLg	Lg	09 05 49.6	
	comp=E,27nm,0.4s						
KURBB	Kurchatov Arra	9.40	329	Pn	Pn	09 05 12.2	-0.4
	comp=E,0.1nm,0.3s,baz=148,slow=13,SNR=3.1						
KURBB				Lg	Lg	09 07 53.0	
	comp=E,0.1nm,0.3s,baz=145,slow=28,SNR=5.1						
	comp=E,0.4nm,0.7s						
KURBB	Kurchatov Arra	9.40	329	⇓Pn	Pn	09 05 11.5	-1.1
	comp=E,0.7nm,0.4s						
KURBB				⇑Lg	Lg	09 07 57.3	
	comp=E,6.7nm,0.7s						
KURK	Kurchatov	9.44	330	⇓Pn	Pn	09 05 10.7	-2.4
	comp=E,0.3nm,0.4s						
KURK				⇓Lg	Lg	09 07 58.3	
	comp=E,6.1nm,0.9s						
ZALV	Zalesovo Beam	11.19	356	Pn	Pn	09 05 37.8	+0.8
	comp=E,0.3nm,0.3s,baz=174,slow=14,SNR=9.4						
ZALV				Sn	Sn	09 07 39.3	-2.7
	comp=E,0.2nm,0.3s,baz=176,slow=23,SNR=3.3						
	comp=E,1.8nm,0.6s						
ARCES	ARCESS Array B	40.47	332	P	P	09 10 34.2	-1.3
	comp=E,3.7nm,1.1s,baz=100,slow=10,SNR=1.7						
	comp=E,3.7nm,1.1s						

*CATAC **03** 09:24:24.2±0.7, 9°.66N×82°.82W, h5^{km}, ML2.4*
*UPA **03** 09:24:24.8±1.8, 9°.69N×82°.70W, h19^{km}±6^{km}, MD3.4*
ISC 03 09:24:22.4±1.5**, 9°.69N**±0°.05×**82°.74W**±0°.04**, h6^{km}**±12^{km}**, n21, σ0^{s}.61**/30**, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNI2	El Empalme, Bo	0.38	134	iP	Pb	09 24 32.1	+0.7
CNI2				iS	Sb	09 24 37.4	-0.2
POTG	Potrero Grande	0.73	210	iP	Pg	09 24 37.1	+0.6
POTG				IAML		09 24 37.4	
	comp=Z,250nm,1.0s						
BRU2	Volcan	0.89	177	eP	Pg	09 24 39.9	+0.4
BRU2				iS	Sb	09 24 53.1	+0.6
BRU2	Volcan	0.89	177	iP	Pb	09 24 40.6	+0.3
BRU2				IAML		09 24 57.6	
	comp=Z,80nm,1.0s						
MLIR3	Monte Lirio, C	0.89	185	eP	Pn	09 24 41.8	+0.2
MLIR3				iS	Sn	09 24 54.6	-0.3
LNBQ3	Los Naranjos,	0.94	161	eP	Pn	09 24 42.0	-0.2
CHGR2	Aguacate	0.95	142	iP	Pn	09 24 41.9	-0.4
CHGR2				iS	Sb	09 24 53.8	-0.3
BCO2	Palmira	0.99	168	iP	Pb	09 24 42.3	+0.3
BCO2				eS	Sg	09 24 53.3	-0.9
CDM	Cerro de Muert	1.01	263	iP	Pg	09 24 41.9	0.0
CDM				iS	Sg	09 24 55.3	+0.2
CDM				IAML		09 24 56.5	
	comp=Z,82nm,1.0s						
PTAR3	Potrerillos Ar	1.02	166	eP	Pb	09 24 42.8	+0.3
OCHAL	Ojochal	1.07	237	iP	Pn	09 24 44.2	+0.3
OCHAL				IAML		09 25 01.6	
	comp=Z,1.3nm,1.0s						
PSOM3	Paja de Sombre	1.08	157	eP	Pg	09 24 42.3	-0.8
PSOM3				iS	Sb	09 24 57.7	-0.1
OCM	Ochomogo	1.22	280	iP	Pn	09 24 46.7	+0.6
OCM				IAML		09 25 04.1	
	comp=Z,54nm,1.0s						
LCR2	La Lucha 2	1.25	273	iP	Pb	09 24 45.8	-0.6
LCR2				iS	Sg	09 25 01.9	-0.6
LCR2				IAML		09 25 02.3	
	comp=Z,69nm,1.0s						
DVD	David	1.28	167	eP	Pg	09 24 47.6	+0.7
DVD				iS	Sg	09 25 03.9	+0.4
TRT2	Tortugero	1.30	312	iP	Pb	09 24 47.4	+0.1
TRT2				IAML		09 25 06.7	
	comp=Z,40nm,1.0s						
PTPM	Petroterminale	1.48	185	eP	Pn	09 24 49.0	-0.6
JACO	JACO, Garabito	1.89	269	iP	Pn	09 24 56.0	+0.8
JACO				IAML		09 25 17.1	
	comp=Z,50nm,1.0s						
VACR	Volcan Arenal	2.06	292	iP	Pn	09 24 58.7	+1.2
VACR				IAML		09 25 02.2	
	comp=Z,100nm,1.0s						
LAFE	Finca La Fe, P	2.14	273	iP	Pb	09 25 00.1	-1.5
LAFE				IAML		09 26 18.3	
	comp=Z,47nm,1.0s						
BCIP	Isla Barro Col	2.91	100	eP	Pn	09 25 09.2	-0.1

*NEIC **03** 09:29:04.0±2.4, 0°.2N±0°.1×132°.6E±0°.2, h15^{km}±5^{km}, mb4.2/13, Error ellipse: s-maj=25.2km s-min=11.4km az=65.0*
*IDC **03** 09:29:11.2±1.2, 0°.72S×133°.42E, h0^{km}, mb3.9/5, mbtmp4.1/7, ML4.0/2, MS3.2/5, Error ellipse: s-maj=52.9km s-min=20.6km az=82.0*
*DJA **03** 09:29:16.6±1.1, 1°S±10°×13°3E±°, h10^{km}, M4.5/7, mb4.6/3, mB5.6/1, MLv4.4/7, Mw(mB)5.0/1*
ISC 03 09:29:13.0±1.0**, 0°.79S**±0°.09×**133°.40E**±0°.09**, h10^{km}, n39, σ1^{s}.79**/27**, mb4.1**/9**, MS3.3**/3**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SWI	Sorong	2.15	268	P	Pn	09 29 50.1	+1.3
SWI				S	Sn	09 30 15.4	-0.1
FAKI	Fak Fak	2.41	209	Pn	Pn	09 29 54.0	+1.5
FAKI	Fak Fak	2.41	209	P	Pn	09 29 54.4	+1.9
KMPI	Kaimana, Papua	2.87	174	P	Pn	09 30 02.3	+3.4
BNDI	Bandanaira	5.10	223	P	Pn	09 30 31.7	+2.2
LBMI	Labuha	5.91	271	P	Pn	09 30 43.1	+2.5
	77nm,1.0s,0.4nm						
TNTI	Ternate	6.23	284	Pn	Pn	09 30 21.9	-23
NLAI	Namlea	6.75	249	P	Pn	09 30 54.5	+2.2
MTN	Manton Dam	12.19	191	Pn	Pn	09 32 07.2	+0.4
BATI	Baumata	13.47	226	Pn	Pn	09 32 25.8	+1.4
	2.4nm,0.3s,baz=108,slow=6.4,SNR=7.7						
	30nm,0.6s						
KAPI	Kappang	14.27	253	LR	LR	09 38 58.6	
	comp=Z,49nm,18.4s,baz=27,slow=41						
KNRA	Kununurra	15.49	197	Pn	Pn	09 32 50.1	-1.5
KNRA				IAmb	IAmb	09 33 03.0	
	comp=Z,46nm,1.2s						
GUMO	Guam	18.25	38	LR	LR	09 39 11.8	
	comp=Z,22nm,18.9s,baz=98,slow=33						
WB0	Warramunga Arr	18.89	177	P	P	09 33 34.5	+0.8
WRA	Warramunga Arr	19.06	177	P	P	09 33 36.6	+1.0
WRA	Warramunga Arr	19.06	177	P	P	09 33 35.5	-0.1
	comp=Z,0.3nm,0.3s,baz=352,slow=12,SNR=19						
WRA				S	Sn	09 36 58.5	-12
	comp=Z,1.3nm,0.7s,baz=352,slow=24,SNR=5.5						
	comp=Z,1.5nm,0.8s						
WB2	Warramunga Arr	19.06	177	P	P	09 33 35.6	-0.1
WB2				IAmb	IAmb	09 33 49.3	
	comp=Z,7.4nm,0.8s						
WR0	Warramunga Arr	19.09	177	P	P	09 33 36.8	+0.8
WR0				IAmb	IAmb	09 34 04.9	
	comp=Z,6.7nm,0.8s						
AS31	Alice Springs	22.75	179	P	P	09 34 17.0	+1.5
ASAR	Alice Springs	22.75	179	P	P	09 34 16.8	+1.2
ASAR	Alice Springs	22.75	179	P	P	09 34 16.0	+0.4
	comp=Z,2.7nm,0.6s,baz=1.7,slow=10,SNR=45						
ASAR				S	S	09 38 19.6	-4.9
	comp=Z,0.4nm,0.9s,baz=4.4,slow=26,SNR=2.4						
	comp=Z,2.7nm,0.6s						
CTAO	Charters Tower	22.94	148	P	P	09 34 18.2	+0.7
CTAO				IAmb	IAmb	09 34 20.0	
	comp=Z,6.1nm,1.2s						
MBWA	Marble Bar	24.25	212	P	P	09 34 28.0	-2.4
MBWA				IAmb	IAmb	09 34 32.2	
	comp=Z,9.1nm,1.1s						
PSA00	Pilbara Seismi	24.53	212	P	P	09 34 25.8	-7.2
PSA00				IAmb	IAmb	09 34 34.5	
	comp=Z,4.0nm,0.9s						
STKA	Stephens Creek	31.88	167	LR	LR	09 49 37.0	
	comp=Z,60nm,18.5s,baz=26,slow=38						
BBOO	Buckleboo	31.95	176	P	P	09 35 39.2	+0.1
ARMA	Armidale	34.18	151	P	P	09 35 58.0	-0.8
NWAO	Narrogin (SRO)	35.41	204	P	P	09 36 03.6	-5.7
H11N1	WAKE ISLAND Hy	38.64	56	T	T	10 17 55.7	
	baz=243,slow=75,SNR=22						
H11N2	WAKE ISLAND Hy	38.65	56	T	T	10 17 56.1	
	baz=243,slow=75,SNR=19						
H11N3	WAKE ISLAND Hy	38.66	56	T	T	10 17 46.7	
	baz=243,slow=75,SNR=17						
CMAR	Chiang Mai Arr	38.90	301	LR	LR	09 52 31.5	
	comp=Z,39nm,18.9s,baz=325,slow=36						
MKAR	Makanchi Array	65.08	324	P	P	09 39 54.1	+0.3
	comp=Z,1.8nm,0.7s,baz=115,slow=8.0,SNR=17						
	comp=Z,1.8nm,0.7s						
KURBB	Kurchatov Arra	69.15	326	P	P	09 40 19.1	-0.4
	comp=Z,1.8nm,0.8s,baz=121,slow=5.9,SNR=18						
	comp=Z,1.8nm,0.8s						
KKAR	Karatay Array	71.07	316	P	P	09 40 13.6	-18
TIXI	Tiksi	72.37	358	P	P	09 40 23.6	-15
TIXI				IAmb	IAmb	09 40 25.6	
	comp=Z,3.1nm,0.5s						
BVAR	Borovoye Array	74.74	326	P	P	09 40 50.8	-2.3
	comp=Z,0.8nm,0.6s,baz=104,slow=6.1,SNR=2.8						
	comp=Z,0.8nm,0.6s						
ILAR	Eielson Array	86.31	25	P	P	09 41 54.7	-0.3
	comp=Z,0.4nm,0.8s,baz=249,slow=4.9,SNR=5.5						
	comp=Z,0.4nm,0.8s						
FINES	FINESS Array B	98.92	332	LR	LR	10 30 09.2	
	comp=Z,21nm,19.9s,baz=58,slow=37						

*NEIC **03** 09:31:23.1±0.9, 19°.16N±0°.01×155°.66W±0°.01, h15^{km}±2^{km}, Error ellipse: s-maj=2.3km s-min=1.3km az=225.0*
HVO 03 09:31:23.7±1.1**, 19°.17N**±0°.01×**155°.656W**±0°.008**, h8^{km}**±3^{km}**, ML2.5**/15**, ML2.6**/36(NEIC)**, Error ellipse: s-maj=2.0km s-min=0.8km az=201.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHU	Kahuku	0.08	28		Pg	09 31 26.4	+0.3
KHU				Sg	Sg	09 31 28.0	+0.3
HPO	Honuapo	0.13	131		Pg	09 31 26.8	+0.4
HPO					Sg	09 31 29.3	+0.9
HTC	Hot Caves	0.25	75		Pg	09 31 28.9	+0.1
MWH	Moku'aweowe	0.32	10		Pg	09 31 29.8	-0.4
MWH				Sg	Sg	09 31 35.1	+0.7
HLP	Hilina Pali	0.35	69		Pg	09 31 31.0	+0.4
HLP					Sb	09 31 37.0	-0.9
HLP	Hilina Pali	0.35	69	IAML		09 31 38.1	
	comp=E,789nm,3.0s						
HLP				IAML		09 31 41.3	
	comp=N,627nm,0.6s						
ALEP	Alea Permanent	0.37	2		Pg	09 31 30.8	-0.3
ALEP					Sg	09 31 36.2	+0.3
MLOA	Mauna Loa Obse	0.37	12		Sg	09 31 36.0	-0.1
MLOA	Mauna Loa Obse	0.37	12	Pg	Pg	09 31 30.6	-0.5
MLOA	Mauna Loa Obse	0.37	12	IAML		09 31 36.9	
	comp=N,871nm,0.3s						
MLOA				IAML		09 31 37.1	
	comp=E,690nm,0.4s						
CPH	Captain Cook	0.40	322		Pg	09 31 31.4	-0.2
SDHHI	Sand Hill	0.40	58		Sg	09 31 37.8	+0.8
MLH	Mauna Loa	0.41	38		Pg	09 31 31.8	0.0
MLH	Mauna Loa	0.41	38	IAML		09 31 40.7	
	comp=N,399nm,0.1s						
MLH				IAML		09 31 44.3	
	comp=E,372nm,0.2s						
WRMHI	West Rim	0.41	55		Pg	09 31 31.8	+0.1
WRMHI					Sg	09 31 38.0	+0.9
WRMHI	West Rim	0.41	55	IAML		09 31 40.9	
	comp=E,1μm,0.2s						
WRMHI				IAML		09 31 41.1	
	comp=N,932nm,0.5s						
RIM	Rim	0.42	58	Pg	Pg	09 31 30.5	-1.5
RIM				IAML		09 31 38.7	
	comp=N,617nm,0.3s						
RIM				IAML		09 31 46.2	
	comp=E,408nm,1.3s						
UWE	Uwekahuna	0.42	54		Sg	09 31 38.4	+0.8
UWE	Uwekahuna	0.42	54	Pg	Pg	09 31 32.0	0.0
UWE				IAML		09 31 37.1	
	comp=N,644nm,2.6s						
UWE	Uwekahuna	0.42	54	IAML		09 31 45.0	
	comp=E,887nm,0.8s						
KKO	Keanakako`i	0.43	59		Sg	09 31 38.8	+1.0
UWB	Uwekahuna B	0.44	55		Pg	09 31 32.1	-0.1
UWB					Sg	09 31 38.4	+0.4
SBLHI	Steaming Bluff	0.45	55		Sg	09 31 39.0	+0.7
SBLHI	Steaming Bluff	0.45	55	Pg	Pg	09 31 31.4	-1.0
SBLHI	Steaming Bluff	0.45	55	IAML		09 31 39.2	
	comp=N,442nm,0.3s						
SBLHI				IAML		09 31 44.6	
	comp=E,375nm,0.8s						
HATHI	Halema'uma'u T	0.45	56		Sg	09 31 39.0	+0.7
HMH	Humu'ula Sheep	0.46	21		Pg	09 31 32.1	-0.6
HMH	Humu'ula Sheep	0.46	21	IAML		09 31 41.6	
	comp=E,739nm,0.2s						
HMH				IAML		09 31 41.9	
	comp=N,717nm,0.2s						
RSD	Rainshed	0.46	51	Pg	Pg	09 31 31.2	-1.5
RSD				IAML		09 31 40.8	
	comp=N,483nm,1.7s						
RSD				IAML		09 31 40.8	
	comp=E,493nm,0.8s						
PUH	Pauahi	0.46	64		Sg	09 31 39.0	+0.2
PUH	Pauahi	0.46	64		Pg	09 31 32.1	-0.6
PUH	Pauahi	0.46	64	IAML		09 31 43.5	
	comp=E,266nm,1.6s						
PUH	Pauahi	0.46	64	IAML		09 31 34.7	
	comp=N,328nm,2.9s						
KHLU	Kahalu`u	0.47	332		Pg	09 31 32.5	-0.4
KHLU	Kahalu`u	0.47	332	IAML		09 31 39.9	
	comp=E,374nm,0.6s						
KHLU				IAML		09 31 40.0	
	comp=N,365nm,0.2s						
KNHH	Kane Nui o Ham	0.50	66		Pg	09 31 33.1	-0.4
HUH	Hualalai	0.54	342		Sb	09 31 43.0	-0.6
HUH	Hualalai	0.54	342		Pg	09 31 34.3	+0.1
HUH	Hualalai	0.54	342	IAML		09 31 45.6	
	comp=E,2μm,0.5s						
HUH				IAML		09 31 52.3	
	comp=N,1μm,0.4s						
JCUZ	Jacuzzi	0.56	68	Pg	Pg	09 31 33.6	-1.0
JCUZ				IAML		09 31 44.5	
	comp=E,282nm,1.2s						
JCUZ				IAML		09 31 46.0	
	comp=N,369nm,2.6s						
POHA	Pohakuloa	0.59	11		Pg	09 31 34.8	-0.4
POHA				IAML		09 31 45.8	
	comp=N,264nm,0.7s						
JOKA	Jonika Flow	0.67	67		Pg	09 31 35.5	-1.1
JOKA					Sg	09 31 45.2	-0.2
HPAH	Hawaii Prepara	0.85	357	Pg	Pg	09 31 39.7	-0.4
HPAH				IAML		09 31 44.9	
	comp=E,279nm,3.9s						
HPAH				IAML		09 32 08.5	
	comp=N,162nm,1.0s						
MHA	Mahukona	1.04	347	Pg	Pg	09 31 43.3	-0.3

CATAC 03 09:44:22.0±0.5**, 9°.34N**×**83°.92W, h18^{km}**±7^{km}**, MB5.4, ML1.7, Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CDM	Cerro de Muert	0.26	36	iP	Pn	09 44 31.7	+0.3
CDM				IAML		09 44 31.9	
	comp=Z,23nm,1.0s						
OCHAL	Ojochal	0.36	132	iP	Pb	09 44 30.3	+0.4
OCHAL				IAML		09 46 30.8	
	comp=Z,2.2nm,1.0s						
LCR2	La Lucha 2	0.41	348	iP	Pb	09 44 31.8	+0.9
LCR2				IAML		09 44 40.2	
	comp=Z,67nm,1.0s						
OCM	Ochomogo	0.55	356	iP	Pg	09 44 32.7	-0.5
OCM				IAML		09 44 42.3	
	comp=Z,62nm,1.0s						
JACO	JACO, Garabito	0.80	294	iP	Pb	09 44 36.3	-1.1
JACO				IAML		09 44 57.2	
	comp=Z,36nm,1.0s						
POTG	Potrero Grande	0.84	110	iP	Pn	09 44 52.1	+13
RIFO	Rio Frio, Sara	0.97	360	iP	Pb	09 44 36.0	-4.3
RIFO				IAML		09 45 02.3	
	comp=Z,230nm,1.0s						
LAFE	Finca La Fe, P	1.08	295	iP	Pb	09 44 41.8	-0.4
LAFE				IAML		09 44 49.0	
	comp=Z,58nm,1.0s						
NADN	Granada	3.17	319	iP	Pg	09 45 28.6	+5.8
COPN	Copaltepe	3.86	317	iP	Pn	09 45 16.3	-4.2
PACA	Pacayal	5.96	314	iP	Pn	09 45 55.2	+5.7
PETF	Flores	9.50	323	iP	Pn	09 46 42.8	+4.8
PETF				IVmB_BB		09 46 43.3	
	comp=Z,2μm,1.0s						

*BJI **03** 09:47:12.5, 22°.42N×94°.37E, h95^{km}, mb4.7/54, mB4.8/30*
*IDC **03** 09:47:14.4±1.2, 22°.39N×94°.61E, h104^{km}±10^{km}, mb4.0/27, mbtmp4.4/28, MS3.4/32, Error ellipse: s-maj=14.7km s-min=8.5km az=57.0*
*NEIC **03** 09:47:14.3±1.7, 22°.36N±0°.07×94°.50E±0°.06, h97^{km}±6^{km}, mb4.7/52, Error ellipse: s-maj=10.9km s-min=7.1km az=214.0*
*NDI **03** 09:47:14.6±4.5, 22°.40N×94°.33E, h30^{km}±33^{km}, ML4.6, mb4.7(NEIC)*
ISC 03 09:47:13.3±0.4**, 22°.33N**±0°.04×**94°.40E**±0°.03**, h96^{km}**±3^{km}**, h96^{km}:pP-P, n229, σ1^{s}.90**/260**, mb4.6**/71**, 12C-9D, Myanmar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAIH	SAIHA	1.32	277	eP	Pn	09 47 38.3	+1.0
SAIH				eS	Sn	09 47 54.4	-1.0
SAIH				IAML		09 47 58.8	
	comp=E,12μm,0.5s						
SAIH				IAML		09 48 01.9	
	comp=N,7μm,0.4s						
MND	Mandalay	1.62	101		Pn	09 47 40.1	-0.8
IMP	Imphal	2.52	351	eP	Pn	09 47 54.2	+1.4
IMP				IAML		09 48 36.1	
	comp=E,522nm,0.5s						
BELO	BELONIA	2.88	289	eP	Pn	09 47 58.2	+0.9
BELO				eS	Sn	09 48 31.7	+0.5
AGT	Agartala	3.29	299	eS	Sn	09 48 38.9	-2.2
AGT				IAML		09 48 43.1	
	comp=N,5μm,0.5s						
AGT				IAML		09 48 43.9	
	comp=E,7μm,0.5s						
SHL	Shillong	3.96	325	eP	Pn	09 48 12.6	+0.5
SHL				eS	Sn	09 48 52.8	-4.8
SHL				IAML		09 48 58.7	
	comp=E,3μm,0.2s						
MOKO	MOKOCHONG	3.98	1	eP	Pn	09 48 14.0	+1.7
JORH	JORHAT	4.40	358	eP	Pn	09 48 19.6	+1.8
TEZP	TEZPUR	4.51	341	eP	Pn	09 48 19.0	-0.4
TEZP				eS	Sn	09 49 05.4	-5.3
TEZP				IAML		09 49 09.1	
	comp=N,2μm,0.3s						
TNCH	TengChong	4.63	54	P	Pn	09 48 23.0	+1.8
TNCH				S	Sn	09 49 11.2	-2.7
TNCH				smax	smax		
	comp=N,280nm,1.3s						
TNCH				smax	smax		
	comp=N,260nm,0.8s						
ITAN	ITANAGAR	4.83	353	eP	Pn	09 48 24.4	+0.7
ITAN				eS	Sn	09 49 14.6	-3.9
ITAN				IAML		09 49 20.8	
	comp=N,2μm,0.2s						
DIBR	DIBRUGARH	5.14	5	eP	Pn	09 48 29.0	+1.2
ZIRO	ZIRO	5.20	355	eP	Pn	09 48 29.4	+0.5
ZIRO				eS	Sn	09 49 23.8	-3.9
ZIRO				IAML		09 49 28.8	
	comp=N,3μm,0.4s						
CHTO	Chiang Mai	5.51	129	Pn	Pn	09 48 32.4	-0.6
CM31	Chiang Mai Arr	5.74	131		Pn	09 48 35.7	-0.4
CMAR	Chiang Mai Arr	5.74	131	Pn	Pn	09 48 35.5	-0.6
CMAR	Chiang Mai Arr	5.74	131	P	Pn	09 48 35.7	-0.4
	comp=N,32nm,0.5s,baz=309,slow=14,SNR=156						
CMAR				S	Sn	09 49 40.0	-0.7
	comp=N,20nm,0.7s,baz=309,slow=27,SNR=4.8						

CMAR ScP **ScP** **09 58 56.1 -0.4**
comp=N,1.1nm,0.4s,baz=295,slow=1.6,SNR=7.5
CRAI Chiangrai 5.95 109 Pn **Pn** **09 48 37.7 -1.2**
PHRA Phrae 6.66 124 Pn **Pn** **09 48 49.0 +0.3**
GTK Tadong 7.24 314 *e*P **Pn** **09 48 57.3 +0.6**
GTK *e*S **Sn** **09 50 11.9 -5.5**
GTK IAML 09 50 17.9
comp=E,1µm,0.5s
ODAN Odare 7.81 307 *e*Pn **Pn** **09 49 04.0 -0.5**
ODAN *e*Sn **Sn** **09 50 26.7 -4.8**
comp=E,3µm,0.6s
ODAN *e*Sn Sn 09 50 27.1 -4.4
comp=E,3µm,0.6s
TAPN Taplejung 7.87 311 *e*Pn **Pn** **09 49 05.0 -0.3**
TAPN *e*Sn **Sn** **09 50 29.6 -3.3**
comp=E,793nm,0.4s
PZH PanZhiHua 7.87 57 P **Pn** **09 49 07.9 +2.7**
PZH S **Sn** **09 50 33.7 +0.9**
PZH pmax pmax
comp=E,40nm,1.3s
PZH pmax pmax
comp=E,100nm,5.5s
LSA Lhasa 7.90 339 Pn **Pn** **09 49 06.8 +0.9**
BOK Bokaro 7.98 282 *e*P **Pn** **09 49 06.3 -0.3**
BOK *e*S Sn 09 50 25.7 -9.4
BOK *e*S 09 50 29.2
BOK IAML 09 50 35.2
comp=N,863nm,0.6s
KMI Kunming 8.13 68 ⇑P **Pn** **09 49 12.5 +3.7**
KMI S **Sn** **09 50 40.2 +1.0**
KMI pmax pmax
comp=N,38nm,1.5s
KMI pmax pmax
comp=N,250nm,3.2s
KMI smax smax
comp=N,33nm,1.2s
KMI smax smax
comp=N,32nm,0.9s
KMI LR LR
comp=N,400nm,7.3s
KMI LR LR
comp=N,340nm,8.8s
KMI LR LR
comp=N,380nm,14.9s
RAMN Ramite 8.46 305 *e*Pn **Pn** **09 49 12.2 -1.1**
RAMN *e*Sn **Sn** **09 50 41.8 -5.4**
comp=N,784nm,0.6s
SLVN Son La 8.88 95 Pn **Pn** **09 49 20.3 +1.3**
JIRN Jiri 9.14 307 *e*Pn **Pn** **09 49 22.2 -0.5**
JIRN *e*Sn **Sn** **09 50 58.7 -5.4**
comp=N,595nm,0.5s
GUN Gumba 9.51 307 *e*Pn **Pn** **09 49 26.8 -0.9**
GUN *e*Sn **Sn** **09 51 07.8 -5.2**
comp=N,2µm,0.6s
PKI Pulchoki 9.68 304 *e*Pn **Pn** **09 49 28.8 -1.2**
PKI *e*Sn **Sn** **09 51 10.7 -6.5**
comp=N,393nm,0.6s
PKIN Phulchoki 9.70 304 *e*Pn **Pn** **09 49 29.3 -0.9**
PKIN *e*Sn **Sn** **09 51 10.6 -6.8**
comp=N,570nm,0.6s
KKN Kakani 9.89 305 *e*Pn **Pn** **09 49 31.6 -1.2**
KKN *e*Sn **Sn** **09 51 15.6 -6.5**
comp=N,774nm,0.6s
KKN *e*Sn Sn 09 51 15.7 -6.4
comp=N,633nm,0.4s
DMN Daman 9.94 304 *e*Pn **Pn** **09 49 32.2 -1.2**
DMN *e*Sn Sn 09 51 15.9 -7.3
comp=N,499nm,0.6s
GKN Gorkha 10.49 305 *e*Pn **Pn** **09 49 39.8 -1.1**
GKN *e*Sn **Sn** **09 51 29.7 -6.9**
comp=N,686nm,0.5s
PBA Port Blair 10.73 189 *e*P **Pn** **09 49 43.3 -0.8**
PBA *e*S **Sn** **09 51 38.4 -3.9**
KOLN Koldanda 11.19 301 *e*Pn **Pn** **09 49 48.4 -2.0**
KOLN *e*Sn Sn 09 51 45.0 -8.6
comp=N,1µm,0.7s
DANN Dangsing 11.34 304 *e*Pn **Pn** **09 49 50.4 -2.1**
DANN *e*Sn Sn 09 51 49.8 -7.5
comp=N,379nm,0.5s
VIS Vishakhapatnam 11.37 248 *e*P **Pn** **09 49 51.6 -1.1**
PYUN Piuthan 11.82 301 *e*Pn **Pn** **09 49 56.7 -2.2**
PYUN *e*Sn Sn 09 52 00.3 -8.6
comp=N,568nm,0.9s
GYA Guiyang 11.90 67 P **Pn** **09 50 00.6 +0.7**
GYA pP 09 50 10.9
GYA S **Sn** **09 52 09.7 -1.2**
GYA pmax pmax
comp=N,17nm,1.1s
GYA LR LR
comp=N,290nm,12.5s
CD2 Chengdu 11.96 42 P **Pn** **09 50 00.0 -0.5**
CD2 S **Sn** **09 52 11.2 -0.8**
CD2 pmax pmax
comp=N,20nm,0.7s
CD2 pmax pmax
comp=N,100nm,4.9s
CD2 LR LR
comp=N,300nm,8.9s
CD2 LR LR
comp=N,350nm,6.0s
CD2 LR LR
comp=N,250nm,6.7s
GOMU GeErMu 13.82 1 P **Pn** **09 50 22.3 -3.1**
GOMU LR LR
comp=N,66nm,13.8s
GOMU LR LR
comp=N,95nm,14.6s
GOMU LR LR
comp=N,48nm,15.3s
GULI GuiLin 14.91 75 ⇑P **P** **09 50 43.8 +1.5**
GULI S **Sn** **09 53 27.7 +4.2**
GULI pmax pmax
comp=N,80nm,1.1s
GULI pmax pmax
comp=N,240nm,5.4s
GULI LR LR
comp=N,130nm,9.5s
GULI LR LR
comp=N,190nm,10.3s
GULI LR LR
comp=N,210nm,8.1s
ENH Enshi 15.66 57 **Pn** **09 50 46.7 -1.9**
ENH IAmb IAmb 09 51 25.4
comp=Z,26nm,0.9s
HYB Hyderabad 15.69 255 *e*P **P** **09 50 52.9 +1.9**
HYB *e*S **S** **09 53 54.5 +3.2**
LZH Lanzhou 15.98 29 *e*P **Pn** **09 50 52.8 +0.1**
LZH pP pP 09 51 08.9 -3.6
LZH sP sP 09 51 21.8 -3.0
LZH SS S 09 54 10.6 +13
LZH pmax pmax
comp=Z,22nm,1.0s
XAN Xi'an 17.30 44 ⇑P **Pn** **09 51 07.7 -1.1**
XAN pP pP 09 51 21.2 -5.7
XAN sP sP 09 51 37.5 -1.7
XAN pmax pmax
comp=Z,26nm,0.8s
GTA Gaotai 17.64 14 *e*P **P** **09 51 12.0 -0.6**
GTA pP pP 09 51 26.2 -4.7
GTA ScP **ScP** **09 59 12.6 -0.6**
SMLA Simla 17.70 303 *e*P **Pn** **09 51 15.5 +1.9**
WHN Wuhan 19.63 61 P **Pn** **09 51 37.1 +0.6**
WHN S **S** **09 55 05.5 -5.1**
WHN pmax pmax
comp=Z,120nm,1.2s
PALK Pallekele 19.96 223 P **P** **09 51 40.5 +2.5**
comp=Z,20nm,1.2s,baz=88,slow=9.5,SNR=3.3
PALK S S 09 55 08.4 -9.1
comp=Z,5.5nm,0.5s,baz=45,slow=19,SNR=3.2
comp=Z,20nm,1.2s
LYN LuoYang 19.98 49 ⇑P **Pn** **09 51 39.3 -1.3**
LYN PP **PnPn** **09 52 02.8 +4.0**
LYN S **S** **09 55 17.2 -0.3**
LYN sS sS 09 55 39.2 -9.1
LYN pmax pmax
comp=Z,13nm,1.0s
LYN pmax pmax
comp=Z,200nm,4.1s
RPSI Rantau Prapat 20.00 167 P **P** **09 51 40.7 +2.2**
RPSI IAmb IAmb 09 51 43.3
comp=Z,14nm,0.6s
GSI Gunungsitoli 21.13 171 P **P** **09 51 49.6 -0.9**
GSI IAmb IAmb 09 52 05.3
comp=Z,40nm,1.0s
GSI Gunungsitoli 21.13 171 P **P** **09 51 49.4 -1.1**
comp=Z,43nm,1.3s
NIL Nilore 21.77 306 P **P** **09 51 58.0 +0.6**
NIL IAmb IAmb 09 52 23.0
comp=Z,36nm,0.8s
WMQ Urumqi 22.14 347 *e*P **P** **09 52 01.9 +0.7**
WMQ pP pP 09 52 20.5 +0.4
WMQ pmax pmax
comp=Z,45nm,1.1s
MYKOM Kota Tinggi 22.39 154 P **P** **09 52 03.6 -0.3**
BTO Baotou 22.51 32 *e*P **P** **09 52 05.5 +0.4**
BTO pP **pP** **09 52 26.1 +2.0**
BTO sP **sP** **09 52 38.2 +2.0**
BTO S **S** **09 56 07.9 +2.6**
BTO pmax pmax
comp=Z,13nm,0.6s
BTO pmax pmax
comp=Z,190nm,6.8s
HNS HongShan 23.07 45 *e*P **P** **09 52 11.7 +1.1**
KSH Kashi 23.23 322 P **P** **09 52 13.3 +1.0**
KSH pmax pmax
comp=Z,31nm,0.9s
HHC Hu-ho-hao-te 23.47 34 *e*P **P** **09 52 14.9 +0.4**
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,120nm,6.2s
NJ2 Nanjing 23.76 61 *e*P **P** **09 52 16.8 -0.2**
NJ2 pP **pP** **09 52 36.2 -1.3**
NJ2 sP **sP** **09 52 47.9 -1.5**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
NJ2 pmax pmax
comp=Z,250nm,4.3s
TARG Taragay, Kyrgy 23.84 328 P **P** **09 52 19.8 +1.7**
TARG IAmb IAmb 09 52 30.7
comp=Z,33nm,1.0s
TIA Tai'an 24.09 50 *e*P **P** **09 52 18.8 -1.1**
TIA pmax pmax
comp=Z,15nm,1.0s
SHLS Shalkode 24.20 333⇓ *e*P **P** **09 52 21.3 +0.3**
comp=Z,24nm,1.0s,baz=333
UZB Uzynbulak 24.38 332 *e*P **P** **09 52 24.5 +1.9**
comp=Z,18nm,1.1s,baz=332
NRN Naryn 24.54 325 P **P** **09 52 25.9 +1.6**
SATY Saty 24.59 331⇓ *i*P **P** **09 52 26.6 +2.1**
baz=331
ZHN Zhinishke 24.66 331 *e*P **P** **09 52 27.1 +1.9**
baz=331
KPKS Kokpek 24.79 332 *e*P **P** **09 52 27.9 +1.6**
comp=Z,21nm,0.7s,baz=332
TNSS Tian-Shan 25.25 329 *e*P **P** **09 52 32.3 +1.5**
baz=329
MDOK Medeo 25.29 329 *i* P **P** **09 52 33.1 +2.1**
baz=329
MDOK *e*S **S** **09 56 53.3 +3.3**
baz=329
KBL Kabul 25.33 304 P **P** **09 52 33.1 +1.7**
KBL IAmb IAmb 09 52 35.7
comp=Z,31nm,0.9s
AAA Alma-Ata 25.39 329 *e*P **P** **09 52 32.9 +1.1**
baz=329
BJI Beijing 25.55 41 P **P** **09 52 32.6 -0.5**
BJI sP **sP** **09 53 02.7 -3.2**
BJI pmax pmax
comp=Z,2.0nm,0.5s
TKM2 Tokmak 2 25.82 327 P **P** **09 52 38.2 +2.4**
SNR=14
CHKK Chushkaly 25.85 330 *e*P **P** **09 52 36.9 +1.1**
baz=330
KBK Karagaybulak 25.96 326 P **P** **09 52 39.5 +2.5**
SNR=8.8
ARSB Arslanbob 26.14 321 P **P** **09 52 39.2 +0.5**
TDK Taldyorghan 26.15 334 *e*P **P** **09 52 39.6 +1.1**
baz=334
KUU Kurty 26.18 329 *e*P **P** **09 52 40.1 +1.3**
baz=329
KUU *i* S **S** **09 57 06.1 +2.4**
baz=329
AAK Ala-Archa 26.19 325 P **P** **09 52 41.5 +2.5**
SNR=12
AAK Ala-Archa 26.19 325 P **P** **09 52 41.0 +2.0**
AAK IAmb IAmb 09 52 42.6
comp=Z,17nm,0.9s
ZSN Zaisan 26.21 345 *e*P **P** **09 52 40.7 +1.7**
comp=Z,12nm,0.9s,baz=345
SBUM Sibu 26.27 136 P **P** **09 52 39.7 -0.1**
AML Almayashu 26.27 324 P **P** **09 52 42.4 +2.3**
SNR=13
MK31 Makanchi Array 26.30 341 P **P** **09 52 41.2 +1.3**
MK31 IAmb IAmb 09 52 42.2
comp=Z,28nm,1.1s
MKAR Makanchi Array 26.30 341 P **P** **09 52 40.7 +0.8**
MKAR Makanchi Array 26.30 341 P **P** **09 52 41.1 +1.3**
comp=Z,13nm,0.6s,baz=143,slow=11,SNR=114
MKAR ScP **ScP** **09 59 34.2 -0.6**
comp=Z,2.3nm,0.9s,baz=116,slow=3.4,SNR=10
MKAR LR LR 10 05 40.5
comp=Z,60nm,21.1s,baz=142,slow=42
comp=Z,13nm,0.6s
MAKZ Makanchi 26.41 341 P **P** **09 52 41.9 +1.1**
EKS2 Erkin-Say 26.59 325 P **P** **09 52 44.5 +1.9**
SNR=8.4
USP Ospenovka 26.63 326 P **P** **09 52 44.6 +1.7**
SNR=8.8
BTK Batken 26.69 317 P **P** **09 52 45.6 +2.1**
BTK IAmb IAmb 09 53 25.4
comp=Z,24nm,0.9s
SGDS Sogindy 26.69 327 *e*P **P** **09 52 45.1 +1.6**
baz=327
SONM Songino Array 27.21 18 P **P** **09 52 47.0 -1.1**
comp=Z,0.4nm,0.5s,baz=198,slow=7.0,SNR=3.6
SONM ScP **ScP** **09 59 36.0 -1.7**
comp=Z,4.1nm,0.8s,baz=194,slow=2.9,SNR=20
SONM LR LR 10 05 38.4
comp=Z,82nm,19.8s,baz=182,slow=41
comp=Z,0.4nm,0.5s
BTLS Baital 28.13 328 *e*P **P** **09 52 57.0 +0.8**
baz=328
IUG Iuzhnay 28.39 320 *e*P **P** **09 53 00.8 +2.1**
comp=Z,9.7nm,0.8s,baz=320
KKAR Karatay Array 28.69 322 P **P** **09 53 02.1 +0.9**
KKAR Karatay Array 28.69 322 P **P** **09 53 02.2 +0.9**
KKAR IAmb IAmb 09 53 03.4
comp=Z,8.8nm,1.4s
SEM Semipalatinsk 30.14 342 *e*P **P** **09 53 14.2 0.0**
baz=342
KURBB Kurchatov Arra 30.85 340 P **P** **09 53 21.1 +0.9**
comp=Z,13nm,0.7s,baz=152,slow=8.3,SNR=115
KURBB PcP **PcP** **09 56 15.2 +0.3**
comp=Z,3.2nm,0.8s,baz=162,slow=2.3,SNR=8.6
KURBB ScP **ScP** **09 59 48.4 -0.6**
comp=Z,4.0nm,0.8s,baz=161,slow=2.9,SNR=18
comp=Z,13nm,0.7s
KURK Kurchatov 30.91 340 P **P** **09 53 21.2 +0.5**
KURK IAmb IAmb 09 53 22.5
comp=Z,18nm,0.7s
JOW Kunigami 31.07 75 LR LR 10 05 55.8
comp=Z,61nm,20.4s,baz=194,slow=36
ZAA0 Zalesovo Array 32.40 349 P **P** **09 53 34.1 +0.4**
ZALV Zalesovo Beam 32.40 349 P **P** **09 53 34.6 +0.9**
ZALV Zalesovo Beam 32.40 349 P **P** **09 53 34.2 +0.5**
comp=Z,5.7nm,0.4s,baz=169,slow=8.9,SNR=50
ZALV S **S** **09 58 41.3 +0.5**
comp=Z,4.6nm,0.9s,baz=163,slow=15,SNR=8.3
ZALV ScP **ScP** **09 59 51.5 -2.7**
comp=Z,1.3nm,0.5s,baz=158,slow=1.8,SNR=4.8
comp=Z,5.7nm,0.4s
BRZS Berezniki 32.46 334⇓ *i*P **P** **09 53 35.9 +1.5**
comp=Z,11nm,0.9s,baz=333
KSRS Korea Array 32.54 55 LR LR 10 07 51.0
comp=Z,34nm,18.9s,baz=255,slow=38
WSAR Wadi Sarin 32.94 279 LR LR 10 09 26.3
comp=Z,53nm,19.5s,baz=56,slow=40
CN2 Changchun 33.39 43 *e*P **P** **09 53 46.8 +4.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
DAV Davao City (W) 33.65 112 LR LR 10 07 36.8
comp=Z,43nm,19.1s,baz=342,slow=36
JNU Nakatsue 33.88 64 LR LR 10 09 31.6
comp=Z,107nm,18.7s,baz=268,slow=40
MRSI Marisa 34.50 125 P **P** **09 53 51.7 -0.8**
comp=Z,24nm,0.7s
GEYT Alibeck 34.77 305 P **P** **09 53 57.1 +2.5**
GEYT IAmb IAmb 09 53 58.4
comp=Z,7.7nm,1.1s
GEYT Alibeck 34.77 305 P **P** **09 53 56.8 +2.1**
comp=Z,1.4nm,0.3s,baz=137,slow=5.5,SNR=6.8
GEYT ScP **ScP** **10 00 02.2 -0.7**
comp=Z,5.6nm,0.9s,baz=132,slow=2.1,SNR=7.9
comp=Z,1.4nm,0.3s
BVAR Borovoye Array 35.72 335 P **P** **09 54 03.0 +0.5**
comp=Z,8.8nm,0.6s,baz=141,slow=10,SNR=44
BVAR S **S** **09 59 31.9 -0.2**
comp=Z,3.3nm,1.0s,baz=145,slow=18,SNR=5.4
BVAR LR LR 10 11 55.6
comp=Z,79nm,18.1s,baz=142,slow=41
comp=Z,8.8nm,0.6s
BRVK Borovoye 35.78 335 P **P** **09 54 03.2 +0.2**
BRVK IAmb IAmb 09 54 04.7
comp=Z,7.1nm,0.6s
LUWI Luwuk 36.12 126 P **P** **09 54 06.3 -0.1**
MDJ Mudanjiang 36.41 44 P **P** **09 54 07.0 -1.5**
MDJ pP pP 09 54 29.4 -1.2
MDJ PcP **PcP** **09 56 27.5 -3.3**
MDJ S **S** **09 59 45.3 +2.4**
MDJ pmax pmax
comp=Z,12nm,1.8s
MDJ pmax pmax
comp=Z,330nm,3.6s
KAPI Kappang 36.79 135 LR LR 10 13 23.8
comp=Z,36nm,19.0s,baz=308,slow=43
USRK Ussuriysk Ar. 37.80 46 P **P** **09 54 18.5 -1.7**
comp=Z,1.8nm,0.6s,baz=250,slow=12,SNR=2.9
comp=Z,1.8nm,0.6s
ABKAR Akbulak array 38.23 323 P **P** **09 54 25.4 +1.7**
KLR Kul'dur 39.84 38 LR LR 10 14 05.2
comp=Z,41nm,18.3s,baz=219,slow=41
AKTO Aktyubinsk 39.91 324 LR LR 10 14 12.3
comp=Z,69nm,18.3s,baz=350,slow=40
MJAR Matsushiro Arr 40.35 59 P **P** **09 54 40.3 -1.4**
comp=Z,1.4nm,0.7s,baz=271,slow=11,SNR=4.6
MJAR pP **pP** **09 55 04.6 +0.5**
comp=Z,2.3nm,0.8s,baz=272,slow=9.9,SNR=3.5
comp=Z,1.4nm,0.7s
JHJ Hachijo jima 2 41.31 65 LR LR 10 13 32.1
comp=Z,29nm,20.2s,baz=228,slow=38
ARU Arti 43.02 332 P **P** **09 55 03.5 +0.4**
ARU IAmb IAmb 09 55 04.8
comp=Z,8.4nm,0.7s
BATI Baumata 43.23 135 LR LR 10 14 57.6
comp=Z,121nm,18.4s,baz=274,slow=39
JCJ Chichijima 43.47 74 LR LR 10 13 55.1
comp=Z,110nm,20.9s,baz=124,slow=37
GNI Garni 45.41 305 LR LR 10 19 04.2
comp=Z,23nm,20.0s,baz=98,slow=42
AKH Akhalkalaki 46.52 306 P **P** **09 55 33.9 +2.6**
BELG Belogornoye 46.60 322 LR LR 10 17 06.2
comp=Z,61nm,20.9s,baz=187,slow=38
KARS Kars 46.73 305 P **P** **09 55 34.9 +1.9**
KBZ Khabaz 47.31 309 P **P** **09 55 39.3 +2.1**
comp=Z,2.4nm,0.8s,baz=117,slow=4.5,SNR=2.6
KBZ LR LR 10 18 45.0
comp=Z,31nm,18.5s,baz=7.0,slow=40
comp=Z,2.4nm,0.8s
GURO Guroymak-BITLI 47.34 302 P **P** **09 55 39.4 +1.7**
KIV Kislovodsk 47.50 310 P **P** **09 55 40.5 +1.7**
KIV IAmb IAmb 09 55 42.2
comp=Z,12nm,0.9s
KIRV Kirov 48.33 330 LR LR 10 18 31.5
comp=Z,52nm,18.3s,baz=154,slow=39
ARPR Arapgir-MALATY 50.25 303 P **P** **09 56 01.4 +1.4**
ARPR IAmb IAmb 09 56 13.7
comp=Z,10nm,1.1s
MMAI Mount Meron Ar 52.73 295 LR LR 10 24 23.9
comp=Z,33nm,18.3s,baz=65,slow=42
TIXI Tiksi 53.12 13 P **P** **09 56 18.6 -2.1**
TIXI IAmb IAmb 09 56 45.2
comp=Z,7.9nm,1.1s
EIL Elat 53.44 291 LR LR 10 23 12.8
comp=Z,26nm,18.9s,baz=127,slow=40
KLMR Klimovskoe 53.83 330 *e*P **P** **09 56 25.7 -0.3**
KLMR AMP 09 56 27.2
comp=Z,33nm,1.3s
KLMR *e*pP **pP** **09 56 50.8 +1.3**
BRTR Keskin Array B 53.90 304 P **P** **09 56 28.1 +1.1**
comp=Z,1.0nm,0.8s,baz=92,slow=6.2,SNR=5.0
BRTR ScP **ScP** **10 01 19.9 -0.9**
comp=Z,1.0nm,0.8s,baz=104,slow=3.7,SNR=4.8
comp=Z,1.0nm,0.8s
MA2 Magadan 54.11 32 LR LR 10 23 02.6
comp=Z,42nm,18.5s,baz=188,slow=40
ELL Elmali 56.96 300 P **P** **09 56 49.3 +0.3**
WB0 Warramunga Arr 57.24 134 P **P** **09 56 50.0 -0.9**
WRA Warramunga Arr 57.33 134 P **P** **09 56 50.9 -0.7**
WRA Warramunga Arr 57.33 134 P **P** **09 56 51.2 -0.4**
comp=Z,11nm,0.7s,baz=322,slow=7.4,SNR=101
comp=Z,11nm,0.7s
WRAB Tennant Creek 57.33 134 P **P** **09 56 50.6 -1.1**
AKASG Malin Array Be 57.40 317 P **P** **09 56 51.5 -0.2**
comp=Z,2.6nm,0.4s,baz=82,slow=6.3,SNR=21
comp=Z,2.6nm,0.4s
AKBB Malin Array Si 57.40 317 P **P** **09 56 51.9 +0.1**
KIEV Kiev 57.41 317 ⇑P **P** **09 56 51.8 0.0**
KIEV Kiev 57.41 317 P **P** **09 56 51.1 -0.7**
WR0 Warramunga Arr 57.48 134 P **P** **09 56 52.1 -0.6**
SORM Soroca 57.84 314 ⇑P **P** **09 56 55.2 +0.4**
VLDR Vladesti 57.99 311 ⇓P **P** **09 56 56.8 +0.9**
VRI Vrincioaia 58.94 311 ⇑P **P** **09 57 03.7 +1.1**
TESR Tescani 58.98 312 ⇓P **P** **09 57 03.8 +1.0**
PLOR Plostina 58.99 311 ⇑P **P** **09 57 04.2 +1.2**
GIRR Girov 59.08 312 ⇓P **P** **09 57 03.9 +0.4**
COVR Voineasa-Covas 59.30 311 ⇑P **P** **09 57 06.3 +1.2**
MLR Muntele Rosu 59.49 311 ⇓P **P** **09 57 08.2 +1.6**
MLR Muntele Rosu 59.49 311 P **P** **09 57 07.8 +1.2**
MLR Muntele Rosu 59.49 311 LR LR 10 27 16.7
comp=Z,28nm,19.0s,baz=69,slow=40
AS31 Alice Springs 59.72 138 P **P** **09 57 07.9 -0.3**
ASAR Alice Springs 59.72 138 P **P** **09 57 07.9 -0.3**
ASAR Alice Springs 59.72 138 P **P** **09 57 08.2 0.0**
comp=Z,8.0nm,0.8s,baz=322,slow=6.9,SNR=98
comp=Z,8.0nm,0.8s
BURAR Bucovina Array 59.95 313 ⇑P **P** **09 57 10.4 +0.8**
BURAR Bucovina Array 59.95 313 P **P** **09 57 09.7 +0.1**
BURAR IAmb IAmb 09 57 11.4
comp=Z,3.6nm,0.7s
BUR08 Bucovina Ar. S 59.96 313 P **P** **09 57 09.8 +0.1**
BUR08 IAmb IAmb 09 57 11.2
comp=Z,3.4nm,0.7s
VOIR 60.12 311 ⇑P **P** **09 57 11.2 +0.4**
LODK Lodwar 60.14 261 P **P** **09 57 12.2 +0.8**
LODK IAmb IAmb 09 57 14.2
comp=Z,3.3nm,0.8s
FINES FINESS Array B 60.29 329 P **P** **09 57 11.5 0.0**
comp=Z,1.7nm,0.4s,baz=89,slow=6.0,SNR=17
comp=Z,1.7nm,0.4s
KMBO Kilima Mbogo 60.34 255 P **P** **09 57 14.1 +1.1**
comp=Z,0.6nm,0.4s,baz=89,slow=13,SNR=2.4
comp=Z,0.6nm,0.4s
ARR Arges 60.42 310 ⇑P **P** **09 57 13.8 +1.0**
PMG Port Moresby 60.55 116 P **P** **09 57 13.8 -0.2**
MARR Marisel-Cluj 61.41 312 ⇓P **P** **09 57 20.6 +1.1**
ARCES ARCESS Array B 61.91 338 P **P** **09 57 23.0 +0.6**
comp=Z,2.6nm,0.6s,baz=99,slow=7.3,SNR=15
comp=Z,2.6nm,0.6s
VYHS Vyhne 64.18 314 *e*P **P** **09 57 38.5 +0.7**
SPITS Spitsbergen Ar 65.84 347 P **P** **09 57 47.8 -0.3**
comp=Z,15nm,1.0s,baz=83,slow=12,SNR=2.0
comp=Z,15nm,1.0s
CTAO Charters Tower 65.88 126 P **P** **09 57 48.9 -0.3**
CTAO IAmb IAmb 09 57 50.0
comp=Z,8.5nm,1.1s
HFS Hagfors 66.31 327 P **P** **09 57 51.4 +0.2**
comp=Z,4.5nm,0.5s,baz=100,slow=6.2,SNR=23
comp=Z,4.5nm,0.5s
BRG Berggiesshubel 67.08 317 *e*P **P** **09 57 58.2 +1.9**
BRG Amp 09 58 00.1
comp=Z,2.5nm,0.7s
MOA Molln 67.29 314 *e*P **P** **09 57 58.3 +0.5**
comp=Z,1.7nm,0.5s
NB2 NORSAR Subarra 67.45 328 P **P** **09 57 57.9 -0.7**
comp=Z,11nm,1.1s,baz=84,slow=6.5
NOA NORSAR Array B 67.45 328 P **P** **09 57 58.4 -0.2**
comp=Z,1.6nm,0.7s,baz=90,slow=6.0,SNR=6.2
NOA LR LR 10 31 02.6
comp=Z,22nm,18.2s,baz=325,slow=39
comp=Z,1.6nm,0.7s
GEC2 GERESS Array S 67.52 315 P **P** **09 57 59.8 +0.5**
GEC2 IAmb IAmb 09 58 27.0
comp=Z,6.8nm,0.8s
GERES GERESS Array B 67.52 315 P **P** **09 57 59.7 +0.4**
GERES GERESS Array B 67.52 315 P **P** **09 58 00.2 +0.9**
comp=Z,2.8nm,0.6s,baz=72,slow=5.9,SNR=13
GERES LR LR 10 30 14.2
comp=Z,38nm,18.1s,baz=54,slow=38

	comp=Z,2.8nm,0.6s						
CLL	**Collm**	**67.61**	**318**	*e*P	**P**	**09 58 02.0**	**+2.4**
CLL				*e*pP	**pP**	**09 58 26.0**	**+1.9**
LESA	**Schwarzleotal**	**68.42**	**314**	*i* P	**P**	**09 58 05.1**	**+0.2**
	comp=Z,6.5nm,0.4s						
WTTA	**Wattenberg**	**69.14**	**314**	*i* P	**P**	**09 58 09.4**	**-0.1**
	comp=Z,2.7nm,0.6s						
WATA	**Walderalm**	**69.17**	**314**	*i* P	**P**	**09 58 09.4**	**-0.2**
	comp=Z,1.1nm,0.4s						
SQTA	**Sankt Quirin**	**69.44**	**314**	*i* P	**P**	**09 58 11.4**	**0.0**
	comp=Z,2.5nm,0.4s						
MOTA	**Moosalm**	**69.49**	**314**	*i* P	**P**	**09 58 11.9**	**+0.3**
	comp=Z,1.5nm,0.5s						
RETA	**Reutte**	**69.69**	**314**	*i* P	**P**	**09 58 12.9**	**+0.1**
	comp=Z,2.7nm,0.5s						
FETA	**Feichten**	**69.80**	**314**	*i* P	**P**	**09 58 13.6**	**+0.1**
	comp=Z,0.9nm,0.4s						
STKA	**Stephens Creek**	**70.32**	**138**	P	**P**	**09 58 15.8**	**-0.9**
STKA	**Stephens Creek**	**70.32**	**138**	P	**P**	**09 58 16.4**	**-0.2**
	comp=Z,5.3nm,0.9s,baz=351,slow=5.4,SNR=5.1						
	comp=Z,5.3nm,0.9s						
DAVOX	**Davos/Dischmat**	**70.42**	**313**	LR	LR	10 32 25.0	
	comp=Z,33nm,18.8s,baz=90,slow=38						
DAG	**Danmarks Havn**	**73.50**	**347**	*i* P	**P**	**09 58 34.0**	**-1.0**
LSZ	**Lusaka**	**74.84**	**246**	LR	LR	10 33 25.8	
	comp=Z,16nm,18.1s,baz=315,slow=37						
EKA	**Eskdalemuir Ar**	**76.09**	**324**	P	**P**	**09 58 50.8**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=74,slow=5.9,SNR=2.7						
	comp=Z,1.1nm,0.6s						
MLY	**Manley**	**79.82**	**23**	P	**P**	**09 59 10.3**	**-0.5**
SUMG	**Summit**	**80.19**	**347**	P	**P**	**09 59 13.5**	**+0.3**
SUMG				IAmb	IAmb	09 59 14.2	
	comp=Z,12nm,1.1s						
BMAR	**Burnt Mountain**	**80.54**	**20**	P	**P**	**09 59 15.3**	**+0.6**
MDM	**Murphy Dome**	**80.75**	**23**	P	**P**	**09 59 14.1**	**-1.8**
MDM				IAmb	IAmb	09 59 16.2	
	comp=Z,6.7nm,0.8s						
ILAR	**Eielson Array**	**81.33**	**22**	P	**P**	**09 59 17.3**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=298,slow=5.1,SNR=14						
ILAR				LR	LR	10 37 43.6	
	comp=Z,42nm,18.2s,baz=239,slow=37						
	comp=Z,1.1nm,0.8s						
A36M	**Sachs Harbour**	**82.11**	**12**	P	**P**	**09 59 22.2**	**-0.6**
A36M				IAmb	IAmb	10 00 06.5	
	comp=Z,7.4nm,0.8s						
RES	**Resolute Bay**	**83.03**	**2**	P	**P**	**09 59 26.7**	**-0.9**
BOSA	**Boshof**	**83.69**	**236**	P	**P**	**09 59 32.5**	**+0.7**
	comp=Z,3.8nm,0.5s,baz=75,slow=3.3,SNR=17						
BOSA				LR	LR	10 35 56.0	
	comp=Z,13nm,18.8s,baz=56,slow=35						
	comp=Z,3.8nm,0.5s						
C36M	**Paulatuk**	**84.49**	**13**	P	**P**	**09 59 34.1**	**-1.0**
C36M				IAmb	IAmb	10 00 01.1	
	comp=Z,4.5nm,0.6s						
TSUM	**Tsumeb**	**85.64**	**247**	LR	LR	10 39 18.0	
	comp=Z,20nm,18.1s,baz=62,slow=36						
TORD	**Torodi Ar. Bea**	**87.55**	**283**	P	**P**	**09 59 51.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**87.55**	**283**	P	**P**	**09 59 52.3**	**+1.1**
	comp=Z,2.4nm,0.9s,baz=54,slow=5.1,SNR=13						
	comp=Z,2.4nm,0.9s						
SUR	**Sutherland**	**88.85**	**234**	LR	LR	10 35 46.1	
	comp=Z,20nm,20.7s,baz=65,slow=33						
YKA	**Yellowknife Ar**	**92.37**	**13**	P	**P**	**10 00 11.8**	**-0.9**
	comp=Z,0.4nm,1.0s,baz=334,slow=4.1,SNR=4.3						
YKA				PKKPbc	**PKKPdf**	**10 17 24.4**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=166,slow=1.9,SNR=4.7						
	comp=Z,0.4nm,1.0s						
FRB	**Frobisher Bay**	**93.17**	**352**	LR	LR	10 46 17.6	
	comp=Z,29nm,19.1s,baz=103,slow=38						
DBIC	**Dimbokro**	**95.99**	**280**	LR	LR	10 48 00.8	
	comp=Z,21nm,18.4s,baz=352,slow=38						
ELIB	**Princess Elisa**	**105.38**	**198**	*d*PKiKP	**PKiKP**	**10 05 25.7**	**+1.4**
QSPA	**South Pole Qui**	**112.15**	**180**	PKiKP	**PKiKP**	**10 05 36.0**	**-1.0**
	comp=Z,2.7nm,1.1s,baz=335,slow=1.4,SNR=6.9						
TXAR	**Lajitas Array**	**125.77**	**19**	PKP	**PKPdf**	**10 06 04.3**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=188,slow=2.5,SNR=4.4						
TXAR				pPKP	**pPKPdf**	**10 06 31.3**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=251,slow=0.2,SNR=5.7						
BDFB	**Brasilia**	**143.91**	**274**	PKP	**PKPab**	**10 06 36.8**	**+1.0**
	comp=Z,3.6nm,0.6s,baz=145,slow=3.9,SNR=8.5						
SDV	**Santo Domingo**	**145.68**	**333**	PKPbc	**PKPdf**	**10 06 41.5**	**-0.1**
	comp=Z,18nm,0.8s,baz=35,slow=2.1,SNR=22						
ROSC	**El Rosal**	**150.83**	**336**	PKP	**PKPdf**	**10 06 51.8**	**+1.4**
	comp=Z,14nm,0.9s,baz=29,slow=10,SNR=5.4						
ROSC				PKPbc	**PKPbc**	**10 06 57.0**	**+1.0**
	comp=Z,44nm,0.8s,baz=104,slow=8.3,SNR=17						
CPUP	**Villa Florida**	**153.96**	**256**	PKPbc	**PKPbc**	**10 07 00.5**	**-1.7**
	comp=Z,2.3nm,0.7s,baz=133,slow=1.7,SNR=6.7						
LPAZ	**La Paz**	**162.46**	**287**	PKP	**PKPdf**	**10 07 05.5**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=61,slow=4.8,SNR=6.1						

*NEIC **03** 10:09:12.6±1.0, 35°.46N±0°.01×97°.77W±0°.01, h7km±3km, Error ellipse: s-maj=1.9km s-min=1.7km az=182.0*

TUL 03 10:09:11.8±0.9**, 35°.46N**±0°.01×**97°.775W**±0°.009**, h6**km±3km**, ML2.1, mb_Lg2.0**/9(NEIC)**, ML2.2**/34(NEIC)**, Error ellipse: s-maj=1.8km s-min=1.0km az=189.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKCSW	**OKLAHOMA CITY**	**0.28**	**101**	Pg	Pg	10 09 17.6	+0.4
OKCSW				Sg	Sg	10 09 21.9	+0.9
OKCSW				IAML		10 09 24.6	
	comp=E,200nm,0.4s						
FNO	**Franklin**	**0.37**	**123**	Pg	Pb	10 09 20.1	-0.6
FNO				Sg	Sg	10 09 24.8	+1.1
FNO				IAML		10 09 30.4	
	comp=N,242nm,0.7s						
ADOK	**Arcadia Dam**	**0.38**	**59**	Pg	Pg	10 09 19.6	+0.4
ADOK				Sg	Sg	10 09 25.4	+1.1
OK029	**Liberty Lake**	**0.43**	**38**	Pg	Pg	10 09 20.4	+0.3
OK029				Sg	Sg	10 09 26.7	+1.0
OK029				IAML		10 09 29.3	
	comp=N,335nm,0.3s						
CSTR	**Hydro, Custer**	**0.77**	**284**	Pg	Pg	10 09 25.9	-0.6
CSTR				Sg	Sg	10 09 36.9	+0.3
W35A	**Tecumseh**	**0.80**	**112**	Pg	Pg	10 09 26.7	-0.4
W35A				Sg	Sg	10 09 38.0	+0.5
W35A				IAML		10 09 38.3	
	comp=E,47nm,0.3s						
W35A				IAML		10 09 41.0	
	comp=N,113nm,0.5s						
OK033	**Mehan**	**0.90**	**49**		Pg	10 09 29.0	-0.1
OK033				Sg	Sg	10 09 41.4	+0.6
OK030	**Cody Creek RV**	**0.93**	**60**	Pg	Pg	10 09 29.0	-0.7
OK030				Sg	Sg	10 09 42.1	+0.2
OK030				IAML		10 09 44.3	
	comp=N,99nm,0.1s						
OK030				IAML		10 09 47.8	
	comp=N,98nm,0.2s						
OK052	**Battle Ridge R**	**0.95**	**56**	Pg	Pg	10 09 29.3	-0.8
OK052				Sg	Sg	10 09 42.8	+0.3
OK052				IAML		10 09 48.4	
	comp=N,106nm,0.4s						
OK052				IAML		10 09 48.4	
	comp=N,91nm,0.4s						
CROK	**Carrier**	**1.06**	**351**	Pg	Pg	10 09 31.6	-0.6
CROK				IAML		10 09 50.6	
	comp=N,81nm,0.3s						
CROK				IAML		10 09 55.3	
	comp=E,90nm,0.2s						
WMOK	**Wichita Mounta**	**1.09**	**229**	Pg	Pg	10 09 32.8	0.0
WMOK				Sg	Sg	10 09 46.2	-0.7
DEOK	**Depew**	**1.11**	**69**	Pg	Pg	10 09 32.6	-0.5
DEOK				Sg	Sg	10 09 47.4	0.0
DEOK				IAML		10 09 49.3	
	comp=E,90nm,0.2s						
DEOK				IAML		10 09 52.5	
	comp=N,66nm,0.5s						
QUOK	**Quay**	**1.12**	**50**	Pg	Pg	10 09 32.5	-0.9
QUOK				Sg	Sg	10 09 48.1	+0.2
OK048	**Pawnee Station**	**1.17**	**35**	Pg	Pg	10 09 33.4	-0.9
OK048				Sg	Sg	10 09 49.3	-0.2
OK048				IAML		10 09 50.0	
	comp=N,55nm,0.2s						
OK051	**E0350 and S346**	**1.29**	**36**		Pn	10 09 35.5	-1.0
U32A	**Winter Ranch,**	**1.35**	**313**		Pg	10 09 38.0	+0.2
BLOK	**Blackwell**	**1.38**	**19**		Pn	10 09 37.0	-0.6
OK032	**Salt Plains WL**	**1.39**	**345**		Pn	10 09 36.9	-0.8
GC02	**Grant County #**	**1.39**	**357**		Pn	10 09 36.9	-0.9
ELIS	**Ellis County**	**1.47**	**295**		Pn	10 09 38.7	-0.2
NOKA	**Waynoka**	**1.50**	**322**		Pn	10 09 38.8	-0.5
LOOK	**Love County**	**1.54**	**161**		Pn	10 09 40.0	+0.2
KAN13	**South Haven SW**	**1.57**	**9**		Pn	10 09 40.4	+0.2
KAN17	**Caldwell West**	**1.58**	**0**		Pn	10 09 40.0	-0.4
TUL3	**Leonard**	**1.68**	**74**	Pn	Pn	10 09 41.7	0.0
T35A	**Sooner Cattle**	**1.78**	**35**	Pn	Pn	10 09 43.6	+0.5
WTFS	**Witchita Falls**	**1.78**	**199**	Pn	Pn	10 09 43.8	+0.7
WTFS				IAmb_Lg		10 10 09.3	
	comp=Z,2.3nm,0.9s						
SMWD	**Samnorwood**	**2.05**	**261**	Pn	Pn	10 09 47.8	+1.0
X37A	**Clayton**	**2.15**	**113**	Pn	Pn	10 09 49.6	+1.4
RLO	**Rose Lookout**	**2.34**	**72**	Pn	Pn	10 09 51.9	+1.0
FW03	**Perrin-Whitt E**	**2.42**	**186**	IAmb_Lg		10 10 28.2	
	comp=Z,5.6nm,0.7s						
DKNS	**Dickens**	**3.15**	**236**	IAmb_Lg		10 10 55.9	
	comp=Z,3.7nm,0.7s						
MIAR	**Mount Ida**	**3.56**	**104**	Pn	Pn	10 10 07.9	+0.3
KSU1	**Kansas State U**	**3.75**	**14**	Pn	Pn	10 10 10.3	+0.1
X40A	**Basin Creek Fa**	**4.17**	**102**	IAmb_Lg		10 11 29.8	
	comp=Z,2.3nm,0.7s						
S39A	**Bolivar**	**4.22**	**57**	IAmb_Lg		10 11 31.9	
	comp=Z,3.8nm,1.0s						
MGMO	**Mountain Grove**	**4.76**	**68**	IAmb_Lg		10 11 51.9	
	comp=Z,4.0nm,0.7s						
T25A	**Trinidad**	**5.62**	**289**	Pn	Pn	10 10 35.2	-0.8

*IDC **03** 10:56:16.2±2.4, 7°.91N×126°.72E, h84km±22km, mb3.6/13, mbtmp4.0/14, Error ellipse: s-maj=29.4km s-min=14.0km az=80.0*

ISC 03 10:56:17.8±0.7**, 7°.86N**±0°.09×**126°.5E**±0°.2**, h100**km**, n20,** σ**1.03**/19**, mb3.7**/13**, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.20**	**229**	P	**Pn**	**10 56 38.2**	**-2.2**
	260nm,0.5s,baz=44,slow=7.3,SNR=9.2						
DAV				S	**Sn**	**10 56 59.4**	**+1.8**
	235nm,0.4s,baz=78,slow=20,SNR=5.0						
DAV				LR	LR	10 57 27.4	
	comp=Z,382nm,19.6s,baz=22,slow=51						
BATI	**Baumata**	**18.17**	**189**	P	**Pn**	**11 00 24.4**	**+0.7**
	11nm,0.4s,baz=86,slow=2.4,SNR=1.4						
WRA	**Warramunga Arr**	**28.69**	**164**	P	**P**	**11 02 04.7**	**-0.9**
	0.3nm,0.6s,baz=347,slow=9.5,SNR=5.9						
	0.3nm,0.6s						
KSRS	**Korea Array**	**29.49**	**2**	P	**P**	**11 02 12.2**	**-0.1**
	0.7nm,0.7s,baz=178,slow=9.4,SNR=2.4						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**32.16**	**167**	P	**P**	**11 02 35.3**	**-0.8**
	0.2nm,0.4s,baz=346,slow=6.6,SNR=12						
ASAR				PcP	**PcP**	**11 05 24.2**	**+1.2**
	0.4nm,0.8s,baz=349,slow=2.9,SNR=3.5						
	0.2nm,0.4s						
USRK	**Ussuriysk Ar.**	**36.51**	**7**	P	**P**	**11 03 13.0**	**-0.5**
	5.6nm,0.7s,baz=188,slow=6.6,SNR=11						
	5.6nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**40.85**	**69**	T	T	11 47 36.5	
	baz=262						
H11N2	**WAKE ISLAND Hy**	**40.86**	**69**	T	T	11 47 38.4	
	baz=262						
H11N3	**WAKE ISLAND Hy**	**40.87**	**69**	T	T	11 47 40.1	
	baz=262						
PETK	**Petropavlovsk-**	**51.73**	**23**	P	**P**	**11 05 15.2**	**+0.4**
	3.2nm,0.9s,baz=180,slow=3.1,SNR=4.9						
	3.2nm,0.9s						
MKAR	**Makanchi Array**	**54.07**	**324**	P	**P**	**11 05 32.6**	**+0.5**
	1.1nm,0.7s,baz=124,slow=8.2,SNR=12						
	1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**56.84**	**332**	P	**P**	**11 05 51.7**	**-0.1**
	0.4nm,0.5s,baz=145,slow=5.4,SNR=2.6						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**58.17**	**326**	P	**P**	**11 06 01.6**	**+0.4**
	1.1nm,0.2s,baz=128,slow=7.4,SNR=4.5						
	1.1nm,0.2s						
BVAR	**Borovoye Array**	**63.76**	**326**	P	**P**	**11 06 39.5**	**+0.5**
	0.2nm,0.3s,baz=120,slow=8.5,SNR=2.6						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**81.50**	**26**	P	**P**	**11 08 23.1**	**-0.8**
	0.3nm,0.6s,baz=239,slow=5.0,SNR=7.9						
	0.3nm,0.6s						
ARCES	**ARCESS Array B**	**86.51**	**340**	P	**P**	**11 08 49.8**	**+0.6**
	4.6nm,1.1s,baz=76,slow=7.5,SNR=1.9						
	4.6nm,1.1s						
VNDA	**Vanda**	**87.53**	**173**	P	**P**	**11 08 54.8**	**+0.9**
	0.4nm,0.6s,baz=276,slow=11,SNR=1.9						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**88.10**	**332**	P	**P**	**11 08 55.8**	**-1.2**
	1.6nm,0.7s,baz=120,slow=8.2,SNR=1.1						
	1.6nm,0.7s						
TXAR	**Lajitas Array**	**119.21**	**50**	PKP	**PKiKP**	**11 14 56.7**	**+0.7**
	0.1nm,0.6s,baz=261,slow=3.6,SNR=1.9						
TORD	**Torodi Ar. Bea**	**121.33**	**291**	PKP	**PKiKP**	**11 15 01.3**	**+0.9**
	0.2nm,0.4s,baz=38,slow=2.2,SNR=3.8						

IDC 03 11:00:02.6±1.9**, 5°.27N**×**125°.73E, h0**km**, mb3.6**/4**, mbtmp3.6**/4**, Error ellipse: s-maj=197.2km s-min=23.9km az=65.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.45**	**162**	P	P	11 05 40.4	-1.1
	0.3nm,0.9s,baz=342,slow=10,SNR=2.1						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**29.85**	**165**	P	P	11 06 11.8	0.0
	0.3nm,0.9s,baz=341,slow=6.9,SNR=2.2						
ASAR				PcP	PcP	11 09 16.9	+1.5
	0.1nm,0.5s,baz=342,slow=2.8,SNR=0.9						
	0.3nm,0.9s						
MKAR	**Makanchi Array**	**55.73**	**325**	P	P	11 09 40.8	-0.3
	0.5nm,0.3s,baz=115,slow=7.4,SNR=8.1						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**59.91**	**327**	P	P	11 10 10.0	-0.3
	0.8nm,0.2s,baz=127,slow=5.9,SNR=1.3						
	0.8nm,0.2s						

*THE **03** 11:03:58.7, 34°.80N×24°.85E, h1km±1km, ML2.6/3, Error ellipse: s-maj=2.1km s-min=0.5km az=144.0*

*ATH **03** 11:03:58.6, 34°.73N×24°.86E, h10km±3km, ML2.6/6, Error ellipse: s-maj=4.2km s-min=1.7km az=126.0*

*ISK **03** 11:03:58.1, 34°.78N×24°.83E, h15km, ML2.8/7*

ISC 03 11:03:58.8±1.3**, 34°.79N**±0°.05×**24°.84E**±0°.03**, h12**km±10km**, n24,** σ**0.59**/35**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TMBK	**Timbaki Herakl**	**0.29**	**347**	P	**Pb**	**11 04 05.6**	**-0.3**
IDI	**Anoyia**	**0.50**	**4**	Pg	**Pg**	**11 04 08.6**	**0.0**
IDI				Sg	**Sb**	**11 04 16.2**	**-0.6**
IDI	**Anoyia**	**0.50**	**4**	P	**Pg**	**11 04 08.4**	**-0.2**
IDI				S	**Sg**	**11 04 15.8**	**+0.5**
	650nm,0.2s						
IDI	**Anoyia**	**0.50**	**4**	P	**Pg**	**11 04 08.4**	**-0.2**
IDI				S	**Sg**	**11 04 15.6**	**+0.3**
IDI				AML	AML	11 04 17.1	
	comp=E,975µm,0.1s						
IDI				AML	AML	11 04 18.3	
	comp=N,1580µm,0.3s						
KSTL	**Kastelli Herak**	**0.55**	**20**	P	**Pg**	**11 04 09.6**	**+0.1**
KSTL				S	**Sb**	**11 04 19.6**	**+1.5**
KSTL				AML	AML	11 04 21.0	
	comp=N,1641µm,0.2s						
KSTL				AML	AML	11 04 23.0	
	comp=E,802µm,0.3s						
IACM	**Heraklion**	**0.55**	**20**	P	**Pg**	**11 04 09.8**	**+0.2**
IACM				S	**Sb**	**11 04 18.4**	**+0.2**
HRKL	**Herakleio**	**0.56**	**22**	Pg	**Pg**	**11 04 09.8**	**-0.1**
HRKL	**Herakleio**	**0.56**	**22**	P	**Pg**	**11 04 09.7**	**-0.1**
HRKL	**Herakleio**	**0.56**	**22**	P	**Pb**	**11 04 10.6**	**0.0**
GVDS	**Gavdos**	**0.62**	**275**	Pg	**Pg**	**11 04 11.1**	**+0.2**
GVDS	**Gavdos**	**0.62**	**275**	P	**Pg**	**11 04 11.2**	**+0.3**
GVDS				S	**Sb**	**11 04 21.5**	**+1.2**
	comp=E,608nm,0.2s						
GVD	**Gavdhos**	**0.62**	**275**	Pg	**Pg**	**11 04 10.5**	**-0.5**
GVD	**Gavdhos**	**0.62**	**275**	P	**Pg**	**11 04 10.3**	**-0.7**
GVD				S	**Sg**	**11 04 19.5**	**+0.3**
GVD				AML	AML	11 04 30.9	
	comp=E,2228µm,0.3s						
GVD				AML	AML	11 04 32.3	
	comp=N,2181µm,0.3s						
FRMA	**Ierapetra Chan**	**0.77**	**73**	P	**Pn**	**11 04 15.4**	**0.0**
FRMA				AML	AML	11 04 35.2	
	comp=N,343µm,0.3s						
FRMA				AML	AML	11 04 38.6	
	comp=E,532µm,0.5s						
IMMV	**Iera Moni Meta**	**0.97**	**314**	Pg	**Pg**	**11 04 17.3**	**-0.3**
IMMV				Sg	**Sb**	**11 04 31.3**	**+0.9**
IMMV	**Iera Moni Meta**	**0.97**	**314**	P	**Pg**	**11 04 17.4**	**-0.2**
IMMV				S	**Sn**	**11 04 31.8**	**-0.2**
	comp=E,445nm,0.3s						
IMMV	**Iera Moni Meta**	**0.97**	**314**	P	**Pg**	**11 04 16.7**	**-0.9**
IMMV				S	**Sb**	**11 04 31.3**	**+0.9**
IMMV				AML	AML	11 04 33.0	
	comp=N,863µm,0.3s						
IMMV				AML	AML	11 04 35.5	
	comp=E,918µm,0.3s						
CHAN	**Chania**	**0.98**	**318**	P	**Pg**	**11 04 17.5**	**-0.2**
CHAN				S	**Sn**	**11 04 31.9**	**-0.2**
CHAN				AML	AML	11 04 36.6	
	comp=N,604µm,0.5s						
CHAN				AML	AML	11 04 42.6	
	comp=E,467µm,0.4s						
ZKR	**Zakros**	**1.17**	**74**	Pn	**Pb**	**11 04 20.7**	**-0.3**
ZKR	**Zakros**	**1.17**	**74**	P	**Pb**	**11 04 20.4**	**-0.6**
RODP	**Rodopos**	**1.18**	**311**	Pn	**Pb**	**11 04 20.4**	**-0.7**
RODP	**Rodopos**	**1.18**	**311**	P	**Pb**	**11 04 20.7**	**-0.4**
ANKY	**Antikythira Is**	**1.66**	**311**	P	**Pb**	**11 04 29.2**	**0.0**
MHLO	**Agia Marina, M**	**1.93**	**349**	P	**Pb**	**11 04 32.8**	**-1.1**

CATAC 03 11:15:56.9±0.7**, 9°.65N**×**84°.56W, h11**km±4km**, MB6.7, ML2.1, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.10**	**277**	*i* P	Pg	11 16 00.5	+0.9
JACO				IAML		11 16 04.8	
	comp=Z,270nm,1.0s						
LAFE	**Finca La Fe, P**	**0.38**	**294**	*i* P	Pb	11 16 05.5	-0.1
LAFE				IAML		11 16 05.5	
	comp=Z,170nm,1.0s						
LCR2	**La Lucha 2**	**0.56**	**81**	*i* P	Pg	11 16 07.4	-0.4
LCR2				*i* S	Sb	11 16 16.3	-0.6
LCR2				IAML		11 16 16.3	
	comp=Z,55nm,1.0s						
RIMA	**Rio Macho**	**0.70**	**80**	*i* P	Pb	11 16 11.9	+0.7
RIMA				IAML		11 16 20.3	
	comp=Z,37nm,1.0s						
CDM	**Cerro de Muert**	**0.79**	**97**	*i* P	Pb	11 16 12.7	-0.3
CDM				IAML		11 16 29.3	
	comp=Z,31nm,1.0s						
RIFO	**Rio Frio, Sara**	**0.91**	**44**	*i* P	Sn	11 16 30.2	+1.3
INDI	**Punta indio, G**	**0.95**	**283**	*i* P	Pg	11 16 14.1	-1.1
INDI				IAML		11 16 25.4	
	comp=Z,46nm,1.0s						
ORTG	**Ortega, Santa**	**1.13**	**309**	*i* P	Pb	11 16 18.6	+0.1
ORTG				IAML		11 17 09.9	
	comp=Z,30nm,1.0s						
ESPN	**Las Esperanzas**	**2.54**	**6**	*i* P	Pn	11 16 37.9	-0.2
ESPN				IAML		11 17 45.3	
	comp=Z,96nm,1.0s						
AMTN	**Mateare**	**3.16**	**325**	*i* P	Pg	11 17 00.0	+2.6
QUEZ	**Alcaldia de Qu**	**6.21**	**312**	*i* P	Pb	11 17 38.9	-6.2
SMSP	**San Marcos**	**8.81**	**308**	*i* P	Pn	11 18 04.5	-0.1
SMSP				IAML		11 18 12.5	
	comp=Z,2µm,1.0s						
SMSP				IVmB_BB		11 18 12.5	
	comp=Z,44µm,1.0s						

*BJI **03** 11:19:03.7, 0°.47S×80°.27W, h20km, mB6.1/54, Ms6.2/83, Ms7 6.1/82*

*VAO **03** 11:19:04.7±0.2, 0°.47S×80°.19W, h10km, mb6.0*

*NEIC **03** 11:19:05.7, 0°.50S×80°.31W, h19km*

*NEIC **03** 11:19:05.4, 0°.37S×80°.21W, h36km, Moment Tensor Solution. Duration: 6s.1 Moment tensor: Scale 10[18]Nm; Mrr1.09; Mθθ0.08; Mφφ-1.17; Mrθ0.38; Mθφ-0.14; Mφr-1.31; Fault plane solution: M0 1.78000×10[18] NP1: φs169.51000°, δ70.65000°, λ77.57000°. NP2: φs23.13000°, δ22.87000°, λ121.49000°. Principal axes: T 1.7863, Plg62.0000°, Azm60.0000°; N -0.0122, Plg12.0000°, Azm174.0000°; P -1.7741, Plg25.0000°, Azm269.0000°;*

*NEIC **03** 11:19:05.4±2.1, 0°.47S±0°.05×80°.31W±0°.05, h17km±1km, mb5.7/407, Ms_20 5.9/1061, Mwb6.1/93, Mww6.1/48 Error ellipse: s-maj=9.4km s-min=7.8km az=108.0, Moment Tensor Solution. Moment tensor: Scale 10[18]Nm; Mrr0.70; Mθθ0.37; Mφφ-1.07; Mrθ0.24; Mθφ-0.48; Mφr-1.03; Fault plane solution: M0 1.49000×10[18] NP1: φs170.34000°, δ72.53000°, λ62.81000°. NP2: φs50.04000°, δ31.95000°, λ145.44000°. Principal axes: T 1.3590, Plg54.0000°, Azm47.0000°; N 0.2421, Plg26.0000°, Azm179.0000°; P -1.6011, Plg23.0000°, Azm281.0000°;*

*MOS **03** 11:19:05.8±1.0, 0°.38S×80°.39W, h29km, mb5.9/58, MS5.7/62 Error ellipse: s-maj=7.0km s-min=4.4km az=87.0*

*NEIC **03** 11:19:05.4, 0°.47S×80°.31W, h36km*

*IGQ **03** 11:19:05±0.4, 0°S±2°×8°0W±°, h21km*

*IPGP **03** 11:19:06.0, 0°.48S×80°.28W, h24km, Mw6.2, Fault plane solution: NP1: φs179.00000°, δ71.00000°, λ76.00000°. NP2: φs37.00000°, δ24.00000°, λ125.00000°.*

*GCMT **03** 11:19:09.4±0.1, 0°.58S×80°.60W, h29km, MW6.2/163, Moment Tensor Solution. s163,c349; s160,c577; Duration: 3s.1 Moment tensor: Scale 10[18]Nm; Mrr1.29±.01; Mθθ0.15±.01; Mφφ-1.44±.01; Mrθ0.28±.02; Mθφ-0.23±.01; Mφr-2.03±.03; Best double couple: M0 2.47500×10[18] NP1: φs174.00000°, δ73.00000°, λ81.00000°. NP2: φs23.00000°, δ19.00000°, λ118.00000°. Principal axes: T 2.4270, Plg61.0000°, Azm72.0000°; N 0.0950, Plg9.0000°, Azm177.0000°; P -2.5230, Plg28.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*IDC **03** 11:19:10.1±1.1, 0°.38S×80°.30W, h58km±9km, mb5.1/27, mbtmp5.4/33, MS5.9/64 Error ellipse: s-maj=11.0km s-min=6.5km az=64.0*

*UPA **03** 11:19:17.5±2.9, 0°.17N×80°.12W, h20km, MW6.2*

ISC 03 11:19:05.1±0.3**, 0°.50S**±0°.02×**80°.37W**±0°.02**, h23**km±2km**, h23**km**:pP-P, n2603,** σ**2.00**/3081**, mb5.7**/348**, MS5.9**/649**, 133C-42D, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PECV	**Mancha de Ca P**	**0.42**	**131**	P	**Pb**	**11 19 13.0**	**-0.9**
APO2	**Ecuador-Portov**	**0.56**	**189**	P	**Pb**	**11 19 16.0**	**-0.3**
APO2				S	**Sn**	**11 19 27.0**	**+0.6**
CHIS	**Cerro-Chispas-**	**0.65**	**213**	P	**Pb**	**11 19 17.0**	**-0.8**
MAG1	**Magdalena**	**0.73**	**54**	P	**Pn**	**11 19 20.0**	**-0.1**
AQUE	**Quevedo**	**1.03**	**122**	P	**Pn**	**11 19 24.0**	**-0.2**
AQUE				S	**Sn**	**11 19 39.0**	**+1.1**
ISPT	**Isla de la Pla**	**1.03**	**223**	P	**Pn**	**11 19 23.0**	**-1.2**
ISPT				S	**Sn**	**11 19 39.0**	**+1.0**
PPLP	**Puerto Lpez**	**1.11**	**201**	P	**Pn**	**11 19 25.0**	**-0.3**
PPLP				S	**Sn**	**11 19 41.0**	**+1.0**
AV18	**Acelerografo,**	**1.20**	**48**	P	**Pb**	**11 19 27.0**	**-0.2**
ASDO	**Santo Domingo**	**1.27**	**79**	P	**Pn**	**11 19 24.0**	**-3.5**
PTGL	**Punta Galera**	**1.32**	**15**	P	**Pn**	**11 19 26.0**	**-2.2**
PTGL				S	**Sb**	**11 19 47.0**	**+1.3**
BV15	**Puerto Quito-O**	**1.32**	**60**	P	**Pn**	**11 19 27.0**	**-1.1**
AV21	**Acelerografo,**	**1.42**	**35**	P	**Pn**	**11 19 29.0**	**-0.5**
AV21				S	**Sb**	**11 19 53.0**	**+4.5**
APR2	**Miler**	**1.51**	**68**	P	**Pn**	**11 19 30.0**	**-0.9**
AMA1	**Acelerografo,**	**1.56**	**24**	P	**Pn**	**11 19 31.0**	**-0.5**
AMA1				S	**Sb**	**11 19 59.0**	**+6.2**
AGUAY	**Guayaquil**	**1.60**	**165**	P	**Pn**	**11 19 32.0**	**0.0**
ILLI	**Illinizas Sur**	**1.65**	**97**	P	**Pn**	**11 19 33.0**	**-0.2**
ILLI				S	**Sb**	**11 19 55.0**	**-0.8**
GYE3	**Ecuador-Guayaq**	**1.71**	**164**	P	**Pn**	**11 19 33.0**	**-0.5**
GYE3				S	**Sn**	**11 19 55.0**	**+0.4**
PAST	**Pastocalle**	**1.74**	**96**	P	**Pn**	**11 19 35.0**	**+0.7**
HPAL	**Hacienda Las P**	**1.74**	**81**	P	**Pn**	**11 19 34.0**	**-0.2**
PAC1	**Pacto, Paraso**	**1.75**	**64**	P	**Pn**	**11 19 33.0**	**-1.2**
PAC1	**Pacto, Paraso**	**1.75**	**64**	*e*P	**Pn**	**11 19 33.9**	**-0.3**
GGPT	**Toaza - Volcan**	**1.77**	**81**	P	**Pn**	**11 19 34.0**	**-0.7**
SALI	**Salinas**	**1.79**	**200**		**Pn**	**11 19 34.8**	**+0.3**
SALI	**Salinas**	**1.79**	**200**	P	**Pn**	**11 19 34.0**	**-0.5**
AMAC	**Ecuador-Machac**	**1.79**	**91**	P	**Pn**	**11 19 35.0**	**+0.1**
JUA2	**San Juan 2**	**1.79**	**81**	P	**Pb**	**11 19 38.0**	**+0.6**
CHSH	**Refugio Sur-Vo**	**1.79**	**123**		**Pb**	**11 19 37.1**	**-0.5**
CHSH	**Refugio Sur-Vo**	**1.79**	**123**	P	**Pn**	**11 19 36.0**	**+0.8**
PINO	**Pino**	**1.79**	**79**	P	**Pn**	**11 19 35.0**	**-0.2**
TERV	**Terraza Guagua**	**1.79**	**80**	P	**Pn**	**11 19 35.0**	**-0.2**
TERV				S	**Sn**	**11 19 58.0**	**+0.5**
AMIL	**Milagro (Trans**	**1.80**	**155**	P	**Pn**	**11 19 36.0**	**+1.3**
ALAT	**Latacunga**	**1.80**	**104**	P	**Pb**	**11 19 37.0**	**-0.6**
GGPC	**Guagua Pichinc**	**1.80**	**80**	P	**Pn**	**11 19 35.0**	**-0.3**
APR1	**Acelerografo,**	**1.81**	**76**	P	**Pn**	**11 19 35.0**	**-0.3**
SRAM	**San Ramn-Vol**	**1.82**	**98**	P	**Pn**	**11 19 36.0**	**+0.7**

YANA Yana 1.84 78 P Pn 11 19 35.0 -0.7
RVRD Rio Verde 1.84 32 P Pn 11 19 35.0 -0.3
RVRD S Sb 11 20 03.0 +2.3
PORT Chimborazo Vol 1.86 121 P Pn 11 19 37.0 +0.9
CAMI Rancho Maria 1.87 95 P Pn 11 19 37.0 +0.8
SUCR Mariscal Sucre 1.88 94 P Pn 11 19 37.0 +0.7
SLOR San Lorenzo - 1.89 97 Pb 11 19 37.9 -1.2
SLOR San Lorenzo - 1.89 97 P Pb 11 19 38.0 -1.1
BNAS Cotopaxi Volca 1.90 95 P Pb 11 19 39.0 -0.3
TAMH Tambohuasha Ch 1.90 123 P Pb 11 19 38.0 -1.3
EPNL EPN Laboratori 1.90 81 P Pn 11 19 37.0 +0.6
CIVI Edificio de In 1.90 81 P Pn 11 19 37.0 +0.6
BRRN Barrancas-Volc 1.91 98 P Pn 11 19 38.0 +1.3
BMOR Cotopaxi Volca 1.92 97 P Pn 11 19 38.0 +1.1
TOMA Boca Toma-Volc 1.93 90 P Pn 11 19 38.0 +1.0
BREF Cotopaxi Volca 1.93 95 P Pb 11 19 39.0 -1.0
PITA Cotopaxi Volc 1.94 92 P Pn 11 19 38.0 +1.0
PULU Pululahua 1.94 74 Pn 11 19 37.2 +0.2
PULU Pululahua 1.94 74 P Pn 11 19 37.0 0.0
MILO Milagro-Astudi 1.94 155 P Pn 11 19 36.0 -0.7
CRPG Carapungo - Pi 1.95 78 P Pn 11 19 37.0 -0.2
BVC2 Cotopaxi Volca 1.96 95 P Pb 11 19 39.0 -1.5
VC1 Cotopaxi 1 1.97 94 P Pn 11 19 39.0 +1.4
BTAM Cotopaxi Volca 1.98 95 P Pn 11 19 39.0 +1.3
SADP Ecuador-Quito- 1.98 76 P Pn 11 19 38.0 +0.5
IGUA Igualata 1.99 120 P Pb 11 19 40.0 -0.9
VCES Cotopaxi 2.00 99 P Pn 11 19 39.0 +1.1
TAMB Tambo 2.01 95 P Pb 11 19 40.0 -1.2
ARIO Riobamba 2.02 124 P Pb 11 19 40.0 -1.4
AV11 Acelerografo, 2.04 78 P Pb 11 19 40.0 -1.6
OTAV Otavalo 2.05 69 Pn Pn 11 19 38.7 0.0
OTAV Otavalo 2.05 69 P Pn 11 19 38.7 0.0
OTAV Otavalo 2.05 69 eP Pn 11 19 39.4 +0.8
OTAV Otavalo 2.05 69 ⇓P Pn 11 19 38.7 0.0
OTAV Otavalo 2.05 69 P Pn 11 19 38.7 0.0
OTAV Otavalo 2.05 69 eP Pn 11 19 38.3 -0.3
OTAV eS Sn 11 20 01.4 -2.4
GBMB Ecuador-Guayll 2.06 78 P Pn 11 19 40.0 +1.5
PIS1 Pisayambo 2.06 106 P Pb 11 19 41.0 -1.1
BIL2 Estacion Bilba 2.09 117 P Pb 11 19 42.0 -0.5
BBIL Ulba Tungurahu 2.10 117 P Pb 11 19 41.0 -1.7
JUI6 Juive 2.11 116 P Pn 11 19 41.0 +1.7
ANTG Antisana-Guama 2.11 90 P Pn 11 19 41.0 +1.4
APLA Playas - Guaya 2.12 181 P Pb 11 19 44.0 +1.2
POND Pondoa 2.12 116 P Pn 11 19 41.0 +1.5
MORR Playas El Morr 2.12 179 P Pn 11 19 40.0 +0.8
CUSE Cuicocha Este 2.13 68 P Pn 11 19 39.0 -0.6
CUSE Cuicocha Este 2.13 68 eP Pn 11 19 40.1 +0.5
TUYU Q. Yuibug Volc 2.13 117 P Pb 11 19 42.0 -1.2
BMAS Trigal station 2.13 118 P Pb 11 19 42.0 -1.3
RETU Refugio 2.14 116 P Pb 11 19 42.0 -1.5
BRUN Tungurahua Vol 2.14 115 P Pb 11 19 42.0 -1.4
ANTM Antisana-La Mi 2.15 91 P Pb 11 19 42.0 -1.6
ARRY Arrayan 2.16 118 P Pb 11 19 42.0 -1.7
CUIC Cuicocha-Domo 2.16 68 P Pn 11 19 40.0 -0.1
PIAT Ana Tenorio 2.16 103 P Pb 11 19 42.0 -1.8
BULB Ulba Tungurahu 2.17 115 P Pn 11 19 42.0 +1.8
COTA Cotacachi 2.19 68 P Pn 11 19 41.0 +0.4
ANTS Antisana-Sarah 2.20 90 P Pn 11 19 42.0 +1.2
ACOT Cotacachi (Cas 2.24 69 P Pn 11 19 42.0 +0.9
COHC Cochancay 2.25 150 Pn 11 19 41.7 +0.8
COHC Cochancay 2.25 150 P Pn 11 19 41.0 +0.1
APS4 Papallacta 2.27 87 P Pb 11 19 44.0 -1.5
IMBA Imbabura, San 2.30 70 Pn 11 19 44.0 +1.9
IMBA Imbabura, San 2.30 70 P Pn 11 19 44.0 +1.9
URCU Urcuqui 2.31 66 P Pn 11 19 42.0 -0.1
LITE1 Lita 2.38 57 P Pn 11 19 42.0 -0.9
ALIT Ecuador-Imbabu 2.38 57 P Pn 11 19 43.0 +0.1
AIB2 Ibarra (Univer 2.41 70 P Pb 11 19 46.0 -2.0
CAYR Refugio Cayamb 2.42 78 P Pn 11 19 46.0 +2.2
ANGU Angureal 2.42 77 P Pn 11 19 46.0 +2.1
CAYA Cayambe 2.44 77 P Pn 11 19 46.0 +1.9
ISPG Isla Puna-Puer 2.46 175 P Pb 11 19 47.0 -1.6
PUYO Puyo, Santa Ro 2.54 113 P Pb 11 19 49.0 -1.1
LNGL El Angel-Carch 2.67 62 P Pn 11 19 47.0 -0.2
CHMA Chilma 2.67 60 P Pn 11 19 46.0 -1.1
ECEN Cerro Negro 2.73 61 P Pn 11 19 49.0 +0.9
CHL1 Volc¡n Chiles 2.74 62 P Pn 11 19 49.0 +0.8
LAV4 Lava4-Reventad 2.77 82 P Pb 11 19 52.0 -2.1
CHL2 Volc¡n Chiles 2.77 62 P Pn 11 19 49.0 +0.4
ACUE Ecuador-Cuenca 2.78 150 P Pn 11 19 51.0 +2.5
ACH2 Ecuador-Machal 2.80 169 P Pn 11 19 49.0 +0.5
ACH1 Ecuador-Univer 2.80 171 P Pn 11 19 49.0 +0.4
TUMC Tumaco 2.83 35 P Pn 11 19 48.0 -1.0
TUMC Tumaco 2.83 35 eP Pn 11 19 48.0 -0.1
TULM Tulcn-Chalpat 2.85 65 Pn 11 19 51.8 +2.1
TULM Tulcn-Chalpat 2.85 65 P Pn 11 19 52.0 +2.4
TULM Tulcn-Chalpat 2.85 65 eP Pb 11 19 52.8 -2.8
CMBC Cumbal 2.92 61 P Pn 11 19 52.0 +1.4
CMBC Cumbal 2.92 61 eP Pb 11 19 54.0 -2.7
BONI La Bonita 2.99 72 P Pn 11 19 54.0 +2.6
BONI La Bonita 2.99 72 eP Pb 11 19 54.9 -3.0
CASC Dorado de Casc 3.10 78 P Pn 11 19 55.0 +2.3
AV03 Acelerografo, 3.10 80 P Pb 11 19 58.0 -1.6
BOSC San Juan Bosco 3.23 145 Pb 11 19 58.9 -2.9
BOSC San Juan Bosco 3.23 145 P Pb 11 19 59.0 -2.9
TAIS Taisha 3.42 123 P Pn 11 20 01.0 +3.9
GCUF Volcan Galeras 3.48 60 eP Pn 11 20 02.0 +3.8
APS1 Acelerografo, 3.50 80 P Pb 11 20 03.0 -3.4
AMCR Ecuador-Macara 3.86 174 P Pn 11 20 07.0 +3.8
MCRA Macar, Loja 3.86 174 Pn 11 20 05.4 +2.2
MCRA Macar, Loja 3.86 174 P Pn 11 20 05.0 +1.8
CRUC La Cruz 3.99 59 eP Pn 11 20 08.4 +3.2
BBAC Balboa, Cauca 4.00 51 P Pn 11 20 05.0 -0.3
BBAC Balboa, Cauca 4.00 51 eP Pn 11 20 05.8 +0.6
GR1C Gorgona, Isla 4.12 32 eP Pn 11 20 04.8 -1.8
ZUMB Zumba 4.50 164 P Pn 11 20 16.0 +3.9
POPC Popayan, Colom 4.77 51 eP Pn 11 20 16.4 +0.5
FLOC Florencia 5.15 66 P Pn 11 20 22.0 +1.1
FLOC Florencia 5.15 66 eP Pn 11 20 24.8 +3.9
JAMC Jamundi, Valle 5.22 45 eP Pn 11 20 24.4 +2.4
MALC Bahia Malaga 5.41 34 P Pn 11 20 25.0 +0.5
MALC Bahia Malaga 5.41 34 eP Pn 11 20 29.5 +5.0
PTLC Puerto Leguiza 5.61 83 P Pn 11 20 28.0 +0.8
PTLC Puerto Leguiza 5.61 83 eP Pn 11 20 29.6 +2.4
BETC Betania 5.85 57 eP Pn 11 20 33.1 +2.5
ORTC Ortega, Tolima 6.74 49 eP Pn 11 20 42.1 -0.6
PLMC San Jos del P 6.75 37 eP Pn 11 20 44.7 +1.8
ATAH Atahualpa 6.88 163 P Pn 11 20 50.9 +6.0
413nm,0.6s,baz=354,slow=8.5,SNR=82
ATAH S Sn 11 22 10.0 +7.2
4µm,0.9s,baz=331,slow=19,SNR=4.7
PRAC Prado 6.90 53 eP Pn 11 20 47.1 +2.2
ANIL Santa Ana 7.01 45 eP Pn 11 20 48.3 +1.5
MACC Macarena, Meta 7.03 68 eP Pb 11 21 32.8 +26
SOLC Bahia Solano 7.31 24 eP Pn 11 20 57.0 +6.5
CACAO El Cacao, Vera 7.81 356 i P Pn 11 20 59.9 +2.5
PTAC Punta Ardita, 8.02 19 ⇑i P Pn 11 21 01.8 +1.6
PTAC Punta Ardita, 8.02 19 eP Pn 11 21 03.4 +3.1
ROSC El Rosal 8.04 49 Pn Pn 11 21 00.4 -0.5
ROSC El Rosal 8.04 49 P Pn 11 21 03.8 +2.8
313nm,0.7s,baz=206,slow=2.8,SNR=22
ROSC S Sn 11 22 32.8 +1.3
630nm,0.8s,baz=181,slow=13,SNR=1.4
ROSC LR LR 11 24 31.4
comp=Z,102µm,18.4s,baz=256,slow=41
VILC Villavicencio, 8.09 55 eP Pn 11 21 05.0 +3.6
NORC Norcasia 8.15 42 eP Pn 11 21 05.7 +3.5
AZU Azuero 8.24 1 i P Pn 11 21 07.3 +4.0
AZU eS Sn 11 22 32.8 -3.0
AZU Azuero 8.24 1 eP Pn 11 21 05.4 +2.1
CHIC Chingaza 8.36 52 eP Pn 11 21 06.6 +1.3
CHIT3 Chitre 8.40 360 eP Pn 11 21 08.1 +2.6
SPBC San Pablo de B 8.77 46 eP Pn 11 21 14.4 +3.8
CALO3 Calobre, Verag 8.78 357 eP Pn 11 21 12.8 +2.1
PNME Penonome 8.93 6 eP Pn 11 21 12.8 +0.1
PTPM Petroterminale 9.00 344 i P Pn 11 21 18.6 +4.7
PEDE3 Pedregal, Chir 9.06 347 eP Pn 11 21 18.7 +4.1
DVD David 9.12 347 eP Pn 11 21 21.5 +6.1
PTBC PUERTO BERRIO, 9.15 40 eP Pn 11 21 20.8 +4.9
APAC Apartado, Choc 9.16 24 eP Pn 11 21 18.9 +2.9
GUAL3 Gualaca, Chiri 9.18 348 eP Pn 11 21 21.0 +4.8
UPD2 Meteti 9.29 15 ⇑i P Pn 11 21 21.2 +3.5
UPD2 eS Sn 11 22 58.1 -3.5
UPD2 Meteti 9.29 15 eP Pn 11 21 21.5 +3.8
PSOM3 Paja de Sombre 9.33 348 eP Pn 11 21 24.2 +5.9
CDITO Canoas 9.36 345 Pn 11 21 21.0 +2.4
PTAR3 Potrerillos Ar 9.38 347 i P Pn 11 21 25.3 +6.3
BCO2 Palmira 9.41 347 i P Pn 11 21 24.2 +4.7
UPA Univ. de Panam 9.46 5 ⇑i P Pn 11 21 23.3 +3.3
UPA i S Sn 11 22 53.6 -12
UPA Univ. de Panam 9.46 5 eP Pn 11 21 22.6 +2.6
LNBQ3 Los Naranjos, 9.46 347 eP Pn 11 21 21.1 +0.9
UREC San Jos de Ur 9.51 30 ⇑i P Pn 11 21 21.4 +0.6
UREC San Jos de Ur 9.51 30 eP Pn 11 21 25.2 +4.4
BRU2 Volcan 9.52 346 Pn Pn 11 21 24.7 +3.7
BRU2 Volcan 9.52 346 i P Pn 11 21 26.4 +5.3
BRU2 eS Sn 11 23 19.1 +12
BC3P Paso Ancho 9.52 346 eP Pn 11 21 26.9 +5.8
CAPC Capurgana 9.56 18 eP Pn 11 21 21.4 -0.1
TOTI Torti 9.59 12 ⇑i P Pn 11 21 25.4 +3.6
BCIP Isla Barro Col 9.62 3 Pn Pn 11 21 24.8 +2.6
BCIP Isla Barro Col 9.62 3 ⇑i P Pn 11 21 25.3 +3.1
BCIP eS Sn 11 22 52.3 -17
BCIP Isla Barro Col 9.62 3 eP Pn 11 21 25.3 +3.1
BCIP Isla Barro Col 9.62 3 ⇑P Pn 11 21 25.1 +2.8
BCIP Isla Barro Col 9.62 3 P Pn 11 21 24.8 +2.6
RUSC La Rusia 9.66 49 eP Pn 11 21 26.0 +2.8
ZARC Zaragoza, Cauc 9.66 35 eP Pn 11 21 28.4 +5.6
CHPO Chepo, Panama 9.69 7 i P Pn 11 21 26.2 +3.0
CNTA3 Canitas, Panam 9.77 9 eP Pn 11 21 28.2 +3.9
PAYG Puerto Ayora 9.92 269 Pn Pn 11 21 27.1 +0.7
PAYG Puerto Ayora 9.92 269 P Pn 11 21 27.0 +0.6
PAYG Puerto Ayora 9.92 269 ⇓P Pn 11 21 27.3 +0.9
CNI2 El Empalme, Bo 10.08 348 eP Pn 11 21 32.8 +4.2
LCBC Los crdobas, 10.12 23 i P Pn 11 21 31.6 +2.6
CZSB Cruzeiro do Su 10.48 133 Pn Pn 11 21 34.8 +0.7
CZSB Cruzeiro do Su 10.48 133 eP Pn 11 21 34.8 +0.7
PVIL Puerto Villami 10.60 268 P Pn 11 21 36.0 +0.4
VCH1 Volcn Chico 10.73 268 P Pn 11 21 37.0 -0.7
RIMA Rio Macho 10.78 341 Pn 11 21 40.4 +2.1
LCR2 La Lucha 2 10.80 341 Pn Pn 11 21 39.0 +0.3
PAMC Pamplona, Colo 10.92 44 eP Pn 11 21 44.6 +4.1
JACO JACO, Garabito 10.96 337 Pn 11 21 40.7 +0.1
TAMC Tame, Arauca 10.99 51 eP Pn 11 21 44.8 +3.7
FER2 Fernandina2, P 11.04 270 P Pn 11 21 42.0 +0.2
TBTG Tabatinga, AM 11.07 109 Pn Pn 11 21 43.3 +1.2
TBTG Tabatinga, AM 11.07 109 eP Pn 11 21 43.8 +1.7
TBTG Tabatinga, AM 11.07 109 eP Pn 11 21 43.1 +1.0
HDC Heredia 11.08 340 Pn 11 21 45.0 +2.6
HDC Heredia 11.08 340 ⇓P Pn 11 21 45.4 +2.9
HDC Heredia 11.08 340 eP Pn 11 21 45.7 +3.3
ALCE Alcedo, Punta 11.60 270 P Pn 11 21 37.0 -13
SOCE Pocosol 11.61 339 Pn 11 21 52.6 +3.0
JTS Las Juntas de 11.65 337 Pn Pn 11 21 51.1 +1.0
JTS Las Juntas de 11.65 337 P Pn 11 21 52.8 +2.7
85nm,0.9s,baz=112,slow=10,SNR=17
JTS S Sn 11 24 02.2 +2.5
58nm,1.1s,baz=180,slow=9.1,SNR=1.7
JTS LR LR 11 25 29.6
comp=Z,83µm,19.8s,baz=149,slow=33
ARE1 Arenal 1 11.72 338 Pn 11 21 54.7 +3.7
COVE Coope Vega, Sa 11.85 340 Pn 11 21 54.3 +1.5
ORTG Ortega, Santa 11.92 335 Pn 11 21 55.1 +1.2
NNA Nana 11.94 163 Pn Pn 11 21 54.2 +0.2
NNA Nana 11.94 163 ⇑P Pn 11 21 56.8 +2.8
NNA ⇑S Sn 11 24 11.9 +5.3
NNA Nana 11.94 163 ceP Pn 11 21 56.6 +2.6
NNA pmax pmax
comp=Z,2µm,1.0s
NNA MLR MLR
comp=Z,63µm,13.0s
NNA Nana 11.94 163 P Pn 11 21 58.0 +4.0
comp=Z,835nm,0.7s,baz=331,slow=10,SNR=95
NNA S Sn 11 24 08.6 +1.9
comp=Z,1µm,0.6s,baz=14,slow=16,SNR=13
NNA LR LR 11 27 31.1
comp=Z,53µm,18.1s,baz=334,slow=42
HZTE Horizontes, Gu 12.29 335 Pn 11 21 58.5 -0.4
SMRC Santa Marta, M 13.10 28 eP Pn 11 22 10.5 +0.6
ACON Acoyapa 13.28 339 Pn 11 22 13.5 +1.2
SGCB SEo Gabriel d 13.34 88 eP Pn 11 22 12.2 -1.1
SDV Santo Domingo 13.46 46 Pn 11 22 10.9 -4.0
SDV Santo Domingo 13.46 46 eP Pn 11 22 14.5 -0.4
SDV Santo Domingo 13.46 46 eP Pn 11 22 13.3 -1.6
SDV Santo Domingo 13.46 46 P Pn 11 22 15.9 +1.0
comp=Z,268nm,1.1s,baz=219,slow=11,SNR=27
SDV S Sn 11 24 45.5 +1.5
comp=Z,150nm,1.0s,baz=315,slow=14,SNR=1.8
SDV LR LR 11 28 45.1
comp=Z,82µm,19.3s,baz=224,slow=43
CRJC Cerrejon, Guaj 13.65 33 eP Pn 11 22 15.6 -2.0
PRVC Isla de Provid 13.82 356 eP Pn 11 22 21.1 +1.4
CNGN Cerro Negro 14.36 334 Pn 11 22 28.6 +1.4
CRIN San Cristobal 14.70 333 Pn 11 22 34.0 +2.2
BAUV El Baul 15.45 52 Pn Pn 11 22 40.7 -1.2
BAUV El Baul 15.45 52 eP Pn 11 22 35.1 -6.7
TGUH Tegucigalpa,Un 16.00 335 P 11 22 51.2 -1.1
TGUH Tegucigalpa,Un 16.00 335 ⇓P P 11 22 51.5 -0.9
TEFE Tefe 16.00 101 eP Pn 11 22 47.0 -2.0
SNET Serv Nac Est T 16.61 328 Pn Pn 11 22 57.2 +0.5
ETMB Extrema 16.85 124 Pn Pn 11 22 56.9 -2.8
ETMB IAmb IAmb 11 23 05.9
comp=Z,1µm,1.1s
ETMB Extrema 16.85 124 eP Pn 11 22 57.3 -2.4
HATO Hato, Curacao 16.94 42 Pn 11 23 01.5 +0.7
MTO3 Montecristo 17.27 329 P 11 23 06.4 -0.2
ESQI Esquipulas 17.40 330 P P 11 23 09.1 +1.3
ESQI IAmb IAmb 11 23 16.6
comp=Z,1µm,1.9s
APG El Apazote 18.36 327 LR LR 11 29 14.0
comp=Z,4µm,19.1s,baz=188,slow=33
MTDJ Mount Denham 18.82 8 P P 11 23 21.6 -1.8
MTDJ IAmb IAmb 11 23 29.8
comp=Z,1µm,1.9s
MTDJ Mount Denham 18.82 8 ⇑P Pn 11 23 25.5 +1.5
PCRV Puerto La Cruz 18.91 55 P Pn 11 23 25.9 +0.8
comp=Z,278nm,1.1s,baz=233,slow=7.0,SNR=30
PCRV LR LR 11 31 48.6
comp=Z,91µm,18.4s,slow=40
SAML Samuel 19.06 117 P P 11 23 24.3 -1.7
SAML Samuel 19.06 117 ⇑P P 11 23 24.7 -1.4
SAML Samuel 19.06 117 P P 11 23 24.3 -1.7
SAML pmax pmax
comp=Z,1µm,1.0s
SAML Samuel 19.06 117 eP P 11 23 25.2 -0.8
HUEH Huehuetenango 19.19 325 P Pn 11 23 29.4 +0.7
PETF Flores 19.68 332 P Pn 11 23 34.1 -0.2
PETF IAmb IAmb 11 23 47.4
comp=Z,360nm,1.0s
LPAZ La Paz 19.79 143 Pn 11 23 36.2 0.0
LPAZ IAmb IAmb 11 23 49.6
comp=Z,384nm,0.8s
LPAZ La Paz 19.79 143 ⇑P Pn 11 23 36.5 +0.3
LPAZ La Paz 19.79 143 P Pn 11 23 36.2 0.0
LPAZ pmax pmax
comp=Z,385nm,0.9s
LPAZ La Paz 19.79 143 eP Pn 11 23 37.1 +0.8
LPAZ La Paz 19.79 143 P Pn 11 23 36.5 +0.3
comp=Z,74nm,0.8s,baz=325,slow=11,SNR=213
LPAZ S Sn 11 27 20.7 +2.3
comp=Z,60nm,0.9s,baz=226,slow=16,SNR=1.9
LPAZ LR LR 11 33 20.4
comp=Z,64µm,18.3s,baz=308,slow=43
MACA Manacapuru-AM 19.85 98 P P 11 23 33.3 -1.4
MACA Manacapuru-AM 19.85 98 eP P 11 23 34.0 -0.7
BOAV Boa Vista 20.05 82 P 11 23 37.1 +0.2
BOAV Boa Vista 20.05 82 eP P 11 23 37.4 +0.6
PB18 Visviri 20.08 148 Pn 11 23 40.4 +0.9
PB18 IAmb IAmb 11 32 32.1
comp=Z,76µm,20.0s
AP01 Chacalluta 20.31 152 P Pn 11 23 40.9 -0.8
CCIG Comitan 20.32 326 P P 11 23 39.9 -0.1
CCIG IAmb IAmb 11 30 03.5
comp=Z,78µm,20.0s
CCIG Comitan 20.32 326 ⇑P Pn 11 23 42.0 -0.1
PAPH Port-au-Prince 20.50 22 P P 11 23 42.8 +1.0
PB12 IPOC Station P 20.52 152 P P 11 23 41.9 -0.1
PB12 IAmb IAmb 11 23 52.6
comp=Z,584nm,1.0s
PB16 IPOC Station P 20.68 150 P Pn 11 23 46.1 -0.6
PB16 IAmb IAmb 11 32 58.3
comp=Z,66µm,20.0s
GTBY Guantanamo Bay 20.95 14 P Pn 11 23 48.4 -0.8
GTBY Guantanamo Bay 20.95 14 ⇑P Pn 11 23 48.5 -0.7
SDDR Presa de Saban 21.32 24 P P 11 23 51.9 +1.4
SDDR IAmb IAmb 11 24 01.1
comp=Z,389nm,1.0s
SDDR Presa de Saban 21.32 24 ⇑P P 11 23 52.4 +1.8
PB11 IPOC Station P 21.83 152 P P 11 23 57.7 +1.5
PB11 IAmb IAmb 11 33 49.7
comp=Z,42µm,22.0s
TRN Trinidad (W) 21.87 59 eP P 11 23 56.1 -0.4
GO01 Chusmiza 21.97 151 P P 11 24 00.5 +2.4
TEIG Tepich 22.01 340 P P 11 23 58.3 +0.4
TEIG IAmb IAmb 11 24 10.0
comp=Z,364nm,1.2s
TEIG Tepich 22.01 340 ⇓P P 11 23 58.4 +0.4
TEIG Tepich 22.01 340 P P 11 23 57.9 -0.1
comp=Z,706nm,1.0s,baz=158,slow=2.1,SNR=14
TEIG LR LR 11 31 51.8
comp=Z,239µm,18.8s,baz=282,slow=35
comp=Z,706nm,1.0s
TA01 Diego Aracena 22.29 154 P P 11 24 02.9 +1.9
TA01 IAMs_20 IAMs_20 11 33 41.1
comp=Z,35µm,20.0s
PB08 IPOC Station P 22.39 151 P P 11 24 01.7 -0.8
PB08 IAMs_20 IAMs_20 11 34 17.6
comp=Z,50µm,19.0s
PB08 IPOC Station P 22.39 151 S S 11 28 09.9 +2.0
PB08 P P 11 24 03.9 +1.4
GRGR Grenville 22.42 55 P P 11 23 59.5 -3.0
GRGR IAMs_20 IAMs_20 11 33 39.9
comp=Z,41µm,21.0s
GRGR Grenville 22.42 55 ⇑P P 11 23 59.6 -2.9
GRGR Grenville 22.42 55 eP P 11 23 51.9 -11
GRHS Sauteurs 22.48 55 eP P 11 23 49.7 -13
CMIG Matias Romero 22.59 321 LR LR 11 31 13.3
comp=Z,28µm,21.0s,baz=170,slow=32
GCMP Grenada, Carri 22.80 55 eP P 11 23 52.0 -15
PB01 IPOC Station P 23.02 153 P P 11 24 10.3 +1.5
PB01 IAMs_20 IAMs_20 11 33 55.3
comp=Z,32µm,20.0s
PB02 IPOC Station P 23.08 154 P P 11 24 09.8 +0.5
SJG San Juan 23.19 36 P P 11 24 10.3 -0.1
SJG San Juan 23.19 36 eP P 11 24 10.4 0.0
SJG San Juan 23.19 36 ⇑P P 11 24 10.5 0.0
SJG San Juan 23.19 36 P P 11 24 10.3 -0.1
SJG pmax pmax
comp=Z,476nm,1.1s
SJG MLR MLR
comp=Z,32µm,22.0s
SJG San Juan 23.19 36 eP P 11 24 07.3 -3.1
SJG San Juan 23.19 36 LR LR 11 34 18.9
comp=Z,30µm,21.8s,baz=208,slow=39
SOR Soroa 23.30 354 P P 11 24 10.5 -1.0
SOR Soroa 23.30 354 P P 11 24 10.5 -1.0
SOR pmax pmax
comp=Z,197nm,1.6s
SVB Belmont 23.38 53 eP P 11 24 03.2 -9.1
CAMR Camarioca 23.44 358 P P 11 24 13.9 +1.0
CAMR IAmb IAmb 11 24 38.2
comp=Z,726nm,1.1s
PB07 IPOC Station P 23.44 155 P P 11 24 14.5 +1.4
PB07 IPOC Station P 23.44 155 S S 11 28 32.5 +6.9
PB07 P P 11 24 14.4 +1.3
VILB Vilhena 23.51 123 P P 11 24 13.8 +0.2
VILB Vilhena 23.51 123 eP P 11 24 14.2 +0.5
SLBI Saint Lucia, B 24.02 52 eP P 11 24 13.2 -5.3
BIM Bigot 24.24 51 eP P 11 24 19.1 -1.5
FDF Fort de France 24.30 51 IAMs_20 IAMs_20 11 35 08.5
comp=Z,45µm,19.0s
SVN Savane Anatole 24.35 50 P P 11 24 20.3 -1.4
SVN IAMs_20 IAMs_20 11 35 10.3
comp=Z,44µm,19.0s
SVN Savane Anatole 24.35 50 eP P 11 24 20.3 -1.4
MPOM Morne Pois Mar 24.36 52 P P 11 24 19.7 -2.0
MPOM IAmb IAmb 11 24 29.4
comp=Z,438nm,1.2s
MPOM IAMs_20 IAMs_20 11 35 09.4
comp=Z,36µm,20.0s
MPOM Morne Pois Mar 24.36 52 eP P 11 24 19.4 -2.2
SIV San Ignacio 24.48 130 LR LR 11 35 03.1
comp=Z,198µm,18.4s,baz=319,slow=39
ILAM Ilet Lapin Mar 24.54 51 eP P 11 24 21.5 -1.8
LVC Limon Verde 24.64 154 P P 11 24 25.9 +1.3
LVC Limon Verde 24.64 154 ⇑P P 11 24 27.2 +2.6
LVC Limon Verde 24.64 154 P P 11 24 25.9 +1.3
LVC pmax pmax
comp=Z,568nm,1.0s
LVC MLR MLR
comp=Z,26µm,22.0s
LVC Limon Verde 24.64 154 eP P 11 24 26.3 +1.7
LVC Limon Verde 24.64 154 LR LR 11 35 05.1
comp=Z,25µm,21.4s,baz=328,slow=39
BBGH Gun Hill 24.69 56 IAMs_20 IAMs_20 11 35 16.1
comp=Z,51µm,21.0s
CBE Ff, Capester 24.78 48 P P 11 24 25.6 +0.1
CBE IAMs_20 IAMs_20 11 35 40.5
comp=Z,48µm,20.0s
CBE Ff, Capester 24.78 48 eP P 11 24 22.0 -3.5
MLYT Lee's Yard 24.78 45 eP P 11 24 25.7 +0.2
MBFL Flemmings, Mon 24.79 45 eP P 11 24 25.7 +0.2
ITTB Itaituba 24.90 99 eP P 11 24 26.2 -0.5
PB15 IPOC Station P 24.93 156 P P 11 24 27.4 +0.4
MAGL Barre de l'ile 24.95 48 IAMs_20 IAMs_20 11 35 47.0
comp=Z,48µm,20.0s
MAGL Barre de l'ile 24.95 48 eP P 11 24 25.1 -1.9
SMRT St. Maarten 25.09 42 P P 11 24 26.7 -1.5
SMRT IAMs_20 IAMs_20 11 35 10.9
comp=Z,27µm,20.0s
ABD La Joyeuse, An 25.13 47 IAMs_20 IAMs_20 11 35 59.8
comp=Z,39µm,20.0s
ABD La Joyeuse, An 25.13 47 eP P 11 24 28.2 -0.3
AF01 San Pedro de A 25.27 153 P P 11 24 33.7 +3.5
AF01 IAMs_20 IAMs_20 11 36 13.9
comp=Z,35µm,19.0s
ANBD Bethesda, Anti 25.30 46 eP P 11 24 23.4 -6.8
GDSD La Dsirade Is 25.34 48 P P 11 24 29.5 -1.0
GDSD IAmb IAmb 11 24 46.7
comp=Z,202nm,1.0s
GDSD IAMs_20 IAMs_20 11 35 57.3
comp=Z,47µm,20.0s
TLIG Tlapa 25.36 316 P P 11 24 31.0 +0.1
TLIG IAmb IAmb 11 24 50.4
comp=Z,258nm,1.3s
TLIG Tlapa 25.36 316 ⇑P P 11 24 33.1 +2.2
BBSD Serra de San D 25.56 131 eP P 11 24 33.7 +1.2
PTLB Pontes e Lacer 25.69 126 P P 11 24 35.0 +1.2
PTLB Pontes e Lacer 25.69 126 eP P 11 24 35.1 +1.4
NPGB Novo Progresso 25.77 105 eP P 11 24 34.0 -0.6
PB14 IPOC Station P 25.85 159 P P 11 24 34.4 -1.0
PDRB Porto dos Gac 25.93 116 eP P 11 24 36.5 +0.4
MALB Monte Alegre 26.13 93 eP P 11 24 37.9 +0.1
061Z Ochoppi 26.22 359 P P 11 24 39.3 +0.9
baz=179
061Z S S 11 29 11.2 +1.8
baz=179
CLDB Colider 26.50 114 eP P 11 24 41.5 +0.4
GO02 Mina Guanaco 26.64 158 P P 11 24 44.7 +2.1
GO02 Mina Guanaco 26.64 158 ⇑P P 11 24 45.4 +2.8
BBRB Robore, Bolivi 26.83 132 eP P 11 24 44.3 +0.2
UNM Universidad Na 27.00 318 IAMs_20 IAMs_20 11 33 17.4
comp=Z,32µm,20.0s
AC01 Pan de Azucar 27.18 160 P P 11 24 47.6 +0.5
AC01 IAmb IAmb 11 25 30.5
comp=Z,335nm,1.2s
060A Indiantown 27.38 0 P P 11 24 49.9 +1.0
baz=180
MPGF Montagnes des 28.25 78 ⇑P P 11 24 57.0 +0.1
MDP Montagnes des 28.25 78 LR LR 11 36 55.1
comp=Z,82um,19.1s,baz=264,slow=38
MCPB Macapa, AP 28.31 90 eP P 11 24 57.1 -0.3
AC06 Mina Casimiro 28.38 161 P P 11 25 00.2 +2.4
AC06 IAmb IAmb 11 25 34.6
comp=Z,263nm,1.1s
DWPF Disney Wildern 28.47 358 P P 11 24 58.9 +0.3
DWPF IAmb IAmb 11 25 10.8
comp=Z,102nm,0.9s
DWPF Disney Wildern 28.47 358 P P 11 24 59.5 +1.0
baz=178
DWPF S S 11 29 46.8 +1.9
baz=178
DWPF Disney Wildern 28.47 358 P P 11 24 59.3 +0.7
baz=178
DWPF S S 11 29 45.4 +0.5
baz=178
DWPF Disney Wildern 28.47 358 ⇑P P 11 24 59.2 +0.7
MOIG Morelia 28.62 316 ⇓P P 11 25 03.4 +3.1
GO03 Copiap 28.64 161 P P 11 25 01.9 +1.7
GO03 IAmb IAmb 11 25 45.8
comp=Z,146nm,1.0s
GO03 Copiap 28.64 161 ⇑P P 11 25 02.7 +2.5
SALV Santo Antonio 28.75 123 eP P 11 25 01.8 +0.5
AC04 Llanos de Chal 28.95 163 IAMs_20 IAMs_20 11 34 50.3
comp=Z,23µm,20.0s

PANT **Pantanal (Braz** **29.67 130** *e*P **P** **11 25 10.3 +0.9**
656A **Willston** **29.77 356** S **S** **11 30 06.2 +0.8**
baz=176
AC05 **El Transito** **29.78 162** P **P** **11 25 12.5 +2.1**
AC05 IAMs_20 IAMs_20 11 35 28.3
comp=Z,22µm,21.0s
LCO **Las Campanas** **29.82 163** P **P** **11 25 13.1 +2.2**
LCO IAmb IAmb 11 26 05.6
comp=Z,98nm,0.8s
LCO **Las Campanas** **29.82 163** IAMs_20 IAMs_20 11 35 25.3
comp=Z,23µm,21.0s
LCO **Las Campanas** **29.82 163** ⇑P **P** **11 25 13.3 +2.5**
LCO **Las Campanas** **29.82 163** P **P** **11 25 13.1 +2.2**
LCO pmax pmax
comp=Z,98nm,0.9s
PP1B **Ponte de Pedra** **30.29 126** *e*P **P** **11 25 16.0 +1.1**
BDQN **Bodoquena, MS** **30.44 132** *e*P **P** **11 25 16.7 +0.6**
CO05 **La Serena** **30.52 164** P **P** **11 25 19.3 +2.6**
CO05 IAMs_20 IAMs_20 11 35 53.9
comp=Z,24µm,20.0s
MURT **Porto Murtinho** **30.57 135** *e*P **P** **11 25 17.7 +0.4**
553A **Crawfordville** **30.77 353** P **P** **11 25 19.7 +0.8**
553A IAmb IAmb 11 25 42.7
comp=Z,135nm,1.1s
553A IAMs_20 IAMs_20 11 38 27.9
comp=Z,18µm,18.0s
553A **Crawfordville** **30.77 353** P **P** **11 25 19.8 +1.0**
baz=172
553A S **S** **11 30 21.5 +0.6**
baz=172
GO04 **Tololo Observa** **30.88 164** P **P** **11 25 22.5 +2.2**
GO04 IAMs_20 IAMs_20 11 35 55.5
comp=Z,26µm,21.0s
GO04 **Tololo Observa** **30.88 164** ⇑P **P** **11 25 22.6 +2.4**
CO01 **Juntas del Tor** **30.90 162** P **P** **11 25 22.5 +2.1**
CO01 IAmb IAmb 11 25 25.8
comp=Z,120nm,1.2s
CO01 IAMs_20 IAMs_20 11 36 02.0
comp=Z,24µm,21.0s
PRPB **Parauapebas** **31.00 101** *e*P **P** **11 25 21.0 -0.3**
SNDB **Serra Nova Dou** **31.02 113** *e*P **P** **11 25 21.8 +0.4**
456A **Hilliard** **31.09 357** P **P** **11 25 22.3 +0.5**
baz=177
456A S **S** **11 30 27.1 +1.0**
baz=177
CO06 **Fray Jorge** **31.13 165** IAMs_20 IAMs_20 11 36 08.2
comp=Z,25µm,20.0s
AQDB **Aquidauana** **31.24 131** P **P** **11 25 24.1 +0.8**
AQDB **Aquidauana** **31.24 131** *e*P **P** **11 25 24.0 +0.8**
451A **Vernon** **31.37 351** P **P** **11 25 24.2 0.0**
baz=170
451A S **S** **11 30 28.9 -1.5**
baz=170
CO03 **El Pedregal** **31.54 164** P **P** **11 25 28.5 +2.6**
CO03 IAMs_20 IAMs_20 11 36 15.0
comp=Z,23µm,21.0s
ZAIG **Zacatecas** **31.66 318** ⇑P **P** **11 25 31.5 +4.3**
CO02 **Combarbal** **31.80 165** P **P** **11 25 30.6 +2.4**
CO02 IAMs_20 IAMs_20 11 36 19.6
comp=Z,24µm,21.0s
545A **Edgard** **31.87 343** IAMs_20 IAMs_20 11 40 02.9
comp=Z,24µm,20.0s
545B **Wilberts Farm,** **31.87 343** S **S** **11 30 42.2 +3.9**
baz=160
TIGA **Tifton** **31.91 355** P **P** **11 25 28.9 -0.1**
TIGA IAmb IAmb 11 25 40.3
comp=Z,86nm,1.1s
TIGA **Tifton** **31.91 355** P **P** **11 25 29.3 +0.3**
baz=174,SNR=9.5
TIGA S **S** **11 30 39.9 +1.0**
baz=174
TIGA **Tifton** **31.91 355** P **P** **11 25 29.5 +0.5**
baz=174,SNR=9.5
TIGA S **S** **11 30 37.9 -1.0**
baz=174
ANTJ **Antonio Joao (** **31.94 134** *e*P **P** **11 25 29.8 +0.4**
352A **Blakely** **32.10 353** P **P** **11 25 30.4 -0.2**
352A IAmb IAmb 11 25 56.3
comp=Z,143nm,1.4s
352A **Blakely** **32.10 353** P **P** **11 25 31.2 +0.6**
baz=171,SNR=7.3
352A S **S** **11 30 41.4 -0.4**
baz=171
BRAL **Brewton** **32.13 349** P **P** **11 25 31.8 +0.8**
BRAL **Brewton** **32.13 349** P **P** **11 25 31.7 +0.8**
baz=167,SNR=7.4
BRAL S **S** **11 30 43.2 +0.9**
baz=167
BRAL **Brewton** **32.13 349** P **P** **11 25 32.3 +1.4**
baz=167,SNR=7.4
BRAL S **S** **11 30 42.7 +0.5**
baz=167
ESFA **Espinillo Form** **32.23 141** *e*P **P** **11 25 33.2 +1.4**
255A **Hazlehurst** **32.31 357** P **P** **11 25 32.6 +0.1**
255A IAmb IAmb 11 26 20.4
comp=Z,168nm,1.3s
255A **Hazlehurst** **32.31 357** P **P** **11 25 32.8 +0.3**
baz=176
255A S **S** **11 30 46.7 +1.6**
baz=176
TMAB **Tom-Au,PA,Br** **32.31 94** *e*P **P** **11 25 34.0 +1.2**
C2SB **Chapadao do Su** **32.55 126** *e*P **P** **11 25 35.9 +1.2**
KVTX **Kingsville** **32.58 330** S **S** **11 30 53.7 +4.4**
baz=146
HBVL **Hebbronville** **32.58 329** P **P** **11 25 36.3 +1.3**
HBVL IAmb IAmb 11 25 47.9
comp=Z,198nm,1.3s
250A **Grady** **32.78 351** P **P** **11 25 37.0 +0.3**
250A **Grady** **32.78 351** P **P** **11 25 37.3 +0.6**
baz=169,SNR=26
250A S **S** **11 30 48.8 -3.7**
baz=169
H03N2 **Juan Fernandez** **32.79 178** T T 12 00 10.9
baz=354,slow=76,SNR=11
H03N1 **Juan Fernandez** **32.79 178** T T 12 00 11.8
baz=354,slow=76,SNR=12
ZON **Zonda** **32.80 161** ⇑P **P** **11 25 39.8 +2.9**
H03N3 **Juan Fernandez** **32.81 178** T T 12 00 10.6
baz=354,slow=76,SNR=16
346A **Big Creek Wild** **32.87 346** P **P** **11 25 38.5 +1.1**
346A IAmb IAmb 11 26 21.0
comp=Z,199nm,1.2s
346A **Big Creek Wild** **32.87 346** P **P** **11 25 38.7 +1.3**
baz=163,SNR=6.1
346A S **S** **11 30 54.5 +0.7**
baz=163
CFA **Coronel Fontan** **33.00 161** LR LR 11 37 29.4
comp=Z,20µm,21.2s,baz=350,slow=33
VA04 **Juan Fernndez** **33.00 178** IAMs_20 IAMs_20 11 37 22.8
comp=Z,18µm,18.0s
154A **Montrose** **33.04 356** P **P** **11 25 38.8 -0.1**
154A **Montrose** **33.04 356** P **P** **11 25 39.2 +0.3**
baz=175,SNR=24
154A S **S** **11 30 54.5 -1.8**
baz=175
AMBA **Amambai (Brazi** **33.25 134** *e*P **P** **11 25 41.7 +0.8**
152A **Waverly Hall** **33.25 353** P **P** **11 25 40.6 -0.1**
152A IAmb IAmb 11 26 03.4
comp=Z,137nm,1.1s
152A **Waverly Hall** **33.25 353** P **P** **11 25 40.6 -0.1**
baz=172,SNR=32
152A S **S** **11 30 57.8 -1.9**
baz=172
VA01 **Torpederas** **33.37 167** P **P** **11 25 44.0 +2.2**
441A **DeRidder** **33.39 340** S **S** **11 31 04.1 +2.2**
baz=156
NHSC **New Hope** **33.43 0** P **P** **11 25 42.8 +0.5**
NHSC **New Hope** **33.43 0** P **P** **11 25 43.2 +1.0**
baz=180,SNR=11
NHSC S **S** **11 31 02.7 +0.3**
baz=180
NHSC **New Hope** **33.43 0** P **P** **11 25 42.3 0.0**
baz=180,SNR=11
NHSC S **S** **11 31 01.7 -0.8**
baz=180
NHSC **New Hope** **33.43 0** ⇑P **P** **11 25 43.0 +0.8**
ROC1 **El Roble** **33.48 166** P **P** **11 25 45.0 +2.0**
735A **Kenedy** **33.63 332** S **S** **11 31 07.0 +1.3**
baz=147
SMTB **Santa Maria do** **33.68 105** *e*P **P** **11 25 45.5 +0.7**
HKT **Hockley** **33.68 335** P **P** **11 25 44.5 0.0**
HKT **Hockley** **33.68 335** P **P** **11 25 45.4 +1.0**
baz=151
HKT S **S** **11 31 07.6 +1.2**
baz=151
HKT **Hockley** **33.68 335** ⇓P **P** **11 25 45.7 +1.3**
HKT pmax pmax
comp=Z,78nm,1.9s
HKT MLR MLR
comp=Z,18µm,21.0s
HAW **Hawthorne Fire** **33.70 358** P **P** **11 25 44.9 +0.2**
baz=178,SNR=31
HAW S **S** **11 31 05.2 -1.4**
baz=178
MT02 **Curacav** **33.72 166** P **P** **11 25 47.0 +2.1**
MT02 IAMs_20 IAMs_20 11 37 24.6
comp=Z,18µm,21.0s
PEL **Peldehue** **33.72 165** P **P** **11 25 46.9 +2.0**
PEL IAMs_20 IAMs_20 11 37 26.7
comp=Z,20µm,21.0s
PEL **Peldehue** **33.72 165** ⇑P **P** **11 25 47.4 +2.4**
PEL **Peldehue** **33.72 165** P **P** **11 25 46.9 +2.0**
PEL pmax pmax
comp=Z,313nm,1.2s
GOGA **Godfrey** **33.86 355** P **P** **11 25 45.9 -0.1**
GOGA **Godfrey** **33.86 355** P **P** **11 25 45.9 -0.1**
baz=174,SNR=30
GOGA S **S** **11 31 08.3 -0.8**
baz=174
GOGA **Godfrey** **33.86 355** P **P** **11 25 45.7 -0.3**
baz=174,SNR=30
GOGA S **S** **11 31 07.5 -1.6**
baz=174
GOGA **Godfrey** **33.86 355** ⇑P **P** **11 25 45.6 -0.3**
GOGA **Godfrey** **33.86 355** P **P** **11 25 45.9 -0.1**
GOGA pmax pmax
comp=Z,58nm,1.0s
GOGA MLR MLR
comp=Z,11µm,20.0s
VBMS **Vicksburg** **33.93 344** P **P** **11 25 47.1 +0.4**
baz=162
VBMS S **S** **11 31 09.9 -0.3**
baz=162
VBMS **Vicksburg** **33.93 344** S **S** **11 31 11.7 +1.5**
baz=162
CPUP **Villa Florida** **33.94 141** P **P** **11 25 46.7 -0.1**
CPUP IAmb IAmb 11 26 22.5
comp=Z,117nm,1.1s
CPUP **Villa Florida** **33.94 141** ⇑P **P** **11 25 47.1 +0.3**
CPUP **Villa Florida** **33.94 141** P **P** **11 25 46.7 -0.1**
CPUP pmax pmax
comp=Z,117nm,1.2s
CPUP MLR MLR
comp=Z,88µm,18.0s
CPUP **Villa Florida** **33.94 141** *e*P **P** **11 25 47.4 +0.6**
CPUP **Villa Florida** **33.94 141** P **P** **11 25 47.1 +0.3**
comp=Z,59nm,1.0s,baz=322,slow=8.9,SNR=64
CPUP S **S** **11 31 08.6 -1.9**
comp=Z,2.6nm,0.9s,baz=17,slow=18,SNR=0.8
CPUP LR LR 11 42 17.7
comp=Z,86µm,18.1s,baz=334,slow=41
comp=Z,59nm,1.0s
LRAL **Lakeview Retre** **33.94 350** P **P** **11 25 46.8 +0.1**
LRAL IAmb IAmb 11 26 10.1
comp=Z,113nm,0.9s
LRAL **Lakeview Retre** **33.94 350** P **P** **11 25 46.7 +0.1**
baz=168,SNR=40
LRAL S **S** **11 31 08.2 -2.2**
baz=168
LRAL **Lakeview Retre** **33.94 350** P **P** **11 25 46.8 +0.1**
baz=168,SNR=40
LRAL S **S** **11 31 09.3 -1.1**
baz=168
LRAL **Lakeview Retre** **33.94 350** ⇑P **P** **11 25 46.7 +0.1**
Z51A **Franklin** **33.94 353** P **P** **11 25 47.0 +0.2**
Z51A IAmb IAmb 11 26 10.1
comp=Z,110nm,0.9s
Z51A **Franklin** **33.94 353** P **P** **11 25 46.9 +0.2**
baz=171,SNR=16
Z51A S **S** **11 31 09.6 -0.8**
baz=171
MT05 **Renca** **33.95 165** P **P** **11 25 49.2 +2.4**
MT05 IAMs_20 IAMs_20 11 37 31.5
comp=Z,18µm,21.0s
146A **Union** **33.97 347** P **P** **11 25 47.0 0.0**
146A **Union** **33.97 347** P **P** **11 25 47.5 +0.5**
baz=164,SNR=15
146A S **S** **11 31 10.3 -0.5**
baz=164
833A **Chaparral WMA,** **33.97 329** P **P** **11 25 47.5 +0.5**
833A IAmb IAmb 11 26 00.0
comp=Z,173nm,1.1s
833A **Chaparral WMA,** **33.97 329** P **P** **11 25 48.2 +1.2**
baz=144,SNR=19
833A S **S** **11 31 12.9 +1.9**
baz=144
833A **Chaparral WMA,** **33.97 329** P **P** **11 25 48.4 +1.3**
baz=144,SNR=19
833A S **S** **11 31 10.1 -0.9**
baz=144
VA05 **Santo Domingo** **33.99 167** P **P** **11 25 48.5 +1.4**
VA05 IAmb IAmb 11 26 01.3
comp=Z,191nm,1.3s
SCCA **San Cayetano,** **34.05 144** *e*P **P** **11 25 48.5 +0.8**
MT03 **Universidad Ad** **34.10 165** P **P** **11 25 50.7 +2.4**
MT08 **Bocatoma Ro** **34.18 164** IAMs_20 IAMs_20 11 37 23.8
comp=Z,19µm,20.0s
Y58A **Scranton** **34.23 1** P **P** **11 25 49.1 -0.1**
Y58A IAmb IAmb 11 26 22.8
comp=Z,150nm,1.2s
Y58A **Scranton** **34.23 1** P **P** **11 25 49.5 +0.3**
baz=181
Y58A P **P** **11 25 49.5 +0.3**
baz=181
MT09 **Talagante** **34.25 166** IAMs_20 IAMs_20 11 37 50.6
comp=Z,17µm,20.0s
MT01 **Popeta** **34.27 166** P **P** **11 25 51.3 +1.7**
MT01 IAmb IAmb 11 26 17.0
comp=Z,232nm,1.4s
Z47A **Carrollton** **34.30 348** P **P** **11 25 49.6 -0.2**
Z47A IAmb IAmb 11 26 04.4
comp=Z,101nm,1.0s
Z47A **Carrollton** **34.30 348** P **P** **11 25 49.2 -0.6**
baz=166,SNR=20
Z47A S **S** **11 31 14.2 -1.7**
baz=166
Y57A **Sumter** **34.34 360** P **P** **11 25 50.0 -0.1**
Y57A IAmb IAmb 11 26 01.3
comp=Z,107nm,1.1s
Y57A **Sumter** **34.34 360** P **P** **11 25 50.1 0.0**
baz=180,SNR=12
Y57A P **P** **11 25 50.1 0.0**
baz=180,SNR=12
Y57A S **S** **11 31 15.7 -0.8**
baz=180
Y57A S **S** **11 31 15.7 -0.8**
baz=180
Y52A **Lilburn** **34.36 355** P **P** **11 25 50.4 0.0**
Y52A **Lilburn** **34.36 355** P **P** **11 25 50.4 0.0**
baz=173,SNR=11
Y52A P **P** **11 25 50.4 0.0**
baz=173,SNR=11
Y52A S **S** **11 31 15.2 -1.7**
baz=173
Y52A S **S** **11 31 15.2 -1.7**
baz=173
Y60A **Bolivia** **34.38 3** P **P** **11 25 50.4 -0.2**
baz=184
Y60A P **P** **11 25 50.4 -0.2**
baz=184
Y60A S **S** **11 31 21.1 +3.9**
baz=184
Y60A S **S** **11 31 21.1 +3.9**
baz=184
MT13 **San Alfonso** **34.40 165** IAMs_20 IAMs_20 11 37 47.4
comp=Z,18µm,21.0s
LMEL **Las Melosas** **34.52 165** IAMs_20 IAMs_20 11 37 52.5
comp=Z,18µm,21.0s
BO04 **La Punta** **34.55 166** P **P** **11 25 54.3 +2.3**
BO04 IAMs_20 IAMs_20 11 37 38.4
comp=Z,18µm,21.0s
HODGE **Hodges** **34.60 357** P **P** **11 25 52.5 +0.1**
HODGE IAmb IAmb 11 26 04.0
comp=Z,119nm,1.1s
HODGE **Hodges** **34.60 357** P **P** **11 25 52.3 -0.1**
baz=177,SNR=36
HODGE S **S** **11 31 18.3 -2.2**
baz=177
JSC **Jenkinsville** **34.61 359** P **P** **11 25 52.4 -0.1**
baz=178,SNR=30
JSC S **S** **11 31 19.6 -1.1**
baz=178
143A **Socs Landing,** **34.63 344** P **P** **11 25 52.9 +0.2**
baz=160
143A S **S** **11 31 19.0 -2.1**
baz=160
Y49A **Blount Mountai** **34.65 351** P **P** **11 25 52.4 -0.4**
Y49A IAmb IAmb 11 26 15.2
comp=Z,84nm,1.0s
Y49A **Blount Mountai** **34.65 351** P **P** **11 25 52.5 -0.3**
baz=169,SNR=16
Y49A S **S** **11 31 19.4 -1.9**
baz=169
BO01 **Tunca** **34.82 166** P **P** **11 25 56.4 +2.1**
BO01 IAMs_20 IAMs_20 11 37 33.6
comp=Z,16µm,21.0s
NATX **Nacogdoches** **34.83 338** P **P** **11 25 55.0 +0.6**
NATX IAmb IAmb 11 26 12.7
comp=Z,133nm,1.2s
NATX **Nacogdoches** **34.83 338** P **P** **11 25 54.8 +0.4**
baz=154
NATX S **S** **11 31 24.5 +0.4**
baz=154
NATX **Nacogdoches** **34.83 338** P **P** **11 25 54.8 +0.4**
baz=154
NATX S **S** **11 31 23.9 -0.3**
baz=154
MCR1 **Marechal Candi** **34.88 135** *e*P **P** **11 25 55.4 +0.3**
X58A **Rowland** **34.89 1** P **P** **11 25 54.5 -0.4**
X58A IAMs_20 IAMs_20 11 40 56.3
comp=Z,19µm,20.0s
X58A **Rowland** **34.89 1** P **P** **11 25 55.3 +0.4**
baz=182
X58A P **P** **11 25 55.3 +0.4**
baz=182
X58A S **S** **11 31 24.6 -0.3**
baz=182
X58A S **S** **11 31 24.6 -0.3**
baz=182
HNDO **Hondo** **34.90 330** P **P** **11 25 56.4 +1.3**
HNDO IAmb IAmb 11 26 07.9
comp=Z,136nm,1.0s
BIRD **Birdtown, Kers** **34.96 360** P **P** **11 25 55.0 -0.6**
BIRD **Birdtown, Kers** **34.96 360** P **P** **11 25 55.5 -0.1**
baz=180,SNR=16
BIRD S **S** **11 31 25.8 -0.3**
baz=180
ITRB **Iturama** **35.04 125** *e*P **P** **11 25 55.5 -1.0**
X51A **Calhoun** **35.14 354** P **P** **11 25 56.3 -0.8**
X51A IAmb IAmb 11 26 07.9
comp=Z,92nm,1.0s
X51A **Calhoun** **35.14 354** P **P** **11 25 56.8 -0.3**
baz=172,SNR=17
X51A P **P** **11 25 56.8 -0.3**
baz=172,SNR=17
X51A S **S** **11 31 27.6 -1.3**
baz=172
X51A S **S** **11 31 27.6 -1.3**
baz=172
435B **Jarrell** **35.16 334** P **P** **11 25 57.9 +0.6**
435B **Jarrell** **35.16 334** P **P** **11 25 58.5 +1.2**
baz=149
435B S **S** **11 31 31.0 +1.8**
baz=149
435B **Jarrell** **35.16 334** P **P** **11 25 58.4 +1.1**
baz=149
435B S **S** **11 31 29.4 +0.1**
baz=149
PAULI **Pauline** **35.17 358** P **P** **11 25 57.0 -0.3**
PAULI IAmb IAmb 11 26 08.6
comp=Z,82nm,1.0s
PAULI **Pauline** **35.17 358** P **P** **11 25 57.3 +0.1**
baz=177,SNR=22
PAULI S **S** **11 31 28.3 -1.0**
baz=177
FPAL **Fort Paine** **35.20 352** P **P** **11 25 57.3 -0.4**
FPAL IAmb IAmb 11 26 08.8
comp=Z,91nm,0.9s
GO05 **Huala** **35.22 168** P **P** **11 25 59.6 +1.8**
GO05 IAmb IAmb 11 26 13.5
comp=Z,150nm,0.9s
GO05 IAMs_20 IAMs_20 11 37 52.4
comp=Z,19µm,22.0s
GO05 **Huala** **35.22 168** ⇑P **P** **11 25 59.6 +1.8**
Y45A **Yeager Farm, C** **35.26 347** P **P** **11 25 58.2 +0.1**
Y45A **Yeager Farm, C** **35.26 347** P **P** **11 25 58.5 +0.4**
baz=164,SNR=68
Y45A S **S** **11 31 29.8 -0.9**
baz=164
BO02 **Sierra Bellavi** **35.27 166** P **P** **11 26 00.4 +2.1**
BO02 IAMs_20 IAMs_20 11 37 48.6
comp=Z,16µm,21.0s
PCMB **Pacaembu** **35.29 128** *e*P **P** **11 25 58.3 -0.3**
BDFB **Brasilia** **35.30 117** P **P** **11 25 59.0 +0.2**
BDFB IAmb IAmb 11 26 00.9
comp=Z,138nm,1.0s
BDFB **Brasilia** **35.30 117** P **P** **11 25 59.1 +0.2**
BDFB pmax pmax
comp=Z,137nm,1.0s
BDFB MLR MLR
comp=Z,78µm,19.0s
BDFB **Brasilia** **35.30 117** P **P** **11 25 59.5 +0.7**
comp=Z,112nm,1.0s,baz=289,slow=10,SNR=86
BDFB S **S** **11 31 29.6 -2.4**
comp=Z,12nm,0.9s,baz=201,slow=26,SNR=0.9
BDFB LR LR 11 41 21.9
comp=Z,82µm,18.6s,baz=294,slow=38
comp=Z,112nm,1.0s
X48A **Hartselle** **35.33 350** P **P** **11 25 57.5 -1.2**
X48A IAmb IAmb 11 26 20.9
comp=Z,77nm,1.0s
X48A **Hartselle** **35.33 350** P **P** **11 25 58.1 -0.7**
baz=168,SNR=25
X48A S **S** **11 31 25.5 -6.3**
baz=168
BG3 **Lake Jocassee** **35.39 356** P **P** **11 25 59.5 +0.2**
BG3 IAmb IAmb 11 26 11.1
comp=Z,164nm,1.0s
CASEE **Lake Jocassee** **35.39 356** P **P** **11 25 59.5 +0.2**
baz=176,SNR=43
CASEE S **S** **11 31 32.1 -0.7**
baz=176
KMSC **Kings Mountain** **35.47 359** P **P** **11 25 59.7 -0.3**
KMSC IAmb IAmb 11 26 11.7
comp=Z,164nm,1.1s
KMSC **Kings Mountain** **35.47 359** P **P** **11 26 00.2 +0.2**
baz=178,SNR=39
KMSC S **S** **11 31 33.7 -0.2**
baz=178
KMSC **Kings Mountain** **35.47 359** P **P** **11 26 00.1 +0.2**
baz=178,SNR=39
KMSC S **S** **11 31 33.8 -0.2**
baz=178
W57A **Gilead** **35.47 1** P **P** **11 25 59.2 -0.7**
W57A IAmb IAmb 11 26 11.3
comp=Z,79nm,1.0s
W57A **Gilead** **35.47 1** P **P** **11 25 59.8 -0.1**
baz=181,SNR=18
W57A P **P** **11 25 59.8 -0.1**
baz=181,SNR=18
W57A S **S** **11 31 33.6 -0.3**
baz=181
W57A S **S** **11 31 33.6 -0.3**
baz=181
237A **Washetta, Mont** **35.48 337** P **P** **11 26 00.6 +0.6**
237A IAmb IAmb 11 26 18.7
comp=Z,103nm,0.9s
237A **Washetta, Mont** **35.48 337** P **P** **11 26 00.9 +0.8**
baz=153
237A S **S** **11 31 34.6 +0.4**
baz=153
W59A **Clinton** **35.53 3** P **P** **11 26 01.1 +0.6**
baz=183
W59A S **S** **11 31 35.3 +0.4**
baz=183
Z41A **Richland Creek** **35.56 342** P **P** **11 26 00.7 -0.1**
Z41A IAmb IAmb 11 26 23.8
comp=Z,135nm,1.2s
Z41A **Richland Creek** **35.56 342** P **P** **11 26 01.1 +0.4**
baz=158,SNR=6.1
Z41A P **P** **11 26 01.1 +0.4**
baz=158,SNR=6.1
Z41A S **S** **11 31 34.3 -1.1**
baz=158
Z41A S **S** **11 31 34.3 -1.1**
baz=158
W52A **Murphy** **35.57 355** P **P** **11 26 00.3 -0.5**
W52A IAmb IAmb 11 26 02.1
comp=Z,91nm,1.0s

W52A Murphy 35.57 355 P **P** **11 26 00.9 +0.1**
baz=174,SNR=30
W52A S **S** **11 31 34.1 -1.4**
baz=174
H06E1 SOCORRO T-PHAS 35.61 304 T T 12 03 25.9
SNR=20
MECA Mercedes 35.61 145 *e*P **P** **11 26 02.1 +0.9**
CNNC Cliffs of the 35.63 3 P **P** **11 26 01.3 0.0**
baz=184
CNNC S **S** **11 31 37.3 +0.9**
baz=184
CNNC Cliffs of the 35.63 3 P **P** **11 26 01.9 +0.6**
baz=184
CNNC S **S** **11 31 37.5 +1.1**
baz=184
W50A Signal Mountai 35.82 353 P **P** **11 26 02.1 -0.9**
W50A IAmb IAmb 11 26 13.1
comp=Z,119nm,1.1s
W50A Signal Mountai 35.82 353 P **P** **11 26 02.6 -0.3**
baz=172,SNR=41
W50A S **S** **11 31 38.3 -1.0**
baz=172
OXF Oxford 35.85 347 P **P** **11 26 02.0 -1.1**
OXF IAmb IAmb 11 26 26.7
comp=Z,127nm,1.0s
OXF Oxford 35.85 347 P **P** **11 26 02.0 -1.1**
baz=164,SNR=11
OXF S **S** **11 31 37.0 -2.7**
baz=164
OXF Oxford 35.85 347 P **P** **11 26 02.5 -0.7**
baz=164,SNR=11
OXF S **S** **11 31 36.4 -3.3**
baz=164
OXF Oxford 35.85 347 ⇑P **P** **11 26 02.0 -1.1**
OXF Oxford 35.85 347 P **P** **11 26 02.0 -1.1**
OXF pmax pmax
comp=Z,127nm,1.0s
OXF MLR MLR
comp=Z,8µm,21.0s
CCAR Cane Creek 35.88 344 P **P** **11 26 03.6 +0.2**
CCAR IAmb IAmb 11 26 26.6
comp=Z,199nm,1.2s
CCAR Cane Creek 35.88 344 P **P** **11 26 04.1 +0.7**
baz=160,SNR=11
CCAR S **S** **11 31 38.3 -1.8**
baz=160
BBSR BB Station 35.90 23 P **P** **11 26 04.2 +0.6**
baz=207
BBSR S **S** **11 31 41.8 +1.3**
baz=207
BBSR BB Station 35.90 23 ⇑P **P** **11 26 04.7 +1.1**
JCT Junction City 35.94 331 P **P** **11 26 05.1 +1.0**
JCT Junction City 35.94 331 P **P** **11 26 05.6 +1.5**
baz=146,SNR=46
JCT S **S** **11 31 44.6 +3.2**
baz=146
JCT Junction City 35.94 331 P **P** **11 26 05.4 +1.4**
baz=146,SNR=46
JCT S **S** **11 31 42.3 +1.0**
baz=146
JCT Junction City 35.94 331 ⇑P **P** **11 26 05.5 +1.5**
JCT Junction City 35.94 331 P **P** **11 26 05.1 +1.0**
JCT pmax pmax
comp=Z,431nm,1.3s
JCT MLR MLR
comp=Z,7µm,21.0s
CPCT Cooper Cave 35.98 354 P **P** **11 26 04.4 +0.1**
CPCT IAmb IAmb 11 26 15.8
comp=Z,178nm,1.0s
PLAL Pickwick Lake 36.03 349 P **P** **11 26 03.7 -1.0**
ML02 Panimavida 36.06 168 P **P** **11 26 06.7 +1.8**
ML02 IAMs_20 IAMs_20 11 38 17.5
comp=Z,16µm,22.0s
V53A Saluda 36.06 357 P **P** **11 26 04.2 -0.9**
V53A Saluda 36.06 357 P **P** **11 26 04.1 -0.9**
baz=176,SNR=24
V53A P **P** **11 26 04.1 -0.9**
baz=176,SNR=24
V53A S **S** **11 31 42.2 -0.8**
baz=176
V53A S **S** **11 31 42.2 -0.8**
baz=176
TKL Tuckaleechee C 36.12 355 P **P** **11 26 05.3 -0.2**
TKL IAmb IAmb 11 26 18.1
comp=Z,90nm,1.1s
TKL Tuckaleechee C 36.12 355 P **P** **11 26 04.9 -0.6**
baz=174,SNR=30
TKL S **S** **11 31 42.4 -1.4**
baz=174
TKL Tuckaleechee C 36.12 355 P **P** **11 26 05.3 -0.2**
TKL pmax pmax
comp=Z,90nm,1.1s
TKL Tuckaleechee C 36.12 355 LR LR 11 40 22.9
comp=Z,11µm,21.2s,baz=178,slow=35
V58A Windy Hill, Pi 36.13 2 P **P** **11 26 05.3 -0.2**
V58A IAMs_20 IAMs_20 11 41 42.1
comp=Z,16µm,22.0s
V58A Windy Hill, Pi 36.13 2 P **P** **11 26 05.3 -0.2**
baz=182,SNR=12
V58A P **P** **11 26 05.3 -0.2**
baz=182,SNR=12
V58A S **S** **11 31 43.1 -0.9**
baz=182
V58A S **S** **11 31 43.1 -0.9**
baz=182
WHTX Lake Whitney, 36.14 335 P **P** **11 26 05.7 -0.1**
WHTX Lake Whitney, 36.14 335 P **P** **11 26 06.3 +0.6**
baz=150,SNR=8.9
WHTX S **S** **11 31 43.6 -0.7**
baz=150
WHTX Lake Whitney, 36.14 335 P **P** **11 26 06.1 +0.4**
baz=150,SNR=8.9
WHTX S **S** **11 31 44.6 +0.4**
baz=150
V55A Taylorsville 36.18 359 S **S** **11 31 43.1 -1.7**
baz=178
V55A S **S** **11 31 43.1 -1.7**
baz=178
BRDY Brady 36.22 332 P **P** **11 26 06.9 +0.4**
BRDY IAmb IAmb 11 26 30.5
comp=Z,146nm,1.5s
TREL Terrell 36.23 337 P **P** **11 26 07.5 +1.0**
TREL IAmb IAmb 11 26 25.9
comp=Z,165nm,1.5s
V61A Roper 36.28 5 P **P** **11 26 07.3 +0.5**
baz=186
V61A P **P** **11 26 07.3 +0.5**
baz=186
V61A S **S** **11 31 47.3 +1.0**
baz=186
V61A S **S** **11 31 47.3 +1.0**
baz=186
V52A Sevierville 36.28 356 P **P** **11 26 05.6 -1.3**
V52A IAmb IAmb 11 26 17.8
comp=Z,132nm,1.0s
V52A Sevierville 36.28 356 P **P** **11 26 06.5 -0.4**
baz=174,SNR=37
V52A S **S** **11 31 44.5 -1.9**
baz=174
V52A S **S** **11 31 50.1 +3.7**
baz=174
Z38A Mt. Pleasant 36.30 339 P **P** **11 26 07.8 +0.7**
Z38A IAmb IAmb 11 26 25.4
comp=Z,159nm,1.1s
Z38A Mt. Pleasant 36.30 339 P **P** **11 26 07.4 +0.4**
baz=155,SNR=9.7
V51A Loudon 36.31 355 P **P** **11 26 06.7 -0.4**
V51A IAmb IAmb 11 26 18.1
comp=Z,125nm,1.0s
V51A Loudon 36.31 355 P **P** **11 26 07.0 -0.1**
baz=173,SNR=46
V51A S **S** **11 31 45.4 -1.4**
baz=173
LDASE Londrina, Braz 36.39 131 *e*P **P** **11 26 07.9 -0.1**
FW13 Cleburne 36.44 335 P **P** **11 26 09.8 +1.5**
FW13 IAmb IAmb 11 26 53.0
comp=Z,60nm,1.0s
PTGB Pitanga 36.46 133 *e*P **P** **11 26 08.8 +0.1**
FRBT Francisco Belt 36.52 136 *e*P **P** **11 26 09.4 +0.2**
V48A Smith Brothers 36.55 351 P **P** **11 26 08.4 -0.8**
V48A Smith Brothers 36.55 351 P **P** **11 26 09.0 -0.2**
baz=169,SNR=94
V48A S **S** **11 31 46.2 -4.4**
baz=169
HPIG 36.56 320 ⇓sP sP 11 26 20.1 +0.7
U56A King 36.66 360 P **P** **11 26 10.2 0.0**
U56A IAmb IAmb 11 26 21.7
comp=Z,94nm,1.0s
U56A King 36.66 360 P **P** **11 26 10.5 +0.3**
baz=180,SNR=16
U56A P **P** **11 26 10.5 +0.3**
baz=180,SNR=16
U56A S **S** **11 31 49.7 -2.4**
baz=180
U56A S **S** **11 31 49.7 -2.4**
baz=180
BI05 Punta Hualpn 36.67 170 IAMs_20 IAMs_20 11 37 53.9
comp=Z,16µm,22.0s
X40A Basin Creek Fa 36.72 343 P **P** **11 26 10.8 +0.2**
X40A Basin Creek Fa 36.72 343 P **P** **11 26 10.1 -0.5**
baz=159
X40A P **P** **11 26 10.1 -0.5**
baz=159
X40A S **S** **11 31 50.8 -2.2**
baz=159
X40A S **S** **11 31 50.8 -2.2**
baz=159
U59A Littleton 36.75 3 P **P** **11 26 10.3 -0.5**
U59A Littleton 36.75 3 P **P** **11 26 11.2 +0.4**
baz=184,SNR=11
U59A P **P** **11 26 11.2 +0.4**
baz=184,SNR=11
U59A S **S** **11 31 53.0 -0.4**
baz=184
U59A S **S** **11 31 53.0 -0.4**
baz=184
ITQB Itaqui 36.78 144 P **P** **11 26 12.3 +1.0**
ITQB IAMs_20 IAMs_20 11 44 01.9
comp=Z,26µm,18.0s
ITQB Itaqui 36.78 144 *e*P **P** **11 26 12.4 +1.2**
CLTN Cedars of Leba 36.83 352 P **P** **11 26 11.1 -0.5**
UALR University of 36.84 343 P **P** **11 26 11.5 -0.1**
CRSM Crissiumal (Br 36.85 139 *e*P **P** **11 26 11.9 0.0**
U54A Nelsons Funny 36.86 358 P **P** **11 26 11.1 -0.8**
U54A IAmb IAmb 11 26 23.0
comp=Z,126nm,1.2s
U54A Nelsons Funny 36.86 358 P **P** **11 26 11.5 -0.4**
baz=178,SNR=22
U54A P **P** **11 26 11.5 -0.4**
baz=178,SNR=22
U54A S **S** **11 31 51.5 -3.9**
baz=178
U54A S **S** **11 31 51.5 -3.9**
baz=178
TZTN Tazewell 36.98 356 P **P** **11 26 12.6 -0.2**
TZTN IAmb IAmb 11 26 24.1
comp=Z,160nm,1.1s
TZTN Tazewell 36.98 356 P **P** **11 26 12.7 -0.2**
baz=175,SNR=37
TZTN S **S** **11 31 56.2 -0.8**
baz=175
TZTN Tazewell 36.98 356 P **P** **11 26 12.5 -0.3**
baz=175,SNR=37
TZTN S **S** **11 31 52.3 -4.7**
baz=175
TZTN Tazewell 36.98 356 ⇑P **P** **11 26 12.5 -0.3**
MIAR Mount Ida 37.00 342 P **P** **11 26 12.9 0.0**
baz=158,SNR=20
MIAR S **S** **11 31 56.9 -0.4**
baz=158
MIAR Mount Ida 37.00 342 P **P** **11 26 12.6 -0.4**
baz=158,SNR=20
MIAR S **S** **11 31 53.9 -3.5**
baz=158
MIAR Mount Ida 37.00 342 ⇑P **P** **11 26 12.8 -0.2**
TXAR Lajitas Array 37.09 325 P **P** **11 26 15.0 +1.0**
TXAR Lajitas Array 37.09 325 P **P** **11 26 15.1 +1.0**
comp=Z,1.6nm,0.8s,baz=144,slow=9.3,SNR=15
TXAR PcP **PcP** **11 28 34.7 +0.3**
comp=Z,17nm,0.9s,baz=150,slow=5.3,SNR=6.7
TXAR S **S** **11 31 58.2 -0.9**
comp=Z,2.7nm,1.1s,baz=187,slow=9.8,SNR=1.2
TXAR LR LR 11 40 34.2
comp=Z,7µm,19.4s,baz=138,slow=35
TXAR P3KPbc 11 56 43.5
comp=Z,0.5nm,1.0s,baz=242,slow=2.7,SNR=3.6
TX31 Lajitas Ar. Si 37.09 325 P **P** **11 26 15.2 +1.2**
baz=139,SNR=20
TX31 S **S** **11 31 59.1 0.0**
baz=139
WVT Waverly 37.10 350 P **P** **11 26 12.5 -1.3**
WVT Waverly 37.10 350 P **P** **11 26 12.6 -1.3**
baz=168
WVT S **S** **11 31 56.0 -2.9**
baz=168
WVT Waverly 37.10 350 P **P** **11 26 12.7 -1.2**
baz=168,SNR=36
WVT S **S** **11 31 53.9 -5.0**
baz=168
WVT Waverly 37.10 350 ⇑P **P** **11 26 12.3 -1.5**
WVT Waverly 37.10 350 P **P** **11 26 12.5 -1.3**
WVT pmax pmax
comp=Z,77nm,1.1s
WVT MLR MLR
comp=Z,9µm,20.0s
HBAR Harrisburg 37.13 346 P **P** **11 26 14.5 +0.3**
HBAR IAmb IAmb 11 26 24.3
comp=Z,300nm,1.4s
HBAR Harrisburg 37.13 346 S **S** **11 31 57.4 -1.9**
baz=163
U49A Red Boiling Sp 37.17 353 P **P** **11 26 13.4 -1.1**
U49A Red Boiling Sp 37.17 353 P **P** **11 26 13.7 -0.7**
baz=171,SNR=30
U49A S **S** **11 31 57.2 -2.7**
baz=171
BB19B Bebedouro 37.20 125 *e*P **P** **11 26 15.1 +0.1**
PLPT Palo Pinto 37.21 335 P **P** **11 26 14.8 0.0**
PLPT IAmb IAmb 11 26 52.1
comp=Z,265nm,1.1s
Z35A Perchaven, San 37.22 336 P **P** **11 26 15.7 +0.8**
baz=151
Z35A S **S** **11 32 02.2 +1.4**
baz=151
UNIS Unistalda (Bra 37.28 142 *e*P **P** **11 26 16.4 +0.9**
WHAR Wooly Hollow 37.31 344 P **P** **11 26 15.3 -0.3**
WHAR IAmb IAmb 11 26 38.1
comp=Z,155nm,1.4s
T57A Hurt 37.33 1 P **P** **11 26 15.7 0.0**
T57A IAmb IAmb 11 26 39.4
comp=Z,162nm,1.3s
T57A Hurt 37.33 1 P **P** **11 26 15.5 -0.2**
baz=182,SNR=23
T57A P **P** **11 26 15.5 -0.2**
baz=182,SNR=23
T57A S **S** **11 32 02.7 +0.4**
baz=182
T57A S **S** **11 32 02.7 +0.4**
baz=182
T59A Double "B" Far 37.38 4 P **P** **11 26 15.8 -0.4**
T59A IAmb IAmb 11 27 06.9
comp=Z,179nm,1.6s
T59A Double "B" Far 37.38 4 P **P** **11 26 16.2 0.0**
baz=184,SNR=12
T59A P **P** **11 26 16.2 0.0**
baz=184,SNR=12
T59A S **S** **11 32 03.2 +0.3**
baz=184
T59A S **S** **11 32 03.2 +0.3**
baz=184
GNAR Gosnell 37.38 347 P **P** **11 26 15.8 -0.4**
GNAR IAmb IAmb 11 26 39.0
comp=Z,188nm,1.1s
LNXT Lenox 37.40 348 P **P** **11 26 15.6 -0.8**
baz=165
SLBS Sierra La Lagu 37.46 312 ⇑P **P** **11 26 19.6 +2.4**
PEBM Pemiscott Bayo 37.49 347 P **P** **11 26 17.1 0.0**
BLA Blacksburg 37.52 360 P **P** **11 26 17.7 +0.2**
BLA IAmb IAmb 11 26 28.9
comp=Z,115nm,1.1s
BLA Blacksburg 37.52 360 P **P** **11 26 17.8 +0.3**
baz=180,SNR=14
BLA S **S** **11 32 06.3 +1.0**
baz=180
BLA Blacksburg 37.52 360 P **P** **11 26 17.6 +0.1**
baz=180,SNR=14
BLA S **S** **11 32 04.2 -1.2**
baz=180
BLA Blacksburg 37.52 360 ⇑P **P** **11 26 17.7 +0.2**
BLA Blacksburg 37.52 360 P **P** **11 26 17.7 +0.2**
BLA pmax pmax
comp=Z,115nm,1.1s
BLA MLR MLR
comp=Z,13µm,20.0s
FRTB Fartura 37.55 129 *e*P **P** **11 26 17.3 -0.6**
T50A Nancy 37.56 354 P **P** **11 26 17.0 -0.8**
T50A Nancy 37.56 354 P **P** **11 26 16.8 -1.0**
baz=173
T50A P **P** **11 26 16.8 -1.0**
baz=173
T50A S **S** **11 32 04.8 -1.1**
baz=173
T50A S **S** **11 32 04.8 -1.1**
baz=173
T60A Surry 37.60 5 P **P** **11 26 18.4 +0.3**
baz=186
T60A P **P** **11 26 18.4 +0.3**
baz=186
T60A S **S** **11 32 06.0 -0.4**
baz=186
T60A S **S** **11 32 06.0 -0.4**
baz=186
X37A Clayton 37.63 340 P **P** **11 26 18.9 +0.5**
baz=155,SNR=6.4
ABTX Abilene, Hawle 37.64 333 P **P** **11 26 19.3 +0.8**
ABTX IAmb IAmb 11 26 41.0
comp=Z,161nm,1.2s
ABTX Abilene, Hawle 37.64 333 P **P** **11 26 19.1 +0.6**
baz=147,SNR=17
ABTX S **S** **11 32 09.2 +1.9**
baz=147
ABTX Abilene, Hawle 37.64 333 P **P** **11 26 19.5 +0.9**
baz=147,SNR=17
ABTX S **S** **11 32 07.6 +0.3**
baz=147
LCAR Lake Charles 37.75 346 P **P** **11 26 18.7 -0.6**
baz=162,SNR=59
LCAR S **S** **11 32 06.2 -2.5**
baz=162
SGCY Sterling City 37.76 331 P **P** **11 26 20.1 +0.6**
SGCY IAmb IAmb 11 26 32.0
comp=Z,155nm,1.0s
PMNB Patos De Minas 37.82 120 *e*P **P** **11 26 20.6 +0.2**
T47A Sharon Grove 37.82 351 P **P** **11 26 18.8 -1.1**
baz=169,SNR=28
T47A S **S** **11 32 06.1 -3.7**
baz=169
ALPN Alpine 37.86 326 P **P** **11 26 21.8 +1.3**
ALPN IAmb IAmb 11 26 33.3
comp=Z,252nm,1.0s
ITAB Concordia 37.97 137 P **P** **11 26 21.6 +0.3**
ITAB Concordia 37.97 137 *e*P **P** **11 26 21.9 +0.6**
LPIG La Paz 37.97 312 LR LR 11 39 02.5
comp=Z,6µm,19.3s,baz=106,slow=31
S51A Beattyville 38.07 356 P **P** **11 26 21.6 -0.5**
S51A IAmb IAmb 11 26 33.7
comp=Z,136nm,1.1s
S51A Beattyville 38.07 356 P **P** **11 26 21.5 -0.5**
baz=175,SNR=27
S51A P **P** **11 26 21.5 -0.5**
baz=175,SNR=27
S51A S **S** **11 32 10.7 -2.8**
baz=175
S51A S **S** **11 32 10.7 -2.8**
baz=175
S57A Dark Hollow, R 38.09 2 P **P** **11 26 21.3 -0.9**
S57A Dark Hollow, R 38.09 2 P **P** **11 26 21.8 -0.5**
baz=182,SNR=9.8
S57A P **P** **11 26 21.8 -0.5**
baz=182,SNR=9.8
S57A S **S** **11 32 15.8 +1.9**
baz=182
S57A S **S** **11 32 15.8 +1.9**
baz=182
WTFS Witchita Falls 38.10 335 **P** **11 26 23.4 +1.0**
WTFS IAmb IAmb 11 26 41.7
comp=Z,293nm,1.5s
T45B Paducah 38.11 349 P **P** **11 26 21.5 -0.9**
baz=166,SNR=17
T45B S **S** **11 32 10.4 -3.7**
baz=166
T45A Paducah 38.11 349 P **P** **11 26 21.5 -0.9**
RODS Rosario do Sul 38.12 143 *e*P **P** **11 26 23.4 +0.8**
S54A Dingess, Beckl 38.12 359 P **P** **11 26 21.8 -0.7**
S54A IAmb IAmb 11 26 33.5
comp=Z,138nm,1.1s
S54A IAMs_20 IAMs_20 11 42 01.0
comp=Z,15µm,20.0s
S54A Dingess, Beckl 38.12 359 P **P** **11 26 21.9 -0.7**
baz=178,SNR=35
S54A P **P** **11 26 21.9 -0.7**
baz=178,SNR=35
S54A S **S** **11 32 11.8 -2.6**
baz=178
S54A S **S** **11 32 11.8 -2.6**
baz=178
MNHN Monahans 38.13 328 P **P** **11 26 24.0 +1.2**
MNHN IAmb IAmb 11 26 35.5
comp=Z,158nm,1.0s
S61A Accomac 38.24 6 P **P** **11 26 24.7 +1.2**
baz=188
S61A P **P** **11 26 24.7 +1.2**
baz=188
PBMO Poplar Bluff 38.25 347 P **P** **11 26 22.8 -0.8**
PBMO Poplar Bluff 38.25 347 P **P** **11 26 22.7 -0.8**
baz=164,SNR=30
PBMO S **S** **11 32 13.3 -3.0**
baz=164
R58B Mineral 38.34 3 IAMs_20 IAMs_20 11 43 38.7
comp=Z,13µm,19.0s
R58B Mineral 38.34 3 P **P** **11 26 24.5 +0.2**
baz=184,SNR=19
R58B P **P** **11 26 24.5 +0.2**
baz=184,SNR=19
R58B S **S** **11 32 17.4 -0.3**
baz=184
R58B S **S** **11 32 17.4 -0.3**
baz=184
ALGR Alto Alegre (B 38.39 140 *e*P **P** **11 26 25.0 0.0**
RPN Rapa Nui 38.40 224 IAMs_20 IAMs_20 11 37 44.2
comp=Z,26µm,19.0s
RPN Rapa Nui 38.40 224 LR LR 11 37 57.7
comp=Z,32µm,21.3s,baz=50,slow=29
U40A Yellville 38.47 344 P **P** **11 26 25.3 -0.1**
baz=160,SNR=47
U40A P **P** **11 26 25.3 -0.1**
baz=160,SNR=47
U40A S **S** **11 32 18.5 -1.1**
baz=160
U40A S **S** **11 32 18.5 -1.1**
baz=160
VA02 Isla de Pascua 38.49 224 IAMs_20 IAMs_20 11 37 49.1
comp=Z,28µm,20.0s
CGM3 Cape Girardeau 38.58 348 P **P** **11 26 25.6 -0.8**
CGM3 IAmb IAmb 11 26 48.2
comp=Z,178nm,1.1s
R55A Marlinton 38.59 0 P **P** **11 26 26.6 0.0**
R55A Marlinton 38.59 0 P **P** **11 26 26.5 0.0**
baz=180,SNR=18
R55A P **P** **11 26 26.5 0.0**
baz=180,SNR=18
R55A S **S** **11 32 20.9 -0.7**
baz=180
R55A S **S** **11 32 20.9 -0.7**
baz=180
CBN Corbin Frederi 38.62 4 P **P** **11 26 26.8 +0.3**
CBN Corbin Frederi 38.62 4 P **P** **11 26 26.9 +0.3**
baz=185
CBN S **S** **11 32 23.3 +1.6**
baz=185
CBN Corbin Frederi 38.62 4 P **P** **11 26 26.6 0.0**
baz=185
CBN S **S** **11 32 22.4 +0.6**
baz=185
ODSA Odessa 38.64 329 P **P** **11 26 27.8 +0.8**
ODSA IAmb IAmb 11 26 39.1
comp=Z,134nm,1.1s
R53A Hurricane 38.67 358 P **P** **11 26 26.2 -0.9**
R53A Hurricane 38.67 358 P **P** **11 26 26.6 -0.4**
baz=177,SNR=22
R53A P **P** **11 26 26.6 -0.4**
baz=177,SNR=22
R53A S **S** **11 32 20.0 -2.6**
baz=177
R53A S **S** **11 32 20.0 -2.6**
baz=177
RCLB Rio Claro- Sao 38.67 127 *e*P **P** **11 26 27.5 0.0**
HHAR Hobbs 38.71 342 P **P** **11 26 27.1 -0.4**
baz=158
HHAR S **S** **11 32 21.4 -1.9**
baz=158
R50A Paris 38.77 355 P **P** **11 26 26.6 -1.3**

R50A IAMs_20 IAMs_20 11 41 55.6
comp=Z,15µm,21.0s
R50A Paris 38.77 355 P **P** **11 26 27.3 -0.6**
R50A baz=174,SNR=29 P **P** **11 26 27.3 -0.6**
R50A baz=174,SNR=29 S **S** **11 32 21.0 -3.0**
R50A baz=174 S **S** **11 32 21.0 -3.0**
baz=174
R49A Shelbyville 38.86 354 P **P** **11 26 27.2 -1.5**
R49A Shelbyville 38.86 354 P **P** **11 26 27.8 -0.9**
R49A baz=172,SNR=32 P **P** **11 26 27.8 -0.9**
R49A baz=172,SNR=32 S **S** **11 32 21.9 -3.5**
R49A baz=172 S **S** **11 32 21.9 -3.5**
baz=172
USIN University of 38.87 351 P **P** **11 26 27.8 -0.9**
USIN IAmb IAmb 11 26 50.7
comp=Z,258nm,1.1s
S44A Carbondale 38.88 349 P **P** **11 26 27.7 -1.2**
S44A IAmb IAmb 11 26 51.2
comp=Z,176nm,1.1s
S44A Carbondale 38.88 349 P **P** **11 26 28.0 -0.8**
S44A baz=166,SNR=35 S **S** **11 32 22.7 -3.1**
baz=166
SIUC Southern Illin 38.90 349 P **P** **11 26 28.1 -0.8**
SIUC IAmb IAmb 11 26 50.7
comp=Z,192nm,1.1s
R61A Willards 38.92 6 P **P** **11 26 30.5 +1.3**
R61A baz=188 P **P** **11 26 30.5 +1.3**
R61A baz=188 S **S** **11 32 31.0 +4.7**
R61A baz=188 S **S** **11 32 31.0 +4.7**
baz=188
WCI Wyandotte Cave 38.93 353 P **P** **11 26 28.0 -1.2**
WCI Wyandotte Cave 38.93 353 P **P** **11 26 28.1 -1.2**
WCI baz=170 S **S** **11 32 24.2 -2.3**
baz=170
WCI Wyandotte Cave 38.93 353 P **P** **11 26 27.9 -1.2**
WCI baz=170,SNR=30 S **S** **11 32 22.9 -3.6**
baz=170
WCI Wyandotte Cave 38.93 353 ⇑P **P** **11 26 28.0 -1.2**
WCI Wyandotte Cave 38.93 353 P **P** **11 26 28.0 -1.2**
WCI pmax pmax
comp=Z,125nm,1.3s
WCI MLR MLR
comp=Z,9µm,19.0s
TUL3 Leonard 38.97 340 P **P** **11 26 29.9 +0.2**
TUL3 baz=155,SNR=13 S **S** **11 32 25.5 -1.8**
baz=155
TUL3 Leonard 38.97 340 P **P** **11 26 29.4 -0.3**
TUL3 baz=155,SNR=13 S **S** **11 32 26.3 -0.9**
baz=155
U38A Gravette 39.00 342 P **P** **11 26 29.6 -0.3**
U38A baz=157,SNR=23 S **S** **11 32 26.4 -1.2**
baz=157
WMOK Wichita Mounta 39.07 336 P **P** **11 26 30.8 +0.3**
WMOK baz=150,SNR=12 S **S** **11 32 29.9 +1.2**
baz=150
WMOK Wichita Mounta 39.07 336 P **P** **11 26 29.8 -0.7**
WMOK baz=150,SNR=12 S **S** **11 32 29.6 +0.9**
baz=150
WMOK Wichita Mounta 39.07 336 ⇑P **P** **11 26 29.8 -0.7**
CPSB Cacapava Do Su 39.23 142 *e*P **P** **11 26 31.9 0.0**
Q54A Coxs Mills 39.30 359 P **P** **11 26 31.7 -0.6**
Q54A baz=179,SNR=24 P **P** **11 26 31.7 -0.6**
Q54A baz=179,SNR=24 S **S** **11 32 28.1 -3.9**
Q54A baz=179 S **S** **11 32 28.1 -3.9**
baz=179
Q52A Bidwell 39.31 358 P **P** **11 26 31.7 -0.7**
Q52A baz=177,SNR=19 P **P** **11 26 31.7 -0.7**
Q52A baz=177,SNR=19 S **S** **11 32 28.1 -4.1**
Q52A baz=177 S **S** **11 32 28.1 -4.1**
baz=177
SPB Sao Paulo 39.34 128 P **P** **11 26 32.0 -0.9**
SPB IAmb IAmb 11 26 33.8
comp=Z,138nm,1.1s
SPB Sao Paulo 39.34 128 *e*P **P** **11 26 31.3 -1.6**
Q56A Snyder Ridge, 39.37 1 P **P** **11 26 32.7 -0.2**
Q56A baz=182,SNR=14 P **P** **11 26 32.7 -0.2**
Q56A baz=182,SNR=14 S **S** **11 32 33.9 +0.8**
Q56A baz=182 S **S** **11 32 33.9 +0.8**
baz=182
FVM French Village 39.41 347 P **P** **11 26 32.2 -1.1**
FVM baz=164,SNR=50 S **S** **11 32 28.4 -5.3**
baz=164
VAO Valinhos 39.41 127 *e*P **P** **11 26 33.4 -0.2**
Q51A Peebles 39.43 356 P **P** **11 26 32.6 -0.8**
Q51A baz=175,SNR=33 P **P** **11 26 32.6 -0.8**
Q51A baz=175,SNR=33 S **S** **11 32 29.3 -4.8**
Q51A baz=175 S **S** **11 32 29.3 -4.8**
baz=175
CCM Cathedral Cave 39.66 347 P **P** **11 26 34.5 -0.9**
CCM IAmb IAmb 11 26 57.0
comp=Z,240nm,1.4s
CCM Cathedral Cave 39.66 347 P **P** **11 26 34.7 -0.7**
CCM baz=163 S **S** **11 32 33.1 -4.4**
baz=163
CCM Cathedral Cave 39.66 347 P **P** **11 26 34.5 -0.9**
CCM baz=163,SNR=14 S **S** **11 32 33.3 -4.2**
baz=163
CCM Cathedral Cave 39.66 347 ⇑P **P** **11 26 34.2 -1.1**
CCM Cathedral Cave 39.66 347 P **P** **11 26 34.5 -0.9**
CCM pmax pmax
comp=Z,240nm,1.4s
CCM MLR MLR
comp=Z,8µm,19.0s
OLIL Olney 39.69 351 P **P** **11 26 34.5 -1.0**
OLIL IAmb IAmb 11 26 57.5
comp=Z,234nm,1.1s
OLIL Olney 39.69 351 P **P** **11 26 34.5 -1.0**
OLIL baz=168,SNR=42 S **S** **11 32 33.0 -4.9**
baz=168
GO06 Curarrehue 39.74 169 ⇑P **P** **11 26 37.6 +1.5**
P53A Whipple 39.81 359 IAMs_20 IAMs_20 11 44 07.1
comp=Z,14µm,19.0s
P53A Whipple 39.81 359 P **P** **11 26 36.2 -0.4**
P53A baz=178,SNR=28 P **P** **11 26 36.2 -0.4**
P53A baz=178,SNR=28 S **S** **11 32 36.5 -3.2**
baz=178
P53A S **S** **11 32 36.5 -3.2**
baz=178
PET01 Itanhaem-SP 39.82 129 *e*P **P** **11 26 36.2 -0.7**
MNTX Cornudas Mount 39.84 326 P **P** **11 26 37.9 +0.9**
MNTX baz=139,SNR=56 S **S** **11 32 42.6 +2.2**
baz=139
MNTX Cornudas Mount 39.84 326 P **P** **11 26 37.8 +0.8**
MNTX baz=139,SNR=56 S **S** **11 32 43.3 +2.8**
baz=139
MNTX Cornudas Mount 39.84 326 ⇑P **P** **11 26 37.7 +0.8**
S39A Bolivar 39.84 344 P **P** **11 26 36.4 -0.5**
S39A baz=160,SNR=46 S **S** **11 32 37.7 -2.6**
baz=160

P57A Homestead Farm 39.85 3 P **P** **11 26 37.0 +0.1**
P57A baz=184,SNR=8.2 P **P** **11 26 37.0 +0.1**
P57A baz=184,SNR=8.2 S **S** **11 32 41.4 +1.1**
P57A baz=184 S **S** **11 32 41.4 +1.1**
baz=184
P51A Williamsport 39.87 357 P **P** **11 26 36.0 -1.1**
P51A baz=176,SNR=8.8 P **P** **11 26 36.0 -1.1**
P51A baz=176,SNR=8.8 S **S** **11 32 36.5 -4.1**
P51A baz=176 S **S** **11 32 36.5 -4.1**
baz=176
BLO Bloomington 39.88 353 P **P** **11 26 35.5 -1.7**
BLO Bloomington 39.88 353 P **P** **11 26 35.5 -1.7**
BLO pmax pmax
comp=Z,74nm,1.0s
MCWV Mont Chateau 39.97 1 IAMs_20 IAMs_20 11 42 01.3
comp=Z,15µm,22.0s
MCWV Mont Chateau 39.97 1 P **P** **11 26 37.8 -0.1**
MCWV baz=181,SNR=5.6 S **S** **11 32 42.4 +0.3**
baz=181
MCWV Mont Chateau 39.97 1 P **P** **11 26 38.0 +0.1**
MCWV baz=181,SNR=5.6 S **S** **11 32 41.4 -0.7**
baz=181
P52A Corning 39.98 358 P **P** **11 26 37.0 -0.9**
P52A baz=177,SNR=25 S **S** **11 32 40.2 -2.0**
baz=177
SLM Saint Louis 39.99 348 P **P** **11 26 37.3 -0.8**
SLM baz=164,SNR=7.0 S **S** **11 32 38.9 -3.5**
baz=164
Q44A Meyer Farm, Va 40.01 349 P **P** **11 26 37.1 -1.2**
Q44A baz=166,SNR=30 S **S** **11 32 38.2 -4.5**
baz=166
P48A Milroy 40.04 354 IAMs_20 IAMs_20 11 43 59.4
comp=Z,14µm,18.0s
P48A Milroy 40.04 354 P **P** **11 26 36.8 -1.7**
P48A baz=172,SNR=26 P **P** **11 26 36.8 -1.7**
P48A baz=172,SNR=26 S **S** **11 32 38.4 -4.7**
P48A baz=172 S **S** **11 32 38.4 -4.7**
baz=172
P49A Miami Univ. Ec 40.04 355 IAMs_20 IAMs_20 11 42 44.4
comp=Z,18µm,20.0s
P49A Miami Univ. Ec 40.04 355 P **P** **11 26 36.9 -1.7**
P49A baz=173,SNR=20 S **S** **11 32 39.0 -4.2**
baz=173
P49A Miami Univ. Ec 40.04 355 P **P** **11 26 36.6 -1.9**
P49A baz=173,SNR=20 S **S** **11 32 39.3 -3.9**
baz=173
PLTB Pedras Altas 40.09 143 *e*P **P** **11 26 39.8 +0.7**
T35B Sooner Cattle 40.13 340 P **P** **11 26 39.6 +0.3**
T35B baz=154,SNR=16 S **S** **11 32 44.4 -0.1**
baz=154
LPA La Plata 40.13 151 *i* P P 11 26 34.4 -4.9
LPA pP pP 11 26 46.6 +0.4
LPA sP sP 11 26 53.5 +4.5
LPA PP PP 11 27 52.5 -19
LPA pPP 11 28 22.6
LPA PPP PPP 11 28 30.6
LPA PCP **PcP** **11 28 42.8 -0.8**
LPA S **S** **11 32 36.1 -8.5**
LPA sS pS 11 32 51.5 -1.2
LPA PS PcS 11 33 01.4 +27
LPA PSP PSP 11 33 08.4
LPA PPS PPS 11 33 11.4
LPA PKIKP **PKiKP** **11 35 51.1 -3.2**
LPA SS **SnSn** **11 35 58.2 +11**
LPA SSS SSS 11 36 12.2
LPA SCS **ScS** **11 36 46.1 +1.1**
LPA SKIKP 11 39 40.2
LPA PKIKS 11 39 47.8
LPA SKIKS 11 43 17.9
R40A Maddies Statio 40.13 345 P **P** **11 26 38.1 -1.2**
R40A baz=161,SNR=30 S **S** **11 32 41.4 -3.1**
baz=161
DIAM Diamantina, MG 40.14 118 *e*P **P** **11 26 39.8 -0.1**
CNLB Canela 40.16 138 *e*P **P** **11 26 39.3 -0.5**
MSTX Muleshoe 40.23 331 P **P** **11 26 41.1 +0.8**
MSTX baz=144,SNR=76 S **S** **11 32 46.9 +0.5**
baz=144
MSTX Muleshoe 40.23 331 P **P** **11 26 40.5 +0.2**
MSTX baz=144,SNR=76 S **S** **11 32 48.4 +2.0**
baz=144
BLOK Blackwell 40.24 339 **P** **11 26 40.1 -0.1**
BLOK IAmb IAmb 11 26 58.3
comp=Z,240nm,1.5s
BSCB Bom Sucesso 40.28 123 *e*P **P** **11 26 41.1 +0.2**
P61A Hammonton 40.31 7 P **P** **11 26 41.9 +1.2**
P61A baz=188 P **P** **11 26 41.9 +1.2**
P61A baz=188 S **S** **11 32 49.2 +2.1**
P61A baz=188 S **S** **11 32 49.2 +2.1**
baz=188
GEDE Greenville 40.35 6 P **P** **11 26 41.0 0.0**
GEDE baz=187,SNR=8.2 S **S** **11 32 48.2 +0.4**
baz=187
P46A Rosedale 40.42 352 P **P** **11 26 39.8 -1.8**
baz=169,SNR=18
O52A Adamsville 40.45 358 IAMs_20 IAMs_20 11 43 22.0
comp=Z,14µm,20.0s
O52A Adamsville 40.45 358 P **P** **11 26 41.0 -0.9**
O52A baz=178,SNR=22 P **P** **11 26 41.0 -0.9**
O52A baz=178,SNR=22 S **S** **11 32 45.9 -3.4**
baz=178
O52A S **S** **11 32 45.9 -3.4**
baz=178
AMTX Amarillo 40.46 333 P **P** **11 26 42.8 +0.6**
AMTX baz=146 S **S** **11 32 51.1 +1.3**
baz=146
AMTX Amarillo 40.46 333 P **P** **11 26 43.1 +0.9**
AMTX baz=146,SNR=10.0 S **S** **11 32 51.4 +1.6**
baz=146
AMTX Amarillo 40.46 333 ⇓P **P** **11 26 43.4 +1.2**
MVL Millersville 40.48 5 P **P** **11 26 41.6 -0.5**
PSUB Penn St. - Bra 40.49 6 S **S** **11 32 50.9 +1.1**
baz=188
EPT El Paso 40.53 325 IAMs_20 IAMs_20 11 42 33.1
comp=Z,13µm,20.0s
KIDD KIDD Seismic O 40.53 325 S **S** **11 32 52.1 +1.1**
baz=137
O53A New Philadelph 40.57 359 P **P** **11 26 42.0 -0.9**
O53A comp=Z,140nm,1.1s IAmb IAmb 11 26 54.5
O53A comp=Z,16µm,21.0s IAMs_20 IAMs_20 11 44 39.1
O53A New Philadelph 40.57 359 P **P** **11 26 42.4 -0.5**
O53A baz=179,SNR=22 S **S** **11 32 48.8 -2.2**
baz=179
U32A Winter Ranch, 40.58 337 P **P** **11 26 44.3 +1.2**
U32A baz=151,SNR=7.3 S **S** **11 32 52.7 +1.4**
baz=151
PABK Blue Knob Stat 40.61 2 P **P** **11 26 43.4 +0.2**
PABK baz=183 S **S** **11 32 51.9 +0.2**
baz=183
ACSO Alum Creek Sta 40.61 357 P **P** **11 26 42.2 -1.1**
ACSO baz=176,SNR=28 S **S** **11 32 47.8 -3.9**
baz=176
ACSO Alum Creek Sta 40.61 357 P **P** **11 26 42.4 -0.9**
baz=176,SNR=28

ACSO S **S** **11 32 47.1 -4.6**
baz=176
ACSO Alum Creek Sta 40.61 357 ⇑P **P** **11 26 42.1 -1.1**
PARB Paraibuna 40.66 126 *e*P **P** **11 26 43.3 -0.6**
O49A Covington 40.66 355 IAMs_20 IAMs_20 11 43 02.7
comp=Z,15µm,20.0s
O49A Covington 40.66 355 P **P** **11 26 42.0 -1.6**
O49A baz=174,SNR=15 P **P** **11 26 42.0 -1.6**
O49A baz=174,SNR=15 S **S** **11 32 47.5 -4.9**
O49A baz=174 S **S** **11 32 47.5 -4.9**
baz=174
TUPA Temple Univers 40.75 6 P **P** **11 26 44.8 +0.4**
TUPA baz=188,SNR=8.1 S **S** **11 32 55.6 +1.9**
baz=188
UPAO U. Pittsburgh 40.79 0 P **P** **11 26 44.1 -0.6**
UPAO baz=180 S **S** **11 32 51.6 -2.8**
baz=180
O48B Farmland 40.80 354 IAMs_20 IAMs_20 11 44 31.5
comp=Z,17µm,19.0s
O48B Farmland 40.80 354 P **P** **11 26 43.4 -1.4**
O48B baz=173,SNR=29 S **S** **11 32 49.4 -5.1**
baz=173
O48B Farmland 40.80 354 P **P** **11 26 43.2 -1.6**
O48B baz=173,SNR=29 S **S** **11 32 49.0 -5.5**
baz=173
P43A Skaggs, Pawnee 40.82 349 P **P** **11 26 43.3 -1.6**
P43A IAmb IAmb 11 27 06.4
comp=Z,184nm,1.0s
P43A Skaggs, Pawnee 40.82 349 P **P** **11 26 43.7 -1.2**
P43A baz=166,SNR=34 S **S** **11 32 50.7 -4.1**
baz=166
SSPA Standing Stone 41.01 3 P **P** **11 26 46.6 +0.1**
SSPA IAmb IAmb 11 27 10.5
comp=Z,162nm,1.4s
SSPA Standing Stone 41.01 3 P **P** **11 26 46.6 +0.1**
SSPA baz=184 S **S** **11 32 56.9 -0.6**
baz=184
SSPA Standing Stone 41.01 3 P **P** **11 26 46.2 -0.3**
SSPA baz=184,SNR=24 S **S** **11 32 55.5 -2.0**
baz=184
SSPA Standing Stone 41.01 3 ⇑P **P** **11 26 46.5 0.0**
PANJ Princeton 41.01 7 P **P** **11 26 47.1 +0.6**
PANJ baz=188,SNR=16 S **S** **11 32 56.9 -0.7**
baz=188
PLCA Paso Flores 41.02 169 P **P** **11 26 48.8 +2.1**
PLCA Paso Flores 41.02 169 ⇑P **P** **11 26 48.5 +1.7**
PLCA Paso Flores 41.02 169 P **P** **11 26 48.8 +2.1**
PLCA pmax pmax
comp=Z,321nm,1.1s
PLCA MLR MLR
comp=Z,10µm,22.0s
PLCA Paso Flores 41.02 169 *e*P **P** **11 26 48.9 +2.1**
PLCA Paso Flores 41.02 169 P **P** **11 26 48.4 +1.7**
comp=Z,246nm,1.1s,baz=345,slow=9.1,SNR=85
PLCA S **S** **11 33 00.2 +2.2**
comp=Z,1.9nm,1.1s,baz=333,slow=23,SNR=1.1
PLCA LR LR 11 42 42.1
comp=Z,5µm,19.1s,baz=2.5,slow=34
comp=Z,246nm,1.1s
TRQA Tornquist 41.03 158 P **P** **11 26 48.1 +1.4**
TRQA IAmb IAmb 11 26 51.3
comp=Z,282nm,1.1s
TRQA IAMs_20 IAMs_20 11 43 16.7
comp=Z,18µm,21.0s
TRQA Tornquist 41.03 158 P **P** **11 26 48.1 +1.4**
TRQA pmax pmax
comp=Z,282nm,1.2s
TRQA MLR MLR
comp=Z,18µm,21.0s
LL03 Petrohue 41.09 171 IAMs_20 IAMs_20 11 40 27.8
comp=Z,15µm,22.0s
N53A Lisbon 41.12 359 P **P** **11 26 46.4 -1.0**
N53A IAMs_20 IAMs_20 11 45 05.7
comp=Z,14µm,22.0s
N53A Lisbon 41.12 359 P **P** **11 26 46.4 -1.0**
N53A baz=179,SNR=12 P **P** **11 26 46.4 -1.0**
N53A baz=179,SNR=12 S **S** **11 32 55.6 -3.6**
baz=179
N53A S **S** **11 32 55.6 -3.6**
baz=179
O44A Mansfield 41.13 351 P **P** **11 26 45.4 -2.1**
O44A IAmb IAmb 11 27 09.2
comp=Z,172nm,1.2s
O44A IAMs_20 IAMs_20 11 44 29.4
comp=Z,14µm,20.0s
O44A Mansfield 41.13 351 P **P** **11 26 45.9 -1.6**
O44A baz=168,SNR=16 S **S** **11 32 54.3 -5.1**
baz=168
SFIN Lafayette 41.15 352 P **P** **11 26 45.3 -2.3**
SFIN Lafayette 41.15 352 P **P** **11 26 45.6 -2.0**
SFIN baz=170,SNR=23 S **S** **11 32 55.0 -4.6**
baz=170
SFIN Lafayette 41.15 352 P **P** **11 26 45.9 -1.8**
baz=170,SNR=23
LUPA Lehigh Univers 41.16 6 P **P** **11 26 47.8 +0.1**
PAMR Moraine State 41.25 0 P **P** **11 26 47.9 -0.6**
PAMR baz=180 S **S** **11 32 58.4 -2.8**
baz=180
P40A Paris 41.25 346 P **P** **11 26 46.5 -2.0**
P40A Paris 41.25 346 P **P** **11 26 47.0 -1.5**
P40A baz=162,SNR=15 S **S** **11 32 56.8 -4.4**
baz=162
N51A Ashland 41.27 358 P **P** **11 26 47.5 -1.2**
N51A IAmb IAmb 11 26 59.1
comp=Z,150nm,1.1s
N51A Ashland 41.27 358 P **P** **11 26 47.4 -1.2**
N51A baz=177,SNR=14 P **P** **11 26 47.4 -1.2**
N51A baz=177,SNR=14 S **S** **11 32 56.5 -4.9**
baz=177
N51A S **S** **11 32 56.5 -4.9**
baz=177
SRIG Santa Rosalia 41.27 315 ⇑sP **sP** **11 26 59.1 +0.4**
SRIG ⇑sP pP 11 27 00.1 +4.2
N58A Sunbury 41.28 4 P **P** **11 26 48.2 -0.5**
N58A Sunbury 41.28 4 P **P** **11 26 49.1 +0.4**
N58A baz=185,SNR=13 P **P** **11 26 49.1 +0.4**
baz=185,SNR=13
N58A S **S** **11 32 58.4 -3.2**
baz=185
N58A S **S** **11 32 58.4 -3.2**
baz=185
BRNJ Basking Ridge 41.33 7 P **P** **11 26 49.4 +0.3**
BRNJ Basking Ridge 41.33 7 P **P** **11 26 50.3 +1.2**
BRNJ baz=189 S **S** **11 33 01.2 -1.1**
baz=189
N49A Columbus Grove 41.38 356 P **P** **11 26 47.4 -2.1**
N49A IAMs_20 IAMs_20 11 46 34.7
comp=Z,13µm,20.0s
N49A Columbus Grove 41.38 356 P **P** **11 26 48.1 -1.4**
N49A baz=174,SNR=12 P **P** **11 26 48.1 -1.4**
N49A baz=174,SNR=12 S **S** **11 32 58.1 -4.9**
baz=174
N49A S **S** **11 32 58.1 -4.9**
baz=174
HSIG 41.43 318 IAMs_20 IAMs_20 11 42 17.7
comp=Z,23µm,19.0s
PSDB Penn State Uni 41.46 2 P **P** **11 26 50.6 +0.4**
baz=182
N47A Urbana 41.47 354 P **P** **11 26 48.4 -1.9**
N47A Urbana 41.47 354 P **P** **11 26 48.4 -1.9**
N47A baz=172,SNR=21 P **P** **11 26 48.4 -1.9**
baz=172,SNR=21
N47A S **S** **11 32 57.9 -6.6**

baz=172
N47A S **S** **11 32 57.9 -6.6**
baz=172
FOR **Fordham** **41.59 7** P **P** **11 26 51.7 +0.5**
baz=190
FOR S **S** **11 33 06.5 +0.3**
baz=190
HDIL **Hopedale** **41.67 350** P **P** **11 26 50.0 -1.9**
HDIL IAmb IAmb 11 27 12.6
comp=Z,222nm,1.1s
HDIL **Hopedale** **41.67 350** P **P** **11 26 50.4 -1.5**
baz=166,SNR=23
HDIL S **S** **11 33 02.5 -4.9**
baz=166
HDIL **Hopedale** **41.67 350** P **P** **11 26 50.2 -1.6**
baz=166,SNR=23
HDIL S **S** **11 33 01.0 -6.3**
baz=166
HDIL **Hopedale** **41.67 350** ⇑P **P** **11 26 50.2 -1.6**
P38A **Dawn** **41.71 345** P **P** **11 26 51.4 -0.9**
P38A **Dawn** **41.71 345** P **P** **11 26 51.7 -0.6**
baz=160,SNR=5.4
P38A S **S** **11 33 05.2 -2.9**
baz=160
ODNJ **Ogdensburg** **41.72 7** P **P** **11 26 52.4 +0.1**
ODNJ **Ogdensburg** **41.72 7** P **P** **11 26 52.9 +0.5**
baz=189
ODNJ S **S** **11 33 09.1 +1.0**
baz=189
PAL **Palisades** **41.73 7** P **P** **11 26 52.5 +0.1**
PAL **Palisades** **41.73 7** P **P** **11 26 52.7 +0.3**
baz=190
PAL S **S** **11 33 09.2 +1.0**
baz=190
PAL **Palisades** **41.73 7** P **P** **11 26 52.8 +0.4**
baz=190
PAL S **S** **11 33 08.5 +0.3**
baz=190
PAL **Palisades** **41.73 7** P **P** **11 26 52.5 +0.1**
PAL pmax pmax
comp=Z,30nm,1.0s
PAL MLR MLR
comp=Z,6µm,18.0s
M53A **WI Miller and** **41.75 360** P **P** **11 26 51.6 -0.9**
M53A IAMs_20 IAMs_20 11 47 37.4
comp=Z,12µm,18.0s
M53A **WI Miller and** **41.75 360** P **P** **11 26 51.7 -0.9**
baz=179,SNR=6.3
M53A S **S** **11 33 05.8 -2.7**
baz=179
M57A **Sunshine Farm,** **41.75 4** P **P** **11 26 52.5 -0.1**
M57A IAmb IAmb 11 27 17.0
comp=Z,157nm,1.2s
M57A **Sunshine Farm,** **41.75 4** P **P** **11 26 52.9 +0.3**
baz=185,SNR=22
M57A P **P** **11 26 52.9 +0.3**
baz=185,SNR=22
M57A S **S** **11 33 08.2 -0.3**
baz=185
M57A S **S** **11 33 08.2 -0.3**
baz=185
M50A **Fremont** **41.78 357** P **P** **11 26 51.8 -1.0**
M50A IAmb IAmb 11 27 03.9
comp=Z,183nm,0.9s
M50A **Fremont** **41.78 357** P **P** **11 26 51.8 -1.0**
baz=176,SNR=14
M50A P **P** **11 26 51.8 -1.0**
baz=176,SNR=14
M50A S **S** **11 33 04.8 -4.2**
baz=176
M50A S **S** **11 33 04.8 -4.2**
baz=176
PSWB **Penn State Wil** **41.80 5** S **S** **11 33 09.8 +0.5**
baz=186
M55A **Ridgway** **41.80 2** P **P** **11 26 52.3 -0.7**
baz=182,SNR=12
M55A P **P** **11 26 52.3 -0.7**
baz=182,SNR=12
M55A S **S** **11 33 07.1 -2.2**
baz=182
M55A S **S** **11 33 07.1 -2.2**
baz=182
TRNY **Table Rock, Ra** **41.83 7** P **P** **11 26 52.4 -0.8**
121A **Cookes Peak, D** **41.83 324** IAMs_20 IAMs_20 11 43 25.0
comp=Z,17µm,19.0s
121A **Cookes Peak, D** **41.83 324** P **P** **11 26 55.9 +2.3**
baz=136,SNR=25
121A S **S** **11 33 11.4 +1.0**
baz=136
121A **Cookes Peak, D** **41.83 324** P **P** **11 26 55.7 +2.1**
baz=136,SNR=25
121A S **S** **11 33 13.6 +3.2**
baz=136
PAOC **Oil Creek Stat** **41.83 1** S **S** **11 33 06.7 -3.0**
baz=181
M52A **Chesterland** **41.86 359** IAMs_20 IAMs_20 11 45 29.3
comp=Z,15µm,20.0s
M52A **Chesterland** **41.86 359** P **P** **11 26 53.0 -0.4**
baz=178
M52A P **P** **11 26 53.0 -0.4**
baz=178
M52A S **S** **11 33 06.6 -3.6**
baz=178
M52A S **S** **11 33 06.6 -3.6**
baz=178
319A **Douglas** **41.91 322** P **P** **11 26 55.4 +1.2**
319A IAmb IAmb 11 27 06.8
comp=Z,219nm,1.1s
VAS01 **Vassouras-RJ** **41.95 124** *e*P **P** **11 26 54.9 +0.3**
ALLY **Alegheny Colle** **41.96 0** P **P** **11 26 53.6 -0.8**
ALLY **Alegheny Colle** **41.96 0** P **P** **11 26 53.5 -0.8**
baz=180,SNR=9.2
ALLY S **S** **11 33 08.3 -3.4**
baz=180
WSPT **Westport, CT** **41.97 8** P **P** **11 26 54.4 +0.1**
KSPA **Keystone Colle** **42.07 5** P **P** **11 26 55.3 +0.1**
KSPA **Keystone Colle** **42.07 5** P **P** **11 26 55.7 +0.5**
baz=187,SNR=22
KSPA S **S** **11 33 11.3 -2.0**
baz=187
N41A **Harden Midland** **42.11 348** P **P** **11 26 54.4 -1.1**
baz=164,SNR=6.9
N41A S **S** **11 33 09.5 -4.5**
baz=164
BRNY **Black Rk. Fore** **42.12 7** P **P** **11 26 56.0 +0.4**
baz=189
BRNY S **S** **11 33 13.9 -0.1**
baz=189
KSU1 **Kansas State U** **42.14 341** P **P** **11 26 56.1 +0.3**
baz=155,SNR=35
KSU1 S **S** **11 33 14.1 -0.3**
baz=155
KSU1 **Kansas State U** **42.14 341** P **P** **11 26 55.9 +0.1**
baz=155,SNR=35
KSU1 S **S** **11 33 12.3 -2.0**
baz=155
KSU1 **Kansas State U** **42.14 341** ⇑P **P** **11 26 55.9 +0.1**
RTBA **Rita Blanca** **42.22 333** P **P** **11 26 57.4 +0.7**
RTBA IAmb IAmb 11 27 16.2
comp=Z,298nm,1.3s
R32A **Long Quarter,** **42.26 338** P **P** **11 26 58.1 +1.3**
baz=152,SNR=35
R32A S **S** **11 33 17.2 +1.0**
baz=152
M44A **Midewin, Midew** **42.27 351** IAMs_20 IAMs_20 11 46 39.6
comp=Z,13µm,21.0s
M44A **Midewin, Midew** **42.27 351** P **P** **11 26 54.6 -2.2**
baz=168,SNR=9.7
LL01 **San Ignacio de** **42.30 171** P **P** **11 26 57.5 +0.5**
M63A **Gales Ferry** **42.39 9** P **P** **11 26 58.9 +1.1**
M63A IAmb IAmb 11 27 21.0
comp=Z,148nm,1.1s
M63A **Gales Ferry** **42.39 9** P **P** **11 26 58.4 +0.6**
baz=192,SNR=8.8
M63A P **P** **11 26 58.4 +0.6**
baz=192,SNR=8.8
M63A S **S** **11 33 19.0 +1.0**
baz=192
M63A S **S** **11 33 19.0 +1.0**
baz=192
Y22A **Socorro** **42.39 326** P **P** **11 26 59.6 +1.5**
baz=138,SNR=19
Y22A S **S** **11 33 23.7 +5.0**
baz=138
L48A **N Adams** **42.41 356** IAMs_20 IAMs_20 11 45 01.1
comp=Z,13µm,19.0s
L48A **N Adams** **42.41 356** P **P** **11 26 56.1 -1.9**
baz=174,SNR=10
L48A P **P** **11 26 56.1 -1.9**
baz=174,SNR=10
L48A S **S** **11 33 11.3 -7.0**
baz=174
L48A S **S** **11 33 11.3 -7.0**
baz=174
ERPA **Erie** **42.43 0** IAMs_20 IAMs_20 11 45 27.3
comp=Z,14µm,21.0s
ERPA **Erie** **42.43 0** P **P** **11 26 57.1 -1.0**
baz=180
ERPA S **S** **11 33 15.0 -3.5**
baz=180
ERPA **Erie** **42.43 0** P **P** **11 26 57.1 -1.0**
baz=180
ERPA S **S** **11 33 14.0 -4.6**
baz=180
NPNY **Mohonk Preserv** **42.44 7** P **P** **11 26 58.8 +0.6**
baz=189,SNR=8.9
NPNY S **S** **11 33 19.4 +0.7**
baz=189
Y22D **IRIS PASSCAL I** **42.47 327** IAMs_20 IAMs_20 11 44 20.9
comp=Z,12µm,19.0s
Y22D **IRIS PASSCAL I** **42.47 327** P **P** **11 27 03.0 +4.2**
baz=139
Y22D S **S** **11 33 22.6 +2.9**
baz=139
Y22D **IRIS PASSCAL I** **42.47 327** S **S** **11 33 24.3 +4.5**
baz=139
Y22F **Passcal Instru** **42.47 327** P **P** **11 27 03.3 +4.5**
baz=139
Y22F S **S** **11 33 22.6 +2.9**
baz=139
SJMB **Sao Joao De Ma** **42.48 118** *e*P **P** **11 26 58.9 -0.1**
L56A **Greenwood** **42.52 3** P **P** **11 26 58.1 -0.8**
L56A IAmb IAmb 11 27 32.2
comp=Z,177nm,1.6s
L56A **Greenwood** **42.52 3** P **P** **11 26 58.4 -0.5**
baz=184,SNR=16
L56A P **P** **11 26 58.4 -0.5**
baz=184,SNR=16
L56A S **S** **11 33 15.0 -5.0**
baz=184
L56A S **S** **11 33 15.0 -5.0**
baz=184
DUN6 **Lazy B Ranch** **42.62 323** P **P** **11 27 01.6 +1.6**
HQIL **Hanson Quary C** **42.65 352** P **P** **11 26 57.8 -2.1**
HQIL IAMs_20 IAMs_20 11 48 11.5
comp=Z,14µm,22.0s
L46A **Eue Claire** **42.66 353** IAMs_20 IAMs_20 11 45 39.7
comp=Z,15µm,18.0s
L46A **Eue Claire** **42.66 353** P **P** **11 26 58.1 -1.9**
baz=171,SNR=8.3
L46A P **P** **11 26 58.1 -1.9**
baz=171,SNR=8.3
L46A S S 11 33 11.8 -10
baz=171
L46A S S 11 33 11.8 -10
baz=171
BINY **Binghamton** **42.69 5** P **P** **11 27 00.6 +0.3**
baz=186,SNR=16
BINY S **S** **11 33 23.5 +1.0**
baz=186
BINY **Binghamton** **42.69 5** P **P** **11 26 59.6 -0.7**
baz=186,SNR=16
BINY S **S** **11 33 20.1 -2.4**
baz=186
BINY **Binghamton** **42.69 5** ⇑P **P** **11 27 00.4 +0.1**
AAM **Ann Arbor** **42.71 356** IAMs_20 IAMs_20 11 43 37.0
comp=Z,13µm,21.0s
AAM **Ann Arbor** **42.71 356** P **P** **11 26 59.3 -1.1**
baz=175,SNR=6.4
AAM S **S** **11 33 19.7 -3.0**
baz=175
AAM **Ann Arbor** **42.71 356** P **P** **11 26 59.3 -1.1**
baz=175,SNR=6.4
AAM S **S** **11 33 18.7 -4.0**
baz=175
N38A **Joes South For** **42.74 346** P **P** **11 26 59.9 -0.8**
baz=161,SNR=18
N38A S **S** **11 33 18.9 -4.2**
baz=161
UCCT **U. Connecticut** **42.74 9** P **P** **11 27 01.3 +0.7**
WVNY **West Valley, N** **42.74 2** P **P** **11 27 00.4 -0.3**
WVNY **West Valley, N** **42.74 2** P **P** **11 27 00.1 -0.6**
baz=182,SNR=8.2
WVNY S **S** **11 33 20.4 -2.8**
baz=182
DUB01 **Friburgo-RJ** **42.76 123** *e*P **P** **11 27 01.7 +0.5**
L59A **Walton** **42.77 6** P **P** **11 27 01.1 +0.2**
baz=188,SNR=12
L59A P **P** **11 27 01.1 +0.2**
baz=188,SNR=12
L59A S **S** **11 33 22.8 -0.9**
baz=188
L59A S **S** **11 33 22.8 -0.9**
baz=188
M65A **Busby, Falmout** **42.79 11** P **P** **11 27 00.2 -0.8**
baz=194
M65A S **S** **11 33 26.0 +2.2**
baz=194
ANMO **Albuquerque** **42.88 328** P **P** **11 27 02.9 +0.7**
ANMO IAmb IAmb 11 27 15.2
comp=Z,209nm,1.1s
ANMO **Albuquerque** **42.88 328** IAMs_20 IAMs_20 11 44 59.6
comp=Z,11µm,18.0s
ANMO **Albuquerque** **42.88 328** P **P** **11 27 03.8 +1.6**
baz=140
ANMO S **S** **11 33 27.3 +1.5**
baz=140
ANMO **Albuquerque** **42.88 328** P **P** **11 27 03.8 +1.6**
baz=140,SNR=68
ANMO S **S** **11 33 28.8 +3.0**
baz=140
ANMO **Albuquerque** **42.88 328** ⇑P **P** **11 27 03.6 +1.4**
ANMO **Albuquerque** **42.88 328***ce*P **P** **11 27 03.5 +1.4**
ANMO pmax pmax
comp=Z,33nm,1.0s
ANMO MLR MLR
comp=Z,9µm,16.0s
ANMO **Albuquerque** **42.88 328** LR LR 11 45 19.2
comp=Z,9µm,18.0s,baz=228,slow=37
BRYW **Bryant College** **42.97 10** P **P** **11 27 02.9 +0.4**
CBKS **Cedar Bluff** **42.98 338** P **P** **11 27 03.5 +0.8**
CBKS IAmb IAmb 11 27 31.3
comp=Z,182nm,1.0s
CBKS **Cedar Bluff** **42.98 338** P **P** **11 27 04.2 +1.5**
baz=151,SNR=6.9
CBKS S **S** **11 33 30.6 +3.6**
baz=151
CBKS **Cedar Bluff** **42.98 338** P **P** **11 27 04.4 +1.6**
baz=151,SNR=6.9
CBKS S **S** **11 33 28.9 +2.0**
baz=151
CBKS **Cedar Bluff** **42.98 338** ⇑P **P** **11 27 04.1 +1.4**
CBKS **Cedar Bluff** **42.98 338** P **P** **11 27 03.6 +0.8**
CBKS pmax pmax
comp=Z,181nm,1.0s
CBKS MLR MLR
comp=Z,7µm,21.0s
L44A **Lake County Fo** **43.03 352** P **P** **11 27 01.1 -1.8**
L44A IAMs_20 IAMs_20 11 45 29.6
comp=Z,13µm,21.0s
L44A **Lake County Fo** **43.03 352** P **P** **11 27 00.3 -2.6**
baz=169
L44A S **S** **11 33 20.4 -7.0**
baz=169
L44A **Lake County Fo** **43.03 352** P **P** **11 27 01.0 -2.0**
baz=169
L44A S **S** **11 33 19.4 -7.9**
baz=169
GUA01 **Guaratinga, BA** **43.03 114** *e*P **P** **11 27 03.6 +0.2**
L64A **Middleborough** **43.11 10** P **P** **11 27 03.5 -0.1**
L64A **Middleborough** **43.11 10** P **P** **11 27 02.7 -0.9**
baz=194,SNR=6.0
L64A P **P** **11 27 02.7 -0.9**
baz=194,SNR=6.0
L64A S **S** **11 33 27.7 -0.9**
baz=194
L64A S **S** **11 33 27.7 -0.9**
baz=194
K50A **Casco** **43.13 358** P **P** **11 27 02.4 -1.4**
K50A IAmb IAmb 11 27 14.7
comp=Z,161nm,1.1s
K50A IAMs_20 IAMs_20 11 45 50.0
comp=Z,11µm,19.0s
K50A **Casco** **43.13 358** P **P** **11 27 02.7 -1.1**
baz=177,SNR=7.1
K50A P **P** **11 27 02.7 -1.1**
baz=177,SNR=7.1
K50A S **S** **11 33 24.4 -4.4**
baz=177
K50A S **S** **11 33 24.4 -4.4**
baz=177
L42A **Oliver, Polo** **43.14 350** P **P** **11 27 01.9 -1.9**
baz=166,SNR=6.4
L42A S **S** **11 33 20.7 -8.3**
baz=166
K57A **Scipio Center** **43.18 4** P **P** **11 27 03.7 -0.5**
baz=186,SNR=16
K57A S **S** **11 33 24.4 -5.2**
baz=186
QUA2 **Belchertown** **43.20 9** P **P** **11 27 05.0 +0.7**
baz=192
QUA2 S **S** **11 33 30.9 +1.1**
baz=192
L61B **Northampton** **43.31 8** P **P** **11 27 05.1 -0.2**
baz=191
L61B S **S** **11 33 32.6 +1.1**
baz=191
L61B **Northampton** **43.31 8** P **P** **11 27 04.2 -1.1**
baz=191
L61B S **S** **11 33 30.6 -1.0**
baz=191
HCNY **Howe Caverns** **43.34 6** P **P** **11 27 06.1 +0.6**
baz=189,SNR=11
HCNY S **S** **11 33 30.9 -1.0**
baz=189
RIB01 **Linhares ES** **43.40 118** *e*P **P** **11 27 06.2 -0.2**
BCX **Boston College** **43.44 10** P **P** **11 27 06.8 +0.5**
BCX IAmb IAmb 11 27 30.3
comp=Z,329nm,2.0s
N35A **Tabor** **43.45 343** P **P** **11 27 05.9 -0.5**
baz=158,SNR=7.8
N35A S **S** **11 33 31.0 -2.6**
baz=158
TRY **Troy** **43.46 7** P **P** **11 27 06.7 +0.3**
baz=190,SNR=8.4
TRY S **S** **11 33 35.3 +1.7**
baz=190
WES **Weston** **43.47 10** S **S** **11 33 33.4 -0.3**
baz=193
TUC **Tucson** **43.48 321** P **P** **11 27 07.8 +0.9**
TUC **Tucson** **43.48 321** P **P** **11 27 08.5 +1.5**
baz=133
TUC S **S** **11 33 38.6 +4.0**
baz=133
TUC **Tucson** **43.48 321** ⇑P P 11 27 13.7 +6.8
TUC **Tucson** **43.48 321** P **P** **11 27 07.8 +0.9**
TUC pmax pmax
comp=Z,106nm,1.2s
L40A **Anamosa** **43.49 348** P **P** **11 27 05.1 -1.6**
L40A IAmb IAmb 11 27 27.9
comp=Z,169nm,1.1s
L40A **Anamosa** **43.49 348** P **P** **11 27 05.4 -1.3**
baz=164,SNR=24
L40A S **S** **11 33 29.1 -5.0**
baz=164
HRV **Adam Dziewonsk** **43.54 9** P **P** **11 27 07.2 +0.1**
HRV **Adam Dziewonsk** **43.54 9** P **P** **11 27 07.7 +0.5**
baz=193
HRV S **S** **11 33 37.7 +2.8**
baz=193
HRV **Adam Dziewonsk** **43.54 9** P **P** **11 27 08.0 +0.9**
baz=193,SNR=5.9
HRV S **S** **11 33 35.6 +0.7**
baz=193
HRV **Adam Dziewonsk** **43.54 9** ⇑P **P** **11 27 07.6 +0.5**
HRV **Adam Dziewonsk** **43.54 9** P **P** **11 27 07.2 +0.1**
HRV pmax pmax
comp=Z,59nm,1.0s
HRV MLR MLR
comp=Z,6µm,21.0s
T25A **Trinidad** **43.57 332** P **P** **11 27 09.6 +1.8**
baz=144,SNR=14
T25A S **S** **11 33 39.9 +3.9**
baz=144
ALF01 **Guarapari-ES** **43.59 120** *e*P **P** **11 27 07.7 -0.1**
K62A **Royalston** **43.59 9** P **P** **11 27 07.9 +0.4**
K62A **Royalston** **43.59 9** P **P** **11 27 08.1 +0.6**
baz=192,SNR=8.5
K62A P **P** **11 27 08.1 +0.6**
baz=192,SNR=8.5
K62A S **S** **11 33 34.6 -1.0**
baz=192
K62A S **S** **11 33 34.6 -1.0**
baz=192
K43A **Burlington** **43.60 351** P **P** **11 27 05.3 -2.3**
K43A IAmb IAmb 11 27 28.1
comp=Z,110nm,1.1s
K43A IAMs_20 IAMs_20 11 47 27.9
comp=Z,15µm,22.0s
K43A **Burlington** **43.60 351** P **P** **11 27 05.6 -2.0**
baz=168,SNR=12
K43A S **S** **11 33 28.3 -7.5**
baz=168
J54A **Appleton** **43.61 2** P **P** **11 27 06.9 -0.7**
J54A **Appleton** **43.61 2** P **P** **11 27 06.8 -0.8**
baz=182
J54A P **P** **11 27 06.8 -0.8**
baz=182
J54A S **S** **11 33 31.6 -4.1**
baz=182
J54A S **S** **11 33 31.6 -4.1**
baz=182
J55A **Hilton** **43.63 3** P **P** **11 27 07.0 -0.8**
baz=184,SNR=5.4
J55A P **P** **11 27 07.0 -0.8**
baz=184,SNR=5.4
J55A S **S** **11 33 33.0 -3.1**
baz=184
J55A S **S** **11 33 33.0 -3.1**
baz=184
J56A **Wolcott** **43.70 4** P **P** **11 27 07.4 -0.9**
J56A **Wolcott** **43.70 4** P **P** **11 27 08.0 -0.3**
baz=185,SNR=7.6
J56A P **P** **11 27 08.0 -0.3**
baz=185,SNR=7.6
J56A S **S** **11 33 34.7 -2.4**
baz=185
J56A S **S** **11 33 34.7 -2.4**
baz=185
J47A **Sunmer** **43.73 355** IAMs_20 IAMs_20 11 45 50.9
comp=Z,14µm,19.0s
J47A **Sunmer** **43.73 355** P **P** **11 27 07.4 -1.2**
baz=174,SNR=8.4
J47A P **P** **11 27 07.4 -1.2**
baz=174,SNR=8.4
J47A S **S** **11 33 31.8 -5.8**
baz=174
J47A S **S** **11 33 31.8 -5.8**
baz=174
SCIA **State Center** **43.78 346** P **P** **11 27 08.0 -1.0**
baz=161
SCIA S **S** **11 33 32.5 -6.0**
baz=161
SCIA **State Center** **43.78 346** P **P** **11 27 08.3 -0.7**
baz=161
SCIA S **S** **11 33 33.3 -5.1**
baz=161
N33B **J Bar K, Exete** **43.89 341** P **P** **11 27 10.2 +0.2**
baz=155,SNR=8.6
N33B S **S** **11 33 38.8 -1.3**
baz=155
J57A **Williamstown** **43.89 5** P **P** **11 27 09.1 -0.8**
baz=186,SNR=11
J57A P **P** **11 27 09.1 -0.8**
baz=186,SNR=11
J57A S **S** **11 33 33.0 -6.9**
baz=186
J57A S **S** **11 33 33.0 -6.9**
baz=186
N33A **J Bar K, Exete** **43.89 341** P **P** **11 27 10.3 +0.4**
J58A **Remsen** **43.90 5** P **P** **11 27 09.8 -0.2**
baz=187,SNR=10
J58A P **P** **11 27 09.8 -0.2**
baz=187,SNR=10
J58A S **S** **11 33 38.6 -1.6**
baz=187
J58A S **S** **11 33 38.6 -1.6**
baz=187
J59A **Piesco** **44.09 6** P **P** **11 27 10.6 -0.9**
baz=188,SNR=10
J59A P **P** **11 27 10.6 -0.9**
baz=188,SNR=10

J59A S S 11 33 42.9 0.0
baz=188
J59A S S 11 33 42.9 0.0
baz=188
ACCN Adirondack Com 44.10 7 P P 11 27 12.1 +0.5
baz=190,SNR=14
ACCN S S 11 33 43.9 +0.8
baz=190
JFWS Jewell Farm 44.12 350 P P 11 27 10.1 -1.7
baz=166,SNR=32
JFWS S S 11 33 37.5 -5.9
baz=166
JFWS Jewell Farm 44.12 350 P P 11 27 10.4 -1.5
baz=166,SNR=32
JFWS S S 11 33 35.9 -7.5
baz=166
JFWS Jewell Farm 44.12 350 ⇑P P 11 27 10.3 -1.5
J61A Chester 44.21 8 P P 11 27 13.1 +0.6
baz=191,SNR=10
J61A P P 11 27 13.1 +0.6
baz=191,SNR=10
J61A S S 11 33 47.6 +3.0
baz=191
J61A S S 11 33 47.6 +3.0
baz=191
UNH University of 44.23 10 P P 11 27 13.5 +0.9
baz=194,SNR=5.1
UNH S S 11 33 43.2 -1.7
baz=194
AY01 Puyuhuapi 44.27 172 P P 11 27 14.5 +1.6
AY01 IAmb IAmb 11 27 41.0
comp=Z,84nm,1.0s
I49A Point Hope 44.30 357 IAMs_20 IAMs_20 11 46 36.0
comp=Z,13µm,20.0s
I49A Point Hope 44.30 357 P P 11 27 12.2 -1.0
baz=176
I49A P P 11 27 12.2 -1.0
baz=176
I49A S S 11 33 40.5 -5.4
baz=176
I49A S S 11 33 40.5 -5.4
baz=176
KSCO Kaye Shedlock' 44.31 335 P P 11 27 14.5 +0.9
baz=147
KSCO S S 11 33 49.5 +3.0
baz=147
KSCO Kaye Shedlock' 44.31 335 P P 11 27 14.9 +1.4
baz=147
KSCO S S 11 33 49.1 +2.5
baz=147
K38A Parkersburg 44.38 347 P P 11 27 12.5 -1.3
baz=162,SNR=12
K38A S S 11 33 39.5 -7.7
baz=162
ABR01 Abrolhos, BA 44.47 115 eP P 11 27 15.2 +0.3
WCNY West Carthage 44.49 5 P P 11 27 14.8 +0.1
baz=187,SNR=13
WCNY S S 11 33 45.1 -3.5
baz=187
X18A Snowflake 44.52 324 IAMs_20 IAMs_20 11 44 34.7
comp=Z,14µm,19.0s
214A Organ Pipe Nat 44.54 319 IAMs_20 IAMs_20 11 44 27.0
comp=Z,18µm,19.0s
214A Organ Pipe Nat 44.54 319 P P 11 27 17.0 +1.6
baz=130,SNR=20
214A S S 11 33 53.4 +3.5
baz=130
SDCO Great Sand Dun 44.58 331 P P 11 27 17.1 +1.3
baz=143,SNR=30
SDCO S S 11 33 53.4 +2.7
baz=143
SDCO Great Sand Dun 44.58 331 P P 11 27 17.3 +1.4
baz=143,SNR=30
SDCO S S 11 33 52.8 +2.1
baz=143
SDCO Great Sand Dun 44.58 331 ⇑P P 11 27 17.2 +1.4
HNH Hanover 44.60 8 S S 11 33 52.9 +2.6
baz=191
NCB Newcomb 44.62 6 P P 11 27 15.4 -0.3
NCB Newcomb 44.62 6 P P 11 27 15.7 -0.1
baz=189,SNR=8.2
NCB S S 11 33 50.2 -0.4
baz=189
I45A Fountain 44.65 354 IAMs_20 IAMs_20 11 46 58.4
comp=Z,15µm,18.0s
I45A Fountain 44.65 354 P P 11 27 14.3 -1.6
baz=172
I45A P P 11 27 14.3 -1.6
baz=172
L34A Svendsen Farm, 44.68 343 P P 11 27 15.4 -0.9
L34A IAmb IAmb 11 28 08.5
comp=Z,84nm,0.8s
L34A Svendsen Farm, 44.68 343 P P 11 27 15.6 -0.7
baz=157
L34A S S 11 33 47.3 -4.3
baz=157
RCBR Riachuelo 44.69 98 ⇑P P 11 27 16.7 -0.2
RCBR Riachuelo 44.69 98 eP P 11 27 17.1 +0.2
RCBR Riachuelo 44.69 98 LR LR 11 47 05.1
comp=Z,67µm,18.9s,baz=278,slow=38
PIX Pinacate 44.71 319 IAMs_20 IAMs_20 11 44 06.7
comp=Z,11µm,20.0s
BGNE Belgrade 44.72 341 P P 11 27 16.8 +0.1
baz=154
BGNE S S 11 33 51.0 -1.2
baz=154
BGNE Belgrade 44.72 341 P P 11 27 17.2 +0.6
baz=154
BGNE S S 11 33 50.9 -1.4
baz=154
MCVT Middlebury Col 44.75 8 P P 11 27 17.0 +0.3
baz=190,SNR=12
MCVT S S 11 33 50.7 -1.8
baz=190
W18A Petrified Fore 44.81 325 P P 11 27 19.5 +1.8
baz=136,SNR=7.0
W18A S S 11 33 58.4 +4.4
baz=136
I42A Draeger Farm, 44.85 351 IAMs_20 IAMs_20 11 46 35.9
comp=Z,12µm,19.0s
I42A Draeger Farm, 44.85 351 P P 11 27 16.3 -1.3
baz=168,SNR=17
I42A S S 11 33 45.1 -8.9
baz=168
I62A Tamworth 44.91 9 P P 11 27 18.9 +0.8
baz=193,SNR=6.9
I62A P P 11 27 18.9 +0.8
baz=193,SNR=6.9
I62A S S 11 33 55.2 +0.4
baz=193
I62A S S 11 33 55.2 +0.4
baz=193
SADO Sadowa 45.09 1 ⇑P P 11 27 17.9 -1.5
SADO Sadowa 45.09 1 LR LR 11 45 53.6
comp=Z,9µm,21.8s,baz=190,slow=36
I40A Norwalk 45.14 350 P P 11 27 18.5 -1.4
baz=165,SNR=15
I40A S S 11 33 48.9 -9.2
baz=165
VT1 Waterbury 45.15 8 P P 11 27 20.2 +0.2
VT1 IAmb IAmb 11 27 52.1
comp=Z,94nm,1.2s
LBNH Lisbon 45.18 9 P P 11 27 20.8 +0.6
baz=192,SNR=6.6
LBNH S S 11 34 01.3 +2.6
baz=192
LBNH Lisbon 45.18 9 P P 11 27 20.6 +0.4
baz=192,SNR=6.6
LBNH S S 11 33 59.2 +0.5
baz=192
LBNH Lisbon 45.18 9 ⇑P P 11 27 20.9 +0.7
I63A Otisfield 45.21 10 P P 11 27 20.1 -0.3
baz=194,SNR=10
I63A P P 11 27 20.1 -0.3
baz=194,SNR=10
I63A S S 11 34 02.2 +3.1
baz=194
I63A S S 11 34 02.2 +3.1
baz=194
LONY Lake Ozonia 45.22 6 P P 11 27 20.1 -0.5
baz=188,SNR=15
LONY S S 11 33 58.9 -0.4
baz=188
LONY Lake Ozonia 45.22 6 ⇑P P 11 27 20.0 -0.5
S22A 4UR Ranch, Cre 45.22 330 P P 11 27 22.0 +1.0
S22A IAmb IAmb 11 27 33.5
comp=Z,122nm,1.5s
S22A 4UR Ranch, Cre 45.22 330 P P 11 27 22.0 +1.0
baz=141,SNR=12
S22A S S 11 34 04.5 +4.4
baz=141
H43A Windswept, Lux 45.26 353 IAMs_20 IAMs_20 11 47 10.6
comp=Z,14µm,20.0s
H43A Windswept, Lux 45.26 353 P P 11 27 19.8 -1.1
baz=170,SNR=17
GLMI Grayling 45.29 356 IAMs_20 IAMs_20 11 45 46.2
comp=Z,14µm,19.0s
GLMI Grayling 45.29 356 P P 11 27 19.7 -1.4
baz=174,SNR=6.6
GLMI S S 11 33 55.9 -4.3
baz=174
GLMI Grayling 45.29 356 P P 11 27 19.9 -1.2
baz=174,SNR=6.6
GLMI Grayling 45.29 356 ⇑P P 11 27 19.8 -1.4
SFX San Felipe 45.33 317 IAMs_20 IAMs_20 11 45 59.0
comp=Z,11µm,18.0s
COYC Coyhaique 45.47 172 P P 11 27 23.1 +0.6
COYC IAmb IAmb 11 28 17.9
comp=Z,74nm,0.8s
COYC Coyhaique 45.47 172 ⇑P P 11 27 24.2 +1.7
FRNY Flat Rock 45.54 7 P P 11 27 22.9 -0.1
baz=189,SNR=12
FRNY S S 11 34 03.0 -0.9
baz=189
G45A Suttons Bay 45.59 355 P P 11 27 21.8 -1.6
G45A IAMs_20 IAMs_20 11 46 59.2
comp=Z,12µm,20.0s
G45A Suttons Bay 45.59 355 P P 11 27 21.9 -1.5
baz=172,SNR=15
G45A P P 11 27 21.9 -1.5
baz=172,SNR=15
G45A S S 11 33 59.3 -5.3
baz=172
G45A S S 11 33 59.3 -5.3
baz=172
H62A Milan 45.62 9 P P 11 27 24.3 +0.6
baz=193,SNR=6.2
H62A P P 11 27 24.3 +0.6
baz=193,SNR=6.2
H62A S S 11 34 06.7 +1.5
baz=193
H62A S S 11 34 06.7 +1.5
baz=193
MVCO Mesa Verde 45.67 328 P P 11 27 24.9 +0.4
baz=139,SNR=16
MVCO S S 11 34 10.7 +4.2
baz=139
MVCO Mesa Verde 45.67 328 ⇑P P 11 27 25.6 +1.1
113A Mohawk Valley, 45.68 320 IAMs_20 IAMs_20 11 45 00.7
comp=Z,20µm,20.0s
OGNE Ogallala 45.71 337 P P 11 27 25.5 +0.9
baz=149
OGNE S S 11 34 10.3 +3.6
baz=149
OGNE Ogallala 45.71 337 P P 11 27 25.5 +0.9
baz=149
OGNE S S 11 34 10.1 +3.4
baz=149
I37B Waseca 45.83 347 P P 11 27 23.8 -1.5
baz=162,SNR=7.7
WVL Waterville 45.87 11 P P 11 27 26.8 +1.1
baz=195,SNR=6.8
OTT Ottawa 45.89 5 P P 11 27 25.0 -0.7
Y14A Wickenburg 45.95 321 P P 11 27 27.5 +0.9
Y14A IAmb IAmb 11 27 38.8
comp=Z,105nm,1.2s
Y14A IAMs_20 IAMs_20 11 45 20.9
comp=Z,18µm,19.0s
WUAZ Wupatki 46.04 324 P P 11 27 28.4 +1.0
baz=134,SNR=40
WUAZ S S 11 34 16.4 +4.7
baz=134
WUAZ Wupatki 46.04 324 ⇑P P 11 27 29.1 +1.8
MNTQ Montreal, Queb 46.19 7 P P 11 27 27.7 -0.5
MNTQ IAmb IAmb 11 28 46.5
comp=Z,94nm,1.2s
GAC Glen Almond 46.21 5 ⇑P P 11 27 27.6 -0.7
GUVIX Guadalupe Vict 46.25 318 IAMs_20 IAMs_20 11 46 23.3
comp=Z,10µm,19.0s
ISCO Idaho Springs 46.27 333 P P 11 27 30.5 +1.2
baz=144,SNR=10
ISCO S S 11 34 17.9 +2.6
baz=144
ISCO Idaho Springs 46.27 333 P P 11 27 30.3 +1.0
baz=144,SNR=10
ISCO S S 11 34 19.2 +4.0
baz=144
ISCO Idaho Springs 46.27 333 ⇓P P 11 27 30.7 +1.4
K30B Basset 46.34 340 P P 11 27 30.0 +0.6
baz=153,SNR=17
K30B S S 11 34 14.7 -0.9
baz=153
G62A West of Eustis 46.35 10 P P 11 27 29.8 +0.3
G62A West of Eustis 46.35 10 P P 11 27 30.8 +1.3
baz=194,SNR=41
G62A P P 11 27 30.8 +1.3
baz=194,SNR=41
G62A S S 11 34 18.0 +2.4
baz=194
G62A S S 11 34 18.0 +2.4
baz=194
ECSD EROS Data Cent 46.38 344 P P 11 27 28.8 -0.9
ECSD IAmb IAmb 11 27 51.3
comp=Z,109nm,1.4s
ECSD EROS Data Cent 46.38 344 P P 11 27 28.9 -0.9
baz=157,SNR=39
ECSD S S 11 34 13.2 -2.8
baz=157
ECSD EROS Data Cent 46.38 344 P P 11 27 28.8 -0.9
baz=157,SNR=39
ECSD S S 11 34 11.1 -4.9
baz=157
ECSD EROS Data Cent 46.38 344 ⇑P P 11 27 28.7 -0.9
G40A Rib Lake 46.40 350 P P 11 27 28.9 -1.0
G40A IAMs_20 IAMs_20 11 50 38.9
comp=Z,15µm,21.0s
G40A Rib Lake 46.40 350 P P 11 27 28.5 -1.4
baz=166,SNR=23
G40A S S 11 34 11.1 -5.2
baz=166
SMCO Snowmass 46.41 331 P P 11 27 31.6 +1.1
SMCO IAmb IAmb 11 27 59.6
comp=Z,188nm,1.4s
SMCO IAMs_20 IAMs_20 11 47 55.1
comp=Z,12µm,21.0s
SMCO Snowmass 46.41 331 ⇑P P 11 27 40.0 +9.4
EMMW East Machias 46.46 13 S S 11 34 18.7 +1.8
baz=198
F42A Maple Grove Fa 46.57 353 IAMs_20 IAMs_20 11 48 00.4
comp=Z,14µm,19.0s
F42A Maple Grove Fa 46.57 353 P P 11 27 29.9 -1.3
baz=169,SNR=11
F42A S S 11 34 14.2 -4.6
baz=169
PKME Peaks-Kenny Pk 46.62 11 P P 11 27 31.8 +0.4
PKME IAmb IAmb 11 27 33.9
comp=Z,120nm,1.3s
PKME Peaks-Kenny Pk 46.62 11 P P 11 27 32.5 +1.0
baz=195,SNR=13
PKME S S 11 34 19.9 +0.6
baz=195
PKME Peaks-Kenny Pk 46.62 11 P P 11 27 31.9 +0.4
baz=195,SNR=13
PKME S S 11 34 17.7 -1.6
baz=195
PKME Peaks-Kenny Pk 46.62 11 ⇑P P 11 27 32.3 +0.8
UABX UABC, Campus M 46.70 318 IAMs_20 IAMs_20 11 45 08.2
comp=Z,10µm,20.0s
BLYC Blythe 46.79 320 IAMs_20 IAMs_20 11 45 36.6
comp=Z,22µm,22.0s
E46A Sault Ste Mari 46.80 356 IAMs_20 IAMs_20 11 46 42.2
comp=Z,17µm,21.0s
E46A Sault Ste Mari 46.80 356 P P 11 27 31.2 -1.8
baz=174,SNR=9.8
E46A S S 11 34 17.4 -4.5
baz=174
SPMN Marine on St. 46.85 348 P P 11 27 31.8 -1.6
baz=163,SNR=17
SPMN S S 11 34 17.4 -5.3
baz=163
SPMN Marine on St. 46.85 348 P P 11 27 31.5 -1.8
baz=163,SNR=17
SPMN S S 11 34 17.2 -5.5
baz=163
G65A Princeton 46.90 12 P P 11 27 34.2 +0.5
G65A IAmb IAmb 11 27 36.2
comp=Z,116nm,1.4s
G65A IAMs_20 IAMs_20 11 49 43.3
comp=Z,12µm,18.0s
G65A Princeton 46.90 12 P P 11 27 33.4 -0.3
baz=198,SNR=8.3
G65A P P 11 27 33.4 -0.3
baz=198,SNR=8.3
G65A S S 11 34 21.7 -1.6
baz=198
G65A S S 11 34 21.7 -1.6
baz=198
PDMCI Parker Dam,Lak 46.91 321 P P 11 27 36.8 +2.9
baz=130,SNR=6.6
PDMCI S S 11 34 28.2 +4.4
baz=130
GGN Saint George 46.98 13 P P 11 27 34.4 +0.1
GGN IAmb IAmb 11 27 38.7
comp=Z,147nm,1.4s
GGN IAMs_20 IAMs_20 11 49 31.5
comp=Z,10µm,19.0s
YUH Yuha Desert 47.03 318 IAMs_20 IAMs_20 11 45 05.9
comp=Z,13µm,19.0s
E43A Lone Tree Farm 47.05 354 P P 11 27 33.2 -1.6
E43A IAmb IAmb 11 27 45.7
comp=Z,162nm,1.3s
E43A IAMs_20 IAMs_20 11 48 31.8
comp=Z,13µm,18.0s
E43A Lone Tree Farm 47.05 354 P P 11 27 33.5 -1.3
baz=171,SNR=22
E43A S S 11 34 20.7 -4.7
baz=171
F63A Nahmakanta, Br 47.08 11 P P 11 27 35.7 +0.6
baz=195,SNR=7.3
F63A P P 11 27 35.7 +0.6
baz=195,SNR=7.3
F63A S S 11 34 24.3 -1.6
baz=195
F63A S S 11 34 24.3 -1.6
baz=195
RMX La Rumorosa 47.10 318 IAMs_20 IAMs_20 11 45 58.3
comp=Z,13µm,19.0s
F62A Pittston Farm, 47.11 10 P P 11 27 35.5 +0.1
baz=194,SNR=6.0
F62A P P 11 27 35.5 +0.1
baz=194,SNR=6.0
F62A S S 11 34 26.1 -0.2
baz=194
F62A S S 11 34 26.1 -0.2
baz=194
SWSC Sam W. Stewart 47.13 318 P P 11 27 38.4 +2.7
baz=128,SNR=10
SWSC S S 11 34 32.6 +5.6
baz=128
IKP In-Ko-Pah, Jac 47.15 318 P P 11 27 38.4 +2.3
baz=127,SNR=12
IKP S S 11 34 33.3 +5.7
baz=127
W13A Hualapai Mount 47.26 322 P P 11 27 38.4 +1.3
W13A IAmb IAmb 11 27 49.5
comp=Z,93nm,1.1s
W13A IAMs_20 IAMs_20 11 45 51.6
comp=Z,16µm,20.0s
N23A Red Feather La 47.30 334 P P 11 27 37.4 +0.1
baz=144
N23A S S 11 34 32.8 +2.9
baz=144
BC3 Big Chuckawall 47.34 319 P P 11 27 38.2 +0.7
baz=129,SNR=8.5
BC3 S S 11 34 36.1 +5.9
baz=129
F64A Sherman 47.37 11 P P 11 27 37.9 +0.5
F64A IAmb IAmb 11 28 00.3
comp=Z,169nm,1.4s
F64A Sherman 47.37 11 P P 11 27 37.3 -0.1
baz=196,SNR=17
F64A P P 11 27 37.3 -0.1
baz=196,SNR=17
F64A S S 11 34 31.5 +1.4
baz=196
F64A S S 11 34 31.5 +1.4
baz=196
TKX Tecate 47.44 317 IAMs_20 IAMs_20 11 45 18.9
comp=Z,12µm,19.0s
IRM Iron Mountain 47.45 320 P P 11 27 39.8 +1.5
baz=129,SNR=9.5
IRM S S 11 34 37.0 +5.3
baz=129
NEE2 Needles Airpor 47.51 321 P P 11 27 39.2 +0.5
baz=130
NEE2 S S 11 34 36.5 +4.1
baz=130
BAR Barrett 47.55 317 IAMs_20 IAMs_20 11 45 22.8
comp=Z,12µm,19.0s
F36A Milaca 47.61 348 P P 11 27 37.3 -2.0
F36A Milaca 47.61 348 P P 11 27 37.4 -1.9
baz=162,SNR=26
F36A S S 11 34 26.5 -7.0
baz=162
TJX Tijuana 47.71 317 IAMs_20 IAMs_20 11 45 26.6
comp=Z,12µm,21.0s
SUSD Miller 47.71 342 P P 11 27 39.4 -0.8
baz=154,SNR=6.6
SUSD S S 11 34 32.8 -2.2
baz=154
SUSD Miller 47.71 342 P P 11 27 39.7 -0.4
baz=154,SNR=6.6
SUSD S S 11 34 31.4 -3.7
baz=154
O20A White River Ci 47.77 331 IAMs_20 IAMs_20 11 48 37.6
comp=Z,11µm,19.0s
O20A White River Ci 47.77 331 P P 11 27 43.3 +2.4
baz=141,SNR=6.2
O20A S S 11 34 39.6 +3.2
baz=141
E62A Clayton Lake 47.88 10 P P 11 27 42.1 +0.7
E62A IAmb IAmb 11 27 57.7
comp=Z,93nm,1.0s
E62A Clayton Lake 47.88 10 P P 11 27 42.1 +0.7
baz=195,SNR=20
E62A P P 11 27 42.1 +0.7
baz=195,SNR=20
E62A S S 11 34 37.1 -0.3
baz=195
E62A S S 11 34 37.1 -0.3
baz=195
E63A Oxbow 47.90 11 P P 11 27 42.3 +0.8
baz=196,SNR=17
E63A P P 11 27 42.3 +0.8
baz=196,SNR=17
E63A S S 11 34 38.8 +1.3
baz=196
E63A S S 11 34 38.8 +1.3
baz=196
BELC Belle Mtn. Jos 47.90 319 P P 11 27 44.3 +2.4
baz=128,SNR=10
BELC S S 11 34 41.4 +3.0
baz=128
D41A Chassel 47.91 352 IAMs_20 IAMs_20 11 48 50.3
comp=Z,16µm,20.0s
D41A Chassel 47.91 352 P P 11 27 40.9 -0.7
baz=169,SNR=30
D41A S S 11 34 33.9 -3.8
baz=169
PKCU Pink Cliffs 47.92 325 IAMs_20 IAMs_20 11 47 15.9
comp=Z,18µm,19.0s
E38A The Farm, Brul 47.93 350 IAMs_20 IAMs_20 11 51 49.0
comp=Z,15µm,20.0s
E38A The Farm, Brul 47.93 350 P P 11 27 40.2 -1.6
baz=165,SNR=10
E38A S S 11 34 33.4 -4.6
baz=165
PMD Palm Desert 47.94 319 IAMs_20 IAMs_20 11 45 45.5
comp=Z,13µm,19.0s
TPFO Pinon Flats 47.96 319 P P 11 27 45.1 +2.7
baz=128,SNR=12
TPFO S S 11 34 41.9 +2.7
baz=128
109C Camp Elliot, M 47.97 317 P P 11 27 43.2 +1.0
109C IAMs_20 IAMs_20 11 45 34.4
comp=Z,13µm,19.0s
109C Camp Elliot, M 47.97 317 P P 11 27 44.7 +2.4
baz=126,SNR=14
109C S S 11 34 40.5 +1.5
baz=126
PFO Pinyon Flats O 47.97 319 P P 11 27 44.3 +1.8
PFO IAmb IAmb 11 27 54.8
comp=Z,116nm,1.2s

PFO Pinyon Flats O 47.97 319 IAMs_20 IAMs_20 11 45 53.3
comp=Z,12µm,19.0s
PFO Pinyon Flats O 47.97 319 P P 11 27 45.2 +2.7
baz=128,SNR=32
PFO S S 11 34 41.9 +2.6
baz=128
PFO Pinyon Flats O 47.97 319 *i* P P 11 27 44.5 +2.1
PFO pmax pmax
comp=Z,110nm,1.1s
PFO MLR MLR
comp=Z,14µm,17.0s
PFO Pinyon Flats O 47.97 319 LR LR 11 46 06.4
comp=Z,13µm,19.2s,baz=127,slow=34
SRU San Rafael Swe 48.15 328 P P 11 27 44.5 +0.7
SRU IAMs_20 IAMs_20 11 47 38.7
comp=Z,15µm,18.0s
SRU San Rafael Swe 48.15 328 P P 11 27 44.5 +0.7
SRU pmax pmax
comp=Z,184nm,1.2s
SRU MLR MLR
comp=Z,15µm,18.0s
LMN Caledonia Moun 48.16 15 P P 11 27 44.2 +0.6
LCMT Little Creek M 48.16 324 P P 11 27 45.1 +1.2
LCMT IAmb IAmb 11 27 56.4
comp=Z,100nm,1.4s
GMRC Granite Mounta 48.17 320 P P 11 27 47.4 +3.4
baz=129,SNR=12
GMRC S S 11 34 46.7 +4.6
baz=129
PQI Presque Isle 48.21 11 P P 11 27 44.4 +0.5
PQI IAmb IAmb 11 27 46.2
comp=Z,137nm,1.5s
F33A 5 Mile Ranch, 48.24 345 P P 11 27 42.3 -1.8
F33A IAmb IAmb 11 28 01.1
comp=Z,66nm,1.2s
F33A 5 Mile Ranch, 48.24 345 P P 11 27 42.8 -1.4
baz=158,SNR=17
F33A S S 11 34 37.7 -4.8
baz=158
V12A Nelson 48.27 322 IAMs_20 IAMs_20 11 46 09.2
comp=Z,13µm,21.0s
MTPU Mount Pierson 48.27 326 IAMs_20 IAMs_20 11 48 09.1
comp=Z,14µm,18.0s
P18A Preston Nutter 48.39 329 IAMs_20 IAMs_20 11 48 02.9
comp=Z,17µm,18.0s
D62A Allapoint, All 48.41 10 P P 11 27 45.8 +0.3
D62A Allapoint, All 48.41 10 P P 11 27 46.0 +0.5
baz=195,SNR=37
D62A P P 11 27 46.0 +0.5
baz=195,SNR=37
D62A S S 11 34 44.4 -0.4
baz=195
D62A S S 11 34 44.4 -0.4
baz=195
MURC Murrieta 48.45 318 P P 11 27 48.7 +2.6
baz=127,SNR=12
MURC S S 11 34 50.7 +4.8
baz=127
VLDQ Val d'Or 48.49 3 P P 11 27 44.3 -1.7
VLDQ IAMs_20 IAMs_20 11 47 45.9
comp=Z,10µm,20.0s
RWWY Rawlins 48.51 333 IAMs_20 IAMs_20 11 51 11.0
comp=Z,10µm,18.0s
P17A Butcher Ranch, 48.53 329 IAMs_20 IAMs_20 11 47 50.7
comp=Z,15µm,18.0s
ELS Elsinore Mount 48.63 318 IAMs_20 IAMs_20 11 47 49.0
comp=Z,11µm,19.0s
HEC Hector,Ludlow 48.64 320 P P 11 27 49.8 +2.3
baz=129,SNR=11
HEC S S 11 34 52.6 +4.0
baz=129
LMQ La Malbaie 48.65 9 P P 11 27 47.4 +0.1
LMQ IAmb IAmb 11 28 03.5
comp=Z,82nm,1.1s
BBRC Big Bear Solar 48.67 319 P P 11 27 50.2 +2.3
baz=128,SNR=6.4
BBRC S S 11 34 55.1 +5.8
baz=128
TUQ Turquoise Moun 48.75 321 P P 11 27 51.3 +2.8
baz=129,SNR=10.0
TUQ S S 11 34 54.4 +4.1
baz=129
TCRU Three Creeks R 48.82 326 IAMs_20 IAMs_20 11 48 37.6
comp=Z,12µm,18.0s
LDAQ Lac Daran 48.92 8 P P 11 27 49.0 -0.4
LDAQ IAmb IAmb 11 28 15.5
comp=Z,98nm,1.1s
K22A Casper 48.98 334 P P 11 27 51.0 +0.9
baz=144
K22A S S 11 34 57.2 +3.9
baz=144
K22A Casper 48.98 334 P P 11 27 50.7 +0.6
baz=144
K22A S S 11 34 55.4 +2.0
baz=144
RRX Edison Barstow 49.09 320 P P 11 27 53.0 +2.0
baz=128,SNR=5.6
RRX S S 11 34 59.3 +4.4
baz=128
BFSC Mount Baldy Ra 49.14 318 P P 11 27 54.5 +3.1
baz=127,SNR=12
BFSC S S 11 35 01.5 +5.7
baz=127
CIS Catalina Islan 49.16 317 P P 11 27 53.8 +2.3
baz=126,SNR=14
CIS S S 11 34 59.7 +3.9
baz=126
RSSD Black Hills 49.19 338 P P 11 27 52.7 +0.9
RSSD IAmb IAmb 11 28 08.0
comp=Z,79nm,1.0s
RSSD Black Hills 49.19 338 P P 11 27 52.7 +0.9
baz=148
RSSD S S 11 35 00.7 +4.3
baz=148
RSSD Black Hills 49.19 338 P P 11 27 53.2 +1.5
baz=148,SNR=14
RSSD S S 11 34 59.4 +3.0
baz=148
RSSD Black Hills 49.19 338 ⇑P P 11 27 52.8 +1.0
RSSD Black Hills 49.19 338 P P 11 27 52.7 +1.0
RSSD pmax pmax
comp=Z,79nm,1.0s
RSSD MLR MLR
comp=Z,6µm,19.0s
BATG Bathurst New B 49.20 13 P P 11 27 52.0 +0.5
BATG IAmb IAmb 11 27 53.0
comp=Z,84nm,1.1s
EYMN Ely 49.22 350 P P 11 27 50.2 -1.4
EYMN IAmb IAmb 11 28 44.8
comp=Z,115nm,1.6s
EYMN Ely 49.22 350 IAMs_20 IAMs_20 11 52 35.0
comp=Z,10µm,21.0s
EYMN Ely 49.22 350 P P 11 27 50.3 -1.4
baz=165,SNR=10.0
EYMN S S 11 34 52.7 -3.5
baz=165
EYMN Ely 49.22 350 P P 11 27 50.1 -1.5
baz=165,SNR=10.0
EYMN S S 11 34 50.2 -5.9
baz=165
EYMN Ely 49.22 350 ⇑P P 11 27 50.2 -1.4
GSC Goldstone, Bar 49.23 320 P P 11 27 52.9 +0.8
GSC IAmb IAmb 11 28 04.5
comp=Z,89nm,1.2s
GSC IAMs_20 IAMs_20 11 47 18.7
comp=Z,16µm,20.0s
GSC Goldstone, Bar 49.23 320 P P 11 27 52.8 +0.7
baz=128,SNR=8.5
GSC S S 11 35 01.3 +4.3
baz=128
GSC Goldstone, Bar 49.23 320 P P 11 27 52.9 +0.8
GSC pmax pmax
comp=Z,89nm,1.2s
FMP Fort Macarthur 49.26 317 P P 11 27 53.0 +0.8
baz=126
FMP S S 11 35 02.3 +5.2
baz=126
BSUT Blindstream Ca 49.33 329 P P 11 27 53.8 +0.7
BSUT IAmb IAmb 11 28 05.2
comp=Z,135nm,1.2s
BSUT IAMs_20 IAMs_20 11 48 27.8
comp=Z,12µm,18.0s
MPU Maple Canyon 49.39 328 IAMs_20 IAMs_20 11 48 05.6
comp=Z,15µm,20.0s
PASC Pasadena Art C 49.45 318 IAMs_20 IAMs_20 11 46 31.7
comp=Z,10µm,21.0s
PRN Pahroc Range 49.49 323 ⇓P P 11 27 56.1 +2.0
PRN ⇑P pP 11 28 01.1 -0.1
PRN ⇑sP sP 11 28 05.8 +1.8
PRN ⇓sP sP 11 28 06.2 +2.3
DECC Green Verdugo 49.60 318 P P 11 27 57.2 +2.4
baz=126,SNR=13
DECC S S 11 35 07.3 +5.2
baz=126
D32A Dogwood Acres, 49.63 345 IAMs_20 IAMs_20 11 52 45.1
comp=Z,9µm,19.0s
D32B Dogwood Acres, 49.63 345 S S 11 34 57.5 -4.5
baz=158
QSM Queen of Sheba 49.68 321 IAMs_20 IAMs_20 11 47 24.7
comp=Z,15µm,22.0s
GWY Greenwater Val 49.70 321 IAMs_20 IAMs_20 11 47 25.0
comp=Z,14µm,20.0s
JLU Jordanelle 49.73 329 IAMs_20 IAMs_20 11 48 41.4
comp=Z,15µm,19.0s
EDW2 Edwards Air Fo 49.75 319 P P 11 27 58.4 +2.4
baz=127,SNR=14
EDW2 S S 11 35 08.4 +4.2
baz=127
SNCC San Nicolas Is 49.83 316 P P 11 27 57.3 +0.7
baz=124
SNCC S S 11 35 08.1 +2.8
baz=124
LRMC Laurel Mtn Rad 49.91 320 P P 11 28 00.4 +3.1
baz=128,SNR=9.3
LRMC S S 11 35 09.1 +2.7
baz=128
TPNV Topopah Spring 49.92 322 IAMs_20 IAMs_20 11 48 11.9
comp=Z,9µm,20.0s
TPNV Topopah Spring 49.92 322 P P 11 28 00.6 +3.2
baz=130,SNR=10
TPNV S S 11 35 11.6 +4.9
baz=130
TPNV Topopah Spring 49.92 322 ⇑P P 11 28 00.1 +2.7
CCAC Calif City Air 49.92 319 IAMs_20 IAMs_20 11 47 19.1
comp=Z,14µm,19.0s
CTU Camp Tracy 49.95 329 IAMs_20 IAMs_20 11 48 36.3
comp=Z,12µm,20.0s
FURC Furnace Creek, 49.99 321 P P 11 28 00.5 +2.8
baz=129,SNR=9.7
FURC S S 11 35 11.2 +3.9
baz=129
B35A Bob, Littlefor 50.03 348 P P 11 27 56.2 -1.6
B35A IAMs_20 IAMs_20 11 53 08.6
comp=Z,13µm,21.0s
B35A Bob, Littlefor 50.03 348 P P 11 27 56.7 -1.1
baz=162,SNR=10
B35A S S 11 35 01.7 -5.8
baz=162
WCT Wildcat Mounta 50.05 322 P P 11 27 59.8 +1.5
WCT IAmb IAmb 11 28 12.6
comp=Z,122nm,1.2s
WCT IAMs_20 IAMs_20 11 48 04.4
comp=Z,14µm,20.0s
S11A Rachel 50.07 323 IAMs_20 IAMs_20 11 47 35.7
comp=Z,11µm,20.0s
OSI Osito Audit: C 50.07 318 P P 11 28 01.1 +2.6
baz=126,SNR=8.8
OSI S S 11 35 12.2 +3.5
baz=126
TCUT Toone Canyon 50.09 329 IAMs_20 IAMs_20 11 48 59.9
comp=Z,15µm,18.0s
MPMC Manual Prospec 50.13 320 P P 11 27 60.0 +0.9
baz=128,SNR=15
MPMC S S 11 35 13.7 +3.8
baz=128
DUG Dugway, Tooele 50.15 328 P P 11 28 00.3 +1.3
baz=136,SNR=13
DUG S S 11 35 15.7 +5.9
baz=136
DUG Dugway, Tooele 50.15 328 ⇓P P 11 28 00.6 +1.5
E28A Huff 50.17 342 P P 11 27 59.5 +0.6
baz=153,SNR=60
E28A S S 11 35 08.8 -0.7
baz=153
SCZ2 Santa Cruz Isl 50.33 317 P P 11 28 01.3 +0.9
baz=125,SNR=5.4
SCZ2 S S 11 35 14.2 +1.9
baz=125
AGMN Agassiz Nation 50.43 347 P P 11 27 59.5 -1.4
AGMN IAmb IAmb 11 29 29.9
comp=Z,77nm,1.1s
AGMN Agassiz Nation 50.43 347 P P 11 28 00.3 -0.6
baz=160,SNR=19
AGMN S S 11 35 08.3 -4.8
baz=160
AGMN Agassiz Nation 50.43 347 P P 11 28 00.1 -0.8
baz=160,SNR=19
AGMN S S 11 35 07.8 -5.3
baz=160
AGMN Agassiz Nation 50.43 347 ⇑P P 11 27 60.0 -0.9
BW06 Boulder Array 50.43 332 P P 11 28 00.7 -0.6
BW06 IAMs_20 IAMs_20 11 49 46.0
comp=Z,15µm,20.0s
BW06 Boulder Array 50.43 332 P P 11 28 01.5 +0.2
baz=141,SNR=6.5
BW06 S S 11 35 14.7 +0.9
baz=141
BW06 Boulder Array 50.43 332 ⇑sP sP 11 28 11.5 +0.3
PD31 Pinedale Array 50.43 332 P P 11 28 00.9 -0.4
PDAR Pinedale Array 50.43 332 P P 11 28 01.3 0.0
comp=Z,1.0nm,0.8s,baz=140,slow=7.2,SNR=13
PDAR S S 11 35 13.1 -0.8
comp=Z,0.2nm,0.7s,baz=121,slow=11,SNR=1.5
PDAR LR LR 11 50 06.8
comp=Z,12µm,19.5s,baz=146,slow=37
R11B Troy Canyon, C 50.44 324 P P 11 28 01.8 +0.5
R11B Troy Canyon, C 50.44 324 P P 11 28 02.6 +1.3
baz=132,SNR=9.1
R11B S S 11 35 19.6 +5.8
baz=132
ARVC Arvin 50.45 319 P P 11 28 02.2 +0.9
baz=126,SNR=10
ARVC S S 11 35 19.2 +5.4
baz=126
HWUT Hardware Ranch 50.53 330 IAMs_20 IAMs_20 11 49 15.6
comp=Z,16µm,19.0s
ISA Isabella, Lake 50.53 319 IAMs_20 IAMs_20 11 47 38.1
comp=Z,14µm,20.0s
ISA Isabella, Lake 50.53 319 P P 11 28 04.1 +2.1
baz=127,SNR=12
ISA S S 11 35 20.7 +5.7
baz=127
SBC Santa Barbara 50.64 317 P P 11 28 03.3 +0.6
baz=125
SBC S S 11 35 21.1 +4.7
baz=125
GRAC Grapevine Rang 50.64 321 IAMs_20 IAMs_20 11 47 57.0
comp=Z,11µm,22.0s
GRAC Grapevine Rang 50.64 321 P P 11 28 04.1 +1.4
baz=129,SNR=12
GRAC S S 11 35 22.1 +5.6
baz=129
BCW Bitter Crk WRg 50.72 318 IAMs_20 IAMs_20 11 47 20.3
comp=Z,12µm,19.0s
CWC Cottonwood Cre 50.75 320 P P 11 28 04.5 +0.8
baz=128
CWC S S 11 35 22.4 +4.2
baz=128
SPUT South Promonto 50.76 329 IAMs_20 IAMs_20 11 49 00.8
comp=Z,13µm,20.0s
PKM Mcpherson Peak 50.96 318 P P 11 28 06.3 +0.9
baz=125,SNR=13
PKM S S 11 35 25.3 +4.0
baz=125
MDND Maddock 50.99 343 P P 11 28 05.4 +0.3
MDND Maddock 50.99 343 P P 11 28 05.7 +0.6
baz=155,SNR=51
MDND S S 11 35 19.4 -1.5
baz=155
MDND Maddock 50.99 343 P P 11 28 05.6 +0.6
baz=155,SNR=51
MDND S S 11 35 19.1 -1.7
baz=155
VES Vestal, Richgr 51.03 319 P P 11 28 06.6 +1.0
baz=126,SNR=9.2
VES S S 11 35 27.7 +5.9
baz=126
GO09 Cerro Castillo 51.04 174 IAMs_20 IAMs_20 11 47 29.8
comp=Z,8µm,19.0s
AHID Auburn Hatcher 51.16 331 P P 11 28 07.1 +0.3
AHID IAmb IAmb 11 29 03.4
comp=Z,93nm,1.3s
AHID IAMs_20 IAMs_20 11 50 35.1
comp=Z,10µm,18.0s
AHID Auburn Hatcher 51.16 331 ⇑P P 11 28 14.0 +7.3
TIN Tinemaha, Big 51.22 321 P P 11 28 09.1 +2.0
baz=128,SNR=9.0
TIN S S 11 35 28.7 +4.1
baz=128
TPH Tonopah 51.23 323 P P 11 28 08.5 +1.1
TPH Tonopah 51.23 323 P P 11 28 08.5 +1.1
TPH pmax pmax
comp=Z,470nm,1.0s
HVU Hansel Valley 51.27 329 IAMs_20 IAMs_20 11 49 26.3
comp=Z,13µm,20.0s
SMMC Simmler 51.33 318 P P 11 28 10.4 +2.5
baz=125,SNR=11
SMMC S S 11 35 32.2 +6.2
baz=125
VOG Valley Oaks Go 51.51 319 P P 11 28 10.4 +1.2
baz=126
VOG S S 11 35 33.2 +4.7
baz=126
SNOW Snow King Moun 51.53 332 P P 11 28 09.8 +0.2
SNOW IAmb IAmb 11 28 34.4
comp=Z,111nm,1.3s
SNOW IAMs_20 IAMs_20 11 50 48.9
comp=Z,12µm,18.0s
LOHW Long Hollow 51.57 332 IAMs_20 IAMs_20 11 50 18.1
comp=Z,9µm,22.0s
TPAW Teton Pass 51.64 332 IAMs_20 IAMs_20 11 50 50.1
comp=Z,10µm,18.0s
MOOW Moose Ponds 51.74 332 IAMs_20 IAMs_20 11 51 06.6
comp=Z,13µm,18.0s
ELK Elko 51.85 326 ⇓P P 11 28 13.3 +1.3
ELK Elko 51.85 326 LR LR 11 50 04.8
comp=Z,22µm,18.3s,baz=138,slow=36
IMW Indian Meadow 51.95 332 IAMs_20 IAMs_20 11 51 04.0
comp=Z,11µm,18.0s
MLAC Mammoth, Mammo 51.95 321 P P 11 28 13.5 +0.7
baz=128,SNR=8.5
MLAC S S 11 35 38.8 +3.8
baz=128
FLWY Flagg Ranch 51.98 332 IAMs_20 IAMs_20 11 51 16.8
comp=Z,16µm,18.0s
NV11 Mina Array Sit 52.03 322 IAMs_20 IAMs_20 11 49 53.7
comp=Z,9µm,20.0s
OMMB Old Mammoth Mi 52.05 321 IAMs_20 IAMs_20 11 48 53.2
comp=Z,10µm,21.0s
MDPB Devils Postpil 52.11 321 IAMs_20 IAMs_20 11 49 05.8
comp=Z,10µm,21.0s
NVAR Mina Array Bea 52.12 322 P P 11 28 14.9 +0.9
comp=Z,5.9nm,0.8s,baz=133,slow=6.5,SNR=17
NVAR LR LR 11 48 19.0
comp=Z,9µm,21.3s,baz=127,slow=34
comp=Z,5.9nm,0.8s
LHV Little Huntoon 52.13 322 IAMs_20 IAMs_20 11 49 31.4
comp=Z,13µm,20.0s
RLMT Red Lodge 52.15 334 P P 11 28 14.6 +0.6
baz=142
RLMT S S 11 35 37.6 +0.2
baz=142
H17A Grant Village 52.16 333 P P 11 28 15.5 +1.3
baz=140
H17A S S 11 35 40.9 +3.2
baz=140
LAO LASA Array 52.18 338 P P 11 28 14.4 +0.3
LAO IAMs_20 IAMs_20 11 52 27.8
comp=Z,10µm,20.0s
LAO LASA Array 52.18 338 P P 11 28 14.4 +0.3
baz=146,SNR=8.9
LAO S S 11 35 38.8 +1.3
baz=146
LAO LASA Array 52.18 338 P P 11 28 14.3 +0.2
baz=146,SNR=8.9
LAO S S 11 35 38.7 +1.3
baz=146
LAO LASA Array 52.18 338 ⇑P P 11 28 14.3 +0.2
YMP Mirror Lake Pl 52.24 333 IAMs_20 IAMs_20 11 51 10.7
comp=Z,10µm,19.0s
ULM Lac du Bonnet 52.27 347 P P 11 28 13.0 -1.6
ULM IAmb IAmb 11 28 14.9
comp=Z,88nm,1.0s
ULM IAMs_20 IAMs_20 11 54 38.9
comp=Z,10µm,20.0s
ULM Lac du Bonnet 52.27 347 *c i* P P 11 28 13.6 -1.0
ULM Lac du Bonnet 52.27 347 P P 11 28 13.7 -0.9
comp=Z,53nm,0.8s,baz=157,slow=7.7,SNR=99
ULM S S 11 35 33.2 -5.2
comp=Z,2.7nm,0.8s,baz=246,slow=18,SNR=2.1
comp=Z,53nm,0.8s
YFT Old Faithful 52.32 333 IAMs_20 IAMs_20 11 53 47.0
comp=Z,15µm,19.0s
PMPB Monarch Peak 52.38 319 IAMs_20 IAMs_20 11 48 24.2
comp=Z,10µm,20.0s
KVN Kaiserville 52.39 323 IAMs_20 IAMs_20 11 48 13.1
comp=Z,9µm,21.0s
YNR Norris Junctio 52.46 333 IAMs_20 IAMs_20 11 51 05.4
comp=Z,16µm,19.0s
YNM Yellowstone No 52.48 333 IAMs_20 IAMs_20 11 51 06.0
comp=Z,15µm,20.0s
BBGB Big Mountain B 52.75 319 IAMs_20 IAMs_20 11 48 46.8
comp=Z,12µm,21.0s
BMN Battle Mountai 52.76 325 P P 11 28 19.6 +1.0
BMN Battle Mountai 52.76 325 P P 11 28 19.6 +1.0
BMN pmax pmax
comp=Z,233nm,1.2s
BMN MLR MLR
comp=Z,20µm,18.0s
WAKR Walker 52.86 322 IAMs_20 IAMs_20 11 49 44.8
comp=Z,15µm,21.0s
MG02 Cerro Sombrero 52.92 172 IAMs_20 IAMs_20 11 48 36.5
comp=Z,9µm,19.0s
DGMT Dagmar 52.97 340 P P 11 28 20.4 +0.6
DGMT IAmb IAmb 11 28 42.3
comp=Z,69nm,0.9s
DGMT Dagmar 52.97 340 P P 11 28 20.5 +0.6
baz=150,SNR=7.9
DGMT S S 11 35 52.0 +3.9
baz=150
DGMT Dagmar 52.97 340 P P 11 28 21.0 +1.1
baz=150,SNR=7.9
DGMT S S 11 35 50.5 +2.4
baz=150
DGMT Dagmar 52.97 340 ⇑P P 11 28 20.7 +0.9
YERR Yerington 53.04 322 IAMs_20 IAMs_20 11 50 11.4
comp=Z,8µm,19.0s
SAO San Andreas Ge 53.12 319 IAMs_20 IAMs_20 11 49 06.8
comp=Z,12µm,19.0s
SAO San Andreas Ge 53.12 319 ⇑sP sP 11 28 32.1 +1.1
CMB Columbia Colle 53.17 321 IAMs_20 IAMs_20 11 49 23.1
comp=Z,9µm,20.0s
PNTR Pine Nut 53.32 322 IAMs_20 IAMs_20 11 50 10.9
comp=Z,8µm,19.0s
DRLN Deer Lake 53.34 19 P P 11 28 22.1 -0.4
DRLN IAmb IAmb 11 29 00.5
comp=Z,111nm,1.2s
DRLN IAMs_20 IAMs_20 11 49 28.0
comp=Z,11µm,21.0s
DRLN Deer Lake 53.34 19 ⇑P P 11 28 22.8 +0.3
DRLN ⇑P P 11 28 22.9 +0.3
HLID Hailey 53.39 330 P P 11 28 24.1 +0.9
baz=136,SNR=28
HLID S S 11 35 59.1 +4.8
baz=136
HLID Hailey 53.39 330 ⇑P P 11 28 24.1 +0.9
HLID ⇑P pP 11 28 30.4 0.0
HLID ⇓sP sP 11 28 32.4 -0.7
EMB Emerald Bay 53.56 322 IAMs_20 IAMs_20 11 50 05.3
comp=Z,15µm,21.0s
BOZ Bozeman (W) 53.56 333 P P 11 28 25.1 +0.6
BOZ IAMs_20 IAMs_20 11 51 35.5
comp=Z,10µm,21.0s
BOZ Bozeman (W) 53.56 333 P P 11 28 25.3 +0.8
baz=140,SNR=79
BOZ S S 11 35 59.5 +3.0
baz=140
BOZ Bozeman (W) 53.56 333 ⇑P P 11 28 25.2 +0.8
BOZ ⇑P pP 11 28 32.8 +1.2
BOZ ⇑p pP 11 28 32.9 +1.2
BOZ Bozeman (W) 53.56 333 P P 11 28 25.1 +0.6
BOZ pmax pmax
comp=Z,65nm,1.1s
BOZ MLR MLR
comp=Z,10µm,21.0s
PAHR Pah Rah Range 53.57 323 IAMs_20 IAMs_20 11 50 53.6
comp=Z,9µm,20.0s
MPK Martis Peak 53.71 322 IAMs_20 IAMs_20 11 50 23.3
comp=Z,13µm,20.0s
MFID Camas Ranch 54.02 329 P P 11 28 28.0 +0.2
MFID IAmb IAmb 11 29 06.8
comp=Z,73nm,1.0s

MFID IAMs_20 IAMs_20 11 52 11.9
comp=Z,10µm,18.0s
AFDM Forest Hills D 54.09 321 IAMs_20 IAMs_20 11 49 55.1
comp=Z,8µm,20.0s
PLTX Planet X, Gerl 54.25 324 IAMs_20 IAMs_20 11 51 16.3
comp=Z,9µm,18.0s
EFI East Falkland 54.35 163 P **P** **11 28 31.4 +1.5**
EFI East Falkland 54.35 163 IAMs_20 IAMs_20 11 53 45.3
comp=Z,10µm,20.0s
EFI East Falkland 54.35 163*ce*P **P** **11 28 31.2 +1.4**
EFI pmax pmax
comp=Z,322nm,1.2s
EFI MLR MLR
comp=Z,9µm,18.0s
ELMT Elliston 54.66 333 P **P** **11 28 33.3 +0.8**
EGMT Eagleton 54.66 336 P **P** **11 28 32.3 0.0**
EGMT IAmb IAmb 11 28 55.1
comp=Z,137nm,1.3s
EGMT Eagleton 54.66 336 P **P** **11 28 33.0 +0.7**
baz=143,SNR=40
EGMT S **S** **11 36 13.5 +2.3**
baz=143
EGMT Eagleton 54.66 336 ⇑P **P** **11 28 32.8 +0.5**
EGMT ⇑P **P** **11 28 33.0 +0.7**
EGMT ⇑P **sP** **11 28 39.9 -2.3**
BEMT Mount Belmont 54.76 334 P **P** **11 28 33.9 +0.7**
ORV Oroville 54.78 321 P **P** **11 28 34.1 +0.9**
ORV IAMs_20 IAMs_20 11 50 18.1
comp=Z,9µm,21.0s
ORV Oroville 54.78 321 P **P** **11 28 34.2 +0.9**
ORV pmax pmax
comp=Z,220nm,1.2s
MCCM Marconi Confer 54.84 319 IAMs_20 IAMs_20 11 50 10.3
comp=Z,12µm,19.0s
WVOR Wild Horse Val 54.88 326 ⇑P P 11 28 42.7 +8.6
WVOR ⇓sP sP 11 28 43.3 -0.7
LYMT Lyon Mountain 54.91 334 P **P** **11 28 34.6 +0.3**
BPMT Black Pine Rid 55.03 333 P **P** **11 28 35.3 +0.1**
USHA Ushuaia 55.03 172 LR LR 11 50 02.1
comp=Z,8µm,18.2s,baz=6.5,slow=34
MG01 Puerto William 55.25 171 IAMs_20 IAMs_20 11 50 45.3
comp=Z,10µm,18.0s
PLID Pearl Lake 55.28 330 P **P** **11 28 37.3 +0.3**
PLID IAMs_20 IAMs_20 11 52 30.0
comp=Z,10µm,18.0s
OVMT Ovando 55.29 333 P **P** **11 28 37.2 +0.2**
MSO Missoula 55.55 333 P **P** **11 28 39.2 +0.5**
MSO IAmb IAmb 11 28 51.3
comp=Z,95nm,1.4s
MSO IAMs_20 IAMs_20 11 52 52.0
comp=Z,16µm,20.0s
MSO Missoula 55.55 333 P **P** **11 28 39.1 +0.3**
baz=138,SNR=42
MSO S **S** **11 36 24.4 +1.3**
baz=138
MSO Missoula 55.55 333 ⇓P **P** **11 28 39.8 +1.0**
MSO ⇑P **pP** **11 28 47.0 +1.1**
MSO ⇑sP **sP** **11 28 49.8 +1.0**
BMO Blue Mountains 55.78 329 IAMs_20 IAMs_20 11 53 15.3
comp=Z,11µm,19.0s
BMO Blue Mountains 55.78 329 ⇓P **P** **11 28 40.5 0.0**
BMO ⇓P **pP** **11 28 48.5 +0.9**
BMO ⇓p **sP** **11 28 48.7 -1.7**
KCPM Cahto Peak 56.16 320 IAMs_20 IAMs_20 11 51 07.8
comp=Z,11µm,20.0s
SCHQ Schefferville 56.26 9 P **P** **11 28 43.0 -0.7**
SCHQ IAmb IAmb 11 28 55.0
comp=Z,72nm,1.1s
SCHQ Schefferville 56.26 9 P **P** **11 28 42.5 -1.2**
comp=Z,37nm,1.1s,baz=192,slow=6.0,SNR=20
SCHQ S **S** **11 36 27.8 -4.4**
comp=Z,1.7nm,0.7s,baz=292,slow=19,SNR=1.2
SCHQ LR LR 11 54 22.0
comp=Z,6µm,19.8s,baz=200,slow=38
comp=Z,37nm,1.1s
K05A Summer Lake 56.34 325 IAMs_20 IAMs_20 11 52 20.4
comp=Z,9µm,19.0s
F10A Beach Ranch, E 56.51 330 IAMs_20 IAMs_20 11 54 15.3
comp=Z,12µm,19.0s
KMRM Mail Ridge 56.55 321 IAMs_20 IAMs_20 11 51 44.6
comp=Z,13µm,19.0s
YBH Yreka Blue Hor 56.81 323 IAMs_20 IAMs_20 11 52 13.8
comp=Z,7µm,21.0s
YBH Yreka Blue Hor 56.81 323 LR LR 11 52 25.6
comp=Z,8µm,21.3s,baz=136,slow=35
KMPM Mount Pierce 56.92 321 IAMs_20 IAMs_20 11 51 34.7
comp=Z,13µm,19.0s
KHMM Horse Mountain 56.93 322 IAMs_20 IAMs_20 11 52 26.2
comp=Z,9µm,19.0s
G08A Pilot Rock 56.94 328 P **P** **11 28 49.6 +0.9**
G08A IAmb IAmb 11 29 01.3
comp=Z,100nm,1.1s
G08A IAMs_20 IAMs_20 11 53 13.0
comp=Z,14µm,19.0s
PINE Pine Mountain 57.04 326 IAMs_20 IAMs_20 11 52 03.8
comp=Z,11µm,22.0s
JCC Jacoby Creek, 57.09 321 IAMs_20 IAMs_20 11 52 04.2
comp=Z,9µm,20.0s
KRPM Rodgers 57.28 322 IAMs_20 IAMs_20 11 52 36.2
comp=Z,8µm,20.0s
E09A Wood Farm, Sta 57.35 330 P **P** **11 28 52.3 +0.8**
E09A IAmb IAmb 11 29 03.1
comp=Z,85nm,1.2s
E09A IAMs_20 IAMs_20 11 53 44.8
comp=Z,9µm,18.0s
L02F Cave Junction 57.56 323 IAMs_20 IAMs_20 11 52 58.6
comp=Z,14µm,20.0s
KSXB Camp Six Broad 57.57 322 IAMs_20 IAMs_20 11 53 27.0
comp=Z,9µm,20.0s
I05D Terrebonne, OR 57.61 326 IAMs_20 IAMs_20 11 52 42.8
comp=Z,8µm,21.0s
E08A Dider Farm, El 57.80 329 IAMs_20 IAMs_20 11 53 49.6
comp=Z,7µm,19.0s
FFC Flin Flon 57.85 345 P **P** **11 28 54.9 +0.1**
FFC Flin Flon 57.85 345 IAMs_20 IAMs_20 11 57 53.4
comp=Z,8µm,20.0s
FFC Flin Flon 57.85 345 P **P** **11 28 54.9 +0.1**
FFC pmax pmax
comp=Z,48nm,1.0s
FFC MLR MLR
comp=Z,8µm,20.0s
DBO Dodson Butte 57.95 324 IAMs_20 IAMs_20 11 52 49.0
comp=Z,9µm,22.0s
HAWA Hanford 57.97 329 IAMs_20 IAMs_20 11 55 56.3
comp=Z,9µm,20.0s
KBO Bosley Butte 58.01 323 IAMs_20 IAMs_20 11 52 04.5
comp=Z,7µm,21.0s
NEW Newport 58.07 332 P **P** **11 28 56.9 +0.3**
NEW Newport 58.07 332 IAMs_20 IAMs_20 11 54 30.1
comp=Z,9µm,18.0s
NEW Newport 58.07 332 P **P** **11 28 56.9 +0.3**
baz=135,SNR=11
NEW S **S** **11 36 58.3 +2.0**
baz=135
NEW Newport 58.07 332 P **P** **11 28 56.9 +0.3**
NEW pmax pmax
comp=Z,37nm,1.0s
NEW MLR MLR
comp=Z,9µm,18.0s
NEW Newport 58.07 332 LR LR 11 54 40.7
comp=Z,9µm,19.2s,baz=136,slow=37
D08A Wollman Farm, 58.11 330 IAMs_20 IAMs_20 11 53 57.9
comp=Z,8µm,20.0s
SACV Santiago Islan 58.16 72 IAMs_20 IAMs_20 11 58 05.6
comp=Z,7µm,18.0s
E07A Sunnyside 58.25 329 IAMs_20 IAMs_20 11 54 52.6
comp=Z,13µm,18.0s
H04A Detroit Lake 58.30 326 IAMs_20 IAMs_20 11 53 40.0
comp=Z,13µm,20.0s
C09A Chrisman Ranch 58.30 331 IAMs_20 IAMs_20 11 55 00.9
comp=Z,10µm,20.0s
I03D Drain, OR 58.36 324 IAMs_20 IAMs_20 11 53 52.7
comp=Z,9µm,18.0s
J01E Myrtle Point 58.38 324 IAMs_20 IAMs_20 11 54 00.4
comp=Z,13µm,18.0s
BUCK Buck Mountain 58.45 325 IAMs_20 IAMs_20 11 54 14.1
comp=Z,8µm,19.0s
KEBM Edson Butte 58.45 323 IAMs_20 IAMs_20 11 54 05.3
comp=Z,8µm,21.0s
COR Corvallis 58.87 325 IAMs_20 IAMs_20 11 54 29.1
comp=Z,7µm,18.0s
LTY Liberty 59.13 329 IAMs_20 IAMs_20 11 54 36.1
comp=Z,9µm,19.0s
G03D McMinnville, O 59.23 326 IAMs_20 IAMs_20 11 53 55.6
comp=Z,9µm,22.0s
HEBO Mount Hebo 59.50 326 IAMs_20 IAMs_20 11 54 29.2
comp=Z,7µm,19.0s

F04D Rainier, OR 59.62 327 IAMs_20 IAMs_20 11 53 41.3
comp=Z,8µm,21.0s
FCC Fort Churchill 60.08 352 P **P** **11 29 09.2 -1.0**
FCC IAmb IAmb 11 29 10.7
comp=Z,103nm,1.1s
FCC IAMs_20 IAMs_20 11 59 35.2
comp=Z,9µm,19.0s
FCC Fort Churchill 60.08 352 P **P** **11 29 09.2 -1.0**
FCC pmax pmax
comp=Z,103nm,1.1s
FCC MLR MLR
comp=Z,9µm,19.0s
TAOE Nuku Hiva Isla 60.09 260 *e*PKIKP P 11 29 19.9 +8.7
comp=Z,566nm,1.2s
TAOE *e*S **S** **11 37 15.4 -8.2**
comp=Z,4µm,29.6s
TAOE *e*SS SS 11 41 03.5 -17
comp=Z,3µm,29.9s
TAOE *e*LQ LQ 11 44 28.1
comp=Z,7µm,27.9s
TAOE *e*LR LR 11 46 53.2
comp=Z,17µm,23.9s
EDM Edmonton 60.17 338 P **P** **11 29 10.8 -0.2**
EDM IAMs_20 IAMs_20 11 56 46.3
comp=Z,9µm,19.0s
EDM Edmonton 60.17 338 P **P** **11 29 10.8 -0.2**
EDM pmax pmax
comp=Z,161nm,1.0s
EDM MLR MLR
comp=Z,9µm,19.0s
CLRS Cowichan Lake 61.91 329 IAMs_20 IAMs_20 11 56 11.9
comp=Z,10µm,19.0s
BRLDA Berland Lookou 62.41 336 P **P** **11 29 25.5 -0.8**
BRLDA IAMs_20 IAMs_20 11 57 54.5
comp=Z,11µm,20.0s
CBB Campbell River 63.30 329 P **P** **11 29 32.6 +0.5**
CBB IAMs_20 IAMs_20 11 57 06.4
comp=Z,7µm,20.0s
FRB Frobisher Bay 64.69 6 LR LR 11 58 06.2
comp=Z,4µm,21.2s,baz=184,slow=36
PMSA Palmer Station 65.22 172 *e*P **P** **11 29 46.2 +1.8**
PMSA Palmer Station 65.22 172 LR LR 11 55 29.4
comp=Z,4µm,18.6s,baz=347,slow=33
HILA High Level 65.60 340 P **P** **11 29 47.3 +0.3**
BBB Bella Bella 65.97 330 IAMs_20 IAMs_20 11 59 42.6
comp=Z,5µm,18.0s
BBB Bella Bella 65.97 330 LR LR 11 59 45.0
comp=Z,4µm,18.3s,baz=130,slow=37
ASCN Ascension 66.17 98 P **P** **11 29 51.3 -0.3**
IVI Ivigtut 66.29 16 IAMs_20 IAMs_20 11 57 04.9
comp=Z,10µm,22.0s
NRS Narsarsuaq 67.06 18 P **P** **11 29 56.3 0.0**
NRS IAmb IAmb 11 30 17.8
comp=Z,101nm,1.4s
NRS IAMs_20 IAMs_20 11 57 22.1
comp=Z,9µm,22.0s
NRS Narsarsuaq 67.06 18 P **P** **11 29 56.3 0.0**
NRS pmax pmax
comp=Z,101nm,1.4s
MACI Morro de la Ar 67.38 59 P **P** **11 30 00.0 +0.8**
MACI IAMs_20 IAMs_20 11 58 04.9
comp=Z,9µm,19.0s
YKAW1 Yellowknife Wh 67.86 344 IAMs_20 IAMs_20 12 02 59.6
comp=Z,9µm,20.0s
NUUK Nuuk 67.88 13 *i*P **P** **11 30 00.6 -0.8**
NUUK IAmb IAmb 11 30 11.8
comp=Z,28nm,0.8s
YKA Yellowknife Ar 67.91 344 P **P** **11 30 01.5 -0.1**
YKA Yellowknife Ar 67.91 344 P **P** **11 30 01.5 -0.1**
YKA Yellowknife Ar 67.91 344 P **P** **11 30 01.4 -0.2**
comp=Z,9.4nm,1.0s,baz=136,slow=6.2,SNR=95
YKA PKPPKP **P'P'df** **11 58 18.9 -2.9**
comp=Z,0.5nm,1.0s,baz=338,slow=3.0,SNR=3.8
comp=Z,9.4nm,1.0s
YKAW3 Yellowknife Wh 67.96 344 IAMs_20 IAMs_20 12 03 02.3
comp=Z,9µm,19.0s
SMAI San Martin Ant 68.12 175 IAMs_20 IAMs_20 11 54 55.9
comp=Z,4µm,18.0s
PMAR Madeira 68.16 54 *e*P **P** **11 30 06.4 +2.3**
comp=Z,200nm,1.5s
EOSO Osorio 68.16 59 P **P** **11 30 04.0 0.0**
PMOR Pomariorio Ree 68.18 254 *e*P P 11 30 13.7 +9.4
comp=Z,454nm,1.3s
MEH Mehetia 68.65 251 *e*PKIKP P 11 30 16.6 +9.4
comp=Z,66nm,1.1s
PMPST Porto Santo, M 68.72 54 *e*P **P** **11 30 09.4 +2.0**
comp=Z,375nm,1.3s
U35K Hyder 69.07 333 IAMs_20 IAMs_20 12 00 47.2
comp=Z,5µm,19.0s
U35K Hyder 69.07 333 P **P** **11 30 09.8 +0.8**
baz=125
U35K S **S** **11 39 15.9 +3.1**
baz=125
FLDN Fort Liard 69.10 339 P **P** **11 30 10.1 +1.0**
FLDN IAMs_20 IAMs_20 12 02 28.7
comp=Z,10µm,18.0s
FLDN Fort Liard 69.10 339 P **P** **11 30 09.8 +0.7**
baz=133
FLDN S **S** **11 39 16.6 +3.4**
baz=133
KOTAN Kotaneelee Air 69.24 338 P **P** **11 30 11.0 +1.0**
baz=132,SNR=14
KOTAN S **S** **11 39 17.9 +3.1**
baz=132
V35K Ketchikan 69.48 332 P **P** **11 30 12.6 +1.1**
baz=124
V35K S **S** **11 39 23.9 +6.2**
baz=124
LIRD Liard River Hi 69.54 337 P **P** **11 30 12.0 +0.1**
baz=130,SNR=9.3
LIRD S **S** **11 39 19.7 +1.3**
baz=130
TVO Taravao 69.76 251 *e*PKIKP P 11 30 25.2 +11
comp=Z,81nm,1.2s
T35M Bob Quinn 69.79 334 IAMs_20 IAMs_20 12 02 46.2
comp=Z,8µm,18.0s
T35M Bob Quinn 69.79 334 P **P** **11 30 15.2 +1.6**
baz=125
T35M S **S** **11 39 26.7 +5.3**
baz=125
TIAR Tiarei 69.83 252 *e*PKIKP P 11 30 24.0 +9.5
comp=Z,11nm,1.0s
PPTF Pamatai, Papee 70.04 252 P P 11 30 28.3 +12
PPT Papeete 70.05 252 P **P** **11 30 17.7 +1.8**
comp=Z,15nm,0.7s,baz=57,slow=17,SNR=1.9
PPT LR LR 11 53 59.4
comp=Z,11µm,18.1s,baz=78,slow=30
comp=Z,15nm,0.7s
PPT2 Papeete2 70.05 252 *e*PKIKP P 11 30 27.0 +11
comp=Z,266nm,1.4s
PPT2 Papeete2 70.05 252 *e*PP **PP** **11 32 47.7 -3.5**
comp=Z,625nm,25.2s
PPT2 *e*S **S** **11 39 20.0 -6.0**
comp=Z,6µm,24.8s
PPT2 *e*SS **SS** **11 43 55.7 -0.2**
comp=Z,2µm,25.0s
PPT2 *e*LR LR 11 51 35.6
comp=Z,26µm,24.8s
PPT2 *e*LR LR 11 51 41.0
comp=Z,20µm,26.8s
PAE Paea 70.06 251 *e*PKIKP P 11 30 24.6 +8.7
comp=Z,132nm,1.3s
CRAG Craig 70.28 331 IAMs_20 IAMs_20 12 02 08.3
comp=Z,10µm,18.0s
CRAG Craig 70.28 331 P **P** **11 30 17.5 +1.1**
baz=122
CRAG S **S** **11 39 32.9 +5.9**
baz=122
WRAK Wrangell Islan 70.42 332 IAMs_20 IAMs_20 12 03 18.1
comp=Z,5µm,18.0s
WRAK Wrangell Islan 70.42 332 P **P** **11 30 17.8 +0.5**
baz=123
WRAK S **S** **11 39 33.8 +5.1**
baz=123
SFJD Kangerlussuaq 70.54 12 P **P** **11 30 17.2 -0.6**
SFJD IAmb IAmb 11 30 20.0
comp=Z,184nm,1.8s
SFJD Kangerlussuaq 70.54 12 IAMs_20 IAMs_20 12 00 05.1
comp=Z,6µm,22.0s
SFJD Kangerlussuaq 70.54 12 P **P** **11 30 17.2 -0.6**
SFJD pmax pmax
comp=Z,185nm,1.8s
SFJD Kangerlussuaq 70.54 12 LR LR 12 00 39.3
comp=Z,5µm,21.8s,baz=208,slow=35
DLBC Dease Lake 70.55 335 P **P** **11 30 18.0 -0.2**
DLBC IAmb IAmb 11 30 41.7
comp=Z,107nm,1.2s

DLBC IAMs_20 IAMs_20 12 02 32.1
comp=Z,7µm,20.0s
DLBC Dease Lake 70.55 335 P **P** **11 30 18.9 +0.7**
baz=126,SNR=11
DLBC S **S** **11 39 35.5 +5.2**
baz=126
DLBC Dease Lake 70.55 335 LR LR 12 02 32.1
comp=Z,7µm,21.0s,baz=120,slow=37
U33K Whale Pass 70.62 332 IAMs_20 IAMs_20 12 02 51.4
comp=Z,5µm,18.0s
U33K Whale Pass 70.62 332 P **P** **11 30 18.7 +0.2**
baz=122
U33K S **S** **11 39 36.4 +5.3**
baz=122
S34M Telegraph Cree 70.72 334 IAMs_20 IAMs_20 12 04 22.7
comp=Z,9µm,18.0s
S34M Telegraph Cree 70.72 334 P **P** **11 30 19.8 +0.7**
baz=125
S34M S **S** **11 39 37.4 +5.3**
baz=125
T33K Petersburg 70.92 332 P **P** **11 30 21.8 +1.4**
baz=123
T33K S **S** **11 39 39.6 +5.1**
baz=123
WTLY Watson Lake, Y 71.05 337 P **P** **11 30 22.1 +0.9**
WTLY IAmb IAmb 11 31 02.1
comp=Z,64nm,1.3s
WTLY Watson Lake, Y 71.05 337 P **P** **11 30 21.7 +0.5**
baz=128
WTLY S **S** **11 39 39.5 +3.4**
baz=128
DY2G Dye2 71.07 14 *i*P **P** **11 30 19.7 -1.8**
DY2G IAmb IAmb 11 30 30.7
comp=Z,24nm,0.9s
WRGLY Wrigley 71.16 341 P **P** **11 30 22.3 +0.6**
WRGLY Wrigley 71.16 341 P **P** **11 30 22.5 +0.8**
baz=134,SNR=20
WRGLY S **S** **11 39 37.8 +0.7**
baz=134
R33M Jennings River 71.50 335 IAMs_20 IAMs_20 12 07 04.0
comp=Z,6µm,19.0s
R33M Jennings River 71.50 335 P **P** **11 30 25.5 +1.5**
baz=125
R33M S **S** **11 39 44.5 +2.9**
baz=125
TGTN Hyland Airport 71.72 338 P **P** **11 30 26.2 +1.0**
baz=129,SNR=19
TGTN S **S** **11 39 47.6 +3.8**
baz=129
Q32M Nakina River 71.80 335 IAMs_20 IAMs_20 12 02 49.1
comp=Z,8µm,20.0s
Q32M Nakina River 71.80 335 P **P** **11 30 27.1 +1.1**
baz=124
Q32M S **S** **11 39 49.0 +3.9**
baz=124
S32K Killisnoo 72.02 333 IAMs_20 IAMs_20 12 02 56.3
comp=Z,7µm,18.0s
S32K Killisnoo 72.02 333 P **P** **11 30 28.4 +1.4**
baz=122
S32K S **S** **11 39 51.3 +4.0**
baz=122
SIT Sitka 72.16 332 IAMs_20 IAMs_20 12 03 15.9
comp=Z,7µm,19.0s
SIT Sitka 72.16 332 P **P** **11 30 29.2 +1.4**
baz=121
SIT S **S** **11 39 54.8 +6.0**
baz=121
TRIS Tristan da Cun 72.29 129 P **P** **11 30 29.4 +0.4**
JIS Juneau Island 72.36 333 P **P** **11 30 30.0 +1.0**
JIS IAmb IAmb 11 30 53.1
comp=Z,77nm,1.3s
JIS IAMs_20 IAMs_20 12 04 02.2
comp=Z,6µm,18.0s
JIS Juneau Island 72.36 333 P **P** **11 30 31.7 +2.7**
R32K Eaglecrest 72.42 333 IAMs_20 IAMs_20 12 04 02.7
comp=Z,5µm,19.0s
R32K Eaglecrest 72.42 333 P **P** **11 30 30.4 +1.0**
baz=122
P33M Teslin, Yukon 72.74 336 P **P** **11 30 31.8 +0.4**
P33M IAmb IAmb 11 30 44.3
comp=Z,89nm,1.2s
P33M IAMs_20 IAMs_20 12 07 49.0
comp=Z,6µm,20.0s
P33M Teslin, Yukon 72.74 336 P **P** **11 30 32.0 +0.7**
baz=124,SNR=20
P33M S **S** **11 39 59.6 +4.1**
baz=124
P32M Atlin 72.77 335 IAMs_20 IAMs_20 12 03 19.0
comp=Z,8µm,20.0s
P32M Atlin 72.77 335 P **P** **11 30 31.7 +0.1**
baz=123
P32M S **S** **11 39 59.8 +3.9**
baz=123
S31K Pelican 73.04 333 IAMs_20 IAMs_20 12 04 15.2
comp=Z,7µm,19.0s
S31K Pelican 73.04 333 P **P** **11 30 33.5 +0.5**
baz=120
S31K S **SKiKP** **11 40 03.2 -1.3**
baz=120
R31K City Hall, Gus 73.04 333 P **P** **11 30 33.8 +0.8**
baz=121
R31K S **SKiKP** **11 40 02.3 -2.2**
baz=121
SFNM Sidi Ifni 73.05 59 P **P** **11 30 37.0 +3.2**
N32M Quiet Lake 73.37 336 P **P** **11 30 36.0 +0.9**
N32M IAMs_20 IAMs_20 12 04 18.9
comp=Z,6µm,20.0s
N32M Quiet Lake 73.37 336 P **P** **11 30 36.1 +1.1**
baz=124
N32M S **SKiKP** **11 40 04.3 -0.8**
baz=124
SKAG Skagway 73.40 334 IAMs_20 IAMs_20 12 04 39.6
comp=Z,6µm,18.0s
SKAG Skagway 73.40 334 P **P** **11 30 36.9 +1.8**
SKAG Skagway 73.40 334 P **P** **11 30 35.8 +0.7**
baz=121
SKAG S **SKiKP** **11 40 09.0 +4.0**
baz=121
WHY Whitehorse 73.84 335 IAMs_20 IAMs_20 12 04 40.2
comp=Z,4µm,19.0s
WHY Whitehorse 73.84 335 P **P** **11 30 38.4 +0.5**
baz=122
WHY S **S** **11 40 11.6 +3.5**
baz=122
FARO Faro, Yukon 74.08 337 P **P** **11 30 39.9 +0.7**
FARO IAMs_20 IAMs_20 12 04 46.4
comp=Z,8µm,21.0s
FARO Faro, Yukon 74.08 337 P **P** **11 30 39.7 +0.5**
baz=124,SNR=14
FARO S **S** **11 40 14.8 +4.2**
baz=124
O30N Mendenhall 74.41 335 IAMs_20 IAMs_20 12 07 04.1
comp=Z,8µm,18.0s
O30N Mendenhall 74.41 335 P **P** **11 30 41.9 +0.8**
baz=121,SNR=12
O30N S **S** **11 40 18.1 +3.8**
baz=121
P30M Million Dollar 74.45 334 P **P** **11 30 42.3 +0.9**
baz=120
P30M S **S** **11 40 20.6 +5.8**
baz=120
M31M Drury Creek, Y 74.47 337 IAMs_20 IAMs_20 12 05 06.8
comp=Z,6µm,19.0s
M31M Drury Creek, Y 74.47 337 P **P** **11 30 42.1 +0.6**
baz=123
M31M S **S** **11 40 19.0 +3.9**
baz=123
P29M Windy Craggy 74.55 334 IAMs_20 IAMs_20 12 04 37.9
comp=Z,6µm,18.0s
P29M Windy Craggy 74.55 334 P **P** **11 30 43.1 +1.1**
baz=119
P29M S **S** **11 40 18.9 +3.0**
baz=119
N31M Braeburn, Yuko 74.65 336 IAMs_20 IAMs_20 12 05 50.5
comp=Z,7µm,20.0s
N31M Braeburn, Yuko 74.65 336 P **P** **11 30 43.9 +1.4**
baz=121,SNR=8.4
N31M S **S** **11 40 20.0 +3.0**
baz=121
ICESG Greenland Ices 74.69 14 *i*P **P** **11 30 41.2 -1.8**
ICESG IAmb IAmb 11 30 54.1
comp=Z,34nm,0.8s
HYT Haines Junctio 75.03 335 P **P** **11 30 45.8 +0.9**
HYT IAMs_20 IAMs_20 12 07 58.7
comp=Z,8µm,18.0s
HYT Haines Junctio 75.03 335 P **P** **11 30 44.8 0.0**
baz=120
HYT S **S** **11 40 25.8 +4.3**

baz=120
SHEL Horse Pasture 75.08 106 P P 11 30 46.0 +0.1
SHEL Horse Pasture 75.08 106 P P 11 30 46.0 +0.1
SHEL pmax pmax
comp=Z,173nm,0.9s
N30M Aishikik Lake 75.17 335 IAMs_20 IAMs_20 12 04 46.4
comp=Z,6µm,19.0s
N30M Aishikik Lake 75.17 335 P P 11 30 46.0 +0.4
baz=120
N30M S S **11 40 26.2 +3.3**
baz=120
O29M Mount Kennedy 75.24 334 P P 11 30 46.6 +0.6
O29M IAmb IAmb 11 31 14.0
comp=Z,73nm,1.2s
O29M IAMs_20 IAMs_20 12 05 22.0
comp=Z,8µm,19.0s
O29M Mount Kennedy 75.24 334 P P 11 30 46.6 +0.6
baz=118
O29M S S **11 40 28.9 +5.0**
baz=118
PNL Peninsula 75.31 333 P P 11 30 46.7 +0.4
baz=118
PNL S S **11 40 29.3 +4.9**
baz=118
OUK Oukaimeden 75.34 58 P P 11 30 50.0 +2.5
YKU2 Yakutat 75.36 333 IAMs_20 IAMs_20 12 04 01.4
comp=Z,9µm,20.0s
YUK6 Outpost Mounta 75.46 335 P P 11 30 46.9 -0.5
baz=119,SNR=8.7
YUK6 S S **11 40 30.6 +4.1**
baz=119
LIC Lamto 75.48 83 *e*P **P 11 30 47.9 -0.3**
comp=Z,646nm,1.0s
TIC Toumodi 75.51 83 *e*PKP2 **P 11 30 48.2 -0.2**
comp=Z,272nm,1.2s
SRHM Skhour des Reh 75.53 56 P P 11 30 51.0 +2.8
RES Resolute Bay 75.59 356 P P 11 30 46.7 -0.9
RES IAMs_20 IAMs_20 12 06 11.3
comp=Z,8µm,20.0s
RES Resolute Bay 75.59 356 P P 11 30 46.7 -0.9
RES pmax pmax
comp=Z,44nm,1.3s
RES MLR MLR
comp=Z,8µm,20.0s
C36M Paulatuk 75.62 345 P P 11 30 46.3 -1.6
C36M IAMs_20 IAMs_20 12 08 09.6
comp=Z,8µm,19.0s
C36M Paulatuk 75.62 345 P P 11 30 47.0 -0.8
baz=134
C36M S S **11 40 25.1 -2.3**
baz=134
M30M Minto, Yukon 75.62 337 P P 11 30 48.5 +0.4
M30M IAmb IAmb 11 31 15.7
comp=Z,62nm,1.1s
M30M IAMs_20 IAMs_20 12 05 48.2
comp=Z,6µm,18.0s
M30M Minto, Yukon 75.62 337 P P 11 30 48.2 +0.1
baz=121,SNR=13
M30M S S **11 40 30.1 +2.3**
baz=121
PFVI Vila Bisbo 75.65 51 P P 11 30 49.7 +1.0
DBIC Dimbokro 75.67 83 P P 11 30 49.4 +0.1
DBIC Dimbokro 75.67 83 P P 11 30 49.4 +0.1
DBIC pmax pmax
comp=Z,394nm,1.2s
DBIC Dimbokro 75.67 83 P P 11 30 49.6 +0.3
comp=Z,222nm,1.0s,baz=264,slow=4.9,SNR=114
DBIC S S **11 40 27.1 -3.0**
comp=Z,1.2nm,0.5s,baz=243,slow=9.0,SNR=1.3
DBIC LR LR 12 01 37.1
comp=Z,14µm,20.0s,baz=256,slow=34
comp=Z,222nm,1.0s
PMAFR Mafra 75.68 50 *e*P **P 11 30 49.4 +0.5**
comp=Z,153nm,1.7s
PMAFR Mafra 75.68 50 P P 11 30 49.4 +0.5
LIS Lisbon 75.73 50 *e*P **P 11 30 50.2 +1.0**
LIS IAMs_20 IAMs_20 12 05 41.8
comp=Z,7µm,11.4s
LIS Lisbon 75.73 50 *e*P **P 11 30 50.1 +1.0**
YUK4 Talbot Arm 75.77 335 P P 11 30 50.4 +1.2
baz=119,SNR=10
YUK4 S S **11 40 33.3 +3.4**
baz=119
KIC Kosan Boka 75.77 83 *e*PKP2 **P 11 30 49.2 -0.7**
comp=Z,680nm,0.9s
MAYO Mayo, Yukon 75.80 338 P P 11 30 50.2 +1.1
MAYO IAmb IAmb 11 31 22.4
comp=Z,104nm,1.1s
MAYO IAMs_20 IAMs_20 12 06 35.9
comp=Z,7µm,19.0s
MAYO Mayo, Yukon 75.80 338 P P 11 30 50.1 +1.0
baz=122
MAYO S S **11 40 33.6 +3.9**
baz=122
TIO Tiouine 75.80 58 P P 11 30 51.7 +1.8
PTEO Sao Teotonio 75.82 51 *e*P **P 11 30 51.0 +1.3**
comp=Z,213nm,1.3s
MORF Marmelete 75.82 51 *e*P **P 11 30 51.3 +1.5**
comp=Z,284nm,1.4s
MORF Marmelete 75.82 51 P P 11 30 50.2 +0.4
MORF IAMs_20 IAMs_20 12 01 22.2
comp=Z,7µm,21.0s
MORF Marmelete 75.82 51 *e*P **P 11 30 50.7 +0.9**
MORF *e*S **S 11 40 31.6 +0.6**
MORF IAMs_20 IAMs_20 11 57 31.9
comp=Z,8µm,16.6s
MORF Marmelete 75.82 51 P P 11 30 50.2 +0.4
MORF pmax pmax
comp=Z,198nm,1.2s
PINM Pinnacle 75.89 333 P P 11 30 50.3 +0.6
baz=117
PINM S S **11 40 35.1 +4.2**
baz=117
PACT Alcochete 75.99 50 *e*P **P 11 30 50.3 -0.3**
comp=Z,436nm,1.4s
AVE Averroes 76.07 56 P P 11 30 52.0 +0.8
AVE IAMs_20 IAMs_20 12 04 54.9
comp=Z,8µm,18.0s
AVE Averroes 76.07 56 P P 11 30 53.5 +2.3
AVE Averroes 76.07 56 P P 11 30 52.6 +1.3
PNCL Nicolau / Gran 76.08 51 *e*P **P 11 30 52.3 +1.1**
comp=Z,189nm,1.3s
PNCL Nicolau / Gran 76.08 51 P P 11 30 52.0 +0.8
O28M Mount Upton 76.17 334 P P 11 30 51.9 +0.3
baz=117
O28M S S **11 40 37.0 +2.6**
baz=117
PSBE So Bento 76.17 49 *e*P **P 11 30 52.8 +1.1**
comp=Z,229nm,1.5s
YUK8 Steele Glacier 76.22 335 P P 11 30 52.5 +0.7
baz=118
YUK8 S S **11 40 38.3 +3.4**
baz=118
OUZM OUZ 76.22 58 P P 11 30 55.0 +2.6
M29M Somme Creek 76.23 336 IAMs_20 IAMs_20 12 05 23.8
comp=Z,6µm,19.0s
M29M Somme Creek 76.23 336 P P 11 30 52.8 +1.1
baz=119
M29M S S **11 40 37.7 +3.1**
baz=119
MESJ Messejana 76.27 51 *e*P **P 11 30 53.3 +1.0**
comp=Z,76nm,1.3s
MESJ Messejana 76.27 51 P P 11 30 52.3 0.0
MESJ IAmb IAmb 11 30 54.2
comp=Z,78nm,1.3s
MESJ IAMs_20 IAMs_20 12 00 53.0
comp=Z,7µm,21.0s
MESJ Messejana 76.27 51 *e*P **P 11 30 53.2 +0.9**
MESJ *e*S **S 11 40 36.5 +0.7**
MESJ IAMs_20 IAMs_20 11 57 32.9
comp=Z,10µm,26.9s
MESJ Messejana 76.27 51 P P 11 30 52.3 0.0
MESJ pmax pmax
comp=Z,78nm,1.3s
PCVE Castro Verde 76.37 51 *e*P **P 11 30 52.3 -0.5**
comp=Z,148nm,1.4s
PCVE Castro Verde 76.37 51 P P 11 30 54.1 +1.3
PBDV Barranco-do-Ve 76.38 52 *e*P **P 11 30 54.4 +1.5**
comp=Z,81nm,1.2s
L29M L29M 76.42 337 IAMs_20 IAMs_20 12 05 57.2
comp=Z,6µm,19.0s
L29M L29M 76.42 337 P P 11 30 53.3 +0.6
baz=120
L29M S S **11 40 39.1 +2.5**
baz=120
H31M Peel River 76.44 340 IAMs_20 IAMs_20 12 06 59.8
comp=Z,7µm,18.0s
H31M Peel River 76.44 340 P P 11 30 53.7 +1.0
baz=124
H31M S S **11 40 40.3 +3.6**
baz=124
J30M Hart River 76.48 338 P P 11 30 54.0 +0.9
J30M IAmb IAmb 11 31 15.3
comp=Z,56nm,1.1s
J30M Hart River 76.48 338 P P 11 30 54.0 +0.9
baz=122
J30M S S **11 40 41.2 +3.8**
baz=122
PCAS Casmilo, Conde 76.51 49 *e*P **P 11 30 54.8 +1.2**
comp=Z,344nm,1.6s
PMTG Montargil 76.51 50 *e*P **P 11 30 54.4 +0.8**
comp=Z,134nm,1.3s
LOGN Logan Glacier 76.55 334 IAMs_20 IAMs_20 12 05 26.8
comp=Z,8µm,20.0s
K29M Barlow Dome 76.55 337 IAMs_20 IAMs_20 12 06 23.3
comp=Z,8µm,22.0s
K29M Barlow Dome 76.55 337 P P 11 30 54.0 +0.6
baz=120
K29M S S **11 40 40.6 +2.4**
baz=120
EVO Evora 76.57 50 *e*P **P 11 30 54.7 +0.8**
comp=Z,128nm,1.7s
EVO Evora 76.57 50 P P 11 30 54.1 +0.2
PVAQ Vaqueiros 76.57 51 *e*S **S 11 40 42.4 +3.2**
PBEJ Beja 76.58 51 *e*P **P 11 30 55.2 +1.2**
comp=Z,94nm,1.3s
COI Coimbra 76.61 48 IAMs_20 IAMs_20 11 59 32.9
comp=Z,7µm,22.0s
RTC Rabat Centre 76.64 55 P P 11 30 54.4 0.0
MESA MESA 76.69 333 IAMs_20 IAMs_20 12 04 29.5
comp=Z,6µm,20.0s
MESA MESA 76.69 333 P P 11 30 54.5 +0.1
baz=115
MESA S S **11 40 44.8 +4.8**
baz=115
ZHG ZHG 76.73 56 P P 11 30 57.0 +1.9
YUK3 Moose Creek 76.74 335 P P 11 30 55.7 +1.0
baz=117,SNR=5.6
YUK3 S S **11 40 43.7 +3.2**
baz=117
CTGM Chitina Glacie 76.75 334 IAMs_20 IAMs_20 12 05 24.3
comp=Z,8µm,20.0s
CTG Chitna Glacier 76.75 334 P P 11 30 56.2 +1.5
baz=116
CTG S S **11 40 44.5 +3.9**
baz=116
EGRO El Granado 76.78 51 P P 11 30 56.0 +0.8
I30M Mount Dempster 76.84 339 IAMs_20 IAMs_20 12 08 16.2
comp=Z,7µm,19.0s
I30M Mount Dempster 76.84 339 P P 11 30 55.8 +0.7
baz=122
I30M S S **11 40 43.9 +2.6**
baz=122
BARN Barnard Glacie 76.94 334 IAMs_20 IAMs_20 12 05 29.8
comp=Z,8µm,21.0s
PESTR Estremoz 76.96 50 *e*P **P 11 30 57.1 +0.9**
comp=Z,276nm,1.4s
PESTR Estremoz 76.96 50 P P 11 30 57.1 +0.9
PESTR Estremoz 76.96 50 P P 11 30 57.5 +1.4
PESTR Estremoz 76.96 50 P P 11 30 56.5 +0.4
ISLE Juniper Island 77.04 333 IAMs_20 IAMs_20 12 05 04.9
comp=Z,9µm,21.0s
G31M Satah River 77.04 341 IAMs_20 IAMs_20 12 07 31.4
comp=Z,6µm,18.0s
G31M Satah River 77.04 341 P P 11 30 56.8 +0.8
baz=124,SNR=14
G31M S S **11 40 46.4 +3.3**
baz=124
ZGR Zagora 77.08 59 P P 11 30 60.0 +2.8
SNH Sunshine Point 77.09 333 IAMs_20 IAMs_20 12 05 33.2
comp=Z,7µm,20.0s
PGAV Gavieira, Arco 77.09 47 *e*P **P 11 30 56.8 -0.1**
comp=Z,183nm,1.9s
PGAV *e*S **S 11 40 46.8 +2.0**
PGAV Gavieira, Arco 77.09 47 *e*LQ LQ 11 51 52.0
PGAV *e*LR LR 11 56 01.6
comp=Z,5µm,24.0s
PVIS Viseu 77.10 48 *e*P **P 11 30 57.8 +0.8**
F31M Tsiigehtchic 77.17 341 P P 11 30 57.7 +1.0
F31M Tsiigehtchic 77.17 341 P P 11 30 57.4 +0.7
baz=125,SNR=34
F31M S S **11 40 47.4 +3.0**
baz=125
BVCY Beaver Creek 77.20 335 P P 11 30 58.0 +1.0
baz=117
BVCY S S **11 40 49.3 +4.2**
baz=117
WAX Waxell Ridge 77.21 333 IAMs_20 IAMs_20 12 11 08.3
comp=Z,6µm,19.0s
PMRV Marv??o 77.22 49 *e*P **P 11 30 57.9 +0.3**
comp=Z,118nm,1.3s
PMRV *e*S **S 11 40 50.9 +4.7**
PMRV Marv??o 77.22 49 *e*LR LR 11 55 52.5
comp=Z,6µm,18.0s
TZRR Tazzarine 77.22 58 P P 11 31 01.0 +3.1
TULEG Thule 77.23 3 IAMs_20 IAMs_20 12 05 10.2
comp=Z,6µm,20.0s
PCBR Castelo Branco 77.23 49 *e*P **P 11 30 58.3 +0.6**
comp=Z,132nm,1.4s
PBAR Barrancos 77.25 51 *e*P **P 11 30 58.4 +0.6**
comp=Z,92nm,1.6s
PBAR Barrancos 77.25 51 P P 11 30 58.1 +0.3
BGLC Bering Glacier 77.27 333 P P 11 30 56.9 -0.4
baz=114
MTE Manteigas 77.30 48 *e*P **P 11 30 58.1 0.0**
comp=Z,122nm,1.4s
MTE *e*S **S 11 40 49.5 +2.4**
MTE Manteigas 77.30 48 *e*LQ LQ 11 52 49.9
MTE *e*LR LR 11 56 30.4
comp=Z,6µm,20.0s
MTE Manteigas 77.30 48 P P 11 30 57.7 -0.4
MTE IAmb IAmb 11 30 59.6
comp=Z,106nm,1.2s
MTE IAMs_20 IAMs_20 12 06 26.2
comp=Z,7µm,19.0s
POLO Lamas de Olo 77.31 47 *e*P **P 11 30 58.8 +0.6**
comp=Z,98nm,1.4s
TGL Tana Glacier 77.32 333 IAMs_20 IAMs_20 12 05 59.4
comp=Z,7µm,18.0s
PVRL Vila Real 77.35 48 *e*P **P 11 30 59.1 +0.8**
comp=Z,134nm,1.7s
EBAD Badajoz 77.38 50 P P 11 30 58.8 +0.3
DAWY Dawson 77.38 337 P P 11 30 58.5 +0.4
DAWY IAmb IAmb 11 31 26.5
comp=Z,65nm,1.1s
DAWY Dawson 77.38 337 P P 11 30 58.0 0.0
baz=118,SNR=13
DAWY S S **11 40 49.3 +2.3**
baz=118
CRQE Cirque 77.44 333 P P 11 30 58.9 +0.4
baz=114
CRQE S S **11 40 51.7 +3.8**
baz=114
EMIN Mina Concepcio 77.46 51 P P 11 30 59.2 +0.3
CRQM Cirque 77.46 333 IAMs_20 IAMs_20 12 07 05.5
comp=Z,7µm,19.0s
SUCK Suckling Hills 77.47 333 IAMs_20 IAMs_20 12 09 34.4
comp=Z,6µm,19.0s
SUMG Summit 77.53 12 P P 11 30 59.0 -0.1
SUMG IAmb IAmb 11 31 27.2
comp=Z,69nm,1.0s
SUMG IAMs_20 IAMs_20 12 04 43.9
comp=Z,8µm,22.0s
SUMG Summit 77.53 12 P P 11 30 58.1 -1.1
SUMG Summit 77.53 12 P P 11 30 59.0 -0.1
SUMG pmax pmax
comp=Z,69nm,1.0s
SUMG MLR MLR
comp=Z,8µm,22.0s
SUMG Summit 77.53 12 *i* P **P 11 30 58.0 -1.1**
SUMG IAmb IAmb 11 31 06.2
comp=Z,20nm,0.8s
EPYK Eagle Plains 77.56 340 P P 11 30 59.5 +0.5
EPYK IAmb IAmb 11 31 26.0
comp=Z,68nm,1.0s
EPYK IAMs_20 IAMs_20 12 09 51.2
comp=Z,6µm,18.0s
EPYK Eagle Plains 77.56 340 P P 11 30 59.8 +0.8
baz=122,SNR=14
EPYK S S **11 40 52.0 +3.1**
baz=122
BERG Berg Lake 77.57 333 IAMs_20 IAMs_20 12 11 45.6
comp=Z,6µm,21.0s
INK Inuvik 77.59 342 P P 11 30 59.6 +0.6
INK IAmb IAmb 11 31 28.5
comp=Z,143nm,1.1s
INK Inuvik 77.59 342 P P 11 30 00.0 +1.0
baz=125,SNR=37
INK S S **11 40 51.2 +2.2**
baz=125
INK Inuvik 77.59 342 P P 11 30 59.6 +0.6
INK pmax pmax
comp=Z,143nm,1.2s
INK MLR MLR
comp=Z,12µm,19.0s
INK Inuvik 77.59 342 LR LR 12 09 03.7
comp=Z,9µm,18.0s,baz=113,slow=39
SFS San Fernando 77.59 53 IAMs_20 IAMs_20 12 01 49.1
comp=Z,7µm,21.0s
M27K Edge Creek, AK 77.60 335 P P 11 31 00.3 +0.9
baz=116
M27K S S **11 40 52.6 +2.9**
baz=116
I29M Ogilvie Camp, 77.61 339 P P 11 30 59.7 +0.5
I29M IAmb IAmb 11 31 26.7
comp=Z,73nm,1.0s
I29M Ogilvie Camp, 77.61 339 P P 11 30 59.8 +0.5
baz=120,SNR=32
I29M S S **11 40 52.6 +3.2**
baz=120
MCARA McCarthy VSAT 77.67 334 IAMs_20 IAMs_20 12 05 39.6
comp=Z,8µm,21.0s
MCARA McCarthy VSAT 77.67 334 P P 11 31 01.0 +1.3
baz=115,SNR=6.4
MCARA S S **11 40 52.0 +1.8**
baz=115
KAIM Kayak Island 77.71 332 IAMs_20 IAMs_20 12 09 27.7
comp=Z,5µm,18.0s
BORG Borgarnes 77.71 22 P P 11 31 00.2 +0.4
BORG Borgarnes 77.71 22 P P 11 31 00.2 +0.4
BORG pmax pmax
comp=Z,504nm,1.9s
BORG MLR MLR
comp=Z,2µm,21.0s
BORG Borgarnes 77.71 22 LR LR 12 03 37.3
comp=Z,3µm,20.6s,baz=240,slow=34
G30M tAoh Zraii Nji 77.72 341 IAMs_20 IAMs_20 12 07 58.3
comp=Z,8µm,20.0s
G30M tAoh Zraii Nji 77.72 341 P P 11 31 00.2 +0.3
baz=122
G30M S S **11 40 52.6 +2.0**
baz=122
A36M Sachs Harbour 77.75 347 P P 11 30 59.5 -0.4
A36M IAmb IAmb 11 31 20.3
comp=Z,113nm,0.9s
A36M Sachs Harbour 77.75 347 P P 11 30 59.5 -0.4
baz=134,SNR=54
A36M S S **11 40 47.6 -3.1**
baz=134
VRDI Verde Repeater 77.80 334 IAMs_20 IAMs_20 12 05 39.9
comp=Z,7µm,22.0s
HMT Hamilton 77.80 333 IAMs_20 IAMs_20 12 06 00.1
comp=Z,6µm,19.0s
MVO Moncorvo 77.83 48 *e*P **P 11 31 01.5 +0.4**
comp=Z,196nm,1.4s
MVO *e*S **S 11 40 54.8 +1.9**
MVO Moncorvo 77.83 48 *e*LQ LQ 11 52 06.6
MVO *e*LR LR 11 56 41.1
comp=Z,6µm,20.0s
BCAR Beaver Creek A 77.87 336 P P 11 31 01.9 +1.1
L27K Beaver Creek, 77.89 336 IAMs_20 IAMs_20 12 07 58.7
comp=Z,7µm,19.0s
L27K Beaver Creek, 77.89 336 P P 11 31 02.2 +1.3
baz=116
L27K S S **11 40 55.6 +3.0**
baz=116
F30M Barrier River 77.91 341 P P 11 31 01.5 +0.6
baz=123
F30M S S **11 40 55.7 +3.1**
baz=123
SICH Sidi Chahed 77.93 55 P P 11 31 05.0 +3.3
GLB Gilahina Butte 78.04 334 P P 11 31 03.0 +1.3
GLB IAmb IAmb 11 31 23.2
comp=Z,75nm,1.0s
GLB IAMs_20 IAMs_20 12 05 49.4
comp=Z,7µm,22.0s
H29M Whitestone 78.06 339 IAMs_20 IAMs_20 12 08 04.5
comp=Z,6µm,18.0s
H29M Whitestone 78.06 339 P P 11 31 02.4 +0.7
baz=120
H29M S S **11 40 57.5 +3.3**
baz=120
CHEFC Chefchaouen 78.06 54 P P 11 31 05.0 +2.5
M26K Nabesna, AK 78.09 335 P P 11 31 01.8 -0.2
baz=115
M26K S S **11 40 57.0 +2.3**
baz=115
SMIR Smir Dam 78.12 53 P P 11 31 05.1 +2.4
PBRG Braganca 78.17 47 *e*P **P 11 31 03.9 +1.0**
comp=Z,160nm,1.9s
BMRM Bremner River 78.20 333 P P 11 31 04.2 +1.5
baz=113
BMRM S S **11 40 58.7 +2.6**
baz=113
LCRM LCR 78.24 56 P P 11 31 06.0 +2.4
I28M Miner Creek 78.25 338 IAMs_20 IAMs_20 12 08 16.6
comp=Z,8µm,20.0s
I28M Miner Creek 78.25 338 P P 11 31 03.2 +0.3
baz=118
I28M S S **11 40 58.2 +1.8**
baz=118
VAL Valentia 78.25 36 P P 11 31 04.6 +1.6
VAL Valentia 78.25 36 P P 11 31 03.8 +0.8
G29M Pine Creek 78.29 340 IAMs_20 IAMs_20 12 08 05.2
comp=Z,5µm,18.0s
G29M Pine Creek 78.29 340 P P 11 31 03.1 +0.1
baz=120
G29M S S **11 40 59.1 +2.5**
baz=120
MDT Midelt 78.32 56 P P 11 31 05.6 +1.6
MDT Midelt 78.32 56 P P 11 31 05.0 +0.9
comp=Z,33nm,1.0s,baz=279,slow=5.5,SNR=27
MDT LR LR 12 05 25.0
comp=Z,5µm,18.4s,baz=271,slow=36
comp=Z,33nm,1.0s
EGAK Eagle 78.39 338 P P 11 31 04.3 +0.7
EGAK IAmb IAmb 11 31 24.6
comp=Z,130nm,1.2s
EGAK Eagle 78.39 338 P P 11 31 04.1 +0.6
baz=117,SNR=16
EGAK S S **11 41 00.4 +2.6**
baz=117
K27K Chicken 78.41 337 IAMs_20 IAMs_20 12 08 50.1
comp=Z,5µm,19.0s
K27K Chicken 78.41 337 P P 11 31 05.3 +1.6
baz=116
K27K S S **11 41 01.9 +3.8**
baz=116
Q23K Middleton Isla 78.43 332 P P 11 31 03.6 -0.3
baz=111
N25K Chitina, Valde 78.45 334 IAMs_20 IAMs_20 12 11 38.2
comp=Z,5µm,20.0s
N25K Chitina, Valde 78.45 334 P P 11 31 04.2 0.0
baz=113
N25K S S **11 41 01.8 +3.0**
baz=113
ARF Arif 78.46 58 P P 11 31 08.0 +3.2
L26K Log Cabin Wild 78.50 336 P P 11 31 04.5 +0.2
L26K Log Cabin Wild 78.50 336 P P 11 31 04.8 +0.6
baz=115,SNR=6.5
L26K S S **11 41 01.7 +2.6**
baz=115
EYAK Cordova Ski Ar 78.56 333 P P 11 31 04.6 +0.1
baz=112
EYAK S S **11 41 01.7 +2.0**
baz=112
MENT Mentasta 78.61 335 IAMs_20 IAMs_20 12 06 40.4
comp=Z,8µm,20.0s
MENT Mentasta 78.61 335 P P 11 31 05.5 +0.6
HIN Hinchinbrook I 78.85 332 IAMs_20 IAMs_20 12 10 11.9
comp=Z,5µm,18.0s
I27K Kandik River 78.94 338 P P 11 31 07.0 +0.4
baz=117
I27K S S **11 41 05.8 +2.0**
baz=117
FID Port Fidalgo 78.97 333 IAMs_20 IAMs_20 12 10 54.3
comp=Z,6µm,19.0s
KLU Klutina 79.00 334 P P 11 31 07.7 +0.6
KLU IAmb IAmb 11 31 18.7
comp=Z,79nm,1.2s
KLU IAMs_20 IAMs_20 12 07 54.6

comp=Z,5µm,22.0s
KLU Klutina 79.00 334 P P 11 31 07.0 -0.1
baz=112,SNR=5.6
KLU S S 11 41 04.4 -0.2
baz=112
E29M Blow River 79.00 341 P P 11 31 07.0 +0.1
baz=121
E29M S S 11 41 05.1 +0.9
baz=121
HARP HAARP 79.01 335 P P 11 31 05.9 -1.1
baz=113
HARP S S 11 41 06.2 +1.7
baz=113
SCRK Sand Creek 79.15 336 P P 11 31 08.2 +0.2
SCRK IAMs_20 IAMs_20 12 08 39.6
comp=Z,8µm,19.0s
SCRK Sand Creek 79.15 336 P P 11 31 08.2 +0.2
baz=114,SNR=16
SCRK S S 11 41 08.7 +2.5
baz=114
H27K Steamboat Moun 79.19 339 P P 11 31 08.6 +0.6
baz=117
H27K S S 11 41 07.9 +1.5
baz=117
J26L Joseph Creek 79.20 337 P P 11 31 09.0 +0.8
J26L IAmb IAmb 11 31 35.7
comp=Z,64nm,1.1s
J26L IAMs_20 IAMs_20 12 09 14.6
comp=Z,4µm,18.0s
J26L Joseph Creek 79.20 337 P P 11 31 08.1 -0.1
baz=115
J26L S S 11 41 09.3 +2.6
baz=115
F28M Old Crow 79.26 340 IAMs_20 IAMs_20 12 13 18.1
comp=Z,6µm,19.0s
F28M Old Crow 79.26 340 P P 11 31 08.5 +0.2
baz=119,SNR=9.0
F28M S S 11 41 08.6 +1.5
baz=119
GLI Glacier Island 79.30 333 IAMs_20 IAMs_20 12 12 36.7
comp=Z,5µm,19.0s
GLI Glacier Island 79.30 333 P P 11 31 07.5 -1.1
baz=111
M24K Tolsona, Glenn 79.34 334 IAMs_20 IAMs_20 12 07 22.6
comp=Z,5µm,20.0s
M24K Tolsona, Glenn 79.34 334 P P 11 31 09.1 +0.2
baz=112,SNR=5.7
M24K S S 11 41 10.1 +1.9
baz=112
PAX Paxson 79.36 335 P P 11 31 09.0 -0.1
baz=113,SNR=12
PAX S S 11 41 09.2 +0.7
baz=113
NEEM North Greenlan 79.50 6 *i* P P **11 31 08.9 -0.9**
NEEM IAmb IAmb 11 31 37.1
comp=Z,26nm,0.9s
G27K Doyon Strip 79.50 339 IAMs_20 IAMs_20 12 09 58.4
comp=Z,6µm,18.0s
G27K Doyon Strip 79.50 339 P P 11 31 10.0 +0.3
baz=117
G27K S S 11 41 11.3 +1.6
baz=117
PAB San Pablo 79.56 50 P P 11 31 11.1 +0.5
PAB IAmb IAmb 11 31 13.0
comp=Z,70nm,1.1s
PAB San Pablo 79.56 50 P P 11 31 11.9 +1.3
PAB San Pablo 79.56 50 P P 11 31 11.1 +0.5
PAB pmax pmax
comp=Z,71nm,1.1s
PAB MLR MLR
comp=Z,4µm,18.0s
E28M Babbage River 79.63 341 P P 11 31 10.4 +0.1
baz=119
E28M S S 11 41 12.0 +1.0
baz=119
D28M Stokes Point 79.74 342 P P 11 31 11.0 +0.2
baz=120
D28M S S 11 41 14.3 +2.3
baz=120
SCM Sheep Creek Mo 79.74 334 IAMs_20 IAMs_20 12 12 20.4
comp=Z,5µm,19.0s
SCM Sheep Creek Mo 79.74 334 P P 11 31 07.6 -3.5
baz=111
SCM S S 11 41 14.0 +1.5
baz=111
K24K Donnelly Dome 79.81 336 P P 11 31 08.7 -2.8
baz=112
K24K S S 11 41 14.0 +0.9
baz=112
PWL Port Wells 79.86 333 P P 11 31 13.7 +1.9
PWL IAmb IAmb 11 31 38.3
comp=Z,154nm,1.4s
PWL IAMs_20 IAMs_20 12 05 42.6
comp=Z,5µm,22.0s
PWL Port Wells 79.86 333 P P 11 31 08.0 -3.7
baz=110
PWL S S 11 41 13.9 +0.3
baz=110
ES17 SONSECA Array 79.87 50 IAMs_20 IAMs_20 12 01 56.2
comp=Z,5µm,22.0s
ESDC Sonseca Array 79.87 50 P P 11 31 12.8 +0.4
ESDC Sonseca Array 79.87 50 P P 11 31 13.0 +0.7
comp=Z,35nm,1.0s,baz=267,slow=5.5,SNR=100
ESDC LR LR 12 05 40.2
comp=Z,3µm,18.9s,baz=240,slow=35
comp=Z,35nm,1.0s
ES05 SONSECA Array 79.87 50 IAMs_20 IAMs_20 12 10 48.3
comp=Z,4µm,18.0s
ESBB Sonseca Array 79.87 50 P P 11 31 12.8 +0.5
ESBB IAmb IAmb 11 31 14.2
comp=Z,73nm,1.2s
ES06 SONSECA Array 79.88 50 IAMs_20 IAMs_20 12 01 57.5
comp=Z,4µm,22.0s
ES07 SONSECA Array 79.88 50 IAMs_20 IAMs_20 12 10 50.6
comp=Z,4µm,18.0s
ES04 SONSECA Array 79.88 50 IAMs_20 IAMs_20 12 10 48.7
comp=Z,4µm,18.0s
ES03 SONSECA Array 79.89 50 IAMs_20 IAMs_20 12 11 00.9
comp=Z,4µm,18.0s
ES08 SONSECA Array 79.90 50 IAMs_20 IAMs_20 12 11 01.2
comp=Z,4µm,18.0s
M23K Glacier View 79.91 334 P P 11 31 10.2 -1.8
baz=110
M23K S S 11 41 14.9 +0.7
baz=110
RAR Rarotonga 79.94 249 LR LR 11 57 18.0
comp=Z,9µm,21.1s,baz=98,slow=29
J25K Salcha River, 79.96 337 IAMs_20 IAMs_20 12 09 25.9
comp=Z,7µm,18.0s
J25K Salcha River, 79.96 337 P P 11 31 12.4 +0.2
baz=113
J25K S S 11 41 15.1 +0.5
baz=113
E27K Coleen River 80.11 341 IAMs_20 IAMs_20 12 12 18.1
comp=Z,6µm,18.0s
E27K Coleen River 80.11 341 P P 11 31 13.0 0.0
baz=117
E27K S S 11 41 17.3 +1.3
baz=117
KNK Knik Glacier 80.11 333 P P 11 31 13.7 +0.6
KNK IAmb IAmb 11 31 25.4
comp=Z,127nm,1.3s
KNK IAMs_20 IAMs_20 12 10 59.0
comp=Z,7µm,20.0s
KNK Knik Glacier 80.11 333 P P 11 31 12.4 -0.6
baz=110
KNK S S 11 41 17.6 +1.4
baz=110
SEW Seward 80.14 332 P P 11 31 12.6 -0.6
baz=108
SEW S S 11 41 17.5 +1.0
baz=108
SML Sawmill 80.18 333 IAMs_20 IAMs_20 12 08 42.0
comp=Z,6µm,20.0s
SML Sawmill 80.18 333 P P 11 31 12.0 -1.5
baz=110
SML S S 11 41 17.0 -0.1
baz=110
WAT6 Susitna Watana 80.19 334 P P 11 31 13.1 -0.6
baz=110,SNR=38
WAT6 S S 11 41 17.4 0.0
baz=110
DHY Denali Highway 80.21 335 IAMs_20 IAMs_20 12 07 51.6
comp=Z,5µm,19.0s
DHY Denali Highway 80.21 335 P P 11 31 13.4 -0.3
baz=111
DHY S S 11 41 17.8 +0.3
baz=111

JBK JBK 80.21 55 P P 11 31 16.1 +1.7
KEKH Kekaha 80.31 292 IAMs_20 IAMs_20 11 58 01.5
comp=Z,8µm,20.0s
G26K Porcupine Rive 80.32 339 P P 11 31 13.5 -0.5
baz=115
G26K S S 11 41 20.5 +2.3
baz=115
SCO Scoresbysund 80.34 17 P P 11 31 14.0 -0.1
SCO Scoresbysund 80.34 17 P P 11 31 14.0 -0.1
SCO pmax pmax
comp=Z,74nm,1.4s
SCO Scoresbysund 80.34 17 *i* P P **11 31 16.2 +2.1**
SCO IAmb IAmb 11 31 18.7
comp=Z,6.7nm,0.9s
PRP Porcupine Dome 80.38 337 P P 11 31 15.1 +0.5
PRP IAMs_20 IAMs_20 12 08 27.8
comp=Z,6µm,22.0s
PRP Porcupine Dome 80.38 337 P P 11 31 14.4 -0.1
baz=113,SNR=7.4
PRP S S 11 41 19.4 +0.2
baz=113
O22K Cooper Landing 80.39 332 IAMs_20 IAMs_20 12 11 55.5
comp=Z,6µm,21.0s
O22K Cooper Landing 80.39 332 P P 11 31 14.2 -0.3
baz=108
O22K S S 11 41 18.1 -1.0
baz=108
D27M Malcolm River 80.39 342 P P 11 31 15.2 +0.7
baz=118
D27M S S 11 41 19.5 +0.4
baz=118
TAF Taforalt 80.40 55 P P 11 31 18.0 +2.7
IWEX Carrickbyrne, 80.43 37 *eP* P **11 31 15.3 +0.4**
IWEX IAmb IAmb 11 31 17.1
comp=Z,240nm,1.2s
IWEX IAMs_20 IAMs_20 12 00 39.9
comp=Z,6µm,26.3s
GHO Glory Hole Cre 80.44 333 P P 11 31 16.6 +1.7
GHO IAmb IAmb 11 31 44.3
comp=Z,60nm,0.9s
GHO IAMs_20 IAMs_20 12 08 50.7
comp=Z,5µm,22.0s
PMR Palmer 80.47 333 IAMs_20 IAMs_20 12 11 09.6
comp=Z,7µm,19.0s
PMR Palmer 80.47 333 P P 11 31 15.4 +0.5
PMR Palmer 80.47 333 P P 11 31 14.9 0.0
baz=109,SNR=5.2
PMR S S 11 41 20.3 +0.4
baz=109
HDA Harding Lake 80.52 336 P P 11 31 15.7 +0.5
HDA IAmb IAmb 11 31 40.2
comp=Z,125nm,1.6s
HDA Harding Lake 80.52 336 P P 11 31 15.1 -0.1
baz=112,SNR=8.8
HDA P P 11 31 15.1 -0.1
baz=112,SNR=8.8
HDA S S 11 41 20.2 -0.2
baz=112
HDA S S 11 41 20.2 -0.2
baz=112
RC01 Rabbit Creek A 80.58 333 IAMs_20 IAMs_20 12 12 57.7
comp=Z,4µm,20.0s
RC01 Rabbit Creek A 80.58 333 P P 11 31 15.4 -0.2
baz=108
RC01 S S 11 41 21.9 +0.7
baz=108
IL31 80.62 337 P P 11 31 15.8 +0.1
ILAR Eielson Array 80.62 337 P P 11 31 15.8 +0.1
comp=Z,5.3nm,1.2s,baz=124,slow=3.3,SNR=25
ILAR S S 11 41 17.8 -3.8
comp=Z,0.1nm,0.6s,baz=199,slow=6.3,SNR=1.6
ILAR LR LR 12 08 32.4
comp=Z,7µm,20.4s,baz=106,slow=37
comp=Z,5.3nm,1.2s
WAT1 Susitna Watana 80.63 334 P P 11 31 15.9 0.0
baz=110
WAT1 S S 11 41 21.1 -0.6
baz=110
BRSE Bradley Lake S 80.64 331 P P 11 31 15.5 -0.4
baz=107
BRSE S S 11 41 21.5 -0.4
baz=107
FYU Fort Yukon 80.68 338 P P 11 31 16.3 +0.4
FYU IAmb IAmb 11 31 37.6
comp=Z,78nm,1.1s
BRLK Bradley Lake 80.72 331 IAMs_20 IAMs_20 12 04 32.5
comp=Z,5µm,22.0s
F26K Shenjek River 80.76 340 P P 11 31 16.7 +0.3
baz=115
F26K S S 11 41 25.9 +3.0
baz=115
BMAR Burnt Mountain 80.80 339 P P 11 31 17.4 +0.7
CNPM China Poot 80.82 331 IAMs_20 IAMs_20 12 04 22.0
comp=Z,5µm,22.0s
FIS Fire Island 80.82 333 IAMs_20 IAMs_20 12 04 46.6
comp=Z,5µm,22.0s
DSB Dulin 80.86 36 IAMs_20 IAMs_20 12 05 41.2
comp=Z,5µm,20.0s
DSB Dublin 80.86 36 P P 11 31 18.8 +1.6
CCA1 Carnmenellis 80.90 39 *eP* P **11 31 18.3 +0.8**
CCA1 IAmb IAmb 11 31 19.6
comp=Z,201nm,1.1s
CCA1 IAMs_20 IAMs_20 11 59 04.8
comp=Z,5µm,27.6s
RND Reindeer 80.95 335 P P 11 31 18.0 +0.4
RND IAmb IAmb 11 31 30.2
comp=Z,109nm,1.2s
RND IAMs_20 IAMs_20 12 08 23.3
comp=Z,4µm,19.0s
RND Reindeer 80.95 335 P P 11 31 18.0 +0.4
RND pmax pmax
comp=Z,109nm,1.2s
RND MLR MLR
comp=Z,4µm,19.0s
M22K Willow 80.97 333 IAMs_20 IAMs_20 12 13 00.8
comp=Z,4µm,20.0s
M22K Willow 80.97 333 P P 11 31 17.7 +0.1
baz=108
M22K S S 11 41 25.0 -0.1
baz=108
POKR Poker Plat Res 80.97 337 P P 11 31 17.7 0.0
POKR Poker Plat Res 80.97 337 P P 11 31 17.6 0.0
baz=111
POKR S S 11 41 26.0 +0.9
baz=111
WRH Wood River Hil 81.00 336 IAMs_20 IAMs_20 12 08 52.4
comp=Z,7µm,19.0s
KDAK Kodiak Island 81.01 329 IAMs_20 IAMs_20 12 06 26.2
comp=Z,5µm,19.0s
KDAK Kodiak Island 81.01 329 P P 11 31 19.0 +1.1
baz=105
KDAK S S 11 41 26.9 +1.2
baz=105
KDAK Kodiak Island 81.01 329 LR LR 12 07 34.7
comp=Z,4µm,18.4s,baz=123,slow=36
BELA Belgrano 2 81.02 171 P P 11 31 18.4 +0.7
BELA IAmb IAmb 11 31 21.6
comp=Z,116nm,1.3s
BELA IAMs_20 IAMs_20 12 05 30.8
comp=Z,4µm,21.0s
FIGM Figuig 81.04 58 P P 11 31 22.0 +3.1
COLA College 81.05 336 P P 11 31 18.0 +0.1
COLA College 81.05 336 P P 11 31 18.1 +0.1
COLA College 81.05 336 P P 11 31 18.6 +0.6
baz=111
COLA S S 11 41 26.1 +0.3
baz=111
COLA College 81.05 336 P P 11 31 18.0 +0.1
COLA pmax pmax
comp=Z,49nm,1.1s
COLA MLR MLR
comp=Z,11µm,20.0s
HOM Homer 81.06 331 IAMs_20 IAMs_20 12 04 29.4
comp=Z,4µm,21.0s
HOM Homer 81.06 331 P P 11 31 19.5 +1.4
baz=106
ILTH Belurgan, Co L 81.07 35 *eP* P **11 31 17.6 -0.6**
G25K Bearman Lake 81.08 339 P P 11 31 18.6 +0.5
baz=113,SNR=8.8
G25K S S 11 41 30.0 +3.9
baz=113
MCK McKinley 81.09 335 P P 11 31 18.8 +0.5
baz=110
MCK S S 11 41 25.3 -1.2
baz=110
SYI Shuyak Island 81.13 330 IAMs_20 IAMs_20 12 06 46.5
comp=Z,5µm,18.0s

Q20K Shuyak Island 81.14 330 P P 11 31 18.9 +0.4
baz=106
Q20K S S 11 41 27.6 +0.6
baz=106
CAPN Captain Cook N 81.14 332 IAMs_20 IAMs_20 12 12 18.5
comp=Z,6µm,21.0s
CAPN Captain Cook N 81.14 332 P P 11 31 19.0 +0.4
baz=107
SUA Susitna One 81.16 333 P P 11 31 17.9 -0.9
SUA IAmb IAmb 11 31 30.4
comp=Z,160nm,1.6s
SUA IAMs_20 IAMs_20 12 09 29.0
comp=Z,5µm,19.0s
SUA Susitna One 81.16 333 P P 11 31 18.9 +0.1
baz=108
SUA S S 11 41 25.7 -1.8
baz=108
MDM Murphy Dome 81.23 336 P P 11 31 19.2 +0.2
MDM IAmb IAmb 11 31 39.4
comp=Z,68nm,1.2s
OHAK Old Harbor 81.23 328 P P 11 31 22.9 +3.8
OHAK Old Harbor 81.23 328 P P 11 31 18.7 -0.4
baz=105
OHAK S S 11 41 28.8 +0.8
baz=105
CUT Chulitna 81.24 334 P P 11 31 19.7 +0.7
CUT IAMs_20 IAMs_20 12 12 36.8
comp=Z,5µm,19.0s
CUT Chulitna 81.24 334 P P 11 31 18.9 -0.1
baz=108,SNR=9.2
CUT S S 11 41 27.1 -0.8
baz=108
F25K Christian Rive 81.24 339 P P 11 31 19.6 +0.5
baz=113
F25K S S 11 41 30.9 +2.9
baz=113
H24K Noodor Dome 81.40 337 IAMs_20 IAMs_20 12 09 12.9
comp=Z,7µm,21.0s
H24K Noodor Dome 81.40 337 P P 11 31 19.3 -0.7
baz=111
H24K S S 11 41 31.0 +1.4
baz=111
E25K Arctic Village 81.42 340 P P 11 31 20.7 +0.7
E25K IAmb IAmb 11 31 41.2
comp=Z,63nm,1.1s
E25K Arctic Village 81.42 340 P P 11 31 20.4 +0.4
baz=113,SNR=18
E25K S S 11 41 31.5 +1.7
baz=113
CLGH Cloghs, Cushen 81.44 34 *eP* P **11 31 20.0 -0.3**
NEA2 Nenana 81.44 336 P P 11 31 20.6 +0.5
NEA2 IAmb IAmb 11 31 41.0
comp=Z,68nm,1.1s
NEA2 IAMs_20 IAMs_20 12 08 57.0
comp=Z,6µm,20.0s
NEA2 Nenana 81.44 336 P P 11 31 19.6 -0.5
baz=110,SNR=16
NEA2 S S 11 41 29.9 -0.1
baz=110
BWN Browne 81.46 336 IAMs_20 IAMs_20 12 06 32.9
comp=Z,5µm,20.0s
SII Sitkinak Islan 81.54 327 P P 11 31 19.6 -1.2
baz=104
SII S S 11 41 32.2 +0.8
baz=104
G24K Hadweenzic Riv 81.56 338 P P 11 31 21.2 +0.5
G24K IAMs_20 IAMs_20 12 10 19.8
comp=Z,7µm,19.0s
G24K Hadweenzic Riv 81.56 338 P P 11 31 21.4 +0.7
baz=111
G24K S S 11 41 34.6 +3.4
baz=111
TRF Thorofare Moun 81.58 335 IAMs_20 IAMs_20 12 13 42.7
comp=Z,5µm,19.0s
TRF Thorofare Moun 81.58 335 P P 11 31 21.2 +0.2
baz=108
TRF S S 11 41 30.9 -0.9
baz=108
O20K Slope Mountain 81.65 331 P P 11 31 21.8 +0.4
baz=106
O20K S S 11 41 32.0 -0.4
baz=106
SKT Skwentna 81.67 333 P P 11 31 21.2 -0.2
SKT IAmb IAmb 11 31 33.5
comp=Z,151nm,1.2s
SKT IAMs_20 IAMs_20 12 11 57.5
comp=Z,4µm,19.0s
SKT Skwentna 81.67 333 P P 11 31 21.5 +0.1
baz=107,SNR=32
SKT S S 11 41 32.8 +0.3
baz=107
I23K Minto, Yukon-K 81.74 337 P P 11 31 22.2 +0.5
I23K IAmb IAmb 11 31 42.3
comp=Z,66nm,1.1s
I23K Minto, Yukon-K 81.74 337 P P 11 31 21.8 +0.1
baz=109,SNR=11
I23K S S 11 41 32.5 -0.5
baz=109
N20K Mount Spurr 81.76 332 P P 11 31 21.5 -0.4
baz=106
N20K S S 11 41 32.6 -1.0
baz=106
SPCR Spurr Chakacha 81.76 332 P P 11 31 21.7 -0.3
baz=106
SPCR S S 11 41 32.3 -1.3
baz=106
P19K Oil Pt 81.83 331 P P 11 31 22.2 0.0
baz=105
P19K S S 11 41 33.0 -1.3
baz=105
Q19K Cape Douglas, 81.85 330 P P 11 31 22.6 +0.2
baz=105
Q19K S S 11 41 33.8 -0.7
baz=105
KTH Kantishna Hill 81.88 335 P P 11 31 23.1 +0.6
KTH IAMs_20 IAMs_20 12 14 01.7
comp=Z,4µm,19.0s
R18K Karluk 81.93 328 P P 11 31 23.2 +0.5
baz=104
R18K S S 11 41 35.2 0.0
baz=104
C26K Camden Bay 81.94 342 P P 11 31 23.5 +1.0
baz=114
C26K S S 11 41 35.5 +0.7
baz=114
F24K Squaw Lake 82.01 339 P P 11 31 24.2 +1.1
baz=111,SNR=8.9
F24K S S 11 41 37.7 +1.8
baz=111
BPAW Bear Paw Mtn. 82.07 335 P P 11 31 24.1 +0.6
BPAW IAmb IAmb 11 31 40.6
comp=Z,92nm,1.2s
BPAW IAMs_20 IAMs_20 12 12 17.8
comp=Z,4µm,19.0s
BPAW Bear Paw Mtn. 82.07 335 P P 11 31 23.5 0.0
baz=108,SNR=16
BPAW S S 11 41 34.9 -1.7
baz=108
LAWE Loch Awe, Argy 82.10 33 *eP* P **11 31 23.5 -0.2**
LAWE IAmb IAmb 11 31 25.1
comp=Z,147nm,1.4s
LAWE IAMs_20 IAMs_20 12 07 21.2
comp=Z,4µm,20.7s
IOMK Kirk Michael 82.13 35 *eP* P **11 31 24.4 +0.4**
IOMK IAmb IAmb 11 31 27.5
comp=Z,542nm,1.3s
IOMK IAMs_20 IAMs_20 12 05 16.3
comp=Z,12µm,23.6s
CHIR Chirikof Islan 82.16 327 IAMs_20 IAMs_20 12 06 50.8
comp=Z,5µm,18.0s
CHIR Chirikof Islan 82.16 327 P P 11 31 25.6 +1.5
baz=102
CHIR S S 11 41 39.5 +1.8
baz=102
D25K Kavik River 82.17 341 IAMs_20 IAMs_20 12 12 13.5
comp=Z,7µm,19.0s
D25K Kavik River 82.17 341 P P 11 31 24.4 +0.5
baz=113
D25K S S 11 41 36.8 -0.7
baz=113
GAL1 Galloway 82.18 34 *eP* P **11 31 24.4 +0.3**
GAL1 IAmb IAmb 11 31 25.7
comp=Z,183nm,1.2s
KPL Plockton 82.20 32 *eP* P **11 31 24.1 -0.2**
PPLA Purkeypile 82.23 334 P P 11 31 24.9 +0.4
baz=106,SNR=11
PPLA S S 11 41 36.8 -1.8
baz=106

MLY Manley 82.26 336 P **P** **11 31 24.2 -0.2**
MLY IAMs_20 IAMs_20 12 09 31.7
comp=Z,6µm,20.0s
MLY Manley 82.26 336 P **P** **11 31 24.4 -0.1**
baz=108,SNR=17
MLY S **S** **11 41 38.3 -0.2**
baz=108
CAST Castle Rocks 82.34 334 P **P** **11 31 25.1 +0.2**
CAST IAmb IAmb 11 31 44.8
comp=Z,79nm,1.2s
CAST IAMs_20 IAMs_20 12 14 26.8
comp=Z,4µm,20.0s
CAST Castle Rocks 82.34 334 P **P** **11 31 24.6 -0.2**
baz=107,SNR=21
CAST S **S** **11 41 38.0 -1.3**
baz=107
M20K Styx River 82.37 333 IAMs_20 IAMs_20 12 10 04.8
comp=Z,5µm,19.0s
M20K Styx River 82.37 333 P **P** **11 31 25.0 -0.2**
baz=106
M20K S **S** **11 41 38.5 -1.4**
baz=106
LLW Llanuwchllyn 82.38 37 *e*P **P** **11 31 25.2 -0.1**
TOA0 Torodi Ar. Sit 82.38 77 P **P** **11 31 25.4 -0.7**
TORD Torodi Ar. Bea 82.38 77 P **P** **11 31 25.4 -0.7**
TORD IAmb IAmb 11 31 27.6
comp=Z,130nm,1.1s
TORD Torodi Ar. Bea 82.38 77 P **P** **11 31 25.7 -0.4**
comp=Z,101nm,1.1s,baz=277,slow=3.5,SNR=242
TORD S **S** **11 41 38.4 -3.1**
comp=Z,0.5nm,0.7s,baz=246,slow=2.2,SNR=1.5
TORD LR LR 12 05 33.9
comp=Z,28µm,21.6s,baz=258,slow=34
comp=Z,101nm,1.1s
E24K Your Creek 82.42 339 P **P** **11 31 26.1 +0.8**
E24K IAMs_20 IAMs_20 12 10 29.5
comp=Z,6µm,18.0s
E24K Your Creek 82.42 339 P **P** **11 31 26.1 +0.8**
baz=110,SNR=5.9
E24K S **S** **11 41 42.9 +2.8**
baz=110
Q18K Katmai Hardscr 82.47 329 P **P** **11 31 25.7 -0.1**
baz=103
Q18K S **S** **11 41 41.5 +0.4**
baz=103
O19K Port Alsworth 82.50 331 P **P** **11 31 23.9 -1.8**
baz=104
O19K S **S** **11 41 40.2 -0.7**
baz=104
NEWG New Galloway 82.50 34 *e*P **P** **11 31 26.0 +0.2**
NEWG IAmb IAmb 11 31 27.4
comp=Z,208nm,1.3s
PGBU Glenifferbraes 82.50 34 *e*P **P** **11 31 25.7 -0.2**
PGBU IAmb IAmb 11 31 27.3
comp=Z,143nm,1.2s
G23K Bananza Creek 82.52 338 P **P** **11 31 25.4 -0.4**
baz=109
G23K S **S** **11 41 43.1 +2.0**
baz=109
CHUM Lake Minchumin 82.57 335 P **P** **11 31 25.7 -0.3**
baz=106,SNR=6.2
CHUM S **S** **11 41 38.5 -3.1**
baz=106
MCH1 Michaelchurch 82.63 37 *e*P **P** **11 31 26.8 +0.2**
MCH1 IAmb IAmb 11 31 28.0
comp=Z,155nm,1.3s
MCH1 IAMs_20 IAMs_20 12 04 45.1
comp=Z,5µm,23.2s
FOEL Foel Wylfa 82.67 37 *e*P **P** **11 31 26.8 0.0**
FOEL IAmb IAmb 11 31 28.2
comp=Z,133nm,1.2s
FOEL IAMs_20 IAMs_20 12 02 03.0
comp=Z,7µm,26.3s
MONM Monmouth 82.72 38 *e*P **P** **11 31 26.9 -0.1**
MONM IAmb IAmb 11 31 28.7
comp=Z,176nm,1.2s
MONM IAMs_20 IAMs_20 12 02 40.2
comp=Z,6µm,24.0s
N19K Bonanza Creek 82.73 332 IAMs_20 IAMs_20 12 12 57.1
comp=Z,6µm,22.0s
N19K Bonanza Creek 82.73 332 P **P** **11 31 26.5 -0.6**
baz=104
N19K S **S** **11 41 41.8 -1.8**
baz=104
COLD Coldfoot 82.75 338 P **P** **11 31 28.0 +1.1**
baz=109,SNR=9.2
COLD S **SKSac** **11 41 47.0 +0.2**
baz=109
P18K Big Mountain, 82.75 330 IAMs_20 IAMs_20 12 07 40.2
comp=Z,5µm,18.0s
P18K Big Mountain, 82.75 330 P **P** **11 31 27.2 0.0**
baz=103
P18K S **S** **11 41 41.9 -1.9**
baz=103
H22K Ishtalitna Cre 82.78 337 P **P** **11 31 27.0 -0.1**
baz=108
H22K S **S** **11 41 44.4 +0.7**
baz=108
HLM1 Long Mynd 82.79 37 *e*P **P** **11 31 27.6 +0.2**
HLM1 IAmb IAmb 11 31 29.1
comp=Z,155nm,1.2s
HLM1 IAMs_20 IAMs_20 12 02 17.3
comp=Z,7µm,23.5s
I21K Tanana 82.81 336 P **P** **11 31 27.1 -0.1**
I21K IAMs_20 IAMs_20 12 13 20.1
comp=Z,5µm,18.0s
I21K Tanana 82.81 336 P **P** **11 31 28.6 +1.4**
baz=107,SNR=12
I21K S **S** **11 41 43.2 -0.8**
baz=107
E23K Chandalar 82.81 339 P **P** **11 31 27.7 +0.3**
baz=110,SNR=15
E23K S **S** **11 41 44.9 +0.7**
baz=110
Q17K Contact Creek 82.83 329 P **P** **11 31 27.2 -0.4**
baz=103
Q17K S **S** **11 41 44.7 0.0**
baz=103
OLDB Oldbury-Upon-S 82.84 38 *e*P **P** **11 31 28.1 +0.4**
OLDB IAMs_20 IAMs_20 12 02 43.1
comp=Z,6µm,25.7s
O18K Koktuh Hills 82.85 331 P **P** **11 31 28.8 +1.2**
baz=103
O18K S **S** **11 41 43.1 -1.6**
baz=103
INVG Invergeldie, C 82.87 33 *e*P **P** **11 31 27.5 -0.3**
L20K Farewell, AK 82.87 333 P **P** **11 31 27.6 -0.1**
baz=105
L20K S **S** **11 41 41.8 -3.0**
baz=105
D24K Happy Valley 82.92 340 P **P** **11 31 28.1 +0.3**
baz=110
D24K S **S** **11 41 45.1 +0.1**
baz=110
M19K Big River Lodg 82.96 333 IAMs_20 IAMs_20 12 10 33.3
comp=Z,4µm,20.0s
M19K Big River Lodg 82.96 333 P **P** **11 31 28.2 +0.1**
baz=104
M19K S **S** **11 41 43.6 -2.1**
baz=104
R17K Ugashik Creek 82.96 328 P **P** **11 31 28.6 +0.4**
baz=102
R17K S **S** **11 41 45.4 -0.4**
baz=102
TOLK Toolik Lake Re 83.00 340 IAMs_20 IAMs_20 12 11 46.8
comp=Z,6µm,19.0s
TOLK Toolik Lake Re 83.00 340 P **P** **11 31 28.5 +0.2**
baz=110
TOLK S **S** **11 41 46.5 +0.6**
baz=110
KESW Keswick, Cumbr 83.04 35 *e*P **P** **11 31 29.1 +0.4**
KESW IAmb IAmb 11 31 30.2
comp=Z,170nm,1.2s
C24K Franklin Bluff 83.08 341 P **P** **11 31 29.6 +1.0**
baz=110,SNR=18
C24K S **S** **11 41 46.9 +0.4**
baz=110
ESK Eskdalemuir 83.12 34 *e*P **P** **11 31 28.8 -0.2**
ESK IAmb IAmb 11 31 30.4
comp=Z,179nm,1.3s
ESK Eskdalemuir 83.12 34 P **P** **11 31 29.7 +0.7**
ESK Eskdalemuir 83.12 34 IAMs_20 IAMs_20 12 11 15.7
comp=Z,4µm,19.0s
ESK Eskdalemuir 83.12 34 P **P** **11 31 29.7 +0.7**
ESK pmax pmax
comp=Z,157nm,1.3s
ESK MLR MLR
comp=Z,4µm,19.0s
G22K Bettles 83.14 338 P **P** **11 31 29.6 +0.6**
baz=108
G22K S **SKSac** **11 41 50.4 +1.1**
baz=108
EKA Eskdalemuir Ar 83.14 34 P **P** **11 31 29.2 0.0**
comp=Z,61nm,1.1s,baz=251,slow=5.2,SNR=42
comp=Z,61nm,1.1s
K20K Telida 83.18 334 P **P** **11 31 28.9 -0.3**
K20K IAmb IAmb 11 31 40.2
comp=Z,125nm,1.5s
K20K IAMs_20 IAMs_20 12 06 48.1
comp=Z,4µm,22.0s
K20K Telida 83.18 334 P **P** **11 31 28.9 -0.3**
baz=105,SNR=14
K20K S **S** **11 41 46.1 -1.8**
baz=105
L19K White Mountain 83.24 333 P **P** **11 31 29.1 -0.5**
L19K IAmb IAmb 11 31 40.4
comp=Z,64nm,1.2s
L19K IAMs_20 IAMs_20 12 14 03.5
comp=Z,4µm,19.0s
L19K White Mountain 83.24 333 P **P** **11 31 29.1 -0.5**
baz=104
L19K S **S** **11 41 46.4 -2.1**
baz=104
EDI Edinburgh 83.24 34 *e*P **P** **11 31 25.8 -3.8**
H21K Melozitna Rive 83.27 337 IAMs_20 IAMs_20 12 09 05.5
comp=Z,7µm,22.0s
H21K Melozitna Rive 83.27 337 P **P** **11 31 28.7 -1.0**
baz=106
H21K S **S** **11 41 48.0 -0.8**
baz=106
P17K Kvichak River 83.31 330 P **P** **11 31 29.7 -0.3**
baz=102
P17K S **S** **11 41 47.5 -1.8**
baz=102
Q16K King Salmon 83.31 329 P **P** **11 31 28.9 -1.0**
baz=102
Q16K S **S** **11 41 49.6 +0.3**
baz=102
SVW2 Sparrevohn 83.32 332 IAMs_20 IAMs_20 12 13 36.6
comp=Z,5µm,21.0s
SVW2 Sparrevohn 83.32 332 P **P** **11 31 32.0 +2.0**
ALE Alert 83.32 2 IAMs_20 IAMs_20 12 09 58.1
comp=Z,6µm,19.0s
N18K Kilae Creek 83.37 331 IAMs_20 IAMs_20 12 15 17.0
comp=Z,6µm,19.0s
N18K Kilae Creek 83.37 331 P **P** **11 31 29.8 -0.5**
baz=103
N18K S **S** **11 41 48.5 -1.4**
baz=103
VNA3 Neumayer Olymp 83.39 162 ⇑P **P** **11 31 30.9 +0.7**
comp=Z,45nm,0.9s
GRR Gorron 83.40 41 P **P** **11 31 30.7 0.0**
J20K Nowinta River 83.42 335 IAMs_20 IAMs_20 12 13 18.7
comp=Z,6µm,20.0s
J20K Nowinta River 83.42 335 P **P** **11 31 30.1 -0.4**
baz=105
J20K S **S** **11 41 49.4 -0.8**
baz=105
D23K Nanushuk River 83.48 340 P **P** **11 31 31.4 +0.7**
baz=109
D23K S **S** **11 41 52.8 +2.1**
baz=109
M18K Stony River 83.52 332 P **P** **11 31 30.6 -0.4**
baz=103
M18K S **S** **11 41 49.3 -2.1**
baz=103
EPF Esparros 83.54 47 P **P** **11 31 32.2 +0.6**
F22K John River 83.57 338 P **P** **11 31 31.5 +0.4**
baz=107
F22K S **S** **11 41 53.3 +1.6**
baz=107
E22K Anaktuvuk Pass 83.62 339 IAMs_20 IAMs_20 12 12 15.0
comp=Z,7µm,20.0s
E22K Anaktuvuk Pass 83.62 339 P **P** **11 31 31.5 +0.1**
baz=107,SNR=14
E22K S **S** **11 41 52.8 +0.6**
baz=107
LBWR Ladybower, Pea 83.63 36 *e*P **P** **11 31 32.2 +0.5**
LBWR IAmb IAmb 11 31 33.7
comp=Z,184nm,1.1s
LBWR IAMs_20 IAMs_20 12 02 46.1
comp=Z,5µm,24.4s
VNA1 Neumayer--Stat 83.65 161 ⇑P **P** **11 31 32.7 +1.2**
comp=Z,61nm,1.1s
FLN La Foliniere 83.70 41 P **P** **11 31 32.5 +0.3**
I20K Naaghedeneel 83.72 336 P **P** **11 31 31.6 -0.4**
baz=105
I20K S **S** **11 41 52.3 -0.9**
baz=105
EDMD Edmundbyers 83.73 35 *e*P **P** **11 31 31.7 -0.5**
EDMD IAmb IAmb 11 31 33.7
comp=Z,110nm,1.4s
IMAR Indian Mountai 83.74 337 P **P** **11 31 32.1 +0.1**
C23K Itkillik River 83.74 341 IAMs_20 IAMs_20 12 12 08.2
comp=Z,6µm,19.0s
C23K Itkillik River 83.74 341 P **P** **11 31 32.9 +1.0**
baz=109,SNR=13
C23K S **SKSac** **11 41 54.1 +1.0**
baz=109
O17K Koliganek Bris 83.76 330 P **P** **11 31 32.2 0.0**
baz=102
O17K S **SKSac** **11 41 53.3 -0.4**
baz=102
CWF Charnwood Fore 83.77 37 *e*P **P** **11 31 32.6 +0.1**
CWF IAmb IAmb 11 31 35.2
comp=Z,79nm,1.4s
CWF IAMs_20 IAMs_20 12 02 48.1
comp=Z,6µm,23.0s
G21K Allakaket 83.78 337 P **P** **11 31 32.8 +0.5**
G21K IAmb IAmb 11 31 53.6
comp=Z,56nm,1.1s
G21K Allakaket 83.78 337 P **P** **11 31 32.9 +0.6**
baz=106,SNR=22
G21K S **SKSac** **11 41 55.1 +1.4**
baz=106
CHGN Chignik 83.79 327 P **P** **11 31 32.5 0.0**
baz=100
CHGN S **SKSac** **11 41 53.7 -0.2**
baz=100
DRUM Mains of Drumt 83.81 33 *e*P **P** **11 31 31.8 -0.8**
LDF La Druitiere 83.92 41 P **P** **11 31 33.4 +0.1**
TTA Tatalina 83.93 334 P **P** **11 31 34.1 +0.9**
TTA Tatalina 83.93 334 P **P** **11 31 32.6 -0.6**
baz=103
TTA S **SKSac** **11 41 53.8 -1.1**
baz=103
N17K Nushagak Hills 83.96 331 IAMs_20 IAMs_20 12 15 45.8
comp=Z,5µm,19.0s
N17K Nushagak Hills 83.96 331 P **P** **11 31 32.8 -0.5**
baz=102
N17K S **SKSac** **11 41 55.3 +0.3**
baz=102
F21K Alatna River 83.97 338 P **P** **11 31 34.1 +0.9**
baz=106
F21K S **S** **11 41 57.4 +1.6**
baz=106
VNA2 Neumayer--Watz 84.00 162 ⇑P **P** **11 31 34.0 +0.7**
comp=Z,35nm,1.0s,baz=302,slow=5.0
J19K Poorman 84.01 335 P **P** **11 31 32.9 -0.6**
J19K IAMs_20 IAMs_20 12 11 17.7
comp=Z,5µm,20.0s
J19K Poorman 84.01 335 P **P** **11 31 33.0 -0.4**
baz=104,SNR=6.0
J19K S **SKSac** **11 41 53.8 -1.4**
baz=104
LFF La Frestale 84.05 45 *e*P **P** **11 31 34.3 +0.2**
H20K Anotleneega Mo 84.06 336 P **P** **11 31 33.9 +0.1**
baz=104
H20K S **SKSac** **11 41 55.8 +0.3**
baz=104
P16K Nushagak River 84.07 329 P **P** **11 31 34.2 +0.4**
baz=101
P16K S **SKSac** **11 41 57.2 +1.6**
baz=101
L18K Granite Mounta 84.08 333 IAMs_20 IAMs_20 12 09 23.7
comp=Z,4µm,19.0s
L18K Granite Mounta 84.08 333 P **P** **11 31 33.2 -0.6**
baz=102
L18K S **SKSac** **11 41 55.2 -0.5**
baz=102
D22K Ayikyak River 84.15 340 P **P** **11 31 33.7 -0.4**
baz=107
D22K S **SKSac** **11 41 58.3 +2.3**
baz=107
CHNA Chernabura Isl 84.20 325 P **P** **11 31 34.4 -0.1**
baz=99
CHNA S **SKSac** **11 41 57.5 +0.9**
baz=99
DAG Danmarks Havn 84.22 12 P **P** **11 31 33.6 -0.7**
DAG Danmarks Havn 84.22 12 *i* P **P** **11 31 33.3 -1.0**
DAG IAmb IAmb 11 31 48.9
comp=Z,18nm,1.0s
O16K Kokwok River B 84.22 330 IAMs_20 IAMs_20 12 08 34.2
comp=Z,5µm,18.0s
O16K Kokwok River B 84.22 330 P **P** **11 31 34.7 +0.1**
baz=101
O16K S **SKSac** **11 41 57.3 +0.7**
baz=101
M17K Holitna River 84.26 332 IAMs_20 IAMs_20 12 06 25.6
comp=Z,4µm,22.0s
M17K Holitna River 84.26 332 P **P** **11 31 34.5 -0.3**
baz=102
M17K S **SKSac** **11 41 57.5 +0.6**
baz=102
J18K Innoko River 84.36 334 IAMs_20 IAMs_20 12 10 26.5
comp=Z,4µm,20.0s
J18K Innoko River 84.36 334 P **P** **11 31 34.8 -0.5**
baz=102
J18K S **SKSac** **11 41 58.0 +0.5**
baz=102
RJF Les Rejaudoux 84.64 45 *e*P **P** **11 31 37.1 0.0**
H19K Roundabout Mou 84.70 336 IAMs_20 IAMs_20 12 11 09.4
comp=Z,6µm,19.0s
H19K Roundabout Mou 84.70 336 P **P** **11 31 35.4 -1.5**
baz=103
H19K S **SKSac** **11 42 00.0 +0.5**
baz=103
GCSA Galena City Sc 84.71 335 P **P** **11 31 37.4 +0.5**
baz=102
GCSA S **S** **11 42 03.9 +0.8**
baz=102
N16K Nishlik Lake 84.72 331 P **P** **11 31 36.7 -0.5**
baz=100
N16K S **SKSac** **11 42 01.9 +1.9**
baz=100
F20K Avaraart Lake 84.77 338 P **P** **11 31 38.0 +0.8**
F20K IAMs_20 IAMs_20 12 11 02.9
comp=Z,7µm,19.0s
F20K Avaraart Lake 84.77 338 P **P** **11 31 37.4 +0.1**
baz=104
F20K S **SKSac** **11 42 00.7 +0.8**
baz=104
SDPT Sand Point 84.78 326 P **P** **11 31 36.7 -0.8**
baz=98
SDPT S **S** **11 42 04.9 +0.8**
baz=98
L17K Donlin 84.80 333 P **P** **11 31 36.7 -0.8**
baz=101
L17K S **S** **11 42 04.3 +0.1**
baz=101
B22K Teshekpuk Lake 84.81 341 IAMs_20 IAMs_20 12 13 08.6
comp=Z,7µm,20.0s
B22K Teshekpuk Lake 84.81 341 P **P** **11 31 36.7 -0.6**
baz=106
B22K S **S** **11 42 04.3 +0.4**
baz=106
M16K Timber Creek 84.91 331 IAMs_20 IAMs_20 12 14 13.7
comp=Z,5µm,21.0s
M16K Timber Creek 84.91 331 P **P** **11 31 36.7 -1.4**
baz=100
M16K S **S** **11 42 06.3 +0.9**
baz=100
K17K Iditarod 84.92 333 IAMs_20 IAMs_20 12 10 08.9
comp=Z,4µm,19.0s
K17K Iditarod 84.92 333 P **P** **11 31 38.2 +0.1**
baz=101
K17K S **SKSac** **11 42 04.9 +3.9**
baz=101
WACR West Acre 84.94 37 *e*P **P** **11 31 38.2 -0.2**
WACR IAmb IAmb 11 31 39.9
comp=Z,257nm,1.1s
WACR IAMs_20 IAMs_20 12 03 33.4
comp=Z,7µm,25.0s
C21K Knifeblade Rid 84.95 340 P **P** **11 31 38.0 -0.1**
baz=105
C21K S **S** **11 42 05.4 -0.1**
baz=105
B21K Ikpikpuk River 85.01 340 IAMs_20 IAMs_20 12 15 08.9
comp=Z,6µm,18.0s
B21K Ikpikpuk River 85.01 340 P **P** **11 31 38.0 -0.4**
baz=105
B21K S **S** **11 42 06.0 +0.1**
baz=105
O15K Ungalikthiuk R 85.02 329 P **P** **11 31 38.1 -0.6**
baz=99
O15K S **SKSac** **11 42 04.8 +2.9**
baz=99
ELMS Elmsett, Ipswi 85.08 38 *e*P **P** **11 31 38.1 -0.9**
ELMS IAmb IAmb 11 31 40.6
comp=Z,114nm,1.2s
ELMS IAMs_20 IAMs_20 12 07 28.7
comp=Z,7µm,19.4s
G19K Purcell Mounta 85.10 337 P **P** **11 31 39.2 +0.3**
G19K IAmb IAmb 11 32 00.2
comp=Z,56nm,1.1s
G19K IAMs_20 IAMs_20 12 13 01.4
comp=Z,5µm,19.0s
G19K Purcell Mounta 85.10 337 P **P** **11 31 39.3 +0.4**
baz=102,SNR=20
G19K S **S** **11 42 08.2 +1.2**
baz=102
TCF Toulx Ste Croi 85.22 44 *e*P **P** **11 31 39.8 -0.2**
E20K Nigu River 85.23 339 P **P** **11 31 40.1 +0.5**
baz=103
E20K S **SKSac** **11 42 07.5 +4.5**
baz=103
L16K Owhat River 85.28 332 P **P** **11 31 38.8 -1.1**
baz=100
L16K S **S** **11 42 09.1 +0.2**
baz=100
N15K Kwethluk River 85.32 330 IAMs_20 IAMs_20 12 13 00.7
comp=Z,6µm,20.0s
N15K Kwethluk River 85.32 330 P **P** **11 31 37.9 -2.3**
baz=99
N15K S **S** **11 42 09.0 -0.4**
baz=99
H18K Honhosa River 85.41 336 P **P** **11 31 41.9 +1.3**
H18K IAmb IAmb 11 31 53.1
comp=Z,111nm,1.4s
H18K IAMs_20 IAMs_20 12 11 43.8
comp=Z,6µm,19.0s
H18K Honhosa River 85.41 336 P **P** **11 31 39.2 -1.4**
baz=101
H18K S **S** **11 42 12.2 +2.0**
baz=101
CLF Chambon-Foret 85.43 42 P **P** **11 31 41.1 +0.2**
CLF IAMs_20 IAMs_20 12 09 52.2
comp=Z,5µm,19.0s
E19K Redstone River 85.44 338 P **P** **11 31 39.3 -1.3**
baz=102
E19K S **S** **11 42 10.5 +0.2**
baz=102
D20K Etivluk River 85.48 339 P **P** **11 31 39.8 -1.0**
baz=103
D20K S **S** **11 42 12.2 +1.4**
baz=103
A22K Sinclair Lake 85.49 342 P **P** **11 31 39.9 -0.9**
baz=105
A22K S **S** **11 42 11.1 +0.5**
baz=105
F19K Shaleruckik Mo 85.51 337 IAMs_20 IAMs_20 12 12 12.1
comp=Z,4µm,18.0s
F19K Shaleruckik Mo 85.51 337 P **P** **11 31 38.5 -2.4**
baz=102
F19K S **S** **11 42 11.3 +0.3**
baz=102
SNAA Sanae 85.61 162 P **P** **11 31 42.2 +0.7**
SNAA IAMs_20 IAMs_20 12 14 19.9
comp=Z,6µm,19.0s
SNAA Sanae 85.61 162 ⇑P **P** **11 31 42.2 +0.7**
comp=Z,627nm,1.0s
SNAA Sanae 85.61 162 *ce*P **P** **11 31 41.9 +0.4**
SNAA pmax pmax
comp=Z,89nm,1.3s
SNAA Sanae 85.61 162 P **P** **11 31 42.1 +0.7**
comp=Z,41nm,1.1s,baz=279,slow=4.1,SNR=38
SNAA S **SKSac** **11 42 06.3 +1.0**
comp=Z,1.6nm,1.1s,baz=305,slow=15,SNR=2.0
SNAA LR LR 12 09 36.0
comp=Z,2µm,20.2s,baz=300,slow=35
comp=Z,41nm,1.1s
G18K Tagagawik 85.67 336 IAMs_20 IAMs_20 12 10 40.5
comp=Z,5µm,22.0s

G18K Tagagawik 85.67 336 P **P** **11 31 39.7 -2.1**
baz=101,SNR=30
G18K S **S** **11 42 13.8 +1.1**
baz=101
M15K Kasigluk River 85.69 331 P **P** **11 31 39.3 -2.6**
baz=99
M15K S **S** **11 42 13.9 +0.9**
baz=99
O14K Tigyukauivet M 85.77 329 P **P** **11 31 39.8 -2.5**
baz=98
O14K S **SKSac** **11 42 11.2 +4.7**
baz=98
B20K Meade River 85.96 340 P **P** **11 31 40.4 -2.7**
baz=102
B20K S **S** **11 42 15.5 +0.2**
baz=102
D19K Kuna River 85.98 339 P **P** **11 31 44.0 +0.7**
D19K IAmb IAmb 11 32 04.8
comp=Z,87nm,1.3s
D19K Kuna River 85.98 339 P **P** **11 31 41.9 -1.4**
baz=102
D19K S **S** **11 42 16.3 +0.6**
baz=102
H17K Granite Mounta 86.02 335 IAMs_20 IAMs_20 12 12 23.1
comp=Z,5µm,19.0s
H17K Granite Mounta 86.02 335 P **P** **11 31 42.2 -1.4**
baz=100
H17K S **S** **11 42 17.6 +1.5**
baz=100
J16K Anvik River 86.05 333 IAMs_20 IAMs_20 12 11 42.2
comp=Z,4µm,19.0s
J16K Anvik River 86.05 333 P **P** **11 31 42.9 -0.8**
baz=99
J16K S **S** **11 42 20.1 +3.7**
baz=99
AVF Avril sur Loir 86.05 43 *e*P **P** **11 31 43.7 -0.4**
N14K Kuskokwak Cree 86.07 330 P **P** **11 31 42.7 -1.1**
baz=98
N14K S **S** **11 42 17.5 +0.8**
baz=98
A21K Barrow 86.08 342 P **P** **11 31 43.0 -0.7**
baz=103
A21K S **S** **11 42 17.1 +0.7**
baz=103
SSF Saint Saulge 86.18 43 *e*P **P** **11 31 44.4 -0.3**
I17K Unalakleet 86.18 334 IAMs_20 IAMs_20 12 11 33.2
comp=Z,4µm,20.0s
I17K Unalakleet 86.18 334 P **P** **11 31 42.7 -1.6**
baz=99
I17K S **S** **11 42 20.4 +2.8**
baz=99
L15K Ungalak Mounta 86.22 332 P **P** **11 31 43.2 -1.4**
baz=98
L15K S **S** **11 42 19.9 +1.8**
baz=98
M14K Bethel 86.32 331 IAMs_20 IAMs_20 12 09 46.0
comp=Z,5µm,20.0s
M14K Bethel 86.32 331 P **P** **11 31 44.4 -0.7**
baz=98
M14K S **S** **11 42 20.8 +1.7**
baz=98
K15K Wolf Creek Mou 86.32 332 IAMs_20 IAMs_20 12 15 33.5
comp=Z,4µm,19.0s
K15K Wolf Creek Mou 86.32 332 P **P** **11 31 44.2 -0.8**
baz=98
K15K S **S** **11 42 20.8 +1.6**
baz=98
SMF Signal de Mont 86.38 43 *e*P **P** **11 31 45.5 -0.2**
G17K Kiwalik Mounta 86.42 336 P **P** **11 31 43.6 -1.9**
baz=99,SNR=13
G17K S **S** **11 42 21.9 +2.0**
baz=99
LOR Lormes 86.44 43 *e*P **P** **11 31 45.7 -0.3**
C19K Lookout Ridge 86.62 339 P **P** **11 31 44.8 -1.7**
baz=100
C19K S **S** **11 42 23.6 +1.6**
baz=100
E18K Tukpahlearik C 86.71 338 IAMs_20 IAMs_20 12 13 09.7
comp=Z,5µm,19.0s
E18K Tukpahlearik C 86.71 338 P **P** **11 31 45.5 -1.4**
baz=99
E18K S **S** **11 42 23.7 +1.0**
baz=99
L14K Kuka Creek 86.74 331 P **P** **11 31 46.0 -1.1**
baz=97
L14K S **S** **11 42 24.2 +1.0**
baz=97
NOR Nord 86.76 8 *i* P **P** **11 31 46.7 -0.1**
NOR IAmb IAmb 11 32 02.8
comp=Z,16nm,0.8s
SSB Saint Sauveur 86.76 45 P **P** **11 31 48.5 +0.8**
SSB IAmb IAmb 11 31 50.3
comp=Z,80nm,1.3s
SSB Saint Sauveur 86.76 45 IAMs_20 IAMs_20 12 14 39.5
comp=Z,4µm,19.0s
SSB Saint Sauveur 86.76 45 P **P** **11 31 48.5 +0.8**
SSB pmax pmax
comp=Z,80nm,1.3s
F17K Baldwin Pennin 86.81 337 IAMs_20 IAMs_20 12 11 14.9
comp=Z,5µm,22.0s
F17K Baldwin Pennin 86.81 337 P **P** **11 31 46.2 -1.1**
baz=98
F17K S **S** **11 42 25.9 +2.2**
baz=98
VIVF Saint-Julien-l 86.83 45 *e*P **P** **11 31 48.4 +0.4**
BAIF Baives 86.89 40 *e*P **P** **11 31 48.2 +0.1**
M13K Dall Lake 86.96 330 IAMs_20 IAMs_20 12 15 44.4
comp=Z,5µm,20.0s
M13K Dall Lake 86.96 330 P **P** **11 31 47.0 -1.1**
baz=96
M13K S **S** **11 42 26.6 +1.3**
baz=96
H16K Elim 86.96 335 P **P** **11 31 46.5 -1.7**
baz=98
H16K S **S** **11 42 27.7 +2.4**
baz=98
G16K Koyuk River 87.11 335 IAMs_20 IAMs_20 12 12 46.0
comp=Z,5µm,20.0s
G16K Koyuk River 87.11 335 P **P** **11 31 47.4 -1.5**
baz=97
G16K S **S** **11 42 29.7 +3.1**
baz=97
C18K Utukok River 87.12 339 P **P** **11 31 50.0 +1.1**
C18K Utukok River 87.12 339 P **P** **11 31 47.8 -1.2**
baz=99
C18K S **S** **11 42 26.3 -0.5**
baz=99
E17K Hotham Inlet 87.12 337 P **P** **11 31 48.0 -0.9**
baz=98,SNR=13
E17K S **S** **11 42 26.7 0.0**
baz=98
DOU Dourbes 87.14 40 *d*P **P** **11 31 50.0 +0.6**
comp=Z,47nm,1.3s
BMRD Maredsous 87.27 40 *d*P **P** **11 31 50.8 +0.9**
comp=Z,27nm,1.5s
GIVF Givet 87.29 40 *e*P **P** **11 31 50.4 +0.3**
J14K Nanvaranak Lak 87.31 333 IAMs_20 IAMs_20 12 17 41.6
comp=Z,4µm,18.0s
J14K Nanvaranak Lak 87.31 333 P **P** **11 31 48.8 -1.0**
baz=96
J14K S **S** **11 42 31.4 +2.8**
baz=96
A19K Wainwright 87.31 340 P **P** **11 31 48.4 -1.3**
baz=99
A19K S **S** **11 42 29.3 +0.9**
baz=99
TROLL Troll, Antarti 87.32 162 ⇑P **P** **11 31 51.1 +1.1**
comp=Z,4µm,1.1s
B18K Kokolik River 87.44 339 P **P** **11 31 50.5 +0.1**
baz=98
B18K S **S** **11 42 29.2 -0.5**
baz=98
BGES Gesves 87.48 40 *d*P **P** **11 31 51.5 +0.5**
comp=Z,34nm,1.3s
RCHB Rochefort 87.55 40 *d*P **P** **11 31 51.8 +0.5**
comp=Z,36nm,1.3s
BCLA Clavier 87.62 40 *d*P **P** **11 31 52.3 +0.7**
comp=Z,31nm,1.4s
RDOG Red Dog Mine 87.67 338 P **P** **11 31 51.5 0.0**
baz=97
RDOG S **S** **11 42 32.0 +0.1**
baz=97
ORIF Oris-en-Rattie 87.69 45 *e*P **P** **11 31 52.8 +0.6**
D17K Noatak River 87.69 338 P **P** **11 31 51.4 -0.2**
baz=97
D17K S **S** **11 42 32.8 +0.7**
baz=97
K13K Kusilvak Mount 87.74 332 IAMs_20 IAMs_20 12 11 54.0
comp=Z,4µm,19.0s
K13K Kusilvak Mount 87.74 332 P **P** **11 31 51.1 -0.9**
baz=95
K13K S **S** **11 42 33.5 +0.6**
baz=95
G15K Niukluk 87.77 335 P **P** **11 31 51.2 -0.9**
baz=96
G15K S **S** **11 42 34.9 +2.0**
baz=96
BSTI Sart Tilman 87.79 40 *d*P **P** **11 31 52.9 +0.4**
comp=Z,11nm,1.3s
C17K DeLong Mountai 87.82 339 P **P** **11 31 51.4 -0.9**
baz=97
C17K S **S** **11 42 33.4 0.0**
baz=97
BEBN Eben Emael 87.88 39 *d*P **P** **11 31 53.6 +0.8**
BHOU Houvegnez 88.06 40 *d*P **P** **11 31 55.3 +1.6**
comp=Z,33nm,1.4s
MEM Membach 88.08 40 *d*P **P** **11 31 55.1 +1.3**
comp=Z,27nm,1.3s
F15K North Star Dit 88.09 336 P **P** **11 31 54.7 +1.1**
F15K IAmb IAmb 11 32 16.7
comp=Z,59nm,1.0s
F15K IAMs_20 IAMs_20 12 13 15.8
comp=Z,5µm,19.0s
F15K North Star Dit 88.09 336 P **P** **11 31 53.3 -0.3**
baz=95
F15K S **S** **11 42 38.2 +2.1**
baz=95
UNV Unalaska Valle 88.11 324 P **P** **11 31 52.8 -1.1**
baz=93
UNV S **S** **11 42 37.0 +0.3**
baz=93
WLF Walferdange 88.12 40 P **P** **11 31 54.9 +0.8**
WLF IAMs_20 IAMs_20 12 06 50.4
comp=Z,4µm,22.0s
WLF Walferdange 88.12 40 *d*P **P** **11 31 55.3 +1.3**
comp=Z,48nm,1.3s
WLF Walferdange 88.12 40 P **P** **11 31 54.6 +0.5**
WLF Walferdange 88.12 40 P **P** **11 31 54.9 +0.8**
WLF pmax pmax
comp=Z,171nm,1.3s
WLF Walferdange 88.12 40 *e*P **P** **11 31 54.7 +0.7**
comp=Z,175nm,1.3s,baz=271,slow=4.8
BTNL Ternell 88.15 40 *d*P **P** **11 31 54.7 +0.5**
comp=Z,21nm,1.5s
BNI Bardonecchia 88.26 45 P **P** **11 31 55.8 +0.8**
BNI IAmb IAmb 11 31 59.4
comp=Z,37nm,1.2s
BNI IAMs_20 IAMs_20 12 14 08.3
comp=Z,6µm,20.0s
BNI Bardonecchia 88.26 45 P **P** **11 31 55.8 +0.8**
BNI pmax pmax
comp=Z,37nm,1.2s
BNI MLR MLR
comp=Z,6µm,20.0s
ANM Nome 88.30 335 P **P** **11 31 55.7 +1.1**
ANM IAMs_20 IAMs_20 12 17 34.0
comp=Z,4µm,19.0s
ANM Nome 88.30 335 P **P** **11 31 53.9 -0.6**
baz=95
ANM S **S** **11 42 38.1 +0.1**
baz=95
ANM Nome 88.30 335 P **P** **11 31 55.7 +1.1**
ANM pmax pmax
comp=Z,24nm,0.9s
LPL La Plagne 88.32 45 P **P** **11 31 56.1 +0.7**
M11K Mekoryuk 88.36 330 P **P** **11 31 53.5 -1.5**
baz=94
M11K S **S** **11 42 37.8 -1.0**
baz=94
C16K Lisburne Hills 88.59 338 IAMs_20 IAMs_20 12 16 11.6
comp=Z,6µm,20.0s
C16K Lisburne Hills 88.59 338 P **P** **11 31 56.5 +0.6**
baz=95
C16K S **S** **11 42 40.9 +0.2**
baz=95
ECH Echery 88.72 42 P **P** **11 31 57.3 +0.3**
ECH Echery 88.72 42 P **P** **11 31 57.3 +0.3**
ECH pmax pmax
comp=Z,119nm,1.3s
SENIN Lac Senin/Sane 88.75 44 P **P** **11 31 57.8 +0.5**
SBF Sospel 88.76 46 P **P** **11 31 59.7 +2.4**
F14K Arctic Creek 88.77 335 P **P** **11 31 57.1 +0.4**
baz=94
F14K S **S** **11 42 45.5 +3.0**
baz=94
BUG Bochum--Univer 88.91 39 *e*P **P** **11 31 58.6 +0.9**
comp=Z,128nm,1.8s,baz=271,slow=4.8
IBBN Ibbenburen 89.24 38 *e*P **P** **11 31 59.8 +0.5**
comp=Z,93nm,1.6s,baz=271,slow=4.8
TNA Tin City 89.44 335 P **P** **11 32 00.4 +0.6**
baz=92
TNA S **S** **11 42 50.7 +2.0**
baz=92
NIKH Nikolski High 89.48 323 P **P** **11 31 59.6 -0.8**
baz=92
NIKH S **S** **11 42 51.3 +1.7**
baz=92
BFO Black Forest 89.50 42 P **P** **11 31 59.5 -1.1**
BFO Black Forest 89.50 42 P **P** **11 31 59.5 -1.1**
BFO pmax pmax
comp=Z,28nm,1.3s
BFO MLR MLR
comp=Z,3µm,20.0s
BFO Black Forest 89.50 42 *e*P **P** **11 32 00.8 +0.1**
comp=Z,33nm,1.3s,baz=271,slow=4.8
QSPA South Pole Qui 89.55 180 IAMs_20 IAMs_20 12 07 51.2
comp=Z,6µm,19.0s
QSPA South Pole Qui 89.55 180 P **P** **11 32 01.8 +1.2**
comp=Z,54nm,1.0s,baz=152,slow=2.3,SNR=71
QSPA S **SKSac** **11 42 31.8 +2.3**
comp=Z,1.0nm,1.0s,baz=42,slow=21,SNR=1.2
QSPA PKKP **PKKPdf** **11 49 30.8 -2.6**
comp=Z,1.9nm,1.1s,baz=0.0,slow=4.0,SNR=9.5
QSPA LR LR 12 07 53.4
comp=Z,6µm,18.4s,baz=161,slow=33
comp=Z,54nm,1.0s
SLE Schleitheim 89.60 42 P **P** **11 32 01.5 +0.4**
EKNA AfricaArray - 89.73 86⇑*e*P **P** **11 32 03.9 +1.4**
KEST Kesra 90.06 54 P **P** **11 32 03.6 0.0**
KEST IAmb IAmb 11 32 06.2
comp=Z,58nm,1.3s
KEST Kesra 90.06 54 P **P** **11 32 04.1 +0.5**
comp=Z,22nm,1.0s,baz=215,slow=2.7,SNR=7.1
KEST LR LR 12 14 47.0
comp=Z,5µm,18.0s,baz=220,slow=37
comp=Z,22nm,1.0s
STU Stuttgart 90.08 41 *e*P **P** **11 32 03.6 +0.3**
comp=Z,142nm,1.3s,baz=271,slow=4.8
TUE Stuetta 90.16 44 IAMs_20 IAMs_20 12 17 21.6
comp=Z,5µm,18.0s
RETH Rethem/Aller, 90.23 37 *e*P **P** **11 32 05.2 +1.3**
comp=Z,35nm,1.3s,baz=271,slow=4.8
NVL N'lazarevskaya 90.26 161 *e*P **P** **11 32 04.6 +1.0**
NVL *e*S **SKSac** **11 42 35.1 +1.9**
NVL pmax pmax
comp=Z,79nm,1.2s
NVL smax smax
comp=N,2µm,15.3s
MSSA Maissana 90.27 46 IAMs_20 IAMs_20 12 13 10.4
comp=Z,4µm,19.0s
SPIA Saint Paul Isl 90.35 327 P **P** **11 32 04.4 +0.1**
baz=90
DAVOX Davos/Dischmat 90.53 43 P **P** **11 32 06.3 +0.6**
comp=Z,22nm,0.9s,baz=272,slow=7.1,SNR=24
DAVOX LR LR 12 11 39.8
comp=Z,2µm,18.8s,baz=270,slow=35
comp=Z,22nm,0.9s
DAVA Damuels 90.53 43 *e*P **P** **11 32 06.6 +0.9**
comp=Z,66nm,1.2s,SNR=15
UBBA Unterbreizbach 90.62 39 *e*P **P** **11 32 06.6 +1.0**
comp=Z,45nm,1.8s,baz=271,slow=4.8
UBR Ueberruh 90.69 43 *e*P **P** **11 32 07.2 +0.9**
comp=Z,112nm,1.4s,baz=271,slow=4.8
FUORN Ofenpass-Fuorn 90.80 44 IAMs_20 IAMs_20 12 17 51.4
comp=Z,3µm,19.0s
BSEG Bad Segeberg 90.81 36 *e*P **P** **11 32 07.6 +1.1**
comp=Z,39nm,1.5s,baz=271,slow=4.8
PRMA PARMA 90.83 45 IAMs_20 IAMs_20 12 14 02.5
comp=Z,6µm,19.0s
KBS Kingsbay 90.94 11 IAMs_20 IAMs_20 12 13 28.0
comp=Z,4µm,21.0s
SALO Salr 90.98 45 IAMs_20 IAMs_20 12 16 18.3
comp=Z,4µm,19.0s
GAMB Gambell 91.04 334 P **P** **11 32 07.6 +0.2**
baz=89
GAMB S **S** **11 43 01.6 -2.0**
baz=89
FETA Feichten 91.11 43 *e*P **P** **11 32 09.2 +0.8**
comp=Z,75nm,1.2s,SNR=22
RETA Reutte 91.13 43 *e*P **P** **11 32 09.2 +0.9**
comp=Z,60nm,1.6s,SNR=13
NB2 NORSAR Subarra 91.21 29 P **P** **11 32 07.8 -0.5**
comp=Z,78nm,2.0s,baz=270,slow=4.8
NB2 NORSAR Subarra 91.21 29 P **P** **11 32 07.8 -0.5**
baz=270,slow=4.8
NOA NORSAR Array B 91.21 29 P **P** **11 32 08.0 -0.3**
NOA NORSAR Array B 91.21 29 P **P** **11 32 08.0 -0.3**
comp=Z,5.9nm,1.1s,baz=269,slow=4.6,SNR=4.3
NOA LR LR 12 09 03.4
comp=Z,2µm,21.8s,baz=285,slow=33
comp=Z,5.9nm,1.1s
CASP Castiglione de 91.25 47 IAMs_20 IAMs_20 12 08 50.4
comp=Z,4µm,21.0s
ZCCA Zocca 91.31 46 IAMs_20 IAMs_20 12 15 12.1
comp=Z,5µm,18.0s
MOTA Moosalm 91.37 43 *e*P **P** **11 32 10.2 +0.7**
comp=Z,36nm,1.2s,SNR=12
FLTG Flechtingen 91.38 38 *e*P **P** **11 32 09.7 +0.5**
comp=Z,37nm,1.5s,baz=271,slow=4.8
GRA1 Grafenberg Arr 91.41 40 IAMs_20 IAMs_20 12 09 41.5
comp=Z,4µm,21.0s
GRF Grafenberg Arr 91.41 40 *e*P **P** **11 32 10.7 +1.2**
comp=Z,175nm,1.9s,baz=271,slow=4.8
GRF *e*L L 12 09 41.2
comp=Z,4µm,21.7s
GRFO Grafenberg 91.41 40 P **P** **11 32 10.3 +0.9**
GRFO IAMs_20 IAMs_20 12 09 52.4
comp=Z,5µm,22.0s
GRFO Grafenberg 91.41 40 P **P** **11 32 10.4 +0.9**
GRFO pmax pmax
comp=Z,115nm,1.6s
SQTA Sankt Quirin 91.44 43 *i* P **P** **11 32 10.4 +0.6**
comp=Z,63nm,1.2s,SNR=20
FUR Furstenfeldbru 91.47 42 *e*P **P** **11 32 11.1 +1.3**
comp=Z,51nm,1.1s,baz=271,slow=4.8
OSSC Osservatorio P 91.52 47 IAMs_20 IAMs_20 12 13 39.6
comp=Z,4µm,19.0s
MOX Moxa 91.65 40 *e*P **P** **11 32 11.3 +0.8**
baz=271,slow=4.8
MOX *e*L L 12 12 37.5
comp=Z,3µm,20.9s
WATA Walderalm 91.69 43 *e*P **P** **11 32 11.7 +0.7**
comp=Z,30nm,1.2s,SNR=14
WTTA Wattenberg 91.73 43 *e*P **P** **11 32 12.0 +0.8**
comp=Z,62nm,1.4s,SNR=16
CTI Castel Tesino 91.76 44 IAMs_20 IAMs_20 12 12 22.0
comp=Z,4µm,21.0s
TEOL Teolo 91.79 45 IAMs_20 IAMs_20 12 14 51.8
comp=Z,6µm,19.0s
SPITS Spitsbergen Ar 91.87 12 P **P** **11 32 10.7 -0.4**
comp=Z,24nm,1.0s,baz=301,slow=3.7,SNR=2.8
SPITS LR LR 12 13 39.6
comp=Z,3µm,21.0s,baz=252,slow=36
comp=Z,24nm,1.0s
MANZ Manzenberg 91.98 40 *e*P **P** **11 32 13.2 +1.0**
comp=Z,12nm,1.5s,baz=271,slow=4.8
PLN Plauen 92.00 40 *e*P **P** **11 32 12.8 +0.7**
comp=Z,33nm,1.2s,baz=271,slow=4.8
ROTZ Rotzenmuhle 92.05 40 *e*P **P** **11 32 13.5 +1.1**
comp=Z,14nm,1.3s,baz=271,slow=4.8
WERD Werda 92.09 40 *e*P **P** **11 32 13.9 +1.2**
comp=Z,32nm,1.2s,baz=271,slow=4.8
WERN Wernitzgruen 92.14 40 *e*P **P** **11 32 14.1 +1.2**
comp=Z,68nm,1.4s,baz=271,slow=4.8
NKC Novy Kostel 92.19 40 *e*P **P** **11 32 16.0 +2.9**
NKC *ex* x 11 43 03.3
NKC AMS AMS 12 09 00.0
comp=Z,5µm,20.3s
NKC Novy Kostel 92.19 40 *e*P **P** **11 32 16.0 +2.9**
NKC *e* 11 43 03.3
NKC MLR MLR
comp=Z,5µm,20.3s
TANN Tannenbergstha 92.19 40 *e*P **P** **11 32 14.2 +1.1**
comp=Z,47nm,1.3s,baz=271,slow=4.8
ABTA Abfaltersbach 92.34 43 *e*P **P** **11 32 14.7 +0.7**
comp=Z,38nm,1.2s,SNR=13
LESA Schwarzleotal 92.43 43 *e*P **P** **11 32 15.1 +0.7**
comp=Z,82nm,2.0s
HFS Hagfors 92.46 30 P **P** **11 32 14.8 +0.7**
comp=Z,6.0nm,0.9s,baz=267,slow=5.3,SNR=3.6
HFS LR LR 12 12 34.2
comp=Z,3µm,19.4s,baz=267,slow=35
comp=Z,6.0nm,0.9s
STAL STALIGIAL 92.49 44 IAMs_20 IAMs_20 12 12 44.3
comp=Z,5µm,20.0s
CLL Collm 92.50 39 IAMs_20 IAMs_20 12 14 58.3
comp=Z,4µm,20.0s
CLL Collm 92.50 39 *i* P **P** **11 32 15.2 +0.7**
comp=Z,37nm,1.3s
CLL *i* sP **pP** **11 32 22.9 +0.9**
CLL *i* x x 11 32 31.2
CLL *ex* x 11 35 28.0
CLL *i* PP **PP** **11 35 54.3 -1.4**
comp=Z,94nm,2.3s
CLL *e*PPP PPP 11 37 54.0
CLL *ex* x 11 42 12.0
CLL *e*SKSac **SKSac** **11 42 49.0 +2.3**
CLL *e*S **ScS** **11 43 22.0 +2.6**
CLL *ex* x 11 44 00.0
CLL *e*PS PnS 11 44 37.0 +4.7
CLL *e*(SS) 11 49 00.0
CLL *e*SSS SSS 11 53 00.0
CLL *e*SSSS 11 56 06.0
CLL AMS AMS 12 08 00.0
CLL Collm 92.50 39 *i* P **P** **11 32 15.2 +0.7**
CLL *i* *PP **pP** **11 32 22.9 +0.9**
CLL *e* 11 42 49.0
CLL *e*S **ScS** **11 43 22.0 +2.6**
CLL pmax pmax
comp=Z,37nm,1.3s
WET Wettzell 92.51 41 *e*P **P** **11 32 15.8 +1.2**
comp=Z,97nm,1.3s,baz=271,slow=4.8
CESX Cesi 92.51 48 IAMs_20 IAMs_20 12 09 37.1
comp=Z,4µm,22.0s
RGN Rugen 92.55 36 IAMs_20 IAMs_20 12 13 34.4
comp=Z,6µm,20.0s
CLUD Cludinico 92.61 44 IAMs_20 IAMs_20 12 12 39.2
comp=Z,6µm,21.0s
FBE Freiberg 92.74 39 *e*P **P** **11 32 16.6 +1.0**
comp=Z,67nm,1.4s,baz=271,slow=4.8
HSKC Hora Svate Kat 92.81 40 *e*P **P** **11 32 17.7 +1.8**
HSKC *e*SKS **S** **11 43 20.3 +0.2**
HSKC AMS AMS 12 09 20.0
comp=Z,6µm,24.2s
FDMO Fiordimonte 92.87 47 IAMs_20 IAMs_20 12 18 27.5
comp=Z,3µm,18.0s
KBA Koelnbreinsper 92.90 43 *e*P **P** **11 32 16.8 +0.1**
comp=Z,49nm,1.3s
KHC Kasperske Hory 92.97 41 *e*P **P** **11 32 17.5 +0.8**
KHC *ex* x 11 32 28.4
KHC *e*SKS **SKSac** **11 42 49.8 +0.3**
KHC AMS AMS 12 06 20.0
comp=Z,4µm,27.0s
KHC Kasperske Hory 92.97 41 *c e*P **P** **11 32 17.7 +1.0**
KHC pmax pmax
comp=Z,74nm,1.2s
KHC MLR MLR
comp=Z,4µm,17.0s
GUMA Gualdo di Mace 93.05 47 IAMs_20 IAMs_20 12 18 14.3
comp=Z,4µm,18.0s
GEC2 GERESS Array S 93.06 41 *e*P **P** **11 32 17.9 +0.6**
comp=Z,26nm,1.1s,baz=271,slow=4.8
GERES GERESS Array B 93.06 41 P **P** **11 32 17.8 +0.6**
comp=Z,11nm,1.0s,baz=298,slow=2.9,SNR=34
GERES PP **PP** **11 35 56.7 -3.7**
comp=Z,0.5nm,0.5s,baz=276,slow=3.8,SNR=3.5
GERES LR LR 12 13 50.4
comp=Z,3µm,19.6s,baz=254,slow=35
comp=Z,11nm,1.0s
BIOA Bad Ischl, Aus 93.07 42 *e*P **P** **11 32 17.9 +0.7**
comp=Z,78nm,1.3s,SNR=22
PRED Cave del Predi 93.08 44 IAMs_20 IAMs_20 12 13 03.8
comp=Z,4µm,20.0s
BRG Berggiesshubel 93.12 39 *i* P **P** **11 32 19.8 +2.5**
BRG Amp 11 32 22.6
comp=Z,45nm,1.3s
BRG Berggiesshubel 93.12 39 PP PP 11 36 12.0 +11
BRG Berggiesshubel 93.12 39 S S 11 43 36.0 +13
BRG Berggiesshubel 93.12 39 *i* P **P** **11 32 19.8 +2.5**
BRG *e* 11 32 34.6
BRG 11 42 54.0
BRG PS **PS** **11 44 41.0 +3.1**

BRG pmax pmax
comp=Z,45nm,1.3s
BRG pmax pmax
comp=N,611nm,17.4s
MYKA Terra Mystica 93.12 44 *e*P **P 11 32 18.1 +0.6**
comp=N,31nm,1.2s,SNR=11
CAMP Campotosto 93.13 48 IAMs_20 IAMs_20 12 10 00.2
comp=Z,6µm,22.0s
AQU L'Aquila 93.13 48 IAMs_20 IAMs_20 12 10 30.4
comp=Z,3µm,20.0s
CADS Cadrg 93.21 44 *i* P **P 11 32 18.7 +0.8**
CADS *i* SKSac **SKSac 11 42 52.6 +1.6**
CADS *e*S **S 11 43 24.0 +0.1**
RICC Richard 93.23 40 *e*P **P 11 32 15.3 -2.6**
RICC AMS AMS 12 09 10.0
comp=Z,4µm,23.1s
ZVC Zvikov 93.35 41 *e*P **P 11 32 19.3 +0.8**
ZVC *e*SKS **S 11 43 17.0 -8.0**
ZVC AMS AMS 12 10 50.0
comp=Z,4µm,20.0s
JAVS Javornik 93.45 44 *i* P **P 11 32 19.9 +0.8**
JAVS *i* SKSac **SKSac 11 42 53.1 +0.7**
JAVS *e*SS **SS 11 49 52.4 +9.4**
CKRC Cesky Krumlov 93.46 41 *e*P **P 11 32 18.4 -0.6**
CKRC *e*SKS **SKSac 11 42 44.8 -7.4**
CKRC Cesky Krumlov 93.46 41 *e*P **P 11 32 18.4 -0.6**
CKRC *e* 11 42 44.8
PRA Prague 93.47 40 *e*P **P 11 32 15.3 -3.7**
PRA *e*SKS **SKSac 11 42 49.1 -3.0**
PRA AMS AMS 12 10 30.0
comp=Z,4µm,24.2s
PRA Prague 93.47 40 *e*P **P 11 32 15.3 -3.7**
PRA *e* 11 42 49.1
PRA MLR MLR
comp=Z,4µm,24.2s
MOA Molln 93.49 42 *e*P **P 11 32 19.8 +0.7**
comp=Z,81nm,1.7s,SNR=21
INTR Introdacqua 93.52 48 IAMs_20 IAMs_20 12 11 02.6
comp=Z,4µm,22.0s
PVCC Panska Ves 93.53 40 *e*P **P 11 32 15.3 -3.9**
PVCC *e*S **S 11 43 22.8 -3.7**
PVCC AMS AMS 12 09 50.0
comp=Z,5µm,22.4s
PVCC Panska Ves 93.53 40 *e*P **P 11 32 15.3 -3.9**
PVCC *e* 11 43 22.8
PVCC MLR MLR
comp=Z,5µm,22.4s
PRU Pruhonice 93.55 40 *e*P **P 11 32 20.5 +1.2**
PRU *e*SKS **SKSac 11 42 51.2 -1.4**
PRU AMS AMS 12 10 40.0
comp=Z,4µm,20.5s
PRU Pruhonice 93.55 40 *e*P **P 11 32 20.5 +1.2**
PRU *e* 11 42 51.2
PRU MLR MLR
comp=Z,4µm,20.5s
GOPC GO Pecny, Ondr 93.71 40 *e*P P 11 32 13.4 -6.7
GOPC *e*SKS **SKSac 11 42 54.3 +0.8**
GOPC AMS AMS 12 11 00.0
comp=Z,4µm,23.0s
GOPC GO Pecny, Ondr 93.71 40 *e*P P 11 32 13.4 -6.7
GOPC *e* 11 42 54.3
GOPC MLR MLR
comp=Z,4µm,23.0s
OBKA Obir 93.75 44 *e*P **P 11 32 21.0 +0.5**
comp=Z,31nm,1.3s
ELIB Princess Elisa 93.76 162 *d*P **P 11 32 20.9 +0.8**
comp=Z,38nm,1.1s
ELIB *d*PP **PP 11 36 05.0 -0.2**
LJU Ljubljana 93.77 44 *i* P **P 11 32 21.4 +1.0**
LJU *i* PP **PP 11 36 05.1 -0.7**
LJU *e*SKSac **SKSac 11 42 55.9 +1.9**
LJU *i* 11 43 13.5
LJU *e*S **S 11 43 28.3 -0.5**
LJU *e*SS SS 11 49 58.6 +11
LJU *e* 11 56 04.4
PAOL Paolisi 94.06 49 IAMs_20 IAMs_20 12 09 55.0
comp=Z,4µm,22.0s
SOKA Soboth 94.08 43 *e*P **P 11 32 21.4 -0.5**
comp=Z,19nm,1.2s
VAE Valguarnera 94.10 53 P **P 11 32 23.4 +1.2**
comp=Z,7.7nm,0.5s,baz=315,slow=13,SNR=2.7
VAE LR LR 12 12 18.8
comp=Z,5µm,21.0s,baz=226,slow=34
comp=Z,7.7nm,0.5s
TREC Trest 94.21 41 AMS AMS 12 11 10.0
comp=Z,4µm,23.9s
TREC Trest 94.21 41 *e*P P 11 32 15.3 -7.1
TREC MLR MLR
comp=Z,4µm,23.9s
SBA Scott Base 94.23 191 IAMs_20 IAMs_20 12 07 11.6
comp=Z,4µm,20.0s
WDD Wied Dalam 94.27 54 IAMs_20 IAMs_20 12 18 16.8
comp=Z,6µm,18.0s
ARSA Arzberg 94.38 43 *i* P **P 11 32 24.0 +0.7**
comp=Z,49nm,1.3s,SNR=14
UPC Upice 94.45 40 *e*P **P 11 32 25.3 +1.8**
UPC *e*SKS **SKSac 11 42 56.6 -0.9**
UPC AMS AMS 12 09 20.0
comp=Z,4µm,21.1s
UPC Upice 94.45 40 *e*P **P 11 32 25.3 +1.8**
UPC *e* 11 42 56.6
UPC MLR MLR
comp=Z,4µm,21.1s
CHVC Chvalec 94.47 39 *e*P **P 11 32 24.7 +1.1**
CHVC AMS AMS 12 09 30.0
comp=Z,4µm,22.2s
CHVC Chvalec 94.47 39 *e*P **P 11 32 24.7 +1.1**
CHVC MLR MLR
comp=Z,4µm,22.2s
CONA Conrad Observa 94.56 42 *e*PcP **PcP 11 32 25.0 +0.5**
comp=Z,45nm,1.2s,SNR=17
OSTC Ostas 94.58 39 *e*P **P 11 32 25.0 +0.9**
OSTC *e*SKS **SKSac 11 42 54.2 -4.0**
OSTC AMS AMS 12 09 20.0
comp=Z,4µm,23.3s
OSTC Ostas 94.58 39 *e*P **P 11 32 25.0 +0.9**
OSTC *e* 11 42 54.2
OSTC MLR MLR
comp=Z,4µm,23.3s
KSP Ksiaz 94.60 39 *e*P **P 11 32 25.5 +1.4**
DPC Dobruska-Polom 94.66 40 *e*P **P 11 32 25.9 +1.4**
DPC *e*SKS SKSac 11 42 37.5 -21
DPC AMS AMS 12 10 10.0
comp=Z,4µm,21.2s
DPC Dobruska-Polom 94.66 40 *e*P **P 11 32 25.9 +1.4**
DPC MLR MLR
comp=Z,4µm,21.2s
KRUC Moravsky 94.82 41 *e*P **P 11 32 26.5 +1.3**
RONA Rosalia, Austr 94.86 42 *i* PcP **PcP 11 32 26.4 +0.6**
comp=Z,30nm,1.1s,SNR=9.6
VRAC Vranov 94.93 41 ⇓P **P 11 32 27.5 +1.7**
VRAC Vranov 94.93 41 *e*P **P 11 32 26.9 +1.2**
VRAC Vranov 94.93 41 P **P 11 32 27.4 +1.7**
VRAC Vranov 94.93 41 LR LR 12 12 42.4
comp=Z,3µm,21.9s,baz=258,slow=34
KRLC Kraliky 94.98 40 *e*P **P 11 32 27.0 +1.0**
KRLC *e*SKS **SKSac 11 43 04.2 +3.7**
KRLC AMS AMS 12 10 40.0
comp=Z,3µm,21.9s
KRLC Kraliky 94.98 40 *e*P **P 11 32 27.0 +1.0**
KRLC *e* 11 43 04.2
KRLC MLR MLR
comp=Z,3µm,21.9s
CUC Castrocucco 95.07 50 IAMs_20 IAMs_20 12 12 18.3
comp=Z,4µm,22.0s
CEL Celeste 95.23 52 IAMs_20 IAMs_20 12 18 17.3
comp=Z,3µm,20.0s
VNDA Vanda 95.33 191 P **P 11 32 28.0 +1.0**
VNDA IAMs_20 IAMs_20 12 06 35.5
comp=Z,5µm,20.0s
VNDA Vanda 95.33 191 P **P 11 32 28.0 +1.0**
VNDA pmax pmax
comp=Z,20nm,1.2s
VNDA Vanda 95.33 191 P **P 11 32 28.4 +1.4**
comp=Z,12nm,1.2s,baz=136,slow=3.5,SNR=14
VNDA LR LR 12 06 57.0
comp=Z,4µm,20.7s,baz=120,slow=30
comp=Z,12nm,1.2s
MORC Moravsky Berou 95.50 40 ⇑P **P 11 32 30.2 +1.8**
MORC Moravsky Berou 95.50 40 IAMs_20 IAMs_20 12 12 16.6
comp=Z,4µm,22.0s
MORC Moravsky Berou 95.50 40 *e*P **P 11 32 29.9 +1.5**
MORC Moravsky Berou 95.50 40 P **P 11 32 30.1 +1.8**
JAVC Velka Javorina 95.67 41 *e*P **P 11 32 31.6 +2.4**
MAUC Maruska 95.73 41 *e*P **P 11 32 31.5 +2.1**
MAUC *e*SKS **SKSac 11 43 11.5 +7.1**
MAUC AMS AMS 12 12 20.0
comp=Z,6µm,22.6s
OKC Ostrava-Krasne 95.88 40 *e*P **P 11 32 32.3 +2.3**
OKC *e*SKS **SKSac 11 43 05.6 +0.5**
OKC AMS AMS 12 12 20.0
comp=Z,3µm,21.6s
OKC Ostrava-Krasne 95.88 40 *e*P **P 11 32 32.3 +2.3**
OKC *e* 11 43 05.6
OKC MLR MLR
comp=Z,3µm,21.6s
ARCES ARCESS Array B 95.99 20 P **P 11 32 28.8 -1.3**
comp=Z,11nm,1.1s,baz=303,slow=6.7,SNR=5.9
ARCES LR LR 12 11 08.3
comp=Z,824nm,21.5s,baz=280,slow=32
comp=Z,11nm,1.1s
SRO Srobarova 96.21 42 *e*PDIFF **P 11 32 33.2 +1.7**
SRO Srobarova 96.21 42 *i* P **P 11 32 33.2 +1.7**
RAO Raoul Island 96.35 241 LR LR 12 05 41.7
comp=Z,7µm,21.7s,baz=110,slow=29
VYHS Vyhne 96.48 41 *e*PDIFF **P 11 32 34.1 +1.3**
VYHS *e*PP **PP 11 36 25.6 -1.2**
VYHS Vyhne 96.48 41 *i* P **P 11 32 34.1 +1.3**
VYHS *e* 11 36 25.6
KLNR Kaliningrad 96.54 35 *i* P **P 11 32 34.7 +1.9**
KLNR pmax pmax
comp=Z,177nm,1.1s
KLNR MLR MLR
comp=Z,4µm,20.0s
MORH Mrgy, Hungar 96.61 44 ⇑P **P 11 32 34.7 +1.4**
LANS Liptovska Anna 96.82 41 *e*PDIFF **P 11 32 34.4 0.0**
LANS *e*PP **PP 11 36 28.4 -1.0**
LANS Liptovska Anna 96.82 41 *i* P **P 11 32 34.4 0.0**
LANS *e* 11 36 28.4
OJC Ojcow 96.89 40 *e*P **P 11 32 35.8 +1.1**
PSZ Piszkesteto 97.25 42 IAMs_20 IAMs_20 12 20 38.1
comp=Z,4µm,19.0s
NIE Niedzica 97.32 40 *e*P Pdif 11 32 39.5 +2.8
TSUM Tsumeb 97.35 109 LR LR 12 12 36.3
comp=Z,13µm,21.8s,baz=273,slow=33
PDG Podgorica 97.45 47 IAMs_20 IAMs_20 12 12 47.7
comp=Z,4µm,22.0s
FRGS Fruska Gora 97.54 45 ⇓P Pdif 11 32 39.4 +1.7
VLO Vlora 97.83 49 IAMs_20 IAMs_20 12 12 03.9
comp=Z,4µm,22.0s
KEK Kerkira 98.14 50 IAMs_20 IAMs_20 12 25 54.2
comp=Z,3µm,18.0s
CRVS Cervenica-Dubn 98.15 41 *e*PDIFF Pdif 11 32 42.9 +2.5
CRVS Cervenica-Dubn 98.15 41 *i* P Pdif 11 32 42.9 +2.5
FINES FINESS Array B 98.26 28 P **P 11 32 40.4 -0.1**
comp=Z,5.1nm,0.8s,baz=326,slow=9.9,SNR=7.2
FINES LR LR 12 13 04.6
comp=Z,2µm,21.5s,baz=278,slow=33
comp=Z,5.1nm,0.8s
SUW Suwalki 98.35 35 IAMs_20 IAMs_20 12 21 38.7
comp=Z,4µm,19.0s
PABE Paberze 98.51 34 IAMs_20 IAMs_20 12 15 33.9
comp=Z,6µm,21.0s
SIRR Siria 98.67 43 ⇑P Pdif 11 32 44.1 +1.3
KOLS Kolonicke sedl 98.68 41 *e*PDIFF Pdif 11 32 45.4 +2.7
KOLS Kolonicke sedl 98.68 41 *i* P Pdif 11 32 45.4 +2.7
BZS Buzias 98.74 44 ⇑P Pdif 11 32 44.4 +1.3
BZS Buzias 98.74 44 P Pdif 11 32 44.5 +1.5
BILL Bilibino 99.05 340 IAMs_20 IAMs_20 12 20 48.7
comp=Z,3µm,19.0s
BILL Bilibino 99.05 340 *i* P **Pdif 11 32 44.6 +0.7**
SURR Surdiac 99.07 44 ⇓P **Pdif 11 32 45.6 +1.1**
SUR Sutherland 99.17 123 LR LR 12 16 16.3
comp=Z,8µm,18.3s,baz=260,slow=34
APA Apatity 99.36 21 ⇓*i*P **Pdif 11 32 33.0 -12**
APA *i* 11 36 52.0
APA pmax pmax
comp=Z,6.0nm,1.2s
URZ Urewera 99.52 231 LR LR 12 07 36.5
comp=Z,9µm,21.9s,baz=214,slow=29
RTZ Ruatahuna 99.56 231 IAMs_20 IAMs_20 12 07 17.0
comp=Z,7µm,22.0s
MARR Marisel-Cluj 99.61 43 ⇓P **Pdif 11 32 48.4 +1.4**
LVV L'vov 99.65 40 *e*P **Pdif 11 32 48.8 +1.8**
BMR Baia Mare 99.69 42 ⇑P **Pdif 11 32 49.5 +2.3**
BMR Baia Mare 99.69 42 P **Pdif 11 32 49.5 +2.3**
BLKB Belogradchik 99.78 46 ⇑P **Pdif 11 32 49.5 +1.7**
CJR Cluj-Napoca 99.93 43 ⇑P **Pdif 11 32 50.7 +2.3**
CJR Cluj-Napoca 99.93 43 P **Pdif 11 32 50.6 +2.3**
NACGM Naroch 100.22 34 *e*P **Pdif 11 32 49.9 +0.5**
comp=Z,47nm,0.9s,baz=284
BURAR Bucovina Array 100.85 42 ⇑P **Pdif 11 32 54.6 +2.1**
BURAR Bucovina Array 100.85 42 P **Pdif 11 32 54.6 +2.1**
ARR Arges 100.87 44 ⇑P **Pdif 11 32 53.9 +1.3**
MNK Minsk 100.94 34 *i* P **Pdif 11 32 47.5 -5.1**
comp=E,15nm,1.2s
MNK *i* P **Pdif 11 32 47.5 -5.1**
comp=N,24nm,1.2s
MNK *i* P **Pdif 11 32 47.5 -5.1**
comp=Z,9.0nm,0.8s,baz=105
MNK *i* PP **PP 11 36 55.5 -5.0**
MNK *i* PPP PPP 11 39 03.5
MNK *i* S **SKSac 11 43 25.5 -5.0**
MNK *i* PS **PS 11 45 58.3 -4.6**
MNK *i* SS **SS 11 51 24.2 -3.4**
MNK *i* SSS SSS 11 55 15.3
MNK *i* LQ LQ 12 09 43.8
MNK *i* LR LR 12 15 37.5
MNK *i* LRM MLR 12 18 33.0
comp=Z,3µm,19.5s
MNK *i* LRM MLR 12 18 44.0
comp=E,1µm,19.5s
MNK *i* LRM MLR 12 18 53.4
comp=N,1µm,18.7s
MNK Minsk 100.94 34 *i* P **Pdif 11 32 47.5 -5.1**
MNK *i* S **SKSac 11 43 25.4 -5.0**
MNK *i* PS **PS 11 45 58.2 -4.6**
MNK *i* SS **SS 11 51 24.2 -3.4**
MNK *i* SSS SSS 11 55 15.3
MNK pmax pmax
comp=Z,9.0nm,0.8s
MNK pmax pmax
comp=E,15nm,1.2s
MNK pmax pmax
comp=N,24nm,1.2s
MNK MLR MLR
comp=Z,3µm,20.0s
MNK MLR MLR
comp=E,1µm,20.0s
MNK MLR MLR
comp=N,1µm,19.0s
VOIR 101.15 44 ⇑P **Pdif 11 32 56.1 +2.1**
VOIR 101.15 44 P **Pdif 11 32 56.0 +2.1**
HIZ Hauiti 101.23 231 IAMs_20 IAMs_20 12 09 29.9
comp=Z,5µm,20.0s
MLR Muntele Rosu 101.76 44 ⇑P **Pdif 11 32 57.6 +0.9**
MLR Muntele Rosu 101.76 44 IAMs_20 IAMs_20 12 26 18.4
comp=Z,3µm,19.0s
MLR Muntele Rosu 101.76 44 P **Pdif 11 32 57.5 +0.9**
RDO Rodhopi 102.28 48 IAMs_20 IAMs_20 12 28 47.4
comp=Z,3µm,18.0s
KIEV Kiev 102.70 38 IAMs_20 IAMs_20 12 21 10.1
comp=Z,4µm,20.0s
ALN Alexandroupoli 102.70 48 IAMs_20 IAMs_20 12 28 21.8
comp=Z,3µm,19.0s
AKASG Malin Array Be 102.71 38 PP **PP 11 37 11.1 -2.9**
comp=Z,0.3nm,0.4s,baz=274,slow=8.1,SNR=4.6
AKBB Malin Array Si 102.71 38 IAMs_20 IAMs_20 12 21 00.1
comp=Z,5µm,21.0s
IDI Anoyia 102.73 54 IAMs_20 IAMs_20 12 26 25.7
comp=Z,3µm,18.0s
OUZ Omahuta 102.78 234 IAMs_20 IAMs_20 12 11 32.3
comp=Z,5µm,19.0s
SORM Soroca 102.79 41 ⇑P **Pdif 11 33 02.5 +1.5**
SORM Soroca 102.79 41 P **Pdif 11 33 02.4 +1.5**
KIS Kishinev 103.37 42 *e*P **Pdif 11 33 06.0 +2.4**
KIS Kishinev 103.37 42 *e*PP **PKiKP 11 37 16.0 -6.6**
KIS *e*SKS **SKSac 11 43 41.0 -1.3**
KIS *e*L L 12 09 44.0
KIS LQM 12 15 50.0
comp=Z,600nm,19.0s
KIS LRM MLR 12 21 56.0
comp=Z,900nm,19.0s
KIS Kishinev 103.37 42 *e*P **Pdif 11 33 06.0 +2.4**
KIS *e* 11 37 21.0
KIS *e* 11 43 41.0
MILM Milestii Mici 103.39 42 *e*P **Pdif 11 33 07.0 +3.3**
comp=Z,440nm,8.7s
MILM Milestii Mici 103.39 42 *e*PP **PKiKP 11 37 21.0 -1.7**
MILM *e*SKS **SKSac 11 43 39.0 -3.4**
MILM Milestii Mici 103.39 42 *e*PS PS 11 46 29.0 -0.1
MILM *e*L L 12 08 23.0
MILM LQM 12 15 17.0
comp=Z,2µm,20.5s
MILM LRM MLR 12 16 00.0
comp=Z,2µm,16.0s
BOSA Boshof 103.45 119 PKKP 11 49 07.0
comp=Z,3.4nm,1.0s,baz=109,slow=7.5,SNR=3.5
KLMR Klimovskoe 104.57 26 *e*Pdif **Pdif 11 33 06.7 -1.9**
KLMR AMP 11 33 09.3
comp=Z,36nm,1.6s
KLMR PP **PKiKP 11 37 23.1 -1.3**
KLMR SKSac SKSac 11 43 36.3 -11
KLMR SKSac SKSac 11 43 36.3 -11
KLMR PS **PS 11 46 38.0 -2.9**
KLMR PS **PS 11 46 38.0 -2.9**
KLMR *e*PKKPbc **PKKPbc 11 48 53.9 -2.3**
KLMR SS **SS 11 52 25.4 +8.2**
KLMR SS **SS 11 52 25.4 +8.2**
KLMR SKKP 11 52 46.7
KLMR LQ LQ 12 12 20.1
KLMR LQ LQ 12 12 20.1
KLMR LR LR 12 14 32.3
KLMR AMP 12 17 47.1
comp=Z,3µm,17.6s
KLMR Klimovskoe 104.57 26 *e*P **Pdif 11 33 06.6 -2.0**
KLMR PS **PS 11 46 38.0 -2.9**
KLMR SS SS 11 52 25.4 +8.2
KLMR pmax pmax
comp=Z,36nm,1.6s
OBN Obninsk 105.51 32 IAMs_20 IAMs_20 12 18 31.8
comp=Z,3µm,20.0s
SEY Seymchan 106.54 338 PKiKP **PKiKP 11 37 28.9 +0.9**
comp=Z,2.3nm,0.8s,baz=106,slow=7.4,SNR=1.9
TIXI Tiksi 106.54 351 IAMs_20 IAMs_20 12 24 28.2
comp=Z,4µm,21.0s
TIXI Tiksi 106.54 351 PKiKP **PKiKP 11 37 28.0 +0.3**
comp=Z,0.2nm,0.3s,baz=332,slow=0.8,SNR=4.9
TIXI PKKPab **PKKPdf 11 49 02.2 +0.2**
comp=Z,0.1nm,0.3s,baz=142,slow=0.7,SNR=6.5
MAW Mawson 107.39 166 PKiKP **PKiKP 11 37 29.8 +0.4**
comp=Z,2.4nm,1.1s,baz=249,slow=14,SNR=1.4
ANTO Ankara 107.95 48 IAMs_20 IAMs_20 12 25 29.7
comp=Z,4µm,21.0s
BRTR Keskin Array B 108.62 48 PKiKP **PKiKP 11 37 33.2 +0.5**
comp=Z,0.6nm,0.7s,baz=291,slow=1.1,SNR=3.9
BRTR PKKPbc **PKKPbc 11 48 43.4 +0.2**
comp=Z,0.7nm,0.9s,baz=66,slow=1.5,SNR=3.7
MA2 Magadan 109.08 335 IAMs_20 IAMs_20 12 27 56.2
comp=Z,3µm,22.0s
ANN Anapa 109.76 42 *i* P **Pdif 11 33 30.9 -1.2**
ANN *e* 11 38 03.8
ANN *e*PPP PPP 11 40 22.4
ANN *e* 11 44 14.2
ANN *e*SS SS 11 53 27.2 -1.5
ANN *e*SSS SSS 11 57 38.0
ANN pmax pmax
comp=Z,71nm,1.4s
ANN MLR MLR
comp=Z,3µm,19.0s
KIRV Kirov 110.03 25 PP **PP 11 38 05.5 -1.9**
comp=Z,6.0nm,0.6s,baz=315,slow=7.5,SNR=9.1
PINNC Pines Island, 110.22 246 IAMs_20 IAMs_20 12 16 41.6
comp=Z,3µm,19.0s
LIFNC LIFOU 110.69 248 IAMs_20 IAMs_20 12 12 10.4
comp=Z,3µm,22.0s
OUENC Ouen Island, N 110.80 246 IAMs_20 IAMs_20 12 19 52.1
comp=Z,3µm,18.0s
DZM Mont Dzumac 111.22 246 *e*P **Pdif 11 33 31.4 -7.8**
comp=Z,138nm,26.9s
DZM Mont Dzumac 111.22 246 *e*PP **PP 11 38 10.2 -7.4**
comp=Z,690nm,26.6s
DZM Mont Dzumac 111.22 246 *e*SS SS 11 53 48.3 -1.7
comp=Z,6µm,26.2s
DZM Mont Dzumac 111.22 246 *e*LQ LQ 12 06 14.2
comp=Z,2µm,25.9s
DZM *e*LR LR 12 10 33.5
comp=Z,6µm,23.2s
DZM Mont Dzumac 111.22 246 IAMs_20 IAMs_20 12 13 44.3
comp=Z,4µm,21.0s
SOC Sochi 111.73 43 *i* PKIKP **PKiKP 11 37 35.4 -2.9**
SOC *e*PPP PPP 11 40 44.3
SOC *e*PS **PS 11 47 52.7 -0.7**
SOC *e*SS SS 11 53 55.7 +0.7
SOC MLR MLR
comp=Z,1µm,19.0s
H11S2 WAKE ISLAND Hy 111.86 290 T T 13 38 53.5
baz=85,slow=75,SNR=12
H11S1 WAKE ISLAND Hy 111.87 290 T T 13 38 53.7
baz=85,slow=75,SNR=18
H11S3 WAKE ISLAND Hy 111.88 290 T T 13 38 54.8
baz=85,slow=75,SNR=11
GAZ Gaziantep 112.03 50 IAMs_20 IAMs_20 12 32 15.8
comp=Z,2µm,18.0s
GHAJ Ghor Haditha 112.26 56 IAMs_20 IAMs_20 12 28 19.6
comp=Z,4µm,20.0s
BELG Belogornoye 112.59 32 *i* PKIKP **PKiKP 11 37 41.6 +2.0**
BELG pmax pmax
comp=Z,2.0nm,1.0s
BELG MLR MLR
comp=Z,333nm,18.0s
KOUNC Koumac, New Ca 113.46 247 IAMs_20 IAMs_20 12 17 28.7
comp=Z,4µm,20.0s
KIV Kislovodsk 113.57 41 *i* P **Pdif 11 33 49.5 +0.3**
KIV *i* 11 37 42.1
KIV *e* 11 38 33.5
KIV *e* 11 44 25.6
KIV *e*PS **PS 11 48 10.1 -0.5**
KIV *e*SS SS 11 54 21.1 +1.5
KIV *e*SSS SSS 11 58 34.3
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,1µm,21.0s
KBZ Khabaz 113.81 41*c i*PKIKP **PKiKP 11 37 43.5 +1.3**
KBZ pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 113.81 41 PKiKP **PKiKP 11 37 42.6 +0.4**
comp=Z,4.8nm,0.9s,baz=223,slow=4.1,SNR=6.2
YAK Yakutsk 114.57 345 IAMs_20 IAMs_20 12 33 39.6
comp=Z,3µm,20.0s
YAK Yakutsk 114.57 345 *i* PKIKP PKPdf 11 37 45.5 +2.3
YAK *e* 11 38 46.5
YAK *e*PS **PS 11 48 10.5 -8.0**
YAK pmax pmax
comp=Z,4.0nm,0.8s
YAK pmax pmax
comp=Z,53nm,1.9s
YAK MLR MLR
comp=Z,3µm,23.0s
ARU Arti 115.22 24 IAMs_20 IAMs_20 12 33 13.2
comp=Z,3µm,18.0s
ARU Arti 115.22 24 *i* PKIKP **PKPdf 11 37 45.2 +0.6**
ARU 11 38 45.3
ARU 11 44 56.2
ARU SP SP 11 48 20.8 -0.1
ARU Arti 115.22 24 PKP **PKiKP 11 37 44.0 -0.6**
comp=Z,2.5nm,0.7s,baz=328,slow=13,SNR=5.2
LHI Lord Howe Isla 115.45 235 IAMs_20 IAMs_20 12 19 15.3
comp=Z,4µm,20.0s
LODK Lodwar 115.71 86 **PKiKP 11 37 47.2 +0.3**
SVE Sverdlovsk 115.75 23 *i* PKIKP **PKiKP 11 37 45.5 -0.1**
SVE MLR MLR
comp=Z,4µm,24.0s
SIRT Sirnak 115.86 48 IAMs_20 IAMs_20 12 32 02.1
comp=Z,5µm,21.0s
MAK Makhachkala 117.17 41 *i* P **Pdif 11 34 05.0 0.0**
MAK *i* 11 37 48.0
MAK *e* 11 38 56.5
MAK *e* 11 44 36.0
MAK *e*PS **PS 11 48 42.5 -0.6**
MAK *e*SS SS 11 55 05.8 -0.6
MAK *e*SSS SSS 11 59 28.2
KMBO Kilima Mbogo 117.60 92 PKP **PKiKP 11 37 51.8 +1.0**
comp=Z,1.8nm,0.8s,baz=207,slow=3.5,SNR=4.5
KMBO PP **PP 11 38 58.9 -4.5**
comp=Z,1.7nm,0.9s,baz=254,slow=5.5,SNR=3.9
KIBK Kibwezi 118.36 93 PP PP 11 39 05.1 -3.3
AKTO Aktyubinsk 119.00 29 PKP **PKiKP 11 37 52.2 +0.1**
comp=Z,5.8nm,0.8s,baz=324,slow=4.0,SNR=7.6
AKTO PP **PP 11 39 08.1 -2.9**
comp=Z,5.8nm,1.0s,baz=338,slow=7.6,SNR=7.4
YSS Yuzh-Sakhalins 120.42 327 *i* PKIKP **PKiKP 11 37 56.4 +1.4**
YSS *e* 11 39 27.4
YSS *e* 11 44 52.9

YSS *e*PS **PS** 11 49 15.3 +3.2
YSS *e*SS SS 11 56 00.0 +12
YSS pmax pmax
comp=Z,20nm,1.0s
AB31 Akbulak array 120.71 29 *i* PKIKP **PKPdf 11 37 55.0 -0.4**
ABKAR Akbulak array 120.71 29 PKPdf **PKiKP 11 37 56.0 +0.4**
ABKAR Akbulak array 120.71 29 PKPdf **PKiKP 11 37 55.9 +0.4**
BOD Bodaibo 121.72 351 *e*PKIKP **PKPdf 11 37 49.3 -7.8**
BOD pmax pmax
comp=Z,10.0nm,1.8s
JMP Maruseppu 121.83 324 P **PKPdf 11 37 57.5 -0.3**
BRVK Borovoye 122.21 20 PKPdf **PKiKP 11 37 58.2 0.0**
BRVK Borovoye 122.21 20 IAMs_20 IAMs_20 12 34 57.0
comp=Z,4μm,20.0s
BRVK Borovoye 122.21 20*c* *i* PKIKP **PKiKP 11 37 59.2 +0.9**
BRVK pmax pmax
comp=Z,16nm,1.7s
BRVK MLR MLR
comp=Z,2μm,21.0s
JKA Kamikawa-asahi 122.21 325 IAMs_20 IAMs_20 12 32 13.2
comp=Z,2μm,20.0s
ASAJ Asahikawa 122.21 325 PKP **PKPdf 11 37 58.3 -0.1**
comp=Z,11nm,1.1s,baz=83,slow=8.1,SNR=2.3
ZEA Zeya 122.23 341 *e*PKIKP **PKiKP 11 37 58.4 0.0**
ZEA *e* 11 39 34.8
ZEA *e* 11 49 32.9
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA pmax pmax
comp=E,100nm,5.7s
ZEA pmax pmax
comp=Z,500nm,7.5s
BVAR Borovoye Array 122.27 20 PKP **PKPdf 11 37 58.4 +0.1**
comp=Z,5.6nm,0.8s,baz=270,slow=1.5,SNR=20
BVAR PP **PP 11 39 29.6 -3.5**
comp=Z,4.8nm,1.0s,baz=316,slow=4.1,SNR=1.9
BVAR PKKPbc **PKKPbc 11 47 56.0 +0.1**
comp=Z,3.1nm,0.8s,baz=140,slow=5.8,SNR=12
ERM Erimo 123.10 322 IAMs_20 IAMs_20 12 25 37.9
comp=Z,3μm,21.0s
KLR Kul'dur 124.18 335*c* *i* PKIKP **PKPdf 11 38 02.2 +0.1**
KLR pmax pmax
comp=Z,24nm,1.7s
KLR MLR MLR
comp=Z,1μm,22.0s
KLR Kul'dur 124.18 335 PKP **PKPdf 11 38 01.4 -0.7**
comp=Z,5.6nm,0.8s,baz=36,slow=3.5,SNR=14
KLR PP **PP 11 39 45.3 -0.8**
comp=Z,4.6nm,1.0s,baz=42,slow=7.5,SNR=1.7
HEH HeiHe 125.07 339 PKP **PKPdf 11 38 02.2 -1.5**
HEH sPKP 11 38 11.5
HEH SKKS 11 46 42.4
HEH SS **SS 11 56 45.0 -1.4**
HEH AMB AMB
comp=Z,840nm,10.1s
HEH LR LR
comp=Z,2μm,19.2s
HEH LR LR
comp=Z,3μm,21.5s
HEH LR LR
comp=Z,5μm,21.3s
JTM Tenmabayashi 125.09 322 IAMs_20 IAMs_20 12 30 33.7
comp=Z,2μm,21.0s
ZAA0 Zalesovo Array 125.34 11 PKPdf **PKPdf 11 38 04.3 +0.2**
ZAA0 IAMs_20 IAMs_20 12 35 02.5
comp=Z,3μm,22.0s
ZALV Zalesovo Beam 125.34 11 PKPdf **PKiKP 11 38 04.5 0.0**
ZALV Zalesovo Beam 125.34 11 PKP **PKPdf 11 38 03.9 -0.2**
comp=Z,21nm,0.9s,baz=318,slow=2.0,SNR=63
BRZS Berezniki 125.59 21 *e*PKP **PKiKP 11 38 05.7 +0.5**
baz=21
BRZS Berezniki 125.59 21 *e*PKIKP **PKiKP 11 38 05.7 +0.5**
CMSA Cobar Meteorol 126.01 229 P **PKiKP 11 38 09.1 +2.6**
CMSA Cobar Meteorol 126.01 229 P **PKPdf 11 38 05.9 -0.2**
GEYT Alibeck 126.69 41 **PKiKP 11 38 07.7 0.0**
GEYT Alibeck 126.69 41 PKP **PKPdf 11 38 07.5 +0.2**
comp=Z,7.0nm,0.6s,baz=247,slow=5.5,SNR=12
GYA0B ALIBECK ARRAY 126.69 41 PKPdf **PKiKP 11 38 07.7 0.0**
KURK Kurchatov 126.88 17 PKPdf **PKiKP 11 38 07.5 -0.1**
KURK Kurchatov 126.88 17 IAMs_20 IAMs_20 12 42 53.3
comp=Z,3μm,20.0s
KURK Kurchatov 126.88 17*c* *i* PKIKP **PKiKP 11 38 07.6 -0.1**
KURK pmax pmax
comp=Z,62nm,1.7s
KURK MLR MLR
comp=Z,3μm,21.0s
KURBB Kurchatov Arra 126.94 17 PKIKP **PKPdf 11 38 06.8 -0.5**
KURBB Kurchatov Arra 126.94 17 PKP **PKPdf 11 38 07.3 0.0**
comp=Z,18nm,0.8s,baz=326,slow=2.5,SNR=75
JMM Marumori 126.95 319 IAMs_20 IAMs_20 12 25 01.3
comp=Z,4μm,21.0s
JYA Atsumi 127.23 321 P **PKiKP 11 38 09.8 +1.1**
RABL Rabaul 127.31 264 IAMs_20 IAMs_20 12 23 43.5
comp=Z,4μm,20.0s
SEM Semipalatinsk 127.61 16 *e*PKP **PKPdf 11 38 08.8 -0.2**
baz=16
SEM LR LR 12 37 07.5
baz=16
SEM Semipalatinsk 127.61 16 *e*PKIKP **PKPdf 11 38 08.7 -0.2**
USA0B Ussuriysk Arra 127.85 331 **PKiKP 11 38 10.0 +0.2**
USA0B IAMs_20 IAMs_20 12 40 15.4
comp=Z,2μm,20.0s
USA0B Ussuriysk Arra 127.85 331 PKIKP **PKiKP 11 38 10.0 +0.2**
USRK Ussuriysk Ar. 127.85 331 PKPdf **PKPdf 11 38 09.4 +0.1**
USRK Ussuriysk Ar. 127.85 331 PKP **PKPdf 11 38 08.9 -0.4**
comp=Z,13nm,0.8s,baz=351,slow=0.8,SNR=14
IRK Irkutsk 128.29 356 *e*PKIKP **PKPdf 11 38 09.6 -0.3**
IRK pmax pmax
comp=Z,44nm,1.4s
HIA Hailar 128.44 343 IAMs_20 IAMs_20 12 39 00.7
comp=Z,3μm,20.0s
MDJ Mudanjiang 128.67 333 IAMs_20 IAMs_20 12 42 14.0
comp=Z,4μm,20.0s
MDJ Mudanjiang 128.67 333 PKP **PKPdf 11 38 11.0 +0.2**
MDJ sPKP 11 38 19.2
MDJ PP **PP 11 40 18.6 +2.7**
MDJ SKS **SKSac 11 45 18.1 +0.6**
MDJ SS **SS 11 57 36.3 +4.7**
MDJ AMB AMB
comp=Z,1μm,10.5s
MDJ LR LR
comp=Z,2μm,17.2s
MDJ LR LR
comp=Z,2μm,19.2s
MDJ LR LR
comp=Z,5μm,20.1s
BNX BinXian 128.74 335 ⇓PKP **PKPdf 11 38 07.6 -3.3**
BNX PP **PP 11 40 16.4 +0.1**
BNX AMB AMB
comp=Z,640nm,10.1s
BNX LR LR
comp=Z,2μm,22.8s
BNX LR LR
comp=Z,1μm,20.7s
BNX LR LR
comp=Z,3μm,17.9s
STKA Stephens Creek 128.90 227 PKPdf **PKiKP 11 38 12.3 0.0**
STKA Stephens Creek 128.90 227 P **PKiKP 11 38 13.2 +0.9**
STKA Stephens Creek 128.90 227 P **PKPdf 11 38 12.0 +0.4**
STKA Stephens Creek 128.90 227 PKP **PKPdf 11 38 11.7 0.0**
comp=Z,11nm,0.9s,baz=110,slow=4.6,SNR=13
MOY Mondy 129.01 359 *e*PKIKP **PKPdf 11 38 10.9 -0.5**
MOY pmax pmax
comp=Z,59nm,2.0s
JRY Ryogami san 129.25 318 P **PKPdf 11 38 11.2 -1.0**
QLP Quilpie 129.32 234 P **PKiKP 11 38 14.7 +1.4**
QLP Quilpie 129.32 234 P **PKiKP 11 38 14.4 +1.1**
MJAR Matsushiro Arr 129.40 319 PKP **PKPdf 11 38 11.8 -0.6**
comp=Z,7.1nm,0.8s,baz=87,slow=1.6,SNR=13
MAJO Matsushiro 129.40 319 IAMs_20 IAMs_20 12 26 53.0
comp=Z,3μm,21.0s
MAJO Matsushiro 129.40 319 P **PKPdf 11 38 12.8 +0.3**
MAT Matsushiro 129.40 319 P **PKPdf 11 38 11.4 -1.0**
JOD2 Odawara 2 129.56 318 P **PKPdf 11 38 12.2 -0.6**
DGZ Jazzator, Alta 129.88 10 *i* PKIKP **PKPdf 11 38 13.5 +0.3**
DGZ pmax pmax
comp=Z,71nm,1.7s
HTT Hallett 129.97 224 P **PKiKP 11 38 16.7 +2.2**
HTT Hallett 129.97 224 P **PKiKP 11 38 14.6 +0.1**
CTA Charters Tower 129.98 243 PKP **PKPdf 11 38 14.0 0.0**
comp=Z,11nm,1.1s,baz=175,slow=1.5,SNR=7.4
CTAO Charters Tower 129.98 243 PKPdf **PKiKP 11 38 15.2 +0.4**
CTAO Charters Tower 129.98 243 PKIKP **PKiKP 11 38 15.2 +0.4**
JGN Niukaw 130.17 320 P **PKPdf 11 38 13.8 -0.3**
BTLS Baital 130.21 24 *i* PKP **PKiKP 11 38 14.5 0.0**
baz=24
BTLS Baital 130.21 24 *i* PKIKP **PKiKP 11 38 14.5 0.0**
ZAK Zakamensk 130.21 357 *e*PKIKP **PKPdf 11 38 13.9 +0.2**
ZAK pmax pmax
comp=Z,17nm,1.3s
ZAK pmax pmax
comp=Z,14nm,1.8s
KK31 Karatay Array 130.22 28 PKPdf **PKiKP 11 38 14.8 +0.2**
KK31 Karatay Array 130.22 28 *i* PKIKP **PKPdf 11 38 12.3 -1.5**
KKAR Karatay Array 130.22 28 PKPdf **PKiKP 11 38 14.3 -0.3**
KKAR Karatay Array 130.22 28 **PKiKP 11 38 14.5 -0.2**
KKAR Karatay Array 130.22 28 PKIKP **PKiKP 11 38 14.5 -0.2**
JHJ2 Mitsune 130.23 315 IAMs_20 IAMs_20 12 26 51.8
comp=Z,3μm,20.0s
JHJ2 Mitsune 130.23 315 P PKiKP 11 38 23.7 +8.8
CHM Chimkent 130.38 29 *e*PKP **PKiKP 11 38 15.0 0.0**
baz=29
CHM Chimkent 130.38 29 *e*PKIKP **PKiKP 11 38 15.0 0.0**
IUG Iuzhnay 130.72 29 *i* PKP **PKiKP 11 38 16.1 +0.2**
baz=29
IUG Iuzhnay 130.72 29 *i* PKIKP **PKiKP 11 38 16.0 +0.2**
DZA Taraz 130.76 27 *e*PKP **PKiKP 11 38 15.8 0.0**
baz=27
DZA Taraz 130.76 27 *e*PKIKP **PKiKP 11 38 15.8 0.0**
CN2 Changchun 131.13 335 *e*PKP **PKiKP 11 38 19.3 +2.9**
CN2 *e*PP **PP 11 40 34.7 +2.8**
CN2 *e*SS SS 11 58 05.7 +4.0
CN2 AMB AMB
comp=Z,700nm,10.0s
CN2 LR LR
comp=Z,1μm,20.0s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,2μm,22.0s
MAKZ Makanchi 131.36 16 **PKPdf 11 38 15.8 -0.1**
MAKZ IAMs_20 IAMs_20 12 41 49.9
comp=Z,3μm,19.0s
MAKZ Makanchi 131.36 16 PKIKP **PKPdf 11 38 15.8 -0.1**
HRA Herat 131.45 42 PKPdf **PKiKP 11 38 17.6 -0.1**
HRA IAMs_20 IAMs_20 12 46 35.2
comp=Z,3μm,19.0s
MK31 Makanchi Array 131.46 16 PKPdf **PKPdf 11 38 16.2 +0.1**
MK31 Makanchi Array 131.46 16*c* *i* PKIKP **PKPdf 11 38 16.1 0.0**
MKAR Makanchi Array 131.46 16 PKPdf **PKPdf 11 38 16.0 -0.1**
MKAR Makanchi Array 131.46 16 PKhKP PKPpre 11 38 01.3
comp=Z,0.8nm,0.9s,baz=263,slow=3.2,SNR=4.3
MKAR PKP **PKPdf 11 38 15.4 -0.7**
comp=Z,18nm,1.1s,baz=327,slow=2.0,SNR=50
MKAR SKPbc **SKPbc 11 41 39.1 -0.9**
comp=Z,4.6nm,1.0s,baz=356,slow=1.7,SNR=5.8
ZSN Zaisan 131.50 13 *e*PKP **PKPdf 11 38 16.2 +0.1**
baz=13
ZSN Zaisan 131.50 13 *e*PKIKP **PKPdf 11 38 16.2 +0.1**
INKA Innaminka 131.59 231 P **PKiKP 11 38 18.4 +0.6**
INKA Innaminka 131.59 231 P **PKiKP 11 38 18.2 +0.4**
JIE Ise 131.66 318 P **PKiKP 11 38 18.2 +0.4**
SGDS Sogindy 131.75 24 *i* PKP **PKiKP 11 38 18.0 +0.2**
baz=24
SGDS *e*PP **PP 11 40 38.0 +2.0**
baz=24
SGDS Sogindy 131.75 24 *i* PKIKP **PKiKP 11 38 18.0 +0.2**
SGDS *e* 11 40 38.0
USP Ospenovka 131.85 25 P **PKiKP 11 38 18.3 +0.3**
SNR=31
TDK Taldyqorghan 131.87 20 *e*PKP **PKiKP 11 38 17.6 -0.3**
baz=20
TDK LR LR 12 38 28.1
comp=Z,2μm,22.8s,baz=20
TDK Taldyqorghan 131.87 20 *e*PKIKP **PKiKP 11 38 17.6 -0.3**
JWT Wachi 131.97 320 P **PKiKP 11 38 18.4 0.0**
EKS2 Erkin-Say 132.04 26 P **PKiKP 11 38 19.1 +0.6**
SNR=32
KUU Kurty 132.07 23 *e*PKP **PKPdf 11 38 17.6 +0.3**
baz=23
KUU *e*PP **PP 11 40 39.6 +1.7**
baz=23
KUU LR LR 12 39 54.1
comp=Z,2μm,16.9s,baz=23
KUU Kurty 132.07 23 *e*PKIKP **PKPdf 11 38 17.6 +0.3**
KUU *e* 11 40 39.5
LCRK Leigh Creek 132.12 227 P **PKiKP 11 38 20.1 +1.3**
LCRK Leigh Creek 132.12 227 P **PKiKP 11 38 18.8 0.0**
CHMS Chumysh 132.18 25 P **PKiKP 11 38 18.9 +0.2**
SNR=14
FRU1 Bishkek 132.28 25 PKPdf **PKiKP 11 38 19.7 +0.8**
FRU1 IAMs_20 IAMs_20 12 40 25.5
comp=Z,3μm,20.0s
FRU1 Bishkek 132.28 25 PKIKP **PKiKP 11 38 19.7 +0.8**
BBOO Buckleboo 132.29 223 PKPdf **PKiKP 11 38 18.7 -0.4**
BBOO Buckleboo 132.29 223 P **PKiKP 11 38 20.8 +1.7**
BBOO Buckleboo 132.29 223 P **PKiKP 11 38 18.9 -0.2**
MTSU Mount Surprise 132.33 245 P **PKiKP 11 38 20.7 +1.1**
MTSU Mount Surprise 132.33 245 P **PKiKP 11 38 20.1 +0.5**
CHKK Chushkaly 132.35 22 *e*PKP **PKPdf 11 38 18.0 +0.2**
baz=22
CHKK Chushkaly 132.35 22 *e*PKIKP **PKPdf 11 38 18.0 +0.2**
ARXS Arharly 132.35 21 *e*PKIKP **PKPdf 11 38 18.0 +0.1**
AAK Ala-Archa 132.37 25 P **PKiKP 11 38 19.4 +0.2**
SNR=23
AAK Ala-Archa 132.37 25 PKPdf **PKiKP 11 38 19.2 0.0**
AAK Ala-Archa 132.37 25 IAMs_20 IAMs_20 12 37 48.8
comp=Z,3μm,21.0s
AAK Ala-Archa 132.37 25 PKIKP **PKiKP 11 38 19.2 0.0**
AAK MLR MLR
comp=Z,3μm,21.0s
ULN Ulaanbaatar 132.39 353 IAMs_20 IAMs_20 12 40 55.2
comp=Z,3μm,22.0s
AML Almayashu 132.43 26 P **PKiKP 11 38 20.0 +0.3**
SNR=12
SONM Songino Array 132.49 354 PKPdf **PKPdf 11 38 18.6 +0.4**
SONM Songino Array 132.49 354 PKhKP PKPpre 11 38 04.8
comp=Z,1.4nm,1.0s,baz=348,slow=3.2,SNR=4.8
SONM PKP **PKPdf 11 38 18.2 0.0**
comp=Z,4.4nm,0.8s,baz=302,slow=0.5,SNR=23
SONM *e*PP **PP 11 40 41.5 +1.1**
comp=Z,7.1nm,1.1s,baz=329,slow=2.0,SNR=4.4
KBK Karagaybulak 132.54 25 P **PKiKP 11 38 19.3 -0.3**
SNR=12
TKM2 Tokmak 2 132.59 24 P **PKPdf 11 38 15.4 -3.2**
SNR=10
TKM2 Tokmak 2 132.59 24 PKIKP **PKiKP 11 38 19.4 -0.3**
BTK Batken 132.69 30 PKPdf **PKiKP 11 38 20.0 +0.2**
BTK IAMs_20 IAMs_20 12 41 14.8
comp=Z,3μm,20.0s
BTK Batken 132.69 30 PKIKP **PKiKP 11 38 20.0 +0.2**
UCH Uchtor 132.71 25 P **PKiKP 11 38 20.9 +0.6**
SNR=33
AAA Alma-Ata 132.87 23 *e*PKP **PKiKP 11 38 19.7 -0.4**
baz=23
AAA Alma-Ata 132.87 23 *e*PKIKP **PKiKP 11 38 19.6 -0.4**
MDOK Medeo 132.96 23 *e*PKP **PKiKP 11 38 20.0 -0.4**
baz=23
MDOK LR LR 12 41 55.1
comp=Z,968nm,17.6s,baz=23
MDOK Medeo 132.96 23 *e*PKIKP **PKiKP 11 38 20.0 -0.4**
KZA Kyzart 133.15 25 P **PKiKP 11 38 22.2 +1.0**
SNR=8.1
KPKS Kokpek 133.31 21 *i* PKP **PKiKP 11 38 20.6 -0.4**
baz=21
KPKS Kokpek 133.31 21 *i* PKIKP **PKiKP 11 38 20.6 -0.4**
GUMO Guam 133.37 288 IAMs_20 IAMs_20 12 30 49.7
comp=Z,3μm,19.0s
ZHN Zhinishke 133.48 21 *e*PKP **PKPdf 11 38 20.5 +0.3**
baz=21
ZHN Zhinishke 133.48 21 *e*PKIKP **PKPdf 11 38 20.4 +0.3**
SNY Shenyang 133.53 335 PKP **PKPdf 11 38 19.6 -0.5**
SNY PP **PP 11 40 50.8 +3.5**
SNY LR LR
comp=Z,1μm,21.6s
SNY LR LR
comp=Z,800nm,18.5s
SNY LR LR
comp=Z,3μm,20.4s
SATY Saty 133.56 21 *e*PKP **PKPdf 11 38 20.9 +0.6**
baz=22
SATY Saty 133.56 21 *e*PKIKP **PKPdf 11 38 20.9 +0.6**
JHS Saijyo 133.60 321 P **PKiKP 11 38 25.2 +3.5**
UZB Uzynbulak 133.71 21 *i* PKP **PKiKP 11 38 21.5 -0.4**
baz=21
UZB Uzynbulak 133.71 21 *i* PKIKP **PKiKP 11 38 21.4 -0.4**
PDGK Podgornoye 133.71 20 PKIKP **PKPdf 11 38 20.4 -0.2**
SHLS Shalkode 133.85 20 *e*PKP **PKiKP 11 38 22.2 +0.1**
baz=20
SHLS Shalkode 133.85 20 *e*PKIKP **PKiKP 11 38 22.2 +0.1**
JMN Monobe 133.92 319 IAMs_20 IAMs_20 12 30 18.1
comp=Z,3μm,20.0s
JMN Monobe 133.92 319 P **PKPdf 11 38 20.3 -0.8**
NRN Naryn 133.99 25 PKPdf **PKiKP 11 38 22.4 -0.3**
NRN Naryn 133.99 25 PKIKP **PKiKP 11 38 22.4 -0.3**
PRZ Przheval'sk 134.06 22 IAMs_20 IAMs_20 12 42 37.9
comp=Z,2μm,19.0s
XLT XiLinHaoTe 134.37 343 *e*PKP **PKPdf 11 38 21.7 0.0**
XLT PKS **PKSdf 11 41 53.3 -4.8**
XLT AMB AMB
comp=Z,690nm,9.2s
XLT LR LR
comp=Z,140nm,21.3s
XLT LR LR
comp=Z,1μm,21.7s
XLT LR LR
comp=Z,3μm,22.0s
TARG Taragay, Kyrgy 134.47 23 PKPdf **PKiKP 11 38 23.7 -0.1**
TARG IAMs_20 IAMs_20 12 38 55.5
comp=Z,2μm,21.0s
TARG Taragay, Kyrgy 134.47 23 PKIKP **PKiKP 11 38 23.7 -0.1**
TARG MLR MLR
comp=Z,2μm,21.0s
KS19 Wonju Array Si 134.90 328 **PKPdf 11 38 23.3 +0.5**
KSRS Korea Array 134.91 328 PKhKP PKPpre 11 38 11.0
comp=Z,0.6nm,0.6s,baz=3.2,slow=1.6,SNR=2.7
KSRS PKP **PKPdf 11 38 22.4 -0.4**
comp=Z,22nm,1.0s,baz=16,slow=1.6,SNR=8.5
KSAR Wonju Array Be 134.94 328 PKPdf **PKPdf 11 38 22.8 -0.1**
KSAR Wonju Array Be 134.94 328 PKIKP **PKPdf 11 38 22.8 -0.1**
KSH Kashi 135.56 26 PKP **PKiKP 11 38 25.9 +0.2**
KSH PP **PP 11 40 59.2 -1.2**
KSH PKS **PKSdf 11 41 55.7 -4.9**
KSH AMB AMB
comp=Z,1μm,9.3s
KSH LR LR
comp=Z,1μm,19.9s
KSH LR LR
comp=Z,2μm,22.7s
KSH LR LR
comp=Z,3μm,27.5s
INCN Inchon 135.56 329 IAMs_20 IAMs_20 12 46 16.3
comp=Z,3μm,20.0s
WMQ Urumqi 135.57 12 PKP **PKPdf 11 38 24.1 +0.1**
WMQ PP **PP 11 41 02.3 +2.3**
WMQ PKS **PKSdf 11 41 53.5 -6.8**
WMQ SS SS 11 58 54.4 -0.7
WMQ AMB AMB
comp=Z,1μm,11.6s
WMQ LR LR
comp=Z,2μm,22.1s
WMQ LR LR
comp=Z,1μm,20.1s
WMQ LR LR
comp=Z,2μm,28.1s
KBL Kabul 135.69 37 PKPdf **PKiKP 11 38 25.7 -0.5**
KBL Kabul 135.69 37 PKIKP **PKiKP 11 38 25.7 -0.5**
KBU Kabul Universi 135.76 37 PKP **PKPdf 11 38 22.1 -2.6**
JTU Tsushima 136.19 324 P **PKPdf 11 38 20.5 -4.7**
JNU Nakatsue 136.23 321 PKP **PKPdf 11 38 23.6 -1.9**
comp=Z,5.6nm,1.0s,baz=342,slow=3.2,SNR=1.8
DL2 Dalian 136.79 335 PKP **PKiKP 11 38 32.9 +4.9**
DL2 PP **PP 11 41 08.6 +0.7**
BJI Beijing 137.86 341 PKP **PKPdf 11 38 29.0 +0.8**
BJI sPKP 11 38 38.0
BJI PKS **PKSdf 11 42 03.3 -1.0**
BJI SS SS 11 59 22.8 +0.4
BJI AMB AMB
comp=Z,270nm,7.6s
BJI LR LR
comp=Z,1μm,22.2s
BJI LR LR
comp=Z,610nm,20.0s
BJI LR LR
comp=Z,2μm,21.6s
BJT Baijiatuan 137.88 341 IAMs_20 IAMs_20 12 44 58.8
comp=Z,4μm,22.0s
HHC Hu-ho-hao-te 138.41 346 ⇑PKP **PKPdf 11 38 25.7 -3.7**
HHC sPKP 11 38 38.8
HHC PP **PP 11 41 18.3 +0.5**
HHC PKS **PKSdf 11 42 04.9 -0.7**
HHC SS SS 11 59 30.2 +1.3
HHC AMB AMB
comp=Z,2μm,10.2s
HHC LR LR
comp=Z,4μm,20.6s
HHC LR LR
comp=Z,5μm,19.6s
HHC LR LR
comp=Z,7μm,19.0s
NIL Nilore 138.77 34 PKPdf **PKPdf 11 38 30.2 +0.1**
NIL Nilore 138.77 34 IAMs_20 IAMs_20 12 54 00.9
comp=Z,3μm,19.0s
NIL Nilore 138.77 34 PKIKP **PKPdf 11 38 30.2 +0.1**
FORT Forrest 138.80 218 **PKPdf 11 38 31.2 +1.0**
AS31 Alice Springs 138.95 232 PKPdf **PKPdf 11 38 30.9 +0.1**
ASAR Alice Springs 138.95 232 PKPdf **PKPdf 11 38 31.1 +0.4**
ASAR Alice Springs 138.95 232 PKhKP PKPpre 11 38 22.1
comp=Z,1.1nm,0.8s,baz=119,slow=3.5,SNR=10
ASAR PKP **PKPdf 11 38 30.7 -0.1**
comp=Z,11nm,1.0s,baz=114,slow=2.0,SNR=24
BTO Baotou 138.98 348 *e*PKP **PKPdf 11 38 30.4 0.0**
BTO LR LR
comp=Z,5μm,21.2s
BTO LR LR
comp=Z,4μm,22.6s
BTO LR LR
comp=Z,11μm,22.9s
WR0 Warramunga Arr 140.21 237 **PKPdf 11 38 33.6 +0.5**
WB2 Warramunga Arr 140.38 237 PKPdf **PKPdf 11 38 33.3 -0.1**
WRAB Tennant Creek 140.38 237 **PKPdf 11 38 33.7 +0.3**
WRAB Tennant Creek 140.38 237 PKIKP **PKPdf 11 38 33.7 +0.3**
WRA Warramunga Arr 140.39 237 **PKPdf 11 38 33.3 -0.1**
WRA Warramunga Arr 140.39 237 PKIKP **PKPdf 11 38 33.3 -0.1**
WRA Warramunga Arr 140.39 237 PKhKP PKPpre 11 38 27.6
comp=Z,1.5nm,0.8s,baz=109,slow=2.1,SNR=18
WRA PKP **PKiKP 11 38 35.2 -0.7**
comp=Z,18nm,1.0s,baz=123,slow=1.4,SNR=42
WB0 Warramunga Arr 140.42 237 PKPdf **PKPdf 11 38 33.8 +0.3**
HNS HongShan 140.73 341 ⇑PKP PKPdf 11 38 23.0 -11
HNS sPKP 11 38 34.3
HNS PP **PP 11 41 28.6 -3.5**
TIA Tai'an 140.93 337 *e*PKP **PKPdf 11 38 29.1 -4.9**
TIA PP **PP 11 41 34.9 +1.4**
TIA LR LR
comp=Z,2μm,20.6s
TIA LR LR
comp=Z,2μm,18.1s
TIA LR LR
comp=Z,2μm,20.1s
TIY Taiyuan 141.13 344 *e*PKP **PKPdf 11 38 28.2 -6.2**
TIY PP **PP 11 41 33.8 -0.8**
TIY AMB AMB
comp=Z,600nm,9.1s
TIY LR LR
comp=Z,3μm,19.9s
TIY LR LR
comp=Z,2μm,19.2s
TIY LR LR
comp=Z,3μm,21.0s
GTA Gaotai 141.28 360 PKP **PKPdf 11 38 29.0 -5.6**
GTA SKKS 11 48 27.3
GTA AMB AMB
comp=Z,1μm,11.6s
GTA LR LR
comp=Z,2μm,23.1s
GTA LR LR
comp=Z,1μm,24.7s
GTA LR LR
comp=Z,3μm,23.5s
DHRM DHARAMSHALA 141.50 33 *e*P **PKPdf 11 38 33.8 -1.6**
DHRM IAmb IAmb 11 38 42.2
comp=Z,93nm,6.3s
JOW Kunigami 142.01 316 IAMs_20 IAMs_20 12 41 01.7
comp=Z,3μm,19.0s
NWAO Narrogin (SRO) 142.84 205 IAMs_20 IAMs_20 12 42 54.1
comp=Z,3μm,20.0s
SSE Sheshan 143.35 328 PKP PKPab 11 38 33.9 -0.4
SSE LR LR
comp=Z,640nm,27.6s
SSE LR LR
comp=Z,840nm,27.4s
NJ2 Nanjing 143.75 332 *e*PKP PKPbc 11 38 37.1 +0.6
NJ2 pPKP **PKiKP 11 38 43.3 +0.8**
NJ2 sPKP 11 38 48.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NJ2				PP	PP	11 41 54.1	+3.5
NJ2				SS	SS	12 00 29.8	-1.9
NJ2				AMB	AMB		
	comp=Z,1μm,6.9s						
NJ2				LR	LR		
	comp=Z,1μm,20.8s						
NJ2				LR	LR		
	comp=Z,1μm,24.6s						
NJ2				LR	LR		
	comp=Z,2μm,22.7s						
DDI	Dehra Dun	143.94	33	eP	PKPbc	11 38 37.8	+0.5
LYN	LuoYang	144.06	342	⇓PKP	PKPab	11 38 37.0	+0.1
LYN				pPKP	pPKPdf	11 38 47.5	+0.2
LYN				PP	PP	11 41 51.9	-0.3
LYN				SS	SS	12 00 36.4	+1.6
LYN				AMB	AMB		
	comp=Z,1μm,9.4s						
LYN				LR	LR		
	comp=Z,3μm,23.0s						
LYN				LR	LR		
	comp=Z,3μm,18.9s						
LYN				LR	LR		
	comp=Z,5μm,21.3s						
GOMU	GeErMu	144.20	7	PKP	PKPab	11 38 37.9	0.0
GOMU				PP	PP	11 41 53.9	+0.5
GOMU				LR	LR		
	comp=Z,860nm,20.6s						
GOMU				LR	LR		
	comp=Z,1μm,20.6s						
GOMU				LR	LR		
	comp=Z,1μm,19.7s						
LZH	Lanzhou	144.38	354	⇑PKP	PKPbc	11 38 38.8	+0.2
LZH				pPKP	pPKPdf	11 38 46.9	-1.1
LZH				PKS	PKSdf	11 42 17.4	+1.3
LZH				SKKS		11 48 45.4	
LZH				AMB	AMB		
	comp=Z,2μm,11.3s						
LZH				LR	LR		
	comp=Z,3μm,21.0s						
LZH				LR	LR		
	comp=Z,2μm,21.4s						
LZH				LR	LR		
	comp=Z,4μm,21.0s						
KUDL	Kundal	144.69	37	eP	PKPdf	11 38 40.2	-0.6
AJM	Ajmer	144.71	41	eP	PKPab	11 38 39.4	-0.3
NDI	New Delhi	144.72	35	eP	PKPbc	11 38 40.3	+0.6
SONA	Sohna	144.97	36	eP	PKPdf	11 38 41.0	-0.3
XAN	Xi'an	145.52	346	⇑PKPbc	PKPdf	11 38 41.6	-0.6
XAN				PP	PP	11 42 00.0	-0.9
XAN				AMB	AMB		
	comp=Z,1μm,11.0s						
XAN				LR	LR		
	comp=Z,2μm,19.9s						
XAN				LR	LR		
	comp=Z,3μm,19.6s						
XAN				LR	LR		
	comp=Z,3μm,18.6s						
PTH	Pithoragarh	145.69	31	eP	PKPdf	11 38 41.4	-1.4
PTH				eP	PKPab	11 38 43.4	0.0
KMPI	Kaimana, Papua	145.70	263	PKP	PKPab	11 38 44.4	+0.8
LGTI	Lohaghat	145.79	31	eP	PKPab	11 38 43.5	0.0
MORW	Morawa	146.67	207		PKPbc	11 38 45.6	-0.2
WHN	Wuhan	147.01	336	⇑iPKPbc	PKPbc	11 38 46.0	-0.7
WHN				pPKP	pPKPbc	11 38 53.8	-0.5
WHN				PP	PP	11 42 13.6	+3.7
WHN				LR	LR		
	comp=Z,6μm,21.0s						
WHN				LR	LR		
	comp=Z,6μm,19.1s						
WHN				LR	LR		
	comp=Z,10μm,20.8s						
YOJ	Yonaguni jima	147.14	318	IAMs_20	IAMs_20	12 39 40.2	
	comp=Z,3μm,20.0s						
FAKI	Fak Fak	147.22	264		PKPab	11 38 48.9	-0.6
FAKI	Fak Fak	147.22	264	PKP	PKPdf	11 38 46.2	+0.7
PYUN	Piuthan	148.26	29	eP	PKPdf	11 38 47.6	+0.5
	comp=Z,830nm,1.4s						
NACB	Ninganchiao	148.27	319	PKPdf	PKPdf	11 38 45.0	-1.9
NACB					PKPbc	11 38 50.6	+0.3
DANN	Dangsing	148.41	27	eP	PKPdf	11 38 48.2	+0.7
	comp=Z,824nm,1.0s						
BHPL	Bhopal	148.75	42	eP	PKPdf	11 38 47.9	+0.1
KOLN	Koldanda	148.83	28	eP	PKPdf	11 38 47.8	-0.3
	comp=Z,891nm,1.7s						
SSLB	Suanglung	148.96	320	IAMs_20	IAMs_20	12 48 42.2	
	comp=Z,3μm,20.0s						
POO	Poona	148.99	53	eP	PKPdf	11 38 48.2	-0.1
YULB	Yu-li	149.01	319	IAMs_20	IAMs_20	12 55 39.8	
	comp=Z,2μm,20.0s						
GKN	Gorkha	149.11	26	eP	PKPdf	11 38 48.7	+0.2
	comp=Z,1μm,1.3s						
CD2	Chengdu	149.51	353	PKPbc	PKPdf	11 38 49.2	+0.3
CD2				pPKP	pPKPdf	11 38 55.6	-1.0
CD2				sPKP		11 39 00.0	
CD2				PP	PP	11 42 25.3	+1.1
CD2				SKS	SKSdf	11 45 53.2	-2.8
CD2				SKKS	SKKSac	11 49 17.0	+1.1
CD2				SS	SS	12 01 38.7	+2.5
CD2				AMB	AMB		
	comp=Z,1μm,10.0s						
CD2				LR	LR		
	comp=Z,2μm,24.9s						
CD2				LR	LR		
	comp=Z,2μm,21.2s						
CD2				LR	LR		
	comp=Z,3μm,23.3s						
TPUB	Ta-pu	149.51	320	IAMs_20	IAMs_20	13 00 40.9	
	comp=Z,2μm,21.0s						
TWG	Pinlang	149.56	318	IAMs_20	IAMs_20	12 51 18.2	
	comp=Z,3μm,22.0s						
QZH	Quanzhou	149.56	324	PKPbc	PKPdf	11 38 49.5	+0.5
QZH				PP	PP	11 42 25.7	+0.4
QZH				SS	SS	12 01 39.1	+0.9
QZH				LR	LR		
	comp=Z,2μm,16.1s						
QZH				LR	LR		
	comp=Z,3μm,21.3s						
QZH				LR	LR		
	comp=Z,4μm,17.8s						
KKN	Kakani	149.58	26	eP	PKPdf	11 38 49.3	0.0
	comp=Z,1μm,1.7s						
DMN	Daman	149.66	26	eP	PKPdf	11 38 49.7	+0.2
	comp=Z,690nm,1.3s						
CNSH	ChangSha	149.67	336	⇓PKPbc	PKPdf	11 38 46.2	-2.9
CNSH				LR	LR		
	comp=Z,1μm,21.4s						
CNSH				LR	LR		
	comp=Z,1μm,19.1s						
CNSH				LR	LR		
	comp=Z,3μm,21.6s						
GUN	Gumba	149.73	25	eP	PKPdf	11 38 50.2	+0.5
	comp=Z,1μm,1.3s						
PKIN	Phulchoki	149.81	26	eP	PKPdf	11 38 49.6	-0.1
	comp=Z,617nm,1.3s						
PKI	Pulchoki	149.82	26	eP	PKPdf	11 38 49.9	+0.1
	comp=Z,703nm,1.3s						
LSA	Lhasa	149.86	15	PKPbc	PKPdf	11 38 51.1	+1.1
LSA				PP	PP	11 42 25.2	-1.7
LSA				LR	LR		
	comp=Z,2μm,28.5s						
LSA				LR	LR		
	comp=Z,2μm,22.8s						
LSA				LR	LR		
	comp=Z,4μm,28.5s						
ALBI	Allahabad	149.92	34	eP	PKPdf	11 38 50.4	+0.8
JIRN	Jiri	150.07	24	eP	PKPdf	11 38 50.4	+0.1
	comp=Z,398nm,1.1s						
GOA	Goa	150.49	58	eP	PKPdf	11 38 52.2	+1.5
MBWA	Marble Bar	150.85	221	PKPdf	PKPdf	11 38 49.1	-2.0
MBWA					PKPbc	11 38 53.9	-2.9
MBWA				PKPab	sPKPbc	11 39 06.5	-0.6
RAMN	Ramite	150.87	24	eP	PKPdf	11 38 52.0	+0.6
	comp=Z,570nm,1.0s						
TAPN	Taplejung	150.95	22	eP	PKPdf	11 38 52.2	+0.6
	comp=Z,1μm,1.5s						
ODAN	Odare	151.27	23	eP	PKPdf	11 38 52.5	+0.5
	comp=Z,877nm,1.6s						
GTK	Tadong	151.31	21	eP	PKPdf	11 38 53.1	+1.2
TNTI	Ternate	152.27	271	IAMs_20	IAMs_20	12 39 52.9	
	comp=Z,2μm,19.0s						
ZIRO	ZIRO	152.56	11	eP	PKPdf	11 38 53.3	-0.5
TEZP	TEZPUR	153.22	14	eP	PKPbc	11 38 58.5	-3.4
GULI	GuiLin	153.26	338	PKPbc	PKiKP	11 39 03.3	+1.0
GULI				PP	PP	11 42 45.7	-0.3
BOK	Bokaro	153.28	29	eP	PKPdf	11 38 54.5	-0.2
BOK				IAmb	IAmb	11 39 18.8	
	comp=Z,389nm,8.8s						
HYB	Hyderabad	153.30	50	ePKiKP	PKiKP	11 39 03.1	+0.5
HYB	Hyderabad	153.30	50	eP	PKPdf	11 38 54.2	-0.7
DAV	Davao City (W)	153.31	285	PKPab	PKPab	11 39 13.1	-1.4
	comp=Z,89nm,0.3s,baz=43,slow=2.8,SNR=4.2						
GYA	Guiyang	153.32	346	PKPbc	PKPdf	11 38 54.1	-0.8
GYA				PP	PP	11 42 49.1	+2.9
GYA				SKKS		11 49 39.7	
GYA				AMB	AMB		
	comp=Z,1μm,9.7s						
GYA				LR	LR		
	comp=Z,2μm,22.0s						
GYA				LR	LR		
	comp=Z,1μm,18.2s						
GYA				LR	LR		
	comp=Z,3μm,23.9s						
SOEI	Soe	153.45	247	PKPdf	PKPdf	11 38 54.1	-1.3
SOEI				PKPab	sPKPbc	11 39 13.8	+0.5
SOEI	Soe	153.45	247	PKP	PKPdf	11 38 55.2	-0.1
SOEI	Soe	153.45	247	PKP	PKPdf	11 38 56.8	+1.4
SANI	Sanana	153.53	264	PKP	PKPdf	11 38 53.8	-1.5
SANI	Sanana	153.53	264	PKP	PKPdf	11 38 55.1	-0.3
MOKO	MOKOCHONG	153.86	10	eP	PKPdf	11 38 56.3	+0.6
GZH	Guangzhou	153.89	330	⇓PKPbc	PKPdf	11 38 54.5	-1.1
GZH				PP	PP	11 42 48.0	-1.8
GZH				SS	SS	12 02 21.6	-4.0
GZH				LR	LR		
	comp=Z,700nm,15.5s						
GZH				LR	LR		
	comp=Z,650nm,16.5s						
GZH				LR	LR		
	comp=Z,1μm,18.0s						
SHL	Shillong	153.98	16	eP	PKPdf	11 38 54.8	-1.2
PZH	PanZhiHua	154.07	356	PKPbc	PKPdf	11 38 55.6	-0.3
PZH				PP	PP	11 42 48.7	-1.6
PZH				SKKS		11 49 37.6	
PZH				AMB	AMB		
	comp=Z,830nm,9.3s						
PZH				LR	LR		
	comp=Z,2μm,18.6s						
PZH				LR	LR		
	comp=Z,2μm,18.4s						
PZH				LR	LR		
	comp=Z,2μm,19.8s						
IMP	Imphal	155.20	12	eP	PKPdf	11 38 58.3	+0.8
KMI	Kunming	155.34	353	⇑PKP	PKPdf	11 38 58.4	+0.5
KMI				pPKP	pPKPdf	11 39 05.4	-0.2
TNCH	TengChong	155.59	2	⇑PKP	PKPdf	11 38 58.1	-0.1
TNCH				pPKP	pPKPdf	11 39 05.6	-0.3
TNCH				PKPab	PKPab	11 39 23.9	0.0
TNCH				PP	PP	11 42 59.1	+0.2
TNCH				SKKS		11 49 49.1	
TNCH				SS	SS	12 02 44.9	+1.6
TNCH				AMB	AMB		
	comp=Z,850nm,11.2s						
TNCH				LR	LR		
	comp=Z,1μm,17.7s						
TNCH				LR	LR		
	comp=Z,1μm,19.2s						
TNCH				LR	LR		
	comp=Z,2μm,21.8s						
KOD	Kodaikanal	155.93	66	eP	PKPdf	11 38 55.6	-3.4
BWNR	Bhubaneshwar	156.13	34	eP	PKPdf	11 38 58.8	+0.1
EDFI	Ende, Flores	156.18	247	PKP	PKPdf	11 38 56.2	-2.9
BBSI	Bau Bau	156.33	255	PKP	PKPdf	11 38 58.8	-0.4
VIS	Vishakhapatnam	156.55	42	eP	PKPdf	11 38 56.9	-2.4
LUWI	Luwuk	156.81	266	IAMs_20	IAMs_20	12 39 21.3	
	comp=Z,2μm,22.0s						
LUWI	Luwuk	156.81	266	PKP	PKPdf	11 38 59.3	-0.5
BKSI	Bulukumba	158.74	254	PKP	PKPdf	11 38 59.8	-2.4
TOLI2	Tolitoli	158.84	272	IAMs_20	IAMs_20	13 07 50.3	
	comp=Z,3μm,20.0s						
SLVN	Son La	158.88	349	PKPdf	PKPdf	11 39 01.0	-1.3
SLVN				PKPab	PKPab	11 39 36.4	-1.6
QIZ	Qiongzhong	159.04	332	PKP	PKPdf	11 39 01.1	-1.3
QIZ				PP	PP	11 43 19.6	+1.3
QIZ				SS	SS	12 03 27.0	+6.1
QIZ				AMB	AMB		
	comp=Z,1μm,10.8s						
QIZ				LR	LR		
	comp=Z,3μm,20.7s						
QIZ				LR	LR		
	comp=Z,3μm,22.7s						
QIZ				LR	LR		
	comp=Z,4μm,20.8s						
KAPI	Kappang	159.17	255	PKP	PKPdf	11 39 02.7	0.0
	comp=Z,3.1nm,0.3s,baz=27,slow=2.3,SNR=1.7						
MALK	Mahakanadarawa	159.43	67	PKP	PKPdf	11 39 02.4	-0.5
MPSI	Mapaga	159.73	270	PKP	PKPdf	11 38 59.7	-3.7
TWSI	Taliwang, Sumb	160.51	242	PKP	PKPdf	11 39 00.6	-3.6
CHTO	Chiang Mai	161.79	2	PKPdf	PKPdf	11 39 04.8	-0.6
CHTO				PKPab	PKPab	11 39 51.2	+0.6
CHTO	Chiang Mai	161.79	2	PKIKP	PKPdf	11 39 04.8	-0.6
CHTO						11 39 51.2	
CMAR	Chiang Mai Arr	162.14	2	PKP	PKPdf	11 39 05.9	+0.1
	comp=Z,11nm,0.9s,baz=310,slow=2.1,SNR=40						
CMAR				PKPab	PKPab	11 39 51.9	-0.3
	comp=Z,11nm,0.9s,baz=342,slow=4.4,SNR=7.8						
SRBI	Singaraja	162.28	241	PKP	PKPdf	11 39 02.4	-3.6
SBUM	Sibu	167.27	279	P	PKPdf	11 39 12.0	+1.6
DSRI	Dabo	174.96	259	PKP	PKPdf	11 39 12.9	-1.5
PSI	Prapat	177.61	17	PKIKP	PKPdf	11 39 14.3	-0.8
PSI						11 40 58.9	
RPSI	Rantau Prapat	177.71	18		PKPdf	11 39 14.3	-0.6
RPSI					PKPab	11 40 58.9	-2.1
BKNI	Bangkinang	178.58	263	PKP	PKPdf	11 39 10.7	-4.4

IDC 03 11:40:27.3±1.3, 6°.47N×126°.64E, h0km, mb3.6/4, mbtmp3.8/5, ML4.5/1, MS4.3/2, Error ellipse: s-maj=58.8km s-min=18.5km az=58.0

ISC 03 11:40:32.8±1.4, 6°.4N±0°.2×126°.4E±0°.3, h35km, n11, σ0s.81/9, mb3.5/4, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.07	309	Pn	Pn	11 40 51.6	+0.3
	118nm,0.3s,baz=221,slow=2.5,SNR=13						
DAV				Sn	Sn	11 41 04.4	-0.5
	167nm,0.3s,baz=45,slow=20,SNR=5.8						
BATI	Baumata	16.72	189	Pn	Pn	11 44 24.8	+0.4
	1.8nm,0.3s,baz=3.3,slow=19,SNR=1.2						
	8.9nm,0.4s						
WRA	Warramunga Arr	27.31	164	P	P	11 46 13.9	-0.4
	0.6nm,1.0s,baz=346,slow=10,SNR=1.9						
WRA				PcP	PcP	11 49 34.1	+0.6
	0.7nm,1.1s,baz=339,slow=2.6,SNR=1.4						
	0.6nm,1.0s						
ASAR	Alice Springs	30.76	166	P	P	11 46 44.3	-0.8
	0.3nm,0.6s,baz=344,slow=7.2,SNR=7.8						
ASAR				PcP	PcP	11 49 42.9	+0.7
	0.4nm,0.7s,baz=352,slow=2.7,SNR=1.3						
	0.3nm,0.6s						
NWAO	Narrogin (SRO)	40.06	192	LR	LR	12 07 04.5	
	comp=Z,390nm,18.6s,baz=284,slow=40						
H11S3	WAKE ISLAND Hy	41.02	69	T	T	12 32 06.7	
	baz=258,slow=75,SNR=5.7						
H11S1	WAKE ISLAND Hy	41.03	69	T	T	12 32 07.6	
	baz=258,slow=75,SNR=5.0						
H11S2	WAKE ISLAND Hy	41.03	69	T	T	12 32 06.0	
	baz=258,slow=75,SNR=8.8						
MKAR	Makanchi Array	55.21	324	P	P	11 50 03.2	+0.9
	0.4nm,0.6s,baz=125,slow=8.3,SNR=5.8						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	59.35	327	P	P	11 50 30.3	-1.0
	0.5nm,0.4s,baz=126,slow=4.7,SNR=4.0						
	0.5nm,0.4s						
ATD	Arta Tunnel	82.47	281	LR	LR	12 29 50.2	
	comp=Z,196nm,20.2s,baz=254,slow=36						

IDC 03 11:56:26.1±1.9, 3°.69N×123°.00E, h0km, mb3.5/4, mbtmp3.5/4, MS4.1/1, Error ellipse: s-maj=201.0km s-min=27.8km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	13.82	177	LR	LR	12 05 58.5	
	comp=Z,847nm,19.2s,baz=259,slow=41						
WRA	Warramunga Arr	25.99	155	P	P	12 01 58.8	-2.0
	0.6nm,0.8s,baz=333,slow=11,SNR=6.9						
	0.6nm,0.8s						
ASAR	Alice Springs	29.19	159	P	P	12 02 30.2	+0.8
	0.2nm,0.8s,baz=338,slow=6.6,SNR=6.2						
	0.2nm,0.8s						
STKA	Stephens Creek	39.54	155	P	P	12 04 00.5	+1.5
	0.5nm,0.2s,baz=329,slow=5.9,SNR=1.6						
	0.5nm,0.2s						
MKAR	Makanchi Array	55.52	327	P	P	12 06 02.8	-0.2
	0.3nm,0.8s,baz=123,slow=5.3,SNR=2.4						
	0.3nm,0.8s						

IDC 03 11:58:27.9±0.8, 67°.66N×33°.96E, h0km, mb3.3/4, mbtmp3.6/10, ML2.5/3, Error ellipse: s-maj=12.2km s-min=9.7km az=44.0

HEL 03 11:58:27.8±0.1, 67°.60N×33°.77E, h0km, ML2.0, Suspected explosion

KOLA 03 11:58:27.9, 67°.65N×33°.77E, h0km, ML2.2, Error ellipse: s-maj=6.6km s-min=2.7km az=150.0, Khibiny, mines Kirovsk, Yukspor

ISC 03 11:58:26.0±0.7, 67°.55N±0°.03×33°.86E±0°.03, h0km, n37, σ1s.86/64, mb3.2/3, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APA	Apatity	0.18	278	P	Pg	11 58 30.8	+1.4
APA				S	Sg	11 58 33.4	+1.8
APA0	Apatity Array	0.34	281	P	Pg	11 58 33.1	+0.6
APA0				S	Sg	11 58 37.5	+0.7
LVZ	Lovozero	0.46	40	P	Pg	11 58 35.5	+0.7
LVZ				S	Sg	11 58 41.4	+0.5
LVZ	Lovozero	0.46	40	PG	Pg	11 58 35.4	+0.5
	baz=225						
LVZ				SG	Sg	11 58 42.1	+1.2
VRF	Varrio	1.64	279	PG	Pn	11 58 56.0	-0.1
	baz=90						
VRF				MSG		11 59 15.5	
	comp=Z,12nm,0.2s						
VRF				SG	Sn	11 59 16.7	-1.1
OLKF	Oulanka, Finla	2.15	237	PG	Pb	11 59 06.2	+0.6
	baz=56						
OLKF				MSG		11 59 31.6	
	comp=Z,8.4nm,0.2s						
OLKF				SG	Sg	11 59 35.6	+0.8
KU6	Riekki	2.19	228	PG	Pb	11 59 06.8	+0.3
	baz=45						
KU6				MSG		11 59 33.1	
	comp=Z,5.9nm,0.2s						
KU6				SG	Sg	11 59 37.0	+0.7
MSF	Maaselka	2.52	232	PB	Pb	11 59 11.7	-0.4
MSF				SG	Sg	11 59 46.5	-0.4
SGF	Sodankyl	2.83	271	PN	Pn	11 59 13.7	+1.4
SGF				SB	Sb	11 59 51.5	-0.8
VADS	Vadso	3.06	330	P	Pn	11 59 15.7	+0.2
VADS				S	Sn	11 59 51.6	-1.1
RNF	Rovaniemi	3.21	257	PN	Pn	11 59 19.2	+1.6
	baz=69						
RNF				SN	Sn	11 59 58.2	+1.7
KEV	Kevo	3.35	315	eP	Pn	11 59 20.5	+1.0
KEV	Kevo	3.35	315	PN	Pn	11 59 20.0	+0.6
	baz=129						
KEV				SN	Sn	11 59 58.7	-1.2
ARA0	ARCESS Array S	3.66	307	PN	Pn	11 59 23.8	0.0
	baz=121						
ARA0				SN	Sn	12 00 05.7	-2.0
ARCES	ARCESS Array B	3.66	307	P	Pn	11 59 23.9	+0.1
ARCES				S	Sn	12 00 05.2	-2.5
ARCES	ARCESS Array B	3.66	307	Pn	Pn	11 59 23.9	+0.1
	comp=Z,1.2nm,0.3s,baz=116,slow=14,SNR=111						
ARCES				Pg	Pb	11 59 32.5	+1.0
	comp=Z,1.3nm,0.3s,baz=117,slow=15,SNR=17						
ARCES				Sn	Sn	12 00 03.8	-3.9
	comp=Z,2.0nm,0.3s,baz=116,slow=24,SNR=20						
ARCES				Lg	Lg	12 00 16.0	
	comp=Z,1.3nm,0.3s,baz=109,slow=30,SNR=6.1						
	comp=Z,2.5nm,0.3s						
RMF	Romuvaara	3.71	208	PN	Pn	11 59 27.0	+2.5
RMF				SN	Sn	12 00 12.3	+3.5
KLF	Kolari	3.84	270	PN	Pn	11 59 28.1	+1.9
KLF				SN	Sn	12 00 12.5	+0.6
HEF	Hetta	3.94	287	eP	Pn	11 59 28.1	+0.5
HEF	Hetta	3.94	287	PN	Pn	11 59 28.1	+0.5
	baz=100						
HEF				SN	Sn	12 00 13.2	-1.3
TOF	Tornio	4.05	253	PG	Pb	11 59 38.6	+0.5
TOF				SN	Sn	12 00 18.3	+1.2
OUL	Oulu	4.05	236	PB	Pb	11 59 37.0	-1.2
	baz=45						
PAJU	Pajala	4.20	268	PN	Pn	11 59 31.9	+0.7
PAJU				SN	Sn	12 00 20.4	-0.6
KTK1	Kautokeino	4.21	295	PG	Pb	11 59 41.5	+0.6
KTK1				SG	Sb	12 00 34.7	+2.4
OBF4	Vikkela, Lumij	4.49	236	PB	Pb	11 59 42.7	-2.8
OBF4				SN	Sn	12 00 25.7	-2.2
KALU	Kalix	4.50	253	PG	Pb	11 59 48.6	+2.8
KALU				SN	Sn	12 00 28.9	+0.6
LANU	Lannavaara	4.53	282	PN	Pn	11 59 36.0	+0.3
LANU				SN	Sn	12 00 28.9	-0.1
FINES	FINESS Array B	6.98	212	Pn	Pn	12 00 10.9	+1.5
	comp=Z,0.1nm,0.3s,baz=22,slow=15,SNR=2.0						
FINES				Sn	Sn	12 01 28.7	-0.7
	comp=Z,0.2nm,0.3s,baz=29,slow=24,SNR=3.2						
FINES				Lg	Lg	12 02 02.6	
	comp=Z,0.6nm,0.3s,baz=25,slow=27,SNR=9.0						
	comp=Z,3.9nm,0.9s						
FAUS	Fauske	7.13	277	S	Sn	12 01 27.6	-5.4
HFS	Hagfors	11.54	240	Pn	Pn	12 01 10.6	-1.2
	comp=Z,3.4nm,0.8s,baz=36,slow=12,SNR=2.5						
HFS				Sn	Sn	12 03 16.6	-4.5
	comp=Z,0.1nm,0.3s,baz=40,slow=38,SNR=2.7						
HFS				Lg	Lg	12 04 24.3	
	comp=Z,0.3nm,0.3s,baz=55,slow=29,SNR=2.0						
SPITS	Spitsbergen Ar	11.77	342	Pn	Pn	12 01 12.0	-2.8
	comp=Z,13nm,0.9s,baz=139,slow=9.6,SNR=2.2						
ARU	Arti	15.94	122	Pn	Pn	12 02 08.4	-2.9
	baz=326,slow=10,SNR=5.9						
	comp=Z,2.4nm,0.5s						
AKASG	Malin Array Be	17.05	190	Pn	Pn	12 02 20.7	-4.8
	comp=Z,0.2nm,0.3s,baz=7.1,slow=12,SNR=4.4						
AKTO	Aktyubinsk	20.94	133	P	P	12 03 11.4	+1.4
	comp=Z,1.7nm,0.6s,baz=338,slow=9.0,SNR=3.7						
	comp=Z,1.7nm,0.6s						
BVAR	Borovoye Array	22.74	112	P	P	12 03 31.2	+2.0
	comp=Z,1.2nm,0.8s,baz=321,slow=11,SNR=6.3						
	comp=Z,1.2nm,0.8s						
KURBB	Kurchatov Arra	27.66	105	P	P	12 04 16.2	+1.2
	comp=Z,0.3nm,0.7s,baz=324,slow=9.4,SNR=1.9						
	comp=Z,0.3nm,0.7s						
MKAR	Makanchi Array	32.22	105	P	P	12 04 57.9	+2.3
	comp=Z,0.2nm,0.7s,baz=325,slow=7.4,SNR=2.2						
	comp=Z,0.2nm,0.7s						

IDC 03 11:59:03.2±8.8, 30°.24N×139°.67E, h0km, mb3.3/4, mbtmp3.3/4, MS4.0/1, Error ellipse: s-maj=366.7km s-min=28.5km az=69.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIXI	Tiksi	41.88	355	LR	LR	12 24 50.3	
	comp=Z,200nm,21.2s,baz=42,slow=37						
MKAR	Makanchi Array	46.80	307	P	P	12 07 34.6	+0.1
	0.1nm,0.4s,baz=100,slow=6.7,SNR=1.5						
	0.1nm,0.4s						
WRA	Warramunga Arr	50.15	187	P	P	12 08 00.9	+0.4
	0.2nm,0.4s,baz=2.5,slow=7.7,SNR=4.8						
	0.2nm,0.4s						
ASAR	Alice Springs	53.88	187	P	P	12 08 27.6	-0.7
	0.2nm,0.7s,baz=22,slow=11,SNR=4.3						
	0.2nm,0.7s						
BVAR	Borovoye Array	54.25	316	P	P	12 08 30.4	-0.3
	0.3nm,0.5s,baz=100,slow=7.7,SNR=2.4						
	0.3nm,0.5s						

NEIC 03 12:31:14.3±0.5, 36°.01N±0°.01×97°.92W±0°.01, h5km±1km, Error ellipse: s-maj=2.0km s-min=1.4km az=223.0

TUL 03 12:31:14.8±0.5, 36°.02N±0°.01×97°.92W±0°.01, h6km±5km, ML2.5, mb_Lg2.6/64(NEIC), ML2.6/62(NEIC), Error ellipse: s-maj=1.8km s-min=1.3km az=205.0, Oklahoma

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.44	120	Pg	Pg	12 31 23.4	+0.1
OK029				Sg	Sg	12 31 29.0	-0.1
OK029				IAML		12 31 32.3	
	383nm,0.5s						

CROK Carrier 0.49 354 Pg Pg 12 31 24.5 +0.3
CROK Sg Sg 12 31 30.5 0.0
CROK IAML 12 31 36.2
comp=E,326nm,0.2s
CROK IAML 12 31 38.5
comp=N,428nm,0.3s
ADOK Arcadia Dam 0.58 129 Pg 12 31 25.9 -0.1
ADOK Sg Sg 12 31 33.4 -0.1
CSTR Hydro, Custer 0.73 239 Pg Pg 12 31 28.7 -0.1
OKCSW OKLAHOMA CITY 0.73 147 Pg Pg 12 31 28.1 -0.7
OKCSW IAML 12 31 44.0
comp=N,480nm,0.8s
OK033 Mehan 0.80 88 Pg Pg 12 31 29.3 -0.8
OK033 IAML 12 31 41.1
comp=N,308nm,0.1s
OK033 IAML 12 31 54.9
comp=N,216nm,0.1s
OK038 West end E0370 0.81 305 Pg Pg 12 31 30.0 -0.3
OK032 Salt Plains WL 0.82 343 Pg Pg 12 31 30.0 -0.5
OK032 IAML 12 31 41.9
comp=N,334nm,0.2s
OK032 IAML 12 31 50.4
comp=N,259nm,0.2s
GC02 Grant County # 0.83 3 Pg Pg 12 31 30.3 -0.5
FNO Franklin 0.87 151 Pg 12 31 30.8 -0.7
FNO IAML 12 31 53.4
comp=E,222nm,0.7s
OK048 Pawnee Station 0.88 63 Pg Pg 12 31 31.3 -0.5
OK048 IAML 12 31 46.2
comp=E,141nm,0.5s
OK052 Battle Ridge R 0.91 91 Pg Pg 12 31 31.6 -0.6
OK052 IAML 12 31 53.2
comp=E,129nm,0.3s
OK052 IAML 12 31 55.6
comp=E,132nm,0.3s
OK030 Cody Creek RV 0.93 95 Pg 12 31 32.0 -0.6
OK030 IAML 12 31 45.5
comp=E,164nm,0.1s
OK030 IAML 12 31 48.3
comp=E,161nm,0.2s
BLOK Blackwell 0.93 37 Pg Pg 12 31 32.5 -0.2
KAN14 Manchester OK 0.94 358 Pg 12 31 32.0 -0.7
KAN14 IAML 12 31 51.7
comp=E,134nm,0.1s
U32A Winter Ranch, 0.94 293 Pg Pg 12 31 32.6 -0.3
U32A IAML 12 31 58.1
comp=E,124nm,0.5s
U32A IAML 12 32 06.1
comp=N,231nm,0.8s
QUOK Quay 0.99 81 Pg Pg 12 31 33.1 -0.8
QUOK IAML 12 31 52.2
comp=N,234nm,0.3s
QUOK IAML 12 31 58.6
comp=E,186nm,0.2s
OK051 E0350 and S346 1.00 61 Pg 12 31 33.5 -0.5
OK051 IAML 12 31 54.5
comp=E,257nm,0.2s
KAN17 Caldwell West 1.03 7 Pg Pg 12 31 34.2 -0.3
KAN13 South Haven SW 1.05 20 Pg 12 31 34.5 -0.5
KAN05 Bluff City Nor 1.09 2 Pg 12 31 35.0 -0.7
KAN05 IAML 12 31 55.5
comp=E,163nm,0.2s
KAN05 IAML 12 31 56.0
comp=N,169nm,0.2s
KAN10 Anthony SW Sta 1.11 353 Pg 12 31 35.4 -0.7
KAN10 IAML 12 31 54.9
comp=N,128nm,0.3s
KAN10 IAML 12 31 55.2
comp=E,94nm,0.2s
KAN01 Argonia South 1.14 7 Pg 12 31 35.9 -0.7
KAN01 IAML 12 31 52.0
comp=E,119nm,0.1s
KAN09 Caldwell North 1.14 12 Pg 12 31 35.7 -1.0
DEOK Depew 1.17 98 Pg 12 31 36.2 -1.1
DEOK IAML 12 31 55.3
comp=N,108nm,0.6s
DEOK IAML 12 31 57.2
comp=E,128nm,0.2s
KAN08 Anthony NE Sta 1.21 358 Pg Pg 12 31 37.3 -0.7
ELIS Ellis County 1.21 273 Pg 12 31 37.1 -1.0
ELIS IAML 12 32 21.3
comp=E,134nm,0.8s
W35A Tecumseh 1.22 135 Pg 12 31 37.4 -0.7
KAN06 Argonia West S 1.23 2 Pg 12 31 37.4 -1.0
KAN06 IAML 12 31 54.7
comp=N,112nm,0.4s
KAN06 IAML 12 31 55.3
comp=E,81nm,0.2s
KAN12 Harper NE Stat 1.28 357 Pn 12 31 38.0 -1.1
T35A Sooner Cattle 1.45 51 Pn 12 31 41.1 -0.4
WMOK Wichita Mounta 1.46 209 Pn 12 31 41.0 -0.7
TUL3 Leonard 1.73 93 Pn 12 31 45.3 -0.1
SMWD Samnorwood 2.10 245 Pn 12 31 51.0 +0.4
SMWD IAmb_Lg 12 32 25.4
comp=Z,32nm,0.7s
LOOK Love County 2.11 163 IAmb_Lg 12 32 24.4
comp=Z,20nm,0.8s
WTFS Witchita Falls 2.29 191 Pn 12 31 54.5 +1.4
WTFS IAmb_Lg 12 32 28.5
comp=Z,5.5nm,0.8s
RLO Rose Lookout 2.35 86 Pn 12 31 53.6 -0.3
R32A Long Quarter, 2.48 346 IAmb_Lg 12 32 36.5
comp=Z,19nm,0.9s
FW03 Perrin-Whitt E 2.98 182 IAmb_Lg 12 32 55.8
comp=Z,4.4nm,0.8s
FW06 Azle 3.06 174 IAmb_Lg 12 32 51.3
comp=Z,6.5nm,0.8s
PLPT Palo Pinto 3.22 186 IAmb_Lg 12 32 57.7
comp=Z,14nm,1.2s
APMT Aspermont 3.24 215 IAmb_Lg 12 33 02.0
comp=Z,6.8nm,0.8s
AMTX Amarillo 3.27 251 IAmb_Lg 12 32 58.1
comp=Z,18nm,0.9s
DKNS Dickens 3.41 227 IAmb_Lg 12 33 03.7
comp=Z,23nm,0.7s
TREL Terrell 3.62 155 IAmb_Lg 12 33 10.1
comp=Z,8.6nm,0.8s
Z38A Mt. Pleasant 3.67 138 IAmb_Lg 12 33 16.5
comp=Z,15nm,0.8s
ABTX Abilene, Hawle 3.68 203 IAmb_Lg 12 33 18.0
comp=Z,9.3nm,0.8s
MIAR Mount Ida 3.85 111 IAmb_Lg 12 33 21.8
comp=Z,15nm,0.9s
RTBA Rita Blanca 3.92 278 IAmb_Lg 12 33 20.4
comp=Z,4.0nm,0.7s
SN01 Snyder 1 3.99 219 IAmb_Lg 12 33 25.8
comp=Z,28nm,0.8s
S39A Bolivar 4.05 64 IAmb_Lg 12 33 23.8
comp=Z,19nm,1.0s
POST Post 4.17 226 IAmb_Lg 12 33 31.3
comp=Z,23nm,1.1s
X40A Basin Creek Fa 4.43 109 IAmb_Lg 12 33 42.4
comp=Z,12nm,0.7s
WLAR White Oak Lake 4.59 119 IAmb_Lg 12 33 46.9
comp=Z,11nm,0.8s
WHAR Wooly Hollow 4.64 97 IAmb_Lg 12 33 43.1
comp=Z,9.1nm,0.9s
MGMO Mountain Grove 4.69 74 IAmb_Lg 12 33 41.2
comp=Z,17nm,0.8s
FCAR Ozark Folk Cen 4.70 90 IAmb_Lg 12 33 40.7
comp=Z,6.6nm,0.9s
UALR University of 4.72 104 IAmb_Lg 12 33 55.7
comp=Z,8.6nm,0.8s
SGCY Sterling City 4.88 214 IAmb_Lg 12 33 57.0
comp=Z,16nm,1.1s
P38A Dawn 5.00 43 IAmb_Lg 12 33 54.8
comp=Z,9.4nm,0.7s
N35A Tabor 5.15 20 IAmb_Lg 12 34 06.8
comp=Z,16nm,0.7s
435B Jarrell 5.23 177 IAmb_Lg 12 34 03.8
comp=Z,16nm,1.1s
CCAR Cane Creek 5.47 111 IAmb_Lg 12 34 21.1
comp=Z,16nm,0.8s
CCM Cathedral Cave 5.71 67 IAmb_Lg 12 34 20.6
comp=Z,12nm,0.9s
OZNA Ozona 5.75 209 IAmb_Lg 12 34 24.7
comp=Z,11nm,0.9s
FVM French Village 6.31 70 IAmb_Lg 12 34 37.4
comp=Z,7.4nm,0.7s
CGM3 Cape Girardeau 6.76 77 IAmb_Lg 12 34 45.8
comp=Z,7.8nm,0.9s
BRIGG Briggsdale 6.78 314 IAmb_Lg 12 34 54.2
comp=Z,10nm,0.9s
DRIO Del Rio 6.96 200 IAmb_Lg 12 35 11.0
comp=Z,5.2nm,0.7s
SAND Sanderson 7.00 211 IAmb_Lg 12 35 00.9
comp=Z,15nm,1.2s
S44A Carbondale 7.15 74 IAmb_Lg 12 35 01.3
comp=Z,10nm,0.7s
ALPN Alpine 7.39 222 IAmb_Lg 12 35 12.8
comp=Z,4.0nm,0.9s
PHWY Pilot Hill 7.91 314 IAmb_Lg 12 35 32.9
comp=Z,3.8nm,0.7s
JFWS Jewell Farm 9.08 38 IAmb_Lg 12 36 10.3
comp=Z,7.5nm,0.7s

AUST 03 12:45:53.9±1.9, 40.26S×149.33E, h10km, Error ellipse: s-maj=32.6km s-min=8.0km az=111.0, Southeast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AULHS	**Lilydale High** baz=2.0	**1.88**	**238**	P	Pb	12 46 28.1	-0.3
AULHS				S	Sb	12 46 51.8	-0.2
AULHS	**Lilydale High** baz=1.9	**1.88**	**238**	P	Pb	12 46 27.9	-0.5
AULHS				S	Sn	12 46 50.7	+0.8
MOO	**Moorlands** baz=2.7	**2.71**	**216**	P	Pn	12 46 36.9	-0.6
MOO				S	Sn	12 47 06.8	-3.6
MOO	**Moorlands** baz=2.7	**2.71**	**216**	P	Pn	12 46 37.4	-0.1
MOO				S	Sn	12 47 05.4	-5.0
AUSSC	**Sale College,** baz=3.0	**2.78**	**320**	P	Pn	12 46 41.0	+2.6
MILA	**Mila** baz=3.4	**3.20**	**358**	P	Pn	12 46 44.8	+0.4
MILA				S	Sn	12 47 22.3	-0.3
MILA	**Mila** baz=3.2	**3.20**	**358**	P	Pn	12 46 44.3	-0.1
MILA				S	Sn	12 47 23.4	+0.7
AUSMG	**Snowy Mountain** baz=4.1	**3.88**	**351**	P	Pn	12 46 56.3	+2.6
AUSMG				S	Sn	12 47 38.5	-0.8
AUSMG	**Snowy Mountain** baz=3.9	**3.88**	**351**	P	Pn	12 46 54.7	+1.1
AUSMG				S	Sn	12 47 39.3	+0.1
TOO	**Toolangi** baz=4.3	**4.02**	**311**	P	Pn	12 46 59.2	+3.6
TOO				S	Sn	12 47 46.7	+3.9
AUMHS	**Melrose High S** baz=5.1	**4.89**	**358**	P	Pn	12 47 11.3	+3.7
AUMHS				S	Sn	12 48 06.1	+1.7
CNB	**Canberra Magne** baz=5.1	**4.94**	**0**	P	Pn	12 47 11.4	+3.1
CNB				S	Sn	12 48 06.0	+0.6
CNB	**Canberra Magne** baz=4.9	**4.94**	**0**	P	Pn	12 47 08.2	0.0
CNB				S	Sn	12 48 06.2	+0.7
AUMTS	**Mt Stromlo** baz=5.0	**4.94**	**357**	P	Pn	12 47 08.7	+0.5
AUMTS				S	Sn	12 48 07.8	+2.4
AUUHS	**Ulladulla High** baz=5.1	**4.97**	**11**	S	Sn	12 48 03.2	-3.0
AUUHS	**Ulladulla High** baz=5.0	**4.97**	**11**	P	Pn	12 47 08.4	-0.2
AUSIS	**Research Schoo** baz=5.0	**4.97**	**358**	P	Pn	12 47 08.8	0.0
YNG	**Young** baz=6.2	**6.00**	**353**	P	Pn	12 47 26.2	+3.4
YNG				S	Sb	12 48 48.5	-1.9
YNG	**Young** baz=6.0	**6.00**	**353**	P	Pn	12 47 23.2	+0.5

*DJA **03** 13:11:12.6±0.2, 6°S±3°×13°0E±°, h166km±6km, M4.3/13, mb4.0/13, mB5.5/2, MLv4.5/13, Mw(mB)5.0/2*
*IDC **03** 13:11:15.8±2.5, 6°63S±129°80E, h186km±24km, mb3.3/7, mbtmp3.9/9, Error ellipse: s-maj=24.9km s-min=14.9km az=55.0*
*NEIC **03** 13:11:17.9±2.0, 7°05S±0°08×129°89E±0°09, h157km±5km, mb4.4/18, Error ellipse: s-maj=13.6km s-min=10.6km az=61.0*
ISC 03 13:11:11.7±0.5, 6°66S±0°05×130°12E±0°06, h146km, n52, σ2°23/46, mb3.9/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.76**	**138**	Pn	Pn	13 11 49.8	+6.0
SAUI	**Saumlaki**	**1.76**	**138**	P	Pn	13 11 49.3	+5.5
BNDI	**Bandanaira**	**2.14**	**354**	P	**Pn**	**13 11 50.0**	**+1.8**
FAKI	**Fak Fak**	**4.28**	**30**	P	**Pn**	**13 12 15.2**	**-0.4**
KMPI	**Kaimana, Papua**	**4.65**	**50**	P	**Pn**	**13 12 22.3**	**+1.9**
KMPI				S	**Sn**	**13 13 13.4**	**-0.6**
SWI	**Sorong** 16nm,0.5s,0.4nm	**5.87**	**11**	P	**Pn**	**13 12 34.9**	**-1.8**
MTN	**Manton Dam**	**6.22**	**171**		**Pn**	**13 12 44.5**	**+3.1**
RKPI	**Ransiki, Papua**	**6.53**	**38**	P	**Pn**	**13 12 41.6**	**-3.8**
LBMI	**Labuha** 39nm,0.6s,0.2nm	**6.53**	**336**	P	**Pn**	**13 12 45.4**	**-0.1**
SOEI	**Soe**	**6.56**	**242**		**Pn**	**13 12 47.2**	**+1.3**
SOEI	**Soe** 28nm,0.6s,0.2nm	**6.56**	**242**	P	**Pn**	**13 12 47.6**	**+1.7**
BATI	**Baumata** 39nm,0.5s,0.2nm	**7.29**	**241**	P	**Pn**	**13 12 56.3**	**+0.6**
BATI	**Baumata** 38nm,0.4s,baz=96,slow=3.5,SNR=9.0	**7.29**	**241**	P	**Pn**	**13 12 56.9**	**+1.2**
BATI				S	**Sn**	**13 14 16.6**	**-0.7**
EDFI	**Ende, Flores** 4.3nm,1.0s 16nm,0.3s,baz=30,slow=23,SNR=7.6	**8.61**	**256**	P	**Pn**	**13 13 14.6**	**+1.2**
KNRA	**Kununurra**	**9.05**	**188**	Pn	**Pn**	**13 13 20.3**	**+1.1**
PLAI	**Plampang** 43nm,1.1s	**12.42**	**259**	P	**Pn**	**13 14 01.3**	**-2.3**
TWSI	**Taliwang, Sumb** 12nm,1.2s	**13.28**	**260**	P	**Pn**	**13 14 12.0**	**-2.7**
WB0	**Warramunga Arr**	**13.67**	**163**		**Pn**	**13 14 19.5**	**-0.2**
WRA	**Warramunga Arr**	**13.82**	**163**	Pn	**Pn**	**13 14 20.0**	**-1.6**
WRA	**Warramunga Arr** 0.9nm,0.5s,baz=336,slow=13,SNR=23	**13.82**	**163**	P	**Pn**	**13 14 21.8**	**+0.3**
WRA				S	**Sn**	**13 16 50.5**	**-4.2**
WB2	**Warramunga Arr** 1.6nm,0.3s,baz=20,slow=22,SNR=11	**13.82**	**163**	Pn	**Pn**	**13 14 20.2**	**-1.4**
WR0	**Warramunga Arr**	**13.90**	**162**	Pn	**Pn**	**13 14 22.7**	**+0.2**
COEN	**Coen**	**14.74**	**120**	Pn	**P**	**13 14 37.0**	**+1.6**
JAGI	**Jajag, Banyuwa**	**15.93**	**263**	Pn	**Pn**	**13 14 45.8**	**-2.2**
JAGI				IAmb	IAmb	13 14 48.9	
MYLDM	**Lahad Datu** comp=Z,20nm,1.1s	**16.52**	**315**	P	**P**	**13 14 60.0**	**+4.9**
MYLDM				IAmb	IAmb	13 15 21.8	
AS31	**Alice Springs** comp=Z,23nm,1.3s	**17.29**	**168**		**Pn**	**13 15 05.6**	**+1.2**
ASAR	**Alice Springs**	**17.29**	**168**		**Pn**	**13 15 05.7**	**+1.3**
ASAR	**Alice Springs** comp=Z,2.5nm,0.4s,baz=344,slow=9.8,SNR=91	**17.29**	**168**	P	**Pn**	**13 15 06.5**	**+2.1**
ASAR				S	**S**	**13 18 10.2**	**-6.2**
ASAR	comp=Z,0.3nm,0.5s,baz=360,slow=28,SNR=3.0			ScP	**ScP**	**13 22 55.9**	**-4.3**
PSA00	**Pilbara Seismi** comp=Z,0.3nm,0.5s,baz=3.1,slow=2.4,SNR=2.7	**17.84**	**213**	P	**P**	**13 15 09.3**	**-0.3**
PSA00				IAmb	IAmb	13 15 21.3	
CTA	**Charters Tower** comp=Z,13nm,1.1s	**20.57**	**132**	P	Pn	13 15 43.5	+0.5
	comp=Z,2.9nm,0.7s,baz=317,slow=9.3,SNR=6.8 comp=Z,2.9nm,0.7s						
CTAO	**Charters Tower** comp=Z,7.0nm,1.2s	**20.57**	**132**	P	Pn	13 15 43.6	+0.5
CTAO				IAmb	IAmb	13 15 45.6	
FORT	**Forrest** comp=Z,18nm,1.1s	**24.07**	**184**	P	**P**	**13 16 13.6**	**0.0**
FORT				IAmb	IAmb	13 16 36.4	
BBOO	**Buckleboo** comp=Z,32nm,1.4s	**26.59**	**169**	P	**P**	**13 16 37.4**	**+1.0**
BBOO				IAmb	IAmb	13 16 41.1	
STKA	**Stephens Creek**	**27.28**	**158**	P	**P**	**13 16 43.3**	**+0.8**
STKA	**Stephens Creek**	**27.28**	**158**	P	**P**	**13 16 44.1**	**+1.6**
CAN	**Canberra** comp=Z,1.3nm,0.3s,baz=339,slow=8.9,SNR=6.3 comp=Z,1.3nm,0.3s	**33.39**	**151**	P	**P**	**13 17 39.3**	**+3.0**
CMAR	**Chiang Mai Arr** comp=Z,0.3nm,0.4s,baz=135,slow=6.6,SNR=2.2 comp=Z,0.3nm,0.4s	**39.61**	**310**	P	**P**	**13 18 27.3**	**-2.0**
JGF	**Kuroka**	**42.59**	**9**	P	P	13 19 02.1	+8.8
MJAR	**Matsushiro Arr** comp=Z,1.4nm,1.0s,baz=196,slow=9.4,SNR=2.0 comp=Z,1.4nm,1.0s	**43.64**	**9**	P	**P**	**13 19 02.1**	**+0.4**
PYZ	**Puysegur Point**	**50.40**	**148**	P	**P**	**13 19 57.3**	**+3.2**
WHZ	**Wether Hill Ro**	**50.91**	**147**	P	**P**	**13 19 59.7**	**+1.8**
WHZ	comp=Z,21nm,1.2s			IAmb	IAmb	13 20 42.8	
MKAR	**Makanchi Array** comp=Z,0.9nm,0.5s,baz=126,slow=7.8,SNR=10 comp=Z,0.9nm,0.5s	**68.01**	**327**	P	**P**	**13 21 53.8**	**-1.4**
AMKA	**Amchitka**	**71.51**	**30**	P	P	13 22 22.2	+5.8
KURBB	**Kurchatov Arra** comp=Z,0.3nm,0.6s,baz=126,slow=5.6,SNR=2.2 comp=Z,0.3nm,0.6s	**72.29**	**328**	P	**P**	**13 22 19.3**	**-1.8**
MAW	**Mawson**	**75.30**	**201**	P	**P**	**13 22 40.3**	**+1.9**
HON	**Honolulu**	**75.74**	**66**	P	P	13 22 47.9	+6.1
KIP	**Kipapa**	**75.75**	**66**	P	P	13 22 47.9	+6.1
UWB	**Uwekahuna B**	**77.83**	**69**	P	P	13 22 59.7	+6.0
SBLHI	**Steaming Bluff**	**77.84**	**69**	P	P	13 23 00.7	+6.9
QSPA	**South Pole Qui**	**83.31**	**180**	P	**P**	**13 23 21.6**	**-0.4**
QSPA	comp=Z,4.1nm,1.5s			IAmb	IAmb	13 23 50.9	
QSPA	**South Pole Qui** comp=Z,0.4nm,0.7s,baz=233,slow=2.2,SNR=1.3 comp=Z,0.4nm,0.7s	**83.31**	**180**	P	**P**	**13 23 21.6**	**-0.4**
ILSW	**Iliamna Southw**	**89.14**	**29**	P	P	13 23 58.0	+7.4

*CNRM **03** 13:18:09.6, 36°82N×8°06W, h30km, ml2.6*
*IGIL **03** 13:18:12.6, 37°06N×7°93W, h28km, ML2.4*
*SFS **03** 13:18:12.7, 37°08N×7°92W, h38km, ML3.0/13, ML3.1/10, MLv2.9/13*
*INMG **03** 13:18:12.9±1.8, 37°09N×7°94W, h24km±2km, ML2.4, Error ellipse: s-maj=2.8km s-min=2.4km az=36.0*
*MDD **03** 13:18:12.3±0.4, 37°08N×7°96W, h27km±2km, mb_Lg3.0/33, Error ellipse: s-maj=3.0km s-min=2.2km az=54.0*
ISC 03 13:18:11.2±0.9, 37°04N±0°02×7°92W±0°02, h32km±5km, n81, σ1°93/147, 6C-5D, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFARO	**Faro**	**0.01**	**187**	⇑*e*Pg	**Pb**	**13 18 17.6**	**+1.1**
PFARO				*e*Sg	**Sb**	**13 18 19.7**	**-0.4**
PFARO	2μm,0.1s			A	A	13 18 21.6	
PBDV	**Barranco-do-Ve**	**0.20**	**358**	⇓*i*Pg	**Pn**	**13 18 18.4**	**+0.3**
PBDV				*e*Sg	**Sb**	**13 18 22.4**	**+0.2**
PBDV	418nm,0.1s			A	A	13 18 22.6	
PTAV	**Tavira**	**0.23**	**68**	⇓*e*Pg	**Pn**	**13 18 19.0**	**+0.7**
PTAV				*e*Sg	**Sb**	**13 18 23.3**	**+0.8**
PTAV	848nm,0.6s			A	A	13 18 25.3	
PVAQ	**Vaqueiros**	**0.40**	**24**	*e*Pg	**Pn**	**13 18 20.7**	**0.0**
PVAQ				*e*Sg	**Sn**	**13 18 26.4**	**-0.7**
PPOR	**Portimao**	**0.50**	**281**	*e*Sg	**Sb**	**13 18 29.2**	**+0.3**
PCVE	**Castro Verde**	**0.60**	**351**	⇑*i*Pg	**Pn**	**13 18 23.8**	**+0.3**
PCVE				*e*Sg	**Sn**	**13 18 31.3**	**-0.8**
PCVE	465nm,0.1s			A	A	13 18 32.1	
EGRO	**El Granado**	**0.60**	**35**	⇑Pg	**Pn**	**13 18 23.8**	**+0.3**
EGRO				Sg	**Sn**	**13 18 31.6**	**-0.7**
EGRO				*i* Vmb_Lg		13 18 32.3	
PLAGO	**Lagos**	**0.62**	**276**	*e*Pg	**Pn**	**13 18 24.2**	**+0.5**
PLAGO				*e*Sg	**Sb**	**13 18 32.5**	**+0.5**
PLAGO	176nm,0.2s			A	A	13 18 32.9	
MORF	**Marmelete**	**0.64**	**295**	⇓*i*Pg	**Pn**	**13 18 24.2**	**+0.1**
MORF				*e*Sg	**Sn**	**13 18 33.0**	**-0.2**
MORF	79nm,0.1s			A	A	13 18 36.3	
MORF	**Marmelete**	**0.64**	**295**	*e*P	**Pn**	**13 18 24.2**	**+0.1**
MORF				*e*S	**Sb**	**13 18 32.5**	**-0.3**
MORF	comp=N,145nm,0.2s			IAML		13 18 34.2	
PFVI	**Vila Bisbo**	**0.73**	**278**	⇓*i*Pg	**Pb**	**13 18 25.7**	**+0.2**
PFVI				*e*Sg	**Sb**	**13 18 34.6**	**-0.6**
PFVI	comp=N,64nm,0.4s			A	A	13 18 40.8	
PFVI	**Vila Bisbo**	**0.73**	**278**	Pg	**Pb**	**13 18 25.7**	**+0.2**
PALJ	**Aljezur**	**0.75**	**292**	*e*S	**Sb**	**13 18 35.8**	**-0.1**
PTEO	**Sao Teotonio**	**0.82**	**309**	⇓*i*P	**Pb**	**13 18 26.9**	**0.0**
PTEO				*e*S	**Sn**	**13 18 37.3**	**-0.1**
PTEO	comp=N,21nm,0.1s			A	A	13 18 40.2	
MESJ	**Messejana**	**0.83**	**343**	*e*P	**Pb**	**13 18 27.0**	**-0.2**
MESJ				*e*S	**Sn**	**13 18 37.3**	**-0.6**
MESJ	comp=N,94nm,0.2s			A	A	13 18 37.3	
MESJ	**Messejana**	**0.83**	**343**	*e*Pg	**Pb**	**13 18 26.9**	**-0.2**
MESJ				*e*S	**Sn**	**13 18 37.1**	**-0.8**
MESJ	comp=N,97nm,0.1s			IAML		13 18 38.3	
PBEJ	**Beja**	**0.99**	**2**	*e*P	**Pb**	**13 18 28.9**	**-0.9**
PBEJ				*e*S	**Sb**	**13 18 41.5**	**-1.0**
PBEJ	comp=N,114nm,0.1s			A	A	13 18 43.0	
PNCL	**Nicolau / Gran**	**1.18**	**336**	*e*P	**Pn**	**13 18 31.5**	**+0.1**
PNCL				*e*S	**Sb**	**13 18 47.5**	**-0.3**
PNCL	comp=N,49nm,0.1s			A	A	13 18 49.1	
PNCL	**Nicolau / Gran**	**1.18**	**336**	Pn	**Pn**	**13 18 31.5**	**+0.1**
EMIN	**Mina Concepcio**	**1.23**	**53**	Pn	**Pn**	**13 18 32.0**	**-0.2**
EMIN				⇑Pg	**Pn**	**13 18 32.1**	**-0.1**
EMIN				Sg	**Sb**	**13 18 48.3**	**-1.1**
EMIN				*i* Vmb_Lg		13 18 55.5	
EMIN	**Mina Concepcio**	**1.23**	**53**	Sn	**Sb**	**13 18 48.9**	**-0.5**
EMIN				Pn	**Pn**	**13 18 32.1**	**-0.1**
PBAR	**Barrancos**	**1.33**	**31**	⇑*e*P	**Pn**	**13 18 33.5**	**-0.1**
PBAR				*e*S	**Sn**	**13 18 49.8**	**-0.4**
PBAR	comp=N,22nm,0.3s			A	A	13 19 01.8	
PBAR	**Barrancos**	**1.33**	**31**	Pn	**Pn**	**13 18 33.5**	**-0.1**
EVO	**Evora**	**1.49**	**357**	*e*Pn	**Pn**	**13 18 36.0**	**+0.3**
EVO				*e*Sn	**Sn**	**13 18 52.1**	**-2.0**
EVO				*e*Sg	**Sb**	**13 18 56.1**	**-0.8**
EVO	comp=N,55nm,0.1s			A	A	13 19 00.2	
ESPR	**Espera**	**1.66**	**95**	Pn	**Pn**	**13 18 39.4**	**+1.4**
ESPR				Sn	**Sn**	**13 18 59.0**	**+0.7**
ESPR				*i* Vmb_Lg		13 19 13.8	
PESTR	**Estremoz**	**1.84**	**8**	*e*Pn	**Pn**	**13 18 40.5**	**-0.1**
PESTR	**Estremoz**	**1.84**	**8**	*e*Pg	**Pb**	**13 18 47.6**	**+3.4**
PESTR				*e*Sn	**Sn**	**13 19 02.8**	**0.0**
PESTR				*e*Sg	**Sb**	**13 19 06.7**	**-0.2**
PESTR	comp=N,13nm,0.3s			A	A	13 19 13.4	
PESTR	**Estremoz**	**1.84**	**8**	P	**Pb**	**13 18 43.3**	**-0.9**
PESTR				S	**Sb**	**13 19 06.3**	**-0.6**
PESTR	**Estremoz**	**1.84**	**8**	Pn	**Pn**	**13 18 40.4**	**-0.2**
EBAD	**Badajoz**	**1.86**	**22**	Pn	**Pn**	**13 18 40.5**	**-0.3**
EBAD				Sg	**Sb**	**13 19 07.4**	**+0.1**
EBAD				*i* Vmb_Lg		13 19 12.2	
EBAD	**Badajoz**	**1.86**	**22**	Pn	**Pn**	**13 18 40.5**	**-0.3**
PACT	**Alcochete**	**1.87**	**338**	*e*Sg	**Sb**	**13 19 11.2**	**+3.5**
PACT	comp=N,46nm,0.5s			A	A	13 19 15.4	
PMTG	**Montargil**	**2.04**	**353**	*e*Pn	**Pn**	**13 18 43.4**	**+0.1**
PMTG				*e*Sn	**Sn**	**13 19 06.7**	**-1.0**
PMTG				*e*Sg	**Sb**	**13 19 13.3**	**+0.7**
PMTG	comp=N,22nm,0.6s			A	A	13 19 19.3	
PMAFR	**Mafra**	**2.19**	**331**	*e*Pn	**Pn**	**13 18 46.3**	**+0.9**
PMAFR	comp=N,18nm,0.6s			A	A	13 19 28.5	
PMAFR	**Mafra**	**2.19**	**331**	Pn	**Pn**	**13 18 46.1**	**+0.7**
ECAB	**El Cabril**	**2.24**	**62**	Pn	**Pn**	**13 18 46.2**	**+0.2**
ECAB				Sn	**Sn**	**13 19 10.8**	**-1.9**
ECAB				*i* Vmb_Lg		13 19 24.6	
ECAB	**El Cabril**	**2.24**	**62**	Pn	**Pn**	**13 18 46.3**	**+0.2**
ECAB				Sn	**Sn**	**13 19 10.6**	**-2.0**
ECEU	**Ceuta**	**2.34**	**118**	Pn	**Pn**	**13 18 49.4**	**+2.0**
ECEU				*i* Vmb_Lg		13 19 54.3	
PMRV	**Marv??o**	**2.42**	**10**	⇑*e*Pn	**Pn**	**13 18 48.5**	**0.0**
PMRV	**Marv??o**	**2.42**	**10**	*e*Pg	**Pb**	**13 18 56.4**	**+2.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMRV				eSn	Sn	13 19 16.1	-1.0
PMRV				eSg	Sb	13 19 22.8	-0.7
PMRV				A	A	13 19 32.6	
	comp=N,24nm,0.3s						
PSBE	So Bento	2.56	345	ePn	Pn	13 18 51.6	+1.1
PSBE				eSn	Sn	13 19 20.1	-0.5
PSBE				eSg	Sb	13 19 32.0	+4.4
PSBE				A	A	13 19 38.0	
	comp=N,8.9nm,0.7s						
EMIJ	Mijas	2.57	100	Pn	Pn	13 18 51.8	+1.2
EMIJ				Sn	Sn	13 19 21.3	+0.6
EMIJ				i Vmb_Lg		13 19 37.5	
EMIJ	Mijas	2.57	100	Pn	Pn	13 18 51.7	+1.2
PCBR	Castelo Branco	2.82	7	ePn	Pn	13 18 54.0	0.0
PCBR				eSn	Sn	13 19 25.6	-1.2
PCBR				eSg	Sb	13 19 37.7	+2.8
PCBR				A	A	13 19 47.6	
	comp=N,11nm,0.4s						
EADA	Adamuz	2.88	66	Pn	Pn	13 18 55.2	+0.3
EADA				Sn	Sn	13 19 25.9	-2.6
EADA				i Vmb_Lg		13 19 29.4	
EADA	Adamuz	2.88	66	Pn	Pn	13 18 55.3	+0.3
EADA				Sn	Sn	13 19 26.0	-2.5
PCAS	Casmilo, Conde	3.04	352	ePn	Pn	13 18 57.7	+0.6
PCAS				eSn	Sn	13 19 31.1	-1.3
PCAS				eSg	Sb	13 19 46.4	+5.1
PCAS				A	A	13 19 52.2	
	comp=N,8.3nm,0.5s						
EGOR	Sierra Gorda,	3.05	88	Pn	Pn	13 18 58.7	+1.4
EGOR				Sn	Sn	13 19 34.0	+1.3
EGOR				i Vmb_Lg		13 19 40.0	
EPLA	Plasencia	3.35	25	Pn	Pn	13 19 01.0	-0.3
EPLA				Sn	Sn	13 19 38.1	-1.9
EPLA				i Vmb_Lg		13 19 45.8	
MTE	Manteigas	3.37	5	ePn	Pn	13 19 01.4	-0.2
MTE				eSn	Sn	13 19 38.0	-2.5
MTE				eSg	Sb	13 19 57.2	+6.5
MTE				A	A	13 20 02.4	
	comp=N,16nm,0.7s						
ELGU	Los Guajares,	3.44	92	Pn	Pn	13 19 04.8	+2.1
ELGU				Sn	Sn	13 19 43.2	+0.9
ELGU				i Vmb_Lg		13 19 55.3	
ELGU	Los Guajares,	3.44	92	Pn	Pn	13 19 04.9	+2.3
EQUE	Quentar	3.58	86	Sn	Sn	13 19 46.5	+0.6
EQUE				i Vmb_Lg		13 19 51.6	
PVIS	Viseu	3.67	0	eSn	Sn	13 19 46.1	-1.9
PVIS				eSg	Sb	13 20 05.7	+6.3
ZHG	ZHG	3.73	163	P	Pn	13 19 06.1	-0.5
ZHG				S	Sn	13 19 46.9	-2.6
PSIM	Granatula de C	3.74	60	Pn	Pn	13 19 06.9	+0.2
PSIM				Sn	Sn	13 19 46.0	-3.7
EQES	Quesada	3.94	77	Pn	Pn	13 19 10.4	+1.0
EQES				Sn	Sn	13 19 53.0	-1.5
EQES				i Vmb_Lg		13 19 54.7	
EBER	Berja	4.03	90	Pn	Pn	13 19 13.6	+2.8
EBER				Sn	Sn	13 19 60.0	+2.9
EBER				i Vmb_Lg		13 20 02.7	
ESDC	Sonseca Array	4.07	49	Pn	Pn	13 19 11.4	+0.2
ESDC				Sn	Sn	13 19 54.0	-3.9
ESDC				i Vmb_Lg		13 20 00.3	
MVO	Moncorvo	4.18	9	ePn	Pn	13 19 12.5	-0.2
MVO				eSn	Sn	13 19 57.1	-3.4
MVO				eSg	Sb	13 20 22.9	+8.9
MVO				A	A	13 20 26.7	
	comp=N,6.1nm,0.4s						
IFR	Ifrane	4.19	146	Pn	Pn	13 19 14.7	+1.7
IFR				Sn	Sn	13 19 57.9	-3.0
PVRL	Vila Real	4.23	2	eSn	Sn	13 19 58.4	-3.4
POLO	Lamas de Olo	4.33	1	ePn	Pn	13 19 14.8	0.0
POLO				eSn	Sn	13 20 01.6	-2.7
SRHM	Skhour des Reh	4.56	180	P	Pn	13 19 18.3	+0.3
SRHM				S	Sn	13 20 09.4	-0.5
GUD	Guadarrama	4.65	38	Pn	Pn	13 19 19.3	0.0
GUD				Sn	Sn	13 20 08.4	-3.7
ELOB	Lobios	4.82	359	Pn	Pn	13 19 21.5	-0.1
ELOB				Sn	Sn	13 20 11.8	-4.6
ELOB				i Vmb_Lg		13 20 15.0	
PBRG	Braganca	4.85	10	ePn	Pn	13 19 21.8	-0.1
PBRG				eSn	Sn	13 20 14.3	-2.6
UCM	Universidad Co	4.90	47	Pn	Pn	13 19 22.8	+0.1
MD31	MD31	4.91	147	P	Pn	13 19 21.9	-0.9
MD31				S	Sn	13 20 14.0	-4.4
PGAV	Gavieira, Arco	4.93	357	ePn	Pn	13 19 22.6	-0.4
PGAV	Gavieira, Arco	4.93	357	eP	Pn	13 19 23.2	+0.2
PGAV				eSn	Sn	13 20 15.9	-3.1
PGAV				A	A	13 20 16.9	
	comp=N,3.7nm,0.2s						
ECAL	Calabor	4.98	10	Pn	Pn	13 19 23.6	-0.2
ECAL				i Vmb_Lg		13 20 15.4	
ECAL				Sn	Sn	13 20 16.6	-3.6
MDT	Midelt	5.02	146	P	Pn	13 19 21.6	-2.7
MDT				S	Sn	13 20 17.9	-3.3
JBK	JBK	5.12	120	P	Pn	13 19 23.2	-2.7
JBK				S	Sn	13 20 21.7	-2.3
ETOB	Tobarra	5.29	70	Pn	Pn	13 19 28.0	0.0
ETOB				Sn	Sn	13 20 25.1	-2.8
ETOB				i Vmb_Lg		13 20 36.5	
EMUR	La Murta	5.38	79	Pn	Pn	13 19 30.1	+0.9
EMUR				i Vmb_Lg		13 20 35.5	
EAGO	Agolada(Pontev	5.76	359	Sn	Sn	13 20 35.0	-4.3
EAGO				i Vmb_Lg		13 20 44.3	
EVIV	Cofrentes, Val	5.80	65	Pn	Pn	13 19 29.5	-5.6
EVIV				Sn	Sn	13 20 37.2	-3.3
EVIV				i Vmb_Lg		13 20 50.1	
OUK	Oukaimeden	5.82	180	P	Pn	13 19 31.1	-4.4
OUK				S	Sn	13 20 35.2	-6.2
ETOR	Torete	5.93	49	Pn	Pn	13 19 36.7	-0.1
ETOR				Sn	Sn	13 20 41.0	-2.7
ETOR				i Vmb_Lg		13 20 53.9	
OUZM	OUZ	6.19	171	P	Pn	13 19 38.1	-2.3
OUZM				S	Sn	13 20 45.6	-4.6

*SKHL **03** 13:38:00.9±0.1, 42°.30N×146°.50E, h45km±3km, mb3.8/3*

JMA 03 13:38:02.4±0.3, **45°N**±2°×**14°7E**±°, **h158**km, **MV2.8**/13, **NEAR ETOROFU ISLAND, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.71	181	eP	Pn	13 38 26.2	+0.4
SHO				AMB	AMB	13 38 26.5	
	30nm,0.3s						
SHO				eS	Sn	13 38 45.1	+1.4
SHO				A	A	13 38 48.5	
	80nm,0.2s						
SHO				A	A	13 38 48.5	
	70nm,0.2s						
YUK	Yuzh-Kuril'sk	0.89	233	eP	Pn	13 38 29.5	+2.4
YUK				AMB	AMB	13 38 31.8	
	30nm,0.3s						
YUK				eS	Sn	13 38 49.9	+4.0
YUK				A	A	13 38 56.4	
	100nm,0.5s						
YUK				A	A	13 38 56.4	
	70nm,0.5s						
KUR	Kuril'sk	0.98	47	eP	Pn	13 38 47.8	+20
KUR				AMB	AMB	13 38 48.5	
	20nm,0.5s						
KUR				eS	Sn	13 39 23.0	+36
KUR				A	A	13 39 29.1	
	40nm,0.5s						
KUR				A	A	13 39 29.1	
	30nm,0.5s						
NEM2	Nemuro 2	1.45	214	eP	Pn	13 38 32.2	+0.2
NEM2				eS	Sn	13 38 55.2	+0.4
JKHN	Kushirohamanak	1.93	220	eP	Pn	13 38 37.7	+0.5
JKHN				eS	Sn	13 39 04.5	+0.5
JAK	Akkeshi	2.22	225	eP	Pn	13 38 40.7	+0.1
JAK				eS	Sn	13 39 09.8	-0.1
JAR	Ashorobuto	2.56	241	eP	Pn	13 38 45.4	+0.7
JOB	Onbets	2.75	234	eP	Pn	13 38 47.4	+0.4
JOB				eS	Sn	13 39 20.9	-0.4
JCH	Churui	3.20	233	eP	Pn	13 38 52.3	-0.3
JCH				eS	Sn	13 39 29.5	-2.0
JNBK	Urakawa-nobuka	3.76	234	eP	Pn	13 38 58.6	-1.2

TAP 03 13:55:33.0, 22°.73N×120°.68E, h27km±1km, **ML1.6, A, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TSMG	Majia	0.04	234	i P	Pb	13 55 37.7	+0.1
	baz=233						
TSMG				i S	Sb	13 55 41.5	+0.7
	baz=233						
SSD	Sandimen	0.05	289	P	Pb	13 55 37.9	+0.3
	baz=290						
SSD				S	Sb	13 55 42.1	+1.3
	baz=290						
MASBT	Mashibuluo	0.13	201	P	Pb	13 55 38.1	0.0
	baz=200						
MASBT				S	Sb	13 55 42.4	+0.8
	baz=200						
SCST	Cishan	0.23	312	P	Pn	13 55 40.2	-0.5
	baz=311						
SCST				S	Sb	13 55 44.3	+0.8
	baz=311						
TWM1	Shoushan	0.26	291	P	Pn	13 55 40.6	-0.4
	baz=291						
SLGT	Liugui	0.26	353	P	Pb	13 55 39.9	+0.2
	baz=353						
SLGT				S	Sn	13 55 46.1	-0.3
	baz=353						
ECL	Taimali	0.28	118	P	Pn	13 55 41.1	-0.3
	baz=117						
ECL				S	Sb	13 55 45.2	+0.5
	baz=117						
SCZT	Fangliau	0.36	189	P	Pb	13 55 41.3	+0.2
	baz=187						
SCZT				eS	Sn	13 55 47.9	-0.8
	baz=187						
EAST	Anshuo	0.38	156	i P	Pn	13 55 42.2	-0.6
	baz=154						
EAST				i S	Sn	13 55 48.9	-0.3
	baz=154						
CHN1	Nanshi	0.47	343	P	Pb	13 55 43.1	+0.1
	baz=342						
CHN1				S	Sn	13 55 51.2	-0.4
	baz=342						
WTP	Ta-pu	0.52	353	P	Pb	13 55 43.7	+0.1
	baz=353						
WTP				eS	Sn	13 55 52.0	-0.6
	baz=353						
TWK	Hsinying	0.56	342	P	Pb	13 55 44.9	+0.5
	baz=342						
CHN4	Tsaushan	0.62	353	P	Pb	13 55 45.7	+0.3
	baz=352						
CHN4				S	Sn	13 55 55.4	+0.2
	baz=352						
ALS	Alishan	0.79	8	eP	Pb	13 55 48.3	0.0
	baz=8.0						
ALS				eS	Sn	13 56 00.3	+0.7
	baz=8.0						
TWF1	Yuli	0.84	42	P	Pb	13 55 48.0	-1.0
	baz=42						

TAP 03 13:55:36.4, 22°.85N×120°.92E, h9km±1km, **ML1.6, D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWG	Pinlang	0.15	103	i P	Pg	13 55 40.2	+0.6
	baz=106						
TWG				i S	Sg	13 55 42.6	+0.7
	baz=106						
TWGBT	Beinan	0.15	103	P	Pg	13 55 40.2	+0.4
	baz=106						
TWGBT				S	Sg	13 55 42.5	+0.4
	baz=106						
LONT	Longtian	0.20	75	i P	Pg	13 55 41.1	+0.5
	baz=78						
LONT				i S	Sg	13 55 44.0	+0.5
	baz=78						
TTN	Taitung	0.23	115	eP	Pg	13 55 42.7	+1.5
	baz=117						
TTN				eS	Sg	13 55 46.5	+2.2
	baz=117						
ELDTW	Lidau	0.35	16	i P	Pg	13 55 43.5	+0.2
	baz=17						
ELDTW				i S	Sg	13 55 48.2	+0.3
	baz=17						
EDH	Donghe	0.38	72	P	Pg	13 55 43.6	-0.2
	baz=65						
EDH				S	Sg	13 55 49.7	+0.9
	baz=65						
EHD	Haiduan	0.40	42	P	Pg	13 55 44.2	0.0
	baz=43						
EHD				eS	Sg	13 55 49.7	+0.2
	baz=43						
FULB	Fuli	0.49	45	i P	Pb	13 55 47.0	-0.1
	baz=34						
FULB				S	Sb	13 55 53.7	-0.7
	baz=34						
YULB	Yu-li	0.64	33	P	Pg	13 55 48.7	-0.1
	baz=33						
YULB				S	Sb	13 55 58.2	-0.6
	baz=33						

IDC 03 14:02:32.8±19.0, **18°.33S**×**173°.79W, h0**km, **mb3.9**/4, **mbtmp3.9**/4, **Error ellipse: s-maj=487.2km s-min=43.7km az=37.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	37.72	261	P	P	14 09 51.6	+1.1
	1.1nm,0.4s,baz=100,slow=9.3,SNR=6.5						
	1.1nm,0.4s						
WRA	Warramunga Arr	48.88	259	P	P	14 11 19.9	-0.8
	0.4nm,0.3s,baz=97,slow=7.6,SNR=6.6						
	0.4nm,0.3s						
ASAR	Alice Springs	48.91	254	P	P	14 11 20.5	-0.5
	0.4nm,0.3s,baz=87,slow=8.6,SNR=24						
	0.4nm,0.3s						
VNDA	Vanda	60.44	186	P	P	14 12 43.8	0.0
	0.6nm,0.6s,baz=92,slow=12,SNR=5.2						
	0.6nm,0.6s						

*NEIC **03** 14:04:18.3±0.9, 36°.456N±0°.010×98°.78W±0°.03, h13km±5km, Error ellipse: s-maj=3.6km s-min=1.5km az=89.0*

TUL 03 14:04:19±0.9, **36°.46N**±0°.01×**98°.76W**±0°.03, **h7**km±3km, **ML2.5, mb_Lg2.2**/10(NEIC), **ML2.6**/12(NEIC), **Error ellipse: s-maj=3.9km s-min=1.3km az=112.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK038	West end E0370	0.02	38	Pg	Pg	14 04 20.7	+0.3
OK038				Sg	Sg	14 04 22.1	+0.7
U32A	Winter Ranch,	0.21	247	Pg	Pg	14 04 23.4	+0.2
U32A				Sg	Sg	14 04 26.1	-0.1
U32A				IAML		14 04 27.2	
	comp=N,1μm,0.2s						
NOKA	Waynoka	0.22	321	Pg	Pg	14 04 23.8	+0.3
NOKA				IAML		14 04 27.5	
	comp=N,2μm,0.3s						
OK032	Salt Plains WL	0.56	52	Pg	Pg	14 04 29.7	0.0
OK032				Sg	Sg	14 04 36.8	-0.2
OK032				IAML		14 04 37.7	
	comp=N,384nm,0.2s						
OK032				IAML		14 04 39.5	
	comp=N,310nm,0.2s						
CROK	Carrier	0.62	86	Pg	Pg	14 04 30.9	-0.2
CROK				Sg	Sg	14 04 39.1	-0.1
CROK				IAML		14 04 40.2	
	comp=N,229nm,0.3s						
KAN14	Manchester OK	0.81	52	Pg	Pg	14 04 34.3	-0.2
CSTR	Hydro, Custer	0.82	176	Pg	Pg	14 04 34.4	-0.3
GC02	Grant County #	0.82	61	Pg	Pg	14 04 34.4	-0.4
KAN10	Anthony SW Sta	0.85	39	Pg	Pg	14 04 34.9	-0.4
KAN05	Bluff City Nor	0.96	48	Pg	Pg	14 04 37.3	-0.2
KAN17	Caldwell West	0.99	54	Pg	Pg	14 04 37.4	-0.5
KAN08	Anthony NE Sta	0.99	39	Pg	Pg	14 04 37.7	-0.3
KAN12	Harper NE Stat	1.03	36	Pg	Pg	14 04 38.4	-0.4
KAN01	Argonia South	1.06	49	Pg	Pg	14 04 38.9	-0.4
KAN06	Argonia West S	1.06	42	Pg	Pg	14 04 39.1	-0.4
KAN09	Caldwell North	1.14	53	Pg	Pg	14 04 40.2	-0.6
KAN13	South Haven SW	1.17	62	Pg	Pg	14 04 40.6	-0.8
KS21	Milan North St	1.20	47	Pg	Pg	14 04 41.4	-0.7
OK029	Liberty Lake	1.25	122		Pn	14 04 41.8	-1.1
BLOK	Blackwell	1.28	76	Pg	Pn	14 04 42.4	-0.9
OK048	Pawnee Station	1.46	91		Pn	14 04 45.6	-0.3
OK033	Mehan	1.53	105		Pn	14 04 46.8	0.0
OK051	E0350 and S346	1.55	88		Pn	14 04 46.9	-0.1
FNO	Franklin	1.63	137		Pn	14 04 48.1	0.0
OK052	Battle Ridge R	1.65	106		Pn	14 04 48.0	-0.3
QUOK	Quay	1.68	99		Pn	14 04 48.8	0.0
OK030	Cody Creek RV	1.68	108		Pn	14 04 48.1	-0.8
WMOK	Wichita Mounta	1.72	181	Pn	Pn	14 04 48.6	-0.8
DEOK	Depew	1.93	108	Pn	Pn	14 04 52.2	0.0
TUL3	Leonard	2.46	102	Pn	Pn	14 04 59.4	-0.1
CBKS	Cedar Bluff	2.47	342	IAmb_Lg		14 05 42.2	
	comp=Z,9.5nm,0.9s						
WTFS	Witchita Falls	2.70	175	Pn	Pn	14 05 02.9	0.0
LOOK	Love County	2.78	152	Pn	Pn	14 05 04.0	0.0
KSU1	Kansas State U	3.14	32	IAmb_Lg		14 06 05.6	
	comp=Z,5.7nm,0.8s						
RTBA	Rita Blanca	3.21	271	Pn	Pn	14 05 09.7	-0.2
DKNS	Dickens	3.31	213	IAmb_Lg		14 06 05.6	
	comp=Z,4.1nm,0.8s						
X37A	Clayton	3.33	123	Pn	Pn	14 05 11.2	-0.4
HHAR	Hobbs	3.89	91	IAmb_Lg		14 06 25.0	
	comp=Z,4.3nm,0.8s						
N35A	Tabor	5.02	28	IAmb_Lg		14 07 06.0	
	comp=Z,7.3nm,0.8s						
FCAR	Ozark Folk Cen	5.40	94	IAmb_Lg		14 07 10.3	
	comp=Z,3.5nm,0.8s						
CCM	Cathedral Cave	6.20	73	IAmb_Lg		14 07 36.0	
	comp=Z,7.1nm,1.1s						

*AEIC **03** 14:11:02.1±1.2, 53°.89N±0°.05×162°.76W±0°.07, h4km±6km, Error ellipse: s-maj=7.3km s-min=5.3km az=155.0*

NEIC 03 14:11:01.9±1.1, **53°.87N**±0°.03×**162°.69W**±0°.03, **h10**km±2km, **mb3.6**/4, **ML3.2**/6, **ML2.9**(AEIC), **Error ellipse: s-maj=6.5km s-min=2.9km az=153.0, South of Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRPK	Brown Peak	0.99	322		Pg	14 11 20.4	-0.7
ISLZ	Isanotski Laza	1.05	326		Pg	14 11 21.1	-1.0
ISLZ					Sn	14 11 37.1	-0.3
FALS	False Pass	1.08	337		Pg	14 11 21.6	-1.1
FALS					Sn	14 11 38.2	+0.1
SSLS	Shishaldin Sou	1.14	318		Pb	14 11 23.1	-0.7
ISNN	Isanotski Nort	1.16	327		Pb	14 11 23.8	-0.3
ISNN					Sn	14 11 40.0	-0.1
SSLN	Shishaldin Nor	1.22	322		Pn	14 11 24.6	-0.4
SSBA	Shishaldin	1.24	318		Pn	14 11 24.1	-1.2
SSBA					Sn	14 11 42.1	0.0
DT1	Dutton Round H	1.27	11		Pn	14 11 24.5	-1.1
WEBT	Westdahl Beart	1.41	302		Pn	14 11 27.4	-0.3
WEBT					Sg	14 11 47.2	-0.1
HAG	Hague Volcano	1.52	17		Pn	14 11 29.5	+0.3
PN7A	Pavlof North-7	1.62	14		Pn	14 11 31.2	+0.6
PS1A	Pavlof South-1	1.65	19		Pn	14 11 31.1	+0.1
PS1A					Sg	14 11 55.1	+0.2
AKSA	Akutan Strait	1.80	280		Pn	14 11 32.9	0.0
AKUT	Akutan	1.84	280	Pn	Pn	14 11 33.4	-0.1
AHB	Akutan Harbor	1.86	279		Pn	14 11 33.9	0.0
AKBBA	Akutan Broad B	1.93	278		Pn	14 11 34.9	+0.1
AKLV	Akutan Long Va	1.95	280		Pn	14 11 35.2	+0.1
AKV	Akutan Volcano	1.95	279		Pn	14 11 35.6	+0.4
ZRO	Akutan Zero	1.96	278		Pn	14 11 35.3	+0.1
SDPT	Sand Point	1.96	40		Pn	14 11 35.2	0.0
SDPT				IAML		14 12 06.3	
	comp=N,154nm,0.7s						
SDPT				IAML		14 12 08.0	
	comp=E,217nm,1.3s						
LVA	Lava Point	2.00	280		Pn	14 11 36.1	+0.4
CNBA	Chernabura Isl	2.05	61	Pn	Pn	14 11 34.8	-1.6
CNBA				IAML		14 12 12.9	
	comp=E,87nm,2.2s						
UNV	Unalaska Valle	2.26	271		Pn	14 11 38.5	-0.8
MTBL	Makushin Table	2.36	274		Pn	14 11 41.1	+0.3
MNAT	Makushin Natee	2.37	272		Pn	14 11 40.5	-0.3
MSW	Makushin Switc	2.42	273		Pn	14 11 41.4	-0.2
MGOD	Makushin Gods	2.48	270		Pn	14 11 42.6	+0.2
MAPS	Pakushin South	2.52	270		Pn	14 11 42.9	0.0
CHGN	Chignik	3.46	43	Pn	Pn	14 11 54.3	-1.5
CHGN				IAML		14 13 36.3	
	comp=E,61nm,2.6s						
O14K	Tigyukauivet M	5.46	8	Pn	Pn	14 12 23.3	+0.2
O16K	Kokwok River B	6.27	22	Pn	Pn	14 12 34.1	-0.2
OHAK	Old Harbor	6.30	54	Pn	Pn	14 12 33.7	-1.1
N15K	Kwethluk River	6.47	12	Pn	Pn	14 12 37.8	+0.6
M13K	Dall Lake	6.57	357	Pn	Pn	14 12 37.3	-1.2
M14K	Bethel	6.91	3	Pn	Pn	14 12 43.6	+0.4
N17K	Nushagak Hills	7.31	22	Pn	Pn	14 12 47.9	-0.7
M16K	Timber Creek	7.45	14	Pn	Pn	14 12 50.8	+0.3
L14K	Kuka Creek	7.50	0	Pn	Pn	14 12 51.3	+0.1
M17K	Holitna River	8.06	18	Pn	Pn	14 12 58.8	-0.1
SVW2	Sparrevohn	8.19	25	Pn	Pn	14 13 00.5	-0.3
K15K	Wolf Creek Mou	8.47	4	Pn	Pn	14 13 04.8	+0.3
L18K	Granite Mounta	8.95	18	Pn	Pn	14 13 10.7	-0.5
L19K	White Mountain	9.31	23	Pn	Pn	14 13 16.6	+0.6
J16K	Anvik River	9.51	6	Pn	Pn	14 13 18.6	-0.1
TTA	Tatalina	9.73	18	Pn	Pn	14 13 21.8	-0.1
SUA	Susitna One	9.93	35	Pn	Pn	14 13 24.3	-0.3
K20K	Telida	10.51	22	Pn	Pn	14 13 32.4	-0.1
SCM	Sheep Creek Mo	11.40	39	Pn	Pn	14 13 43.5	-1.2
G16K	Koyuk River	11.56	1	Pn	Pn	14 13 47.2	+0.4
KLU	Klutina	11.75	43	Pn	Pn	14 13 48.1	-1.4
N25K	Chitina, Valde	12.35	44	Pn	Pn	14 13 56.7	-1.0
G23K	Bananza Creek	14.28	21	P	P	14 14 30.2	-1.1
E24K	Your Creek	15.76	20	P	P	14 14 47.2	-0.5
E24K				IAmb	IAmb	14 14 53.7	
	comp=Z,5.6nm,1.4s						
TOLK	Toolik Lake Re	16.04	18	P	P	14 14 50.6	-0.2
TOLK				IAmb	IAmb	14 15 04.4	
	comp=Z,7.5nm,1.4s						
I30M	Mount Dempster	17.36	39	P	P	14 15 05.5	0.0
C36M	Paulatuk	23.43	34	P	P	14 16 10.2	-0.6

*NOU **03** 14:19:15.4, 39°.21S×174°.72E, h190km, MLv3.1/8, North Island, New Zealand*

*WEL **03** 14:19:19.5, 39°S±6°×17°5E±°, h160km±13km, M2.5/54, mB4.4/1, ML2.2/7, MLv2.5/54, Mw(mB)3.6/1, Error ellipse: s-maj=0.0km s-min=0.0km az=91.5*

ISC 03 14:19:13.9±1.8, **39°.22S**±0°.05×**174°.74E**±0°.06, **h213**km±11km, **n107, σ0s.53**/107, **North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRZ	Vera Road	0.10	8	P	Pn	14 19 41.0	-0.7
LREZ	Lake Rotokare	0.35	228	P	Pn	14 19 42.2	+0.2
MHEZ	Mangahewa	0.36	294	P	Pn	14 19 42.2	+0.1
DREZ	Durham Road	0.42	274	P	Pn	14 19 42.3	0.0
PREZ	Palmer Road	0.47	255	P	Pn	14 19 42.6	+0.2
PKVZ	Pokaka	0.47	98	P	Pn	14 19 42.2	-0.3
NEZ	North Egmont	0.50	264	P	Pn	14 19 42.8	+0.2
TWVZ	Taurewa	0.56	75	P	Pn	14 19 42.4	-0.5
WAZ	Wanganui	0.56	160	P	Pn	14 19 43.0	+0.3
COVZ	Chateau Observ	0.62	88	P	Pn	14 19 42.8	-0.3
FWVZ	Far West T-bar	0.63	93	P	Pn	14 19 43.1	-0.3
TRVZ	Turoa	0.63	97	P	Pn	14 19 43.0	-0.3
WTVZ	West Tongariro	0.67	81	P	Pn	14 19 43.2	-0.2
NGZ	Ngauruhoe	0.67	86	P	Pn	14 19 43.2	-0.2
WNVZ	Wahianoa	0.67	99	P	Pn	14 19 43.3	-0.1
NNVZ	North Ngauruho	0.69	83	P	Pn	14 19 42.5	-1.0
NMEZ	Namu Road	0.70	254	P	Pn	14 19 43.6	+0.4
SNVZ	South Ngauruho	0.70	87	P	Pn	14 19 43.5	-0.1
TUVZ	Tukino	0.71	94	P	Pn	14 19 43.6	0.0
KRVZ	Karewarewa	0.71	80	P	Pn	14 19 42.7	-0.9
HIZ	Hauiti	0.71	7	P	Pn	14 19 42.9	-0.6
HIZ	Hauiti	0.71	7	P	Pn	14 19 42.9	-0.6
OTVZ	Oturere	0.72	86	P	Pn	14 19 43.6	0.0
NTVZ	North Tongarir	0.74	81	P	Pn	14 19 43.5	-0.1
TMVZ	Te Maari	0.76	82	P	Pn	14 19 43.9	+0.1
ETVZ	East Tongariro	0.76	84	P	Pn	14 19 43.8	0.0
KATZ	Kakaramea	0.78	72	P	Pn	14 19 43.8	-0.1
MOVZ	Moawhango	0.81	103	P	Pn	14 19 43.5	-0.5
RITZ	Rihia Road	0.90	75	P	Pn	14 19 44.3	-0.2
WATZ	Wairara	0.93	57	P	Pn	14 19 44.6	0.0
BHHZ	Black Hill Sta	1.06	105	P	Pn	14 19 45.1	-0.4
TLZ	Tolley Road	1.09	35	P	Pn	14 19 45.3	-0.4
KUTZ	Kaahu Road	1.12	49	P	Pn	14 19 45.8	0.0
TSZ	Takapari Road	1.26	132	P	Pn	14 19 47.1	+0.2
WPRZ	Whakapapatarin	1.31	58	P	Pn	14 19 47.0	-0.3
KWHZ	Kaweka Forest	1.32	99	P	Pn	14 19 47.7	+0.4
KRHZ	Kereru	1.33	109	P	Pn	14 19 47.5	+0.2
MRHZ	Matea Rd	1.36	74	P	Pn	14 19 47.0	-0.7
POWZ	Post Office Ro	1.41	146	P	Pn	14 19 48.0	+0.1
HSRZ	Hossack Road	1.49	53	P	Pn	14 19 48.7	0.0
MCHZ	McNeill Hill	1.53	99	P	Pn	14 19 49.9	+0.9
DVHZ	Dannevirke	1.54	135	P	Pn	14 19 49.2	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WPHZ	Waipukurau	1.56	123	P	Pn	14 19 49.6	+0.4
MRZ	Mangatainoka R	1.57	156	P	Pn	14 19 49.4	+0.1
NMHZ	Naumai	1.61	86	P	Pn	14 19 50.7	+0.9
OGWZ	Otaki Gorge	1.63	168	P	Pn	14 19 50.3	+0.5
PRWZ	Pori Road	1.63	145	P	Pn	14 19 50.3	+0.5
KIW	Kapiti Island	1.64	176	P	Pn	14 19 50.1	+0.2
MTHZ	Maungataniwha	1.68	78	P	Pn	14 19 50.0	-0.3
DUWZ	D'Urville Isla	1.70	201	P	Pn	14 19 50.8	+0.3
KAHZ	Kahuranaki	1.75	110	P	Pn	14 19 51.7	+0.7
ARHZ	Aropaoanui	1.75	92	P	Pn	14 19 51.6	+0.6
HOWZ	Holdsworth Sta	1.77	161	P	Pn	14 19 51.2	0.0
TIWZ	Tintock	1.78	151	P	Pn	14 19 51.5	+0.2
PRHZ	Porangahau	1.79	126	P	Pn	14 19 52.1	+0.8
PXZ	Pawanui	1.83	117	P	Pn	14 19 52.1	+0.5
RTZ	Ruatahuna	1.85	72	P	Pn	14 19 51.6	-0.4
RAHZ	Arahi	1.85	81	P	Pn	14 19 52.3	+0.4
BFZ	Birch Farm	1.86	142	P	Pn	14 19 52.3	+0.3
BFZ	Birch Farm	1.86	142	P	Pn	14 19 52.2	+0.2
CKHZ	Cape Kidnapper	1.86	104	P	Pn	14 19 52.7	+0.7
CAW	Cannon Point	1.90	173	P	Pn	14 19 52.7	+0.3
TCW	Tory Channel	2.02	190	P	Pn	14 19 54.1	+0.6
MTW	Mount Morrison	2.02	163	P	Pn	14 19 53.7	+0.2
WEL	Wellington	2.06	179	P	Pn	14 19 54.1	+0.2
TMWZ	Te Maipa	2.08	155	P	Pn	14 19 54.2	+0.1
SNZO	South Karori	2.08	181	P	Pn	14 19 54.6	+0.5
URZ	Urewera	2.09	63	P	Pn	14 19 53.5	-0.7
URZ	Urewera	2.09	63	P	Pn	14 19 53.5	-0.7
MKAZ	Moumakai	2.14	9	P	Pn	14 19 55.8	+0.9
AWAZ	Awhitu Peninsu	2.16	358	P	Pn	14 19 56.2	+1.2
BHW	Baring Head	2.19	177	P	Pn	14 19 55.3	+0.2
RAGZ	Rawiri	2.21	72	P	Pn	14 19 55.5	-0.1
NNZ	Nelson	2.25	207	P	Pn	14 19 56.0	+0.2
TKNZ	Takaka Hill	2.27	216	P	Pn	14 19 55.7	-0.3
TUWZ	Tuamarina	2.29	195	P	Pn	14 19 56.5	+0.3
KNZ	Kokohu	2.29	86	P	Pn	14 19 56.4	+0.1
QRZ	Quartz Range	2.33	226	P	Pn	14 19 56.0	-0.8
QRZ	Quartz Range	2.33	226	P	Pn	14 19 56.4	-0.4
MWZ	Matawai	2.35	69	P	Pn	14 19 56.7	-0.4
PLWZ	Palliser	2.38	171	P	Pn	14 19 57.2	-0.1
RIGZ	Rimuhau	2.41	79	P	Pn	14 19 57.8	+0.2
MHGZ	Mahia Peninsul	2.46	89	P	Pn	14 19 58.7	+0.5
PRGZ	Paritu Road	2.46	84	P	Pn	14 19 58.6	+0.3
TKGZ	Te Karaka	2.55	73	P	Pn	14 19 59.4	+0.3
BSWZ	Blackbirch Sta	2.58	195	P	Pn	14 20 00.4	+1.0
KUZ	Kuaotunu	2.59	18	P	Pn	14 20 00.6	+0.9
KUZ	Kuaotunu	2.59	18	P	Pn	14 20 00.5	+0.9
RUGZ	Raukumara Rang	2.62	62	P	Pn	14 19 59.0	-1.1
MRNZ	Matariki Terra	2.65	214	P	Pn	14 20 00.1	-0.1
HAZ	Te Kaha	2.80	59	P	Pn	14 20 01.0	-0.9
CNGZ	Carnagh Statio	2.81	76	P	Pn	14 19 59.9	-2.1
THZ	Tophouse	2.90	208	P	Pn	14 20 03.1	+0.1
PUZ	Puketiti	2.98	68	P	Pn	14 20 03.5	-0.5
WMGZ	Waiomatatini S	3.20	65	P	Pn	14 20 06.2	-0.4
MXZ	Matakaoa Point	3.25	61	P	Pn	14 20 07.2	0.0
MXZ	Matakaoa Point	3.25	61	P	Pn	14 20 07.1	0.0
KHZ	Kahutara	3.32	196	P	Pn	14 20 08.6	+0.8
KHZ	Kahutara	3.32	196	P	Pn	14 20 08.6	+0.8
DSZ	Denniston Nort	3.37	221	P	Pn	14 20 08.4	-0.2
GVZ	Greta Valley S	3.96	198	P	Pn	14 20 15.8	+0.2
LTZ	Lake Taylor	4.02	207	P	Pn	14 20 16.3	0.0
OXZ	Oxford	4.58	206	P	Pn	14 20 22.6	-0.6
OKCZ	Okains Bay	4.67	195	P	Pn	14 20 24.3	-0.1
MQZ	McQueen's Vall	4.75	199	P	Pn	14 20 24.3	-0.9
MHCZ	Mount Hutt	4.92	208	P	Pn	14 20 27.2	-0.4
WACZ	Wakanui South	5.19	204	P	Pn	14 20 30.4	-0.5

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*IDC **03** 14:21:39.6±0.7, 32°.29S×71°.93W, h0km, mb4.3/6, mbtmp4.1/12, ML4.0/6, Error ellipse: s-maj=26.1km s-min=16.5km az=109.0*

*SJA **03** 14:21:40.6±0.8, 32°.38S×72°.02W, h16km±4km, ML4.1, MW4.2*

*NEIC **03** 14:21:41.2±1.6, 32°.30S±0°.03×71°.96W±0°.06, h10km±5km, mb4.4/8, ML4.2(GUC), Error ellipse: s-maj=8.4km s-min=3.8km az=65.0*

*GUC **03** 14:21:43.4±0.6, 32°.29S×71°.78W, h22km±4km, ML4.2*

ISC 03 14:21:40.6±1.7**, 32°.29S**±0°.02×**71°.98W**±0°.04**, h7**km±10km**, n122,** σ**1s.42**/171**, mb4.5**/10**, 2C-7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VA01	Torpederas	0.78	159	Pg	Pb	14 21 56.9	+0.5
VA01				Sg	Sb	14 22 06.7	-0.5
VA01	Torpederas	0.78	159	eP	Pb	14 21 56.6	+0.1
VA01				eS	Sb	14 21 57.2	-10
VA01				IAML		14 22 10.7	
	comp=Z,2µm,0.4s						
VA01	Torpederas	0.78	159	i P	Pb	14 21 57.0	+0.6
VA01				eS	Sb	14 22 07.4	+0.1
ROC1	El Roble	1.06	130		Pb	14 22 00.8	-0.6
ROC1				Sg	Sb	14 22 13.4	-2.2
ROC1	El Roble	1.06	130	eP	Pb	14 22 00.8	-0.6
ROC1				eS	Sg	14 22 15.6	+0.9
ROCH	El Roble	1.06	130	⇓iP	Pb	14 22 00.8	-0.5
ROCH				⇓iP	Pb	14 22 00.9	-0.5
ROCH				eS	Sb	14 22 13.4	-2.1
ROCH				eS	Sn	14 22 13.7	-3.5
ROCH				IAML		14 22 17.0	
	comp=E,14µm,0.6s						
ROCH				IAML		14 22 17.1	
	comp=E,15µm,0.7s						
MT02	Curacav	1.20	144		Pn	14 22 03.0	-0.7
MT02	Curacav	1.20	144	eP	Pn	14 22 03.1	-0.6
MT02				eS	Sb	14 22 17.5	-1.7
MT02				IAML		14 22 19.5	
	comp=Z,5µm,0.8s						
MT02	Curacav	1.20	144	i P	Pn	14 22 03.1	-0.6
MT02				eS	Sb	14 22 17.5	-1.7
CO02	Combarbal	1.37	38		Pn	14 22 05.7	-0.5
CO02	Combarbal	1.37	38	eP	Pn	14 22 05.5	-0.6
CO02				eS	Sn	14 22 22.9	-1.7
CO02				IAML		14 22 28.3	
	comp=Z,3µm,0.2s						
CO02	Combarbal	1.37	38	⇑iP	Pn	14 22 05.8	-0.4
CO02				eS	Sn	14 22 22.4	-2.2
PEL	Peldehue	1.38	128		Pn	14 22 05.8	-0.6
PEL	Peldehue	1.38	128	eP	Pn	14 22 06.0	-0.4
PEL				eS	Sn	14 22 23.9	-0.9
PEL	Peldehue	1.38	128	i P	Pn	14 22 05.7	-0.6
PEL				eS	Sn	14 22 22.2	-2.7
PEL				IAML		14 22 25.6	
	comp=N,10µm,0.3s						
VA05	Santo Domingo	1.40	167		Pn	14 22 06.6	+0.2
VA05	Santo Domingo	1.40	167	i P	Pn	14 22 06.8	+0.4
VA05				eS	Sb	14 22 25.4	+0.5
VA05				IAML		14 22 31.0	
	comp=E,10µm,0.4s						
MT05	Renca	1.51	137		Pn	14 22 07.8	-0.3
MT05	Renca	1.51	137	eP	Pn	14 22 08.0	-0.2
MT05				eS	Sb	14 22 29.0	+0.6
MT05				IAML		14 22 29.6	
	comp=Z,3µm,0.8s						
MT05	Renca	1.51	137	i P	Pn	14 22 07.9	-0.2
MT05				eS	Sn	14 22 26.2	-1.9
MT05				IAML		14 22 31.8	
	comp=E,11µm,0.3s						
MT10	Hacienda Santa	1.56	129	i P	Pn	14 22 08.4	-0.5
MT10				eS	Sn	14 22 27.1	-2.3
MT10				IAML		14 22 30.3	
	comp=N,12µm,0.6s						
MT14	Cerro Cal¡n	1.64	133	i P	Pn	14 22 09.7	-0.2
MT14				eS	Sn	14 22 29.9	-1.3
MT14				IAML		14 22 35.9	
	comp=N,7µm,0.7s						
CO06	Fray Jorge	1.64	10		Pn	14 22 09.4	-0.4
CO06	Fray Jorge	1.64	10	i P	Pn	14 22 10.7	+0.9
CO06				eS	Sn	14 22 31.6	+0.5
MT01	Popeta	1.68	159		Pn	14 22 10.5	+0.1
MT01	Popeta	1.68	159	eP	Pn	14 22 10.9	+0.5
MT01				eS	Sn	14 22 32.2	0.0
MT01				IAML		14 22 39.1	
	comp=Z,2µm,0.4s						
MT01	Popeta	1.68	159	⇑iP	Pn	14 22 10.9	+0.5
MT01				eS	Sb	14 22 32.7	-0.5
MT01				IAML		14 22 42.4	
	comp=E,3µm,0.7s						
MT09	Talagante	1.70	151	i P	Pn	14 22 11.5	+0.8
MT09				eS	Sn	14 22 32.2	-0.5
MT09				IAML		14 22 38.5	
	comp=N,3µm,0.4s						
MT03	Universidad Ad	1.72	135		Pn	14 22 10.9	-0.1
MT03	Universidad Ad	1.72	135	eP	Pn	14 22 11.2	+0.1
MT03				eS	Sb	14 22 33.4	-1.1
MT03				IAML		14 22 37.9	
	comp=Z,3µm,0.7s						
MT03	Universidad Ad	1.72	135	i P	Pn	14 22 11.0	0.0
MT03				eS	Sn	14 22 31.7	-1.6
FCH	Farellones	1.76	126	i P	Pn	14 22 12.1	+0.3
FCH				eS	Sn	14 22 33.7	-0.8
FCH				IAML		14 22 35.5	
	comp=E,3µm,0.4s						
MT15	Las Vizcachas	1.80	137	i P	Pn	14 22 12.4	+0.4
MT15				eS	Sn	14 22 33.9	-1.2
MT15				IAML		14 22 44.1	
	comp=N,5µm,0.3s						
CO03	El Pedregal	1.82	38	Pn	Pn	14 22 13.0	+0.7
CO03	El Pedregal	1.82	38	eP	Pn	14 22 12.8	+0.5
CO03				eS	Sn	14 22 36.0	+0.3
CO03				IAML		14 22 41.7	
	comp=Z,2µm,0.4s						
CO03	El Pedregal	1.82	38	i P	Pn	14 22 13.0	+0.7
CO03				eS	Sn	14 22 35.2	-0.5
CO03				IAML		14 22 41.5	
	comp=E,3µm,0.7s						
MT12	Pirque	1.87	141	i P	Pn	14 22 13.5	+0.4
MT12				eS	Sn	14 22 36.7	-0.3
MT12				IAML		14 22 46.4	
	comp=N,8µm,0.5s						
MT04	Ro Olivares	1.91	126	i P	Pn	14 22 13.8	+0.1
MT04				eS	Sn	14 22 37.1	-1.0
MT04				IAML		14 22 38.9	
	comp=E,2µm,0.7s						
MT08	Bocatoma Ro	2.01	125		Pn	14 22 15.6	+0.5
MT08	Bocatoma Ro	2.01	125	i P	Pn	14 22 15.1	0.0
MT08				eS	Sn	14 22 39.5	-1.2
MT08				IAML		14 22 43.3	
	comp=E,3µm,0.4s						
MT13	San Alfonso	2.03	136		Pn	14 22 15.7	+0.4
MT13	San Alfonso	2.03	136	i P	Pn	14 22 15.7	+0.4
MT13				eS	Sn	14 22 40.7	-0.2
MT13				IAML		14 22 48.6	
	comp=E,4µm,0.4s						
BO04	La Punta	2.04	146		Pn	14 22 16.3	+0.9
LMEL	Las Melosas	2.15	137		Pn	14 22 17.3	+0.3
LMEL	Las Melosas	2.15	137	i P	Pn	14 22 18.2	+1.2
LMEL				eS	Sn	14 22 44.5	+0.5
BO01	Tunca	2.22	161	Pn	Pn	14 22 18.4	+0.5
BO01	Tunca	2.22	161	eP	Pn	14 22 18.6	+0.7
BO01				eS	Sg	14 22 51.8	-0.3
BO01				IAML		14 22 55.0	
	comp=Z,1µm,0.8s						
RTLS	Leoncito	2.33	79	eP	Pb	14 22 22.2	-0.8
RTLS				eS	Sb	14 22 53.9	+1.8
RTLS				IAML		14 22 57.9	
	comp=Z,3µm,1.1s						
GO04	Tololo Observa	2.34	26		Pn	14 22 19.2	-0.4
GO04	Tololo Observa	2.34	26	eP	Pn	14 22 19.9	+0.2
GO04				eS	Sb	14 22 53.5	+1.0
GO04	Tololo Observa	2.34	26	i P	Pn	14 22 21.5	+1.8
GO04				eS	Sb	14 22 51.1	-1.3
CO05	La Serena	2.45	15		Pn	14 22 20.1	-0.9
CO05	La Serena	2.45	15	i P	Pn	14 22 22.9	+2.0
CO05				eS	Sb	14 22 53.5	-1.8
ARCO	CERRO ARCO	2.63	103	eP	Pb	14 22 27.7	-0.4
ARCO				eS	Sg	14 23 04.5	-0.5
ARCO				IAML		14 23 05.1	
	comp=Z,646nm,0.5s						
ASAL	Salagasta	2.67	97	eP	Pb	14 22 28.2	-0.6
ASAL				IAML		14 23 15.4	
	comp=Z,458nm,0.9s						
BO02	Sierra Bellavi	2.69	159	Pn	Pn	14 22 24.9	+0.6
BO02	Sierra Bellavi	2.69	159	eP	Pn	14 22 25.2	+0.9
BO02				IAML		14 23 07.9	
	comp=Z,2µm,0.8s						
GO05	Huala	2.71	179		Pn	14 22 24.5	-0.1
GO05	Huala	2.71	179	eP	Pn	14 22 24.7	+0.1
AAGR	Agrelo	2.77	107	eP	Pb	14 22 29.0	-1.5
AAGR				IAML		14 23 14.6	
	comp=Z,644nm,1.1s						
DOCA	Reserva Natura	2.81	62	eP	Pn	14 22 29.1	+2.8
DOCA				eS	Sb	14 23 06.1	+0.1
CO01	Juntas del Tor	2.82	35	eP	Pn	14 22 27.7	+1.5
CO01				eS	Sb	14 23 06.5	+0.4
CO01				IAML		14 23 09.7	
	comp=Z,698nm,0.5s						
CO01	Juntas del Tor	2.82	35	i P	Pn	14 22 28.0	+1.8
ZON	Zonda	2.90	76	Pn	Pn	14 22 27.6	+0.4
ZON	Zonda	2.90	76	eP	Pb	14 22 30.6	-2.1
ZON				IAML		14 23 21.7	
	comp=Z,401nm,0.6s						
RTCV	Cerro Valdivia	2.95	83	eP	Pb	14 22 31.2	-2.3
RTCV				eS	Sb	14 23 12.1	+2.3
RTCV				IAML		14 23 17.4	
	comp=Z,3.3nm,0.1s						
ACCO	Cerro Coronel	3.01	56	eP	Pn	14 22 32.1	+3.1
ACCO				eS	Sb	14 23 14.2	+2.3
ACCO				IAML		14 23 17.4	
	comp=Z,603nm,0.4s						
AROD	Rodeo	3.01	46	eP	Pn	14 22 32.0	+3.0
AROD				eS	Sb	14 23 13.8	+1.9
RTLL	Cerro Villicun	3.13	73	eP	Pn	14 22 33.3	+2.9
RTLL				IAML		14 23 22.0	
	comp=Z,562nm,0.5s						
CFA	Coronel Fontan	3.25	79	eP	Pn	14 22 34.5	+2.4
CFA				eS	Sb	14 23 15.3	-3.1
CFA				IAML		14 23 28.7	
	comp=Z,400nm,0.6s						
CFA	Coronel Fontan	3.25	79	Pn	Pn	14 22 33.5	+1.4
	comp=Z,46nm,0.3s,baz=250,slow=6.7,SNR=464						
CFA				Sn	Sn	14 23 12.7	+1.7
	comp=Z,31nm,0.3s,baz=114,slow=14,SNR=4.6						
	comp=Z,117nm,0.3s						
LCO	Las Campanas	3.45	19	Pn	Pn	14 22 34.4	-0.6
LCO	Las Campanas	3.45	19	eP	Pb	14 22 39.4	-2.7
LCO				eS	Sb	14 23 25.1	+0.7
LCO				IAML		14 23 30.8	
	comp=Z,3µm,0.6s						
ML02	Panimavida	3.49	173	Pn	Pn	14 22 35.6	+0.3
AC05	El Transito	3.74	24	Pn	Pn	14 22 38.5	-0.4
AC05	El Transito	3.74	24	eP	Pn	14 22 39.7	+0.8
AC05				IAML		14 23 45.0	
	comp=Z,408nm,0.6s						
RFA	San Rafael	3.83	131	eP	Pn	14 22 42.3	+2.3
RFA				eS	Sg	14 23 46.1	+2.3
RFA				IAML		14 23 52.7	
	comp=Z,113nm,1.1s						
AC04	Llanos de Chal	4.15	11	eP	Pb	14 22 52.8	-1.1
AC04				eS	Sg	14 23 53.4	-0.4
AVFE	Valle Fertil	4.19	68	eP	Pn	14 22 47.5	+2.5
AVFE				eS	Sb	14 23 44.0	-1.5
BI05	Punta Hualpn	4.56	192		Pn	14 22 49.4	-0.5
VCA	Vinchina	4.81	44	eP	Pn	14 22 57.9	+4.3
VCA				IAML		14 24 11.0	
	comp=Z,381nm,0.4s						
GO03	Copiap	4.92	18		Pn	14 22 54.5	-0.5
AC06	Mina Casimiro	5.12	16	Pn	Pn	14 22 56.8	-0.9
H03N1	Juan Fernandez	5.95	257	Pn	Pn	14 23 11.5	+2.7
	baz=120,slow=19						
H03N1				T	T	14 29 49.7	
	baz=85,slow=73,SNR=429						
H03N3	Juan Fernandez	5.96	257	Pn	Pn	14 23 11.8	+2.8
	baz=120,slow=19						
H03N3				T	T	14 29 49.3	
	baz=85,slow=73,SNR=460						
H03N2	Juan Fernandez	5.96	257	Pn	Pn	14 23 12.0	+3.0
	baz=120,slow=19						
H03N2				T	T	14 29 50.4	
	baz=85,slow=73,SNR=449						
H03S3	Juan Fernandez	6.02	253	T	T	14 29 52.0	
	baz=84,slow=74,SNR=17						
H03S1	Juan Fernandez	6.02	253	T	T	14 29 49.8	
	baz=84,slow=74,SNR=15						
H03S2	Juan Fernandez	6.03	253	T	T	14 29 49.1	
	baz=84,slow=74,SNR=16						
PLCA	Paso Flores	8.50	173		Pn	14 23 45.2	+1.0
PLCA	Paso Flores	8.50	173	Pn	Pn	14 23 45.4	+1.3
	comp=Z,1.9nm,0.3s,baz=335,slow=11,SNR=73						
	comp=Z,5.0nm,0.4s						
TRQA	Tornquist	10.00	128	Pn	Pn	14 24 05.2	+0.6
LVC	Limon Verde	10.02	17	Pn	Pn	14 24 06.2	+0.9
	comp=Z,0.5nm,0.3s,baz=287,slow=3.6,SNR=2.2						
LVC				Sn	Sn	14 26 05.6	+7.4
	comp=Z,0.4nm,0.3s,baz=182,slow=11,SNR=2.0						
	comp=Z,1.4nm,0.4s						
CPUP	Villa Florida	14.09	69	Pn	Pn	14 25 00.5	-0.1
	comp=Z,0.2nm,0.3s,baz=235,slow=13,SNR=3.2						
	comp=Z,0.8nm,0.4s						
GO08	Villa O'Higgin	16.16	181	P	P	14 25 30.8	-0.5
LPAZ	La Paz	16.31	13	P	Pn	14 25 31.7	+1.0
LPAZ	La Paz	16.31	13	Pn	Pn	14 25 31.0	+0.3
	baz=175,slow=6.3,SNR=4.9						
	comp=Z,0.9nm,0.7s						
SIV	San Ignacio	19.01	34	P	Pn	14 26 04.2	+0.5
	baz=187,slow=7.2,SNR=6.8						
	comp=Z,1.1nm,0.8s						
MG04	Isla Riesco	20.56	179	P	P	14 26 20.0	+0.4
BDFB	Brasilia	27.36	58	P	P	14 27 25.4	-1.3
	comp=Z,0.8nm,0.3s,baz=246,slow=12,SNR=1.8						
	comp=Z,0.8nm,0.3s						
VNA3	Neumayer Olymp	50.92	158	⇓P	P	14 30 42.6	+0.6
	comp=Z,3.1nm,0.6s						
VNA1	Neumayer--Stat	51.22	157	⇓P	P	14 30 43.4	-0.8
	comp=Z,4.2nm,0.7s						
VNA2	Neumayer--Watz	51.57	158	⇓P	P	14 30 47.2	+0.3
	comp=Z,4.4nm,0.5s,baz=287,slow=9.0						
SNAA	Sanae	53.15	158	P	P	14 30 58.9	+0.2
SNAA				IAmb	IAmb	14 30 59.9	
	comp=Z,9.2nm,1.3s						
SNAA	Sanae	53.15	158	⇓P	P	14 30 58.5	-0.1
	comp=Z,31nm,0.3s						
SNAA	Sanae	53.15	158	P	P	14 30 58.7	+0.1
	comp=Z,2.0nm,0.5s,baz=268,slow=7.8,SNR=28						
	comp=Z,2.0nm,0.5s						
TROLL	Troll, Antarti	54.85	159	⇓P	P	14 31 11.8	+0.6
	comp=Z,165nm,0.7s						
QSPA	South Pole Qui	57.94	180	P	P	14 31 34.3	+1.0
	comp=Z,3.6nm,0.7s,baz=129,slow=1.5,SNR=39						
	comp=Z,3.6nm,0.7s						
TXAR	Lajitas Array	68.28	330	P	P	14 32 43.4	+1.1
	comp=Z,0.1nm,0.5s,baz=155,slow=12,SNR=1.3						
DBIC	Dimbokro	74.59	72	P	P	14 33 19.5	-1.2
	comp=Z,4.3nm,1.0s,baz=244,slow=4.1,SNR=3.4						
	comp=Z,4.3nm,1.0s						
MAW	Mawson	74.80	164	P	P	14 33 21.1	+0.1
MAW				IAmb	IAmb	14 33 22.2	
	comp=Z,2.3nm,1.3s						
MAW	Mawson	74.80	164	P	P	14 33 21.2	+0.1
	comp=Z,1.8nm,0.5s,baz=159,slow=7.7,SNR=2.8						
	comp=Z,1.8nm,0.5s						
TORD	Torodi Ar. Bea	83.58	70	P	P	14 34 08.9	-1.0
TORD				IAmb	IAmb	14 34 32.4	
	comp=Z,2.4nm,1.4s						
TORD	Torodi Ar. Bea	83.58	70	P	P	14 34 08.3	-1.6
	comp=Z,0.9nm,0.8s,baz=282,slow=3.6,SNR=6.4						
	comp=Z,0.9nm,0.8s						
K02D	Willamette Mer	88.40	325	P	P	14 34 32.8	-0.3
HFS	Hagfors	115.36	34	PKP	PKiKP	14 40 23.5	+1.3
	comp=Z,0.9nm,0.4s,baz=166,slow=1.2,SNR=1.2						
ASAR	Alice Springs	119.11	207	PKP	PKPdf	14 40 29.8	-1.0
	comp=Z,0.2nm,0.7s,baz=127,slow=2.6,SNR=1.8						
WRA	Warramunga Arr	122.27	210	PKP	PKPdf	14 40 35.7	-1.2
	comp=Z,0.4nm,0.7s,baz=159,slow=1.7,SNR=9.1						
BVAR	Borovoye Array	145.98	41	PKPbc	PKPbc	14 41 20.8	+0.2
	comp=Z,1.3nm,0.4s,baz=302,slow=2.0,SNR=14						
KURBB	Kurchatov Arra	151.57	41	PKPbc	PKPbc	14 41 35.0	-0.1
	comp=Z,2.2nm,0.2s,baz=301,slow=3.0,SNR=12						
ZALV	Zalesovo Beam	152.75	31	PKPbc	PKPbc	14 41 37.5	-0.1
	comp=Z,2.6nm,0.5s,baz=306,slow=3.9,SNR=13						
MKAR	Makanchi Array	155.58	46	PKP	PKPdf	14 41 36.2	+1.5
	comp=Z,0.2nm,0.6s,baz=305,slow=5.1,SNR=1.9						
MKAR				PKPab	PKPab	14 42 00.2	-0.6
	comp=Z,0.5nm,0.6s,baz=294,slow=2.6,SNR=4.9						

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*IDC **03** 14:21:44.5±1.8, 4°.18N×126°.43E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=183.0km s-min=20.9km az=67.0*

*DJA **03** 14:21:53.6±0.4, 4°N±16°×12°6E±°, h20km±14km, M4.0/7, mb4.2/3, mB4.9/1, MLv3.9/7, Mw(mB)4.2/1*

ISC 03 14:21:50.6±1.3**, 4°.1N**±0°.1×**126°.4E**±0°.1**, h45**km**, n9,** σ**0s.89**/10**, mb3.4**/5**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	0.93	246	P	Pn	14 22 07.4	+0.1
SGSI				S	Sn	14 22 18.1	-1.4
GTOI	Gorontalo	4.79	225	P	Pn	14 23 00.9	+0.6
MRSI	Marisa	5.69	231	P	Pn	14 23 13.8	+1.2
	61nm,0.5s,1µm0.3nm						
SANI	Sanana	6.08	184	P	Pn	14 23 17.5	-0.6
	8.4nm,0.9s,0.1nm						
WRA	Warramunga Arr	25.11	162	P	P	14 27 12.0	+0.6
	0.4nm,0.5s,baz=342,slow=10,SNR=8.6						
	0.4nm,0.5s						
ASAR	Alice Springs	28.52	165	P	P	14 27 42.8	+0.7
	0.1nm,0.5s,baz=335,slow=7.2,SNR=6.1						
	0.1nm,0.5s						
MKAR	Makanchi Array	57.08	325	P	P	14 31 32.6	+0.1
	0.2nm,0.5s,baz=130,slow=8.5,SNR=6.3						
	0.2nm,0.5s						
ZALV	Zalesovo Beam	60.13	333	P	P	14 31 52.7	-0.8
	0.3nm,0.5s,baz=123,slow=10,SNR=1.4						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	61.27	327	P	P	14 32 01.0	-0.3
	0.2nm,0.5s,baz=115,slow=6.6,SNR=2.5						
	0.2nm,0.5s						

IDC 03 14:27:29.4±1.3**, 4°.40S**×**151°.36E, h0**km**, mb3.5**/3**, mbtmp3.5**/3**, MS3.3**/1**, Error ellipse: s-maj=36.3km s-min=17.1km az=156.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	0.67	82	Pn	Pn	14 27 46.2	0.0
	235nm,0.3s,baz=218,slow=0.4,SNR=176						
KRVT				Sn	Sn	14 28 03.5	+6.2
	263nm,0.3s,baz=230,slow=5.6,SNR=9.2						
GUMO	Guam	19.00	340	LR	LR	14 38 18.2	
	comp=Z,92nm,22.0s,baz=78,slow=34						
WRA	Warramunga Arr	22.66	226	P	P	14 32 31.8	-0.8
	0.6nm,0.4s,baz=52,slow=9.7,SNR=27						
	0.6nm,0.4s						
ASAR	Alice Springs	25.51	220	P	P	14 33 00.4	+0.6
	0.2nm,0.3s,baz=50,slow=8.9,SNR=16						
	0.2nm,0.3s						
MJAR	Matsushiro Arr	42.55	344	P	P	14 35 26.6	-0.4
	0.5nm,0.5s,baz=166,slow=8.0,SNR=1.8						
	0.5nm,0.5s						

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*IDC **03** 14:37:26.9±14.0, 10°.77N×85°.82W, h0km, mb3.4/1, mbtmp3.4/1, Error ellipse: s-maj=1149.0km s-min=81.5km az=62.0*

*UCR **03** 14:37:48.1±0.8, 11°.58N×85°.99W, h151km±4km, MW3.7*

*CATAC **03** 14:37:48.4±0.5, 11°.58N×85°.97W, h149km±4km, ML3.5*

ISC 03 14:37:48.0±1.0**, 11°.56N**±0°.05×**86°.03W**±0°.06**, h156**km±7km**, n81,** σ**1s.08**/114**, 1D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ADRN	Diriamba	0.36	325	i P	Pn	14 38 09.5	0.0
ADRN				IAML		14 38 24.5	
	comp=Z,8µm,1.0s						
CONN	Concepcion	0.40	90	i P	Pn	14 38 09.7	+0.1
CONN				IAML		14 38 10.7	
	comp=Z,3µm,1.0s						
CONN				i S	Sn	14 38 26.4	+0.4
AMYN	Masaya	0.43	351	i P	Pn	14 38 09.7	0.0
AMYN				IAML		14 38 09.9	
	comp=Z,5µm,1.0s						
MAS3	Al N del Volca	0.48	343	IAML		14 38 10.4	
	comp=Z,1µm,1.0s						
MAS3				i P	Pn	14 38 10.5	+0.5
CRUN	El Crucero	0.50	328	i P	Pn	14 38 10.3	+0.2
CRUN				IAML		14 38 29.3	
	comp=Z,4.5nm,1.0s						
MSHP	Masachapa	0.56	298	i P	Pn	14 38 10.5	+0.2
MSHP				IAML		14 38 10.9	
	comp=Z,2µm,1.0s						
ENAN	Enatrel Managu	0.59	337	i P	Pn	14 38 10.7	+0.2
ENAN				IAML		14 38 42.5	
	comp=Z,7µm,1.0s						
WILN	Americas 2	0.62	345	i P	Pn	14 38 10.4	-0.2
WILN				IAML		14 38 11.2	
	comp=Z,630nm,1.0s						
WILN				i S	Sn	14 38 28.6	+0.6
ABCN	Banco Central	0.62	334	i P	Pn	14 38 10.6	-0.1
ABCN				IAML		14 38 32.2	
	comp=Z,6µm,1.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MGA1	Managua	0.62	340	iP	Pn	14 38 10.6	-0.1
MGA1				IAML		14 38 39.8	
	comp=Z,7µm,1.0s						
COPN	Copaltepe	0.83	318	iP	Pn	14 38 11.8	-0.2
COPN				IAML		14 38 12.5	
	comp=Z,470nm,1.0s						
ACON	Acoyapa	0.93	64	eP	Pn	14 38 12.6	-0.2
ACON				eS	Sn	14 38 30.9	-0.8
ACON	Acoyapa	0.93	64	iP	Pn	14 38 12.5	-0.2
ACON				IAML		14 38 12.9	
	comp=Z,360nm,1.0s						
ACON				iS	Sn	14 38 30.9	-0.8
HZTE	Horizontes, Gu	0.94	153	eP	Pn	14 38 13.5	+0.5
HZTE	Horizontes, Gu	0.94	153	iP	Pn	14 38 13.6	+0.7
HZTE				iS	Sn	14 38 32.4	+0.4
HZTE				IAML		14 38 36.1	
	comp=Z,860nm,1.0s						
GBS3	Finca Las Img	0.96	144	eP	Pn	14 38 13.2	+0.2
GB1A	Borinquen Arri	0.96	140	eP	Pn	14 38 13.9	+0.7
BUAI	Buenos Aires	0.96	135	eP	Pn	14 38 13.2	+0.1
BUAI				eS	Sn	14 38 32.7	+0.4
BUEV	Buena Vista	0.97	141	⇓iP	Pn	14 38 13.7	+0.5
BUEV				eS	Sn	14 38 32.9	+0.3
MOM2	El Cardon	0.98	333	iP	Pn	14 38 13.4	+0.3
MOM2				IAML		14 38 13.7	
	comp=Z,430nm,1.0s						
MOM2				iS	Sn	14 38 33.3	+0.8
MOMN	Momotombo	0.98	329	iP	Pn	14 38 13.1	-0.1
MOMN				IAML		14 38 13.5	
	comp=Z,36nm,1.0s						
MOMN				iS	Sn	14 38 32.6	0.0
LAPC	Finca la Perla	0.98	143	eP	Pn	14 38 13.2	-0.1
LAPC				eS	Sn	14 38 32.2	-0.4
VRLE	La Escondida,	1.01	140	iP	Pn	14 38 14.0	+0.5
VRLE				iS	Sn	14 38 33.7	+0.7
VRLE				IAML		14 38 36.6	
	comp=Z,760nm,1.0s						
ELI1	Hacienda Flor	1.02	153	eP	Pn	14 38 14.4	+0.9
ELI1				eS	Sn	14 38 34.1	+1.0
GPS1	Guardaparques	1.03	139	eP	Pn	14 38 14.0	+0.3
GP03	Hacienda Santa	1.03	140	eP	Pn	14 38 14.2	+0.5
GP03				eS	Sn	14 38 33.4	0.0
GPS2	Hotel Rincn d	1.04	140	eP	Pn	14 38 14.2	+0.5
GPS2				eS	Sn	14 38 33.8	+0.3
GP77	Hacienda Santa	1.05	139	eP	Pn	14 38 14.1	+0.2
CNGA	Al SSO del Vol	1.14	325	iP	Pn	14 38 15.0	+0.4
CNGA				iS	Sn	14 38 35.6	+0.6
CNGA				IAML		14 38 43.8	
	comp=Z,640nm,1.0s						
CLARA	Aguas Claras	1.14	133	eP	Pn	14 38 14.9	+0.3
CNGN	Cerro Negro	1.14	325	eP	Pn	14 38 14.6	0.0
CNGN	Cerro Negro	1.14	325	iP	Pn	14 38 14.6	0.0
CNGN				iS	Sn	14 38 34.9	-0.1
CNGN				IAML		14 38 43.0	
	comp=Z,390nm,1.0s						
VMAR	Armenia, Volca	1.17	130	eP	Pn	14 38 14.9	+0.1
ROCN	Rota Cerro Neg	1.18	324	iP	Pn	14 38 12.5	-2.4
ROCN				iS	Sn	14 38 34.2	-1.4
CAMAV	Centro de Prod	1.19	136	eP	Pn	14 38 15.8	+0.8
CAMAV				eS	Sn	14 38 36.8	+1.1
HORNC	Hornillas	1.19	135	eP	Pn	14 38 15.7	+0.6
BRAN	Las Pilas	1.19	345	iP	Pn	14 38 10.5	-4.5
BRAN				IAML		14 38 11.3	
	comp=Z,1µm,1.0s						
BRAN				iS	Sn	14 38 29.5	-6.3
CANAL	Canalete	1.20	127	eP	Pn	14 38 15.0	0.0
DELF	Filadelfia	1.20	157	eP	Pn	14 38 15.7	+0.6
DELF				eS	Sn	14 38 35.8	-0.1
COLC	Colonia	1.20	138	eP	Pn	14 38 16.0	+0.9
ORTG	Ortega, Santa	1.32	155	eP	Pn	14 38 16.9	+0.5
ORTG				eS	Sn	14 38 37.4	-0.6
ORTG	Ortega, Santa	1.32	155	iP	Pn	14 38 16.8	+0.5
ORTG				iS	Sn	14 38 37.7	-0.3
ORTG				IAML		14 38 39.9	
	comp=Z,470nm,1.0s						
POLN	Al Sur del Vol	1.33	325	iP	Pn	14 38 15.2	-1.1
POLN				iS	Sn	14 38 38.4	+0.3
VERA	Finca Concepci	1.34	122	eP	Pn	14 38 16.4	0.0
ACAL	Aguas Claras	1.34	133	eP	Pn	14 38 17.2	+0.6
SACU	Santa Cruz	1.36	161	eP	Pn	14 38 17.1	+0.5
PLVR	Palo Verde	1.38	151	eP	Pn	14 38 17.1	+0.1
LCHIL	Los Chiles	1.39	112	eP	Pn	14 38 16.8	-0.1
PKGN	Cerro Pekin	1.44	320	iP	Pn	14 38 17.9	+0.5
PKGN				iS	Sn	14 38 41.4	+1.4
PKGN				IAML		14 38 43.9	
	comp=Z,2µm,1.0s						
COTE	Lago Cote	1.47	132	eP	Pn	14 38 17.9	+0.1
JUD3	Juan Diaz 3	1.47	161	eP	Pn	14 38 18.2	+0.4
JUD3				eS	Sn	14 38 39.8	-0.9
CRIN	San Cristobal	1.51	319	eP	Pn	14 38 18.4	+0.1
CRIN				eS	Sn	14 38 42.7	+1.3
CRIN	San Cristobal	1.51	319	iP	Pn	14 38 18.3	+0.1
CRIN				iS	Sn	14 38 43.0	+1.6
CRIN				IAML		14 38 48.1	
	comp=Z,2µm,1.0s						
LIMN	Finca el Limon	1.53	348	iP	Pn	14 38 18.6	+0.2
LIMN				IAML		14 38 28.0	
	comp=Z,110nm,1.0s						
NICO	Nicoya	1.53	158	eP	Pn	14 38 18.7	+0.4
NICO				eS	Sn	14 38 40.5	-1.1
DUNO	Dulce Nombre,	1.56	160	iP	Pn	14 38 18.0	-0.7
DUNO				iS	Sn	14 38 40.3	-2.0
DUNO				IAML		14 38 44.5	
	comp=Z,5µm,1.0s						
CMARA	Lajas Hojancha	1.64	159	eP	Pn	14 38 20.1	+0.5
JTS	Las Juntas de	1.65	140	eP	Pn	14 38 19.4	-0.2
NARJA	Naranjal	1.65	163	eP	Pn	14 38 20.0	+0.3
CEDE	Laguna Cedeo	1.68	129	eP	Pn	14 38 19.7	-0.3
ARE1	Arenal 1	1.69	130	eP	Pn	14 38 20.3	+0.2
CASO	Castillo	1.69	131	eP	Pn	14 38 20.3	+0.2
NYURE	Nandayure	1.73	154	eP	Pn	14 38 20.9	+0.4
NYURE				eS	Sn	14 38 43.9	-1.6
INDI	Punta indio, G	1.76	163	eP	Pn	14 38 21.1	+0.3
INDI	Punta indio, G	1.76	163	iP	Pn	14 38 21.0	+0.2
INDI				iS	Sn	14 38 40.5	-5.6
INDI				IAML		14 38 49.4	
	comp=Z,580nm,1.0s						
SOCE	Pocosol	1.81	130	iP	Pn	14 38 21.5	+0.1
SOCE				iS	Sn	14 38 47.1	0.0
SOCE				IAML		14 38 53.7	
	comp=Z,440nm,1.0s						
CPMI	Catarata Coope	2.06	128	iP	Pn	14 38 24.5	+0.1
CPMI				iS	Sn	14 38 53.6	+1.2
CPMI				IAML		14 38 57.5	
	comp=Z,300nm,1.0s						
LAFE	Finca La Fe, P	2.06	148	eP	Pn	14 38 24.4	+0.2
LAFE	Finca La Fe, P	2.06	148	iP	Pn	14 38 24.3	+0.1
LAFE				IAML		14 38 25.0	
	comp=Z,1µm,1.0s						
LAFE				iS	Sn	14 38 50.6	-1.5
CBL1	Cabuya	2.17	155	eP	Pn	14 38 26.0	+0.5
JACO	JACO, Garabito	2.32	144	eP	Pn	14 38 27.6	+0.3
JACO	JACO, Garabito	2.32	144	iP	Pn	14 38 27.6	+0.3
JACO				IAML		14 38 58.5	
	comp=Z,360nm,1.0s						
ABE2	San Pablo	2.68	133	eP	Pn	14 38 32.4	+0.6
LCR2	La Lucha 2	2.69	132	eP	Pn	14 38 32.5	+0.5
BUS1	Rivas	3.00	131	eP	Pn	14 38 37.2	+1.1
EDDO	Dominical	3.13	137	eP	Pn	14 38 39.0	+1.8
SRBA	San Rafael, Bu	3.50	131	eP	Pn	14 38 42.5	+0.4
EDBA	Buenos Aires	3.61	131	eP	Pn	14 38 44.0	+0.6
TXAR	Lajitas Array	24.14	320	P	P	14 42 51.6	+1.8
	comp=Z,0.5nm,0.6s,baz=140,slow=11,SNR=7.8						
	comp=Z,0.5nm,0.6s						
ASAR	Alice Springs	140.22	247	PKP	PKPdf	14 56 57.5	-1.5
	comp=Z,0.3nm,0.7s,baz=117,slow=1.5,SNR=4.4						
WRA	Warramunga Arr	140.35	253	PKP	PKPdf	14 56 58.7	-0.7
	comp=Z,0.3nm,0.8s,baz=92,slow=2.1,SNR=4.7						

*TAP **03** 14:46:18.5, 23°.85N×122°.51E, h31km, ML2.6, C*
*JMA **03** 14:46:18.7±0.2, 24°N±1°×122°.5E±0°.6, h37km, MV2.1/12, NW OFF ISHIGAKIJIMA IS*
ISC 03 14:46:16.0±1.0**, 23°.77N**±0°.02×**122°.51E**±0°.02**, h16**km±8km**, n84,** σ0s.59/160**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.39	334	iP	Pn	14 46 26.0	-0.7
	baz=326						
EOS4				iS	Sn	14 46 31.9	-1.7
	baz=326						
EOS3	EOS3	0.54	341	P	Pn	14 46 29.1	+0.1
	baz=329						
EOS3				eS	Sn	14 46 36.4	-1.3
	baz=329						
EOS2	EOS2	0.69	339	P	Pn	14 46 31.8	+0.7
	baz=315						
EOS2				S	Sn	14 46 41.6	+0.1
	baz=315						
JYNG	Yonagunijimaku	0.79	30	eP	Pn	14 46 33.2	+0.8
JYNG				S	Sg	14 46 42.3	+0.5
YOJ	Yonaguni jima	0.83	34	eP	Pn	14 46 33.9	+0.8
YOJ	Yonaguni jima	0.83	34	eP	Pn	14 46 34.4	+1.3
	baz=42						
YOJ				iS	Sn	14 46 44.2	-0.7
	baz=42						
TWD	Chiawan	0.89	291	P	Pn	14 46 33.6	-0.2
	baz=283						
TWD				S	Sg	14 46 45.2	+0.2
	baz=283						
NACB	Ninganchiao	0.93	296	eP	Pg	14 46 34.0	0.0
	baz=289						
NACB				eS	Sg	14 46 46.3	+0.1
	baz=289						
EWUT	Wuta	0.95	315	iP	Pn	14 46 35.1	+0.4
	baz=310						
EWUT				iS	Sn	14 46 47.7	-0.1
	baz=310						
ETM	Tongmen	0.95	282	eP	Pg	14 46 34.4	-0.1
	baz=267						
ETM				eS	Sn	14 46 47.3	-0.7
	baz=267						
ENA	Nanau	0.96	313	P	Pn	14 46 35.9	+1.1
	baz=307						
ENA				S	Sn	14 46 48.0	-0.2
	baz=307						
ESL	Shilin	0.98	273	eP	Pn	14 46 35.3	+0.1
	baz=266						
ESL				eS	Sn	14 46 48.3	-0.5
	baz=266						
EGFH	Guangfu	0.99	264	eP	Pn	14 46 35.9	+0.6
	baz=258						
EGFH				eS	Sn	14 46 49.4	+0.4
	baz=258						
WARBT	Fenglin Townsh	1.03	267	eP	Pg	14 46 36.3	+0.4
	baz=250						
WARBT				eS	Sg	14 46 49.3	-0.1
	baz=250						
TWC	Suao	1.03	324	eP	Pb	14 46 34.7	-0.8
	baz=320						
TWC				iS	Sg	14 46 48.8	-0.7
	baz=320						
HGSD	Ruisui	1.03	255	eP	Pg	14 46 36.0	+0.1
	baz=248						
HGSD				eS	Sg	14 46 49.4	-0.1
	baz=248						
LXIB	Xiulin Townshi	1.03	284	eP	Pg	14 46 36.0	0.0
	baz=270						
LXIB				eS	Sg	14 46 49.5	0.0
	baz=270						
ETLH	Xiulin Townshi	1.03	295	eP	Pg	14 46 35.9	-0.1
	baz=288						
ETLH				eS	Sn	14 46 49.7	-0.5
	baz=288						
ECBN	Changbin	1.07	245	eP	Pg	14 46 37.7	+1.0
	baz=228						
ECBN				iS	Sg	14 46 50.6	-0.1
	baz=228						
EHY	Hungye	1.12	257	eP	Pg	14 46 37.4	-0.3
	baz=250						
EHY				iS	Sg	14 46 52.2	-0.1
	baz=250						
NDS	Dongshan	1.12	320	eP	Pg	14 46 38.6	+0.8
	baz=315						
NDS				eS	Sg	14 46 52.4	0.0
	baz=315						
EYUL	Yuli	1.17	249	eP	Pg	14 46 39.1	+0.5
	baz=243						
EYUL				eS	Sg	14 46 54.5	+0.6
	baz=243						
YULB	Yu-li	1.17	252	eP	Pg	14 46 38.7	0.0
	baz=246						
YULB				eS	Sg	14 46 53.9	-0.1
	baz=246						
LATG	Datong	1.18	311	eP	Pg	14 46 38.8	0.0
	baz=305						
LATG				eS	Sn	14 46 53.3	-0.4
	baz=305						
TWF1	Yuli	1.19	250	eP	Pg	14 46 38.7	-0.2
	baz=244						
TWF1				S	Sg	14 46 54.6	+0.2
	baz=244						
WHF	Hehuan Shan	1.20	288	eP	Pb	14 46 38.5	-0.1
	baz=282						
WHF				eS	Sg	14 46 54.7	-0.2
	baz=282						
NNSB	Datong	1.22	303	iP	Pg	14 46 39.2	-0.4
	baz=285						
NNSB				eS	Sb	14 46 54.2	-0.1
	baz=285						
TWE	Neicheng	1.22	321	eP	Pg	14 46 39.5	0.0
	baz=317						
TWE				eS	Sn	14 46 54.7	+0.1
	baz=317						
ENTT	Nioudou	1.22	315	eP	Pg	14 46 40.0	+0.4
	baz=296						
ENTT				eS	Sn	14 46 54.6	-0.1
	baz=296						
NDT	Datong Townshi	1.23	313	eP	Pg	14 46 40.0	+0.2
	baz=307						
NDT				eS	Sg	14 46 55.5	-0.4
	baz=307						
NNS	Nan Shan	1.23	303	P	Pb	14 46 39.2	+0.2
	baz=286						
NNS				eS	Sn	14 46 55.1	0.0
	baz=286						
OWD	Renai	1.23	279	eP	Pg	14 46 39.5	-0.3
	baz=272						
OWD				eS	Sn	14 46 55.0	-0.2
	baz=272						
CHKT	Chengkung	1.24	238	eP	Pn	14 46 38.6	-0.1
	baz=223						
CHKT				eS	Sb	14 46 54.1	-0.7
	baz=223						
FULB	Fuli	1.25	243	eP	Pg	14 46 40.1	0.0
	baz=227						
FULB				eS	Sn	14 46 55.6	+0.2
	baz=227						
FUSS	Fushou	1.25	293	eP	Pb	14 46 39.4	0.0
	baz=286						
FUSS				eS	Sn	14 46 55.3	-0.4
	baz=286						
IRIF	Iriomote-Funau	1.25	63	eP	Pg	14 46 40.5	+0.3
IRIF				eS	Sg	14 46 56.9	+0.3
VWDT	VWDT	1.25	270	eP	Pb	14 46 39.4	+0.2
	baz=263						
VWDT				eS	Sn	14 46 55.6	+0.2
	baz=263						
CHGB	Renai	1.25	284	eP	Pb	14 46 39.4	0.0
	baz=268						
CHGB				eS	Sn	14 46 55.9	+0.2
	baz=268						
WUSB	Renai	1.29	280	iP	Pb	14 46 40.3	+0.2
	baz=274						
WUSB				eS	Sn	14 46 56.8	+0.2
	baz=274						
FUSB	Fushanzhiwuyua	1.29	320	eP	Pg	14 46 40.6	-0.4
	baz=302						
FUSB				eS	Sn	14 46 56.3	-0.3
	baz=302						
EHD	Haiduan	1.34	243	eP	Pn	14 46 40.4	+0.2
	baz=229						
EHD				eS	Sb	14 46 58.2	+0.4
	baz=229						
TIPB	Shuangxi	1.35	333	eP	Pg	14 46 42.2	+0.1
	baz=330						
TIPB				eS	Sg	14 46 59.1	-0.6
	baz=330						
ECS	Chishang	1.36	241	iP	Pg	14 46 41.8	-0.4
	baz=227						
ECS				eS	Sg	14 46 59.3	-0.7
	baz=227						
EDH	Donghe	1.36	235	eP	Pn	14 46 40.1	-0.2
	baz=221						
EDH				eS	Sn	14 46 56.1	-2.0
	baz=221						
YHNB	Yeheng	1.37	311	eP	Pn	14 46 40.8	+0.2
	baz=306						
YHNB				iS	Sb	14 46 58.4	-0.2
	baz=306						
NSK	Sanguang	1.38	311	eP	Pb	14 46 41.6	0.0
	baz=305						
NSK				eS	Sn	14 46 58.4	-0.4
	baz=305						
SSLB	Suanglung	1.42	271	iP	Pb	14 46 42.2	0.0
	baz=265						
SSLB				eS	Sn	14 46 59.4	-0.2
	baz=265						
SXI1	Grass Mountain	1.44	337	eP	Pg	14 46 43.4	-0.4
	baz=335						
LDUT	Ludao	1.45	221	eP	Pb	14 46 43.0	+0.4
	baz=218						
LDUT				eS	Sn	14 46 59.9	-0.3
	baz=218						
JKRS	Kuro-shima	1.45	71	P	Pg	14 46 43.7	-0.3
JKRS				S	Sg	14 47 02.5	-0.4
DPDB	Guoxing	1.47	281	eS	Sg	14 47 02.9	-0.6
	baz=265						
SMLT	Sun Moon Lake	1.48	275	P	Pb	14 46 43.3	+0.1
	baz=268						
SMLT				eS	Sg	14 47 03.0	-0.7
	baz=268						
ELDTW	Lidau	1.48	247	P	Pn	14 46 42.6	+0.4
	baz=242						
ELDTW				S	Sn	14 47 01.6	+0.3
	baz=242						
WHP	Taichung City	1.52	290	eP	Pg	14 46 45.5	+0.3
	baz=283						
WHP				eS	Sg	14 47 04.9	-0.1
	baz=283						
WHYT	Xinyi Township	1.52	268	eP	Pg	14 46 46.0	+0.8
	baz=251						
WHYT				eS	Sb	14 47 03.2	+0.3
	baz=251						
LONT	Longtian	1.53	236	eP	Pn	14 46 43.0	+0.4
	baz=223						
LONT				eS	Sb	14 47 04.0	+0.9
	baz=223						
NFF	Wufeng Townshi	1.53	304	eP	Pg	14 46 44.7	-0.8
	baz=289						
NFF				iS	Sb	14 47 03.3	0.0
	baz=289						
ALS	Alishan	1.58	261	eP	Pb	14 46 45.7	+0.6
	baz=255						
ALS				eS	Sb	14 47 05.2	+0.3
	baz=255						
JIJ	Ishigaki jima	1.61	68	P	Pb	14 46 45.7	+0.3
JIJ				S	Sb	14 47 05.4	0.0
YM01	YM01	1.62	328	eP	Pb	14 46 46.0	+0.5
	baz=341						
YM01				eS	Sn	14 47 04.4	-0.1
	baz=341						
LIOB	Emei	1.62	303	eP	Pg	14 46 46.4	-0.7
	baz=286						
LIOB				eS	Sb	14 47 06.2	+0.5
	baz=286						
TWGBT	Beinan	1.62	234	eP	Pb	14 46 45.6	+0.1
	baz=221						
TWGBT				eS	Sn	14 47 05.1	+0.7
	baz=221						
NSTT	Nanjuang	1.62	302	eP	Pb	14 46 45.7	+0.1
	baz=285						
NSTT				eS	Sb	14 47 06.2	+0.4
	baz=285						
WJS	Zhushan	1.63	272	eP	Pg	14 46 47.3	-0.1
	baz=257						
WJS				eS	Sg	14 47 08.5	-0.1
	baz=257						
WNT	Mingjian	1.67	274	eP	Pb	14 46 46.2	-0.3
	baz=269						
WWF	Wufeng	1.68	280	eP	Pg	14 46 48.8	+0.5
	baz=265						
WWF				eS	Sg	14 47 10.2	+0.1
	baz=265						
CHN5	Tsauling	1.69	265	eP	Pb	14 46 46.6	-0.1
	baz=260						
STYH	Taoyuan	1.70	250	eP	Pb	14 46 47.4	+0.5
	baz=237						
STYH				S	Sb	14 47 07.3	-0.7
	baz=237						
STYT	Tauyuan	1.72	250	eP	Pb	14 46 47.0	-0.2
	baz=237						
STYT				eS	Sn	14 47 07.4	+0.4
	baz=237						
WCKO	Fanlu	1.78	260	eP	Pb	14 46 47.7	-0.5
	baz=245						
WCKO				eS	Sg	14 47 12.6	-0.7
	baz=245						
TPUB	Ta-pu	1.79	255	P	Pb	14 46 49.1	+0.7
	baz=242						
TPUB				eS	Sg	14 47 12.1	-1.5
	baz=242						
CHN4	Tsaushan	1.81	257	eP	Pb	14 46 48.8	+0.1
	baz=242						
CHN4				eS	Sg	14 47 12.6	-1.6
	baz=242						
WTP	Ta-pu	1.81	254	P	Pb	14 46 49.8	+0.9
	baz=248						
WTP				S	Sb	14 47 11.7	+0.3
	baz=248						
JISG	Ishigakijimahi	1.84	63	P	Pb	14 46 48.5	-0.7
SGST	Jiashian	1.90	249	P	Pb	14 46 49.9	-0.3
	baz=235						
SGST				S	Sb	14 47 14.3	+0.6
	baz=235						
CHN1	Nanshi	1.91	253	P	Pb	14 46 50.8	+0.3
	baz=247						
CHN1				eS	Sg	14 47 16.1	-1.4
	baz=247						
TWK	Hsinying	1.92	255	P	Pb	14 46 51.5	+0.8
	baz=249						
TWK				S	Sb	14 47 15.0	+0.5
	baz=249						
SNST	Tainan City	1.92	254	eP	Pn	14 46 49.4	+1.3
	baz=248						
SNST				S	Sb	14 47 15.3	+0.8
	baz=248						
LYUB	Lan-yu	1.95	206	P	Pb	14 46 50.1	-1.1
	baz=204						
LYUB				eS	Sn	14 47 11.1	-1.6
	baz=204						
SSD	Sandimen	2.00	240	eP	Pb	14 46 51.5	-0.6
	baz=229						
TSMG	Majia	2.01	239	eP	Pb	14 46 51.4	-0.9
	baz=229						
TSMG				eS	Sn	14 47 14.8	+0.5
	baz=229						
SCST	Cishan	2.05	245	eP	Pb	14 46 51.7	-1.1
	baz=233						
EAST	Anshuo	2.06	228	eP	Pb	14 46 52.6	-0.5
	baz=233						
EAST				eS	Sn	14 47 16.6	+1.2
	baz=233						
MASBT	Mashibuluo	2.07	237	eP	Pb	14 46 52.3	-1.0
	baz=226						
MASBT				eS	Sn	14 47 16.8	+1.1
	baz=226						

*PGC **03** 14:51:30.3±0.5, 48°.51N×128°.75W, h10km, MLSn2.8/21, Mw3.4/21, Mw3.4/21, 219km Wsw of Tofino, Bc Vancouver Island, Canada Region*
*IDC **03** 14:51:34.6±1.7, 48°.86N×128°.32W, h0km, mb3.6/3, mbtmp3.4/7, ML3.2/4, MS3.2/7, Error ellipse: s-maj=29.1km s-min=13.7km az=60.0*
ISC 03 14:51:29.2±0.9**, 48°.62N**±0°.04×**128°.60W**±0°.05**, h10**km**, n51,** σ**1s.93**/49**, mb3.3**/3**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NCHR	NEPTUNE Canada	0.72	207	P	Pg	14 51 41.2	-1.8
KEMF	NEPTUNE Canada	0.75	207	P	Pg	14 51 41.5	-2.0
NC27	ODP1027	1.02	146	P	Pb	14 51 47.4	-1.3
NC27				S	Sg	14 51 59.9	-2.1
EDB	Eliza Dome	1.59	37	Pn	Pb	14 51 57.9	-0.7
EDB				Sn	Sn	14 52 17.3	-0.7
TOFB	Tofino	1.85	72	Pn	Pb	14 52 02.0	-1.2
TOFB				Sn	Sn	14 52 24.5	0.0
WOSB	Woss	2.04	40	Pn	Pb	14 52 04.9	-1.4
B012	Ucluelet	2.04	80	Sn	Sb	14 52 30.0	-1.8
HOLB	Holberg	2.05	8	Pn	Pb	14 52 05.0	-1.5
OZB	Mount Ozzard	2.08	79	Pn	Pn	14 52 05.0	+0.8
OZB				Sn	Sn	14 52 29.4	-0.8
PHC	Port Hardy	2.23	19	Pn	Pb	14 52 08.0	-1.5
BFSB	Bamfield	2.30	83	Pn	Pn	14 52 08.2	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BFSB				Sn	Sn	14 52 35.9	+0.3
B928	Bamfield	2.30	83	Pn	Pb	14 52 08.3	-2.5
SPLB	Strathcona Par	2.31	55	Pn	Pn	14 52 08.6	+1.2
NCRB	Newcastle Ridg	2.44	42	Pn	Pb	14 52 11.1	-2.2
OCP	Olym-Cheeka Pk	2.66	95	Pn	Pn	14 52 13.2	+1.0
PTRF	Port Renfrew	2.78	90	Pn	Pn	14 52 12.9	-0.8
PTRF				Sn	Sn	14 52 46.2	-1.1
B926	Mesachie Lake	2.96	84	Pn	Pn	14 52 17.4	+1.1
B926				Sn	Sn	14 52 51.5	-0.4
CLRS	Cowichan Lake	2.96	84	Pn	Pn	14 52 17.4	+1.1
CLRS				Sn	Sn	14 52 51.8	-0.1
NLLB	Nanaimo Lost L	3.10	77	Pn	Pn	14 52 19.4	+1.3
SYMB	Survey Mountai	3.19	89	Pn	Pn	14 52 20.0	+0.6
STW	Striped Peak	3.32	96	Pn	Pn	14 52 23.2	+2.1
B009	North Saanich	3.41	88	Sn	Sn	14 53 04.7	+1.8
B010	North Saanich	3.41	87	Sn	Sn	14 53 04.8	+1.9
BBB	Bella Bella	3.59	5	Pn	Pn	14 52 27.1	+2.3
	4.9nm,0.3s,baz=175,slow=11,SNR=79						
BBB				LR	LR	14 53 04.6	
	comp=Z,51nm,21.4s,baz=188,slow=27						
BBB				Sn	Sn	14 53 06.3	-0.9
	0.9nm,0.3s,baz=289,slow=21,SNR=1.2						
	14nm,0.4s						
BBB	Bella Bella	3.59	5	Pn	Pn	14 52 27.0	+2.2
HDW	Hoodsport	3.84	103	Pn	Pn	14 52 29.4	+1.0
HDW				Sn	Sn	14 53 15.1	+1.6
MBW	Mount Baker	4.44	85	Pn	Pn	14 52 39.2	+2.5
BUTB	Butedale	4.46	1	Pn	Pn	14 52 38.7	+1.9
JCW	Jim Creek	4.46	93	Pn	Pn	14 52 39.4	+2.5
RPW	Rockport	4.71	89	Pn	Pn	14 52 42.3	+2.0
GRIB	Gribbell Islan	4.74	356	Pn	Pn	14 52 42.8	+2.0
BNKB	Banks Island	4.79	351	Pn	Pn	14 52 43.1	+1.6
LON	Longmire	4.95	110	Pn	Pn	14 52 46.8	+3.2
FMW	Mount Fremont	4.96	107	Pn	Pn	14 52 47.5	+3.6
KITB	Kitimat	5.47	360	Pn	Pn	14 52 52.4	+1.7
LTY	Liberty	5.50	101	Pn	Pn	14 52 54.8	+3.6
NEW	Newport	7.64	88	Pn	Pn	14 53 24.8	+4.2
	0.1nm,0.3s,baz=212,slow=6.2,SNR=3.4						
NEW				LR	LR	14 56 44.6	
	comp=Z,136nm,18.4s,baz=37,slow=42						
	1.7nm,0.9s						
YBH	Yreka Blue Hor	8.04	147	LR	LR	14 56 11.6	
	comp=Z,274nm,20.6s,baz=7.5,slow=34						
ELK	Elko	12.33	125	LR	LR	14 58 46.3	
	comp=Z,160nm,20.2s,baz=358,slow=35						
NVAR	Mina Array Bea	12.61	140	LR	LR	14 59 08.8	
	comp=Z,217nm,19.1s,baz=280,slow=36						
PDAR	Pinedale Array	14.52	107	Pn	P	14 55 01.9	+0.3
	baz=310,slow=14,SNR=2.9						
PDAR				LR	LR	15 01 11.7	
	comp=Z,168nm,19.0s,baz=312,slow=40						
	0.5nm,0.9s						
YKA	Yellowknife Ar	15.95	24	Pn	Pn	14 55 14.0	+0.6
	baz=213,slow=7.3,SNR=1.8						
ANMO	Albuquerque	21.33	122	P	P	14 56 22.1	+5.7
	0.8nm,0.6s,baz=68,slow=12,SNR=3.6						
	0.8nm,0.6s						
TXAR	Lajitas Array	27.12	126	P	P	14 57 20.3	+7.9
	0.6nm,1.0s,baz=316,slow=8.8,SNR=4.2						
TXAR				LR	LR	15 10 03.0	
	comp=Z,97nm,20.8s,baz=348,slow=41						
	0.6nm,1.0s						
PETK	Petropavlovsk-	44.84	305	P	P	14 59 49.8	+6.7
	2.3nm,0.9s,baz=77,slow=15,SNR=0.9						
	2.3nm,0.9s						
H11N2	WAKE ISLAND Hy	58.66	265	T	T	16 05 07.9	
	baz=44,slow=75,SNR=14						
H11N3	WAKE ISLAND Hy	58.66	265	T	T	16 05 07.2	
	baz=44,slow=75,SNR=16						
H11N1	WAKE ISLAND Hy	58.68	265	T	T	16 05 09.1	
	baz=44,slow=75,SNR=16						
H11S1	WAKE ISLAND Hy	59.66	264	T	T	16 06 17.3	
	baz=44,slow=74,SNR=9.8						
H11S2	WAKE ISLAND Hy	59.67	264	T	T	16 06 13.8	
	baz=44,slow=74,SNR=13						
H11S3	WAKE ISLAND Hy	59.68	264	T	T	16 06 24.4	
	baz=44,slow=74,SNR=5.1						

*NEIC **03** 14:58:04.9±2.7, 18°.88N±0°.07×81°.16W±0°.07, h10km±1km, mb4.0/24, Error ellipse: s-maj=14.2km s-min=7.2km az=224.0*

*IDC **03** 14:58:06.0±1.1, 19°.04N×81°.42W, h0km, mb3.6/6, mbtmp3.7/7, ML5.0/2, MS3.4/3, Error ellipse: s-maj=31.8km s-min=24.6km az=163.0*

*JSN **03** 14:58:08.5±0.7, 18°.18N×81°.26W, h15km, MD4.3*

*OSPL **03** 14:58:09.3±2.1, 18°.25N×81°.11W, h0km±210km, ML3.7*

*SSNC **03** 14:58:09.9±3.0, 18°.99N×81°.15W, h120km±87km, MD3.4, ML3.9, MW3.4*

ISC 03 14:58:07.8±0.6, **18°.82N**±0°.06×**81°.28W**±0°.05, **h35**km, **n64**, σ**1s.81**/75, **mb3.7**/6, **North of Honduras**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MTDJ	Mount Denham	3.60	99		Pn	14 59 01.2	-0.1
MTDJ	Mount Denham	3.60	99	*i* P	Pn	14 59 01.3	0.0
MTDJ				*e*S	Sn	14 59 40.9	-1.8
MTDJ				IAML		14 59 44.4	
	comp=Z,192nm,0.5s						
MTDJ	Mount Denham	3.60	99	*e*P	Pn	14 59 01.3	0.0
MTDJ				*e*S	Sn	14 59 41.7	-1.0
PILO	Pilon	3.81	73	*e*P	Pn	14 59 04.4	+0.3
PILO				*e*S	Sn	14 59 45.2	-2.6
CAMR	Camarioca	4.21	359	Pn	Pn	14 59 09.5	-0.1
LMGC	Las Mercedes	4.22	72	*e*P	Pn	14 59 11.0	+1.4
LMGC				*e*S	Sn	14 59 57.3	-0.4
LMGC				IAML		14 59 59.8	
	comp=E,84nm,0.2s						
LMGC				IAML		14 59 59.9	
	comp=N,82nm,0.1s						
SOR	Soroa	4.27	338		Pn	14 59 11.1	+0.8
STH	Stony Hill	4.31	99	*i* P	Pn	14 59 11.0	+0.1
STH				*i* S	Sn	14 59 58.8	-1.2
STH	Stony Hill	4.31	99	*e*P	Pn	14 59 11.3	+0.3
STH				*e*S	Sn	14 59 57.7	-2.3
HOJ	Hope	4.38	100	*i* P	Pn	14 59 12.3	+0.5
GWJ	Greenwich	4.38	99	*i* P	Pn	14 59 13.1	+1.0
CHIV	Chivirico	4.73	75	*e*P	Pn	14 59 15.8	-0.9
CHIV				*e*S	Sn	15 00 08.7	-1.7
MARVS	Santiago de Cu	5.21	76	*e*P	Pn	14 59 23.4	+0.1
MARVS				*e*S	Sn	15 00 19.4	-2.8
RCC	Rio Carpintero	5.40	77	*e*P	Pn	14 59 25.1	-0.8
RCC				*e*S	Sn	15 00 23.2	-3.6
RCC				IAML		15 00 36.2	
	comp=N,23nm,0.5s						
RCC				IAML		15 00 36.3	
	comp=E,20nm,0.4s						
GTBY	Guantanamo Bay	5.92	78	Pn	Pn	14 59 30.6	-2.5
GTBY	Guantanamo Bay	5.92	78	*i* P	Pn	14 59 36.1	+3.0
GTBY				*e*S	Sn	15 00 38.3	-1.6
GTBY				IAML		15 01 07.3	
	comp=Z,19nm,2.2s						
GTBY	Guantanamo Bay	5.92	78	*e*P	Pn	14 59 34.5	+1.3
GTMO	Guantanamo	5.93	77	*e*P	Pn	14 59 34.3	+1.2
TEIG	Tepich	6.75	283		Pn	14 59 42.9	-1.5
TEIG	Tepich	6.75	283	Pn	Pn	14 59 43.0	-1.4
	comp=Z,242nm,0.3s,baz=216,slow=3.5,SNR=147						
TEIG				Sn	Sn	15 00 53.4	-6.6
	baz=97,slow=22						
TEIG				LR	LR	15 01 12.4	
	comp=Z,361nm,21.1s,baz=44,slow=28						
MASC	Masc	6.78	77	*i* P	Pn	14 59 47.4	+2.4
MASC				*e*S	Sn	15 01 01.2	+0.2
MASC	Masc	6.78	77	*e*P	Pn	14 59 45.3	+0.4
061Z	Ochoppi	7.02	3	Pn	Pn	14 59 48.7	+0.6
ESPN	Las Esperanzas	7.21	204	Pn	Pn	14 59 51.4	+0.6
JTS	Las Juntas de	9.20	203	Pn	Pn	15 00 20.2	+2.1
	comp=Z,1.6nm,0.3s,baz=335,slow=12,SNR=3.7						
	comp=Z,6.3nm,0.5s						
553A	Crawfordville	11.67	346	Pn	Pn	15 00 51.5	-0.5
TIGA	Tifton	12.73	351	Pn	Pn	15 01 06.3	-0.1
152A	Waverly Hall	14.13	348	Pn	Pn	15 01 25.5	+0.1
SDV	Santo Domingo	14.29	132		Pn	15 01 25.1	-2.9
SDV	Santo Domingo	14.29	132	Pn	Pn	15 01 27.5	-0.5
	comp=Z,3.9nm,0.3s,baz=313,slow=5.0,SNR=12						
SDV				LR	LR	15 06 29.6	
	comp=Z,137nm,21.0s,baz=342,slow=35						
LRAL	Lakeview Retre	15.05	341	Pn	Pn	15 01 35.9	-2.0
LRAL				IAmb	IAmb	15 01 53.5	
	comp=Z,5.6nm,1.1s						
RUSC	La Rusia	15.13	147	Pn	Pn	15 01 38.0	-1.6
RUSC				IAmb	IAmb	15 02 10.2	
	comp=Z,7.4nm,1.1s						
Y52A	Lilburn	15.18	351	Pn	Pn	15 01 38.5	-1.2
Y52A				IAmb	IAmb	15 01 58.3	
	comp=Z,4.9nm,0.7s						
Y49A	Blount Mountai	15.66	344	Pn	Pn	15 01 44.4	-1.5
BAUV	El Baul	16.16	126		Pn	15 01 50.1	-2.4
BG3	Lake Jocassee	16.17	355	Pn	Pn	15 01 51.8	-0.7
BG3				IAmb	IAmb	15 02 21.4	
	comp=Z,9.0nm,1.2s						
W52A	Murphy	16.38	352	Pn	Pn	15 01 54.8	-0.3
W52A				IAmb	IAmb	15 02 07.8	
	comp=Z,8.7nm,0.9s						
W59A	Clinton	16.47	8	P	P	15 01 58.5	-0.1
W59A				IAmb	IAmb	15 02 20.7	
	comp=Z,13nm,0.8s						
CNNC	Cliffs of the	16.62	10	Pn	Pn	15 01 55.7	-2.4
CPCT	Cooper Cave	16.81	351	Pn	Pn	15 01 57.8	-2.7
V53A	Saluda	16.84	356	Pn	Pn	15 01 58.0	-2.9
V53A				IAmb	IAmb	15 02 18.8	
	comp=Z,14nm,1.4s						
TKL	Tuckaleechee C	16.91	353	Pn	Pn	15 02 00.6	-1.2
TKL				IAmb	IAmb	15 02 19.8	
	comp=Z,7.0nm,0.7s						
V52A	Sevierville	17.07	354	Pn	Pn	15 02 03.0	-0.9
OXF	Oxford	17.22	337		Pn	15 02 05.5	-0.1
OXF				IAmb	IAmb	15 02 24.1	
	comp=Z,25nm,1.1s						
WVT	Waverly	18.18	343		Pn	15 02 15.8	-1.7
T57A	Hurt	18.19	5		Pn	15 02 15.0	-2.6
S57A	Dark Hollow, R	18.98	6	Pn	P	15 02 26.5	+0.2
S57A				IAmb	IAmb	15 03 04.3	
	comp=Z,14nm,1.3s						
GDSD	La Dsirade Is	19.43	94	P	P	15 02 28.2	-3.2
BRDY	Brady	20.25	311	P	P	15 02 38.7	-1.6
BRDY				IAmb	IAmb	15 03 01.6	
	comp=Z,3.9nm,0.8s						
TXAR	Lajitas Array	22.92	301	P	P	15 03 09.8	+0.8
TXAR	Lajitas Array	22.92	301	P	P	15 03 09.2	+0.2
	comp=Z,0.6nm,0.8s,baz=116,slow=9.2,SNR=8.5						
	comp=Z,0.6nm,0.8s						
TX32	Lajitas Array	22.92	301	P	P	15 03 10.1	+1.0
P38A	Dawn	23.28	335	P	P	15 03 13.0	+0.6
LPIG	La Paz	27.49	286	LR	LR	15 15 28.6	
	comp=Z,81nm,19.1s,baz=47,slow=38						
PDAR	Pinedale Array	33.77	321	P	P	15 04 47.9	+1.3
	comp=Z,0.4nm,0.6s,baz=128,slow=12,SNR=4.1						
	comp=Z,0.4nm,0.6s						
YKA	Yellowknife Ar	49.34	340	P	P	15 06 53.2	-0.2
	comp=Z,0.1nm,0.7s,baz=98,slow=9.4,SNR=2.8						
	comp=Z,0.1nm,0.7s						
J20K	Nowinta River	65.76	333	P	P	15 08 48.6	-0.4
IMAR	Indian Mountai	65.83	335	P	P	15 08 49.9	+0.5
EKA	Eskdalemuir Ar	68.00	37	P	P	15 09 05.6	+2.3
	comp=Z,1.3nm,0.8s,baz=32,slow=46,SNR=2.3						
	comp=Z,1.3nm,0.8s						
ESDC	Sonseca Array	68.63	54	P	P	15 09 10.2	+2.5
	comp=Z,0.9nm,0.9s,baz=282,slow=5.6,SNR=4.9						
	comp=Z,0.9nm,0.9s						
F17K	Baldwin Pennin	68.90	335	P	P	15 09 09.6	+0.8
ARCES	ARCESS Array B	78.23	20	P	P	15 10 08.1	+4.5
	comp=Z,2.1nm,0.8s,baz=298,slow=2.6,SNR=6.5						
	comp=Z,2.1nm,0.8s						
WRA	Warramunga Arr	146.42	262	PKPbc	PKiKP	15 17 49.8	+0.8
	comp=Z,0.5nm,0.8s,baz=85,slow=3.5,SNR=7.9						
ASAR	Alice Springs	146.91	255	PKPbc	PKiKP	15 17 50.7	+0.7
	comp=Z,0.3nm,0.5s,baz=104,slow=4.6,SNR=11						

*MOS **03** 15:26:35.8±1.4, 30°.83S×178°.68W, h11km, mb4.9/11, Error ellipse: s-maj=19.0km s-min=13.7km az=134.2*

*NEIC **03** 15:26:48.7±2.7, 31°.05S±0°.09×178°.73W±0°.10, h98km±4km, mb5.0/26, Error ellipse: s-maj=15.9km s-min=8.4km az=217.0*

*IDC **03** 15:26:49.5±1.3, 30°.95S×178°.70W, h114km±10km, mb4.1/15, mbtmp4.5/15, MS3.4/10, Error ellipse: s-maj=17.5km s-min=13.0km az=115.0*

ISC 03 15:26:46.3±0.3, **31°.22S**±0°.05×**178°.66W**±0°.08, **h87**km, **n295**, σ**1s.88**/297, **mb4.8**/30, **4C-5D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.06	18	P	Pn	15 27 19.2	+0.1
GLKZ				S	Sn	15 27 42.9	-1.3
RAO	Raoul Island	2.07	18	Pn	Pn	15 27 20.0	+0.8
RAO	Raoul Island	2.07	18	P	Pn	15 27 20.0	+0.8
RAO	Raoul Island	2.07	18	P	Pn	15 27 19.7	+0.4
	740nm,0.2s,baz=204,slow=23,SNR=7.1						
RAO				S	Sn	15 27 44.2	-0.2
	3µm,0.2s,baz=124,slow=16,SNR=12						
MXZ	Matakaoa Point	6.80	201	Pn	Pn	15 28 22.2	-1.2
HAZ	Te Kaha	7.15	203	P	Pn	15 28 28.2	+0.1
HAZ				S	Sn	15 29 50.1	+2.4
PKGZ	Pakihiroa	7.17	201	P	Pn	15 28 27.7	-0.8
PKGZ				S	Sn	15 29 44.7	-3.7
KUZ	Kuaotunu	7.22	219	P	Pn	15 28 32.5	+3.4
PUZ	Puketiti	7.29	200	P	Pn	15 28 28.7	-1.3
PUZ				S	Sn	15 29 51.3	+0.1
RUGZ	Raukumara Rang	7.37	203	P	Pn	15 28 30.9	-0.4
RUGZ				S	Sn	15 29 53.1	-0.3
TWGZ	Tauwhareparae	7.47	201	P	Pn	15 28 31.7	-0.9
TWGZ				S	Sn	15 29 57.6	+1.9
WCZ	Waipu Caves	7.50	229	P	Pn	15 28 40.3	+7.4
OUZ	Omahuta	7.62	236	P	Pn	15 28 41.4	+6.9
CNGZ	Carnagh Statio	7.69	199	P	Pn	15 28 34.7	-0.8
TKGZ	Te Karaka	7.75	201	P	Pn	15 28 34.8	-1.5
TKGZ				S	Sn	15 30 03.7	+1.3
MWZ	Matawai	7.76	203	P	Pn	15 28 35.1	-1.3
MWZ				S	Sn	15 30 05.1	+2.5
URZ	Urewera	7.83	205	P	Pn	15 28 36.8	-0.7
	5.5nm,0.2s,baz=356,slow=2.1,SNR=35						
URZ				S	Sn	15 30 05.6	+1.1
	66nm,0.4s,baz=244,slow=23,SNR=14						
URZ	Urewera	7.83	205	P	Pn	15 28 36.4	-1.1
URZ				S	Sn	15 30 04.9	+0.4
RAGZ	Rawiri	7.94	203	P	Pn	15 28 37.7	-1.3
RAGZ				S	Sn	15 30 09.9	+2.7
RIGZ	Rimuhau	8.02	200	P	Pn	15 28 38.5	-1.5
RIGZ				S	Sn	15 30 07.1	-2.1
PRGZ	Paritu Road	8.19	199	P	Pn	15 28 40.9	-1.4
PRGZ				S	Sn	15 30 10.9	-2.3
RTZ	Ruatahuna	8.20	205		Pn	15 28 37.8	-4.7
RTZ	Ruatahuna	8.20	205	P	Pn	15 28 40.5	-2.0
RTZ				S	Sn	15 30 12.3	-1.2
KNZ	Kokohu	8.34	200	P	Pn	15 28 41.8	-2.6
KNZ				S	Sn	15 30 09.9	-6.9
MHGZ	Mahia Peninsul	8.40	199	P	Pn	15 28 42.8	-2.3
RAHZ	Arahi	8.43	203	P	Pn	15 28 44.0	-1.6
RAHZ				S	Sn	15 30 19.2	+0.1
MTHZ	Maungataniwha	8.46	205	P	Pn	15 28 44.7	-1.3
MRHZ	Matea Rd	8.60	207	P	Pn	15 28 46.3	-1.7
NMHZ	Naumai	8.69	204	P	Pn	15 28 47.0	-2.1
WATZ	Wairara	8.77	210	P	Pn	15 28 53.3	+3.0
ARHZ	Aropaoanui	8.77	203	P	Pn	15 28 48.7	-1.5
RITZ	Rihia Road	8.94	209	P	Pn	15 28 53.5	+0.9
KATZ	Kakaramea	9.01	209	P	Pn	15 28 56.9	+3.3
MCHZ	McNeill Hill	9.04	204	P	Pn	15 28 52.0	-1.8
NTVZ	North Tongarir	9.12	209	P	Pn	15 28 55.8	+0.7
TMVZ	Te Maari	9.12	209	P	Pn	15 28 55.0	-0.1
NNVZ	North Ngauruho	9.18	209	P	Pn	15 28 55.8	0.0
TWVZ	Taurewa	9.20	210	P	Pn	15 28 57.9	+1.8
SNVZ	South Ngauruho	9.21	209	P	Pn	15 28 55.7	-0.7
NGZ	Ngauruhoe	9.22	209	P	Pn	15 28 56.8	+0.3
BHHZ	Black Hill Sta	9.30	206	P	Pn	15 28 55.2	-2.4
WNVZ	Wahianoa	9.35	209	P	Pn	15 28 60.0	+1.8
VRZ	Vera Road	9.55	213	P	Pn	15 29 04.2	+3.4
PNHZ	Pukenui	9.63	204	P	Pn	15 28 58.7	-3.2
WPHZ	Waipukurau	9.68	203	P	Pn	15 28 59.7	-2.9
PRHZ	Porangahau	9.80	202	P	Pn	15 28 59.2	-5.1
TSZ	Takapari Road	9.84	205	P	Pn	15 29 00.6	-4.2
BFZ	Birch Farm	10.30	202		Pn	15 29 05.9	-5.2
BFZ	Birch Farm	10.30	202	P	Pn	15 29 05.5	-5.5
TIWZ	Tintock	10.51	203	P	Pn	15 29 09.3	-4.5
MRZ	Mangatainoka R	10.51	205	P	Pn	15 29 08.5	-5.4
HOWZ	Holdsworth Sta	10.74	204	P	Pn	15 29 12.3	-4.8
BHW	Baring Head	11.42	205	Pn	Pn	15 29 19.6	-6.6
TUWZ	Tuamarina	11.80	208		Pn	15 29 26.4	-5.0
TKNZ	Takaka Hill	11.90	212	Pn	Pn	15 29 28.5	-4.3
THZ	Tophouse	12.51	210	Pn	Pn	15 29 36.4	-4.7
CTZ	Chatham Island	12.60	173		Pn	15 29 38.1	-3.9
KHZ	Kahutara	12.79	207	Pn	Pn	15 29 38.1	-6.6
DSZ	Denniston Nort	12.99	213	Pn	Pn	15 29 43.7	-3.8
GVZ	Greta Valley S	13.46	207	Pn	Pn	15 29 47.5	-6.1
LTZ	Lake Taylor	13.61	210	Pn	Pn	15 29 49.7	-5.9
INZ	Inchbonnie	13.93	212		Pn	15 29 51.5	-8.2
RPZ	Rata Peaks	14.89	210	P	Pn	15 30 07.0	-5.1
	2.1nm,0.4s,baz=179,slow=20,SNR=1.7						
RPZ				S	Sn	15 32 42.3	-14
	5.8nm,0.5s,baz=34,slow=16,SNR=2.4						
FOZ	Fox Glacier	15.31	213	Pn	Pn	15 30 15.9	-1.4
DZM	Mont Dzumac	16.12	301	P	P	15 30 30.2	+0.7
	18nm,1.0s,baz=35,slow=13,SNR=5.5						
DZM				LR	LR	15 34 39.8	
	comp=Z,139nm,20.6s,baz=168,slow=30						
ODZ	Otahua Downs	16.14	208	Pn	Pn	15 30 21.5	-6.3
RAR	Rarotonga	19.63	64	LR	LR	15 37 25.5	
	comp=Z,33nm,20.2s,baz=196,slow=32						
ARMA	Armidale	25.50	264	P	P	15 32 04.1	-2.6
EIDS	Eidsvold	27.22	275	P	P	15 32 20.0	-2.1
HNR	Honiara	29.43	313	LR	LR	15 41 40.9	
	comp=Z,669nm,19.8s,baz=340,slow=30						
PPT	Papeete	29.66	70	LR	LR	15 41 17.4	
	comp=Z,62nm,20.6s,baz=240,slow=29						
CTA	Charters Tower	33.38	281	LR	LR	15 44 35.1	
	comp=Z,60nm,19.0s,baz=107,slow=32						
CTAO	Charters Tower	33.38	281	P	P	15 33 17.1	+0.6
CTAO				IAmb	IAmb	15 33 18.7	
	comp=Z,18nm,0.7s						
CTAO	Charters Tower	33.38	281	P	P	15 33 17.1	+0.6
CTAO				pmax	pmax		
	comp=Z,18nm,0.7s						
CTAO	Charters Tower	33.38	281	P	P	15 33 17.8	+1.2
STKA	Stephens Creek	33.75	258	P	P	15 33 20.7	+1.1
STKA	Stephens Creek	33.75	258	*e*P	P	15 33 21.0	+1.4
STKA				pmax	pmax		
	comp=Z,7.0nm,0.5s						
STKA	Stephens Creek	33.75	258	P	P	15 33 21.4	+1.8
	comp=Z,7.1nm,0.5s,baz=99,slow=12,SNR=21						
	comp=Z,7.1nm,0.5s						
BBOO	Buckleboo	38.21	255	P	P	15 33 57.8	+0.1
PMG	Port Moresby	38.46	297	P	P	15 33 59.1	-0.7
PMG				IAmb	IAmb	15 34 00.6	
	comp=Z,14nm,0.8s						
PMG	Port Moresby	38.46	297	*ce*P	P	15 33 57.8	-2.1
PMG				pmax	pmax		
	comp=Z,16nm,1.3s						
PMG	Port Moresby	38.46	297	P	P	15 33 59.5	-0.4
PMG				PcP	PcP	15 36 11.7	+0.2
COEN	Coen	38.96	287	P	P	15 34 04.6	+0.5
AS31	Alice Springs	42.51	268	P	P	15 34 32.9	-0.4
AS31				IAmb	IAmb	15 34 34.1	
	comp=Z,8.8nm,0.6s						
ASAR	Alice Springs	42.51	268	P	P	15 34 33.0	-0.2
ASAR	Alice Springs	42.51	268	P	P	15 34 33.1	-0.2
ASAR	Alice Springs	42.51	268	P	P	15 34 33.4	+0.1
	comp=Z,23nm,0.6s,baz=105,slow=7.4,SNR=575						
ASAR				PcP	PcP	15 36 23.7	-0.9
	comp=Z,1.9nm,0.5s,baz=113,slow=3.9,SNR=5.8						
ASAR				ScP	ScP	15 40 02.2	-5.3
	comp=Z,1.7nm,1.0s,baz=121,slow=4.0,SNR=5.5						
	comp=Z,23nm,0.6s						
DRV	Dumont d'Urvil	43.17	203	P	P	15 34 39.0	+1.1
WR0	Warramunga Arr	43.39	273	P	P	15 34 40.0	-0.4
WR0				IAmb	IAmb	15 34 40.7	
	comp=Z,24nm,0.6s						
WB2	Warramunga Arr	43.56	273		P	15 34 41.4	-0.4
WRAB	Tennant Creek	43.56	273	P	P	15 34 41.3	-0.5
WRAB	Tennant Creek	43.56	273	P	P	15 34 41.3	-0.5
WRAB				pmax	pmax		
	comp=Z,38nm,0.7s						
WRA	Warramunga Arr	43.57	273	P	P	15 34 40.4	-1.5
WRA	Warramunga Arr	43.57	273	*e*P	P	15 34 40.4	-1.5
WRA				pmax	pmax		
	comp=Z,37nm,0.6s						
WRA	Warramunga Arr	43.57	273	P	P	15 34 41.6	-0.3
	comp=Z,37nm,0.6s,baz=113,slow=7.8,SNR=329						
WRA				PcP	PcP	15 36 27.5	-0.7
	comp=Z,1.3nm,0.7s,baz=125,slow=2.8,SNR=1.7						
WRA				ScP	ScP	15 40 08.5	-3.3
	comp=Z,0.8nm,0.9s,baz=116,slow=3.8,SNR=4.8						
WB0	Warramunga Arr	43.60	274		P	15 34 41.2	-0.8
FORT	Forrest	45.29	256	P	P	15 34 54.9	-0.6
FORT				IAmb	IAmb	15 35 21.1	
	comp=Z,26nm,1.1s						
SBA	Scott Base	47.18	184	P	P	15 35 10.8	+1.2
SBA				IAmb	IAmb	15 36 13.8	
	comp=Z,39nm,1.8s						
SBA	Scott Base	47.18	184	P	P	15 35 10.8	+1.2
SBA				pmax	pmax		
	comp=Z,39nm,1.8s						
SBA	Scott Base	47.18	184	P	P	15 35 14.9	+5.3
SBA				pP	sP	15 35 40.4	+0.7
VNDA	Vanda	47.22	186	P	P	15 35 13.4	+3.5
VNDA	Vanda	47.22	186	P	P	15 35 13.4	+3.5
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
VNDA	Vanda	47.22	186	P	P	15 35 13.1	+3.1
	comp=Z,0.9nm,0.7s,baz=20,slow=5.6,SNR=5.4						
VNDA				LR	LR	15 52 06.3	
	comp=Z,38nm,20.0s,baz=173,slow=32						
	comp=Z,0.9nm,0.7s						
VNDA	Vanda	47.22	186	P	P	15 35 14.1	+4.2
VNDA				pP	sP	15 35 39.1	-0.9
MTN	Manton Dam	49.56	280	P	P	15 35 27.7	-1.0
MTN				IAmb	IAmb	15 35 35.2	
	comp=Z,21nm,1.3s						
KNRA	Kununurra	50.21	275	P	P	15 35 33.4	-0.2
KNRA				IAmb	IAmb	15 35 36.0	
	comp=Z,31nm,1.4s						
CCD	Concordia, Ant	52.01	196	P	P	15 35 48.6	+1.9
CCD				pP	sP	15 36 14.4	-2.9
CASY	Casey	54.15	208	P	P	15 36 02.1	0.0
CASY				IAmb	IAmb	15 38 03.7	
	comp=Z,6.3nm,0.6s						
CASY	Casey	54.15	208	P	P	15 36 01.9	-0.1
CASY				pP	sP	15 36 28.3	-4.6
PSA00	Pilbara Seismi	55.31	264	P	P	15 36 09.9	-1.3
PSA00				IAmb	IAmb	15 36 13.2	
	comp=Z,53nm,1.9s						
MORW	Morawa	55.76	254	P	P	15 36 14.5	+0.2
QSPA	South Pole Qui	58.89	180	P	P	15 36 39.4	+3.5
QSPA				IAmb	IAmb	15 36 42.2	
	comp=Z,10nm,0.7s						
QSPA	South Pole Qui	58.89	180	P	P	15 36 39.8	+3.9
QSPA				pP	sP	15 37 06.0	-0.3
QSPA				sP	PcP	15 37 17.8	-6.5
MMRI	Maumere	59.21	279	P	P	15 36 38.5	-0.1
MMRI				IAmb	IAmb	15 36 40.2	
	comp=Z,19nm,0.9s						
GIRL	Giralia	59.65	260	P	P	15 36 41.9	+0.3
RPN	Rapa Nui	59.77	105	LR	LR	15 57 30.3	
	comp=Z,26nm,19.4s,baz=112,slow=31						
MAW	Mawson	71.34	201	P	P	15 37 57.6	+1.4
	comp=Z,2.5nm,0.8s,baz=135,slow=5.7,SNR=3.0						
	comp=Z,2.5nm,0.8s						
JOW	Kunigami	76.80	313	P	P	15 38 28.4	-0.1
TROLL	Troll, Antarti	77.05	180	⇓P	P	15 38 31.5	+1.9
	comp=Z,347nm,0.7s						
SNAA	Sanae	77.35	179	P	P	15 38 32.7	+1.6
SNAA				IAmb	IAmb	15 38 36.4	
	comp=Z,25nm,1.8s						
SNAA	Sanae	77.35	179	⇓P	P	15 38 33.6	+2.5
SNAA	Sanae	77.35	179	*i* P	P	15 38 34.4	+3.3
SNAA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SNAA	Sanae	77.35	179	P	P	15 38 33.2	+2.0
	comp=Z,3.5nm,0.6s,baz=200,slow=3.6,SNR=23						
	comp=Z,3.5nm,0.6s						
VNA3	Neumayer Olymp	77.52	176	⇓P	P	15 38 33.8	+1.7
VNA2	Neumayer--Watz	77.95	177	⇓P	P	15 38 36.5	+2.1
	baz=178,slow=5.0						
VNA1	Neumayer--Stat	78.18	177	⇓P	P	15 38 40.0	+4.4
MJA0	Matsu Arr-Jizo	78.58	326	*e*P	P	15 38 38.1	-0.2
MJA0				pmax	pmax		
	comp=Z,4.0nm,1.2s						
MJAR	Matsushiro Arr	78.60	326	P	P	15 38 36.4	-2.0
	comp=Z,3.0nm,1.0s,baz=161,slow=5.6,SNR=5.4						
	comp=Z,3.0nm,1.0s						
H03S2	Juan Fernandez	80.48	124	T	T	17 08 08.2	
	baz=237,slow=74,SNR=5.9						
H03S1	Juan Fernandez	80.49	124	T	T	17 07 46.3	
	baz=237,slow=74,SNR=5.3						
H03S3	Juan Fernandez	80.50	124	T	T	17 08 03.7	
	baz=237,slow=74,SNR=4.9						
H03N3	Juan Fernandez	80.68	123	T	T	17 07 49.0	
	baz=241,slow=72,SNR=9.8						
H03N2	Juan Fernandez	80.68	123	T	T	17 07 52.0	
	baz=241,slow=72,SNR=9.6						

H03N1	Juan Fernandez	80.70	123	T	T	17 07 48.1	
	baz=241,slow=72,SNR=20						
PLCA	Paso Flores	82.36	133	*e*P	P	15 39 02.5	+3.7
PLCA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
PLCA	Paso Flores	82.36	133	P	P	15 39 00.1	+1.4
	comp=Z,3.0nm,1.1s,baz=217,slow=6.1,SNR=3.0						
	comp=Z,3.0nm,1.1s						
KIWB	Kanaga Island	82.73	1	P	P	15 39 00.0	0.0
ASAJ	Asahikawa	82.91	333	P	P	15 39 00.5	-0.6
	comp=Z,4.1nm,0.6s,baz=218,slow=5.9,SNR=8.5						
	comp=Z,4.1nm,0.6s						
KSRS	Korea Array	84.61	320	P	P	15 39 09.7	-0.3
	comp=Z,2.8nm,0.9s,baz=153,slow=5.7,SNR=8.1						
	comp=Z,2.8nm,0.9s						
KSAR	Wonju Array Be	84.62	320	P	P	15 39 07.9	-2.1
KSAR	Wonju Array Be	84.62	320	P	P	15 39 07.9	-2.1
YSS	Yuzh-Sakhalins	85.24	335	*e*P	P	15 39 13.8	+0.9
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GSI	Gunungsitoli	85.33	274	P	P	15 39 14.3	+0.1
MONP2	Monument Peak	86.73	48	P	P	15 39 22.8	+1.9
	baz=229						
IKP	In-Ko-Pah, Jac	86.78	49	P	P	15 39 22.3	+1.4
	baz=230						
EDW2	Edwards Air Fo	87.05	46	P	P	15 39 23.3	+1.1
	baz=228						
ISA	Isabella, Lake	87.28	45	P	P	15 39 24.7	+1.4
	baz=228						
USRK	Ussuriysk Ar.	87.53	327	P	P	15 39 23.3	-0.9
	comp=Z,4.5nm,0.9s,baz=86,slow=2.9,SNR=5.2						
	comp=Z,4.5nm,0.9s						
BELC	Belle Mtn. Jos	87.72	48	P	P	15 39 27.1	+1.6
	baz=230						
HEC	Hector,Ludlow	88.05	47	P	P	15 39 28.4	+1.4
	baz=229						
GSC	Goldstone, Bar	88.06	46	P	P	15 39 27.9	+0.9
	baz=229						
MPMC	Manual Prospec	88.14	45	P	P	15 39 28.7	+1.2
	baz=229						
IRM	Iron Mountain	88.36	48	P	P	15 39 30.0	+1.6
	baz=230						
GRAC	Grapevine Rang	88.83	45	P	P	15 39 31.4	+0.8
	baz=229						
NVAR	Mina Array Bea	89.22	43	P	P	15 39 32.9	+0.3
	comp=Z,1.7nm,0.7s,baz=225,slow=9.2,SNR=6.7						
	comp=Z,1.7nm,0.7s						
TUC	Tucson	90.07	52	P	P	15 39 38.8	+2.3
	baz=233						
Q17K	Contact Creek	91.17	12	P	P	15 39 42.4	+1.4
	baz=199						
KLR	Kul'dur	91.46	330*c*	*e*P	P	15 39 41.3	-1.2
KLR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KLR	Kul'dur	91.46	330	P	P	15 39 42.9	+0.4
	comp=Z,5.3nm,0.7s,baz=129,slow=2.4,SNR=15						
KLR				LR	LR	16 20 40.6	
	comp=Z,18nm,18.4s,baz=131,slow=35						
	comp=Z,5.3nm,0.7s						
N15K	Kwethluk River	92.33	9	P	P	15 39 47.9	+1.7
	baz=196						
M15K	Kasigluk River	92.76	9	P	P	15 39 49.3	+1.2
	baz=195						
O18K	Koktuh Hills	92.79	12	P	P	15 39 49.6	+1.2
	baz=200						
CMAR	Chiang Mai Arr	93.14	290	PP	PP	15 43 35.5	-0.1
	comp=Z,0.6nm,0.3s,baz=134,slow=7.7,SNR=4.6						
CMAR				LR	LR	16 24 58.6	
	comp=Z,14nm,18.5s,baz=340,slow=38						
L14K	Kuka Creek	93.15	8	P	P	15 39 51.5	+1.6
	baz=194						
M17K	Holitna River	93.89	10	P	P	15 39 55.5	+2.1
	baz=198						
MA2	Magadan	93.94	345	LR	LR	16 23 35.9	
	comp=Z,18nm,18.3s,baz=155,slow=36						
SEY	Seymchan	96.65	347	P	P	15 40 05.4	-0.5
	comp=Z,2.3nm,0.9s,baz=72,slow=20,SNR=1.7						
	comp=Z,2.3nm,0.9s						
PDAR	Pinedale Array	97.12	44	P	P	15 40 08.7	-0.2
	comp=Z,0.1nm,0.4s,baz=238,slow=6.2,SNR=1.8						
PDAR				PKKPbc	PKKPbc	15 56 48.6	-0.8
	comp=Z,0.3nm,0.6s,baz=95,slow=3.1,SNR=3.7						
	comp=Z,0.1nm,0.4s						
ILAR	Eielson Array	98.85	13	P	P	15 40 14.6	-1.2
	comp=Z,0.3nm,0.8s,baz=228,slow=5.1,SNR=1.8						
	comp=Z,0.3nm,0.8s						
BILL	Bilibino	99.60	354	*i* P	Pdif	15 40 17.5	-1.6
INK	Inuvik	104.72	16	PKiKP	PKiKP	15 44 56.8	0.0
	comp=Z,0.7nm,0.7s,baz=129,slow=7.4,SNR=2.2						
YKA	Yellowknife Ar	106.43	26	PKiKP	PKiKP	15 44 59.0	-1.1
	comp=Z,0.1nm,0.6s,baz=254,slow=2.0,SNR=2.6						
DGZ	Jazzator, Alta	115.48	314	*i* PKIKP	PKiKP	15 45 19.1	+1.2
DGZ				pmax	pmax		
	comp=Z,1.0nm,1.1s						
MK31	Makanchi Array	117.86	310		PKPdf	15 45 20.6	-1.7
MK31	Makanchi Array	117.86	310	*i* PKIKP	PKPdf	15 45 22.2	-0.2
MKAR	Makanchi Array	117.86	310	PKP	PKPdf	15 45 20.6	-1.7
	comp=Z,0.8nm,0.5s,baz=114,slow=3.5,SNR=17						
ZALV	Zalesovo Beam	118.27	318	*e*PKIKP	PKiKP	15 45 25.7	+2.8
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	Zalesovo Beam	118.27	318	PKP	PKiKP	15 45 23.3	+0.4
	comp=Z,0.9nm,0.6s,baz=111,slow=3.8,SNR=4.5						
KURK	Kurchatov	121.20	314		PKPdf	15 45 27.0	-1.6
KURK	Kurchatov	121.20	314*c*	*i*PKIKP	PKiKP	15 45 29.1	+0.4
KURK				pmax	pmax		
	comp=Z,15nm,2.5s						
KURBB	Kurchatov Arra	121.24	313	PKP	PKPdf	15 45 26.9	-1.7
	comp=Z,1.4nm,0.4s,baz=124,slow=2.0,SNR=7.0						
KK31	Karatay Array	125.05	303		PKPdf	15 45 35.4	-0.9
KK31	Karatay Array	125.05	303	PKIKP	PKPdf	15 45 35.4	-0.9
KKAR	Karatay Array	125.05	303		PKPdf	15 45 34.9	-1.4
KKAR	Karatay Array	125.05	303	PKIKP	PKPdf	15 45 34.9	-1.4
BVAR	Borovoye Array	126.59	315	PKP	PKPdf	15 45 37.5	-1.4
	comp=Z,2.1nm,0.5s,baz=140,slow=1.3,SNR=14						
BRVK	Borovoye	126.66	315*c*	*i*PKIKP	PKiKP	15 45 39.9	+0.4
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SPA0	Spitsbergen Ar	132.48	356	*e*PKPdf	PKiKP	15 45 50.5	0.0
SPITS	Spitsbergen Ar	132.48	356	PKP	PKPdf	15 45 48.0	-1.5
	comp=Z,7.4nm,0.7s,baz=72,slow=5.4,SNR=6.4						
ARU	Arti	133.36	320	*i* PKIKP	PKPdf	15 45 52.2	+0.6
ARU						15 48 16.3	
ARA0	ARCESS Array S	139.27	347	*e*PKPdf	PKPpre	15 45 56.5	
ARCES	ARCESS Array B	139.27	347	PKhKP	PKPpre	15 45 54.7	
	comp=Z,1.8nm,0.5s,baz=338,slow=2.6,SNR=18						
KTK1	Kautokeino	140.13	348	*e*PKPdf	PKPpre	15 45 56.9	
TRO	Tromso	140.27	350	*e*PKPdf	PKPdf	15 46 01.3	-2.7
BELG	Belogornoye	140.39	316	*i* PKIKP	PKPdf	15 46 05.1	+0.4
BELG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
STEI	Steigen	142.36	351	*e*PKPdf	PKPdf	15 46 05.1	-2.6
FAUS	Fauske	142.87	351	*e*PKPdf	PKPdf	15 46 05.6	-3.1
KONS	Konsvik	143.98	352	*e*PKPdf	PKPbc	15 46 09.1	+0.3
MOR8	Moi Rana	144.13	351	*e*PKPdf	PKPbc	15 46 09.6	+0.2
STOK	Stokkvaagen	144.15	352	*e*PKPdf	PKPbc	15 46 09.9	+0.6
VRH	Novokhopyorsk	144.24	316	*e*PKIKP	PKPab	15 46 08.3	-1.4
VRH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ONI	Oni	144.80	301		PKPab	15 46 11.8	-0.4
ONI	Oni	144.80	301	PKIKP	PKPab	15 46 11.8	-0.4
AKH	Akhalkalaki	144.85	299	PKPdf	PKPab	15 46 12.3	-0.3
AKH	Akhalkalaki	144.85	299	PKIKP	PKPab	15 46 12.3	-0.3
KBZ	Khabaz	145.09	303	*i* PKIKP	PKPbc	15 46 12.5	-0.5
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KBZ	Khabaz	145.09	303	PKP	PKPbc	15 46 12.8	-0.2
	comp=Z,5.6nm,0.6s,baz=179,slow=3.8,SNR=19						
KIV	Kislovodsk	145.21	303	*e*PKIKP	PKPab	15 46 15.6	+1.9
KIV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SHA1	Shidzhatmaz	145.26	303	*i* PKIKP	PKPbc	15 46 13.8	-0.1
LPSR	Galich'ya Gora	145.37	319	*e*PKP2	PKPdf	15 46 11.1	-2.4
LPSR				pmax	pmax		
	comp=Z,30nm,0.8s						
OBN	Obninsk	145.51	324		PKPdf	15 46 12.0	-1.7
OBN	Obninsk	145.51	324	*i* PKP2	PKPdf	15 46 12.0	-1.7
OBN				pmax	pmax		
	comp=Z,29nm,0.9s						
VORR	Voronezh	145.56	317	*e*PKP2	PKPdf	15 46 11.8	-2.1
VORR				pmax	pmax		
	comp=Z,30nm,0.4s						
SIRT	Sirnak	145.70	292		PKPdf	15 46 14.3	-0.5
FINES	FINESS Array B	145.72	339	PKPbc	PKPdf	15 46 12.7	-1.1
	comp=Z,18nm,0.5s,baz=50,slow=3.4,SNR=93						
VSR	Storozhevoye	145.75	317	*e*PKP2	PKPdf	15 46 11.7	-2.5
VSR				pmax	pmax		
	comp=Z,20nm,0.6s						
VORD	Divnogorie	145.77	316	*e*PKP2	PKPdf	15 46 12.8	-1.4
VORD				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NSS	Namsos	146.01	352	*e*PKPbc	PKPab	15 46 15.6	-0.3
GURO	Guroymak-BITLI	146.04	294	PKPbc	PKPbc	15 46 16.3	-0.1
MEF	Metsahovi	147.19	339	*e*P	PKPbc	15 46 19.1	+0.4
RAF	Rauma	147.30	342	*e*P	PKPbc	15 46 18.8	-0.2
MOL	Molde	148.38	355	*e*PKPbc	PKiKP	15 46 22.7	-0.7
DOMB	Dombas	148.76	353	*e*PKPbc	PKPbc	15 46 23.5	+0.6
AKN	Aaknes	148.81	355	*e*PKPbc	PKiKP	15 46 24.1	-0.3
ARPR	Arapgir-MALATY	148.92	295		PKPbc	15 46 23.8	-0.4
NC303	NORSAR Array S	149.27	351		PKPbc	15 46 24.6	+0.5
UPP	Uppsala	149.35	344	*e*P	PKPbc	15 46 24.4	0.0
NB2	NORSAR Subarra	149.47	351	PKP	PKPbc	15 46 25.1	+0.4
	comp=Z,3.2nm,0.5s,baz=17,slow=2.6						
NB2	NORSAR Subarra	149.47	351	PKP	PKPbc	15 46 25.1	+0.4
	baz=17,slow=2.6						
NOA	NORSAR Array B	149.47	351	PKPbc	PKPbc	15 46 22.7	-2.0
	comp=Z,2.0nm,0.6s,baz=49,slow=1.8,SNR=26						
FOO	Floro	149.52	357	*e*PKPbc	PKiKP	15 46 25.8	+0.1
NC602	NORSAR Array S	149.72	350		PKPbc	15 46 25.7	+0.4
NC602	NORSAR Array S	149.72	350	*e*PKPbc	PKPbc	15 46 25.7	+0.4
HYA	Hoyanger	149.88	355	*e*PKPbc	PKiKP	15 46 26.2	-0.3
HFS	Hagfors	149.93	348	PKPbc	PKPbc	15 46 24.5	-1.3
	comp=Z,8.4nm,0.5s,baz=108,slow=4.8,SNR=48						
IDID	Didziasalis	149.95	331	*e*P	PKiKP	15 46 26.6	-0.3
MNK	Minsk	150.00	329	*i* PKP	PKPbc	15 46 24.6	-1.6
	comp=E,12nm,1.0s						
MNK				*i* PKP	PKPbc	15 46 24.6	-1.6
	comp=N,8.0nm,0.8s						
MNK				*i* PKP	PKPbc	15 46 24.6	-1.6
	comp=Z,27nm,0.9s,baz=230						
MNK				*i* PP	PP	15 50 02.6	+1.6
MNK				*i* SKS	SKSdf	15 53 30.0	+9.1
MNK				*i* SKKS	SKKSdf	16 02 24.4	+9.1
MNK				*i* SS	SS	16 09 15.8	+5.3
MNK				*i* SSS	SSS	16 14 55.0	
MNK				*i* LQ	LQ	16 45 54.6	
MNK				*i* LR	LR	16 50 40.3	
MNK				*i* LRM	MLR	16 52 34.4	
	comp=Z,44nm,14.2s						
MNK				*i* LRM	MLR	16 52 47.9	
	comp=N,85nm,19.3s						
MNK				*i* LRM	MLR	16 53 14.9	
	comp=E,48nm,23.2s						
MNK	Minsk	150.00	329	*i* PKHKP	PKPpre	15 46 24.5	
MNK				*i*		15 50 02.6	
MNK				*i*		15 53 30.0	
MNK				*i* SS	SS	16 09 15.7	+5.2
MNK				*i* SSS	SSS	16 14 54.9	
MNK				pmax	pmax		
	comp=E,12nm,1.0s						
MNK				pmax	pmax		
	comp=Z,27nm,0.9s						
MNK				pmax	pmax		
	comp=N,8.0nm,0.8s						
MNK				MLR	MLR		
	comp=Z,44nm,14.0s						
MNK				MLR	MLR		
	comp=N,85nm,19.0s						
MNK				MLR	MLR		
	comp=E,48nm,23.0s						
SUE	Sulen	150.07	357	*e*PKPbc	PKiKP	15 46 26.9	0.0
SKAR	Skarslia	150.18	353	*e*PKPbc	PKiKP	15 46 27.4	+0.1
OSL	Oslo	150.60	350	*e*PKPbc	PKiKP	15 46 28.3	+0.3
ASK	Askoy	150.62	356	*e*PKPbc	PKiKP	15 46 27.9	-0.1
BER	Bergen	150.71	356	*e*PKPbc	PKiKP	15 46 28.8	+0.5
VIKU	Vikbolandet	150.78	343	*e*P	PKiKP	15 46 28.5	0.0
BNN	Bunyan	150.87	295		PKPbc	15 46 27.5	-1.4
PABE	Paberze	150.94	333	*e*P	PKPbc	15 46 27.4	-0.9
KONO	Kongsberg	151.03	351	*e*PKPbc	PKiKP	15 46 29.3	+0.4
ODD1	Odda	151.09	354	*e*PKPbc	PKiKP	15 46 29.7	+0.6
MMAI	Mount Meron Ar	151.17	283	PKPbc	PKPbc	15 46 29.7	0.0
	comp=E,4.4nm,0.4s,baz=81,slow=5.4,SNR=19						
BLS5	Blasjo	151.59	355	*e*PKPbc	PKiKP	15 46 31.0	+0.9
AKASG	Malin Array Be	151.60	321	PKPbc	PKPbc	15 46 28.6	-1.3
	comp=E,7.0nm,0.7s,baz=47,slow=2.7,SNR=14						
AKASG				PKPab	PKPab	15 46 37.9	-1.0
	comp=E,2.8nm,0.6s,baz=45,slow=4.2,SNR=7.2						
KIEV	Kiev	151.61	321		PKPbc	15 46 29.4	-0.6
KIEV	Kiev	151.61	321	PKIKP	PKPbc	15 46 29.4	-0.6
KMY	Karmoy	151.88	356	*e*PKPbc	PKiKP	15 46 31.3	+0.6
SUW	Suwalki	152.34	332	*e*P	PKiKP	15 46 32.3	+0.5
BRTR	Keskin Array B	152.48	297		PKPbc	15 46 32.1	-0.5
BRTR	Keskin Array B	152.48	297	PKIKP	PKPbc	15 46 32.1	-0.5
BRTR	Keskin Array B	152.48	297	PKPbc	PKPbc	15 46 31.1	-1.4
	comp=E,3.4nm,0.5s,baz=140,slow=4.4,SNR=17						
BRTR				PKPab	PKPab	15 46 42.2	-1.0
	comp=E,2.5nm,0.8s,baz=74,slow=5.3,SNR=4.8						
HOMB	Homborsund	152.51	352	*e*PKPbc	PKiKP	15 46 32.9	+0.9
SNART	Snartemo	152.59	353	*e*PKPbc	PKiKP	15 46 33.0	+0.8
ANTO	Ankara	153.10	297		PKPbc	15 46 33.7	-0.2
ANTO	Ankara	153.10	297	PKIKP	PKPbc	15 46 33.7	-0.2
BSD	Bornholm Skovb	154.24	342	*e*P	PKiKP	15 46 37.0	+1.3
BUR08	Bucovina Ar. S	155.48	319		PKPab	15 46 55.0	-0.6
EKA	Eskdalemuir Ar	155.69	6	PKPbc	PKPdf	15 46 37.9	+8.5
	comp=E,0.6nm,0.6s,baz=2.9,slow=1.4,SNR=3.6						
EKA				PKPab	PKPab	15 46 54.9	-1.1
	comp=E,1.4nm,0.7s,baz=337,slow=3.5,SNR=2.7						
OSTC	Ostas	157.73	334	*e*PKPAB	PKPab	15 47 05.9	+0.8
CHVC	Chvalec	157.76	335	*e*PKPAB	PKPab	15 47 05.3	+0.1
UPC	Upice	157.84	335	*e*PKPAB	PKPab	15 47 05.5	0.0
DPC	Dobruska-Polom	157.86	334	*e*PKPAB	PKPab	15 47 05.5	-0.2
CLL	Collm	158.15	340	*i* PKPab	PKPab	15 47 07.0	+0.2
	comp=Z,6.0nm,0.6s						
BRG	Berggiesshubel	158.25	338	*e*P	PKPab	15 47 07.9	+0.7
BRG				Amp		15 47 09.6	
	comp=Z,3.3nm,0.6s						
NKC	Novy Kostel	159.27	340	*e*PKPAB	PKPab	15 47 11.9	+0.2
NKC	Novy Kostel	159.27	340	*e*PKP2	PKPab	15 47 11.9	+0.2
ZVC	Zvikov	159.39	336	*e*PKPAB	PKPab	15 47 12.3	+0.1
CKRC	Cesky Krumlov	159.86	334	*e*PKPAB	PKPab	15 47 13.6	-0.8
CKRC	Cesky Krumlov	159.86	334	*e*PKP2	PKPab	15 47 13.6	-0.8
KHC	Kasperske Hory	159.86	336		PKPab	15 47 14.4	0.0
KHC	Kasperske Hory	159.86	336	*e*PKPAB	PKPab	15 47 14.6	+0.2
KHC	Kasperske Hory	159.86	336	PKP2	PKPab	15 47 14.4	0.0
RONA	Rosalia, Austr	159.96	329	*i* PKP	PKPab	15 47 14.6	-0.2
	comp=Z,3.0nm,0.7s						
CONA	Conrad Observa	159.97	331	*e*PKP	PKPab	15 47 15.4	+0.4
	comp=Z,3.1nm,0.7s						
GERES	GERESS Array B	160.06	336	PKPab	PKPab	15 47 14.9	-0.5
	comp=Z,3.2nm,0.8s,baz=22,slow=5.6,SNR=3.9						
LESA	Schwarzleotal	161.63	335	*e*PKP	PKPab	15 47 22.7	+0.5
	comp=Z,1.9nm,0.6s						
OBKA	Obir	161.63	330	*i* PKP	PKPab	15 47 21.9	-0.3
	comp=Z,1.4nm,0.5s						
MYKA	Terra Mystica	161.92	332	*i* PKP	PKPab	15 47 22.8	-0.7
	comp=Z,2.4nm,0.5s						
TORD	Torodi Ar. Bea	162.01	181		PKPab	15 47 25.5	+1.0
TORD	Torodi Ar. Bea	162.01	181	PKP	PKPdf	15 46 38.6	+0.5
	comp=Z,0.6nm,0.6s,baz=356,slow=2.5,SNR=4.3						
TORD				PKPab	PKPab	15 47 24.3	-0.1
	comp=Z,2.0nm,0.8s,baz=160,slow=2.7,SNR=7.6						
WATA	Walderalm	162.09	337	*i* PKP	PKPab	15 47 24.2	-0.1
	comp=Z,2.4nm,0.6s						
WTTA	Wattenberg	162.13	337	*i* PKP	PKPab	15 47 24.5	0.0
	comp=Z,1.7nm,0.5s						
MOTA	Moosalm	162.24	338	*i* PKP	PKPab	15 47 24.6	-0.4
	comp=Z,2.0nm,0.5s						
SQTA	Sankt Quirin	162.31	337	*i* PKP	PKPab	15 47 25.3	+0.1
	comp=Z,2.0nm,0.4s						
FETA	Feichten	162.65	338	*i* PKP	PKPab	15 47 26.9	+0.1
	comp=Z,1.2nm,0.5s						
DAVA	Damuels	162.67	340	*i* PKP	PKPab	15 47 26.6	-0.2
	comp=Z,3.4nm,0.6s						
FUORN	Ofenpass-Fuorn	163.15	338		PKPab	15 47 28.8	-0.3
ESDC	Sonseca Array	170.52	26	PKP	PKPdf	15 46 44.0	-0.2
	comp=Z,1.1nm,0.9s,baz=336,slow=3.5,SNR=7.4						
ESDC				PKPab	PKPab	15 48 00.8	-0.8
	comp=Z,0.7nm,0.9s,baz=314,slow=4.3,SNR=2.8						

MOS ***03*** *15:37:44.2±1.1, 48°.18N×154°.79E, h12km, mb4.5/7, Error ellipse: s-maj=13.2km s-min=4.5km az=73.2*
SKHL ***03*** *15:37:47.7±0.2, 48°.00N×155°.30E, h55km±4km, mb4.7/7*
KRSC ***03*** *15:37:48.4±1.4, 48°.29N×156°.33E, h8km±30km, Ml4.4*
IDC ***03*** *15:37:51.6±2.3, 48°.31N×154°.69E, h56km±19km, mb3.6/19, mbtmp3.9/24, ML3.3/5, MS3.2/6, Error ellipse: s-maj=19.7km s-min=10.8km az=134.0*
NEIC ***03*** *15:37:52.1±2.0, 48°.4N±0°.1×154°.7E±0°.2, h56km±7km, mb4.4/48, Error ellipse: s-maj=21.5km s-min=10.7km*

az=133.0

ISC 03 15:37:50.2±0.5**, 48°.23N**±0°.07×**154°.92E**±0°.07**, h50km, n173,** σ1s.22/181**, mb4.2**/47**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.58	17	*e*P	Pn	15 38 28.3	-1.1
SKR				*e*S	Sn	15 38 58.6	-0.9
SKR	Severo-Kuril's	2.58	17	*e*P	Pn	15 38 28.9	-0.5
SKR				AMB	AMB	15 38 35.1	
	110nm,0.5s						
SKR				*e*S	Sn	15 38 59.7	+0.2
SKR				A	A	15 39 09.9	
	200nm,0.5s						
SKR				A	A	15 39 09.9	
	240nm,0.5s						
SKR	Severo-Kuril's	2.58	17	*e*PN	Pn	15 38 28.8	-0.6
SKR				*e*S	Sn	15 38 58.9	-0.6
SKR				pmax	pmax		
	comp=Z,238nm,0.9s						
SKR				smax	smax		
	comp=N,318nm,0.6s						
SKR				smax	smax		
	comp=E,340nm,0.7s						
SKR				MLR	MLR		
	comp=Z,700nm,12.0s						
PAU	Pauzhetka	3.46	20	*e*P	Pn	15 38 43.2	+1.6
PAU				*e*S	Sn	15 39 21.7	+0.4
PAU	Pauzhetka	3.46	20	*e*P	Pn	15 38 42.3	+0.7
PAU				AMB	AMB	15 38 45.5	
	comp=Z,40nm,0.4s						
PAU				*e*S	Sn	15 39 23.4	+2.1
PAU				A	A	15 39 33.6	
	comp=Z,220nm,0.4s						
PAU				A	A	15 39 33.6	
	comp=Z,160nm,0.4s						
PAU	Pauzhetka	3.46	20	PN	Pn	15 38 43.2	+1.6
PAU				S	Sn	15 39 21.7	+0.4
KDTR	Khodutka, Kamc	4.12	28	*e*P	Pn	15 38 48.9	-1.7
KDTR				*e*S	Sn	15 39 33.4	-4.0
KDTR	Khodutka, Kamc	4.12	28	PN	Pn	15 38 48.9	-1.7
ASAK	Asacha	4.58	24	*e*P	Pn	15 38 57.1	+0.2
ASAK	Asacha	4.58	24	PN	Pn	15 38 57.1	+0.2
MTVR	Mutnovka	4.74	25	*e*P	Pn	15 38 58.5	-0.8
MTVR				*e*S	Sn	15 39 51.8	-1.2
MTVR	Mutnovka	4.74	25	PN	Pn	15 38 58.5	-0.8
GRL	Gorelyy	4.78	24	*e*P	Pn	15 38 59.6	-0.1
GRL				*e*S	Sn	15 39 52.4	-1.4
GRL	Gorelyy	4.78	24	PN	Pn	15 38 59.6	-0.1
APC	Apacha	4.91	16	*e*P	Pn	15 39 02.6	+1.2
APC	Apacha	4.91	16	PN	Pn	15 39 02.6	+1.2
KRMR	Karymshinskiy	5.04	23	*e*P	Pn	15 39 03.5	+0.3
KRMR	Karymshinskiy	5.04	23	PN	Pn	15 39 03.5	+0.3
PEA0B	Petropavlovsk-	5.20	19	Pn	Pn	15 39 05.6	+0.3
PEA0B	Petropavlovsk-	5.20	19	PN	Pn	15 39 05.6	+0.3
PETK	Petropavlovsk-	5.20	19	Pn	Pn	15 39 04.7	-0.7
PETK	Petropavlovsk-	5.20	19	P	Pn	15 39 05.5	+0.2
	comp=Z,2.1nm,0.3s,baz=179,slow=13,SNR=35						
PETK				S	Sn	15 40 05.2	+1.3
	comp=Z,2.2nm,0.5s,baz=220,slow=11,SNR=0.7						
PETK				LR	LR	15 41 18.0	
	comp=Z,196nm,19.1s,baz=173,slow=40						
	comp=Z,17nm,0.7s						
PET	Petropavlovsk	5.36	25	Pn	Pn	15 39 05.6	-1.9
PET	Petropavlovsk	5.36	25	*e*S	Sn	15 40 05.6	-2.2
PET	Petropavlovsk	5.36	25	*e*P	Pn	15 39 05.6	-1.9
PET	Petropavlovsk	5.36	25	PN	Pn	15 39 05.6	-1.9
INSR	Institute	5.38	24	*e*S	Sn	15 40 06.3	-2.1
DALK	Dalny	5.39	25	*e*P	Pn	15 39 06.9	-1.1
DALK				*e*S	Sn	15 40 06.7	-1.9
DALK	Dalny	5.39	25	PN	Pn	15 39 06.9	-1.1
UGLR	Uglovaya	5.57	25	*e*P	Pn	15 39 11.8	+1.3
UGLR	Uglovaya	5.57	25	PN	Pn	15 39 11.8	+1.3
KOK	Koryaka	5.59	24	*e*P	Pn	15 39 11.2	+0.4
KOK	Koryaka	5.59	24	*e*P	Pn	15 39 11.2	+0.4
KOK	Koryaka	5.59	24	PN	Pn	15 39 11.2	+0.4
AVH	Avacha	5.59	24	*e*P	Pn	15 39 11.8	+0.9
AVH	Avacha	5.59	24	*e*P	Pn	15 39 11.8	+0.9
AVH	Avacha	5.59	24	PN	Pn	15 39 11.8	+0.9
SMAR	Somma	5.61	25	*e*P	Pn	15 39 12.1	+0.9
SMAR	Somma	5.61	25	PN	Pn	15 39 12.1	+0.9
KRX	Arik	5.65	23	*e*P	Pn	15 39 11.6	-0.1
KRX				*e*S	Sn	15 40 14.6	-0.8
KRX	Arik	5.65	23	PN	Pn	15 39 11.6	-0.1
KUR	Kuril'sk	5.70	241	*e*P	Pn	15 39 12.7	+0.5
KUR				AMB	AMB	15 39 16.4	
	comp=Z,110nm,0.6s						
KUR				*e*S	Sn	15 40 16.5	+0.3
KUR				A	A	15 40 26.6	
	comp=Z,80nm,0.5s						
KUR				A	A	15 40 26.6	
	comp=Z,100nm,0.5s						
KUR	Kuril'sk	5.70	241	*e*PN	Pn	15 39 12.7	+0.5
KUR				*e*S	Sn	15 40 16.6	+0.3
KUR				pmax	pmax		
	comp=Z,106nm,0.6s						
KUR				pmax	pmax		
	comp=N,24nm,0.4s						
KUR				smax	smax		
	comp=N,105nm,0.9s						
KUR				smax	smax		
	comp=E,48nm,0.5s						
SPN	Mys Shipunski	5.86	32	*e*P	Pn	15 39 12.5	-1.8
SPN				*e*S	Sn	15 40 15.0	-5.1
SPN	Mys Shipunski	5.86	32	PN	Pn	15 39 12.5	-1.8
SHO	Shikotan	7.12	235	*e*P	Pn	15 39 30.8	-0.9
SHO				AMB	AMB	15 39 33.7	
	comp=E,10.0nm,0.3s						
SHO				*e*S	Sn	15 40 47.4	-3.7
SHO				A	A	15 40 53.4	
	comp=E,20nm,0.4s						
SHO				A	A	15 40 53.4	
	comp=E,20nm,0.4s						
YUK	Yuzh-Kuril'sk	7.56	240	*e*P	Pn	15 39 37.6	-0.1
YUK				AMB	AMB	15 39 39.9	
	comp=E,30nm,0.4s						
YUK				*e*S	Sn	15 41 00.4	-1.6
YSS	Yuzh-Sakhalins	8.32	266	*e*P	Pn	15 39 48.9	+0.8
YSS				AMB	AMB	15 39 50.7	
	comp=E,20nm,0.7s						
YSS				*e*S	Sn	15 41 20.3	-0.3
YSS				A	A	15 41 24.6	
	comp=E,20nm,0.7s						
YSS	Yuzh-Sakhalins	8.32	266	*e*PN	Pn	15 39 47.7	-0.4
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
JKA	Kamikawa-asahi	9.48	249	Pn	Pn	15 40 05.4	+1.3
JKA	Kamikawa-asahi	9.48	249	*e*P	Pn	15 40 05.8	+1.7
ASAJ	Asahikawa	9.48	249	P	Pn	15 40 05.8	+1.7
	comp=Z,1.1nm,0.3s,baz=58,slow=11,SNR=10						
ASAJ				S	Sn	15 41 47.8	-1.4
	comp=Z,12nm,1.0s,baz=351,slow=5.1,SNR=2.0						
ASAJ				LR	LR	15 43 21.0	
	comp=Z,66nm,21.2s,baz=38,slow=35						
	comp=Z,8.6nm,0.7s						
ERM	Erimo	10.37	238	Pn	Pn	15 40 15.6	-0.6
ERM	Erimo	10.37	238	PN	Pn	15 40 15.6	-0.6
MA2	Magadan	11.62	349	LR	LR	15 45 32.7	
	comp=Z,68nm,18.8s,baz=117,slow=40						
SEY	Seymchan	14.80	355	P	Pn	15 41 16.6	+0.4
	comp=Z,0.1nm,0.3s,baz=45,slow=22,SNR=1.5						
	comp=Z,1.0nm,0.5s						
KLR	Kul'dur	15.31	282	P	P	15 41 25.3	-1.5
	comp=Z,0.4nm,0.3s,baz=304,slow=20,SNR=1.6						
KLR				LR	LR	15 47 52.4	
	comp=Z,71nm,19.5s,baz=64,slow=40						
USRK	Ussuriysk Ar.	16.36	264	P	P	15 41 38.7	+0.3
USRK	Ussuriysk Ar.	16.36	264	P	P	15 41 38.7	+0.3
USRK	Ussuriysk Ar.	16.36	264	P	Pn	15 41 36.2	0.0
	comp=Z,0.2nm,0.3s,baz=58,slow=15,SNR=5.0						
	comp=Z,1.6nm,0.6s						
MJAR	Matsushiro Arr	16.95	233	P	Pn	15 41 43.1	-0.6
	baz=36,slow=9.8,SNR=1.6						
	comp=Z,1.1nm,0.6s						
JHS	Saijyo	20.89	239	P	Pn	15 42 30.1	-1.1
KSRS	Korea Array	22.42	251	P	P	15 42 44.9	+0.3
	comp=Z,3.2nm,1.0s,baz=48,slow=10.0,SNR=8.2						
	comp=Z,3.2nm,1.0s						
KSAR	Wonju Array Be	22.45	251	P	P	15 42 44.1	-0.8
KSAR	Wonju Array Be	22.45	251	P	P	15 42 44.1	-0.8
JTU	Tsushima	23.40	244	P	P	15 42 56.4	+1.8
JTU				IAmb	IAmb	15 43 37.5	
	comp=Z,17nm,1.1s						

F17K	**Baldwin Pennin**	**28.98**	**35**	P	**P**	**15 43 46.1**	**+1.5**
F17K				IAmb	IAmb	15 44 09.0	
	comp=Z,14nm,1.5s						
G18K	**Tagagawik**	**29.86**	**37**	P	**P**	**15 43 53.2**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**30.04**	**157**	T	T	16 15 36.5	
	baz=344,slow=76,SNR=36						
H11N1	**WAKE ISLAND Hy**	**30.05**	**157**	T	T	16 15 39.1	
	baz=344,slow=76,SNR=86						
H11N3	**WAKE ISLAND Hy**	**30.05**	**157**	T	T	16 15 39.3	
	baz=344,slow=76,SNR=30						
TTA	**Tatalina**	**30.50**	**43**	P	**P**	**15 43 58.9**	**+0.6**
TTA				IAmb	IAmb	15 44 34.1	
	comp=Z,8.7nm,1.5s						
TTA	**Tatalina**	**30.50**	**43**	P	**P**	**15 43 58.9**	**+0.6**
TTA				pmax	pmax		
	comp=Z,9.0nm,1.5s						
SVW2	**Sparrevohn**	**30.58**	**47**	P	**P**	**15 44 00.4**	**+1.5**
SVW2				IAmb	IAmb	15 44 09.4	
	comp=Z,9.1nm,1.2s						
H19K	**Roundabout Mou**	**30.68**	**38**	P	**P**	**15 44 01.1**	**+1.5**
H19K				IAmb	IAmb	15 44 17.1	
	comp=Z,7.1nm,1.2s						
E19K	**Redstone River**	**30.79**	**34**	P	**P**	**15 44 01.2**	**+0.6**
J19K	**Poorman**	**30.79**	**41**	P	**P**	**15 44 01.3**	**+0.6**
J19K				IAmb	IAmb	15 44 30.4	
	comp=Z,8.1nm,1.5s						
H11S1	**WAKE ISLAND Hy**	**31.16**	**158**	T	T	16 16 57.7	
	baz=344,slow=76,SNR=346						
H11S3	**WAKE ISLAND Hy**	**31.17**	**158**	T	T	16 16 59.8	
	baz=344,slow=76,SNR=399						
H11S2	**WAKE ISLAND Hy**	**31.18**	**158**	T	T	16 17 03.4	
	baz=344,slow=76,SNR=281						
B20K	**Meade River**	**31.53**	**29**	P	**P**	**15 44 08.3**	**+1.2**
H21K	**Melozitna Rive**	**32.19**	**38**	P	**P**	**15 44 14.2**	**+1.2**
H21K				IAmb	IAmb	15 44 41.4	
	comp=Z,8.2nm,1.4s						
B21K	**Ikpikpuk River**	**32.27**	**30**	P	**P**	**15 44 14.8**	**+1.2**
D22K	**Ayikyak River**	**32.77**	**32**	P	**P**	**15 44 19.1**	**+1.1**
E22K	**Anaktuvuk Pass**	**32.94**	**34**	P	**P**	**15 44 20.5**	**+0.9**
C23K	**Itkillik River**	**33.68**	**31**	P	**P**	**15 44 26.6**	**+0.7**
C23K				IAmb	IAmb	15 44 33.4	
	comp=Z,8.7nm,1.3s						
NEA2	**Nenana**	**33.69**	**40**	P	**P**	**15 44 27.0**	**+1.0**
NEA2				IAmb	IAmb	15 44 32.8	
	comp=Z,8.5nm,1.4s						
TOLK	**Toolik Lake Re**	**33.84**	**33**	P	**P**	**15 44 28.4**	**+1.1**
TOLK				IAmb	IAmb	15 44 33.1	
	comp=Z,12nm,1.5s						
MDM	**Murphy Dome**	**34.06**	**40**	P	**P**	**15 44 30.9**	**+1.7**
MDM				IAmb	IAmb	15 44 50.1	
	comp=Z,5.5nm,1.3s						
E24K	**Your Creek**	**34.17**	**34**	P	**P**	**15 44 31.4**	**+1.2**
F24K	**Squaw Lake**	**34.34**	**35**	P	**P**	**15 44 32.4**	**+0.7**
G24K	**Hadweenzic Riv**	**34.44**	**36**	P	**P**	**15 44 34.3**	**+1.8**
G24K				IAmb	IAmb	15 44 46.3	
	comp=Z,8.7nm,1.4s						
ILAR	**Eielson Array**	**34.63**	**40**	P	**P**	**15 44 36.5**	**+2.3**
ILAR	**Eielson Array**	**34.63**	**40**	P	**P**	**15 44 35.4**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=318,slow=33,SNR=4.3						
	comp=Z,0.4nm,0.8s						
D25K	**Kavik River**	**35.07**	**32**	P	**P**	**15 44 39.4**	**+1.4**
D25K				IAmb	IAmb	15 44 49.2	
	comp=Z,3.8nm,0.7s						
E25K	**Arctic Village**	**35.26**	**34**	P	**P**	**15 44 40.1**	**+0.5**
E25K				IAmb	IAmb	15 44 52.9	
	comp=Z,5.5nm,1.5s						
BMAR	**Burnt Mountain**	**35.61**	**35**	P	**P**	**15 44 44.5**	**+1.9**
K27K	**Chicken**	**36.75**	**41**	P	**P**	**15 44 53.5**	**+1.1**
K27K				IAmb	IAmb	15 45 04.5	
	comp=Z,6.7nm,1.4s						
D27M	**Malcolm River**	**36.99**	**32**	P	**P**	**15 44 54.7**	**+0.3**
D27M				IAmb	IAmb	15 45 06.2	
	comp=Z,4.1nm,1.3s						
INK	**Inuvik**	**39.74**	**33**	P	**P**	**15 45 18.7**	**+1.3**
INK	**Inuvik**	**39.74**	**33**	P	**P**	**15 45 18.7**	**+1.3**
INK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
INK	**Inuvik**	**39.74**	**33**	P	**P**	**15 45 18.8**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=298,slow=8.2,SNR=3.7						
	comp=Z,0.9nm,0.6s						
P33M	**Teslin, Yukon**	**41.76**	**46**	P	**P**	**15 45 34.0**	**-0.2**
P33M				IAmb	IAmb	15 45 52.5	
	comp=Z,6.6nm,1.4s						
ZALV	**Zalesovo Beam**	**42.75**	**305**	P	**P**	**15 45 41.0**	**-1.2**
ZALV	**Zalesovo Beam**	**42.75**	**305**	P	**P**	**15 45 41.2**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=62,slow=6.6,SNR=2.7						
ZALV				PcP	**PcP**	**15 47 33.6**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=56,slow=2.6,SNR=2.8						
	comp=Z,0.6nm,0.5s						
C36M	**Paulatuk**	**42.92**	**31**	P	**P**	**15 45 44.1**	**+0.7**
MK31	**Makanchi Array**	**47.35**	**297**	P	**P**	**15 46 17.2**	**-1.8**
MK31	**Makanchi Array**	**47.35**	**297**	P	**P**	**15 46 17.2**	**-1.8**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**47.35**	**297**	P	**P**	**15 46 17.2**	**-1.7**
MKAR	**Makanchi Array**	**47.35**	**297**	P	**P**	**15 46 17.5**	**-1.5**
	comp=Z,1.6nm,0.7s,baz=69,slow=7.6,SNR=11						
	comp=Z,1.6nm,0.7s						
MAKZ	**Makanchi**	**47.53**	**297**	P	**P**	**15 46 18.4**	**-2.0**
MAKZ				IAmb	IAmb	15 46 20.0	
	comp=Z,4.1nm,1.4s						
MAKZ	**Makanchi**	**47.53**	**297**	P	**P**	**15 46 18.4**	**-2.0**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.4s						
KURK	**Kurchatov**	**47.57**	**303**	P	**P**	**15 46 18.8**	**-1.7**
KURK				IAmb	IAmb	15 46 20.4	
	comp=Z,3.5nm,0.7s						
KURK	**Kurchatov**	**47.57**	**303**	P	**P**	**15 46 18.8**	**-1.7**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURBB	**Kurchatov Arra**	**47.66**	**303**	P	**P**	**15 46 20.5**	**-0.8**
	comp=Z,2.7nm,0.5s,baz=67,slow=8.3,SNR=10						
	comp=Z,2.7nm,0.5s						
YKA	**Yellowknife Ar**	**49.01**	**38**	P	**P**	**15 46 32.5**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=296,slow=7.5,SNR=7.3						
	comp=Z,0.8nm,0.8s						
BVAR	**Borovoye Array**	**50.87**	**309**	P	**P**	**15 46 44.8**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=56,slow=7.6,SNR=4.3						
BVAR				PcP	**PcP**	**15 48 02.0**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=58,slow=3.6,SNR=2.3						
	comp=Z,0.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**53.90**	**257**	P	**P**	**15 47 08.2**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=36,slow=7.6,SNR=6.9						
	comp=Z,1.0nm,0.7s						
JIRN	**Jiri**	**56.04**	**275**	eP	**P**	**15 47 24.9**	**+0.5**
	comp=Z,3.0nm,0.3s						
GUN	**Gumba**	**56.09**	**275**	eP	**P**	**15 47 24.9**	**+0.2**
	comp=Z,5.1nm,0.4s						
RAMN	**Ramite**	**56.24**	**274**	eP	**P**	**15 47 26.0**	**+0.3**
	comp=Z,6.0nm,0.4s						
PKI	**Pulchoki**	**56.62**	**275**	eP	**P**	**15 47 28.9**	**+0.4**
	comp=Z,3.6nm,0.5s						
DMN	**Daman**	**56.80**	**276**	eP	**P**	**15 47 30.0**	**+0.3**
	comp=Z,7.7nm,0.4s						
GKN	**Gorkha**	**56.85**	**276**	eP	**P**	**15 47 29.9**	**0.0**
	comp=Z,7.7nm,0.4s						
DANN	**Dangsing**	**57.21**	**277**	eP	**P**	**15 47 32.8**	**+0.2**
	comp=Z,12nm,0.6s						
PYUN	**Piuthan**	**57.88**	**277**	eP	**P**	**15 47 37.2**	**0.0**
ABKAR	**Akbulak array**	**58.41**	**310**	P	**P**	**15 47 39.3**	**-1.1**
SUMG	**Summit**	**59.13**	**5**	P	**P**	**15 47 45.0**	**-0.5**
SUMG	**Summit**	**59.13**	**5**	P	**P**	**15 47 45.0**	**-0.5**
SUMG				pmax	pmax		
	comp=Z,14nm,1.4s						
FCC	**Fort Churchill**	**59.35**	**34**	P	**P**	**15 47 47.3**	**+0.6**
FCC	**Fort Churchill**	**59.35**	**34**	P	**P**	**15 47 47.3**	**+0.6**
FCC				pmax	pmax		
	comp=Z,11nm,1.5s						
BELG	**Belogornoye**	**62.24**	**319**	LR	LR	16 16 41.7	
	comp=Z,38nm,19.5s,baz=117,slow=38						
RWWY	**Rawlins**	**64.91**	**55**	P	**P**	**15 48 25.5**	**+0.9**
GEYT	**Alibeck**	**66.89**	**301**	LR	LR	16 20 44.6	
	comp=Z,45nm,18.6s,baz=28,slow=39						
HFS	**Hagfors**	**67.49**	**340**	P	**P**	**15 48 40.9**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=42,slow=2.3,SNR=1.2						
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**70.32**	**201**	P	**P**	**15 48 58.5**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=16,slow=6.5,SNR=6.4						
	comp=Z,0.9nm,0.8s						
KBZ	**Khabaz**	**70.70**	**315**	P	**P**	**15 49 01.6**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=265,slow=23,SNR=1.0						
	comp=Z,1.1nm,0.9s						
AKASG	**Malin Array Be**	**70.98**	**327**	P	**P**	**15 49 01.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=31,slow=5.5,SNR=2.5						
	comp=Z,0.2nm,0.3s						
AS31	**Alice Springs**	**74.01**	**200**	P	**P**	**15 49 21.4**	**+1.0**
ASAR	**Alice Springs**	**74.01**	**200**	P	**P**	**15 49 21.6**	**+1.2**
ASAR	**Alice Springs**	**74.01**	**200**	P	**P**	**15 49 21.6**	**+1.2**
ASAR	**Alice Springs**	**74.01**	**200**	P	**P**	**15 49 21.4**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=14,slow=5.3,SNR=21						
	comp=Z,0.4nm,0.4s						
BURAR	**Bucovina Array**	**75.01**	**327**	P	**P**	**15 49 26.3**	**+0.1**
EKA	**Eskdalemuir Ar**	**75.18**	**347**	P	**P**	**15 49 26.8**	**0.0**
	comp=Z,1.5nm,0.5s,baz=20,slow=5.6,SNR=8.4						
	comp=Z,1.5nm,0.5s						
MORC	**Moravsky Berou**	**75.69**	**333**	P	**P**	**15 49 30.5**	**+0.5**
MORC				IAmb	IAmb	15 49 31.8	
	comp=Z,3.2nm,0.9s						
MORC	**Moravsky Berou**	**75.69**	**333**	P	**P**	**15 49 30.5**	**+0.5**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TX31	**Lajitas Ar. Si**	**75.71**	**62**	P	**P**	**15 49 31.0**	**+0.5**
TX31				IAmb	IAmb	15 49 51.9	
	comp=Z,9.7nm,1.4s						
TX32	**Lajitas Array**	**75.71**	**62**	P	**P**	**15 49 30.6**	**+0.1**
TXAR	**Lajitas Array**	**75.71**	**62**	P	**P**	**15 49 31.0**	**+0.5**
TXAR	**Lajitas Array**	**75.71**	**62**	P	**P**	**15 49 31.0**	**+0.5**
TXAR	**Lajitas Array**	**75.71**	**62**	P	**P**	**15 49 31.6**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=297,slow=4.4,SNR=11						
	comp=Z,0.6nm,0.7s						
MLR	**Muntele Rosu**	**76.54**	**326**	P	**P**	**15 49 36.0**	**+1.0**
MLR	**Muntele Rosu**	**76.54**	**326**	P	**P**	**15 49 36.0**	**+1.0**
MLR				pmax	pmax		
	comp=Z,11nm,1.5s						
KHC	**Kasperske Hory**	**77.42**	**335**	P	**P**	**15 49 39.3**	**-0.5**
KHC				IAmb	IAmb	15 49 45.1	
	comp=Z,7.3nm,1.4s						
KHC	**Kasperske Hory**	**77.42**	**335**	P	**P**	**15 49 39.3**	**-0.5**
KHC				pmax	pmax		
	comp=Z,7.0nm,1.4s						
GRA1	**Grafenberg Arr**	**77.55**	**337**	P	**P**	**15 49 38.3**	**-2.2**
GRF	**Grafenberg Arr**	**77.55**	**337**	P	**P**	**15 49 38.3**	**-2.2**
GRF				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GRFO	**Grafenberg**	**77.56**	**337**	P	**P**	**15 49 38.2**	**-2.2**
GRFO	**Grafenberg**	**77.56**	**337**	P	**P**	**15 49 38.2**	**-2.2**
GRFO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GERES	**GERESS Array B**	**77.65**	**335**	P	**P**	**15 49 41.4**	**+0.3**
GERES	**GERESS Array B**	**77.65**	**335**	P	**P**	**15 49 41.4**	**+0.3**
GERES	**GERESS Array B**	**77.65**	**335**	P	**P**	**15 49 40.9**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=90,slow=5.3,SNR=5.0						
	comp=Z,1.2nm,0.5s						
BRTR	**Keskin Array B**	**78.13**	**318**	P	**P**	**15 49 43.8**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=58,slow=1.3,SNR=4.7						
	comp=Z,1.1nm,0.9s						
WVNY	**West Valley, N**	**78.16**	**37**	P	**P**	**15 49 42.8**	**-1.2**
WVNY				IAmb	IAmb	15 50 01.2	
	comp=Z,5.3nm,0.9s						
G65A	**Princeton**	**79.79**	**29**	P	**P**	**15 49 52.7**	**-0.1**
PRED	**Cave del Predi**	**79.86**	**334**	P	**P**	**15 49 52.8**	**-0.5**
PRED				IAmb	IAmb	15 50 01.1	
	comp=Z,9.7nm,1.5s						
MMAI	**Mount Meron Ar**	**82.73**	**313**	P	**P**	**15 50 09.0**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=31,slow=6.9,SNR=2.0						
	comp=Z,0.9nm,0.5s						
MORW	**Morawa**	**84.47**	**214**	P	**P**	**15 50 18.1**	**+0.8**
NWAO	**Narrogin (SRO)**	**87.55**	**211**	P	**P**	**15 50 33.2**	**+0.8**
NWAO	**Narrogin (SRO)**	**87.55**	**211**	P	**P**	**15 50 33.2**	**+0.8**
NWAO				pmax	pmax		
	comp=Z,91nm,1.3s						
H03N2	**Juan Fernandez**	**137.53**	**90**	T	T	18 30 26.0	
	baz=309,slow=77,SNR=22						
H03N1	**Juan Fernandez**	**137.55**	**90**	T	T	18 30 27.4	
	baz=309,slow=77,SNR=20						
H03N3	**Juan Fernandez**	**137.55**	**90**	T	T	18 30 26.0	
	baz=309,slow=77,SNR=21						

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*IDC **03** 15:47:05.8±3.5, 54.°63N×161.°97W, h0km, mb3.7/4, mbtmp3.5/5, ML2.9/1, Error ellipse: s-maj=81.9km s-min=25.3km az=159.0*
*NEIC **03** 15:47:08.5±1.3, 54.°38N±0.°03×161.°42W±0.°04, h24km±8km, mb3.7/13, ML3.7/12, ML3.1(AEIC), Error ellipse: s-maj=5.9km s-min=1.0km az=148.0*
*AEIC **03** 15:47:08.6±1.7, 54.°41N±0.°04×161.°48W±0.°07, h14km±5km, Error ellipse: s-maj=6.1km s-min=4.6km az=129.0*
ISC 03 15:47:09.6±1.5**, 54.°37N**±0.°09×**161.°40W**±0.°05**, h43**km±15km**, n101**, σ**0.s72**/100**, mb3.8**/5**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DT1	**Dutton Round H**	**0.90**	**326**		**Pn**	**15 47 24.4**	**-1.4**
DT1					**Sn**	**15 47 36.2**	**-1.4**
HAG	**Hague Volcano**	**0.99**	**343**		**Pn**	**15 47 26.5**	**-0.6**
PVV	**Pavlof Volcano**	**1.03**	**347**		**Pn**	**15 47 27.1**	**-0.5**
PVV					**Sn**	**15 47 41.1**	**+0.2**
PS1A	**Pavlof South-1**	**1.07**	**349**		**Pn**	**15 47 27.9**	**-0.3**
PS1A					**Sn**	**15 47 42.6**	**+0.7**
SDPT	**Sand Point**	**1.12**	**28**		**Pn**	**15 47 28.4**	**-0.4**
SDPT	**Sand Point**	**1.12**	**28**		**Sn**	**15 47 43.0**	**+0.1**
SDPT	**Sand Point**	**1.12**	**28**	IAML		15 47 46.2	
	comp=E,1µm,0.6s						
SDPT				IAML		15 47 47.2	
	comp=N,2µm,0.4s						
PN7A	**Pavlof North-7**	**1.12**	**342**		**Pn**	**15 47 28.9**	**0.0**
CNBA	**Chernabura Isl**	**1.15**	**66**		**Pn**	**15 47 28.1**	**-1.0**
FALS	**False Pass**	**1.27**	**293**		**Pn**	**15 47 30.0**	**-0.9**
FALS					**Sn**	**15 47 46.9**	**+0.2**
ISLZ	**Isanotski Laza**	**1.39**	**286**		**Pn**	**15 47 32.3**	**-0.4**
ISLZ					**Sn**	**15 47 50.4**	**+0.5**
ISNN	**Isanotski Nort**	**1.46**	**289**		**Pn**	**15 47 34.1**	**+0.6**
SSLS	**Shishaldin Sou**	**1.55**	**284**		**Pn**	**15 47 35.0**	**+0.1**
WECS	**Westdahl Cape**	**1.98**	**276**		**Pn**	**15 47 40.5**	**-0.1**
VNWF	**Veniaminof 8**	**2.07**	**30**		**Pn**	**15 47 43.7**	**+1.7**
VNFG	**Fog Glacier, M**	**2.19**	**28**		**Pn**	**15 47 44.0**	**+0.4**
VNFG				IAML		15 48 44.9	
	comp=E,578nm,3.2s						
AKSA	**Akutan Strait**	**2.53**	**266**		**Pn**	**15 47 48.6**	**+0.4**
CHGN	**Chignik**	**2.58**	**40**		**Pn**	**15 47 49.8**	**+1.0**
CHGN	**Chignik**	**2.58**	**40**	IAML		15 48 30.2	
	comp=E,244nm,0.9s						
UNV	**Unalaska Valle**	**3.05**	**262**		**Pn**	**15 47 55.5**	**+0.2**
MNAT	**Makushin Natee**	**3.15**	**263**		**Pn**	**15 47 57.2**	**+0.5**
SII	**Sitkinak Islan**	**4.65**	**59**	Pn	**Pn**	**15 48 17.3**	**0.0**
O14K	**Tigyukauivet M**	**4.90**	**1**	Pn	**Pn**	**15 48 21.2**	**+0.6**
O14K				IAML		15 50 04.1	
	comp=N,56nm,2.7s						
O14K				IAML		15 50 39.2	
	comp=E,41nm,3.1s						
O16K	**Kokwok River B**	**5.54**	**18**	Pn	**Pn**	**15 48 30.0**	**+0.6**
N15K	**Kwethluk River**	**5.86**	**6**	Pn	**Pn**	**15 48 34.1**	**+0.3**
KDAK	**Kodiak Island**	**6.00**	**52**	Pn	**Pn**	**15 48 35.0**	**-0.8**
M14K	**Bethel**	**6.41**	**358**	Pn	**Pn**	**15 48 41.8**	**+0.5**
N17K	**Nushagak Hills**	**6.58**	**18**	Pn	**Pn**	**15 48 43.6**	**-0.1**
M16K	**Timber Creek**	**6.80**	**10**	Pn	**Pn**	**15 48 47.2**	**+0.6**
L14K	**Kuka Creek**	**7.02**	**355**		**Pn**	**15 48 50.2**	**+0.4**
M17K	**Holitna River**	**7.36**	**15**	Pn	**Pn**	**15 48 54.3**	**0.0**
L16K	**Owhat River**	**7.43**	**7**	Pn	**Pn**	**15 48 54.8**	**-0.5**
N19K	**Bonanza Creek**	**7.45**	**27**	Pn	**Pn**	**15 48 55.5**	**-0.1**
K13K	**Kusilvak Mount**	**7.78**	**349**	Pn	**Pn**	**15 49 00.3**	**+0.2**
K15K	**Wolf Creek Mou**	**7.95**	**360**	Pn	**Pn**	**15 49 02.8**	**+0.4**
L18K	**Granite Mounta**	**8.25**	**16**	Pn	**Pn**	**15 49 06.6**	**0.0**
M19K	**Big River Lodg**	**8.41**	**23**	Pn	**Pn**	**15 49 09.0**	**+0.2**
K17K	**Iditarod**	**8.52**	**10**	Pn	**Pn**	**15 49 10.5**	**+0.2**
L19K	**White Mountain**	**8.55**	**21**	Pn	**Pn**	**15 49 10.6**	**-0.2**
J16K	**Anvik River**	**8.95**	**2**	Pn	**Pn**	**15 49 15.8**	**-0.4**
TTA	**Tatalina**	**9.03**	**16**	Pn	**Pn**	**15 49 16.3**	**-1.0**
SUA	**Susitna One**	**9.08**	**34**	Pn	**Pn**	**15 49 17.5**	**-0.6**
RC01	**Rabbit Creek A**	**9.17**	**38**	Pn	**Pn**	**15 49 18.5**	**-0.6**
J18K	**Innoko River**	**9.43**	**13**	Pn	**Pn**	**15 49 22.3**	**-0.5**
PWL	**Port Wells**	**9.55**	**42**	Pn	**Pn**	**15 49 23.5**	**-0.8**
K20K	**Telida**	**9.77**	**20**	Pn	**Pn**	**15 49 27.4**	**0.0**
J19K	**Poorman**	**10.09**	**15**	Pn	**Pn**	**15 49 31.7**	**-0.1**
SML	**Sawmill**	**10.15**	**38**	Pn	**Pn**	**15 49 31.9**	**-0.7**
FID	**Port Fidalgo**	**10.23**	**45**	Pn	**Pn**	**15 49 32.4**	**-1.3**
CAST	**Castle Rocks**	**10.26**	**24**	Pn	**Pn**	**15 49 34.0**	**-0.1**
J20K	**Nowinta River**	**10.50**	**18**	Pn	**Pn**	**15 49 36.8**	**-0.5**
SCM	**Sheep Creek Mo**	**10.53**	**39**	Pn	**Pn**	**15 49 36.9**	**-1.0**
TRF	**Thorofare Moun**	**10.74**	**28**	Pn	**Pn**	**15 49 40.0**	**-0.9**
KLU	**Klutina**	**10.87**	**43**	Pn	**Pn**	**15 49 40.7**	**-1.7**
M24K	**Tolsona, Glenn**	**11.13**	**40**	Pn	**Pn**	**15 49 45.5**	**-0.5**
N25K	**Chitina, Valde**	**11.46**	**44**	Pn	**Pn**	**15 49 49.7**	**-0.9**
CRQM	**Cirque**	**11.68**	**49**	Pn	**Pn**	**15 49 53.1**	**-0.5**
WAX	**Waxell Ridge**	**11.68**	**51**	Pn	**Pn**	**15 49 53.2**	**-0.3**
GLB	**Gilahina Butte**	**11.71**	**46**	Pn	**Pn**	**15 49 53.7**	**-0.2**
VRDI	**Verde Repeater**	**11.75**	**47**	Pn	**Pn**	**15 49 54.1**	**-0.5**
TGL	**Tana Glacier**	**11.82**	**50**	Pn	**Pn**	**15 49 55.3**	**-0.2**
G19K	**Purcell Mounta**	**12.00**	**8**	Pn	**Pn**	**15 49 56.4**	**-1.5**
H21K	**Melozitna Rive**	**12.09**	**17**	Pn	**Pn**	**15 49 59.9**	**+0.8**
IMAR	**Indian Mountai**	**12.24**	**15**	Pn	**Pn**	**15 50 01.1**	**-0.1**
GRNC	**Granite Creek**	**12.29**	**51**	Pn	**Pn**	**15 50 01.5**	**-0.5**
TABL	**Table Mountain**	**12.47**	**53**	Pn	**Pn**	**15 50 04.9**	**+0.5**
MENT	**Mentasta**	**12.54**	**40**	Pn	**Pn**	**15 50 04.8**	**-0.5**
CTGM	**Chitina Glacie**	**12.57**	**50**	Pn	**Pn**	**15 50 05.6**	**-0.2**
LOGN	**Logan Glacier**	**12.67**	**51**	Pn	**Pn**	**15 50 08.1**	**+0.9**
ILAR	**Eielson Array**	**12.72**	**29**	Pn	Pn	15 50 04.0	-3.6
	comp=E,0.1nm,0.3s,baz=221,slow=14,SNR=4.2						
	comp=E,0.1nm,0.3s						
F20K	**Avaraart Lake**	**13.01**	**10**	Pn	**Pn**	**15 50 11.1**	**-0.5**
L27K	**Beaver Creek,**	**13.33**	**41**	Pn	**Pn**	**15 50 15.4**	**-0.6**
BCAR	**Beaver Creek A**	**13.35**	**41**	Pn	**Pn**	**15 50 15.6**	**-0.7**
F21K	**Alatna River**	**13.44**	**13**	Pn	**Pn**	**15 50 18.1**	**+0.6**
J26L	**Joseph Creek**	**13.56**	**34**	Pn	**Pn**	**15 50 18.3**	**-0.9**
O29M	**Mount Kennedy**	**13.64**	**55**	Pn	**Pn**	**15 50 20.3**	**0.0**
K27K	**Chicken**	**13.78**	**38**	Pn	**Pn**	**15 50 21.3**	**-0.8**
D19K	**Kuna River**	**14.26**	**5**	P	**P**	**15 50 35.4**	**+0.5**
C18K	**Utukok River**	**14.33**	**0**	P	**P**	**15 50 36.5**	**+0.7**
M29M	**Somme Creek**	**14.41**	**47**	Pn	**Pn**	**15 50 30.8**	**0.0**
C19K	**Lookout Ridge**	**14.81**	**3**	P	**P**	**15 50 41.5**	**+0.4**
TOLK	**Toolik Lake Re**	**15.34**	**16**	P	**P**	**15 50 47.6**	**+0.6**
TOLK				IAmb	IAmb	15 51 11.7	
	comp=Z,6.2nm,1.2s						
I28M	**Miner Creek**	**15.36**	**35**	Pn	**Pn**	**15 50 43.4**	**+0.1**
B21K	**Ikpikpuk River**	**15.62**	**9**	P	**P**	**15 50 49.9**	**-0.1**
B20K	**Meade River**	**15.81**	**5**	P	**P**	**15 50 52.0**	**-0.1**
I29M	**Ogilvie Camp,**	**15.87**	**37**	P	**P**	**15 50 53.3**	**+0.4**
I29M				IAmb	IAmb	15 51 07.2	
	comp=Z,7.2nm,1.4s						
C23K	**Itkillik River**	**16.27**	**13**	P	**P**	**15 50 57.8**	**+0.5**
C23K				IAmb	IAmb	15 51 41.1	
	comp=Z,6.7nm,1.4s						
H29M	**Whitestone**	**16.33**	**34**	P	**P**	**15 50 57.7**	**-0.3**
H29M				IAmb	IAmb	15 51 14.0	
	comp=Z,11nm,1.5s						
G29M	**Pine Creek**	**16.86**	**33**	Pn	**Pn**	**15 51 02.8**	**+0.6**
G29M				IAmb	IAmb	15 51 09.7	
	comp=Z,5.5nm,1.2s						
G30M	**tAoh Zraii Nji**	**17.47**	**34**	Pn	**Pn**	**15 51 09.6**	**-0.3**
G30M				IAmb	IAmb	15 51 23.0	
	comp=Z,8.0nm,1.5s						
H31M	**Peel River**	**17.52**	**39**	P	**P**	**15 51 12.3**	**+1.2**
G31M	**Satah River**	**18.09**	**35**	P	**Pn**	**15 51 18.3**	**+0.9**
A36M	**Sachs Harbour**	**23.41**	**28**	P	**P**	**15 52 12.4**	**-1.9**
A36M				IAmb	IAmb	15 52 18.1	
	comp=Z,3.9nm,1.3s						
PEA0B	**Petropavlovsk-**	**23.99**	**284**	P	**P**	**15 52 20.0**	**+0.1**
PETK	**Petropavlovsk-**	**23.99**	**284**	P	**P**	**15 52 19.2**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=82,slow=13,SNR=8.6						
	comp=Z,1.5nm,0.5s						
YKA	**Yellowknife Ar**	**25.28**	**52**	P	**P**	**15 52 34.0**	**+2.4**
	comp=Z,0.3nm,0.9s,baz=286,slow=9.1,SNR=1.9						
	comp=Z,0.3nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**42.18**	**228**	T	T	16 40 12.2	
	baz=27,slow=75,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**42.18**	**227**	T	T	16 40 08.8	
	baz=27,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**42.19**	**228**	T	T	16 40 13.4	
	baz=27,slow=75,SNR=7.2						
BVAR	**Borovoye Array**	**64.68**	**328**	P	**P**	**15 57 42.0**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=46,slow=6.2,SNR=3.8						
	comp=Z,0.6nm,0.6s						
HFS	**Hagfors**	**65.78**	**3**	P	**P**	**15 57 49.2**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=350,slow=4.4,SNR=6.5						
	comp=Z,0.8nm,0.5s						

DJA 03 15:59:37.5±0.3**, 4°S**±4°×**12°8E**±°**, h10**km**, M3.9**/11**, mb4.1**/5**, MLv3.8**/11**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.82**	**306**	P	Pg	15 59 52.8	-0.6
NLAI				S	Sg	16 00 03.7	-0.4
BNDI	**Bandanaira**	**2.27**	**111**	P	Pn	16 00 15.3	+0.2
SANI	**Sanana**	**2.43**	**313**	P	Pn	16 00 17.9	+0.6
LBMI	**Labuha**	**3.07**	**355**	P	Pn	16 00 28.5	+2.3
SWI	**Sorong**	**4.50**	**51**	P	Pn	16 00 46.1	+0.4
FAKI	**Fak Fak**	**4.54**	**80**	P	Pn	16 00 46.6	+0.2
GTOI	**Gorontalo**	**6.43**	**312**	P	Pn	16 01 16.6	+4.3
	13nm,0.7s,0.0nm						
EDFI	**Ende, Flores**	**7.84**	**230**	P	Pn	16 01 32.9	+1.1
	4.4nm,0.6s,0.0nm						

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*GUC **03** 16:00:25.0±0.5, 32.°28S×71.°75W, h20km±4km, ML3.3*
*SJA **03** 16:00:30.1±0.4, 32.°32S×71.°73W, h66km±31km, ML3.2, MW3.6*
ISC 03 16:00:22.4±2.3**, 32.°28S**±0.°03×**71.°87W**±0.°07**, h7**km±15km**, n27**, σ**1.s51**/42**, 1C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.76**	**166**	*i* P	**Pb**	**16 00 38.7**	**+0.7**
VA01				*e*S	**Sb**	**16 00 49.1**	**+0.5**
ROCH	**El Roble**	**1.00**	**134**	*i* P	**Pb**	**16 00 42.2**	**0.0**
ROCH				*i* P	**Pb**	**16 00 42.1**	**0.0**
ROCH				*e*S	**Sb**	**16 00 54.7**	**-1.0**
ROCH				*e*S	**Sg**	**16 00 55.0**	**+0.3**
ROCH				IAML		16 01 00.5	
	comp=N,1µm,0.3s						
ROCH				IAML		16 01 00.6	
	comp=N,1µm,0.4s						
MT02	**Curacav**	**1.15**	**148**⇑	*i*P	**Pn**	**16 00 44.5**	**-0.5**
MT02				*e*S	**Sb**	**16 00 59.4**	**-0.5**
CO02	**Combarbal**	**1.31**	**35**	*i* P	**Pn**	**16 00 47.1**	**-0.1**
CO02				*e*S	**Sb**	**16 01 03.8**	**-0.6**
CO02				IAML		16 01 08.4	
	comp=N,2µm,0.2s						
PEL	**Peldehue**	**1.32**	**131**	*e*P	Pg	16 01 04.4	+17
PEL	**Peldehue**	**1.32**	**131**	*i* P	**Pn**	**16 00 47.0**	**-0.3**
PEL				*e*S	**Sn**	**16 01 03.8**	**-1.4**
PEL				IAML		16 01 07.0	
	comp=N,808nm,0.1s						
VA05	**Santo Domingo**	**1.39**	**171**	*i* P	**Pn**	**16 00 48.9**	**+0.7**
MT05	**Renca**	**1.46**	**140**	*i* P	**Pn**	**16 00 49.2**	**0.0**
MT05				*e*S	**Sn**	**16 01 07.6**	**-1.1**
MT05				IAML		16 01 12.3	
	comp=E,2µm,0.3s						
MT10	**Hacienda Santa**	**1.50**	**132**	*i* P	**Pn**	**16 00 49.9**	**+0.1**
MT10				*e*S	**Sb**	**16 01 08.8**	**-1.0**
MT10				IAML		16 01 11.6	
	comp=E,1µm,0.4s						
MT14	**Cerro Cal¡n**	**1.58**	**135**	*i* P	**Pn**	**16 00 50.9**	**0.0**
MT14				*e*S	**Sb**	**16 01 10.8**	**-1.5**
MT14				IAML		16 01 15.6	
	comp=N,689nm,0.7s						
CO06	**Fray Jorge**	**1.62**	**7**	*i* P	**Pn**	**16 00 52.4**	**+1.0**
MT01	**Popeta**	**1.66**	**162**	*i* P	**Pn**	**16 00 52.6**	**+0.6**
MT03	**Universidad Ad**	**1.67**	**137**	*i* P	**Pn**	**16 00 52.7**	**+0.6**
MT09	**Talagante**	**1.67**	**154**	*i* P	**Pn**	**16 00 52.9**	**+0.8**
MT09				*e*S	**Sb**	**16 01 14.6**	**-0.1**
MT09				IAML		16 01 16.2	
	comp=N,491nm,0.2s						
FCH	**Farellones**	**1.69**	**128**	*i* P	**Pn**	**16 00 53.3**	**+0.7**
FCH				*e*S	**Sb**	**16 01 14.7**	**-1.0**
AUSP	**Uspallata**	**2.11**	**89**	*e*P	**Pb**	**16 01 01.4**	**+0.3**
AUSP				*e*S	**Sg**	**16 01 28.7**	**-1.4**
RTLS	**Leoncito**	**2.24**	**78**	*e*P	**Pb**	**16 01 03.8**	**+0.4**
RTLS				*e*S	**Sg**	**16 01 32.3**	**-2.1**
RTLS				IAML		16 01 36.2	
	comp=Z,286nm,0.4s						
ARCO	**CERRO ARCO**	**2.54**	**103**	*e*P	**Pb**	**16 01 09.3**	**+0.8**
ARCO				IAML		16 01 47.1	
	comp=Z,59nm,0.3s						
ASAL	**Salagasta**	**2.59**	**98**	*e*P	**Pb**	**16 01 10.0**	**+0.8**
ASAL				*e*S	**Sg**	**16 01 48.5**	**+3.0**
AAGR	**Agrelo**	**2.69**	**108**	*e*P	**Pb**	**16 01 11.5**	**+0.6**
AAGR				IAML		16 01 54.8	
	comp=Z,46nm,1.0s						
ACCO	**Cerro Coronel**	**2.93**	**56**	*e*P	**Pb**	**16 01 14.8**	**-0.5**
ACCO				*e*S	**Sg**	**16 01 54.5**	**-2.2**
AROD	**Rodeo**	**2.94**	**45**	*e*P	**Pb**	**16 01 16.5**	**+1.1**
AGUA	**GUANDACOL**	**4.03**	**47**	*e*P	**Pb**	**16 01 30.5**	**-3.2**
AGUA				IAML		16 02 31.3	
	comp=Z,47nm,0.4s						
AVFE	**Valle Fertil**	**4.11**	**68**	*e*P	**Pn**	**16 01 29.1**	**+3.5**
AVFE				IAML		16 02 28.9	
	comp=Z,22nm,0.3s						
ACHE	**Chepes**	**4.58**	**77**	*e*P	**Pn**	**16 01 35.6**	**+3.4**
VCA	**Vinchina**	**4.74**	**43**	*e*P	Pb	16 01 40.8	-5.2
VCA				IAML		16 02 46.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,53nm,0.6s						
ACLC	CERRO LA CRUZ	5.10	57	eP	Pn	16 01 43.3	+3.9
ACLC				eS	Sn	16 02 38.1	-0.6
ACLC				IAML		16 03 03.5	
	comp=Z,20nm,0.5s						

IDC 03 16:15:12.2±3.4, 26°.07S×29°.03E, h0km, mbtmp3.3/3, ML2.4/3, Error ellipse: s-maj=28.5km s-min=20.5km az=105.0, South Africa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LBTB	Lobatse	3.27	288	Pg	Pb	16 16 12.7	+1.3
	2.2nm,0.3s,baz=107,slow=17,SNR=46						
LBTB				Sn	Sn	16 16 43.8	-0.9
	0.9nm,0.3s,baz=93,slow=5.0,SNR=1.9						
LBTB				Lg	Lg	16 16 56.9	
	7.8nm,0.3s,baz=14,slow=23,SNR=19						
BOSA	Boshof	4.21	232	Pn	Pn	16 16 17.8	0.0
	0.1nm,0.3s,baz=57,slow=13,SNR=2.7						
BOSA				Pg	Pb	16 16 29.9	+2.7
	0.4nm,0.3s,baz=48,slow=16,SNR=6.7						
BOSA				Sn	Sn	16 17 09.0	+1.3
	0.5nm,0.3s,baz=33,slow=8.1,SNR=3.1						
BOSA				Lg	Lg	16 17 24.9	
	2.9nm,0.3s,baz=146,slow=16,SNR=18						
	5.1nm,1.1s						
I47ZA	BOSHOF INFRASO	4.22	232	I	I	16 42 20.0	
	0.1nm,0.6s,baz=53,slow=323,SNR=1.7						
MATP	Matopo	5.64	355	Pn	Pn	16 16 36.9	-0.6
	0.1nm,0.3s,baz=173,slow=14,SNR=6.9						
MATP				Sn	Sn	16 17 38.5	-4.5
	0.3nm,0.3s,baz=169,slow=16,SNR=4.2						
MATP				Lg	Lg	16 18 04.2	
	0.7nm,0.3s,baz=260,slow=16,SNR=7.8						
	0.3nm,0.3s						
SUR	Sutherland	9.54	227	Pn	Pn	16 17 31.7	+0.6
	0.1nm,0.3s,baz=58,slow=13,SNR=1.4						
SUR				Sn	Sn	16 19 13.3	-5.9
	0.1nm,0.3s,baz=235,slow=23,SNR=0.7						
SUR				Lg	Lg	16 20 13.3	
	0.3nm,0.3s,baz=150,slow=20,SNR=1.9						
	4.8nm,0.9s						
TSUM	Tsumeb	12.58	301	Lg	Lg	16 21 52.1	
	0.3nm,0.3s,baz=107,slow=14,SNR=2.8						
I35NA	TSUMEB INFRASO	12.59	301	I	I	17 35 30.0	
	baz=126,slow=315,SNR=2.1						

EAF 03 16:17:36.8±0.8, 18°.11S×27°.73E, h10km, MD3.6
BUL 03 16:17:36.8±0.8, 18°.10S×27°.72E, h10km, MD3.8
ISC 03 16:17:32.0±1.1, 18°.01S±0°.05×27°.6E±0°.1, h10km, n10, σ1s.99/18, Zimbabwe

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATP	Matopo	2.57	160	iP	Pn	16 18 15.9	+2.0
MATP				iS	Sn	16 18 45.5	+0.2
MATP	Matopo	2.57	160	iP	Pn	16 18 15.9	+2.0
MATP				iS	Sn	16 18 45.5	+0.2
LSZ	Lusaka	2.78	13	iP	Pb	16 18 21.8	-0.2
LSZ				iS	Sb	16 18 55.7	-0.5
LSZ	Lusaka	2.78	13	iP	Pb	16 18 21.8	-0.2
LSZ				iS	Sb	16 18 55.7	-0.5
MUSN	Musina, Limpop	4.78	153	iP	Pn	16 18 45.5	+1.3
MUSN				iS	Sn	16 19 37.1	-2.6
MUSN	Musina, Limpop	4.78	153	iP	Pn	16 18 45.5	+1.3
MUSN				iS	Sn	16 19 37.1	-2.6
LBTB	Lobatse	7.21	194	iP	Pn	16 19 20.3	+2.8
LBTB				iS	Sn	16 20 36.7	-2.9
LBTB	Lobatse	7.21	194	iP	Pn	16 19 20.3	+2.8
LBTB				iS	Sn	16 20 36.7	-2.9
BOSA	Boshof	10.77	191	iP	Pn	16 20 07.1	+0.7
BOSA				iS	Sn	16 21 57.7	-9.4
BOSA	Boshof	10.77	191	iP	Pn	16 20 07.1	+0.7
BOSA				iS	Sn	16 21 57.7	-9.4

NORS 03 16:30:26.4, 43°.71N×43°.08E, h7km, MPVA4.2
MOS 03 16:30:26.2, 43°.76N×43°.07E, h12km, MPVA4.0
TIF 03 16:30:27.1, 43°.73N×43°.22E, h11km±2km
ISC 03 16:30:26.4±0.8, 43°.75N±0°.02×43°.06E±0°.02, h12km±6km, n43, σ0s.72/82, Western Caucasus

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBZ	Khabaz	0.12	262	iPg	Pg	16 30 29.6	+0.1
KBZ				iSg	Sg	16 30 32.4	+0.7
KBTC	Kuba-Taba	0.26	74	iPg	Pg	16 30 31.2	-0.6
KBTC				eSg	Sg	16 30 35.5	0.0
SHA1	Shidzhatmaz	0.29	269	iPg	Pg	16 30 32.7	+0.2
SHA1				eSg	Sg	16 30 37.4	+0.7
PYA1	Pyatigorsk	0.32	4	ePg	Pg	16 30 31.9	-1.0
PYA1				eSg	Sg	16 30 36.2	-1.0
BEYR	Belyy Ugol+	0.32	326	iPg	Pg	16 30 32.5	-0.5
BEYR				eSg	Sg	16 30 37.0	-0.3
KIV	Kislovodsk	0.34	308	iPg	Pg	16 30 33.0	-0.4
KIV				eSg	Sg	16 30 38.0	-0.1
NCK	Nalchik	0.46	123	iPg	Pg	16 30 35.3	-0.2
NCK				iSg	Sg	16 30 42.2	+0.6
NEUR	Neytrino	0.55	209	iPg	Pg	16 30 37.3	+0.1
NEUR				eSg	Sg	16 30 44.5	+0.1
LSNR	Lesken	0.72	130	ePg	Pg	16 30 40.2	-0.3
LSNR				eSg	Sb	16 30 51.1	+0.1
STDR	Stavd-Durt	0.82	117	ePg	Pb	16 30 42.7	+0.1
STDR				eSg	Sn	16 30 55.3	-0.6
PRTR	Priterechnaya	0.88	89	ePg	Pb	16 30 43.5	-0.2
PRTR				eSg	Sn	16 30 56.4	-1.1
DIGR	Digorskoe uzhe	0.93	156	ePg	Pg	16 30 43.3	-1.0
DIGR				eSg	Sg	16 30 55.0	-1.4
KORR	Kora	0.98	132	ePg	Pg	16 30 45.2	-0.2
KORR				eSg	Sn	16 30 59.1	-1.0
ALER	Alexandrovskoy	1.02	354	iPg	Pg	16 30 45.7	-0.5
ALER				iSg	Sb	16 31 00.2	+0.6
ZEI	Tsey	1.14	147	ePg	Pb	16 30 47.2	-1.0
ZEI				eSg	Sb	16 31 02.0	-0.9
BTKR	Batakoyurt	1.14	109	iPg	Pb	16 30 48.0	-0.1
BTKR				eSg	Sn	16 31 03.9	0.0
NVNR	Nevinnomyssk	1.18	318	iPg	Pb	16 30 48.4	-0.3
NVNR				eSg	Sg	16 31 04.4	+0.1
ONI	Oni	1.19	166	P	Pb	16 30 48.8	-0.2
ONI				S	Sn	16 31 05.8	+0.7
ONI	Oni	1.19	166	ePg	Pb	16 30 48.6	-0.4
ONI				eSg	Sg	16 31 04.7	0.0
TRKR	Terskaya	1.21	90	ePg	Pb	16 30 49.3	0.0
TRKR				eSg	Sn	16 31 06.6	+1.1
LACR	Lac	1.29	135	ePg	Pn	16 30 50.3	0.0
LACR				eSg	Sb	16 31 07.0	-0.2
ARXR	Arkhyz	1.31	263	ePg	Pb	16 30 51.0	-0.1
ARXR				eSg	Sn	16 31 08.3	0.0
GOF	Gofitskoye	1.31	359	ePg	Pb	16 30 50.9	-0.2
GOF				eSg	Sg	16 31 10.3	+1.5
VLKR	Vladikavkaz	1.37	120	ePg	Pg	16 30 53.4	+0.7
VLKR				eSg	Sg	16 31 12.4	+2.0
TKB	Tkibuli	1.39	182	P	Pg	16 30 54.1	+0.9
TKB	Tkibuli	1.39	182	ePg	Pg	16 30 54.1	+0.9
GRYR	Gornoye	1.47	285	iPg	Pn	16 30 53.0	+0.1
GRYR				iSg	Sb	16 31 12.4	-0.1
KMGR	Komgaron	1.48	117	ePg	Pb	16 30 54.2	+0.3
KMGR				eSg	Sg	16 31 16.8	+2.7
MTEO	Meteo	1.51	134	P	Pn	16 30 54.1	+0.3
MTEO				S	Sb	16 31 13.8	-0.2
MTEO	Meteo	1.51	134	ePg	Pn	16 30 54.1	+0.3
MTEO				eSg	Sb	16 31 13.8	-0.2
GUDG	Gudauri	1.65	141	P	Pn	16 30 56.0	+0.5
GUDG				S	Sb	16 31 17.8	+0.1
GUDG	Gudauri	1.65	141	ePg	Pn	16 30 55.5	+0.1
GUDG				eSg	Sb	16 31 18.1	+0.5
ALIG	Mtskhetisjvari	1.69	165	P	Pg	16 30 58.2	-0.8
ALIG				S	Sg	16 31 20.7	-0.2
ALIG	Mtskhetisjvari	1.69	165	ePg	Pg	16 30 58.2	-0.8
ALIG				eSg	Sg	16 31 20.7	-0.2
LABN	Labinsk	1.91	299	eSg	Sb	16 31 24.9	-0.1
CHRG	Chargali	1.97	135	P	Pb	16 31 01.8	-0.5
CHRG				S	Sb	16 31 26.8	0.0
CHRG	Chargali	1.97	135	ePg	Pb	16 31 01.8	-0.5
CHRG				eSg	Sb	16 31 26.8	0.0
ABS	Abastumani	2.00	185	P	Pg	16 31 04.1	-0.6
RPOR	Krasnaya Polya	2.03	270	ePg	Pb	16 31 03.1	-0.2
RPOR				eSg	Sg	16 31 30.5	-1.2
GUZR	Guzeripl'	2.15	278	ePg	Pn	16 31 03.7	+1.6
GUZR				eSg	Sb	16 31 30.9	-1.0
TRLG	Trialeti	2.33	160	P	Pg	16 31 10.3	-0.8
TRLG				S	Sg	16 31 41.3	-0.1
TRLG	Trialeti	2.33	160	ePn	Pg	16 31 10.3	-0.8
TRLG				eSn	Sg	16 31 41.3	-0.1
MRNR	Maryino	2.60	275	ePn	Pn	16 31 08.6	+0.2
MRNR				eSn	Sn	16 31 40.9	+1.0

TEH 03 16:40:57.4, 30°.77N×57°.36E, h8km±57km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.73	286	Pg	Pg	16 41 11.6	0.0
ZRDN				Sg	Sb	16 41 23.1	+0.3
KHGB	Koh Gabri	0.85	243	Pg	Pg	16 41 13.8	-0.1
CHMN	Cheshme madani	0.92	170	Pg	Pg	16 41 15.1	-0.1
TVBK	TV Kerman	0.94	213	Pg	Pb	16 41 16.1	-0.1
NGRK	Negar Kerman	1.25	206	Pg	Pn	16 41 21.8	+0.3
IBAF	Bafgh	1.73	298	Pg	Pb	16 41 30.1	+0.5
KBAM	BAM	1.89	149	Pn	Pb	16 41 31.5	-0.7
IKOO	Kooshah	2.17	40	Pn	Pb	16 41 36.0	-1.0
TPRV	Parvadeh(Tabas	2.32	346	Pn	Pn	16 41 37.6	+1.6
NHDN	Nehbandan	2.39	74	Pn	Pb	16 41 39.9	-1.0
ITEG	Tejag	2.43	29	Pn	Pn	16 41 39.1	+1.6
IMEH	Mehriz	2.43	285	Pn	Pb	16 41 39.9	-1.6
TKDS	Koohdasht(Taba	2.84	356	Pn	Pn	16 41 45.5	+2.3
IDAH	Dahanechah	2.90	47	Pn	Pn	16 41 46.3	+2.1
ICHK	Chekchek	2.91	301	Pn	Pn	16 41 46.6	+2.3
AFRZ	Afriz	3.00	28	Pn	Pn	16 41 46.5	+1.2
TNSJ	Nastanj	3.24	349	Pn	Pn	16 41 50.6	+1.9
ISAD	Sadrabad	3.34	291	Pn	Pn	16 41 52.7	+2.6
SHRT	Shahrakht	3.79	40	Pn	Pn	16 41 58.7	+2.5
ANAR	Anarak	3.91	309	Pn	Pn	16 42 00.2	+2.3
TBJM	Torbat-e-JAM	5.13	28	Pn	Pn	16 42 17.1	+2.4

MOS 03 16:50:25.5±0.9, 9°.88N×40°.71W, h10km, mb5.2/39, Error ellipse: s-maj=11.7km s-min=6.0km az=53.1
IDC 03 16:50:25.4±0.4, 9°.82N×40°.72W, h0km, mb4.4/30, mbtmp4.4/32, ML4.2/2, MS4.0/67, Error ellipse: s-maj=14.1km s-min=11.4km az=129.0
NEIC 03 16:50:28, 9°.57N×40°.74W, h26km, Moment Tensor Solution. Duration: 2s.0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.70; $M_{\theta\theta}$-1.54; $M_{\phi\phi}$0.84; $M_{r\theta}$-0.52; $M_{\theta\phi}$0.03; $M_{\phi r}$0.16; Fault plane solution: $M_0$1.32000×10^{17} NP1: ϕ_s304.20000°, δ71.21000°, λ138.37000°. NP2: ϕ_s50.18000°, δ51.03000°, λ24.48000°. Principal axes: T 0.9818, Plg42.0000°, Azm260.0000°; N 0.6769, Plg45.0000°, Azm104.0000°; P -1.6587, Plg13.0000°, Azm1.0000°;
NEIC 03 16:50:28.0±1.5, 9°.9N±0°.1×40°.64W±0°.09, h10km±1km, mb5.1/381, Mww5.3/13 Error ellipse: s-maj=18.7km s-min=13.5km az=151.0
NEIC 03 16:50:28, 9°.87N×40°.64W, h26km
GCMT 03 16:50:31.0±0.2, 10°.00N±0°.02×40°.59W±0°.01, h12km±1km, MW5.0/99, Moment Tensor Solution. s35,c37; s99,c143; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.89±.19; $M_{\theta\theta}$-0.50±.12; $M_{\phi\phi}$3.40±.12; $M_{r\theta}$2.30±.48; $M_{\theta\phi}$-0.05±.08; $M_{\phi r}$-0.23±.24; Best double couple: $M_0$3.85300×10^{16} NP1: ϕ_s331.00000°, δ55.00000°, λ-129.00000°. NP2: ϕ_s206.00000°, δ50.00000°, λ-48.00000°. Principal axes: T 3.4140, Plg3.0000°, Azm88.0000°; N 0.8850, Plg31.0000°, Azm356.0000°; P -4.2910, Plg59.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 03 16:50:27.3±0.3, 9°.89N±0°.05×40°.63W±0°.05, h10km, n865, σ0s.99/681, mb5.0/270, MS4.1/72, 6C-6D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MDP	Montagnes des	12.82	249	Pn	Pn	16 53 27.4	-2.4
	2.7nm,0.3s,baz=62,slow=13,SNR=30						
MDP				Sn	Sn	16 55 39.6	-13
	0.4nm,0.3s,baz=113,slow=13,SNR=2.2						
MDP				LR	LR	16 57 31.0	
	comp=Z,1μm,21.6s,baz=66,slow=34						
	46nm,0.8s						
RCBR	Riachuelo	16.31	163	eP	P	16 54 19.0	-0.7
RCBR	Riachuelo	16.31	163	Pn	Pn	16 54 16.7	0.0
	0.4nm,0.3s,baz=9.4,slow=17,SNR=2.3						
RCBR				LR	LR	16 58 56.4	
	comp=Z,337nm,19.2s,baz=355,slow=31						
	5.3nm,0.8s						
SACV	Santiago Islan	17.37	71	Pn	Pn	16 54 30.2	+0.2
MALB	Monte Alegre	17.90	230	eP	Pn	16 54 35.9	-0.7
PRPB	Parauapebas	18.39	210	eP	Pn	16 54 42.6	-0.1
SMTB	Santa Maria do	19.87	201	eP	Pn	16 55 00.6	+0.1
ITTB	Itaituba	20.66	227	eP	P	16 55 07.4	-0.1
GDSD	La Dsirade Is	20.89	290	P	P	16 55 10.0	-0.1
GDSD				IAmb	IAmb	16 55 21.2	
	comp=Z,69nm,1.0s						
BOAV	Boa Vista	21.12	251	P	P	16 55 12.1	-0.4
BOAV	Boa Vista	21.12	251	eP	P	16 55 12.7	+0.2
NPGB	Novo Progresso	22.32	222	eP	P	16 55 24.3	-1.1
SDBA	SAO DESIDERIO	22.56	191	eP	P	16 55 27.4	-0.5
MBO	M'Bour	23.57	77	P	P	16 55 38.4	+0.1
MBO				IAmb	IAmb	16 55 57.5	
	comp=Z,91nm,1.0s						
PCRV	Puerto La Cruz	23.64	273	LR	LR	17 05 39.5	
	comp=Z,526nm,18.8s,slow=39						
MACA	Manacapuru-AM	23.82	238	P	P	16 55 40.4	-0.3
MACA				IAmb	IAmb	16 55 54.9	
	comp=Z,85nm,1.6s						
MACA	Manacapuru-AM	23.82	238	eP	P	16 55 41.1	+0.4
CLDB	Colider	25.55	217	eP	P	16 55 57.9	+1.3
SJG	San Juan	26.05	291	LR	LR	17 04 22.1	
	comp=Z,650nm,21.4s,baz=93,slow=32						
BDFB	Brasilia	26.40	196	P	P	16 56 04.2	-0.2
BDFB	Brasilia	26.40	196	P	P	16 56 04.2	-0.2
BDFB				pmax	pmax		
	comp=Z,24nm,1.2s						
BDFB	Brasilia	26.40	196	P	P	16 56 03.8	-0.6
	comp=Z,6.9nm,0.9s,baz=25,slow=11,SNR=8.2						
BDFB				LR	LR	17 06 30.3	
	comp=Z,374nm,18.1s,baz=337,slow=37						
	comp=Z,6.9nm,0.9s						
BAUV	El Baul	27.06	270	P	P	16 56 10.5	+0.3
TEFE	Tefe	27.37	242	eP	P	16 56 14.6	+1.6
SGCB	S£o Gabriel d	28.09	251	eP	P	16 56 21.3	+1.8
DIAM	Diamantina, MG	28.17	186	eP	P	16 56 22.0	+1.7
SAML	Samuel	29.23	231	P	P	16 56 29.1	-0.5
SAML	Samuel	29.23	231	P	P	16 56 29.1	-0.5
SAML				pmax	pmax		
	comp=Z,21nm,1.2s						
SAML	Samuel	29.23	231	eP	P	16 56 30.5	+0.9
SDV	Santo Domingo	29.61	271	P	P	16 56 33.4	0.0
SDV	Santo Domingo	29.61	271	eP	P	16 56 34.1	+0.8
SDV	Santo Domingo	29.61	271	LR	LR	17 08 22.8	
	comp=Z,335nm,21.7s,baz=80,slow=36						
SALV	Santo Antonio	29.65	210	eP	P	16 56 34.1	+0.8
VILB	Vilhena	29.88	221	eP	P	16 56 37.3	+1.9
PP1B	Ponte de Pedra	30.73	207	eP	P	16 56 44.8	+2.0
BSCB	Bom Sucesso	30.96	188	eP	P	16 56 47.6	+2.6
PTLB	Pontes e Lacer	31.14	216	P	P	16 56 47.4	+0.9
PTLB	Pontes e Lacer	31.14	216	eP	P	16 56 48.6	+2.1
H10N3	ASCENSION HYDR	31.42	123	T	T	17 29 48.8	
	baz=304,slow=75,SNR=90						
H10N2	ASCENSION HYDR	31.43	123	T	T	17 29 52.1	
	baz=304,slow=75,SNR=115						
H10N1	ASCENSION HYDR	31.44	123	T	T	17 29 53.8	
	baz=304,slow=75,SNR=126						
H10S3	ASCENSION HYDR	31.91	125	T	T	17 30 31.7	
	baz=279,slow=74,SNR=42						
H10S2	ASCENSION HYDR	31.93	125	T	T	17 30 29.0	
	baz=301,slow=74,SNR=16						
RVDE	Rio Verde (Bra	32.01	206	eP	P	16 56 54.6	+0.4
ETMB	Extrema	32.12	233	P	P	16 56 55.3	+0.2
ETMB				IAmb	IAmb	16 56 58.2	
	comp=Z,22nm,1.1s						
ETMB	Extrema	32.12	233	eP	P	16 56 55.9	+0.8
TBTG	Tabatinga, AM	32.35	246	eP	P	16 56 57.3	+0.1
BARC	Barichara	32.37	267	eP	P	16 56 59.6	+1.9
RUSC	La Rusia	32.38	265	eP	P	16 57 01.4	+3.3
CHIC	Chingaza	33.23	263	eP	P	16 57 06.5	+1.0
BBSD	Serra de San D	33.38	216	eP	P	16 57 07.7	+1.6
AQDB	Aquidauana	33.62	206	eP	P	16 57 11.0	+2.8
ROSC	El Rosal	33.77	264	P	P	16 57 08.7	-1.4
	comp=Z,5.6nm,0.4s,baz=317,slow=21,SNR=0.7						
ROSC				LR	LR	17 11 14.3	
	comp=Z,1μm,18.8s,baz=65,slow=37						
	comp=Z,5.6nm,0.4s						
BBRB	Robore, Bolivi	33.79	214	eP	P	16 57 12.0	+2.2
BDQN	Bodoquena, MS	34.06	208	eP	P	16 57 13.7	+1.6
FRTB	Fartura	34.17	195	eP	P	16 57 15.1	+2.1
NORC	Norcasia	34.19	265	eP	P	16 57 14.1	+0.7
GUY2C	Guyana, Caldas	34.73	265	eP	P	16 57 17.9	-0.6
CBOC	Ciudad Bolivar	35.26	266	eP	P	16 57 23.1	+0.3
DBIC	Dimbokro	35.53	92	P	P	16 57 23.7	-1.2
DBIC	Dimbokro	35.53	92	P	P	16 57 23.7	-1.2
DBIC				pmax	pmax		
	comp=Z,14nm,0.7s						
DBIC	Dimbokro	35.53	92	P	P	16 57 24.8	-0.2
	comp=Z,4.7nm,0.7s,baz=283,slow=11,SNR=5.3						
DBIC				LR	LR	17 09 29.5	
	comp=Z,316nm,18.3s,baz=248,slow=32						
	comp=Z,4.7nm,0.7s						
PLMC	San Jos del P	35.68	265	eP	P	16 57 26.7	+0.4
CZSB	Cruzeiro do Su	36.42	242	P	P	16 57 32.0	-0.5
CZSB	Cruzeiro do Su	36.42	242	eP	P	16 57 32.6	+0.1
LPAZ	La Paz	37.65	227	P	P	16 57 43.2	-0.4
LPAZ	La Paz	37.65	227	P	P	16 57 43.2	-0.4
LPAZ				pmax	pmax		
	comp=Z,16nm,1.0s						
LPAZ	La Paz	37.65	227	eP	P	16 57 44.8	+1.2
LPAZ	La Paz	37.65	227	P	P	16 57 42.7	-0.9
	comp=Z,10nm,0.9s,baz=31,slow=6.7,SNR=35						
LPAZ				LR	LR	17 13 59.0	
	comp=Z,227nm,18.5s,baz=54,slow=38						
	comp=Z,10nm,0.9s						
OTAV	Otavalo	38.83	258	P	P	16 57 52.8	-0.7
OTAV	Otavalo	38.83	258	P	P	16 57 52.8	-0.7
OTAV				pmax	pmax		
	comp=Z,8.0nm,1.2s						
OTAV	Otavalo	38.83	258	eP	P	16 57 54.8	+1.4
CPUP	Villa Florida	39.49	204	P	P	16 57 57.4	-0.8
	comp=Z,1.0nm,0.6s,baz=45,slow=8.0,SNR=1.6						
CPUP				LR	LR	17 14 17.7	
	comp=Z,258nm,18.6s,baz=24,slow=36						
	comp=Z,1.0nm,0.6s						
BOSC	San Juan Bosco	39.88	253	P	P	16 58 01.1	-0.8
PNCL	Nicolau / Gran	40.24	40	eP	P	16 58 06.8	+2.4
	comp=Z,26nm,2.0s						
MDT	Midelt	40.26	50	LR	LR	17 11 10.8	
	comp=Z,179nm,21.5s,baz=259,slow=31						
PCVE	Castro Verde	40.28	41	eP	P	16 58 06.5	+1.7
	comp=Z,33nm,1.7s						
MESJ	Messejana	40.28	41	eP	P	16 58 06.5	+1.7
	comp=Z,38nm,1.4s						
MESJ	Messejana	40.28	41	P	P	16 58 05.8	+1.0
MESJ	Messejana	40.28	41	eP	P	16 58 05.9	+1.2
MESJ				IAmb	IAmb	16 58 07.6	
	comp=Z,27nm,1.2s						
MESJ	Messejana	40.28	41	P	P	16 58 05.8	+1.0
MESJ				pmax	pmax		
	comp=Z,34nm,1.3s						
COHC	Cochancay	40.38	254	P	P	16 58 04.3	-1.6
PBEJ	Beja	40.62	41	eP	P	16 58 09.2	+1.6
	comp=Z,33nm,1.5s						
EVO	Evora	40.82	40	eP	P	16 58 11.3	+2.1
	comp=Z,43nm,1.5s						
PMTG	Montargil	41.00	39	eP	P	16 58 12.4	+1.7
	comp=Z,24nm,1.5s						
ATAH	Atahualpa	41.24	247	LR	LR	17 15 03.8	
	comp=Z,301nm,21.6s,baz=78,slow=36						
PBAR	Barrancos	41.24	41	eP	P	16 58 14.9	+2.2
	comp=Z,37nm,1.4s						
PESTR	Estremoz	41.28	40	eP	P	16 58 14.9	+1.9
	comp=Z,17nm,1.4s						
TOA0	Torodi Ar. Sit	41.56	81	P	P	16 58 15.3	-0.3
TOA0				IAmb	IAmb	16 59 05.9	
	comp=Z,51nm,1.2s						
TORD	Torodi Ar. Bea	41.56	81	P	P	16 58 15.4	-0.3
TORD	Torodi Ar. Bea	41.56	81	P	P	16 58 15.7	0.0
	comp=Z,7.3nm,0.7s,baz=284,slow=8.4,SNR=45						
TORD				LR	LR	17 14 09.6	
	comp=Z,531nm,19.0s,baz=300,slow=34						
	comp=Z,7.3nm,0.7s						
MCRA	Macar, Loja	41.66	252	P	P	16 58 15.0	-1.5
PMRV	Marv??o	41.73	40	eP	P	16 58 19.1	+2.4
	comp=Z,43nm,1.5s						
BRYW	Bryant College	41.88	325	P	P	16 58 18.6	+0.7
CPSB	Cacapava Do Su	41.91	197	eP	P	16 58 20.1	+1.9
PCBR	Castelo Branco	41.92	39	eP	P	16 58 20.5	+2.3
	comp=Z,27nm,1.7s						
NNA	Nana	42.04	240	iP	P	16 58 19.3	-0.3
NNA	Nana	42.04	240	LR	LR	17 16 13.7	
	comp=Z,472nm,19.8s,baz=44,slow=37						
PVIS	Viseu	42.19	38	eP	P	16 58 22.6	+2.1
UCCT	U. Connecticut	42.19	324	IAmb	IAmb	16 58 29.6	
	comp=Z,31nm,1.0s						
MTE	Manteigas	42.22	38	eP	P	16 58 21.9	+1.2
	comp=Z,28nm,1.7s						
RODS	Rosario do Sul	42.39	199	eP	P	16 58 24.5	+2.5
MECA	Mercedes	42.47	203	eP	P	16 58 24.5	+1.8
LVC	Limon Verde	42.56	220	LR	LR	17 16 16.0	
	comp=Z,100nm,18.5s,baz=34,slow=36						
RIMA	Rio Macho	42.58	274	P	P	16 58 25.9	+1.8
POLO	Lamas de Olo	42.66	37	eP	P	16 58 26.3	+2.0
	comp=Z,20nm,1.7s						
PAL	Palisades	42.70	322	P	P	16 58 24.6	+0.1
	baz=127						
PGAV	Gavieira, Arco	42.74	36	eP	P	16 58 26.0	+1.0
	comp=Z,35nm,1.5s						
L61B	Northampton	42.87	325	P	P	16 58 26.5	+0.5
	baz=130						
MVO	Moncorvo	42.99	38	eP	P	16 58 28.2	+1.2
	comp=Z,29nm,1.5s						
PKME	Peaks-Kenny Pk	43.00	330	P	P	16 58 27.8	+0.9
	baz=136						
BRNY	Black Rk. Fore	43.01	323	P	P	16 58 28.4	+1.4
	baz=128						
BATG	Bathurst New B	43.04	335	P	P	16 58 27.7	+0.5
NHSC	New Hope	43.08	309	P	P	16 58 28.1	+0.4
	baz=113						
CBN	Corbin Frederi	43.35	317	P	P	16 58 30.7	+0.8
	baz=121						
LUPA	Lehigh Univers	43.35	321	IAmb	IAmb	16 58 39.5	
	comp=Z,27nm,0.9s						
V58A	Windy Hill, Pi	43.41	313	P	P	16 58 31.4	+1.0
	baz=117						
V58A				P	P	16 58 31.4	+1.0
	baz=117						
PBRG	Braganca	43.54	37	eP	P	16 58 33.8	+2.4
	comp=Z,30nm,1.5s						
R58B	Mineral	43.58	316	IAmb	IAmb	16 58 41.1	
	comp=Z,39nm,1.5s						
R58B	Mineral	43.58	316	P	P	16 58 33.4	+1.7
	baz=120						
R58B				P	P	16 58 33.4	+1.7
	baz=120						
JTS	Las Juntas de	43.61	275	LR	LR	17 17 51.2	
	comp=Z,165nm,18.8s,baz=78,slow=38						
LBNH	Lisbon	43.63	327	P	P	16 58 32.6	+0.6
	baz=132						
MVL	Millersville	43.63	319	IAmb	IAmb	16 58 41.8	
	comp=Z,31nm,1.1s						
BIRD	Birdtown, Kers	43.91	310	IAmb	IAmb	16 58 44.0	
	comp=Z,26nm,1.1s						
BIRD	Birdtown, Kers	43.91	310	P	P	16 58 35.6	+1.1
	baz=115						
HCNY	Howe Caverns	44.02	324	P	P	16 58 36.2	+1.1
	baz=128						
ESDC	Sonseca Array	44.07	42	P	P	16 58 36.4	+0.7
ESDC	Sonseca Array	44.07	42	P	P	16 58 36.7	+1.0
	comp=Z,2.1nm,0.9s,baz=237,slow=8.7,SNR=12						
ESDC				LR	LR	17 13 43.2	
	comp=Z,225nm,18.6s,baz=235,slow=32						
	comp=Z,2.1nm,0.9s						
L59A	Walton	44.09	323	IAmb	IAmb	16 58 45.8	
	comp=Z,43nm,1.5s						
L59A	Walton	44.09	323	P	P	16 58 36.7	+0.9
	baz=127						
L59A				P	P	16 58 36.7	+0.9
	baz=127						
KSPA	Keystone Colle	44.15	322	P	P	16 58 37.1	+0.8
	baz=126						
S57A	Dark Hollow, R	44.22	315	IAmb	IAmb	16 58 46.5	
	comp=Z,30nm,1.1s						
S57A	Dark Hollow, R	44.22	315	P	P	16 58 38.5	+1.7
	baz=119,SNR=7.6						
S57A				P	P	16 58 38.5	+1.7
	baz=119,SNR=7.6						

HAW	Hawthorne Fire	44.28	308	P	P	16 58 39.0	+1.6
	baz=112						
JSC	Jenkinsville	44.37	310	P	P	16 58 39.8	+1.7
	baz=114						
P57A	Homestead Farm	44.44	318	P	P	16 58 40.2	+1.6
	baz=121						
P57A				P	P	16 58 40.2	+1.6
	baz=121						
J59A	Piesco	44.55	325	IAmb	IAmb	16 58 49.5	
	comp=Z,29nm,1.4s						
J59A	Piesco	44.55	325	P	P	16 58 40.2	+0.8
	baz=129						
J59A				P	P	16 58 40.2	+0.8
	baz=129						
U56A	King	44.58	313	IAmb	IAmb	16 58 50.3	
	comp=Z,32nm,1.4s						
BINY	Binghamton	44.66	322	IAmb	IAmb	16 58 50.0	
	comp=Z,31nm,1.1s						
BINY	Binghamton	44.66	322	P	P	16 58 40.4	0.0
	baz=126						
NCB	Newcomb	44.71	325	P	P	16 58 41.9	+1.2
KMSC	Kings Mountain	44.77	311	IAmb	IAmb	16 58 51.0	
	comp=Z,35nm,1.4s						
KMSC	Kings Mountain	44.77	311	P	P	16 58 42.1	+0.8
	baz=114						
FRNY	Flat Rock	44.92	327	P	P	16 58 43.6	+1.3
	baz=131,SNR=5.8						
J58A	Remsen	44.94	324	IAmb	IAmb	16 58 52.3	
	comp=Z,29nm,1.1s						
J58A	Remsen	44.94	324	P	P	16 58 44.2	+1.6
	baz=128,SNR=7.7						
J58A				P	P	16 58 44.2	+1.6
	baz=128,SNR=7.7						
SSPA	Standing Stone	44.97	319	P	P	16 58 43.8	+1.0
SSPA	Standing Stone	44.97	319	P	P	16 58 44.1	+1.3
	baz=123						
SSPA	Standing Stone	44.97	319	P	P	16 58 43.7	+0.9
	baz=123						
BLA	Blacksburg	44.99	314	IAmb	IAmb	16 58 53.6	
	comp=Z,34nm,1.2s						
BLA	Blacksburg	44.99	314	P	P	16 58 43.2	+0.1
	baz=117						
BLA	Blacksburg	44.99	314	P	P	16 58 45.0	+1.9
	baz=117						
PAULI	Pauline	45.00	310	P	P	16 58 43.9	+0.7
	baz=114						
Q56A	Snyder Ridge,	45.00	317	IAmb	IAmb	16 58 53.1	
	comp=Z,32nm,1.3s						
HODGE	Hodges	45.11	309	IAmb	IAmb	16 58 53.7	
	comp=Z,27nm,1.1s						
TIGA	Tifton	45.18	305	P	P	16 58 45.2	+0.6
	baz=109						
R55A	Marlinton	45.27	315	IAmb	IAmb	16 58 55.7	
	comp=Z,41nm,1.4s						
K57A	Scipio Center	45.29	323	IAmb	IAmb	16 58 54.9	
	comp=Z,24nm,0.9s						
LONY	Lake Ozonia	45.32	326	P	P	16 58 46.9	+1.3
	baz=129						
WCNY	West Carthage	45.53	325	P	P	16 58 48.6	+1.4
	baz=128						
U54A	Nelsons Funny	45.70	312	IAmb	IAmb	16 58 58.5	
	comp=Z,18nm,1.1s						
GOGA	Godfrey	45.74	307	P	P	16 58 48.7	-0.3
	baz=111						
MCWV	Mont Chateau	45.75	317	P	P	16 58 48.7	-0.4
	baz=120						
PSDB	Penn State Uni	45.78	319	P	P	16 58 51.4	+2.1
	baz=122						
S54A	Dingess, Beckl	45.89	314	IAmb	IAmb	16 58 59.9	
	comp=Z,32nm,1.1s						
S54A	Dingess, Beckl	45.89	314	P	P	16 58 51.9	+1.7
	baz=117,SNR=6.0						
S54A				P	P	16 58 51.9	+1.7
	baz=117,SNR=6.0						
CASEE	Lake Jocassee	45.91	310	P	P	16 58 52.0	+1.6
	baz=113,SNR=11						
V53A	Saluda	46.09	311	IAmb	IAmb	16 59 01.5	
	comp=Z,21nm,1.1s						
V53A	Saluda	46.09	311	P	P	16 58 53.3	+1.5
	baz=113,SNR=6.6						
V53A				P	P	16 58 53.3	+1.5
	baz=113,SNR=6.6						
Q54A	Coxs Mills	46.10	316	IAmb	IAmb	17 00 29.6	
	comp=Z,44nm,1.7s						
UPAO	U. Pittsburgh	46.28	318	P	P	16 58 55.4	+2.2
	baz=120						
Y52A	Lilburn	46.37	308	IAmb	IAmb	16 59 03.9	
	comp=Z,17nm,0.9s						
152A	Waverly Hall	46.48	306	IAmb	IAmb	16 59 04.7	
	comp=Z,20nm,1.2s						
152A	Waverly Hall	46.48	306	P	P	16 58 56.5	+1.6
	baz=109						
R53A	Hurricane	46.58	314	P	P	16 58 57.4	+1.8
	baz=116						
R53A				P	P	16 58 57.4	+1.8
	baz=116						
P53A	Whipple	46.71	316	P	P	16 58 58.1	+1.5
	baz=118,SNR=5.7						
P53A				P	P	16 58 58.1	+1.5
	baz=118,SNR=5.7						
V52A	Sevierville	46.74	310	P	P	16 58 58.6	+1.7
	baz=113						
TKL	Tuckaleechee C	46.80	310	IAmb	IAmb	16 59 06.6	
	comp=Z,12nm,0.8s						
TKL	Tuckaleechee C	46.80	310	P	P	16 58 57.9	+0.4
	baz=113						
TKL	Tuckaleechee C	46.80	310	LR	LR	17 14 33.9	
	comp=Z,526nm,21.7s,baz=115,slow=31						
O53A	New Philadelph	46.96	317	P	P	16 58 58.7	+0.2
	baz=119						
N53A	Lisbon	46.98	318	P	P	16 58 58.1	-0.5
	baz=120						
N53A				P	P	16 58 58.1	-0.5
	baz=120						
DELO	Deloro Mine	46.98	324	IAmb	IAmb	16 59 07.9	
	comp=Z,31nm,1.4s						
TZTN	Tazewell	46.98	311	P	P	16 58 58.9	+0.1
	baz=114						
TZTN	Tazewell	46.98	311	P	P	16 59 00.8	+2.1
	baz=114,SNR=8.8						
TEIG	Tepich	47.00	288	LR	LR	17 17 05.2	
	comp=Z,1μm,21.5s,baz=192,slow=34						
Q52A	Bidwell	47.08	315	P	P	16 59 00.1	+0.6
	baz=117						
Q52A				P	P	16 59 00.1	+0.6
	baz=117						
ERPA	Erie	47.09	320	P	P	16 58 59.9	+0.4
	baz=122						
M53A	WI Miller and	47.19	319	P	P	16 59 00.6	+0.4
	baz=120						
CPCT	Cooper Cave	47.29	310	IAmb	IAmb	16 59 10.7	
	comp=Z,15nm,1.0s						
P52A	Corning	47.29	316	P	P	16 59 00.6	-0.5
	baz=117,SNR=8.8						
V51A	Loudon	47.29	310	IAmb	IAmb	16 59 11.8	
	comp=Z,13nm,0.9s						
V51A	Loudon	47.29	310	P	P	16 59 02.3	+1.0
	baz=112						
O52A	Adamsville	47.31	317	P	P	16 59 02.4	+1.1
	baz=118,SNR=9.8						
O52A				P	P	16 59 02.4	+1.1
	baz=118,SNR=9.8						
S51A	Beattyville	47.45	313	IAmb	IAmb	16 59 12.0	
	comp=Z,25nm,1.1s						
S51A	Beattyville	47.45	313	P	P	16 59 03.6	+1.2
	baz=114,SNR=5.6						
S51A				P	P	16 59 03.6	+1.2
	baz=114,SNR=5.6						
W50A	Signal Mountai	47.80	309	P	P	16 59 06.1	+0.9
	baz=111,SNR=13						
FPAL	Fort Paine	47.81	308	IAmb	IAmb	16 59 15.0	
	comp=Z,21nm,1.0s						
Q51A	Peebles	47.86	315	P	P	16 59 06.6	+1.0
	baz=116,SNR=9.2						
Q51A				P	P	16 59 06.6	+1.0
	baz=116,SNR=9.2						
BRAL	Brewton	47.92	303	P	P	16 59 06.4	+0.2
	baz=106						
SADO	Sadowa	48.01	323	LR	LR	17 14 47.2	
	comp=Z,110nm,21.9s,baz=112,slow=30						
T50A	Nancy	48.12	311	IAmb	IAmb	16 59 17.3	
	comp=Z,19nm,1.0s						
T50A	Nancy	48.12	311	P	P	16 59 09.2	+1.6
	baz=113						
T50A				P	P	16 59 09.2	+1.6
	baz=113						
ACSO	Alum Creek Sta	48.15	316	P	P	16 59 08.4	+0.6
	baz=117,SNR=6.5						

ACSO	Alum Creek Sta	48.15	316	P	P	16 59 09.0	+1.2
	baz=117,SNR=6.5						
R50A	Paris	48.25	313	IAmb	IAmb	16 59 18.4	
	comp=Z,18nm,1.0s						
R50A	Paris	48.25	313	P	P	16 59 10.1	+1.6
	baz=114						
R50A				P	P	16 59 10.1	+1.6
	baz=114						
LRAL	Lakeview Retre	48.42	306	IAmb	IAmb	16 59 19.6	
	comp=Z,13nm,0.9s						
LRAL	Lakeview Retre	48.42	306	P	P	16 59 10.0	0.0
	baz=108						
LRAL	Lakeview Retre	48.42	306	P	P	16 59 11.5	+1.5
	baz=108						
EPF	Esparros	48.58	40	*e*P	P	16 59 13.7	+2.6
U49A	Red Boiling Sp	48.63	310	P	P	16 59 12.7	+1.1
	baz=112,SNR=5.9						
M50A	Fremont	48.73	318	IAmb	IAmb	16 59 21.4	
	comp=Z,28nm,0.9s						
R49A	Shelbyville	48.86	313	IAmb	IAmb	16 59 22.9	
	comp=Z,20nm,0.9s						
R49A	Shelbyville	48.86	313	P	P	16 59 14.7	+1.4
	baz=114						
R49A				P	P	16 59 14.7	+1.4
	baz=114						
X48A	Hartselle	48.89	307	IAmb	IAmb	16 59 23.1	
	comp=Z,15nm,0.9s						
X48A	Hartselle	48.89	307	P	P	16 59 14.3	+0.6
	baz=109						
P49A	Miami Univ. Ec	49.04	315	IAmb	IAmb	16 59 23.8	
	comp=Z,30nm,1.0s						
P49A	Miami Univ. Ec	49.04	315	P	P	16 59 15.4	+0.8
	baz=115						
P49A	Miami Univ. Ec	49.04	315	P	P	16 59 15.7	+1.1
	baz=115						
VLDQ	Val d'Or	49.06	328	IAmb	IAmb	16 59 25.2	
	comp=Z,17nm,1.1s						
V48A	Smith Brothers	49.15	309	IAmb	IAmb	16 59 25.0	
	comp=Z,24nm,0.8s						
V48A	Smith Brothers	49.15	309	P	P	16 59 17.0	+1.5
	baz=110,SNR=11						
ZON	Zonda	49.19	212	IAmb	IAmb	16 59 24.2	
	comp=Z,19nm,1.3s						
N49A	Columbus Grove	49.27	316	IAmb	IAmb	16 59 25.4	
	comp=Z,25nm,1.1s						
N49A	Columbus Grove	49.27	316	P	P	16 59 17.3	+0.9
	baz=116						
N49A				P	P	16 59 17.3	+0.9
	baz=116						
Z47A	Carrollton	49.33	305	IAmb	IAmb	16 59 26.4	
	comp=Z,32nm,1.1s						
Z47A	Carrollton	49.33	305	P	P	16 59 17.5	+0.6
	baz=107						
SCHQ	Schefferville	49.41	340	IAmb	IAmb	16 59 26.2	
	comp=Z,15nm,1.0s						
SCHQ	Schefferville	49.41	340	P	P	16 59 17.1	-0.2
	comp=Z,15nm,1.0s,baz=141,slow=8.7,SNR=9.0						
SCHQ				LR	LR	17 16 44.5	
	comp=Z,119nm,20.5s,baz=181,slow=32						
	comp=Z,15nm,1.0s						
P48A	Milroy	49.51	314	IAmb	IAmb	16 59 26.9	
	comp=Z,27nm,1.1s						
P48A	Milroy	49.51	314	P	P	16 59 19.1	+0.8
	baz=114						
P48A				P	P	16 59 19.1	+0.8
	baz=114						
AAM	Ann Arbor	49.55	318	P	P	16 59 19.6	+1.1
	baz=118						
WCI	Wyandotte Cave	49.65	312	P	P	16 59 20.1	+0.8
WCI				IAmb	IAmb	16 59 28.8	
	comp=Z,13nm,0.8s						
WCI	Wyandotte Cave	49.65	312	P	P	16 59 19.5	+0.1
	baz=112						
WCI	Wyandotte Cave	49.65	312	P	P	16 59 20.4	+1.1
	baz=112						
WCI	Wyandotte Cave	49.65	312	P	P	16 59 20.1	+0.8
WCI				pmax	pmax		
	comp=Z,13nm,0.8s						
O48B	Farmland	49.65	315	IAmb	IAmb	16 59 28.1	
	comp=Z,18nm,0.9s						
O48B	Farmland	49.65	315	P	P	16 59 19.9	+0.5
	baz=115						
O48B	Farmland	49.65	315	P	P	16 59 19.8	+0.5
	baz=115						
T47A	Sharon Grove	49.79	311	IAmb	IAmb	16 59 29.9	
	comp=Z,29nm,1.0s						
T47A	Sharon Grove	49.79	311	P	P	16 59 21.4	+1.0
	baz=111,SNR=11						
WVT	Waverly	50.05	309	P	P	16 59 22.2	-0.2
WVT				IAmb	IAmb	16 59 31.4	
	comp=Z,17nm,0.8s						
WVT	Waverly	50.05	309	P	P	16 59 22.6	+0.2
	baz=110						
WVT	Waverly	50.05	309	P	P	16 59 23.1	+0.7
	baz=110,SNR=9.6						
WVT	Waverly	50.05	309	P	P	16 59 22.2	-0.2
WVT				pmax	pmax		
	comp=Z,17nm,0.9s						
BLO	Bloomington	50.18	313	IAmb	IAmb	16 59 32.7	
	comp=Z,16nm,0.8s						
MFF	Saint Martin d	50.19	36	*e*P	P	16 59 24.3	+1.0
N47A	Urbana	50.29	316	IAmb	IAmb	16 59 32.9	
	comp=Z,18nm,0.9s						
N47A	Urbana	50.29	316	P	P	16 59 24.3	+0.2
	baz=115						
N47A				P	P	16 59 24.3	+0.2
	baz=115						
CAF	Calviac	50.61	39	*e*P	P	16 59 27.7	+1.1
Y45A	Yeager Farm, C	50.69	306	P	P	16 59 29.1	+1.8
	baz=106,SNR=6.5						
J47A	Sunmer	50.74	319	IAmb	IAmb	16 59 36.7	
	comp=Z,19nm,0.8s						
OXF	Oxford	50.77	307	P	P	16 59 27.8	-0.1
	baz=107						
OXF	Oxford	50.77	307	P	P	16 59 27.3	-0.7
	baz=107,SNR=7.3						
VBMS	Vicksburg	51.05	304	P	P	16 59 30.4	+0.4
	baz=104						
SFIN	Lafayette	51.06	315	IAmb	IAmb	16 59 39.1	
	comp=Z,24nm,1.0s						
SFIN	Lafayette	51.06	315	P	P	16 59 30.6	+0.6
	baz=113						
OLIL	Olney	51.15	312	P	P	16 59 31.7	+1.0
	baz=111,SNR=8.5						
MT08	Bocatoma Ro	51.37	212	P	P	16 59 32.5	-0.2
MT08				IAmb	IAmb	16 59 42.0	
	comp=Z,61nm,1.8s						
S44A	Carbondale	51.65	311	IAmb	IAmb	16 59 43.5	
	comp=Z,33nm,0.9s						
S44A	Carbondale	51.65	311	P	P	16 59 35.4	+1.0
	baz=110,SNR=7.2						
Q44A	Meyer Farm, Va	51.88	312	P	P	16 59 37.0	+0.8
	baz=111,SNR=9.6						
BGF	Bois d'Agland	51.91	37	*e*P	P	16 59 37.3	+1.0
O44A	Mansfield	51.94	314	IAmb	IAmb	16 59 45.5	
	comp=Z,34nm,0.9s						
KEST	Kesra	52.06	52	IAmb	IAmb	16 59 47.7	
	comp=Z,32nm,1.1s						
KEST	Kesra	52.06	52	P	P	16 59 38.1	+0.5
	comp=Z,10nm,1.1s,baz=257,slow=7.5,SNR=3.7						
KEST				LR	LR	17 22 08.5	
	comp=Z,159nm,18.9s,baz=231,slow=36						
	comp=Z,10nm,1.1s						
BO04	La Punta	52.11	212	P	P	16 59 38.3	+0.4
BO04				IAmb	IAmb	16 59 45.1	
	comp=Z,39nm,1.4s						
M44A	Midewin, Midew	52.11	315	P	P	16 59 38.8	+1.0
	baz=113						
AVF	Avril sur Loir	52.33	37	*e*P	P	16 59 40.2	+0.9
L44A	Lake County Fo	52.34	316	IAmb	IAmb	16 59 48.5	
	comp=Z,38nm,0.9s						
L44A	Lake County Fo	52.34	316	P	P	16 59 39.7	+0.2
	baz=114						
P43A	Skaggs, Pawnee	52.51	313	IAmb	IAmb	16 59 49.3	
	comp=Z,19nm,0.9s						
SMF	Signal de Mont	52.55	37	*e*P	P	16 59 43.3	+2.3
SSF	Saint Saulge	52.56	37	*e*P	P	16 59 41.8	+0.8
LCAR	Lake Charles	52.59	308	P	P	16 59 42.2	+0.7
	baz=107						
FVM	French Village	52.62	311	IAmb	IAmb	16 59 50.3	
	comp=Z,22nm,0.8s						
FVM	French Village	52.62	311	P	P	16 59 42.4	+0.7
	baz=109,SNR=8.5						
HDIL	Hopedale	52.67	314	P	P	16 59 42.3	+0.3
	baz=112						
LOR	Lormes	52.87	37	*e*P	P	16 59 44.0	+0.6
H43A	Windswept, Lux	53.20	319	IAmb	IAmb	16 59 54.9	
	comp=Z,27nm,1.0s						

CCM	Cathedral Cave	53.25	310	P	P	16 59 45.6	-0.7
CCM				IAmb	IAmb	16 59 54.7	
	comp=Z,20nm,1.0s						
CCM	Cathedral Cave	53.25	310	P	P	16 59 46.2	-0.1
	baz=108						
CCM	Cathedral Cave	53.25	310	P	P	16 59 46.6	+0.2
	baz=108,SNR=7.1						
CCM	Cathedral Cave	53.25	310	P	P	16 59 45.6	-0.7
CCM				pmax	pmax		
	comp=Z,20nm,1.0s						
WHAR	Wooly Hollow	53.26	307	IAmb	IAmb	16 59 54.8	
	comp=Z,18nm,0.9s						
L42A	Oliver, Polo	53.47	316	IAmb	IAmb	16 59 56.7	
	comp=Z,32nm,1.1s						
L42A	Oliver, Polo	53.47	316	P	P	16 59 49.0	+1.1
	baz=112						
E43A	Lone Tree Farm	53.57	321	IAmb	IAmb	16 59 57.5	
	comp=Z,21nm,1.1s						
E43A	Lone Tree Farm	53.57	321	P	P	16 59 49.6	+1.1
	baz=118,SNR=5.1						
I42A	Draeger Farm,	53.71	318	IAmb	IAmb	16 59 58.6	
	comp=Z,16nm,0.9s						
I42A	Draeger Farm,	53.71	318	P	P	16 59 50.2	+0.6
	baz=114						
MGMO	Mountain Grove	53.76	309	IAmb	IAmb	16 59 59.1	
	comp=Z,30nm,1.3s						
N41A	Harden Midland	53.84	314	P	P	16 59 51.2	+0.6
	baz=110						
U40A	Yellville	53.99	308	P	P	16 59 52.0	+0.2
	baz=106,SNR=12						
U40A				P	P	16 59 52.0	+0.2
	baz=106,SNR=12						
F42A	Maple Grove Fa	54.00	320	IAmb	IAmb	17 00 00.6	
	comp=Z,22nm,1.0s						
EKA	Eskdalemuir Ar	54.06	25	P	P	16 59 52.2	+0.2
	comp=Z,5.1nm,0.8s,baz=222,slow=5.9,SNR=8.2						
	comp=Z,5.1nm,0.8s						
R40A	Maddies Statio	54.09	310	IAmb	IAmb	17 00 00.7	
	comp=Z,16nm,0.8s						
R40A	Maddies Statio	54.09	310	P	P	16 59 52.7	+0.2
	baz=108,SNR=10						
MIAR	Mount Ida	54.10	306	IAmb	IAmb	17 00 01.1	
	comp=Z,20nm,1.3s						
MIAR	Mount Ida	54.10	306	P	P	16 59 52.7	+0.1
	baz=104						
JFWS	Jewell Farm	54.22	316	IAmb	IAmb	17 00 02.0	
	comp=Z,25nm,0.8s						
JFWS	Jewell Farm	54.22	316	P	P	16 59 53.2	-0.2
	baz=112						
JFWS	Jewell Farm	54.22	316	P	P	16 59 54.0	+0.7
	baz=112,SNR=6.5						
P40A	Paris	54.31	312	P	P	16 59 54.4	+0.4
	baz=109,SNR=16						
NATX	Nacogdoches	54.38	302	P	P	16 59 54.8	+0.1
	baz=101						
L40A	Anamosa	54.57	315	IAmb	IAmb	17 00 04.7	
	comp=Z,27nm,1.1s						
L40A	Anamosa	54.57	315	P	P	16 59 56.5	+0.6
	baz=111,SNR=6.5						
S39A	Bolivar	54.72	309	IAmb	IAmb	17 00 05.2	
	comp=Z,22nm,0.8s						
S39A	Bolivar	54.72	309	P	P	16 59 57.1	+0.1
	baz=106,SNR=13						
DOU	Dourbes	54.73	34	*d*P	P	16 59 56.7	-0.2
I40A	Norwalk	54.84	317	IAmb	IAmb	17 00 06.5	
	comp=Z,15nm,0.8s						
I40A	Norwalk	54.84	317	P	P	16 59 58.8	+0.9
	baz=113						
D41A	Chassel	54.84	322	P	P	16 59 58.6	+0.8
	baz=117,SNR=5.7						
GIVF	Givet	54.85	34	*e*P	P	16 59 58.4	+0.6
HINF	Hinteralfeld	54.91	37	*e*P	P	16 59 58.8	+0.5
HKT	Hockley	55.06	300	*i* P	P	16 59 59.0	-0.6
HKT				pmax	pmax		
	comp=Z,4.0nm,1.1s						
G40A	Rib Lake	55.11	319	IAmb	IAmb	17 00 08.8	
	comp=Z,17nm,0.8s						
G40A	Rib Lake	55.11	319	P	P	17 00 00.6	+0.8
	baz=114,SNR=8.8						
RCHB	Rochefort	55.11	34	*d*P	P	17 00 00.5	+0.9
ECH	Echery	55.28	37	P	P	17 00 01.4	+0.4
ECH	Echery	55.28	37	P	P	17 00 01.4	+0.4
ECH				pmax	pmax		
	comp=Z,11nm,1.0s						
BCLA	Clavier	55.28	34	*d*P	P	17 00 01.8	+0.9
P38A	Dawn	55.43	312	IAmb	IAmb	17 00 10.5	
	comp=Z,18nm,0.8s						
P38A	Dawn	55.43	312	P	P	17 00 02.6	+0.4
	baz=108,SNR=8.4						
BHOU	Houvegnez	55.64	34	*d*P	P	17 00 03.3	-0.2
MEM	Membach	55.77	34	*d*P	P	17 00 04.0	-0.4
SCIA	State Center	55.91	314	P	P	17 00 05.3	-0.4
	baz=109						
BFO	Black Forest	56.03	37	P	P	17 00 07.1	+0.7
BFO				IAmb	IAmb	17 00 15.8	
	comp=Z,25nm,1.2s						
BFO	Black Forest	56.03	37	P	P	17 00 07.1	+0.7
BFO				pmax	pmax		
	comp=Z,25nm,1.2s						
TUL3	Leonard	56.18	307	P	P	17 00 07.2	-0.5
	baz=103						
TUL3	Leonard	56.18	307	P	P	17 00 07.9	+0.2
	baz=103						
DAVOX	Davos/Dischmat	56.32	40	LR	LR	17 20 17.0	
	comp=Z,143nm,21.6s,baz=257,slow=32						
BORG	Borgarnes	56.42	10	LR	LR	17 18 14.6	
	comp=Z,48nm,18.3s,baz=199,slow=30						
VAE	Valguarnera	56.46	51	LR	LR	17 21 17.4	
	comp=Z,132nm,21.2s,baz=314,slow=33						
DAVA	Damuels	56.52	39	*e*P	P	17 00 10.9	+0.8
	comp=Z,3.8nm,0.8s						
435B	Jarrell	56.68	300	P	P	17 00 10.7	-0.6
	baz=99						
I37A	Lemond, Waseca	56.75	317	IAmb	IAmb	17 00 19.6	
	comp=Z,24nm,1.1s						
WHTX	Lake Whitney,	56.76	302	P	P	17 00 10.8	-1.1
	baz=100						
SPMN	Marine on St.	56.79	318	P	P	17 00 11.3	-0.5
	baz=112,SNR=6.4						
SPMN	Marine on St.	56.79	318	P	P	17 00 12.1	+0.3
	baz=112,SNR=6.4						
W35A	Tecumseh	56.88	306	IAmb	IAmb	17 00 20.7	
	comp=Z,24nm,0.9s						
FETA	Feichten	56.95	40	*i* P	P	17 00 14.0	+0.9
	comp=Z,2.3nm,0.8s,SNR=5.0						
QUOK	Quay	56.96	307	IAmb	IAmb	17 00 21.2	
	comp=Z,25nm,1.1s						
OK030	Cody Creek RV	56.97	306	IAmb	IAmb	17 00 21.4	
	comp=Z,14nm,0.9s						
T35B	Sooner Cattle	56.98	308	P	P	17 00 13.9	+0.6
	baz=104						
T35A	Sooner Cattle	56.98	308	IAmb	IAmb	17 00 21.2	
	comp=Z,15nm,0.8s						
OK052	Battle Ridge R	57.00	307	IAmb	IAmb	17 00 21.6	
	comp=Z,21nm,1.0s						
EYMN	Ely	57.02	322	P	P	17 00 13.3	-0.1
	baz=114						
OK033	Mehan	57.12	307	IAmb	IAmb	17 00 22.4	
	comp=Z,30nm,0.9s						
OK051	E0350 and S346	57.14	307	IAmb	IAmb	17 00 22.5	
	comp=Z,25nm,1.0s						
HBVL	Hebbronville	57.16	296	IAmb	IAmb	17 00 24.4	
	comp=Z,18nm,1.0s						
CTI	Castel Tesino	57.16	41	P	P	17 00 15.1	+0.5
CTI	Castel Tesino	57.16	41	P	P	17 00 15.1	+0.5
CTI				pmax	pmax		
	comp=Z,13nm,1.0s						
OK048	Pawnee Station	57.20	307	IAmb	IAmb	17 00 23.1	
	comp=Z,26nm,1.0s						
MOTA	Moosalm	57.31	39	*i* P	P	17 00 16.2	+0.5
	comp=Z,1.1nm,0.4s						
FRB	Frobisher Bay	57.31	346	LR	LR	17 22 05.2	
	comp=Z,79nm,19.6s,baz=183,slow=33						
SQTA	Sankt Quirin	57.33	40	*e*P	P	17 00 16.4	+0.6
	comp=Z,3.3nm,0.6s,SNR=5.1						
PLCA	Paso Flores	57.45	207	P	P	17 00 15.9	-0.7
PLCA				IAmb	IAmb	17 00 24.1	
	comp=Z,21nm,1.2s						
PLCA	Paso Flores	57.45	207	P	P	17 00 15.9	-0.7
PLCA				pmax	pmax		
	comp=Z,21nm,1.2s						
PLCA	Paso Flores	57.45	207	*e*P	P	17 00 17.4	+0.8
PLCA	Paso Flores	57.45	207	P	P	17 00 15.1	-1.5
	comp=Z,8.7nm,1.1s,baz=43,slow=9.4,SNR=9.5						
PLCA				LR	LR	17 26 21.4	
	comp=Z,141nm,18.6s,baz=30,slow=38						
	comp=Z,8.7nm,1.1s						

F36A Milaca 57.49 319 IAmb IAmb 17 00 24.8
comp=Z,20nm,1.1s
F36A Milaca 57.49 319 P **P** **17 00 16.3 -0.5**
baz=111,SNR=11
KSU1 Kansas State U 57.58 310 IAmb IAmb 17 00 24.9
comp=Z,24nm,0.8s
KSU1 Kansas State U 57.58 310 P **P** **17 00 17.1 -0.4**
baz=105
KSU1 Kansas State U 57.58 310 P **P** **17 00 17.5 0.0**
baz=105
WATA Walderalm 57.60 40 *e*P **P** **17 00 18.3 +0.6**
comp=Z,1.0nm,0.4s
WTTA Wattenberg 57.61 40 *e*P **P** **17 00 18.5 +0.6**
comp=Z,4.9nm,0.7s,SNR=6.3
PLPT Palo Pinto 57.62 303 IAmb IAmb 17 00 25.7
comp=Z,12nm,0.9s
833A Chaparral WMA, 57.93 297 P **P** **17 00 20.2 0.0**
baz=96
BRDY Brady 57.96 301 IAmb IAmb 17 00 27.9
comp=Z,12nm,1.0s
ABTA Abfaltersbach 57.97 40 *e*P **P** **17 00 20.5 +0.3**
comp=Z,10nm,1.0s
KAN17 Caldwell West 57.98 308 IAmb IAmb 17 00 28.6
comp=Z,43nm,1.4s
CROK Carrier 58.04 307 IAmb IAmb 17 00 29.1
comp=Z,27nm,1.0s
OK032 Salt Plains WL 58.28 307 IAmb IAmb 17 00 30.6
comp=Z,19nm,0.9s
LESA Schwarzleotal 58.33 40 *e*P **P** **17 00 23.5 +0.7**
comp=Z,6.2nm,0.8s
WMOK Wichita Mounta 58.33 305 P **P** **17 00 22.1 -0.8**
baz=100,SNR=6.9
WMOK Wichita Mounta 58.33 305 P **P** **17 00 22.1 -0.8**
baz=100,SNR=6.9
JCT Junction City 58.53 300 P **P** **17 00 24.2 -0.2**
baz=97
B35A Bob, Littlefor 58.55 321 IAmb IAmb 17 00 31.9
comp=Z,17nm,1.1s
B35A Bob, Littlefor 58.55 321 P **P** **17 00 24.2 +0.1**
baz=113,SNR=5.8
MYKA Terra Mystica 58.66 41 *e*P **P** **17 00 26.0 +1.0**
comp=Z,5.6nm,0.6s,SNR=4.8
ABTX Abilene, Hawle 58.69 302 IAmb IAmb 17 00 33.3
comp=Z,21nm,1.1s
ABTX Abilene, Hawle 58.69 302 P **P** **17 00 25.2 -0.2**
baz=99
ABTX Abilene, Hawle 58.69 302 P **P** **17 00 25.8 +0.3**
baz=99
ECSD EROS Data Cent 58.86 315 IAmb IAmb 17 00 34.4
comp=Z,29nm,1.4s
ECSD EROS Data Cent 58.86 315 P **P** **17 00 26.4 -0.1**
baz=108,SNR=7.9
ECSD EROS Data Cent 58.86 315 P **P** **17 00 26.5 +0.1**
baz=108,SNR=7.9
R32A Long Quarter, 59.02 309 P **P** **17 00 28.1 +0.5**
baz=103
BIOA Bad Ischl, Aus 59.03 40 *e*P **P** **17 00 28.0 +0.5**
comp=Z,12nm,1.2s
ICESG Greenland Ices 59.14 0 *i* P **P** **17 00 28.5 +0.2**
ICESG IAmb IAmb 17 00 32.0
comp=Z,8.5nm,1.1s
APMT Aspermont 59.20 303 IAmb IAmb 17 00 36.8
comp=Z,21nm,0.9s
OBKA Obir 59.20 41 *e*P **P** **17 00 29.4 +0.5**
comp=Z,22nm,1.1s
NKC Novy Kostel 59.27 37 *e*P P 17 00 38.3 +9.1
F33A 5 Mile Ranch, 59.30 318 IAmb IAmb 17 00 37.1
comp=Z,15nm,1.1s
BGNE Belgrade 59.31 312 P **P** **17 00 29.8 +0.2**
baz=105
MOA Molln 59.48 40 *e*P **P** **17 00 30.6 -0.1**
comp=Z,4.3nm,0.5s
GERES GERESS Array B 59.49 39 LR LR 17 24 35.3
comp=Z,68nm,19.1s,baz=250,slow=34
KHC Kasperske Hory 59.52 38 P **P** **17 00 29.9 -1.0**
KHC Kasperske Hory 59.52 38 *e*P **P** **17 00 30.9 -0.1**
KHC Kasperske Hory 59.52 38 *i* P **P** **17 00 31.6 +0.6**
KHC pmax pmax
comp=Z,9.0nm,1.1s
SMWD Samnorwood 59.58 305 IAmb IAmb 17 00 39.3
comp=Z,13nm,1.0s
OZNA Ozona 59.72 300 IAmb IAmb 17 00 40.8
comp=Z,11nm,1.1s
AGMN Agassiz Nation 59.85 321 P **P** **17 00 33.5 +0.3**
baz=111
CKRC Cesky Krumlov 59.86 39 *e*P **P** **17 00 33.8 +0.6**
CKRC Cesky Krumlov 59.86 39 *e*P **P** **17 00 33.8 +0.6**
CBKS Cedar Bluff 59.88 309 P **P** **17 00 33.7 0.0**
baz=102
DKNS Dickens 59.91 303 IAmb IAmb 17 00 41.8
comp=Z,16nm,0.8s
ZVC Zvikov 60.01 38 *e*P **P** **17 00 34.5 +0.2**
CLL Collm 60.03 36 *e*P **P** **17 00 34.0 -0.3**
CLL Collm 60.03 36 *e*P **P** **17 00 34.0 -0.3**
ARSA Arzberg 60.08 41 *e*P **P** **17 00 35.5 +0.7**
comp=Z,5.3nm,0.8s
POST Post 60.30 302 IAmb IAmb 17 00 44.8
comp=Z,22nm,1.3s
BRG Berggiesshubel 60.40 36 *e*P **P** **17 00 39.0 +2.0**
BRG Amp 17 00 41.7
comp=Z,4.4nm,1.0s
BRG Berggiesshubel 60.40 36 P P 17 00 47.0 +10
BRG Amp 17 00 51.9
comp=Z,6.1nm,1.2s
BRG Berggiesshubel 60.40 36 *e*P **P** **17 00 38.9 +2.0**
BRG *e* 17 00 46.9
BRG pmax pmax
comp=Z,4.0nm,1.0s
PRU Pruhonice 60.42 38 *e*P P 17 00 45.6 +8.5
SAND Sanderson 60.47 299 IAmb IAmb 17 00 46.0
comp=Z,13nm,1.2s
CONA Conrad Observa 60.52 40 *e*P **P** **17 00 38.8 +0.9**
comp=Z,13nm,2.0s
ULM Lac du Bonnet 60.56 323 P **P** **17 00 36.6 -1.4**
ULM IAmb IAmb 17 00 45.2
comp=Z,19nm,0.9s
ULM Lac du Bonnet 60.56 323 *i* P **P** **17 00 36.2 -1.8**
ULM Lac du Bonnet 60.56 323 P **P** **17 00 37.4 -0.6**
comp=Z,15nm,1.0s,baz=104,slow=6.5,SNR=14
ULM PP **PP** **17 02 52.2 +0.8**
comp=Z,2.0nm,0.9s,baz=127,slow=15,SNR=2.3
ULM LR LR 17 21 60.0
comp=Z,118nm,21.7s,baz=122,slow=31
comp=Z,15nm,1.0s
SUSD Miller 60.68 316 P **P** **17 00 39.2 +0.3**
baz=106
AMTX Amarillo 60.71 304 P **P** **17 00 39.4 0.0**
baz=99
RONA Rosalia, Austr 60.72 40 *e*P **P** **17 00 39.5 +0.3**
comp=Z,9.1nm,1.1s
MNHN Monahans 61.16 300 IAmb IAmb 17 00 50.1
comp=Z,39nm,1.9s
KRUC Moravsky 61.23 39 *e*P **P** **17 00 43.4 +0.8**
VRAC Vranov 61.44 39 *e*P **P** **17 00 45.0 +1.0**
VRAC Vranov 61.44 39 LR LR 17 25 05.6
comp=Z,43nm,19.1s,baz=251,slow=34
MSTX Muleshoe 61.48 303 IAmb IAmb 17 00 52.9
comp=Z,14nm,1.1s
MSTX Muleshoe 61.48 303 P **P** **17 00 44.0 -0.7**
baz=98
MSTX Muleshoe 61.48 303 P **P** **17 00 45.2 +0.5**
baz=98
UPC Upice 61.49 37 *e*P **P** **17 00 45.5 +1.2**
UPC Upice 61.49 37 *e*P **P** **17 00 45.5 +1.2**
CHVC Chvalec 61.55 37 *e*P P 17 00 53.4 +8.7
CHVC Chvalec 61.55 37 *e*P P 17 00 53.4 +8.7
DPC Dobruska-Polom 61.62 38 *e*P P 17 00 35.3 -10
DPC Dobruska-Polom 61.62 38 *e*P P 17 00 35.3 -10
OSTC Ostas 61.63 37 *e*P **P** **17 00 46.3 +1.0**
OSTC Ostas 61.63 37 *e*P **P** **17 00 46.3 +1.0**
TXAR Lajitas Array 61.75 298 P **P** **17 00 46.9 +0.3**
comp=Z,0.8nm,0.8s,baz=120,slow=5.6,SNR=8.1
TXAR LR LR 17 25 56.3
comp=Z,135nm,21.9s,baz=80,slow=34
comp=Z,0.8nm,0.8s
TX31 Lajitas Ar. Si 61.75 298 P **P** **17 00 46.7 0.0**
baz=94
TX32 Lajitas Array 61.75 298 IAmb IAmb 17 00 55.0
comp=Z,24nm,2.0s
RTBA Rita Blanca 61.80 306 IAmb IAmb 17 00 54.9
comp=Z,13nm,1.1s
ALPN Alpine 61.81 299 IAmb IAmb 17 00 55.5
comp=Z,11nm,1.1s
OGNE Ogallala 62.05 311 P **P** **17 00 47.8 -0.7**
baz=102
MDND Maddock 62.08 319 P **P** **17 00 48.3 -0.1**
baz=107

KSCO Kaye Shedlock' 62.13 309 P **P** **17 00 49.2 +0.1**
baz=100
KONO Kongsberg 62.15 26 *ce*P **P** **17 00 48.4 -0.2**
KONO pmax pmax
comp=Z,21nm,1.1s
MORC Moravsky Berou 62.17 39 P **P** **17 00 48.7 -0.3**
MORC Moravsky Berou 62.17 39 *e*P **P** **17 00 50.3 +1.3**
MORC Moravsky Berou 62.17 39 P **P** **17 00 48.7 -0.3**
MORC pmax pmax
comp=Z,49nm,2.0s
MAUC Maruska 62.22 39 *e*P **P** **17 00 51.2 +1.9**
SUMG Summit 62.66 1 P **P** **17 00 52.2 0.0**
SUMG IAmb IAmb 17 00 58.2
comp=Z,12nm,1.1s
SUMG Summit 62.66 1 P **P** **17 00 52.2 0.0**
SUMG pmax pmax
comp=Z,12nm,1.1s
SUMG Summit 62.66 1 *i* P **P** **17 00 53.0 +0.8**
SUMG IAmb IAmb 17 00 55.9
comp=Z,3.6nm,0.7s
425A Indio Mountain 63.01 299 IAmb IAmb 17 01 04.3
comp=Z,16nm,1.2s
EFI East Falkland 63.14 192 *i* P **P** **17 00 54.8 -0.3**
EFI pmax pmax
comp=Z,43nm,1.1s
FCC Fort Churchill 63.17 332 P **P** **17 00 54.9 -0.4**
FCC Fort Churchill 63.17 332 P **P** **17 00 54.9 -0.4**
FCC pmax pmax
comp=Z,42nm,1.2s
LANS Liptovska Anna 63.18 40 *e*P **P** **17 00 58.4 +2.7**
LANS *e* 17 01 05.3
LANS Liptovska Anna 63.18 40 *e*P **P** **17 00 58.4 +2.7**
LANS *e* 17 01 05.4
T25A Trinidad 63.23 307 IAmb IAmb 17 01 05.6
comp=Z,14nm,1.0s
T25A Trinidad 63.23 307 P **P** **17 00 56.4 -0.1**
baz=98
MNTX Cornudas Mount 63.42 300 P **P** **17 00 57.5 -0.1**
baz=95,SNR=7.7
MNTX Cornudas Mount 63.42 300 P **P** **17 00 57.6 0.0**
baz=95,SNR=7.7
NB2 NORSAR Subarra 63.56 25 P **P** **17 00 59.4 +1.4**
comp=Z,92nm,1.7s,baz=245,slow=6.9
NB2 NORSAR Subarra 63.56 25 P **P** **17 00 59.4 +1.4**
baz=245,slow=6.9
NOA NORSAR Array B 63.56 25 P **P** **17 00 58.7 +0.8**
comp=Z,7.3nm,1.0s,baz=240,slow=6.8,SNR=9.7
NOA LR LR 17 23 22.0
comp=Z,43nm,21.6s,baz=245,slow=31
comp=Z,7.3nm,1.0s
OJC Ojcow 63.70 39 IAmb IAmb 17 01 09.3
comp=Z,26nm,1.3s
Q24A Divide 64.07 309 P **P** **17 01 01.5 -0.6**
baz=98
RSSD Black Hills 64.15 314 P **P** **17 01 01.7 -0.8**
baz=102
SDCO Great Sand Dun 64.17 307 P **P** **17 01 01.6 -1.2**
baz=98
SDCO Great Sand Dun 64.17 307 P **P** **17 01 03.3 +0.5**
baz=98,SNR=13
HFS Hagfors 64.19 27 P **P** **17 01 03.1 +1.0**
comp=Z,18nm,0.8s,baz=242,slow=8.2,SNR=17
HFS LR LR 17 26 57.5
comp=Z,22nm,18.3s,baz=257,slow=34
comp=Z,18nm,0.8s
TSUM Tsumeb 64.23 117 LR LR 17 22 42.5
comp=Z,264nm,21.0s,baz=328,slow=30
CRVS Cervenica-Dubn 64.37 40 *e*P **P** **17 01 05.3 +1.8**
CRVS *e* 17 01 12.8
CRVS Cervenica-Dubn 64.37 40 *e*P **P** **17 01 05.3 +1.8**
CRVS *e* 17 01 12.8
IDI Anoyia 64.40 56 LR LR 17 30 09.1
comp=Z,51nm,19.1s,baz=274,slow=37
ISCO Idaho Springs 64.55 309 IAmb IAmb 17 01 14.6
comp=Z,13nm,1.0s
ISCO Idaho Springs 64.55 309 P **P** **17 01 05.1 -0.1**
baz=99
ISCO Idaho Springs 64.55 309 P **P** **17 01 06.2 +0.9**
baz=99,SNR=12
ANMO Albuquerque 64.61 304 P **P** **17 01 05.4 -0.2**
baz=96
ANMO Albuquerque 64.61 304 *i* P **P** **17 01 05.7 +0.1**
ANMO pmax pmax
comp=Z,4.0nm,1.3s
ANMO Albuquerque 64.61 304 LR LR 17 25 51.1
comp=Z,336nm,21.6s,baz=188,slow=33
Y22F Passcal Instru 64.91 303 P **P** **17 01 06.7 -0.9**
baz=95
Y22D IRIS PASSCAL I 64.91 303 P **P** **17 01 07.0 -0.5**
baz=95
N23A Red Feather La 64.96 311 IAmb IAmb 17 01 22.9
comp=Z,21nm,1.4s
N23A Red Feather La 64.96 311 P **P** **17 01 07.7 -0.1**
baz=99
APE Apeiranthos 65.11 54 *i* P **P** **17 01 07.4 -1.2**
APE pmax pmax
comp=Z,34nm,1.2s
DGMT Dagmar 65.21 319 P **P** **17 01 09.8 +0.7**
baz=104
DGMT Dagmar 65.21 319 P **P** **17 01 10.3 +1.2**
baz=104
S22A 4UR Ranch, Cre 65.21 307 IAmb IAmb 17 01 19.1
comp=Z,15nm,1.1s
S22A 4UR Ranch, Cre 65.21 307 P **P** **17 01 09.5 -0.2**
baz=97
121A Cookes Peak, D 65.52 301 IAmb IAmb 17 01 20.5
comp=Z,16nm,1.4s
121A Cookes Peak, D 65.52 301 P **P** **17 01 11.5 0.0**
baz=94
FFC Flin Flon 65.60 326 P **P** **17 01 11.3 0.0**
FFC Flin Flon 65.60 326 P **P** **17 01 11.4 0.0**
FFC pmax pmax
comp=Z,40nm,1.2s
K22A Casper 65.66 312 P **P** **17 01 12.3 0.0**
baz=99
LAO LASA Array 66.17 317 P **P** **17 01 15.3 -0.1**
baz=101
LVV L'vov 66.22 40 *e*P **P** **17 01 12.4 -3.1**
MVCO Mesa Verde 66.48 306 P **P** **17 01 17.5 -0.2**
baz=96
O20A White River Ci 66.59 309 IAmb IAmb 17 01 27.2
comp=Z,11nm,0.9s
O20A White River Ci 66.59 309 P **P** **17 01 18.0 -0.3**
baz=97,SNR=5.6
MLR Muntele Rosu 66.62 45 P **P** **17 01 18.8 +0.5**
MLR Muntele Rosu 66.62 45 P **P** **17 01 18.8 +0.5**
MLR pmax pmax
comp=Z,63nm,1.4s
MLR Muntele Rosu 66.62 45 LR LR 17 27 06.1
comp=Z,51nm,22.0s,baz=263,slow=33
319A Douglas 66.72 300 IAmb IAmb 17 01 28.6
comp=Z,16nm,1.2s
X18A Snowflake 67.45 303 IAmb IAmb 17 01 33.1
comp=Z,13nm,1.1s
RDMU Red Mountain 67.65 310 IAmb IAmb 17 01 33.6
comp=Z,18nm,1.0s
NEEM North Greenlan 67.76 358 *i* P **P** **17 01 24.3 -0.9**
NEEM IAmb IAmb 17 01 34.3
comp=Z,5.3nm,0.9s
DAG Danmarks Havn 67.88 5 *i* P **P** **17 01 25.5 -0.1**
DAG IAmb IAmb 17 01 35.0
comp=Z,3.6nm,0.9s
BW06 Boulder Array 67.89 312 P **P** **17 01 26.5 -0.1**
baz=97,SNR=7.0
PDAR Pinedale Array 67.89 312 P **P** **17 01 25.4 -1.2**
comp=Z,2.5nm,1.0s,baz=104,slow=6.3,SNR=12
PDAR LR LR 17 27 31.8
comp=Z,368nm,21.8s,baz=124,slow=33
comp=Z,2.5nm,1.0s
RLMT Red Lodge 68.00 315 P **P** **17 01 26.0 -1.1**
baz=98
TUC Tucson 68.04 301 P **P** **17 01 27.2 -0.3**
baz=92
P18A Preston Nutter 68.07 309 IAmb IAmb 17 01 37.7
comp=Z,27nm,1.4s
HSIG 68.10 297 IAmb IAmb 17 01 36.7
comp=Z,13nm,1.3s
SRU San Rafael Swe 68.24 308 IAmb IAmb 17 01 37.7
comp=Z,17nm,1.2s
HMU Henry Mountain 68.32 307 IAmb IAmb 17 01 38.5
comp=Z,29nm,1.4s
MG01 Puerto William 68.45 196 P **P** **17 01 29.1 -0.2**
WUAZ Wupatki 68.67 304 IAmb IAmb 17 01 41.1
comp=Z,23nm,1.1s
WUAZ Wupatki 68.67 304 P **P** **17 01 30.9 -0.6**
baz=93
X16A Lo Mia Camp, P 68.67 303 IAmb IAmb 17 01 41.3

comp=Z,12nm,1.2s
LOHW Long Hollow 68.75 313 IAmb IAmb 17 01 40.4
comp=Z,19nm,1.6s
EGMT Eagleton 68.77 318 P **P** **17 01 31.7 -0.1**
baz=99
TPAW Teton Pass 68.99 313 IAmb IAmb 17 01 42.0
comp=Z,11nm,1.1s
YFT Old Faithful 69.02 314 IAmb IAmb 17 01 43.6
comp=Z,14nm,1.1s
AHID Auburn Hatcher 69.02 312 IAmb IAmb 17 01 44.0
comp=Z,14nm,1.4s
IMW Indian Meadow 69.03 313 IAmb IAmb 17 01 42.4
comp=Z,10.0nm,0.9s
NACGM Naroch 69.03 35 *e*P **P** **17 01 35.4 +2.3**
HWUT Hardware Ranch 69.25 311 IAmb IAmb 17 01 43.5
comp=Z,17nm,1.0s
U15A North Rim 69.46 305 IAmb IAmb 17 01 46.3
comp=Z,13nm,1.1s
NLU North Lily Min 69.50 309 IAmb IAmb 17 01 46.3
comp=Z,22nm,1.5s
MNK Minsk 69.57 35 *i* P **P** **17 01 34.5 -1.9**
comp=E,8.0nm,1.1s
MNK *i* P **P** **17 01 34.5 -1.9**
comp=N,28nm,0.9s
MNK *i* P **P** **17 01 34.5 -1.9**
comp=Z,20nm,1.1s,baz=258
MNK *i* PcP **PcP** **17 01 57.1 -2.4**
MNK *i* PP **PP** **17 04 08.3 -1.8**
MNK *i* PPP PPP 17 05 49.5
MNK *i* S **S** **17 10 43.8 -0.6**
MNK *i* ScS **SKSac** **17 11 36.1 -0.9**
MNK *i* SS **SS** **17 15 12.9 +0.8**
MNK *i* SSS SSS 17 18 34.8
MNK *i* LQ LQ 17 27 12.3
MNK *i* LR LR 17 30 28.2
MNK *i* LRM MLR 17 31 44.5
comp=Z,99nm,16.1s
MNK *i* LRM MLR 17 31 48.8
comp=E,108nm,18.7s
MNK *i* LRM MLR 17 32 16.8
comp=N,124nm,20.4s
MNK Minsk 69.57 35 *i* P **P** **17 01 34.5 -1.9**
MNK *i* 17 01 57.1
MNK *i* 17 04 08.3
MNK *i* PPP PPP 17 05 49.4
MNK *i* S **S** **17 10 43.8 -0.6**
MNK *i* 17 11 36.1
MNK *i* SS **SS** **17 15 12.8 +0.8**
MNK pmax pmax
comp=N,28nm,0.9s
MNK pmax pmax
comp=E,8.0nm,1.0s
MNK pmax pmax
comp=Z,20nm,1.0s
MNK MLR MLR
comp=Z,99nm,16.0s
MNK MLR MLR
comp=E,108nm,19.0s
MNK MLR MLR
comp=N,124nm,20.0s
KIEV Kiev 69.66 40 P **P** **17 01 37.4 +0.3**
KIEV IAmb IAmb 17 01 46.3
comp=Z,23nm,1.3s
KIEV Kiev 69.66 40 P **P** **17 01 37.4 +0.3**
KIEV pmax pmax
comp=Z,23nm,1.3s
AKASG Malin Array Be 69.67 40 *i* P **P** **17 01 37.7 +0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 69.67 40 P **P** **17 01 37.4 +0.3**
comp=Z,3.7nm,1.0s,baz=266,slow=5.6,SNR=9.3
AKASG LR LR 17 29 57.6
comp=Z,72nm,20.6s,baz=206,slow=34
comp=Z,3.7nm,1.0s
AKBB Malin Array Si 69.67 40 IAmb IAmb 17 01 46.3
comp=Z,25nm,1.3s
AKBB Malin Array Si 69.67 40 *ce*P **P** **17 01 38.8 +1.7**
AKBB pmax pmax
comp=Z,23nm,1.3s
BOZ Bozeman (W) 69.71 315 P **P** **17 01 37.5 -0.3**
baz=97
214A Organ Pipe Nat 69.75 300 P **P** **17 01 38.2 +0.1**
baz=91
DUG Dugway, Tooele 70.08 309 P **P** **17 01 40.4 +0.2**
baz=94
HVU Hansel Valley 70.17 311 IAmb IAmb 17 01 49.2
comp=Z,14nm,1.2s
FINES FINESS Array B 70.31 28 P **P** **17 01 41.2 +0.3**
comp=Z,7.0nm,0.9s,baz=330,slow=6.6,SNR=6.9
FINES LR LR 17 29 41.7
comp=Z,56nm,20.0s,baz=223,slow=34
comp=Z,7.0nm,0.9s
PDMCI Parker Dam,Lak 70.90 303 P **P** **17 01 45.1 +0.1**
baz=91
SPR3 Spring Creek 3 71.19 308 P **P** **17 01 46.3 -0.8**
SPR3 IAmb IAmb 17 01 56.6
comp=Z,16nm,1.3s
MSO Missoula 71.44 316 P **P** **17 01 48.9 +0.7**
baz=95
RES Resolute Bay 71.49 347 LR LR 17 31 22.5
comp=Z,42nm,18.8s,baz=19,slow=34
HLID Hailey 71.51 313 IAmb IAmb 17 01 57.9
comp=Z,11nm,0.8s
HLID Hailey 71.51 313 P **P** **17 01 48.8 0.0**
baz=94,SNR=11
BRTR Keskin Array B 71.66 51 *i* P **P** **17 01 50.5 +0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 71.66 51 P **P** **17 01 50.1 +0.4**
comp=Z,1.9nm,0.7s,baz=250,slow=5.6,SNR=15
BRTR PP **PP** **17 04 29.6 +0.8**
comp=Z,0.4nm,0.8s,baz=281,slow=8.4,SNR=2.2
BRTR LR LR 17 33 15.2
comp=Z,50nm,21.0s,baz=244,slow=36
comp=Z,1.9nm,0.7s
IRM Iron Mountain 71.73 303 P **P** **17 01 49.9 -0.2**
baz=90
ELK Elko 71.96 310 IAmb IAmb 17 02 00.7
comp=Z,16nm,1.1s
ELK Elko 71.96 310 LR LR 17 30 26.0
comp=Z,250nm,21.2s,baz=85,slow=33
BC3 Big Chuckawall 71.98 302 P **P** **17 01 51.2 -0.6**
baz=90
SUR Sutherland 72.08 129 LR LR 17 26 13.1
comp=Z,281nm,19.9s,baz=318,slow=30
R11B Troy Canyon, C 72.15 307 IAmb IAmb 17 02 02.2
comp=Z,22nm,1.6s
R11B Troy Canyon, C 72.15 307 P **P** **17 01 52.8 0.0**
baz=92
GMRC Granite Mounta 72.16 303 P **P** **17 01 53.1 +0.3**
baz=90
BELC Belle Mtn. Jos 72.44 303 P **P** **17 01 54.6 +0.1**
baz=90
MFID Camas Ranch 72.53 312 IAmb IAmb 17 02 03.9
comp=Z,18nm,1.2s
IKP In-Ko-Pah, Jac 72.54 301 P **P** **17 01 55.1 0.0**
baz=89
ARCES ARCESS Array B 72.55 20 P **P** **17 01 54.6 +0.3**
comp=Z,5.9nm,1.0s,baz=242,slow=6.7,SNR=5.7
ARCES LR LR 17 27 57.9
comp=Z,37nm,21.6s,baz=165,slow=31
comp=Z,5.9nm,1.0s
LSZ Lusaka 72.61 109 LR LR 17 27 45.2
comp=Z,177nm,21.0s,baz=301,slow=31
TPNV Topopah Spring 72.65 306 P **P** **17 01 56.0 +0.2**
baz=91
EIL Elat 72.69 62 LR LR 17 33 48.8
comp=Z,113nm,19.9s,baz=258,slow=36
HEC Hector,Ludlow 72.71 303 P **P** **17 01 56.2 +0.2**
baz=90
MONP2 Monument Peak 72.80 301 P **P** **17 01 57.1 +0.3**
baz=89
TPFO Pinon Flats 72.82 302 P **P** **17 01 57.1 +0.3**
baz=90
PFO Pinyon Flats O 72.82 302 P **P** **17 01 57.2 +0.4**
baz=90
PFO Pinyon Flats O 72.82 302 *i* P **P** **17 01 56.9 +0.1**
PFO pmax pmax
comp=Z,8.0nm,1.1s
PFO Pinyon Flats O 72.82 302 LR LR 17 33 55.7
comp=Z,132nm,18.4s,baz=61,slow=36
MMAI Mount Meron Ar 73.00 58 P **P** **17 01 57.8 0.0**
comp=Z,0.3nm,0.3s,baz=302,slow=8.2,SNR=1.6
MMAI LR LR 17 34 35.4
comp=Z,68nm,21.7s,baz=240,slow=36
comp=Z,0.3nm,0.3s
GSC Goldstone, Bar 73.10 304 P **P** **17 01 58.4 0.0**

baz=90
LBTB Lobatse 73.22 120 LR LR 17 27 53.2
comp=Z,409nm,20.9s,baz=278,slow=31
MURC Murrieta 73.44 302 P **P** **17 01 59.9 -0.4**
baz=89
GRAC Grapevine Rang 73.55 306 IAmb IAmb 17 02 16.0
comp=Z,20nm,1.4s
GRAC Grapevine Rang 73.55 306 P **P** **17 02 00.5 -0.4**
baz=90
MPMC Manual Prospec 73.65 305 P **P** **17 02 01.6 -0.1**
baz=90
NEW Newport 73.70 317 P **P** **17 02 01.2 -0.3**
NEW IAmb IAmb 17 02 09.6
comp=Z,19nm,1.2s
NEW Newport 73.70 317 P **P** **17 02 00.9 -0.6**
baz=94,SNR=7.1
NEW Newport 73.70 317 P **P** **17 02 01.2 -0.3**
NEW pmax pmax
comp=Z,19nm,1.2s
NEW Newport 73.70 317 LR LR 17 32 20.5
comp=Z,184nm,19.6s,baz=94,slow=34
BFSC Mount Baldy Ra 73.81 303 P **P** **17 02 02.2 -0.4**
baz=89
YKA Yellowknife Ar 73.89 332 *i* P **P** **17 02 01.9 -0.4**
YKA pmax pmax
comp=Z,9.0nm,1.2s
YKA Yellowknife Ar 73.89 332 P **P** **17 02 01.4 -0.9**
comp=Z,8.5nm,1.2s,baz=99,slow=6.0,SNR=32
YKA LR LR 17 32 60.0
comp=Z,101nm,18.4s,baz=311,slow=35
comp=Z,8.5nm,1.2s
CWC Cottonwood Cre 74.12 305 P **P** **17 02 05.0 +0.5**
baz=89
BOSA Boshof 74.18 123 P **P** **17 02 04.5 -0.3**
comp=Z,2.4nm,1.0s,baz=168,slow=20,SNR=1.9
BOSA LR LR 17 27 49.1
comp=Z,339nm,21.5s,baz=310,slow=30
comp=Z,2.4nm,1.0s
NVAR Mina Array Bea 74.29 307 P **P** **17 02 05.4 0.0**
comp=Z,1.4nm,0.8s,baz=78,slow=4.2,SNR=1.4
NVAR LR LR 17 31 19.3
comp=Z,108nm,21.9s,baz=93,slow=33
comp=Z,1.4nm,0.8s
E09A Wood Farm, Sta 74.31 316 IAmb IAmb 17 02 13.3
comp=Z,24nm,1.2s
OBN Obninsk 74.63 36 *i* P **P** **17 02 06.9 +0.2**
OBN *i* 17 02 14.8
OBN pmax pmax
comp=Z,15nm,1.1s
OBN MLR MLR
comp=Z,94nm,16.0s
E08A Dider Farm, El 74.94 315 IAmb IAmb 17 02 17.1
comp=Z,15nm,0.9s
MOS Moscow 75.28 35 *e* P **P** **17 02 10.8 +0.3**
MOS *e* 17 02 18.7
MOS pmax pmax
comp=Z,30nm,0.9s
LPSR Galich'ya Gora 75.87 38 *e* P **P** **17 02 13.5 -0.4**
LPSR pmax pmax
comp=Z,40nm,1.3s
VSR Storozhevoye 75.97 40 *e* P **P** **17 02 14.0 -0.6**
VSR pmax pmax
comp=Z,20nm,1.4s
RPN Rapa Nui 76.02 239 LR LR 17 34 26.0
comp=Z,76nm,18.0s,baz=44,slow=35
VORD Divnogorie 76.04 40 *e* P **P** **17 02 13.8 -1.2**
VORD pmax pmax
comp=Z,9.0nm,0.9s
K05A Summer Lake 76.22 312 IAmb IAmb 17 02 26.2
comp=Z,25nm,1.1s
KLMR Klimovskoe 76.62 30 *e* P **P** **17 02 15.6 -2.5**
KLMR AMP 17 02 27.9
comp=Z,62nm,1.7s
KLMR *e* PP **PP** **17 05 05.1 -5.1**
KLMR LR LR 17 35 18.9
KLMR Klimovskoe 76.62 30 *e* P **P** **17 02 15.5 -2.5**
KLMR *e* 17 05 05.0
KLMR pmax pmax
comp=Z,62nm,1.7s
VRH Novokhopyorsk 77.58 40 *e* P **P** **17 02 23.4 -0.2**
VRH pmax pmax
comp=Z,20nm,0.9s
YBH Yreka Blue Hor 77.60 311 LR LR 17 35 16.5
comp=Z,171nm,18.8s,baz=83,slow=35
KOTAN Kotaneelee Air 78.22 329 P **P** **17 02 26.1 -0.9**
baz=91
KMBO Kilima Mbogo 78.26 93 P **P** **17 02 29.3 +0.8**
comp=Z,0.5nm,0.5s,baz=234,slow=23,SNR=1.5
KMBO LR LR 17 34 57.0
comp=Z,107nm,19.0s,baz=276,slow=34
comp=Z,0.5nm,0.5s
SHA1 Shidzhatmaz 78.40 47 *i* P **P** **17 02 29.0 +0.3**
KIV Kislovodsk 78.41 47 *e* P **P** **17 02 29.0 +0.4**
KIV pmax pmax
comp=Z,12nm,1.0s
NEUR Neytrino 78.46 48 *i* P P 17 02 34.4 +5.4
NEUR pmax pmax
comp=Z,4.0nm,1.1s
C36M Paulatuk 78.49 339 P **P** **17 02 28.1 -0.2**
baz=93
KBZ Khabaz 78.58 47 *i* P **P** **17 02 30.0 +0.7**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 78.58 47 P **P** **17 02 30.1 +0.8**
comp=Z,3.1nm,0.9s,baz=141,slow=3.8,SNR=4.0
comp=Z,3.1nm,0.9s
A36M Sachs Harbour 78.99 342 P **P** **17 02 31.5 +0.5**
baz=92,SNR=19
LIRD Liard River Hi 79.25 329 P **P** **17 02 32.5 -0.3**
baz=89
PRGR Permogore 79.59 29 *e* P **P** **17 02 34.6 +0.1**
PRGR pmax pmax
comp=Z,43nm,0.9s
GNI Garni 80.18 51 *i* P **P** **17 02 38.6 +0.2**
GNI pmax pmax
comp=Z,5.0nm,0.7s
GNI Garni 80.18 51 LR LR 17 39 32.9
comp=Z,23nm,19.9s,baz=274,slow=37
TGTN Hyland Airport 80.26 331 P **P** **17 02 39.0 +0.8**
baz=87
WTLY Watson Lake, Y 80.59 330 P **P** **17 02 40.0 0.0**
baz=87
BBB Bella Bella 80.73 321 LR LR 17 37 53.4
comp=Z,78nm,19.0s,baz=90,slow=35
BELG Belogornoye 81.19 38 *i* P **P** **17 02 44.1 +0.8**
BELG pmax pmax
comp=Z,3.0nm,1.1s
DLBC Dease Lake 81.34 328 IAmb IAmb 17 02 53.8
comp=Z,22nm,1.1s
DLBC Dease Lake 81.34 328 P **P** **17 02 44.0 -0.1**
baz=85
T35M Bob Quinn 81.58 326 P **P** **17 02 45.5 +0.1**
baz=85
KIRV Kirov 81.67 32 *ce* P **P** **17 02 47.0 +1.3**
KIRV Kirov 81.67 32 LR LR 17 37 05.7
comp=Z,62nm,18.5s,baz=274,slow=34
R33M Jennings River 81.74 329 IAmb IAmb 17 02 56.0
comp=Z,17nm,1.1s
R33M Jennings River 81.74 329 P **P** **17 02 46.3 0.0**
baz=85
ATD Arta Tunnel 81.74 80 LR LR 17 36 55.8
comp=Z,7.9nm,21.3s,baz=305,slow=34
INK Inuvik 81.96 338 P **P** **17 02 47.1 +0.1**
baz=84,SNR=28
INK Inuvik 81.96 338 LR LR 17 35 46.7
comp=Z,149nm,21.8s,baz=180,slow=33
S34M Telegraph Cree 81.97 327 IAmb IAmb 17 02 57.0
comp=Z,16nm,1.1s
S34M Telegraph Cree 81.97 327 P **P** **17 02 47.2 -0.2**
baz=84
F31M Tsiigehtchic 82.14 337 IAmb IAmb 17 02 57.0
comp=Z,21nm,1.1s
F31M Tsiigehtchic 82.14 337 P **P** **17 02 48.2 +0.2**
baz=83,SNR=6.3
G31M Satah River 82.41 337 IAmb IAmb 17 02 58.4
comp=Z,19nm,0.9s
G31M Satah River 82.41 337 P **P** **17 02 49.5 0.0**
baz=83,SNR=6.8
Q32M Nakina River 82.45 328 IAmb IAmb 17 02 59.8
comp=Z,17nm,1.1s
Q32M Nakina River 82.45 328 P **P** **17 02 49.8 -0.3**
baz=84
V35K Ketchikan 82.51 325 P **P** **17 02 50.3 +0.1**
baz=84
H31M Peel River 82.58 335 P **P** **17 02 50.6 +0.1**
baz=83
P33M Teslin, Yukon 82.58 330 IAmb IAmb 17 02 60.0
comp=Z,18nm,1.2s
P33M Teslin, Yukon 82.58 330 P **P** **17 02 50.7 +0.1**
baz=83
FARO Faro, Yukon 82.60 332 IAmb IAmb 17 02 59.9
comp=Z,14nm,1.2s
FARO Faro, Yukon 82.60 332 P **P** **17 02 50.4 -0.2**
baz=83
N32M Quiet Lake 82.60 331 P **P** **17 02 50.9 +0.2**
baz=83
F30M Barrier River 82.89 337 P **P** **17 02 51.4 -0.6**
baz=82,SNR=11
M31M Drury Creek, Y 83.08 332 P **P** **17 02 53.2 +0.1**
baz=82
P32M Atlin 83.11 329 IAmb IAmb 17 03 02.7
comp=Z,28nm,1.4s
P32M Atlin 83.11 329 P **P** **17 02 53.0 -0.4**
baz=82
CRAG Craig 83.35 325 P **P** **17 02 54.1 -0.5**
baz=82
EPYK Eagle Plains 83.45 336 IAmb IAmb 17 03 04.1
comp=Z,26nm,1.3s
EPYK Eagle Plains 83.45 336 P **P** **17 02 54.8 -0.1**
baz=80
I30M Mount Dempster 83.50 335 IAmb IAmb 17 03 04.1
comp=Z,13nm,1.1s
I30M Mount Dempster 83.50 335 P **P** **17 02 55.9 +0.5**
baz=81
WHY Whitehorse 83.54 330 P **P** **17 02 56.1 +0.5**
baz=82
E29M Blow River 83.55 338 IAmb IAmb 17 03 04.6
comp=Z,14nm,1.2s
E29M Blow River 83.55 338 P **P** **17 02 55.2 -0.1**
baz=80,SNR=10
J30M Hart River 83.59 334 IAmb IAmb 17 03 05.1
comp=Z,16nm,1.3s
J30M Hart River 83.59 334 P **P** **17 02 56.7 +0.9**
baz=81
D28M Stokes Point 83.67 339 P **P** **17 02 56.7 +0.7**
baz=79
R32K Eaglecrest 83.71 328 P **P** **17 02 55.9 -0.5**
baz=82
N31M Braeburn, Yuko 83.84 331 P **P** **17 02 56.4 -0.7**
baz=81
S32K Killisnoo 83.86 327 P **P** **17 02 57.0 -0.1**
baz=81
G29M Pine Creek 83.87 337 P **P** **17 02 56.2 -0.9**
baz=79
SKAG Skagway 83.94 329 P **P** **17 02 57.9 +0.4**
baz=81
E28M Babbage River 84.10 339 P **P** **17 02 58.4 +0.2**
baz=78
O30N Mendenhall 84.11 331 IAmb IAmb 17 03 07.8
comp=Z,17nm,1.1s
O30N Mendenhall 84.11 331 P **P** **17 02 57.7 -0.7**
baz=80
M30M Minto, Yukon 84.13 332 IAmb IAmb 17 03 07.7
comp=Z,21nm,1.4s
M30M Minto, Yukon 84.13 332 P **P** **17 02 58.7 +0.2**
baz=80
H29M Whitestone 84.14 336 P **P** **17 02 58.3 -0.1**
baz=79,SNR=8.1
K29M Barlow Dome 84.23 334 IAmb IAmb 17 03 08.5
comp=Z,19nm,1.4s
K29M Barlow Dome 84.23 334 P **P** **17 02 59.0 -0.1**
baz=80
I29M Ogilvie Camp, 84.28 335 IAmb IAmb 17 03 08.1
comp=Z,12nm,1.2s
I29M Ogilvie Camp, 84.28 335 P **P** **17 02 59.0 -0.2**
baz=79
F28M Old Crow 84.43 338 IAmb IAmb 17 03 09.2
comp=Z,16nm,1.1s
F28M Old Crow 84.43 338 P **P** **17 02 59.7 -0.2**
baz=78,SNR=6.6
N30M Aishikik Lake 84.47 331 P **P** **17 02 60.0 -0.3**
baz=80
D27M Malcolm River 84.47 339 P **P** **17 03 01.3 +1.2**
baz=77
L29M L29M 84.64 333 P **P** **17 03 02.0 +0.9**
baz=79
P30M Million Dollar 84.65 330 P **P** **17 03 01.0 -0.2**
baz=80
S31K Pelican 84.66 328 P **P** **17 03 01.3 +0.1**
baz=80
HYT Haines Junctio 84.78 331 P **P** **17 03 02.2 +0.3**
baz=79
M29M Somme Creek 84.92 332 P **P** **17 03 03.5 +0.9**
baz=78
I28M Miner Creek 84.93 336 P **P** **17 03 03.0 +0.4**
baz=78
E27K Coleen River 84.94 338 P **P** **17 03 03.0 +0.5**
baz=76
DAWY Dawson 84.99 334 P **P** **17 03 03.3 +0.5**
baz=78
P29M Windy Craggy 85.12 330 P **P** **17 03 03.3 -0.3**
baz=79
SNAA Sanae 85.15 169 P **P** **17 03 03.0 -0.4**
SNAA Sanae 85.15 169 *ce* P **P** **17 03 03.9 +0.5**
SNAA pmax pmax
comp=Z,6.0nm,0.8s
SNAA Sanae 85.15 169 P **P** **17 03 02.1 -1.3**
comp=Z,3.8nm,0.8s,baz=325,slow=5.8,SNR=10
SNAA LR LR 17 31 55.9
comp=Z,41nm,21.8s,baz=354,slow=29
comp=Z,3.8nm,0.8s
YUK4 Talbot Arm 85.22 331 P **P** **17 03 03.6 -0.7**
baz=78
G27K Doyon Strip 85.29 337 P **P** **17 03 04.1 -0.2**
baz=76
H27K Steamboat Moun 85.38 336 P **P** **17 03 05.0 +0.2**
baz=76
O29M Mount Kennedy 85.40 330 P **P** **17 03 05.1 0.0**
baz=78
I27K Kandik River 85.57 336 P **P** **17 03 06.6 +0.9**
baz=76
EGAK Eagle 85.58 335 P **P** **17 03 05.7 0.0**
baz=76
C26K Camden Bay 85.63 340 P **P** **17 03 06.6 +0.7**
baz=73
YUK8 Steele Glacier 85.76 331 P **P** **17 03 07.7 +0.7**
baz=77
YUK3 Moose Creek 85.98 332 P **P** **17 03 08.4 +0.4**
baz=77
F26K Sheenjek River 86.00 338 P **P** **17 03 07.9 +0.2**
baz=74
BVCY Beaver Creek 86.01 333 P **P** **17 03 08.7 +0.7**
baz=76
G26K Porcupine Rive 86.07 337 P **P** **17 03 08.6 +0.6**
baz=74
O28M Mount Upton 86.08 331 P **P** **17 03 08.8 +0.2**
baz=77
K27K Chicken 86.15 334 P **P** **17 03 09.0 +0.5**
baz=76
PINM Pinnacle 86.27 330 P **P** **17 03 09.9 +0.6**
baz=77
L27K Beaver Creek, 86.29 333 P **P** **17 03 09.6 +0.3**
baz=76
D25K Kavik River 86.30 340 P **P** **17 03 09.6 +0.4**
baz=72
E25K Arctic Village 86.39 339 IAmb IAmb 17 03 18.9
comp=Z,16nm,1.2s
E25K Arctic Village 86.39 339 P **P** **17 03 10.1 +0.4**
baz=72
M27K Edge Creek, AK 86.49 333 P **P** **17 03 10.8 +0.4**
baz=76
F25K Christian Rive 86.58 338 P **P** **17 03 11.4 +0.8**
baz=72
CTG Chitna Glacier 86.58 331 P **P** **17 03 11.3 +0.3**
baz=76
J26L Joseph Creek 86.66 335 P **P** **17 03 11.4 +0.2**
baz=74
ARU Arti 86.88 33 P **P** **17 03 11.6 -0.7**
ARU Arti 86.88 33 *c* *i* P **P** **17 03 12.1 -0.2**
ARU S **SKSac** **17 13 38.4 -1.0**
ARU SS **SS** **17 19 30.1 -2.0**
ARU pmax pmax
comp=Z,13nm,1.5s
ARU Arti 86.88 33 LR LR 17 38 34.6
comp=Z,82nm,18.8s,baz=232,slow=33
C24K Franklin Bluff 86.94 341 P **P** **17 03 13.0 +0.7**
baz=70
L26K Log Cabin Wild 86.97 334 IAmb IAmb 17 03 21.8
comp=Z,15nm,1.1s
L26K Log Cabin Wild 86.97 334 P **P** **17 03 12.4 -0.2**
baz=74
M26K Nabesna, AK 86.98 333 P **P** **17 03 12.8 +0.1**
baz=74
SCRK Sand Creek 86.98 335 IAmb IAmb 17 03 21.9
comp=Z,20nm,1.0s
SCRK Sand Creek 86.98 335 P **P** **17 03 13.2 +0.4**
baz=74
G25K Bearman Lake 87.00 337 P **P** **17 03 14.0 +1.3**
baz=72
MESA MESA 87.07 331 P **P** **17 03 13.5 +0.1**
baz=75
MENT Mentasta 87.15 334 IAmb IAmb 17 03 22.7
comp=Z,8.7nm,0.8s
PRP Porcupine Dome 87.16 336 IAmb IAmb 17 03 23.1
comp=Z,16nm,1.0s
PRP Porcupine Dome 87.16 336 P **P** **17 03 14.1 +0.4**
baz=72,SNR=7.5
D24K Happy Valley 87.18 340 P **P** **17 03 14.0 +0.5**
baz=70
MCARA McCarthy VSAT 87.26 332 P **P** **17 03 14.8 +0.7**
baz=74
J25K Salcha River, 87.37 335 P **P** **17 03 15.0 +0.4**
baz=72
F24K Squaw Lake 87.42 338 IAmb IAmb 17 03 23.1
comp=Z,22nm,1.8s
F24K Squaw Lake 87.42 338 P **P** **17 03 14.9 +0.2**
baz=70
E24K Your Creek 87.44 339 P **P** **17 03 14.8 0.0**
baz=70
CRQE Cirque 87.47 331 P **P** **17 03 15.3 +0.1**
baz=74
C23K Itkillik River 87.52 341 P **P** **17 03 16.6 +1.5**
baz=68
G24K Hadweenzic Riv 87.54 338 P **P** **17 03 15.3 0.0**
baz=71
TOLK Toolik Lake Re 87.62 340 P **P** **17 03 16.2 +0.6**
baz=69
K24K Donnelly Dome 87.79 335 P **P** **17 03 16.9 +0.4**
baz=72
E23K Chandalar 87.84 339 P **P** **17 03 16.5 -0.3**
baz=69
D23K Nanushuk River 87.87 340 P **P** **17 03 16.8 -0.1**
baz=68
PAX Paxson 87.91 334 P **P** **17 03 17.3 0.0**
baz=72
N25K Chitina, Valde 87.93 332 P **P** **17 03 18.2 +0.8**
baz=73
IL31 87.94 336 IAmb IAmb 17 03 26.1
comp=Z,15nm,1.0s
ILAR Eielson Array 87.94 336 P **P** **17 03 17.9 +0.7**
comp=Z,3.4nm,0.9s,baz=61,slow=3.4,SNR=28
ILAR LR LR 17 39 16.6
comp=Z,53nm,21.7s,baz=62,slow=33
comp=Z,3.4nm,0.9s
H24K Noodor Dome 87.98 337 IAmb IAmb 17 03 26.7
comp=Z,9.7nm,0.9s
H24K Noodor Dome 87.98 337 P **P** **17 03 17.3 -0.2**
baz=70
POKR Poker Flat Res 88.05 336 P **P** **17 03 18.8 +1.1**
baz=71
HDA Harding Lake 88.08 335 P **P** **17 03 19.1 +1.2**
baz=71
HDA P **P** **17 03 19.1 +1.2**
baz=71
BMRM Bremner River 88.12 332 P **P** **17 03 18.7 +0.5**
baz=73
B22K Teshekpuk Lake 88.20 342 P **P** **17 03 19.0 +0.7**
baz=65
COLA College 88.30 336 P **P** **17 03 18.6 -0.3**
COLA College 88.30 336 P **P** **17 03 19.2 +0.4**
baz=70
COLA College 88.30 336 P **P** **17 03 18.6 -0.3**
COLA pmax pmax
comp=Z,13nm,0.8s
KAIM Kayak Island 88.33 331 P **P** **17 03 19.2 0.0**
baz=73
COLD Coldfoot 88.36 338 P **P** **17 03 19.9 +0.7**
baz=68
MDM Murphy Dome 88.42 336 IAmb IAmb 17 03 30.3
comp=Z,20nm,1.4s
G23K Bananza Creek 88.48 338 P **P** **17 03 20.2 +0.4**
baz=68
M24K Tolsona, Glenn 88.49 333 P **P** **17 03 20.1 +0.2**
baz=72
D22K Ayikyak River 88.57 340 P **P** **17 03 20.5 +0.3**
baz=66
E22K Anaktuvuk Pass 88.58 340 P **P** **17 03 20.7 +0.4**
baz=67
DHY Denali Highway 88.70 334 P **P** **17 03 21.6 +0.5**
baz=71
EYAK Cordova Ski Ar 88.78 331 P **P** **17 03 22.2 +0.9**
baz=72
I23K Minto, Yukon-K 88.80 336 IAmb IAmb 17 03 29.6
comp=Z,8.1nm,0.9s
I23K Minto, Yukon-K 88.80 336 P **P** **17 03 21.5 +0.2**
baz=69
B21K Ikpikpuk River 88.88 341 P **P** **17 03 22.3 +0.7**
baz=64
NEA2 Nenana 88.88 336 P **P** **17 03 21.8 0.0**
baz=69
G22K Bettles 88.95 338 P **P** **17 03 22.3 +0.3**
baz=67
F22K John River 88.95 339 P **P** **17 03 22.3 +0.3**
baz=66
WAT6 Susitna Watana 89.02 334 P **P** **17 03 22.8 +0.1**
baz=70
SCM Sheep Creek Mo 89.09 333 P **P** **17 03 24.1 +1.3**
baz=71
MCK McKinley 89.13 335 P **P** **17 03 22.9 0.0**
baz=69
C21K Knifeblade Rid 89.14 341 P **P** **17 03 24.0 +1.1**
baz=64
E21K Killik River 89.18 340 P **P** **17 03 23.9 +0.9**
baz=65
M23K Glacier View 89.28 333 P **P** **17 03 23.6 0.0**
baz=70
WAT1 Susitna Watana 89.29 334 P **P** **17 03 24.1 +0.4**
baz=70
H22K Ishtalitna Cre 89.30 337 P **P** **17 03 24.1 +0.5**
baz=67
MLY Manley 89.39 337 IAmb IAmb 17 03 32.1
comp=Z,13nm,1.3s
MLY Manley 89.39 337 P **P** **17 03 24.4 +0.3**
baz=68
ABKAR Akbulak array 89.40 40 P **P** **17 03 24.5 +0.1**
ABKAR Akbulak array 89.40 40 IAmb IAmb 17 03 34.6
comp=Z,22nm,1.4s
B20K Meade River 89.49 342 P **P** **17 03 24.5 +0.1**
baz=62
F21K Alatna River 89.53 339 P **P** **17 03 24.9 +0.2**
baz=65
SML Sawmill 89.55 333 P **P** **17 03 25.0 0.0**
baz=70
P23K Montague Islan 89.74 331 P **P** **17 03 26.0 +0.2**
baz=71
KNK Knik Glacier 89.74 333 P **P** **17 03 26.1 +0.3**
baz=70
TRF Thorofare Moun 89.80 335 P **P** **17 03 26.4 +0.1**
baz=68
I21K Tanana 89.81 337 P **P** **17 03 26.3 +0.3**
baz=67
G21K Allakaket 89.84 338 IAmb IAmb 17 03 35.3
comp=Z,16nm,1.1s
G21K Allakaket 89.84 338 P **P** **17 03 26.3 +0.2**
baz=65
BPAW Bear Paw Mtn. 89.84 336 P **P** **17 03 26.7 +0.4**
baz=68
PWL Port Wells 89.88 332 P **P** **17 03 27.0 +0.5**
baz=70
D20K Etivluk River 89.93 341 P **P** **17 03 27.5 +1.0**
baz=62
H21K Melozitna Rive 89.94 337 P **P** **17 03 27.1 +0.5**
baz=66
PMR Palmer 89.98 333 P **P** **17 03 27.4 +0.6**
baz=69
E20K Nigu River 90.00 340 P **P** **17 03 27.5 +0.6**
baz=63
CHUM Lake Minchumin 90.47 336 P **P** **17 03 29.3 +0.2**
baz=66
D19K Kuna River 90.52 341 P **P** **17 03 29.9 +0.6**
baz=61
CAST Castle Rocks 90.56 335 P **P** **17 03 29.0 -0.6**
baz=66
C19K Lookout Ridge 90.68 342 P **P** **17 03 28.3 -1.8**
baz=60
SUA Susitna One 90.75 333 P **P** **17 03 30.3 -0.3**
baz=68
H20K Anotleneega Mo 90.79 338 P **P** **17 03 30.7 +0.1**
baz=64
GEYT Alibeck 90.80 51 P **P** **17 03 31.7 +0.4**
comp=Z,1.0nm,0.6s,baz=64,slow=23,SNR=3.7
comp=Z,1.0nm,0.6s
PPLA Purkeypile 90.81 335 P **P** **17 03 29.9 -1.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=66						
I20K	Naaghedeneel	90.94	337	P	P	17 03 32.3	+1.1
	baz=64						
B18K	Kokolik River	91.22	342	P	P	17 03 33.0	+0.5
	baz=58						
H19K	Roundabout Mou	91.36	338	P	P	17 03 34.5	+1.3
	baz=62						
K20K	Telida	91.40	336	P	P	17 03 33.3	-0.2
	baz=65						
C18K	Utukok River	91.42	342	P	P	17 03 33.8	+0.3
	baz=58						
ELIB	Princess Elisa	91.57	164	*d*P	P	17 03 34.5	+0.4
	comp=Z,4.7nm,1.3s						
L20K	Farewell, AK	91.69	335	P	P	17 03 35.0	+0.1
	baz=65						
J19K	Poorman	91.74	336	P	P	17 03 35.1	+0.1
	baz=63						
HOM	Homer	91.86	332	P	P	17 03 35.9	+0.3
	baz=67						
GCSA	Galena City Sc	91.88	337	P	P	17 03 36.5	+0.9
	baz=62						
G18K	Tagagawik	91.98	339	P	P	17 03 36.3	+0.2
	baz=60						
O20K	Slope Mountain	92.14	332	P	P	17 03 37.7	+0.7
	baz=66						
M19K	Big River Lodg	92.16	334	P	P	17 03 36.9	-0.1
	baz=64						
L19K	White Mountain	92.23	335	P	P	17 03 37.0	-0.4
	baz=64						
J18K	Innoko River	92.42	336	IAmb	IAmb	17 03 46.9	
	comp=Z,13nm,1.1s						
J18K	Innoko River	92.42	336	P	P	17 03 38.4	+0.2
	baz=62						
E17K	Hotham Inlet	92.46	340	P	P	17 03 37.5	-0.8
	baz=58						
D17K	Noatak River	92.53	341	P	P	17 03 37.7	-0.9
	baz=56						
P19K	Oil Pt	92.60	332	P	P	17 03 37.6	-1.5
	baz=66						
F17K	Baldwin Pennin	92.61	340	P	P	17 03 39.5	+0.6
	baz=58						
G17K	Kiwalik Mounta	92.89	339	P	P	17 03 40.0	-0.3
	baz=59						
C16K	Lisburne Hills	92.90	342	P	P	17 03 40.8	+0.6
	baz=54						
H17K	Granite Mounta	92.92	338	P	P	17 03 40.8	+0.4
	baz=59						
L18K	Granite Mounta	92.98	335	P	P	17 03 41.6	+0.8
	baz=62						
KDAK	Kodiak Island	93.05	330	LR	LR	17 43 28.3	
	comp=Z,41nm,20.2s,baz=106,slow=34						
O18K	Koktuh Hills	93.41	333	P	P	17 03 43.2	+0.4
	baz=64						
G16K	Koyuk River	93.55	339	P	P	17 03 44.2	+0.8
	baz=57						
H16K	Elim	93.92	338	P	P	17 03 45.4	+0.4
	baz=57						
P17K	Kvichak River	94.27	332	P	P	17 03 46.9	+0.2
	baz=63						
BRVK	Borovoye	94.37	34	*ce*P	P	17 03 46.7	-0.7
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BVAR	Borovoye Array	94.44	34	P	P	17 03 48.3	+0.6
	comp=Z,0.3nm,0.5s,baz=262,slow=4.2,SNR=3.7						
BVAR				LR	LR	17 44 28.6	
	comp=Z,83nm,20.3s,baz=280,slow=34						
	comp=Z,0.3nm,0.5s						
WSAR	Wadi Sarin	94.53	66	LR	LR	17 47 56.9	
	comp=Z,172nm,19.7s,baz=260,slow=36						
TNA	Tin City	95.35	341	P	P	17 03 52.6	+1.0
	baz=52						
CHIR	Chirikof Islan	95.40	329	P	P	17 03 52.8	+0.8
	baz=64						
N15K	Kwethluk River	95.42	334	P	P	17 03 52.7	+0.6
	baz=60						
J14K	Nanvaranak Lak	95.45	337	P	P	17 03 52.1	+0.1
	baz=56						
M13K	Dall Lake	96.67	335	P	P	17 03 57.7	+0.1
	baz=57						
KURBB	Kurchatov Arra	100.04	34	P	Pdif	17 04 13.3	+0.3
	comp=Z,0.6nm,0.8s,baz=298,slow=4.6,SNR=3.0						
KURK	Kurchatov	100.04	34	*i* P	Pdif	17 04 13.8	+0.8
KURK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ZALV	Zalesovo Beam	101.55	29	PP	PP	17 08 29.2	+0.2
	comp=Z,0.3nm,0.3s,baz=305,slow=8.8,SNR=3.7						
PPT2	Papeete2	110.88	255	*e*LR	LR	17 41 34.2	
	comp=Z,142nm,27.0s						
PPT2				*e*LR	LR	17 41 43.5	
	comp=Z,207nm,25.2s						
TBI	Tubuai	111.07	249	*e*LR	LR	17 41 52.0	
	comp=Z,469nm,34.0s						
SONM	Songino Array	115.52	24	PP	PP	17 10 11.6	+0.7
	comp=Z,0.3nm,0.7s,baz=345,slow=4.9,SNR=2.1						
KLR	Kul'dur	120.75	6	*i* PKIKP	PKPdf	17 09 19.4	-0.5
KLR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
BTO	Baotou	122.91	26	*e*PKP	PKPdf	17 09 20.2	-4.2
BTO				PP	PP	17 11 03.6	+1.7
BTO	Baotou	122.91	26	SS	SS	17 27 33.2	-12
BTO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BTO				pmax	pmax		
	comp=Z,180nm,4.6s						
HHC	Hu-ho-hao-te	123.37	25	*e*P	PKPdf	17 09 19.7	-5.6
MDJ	Mudanjiang	125.03	9	PKP	PKPdf	17 09 27.2	-1.0
MDJ				PP	PP	17 11 15.4	-0.2
MDJ	Mudanjiang	125.03	9	SS	SS	17 28 10.3	-0.5
MDJ				AMB	AMB		
	comp=Z,150nm,3.6s						
MDJ				LR	LR		
	comp=Z,250nm,14.4s						
CD2	Chengdu	126.96	39	PKP	PKPdf	17 09 31.6	-0.8
PZH	PanZhiHua	128.58	44	PKP	PKPdf	17 09 35.6	-0.1
CMAR	Chiang Mai Arr	131.17	55	PKP	PKPdf	17 09 41.1	+0.5
	comp=Z,0.4nm,0.8s,baz=288,slow=3.7,SNR=2.2						
NJ2	Nanjing	133.91	24	*e*P	PKPdf	17 09 44.8	-0.6
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
DZM	Mont Dzumac	151.35	242	*e*LR	LR	18 00 34.8	
	comp=Z,94nm,25.2s						
ASAR	Alice Springs	165.34	160	PKP	PKPdf	17 10 32.4	-0.7
	comp=Z,0.4nm,0.9s,baz=127,slow=4.0,SNR=4.3						
ASAR				PKPab	PKPab	17 11 29.8	-0.7
	comp=Z,0.9nm,1.0s,baz=182,slow=4.0,SNR=3.6						
WRA	Warramunga Arr	168.89	155	PKP	PKPdf	17 10 35.2	-0.5
	comp=Z,0.6nm,0.9s,baz=191,slow=4.7,SNR=3.8						
WRA				PKPab	PKPab	17 11 44.9	-1.3
	comp=Z,0.2nm,0.2s,baz=261,slow=12,SNR=8.3						

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*NOU **03** 16:53:25.4, 21°.38S×169°.04E, h0km, MLv3.8/8, Southeast of Loyalty Islands*

*IDC **03** 16:53:29.9±5.2, 21°.16S×168°.54E, h0km, mb3.7/2, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=189.6km s-min=34.5km az=145.0*

ISC 03 16:53:29.9±2.1**, 21°.4S**±0°.1×**168°.8E**±0°.1**, h10**km**, n15, σ0ˢ.86**/13**, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	0.69	264	P	Pg	16 53 43.6	+0.4
LIFNC	LIFOU	1.56	294	P	Pn	16 53 56.0	-1.6
PINNC	Pines Island,	1.71	225	P	Pn	16 53 58.7	-1.1
OUENC	Ouen Island, N	2.05	240	P	Pn	16 54 04.3	-0.1
DZM	Mont Dzumac	2.25	253	P	Pn	16 54 07.7	+0.3
DZM	Mont Dzumac	2.25	253	Pn	Pn	16 54 07.3	-0.1
	10nm,0.3s,baz=120,slow=22,SNR=63						
DZM				Sn	Sn	16 54 34.2	-1.1
	16nm,0.3s,baz=346,slow=18,SNR=9.2						
	34nm,0.4s						
ONTNC	Ouen Toro	2.32	247	P	Pn	16 54 08.5	+0.3
NOUC	Port Laguerre	2.39	253	P	Pn	16 54 09.6	+0.5
KOUNC	Koumac, New Ca	4.27	281	P	Pn	16 54 36.1	+1.1
WRA	Warramunga Arr	32.20	266	P	P	16 59 58.2	-0.3
	0.6nm,0.6s,baz=97,slow=7.8,SNR=10						
	0.6nm,0.6s						
ASAR	Alice Springs	32.23	259	P	P	16 59 58.9	+0.2
	1.1nm,0.8s,baz=90,slow=8.3,SNR=17						
	1.1nm,0.8s						
H03S2	Juan Fernandez	95.35	129	T	T	18 52 01.3	
	baz=242,slow=75,SNR=3.3						
H03S1	Juan Fernandez	95.36	129	T	T	18 52 02.9	
	baz=242,slow=75,SNR=14						
H03S3	Juan Fernandez	95.37	129	T	T	18 52 01.7	
	baz=242,slow=75,SNR=17						
GERES	GERESS Array B	146.16	330	PKPbc	PKPdf	17 13 10.2	+0.7
	1.6nm,0.7s,baz=46,slow=2.8,SNR=5.3						

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*NEIC **03** 16:55:39.9±0.8, 19°.37N±0°.01×155°.240W±0°.006, h4km±1km, Error ellipse: s-maj=1.7km s-min=0.7km az=163.0*

HVO 03 16:55:39.4±0.5**, 19°.379N**±0°.009×**155°.23W**±0°.01**,** **h3**km±3km**, ML2.8**/27**, ML2.2**/46(NEIC)**, Error ellipse: s-maj=1.5km s-min=1.2km az=60.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	Pauahi	0.02	106		Pg	16 55 40.5	+0.3
PUH				Sg	Sg	16 55 41.1	+0.4
KKO	Keanakako`i	0.04	301		Pg	16 55 41.0	+0.6
KKO				Sg	Sg	16 55 41.8	+0.7
BYL	Byron's Ledge	0.04	322		Pg	16 55 40.9	+0.5
BYL				Sg	Sg	16 55 41.9	+0.7
RIM	Rim	0.04	293		Pg	16 55 40.9	+0.4
RIM				IAML		16 55 41.9	
	comp=E,2µm,0.2s						
HATHI	Halema‘uma‘u T	0.05	329		Pg	16 55 41.2	+0.6
HATHI				IAML		16 55 42.1	
	comp=E,2µm,0.6s						
HATHI				Sg	Sg	16 55 42.2	+0.8
HATHI				IAML		16 55 42.4	
	comp=N,2µm,0.3s						
NPH	North Pit	0.06	306		Pg	16 55 41.2	+0.5
NPH				IAML		16 55 42.5	
	comp=N,3µm,0.3s						
KNHH	Kane Nui o Ham	0.06	89		Pg	16 55 41.4	+0.6
SBLHI	Steaming Bluff	0.06	325		Pg	16 55 41.3	+0.5
SDHHI	Sand Hill	0.06	281		Pg	16 55 41.2	+0.5
SDHHI				IAML		16 55 42.4	
	comp=E,2µm,0.3s						
OBL	Observatory Le	0.06	308		Pg	16 55 40.9	+0.1
OBL				IAML		16 55 42.9	
	comp=E,3µm,0.4s						
UWB	Uwekahuna B	0.06	317		Pg	16 55 41.1	+0.3
UWB				IAML		16 55 42.7	
	comp=E,2µm,0.3s						
WRMHI	West Rim	0.07	294		Pg	16 55 41.4	+0.4
WRMHI				IAML		16 55 42.8	
	comp=E,3µm,1.1s						
UWE	Uwekahuna	0.07	307		Pg	16 55 41.4	+0.5
UWE				IAML		16 55 43.2	
	comp=E,1µm,0.5s						
RSD	Rainshed	0.09	333		Pg	16 55 41.9	+0.6
RSD				IAML		16 55 44.2	
	comp=E,1µm,2.5s						
RSD				IAML		16 55 44.3	
	comp=N,1µm,0.6s						
STCH	Steam Cracks	0.10	86		Pg	16 55 41.8	+0.4
STCH				IAML		16 55 44.3	
	comp=E,1µm,0.2s						
STCH				IAML		16 55 44.7	
	comp=N,1µm,0.4s						
HLP	Hilina Pali	0.11	221		Pg	16 55 42.1	+0.5
NPOC	North of Pu‘u	0.12	83		Pg	16 55 42.2	+0.5
NPOC				IAML		16 55 45.6	
	comp=E,1µm,0.6s						
NPOC				IAML		16 55 45.8	
	comp=N,1µm,0.3s						
JCUZ	Jacuzzi	0.12	87	Pg	Pg	16 55 42.5	+0.6
JCUZ				IAML		16 55 45.5	
	comp=N,1µm,0.5s						
JCUZ				IAML		16 55 45.7	
	comp=E,1µm,0.7s						
MLH	Mauna Loa	0.18	308	Pg	Pg	16 55 43.5	+0.4
HTC	Hot Caves	0.21	228		Pg	16 55 44.2	+0.7
JOKA	Jonika Flow	0.22	76		Pg	16 55 43.9	+0.2
JOKA					Sg	16 55 47.1	+0.4
HMH	Humu‘ula Sheep	0.33	313	Pg	Pg	16 55 46.3	+0.5
HMH				IAML		16 55 48.9	
	comp=N,352nm,3.7s						
HMH				IAML		16 55 52.0	
	comp=E,237nm,1.9s						
MLOA	Mauna Loa Obse	0.36	296	Pg	Pg	16 55 46.8	+0.3
MLOA				IAML		16 55 50.2	
	comp=N,241nm,3.8s						
MLOA				IAML		16 55 54.2	
	comp=E,328nm,0.3s						
MWH	Moku‘aweowe	0.36	287	Pg	Pg	16 55 46.8	+0.3
KHU	Kahuku	0.39	250	Pg	Pg	16 55 47.4	+0.5
KHU				IAML		16 55 57.7	
	comp=E,275nm,0.6s						
ALEP	Alea Permanent	0.42	293		Pg	16 55 47.7	+0.1
ALEP					Sg	16 55 54.1	+1.0
POHA	Pohakuloa	0.47	323	Pg	Pg	16 55 48.7	+0.2
POHA				IAML		16 56 02.5	
	comp=E,199nm,1.6s						
POHA				IAML		16 56 02.7	
	comp=E,182nm,1.1s						
HUH	Hualalai	0.65	298	Pg	Pg	16 55 51.9	+0.1
KHLU	Kahalu`u	0.66	289	Pg	Pg	16 55 51.7	-0.3

KRSC 03 16:56:14.3±1.6**, 54°.37N**×**167°.73E, h28**km±23km**, Ml3.5, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	1.32	310	*e*P	Pn	16 56 36.7	0.0
BKI				*e*S	Sb	16 56 55.6	+0.8
KBTR	Krutoberegovo	3.36	305	*e*P	Pb	16 57 09.6	-3.5
KBTR				*e*S	Sn	16 57 47.2	+3.5
SMAR	Somma	5.41	262	*e*P	Pn	16 57 37.6	+4.4
AVH	Avacha	5.44	262	*e*P	Pn	16 57 38.3	+4.8
KRX	Arik	5.47	263	*e*P	Pn	16 57 38.3	+4.3
KOK	Koryaka	5.50	262	*e*P	Pn	16 57 38.7	+4.4
DALK	Dalny	5.50	260	*e*P	Pn	16 57 37.9	+3.7
PET	Petropavlovsk	5.56	260	*e*P	Pn	16 57 40.9	+5.9
KRMR	Karymshinskiy	5.92	259	*e*P	Pn	16 57 45.6	+5.5
KRMR				*e*S	Sn	16 58 53.1	+6.2
MTVR	Mutnovka	6.01	256	*e*P	Pn	16 57 46.1	+4.7
MTVR				*e*S	Sn	16 58 53.1	+3.7
GRL	Gorelyy	6.05	256	*e*P	Pn	16 57 47.2	+5.2
ASAK	Asacha	6.21	255	*e*P	Pn	16 57 48.9	+4.8

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*IDC **03** 17:26:24.3±1.5, 38°.57N×133°.86E, h453km±20km, mb2.9/7, mbtmp3.6/9, Error ellipse: s-maj=30.4km s-min=16.1km az=68.0*

ISC 03 17:26:24.0±0.9**, 38°.5N**±0°.1×**133°.8E**±0°.2**, h447**km**, n9, σ0ˢ.71**/9**, mb3.1**/7**, Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	4.05	118	P	P	17 27 39.9	+0.4
	1.2nm,0.7s,baz=341,slow=24,SNR=6.7						
USRK	Ussuriysk Ar.	5.81	347	P	P	17 27 57.0	+0.9
	5.0nm,0.5s,baz=162,slow=10.0,SNR=18						
PETK	Petropavlovsk-	22.00	41	P	P	17 30 42.3	-1.2
	16nm,1.2s,baz=236,slow=9.8,SNR=2.8						
	16nm,1.2s						
MKAR	Makanchi Array	38.15	300	P	P	17 33 02.8	-0.6
	0.2nm,0.4s,baz=84,slow=8.9,SNR=2.2						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	40.26	306	P	P	17 33 20.1	-0.3
	0.4nm,0.6s,baz=105,slow=6.8,SNR=4.3						
	0.4nm,0.6s						
WRA	Warramunga Arr	58.17	179	P	P	17 35 33.7	-0.2
	0.4nm,0.6s,baz=356,slow=7.5,SNR=7.7						
	0.4nm,0.6s						
ASAR	Alice Springs	61.88	180	P	P	17 35 58.8	+0.2
	0.2nm,0.8s,baz=358,slow=6.7,SNR=2.0						
	0.2nm,0.8s						
FINES	FINESS Array B	64.56	330	P	P	17 36 15.2	-0.2
	1.1nm,0.7s,baz=64,slow=9.4,SNR=1.0						
	1.1nm,0.7s						
HFS	Hagfors	70.09	333	P	P	17 36 50.0	+0.4
	1.9nm,0.9s,baz=44,slow=8.5,SNR=1.0						
	1.9nm,0.9s						

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*IDC **03** 17:45:31.1±0.7, 35°.27N×77°.74E, h0km, mb3.9/20, mbtmp3.9/25, ML3.3/5, MS3.4/7, Error ellipse: s-maj=18.9km s-min=12.6km az=36.0*

*NNC **03** 17:45:37.8±6.3, 35°.52N×77°.54E, h2km±37km, mb3.8, mpv3.3, Error ellipse: s-maj=46.0km s-min=34.6km az=156.0*

ISC 03 17:45:34.9±0.6**, 35°.40N**±0°.05×**77°.81E**±0°.07**, h10**km**, n54, σ2ˢ.35**/44**, mb3.9**/20**, MS3.4**/7**, 6C-5D, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	DHARAMSHALA	3.38	202	*e*P	Pn	17 46 28.9	+0.9
DHRM				*e*S	Sg	17 47 21.1	-2.4
DHRM				IAML		17 47 28.4	
	comp=E,238nm,0.8s						
SMLA	Simla	4.29	187	*e*P	Pn	17 46 43.2	+3.0
SMLA				*e*S	Sn	17 47 36.4	+6.0
SMLA				IAML		17 47 46.9	
	comp=N,153nm,0.7s						
AML	Almayashu	7.45	336	⇑Pn	Pn	17 47 27.6	+3.5
	comp=N,0.1nm,0.4s						
AML				⇑Lg	Lg	17 49 26.9	
	comp=N,8.5nm,1.1s						
AAK	Ala-Archa	7.68	341	Pn	Pn	17 47 28.4	+1.5
	comp=N,2.1nm,0.3s,baz=152,slow=8.0,SNR=31						
AAK				Sn	Sn	17 48 59.4	+5.3
	comp=N,0.3nm,0.3s,baz=339,slow=19,SNR=2.6						
AAK				Lg	Lg	17 49 33.5	
	comp=N,0.2nm,0.3s,baz=254,slow=17,SNR=1.8						
	comp=N,5.6nm,0.4s						
TKM2	Tokmak 2	7.71	348	⇑Pn	Pn	17 47 30.4	+3.0
	comp=N,0.9nm,0.3s						
TKM2				⇓Lg	Lg	17 49 34.6	
	comp=N,26nm,1.1s						
PDGK	Podgornoye	8.03	9	⇓Pn	Pn	17 47 34.5	+2.8
	comp=N,4.5nm,0.4s						
PDGK				⇓Sn	Sn	17 49 07.2	+4.5
	comp=N,19nm,0.7s						
PDGK				⇑Lg	Lg	17 49 50.7	
	comp=N,128nm,1.1s						
PYUN	Piuthan	8.50	147	*e*P	Pn	17 47 39.2	+0.8
	comp=N,24nm,0.5s						
DANN	Dangsing	8.65	143	*e*P	Pn	17 47 41.4	+0.9
	comp=N,24nm,0.5s						
KOLN	Koldanda	9.06	145	*e*P	Pn	17 47 46.8	+0.8
	comp=N,67nm,2.0s						
GKN	Gorkha	9.38	140	*e*P	Pn	17 47 50.2	-0.2
	comp=N,21nm,0.5s						
KK31	Karatay Array	9.55	326	Pn	Pn	17 47 52.1	-0.4
	comp=N,1.1nm,0.5s,baz=140,slow=13,SNR=26						
KK31				Sn	Sn	17 49 40.0	+0.1
	comp=N,7.1nm,0.8s,baz=149,slow=22,SNR=6.6						
KKN	Kakani	9.90	138	*e*P	Pn	17 47 56.9	-0.6
	comp=N,67nm,2.0s						
PKIN	Phulchoki	10.13	138	*e*P	Pn	17 47 59.7	-1.0
	comp=N,24nm,0.6s						
PKI	Pulchoki	10.14	138	*e*P	Pn	17 47 59.9	-1.0
	comp=N,13nm,0.6s						
GUN	Gumba	10.14	135	*e*P	Pn	17 47 59.6	-1.4
	comp=N,15nm,0.4s						
JIRN	Jiri	10.51	135	*e*P	Pn	17 48 04.8	-1.2
	comp=N,24nm,0.4s						
RAMN	Ramite	11.29	136	*e*P	Pn	17 48 14.1	-2.4
	comp=N,17nm,0.6s						
WMQ	Urumqi	11.35	39	*e*P	Pn	17 48 20.4	+3.3
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
TAPN	Taplejung	11.65	131	*e*P	Pn	17 48 17.3	-4.3
	comp=Z,8.5nm,0.3s						
ODAN	Odare	11.81	133	*e*P	Pn	17 48 19.9	-3.9
	comp=Z,24nm,0.8s						
MAKZ	Makanchi	11.82	14	⇑Pn	Pn	17 48 24.7	+1.0
	comp=Z,1.2nm,0.3s						
MAKZ				⇓Sn	Sn	17 50 38.5	+2.9
	comp=Z,5.4nm,0.8s						
MK31	Makanchi Array	11.88	15	⇑Pn	Pn	17 48 26.4	+2.1
	comp=Z,0.5nm,0.3s,baz=184,slow=12,SNR=38						
MK31				⇓Sn	Sn	17 50 38.9	+2.0
	comp=Z,16nm,1.0s,baz=198,slow=24,SNR=11						
MKAR	Makanchi Array	11.88	15	Pn	Pn	17 48 23.3	-1.1
	comp=Z,0.5nm,0.3s,baz=178,slow=13,SNR=18						
MKAR				Sn	Sn	17 50 32.5	-4.4
	comp=Z,0.2nm,0.3s,baz=193,slow=21,SNR=5.7						
	comp=Z,2.4nm,0.5s						
KURBB	Kurchatov Arra	15.23	2	Pn	Pn	17 49 07.3	-2.6
	baz=187,slow=12,SNR=11						
	comp=Z,0.9nm,0.7s						
GTA	Gaotai	17.93	71	*e*P	Pn	17 49 47.2	+2.7
GTA				pP	pP	17 49 52.1	+2.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BVAR	Borovoye Array	18.39	346	P	P	17 49 49.2	-0.7
	comp=Z,0.1nm,0.3s,baz=156,slow=11,SNR=27						
	comp=Z,8.5nm,0.8s						
ZALV	Zalesovo Beam	19.19	13	P	P	17 49 57.7	-1.0
	comp=Z,0.3nm,0.3s,baz=200,slow=9.5,SNR=10						
	comp=Z,2.1nm,0.6s						
AKTO	Aktyubinsk	20.79	322	P	P	17 50 15.1	-1.0
	comp=Z,5.5nm,0.6s,baz=109,slow=9.1,SNR=6.3						
AKTO				LR	LR	17 58 48.8	
	comp=Z,81nm,18.9s,baz=182,slow=38						
	comp=Z,5.5nm,0.6s						
SONM	Songino Array	24.57	51	P	P	17 50 55.6	+0.6
	comp=Z,5.5nm,0.8s,baz=244,slow=8.9,SNR=38						
	comp=Z,5.5nm,0.8s						
ARU	Arti	24.77	334	P	P	17 50 55.3	-1.4
	comp=Z,2.4nm,0.5s,baz=188,slow=3.2,SNR=6.1						
	comp=Z,2.4nm,0.5s						
CMAR	Chiang Mai Arr	25.20	127	P	P	17 50 59.1	-1.7
	comp=Z,1.0nm,0.8s,baz=315,slow=10,SNR=7.9						
	comp=Z,1.0nm,0.8s						
KBZ	Khabaz	28.01	298	LR	LR	18 04 25.3	
	comp=Z,72nm,18.4s,baz=83,slow=40						
KIRV	Kirov	29.81	330	LR	LR	18 03 52.4	
	comp=Z,39nm,19.1s,baz=179,slow=37						
BRTR	Keskin Array B	35.02	291	P	P	17 52 25.1	-2.7
	comp=Z,0.9nm,0.7s,baz=107,slow=9.7,SNR=7.4						
	comp=Z,0.9nm,0.7s						
AKASG	Malin Array Be	37.94	309	P	P	17 52 49.9	-2.5
	comp=Z,0.6nm,0.5s,baz=78,slow=8.2,SNR=3.5						
AKASG				LR	LR	18 10 46.7	
	comp=Z,54nm,19.3s,baz=337,slow=40						
	comp=Z,0.6nm,0.5s						
KSRS	Korea Array	39.99	72	P	P	17 53 07.3	-2.5
	comp=Z,0.6nm,0.7s,baz=270,slow=8.5,SNR=1.6						
	comp=Z,0.6nm,0.7s						
MLR	Muntele Rosu	40.12	301	LR	LR	18 13 42.2	
	comp=Z,49nm,18.8s,baz=294,slow=42						
KLR	Kul'dur	41.35	53	P	P	17 53 19.7	-1.1
	comp=Z,1.9nm,0.8s,baz=259,slow=5.5,SNR=5.5						
	comp=Z,1.9nm,0.8s						
FINES	FINESS Array B	41.51	325	P	P	17 53 20.2	-1.7
	comp=Z,1.6nm,0.5s,baz=133,slow=8.4,SNR=13						
	comp=Z,1.6nm,0.5s						
ARCES	ARCESS Array B	44.32	337	P	P	17 53 42.1	-2.6
	comp=Z,5.8nm,1.1s,baz=92,slow=3.9,SNR=5.8						
	comp=Z,5.8nm,1.1s						
HFS	Hagfors	47.33	322	P	P	17 54 07.4	-1.2
	comp=Z,2.9nm,0.6s,baz=108,slow=8.4,SNR=9.0						
	comp=Z,2.9nm,0.6s						
GERES	GERESS Array B	48.04	307	P	P	17 54 12.0	-2.4
	comp=Z,0.2nm,0.3s,baz=94,slow=10,SNR=1.8						
GERES				LR	LR	18 16 08.0	
	comp=Z,48nm,18.4s,baz=60,slow=38						
	comp=Z,0.2nm,0.3s						
NB2	NORSAR Subarra	48.57	323	P	P	17 54 17.9	-0.3
	comp=Z,9.3nm,1.1s,baz=91,slow=7.9						
NOA	NORSAR Array B	48.57	323	P	P	17 54 16.7	-1.5
	comp=Z,1.2nm,0.7s,baz=91,slow=7.6,SNR=4.1						
	comp=Z,1.2nm,0.7s						
EKA	Eskdalemuir Ar	56.87	318	P	P	17 55 19.1	-0.5
	comp=Z,1.1nm,0.7s,baz=80,slow=8.0,SNR=3.7						
	comp=Z,1.1nm,0.7s						
ESDC	Sonseca Array	62.81	301	P	P	17 55 59.4	-1.4
	comp=Z,0.2nm,0.7s,baz=57,slow=5.8,SNR=2.2						
	comp=Z,0.2nm,0.7s						
SHEM	Shemya Is, Ala	66.22	41	P	P	17 56 21.0	-1.7
	comp=Z,117nm,1.0s,baz=306,slow=21,SNR=2.1						
TORD	Torodi Ar. Bea	71.26	273	P	P	17 56 51.7	-3.1
	comp=Z,0.9nm,0.7s,baz=43,slow=7.5,SNR=6.8						
	comp=Z,0.9nm,0.7s						
ILAR	Eielson Array	74.21	18	P	P	17 57 10.2	-1.4
	comp=Z,0.6nm,0.8s,baz=313,slow=3.4,SNR=5.6						
	comp=Z,0.6nm,0.8s						
WRA	Warramunga Arr	76.80	126	P	P	17 57 24.0	-3.0
	comp=Z,0.8nm,0.9s,baz=321,slow=5.3,SNR=6.4						
	comp=Z,0.8nm,0.9s						
ASAR	Alice Springs	79.18	129	P	P	17 57 37.7	-2.5
	comp=Z,0.9nm,0.9s,baz=333,slow=5.2,SNR=7.0						
	comp=Z,0.9nm,0.9s						
YKA	Yellowknife Ar	81.94	6	P	P	17 57 51.3	-3.1
	comp=Z,0.5nm,0.7s,baz=343,slow=5.4,SNR=9.1						
	comp=Z,0.5nm,0.7s						
NEW	Newport	95.65	10	LR	LR	18 47 37.2	
	comp=Z,14nm,18.5s,baz=352,slow=39						
TXAR	Lajitas Array	115.60	1	PKP	PKiKP	18 04 16.9	-0.9
	comp=Z,0.3nm,0.9s,baz=298,slow=1.9,SNR=2.5						

IDC 03 17:49:24.7±1.6, 17.89N×144.45E, h0km, mb3.3/3, mbtmp3.5/4, ML4.0/1, Error ellipse: s-maj=129.5km s-min=23.3km az=106.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	4.29	175	Pn	Pn	17 50 30.5	-0.8
	9.2nm,0.3s,baz=325,slow=8.1,SNR=8.1						
GUMO				Sn	Sn	17 51 14.1	-8.0
	8.3nm,0.3s,baz=101,slow=12,SNR=2.4						
	60nm,0.7s						
H11N1	WAKE ISLAND Hy	21.32	82	T	T	18 14 57.8	
	baz=266,slow=74,SNR=6.7						
H11N2	WAKE ISLAND Hy	21.32	81	T	T	18 15 07.8	
	baz=266,slow=74,SNR=5.6						
H11N3	WAKE ISLAND Hy	21.34	82	T	T	18 14 59.1	
	baz=266,slow=74,SNR=8.5						
WRA	Warramunga Arr	38.88	195	P	P	17 56 52.4	+0.2
	0.1nm,0.3s,baz=14,slow=8.7,SNR=7.0						
	0.1nm,0.3s						
ASAR	Alice Springs	42.56	194	P	P	17 57 22.3	-0.2
	0.3nm,0.8s,baz=18,slow=6.6,SNR=4.6						
	0.3nm,0.8s						
ILAR	Eielson Array	64.89	26	P	P	18 00 05.6	0.0
	0.2nm,0.4s,baz=249,slow=6.0,SNR=11						
	0.2nm,0.4s						

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*IDC **03** 17:50:09.1±0.6, 38.95N×74.43E, h0km, mb4.2/25, mbtmp4.2/32, ML3.8/6, MS3.3/8, Error ellipse: s-maj=13.1km s-min=10.7km az=164.0*
*SOME **03** 17:50:13.4, 39.47N×74.15E, h0km, MS3.8*
*BJI **03** 17:50:14.2, 39.17N×74.34E, h27km, mb4.5/35, mB4.9/18, ML4.1/5, Ms3.8/17, Ms7 3.7/17*
*KRNET **03** 17:50:14.4±0.1, 39.46N×74.31E, h12km, mb4.5*
*MOS **03** 17:50:15.8±1.0, 39.18N×74.35E, h56km, mb4.6/27, Error ellipse: s-maj=5.4km s-min=3.1km az=91.5*
*NEIC **03** 17:50:18.6±2.0, 39.27N±0.07×74.29E±0.08, h60km±7km, mb4.5/64, Error ellipse: s-maj=11.0km s-min=8.2km az=148.0*
*NNC **03** 17:50:19.9±2.4, 39.60N×74.43E, h0km, mb4.8, mpv4.4, Error ellipse: s-maj=18.4km s-min=11.5km az=173.0*
ISC 03 17:50:14.7±0.5, 39.09N±0.03×74.26E±0.02, h32km±3km, n405, σ2s09/441, mb4.5/81, MS3.5/9, 62C-35D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.09	328	⇑iP	Pn	17 50 30.1	-3.9
	baz=12						
SFK				⇑iS	Sn	17 50 41.7	-6.5
	baz=12						
SFK	Sufi-Kurgan	1.09	328	i P	Pn	17 50 30.1	-3.9
SFK				i S	Sn	17 50 41.7	-6.5
OHH	Osh	1.83	322	⇑iP	Pn	17 50 43.8	-0.2
	baz=13						
OHH				⇑iS	Sn	17 51 05.4	-0.7
	baz=13						
OHH	Osh	1.83	322	i PN	Pn	17 50 43.8	-0.2
DRK	Karamyk	1.95	282	⇓eP	Pb	17 50 49.8	+0.1
	baz=72						
DRK				⇓eS	Sb	17 51 16.7	+3.0
	baz=72						
ARSB	Arslanbob	2.44	337	⇓iP	Pn	17 50 52.7	+0.3
	baz=32						
ARSB				⇓iS	Sn	17 51 20.8	-0.4
	baz=32						
ARSB	Arslanbob	2.44	337	Pn	Pn	17 50 54.0	+1.6
ARSB				Sn	Sn	17 51 21.6	+0.4
ARSB	Arslanbob	2.44	337	i PN	Pn	17 50 52.7	+0.3
NRN	Naryn	2.69	29	⇓iP	Pn	17 50 55.5	-0.6
	baz=32						
NRN				⇓iS	Sn	17 51 25.8	-2.0
	baz=32						
NRN	Naryn	2.69	29	Pn	Pn	17 50 56.9	+0.8
NRN				Sn	Sn	17 51 27.7	-0.1
NRN	Naryn	2.69	29	i PN	Pn	17 50 55.5	-0.6
NRN				i S	Sn	17 51 25.8	-2.0
ARLS	Aral	2.77	1	⇓iP	Pn	17 50 56.4	-0.6
	baz=0.0						
ARLS				⇓iS	Sn	17 51 27.3	-2.1
	baz=0.0						
ARLS	Aral	2.77	1	i PN	Pn	17 50 56.4	-0.6
BTK	Batken	2.83	291	⇓iP	Pb	17 51 01.1	-3.5
	baz=84						
BTK				⇓iS	Sb	17 51 35.6	-3.2
	baz=84						
BTK	Batken	2.83	291	Pn	Pb	17 51 01.3	-3.2
BTK	Batken	2.83	291	i PN	Pb	17 51 01.1	-3.5
BTK				i S	Sb	17 51 35.6	-3.2
AML	Almayashu	3.07	352	P	Pn	17 51 04.5	+3.2
	SNR=76						
AML	Almayashu	3.07	352	⇑iP	Pn	17 51 01.3	0.0
	baz=50						
AML				⇑iS	Sn	17 51 34.9	-2.3
	baz=50						
AML	Almayashu	3.07	352	PN	Pn	17 51 04.4	+3.1
AML	Almayashu	3.07	352	⇑Pg	Pn	17 51 04.4	+3.1
	12nm,0.5s						
AML				⇑Lg	Lg	17 51 41.3	
	47nm,0.6s						
KZA	Kyzart	3.08	14	P	Pn	17 51 02.9	+1.4
	SNR=34						
KZA	Kyzart	3.08	14	⇓iP	Pn	17 51 01.3	-0.2
	baz=15						
KZA				⇓iS	Sn	17 51 35.0	-2.4
	baz=15						
KZA	Kyzart	3.08	14	i PN	Pn	17 51 01.3	-0.2
UCH	Uchtor	3.14	3	P	Pn	17 51 04.3	+1.9
	SNR=69						
UCH	Uchtor	3.14	3	⇑iP	Pn	17 51 02.0	-0.4
	baz=3.0						
UCH				⇑iS	Sn	17 51 36.6	-2.4
	baz=3.0						
UCH	Uchtor	3.14	3	i PN	Pn	17 51 02.0	-0.4
ARK	Arkit	3.23	328	⇑iP	Pn	17 51 04.3	+1.1
	baz=24						
ARK				⇑iS	Sn	17 51 40.3	-0.3
	baz=24						
ARK	Arkit	3.23	328	i PN	Pn	17 51 04.3	+1.1
TRKS	Terek-Say	3.41	317	⇓iP	Pn	17 51 06.6	+0.8
	baz=11						
TRKS				⇓iS	Sn	17 51 44.5	-0.8
	baz=11						
TRKS	Terek-Say	3.41	317	i PN	Pn	17 51 06.6	+0.8
ULHL	Ulahol	3.50	25	P	Pn	17 51 09.0	+2.0
	SNR=22						
ULHL	Ulahol	3.50	25	⇑eP	Pn	17 51 07.0	0.0
	baz=27						
ULHL				⇑iS	Sn	17 51 45.2	-2.2
	baz=27						
ULHL	Ulahol	3.50	25	i PN	Pn	17 51 07.0	0.0
AAK	Ala-Archa	3.55	3	P	Pn	17 51 10.3	+2.6
	SNR=50						
AAK	Ala-Archa	3.55	3	⇑iP	Pn	17 51 07.2	-0.5
	baz=3.0						
AAK				⇑iS	Sn	17 51 46.3	-2.4
	baz=3.0						
AAK	Ala-Archa	3.55	3	Pn	Pn	17 51 10.0	+2.3
AAK	Ala-Archa	3.55	3	PN	Pn	17 51 10.0	+2.3
AAK	Ala-Archa	3.55	3	Pn	Pn	17 51 10.8	+3.1
	15nm,0.3s,baz=172,slow=6.7,SNR=74						
AAK				Lg	Lg	17 51 57.5	
	6.2nm,0.3s,baz=195,slow=22,SNR=1.5						
	169nm,0.6s						
EKS2	Erkin-Say	3.59	354	P	Pn	17 51 10.7	+2.5
	SNR=62						
EKS2	Erkin-Say	3.59	354	⇓iP	Pn	17 51 08.2	0.0
	baz=53						
EKS2				⇓iS	Sn	17 51 47.1	-2.5
	baz=53						
EKS2	Erkin-Say	3.59	354	i PN	Pn	17 51 08.2	0.0
KBK	Karagaybulak	3.60	8	P	Pn	17 51 11.1	+2.6
	SNR=96						
KBK	Karagaybulak	3.60	8	⇑iP	Pn	17 51 08.2	-0.2
	baz=8.0						
KBK				⇑iS	Sn	17 51 47.4	-2.6
	baz=8.0						
KBK	Karagaybulak	3.60	8	i PN	Pn	17 51 08.2	-0.2
FRU1	Bishkek	3.73	4	⇓iP	Pn	17 51 10.3	+0.2
	baz=4.0						
FRU1				⇓iS	Sn	17 51 50.9	-2.0
	baz=4.0						
FRU1	Bishkek	3.73	4		Pn	17 51 12.8	+2.7
FRU1	Bishkek	3.73	4	PN	Pn	17 51 12.8	+2.7
MRKS	Merke	3.74	348	ePg	Pb	17 51 17.0	-2.9
	139nm,0.5s						
MRKS				eLg	Lg	17 52 03.1	
	182nm,0.9s						
MRKS	Merke	3.74	348	Pg	Pb	17 51 15.8	-4.2
	139nm,0.5s						
MRKS				Lg	Lg	17 52 02.3	
	182nm,0.9s						
CHMS	Chumysh	3.92	5	P	Pn	17 51 14.5	+1.8
	SNR=29						
CHMS	Chumysh	3.92	5	⇑iP	Pn	17 51 12.4	-0.3
	baz=5.0						
CHMS				⇑iS	Sn	17 51 54.7	-3.0
	baz=5.0						
CHMS	Chumysh	3.92	5	⇓Pn	Pn	17 51 15.6	+2.8
	16nm,0.4s						
CHMS				Pg	Pb	17 51 35.7	+13
	62nm,0.2s						
CHMS				⇑Lg	Lg	17 52 07.0	
	256nm,1.0s						
CHMS				Lg	Lg	17 52 36.8	
	341nm,0.7s						
TKM2	Tokmak 2	3.96	14	P	Pn	17 51 15.0	+1.6
	SNR=25						
TKM2	Tokmak 2	3.96	14	⇓iP	Pn	17 51 13.2	-0.2
	baz=15						
TKM2				⇓iS	Sn	17 51 56.1	-2.7
	baz=15						
TKM2	Tokmak 2	3.96	14	PN	Pn	17 51 15.5	+2.1
TKM2	Tokmak 2	3.96	14	⇑Pn	Pn	17 51 15.5	+2.1
	58nm,0.5s						
TKM2				⇓Lg	Lg	17 52 07.9	
	325nm,0.9s						
KST	Kastek	4.16	17	ePg	Pb	17 51 25.1	-2.0
	81nm,0.8s						
KST				eLg	Lg	17 52 17.1	
	260nm,0.7s						
KST	Kastek	4.16	17	Pg	Pb	17 51 26.2	-0.9
	120nm,0.6s						
KST				Lg	Lg	17 52 19.4	
	260nm,0.7s						
USP	Ospenovka	4.18	2	P	Pn	17 51 19.0	+2.7
	SNR=7.9						
USP	Ospenovka	4.18	2	⇑iP	Pn	17 51 16.0	-0.2
	baz=2.0						
USP				⇑iS	Sn	17 52 01.1	-2.9
	baz=2.0						
USP	Ospenovka	4.18	2	i PN	Pb	17 51 26.0	-1.5
MTBS	Maitube	4.36	21	ePg	Pb	17 51 28.2	-2.4
	37nm,0.5s						
MTBS				eLg	Lg	17 52 22.0	
	129nm,0.6s						
MTBS	Maitube	4.36	21	Pg	Pb	17 51 29.7	-0.8
	60nm,0.6s						
MTBS				Lg	Lg	17 52 25.7	
	154nm,0.7s						
SGDS	Sogindy	4.37	4	eP	Pn	17 51 21.6	+2.7
	baz=0.9						
SGDS	Sogindy	4.37	4	ePN	Pn	17 51 21.6	+2.7
SGDS	Sogindy	4.37	4	Pg	Pb	17 51 29.7	-1.0
	101nm,0.6s						
SGDS				Lg	Lg	17 52 25.3	
	137nm,0.7s						
DZA	Taraz	4.40	331	eP	Pn	17 51 23.0	+3.8
	baz=327						
DZA	Taraz	4.40	331	ePg	Pb	17 51 29.0	-2.2
	109nm,0.5s						
DZA				eLg	Lg	17 52 23.5	
	281nm,0.7s						
DZA	Taraz	4.40	331	ePN	Pn	17 51 23.0	+3.8
DZA	Taraz	4.40	331	Pg	Pb	17 51 29.0	-2.2
	109nm,0.5s						
DZA				Lg	Lg	17 52 24.9	
	258nm,1.0s						
TNSS	Tian-Shan	4.44	26	i P	Pn	17 51 21.4	+1.3
	baz=25						
TNSS	Tian-Shan	4.44	26	ePg	Pb	17 51 31.2	-0.8
	159nm,0.5s						
TNSS				eLg	Lg	17 52 27.5	
	90nm,0.9s						
TNSS	Tian-Shan	4.44	26	i PN	Pn	17 51 21.4	+1.3
TNSS	Tian-Shan	4.44	26	Pg	Pb	17 51 31.3	-0.8
	159nm,0.5s						
TNSS				Lg	Lg	17 52 29.2	
	96nm,0.8s						
KASK	Kaskelen	4.50	23	⇑Pn	Pn	17 51 22.8	+2.2
KASK				⇓Pg	Pb	17 51 33.2	+0.2
KASK				⇑Lg	Lg	17 52 24.7	
ANVS	Anan'yevo	4.50	34	⇑eP	Pn	17 51 21.5	+0.7
	baz=36						
ANVS				⇑iS	Sn	17 52 10.1	-2.1
	baz=36						
ANVS	Anan'yevo	4.50	34	ePN	Pn	17 51 21.5	+0.7
AAA	Alma-Ata	4.58	25	eP	Pn	17 51 23.4	+1.6
	baz=24						
AAA	Alma-Ata	4.58	25	ePg	Pb	17 51 33.6	-0.7
	68nm,0.4s						
AAA				eLg	Lg	17 52 31.9	
	282nm,0.6s						
AAA	Alma-Ata	4.58	25	ePN	Pn	17 51 23.3	+1.5
AAA	Alma-Ata	4.58	25	Pg	Pb	17 51 35.2	+0.9
	185nm,0.5s						
AAA				Lg	Lg	17 52 34.6	
	292nm,1.0s						
MDOK	Medeo	4.58	26	i P	Pn	17 51 23.4	+1.5
	baz=25						
MDOK	Medeo	4.58	26	ePg	Pb	17 51 33.7	-0.7
	101nm,0.5s						
MDOK				eLg	Lg	17 52 31.5	
	176nm,0.7s						
MDOK	Medeo	4.58	26	i PN	Pn	17 51 23.4	+1.5
MDOK	Medeo	4.58	26	Pn	Pn	17 51 23.4	+1.5
	7.1nm,0.5s						
MDOK				Pg	Pb	17 51 33.7	-0.7
	101nm,0.5s						
MDOK				Pg		17 51 33.9	
	76nm,0.5s						
MDOK				Lg	Lg	17 52 24.7	
	225nm,0.8s						
MDOK				Lg	Lg	17 52 32.6	
	176nm,0.7s						
KNDC	Almaty	4.60	25	PN	Pb	17 51 34.5	-0.1
KNDC	Almaty	4.60	25	⇑Pg	Pb	17 51 34.6	-0.1
	218nm,0.6s						
KNDC				⇑Lg	Lg	17 52 24.4	
	556nm,0.9s						
PRZ	Przheval'sk	4.62	41	⇓iP	Pn	17 51 23.5	+1.0
	baz=44						
PRZ				⇓iS	Sn	17 52 14.1	-1.1
	baz=44						
PRZ	Przheval'sk	4.62	41		Pn	17 51 25.0	+2.5
PRZ	Przheval'sk	4.62	41	i PN	Pn	17 51 23.5	+1.0
KOTS	Kotyrbulak	4.67	27	ePg	Pb	17 51 35.3	-0.6
	96nm,0.5s						
KOTS				eLg	Lg	17 52 35.2	
	505nm,0.7s						
KOTS	Kotyrbulak	4.67	27	Pg	Pb	17 51 35.3	-0.6
	96nm,0.5s						
KOTS				Lg	Lg	17 52 35.2	
	505nm,0.7s						
CHM	Chimkent	4.79	314	eP	Pn	17 51 27.7	+3.0
	baz=311						
CHM	Chimkent	4.79	314	ePg	Pb	17 51 36.9	-1.0
	62nm,0.2s						
CHM				eLg	Lg	17 52 37.3	
	183nm,0.4s						
CHM	Chimkent	4.79	314	ePN	Pn	17 51 27.6	+3.0
KK31	Karatay Array	4.91	326	Pn	Pn	17 51 29.1	+2.8
KK31	Karatay Array	4.91	326	PN	Pn	17 51 29.1	+2.8
KK31	Karatay Array	4.91	326	⇑Pn	Pn	17 51 29.0	+2.8
	7.0nm,0.3s,baz=129,slow=12,SNR=140						
KK31				Pg	Pb	17 51 43.9	+4.0
	20nm,0.5s,baz=135,slow=16,SNR=5.6						
KK31				⇑Sn	Sn	17 52 29.0	+7.0
	30nm,0.5s						
KK31				⇑Lg	Lg	17 52 44.8	
	100nm,0.8s,baz=122,slow=32						
KKAR	Karatay Array	4.91	326	⇑eP	Pn	17 51 27.6	+1.3
	baz=23						
KKAR				⇑iS	Sn	17 52 20.8	-1.2
	baz=23						
KKAR	Karatay Array	4.91	326	Pn	Pn	17 51 27.1	+0.8
KKAR	Karatay Array	4.91	326	Pn	Pn	17 51 27.6	+1.3
KKAR	Karatay Array	4.91	326	PN	Pn	17 51 27.1	+0.8
KTBS	Karatobe	4.96	21	ePg	Pb	17 51 40.7	-0.1
	98nm,0.6s						
KTBS				eLg	Lg	17 52 44.3	
	139nm,0.9s						
KTBS	Karatobe	4.96	21	Pg	Pb	17 51 40.7	-0.1
	98nm,0.6s						
KTBS				Lg	Lg	17 52 44.3	
	139nm,0.9s						
KUU	Kurty	5.05	17	i P	Pn	17 51 29.0	+0.8
	baz=16						
KUU	Kurty	5.05	17	ePg	Pb	17 51 41.6	-0.7
	6.3nm,0.3s						
KUU				eLg	Lg	17 52 45.0	
	222nm,1.2s						
KUU	Kurty	5.05	17	i PN	Pn	17 51 28.9	+0.8
KUU	Kurty	5.05	17	Pg	Pb	17 51 42.4	+0.1
	109nm,0.8s						
KUU				Lg	Lg	17 52 47.0	
	222nm,1.2s						
SATY	Saty	5.05	37	i P	Pn	17 51 29.6	+1.2
	baz=36						
SATY	Saty	5.05	37	ePg	Pb	17 51 42.6	+0.2
	56nm,0.5s						
SATY				eLg	Lg	17 52 47.1	
	142nm,0.9s						
SATY	Saty	5.05	37	i PN	Pn	17 51 29.5	+1.2
SATY	Saty	5.05	37	Pg	Pb	17 51 44.0	+1.5
	104nm,0.8s						
SATY				Lg	Lg	17 52 49.8	
	193nm,1.0s						
ZHN	Zhinishke	5.15	36	ePg	Pb	17 51 44.5	+0.4
	39nm,0.6s						
ZHN				eLg	Lg	17 52 50.5	
	90nm,1.0s						
ZHN	Zhinishke	5.15	36	Pg	Pb	17 51 44.5	+0.4
	39nm,0.6s						
ZHN				Lg	Lg	17 52 50.5	
	90nm,1.0s						
CHKK	Chushkaly	5.18	22	ePg	Pb	17 51 44.4	-0.2
	35nm,0.9s						
CHKK				eLg	Lg	17 52 50.2	
	107nm,0.8s						
CHKK	Chushkaly	5.18	22	Pg	Pb	17 51 45.4	+0.9
	46nm,0.6s						
CHKK				Lg	Lg	17 52 52.9	
	107nm,0.8s						
KURS	Kuram	5.29	33	ePg	Pb	17 51 46.7	+0.3
	54nm,0.8s						
KURS				eLg	Lg	17 52 54.3	
	60nm,1.6s						
KURS	Kuram	5.29	33	Pg	Pb	17 51 46.7	+0.3
	54nm,0.8s						
KURS				Lg	Lg	17 52 55.5	
	90nm,1.4s						
UZB	Uzynbulak	5.42	40	eP	Pn	17 51 34.5	+1.1
	5.3nm,0.5s,baz=40						
UZB	Uzynbulak	5.42	40	ePg	Pb	17 51 50.1	+1.5
	67nm,0.7s						
UZB				eLg	Lg	17 53 00.3	
	116nm,1.1s						
UZB	Uzynbulak	5.42	40	ePN	Pn	17 51 34.5	+1.1
UZB				pmax	pmax		
	comp=Z,5.0nm,0.5s						
UZB	Uzynbulak	5.42	40	Pg	Pb	17 51 50.1	+1.5
	comp=Z,67nm,0.7s						
UZB				Lg	Lg	17 53 00.3	
	comp=Z,116nm,1.1s						
NIL	Nilore	5.49	189		Pn	17 51 39.0	+4.7
NIL	Nilore	5.49	189	PN	Pn	17 51 39.0	+4.7
KPKS	Kokpek	5.50	36	i P	Pn	17 51 35.4	+1.0
	comp=Z,3.0nm,0.4s,baz=36						
KPKS	Kokpek	5.50	36	ePg	Pb	17 51 51.1	+1.1
	comp=Z,63nm,1.0s						
KPKS				eLg	Lg	17 53 02.2	
	comp=Z,101nm,0.7s						
KPKS	Kokpek	5.50	36	i PN	Pn	17 51 35.4	+1.0
KPKS				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KPKS	Kokpek	5.50	36	Pg	Pb	17 51 51.1	+1.1
	comp=Z,63nm,1.0s						
KPKS				Lg	Lg	17 53 02.2	
	comp=Z,101nm,0.7s						
SHLS	Shalkode	5.65	42	eP	Pn	17 51 40.9	+4.3
	baz=44						
SHLS	Shalkode	5.65	42	ePg	Pb	17 51 59.2	+6.6
	comp=Z,102nm,0.7s						
SHLS				eLg	Lg	17 53 15.8	
	comp=Z,177nm,1.2s						
SHLS	Shalkode	5.65	42	ePN	Pn	17 51 40.8	+4.3
SHLS	Shalkode	5.65	42	Pg	Pb	17 51 59.2	+6.6
	comp=Z,102nm,0.7s						
SHLS				Lg	Lg	17 53 15.8	
	comp=Z,177nm,1.2s						
ARXS	Arharly	5.77	26	ePg	Pb	17 51 55.1	+0.5
	comp=Z,38nm,0.5s						
ARXS				eLg	Lg	17 53 08.8	
	comp=Z,49nm,0.8s						
ARXS	Arharly	5.77	26	Pg	Pb	17 51 56.5	+1.8
	comp=Z,48nm,0.5s						
ARXS				Lg	Lg	17 53 12.3	
	comp=Z,67nm,0.7s						
PDGK	Podgornoye	5.79	41	PN	Pn	17 51 38.9	+0.5
PDGK	Podgornoye	5.79	41	Pg	Pb	17 51 56.9	+2.0
	comp=Z,30nm,0.9s						
PDGK				Lg	Lg	17 53 11.9	
	comp=Z,68nm,1.0s						
PDGK	Podgornoye	5.79	41	⇓Pn	Pn	17 51 38.9	+0.5
	comp=Z,1.2nm,0.3s						
PDGK				⇓Pg	Pb	17 51 55.3	+0.4
	comp=Z,16nm,0.5s						
PDGK				⇓Lg	Lg	17 53 04.6	
	comp=Z,222nm,1.2s						
BLB	Baldybastay	5.92	31	Pg	Pb	17 51 59.8	+2.7
	comp=Z,76nm,0.7s						
BLB				Lg	Lg	17 53 17.4	
	comp=Z,102nm,0.8s						
BTLS	Baital	5.95	359	eP	Pn	17 51 43.4	+2.8
	baz=356						
BTLS	Baital	5.95	359	ePN	Pn	17 51 43.3	+2.8
KBL	Kabul	6.17	224	Pn	Pn	17 51 48.5	+4.7
KBL	Kabul	6.17	224	PN	Pn	17 51 48.5	+4.7
KTMS	Ketmen	6.32	45	ePg	Pb	17 52 07.5	+3.5
	comp=Z,5.2nm,0.4s						
KTMS				eLg	Lg	17 53 29.9	
	comp=Z,27nm,0.7s						
KTMS	Ketmen	6.32	45	Pg	Pb	17 52 06.8	+2.8
	comp=Z,17nm,0.6s						
KTMS				Lg	Lg	17 53 29.1	
	comp=Z,27nm,0.7s						
JMU	Jammu	6.38	175	eP	Pn	17 51 52.3	+5.9
JMU				eS	Sn	17 52 56.0	-2.2
KNOS	Konyrlen	6.42	33	Pg	Pb	17 52 08.5	+2.8
	comp=Z,55nm,0.7s						
KNOS				Lg	Lg	17 53 32.2	
	comp=Z,54nm,1.1s						
TDK	Taldyqorghan	6.67	26	eP	Pn	17 51 51.8	+1.4
	comp=Z,7.0nm,0.7s,baz=25						
TDK	Taldyqorghan	6.67	26	ePN	Pn	17 51 51.7	+1.4
TDK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
DJR	Jarkent	6.67	37	ePg	Pb	17 52 13.5	+3.5
	comp=Z,11nm,0.6s						
DJR				eLg	Lg	17 53 40.1	
	comp=Z,35nm,0.8s						
DJR	Jarkent	6.67	37	Pg	Pb	17 52 11.9	+1.9
	comp=Z,12nm,0.7s						
DJR				Lg	Lg	17 53 38.4	
	comp=Z,32nm,1.1s						
THN	Thein Dam	6.75	169	eP	Pn	17 51 54.8	+3.4
THN				eS	Sn	17 53 07.5	+0.4
THN				IAML		17 53 20.8	
	comp=N,237nm,0.6s						
THN				IAML		17 53 22.8	
	comp=E,137nm,0.5s						
DHRM	DHARAMSHALA	7.02	166	eP	Pn	17 51 58.2	+2.7
DHRM				eS	Sn	17 53 17.5	+3.1
DHRM				IAML		17 53 27.3	
	comp=E,543nm,0.7s						
DHRM				IAML		17 53 32.1	
	comp=N,380nm,0.8s						
KAPS	Kapalarasan	7.25	30	ePg	Pb	17 52 23.3	+3.5
	comp=N,15nm,0.5s						
KAPS				eLg	Lg	17 53 56.9	
	comp=N,41nm,1.1s						
KAPS	Kapalarasan	7.25	30	Pg	Pb	17 52 20.7	+0.9
	comp=N,10nm,1.1s						
KAPS				Lg	Lg	17 53 53.6	
	comp=N,41nm,1.1s						
BHK	Bhakra	7.86	166	eP	Pn	17 52 12.5	+5.7

BHK eS Sn 17 53 35.9 +1.4
SMLA Simla 8.29 162 eP Pn 17 52 15.6 +2.9
SMLA eS Sn **17 53 42.6 -2.6**
SMLA IAML 17 53 54.2
comp=E,170nm,0.5s
SMLA IAML 17 53 54.7
comp=N,204nm,0.8s
OTUK Ortayu 9.26 352 Pg Pn 17 52 59.3 +33
comp=N,3.9nm,0.9s
OTUK Lg Lg 17 54 59.7
comp=N,16nm,0.8s
DDI Dehra Dun 9.29 159 eP Pn 17 52 29.1 +2.8
DDI eS Sn **17 54 05.2 -4.5**
MAKZ Makanchi 9.56 34 Pn **17 52 31.9 +1.8**
MAKZ Makanchi 9.56 34 P Pn **17 52 31.9 +1.8**
MAKZ Makanchi 9.56 34 ⇑Pn Pn **17 52 31.4 +1.3**
comp=N,0.3nm,0.4s
MAKZ ⇑Lg Lg 17 55 04.7
comp=N,16nm,1.1s
MK31 Makanchi Array 9.69 35 Pn **Pn 17 52 34.3 +2.5**
MK31 Makanchi Array 9.69 35 *ceP* Pn **17 52 34.9 +3.1**
MK31 Makanchi Array 9.69 35 ⇓Pn **Pn 17 52 33.2 +1.4**
comp=N,1.9nm,0.5s,baz=217,slow=13,SNR=26
MK31 ⇑Lg Lg 17 55 09.1
comp=N,7.5nm,0.8s,baz=53,slow=40,SNR=4.3
MKAR Makanchi Array 9.69 35 Pn **Pn 17 52 34.0 +2.2**
MKAR Makanchi Array 9.69 35 Pn **Pn 17 52 32.1 +0.3**
comp=N,1.1nm,0.3s,baz=222,slow=15,SNR=19
MKAR Lg Lg 17 55 08.4
comp=N,0.1nm,0.3s,baz=223,slow=23,SNR=2.5
MKAR LR LR 17 56 40.1
comp=N,240nm,20.2s,baz=222,slow=40
comp=N,3.5nm,0.5s
PTH Pithoragarh 10.71 151 eP **Pn 17 52 46.1 +0.1**
PTH eS Sn 17 54 34.1 -11
HRA Herat 10.72 248 Pn **Pn 17 52 47.7 +1.6**
LGTI Lohaghat 10.81 151 eP **Pn 17 52 47.6 +0.4**
LGTI eS **Sn 17 54 41.9 -5.1**
LGTI IAML 17 54 56.6
comp=N,34nm,0.6s
LGTI IAML 17 55 00.4
comp=E,25nm,0.6s
BRZS Berezniki 10.95 355 eP **Pn 17 52 50.9 +1.9**
baz=354
BRZS Berezniki 10.95 355 eP **Pn 17 52 50.9 +1.9**
KUDL Kundal 11.07 170 eP **Pn 17 52 51.0 +0.2**
KUDL eS **Sn 17 54 46.0 -7.5**
WMQ Urumqi 11.13 61 eP **Pn 17 52 51.5 -0.1**
WMQ PP **PnPn 17 53 05.1 +5.8**
WMQ pmax pmax
comp=E,27nm,0.9s
KURBB Kurchatov Arra 11.92 13 Pn **Pn 17 53 00.7 -1.6**
comp=E,0.8nm,0.8s,baz=199,slow=12,SNR=4.6
KURBB Lg Lg 17 56 22.9
comp=E,0.1nm,0.3s,baz=199,slow=28,SNR=7.9
KURK Kurchatov 12.03 13 Pn **Pn 17 52 59.9 -3.8**
KURK Kurchatov 12.03 13 *ceP* **Pn 17 53 05.1 +1.4**
KURK pmax pmax
comp=Z,4.0nm,1.0s
SEM Semipalatinsk 12.09 19 eP **Pn 17 53 05.3 +0.5**
baz=18
SEM Semipalatinsk 12.09 19 eP **Pn 17 53 05.3 +0.5**
GEYT Alibeck 12.70 270 **Pn 17 53 11.1 -1.9**
GEYT Alibeck 12.70 270 Pn **Pn 17 53 10.8 -2.2**
comp=Z,1.5nm,0.3s,baz=96,slow=10,SNR=19
GEYT Sn **Sn 17 55 30.5 -2.9**
comp=Z,0.3nm,0.3s,baz=120,slow=17,SNR=1.9
comp=Z,2.2nm,0.3s
GYA0B ALIBECK ARRAY 12.70 270 Pn **Pn 17 53 11.1 -1.9**
PYUN Piuthan 13.14 144 eP **Pn 17 53 17.7 -1.6**
comp=Z,40nm,0.5s
DANN Dangsing 13.30 141 eP **Pn 17 53 20.0 -1.6**
comp=Z,30nm,0.4s
KOLN Koldanda 13.71 143 eP **Pn 17 53 24.8 -2.2**
comp=Z,74nm,0.9s
GKN Gorkha 14.03 139 eP **Pn 17 53 29.8 -1.5**
comp=Z,36nm,0.6s
DGZ Jazzator, Alta 14.16 37 *i* P **Pn 17 53 34.5 +1.5**
BVA0 Borovoye Array 14.19 350 *i* P **Pn 17 53 31.9 -1.4**
BVAR Borovoye Array 14.19 350 P **Pn 17 53 32.0 -1.3**
BVAR Borovoye Array 14.19 350 Pn **Pn 17 53 32.0 -1.3**
comp=Z,0.1nm,0.3s,baz=159,slow=13,SNR=23
BVAR Lg Lg 17 57 31.4
baz=162,slow=34,SNR=1.7
BVAR LR LR 17 59 06.9
comp=Z,147nm,18.2s,baz=171,slow=38
comp=Z,14nm,0.9s
BRVK Borovoye 14.24 350 **Pn 17 53 32.6 -1.3**
BRVK Borovoye 14.24 350 *i* P **Pn 17 53 33.3 -0.6**
AB31 Akbulak array 14.43 319 P **Pn 17 53 35.8 -0.7**
ABKAR Akbulak array 14.43 319 **Pn 17 53 34.2 -2.3**
ABKAR Akbulak array 14.43 319 **Pn 17 53 34.5 -2.0**
KKN Kakani 14.53 138 eP **Pn 17 53 36.5 -1.8**
comp=Z,27nm,0.6s
DMN Daman 14.59 138 eP **Pn 17 53 36.6 -2.5**
comp=Z,19nm,0.4s
GUN Gumba 14.76 136 eP **Pn 17 53 40.3 -1.1**
comp=Z,27nm,0.7s
PKIN Phulchoki 14.76 138 eP **Pn 17 53 39.7 -1.8**
comp=Z,25nm,0.6s
PKI Pulchoki 14.78 138 eP **Pn 17 53 39.8 -1.9**
comp=Z,21nm,0.5s
JIRN Jiri 15.12 135 eP **Pn 17 53 44.4 -1.9**
comp=Z,27nm,0.5s
RAMN Ramite 15.90 136 eP **Pn 17 53 53.4 -3.0**
comp=Z,48nm,0.9s
AKTO Aktyubinsk 16.14 320 Pn **Pn 17 53 59.3 +0.3**
comp=Z,0.6nm,0.3s,baz=129,slow=11,SNR=16
comp=Z,6.7nm,0.7s
TAPN Taplejung 16.22 132 eP **Pn 17 53 58.0 -2.4**
comp=Z,19nm,0.6s
ODAN Odare 16.41 134 eP **Pn 17 54 00.0 -2.8**
comp=Z,28nm,0.6s
ZAA0 Zalesovo Array 16.52 22 **Pn 17 54 01.8 -1.9**
ZALV Zalesovo Beam 16.52 22 *i* P **Pn 17 54 02.2 -1.5**
ZALV pmax pmax
comp=Z,6.0nm,0.7s
ZALV Zalesovo Beam 16.52 22 Pn **Pn 17 54 02.1 -1.6**
comp=Z,0.9nm,0.3s,baz=206,slow=12,SNR=24
ZALV Lg Lg 17 58 46.3
comp=Z,0.1nm,0.3s,baz=209,slow=23,SNR=1.7
ZALV LR LR 18 00 57.3
comp=Z,60nm,18.9s,baz=217,slow=39
comp=Z,6.2nm,0.7s
GOMU GeErMu 16.53 94 P **Pn 17 54 03.6 -0.9**
GOMU S **Sn 17 57 00.5 -6.6**
GOMU LR LR
comp=Z,84nm,7.9s
GOMU LR LR
comp=Z,76nm,7.7s
GOMU LR LR
comp=Z,62nm,7.2s
GTA Gaotai 19.78 81 ⇑P **Pn 17 54 44.0 +0.1**
GTA pP pP 17 54 50.3 -1.5
GTA sP sP 17 54 55.0 -1.3
GTA pmax pmax
comp=Z,19nm,0.8s
GTA LR LR
comp=Z,130nm,11.9s
GTA LR LR
comp=Z,140nm,9.6s
GTA LR LR
comp=Z,140nm,12.3s
LKRN Lenkeran, Azer 19.82 277 P **Pn 17 54 44.1 -0.2**
ARU Arti 20.22 334 **P 17 54 45.4 -1.4**
ARU Arti 20.22 334 *c i* P Pn 17 54 48.0 -0.8
ARU 17 55 05.0
ARU S **S 17 58 31.4 -0.4**
ARU SS **SnSn 17 58 51.2 +1.2**
ARU Arti 20.22 334 P **P 17 54 47.6 +0.8**
comp=Z,5.8nm,0.7s,baz=142,slow=6.0,SNR=9.7
ARU Lg Lg 18 00 59.3
baz=201,slow=18,SNR=1.7
comp=Z,5.8nm,0.7s
WSAR Wadi Sarin 20.65 225 P **P 17 54 51.6 -0.1**
comp=Z,20nm,0.7s,baz=81,slow=7.1,SNR=12
comp=Z,20nm,0.7s
UOSS Minazif 20.76 233 P **P 17 54 50.9 -2.0**
UOSS IAmb IAmb 17 55 02.5
comp=Z,21nm,1.2s
SEKA Sheki 20.77 285 P **P 17 54 52.8 -0.1**
MNGR Mingechevir, A 20.88 283 P **P 17 54 54.9 +0.8**
ZKTA Zakatala 21.18 286 P **P 17 54 58.1 +0.8**
BTLR Botlikh 21.46 289 *i* P **P 17 55 06.6 +6.3**
GANJ Ganja 21.47 283 P **P 17 55 01.0 +0.6**
NAX Nakhchivan 22.28 279 P **P 17 55 10.1 +0.9**

BELG Belogornoye 22.70 315 *i* P **P 17 55 14.6 +1.2**
BELG pmax pmax
comp=Z,4.0nm,0.9s
BELG Belogornoye 22.70 315 P **P 17 55 14.7 +1.3**
comp=Z,22nm,0.9s,baz=148,slow=1.7,SNR=7.4
comp=Z,22nm,0.9s
GNI Garni 22.72 282 P **P 17 55 14.0 0.0**
GNI Garni 22.72 282 *ceP* **P 17 55 18.8 +4.8**
GNI pmax pmax
comp=Z,43nm,1.0s
GNI Garni 22.72 282 P **P 17 55 15.9 +1.9**
comp=Z,17nm,0.6s,baz=3.4,slow=4.5,SNR=15
comp=Z,17nm,0.6s
ZEI Tsey 23.17 289 *eP* **P 17 55 24.6 +6.0**
ZEI pmax pmax
comp=Z,9.0nm,0.8s
NCK Nalchik 23.39 291 *i* P **P 17 55 23.2 +2.6**
NCK pmax pmax
comp=Z,16nm,0.9s
ONI Oni 23.50 288 P **P 17 55 24.1 +2.3**
ONI Oni 23.50 288 P **P 17 55 24.1 +2.3**
ONI pmax pmax
comp=Z,37nm,1.0s
LZH Lanzhou 23.59 88 *eP* **P 17 55 25.4 +2.7**
LZH pmax pmax
comp=Z,16nm,1.1s
LZH LR LR
comp=Z,250nm,16.1s
LZH LR LR
comp=Z,220nm,19.9s
LZH LR LR
comp=Z,280nm,14.8s
KBZ Khabaz 23.89 291 *i* P **P 17 55 29.8 +4.4**
KBZ pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 23.89 291 P **P 17 55 26.3 +0.9**
comp=Z,3.8nm,0.9s,baz=205,slow=2.1,SNR=4.3
comp=Z,3.8nm,0.9s
NEUR Neytrino 24.04 290 *i* P **P 17 55 30.6 +3.6**
NEUR pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 24.05 292 P **P 17 55 24.9 -2.1**
KIV IAmb IAmb 17 56 02.5
comp=Z,10nm,0.7s
KIV Kislovodsk 24.05 292 *eP* **P 17 55 30.2 +3.2**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,30nm,15.0s
SONM Songino Array 24.76 59 P **P 17 55 34.1 +0.7**
SONM Songino Array 24.76 59 P **P 17 55 34.1 +0.7**
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM Songino Array 24.76 59 P **P 17 55 33.6 +0.1**
comp=Z,2.3nm,0.6s,baz=261,slow=9.7,SNR=19
SONM LR LR 18 06 40.8
comp=Z,88nm,18.3s,baz=214,slow=40
comp=Z,2.3nm,0.6s
TNCH TengChong 24.79 117 P **P 17 55 34.6 +0.7**
TNCH pmax pmax
comp=Z,9.0nm,1.3s
ARXR Arkhyz 25.07 291 *i* P **P 17 55 39.9 +3.6**
KIRV Kirov 25.20 329 *ceP* **P 17 55 40.0 +2.9**
ULN Ulaanbaatar 25.20 59 P **P 17 55 35.7 -1.8**
ULN Ulaanbaatar 25.20 59 *ceP* **P 17 55 37.8 +0.3**
ULN pmax pmax
comp=Z,5.0nm,0.8s
VRH Novokhopyorsk 25.73 309 *eP* **P 17 55 43.7 +1.7**
VRH pmax pmax
comp=Z,10.0nm,0.8s
PZH PanZhiHua 26.18 110 P **P 17 55 49.4 +2.9**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.4s
VORD Divnogorie 27.16 307 *eP* **P 17 55 56.4 +1.5**
VORD pmax pmax
comp=Z,30nm,0.4s
VSR Storozhevoye 27.29 308 *eP* **P 17 55 57.7 +1.6**
VSR pmax pmax
comp=Z,10.0nm,1.2s
BTO Baotou 27.38 75 *eP* **P 17 55 57.6 +0.4**
BTO pP **sP 17 56 12.2 +0.4**
BTO PP **PnPn 17 56 46.1 +4.2**
BTO S **S 18 00 33.9 -1.4**
BTO sS sS 18 00 54.9 +2.2
BTO SS **SnSn 18 01 49.6 +4.0**
BTO pmax pmax
comp=Z,24nm,0.5s
BTO pmax pmax
comp=Z,140nm,4.5s
KMI Kunming 27.72 112 ⇑P **P 17 56 00.3 -0.1**
KMI pmax pmax
comp=Z,9.0nm,0.6s
LPSR Galich'ya Gora 27.76 311 *eP* **P 17 56 02.5 +2.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
ARPR Arapgir-MALATY 27.77 282 P **P 17 56 01.4 +0.6**
HHC Hu-ho-hao-te 28.51 74 *eP* **P 17 56 09.0 +1.8**
HHC pmax pmax
comp=Z,22nm,0.5s
HHC pmax pmax
comp=Z,190nm,4.0s
DIKM Dikmen 29.66 288 ⇑P P 17 56 21.9 +4.6
OBN Obninsk 29.80 315 *i* P **P 17 56 19.3 +1.0**
OBN pmax pmax
comp=Z,8.0nm,1.7s
SIM Simferopol' 30.16 294 *eP* **P 17 56 25.9 +4.2**
SIM pmax pmax
comp=Z,29nm,0.8s
BR131 Keskin Array S 31.21 284 P **P 17 56 31.7 +0.6**
BR131 IAmb IAmb 17 56 36.3
comp=Z,6.9nm,0.9s
BR131 Keskin Array S 31.21 284 P **P 17 56 31.7 +0.6**
BR131 pmax pmax
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 31.21 284 *ceP* **P 17 56 32.7 +1.5**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 31.21 284 P **P 17 56 32.6 +1.4**
comp=Z,4.3nm,0.8s,baz=82,slow=8.0,SNR=17
comp=Z,4.3nm,0.8s
PURM Purcari 33.04 298 ⇓P **P 17 56 50.8 +3.8**
AKASG Malin Array Be 33.45 305 *ceP* **P 17 56 53.0 +2.5**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 33.45 305 P **P 17 56 51.7 +1.2**
comp=Z,0.9nm,0.4s,baz=76,slow=8.0,SNR=11
comp=Z,0.9nm,0.4s
AKBB Malin Array Si 33.45 305 P **P 17 56 51.1 +0.6**
AKBB IAmb IAmb 17 56 54.6
comp=Z,16nm,1.4s
AKBB Malin Array Si 33.45 305 *ceP* **P 17 56 53.2 +2.7**
AKBB pmax pmax
comp=Z,35nm,2.8s
KIEV Kiev 33.46 305 ⇑P **P 17 56 51.1 +0.5**
KIEV Kiev 33.46 305 P **P 17 56 50.5 -0.1**
KIEV IAmb IAmb 17 56 54.6
comp=Z,14nm,1.3s
KIEV Kiev 33.46 305 P **P 17 56 50.5 -0.1**
KIEV pmax pmax
comp=Z,14nm,1.3s
EIL Elat 33.56 266 LR LR 18 12 11.2
comp=Z,40nm,19.4s,baz=120,slow=39
SORM Soroca 34.01 301 ⇓P **P 17 56 58.1 +2.7**
SORM Soroca 34.01 301 P **P 17 56 58.0 +2.7**
CFR Carcaliu 34.37 295 ⇑P **P 17 57 02.4 +3.8**
CFR Carcaliu 34.37 295 P **P 17 57 02.3 +3.8**
MNK Minsk 34.59 312 *i* P **P 17 57 00.3 -0.1**
comp=E,8.0nm,0.9s
MNK *i* P **P 17 57 00.3 -0.1**
comp=N,22nm,1.2s
MNK *i* P **P 17 57 00.3 -0.1**
comp=Z,12nm,0.8s,baz=277
MNK *i* pP **sP 17 57 15.3 -0.1**
MNK *i* PP **PP 17 58 17.6 -1.2**
MNK *i* S **S 18 02 26.1 -1.2**
MNK *i* sS sS 18 02 52.2 +7.7
MNK *i* SS **SnSn 18 04 44.5 +4.1**
MNK *i* LQ LQ 18 08 37.2
MNK *i* LR LR 18 11 03.3
MNK *i* LRM MLR 18 12 22.0
comp=E,56nm,14.2s
MNK *i* LRM MLR 18 12 32.7
comp=N,83nm,15.5s
MNK *i* LRM MLR 18 12 47.7
comp=E,44nm,13.5s
MNK Minsk 34.59 312 *i* P **P 17 57 00.2 -0.1**
MNK *i* *PP **sP 17 57 15.2 -0.1**
MNK *i* 17 58 17.6
MNK *i* 17 59 33.2
MNK *i* S **S 18 02 26.1 -1.2**
MNK *i* *SS sS 18 02 52.2 +7.7
MNK *i* SS **SnSn 18 04 44.4 +4.1**
MNK *i* 18 07 16.3
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK pmax pmax
comp=N,22nm,1.2s
MNK pmax pmax
comp=Z,12nm,0.9s
MNK MLR MLR
comp=Z,56nm,14.0s
MNK MLR MLR
comp=N,83nm,15.0s
MNK MLR MLR
comp=E,44nm,14.0s
TESR Tescani 35.27 298 ⇓P **P 17 57 09.8 +3.5**
NEHR Nehoiu 35.63 296 ⇑P P 17 57 15.2 +5.8
MLR Muntele Rosu 35.87 296 ⇑P **P 17 57 14.7 +3.1**
MLR Muntele Rosu 35.87 296 P **P 17 57 14.2 +2.6**
MLR Muntele Rosu 35.87 296 P **P 17 57 14.2 +2.6**
MLR pmax pmax
comp=Z,9.0nm,0.8s
BURAR Bucovina Array 36.14 300 ⇑P **P 17 57 16.3 +2.3**
BURAR Bucovina Array 36.14 300 P **P 17 57 14.1 +0.1**
BURAR Bucovina Array 36.14 300 P **P 17 57 16.2 +2.3**
BUR08 Bucovina Ar. S 36.15 300 P **P 17 57 15.0 +1.0**
BUR08 IAmb IAmb 17 57 39.7
comp=Z,8.9nm,1.4s
DOPR Dopca 36.19 297 ⇑P **P 17 57 18.1 +3.8**
NJ2 Nanjing 36.66 87 *eP* **P 17 57 17.6 -0.7**
NJ2 pP **sP 17 57 33.2 +0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.9s
NJ2 pmax pmax
comp=Z,250nm,5.7s
ARR Arges 36.80 296 ⇓P P 17 57 24.2 +4.7
FINES FINESS Array B 36.87 323 P **P 17 57 20.0 +0.3**
FINES FINESS Array B 36.87 323 *ceP* **P 17 57 20.2 +0.5**
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES FINESS Array B 36.87 323 P **P 17 57 19.8 0.0**
comp=Z,2.5nm,0.5s,baz=115,slow=9.1,SNR=15
comp=Z,2.5nm,0.5s
LOT Lotru 37.39 297 ⇓P P 17 57 29.7 +5.1
GZR Gura Zlata 38.09 297 ⇑P **P 17 57 34.3 +3.8**
GZR Gura Zlata 38.09 297 P **P 17 57 34.2 +3.8**
ZEA Zeya 38.42 50 *eP* **P 17 57 28.9 -4.1**
BLKB Belogradchik 38.48 294 ⇑P P 17 57 38.2 +4.5
HEH HeiHe 38.64 55 *eP* **P 17 57 35.3 +0.4**
HEH pmax pmax
comp=Z,10.0nm,0.9s
BZS Buzias 38.85 297 ⇓P P 17 57 41.5 +4.7
BZS Buzias 38.85 297 P P 17 57 41.5 +4.7
ARCES ARCESS Array B 39.80 336 P **P 17 57 44.3 -0.1**
comp=Z,2.4nm,0.6s,baz=101,slow=6.3,SNR=12
comp=Z,2.4nm,0.6s
AGG Agios Georgios 39.86 287 P **P 17 57 46.4 +1.1**
AGG Agios Georgios 39.86 287 P **P 17 57 46.4 +1.1**
AGG pmax pmax
comp=Z,20nm,1.4s
FNA Florina 40.08 290 P **P 17 57 47.1 0.0**
FNA IAmb IAmb 17 58 15.3
comp=Z,6.0nm,1.3s
FNA Florina 40.08 290 P **P 17 57 47.1 0.0**
FNA pmax pmax
comp=Z,6.0nm,1.3s
YAK Yakutsk 40.36 37 *ceP* **P 17 57 48.9 -0.1**
YAK pmax pmax
comp=Z,11nm,0.8s
YAK Yakutsk 40.36 37 P **P 17 57 48.2 -0.8**
comp=Z,0.4nm,0.5s,baz=70,slow=2.7,SNR=4.2
YAK LR LR 18 15 24.6
comp=Z,4.7nm,20.2s,baz=310,slow=38
MDJ Mudanjiang 40.91 64 P **P 17 57 53.6 -0.3**
MDJ PcP **PcP 17 59 57.9 +4.0**
MDJ S S 18 03 54.9 -8.5
MDJ sS sS 18 04 22.4 +1.4
MDJ pmax pmax
comp=Z,9.0nm,2.0s
MDJ pmax pmax
comp=Z,100nm,4.4s
MDJ LR LR
comp=Z,250nm,15.8s
MDJ LR LR
comp=Z,210nm,13.6s
MDJ LR LR
comp=Z,260nm,16.1s
KLR Kul'dur 41.55 56 P **P 17 57 57.5 -1.5**
comp=Z,1.3nm,0.5s,baz=280,slow=8.2,SNR=5.9
comp=Z,1.3nm,0.5s
KSRS Korea Array 41.65 75 P **P 17 57 58.7 -1.3**
comp=Z,1.3nm,0.7s,baz=284,slow=7.3,SNR=5.1
comp=Z,1.3nm,0.7s
DPC Dobruska-Polom 41.68 305 *eP* **P 17 58 03.1 +2.9**
DPC Dobruska-Polom 41.68 305 *eP* **P 17 58 03.1 +2.9**
CONA Conrad Observa 42.35 302 *eP* **P 17 58 09.5 +3.8**
comp=Z,1.4nm,0.6s
TIXI Tiksi 42.40 23 P **P 17 58 05.5 -0.2**
TIXI Tiksi 42.40 23 *ceP* **P 17 58 05.6 -0.1**
HFS Hagfors 42.69 320 P **P 17 58 08.0 -0.2**
HFS Hagfors 42.69 320 P **P 17 58 08.0 -0.2**
comp=Z,3.7nm,0.5s,baz=105,slow=11,SNR=16
comp=Z,3.7nm,0.5s
SOKA Soboth 43.15 300 *eP* **P 17 58 15.7 +3.5**
comp=Z,1.2nm,0.6s
OBKA Obir 43.51 300 *eP* **P 17 58 19.4 +4.2**
comp=Z,2.2nm,0.5s
GERES GERESS Array B 43.60 303 P **P 17 58 16.8 +0.9**
GERES GERESS Array B 43.60 303 P **P 17 58 16.8 +0.9**
GERES GERESS Array B 43.60 303 P **P 17 58 17.3 +1.4**
comp=Z,1.2nm,0.5s,baz=76,slow=8.3,SNR=4.6
comp=Z,1.2nm,0.5s
KHC Kasperske Hory 43.63 304 P **P 17 58 19.4 +3.4**
KHC IAmb IAmb 17 58 22.5
comp=Z,11nm,1.4s
KHC Kasperske Hory 43.63 304 *eP* **P 17 58 19.4 +3.4**
KHC Kasperske Hory 43.63 304 *ceP* **P 17 58 17.8 +1.8**
KHC pmax pmax
comp=Z,29nm,2.5s
NC405 NORSAR Array S 43.68 321 P **P 17 58 18.1 +1.8**
NC405 IAmb IAmb 17 58 23.7
comp=Z,10nm,0.8s
NC303 NORSAR Array S 43.85 322 P **P 17 58 16.6 -0.9**
BIOA Bad Ischl, Aus 43.87 302 *eP* **P 17 58 20.9 +3.0**
comp=Z,1.1nm,0.3s
NB201 NORSAR Array S 43.89 321 P **P 17 58 16.5 -1.4**
NB2 NORSAR Subarra 43.92 321 P **P 17 58 17.5 -0.7**
comp=Z,3.0nm,0.7s,baz=90,slow=8.6
NOA NORSAR Array B 43.92 321 P **P 17 58 17.9 -0.3**
comp=Z,4.4nm,0.8s,baz=91,slow=7.9,SNR=11
comp=Z,4.4nm,0.8s
NC204 NORSAR Array S 44.14 322 P **P 17 58 19.5 -0.5**
ABTA Abfaltersbach 44.83 301 *eP* **P 17 58 28.7 +3.1**
comp=Z,1.5nm,0.5s
WTTA Wattenberg 45.29 302 *eP* **P 17 58 32.4 +3.0**
comp=Z,1.9nm,0.6s
NRCA Norcia 45.44 295 P **P 17 58 31.3 +0.7**
FUORN Ofenpass-Fuorn 46.36 301 P **P 17 58 38.2 +0.3**
RAFF Raffo Rosso 46.38 287 P **P 17 58 40.6 +2.6**
TUE Stuetta 47.01 301 P **P 17 58 42.8 -0.2**
TUE IAmb IAmb 17 59 23.5
comp=Z,5.2nm,1.2s
BNI Bardonecchia 49.21 300 P **P 17 58 58.1 -1.9**
BNI Bardonecchia 49.21 300 P **P 17 58 58.1 -1.9**
BNI pmax pmax
comp=Z,23nm,1.5s
BAIF Baives 49.36 307 P **P 17 59 01.6 +0.7**
JGF Kuroka 49.39 73 P **P 17 59 01.1 -0.2**
MJAR Matsushiro Arr 49.64 72 P **P 17 59 03.1 -0.1**
comp=Z,2.0nm,0.8s,baz=291,slow=8.0,SNR=6.6
comp=Z,2.0nm,0.8s
ASAJ Asahikawa 50.02 61 LR LR 18 23 25.3
comp=Z,57nm,18.6s,baz=118,slow=40
SMF Signal de Mont 50.59 303 P **P 17 59 10.1 -0.2**
VIVF Saint-Julien-l 50.62 300 P **P 17 59 11.2 +0.7**
SSF Saint Saulge 50.68 303 P **P 17 59 10.7 -0.2**
MA2 Magadan 50.73 40 LR LR 18 21 24.4
comp=Z,53nm,19.0s,baz=300,slow=37

AVF	Avril sur Loir	50.87	303	P	P	17 59 12.3	0.0
EKA	Eskdalemuir Ar	52.25	315	P	P	17 59 22.3	-0.3
	comp=Z,2.7nm,0.6s,baz=86,slow=7.5,SNR=6.7						
	comp=Z,2.7nm,0.6s						
LDF	La Druitiere	52.50	306	P	P	17 59 24.7	+0.2
GRR	Gorron	53.03	306	P	P	17 59 28.3	-0.1
MFF	Saint Martin d	53.20	304	P	P	17 59 29.6	-0.1
LFF	La Frestale	53.21	302	P	P	17 59 31.1	+1.3
QUIF	Quistinic	54.65	306	P	P	17 59 43.1	+2.9
ESBB	Sonseca Array	58.54	298	P	P	18 00 07.9	-0.2
ESBB				IAmb	IAmb	18 00 29.6	
	comp=Z,7.8nm,1.4s						
ESDC	Sonseca Array	58.54	298	P	P	18 00 08.3	+0.2
	comp=Z,1.3nm,0.4s,baz=55,slow=7.1,SNR=24						
	comp=Z,1.3nm,0.4s						
F17K	Baldwin Pennin	66.55	21	P	P	18 01 00.8	-0.2
E22K	Anaktuvuk Pass	67.67	17	P	P	18 01 07.3	-0.9
E22K				IAmb	IAmb	18 01 08.6	
	comp=Z,6.4nm,1.3s						
TOLK	Toolik Lake Re	67.75	16	P	P	18 01 07.5	-1.2
TOLK				IAmb	IAmb	18 01 12.2	
	comp=Z,5.9nm,0.8s						
TOA0	Torodi Ar. Sit	68.34	270	P	P	18 01 13.1	-0.1
TORD	Torodi Ar. Bea	68.34	270	P	P	18 01 13.2	+0.1
TORD				IAmb	IAmb	18 01 16.5	
	comp=Z,4.4nm,0.7s						
TORD	Torodi Ar. Bea	68.34	270	P	P	18 01 13.1	-0.1
	comp=Z,6.8nm,0.5s,baz=47,slow=6.1,SNR=51						
	comp=Z,6.8nm,0.5s						
A36M	Sachs Harbour	68.37	6	P	P	18 01 13.2	+0.7
A36M				IAmb	IAmb	18 01 16.4	
	comp=Z,5.5nm,0.8s						
D27M	Malcolm River	68.89	13	P	P	18 01 16.1	+0.2
IMAR	Indian Mountai	68.91	19	P	P	18 01 15.3	-0.6
J16K	Anvik River	69.04	23	P	P	18 01 17.3	+0.5
J16K				IAmb	IAmb	18 01 23.9	
	comp=Z,15nm,1.5s						
E28M	Babbage River	69.70	13	P	P	18 01 18.8	-2.1
BMAR	Burnt Mountain	69.80	15	P	P	18 01 20.6	-0.9
E29M	Blow River	70.17	12	P	P	18 01 23.9	+0.2
E29M				IAmb	IAmb	18 01 27.9	
	comp=Z,7.3nm,1.2s						
H24K	Noodor Dome	70.44	17	P	P	18 01 24.9	-0.5
M14K	Bethel	70.46	26	P	P	18 01 25.7	+0.2
G27K	Doyon Strip	70.91	14	P	P	18 01 28.2	-0.1
INK	Inuvik	70.92	11	P	P	18 01 28.3	+0.1
INK				IAmb	IAmb	18 01 31.8	
	comp=Z,4.5nm,0.7s						
INK	Inuvik	70.92	11	P	P	18 01 28.3	+0.1
INK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
C36M	Paulatuk	71.03	7	P	P	18 01 28.3	-0.6
C36M				IAmb	IAmb	18 01 31.8	
	comp=Z,7.0nm,0.7s						
CAST	Castle Rocks	71.39	20	P	P	18 01 30.8	-0.4
CAST				IAmb	IAmb	18 01 34.7	
	comp=Z,5.2nm,1.1s						
ILAR	Eielson Array	71.57	17	P	P	18 01 30.0	-2.2
ILAR	Eielson Array	71.57	17	P	P	18 01 30.0	-2.2
ILAR	Eielson Array	71.57	17	P	P	18 01 31.6	-0.7
	comp=Z,1.8nm,0.9s,baz=317,slow=4.8,SNR=13						
	comp=Z,1.8nm,0.9s						
F31M	Tsiigehtchic	71.69	11	P	P	18 01 31.8	-1.1
F31M				IAmb	IAmb	18 01 36.2	
	comp=Z,3.5nm,0.8s						
H29M	Whitestone	72.05	13	P	P	18 01 35.3	+0.2
H29M				IAmb	IAmb	18 01 38.9	
	comp=Z,5.3nm,0.8s						
I28M	Miner Creek	72.45	14	P	P	18 01 37.0	-0.6
I28M				IAmb	IAmb	18 01 43.5	
	comp=Z,5.4nm,1.0s						
J26L	Joseph Creek	72.54	16	P	P	18 01 37.1	-1.1
SKT	Skwentna	72.71	21	P	P	18 01 38.4	-0.7
SKT				IAmb	IAmb	18 01 41.8	
	comp=Z,14nm,1.4s						
SCRK	Sand Creek	72.91	17	P	P	18 01 39.5	-0.9
SCRK				IAmb	IAmb	18 01 44.2	
	comp=Z,8.8nm,1.3s						
H31M	Peel River	73.11	12	P	P	18 01 40.9	-0.5
H31M				IAmb	IAmb	18 02 19.4	
	comp=Z,6.1nm,1.3s						
I30M	Mount Dempster	73.30	13	P	P	18 01 42.6	-0.1
SML	Sawmill	73.71	20	P	P	18 01 43.8	-1.2
SCM	Sheep Creek Mo	73.94	19	P	P	18 01 45.5	-1.0
SCM	Sheep Creek Mo	73.94	19	P	P	18 01 45.5	-1.0
SCM				pmax	pmax		
	comp=Z,53nm,1.4s						
BCAR	Beaver Creek A	74.19	16	P	P	18 01 47.8	0.0
M29M	Somme Creek	75.44	15	P	P	18 01 53.3	-1.9
FARO	Faro, Yukon	76.60	13	P	P	18 02 00.5	-1.1
FARO				IAmb	IAmb	18 02 36.9	
	comp=Z,12nm,1.5s						
HYT	Haines Junctio	77.10	15	P	P	18 02 04.0	-0.7
HYT				IAmb	IAmb	18 02 10.1	
	comp=Z,9.3nm,1.2s						
DBIC	Dimbokro	77.38	268	P	P	18 02 07.0	+0.2
DBIC	Dimbokro	77.38	268	P	P	18 02 07.0	+0.2
	comp=Z,4.6nm,0.7s,baz=24,slow=6.1,SNR=6.1						
	comp=Z,4.6nm,0.7s						
LBTB	Lobatse	78.33	224	P	P	18 02 12.1	+0.2
LBTB				IAmb	IAmb	18 02 18.6	
	comp=Z,4.8nm,1.1s						
LBTB	Lobatse	78.33	224	P	P	18 02 12.1	+0.2
LBTB				pmax	pmax		
	comp=Z,5.0nm,1.2s						
YKA	Yellowknife Ar	78.51	4	P	P	18 02 11.6	-0.7
YKA	Yellowknife Ar	78.51	4	*i* P	P	18 02 15.5	+3.2
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	78.51	4	P	P	18 02 12.3	0.0
	comp=Z,1.4nm,0.8s,baz=345,slow=5.5,SNR=14						
	comp=Z,1.4nm,0.8s						
P33M	Teslin, Yukon	78.58	13	P	P	18 02 12.6	-0.3
P33M				IAmb	IAmb	18 02 44.5	
	comp=Z,6.4nm,1.3s						
WRA	Warramunga Arr	81.24	124	P	P	18 02 25.2	-2.4
	comp=Z,0.3nm,0.5s,baz=316,slow=4.1,SNR=7.1						
	comp=Z,0.3nm,0.5s						
BOSA	Boshof	81.39	222	P	P	18 02 28.1	-0.3
	comp=Z,1.4nm,0.7s,baz=342,slow=5.6,SNR=3.5						
	comp=Z,1.4nm,0.7s						
ASAR	Alice Springs	83.69	127	P	P	18 02 38.6	-1.8
	comp=Z,0.8nm,0.9s,baz=319,slow=5.0,SNR=5.1						
	comp=Z,0.8nm,0.9s						
QSPA	South Pole Qui	128.88	180	PKPdf	PKiKP	18 09 19.4	+0.8

DJA 03 17:57:17.6±1.0**, 9°S**±5°×**11°8E**±°**, h21**km±8km**, M3.8**/8**,**
mb4.2/2**, MLv3.6**/8**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLAI	Plampang	0.64	349	P	Pb	17 57 30.6	+0.4
PLAI				S	Sn	17 57 40.3	-0.7
TWSI	Taliwang, Sumb	1.23	305	P	Pn	17 57 39.0	-0.6
BASI	Baing, Sumba	2.74	106	P	Pn	17 58 02.0	+1.6
IGBI	Denpasar	2.79	283	P	Pn	17 58 01.2	+0.1
SRBI	Singaraja	2.99	297	P	Pn	17 58 04.4	+0.6
EDFI	Ende, Flores	3.81	80	P	Pn	17 58 15.0	-0.2
JAGI	Jajag, Banyuwa	3.83	285	P	Pn	17 58 15.6	+0.2
BKSI	Bulukumba	4.67	28	P	Pn	17 58 27.5	+0.7
BATI	Baumata	5.73	98	P	Pn	17 58 41.4	-0.1
	7.4nm,0.6s,0.1nm						

*IDC **03** 17:57:40.7±3.0, 36°44N×71°04E, h201km±26km, mb3.3/8, mbtmp3.8/14, Error ellipse: s-maj=25.3km s-min=18.9km az=19.0*
*NNC **03** 17:57:47.4±3.6, 37°05N×71°12E, h191km±46km, mb2.6, mpv3.4, Error ellipse: s-maj=33.0km s-min=25.6km az=41.0*
ISC 03 17:57:41.0±0.7**, 36°64N**±0°07×**71°00E**±0°06**, h200**km**, n36,**
σ**1s66**/44**, mb3.3**/8**, 9C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	5.87	20	P	Pn	17 59 08.4	+1.5
	SNR=20						
AML	Almayashu	5.87	20	⇓P	Pn	17 59 08.4	+1.5
	0.4nm,0.2s						
AML				⇑S	Sn	18 00 12.3	-2.5
	16nm,0.7s						
UCH	Uchtor	6.21	25	P	Pn	17 59 13.1	+1.7
	SNR=5.8						
KZA	Kyzart	6.36	30	P	Pn	17 59 14.1	+0.9
	SNR=5.3						
EKS2	Erkin-Say	6.39	19	P	Pn	17 59 15.5	+2.1
	SNR=7.8						
KK31	Karatay Array	6.47	357	⇓P	Pn	17 59 15.8	+1.6
	3.0nm,0.3s,baz=183,slow=12,SNR=115						
KK31				⇑S	Sn	18 00 25.1	-3.2
	28nm,0.7s,baz=187,slow=23,SNR=23						
AAK	Ala-Archa	6.57	23	P	Pn	17 59 17.8	+2.0
	SNR=5.5						
AAK	Ala-Archa	6.57	23	P	Pn	17 59 17.2	+1.5
	3.2nm,0.3s,baz=168,slow=6.4,SNR=16						
AAK				S	Sn	18 00 29.6	-1.3
	6.0nm,0.6s,baz=191,slow=5.5,SNR=4.6						
CHMS	Chumysh	6.98	23	⇓P	Pn	17 59 22.5	+1.6
	1.3nm,0.5s						
CHMS				⇑S	Sn	18 00 37.8	-2.5
	6.7nm,0.8s						
USP	Ospenovka	7.15	21	P	Pn	17 59 24.7	+1.6
	SNR=5.8						
TKM2	Tokmak 2	7.21	28	⇑P	Pn	17 59 25.1	+1.0
	0.9nm,0.3s						
TKM2				⇑S	Sn	18 00 40.5	-5.4
	6.7nm,0.8s						
GEYT	Alibeck	10.35	281	P	Pn	18 00 04.8	+0.2
	1.7nm,0.6s,baz=125,slow=9.3,SNR=4.1						
GEYT				S	Sn	18 01 56.5	-3.6
	1.2nm,0.5s,baz=94,slow=25,SNR=1.9						
MKAR	Makanchi Array	13.18	36	P	P	18 00 43.2	-0.4
	0.4nm,0.7s,baz=228,slow=13,SNR=2.6						
PYUN	Piuthan	13.23	127	*e*P	Pn	18 00 40.7	-0.8
	13nm,0.2s						
DANN	Dangsing	13.56	124	*e*P	Pn	18 00 45.1	-0.8
	10nm,0.3s						
GKN	Gorkha	14.38	123	*e*P	P	18 00 55.9	-1.3
	19nm,0.3s						
DMN	Daman	14.95	123	*e*P	P	18 01 03.4	-0.2
AB31	Akbulak array	14.96	331	⇑P	P	18 01 02.9	-0.3
	2.8nm,0.5s,baz=142,slow=12,SNR=51						
AB31				⇑S	S	18 03 48.8	+0.1
	1.0nm,0.6s,baz=144,slow=30,SNR=6.2						
PKIN	Phulchoki	15.17	122	*e*P	P	18 01 06.3	+0.3
	9.0nm,0.3s						
PKI	Pulchoki	15.18	122	*e*P	P	18 01 06.3	+0.1
	10nm,0.4s						
GUN	Gumba	15.29	120	*e*P	P	18 01 07.7	+0.3
	12nm,0.4s						
JIRN	Jiri	15.66	121	*e*P	Pn	18 01 11.9	+0.3
	35nm,0.4s						
RAMN	Ramite	16.39	122	*e*P	Pn	18 01 20.7	+0.4
	8.6nm,0.4s						
BVAR	Borovoye Array	16.39	359	P	Pn	18 01 21.6	+1.8
	1.5nm,0.4s,baz=159,slow=10.0,SNR=9.7						
AKTO	Aktyubinsk	16.66	330	P	Pn	18 01 24.8	+1.8
	2.8nm,0.3s,baz=144,slow=6.7,SNR=10						
AKTO	Aktyubinsk	16.66	330	⇑P	Pn	18 01 23.9	+0.8
	1.4nm,0.5s						
AKTO				⇑S	Sn	18 04 30.8	+0.3
	1.1nm,0.9s						
TAPN	Taplejung	16.91	118	*e*P	Pn	18 01 27.1	+0.5
	9.7nm,0.3s						
ZALV	Zalesovo Beam	19.79	25	P	P	18 01 56.6	+0.7
	1.0nm,0.3s,baz=221,slow=9.4,SNR=7.2						
SONM	Songino Array	28.26	56	P	P	18 03 16.5	+0.9
	0.4nm,0.7s,baz=263,slow=10.0,SNR=3.3						
	0.4nm,0.7s						
FINES	FINESS Array B	37.37	326	P	P	18 04 35.1	+1.1
	8.0nm,1.1s,baz=110,slow=7.6,SNR=3.4						
	8.0nm,1.1s						
ARCES	ARCESS Array B	41.02	338	P	P	18 05 05.3	+1.1
	4.7nm,1.1s,baz=103,slow=4.1,SNR=1.2						
	4.7nm,1.1s						
NOA	NORSAR Array B	44.27	323	P	P	18 05 31.4	+1.0
	0.9nm,0.9s,baz=109,slow=6.8,SNR=2.1						
	0.9nm,0.9s						
ILAR	Eielson Array	74.65	16	P	P	18 08 58.8	+0.8
	0.3nm,0.7s,baz=304,slow=5.3,SNR=2.9						
	0.3nm,0.7s						
YKA	Yellowknife Ar	81.11	3	P	P	18 09 33.4	-0.1
	0.2nm,0.6s,baz=348,slow=5.5,SNR=5.5						
	0.2nm,0.6s						
WRA	Warramunga Arr	82.06	122	P	P	18 09 37.9	-1.2
	0.6nm,0.9s,baz=322,slow=4.6,SNR=5.2						
	0.6nm,0.9s						
ASAR	Alice Springs	84.33	125	P	P	18 09 49.9	-0.9
	0.7nm,0.7s,baz=316,slow=4.8,SNR=8.7						
	0.7nm,0.7s						

*IDC **03** 18:02:44.5±5.0, 5°62S×147°79E, h107km±56km, mb3.2/3, mbtmp3.8/6, Error ellipse: s-maj=97.1km s-min=36.4km az=109.0*
ISC 03 18:02:45.2±1.5**, 5°7S**±0°1×**147°4E**±0°3**, h100**km**, n7,**
σ**1s28**/10**, mb3.4**/3**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.72	184	P	Pn	18 03 40.9	+0.4
	50nm,0.3s,baz=21,slow=8.8,SNR=73						
PMG				S	Sn	18 04 21.5	-1.9
	9.8nm,0.3s,baz=257,slow=22,SNR=1.0						
CTA	Charters Tower	14.37	184	P	Pn	18 06 04.8	+0.8
	2.2nm,0.6s,baz=3.3,slow=15,SNR=6.6						
WRA	Warramunga Arr	19.05	221	P	P	18 07 01.3	+1.6
	3.0nm,0.5s,baz=47,slow=10,SNR=34						
WRA				S	S	18 10 29.6	-1.2
	0.2nm,0.6s,baz=45,slow=24,SNR=1.6						
ASAR	Alice Springs	22.12	215	P	P	18 07 34.1	+1.4
	0.7nm,0.4s,baz=47,slow=8.7,SNR=30						
ASAR				S	S	18 11 30.4	0.0
	1.7nm,1.0s,baz=30,slow=20,SNR=12						
	0.7nm,0.4s						
MKAR	Makanchi Array	77.52	320	P	P	18 14 29.2	-0.9
	0.1nm,0.3s,baz=106,slow=6.0,SNR=5.3						
	0.1nm,0.3s						
ZALV	Zalesovo Beam	78.96	328	P	P	18 14 37.5	-0.3
	0.3nm,0.4s,baz=114,slow=7.1,SNR=2.2						
	0.3nm,0.4s						
TORD	Torodi Ar. Bea	145.42	285	PKPbc	PKPdf	18 22 11.9	-0.7
	0.2nm,0.4s,baz=104,slow=1.6,SNR=2.0						

*ANF **03** 18:16:25.6±0.3, 59°38N×137°31W, h4km±2km, ML3.7/42, Error ellipse: s-maj=2.2km s-min=1.4km az=42.0*
*AEIC **03** 18:16:26.7±2.2, 59°38N±0°02×137°32W±0°03, h12km±2km, Error ellipse: s-maj=2.5km s-min=2.0km az=222.0*
*PGC **03** 18:16:26.7±0.2, 59°37N×137°33W, h7km, ML3.4, ML3.5/33, 122km east of Yakutat, Ak Southeastern Alaska*
*NEIC **03** 18:16:27.1±2.5, 59°37N±0°02×137°41W±0°03, h10km±1km, ML3.5/112, ML3.5(OTT), ML3.3(AEIC), Error ellipse: s-maj=3.6km s-min=2.4km az=209.0*
ISC 03 18:16:26.5±0.9**, 59°38N**±0°02×**137°33W**±0°01**, h11**km±7km**,**
n276, σ**1s44**/360**, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
P29M	Windy Craggy	0.33	321		Pg	18 16 33.0	-0.1
P29M					Sg	18 16 37.6	0.0
P29M	Windy Craggy	0.33	321		Pg	18 16 33.0	-0.1
P29M					Sg	18 16 37.5	0.0
P29M	Windy Craggy	0.33	321	IAML		18 16 37.8	
	comp=N,12µm,0.1s						
P29M				IAML		18 16 38.1	
	comp=E,9µm,0.5s						
P29M	Windy Craggy	0.33	321	P	Pg	18 16 33.0	-0.1
	baz=139						
P29M				S	Sg	18 16 37.6	0.0
	baz=139						
P29M	Windy Craggy	0.33	321	P	Pg	18 16 33.0	-0.1
P29M				S	Sg	18 16 37.5	0.0
PLBC	Pleasant Camp	0.50	81		Pg	18 16 36.2	-0.1
PLBC					Sg	18 16 42.9	-0.1
PLBC	Pleasant Camp	0.50	81		Pg	18 16 36.2	-0.1
PLBC					Sg	18 16 42.8	-0.1
PLBC	Pleasant Camp	0.50	81	P	Pg	18 16 36.2	-0.1
PLBC				S	Sg	18 16 42.8	-0.1
P30M	Million Dollar	0.77	14		Pg	18 16 40.7	-0.8
P30M					Sg	18 16 50.7	-0.9
P30M	Million Dollar	0.77	14		Pg	18 16 40.6	-0.8
P30M					Sg	18 16 50.6	-0.9
P30M	Million Dollar	0.77	14	P	Pg	18 16 40.6	-0.8
	baz=194						
P30M				S	Sg	18 16 50.5	-1.0
	baz=194						
P30M	Million Dollar	0.77	14	P	Pg	18 16 40.6	-0.8
P30M				S	Sg	18 16 50.6	-0.9
SKAG	Skagway	1.03	85	Pg	Pg	18 16 45.2	-1.0
SKAG				IAML		18 16 59.3	
	comp=E,1µm,0.5s						
SKAG				IAML		18 17 03.9	
	comp=N,871nm,0.4s						
SKAG	Skagway	1.03	85		Sg	18 16 58.7	-0.9
SKAG	Skagway	1.03	85	P	Pg	18 16 45.3	-1.0
SKAG	Skagway	1.03	85	P	Pg	18 16 45.3	-1.0
	baz=266,SNR=224						
SKAG				S	Sg	18 16 58.8	-0.9
	baz=266						
PNL	Peninsula	1.09	286		Pg	18 16 46.3	-1.3
PNL					Sg	18 17 01.0	-0.8
PNL	Peninsula	1.09	286		Pg	18 16 46.4	-1.1
PNL					Sg	18 17 00.2	-1.5
PNL	Peninsula	1.09	286	P	Pg	18 16 46.2	-1.3
PNL	Peninsula	1.09	286	P	Pg	18 16 46.2	-1.3
	baz=104,SNR=836						
PNL				S	Sg	18 17 00.4	-1.3
	baz=104						
PNL	Peninsula	1.09	286	P	Pg	18 16 46.4	-1.1
PNL				S	Sg	18 17 00.2	-1.5
O29M	Mount Kennedy	1.12	326		Pg	18 16 46.1	-2.1
O29M	Mount Kennedy	1.12	326		Pg	18 16 46.0	-2.1
O29M					Sg	18 17 00.8	-1.9
O29M	Mount Kennedy	1.12	326	P	Pg	18 16 46.0	-2.1
	baz=145						
O29M				S	Sg	18 17 00.9	-1.7
	baz=145						
O29M	Mount Kennedy	1.12	326	P	Pg	18 16 46.0	-2.1
O29M				S	Sg	18 17 00.8	-1.9
YKU2	Yakutat	1.20	277		Pn	18 16 49.0	-0.2
YKU2	Yakutat	1.20	277	P	Pb	18 16 49.7	+0.4
YUK7	Dusty Glacier	1.23	341		Pb	18 16 48.2	-1.6
YUK7	Dusty Glacier	1.23	341		Pb	18 16 48.3	-1.6
YUK7	Dusty Glacier	1.23	341	P	Pb	18 16 48.3	-1.6
R31K	City Hall, Gus	1.27	139		Pn	18 16 49.7	-0.5
R31K					Sn	18 17 07.5	+0.3
R31K	City Hall, Gus	1.27	139	P	Pn	18 16 49.7	-0.5
	baz=320,SNR=15						
R31K				S	Sb	18 17 07.3	+0.5
	baz=320						
BCPM	Bancas Point	1.30	297		Pn	18 16 49.7	-1.0
HYT	Haines Junctio	1.45	357		Pn	18 16 52.8	-0.2
HYT				IAML		18 17 11.7	
	comp=E,470nm,0.6s						
HYT				IAML		18 17 12.6	
	comp=N,427nm,0.6s						
HYT	Haines Junctio	1.45	357	Pn	Pn	18 16 52.7	-0.2
HYT					Sn	18 17 11.0	-0.9
HYT	Haines Junctio	1.45	357	P	Pn	18 16 52.5	-0.3
	baz=176,SNR=542						
HYT				S	Sn	18 17 11.0	-0.9
	baz=176						
HYT	Haines Junctio	1.45	357	Pn	Pn	18 16 52.7	-0.2
HYT				Sg	Sn	18 17 11.0	-0.9
BESE	Bessie Mountai	1.51	121	Pn	Pn	18 16 53.1	-0.5
BESE					Sn	18 17 13.4	+0.1
BESE	Bessie Mountai	1.51	121	Pn	Pn	18 16 53.1	-0.5
BESE				Sg	Sn	18 17 13.4	+0.1
O30N	Mendenhall	1.53	23		Pn	18 16 54.0	+0.2
O30N	Mendenhall	1.53	23		Sb	18 17 15.0	+0.7
O30N	Mendenhall	1.53	23	IAML		18 17 15.6	
	comp=E,2µm,0.6s						
O30N				IAML		18 17 15.6	
	comp=N,879nm,0.3s						
O30N	Mendenhall	1.53	23	P	Pn	18 16 53.9	+0.2
	baz=204,SNR=1000						
O30N				S	Sn	18 17 13.9	+0.2
	baz=204						
S31K	Pelican	1.53	158		Pn	18 16 53.9	+0.1
S31K				IAML		18 17 17.1	
	comp=E,540nm,0.5s						
S31K				IAML		18 17 17.4	
	comp=N,639nm,0.5s						
S31K	Pelican	1.53	158	P	Pn	18 16 53.4	-0.4
	baz=339,SNR=390						
S31K				S	Sb	18 17 14.3	+0.1
	baz=339						
PINM	Pinnacle	1.65	297	P	Pn	18 16 55.2	-0.2
	baz=114,SNR=292						
PINM				S	Sb	18 17 18.0	+0.4
	baz=114						
PCA	Pinnacle	1.65	297	Pn	Pn	18 16 55.4	0.0
PCA				Sg	Sn	18 17 17.5	+0.8
PCA	Pinnacle	1.65	297	Pn	Pn	18 16 55.4	0.0
PCA				Sg	Sn	18 17 17.5	+0.8
YUK6	Outpost Mounta	1.65	342	Pn	Pn	18 16 55.7	0.0
YUK6					Sn	18 17 17.0	0.0
YUK6	Outpost Mounta	1.65	342	P	Pn	18 16 55.6	-0.1
	baz=161,SNR=1000						
YUK6				S	Sn	18 17 17.6	+0.6
	baz=161						
YUK6	Outpost Mounta	1.65	342	Pn	Pn	18 16 55.7	0.0
YUK6				Sg	Sn	18 17 17.0	0.0
YUK5	Granite Creek	1.78	352		Pn	18 16 58.3	+1.0
YUK5	Granite Creek	1.78	352	Pn	Pn	18 16 58.4	+1.1
YUK5				Sg	Sb	18 17 21.8	+0.2
YUK5	Granite Creek	1.78	352	Pn	Pn	18 16 58.4	+1.1
YUK5				Sg	Sb	18 17 21.8	+0.2
WHY	Whitehorse	1.78	43		Pn	18 16 57.8	+0.5
WHY	Whitehorse	1.78	43	Pn	Pn	18 16 57.8	+0.5
WHY					Sb	18 17 21.4	-0.1
WHY	Whitehorse	1.78	43	IAML		18 17 24.0	
	comp=N,608nm,0.5s						
WHY				IAML		18 17 24.5	
	comp=E,722nm,0.6s						
WHY	Whitehorse	1.78	43	P	Pn	18 16 57.3	0.0
	baz=225,SNR=1000						
WHY				S	Sb	18 17 21.0	-0.6
	baz=225						
WHY	Whitehorse	1.78	43	Pn	Pn	18 16 57.8	+0.5
WHY				Sg	Sb	18 17 21.4	-0.1
R32K	Eaglecrest	1.83	126		Pn	18 16 57.7	-0.2
R32K				IAML		18 17 25.4	
	comp=E,478nm,0.4s						
R32K	Eaglecrest	1.83	126	P	Pn	18 16 57.2	-0.8
	baz=309,SNR=93						
R32K				S	Sb	18 17 22.6	-0.4
	baz=309						
P32M	Atlin	1.86	82		Pn	18 16 58.1	-0.2
P32M	Atlin	1.86	82	Pn	Pn	18 16 58.1	-0.2
P32M					Sb	18 17 23.4	-0.3
P32M	Atlin	1.86	82	P	Pn	18 16 58.0	-0.2
	baz=265,SNR=508						
P32M				Sb	Sb	18 17 24.5	+0.7
	baz=265						
P32M	Atlin	1.86	82	Pn	Pn	18 16 58.1	-0.2
P32M				Sg	Sb	18 17 23.4	-0.3
JIS	Juneau Island	1.89	125		Pn	18 16 58.1	-0.6
JIS				IAML		18 17 27.5	
	comp=N,574nm,0.3s						
JIS				IAML		18 17 28.4	
	comp=E,516nm,0.5s						
JIS	Juneau Island	1.89	125	P	Pn	18 16 58.9	+0.2
SAMH	Samovar Hills	1.90	295	Pn	Pn	18 16 59.7	+0.8
SAMH				Sg	Sb	18 17 25.5	+0.4
SAMH	Samovar Hills	1.90	295	Pn	Pn	18 16 59.7	+0.8
SAMH				Sg	Sb	18 17 25.5	+0.4
O28M	Mount Upton	2.00	316	Pn	Pn	18 17 01.1	+0.5
O28M					Sn	18 17 26.9	+1.2
O28M	Mount Upton	2.00	316	P	Pn	18 17 00.8	+0.2
	baz=133,SNR=190						
O28M				S	Sn	18 17 26.8	+1.2
	baz=133						
O28M	Mount Upton	2.00	316	Pn	Pn	18 17 01.1	+0.5
O28M				Sg	Sn	18 17 26.9	+1.2
YUK4	Talbot Arm	2.08	342		Pb	18 17 05.3	+0.9
YUK4				Sg	Sg	18 17 33.2	-0.1
YUK4	Talbot Arm	2.08	342	P	Pn	18 17 02.1	+0.6
	baz=163,SNR=962						
YUK4				Sb	Sg	18 17 33.5	+0.2
	baz=163						
YUK4	Talbot Arm	2.08	342	Pn	Pb	18 17 03.9	-0.5
YUK4				Pg	Pb	18 17 05.3	+0.9
YUK4				Sg	Sg	18 17 33.2	-0.1
N30M	Aishikik Lake	2.09	3		Pn	18 17 01.4	-0.1
N30M	Aishikik Lake	2.09	3	Pn	Pn	18 17 01.7	+0.2
N30M				Pg	Pb	18 17 04.4	-0.1
N30M				Sg	Sb	18 17 30.3	-0.2
N30M	Aishikik Lake	2.09	3	IAML		18 17 32.1	
	comp=N,262nm,0.3s						
N30M				IAML		18 17 32.9	
	comp=E,231nm,0.5s						
N30M	Aishikik Lake	2.09	3	P	Pn	18 17 01.1	-0.5

baz=183
N30M Sb **Sb** 18 17 31.5 +1.0
baz=183
N30M Aishikik Lake 2.09 3 Pn **Pn** 18 17 01.7 +0.2
N30M Pg **Pb** 18 17 04.4 -0.1
N30M Sg **Sb** 18 17 30.3 -0.2
TABL Table Mountain 2.20 301 **Pn** 18 17 03.7 +0.6
TABL IAML 18 17 40.0
comp=E,188nm,0.9s
TABL Table Mountain 2.20 301 Pn **Pn** 18 17 03.6 +0.5
TABL Sn **Sn** 18 17 31.7 +1.4
N31M Braeburn, Yuko 2.25 19 **Pn** 18 17 04.3 +0.6
N31M Braeburn, Yuko 2.25 19 IAML 18 17 37.3
comp=N,492nm,0.7s
N31M IAML 18 17 40.2
comp=E,440nm,0.4s
N31M Braeburn, Yuko 2.25 19 P **Pn** 18 17 03.7 0.0
baz=201,SNR=855
N31M Sb **Sb** 18 17 36.4 +1.4
baz=201
N31M Braeburn, Yuko 2.25 19 Pn **Pn** 18 17 04.2 +0.4
N31M Pg **Pb** 18 17 06.8 -0.3
N31M Sg **Sb** 18 17 36.1 +1.1
YUK8 Steele Glacier 2.26 329 **Pb** 18 17 06.7 -0.8
YUK8 Sg **Sb** 18 17 36.8 +1.2
YUK8 Steele Glacier 2.26 329 P **Pn** 18 17 04.5 +0.5
baz=146,SNR=584
YUK8 Sb **Sb** 18 17 37.0 +1.4
baz=146
YUK8 Steele Glacier 2.26 329 Pg **Pb** 18 17 06.7 -0.8
YUK8 Sg **Sb** 18 17 36.8 +1.2
LOGN Logan Glacier 2.34 310 **Pn** 18 17 05.8 +0.7
LOGN Logan Glacier 2.34 310 Pn **Pn** 18 17 05.7 +0.7
S32K Killisnoo 2.40 142 **Pn** 18 17 04.8 -0.9
S32K Killisnoo 2.40 142 P **Pn** 18 17 04.8 -0.9
baz=324
S32K Sb **Sb** 18 17 40.3 +1.1
baz=324
P33M Teslin, Yukon 2.43 68 **Pn** 18 17 05.8 -0.4
P33M IAML 18 17 42.9
comp=E,195nm,0.8s
P33M IAML 18 17 43.1
comp=N,305nm,0.8s
P33M Teslin, Yukon 2.43 68 Pn **Pn** 18 17 05.9 -0.4
P33M Pg **Pb** 18 17 10.2 -0.1
P33M Sg **Sb** 18 17 41.7 +1.5
P33M Teslin, Yukon 2.43 68 P **Pn** 18 17 05.8 -0.4
baz=252,SNR=82
P33M Sb **Sb** 18 17 41.5 +1.3
baz=252
P33M Teslin, Yukon 2.43 68 Pn **Pn** 18 17 05.9 -0.4
P33M Pg **Pb** 18 17 10.2 -0.1
P33M Sg **Sb** 18 17 41.7 +1.5
MESA MESA 2.47 291 **Pn** 18 17 07.0 +0.1
MESA IAML 18 17 44.0
comp=E,218nm,0.4s
MESA IAML 18 17 46.4
comp=N,334nm,0.3s
MESA MESA 2.47 291 P **Pn** 18 17 06.7 -0.2
baz=107,SNR=23
MESA MESA 2.47 291 Pn **Pn** 18 17 06.9 +0.1
CTGM Chitina Glacie 2.56 310 **Pn** 18 17 08.6 +0.7
CTGM IAML 18 17 47.6
comp=N,128nm,0.9s
CTGM Chitina Glacie 2.56 310 Pn **Pn** 18 17 08.7 +0.7
CTG Chitina Glacier 2.56 310 P **Pn** 18 17 07.8 -0.2
baz=127,SNR=7.8
SIT Sitka 2.56 155 Pn **Pn** 18 17 08.9 +1.0
SIT IAML 18 17 50.9
comp=E,138nm,0.9s
SIT Sitka 2.56 155 P **Pn** 18 17 08.5 +0.7
SIT Sitka 2.56 155 P **Pn** 18 17 07.9 +0.1
baz=336
GRNC Granite Creek 2.60 303 **Pn** 18 17 09.4 +0.7
GRNC IAML 18 17 51.0
comp=N,133nm,0.7s
GRNC Granite Creek 2.60 303 Pn **Pn** 18 17 09.1 +0.4
Q32M Nakina River 2.64 97 **Pn** 18 17 09.0 -0.2
Q32M Nakina River 2.64 97 Pn **Pn** 18 17 09.0 -0.2
Q32M Sg **Sg** 18 17 49.6 -1.7
Q32M Nakina River 2.64 97 IAML 18 17 52.5
comp=N,243nm,0.9s
Q32M IAML 18 17 57.1
comp=E,232nm,1.0s
Q32M Nakina River 2.64 97 P **Pn** 18 17 08.9 -0.2
baz=281
Q32M Nakina River 2.64 97 Pn **Pn** 18 17 09.0 -0.2
Q32M Sg **Sg** 18 17 49.6 -1.7
BARN Barnard Glacie 2.74 310 **Pn** 18 17 11.2 +0.6
BARN IAML 18 17 53.2
comp=E,143nm,0.4s
N32M Quiet Lake 2.77 48 Pn **Pn** 18 17 12.1 +1.4
N32M Quiet Lake 2.77 48 Pn **Pn** 18 17 10.9 +0.1
N32M Sg **Sb** 18 17 51.6 +1.7
N32M Quiet Lake 2.77 48 Sb **Sb** 18 17 51.8 +2.0
baz=232
N32M Quiet Lake 2.77 48 Pn **Pn** 18 17 10.9 +0.1
N32M Sg **Sb** 18 17 51.6 +1.7
ISLE Juniper Island 2.80 298 Pn **Pn** 18 17 08.8 -2.6
ISLE IAML 18 17 56.7
comp=N,133nm,1.6s
ISLE IAML 18 17 57.8
comp=E,125nm,1.1s
YUK3 Moose Creek 2.86 329 **Pn** 18 17 12.5 +0.3
YUK3 Moose Creek 2.86 329 Pn **Pn** 18 17 12.9 +0.7
YUK3 Sg **Sb** 18 17 55.6 +3.0
YUK3 Moose Creek 2.86 329 P **Pn** 18 17 12.6 +0.3
baz=146,SNR=40
YUK3 Sb **Sb** 18 17 54.9 +2.2
baz=146
YUK3 Moose Creek 2.86 329 Pn **Pn** 18 17 12.9 +0.7
YUK3 Sg **Sb** 18 17 55.6 +3.0
SNH Sunshine Point 2.90 288 **Pn** 18 17 12.8 +0.2
SNH Sunshine Point 2.90 288 IAML 18 18 18.0
comp=E,164nm,3.4s
SNH IAML 18 18 58.9
comp=N,183nm,3.4s
KIAG Kiagna River 2.95 304 Pn **Pn** 18 17 13.9 +0.5
KIAG Kiagna River 2.95 304 Pn **Pn** 18 17 13.9 +0.5
YUK2 White River 2.97 326 **Pn** 18 17 14.6 +0.9
YUK2 White River 2.97 326 Pn **Pn** 18 17 14.9 +1.2
YUK2 Sg **Sg** 18 17 59.2 -2.8
YUK2 White River 2.97 326 Pn **Pn** 18 17 14.9 +1.2
YUK2 Sg **Sg** 18 17 59.2 -2.8
WAX Waxell Ridge 2.98 294 **Pn** 18 17 14.5 +0.7
WAX IAML 18 18 01.2
comp=E,164nm,0.7s
TGL Tana Glacier 3.08 299 **Pn** 18 17 16.2 +1.0
TGL IAML 18 18 02.4
comp=N,88nm,0.9s
M29M Somme Creek 3.12 350 **Pn** 18 17 16.5 +0.7
M29M Somme Creek 3.12 350 Pn **Pn** 18 17 16.6 +0.9
M29M Somme Creek 3.12 350 IAML 18 18 07.4
comp=E,83nm,0.7s
M29M Somme Creek 3.12 350 P **Pn** 18 17 16.2 +0.4
baz=169,SNR=28
M29M Somme Creek 3.12 350 Pn **Pn** 18 17 16.6 +0.9
PTPK Patty Peak 3.13 308 **Pn** 18 17 16.1 +0.1
KHIT Khitrov Hills 3.17 292 **Pn** 18 17 16.9 +0.6
M31M Drury Creek, Y 3.18 26 Pn **Pn** 18 17 17.2 +0.7
M31M IAML 18 18 06.9
comp=N,94nm,0.4s
M31M IAML 18 18 09.5
comp=E,147nm,0.6s
M31M Drury Creek, Y 3.18 26 P **Pn** 18 17 15.9 -0.6
baz=208
CRQE Cirque 3.20 298 P **Pn** 18 17 16.8 -0.1
baz=113
M30M Minto, Yukon 3.22 4 **Pn** 18 17 17.8 +0.7
M30M IAML 18 18 14.7
comp=E,81nm,0.7s
M30M Minto, Yukon 3.22 4 Pn **Pn** 18 17 17.7 +0.7
M30M Pg **Pb** 18 17 24.8 +1.1
M30M Sg **Sb** 18 18 05.7 +2.8
M30M Minto, Yukon 3.22 4 P **Pn** 18 17 17.0 0.0
baz=185,SNR=17
M30M Minto, Yukon 3.22 4 Pn **Pn** 18 17 17.7 +0.7
M30M Pg **Pb** 18 17 24.8 +1.1
M30M Sg **Sb** 18 18 05.7 +2.8
CRQM Cirque 3.22 298 **Pn** 18 17 17.5 +0.3
CRQM IAML 18 18 08.0
comp=E,83nm,1.3s
CRQM IAML 18 18 09.5
comp=N,138nm,0.8s
R33M Jennings River 3.26 87 **Pn** 18 17 17.3 -0.3
R33M Jennings River 3.26 87 Pn **Pn** 18 17 17.4 -0.3
R33M Sg **Sb** 18 18 06.0 +2.0
R33M Jennings River 3.26 87 IAML 18 18 12.5
comp=E,162nm,0.5s
R33M Jennings River 3.26 87 P **Pn** 18 17 17.3 -0.3
baz=272
R33M Jennings River 3.26 87 Pn **Pn** 18 17 17.4 -0.3
R33M Sg **Sb** 18 18 06.0 +2.0
FARO Faro, Yukon 3.46 33 Pn **Pn** 18 17 21.7 +1.3
FARO Faro, Yukon 3.46 33 Pn **Pn** 18 17 21.4 +1.0
FARO Pg **Pb** 18 17 28.9 +1.1
FARO Sg **Sg** 18 18 14.1 -3.5
FARO Faro, Yukon 3.46 33 P **Pn** 18 17 21.2 +0.8
baz=216,SNR=14
FARO Faro, Yukon 3.46 33 Pn **Pn** 18 17 21.4 +1.0
FARO Pg **Pb** 18 17 28.9 +1.1
FARO Sg **Sg** 18 18 14.1 -3.5
MCARA McCarthy VSAT 3.47 308 **Pn** 18 17 21.9 +1.5
MCARA IAML 18 18 17.1
comp=N,90nm,0.6s
MCARA IAML 18 18 19.1
comp=E,78nm,0.8s
MCARA McCarthy VSAT 3.47 308 P **Pn** 18 17 20.9 +0.5
baz=123,SNR=5.6
BVCY Beaver Creek 3.50 332 Pg **Pb** 18 17 28.6 +0.1
BVCY Beaver Creek 3.50 332 Pb **Pb** 18 17 28.6 +0.1
baz=149
BVCY Beaver Creek 3.50 332 Pg **Pb** 18 17 28.6 +0.1
S34M Telegraph Cree 3.56 112 **Pn** 18 17 21.6 0.0
S34M Telegraph Cree 3.56 112 P **Pn** 18 17 21.5 0.0
baz=297,SNR=106
S34M Telegraph Cree 3.56 112 Pn **Pn** 18 17 21.7 0.0
VRDI Verde Repeater 3.57 304 Pn **Pn** 18 17 22.4 +0.5
M27K Edge Creek, AK 3.73 325 Pn **Pn** 18 17 24.9 +0.9
M27K IAML 18 18 26.2
comp=N,54nm,1.0s
M27K Edge Creek, AK 3.73 325 Pb **Pb** 18 17 32.6 +0.3
baz=141
M27K Edge Creek, AK 3.73 325 Pg **Pb** 18 17 33.2 +0.9
L29M L29M 3.76 354 **Pn** 18 17 25.4 +0.9
L29M L29M 3.76 354 Pn **Pn** 18 17 25.4 +0.9
L29M Sg **Sb** 18 18 22.6 +4.1
L29M L29M 3.76 354 IAML 18 18 31.6
comp=E,98nm,0.6s
L29M L29M 3.76 354 P **Pn** 18 17 25.3 +0.9
baz=174
L29M L29M 3.76 354 Pn **Pn** 18 17 25.4 +0.9
L29M Sg **Sb** 18 18 22.6 +4.1
GLB Gilahina Butte 3.82 306 Pn **Pn** 18 17 25.2 -0.1
DLBC Dease Lake 3.90 101 **Pn** 18 17 26.8 +0.4
DLBC Dease Lake 3.90 101 IAML 18 18 32.8
comp=N,85nm,0.5s
DLBC IAML 18 18 43.7
comp=E,71nm,0.8s
DLBC Dease Lake 3.90 101 P **Pn** 18 17 26.2 -0.3
baz=287,SNR=31
DLBC Dease Lake 3.90 101 Pn **Pn** 18 17 26.5 +0.1
DLBC Pg **Pb** 18 17 37.8 +2.4
DLBC Sg **Sg** 18 18 27.8 -4.0
GOAT Goat Mountain 3.91 291 **Pn** 18 17 27.1 +0.7
BMRM Bremner River 3.97 297 **Pn** 18 17 27.5 +0.2
BMRM Bremner River 3.97 297 P **Pn** 18 17 27.6 +0.3
baz=110
U33K Whale Pass 3.97 144 **Pn** 18 17 26.4 -0.9
U33K Whale Pass 3.97 144 IAML 18 18 38.6
comp=N,44nm,1.9s
U33K IAML 18 18 39.7
comp=E,69nm,1.6s
U33K Whale Pass 3.97 144 P **Pn** 18 17 26.5 -0.9
baz=327
WRAK Wrangell Islan 3.98 136 Pn **Pn** 18 17 27.4 0.0
WRAK IAML 18 18 37.5
comp=E,91nm,0.4s
WRAK IAML 18 18 46.6
comp=E,85nm,0.4s
WRAK Wrangell Islan 3.98 136 P **Pn** 18 17 27.3 -0.2
baz=320
WRAK Wrangell Islan 3.98 136 Pn **Pn** 18 17 27.3 -0.2
M26K Nabesna, AK 4.11 320 Pn **Pn** 18 17 30.8 +1.6
N25K Chitina, Valde 4.23 305 Pn **Pn** 18 17 32.5 +1.5
BCAR Beaver Creek A 4.28 332 Pn **Pn** 18 17 32.4 +0.8
L27K Beaver Creek, 4.29 331 Pn **Pn** 18 17 31.8 +0.1
L27K Beaver Creek, 4.29 331 Pn **Pn** 18 17 32.1 +0.4
MAYO Mayo, Yukon 4.29 9 Sg **Sb** 18 18 38.5 +5.0
MAYO Mayo, Yukon 4.29 9 Sg **Sb** 18 18 38.5 +5.0
WTLY Watson Lake, Y 4.38 77 Sg **Sg** 18 18 41.8 -5.3
WTLY Watson Lake, Y 4.38 77 Sg **Sg** 18 18 41.8 -5.3
T35M Bob Quinn 4.45 120 **Pn** 18 17 34.3 +0.4
T35M Bob Quinn 4.45 120 P **Pn** 18 17 33.8 -0.1
baz=306
T35M Bob Quinn 4.45 120 Pn **Pn** 18 17 34.1 +0.2
K29M Barlow Dome 4.48 359 Pn **Pn** 18 17 35.4 +1.0
K29M IAML 18 18 51.2
comp=E,45nm,0.5s
K29M IAML 18 18 57.1
comp=N,28nm,0.9s
K29M Barlow Dome 4.48 359 Pn **Pn** 18 17 35.2 +0.8
K29M Barlow Dome 4.48 359 P **Pn** 18 17 35.0 +0.6
baz=179
K29M Barlow Dome 4.48 359 Pn **Pn** 18 17 35.2 +0.8
CRAG Craig 4.53 148 P **Pn** 18 17 34.3 -0.6
L26K Log Cabin Wild 4.67 324 Pn **Pn** 18 17 36.6 -0.4
L26K IAML 18 18 56.6
comp=E,30nm,0.7s
L26K Log Cabin Wild 4.67 324 P **Pn** 18 17 37.4 +0.4
baz=139
KLU Klutina 4.75 300 **Pn** 18 17 39.4 +1.3
KLU IAML 18 18 43.8
comp=N,35nm,4.0s
KLU IAML 18 18 59.7
comp=E,38nm,3.4s
KLU Klutina 4.75 300 P **Pn** 18 17 38.8 +0.7
baz=113
FID Port Fidalgo 4.79 291 Pn **Pn** 18 17 40.0 +1.6
DAWY Dawson 4.80 349 Pn **Pn** 18 17 39.6 +0.8
DAWY Dawson 4.80 349 Pn **Pn** 18 17 39.7 +0.9
DAWY Dawson 4.80 349 P **Pn** 18 17 39.5 +0.8
baz=167,SNR=12
DAWY Dawson 4.80 349 Pn **Pn** 18 17 39.7 +0.9
TGTN Hyland Airport 4.97 60 **Pn** 18 17 41.4 +0.2
TGTN Hyland Airport 4.97 60 Pn **Pn** 18 17 41.1 0.0
TGTN Hyland Airport 4.97 60 P **Pn** 18 17 41.5 +0.4
baz=248,SNR=8.5
TGTN Hyland Airport 4.97 60 Pn **Pn** 18 17 41.1 0.0
V35K Ketchikan 5.10 140 Pn **Pn** 18 17 42.9 +0.1
V35K IAML 18 19 19.9
comp=E,30nm,1.8s
V35K Ketchikan 5.10 140 P **Pn** 18 17 43.1 +0.3
baz=325
GLI Glacier Island 5.11 291 Pn **Pn** 18 17 43.6 +0.6
K27K Chicken 5.18 336 Pn **Pn** 18 17 45.2 +1.2
K27K Chicken 5.18 336 IAML 18 19 10.5
comp=E,22nm,0.9s
K27K IAML 18 19 19.3
comp=N,15nm,1.0s
K27K Chicken 5.18 336 P **Pn** 18 17 44.8 +0.8
baz=152
K27K Chicken 5.18 336 Pn **Pn** 18 17 44.6 +0.6
K27K Sg **Sg** 18 19 06.5 -6.3
J30M Hart River 5.24 5 Pn **Pn** 18 17 46.1 +1.3
J30M Hart River 5.24 5 IAML 18 19 11.4
comp=E,34nm,0.8s
J30M IAML 18 19 17.1
comp=N,23nm,0.9s
J30M Hart River 5.24 5 P **Pn** 18 17 45.3 +0.5
baz=186
J30M Hart River 5.24 5 Pn **Pn** 18 17 45.9 +1.1
J30M Sg **Sb** 18 19 07.2 +6.2
U35K Hyder 5.24 128 P **Pn** 18 17 45.0 +0.4
baz=315
SCM Sheep Creek Mo 5.50 301 Pn **Pn** 18 17 49.7 +1.3
SCRK Sand Creek 5.59 328 Pn **Pn** 18 17 50.7 +1.0
EGAK Eagle 5.71 343 Pn **Pn** 18 17 52.6 +1.5
EGAK Eagle 5.71 343 Sg **Sg** 18 19 24.8 -4.7
EGAK Eagle 5.71 343 Sg **Sg** 18 19 24.8 -4.7
KNK Knik Glacier 5.88 295 Pn **Pn** 18 17 54.0 +0.5
KNK Knik Glacier 5.88 295 P **Pn** 18 17 54.4 +0.9
baz=105
I30M Mount Dempster 5.88 4 Pn **Pn** 18 17 55.2 +1.6
I30M Mount Dempster 5.88 4 P **Pn** 18 17 54.1 +0.5
baz=185
I30M Mount Dempster 5.88 4 Pn **Pn** 18 17 55.6 +1.9
I30M Sg **Sg** 18 19 28.7 -6.5
SML Sawmill 5.94 299 Pn **Pn** 18 17 56.0 +1.7
WAT6 Susitna Watana 6.00 307 P **Pn** 18 17 56.4 +1.2
baz=118
GHO Glory Hole Cre 6.20 298 Pn **Pn** 18 17 58.8 +0.9
I28M Miner Creek 6.21 350 Pn **Pn** 18 17 59.8 +1.7
I28M Miner Creek 6.21 350 P **Pn** 18 17 59.8 +1.7
baz=168
I28M Miner Creek 6.21 350 Pn **Pn** 18 17 59.2 +1.1
PMR Palmer 6.24 296 Pn **Pn** 18 17 59.1 +0.7
RC01 Rabbit Creek A 6.41 291 Pn **Pn** 18 18 01.3 +0.5
J25K Salcha River, 6.47 328 Pn **Pn** 18 18 01.6 -0.1
I27K Kandik River 6.55 344 Pn **Pn** 18 18 04.0 +1.2
I27K Sg **Sg** 18 19 51.1 -5.5
I27K Kandik River 6.55 344 Pn **Pn** 18 18 04.0 +1.2
I27K Sg **Sg** 18 19 51.1 -5.5
H31M Peel River 6.60 11 Pn **Pn** 18 18 03.7 +0.3
H31M Peel River 6.60 11 Pn **Pn** 18 18 03.6 +0.3
H29M Whitestone 6.88 356 Pn **Pn** 18 18 08.0 +0.7
H29M Whitestone 6.88 356 Pn **Pn** 18 18 08.0 +0.7
BRLK Bradley Lake 6.90 279 Pn **Pn** 18 18 07.5 0.0
SUA Susitna One 6.96 293 Pn **Pn** 18 18 09.9 +1.4
CNPM China Poot 7.09 277 Pn **Pn** 18 18 10.5 +0.3
H27K Steamboat Moun 7.14 346 Pn **Pn** 18 18 13.0 +2.2
H27K Steamboat Moun 7.14 346 Pn **Pn** 18 18 13.0 +2.2
KITB Kitimat 7.14 134 Pn **Pn** 18 18 11.0 +0.2
KITB Kitimat 7.14 134 Pn **Pn** 18 18 11.0 +0.2
TRF Thorofare Moun 7.43 309 Pn **Pn** 18 18 17.3 +2.4
SKT Skwentna 7.44 297 Pn **Pn** 18 18 15.5 +0.5
KTH Kantishna Hill 7.73 309 Pn **Pn** 18 18 20.8 +1.9
SYI Shuyak Island 7.82 271 Pn **Pn** 18 18 19.8 -0.2
KDAK Kodiak Island 8.13 265 Pn **Pn** 18 18 23.6 -0.7
CAST Castle Rocks 8.15 306 Pn **Pn** 18 18 24.5 -0.1
M20K Styx River 8.16 295 Pn **Pn** 18 18 26.3 +1.5
OHAK Old Harbor 8.68 262 Pn **Pn** 18 18 30.6 -1.2
OHAK Old Harbor 8.68 262 P **Pn** 18 18 30.6 -1.2
BMAR Burnt Mountain 8.70 341 Pn **Pn** 18 18 33.8 +1.6
BBB Bella Bella 8.88 140 Pn **Pn** 18 18 35.6 +1.1
O18K Koktuh Hills 9.07 281 Pn **Pn** 18 18 35.9 -1.4
J20K Nowinta River 9.29 308 Pn **Pn** 18 18 41.4 +1.2
J19K Poorman 9.83 306 Pn **Pn** 18 18 47.2 -0.3
IMAR Indian Mountai 10.01 318 Pn **Pn** 18 18 52.8 +2.7

SFS ***03*** *18:39:57.7, 37°.11N×5°.51W, h0km, ML2.5/12, ML2.6/12, MLv2.5/12*
MDD ***03*** *18:39:58.6±0.2, 37°.03N×5°.53W, h12km, mb_Lg2.7/19, Error ellipse: s-maj=2.8km s-min=1.3km az=177.0*
INMG ***03*** *18:39:58.1±2.0, 36°.97N×5°.47W, h14km±3km, ML2.3, Error ellipse: s-maj=3.4km s-min=2.6km az=121.0*
CNRM ***03*** *18:39:59.7, 36°.89N×5°.61W, h80km, ml3.1*
IGIL ***03*** *18:39:59.2, 37°.03N×5°.53W, h12km*
ISC 03 18:39:57.4±1.0, 37°.01N±0°.02×5°.51W±0°.01, h17km±8km, n70, σ1°32/150, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.31**	**244**	Pg	**Pb**	**18 40 04.7**	**+0.1**
ESPR				Sg	**Sg**	**18 40 08.8**	**+0.2**
ESPR				*i* Vmb_Lg		18 40 18.2	
EMIJ	**Mijas**	**0.74**	**127**	Pg	**Pg**	**18 40 11.7**	**-0.1**
EMIJ				Sg	**Sb**	**18 40 22.1**	**+0.5**
EMIJ	**Mijas**	**0.74**	**127**	Sg	**Sb**	**18 40 22.3**	**+0.6**
EMIJ				Pg	**Pg**	**18 40 11.4**	**-0.4**
EMAL	**Malaga-Limoner**	**0.90**	**106**	Pg	**Pn**	**18 40 16.0**	**+0.7**
EMAL				Sg	**Sg**	**18 40 26.8**	**0.0**
ECAB	**El Cabril**	**1.07**	**4**	Pg	**Pb**	**18 40 17.5**	**0.0**
ECAB				Sg	**Sg**	**18 40 32.0**	**-0.2**
ECAB				*i* Vmb_Lg		18 40 33.4	
ECAB	**El Cabril**	**1.07**	**4**	Pn	**Pb**	**18 40 17.3**	**-0.2**
ECAB				Sn	**Sb**	**18 40 29.7**	**-1.5**
EGOR	**Sierra Gorda,**	**1.12**	**84**	Pg	**Pg**	**18 40 19.4**	**+0.2**
EGOR				Sg	**Sg**	**18 40 35.2**	**+1.3**
EGOR				*i* Vmb_Lg		18 40 44.2	
EGOR	**Sierra Gorda,**	**1.12**	**84**	Pn	**Pg**	**18 40 19.3**	**+0.2**
EMIN	**Mina Concepcio**	**1.20**	**310**	Pg	**Pn**	**18 40 19.1**	**-0.3**
EMIN				Sg	**Sg**	**18 40 36.2**	**0.0**
EMIN				*i* Vmb_Lg		18 40 41.8	
EMIN	**Mina Concepcio**	**1.20**	**310**	Sn	**Sb**	**18 40 34.3**	**-0.6**
EMIN				Pn	**Pn**	**18 40 19.1**	**-0.3**
SMIR	**Smir Dam**	**1.33**	**176**	P	**Pb**	**18 40 21.7**	**-0.2**
SMIR				S	**Sn**	**18 40 38.6**	**+0.1**
EADA	**Adamuz**	**1.37**	**32**	Pg	**Pn**	**18 40 21.7**	**-0.2**
EADA				Pn	**Pn**	**18 40 22.0**	**+0.1**
EADA				Sg	**Sg**	**18 40 41.3**	**-0.5**
EADA				*i* Vmb_Lg		18 40 46.8	
EADA	**Adamuz**	**1.37**	**32**	Sn	**Sn**	**18 40 38.8**	**-1.0**
EADA				Pn	**Pn**	**18 40 22.0**	**+0.1**
ELGU	**Los Guajares,**	**1.51**	**95**	Pn	**Pb**	**18 40 25.4**	**+0.3**
ELGU				Sg	**Sg**	**18 40 46.8**	**+0.5**
ELGU				*i* Vmb_Lg		18 40 53.2	
ELGU	**Los Guajares,**	**1.51**	**95**	Pn	**Pg**	**18 40 25.9**	**-0.6**
EGRO	**El Granado**	**1.66**	**289**	Pn	**Pn**	**18 40 25.9**	**+0.1**
EGRO				Pg	**Pb**	**18 40 27.5**	**0.0**
EGRO				Sn	**Sn**	**18 40 46.0**	**-0.7**
EGRO				Sg	**Sb**	**18 40 49.4**	**+1.2**
EGRO				*i* Vmb_Lg		18 40 56.8	
EGRO	**El Granado**	**1.66**	**289**	Pn	**Pn**	**18 40 26.1**	**+0.3**
EGRO				Sn	**Sn**	**18 40 47.6**	**+0.9**
EQUE	**Quentar**	**1.67**	**83**	Pn	**Pb**	**18 40 27.7**	**-0.1**
EQUE				Sg	**Sg**	**18 40 52.8**	**+1.7**
PBAR	**Barrancos**	**1.68**	**314**	*e*Pn	**Pn**	**18 40 26.0**	**-0.1**
PBAR				*e*Sg	**Sg**	**18 40 51.6**	**-0.1**
PBAR				A	A	18 41 00.0	
	12nm,0.3s						
PBAR	**Barrancos**	**1.68**	**314**	Pn	**Pn**	**18 40 26.0**	**-0.1**
PVAQ	**Vaqueiros**	**1.81**	**283**	*e*Pn	**Pn**	**18 40 28.3**	**+0.5**
PVAQ				*e*Sg	**Sg**	**18 40 56.0**	**+0.3**
PBDV	**Barranco-do-Ve**	**1.95**	**278**	*e*Pn	**Pn**	**18 40 30.3**	**+0.5**
PBDV				*e*Sn	**Sn**	**18 40 53.5**	**-0.4**
PBDV				*e*Sg	**Sg**	**18 40 59.0**	**-1.2**
PBDV				A	A	18 41 12.1	
	18nm,0.7s						
EQES	**Quesada**	**2.10**	**67**	Pn	**Pn**	**18 40 32.1**	**+0.2**
EQES				Sn	**Sn**	**18 40 59.1**	**+1.4**
EQES				Sg	**Sg**	**18 41 03.9**	**-1.0**
EQES				*i* Vmb_Lg		18 41 09.2	
EBER	**Berja**	**2.10**	**92**	Pg	**Pg**	**18 40 37.0**	**-0.7**
EBER				Sg	**Sg**	**18 41 05.0**	**-0.1**
EBER				*i* Vmb_Lg		18 41 13.5	
EBER	**Berja**	**2.10**	**92**	Pn	**Pb**	**18 40 34.5**	**-0.7**
PCVE	**Castro Verde**	**2.11**	**288**	*e*Pn	**Pn**	**18 40 32.2**	**+0.2**
PCVE				*e*Sg	**Sg**	**18 41 04.1**	**-1.3**
PCVE				A	A	18 41 11.4	
	6.3nm,0.2s						
EBAD	**Badajoz**	**2.11**	**326**	Pn	**Pn**	**18 40 31.6**	**-0.4**
EBAD				Sn	**Sn**	**18 40 58.3**	**+0.4**
EBAD				Sg	**Sb**	**18 41 03.2**	**+1.9**
EBAD				*i* Vmb_Lg		18 41 11.3	
EBAD	**Badajoz**	**2.11**	**326**	Pn	**Pn**	**18 40 31.8**	**-0.3**
PBEJ	**Beja**	**2.13**	**299**	*e*Sn	**Sb**	**18 41 01.2**	**-0.6**
PBEJ				*e*Sg	**Sg**	**18 41 06.0**	**-0.1**
PBEJ				A	A	18 41 11.8	
	8.5nm,0.5s						
PSIM	**Granatula de C**	**2.28**	**37**	Pg	**Pb**	**18 40 38.9**	**+0.7**
PSIM				Sn	**Sn**	**18 41 01.4**	**-0.7**
MESJ	**Messejana**	**2.31**	**292**	*e*Pn	**Pn**	**18 40 35.0**	**+0.2**
MESJ				*e*Sn	**Sn**	**18 41 04.8**	**+2.0**
MESJ				*e*Sg	**Sg**	**18 41 12.4**	**+0.6**
MESJ				A	A	18 41 18.6	
	8.4nm,0.4s						
MESJ	**Messejana**	**2.31**	**292**	*e*P	**Pn**	**18 40 35.0**	**+0.2**
PESTR	**Estremoz**	**2.48**	**319**	*e*Pn	**Pn**	**18 40 37.1**	**0.0**
PESTR				*e*Sn	**Sn**	**18 41 08.1**	**+1.1**
PESTR				*e*Sg	**Sg**	**18 41 16.8**	**-0.4**
PESTR				A	A	18 41 23.7	
	10nm,0.6s						
PESTR	**Estremoz**	**2.48**	**319**	P	**Pb**	**18 40 39.7**	**-1.9**
PESTR				S	**Sn**	**18 41 08.9**	**+1.9**
EVO	**Evora**	**2.50**	**308**	*e*Pn	**Pn**	**18 40 37.6**	**+0.3**
EVO				*e*Sn	**Sn**	**18 41 08.4**	**+0.9**
EVO				*e*Sg	**Sg**	**18 41 18.3**	**+0.5**
EVO				A	A	18 41 27.7	
	9.7nm,0.1s						
EVO	**Evora**	**2.50**	**308**	Pn	**Pn**	**18 40 37.6**	**+0.3**
EVO				Sn	**Sn**	**18 41 08.2**	**+0.7**
MORF	**Marmelete**	**2.53**	**278**	*e*Pn	**Pn**	**18 40 39.0**	**+1.2**
MORF				*e*Sn	**Sn**	**18 41 08.7**	**+0.5**
MORF				*e*Sg	**Sg**	**18 41 18.5**	**-0.3**
MORF				A	A	18 41 23.6	
	9.5nm,0.3s						

MORF	Marmelete	2.53	278	eP	Pn	18 40 38.1	+0.3
PTEO	Sao Teotonio	2.62	283	ePn	Pn	18 40 39.5	+0.5
PTEO				eSn	Sn	18 41 10.4	0.0
PTEO				eSg	Sg	18 41 22.2	+0.5
PTEO				A	A	18 41 28.2	
	14nm,0.4s						
PNCL	Nicolau / Gran	2.64	296	ePn	Pn	18 40 39.5	+0.3
PNCL				eSn	Sn	18 41 11.1	+0.2
PNCL				eSg	Sg	18 41 22.0	-0.3
PNCL				A	A	18 41 28.4	
	8.2nm,0.5s						
PNCL	Nicolau / Gran	2.64	296	Pn	Pn	18 40 39.6	+0.3
PFVI	Vila Bisbo	2.66	274	ePn	Pn	18 40 39.8	+0.3
PFVI				eSn	Sn	18 41 11.3	0.0
PFVI				eSg	Sg	18 41 23.5	+0.7
PFVI				A	A	18 41 30.3	
	8.5nm,0.5s						
PFVI	Vila Bisbo	2.66	274	P	Pn	18 40 39.2	-0.3
PFVI				S	Sn	18 41 10.0	-1.3
GOG	Mont Gurugu	2.70	130	P	Pn	18 40 40.0	-0.3
GOG				S	Sn	18 41 11.8	-0.8
PMRV	Marv??o	2.83	329	ePn	Pn	18 40 41.9	-0.1
PMRV				eSn	Sn	18 41 16.4	+0.6
PMRV				eSg	Sg	18 41 26.0	-2.6
PMRV				A	A	18 41 33.6	
	4.5nm,0.7s						
ESDC	Sonseca Array	2.93	24	Pn	Pn	18 40 43.7	+0.4
ESDC				Sn	Sn	18 41 17.6	-0.5
ESDC				Sg	Sg	18 41 28.6	-2.8
ESDC				i Vmb_Lg		18 41 34.1	
PMTG	Montargil	2.97	315	ePn	Pn	18 40 44.6	+0.8
PMTG				eSn	Sn	18 41 19.5	+0.4
PMTG				eSg	Sg	18 41 32.5	-0.4
PMTG				A	A	18 41 38.5	
	6.2nm,0.5s						
EPLA	Plasencia	3.08	352	Pn	Pn	18 40 46.4	+1.0
EPLA				Sn	Sn	18 41 20.5	-1.5
EPLA				Sg	Sb	18 41 31.7	+2.4
EPLA				i Vmb_Lg		18 41 38.4	
EZAR	Zarzadilla de	3.16	73	Pn	Pn	18 40 46.9	+0.4
EZAR				Sn	Sn	18 41 26.4	+2.6
EZAR				i Vmb_Lg		18 42 11.3	
PACT	Alcochete	3.16	305	ePn	Pn	18 40 47.2	+0.8
PACT				eSn	Sn	18 41 25.5	+1.7
PACT				eSg	Sg	18 41 41.0	+2.0
PACT				A	A	18 41 52.3	
	16nm,0.6s						
PCBR	Castelo Branco	3.22	332	eSn	Sn	18 41 24.6	-0.7
PCBR				eSg	Sg	18 41 41.1	+0.1
PCBR				A	A	18 41 46.6	
	3.9nm,0.8s						
ETOB	Tobarra	3.54	61	Pn	Pn	18 40 51.1	-0.5
ETOB				Sn	Sn	18 41 30.1	-3.0
ETOB				Sg	Sg	18 41 50.4	-0.6
ETOB				i Vmb_Lg		18 42 12.0	
ETOB	Tobarra	3.54	61	Pn	Pn	18 40 51.8	+0.1
PMAFR	Mafra	3.56	304	ePn	Pn	18 40 52.3	+0.4
PMAFR				eSn	Sn	18 41 34.5	+0.9
PMAFR				A	A	18 42 04.4	
	9.3nm,0.7s						
PMAFR	Mafra	3.56	304	Pn	Pn	18 40 52.3	+0.4
JBK	JBK	3.58	137	P	Pn	18 40 52.3	-0.1
JBK				S	Sn	18 41 34.3	-0.2
PSBE	So Bento	3.60	315	ePn	Pn	18 40 53.4	+0.9
PSBE				eSn	Sn	18 41 35.4	+0.8
PSBE				eSg	Sg	18 41 51.0	-2.0
PSBE				A	A	18 42 01.0	
	8.2nm,0.6s						
MTE	Manteigas	3.74	335	eSn	Sn	18 41 38.6	+0.4
MTE				eSg	Sg	18 41 58.1	+0.5
MTE				A	A	18 42 15.4	
	5.7nm,0.6s						
GUD	Guadarrama	3.78	16	Sn	Sn	18 41 36.5	-2.8
GUD				Sg	Sb	18 41 51.5	+2.1
PCAS	Casmilo, Conde	3.84	323	ePn	Pn	18 40 59.1	+3.3
PCAS				eSn	Sn	18 41 41.0	+0.5
PCAS				eSg	Sg	18 42 00.6	-0.1
PCAS				A	A	18 42 14.6	
	5.4nm,0.7s						
PVIS	Viseu	4.14	334	ePn	Pn	18 41 00.7	+0.7
PVIS				eSn	Sn	18 41 47.6	-0.5
PVIS				eSg	Sg	18 42 07.2	-3.3
MD31	MD31	4.18	171	P	Pn	18 41 00.1	-0.3
MD31				S	Sn	18 41 47.3	-1.6
MDT	Midelt	4.25	170	P	Pn	18 41 01.1	-0.4
MDT				S	Sn	18 41 50.1	-0.7
MVO	Moncorvo	4.32	345	eSn	Sn	18 41 51.8	-0.6
MVO				eSg	Sg	18 42 12.0	-4.0
MVO				A	A	18 42 20.8	
	5.7nm,0.5s						
PVRL	Vila Real	4.59	339	eSn	Sn	18 41 58.0	-1.2
PVRL				eSg	Sg	18 42 20.7	-4.2
ETOR	Torete	4.66	34	Pn	Pn	18 41 07.7	+0.5
ETOR				Sn	Sn	18 41 57.4	-3.5
ETOR				Sg	Sb	18 42 20.4	+5.7
ETOR				i Vmb_Lg		18 42 34.1	
POLO	Lamas de Olo	4.71	339	eSg	Sg	18 42 31.1	+2.6
PBRG	Braganca	4.88	349	eSg	Sg	18 42 31.9	-2.3
PBRG				A	A	18 42 42.4	
	3.0nm,0.6s						
PGAV	Gavieira, Arco	5.39	338	eSn	Sn	18 42 18.3	-0.6
OUK	Oukaimeden	6.11	199	P	Pn	18 41 25.8	-1.4
OUK				S	Sn	18 42 32.7	-4.2

WEL 03 18:41:21.0±1.3, 40°S±7°×17°3E±1°0, h158km±12km, M2.2/7, MLv2.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=117.9, confirmed, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.63	146	P	Pn	18 41 44.6	+0.7
DUWZ				S	Sn	18 42 02.8	+1.3
TKNZ	Takaka Hill	0.84	207	P	Pn	18 41 45.6	+0.4
QRZ	Quartz Range	0.89	232	P	Pn	18 41 46.0	+0.4
NNZ	Nelson	0.93	183	P	Pn	18 41 46.3	+0.4
NNZ				S	Sn	18 42 06.6	+1.5
KHEZ	Kahui Hut	1.08	24	P	Pn	18 41 47.4	+0.1
TCW	Tory Channel	1.11	146	P	Pn	18 41 48.1	+0.7
TCW				S	Sn	18 42 07.9	+0.1
PKE	Pukeiti	1.17	21	P	Pn	18 41 48.1	+0.1
TUWZ	Tuamarina	1.20	162	P	Pn	18 41 48.7	+0.5
MRNZ	Matariki Terra	1.23	205	P	Pn	18 41 48.5	0.0
MRNZ				S	Sn	18 42 10.0	+0.3
WAZ	Wanganui	1.29	66	P	Pn	18 41 49.6	+0.5
CAW	Cannon Point	1.48	124	P	Pn	18 41 50.9	0.0
THZ	Tophouse	1.53	196	P	Pn	18 41 51.4	-0.1
THZ				S	Sn	18 42 15.3	+0.2
VRZ	Vera Road	1.54	41	P	Pn	18 41 50.9	-0.6
PKVZ	Pokaka	1.77	56	P	Pn	18 41 53.3	-0.8
MTVZ	Mangateitei	1.79	61	P	Pn	18 41 53.7	-0.7
TIWZ	Tintock	1.92	106	P	Pn	18 41 55.1	-0.5
DSZ	Denniston Nort	1.92	220	P	Pn	18 41 55.2	-0.5
TSZ	Takapari Road	1.93	84	P	Pn	18 41 55.0	-0.9
TWVZ	Taurewa	1.95	52	P	Pn	18 41 54.7	-1.4
TUVZ	Tukino	1.98	60	P	Pn	18 41 55.6	-0.9
NGZ	Ngauruhoe	1.99	57	P	Pn	18 41 55.4	-1.3
SNVZ	South Ngauruho	2.01	58	P	Pn	18 41 56.0	-0.9
WTVZ	West Tongariro	2.02	55	P	Pn	18 41 55.7	-1.2
OTVZ	Oturere	2.04	57	P	Pn	18 41 56.1	-1.1
ETVZ	East Tongariro	2.08	57	P	Pn	18 41 56.7	-1.0
TMVZ	Te Maari	2.09	57	P	Pn	18 41 56.7	-1.1
KHZ	Kahutara	2.13	178	P	Pn	18 41 57.3	-0.7
PNHZ	Pukenui	2.14	81	P	Pn	18 41 56.9	-1.3
BHHZ	Black Hill Sta	2.16	69	P	Pn	18 41 57.0	-1.5
BFZ	Birch Farm	2.17	101	P	Pn	18 41 57.6	-0.9
KATZ	Kakaramea	2.17	54	P	Pn	18 41 57.0	-1.7
KRHZ	Kereru	2.33	75	P	Pn	18 41 59.0	-1.5
POIZ	Poihipi	2.59	51	P	Pn	18 42 03.3	-0.3
MUGZ	Murupara	3.14	56	P	Pn	18 42 12.9	+2.5
MQZ	McQueen's Vall	3.47	190	P	Pn	18 42 11.8	-2.7

WEL 03 18:41:59.2±0.3, 38°S±3°×17°8E±°, h28km±3km, M3.2/23, ML3.4/23, MLv3.2/23, Error ellipse: s-maj=0.0km s-min=0.0km az=8.9, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAZ	Te Kaha	0.19	85	P	Pn	18 42 06.5	+0.4
HAZ				S	Sb	18 42 12.2	+3.2
RUGZ	Raukumara Rang	0.22	151	P	Pn	18 42 06.6	-0.1
RUGZ				S	Sb	18 42 12.4	+2.6
OPCS	Opotiki Colleg	0.31	220	P	Pn	18 42 07.3	-0.6
OPCS				S	Sn	18 42 14.4	+0.8
WIZ	White Island	0.37	311	P	Pn	18 42 09.0	+0.3
WSRZ	White Island S	0.39	311	P	Pn	18 42 09.6	+0.7
WSRZ				S	Sn	18 42 17.4	+2.0
PKGZ	Pakihiroa	0.44	105	P	Pb	18 42 08.7	+0.2
WHRZ	Whale Island	0.46	259	P	Pn	18 42 10.8	+0.9
WKHS	Whakatane High	0.48	247	P	Pb	18 42 09.3	+0.1
WKHS				S	Sn	18 42 17.9	+0.2
TWGZ	Tauwhareparae	0.53	140	P	Pn	18 42 11.0	+0.1
MWZ	Matawai	0.56	181	P	Pn	18 42 11.0	-0.3
MWZ				S	Sn	18 42 19.9	+0.1
URZ	Urewera	0.59	215	P	Pn	18 42 11.8	+0.1
URZ	Urewera	0.59	215	P	Pn	18 42 11.7	0.0
URZ				S	Sn	18 42 21.2	+0.7
PUZ	Puketiti	0.64	118	P	Pb	18 42 12.0	+0.2
PUZ				S	Sn	18 42 22.8	+1.2
MXZ	Matakaoa Point	0.64	71	P	Pb	18 42 11.5	-0.4
TDHS	Te Araroa Dist	0.67	78	P	Pb	18 42 11.6	-0.6
WMGZ	Waiomatatini S	0.69	94	P	Pb	18 42 12.8	+0.1
WMGZ				S	Sn	18 42 24.1	+1.2
TKGZ	Te Karaka	0.71	160	P	Pn	18 42 13.8	+0.5
TKGZ				S	Sn	18 42 26.5	+3.2
EDRZ	Edgecumbe	0.72	242	P	Pn	18 42 13.9	+0.4
EDRZ	Edgecumbe	0.72	242	P	Pn	18 42 14.0	+0.4
MARZ	Manawahe	0.72	253	P	Pn	18 42 13.8	+0.3
MARZ				S	Sn	18 42 24.2	+0.6
RAGZ	Rawiri	0.73	188	P	Pn	18 42 13.9	+0.2
RAGZ	Rawiri	0.73	188	P	Pn	18 42 14.1	+0.4
RAGZ				S	Sn	18 42 24.8	+0.9
OPRZ	Ohinepanea	0.79	264	P	Pn	18 42 14.4	0.0
OPRZ	Ohinepanea	0.79	264	P	Pn	18 42 14.5	+0.1
OPRZ				S	Sn	18 42 25.6	+0.4
CNGZ	Carnagh Statio	0.88	144	P	Pn	18 42 15.6	-0.1
CNGZ				S	Sn	18 42 29.5	+1.9
MKRZ	Makatiti	0.93	246	P	Pb	18 42 17.1	+0.4
TARZ	Mount Tarawera	0.94	240	P	Pb	18 42 17.0	+0.1
LIRZ	Lichensteins R	0.95	256	P	Pb	18 42 17.1	+0.2
RIGZ	Rimuhau	0.95	170	P	Pb	18 42 17.8	+0.8
OMRZ	Omania	0.98	250	P	Pb	18 42 17.5	-0.2
RRRZ	Republican Roa	0.99	235	P	Pn	18 42 17.5	+0.2
TGRZ	Tauranga	1.02	272	P	Pn	18 42 17.4	-0.2
SNGZ	Shannon Statio	1.02	189	P	Pb	18 42 18.5	+0.2
HLRZ	Highlands Stat	1.06	243	P	Pb	18 42 18.6	-0.3
KARZ	Kaharoa	1.06	256	P	Pn	18 42 18.4	+0.2
NGRZ	Ngongotaha	1.12	253	P	Pb	18 42 19.6	-0.3
UTU	Utuhina	1.14	249	P	Pb	18 42 20.8	+0.5
MYRZ	Mayor Island	1.15	295	P	Pn	18 42 19.1	-0.3
MYRZ	Mayor Island	1.15	295	P	Pn	18 42 18.9	-0.5
HSRZ	Hossack Road	1.16	242	P	Pb	18 42 20.2	-0.3
PRRZ	Plateau Road	1.16	231	P	Pn	18 42 19.7	+0.1
PRRZ				S	Sb	18 42 35.0	-0.4
HRRZ	Handcock Road	1.17	238	P	Pn	18 42 20.2	+0.5
RAHZ	Arahi	1.20	197	P	Pb	18 42 21.9	+0.6
MTHZ	Maungataniwha	1.21	207	P	Pn	18 42 20.0	-0.3
MTHZ				S	Sn	18 42 35.9	+0.1
ALRZ	Allen Road	1.23	230	P	Pn	18 42 20.4	-0.1
KNZ	Kokohu	1.25	175	P	Pn	18 42 20.1	-0.7
GRRZ	Galatos Road	1.27	243	P	Pn	18 42 21.7	+0.7
KMRZ	Kaimai	1.27	266	P	Pn	18 42 21.0	-0.1
MRHZ	Matea Rd	1.38	220	P	Pn	18 42 22.5	-0.2
MRHZ				S	Sn	18 42 39.7	-0.3
NMHZ	Naumai	1.44	203	P	Pn	18 42 24.3	+0.8
KUTZ	Kaahu Road	1.53	242	P	Pn	18 42 25.2	+0.5
TOZ	Tahuroa Road	1.62	271	P	Pn	18 42 25.7	-0.1
TLZ	Tolley Road	1.68	250	P	Pn	18 42 26.8	+0.1
RATZ	Rangitukua	1.77	231	P	Pn	18 42 28.5	+0.5
KUZ	Kuaotunu	1.78	305	P	Pn	18 42 27.3	-0.7
KUZ				S	Sn	18 42 49.0	-0.7
RITZ	Rihia Road	1.79	227	P	Pn	18 42 28.8	+0.5
MCHZ	McNeill Hill	1.80	201	P	Pb	18 42 30.2	-1.2
KWHZ	Kaweka Forest	1.87	208	P	Pn	18 42 30.0	+0.7
KATZ	Kakaramea	1.89	230	P	Pn	18 42 30.4	+0.8
CKHZ	Cape Kidnapper	1.92	191	P	Pn	18 42 30.0	0.0
TMVZ	Te Maari	1.97	227	P	Pn	18 42 31.1	+0.3
NTVZ	North Tongarir	1.98	227	P	Pn	18 42 31.3	+0.4
ETVZ	East Tongariro	1.98	226	P	Pn	18 42 31.2	+0.3
KRVZ	Karewarewa	1.99	228	P	Pn	18 42 31.5	+0.4
MKAZ	Moumakai	2.01	289	P	Pn	18 42 31.2	0.0
OTVZ	Oturere	2.03	226	P	Pn	18 42 31.9	+0.3
NNVZ	North Ngauruho	2.03	228	P	Pn	18 42 32.2	+0.5
WTVZ	West Tongariro	2.04	228	P	Pn	18 42 32.3	+0.6
SNVZ	South Ngauruho	2.06	226	P	Pn	18 42 32.5	+0.5
BHHZ	Black Hill Sta	2.07	214	P	Pn	18 42 32.4	+0.3
NGZ	Ngauruhoe	2.07	227	P	Pn	18 42 32.9	+0.7
KRHZ	Kereru	2.08	206	P	Pn	18 42 32.3	+0.1
KAHZ	Kahuranaki	2.08	194	P	Pn	18 42 32.3	0.0
TWVZ	Taurewa	2.10	231	P	Pn	18 42 33.1	+0.5
TUVZ	Tukino	2.10	224	P	Pn	18 42 34.3	+1.6
COVZ	Chateau Observ	2.12	227	P	Pn	18 42 34.8	+2.0
WHVZ	Whangaehu Hut	2.15	225	P	Pn	18 42 34.8	+1.4
FWVZ	Far West T-bar	2.15	226	P	Pn	18 42 34.9	+1.5
MOVZ	Moawhango	2.15	220	P	Pn	18 42 33.0	-0.2
MAVZ	Matarangi	2.16	226	P	Pn	18 42 34.4	+0.9
WIAZ	Waiheke Island	2.16	296	P	Pn	18 42 33.2	0.0
WNVZ	Wahianoa	2.18	224	P	Pn	18 42 35.0	+1.3
TRVZ	Turoa	2.19	225	P	Pn	18 42 35.6	+1.7
ETAZ	East Tamaki Re	2.24	291	P	Pn	18 42 34.8	+0.4
GRZ	Great Barrier	2.26	312	P	Pn	18 42 34.2	-0.4
PXZ	Pawanui	2.32	193	P	Pn	18 42 34.3	-1.1
MBAZ	Motutapu North	2.34	295	P	Pn	18 42 36.1	+0.4
PNHZ	Pukenui	2.38	206	P	Pn	18 42 36.5	+0.2
AWAZ	Awhitu Peninsu	2.42	286	P	Pn	18 42 37.6	+0.8
ABAZ	Army Bay	2.46	298	P	Pn	18 42 37.0	-0.4
VRZ	Vera Road	2.57	237	P	Pn	18 42 40.2	+1.3
PRHZ	Porangahau	2.59	196	P	Pn	18 42 37.9	-1.3
NEZ	North Egmont	3.09	240	P	Pn	18 42 49.2	+3.1
PKE	Pukeiti	3.13	242	P	Pn	18 42 49.6	+3.0
WCZ	Waipu Caves	3.15	305	P	Pn	18 42 47.2	+0.3
KHEZ	Kahui Hut	3.16	240	P	Pn	18 42 49.5	+2.4
MRZ	Mangatainoka R	3.26	207	P	Pn	18 42 47.5	-1.0
OUZ	Omahuta	4.08	308	P	Pn	18 43 00.3	+0.7
DUWZ	D'Urville Isla	4.13	222	P	Pn	18 43 01.6	+1.2
CTZ	Chatham Island	7.42	145	P	Pn	18 43 44.3	-1.2

IDC 03 19:20:36.7±4.5, 5°.32S×132°.01E, h0km, mb3.8/2, mbtmp3.7/4, ML3.6/2, MS3.4/3, Error ellipse: s-maj=320.9km s-min=28.6km az=74.0
DJA 03 19:20:48.8±2.8, 6°S±4°×13°1E±°, h33km±50km, M4.0/8, mb3.9/3, MLv4.1/8
ISC 03 19:20:43.8±0.9, 5°.97S±0°.07×131°.02E±0°.09, h35km, n13, σ2s.61/12, MS3.4/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.82	322	P	Pn	19 21 15.0	+2.4
BNDI				S	Sn	19 21 34.1	-0.4
SAUI	Saumlaki	2.02	172	P	Pn	19 21 26.0	+11
FAKI	Fak Fak	3.27	22	P	Pn	19 21 32.3	-0.3
KMPI	Kaimana, Papua	3.52	49	P	Pn	19 21 38.4	+2.3
SWI	Sorong	5.08	3	P	Pn	19 21 56.6	-0.9
LBMI	Labuha	6.36	326	P	Pn	19 22 15.6	+0.5
	23nm,2.1s,0.1nm						
WRA	Warramunga Arr	14.26	167	Pn	Pn	19 24 05.0	+1.6
	0.3nm,0.3s,baz=350,slow=13,SNR=11						
WRA				Sn	Sn	19 26 36.0	-4.4
	0.9nm,0.3s,baz=341,slow=21,SNR=11						
	0.4nm,0.3s						
ASAR	Alice Springs	17.81	171	P	P	19 24 53.1	+3.5
	0.3nm,0.3s,baz=351,slow=11,SNR=15						
ASAR				S	Sn	19 28 04.0	-2.8
	0.8nm,0.6s,baz=353,slow=29,SNR=6.8						
	1.1nm,0.5s						
HNR	Honiara	28.86	99	LR	LR	19 39 07.2	
	comp=Z,380nm,18.1s,baz=90,slow=40						
JOW	Kunigami	32.72	355	LR	LR	19 39 07.5	
	comp=Z,17nm,20.3s,baz=318,slow=34						
MKAR	Makanchi Array	67.93	326	P	P	19 31 38.0	-1.1
	0.8nm,0.4s,baz=114,slow=8.0,SNR=20						
	0.8nm,0.4s						
KURBB	Kurchatov Arra	72.17	328	P	P	19 32 02.6	-2.4
	0.3nm,0.5s,baz=115,slow=5.0,SNR=4.4						
	0.3nm,0.5s						
KVAR	Kislovodsk Arr	92.89	314	LR	LR	20 19 43.7	
	comp=Z,14nm,21.8s,baz=93,slow=38						

NOU 03 19:21:11.3, 13°.96S×172°.03W, h68km, MLv2.5/5, Samoa Islands, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	0.25	78	P	Pn	19 21 24.2	+2.2
AFI	Afiamalu	0.25	78	P	Pn	19 21 23.5	+1.5

TIR 03 19:21:45.6, 41°.58N×20°.17E, h7km±1km, Md2.8, Ml2.3
ATH 03 19:21:45.9, 41°.60N×20°.15E, h5km±2km, ML2.3/6, Manual Solution by G.Panopoulou This location: 2020/01/09 15:24:04 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km
SKO 03 19:21:46.9, 41°.56N×20°.12E, h25km, ML2.5
RHSSO 03 19:21:46.2±0.9, 41°.58N×20°.29E, h6km±4km, ML2.5/7
PDG 03 19:21:46.9±0.1, 41°.58N×20°.09E, h9km, ML2.7/10, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0
THE 03 19:21:46.5, 41°.63N×20°.15E, h0km±2km, ML2.2/3, Error ellipse: s-maj=3.0km s-min=1.3km az=306.0
BEO 03 19:21:47.8±0.3, 41°.57N×20°.12E, h3km±3km, ML2.3/12
ISC 03 19:21:46.4±1.1, 41°.58N±0°.02×20°.13E±0°.02, h6km±9km, n66, σ0s.75/114, 4C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	Tirane	0.31	221	P	Pg	19 21 52.6	+0.2
	baz=226						
TIR				S	Sg	19 21 57.5	+1.0
	baz=226						
TIR				AMP			
	comp=N,0.9nm,0.2s,baz=226						
TIR	Tirane	0.31	221	P	Pg	19 21 52.8	+0.3
TIR	Tirane	0.31	221	ePg	Pg	19 21 52.5	0.0
TIR				eSg	Sb	19 21 58.4	-1.3
OHR	Ohrid	0.69	133	ePg	Pg	19 21 59.4	-0.2
OHR				eSg	Sb	19 22 10.4	-0.3
OHR	Ohrid	0.69	133	i Pg	Pb	19 22 00.3	-0.6
OHR				i Sg	Sb	19 22 10.9	+0.2
OHR				eLg	Lg	19 22 11.2	
	comp=N,234nm,0.7s						
ULC	Ulcinj	0.77	300	i Pg	Pg	19 22 00.6	-0.6
ULC	Ulcinj	0.77	300	⇑iPg	Pg	19 22 00.5	-0.6
ULC				eSg	Sb	19 22 12.4	-0.5
BCI	Bajram Curri	0.78	356	P	Pg	19 22 01.3	-0.1
	baz=355						
BCI				S	Sb	19 22 13.0	-0.4
	baz=355						
BCI				AMP			
	comp=N,0.9nm,0.6s,baz=355						
DRME	Dracevica, Mon	0.93	311	ePg	Pg	19 22 03.7	-0.5
DRME				eSg	Sb	19 22 18.8	+1.2
DRME	Dracevica, Mon	0.93	311	⇑iPg	Pg	19 22 03.8	-0.5
DRME				eSg	Sb	19 22 18.3	+0.7
DRME	Dracevica, Mon	0.93	311	P	Pg	19 22 03.8	-0.5
DRME				S	Sg	19 22 15.5	-0.8
PVY	Plav	1.02	353	⇓iPg	Pg	19 22 05.8	-0.2
PVY				eSg	Sn	19 22 21.9	-0.2
SKO	Skopje	1.05	68	ePg	Pb	19 22 07.0	0.0
SKO				eSg	Sb	19 22 20.7	-0.4
SKO	Skopje	1.05	68	i Pg	Pb	19 22 07.1	0.0
SKO				i Sg	Sb	19 22 21.0	-0.1
LMS2	Laimos Florina	1.07	134	P	Pg	19 22 06.0	-0.9
LMS2				S	Sb	19 22 21.2	-0.4
PDG	Podgorica	1.07	323	ePg	Pg	19 22 06.3	-0.6
PDG				eSg	Sn	19 22 22.8	-0.4
PDG	Podgorica	1.07	323	ePg	Pg	19 22 06.3	-0.6
PDG				eSg	Sn	19 22 23.0	-0.2
PDG	Podgorica	1.07	323	⇓iPg	Pg	19 22 06.4	-0.5
PDG				eSg	Sn	19 22 23.8	+0.6
KBN	Korca	1.08	153	P	Pn	19 22 07.8	-0.4
KBN				S	Sn	19 22 23.7	+0.2
	comp=N,108nm,0.8s						
BUM	Brajici-Budva	1.17	308	⇑iPg	Pg	19 22 07.9	-1.0
BUM				i Sg	Sn	19 22 26.6	+0.8
FNA	Florina	1.23	130	P	Pg	19 22 09.3	-0.7
	baz=130						
FNA				S	Sb	19 22 26.6	+0.2
	baz=130						
FNA	Florina	1.23	130	P	Pg	19 22 09.5	-0.5
FNA				S	Sn	19 22 28.4	+1.1
	comp=N,178nm,0.4s						
FNA	Florina	1.23	130	i Pg	Pg	19 22 09.6	-0.4
FNA				i Sg	Sn	19 22 26.9	-0.4
FNA	Florina	1.23	130	P	Pg	19 22 09.0	-1.0
FNA				S	Sn	19 22 27.0	-0.2
BEY	Berane	1.30	352	i Pg	Pg	19 22 11.7	+0.3
IVA	Berane	1.30	352	ePg	Pn	19 22 11.2	0.0
IVA				eSg	Sn	19 22 31.1	+2.1
CEME	Cevo	1.32	317	⇑iPg	Pn	19 22 11.0	-0.5
CEME				eSg	Sn	19 22 31.5	+2.0
CEME	Cevo	1.32	317	P	Pn	19 22 11.2	-0.3
CEME				S	Sb	19 22 27.8	-1.2
KOME	Kolasin	1.35	340	⇓iPg	Pn	19 22 11.9	0.0
KOME				i Sg	Sn	19 22 32.7	+2.5
KOME	Kolasin	1.35	340	P	Pn	19 22 11.2	-0.7
KOME				S	Sb	19 22 29.2	-0.5
NEST	Nestorio	1.36	149	P	Pg	19 22 12.5	0.0
NEST				S	Sn	19 22 32.6	+2.2
	comp=N,40nm,0.3s						
NEST	Nestorio	1.36	149	P	Pb	19 22 12.1	-0.2
NEST				S	Sn	19 22 30.2	-0.3
LSK	Leskovik	1.48	166	P	Pg	19 22 14.6	-0.1
	baz=167						
LSK				S	Sg	19 22 35.1	+1.3
	baz=167						
LSK	Leskovik	1.48	166	P	Pg	19 22 14.5	-0.2
STIP	Stip	1.54	85	i Pn	Pg	19 22 16.3	+0.3
PENT	Pentalofos	1.58	151	P	Pb	19 22 15.6	-0.5
SJES	Sjenica	1.68	356	ePn	Pg	19 22 18.4	-0.2
SJES				eSn	Sg	19 22 41.4	+1.0
SJES	Sjenica	1.68	356	ePn	Pn	19 22 16.9	+0.4
SJES				eSn	Sn	19 22 38.4	0.0
SRN	Sarande	1.71	183	P	Pb	19 22 17.8	-0.4
PRVS	Prvonek	1.72	57	ePn	Pb	19 22 18.6	+0.2
PRVS				eSn	Sg	19 22 41.7	+0.1
TREB	Trebinje	1.74	311	ePn	Pn	19 22 17.3	0.0
TREB				eSn	Sb	19 22 42.0	+1.0
BARS	Barje	1.75	45	ePn	Pb	19 22 19.5	+0.5
BARS				eSn	Sg	19 22 43.4	+0.6
BARS	Barje	1.75	45	i Pn	Pb	19 22 18.4	-0.7
BRY	Bratogost	1.77	319	ePn	Pn	19 22 18.5	+0.7
BRY				eSn	Sb	19 22 41.9	0.0
BRY	Bratogost	1.77	319	⇓iPn	Pn	19 22 18.5	+0.7
BRY				i Sn	Sg	19 22 43.5	+0.2
SELS	Selova	1.79	24	ePn	Pb	19 22 19.2	-0.5
SELS				eSn	Sg	19 22 44.5	+0.6
GRG	Griva	1.82	109	P	Pn	19 22 18.8	+0.5
GRG				S	Sb	19 22 43.1	-0.2
GRG	Griva	1.82	109	i Pn	Pn	19 22 18.8	+0.5
GRG	Griva	1.82	109	P	Pn	19 22 17.5	-0.8
PLE	Pljevlja	1.83	343	⇓iPn	Pb	19 22 20.1	-0.3
PLE				i Sn	Sg	19 22 45.3	+0.1
KPRO	Kipourio	1.88	150	P	Pn	19 22 19.5	+0.3
KEK	Kerkira	1.89	188	P	Pn	19 22 18.4	-0.9
IVAS	Ivanjica	1.99	0	ePn	Pn	19 22 21.0	+0.3
IVAS				eSn	Sb	19 22 47.3	-0.9
PEHC	Pehcevo	2.08	84	i Pn	Pb	19 22 24.4	-0.3
RUDO	Rudo	2.11	345	ePn	Pn	19 22 23.0	+0.7
RUDO				eSn	Sn	19 22 48.8	-0.1
KNT	Kendrikon	2.12	101	P	Pn	19 22 21.4	-1.1
BBLS	Lazići	2.34	347	ePn	Pb	19 22 28.3	-0.8
BBLS				eSn	Sn	19 22 56.3	+1.6
GRUS	Gruza	2.34	10	ePn	Pn	19 22 26.0	+0.5
GRUS				eSn	Sb	19 22 57.4	-0.8
HORT	Hortiatis	2.45	113	P	Pn	19 22 26.5	-0.5
THL	Klokotos Trika	2.47	144	P	Pn	19 22 28.0	+0.7
DIVS	Divibare	2.52	358	ePn	Pn	19 22 28.7	+0.8
DIVS				eSn	Sb	19 23 01.3	-2.0
DIVS	Divibare	2.52	358	ePn	Pn	19 22 28.2	+0.3
DIVS				eSn	Sn	19 22 58.7	-0.3
NVR	Nevrokopi	2.81	94	P	Pn	19 22 32.0	+0.1
NYDR	Nydri-Lefkada	2.90	171	P	Pn	19 22 32.5	-0.6
TEKS	Tekeris	3.00	352	ePn	Pn	19 22 34.0	-0.5
TEKS				eSn	Sn	19 23 10.2	-0.6
A050A	Klekovaca	3.92	319	ePn	Pn	19 22 48.2	+1.0
A050A				eSn	Sn	19 23 33.9	+0.3

*ATH **03** 19:30:21.7±0.5, 41°.55N×19°.09E, h10km, ML2.3/3, Manual Solution by G.Panopoulou This location: 2020/01/09 16:09:29 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 8 km*
*BEO **03** 19:30:22.7±1.0, 41°.59N×19°.17E, h10km±3km, ML2.2/6*
*RHSSO **03** 19:30:22.8±1.0, 41°.59N×19°.35E, h6km±2km, ML2.4/7*
*PDG **03** 19:30:25.1±0.1, 41°.70N×19°.21E, h14km, ML2.7/11, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
*TIR **03** 19:30:26.6, 41°.56N×19°.70E, h31km±1km, Md3.3, Ml1.9*
ISC 03 19:30:22.2±1.2, **41°.56N**±0°.03×**19°.21E**±0°.04, **h9**km±9km, **n41**, σ**0s.63**/72, **4C-8D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.40**	**4**⇓	*i*Pg	**Pg**	**19 30 30.4**	**+0.2**
ULC				*i* Sg	**Sg**	**19 30 35.2**	**-0.3**
TIR	**Tirane**	**0.54**	**113**	P	**Pg**	**19 30 33.2**	**+0.6**
	baz=149						
TIR				S	**Sg**	**19 30 39.3**	**-0.4**
	baz=149						
TIR				AMP			
	comp=N,0.3nm,0.5s,baz=149						
TIR	**Tirane**	**0.54**	**113**	*e*Pg	**Pg**	**19 30 33.3**	**+0.6**
TIR				*e*Sg	**Sb**	**19 30 42.4**	**+0.7**
DRME	**Dracevica, Mon**	**0.63**	**359**	*e*Pg	**Pg**	**19 30 34.0**	**-0.3**
DRME				*e*Sg	**Sg**	**19 30 42.8**	**+0.3**
DRME	**Dracevica, Mon**	**0.63**	**359**⇓	*i*Pg	**Pg**	**19 30 34.3**	**0.0**
DRME				*e*Sg	**Sg**	**19 30 42.1**	**-0.4**
BUM	**Brajici-Budva**	**0.78**	**343**⇓	*i*Pg	**Pg**	**19 30 37.2**	**0.0**
BUM				*i* Sg	**Sg**	**19 30 47.4**	**+0.1**
PDG	**Podgorica**	**0.87**	**2**	*e*Pg	**Pg**	**19 30 38.2**	**-0.8**
PDG				*e*Sg	**Sg**	**19 30 50.4**	**+0.1**
PDG	**Podgorica**	**0.87**	**2**⇑	*i*Pg	**Pg**	**19 30 38.0**	**-1.0**
PDG				*e*Sg	**Sg**	**19 30 50.0**	**-0.3**
PDG	**Podgorica**	**0.87**	**2**⇓	*i*Pg	**Pg**	**19 30 38.7**	**-0.3**
PDG				*e*Sg	**Sg**	**19 30 50.2**	**-0.1**
CEME	**Cevo**	**1.01**	**348**⇓	*i*Pg	**Pg**	**19 30 40.8**	**-0.8**
CEME				*e*Sg	**Sb**	**19 30 54.8**	**-0.6**
CEME	**Cevo**	**1.01**	**348**	P	**Pg**	**19 30 41.0**	**-0.6**
CEME				S	**Sb**	**19 30 54.7**	**-0.6**
BCI	**Bajram Curri**	**1.03**	**38**	P	**Pg**	**19 30 41.1**	**-0.9**
	baz=18						
BCI				S	**Sb**	**19 30 56.1**	**+0.2**
	baz=18						
BCI				AMP			
	comp=N,0.3nm,0.7s,baz=18						
PVY	**Plav**	**1.18**	**28**⇑	*i*Pg	**Pb**	**19 30 44.7**	**-0.1**
PVY				*i* Sg	**Sn**	**19 31 01.6**	**+0.4**
NKME	**Niksic**	**1.22**	**351**	*e*Pg	**Pb**	**19 30 45.2**	**-0.3**
NKME				*e*Sg	**Sn**	**19 31 02.0**	**-0.2**
KOME	**Kolasin**	**1.31**	**10**⇑	*i*Pg	**Pb**	**19 30 47.0**	**-0.1**
KOME				*i* Sg	**Sn**	**19 31 05.0**	**+0.5**
KOME	**Kolasin**	**1.31**	**10**	P	**Pn**	**19 30 46.2**	**-0.6**
KOME				S	**Sb**	**19 31 03.4**	**-0.7**
TREB	**Trebinje**	**1.32**	**331**	*e*Pg	**Pn**	**19 30 46.6**	**-0.2**
TREB				*e*Sg	**Sg**	**19 31 05.4**	**+0.7**
IVA	**Berane**	**1.41**	**21**⇓	*i*Pg	**Pn**	**19 30 48.4**	**+0.3**
IVA				*e*Sg	**Sg**	**19 31 08.6**	**+1.1**
BRY	**Bratogost**	**1.43**	**340**⇑	*i*Pg	**Pn**	**19 30 48.8**	**+0.3**
BRY				*e*Sg	**Sg**	**19 31 08.8**	**+0.6**
BRY	**Bratogost**	**1.43**	**340**⇓	*i*Pg	**Pn**	**19 30 48.7**	**+0.3**
BRY				*e*Sg	**Sg**	**19 31 09.5**	**+1.3**
PLE	**Pljevlja**	**1.77**	**4**⇓	*i*Pn	**Pb**	**19 30 54.5**	**-0.5**
PLE				*i* Sn	**Sb**	**19 31 17.7**	**+0.3**
SJES	**Sjenica**	**1.79**	**18**	*e*Pg	**Pn**	**19 30 54.4**	**+1.0**
SJES				*e*Sg	**Sb**	**19 31 18.5**	**+0.6**
SJES	**Sjenica**	**1.79**	**18**	*e*Pn	**Pn**	**19 30 53.7**	**+0.3**
SJES				*e*Sn	**Sn**	**19 31 16.1**	**-0.3**
NEST	**Nestorio**	**1.80**	**129**	P	**Pn**	**19 30 54.0**	**+0.4**
FNA	**Florina**	**1.81**	**115**	P	**Pn**	**19 30 54.9**	**+1.2**
	baz=120						
FNA				S	**Sn**	**19 31 14.6**	**-2.2**
	baz=120						
FNA	**Florina**	**1.81**	**115**	P	**Pn**	**19 30 54.7**	**+1.0**
KASA	**Kassiopi**	**1.90**	**163**	P	**Pn**	**19 30 54.8**	**+0.1**
KASA				S	**Sn**	**19 31 18.4**	**-0.3**
KEK	**Kerkira**	**1.90**	**166**	P	**Pn**	**19 30 54.5**	**-0.3**
RUDO	**Rudo**	**2.06**	**3**	*e*Pn	**Pn**	**19 30 57.3**	**+0.3**
RUDO				*e*Sn	**Sn**	**19 31 22.9**	**+0.1**
IVAS	**Ivanjica**	**2.13**	**19**	*e*Pn	**Pn**	**19 30 58.0**	**-0.1**
IVAS				*e*Sn	**Sn**	**19 31 24.5**	**-0.2**
SELS	**Selova**	**2.18**	**40**	*e*Pn	**Pn**	**19 30 58.6**	**-0.1**
SELS				*e*Sn	**Sn**	**19 31 26.4**	**+0.5**
JAN	**Janina**	**2.28**	**146**	P	**Pn**	**19 30 59.8**	**-0.2**
GRUS	**Gruza**	**2.58**	**25**	*e*Sn	**Sn**	**19 31 35.5**	**-0.1**
DIVS	**Divibare**	**2.60**	**13**	*e*Pn	**Pn**	**19 31 04.4**	**-0.1**
DIVS				*e*Sn	**Sn**	**19 31 35.8**	**-0.5**
DIVS	**Divibare**	**2.60**	**13**	*e*Pn	**Pn**	**19 31 04.9**	**+0.4**
DIVS				*e*Sn	**Sn**	**19 31 36.3**	**0.0**
THL	**Klokotos Trika**	**2.92**	**132**	P	**Pn**	**19 31 08.8**	**-0.1**
LKD2	**Lefkada island**	**2.98**	**158**	P	**Pn**	**19 31 09.1**	**-0.7**
TEKS	**Tekeris**	**3.00**	**4**	*e*Sn	**Sn**	**19 31 46.2**	**+0.2**
NYDR	**Nydri-Lefkada**	**3.06**	**158**	P	**Pn**	**19 31 10.6**	**-0.2**
AGG	**Agios Georgios**	**3.48**	**136**	P	**Pn**	**19 31 16.9**	**+0.3**
A050A	**Klekovaca**	**3.52**	**327**	*e*Pn	**Pn**	**19 31 18.4**	**+1.3**
A050A				*e*Sn	**Sn**	**19 32 00.4**	**+1.5**

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*NEIC **03** 19:35:14.9±2.2, 20°.8S±0°.2×175°.2W±0°.2, h108km±11km, mb4.5/20, Error ellipse: s-maj=27.5km s-min=15.2km az=134.0*
*IDC **03** 19:35:15.3±9.8, 20°.90S×175°.49W, h81km±87km, mb3.6/8, mbtmp4.0/9, ML4.7/1, Error ellipse: s-maj=46.7km s-min=26.7km az=157.0*
ISC 03 19:35:15.9±0.7, **20°.85S**±0°.08×**175°.6W**±0°.1, **h89**km, **n53**, σ**1s.64**/52, **mb4.5**/17, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.60**	**73**		Pn	19 36 30.1	-6.7
GLKZ	**Green Lake**	**8.64**	**194**	P	**Pn**	**19 37 19.7**	**+1.7**
GLKZ				S	**Sn**	**19 38 53.3**	**-0.5**
DZM	**Mont Dzumac**	**16.78**	**263**	P	**P**	**19 39 07.9**	**+1.6**
DZM	**Mont Dzumac**	**16.78**	**263**	P	**P**	**19 39 12.6**	**+6.3**
	14nm,0.8s,baz=78,slow=21,SNR=11						
HAZ	**Te Kaha**	**17.80**	**197**	P	**P**	**19 39 15.1**	**-2.2**
RUGZ	**Raukumara Rang**	**18.03**	**197**	P	**Pn**	**19 39 22.3**	**+1.6**
RUGZ				S	Sn	19 42 23.2	-18
MWZ	**Matawai**	**18.41**	**197**	P	**Pn**	**19 39 26.9**	**+1.7**
MWZ				S	S	19 42 31.8	-18
URZ	**Urewera**	**18.46**	**198**	P	**P**	**19 39 24.4**	**-0.2**
	2.3nm,0.3s,baz=41,slow=5.9,SNR=9.8						
URZ				S	S	19 42 32.9	-17
	2.1nm,0.5s,baz=104,slow=13,SNR=1.6						
	6.7nm,0.4s						
URZ	**Urewera**	**18.46**	**198**	P	**Pn**	**19 39 25.1**	**-0.7**
URZ				S	S	19 42 37.3	-13
RAGZ	**Rawiri**	**18.60**	**197**	P	**Pn**	**19 39 28.2**	**+0.8**
MTHZ	**Maungataniwha**	**19.09**	**198**	P	**Pn**	**19 39 32.9**	**-0.4**
MTHZ				S	S	19 42 50.2	-13
OTVZ	**Oturere**	**19.74**	**200**	P	**P**	**19 39 38.5**	**-0.2**
KWHZ	**Kaweka Forest**	**19.75**	**199**	P	**P**	**19 39 39.1**	**+0.5**
SNVZ	**South Ngauruho**	**19.77**	**201**	P	**P**	**19 39 38.8**	**-0.2**
BHHZ	**Black Hill Sta**	**19.91**	**199**	P	**P**	**19 39 39.9**	**-0.5**
TSZ	**Takapari Road**	**20.47**	**199**	P	**P**	**19 39 42.2**	**-4.2**
TSZ				S	S	19 43 17.4	-13
BFZ	**Birch Farm**	**20.96**	**198**	P	**P**	**19 39 52.1**	**+0.5**
BFZ	**Birch Farm**	**20.96**	**198**	P	Pn	19 39 54.2	-0.8
BFZ				S	S	19 43 26.5	-14
MRZ	**Mangatainoka R**	**21.14**	**199**	P	**P**	**19 39 53.8**	**+0.2**
QRZ	**Quartz Range**	**22.33**	**204**	P	**P**	**19 40 07.1**	**+0.8**
QRZ				IAmb	IAmb	19 40 11.1	
	comp=Z,17nm,0.7s						
NNZ	**Nelson**	**22.36**	**202**	P	**P**	**19 40 04.6**	**-1.9**
NNZ				IAmb	IAmb	19 40 23.7	
	comp=Z,41nm,1.3s						
LTZ	**Lake Taylor**	**24.13**	**202**	P	**P**	**19 40 20.8**	**-2.7**
LTZ				IAmb	IAmb	19 40 31.4	
	comp=Z,10nm,0.6s						
INZ	**Inchbonnie**	**24.38**	**204**	P	**P**	**19 40 24.2**	**-1.5**
INZ				IAmb	IAmb	19 40 31.1	
	comp=Z,17nm,0.7s						
FOZ	**Fox Glacier**	**25.70**	**205**	P	**P**	**19 40 39.1**	**+1.5**
FOZ				IAmb	IAmb	19 40 42.4	
	comp=Z,15nm,0.9s						
CTAO	**Charters Tower**	**35.71**	**264**	P	**P**	**19 42 04.5**	**-1.6**
CTAO				IAmb	IAmb	19 42 07.7	
	comp=Z,14nm,1.2s						
STKA	**Stephens Creek**	**39.68**	**245**	P	**P**	**19 42 39.2**	**-0.3**
STKA	**Stephens Creek**	**39.68**	**245**	P	**P**	**19 42 40.5**	**+1.1**
	comp=Z,1.4nm,0.4s,baz=99,slow=10,SNR=11						
	comp=Z,1.4nm,0.4s						
COEN	**Coen**	**39.86**	**273**	P	**P**	**19 42 40.5**	**-0.6**
COEN				IAmb	IAmb	19 42 44.9	
	comp=Z,4.3nm,0.6s						
BBOO	**Buckleboo**	**44.42**	**244**	P	**P**	**19 43 17.9**	**-0.1**
BBOO				IAmb	IAmb	19 43 42.8	
	comp=Z,10nm,1.1s						
KHLU	**Kahalu`u**	**44.58**	**27**	P	P	19 43 13.7	-5.7
WR0	**Warramunga Arr**	**46.60**	**262**	P	**P**	**19 43 33.4**	**-2.0**
AS31	**Alice Springs**	**46.64**	**257**	P	**P**	**19 43 35.6**	**-0.1**
ASAR	**Alice Springs**	**46.64**	**257**	P	**P**	**19 43 33.4**	**-2.3**
ASAR	**Alice Springs**	**46.64**	**257**	P	**P**	**19 43 36.4**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=98,slow=8.0,SNR=38						
ASAR				PcP	**PcP**	**19 45 09.8**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=106,slow=3.2,SNR=5.9						
	comp=Z,2.2nm,0.7s						
WB0	**Warramunga Arr**	**46.77**	**262**	P	**P**	**19 43 36.0**	**-0.8**
WB0				IAmb	IAmb	19 43 38.7	
	comp=Z,4.4nm,0.6s						
WRA	**Warramunga Arr**	**46.79**	**262**	P	**P**	**19 43 36.3**	**-0.6**
WRA	**Warramunga Arr**	**46.79**	**262**	P	**P**	**19 43 36.9**	**0.0**
	comp=Z,1.4nm,0.5s,baz=97,slow=5.0,SNR=29						
WRA				PcP	**PcP**	**19 45 10.1**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=100,slow=3.1,SNR=3.6						
	comp=Z,1.4nm,0.5s						
FORT	**Forrest**	**51.23**	**247**	P	**P**	**19 44 09.1**	**-1.5**
MTN	**Manton Dam**	**51.43**	**270**	P	**P**	**19 44 12.2**	**0.0**
KNRA	**Kununurra**	**52.89**	**266**	P	**P**	**19 44 22.5**	**-0.6**
FAKI	**Fak Fak**	**53.78**	**282**	P	**P**	**19 44 29.2**	**-0.5**
FAKI				IAmb	IAmb	19 44 33.4	
	comp=Z,5.2nm,0.7s						
MORW	**Morawa**	**61.79**	**247**	P	**P**	**19 45 22.3**	**-3.3**
MJAR	**Matsushiro Arr**	**71.85**	**322**	P	**P**	**19 46 30.7**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=155,slow=6.0,SNR=2.3						
	comp=Z,0.5nm,0.5s						
NVAR	**Mina Array Bea**	**79.74**	**42**	P	**P**	**19 47 14.8**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=224,slow=7.6,SNR=1.6						
	comp=Z,0.3nm,0.3s						
TXAR	**Lajitas Array**	**85.35**	**56**	P	**P**	**19 47 44.3**	**+0.6**
	comp=Z,0.4nm,1.0s,baz=190,slow=4.6,SNR=2.4						
	comp=Z,0.4nm,1.0s						
ILAR	**Eielson Array**	**88.17**	**12**	P	**P**	**19 47 56.9**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=214,slow=5.4,SNR=6.4						
	comp=Z,0.2nm,0.3s						
SONM	**Songino Array**	**97.51**	**318**	P	Pdif	19 48 41.7	+1.6
	comp=Z,0.3nm,0.8s,baz=90,slow=5.9,SNR=1.8						
	comp=Z,0.3nm,0.8s						
BVAR	**Borovoye Array**	**120.80**	**320**	PKP	**PKiKP**	**19 53 57.7**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=125,slow=2.9,SNR=5.4						
AKASG	**Malin Array Be**	**144.39**	**333**	PKP	**PKPab**	**19 54 39.4**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=37,slow=4.1,SNR=6.9						
EKA	**Eskdalemuir Ar**	**145.10**	**8**	PKPbc	**PKPbc**	**19 54 41.2**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=339,slow=2.1,SNR=4.7						
BRTR	**Keskin Array B**	**148.73**	**313**	PKPbc	**PKPbc**	**19 54 53.5**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=131,slow=4.9,SNR=6.6						
CLL	**Collm**	**148.87**	**350**	*i* PKPbc	**PKPbc**	**19 54 51.5**	**-1.6**
MMAI	**Mount Meron Ar**	**149.95**	**300**	PKPbc	**PKPbc**	**19 54 55.8**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=57,slow=5.3,SNR=2.6						

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*MOS **03** 19:52:14.3±1.6, 43°.84N×147°.28E, h67km, mb4.4/5, Error ellipse: s-maj=10.7km s-min=8.7km az=91.0*
*SKHL **03** 19:52:14.9±0.2, 43°.70N×147°.30E, h72km±4km, mb4.9/3*
SKHL Felt (III) at Malokuril'skoe.
*IDC **03** 19:52:16.7±3.1, 43°.95N×147°.16E, h70km±31km, mb3.6/11, mbtmp3.8/14, ML3.4/3, Error ellipse: s-maj=42.8km s-min=22.0km az=167.0*
*JMA **03** 19:52:16.0±0.2, 43°.7N±0°.8×14°7E±°, h40km, MV4.0/40, E OFF HOKKAIDO*
*NIED **03** 19:52:16.0, 43°.68N×147°.25E, h40km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.63; $M_{\theta\theta}$0.84; $M_{\phi\phi}$-3.47; $M_{r\theta}$3.54; $M_{\theta\phi}$-1.17; $M_{\phi r}$-1.18; Fault plane solution: $M_0$4.74000×10^{14} NP1: ϕ_s160.00000°, δ60.00000°, λ44.00000°. NP2: ϕ_s45.00000°, δ53.00000°, λ142.00000°.*
ISC 03 19:52:14.7±0.9, **43°.76N**±0°.06×**147°.38E**±0°.06, **h54**km±7km, **n69**, σ**1s.59**/83, **mb3.9**/15, **1C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.41**	**286**	*e*P	**Pn**	**19 52 26.3**	**+1.1**
SHO				AMB	AMB	19 52 27.5	
	1μm,0.3s						
SHO				*e*S	**Sn**	**19 52 33.7**	**+1.0**
SHO				A	A	19 52 34.1	
	9μm,0.5s						
SHO				A	A	19 52 34.1	
	4μm,0.5s						
SHO	**Shikotan**	**0.41**	**286**	*e*PN	**Pn**	**19 52 26.3**	**+1.1**
SHO				*e*S	**Sn**	**19 52 33.2**	**+0.5**
SHO				pmax	pmax		
	comp=Z,1μm,0.3s						
SHO				pmax	pmax		
	comp=E,602nm,0.1s						
SHO				pmax	pmax		
	comp=N,312nm,0.4s						
SHO				smax	smax		
	comp=N,9μm,0.5s						
SHO				smax	smax		
	comp=E,4μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.13**	**285**	*i* P	**Pn**	**19 52 34.4**	**+0.2**
YUK				AMB	AMB	19 52 35.9	
	comp=E,620nm,0.3s						
YUK				*e*S	**Sn**	**19 52 47.7**	**-0.9**
YUK				A	A	19 52 48.2	
	comp=E,2μm,0.4s						
YUK				A	A	19 52 48.2	
	comp=E,4μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.13**	**285**	*d i*PN	**Pn**	**19 52 34.4**	**+0.2**
YUK				*e*S	**Sn**	**19 52 47.3**	**-1.3**
YUK				pmax	pmax		
	comp=Z,997nm,0.3s						
YUK				pmax	pmax		
	comp=E,344nm,0.1s						
YUK				smax	smax		
	comp=N,2μm,0.2s						
YUK				smax	smax		
	comp=E,4μm,0.4s						
NEM2	**Nemuro 2**	**1.25**	**252**	*e*P	**Pn**	**19 52 36.1**	**+0.3**
NEM2				*e*S	**Sn**	**19 52 50.7**	**-0.9**
KUR	**Kuril'sk**	**1.52**	**13**	*e*P	**Pn**	**19 52 40.8**	**+1.4**
KUR				AMB	AMB	19 52 43.0	
	comp=E,140nm,0.3s						
KUR				*e*S	**Sn**	**19 52 59.0**	**+0.9**
KUR				A	A	19 53 00.1	
	comp=E,720nm,0.5s						
KUR				A	A	19 53 00.1	
	comp=E,790nm,0.5s						
KUR	**Kuril'sk**	**1.52**	**13**	*e*PN	**Pn**	**19 52 40.8**	**+1.4**
KUR				*e*S	**Sn**	**19 52 58.9**	**+0.9**
KUR				pmax	pmax		
	comp=Z,142nm,0.3s						
KUR				smax	smax		
	comp=E,789nm,0.5s						
KUR				smax	smax		
	comp=N,718nm,0.2s						
JRA	**Rausu**	**1.64**	**277**	*e*P	**Pn**	**19 52 42.0**	**+0.9**
JRA				*e*S	**Sn**	**19 53 01.2**	**+0.2**
JNSB	**Nemuroshibetsu**	**1.72**	**271**	*e*P	**Pn**	**19 52 43.3**	**+1.2**
JNSB				*e*S	**Sn**	**19 53 03.1**	**+0.2**
JKHN	**Kushirohamanak**	**1.75**	**248**	*e*P	**Pn**	**19 52 43.3**	**+0.7**
JKHN				*e*S	**Sn**	**19 53 02.9**	**-0.8**
JNK	**Nakash**	**1.94**	**266**	*e*P	**Pn**	**19 52 45.7**	**+0.6**
JNK				*e*S	**Sn**	**19 53 07.7**	**-0.6**
JAK	**Akkeshi**	**2.10**	**250**	*e*P	**Pn**	**19 52 47.8**	**+0.5**
JAK				*e*S	**Sn**	**19 53 11.2**	**-1.0**
JTKR	**Abashiri--Toko**	**2.52**	**276**	*e*P	**Pn**	**19 52 54.4**	**+1.3**
JTKR				*e*S	**Sn**	**19 53 25.4**	**+2.9**
JAR	**Ashorobuto**	**2.66**	**261**	*e*P	**Pn**	**19 52 56.4**	**+1.3**
JAR				*e*S	**Sn**	**19 53 26.2**	**+0.1**
JOB	**Onbets**	**2.72**	**253**	*e*P	**Pn**	**19 52 56.9**	**+1.1**
JOB				*e*S	**Sn**	**19 53 27.4**	**-0.1**
JMP	**Maruseppu**	**2.91**	**276**	*e*P	**Pn**	**19 52 60.0**	**+1.5**
JCH	**Churui**	**3.15**	**250**	*e*P	**Pn**	**19 53 02.3**	**+0.6**
JKK2	**Kamakawa 2**	**3.35**	**274**	*e*P	**Pn**	**19 53 06.7**	**+2.2**
JKA	**Kamikawa-asahi**	**3.47**	**278**	*e*P	**Pn**	**19 53 07.0**	**+0.9**
ASAJ	**Asahikawa**	**3.47**	**278**	*e*P	**Pn**	**19 53 08.6**	**+2.4**
ASAJ	**Asahikawa**	**3.47**	**278**	P	**Pn**	**19 53 07.0**	**+0.9**
	comp=N,4.4nm,0.3s,baz=74,slow=9.7,SNR=12						
ASAJ				S	**Sn**	**19 53 52.7**	**+6.8**
	comp=N,36nm,0.7s,baz=302,slow=25,SNR=1.7						
	comp=N,14nm,0.4s						
JFR	**Furan**	**3.53**	**262**	*e*P	**Pn**	**19 53 09.0**	**+2.0**
ERM	**Erimo**	**3.56**	**242**	*i* PN	**Pn**	**19 53 09.8**	**+2.5**
JEM	**Erimo**	**3.56**	**242**	*e*P	**Pn**	**19 53 10.1**	**+2.9**
JEM				*e*S	**Sn**	**19 53 49.9**	**+1.8**
JSE	**Soyaes**	**3.64**	**291**	*e*P	**Pn**	**19 53 09.9**	**+1.5**
JNBK	**Urakawa-nobuka**	**3.70**	**248**	*e*P	**Pn**	**19 53 10.0**	**+0.8**
JNBK				*e*S	**Sn**	**19 53 51.4**	**-0.1**
JAB	**Ashibetsu**	**3.75**	**268**	*e*P	**Pn**	**19 53 13.0**	**+3.0**
YSS	**Yuzh-Sakhalins**	**4.56**	**316**	*e*P	**Pn**	**19 53 21.9**	**+0.9**
YSS				AMB	AMB	19 53 24.0	
	comp=N,10.0nm,0.7s						
YSS				*e*S	**Sn**	**19 54 12.3**	**-0.4**
YSS				A	A	19 54 16.3	
	comp=N,30nm,0.5s						
YSS				A	A	19 54 16.3	
	comp=N,20nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.56**	**316**	*e*PN	**Pn**	**19 53 22.0**	**+0.9**
YSS				*e*S	**Sn**	**19 54 12.3**	**-0.4**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YSS				smax	smax		
	comp=N,20nm,0.6s						
YSS				smax	smax		
	comp=E,10.0nm,0.6s						
MJA0	**Matsu Arr-Jizo**	**10.03**	**227**	*e*PN	**Pn**	**19 54 38.3**	**+2.2**
MJAR	**Matsushiro Arr**	**10.05**	**227**	P	**Pn**	**19 54 36.5**	**+0.2**
	comp=E,0.1nm,0.3s,baz=28,slow=13,SNR=6.2						
	comp=E,0.6nm,0.5s						
USA0B	**Ussuriysk Arra**	**11.10**	**278**	*i* PN	**Pn**	**19 54 49.1**	**-1.5**
PETK	**Petropavlovsk-**	**11.59**	**33**	P	**Pn**	**19 54 55.6**	**-1.5**
	comp=E,3.6nm,0.9s,baz=214,slow=8.1,SNR=4.7						
PET	**Petropavlovsk**	**11.91**	**35**	*e*P	**Pn**	**19 55 00.9**	**-0.6**
PET	**Petropavlovsk**	**11.91**	**35**	*i* PN	**Pn**	**19 55 00.9**	**-0.6**
PET				pmax	pmax		
	comp=Z,62nm,1.1s						
KLR	**Kul'dur**	**12.07**	**302**	*e*P	**Pn**	**19 55 02.5**	**-1.3**
KLR	**Kul'dur**	**12.07**	**302**	*i* PN	**Pn**	**19 55 02.5**	**-1.3**
KLR				pmax	pmax		
	comp=Z,2.0nm,1.3s						
SEY	**Seymchan**	**19.43**	**7**	P	**P**	**19 56 34.0**	**-2.3**
SEY	**Seymchan**	**19.43**	**7**	P	**P**	**19 56 34.0**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=188,slow=7.9,SNR=5.0						
	comp=Z,2.1nm,0.6s						
YAK	**Yakutsk**	**21.05**	**336**	*e*P		19 56 56.0	
YAK	**Yakutsk**	**21.05**	**336**	*i* P		19 56 56.0	
YAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BILL	**Bilibino**	**26.31**	**16**	*e*P	**P**	**19 57 45.4**	**+0.5**
BILL	**Bilibino**	**26.31**	**16**	*i* P	**P**	**19 57 45.4**	**+0.5**
SONM	**Songino Array**	**28.62**	**293**	P	**P**	**19 58 05.1**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=72,slow=7.7,SNR=2.2						
	comp=Z,0.2nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**29.00**	**140**	T	T	20 29 17.3	
	baz=329,slow=75,SNR=81						
H11N1	**WAKE ISLAND Hy**	**29.01**	**140**	T	T	20 28 56.2	
	baz=329,slow=75,SNR=75						
H11N3	**WAKE ISLAND Hy**	**29.02**	**140**	T	T	20 29 18.8	
	baz=329,slow=75,SNR=86						
H11S1	**WAKE ISLAND Hy**	**29.97**	**141**	T	T	20 30 05.4	
	baz=331,slow=76,SNR=115						
H11S3	**WAKE ISLAND Hy**	**29.98**	**141**	T	T	20 30 04.5	
	baz=331,slow=76,SNR=87						
H11S2	**WAKE ISLAND Hy**	**29.99**	**141**	T	T	20 30 05.8	
	baz=331,slow=76,SNR=89						
DGZ	**Jazzator, Alta**	**40.55**	**300**	*i* P	**P**	**19 59 49.0**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.2s						
ILAR	**Eielson Array**	**41.38**	**36**	P	**P**	**19 59 55.6**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=255,slow=7.7,SNR=12						
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**44.73**	**298**	P	**P**	**20 00 22.1**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=78,slow=9.9,SNR=4.7						
	comp=Z,0.2nm,0.4s						
KURK	**Kurchatov**	**45.66**	**304**	*e*P	**P**	**20 00 29.0**	**-0.7**
KURK	**Kurchatov**	**45.66**	**304**	P	**P**	**20 00 29.0**	**-0.7**
KURBB	**Kurchatov Arra**	**45.74**	**304**	P	**P**	**20 00 29.0**	**-1.3**
	comp=Z,1.7nm,0.2s,baz=76,slow=8.7,SNR=1.7						
	comp=Z,1.7nm,0.2s						
ARU	**Arti**	**54.45**	**317**	*e*P	**P**	**20 01 37.5**	**+1.3**
ARU	**Arti**	**54.45**	**317**	*c i*P	**P**	**20 01 37.5**	**+1.3**
ARU				S	**S**	**20 09 14.3**	**+3.7**
ARU				SS	**SS**	**20 12 50.4**	**-2.5**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.7s						
YKA	**Yellowknife Ar**	**55.70**	**34**	*e*P	**P**	**20 01 45.9**	**+0.8**
YKA	**Yellowknife Ar**	**55.70**	**34**	P	**P**	**20 01 45.4**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=300,slow=7.4,SNR=6.4						
	comp=Z,0.6nm,0.7s						
FINES	**FINESS Array B**	**64.94**	**333**	P	**P**	**20 02 46.0**	**-2.1**
	comp=Z,3.2nm,1.0s,baz=35,slow=7.6,SNR=3.5						
	comp=Z,3.2nm,1.0s						
OBN	**Obninsk**	**65.40**	**324**	*e*P	**P**	**20 02 53.1**	**+1.9**
OBN	**Obninsk**	**65.40**	**324**	*i* P	**P**	**20 02 53.1**	**+1.9**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
NOA	**NORSAR Array B**	**69.65**	**339**	*e*P	**P**	**20 03 17.3**	**-0.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**69.65**	**339**	P	**P**	**20 03 17.2**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=26,slow=4.9,SNR=4.8						
	comp=Z,0.4nm,0.5s						
HFS	**Hagfors**	**69.75**	**337**	P	**P**	**20 03 16.5**	**-2.0**
	comp=Z,6.4nm,1.0s,baz=33,slow=4.1,SNR=7.0						
	comp=Z,6.4nm,1.0s						
SCHQ	**Schefferville**	**77.56**	**19**	P	**P**	**20 04 04.3**	**-0.2**
	comp=Z,2.2nm,0.9s,baz=92,slow=0.4,SNR=2.2						
	comp=Z,2.2nm,0.9s						
EKA	**Eskdalemuir Ar**	**78.16**	**343**	P	**P**	**20 04 06.1**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=27,slow=6.4,SNR=1.9						
	comp=Z,0.8nm,0.6s						
TXAR	**Lajitas Array**	**82.51**	**56**	P	**P**	**20 04 32.5**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=318,slow=3.9,SNR=2.6						
	comp=Z,0.2nm,0.6s						

IDC 03 19:58:58.3±7.5, **19°.95S**×**178°.37W**, **h0**km, **mb3.6**/2, **mbtmp3.6**/2, **Error ellipse: s-maj=325.1km s-min=70.4km az=146.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.30**	**256**	P	P	20 07 09.8	-0.5
	0.3nm,0.4s,baz=88,slow=8.8,SNR=11						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**44.33**	**262**	P	P	20 07 10.8	+0.3
	0.4nm,0.5s,baz=97,slow=8.1,SNR=11						
	0.4nm,0.5s						
BRTR	**Keskin Array B**	**146.21**	**313**	PKPbc	PKPdf	20 18 40.3	+0.2
	0.3nm,0.5s,baz=64,slow=3.4,SNR=2.3						

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*IDC **03** 20:16:37.0±0.7, 49°.26S×120°.66E, h0km, mb4.2/9, mbtmp4.2/10, ML2.5/1, MS4.1/37, Error ellipse: s-maj=34.2km s-min=15.5km az=104.0*
*NEIC **03** 20:16:37.1±1.5, 49°.12S±0°.10×120°.4E±0°.2, h10km±2km, mb4.4/17, Error ellipse: s-maj=20.3km s-min=13.6km az=131.0*
*GCMT **03** 20:16:40.1±0.2, 49°.27S±0°.01×120°.69E±0°.03, h12km, MW5.0/101, Moment Tensor Solution. s46,c50; s101,c150; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.56±.09; $M_{\theta\theta}$3.04±.07; $M_{\phi\phi}$0.52±.10; $M_{r\theta}$0.47±.27; $M_{\theta\phi}$-1.05±.07; $M_{\phi r}$0.58±.32; Best double couple: $M_0$3.56300×10^{16} NP1: ϕ_s280.00000°, δ48.00000°, λ-104.00000°. NP2: ϕ_s120.00000°, δ44.00000°, λ-75.00000°. Principal axes: T 3.4290, Plg2.0000°, Azm19.0000°; N 0.2680, Plg10.0000°, Azm289.0000°; P -3.6970, Plg79.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 20:16:38.0±0.5, **49°.16S**±0°.07×**120°.5E**±0°.1, **h10**km, **n98**, σ**1s.50**/57, **mb4.4**/15, **MS4.1**/39, **5D, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.00**	**340**	T	T	20 35 44.2	
	baz=162,slow=74,SNR=107						
H01W2	**Cape Leeuwin H**	**15.00**	**340**	T	T	20 35 44.2	
	baz=162,slow=74,SNR=94						
H01W3	**Cape Leeuwin H**	**15.01**	**340**	T	T	20 35 45.8	
	baz=162,slow=74,SNR=85						
NWAO	**Narrogin (SRO)**	**16.40**	**350**		**Pn**	**20 20 25.6**	**-2.4**
NWAO	**Narrogin (SRO)**	**16.40**	**350**	Pn	**Pn**	**20 20 25.5**	**-2.6**
NWAO				IAmb	IAmb	20 20 41.5	

	comp=Z,23nm,1.1s						
NWAO	**Narrogin (SRO)**	**16.40**	**350**	Pn	**P**	**20 20 32.0**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=159,slow=7.0,SNR=9.1						
NWAO				LR	LR	20 25 15.1	
	comp=Z,2µm,21.9s,baz=203,slow=31						
	comp=Z,10nm,0.7s						
CASY	**Casey**	**17.92**	**193**		**Pn**	**20 20 44.8**	**-2.2**
CASY				IAmb	IAmb	20 20 53.6	
	comp=Z,39nm,1.4s						
FORT	**Forrest**	**19.24**	**20**	P	**P**	**20 20 58.7**	**-3.6**
FORT				IAmb	IAmb	20 21 33.5	
	comp=Z,21nm,1.0s						
BBOO	**Buckleboo**	**20.07**	**41**	P	**P**	**20 21 11.1**	**-0.3**
BBOO				IAmb	IAmb	20 21 37.4	
	comp=Z,27nm,1.2s						
BBOO	**Buckleboo**	**20.07**	**41**	P	Pn	20 21 13.6	+0.4
MORW	**Morawa**	**20.35**	**349**	P	**P**	**20 21 12.1**	**-2.3**
MORW	**Morawa**	**20.35**	**349**	P	Pn	20 21 18.5	+2.1
HTT	**Hallett**	**20.88**	**48**	P	Pn	20 21 23.5	+0.8
TOO	**Toolangi**	**21.47**	**67**	P	**P**	**20 21 25.6**	**-0.9**
TOO				IAmb	IAmb	20 21 36.3	
	comp=Z,31nm,1.1s						
TOO	**Toolangi**	**21.47**	**67**	P	**P**	**20 21 30.0**	**+3.5**
MULG	**Mulgathing**	**21.50**	**34**	P	**P**	**20 21 28.5**	**+1.7**
MEEK	**Meekatharra**	**22.53**	**356**	P	**P**	**20 21 40.0**	**+2.1**
LCRK	**Leigh Creek**	**23.04**	**42**	P	**P**	**20 21 45.4**	**+2.2**
STKA	**Stephens Creek**	**23.46**	**50**	P	**P**	**20 21 46.3**	**-1.2**
STKA	**Stephens Creek**	**23.46**	**50**	P	**P**	**20 21 49.7**	**+2.2**
STKA	**Stephens Creek**	**23.46**	**50**	P	**P**	**20 21 48.2**	**+0.7**
	comp=Z,2.6nm,0.9s,baz=217,slow=16,SNR=4.1						
STKA				LR	LR	20 29 14.4	
	comp=Z,764nm,20.8s,baz=215,slow=32						
	comp=Z,2.6nm,0.9s						
OOD	**Oodnadatta**	**24.35**	**34**	P	**P**	**20 21 57.8**	**+1.9**
WRKA	**Warakurna**	**24.85**	**17**	P	**P**	**20 22 03.5**	**+3.0**
INKA	**Innaminka**	**26.49**	**44**	P	**P**	**20 22 17.0**	**+1.7**
ASAR	**Alice Springs**	**27.57**	**27**	P	**P**	**20 22 23.5**	**-1.6**
ASAR	**Alice Springs**	**27.57**	**27**	P	**P**	**20 22 26.1**	**+1.0**
	comp=Z,4.9nm,0.9s,baz=202,slow=8.6,SNR=35						
ASAR				LR	LR	20 32 03.8	
	comp=Z,1µm,21.1s,baz=204,slow=34						
	comp=Z,4.9nm,0.9s						
AS31	**Alice Springs**	**27.57**	**27**	P	**P**	**20 22 24.8**	**-0.3**
QLP	**Quilpie**	**29.11**	**48**	P	**P**	**20 22 41.0**	**+2.2**
WRA	**Warramunga Arr**	**31.21**	**26**	P	**P**	**20 22 57.5**	**+0.1**
WRA	**Warramunga Arr**	**31.21**	**26**	P	**P**	**20 22 57.2**	**-0.2**
	comp=Z,2.7nm,0.9s,baz=202,slow=9.3,SNR=8.4						
	comp=Z,2.7nm,0.9s						
WB2	**Warramunga Arr**	**31.21**	**26**	P	**P**	**20 22 55.9**	**-1.5**
WB0	**Warramunga Arr**	**31.39**	**26**	P	**P**	**20 22 59.7**	**+0.7**
WB0				IAmb	IAmb	20 23 07.5	
	comp=Z,8.0nm,1.1s						
VNDA	**Vanda**	**32.50**	**164**	P	**P**	**20 23 07.4**	**-0.8**
VNDA				IAmb	IAmb	20 23 15.7	
	comp=Z,4.1nm,1.0s						
VNDA	**Vanda**	**32.50**	**164**	P	**P**	**20 23 07.8**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=297,slow=9.4,SNR=11						
VNDA				LR	LR	20 35 28.7	
	comp=Z,756nm,18.6s,baz=320,slow=35						
	comp=Z,1.8nm,0.8s						
MAW	**Mawson**	**33.73**	**216**	P	**P**	**20 23 19.2**	**+0.1**
MAW	**Mawson**	**33.73**	**216**	P	**P**	**20 23 20.4**	**+1.4**
	comp=Z,2.7nm,0.8s,baz=98,slow=16,SNR=2.6						
MAW				LR	LR	20 35 19.7	
	comp=Z,390nm,18.4s,baz=84,slow=33						
	comp=Z,2.7nm,0.8s						
KNRA	**Kununurra**	**34.08**	**14**	P	**P**	**20 23 20.6**	**-1.8**
KNRA				IAmb	IAmb	20 23 32.2	
	comp=Z,7.9nm,0.9s						
RPZ	**Rata Peaks**	**34.75**	**101**	LR	LR	20 34 25.3	
	comp=Z,206nm,19.9s,baz=241,slow=31						
CTA	**Charters Tower**	**35.60**	**45**	LR	LR	20 37 51.5	
	comp=Z,607nm,18.9s,baz=205,slow=36						
BATI	**Baumata**	**38.92**	**5**	LR	LR	20 40 32.8	
	comp=Z,521nm,18.2s,baz=200,slow=37						
QSPA	**South Pole Qui**	**40.96**	**180**	P	**P**	**20 24 19.9**	**-0.6**
QSPA				IAmb	IAmb	20 24 30.6	
	comp=Z,17nm,1.5s						
QSPA	**South Pole Qui**	**40.96**	**180**	P	**P**	**20 24 19.1**	**-1.4**
	comp=Z,1.5nm,0.3s,baz=289,slow=2.7,SNR=4.3						
QSPA				LR	LR	20 40 19.8	
	comp=Z,490nm,21.4s,baz=330,slow=35						
	comp=Z,1.5nm,0.3s						
URZ	**Urewera**	**41.48**	**97**	LR	LR	20 40 31.8	
	comp=Z,102nm,18.1s,baz=34,slow=35						
LEM	**Lembang**	**43.56**	**341**	LR	LR	20 43 51.5	
	comp=Z,128nm,18.1s,baz=216,slow=37						
KAPI	**Kappang**	**43.99**	**359**	LR	LR	20 42 55.9	
	comp=Z,199nm,19.1s,baz=166,slow=36						
DZM	**Mont Dzumac**	**45.18**	**70**	*e*S	S	20 32 03.7	+29
	comp=Z,23nm,20.9s						
DZM				*e*LR	LR	20 38 06.2	
	comp=Z,286nm,22.1s						
DZM	**Mont Dzumac**	**45.18**	**70**	LR	LR	20 40 39.1	
	comp=Z,232nm,20.1s,baz=234,slow=32						
HNR	**Honiara**	**51.49**	**53**	LR	LR	20 46 26.1	
	comp=Z,3µm,18.4s,baz=208,slow=35						
TROLL	**Troll, Antarti**	**51.58**	**201**	⇓P	**P**	**20 25 44.3**	**+0.5**
	comp=Z,391nm,0.8s						
KRVT	**Keravat (AS076**	**52.12**	**41**	LR	LR	20 46 51.4	
	comp=Z,348nm,21.1s,baz=284,slow=35						
SNAA	**Sanae**	**53.02**	**199**	P	**P**	**20 25 54.7**	**+0.3**
SNAA	**Sanae**	**53.02**	**199**	⇓P	**P**	**20 25 55.0**	**+0.6**
	comp=Z,225nm,0.8s						
SNAA	**Sanae**	**53.02**	**199**	P	**P**	**20 25 54.3**	**-0.1**
	comp=Z,8.9nm,0.8s,baz=140,slow=8.6,SNR=30						
SNAA				LR	LR	20 47 09.1	
	comp=Z,856nm,19.7s,baz=168,slow=35						
	comp=Z,8.9nm,0.8s						
VNA2	**Neumayer--Watz**	**54.55**	**199**	⇓P	**P**	**20 26 06.1**	**+0.5**
	comp=Z,8.5nm,0.7s,baz=145,slow=5.0						
VNA3	**Neumayer Olymp**	**54.76**	**198**	⇓P	**P**	**20 26 07.3**	**+0.1**
	comp=Z,7.5nm,0.8s						
VNA1	**Neumayer--Stat**	**54.94**	**199**	⇓P	**P**	**20 26 08.9**	**+0.5**
	comp=Z,11nm,0.8s						
DAV	**Davao City (W)**	**56.17**	**6**	LR	LR	20 51 57.2	
	comp=Z,110nm,19.7s,baz=139,slow=38						
H08S2	**Diego Garcia H**	**57.63**	**299**	T	T	21 29 03.7	
	baz=142						
H08S1	**Diego Carcia H**	**57.64**	**299**	T	T	21 28 57.4	
	baz=142						
H08S3	**Diego Garcia H**	**57.65**	**299**	T	T	21 29 11.2	
	baz=142						
PALK	**Pallekele**	**66.06**	**316**	LR	LR	20 49 50.6	
	comp=Z,176nm,21.6s,baz=252,slow=30						
GUMO	**Guam**	**66.10**	**26**	LR	LR	20 56 53.2	
	comp=Z,92nm,18.8s,baz=190,slow=36						
PMSA	**Palmer Station**	**66.35**	**178**	LR	LR	20 54 56.5	
	comp=Z,380nm,21.5s,baz=246,slow=35						
RAR	**Rarotonga**	**67.66**	**97**	LR	LR	20 53 36.9	
	comp=Z,39nm,19.2s,baz=126,slow=33						
CMAR	**Chiang Mai Arr**	**69.98**	**338**	P	**P**	**20 27 50.1**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=188,slow=5.6,SNR=7.0						
CMAR				LR	LR	21 00 17.7	
	comp=Z,66nm,18.1s,baz=180,slow=37						
	comp=Z,0.9nm,0.8s						
SUR	**Sutherland**	**72.00**	**241**	LR	LR	20 53 09.3	
	comp=Z,257nm,18.8s,baz=150,slow=30						
BOSA	**Boshof**	**72.11**	**247**	LR	LR	20 54 05.5	
	comp=Z,172nm,18.2s,baz=164,slow=31						
TBI	**Tubuai**	**72.76**	**106**	*e*LR	LR	20 50 13.5	
	comp=Z,402nm,31.5s						
LBTB	**Lobatse**	**74.53**	**250**	LR	LR	20 54 46.8	
	comp=Z,264nm,20.6s,baz=140,slow=31						
JOW	**Kunigami**	**75.97**	**7**	LR	LR	21 01 31.5	
	comp=Z,71nm,20.4s,baz=317,slow=35						
PPT2	**Papeete2**	**76.89**	**102**	*e*LR	LR	20 52 37.6	
	comp=Z,111nm,32.0s						
LSZ	**Lusaka**	**80.07**	**258**	LR	LR	21 00 25.5	
	comp=Z,123nm,18.3s,baz=138,slow=33						
ODAN	**Odare**	**81.23**	**330**	*e*P	**P**	**20 28 55.1**	**+1.0**
	comp=Z,81nm,2.6s						
RAMN	**Ramite**	**81.57**	**330**	*e*P	**P**	**20 28 57.1**	**+1.2**
	comp=Z,27nm,1.2s						
TAPN	**Taplejung**	**81.58**	**331**	*e*P	**P**	**20 28 57.9**	**+1.9**
	comp=Z,33nm,1.2s						
JIRN	**Jiri**	**82.36**	**330**	*e*P	**P**	**20 29 01.2**	**+1.0**
	comp=Z,23nm,1.0s						
JNU	**Nakatsue**	**82.44**	**9**	LR	LR	21 06 04.9	
	comp=Z,36nm,21.0s,baz=188,slow=36						
PKI	**Pulchoki**	**82.54**	**329**	*e*P	**P**	**20 29 02.0**	**+0.9**
	comp=Z,30nm,1.3s						
GUN	**Gumba**	**82.70**	**330**	*e*P	**P**	**20 29 03.3**	**+1.4**
	comp=Z,32nm,0.9s						
KKN	**Kakani**	**82.79**	**329**	*e*P	**P**	**20 29 03.5**	**+1.3**
	comp=Z,117nm,2.5s						
GKN	**Gorkha**	**83.20**	**329**	*e*P	**P**	**20 29 04.7**	**+0.4**
	comp=Z,18nm,0.9s						
JHJ	**Hachijo jima 2**	**83.71**	**16**	LR	LR	21 05 05.2	
	comp=Z,137nm,19.7s,baz=242,slow=35						
DANN	**Dangsing**	**83.82**	**328**	*e*P	**P**	**20 29 08.6**	**+0.9**
	comp=Z,31nm,0.9s						
PYUN	**Piuthan**	**83.86**	**327**	*e*P	**P**	**20 29 08.1**	**+0.3**
	comp=Z,26nm,0.9s						
KMBO	**Kilima Mbogo**	**84.70**	**274**	LR	LR	21 02 31.1	
	comp=Z,42nm,18.2s,baz=88,slow=32						
KSRS	**Korea Array**	**86.49**	**6**	LR	LR	21 09 18.9	
	comp=Z,32nm,20.1s,baz=185,slow=36						
MJAR	**Matsushiro Arr**	**86.77**	**14**	LR	LR	21 04 35.2	
	comp=Z,56nm,21.8s,baz=186,slow=33						
WSAR	**Wadi Sarin**	**90.62**	**306**	LR	LR	21 02 27.2	
	comp=Z,132nm,20.8s,baz=227,slow=30						
USRK	**Ussuriysk Ar.**	**93.53**	**8**	LR	LR	21 12 52.6	
	comp=Z,33nm,21.0s,baz=163,slow=36						
ASAJ	**Asahikawa**	**94.90**	**16**	LR	LR	21 15 02.2	
	comp=Z,24nm,18.3s,baz=190,slow=37						
SONM	**Songino Array**	**97.38**	**351**	P	**P**	**20 30 11.9**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=149,slow=3.4,SNR=2.9						
SONM				LR	LR	21 14 59.9	
	comp=Z,33nm,21.1s,baz=174,slow=36						
	comp=Z,0.3nm,0.7s						
KLR	**Kul'dur**	**98.49**	**7**	LR	LR	21 16 19.0	
	comp=Z,32nm,19.7s,baz=224,slow=36						
CFA	**Coronel Fontan**	**99.22**	**172**	LR	LR	21 15 29.8	
	comp=Z,82nm,18.4s,baz=146,slow=36						
FINES	**FINESS Array B**	**133.29**	**319**	PKP	**PKiKP**	**20 35 54.8**	**+0.9**
	comp=Z,8.3nm,1.0s,baz=58,slow=5.2,SNR=3.8						
ILAR	**Eielson Array**	**134.00**	**37**	PKP	**PKiKP**	**20 35 56.0**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=270,slow=3.6,SNR=1.3						
PDAR	**Pinedale Array**	**145.19**	**81**	PKPbc	**PKPbc**	**20 36 14.9**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=232,slow=3.6,SNR=6.0						
EKA	**Eskdalemuir Ar**	**145.76**	**302**	PKPbc	**PKPdf**	**20 36 16.9**	**+1.3**
	comp=Z,4.6nm,0.8s,baz=98,slow=3.6,SNR=7.9						
YKA	**Yellowknife Ar**	**147.43**	**45**	PKPbc	**PKPbc**	**20 36 20.6**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=273,slow=2.8,SNR=34						

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*IDC **03** 20:30:37.2±1.3, 12.°12N×87.°08W, h0km, mb3.7/7, mbtmp3.7/9, ML3.0/2, MS3.9/3, Error ellipse: s-maj=52.6km s-min=17.6km az=48.0*
*CATAC **03** 20:30:40.7±0.7, 11.°78N×87.°52W, h16km±6km, ML3.8*
*NEIC **03** 20:30:42.2±2.3, 11.°74N±0.°06×87.°37W±0.°08, h51km±14km, mb4.2/28, Error ellipse: s-maj=13.5km s-min=6.3km az=58.0*
ISC 03 20:30:41.4±1.2**, 11.°69N**±0.°05×**87.°51W**±0.°05**, h48**km±12km**, n96,** σ1.s21/102**, mb4.2**/20**, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSHP	**Masachapa**	**0.96**	**81**	*i* P	**Pn**	**20 30 58.2**	**-0.4**
MSHP				IAML		20 31 06.6	
	comp=Z,530nm,1.0s						
CHNN	**El Viejo**	**1.00**	**22**	*i* P	**Pn**	**20 30 58.8**	**-0.4**
CHNN				IAML		20 31 05.3	
	comp=Z,7µm,1.0s						
CHNN				*i* S	**Sn**	**20 31 10.5**	**-1.7**
COPN	**Copaltepe**	**1.02**	**61**	*i* P	**Pn**	**20 30 59.4**	**0.0**
COPN				IAML		20 31 34.7	
	comp=Z,4µm,1.0s						
PACN	**Al O del Volca**	**1.07**	**41**	*i* P	**Pn**	**20 31 00.2**	**+0.1**
PACN				IAML		20 31 10.9	
	comp=Z,2µm,1.0s						
BC86	**Nagarote**	**1.08**	**58**	*i* P	**Pn**	**20 31 00.6**	**+0.3**
BC86				IAML		20 31 26.2	
	comp=Z,6µm,1.0s						
CRIN	**San Cristobal**	**1.10**	**24**		**Pn**	**20 30 59.8**	**-0.8**
CRIN	**San Cristobal**	**1.10**	**24**	*i* P	**Pn**	**20 31 00.5**	**-0.1**
CRIN				IAML		20 31 23.8	
	comp=Z,6µm,1.0s						
QUEN	**Al S del Volca**	**1.10**	**35**	*i* P	**Pn**	**20 31 00.9**	**+0.3**
QUEN				IAML		20 31 19.4	
	comp=Z,2µm,1.0s						
PKGN	**Cerro Pekin**	**1.10**	**28**	*i* P	**Pn**	**20 31 00.3**	**-0.2**
PKGN				IAML		20 31 24.8	
	comp=Z,4µm,1.0s						
ROCN	**Rota Cerro Neg**	**1.11**	**42**	*i* P	**Pn**	**20 31 00.9**	**+0.2**
ROCN				IAML		20 31 27.7	
	comp=Z,1µm,1.0s						
CNGA	**Al SSO del Vol**	**1.12**	**44**	*i* P	**Pn**	**20 31 00.9**	**+0.1**
CNGA				IAML		20 31 27.8	
	comp=Z,2µm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.12**	**51**	*i* P	**Pn**	**20 31 00.5**	**-0.3**
LEVN				IAML		20 31 28.8	
	comp=Z,2µm,1.0s						
TELN	**Telica**	**1.12**	**36**	*i* P	**Pn**	**20 31 01.4**	**+0.5**
TELN				IAML		20 31 30.1	
	comp=Z,170nm,1.0s						
CNGN	**Cerro Negro**	**1.13**	**44**	Pn	**Pn**	**20 31 00.1**	**-0.8**
CNGN	**Cerro Negro**	**1.13**	**44**	*i* P	**Pn**	**20 31 00.9**	**0.0**
CNGN				IAML		20 31 25.9	
	comp=Z,3µm,1.0s						
POLN	**Al Sur del Vol**	**1.17**	**35**	*i* P	**Pn**	**20 31 01.4**	**-0.1**
POLN				IAML		20 31 01.8	
	comp=Z,1µm,1.0s						
ILCN	**San Idelfonso**	**1.18**	**42**	*i* P	**Pn**	**20 31 01.6**	**0.0**
ILCN				IAML		20 31 15.4	
	comp=Z,670nm,1.0s						
MOMN	**Momotombo**	**1.19**	**53**	*i* P	**Pn**	**20 31 01.4**	**-0.3**
MOMN				IAML		20 31 23.2	
	comp=Z,80nm,1.0s						
MOM2	**El Cardon**	**1.25**	**53**	*i* P	**Pn**	**20 31 02.3**	**-0.1**
MOM2				IAML		20 31 28.7	
	comp=Z,2µm,1.0s						
ABCN	**Banco Central**	**1.25**	**70**	*i* P	**Pn**	**20 31 02.8**	**+0.3**
ABCN				IAML		20 31 22.5	
	comp=Z,5µm,1.0s						
APYN	**Apoyeque**	**1.25**	**64**	*i* P	**Pn**	**20 31 02.1**	**-0.5**
APYN				IAML		20 31 30.0	
	comp=Z,2µm,1.0s						
CSGN	**Cosiguina Volc**	**1.28**	**358**	*i* P	**Pn**	**20 31 02.6**	**-0.4**
CSGN				IAML		20 31 31.6	
	comp=Z,9µm,1.0s						
ENAN	**Enatrel Managu**	**1.29**	**71**	*i* P	**Pn**	**20 31 04.1**	**+1.1**
ENAN				IAML		20 32 17.4	
	comp=Z,7µm,1.0s						
POTN	**Potosi Cosigui**	**1.30**	**360**	*i* P	**Pn**	**20 31 02.4**	**-0.9**
POTN				IAML		20 31 30.9	
	comp=Z,450nm,1.0s						
MAS3	**Al N del Volca**	**1.34**	**75**	*i* P	**Pn**	**20 31 03.3**	**-0.5**
MAS3				*i* S	**Sn**	**20 31 22.7**	**+2.1**
MAS3				IAML		20 31 43.1	
	comp=Z,2µm,1.0s						
WILN	**Americas 2**	**1.37**	**70**	*i* S	**Sn**	**20 31 23.7**	**+2.5**
HUGN	**San Franciso L**	**1.43**	**65**	*i* P	**Pn**	**20 31 06.7**	**+1.8**
HUGN				IAML		20 31 19.8	
	comp=Z,8µm,1.0s						
AMPH	**Amapala**	**1.59**	**355**	*i* P	**Pn**	**20 31 06.9**	**-0.3**
AMPH				*i* S	**Sn**	**20 31 26.8**	**+0.1**
CNCH	**Conchagua**	**1.61**	**349**	*i* P	**Pn**	**20 31 07.3**	**-0.3**
CNCH				IAML		20 31 37.7	
	comp=Z,2µm,1.0s						
LIMN	**Finca el Limon**	**1.76**	**39**	*i* P	**Pn**	**20 31 09.4**	**-0.2**
LIMN				IAML		20 31 27.5	
	comp=Z,760nm,1.0s						
SOMN	**Somoto**	**1.93**	**27**	*i* P	**Pn**	**20 31 14.3**	**+2.4**
SOMN				IAML		20 31 22.8	
	comp=Z,180nm,1.0s						
ALJI	**Alcalda de J**	**1.93**	**328**	*i* P	**Pn**	**20 31 12.5**	**+0.6**
ALJI				IAML		20 32 00.4	
	comp=Z,710nm,1.0s						
PACA	**Pacayal**	**1.94**	**336**	*i* P	**Pn**	**20 31 11.9**	**-0.2**
PACA				*i* S	**Sn**	**20 31 35.1**	**-0.3**
PACA				IAML		20 31 52.3	
	comp=Z,4µm,1.0s						
MATN	**Matagalpa**	**1.98**	**51**		**Pn**	**20 31 12.1**	**-0.5**
HZTE	**Horizontes, Gu**	**2.11**	**117**		**Pn**	**20 31 13.2**	**-1.1**
PQSS	**Presa 15 de Se**	**2.18**	**332**	*i* P	**Pn**	**20 31 15.2**	**-0.1**
PQSS				*i* S	**Sn**	**20 31 42.0**	**+0.9**
PQSS				IAML		20 31 44.9	
	comp=Z,220nm,1.0s						
TECO	**Alcaldia de Te**	**2.22**	**326**	*i* P	**Pn**	**20 31 16.2**	**+0.4**
TECO				IAML		20 31 53.6	
	comp=Z,320nm,1.0s						
ACON	**Acoyapa**	**2.30**	**83**		**Pn**	**20 31 15.6**	**-1.3**
UESV	**Universidad de**	**2.31**	**327**	*i* P	**Pn**	**20 31 16.6**	**-0.4**
UESV				*i* S	**Sn**	**20 31 44.1**	**-0.1**
UESV				IAML		20 32 04.0	
	comp=Z,470nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.33**	**329**	*i* P	**Pn**	**20 31 16.8**	**-0.6**
SCLA				*i* S	**Sn**	**20 31 46.0**	**+1.1**
SCLA				IAML		20 32 03.5	
	comp=Z,200nm,1.0s						
TGUH	**Tegucigalpa,Un**	**2.37**	**5**	Pn	**Pn**	**20 31 18.2**	**+0.2**
TGUH	**Tegucigalpa,Un**	**2.37**	**5**	*i* P	**Pn**	**20 31 18.3**	**+0.4**
TGUH				IAML		20 32 08.0	
	comp=Z,390nm,1.0s						
ORTG	**Ortega, Santa**	**2.40**	**123**		**Pn**	**20 31 17.1**	**-1.2**
SJTE	**Alcalda de S**	**2.41**	**323**	*i* P	**Pn**	**20 31 18.3**	**-0.2**
SJTE				IAML		20 32 01.6	
	comp=Z,380nm,1.0s						
PMON	**Piamonte**	**2.68**	**319**	*i* P	**Pn**	**20 31 23.1**	**+0.9**
PMON				IAML		20 32 09.2	
	comp=Z,420nm,1.0s						
JTS	**Las Juntas de**	**2.87**	**119**	Pn	**Pn**	**20 31 24.1**	**-0.5**
	comp=Z,1.5nm,0.3s,baz=283,slow=16,SNR=5.5						
JTS				Sn	**Sn**	**20 31 57.1**	**-0.8**
	comp=Z,8.4nm,0.3s,baz=45,slow=15,SNR=6.8						
JTS				LR	LR	20 32 41.9	
	comp=Z,88nm,20.6s,baz=289,slow=45						
	comp=Z,6.3nm,0.5s						
ARE1	**Arenal 1**	**2.99**	**114**		**Pn**	**20 31 25.3**	**-1.1**
MTO3	**Montecristo**	**3.25**	**326**		**Pn**	**20 31 29.7**	**-0.4**
JACO	**JACO, Garabito**	**3.44**	**125**		**Pn**	**20 31 33.6**	**+1.0**
LCR2	**La Lucha 2**	**3.95**	**119**		**Pn**	**20 31 39.8**	**+0.1**
RIMA	**Rio Macho**	**4.06**	**118**	Pn	**Pn**	**20 31 41.5**	**+0.3**
SRBA	**San Rafael, Bu**	**4.75**	**121**		**Pn**	**20 31 50.8**	**+0.1**
CDITO	**Canoas**	**5.51**	**124**	Pn	**Pn**	**20 31 59.0**	**-2.0**
TEIG	**Tepich**	**8.52**	**355**	LR	LR	20 36 26.1	
	comp=Z,425nm,20.4s,baz=240,slow=43						
CMIG	**Matias Romero**	**8.94**	**308**	Pn	**Pn**	**20 32 48.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=123,slow=17,SNR=3.0						
CMIG				Sn	**Sn**	**20 34 28.0**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=340,slow=16,SNR=1.2						
	comp=Z,2.6nm,0.6s						
HBVL	**Hebbronville**	**18.55**	**327**		**Pn**	**20 34 56.2**	**+1.3**
HBVL				IAmb	IAmb	20 34 57.3	
	comp=Z,8.4nm,0.7s						
BAUV	**El Baul**	**19.34**	**96**	P	**P**	**20 35 01.4**	**-1.6**
833A	**Chaparral WMA,**	**19.94**	**328**	P	**P**	**20 35 05.9**	**-3.5**
HNDO	**Hondo**	**20.87**	**330**	P	**P**	**20 35 18.5**	**-1.0**
HNDO				IAmb	IAmb	20 35 20.7	
	comp=Z,4.9nm,0.7s						
LRAL	**Lakeview Retre**	**21.25**	**1**	P	**P**	**20 35 24.0**	**+0.4**
LRAL				IAmb	IAmb	20 35 28.6	
	comp=Z,7.7nm,0.8s						
DRIO	**Del Rio**	**21.46**	**327**	P	**P**	**20 35 23.7**	**-2.1**
DRIO				IAmb	IAmb	20 35 39.9	
	comp=Z,4.4nm,0.7s						
GOGA	**Godfrey**	**21.94**	**9**	P	**P**	**20 35 29.3**	**-1.6**
GOGA				IAmb	IAmb	20 35 34.6	
	comp=Z,7.2nm,0.8s						
Y49A	**Blount Mountai**	**22.09**	**2**	P	**P**	**20 35 32.1**	**-0.5**
Y49A				IAmb	IAmb	20 35 35.0	
	comp=Z,7.5nm,0.7s						
FPAL	**Fort Paine**	**22.81**	**4**	P	**P**	**20 35 39.2**	**-1.1**
TXAR	**Lajitas Array**	**23.13**	**322**	P	**P**	**20 35 44.9**	**+1.3**
TXAR	**Lajitas Array**	**23.13**	**322**	P	**P**	**20 35 44.7**	**+1.1**
	comp=Z,1.4nm,0.5s,baz=139,slow=9.4,SNR=40						
	comp=Z,1.4nm,0.5s						
TX32	**Lajitas Array**	**23.13**	**322**	P	**P**	**20 35 44.9**	**+1.3**
MIAR	**Mount Ida**	**23.42**	**347**	P	**P**	**20 35 46.2**	**0.0**
W50A	**Signal Mountai**	**23.49**	**5**	P	**P**	**20 35 43.8**	**-3.2**
W50A				IAmb	IAmb	20 35 49.2	
	comp=Z,8.7nm,0.9s						
BG3	**Lake Jocassee**	**23.57**	**9**	P	**P**	**20 35 47.7**	**0.0**
BG3				IAmb	IAmb	20 35 49.9	
	comp=Z,5.9nm,0.6s						
CPCT	**Cooper Cave**	**23.81**	**6**	P	**P**	**20 35 46.5**	**-3.5**
CPCT				IAmb	IAmb	20 35 52.1	
	comp=Z,4.9nm,0.8s						
WHAR	**Wooly Hollow**	**23.89**	**350**	P	**P**	**20 35 49.8**	**-0.9**
WHAR				IAmb	IAmb	20 35 51.6	
	comp=Z,5.0nm,0.9s						
TKL	**Tuckaleechee C**	**24.10**	**7**	P	**P**	**20 35 53.0**	**+0.4**
TKL				IAmb	IAmb	20 35 56.2	
	comp=Z,6.4nm,0.8s						
V53A	**Saluda**	**24.25**	**9**	P	**P**	**20 35 53.5**	**-0.5**
CLTN	**Cedars of Leba**	**24.32**	**2**	P	**P**	**20 35 55.3**	**+0.7**
W57A	**Gilead**	**24.34**	**15**	P	**P**	**20 35 53.9**	**-0.8**
W57A				IAmb	IAmb	20 36 08.2	
	comp=Z,9.1nm,1.1s						
FCAR	**Ozark Folk Cen**	**24.46**	**351**	P	**P**	**20 35 55.4**	**-0.4**
FCAR				IAmb	IAmb	20 35 57.0	
	comp=Z,4.8nm,0.7s						
LCAR	**Lake Charles**	**24.50**	**353**	P	**P**	**20 35 54.2**	**-1.9**
LCAR				IAmb	IAmb	20 35 56.5	
	comp=Z,5.4nm,0.7s						
TZTN	**Tazewell**	**25.00**	**8**	P	**P**	**20 35 59.4**	**-1.5**
TZTN				IAmb	IAmb	20 36 05.2	
	comp=Z,6.2nm,0.9s						
V58A	**Windy Hill, Pi**	**25.17**	**16**	P	**P**	**20 36 01.1**	**-1.2**
V58A				IAmb	IAmb	20 36 03.5	
	comp=Z,9.7nm,1.1s						
TUL3	**Leonard**	**25.25**	**344**	P	**P**	**20 36 02.1**	**-1.0**
AMTX	**Amarillo**	**26.45**	**333**	P	**P**	**20 36 11.8**	**-2.2**
Q51A	**Peebles**	**27.48**	**7**	P	**P**	**20 36 22.3**	**-0.8**
PDAR	**Pinedale Array**	**36.42**	**332**	P	**P**	**20 37 42.3**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=122,slow=9.9,SNR=2.6						
	comp=Z,0.3nm,0.6s						
REDW	**Red Top Meadow**	**37.48**	**332**	P	**P**	**20 37 51.9**	**+1.2**
ULM	**Lac du Bonnet**	**39.06**	**351**	P	**P**	**20 38 02.5**	**-1.1**
	comp=Z,2.4nm,0.6s,baz=179,slow=6.6,SNR=4.9						
	comp=Z,2.4nm,0.6s						
SCHQ	**Schefferville**	**46.02**	**16**	P	**P**	**20 38 58.6**	**-1.4**
	comp=Z,2.2nm,0.5s,baz=222,slow=5.2,SNR=8.0						
	comp=Z,2.2nm,0.5s						
BDFB	**Brasilia**	**47.59**	**124**	P	**P**	**20 39 13.6**	**+0.6**
	comp=Z,2.7nm,0.6s,baz=323,slow=7.5,SNR=3.9						
	comp=Z,2.7nm,0.6s						
YKA	**Yellowknife Ar**	**54.33**	**345**	P	**P**	**20 40 02.6**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=130,slow=8.7,SNR=2.5						
	comp=Z,0.2nm,0.7s						
ILAR	**Eielson Array**	**66.69**	**336**	P	**P**	**20 41 27.6**	**+0.5**
	comp=Z,0.1nm,0.7s,baz=168,slow=4.9,SNR=1.3						
	comp=Z,0.1nm,0.7s						
DBIC	**Dimbokro**	**81.50**	**85**	LR	LR	21 18 57.5	
	comp=Z,97nm,18.5s,baz=166,slow=36						
OBN	**Obninsk**	**98.66**	**29**	LR	LR	21 26 56.2	
	comp=Z,68nm,21.9s,baz=344,slow=34						
ASAR	**Alice Springs**	**138.93**	**247**	PKP	**PKiKP**	**20 50 08.7**	**+3.0**
	comp=Z,0.1nm,0.4s,baz=108,slow=2.3,SNR=1.7						
WRA	**Warramunga Arr**	**139.00**	**253**	PKP	**PKiKP**	**20 50 09.2**	**+3.4**
	comp=Z,0.5nm,1.0s,baz=90,slow=2.2,SNR=2.4						
PZH	**PanZhiHua**	**140.99**	**347**	PKP	**PKPdf**	**20 50 05.6**	**-1.7**
CMAR	**Chiang Mai Arr**	**149.38**	**348**	PKPbc	**PKiKP**	**20 50 27.9**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=352,slow=3.8,SNR=15						

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*TAP **03** 20:39:29.9, 24.°28N×120.°88E, h31km, ML3.7, B*
*ASIES **03** 20:39:29.9, 24.°28N×120.°88E, h31km, ML3.7, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; Mrr-0.01; Mθθ0.52; Mφφ-0.51; Mrθ-0.45; Mθφ-1.50; Mφr0.41; Fault plane solution: M0 1.69699×10^{21} NP1: φs351.94000°, δ79.09000°, λ15.27000°. NP2: φs258.98000°, δ75.01000°, λ168.70000°. Principal axes: T Plg18.4650°, Azm215.9530°; N Plg71.3060°, Azm26.6680°; P Plg2.8120°, Azm125.0140°;*
ISC 03 20:39:30.0±0.9**, 24.°29N**±0.°01×**120.°87E**±0.°02**, h31**km±5km**, n130,** σ0.s58/221**, 38C-15D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHP	**Taichung City**	**0.07**	**97**	⇑*i*P	**Pb**	**20 39 35.5**	**+0.1**
	baz=88						
WHP				*i* S	**Sb**	**20 39 39.0**	**-0.1**
	baz=88						
NSY	**Sanyi**	**0.16**	**322**	⇑*i*P	**Pn**	**20 39 36.4**	**0.0**
	baz=325						
NSY				*i* S	**Sn**	**20 39 41.2**	**+0.9**
	baz=325						
WDJ	**Dajia District**	**0.22**	**286**	⇓*i*P	**Pn**	**20 39 36.9**	**-0.2**
	baz=295						
WDJ				S	**Sn**	**20 39 42.3**	**+0.7**
	baz=295						
TCU	**Taichung**	**0.23**	**232**	⇑*i*P	**Pn**	**20 39 36.9**	**-0.3**
	baz=234						
TCU				*i* S	**Sn**	**20 39 41.8**	**0.0**
	baz=234						
WCS	**Beigang Elemen**	**0.23**	**171**	⇑*i*P	**Pb**	**20 39 36.8**	**+0.1**
	baz=165						
WCS				S	**Sn**	**20 39 41.4**	**-0.5**
	baz=165						
DPDB	**Guoxing**	**0.26**	**168**	P	**Pb**	**20 39 37.2**	**+0.1**
	baz=164						
DPDB				*e*S	**Sn**	**20 39 42.3**	**-0.3**
	baz=164						
NMLH	**Miaoli**	**0.26**	**344**	⇑P	**Pb**	**20 39 37.4**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=343						
NMLH				S	Sn	20 39 43.1	+0.4
	baz=343						
TDCB	**Techi**	**0.27**	**97**	⇓*i*P	**Pb**	**20 39 37.4**	**+0.2**
	baz=95						
TDCB				*i* S	**Sb**	**20 39 41.8**	**-0.4**
	baz=95						
TWT	**Tachien**	**0.28**	**97**	⇓*i*P	**Pb**	**20 39 37.5**	**0.0**
	baz=95						
TWT				*i* S	**Sb**	**20 39 42.1**	**-0.4**
	baz=95						
WPL	**Puli Township**	**0.28**	**164**	⇓*i*P	**Pb**	**20 39 37.5**	**+0.1**
	baz=159						
WPL				S	**Sn**	**20 39 42.6**	**-0.6**
	baz=159						
WWF	**Wufeng**	**0.29**	**213**	⇑*i*P	**Pn**	**20 39 37.8**	**-0.3**
	baz=215						
WWF				S	**Sn**	**20 39 43.7**	**+0.4**
	baz=215						
WCHH	**Zhanghua**	**0.35**	**234**	⇑*i*P	**Pb**	**20 39 38.5**	**+0.3**
	baz=229						
WCHH				*i* S	**Sn**	**20 39 45.3**	**+0.4**
	baz=229						
CHGB	**Renai**	**0.36**	**129**	⇓*i*P	**Pn**	**20 39 38.9**	**-0.3**
	baz=127						
CHGB				*i* S	**Sb**	**20 39 44.3**	**0.0**
	baz=127						
NSTT	**Nanjuang**	**0.36**	**19**	⇑*i*P	**Pb**	**20 39 38.6**	**+0.2**
	baz=23						
NSTT				*i* S	**Sb**	**20 39 44.8**	**+0.7**
	baz=23						
WUSB	**Renai**	**0.37**	**142**	⇓*i*P	**Pn**	**20 39 39.0**	**-0.3**
	baz=141						
WUSB				*i* S	**Sn**	**20 39 44.7**	**-0.8**
	baz=141						
LIOB	**Emei**	**0.38**	**20**	⇑*i*P	**Pb**	**20 39 39.0**	**+0.3**
	baz=20						
LIOB				*i* S	**Sn**	**20 39 45.5**	**-0.2**
	baz=20						
TYC	**Yuchr**	**0.38**	**182**	⇑*i*P	**Pn**	**20 39 38.8**	**-0.5**
	baz=173						
TYC				*i* S	**Sn**	**20 39 45.4**	**-0.2**
	baz=173						
WHF	**Hehuan Shan**	**0.39**	**111**	⇓*i*P	**Pn**	**20 39 39.7**	**-0.1**
	baz=109						
WHF				*i* S	**Sn**	**20 39 46.0**	**-0.4**
	baz=109						
NJN	**Zhunan**	**0.40**	**0**	*e*P	**Pb**	**20 39 39.3**	**+0.4**
	baz=6.0						
NJN				*e*S	**Sn**	**20 39 46.3**	**+0.3**
	baz=6.0						
SMLT	**Sun Moon Lake**	**0.40**	**176**	⇑*i*P	**Pn**	**20 39 39.3**	**-0.5**
	baz=175						
SMLT				*i* S	**Sn**	**20 39 45.9**	**-0.4**
	baz=175						
NFF	**Wufeng Townshi**	**0.41**	**33**	⇑*i*P	**Pb**	**20 39 39.3**	**+0.1**
	baz=32						
NFF				S	**Sb**	**20 39 45.5**	**+0.1**
	baz=32						
WNT1	**Nantou City**	**0.42**	**205**	⇑*i*P	**Pn**	**20 39 39.5**	**-0.3**
	baz=206						
WNT1				S	**Sn**	**20 39 46.5**	**0.0**
	baz=206						
WYL	**Yuanlin Townsh**	**0.42**	**219**	⇑*i*P	**Pn**	**20 39 39.5**	**-0.4**
	baz=221						
WYL				*i* S	**Sn**	**20 39 46.9**	**+0.4**
	baz=221						
OWD	**Renai**	**0.43**	**140**	⇓*i*P	**Pn**	**20 39 39.9**	**-0.3**
	baz=138						
OWD				S	**Sn**	**20 39 46.6**	**-0.5**
	baz=138						
WNT	**Mingjian**	**0.44**	**203**	⇑*i*P	**Pn**	**20 39 39.8**	**-0.4**
	baz=203						
WNT				*i* S	**Sn**	**20 39 47.3**	**+0.2**
	baz=203						
WJS	**Zhushan**	**0.48**	**196**	⇑*i*P	**Pn**	**20 39 40.3**	**-0.4**
	baz=205						
WJS				*i* S	**Sn**	**20 39 47.9**	**-0.2**
	baz=205						
NNS	**Nan Shan**	**0.48**	**72**	⇓*i*P	**Pb**	**20 39 40.3**	**0.0**
	baz=72						
NNS				*i* S	**Sb**	**20 39 46.7**	**-0.7**
	baz=72						
NNSB	**Datong**	**0.49**	**73**	P	**Pb**	**20 39 40.2**	**-0.2**
	baz=67						
NNSB				S	**Sb**	**20 39 46.3**	**-1.2**
	baz=67						
NJD	**Zhudong**	**0.49**	**24**	⇑*i*P	**Pn**	**20 39 40.8**	**0.0**
	baz=31						
NJD				*e*S	**Sn**	**20 39 48.8**	**+0.5**
	baz=31						
NNSH	**Datong**	**0.49**	**73**	*e*P	**Pb**	**20 39 40.2**	**-0.2**
	baz=67						
NNSH				*e*S	**Sb**	**20 39 46.7**	**-0.8**
	baz=67						
SSLB	**Suanglung**	**0.50**	**171**	P	**Pb**	**20 39 40.4**	**-0.2**
SSLB	**Suanglung**	**0.50**	**171**	⇑*i*P	**Pb**	**20 39 40.3**	**-0.2**
	baz=163						
SSLB				S	**Sb**	**20 39 47.5**	**-0.2**
	baz=163						
HSN1	**Hsinchu**	**0.51**	**15**	P	**Pb**	**20 39 41.0**	**+0.4**
	baz=15						
HSN1				S	**Sn**	**20 39 49.4**	**+0.6**
	baz=15						
SBCB	**Hsinchu**	**0.51**	**12**	P	**Pb**	**20 39 40.9**	**+0.2**
	baz=11						
SBCB				S	**Sn**	**20 39 49.2**	**+0.3**
	baz=11						
HSN	**Hsinchu**	**0.52**	**10**	⇓*i*P	**Pn**	**20 39 41.7**	**+0.4**
	baz=13						
HSN				*i* S	**Sn**	**20 39 50.3**	**+1.2**
	baz=13						
LXIB	**Xiulin Townshi**	**0.56**	**118**	⇓P	**Pb**	**20 39 41.5**	**-0.1**
	baz=119						
LXIB				*e*S	**Sb**	**20 39 49.5**	**0.0**
	baz=119						
ETLH	**Xiulin Townshi**	**0.56**	**98**	P	**Pb**	**20 39 41.6**	**+0.1**
	baz=94						
ETLH				S	**Sb**	**20 39 49.3**	**-0.2**
	baz=94						
VWDT	**VWDT**	**0.59**	**155**	⇑P	**Pn**	**20 39 42.2**	**+0.1**
	baz=157						
VWDT				S	**Sn**	**20 39 50.7**	**0.0**
	baz=157						
WHYT	**Xinyi Township**	**0.59**	**182**	⇑*i*P	**Pn**	**20 39 42.0**	**-0.2**
	baz=172						
WHYT				*i* S	**Sn**	**20 39 50.8**	**0.0**
	baz=172						
NSK	**Sanguang**	**0.59**	**49**	⇑*i*P	**Pb**	**20 39 41.9**	**0.0**
	baz=49						
NSK				S	**Sb**	**20 39 49.9**	**-0.3**
	baz=49						
WRL	**Guolierlin Hig**	**0.59**	**230**	⇑P	**Pb**	**20 39 41.7**	**-0.2**
	baz=231						
WRL				S	**Sn**	**20 39 51.4**	**+0.6**
	baz=231						
YHNB	**Yeheng**	**0.60**	**50**	P	**Pb**	**20 39 42.1**	**-0.1**
YHNB	**Yeheng**	**0.60**	**50**	⇑*i*P	**Pb**	**20 39 42.0**	**-0.1**
	baz=49						
YHNB				*e*S	**Sb**	**20 39 50.2**	**-0.2**
	baz=49						
LATG	**Datong**	**0.65**	**67**	⇑P	**Pb**	**20 39 42.8**	**-0.2**
	baz=60						
LATG				S	**Sb**	**20 39 51.1**	**-0.7**
	baz=60						
ETM	**Tongmen**	**0.65**	**119**	⇓*i*P	**Pn**	**20 39 42.9**	**-0.2**
	baz=118						
ETM				*e*S	**Sn**	**20 39 53.8**	**+1.4**
	baz=118						
WGK	**Gukeng**	**0.66**	**205**	⇑*i*P	**Pn**	**20 39 43.0**	**-0.2**
	baz=216						
WGK				*i* S	**Sn**	**20 39 53.5**	**+0.9**
	baz=216						
NDT	**Datong Townshi**	**0.67**	**62**	P	**Pb**	**20 39 43.0**	**-0.2**
	baz=55						
NDT				S	**Sb**	**20 39 51.1**	**-1.1**
	baz=55						
WDLH	**Douliu**	**0.67**	**207**	⇑P	**Pn**	**20 39 43.2**	**-0.1**
	baz=218						
WDLH				*e*S	**Sn**	**20 39 53.2**	**+0.5**
	baz=218						
NACB	**Ninganchiao**	**0.67**	**99**	P	**Pn**	**20 39 43.4**	**+0.1**
NACB	**Ninganchiao**	**0.67**	**99**	P	**Pb**	**20 39 43.1**	**-0.1**
	baz=98						
NACB				S	**Sb**	**20 39 51.8**	**-0.5**
	baz=98						
WTCT	**Ta-ch'eng**	**0.68**	**232**	P	**Pb**	**20 39 43.1**	**-0.4**
	baz=233						
WTCT				S	**Sn**	**20 39 52.9**	**-0.2**
	baz=233						
TWD	**Chiawan**	**0.69**	**107**	P	**Pn**	**20 39 43.5**	**-0.2**
	baz=105						
TWD				S	**Sb**	**20 39 52.6**	**-0.3**
	baz=105						
ESL	**Shilin**	**0.70**	**132**	⇓*i*P	**Pn**	**20 39 43.7**	**0.0**
	baz=123						
ESL				S	**Sn**	**20 39 53.5**	**+0.1**
	baz=123						
ETL	**Fush Village**	**0.70**	**100**	P	**Pn**	**20 39 43.8**	**0.0**
	baz=99						
ETL				S	**Sb**	**20 39 52.8**	**-0.3**
	baz=99						
CHN5	**Tsauling**	**0.71**	**194**	⇑*i*P	**Pb**	**20 39 43.7**	**-0.3**
	baz=195						
CHN5				*i* S	**Sn**	**20 39 53.8**	**0.0**
	baz=195						
ENTT	**Nioudou**	**0.72**	**61**	⇑*i*P	**Pn**	**20 39 44.1**	**0.0**
	baz=55						
ENTT				S	**Sb**	**20 39 53.0**	**-0.8**
	baz=55						
NHW	**Xinwu Township**	**0.73**	**13**	*e*P	**Pn**	**20 39 43.7**	**-0.5**
	baz=12						
NHW				*e*S	**Sn**	**20 39 55.9**	**+1.5**
	baz=12						
NCUH	**Zhongli**	**0.74**	**23**	*e*P	**Pn**	**20 39 43.5**	**-0.8**
	baz=23						
WARBT	**Fenglin Townsh**	**0.74**	**140**	⇓*i*P	**Pb**	**20 39 44.2**	**-0.1**
	baz=131						
WARBT				S	**Sn**	**20 39 54.1**	**-0.3**
	baz=131						
HWA	**Hwalien**	**0.74**	**115**	*e*P	**Pb**	**20 39 44.9**	**+0.5**
	baz=105						
HWA				*e*S	**Sn**	**20 39 55.1**	**+0.6**
	baz=105						
WTK	**Tuku**	**0.74**	**217**	⇑*i*P	**Pn**	**20 39 44.0**	**-0.3**
	baz=229						
WTK				S	**Sn**	**20 39 55.6**	**+1.1**
	baz=229						
NWLT	**Wulai**	**0.76**	**50**	P	**Pn**	**20 39 44.4**	**-0.1**
	baz=42						
NWLT				S	**Sb**	**20 39 54.6**	**-0.1**
	baz=42						
ALS	**Alishan**	**0.78**	**184**	⇑*i*P	**Pb**	**20 39 45.0**	**-0.2**
	baz=184						
ALS				*i* S	**Sn**	**20 39 56.1**	**+0.3**
	baz=184						
EGFH	**Guangfu**	**0.80**	**140**	P	**Pb**	**20 39 45.3**	**-0.1**
	baz=132						
EGFH				S	**Sn**	**20 39 56.2**	**+0.2**
	baz=132						
FUSB	**Fushanzhiwuyua**	**0.81**	**54**	*e*P	**Pn**	**20 39 45.2**	**0.0**
	baz=54						
FUSB				*e*S	**Sb**	**20 39 55.6**	**-0.6**
	baz=54						
ENA	**Nanau**	**0.81**	**80**	P	**Pb**	**20 39 45.4**	**-0.1**
	baz=73						
ENA				S	**Sb**	**20 39 55.7**	**-0.4**
	baz=73						
EWUT	**Wuta**	**0.84**	**79**	*e*P	**Pn**	**20 39 45.8**	**+0.1**
	baz=78						
EWUT				S	**Sn**	**20 39 56.4**	**-0.6**
	baz=78						
NDS	**Dongshan**	**0.84**	**66**	*e*P	**Pb**	**20 39 46.0**	**-0.1**
	baz=66						
NDS				*e*S	**Sb**	**20 39 57.9**	**+0.7**
	baz=66						
TWE	**Neicheng**	**0.84**	**59**	⇑P	**Pb**	**20 39 46.3**	**+0.1**
	baz=56						
TWE				*e*S	**Sb**	**20 39 57.6**	**+0.4**
	baz=56						
WSF	**Szhu**	**0.88**	**223**	⇑*i*P	**Pn**	**20 39 45.7**	**-0.5**
	baz=223						
WSF				S	**Sb**	**20 39 59.2**	**+1.2**
	baz=223						
WCKO	**Fanlu**	**0.88**	**196**	P	**Pn**	**20 39 46.1**	**-0.2**
	baz=207						
WCKO				S	**Sb**	**20 39 58.2**	**0.0**
	baz=207						
EHY	**Hungye**	**0.88**	**152**	⇓P	**Pb**	**20 39 46.8**	**+0.1**
	baz=151						
EHY				S	**Sb**	**20 39 58.3**	**+0.1**
	baz=151						
CHY	**Chiayi**	**0.89**	**208**	P	**Pn**	**20 39 46.0**	**-0.2**
	baz=220						
CHY				S	**Sb**	**20 39 59.4**	**+1.1**
	baz=220						
HGSD	**Ruisui**	**0.94**	**147**	*e*P	**Pb**	**20 39 48.3**	**+0.5**
	baz=154						
HGSD				*e*S	**Sb**	**20 40 01.2**	**+1.3**
	baz=154						
TAP	**Taipei**	**0.95**	**38**	*e*S	**Sn**	**20 39 59.8**	**+0.2**
	baz=38						
TWA	**Mucha**	**0.95**	**43**	*e*P	**Pn**	**20 39 47.0**	**-0.2**
	baz=44						
TWA				*e*S	**Sb**	**20 40 00.1**	**0.0**
	baz=44						
TWC	**Suao**	**0.95**	**70**	P	**Pb**	**20 39 48.1**	**+0.3**
	baz=58						
TWC				S	**Sb**	**20 40 00.3**	**+0.2**
	baz=58						
TWS1	**Kuangyinshan**	**0.95**	**31**	*e*P	**Pn**	**20 39 47.0**	**-0.2**
	baz=32						
TWS1				*e*S	**Sb**	**20 40 00.5**	**+0.2**
	baz=32						
WSL	**Shuilin Townsh**	**0.96**	**218**	P	**Pn**	**20 39 47.1**	**-0.3**
	baz=228						
WSL				*e*S	**Sb**	**20 40 02.1**	**+1.6**
	baz=228						
CHN4	**Tsaushan**	**0.96**	**195**	P	**Pn**	**20 39 47.5**	**+0.1**
	baz=196						
CHN4				S	**Sb**	**20 40 01.4**	**+0.8**
	baz=196						
YULB	**Yu-li**	**0.97**	**156**	P	**Pb**	**20 39 48.3**	**0.0**
YULB	**Yu-li**	**0.97**	**156**	⇑P	**Pb**	**20 39 48.2**	**-0.1**
	baz=156						
YULB				S	**Sb**	**20 40 01.1**	**+0.2**
	baz=156						
TPUB	**Ta-pu**	**1.01**	**193**	P	**Pn**	**20 39 48.2**	**+0.2**
TPUB	**Ta-pu**	**1.01**	**193**	⇑P	**Pn**	**20 39 48.1**	**+0.1**
	baz=203						
TPUB				S	**Sb**	**20 40 02.0**	**+0.2**
	baz=203						
TWF1	**Yuli**	**1.01**	**157**	⇑*i*P	**Pb**	**20 39 48.8**	**-0.1**
	baz=156						
TWF1				*i* S	**Sb**	**20 40 02.1**	**+0.2**
	baz=156						
NTST	**Danshui**	**1.02**	**31**	*e*P	**Pn**	**20 39 48.0**	**-0.1**
	baz=31						
NTST				*e*S	**Sb**	**20 40 03.0**	**+0.8**
	baz=31						
EYUL	**Yuli**	**1.02**	**156**	*e*P	**Pb**	**20 39 49.3**	**+0.1**
	baz=156						
EYUL				*e*S	**Sb**	**20 40 02.9**	**+0.7**
	baz=156						
YM01	**YM01**	**1.07**	**36**	*e*P	**Pn**	**20 39 48.9**	**0.0**
	baz=51						
YM01				*e*S	**Sn**	**20 40 03.0**	**+0.3**
	baz=51						
ICHU	**Yijhu**	**1.07**	**211**	*e*P	**Pn**	**20 39 48.5**	**-0.3**
	baz=210						
ANP	**Anpu**	**1.07**	**33**	*e*P	**Pn**	**20 39 48.6**	**-0.4**
	baz=22						
TWK	**Hsinying**	**1.07**	**199**	⇑*i*P	**Pn**	**20 39 49.1**	**+0.1**
	baz=199						
TWK				*e*S	**Sb**	**20 40 04.4**	**+0.7**
	baz=199						
ELDTW	**Lidau**	**1.10**	**173**	⇑P	**Pb**	**20 39 49.8**	**-0.8**
	baz=174						
TIPB	**Shuangxi**	**1.10**	**52**	*e*P	**Pn**	**20 39 49.6**	**+0.2**
	baz=51						
CHN8	**Yiju**	**1.11**	**213**	*e*P	**Pn**	**20 39 49.5**	**+0.1**
	baz=214						
CHN8				*e*S	**Sb**	**20 40 05.2**	**+0.3**
	baz=214						
STYH	**Taoyuan**	**1.11**	**184**	*e*P	**Pn**	**20 39 49.8**	**+0.4**
	baz=184						
STYH				*e*S	**Sb**	**20 40 04.6**	**-0.3**
	baz=184						
SNST	**Tainan City**	**1.12**	**198**	*e*P	**Pn**	**20 39 49.4**	**0.0**
	baz=198						
NWF	**Wu-fen Shan**	**1.14**	**47**	*e*P	**Pb**	**20 39 50.6**	**-0.5**
	baz=33						
WFSB	**Wu-fen Shan**	**1.14**	**47**	*e*P	**Pn**	**20 39 50.3**	**+0.6**
	baz=33						
CHN1	**Nanshi**	**1.14**	**196**	⇑*i*P	**Pn**	**20 39 49.9**	**+0.1**
	baz=209						
CHN1				S	**Sb**	**20 40 06.1**	**+0.5**
	baz=209						
FULB	**Fuli**	**1.15**	**160**	*e*P	**Pb**	**20 39 51.7**	**+0.4**
	baz=160						
FULB				*e*S	**Sb**	**20 40 07.9**	**+2.0**
	baz=160						
EHD	**Haiduan**	**1.17**	**165**	P	**Pb**	**20 39 51.0**	**-0.7**
	baz=172						
EHD				S	**Sb**	**20 40 06.2**	**-0.3**
	baz=172						
SXI1	**Grass Mountain**	**1.22**	**48**	*e*P	**Pn**	**20 39 50.9**	**-0.1**
	baz=47						
ECS	**Chishang**	**1.23**	**165**	*e*P	**Pb**	**20 39 52.1**	**-0.5**
	baz=172						
ECS				*e*S	**Sb**	**20 40 08.9**	**+0.8**
	baz=172						
SGST	**Jiashian**	**1.23**	**192**	P	**Pn**	**20 39 50.1**	**-0.9**
	baz=205						
SGST				*e*S	**Sb**	**20 40 07.8**	**-0.3**
	baz=205						
TWB1	**Santiao Chiao**	**1.25**	**55**	*e*P	**Pn**	**20 39 51.2**	**0.0**
	baz=39						
EOS2	**EOS2**	**1.25**	**84**	*e*P	**Pb**	**20 39 53.5**	**+0.7**
	baz=83						
CHKT	**Chengkung**	**1.27**	**159**	*e*P	**Pb**	**20 39 53.4**	**+0.1**
	baz=146						
CHKT				*e*S	**Sb**	**20 40 10.9**	**+1.7**
	baz=146						
CHN3	**Shinhua**	**1.29**	**201**	*e*P	**Pb**	**20 39 52.9**	**-0.7**
	baz=201						
SLGT	**Liugui**	**1.30**	**189**	*e*P	**Pb**	**20 39 52.9**	**-1.0**
	baz=190						
SLGT				*e*S	**Sb**	**20 40 11.3**	**+1.0**
	baz=190						
EOS3	**EOS3**	**1.32**	**90**	*e*P	**Pb**	**20 39 54.1**	**+0.1**
	baz=87						
TSCK	**Chigu Township**	**1.34**	**213**	*e*P	**Pn**	**20 39 51.2**	**-1.3**
	baz=212						
LONT	**Longtian**	**1.40**	**170**	*e*P	**Pb**	**20 39 54.9**	**-0.5**
	baz=171						
PNG	**Penghu**	**1.40**	**240**	*e*P	**Pn**	**20 39 52.1**	**-1.2**
	baz=239						
PHUB	**P'eng-hu**	**1.42**	**237**	*e*P	**Pn**	**20 39 52.2**	**-1.4**
	baz=237						
SCST	**Cishan**	**1.44**	**194**	*e*P	**Pn**	**20 39 54.3**	**+0.4**
	baz=196						
TWG	**Pinlang**	**1.47**	**173**	*e*P	**Pb**	**20 39 56.0**	**-0.7**
	baz=174						
VWUC	**VWUC**	**1.47**	**299**	*e*P	**Pn**	**20 39 52.9**	**-1.4**
	baz=299						
TWGBT	**Beinan**	**1.48**	**172**	P	**Pb**	**20 39 56.3**	**-0.5**
TWGBT	**Beinan**	**1.48**	**172**	*e*P	**Pb**	**20 39 55.8**	**-1.0**
	baz=174						
WDGT	**Dungji**	**1.51**	**228**	*e*P	**Pn**	**20 39 53.5**	**-1.3**
	baz=213						
TSMG	**Majia**	**1.59**	**188**	*e*P	**Pn**	**20 39 56.5**	**+0.5**
	baz=199						
MASBT	**Mashibuluo**	**1.68**	**187**	*e*P	**Pn**	**20 39 57.8**	**+0.5**
	baz=198						
ECL	**Taimali**	**1.68**	**177**	*e*P	**Pn**	**20 39 58.4**	**+1.1**
	baz=167						
VCHM	**Qimei**	**1.70**	**231**	*e*P	**Pn**	**20 39 56.4**	**-1.1**
	baz=231						
EAST	**Anshuo**	**1.90**	**181**	*e*P	**Pn**	**20 40 01.2**	**+1.0**
	baz=197						
SCZT	**Fangliau**	**1.92**	**187**	*e*P	**Pn**	**20 40 01.9**	**+1.4**
	baz=192						
MATB	**Ma-tsu**	**2.04**	**336**	*e*P	**Pn**	**20 40 00.9**	**-1.3**
	baz=333						
MHZQ	**Yeshan**	**2.46**	**318**	*e*P	**Pn**	**20 40 06.7**	**-1.3**
	baz=316						
AXDP	**Jialang**	**2.71**	**284**	*e*P	**Pn**	**20 40 10.4**	**-1.0**
	baz=283						
ZPLA	**Ao Xicun**	**2.87**	**264**	*e*P	**Pn**	**20 40 13.0**	**-0.7**
	baz=263						

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*IDC **03** 20:54:23.0±2.3, 2°.23N×126°.41E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=199.6km s-min=27.7km az=66.0*

*DJA **03** 20:54:36.5±0.7, 2°N±5°×12°6E±°, h97km±17km, M3.8/8, mb4.1/3, MLv3.7/8*

ISC 03 20:54:25.1±1.6, **2°.0N**±0°.1×**126°.2E**±0°.1, **h10**km, **n8**, σ1§**61**/6, **mb3.2**/3, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.69**	**135**	P	Pg	20 55 05.9	+8.5
LBMI	**Labuha**	**2.91**	**153**	P	**Pg**	**20 55 22.2**	**+1.2**
SANI	**Sanana**	**4.00**	**183**	P	**Pb**	**20 55 33.9**	**-1.9**
MRSI	**Marisa**	**4.49**	**251**	P	**Pb**	**20 55 44.1**	**0.0**
NLAI	**Namlea**	**5.26**	**170**	P	Pb	20 55 52.3	-4.9
	15nm,0.4s,0.1nm						
WRA	**Warramunga Arr**	**23.21**	**160**	P	**P**	**20 59 32.9**	**+0.5**
	0.8nm,0.4s,baz=339,slow=10,SNR=17						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**26.57**	**164**	P	**P**	**21 00 04.9**	**+1.3**
	0.1nm,0.3s,baz=347,slow=10,SNR=8.5						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**58.68**	**326**	P	**P**	**21 04 21.9**	**-0.9**
	0.1nm,0.5s,baz=128,slow=7.7,SNR=1.6						
	0.1nm,0.5s						

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*AZER **03** 20:56:37.1±0.1, 37°.88N×44°.82E, h6km±1km, Error ellipse: s-maj=5.3km s-min=2.0km az=42.0*

*ISK **03** 20:56:38.1, 37°.63N×44°.79E, h9km, ML3.6/8*

*AFAD **03** 20:56:38.7±0.0, 37°.71N×44°.70E, h2km±1km, MW3.5*

*TEH **03** 20:56:39.1, 37°.79N×44°.69E, h6km±69km, ML3.3*

ISC 03 20:56:38.0±1.2, **37°.60N**±0°.03×**44°.80E**±0°.02, **h4**km±10km, **n65**, σ1§**49**/95, **Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOVA	**Hakkari_Yksek**	**0.40**	**269**	P	**Pg**	**20 56 46.5**	**+0.6**
YOVA				S	**Sg**	**20 56 51.7**	**+0.7**
YOVA				*i* AML	AML	20 56 53.0	
	comp=N,5μm,0.4s						
YOVA				*i* AML	AML	20 56 53.0	
	comp=E,5μm,0.5s						
YOVA	**Hakkari_Yksek**	**0.40**	**269**	Pg	**Pg**	**20 56 46.4**	**+0.6**
HAKT	**HAKKARI**	**0.86**	**268**	P	**Pg**	**20 56 54.5**	**-0.1**
HAKT				S	**Sg**	**20 57 06.9**	**+1.1**
HAKT	**HAKKARI**	**0.86**	**268**	Pg	**Pg**	**20 56 54.5**	**-0.1**
IAZR	**Azarshahr**	**0.94**	**85**	Pg	**Pn**	**20 56 59.1**	**+0.8**
ISHB	**Shabestar**	**0.94**	**43**	Pg	**Pg**	**20 56 55.2**	**-1.0**
CUKT	**Cukurca**	**1.01**	**250**	Pg	**Pb**	**20 56 57.9**	**-0.2**
CUKT	**Cukurca**	**1.01**	**250**	P	**Pb**	**20 56 58.1**	**0.0**
CUKT				S	**Sg**	**20 57 10.4**	**0.0**
CUKT				*i* AML	AML	20 57 16.0	
	comp=N,899nm,0.9s						
CUKT				*i* AML	AML	20 57 19.0	
	comp=E,2μm,0.6s						
CUKT	**Cukurca**	**1.01**	**250**	Pg	**Pb**	**20 56 57.9**	**-0.2**
OZAP	**Van, Ozalp-Mer**	**1.24**	**330**	P	**Pg**	**20 56 59.9**	**-1.9**
OZAP				S	**Sg**	**20 57 18.8**	**+1.0**
ITBZ	**Tabriz**	**1.24**	**59**	Pg	**Pg**	**20 57 01.4**	**-0.5**
IMRD	**Marand**	**1.32**	**32**	Pg	**Pn**	**20 57 02.0**	**-1.5**
TVAN	**Van**	**1.44**	**311**	P	**Pn**	**20 57 04.0**	**-1.1**
TVAN				S	**Sb**	**20 57 23.2**	**-1.2**
TVAN				*i* AML	AML	20 57 26.0	
	comp=N,752nm,0.6s						
VANB	**Van**	**1.49**	**312**	Pn	**Pn**	**20 57 04.4**	**-1.4**
VANB	**Van**	**1.49**	**312**	Pg	**Pn**	**20 57 03.4**	**-2.4**
SDS1	**Sardasht. Az.**	**1.55**	**159**	Pg	Pg	20 57 12.3	+4.6
GEVA	**Gevas**	**1.55**	**298**	P	**Pn**	**20 57 05.7**	**-0.9**
GEVA				S	**Sn**	**20 57 26.5**	**-0.8**
GEVA	**Gevas**	**1.55**	**298**	Pg	**Pn**	**20 57 05.6**	**-0.9**
AKDM	**Akdamar-Van**	**1.61**	**298**	Pn	**Pn**	**20 57 07.1**	**-0.3**
ORD	**Ordubad**	**1.63**	**35**	P	**Pn**	**20 57 07.7**	**0.0**
	SNR=195						
ORD				S	**Sn**	**20 57 26.2**	**-3.0**
NAX	**Nakhchivan**	**1.67**	**19**	P	**Pn**	**20 57 07.3**	**-0.8**
	SNR=42						
NAX				S	**Sn**	**20 57 26.2**	**-3.9**
CLDR	**Caldiran**	**1.69**	**336**	Pn	**Pn**	**20 57 08.1**	**-0.5**
CLDR	**Caldiran**	**1.69**	**336**	P	**Pn**	**20 57 08.2**	**-0.5**
CLDR				S	**Sn**	**20 57 30.9**	**0.0**
CLDR				*i* AML	AML	20 57 39.0	
	comp=N,385nm,0.8s						
VMUR	**Van-Muradiye**	**1.69**	**326**	P	**Pn**	**20 57 09.4**	**+0.8**
VMUR				S	**Sg**	**20 57 33.9**	**+1.5**
MAKU	**Maku**	**1.76**	**357**	Pg	**Pn**	**20 57 09.5**	**0.0**
PERV	**Siirt/Pervari-**	**1.82**	**282**	P	**Pb**	**20 57 12.4**	**+0.4**
PERV				S	**Sg**	**20 57 39.6**	**+3.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PERV				i AML	AML	20 57 42.0	
	comp=E,636nm,0.6s						
PERV				i AML	AML	20 57 42.0	
	comp=N,710nm,0.5s						
SIRT	**Sirnak**	**1.88**	**268**	Pn	**Pn**	**20 57 11.1**	**+0.1**
SBZ	**Shahbuz**	**1.89**	**18**	P	**Pn**	**20 57 10.7**	**-0.6**
	SNR=32						
SBZ				S	**Sn**	**20 57 33.1**	**-2.6**
SIRN	**Sırnak**	**1.90**	**268**	P	**Pg**	**20 57 14.1**	**-0.2**
SIRN				S	**Sg**	**20 57 40.6**	**+1.6**
SIRN				i AML	AML	20 57 48.0	
	comp=N,512nm,0.5s						
SIRN				i AML	AML	20 57 48.0	
	comp=E,426nm,0.7s						
IHRS	**Heris**	**1.92**	**67**	Pn	**Pg**	**20 57 14.4**	**-0.3**
IHSH	**Hashtrud**	**1.99**	**98**	Pn	**Pg**	**20 57 17.6**	**+1.6**
ADCV	**BITLIS_Adilcev**	**2.03**	**307**	P	**Pb**	**20 57 15.4**	**-0.2**
ADCV				S	**Sb**	**20 57 42.2**	**+0.8**
HYR	**Heyderabad**	**2.12**	**1**	P	**Pn**	**20 57 13.3**	**-1.1**
	SNR=9.4						
HYR				S	**Sn**	**20 57 39.7**	**-1.6**
DYDN	**Diyadin**	**2.13**	**336**	P	**Pn**	**20 57 16.5**	**+1.9**
BLIS	**Bitlis-Merkez**	**2.27**	**292**	P	**Pb**	**20 57 19.9**	**+0.2**
ISRB	**Sarab**	**2.29**	**83**	Pn	**Pg**	**20 57 21.1**	**-0.8**
IGDI	**IGDIR**	**2.34**	**346**	P	**Pb**	**20 57 20.1**	**-0.7**
IGDI				S	**Sb**	**20 57 51.2**	**+1.2**
MLAZ	**Malazgirt-MUS**	**2.34**	**312**	Pn	**Pn**	**20 57 17.6**	**+0.1**
GURO	**Guroymak-BITLI**	**2.38**	**294**	Pn	**Pn**	**20 57 18.2**	**+0.2**
DORK	**Agr/Tutak/Do**	**2.39**	**319**	P	**Pb**	**20 57 21.2**	**-0.5**
DORK				S	**Sn**	**20 57 47.9**	**0.0**
QRD	**Qoradiz**	**2.72**	**46**	P	**Pn**	**20 57 22.9**	**+0.4**
	SNR=8.0						
QRD				S	**Sn**	**20 57 57.0**	**+1.1**
GRMI	**Germi**	**2.73**	**63**	Pn	**Pb**	**20 57 26.2**	**-1.3**
SVAN	**Silvan-Diyarba**	**2.90**	**282**	Pn	**Pn**	**20 57 25.6**	**+0.5**
LRK	**Lerik**	**2.98**	**68**	P	**Pn**	**20 57 27.4**	**+1.0**
	SNR=15						
LRK				S	**Sn**	**20 58 05.0**	**+2.3**
YRD	**Yardimli**	**3.02**	**63**	P	**Pn**	**20 57 27.6**	**+0.8**
	SNR=12						
YRD				S	**Sn**	**20 58 05.4**	**+1.9**
BLQ	**Beylaqan**	**3.03**	**45**	P	**Pn**	**20 57 27.2**	**+0.4**
	SNR=6.3						
BLQ				S	**Sn**	**20 58 04.6**	**+1.1**
AGDM	**Agdam**	**3.09**	**35**	P	**Pn**	**20 57 27.7**	**0.0**
	SNR=7.8						
AGDM				S	**Sn**	**20 58 05.6**	**+0.5**
KGS1	**Ghasr-e-Shirin**	**3.15**	**168**	Pn	**Pg**	**20 57 36.4**	**-2.0**
IDHR	**Dehrash**	**3.16**	**156**	Pn	**Pg**	**20 57 36.3**	**-2.4**
GDB	**GEDABAY**	**3.21**	**13**	P	**Pn**	**20 57 28.6**	**-0.8**
	SNR=5.3						
GDB				S	**Sn**	**20 58 07.3**	**-0.9**
BRDA	**Brd**	**3.25**	**34**	S	**Sn**	**20 58 09.4**	**+0.5**
GANJ	**Ganja**	**3.27**	**21**	P	**Pn**	**20 57 29.7**	**-0.4**
	SNR=12						
GANJ				S	**Sn**	**20 58 09.2**	**-0.3**
GLBA	**Clilabad**	**3.27**	**59**	P	**Pn**	**20 57 30.9**	**+0.8**
	SNR=4.5						
GLBA				S	**Sn**	**20 58 11.3**	**+1.8**
ASTR	**Astara**	**3.30**	**72**	P	**Pn**	**20 57 31.8**	**+1.3**
	SNR=7.3						
ASTR				S	**Sn**	**20 58 12.6**	**+2.4**
LKRN	**Lenkeran, Azer**	**3.33**	**69**	P	**Pn**	**20 57 32.1**	**+1.2**
LKRN				S	**Sn**	**20 58 13.6**	**+2.7**
QZX	**Qazax, Azerbai**	**3.49**	**7**	P	**Pn**	**20 57 32.1**	**-1.0**
	SNR=5.4						
QZX				S	**Sn**	**20 58 13.4**	**-1.5**
ZRD	**Zardab**	**3.50**	**39**	P	**Pn**	**20 57 33.4**	**+0.2**
ZRD				S	**Sn**	**20 58 16.1**	**+0.9**
KDMR	**Kurdemir**	**3.83**	**43**	S	**Sn**	**20 58 24.2**	**+0.9**
SEKA	**Sheki**	**4.06**	**27**	P	**Pn**	**20 57 41.2**	**+0.2**
IML	**Ismayilli**	**4.14**	**38**	P	**Pn**	**20 57 42.1**	**+0.1**
IML				S	**Sn**	**20 58 34.8**	**+3.9**
ZKTA	**Zakatala**	**4.28**	**19**	P	**Pn**	**20 57 43.5**	**-0.5**
PQL	**Pirkuli**	**4.34**	**42**	P	**Pn**	**20 57 45.1**	**+0.1**
PQL				S	**Sn**	**20 58 42.0**	**+5.8**
GBS	**Qobustan**	**4.36**	**46**	S	**Sn**	**20 58 37.6**	**+1.0**
XNQ	**Khinaliq**	**4.41**	**35**	P	**Pn**	**20 57 45.9**	**-0.1**
IKFM	**Kafar-mosalman**	**4.76**	**148**	Pn	**Pb**	**20 57 58.2**	**-3.8**

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*NEIC **03** 21:01:12.8±1.6, 43°.69N±0°.05×105°.22W±0°.07, h0km±2km, ML2.7/20, Error ellipse: s-maj=10.2km s-min=7.1km az=323.0*

*IDC **03** 21:01:13.4±2.3, 43°.54N×105°.41W, h0km, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=57.7km s-min=11.4km az=155.0*

ISC 03 21:01:11.5±1.0**, 43°.57N**±0°.06×**105°.39W**±0°.05**, h0**km**, n16,** σ**1s.77**/15**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.12**	**60**	Pn	**Pb**	**21 01 33.0**	**-1.0**
K22A	**Casper**	**1.24**	**223**		**Pn**	**21 01 38.6**	**+2.4**
K22A				IAML		21 02 00.4	
	comp=E,136nm,0.3s						
K22A				IAML		21 02 00.5	
	comp=N,119nm,0.3s						
RWWY	**Rawlins**	**2.31**	**216**	Pn	**Pg**	**21 01 55.8**	**+0.1**
RWWY				IAML		21 02 42.5	
	comp=N,55nm,0.8s						
N23A	**Red Feather La**	**2.70**	**189**	Pn	**Pb**	**21 01 59.8**	**-1.1**
N23A				IAML		21 02 42.5	
	comp=N,26nm,0.5s						
N23A				IAML		21 02 53.3	
	comp=E,27nm,0.9s						
PD31	**Pinedale Array**	**3.15**	**257**		**Pb**	**21 02 06.6**	**-2.0**
PDAR	**Pinedale Array**	**3.15**	**257**		**Pb**	**21 02 06.1**	**-2.5**
PDAR	**Pinedale Array**	**3.15**	**257**	Pn	**Pb**	**21 02 07.2**	**-1.3**
	comp=E,1.3nm,0.3s,baz=70,slow=16,SNR=21						
PDAR				Lg	Lg	21 02 51.3	
	comp=E,5.5nm,0.3s,baz=74,slow=34,SNR=17						
	comp=E,1.3nm,0.3s						
BW06	**Boulder Array**	**3.15**	**257**		**Pn**	**21 02 05.0**	**+2.3**
BW06				IAML		21 02 55.2	
	comp=E,14nm,0.6s						
LAO	**LASA Array**	**3.18**	**350**	Pn	**Pn**	**21 02 03.1**	**+0.3**
LAO				IAML		21 03 15.9	
	comp=E,30nm,1.1s						
RLMT	**Red Lodge**	**3.19**	**301**	Pn	**Pn**	**21 02 04.8**	**+1.8**
RLMT				IAML		21 03 08.2	
	comp=E,18nm,1.0s						
RLMT				IAML		21 03 13.6	
	comp=E,14nm,0.6s						
OGNE	**Ogallala**	**3.61**	**135**	Pn	**Pn**	**21 02 09.7**	**+0.8**
LOHW	**Long Hollow**	**3.79**	**272**		**Pn**	**21 02 11.3**	**-0.1**
FLWY	**Flagg Ranch**	**3.88**	**279**	Pn	**Pn**	**21 02 15.0**	**+2.5**
FLWY				IAML		21 03 22.5	
	comp=E,16nm,2.7s						
REDW	**Red Top Meadow**	**3.98**	**269**	Pn	**Pn**	**21 02 15.5**	**+1.5**
I10CA	**LAC DU BONNET**	**9.22**	**41**	I	I	21 50 50.0	
	baz=221,slow=326,SNR=1.1						
ULM	**Lac du Bonnet**	**9.32**	**41**	Pn	**Pn**	**21 03 27.5**	**+0.4**
	comp=E,0.4nm,0.3s,baz=235,slow=14,SNR=2.5						
	comp=E,0.8nm,0.3s						

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*SNET **03** 21:11:17.9±1.6, 12°.65N×88°.70W, h25km, ML3.9*

*CATAC **03** 21:11:19.7±0.3, 12°.76N×88°.65W, h36km±5km, mb3.9, ML3.8*

ISC 03 21:11:19.1±1.3**, 12°.72N**±0°.05×**88°.67W**±0°.03**, h32**km±11km**, n69,** σ**0s.65**/115**, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.62**	**9**	eP	**Pb**	**21 11 31.4**	**-0.2**
ALJI				eS	**Sn**	**21 11 40.8**	**+0.3**
ALJI	**Alcalda de J**	**0.62**	**9**	i P	**Pb**	**21 11 31.3**	**-0.2**
ALJI				i S	**Sb**	**21 11 40.0**	**0.0**
ALJI				IAML		21 11 41.6	
	comp=Z,3μm,1.0s						
TECA	**Tecapa**	**0.79**	**12**	eP	**Pb**	**21 11 34.6**	**0.0**
LCY	**Lacayo**	**0.80**	**28**	eP	**Pb**	**21 11 34.8**	**+0.2**
VSM	**San Miguel**	**0.81**	**29**	eP	**Pb**	**21 11 35.2**	**+0.2**
PACA	**Pacayal**	**0.82**	**24**	eP	**Pb**	**21 11 35.2**	**+0.1**
PACA	**Pacayal**	**0.82**	**24**	i P	**Pb**	**21 11 35.0**	**-0.1**
PACA				i S	**Sn**	**21 11 46.6**	**+0.8**
PACA				IAML		21 11 48.1	
	comp=Z,25μm,1.0s						
TECO	**Alcaldia de Te**	**0.82**	**353**	eP	**Pn**	**21 11 34.7**	**+0.1**
TECO				eS	**Sn**	**21 11 46.2**	**+0.5**
TECO	**Alcaldia de Te**	**0.82**	**353**	i P	**Pn**	**21 11 34.5**	**-0.1**
TECO				i S	**Sn**	**21 11 45.8**	**+0.1**
TECO				IAML		21 11 47.8	
	comp=Z,6μm,1.0s						
CNRM	**Centro Naciona**	**0.90**	**33**	i P	**Pb**	**21 11 35.9**	**-0.4**
CNRM				i S	**Sb**	**21 11 48.1**	**+0.1**
CNRM				IAML		21 11 50.9	
	comp=Z,30μm,1.0s						
SNVI	**San Vicente**	**0.91**	**350**	eP	**Pb**	**21 11 36.3**	**-0.2**
PQSS	**Presa 15 de Se**	**0.91**	**7**	eP	**Pb**	**21 11 36.1**	**-0.4**
PQSS				i S	**Sb**	**21 11 48.4**	**+0.2**
PQSS	**Presa 15 de Se**	**0.91**	**7**	i P	**Pn**	**21 11 35.9**	**+0.1**
PQSS				i S	**Sb**	**21 11 48.6**	**+0.3**
PQSS				IAML		21 11 48.8	
	comp=Z,9μm,1.0s						
UESV	**Universidad de**	**0.92**	**353**	i P	**Pn**	**21 11 35.9**	**-0.1**
UESV				i S	**Sb**	**21 11 48.8**	**+0.1**
UESV				IAML		21 11 49.8	
	comp=Z,8μm,1.0s						
SJTE	**Alcalda de S**	**0.95**	**340**	eP	**Pn**	**21 11 36.3**	**0.0**
SJTE				eS	**Sn**	**21 11 49.2**	**+0.2**
SJTE	**Alcalda de S**	**0.95**	**340**	i P	**Pn**	**21 11 36.4**	**0.0**
SJTE				i S	**Sn**	**21 11 49.1**	**+0.2**
SJTE				IAML		21 11 50.4	
	comp=Z,5μm,1.0s						
LCND	**La Caada**	**0.96**	**52**	eP	**Pn**	**21 11 36.6**	**+0.1**
LCND	**La Caada**	**0.96**	**52**	i P	**Pb**	**21 11 37.4**	**0.0**
LCND				IAML		21 11 59.1	
	comp=Z,20μm,1.0s						
LFRS	**El Faro**	**0.98**	**337**	eP	**Pn**	**21 11 36.7**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.98**	**357**	eP	**Pb**	**21 11 37.4**	**-0.4**
SCLA				eS	**Sb**	**21 11 50.5**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.98**	**357**	i P	**Pb**	**21 11 37.3**	**-0.4**
SCLA				i S	**Sb**	**21 11 50.4**	**0.0**
SCLA				IAML		21 11 51.7	
	comp=Z,2μm,1.0s						
CNCH	**Conchagua**	**0.99**	**56**	eP	**Pn**	**21 11 37.1**	**+0.1**
CNCH				eS	**Sb**	**21 11 50.5**	**-0.2**
CNCH	**Conchagua**	**0.99**	**56**	i P	**Pn**	**21 11 37.1**	**+0.1**
CNCH				i S	**Sb**	**21 11 51.2**	**+0.5**
CNCH				IAML		21 11 57.5	
	comp=Z,4μm,1.0s						
LALI	**Alcalda de L**	**0.99**	**321**	i P	**Pn**	**21 11 36.8**	**-0.1**
LALI				i S	**Sn**	**21 11 47.8**	**-2.1**
LALI				IAML		21 11 50.7	
	comp=Z,430nm,1.0s						
PANCS	**Alcalda de**	**1.02**	**331**	i P	**Pn**	**21 11 37.2**	**-0.1**
PANCS				i S	**Sn**	**21 11 49.3**	**-1.3**
PANCS				IAML		21 11 52.5	
	comp=Z,4μm,1.0s						
PAVA	**Las Pavas**	**1.02**	**346**	eP	**Pn**	**21 11 37.7**	**+0.3**
PAVA	**Las Pavas**	**1.02**	**346**	i P	**Pn**	**21 11 37.7**	**+0.3**
PAVA				i S	**Sb**	**21 11 51.5**	**-0.1**
PAVA				IAML		21 11 53.1	
	comp=Z,6μm,1.0s						
LOMA	**Loma Larga**	**1.04**	**332**	eP	**Pn**	**21 11 37.8**	**+0.1**
LOMA				eS	**Sb**	**21 11 53.1**	**+0.9**
LOMA	**Loma Larga**	**1.04**	**332**	i P	**Pn**	**21 11 37.6**	**-0.1**
LOMA				i S	**Sn**	**21 11 51.6**	**+0.3**
LOMA				IAML		21 11 53.5	
	comp=Z,2μm,1.0s						
IGN	**Direccin Gen**	**1.10**	**334**	i P	**Pn**	**21 11 38.6**	**+0.1**
IGN				i S	**Sn**	**21 11 52.9**	**+0.2**
IGN				IAML		21 11 56.4	
	comp=Z,8μm,1.0s						
SNET	**Serv Nac Est T**	**1.11**	**331**	i P	**Pn**	**21 11 38.7**	**+0.1**
SNET				i S	**Sn**	**21 11 53.0**	**+0.2**
SNET				IAML		21 11 57.6	
	comp=Z,2μm,1.0s						
LFU	**La Fuente**	**1.11**	**337**	eP	**Pn**	**21 11 39.0**	**+0.4**
CSGN	**Cosiguina Volc**	**1.12**	**76**	i P	**Pn**	**21 11 38.3**	**-0.4**
CSGN				IAML		21 11 55.9	
	comp=Z,4μm,1.0s						
SEMO	**Seminario San**	**1.12**	**331**	i P	**Pn**	**21 11 39.0**	**+0.3**
SEMO				i S	**Sn**	**21 11 53.0**	**-0.1**
SEMO				IAML		21 12 34.7	
	comp=Z,8μm,1.0s						
ITCA	**Escuela Especi**	**1.12**	**328**	i P	**Pn**	**21 11 39.2**	**+0.5**
ITCA				i S	**Sn**	**21 11 53.0**	**-0.1**
ITCA				IAML		21 11 55.6	
	comp=Z,2μm,1.0s						
MAGS	**Ministerio de**	**1.13**	**328**	i P	**Pn**	**21 11 39.2**	**+0.3**
MAGS				i S	**Sn**	**21 11 53.6**	**+0.1**
MAGS				IAML		21 12 43.1	
	comp=Z,3μm,1.0s						
UEES	**Universidad Ev**	**1.14**	**331**	eP	**Pn**	**21 11 39.4**	**+0.4**
UEES	**Universidad Ev**	**1.14**	**331**	i P	**Pn**	**21 11 39.2**	**+0.2**
UEES				i S	**Sn**	**21 11 53.9**	**+0.4**
UEES				IAML		21 12 00.7	
	comp=Z,770nm,1.0s						
PMON	**Piamonte**	**1.17**	**328**	i P	**Pn**	**21 11 39.3**	**-0.1**
PMON				i S	**Sn**	**21 11 53.5**	**-0.9**
PMON				IAML		21 11 59.2	
	comp=Z,2μm,1.0s						
BOQS	**Boqueron**	**1.17**	**330**	eP	**Pb**	**21 11 40.4**	**-0.6**
POTN	**Potosi Cosigui**	**1.17**	**76**	i P	**Pn**	**21 11 39.3**	**-0.1**
POTN				i S	**Sn**	**21 11 53.3**	**-1.0**
POTN				IAML		21 11 59.8	
	comp=Z,280nm,1.0s						
JAYA	**Jayaque - finc**	**1.20**	**321**	eP	**Pn**	**21 11 39.8**	**-0.2**
JAYA	**Jayaque - finc**	**1.20**	**321**	i P	**Pn**	**21 11 39.7**	**-0.2**
JAYA				i S	**Sn**	**21 11 54.2**	**-1.0**
JAYA				IAML		21 11 56.1	
	comp=Z,7μm,1.0s						
CEVE	**Cerro Verde**	**1.44**	**320**	eP	**Pb**	**21 11 44.7**	**-0.8**
CEVE	**Cerro Verde**	**1.44**	**320**	i P	**Pb**	**21 11 44.4**	**-1.2**
CEVE				i S	**Sn**	**21 12 02.2**	**+0.9**
CEVE				IAML		21 12 10.3	
	comp=Z,1μm,1.0s						
SBLS	**San Blas**	**1.45**	**321**	eP	**Pn**	**21 11 44.2**	**+0.8**
LLGN	**La Laguna**	**1.46**	**350**	i P	**Pn**	**21 11 43.5**	**0.0**
LLGN				i S	**Sn**	**21 12 01.9**	**+0.3**
LLGN				IAML		21 12 04.5	
	comp=Z,470nm,1.0s						
RTR	**El Retiro**	**1.51**	**321**	eP	**Pn**	**21 11 44.7**	**+0.5**
UNIC	**Universidad Ca**	**1.52**	**326**	i P	**Pn**	**21 11 44.6**	**+0.4**
UNIC				i S	**Sn**	**21 12 03.6**	**+0.6**
UNIC				IAML		21 12 04.8	
	comp=Z,460nm,1.0s						
CRIN	**San Cristobal**	**1.58**	**90**	i P	**Pn**	**21 11 45.6**	**+0.5**
CRIN				i S	**Sn**	**21 12 05.5**	**+0.9**
CRIN				IAML		21 12 11.1	
	comp=Z,2μm,1.0s						
NUBE	**Las Nubes**	**1.60**	**318**	eP	**Pn**	**21 11 45.6**	**+0.2**
NUBE				eS	**Sn**	**21 12 05.0**	**-0.1**
NUBE	**Las Nubes**	**1.60**	**318**	i P	**Pn**	**21 11 45.6**	**+0.2**
NUBE				i S	**Sn**	**21 12 04.9**	**-0.1**
NUBE				IAML		21 12 07.2	
	comp=Z,1μm,1.0s						
PKGN	**Cerro Pekin**	**1.66**	**91**	i P	**Pn**	**21 11 46.0**	**0.0**
PKGN				i S	**Sn**	**21 12 06.1**	**-0.1**
PKGN				IAML		21 12 08.9	
	comp=Z,3μm,1.0s						
POLN	**Al Sur del Vol**	**1.82**	**92**	i P	**Pn**	**21 11 48.3**	**0.0**
POLN				IAML		21 11 48.6	
	comp=Z,700nm,1.0s						
POLN				i S	**Sn**	**21 12 09.5**	**-0.7**
ROCN	**Rota Cerro Neg**	**1.89**	**96**	i P	**Pn**	**21 11 49.3**	**0.0**
ROCN				i S	**Sn**	**21 12 11.5**	**-0.6**
ROCN				IAML		21 12 24.0	
	comp=Z,330nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.91**	**45**	i P	**Pn**	**21 11 49.6**	**0.0**
TGUH				IAML		21 11 50.2	
	comp=Z,290nm,1.0s						
TGUH				i S	**Sn**	**21 12 13.0**	**+0.4**
CNGA	**Al SSO del Vol**	**1.94**	**96**	i P	**Pn**	**21 11 49.8**	**-0.1**
CNGA				i S	**Sn**	**21 12 13.4**	**+0.1**
CNGA				IAML		21 12 17.0	
	comp=Z,610nm,1.0s						
CNGN	**Cerro Negro**	**1.94**	**96**	i P	**Pn**	**21 11 50.2**	**+0.2**
CNGN				i S	**Sn**	**21 12 13.3**	**0.0**
CNGN				IAML		21 12 32.4	
	comp=Z,450nm,1.0s						
ESQI	**Esquipulas**	**1.94**	**341**	i P	**Pn**	**21 11 50.6**	**+0.5**
ESQI				IAML		21 12 24.2	
	comp=Z,250nm,1.0s						
COPN	**Copaltepe**	**2.10**	**104**	i P	**Pn**	**21 11 51.7**	**-0.5**
COPN				IAML		21 12 26.5	
	comp=Z,380nm,1.0s						
MOMN	**Momotombo**	**2.11**	**98**	i P	**Pn**	**21 11 52.0**	**-0.3**
MOMN				i S	**Sn**	**21 12 16.0**	**-1.4**
MOMN				IAML		21 12 20.1	
	comp=Z,12nm,1.0s						
SOMN	**Somoto**	**2.13**	**71**	i P	**Pn**	**21 11 54.4**	**+1.8**
SOMN				IAML		21 11 54.6	
	comp=Z,640nm,1.0s						
SOMN				i S	**Sb**	**21 12 20.6**	**-2.6**
MOM2	**El Cardon**	**2.15**	**97**	i P	**Pn**	**21 11 53.0**	**+0.1**
MOM2				i S	**Sn**	**21 12 17.5**	**-1.0**
MOM2				IAML		21 12 20.3	
	comp=Z,170nm,1.0s						
LIMN	**Finca el Limon**	**2.28**	**81**	i P	**Pn**	**21 11 54.6**	**0.0**
LIMN				i S	**Sn**	**21 12 21.9**	**+0.2**
LIMN				IAML		21 12 28.5	
	comp=Z,150nm,1.0s						
RCVN	**Varillal2**	**2.56**	**70**	i P	**Pn**	**21 11 58.6**	**-0.1**
RCVN				IAML		21 13 42.3	
	comp=Z,2μm,1.0s						
RCPN	**Sur Rio San Ju**	**2.64**	**72**	i P	**Pn**	**21 11 59.3**	**-0.4**
RCPN				IAML		21 12 00.3	
	comp=Z,1.1nm,1.0s						
MATN	**Matagalpa**	**2.69**	**85**	i P	**Pn**	**21 12 00.3**	**0.0**
MATN				IAML		21 12 00.8	
	comp=Z,76nm,1.0s						
MATN				i S	**Sn**	**21 12 30.9**	**-1.0**
LAFE	**Finca La Fe, P**	**4.69**	**128**	i P	**Pn**	**21 12 29.1**	**+1.4**
LAFE				IAML		21 13 26.4	
	comp=Z,56nm,1.0s						
CDM	**Cerro de Muert**	**5.75**	**123**	i P	**Pn**	**21 12 45.9**	**+3.1**
CDM				IAmb	IAmb	21 12 48.1	
	comp=Z,14nm,1.2s						
CDM				IAML		21 13 51.3	
	comp=Z,33nm,1.0s						

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*NEIC **03** 21:32:45.1±1.3, 12°.11S±0°.09×167°.3E±0°.1, h168km±6km, mb4.9/231, Error ellipse: s-maj=14.7km s-min=13.3km az=105.0*

*IDC **03** 21:32:51.1±2.4, 12°.15S×167°.12E, h231km±21km, mb4.0/20, mbtmp4.5/22, Error ellipse: s-maj=14.8km s-min=11.4km az=88.0*

ISC 03 21:32:48.4±0.5**, 12°.17S**±0°.05×**167°.18E**±0°.07**, h204**km±4km**, h205**km**:pP-P, n584,** σ**1s.07**/554**, mb4.8**/152**, 4C-2D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOUNC	**Koumac, New Ca**	**8.79**	**198**	Pn	**Pn**	**21 34 50.1**	**-1.8**
MARNC	**Mare, Loyalty**	**9.30**	**175**	Pn	**Pn**	**21 34 56.4**	**-2.1**
DZM	**Mont Dzumac**	**9.88**	**184**	Pn	**Pn**	**21 35 06.8**	**+0.7**
DZM	**Mont Dzumac**	**9.88**	**184**	P	**Pn**	**21 35 09.0**	**+2.9**
	2.0nm,0.6s,baz=345,slow=20,SNR=1.3						
DZM				S	**Sn**	**21 36 59.8**	**+3.2**
	2.6nm,0.6s,baz=307,slow=20,SNR=1.2						
FUNA	**Funafuti**	**12.37**	**74**	P	**Pn**	**21 35 38.3**	**+0.4**
RABL	**Rabaul**	**16.83**	**297**	P	**P**	**21 36 30.6**	**-0.8**
PMG	**Port Moresby**	**19.85**	**276**	P	**P**	**21 36 58.2**	**-5.9**
PMG	**Port Moresby**	**19.85**	**276**	P	**P**	**21 37 02.8**	**-1.2**
	9.0nm,0.5s,baz=62,slow=17,SNR=4.7						
EIDS	**Eidsvold**	**20.09**	**227**	P	**P**	**21 37 07.7**	**+1.2**
PATS	**Pohnpei**	**20.83**	**335**	P	**P**	**21 37 14.4**	**-0.1**
CTA	**Charters Tower**	**21.57**	**246**	P	**P**	**21 37 23.2**	**+1.0**
	5.7nm,0.5s,baz=71,slow=9.9,SNR=11						
	5.7nm,0.5s						
CTAO	**Charters Tower**	**21.57**	**246**	P	**P**	**21 37 24.4**	**+2.2**
MANU	**Manus Island**	**22.06**	**296**	P	**P**	**21 37 26.8**	**-0.3**
COEN	**Coen**	**23.45**	**263**	P	**P**	**21 37 40.1**	**+0.5**
RTZ	**Ruatahuna**	**27.75**	**163**	P	**P**	**21 38 18.4**	**+0.2**
NGZ	**Ngauruhoe**	**27.92**	**166**	P	**P**	**21 38 23.6**	**+3.8**
OTVZ	**Oturere**	**27.93**	**166**	P	**P**	**21 38 23.5**	**+3.7**
TUVZ	**Tukino**	**28.02**	**166**	P	P	21 38 29.9	+9.2
BHHZ	**Black Hill Sta**	**28.33**	**165**	P	**P**	**21 38 24.6**	**+1.3**
KRHZ	**Kereru**	**28.55**	**165**	P	**P**	**21 38 26.8**	**+1.6**
KAHZ	**Kahuranaki**	**28.83**	**164**	P	**P**	**21 38 29.1**	**+1.4**
TSZ	**Takapari Road**	**28.85**	**166**	P	**P**	**21 38 29.4**	**+1.6**
PRHZ	**Porangahau**	**29.21**	**165**	P	**P**	**21 38 32.4**	**+1.4**
MRZ	**Mangatainoka R**	**29.33**	**167**	P	**P**	**21 38 31.1**	**-0.9**
BFZ	**Birch Farm**	**29.51**	**166**	P	**P**	**21 38 33.8**	**+0.2**
BFZ				IAmb	IAmb	21 38 55.3	
	comp=Z,52nm,1.9s						
BFZ	**Birch Farm**	**29.51**	**166**	P	**P**	**21 38 33.8**	**+0.2**
MTW	**Mount Morrison**	**29.79**	**167**	P	**P**	**21 38 36.9**	**+0.8**
PAWZ	**Paruwai Farm**	**29.99**	**168**	P	**P**	**21 38 38.5**	**+0.6**
TRWZ	**Traveller**	**30.06**	**167**	P	**P**	**21 38 39.5**	**+1.0**
PLWZ	**Palliser**	**30.13**	**168**	P	**P**	**21 38 39.7**	**+0.5**
PLWZ	**Palliser**	**30.13**	**168**	P	**P**	**21 38 39.9**	**+0.7**
STKA	**Stephens Creek**	**30.64**	**226**	P	**P**	**21 38 44.7**	**+1.0**
	comp=Z,2.0nm,0.6s,baz=40,slow=13,SNR=4.6						
	comp=Z,2.0nm,0.6s						
INZ	**Inchbonnie**	**30.67**	**174**	P	**P**	**21 38 45.7**	**+1.9**
INZ				IAmb	IAmb	21 38 47.4	
	comp=Z,16nm,0.8s						
OXZ	**Oxford**	**31.33**	**173**	P	**P**	**21 38 45.4**	**-4.2**
OXZ				IAmb	IAmb	21 38 52.6	
	comp=Z,18nm,0.7s						
FOZ	**Fox Glacier**	**31.34**	**176**	P	**P**	**21 38 51.1**	**+1.5**
FOZ				IAmb	IAmb	21 38 57.0	
	comp=Z,16nm,1.0s						
RPZ	**Rata Peaks**	**31.61**	**175**	P	**P**	**21 38 53.5**	**+1.4**
RPZ				IAmb	IAmb	21 38 59.4	
	comp=Z,14nm,0.8s						
LBZ	**Lake Benmore**	**32.21**	**176**	P	**P**	**21 38 57.8**	**+0.5**
LBZ				IAmb	IAmb	21 39 49.9	
	comp=Z,61nm,1.8s						
WR0	**Warramunga Arr**	**32.26**	**252**	P	**P**	**21 38 58.1**	**0.0**
WB0	**Warramunga Arr**	**32.37**	**252**	P	**P**	**21 38 58.9**	**-0.1**
WRA	**Warramunga Arr**	**32.44**	**252**	P	**P**	**21 38 59.3**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=84,slow=8.9,SNR=8.7						
	comp=Z,0.8nm,0.5s						
WKZ	**Wanaka**	**32.59**	**178**	P	**P**	**21 39 00.5**	**0.0**
AS31	**Alice Springs**	**33.57**	**245**	P	**P**	**21 39 09.9**	**+0.4**
ASAR	**Alice Springs**	**33.57**	**245**	P	**P**	**21 39 08.9**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=71,slow=9.2,SNR=26						
ASAR				ScP	**ScP**	**21 45 05.0**	**-5.4**
	comp=Z,1.1nm,0.9s,baz=92,slow=4.1,SNR=5.8						
	comp=Z,1.4nm,0.6s						
BBOO	**Buckleboo**	**35.12**	**229**	P	**P**	**21 39 23.4**	**+0.8**
BBOO				IAmb	IAmb	21 40 16.6	
	comp=Z,48nm,1.9s						
MTN	**Manton Dam**	**35.18**	**265**	P	**P**	**21 39 24.0**	**+0.8**
FORT	**Forrest**	**40.57**	**237**	P	**P**	**21 40 08.4**	**+0.2**
FORT				IAmb	IAmb	21 40 09.5	
	comp=Z,21nm,0.8s						
PSA00	**Pilbara Seismi**	**46.10**	**252**	P	**P**	**21 40 53.0**	**+0.5**
MBWA	**Marble Bar**	**46.18**	**252**	P	**P**	**21 40 53.4**	**+0.3**
MBWA				IAmb	IAmb	21 41 36.7	
	comp=Z,43nm,1.9s						
TOLI2	**Tolitoli**	**47.91**	**283**	P	**P**	**21 41 07.5**	**+0.9**
NWAO	**Narrogin (SRO)**	**50.02**	**237**	P	**P**	**21 41 22.3**	**0.0**
NWAO				IAmb	IAmb	21 41 34.5	
	comp=Z,67nm,1.6s						
NWAO	**Narrogin (SRO)**	**50.02**	**237**	P	**P**	**21 41 22.3**	**0.0**
NWAO				IAmb	IAmb	21 41 34.4	
	comp=Z,226nm,1.6s						
MORW	**Morawa**	**50.33**	**242**	P	**P**	**21 41 24.8**	**0.0**
MORW				IAmb	IAmb	21 42 08.0	
	comp=Z,50nm,1.8s						
KKM	**Kota Kinabalu**	**53.80**	**287**	P	**P**	**21 41 51.4**	**+0.8**
KKM				IAmb	IAmb	21 41 52.0	
	comp=Z,24nm,1.3s						
JOW	**Kunigami**	**54.13**	**316**	P	**P**	**21 41 53.9**	**+1.2**
JMN	**Monobe**	**55.57**	**326**	P	**P**	**21 42 04.2**	**+1.3**
MJAR	**Matsushiro Arr**	**55.61**	**332**	P	**P**	**21 42 02.7**	**-0.3**
	comp=Z,6.9nm,0.8s,baz=167,slow=8.0,SNR=23						
	comp=Z,6.9nm,0.8s						
MAJO	**Matsushiro**	**55.61**	**332**	P	**P**	**21 42 03.4**	**+0.3**
MAJO				IAmb	IAmb	21 42 04.4	
	comp=Z,19nm,1.1s						
MAJO	**Matsushiro**	**55.61**	**332**	P	**P**	**21 42 02.8**	**-0.3**
MJB9	**Matsu-Tunnel**	**55.61**	**332**	P	**P**	**21 42 03.4**	**+0.2**
MJB9				IAmb	IAmb	21 42 04.3	
	comp=Z,19nm,1.1s						
UGM	**Wanagama**	**55.87**	**269**	P	**P**	**21 42 05.8**	**+0.4**
UGM					**pP**	**21 42 42.8**	**-6.7**
JNU	**Nakatsue**	**56.80**	**324**	P	**P**	**21 42 12.0**	**+0.4**
JNU				IAmb	IAmb	21 42 13.0	
	comp=Z,17nm,0.8s						
YULB	**Yu-li**	**57.12**	**308**	P	**P**	**21 42 13.4**	**-0.7**
YULB				IAmb	IAmb	21 44 23.5	
	comp=Z,40nm,1.2s						
DRV	**Dumont d'Urvil**	**57.41**	**192**	P	**P**	**21 42 15.6**	**+0.3**
SSLB	**Suanglung**	**57.60**	**308**	P	**P**	**21 42 17.9**	**+0.5**
YHNB	**Yeheng**	**57.77**	**310**	P	**P**	**21 42 19.3**	**+0.7**
ERM	**Erimo**	**58.27**	**339**	P	**P**	**21 42 22.7**	**+1.2**
JKA	**Kamikawa-asahi**	**60.31**	**340**	P	**P**	**21 42 37.1**	**+1.5**
KSRS	**Korea Array**	**61.59**	**325**	P	**P**	**21 42 43.9**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=133,slow=7.0,SNR=7.4						
	comp=Z,3.0nm,0.9s						
NJ2	**Nanjing**	**63.80**	**315**	eP	**P**	**21 42 59.8**	**+0.8**

NJ2 pP **pP** 21 43 45.6 -0.3
NJ2 sP **sP** 21 44 04.9 -3.0
NJ2 pmax pmax
comp=Z,14nm,0.9s
NJ2 pmax pmax
comp=Z,200nm,3.8s
USA0B Ussuriysk Arra 64.58 333 P **P** 21 43 02.8 -1.0
USA0B lAmb lAmb 21 43 06.3
comp=Z,25nm,1.2s
USRK Ussuriysk Ar. 64.58 333 P **P** 21 43 02.6 -1.1
USRK Ussuriysk Ar. 64.58 333 P **P** 21 43 01.7 -2.1
comp=Z,4.0nm,0.6s,baz=193,slow=9.0,SNR=8.3
comp=Z,4.0nm,0.6s
KIWB Kanaga Island 65.18 11 P **P** 21 43 08.8 +1.2
ADK Adak 65.30 11 P **P** 21 43 08.7 +0.4
ADK Adak 65.30 11 P **P** 21 43 08.8 +0.6
ADK PcP **PcP** 21 43 39.0 +0.3
VNDA Vanda 65.41 181 P **P** 21 43 09.6 +0.9
VNDA Vanda 65.41 181 P **P** 21 43 08.5 -0.2
comp=Z,2.6nm,1.0s,baz=341,slow=6.3,SNR=7.7
comp=Z,2.6nm,1.0s
VNDA Vanda 65.41 181 P **P** 21 43 09.2 +0.5
VNDA pP pP 21 43 46.7 -8.8
PETK Petropavlovsk- 65.52 354 P **P** 21 43 10.9 +1.3
GSTR Great Sitkin T 65.62 11 P **P** 21 43 11.1 +0.7
CASY Casey 65.86 202 P **P** 21 43 11.7 0.0
MDJ Mudanjiang 65.99 332 P **P** 21 43 13.9 +1.0
MDJ pmax pmax
comp=Z,16nm,1.1s
MDJ pmax pmax
comp=Z,120nm,4.0s
ATKA Atka Island 66.09 12 P **P** 21 43 13.1 -0.3
CCD Concordia, Ant 67.38 191 P **P** 21 43 21.9 +0.1
CCD PcP **PcP** 21 43 46.7 -1.1
NIKH Nikolski High 68.06 15 P **P** 21 43 26.2 +0.5
baz=205
RPSI Rantau Prapat 69.38 278 P **P** 21 43 34.3 -0.4
RPSI lAmb lAmb 21 43 35.1
comp=Z,14nm,1.0s
LYN LuoYang 69.63 314 ⇓P **P** 21 43 36.7 +0.9
LYN pP pP 21 44 21.0 -2.5
LYN PP **PP** 21 46 08.4 -4.4
HNS HongShan 69.65 318 ⇑P **P** 21 43 36.3 +0.5
HNS pmax pmax
comp=Z,7.0nm,1.0s
ENH Enshi 69.69 309 P **P** 21 43 36.0 -0.3
ENH lAmb lAmb 21 43 37.2
comp=Z,19nm,0.9s
ENH Enshi 69.69 309 P **P** 21 43 36.3 0.0
AKUT Akutan 69.93 17 P **P** 21 43 36.7 -0.5
GYA Guiyang 70.20 304 P **P** 21 43 40.3 +0.7
GYA pmax pmax
comp=Z,9.0nm,0.6s
BJT Baijiatuau 70.22 321 P **P** 21 43 40.4 +1.1
BJI Beijing 70.23 321 P **P** 21 43 39.8 +0.5
BJI PcP **PcP** 21 43 59.7 -0.1
BJI pP **pP** 21 44 24.9 -2.2
BJI pmax pmax
comp=Z,3.0nm,0.8s
GSI Gunungsitoli 70.36 276 P **P** 21 43 41.3 +0.6
HEH HeiHe 71.22 334 *e*P **P** 21 43 45.2 +0.1
HEH pmax pmax
comp=Z,8.0nm,0.8s
XAN Xi'an 71.91 312 ⇑P **P** 21 43 50.3 +0.7
XAN pmax pmax
comp=Z,18nm,0.8s
PHRA Phrae 72.70 294 P **P** 21 43 55.2 +0.7
KMI Kunming 72.90 301 ⇑P **P** 21 43 57.2 +1.3
KMI pmax pmax
comp=Z,16nm,0.9s
KMI pmax pmax
comp=Z,130nm,4.8s
CRAI Chiangrai 73.16 296 P **P** 21 43 58.0 +0.7
HHC Hu-ho-hao-te 73.59 319 *e*P **P** 21 43 55.6 -3.8
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,130nm,4.5s
CMAR Chiang Mai Arr 73.84 293 P **P** 21 44 02.3 +1.0
CMAR Chiang Mai Arr 73.84 293 P **P** 21 44 01.4 +0.2
comp=Z,6.0nm,0.8s,baz=122,slow=4.4,SNR=38
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 73.95 294 P **P** 21 44 02.0 +0.1
PZH PanZhiHua 74.25 302 P **P** 21 44 06.3 +2.7
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.4s
BTO Baotou 74.45 318 *e*P **P** 21 44 07.1 +2.7
BTO pP **pP** 21 44 56.1 +3.4
BTO sP **sP** 21 45 17.9 +3.6
BTO PP **PP** 21 46 59.9 +6.0
BTO pmax pmax
comp=Z,22nm,0.9s
BTO pmax pmax
comp=Z,130nm,5.9s
N14K Kuskokwak Cree 76.07 16 P **P** 21 44 13.2 +0.1
baz=211
P16K Nushagak River 76.36 18 P **P** 21 44 15.0 +0.3
baz=215
Q17K Contact Creek 76.39 19 P **P** 21 44 15.1 +0.1
baz=217
OHAK Old Harbor 76.44 21 P **P** 21 44 14.4 -0.8
OHAK Old Harbor 76.44 21 P **P** 21 44 16.2 +1.0
baz=220
Q16K King Salmon 76.48 18 P **P** 21 44 15.9 +0.5
baz=216
LZH Lanzhou 76.54 312 *e*P **P** 21 44 18.2 +1.7
LZH pP pP 21 45 05.8 +0.7
LZH S SKiKP 21 53 28.0 +15
LZH pmax pmax
comp=Z,26nm,1.0s
N15K Kwethluk River 76.71 16 P **P** 21 44 17.2 +0.5
baz=213
M14K Bethel 76.71 15 P **P** 21 44 17.4 +0.8
M14K lAmb lAmb 21 44 18.2
comp=Z,46nm,1.2s
M14K Bethel 76.71 15 P **P** 21 44 17.1 +0.5
baz=211
Q18K Katmai Hardscr 76.97 19 P **P** 21 44 18.1 -0.2
baz=218
M15K Kasigluk River 76.99 16 P **P** 21 44 18.6 +0.3
baz=212
L14K Kuka Creek 77.04 14 P **P** 21 44 19.3 +0.8
L14K lAmb lAmb 21 46 50.2
comp=Z,72nm,1.8s
L14K Kuka Creek 77.04 14 P **P** 21 44 19.2 +0.8
baz=210
KDAK Kodiak Island 77.11 21 P **P** 21 44 19.6 +0.7
O17K Koliganek Bris 77.23 18 P **P** 21 44 19.6 0.0
baz=216
N16K Nishlik Lake 77.33 17 P **P** 21 44 22.0 +1.8
baz=214
P18K Big Mountain, 77.49 19 P **P** 21 44 21.7 +0.6
baz=218
L15K Ungalak Mounta 77.63 15 P **P** 21 44 22.4 +0.7
baz=211
M16K Timber Creek 77.73 16 P **P** 21 44 22.7 +0.4
M16K Timber Creek 77.73 16 P **P** 21 44 23.5 +1.2
baz=214
QSPA South Pole Qui 77.85 180 P **P** 21 44 23.4 +0.2
QSPA lAmb lAmb 21 44 24.2
comp=Z,25nm,1.2s
QSPA South Pole Qui 77.85 180 P **P** 21 44 23.2 0.0
comp=Z,8.6nm,0.6s,baz=12,slow=1.5,SNR=29
comp=Z,8.6nm,0.6s
O18K Koktuh Hills 77.87 18 P **P** 21 44 22.7 -0.5
J14K Nanvaranak Lak 78.07 13 P **P** 21 44 24.8 +0.7
J14K lAmb lAmb 21 44 26.0
comp=Z,25nm,0.8s
J14K Nanvaranak Lak 78.07 13 P **P** 21 44 25.2 +1.1
baz=209
K15K Wolf Creek Mou 78.14 14 P **P** 21 44 25.2 +0.6
K15K Wolf Creek Mou 78.14 14 P **P** 21 44 25.6 +1.0
baz=211
L16K Owhat River 78.17 16 P **P** 21 44 25.2 +0.5
L16K Owhat River 78.17 16 P **P** 21 44 25.2 +0.5
baz=213
M17K Holitna River 78.46 17 P **P** 21 44 27.4 +1.0
baz=215
L17K Donlin 78.83 16 P **P** 21 44 29.7 +1.4
baz=214
N19K Bonanza Creek 78.85 18 P **P** 21 44 29.7 +1.1
baz=218
CNPM China Poot 78.89 20 P **P** 21 44 29.2 +0.4
M18K Stony River 78.99 17 P **P** 21 44 30.5 +1.2
baz=217
BRLK Bradley Lake 79.19 20 P **P** 21 44 29.1 -1.3
J16K Anvik River 79.22 14 P **P** 21 44 30.9 +0.5
J16K lAmb lAmb 21 44 32.5
comp=Z,20nm,0.8s
J16K Anvik River 79.22 14 P **P** 21 44 32.0 +1.5
baz=212
ANM Nome 79.29 12 P **P** 21 44 31.0 +0.2
ANM lAmb lAmb 21 44 32.7
comp=Z,16nm,1.1s
ANM Nome 79.29 12 P **P** 21 44 32.5 +1.7
baz=207
K17K Iditarod 79.31 15 P **P** 21 44 31.4 +0.4
K17K lAmb lAmb 21 44 32.9
comp=Z,20nm,0.8s
K17K Iditarod 79.31 15 P **P** 21 44 32.6 +1.6
baz=214
L18K Granite Mounta 79.34 16 P **P** 21 44 31.8 +0.7
L18K lAmb lAmb 21 44 33.0
comp=Z,17nm,0.8s
L18K Granite Mounta 79.34 16 P **P** 21 44 32.5 +1.4
baz=216
YAK Yakutsk 79.56 343 P **P** 21 44 32.3 +0.1
YAK lAmb lAmb 21 44 33.1
comp=Z,25nm,1.0s
I17K Unalakleet 79.71 14 P **P** 21 44 34.2 +1.2
I17K lAmb lAmb 21 44 36.0
comp=Z,16nm,1.1s
I17K Unalakleet 79.71 14 P **P** 21 44 34.4 +1.4
baz=212
TNA Tin City 79.71 10 P **P** 21 44 34.4 +1.4
baz=205
L19K White Mountain 79.82 17 P **P** 21 44 34.1 +0.4
L19K White Mountain 79.82 17 P **P** 21 44 34.8 +1.1
baz=218
F14K Arctic Creek 79.92 11 P **P** 21 44 35.2 +1.1
baz=206
G15K Niukluk 79.94 12 P **P** 21 44 35.3 +1.0
baz=208
BILL Bilibino 79.99 360 P **P** 21 44 34.8 +0.3
BILL lAmb lAmb 21 44 35.7
comp=Z,26nm,0.9s
H16K Elim 80.00 13 P **P** 21 44 35.6 +1.0
baz=210
ULN Ulaanbaatar 80.03 324 P **P** 21 44 36.0 +0.7
M20K Styx River 80.09 18 P **P** 21 44 35.7 +0.4
baz=219
TTA Tatalina 80.10 16 P **P** 21 44 36.0 +0.8
TTA lAmb lAmb 21 44 36.6
comp=Z,55nm,2.0s
TTA Tatalina 80.10 16 P **P** 21 44 36.1 +0.8
baz=216
L20K Farewell, AK 80.34 17 P **P** 21 44 37.2 +0.7
baz=218
J18K Innoko River 80.34 16 P **P** 21 44 37.0 +0.5
J18K lAmb lAmb 21 44 37.8
comp=Z,13nm,0.8s
J18K Innoko River 80.34 16 P **P** 21 44 37.4 +0.9
baz=216
SONM Songino Array 80.39 323 P **P** 21 44 37.7 +0.4
SONM Songino Array 80.39 323 P **P** 21 44 37.7 +0.4
comp=Z,3.6nm,0.9s,baz=146,slow=4.5,SNR=16
comp=Z,3.6nm,0.9s
F15K North Star Dit 80.45 11 P **P** 21 44 37.5 +0.6
baz=208
SUA Susitna One 80.51 19 P **P** 21 44 37.4 -0.2
SUA Susitna One 80.51 19 P **P** 21 44 38.0 +0.4
baz=222
RC01 Rabbit Creek A 80.56 20 P **P** 21 44 37.8 +0.1
RC01 Rabbit Creek A 80.56 20 P **P** 21 44 37.6 0.0
baz=222
G16K Koyuk River 80.64 12 P **P** 21 44 38.5 +0.6
G16K lAmb lAmb 21 44 39.8
comp=Z,14nm,0.8s
G16K Koyuk River 80.64 12 P **P** 21 44 38.7 +0.8
baz=210
SKT Skwentna 80.65 18 P **P** 21 44 38.1 -0.1
SKT lAmb lAmb 21 45 40.2
comp=Z,36nm,1.7s
SKT Skwentna 80.65 18 P **P** 21 44 38.5 +0.3
baz=221
H17K Granite Mounta 80.78 14 P **P** 21 44 39.2 +0.4
H17K Granite Mounta 80.78 14 P **P** 21 44 39.4 +0.6
baz=212
GTA Gaotai 80.84 314 *e*P **P** 21 44 40.8 +1.0
GTA pP PcP 21 44 46.6 +0.8
GTA pmax pmax
comp=Z,7.0nm,1.1s
PWL Port Wells 80.86 20 P **P** 21 44 39.3 0.0
PWL Port Wells 80.86 20 P **P** 21 44 39.7 +0.4
baz=224
K20K Telida 80.97 17 P **P** 21 44 40.4 +0.6
baz=218
J19K Poorman 81.06 16 P **P** 21 44 41.1 +0.9
J19K lAmb lAmb 21 46 05.1
comp=Z,63nm,2.0s
J19K Poorman 81.06 16 P **P** 21 44 40.9 +0.7
baz=217
G17K Kiwalik Mounta 81.09 13 P **P** 21 44 41.0 +0.6
baz=212
PMR Palmer 81.13 20 P **P** 21 44 40.9 +0.3
PMR lAmb lAmb 21 45 25.0
comp=Z,71nm,1.7s
PMR Palmer 81.13 20 P **P** 21 44 41.1 +0.5
baz=223
PPLA Purkeypile 81.16 18 P **P** 21 44 41.2 +0.2
PPLA Purkeypile 81.16 18 P **P** 21 44 41.8 +0.9
baz=220
KNK Knik Glacier 81.22 20 P **P** 21 44 41.7 +0.5
KNK lAmb lAmb 21 44 42.2
comp=Z,17nm,0.7s
KNK Knik Glacier 81.22 20 P **P** 21 44 41.4 +0.3
baz=224
GLI Glacier Island 81.30 21 P **P** 21 44 41.7 +0.1
GLI Glacier Island 81.30 21 P **P** 21 44 42.1 +0.5
baz=225
H18K Honhosa River 81.32 14 P **P** 21 44 41.9 +0.2
baz=214
GHO Glory Hole Cre 81.33 19 P **P** 21 44 41.8 0.0
FID Port Fidalgo 81.42 21 P **P** 21 44 41.5 -0.8
SML Sawmill 81.55 20 P **P** 21 44 43.1 +0.2
SML Sawmill 81.55 20 P **P** 21 44 43.2 +0.2
baz=224
CAST Castle Rocks 81.59 17 P **P** 21 44 43.1 0.0
CAST lAmb lAmb 21 44 44.3
comp=Z,17nm,0.7s
CAST Castle Rocks 81.59 17 P **P** 21 44 42.6 -0.4
baz=220,SNR=14
J20K Nowinta River 81.60 16 lAmb lAmb 21 44 46.1
comp=Z,12nm,0.7s
J20K Nowinta River 81.60 16 P **P** 21 44 44.3 +1.2
baz=218
M23K Glacier View 81.74 20 P **P** 21 44 44.0 +0.1
baz=224
F17K Baldwin Pennin 81.77 12 lAmb lAmb 21 44 45.6
comp=Z,22nm,0.7s
F17K Baldwin Pennin 81.77 12 P **P** 21 44 44.9 +1.0
baz=211
G18K Tagagawik 81.87 13 P **P** 21 44 45.2 +0.7
baz=214
SCM Sheep Creek Mo 81.90 20 P **P** 21 44 45.1 +0.3
SCM Sheep Creek Mo 81.90 20 P **P** 21 44 45.3 +0.5
baz=225
I20K Naaghedeneel 82.00 16 P **P** 21 44 46.1 +1.0
baz=218
KTH Kantishna Hill 82.03 18 P **P** 21 44 44.9 -0.6
KTH lAmb lAmb 21 44 46.2
comp=Z,14nm,0.8s
H19K Roundabout Mou 82.09 14 P **P** 21 44 46.5 +0.9
baz=216
KLU Klutina 82.14 21 P **P** 21 44 46.4 +0.4
KLU Klutina 82.14 21 P **P** 21 44 46.2 +0.1
baz=226
TRF Thorofare Moun 82.14 18 P **P** 21 44 45.7 -0.4
TRF lAmb lAmb 21 44 47.4
comp=Z,18nm,0.8s
TRF Thorofare Moun 82.14 18 P **P** 21 44 45.7 -0.4
baz=222,SNR=5.6
E17K Hotham Inlet 82.21 12 P **P** 21 44 47.2 +1.1
baz=210,SNR=16
WAT1 Susitna Watana 82.22 19 P **P** 21 44 47.0 +0.6
baz=223
KCPM Cahto Peak 82.28 47 P **P** 21 44 47.9 +0.5
WAT6 Susitna Watana 82.30 19 P **P** 21 44 47.8 +0.8
baz=224,SNR=5.1
HOPS Hopland Field 82.39 48 P **P** 21 44 48.0 +0.2
KMRM Mail Ridge 82.40 46 P **P** 21 44 47.5 -0.4
BPAW Bear Paw Mtn. 82.42 17 P **P** 21 44 47.7 +0.3
BPAW lAmb lAmb 21 46 18.1
comp=Z,14nm,0.9s
BPAW Bear Paw Mtn. 82.42 17 P **P** 21 44 47.8 +0.4
baz=221
G19K Purcell Mounta 82.44 14 P **P** 21 44 48.1 +0.6
G19K lAmb lAmb 21 44 49.0
comp=Z,13nm,0.8s
G19K Purcell Mounta 82.44 14 P **P** 21 44 48.3 +0.9
baz=215
H20K Anotleneega Mo 82.45 15 P **P** 21 44 48.6 +1.1
baz=217
M24K Tolsona, Glenn 82.48 20 P **P** 21 44 48.5 +0.7
M24K Tolsona, Glenn 82.48 20 P **P** 21 44 48.9 +1.1
baz=226
WAX Waxell Ridge 82.54 23 P **P** 21 44 48.9 +0.7
RND Reindeer 82.55 18 P **P** 21 44 48.2 +0.1
C16K Lisburne Hills 82.61 10 P **P** 21 44 49.0 +0.8
baz=207
KHMM Horse Mountain 82.64 46 P **P** 21 44 50.3 +1.1
CRQE Cirque 82.65 22 P **P** 21 44 48.8 0.0
baz=229
N25K Chitina, Valde 82.68 21 P **P** 21 44 49.4 +0.6
N25K Chitina, Valde 82.68 21 P **P** 21 44 49.6 +0.7
baz=227,SNR=5.7
E18K Tukpahlearik C 82.74 12 lAmb lAmb 21 44 50.6
comp=Z,14nm,0.9s
E18K Tukpahlearik C 82.74 12 P **P** 21 44 49.8 +0.8
baz=212
TGL Tana Glacier 82.75 22 P **P** 21 44 49.6 +0.3
TGL lAmb lAmb 21 45 33.6
comp=Z,59nm,1.5s
MCK McKinley 82.76 18 P **P** 21 44 48.8 -0.3
baz=223
KRMB Red Mountain 82.77 45 P **P** 21 44 49.9 +0.1
VRDI Verde Repeater 82.83 22 P **P** 21 44 50.0 +0.2
VRDI lAmb lAmb 21 44 50.3
comp=Z,19nm,0.9s
GLB Gilahina Butte 82.84 21 P **P** 21 44 49.9 +0.3
GLB lAmb lAmb 21 44 50.6
comp=Z,15nm,0.8s
RDOG Red Dog Mine 82.84 11 P **P** 21 44 50.3 +0.8
RDOG lAmb lAmb 21 44 51.1
comp=Z,16nm,0.7s
RDOG Red Dog Mine 82.84 11 P **P** 21 44 50.3 +0.8
baz=209
F19K Shaleruckik Mo 82.85 13 lAmb lAmb 21 44 50.9
comp=Z,15nm,0.9s
F19K Shaleruckik Mo 82.85 13 P **P** 21 44 50.3 +0.8
baz=214
DIB Dawson Inlet, 82.89 32 P **P** 21 44 50.3 +0.4
DIB lAmb lAmb 21 44 51.3
comp=Z,22nm,0.9s
KSXB Camp Six Broad 82.91 45 P **P** 21 44 49.0 -1.6
I21K Tanana 82.97 16 P **P** 21 44 50.8 +0.7
I21K lAmb lAmb 21 44 51.6
comp=Z,19nm,0.7s
I21K Tanana 82.97 16 P **P** 21 44 51.1 +0.9
baz=220,SNR=12
HARP HAARP 83.03 20 P **P** 21 44 51.2 +0.7
baz=227
MCARA McCarthy VSAT 83.09 22 P **P** 21 44 51.2 +0.3
baz=229
H21K Melozitna Rive 83.12 16 P **P** 21 44 51.5 +0.6
baz=219
C17K DeLong Mountai 83.17 11 P **P** 21 44 51.7 +0.6
baz=209
MLY Manley 83.20 17 lAmb lAmb 21 44 52.1
comp=Z,16nm,1.3s
MLY Manley 83.20 17 P **P** 21 44 51.3 -0.1
baz=221
PINM Pinnacle 83.31 24 P **P** 21 44 52.3 +0.2
baz=231
GOMU GeErMu 83.31 309 P **P** 21 44 54.5 +1.5
GOMU pmax pmax
comp=Z,2.0nm,0.7s
PAX Paxson 83.31 20 P **P** 21 44 52.0 -0.1
baz=226
NEA2 Nenana 83.35 17 P **P** 21 44 51.4 -0.7
baz=223
PKM Mcpherson Peak 83.36 52 P **P** 21 44 52.3 -0.8
baz=250
BARN Barnard Glacie 83.38 22 lAmb lAmb 21 44 53.8
comp=Z,25nm,0.8s
CTG Chitna Glacier 83.44 23 P **P** 21 44 52.9 +0.1
baz=230
CTGM Chitina Glacie 83.44 23 lAmb lAmb 21 44 54.0
comp=Z,18nm,0.7s
E19K Redstone River 83.49 13 P **P** 21 44 54.0 +1.2
baz=215
F20K Avaraart Lake 83.50 14 P **P** 21 44 53.9 +1.1
baz=216
G21K Allakaket 83.61 15 lAmb lAmb 21 44 54.8
comp=Z,10nm,0.7s
G21K Allakaket 83.61 15 P **P** 21 44 54.4 +1.0
baz=218,SNR=6.7
I23K Minto, Yukon-K 83.67 17 lAmb lAmb 21 45 20.1
comp=Z,31nm,1.7s
I23K Minto, Yukon-K 83.67 17 P **P** 21 44 53.9 +0.1
baz=222
H22K Ishtalitna Cre 83.68 16 P **P** 21 44 54.1 +0.3
baz=220
YBH Yreka Blue Hor 83.68 45 P **P** 21 44 55.4 +1.0
YBH lAmb lAmb 21 44 56.3
comp=Z,14nm,0.9s
C18K Utukok River 83.68 11 P **P** 21 44 54.4 +0.6
baz=211
CRAG Craig 83.75 30 P **P** 21 44 54.9 +0.6
baz=238
M26K Nabesna, AK 83.77 21 lAmb lAmb 21 44 55.5
comp=Z,12nm,0.7s
M26K Nabesna, AK 83.77 21 P **P** 21 44 54.6 +0.2
baz=229
K24K Donnelly Dome 83.79 19 P **P** 21 44 54.6 +0.2
baz=226,SNR=5.4
DBO Dodson Butte 83.85 44 P **P** 21 44 55.5 +0.2
HDA Harding Lake 83.85 18 P **P** 21 44 54.7 0.0
baz=225,SNR=36
HDA P **P** 21 44 54.7 0.0
baz=225,SNR=36
AFDM Forest Hills D 83.89 48 lAmb lAmb 21 44 56.8
comp=Z,12nm,1.0s
COLA College 83.92 18 P **P** 21 44 54.9 -0.1
COLA College 83.92 18 P **P** 21 44 54.9 -0.1
baz=224
HOLB Holberg 83.99 35 P **P** 21 44 55.9 +0.2
CMB Columbia Colle 84.00 49 P **P** 21 44 56.2 0.0
I03D Drain, OR 84.00 43 P **P** 21 44 56.6 +0.8
P29M Windy Craggy 84.03 25 lAmb lAmb 21 44 57.3
comp=Z,21nm,1.1s
P29M Windy Craggy 84.03 25 P **P** 21 44 55.8 +0.1
baz=234
L26K Log Cabin Wild 84.07 20 P **P** 21 44 56.4 +0.6
baz=228
O29M Mount Kennedy 84.09 24 P **P** 21 44 56.2 0.0
baz=233
U33K Whale Pass 84.10 29 P **P** 21 44 55.8 -0.3
baz=238
ILAR Eielson Array 84.13 18 P **P** 21 44 55.6 -0.5
ILAR Eielson Array 84.13 18 P **P** 21 44 55.4 -0.7
comp=Z,28nm,0.6s,baz=246,slow=5.2,SNR=499
M27K Edge Creek, AK 84.14 21 lAmb lAmb 21 44 57.7
comp=Z,9.8nm,0.8s
M27K Edge Creek, AK 84.14 21 P **P** 21 44 56.6 +0.2
baz=230
IL03 Eielson Array 84.14 18 P **P** 21 44 56.0 -0.2
L04D Klamath Falls 84.14 45 P **P** 21 44 57.3 +0.5
L04D lAmb lAmb 21 44 58.2
comp=Z,19nm,0.8s
S32K Killisnoo 84.15 28 P **P** 21 44 56.0 -0.3
S32K lAmb lAmb 21 46 36.7
comp=Z,56nm,1.6s
D19K Kuna River 84.16 12 lAmb lAmb 21 45 24.7
comp=Z,48nm,1.9s
D19K Kuna River 84.16 12 P **P** 21 44 57.0 +0.8
baz=214
F21K Alatna River 84.17 14 lAmb lAmb 21 44 57.6
comp=Z,23nm,1.6s
F21K Alatna River 84.17 14 P **P** 21 44 57.0 +0.8
baz=218
B18K Kokolik River 84.19 11 P **P** 21 44 57.1 +0.8
baz=210
MAW Mawson 84.21 202 P **P** 21 44 56.1 -0.4
comp=Z,8.3nm,0.9s,baz=129,slow=4.5,SNR=9.4
comp=Z,8.3nm,0.9s

POKR **Poker Plat Res** 84.21 18 P P 21 44 55.9 -0.7
baz=224,SNR=13
YUK8 **Steele Glacier** 84.23 23 P P 21 44 57.2 +0.2
baz=232,SNR=7.3
VES **Vestal, Richgr** 84.24 52 P P 21 44 56.4 -0.9
baz=250
YUK3 **Moose Creek** 84.28 22 P P 21 44 57.5 +0.3
baz=231
E20K **Nigu River** 84.37 13 P P 21 44 58.1 +0.8
baz=216
C19K **Lookout Ridge** 84.38 11 P P 21 44 58.1 +0.8
baz=212
V35K **Ketchikan** 84.42 30 P P 21 44 57.8 +0.1
V35K IAmb IAmb 21 47 29.9
comp=Z,52nm,1.4s
G22K **Bettles** 84.43 15 P P 21 44 58.0 +0.5
baz=220
J25K **Salcha River,** 84.49 19 P P 21 44 58.3 +0.4
baz=226
SCRK **Sand Creek** 84.49 19 P P 21 44 58.4 +0.3
SCRK IAmb IAmb 21 44 59.3
comp=Z,18nm,0.7s
SCRK **Sand Creek** 84.49 19 P P 21 44 58.5 +0.4
baz=228,SNR=12
GRNB **Grenville Isla** 84.52 32 P P 21 44 59.0 +0.8
GRNB IAmb IAmb 21 48 05.4
comp=Z,30nm,1.3s
EMB **Emerald Bay** 84.54 48 P P 21 44 58.4 -0.7
EMB IAmb IAmb 21 45 43.9
comp=Z,19nm,1.1s
YUK6 **Outpost Mounta** 84.56 24 P P 21 44 58.6 0.0
baz=233
H24K **Noodor Dome** 84.60 17 P P 21 44 57.7 -0.8
baz=224
L27K **Beaver Creek,** 84.61 21 IAmb IAmb 21 45 01.8
comp=Z,24nm,1.7s
L27K **Beaver Creek,** 84.61 21 P P 21 44 58.7 +0.1
baz=250
BCAR **Beaver Creek A** 84.63 21 P P 21 44 58.0 -0.7
P30M **Million Dollar** 84.64 25 P P 21 44 59.2 +0.4
baz=234
D20K **Etivluk River** 84.65 13 P P 21 44 59.9 +1.3
baz=215
G23K **Bananza Creek** 84.66 16 IAmb IAmb 21 45 00.5
comp=Z,20nm,0.8s
G23K **Bananza Creek** 84.66 16 P P 21 44 59.9 +1.2
baz=222
YUK4 **Talbot Arm** 84.70 23 P P 21 45 00.2 +1.0
baz=233
F22K **John River** 84.71 15 P P 21 44 60.0 +1.0
baz=220
EDW2 **Edwards Air Fo** 84.77 53 P P 21 44 59.7 -0.4
baz=251
BFSC **Mount Baldy Ra** 84.83 54 P P 21 44 59.7 -0.7
baz=252
HYT **Haines Junctio** 84.83 24 P P 21 45 00.4 +0.6
baz=234
109C **Camp Elliot, M** 84.85 55 P P 21 45 00.7 +0.3
baz=252
WAKR **Walker** 84.86 49 P P 21 45 00.0 -0.6
SKAG **Skagway** 84.93 26 P P 21 45 01.0 +0.8
baz=236
PNTR **Pine Nut** 84.94 48 P P 21 45 00.6 -0.5
E03A **Lebam** 84.98 40 P P 21 45 00.8 +0.1
J26L **Joseph Creek** 84.98 19 P P 21 45 01.7 +1.2
baz=228
COLD **Coldfoot** 85.00 15 P P 21 45 01.4 +1.1
baz=222,SNR=10
E21K **Killik River** 85.02 13 IAmb IAmb 21 45 02.2
comp=Z,18nm,0.8s
E21K **Killik River** 85.02 13 P P 21 45 02.2 +1.7
baz=218
PRP **Porcupine Dome** 85.07 18 IAmb IAmb 21 47 30.3
comp=Z,23nm,1.7s
PRP **Porcupine Dome** 85.07 18 P P 21 45 01.1 +0.2
baz=226
K27K **Chicken** 85.16 20 P P 21 45 02.4 +1.2
baz=229
CWC **Cottonwood Cre** 85.20 51 P P 21 45 02.7 +0.3
baz=251
LRMC **Laurel Mtn Rad** 85.20 52 P P 21 45 02.1 -0.2
baz=251
J05D **Fort Rock, OR** 85.27 44 P P 21 45 02.2 -0.3
J05D IAmb IAmb 21 45 04.1
comp=Z,19nm,0.8s
E22K **Anaktuvuk Pass** 85.28 14 P P 21 45 01.5 -0.3
E22K IAmb IAmb 21 45 03.6
comp=Z,52nm,1.6s
E22K **Anaktuvuk Pass** 85.28 14 P P 21 45 02.9 +1.1
baz=220,SNR=8.1
K05A **Summer Lake** 85.30 45 P P 21 45 02.1 -0.6
K05A IAmb IAmb 21 45 04.4
comp=Z,17nm,0.8s
PAHR **Pah Rah Range** 85.31 48 P P 21 45 01.7 -1.1
PAHR IAmb IAmb 21 45 04.2
comp=Z,15nm,1.1s
G24K **Hadweenzic Riv** 85.34 16 IAmb IAmb 21 45 03.5
comp=Z,22nm,0.8s
G24K **Hadweenzic Riv** 85.34 16 P P 21 45 03.0 +1.0
baz=224,SNR=14
O30N **Mendenhall** 85.36 24 P P 21 45 02.5 +0.1
baz=235
MONP2 **Monument Peak** 85.40 55 P P 21 45 03.6 +0.1
baz=252
C21K **Knifeblade Rid** 85.41 13 P P 21 45 04.3 +2.0
baz=217
M29M **Somme Creek** 85.43 22 P P 21 45 03.4 +0.6
baz=233
MPMC **Manual Prospec** 85.53 52 P P 21 45 04.2 +0.2
baz=252,SNR=5.3
IKP **In-Ko-Pah, Jac** 85.58 55 P P 21 45 04.3 +0.2
baz=252
RYN **Ryan** 85.58 49 P P 21 45 03.3 -0.8
PFO **Pinyon Flats O** 85.58 54 P P 21 45 02.7 -1.5
baz=252
TPFO **Pinon Flats** 85.59 54 P P 21 45 04.0 -0.2
baz=252
B20K **Meade River** 85.61 12 P P 21 45 03.7 +0.4
baz=215
PINE **Pine Mountain** 85.65 44 P P 21 45 03.8 -0.6
PINE IAmb IAmb 21 45 06.1
comp=Z,15nm,0.8s
D22K **Ayikyak River** 85.65 14 IAmb IAmb 21 45 05.9
comp=Z,23nm,0.8s
D22K **Ayikyak River** 85.65 14 P P 21 45 05.1 +1.5
baz=219
NVAR **Mina Array Bea** 85.68 49 P P 21 45 04.2 -0.5
NVAR **Mina Array Bea** 85.68 49 P P 21 45 05.0 +0.3
comp=Z,4.8nm,0.8s,baz=232,slow=9.0,SNR=18
comp=Z,4.8nm,0.8s
E23K **Chandalar** 85.77 15 P P 21 45 05.5 +1.2
baz=222,SNR=9.4
G25K **Bearman Lake** 85.77 17 P P 21 45 05.7 +1.5
baz=225,SNR=5.1
NV11 **Mina Array Sit** 85.79 49 P P 21 45 04.7 -0.4
B21K **Ikpikpuk River** 85.81 13 P P 21 45 05.5 +1.2
baz=217
F24K **Squaw Lake** 85.82 16 IAmb IAmb 21 45 06.6
comp=Z,19nm,0.8s
F24K **Squaw Lake** 85.82 16 P P 21 45 05.7 +1.3
baz=224
GSC **Goldstone, Bar** 85.83 53 P P 21 45 06.0 +0.7
baz=252
GNW **Green Mountain** 85.85 40 P P 21 45 04.5 -0.5
GNW IAmb IAmb 21 45 06.4
comp=Z,9.7nm,0.7s
N31M **Braeburn, Yuko** 85.90 24 P P 21 45 05.2 +0.2
baz=235
T35M **Bob Quinn** 85.91 29 P P 21 45 05.3 +0.2
baz=240
SWSC **Sam W. Stewart** 85.91 55 P P 21 45 05.5 -0.1
baz=253
GRAC **Grapevine Rang** 85.92 51 P P 21 45 05.1 -0.6
GRAC **Grapevine Rang** 85.92 51 P P 21 45 06.7 +1.0
baz=252
EGAK **Eagle** 85.95 20 IAmb IAmb 21 45 06.5
comp=Z,18nm,0.7s
EGAK **Eagle** 85.95 20 P P 21 45 05.2 +0.1
baz=230,SNR=13
L29M **L29M** 85.96 22 P P 21 45 06.0 +0.7
baz=233
S34M **Telegraph Cree** 85.96 28 P P 21 45 05.8 +0.5
baz=240
KVN **Kaiserville** 86.03 49 P P 21 45 05.8 -0.6
HEC **Hector,Ludlow** 86.05 53 P P 21 45 06.1 -0.3
baz=252
E24K **Your Creek** 86.07 15 P P 21 45 06.5 +0.8
baz=223
BELC **Belle Mtn. Jos** 86.07 54 P P 21 45 06.7 +0.1
baz=252
DAWY **Dawson** 86.09 21 P P 21 45 05.0 -0.9
DAWY **Dawson** 86.09 21 P P 21 45 06.0 +0.1
baz=232
FURC **Furnace Creek,** 86.14 52 P P 21 45 07.3 +0.6
baz=252
D23K **Nanushuk River** 86.19 14 P P 21 45 07.9 +1.7
baz=221,SNR=8.4
TOLK **Toolik Lake Re** 86.21 15 P P 21 45 06.8 +0.4
TOLK **Toolik Lake Re** 86.21 15 P P 21 45 07.8 +1.4
baz=222,SNR=5.1
I27K **Kandik River** 86.33 19 P P 21 45 07.5 +0.4
baz=230
BC3 **Big Chuckawall** 86.40 55 P P 21 45 08.6 +0.4
baz=253
P33M **Teslin, Yukon** 86.41 26 P P 21 45 08.7 +1.1
baz=238
WCT **Wildcat Mounta** 86.42 51 P P 21 45 07.2 -1.0
F25K **Christian Rive** 86.48 16 P P 21 45 08.9 +1.2
baz=226
ODAN **Odare** 86.51 298⇑ *i*P P 21 44 57.2 -12
comp=Z,74nm,1.9s
G26K **Porcupine Rive** 86.56 17 P P 21 45 09.2 +1.2
baz=228
GMRC **Granite Mounta** 86.57 54 P P 21 45 09.3 +0.3
baz=253
K29M **Barlow Dome** 86.62 21 P P 21 45 09.2 +0.6
baz=234
B22K **Teshekpuk Lake** 86.64 12 P P 21 45 08.8 +0.5
B22K IAmb IAmb 21 45 10.0
comp=Z,13nm,0.8s
B22K **Teshekpuk Lake** 86.64 12 P P 21 45 09.4 +1.1
baz=218
I07A **Izee** 86.73 44 P P 21 45 09.0 -0.5
I07A IAmb IAmb 21 45 11.0
comp=Z,12nm,0.8s
DLBC **Dease Lake** 86.73 28 P P 21 45 09.6 +0.4
baz=240
TPNV **Topopah Spring** 86.76 51 P P 21 45 09.6 -0.4
baz=252
H27K **Steamboat Moun** 86.77 18 P P 21 45 09.7 +0.6
baz=230
D24K **Happy Valley** 86.77 14 IAmb IAmb 21 45 11.1
comp=Z,12nm,0.7s
D24K **Happy Valley** 86.77 14 P P 21 45 10.5 +1.4
baz=223
I28M **Miner Creek** 86.77 19 P P 21 45 09.4 +0.1
baz=231
R33M **Jennings River** 86.78 27 IAmb IAmb 21 45 11.7
comp=Z,13nm,1.3s
R33M **Jennings River** 86.78 27 P P 21 45 10.2 +0.8
baz=240
IRM **Iron Mountain** 86.79 54 P P 21 45 10.4 +0.4
baz=253,SNR=6.3
N32M **Quiet Lake** 86.80 25 P P 21 45 10.0 +0.6
baz=238
A22K **Sinclair Lake** 86.85 12 P P 21 45 10.1 +0.7
baz=217
C23K **Itkillik River** 86.86 13 P P 21 45 09.2 -0.2
C23K IAmb IAmb 21 45 11.6
comp=Z,22nm,0.9s
C23K **Itkillik River** 86.86 13 P P 21 45 10.9 +1.5
baz=221,SNR=6.2
E25K **Arctic Village** 86.87 16 P P 21 45 09.8 +0.2
E25K **Arctic Village** 86.87 16 P P 21 45 10.5 +0.9
baz=226,SNR=5.6
F26K **Sheenjek River** 86.97 17 P P 21 45 10.9 +0.8
baz=227
LTY **Liberty** 87.09 40 P P 21 45 10.3 -0.8
LTY IAmb IAmb 21 45 12.1
comp=Z,12nm,1.1s
G27K **Doyon Strip** 87.10 18 P P 21 45 10.7 0.0
baz=230
J08A **Circle Bar Ran** 87.18 45 P P 21 45 10.9 -0.8
J08A IAmb IAmb 21 45 13.1
comp=Z,13nm,0.7s
RAMN **Ramite** 87.22 298 *e*P P 21 45 01.4 -11
comp=Z,11nm,0.8s
C24K **Franklin Bluff** 87.22 14 P P 21 45 11.7 +0.5
baz=223
I29M **Ogilvie Camp,** 87.26 20 IAmb IAmb 21 45 13.1
comp=Z,27nm,1.6s
I29M **Ogilvie Camp,** 87.26 20 P P 21 45 11.8 +0.3
baz=233,SNR=7.3
E07A **Sunnyside** 87.36 41 P P 21 45 10.8 -1.6
E07A IAmb IAmb 21 45 13.8
comp=Z,16nm,0.8s
TIXI **Tiksi** 87.45 349 P P 21 45 12.1 -0.1
TIXI IAmb IAmb 21 47 17.9
comp=Z,8.0nm,0.6s
SHPR **Sheep Range** 87.46 52 P P 21 45 12.5 -0.8
D25K **Kavik River** 87.50 15 IAmb IAmb 21 45 14.1
comp=Z,12nm,0.8s
D25K **Kavik River** 87.50 15 P P 21 45 12.5 -0.1
baz=225
G08A **Pilot Rock** 87.51 43 P P 21 45 12.7 -0.5
G08A IAmb IAmb 21 45 14.6
comp=Z,12nm,1.0s
HAWA **Hanford** 87.51 42 IAmb IAmb 21 45 14.5
comp=Z,9.8nm,0.8s
PDMCI **Parker Dam,Lak** 87.63 54 P P 21 45 13.6 -0.3
baz=254
R11B **Troy Canyon, C** 87.68 50 P P 21 45 13.3 -1.0
R11B **Troy Canyon, C** 87.68 50 P P 21 45 14.8 +0.4
baz=252,SNR=6.7
JIRN **Jiri** 87.75 299 *e*P P 21 45 05.9 -9.2
comp=Z,14nm,1.0s
H29M **Whitestone** 87.76 19 P P 21 45 13.8 0.0
baz=233
PRN **Pahroc Range** 87.81 51 P P 21 45 14.0 -0.9
I30M **Mount Dempster** 87.83 21 IAmb IAmb 21 46 39.2
comp=Z,20nm,1.8s
I30M **Mount Dempster** 87.83 21 P P 21 45 14.4 +0.1
baz=234
E08A **Dider Farm, El** 87.85 42 P P 21 45 14.8 +0.1
E08A IAmb IAmb 21 45 16.3
comp=Z,11nm,0.8s
E27K **Coleen River** 88.01 17 P P 21 45 16.3 +1.3
baz=230
W13A **Hualapai Mount** 88.05 54 P P 21 45 15.0 -1.2
214A **Organ Pipe Nat** 88.06 57 P P 21 45 15.3 -0.8
214A **Organ Pipe Nat** 88.06 57 P P 21 45 16.5 +0.5
baz=254
GUN **Gumba** 88.08 299 *e*P P 21 45 08.5 -8.2
comp=Z,12nm,0.7s
D08A **Wollman Farm,** 88.13 41 P P 21 45 15.7 -0.3
D08A IAmb IAmb 21 45 16.9
comp=Z,7.0nm,0.8s
F28M **Old Crow** 88.15 18 P P 21 45 16.3 +0.7
baz=231
C26K **Camden Bay** 88.29 15 P P 21 45 17.3 +1.2
baz=226
G29M **Pine Creek** 88.29 19 P P 21 45 16.4 +0.1
baz=233
MMPY **Sheldon Lake,** 88.30 24 P P 21 45 16.4 -0.1
baz=239
EPYK **Eagle Plains** 88.39 20 IAmb IAmb 21 45 22.1
comp=Z,12nm,1.2s
EPYK **Eagle Plains** 88.39 20 P P 21 45 16.5 -0.3
baz=234
PKI **Pulchoki** 88.40 298 *e*P P 21 45 09.0 -9.1
comp=Z,18nm,1.0s
PKIN **Phulchoki** 88.41 298 *e*P P 21 45 09.3 -8.8
comp=Z,15nm,0.8s
BMO **Blue Mountains** 88.47 44 IAmb IAmb 21 47 34.5
comp=Z,9.6nm,1.1s
KKN **Kakani** 88.57 299 *e*P P 21 45 10.6 -8.2
comp=Z,89nm,2.4s
ELK **Elko** 88.65 48 P P 21 45 17.6 -1.3
ELK IAmb IAmb 21 45 20.4
comp=Z,7.2nm,0.9s
SPR3 **Spring Creek 3** 88.81 50 P P 21 45 18.9 -0.9
SPR3 IAmb IAmb 21 45 21.1
comp=Z,12nm,1.2s
H31M **Peel River** 88.86 21 P P 21 45 18.6 -0.4
baz=236
E28M **Babbage River** 88.87 17 P P 21 45 19.2 +0.2
E28M **Babbage River** 88.87 17 P P 21 45 19.5 +0.5
baz=232
D27M **Malcolm River** 88.87 16 IAmb IAmb 21 45 22.0
comp=Z,5.3nm,0.6s
D27M **Malcolm River** 88.87 16 P P 21 45 20.7 +1.7
baz=230
F10A **Beach Ranch, E** 88.88 43 P P 21 45 19.2 -0.5
F10A IAmb IAmb 21 45 20.6
comp=Z,16nm,1.0s
G30M **tAoh Zraii Nji** 88.90 19 IAmb IAmb 21 45 19.1
comp=Z,8.8nm,1.0s
G30M **tAoh Zraii Nji** 88.90 19 P P 21 45 19.0 -0.2
baz=235
LIRD **Liard River Hi** 88.99 28 P P 21 45 19.2 -0.5
baz=244
TGTN **Hyland Airport** 88.99 26 P P 21 45 19.5 -0.3
baz=242
MFID **Camas Ranch** 89.03 45 P P 21 45 19.6 -0.9
MFID IAmb IAmb 21 45 21.9
comp=Z,10.0nm,0.8s
CCUT **Cedar City** 89.14 51 P P 21 45 20.6 -0.6
GKN **Gorkha** 89.17 299 *e*P P 21 45 13.8 -7.7
comp=Z,17nm,0.8s
E29M **Blow River** 89.22 18 P P 21 45 21.6 +1.0
baz=233
F30M **Barrier River** 89.40 19 P P 21 45 22.7 +1.2
baz=235
PLID **Pearl Lake** 89.42 44 P P 21 45 21.3 -1.1
PLID IAmb IAmb 21 45 23.3
comp=Z,8.3nm,0.8s
G31M **Satah River** 89.50 20 P P 21 45 23.1 +1.1
baz=236
D28M **Stokes Point** 89.55 17 P P 21 45 24.0 +1.9
baz=232
NEW **Newport** 89.68 40 P P 21 45 22.2 -1.1
NEW IAmb IAmb 21 45 24.3
comp=Z,8.9nm,0.9s
NEW **Newport** 89.68 40 P P 21 45 23.8 +0.5
baz=251,SNR=7.1
X16A **Lo Mia Camp, P** 89.81 55 P P 21 45 24.4 -0.1
TUC **Tucson** 89.81 57 P P 21 45 25.3 +1.0
baz=255
F31M **Tsiigehtchic** 89.96 19 P P 21 45 25.1 +1.0
baz=237
DANN **Dangsing** 90.00 299 *e*P P 21 45 19.6 -6.0
comp=Z,13nm,0.9s
KOLN **Koldanda** 90.00 298 *e*P P 21 45 18.8 -6.7
comp=Z,60nm,3.1s
HLID **Hailey** 90.06 45 P P 21 45 25.7 +0.3
HLID IAmb IAmb 21 45 27.0
comp=Z,7.1nm,0.8s
HLID **Hailey** 90.06 45 P P 21 45 26.3 +0.9
baz=253,SNR=9.9
WUAZ **Wupatki** 90.14 54 P P 21 45 26.1 +0.2
baz=255
DUG **Dugway, Tooele** 90.27 49 P P 21 45 26.3 0.0
DUG **Dugway, Tooele** 90.27 49 P P 21 45 27.1 +0.7
baz=254
FLDN **Fort Liard** 90.54 28 P P 21 45 26.7 -0.2
PYUN **Piuthan** 90.61 298 *e*P P 21 45 22.1 -6.2
comp=Z,8.7nm,0.9s
319A **Douglas** 90.83 58 P P 21 45 27.6 -1.5
319A IAmb IAmb 21 45 31.1
comp=Z,14nm,0.9s
WMQ **Urumqi** 90.87 315 *e*P P 21 45 30.3 +1.3
X18A **Snowflake** 91.03 55 P P 21 45 29.3 -0.8
BRLDA **Berland Lookou** 91.39 35 P P 21 45 30.9 -0.3
BPMT **Black Pine Rid** 91.52 43 P P 21 45 30.0 -2.1
CHMT **Chamberlain Mo** 91.78 42 P P 21 45 32.1 -1.2
OVMT **Ovando** 91.99 42 P P 21 45 33.0 -1.1
ELMT **Elliston** 92.18 43 P P 21 45 34.7 -0.5
121A **Cookes Peak, D** 92.33 57 P P 21 45 36.8 +0.7
baz=257
LYMT **Lyon Mountain** 92.43 43 P P 21 45 36.2 -0.1
BOZ **Bozeman (W)** 92.52 44 P P 21 45 37.6 +1.0
baz=255
ELIB **Princess Elisa** 92.70 191 *d*P P 21 45 35.7 -1.3
comp=Z,4.5nm,0.9s
PDAR **Pinedale Array** 93.28 47 P P 21 45 39.8 -0.5
comp=Z,0.7nm,0.8s,baz=192,slow=2.9,SNR=6.1
comp=Z,0.7nm,0.8s
ANMO **Albuquerque** 93.93 55 P P 21 45 43.3 -0.1
baz=258
C36M **Paulatuk** 94.02 19 IAmb IAmb 21 45 41.8
comp=Z,5.4nm,0.9s
C36M **Paulatuk** 94.02 19 P P 21 45 41.8 -0.9
baz=246
RLMT **Red Lodge** 94.03 45 P P 21 45 44.6 +0.9
baz=257
S22A **4UR Ranch, Cre** 94.22 52 P P 21 45 45.0 +0.2
baz=258
A36M **Sachs Harbour** 94.76 17 P P 21 45 44.9 -1.2
A36M IAmb IAmb 21 45 46.4
comp=Z,9.3nm,0.8s
A36M **Sachs Harbour** 94.76 17 P P 21 45 46.2 +0.1
baz=245
TX31 **Lajitas Ar. Si** 95.14 61 P P 21 45 48.1 -0.9
TX31 IAmb IAmb 21 48 43.5
comp=Z,6.1nm,0.7s
TX32 **Lajitas Array** 95.14 61 P P 21 45 47.7 -1.3
TXAR **Lajitas Array** 95.14 61 P P 21 45 49.0 +0.1
comp=Z,1.0nm,0.7s,baz=223,slow=5.9,SNR=16
comp=Z,1.0nm,0.7s
ZALV **Zalesovo Beam** 95.28 324 P P 21 45 48.6 -0.2
ZALV **Zalesovo Beam** 95.28 324 P P 21 45 48.0 -0.9
comp=Z,1.4nm,0.9s,baz=120,slow=6.0,SNR=5.0
comp=Z,1.4nm,0.8s
MK31 **Makanchi Array** 95.29 317 IAmb IAmb 21 45 49.9
comp=Z,7.1nm,0.8s
MKAR **Makanchi Array** 95.29 317 P P 21 45 49.0 -0.2
comp=Z,9.4nm,0.7s,baz=95,slow=6.3,SNR=63
comp=Z,9.4nm,0.7s
YKA **Yellowknife Ar** 95.32 27 P P 21 45 47.5 -1.4
comp=Z,2.9nm,0.8s,baz=261,slow=4.9,SNR=37
comp=Z,2.9nm,0.8s
MAKZ **Makanchi** 95.51 317 P P 21 45 50.0 -0.2
MAKZ IAmb IAmb 21 45 50.9
comp=Z,8.0nm,1.1s
N23A **Red Feather La** 95.52 50 P P 21 45 50.4 -0.3
baz=259
ISCO **Idaho Springs** 95.56 51 P P 21 45 51.0 +0.1
baz=259
Q24A **Divide** 95.75 52 P P 21 45 51.6 -0.2
baz=259
SNAA **Sanae** 96.09 183 P P 21 45 50.8 -1.6
comp=Z,0.9nm,0.7s,baz=241,slow=10,SNR=2.4
comp=Z,0.9nm,0.7s
KURBB **Kurchatov Arra** 98.43 320 P P 21 46 02.5 -0.7
comp=Z,0.8nm,0.3s,baz=85,slow=4.9,SNR=1.1
comp=Z,0.8nm,0.3s
ARCES **ARCESS Array B** 117.76 346 PKP PKPdf 21 51 08.8 -1.0
comp=Z,3.8nm,0.4s,baz=85,slow=2.3,SNR=47
LONY **Lake Ozonia** 118.49 46 P PKPdf 21 51 11.1 -0.8
baz=281
PAL **Palisades** 119.65 50 P PKPdf 21 51 13.3 -0.9
baz=280
SCHQ **Schefferville** 120.22 33 PKP PKPdf 21 51 13.2 -1.8
comp=Z,2.5nm,0.7s,baz=272,slow=4.0,SNR=6.4
L61B **Northampton** 120.28 48 P PKPdf 21 51 14.2 -1.2
baz=282
LBNH **Lisbon** 120.43 46 P PKPdf 21 51 15.1 -0.5
baz=283
PKME **Peaks-Kenny Pk** 121.99 44 P PKPdf 21 51 18.1 -0.5
baz=286
FINES **FINESS Array B** 123.32 339 PKP PKPdf 21 51 19.8 -0.8
comp=Z,4.0nm,0.7s,baz=45,slow=1.7,SNR=25
NB2 **NORSAR Subarra** 128.14 345 PKPdf PKPdf 21 51 29.2 -0.8
comp=Z,0.4nm,0.4s,baz=31,slow=1.9
NOA **NORSAR Array B** 128.14 345 PKP PKPdf 21 51 29.6 -0.4
comp=Z,1.2nm,0.6s,baz=30,slow=2.0,SNR=5.7
HFS **Hagfors** 128.26 343 PKP PKPdf 21 51 29.3 -0.8
comp=Z,2.4nm,0.5s,baz=72,slow=4.8,SNR=9.2
AKASG **Malin Array Be** 128.56 327 PKP PKPdf 21 51 29.6 -1.4
comp=Z,0.4nm,0.4s,baz=42,slow=2.3,SNR=1.7
BRTR **Keskin Array B** 130.75 312 PKP PKPdf 21 51 35.4 -0.4
comp=Z,0.4nm,0.5s,baz=108,slow=4.0,SNR=4.9
MMAI **Mount Meron Ar** 131.36 303 PKP PKPdf 21 51 36.8 -0.2
comp=Z,0.8nm,0.5s,baz=71,slow=5.4,SNR=2.1
PRU **Pruhonice** 136.09 335 *e*PKPDF PKPdf 21 51 45.6 +0.4
EKA **Eskdalemuir Ar** 136.27 352 PKP PKPdf 21 51 44.6 -0.8
comp=Z,0.5nm,0.5s,baz=349,slow=2.4,SNR=4.1
ZVC **Zvikov** 136.66 334 *e*PKPDF PKPdf 21 51 46.7 +0.4
NKC **Novy Kostel** 136.75 336 *e*PKPDF PKPdf 21 51 44.3 -2.2
RONA **Rosalia, Austr** 137.00 331 *e*PKiKP PKiKP 21 51 48.7 -0.2
comp=Z,2.2nm,0.6s
CONA **Conrad Observa** 137.04 332 *e*PKiKP PKiKP 21 51 48.8 -0.3
comp=Z,2.6nm,0.7s
CKRC **Cesky Krumlov** 137.08 334 *e*PKPDF PKiKP 21 51 48.2 -0.8
KHC **Kasperske Hory** 137.15 335 *e*PKPDF PKiKP 21 51 48.8 -0.4
GERES **GERESS Array B** 137.32 334 PKP PKPdf 21 51 46.8 -0.9
comp=Z,0.9nm,0.5s,baz=1,0,slow=5.9,SNR=2.0
MOA **Molln** 137.83 333 *i* PKiKP PKiKP 21 51 49.9 -0.7
comp=Z,0.8nm,0.4s
BIOA **Bad Ischl, Aus** 138.22 333 *e*PKiKP PKiKP 21 51 50.5 -0.9
comp=Z,2.1nm,0.6s

LESA	**Schwarzleotal**	**138.85 334**	ePKiKP	**PKiKP**	**21 51 52.0**	**-0.8**
	comp=Z,2.4nm,0.5s					
WATA	**Walderalm**	**139.39 334**	ePKiKP	**PKiKP**	**21 51 53.2**	**-0.8**
	comp=Z,1.4nm,0.5s					
WTTA	**Wattenberg**	**139.42 334**	ePKiKP	**PKiKP**	**21 51 53.5**	**-0.6**
	comp=Z,3.9nm,0.6s					
ABTA	**Abfaltersbach**	**139.44 333**	ePKiKP	**PKiKP**	**21 51 53.0**	**-1.0**
	comp=Z,1.9nm,0.6s					
MOTA	**Moosalm**	**139.58 335**	ePKiKP	**PKiKP**	**21 51 53.8**	**-0.6**
	comp=Z,1.1nm,0.4s					
SQTA	**Sankt Quirin**	**139.64 335**	ePKiKP	**PKiKP**	**21 51 53.8**	**-0.6**
	comp=Z,3.3nm,0.6s					
KEST	**Kesra**	**149.15 323**	PKPbc	**PKPbc**	**21 52 12.6**	**-0.6**
	comp=Z,15nm,0.7s,baz=346,slow=1.5,SNR=19					
PBRG	**Braganca**	**150.00 351**	ePKPbc	**PKPbc**	**21 52 14.6**	**-0.4**
PGAV	**Gavieira, Arco**	**150.05 353**	ePKPbc	**PKPbc**	**21 52 14.7**	**-0.5**
POLO	**Lamas de Olo**	**150.57 352**	ePKPbc	**PKPbc**	**21 52 16.3**	**-0.1**
PVRL	**Vila Real**	**150.66 352**	ePKPbc	**PKiKP**	**21 52 16.8**	**-0.4**
MVO	**Moncorvo**	**150.67 351**	ePKPbc	**PKiKP**	**21 52 17.0**	**-0.2**
PTO	**Porto**	**150.90 353**	ePKPbc	**PKPbc**	**21 52 17.2**	**+0.1**
PVIS	**Viseu**	**151.23 352**	ePKPbc	**PKPbc**	**21 52 17.8**	**-0.1**
MTE	**Manteigas**	**151.49 352**	ePKPbc	**PKPbc**	**21 52 18.6**	**0.0**
ESDC	**Sonseca Array**	**151.50 346**	PKPbc	**PKPbc**	**21 52 18.4**	**-0.2**
ESDC			PKPab	**PKPab**	**21 52 27.7**	**+0.1**
ESDC	**Sonseca Array**	**151.50 346**	PKPbc	**PKPbc**	**21 52 18.1**	**-0.4**
	comp=Z,3.9nm,0.8s,baz=5.2,slow=2.9,SNR=31					
ESDC			PKPab	**PKPab**	**21 52 28.0**	**+0.3**
	comp=Z,5.3nm,0.9s,baz=7.0,slow=4.1,SNR=13					
PCAS	**Casmilo, Conde**	**151.96 353**	ePKPbc	**PKPbc**	**21 52 19.1**	**-0.5**
PCBR	**Castelo Branco**	**152.03 351**	ePKPbc	**PKPbc**	**21 52 19.5**	**-0.2**
PMRV	**Marv??o**	**152.42 351**	ePKPbc	**PKPbc**	**21 52 20.6**	**0.0**
PSBE	**So Bento**	**152.53 353**	ePKPbc	**PKiKP**	**21 52 20.9**	**-0.2**
PSBE	**So Bento**	**152.53 353**	ePKPab	**PKPab**	**21 52 33.1**	**+1.2**
PMTG	**Montargil**	**152.90 352**	ePKPbc	**PKPbc**	**21 52 20.9**	**-0.7**
PACT	**Alcochete**	**153.27 353**	ePKPbc	**PKiKP**	**21 52 22.9**	**+0.3**
EVO	**Evora**	**153.39 352**	ePKPab	**PKPab**	**21 52 36.2**	**+0.7**
PBAR	**Barrancos**	**153.59 350**	ePKPab	**PKPab**	**21 52 37.3**	**+0.9**
PBEJ	**Beja**	**153.87 351**	ePKPab	**PKPab**	**21 52 38.8**	**+1.2**
MORF	**Marmelete**	**154.69 352**	ePKPab	**PKPab**	**21 52 42.8**	**+1.7**
TORD	**Torodi Ar. Bea**	**165.80 276**	PKP	**PKPdf**	**21 52 28.7**	**-1.0**
	comp=Z,3.2nm,1.1s,baz=132,slow=2.1,SNR=8.5					
TORD			PKPab	**PKPab**	**21 53 29.8**	**-0.5**
	comp=Z,3.3nm,1.1s,baz=64,slow=4.8,SNR=9.5					

WEL 03 21:37:56.8, 42°S±6°×**17°4E**±1°3**, h19**^{km}±16^{km}**, M2.2**/8**, ML2.4**/13**, MLv2.2**/8**, Error ellipse: s-maj=0.0km s-min=0.0km az=77.5, South Island**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.16 276**	P	Pg	21 38 01.3	+0.1
BSWZ	**Blackbirch Sta**	**0.72 7**	P	Pg	21 38 11.4	+0.4
GVZ	**Greta Valley S**	**0.75 224**	P	Pn	21 38 13.9	+1.4
THZ	**Tophouse**	**0.92 316**	P	Pn	21 38 15.4	+0.6
TUWZ	**Tuamarina**	**1.01 8**	P	Pg	21 38 16.9	+0.4
LTZ	**Lake Taylor**	**1.15 252**	P	Pg	21 38 19.9	+0.9
TCW	**Tory Channel**	**1.28 18**	P	Pb	21 38 20.3	-0.1
OKCZ	**Okains Bay**	**1.39 201**	P	Pb	21 38 22.5	+0.4
MQZ	**McQueen's Vall**	**1.51 212**	P	Pn	21 38 23.4	+0.6
TKNZ	**Takaka Hill**	**1.52 337**	P	Pg	21 38 25.4	-0.7
AKCZ	**Akaroa Harbour**	**1.57 203**	P	Pn	21 38 20.9	-2.7
DSZ	**Denniston Nort**	**1.60 295**	P	Pg	21 38 27.7	-0.1
DUWZ	**D'Urville Isla**	**1.63 5**	P	Pb	21 38 26.3	-0.1
QRZ	**Quartz Range**	**1.85 330**	P	Pb	21 38 30.5	+0.5
OGWZ	**Otaki Gorge**	**1.93 34**	P	Pg	21 38 33.5	-0.5
HOWZ	**Holdsworth Sta**	**2.02 41**	P	Pg	21 38 35.4	-0.3
MRZ	**Mangatainoka R**	**2.24 38**	P	Pn	21 38 33.0	+0.1
JCZ	**Jackson Bay**	**3.98 244**	P	Pn	21 38 56.4	-0.5
PKGZ	**Pakihiroa**	**5.62 38**	P	Pn	21 39 20.5	+1.1

*IDC **03** 21:44:01.8±0.6, 21°.35S×169°.49E, h0^{km}, mb4.3/17, mbtmp4.3/19, ML3.8/2, MS3.9/21, Error ellipse: s-maj=20.0km s-min=16.0km az=93.0*

*NEIC **03** 21:44:04.8±1.2, 21°.39S±0°.05×169°.30E±0°.06, h10^{km}±1^{km}, mb4.6/25, Error ellipse: s-maj=12.4km s-min=5.0km az=45.0*

*NOU **03** 21:44:05.5, 21°.26S×169°.14E, h0^{km}, mb4.7/27, Southeast of Loyalty Islands*

ISC 03 21:44:05.4±0.4**, 21°.37S**±0°.05×**169°.36E**±0°.06**, h21**^{km}**, n117,** σ**0^{s}97**/104**, mb4.5**/29**, MS3.9**/18**, 4D, Southeast of Loyalty Islands**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.24 265**		**Pn**	**21 44 26.6**	**-0.9**
MARNC			Sn	**Sb**	**21 44 43.7**	**+0.1**
MARNC	**Mare, Loyalty**	**1.24 265**	P	**Pn**	**21 44 26.9**	**-0.6**
LIFNC	**LIFOU**	**2.06 286**		**Pn**	**21 44 37.4**	**-1.4**
LIFNC			Sn	**Sn**	**21 45 02.0**	**-1.9**
LIFNC	**LIFOU**	**2.06 286**	P	**Pn**	**21 44 37.7**	**-1.1**
PINNC	**Pines Island,**	**2.16 235**		**Pn**	**21 44 39.1**	**-1.1**
PINNC	**Pines Island,**	**2.16 235**	P	**Pn**	**21 44 39.5**	**-0.7**
OUENC	**Ouen Island, N**	**2.56 245**		**Pn**	**21 44 45.1**	**-0.5**
OUENC	**Ouen Island, N**	**2.56 245**	P	**Pn**	**21 44 45.7**	**0.0**
DZM	**Mont Dzumac**	**2.80 255**		**Pn**	**21 44 49.1**	**+0.1**
DZM	**Mont Dzumac**	**2.80 255**	P	**Pn**	**21 44 49.5**	**+0.5**
DZM	**Mont Dzumac**	**2.80 255**	Pn	**Pn**	**21 44 49.6**	**+0.6**
	13nm,0.3s,baz=106,slow=13,SNR=36					
DZM			Sn	**Sn**	**21 45 22.9**	**+0.7**
	52nm,0.3s,baz=90,slow=20,SNR=12					
DZM			LR	LR	21 45 52.5	
	comp=Z,673nm,20.4s,baz=45,slow=38					
	30nm,0.3s					
ONTNC	**Ouen Toro**	**2.85 250**		**Pn**	**21 44 49.5**	**-0.2**
ONTNC	**Ouen Toro**	**2.85 250**	P	**Pn**	**21 44 49.9**	**+0.2**
NOUC	**Port Laguerre**	**2.93 255**	P	**Pn**	**21 44 51.1**	**+0.3**
RTV	**Rentapao**	**3.67 346**	P	**Pn**	**21 45 02.5**	**+1.6**
DVP	**Devils Point**	**3.79 343**	P	**Pn**	**21 45 02.4**	**-0.2**
KOUNC	**Koumac, New Ca**	**4.81 279**	Pn	**Pn**	**21 45 17.0**	**+0.4**
KOUNC	**Koumac, New Ca**	**4.81 279**	P	**Pn**	**21 45 17.5**	**+0.9**
YSA	**Yasawairara**	**9.06 61**	P	Pn	21 46 20.3	+5.3
DGTI	**Dogotuki**	**11.04 65**	P	Pn	21 46 46.9	+4.7
HNR	**Honiara**	**14.93 321**	LR	LR	21 53 11.7	
	comp=Z,3µm,18.1s,baz=142,slow=37					
URZ	**Urewera**	**18.11 160**	P	**Pn**	**21 48 15.4**	**-0.3**
	0.3nm,0.3s,baz=60,slow=4.8,SNR=12					
URZ			LR	LR	21 54 02.5	
	comp=Z,278nm,18.6s,baz=36,slow=33					
	17nm,0.8s					
RTZ	**Ruatahuna**	**18.40 161**		**Pn**	**21 48 20.2**	**+0.9**
RTZ			IAmb	IAmb	21 48 25.2	
	comp=Z,41nm,1.0s					
MRZ	**Mangatainoka R**	**19.95 166**	P	**P**	**21 48 36.9**	**+0.9**
MRZ			IAmb	IAmb	21 48 37.6	
	comp=Z,21nm,1.1s					
BFZ	**Birch Farm**	**20.12 165**	P	**P**	**21 48 38.8**	**+0.8**
MRNZ	**Matariki Terra**	**20.18 173**	P	**P**	**21 48 38.9**	**+0.4**
PLWZ	**Palliser**	**20.75 167**	P	**P**	**21 48 45.5**	**+0.7**
INZ	**Inchbonnie**	**21.36 176**	P	**P**	**21 48 52.2**	**+0.8**
INZ			IAmb	IAmb	21 48 56.6	
	comp=Z,19nm,1.1s					
CTA	**Charters Tower**	**21.64 269**	P	**P**	**21 48 55.7**	**+1.1**
CTA	**Charters Tower**	**21.64 269**	P	**P**	**21 48 56.0**	**+1.4**
	comp=Z,12nm,0.9s,baz=102,slow=10,SNR=8.2					
CTA			LR	LR	21 57 15.9	
	comp=Z,226nm,18.4s,baz=90,slow=36					
	comp=Z,12nm,0.9s					
CTAO	**Charters Tower**	**21.64 269**	P	**P**	**21 48 55.1**	**+0.5**
CTAO			IAmb	IAmb	21 48 58.0	
	comp=Z,17nm,1.0s					
CTAO	**Charters Tower**	**21.64 269**	P	**P**	**21 48 55.7**	**+1.1**
FOZ	**Fox Glacier**	**22.10 179**	P	**P**	**21 48 59.0**	**-0.2**
FOZ			IAmb	IAmb	21 49 04.6	
	comp=Z,40nm,1.4s					
RPZ	**Rata Peaks**	**22.33 177**	LR	LR	21 56 52.4	
	comp=Z,376nm,19.3s,baz=357,slow=34					
CNB	**Canberra Magne**	**22.36 227**	P	**P**	**21 49 05.3**	**+3.1**
CMSA	**Cobar Meteorol**	**23.44 240**	P	**P**	**21 49 14.5**	**+1.2**
QLP	**Quilpie**	**23.52 252**	P	**P**	**21 49 16.6**	**+2.4**
MTSU	**Mount Surprise**	**23.78 273**	P	**P**	**21 49 18.4**	**+1.6**
TOO	**Toolangi**	**26.20 227**	P	**P**	**21 49 37.8**	**-1.0**
TOO			IAmb	IAmb	21 49 41.8	
	comp=Z,13nm,0.8s					
STKA	**Stephens Creek**	**26.86 241**	P	**P**	**21 49 44.8**	**+0.1**
STKA	**Stephens Creek**	**26.86 241**	P	**P**	**21 49 46.6**	**+1.9**
STKA	**Stephens Creek**	**26.86 241**	P	**P**	**21 49 46.3**	**+1.6**
	comp=Z,8.5nm,0.8s,baz=83,slow=9.0,SNR=18					
STKA			LR	LR	22 00 21.9	
	comp=Z,218nm,19.3s,baz=39,slow=36					
	comp=Z,8.5nm,0.8s					
LCRK	**Leigh Creek**	**29.36 246**	P	**P**	**21 50 08.5**	**+1.5**
HTT	**Hallett**	**29.46 239**	P	**P**	**21 50 09.5**	**+1.5**
OOD	**Oodnadatta**	**31.21 251**	P	**P**	**21 50 23.8**	**+0.4**
BBOO	**Buckleboo**	**31.63 242**	P	**P**	**21 50 27.6**	**+0.5**
BBOO			IAmb	IAmb	21 50 28.9	
	comp=Z,14nm,0.9s					
WR0	**Warramunga Arr**	**32.57 266**	P	**P**	**21 50 34.5**	**-1.0**
WB0	**Warramunga Arr**	**32.73 266**	P	**P**	**21 50 35.4**	**-1.5**
WB0			IAmb	IAmb	21 50 37.3	
	comp=Z,4.0nm,0.9s					
AS01	**Alice Springs**	**32.74 259**	P	**P**	**21 50 37.6**	**+0.6**
WB2	**Warramunga Arr**	**32.75 266**	P	**P**	**21 50 37.1**	**0.0**
WB2			IAmb	IAmb	21 51 06.8	
	comp=Z,6.3nm,1.0s					
WRA	**Warramunga Arr**	**32.76 266**	P	**P**	**21 50 36.6**	**-0.6**
WRA	**Warramunga Arr**	**32.76 266**	P	**P**	**21 50 36.8**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=97,slow=7.9,SNR=14					
	comp=Z,1.7nm,0.7s					
AS31	**Alice Springs**	**32.78 259**	P	**P**	**21 50 37.3**	**0.0**
ASAR	**Alice Springs**	**32.78 259**	P	**P**	**21 50 37.4**	**0.0**
ASAR	**Alice Springs**	**32.78 259**	P	**P**	**21 50 37.2**	**-0.1**
	comp=Z,7.5nm,0.8s,baz=83,slow=9.1,SNR=70					
ASAR			PcP	**PcP**	**21 53 21.5**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=95,slow=3.1,SNR=4.1					
ASAR			LR	LR	22 04 31.8	
	comp=Z,93nm,18.5s,baz=96,slow=37					
	comp=Z,7.5nm,0.8s					
MULG	**Mulgathing**	**32.88 247**	P	**P**	**21 50 39.1**	**+1.0**
MTN	**Manton Dam**	**37.42 277**	P	**P**	**21 51 17.3**	**0.0**
MTN			IAmb	IAmb	21 51 18.6	
	comp=Z,12nm,1.2s					
WRKA	**Warakurna**	**37.81 256**	P	**P**	**21 51 22.8**	**+2.1**
FORT	**Forrest**	**38.08 247**	P	**P**	**21 51 23.4**	**+0.6**
FORT			IAmb	IAmb	21 51 56.7	
	comp=Z,31nm,1.1s					
KNRA	**Kununurra**	**38.83 271**	P	**P**	**21 51 28.8**	**-0.4**
KNRA			IAmb	IAmb	21 51 29.6	
	comp=Z,9.4nm,0.8s					
BATI	**Baumata**	**45.20 277**	LR	LR	22 12 31.6	
	comp=Z,192nm,18.4s,baz=191,slow=38					
MBWA	**Marble Bar**	**46.09 261**	P	**P**	**21 52 28.4**	**+0.2**
MBWA			IAmb	IAmb	21 52 29.9	
	comp=Z,9.0nm,0.9s					
NWAO	**Narrogin (SRO)**	**47.37 244**	P	**P**	**21 52 37.7**	**-0.5**
NWAO	**Narrogin (SRO)**	**47.37 244**	LR	LR	22 11 50.9	
	comp=Z,248nm,20.4s,baz=159,slow=35					
MIDW	**Midway**	**50.94 15**	P	**P**	**21 53 05.8**	**+0.5**
VNDA	**Vanda**	**56.32 182**	P	**P**	**21 53 44.9**	**+0.7**
VNDA	**Vanda**	**56.32 182**	P	**P**	**21 53 44.0**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=38,slow=4.4,SNR=4.6					
VNDA			LR	LR	22 15 09.1	
	comp=Z,81nm,18.1s,baz=26,slow=33					
	comp=Z,1.2nm,0.8s					
UGM	**Wanagama**	**58.17 274**	P	**P**	**21 53 58.2**	**-0.1**
CASY	**Casey**	**58.23 204**	P	**P**	**21 53 56.9**	**-1.0**
MJAR	**Matsushiro Arr**	**64.68 333**	P	**P**	**21 54 40.7**	**-1.1**
	comp=Z,4.1nm,0.9s,baz=164,slow=5.8,SNR=9.5					
	comp=Z,4.1nm,0.9s					
QSPA	**South Pole Qui**	**68.69 180**	P	**P**	**21 55 07.0**	**-0.2**
QSPA	**South Pole Qui**	**68.69 180**	P	**P**	**21 55 07.3**	**0.0**
	comp=Z,9.5nm,0.9s,baz=19,slow=2.4,SNR=18					
QSPA			LR	LR	22 22 01.1	
	comp=Z,64nm,19.2s,baz=54,slow=33					
	comp=Z,9.5nm,0.9s					
KSRS	**Korea Array**	**70.32 326**	P	**P**	**21 55 17.9**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=122,slow=4.6,SNR=1.7					
	comp=Z,0.7nm,0.5s					
USRK	**Ussuriysk Ar.**	**73.67 333**	P	**P**	**21 55 37.9**	**+0.5**
	comp=Z,4.9nm,1.1s,baz=186,slow=2.9,SNR=3.3					
	comp=Z,4.9nm,1.1s					
PETK	**Petropavlovsk-**	**74.85 353**	LR	LR	22 23 45.1	
	comp=Z,67nm,20.7s,baz=113,slow=32					
MAW	**Mawson**	**76.51 202**	P	**P**	**21 55 54.6**	**+1.1**
MAW	**Mawson**	**76.51 202**	P	**P**	**21 55 54.2**	**+0.6**
	comp=Z,4.4nm,0.8s,baz=131,slow=8.4,SNR=7.2					
	comp=Z,4.4nm,0.8s					
KLR	**Kul'dur**	**77.85 336**	P	**P**	**21 56 02.1**	**+0.9**
	comp=Z,3.0nm,1.0s,baz=117,slow=7.4,SNR=4.7					
	comp=Z,3.0nm,1.0s					
CMAR	**Chiang Mai Arr**	**79.48 295**	P	**P**	**21 56 12.2**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=139,slow=4.3,SNR=5.3					
	comp=Z,0.7nm,0.5s					
BELA	**Belgrano 2**	**79.98 175**	P	**P**	**21 56 11.9**	**-0.7**
MA2	**Magadan**	**82.08 351**	LR	LR	22 28 40.8	
	comp=Z,48nm,19.5s,baz=120,slow=33					
SEY	**Seymchan**	**85.08 352**	LR	LR	22 29 58.6	
	comp=Z,58nm,20.9s,baz=347,slow=32					
TROLL	**Troll, Antarti**	**86.43 184**	⇓P	**P**	**21 56 45.6**	**-0.5**
	comp=Z,665nm,0.6s					
SNAA	**Sanae**	**87.05 182**	⇓P	**P**	**21 56 48.3**	**-0.8**
	comp=Z,123nm,0.8s					
SNAA	**Sanae**	**87.05 182**	P	**P**	**21 56 48.1**	**-1.0**
	comp=Z,7.6nm,1.0s,baz=207,slow=7.7,SNR=14					
SNAA			LR	LR	22 32 51.7	
	comp=Z,53nm,20.3s,baz=170,slow=34					
	comp=Z,7.6nm,1.0s					
VNA3	**Neumayer Olymp**	**87.63 180**	⇓P	**P**	**21 56 51.0**	**-0.9**
	comp=Z,16nm,0.7s					
VNA2	**Neumayer--Watz**	**87.93 181**	⇓P	**P**	**21 56 52.7**	**-0.6**
	comp=Z,13nm,0.6s,baz=182,slow=5.0					
YAK	**Yakutsk**	**88.93 342**	P	**P**	**21 56 57.8**	**0.0**
	comp=Z,0.5nm,0.5s,baz=221,slow=1.3,SNR=1.9					
	comp=Z,0.5nm,0.5s					
SONM	**Songino Array**	**88.98 323**	P	**P**	**21 56 59.4**	**+0.8**
	comp=Z,1.6nm,0.9s,baz=131,slow=4.5,SNR=7.7					
	comp=Z,1.6nm,0.9s					
NVAR	**Mina Array Bea**	**90.12 48**	P	**P**	**21 57 04.0**	**-0.3**
	comp=Z,2.4nm,0.9s,baz=230,slow=8.2,SNR=8.0					
	comp=Z,2.4nm,0.9s					
LPIG	**La Paz**	**90.24 64**	LR	LR	22 27 56.4	
	comp=Z,63nm,20.4s,baz=232,slow=29					
ILAR	**Eielson Array**	**92.22 17**	P	**P**	**21 57 12.0**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=236,slow=6.4,SNR=1.4					
ILAR			LR	LR	22 36 02.9	
	comp=Z,58nm,18.3s,baz=108,slow=34					
	comp=Z,0.3nm,0.8s					
H03S2	**Juan Fernandez**	**94.95 129**	T	T	23 42 48.7	
	baz=238					
H03S1	**Juan Fernandez**	**94.96 129**	T	T	23 42 51.9	
	baz=238					
H03S3	**Juan Fernandez**	**94.97 129**	T	T	23 42 43.2	
	baz=238					
NEW	**Newport**	**95.33 40**	LR	LR	22 33 56.3	
	comp=Z,28nm,18.8s,baz=204,slow=31					
ANMO	**Albuquerque**	**97.41 56**	LR	LR	22 35 17.6	
	comp=Z,37nm,18.4s,baz=348,slow=32					
TXAR	**Lajitas Array**	**97.68 62**	LR	LR	22 33 52.6	
	comp=Z,56nm,18.6s,baz=242,slow=31					
PDAR	**Pinedale Array**	**97.97 47**	LR	LR	22 37 52.7	
	comp=Z,20nm,18.7s,baz=226,slow=33					
ARCES	**ARCESS Array B**	**127.14 345**	PKP	**PKPdf**	**22 03 07.1**	**-0.4**
	comp=Z,3.2nm,0.9s,baz=58,slow=3.0,SNR=4.5					
DPC	**Dobruska-Polom**	**144.13 330**	ePKP	**PKPab**	**22 03 34.1**	**-3.0**
CLL	**Collm**	**144.88 334**	ePKPbc	**PKiKP**	**22 03 44.0**	**-0.5**
PRU	**Pruhonice**	**145.20 331**	ePKP	**PKiKP**	**22 03 45.3**	**+0.1**
EKA	**Eskdalemuir Ar**	**145.62 352**	PKPbc	**PKPdf**	**22 03 41.0**	**-0.9**
	comp=Z,6.5nm,0.8s,baz=348,slow=2.3,SNR=14					
CONA	**Conrad Observa**	**146.00 328**	ePKiKP	**PKiKP**	**22 03 46.9**	**-0.2**
	comp=Z,3.7nm,1.0s					
CKRC	**Cesky Krumlov**	**146.14 330**	ePKP	**PKiKP**	**22 03 46.2**	**-1.0**
KHC	**Kasperske Hory**	**146.25 331**	ePKP	**PKiKP**	**22 03 47.8**	**+0.3**
GERES	**GERESS Array B**	**146.40 331**	PKPbc	**PKPdf**	**22 03 44.0**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=72,slow=1.2,SNR=1.3					
SOKA	**Soboth**	**147.26 327**	ePKiKP	**PKPab**	**22 03 48.7**	**-0.4**
	comp=Z,1.3nm,0.7s					
KBA	**Koelnbreinsper**	**147.83 329**	ePKP	**PKPbc**	**22 03 47.8**	**-1.2**
	comp=Z,2.6nm,0.6s					
LESA	**Schwarzleotal**	**147.90 330**	ePKP	**PKPbc**	**22 03 48.3**	**-0.8**
	comp=Z,1.9nm,0.8s					
ABTA	**Abfaltersbach**	**148.47 329**	ePKiKP	**PKPbc**	**22 03 50.4**	**-0.2**
	comp=Z,3.1nm,1.0s					
MOTA	**Moosalm**	**148.69 331**	ePKP	**PKiKP**	**22 03 53.2**	**+0.5**
	comp=Z,7.0nm,1.3s					
SQTA	**Sankt Quirin**	**148.73 331**	ePKP	**PKiKP**	**22 03 52.7**	**0.0**
	comp=Z,4.6nm,1.0s					
FETA	**Feichten**	**149.10 331**	ePKP	**PKiKP**	**22 03 53.8**	**+0.2**
	comp=Z,5.0nm,1.0s					
DAVA	**Damuels**	**149.27 332**	ePKP	**PKPdf**	**22 03 49.6**	**+1.2**
	comp=Z,1.8nm,0.6s					
ESDC	**Sonseca Array**	**160.88 344**	PKPab	**PKPab**	**22 04 45.8**	**-0.8**
	comp=Z,0.8nm,1.0s,baz=90,slow=2.6,SNR=4.2					

*SJA **03** 21:47:02.5±1.3, 32°.41S×71°.84W, h14^{km}±16^{km}, ML3.4, MW3.9*

*GUC **03** 21:47:02.7±0.9, 32°.29S×71°.82W, h30^{km}±9^{km}, ML3.3*

*NEIC **03** 21:47:03.4±1.8, 32°.31S±0°.04×71°.81W±0°.07, h26^{km}±7^{km}, mb4.3/3, ML3.3(GUC), Error ellipse: s-maj=8.3km s-min=5.0km az=105.0*

ISC 03 21:47:00.9±1.6**, 32°.28S**±0°.02×**71°.95W**±0°.05**, h14**^{km}±11^{km}**, n81,** σ**1^{s}28**/110**, 1C, Near coast of central Chile**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.78 161**	Pn	**Pg**	**21 47 16.9**	**+0.8**
VA01			Sn	**Sb**	**21 47 27.6**	**+0.9**
VA01	**Torpederas**	**0.78 161**	eP	**Pg**	**21 47 16.7**	**+0.6**
ROC1	**El Roble**	**1.05 131**		**Pb**	**21 47 20.1**	**-0.9**
ROC1			Sn	**Sb**	**21 47 33.1**	**-1.6**
ROC1	**El Roble**	**1.05 131**	eP	**Pb**	**21 47 20.1**	**-0.9**
ROC1			eS	**Sb**	**21 47 33.2**	**-1.6**
ROCH	**El Roble**	**1.05 131**	eP	**Pb**	**21 47 20.1**	**-0.9**
ROCH			eS	**Sb**	**21 47 32.8**	**-1.9**
ROCH			IAML		21 47 38.6	
	comp=N,2µm,0.3s					
MT02	**Curacav**	**1.19 145**	Pn	**Pn**	**21 47 22.3**	**-0.9**
MT02			Sn	**Sb**	**21 47 37.0**	**-1.6**
MT02	**Curacav**	**1.19 145**	eP	**Pn**	**21 47 22.6**	**-0.6**
MT02			eS	**Sb**	**21 47 37.0**	**-1.6**
VA03	**San Esteban**	**1.28 112**		**Pn**	**21 47 23.4**	**-1.1**
VA03			Sn	**Sb**	**21 47 38.6**	**-2.6**
CO02	**Combarbal**	**1.35 37**		**Pn**	**21 47 25.2**	**-0.3**
CO02	**Combarbal**	**1.35 37**	⇑iP	**Pn**	**21 47 25.0**	**-0.4**
CO02			eS	**Sn**	**21 47 41.8**	**-1.4**
PEL	**Peldehue**	**1.37 129**		**Pn**	**21 47 24.7**	**-1.0**
PEL			Sn	**Sn**	**21 47 41.5**	**-2.2**
PEL	**Peldehue**	**1.37 129**	eP	**Pn**	**21 47 25.5**	**-0.2**
PEL			eS	**Sn**	**21 47 42.6**	**-1.1**
PEL	**Peldehue**	**1.37 129**	iP	**Pn**	**21 47 25.1**	**-0.6**
PEL			iS	**Sn**	**21 47 41.8**	**-1.8**
PEL			IAML		21 47 44.8	
	comp=N,1µm,0.4s					
VA05	**Santo Domingo**	**1.40 168**		**Pn**	**21 47 26.5**	**+0.5**
VA05	**Santo Domingo**	**1.40 168**	iP	**Pn**	**21 47 26.4**	**+0.3**
VA05			eS	**Sn**	**21 47 44.1**	**-0.1**
VA05			IAML		21 47 54.8	
	comp=E,1µm,0.3s					
MT05	**Renca**	**1.50 138**		**Pn**	**21 47 27.6**	**+0.1**
MT05	**Renca**	**1.50 138**	eP	**Pn**	**21 47 27.8**	**+0.2**
MT05			IAML		21 47 50.4	
	comp=E,1µm,0.3s					
MT10	**Hacienda Santa**	**1.55 130**	eP	**Pn**	**21 47 27.9**	**-0.4**
MT10			eS	**Sn**	**21 47 47.5**	**-0.7**
MT10			IAML		21 47 50.0	
	comp=E,2µm,0.5s					
CO06	**Fray Jorge**	**1.63 10**		**Pn**	**21 47 29.3**	**+0.1**
CO06	**Fray Jorge**	**1.63 10**	eP	**Pn**	**21 47 29.1**	**-0.1**
CO06			IAML		21 47 57.7	
	comp=E,263nm,0.3s					
MT14	**Cerro Cal¡n**	**1.63 133**	eP	**Pn**	**21 47 29.3**	**+0.1**
MT14			eS	**Sn**	**21 47 49.1**	**-1.0**
MT14			IAML		21 47 52.3	
	comp=E,800nm,0.1s					
MT01	**Popeta**	**1.68 160**		**Pn**	**21 47 30.4**	**+0.5**
MT01	**Popeta**	**1.68 160**	eP	**Pn**	**21 47 30.4**	**+0.5**
MT01			eS	**Sn**	**21 47 51.0**	**-0.3**
MT01			IAML		21 47 54.9	
	comp=E,224nm,0.3s					
MT09	**Talagante**	**1.69 152**		**Pb**	**21 47 31.3**	**-0.7**
MT09	**Talagante**	**1.69 152**	eP	**Pb**	**21 47 31.3**	**-0.7**
MT09			eS	**Sb**	**21 47 53.0**	**-0.2**
MT09			IAML		21 47 59.6	
	comp=N,535nm,0.4s					
MT03	**Universidad Ad**	**1.71 135**		**Pn**	**21 47 30.5**	**+0.1**
MT03	**Universidad Ad**	**1.71 135**	eP	**Pn**	**21 47 30.5**	**+0.1**
MT03			eS	**Sn**	**21 47 51.9**	**-0.3**
MT03			IAML		21 47 56.3	
	comp=E,708nm,0.1s					
FCH	**Farellones**	**1.74 127**	eP	**Pn**	**21 47 30.9**	**-0.1**
FCH			eS	**Sn**	**21 47 52.7**	**-0.6**
FCH			IAML		21 47 56.5	
	comp=E,385nm,0.3s					
MT15	**Las Vizcachas**	**1.79 138**	eP	**Pn**	**21 47 31.9**	**+0.4**
MT15			eS	**Sb**	**21 47 54.6**	**-1.3**
MT15			IAML		21 48 02.0	
	comp=N,826nm,0.4s					
CO03	**El Pedregal**	**1.80 37**		**Pn**	**21 47 32.5**	**+0.8**
CO03	**El Pedregal**	**1.80 37**	eP	**Pn**	**21 47 32.6**	**+1.0**
CO03			eS	**Sb**	**21 47 55.2**	**-0.9**
CO03			IAML		21 48 01.3	
	comp=Z,206nm,0.9s					
CO03	**El Pedregal**	**1.80 37**	eP	**Pn**	**21 47 32.4**	**+0.8**
CO03			IAML		21 47 59.0	
	comp=E,525nm,0.2s					
MT12	**Pirque**	**1.86 141**	eP	**Pn**	**21 47 33.0**	**+0.5**
MT12			IAML		21 48 04.2	
	comp=N,752nm,0.5s					
MT04	**Ro Olivares**	**1.89 127**	eP	**Pn**	**21 47 33.2**	**+0.1**
MT04			IAML		21 48 05.6	
	comp=E,232nm,0.5s					
MT08	**Bocatoma Ro**	**2.00 126**		**Pn**	**21 47 34.8**	**+0.3**
MT08	**Bocatoma Ro**	**2.00 126**	eP	**Pn**	**21 47 35.0**	**+0.4**
MT08			IAML		21 48 03.1	
	comp=E,219nm,0.5s					
MT13	**San Alfonso**	**2.02 137**		**Pn**	**21 47 35.0**	**+0.3**
MT13	**San Alfonso**	**2.02 137**	eP	**Pn**	**21 47 35.7**	**+1.0**
MT13			IAML		21 48 07.5	
	comp=N,332nm,0.3s					
BO04	**La Punta**	**2.04 147**		**Pn**	**21 47 35.5**	**+0.5**
BO04	**La Punta**	**2.04 147**	eP	**Pn**	**21 47 36.2**	**+1.3**
BO04			IAML		21 48 11.2	
	comp=E,332nm,0.5s					
LMEL	**Las Melosas**	**2.14 137**		**Pn**	**21 47 35.9**	**-0.6**
LMEL	**Las Melosas**	**2.14 137**	eP	**Pn**	**21 47 36.0**	**-0.4**
LMEL			IAML		21 48 11.8	
	comp=N,310nm,0.4s					
AUSP	**Uspallata**	**2.17 89**	eP	**Pb**	**21 47 39.7**	**-0.5**
AUSP			eS	**Sb**	**21 48 06.6**	**-0.6**
BO03	**Pichilemu**	**2.21 180**	eP	**Pn**	**21 47 37.0**	**-0.1**
BO01	**Tunca**	**2.22 161**		**Pn**	**21 47 37.7**	**+0.3**
BO01	**Tunca**	**2.22 161**	eP	**Pn**	**21 47 37.9**	**+0.5**
RTLS	**Leoncito**	**2.31 79**	eP	**Pb**	**21 47 42.7**	**+0.2**
RTLS			eS	**Sb**	**21 48 11.2**	**+0.2**
RTLS			IAML		21 48 15.5	
	comp=Z,356nm,1.0s					
GO04	**Tololo Observa**	**2.33 25**		**Pn**	**21 47 39.5**	**+0.5**
GO04	**Tololo Observa**	**2.33 25**	eP	**Pn**	**21 47 39.6**	**+0.5**
GO04			eS	**Sb**	**21 48 11.8**	**+0.3**
GO04	**Tololo Observa**	**2.33 25**	eP	**Pn**	**21 47 38.8**	**-0.2**
CO05	**La Serena**	**2.44 15**		**Pb**	**21 47 43.3**	**-1.3**
ARCO	**CERRO ARCO**	**2.61 103**	eP	**Pb**	**21 47 47.6**	**0.0**
ARCO			eS	**Sb**	**21 48 17.0**	**-2.5**
ARCO			IAML		21 48 25.3	
	comp=Z,81nm,0.4s					
ASAL	**Salagasta**	**2.65 97**	eP	**Pb**	**21 47 48.2**	**-0.1**
ASAL			eS	**Sb**	**21 48 22.0**	**+1.2**
BO02	**Sierra Bellavi**	**2.69 159**		**Pn**	**21 47 43.8**	**0.0**
BO02	**Sierra Bellavi**	**2.69 159**	eP	**Pn**	**21 47 44.8**	**+0.9**
GO05	**Huala**	**2.72 180**		**Pn**	**21 47 44.4**	**+0.1**
GO05	**Huala**	**2.72 180**	eP	**Pn**	**21 47 44.0**	**-0.3**
GO05			IAML		21 48 36.9	
	comp=E,65nm,0.2s					
AAGR	**Agrelo**	**2.75 108**	eP	**Pb**	**21 47 49.6**	**-0.4**
AAGR			eS	**Sb**	**21 48 25.2**	**+1.6**
AAGR			IAML		21 48 33.9	
	comp=Z,104nm,1.3s					
CO01	**Juntas del Tor**	**2.80 35**		**Pn**	**21 47 47.2**	**+1.7**
CO01	**Juntas del Tor**	**2.80 35**	eP	**Pb**	**21 47 48.2**	**-2.6**
CO01			IAML		21 48 26.4	
	comp=E,93nm,0.3s					
ZON	**Zonda**	**2.88 76**		**Pn**	**21 47 46.4**	**0.0**
ZON	**Zonda**	**2.88 76**	eP	**Pb**	**21 47 51.3**	**-0.8**
ZON			IAML		21 48 34.9	
	comp=Z,60nm,0.9s					
ACCO	**Cerro Coronel**	**2.99 56**	eP	**Pb**	**21 47 52.5**	**-1.7**
ACCO			eS	**Sb**	**21 48 30.6**	**-0.1**
ACCO			IAML		21 48 34.1	
	comp=Z,102nm,0.7s					
AROD	**Rodeo**	**2.99 46**	eP	**Pb**	**21 47 52.8**	**-1.4**
AROD			eS	**Sb**	**21 48 31.6**	**+0.8**
LCO	**Las Campanas**	**3.44 19**		**Pn**	**21 47 54.8**	**+0.5**
ML02	**Panimavida**	**3.50 173**	Pn	**Pn**	**21 47 55.5**	**+0.6**
AC05	**El Transito**	**3.73 23**		**Pn**	**21 47 59.2**	**+0.9**
AGUA	**GUANDACOL**	**4.08 48**	eP	**Pb**	**21 48 08.3**	**-4.3**
AGUA			IAML		21 49 12.8	
	comp=Z,74nm,0.6s					
AVFE	**Valle Fertil**	**4.17 68**	eP	**Pn**	**21 48 07.7**	**+3.5**
AVFE			eS	**Sn**	**21 48 57.8**	**+5.0**
AVFE			IAML		21 49 10.7	
	comp=Z,40nm,0.6s					

BI05 Punta Hualpn 4.57 193 Pn Pn 21 48 09.5 -0.1
VCA Vinchina 4.79 43 *e*P Pn 21 48 18.6 +5.7
VCA *e*S Sb 21 49 24.5 +2.1
VCA IAML 21 49 24.5
comp=Z,54nm,0.6s
GO03 Copiap 4.91 18 Pn 21 48 13.4 -1.0
AC06 Mina Casimiro 5.10 16 Pn Pn 21 48 18.4 +1.4
ACLC CERRO LA CRUZ 5.16 58 *e*P Pn 21 48 21.2 +3.3
ACLC IAML 21 49 41.6
comp=Z,34nm,0.5s
PLCA Paso Flores 8.51 173 Pn Pn 21 49 05.0 +1.3
TRQA Tornquist 9.99 128 Pn Pn 21 49 24.4 +0.4
GO07 Milladeo Hill, 10.90 187 Pn Pn 21 49 39.0 +2.6
PTLB Pontes e Lacer 20.42 38 P P 21 51 35.6 -2.1
PTLB IAmb IAmb 21 51 36.1
comp=Z,1.8nm,0.4s
BOAV Boa Vista 36.15 20 P P 21 54 04.1 +1.1
BOAV IAmb IAmb 21 54 05.0
comp=Z,8.1nm,1.5s
SNAA Sanae 53.15 158 P P 21 56 17.9 0.0
SNAA IAmb IAmb 21 56 20.5
comp=Z,6.6nm,1.4s
QSPA South Pole Qui 57.95 180 P P 21 56 53.6 +1.0

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*JMA **03** 22:02:27.7±0.1, 29˚N±1˚×14˚0E±˚, h452km, MV3.6/32, W OFF OGASAWARA*
*MOS **03** 22:02:27.4±0.8, 28.˚88N×139.˚37E, h421km, mb4.0/18, Error ellipse: s-maj=13.7km s-min=7.0km az=113.9*
*NEIC **03** 22:02:29.9±1.6, 28.˚9N±0.˚1×139.˚6E±0.˚1, h429km±8km, mb4.0/54, Error ellipse: s-maj=16.4km s-min=14.5km az=76.0*
*IDC **03** 22:02:30.0±1.4, 28.˚90N×139.˚41E, h434km±14km, mb3.3/26, mbtmp4.1/32, Error ellipse: s-maj=13.2km s-min=10.9km az=80.0*
ISC 03 22:02:28.5±0.4, **28.˚85N**±0.˚05×**139.˚56E**±0.˚07, **h423**km, **n147**, σ**1.˚23**/157, **mb3.9**/60, **11C**, **Bonin Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CBIJ Chichi jima 2.90 126 P P 22 03 32.9 +0.2
CBIJ S S 22 04 23.8 -1.0
JCJ Chichijima 2.90 126 P 22 03 33.1 +0.4
JCJ S 22 04 24.5 -0.3
JCJ Chichijima 2.90 126 P P 22 03 29.0 -3.8
128nm,0.3s,baz=292,slow=16,SNR=24
JCJ S S 22 04 19.7 -5.1
382nm,0.4s,baz=216,slow=21,SNR=21
JHH2 Haha-jima-NKT2 3.20 133 P P 22 03 35.4 +0.4
JHH2 S S 22 04 28.8 -0.2
JHJ2 Mitsune 4.25 3 P P 22 03 47.2 +3.1
JHJ2 Mitsune 4.25 3 *e*P P 22 03 45.8 +1.7
JHJ Hachijo jima 2 4.26 3 P P 22 03 47.0 +2.9
104nm,0.3s,baz=132,slow=6.8,SNR=15
JHJ S S 22 04 42.3 -3.6
102nm,0.6s,baz=107,slow=19,SNR=2.2
BSO1 Boso 1 5.91 11 *e*P P 22 04 01.6 +1.6
BSO1 *e*S S 22 05 14.9 -0.3
BSO3 Boso 3 5.99 8 *e*S S 22 05 15.0 -2.2
JIE Ise 6.04 337 *e*P P 22 04 05.0 +3.0
JKN2 Miekihoku 6.06 333 P P 22 04 05.0 +2.8
JMN Monobe 6.88 316 P P 22 04 13.2 +1.7
JRY Ryogami san 7.17 356 P P 22 04 14.5 -0.2
JAG Ashikaga 7.55 359 *e*P P 22 04 17.8 -1.0
MJAR Matsushiro Arr 7.75 352 P P 22 04 20.3 -0.7
1.7nm,0.3s,baz=171,slow=10,SNR=9.0
MJAR S S 22 05 46.5 -6.5
1.1nm,0.4s,baz=109,slow=26,SNR=2.0
MAJO Matsushiro 7.76 352 P P 22 04 21.7 +0.7
MAJO Matsushiro 7.76 352 P P 22 04 21.7 +0.7
MJB9 Matsu-Tunnel 7.76 352 P P 22 04 21.2 +0.1
JFK Kawauchi 8.56 7 *e*P P 22 04 30.3 +0.5
JNU Nakatsue 8.58 302 P P 22 04 31.3 +1.3
7.4nm,1.1s,baz=39,slow=8.3,SNR=1.2
JMM Marumori 9.05 6 P P 22 04 35.9 +0.9
JOW Kunigami 10.19 261 P P 22 04 47.8 -0.1
13nm,0.3s,baz=99,slow=12,SNR=5.2
JTU Tsushima 10.34 306 P P 22 04 50.8 +1.5
KSRS Korea Array 12.98 314 P P 22 05 16.8 -1.5
0.8nm,0.4s,baz=129,slow=10,SNR=3.3
USRK Ussuriysk Ar. 16.47 340 P P 22 05 56.3 +0.5
4.4nm,0.6s,baz=145,slow=10,SNR=12
KLR Kul'dur 21.21 346 *i* P P 22 06 41.5 -0.8
KLR pmax pmax
comp=Z,8.0nm,3.0s
KLR Kul'dur 21.21 346 P P 22 06 42.9 +0.6
comp=Z,0.9nm,0.5s,baz=152,slow=8.6,SNR=4.5
comp=Z,0.9nm,0.5s
ZEA Zeya 26.45 343 *i* P P 22 07 28.9 -0.3
ULN Ulaanbaatar 31.46 316 P P 22 08 13.1 -0.2
ULN IAmb IAmb 22 08 14.3
comp=Z,4.6nm,1.0s
ULN Ulaanbaatar 31.46 316 *ce*P P 22 08 12.1 -1.2
ULN pmax pmax
comp=Z,9.0nm,2.5s
SONM Songino Array 31.84 316 P P 22 08 16.9 +0.3
SONM Songino Array 31.84 316 P P 22 08 16.9 +0.3
SONM pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 31.84 316 P P 22 08 16.7 +0.1
comp=Z,1.7nm,0.7s,baz=131,slow=7.8,SNR=14
comp=Z,1.7nm,0.7s
YAK Yakutsk 33.82 352 *i* P P 22 08 33.4 +0.3
YAK pmax pmax
comp=Z,37nm,3.2s
PHRA Phrae 37.32 263 P P 22 09 03.3 +0.3
CMAR Chiang Mai Arr 38.45 264 *ce*P P 22 09 10.1 -2.3
CMAR pmax pmax
comp=Z,3.0nm,0.3s
BILL Bilibino 42.31 15 *i* P P 22 09 43.7 +1.0
KULM Kulim 43.64 245 P P 22 09 54.1 +0.1
KULM IAmb IAmb 22 09 55.1
comp=Z,8.8nm,1.0s
DGZ Jazzator, Alta 44.38 313 *i* P P 22 09 58.8 -0.7
DGZ pmax pmax
comp=Z,6.0nm,0.8s
RAMN Ramite 46.52 281 *e*P P 22 10 16.5 0.0
comp=Z,3.7nm,0.3s
ZALV Zalesovo Beam 46.65 318 *i* P P 22 10 16.0 -0.7
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 46.65 318 P P 22 10 16.0 -0.7
comp=Z,1.3nm,0.5s,baz=106,slow=8.2,SNR=7.9
comp=Z,1.3nm,0.5s
JIRN Jiri 46.69 282 *e*P P 22 10 18.1 +0.1
comp=Z,5.5nm,0.4s
GUN Gumba 46.90 282 *e*P P 22 10 19.6 +0.1
comp=Z,20nm,1.0s
MK31 Makanchi Array 47.57 308 P P 22 10 23.6 -0.3
MK31 Makanchi Array 47.57 308 *ce*P P 22 10 23.2 -0.7
MKAR Makanchi Array 47.57 308 *ce*P P 22 10 23.3 -0.6
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 47.57 308 P P 22 10 23.4 -0.5
comp=Z,2.6nm,0.4s,baz=86,slow=10,SNR=77
comp=Z,2.6nm,0.4s
MAKZ Makanchi 47.79 308 P P 22 10 25.3 -0.3
MAKZ IAmb IAmb 22 10 25.5
comp=Z,4.9nm,0.4s
MAKZ Makanchi 47.79 308 P P 22 10 25.3 -0.3
MAKZ pmax pmax
comp=Z,5.0nm,0.4s
GKN Gorkha 47.94 283 *e*P P 22 10 26.9 -0.2
WB0 Warramunga Arr 48.59 186 P P 22 10 32.1 +0.3
WB0 IAmb IAmb 22 10 32.7
comp=Z,3.2nm,0.7s
DANN Dangsing 48.60 284 *e*P P 22 10 32.3 0.0
WRA Warramunga Arr 48.77 187 P P 22 10 33.5 +0.3
WRA Warramunga Arr 48.77 187 P P 22 10 33.5 +0.3
WRA Warramunga Arr 48.77 187 P P 22 10 33.2 0.0
comp=Z,2.0nm,0.5s,baz=2.2,slow=7.6,SNR=29
comp=Z,2.0nm,0.5s
PYUN Piuthan 49.32 284 *e*P P 22 10 37.4 -0.2
comp=Z,9.2nm,0.6s
KURK Kurchatov 50.10 314 P P 22 10 42.1 -0.7
KURK IAmb IAmb 22 10 42.8
comp=Z,5.7nm,0.8s
KURK Kurchatov 50.10 314 *ce*P P 22 10 41.3 -1.4
KURK pmax pmax
comp=Z,5.0nm,0.6s
KURBB Kurchatov Arra 50.16 313 P P 22 10 42.5 -0.7
comp=Z,7.9nm,0.5s,baz=91,slow=8.2,SNR=193
comp=Z,7.9nm,0.5s
NRN Naryn 52.40 302 P P 22 11 00.1 0.0
NRN Naryn 52.40 302 P P 22 11 00.1 0.0
NRN pmax pmax
comp=Z,6.0nm,1.3s
AS31 Alice Springs 52.49 187 P P 22 11 01.4 +0.9
ASAR Alice Springs 52.50 187 P P 22 11 01.8 +1.2
comp=Z,0.6nm,0.5s,baz=15,slow=13,SNR=21
comp=Z,0.6nm,0.5s
PSA00 Pilbara Seismi 53.62 203 P P 22 11 09.3 +0.7
KDAK Kodiak Island 54.37 38 P P 22 11 13.1 -0.4
KDAK Kodiak Island 54.37 38 P P 22 11 13.1 -0.4
KDAK pmax pmax
comp=Z,78nm,1.5s
IMAR Indian Mountai 54.55 27 P P 22 11 15.4 +0.8
BVAR Borovoye Array 55.18 317 P P 22 11 19.1 -0.2
comp=Z,3.8nm,0.5s,baz=86,slow=8.3,SNR=17
comp=Z,3.8nm,0.5s
BRVK Borovoye 55.24 317 P P 22 11 19.7 -0.1
BRVK Borovoye 55.24 317 *ce*P P 22 11 19.2 -0.6
BRVK pmax pmax
comp=Z,4.0nm,0.8s
KK31 Karatay Array 56.18 305 P P 22 11 26.5 -0.1
KK31 Karatay Array 56.18 305 P P 22 11 26.5 -0.1
KK31 pmax pmax
comp=Z,9.0nm,0.7s
KKAR Karatay Array 56.18 305 P P 22 11 26.6 +0.1
KKAR Karatay Array 56.18 305 P P 22 11 26.7 +0.1
KKAR IAmb IAmb 22 11 27.1
comp=Z,9.2nm,0.7s
KKAR Karatay Array 56.18 305 P P 22 11 26.6 +0.1
KKAR pmax pmax
comp=Z,9.0nm,0.7s
BTK Batken 56.51 301 P P 22 11 28.2 -0.8
BTK Batken 56.51 301 P P 22 11 28.2 -0.8
BTK pmax pmax
comp=Z,3.0nm,1.2s
H24K Noodor Dome 56.93 28 P P 22 11 32.2 +0.9
H24K IAmb IAmb 22 11 40.9
comp=Z,6.3nm,1.5s
ILAR Eielson Array 57.30 29 P P 22 11 33.6 -0.3
comp=Z,0.3nm,0.4s,baz=250,slow=5.8,SNR=13
comp=Z,0.3nm,0.4s
D25K Kavik River 57.70 24 P P 22 11 37.7 +1.0
BMAR Burnt Mountain 58.29 26 P P 22 11 41.6 +0.9
J26L Joseph Creek 58.74 30 P P 22 11 43.6 -0.3
J26L IAmb IAmb 22 11 45.1
comp=Z,3.1nm,0.7s
L26K Log Cabin Wild 58.90 31 P P 22 11 45.9 +1.0
L26K IAmb IAmb 22 11 47.0
comp=Z,11nm,1.4s
KBL Kabul 59.17 295 P P 22 11 47.0 -0.5
KBL Kabul 59.17 295 P P 22 11 47.0 -0.5
KBL pmax pmax
comp=Z,3.0nm,0.9s
BCAR Beaver Creek A 59.60 31 P P 22 11 50.5 +0.8
D27M Malcolm River 59.63 24 P P 22 11 50.9 +1.2
D27M IAmb IAmb 22 12 05.1
comp=Z,6.8nm,1.5s
E28M Babbage River 60.17 25 P P 22 11 54.4 +1.1
E29M Blow River 60.79 25 P P 22 11 58.4 +1.0
M29M Somme Creek 61.19 32 P P 22 12 01.1 +0.7
M29M IAmb IAmb 22 12 35.8
comp=Z,6.6nm,1.2s
L29M L29M 61.26 31 P P 22 12 02.0 +1.4
L29M IAmb IAmb 22 12 27.0
comp=Z,12nm,1.4s
K29M Barlow Dome 61.43 30 P P 22 12 03.0 +1.1
G30M tAoh Zraii Nji 61.57 26 P P 22 12 03.0 +0.4
G30M IAmb IAmb 22 12 30.2
comp=Z,9.5nm,1.4s
ARU Arti 61.62 321 P P 22 12 02.5 -0.6
ARU IAmb IAmb 22 12 03.2
comp=Z,5.2nm,0.6s
ARU Arti 61.62 321 *c i*P P 22 12 02.3 -0.8
ARU *PP pP 22 13 29.4 -1.0
ARU S S 22 19 51.1 0.0
ARU SS SS 22 24 04.0 +3.1
ARU pmax pmax
comp=Z,28nm,3.1s
I30M Mount Dempster 61.73 28 P P 22 12 04.7 +0.8
I30M IAmb IAmb 22 12 39.1
comp=Z,4.8nm,1.4s
M30M Minto, Yukon 61.94 31 P P 22 12 06.4 +1.2
M30M IAmb IAmb 22 12 41.7
comp=Z,6.2nm,1.4s
ABKAR Akbulak array 62.21 313 P P 22 12 06.7 -0.5
ABKAR IAmb IAmb 22 12 07.2
comp=Z,4.8nm,0.7s
ABKAR Akbulak array 62.21 313 P P 22 12 06.6 -0.5
N31M Braeburn, Yuko 62.59 33 P P 22 12 10.2 +0.7
M31M Drury Creek, Y 63.10 32 P P 22 12 13.6 +0.8
M31M IAmb IAmb 22 12 14.5
comp=Z,3.1nm,0.8s
A36M Sachs Harbour 64.44 20 P P 22 12 22.2 +1.1
A36M IAmb IAmb 22 12 54.6
comp=Z,6.5nm,1.4s
MMPY Sheldon Lake, 64.44 31 P P 22 12 22.4 +1.1
MMPY IAmb IAmb 22 13 03.4
comp=Z,4.1nm,1.2s
CAN Canberra 64.44 171 P P 22 12 23.2 +1.5
CAN Canberra 64.44 171 P P 22 12 23.2 +1.5
CAN pmax pmax
comp=Z,14nm,1.1s
HRA Herat 64.59 297 P P 22 12 22.8 -0.2
HRA IAmb IAmb 22 12 23.9
comp=Z,6.0nm,1.0s
KIRV Kirov 65.94 325 *ce*P P 22 12 31.1 +0.3
GEYT Alibeck 66.61 302 P P 22 12 36.2 +0.7
comp=Z,2.7nm,0.8s,baz=202,slow=2.4,SNR=4.2
comp=Z,2.7nm,0.8s
LVZ Lovozero 68.97 337 *ce*P P 22 12 49.1 -0.3
LVZ pmax pmax
comp=Z,67nm,2.5s
RES Resolute Bay 70.90 13 P P 22 13 01.5 +0.7
comp=Z,1.0nm,0.7s,baz=322,slow=9.2,SNR=4.2
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 71.12 340 P P 22 13 02.2 0.0
ARCES ARCESS Array B 71.12 340 P P 22 13 02.3 0.0
ARCES pmax pmax
comp=Z,15nm,1.3s
ARCES ARCESS Array B 71.12 340 P P 22 13 02.8 +0.6
comp=Z,3.6nm,0.8s,baz=27,slow=8.4,SNR=7.3
comp=Z,3.6nm,0.8s
YKA Yellowknife Ar 71.70 28 P P 22 13 05.2 -0.6
YKA Yellowknife Ar 71.70 28 P P 22 13 06.5 +0.7
comp=Z,0.4nm,0.7s,baz=296,slow=6.6,SNR=6.4
comp=Z,0.4nm,0.7s
F04A Amboy 75.03 46 P P 22 13 26.6 +1.3
KBZ Khabaz 75.12 312 P P 22 13 26.0 +0.2
KBZ Khabaz 75.12 312 P P 22 13 26.0 +0.2
comp=Z,4.9nm,0.8s,baz=113,slow=7.2,SNR=11
comp=Z,4.9nm,0.8s
KEBM Edson Butte 75.12 49 P P 22 13 27.1 +1.2
FIA1 FINESS Array S 75.34 333 P P 22 13 26.5 -0.2
FINES FINESS Array B 75.34 333 *ce*P P 22 13 26.1 -0.6
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES FINESS Array B 75.34 333 P P 22 13 26.3 -0.4
comp=Z,1.0nm,0.3s,baz=72,slow=5.2,SNR=16
comp=Z,1.0nm,0.3s
MRZ Mangatainoka R 76.81 153 P P 22 13 35.6 +0.5
PINE Pine Mountain 76.93 47 P P 22 13 37.5 +1.4
PINE IAmb IAmb 22 13 38.6
comp=Z,4.3nm,0.8s
NEW Newport 77.17 42 P P 22 13 38.0 +0.8
NEW IAmb IAmb 22 13 38.9
comp=Z,2.1nm,0.8s
NEW Newport 77.17 42 P P 22 13 38.0 +0.8
NEW pmax pmax
comp=Z,2.0nm,0.9s
NEW Newport 77.17 42 P P 22 13 38.4 +1.2
comp=Z,1.4nm,0.5s,baz=271,slow=7.0,SNR=3.6
comp=Z,1.4nm,0.5s
K05A Summer Lake 77.45 48 P P 22 13 39.9 +0.8
J08A Circle Bar Ran 78.71 47 P P 22 13 46.7 +0.9
J08A IAmb IAmb 22 13 47.9
comp=Z,3.5nm,0.8s
PABE Paberze 79.68 329 P P 22 13 49.7 -0.8
AKASG Malin Array Be 79.83 323 P P 22 13 51.0 -0.4
AKASG Malin Array Be 79.83 323 P P 22 13 51.0 -0.4
comp=Z,0.3nm,0.3s,baz=55,slow=14,SNR=2.8
comp=Z,0.3nm,0.3s
CMB Columbia Colle 80.00 52 P P 22 13 53.7 +1.0
CMB IAmb IAmb 22 14 15.7
comp=Z,7.8nm,1.5s
CMB Columbia Colle 80.00 52 P P 22 13 53.7 +1.0
CMB pmax pmax
comp=Z,8.0nm,1.5s
PNTR Pine Nut 80.03 51 P P 22 13 53.8 +0.8
PNTR IAmb IAmb 22 14 07.0
comp=Z,7.7nm,1.2s
HFS Hagfors 80.89 336 P P 22 13 56.1 -0.7
comp=Z,7.0nm,1.1s,baz=60,slow=3.5,SNR=5.2
comp=Z,7.0nm,1.1s
NOA NORSAR Array B 81.12 337 P P 22 13 57.9 -0.1
comp=Z,1.0nm,1.0s,baz=45,slow=5.0,SNR=1.2
comp=Z,1.0nm,1.0s
NVAR Mina Array Bea 81.24 51 P P 22 14 00.7 +1.4
comp=Z,1.0nm,0.5s,baz=295,slow=4.6,SNR=7.4
comp=Z,1.0nm,0.5s
ELK Elko 82.11 48 P P 22 14 05.1 +1.3
comp=Z,0.5nm,0.4s,baz=212,slow=11,SNR=2.6
comp=Z,0.5nm,0.4s
BRTR Keskin Array B 83.11 312 *ce*P P 22 14 09.0 +0.2
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 83.11 312 P P 22 14 08.0 -0.8
comp=Z,0.9nm,0.8s,baz=92,slow=4.6,SNR=6.7
comp=Z,0.9nm,0.8s
PDAR Pinedale Array 84.58 44 P P 22 14 17.3 +1.1
comp=Z,0.3nm,0.5s,baz=343,slow=3.1,SNR=4.0
comp=Z,0.3nm,0.5s
MMAI Mount Meron Ar 85.41 305 P P 22 14 19.6 -0.7
comp=Z,0.4nm,0.5s,baz=332,slow=4.9,SNR=1.7
comp=Z,0.4nm,0.5s
ULM Lac du Bonnet 87.22 32 P P 22 14 28.1 -0.4
comp=Z,1.2nm,0.5s,baz=315,slow=2.9,SNR=3.0
comp=Z,1.2nm,0.5s
TXAR Lajitas Array 96.38 52 P P 22 15 12.1 +0.9
comp=Z,0.2nm,0.7s,baz=340,slow=3.3,SNR=3.6
comp=Z,0.2nm,0.7s
LPAZ La Paz 151.62 70 PKPbc PKiKP 22 21 36.1 +0.6
comp=Z,0.8nm,0.7s,baz=333,slow=1.4,SNR=4.7

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*JMA **03** 22:10:53.8±0.2, 23˚N±1˚×122.˚6E±0.˚6, h46km, MV3.3/17, FAR S OFF ISHIGAKIJIMA*
*TAP **03** 22:10:54.8, 22.˚81N×122.˚51E, h47km±1km, ML3.8, D*
*ASIES **03** 22:10:54.8, 22.˚81N×122.˚51E, h47km, ML3.8, Mw3.9, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}-4.87; $M_{\theta\theta}$5.71; $M_{\phi\phi}$-0.84; $M_{r\theta}$2.34; $M_{\theta\phi}$-2.83; $M_{\phi r}$-3.40; Fault plane solution: $M_0$7.31601×10^{21} NP1: ϕ_s312.91000°, δ64.45000°, λ-64.37000°. NP2:ϕ_s84.86000°, δ35.57000°, λ-132.15000°. Principal axes: T Plg15.6770°, Azm24.3880°; N Plg22.9770°, Azm121.2230°; P Plg61.6560°, Azm263.0370°;*
*IDC **03** 22:11:01.8±9.1, 22.˚97N×122.˚98E, h85km±87km, mb3.0/5, mbtmp3.4/6, ML3.8/1, MS2.8/1 Error ellipse: s-maj=55.0km s-min=26.6km az=63.0*
ISC 03 22:10:50.1±1.2, **22.˚86N**±0.˚03×**122.˚54E**±0.˚02, **h7**km±9km, **n157**, σ**1.˚18**/192, **mb3.3**/5, **19D**, **Taiwan region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
LDUT Ludao 1.01 260 *e*P Pn 22 11 12.1 +1.4
baz=271
LDUT S Sn 22 11 23.8 -1.3
baz=271
ECBN Changbin 1.11 295 ⇓*i*P Pg 22 11 13.2 +1.8
baz=298
ECBN *i* S Sn 22 11 26.5 -1.0
baz=298
CHKT Chengkung 1.11 283 ⇓*i*P Pg 22 11 13.0 +1.5
baz=291
CHKT *i* S Sn 22 11 26.0 -1.7
baz=291
EDH Donghe 1.15 276 ⇓P Pg 22 11 12.7 +0.4
baz=284
FULB Fuli 1.20 287 ⇓P Pg 22 11 14.3 +1.1
baz=294
FULB S Sg 22 11 28.6 -0.3
baz=294
HGSD Ruisui 1.21 302 ⇓*i*P Pg 22 11 14.2 +0.8
baz=304
HGSD *e*S Sb 22 11 28.3 -0.9
baz=304
LAY Lan-yu 1.23 229 *e*P Pg 22 11 14.6 +0.9
baz=237
LYUB Lan-yu 1.23 226 P Pg 22 11 14.7 +1.0
baz=235
LYUB *e*S Sn 22 11 28.2 -2.3
baz=235
EYUL Yuli 1.23 294 ⇓P Pg 22 11 15.2 +1.5
baz=303
ECS Chishang 1.25 281 P Pg 22 11 15.7 +1.6
baz=278
ECS S Sg 22 11 31.1 +0.9
baz=278
TWF1 Yuli 1.25 294 ⇓*i*P Pg 22 11 15.3 +1.2
baz=302
EHD Haiduan 1.27 284 P Pg 22 11 15.8 +1.3
baz=290
YULB Yu-li 1.27 295 P Pg 22 11 15.5 +1.0
YULB Yu-li 1.27 295 ⇓P Pg 22 11 15.6 +1.2
baz=298
YULB *e*S Sg 22 11 30.6 -0.3
baz=298
EOS4 EOS4 1.28 351 *e*P Pg 22 11 15.8 +1.1
baz=352
TTN Taitung 1.29 266 *e*P Pg 22 11 17.6 +2.6
baz=268
EHY Hungye 1.30 300 P Pg 22 11 15.9 +0.9
baz=303
EHY *e*S Sg 22 11 31.5 -0.4
baz=303
LONT Longtian 1.31 273 *e*P Pg 22 11 16.3 +1.1
baz=275
TWGBT Beinan 1.35 269 P Pg 22 11 17.3 +1.2
TWGBT Beinan 1.35 269 P Pg 22 11 16.9 +0.8
baz=271
TWGBT *i* S Sg 22 11 32.8 -0.8
baz=271
TWG Pinlang 1.36 269 P Pg 22 11 17.0 +0.8
baz=271
TWG S Sg 22 11 33.2 -0.7
baz=271
WARBT Fenglin Townsh 1.37 309 ⇓*i*P Pg 22 11 17.0 +0.6
baz=320
WARBT S Sb 22 11 33.0 -0.7
baz=320
ESL Shilin 1.40 313 ⇓P Pg 22 11 16.9 0.0
baz=316
ESL *e*S Sn 22 11 32.5 -2.2
baz=316
HWA Hwalien 1.41 322 *e*P Pg 22 11 18.7 +1.5
baz=325
EOS3 EOS3 1.44 352 *e*P Pg 22 11 18.6 +0.8
baz=350
ELDTW Lidau 1.45 284 ⇓*i*P Pg 22 11 18.2 +0.3
baz=295
ETM Tongmen 1.47 319 *e*P Pg 22 11 18.5 +0.1
baz=328
ECL Taimali 1.49 260 ⇓*i*P Pg 22 11 18.9 +0.2
baz=262
ECL *e*S Sb 22 11 35.5 -1.8
baz=262
TWD Chiawan 1.50 325 *e*P Pg 22 11 19.0 +0.1
baz=337
TWD S Sb 22 11 36.7 -0.8
baz=337
ETL Fush Village 1.55 327 *e*P Pg 22 11 19.5 -0.4
baz=329
LXIB Xiulin Townshi 1.56 318 *e*P Pg 22 11 19.8 -0.3
baz=320
LXIB *e*S Sb 22 11 38.2 -1.1
baz=320
VWDT VWDT 1.57 305 ⇓*i*P Pg 22 11 20.7 +0.4
baz=307
VWDT *i* S Sb 22 11 39.2 -0.3
baz=307
NACB Ninganchiao 1.58 327 P Pg 22 11 20.0 -0.4
NACB Ninganchiao 1.58 327 P Pg 22 11 20.0 -0.4
baz=337
NACB S Sn 22 11 37.7 -1.5
baz=337
EOS2 EOS2 1.58 350 *e*P Pg 22 11 21.0 +0.5
baz=338
TAW Tawu 1.60 252 *e*P Pg 22 11 21.4 +0.5
baz=262
TAWH Dawu Township 1.61 252 *e*P Pg 22 11 21.9 +0.8
baz=262
JYNG Yonagunijimaku 1.63 13 P Pg 22 11 21.2 -0.3

JYNG eS Sb 22 11 41.9 +0.6
EAST Anshuo 1.64 254 eP Pg 22 11 21.4 -0.1
baz=263
YOJ Yonaguni jima 1.66 15 P Pg 22 11 22.0 +0.1
YOJ Yonaguni jima 1.66 15 P Pg 22 11 22.1 +0.1
YOJ Yonaguni jima 1.66 15 eP Pg 22 11 21.6 -0.3
baz=4.0
STYH Taoyuan 1.66 281 eP Pg 22 11 22.0 +0.1
baz=283
ETLH Xiulin Townshi 1.66 324 eP Pg 22 11 21.4 -0.6
baz=326
HATJ Hateruma jima 1.67 44 P Pg 22 11 21.4 -0.7
HATJ eS Sb 22 11 41.0 -1.3
OWD Renai 1.67 311 eP Pg 22 11 21.8 -0.4
baz=314
STYT Tauyuan 1.68 281 eP Pg 22 11 22.3 0.0
baz=283
ALS Alishan 1.73 293 ⇓P Pg 22 11 23.6 +0.3
baz=300
ENA Nanau 1.73 335 eP Pg 22 11 22.7 -0.6
baz=337
EWUT Wuta 1.73 336 eP Pg 22 11 22.9 -0.4
baz=338
EWUT eS Sb 22 11 43.6 -0.6
baz=338
SSLB Suanglung 1.73 303 P Pg 22 11 22.9 -0.5
SSLB Suanglung 1.73 303 ⇓*i*P Pg 22 11 22.8 -0.6
baz=305
SSLB eS Sb 22 11 42.8 -1.4
baz=305
WUSB Renai 1.73 311 ⇓*i*P Pg 22 11 22.9 -0.4
baz=313
WUSB eS Sn 22 11 42.5 -0.6
baz=313
SLIU Shizi 1.73 249 eP Pg 22 11 23.2 -0.2
baz=250
CHGB Renai 1.74 314 eP Pg 22 11 23.1 -0.4
baz=326
CHGB eS Sb 22 11 44.0 -0.7
baz=326
WHF Hehuan Shan 1.74 318 eP Pg 22 11 23.3 -0.3
baz=320
SLGT Liugui 1.75 275 eP Pg 22 11 23.8 0.0
baz=272
TSMG Majia 1.76 266 eP Pg 22 11 23.4 -0.4
baz=261
WHYT Xinyi Township 1.77 299 ⇓P Pg 22 11 24.0 0.0
baz=307
SSD Sandimen 1.77 267 eP Pg 22 11 23.4 -0.6
baz=262
MASBT Mashibuluo 1.78 263 eP Pg 22 11 23.7 -0.6
baz=264
TPUB Ta-pu 1.82 284 P Pg 22 11 25.4 +0.4
TPUB Ta-pu 1.82 284 ⇓P Pg 22 11 25.4 +0.4
baz=293
WTP Ta-pu 1.82 283 eP Pg 22 11 25.4 +0.3
baz=285
SGST Jiashian 1.82 278 P Pg 22 11 24.7 -0.4
baz=279
SMLT Sun Moon Lake 1.82 304 ⇓P Pg 22 11 24.5 -0.6
baz=306
SMLT eS Sb 22 11 46.0 -1.0
baz=306
FUSS Fushou 1.83 320 eP Pg 22 11 24.5 -0.8
baz=322
IRIF Iriomote-Funau 1.83 36 P Pb 22 11 23.9 -0.1
IRIF eS Sb 22 11 45.5 -1.6
SCZT Fangliau 1.84 255 eP Pg 22 11 25.4 -0.1
baz=262
TWKBT Hengchun 1.84 241 eP Pg 22 11 24.6 -0.9
baz=242
TWK1 Hengchun 1.85 241 eP Pg 22 11 24.8 -0.7
baz=242
TWC Suao 1.86 340 eP Pg 22 11 24.9 -0.9
baz=342
TWC eS Sb 22 11 46.8 -1.1
baz=342
CHN4 Tsaushan 1.86 286 eP Pg 22 11 26.1 +0.3
baz=295
CHN5 Tsauling 1.87 294 eP Pg 22 11 26.5 +0.5
baz=300
CHN5 eS Sg 22 11 49.3 -1.0
baz=300
TYC Yuchr 1.87 304 eP Pg 22 11 25.1 -0.8
baz=314
HEN Hengchun 1.87 244 eP Pg 22 11 26.7 +0.6
baz=238
TWT Tachien 1.88 318 eP Pg 22 11 25.6 -0.6
baz=328
WCKO Fanlu 1.88 288 eP Pg 22 11 26.6 +0.4
baz=298
TDCB Techi 1.89 318 eP Pg 22 11 25.9 -0.4
baz=320
TDCB eS Sb 22 11 46.8 -2.0
baz=320
CHN1 Nanshi 1.89 280 eP Pg 22 11 26.8 +0.5
baz=293
SCST Cishan 1.89 271 eP Pg 22 11 27.2 +0.8
baz=273
DPDB Guoxing 1.89 309 eP Pg 22 11 25.7 -0.7
baz=311
NNSB Datong 1.89 326 eP Pb 22 11 25.2 +0.1
baz=328
NNSB eS Sn 22 11 46.9 -0.3
baz=328
NNSH Datong 1.89 326 eP Pb 22 11 25.2 +0.1
baz=328
NNS Nan Shan 1.91 326 eP Pb 22 11 25.7 +0.3
baz=328
NNS eS Sb 22 11 47.8 -1.7
baz=328
LATG Datong 1.92 331 eP Pb 22 11 25.3 -0.2
baz=340
LATG eS Sb 22 11 48.1 -1.5
baz=340
WCS Beigang Elemen 1.92 309 eP Pg 22 11 26.0 -0.9
baz=311
SNST Tainan City 1.92 281 eP Pg 22 11 27.4 +0.4
baz=293
JKRS Kuro-shima 1.92 44 P Pb 22 11 25.4 -0.1
JKRS S Sn 22 11 47.4 -0.3
NDS Dongshan 1.93 337 eP Pg 22 11 26.2 -0.8
baz=330
WJS Zhushan 1.93 300 eP Pg 22 11 27.7 +0.6
baz=306
TWK Hsinying 1.94 283 eP Pg 22 11 27.7 +0.4
baz=295
TWM1 Shoushan 1.96 269 eP Pg 22 11 28.8 +1.1
baz=267
WNT Mingjian 1.99 301 eP Pg 22 11 28.3 0.0
baz=303
ENTT Nioudou 1.99 333 eP Pb 22 11 27.1 +0.4
baz=335
WNT1 Nantou City 2.01 302 eP Pg 22 11 28.8 +0.1
baz=304
CHN2 Minshiung 2.02 290 eP Pg 22 11 28.9 0.0
baz=292
CHN3 Shinhua 2.02 277 eP Pg 22 11 30.2 +1.3
baz=278
CHN3 eS Sg 22 11 57.4 +2.3
baz=278
WDLH Douliu 2.02 295 eP Pg 22 11 29.4 +0.4
baz=307
TWE Neicheng 2.02 337 eP Pb 22 11 27.7 +0.4
baz=339
SHHT Tainan City 2.03 275 eP Pg 22 11 31.7 +2.6
baz=277
WHP Taichung City 2.04 314 eP Pg 22 11 29.0 -0.3
baz=316
CHY Chiayi 2.05 289 eP Pg 22 11 29.7 +0.1
baz=291
WWF Wufeng 2.07 305 eP Pg 22 11 29.5 -0.3
baz=307
FUSB Fushanzhiwuyua 2.09 335 eP Pb 22 11 28.9 +0.5
baz=337
JIJ Ishigaki jima 2.10 44 P Pb 22 11 27.3 -1.2
JIJ eS Sn 22 11 50.7 -1.3
YHNB Yeheng 2.10 330 P Pb 22 11 28.7 +0.1
YHNB Yeheng 2.10 330 eP Pb 22 11 28.6 +0.1
baz=331
NSK Sanguang 2.11 329 eP Pb 22 11 28.8 -0.1
baz=331
WYL Yuanlin Townsh 2.11 302 eP Pg 22 11 30.5 -0.2
baz=304
WSSB Gushan 2.12 265 eP Pg 22 11 30.4 -0.4
baz=282
NWLT Wulai 2.14 334 eP Pb 22 11 29.7 +0.5
baz=335
TCU Taichung 2.14 307 eP Pg 22 11 31.1 -0.2
baz=309
ICHU Yijhu 2.15 284 eP Pg 22 11 30.9 -0.3
baz=286
WCHH Zhanghua 2.19 304 eP Pg 22 11 31.5 -0.7
baz=306
NFF Wufeng Townshi 2.20 324 eP Pg 22 11 31.2 -1.1
baz=332
TWQ1 Liyutan 2.20 313 eP Pg 22 11 31.7 -0.6
baz=321
TWQ1 eS Sb 22 11 58.0 +0.2
baz=321
CHN8 Yiju 2.20 283 eP Pg 22 11 31.6 -0.8
baz=285
TIPB Shuangxi 2.21 343 eP Pb 22 11 30.6 +0.2
baz=356
RLNB Erlin 2.26 298 eP Pg 22 11 32.3 -1.1
baz=300
NSTT Nanjuang 2.26 322 eP Pg 22 11 32.3 -1.3
baz=332
NSTT eS Sb 22 11 57.8 -1.7
baz=332
LIOB Emei 2.27 322 eP Pb 22 11 32.2 +0.8
baz=333
TSCK Chigu Township 2.28 278 eP Pg 22 11 33.1 -0.9
baz=280
TWA Mucha 2.29 338 eP Pb 22 11 32.5 +0.7
baz=331
SXI1 Grass Mountain 2.31 345 eP Pb 22 11 31.0 -1.2
baz=358
NWF Wu-fen Shan 2.31 343 eP Pb 22 11 32.2 0.0
baz=356
WFSB Wu-fen Shan 2.31 343 eP Pb 22 11 32.0 -0.2
baz=356
TATO Taipei 2.32 336 P Pb 22 11 32.8 +0.5
JISG Ishigakijimahi 2.37 43 P Pb 22 11 30.9 -2.1
JISG eS Sn 22 11 57.6 -1.0
NJN Zhunan 2.38 320 eP Pb 22 11 32.1 -1.2
baz=322
YM01 YM01 2.45 339 eP Pb 22 11 33.6 -0.9
baz=340
YM08 YM08 2.48 340 eP Pb 22 11 34.1 -1.0
baz=341
ANP Anpu 2.50 338 eP Pb 22 11 35.4 -0.1
baz=340
JTJ Tarama 2.66 48 P Pb 22 11 35.4 -2.7
JTJ S Sn 22 12 05.6 -0.3
PHUB P'eng-hu 2.81 284 eP Pb 22 11 38.5 -2.2
baz=285
PHUB eS Sn 22 12 09.9 +0.3
baz=285
PNG Penghu 2.84 285 eP Pb 22 11 39.6 -1.6
baz=287
VCHM Qimei 2.89 278 eP Pb 22 11 40.4 -1.6
baz=279
JIRB Irabujima 3.11 50 P Pn 22 11 41.3 +1.8
JMJ2 Miyako jima3 3.17 53 P Pn 22 11 42.2 +1.9
JMJ2 S Sn 22 12 18.3 -0.1
JMJ Miyako jima 2 3.19 52 eP Pn 22 11 42.5 +1.8
baz=51
VWUC VWUC 3.54 308 eP Pb 22 11 48.6 -4.5
baz=309
MATB Ma-tsu 4.05 325 eP Pn 22 11 54.7 +2.2
baz=337
KNM Kinmen 4.08 293 eP Pb 22 11 58.0 -4.3
baz=294
KNMB Chin-men Tao 4.13 294 eP Pn 22 11 56.2 +2.5
baz=285
ZPLA Ao Xicun 4.53 285 eP Pn 22 12 02.8 +3.6
baz=286
MHZQ Yeshan 4.55 316 eP Pn 22 12 02.9 +3.6
baz=317
XPSS Dashiqiu 4.59 333 eP Pn 22 12 02.3 +2.4
baz=334
AXDP Jialang 4.66 297 eP Pn 22 12 04.1 +3.3
baz=298
DSXP Dongshan 4.78 281 eP Pn 22 12 06.3 +3.7
baz=282
SXFK Yanhouchang 5.69 309 eP Pn 22 12 17.8 +2.8
baz=310
JNU Nakatsue 12.60 34 LR LR 22 17 55.8
comp=Z,52nm,21.1s,baz=212,slow=34
KSRS Korea Array 15.27 16 P P 22 14 29.7 -1.4
0.4nm,0.3s,baz=200,slow=12,SNR=2.7
0.7nm,0.3s
MKAR Makanchi Array 40.16 316 P P 22 18 30.7 +3.9
0.4nm,0.6s,baz=110,slow=8.7,SNR=3.8
0.4nm,0.6s
ZALV Zalesovo Beam 42.03 327 P P 22 18 46.4 +4.3
0.2nm,0.3s,baz=125,slow=7.2,SNR=1.8
0.2nm,0.3s
KURBB Kurchatov Arra 43.92 320 P P 22 19 00.9 +3.4
0.3nm,0.6s,baz=110,slow=9.9,SNR=4.8
0.3nm,0.6s
WRA Warramunga Arr 44.07 164 P P 22 19 01.4 +2.5
0.3nm,0.6s,baz=346,slow=9.3,SNR=2.4
0.3nm,0.6s
YKA Yellowknife Ar 83.70 23 P P 22 23 19.5 0.0
0.1nm,0.3s,baz=302,slow=6.5,SNR=2.8
0.1nm,0.3s

ECX ***03*** *22:24:17.6±0.5, 29.˚66N× 113.˚91W, h18km±7km, ML3.5*
MEX ***03*** *22:24:20.0±0.8, 29.˚56N× 114.˚10W, h10km, MD4.1*
ISC 03 22:24:16.0±1.9**, 29.˚66N**±0.˚04×**114.˚00W**±0.˚04**, h20**km±7km**, n14**, σ0**s71/22, 2C-2D, Baja California**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SLGB	**San Luis Gonza**	**0.39**	**297**	⇓*i*P		**Pn**	**22 24 26.1**	**-0.4**
SLGB				eS		**Sn**	**22 24 33.0**	**-0.4**
BAHB	**Baha de los**	**0.81**	**151**	⇓*i*P		**Pb**	**22 24 30.9**	**-0.5**
BAHB				eS		**Sg**	**22 24 42.4**	**-0.2**
BAHB				IAML			22 24 43.1	
	comp=E,2μm,0.7s							
BAHB				IAML			22 24 43.5	
	comp=N,2μm,0.9s							
BAHB	**Baha de los**	**0.81**	**151**	eP		**Pb**	**22 24 30.6**	**-0.7**
BAHB				eS		**Sb**	**22 24 41.1**	**-0.6**
PLIB	**Puerto Liberta**	**1.17**	**77**	⇓*i*P		**Pn**	**22 24 35.9**	**-1.3**
PLIB				eS		**Sb**	**22 24 51.2**	**-1.0**
SFQB	**San Francisqui**	**1.60**	**141**	eP		**Pn**	**22 24 43.5**	**+0.3**
SFQB				eS		**Sb**	**22 25 04.1**	**-0.5**
NE74	**Guerrero Negro**	**1.64**	**180**	eP		**Pb**	**22 24 45.9**	**+0.3**
LAPR	**La Primavera**	**1.69**	**60**	⇓eP		**Pn**	**22 24 44.5**	**+0.1**
LAPR	**La Primavera**	**1.69**	**60**	eP		**Pb**	**22 24 46.6**	**+0.2**
LAPR				*i* S		**Sg**	**22 25 10.1**	**-0.3**
SQX	**San Quintin**	**1.86**	**300**	eP		**Pb**	**22 24 49.7**	**+0.3**
SQX				IAML			22 25 19.5	
	comp=E,359nm,0.6s							
SQX				IAML			22 25 21.7	
	comp=N,281nm,0.6s							
SPIG	**San Pedro Mart**	**1.88**	**318**	eP		**Pb**	**22 24 49.5**	**-0.3**
SPIG	**San Pedro Mart**	**1.88**	**318**	eP		**Pb**	**22 24 49.4**	**-0.4**
SPIG				eS		**Sb**	**22 25 14.0**	**+1.0**
BKIRB	**Bahia Kino**	**1.92**	**114**	eP		**Pn**	**22 24 48.3**	**+0.7**
HSIG		**2.74**	**103**	eP		**Pb**	**22 25 04.6**	**+0.2**
HSIG				eS		**Sn**	**22 25 32.7**	**+1.3**
NOVRB	**El Novillo Son**	**3.87**	**100**	eP		**Pn**	**22 25 15.4**	**+0.9**

IDC ***03*** *22:26:37.3±0.5, 4.˚60N× 127.˚68E, h118km±4km, mb4.3/30, mbtmp4.6/33, MS3.2/11, Error ellipse: s-maj=15.0km s-min=6.5km az=74.0*
DJA ***03*** *22:26:37.0±0.5, 5˚N±4˚× 12˚8E±˚, h104km±4km, M4.8/30, mB5.2/15, mb4.9/30, MLv5.2/13, Mw(mB)4.6/15*
NEIC ***03*** *22:26:38.8±1.3, 4.˚62N±0.˚07× 127.˚69E±0.˚09, h127km±6km, mb4.7/95, Error ellipse: s-maj=14.2km s-min=8.8km az=69.0*
ISC 03 22:26:38.6±0.4**, 4.˚56N**±0.˚04×**127.˚64E**±0.˚06**, h128**km±3km**, h128**km**; pP-P, n411, σ1s07/403, mb4.6/88, 2D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.28**	**248**	P		**Pn**	**22 27 13.9**	**-2.0**
DAV	**Davao City (W)**	**3.23**	**321**			**Pn**	**22 27 26.8**	**-1.4**
DAV					Sn	**Sn**	**22 28 04.3**	**-2.2**
DAV	**Davao City (W)**	**3.23**	**321**	P		**Pn**	**22 27 27.0**	**-1.2**
	378nm,0.6s,baz=126,slow=3.8,SNR=8.3							
DAV					S	**Sn**	**22 28 04.8**	**-1.7**
	614nm,0.5s,baz=141,slow=20,SNR=6.4							
DAV					LR	LR	22 28 18.8	
	comp=Z,226nm,21.9s,baz=106,slow=32							
TNTI	**Ternate**	**3.77**	**184**	Pn		**Pn**	**22 27 35.2**	**0.0**
TNTI	**Ternate**	**3.77**	**184**	P		**Pn**	**22 27 35.6**	**+0.3**
LBMI	**Labuha**	**5.16**	**182**	P		**Pn**	**22 27 54.9**	**+1.0**
	163nm,0.7s,3μm1.1nm							
KMSI	**Cibinong**	**5.39**	**223**	P		**Pn**	**22 27 57.4**	**+0.5**
	784nm,0.8s,7μm6.2nm							
SWI	**Sorong**	**6.48**	**146**	P		**Pn**	**22 28 11.6**	**0.0**
	136nm,0.5s,2μm1.0nm							
SANI	**Sanana**	**6.77**	**194**	P		**Pn**	**22 28 13.3**	**-2.2**
	61nm,0.5s,2μm0.4nm							
MRSI	**Marisa**	**6.99**	**235**	P		**Pn**	**22 28 19.2**	**+0.8**
	984nm,0.6s,10μm3.4nm							
LUWI	**Luwuk**	**7.39**	**221**	Pn		**Pn**	**22 28 24.8**	**+0.9**
LUWI	**Luwuk**	**7.39**	**221**	P		**Pn**	**22 28 25.6**	**+1.8**
	88nm,0.6s,4μm0.8nm							
TOLI2	**Tolitoli**	**7.66**	**244**	Pn		**Pn**	**22 28 25.8**	**-1.6**
FAKI	**Fak Fak**	**8.74**	**148**	Pn		**Pn**	**22 28 42.1**	**+0.1**
FAKI	**Fak Fak**	**8.74**	**148**	P		**Pn**	**22 28 41.9**	**-0.1**
	82nm,0.9s,850nm							
MPSI	**Mapaga**	**8.80**	**242**	P		**Pn**	**22 28 42.4**	**-0.4**
	54nm,0.7s,1μm							
MYLDM	**Lahad Datu**	**9.13**	**274**			**Pn**	**22 28 48.1**	**+0.8**
TTSI	**Tana Toraja**	**10.87**	**226**	P		**Pn**	**22 29 12.8**	**+2.1**
	25nm,0.9s							
BBSI	**Bau Bau**	**11.19**	**207**	P		**Pn**	**22 29 18.0**	**+3.1**
	17nm,0.9s							
KKM	**Kota Kinabalu**	**11.47**	**278**	Pn		**Pn**	**22 29 17.9**	**-0.9**
SPSI	**Sidrap Palu**	**11.55**	**223**	P		**Pn**	**22 29 23.4**	**+3.6**
	17nm,0.8s,715nm							
BKB	**Balikpapan**	**12.19**	**242**			**Pn**	**22 29 26.7**	**-1.5**
KAPI	**Kappang**	**12.35**	**220**	P		**Pn**	**22 29 29.5**	**-0.7**
	1.8nm,0.2s,baz=32,slow=20,SNR=1.5							
KAPI					LR	LR	22 34 43.7	
	comp=Z,30nm,21.5s,baz=14,slow=39							
BKSI	**Bulukumba**	**12.36**	**218**	P		**Pn**	**22 29 30.3**	**0.0**
	14nm,0.8s							
MTKI	**Muara Teweh, K**	**13.86**	**247**	P		**P**	**22 29 52.2**	**-1.6**
	89nm,0.6s							
EDFI	**Ende, Flores**	**14.49**	**204**	P		**P**	**22 30 00.7**	**-0.2**
	23nm,0.8s							
SOEI	**Soe**	**14.61**	**193**	Pn		**Pn**	**22 29 59.8**	**+0.4**
SOEI	**Soe**	**14.61**	**193**	P		**P**	**22 30 02.5**	**+0.3**
	36nm,0.8s							
BATI	**Baumata**	**15.19**	**195**	P		**P**	**22 30 09.0**	**+0.4**
	43nm,0.9s							
BATI	**Baumata**	**15.19**	**195**	P		**Pn**	**22 30 05.7**	**-0.9**
	22nm,0.4s,baz=75,slow=12,SNR=6.6							
SBUM	**Sibu**	**15.53**	**263**	Pn		**Pn**	**22 30 10.3**	**-0.5**
PLAI	**Plampang**	**16.54**	**217**	P		**P**	**22 30 27.7**	**+4.2**
PLAI	**Plampang**	**16.54**	**217**	P		**P**	**22 30 25.8**	**+2.3**
	73nm,0.9s							
TWSI	**Taliwang, Sumb**	**17.02**	**219**	P		**Pn**	**22 30 32.2**	**+3.2**
	70nm,0.7s,691nm							
KSM	**Kuching**	**17.58**	**261**	P		**Pn**	**22 30 35.0**	**-0.8**
KSM				IAmb		IAmb	22 30 36.8	
	comp=Z,29nm,0.8s							
MTN	**Manton Dam**	**17.63**	**169**	P		**P**	**22 30 34.0**	**-1.5**
MTN				IAmb		IAmb	22 30 38.2	
	comp=Z,24nm,0.6s							
JAGI	**Jajag, Banyuwa**	**18.67**	**226**	P		**Pn**	**22 30 47.8**	**-0.9**
JAGI	**Jajag, Banyuwa**	**18.67**	**226**	P		**Pn**	**22 30 50.4**	**+1.7**
JAGI	**Jajag, Banyuwa**	**18.67**	**226**	P		**Pn**	**22 30 49.6**	**+0.9**
	comp=Z,67nm,0.9s							
KNRA	**Kununurra**	**20.13**	**177**	P		**P**	**22 31 02.4**	**-0.3**
DSRI	**Dabo**	**23.58**	**258**	P		**P**	**22 31 39.4**	**+1.5**
WB0	**Warramunga Arr**	**25.07**	**165**	P		**P**	**22 31 51.0**	**-0.3**
WRA	**Warramunga Arr**	**25.22**	**165**	P		**P**	**22 31 51.6**	**-1.1**
WRA	**Warramunga Arr**	**25.22**	**165**	P		**P**	**22 31 52.5**	**-0.2**
	comp=Z,14nm,0.6s,baz=341,slow=10,SNR=116							
WRA				pP		**pP**	**22 32 18.2**	**-1.4**
	comp=Z,3.8nm,0.4s,baz=340,slow=10.0,SNR=1.8							
WRA				S		**S**	**22 36 09.3**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=43,slow=17,SNR=7.1							
	comp=Z,14nm,0.6s							
WB2	**Warramunga Arr**	**25.22**	**165**	P		**P**	**22 31 52.5**	**-0.2**
WB2				IAmb		IAmb	22 31 58.9	
	comp=Z,26nm,0.9s							
WR0	**Warramunga Arr**	**25.29**	**165**	P		**P**	**22 31 53.1**	**-0.2**
WR0				IAmb		IAmb	22 31 54.0	
	comp=Z,20nm,0.9s							
MBWA	**Marble Bar**	**26.71**	**197**	P		**P**	**22 32 06.8**	**+0.7**
PSA00	**Pilbara Seismi**	**27.07**	**196**	P		**P**	**22 32 10.0**	**+0.7**
PSA00				IAmb		IAmb	22 32 12.2	
	comp=Z,16nm,0.9s							
PSA00	**Pilbara Seismi**	**27.07**	**196**	P		**P**	**22 32 08.4**	**-0.9**
PSA00				IAmb		IAmb	22 32 12.3	
	comp=Z,9.2nm,0.9s							
PSA00	**Pilbara Seismi**	**27.07**	**196**	P		**P**	**22 32 09.9**	**+0.7**
NJ2	**Nanjing**	**28.57**	**344**	eP		**P**	**22 32 24.8**	**+2.3**
NJ2				pP		pP	22 32 39.0	-9.3
NJ2				sP		**sP**	**22 33 02.4**	**0.0**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
NJ2				pmax		pmax		
	comp=Z,100nm,4.3s							
JNU	**Nakatsue**	**28.58**	**6**	P		**P**	**22 32 21.1**	**-1.6**
	comp=Z,19nm,1.0s,baz=134,slow=2.4,SNR=6.3							
	comp=Z,19nm,1.0s							
AS31	**Alice Springs**	**28.71**	**168**	P		**P**	**22 32 22.7**	**-1.2**
ASAR	**Alice Springs**	**28.71**	**168**	P		**P**	**22 32 23.9**	**-0.1**
ASAR						**PcP**	**22 35 30.8**	**-0.6**
ASAR	**Alice Springs**	**28.71**	**168**	P		**P**	**22 32 24.1**	**+0.1**
	comp=Z,8.5nm,0.5s,baz=356,slow=8.1,SNR=186							
ASAR				pP		**pP**	**22 32 49.9**	**-1.0**
	comp=Z,2.0nm,0.5s,baz=345,slow=9.1,SNR=2.2							
ASAR				PcP		**PcP**	**22 35 31.6**	**+0.2**
	comp=Z,2.6nm,0.4s,baz=350,slow=2.2,SNR=11							
ASAR				S		**S**	**22 37 06.2**	**+2.4**
	comp=Z,1.0nm,0.9s,baz=349,slow=18,SNR=5.0							
	comp=Z,8.5nm,0.5s							
AS01	**Alice Springs**	**28.72**	**168**	P		**P**	**22 32 24.5**	**+0.5**
WRKA	**Warakurna**	**29.42**	**179**	P		**P**	**22 32 30.8**	**+0.6**
CTA	**Charters Tower**	**30.57**	**144**	LR		LR	22 45 19.6	
	comp=Z,43nm,18.2s,baz=295,slow=37							
CRAI	**Chiangrai**	**30.77**	**303**	P		**P**	**22 32 42.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**31.26**	**299**	P		**P**	**22 32 46.9**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=110,slow=7.3,SNR=7.2							
CMAR					LR	LR	22 45 12.4	
	comp=Z,27nm,20.3s,baz=110,slow=36							
	comp=Z,1.5nm,0.3s							
CHTO	**Chiang Mai**	**31.40**	**299**	P		**P**	**22 32 47.9**	**+0.2**
MEEK	**Meekatharra**	**32.22**	**195**	P		**P**	**22 32 55.2**	**+0.4**
KSRS	**Korea Array**	**32.74**	**0**	P		**P**	**22 32 58.3**	**-0.9**
	comp=Z,6.2nm,0.7s,baz=174,slow=10,SNR=21							
	comp=Z,6.2nm,0.7s							
PZH	**PanZhiHua**	**33.01**	**314**	P		**P**	**22 33 03.7**	**+1.9**
PZH				pmax		pmax		
	comp=Z,17nm,0.8s							
PZH				pmax		pmax		
	comp=Z,110nm,5.1s							
OOD	**Oodnadatta**	**33.09**	**167**	P		**P**	**22 33 02.5**	**+0.2**
MJAR	**Matsushiro Arr**	**33.28**	**16**	P		**P**	**22 33 02.3**	**-1.7**
	comp=Z,1.3nm,0.4s,baz=178,slow=8.9,SNR=6.5							
MJAR				PcP		**PcP**	**22 35 43.5**	**+0.2**
	comp=Z,3.5nm,0.7s,baz=190,slow=2.6,SNR=8.8							
	comp=Z,1.3nm,0.4s							
XAN	**Xi'an**	**34.11**	**332**	⇓P		**P**	**22 33 11.3**	**+0.1**
XAN				pmax		pmax		
	comp=Z,15nm,1.3s							
HNS	**HongShan**	**34.77**	**342**	⇓P		**P**	**22 33 17.0**	**+0.3**
HNS				pP		**pP**	**22 33 43.4**	**+0.6**
HNS				pmax		pmax		
	comp=Z,6.0nm,1.2s							
HNR	**Honiara**	**35.07**	**113**	LR		LR	22 47 33.0	
	comp=Z,296nm,19.1s,baz=316,slow=36							
FORT	**Forrest**	**35.14**	**179**	P		**P**	**22 33 20.6**	**+0.6**
FORT	**Forrest**	**35.14**	**179**	P		**P**	**22 33 20.4**	**+0.4**
MULG	**Mulgathing**	**35.18**	**170**	P		**P**	**22 33 20.5**	**+0.1**
MORW	**Morawa**	**35.24**	**198**	P		**P**	**22 33 20.8**	**-0.1**
MORW				IAmb		IAmb	22 33 24.9	
	comp=Z,8.7nm,0.9s							
MORW	**Morawa**	**35.24**	**198**	P		**P**	**22 33 21.5**	**+0.6**
JMM	**Marumori**	**35.26**	**18**	P		**P**	**22 33 20.3**	**-0.7**
KMBL	**Kambalda**	**36.14**	**188**	P		**P**	**22 33 29.1**	**+0.5**
LCRK	**Leigh Creek**	**36.25**	**164**	P		**P**	**22 33 29.9**	**+0.4**
BLDU	**Ballidu**	**36.50**	**196**	P		**P**	**22 33 32.1**	**+0.5**
BJI	**Beijing**	**36.81**	**345**	P		**P**	**22 33 34.1**	**0.0**
BJI				pP		**pP**	**22 34 01.0**	**+0.9**
BJI				pmax		pmax		
	comp=Z,4.0nm,1.0s							
BJI				pmax		pmax		
	comp=Z,46nm,4.2s							
KLBR	**Kellerberrin**	**37.16**	**194**	P		**P**	**22 33 37.9**	**+0.7**
BBOO	**Buckleboo**	**38.01**	**168**	P		**P**	**22 33 43.7**	**-0.6**
BBOO				IAmb		IAmb	22 33 46.5	
	comp=Z,10nm,0.9s							
BBOO	**Buckleboo**	**38.01**	**168**	P		**P**	**22 33 44.5**	**+0.1**

LZH Lanzhou 38.27 328 eP P 22 33 48.5 +1.8
LZH pP pP 22 34 14.4 +0.7
LZH SS SS 22 42 04.9 -20
LZH pmax pmax
comp=Z,15nm,1.1s
NWAO Narrogin (SRO) 38.56 194 P P 22 33 50.1 +1.1
NWAO Narrogin (SRO) 38.56 194 P P 22 33 50.0 +1.1
STKA Stephens Creek 38.59 161 P P 22 33 49.5 +0.3
STKA Stephens Creek 38.59 161 P P 22 33 49.5 +0.3
comp=Z,11nm,0.4s,baz=338,slow=8.6,SNR=60
comp=Z,11nm,0.4s
HHC Hu-ho-hao-te 38.92 340 eP P 22 33 53.6 +1.6
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,230nm,4.5s
BTO Baotou 39.24 339 eP P 22 33 56.8 +2.2
BTO pP pP 22 34 25.0 +3.9
BTO sP sP 22 34 39.7 +4.8
BTO PP PnPn 22 35 33.6 +2.3
BTO S S 22 39 53.1 +7.4
BTO sS sS 22 40 39.7 +5.1
BTO SS SS 22 42 42.4 -1.9
BTO pmax pmax
comp=Z,12nm,0.4s
BTO pmax pmax
comp=Z,190nm,7.5s
HTT Hallett 39.26 165 P P 22 33 55.1 +0.2
USRK Ussuriysk Ar. 39.67 5 P P 22 33 57.6 -0.4
comp=Z,4.6nm,0.8s,baz=201,slow=9.2,SNR=9.1
comp=Z,4.6nm,0.8s
CMSA Cobar Meteorol 39.80 156 P P 22 34 00.6 +1.3
MDJ Mudanjiang 39.94 2 P P 22 34 00.9 +0.7
MDJ pP pP 22 34 21.1 -5.2
RKGY Rocky Gully 40.23 194 P P 22 34 04.7 +1.9
WAKE Wake Island 40.75 66 P P 22 34 04.4 -2.9
ASAJ Asahikawa 41.55 16 P P 22 34 13.0 -0.4
comp=Z,6.9nm,0.3s,baz=230,slow=12,SNR=5.5
comp=Z,6.9nm,0.3s
ARMA Armidale 41.67 148 P P 22 34 15.3 +0.6
ARMA Armidale 41.67 148 P P 22 34 15.4 +0.6
LSA Lhasa 42.59 310 P P 22 34 22.0 -0.8
GTA Gaotai 42.87 328 P P 22 34 25.2 +0.7
GTA pP pP 22 34 52.8 +0.8
GTA sP sP 22 35 05.6 -0.3
GTA pmax pmax
comp=Z,7.0nm,0.9s
ARPS Mount Arapiles 43.20 163 P P 22 34 27.7 +0.8
TAPN Taplejung 44.28 305 eP P 22 34 36.4 +0.3
comp=Z,13nm,0.5s
KLR Kul'dur 44.65 4 P P 22 34 37.7 -0.6
comp=Z,3.6nm,0.5s,baz=196,slow=6.1,SNR=20
KLR pP pP 22 35 05.6 +0.4
comp=Z,1.7nm,0.5s,baz=269,slow=3.8,SNR=2.5
KLR LR LR 23 00 03.7
comp=Z,12nm,18.0s,baz=90,slow=45
comp=Z,3.6nm,0.5s
RAMN Ramite 45.03 304 eP P 22 34 42.7 +0.6
comp=Z,17nm,0.7s
TOO Toolangi 45.09 160 P P 22 34 43.6 +1.6
JIRN Jiri 45.64 305 eP P 22 34 47.3 +0.3
comp=Z,8.6nm,0.4s
GUN Gumba 45.99 305 eP P 22 34 50.1 +0.4
comp=Z,18nm,0.8s
DZM Mont Dzumac 46.28 126 P P 22 34 51.2 -0.6
DZM IAmb IAmb 22 34 52.2
comp=Z,15nm,0.6s
DZM Mont Dzumac 46.28 126 LR LR 22 54 37.4
comp=Z,27nm,19.6s,baz=332,slow=36
SONM Songino Array 46.82 340 P P 22 34 55.6 0.0
comp=Z,0.9nm,0.6s,baz=148,slow=8.4,SNR=7.6
SONM pP pP 22 35 22.3 -0.7
comp=Z,1.4nm,0.7s,baz=158,slow=7.8,SNR=4.1
SONM PcP PcP 22 36 25.8 -0.8
comp=Z,1.4nm,0.6s,baz=154,slow=3.3,SNR=4.8
comp=Z,0.9nm,0.6s
KOLN Koldanda 47.81 304 eP P 22 35 04.3 +0.6
comp=Z,17nm,0.5s
DANN Dangsing 47.89 305 eP P 22 35 04.5 +0.1
comp=Z,29nm,0.8s
PYUN Piuthan 48.43 304 eP P 22 35 09.1 +0.6
comp=Z,40nm,0.9s
WMQ Urumqi 52.58 324 eP P 22 35 41.4 +2.2
PETK Petropavlovsk- 54.33 22 P P 22 35 51.6 -0.1
comp=Z,11nm,0.6s,baz=187,slow=6.1,SNR=20
comp=Z,11nm,0.6s
YAK Yakutsk 57.37 1 P P 22 36 12.9 -0.3
YAK Yakutsk 57.37 1 P P 22 36 12.8 -0.3
comp=Z,1.6nm,0.8s,baz=184,slow=3.0,SNR=8.2
MK31 Makanchi Array 57.41 325 P P 22 36 13.7 -0.1
MK31 IAmb IAmb 22 36 43.4
comp=Z,6.9nm,0.7s
MKAR Makanchi Array 57.41 325 P P 22 36 14.0 +0.1
MKAR Makanchi Array 57.41 325 P P 22 36 14.3 +0.5
comp=Z,4.7nm,0.4s,baz=112,slow=7.9,SNR=132
MKAR pP pP 22 36 42.4 -0.3
comp=Z,8.1nm,0.6s,baz=125,slow=8.1,SNR=8.4
MKAR LR LR 23 02 47.4
comp=Z,26nm,18.3s,baz=102,slow=38
comp=Z,4.7nm,0.4s
MAKZ Makanchi 57.60 324 P P 22 36 14.8 -0.3
MAKZ pP pP 22 36 43.8 -0.2
MAKZ IAmb IAmb 22 36 44.7
comp=Z,9.7nm,0.8s
MA2 Magadan 57.69 14 LR LR 22 59 44.6
comp=Z,12nm,20.5s,baz=176,slow=34
KSH Kashi 58.11 314 P P 22 36 21.3 +2.3
KSH pmax pmax
comp=Z,3.0nm,0.7s
ZAA0 Zalesovo Array 60.27 332 P P 22 36 32.2 -1.3
ZAA0 IAmb IAmb 22 36 33.6
comp=Z,5.4nm,1.1s
ZALV Zalesovo Beam 60.27 332 P P 22 36 33.0 -0.4
ZALV Zalesovo Beam 60.27 332 P P 22 36 32.6 -0.8
comp=Z,1.4nm,0.3s,baz=108,slow=8.0,SNR=12
ZALV pP pP 22 37 00.6 -1.6
comp=Z,1.1nm,0.3s,baz=112,slow=6.7,SNR=2.7
comp=Z,1.4nm,0.3s
AAK Ala-Archa 60.37 317 P P 22 36 34.4 -0.1
AAK Ala-Archa 60.37 317 LR LR 23 05 03.8
comp=Z,23nm,20.2s,baz=74,slow=38
ARSB Arslanbob 60.91 315 P P 22 36 38.3 +0.1
KURK Kurchatov 61.54 327 P P 22 36 42.5 +0.4
KURBB Kurchatov Arra 61.54 327 P P 22 36 42.2 +0.1
comp=Z,12nm,0.7s,baz=123,slow=6.2,SNR=129
KURBB pP pP 22 37 10.8 -0.7
comp=Z,3.8nm,0.5s,baz=126,slow=6.7,SNR=4.8
comp=Z,12nm,0.7s
RPZ Rata Peaks 61.92 146 P P 22 36 44.2 -0.5
BTK Batken 62.01 313 P P 22 36 45.9 +0.3
KK31 Karatay Array 63.26 316 P P 22 36 53.6 -0.1
KKAR Karatay Array 63.26 316 P P 22 36 53.7 0.0
TIXI Tiksi 67.01 0 P P 22 37 15.9 -1.4
BVAR Borovoye Array 67.13 327 P P 22 37 18.4 -0.1
comp=Z,7.5nm,0.8s,baz=116,slow=6.8,SNR=43
comp=Z,7.5nm,0.8s
BRVK Borovoye 67.20 327 P P 22 37 18.9 0.0
BRVK IAmb IAmb 22 37 20.0
comp=Z,12nm,1.0s
GEYT Alibeck 71.09 308 P P 22 37 43.5 +0.2
comp=Z,3.6nm,0.6s,baz=142,slow=5.1,SNR=5.2
comp=Z,3.6nm,0.6s
CASY Casey 71.74 187 P P 22 37 47.5 +1.0
CASY IAmb IAmb 22 37 48.5
comp=Z,8.5nm,0.7s
ABKAR Akbulak array 72.09 320 P P 22 37 48.9 -0.1
ABKAR Akbulak array 72.09 320 P P 22 37 48.9 -0.1
ABKAR pP 22 38 18.6 -0.9
ARU Arti 74.73 327 P P 22 38 02.7 -1.6
L14K Kuka Creek 76.35 28 P P 22 38 13.3 -0.1
L14K Kuka Creek 76.35 28 P P 22 38 14.0 +0.7
baz=254
J14K Nanvaranak Lak 76.35 26 P P 22 38 14.1 +0.7
baz=253
M14K Bethel 76.53 28 P P 22 38 15.0 +0.6
baz=255
F15K North Star Dit 76.81 23 P P 22 38 17.1 +1.2
baz=251
G15K Niukluk 76.82 24 P P 22 38 16.2 +0.1
baz=252
L15K Ungalak Mounta 76.99 28 P P 22 38 16.9 -0.1
baz=255
M15K Kasigluk River 77.12 29 P P 22 38 17.9 +0.1
baz=256
K15K Wolf Creek Mou 77.13 27 P P 22 38 18.6 +0.8
baz=255
H16K Elim 77.45 25 P P 22 38 20.2 +0.7
baz=254
G16K Koyuk River 77.62 24 P P 22 38 20.7 +0.2
baz=254
J16K Anvik River 77.79 26 P P 22 38 21.6 +0.1
baz=256
I17K Unalakleet 77.90 25 P P 22 38 21.4 -0.7
I17K Unalakleet 77.90 25 P P 22 38 23.2 +1.1
baz=255
L16K Owhat River 77.93 28 IAmb IAmb 22 38 23.5
comp=Z,12nm,0.8s
L16K Owhat River 77.93 28 P P 22 38 23.1 +0.8
baz=257
M16K Timber Creek 78.02 28 P P 22 38 23.6 +0.8
baz=258
O16K Kokwok River B 78.14 30 P P 22 38 24.0 +0.5
baz=259
RDOG Red Dog Mine 78.19 21 P P 22 38 24.0 +0.4
baz=252
E17K Hotham Inlet 78.30 22 P P 22 38 24.6 +0.4
baz=254
G17K Kiwalik Mounta 78.33 24 P P 22 38 24.6 +0.2
baz=255
F17K Baldwin Pennin 78.35 23 P P 22 38 24.7 +0.2
baz=254
H17K Granite Mounta 78.50 24 P P 22 38 25.7 +0.4
baz=256
L17K Donlin 78.56 27 P P 22 38 26.5 +0.8
baz=258
O17K Koliganek Bris 78.68 30 P P 22 38 26.9 +0.5
baz=260
K17K Iditarod 78.68 27 P P 22 38 27.2 +0.8
baz=258
Q16K King Salmon 78.70 31 P P 22 38 26.3 -0.2
baz=260
N17K Nushagak Hills 78.77 29 P P 22 38 27.7 +0.8
baz=259
M17K Holitna River 78.82 28 P P 22 38 28.4 +1.3
baz=259
E18K Tukpahlearik C 78.86 22 IAmb IAmb 22 38 28.8
comp=Z,12nm,0.8s
E18K Tukpahlearik C 78.86 22 P P 22 38 27.9 +0.7
baz=255
B18K Kokolik River 78.96 20 P P 22 38 27.7 -0.1
baz=253
C18K Utukok River 78.97 21 P P 22 38 28.6 +0.6
baz=254
Q17K Contact Creek 79.03 32 P P 22 38 27.9 -0.6
baz=261
H18K Honhosa River 79.18 24 P P 22 38 29.4 +0.4
baz=257
G18K Tagagawik 79.23 24 P P 22 38 30.2 +0.9
baz=257
L18K Granite Mounta 79.32 28 P P 22 38 30.4 +0.6
baz=259
Q18K Katmai Hardscr 79.55 31 P P 22 38 31.2 -0.2
baz=262
M18K Stony River 79.59 28 P P 22 38 31.7 +0.3
baz=260
O18K Koktuh Hills 79.63 30 P P 22 38 31.7 +0.1
baz=261
C19K Lookout Ridge 79.66 20 IAmb IAmb 22 38 33.2
comp=Z,10nm,0.8s
C19K Lookout Ridge 79.66 20 P P 22 38 31.9 +0.3
baz=255
TTA Tatalina 79.76 27 P P 22 38 32.8 +0.4
baz=260
G19K Purcell Mounta 79.91 24 IAmb IAmb 22 38 34.4
comp=Z,11nm,0.9s
G19K Purcell Mounta 79.91 24 P P 22 38 33.9 +0.9
baz=258,SNR=8.7
D19K Kuna River 80.03 21 IAmb IAmb 22 38 34.9
comp=Z,11nm,0.7s
D19K Kuna River 80.03 21 P P 22 38 34.5 +0.8
baz=257
H19K Roundabout Mou 80.05 24 IAmb IAmb 22 38 36.0
comp=Z,12nm,0.8s
H19K Roundabout Mou 80.05 24 P P 22 38 35.0 +1.4
baz=259
J19K Poorman 80.12 26 P P 22 38 35.4 +1.3
baz=260
O19K Port Alsworth 80.12 30 P P 22 38 34.7 +0.5
baz=262
E19K Redstone River 80.13 22 IAmb IAmb 22 38 35.8
comp=Z,23nm,1.1s
E19K Redstone River 80.13 22 P P 22 38 35.3 +1.2
baz=258
N19K Bonanza Creek 80.13 29 P P 22 38 34.5 +0.1
baz=262
L19K White Mountain 80.16 28 P P 22 38 35.1 +0.6
baz=258
OHAK Old Harbor 80.27 33 P P 22 38 35.7 +0.7
baz=263
D20K Etivluk River 80.61 21 P P 22 38 37.1 +0.4
baz=258
F20K Avaraart Lake 80.62 23 IAmb IAmb 22 38 38.4
comp=Z,8.8nm,0.8s
F20K Avaraart Lake 80.62 23 P P 22 38 37.1 +0.4
baz=259
L20K Farewell, AK 80.66 27 P P 22 38 37.6 +0.5
baz=262
E20K Nigu River 80.68 22 P P 22 38 37.9 +0.8
baz=259
H20K Anotleneega Mo 80.68 24 P P 22 38 38.0 +0.8
baz=260
B20K Meade River 80.70 20 P P 22 38 37.7 +0.6
baz=258
K20K Telida 80.70 27 P P 22 38 38.4 +1.1
baz=262
KDAK Kodiak Island 80.71 32 P P 22 38 37.3 -0.1
baz=264
I20K Naaghedeneel 80.74 25 P P 22 38 38.7 +1.3
baz=261
J20K Nowinta River 80.78 26 IAmb IAmb 22 38 39.5
comp=Z,12nm,1.1s
J20K Nowinta River 80.78 26 P P 22 38 39.0 +1.3
baz=261
Q20K Shuyak Island 80.90 31 P P 22 38 39.2 +0.8
baz=264
M20K Styx River 80.92 28 IAmb IAmb 22 38 40.9
comp=Z,25nm,1.2s
M20K Styx River 80.92 28 P P 22 38 39.3 +0.7
baz=263
O20K Slope Mountain 80.95 30 P P 22 38 39.0 +0.3
baz=263
N20K Mount Spurr 81.28 29 P P 22 38 41.2 +0.7
baz=264
C21K Knifeblade Rid 81.35 21 P P 22 38 40.7 +0.1
baz=260
HOM Homer 81.39 30 P P 22 38 40.9 0.0
baz=264
G21K Allakaket 81.40 23 IAmb IAmb 22 38 42.6
comp=Z,13nm,1.0s
G21K Allakaket 81.40 23 P P 22 38 42.2 +1.3
baz=262
PPLA Purkeypile 81.48 27 P P 22 38 41.9 +0.3
baz=264
B21K Ikpikpuk River 81.49 20 P P 22 38 42.2 +0.9
baz=260
F21K Alatna River 81.51 23 P P 22 38 41.6 +0.1
baz=262
E21K Killik River 81.52 21 P P 22 38 42.0 +0.5
baz=261
H21K Melozitna Rive 81.56 24 IAmb IAmb 22 38 43.5
comp=Z,8.1nm,0.8s
H21K Melozitna Rive 81.56 24 P P 22 38 42.6 +0.8
baz=262
CAST Castle Rocks 81.59 27 IAmb IAmb 22 38 43.1
comp=Z,9.9nm,0.8s
CAST Castle Rocks 81.59 27 P P 22 38 42.2 +0.2
baz=263
A22K Sinclair Lake 81.61 19 P P 22 38 42.6 +0.7
baz=260
SKT Skwentna 81.69 28 IAmb IAmb 22 38 43.2
comp=Z,16nm,1.0s
SKT Skwentna 81.69 28 P P 22 38 43.0 +0.4
baz=264
I21K Tanana 81.84 25 IAmb IAmb 22 38 45.0
comp=Z,13nm,0.8s
I21K Tanana 81.84 25 P P 22 38 44.0 +0.8
baz=263,SNR=5.9
BRSE Bradley Lake S 81.86 30 P P 22 38 44.1 +0.6
baz=265
SUA Susitna One 82.01 29 P P 22 38 44.6 +0.2
baz=265
B22K Teshekpuk Lake 82.01 20 P P 22 38 45.2 +1.2
baz=261
D22K Ayikyak River 82.05 21 P P 22 38 45.4 +1.1
baz=262
F22K John River 82.05 23 P P 22 38 45.1 +0.8
baz=263
H22K Ishtalitna Cre 82.18 24 P P 22 38 46.0 +1.0
baz=264
G22K Bettles 82.24 23 P P 22 38 46.1 +0.8
baz=263
E22K Anaktuvuk Pass 82.27 22 IAmb IAmb 22 38 47.2
comp=Z,9.9nm,0.7s
E22K Anaktuvuk Pass 82.27 22 P P 22 38 46.0 +0.5
baz=263,SNR=7.0
MLY Manley 82.35 25 IAmb IAmb 22 38 47.3
comp=Z,15nm,0.9s
MLY Manley 82.35 25 P P 22 38 46.8 +0.9
baz=264,SNR=7.3
TRF Thorofare Moun 82.40 27 P P 22 38 46.7 +0.3
baz=265
O22K Cooper Landing 82.42 30 P P 22 38 46.6 +0.2
baz=266
RC01 Rabbit Creek A 82.46 29 P P 22 38 46.9 +0.3
baz=266
SEW Seward 82.53 30 P P 22 38 47.5 +0.6
baz=266
D23K Nanushuk River 82.78 21 P P 22 38 49.2 +1.2
baz=264
COLD Coldfoot 82.78 23 P P 22 38 48.8 +0.7
baz=264,SNR=9.0
PMR Palmer 82.79 29 P P 22 38 48.1 -0.1
baz=266
G23K Bananza Creek 82.80 23 IAmb IAmb 22 38 50.3
comp=Z,18nm,1.1s
G23K Bananza Creek 82.80 23 P P 22 38 49.7 +1.4
baz=265
C23K Itkillik River 82.90 20 IAmb IAmb 22 38 49.9
comp=Z,13nm,0.8s
C23K Itkillik River 82.90 20 P P 22 38 49.5 +0.9
baz=264
I23K Minto, Yukon-K 82.94 25 IAmb IAmb 22 38 50.5
comp=Z,15nm,0.8s
I23K Minto, Yukon-K 82.94 25 P P 22 38 49.5 +0.6
baz=266,SNR=11
MCK McKinley 83.02 26 P P 22 38 49.4 -0.1
baz=266
NEA2 Nenana 83.03 26 IAmb IAmb 22 38 51.3
comp=Z,10nm,0.8s
NEA2 Nenana 83.03 26 P P 22 38 50.4 +1.0
baz=266
KBZ Khabaz 83.08 313 P P 22 38 49.2 -0.9
comp=Z,2.1nm,0.8s,baz=75,slow=1.6,SNR=2.5
comp=Z,2.1nm,0.8s
E23K Chandalar 83.08 22 P P 22 38 51.0 +1.2
baz=265,SNR=17
KNK Knik Glacier 83.10 29 P P 22 38 51.0 +1.1
baz=267
PWL Port Wells 83.13 29 P P 22 38 50.9 +0.9
baz=267
WAT1 Susitna Watana 83.14 27 P P 22 38 50.0 -0.1
baz=267
TOLK Toolik Lake Re 83.15 21 IAmb IAmb 22 38 52.0
comp=Z,13nm,0.8s
TOLK Toolik Lake Re 83.15 21 P P 22 38 51.5 +1.5
baz=265,SNR=6.8
SML Sawmill 83.18 28 P P 22 38 50.6 +0.3
baz=267
MDM Murphy Dome 83.41 25 P P 22 38 51.0 -0.4
MDM IAmb IAmb 22 38 51.3
comp=Z,9.9nm,1.2s
D24K Happy Valley 83.46 21 P P 22 38 52.6 +1.1
baz=266
M23K Glacier View 83.47 28 P P 22 38 52.2 +0.4
baz=267
WAT6 Susitna Watana 83.50 28 P P 22 38 52.8 +0.7
baz=267
E24K Your Creek 83.51 22 P P 22 38 52.8 +0.9
baz=266
C24K Franklin Bluff 83.55 20 P P 22 38 52.3 +0.4
baz=266
CCB Clear Creek Bu 83.57 26 IAmb IAmb 22 38 52.8
comp=Z,7.6nm,0.9s
H24K Noodor Dome 83.61 24 IAmb IAmb 22 38 54.0
comp=Z,6.6nm,0.7s
H24K Noodor Dome 83.61 24 P P 22 38 53.1 +0.7
baz=267,SNR=5.5
SCM Sheep Creek Mo 83.66 28 P P 22 38 53.6 +0.8
baz=268
F24K Squaw Lake 83.70 23 IAmb IAmb 22 38 54.9
comp=Z,9.7nm,0.9s
F24K Squaw Lake 83.70 23 P P 22 38 53.9 +1.0
baz=267,SNR=7.8
GURO Guroymak-BITLI 83.75 308 P P 22 38 53.5 -0.4
GURO pP pP 22 39 24.8 -0.9
POKR Poker Plat Res 83.75 25 P P 22 38 53.4 +0.2
baz=267
G24K Hadweenzic Riv 83.81 23 P P 22 38 54.6 +1.2
baz=267
HDA Harding Lake 83.93 26 IAmb IAmb 22 38 54.6
comp=Z,10nm,0.8s
HDA Harding Lake 83.93 26 P P 22 38 53.3 -0.8
baz=268
HDA P P 22 38 53.3 -0.8
baz=268
IL31 83.97 25 IAmb IAmb 22 38 54.3
comp=Z,8.0nm,1.0s
ILAR Eielson Array 83.97 25 P P 22 38 52.9 -1.4
comp=Z,4.6nm,0.9s,baz=248,slow=5.3,SNR=30
ILAR pP pP 22 39 23.0 -2.2
comp=Z,1.2nm,0.8s,baz=250,slow=5.4,SNR=3.1
comp=Z,4.6nm,0.9s
VNDA Vanda 84.13 173 P P 22 38 54.6 -0.2
VNDA Vanda 84.13 173 P P 22 38 55.1 +0.3
comp=Z,2.5nm,0.6s,baz=319,slow=6.4,SNR=10
VNDA LR LR 23 14 38.8
comp=Z,17nm,20.3s,baz=14,slow=34
comp=Z,2.5nm,0.6s
M24K Tolsona, Glenn 84.21 28 P P 22 38 56.2 +0.6
baz=269
KLU Klutina 84.32 29 P P 22 38 56.6 +0.4
baz=269
D25K Kavik River 84.34 21 P P 22 38 56.8 +0.7
baz=268
G25K Bearman Lake 84.36 23 P P 22 38 57.0 +0.9
baz=268,SNR=5.3
K24K Donnelly Dome 84.43 26 P P 22 38 56.7 +0.1
baz=269
PAX Paxson 84.55 27 P P 22 38 57.9 +0.5
baz=269
F25K Christian Rive 84.56 23 P P 22 38 58.6 +1.3
baz=269
PRP Porcupine Dome 84.57 25 P P 22 38 57.4 0.0
baz=269
E25K Arctic Village 84.60 22 IAmb IAmb 22 38 60.0
comp=Z,12nm,1.1s
E25K Arctic Village 84.60 22 P P 22 38 58.4 +0.9
baz=269
J25K Salcha River, 84.62 26 P P 22 38 57.0 -0.6
baz=269
HARP HAARP 84.69 28 P P 22 38 58.8 +0.8
baz=270
MAW Mawson 84.84 200 P P 22 38 58.8 +0.3
comp=Z,3.4nm,0.6s,baz=84,slow=3.2,SNR=9.7
comp=Z,3.4nm,0.6s
C26K Camden Bay 84.87 20 P P 22 39 00.7 +2.0
baz=269
BMRM Bremner River 84.95 29 P P 22 39 00.1 +0.8
baz=270
N25K Chitina, Valde 84.95 29 P P 22 39 00.1 +0.7
baz=270
F26K Sheenjek River 85.14 23 P P 22 39 01.7 +1.6
baz=270
SCRK Sand Creek 85.22 26 P P 22 39 01.4 +0.7
baz=270
G26K Porcupine Rive 85.28 23 P P 22 39 01.8 +1.1
baz=270
J26L Joseph Creek 85.40 26 P P 22 39 01.6 +0.1
baz=271
L26K Log Cabin Wild 85.52 27 P P 22 39 02.4 +0.3
baz=271
MCARA McCarthy VSAT 85.71 29 P P 22 39 03.4 +0.4
baz=272
K27K Chicken 86.06 26 P P 22 39 04.9 +0.2
baz=272
E27K Coleen River 86.09 22 P P 22 39 05.0 +0.2
baz=272
G27K Doyon Strip 86.12 23 P P 22 39 05.5 +0.5
baz=272
I27K Kandik River 86.19 25 P P 22 39 06.2 +0.8
baz=273
H27K Steamboat Moun 86.20 24 P P 22 39 06.0 +0.6
baz=273

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
L27K	Beaver Creek,	86.21	27	P	P	22 39 06.3	+0.8
	baz=272						
D27M	Malcolm River	86.27	21	P	P	22 39 05.9	+0.2
	baz=273						
EGAK	Eagle	86.42	25	P	P	22 39 06.6	+0.2
	baz=273						
F28M	Old Crow	86.77	23	IAmb	IAmb	22 39 09.7	
	comp=Z,5.0nm,0.6s						
F28M	Old Crow	86.77	23	P	P	22 39 08.2	+0.1
	baz=274						
E28M	Babbage River	86.83	22	IAmb	IAmb	22 39 09.2	
	comp=Z,7.7nm,1.2s						
E28M	Babbage River	86.83	22	P	P	22 39 08.5	+0.1
	baz=274						
I28M	Miner Creek	86.90	25	IAmb	IAmb	22 39 11.0	
	comp=Z,5.7nm,0.8s						
I28M	Miner Creek	86.90	25	P	P	22 39 09.3	+0.4
	baz=274						
YUK3	Moose Creek	86.92	28	P	P	22 39 10.6	+1.4
	baz=274						
O28M	Mount Upton	87.12	29	P	P	22 39 10.7	+0.4
	baz=274						
DAWY	Dawson	87.24	26	P	P	22 39 11.0	+0.5
	baz=275						
E29M	Blow River	87.45	22	P	P	22 39 11.8	+0.4
	baz=276						
H29M	Whitestone	87.48	24	P	P	22 39 11.8	+0.3
	baz=276						
G29M	Pine Creek	87.55	23	IAmb	IAmb	22 39 13.5	
	comp=Z,6.7nm,0.8s						
G29M	Pine Creek	87.55	23	P	P	22 39 12.7	+0.9
	baz=276						
I29M	Ogilvie Camp,	87.59	25	IAmb	IAmb	22 39 16.8	
	comp=Z,11nm,1.4s						
I29M	Ogilvie Camp,	87.59	25	P	P	22 39 12.3	+0.2
	baz=276						
L29M	L29M	87.89	27	P	P	22 39 14.1	+0.5
	baz=276						
K29M	Barlow Dome	88.08	26	P	P	22 39 15.0	+0.4
	baz=276						
EPYK	Eagle Plains	88.12	24	P	P	22 39 15.0	+0.3
	baz=277						
G30M	tAoh Zraii Nji	88.24	23	P	P	22 39 14.1	-1.1
	baz=277						
I30M	Mount Dempster	88.41	25	P	P	22 39 16.1	0.0
	baz=277						
HYT	Haines Junctio	88.43	29	P	P	22 39 17.0	+0.7
	baz=276						
P29M	Windy Craggy	88.44	30	P	P	22 39 16.8	+0.6
	baz=276						
J30M	Hart River	88.51	25	P	P	22 39 17.1	+0.5
	baz=277						
N30M	Aishikik Lake	88.55	29	P	P	22 39 17.2	+0.4
	baz=277						
M30M	Minto, Yukon	88.56	27	P	P	22 39 17.2	+0.5
	baz=277						
G31M	Satah River	89.01	23	P	P	22 39 17.8	-0.9
	baz=279						
INK	Inuvik	89.06	22	P	P	22 39 19.4	+0.4
	baz=280						
F31M	Tsiigehtchic	89.13	22	P	P	22 39 18.8	-0.5
	baz=280						
H31M	Peel River	89.16	24	P	P	22 39 19.6	+0.1
	baz=279						
N31M	Braeburn, Yuko	89.17	28	P	P	22 39 19.4	-0.2
	baz=278						
M31M	Drury Creek, Y	89.72	28	P	P	22 39 21.9	-0.3
	baz=279						
WHY	Whitehorse	89.73	29	P	P	22 39 21.7	-0.7
	baz=279						
ARCES	ARCESS Array B	89.99	340	P	P	22 39 21.7	-1.6
	comp=Z,2.2nm,0.5s,baz=82,slow=5.0,SNR=18						
ARCES				pP	pP	22 39 52.6	-1.9
	comp=Z,0.9nm,0.4s,baz=77,slow=5.8,SNR=1.2						
	comp=Z,2.2nm,0.5s						
FARO	Faro, Yukon	90.19	28	P	P	22 39 24.4	0.0
	baz=280						
BRTR	Keskin Array B	90.20	310	P	P	22 39 23.7	-1.4
	comp=Z,0.5nm,0.8s,baz=104,slow=5.2,SNR=3.8						
BRTR				pP	pP	22 39 55.4	-1.5
	comp=Z,1.1nm,0.8s,baz=100,slow=6.4,SNR=4.2						
	comp=Z,0.5nm,0.8s						
N32M	Quiet Lake	90.51	29	P	P	22 39 25.6	-0.3
	baz=280						
A36M	Sachs Harbour	90.93	17	IAmb	IAmb	22 39 33.0	
	comp=Z,4.2nm,0.8s						
A36M	Sachs Harbour	90.93	17	P	P	22 39 27.5	0.0
	baz=288						
MMPY	Sheldon Lake,	91.07	27	P	P	22 39 28.5	-0.1
	baz=282						
U33K	Whale Pass	91.39	34	P	P	22 39 30.4	+0.4
	baz=280						
FINES	FINESS Array B	91.54	332	P	P	22 39 29.1	-1.5
	comp=Z,1.1nm,0.4s,baz=78,slow=3.9,SNR=14						
FINES				pP	pP	22 40 00.4	-1.6
	comp=Z,8.0nm,1.0s,baz=92,slow=8.8,SNR=2.3						
	comp=Z,1.1nm,0.4s						
AKASG	Malin Array Be	91.83	321	P	P	22 39 30.6	-1.5
	comp=Z,1.6nm,0.6s,baz=64,slow=4.7,SNR=5.9						
	comp=Z,1.6nm,0.6s						
C36M	Paulatuk	92.13	20	IAmb	IAmb	22 39 33.3	
	comp=Z,6.1nm,1.1s						
DLBC	Dease Lake	92.57	31	P	P	22 39 35.9	+0.4
	baz=283						
DLBC	Dease Lake	92.57	31	P	P	22 39 34.8	-0.8
	comp=Z,1.9nm,0.6s,baz=8.8,slow=3.6,SNR=5.4						
	comp=Z,1.9nm,0.6s						
T35M	Bob Quinn	92.78	32	P	P	22 39 37.0	+0.5
	baz=283						
LIRD	Liard River Hi	94.30	29	P	P	22 39 43.9	+0.5
	baz=286						
QSPA	South Pole Qui	94.46	180	P	P	22 39 43.7	-0.4
	comp=Z,1.5nm,0.6s,baz=36,slow=3.4,SNR=2.0						
	comp=Z,1.5nm,0.6s						
KOTAN	Kotaneelee Air	95.07	28	P	P	22 39 46.9	0.0
	baz=288						
HFS	Hagfors	97.71	333	P	P	22 39 57.1	-1.7
	comp=Z,1.0nm,0.4s,baz=117,slow=2.0,SNR=7.1						
	comp=Z,1.0nm,0.4s						
YKA	Yellowknife Ar	98.38	25	P	P	22 40 00.7	-1.1
	comp=Z,0.8nm,0.7s,baz=300,slow=4.9,SNR=11						
	comp=Z,0.8nm,0.7s						
NOA	NORSAR Array B	98.45	334	P	P	22 40 00.5	-1.7
	comp=Z,0.6nm,0.7s,baz=60,slow=5.7,SNR=1.7						
	comp=Z,0.6nm,0.7s						
CLL	Collm	101.50	324	*e*Pdif	Pdif	22 40 16.0	0.0
NEW	Newport	103.02	38	P	Pdif	22 40 22.7	-0.2
	baz=292						
MLAC	Mammoth, Mammo	105.54	49	P	PKiKP	22 44 48.1	+0.7
	baz=288						
ANMO	Albuquerque	115.80	48	P	PKiKP	22 45 07.1	+0.2
	baz=296						
121A	Cookes Peak, D	115.83	51	P	PKiKP	22 45 07.5	+0.6
	baz=294						
OGNE	Ogallala	115.92	40	P	PKiKP	22 45 07.9	+1.1
	baz=302						
ECSD	EROS Data Cent	117.59	35	P	PKPdf	22 45 09.8	0.0
	baz=308						
MNTX	Cornudas Mount	118.02	50	P	PKiKP	22 45 12.0	+1.0
	baz=296						
SCHQ	Schefferville	119.61	10	PKP	PKiKP	22 45 13.7	+0.2
	comp=Z,2.0nm,0.3s,baz=344,slow=2.7,SNR=16						
TXAR	Lajitas Array	120.38	52	PKP	PKiKP	22 45 16.3	+0.5
	comp=Z,0.7nm,0.7s,baz=223,slow=0.7,SNR=11						
JFWS	Jewell Farm	121.63	32	P	PKPdf	22 45 17.3	-0.3
	baz=314						
ABTX	Abilene, Hawle	121.89	47	P	PKPdf	22 45 18.6	+0.2
	baz=300						
JCT	Junction City	122.83	49	P	PKPdf	22 45 20.4	+0.1
	baz=299						
TORD	Torodi Ar. Bea	123.52	289	PKP	PKPdf	22 45 21.8	-0.1
	comp=Z,0.8nm,0.7s,baz=24,slow=2.9,SNR=5.3						
WHTX	Lake Whitney,	123.80	46	P	PKPdf	22 45 21.8	-0.3
	baz=302						
833A	Chaparral WMA,	124.18	51	P	PKPdf	22 45 22.8	-0.1
	baz=298						
CCM	Cathedral Cave	124.34	37	P	PKiKP	22 45 23.2	0.0
	baz=311						
MIAR	Mount Ida	125.06	42	P	PKiKP	22 45 24.7	0.0
	baz=307						
O48B	Farmland	126.19	31	P	PKPdf	22 45 26.2	-0.2
	baz=318						
P49A	Miami Univ. Ec	126.95	31	P	PKPdf	22 45 27.4	-0.5
	baz=318						
WCI	Wyandotte Cave	127.07	33	P	PKPdf	22 45 27.9	-0.2
	baz=316						
ERPA	Erie	127.18	26	P	PKPdf	22 45 28.1	-0.2
	baz=325						
ACSO	Alum Creek Sta	127.30	29	P	PKPdf	22 45 28.3	-0.2
	baz=320						
M53A	WI Miller and	127.43	27	P	PKPdf	22 45 28.5	-0.2
	baz=324						
WVT	Waverly	127.66	36	P	PKPdf	22 45 29.4	+0.1
	baz=313						
PKME	Peaks-Kenny Pk	128.14	15	P	PKPdf	22 45 30.3	+0.4
	baz=338						
P52A	Corning	128.18	29	P	PKPdf	22 45 30.4	+0.2
	baz=321						
LBNH	Lisbon	128.34	18	P	PKPdf	22 45 29.9	-0.5
	baz=335						
BINY	Binghamton	128.74	22	P	PKPdf	22 45 31.7	+0.4
	baz=329						
SSPA	Standing Stone	129.30	25	P	PKiKP	22 45 33.3	+0.2
	baz=326						
TZTN	Tazewell	129.79	33	P	PKiKP	22 45 33.9	-0.2
	baz=318						
LRAL	Lakeview Retre	130.25	39	P	PKiKP	22 45 35.4	+0.3
	baz=312						
TKL	Tuckaleechee C	130.32	34	PKP	PKiKP	22 45 35.2	0.0
	comp=Z,3.6nm,0.5s,baz=236,slow=6.2,SNR=11						
KMSC	Kings Mountain	132.03	32	P	PKiKP	22 45 38.7	0.0
	baz=320						
GOGA	Godfrey	132.12	36	P	PKiKP	22 45 38.9	0.0
	baz=316						
NHSC	New Hope	134.20	33	P	PKPdf	22 45 40.9	-0.8
	baz=320						
DWPF	Disney Wildern	137.11	39	P	PKPdf	22 45 48.3	+1.0
	baz=315						
PLCA	Paso Flores	140.44	158	PKP	PKPdf	22 45 54.2	+1.1
	comp=Z,1.3nm,0.8s,baz=270,slow=2.0,SNR=4.2						
CPUP	Villa Florida	157.83	168	PKPab	PKPab	22 46 53.7	-0.2
	comp=Z,1.4nm,0.7s,baz=151,slow=7.3,SNR=3.6						
LPAZ	La Paz	160.62	128	PKPab	PKPab	22 47 06.8	-0.4
	comp=Z,0.7nm,0.7s,baz=238,slow=8.3,SNR=5.4						

*IDC **03** 22:30:59.7±1.3, 43°.97N×105°.68W, h0km, mbtmp3.1/4, ML2.9/3, Error ellipse: s-maj=32.6km s-min=8.1km az=146.0*

*NEIC **03** 22:31:00.3±1.6, 43°.66N±0°.06×105°.31W±0°.08, h0km±2km, ML3.1/72, Error ellipse: s-maj=14.8km s-min=3.1km az=42.0*

ISC 03 22:30:57.4±1.1**, 43°.75N**±0°.05×**105°.23W**±0°.04**, h0km, n38, σ2s.22**/34**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.94	66	Pg	Pn	22 31 19.3	+1.3
K22A	Casper	1.45	221	Pg	Pn	22 31 24.9	-0.1
K22A				IAML		22 31 47.5	
	comp=E,297nm,0.9s						
K22A				IAML		22 31 48.5	
	comp=N,208nm,0.6s						
PHWY	Pilot Hill	2.46	184	Pn	Pn	22 31 39.4	+0.5
PHWY				IAML		22 32 19.9	
	comp=N,68nm,0.6s						
RWWY	Rawlins	2.53	216		Pn	22 31 40.7	+0.7
N23A	Red Feather La	2.91	191		Pn	22 31 46.3	+1.2
N23A				IAML		22 32 28.6	
	comp=E,79nm,0.8s						
N23A				IAML		22 32 37.7	
	comp=N,69nm,0.8s						
LAO	LASA Array	3.02	347	Pn	Pb	22 31 51.4	-0.6
RLMT	Red Lodge	3.20	297	Pn	Pn	22 31 51.3	+2.2
RLMT				IAML		22 32 45.9	
	comp=N,39nm,1.0s						
RLMT				IAML		22 32 46.9	
	comp=N,44nm,1.1s						
BRIGG	Briggsdale	3.24	168	Pn	Pn	22 31 51.6	+2.1
PD31	Pinedale Array	3.31	254		Pn	22 31 52.9	+2.2
PDAR	Pinedale Array	3.31	254		Pn	22 31 52.2	+1.5
PDAR	Pinedale Array	3.31	254	Pn	Pn	22 31 52.6	+1.9
	comp=N,1.4nm,0.3s,baz=71,slow=16,SNR=26						
PDAR				Lg	Lg	22 32 34.6	
	comp=N,4.9nm,0.3s,baz=72,slow=35,SNR=8.2						
	comp=N,3.9nm,0.5s						
BW06	Boulder Array	3.31	254		Pn	22 31 52.7	+2.0
BW06				IAML		22 32 40.2	
	comp=N,38nm,0.7s						
BW06				IAML		22 32 43.2	
	comp=N,27nm,0.9s						
OGNE	Ogallala	3.67	139	Pn	Pn	22 31 59.3	+3.8
YMP	Mirror Lake Pl	3.68	287		Pn	22 31 57.6	+1.8
YMP				IAML		22 33 01.9	
	comp=N,49nm,0.5s						
GCMT	Greycliff	3.76	304	Pn	Pn	22 31 59.3	+2.5
LOHW	Long Hollow	3.90	270		Pn	22 32 01.5	+2.8
H17A	Grant Village	3.91	281		Pn	22 32 01.2	+2.4
H17A				IAML		22 33 02.8	
	comp=E,23nm,0.7s						
H17A				IAML		22 33 05.9	
	comp=N,25nm,1.2s						
ISCO	Idaho Springs	3.96	184		Pn	22 32 01.7	+2.0
FLWY	Flagg Ranch	3.97	277	Pn	Pn	22 32 01.0	+1.3
FLWY				IAML		22 33 07.5	
	comp=N,32nm,2.1s						
FLWY				IAML		22 33 18.6	
	comp=N,37nm,1.4s						
MOOW	Moose Ponds	4.00	272		Pn	22 32 02.8	+2.7
SNOW	Snow King Moun	4.03	268		Pn	22 32 02.6	+2.1
SNOW				IAML		22 33 21.0	
	comp=N,32nm,1.4s						
SNOW				IAML		22 33 29.8	
	comp=N,30nm,1.4s						
REDW	Red Top Meadow	4.11	266	Pn	Pn	22 32 04.1	+2.5
IMW	Indian Meadow	4.14	274		Pn	22 32 04.4	+2.3
IMW				IAML		22 33 14.8	
	comp=N,17nm,0.8s						
IMW				IAML		22 33 15.2	
	comp=N,34nm,0.8s						
YHH	Holmes Hill	4.17	286	Pn	Pn	22 32 08.1	+5.6
FXWY	Fox Creek	4.21	270		Pn	22 32 05.9	+3.0
YMR	Madison River	4.23	284		Pb	22 32 10.7	-2.0
YMR				IAML		22 33 40.4	
	comp=E,28nm,1.0s						
K30B	Basset	4.24	103	Pn	Pb	22 32 12.1	-0.8
RDMU	Red Mountain	4.53	227	Pn	Pn	22 32 09.3	+1.9
RDMU				IAML		22 33 25.1	
	comp=E,26nm,0.9s						
DGMT	Dagmar	4.77	8	Pn	Pb	22 32 21.2	-0.7
BOZ	Bozeman (W)	4.92	294		Pn	22 32 18.3	+5.6
BOZ				IAML		22 33 33.1	
	comp=E,12nm,1.6s						
BOZ				IAML		22 33 43.0	
	comp=E,8.6nm,1.1s						
KSCO	Kaye Shedlock'	5.12	157	Pn	Pn	22 32 18.3	+2.8
HWUT	Hardware Ranch	5.14	248	Pn	Pn	22 32 16.5	+0.8
EGMT	Eagleton	5.31	325		Pb	22 32 25.9	-5.2
ELK	Elko	8.01	251	Pn	Pn	22 32 56.5	+1.3
	comp=E,0.1nm,0.3s,baz=54,slow=14,SNR=1.7						
ELK				Lg	Lg	22 35 07.3	
	comp=E,0.1nm,0.3s,baz=222,slow=23,SNR=1.7						
	comp=E,0.2nm,0.3s						
ULM	Lac du Bonnet	9.11	41	Pn	Pn	22 33 12.3	+2.3
	comp=E,0.4nm,0.3s,baz=229,slow=12,SNR=3.0						
ULM				Sn	Sn	22 34 49.0	-4.2
	comp=E,0.2nm,0.3s,baz=233,slow=5.1,SNR=3.9						
ULM				Lg	Lg	22 35 43.5	
	comp=E,0.1nm,0.3s,baz=260,slow=16,SNR=1.8						
	comp=E,1.1nm,0.4s						
NEW	Newport	9.42	303	Lg	Lg	22 35 38.0	
	comp=E,0.1nm,0.3s,baz=108,slow=20,SNR=1.2						
NVAR	Mina Array Bea	11.21	246	Pn	Pn	22 33 41.9	+2.9
	comp=E,0.3nm,0.4s,baz=70,slow=11,SNR=1.5						
TXAR	Lajitas Array	14.45	175	Pg	P	22 35 28.8	+59
	baz=356,slow=22,SNR=1.8						
TXAR				Lg	Lg	22 38 35.1	
	baz=356,slow=21,SNR=2.8						

TEH 03 22:55:54.2, 30°.74N×57°.32E, h6km±96km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.71	289	Pg	Pb	22 56 09.0	-0.2
KHGB	Koh Gabri	0.81	244	Pg	Pb	22 56 10.9	0.0
TVBK	TV Kerman	0.89	213	Pg	Pn	22 56 13.1	-0.5
CHMN	Cheshme madani	0.90	168	Pg	Pb	22 56 12.7	+0.3
NGRK	Negar Kerman	1.21	205	Pg	Pn	22 56 18.9	+0.9
IBAF	Bafgh	1.73	300	Pg	Pg	22 56 27.7	+0.4
KBAM	BAM	1.88	148	Pn	Pg	22 56 29.8	-0.4
BSRN	Basiran	1.97	51	Pn	Pb	22 56 30.8	+0.3
IKOO	Kooshah	2.21	40	Pn	Pb	22 56 34.9	+0.1
TPRV	Parvadeh(Tabas	2.34	347	Pn	Pb	22 56 36.5	-0.4
IMEH	Mehriz	2.41	286	Pn	Pb	22 56 37.4	-0.8
NHDN	Nehbandan	2.43	74	Pn	Pb	22 56 37.7	-0.7
ITEG	Tejag	2.47	29	Pn	Pb	22 56 38.5	-0.6
TKDS	Koohdasht(Taba	2.87	357	Pn	Pb	22 56 43.8	-2.1
ICHK	Chekchek	2.91	302	Pn	Pb	22 56 44.5	-2.1
IDAH	Dahanechah	2.95	47	Pn	Pb	22 56 45.3	-2.0
AFRZ	Afriz	3.04	28	Pn	Pb	22 56 46.2	-2.6
TNSJ	Nastanj	3.27	350	Pn	Pn	22 56 49.3	+3.2
ZHDN	Zahedan	3.31	113	Pn	Pn	22 56 50.0	+3.3
ISAD	Sadrabad	3.32	292	Pn	Pb	22 56 50.4	-3.3
GENO	Geno	3.48	197	Pn	Pb	22 56 52.9	-3.3
SHRT	Shahrakht	3.84	40	Pn	Pn	22 56 57.4	+3.5
ANAR	Anarak	3.91	310	Pn	Pn	22 56 58.6	+3.6
TBJM	Torbat-e-JAM	5.17	28	Pn	Pn	22 57 15.9	+3.5

IDC 03 23:01:58.9±6.1**, 6°.17S×127°.76E, h396km**±75km**, mb2.8**/2**, mbtmp3.8**/5**, Error ellipse: s-maj=90.6km s-min=21.4km az=47.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.70	225	P	Pn	23 03 29.1	+0.8
	41nm,0.4s,baz=72,slow=6.4,SNR=8.7						
BATI				S	S	23 04 39.9	-0.9
	9.5nm,0.3s,baz=353,slow=3.2,SNR=1.7						
WRA	Warramunga Arr	15.11	156	P	P	23 05 12.7	-0.1
	1.1nm,0.5s,baz=335,slow=11,SNR=9.7						
ASAR	Alice Springs	18.37	162	P	P	23 05 48.0	+0.3
	0.6nm,0.3s,baz=345,slow=12,SNR=11						
CMAR	Chiang Mai Arr	37.50	311	P	P	23 08 38.1	+1.1
	0.4nm,0.3s,baz=132,slow=5.4,SNR=1.3						
	0.4nm,0.3s						
MKAR	Makanchi Array	66.33	328	P	P	23 12 05.5	-0.9
	0.2nm,0.4s,baz=129,slow=8.2,SNR=4.3						
	0.2nm,0.4s						

IDC 03 23:03:34.8±10.0**, 7°.13S×130°.82E, h467km**±159km**, mb2.9**/2**, mbtmp3.9**/4**, Error ellipse: s-maj=83.9km s-min=72.2km az=111.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.18	165	P	P	23 06 24.5	-1.7
	2.3nm,0.3s,baz=346,slow=11,SNR=24						
WRA				S	S	23 08 47.5	-0.2
	0.4nm,0.4s,baz=340,slow=20,SNR=4.7						
ASAR	Alice Springs	16.70	170	P	P	23 07 05.1	+1.5
	2.1nm,0.4s,baz=346,slow=10,SNR=27						
SONM	Songino Array	58.83	341	P	P	23 12 47.0	-0.4
	0.8nm,1.2s,baz=148,slow=6.3,SNR=2.1						
	0.8nm,1.2s						
MKAR	Makanchi Array	68.78	326	P	P	23 13 51.4	+0.2
	0.7nm,0.5s,baz=115,slow=7.6,SNR=10						
	0.7nm,0.5s						

*AZER **03** 23:17:13.0±0.3, 35°.91N×48°.92E, h10km, Error ellipse: s-maj=4.7km s-min=4.3km az=339.0*

*TEH **03** 23:17:13.5, 35°.67N×48°.98E, h7km±47km, ML3.9*

ISC 03 23:17:13.9±0.8**, 35°.67N**±0°.03×**48°.98E**±0°.02**, h8km, n66, σ1s.42**/86**, Western Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IRAZ	Razeghan	0.82	108	Pg	Pb	23 17 30.8	+0.2
IRAZ				Sg	Sb	23 17 41.7	-0.2
QSDN	Sirdan	0.85	11	Pg	Pg	23 17 30.1	-0.3
HAGD	Aghdareh	0.85	171	Pg	Pb	23 17 31.2	+0.1
HAGD				Sg	Sn	23 17 44.2	-1.1
IMHD	Mahdasht	1.38	89	Pg	Pg	23 17 40.8	+0.4
IMHD				Sg	Sg	23 18 00.9	+2.7
IBZA	Bozab	1.50	218	Pg	Pg	23 17 42.6	-0.2
LHJ2	Lahijan - Gila	1.73	30	Pg	Pb	23 17 46.2	+0.1
ILIN	Lien	1.81	246	Pn	Pg	23 17 47.9	-0.7
IHSB	Hasanabad	1.89	96	Pn	Pg	23 17 49.6	-0.6
KLST	Kelardasht - M	1.89	63	Pn	Pg	23 17 49.2	-1.0
CSN1	Caspian	1.90	3	Pn	Pb	23 17 48.8	+0.1
IKOM	Komasi	1.92	219	Pn	Pb	23 17 49.3	+0.1
TEH	Tehran	1.96	87	Pn	Pg	23 17 50.5	-1.0
KCHF	Cheshme Sefid,	2.11	229	Pn	Pb	23 17 52.7	+0.1
IHSH	Hashtrud	2.14	320	Pn	Pb	23 17 52.2	-0.9
MZPU	Pul - Mazandar	2.24	69	Pn	Pb	23 17 54.6	-0.2
IDHR	Dehrash	2.33	246	Pn	Pb	23 17 55.2	-1.1
IGHG	Ghaleghazi	2.38	237	Pn	Pb	23 17 55.7	-1.5
ISRB	Sarab	2.40	334	Pn	Pb	23 17 55.5	-1.9
IDMV	Damavand	2.49	91	Pn	Pb	23 17 58.0	-1.1
GAS1	Astara - Iran	2.72	358	Pn	Pb	23 18 00.8	-2.0
IPRN	Peran	2.79	77	Pn	Pb	23 18 01.8	-2.3
MAHB	Mahabad	2.86	293	Pn	Pb	23 18 02.8	-2.5
SDS1	Sardasht. Az.	2.87	281	Pn	Pb	23 18 03.6	-2.0
ASTR	Astara	2.89	357	P	Pn	23 18 00.3	0.0
	SNR=11						
ASTR				S	Sn	23 18 35.7	+0.4
ISFB	Sefidab	2.98	115	Pn	Pb	23 18 04.4	-3.0
KGS1	Ghasr-e-Shirin	3.01	248	Pn	Pn	23 18 03.9	+1.9
LRK	Lerik	3.01	350	P	Pn	23 18 02.2	0.0
	SNR=14						
LRK				S	Sn	23 18 38.5	0.0
LKRN	Lenkeran, Azer	3.04	357	P	Pn	23 18 02.4	+0.1
	SNR=6.5						
LKRN				S	Sn	23 18 38.9	0.0
ILBA	Ilam Banvizeh	3.06	229	Pn	Pb	23 18 05.5	-3.1
IHRS	Heris	3.06	330	Pn	Pn	23 18 04.6	+1.7
IFIR	Firoozkooh	3.08	89	Pn	Pb	23 18 06.1	-3.0
IAZR	Azarshahr	3.13	311	Pn	Pb	23 18 06.9	-3.1
GRMI	Germi	3.25	345	Pn	Pn	23 18 07.4	+2.0
ILAS	Lasjerd	3.26	94	Pn	Pb	23 18 09.1	-3.2
YRD	Yardimli	3.29	350	P	Pn	23 18 05.9	-0.1
	SNR=26						
YRD				S	Sn	23 18 45.8	+0.3
IPIR	Pirpir	3.37	151	Pn	Pb	23 18 10.5	-3.7
ITBZ	Tabriz	3.42	319	Pn	Pn	23 18 09.2	+1.5
GLBA	Clilabad	3.60	353	P	Pn	23 18 10.1	+0.1
	SNR=6.6						
GLBA				S	Sn	23 18 53.0	+0.4
JHBN	Jahan bin	3.70	157	Pn	Pn	23 18 15.1	+3.3
ISHB	Shabestar	3.75	315	Pn	Pn	23 18 13.8	+1.5
ZNGN	Zangian	3.87	156	Pn	Pn	23 18 16.4	+2.3
IMRD	Marand	4.01	320	Pn	Pn	23 18 18.1	+2.3
QRD	Qoradiz	4.01	341	P	Pn	23 18 15.7	+0.1
	SNR=7.0						
QRD				S	Sn	23 19 03.9	+1.1
ORD	Ordubad	4.03	325	P	Pn	23 18 16.2	+0.2
	SNR=18						
ORD				S	Sn	23 19 03.9	+0.4
BLQ	Beylaqan	4.20	345	P	Pn	23 18 18.3	+0.1
	SNR=6.2						
BLQ				S	Sn	23 19 08.0	+0.5
NAX	Nakhchivan	4.46	323	P	Pn	23 18 22.0	+0.1
	SNR=16						
SBZ	Shahbuz	4.61	325	P	Pn	23 18 24.2	+0.1
	SNR=7.6						
SBZ				S	Sn	23 19 18.6	+0.8
AGDM	Agdam	4.67	342	P	Pn	23 18 25.0	+0.2
	SNR=7.0						
AGDM				S	Sn	23 19 20.0	+0.8
ZRD	Zardab	4.71	348	P	Pn	23 18 25.4	+0.1
ZRD				S	Sn	23 19 20.6	+0.4
KDMR	Kurdemir	4.74	353	P	Pn	23 18 25.9	+0.2
GOBA	Gobu	4.76	7	P	Pn	23 18 26.1	+0.1
GOBA				S	Sn	23 19 21.8	+0.4
MAKU	Maku	5.02	318	Pn	Pn	23 18 32.6	+2.9
PQL	Pirkuli	5.12	357	P	Pn	23 18 31.0	-0.1
IML	Ismayilli	5.16	353	P	Pn	23 18 31.5	0.0
ATGJ	Altiaghaj	5.18	360	P	Pn	23 18 31.9	0.0
ATGJ				S	Sn	23 19 32.2	+0.2
HYR	Heyderabad	5.20	322	P	Pn	23 18 32.3	+0.2
QBL	Gabala	5.35	351	P	Pn	23 18 34.1	0.0
GANJ	Ganja	5.39	338	P	Pn	23 18 34.9	+0.2
SIZA	Siyzn	5.40	359	P	Pn	23 18 35.0	+0.1
SIZA				S	Sn	23 19 37.6	+0.4
XNQ	Khinaliq	5.54	353	P	Pn	23 18 36.8	0.0
XNQ				S	Sn	23 19 41.1	+0.4
GDB	GEDABAY	5.65	334	P	Pn	23 18 38.3	-0.1
QUBA	Quba, Azerbaij	5.69	356	P	Pn	23 18 38.9	0.0
QUBA				S	Sn	23 19 45.0	+0.6
QSAR	Qusar	5.87	355	P	Pn	23 18 41.2	0.0
QZX	Qazax, Azerbai	6.08	333	P	Pn	23 18 44.2	+0.1
QZX				S	Sn	23 19 54.2	+0.3
ZKTA	Zakatala	6.24	344	P	Pn	23 18 46.4	+0.1
TKDS	Koohdasht(Taba	7.02	105	Pn	Pn	23 19 00.9	+3.7

IDC 03 23:26:43.1±7.5**, 18°.50S**×**175°.49W, h0**km**, mb3.6**/2**, mbtmp3.6**/2**, Error ellipse: s-maj=342.4km s-min=67.9km az=145.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.26**	**260**	P	P	23 35 18.2	-0.3
	0.4nm,0.4s,baz=98,slow=7.5,SNR=7.6						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**47.31**	**255**	P	P	23 35 19.0	+0.1
	0.7nm,0.8s,baz=85,slow=8.6,SNR=8.1						
	0.7nm,0.8s						
BRTR	**Keskin Array B**	**147.15**	**316**	PKPbc	PKPbc	23 46 27.9	-0.9
	0.2nm,0.2s,baz=43,slow=4.2,SNR=3.5						

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*ZUR **03** 23:31:21.9, 47°.66N×8°.74E, h7km, MLh1.3/20, Error ellipse: s-maj=1406.6km s-min=483.5km az=285.0*
*BGR **03** 23:31:22.4±0.3, 47°.67N×8°.72E, h10km, ML1.2/8, Error ellipse: s-maj=3.3km s-min=2.2km az=179.0*
*STR **03** 23:31:22.8±0.5, 48°N±2°×°±°, h7km±4km, MLv2.0/17, Error ellipse: s-maj=0.0km s-min=0.0km az=120.4, preliminary*
*LDG **03** 23:31:22.4±0.1, 47°.67N×8°.72E, h5km, Md1.9/2, Ml2.0/11, Error ellipse: s-maj=1.1km s-min=0.9km az=132.0*
*BUG **03** 23:31:22.4±0.7, 47°.67N×8°.70E, h2km±3km, MD3.8/10, ML2.3/10*

ISC 03 23:31:22.0±0.8**, 47°.66N**±0°.01×**8°.71E**±0°.01**, h10**km±4km**, n98, σ0°.87**/154**, 21C-6D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRULL	**Truellikon**	**0.02**	**232**	⇑Pg	**Pg**	**23 31 23.5**	**-0.4**
TRULL				Sg	**Sg**	**23 31 24.6**	**-0.5**
SCHS	**Schaffhausen,**	**0.07**	**318**	⇑Pg	**Pg**	**23 31 24.3**	**0.0**
STEIN	**Stein am Rhein**	**0.11**	**85**	⇑Pg	**Pg**	**23 31 24.2**	**-0.6**
STEIN				Sg	**Sg**	**23 31 25.9**	**-0.9**
STEIN	**Stein am Rhein**	**0.11**	**85**	⇑*i*Pg	**Pg**	**23 31 24.2**	**-0.6**
FLACH	**Flaach**	**0.13**	**226**	⇑Pg	**Pg**	**23 31 25.4**	**+0.3**
FLACH				Sg	**Sg**	**23 31 27.8**	**+0.7**
STIEG	**Stiegenhof Hun**	**0.17**	**192**	⇑Pg	**Pg**	**23 31 25.8**	**+0.1**
STIEG				Sg	**Sg**	**23 31 28.6**	**+0.4**
SLE	**Schleitheim**	**0.18**	**306**	⇓Pg	**Pg**	**23 31 26.2**	**+0.3**
SLE				Sg	**Sg**	**23 31 29.1**	**+0.6**
SLE	**Schleitheim**	**0.18**	**306**	Pg	**Pg**	**23 31 26.2**	**+0.3**
SLE	**Schleitheim**	**0.18**	**306**	⇓*i*Pg	**Pg**	**23 31 26.2**	**+0.3**
SLE				Sg	**Sg**	**23 31 29.1**	**+0.6**
WEIN	**Weingarten**	**0.23**	**125**	⇓Pg	**Pg**	**23 31 26.6**	**-0.2**
WEIN				Sg	**Sg**	**23 31 30.1**	**0.0**
EMING	**Emmingen-Lipti**	**0.25**	**22**	⇑Pg	**Pg**	**23 31 27.1**	**-0.1**
EMING				Sg	**Sg**	**23 31 30.7**	**+0.1**
EMING	**Emmingen-Lipti**	**0.25**	**22**	⇑*i*Pg	**Pg**	**23 31 27.1**	**-0.1**
EMING				Sg	**Sg**	**23 31 30.7**	**+0.1**
BOBI	**Bbikon, Wasse**	**0.27**	**245**	⇑Pg	**Pg**	**23 31 28.2**	**+0.6**
WILA	**Wila**	**0.28**	**151**	⇑Pg	**Pg**	**23 31 27.7**	**-0.1**
WILA				*e*Sg	**Sg**	**23 31 31.8**	**+0.2**
WALHA	**Wallhausen, DE**	**0.30**	**72**	⇑*i*Pg	**Pg**	**23 31 27.7**	**-0.3**
WALHA				Sg	**Sg**	**23 31 31.9**	**-0.2**
ZUR	**Degenried**	**0.30**	**196**	⇑Pg	**Pg**	**23 31 28.4**	**+0.2**
ZUR	**Degenried**	**0.30**	**196**	Pg	**Pg**	**23 31 28.4**	**+0.2**
ACHB	**Acheberg**	**0.31**	**257**	⇑Pg	**Pg**	**23 31 28.8**	**+0.5**
ACHB				Sg	**Sg**	**23 31 33.5**	**+1.0**
BERGE	**Lenzkirch (DE)**	**0.41**	**301**	⇓Pg	**Pg**	**23 31 30.6**	**+0.4**
BERGE	**Lenzkirch (DE)**	**0.41**	**301**	Pg	**Pg**	**23 31 30.6**	**+0.4**
BERGE				*e*Sg	**Sg**	**23 31 36.6**	**+1.0**
SULZ	**Cheisacher**	**0.42**	**252**	⇑Pg	**Pg**	**23 31 30.9**	**+0.5**
SULZ				Sg	**Sg**	**23 31 36.9**	**+1.0**
SULZ	**Cheisacher**	**0.42**	**252**	Pg	**Pg**	**23 31 30.8**	**+0.5**
SULZ	**Cheisacher**	**0.42**	**252**	⇑Pg	**Pg**	**23 31 30.9**	**+0.5**
SULZ				Sg	**Sg**	**23 31 37.0**	**+1.0**
ROMAN	**Romanshorn, Fo**	**0.44**	**103**	⇑Pg	**Pg**	**23 31 30.4**	**-0.2**
ROMAN				Sg	**Sg**	**23 31 36.3**	**-0.1**
A101B	**Rottweil, Deis**	**0.47**	**347**	Pg	**Pg**	**23 31 31.5**	**+0.3**
A101B				Sg	**Sg**	**23 31 37.6**	**+0.2**
ROTE	**Rottweil**	**0.49**	**357**	Pg	**Pg**	**23 31 31.8**	**+0.1**
ROTE				Sg	**Sg**	**23 31 38.5**	**+0.3**
GUT	**Gutenstein**	**0.49**	**34**	⇑Pg	**Pg**	**23 31 31.5**	**-0.2**
GUT				Sg	**Sg**	**23 31 38.4**	**+0.1**
GUT	**Gutenstein**	**0.49**	**34**	Pg	**Pg**	**23 31 31.5**	**-0.2**
GUT	**Gutenstein**	**0.49**	**34**	Pg	**Pg**	**23 31 31.5**	**-0.2**
GUT				Sg	**Sg**	**23 31 38.4**	**+0.1**
HAMIK	**Hmikon, Dlik**	**0.51**	**215**	Pg	**Pg**	**23 31 32.4**	**+0.5**
EMMET	**Emmethof**	**0.52**	**245**	Pg	**Pg**	**23 31 32.7**	**+0.6**
FELD	**Feldberg im Sc**	**0.52**	**295**	⇓Pg	**Pg**	**23 31 32.6**	**+0.4**
FELD	**Feldberg im Sc**	**0.52**	**295**	Pg	**Pg**	**23 31 32.5**	**+0.4**
FELD	**Feldberg im Sc**	**0.52**	**295**	Sg	**Sg**	**23 31 39.8**	**+0.8**
FELD	**Feldberg im Sc**	**0.52**	**295**	Pg	**Pg**	**23 31 32.6**	**+0.4**
FELD				Sg	**Sg**	**23 31 39.9**	**+0.8**
FELD				SmS		23 31 44.2	
SGT04	**Schlatt-Haslen**	**0.54**	**125**	Pg	**Pg**	**23 31 32.6**	**+0.1**
MSS	**Messtetten**	**0.55**	**18**	⇑*i*Pg	**Pg**	**23 31 32.7**	**0.0**
MSS				*e*Sg	**Sg**	**23 31 39.9**	**0.0**
MSS				*e*Sn	**Sn**	**23 31 44.5**	**-0.8**
MSS	**Messtetten**	**0.55**	**18**	⇑*i*Pg	**Pg**	**23 31 32.6**	**0.0**
MSS				Sg	**Sg**	**23 31 39.9**	**0.0**
MSS				SmS		23 31 44.5	
ROTHE	**Rothenfluh**	**0.56**	**251**	⇓Pg	**Pg**	**23 31 33.7**	**+0.7**
A102A	**Sigmaringen, J**	**0.58**	**35**	Pg	**Pg**	**23 31 33.1**	**-0.3**
A102A				Sg	**Sg**	**23 31 41.4**	**+0.3**
KIZ	**Kirchzarten**	**0.61**	**299**	Pg	**Pg**	**23 31 34.0**	**+0.2**
KIZ	**Kirchzarten**	**0.61**	**299**	Sg	**Sg**	**23 31 43.0**	**+1.2**
KIZ	**Kirchzarten**	**0.61**	**299**	Pg	**Pg**	**23 31 34.1**	**+0.3**
KIZ				PmP		23 31 35.9	
KIZ				Sg	**Sg**	**23 31 43.0**	**+1.2**
FREU	**Neufra-Freuden**	**0.64**	**27**	⇑*i*Pg	**Pg**	**23 31 34.4**	**-0.2**
FREU				Sg	**Sg**	**23 31 43.4**	**+0.4**
FREU				SmS		23 31 46.6	
LIENZ	**Kamor/St.Gall**	**0.65**	**124**	Pg	**Pg**	**23 31 35.0**	**+0.4**
ENDD	**Endenburg**	**0.66**	**275**	Pg	**Pg**	**23 31 35.1**	**+0.3**
ENDD	**Endenburg**	**0.66**	**275**	Sg	**Sg**	**23 31 44.1**	**+0.8**
ENDD	**Endenburg**	**0.66**	**275**	Pg	**Pg**	**23 31 35.1**	**+0.3**
ENDD				Sg	**Sg**	**23 31 44.1**	**+0.8**
ENDD				SmS		23 31 47.0	
BFO	**Black Forest**	**0.71**	**340**	Pg	**Pg**	**23 31 36.6**	**+0.7**
BFO				*e*Sg	**Sg**	**23 31 45.6**	**+0.4**
BALST	**Balsthal**	**0.76**	**245**	Pg	**Pg**	**23 31 37.0**	**+0.4**
BALST	**Balsthal**	**0.76**	**245**	*e*Pg	**Pg**	**23 31 37.1**	**+0.4**
BALST				*e*Sg	**Sb**	**23 31 48.4**	**+0.6**
ZWI	**Zwiefalten, Ha**	**0.78**	**40**	PmP		23 31 37.8	
ZWI				SmS		23 31 50.0	
A104C	**Biberach, Ahle**	**0.79**	**54**	Pg	**Pg**	**23 31 37.4**	**+0.1**
A104C				Sg	**Sg**	**23 31 47.5**	**-0.2**
A104C				SmS		23 31 50.5	
A100A	**Rottenburg, We**	**0.81**	**11**	Pg	**Pg**	**23 31 37.7**	**+0.1**
A100A				Sg	**Sg**	**23 31 48.2**	**+0.1**
BNALP	**Bannalp**	**0.81**	**194**	⇑Pg	**Pg**	**23 31 38.0**	**+0.2**
VOGT	**Vogtsburg - To**	**0.81**	**302**	Pn	**Pb**	**23 31 39.0**	**+0.6**
VOGT	**Vogtsburg - To**	**0.81**	**302**	Pg	**Pb**	**23 31 39.0**	**+0.6**
DAVA	**Damuels**	**0.88**	**115**	Pg	**Pb**	**23 31 40.3**	**+0.8**
	0.2nm,0.1s						
DAVA				*e*Sg	**Sn**	**23 31 53.6**	**-0.1**
	7.5nm,0.3s						
BUCH	**Bad Urach**	**0.90**	**29**	SmS		23 31 53.5	
OPP	**Oppenau**	**0.91**	**338**	Pg	**Pg**	**23 31 40.0**	**+0.5**
OPP	**Oppenau**	**0.91**	**338**	Sg	**Sg**	**23 31 51.5**	**+0.3**
OPP	**Oppenau**	**0.91**	**338**	Pg	**Pb**	**23 31 40.2**	**+0.3**
A109A	**Bad Urach, See**	**0.93**	**33**	Pg	**Pg**	**23 31 40.0**	**0.0**
A109A				Sg	**Sb**	**23 31 53.3**	**+0.5**
UBR	**Ueberruh**	**0.95**	**88**	Pg	**Pb**	**23 31 40.8**	**+0.2**
UBR				PmP		23 31 41.5	
UBR				SmS		23 31 54.9	
ILLF	**Illfurth**	**0.98**	**272**	Pn	**Pb**	**23 31 42.0**	**+0.9**
ILLF				Sg	**Sb**	**23 31 54.9**	**+0.8**
WALT	**Westhalten**	**1.01**	**288**	Pg	**Pg**	**23 31 42.0**	**+0.6**
WALT				Sg	**Sb**	**23 31 56.0**	**+1.0**
A108A	**Ulm, Ringingen**	**1.02**	**47**	Pg	**Pg**	**23 31 41.7**	**0.0**
A108A				Sg	**Sb**	**23 31 55.9**	**+0.5**
BOURR	**Bourrignon**	**1.03**	**256**	Pg	**Pg**	**23 31 42.2**	**+0.2**
BOURR	**Bourrignon**	**1.03**	**256**	Sg	**Sg**	**23 31 56.2**	**+0.9**
A107C	**Memmingen - Ei**	**1.07**	**70**	Pg	**Pb**	**23 31 42.9**	**+0.2**
A107C				Sg	**Sb**	**23 31 57.1**	**+0.4**
BABA	**Baden-Baden-Ne**	**1.11**	**342**	Pg	**Pg**	**23 31 43.6**	**+0.2**
BABA	**Baden-Baden-Ne**	**1.11**	**342**	Sg	**Sg**	**23 31 57.6**	**-0.2**
ECH	**Echery**	**1.18**	**299**	Pg	**Pg**	**23 31 44.6**	**0.0**
ECH				Sn	**Sb**	**23 32 01.0**	**+1.1**
CDF	**Champ du Feu**	**1.22**	**309**	*e*Pg	**Pg**	**23 31 45.0**	**-0.4**
CDF				*e*Sg	**Sg**	**23 32 01.0**	**-0.3**
	2.3nm,0.2s						
HINF	**Hinteralfeld**	**1.26**	**278**	*e*Pg	**Pn**	**23 31 46.2**	**+0.4**
HINF				*e*Sn	**Sb**	**23 32 00.6**	**-1.6**
HINF				*e*Sg	**Sg**	**23 32 02.8**	**+0.2**
	5.9nm,0.3s						
A106B	**Goeppingen, Ma**	**1.29**	**32**	Pg	**Pn**	**23 31 46.6**	**+0.5**
A106B				Sg	**Sn**	**23 32 03.8**	**+0.3**
RETA	**Reutte**	**1.40**	**96**	*e*Pg	**Pg**	**23 31 49.5**	**+0.5**
	0.4nm,0.3s						
RETA				*e*Sn	**Sg**	**23 32 07.4**	**+0.2**
	1.1nm,0.2s						
FETA	**Feichten**	**1.52**	**114**	*e*Sg	**Sg**	**23 32 11.5**	**+0.7**
	0.4nm,0.2s						
EMBD	**Embd, Matterta**	**1.56**	**203**	Pg	**Pg**	**23 31 52.3**	**+0.2**
HAU	**Haudompre**	**1.62**	**283**	*e*Pg	**Pb**	**23 31 52.8**	**+0.7**
HAU				*e*Sn	**Sn**	**23 32 10.3**	**-1.5**
HAU				*e*Sg	**Sb**	**23 32 14.2**	**+1.5**
	3.7nm,0.2s						
MOTA	**Moosalm**	**1.66**	**100**	*e*Pn	**Pn**	**23 31 52.5**	**+1.1**
	0.1nm,0.1s						
MOTA				*e*Sn	**Sb**	**23 32 14.7**	**+0.9**
	0.8nm,0.2s						
BRANT	**Les Verrieres**	**1.68**	**245**	Pn	**Pn**	**23 31 51.1**	**-0.6**
BRANT	**Les Verrieres**	**1.68**	**245**	Pg	**Pg**	**23 31 54.6**	**+0.3**
BRANT	**Les Verrieres**	**1.68**	**245**	Sn	**Sn**	**23 32 12.4**	**-0.9**
BOUC	**Bouclans**	**1.71**	**257**	Pn	**Pn**	**23 31 51.2**	**-0.8**
BOUC				Pg	**Pb**	**23 31 54.7**	**+1.1**
SQTA	**Sankt Quirin**	**1.76**	**104**	*e*Pg	**Pg**	**23 31 56.3**	**+0.5**
	0.3nm,0.2s						
AIGLE	**Aigle**	**1.78**	**223**	Pg	**Pg**	**23 31 56.4**	**+0.2**
DIX	**Grande Dixence**	**1.81**	**210**	Pg	**Pb**	**23 31 56.4**	**+0.9**
DIX	**Grande Dixence**	**1.81**	**210**	Sn	**Sn**	**23 32 17.2**	**+0.4**
SATI	**Passo dei Sala**	**1.88**	**198**	Pg	**Pg**	**23 31 58.1**	**+0.1**
GIMEL	**St. Georges /**	**2.01**	**237**	Pg	**Pg**	**23 32 01.6**	**+1.0**
CABF	**La Chapelle**	**2.07**	**241**	*e*Pg	**Pb**	**23 32 01.1**	**+1.3**
CABF				*e*Sn	**Sn**	**23 32 20.9**	**-2.0**
CABF				*e*Sg	**Sg**	**23 32 28.1**	**-0.5**
	1.0nm,0.3s						
PAGF	**Fort de Pagny**	**2.19**	**295**	*e*Pg	**Pb**	**23 32 03.1**	**+1.4**
PAGF				*e*Sg	**Sg**	**23 32 31.6**	**-0.7**
	0.9nm,0.2s						
SFTF	**Sexfontaines**	**2.52**	**284**	*e*Pg	**Pb**	**23 32 09.5**	**+2.0**
SFTF				*e*Sg	**Sg**	**23 32 42.1**	**-1.0**
	0.9nm,0.2s						
LOR	**Lormes**	**3.31**	**265**	*e*Pg	**Pg**	**23 32 23.9**	**-1.5**
LOR				*e*Sg	**Sg**	**23 33 06.6**	**-1.7**
	1.5nm,0.3s						
SMF	**Signal de Mont**	**3.47**	**255**	*e*Pg	**Pg**	**23 32 26.8**	**-1.7**
SMF				*e*Sn	**Sn**	**23 32 53.0**	**-4.3**
SMF				*e*Sg	**Sg**	**23 33 11.7**	**-1.8**
	1.3nm,0.3s						
SSF	**Saint Saulge**	**3.58**	**262**	*e*Pg	**Pg**	**23 32 29.1**	**-1.6**
SSF				*e*Sg	**Sg**	**23 33 15.0**	**-2.1**
	0.4nm,0.2s						
AVF	**Avril sur Loir**	**3.75**	**259**	*e*Pg	**Pg**	**23 32 31.8**	**-2.0**
AVF				*e*Sn	**Sn**	**23 33 00.9**	**-3.2**
AVF				*e*Sg	**Sg**	**23 33 20.4**	**-2.0**
	0.2nm,0.2s						

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*IDC **03** 23:34:01.9±0.8, 13°.73S×170°.25E, h0km, mb4.4/12, mbtmp4.3/13, ML4.1/1, MS4.3/13, Error ellipse: s-maj=34.8km s-min=17.7km az=135.0*
*NEIC **03** 23:34:02.9±2.3, 13°.89S±0°.10×170°.5E±0°.1, h10km±1km, mb4.9/82, Error ellipse: s-maj=20.0km s-min=15.3km az=112.0*
*GCMT **03** 23:34:08.9±0.2, 13°.78S±0°.01×170°.32E±0°.01, h24km±1km, MW5.1/102, Moment Tensor Solution. s49,c57; s102,c144; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.15±.16; $M_{\theta\theta}$1.51±.16; $M_{\phi\phi}$-1.66±.16; $M_{r\theta}$-0.15±.29; $M_{\theta\phi}$4.66±.13; $M_{\phi r}$1.05±.31; Best double couple: $M_0$5.03200×10^{16} NP1:ϕ_s190.00000°, δ87.00000°, λ-169.00000°. NP2:ϕ_s99.00000°, δ79.00000°, λ-3.00000°. Principal axes: T 4.8990, Plg6.0000°, Azm324.0000°; N 0.2660, Plg78.0000°, Azm203.0000°; P -5.1640, Plg10.0000°, Azm55.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 23:34:02.9±0.5**, 13°.93S**±0°.08×**170°.44E**±0°.09**, h10**km**, n135, σ1°.46**/114**, mb4.8**/55**, MS4.3**/16**, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**7.47**	**204**	Pn	**Pn**	**23 35 53.3**	**+1.4**
KOUNC	**Koumac, New Ca**	**8.83**	**221**	Pn	**Pn**	**23 36 10.4**	**-0.3**
DZM	**Mont Dzumac**	**8.95**	**205**	*e*Pn	**Pn**	**23 36 13.4**	**+1.0**
	65nm,1.2s						
DZM				*e*LR	LR	23 38 18.0	
	comp=Z,2µm,24.4s						
DZM	**Mont Dzumac**	**8.95**	**205**		**Pn**	**23 36 14.3**	**+1.9**
DZM	**Mont Dzumac**	**8.95**	**205**	Pn	**Pn**	**23 36 13.6**	**+1.2**
	1.8nm,0.3s,baz=46,slow=20,SNR=15						
DZM				LR	LR	23 39 14.7	
	comp=Z,2µm,21.4s,baz=28,slow=35						
	8.4nm,0.5s						
PINNC	**Pines Island,**	**9.10**	**198**	Pn	**Pn**	**23 36 17.9**	**+3.6**
OUENC	**Ouen Island, N**	**9.11**	**202**	Pn	**Pn**	**23 36 16.4**	**+1.9**
ONTNC	**Ouen Toro**	**9.16**	**204**	Pn	**Pn**	**23 36 15.7**	**+0.5**
HNR	**Honiara**	**11.20**	**292**	LR	LR	23 40 53.4	
	comp=Z,9µm,18.6s,baz=129,slow=38						
RAO	**Raoul Island**	**18.68**	**147**	LR	LR	23 43 55.2	
	comp=Z,2µm,19.6s,baz=64,slow=31						
EIDS	**Eidsvold**	**21.46**	**235**	P	**P**	**23 38 51.0**	**-0.6**
PMG	**Port Moresby**	**23.23**	**279**	P	**P**	**23 39 07.3**	**-3.2**
PMG				IAmb	IAmb	23 39 14.8	
	comp=Z,34nm,1.2s						
ARMA	**Armidale**	**23.87**	**223**	P	**P**	**23 39 16.1**	**-0.8**
ARMA				IAmb	IAmb	23 39 22.3	
	comp=Z,78nm,1.5s						
CTAO	**Charters Tower**	**23.91**	**252**	P	**P**	**23 39 15.7**	**-1.5**
TOZ	**Tahuroa Road**	**24.13**	**170**	P	**P**	**23 39 19.2**	**+0.1**
HIZ	**Hauiti**	**24.80**	**172**	P	**P**	**23 39 25.5**	**+0.4**
HIZ				IAmb	IAmb	23 39 28.1	
	comp=Z,23nm,1.2s						
URZ	**Urewera**	**24.95**	**167**	LR	LR	23 46 43.5	
	comp=Z,851nm,21.9s,baz=32,slow=30						
RTZ	**Ruatahuna**	**25.27**	**168**	P	**P**	**23 39 29.4**	**0.0**
RTZ				IAmb	IAmb	23 39 37.7	
	comp=Z,27nm,1.1s						
MANU	**Manus Island**	**25.68**	**295**	P	**P**	**23 39 30.2**	**-3.2**
COEN	**Coen**	**26.46**	**267**	P	**P**	**23 39 38.3**	**-2.1**
QRZ	**Quartz Range**	**26.86**	**176**	P	**P**	**23 39 41.1**	**-2.7**
QRZ				IAmb	IAmb	23 39 49.1	
	comp=Z,20nm,1.1s						
MRZ	**Mangatainoka R**	**27.01**	**171**	P	**P**	**23 39 43.8**	**-1.3**
BFZ	**Birch Farm**	**27.14**	**170**	P	**P**	**23 39 44.2**	**-2.0**
BFZ				IAmb	IAmb	23 39 44.8	
	comp=Z,20nm,1.1s						
TCW	**Tory Channel**	**27.39**	**174**	P	**P**	**23 39 46.7**	**-1.8**
DSZ	**Denniston Nort**	**27.74**	**178**	P	**P**	**23 39 50.2**	**-1.6**
DSZ				IAmb	IAmb	23 39 55.7	
	comp=Z,26nm,1.1s						
THZ	**Tophouse**	**27.82**	**176**	P	**P**	**23 39 51.5**	**-0.9**
THZ				IAmb	IAmb	23 40 19.1	
	comp=Z,38nm,1.6s						
BSWZ	**Blackbirch Sta**	**27.85**	**174**	P	**P**	**23 39 52.5**	**-0.1**
PLWZ	**Palliser**	**27.86**	**172**	P	**P**	**23 39 51.5**	**-1.2**
KHZ	**Kahutara**	**28.52**	**175**	P	**P**	**23 39 56.9**	**-1.6**
KHZ				IAmb	IAmb	23 40 42.1	
	comp=Z,33nm,1.5s						
INZ	**Inchbonnie**	**28.71**	**178**	P	**P**	**23 39 58.8**	**-1.5**
RAR	**Rarotonga**	**29.27**	**109**	LR	LR	23 49 34.9	
	comp=Z,129nm,20.5s,baz=332,slow=32						
OXZ	**Oxford**	**29.33**	**178**	P	**P**	**23 40 04.5**	**-1.3**
OXZ				IAmb	IAmb	23 40 23.5	
	comp=Z,25nm,1.4s						
FOZ	**Fox Glacier**	**29.51**	**181**	P	**P**	**23 40 06.4**	**-1.0**
FOZ				IAmb	IAmb	23 40 58.9	
	comp=Z,49nm,1.6s						
RPZ	**Rata Peaks**	**29.69**	**179**	LR	LR	23 50 04.3	
	comp=Z,266nm,18.2s,baz=346,slow=32						
STKA	**Stephens Creek**	**31.87**	**231**	P	**P**	**23 40 28.6**	**+0.2**
STKA	**Stephens Creek**	**31.87**	**231**	P	**P**	**23 40 29.9**	**+1.5**
	comp=Z,22nm,1.0s,baz=60,slow=7.2,SNR=18						
STKA				LR	LR	23 52 11.6	
	comp=Z,352nm,20.4s,baz=52,slow=34						
	comp=Z,22nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**32.42**	**353**	T	T	00 14 39.0	
	baz=173,slow=76,SNR=37						
H11S3	**WAKE ISLAND Hy**	**32.43**	**353**	T	T	00 14 43.9	
	baz=173,slow=76,SNR=34						
H11S1	**WAKE ISLAND Hy**	**32.44**	**353**	T	T	00 14 46.4	
	baz=173,slow=76,SNR=29						
H11N1	**WAKE ISLAND Hy**	**33.61**	**354**	T	T	00 16 09.4	
	baz=172,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**33.61**	**354**	T	T	00 16 12.2	
	baz=172,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**33.63**	**354**	T	T	00 16 10.7	
	baz=172,slow=76,SNR=20						
WR0	**Warramunga Arr**	**34.81**	**255**	P	**P**	**23 40 54.4**	**+0.2**
WB0	**Warramunga Arr**	**34.94**	**255**	P	**P**	**23 40 55.5**	**+0.2**
WRA	**Warramunga Arr**	**35.00**	**255**	P	**P**	**23 40 55.5**	**-0.4**
WRA	**Warramunga Arr**	**35.00**	**255**	P	**P**	**23 40 54.5**	**-1.3**
	comp=Z,3.3nm,0.9s,baz=86,slow=8.7,SNR=15						
	comp=Z,3.3nm,0.9s						
AS31	**Alice Springs**	**35.83**	**249**	P	**P**	**23 41 01.9**	**-1.1**
ASAR	**Alice Springs**	**35.83**	**249**	P	**P**	**23 41 02.0**	**-1.0**
ASAR	**Alice Springs**	**35.83**	**249**	P	**P**	**23 41 02.6**	**-0.4**
	comp=Z,20nm,1.1s,baz=81,slow=8.9,SNR=52						
ASAR				LR	LR	23 54 17.7	
	comp=Z,794nm,20.5s,baz=79,slow=34						
	comp=Z,20nm,1.1s						
BBOO	**Buckleboo**	**36.51**	**233**	P	**P**	**23 41 08.6**	**0.0**
MTN	**Manton Dam**	**38.23**	**267**	P	**P**	**23 41 22.8**	**-0.6**
MTN				IAmb	IAmb	23 41 42.3	
	comp=Z,20nm,1.0s						
PPT2	**Papeete2**	**38.60**	**101**	*e*LQ	LQ	23 50 28.2	
	comp=Z,1µm,29.5s						
PPT2				*e*LR	LR	23 51 55.4	
	comp=Z,234nm,26.8s						
PPT2				*e*LR	LR	23 52 02.1	
	comp=Z,162nm,28.8s						
TBI	**Tubuai**	**39.02**	**110**	*e*LQ	LQ	23 50 38.6	
	comp=Z,4µm,37.2s						
TBI				*e*LR	LR	23 52 03.7	
	comp=Z,3µm,32.8s						
TBI				*e*LR	LR	23 52 11.6	
	comp=Z,1µm,32.8s						
FAKI	**Fak Fak**	**39.26**	**283**	P	**P**	**23 41 32.7**	**+0.6**
FAKI				IAmb	IAmb	23 42 14.9	
	comp=Z,15nm,0.5s						
KNRA	**Kununurra**	**40.29**	**262**	P	**P**	**23 41 39.9**	**-0.8**
KNRA				IAmb	IAmb	23 41 42.8	
	comp=Z,37nm,1.0s						
FORT	**Forrest**	**42.35**	**239**	P	**P**	**23 41 57.5**	**0.0**
FORT				IAmb	IAmb	23 42 14.3	
	comp=Z,23nm,1.1s						
BATI	**Baumata**	**45.84**	**269**	P	**P**	**23 42 29.4**	**+3.7**
BATI	**Baumata**	**45.84**	**269**	LR	LR	00 00 41.4	
	comp=Z,304nm,19.9s,baz=118,slow=35						
EDFI	**Ende, Flores**	**48.01**	**271**	P	**P**	**23 42 44.0**	**+1.2**
	comp=Z,14nm,1.0s,comp=Z,974nm						
PSA00	**Pilbara Seismi**	**48.61**	**253**	P	**P**	**23 42 47.7**	**+0.4**
PSA00				IAmb	IAmb	23 42 49.9	
	comp=Z,12nm,1.3s						
PSA00	**Pilbara Seismi**	**48.61**	**253**	P	**P**	**23 42 47.1**	**-0.1**
PSA00				IAmb	IAmb	23 42 49.8	
	comp=Z,15nm,1.1s						
TAOE	**Nuku Hiva Isla**	**48.63**	**90**	*e*LR	LR	23 56 38.6	
	comp=Z,511nm,27.4s						
KAPI	**Kappang**	**50.68**	**275**	P	**P**	**23 43 04.1**	**+1.0**
KAPI				IAmb	IAmb	23 43 06.1	
	comp=Z,11nm,1.1s						
NWAO	**Narrogin (SRO)**	**51.79**	**239**	LR	LR	00 04 56.5	
	comp=Z,626nm,18.6s,baz=76,slow=36						
TWSI	**Taliwang, Sumb**	**52.68**	**270**	P	**P**	**23 43 19.9**	**+1.9**
JOW	**Kunigami**	**57.61**	**315**	LR	LR	00 04 53.7	
	comp=Z,276nm,21.1s,baz=323,slow=32						
MJAR	**Matsushiro Arr**	**58.69**	**330**	LR	LR	00 04 37.6	
	comp=Z,218nm,22.0s,baz=156,slow=31						
VNDA	**Vanda**	**63.75**	**182**	P	**P**	**23 44 32.4**	**-2.1**
VNDA				IAmb	IAmb	23 44 38.6	
	comp=Z,17nm,1.9s						
VNDA	**Vanda**	**63.75**	**182**	P	**P**	**23 44 35.6**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=329,slow=4.8,SNR=3.6						
	comp=Z,0.7nm,0.7s						
KSAR	**Wonju Array Be**	**64.88**	**324**	P	**P**	**23 44 44.9**	**+2.4**
KS19	**Wonju Array Si**	**64.93**	**324**	P	**P**	**23 44 45.0**	**+2.2**
CASY	**Casey**	**65.44**	**203**	P	**P**	**23 44 46.2**	**+0.5**
CASY				IAmb	IAmb	23 45 08.2	
	comp=Z,8.9nm,1.1s						
PETK	**Petropavlovsk-**	**67.66**	**352**	LR	LR	00 08 56.5	
	comp=Z,175nm,20.4s,baz=148,slow=31						
RPSI	**Rantau Prapat**	**72.76**	**277**	P	**P**	**23 45 31.9**	**-0.3**
RPSI				IAmb	IAmb	23 45 47.6	
	comp=Z,14nm,1.2s						
QSPA	**South Pole Qui**	**76.10**	**180**	P	**P**	**23 45 50.1**	**-0.7**
R17K	**Ugashik Creek**	**76.38**	**18**	P	**P**	**23 45 54.9**	**+2.7**
LZH	**Lanzhou**	**80.09**	**311**	*e*P	P	23 46 19.3	+5.9
LZH				sP	PcP	23 46 37.8	+17
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
LZH				LR	LR		
	comp=N,300nm,17.3s						
LZH				LR	LR		
	comp=E,310nm,18.6s						
LZH				LR	LR		
	comp=Z,380nm,20.6s						
YAK	**Yakutsk**	**82.19**	**342**	LR	LR	00 17 51.6	
	comp=Z,7.7nm,21.0s,baz=90,slow=32						
AFDM	**Forest Hills D**	**82.72**	**47**	P	**P**	**23 46 27.5**	**+0.3**
AFDM				IAmb	IAmb	23 46 29.3	
	comp=Z,7.4nm,1.1s						
DIB	**Dawson Inlet,**	**82.74**	**31**	P	**P**	**23 46 29.0**	**+2.2**
CMB	**Columbia Colle**	**82.77**	**48**	P	**P**	**23 46 28.6**	**+1.1**
ULN	**Ulaanbaatar**	**83.33**	**323**	P	**P**	**23 46 31.6**	**+1.3**
ULN				IAmb	IAmb	23 46 39.3	
	comp=Z,9.7nm,1.1s						
CBX	**Cerro Bola**	**83.42**	**55**	P	**P**	**23 46 27.6**	**-3.5**
CBX				IAmb	IAmb	23 49 14.9	
	comp=Z,9.9nm,1.3s						
TKX	**Tecate**	**83.56**	**54**	P	**P**	**23 46 31.4**	**-0.3**
MDPB	**Devils Postpil**	**83.56**	**49**	P	**P**	**23 46 31.3**	**-0.6**
MDPB				IAmb	IAmb	23 46 34.2	
	comp=Z,7.9nm,1.0s						
MCARA	**McCarthy VSAT**	**83.57**	**21**	P	**P**	**23 46 28.4**	**-2.6**
WAKR	**Walker**	**83.64**	**48**	P	**P**	**23 46 31.7**	**-0.5**
WAKR				IAmb	IAmb	23 46 34.9	
	comp=Z,15nm,1.2s						
SONM	**Songino Array**	**83.71**	**322**	P	**P**	**23 46 29.8**	**-2.4**
SONM	**Songino Array**	**83.71**	**322**	P	**P**	**23 46 32.2**	**0.0**
	comp=Z,1.3nm,0.9s,baz=147,slow=4.2,SNR=7.4						
	comp=Z,1.3nm,0.9s						
K04D	**Chiloquin, OR**	**83.72**	**43**	P	**P**	**23 46 31.4**	**-1.0**
I21K	**Tanana**	**83.80**	**15**	P	**P**	**23 46 30.6**	**-1.5**
BCPM	**Bancas Point**	**83.81**	**23**	P	**P**	**23 46 30.8**	**-1.5**
BARN	**Barnard Glacie**	**83.82**	**21**	P	**P**	**23 46 29.9**	**-2.6**
E18K	**Tukpahlearik C**	**83.83**	**11**	P	**P**	**23 46 31.8**	**-0.4**
YERR	**Yerington**	**83.97**	**48**	P	**P**	**23 46 32.8**	**-1.1**
YERR				IAmb	IAmb	23 46 56.6	
	comp=Z,8.5nm,1.4s						
MLY	**Manley**	**84.00**	**16**	P	**P**	**23 46 32.9**	**-0.3**
IMAR	**Indian Mountai**	**84.03**	**14**	P	**P**	**23 46 32.3**	**-1.0**
PFO	**Pinyon Flats O**	**84.04**	**53**	P	**P**	**23 46 32.1**	**-2.1**
PMD	**Palm Desert**	**84.12**	**53**	P	**P**	**23 46 34.0**	**-0.5**
PMD				IAmb	IAmb	23 47 05.7	
	comp=Z,6.7nm,1.2s						
YUH	**Yuha Desert**	**84.12**	**54**	P	**P**	**23 46 33.7**	**-0.8**
YUH				IAmb	IAmb	23 46 36.9	
	comp=Z,9.3nm,1.2s						
PAHR	**Pah Rah Range**	**84.15**	**47**	P	**P**	**23 46 33.4**	**-1.3**
LHV	**Little Huntoon**	**84.22**	**48**	P	**P**	**23 46 34.0**	**-0.8**
LHV				IAmb	IAmb	23 46 37.6	
	comp=Z,8.9nm,1.1s						
E03A	**Lebam**	**84.29**	**39**	P	**P**	**23 46 32.8**	**-2.2**
J05D	**Fort Rock, OR**	**84.35**	**43**	P	**P**	**23 46 34.0**	**-1.6**
GTA	**Gaotai**	**84.36**	**313**	*e*P	**P**	**23 46 39.0**	**+3.3**
GTA				pP	pwP	23 46 44.4	+2.5
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
GSC	**Goldstone, Bar**	**84.38**	**52**	P	**P**	**23 46 35.5**	**-0.4**
GSC				IAmb	IAmb	23 47 23.4	
	comp=Z,13nm,1.6s						
NVAR	**Mina Array Bea**	**84.43**	**48**	P	**P**	**23 46 35.7**	**-0.5**
NVAR	**Mina Array Bea**	**84.43**	**48**	P	**P**	**23 46 37.4**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=230,slow=8.7,SNR=9.3						
	comp=Z,2.1nm,0.8s						
NV11	**Mina Array Sit**	**84.54**	**48**	P	**P**	**23 46 36.1**	**-0.6**
QSM	**Queen of Sheba**	**84.58**	**51**	P	**P**	**23 46 35.8**	**-1.0**
QSM				IAmb	IAmb	23 49 16.6	
	comp=Z,11nm,1.5s						
MDM	**Murphy Dome**	**84.61**	**16**	P	**P**	**23 46 35.6**	**-0.7**
PINE	**Pine Mountain**	**84.75**	**43**	P	**P**	**23 46 36.6**	**-1.1**
PINE				IAmb	IAmb	23 46 51.3	
	comp=Z,16nm,1.3s						
GWY	**Greenwater Val**	**84.81**	**51**	P	**P**	**23 46 37.8**	**-0.3**
GWY				IAmb	IAmb	23 46 40.2	
	comp=Z,15nm,1.5s						
KVN	**Kaiserville**	**84.82**	**48**	P	**P**	**23 46 36.6**	**-1.5**
IL31		**84.84**	**17**	P	**P**	**23 46 37.1**	**-0.3**

ILAR	**Eielson Array**	**84.84**	**17**	P	**P**	**23 46 37.2**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=237,slow=5.5,SNR=17						
	comp=Z,2.6nm,0.8s						
WCT	**Wildcat Mounta**	**85.06**	**50**	P	**P**	**23 46 38.8**	**-0.5**
WCT				IAmb	IAmb	23 46 41.7	
	comp=Z,5.9nm,1.0s						
J25K	**Salcha River,**	**85.16**	**18**	P	**P**	**23 46 38.8**	**-0.3**
J25K				IAmb	IAmb	23 46 47.4	
	comp=Z,7.0nm,1.0s						
BMN	**Battle Mountai**	**85.96**	**47**	P	**P**	**23 46 44.4**	**+0.6**
BMN				IAmb	IAmb	23 46 46.2	
	comp=Z,8.8nm,1.2s						
SHPR	**Sheep Range**	**86.06**	**51**	P	**P**	**23 46 44.1**	**-0.3**
214A	**Organ Pipe Nat**	**86.37**	**56**	P	**P**	**23 46 46.0**	**+0.2**
W13A	**Hualapai Mount**	**86.55**	**53**	P	**P**	**23 46 46.8**	**-0.1**
E08A	**Dider Farm, El**	**87.08**	**41**	P	**P**	**23 46 47.6**	**-1.2**
E08A				IAmb	IAmb	23 46 56.1	
	comp=Z,8.6nm,1.1s						
CCUT	**Cedar City**	**87.77**	**51**	P	**P**	**23 46 50.8**	**-2.0**
CCUT				IAmb	IAmb	23 46 55.7	
	comp=Z,7.7nm,1.2s						
X16A	**Lo Mia Camp, P**	**88.24**	**54**	P	**P**	**23 46 53.7**	**-1.3**
X16A				IAmb	IAmb	23 46 59.1	
	comp=Z,14nm,1.9s						
BSUT	**Blindstream Ca**	**90.64**	**48**	P	**P**	**23 47 05.5**	**-0.8**
BSUT				IAmb	IAmb	23 47 08.8	
	comp=Z,4.9nm,0.9s						
BRLDA	**Berland Lookou**	**91.03**	**34**	P	**P**	**23 47 06.0**	**-1.5**
PDAR	**Pinedale Array**	**92.16**	**47**	P	**P**	**23 47 13.6**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=234,slow=4.3,SNR=2.8						
	comp=Z,0.5nm,0.8s						
425A	**Indio Mountain**	**92.45**	**59**	P	**P**	**23 47 13.6**	**-1.1**
425A				IAmb	IAmb	23 47 17.1	
	comp=Z,12nm,1.7s						
TXAR	**Lajitas Array**	**93.20**	**61**	P	**P**	**23 47 17.2**	**-0.9**
TXAR	**Lajitas Array**	**93.20**	**61**	P	**P**	**23 47 19.6**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=214,slow=5.0,SNR=6.5						
	comp=Z,0.7nm,0.7s						
WMQ	**Urumqi**	**94.37**	**314**	*e*P	**P**	**23 47 24.5**	**+1.4**
WMQ				LR	LR		
	comp=Z,180nm,24.3s						
YKA	**Yellowknife Ar**	**95.44**	**27**	P	**P**	**23 47 27.2**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=254,slow=4.6,SNR=7.5						
	comp=Z,0.9nm,0.9s						
ZALV	**Zalesovo Beam**	**98.57**	**323**	P	**P**	**23 47 40.6**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=20,slow=4.6,SNR=3.5						
	comp=Z,0.8nm,0.7s						
MKAR	**Makanchi Array**	**98.75**	**316**	P	**P**	**23 47 41.1**	**-1.8**
	comp=Z,0.8nm,0.9s,baz=33,slow=7.3,SNR=3.1						
	comp=Z,0.8nm,0.9s						

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*NAO **03** 23:34:02.8, 41°.32N×13°.65E, h33^{km}, mb4.2*

*STR **03** 23:34:05.2±2.8, 42°N±15°×1°4E±1°8, h5^{km}, MLv4.6/50, Error ellipse: s-maj=0.0km s-min=0.0km az=129.6, preliminary*

*BGR **03** 23:34:08.4±0.7, 42°.30N×13°.83E, h10^{km}, ML4.4, Error ellipse: s-maj=11.1km s-min=8.9km az=59.0*

*IDC **03** 23:34:10.9±0.6, 42°.72N×13°.38E, h0^{km}, mb4.2/19, mbtmp4.1/32, ML3.7/13, MS3.5/35, Error ellipse: s-maj=11.3km s-min=9.6km az=93.0*

*PRU **03** 23:34:10.1, 42°.50N×13°.23E, h0^{km}, M4.5*

*MOS **03** 23:34:11.4±1.0, 42°.71N×13°.31E, h15^{km}, mb4.6/30, Error ellipse: s-maj=4.5km s-min=2.9km az=75.5*

*LDG **03** 23:34:11.9±0.2, 42°.63N×13°.33E, h8^{km}, Ml3.7/40, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

*NEIC **03** 23:34:11.9±1.3, 42°.68N±0°.05×13°.31E±0°.07, h3^{km}±3^{km}, mb4.5/62, Mwr4.2/40, ML4.2(VIE), Error ellipse: s-maj=7.9km s-min=6.2km az=221.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-2.62; $M_{\theta\theta}$1.17; $M_{\phi\phi}$1.45; $M_{r\theta}$0.15; $M_{\theta\phi}$-1.00; $M_{\phi r}$0.44; Fault plane solution: $M_0$2.53000×10^{15} NP1:ϕ_s311.78000°, δ42.78000°, λ-101.14000°. NP2:ϕ_s146.80000°, δ48.21000°, λ-79.86000°. Principal axes: T 2.3295, Plg3.0000°, Azm230.0000°; N 0.3564, Plg8.0000°, Azm320.0000°; P -2.6859, Plg82.0000°, Azm120.0000°;*

*ROM **03** 23:34:11.2±0.0, 42°.624N±0°.002×13°.325E±0°.002, h8^{km}, ML4.2/438, Mw4.0 Error ellipse: s-maj=0.3km s-min=0.1km az=69.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.28; $M_{\theta\theta}$0.53; $M_{\phi\phi}$0.75; $M_{r\theta}$-0.47; $M_{\theta\phi}$-0.69; $M_{\phi r}$0.34; Fault plane solution: $M_0$1.43307×10^{15} NP1:ϕ_s325.00000°, δ34.00000°, λ-80.00000°. NP2:ϕ_s134.00000°, δ57.00000°, λ-96.00000°.*

*PDG **03** 23:34:11.8±0.9, 42°.65N×13°.32E, h10^{km}, ML4.1/10 Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*

*MED_RC **03** 23:34:12.0±0.2, 42°.63N×13°.33E, h10^{km}, MW4.3/30, Moment Tensor Solution.Mantle waves: s30,c32; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.73±.09; $M_{\theta\theta}$1.00±.11; $M_{\phi\phi}$1.73±.10; $M_{r\theta}$0.66±.24; $M_{\theta\phi}$-0.88±.08; $M_{\phi r}$-1.65±.23; Best double couple: $M_0$3.08000×10^{15} NP1:ϕ_s333.00000°, δ63.00000°, λ-85.00000°. NP2:ϕ_s142.00000°, δ28.00000°, λ-99.00000°. Principal axes: T 2.8600, Plg17.0000°, Azm59.0000°; N 0.4400, Plg4.0000°, Azm150.0000°; P -3.3000, Plg72.0000°, Azm254.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*BEO **03** 23:34:12.0±0.8, 42°.72N×13°.26E, h0^{km}, ML4.3/6*

*NEIC **03** 23:34:12.1, 42°.68N×13°.33E, h4^{km}*

ISC 03 23:34:11.8±0.6, **42°.63N**±0°.01×**13°.31E**±0°.02, **h10**^{km}±3^{km}, **n783**, σ**1s.90**/887, **mb4.5**/69, **MS3.5**/24, **60C-69D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.02**	**79**	⇑P	**Pg**	**23 34 12.8**	**-0.9**
SMA1				AML	AML		
SMA1				AML	AML		
CAMP	**Campotosto**	**0.12**	**141**		**Pg**	**23 34 14.6**	**-0.2**
CAMP					**Sg**	**23 34 16.4**	**-0.3**
CAMP	**Campotosto**	**0.12**	**141**	⇑P	**Pg**	**23 34 14.5**	**-0.2**
CAMP				S	**Sg**	**23 34 16.0**	**-0.8**
CAMP				AML	AML		
CAMP				AML	AML		
RM33	**Pellescritta (**	**0.14**	**211**	⇑P	**Pg**	**23 34 15.4**	**+0.4**
RM33				S	**Sg**	**23 34 18.0**	**+0.8**
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
MTRA	**Matera**	**0.14**	**26**	⇑P	**Pg**	**23 34 14.8**	**-0.3**
MTRA				S	**Sg**	**23 34 16.9**	**-0.5**
MTRA				AML	AML		
MTRA				AML	AML		
MTRA				AML	AML		
MTRA				AML	AML		
LNSS	**Leonessa**	**0.20**	**263**	⇓P	**Pg**	**23 34 16.5**	**+0.5**
LNSS				S	**Sg**	**23 34 20.1**	**+1.2**
LNSS				AML	AML		
LNSS				AML	AML		
LNSS				AML	AML		
LNSS				AML	AML		
LNSS				AML	AML		
TERO	**Teramo**	**0.22**	**91**	⇑P	**Pg**	**23 34 16.1**	**-0.2**
TERO				S	**Sg**	**23 34 19.5**	**+0.1**
TERO				AML	AML		
TERO				AML	AML		
TERO				AML	AML		
TERO				AML	AML		
TERO				AML	AML		
TERO				AML	AML		
TERO				AML	AML		
NRCA	**Norcia**	**0.25**	**325**		**Pg**	**23 34 16.8**	**-0.2**
NRCA				Sg	**Sg**	**23 34 21.3**	**+0.9**
NRCA	**Norcia**	**0.25**	**325**	⇓P	**Pg**	**23 34 17.0**	**+0.1**
NRCA				S	**Sg**	**23 34 21.5**	**+1.0**
NRCA				AML	AML		
	comp=E,74050µm,1.1s						
NRCA				AML	AML		
	comp=E,76200µm,1.1s						
NRCA				AML	AML		
	comp=N,57350µm,0.9s						
NRCA				AML	AML		
	comp=N,58500µm,0.9s						
NRCA				AML	AML		
	comp=E,76200µm,0.9s						
NRCA				AML	AML		
	comp=E,74050µm,0.9s						
GIGS	**Gran Sasso**	**0.26**	**133**	⇓P	**Pg**	**23 34 16.9**	**-0.3**
GIGS				S	**Sg**	**23 34 20.8**	**+0.1**
GIGS				AML	AML		
	comp=E,55900µm,1.4s						
GIGS				AML	AML		
	comp=N,59150µm,0.5s						
GIGS				AML	AML		
	comp=E,55900µm,0.6s						
MMO1	**Montemonaco**	**0.27**	**3**	⇑P	**Pg**	**23 34 17.4**	**0.0**
MMO1				S	**Sg**	**23 34 21.7**	**+0.6**
AQU	**L'Aquila**	**0.28**	**166**		**Pg**	**23 34 17.7**	**+0.2**
AQU				Sg	**Sb**	**23 34 22.7**	**-1.1**
AQU	**L'Aquila**	**0.28**	**166**	⇓P	**Pg**	**23 34 17.6**	**+0.1**
AQU				AML	AML		
AQU				AML	AML		
AQU				AML	AML		
AQU				AML	AML		
AQU				AML	AML		
AQU	**L'Aquila**	**0.28**	**166**	P	**Pg**	**23 34 17.7**	**+0.2**
MC2	**Monte Cornacci**	**0.30**	**343**	⇓P	**Pg**	**23 34 17.9**	**0.0**
GAVE	**Gavelli**	**0.31**	**282**	AML	AML		
GAVE				AML	AML		
	comp=E,92600µm,0.8s						
GAVE				AML	AML		
	comp=N,29950µm,1.6s						
GAVE				AML	AML		
	comp=N,29950µm,1.6s						
GAVE				AML	AML		
	comp=N,29950µm,0.4s						
GAVE				AML	AML		
GAVE				AML	AML		
	comp=E,92600µm,0.8s						
GAVE				AML	AML		
	comp=E,98850µm,0.8s						
MF5	**Montefalcone A**	**0.38**	**17**	P	**Pg**	**23 34 18.8**	**-0.6**
MF5				S	**Sb**	**23 34 26.2**	**-0.5**
FEMA	**Monte Fema**	**0.39**	**330**	P	**Pg**	**23 34 19.5**	**0.0**
FEMA				S	**Sb**	**23 34 26.3**	**-0.7**
FEMA				AML	AML		
	comp=N,69000µm,1.1s						
FEMA				AML	AML		
	comp=E,47900µm,0.6s						
ARRO	**Arrone**	**0.40**	**263**	⇑P	**Pg**	**23 34 20.0**	**+0.3**
ARRO				S	**Sb**	**23 34 26.7**	**-0.6**
ARRO				AML	AML		
	comp=N,28700µm,1.3s						
ARRO				AML	AML		
	comp=N,28700µm,0.7s						
ARRO				AML	AML		
	comp=E,42650µm,1.5s						
T1221	**Campello sul C**	**0.41**	**305**	⇓P	**Pg**	**23 34 20.1**	**+0.1**
T1221				S	**Sb**	**23 34 27.0**	**-0.7**
T1221				AML	AML		
	comp=E,32000µm,0.7s						
T1221				AML	AML		
	comp=N,37950µm,0.7s						
T1221				AML	AML		
	comp=E,30750µm,0.7s						
T1221				AML	AML		
	comp=E,30800µm,0.8s						
T1221				AML	AML		
	comp=E,30800µm,1.2s						
T1221				AML	AML		
	comp=E,32000µm,1.3s						
T1221				AML	AML		
	comp=N,38900µm,0.8s						
FAGN	**Fagnano**	**0.41**	**150**	⇓P	**Pg**	**23 34 19.6**	**-0.4**
FAGN				AML	AML		
FAGN				AML	AML		
OFFI	**Offida**	**0.41**	**42**	⇑P	**Pb**	**23 34 20.6**	**-0.7**
OFFI				AML	AML		
OFFI				AML	AML		
GUMA	**Gualdo di Mace**	**0.44**	**3**		**Pg**	**23 34 20.4**	**+0.1**
GUMA				Sg	**Sb**	**23 34 27.6**	**-0.7**
GUMA	**Gualdo di Mace**	**0.44**	**3**	⇓P	**Pg**	**23 34 20.5**	**+0.1**
GUMA				S	**Sb**	**23 34 27.8**	**-0.6**
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
FDMO	**Fiordimonte**	**0.44**	**338**		**Pg**	**23 34 20.1**	**-0.3**
FDMO				Sg	**Sb**	**23 34 27.6**	**-0.9**
FDMO	**Fiordimonte**	**0.44**	**338**	⇓P	**Pg**	**23 34 20.3**	**-0.2**
FDMO				S	**Sb**	**23 34 27.7**	**-0.8**
FDMO				AML	AML		
	comp=E,30300µm,0.9s						
FDMO				AML	AML		
	comp=N,28800µm,0.9s						
FDMO				AML	AML		
	comp=N,28800µm,1.1s						
VCEL	**Villa Celiera**	**0.46**	**120**	P	**Pg**	**23 34 20.5**	**-0.2**
VCEL				S	**Sb**	**23 34 28.7**	**-0.2**
VCEL				AML	AML		
VCEL				AML	AML		
CSP1	**Cessapalombo**	**0.47**	**351**	⇓P	**Pg**	**23 34 20.8**	**-0.2**
CSP1				S	**Sb**	**23 34 28.6**	**-0.8**
CSP1				AML	AML		
	comp=E,22050µm,0.8s						
CSP1				AML	AML		
	comp=N,14300µm,0.6s						
CSP1				AML	AML		
	comp=E,22100µm,0.8s						
CSP1				AML	AML		
	comp=E,22100µm,1.2s						
CESI	**CESI - Serrava**	**0.48**	**322**	⇓P	**Pg**	**23 34 21.2**	**0.0**
CESI				AML	AML		
	comp=E,28600µm,1.6s						
CESI				AML	AML		
	comp=N,31000µm,1.3s						
CESI				AML	AML		
	comp=E,28600µm,0.4s						
CESI				AML	AML		
	comp=N,31000µm,0.7s						
TRTR	**Tortoreto Alta**	**0.48**	**68**	P	**Pb**	**23 34 22.2**	**-0.2**
TRTR				AML	AML		
TRTR				AML	AML		
MNTP	**Montappone**	**0.52**	**13**	P	**Pb**	**23 34 22.4**	**-0.8**
MNTP				S	**Sb**	**23 34 31.5**	**+0.7**
MNTP				AML	AML		
	comp=E,79500µm,1.3s						
MNTP				AML	AML		
	comp=N,62800µm,0.7s						
MNTP				AML	AML		
	comp=N,65850µm,1.6s						
MNTP				AML	AML		
	comp=E,79500µm,1.3s						
PF6	**Pievefavera**	**0.53**	**351**	⇓P	**Pg**	**23 34 21.5**	**-0.6**
PF6				S	**Sb**	**23 34 29.8**	**-1.2**
T0110	**Collepietro**	**0.53**	**139**	⇓P	**Pg**	**23 34 21.5**	**-0.6**
T0110				S	**Sb**	**23 34 30.4**	**-0.7**
T0110				AML	AML		
T0110				AML	AML		
	comp=E,95550µm,1.3s						
CESX	**Cesi**	**0.54**	**268**	Pg	**Pg**	**23 34 22.1**	**-0.1**
CESX				Sg	**Sb**	**23 34 31.1**	**-0.2**
CESX	**Cesi**	**0.54**	**268**	⇑P	**Pg**	**23 34 22.2**	**-0.1**
CESX				S	**Sb**	**23 34 31.3**	**0.0**
CESX				AML	AML		
	comp=E,31100µm,1.3s						
CESX				AML	AML		
	comp=N,18150µm,1.6s						
CESX				AML	AML		
	comp=N,18150µm,0.4s						
MDAR	**Monte D'Aria**	**0.58**	**348**	P	**Pg**	**23 34 22.9**	**-0.1**
MDAR				S	**Sb**	**23 34 31.9**	**-0.6**
SEF1	**Sefro**	**0.58**	**333**	P	**Pg**	**23 34 23.0**	**-0.1**
SEF1				S	**Sb**	**23 34 32.4**	**-0.2**
PIO1	**Pioraco**	**0.60**	**337**	P	**Pg**	**23 34 23.3**	**-0.1**
PIO1				S	**Sb**	**23 34 32.7**	**-0.4**
PTQR	**Pietraquaria**	**0.61**	**174**	⇓P	**Pg**	**23 34 22.9**	**-0.7**
PTQR				AML	AML		
	comp=N,11910µm,1.5s						
PTQR				AML	AML		
	comp=E,13450µm,0.4s						
PTQR				AML	AML		
	comp=N,11910µm,0.5s						
SSM1	**San Severino M**	**0.61**	**351**	P	**Pg**	**23 34 23.6**	**-0.1**
SSM1				S	**Sb**	**23 34 33.2**	**-0.1**
GAG1	**Gagliole**	**0.64**	**344**	P	**Pg**	**23 34 24.2**	**+0.1**
GAG1				AML	AML		
	comp=N,45900µm,0.8s						
GAG1				AML	AML		
	comp=E,54750µm,0.6s						
SNTG	**Esanatoglia**	**0.68**	**337**	⇓P	**Pg**	**23 34 24.5**	**-0.6**
SNTG				AML	AML		
	comp=N,9915µm,0.8s						
SNTG				AML	AML		
	comp=E,10425µm,0.8s						
SNTG				AML	AML		
	comp=E,11380µm,0.8s						
SNTG				AML	AML		
	comp=N,9915µm,0.8s						
SNTG				AML	AML		
	comp=N,10755µm,0.8s						
SNTG				AML	AML		
	comp=N,10755µm,1.2s						
SNTG				AML	AML		
	comp=N,9915µm,1.2s						
SRES	**S.Oreste - Sor**	**0.71**	**237**	⇑P	**Pg**	**23 34 25.0**	**-0.5**
SRES				AML	AML		
	comp=N,14650µm,1.6s						
SRES				AML	AML		
	comp=N,14650µm,0.4s						
SRES				AML	AML		
	comp=E,14600µm,1.0s						
EL6	**Elcito**	**0.72**	**348**	P	**Pg**	**23 34 25.4**	**-0.3**
EL6				AML	AML		
	comp=E,24400µm,0.8s						
EL6				AML	AML		
	comp=N,25000µm,0.9s						
EL6				AML	AML		
	comp=E,24400µm,1.2s						
EL6				AML	AML		
	comp=N,25000µm,1.1s						
CERT	**Cerreto**	**0.72**	**200**	P	**Pg**	**23 34 24.4**	**-1.3**
CERT				AML	AML		
	comp=N,17000µm,1.4s						
CERT				AML	AML		
	comp=E,28250µm,0.5s						
CERT				AML	AML		
	comp=N,17000µm,0.6s						
CIMA	**Civitanova Mar**	**0.73**	**21**	P	**Pb**	**23 34 26.8**	**+0.2**
CIMA				AML	AML		
	comp=E,52900µm,0.9s						
CIMA				AML	AML		
	comp=N,50850µm,0.9s						
MTCE	**Montecelio**	**0.74**	**215**	⇑P	**Pg**	**23 34 25.3**	**-0.7**
MTCE				AML	AML		
	comp=N,17700µm,1.3s						
MTCE				AML	AML		
	comp=E,23650µm,0.5s						
MTCE				AML	AML		
	comp=N,17700µm,0.7s						
ATCC	**AVT- Casa Cast**	**0.74**	**319**	⇓P	**Pg**	**23 34 25.8**	**-0.4**
ATCC				AML	AML		
	comp=E,36650µm,0.8s						
ATCC				AML	AML		
	comp=N,21400µm,0.9s						
ATCC				AML	AML		
	comp=E,40950µm,1.1s						
ATCC				AML	AML		
	comp=E,40950µm,0.9s						
ATCC				AML	AML		
	comp=N,21400µm,1.1s						
CING	**Cingoli**	**0.75**	**354**	P	**Pg**	**23 34 25.8**	**-0.5**
CING				AML	AML		
	comp=N,12650µm,0.6s						
CING				AML	AML		
	comp=E,25550µm,0.6s						
CING				AML	AML		
	comp=N,12650µm,1.4s						
INTR	**Introdacqua**	**0.76**	**144**	Pg	**Pg**	**23 34 25.5**	**-0.9**
INTR				Sg	**Sb**	**23 34 36.8**	**-0.8**
INTR	**Introdacqua**	**0.76**	**144**	⇓P	**Pg**	**23 34 25.5**	**-0.9**
INTR				AML	AML		
	comp=N,44050µm,0.8s						
INTR				AML	AML		
	comp=E,18µm,0.9s						
INTR				AML	AML		
	comp=E,18200µm,0.9s						
INTR				AML	AML		
	comp=N,30µm,0.8s						
FOSV	**Fossato di Vic**	**0.78**	**329**	⇓P	**Pg**	**23 34 26.2**	**-0.6**
FOSV				AML	AML		
	comp=N,11200µm,0.8s						
FOSV				AML	AML		
	comp=E,11905µm,1.6s						
FOSV				AML	AML		
	comp=N,11200µm,1.2s						
FOSV				AML	AML		
	comp=E,11905µm,0.4s						
PP3	**Marolino**	**0.78**	**16**	P	**Pb**	**23 34 27.4**	**-0.1**
PP3				AML	AML		
	comp=E,56350µm,0.8s						
PP3				AML	AML		
	comp=N,36250µm,0.5s						
PP3				AML	AML		
	comp=E,57500µm,0.8s						
PP3				AML	AML		
	comp=N,36050µm,0.5s						
RCAV	**Rocca di Cave**	**0.82**	**199**	P	**Pg**	**23 34 26.8**	**-0.9**
RCAV				AML	AML		
	comp=E,20650µm,0.8s						
RCAV				AML	AML		
	comp=N,18000µm,0.4s						
GUAR	**Guarcino**	**0.83**	**180**	P	**Pb**	**23 34 28.0**	**-0.5**
GUAR				AML	AML		
	comp=E,23250µm,1.2s						
GUAR				AML	AML		
	comp=N,18300µm,0.9s						
GUAR				AML	AML		
	comp=E,23250µm,0.8s						
MURB	**Monte Urbino**	**0.86**	**318**		**Pg**	**23 34 27.6**	**-0.7**
MURB	**Monte Urbino**	**0.86**	**318**	⇓P	**Pg**	**23 34 27.8**	**-0.5**
MURB				AML	AML		
	comp=N,34000µm,1.5s						
MURB				AML	AML		
	comp=N,33600µm,1.5s						
MURB				AML	AML		
	comp=E,26950µm,0.4s						
MURB				AML	AML		
	comp=N,34000µm,0.5s						
MURB				AML	AML		
	comp=N,33600µm,0.5s						
MURB				AML	AML		
	comp=E,25700µm,0.4s						
LPEL	**Lama dei Pelig**	**0.87**	**132**	P	**Pg**	**23 34 27.0**	**-1.5**
LPEL				AML	AML		
	comp=E,19950µm,1.2s						
LPEL				AML	AML		
	comp=N,17950µm,0.4s						
LPEL				AML	AML		
	comp=E,19950µm,0.8s						
SSFR	**Montelago di S**	**0.90**	**335**	P	**Pg**	**23 34 28.4**	**-0.7**
SSFR				AML	AML		
	comp=N,9470µm,1.1s						
SSFR				AML	AML		
	comp=N,9260µm,0.8s						
SSFR				AML	AML		
	comp=E,11350µm,1.1s						
SSFR				AML	AML		
	comp=E,10550µm,1.1s						
SSFR				AML	AML		
	comp=N,9260µm,1.2s						
ARVD	**Arcevia**	**0.91**	**343**	P	**Pg**	**23 34 28.8**	**-0.6**
ARVD				AML	AML		
	comp=E,12900µm,0.7s						
ARVD				AML	AML		
	comp=N,8755µm,1.4s						
ARVD				AML	AML		
	comp=N,8755µm,0.6s						
ATFO	**Monte Foce - G**	**0.92**	**324**	⇓P	**Pg**	**23 34 28.7**	**-0.7**
ATFO				AML	AML		
	comp=E,18400µm,0.9s						
ATFO				AML	AML		
	comp=N,12180µm,1.5s						
ATFO				AML	AML		
	comp=N,12180µm,0.5s						
MGAB	**Montegabbione**	**0.93**	**288**	⇓P	**Pg**	**23 34 29.2**	**-0.4**
MGAB				AML	AML		
	comp=E,29850µm,1.1s						
MGAB				AML	AML		
	comp=N,33000µm,0.5s						
MGAB				AML	AML		
	comp=E,30950µm,1.0s						
MGAB				AML	AML		

comp=N,32300µm,0.5s
MGAB AML AML
comp=E,30950µm,1.0s
MGAB AML AML
comp=N,32300µm,1.5s
MGAB AML AML
comp=N,33000µm,1.5s
MGAB AML AML
comp=E,29850µm,0.9s
RMP Rome, Mte Porz 0.93 209 P **Pg 23 34 29.2 -0.6**
RMP AML AML
comp=E,22750µm,0.6s
RMP AML AML
comp=N,30550µm,1.1s
RMP AML AML
comp=E,22750µm,1.4s
RMP AML AML
comp=N,30550µm,0.9s
AOI Ancona 0.95 13 P **Pg 23 34 29.7 -0.3**
AOI AML AML
comp=E,11000µm,0.6s
AOI AML AML
comp=N,11800µm,0.6s
POFI Posta Fibreno 0.96 162 P **Pg 23 34 29.2 -1.1**
POFI AML AML
comp=N,12200µm,0.7s
POFI AML AML
comp=E,16850µm,1.6s
POFI AML AML
comp=N,12900µm,0.7s
POFI AML AML
comp=E,15600µm,1.6s
VIVA Pratoni del Vi 0.96 205 P **Pg 23 34 29.9 -0.5**
VIVA AML AML
comp=E,40900µm,0.5s
VIVA AML AML
comp=N,60250µm,0.5s
RDP Rocca di Papa 0.97 207 P **Pg 23 34 29.5 -1.0**
RDP AML AML
comp=N,38750µm,0.6s
RDP AML AML
comp=E,34850µm,0.5s
MA9 Marino 0.98 210 P **Pb 23 34 30.7 -0.3**
MA9 AML AML
comp=E,34700µm,0.6s
MA9 AML AML
comp=N,28050µm,0.8s
MA9 AML AML
comp=N,28050µm,1.2s
FRON Frontone 0.99 335 P **Pg 23 34 30.0 -0.8**
FRON AML AML
comp=N,16400µm,0.7s
FRON AML AML
comp=E,10015µm,0.8s
LRP Arpino 1.00 168 P **Pg 23 34 30.4 -0.7**
LRP AML AML
comp=N,7940µm,0.8s
LRP AML AML
comp=E,9190µm,0.8s
LRP AML AML
comp=N,7945µm,0.8s
LRP AML AML
comp=E,9190µm,1.2s
ATVO AVT- Monte Val 1.00 319 ⇓P **Pg 23 34 30.3 -0.9**
ATVO AML AML
comp=E,11400µm,1.6s
ATVO AML AML
comp=E,11400µm,0.4s
ATVO AML AML
comp=N,10750µm,1.1s
ATMI Monte Miggiano 1.04 313 ⇑P **Pg 23 34 31.6 -0.3**
ATMI AML AML
comp=E,25250µm,0.8s
ATMI AML AML
comp=N,27350µm,1.1s
ATMI AML AML
comp=E,25250µm,1.2s
ATMI AML AML
comp=N,27350µm,0.9s
LAV9 Lanuvio 1.05 206 P **Pg 23 34 31.7 -0.3**
LAV9 AML AML
comp=E,36450µm,1.5s
LAV9 AML AML
comp=E,38300µm,1.5s
LAV9 AML AML
comp=N,36350µm,1.5s
LAV9 AML AML
comp=E,38300µm,0.5s
LAV9 AML AML
comp=N,36850µm,1.5s
LAV9 AML AML
comp=E,36450µm,0.5s
SACS San Casciano d 1.05 283 ⇑P **Pg 23 34 31.8 -0.3**
SACS AML AML
comp=E,8980µm,1.6s
SACS AML AML
comp=N,8565µm,0.6s
SACS AML AML
comp=E,9280µm,1.6s
SACS AML AML
comp=N,9020µm,0.6s
SACS AML AML
comp=E,9280µm,0.4s
SACS AML AML
comp=E,8980µm,0.4s
ATPI Pietralunga - 1.06 321 ⇓P **Pg 23 34 31.3 -0.8**
ATPI AML AML
comp=N,8830µm,1.6s
ATPI AML AML
comp=N,8830µm,0.4s
ATPI AML AML
comp=E,12000µm,0.6s
GIUL Giuliano Di Ro 1.07 182 P **Pg 23 34 31.7 -0.7**
GIUL AML AML
comp=E,11900µm,1.4s
GIUL AML AML
comp=N,12800µm,0.7s
GIUL AML AML
comp=E,11900µm,0.6s
SENI Senigallia 1.08 357 P **Pb 23 34 32.5 -0.1**
SENI AML AML
comp=E,66000µm,1.6s
SENI AML AML
comp=N,36150µm,1.2s
SENI AML AML
comp=E,16000µm,0.8s
SENI AML AML
comp=N,15150µm,0.9s
SENI AML AML
comp=N,36150µm,0.8s
SENI AML AML
comp=E,66000µm,0.4s
MPAG Monte Paganucc 1.08 338 P **Pg 23 34 32.1 -0.5**
MPAG AML AML
comp=E,11250µm,1.1s
MPAG AML AML
comp=E,11200µm,1.1s
MPAG AML AML
comp=N,10980µm,0.8s
MPAG AML AML
comp=E,11250µm,0.9s
MPAG AML AML
comp=N,10780µm,0.8s
MPAG AML AML
comp=E,11200µm,0.9s
TOLF Tolfa 1.12 240 ⇑P **Pg 23 34 32.5 -0.9**
TOLF AML AML
comp=N,11970µm,0.7s
TOLF AML AML
comp=E,9405µm,0.7s
FSSB Fossombrone 1.13 340 P **Pg 23 34 32.7 -0.9**
FSSB AML AML
comp=N,18200µm,0.4s
FSSB AML AML
comp=N,18200µm,1.6s
FSSB AML AML
comp=E,18250µm,0.9s
APEC Apecchio 1.14 325 P **Pg 23 34 32.8 -0.8**
APEC AML AML
comp=E,11535µm,1.6s
APEC AML AML
comp=E,12500µm,0.8s
APEC AML AML
comp=N,11560µm,0.9s
APEC AML AML
comp=N,15650µm,0.9s
APEC AML AML
comp=E,11535µm,0.4s
APEC AML AML
comp=E,12500µm,1.2s
LIK San Giovanni I 1.14 171 P **Pg 23 34 33.2 -0.4**
LIK AML AML
comp=E,20700µm,1.1s
LIK AML AML
comp=N,21800µm,1.0s
LIK AML AML
comp=E,20700µm,0.9s
LIK AML AML
comp=N,21800µm,1.0s
CERA Filignano 1.16 153 P **Pg 23 34 32.3 -1.7**
CERA AML AML
comp=N,16450µm,1.1s
CERA AML AML
comp=E,17800µm,0.8s
CERA AML AML
comp=N,16950µm,1.1s
CERA AML AML
comp=E,17500µm,0.8s
LATB Latina 1.16 193 P **Pg 23 34 32.1 -2.0**
LATB AML AML
comp=E,4270µm,1.4s
LATB AML AML
comp=N,3510µm,0.7s
LATB AML AML
comp=E,4270µm,0.6s
BADI Badiali 1.18 319 P **Pg 23 34 33.9 -0.5**
BADI AML AML
comp=N,12930µm,1.1s
BADI AML AML
comp=E,9530µm,0.9s
BADI AML AML
comp=N,12930µm,0.9s
MIDA Miranda 1.21 144 P **Pg 23 34 32.7 -2.3**
MIDA AML AML
comp=N,9895µm,0.9s
MIDA AML AML
comp=E,8225µm,1.0s
MIDA AML AML
comp=N,9705µm,0.9s
MIDA AML AML
comp=E,7910µm,1.0s
MIDA AML AML
comp=N,9705µm,1.1s
MIDA AML AML
comp=N,9895µm,1.1s
CAFI Castiglion Fio 1.21 306 P **Pb 23 34 34.5 -0.4**
CAFI AML AML
comp=E,8270µm,0.8s
CAFI AML AML
comp=E,8250µm,0.8s
CAFI AML AML
comp=N,8145µm,0.9s
CAFI AML AML
comp=N,8070µm,0.9s
MCIV Monte Civitell 1.21 278 P **Pb 23 34 34.2 -0.7**
MCIV AML AML
comp=E,4775µm,0.9s
MCIV AML AML
comp=N,4115µm,1.2s
SF04 Casetta 1.23 280 P **Pn 23 34 34.8 -0.4**
SF04 AML AML
comp=E,4810µm,1.6s
SF04 AML AML
comp=E,4810µm,0.4s
SF04 AML AML
comp=N,4510µm,0.9s
TRIV Trivento 1.26 133 P **Pn 23 34 34.5 -1.1**
TRIV AML AML
comp=E,9580µm,0.8s
TRIV AML AML
comp=N,11600µm,0.9s
TRIV AML AML
comp=N,11250µm,0.9s
TRIV AML AML
comp=E,9565µm,0.8s
SSP9 Sansepolcro 1.28 318 P **Pn 23 34 35.8 0.0**
SSP9 AML AML
comp=E,8585µm,1.4s
SSP9 AML AML
comp=E,8585µm,0.6s
SSP9 AML AML
comp=N,7460µm,1.1s
PARC Parchiule 1.29 323 P **Pn 23 34 35.5 -0.5**
PARC AML AML
comp=E,8485µm,0.7s
PARC AML AML
comp=N,6630µm,0.8s
PARC AML AML
comp=N,6630µm,1.2s
SF01 Poggio Pratacc 1.30 279 P **Pn 23 34 36.0 -0.1**
SF01 AML AML
comp=E,11450µm,0.8s
SF01 AML AML
comp=N,12200µm,0.9s
SF01 AML AML
comp=N,12200µm,1.1s
PESA Pesaro 1.36 346 P **Pg 23 34 37.4 -0.5**
PESA AML AML
comp=N,13400µm,0.8s
PESA AML AML
comp=E,11445µm,1.1s
ARCI Arcidosso 1.37 280 P **Pn 23 34 37.2 +0.1**
ARCI AML AML
comp=N,1985µm,1.0s
ARCI AML AML
comp=N,1985µm,1.0s
ARCI AML AML
comp=E,2120µm,0.8s
CPGN Carpegna, Ital 1.38 329 P **Pb 23 34 37.6 -0.2**
CPGN AML AML
comp=E,8615µm,1.0s
CPGN AML AML
comp=N,9425µm,0.9s
CPGN AML AML
comp=E,8615µm,1.0s
CPGN AML AML
comp=E,10695µm,0.7s
CPGN AML AML
comp=N,9490µm,0.7s
VAGA Valle Agricola 1.39 150 P **Pn 23 34 36.9 -0.5**
VAGA AML AML
comp=E,4000µm,1.3s
VAGA AML AML
comp=N,6310µm,0.7s
VAGA AML AML
comp=E,4080µm,1.3s
VAGA AML AML
comp=N,6435µm,0.7s
VAGA AML AML
comp=E,4080µm,0.7s
VAGA AML AML
comp=E,4000µm,0.7s
VAGA AML AML
comp=N,6435µm,1.3s
VAGA AML AML
comp=N,6310µm,1.3s
CRE Caprese Michel 1.41 315 P **Pn 23 34 37.3 -0.4**
CRE AML AML
comp=E,3960µm,1.6s
CRE AML AML
comp=N,4250µm,0.9s
CRE AML AML
comp=E,3960µm,0.4s
CRE AML AML
comp=N,4250µm,1.1s
SGG Gregorio Mates 1.47 147 P **Pn 23 34 38.6 +0.1**
SGG AML AML
comp=N,16nm,1.0s
SGG AML AML
comp=E,6600µm,0.6s
SGG AML AML
comp=N,5385µm,1.0s
SGG AML AML
comp=E,20nm,0.7s
MODR Mondragone 1.54 164 P **Pb 23 34 40.2 -0.3**
MODR AML AML
comp=E,2905µm,1.6s
MODR AML AML
comp=E,2905µm,0.4s
MODR AML AML
comp=N,3390µm,0.8s
PIGN Pignataro Magg 1.57 155 P **Pb 23 34 40.3 -0.6**
PIGN AML AML
comp=N,2725µm,0.8s
PIGN AML AML
comp=E,3165µm,1.0s
PIGN AML AML
comp=N,2710µm,1.6s
PIGN AML AML
comp=E,3085µm,1.1s
PIGN AML AML
comp=N,2725µm,1.2s
PIGN AML AML
comp=N,2710µm,0.4s
SACR S. Croce Del S 1.61 139 P **Pb 23 34 41.3 -0.4**
SACR AML AML
comp=E,2645µm,1.5s
SACR AML AML
comp=N,4160µm,1.6s
SACR AML AML
comp=E,2705µm,1.5s
SACR AML AML
comp=N,4150µm,1.6s
SACR AML AML
comp=E,2705µm,0.5s
SACR AML AML
comp=N,4160µm,0.4s
SACR AML AML
comp=E,2645µm,0.5s
SACR AML AML
comp=N,4150µm,0.4s
MAON Monte Argentar 1.62 264 ⇑P **Pn 23 34 40.7 +0.2**
MAON AML AML
comp=E,1745µm,1.2s
MAON AML AML
comp=N,1960µm,1.1s
GATE Gambatesa 1.63 132 P **Pb 23 34 41.5 -0.5**
GATE AML AML
comp=N,2680µm,1.3s
GATE AML AML
comp=N,2625µm,1.4s
GATE AML AML
comp=E,3175µm,0.9s
GATE AML AML
comp=N,2680µm,0.7s
GATE AML AML
comp=E,3185µm,0.9s
GATE AML AML
comp=N,2625µm,0.6s
MELA Melanico ??? S 1.64 124 P **Pb 23 34 41.4 -0.7**
MELA AML AML
comp=E,10040µm,0.9s
MELA AML AML
comp=N,10090µm,0.8s
MELA AML AML
comp=E,10405µm,0.9s
MELA AML AML
comp=N,9720µm,0.8s
FROS Frosini 1.69 291 ⇓P **Pn 23 34 41.8 +0.4**
FROS AML AML
comp=E,2900µm,1.1s
FROS AML AML
comp=E,2900µm,0.9s
FROS AML AML
comp=N,2945µm,0.9s
RIBO Ribolla Roccas 1.70 282 ⇓P **Pn 23 34 41.9 +0.4**
CSNT Castellina Chi 1.70 300 ⇑P **Pn 23 34 42.3 +0.7**
CSNT AML AML
comp=E,1645µm,1.3s
CSNT AML AML
comp=N,1765µm,0.8s
CSNT AML AML
comp=E,1645µm,0.7s
A309A Martorano (FC) 1.73 334 P **Pn 23 34 42.6 +0.6**
OSSC Osservatorio P 1.76 301 Pn 23 34 43.0 +0.6
OSSC Osservatorio P 1.76 301 ⇑P **Pn 23 34 43.2 +0.8**
OSSC AML AML
comp=E,1990µm,1.1s
OSSC AML AML
comp=N,1905µm,1.2s
OSSC AML AML
comp=N,1905µm,0.8s
OSSC AML AML
comp=E,1990µm,0.9s
OSSC AML AML
comp=E,1775µm,1.6s
OSSC AML AML
comp=N,1750µm,1.6s
RUFI Rufina 1.79 313 P **Pn 23 34 43.5 +0.7**
RUFI AML AML
comp=E,3340µm,0.9s
RUFI AML AML
comp=N,3165µm,1.4s
RUFI AML AML
comp=E,3340µm,1.1s
RUFI AML AML
comp=N,3165µm,0.6s
CASP Castiglione de 1.81 276 Pn **Pn 23 34 43.0 0.0**
CASP Castiglione de 1.81 276 P **Pn 23 34 43.4 +0.3**
CASP AML AML
comp=E,680µm,1.1s
CASP AML AML
comp=N,665µm,1.0s
CASP AML AML
comp=E,680µm,0.9s
PAOL Paolisi 1.85 149 Pb 23 34 44.7 -1.1
LMD Lutirano 1.86 322 P **Pn 23 34 44.4 +0.6**
LMD AML AML
comp=E,3850µm,0.9s
LMD AML AML
comp=E,3850µm,1.1s
LMD AML AML
comp=N,2915µm,1.2s
APRC Apricena 1.87 117 P **Pn 23 34 44.5 +0.4**
APRC AML AML
comp=N,4315µm,0.6s
APRC AML AML
comp=E,3635µm,0.8s
APRC AML AML
comp=N,4315µm,1.4s
BRSN Barisano 1.88 332 P **Pg 23 34 47.2 -0.7**
SGRT San Giovanni R 2.01 115 Pn 23 34 46.6 +0.7
SGRT San Giovanni R 2.01 115 ⇓P **Pn 23 34 46.6 +0.7**
SGRT AML AML
comp=E,5705µm,0.6s
SGRT AML AML
comp=N,3595µm,0.5s
SGRT AML AML
comp=N,3595µm,1.5s
SGRT AML AML
comp=E,5705µm,1.4s
SEI Scarperia 2.02 316 P **Pn 23 34 46.6 +0.6**
SEI AML AML
comp=E,2945µm,0.6s
SEI AML AML
comp=N,4835µm,0.7s
SEI AML AML
comp=N,4835µm,1.3s
MAGO Bibbona 2.05 289 P **Pn 23 34 47.3 +0.9**
MAGO AML AML
comp=E,669µm,0.9s
MAGO AML AML
comp=E,669µm,1.1s
MAGO AML AML
comp=N,616µm,1.1s
CRMI Carmignano 2.07 305 P **Pn 23 34 47.6 +0.9**
CRMI AML AML
comp=E,675µm,1.0s
CRMI AML AML
comp=N,433µm,0.8s
A318A Donoratico (LI 2.07 285 P **Pn 23 34 47.3 +0.6**
IMOL Imola, Italy 2.07 327 P **Pn 23 34 47.2 +0.5**
MOCL Monte Cuccoli 2.08 312 P **Pn 23 34 47.3 +0.5**
MOCL AML AML
comp=N,2310µm,0.7s
MOCL AML AML
comp=E,2475µm,1.2s
MTMR Montemarano 2.13 143 P **Pb 23 34 49.4 -1.1**
MTMR AML AML
comp=N,1470µm,1.3s
MTMR AML AML
comp=N,2915µm,1.3s
MTMR AML AML
comp=E,1265µm,1.0s
MTMR AML AML
comp=E,2510µm,1.0s
MTMR AML AML
comp=N,1470µm,0.7s
MTMR AML AML
comp=N,2915µm,0.7s
SGTA Sant Agata di 2.14 133 P **Pb 23 34 49.7 -1.0**

SGTA AML AML
comp=E,4490µm,0.8s
SGTA AML AML
comp=N,1720µm,0.6s
SGTA AML AML
comp=E,4570µm,0.8s
SGTA AML AML
comp=N,1735µm,0.6s
SGTA AML AML
comp=N,1720µm,1.4s
SGTA AML AML
comp=E,4490µm,1.2s
SGTA AML AML
comp=E,4570µm,1.2s
CAFE Carife 2.15 137 P **Pb 23 34 49.7 -1.2**
CAFE AML AML
comp=N,1815µm,1.3s
CAFE AML AML
comp=E,2295µm,0.8s
CAFE AML AML
comp=N,1795µm,1.3s
CAFE AML AML
comp=E,2275µm,1.0s
A308A Longastrino (F 2.17 335 P **Pb 23 34 50.6 -0.7**
A319A Santa Luce (PI 2.17 294 P **Pn 23 34 49.4 +1.3**
MTRZ Monterenzio 2.20 323 P **Pb 23 34 51.2 -0.6**
SNAL S. Angelo Dei 2.22 139 P **Pb 23 34 51.0 -1.1**
SNAL AML AML
comp=N,3115µm,1.3s
SNAL AML AML
comp=N,3325µm,1.3s
SNAL AML AML
comp=E,2425µm,0.9s
SNAL AML AML
comp=E,2545µm,1.0s
SNAL AML AML
comp=N,3325µm,0.7s
SNAL AML AML
comp=N,3115µm,0.7s
CELB S.Piero in Cam 2.29 274 ⇑P **Pn 23 34 50.0 +0.3**
CELB AML AML
comp=N,554µm,1.6s
CELB AML AML
comp=N,554µm,0.4s
CELB AML AML
comp=E,438µm,1.1s
BRJN Brijuni 2.30 8 P **Pn 23 34 49.9 +0.1**
MCRV Calabrutti - M 2.31 142 P **Pn 23 34 51.1 +1.1**
MCRV AML AML
comp=E,976µm,0.9s
MCRV AML AML
comp=N,1126µm,0.9s
PII Pisa 2.31 299 P **Pn 23 34 51.1 +1.1**
PII AML AML
comp=E,964µm,1.0s
PII AML AML
comp=N,838µm,0.7s
PII AML AML
comp=E,964µm,1.0s
POPM Popiglio 2.34 308 P **Pn 23 34 50.9 +0.5**
POPM AML AML
comp=E,898µm,1.0s
POPM AML AML
comp=N,1184µm,1.4s
POPM AML AML
comp=N,1184µm,0.6s
HVAR Hvar 2.37 76 P **Pn 23 34 51.1 +0.3**
VULT Monte Vulture 2.40 133 P **Pb 23 34 53.0 -2.2**
VULT AML AML
comp=N,3080µm,0.9s
VULT AML AML
comp=N,3305µm,0.9s
VULT AML AML
comp=E,1805µm,1.0s
VULT AML AML
comp=N,3305µm,1.1s
VULT AML AML
comp=N,3080µm,1.1s
VULT AML AML
comp=E,1765µm,1.0s
A305A Porto Tolle (R 2.42 345 P **Pb 23 34 53.5 -1.9**
ZCCA Zocca 2.42 316 Pn 23 34 53.3 +1.8
ZCCA Zocca 2.42 316 P **Pb 23 34 54.6 -0.9**
ZCCA AML AML
comp=E,1800µm,1.4s
ZCCA AML AML
comp=E,1815µm,1.4s
ZCCA AML AML
comp=N,2330µm,1.5s
ZCCA AML AML
comp=E,1800µm,0.6s
ZCCA AML AML
comp=N,2520µm,1.5s
ZCCA AML AML
comp=N,2330µm,0.5s
ZCCA AML AML
comp=E,1815µm,0.6s
MAIM Mastiano 2.43 303 P **Pn 23 34 52.2 +0.6**
MAIM AML AML
comp=E,918µm,0.9s
MAIM AML AML
comp=E,918µm,1.1s
MAIM AML AML
comp=N,902µm,0.7s
BDI Bagni Di Lucca 2.44 307 P **Pn 23 34 52.2 +0.3**
BDI AML AML
comp=N,1335µm,1.2s
BDI AML AML
comp=E,469µm,0.7s
BDI AML AML
comp=N,516µm,1.1s
BDI AML AML
comp=N,1335µm,0.8s
BDI AML AML
comp=E,1185µm,1.2s
BDI AML AML
comp=E,469µm,1.3s
CARD Cardoso 2.49 305 P **Pn 23 34 53.1 +0.6**
CARD AML AML
comp=E,1039µm,0.9s
CARD AML AML
comp=N,956µm,1.1s
CARD AML AML
comp=N,956µm,0.9s
CARD AML AML
comp=E,1039µm,1.1s
A304A Bellombra (RO) 2.56 339 P **Pn 23 34 55.1 +1.7**
A317A Capraia (LI) 2.58 281 P **Pn 23 34 54.6 +0.9**
PALZ Palazzo San Ge 2.60 129 P **Pn 23 34 55.0 +1.0**
PALZ AML AML
comp=E,3835µm,0.8s
PALZ AML AML
comp=N,3750µm,1.1s
PALZ AML AML
comp=E,3835µm,1.2s
VLC Villacollemand 2.62 307 P **Pn 23 34 54.6 +0.3**
VLC AML AML
comp=E,866µm,1.6s
VLC AML AML
comp=N,1010µm,1.4s
VLC AML AML
comp=E,864µm,1.5s
VLC AML AML
comp=N,1001µm,1.4s
VLC AML AML
comp=E,864µm,0.5s
VLC AML AML
comp=N,1010µm,0.6s
VLC AML AML
comp=E,866µm,0.4s
VLC AML AML
comp=N,1001µm,0.6s
GSCL Gusciola 2.62 312 P **Pn 23 34 55.3 +1.0**
GSCL AML AML
comp=E,1400µm,1.2s
GSCL AML AML
comp=N,1430µm,1.5s
GSCL AML AML
comp=N,1430µm,0.5s
GSCL AML AML
comp=E,1400µm,0.8s
SARO Sassorosso 2.63 307 P **Pn 23 34 54.4 -0.1**
SARO AML AML
comp=E,1460µm,0.8s
SARO AML AML
comp=N,1765µm,0.6s
SARO AML AML
comp=N,1765µm,1.4s
SARO AML AML
comp=E,1460µm,1.2s
MRVN Minervino Murg 2.66 125 P **Pn 23 34 55.6 +0.7**
MRVN AML AML
comp=N,796µm,1.6s
MRVN AML AML
comp=E,753µm,0.8s
MRVN AML AML
comp=N,796µm,0.4s
ACER Acerenza 2.70 132 P **Pn 23 34 56.2 +0.9**
SLCN Sala Consilina 2.83 141 P **Pn 23 34 59.2 +1.9**
SLCN AML AML
comp=N,948µm,0.9s
SLCN AML AML
comp=E,1042µm,0.6s
SLCN AML AML
comp=N,974µm,1.1s
SLCN AML AML
comp=E,1020µm,0.7s
SLCN AML AML
comp=N,948µm,1.1s
SLCN AML AML
comp=E,1042µm,1.4s
SLCN AML AML
comp=N,974µm,0.9s
PLMA Palmaria, Port 2.90 301 P **Pn 23 34 59.0 +1.0**
PLMA AML AML
comp=N,381µm,1.4s
PLMA AML AML
comp=E,314µm,0.9s
MORSI Morsiglia 2.92 278 Pn **Pn 23 34 59.4 +1.1**
MORSI Sn **Sn 23 35 35.6 +2.1**
PTRP Pietrapertosa 2.95 135 P **Pn 23 35 01.0 +2.2**
PTRP AML AML
comp=N,1143µm,0.9s
PTRP AML AML
comp=E,1390µm,0.9s
PTRP AML AML
comp=N,1143µm,1.1s
SKDS Skadanscina 2.96 10 *e*Pn **Pn 23 34 58.8 -0.2**
SKDS Skadanscina 2.96 10 *e*Pn **Pn 23 34 58.6 -0.4**
SKDS Skadanscina 2.96 10 *i* Pn **Pn 23 34 58.6 -0.4**
SKDS *e*Sn **Sn 23 35 32.5 -2.2**
SKDS IAML 23 36 02.4
comp=Z,466nm,0.8s
TEOL Teolo 2.98 337 Pn **Pn 23 34 59.7 +0.5**
A050A Klekovaca 2.99 51 ⇓*i*Pn **Pn 23 35 01.0 +1.6**
MTSN Montesano sull 2.99 141 P **Pn 23 35 01.9 +2.5**
AMUR Altamura 3.00 124 P **Pn 23 35 00.5 +1.0**
AMUR AML AML
comp=N,1028µm,0.6s
AMUR AML AML
comp=E,1370µm,0.5s
GRAM Graiana 3.00 309 P **Pn 23 35 00.8 +1.2**
GRAM AML AML
comp=E,1245µm,1.2s
GRAM AML AML
comp=N,1275µm,1.3s
SMPL Sampolo 3.03 261 P **Pn 23 35 00.5 +0.6**
SMPL AML AML
comp=E,105µm,1.5s
SMPL AML AML
comp=N,89µm,1.3s
SMPL AML AML
comp=E,105µm,0.5s
SMPL AML AML
comp=N,89µm,0.7s
SMPL Sampolo 3.03 261 Pn **Pn 23 35 00.5 +0.6**
SMPL Sn **Sn 23 35 39.6 +3.4**
A301A Isiata (VE) 3.03 351 P **Pn 23 35 00.7 +0.8**
PRMA PARMA 3.05 316 Pn 23 35 00.8 +0.7
MIGL Miglionico 3.10 130 P **Pn 23 35 02.6 +1.8**
MIGL AML AML
comp=E,3665µm,1.3s
MIGL AML AML
comp=E,3665µm,0.7s
MIGL AML AML
comp=N,3525µm,1.3s
PGF Pioggiola 3.18 270 *e*P **Pn 23 35 02.8 +0.7**
PGF *e*Sn **Sn 23 35 36.0 -4.2**
comp=N,77nm,0.7s
PGF Pioggiola 3.18 270 AML AML
comp=N,132µm,1.6s
PGF AML AML
comp=E,170µm,0.6s
PGF AML AML
comp=N,132µm,0.4s
PGF AML AML
comp=E,170µm,1.4s
PGF Pioggiola 3.18 270 Pn **Pn 23 35 03.4 +1.3**
PGF Pioggiola 3.18 270 P **Pn 23 35 03.8 +1.7**
A300A Muzzana del Tu 3.19 358 P **Pn 23 35 03.5 +1.4**
BOJS Bojanci 3.20 25 *e*Pn **Pn 23 35 02.5 +0.3**
BOJS Bojanci 3.20 25 AML AML
comp=E,2535µm,0.9s
BOJS AML AML
comp=N,2245µm,0.8s
BOJS AML AML
comp=E,2535µm,1.1s
CEY Cerknica 3.21 14 ⇓*i*Pn **Pn 23 35 02.5 +0.1**
MATE Matera 3.22 127 ⇑P **Pn 23 35 03.8 +1.3**
MSSA Maissana 3.24 303 Pn **Pn 23 35 03.6 +0.8**
MSSA Maissana 3.24 303 P **Pn 23 35 03.6 +0.8**
MSSA AML AML
comp=E,536µm,1.1s
MSSA AML AML
comp=N,436µm,0.9s
MSSA AML AML
comp=E,536µm,0.9s
MSSA AML AML
comp=N,436µm,1.1s
CUC Castrocucco 3.24 144 Pn 23 35 04.3 +1.5
CRAC Craco 3.26 133 P **Pn 23 35 05.0 +2.0**
CRAC AML AML
comp=E,1200µm,1.3s
CRAC AML AML
comp=N,1810µm,1.3s
CRAC AML AML
comp=N,1810µm,0.7s
MGRS Mrkonjic Grad 3.28 56 ⇓*i*Pn **Pn 23 35 05.3 +2.0**
LTRZ Laterza 3.32 126 P **Pn 23 35 04.9 +1.1**
LTRZ AML AML
comp=E,543µm,1.0s
LTRZ AML AML
comp=N,2238µm,1.4s
NOCI Noci 3.36 122 P **Pn 23 35 05.7 +1.3**
NOCI AML AML
comp=E,764µm,0.5s
NOCI AML AML
comp=E,764µm,1.5s
NOCI AML AML
comp=N,794µm,1.2s
SABO M.te Sabotino 3.36 3 Pn 23 35 04.3 -0.2
SABO M.te Sabotino 3.36 3 P **Pn 23 35 04.7 +0.3**
SABO AML AML
comp=E,6685µm,1.6s
SABO AML AML
comp=E,1705µm,1.6s
SABO AML AML
comp=N,8875µm,0.8s
SABO AML AML
comp=E,6685µm,0.4s
SABO AML AML
comp=E,1705µm,0.4s
SABO AML AML
comp=N,2040µm,0.8s
PRIJ Prijedor 3.41 45 *e*Pn **Pn 23 35 06.5 +1.5**
ROVR Rover Verones 3.42 333 P **Pn 23 35 06.2 +0.8**
ROVR AML AML
comp=N,1200µm,0.8s
ROVR AML AML
comp=N,452µm,0.8s
ROVR AML AML
comp=N,452µm,1.2s
ROVR AML AML
comp=N,1200µm,1.2s
ROVR AML AML
comp=E,292µm,0.9s
ROVR AML AML
comp=E,767µm,0.9s
CGRP Cima Grappa 3.43 342 P **Pn 23 35 05.9 +0.4**
CGRP AML AML
comp=E,1485µm,0.9s
CGRP AML AML
comp=N,1715µm,0.8s
CGRP AML AML
comp=E,1490µm,0.9s
CGRP AML AML
comp=E,1490µm,1.1s
CGRP AML AML
comp=N,1715µm,0.8s
CGRP AML AML
comp=E,1485µm,1.1s
AGLI Aglientu 3.43 246 P **Pn 23 35 06.0 +0.6**
AGLI AML AML
comp=E,149µm,0.9s
AGLI AML AML
comp=N,192µm,0.6s
AJAC Base Areonaval 3.44 260 P **Pn 23 35 07.0 +1.5**
AJAC AML AML
comp=E,444µm,0.7s
AJAC AML AML
comp=N,248µm,0.7s
AJAC Base Areonaval 3.44 260 Pg **Pn 23 35 07.0 +1.5**
AJAC Sn **Sn 23 35 49.4 +2.9**
POLC Polcenigo 3.45 351 ⇓P **Pn 23 35 06.2 +0.6**
POLC AML AML
comp=E,1875µm,0.8s
POLC AML AML
comp=E,1875µm,1.2s
POLC AML AML
comp=N,2180µm,0.6s
BLY Banja Luka 3.52 52 ⇓*i*Pn **Pn 23 35 08.0 +1.4**
BLY Banja Luka 3.52 52 P **Pn 23 35 08.0 +1.4**
BLY AML AML
comp=N,1225µm,1.0s
BLY AML AML
comp=E,1295µm,0.7s
BLY AML AML
comp=E,1305µm,0.7s
BLY AML AML
comp=N,1225µm,1.0s
BLY AML AML
comp=N,1195µm,1.0s
GORR Gorreto 3.52 306 Pn **Pn 23 35 09.0 +2.3**
LJU Ljubljana 3.53 14 *e*Pn **Pn 23 35 07.6 +0.9**
LJU Ljubljana 3.53 14 AML AML
comp=E,4505µm,0.6s
LJU AML AML
comp=N,5995µm,0.6s
CRES Cresnjev 3.55 25 ⇓*i*Pn **Pn 23 35 07.6 +0.5**
NEVS Nevesinje 3.58 78 *e*Pn **Pn 23 35 09.6 +2.1**
DOSS Dosso del Somm 3.59 336 P **Pn 23 35 08.4 +0.7**
DOSS AML AML
comp=N,778µm,0.9s
DOSS AML AML
comp=E,786µm,1.0s
DOSS AML AML
comp=E,894µm,0.6s
DOSS AML AML
comp=N,778µm,1.1s
DOSS AML AML
comp=E,786µm,1.0s
DOSS AML AML
comp=N,944µm,0.6s
SALO Salr 3.60 327 Pn **Pn 23 35 08.4 +0.6**
SALO Salr 3.60 327 P **Pn 23 35 09.2 +1.4**
SALO AML AML
comp=E,1094µm,0.6s
SALO AML AML
comp=E,1080µm,0.6s
SALO AML AML
comp=N,1080µm,0.8s
SALO AML AML
comp=N,1080µm,1.2s
SALO AML AML
comp=E,1080µm,1.4s
SALO AML AML
comp=E,1094µm,1.4s
SALO AML AML
comp=N,1140µm,0.8s
CTI Castel Tesino 3.62 341 Pn **Pn 23 35 08.2 +0.1**
CTI Castel Tesino 3.62 341 P **Pn 23 35 08.9 +0.8**
CTI AML AML
comp=E,688µm,1.1s
CTI AML AML
comp=N,634µm,0.9s
CTI AML AML
comp=N,634µm,1.1s
CTI AML AML
comp=E,688µm,0.9s
CTI Castel Tesino 3.62 341 P **Pn 23 35 08.2 +0.1**
MPRI Monte Prat 3.62 356 ⇓P **Pn 23 35 08.6 +0.5**
MPRI AML AML
comp=E,963µm,1.1s
MPRI AML AML
comp=E,1240µm,1.1s
MPRI AML AML
comp=N,1135µm,0.8s
MPRI AML AML
comp=E,963µm,0.9s
MPRI AML AML
comp=E,1240µm,0.9s
MPRI AML AML
comp=N,1455µm,0.8s
VINO Villanova 3.63 360 P **Pn 23 35 08.1 0.0**
VINO AML AML
comp=N,1018µm,0.6s
VINO AML AML
comp=E,860µm,0.9s
TAR1 Taranto 3.65 124 P **Pn 23 35 09.5 +1.2**
TAR1 AML AML
comp=E,856µm,0.9s
TAR1 AML AML
comp=N,933µm,0.7s
TAR1 AML AML
comp=E,856µm,1.1s
GEPF Gemona 3.65 358 P **Pn 23 35 08.4 0.0**
GEPF AML AML
comp=E,618µm,0.8s
GEPF AML AML
comp=N,714µm,0.8s
GEPF AML AML
comp=E,618µm,1.2s
STAL STALIGIAL 3.66 353 Pn 23 35 08.4 -0.2
STAL STALIGIAL 3.66 353 ⇓P **Pn 23 35 08.7 +0.2**
STAL AML AML
comp=N,819µm,0.9s
STAL AML AML
comp=E,1380µm,0.9s
STAL AML AML
comp=N,685µm,0.6s
STAL AML AML
comp=N,819µm,1.1s
STAL AML AML
comp=E,1021µm,0.8s
STAL AML AML
comp=E,1380µm,1.1s
STAL AML AML
comp=N,685µm,1.4s
RNCA Ronca, Sant'Ol 3.67 302 Pn **Pn 23 35 09.9 +1.3**
MAGA Magasa 3.69 329 ⇓P **Pn 23 35 10.1 +1.0**
MAGA AML AML
comp=N,1105µm,1.2s
MAGA AML AML
comp=N,1105µm,0.8s
MAGA AML AML
comp=E,2260µm,0.6s
TREB Trebinje 3.72 87 *e*Pn **Pn 23 35 10.3 +0.9**
TREB Trebinje 3.72 87 *e*Pn **Pn 23 35 10.2 +0.9**
CIMO Cimolais 3.73 351 P **Pn 23 35 09.7 +0.1**
CIMO AML AML
comp=E,278µm,0.8s
CIMO AML AML
comp=E,264µm,0.9s
CIMO AML AML
comp=N,244µm,0.6s
CIMO AML AML
comp=N,262µm,0.7s
LUSI Trento, Gardas 3.74 334 P **Pn 23 35 10.4 +0.7**
LUSI AML AML
comp=E,690µm,1.0s
LUSI AML AML
comp=N,889µm,0.9s
LUSI AML AML
comp=N,889µm,1.1s
LUSI AML AML
comp=E,690µm,1.0s
AGOR Agordo 3.77 347 P **Pn 23 35 10.2 +0.2**
AGOR AML AML
comp=E,418µm,0.8s
AGOR AML AML

comp=N,413µm,0.8s
PTCC Patocco-Chiusa 3.78 0 P **Pn** **23 35 10.0 -0.2**
PTCC AML AML
comp=N,427µm,1.0s
PTCC AML AML
comp=E,453µm,0.8s
PTCC AML AML
comp=N,427µm,1.0s
PRED Cave del Predi 3.82 3 **Pn** **23 35 10.9 +0.1**
CLUD Cludinico 3.84 356 **Pn** **23 35 10.8 -0.2**
CLUD Cludinico 3.84 356 P **Pn** **23 35 11.1 0.0**
CLUD AML AML
comp=N,917µm,0.9s
CLUD AML AML
comp=N,885µm,0.9s
CLUD AML AML
comp=E,964µm,0.8s
CLUD AML AML
comp=E,981µm,0.8s
GAGG Gaggia 3.84 335 P **Pn** **23 35 12.3 +1.1**
GAGG AML AML
comp=N,862µm,1.1s
GAGG AML AML
comp=E,922µm,1.0s
GAGG AML AML
comp=N,862µm,0.9s
GAGG AML AML
comp=E,922µm,1.0s
GAGG AML AML
comp=N,882µm,0.9s
GAGG AML AML
comp=E,878µm,0.9s
BRY Bratogost 3.86 84 ⇑*i* Pn **Pn** **23 35 12.6 +1.2**
BRY Bratogost 3.86 84 ⇓*i* Pn **Pn** **23 35 12.4 +1.0**
BRY *e* Sn **Sn** **23 35 58.4 +1.5**
ZONE Zone 3.89 325 P **Pn** **23 35 12.5 +0.8**
ZONE AML AML
comp=N,525µm,1.1s
ZONE AML AML
comp=E,566µm,0.9s
ZONE AML AML
comp=N,525µm,0.9s
ACOM Acomizza, Ital 3.92 2 P **Pn** **23 35 12.6 +0.3**
ACOM AML AML
comp=N,946µm,0.8s
ACOM AML AML
comp=E,1545µm,1.1s
ACOM AML AML
comp=N,854µm,0.8s
ACOM AML AML
comp=E,1450µm,1.0s
ZOU Zoufplan 3.94 357 P **Pn** **23 35 12.7 +0.2**
ZOU AML AML
comp=N,592µm,1.4s
ZOU AML AML
comp=E,509µm,0.9s
ZOU AML AML
comp=N,564µm,1.3s
ZOU AML AML
comp=E,519µm,0.9s
ZOU AML AML
comp=N,592µm,0.6s
ZOU AML AML
comp=N,564µm,0.7s
PCP Piancastagn 3.96 301 Pn **Pn** **23 35 13.4 +0.8**
OBKA Obir 3.98 12 *i* Pn **Pn** **23 35 13.6 +0.5**
comp=N,9.9nm,0.4s
OBKA Obir 3.98 12 *e*Pn **Pn** **23 35 12.8 -0.2**
FVI Forni Avoltri 3.99 355 ⇓P **Pn** **23 35 13.4 +0.3**
FVI AML AML
comp=E,540µm,0.8s
FVI AML AML
comp=N,476µm,0.8s
FVI AML AML
comp=E,540µm,1.2s
QLNO Quiliano 3.99 297 P **Pn** **23 35 14.2 +1.1**
QLNO AML AML
comp=E,141µm,1.5s
QLNO AML AML
comp=E,141µm,0.5s
QLNO AML AML
comp=N,186µm,1.6s
MYKA Terra Mystica 4.01 3 *e*Pn **Pn** **23 35 14.0 +0.6**
comp=N,37nm,0.5s,SNR=29
MYKA *e*Sn **Sn** **23 36 01.7 +1.2**
comp=N,65nm,0.5s
CANO Canova, Maglio 4.02 295 Pn **Pn** **23 35 14.5 +1.0**
CAR1 CAROLEI 4.02 146 P **Pn** **23 35 15.5 +1.9**
CAR1 AML AML
comp=E,344µm,1.0s
CAR1 AML AML
comp=N,284µm,0.9s
CAR1 AML AML
comp=E,276µm,1.4s
CAR1 AML AML
comp=N,284µm,1.1s
CAR1 AML AML
comp=N,244µm,1.0s
CAR1 AML AML
comp=E,344µm,1.0s
CAR1 AML AML
comp=E,276µm,0.6s
MDI Monti di Nese 4.08 322 P **Pn** **23 35 15.3 +1.0**
MDI AML AML
comp=N,390µm,0.6s
MDI AML AML
comp=E,322µm,0.7s
MDI AML AML
comp=E,332µm,0.8s
MDI AML AML
comp=N,490µm,0.6s
RORO Rocca Rossa 4.10 293 Pn **Pn** **23 35 15.3 +0.7**
CEME Cevo 4.14 89 ⇓*i* Pn **Pn** **23 35 16.4 +1.2**
CEME *e*Sn **Sn** **23 36 05.2 +1.4**
BUM Brajici-Budva 4.14 93 ⇓*i* Pn **Pn** **23 35 16.4 +1.1**
BUM *e*Sn **Sn** **23 36 05.7 +1.9**
ABTA Abfaltersbach 4.16 352 *i* Pn **Pn** **23 35 16.4 +0.9**
comp=N,178nm,0.7s,SNR=116
NKME Niksic 4.16 86 ⇓*i* Pn **Pn** **23 35 17.5 +2.0**
NKME *i* Sn **Sn** **23 36 05.7 +1.5**
BRES Bressanone 4.22 345 P **Pn** **23 35 17.4 +0.9**
ROTM Rocchetta Tana 4.22 303 AML AML
comp=E,812µm,0.8s
ROTM AML AML
comp=N,1060µm,0.7s
ROTM AML AML
comp=N,1060µm,1.3s
ROTM AML AML
comp=E,812µm,1.2s
ROTM Rocchetta Tana 4.22 303 Pn **Pn** **23 35 19.8 +3.6**
SOKA Soboth 4.23 16 *e*Pn **Pn** **23 35 17.2 +0.7**
comp=E,10nm,0.4s,SNR=12
GBOS Grotte di Boss 4.30 294 Pg **Pn** **23 35 19.0 +1.7**
VSL Villasalto 4.31 225 Pn **Pn** **23 35 18.5 +0.9**
VSL Villasalto 4.31 225 P **Pn** **23 35 18.4 +0.9**
VSL AML AML
comp=E,258µm,0.8s
VSL AML AML
comp=N,186µm,1.4s
VSL AML AML
comp=E,258µm,1.2s
VSL AML AML
comp=N,186µm,0.6s
TIP Timpagrande 4.32 142 ⇓P **Pn** **23 35 21.7 +4.0**
TIP Timpagrande 4.32 142 **Pn** **23 35 18.6 +0.9**
BURY Giardini Botan 4.36 287 Pn **Pn** **23 35 19.0 +0.9**
DRME Dracevica, Mon 4.37 94 ⇓*i* Pn **Pn** **23 35 19.8 +1.5**
DRME Dracevica, Mon 4.37 94 ⇓*i* Pn **Pn** **23 35 19.9 +1.6**
DRME *e*Sn **Sn** **23 36 10.3 +1.0**
PDG Podgorica 4.40 91 ⇑P **Pn** **23 35 20.4 +1.7**
PDG Podgorica 4.40 91 **Pn** **23 35 18.5 -0.2**
PDG Podgorica 4.40 91 *e*Pn **Pn** **23 35 19.9 +1.2**
PDG *e*Sn **Sn** **23 36 11.9 +1.9**
PDG Podgorica 4.40 91 *e*Pn **Pn** **23 35 20.2 +1.5**
PDG Podgorica 4.40 91 P **Pn** **23 35 20.0 +1.3**
PDG AML AML
comp=E,520µm,1.0s
PDG AML AML
comp=N,827µm,1.5s
PDG AML AML
comp=E,419µm,1.0s
PDG AML AML
comp=N,645µm,1.5s
PDG AML AML
comp=E,419µm,1.0s
PDG AML AML
comp=E,520µm,1.0s
PDG AML AML
comp=N,827µm,0.5s
PDG AML AML
comp=N,645µm,0.5s
PDG Podgorica 4.40 91 ⇑*i* Pn **Pn** **23 35 19.9 +1.2**
PDG *i* Sn **Sn** **23 36 11.8 +1.8**
SAOF Saorge 4.41 290 Pg **Pn** **23 35 20.3 +1.3**
MOSI Grossmontoni 4.45 335 P **Pn** **23 35 21.7 +2.1**
KBA Koelnbreinsper 4.45 0 *e*Pn **Pn** **23 35 20.4 +0.9**
comp=N,53nm,0.6s
ULC Ulcinj 4.45 97 ⇑*i* Pn **Pn** **23 35 20.6 +1.2**
ULC *e*Sn **Sn** **23 36 11.5 +0.1**
SBF Sospel 4.46 288 *e*P **Pn** **23 35 20.3 +0.6**
SBF *e*Sn **Sn** **23 36 06.5 -5.2**
comp=N,96nm,0.6s
SBF Sospel 4.46 288 P **Pn** **23 35 20.1 +0.4**
MUGIO Muggio 4.50 319 P **Pn** **23 35 20.5 +0.4**
MUGIO AML AML
comp=E,212µm,0.6s
MUGIO AML AML
comp=N,212µm,1.6s
MUGIO AML AML
comp=E,212µm,1.4s
MUGIO AML AML
comp=N,212µm,0.4s
ROSI Rosskopf 4.51 343 P **Pn** **23 35 21.6 +1.2**
ROSI AML AML
comp=N,1025µm,0.5s
ROSI AML AML
comp=N,1025µm,1.5s
ROSI AML AML
comp=E,880µm,1.1s
PLE Pljevlja 4.52 79 *e*Pn **Pn** **23 35 21.7 +1.3**
PLE *i* Sn **Sn** **23 36 14.1 +1.1**
TURF col de Turini 4.52 289 Pg **Pn** **23 35 21.9 +1.3**
FUORN Ofenpass-Fuorn 4.55 332 **Pn** **23 35 21.5 +0.5**
RUDO Rudo 4.55 75 *e*Pn **Pn** **23 35 22.1 +1.3**
RUDO Rudo 4.55 75 ⇓*i* Pn **Pn** **23 35 22.0 +1.3**
ENR Entracque 4.58 292 Pn **Pn** **23 35 24.0 +2.8**
KOME Kolasin 4.58 85 ⇑*i* Pn **Pn** **23 35 22.9 +1.7**
KOME *i* Sn **Sn** **23 36 15.6 +1.1**
SCTE Santa Cesarea 4.65 122 **Pn** **23 35 23.2 +1.1**
STV Sant Anna di V 4.65 292 Pn **Pn** **23 35 24.4 +2.2**
SPIF crte de Spivo 4.65 290 Pn **Pn** **23 35 23.9 +1.6**
FETA Feichten 4.76 338 *e*Pn **Pn** **23 35 25.4 +1.6**
comp=E,46nm,0.8s,SNR=28
TUE Stuetta 4.77 325 **Pn** **23 35 25.4 +1.4**
TUE Stuetta 4.77 325 P **Pn** **23 35 25.4 +1.4**
TUE AML AML
comp=E,268µm,1.2s
TUE AML AML
comp=N,298µm,0.6s
TUE AML AML
comp=E,310µm,1.2s
TUE AML AML
comp=N,352µm,0.5s
TUE AML AML
comp=N,352µm,1.5s
TUE AML AML
comp=E,268µm,0.8s
TUE AML AML
comp=E,310µm,0.8s
TUE AML AML
comp=N,298µm,1.4s
WTTA Wattenberg 4.79 346 *i* Pn **Pn** **23 35 26.0 +1.8**
comp=N,42nm,0.6s,SNR=31
WTTA *e*Sn **Sn** **23 36 22.3 +2.5**
comp=N,170nm,0.7s
WTTA Wattenberg 4.79 346 P **Pn** **23 35 25.8 +1.6**
CEL Celeste 4.79 155 **Pn** **23 35 25.0 +0.9**
CALF Calern 4.80 286 Pg **Pn** **23 35 25.7 +1.3**
ISO Isola 4.82 291 Pn **Pn** **23 35 25.2 +0.7**
LESA Schwarzleotal 4.82 355 *i* Pn **Pn** **23 35 25.6 +1.0**
comp=N,31nm,0.7s
DAVOX Davos/Dischmat 4.82 331 P **Pn** **23 35 26.7 +2.1**
DAVOX Davos/Dischmat 4.82 331 Pn **Pn** **23 35 25.9 +1.3**
comp=N,7.2nm,0.3s,baz=158,slow=11,SNR=100
DAVOX Sn **Sn** **23 36 21.6 +1.0**
comp=N,5.2nm,0.3s,baz=108,slow=20,SNR=3.7
DAVOX LR LR 23 37 58.6
comp=N,345nm,18.0s,baz=132,slow=48
comp=N,54nm,0.6s
SQTA Sankt Quirin 4.83 343 *e*Pn **Pn** **23 35 26.4 +1.7**
comp=N,42nm,0.4s,SNR=26
IVA Berane 4.86 85 ⇑*i* Pn **Pn** **23 35 26.6 +1.6**
IVA *e*Sn **Sn** **23 36 21.4 0.0**
WATA Walderalm 4.87 346 *i* Pn **Pn** **23 35 26.8 +1.5**
comp=N,56nm,0.4s,SNR=48
PZZ Stroppo 4.88 295 Pn **Pn** **23 35 26.9 +1.5**
ARSA Arzberg 4.88 18 *e*Pn **Pn** **23 35 25.4 0.0**
comp=N,14nm,0.5s,SNR=15
ARSA Arzberg 4.88 18 P **Pn** **23 35 25.2 -0.1**
PVY Plav 4.91 88 ⇑*i* Pn **Pn** **23 35 27.7 +1.9**
PVY *i* Sn **Sn** **23 36 23.9 +1.2**
TEKS Tekeris 4.91 65 *e*Pn **Pn** **23 35 25.6 -0.1**
TEKS Tekeris 4.91 65 *e*Pn **Pn** **23 35 25.9 +0.2**
SJES Sjenica 4.93 80 *e*Pn **Pn** **23 35 28.2 +2.1**
SJES *e*Sn **Sn** **23 36 23.5 +0.2**
SJES Sjenica 4.93 80 ⇓*i* Pn **Pn** **23 35 27.7 +1.6**
TRAV Traversella 4.94 308 Pn **Pn** **23 35 25.9 -0.3**
MOTA Moosalm 4.97 342 *e*Pn **Pn** **23 35 28.9 +2.2**
comp=N,68nm,0.8s,SNR=46
ENAUX Enaux 4.99 289 Pn **Pn** **23 35 29.4 +2.5**
SALSA La sagne 5.00 287 Pn **Pn** **23 35 28.8 +1.8**
LMR La Mourre 5.04 280 *e*P **Pn** **23 35 27.5 0.0**
LMR *e*Sn **Sn** **23 36 20.0 -5.7**
comp=N,15nm,0.6s
CLTB Caltabellotta 5.04 181 Pn **Pn** **23 35 29.6 +2.0**
RSP Reno Superiore 5.04 302 Pn **Pn** **23 35 28.6 +0.9**
TIR Tirane 5.05 102 ⇓P **Pn** **23 35 29.0 +1.4**
TIR Tirane 5.05 102 **Pn** **23 35 28.5 +0.9**
TIR Tirane 5.05 102 P **Pn** **23 35 28.8 +1.2**
TIR Tirane 5.05 102 P **Pn** **23 35 29.0 +1.4**
BIOA Bad Ischl, Aus 5.07 3 *e*Pn **Pn** **23 35 28.7 +0.8**
comp=N,31nm,0.4s,SNR=26
SURF Saint Ours 5.07 294 Pn **Pn** **23 35 30.1 +2.0**
SATI Passo dei Sala 5.08 312 Pn **Pn** **23 35 30.3 +1.9**
DIVS Divibare 5.09 71 Pn **Pn** **23 35 28.9 +0.6**
DIVS Divibare 5.09 71 *e*Pn **Pn** **23 35 28.9 +0.6**
DIVS Divibare 5.09 71 *e*Pn **Pn** **23 35 29.3 +1.1**
JAUF Jausiers 5.10 293 Pn **Pn** **23 35 30.5 +2.0**
IVAS Ivanjica 5.10 77 *e*Pn **Pn** **23 35 29.7 +1.3**
IVAS *e*Sn **Sn** **23 36 27.9 +0.5**
PART Garmisch-Parte 5.11 343 *e*Pn **Pn** **23 35 30.7 +2.1**
PART *e*Sn **Sn** **23 36 31.0 +3.3**
VLO Vlora 5.12 113 Pn **Pn** **23 35 29.1 +0.5**
VLO Vlora 5.12 113 P **Pn** **23 35 29.1 +0.5**
TRIGF Trigance 5.17 285 Pn **Pn** **23 35 31.0 +1.7**
RETA Reutte 5.18 341 *i* Pn **Pn** **23 35 31.6 +2.1**
comp=N,13nm,0.3s,SNR=15
RETA Sn **Sn** **23 36 32.2 +2.8**
comp=N,52nm,0.9s
MBDF Montbardon 5.18 296 *e*P **Pn** **23 35 30.8 +1.2**
MBDF *e*Sn **Sn** **23 36 23.6 -6.0**
comp=N,84nm,0.9s
VAE Valguarnera 5.21 170 Pn **Pn** **23 35 33.9 +4.0**
comp=N,0.4nm,0.3s,baz=324,slow=19,SNR=5.5
CREF Criveux 5.22 294 Pn **Pn** **23 35 32.7 +2.6**
FLAF Flassans-sur-I 5.23 281 Pn **Pn** **23 35 30.9 +0.8**
PLONS Plons/SG 5.23 329 *e*Pn **Pn** **23 35 33.4 +3.2**
PLONS *e*Sn **Sn** **23 36 33.7 +3.1**
OBER Oberstdorf 5.24 337 *e*Pn **Pn** **23 35 32.9 +2.6**
OBER *e*Sn **Sn** **23 36 33.2 +2.4**
RRL Rocca Remolon 5.25 298 Pn **Pn** **23 35 32.1 +1.6**
OGAG Argentiere 5.25 293 Pn **Pn** 23 35 35.3 +4.9
DAVA Damuels 5.26 334 *e*Pn **Pn** **23 35 33.0 +2.4**
comp=N,29nm,0.6s,SNR=23
MOA Molln 5.27 7 *e*Pn **Pn** **23 35 31.5 +0.8**
comp=N,42nm,0.6s,SNR=27
MOA *e*Sn **Sn** **23 36 30.9 -0.5**
comp=N,71nm,0.6s
LSD Lago del Serru 5.28 305 Pn **Pn** **23 35 31.0 +0.1**
OGDI Digne 5.32 289 Pn **Pn** **23 35 35.0 +3.6**
FRGS Fruska Gora 5.33 59 ⇑P **Pn** **23 35 32.2 +0.6**
FRGS Fruska Gora 5.33 59 *e*Pn **Pn** **23 35 32.0 +0.4**
BNI Bardonecchia 5.37 299 **Pn** **23 35 32.9 +0.7**
BNI Bardonecchia 5.37 299 P **Pn** **23 35 32.9 +0.7**
TRUS Trudelj 5.41 70 *e*Pn **Pn** **23 35 33.5 +0.9**
RAFF Raffo Rosso 5.46 171 Pn **Pn** **23 35 35.0 +1.7**
RONA Rosalia, Austr 5.49 22 *e*Pn **Pn** **23 35 34.3 +0.6**
comp=N,7.3nm,0.3s,SNR=22
LPG La Plagne 5.53 304 *e*P **Pn** **23 35 35.8 +1.3**
LPG *e*Sn **Sn** **23 36 31.9 -6.3**
comp=N,72nm,0.8s
UBR Ueberruh 5.54 337 *e*Pn **Pn** **23 35 36.1 +1.7**
LPL La Plagne 5.55 304 *e*P **Pn** **23 35 36.8 +2.1**
LPL *e*Sn **Sn** **23 36 32.4 -6.2**
comp=N,51nm,0.7s
ARTF Artigues 5.58 282 Pn **Pn** **23 35 36.4 +1.5**
CONA Conrad Observa 5.60 18 *i* Pn **Pn** **23 35 35.9 +0.7**
comp=N,27nm,0.5s,SNR=21
MLYF Mely 5.67 286 Pn **Pn** **23 35 38.4 +2.2**
SENIN Lac Senin/Sane 5.69 313 **Pn** **23 35 38.3 +1.7**
KEK Kerkira 5.70 119 **Pn** **23 35 37.2 +0.7**
RSL Roselend 5.70 305 Pn **Pn** **23 35 39.1 +2.4**
WILA Wila 5.71 328 *e*Pn **Pn** **23 35 38.6 +1.8**
FUR Furstenfeldbru 5.72 346 *e*Pn **Pn** **23 35 39.2 +2.3**
BSTF la Bastide-des 5.74 285 Pn **Pn** **23 35 38.8 +1.7**
SELS Selova 5.76 81 *e*Pn **Pn** **23 35 38.3 +0.8**
SELS *e*Sn **Sn** **23 36 43.6 -0.1**
OHR Ohrid 5.79 103 *i* Pn **Pn** **23 35 40.3 +2.4**
GDM Grand'Maison 5.80 299 Pn **Pn** **23 35 42.1 +4.1**
SMRF Simiane la Rot 5.80 286 *e*P **Pn** **23 35 40.1 +2.1**
SMRF *e*Sn **Sn** **23 36 38.2 -6.4**
comp=N,38nm,0.9s
ZUR Degenried 5.81 326 Pn **Pn** **23 35 40.4 +2.4**
OGSI Sixt 5.82 308 Pn **Pn** **23 35 41.4 +3.1**
ORIF Oris-en-Rattie 5.85 296 *e*P **Pn** **23 35 42.2 +3.5**
ORIF *e*Sn **Sn** **23 36 39.3 -6.5**
comp=N,57nm,0.8s
ORIF Oris-en-Rattie 5.85 296 Pn **Pn** **23 35 42.5 +3.9**
RUSF Rustrel 5.86 286 Pn **Pn** **23 35 41.1 +2.3**
AIGLE Aigle 5.87 311 Pn **Pn** **23 35 40.9 +1.9**
KBN Korca 5.95 107 Pn **Pn** **23 35 40.6 +0.6**
KBN Korca 5.95 107 P **Pn** **23 35 40.7 +0.6**
GRN Grenoble 6.05 298 P **Pn** **23 35 45.1 +3.6**
SKO Skopje 6.07 93 *i* Pn **Pn** **23 35 43.0 +1.4**
SULZ Cheisacher 6.13 325 Pn **Pn** **23 35 44.0 +1.6**
SULZ Cheisacher 6.13 325 *e*Pn **Pn** **23 35 43.8 +1.4**
SULZ *e*Sn **Sn** **23 36 56.0 +3.4**
SAUF chteau de Sau 6.13 285 Pn **Pn** **23 35 45.6 +3.2**
SLE Schleitheim 6.16 328 Pn **Pn** **23 35 43.9 +1.0**
SLE Schleitheim 6.16 328 *e*Pn **Pn** **23 35 43.8 +1.0**
SLE *e*Sn **Sn** **23 36 55.7 +2.3**
BALST Balsthal 6.17 322 Pn **Pn** **23 35 44.4 +1.4**
BALST Balsthal 6.17 322 *e*Pn **Pn** **23 35 43.8 +0.8**
BALST *e*Sn **Sn** **23 36 54.9 +1.3**
GEC2 GERESS Array S 6.22 2 **Pn** **23 35 43.2 -0.6**
GEC2 GERESS Array S 6.22 2 *e*Pn **Pn** **23 35 43.3 -0.6**
GEC2 *e*Sn **Sn** **23 36 53.9 -1.2**
GERES GERESS Array B 6.22 2 **Pn** **23 35 43.4 -0.4**
GERES GERESS Array B 6.22 2 Pn **Pn** **23 35 44.1 +0.2**
comp=N,1.6nm,0.3s,baz=181,slow=13,SNR=13
GERES Sn **Sn** **23 36 53.3 -1.8**
comp=N,4.9nm,0.3s,baz=163,slow=24,SNR=6.5
GERES LR LR 23 38 50.5
comp=N,282nm,19.4s,baz=126,slow=46
comp=N,16nm,0.8s
BOVS Bovan 6.23 78 ⇑P **Pn** **23 35 45.5 +1.7**
CKRC Cesky Krumlov 6.23 6 *e*PN **Pn** **23 35 43.8 -0.1**
CKRC *e*SN **Sn** **23 36 55.3 +0.1**
CKRC Cesky Krumlov 6.23 6 *e*P **Pn** **23 35 43.8 -0.1**
CKRC *e* 23 36 55.3
OGSM Saint Maurice 6.24 301 Pn **Pn** **23 35 46.4 +2.5**
BARS Barje 6.27 85 *e*Pn **Pn** **23 35 45.4 +1.0**
BARS *e*Sn **Sn** **23 36 55.8 -0.3**
SRO Srobarova 6.28 33 *e*PN **Pn** **23 35 45.7 +1.3**
SRO Srobarova 6.28 33 *e*P **Pn** **23 35 45.7 +1.3**
FNA Florina 6.31 104 **Pn** **23 35 46.6 +1.6**
FNA Florina 6.31 104 P **Pn** **23 35 46.6 +1.6**
GIMEL St. Georges / 6.37 310 Pn **Pn** **23 35 48.4 +2.2**
BOURR Bourrignon 6.42 320 Pn **Pn** **23 35 48.0 +1.5**
ENDD Endenburg 6.43 324 Pn **Pn** **23 35 47.8 +1.1**
FELD Feldberg im Sc 6.45 326 Pn **Pn** **23 35 48.1 +1.2**
MDVR Moldovita 6.46 68 ⇓P **Pn** **23 35 48.2 +1.1**
PRVS Prvonek 6.47 88 *e*Pn **Pn** **23 35 48.4 +1.2**
PRVS *e*Sn **Sn** **23 37 00.5 -0.7**
BRANT Les Verrieres 6.50 314 Pn **Pn** **23 35 49.2 +1.6**
KHC Kasperske Hory 6.51 2 Pn **Pn** **23 35 46.8 -0.9**
KHC Kasperske Hory 6.51 2 *e*PN **Pn** **23 35 47.2 -0.5**
KHC *e*SN **Sn** **23 37 01.9 -0.1**
KHC Kasperske Hory 6.51 2 *i* P **Pn** **23 35 47.4 -0.3**
CABF La Chapelle 6.51 310 *e*P **Pn** **23 35 48.9 +1.1**
CABF *e*Sn **Sn** **23 36 55.2 -7.0**
comp=N,53nm,0.7s
OG35 Corcelles 6.51 304 Pn **Pn** **23 35 48.7 +0.8**
WET Wettzell 6.53 358 P **Pn** **23 35 47.4 +0.2**
WET Wettzell 6.53 358 *e*Pn **Pn** **23 35 47.4 -0.5**
WET *e*Sn **Sn** **23 36 59.0 -3.4**
KIZ Kirchzarten 6.54 326 Pn **Pn** **23 35 49.1 +0.9**
SMOL Smolenice 6.56 25 *e*P **Pn** **23 35 52.1 +3.8**
ILLF Illfurth 6.62 322 Pn **Pn** **23 35 50.5 +1.3**
ZAGS Zajecar 6.63 77 *e*Pn **Pn** **23 35 49.8 +0.5**
ZAGS *e*Sn **Sn** **23 37 03.2 -1.7**
VIVF Saint-Julien-l 6.64 293 *e*P **Pn** **23 35 51.9 +2.4**
VIVF *e*Sn **Sn** **23 36 58.2 -7.1**
comp=N,8.2nm,0.7s
STIP Stip 6.66 95 *i* Pn **Pn** **23 35 53.2 +3.4**
BZS Buzias 6.68 61 ⇑P **Pn** **23 35 50.4 +0.3**
BZS Buzias 6.68 61 P **Pn** **23 35 50.3 +0.3**
BFO Black Forest 6.69 330 **Pn** **23 35 50.9 +0.7**
BFO Black Forest 6.69 330 P **Pn** **23 35 50.9 +0.7**
BFO Black Forest 6.69 330 *e*Pn **Pn** **23 35 51.4 +1.3**
VOGT Vogtsburg - To 6.75 326 Pn **Pn** **23 35 51.8 +0.8**
KRUC Moravsky 6.79 17 *e*PN **Pn** **23 35 51.4 -0.1**
KRUC *e*SN **Sn** **23 37 08.1 -0.7**
STU Stuttgart 6.79 336 **Pn** **23 35 51.6 +0.2**
STU Stuttgart 6.79 336 P **Pn** **23 35 51.7 +0.2**
MOF Molkenrain 6.80 322 Pn **Pn** **23 35 52.4 +0.6**
BOUC Bouclans 6.81 315 Pn **Pn** **23 35 53.3 +1.5**
WALT Westhalten 6.83 324 Pn **Pn** **23 35 52.6 +0.6**
TREC Trest 6.84 12 *e*PN **Pn** **23 35 52.3 +0.1**
TREC *e*SN **Sn** **23 37 09.0 -1.1**
TREC Trest 6.84 12 *e*P **Pn** **23 35 52.3 +0.1**
TREC *e* 23 37 09.0
ZVC Zvikov 6.84 5 *e*PN **Pn** **23 35 52.0 -0.2**
ZVC *e*SN **Sn** **23 37 09.0 -1.1**
SSB Saint Sauveur 6.86 296 **Pn** **23 35 52.9 +0.4**
SSB Saint Sauveur 6.86 296 Pn **Pn** **23 35 54.7 +2.2**
SSB Saint Sauveur 6.86 296 P **Pn** **23 35 52.9 +0.4**
ZAPS Zavoj 6.87 81 *e*Pn **Pn** **23 35 54.2 +1.5**
OPP Oppenau 6.88 330 Pn **Pn** **23 35 53.7 +0.9**
HINF Hinteralfeld 6.91 321 *e*P **Pn** **23 35 53.5 +0.4**
HINF *e*Sn **Sn** **23 37 04.4 -7.4**
comp=N,53nm,0.6s
BLKB Belogradchik 6.92 79 ⇑P **Pn** **23 35 54.9 +1.5**
JAVC Velka Javorina 6.94 25 *e*PN **Pn** **23 35 55.5 +1.9**
JAVC *e*SN **Sn** **23 37 13.4 +0.8**
DJES Djerdap 6.99 70 Pn **Pn** **23 35 54.6 +0.4**
SIRR Siria 7.00 56 ⇑P **Pn** **23 35 56.1 +1.8**
VAY Valandovo 7.02 98 *i* Pn **Pn** **23 35 55.6 +0.9**
PSZ Piszkesteto 7.04 39 ⇓P **Pn** **23 35 55.8 +0.7**
PSZ Piszkesteto 7.04 39 **Pn** **23 35 54.8 -0.2**
PSZ Piszkesteto 7.04 39 P **Pn** **23 35 55.7 +0.7**
LASF Ste Croix 7.04 285 *e*P **Pn** **23 35 56.8 +1.8**
LASF *e*Sn **Sn** **23 37 07.8 -7.3**
comp=N,1.0nm,0.3s
VRAC Vranov 7.06 18 ⇑P **Pn** **23 35 55.6 +0.3**
VRAC Vranov 7.06 18 *e*PN **Pn** **23 35 55.6 +0.3**
VRAC *e*SN **Sn** **23 37 11.1 -4.5**
VRAC Vranov 7.06 18 P **Pn** **23 35 55.5 +0.3**
VRAC Vranov 7.06 18 Pn **Pn** **23 35 55.0 -0.2**
comp=N,0.8nm,0.3s,baz=202,slow=13,SNR=14
VRAC Sn **Sn** **23 37 08.6 -7.0**
comp=N,0.8nm,0.3s,baz=170,slow=12,SNR=3.0
VRAC LR LR 23 39 32.8
comp=N,254nm,19.6s,baz=210,slow=46
comp=N,7.1nm,0.8s
SURR Surduc 7.07 61 ⇓P **Pn** **23 35 56.9 +1.6**
BABA Baden-Baden-Ne 7.07 331 Pn **Pn** **23 35 56.4 +1.1**
ECH Echery 7.07 324 **Pn** **23 35 55.4 0.0**
ECH Echery 7.07 324 Pn **Pn** **23 35 55.9 +0.6**
ECH Echery 7.07 324 P **Pn** **23 35 55.4 0.0**
WLS Welschbruch 7.14 326 Pn **Pn** **23 35 57.0 +0.7**
CDF Champ du Feu 7.17 326 *e*P **Pn** **23 35 57.1 +0.3**
CDF *e*Sn **Sn** **23 37 11.0 -7.3**
comp=N,87nm,0.8s
PEHC Pehcevo 7.17 94 *i* Pn **Pn** **23 35 57.5 +0.6**
ROTZ Rotzenmuhle 7.18 354 *e*Sn **Sn** **23 37 16.7 -1.9**
GRA1 Grafenberg Arr 7.21 349 **Pn** **23 35 57.2 -0.1**
GRF Grafenberg Arr 7.21 349 P **Pn** **23 35 57.2 -0.1**
GRFO Grafenberg 7.21 349 Pn **Pn** **23 35 57.3 0.0**
GRFO Grafenberg 7.21 349 P **Pn** **23 35 57.3 0.0**
HAU Haudompre 7.28 320 *e*P **Pn** **23 35 58.4 +0.2**

HAU eSn Sn 23 37 13.3 -7.6
comp=N,21nm,0.4s
VTS Vitosha 7.32 87 eP Pn 23 36 00.6 +1.6
KKB Krupnik 7.33 93 eP Pn 23 36 00.5 +1.5
GOPC GO Pecny, Ondr 7.36 7 ePN Pn 23 36 00.0 +0.6
GOPC eSN Sn 23 37 22.1 -0.8
GOPC GO Pecny, Ondr 7.36 7 eP Pn 23 36 00.0 +0.6
GOPC e 23 37 22.1
GZR Gura Zlata 7.36 65 ⇑P Pn 23 36 01.9 +2.5
MANZ Manzenberg 7.41 354 ePn Pn 23 36 00.7 +0.7
PRU Pruhonice 7.41 6 ePN Pn 23 36 01.1 +1.1
PRU eSN Sn 23 37 23.1 -1.1
PRU Pruhonice 7.41 6 eP Pn 23 36 01.1 +1.1
PRU e 23 37 23.1
MAUC Maruska 7.44 23 ePN Pn 23 36 01.2 +0.8
PRA Prague 7.49 6 ePN Pn 23 36 00.2 -0.8
PRA Prague 7.49 6 eP Pn 23 36 00.2 -0.8
LEMB Lembach 7.49 331 Pn Pn 23 36 02.0 +0.9
KEST Kesra 7.54 205 Pn Pn 23 36 03.4 +1.4
KEST Kesra 7.54 205 Pn Pn 23 36 04.2 +2.2
comp=N,3.2nm,0.3s,baz=322,slow=3.9,SNR=32
KEST Sn Sn 23 37 27.4 -0.1
baz=25,slow=16
KEST LR LR 23 39 12.5
comp=N,612nm,18.9s,baz=318,slow=40
comp=N,16nm,0.6s
DEV Deva 7.62 61 ⇓P Pn 23 36 04.5 +1.6
DEV Deva 7.62 61 P Pn 23 36 04.4 +1.6
NKC Novy Kostel 7.63 356 ePN Pn 23 36 02.9 -0.2
NKC eSN Sn 23 37 28.3 -1.3
NKC Novy Kostel 7.63 356 eP Pn 23 36 02.9 -0.2
NKC e 23 37 28.3
MPEP Malo Peshtene 7.68 81 eP Pn 23 36 05.6 +1.8
WERN Wernitzgruen 7.69 356 ePn Pn 23 36 04.7 +0.8
SJAF Saint Jean de 7.70 272 Pn Pn 23 36 03.8 -0.3
KECS Kecovo 7.72 38 ePN Pn 23 36 06.2 +2.0
KECS Kecovo 7.72 38 eP Pn 23 36 06.3 +2.0
AGG Agios Georgios 7.73 115 Pn Pn 23 36 06.1 +1.6
AGG Agios Georgios 7.73 115 P Pn 23 36 06.1 +1.6
MORC Moravsky Berou 7.73 21 ⇓P Pn 23 36 06.6 +2.2
MORC Moravsky Berou 7.73 21 P Pn 23 36 05.2 +0.8
MORC Moravsky Berou 7.73 21 ePN Pn 23 36 06.4 +2.0
MORC eSN Sn 23 37 31.4 -0.6
MORC Moravsky Berou 7.73 21 P Pn 23 36 06.6 +2.2
GUNZ Gunzen 7.77 355 ePn Pn 23 36 05.8 +0.8
LANS Liptovska Anna 7.81 31 ePN Pn 23 36 05.2 -0.3
LANS Liptovska Anna 7.81 31 eP Pn 23 36 05.2 -0.3
TANN Tannenbergstha 7.81 356 ePn Pn 23 36 06.3 +0.7
MMB Musomishta 7.84 94 eP Pn 23 36 07.2 +1.2
WERD Werda 7.85 355 ePn Pn 23 36 07.1 +1.0
SMF Signal de Mont 7.86 304 eP Pn 23 36 06.7 +0.5
SMF eSn Sn 23 37 27.2 -7.9
comp=N,28nm,0.7s
SMF Signal de Mont 7.86 304 P Pn 23 36 07.4 +1.2
PLN Plauen 7.90 355 ePn Pn 23 36 07.6 +0.8
RICC Richard 7.94 4 ePN Pn 23 36 06.9 -0.3
PVCC Panska Ves 7.95 6 ePN Pn 23 36 07.4 0.0
PVCC Panska Ves 7.95 6 eP Pn 23 36 07.4 0.0
OKC Ostrava-Krasne 7.95 23 eSN Sn 23 37 35.9 -1.5
PAGF Fort de Pagny 7.96 321 eP Pn 23 36 09.6 +2.0
PAGF eSn Sn 23 37 29.6 -8.1
comp=N,132nm,1.1s
HSKC Hora Svate Kat 7.98 1 ePN Pn 23 36 08.1 +0.2
HSKC eSN Sn 23 37 36.1 -2.2
DPC Dobruska-Polom 8.00 14 ePN Pn 23 36 07.5 -0.6
DPC Dobruska-Polom 8.00 14 eP Pn 23 36 07.5 -0.6
PGB Panagyurishte 8.02 87 eP Pn 23 36 10.4 +2.0
SFTF Sexfontaines 8.06 317 eP Pn 23 36 09.6 +0.7
baz=130
SFTF eSn Sn 23 37 32.1 -7.9
comp=N,12nm,0.4s
MARR Marisel-Cluj 8.08 57 ⇑P Pn 23 36 11.2 +1.9
UPC Upice 8.10 12 ePN Pn 23 36 10.1 +0.6
UPC Upice 8.10 12 eP Pn 23 36 10.1 +0.6
MOX Moxa 8.11 352 ePn Pn 23 36 09.6 +0.1
MOX eSn Sn 23 37 37.8 -3.4
LOR Lormes 8.15 308 eP Pn 23 36 10.4 +0.2
baz=123
LOR eSn Sn 23 37 33.9 -8.5
comp=N,8.9nm,0.4s
MTLF Montolieu 8.16 279 eP Pn 23 36 12.6 +2.2
MTLF eSn Sn 23 37 34.7 -8.0
comp=N,1.7nm,0.3s
OSTC Ostas 8.18 13 ePN Pn 23 36 10.1 -0.5
OSTC Ostas 8.18 13 eP Pn 23 36 10.1 -0.5
CHVC Chvalec 8.18 12 ePN Pn 23 36 11.4 +0.7
CHVC Chvalec 8.18 12 eP Pn 23 36 11.4 +0.7
MESR Meseseni 8.20 53 ⇑P Pn 23 36 13.8 +2.9
VLAD Vladila 8.21 77 ⇑P Pn 23 36 12.6 +1.6
AVF Avril sur Loir 8.22 304 eP Pn 23 36 11.8 +0.7
AVF eSn Sn 23 37 36.0 -8.1
comp=N,24nm,0.9s
MEZF Maizieres J'vi 8.25 318 eP Pn 23 36 13.1 +1.6
baz=134
MEZF eSn Sn 23 37 36.4 -8.3
comp=N,17nm,0.6s
SSF Saint Saulge 8.26 306 eP Pn 23 36 11.9 +0.3
SSF eSn Sn 23 37 36.8 -8.1
comp=N,19nm,0.6s
SSF Saint Saulge 8.26 306 P Pn 23 36 10.2 -1.4
BRG Berggiesshubel 8.26 3 eP Pn 23 36 12.4 +0.7
BRG Amp 23 36 22.2
comp=Z,4.1nm,0.6s
BRG r 23 36 37.5
BRG r 23 37 25.2
BRG r 23 37 52.4
BRG r 23 38 45.2
BRG Amp 23 39 05.7
comp=Z,90nm,1.5s
BRG Amp 23 39 51.0
comp=Z,0.4nm,14.6s
BRG Amp 23 39 54.0
comp=E,0.2nm,12.3s
BRG Amp 23 39 55.0
comp=N,0.3nm,17.0s
BRG Berggiesshubel 8.26 3 eP Pn 23 36 12.3 +0.7
BRG e 23 37 52.3
BRG pmax pmax
comp=Z,4.0nm,0.6s
BRG MLR MLR
comp=Z,427nm,14.6s
BRG MLR MLR
comp=E,229nm,12.3s
BRG MLR MLR
comp=N,263nm,17.0s
SAVF Savonnieres en 8.29 319 eP Pn 23 36 14.5 +2.4
SAVF eSn Sn 23 37 37.4 -8.3
comp=N,20nm,0.6s
TNS Taunus Mts 8.30 338 ePn Pn 23 36 13.4 +1.1
PLVB Pleven 8.33 81 ⇓P Pn 23 36 14.7 +2.1
CJR Cluj-Napoca 8.39 57 ⇓P Pn 23 36 16.0 +2.5
CJR Cluj-Napoca 8.39 57 P Pn 23 36 16.0 +2.5
BGF Bois d'Agland 8.44 301 eP Pn 23 36 15.4 +1.3
BGF eSn Sn 23 37 41.2 -8.2
comp=N,30nm,0.8s
CAF Calviac 8.46 290 eP Pn 23 36 16.2 +1.8
CRVS Cervenica-Dubn 8.47 39 ePN Pn 23 36 17.6 +3.0
CRVS Cervenica-Dubn 8.47 39 eP Pn 23 36 17.6 +3.0
PLD Plovdiv 8.48 89 eP Pn 23 36 16.6 +1.9
ARR Arges 8.61 68 ⇑P Pn 23 36 19.4 +2.8
WLF Walferdange 8.61 327 Pn Pn 23 36 16.0 -0.5
WLF Walferdange 8.61 327 dP Pn 23 36 17.9 +1.5
WLF Walferdange 8.61 327 P Pn 23 36 16.0 -0.5
WLF Walferdange 8.61 327 ePn Pn 23 36 17.0 +0.5
HUMR Humele 8.68 73 ⇑P Pn 23 36 20.0 +2.5
CLL Collm 8.69 359 Pn Pn 23 36 16.9 -0.6
CLL Collm 8.69 359 ePn Pn 23 36 18.0 +0.5
CLL ePg Pg 23 36 57.0 -1.0
CLL ex x 23 37 25.0
CLL eSn Sn 23 37 39.0 -16
CLL ex x 23 37 56.0
CLL eSg Sg 23 38 51.0 +0.6
CLL eSgmax 23 38 58.0
comp=Z,65nm,1.1s
CLL AMS AMS 23 39 00.0
comp=Z,200nm,18.3s
CLL AMS AMS 23 39 00.0
CLL Collm 8.69 359 eP Pn 23 36 18.0 +0.5
PVL Pavlikeni 8.73 83 eP Pn 23 36 20.3 +2.2
TCF Toulx Ste Croi 8.74 299 eP Pn 23 36 19.8 +1.5
TCF eSn Sn 23 37 48.5 -8.4
comp=Z,4.7nm,0.5s
STHS Stebnicka Huta 8.75 36 ePN Pn 23 36 19.4 +1.0
STHS Stebnicka Huta 8.75 36 eP Pn 23 36 19.4 +1.0
COPA Copaceanca 8.80 76 ⇓P Pn 23 36 21.9 +2.8
OJC Ojcow 8.81 28 Pn Pn 23 36 19.7 +0.4
OJC Ojcow 8.81 28 P Pn 23 36 19.7 +0.4
HYF Humbligny 8.87 305 eP Pn 23 36 22.7 +2.6
HYF eSn Sn 23 37 51.5 -8.6
VOIR 8.91 68 ⇓P Pn 23 36 23.5 +2.7
VOIR 8.91 68 P Pn 23 36 23.4 +2.7
RJF Les Rejaudoux 8.92 291 eP Pn 23 36 23.0 +2.3
RJF eSn Sn 23 37 52.8 -8.4
comp=Z,1.7nm,0.5s
RDO Rodhopi 9.24 95 Pn 23 36 25.7 +0.6
ELND Elena 9.25 84 ⇑P Pn 23 36 27.0 +1.8
BTNL Ternell 9.37 331 dPP Pn 23 37 08.5 +42
RCHB Rochefort 9.37 326 dP Pn 23 36 29.0 +2.2
LFF La Frestale 9.38 289 eP Pn 23 36 29.4 +2.4
LFF eSn Sn 23 38 03.6 -9.0
comp=Z,2.8nm,0.6s
MEM Membach 9.43 330 dP Pn 23 36 30.7 +3.1
GIVF Givet 9.50 325 eP Pn 23 36 30.9 +2.3
GIVF eSn Sn 23 38 06.3 -9.1
comp=Z,2.7nm,0.3s
MLR Muntele Rosu 9.54 68 ⇓P Pn 23 36 32.3 +2.9
MLR Muntele Rosu 9.54 68 Pn Pn 23 36 30.1 +0.7
MLR Muntele Rosu 9.54 68 P Pn 23 36 32.2 +2.9
MLR Muntele Rosu 9.54 68 Pn Pn 23 36 28.0 -1.3
comp=Z,0.2nm,0.3s,baz=180,slow=20,SNR=2.0
MLR LR LR 23 41 24.8
comp=Z,676nm,20.0s,baz=250,slow=46
comp=Z,1.5nm,0.7s
EPF Esparros 9.54 277 eP Pn 23 36 32.1 +2.8
EPF eSn Sn 23 38 07.7 -8.9
comp=Z,0.8nm,0.4s
BCLA Clavier 9.54 327 dP Pn 23 36 31.7 +2.4
BSTI Sart Tilman 9.57 329 dx x 23 36 40.7
OZUR 9.59 65 ⇑P Pn 23 36 32.6 +2.7
DOU Dourbes 9.59 324 dP Pn 23 36 35.6 +5.7
BGES Gesves 9.60 327 dP Pn 23 36 32.3 +2.2
BMRD Maredsous 9.67 325 dP Pn 23 36 33.5 +2.5
RAZG Razgrad 9.70 80 ⇓P Pn 23 36 32.8 +1.3
BAIF Baives 9.73 323 eP Pn 23 36 34.6 +2.8
BAIF eSn Sn 23 38 12.2 -9.0
comp=Z,16nm,0.8s
BURAR Bucovina Array 9.78 55 ⇑P Pn 23 36 35.6 +2.9
BURAR Bucovina Array 9.78 55 Pn Pn 23 36 32.1 -0.5
BURAR Bucovina Array 9.78 55 P Pn 23 36 35.5 +2.9
BUR08 Bucovina Ar. S 9.78 55 Pn Pn 23 36 30.9 -1.8
COVR Voineasa-Covas 9.80 66 ⇑P Pn 23 36 35.1 +2.3
PLOR Plostina 10.10 67 ⇑P Pn 23 36 38.9 +1.9
PLOR Plostina 10.10 67 P Pn 23 36 38.9 +1.9
VRI Vrincioaia 10.16 67 ⇓P Pn 23 36 40.7 +2.9
VRI Vrincioaia 10.16 67 P Pn 23 36 40.6 +2.9
ETSF Etsaut 10.21 276 eP Pn 23 36 41.6 +3.2
ETSF eSn Sn 23 38 23.6 -9.3
comp=Z,0.5nm,0.2s
LVV L'vov 10.33 42 eP Pn 23 36 29.4 -11
MFF Saint Martin d 10.38 297 eP Pn 23 36 43.1 +2.4
MFF eSn Sn 23 38 27.7 -9.4
comp=Z,1.7nm,0.4s
SJPF Ste Jean 10.68 278 eP Pn 23 36 48.4 +3.5
SJPF eSn Sn 23 38 35.2 -9.4
comp=Z,0.7nm,0.3s
APE Apeiranthos 10.91 117 iP Pn 23 36 48.4 +0.4
LDF La Druitiere 11.13 307 eP Pn 23 36 53.6 +2.6
FLN La Foliniere 11.42 307 eP Pn 23 36 56.7 +1.7
FLN eSn Sn 23 38 51.8 -11
comp=Z,1.2nm,0.3s
GRR Gorron 11.48 305 eP Pn 23 36 58.3 +2.5
IDI Anoyia 11.61 125 Pn Pn 23 36 58.7 +1.1
comp=Z,0.6nm,0.3s,baz=329,slow=8.1,SNR=2.3
IDI Sn Sn 23 39 01.4 -6.0
comp=Z,0.7nm,0.3s,baz=226,slow=12,SNR=1.8
IDI LR LR 23 42 42.6
comp=Z,58nm,19.3s,baz=312,slow=44
comp=Z,6.5nm,0.7s
MILM Milestii Mici 11.82 63 ⇑iP Pn 23 37 03.4 +3.0
MILM eL L 23 42 14.0
MILM LRM MLR 23 42 32.0
comp=Z,800nm,15.0s
MILM Milestii Mici 11.82 63 ⇑P Pn 23 37 02.6 +2.2
MILM Milestii Mici 11.82 63 ciP Pn 23 37 03.4 +3.0
MILM pmax pmax
comp=Z,40nm,0.9s
MILM MLR MLR
comp=Z,800nm,15.5s
SORM Soroca 11.92 57 ⇓P Pn 23 37 03.3 +1.6
SORM Soroca 11.92 57 P Pn 23 37 03.3 +1.6
ESDC Sonseca Array 13.35 263 Pn Pn 23 37 21.6 +0.3
comp=Z,0.1nm,0.3s,baz=72,slow=14,SNR=7.3
ESDC LR LR 23 42 34.7
comp=Z,149nm,18.9s,baz=72,slow=38
comp=Z,0.8nm,0.7s
KIEV Kiev 13.56 48 Pn Pn 23 37 25.7 +1.6
KIEV Kiev 13.56 48 P Pn 23 37 25.7 +1.6
AKASG Malin Array Be 13.57 48 Pn Pn 23 37 24.5 +0.2
comp=Z,0.4nm,0.3s,baz=231,slow=12,SNR=2.7
AKASG LR LR 23 43 20.8
comp=Z,209nm,18.9s,baz=199,slow=41
comp=Z,1.4nm,0.8s
AKBB Malin Array Si 13.57 48 Pn 23 37 24.2 0.0
AKBB Malin Array Si 13.57 48 iP Pn 23 37 24.6 +0.4
AKBB pmax pmax
comp=Z,32nm,2.4s
MDUB Mudurnu 13.57 93 Pn Pn 23 37 25.2 +0.8
ISP Isparta 13.99 104 Pn Pn 23 37 30.9 +0.6
ISP Isparta 13.99 104 ceP Pn 23 37 32.9 +2.6
ISP pmax pmax
comp=Z,14nm,2.5s
ELL Elmali 14.06 109 P P 23 37 38.2 -0.9
ELL Elmali 14.06 109 P P 23 37 38.2 -0.9
SIM Simferopol' 15.20 74 P Pn 23 37 46.6 +0.1
SIM pmax pmax
comp=Z,380nm,4.8s
MNK Minsk 15.27 34 iP Pn 23 37 45.3 -2.0
comp=E,8.0nm,0.9s
MNK iP Pn 23 37 45.3 -2.0
comp=N,11nm,0.8s
MNK iP Pn 23 37 45.3 -2.0
comp=Z,16nm,0.9s,baz=45
MNK iPP pP 23 37 53.4 -1.8
MNK iS Sn 23 40 35.2 -1.1
MNK iSS SnSn 23 40 49.2 +0.3
MNK iLQ LQ 23 42 14.3
MNK iLR LR 23 43 23.9
MNK iLRM MLR 23 44 46.5
comp=Z,278nm,15.2s
MNK iLRM MLR 23 44 47.4
comp=E,56nm,16.1s
MNK iLRM MLR 23 44 49.1
comp=N,150nm,14.4s
MNK Minsk 15.27 34 iP Pn 23 37 45.2 -2.0
MNK iS Sn 23 40 35.2 -1.1
MNK pmax pmax
comp=N,11nm,0.8s
MNK pmax pmax
comp=Z,16nm,0.9s
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK MLR MLR
comp=Z,278nm,15.0s
MNK MLR MLR
comp=E,56nm,16.0s
MNK MLR MLR
comp=N,150nm,14.0s
BRTR Keskin Array B 15.58 94 P P 23 37 56.6 +0.7
BRTR Keskin Array B 15.58 94 ceP P 23 37 54.2 -1.7
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 15.58 94 Pn Pn 23 37 53.3 +1.7
comp=Z,0.1nm,0.3s,baz=295,slow=12,SNR=7.4
BRTR PcP PcP 23 42 55.0 +1.7
comp=Z,0.2nm,0.3s,baz=300,slow=3.2,SNR=3.7
BRTR LR LR 23 44 48.8
comp=Z,224nm,20.7s,baz=292,slow=41
comp=Z,0.5nm,0.3s
EKA Eskdalemuir Ar 16.63 326 Pn Pn 23 38 04.2 -0.7
baz=141,slow=15
comp=Z,1.8nm,0.9s
KONO Kongsberg 17.20 354 iP P 23 38 13.2 -0.4
KONO pmax pmax
comp=Z,11nm,0.9s
MDT Midelt 17.20 241 LR LR 23 43 55.9
comp=Z,82nm,20.5s,baz=61,slow=34
HFS Hagfors 17.53 1 P Pn 23 38 14.1 -2.1
comp=Z,0.1nm,0.3s,baz=202,slow=11,SNR=2.8
HFS LR LR 23 45 05.2
comp=Z,142nm,18.2s,baz=181,slow=38
comp=Z,5.6nm,1.0s
ANN Anapa 17.56 75 iP P 23 38 17.3 -0.4
ANN pmax pmax
comp=Z,45nm,1.0s
NAO01 NORSAR Array S 18.30 356 P Pn 23 38 24.5 -1.2
NAO01 lAmb lAmb 23 38 29.3
comp=Z,26nm,0.9s
NB2 NORSAR Subarra 18.48 357 P Pn 23 38 29.9 +2.0
comp=Z,19nm,1.1s,baz=175,slow=12
NOA NORSAR Array B 18.48 357 P P 23 38 26.1 -1.7
baz=176,slow=11,SNR=15
NOA LR LR 23 45 45.5
comp=Z,84nm,21.0s,baz=180,slow=38
comp=Z,5.9nm,0.8s
NC204 NORSAR Array S 18.74 356 P P 23 38 30.5 -0.2
GAZ Gaziantep 19.10 99 P Pn 23 38 35.5 -0.1
ARPR Arapgir-MALATY 19.23 92 P Pn 23 38 36.7 -0.6
SOC Sochi 19.28 78 eP Pn 23 38 37.6 -0.1
SOC e 23 42 16.1
SOC pmax pmax
comp=Z,12nm,0.7s
SOC MLR MLR
comp=Z,57nm,16.0s
VSR Storozhevoye 19.56 55 eP P 23 38 39.5 -0.1
VSR pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 19.64 42 P P 23 38 40.3 -0.1
OBN Obninsk 19.64 42 iP P 23 38 40.6 +0.2
OBN pmax pmax
comp=Z,22nm,1.3s
OBN MLR MLR
comp=Z,151nm,18.0s
OBN Obninsk 19.64 42 LR LR 23 46 55.1
comp=Z,173nm,21.6s,baz=330,slow=39
VORR Voronezh 19.71 54 eP P 23 38 40.7 -0.6
VORR pmax pmax
comp=Z,30nm,1.6s
LPSR Galich'ya Gora 19.84 51 eP P 23 38 42.3 -0.4
LPSR pmax pmax
comp=Z,30nm,0.8s
MMAI Mount Meron Ar 19.87 112 P P 23 38 42.2 -1.0
comp=Z,0.3nm,0.3s,baz=327,slow=9.0,SNR=7.9
MMAI LR LR 23 48 27.9
comp=Z,68nm,18.7s,baz=304,slow=43
comp=Z,1.8nm,0.7s
PUL Pulkovo 20.10 26 ceP P 23 38 45.8 +0.4
PUL pmax pmax
comp=Z,31nm,0.6s
FINES FINESS Array B 20.34 18 P P 23 38 47.0 -1.1
FINES FINESS Array B 20.34 18 P P 23 38 47.0 -1.1
FINES FINESS Array B 20.34 18 P P 23 38 45.5 -2.6
comp=Z,12nm,0.9s,baz=214,slow=13,SNR=4.2
FINES LR LR 23 47 23.0
comp=Z,154nm,19.3s,baz=211,slow=39
comp=Z,12nm,0.9s
MOS Moscow 20.47 42 eP P 23 38 47.9 -1.6
MOS e 23 39 07.8
MOS eS S 23 42 36.8 -1.6
MOS pmax pmax
comp=Z,43nm,1.2s
TAM Tamanrasset 20.82 201 P P 23 38 54.5 +0.8
TAM Tamanrasset 20.82 201 P P 23 38 54.5 +0.8
TAM pmax pmax
comp=Z,7.0nm,1.0s
VRH Novokhopyorsk 21.11 56 eP P 23 38 58.3 +1.9
VRH pmax pmax
comp=Z,40nm,0.9s
KIV Kislovodsk 21.38 76 P P 23 39 00.1 +0.5
KIV lAmb lAmb 23 39 11.4
comp=Z,22nm,1.0s
KIV Kislovodsk 21.38 76 eP P 23 38 59.4 -0.1
KIV pmax pmax
comp=Z,17nm,1.1s
KIV MLR MLR
comp=Z,56nm,14.0s
ASF Jabal al Asfar 21.38 111 P P 23 39 04.5 +4.8
comp=Z,7.9nm,0.8s,baz=318,slow=6.0,SNR=16
SHA1 Shidzhatmaz 21.38 77 iP P 23 39 00.2 +0.5
VALR Valaam 21.52 23 iP P 23 39 02.1 +1.3
VALR pmax pmax
comp=Z,105nm,0.9s
KBZ Khabaz 21.56 77 ceP P 23 39 02.6 +1.3
KBZ pmax pmax
comp=Z,15nm,0.9s
KBZ Khabaz 21.56 77 P P 23 39 02.5 +1.2
comp=Z,14nm,0.9s,baz=279,slow=9.4,SNR=21
KBZ LR LR 23 49 05.6
comp=Z,86nm,20.7s,baz=328,slow=42
comp=Z,14nm,0.9s
EIL Elat 21.66 120 P P 23 39 03.6 +1.1
comp=Z,3.3nm,0.7s,baz=16,slow=8.8,SNR=4.0
EIL LR LR 23 48 47.4
comp=Z,28nm,19.1s,baz=86,slow=40
comp=Z,3.3nm,0.7s
ONI Oni 22.14 80 P P 23 39 07.6 0.0
ONI lAmb lAmb 23 39 18.0
comp=Z,12nm,0.9s
ONI Oni 22.14 80 P P 23 39 07.6 0.0
ONI pmax pmax
comp=Z,12nm,0.9s
GURO Guroymak-BITLI 22.14 91 P P 23 39 08.3 +0.5
KARS Kars 22.29 85 P P 23 39 10.5 +1.1
KARS lAmb lAmb 23 39 23.8
comp=Z,15nm,0.7s
KARS Kars 22.29 85 P P 23 39 10.5 +1.1
KARS pmax pmax
comp=Z,15nm,0.7s
AKH Akhalkalaki 22.41 83 P P 23 39 09.2 -1.4
AKH lAmb lAmb 23 39 23.6
comp=Z,26nm,1.0s
AKH Akhalkalaki 22.41 83 P P 23 39 09.3 -1.4
AKH pmax pmax
comp=Z,27nm,1.0s
ZEI Tsey 22.43 79 eP P 23 39 12.9 +2.0
ZEI pmax pmax
comp=Z,13nm,1.5s
SIRT Sirnak 22.81 93 P P 23 39 15.9 +1.0
SIRT lAmb lAmb 23 39 33.6
comp=Z,26nm,0.8s
GNI Garni 23.64 85 P P 23 39 22.1 -1.3
GNI Garni 23.64 85 iP P 23 39 24.7 +1.3
GNI pmax pmax
comp=Z,12nm,1.1s
GNI Garni 23.64 85 LR LR 23 52 12.3
comp=Z,38nm,18.1s,baz=304,slow=46
KLMR Klimovskoe 24.14 32 eP P 23 39 26.4 -1.3
KLMR AMP 23 39 35.8
comp=Z,37nm,1.7s
KLMR LR LR 23 48 41.8
KLMR LRM MLR 23 49 59.7
KLMR Klimovskoe 24.14 32 eP P 23 39 26.4 -1.3
KLMR pmax pmax
comp=Z,37nm,1.7s
BELG Belogornoye 24.94 55 iP P 23 39 35.8 +0.8
BELG pmax pmax
comp=Z,8.0nm,0.9s
BELG Belogornoye 24.94 55 LR LR 23 50 37.2
comp=Z,196nm,18.5s,baz=159,slow=40
MAK Makhachkala 25.00 78 eP P 23 39 32.9 -2.8
MAK eS S 23 43 56.3 -3.2
MAK MLR MLR
comp=Z,181nm,15.0s
PRGR Permogore 27.04 34 eP P 23 39 53.2 -0.7
PRGR pmax pmax
comp=Z,8.0nm,0.7s
KIRV Kirov 27.49 42 ceP P 23 39 58.0 0.0
KIRV Kirov 27.49 42 LR LR 23 52 01.4
comp=Z,154nm,19.4s,baz=254,slow=39
ARCES ARCESS Array B 27.70 9 LR LR 23 50 03.8
comp=Z,114nm,18.2s,baz=226,slow=34
LVZ Lovozero 27.78 17 ceP P 23 40 01.4 +0.8
LVZ pmax pmax
comp=Z,69nm,1.7s
TOA0 Torodi Ar. Sit 31.05 202 P P 23 40 30.0 +0.1
TOA0 lAmb lAmb 23 40 37.7
comp=Z,3.7nm,0.8s
TORD Torodi Ar. Bea 31.05 202 P P 23 40 31.1 +1.1
comp=Z,1.0nm,0.4s,baz=17,slow=8.5,SNR=11
TORD LR LR 23 54 22.7
comp=Z,168nm,19.4s,baz=332,slow=39
comp=Z,1.0nm,0.4s
AKTO Aktyubinsk 31.33 60 LR LR 23 55 01.6
comp=Z,108nm,19.2s,baz=333,slow=40

ARU	**Arti**	**31.82**	**48**	P	**P**	**23 40 35.8**	**-0.7**
ARU	**Arti**	**31.82**	**48**	*d i*P	**P**	**23 40 35.2**	**-1.3**
ARU				S	**S**	**23 45 46.0**	**-0.6**
ARU				SS	**SnSn**	**23 47 33.7**	**-0.1**
ARU				pmax	pmax		
	comp=Z,33nm,0.8s						
ARU	**Arti**	**31.82**	**48**	LR	LR	23 54 38.2	
	comp=Z,119nm,19.1s,baz=276,slow=39						
SVE	**Sverdlovsk**	**33.00**	**48**	*ce*P	**P**	**23 40 47.8**	**+1.0**
SVE				pmax	pmax		
	comp=Z,23nm,0.8s						
GEYT	**Alibeck**	**34.20**	**83**	P	**P**	**23 40 55.9**	**-1.6**
GEYT				IAmb	IAmb	23 41 00.1	
	comp=Z,4.4nm,0.7s						
GEYT	**Alibeck**	**34.20**	**83**	P	**P**	**23 40 55.9**	**-1.6**
GEYT				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GEYT	**Alibeck**	**34.20**	**83**	P	**P**	**23 40 57.2**	**-0.3**
	comp=Z,3.6nm,0.7s,baz=29,slow=3.4,SNR=6.4						
GEYT				LR	LR	23 58 38.4	
	comp=Z,48nm,19.4s,baz=270,slow=43						
	comp=Z,3.6nm,0.7s						
BRVK	**Borovoye**	**38.67**	**54**	P	**P**	**23 41 36.2**	**+0.8**
BRVK				IAmb	IAmb	23 41 38.5	
	comp=Z,13nm,0.8s						
BRVK	**Borovoye**	**38.67**	**54**	*ce*P	**P**	**23 41 36.2**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,15nm,1.0s						
HRA	**Herat**	**38.71**	**86**	P	**P**	**23 41 35.7**	**-0.5**
BVAR	**Borovoye Array**	**38.74**	**54**	P	**P**	**23 41 35.8**	**-0.2**
	comp=Z,8.3nm,0.8s,baz=276,slow=7.3,SNR=37						
BVAR				LR	LR	23 58 52.4	
	comp=Z,153nm,19.7s,baz=288,slow=38						
	comp=Z,8.3nm,0.8s						
DBIC	**Dimbokro**	**39.25**	**209**	P	**P**	**23 41 40.8**	**+0.2**
DBIC				IAmb	IAmb	23 41 43.5	
	comp=Z,10nm,1.1s						
DBIC	**Dimbokro**	**39.25**	**209**	P	**P**	**23 41 40.8**	**+0.2**
DBIC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
DBIC	**Dimbokro**	**39.25**	**209**	P	**P**	**23 41 41.8**	**+1.3**
	comp=Z,4.7nm,0.9s,baz=357,slow=14,SNR=3.6						
DBIC				LR	LR	23 58 08.2	
	comp=Z,70nm,19.2s,baz=8.5,slow=36						
	comp=Z,4.7nm,0.9s						
UOSS	**Minazif**	**39.30**	**103**	P	**P**	**23 41 41.6**	**+0.6**
UOSS				IAmb	IAmb	23 41 43.2	
	comp=Z,13nm,0.8s						
ATD	**Arta Tunnel**	**40.24**	**132**	P	**P**	**23 41 49.6**	**+0.6**
KK31	**Karatay Array**	**41.22**	**69**	P	**P**	**23 41 57.2**	**+0.4**
KK31				IAmb	IAmb	23 42 00.3	
	comp=Z,6.3nm,0.9s						
KK31	**Karatay Array**	**41.22**	**69**	P	**P**	**23 41 57.2**	**+0.4**
KK31				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KKAR	**Karatay Array**	**41.22**	**69**	P	**P**	**23 41 57.3**	**+0.5**
KKAR				IAmb	IAmb	23 42 00.3	
	comp=Z,6.3nm,0.9s						
KKAR	**Karatay Array**	**41.22**	**69**	P	**P**	**23 41 57.3**	**+0.5**
KKAR	**Karatay Array**	**41.22**	**69**	P	**P**	**23 41 57.3**	**+0.5**
KKAR						23 41 57.3	
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SFJD	**Kangerlussuaq**	**41.59**	**328**	P	**P**	**23 41 59.8**	**+0.4**
SFJD				IAmb	IAmb	23 42 01.7	
	comp=Z,9.1nm,0.8s						
SFJD	**Kangerlussuaq**	**41.59**	**328**	P	**P**	**23 41 59.8**	**+0.4**
SFJD				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SFJD	**Kangerlussuaq**	**41.59**	**328**	LR	LR	23 59 19.1	
	comp=Z,46nm,18.5s,baz=106,slow=36						
WSAR	**Wadi Sarin**	**42.09**	**103**	LR	LR	00 02 25.6	
	comp=Z,39nm,18.5s,baz=41,slow=40						
LODK	**Lodwar**	**43.71**	**147**	P	**P**	**23 42 18.0**	**+0.7**
AAK	**Ala-Archa**	**44.12**	**68**	P	**P**	**23 42 22.0**	**+1.5**
AAK	**Ala-Archa**	**44.12**	**68**	P	**P**	**23 42 22.0**	**+1.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AAK	**Ala-Archa**	**44.12**	**68**	LR	LR	00 03 56.1	
	comp=Z,104nm,18.3s,baz=320,slow=40						
KURBB	**Kurchatov Arra**	**44.18**	**56**	P	**P**	**23 42 20.4**	**-0.3**
	comp=Z,0.5nm,0.2s,baz=296,slow=9.7,SNR=7.9						
KURBB				LR	LR	00 02 15.1	
	comp=Z,116nm,18.7s,baz=170,slow=38						
	comp=Z,0.5nm,0.2s						
KURK	**Kurchatov**	**44.21**	**56**	P	**P**	**23 42 21.4**	**+0.5**
KURK	**Kurchatov**	**44.21**	**56**	*ce*P	**P**	**23 42 20.1**	**-0.8**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KSH	**Kashi**	**46.39**	**72**	P	**P**	**23 42 40.2**	**+1.7**
KSH				pP	sP	23 42 43.2	-0.2
KSH				sP	pP	23 42 46.9	+4.9
KSH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ZAA0	**Zalesovo Array**	**46.95**	**50**	P	**P**	**23 42 43.2**	**+0.6**
ZAA0				IAmb	IAmb	23 42 44.6	
	comp=Z,4.3nm,0.8s						
ZALV	**Zalesovo Beam**	**46.95**	**50**	P	**P**	**23 42 43.1**	**+0.5**
ZALV	**Zalesovo Beam**	**46.95**	**50**	P	**P**	**23 42 43.1**	**+0.5**
ZALV	**Zalesovo Beam**	**46.95**	**50**	P	**P**	**23 42 42.5**	**0.0**
	comp=Z,3.1nm,0.6s,baz=283,slow=7.4,SNR=17						
ZALV				PP	**PP**	**23 44 32.1**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=290,slow=9.3,SNR=5.1						
ZALV				LR	LR	00 04 07.7	
	comp=Z,72nm,21.6s,baz=265,slow=38						
	comp=Z,3.1nm,0.6s						
NIL	**Nilore**	**47.12**	**80**	P	**P**	**23 42 44.5**	**+0.3**
NIL	**Nilore**	**47.12**	**80**	P	**P**	**23 42 44.5**	**+0.3**
NIL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TULEG	**Thule**	**47.18**	**342**	P	**P**	**23 42 44.6**	**+0.5**
MK31	**Makanchi Array**	**47.77**	**60**	P	**P**	**23 42 49.6**	**+0.6**
MK31				IAmb	IAmb	23 42 51.3	
	comp=Z,2.4nm,0.8s						
MK31	**Makanchi Array**	**47.77**	**60**	*ce*P	**P**	**23 42 49.4**	**+0.3**
MKAR	**Makanchi Array**	**47.77**	**60**	P	**P**	**23 42 49.7**	**+0.6**
	comp=Z,3.2nm,0.7s,baz=289,slow=5.9,SNR=21						
MKAR				PcP	**PcP**	**23 44 18.6**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=308,slow=6.0,SNR=2.4						
MKAR				LR	LR	00 06 59.5	
	comp=Z,86nm,18.3s,baz=287,slow=41						
	comp=Z,3.2nm,0.7s						
KMBO	**Kilima Mbogo**	**48.61**	**147**	LR	LR	00 05 02.5	
	comp=Z,33nm,18.9s,baz=86,slow=38						
FRB	**Frobisher Bay**	**49.39**	**325**	LR	LR	00 04 50.0	
	comp=Z,40nm,20.5s,baz=306,slow=37						
DGZ	**Jazzator, Alta**	**49.89**	**55**	*i* P	**P**	**23 43 06.0**	**+0.5**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
EUNU	**Eureka**	**50.00**	**347**	P	**P**	**23 43 07.2**	**+1.4**
EUNU				IAmb	IAmb	23 43 09.8	
	comp=Z,4.6nm,0.9s						
WMQ	**Urumqi**	**52.46**	**62**	*e*P	**P**	**23 43 28.0**	**+3.3**
PYUN	**Piuthan**	**57.14**	**80**	*e*P	**P**	**23 44 00.0**	**+0.9**
	comp=Z,25nm,0.8s						
TIXI	**Tiksi**	**57.37**	**20**	P	**P**	**23 44 00.6**	**+0.8**
TIXI				IAmb	IAmb	23 44 03.2	
	comp=Z,5.1nm,1.1s						
TIXI	**Tiksi**	**57.37**	**20**	*ce*P	**P**	**23 44 01.8**	**+2.0**
DANN	**Dangsing**	**57.56**	**80**	*e*P	**P**	**23 44 02.6**	**+0.5**
	comp=Z,12nm,0.6s						
PKI	**Pulchoki**	**59.20**	**80**	*e*P	**P**	**23 44 13.9**	**+0.3**
	comp=Z,19nm,1.1s						
GUN	**Gumba**	**59.35**	**79**	*e*P	**P**	**23 44 15.3**	**+0.6**
	comp=Z,21nm,0.8s						
JIRN	**Jiri**	**59.72**	**79**	*e*P	**P**	**23 44 17.8**	**+0.6**
	comp=Z,14nm,0.8s						
RAMN	**Ramite**	**60.42**	**79**	*e*P	**P**	**23 44 22.8**	**+0.9**
	comp=Z,26nm,0.8s						
TAPN	**Taplejung**	**60.99**	**78**	*e*P	**P**	**23 44 26.2**	**+0.3**
	comp=Z,33nm,1.4s						
SONM	**Songino Array**	**61.84**	**50**	P	**P**	**23 44 30.8**	**-0.4**
	comp=Z,4.5nm,0.8s,baz=291,slow=8.4,SNR=37						
	comp=Z,4.5nm,0.8s						
A36M	**Sachs Harbour**	**62.02**	**347**	P	**P**	**23 44 32.5**	**+0.7**
A36M				IAmb	IAmb	23 44 35.6	
	comp=Z,4.7nm,0.9s						
LSA	**Lhasa**	**62.10**	**74**	P	**P**	**23 44 33.0**	**-0.6**
LSA	**Lhasa**	**62.10**	**74**	P	**P**	**23 44 33.0**	**-0.6**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ULN	**Ulaanbaatar**	**62.20**	**49**	P	**P**	**23 44 35.0**	**+1.4**
ULN				IAmb	IAmb	23 44 43.7	
	comp=Z,4.5nm,0.9s						
ULN	**Ulaanbaatar**	**62.20**	**49**	*ce*P	**P**	**23 44 34.3**	**+0.7**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
FCC	**Fort Churchill**	**62.56**	**326**	P	**P**	**23 44 36.3**	**+0.8**
FCC				IAmb	IAmb	23 44 37.0	
	comp=Z,3.7nm,1.0s						
FCC	**Fort Churchill**	**62.56**	**326**	P	**P**	**23 44 36.3**	**+0.8**
FCC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YAK	**Yakutsk**	**63.86**	**28**	*ce*P	**P**	**23 44 43.5**	**-0.6**
YAK				pmax	pmax		
	comp=Z,17nm,0.7s						
LZH	**Lanzhou**	**67.04**	**62**	*e*P	**P**	**23 45 01.4**	**-4.0**
LZH				pmax	pmax		
	comp=Z,14nm,1.2s						
YKA	**Yellowknife Ar**	**67.23**	**337**	P	**P**	**23 45 05.3**	**-0.5**
	comp=Z,3.1nm,1.0s,baz=43,slow=6.4,SNR=29						
	comp=Z,3.1nm,1.0s						
F31M	**Tsiigehtchic**	**67.45**	**347**	P	**P**	**23 45 07.0**	**-0.1**
M50A	**Fremont**	**67.47**	**306**	P	**P**	**23 45 07.8**	**0.0**
BILL	**Bilibino**	**67.79**	**11**	*i* P	**P**	**23 45 10.6**	**+1.2**
BTO	**Baotou**	**68.17**	**55**	*e*P	**P**	**23 45 13.6**	**+1.2**
BTO				pP	sP	23 45 26.8	+9.4
BTO				sP	**PcP**	**23 45 32.0**	**-6.3**
BTO				PP	**PP**	**23 47 45.2**	**+2.9**
BTO				S	**S**	**23 54 15.9**	**+3.3**
BTO	**Baotou**	**68.17**	**55**	SS	SS	23 58 32.9	-1.7
BTO				pmax	pmax		
	comp=Z,13nm,0.8s						
BTO				pmax	pmax		
	comp=Z,210nm,4.3s						
BTO				LR	LR		
	comp=N,350nm,15.1s						
BTO				LR	LR		
	comp=E,400nm,16.4s						
BTO				LR	LR		
	comp=Z,380nm,20.2s						
ULM	**Lac du Bonnet**	**68.80**	**319**	P	**P**	**23 45 16.6**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=95,slow=3.3,SNR=3.5						
	comp=Z,1.7nm,0.7s						
ILAR	**Eielson Array**	**71.82**	**351**	P	**P**	**23 45 34.0**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=358,slow=5.8,SNR=6.7						
	comp=Z,0.7nm,0.8s						
ECSD	**EROS Data Cent**	**73.59**	**315**	P	**P**	**23 45 46.2**	**+1.1**
ECSD				IAmb	IAmb	23 45 48.8	
	comp=Z,3.8nm,0.9s						
E28A	**Huff**	**73.66**	**319**	P	**P**	**23 45 46.7**	**+1.2**
KLR	**Kul'dur**	**73.79**	**37**	*i* P	**P**	**23 45 47.1**	**+0.9**
KLR				pmax	pmax		
	comp=Z,9.0nm,2.0s						
CMAR	**Chiang Mai Arr**	**74.59**	**79**	P	**P**	**23 45 51.1**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=308,slow=7.4,SNR=14						
	comp=Z,2.9nm,0.8s						
EGMT	**Eagleton**	**76.71**	**325**	P	**P**	**23 46 04.3**	**+1.1**
KSU1	**Kansas State U**	**76.81**	**311**	P	**P**	**23 46 04.3**	**+0.6**
SDV	**Santo Domingo**	**79.60**	**272**	P	**P**	**23 46 19.1**	**-0.6**
SDV				IAmb	IAmb	23 46 24.6	
	comp=Z,3.8nm,0.7s						
KSRS	**Korea Array**	**80.56**	**47**	P	**P**	**23 46 24.2**	**-0.2**
	comp=Z,2.3nm,0.9s,baz=327,slow=5.6,SNR=4.5						
	comp=Z,2.3nm,0.9s						
PDAR	**Pinedale Array**	**80.70**	**321**	P	**P**	**23 46 26.5**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=57,slow=5.5,SNR=6.9						
	comp=Z,0.9nm,0.8s						
BDFB	**Brasilia**	**80.77**	**239**	P	**P**	**23 46 27.2**	**+1.4**
	comp=Z,4.6nm,0.8s,baz=67,slow=4.6,SNR=8.0						
	comp=Z,4.6nm,0.8s						
ISCO	**Idaho Springs**	**81.07**	**317**	P	**P**	**23 46 28.9**	**+1.3**
ISCO				IAmb	IAmb	23 46 35.6	
	comp=Z,4.0nm,0.9s						
ISCO	**Idaho Springs**	**81.07**	**317**	P	**P**	**23 46 28.9**	**+1.3**
ISCO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WMOK	**Wichita Mounta**	**81.13**	**309**	P	**P**	**23 46 27.3**	**-0.3**
WMOK	**Wichita Mounta**	**81.13**	**309**	P	**P**	**23 46 27.3**	**-0.3**
WMOK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BMO	**Blue Mountains**	**82.38**	**327**	P	**P**	**23 46 34.4**	**+0.3**
BMO	**Blue Mountains**	**82.38**	**327**	P	**P**	**23 46 34.4**	**+0.3**
BMO				pmax	pmax		
	comp=Z,11nm,1.0s						
RDMU	**Red Mountain**	**82.42**	**320**	P	**P**	**23 46 35.4**	**+0.8**
HWUT	**Hardware Ranch**	**82.54**	**322**	P	**P**	**23 46 35.4**	**+0.3**
HWUT				IAmb	IAmb	23 46 39.4	
	comp=Z,6.7nm,1.0s						
SDCO	**Great Sand Dun**	**82.57**	**316**	P	**P**	**23 46 35.1**	**-0.3**
G08A	**Pilot Rock**	**82.67**	**328**	P	**P**	**23 46 34.8**	**-0.8**
G08A				IAmb	IAmb	23 46 50.7	
	comp=Z,3.3nm,1.0s						
S22A	**4UR Ranch, Cre**	**83.25**	**316**	P	**P**	**23 46 39.5**	**+0.6**
S22A				IAmb	IAmb	23 46 43.1	
	comp=Z,3.7nm,0.8s						
JLU	**Jordanelle**	**83.28**	**321**	P	**P**	**23 46 39.5**	**+0.5**
JLU				IAmb	IAmb	23 46 42.8	
	comp=Z,2.9nm,0.8s						
POST	**Post**	**83.89**	**310**	P	**P**	**23 46 39.7**	**-2.4**
POST				IAmb	IAmb	23 46 43.8	
	comp=Z,14nm,0.6s						
MSTX	**Muleshoe**	**83.94**	**311**	P	**P**	**23 46 42.8**	**+0.5**
MSTX				IAmb	IAmb	23 46 45.7	
	comp=Z,2.9nm,0.9s						
SRU	**San Rafael Swe**	**84.02**	**319**	P	**P**	**23 46 43.2**	**+0.4**
SRU	**San Rafael Swe**	**84.02**	**319**	P	**P**	**23 46 43.2**	**+0.4**
SRU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NLU	**North Lily Min**	**84.08**	**321**	P	**P**	**23 46 42.9**	**-0.2**
NLU				IAmb	IAmb	23 46 51.6	
	comp=Z,4.4nm,1.1s						
J08A	**Circle Bar Ran**	**84.09**	**327**	P	**P**	**23 46 42.7**	**-0.3**
J08A				IAmb	IAmb	23 46 46.4	
	comp=Z,4.8nm,0.9s						
ANMO	**Albuquerque**	**85.20**	**314**	*ce*P	**P**	**23 46 50.6**	**+1.8**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.7s						
TXAR	**Lajitas Array**	**87.91**	**309**	P	**P**	**23 47 03.4**	**+1.4**
	comp=Z,0.7nm,0.9s,baz=79,slow=2.7,SNR=4.2						
	comp=Z,0.7nm,0.9s						
ASAR	**Alice Springs**	**127.86**	**89**	PKP	**PKiKP**	**23 53 18.1**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=350,slow=1.0,SNR=5.6						

IDC 03 23:43:46.3±1.9**, 13°.68S**×**170°.22E, h0**km**, mb3.7**/3**, mbtmp3.7**/4**, ML3.5**/1**, Error ellipse: s-maj=93.3km s-min=30.5km az=129.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.09**	**203**	Pn	Pn	23 45 58.9	0.0
	0.6nm,0.3s,baz=346,slow=19,SNR=1.4						
	4.4nm,0.8s						
ASAR	**Alice Springs**	**35.72**	**248**	P	P	23 50 46.9	-0.1
	0.5nm,0.7s,baz=73,slow=9.2,SNR=6.0						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**84.67**	**17**	P	P	23 56 22.3	+0.7
	0.5nm,0.7s,baz=236,slow=4.8,SNR=5.4						
	0.5nm,0.7s						
YKA	**Yellowknife Ar**	**95.32**	**27**	P	P	23 57 10.9	-1.1
	0.2nm,0.8s,baz=248,slow=3.8,SNR=3.5						
	0.2nm,0.8s						

*NEIC **03** 23:47:20.9±2.3, 13°.66S±0°.09×170°.66E±0°.08, h10km±1km, mb4.8/23, Error ellipse: s-maj=19.0km s-min=5.1km az=138.0*

*IDC **03** 23:47:21.4±1.5, 13°.63S×170°.45E, h0km, mb3.8/6, mbtmp3.9/7, ML3.2/1, MS3.7/2, Error ellipse: s-maj=46.5km s-min=27.0km az=120.0*

ISC 03 23:47:20.4±0.5**, 13°.66S**±0°.08×**170°.64E**±0°.09**, h10**km**, n38, σ1s37**/37**, mb4.5**/19**, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**8.17**	**197**	Pn	**Pn**	**23 49 17.2**	**-1.8**
KOUNC	**Koumac, New Ca**	**9.16**	**221**		**Pn**	**23 49 30.2**	**-2.4**
DZM	**Mont Dzumac**	**9.27**	**205**	Pn	**Pn**	**23 49 33.5**	**-0.8**
DZM	**Mont Dzumac**	**9.27**	**205**	Pn	**Pn**	**23 49 34.2**	**-0.1**
	0.3nm,0.3s,baz=29,slow=19,SNR=3.0						
DZM				LR	LR	23 52 46.5	
	comp=Z,139nm,20.0s,baz=359,slow=35						
	9.5nm,1.0s						
OUENC	**Ouen Island, N**	**9.43**	**202**	Pn	**Pn**	**23 49 36.9**	**+0.6**
FUNA	**Funafuti**	**9.82**	**60**	Pn	**Pn**	**23 49 41.3**	**-0.5**
HNR	**Honiara**	**11.29**	**291**	LR	LR	23 54 00.1	
	comp=Z,1μm,20.4s,baz=117,slow=36						
PMG	**Port Moresby**	**23.39**	**278**	P	**P**	**23 52 29.4**	**-0.2**
PMG				IAmb	IAmb	23 52 46.8	
	comp=Z,15nm,0.9s						
ARMA	**Armidale**	**24.20**	**223**	P	**P**	**23 52 37.7**	**+0.4**
ARMA				IAmb	IAmb	23 52 51.0	
	comp=Z,21nm,1.4s						
COEN	**Coen**	**26.67**	**266**	P	**P**	**23 52 57.6**	**-2.2**
COEN				IAmb	IAmb	23 53 12.1	
	comp=Z,7.3nm,1.1s						
MRZ	**Mangatainoka R**	**27.25**	**172**	P	**P**	**23 53 04.6**	**-0.1**
LTZ	**Lake Taylor**	**29.05**	**178**	P	**P**	**23 53 20.5**	**-0.4**
WKZ	**Wanaka**	**31.09**	**182**	P	**P**	**23 53 37.7**	**-1.2**
WKZ				IAmb	IAmb	23 53 39.2	
	comp=Z,17nm,1.1s						
STKA	**Stephens Creek**	**32.19**	**231**	P	**P**	**23 53 48.5**	**-0.2**
STKA	**Stephens Creek**	**32.19**	**231**	P	**P**	**23 53 51.9**	**+3.3**
	comp=Z,3.0nm,0.9s,baz=98,slow=7.1,SNR=3.6						
	comp=Z,3.0nm,0.9s						
TOO	**Toolangi**	**32.69**	**219**	P	**P**	**23 53 53.8**	**+0.8**
TOO				IAmb	IAmb	23 53 55.8	
	comp=Z,4.7nm,0.9s						
WB0	**Warramunga Arr**	**35.19**	**255**		**P**	**23 54 14.7**	**-0.3**
WRA	**Warramunga Arr**	**35.26**	**255**	P	**P**	**23 54 16.3**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=86,slow=9.0,SNR=2.8						
	comp=Z,0.7nm,0.9s						
XMAS	**Kiritimati**	**35.28**	**66**	P	**P**	**23 54 16.2**	**+0.5**
ASAR	**Alice Springs**	**36.10**	**249**	P	**P**	**23 54 23.0**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=77,slow=8.9,SNR=11						
	comp=Z,1.6nm,0.9s						
KNRA	**Kununurra**	**40.52**	**262**	P	**P**	**23 55 00.8**	**+0.8**
KNRA				IAmb	IAmb	23 55 09.2	
	comp=Z,9.0nm,0.9s						
MCQ	**Macquarie Isla**	**41.77**	**190**	P	**P**	**23 55 08.4**	**-1.3**
MCQ				IAmb	IAmb	23 55 17.5	
	comp=Z,37nm,1.1s						
MIDW	**Midway**	**43.22**	**16**	P	**P**	**23 55 20.8**	**-1.0**
KIP	**Kipapa**	**46.50**	**42**	P	**P**	**23 55 48.5**	**+0.4**
JAGI	**Jajag, Banyuwa**	**55.58**	**269**	P	**P**	**23 56 56.6**	**-0.1**
JAGI				IAmb	IAmb	23 57 06.4	
	comp=Z,12nm,1.0s						
JNU	**Nakatsue**	**60.03**	**322**	P	**P**	**23 57 27.5**	**-0.1**
JNU				IAmb	IAmb	23 57 40.9	
	comp=Z,7.3nm,0.9s						
JHS	**Saijyo**	**60.07**	**325**	P	**P**	**23 57 28.5**	**+0.6**
YULB	**Yu-li**	**60.71**	**307**	P	**P**	**23 57 31.6**	**-0.8**
VNDA	**Vanda**	**64.02**	**182**	P	**P**	**23 57 55.8**	**+2.1**
VNDA	**Vanda**	**64.02**	**182**	P	**P**	**23 57 56.6**	**+2.9**
	comp=Z,0.6nm,0.5s,baz=6.8,slow=9.0,SNR=2.4						
	comp=Z,0.6nm,0.5s						
PETK	**Petropavlovsk-**	**67.42**	**352**	P	**P**	**23 58 16.0**	**+0.1**
OHAK	**Old Harbor**	**76.67**	**19**	P	**P**	**23 59 09.8**	**-1.4**
OHAK				IAmb	IAmb	23 59 24.6	
	comp=Z,12nm,1.0s						
SONM	**Songino Array**	**83.62**	**322**	P	**P**	**23 59 51.8**	**+2.6**
	comp=Z,0.8nm,1.0s,baz=116,slow=5.2,SNR=3.0						
	comp=Z,0.8nm,1.0s						
ILAR	**Eielson Array**	**84.53**	**17**	P	**P**	**23 59 54.0**	**+0.7**
ILAR	**Eielson Array**	**84.53**	**17**	P	**P**	**23 59 55.7**	**+2.4**
	comp=Z,0.7nm,0.8s,baz=219,slow=5.1,SNR=6.5						
	comp=Z,0.7nm,0.8s						
SKAG	**Skagway**	**84.85**	**25**	P	**P**	**23 59 54.5**	**-0.4**
SKAG				IAmb	IAmb	23 59 55.9	
	comp=Z,19nm,1.5s						
WVOR	**Wild Horse Val**	**85.42**	**45**	P	**P**	**23 59 59.2**	**+0.7**
WVOR				IAmb	IAmb	00 00 02.4	
	comp=Z,13nm,0.8s						
PHWY	**Pilot Hill**	**94.39**	**49**	P	**P**	**00 00 39.9**	**-1.2**
PHWY				IAmb	IAmb	00 00 42.2	
	comp=Z,5.6nm,1.0s						

*SJA **03** 23:57:53.2±0.7, 20°.85S×69°.18W, h109km±3km, ML3.5, MW3.6*

*IDC **03** 23:57:53.5±2.5, 21°.14S×67°.55W, h49km±30km, mb3.0/2, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=38.1km s-min=18.5km az=115.0*

*GUC **03** 23:57:54.6±0.6, 20°.86S×69°.09W, h101km±3km, ML3.5*

ISC 03 23:57:53.5±1.0**, 20°.88S**±0°.03×**69°.16W**±0°.06**, h109**km±7km**, n39, σ1s59**/70**, 2C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.35**	**241**	*e*P	**Pn**	**23 58 09.5**	**0.0**
PB01				*e*S	**Sn**	**23 58 21.7**	**+0.3**
PB01				IAML		23 58 22.1	
	comp=Z,4μm,0.2s						
PB01	**IPOC Station P**	**0.35**	**241**	*i* P	**Pn**	**23 58 09.5**	**0.0**
PB01				*e*S	**Sn**	**23 58 21.3**	**-0.2**
PB01				IAML		23 58 22.2	
	comp=N,6μm,0.2s						
PX03	**IPOC Station P**	**0.64**	**317**	*i* P	**Pn**	**23 58 10.8**	**-0.6**
PX03				*e*S	**Sn**	**23 58 24.3**	**-0.5**
PX03				IAML		23 58 26.3	
	comp=N,3μm,0.3s						
PB08	**IPOC Station P**	**0.73**	**1**	*e*P	**Pn**	**23 58 12.5**	**0.0**
PB08				*e*S	**Sn**	**23 58 27.3**	**+0.6**
PB08				IAML		23 58 27.4	
	comp=Z,622nm,0.3s						
PB08	**IPOC Station P**	**0.73**	**1**	*i* P	**Pn**	**23 58 12.5**	**0.0**
PB08				*e*S	**Sn**	**23 58 26.4**	**-0.3**
PB08				IAML		23 58 27.7	
	comp=E,1μm,0.3s						
PB02	**IPOC Station P**	**0.81**	**237**	*e*P	**Pn**	**23 58 13.5**	**+0.6**
PB02				*e*S	**Sn**	**23 58 28.7**	**+1.2**
PB02				IAML		23 58 31.0	
	comp=Z,2μm,0.3s						
PB02	**IPOC Station P**	**0.81**	**237**	⇑ *i*P	**Pn**	**23 58 13.5**	**+0.6**
PB02				*e*S	**Sn**	**23 58 27.9**	**+0.4**
PB02				IAML		23 58 29.2	
	comp=N,3μm,0.3s						
PB09	**IPOC Station P**	**0.92**	**185**	*e*P	**Pn**	**23 58 14.6**	**+0.6**
PB09				*e*S	**Sn**	**23 58 30.8**	**+1.4**
PB09				IAML		23 58 32.2	
	comp=Z,652nm,0.2s						
PB09	**IPOC Station P**	**0.92**	**185**	*i* P	**Pn**	**23 58 14.6**	**+0.6**
PB09				*e*S	**Sn**	**23 58 30.0**	**+0.6**
PB09				IAML		23 58 31.6	
	comp=N,1μm,0.3s						
PATCX	**Punta Patache**	**0.93**	**273**	*e*P	**Pn**	**23 58 14.0**	**0.0**
PATCX				*e*S	**Sn**	**23 58 31.2**	**+1.8**
PATCX	**Punta Patache**	**0.93**	**273**	*i* P	**Pn**	**23 58 14.5**	**+0.5**
PATCX				*e*S	**Sn**	**23 58 30.2**	**+0.9**
PATCX				IAML		23 58 32.1	
	comp=N,3μm,0.3s						
TA01	**Diego Aracena**	**1.00**	**288**	*e*P	**Pn**	**23 58 15.0**	**+0.4**
TA01				*e*S	**Sn**	**23 58 32.1**	**+1.6**
TA01				IAML		23 58 34.9	
	comp=Z,367nm,0.2s						
TA01	**Diego Aracena**	**1.00**	**288**	*i* P	**Pn**	**23 58 14.7**	**+0.1**
TA01				*e*S	**Sn**	**23 58 30.7**	**+0.1**
TA01				IAML		23 58 32.5	
	comp=E,1μm,0.1s						
PB07	**IPOC Station P**	**1.08**	**218**	*e*P	**Pn**	**23 58 16.4**	**+0.7**
PB07				*e*S	**Sn**	**23 58 33.2**	**+0.8**
PB07				IAML		23 58 36.5	
	comp=Z,391nm,0.1s						
PB07	**IPOC Station P**	**1.08**	**218**	*i* P	**Pn**	**23 58 16.3**	**+0.7**
PB07				*e*S	**Sn**	**23 58 32.7**	**+0.3**
PB07				IAML		23 58 35.5	
	comp=N,749nm,0.2s						
TA02	**Huaiquique**	**1.09**	**303**	*e*P	**Pn**	**23 58 15.9**	**+0.4**
TA02				*e*S	**Sn**	**23 58 33.4**	**+1.2**
TA02				IAML		23 58 35.0	
	comp=Z,2μm,0.1s						
TA02	**Huaiquique**	**1.09**	**303**	*i* P	**Pn**	**23 58 15.3**	**-0.2**
TA02				*e*S	**Sn**	**23 58 32.5**	**+0.3**
GO01	**Chusmiza**	**1.20**	**359**	*e*P	**Pn**	**23 58 17.5**	**+0.2**
GO01				*e*S	**Sn**	**23 58 36.0**	**+0.7**
GO01	**Chusmiza**	**1.20**	**359**	⇑ *i*P	**Pn**	**23 58 17.3**	**0.0**
GO01				*e*S	**Sn**	**23 58 35.0**	**-0.2**
PB11	**IPOC Station P**	**1.20**	**337**	*e*P	**Pn**	**23 58 17.1**	**+0.1**
PB11				*e*S	**Sn**	**23 58 34.9**	**+0.2**
PB11				IAML		23 58 36.6	
	comp=Z,1μm,0.3s						
PB11	**IPOC Station P**	**1.20**	**337**	*i* P	**Pn**	**23 58 17.1**	**+0.1**
PB11				*e*S	**Sn**	**23 58 34.7**	**0.0**
PB11				IAML		23 58 35.7	
	comp=E,3μm,0.3s						
PB04	**IPOC Station P**	**1.72**	**212**	*e*P	**Pn**	**23 58 24.3**	**+1.2**
PB04				*e*S	**Sn**	**23 58 46.5**	**+1.0**
PB04				IAML		23 59 02.6	
	comp=Z,206nm,0.3s						
PB04	**IPOC Station P**	**1.72**	**212**	*i* P	**Pn**	**23 58 23.9**	**+0.9**
PB04				*e*S	**Sn**	**23 58 46.2**	**+0.7**
PB04				IAML		23 58 56.1	
	comp=E,207nm,0.1s						
LVC	**Limon Verde**	**1.74**	**172**	*e*P	**Pn**	**23 58 24.8**	**+1.3**
LVC				*e*S	**Sn**	**23 58 48.3**	**+1.9**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LVC	Limon Verde	1.74	172	P	Pn	23 58 24.3	+0.8
	comp=E,24nm,0.4s,baz=33,slow=12,SNR=46						
LVC				S	Sn	23 58 48.0	+1.6
	comp=E,145nm,0.3s,baz=120,slow=20,SNR=18						
LVC	Limon Verde	1.74	172	*i* P	Pn	23 58 24.5	+0.9
LVC				*e*S	Sn	23 58 47.1	+0.7
LVC				IAML		23 58 50.1	
	comp=E,1μm,0.4s						
PB06	IPOC Station P	1.86	192	*e*P	Pn	23 58 26.5	+1.7
PB06				*e*S	Sn	23 58 52.9	+4.2
PB06				IAML		23 58 53.7	
	comp=Z,249nm,0.3s						
PB06	IPOC Station P	1.86	192	*i* P	Pn	23 58 25.8	+1.0
PB06				IAML		23 58 54.7	
	comp=E,262nm,0.3s						
PB05	IPOC Station P	2.19	206	*e*P	Pn	23 58 30.1	+1.1
PB05				*e*S	Sn	23 58 55.7	-0.5
PB05	IPOC Station P	2.19	206	*i* P	Pn	23 58 29.9	+0.9
PB15	IPOC Station P	2.34	187	*e*P	Pn	23 58 33.1	+2.1
PB15				*e*S	Sn	23 59 00.7	+1.0
PB15				IAML		23 59 05.2	
	comp=Z,435nm,0.3s						
PB12	IPOC Station P	2.50	334	*e*P	Pn	23 58 32.3	-0.8
PB12				*e*S	Sn	23 59 02.8	-0.6
PB12				IAML		23 59 07.2	
	comp=Z,147nm,0.2s						
PB16	IPOC Station P	2.55	353	*e*P	Pn	23 58 35.1	+1.0
PB16				*e*S	Sn	23 59 08.5	+3.3
PB16				IAML		23 59 11.6	
	comp=Z,102nm,0.2s						
GO02	Mina Guanaco	4.28	185	*e*P	Pn	23 58 57.7	+0.8
LPAZ	La Paz	4.67	12	*e*P	Pn	23 59 04.8	+2.4
LPAZ	La Paz	4.67	12	P	Pn	23 59 04.5	+2.1
	comp=Z,0.3nm,0.3s,baz=171,slow=13,SNR=12						
	comp=Z,1.3nm,0.4s						
CFA	Coronel Fontan	10.72	176	P	Pn	00 00 20.6	-3.2
	comp=Z,0.2nm,0.3s,baz=4.1,slow=14,SNR=1.7						
CFA				S	Sn	00 02 13.4	-8.5
	comp=Z,0.5nm,0.3s,baz=268,slow=18,SNR=2.0						
	comp=Z,1.3nm,0.8s						
TXAR	Lajitas Array	59.98	325	P	P	00 08 02.8	+14
	comp=Z,0.2nm,0.9s,baz=157,slow=9.6,SNR=2.1						
	comp=Z,0.2nm,0.9s						
TORD	Torodi Ar. Bea	77.37	71	P	P	00 09 36.2	-0.7
	comp=Z,0.2nm,0.4s,baz=259,slow=5.2,SNR=4.7						
	comp=Z,0.2nm,0.4s						

*MEX **04** 00:05:34.6±0.5, 13°.90N×92°.72W, h15km, MD3.9*
*GCG **04** 00:05:44.8±0.7, 14°.48N×92°.07W, h53km±13km, MD3.9*
ISC 04 00:05:33.9±1.8**, 13°.98N**±0°.08×**92°.65W**±0°.04**, h31**km±15km**, n19,** σ1s**87**/35**, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
THIG		1.00	22	*e*P	Pn	00 05 51.4	-0.4
THIG				*i* S	Sb	00 06 04.6	-0.9
SULM	Suchitepequez,	1.10	73	*i* P	Pb	00 05 56.4	+2.1
PATR	El Naranjo	1.20	19	*e*P	Pn	00 05 54.3	-0.6
PATR				*e*S	Sn	00 06 09.9	-0.3
CHUJ	Union Juarez	1.23	25	*e*P	Pn	00 05 55.2	0.0
CHUJ				*i* S	Sn	00 06 11.3	+0.5
STG3	Santiaguito 3,	1.27	55	*i* P	Pn	00 05 57.2	+1.4
STG3				*i* S	Sn	00 06 07.3	-4.6
PAVE	Pavencul	1.29	21	*e*P	Pn	00 05 56.0	-0.1
PAVE				*i* S	Sn	00 06 12.3	-0.2
PCIG		1.81	342	*e*P	Pn	00 06 03.0	+0.1
PCIG				*i* S	Sn	00 06 24.1	-0.6
FUG	Fuego 3	1.81	75	*i* P	Pn	00 06 05.5	+2.3
PCG	Pacaya	2.02	78	*i* P	Pb	00 06 09.8	-0.3
PCG				*i* S	Sn	00 06 28.2	-2.2
NBG	Las Nubes	2.31	74	*i* P	Pb	00 06 14.1	-0.9
CCIG	Comitan	2.34	12	*e*P	Pb	00 06 13.5	-2.1
CCIG				*e*S	Sn	00 06 41.1	+2.8
CARR	Arriaga	2.57	332	*e*P	Pn	00 06 14.4	+1.0
CARR				*e*S	Sn	00 06 44.4	+0.8
TGIG		2.82	351	*e*P	Pn	00 06 18.8	+1.8
TGIG				*e*S	Sn	00 06 51.1	+1.1
NILT	Santiago Nilte	3.20	324	*i* P	Pn	00 06 23.6	+1.5
NILT				*e*S	Sn	00 06 58.5	-0.7
UXUV	UXUV	3.62	337	*e*P	Pn	00 06 30.6	+2.7
UXUV				*i* S	Sn	00 07 14.3	+4.7
CMIG	Matias Romero	3.77	325	*e*P	Pn	00 06 30.7	+0.7
CMIG				*e*S	Sn	00 07 13.1	-0.3
HUIG	Huatulco	3.79	298	*e*P	Pn	00 06 30.8	+0.6
HUIG				*e*S	Sn	00 07 10.1	-3.7
NEUV	Arroyo Zacate	4.80	321	*e*P	Pn	00 06 45.2	+1.2
NEUV				*e*S	Sn	00 07 38.6	0.0
JAUV	Jalcomulco	6.68	324	*e*P	Pn	00 07 10.2	+0.3
JAUV				*e*S	Sn	00 08 23.9	-1.2

*BJI **04** 00:08:00.8, 32°.73S×178°.55W, h5km, mb5.4/48, mB5.9/57, Ms5.4/67, Ms7 5.2/65*
*MOS **04** 00:08:03.6±1.0, 32°.72S×179°.00W, h10km, mb5.8/36, MS5.4/25, Error ellipse: s-maj=9.1km s-min=7.9km az=75.6*
*NEIC **04** 00:08:04.5, 32°.79S×178°.79W, h7km*
*IPGP **04** 00:08:04.0, 32°.83S×178°.74W, h42km, Mw5.7, Fault plane solution: NP1:φs29.00000°, δ57.00000°, λ91.00000°. NP2:φs207.00000°, δ33.00000°, λ88.00000°.*
*NEIC **04** 00:08:05, 32°.81S×178°.82W, h50km*
*NEIC **04** 00:08:05, 32°.91S×178°.11W, h50km, Moment Tensor Solution. Duration: 4s1 Moment tensor: Scale 10^17Nm; Mrr5.35; Mθθ-1.53; Mφφ-3.82; Mrθ0.65; Mθφ-2.08; Mφr1.34; Fault plane solution: M0 5.41000×10^17 NP1:φs29.39000°, δ52.96000°, λ88.62000°. NP2:φs211.67000°, δ37.06000°, λ91.82000°. Principal axes: T 5.5620, Plg82.0000°, Azm292.0000°; N -0.3012, Plg1.0000°, Azm30.0000°; P -5.2608, Plg8.0000°, Azm120.0000°;*
*WEL **04** 00:08:07.2±0.5, 33°S±4°×17°8W±1°0, h33km, M5.7/61, mB6.0/61, ML6.4/59, MLv6.1/59, Mw(mB)5.6/61 Error ellipse: s-maj=0.0km s-min=0.0km az=107.7, confirmed*
*NEIC **04** 00:08:09.2±2.7, 32°.75S±0°.06×178°.77W±0°.10, h38km±1km, mb5.6/217, Ms_20 5.4/397, Mwc5.8/26, Mww5.8/22, Error ellipse: s-maj=13.9km s-min=9.9km az=108.0*
*NOU **04** 00:08:09.0, 33°.02S×178°.38W, h60km, ML5.8/122, South of Kermadec Islands*
*IDC **04** 00:08:10.7±1.1, 32°.59S×179°.11W, h47km±9km, mb5.1/21, mbtmp5.3/22, ML5.4/2, MS5.1/52, Error ellipse: s-maj=11.0km s-min=8.6km az=119.0*
*GCMT **04** 00:08:12.2±0.1, 32°.73S±0°.01×178°.84W±0°.01, h47km, MW5.8/159, Moment Tensor Solution. s159,c321; s145,c421; Duration: 1s8 Moment tensor: Scale 10^17 Nm; Mrr4.87±.05; Mθθ-1.50±.04; Mφφ-3.38±.04; Mrθ1.32±.04; Mθφ-2.35±.03; Mφr1.86±.04; Best double couple: M0 5.42300×10^17 NP1:φs35.00000°, δ57.00000°, λ91.00000°. NP2:φs214.00000°, δ33.00000°, λ89.00000°. Principal axes: T 5.3730, Plg78.0000°, Azm307.0000°; N 0.0910, Plg0.0000°, Azm214.0000°; P -5.4740, Plg12.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **04** 00:08:20.8, 31°.78S×178°.33W, h50km, Moment Tensor Solution. Duration: 4s3 Moment tensor: Scale 10^17Nm; Mrr6.19; Mθθ-2.12; Mφφ-4.07; Mrθ-0.91; Mθφ-2.03; Mφr-1.33; Fault plane solution: M0 5.99000×10^17 NP1: φs212.75000°, δ52.81000°, λ90.60000°. NP2:φs31.76000°, δ37.20000°, λ89.21000°. Principal axes: T 6.4101, Plg82.0000°, Azm126.0000°; N -0.8410, Plg0.0000°, Azm32.0000°; P -5.5691, Plg8.0000°, Azm302.0000°;*
ISC 04 00:08:07.6±0.4**, 32°.79S**±0°.03×**178°.59W**±0°.04**, h32**km±2km**, h32**km**:pP-P, n1617,** σ1s**85**/1502**, mb5.6**/198**, MS5.4**/286**, 53C-58D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.57	9	P	Pn	00 08 59.8	-0.9
GLKZ				S	Sn	00 09 41.9	+0.2
RAO	Raoul Island	3.58	9		Pn	00 09 00.5	-0.3
RAO	Raoul Island	3.58	9		Pn	00 09 00.2	-0.6
RAO	Raoul Island	3.58	9	P	Pn	00 09 03.6	+2.8
RAO	Raoul Island	3.58	9	P	Pn	00 09 02.1	+1.2
	602nm,0.3s,baz=184,slow=19,SNR=12						
RAO				LR	LR	00 09 36.2	
	comp=Z,9μm,20.7s,baz=166,slow=25						
RAO				S	Sn	00 09 42.4	+0.5
	8μm,0.5s,baz=46,slow=20,SNR=5.4						
RIZ	Raoul Island	3.58	9	P	Pn	00 09 01.2	+0.3
RIZ				S	Sn	00 09 43.5	+1.4
MXZ	Matakaoa Point	5.39	207	Pn	Pn	00 09 24.8	-1.0
MXZ	Matakaoa Point	5.39	207	P	Pn	00 09 26.6	+0.8
WMGZ	Waiomatatini S	5.58	205	P	Pn	00 09 29.4	+1.1
WMGZ				S	Sn	00 10 34.0	+2.7
PKGZ	Pakihiroa	5.77	207	P	Pn	00 09 31.3	+0.3
PKGZ				S	Sn	00 10 36.7	+0.7
HAZ	Te Kaha	5.77	210	P	Pn	00 09 31.9	+0.9
HAZ				S	Sn	00 10 40.0	+4.0
PUZ	Puketiti	5.86	205	P	Pn	00 09 32.9	+0.6
PUZ				S	Sn	00 10 38.7	+0.4
RUGZ	Raukumara Rang	5.99	210	P	Pn	00 09 34.3	+0.1
RUGZ				S	Sn	00 10 42.4	+0.7
GRZ	Great Barrier	6.00	233	P	Pn	00 09 37.6	+3.5
TWGZ	Tauwhareparae	6.06	207	P	Pn	00 09 35.7	+0.8
TWGZ				S	Sn	00 10 44.7	+1.5
KUZ	Kuaotunu	6.12	228	P	Pn	00 09 39.6	+3.8
KUZ	Kuaotunu	6.12	228	P	Pn	00 09 39.8	+4.0
WHRZ	Whale Island	6.22	214	P	Pn	00 09 39.0	+1.8
CNGZ	Carnagh Statio	6.25	204	P	Pn	00 09 37.5	-0.1
MWZ	Matawai	6.37	209	P	Pn	00 09 39.2	-0.1
MWZ				S	Sn	00 10 51.9	+1.0
MARZ	Manawahe	6.46	215	P	Pn	00 09 44.3	+3.7
MARZ				S	Sn	00 10 53.5	+0.4
URZ	Urewera	6.48	212	P	Pn	00 09 41.2	+0.5
URZ	Urewera	6.48	212	P	Pn	00 09 42.4	+1.7
	52nm,0.3s,baz=344,slow=6.1,SNR=130						
URZ				S	Sn	00 10 54.8	+1.2
	2μm,0.6s,baz=244,slow=15,SNR=7.9						
	248nm,0.5s						
URZ	Urewera	6.48	212	P	Pn	00 09 40.5	-0.2
URZ				S	Sn	00 10 54.4	+0.8
EDRZ	Edgecumbe	6.53	214	P	Pn	00 09 44.3	+2.8
RAGZ	Rawiri	6.55	209	P	Pn	00 09 41.5	-0.3
RIGZ	Rimuhau	6.60	206	P	Pn	00 09 42.4	-0.1
WCZ	Waipu Caves	6.63	240	P	Pn	00 09 46.6	+3.8
MKRZ	Makatiti	6.69	216	P	Pn	00 09 48.6	+5.0
OMRZ	Omania	6.71	216	P	Pn	00 09 45.7	+1.8
TARZ	Mount Tarawera	6.74	215	P	Pn	00 09 47.4	+3.0
PRGZ	Paritu Road	6.75	204	P	Pn	00 09 43.7	-0.8
MUGZ	Murupara	6.81	212	P	Pn	00 09 48.1	+2.7
RRRZ	Republican Roa	6.82	214	P	Pn	00 09 47.6	+2.2
SNGZ	Shannon Statio	6.83	208	P	Pn	00 09 46.9	+1.4
HLRZ	Highlands Stat	6.83	216	P	Pn	00 09 49.3	+3.7
RTZ	Ruatahuna	6.84	211		Pn	00 09 44.6	-1.1
RTZ	Ruatahuna	6.84	211	P	Pn	00 09 45.0	-0.7
TOZ	Tahuroa Road	6.90	223		Pn	00 09 45.3	-1.2
KNZ	Kokohu	6.92	205	P	Pn	00 09 44.1	-2.6
OUZ	Omahuta	6.93	247	P	Pn	00 09 50.1	+3.2
OUZ	Omahuta	6.93	247	P	Pn	00 09 51.0	+4.1
HSRZ	Hossack Road	6.93	216	P	Pn	00 09 49.8	+2.9
MHGZ	Mahia Peninsul	6.95	203	P	Pn	00 09 46.3	-0.9
HRRZ	Handcock Road	6.97	215	P	Pn	00 09 51.1	+3.6
PRRZ	Plateau Road	7.01	214	P	Pn	00 09 50.2	+2.3
GRRZ	Galatos Road	7.03	216	P	Pn	00 09 52.5	+4.2
RAHZ	Arahi	7.05	209	P	Pn	00 09 49.2	+0.7
ALRZ	Allen Road	7.08	214	P	Pn	00 09 52.2	+3.2
MTHZ	Maungataniwha	7.09	210	P	Pn	00 09 48.9	-0.3
WHHZ	Waihua	7.13	207	P	Pn	00 09 51.6	+2.0
WPRZ	Whakapapatarin	7.13	215	P	Pn	00 09 53.2	+3.4
MRHZ	Matea Rd	7.26	213	P	Pn	00 09 53.1	+1.6
KUTZ	Kaahu Road	7.28	217	P	Pn	00 09 55.2	+3.5
TLZ	Tolley Road	7.31	219	P	Pn	00 09 55.5	+3.3
NMHZ	Naumai	7.32	209	P	Pn	00 09 52.5	+0.2
WHTZ	Whakaora	7.35	216	P	Pn	00 09 56.5	+3.8
ARHZ	Aropaoanui	7.38	208	P	Pn	00 09 53.1	+0.1
HATZ	Hinemaiaia	7.46	214	P	Pn	00 09 57.3	+3.1
WATZ	Wairara	7.49	216	P	Pn	00 09 56.8	+2.2
RATZ	Rangitukua	7.59	215	P	Pn	00 09 57.9	+1.9
RITZ	Rihia Road	7.64	215	P	Pn	00 09 58.3	+1.6
MCHZ	McNeill Hill	7.65	209	P	Pn	00 09 57.3	+0.5
CKHZ	Cape Kidnapper	7.69	206	P	Pn	00 09 54.9	-2.4
KATZ	Kakaramea	7.72	215	P	Pn	00 10 00.4	+2.5
KWHZ	Kaweka Forest	7.75	210	P	Pn	00 09 57.7	-0.5
HIZ	Hauiti	7.81	221		Pn	00 09 57.6	-1.4
HIZ	Hauiti	7.81	221	P	Pn	00 10 02.6	+3.6
HIZ	Hauiti	7.81	221	P	Pn	00 10 05.5	+6.5
NTVZ	North Tongarir	7.82	215	P	Pn	00 09 59.9	+0.6
TMVZ	Te Maari	7.82	215	P	Pn	00 09 59.8	+0.5
ETVZ	East Tongariro	7.84	215	P	Pn	00 10 00.2	+0.8
KRVZ	Karewarewa	7.84	215	P	Pn	00 10 00.7	+1.3
NNVZ	North Ngauruho	7.88	215	P	Pn	00 10 01.3	+1.3
WTVZ	West Tongariro	7.88	215	P	Pn	00 10 01.2	+1.2
OTVZ	Oturere	7.88	215	P	Pn	00 09 59.7	-0.4
KAHZ	Kahuranaki	7.89	206	P	Pn	00 09 58.0	-2.1
SNVZ	South Ngauruho	7.91	215	P	Pn	00 10 00.8	+0.4
TWVZ	Taurewa	7.92	216	P	Pn	00 10 01.7	+1.2
NGZ	Ngauruhoe	7.92	215	P	Pn	00 10 01.4	+0.8
KRHZ	Kereru	7.96	209	P	Pn	00 09 59.6	-1.4
TUVZ	Tukino	7.97	214	P	Pn	00 10 02.6	+1.4
FWVZ	Far West T-bar	8.01	215	P	Pn	00 10 02.9	+1.0
WHVZ	Whangaehu Hut	8.01	214	P	Pn	00 10 03.8	+1.9
MAVZ	Matarangi	8.01	215	P	Pn	00 10 04.5	+2.5
MOVZ	Moawhango	8.03	213	P	Pn	00 10 00.8	-1.2
WNVZ	Wahianoa	8.04	214	P	Pn	00 10 02.6	+0.3
TRVZ	Turoa	8.04	215	P	Pn	00 10 03.5	+1.1
PXZ	Pawanui	8.10	206	P	Pn	00 10 00.8	-2.1
PKVZ	Pokaka	8.13	215	P	Pn	00 10 04.1	+0.7
MTVZ	Mangateitei	8.15	214	P	Pn	00 10 05.5	+1.8
PNHZ	Pukenui	8.26	209	P	Pn	00 10 03.2	-1.9
WPHZ	Waipukurau	8.29	207	P	Pn	00 10 04.0	-1.5
VRZ	Vera Road	8.30	219	P	Pn	00 10 09.3	+3.6
PRHZ	Porangahau	8.39	206	P	Pn	00 10 04.2	-2.7
TSZ	Takapari Road	8.48	210	P	Pn	00 10 05.7	-2.4
DVHZ	Dannevirke	8.60	208	P	Pn	00 10 08.0	-1.8
ANWZ	Angora Road	8.62	206	P	Pn	00 10 09.0	-1.0
WAZ	Wanganui	8.67	215	P	Pn	00 10 11.8	+1.0
LREZ	Lake Rotokare	8.74	218	P	Pn	00 10 14.6	+2.9
NEZ	North Egmont	8.77	220	P	Pn	00 10 15.7	+3.5
PKE	Pukeiti	8.77	221	P	Pn	00 10 16.3	+4.1
PREZ	Palmer Road	8.78	220	P	Pn	00 10 16.5	+4.1
KHEZ	Kahui Hut	8.83	221	P	Pn	00 10 16.9	+3.9
KHEZ	Kahui Hut	8.83	221	P	Pn	00 10 17.0	+3.9
POWZ	Post Office Ro	8.84	209	P	Pn	00 10 12.5	-0.5
PRWZ	Pori Road	8.89	208	P	Pn	00 10 12.7	-1.1
BFZ	Birch Farm	8.90	206		Pn	00 10 11.6	-2.3
BFZ	Birch Farm	8.90	206	P	Pn	00 10 10.6	-3.2
BFZ	Birch Farm	8.90	206	P	Pn	00 10 10.5	-3.4
NMEZ	Namu Road	8.99	221	P	Pn	00 10 20.2	+5.2
CPWZ	Castlepoint	9.11	206	P	Pn	00 10 15.2	-1.5
TIWZ	Tintock	9.12	208	P	Pn	00 10 14.9	-2.0
MRZ	Mangatainoka R	9.14	209	Pn	Pn	00 10 14.6	-2.6
MRZ	Mangatainoka R	9.14	209	P	Pn	00 10 14.2	-3.0
TMWZ	Te Maipa	9.40	206	P	Pn	00 10 17.6	-3.2
OGWZ	Otaki Gorge	9.44	210	P	Pn	00 10 18.7	-2.6
MTW	Mount Morrison	9.59	208	P	Pn	00 10 20.1	-3.3
CAW	Cannon Point	9.72	210	P	Pn	00 10 23.6	-1.6
TRWZ	Traveller	9.73	206	P	Pn	00 10 23.0	-2.3
PAWZ	Paruwai Farm	9.81	207	P	Pn	00 10 23.0	-3.4
PLWZ	Palliser	10.04	208		Pn	00 10 25.9	-3.7
SNZO	South Karori	10.05	210	Pn	Pn	00 10 27.4	-2.2
SNZO	South Karori	10.05	210	P	Pn	00 10 27.0	-2.6
BHW	Baring Head	10.06	209		Pn	00 10 26.5	-3.3
BHW	Baring Head	10.06	209	P	Pn	00 10 26.6	-3.1
TCW	Tory Channel	10.15	212		Pn	00 10 27.1	-4.0
TUWZ	Tuamarina	10.48	213		Pn	00 10 32.1	-3.4
NNZ	Nelson	10.57	215		Pn	00 10 32.3	-4.5
CMWZ	Cape Campbell	10.62	211	Pn	Pn	00 10 34.8	-2.6
TKNZ	Takaka Hill	10.64	217		Pn	00 10 34.3	-3.5
QRZ	Quartz Range	10.72	219	Pn	Pn	00 10 36.7	-2.1
QRZ	Quartz Range	10.72	219	P	Pn	00 10 35.0	-3.8
BSWZ	Blackbirch Sta	10.74	212		Pn	00 10 36.1	-3.0
MRNZ	Matariki Terra	11.02	216	Pn	Pn	00 10 40.1	-2.9
CTZ	Chatham Island	11.03	173	Pn	Pn	00 10 42.7	-0.4
CTZ	Chatham Island	11.03	173	P	Pn	00 10 43.9	+0.8
CTZ	Chatham Island	11.03	173	P	Pn	00 10 44.8	+1.7
CTZ				S	Sn	00 12 38.0	-7.3
THZ	Tophouse	11.22	215	Pn	Pn	00 10 42.3	-3.5
KHZ	Kahutara	11.45	211	Pn	Pn	00 10 45.0	-3.8
KHZ	Kahutara	11.45	211	P	Pn	00 10 44.7	-4.1
DSZ	Denniston Nort	11.76	218		Pn	00 10 49.4	-3.7
GVZ	Greta Valley S	12.12	211	Pn	Pn	00 10 53.5	-4.4
NFK	Norfolk Island	12.16	284	P	Pn	00 10 59.4	+0.8
	baz=12,SNR=6.4						
NFK	Norfolk Island	12.16	284	P	Pn	00 11 01.7	+3.1
LTZ	Lake Taylor	12.31	213	Pn	Pn	00 10 57.4	-3.2
AMCZ	Amberley	12.45	211		Pn	00 10 58.4	-4.1
INZ	Inchbonnie	12.66	216	Pn	Pn	00 11 00.8	-4.5
OXZ	Oxford	12.84	212		Pn	00 11 03.1	-4.7
MQZ	McQueen's Vall	12.88	210		Pn	00 11 03.1	-5.2
RPZ	Rata Peaks	13.59	214	Pn	Pn	00 11 13.2	-4.9
RPZ	Rata Peaks	13.59	214	P	Pn	00 11 13.5	-4.6
RPZ	Rata Peaks	13.59	214	P	Pn	00 11 11.8	-6.3
	11nm,0.4s,baz=79,slow=4.1,SNR=17						
RPZ				S	Sn	00 13 35.3	-13
	50nm,0.5s,baz=282,slow=24,SNR=11						
FOZ	Fox Glacier	14.06	217	Pn	Pn	00 11 20.9	-3.5
LKBA	Tubou, Lakemba	14.50	359	P	Pn	00 11 32.3	+1.7
LBZ	Lake Benmore	14.51	214	Pn	Pn	00 11 25.9	-4.7
ODZ	Otahua Downs	14.81	211	Pn	Pn	00 11 32.3	-2.3
ODZ	Otahua Downs	14.81	211	P	Pn	00 11 29.7	-4.9
JCZ	Jackson Bay	14.97	218	P	Pn	00 11 34.6	-2.3
WKZ	Wanaka	15.40	215		Pn	00 11 36.6	-5.8
NIUE	Niue	15.71	32	P	Pn	00 11 44.4	-2.2
	baz=16,SNR=6.9						
NIUE	Niue	15.71	32	Pn	Pn	00 11 44.8	-1.8
NIUE	Niue	15.71	32	P	Pn	00 11 48.4	+1.8
PINNC	Pines Island,	15.98	306		Pn	00 11 46.4	-3.6
PINNC	Pines Island,	15.98	306	P	P	00 11 53.2	0.0
MLZ	Mavora Lakes	16.23	215		Pn	00 11 49.7	-3.4
MARNC	Mare, Loyalty	16.38	310	Pn	Pn	00 11 52.5	-2.6
YSA	Yasawairara	16.40	347	P	P	00 11 57.0	-0.9
DGTI	Dogotuki	16.49	354	P	P	00 12 00.2	+1.2
OUENC	Ouen Island, N	16.52	305	P	Pn	00 11 57.9	+0.9
OUENC	Ouen Island, N	16.52	305	P	P	00 12 00.0	+0.7
WHZ	Wether Hill Ro	16.69	214		Pn	00 11 56.2	-2.7
DCZ	Deep Cove	16.77	217	Pn	Pn	00 11 56.3	-3.7
ONTNC	Ouen Toro	16.87	305	Pn	Pn	00 11 58.5	-2.8
ONTNC	Ouen Toro	16.87	305	P	P	00 12 04.2	+1.1
DZM	Mont Dzumac	17.03	305	*e*Pn	P	00 12 05.6	+0.6
	439nm,1.0s						
DZM				*e*LR	LR	00 15 56.3	
	comp=Z,55μm,25.1s						
DZM	Mont Dzumac	17.03	305	Pn	Pn	00 12 01.0	-2.4
DZM	Mont Dzumac	17.03	305	P	P	00 12 05.9	+0.9
DZM	Mont Dzumac	17.03	305	P	P	00 12 06.0	+1.0
	159nm,0.9s,baz=119,slow=14,SNR=45						
DZM				LR	LR	00 17 24.8	
	comp=Z,30μm,18.6s,baz=138,slow=34						
NOUC	Port Laguerre	17.11	305	P	P	00 12 07.1	+1.4
LIFNC	LIFOU	17.39	310		Pn	00 12 05.4	-2.5
LIFNC				IAmb	IAmb	00 12 16.0	
	comp=Z,409nm,1.3s						
LIFNC	LIFOU	17.39	310	P	P	00 12 11.3	+2.4
PYZ	Puysegur Point	17.50	216	Pn	Pn	00 12 06.8	-2.3
PYZ	Puysegur Point	17.50	216	P	Pn	00 12 08.0	-1.0
RTV	Rentapao	18.97	319	P	Pn	00 12 29.1	+1.9
DVP	Devils Point	19.16	318	P	Pn	00 12 30.5	+1.1
KOUNC	Koumac, New Ca	19.54	304		P	00 12 33.0	+0.6
KOUNC				IAmb	IAmb	00 12 42.9	
	comp=Z,274nm,1.2s						
KOUNC	Koumac, New Ca	19.54	304	P	Pn	00 12 35.6	+1.7
AFI	Afiamalu	19.80	20	P	P	00 12 35.6	+0.2
AFI	Afiamalu	19.80	20	P	Pn	00 12 36.9	-0.2
AFI	Afiamalu	19.80	20	P	P	00 12 35.6	+0.2
AFI				pmax	pmax		
	comp=Z,94nm,0.8s						
RAR	Rarotonga	20.31	60	P	Pn	00 12 43.6	+0.5
RAR	Rarotonga	20.31	60	P	P	00 12 42.1	+1.2
RAR	Rarotonga	20.31	60	P	Pn	00 12 43.6	+0.5
RAR				pmax	pmax		
	comp=Z,49nm,1.0s						
RAR	Rarotonga	20.31	60	P	Pn	00 12 46.7	+3.6
	comp=Z,18nm,0.5s,baz=211,slow=8.0,SNR=4.0						
RAR				S	S	00 16 17.6	-9.4
	comp=Z,83nm,1.1s,baz=68,slow=18,SNR=3.8						
RAR				LR	LR	00 21 31.8	
	comp=Z,2μm,18.1s,baz=252,slow=39						
	comp=Z,18nm,0.5s						
MGCD	Mangrove Creek	25.38	261	P	P	00 13 33.4	+1.4
	baz=26,SNR=12						
MGCD	Mangrove Creek	25.38	261	P	P	00 13 33.9	+2.0
ARMA	Armidale	25.44	267	P	P	00 13 34.8	+2.1
	baz=26,SNR=16						
ARMA	Armidale	25.44	267	P	P	00 13 33.1	+0.5
ARMA	Armidale	25.44	267	P	P	00 13 36.4	+3.7
CNB	Canberra Magne	26.61	256	P	P	00 13 45.2	+2.0
	baz=27,SNR=11						
CNB	Canberra Magne	26.61	256	P	P	00 13 46.3	+3.1
MILA	Mila	26.72	252	P	P	00 13 44.5	+0.4
	baz=27,SNR=4.2						
MCQ	Macquarie Isla	26.89	210	P	P	00 13 44.6	-0.7
MCQ				IAmb	IAmb	00 14 15.8	
	comp=Z,241nm,1.8s						
MCQ	Macquarie Isla	26.89	210	P	P	00 13 44.6	-0.7
MCQ				pmax	pmax		
	comp=Z,241nm,1.8s						
CAN	Canberra	26.91	256	P	P	00 13 44.1	-1.7
CAN				IAMs_20	IAMs_20	00 23 03.1	
	comp=Z,11μm,19.0s						
CAN	Canberra	26.91	256	P	P	00 13 44.1	-1.7
CAN				pmax	pmax		
	comp=Z,92nm,1.5s						
CAN				MLR	MLR		
	comp=Z,11μm,19.0s						
TBI	Tubuai	27.29	77	*e*P	P	00 13 50.7	+1.4
	comp=Z,2μm,28.2s						
TBI				*e*S	S	00 18 26.7	-0.1
	comp=Z,10μm,29.0s						
TBI				*e*LR	LR	00 20 54.3	
	comp=Z,55μm,26.8s						
TBI				*e*LR	LR	00 20 57.1	
	comp=Z,12μm,25.8s						
TBI	Tubuai	27.29	77	*e*T	T	00 42 19.7	
	comp=Z,526nm,0.4s						
EIDS	Eidsvold	27.46	278	P	P	00 13 51.4	+0.6
	baz=28,SNR=38						
EIDS	Eidsvold	27.46	278	P	P	00 13 49.0	-1.7
EIDS				IAmb	IAmb	00 13 53.4	
	comp=Z,86nm,0.7s						
EIDS	Eidsvold	27.46	278	P	P	00 13 51.7	+0.9
AUDCS	Dubbo College	27.59	262	P	P	00 13 53.2	+1.2
GLAD	Gladstone	27.81	243	P	P	00 13 54.7	+0.9
CORO	Coronation Par	28.51	242	P	P	00 14 00.9	+0.9
TAU	Tasmania Unive	28.58	239	P	P	00 13 58.5	-2.1
TAU				IAMs_20	IAMs_20	00 23 13.8	
	comp=Z,8μm,18.0s						
TAU	Tasmania Unive	28.58	239	P	P	00 13 58.5	-2.1
TAU				pmax	pmax		
	comp=Z,77nm,1.1s						
MOO	Moorlands	28.60	240	P	P	00 14 01.7	+0.9
	baz=29,SNR=6.3						
MOO	Moorlands	28.60	240	P	P	00 14 00.5	-0.4
AUMOU	Moura State Hi	28.68	278	P	P	00 14 02.9	+1.2
AULRC	Lightning Ridg	28.75	268	P	P	00 14 03.9	+1.6
RK1H	Rockhampton Ha	28.76	281	P	P	00 14 03.5	+1.1
RMQ	Roma	29.00	274	P	P	00 14 03.9	-0.6
	baz=29,SNR=24						
RMQ	Roma	29.00	274	P	P	00 14 07.5	+3.0
TOO	Toolangi	29.63	251	P	P	00 14 10.3	+0.2
	baz=30,SNR=6.0						
TOO	Toolangi	29.63	251	P	P	00 14 08.4	-1.6
TOO	Toolangi	29.63	251	P	P	00 14 09.8	-0.2
TOO	Toolangi	29.63	251	P	P	00 14 08.4	-1.6
TOO				pmax	pmax		
	comp=Z,40nm,1.1s						
PAE	Paea	30.13	67	*e*T	T	00 45 41.8	
	comp=Z,162nm,0.3s						
PPT2	Papeete2	30.17	67	*e*P	P	00 14 21.3	+6.3
	comp=Z,100nm,1.4s						
PPT2				*e*S	S	00 19 07.5	-4.8
	comp=Z,2μm,26.5s						
PPT2				*e*LQ	LQ	00 20 20.9	
	comp=Z,5μm,26.0s						
PPT2				*e*LR	LR	00 22 08.3	
	comp=Z,11μm,25.8s						
PPT2				*e*LR	LR	00 22 16.6	
	comp=Z,6μm,23.8s						
PPT2	Papeete2	30.17	67	*e*T	T	00 45 49.1	
	comp=Z,186nm,0.4s						
CMSA	Cobar Meteorol	30.18	263	P	P	00 14 15.5	+0.6
	baz=30,SNR=48						
CMSA	Cobar Meteorol	30.18	263	P	P	00 14 16.4	+1.5
PPT	Papeete	30.19	67	LR	LR	00 26 09.5	
	comp=Z,2μm,18.2s,baz=240,slow=35						
TVO	Taravao	30.32	68	*e*T	T	00 45 51.9	
	comp=Z,22nm,0.4s						
TIAR	Tiarei	30.37	67	*e*P	P	00 14 18.1	+1.4
	comp=Z,12nm,0.8s						
HNR	Honiara	30.55	315	P	P	00 14 17.0	-1.3
HNR	Honiara	30.55	315	P	P	00 14 19.1	+0.8
HNR	Honiara	30.55	315	P	P	00 14 17.0	-1.3

HNR pmax pmax
comp=Z,646nm,1.0s
HNR MLR MLR
comp=Z,3µm,18.0s
MEH Mehetia 31.19 69 *e*T T 00 47 05.4
comp=Z,79nm,0.3s
ARPS Mount Arapiles 32.59 252 P **P** **00 14 37.5 +1.5**
baz=33,SNR=14
ARPS Mount Arapiles 32.59 252 P **P** **00 14 36.0 -0.1**
QLP Quilpie 32.77 271 P **P** **00 14 38.0 +0.2**
baz=33,SNR=18
QLP Quilpie 32.77 271 P **P** **00 14 39.5 +1.7**
PMOR Pomariorio Ree 33.01 65 *e*T T 00 49 27.2
comp=Z,49nm,0.3s
AUAYR Ayr State High 33.08 285 P **P** **00 14 41.7 +1.2**
STKA Stephens Creek 33.52 261 P **P** **00 14 43.7 -0.6**
baz=34,SNR=14
STKA Stephens Creek 33.52 261 P **P** **00 14 43.2 -1.1**
STKA Stephens Creek 33.52 261 P **P** **00 14 45.0 +0.7**
STKA Stephens Creek 33.52 261 *i*P **P** **00 14 42.4 -1.9**
STKA Stephens Creek 33.52 261 P **P** **00 14 44.1 -0.1**
comp=Z,23nm,0.8s,baz=97,slow=10,SNR=38
STKA LR LR 00 27 32.1
comp=Z,8µm,18.1s,baz=91,slow=35
comp=Z,23nm,0.8s
TV1H Townsville Har 33.74 285 P **P** **00 14 47.0 +0.8**
CTA Charters Tower 33.77 283 P **P** **00 14 47.2 +0.6**
CTA Charters Tower 33.77 283 LR LR 00 26 54.5
comp=Z,5µm,19.3s,baz=109,slow=34
CTAO Charters Tower 33.77 283 P **P** **00 14 46.5 0.0**
CTAO Charters Tower 33.77 283 P **P** **00 14 47.2 +0.6**
CTAO Charters Tower 33.77 283 P **P** **00 14 46.5 0.0**
CTAO pmax pmax
comp=Z,191nm,0.7s
CTAO Charters Tower 33.77 283 P **P** **00 14 46.5 0.0**
CTAO pP **pwP** **00 14 59.0 -0.1**
INKA Innaminka 35.33 267 P **P** **00 15 00.8 +0.8**
HTT Hallett 35.42 257 P **P** **00 15 00.5 -0.3**
baz=36,SNR=17
HTT Hallett 35.42 257 P **P** **00 15 00.9 +0.2**
MTSU Mount Surprise 36.33 284 P **P** **00 15 09.4 +0.7**
baz=36,SNR=176
MTSU Mount Surprise 36.33 284 P **P** **00 15 09.4 +0.7**
WHYH Whyalla 36.60 257 P **P** **00 15 10.3 -0.5**
LCRK Leigh Creek 36.67 262 P **P** **00 15 11.7 +0.2**
BBOO Buckleboo 37.90 257 P **P** **00 15 20.6 -1.2**
baz=38,SNR=42
BBOO Buckleboo 37.90 257 P **P** **00 15 20.2 -1.6**
BBOO IAmb IAmb 00 15 24.3
comp=Z,56nm,0.8s
BBOO Buckleboo 37.90 257 P **P** **00 15 22.5 +0.7**
QIS Mount Isa 39.06 278 P **P** **00 15 31.4 -0.3**
baz=39,SNR=41
QIS Mount Isa 39.06 278 P **P** **00 15 31.5 -0.2**
PMG Port Moresby 39.24 299 P **P** **00 15 32.1 -1.1**
PMG Port Moresby 39.24 299 P **P** **00 15 34.4 +1.2**
PMG Port Moresby 39.24 299 P **P** **00 15 34.2 +1.0**
PMG Port Moresby 39.24 299 *i*P **P** **00 15 32.6 -0.6**
PMG pmax pmax
comp=Z,184nm,0.9s
PMG Port Moresby 39.24 299 LR LR 00 30 48.8
comp=Z,4µm,18.8s,baz=109,slow=35
PMG Port Moresby 39.24 299 P **P** **00 15 33.1 -0.2**
RABL Rabaul 39.46 310 P **P** **00 15 34.1 -0.9**
RABL Rabaul 39.46 310 P **P** **00 15 35.8 +0.7**
COEN Coen 39.51 289 P **P** **00 15 35.1 -0.4**
COEN Coen 39.51 289 P **P** **00 15 36.6 +1.1**
OOD Oodnadatta 39.56 265 P **P** **00 15 36.1 +0.3**
BULU Kimbe 39.69 306 P **P** **00 15 37.8 +0.9**
MULG Mulgathing 40.18 260 P **P** **00 15 40.0 -0.9**
KAVG Kavieng 41.55 310 P **P** **00 15 53.7 +1.3**
DRV Dumont d'Urvil 41.75 203 P **P** **00 15 54.1 +0.8**
DRV sP **pwP** **00 16 10.4 +3.0**
DRV PcP **PcP** **00 17 49.3 +0.1**
AS01 Alice Springs 42.50 270 P **P** **00 15 59.3 -0.8**
AS31 Alice Springs 42.54 270 P **P** **00 15 58.4 -2.0**
ASAR Alice Springs 42.54 270 P **P** **00 15 58.9 -1.5**
ASAR Alice Springs 42.54 270 P **P** **00 15 59.2 -1.2**
comp=Z,117nm,0.8s,baz=112,slow=7.7,SNR=446
ASAR S **S** **00 22 13.7 -7.2**
comp=Z,11nm,1.0s,baz=114,slow=15,SNR=10
comp=Z,117nm,0.8s
TAOE Nuku Hiva Isla 42.74 65 *e*P **P** **00 15 58.9 -3.3**
comp=Z,425nm,26.9s
TAOE *e*S **S** **00 22 17.3 -6.8**
comp=Z,2µm,27.0s
TAOE *e*SS **SS** **00 25 37.9 +2.4**
comp=Z,3µm,25.1s
TAOE *e*LR LR 00 27 57.7
comp=Z,5µm,25.2s
WR0 Warramunga Arr 43.57 275 P **P** **00 16 07.0 -1.8**
WB2 Warramunga Arr 43.74 275 P **P** **00 16 08.5 -1.6**
WRAB Tennant Creek 43.74 275 P **P** **00 16 08.6 -1.6**
WRAB Tennant Creek 43.74 275 P **P** **00 16 08.6 -1.6**
WRAB pmax pmax
comp=Z,234nm,0.8s
WRAB MLR MLR
comp=Z,200nm,18.0s
WRA Warramunga Arr 43.75 275 P **P** **00 16 08.5 -1.7**
WRA Warramunga Arr 43.75 275 P **P** **00 16 08.5 -1.7**
WRA pmax pmax
comp=Z,29nm,0.8s
WRA Warramunga Arr 43.75 275 P **P** **00 16 08.8 -1.3**
comp=Z,207nm,0.7s,baz=116,slow=7.6,SNR=450
WRA S **S** **00 22 31.4 -7.3**
comp=Z,7.6nm,1.0s,baz=117,slow=13,SNR=6.3
WRA LR LR 00 32 46.3
comp=Z,3µm,20.1s,baz=117,slow=34
WB0 Warramunga Arr 43.78 275 P **P** **00 16 08.7 -1.8**
MANU Manus Island 44.23 307 P **P** **00 16 12.7 -1.4**
MANU IAmb IAmb 00 16 15.0
comp=Z,167nm,1.0s
MANU Manus Island 44.23 307 P **P** **00 16 13.9 -0.2**
FORT Forrest 45.00 258 P **P** **00 16 18.5 -1.6**
baz=45,SNR=97
FORT Forrest 45.00 258 P **P** **00 16 18.3 -1.8**
FORT Forrest 45.00 258 P **P** **00 16 19.2 -0.9**
PATS Pohnpei 45.13 327 IAMs_20 IAMs_20 00 31 28.6
comp=Z,6µm,22.0s
SBA Scott Base 45.62 184 P **P** **00 16 22.9 -1.5**
SBA Scott Base 45.62 184 P **P** **00 16 22.9 -1.5**
SBA pmax pmax
comp=Z,36nm,0.9s
SBA Scott Base 45.62 184 P P 00 16 29.8 +5.5
SBA PcP **PcP** **00 18 04.8 +2.7**
VNDA Vanda 45.67 186 P **P** **00 16 23.4 -1.3**
VNDA Vanda 45.67 186 P **P** **00 16 23.4 -1.3**
VNDA pmax pmax
comp=Z,12nm,0.8s
VNDA Vanda 45.67 186 P **P** **00 16 28.5 +3.8**
comp=Z,7.0nm,0.7s,baz=7.0,slow=7.5,SNR=25
VNDA PcP **PcP** **00 18 04.7 +2.4**
comp=Z,11nm,0.8s,baz=74,slow=4.8,SNR=3.8
VNDA LR LR 00 32 12.3
comp=Z,2µm,21.7s,baz=36,slow=32
comp=Z,7.0nm,0.7s
VNDA Vanda 45.67 186 P **P** **00 16 28.4 +3.7**
VNDA sP **pwP** **00 16 43.6 +4.9**
VNDA PcP **PcP** **00 18 04.8 +2.4**
VNDA ScP **ScP** **00 21 52.8 0.0**
TABU Tabubil 46.38 297 P **P** **00 16 31.7 +0.5**
WRKA Warakurna 46.73 265 P **P** **00 16 31.6 -2.3**
baz=47,SNR=194
WRKA Warakurna 46.73 265 P **P** **00 16 31.8 -2.1**
JAY Jayapura 48.60 300 P **P** **00 16 47.7 -0.7**
comp=Z,247nm,1.2s,comp=Z,4µm
KDU Kakadu 48.89 282 P **P** **00 16 49.8 -0.7**
baz=49,SNR=25
KDU Kakadu 48.89 282 P **P** **00 16 48.9 -1.7**
GENI Genyem 48.94 299 P **P** **00 16 50.7 -0.3**
GENI Genyem 48.94 299 P **P** **00 16 50.7 -0.3**
comp=Z,448nm,1.4s,comp=Z,6µmcomp=Z,4µm
KMBL Kambalda 49.87 255 P **P** **00 16 55.9 -2.1**
baz=50,SNR=17
KMBL Kambalda 49.87 255 P **P** **00 16 55.6 -2.4**
MTN Manton Dam 49.91 281 P **P** **00 16 56.4 -2.0**
baz=50,SNR=67
MTN Manton Dam 49.91 281 P **P** **00 16 55.9 -2.5**
MTN Manton Dam 49.91 281 P **P** **00 16 56.7 -1.7**
SMPI Sarmi 50.42 298 P **P** **00 17 01.1 -1.1**
comp=Z,60nm,1.1s,comp=Z,12µmcomp=Z,4µm
KNRA Kununurra 50.43 277 P **P** **00 17 00.8 -1.6**
baz=51,SNR=30
KNRA Kununurra 50.43 277 P **P** **00 17 00.8 -1.6**
KNRA IAmb IAmb 00 17 02.4
comp=Z,82nm,0.8s
KNRA Kununurra 50.43 277 P **P** **00 17 01.2 -1.2**
CCD Concordia, Ant 50.52 197 P **P** **00 17 04.1 +1.4**
CCD pP **sP** **00 17 15.8 +1.4**
FITZ Fitzroy Crossi 51.90 272 P **P** **00 17 11.8 -1.6**
baz=52,SNR=51
SAUI Saumlaki 52.46 287 P **P** **00 17 16.5 -1.0**
SAUI Saumlaki 52.46 287 P **P** **00 17 17.7 +0.1**
comp=Z,660nm,1.2s,comp=Z,10µm
CASY Casey 52.80 209 P **P** **00 17 18.8 -0.6**
CASY IAmb IAmb 00 17 21.1
comp=Z,83nm,0.8s
CASY Casey 52.80 209 P **P** **00 17 19.3 -0.1**
CASY pP **sP** **00 17 30.9 -0.1**
CASY PcP **PcP** **00 18 29.2 +0.8**
NWAO Narrogin (SRO) 53.12 251 P **P** **00 17 20.2 -2.0**
baz=53,SNR=5.1
NWAO P **P** **00 17 20.2 -2.0**
baz=53,SNR=5.1
NWAO Narrogin (SRO) 53.12 251 P **P** **00 17 19.8 -2.5**
NWAO IAmb IAmb 00 17 22.3
comp=Z,63nm,1.2s
NWAO Narrogin (SRO) 53.12 251 P **P** **00 17 19.3 -2.9**
NWAO IAmb IAmb 00 17 22.3
comp=Z,207nm,1.2s
NWAO Narrogin (SRO) 53.12 251 IAMs_20 IAMs_20 00 40 40.9
comp=Z,3µm,18.0s
NWAO Narrogin (SRO) 53.12 251 P **P** **00 17 19.9 -2.4**
NWAO Narrogin (SRO) 53.12 251 P **P** **00 17 20.1 -2.2**
NWAO Narrogin (SRO) 53.12 251 P **P** **00 17 19.8 -2.5**
NWAO pmax pmax
comp=Z,63nm,1.2s
NWAO MLR MLR
comp=Z,3µm,18.0s
NWAO Narrogin (SRO) 53.12 251 LR LR 00 36 21.4
comp=Z,2µm,21.6s,baz=83,slow=32
KLBR Kellerberrin 53.13 253 P **P** **00 17 20.1 -2.3**
baz=53,SNR=34
KLBR Kellerberrin 53.13 253 P **P** **00 17 19.8 -2.6**
KMPI Kaimana, Papua 53.14 293 P **P** **00 17 22.8 +0.2**
comp=Z,264nm,1.1s,comp=Z,3µm
MEEK Meekatharra 54.20 259 P **P** **00 17 27.5 -2.7**
baz=54,SNR=32
MEEK Meekatharra 54.20 259 P **P** **00 17 27.7 -2.6**
MUN Mundaring 54.25 252 P **P** **00 17 28.3 -2.2**
baz=54,SNR=10
MUN Mundaring 54.25 252 P **P** **00 17 28.6 -1.9**
BLDU Ballidu 54.31 254 P **P** **00 17 28.3 -2.7**
baz=54,SNR=14
BLDU Ballidu 54.31 254 P **P** **00 17 28.6 -2.4**
FAKI Fak Fak 54.74 292 P **P** **00 17 31.5 -2.7**
FAKI Fak Fak 54.74 292 P **P** **00 17 32.2 -2.1**
FAKI Fak Fak 54.74 292 P **P** **00 17 32.1 -2.2**
comp=Z,362nm,0.9s,comp=Z,4µmcomp=Z,3µm
PSA00 Pilbara Seismi 55.23 265 P **P** **00 17 35.1 -2.6**
PSA00 IAmb IAmb 00 17 37.0
comp=Z,108nm,1.0s
PSA00 Pilbara Seismi 55.23 265 P **P** **00 17 34.5 -3.3**
PSA00 IAmb IAmb 00 17 37.0
comp=Z,56nm,1.1s
PSA00 Pilbara Seismi 55.23 265 P **P** **00 17 35.3 -2.5**
MORW Morawa 55.40 255 P **P** **00 17 36.5 -2.4**
baz=56,SNR=24
MORW Morawa 55.40 255 P **P** **00 17 36.4 -2.6**
MORW IAmb IAmb 00 17 38.4
comp=Z,90nm,0.9s
MORW Morawa 55.40 255 P **P** **00 17 36.7 -2.2**
MBWA Marble Bar 55.50 266 P **P** **00 17 36.7 -3.0**
MBWA Marble Bar 55.50 266 IAMs_20 IAMs_20 00 41 25.1
comp=Z,3µm,20.0s
MBWA Marble Bar 55.50 266 P **P** **00 17 37.2 -2.5**
MBWA Marble Bar 55.50 266 P **P** **00 17 36.9 -2.9**
MBWA PcP **PcP** **00 18 37.9 -1.7**
BNDI Bandanaira 55.61 289 P **P** **00 17 39.4 -1.1**
BNDI Bandanaira 55.61 289 P **P** **00 17 39.4 -1.1**
comp=Z,518nm,1.0s,comp=Z,124µmcomp=Z,5µm
KHLU Kalu`u 56.43 26 P **P** **00 17 43.6 -2.7**
PUH Pauahi 56.48 27 P **P** **00 17 45.5 -1.1**
MLOA Mauna Loa Obse 56.50 26 P **P** **00 17 44.8 -2.4**
SBLHI Steaming Bluff 56.51 27 IAMs_20 IAMs_20 00 42 52.7
comp=Z,3µm,21.0s
HUH Hualalai 56.54 26 P **P** **00 17 46.0 -1.3**
POHA Pohakuloa 56.72 26 P **P** **00 17 47.5 -1.0**
SWI Sorong 56.79 293 P **P** **00 17 48.0 -1.0**
comp=Z,221nm,1.7s,comp=Z,5µmcomp=Z,3µm
HPAH Hawaii Prepara 56.90 26 P **P** **00 17 49.1 -0.5**
SOEI Soe 57.24 280 P **P** **00 17 51.4 -0.9**
SOEI Soe 57.24 280 P **P** **00 17 52.3 0.0**
SOEI Soe 57.24 280 P **P** **00 17 52.0 -0.3**
QSPA South Pole Qui 57.32 180 P **P** **00 17 54.8 +2.5**
QSPA South Pole Qui 57.32 180 IAMs_20 IAMs_20 00 37 48.0
comp=Z,3µm,22.0s
QSPA South Pole Qui 57.32 180 P **P** **00 17 56.1 +3.8**
comp=Z,58nm,0.8s,baz=32,slow=2.2,SNR=150
QSPA LR LR 00 38 21.6
comp=Z,3µm,21.9s,baz=42,slow=32
comp=Z,58nm,0.8s
QSPA South Pole Qui 57.32 180 P **P** **00 17 56.0 +3.7**
BATI Baumata 57.50 279 P **P** **00 17 53.7 -0.3**
comp=Z,280nm,1.0s,comp=Z,3µm
BATI Baumata 57.50 279 P **P** **00 17 53.8 -0.3**
comp=Z,222nm,0.8s,baz=157,slow=1.0,SNR=44
BATI LR LR 00 42 35.8
comp=Z,4µm,20.1s,baz=122,slow=36
comp=Z,222nm,0.8s
GUMO Guam 57.85 317 LR LR 00 40 07.5
comp=Z,2µm,20.8s,baz=114,slow=33
RPN Rapa Nui 59.31 104 LR LR 00 37 38.3
comp=Z,2µm,21.1s,baz=257,slow=30
GIRL Giralia 59.46 261 P **P** **00 18 06.4 -1.2**
baz=60,SNR=19
GIRL Giralia 59.46 261 P **P** **00 18 05.6 -2.0**
GIRL Giralia 59.46 261 P **P** **00 18 06.9 -0.7**
MMRI Maumere 59.52 280 P **P** **00 18 06.0 -2.1**
MMRI Maumere 59.52 280 P **P** **00 18 07.0 -1.1**
MMRI Maumere 59.52 280 P **P** **00 18 06.3 -1.8**
comp=Z,554nm,1.1s,comp=Z,8µmcomp=Z,3µm
LBMI Labuha 59.87 291 P **P** **00 18 10.3 -0.2**
comp=Z,185nm,1.2s,comp=Z,3µm
EDFI Ende, Flores 59.92 279 P **P** **00 18 08.5 -2.5**
comp=Z,129nm,1.1s,comp=Z,2µmcomp=Z,3µm
BASI Baing, Sumba 60.06 277 P **P** **00 18 10.7 -1.1**
comp=Z,536nm,0.9s,comp=Z,5µmcomp=Z,3µm
SANI Sanana 60.21 289 P **P** **00 18 10.9 -1.9**
SANI Sanana 60.21 289 P **P** **00 18 10.4 -2.4**
comp=Z,223nm,1.3s,comp=Z,4µmcomp=Z,3µm
TNTI Ternate 60.84 292 P **P** **00 18 15.2 -1.9**
TNTI IAmb IAmb 00 18 16.9
comp=Z,69nm,1.1s
TNTI Ternate 60.84 292 P **P** **00 18 16.8 -0.3**
TNTI Ternate 60.84 292 P **P** **00 18 16.8 -0.3**
comp=Z,70nm,2.6s,comp=Z,2µmcomp=Z,2µm
BBSI Bau Bau 60.99 283 P **P** **00 18 17.6 -0.5**
comp=Z,66nm,1.1s,comp=Z,2µmcomp=Z,2µm
BKSI Bulukumba 63.09 282 P **P** **00 18 30.1 -2.2**
comp=Z,125nm,1.0s,comp=Z,2µm
PLAI Plampang 63.14 277 P **P** **00 18 30.8 -1.8**
PLAI Plampang 63.14 277 P **P** **00 18 30.4 -2.2**
comp=Z,274nm,0.9s,comp=Z,3µmcomp=Z,3µm
KMSI Cibinong 63.38 290 P **P** **00 18 33.6 -0.6**
comp=Z,161nm,0.4s,comp=Z,6µmcomp=Z,3µm
LUWI Luwuk 63.39 287 P **P** **00 18 32.1 -2.1**
LUWI Luwuk 63.39 287 P **P** **00 18 33.8 -0.4**
LUWI Luwuk 63.39 287 P **P** **00 18 33.4 -0.8**
comp=Z,187nm,1.0s
KAPI Kappang 63.57 282 P **P** **00 18 33.5 -1.9**
KAPI Kappang 63.57 282 IAMs_20 IAMs_20 00 45 26.1
comp=Z,3µm,21.0s
KAPI Kappang 63.57 282 P **P** **00 18 34.4 -1.0**
KAPI Kappang 63.57 282 *c*P **P** **00 18 33.1 -2.3**
KAPI pmax pmax
comp=Z,117nm,1.2s
KAPI Kappang 63.57 282 P **P** **00 18 33.8 -1.6**
comp=Z,62nm,0.9s,baz=133,slow=5.0,SNR=36
KAPI LR LR 00 45 38.3
comp=Z,2µm,20.5s,baz=116,slow=36
comp=Z,62nm,0.9s
KAPI Kappang 63.57 282 P **P** **00 18 34.2 -1.3**
KAPI pP **pP** **00 18 45.8 +1.6**
TWSI Taliwang, Sumb 63.94 277 P **P** **00 18 35.6 -2.2**
comp=Z,365nm,0.9s,comp=Z,3µmcomp=Z,3µm
SPSI Sidrap Palu 64.14 283 P **P** **00 18 36.5 -2.7**
comp=Z,117nm,1.0s,comp=Z,3µm
TTSI Tana Toraja 64.62 284 P **P** **00 18 40.4 -2.0**
comp=Z,65nm,1.0s
MRSI Marisa 64.95 288 P **P** **00 18 41.8 -2.7**
comp=Z,50nm,1.1s,comp=Z,1µmcomp=Z,3µm
IGBI Denpasar 65.35 275 P **P** **00 18 46.1 -1.0**
comp=Z,348nm,0.8s,comp=Z,4µmcomp=Z,2µm
SRBI Singaraja 65.68 276 P **P** **00 18 47.2 -2.0**
comp=Z,271nm,0.9s,comp=Z,3µmcomp=Z,3µm
DAV Davao City (W) 66.20 296 P **P** **00 18 50.0 -2.5**
comp=Z,132nm,0.4s,baz=63,slow=3.2,SNR=5.4
DAV LR LR 00 47 16.1
comp=Z,1µm,20.8s,baz=131,slow=36
comp=Z,132nm,0.4s
TOLI2 Tolitoli 66.26 288 P **P** **00 18 49.9 -3.0**
TOLI2 IAmb IAmb 00 18 51.9
comp=Z,62nm,1.0s
TOLI2 Tolitoli 66.26 288 P **P** **00 18 50.3 -2.6**
JAGI Jajag, Banyuwa 66.36 275 P **P** **00 18 51.6 -2.0**
JAGI Jajag, Banyuwa 66.36 275 P **P** **00 18 51.1 -2.5**
comp=Z,192nm,0.9s,comp=Z,3µmcomp=Z,3µm
BLJI Banyuglugur 67.21 276 P **P** **00 18 57.6 -1.4**
comp=Z,168nm,0.8s,comp=Z,3µm
KMMI Kalianget 67.27 276 P **P** **00 18 59.0 -0.4**
comp=Z,182nm,1.1s,comp=Z,2µmcomp=Z,3µm
SMAI San Martin Ant 67.40 158 P **P** **00 19 01.3 +1.9**
BELA Belgrano 2 67.49 172 P **P** **00 19 00.2 +0.4**
BKB Balikpapan 68.03 283 P **P** **00 19 04.5 +0.3**
BBKI Banjar Baru 68.49 280 P **P** **00 19 06.1 -1.0**
comp=Z,269nm,0.8s,comp=Z,13µm
NGJI Ngawi 69.20 275 P P 00 19 19.7 +8.2
MTKI Muara Teweh, K 69.86 282 P **P** **00 19 14.5 -1.1**
comp=Z,50nm,0.4s,comp=Z,13µmcomp=Z,2µm
MAW Mawson 69.90 201 P **P** **00 19 15.8 +0.8**
baz=70,SNR=52
MAW Mawson 69.90 201 P **P** **00 19 15.0 +0.1**
MAW Mawson 69.90 201 P **P** **00 19 15.0 +0.1**
MAW pmax pmax
comp=Z,13nm,0.9s
MAW Mawson 69.90 201 P **P** **00 19 15.7 +0.8**
comp=Z,45nm,0.8s,baz=119,slow=7.2,SNR=46
MAW LR LR 00 48 20.6
comp=Z,2µm,21.6s,baz=113,slow=34
comp=Z,45nm,0.8s
JCJ Chichijima 70.28 323 LR LR 00 45 42.4
comp=Z,1µm,21.8s,baz=128,slow=32
PMSA Palmer Station 70.30 156 LR LR 00 47 19.0
comp=Z,1µm,18.1s,baz=254,slow=33
MYLDM Lahad Datu 70.51 290 P **P** **00 19 18.7 -0.8**
MYLDM IAmb IAmb 00 19 44.2
comp=Z,70nm,1.3s
KPJI Karang Pucung 71.35 273 P **P** **00 19 24.4 -0.2**
comp=Z,67nm,0.8s
BBJI Bungbulang 72.36 272 P **P** **00 19 28.6 -2.2**
LEM Lembang 72.72 273 P **P** **00 19 31.6 -1.5**
comp=Z,94nm,0.8s,baz=135,slow=8.6,SNR=11
LEM LR LR 00 51 49.9
comp=Z,3µm,20.5s,baz=146,slow=36
comp=Z,94nm,0.8s
KKM Kota Kinabalu 72.84 289 P **P** **00 19 31.1 -2.6**
KKM IAmb IAmb 00 19 33.5
comp=Z,77nm,0.9s
CNJI Cibinong 72.88 272 P **P** **00 19 32.0 -1.8**
comp=Z,68nm,0.9s,comp=Z,1µm
STKI Sintang 73.24 281 P **P** **00 19 35.0 -1.0**
comp=Z,155nm,0.9s
DBJI Dramaga 73.59 273 P **P** **00 19 36.6 -1.5**
comp=Z,170nm,0.7s
GO10 Punta Arenas 73.89 143 P **P** **00 19 36.2 -3.0**
GO10 IAmb IAmb 00 19 53.2
comp=Z,166nm,1.4s
SBUM Sibu 73.98 284 P **P** **00 19 38.7 -1.6**
USHA Ushuaia 74.23 146 LR LR 00 48 21.5
comp=Z,1µm,18.3s,baz=237,slow=32
ELIB Princess Elisa 74.42 187 *d*P **P** **00 19 43.9 +1.7**
comp=Z,122nm,0.8s
ELIB *d*S **S** **00 29 14.9 +0.7**
KSM Kuching 75.00 282 **P** **00 19 43.7 -2.5**
KSM **P** **00 19 44.2 -2.0**
KSM IAmb IAmb 00 19 45.9
comp=Z,69nm,0.8s
KSM Kuching 75.00 282 P **P** **00 19 45.0 -1.2**
MG02 Cerro Sombrero 75.01 144 P **P** **00 19 43.7 -2.0**
JMZ Minamidaito 2 75.37 314 P **P** **00 19 45.2 -2.8**
TROLL Troll, Antarti 75.48 180 ⇑P **P** **00 19 50.4 +2.2**
comp=Z,25µm,1.6s
TROLL ⇑S **S** **00 29 25.3 -0.8**
comp=Z,4.7nm,0.2s
SNAA Sanae 75.78 179 P **P** **00 19 48.0 -1.9**
SNAA IAmb IAmb 00 19 58.1
comp=Z,98nm,0.8s
SNAA IAMs_20 IAMs_20 00 48 42.8
comp=Z,2µm,22.0s
SNAA Sanae 75.78 179 ⇑P **P** **00 19 51.9 +2.0**
comp=Z,13µm,2.1s
SNAA ⇑pP **pP** **00 19 57.2 -1.3**
comp=Z,2µm,0.8s
SNAA ⇓S **S** **00 29 28.2 -1.1**
comp=Z,42nm,1.4s
SNAA Sanae 75.78 179 P **P** **00 19 48.0 -1.9**
SNAA pmax pmax
comp=Z,98nm,0.8s
SNAA Sanae 75.78 179 P **P** **00 19 51.8 +2.0**
comp=Z,39nm,1.1s,baz=179,slow=4.6,SNR=54
SNAA LR LR 00 49 27.3
comp=Z,2µm,21.9s,baz=187,slow=33
comp=Z,39nm,1.1s
VNA3 Neumayer Olymp 75.96 176 ⇑P **P** **00 19 52.8 +1.9**
comp=Z,187nm,0.8s
VNA3 ⇑pP **pP** **00 19 58.3 -1.1**
comp=Z,292nm,0.8s
VNA3 ⇑S **S** **00 29 32.3 +1.2**
comp=Z,134µm,0.0s
VNA2 Neumayer--Watz 76.38 177 ⇑P **P** **00 19 55.4 +2.2**
comp=Z,144nm,0.8s,baz=184,slow=4.0
VNA2 ⇑pP **pP** **00 20 00.8 -1.0**
comp=Z,231nm,0.7s,baz=179,slow=4.0
VNA2 ⇓S **S** **00 29 37.4 +1.7**
comp=Z,0.2nm,0.1s,baz=180,slow=7.0
JHJ Hachijo jima 2 76.40 325 LR LR 00 48 46.7
comp=Z,1µm,21.6s,baz=144,slow=32
NVL N'lazarevskaya 76.46 184 *e*P **P** **00 19 54.8 +1.2**
NVL *e*S **S** **00 29 36.8 +0.2**
NVL pmax pmax
comp=Z,189nm,2.0s
NVL smax smax
comp=N,1µm,16.5s
NVL MLR MLR
comp=Z,1µm,17.0s
VNA1 Neumayer--Stat 76.62 177 ⇑P **P** **00 19 57.0 +2.5**
comp=Z,103nm,0.9s
VNA1 ⇑pP **pP** **00 20 02.6 -0.5**
comp=Z,247nm,0.8s
PMBI Palembang 77.19 275 IAMs_20 IAMs_20 00 56 00.9
comp=Z,2µm,20.0s
COYC Coyhaique 77.55 136 P **P** **00 20 00.0 -0.2**
AY01 Puyuhuapi 77.86 135 P **P** **00 20 03.1 +1.1**
JOW Kunigami 77.91 313 LR LR 00 49 24.1
comp=Z,1µm,21.7s,baz=132,slow=32
PAF Port-aux-Franc 77.96 219 P **P** **00 20 02.2 -0.2**
PAF Port-aux-Franc 77.96 219 P **P** **00 20 02.2 -0.2**
PAF pmax pmax
comp=Z,208nm,1.1s
LL02 Futaleuf 79.03 134 P **P** **00 20 09.2 +0.6**
LL01 San Ignacio de 79.15 134 P **P** **00 20 10.0 +0.8**
ORCD Orcadas 79.47 159 P **P** **00 20 10.1 -0.3**
H03S2 Juan Fernandez 79.56 123 T T 01 48 36.8
baz=236,slow=74,SNR=398
H03S1 Juan Fernandez 79.58 123 T T 01 48 51.0
baz=236,slow=74,SNR=380
H03S3 Juan Fernandez 79.58 123 T T 01 48 42.7
baz=236,slow=74,SNR=320
H03N3 Juan Fernandez 79.77 123 T T 01 48 51.4
baz=240,slow=72,SNR=607
H03N2 Juan Fernandez 79.77 123 T T 01 48 50.1
baz=240,slow=72,SNR=750
H03N1 Juan Fernandez 79.79 123 T T 01 48 49.2
baz=240,slow=72,SNR=1221
MJAR Matsushiro Arr 79.93 326 P **P** **00 20 12.0 -1.3**
MJAR Matsushiro Arr 79.93 326 P **P** **00 20 12.0 -1.3**
comp=Z,100nm,0.9s,baz=158,slow=6.1,SNR=4.3
MJAR LR LR 00 52 05.9
comp=Z,710nm,20.4s,baz=143,slow=33
comp=Z,100nm,0.9s
MAJO Matsushiro 79.93 326 P **P** **00 20 12.2 -1.1**
MAJO Matsushiro 79.93 326 P **P** **00 20 12.9 -0.3**
MAJO Matsushiro 79.93 326 *c*P **P** **00 20 10.9 -2.3**
MAJO pmax pmax
comp=Z,42nm,1.6s
MJB9 Matsu-Tunnel 79.94 326 P **P** **00 20 12.4 -0.9**

MYKOM **Kota Tinggi** 80.53 278 IAMs_20 IAMs_20 00 57 08.6
comp=Z,2µm,20.0s
JNU Nakatsue 81.02 319 P **P** **00 20 17.8 -1.4**
JNU Nakatsue 81.02 319 LR LR 00 55 08.4
comp=Z,434nm,18.1s,baz=137,slow=35
EFI East Falkland 81.06 147 *i* P **P** **00 20 20.9 +1.7**
EFI pmax pmax
comp=Z,55nm,1.1s
PLCA Paso Flores 81.24 133 P **P** **00 20 21.8 +1.2**
PLCA Paso Flores 81.24 133 P **P** **00 20 21.8 +1.2**
PLCA pmax pmax
comp=Z,36nm,1.2s
PLCA Paso Flores 81.24 133 P **P** **00 20 24.1 +3.5**
comp=Z,18nm,1.1s,baz=224,slow=5.0,SNR=18
PLCA LR LR 00 48 16.7
comp=Z,619nm,21.2s,baz=242,slow=29
comp=Z,18nm,1.1s
GO06 Curarrehue 81.34 132 P **P** **00 20 22.2 +1.1**
PDSI Padang 81.90 274 P **P** **00 20 21.8 -2.5**
comp=Z,32nm,0.7s,comp=Z,6µm
BKNI Bangkinang 82.08 275 IAMs_20 IAMs_20 00 58 29.5
comp=Z,2µm,20.0s
JTM Tenmabayashi 82.14 330 P **P** **00 20 24.1 -0.8**
QZH Quanzhou 82.92 306 *e*P **P** **00 20 28.4 -0.9**
QZH S **S** **00 30 52.5 +6.5**
QZH LR LR
comp=Z,870nm,24.7s
QZH LR LR
comp=Z,840nm,17.6s
QZH LR LR
comp=Z,1µm,24.9s
ML02 Panimavida 83.60 129 P **P** **00 20 34.3 +1.4**
ML02 IAmb IAmb 00 20 38.0
comp=Z,76nm,1.4s
KIWB Kanaga Island 84.29 1 P **P** **00 20 35.7 0.0**
ADK Adak 84.33 1 P **P** **00 20 36.2 +0.4**
ADK Adak 84.33 1 P **P** **00 20 34.7 -1.2**
ADK Adak 84.33 1 P **P** **00 20 36.2 +0.4**
ADK pmax pmax
comp=Z,168nm,1.5s
ASAJ Asahikawa 84.33 333 LR LR 00 51 11.1
comp=Z,2µm,21.6s,baz=168,slow=31
BO02 Sierra Bellavi 84.59 128 P **P** **00 20 39.0 +1.0**
BO02 IAmb IAmb 00 20 43.3
comp=Z,104nm,1.6s
BO01 Tunca 84.63 128 P **P** **00 20 38.2 +0.1**
VA05 Santo Domingo 84.70 127 P **P** **00 20 36.8 -1.7**
VA05 IAmb IAmb 00 21 05.0
comp=Z,35nm,1.1s
MT01 Popeta 84.83 127 P **P** **00 20 39.4 +0.2**
MT01 IAmb IAmb 00 20 44.1
comp=Z,64nm,1.1s
MT09 Talagante 85.06 127 P **P** **00 20 42.1 +1.7**
MT09 IAmb IAmb 00 20 45.3
comp=Z,46nm,1.1s
KULM Kulim 85.11 279 P **P** **00 20 37.8 -3.0**
KULM IAmb IAmb 00 20 40.2
comp=Z,37nm,1.0s
KULM IAMs_20 IAMs_20 00 59 01.9
comp=Z,2µm,22.0s
RPSI Rantau Prapat 85.14 276 P **P** **00 20 37.6 -3.3**
RPSI IAmb IAmb 00 23 48.0
comp=Z,32nm,0.9s
PSI Prapat 85.19 276 P **P** **00 20 38.6 -2.8**
PSI Prapat 85.19 276 P **P** **00 20 37.6 -3.8**
PSI pmax pmax
comp=Z,32nm,0.9s
PSI MLR MLR
comp=Z,1µm,20.0s
MT02 Curacav 85.26 127 P **P** **00 20 41.0 -0.3**
SSE Sheshan 85.31 312 P **P** **00 20 42.7 +1.4**
SSE S **S** **00 31 14.0 +4.3**
SSE pmax pmax
comp=Z,10.0nm,0.8s
SSE pmax pmax
comp=Z,170nm,3.5s
SSE LR LR
comp=Z,170nm,22.1s
SSE LR LR
comp=Z,170nm,23.0s
TJN Taejon 85.37 319 *i* P **P** **00 20 41.3 -0.2**
SHEM Shemya Is, Ala 85.40 356 LR LR 00 52 49.7
comp=Z,3µm,20.6s,baz=126,slow=32
GSI Gunungsitoli 85.52 274 P **P** **00 20 40.6 -2.2**
GSI Gunungsitoli 85.52 274 P **P** **00 20 42.0 -0.8**
GSI Gunungsitoli 85.52 274 P **P** **00 20 42.0 -0.8**
comp=Z,278nm,0.8s
QIZ Qiongzhong 85.57 296 P **P** **00 20 38.2 -4.7**
QIZ S **S** **00 31 15.8 +3.0**
QIZ SS **SS** **00 36 51.9 +2.3**
QIZ pmax pmax
comp=Z,600nm,5.3s
QIZ LR LR
comp=Z,500nm,30.4s
QIZ LR LR
comp=Z,470nm,36.9s
QIZ LR LR
comp=Z,1µm,34.8s
PEL Peldehue 85.63 127 P **P** **00 20 43.7 +0.5**
PEL IAmb IAmb 00 20 48.5
comp=Z,55nm,1.3s
PEL Peldehue 85.63 127 P **P** **00 20 43.7 +0.5**
PEL pmax pmax
comp=Z,55nm,1.3s
NIKH Nikolski High 85.83 6 P **P** **00 20 43.8 +0.5**
NIKH Nikolski High 85.83 6 P **P** **00 20 44.0 +0.6**
baz=188
KSRS Korea Array 85.85 320 P **P** **00 20 43.5 -0.4**
comp=Z,5.2nm,0.7s,baz=144,slow=6.2,SNR=12
KSRS LR LR 00 57 08.9
comp=Z,580nm,18.9s,baz=135,slow=34
comp=Z,5.2nm,0.7s
KSAR Wonju Array Be 85.86 320 P **P** **00 20 43.2 -0.7**
KSAR Wonju Array Be 85.86 320 P **P** **00 20 43.2 -0.7**
SNCC San Nicolas Is 86.06 46 P **P** **00 20 46.7 +1.7**
baz=226
LPIG La Paz 86.22 58 LR LR 00 51 34.1
comp=Z,959nm,20.5s,baz=228,slow=30
SCZ2 Santa Cruz Isl 86.51 45 P **P** **00 20 49.3 +2.0**
baz=226
CO02 Combarbal 86.57 125 P **P** **00 20 48.4 +0.4**
CO02 IAmb IAmb 00 21 16.6
comp=Z,34nm,0.9s
YSS Yuzh-Sakhalins 86.68 335 *oe*P **P** **00 20 47.2 -0.5**
YSS *e**SP **PcP** **00 20 52.3 +2.3**
YSS *e*S S **00 31 21.7 -0.7**
YSS *e*PPS PPS 00 32 42.3
YSS pmax pmax
comp=Z,900nm,4.2s
YSS pmax pmax
comp=N,400nm,3.1s
YSS pmax pmax
comp=Z,80nm,1.1s
YSS smax smax
comp=N,600nm,8.5s
YSS smax smax
comp=E,400nm,7.1s
SBC Santa Barbara 86.77 45 P **P** **00 20 51.2 +2.8**
baz=226
CIS Catalina Islan 86.84 47 P **P** **00 20 51.7 +2.8**
baz=227
UNV Unalaska Valle 86.92 7 P **P** **00 20 49.3 +0.7**
UNV Unalaska Valle 86.92 7 P **P** **00 20 50.2 +1.5**
baz=190
CO03 El Pedregal 87.00 125 P **P** **00 20 50.1 +0.1**
CO03 IAmb IAmb 00 20 55.1
comp=Z,48nm,1.2s
PKM Mcpherson Peak 87.02 45 P **P** **00 20 52.9 +2.9**
baz=226
FMP Fort Macarthur 87.13 46 P **P** **00 20 53.1 +2.9**
baz=227
SMMC Simmler 87.20 44 P **P** **00 20 53.8 +3.1**
baz=226
BCW Bitter Crk WRg 87.29 45 P **P** **00 20 52.3 +1.1**
109C Camp Elliot, M 87.30 48 P **P** **00 20 54.2 +3.1**
baz=228
TKX Tecate 87.40 48 P **P** **00 20 53.2 +1.6**
NJ2 Nanjing 87.43 311 ⇓ *i*P **P** **00 20 51.8 +0.1**
NJ2 pP **PcP** **00 20 54.3 +0.6**
NJ2 sP **pP** **00 20 58.0 -2.9**
NJ2 pmax pmax
comp=Z,18nm,0.5s
NJ2 pmax pmax
comp=Z,750nm,3.7s
NJ2 LR LR
comp=Z,620nm,17.7s
NJ2 LR LR
comp=Z,570nm,20.4s
NJ2 LR LR
comp=Z,1µm,21.8s
BAR Barrett 87.44 48 P **P** **00 20 53.7 +1.9**
BAR IAmb IAmb 00 20 57.0
comp=Z,54nm,1.4s
ESJX Sierra Juarez 87.44 49 P **P** **00 20 54.6 +2.6**
ESJX IAmb IAmb 00 20 57.7
comp=Z,45nm,1.4s
DECC Green Verdugo 87.47 46 P **P** **00 20 54.4 +2.5**
baz=227
OSI Osito Audit: C 87.48 46 P **P** **00 20 54.8 +2.8**
baz=227
TEY Ternei 87.50 330 *de*P **P** **00 20 49.6 -2.1**
TEY *e* 00 20 51.0
ELS Elsinore Mount 87.61 47 P **P** **00 20 54.6 +1.9**
MURC Murrieta 87.72 47 P **P** **00 20 56.4 +3.3**
baz=228,SNR=9.4
PET Petropavlovsk 87.73 346 *c* *i*P **P** **00 20 54.0 +1.4**
PET *e*S **S** **00 31 34.6 +2.4**
PET *e*PS **PnS** **00 32 30.1 -7.1**
PET pmax pmax
comp=Z,300nm,18.0s
PET MLR MLR
comp=Z,1µm,21.0s
MONP2 Monument Peak 87.73 48 P **P** **00 20 55.8 +2.3**
baz=228,SNR=9.0
ARVC Arvin 87.77 45 P **P** **00 20 56.0 +2.7**
baz=227
IKP In-Ko-Pah, Jac 87.77 48 P **P** **00 20 56.9 +3.4**
baz=228,SNR=7.2
BFSC Mount Baldy Ra 87.87 46 P **P** **00 20 56.5 +2.5**
baz=227,SNR=12
YUH Yuha Desert 87.89 49 P **P** **00 20 56.2 +2.3**
YUH IAmb IAmb 00 20 59.3
comp=Z,56nm,1.4s
PETK Petropavlovsk- 88.00 346 P **P** **00 20 54.0 0.0**
PETK Petropavlovsk- 88.00 346 P **P** **00 20 54.0 0.0**
comp=Z,19nm,0.7s,baz=109,slow=4.9,SNR=11
PETK PKiKP **PKiKP** **00 25 55.7 -0.4**
comp=Z,3.7nm,0.8s,baz=123,slow=4.8,SNR=4.4
comp=Z,19nm,0.7s
MSHR Mys Shultsa 88.03 325 *i* P **P** **00 20 54.1 -0.2**
MSHR pmax pmax
comp=Z,14nm,1.0s
GDXM Geysers 88.08 40 P **P** **00 20 56.0 +1.2**
GDXM IAmb IAmb 00 21 14.4
comp=Z,20nm,1.0s
EDW2 Edwards Air Fo 88.10 46 P **P** **00 20 58.0 +3.0**
baz=227,SNR=14
TRQA Tornquist 88.10 135 IAMs_20 IAMs_20 00 51 40.8
comp=Z,1µm,18.0s
VES Vestal, Richgr 88.10 44 P **P** **00 20 57.2 +2.4**
baz=227,SNR=8.2
SWSC Sam W. Stewart 88.16 48 P **P** **00 20 57.9 +2.7**
baz=228,SNR=9.1
LHMI Lhok Sumawe 88.16 277 IAMs_20 IAMs_20 01 02 50.8
comp=Z,2µm,20.0s
PFO Pinyon Flats O 88.19 48 P **P** **00 20 57.3 +1.8**
PFO IAmb IAmb 00 21 17.4
comp=Z,37nm,1.0s
PFO Pinyon Flats O 88.19 48 P **P** **00 20 58.5 +3.0**
baz=228
PFO Pinyon Flats O 88.19 48 *i* P **P** **00 20 56.7 +1.2**
PFO pmax pmax
comp=Z,27nm,1.0s
PFO Pinyon Flats O 88.19 48 LR LR 00 55 16.1
comp=Z,1µm,18.7s,baz=236,slow=32
TPFO Pinon Flats 88.19 48 P **P** **00 20 59.0 +3.5**
baz=228
CFA Coronel Fontan 88.21 127 LR LR 00 51 50.1
comp=Z,2µm,21.5s,baz=254,slow=30
VOG Valley Oaks Go 88.26 44 P **P** **00 20 57.9 +2.3**
baz=226
PMD Palm Desert 88.26 48 P **P** **00 20 58.1 +2.4**
PMD IAmb IAmb 00 21 17.5
comp=Z,24nm,0.9s
FALS False Pass 88.27 9 P **P** **00 20 58.2 +3.1**
baz=193
BBRC Big Bear Solar 88.34 47 P **P** **00 20 59.3 +3.0**
baz=228
ISA Isabella, Lake 88.34 45 P **P** **00 20 58.6 +2.5**
ISA IAmb IAmb 00 21 01.3
comp=Z,79nm,1.2s
ISA Isabella, Lake 88.34 45 P **P** **00 20 58.7 +2.6**
baz=227,SNR=12
ISA Isabella, Lake 88.34 45 P **P** **00 20 58.6 +2.5**
ISA pmax pmax
comp=Z,79nm,1.3s
AC05 El Transito 88.48 124 P **P** **00 20 57.7 +0.4**
AC05 IAmb IAmb 00 21 37.7
comp=Z,29nm,1.0s
KMPM Mount Pierce 88.53 38 P **P** **00 20 57.1 +0.3**
RRX Edison Barstow 88.70 46 P **P** **00 21 00.7 +3.0**
baz=228
BELC Belle Mtn. Jos 88.73 48 P **P** **00 21 01.3 +3.2**
baz=228,SNR=9.3
PIX Pinacate 88.76 51 P **P** **00 20 59.7 +1.7**
PIX IAmb IAmb 00 21 03.2
comp=Z,34nm,1.4s
CHNA Chernabura Isl 88.79 11 P **P** **00 21 01.8 +4.2**
baz=196
HSIG 88.82 54 P **P** **00 21 00.2 +1.8**
HSIG IAmb IAmb 00 21 03.6
comp=Z,41nm,1.4s
BC3 Big Chuckawall 88.84 48 P **P** **00 21 01.1 +2.5**
baz=229,SNR=12
CMB Columbia Colle 88.87 42 P **P** **00 21 00.2 +1.7**
CMB IAmb IAmb 00 21 03.0
comp=Z,49nm,1.4s
CMB Columbia Colle 88.87 42 P **P** **00 21 00.2 +1.7**
CMB pmax pmax
comp=Z,49nm,1.4s
CMB MLR MLR
comp=Z,1µm,20.0s
USA0B Ussuriysk Arra 88.88 327 P **P** **00 20 58.2 -0.1**
USA0B Ussuriysk Arra 88.88 327 *c* *i*P **P** **00 20 58.0 -0.3**
USRK Ussuriysk Ar. 88.88 327 P **P** **00 20 58.2 -0.1**
USRK Ussuriysk Ar. 88.88 327 P **P** **00 20 58.2 -0.1**
USRK Ussuriysk Ar. 88.88 327 P **P** **00 20 58.6 +0.3**
comp=Z,14nm,0.9s,baz=141,slow=3.6,SNR=18
USRK LR LR 00 56 33.3
comp=Z,1µm,20.0s,baz=135,slow=33
comp=Z,14nm,0.9s
CNSH ChangSha 88.89 305 ⇑ P P 00 20 50.0 -8.7
HEC Hector,Ludlow 89.08 47 P **P** **00 21 02.2 +2.6**
baz=228
GSC Goldstone, Bar 89.10 46 P **P** **00 21 02.0 +2.3**
GSC IAmb IAmb 00 21 21.4
comp=Z,36nm,1.0s
GSC Goldstone, Bar 89.10 46 P **P** **00 21 02.9 +3.2**
baz=228,SNR=9.2
GSC Goldstone, Bar 89.10 46 P **P** **00 21 02.0 +2.3**
GSC pmax pmax
comp=Z,36nm,1.0s
CWC Cottonwood Cre 89.11 45 P **P** **00 21 02.4 +2.6**
baz=227
SDPT Sand Point 89.15 10 P **P** **00 21 02.8 +3.5**
baz=195
AFDM Forest Hills D 89.18 41 P **P** **00 21 01.2 +1.3**
AFDM IAmb IAmb 00 21 04.3
comp=Z,37nm,1.4s
AFDM IAMs_20 IAMs_20 01 00 10.7
comp=Z,2µm,20.0s
MPMC Manual Prospec 89.20 45 P **P** **00 21 02.8 +2.5**
baz=228,SNR=11
ORV Oroville 89.32 40 P **P** **00 21 02.1 +1.6**
ORV IAmb IAmb 00 21 04.9
comp=Z,32nm,1.4s
ORV IAMs_20 IAMs_20 00 51 53.2
comp=Z,1µm,20.0s
ORV Oroville 89.32 40 P **P** **00 21 02.1 +1.6**
ORV pmax pmax
comp=Z,32nm,1.5s
MDPB Devils Postpil 89.34 43 P **P** **00 21 02.6 +1.6**
113A Mohawk Valley, 89.34 50 P **P** **00 21 03.1 +2.4**
113A IAmb IAmb 00 21 22.9
comp=Z,63nm,1.5s
IRM Iron Mountain 89.37 48 P **P** **00 21 04.1 +3.2**
baz=229,SNR=15
WHN Wuhan 89.39 307 P **P** **00 20 59.9 -1.1**
WHN PP **PP** **00 24 30.2 -2.5**
WHN pmax pmax
comp=Z,2µm,4.1s
WHN LR LR
comp=Z,3µm,19.9s
214A Organ Pipe Nat 89.44 51 P **P** **00 21 03.8 +2.5**
214A IAmb IAmb 00 21 07.0
comp=Z,89nm,1.7s
214A Organ Pipe Nat 89.44 51 P **P** **00 21 04.9 +3.6**
baz=230,SNR=12
TIN Tinemaha, Big 89.44 44 P **P** **00 21 03.7 +2.4**
baz=227
GMRC Granite Mounta 89.46 47 P **P** **00 21 04.6 +3.1**
baz=229,SNR=6.7
MLAC Mammoth, Mammo 89.48 43 P **P** **00 21 04.1 +2.5**
baz=227
BLYC Blythe 89.49 49 P **P** **00 21 04.1 +2.7**
BLYC IAmb IAmb 00 21 23.7
comp=Z,38nm,1.0s
QSM Queen of Sheba 89.51 46 P **P** **00 21 03.8 +2.2**
QSM IAmb IAmb 00 21 07.4
comp=Z,86nm,1.7s
EMB Emerald Bay 89.68 42 IAMs_20 IAMs_20 00 56 47.0
comp=Z,1µm,20.0s
TUQ Turquoise Moun 89.73 47 P **P** **00 21 05.5 +2.8**
baz=228
WAKR Walker 89.73 42 P **P** **00 21 04.5 +1.7**
WAKR IAmb IAmb 00 21 08.5
comp=Z,76nm,1.6s
WAKR IAMs_20 IAMs_20 00 51 19.4
comp=Z,2µm,22.0s
FURC Furnace Creek, 89.85 45 P **P** **00 21 06.0 +3.0**
baz=229
SPIA Saint Paul Isl 89.90 5 P **P** **00 21 06.0 +3.3**
baz=187
GRAC Grapevine Rang 89.90 45 P **P** **00 21 06.5 +3.1**
baz=228
MPK Martis Peak 89.95 41 P **P** **00 21 06.0 +2.2**
MPK IAmb IAmb 00 21 08.5
comp=Z,52nm,1.2s
MPK IAMs_20 IAMs_20 00 52 11.8
comp=Z,2µm,21.0s
TYV Tymovskoe 90.04 337 *e*P **P** **00 21 04.4 +0.8**
TYV *e*S **S** **00 31 59.1 +5.0**
TYV pmax pmax
comp=Z,33nm,1.2s
TYV pmax pmax
comp=Z,900nm,4.1s
TYV smax smax
comp=N,500nm,9.0s
TYV smax smax
comp=E,400nm,9.0s
PNTR Pine Nut 90.04 42 P **P** **00 21 05.2 +1.0**
PNTR IAmb IAmb 00 21 27.6
comp=Z,28nm,0.9s
PNTR IAMs_20 IAMs_20 01 01 15.6
comp=Z,1µm,20.0s
LHV Little Huntoon 90.09 43 IAMs_20 IAMs_20 00 51 43.9
comp=Z,2µm,22.0s
PDMCI Parker Dam,Lak 90.09 48 P **P** **00 21 08.2 +4.0**
baz=229,SNR=10
NEE2 Needles Airpor 90.09 48 P **P** **00 21 07.7 +3.4**
baz=229
GMN Gold Mountain 90.17 44 P **P** **00 21 06.4 +1.5**
YERR Yerington 90.17 42 P **P** **00 21 06.4 +1.6**
YERR IAmb IAmb 00 21 09.2
comp=Z,38nm,1.3s
YERR IAMs_20 IAMs_20 00 52 22.1
comp=Z,2µm,19.0s
NONG Nongkai 90.18 291 P **P** **00 21 05.8 +0.8**
S14K Fog Glacier 90.20 10 P **P** **00 21 06.5 +2.2**
baz=196
WCT Wildcat Mounta 90.21 45 P **P** **00 21 06.6 +1.7**
YBH Yreka Blue Hor 90.22 38 P **P** **00 21 06.0 +1.2**
YBH IAmb IAmb 00 21 25.4
comp=Z,28nm,1.4s
YBH IAMs_20 IAMs_20 00 57 30.9
comp=Z,1µm,20.0s
YBH Yreka Blue Hor 90.22 38 P **P** **00 21 06.0 +1.2**
YBH Yreka Blue Hor 90.22 38 LR LR 00 52 42.0
comp=Z,900nm,22.0s,baz=236,slow=30
MDJ Mudanjiang 90.31 326 P **P** **00 21 04.7 -0.3**
MDJ IAmb IAmb 00 21 07.0
comp=Z,56nm,1.4s
MDJ IAMs_20 IAMs_20 00 55 53.5
comp=Z,2µm,22.0s
NVAR Mina Array Bea 90.33 43 P **P** **00 21 06.8 +1.3**
NVAR Mina Array Bea 90.33 43 P **P** **00 21 08.2 +2.7**
comp=Z,15nm,1.0s,baz=219,slow=7.5,SNR=38
NVAR PKKPbc **PKKPbc** **00 38 36.1 +1.0**
comp=Z,0.4nm,0.5s,baz=66,slow=2.6,SNR=3.9
NVAR LR LR 00 53 58.9
comp=Z,430nm,21.9s,baz=244,slow=30
comp=Z,15nm,1.0s
RYN Ryan 90.34 43 P **P** **00 21 07.2 +1.7**
RYN IAmb IAmb 00 21 10.1
comp=Z,49nm,1.5s
DL2 Dalian 90.37 318 P **P** **00 21 05.1 -0.3**
DL2 S **S** **00 32 00.0 +2.4**
DL2 pmax pmax
comp=Z,54nm,1.2s
DL2 pmax pmax
comp=Z,380nm,9.4s
DL2 LR LR
comp=Z,440nm,19.6s
DL2 LR LR
comp=Z,640nm,22.4s
DL2 LR LR
comp=Z,810nm,22.6s
CHGN Chignik 90.39 11 P **P** **00 21 06.1 +1.1**
CHGN Chignik 90.39 11 P **P** **00 21 07.2 +2.2**
baz=197
NV11 Mina Array Sit 90.42 43 P **P** **00 21 08.1 +2.2**
NV11 IAmb IAmb 00 21 10.4
comp=Z,29nm,1.2s
TPNV Topopah Spring 90.54 45 P **P** **00 21 07.5 +1.0**
TPNV IAmb IAmb 00 21 26.9
comp=Z,22nm,0.8s
TPNV Topopah Spring 90.54 45 P **P** **00 21 09.5 +3.0**
baz=228
TPNV Topopah Spring 90.54 45 P **P** **00 21 07.5 +1.0**
TPNV pmax pmax
comp=Z,22nm,0.9s
Y14A Wickenburg 90.58 49 P **P** **00 21 08.8 +2.2**
Y14A IAmb IAmb 00 21 28.6
comp=Z,21nm,0.9s
V12A Nelson 90.58 47 P **P** **00 21 07.3 +0.7**
V12A IAmb IAmb 00 21 12.0
comp=Z,61nm,1.7s
PAHR Pah Rah Range 90.59 42 P **P** **00 21 08.3 +1.7**
PAHR IAmb IAmb 00 21 11.0
comp=Z,51nm,1.7s
PAHR IAMs_20 IAMs_20 01 01 07.1
comp=Z,1µm,18.0s
TPH Tonopah 90.71 44 P **P** **00 21 08.9 +1.6**
TPH Tonopah 90.71 44 P **P** **00 21 08.9 +1.6**
TPH pmax pmax
comp=Z,216nm,1.3s
W13A Hualapai Mount 90.77 48 P **P** **00 21 09.9 +2.2**
W13A IAmb IAmb 00 21 13.2
comp=Z,49nm,1.6s
L04D Klamath Falls 90.78 38 P **P** **00 21 09.6 +2.1**
WTNK Soaring Height 90.78 46 P **P** **00 21 08.7 +1.2**
WTNK IAmb IAmb 00 21 28.1
comp=Z,33nm,2.0s
KVN Kaiserville 90.87 43 P **P** **00 21 08.9 +0.9**
KVN IAmb IAmb 00 21 13.2
comp=Z,32nm,1.3s
KVN Kaiserville 90.87 43 P **P** **00 21 08.9 +0.9**
KVN pmax pmax
comp=Z,32nm,1.3s
SHPR Sheep Range 90.90 46 P **P** **00 21 09.2 +1.0**
SHPR IAmb IAmb 00 21 13.6
comp=Z,38nm,1.9s
TUC Tucson 90.99 52 P **P** **00 21 11.8 +3.2**
baz=231
GO02 Mina Guanaco 91.17 121 P **P** **00 21 11.3 +1.2**
GO02 IAmb IAmb 00 21 15.3
comp=Z,62nm,1.4s
TIA Tai'an 91.23 313 *e*P **P** **00 21 09.0 -0.5**
TIA pmax pmax
comp=Z,24nm,2.3s
TIA pmax pmax
comp=Z,370nm,9.3s
TIA LR LR
comp=Z,490nm,21.6s
TIA LR LR
comp=Z,680nm,21.1s
TIA LR LR
comp=Z,630nm,21.1s

SNY Shenyang 91.32 321 ⇑P P 00 21 07.8 -1.9
SNY S S 00 31 56.8 -9.4
SNY pmax pmax
comp=Z,20nm,2.2s
SNY pmax pmax
comp=Z,350nm,3.5s
SNY LR LR
comp=Z,450nm,20.1s
SNY LR LR
comp=Z,410nm,22.6s
SNY LR LR
comp=Z,1µm,25.0s
SRDT SRDT 91.33 286 P P 00 21 09.7 -0.8
K04D Chiloquin, OR 91.35 38 P P 00 21 11.1 +1.0
K04D IAmb IAmb 00 21 38.9
comp=Z,48nm,1.1s
K04D IAMs_20 IAMs_20 00 58 17.9
comp=Z,1µm,20.0s
319A Douglas 91.42 53 P P 00 21 12.4 +1.7
319A IAmb IAmb 00 21 42.1
comp=Z,20nm,1.0s
PRN Pahroc Range 91.56 45 P P 00 21 12.6 +1.4
PRN IAmb IAmb 00 21 28.7
comp=Z,28nm,1.1s
CN2 Changchun 91.75 323 *e*P P 00 21 10.2 -1.5
CN2 *e*PP PP 00 24 52.9 +1.7
CN2 pmax pmax
comp=Z,40nm,1.3s
CN2 pmax pmax
comp=Z,490nm,3.5s
CN2 LR LR
comp=Z,510nm,21.0s
CN2 LR LR
comp=Z,690nm,21.0s
CN2 LR LR
comp=Z,2µm,23.0s
I04A Tendick Farm, 91.85 37 P P 00 21 13.7 +1.4
I04A IAmb IAmb 00 21 17.8
comp=Z,25nm,1.0s
R11B Troy Canyon, C 91.86 45 P P 00 21 13.5 +0.9
R11B Troy Canyon, C 91.86 45 P P 00 21 15.2 +2.6
baz=229
K05A Summer Lake 91.87 39 P P 00 21 14.1 +1.5
X16A Lo Mia Camp, P 91.88 50 P P 00 21 13.7 +0.8
X16A IAmb IAmb 00 21 18.6
comp=Z,28nm,1.2s
R17K Ugashik Creek 92.01 12 P P 00 21 14.5 +1.9
baz=199
J05D Fort Rock, OR 92.09 38 P P 00 21 14.5 +1.0
J05D IAmb IAmb 00 21 17.9
comp=Z,49nm,1.4s
OHAK Old Harbor 92.18 13 P P 00 21 16.8 +3.5
baz=201
BNX BinXian 92.19 325 ⇓P P 00 21 12.7 -1.0
BNX pP PcP 00 21 17.6 +3.2
BNX sP pP 00 21 19.2 -3.7
BNX PP PP 00 24 54.4 -0.2
BNX S S 00 32 12.6 -1.3
BNX sS ScS 00 32 19.2 +3.1
BNX pmax pmax
comp=Z,11nm,0.8s
BNX pmax pmax
comp=Z,350nm,4.1s
BNX LR LR
comp=Z,740nm,19.4s
BNX LR LR
comp=Z,1µm,21.6s
BNX LR LR
comp=Z,2µm,20.7s
GRNR Gornyy 92.19 333⇓*i*P P 00 21 13.5 -0.1
GRNR pmax pmax
comp=Z,20nm,1.2s
DUN6 Lazy B Ranch 92.27 52 P P 00 21 16.1 +1.5
BMN Battle Mountai 92.30 42 P P 00 21 16.0 +1.4
BMN IAmb IAmb 00 21 18.9
comp=Z,47nm,1.6s
BMN Battle Mountai 92.30 42 P P 00 21 16.0 +1.4
BMN pmax pmax
comp=Z,47nm,1.6s
GYA Guiyang 92.31 300 ⇓P P 00 21 16.5 +1.6
GYA PP PP 00 24 56.5 +0.4
GYA S S 00 32 17.1 +1.0
GYA pmax pmax
comp=Z,23nm,0.9s
GYA pmax pmax
comp=Z,160nm,3.5s
GYA LR LR
comp=Z,340nm,20.8s
GYA LR LR
comp=Z,540nm,19.7s
GYA LR LR
comp=Z,680nm,20.6s
LCMT Little Creek M 92.40 47 P P 00 21 16.6 +1.5
LCMT IAmb IAmb 00 21 20.2
comp=Z,54nm,1.9s
ENH Enshi 92.54 305 P P 00 21 15.3 -0.5
ENH IAmb IAmb 00 21 18.4
comp=Z,37nm,1.0s
H04A Detroit Lake 92.59 36 P P 00 21 17.3 +1.6
H04A IAmb IAmb 00 21 45.3
comp=Z,31nm,1.1s
H04A IAMs_20 IAMs_20 00 59 57.6
comp=Z,2µm,19.0s
PINE Pine Mountain 92.60 38 P P 00 21 17.6 +1.7
PINE IAmb IAmb 00 21 20.5
comp=Z,50nm,1.2s
U15A North Rim 92.61 48 P P 00 21 18.2 +1.9
U15A IAmb IAmb 00 21 38.4
comp=Z,24nm,1.0s
WUAZ Wupatki 92.61 49 P P 00 21 18.9 +2.8
baz=231
KNB Kanab 92.66 47 P P 00 21 17.2 +0.9
KNB IAmb IAmb 00 21 21.6
comp=Z,60nm,1.7s
KNB Kanab 92.66 47 P P 00 21 17.2 +0.9
KNB pmax pmax
comp=Z,60nm,1.7s
CCUT Cedar City 92.67 46 P P 00 21 17.4 +1.0
CCUT IAmb IAmb 00 21 22.0
comp=Z,58nm,1.9s
Q17K Contact Creek 92.69 12 P P 00 21 17.8 +1.9
baz=199
Q12A Willow Creek R 92.76 44 P P 00 21 18.4 +1.6
I05D Terrebonne, OR 92.78 37 P P 00 21 17.7 +1.1
I05D IAmb IAmb 00 21 30.2
comp=Z,41nm,1.1s
O14K Tigyukauivet M 92.83 9 P P 00 21 19.2 +2.9
baz=195
KDAK Kodiak Island 92.85 14 P P 00 21 20.1 +3.7
baz=202
KDAK Kodiak Island 92.85 14 LR LR 00 59 57.6
comp=Z,782nm,18.4s,baz=234,slow=34
KLR Kul'dur 92.85 330 *i* P P 00 21 15.8 -0.9
KLR pmax pmax
comp=Z,16nm,1.3s
KLR MLR MLR
comp=Z,1µm,19.0s
KLR Kul'dur 92.85 330 LR LR 00 58 55.1
comp=Z,2µm,20.5s,baz=148,slow=33
SZCU Shurtz Canyon 92.87 46 P P 00 21 18.0 +0.7
SZCU IAmb IAmb 00 21 29.9
comp=Z,39nm,1.7s
X18A Snowflake 92.91 50 P P 00 21 19.1 +1.6
X18A IAmb IAmb 00 21 23.1
comp=Z,57nm,1.9s
O15K Ungalikthiuk R 92.95 10 P P 00 21 19.3 +2.4
baz=196
SPR3 Spring Creek 3 93.02 45 P P 00 21 19.9 +1.7
SPR3 IAmb IAmb 00 21 41.3
comp=Z,32nm,1.8s
P16K Nushagak River 93.08 10 P P 00 21 20.8 +3.4
baz=197
LYN LuoYang 93.13 310 ⇓P P 00 21 19.1 +0.8
LYN pmax pmax
comp=Z,36nm,0.9s
LYN pmax pmax
comp=Z,440nm,3.8s
LYN LR LR
comp=Z,840nm,24.0s
LYN LR LR
comp=Z,970nm,24.0s
LYN LR LR
comp=Z,2µm,26.5s
Q18K Katmai Hardscr 93.20 12 P P 00 21 20.4 +2.1
baz=200
LVC Limon Verde 93.21 119 LR LR 00 54 40.5
comp=Z,1µm,21.9s,baz=239,slow=30
NNA Nana 93.24 106 LR LR 00 53 34.0
comp=Z,2µm,22.0s,baz=228,slow=29
N14K Kuskokwak Cree 93.43 8 P P 00 21 20.9 +1.9
baz=194
P17K Kvichak River 93.48 11 P P 00 21 21.3 +2.0
baz=199
HNS HongShan 93.48 313 ⇑P P 00 21 18.7 -1.2
HNS S S 00 32 23.1 -2.6
HNS pmax pmax
comp=Z,15nm,2.2s
HNS pmax pmax
comp=Z,420nm,7.4s
HNS LR LR
comp=Z,360nm,23.0s
HNS LR LR
comp=Z,670nm,23.5s
HNS LR LR
comp=Z,810nm,23.5s
I07A Izee 93.54 38 P P 00 21 21.8 +1.6
I07A IAmb IAmb 00 21 24.6
comp=Z,24nm,1.2s
CRAI Chiangrai 93.56 292 P P 00 21 19.5 -1.2
O16K Kokwok River B 93.60 10 P P 00 21 21.7 +1.9
baz=197
ELK Elko 93.64 43 P P 00 21 22.6 +1.7
ELK IAmb IAmb 00 24 13.1
comp=Z,14nm,0.4s
ELK Elko 93.64 43 P P 00 21 22.6 +1.7
ELK pmax pmax
comp=Z,14nm,0.4s
ELK Elko 93.64 43 LR LR 00 56 22.1
comp=Z,399nm,21.6s,baz=229,slow=31
Q20K Shuyak Island 93.65 13 P P 00 21 21.6 +1.5
baz=202
M13K Dall Lake 93.71 8 P P 00 21 22.3 +2.0
baz=193
Q19K Cape Douglas, 93.71 13 P P 00 21 22.3 +1.9
baz=201
CMAR Chiang Mai Arr 93.72 289 P P 00 21 20.8 -0.7
CMAR Chiang Mai Arr 93.72 289 P P 00 21 20.8 -0.7
CMAR Chiang Mai Arr 93.72 289 P P 00 21 21.7 +0.3
comp=Z,1.7nm,0.8s,baz=127,slow=3.6,SNR=8.2
CMAR PP PP 00 25 06.2 -1.0
comp=Z,12nm,0.9s,baz=137,slow=6.5,SNR=24
CMAR PKKPbc PKKPbc 00 38 26.1 +1.0
comp=Z,0.9nm,0.3s,baz=33,slow=29,SNR=1.6
comp=Z,1.7nm,0.8s
G06A Carlson Farm, 93.76 37 P P 00 21 22.7 +1.6
N15K Kwethluk River 93.87 9 P P 00 21 22.4 +1.3
N15K Kwethluk River 93.87 9 P P 00 21 23.1 +2.0
baz=196
O17K Koliganek Bris 93.92 11 P P 00 21 23.5 +2.2
baz=198
CMIG Matias Romero 93.96 72 LR LR 00 53 37.6
comp=Z,788nm,21.8s,baz=232,slow=29
MSU Marysvale 94.00 46 P P 00 21 24.1 +1.5
MSU Marysvale 94.00 46 P P 00 21 24.1 +1.5
425A Indio Mountain 94.01 56 P P 00 21 24.1 +1.4
TX31 Lajitas Ar. Si 94.09 58 P P 00 21 24.3 +1.3
TX31 Lajitas Ar. Si 94.09 58 P P 00 21 25.2 +2.2
baz=235
TX32 Lajitas Array 94.09 58 P P 00 21 24.9 +1.9
TX32 IAmb IAmb 00 21 28.2
comp=Z,26nm,1.6s
TXAR Lajitas Array 94.09 58 P P 00 21 24.9 +1.9
TXAR Lajitas Array 94.09 58 P P 00 21 24.9 +1.9
TXAR Lajitas Array 94.09 58 P P 00 21 25.4 +2.4
comp=Z,4.4nm,1.1s,baz=206,slow=5.4,SNR=18
TXAR PKKPbc PKKPbc 00 38 25.7 +1.0
comp=Z,0.7nm,0.9s,baz=85,slow=4.3,SNR=5.7
TXAR LR LR 00 58 22.3
comp=Z,719nm,18.8s,baz=232,slow=32
comp=Z,4.4nm,1.1s
OZB Mount Ozzard 94.13 32 IAMs_20 IAMs_20 00 54 14.8
comp=Z,1µm,22.0s
M14K Bethel 94.20 8 P P 00 21 25.0 +2.4
baz=194
MNTX Cornudas Mount 94.27 55 P P 00 21 25.0 +1.4
baz=234
BJI Beijing 94.28 316 P P 00 21 23.6 +0.2
BJI pP PcP 00 21 26.9 +3.0
BJI sP pP 00 21 28.8 -3.9
BJI SS SS 00 39 00.7 +5.5
BJI pmax pmax
comp=Z,3.0nm,0.8s
BJI pmax pmax
comp=Z,180nm,4.3s
BJI LR LR
comp=Z,320nm,21.2s
BJI LR LR
comp=Z,320nm,19.3s
BJI LR LR
comp=Z,560nm,21.4s
M15K Kasigluk River 94.30 9 P P 00 21 24.7 +1.6
baz=195
O18K Koktuh Hills 94.31 12 P P 00 21 23.9 +0.7
O18K Koktuh Hills 94.31 12 P P 00 21 24.5 +1.3
baz=200
GNW Green Mountain 94.34 34 IAMs_20 IAMs_20 00 54 17.6
comp=Z,1µm,22.0s
N16K Nishlik Lake 94.35 10 P P 00 21 25.5 +2.2
baz=197
KMI Kunming 94.45 297 ⇑P P 00 21 24.2 -0.8
KMI pP PcP 00 21 25.8 +0.5
KMI PP PP 00 25 10.0 -3.1
KMI SKS SKSac 00 32 00.8 +2.6
KMI S S 00 32 32.7 -2.6
KMI SS SS 00 39 03.2 +4.6
KMI pmax pmax
comp=Z,13nm,0.7s
KMI pmax pmax
comp=Z,250nm,4.9s
KMI LR LR
comp=Z,440nm,18.6s
KMI LR LR
comp=Z,450nm,17.9s
KMI LR LR
comp=Z,680nm,21.3s
CLRS Cowichan Lake 94.64 33 IAMs_20 IAMs_20 00 58 48.4
comp=Z,1µm,19.0s
G08A Pilot Rock 94.66 38 P P 00 21 27.3 +2.1
G08A IAmb IAmb 00 21 41.5
comp=Z,20nm,1.3s
G08A IAMs_20 IAMs_20 01 00 39.3
comp=Z,1µm,20.0s
ATAH Atahualpa 94.67 101 LR LR 00 55 31.0
comp=Z,928nm,21.9s,baz=239,slow=30
DUG Dugway, Tooele 94.69 44 IAMs_20 IAMs_20 01 05 15.5
comp=Z,1µm,18.0s
DUG Dugway, Tooele 94.69 44 P P 00 21 26.9 +1.3
baz=230
L14K Kuka Creek 94.69 8 P P 00 21 27.2 +2.4
baz=194
ALPN Alpine 94.71 57 P P 00 21 28.0 +2.1
ALPN IAmb IAmb 00 21 31.3
comp=Z,15nm,1.2s
O19K Port Alsworth 94.78 12 P P 00 21 26.2 +0.9
O19K Port Alsworth 94.78 12 P P 00 21 27.0 +1.7
baz=200
M16K Timber Creek 94.85 9 P P 00 21 27.0 +1.4
M16K IAmb IAmb 00 21 32.3
comp=Z,42nm,1.1s
M16K Timber Creek 94.85 9 P P 00 21 26.8 +1.2
baz=197
CBB Campbell River 94.98 31 IAMs_20 IAMs_20 00 55 09.1
comp=Z,2µm,22.0s
O20K Slope Mountain 94.98 13 P P 00 21 28.8 +2.5
baz=202
MFID Camas Ranch 95.06 41 P P 00 21 28.6 +1.5
MFID IAmb IAmb 00 21 31.3
comp=Z,34nm,1.5s
MFID IAMs_20 IAMs_20 00 54 06.0
comp=Z,1µm,22.0s
TIY Taiyuan 95.09 312 *e*P P 00 21 27.3 -0.1
TIY S S 00 32 37.2 -2.8
TIY pmax pmax
comp=Z,240nm,3.9s
TIY LR LR
comp=Z,730nm,20.2s
TIY LR LR
comp=Z,620nm,23.7s
TIY LR LR
comp=Z,1µm,22.5s
HAWA Hanford 95.12 37 P P 00 21 29.2 +2.0
HAWA IAmb IAmb 00 21 31.4
comp=Z,54nm,1.9s
L15K Ungalak Mounta 95.16 8 P P 00 21 29.2 +2.3
baz=195
LTY Liberty 95.16 35 IAMs_20 IAMs_20 00 55 24.3
comp=Z,1µm,22.0s
XAN Xi'an 95.16 307 ⇓P P 00 21 26.9 -0.9
XAN PP PP 00 25 16.9 -1.3
XAN S S 00 32 39.5 -1.2
XAN pmax pmax
comp=Z,16nm,2.2s
XAN pmax pmax
comp=Z,490nm,6.0s
XAN LR LR
comp=Z,600nm,16.5s
XAN LR LR
comp=Z,530nm,17.2s
XAN LR LR
comp=Z,1µm,21.3s
BMO Blue Mountains 95.22 39 P P 00 21 29.4 +1.6
BMO IAmb IAmb 00 21 31.7
comp=Z,36nm,1.9s
BMO IAMs_20 IAMs_20 01 05 04.0
comp=Z,2µm,18.0s
BMO Blue Mountains 95.22 39 P P 00 21 29.4 +1.6
BMO pmax pmax
comp=Z,36nm,2.0s
BMO MLR MLR
comp=Z,2µm,18.0s
N19K Bonanza Creek 95.34 12 P P 00 21 29.9 +2.0
baz=200
E08A Dider Farm, El 95.43 37 P P 00 21 30.1 +1.6
M17K Holitna River 95.43 10 IAMs_20 IAMs_20 00 54 04.2
comp=Z,1µm,21.0s
M17K Holitna River 95.43 10 P P 00 21 30.2 +2.0
baz=198
BBB Bella Bella 95.44 28 IAMs_20 IAMs_20 01 00 52.0
comp=Z,1µm,18.0s
BBB Bella Bella 95.44 28 LR LR 01 00 34.0
comp=Z,1µm,18.5s,baz=228,slow=33
L16K Owhat River 95.44 9 P P 00 21 29.3 +1.0
L16K IAmb IAmb 00 21 36.2
comp=Z,30nm,1.2s
L16K IAMs_20 IAMs_20 00 59 46.5
comp=Z,2µm,20.0s
L16K Owhat River 95.44 9 P P 00 21 30.5 +2.3
baz=196
ANMO Albuquerque 95.45 52 P P 00 21 30.7 +1.4
ANMO Albuquerque 95.45 52 IAMs_20 IAMs_20 00 54 52.6
comp=Z,2µm,22.0s
ANMO Albuquerque 95.45 52 *i* P P 00 21 30.0 +0.7
ANMO pmax pmax
comp=Z,2.0nm,1.1s
ANMO Albuquerque 95.45 52 LR LR 00 57 55.8
comp=Z,788nm,20.4s,baz=324,slow=31
MA2 Magadan 95.46 345 IAMs_20 IAMs_20 00 56 51.3
comp=Z,1µm,22.0s
HEH HeiHe 95.48 329 *e*P P 00 21 27.4 -1.3
HEH pP PcP 00 21 30.7 +1.8
HEH S S 00 32 42.6 0.0
HEH sS pS 00 32 53.1 -1.5
HEH pmax pmax
comp=Z,1.0nm,0.7s
HEH pmax pmax
comp=Z,160nm,4.6s
HEH LR LR
comp=Z,740nm,21.4s
HEH LR LR
comp=Z,680nm,21.2s
HEH LR LR
comp=Z,2µm,21.9s
HVU Hansel Valley 95.72 43 P P 00 21 31.8 +1.5
HVU IAmb IAmb 00 23 04.2
comp=Z,22nm,0.6s
HVU Hansel Valley 95.72 43 P P 00 21 31.8 +1.5
HVU pmax pmax
comp=Z,22nm,0.6s
K15K Wolf Creek Mou 95.75 8 P P 00 21 30.2 +0.6
K15K IAmb IAmb 00 21 41.1
comp=Z,54nm,1.4s
K15K IAMs_20 IAMs_20 01 02 37.6
comp=Z,1µm,20.0s
K15K Wolf Creek Mou 95.75 8 P P 00 21 32.0 +2.3
baz=194
M18K Stony River 95.76 11 P P 00 21 31.8 +2.1
baz=199
D08A Wollman Farm, 95.88 36 P P 00 21 31.9 +1.3
D08A IAmb IAmb 00 21 57.3
comp=Z,13nm,0.9s
HLID Hailey 95.94 41 P P 00 21 33.2 +2.0
HLID IAmb IAmb 00 21 35.8
comp=Z,24nm,1.6s
HLID Hailey 95.94 41 P P 00 21 33.0 +1.8
baz=230
PZH PanZhiHua 95.97 298 P P 00 21 31.8 +0.1
PZH PP PP 00 25 20.3 -4.4
PZH S S 00 32 44.5 -3.7
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.0s
PZH LR LR
comp=Z,490nm,20.4s
PZH LR LR
comp=Z,300nm,19.4s
PZH LR LR
comp=Z,660nm,19.0s
J14K Nanvaranak Lak 95.97 7 P P 00 21 32.4 +1.8
baz=193
L17K Donlin 96.01 9 P P 00 21 34.1 +3.2
baz=197
F10A Beach Ranch, E 96.01 38 P P 00 21 32.5 +1.1
PLID Pearl Lake 96.07 39 P P 00 21 32.5 +0.6
N20K Mount Spurr 96.10 12 P P 00 21 33.2 +1.9
baz=202
SPCR Spurr Chakacha 96.10 12 P P 00 21 33.1 +1.8
baz=202
L18K Granite Mounta 96.32 10 IAMs_20 IAMs_20 00 56 14.2
comp=Z,1µm,21.0s
L18K Granite Mounta 96.32 10 P P 00 21 34.0 +1.8
baz=199
RC01 Rabbit Creek A 96.47 14 P P 00 21 35.1 +2.2
baz=204
K17K Iditarod 96.56 9 P P 00 21 35.5 +2.2
baz=197
L19K White Mountain 96.56 11 P P 00 21 34.1 +0.7
L19K IAmb IAmb 00 21 36.1
comp=Z,32nm,1.2s
L19K White Mountain 96.56 11 P P 00 21 35.1 +1.7
baz=200
SUA Susitna One 96.61 13 P P 00 21 35.1 +1.3
baz=204
U33K Whale Pass 96.64 24 P P 00 21 35.8 +2.0
baz=217
SNET Serv Nac Est T 96.75 78 IAMs_20 IAMs_20 00 54 41.4
comp=Z,1µm,21.0s
XLT XiLinHaoTe 96.80 319 *e*P P 00 21 35.4 +0.4
XLT pP PcP 00 21 39.6 +4.5
XLT sP pP 00 21 42.4 -1.9
XLT S S 00 32 52.5 -2.0
XLT sS pS 00 33 07.0 +0.5
XLT pmax pmax
comp=Z,9.0nm,0.9s
XLT pmax pmax
comp=Z,170nm,4.8s
XLT LR LR
comp=Z,520nm,28.9s
XLT LR LR
comp=Z,1µm,28.5s
J16K Anvik River 96.82 8 P P 00 21 35.1 +0.6
J16K IAmb IAmb 00 21 51.1
comp=Z,18nm,0.8s
J16K IAMs_20 IAMs_20 01 01 00.9
comp=Z,1µm,20.0s
CD2 Chengdu 96.94 302 P P 00 21 36.9 +1.0
CD2 pP PcP 00 21 39.1 +3.1
CD2 sP pP 00 21 40.9 -3.9
CD2 PP PP 00 25 31.3 -0.7
CD2 SKS SKSac 00 32 11.0 +0.4
CD2 S ScS 00 32 59.7 +3.1
CD2 pmax pmax
comp=Z,180nm,4.8s
CD2 LR LR
comp=Z,520nm,22.4s
CD2 LR LR
comp=Z,610nm,22.4s
CD2 LR LR
comp=Z,560nm,23.7s

L20K	Farewell, AK	97.00	11	P	Pdif	00 21 37.2	+1.7
	baz=201						
KNK	Knik Glacier	97.02	14	P	Pdif	00 21 37.6	+2.0
	baz=205						
TTA	Tatalina	97.09	10	P	Pdif	00 21 38.4	+2.4
	baz=199						
S31K	Pelican	97.14	21	IAMs_20	IAMs_20	01 00 50.3	
	comp=Z,1µm,20.0s						
WRAK	Wrangell Islan	97.15	24	IAMs_20	IAMs_20	00 57 03.8	
	comp=Z,1µm,21.0s						
AHID	Auburn Hatcher	97.31	43	P	Pdif	00 21 39.1	+1.6
AHID				IAmb	IAmb	00 21 41.8	
	comp=Z,43nm,1.9s						
MSTX	Muleshoe	97.37	54	P	Pdif	00 21 39.8	+1.9
	baz=235						
I17K	Unalakleet	97.39	8	IAMs_20	IAMs_20	01 05 38.0	
	comp=Z,1µm,19.0s						
I17K	Unalakleet	97.39	8	P	Pdif	00 21 40.1	+3.0
	baz=195						
O20A	White River Ci	97.41	47	P	Pdif	00 21 40.4	+2.4
	baz=233						
BMRM	Bremner River	97.46	16	P	Pdif	00 21 40.9	+3.3
	baz=208						
J18K	Innoko River	97.50	10	IAMs_20	IAMs_20	01 01 49.0	
	comp=Z,1µm,21.0s						
J18K	Innoko River	97.50	10	P	Pdif	00 21 39.8	+2.2
	baz=199						
JCT	Junction City	97.50	59	IAMs_20	IAMs_20	00 56 04.2	
	comp=Z,1µm,21.0s						
M23K	Glacier View	97.52	14	P	Pdif	00 21 40.3	+2.5
	baz=206						
HHC	Hu-ho-hao-te	97.53	314	*e*P	Pdif	00 21 39.7	+1.2
HHC				pP	pP	00 21 44.1	-3.6
HHC				PP	**PP**	**00 25 41.5**	**+5.0**
HHC				S	**S**	**00 33 01.7**	**+0.7**
HHC				sS	pS	00 33 08.4	-4.6
HHC				SS	**SS**	**00 39 40.8**	**-0.8**
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,6.1s						
HHC				LR	LR		
	comp=Z,740nm,15.5s						
HHC				LR	LR		
	comp=Z,1µm,15.9s						
HHC				LR	LR		
	comp=Z,2µm,16.2s						
U35K	Hyder	97.56	25	IAMs_20	IAMs_20	01 04 13.7	
	comp=Z,1µm,20.0s						
CUT	Chulitna	97.57	13	IAMs_20	IAMs_20	01 01 17.9	
	comp=Z,1µm,20.0s						
ANM	Nome	97.59	6	IAMs_20	IAMs_20	01 00 28.8	
	comp=Z,2µm,20.0s						
NEW	Newport	97.60	36	LR	LR	01 01 51.1	
	comp=Z,1µm,18.5s,baz=226,slow=33						
TNCH	TengChong	97.60	295⇑	*i*P	**P**	**00 21 37.8**	**-1.4**
TNCH				PP	**PP**	**00 25 35.7**	**-1.7**
TNCH				pmax	pmax		
	comp=Z,25nm,1.4s						
TNCH				pmax	pmax		
	comp=Z,180nm,3.7s						
TNCH				LR	LR		
	comp=Z,390nm,18.1s						
TNCH				LR	LR		
	comp=Z,360nm,16.5s						
TNCH				LR	LR		
	comp=Z,750nm,20.2s						
LPAZ	La Paz	97.61	115	P	Pdif	00 21 40.4	+0.2
LPAZ	La Paz	97.61	115	P	Pdif	00 21 40.4	+0.2
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LPAZ	La Paz	97.61	115	P	Pdif	00 21 43.8	+3.7
	comp=Z,1.9nm,0.7s,baz=241,slow=3.9,SNR=9.1						
LPAZ				LR	LR	00 56 23.7	
	comp=Z,695nm,21.7s,baz=216,slow=30						
	comp=Z,1.9nm,0.7s						
KLU	Klutina	97.63	15	P	Pdif	00 21 40.5	+2.2
	baz=207						
SCM	Sheep Creek Mo	97.63	14	P	Pdif	00 21 40.3	+1.9
	baz=206						
PNL	Peninsula	97.65	19	P	Pdif	00 21 40.2	+1.7
	baz=213						
PPLA	Purkeypile	97.68	12	P	Pdif	00 21 40.7	+2.1
	baz=202						
K20K	Telida	97.80	11	P	Pdif	00 21 41.4	+2.4
	baz=201						
REDW	Red Top Meadow	97.82	43	P	Pdif	00 21 41.5	+1.6
TPAW	Teton Pass	97.84	43	IAMs_20	IAMs_20	00 55 33.9	
	comp=Z,1µm,21.0s						
FXWY	Fox Creek	97.89	43	P	Pdif	00 21 40.6	+0.4
FXWY				IAMs_20	IAMs_20	01 06 01.3	
	comp=Z,943nm,19.0s						
H16K	Elim	97.95	7	P	Pdif	00 21 42.3	+2.7
	baz=194						
VRDI	Verde Repeater	97.96	16	IAMs_20	IAMs_20	00 58 39.5	
	comp=Z,2µm,19.0s						
N25K	Chitina, Valde	98.03	16	P	Pdif	00 21 42.0	+1.8
	baz=208						
ZEA	Zeya	98.09	331	*e*P	**P**	**00 21 35.9**	**-4.5**
IMW	Indian Meadow	98.10	42	IAMs_20	IAMs_20	00 56 40.7	
	comp=Z,1µm,22.0s						
LOHW	Long Hollow	98.11	43	P	Pdif	00 21 41.8	+0.6
LOHW				IAmb	IAmb	00 22 00.8	
	comp=Z,28nm,1.9s						
LOHW				IAMs_20	IAMs_20	00 56 40.3	
	comp=Z,1µm,21.0s						
MOOW	Moose Ponds	98.12	43	IAMs_20	IAMs_20	00 56 06.3	
	comp=Z,1µm,21.0s						
M24K	Tolsona, Glenn	98.12	15	P	Pdif	00 21 42.1	+1.6
	baz=207						
G15K	Niukluk	98.13	6	P	Pdif	00 21 41.5	+1.1
	baz=192						
J19K	Poorman	98.16	10	IAMs_20	IAMs_20	01 04 54.5	
	comp=Z,1µm,20.0s						
CAST	Castle Rocks	98.18	12	P	**P**	**00 21 40.6**	**-0.1**
CAST				IAmb	IAmb	00 24 31.9	
	comp=Z,56nm,2.0s						
CAST	Castle Rocks	98.18	12	P	Pdif	00 21 41.1	+0.4
	baz=202						
SEY	Seymchan	98.19	347	*i*P	**P**	**00 21 40.4**	**-0.3**
SEY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MCARA	McCarthy VSAT	98.20	16	P	Pdif	00 21 43.1	+2.3
	baz=210						
BW06	Boulder Array	98.20	44	P	Pdif	00 21 42.5	+0.9
PD31	Pinedale Array	98.20	44	P	Pdif	00 21 42.0	+0.4
PDAR	Pinedale Array	98.20	44	P	Pdif	00 21 41.9	+0.3
PDAR	Pinedale Array	98.20	44	P	Pdif	00 21 43.5	+1.9
	comp=Z,1.4nm,0.9s,baz=223,slow=3.7,SNR=9.2						
PDAR				PKKPbc	**PKKPbc**	**00 38 11.2**	**-3.0**
	comp=Z,0.8nm,0.8s,baz=92,slow=5.3,SNR=7.7						
PDAR				LR	LR	00 57 53.1	
	comp=Z,442nm,21.0s,baz=225,slow=30						
	comp=Z,1.4nm,0.9s						
WAT6	Susitna Watana	98.22	14	P	Pdif	00 21 43.6	+2.5
	baz=206						
CTG	Chitna Glacier	98.25	17	P	Pdif	00 21 43.7	+2.5
	baz=211						
WAT1	Susitna Watana	98.29	13	P	Pdif	00 21 43.9	+2.7
	baz=205						
T35M	Bob Quinn	98.31	24	P	Pdif	00 21 44.1	+2.7
	baz=220						
BTO	Baotou	98.33	313	*e*P	Pdif	00 21 44.0	+2.0
BTO				SKS	**SKSac**	**00 32 16.7**	**-0.7**
BTO				S	**ScS**	**00 33 10.1**	**+2.2**
BTO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BTO				pmax	pmax		
	comp=Z,260nm,9.1s						
BTO				LR	LR		
	comp=Z,2µm,23.5s						
BTO				LR	LR		
	comp=Z,1µm,21.8s						
BTO				LR	LR		
	comp=Z,2µm,24.7s						
TNA	Tin City	98.38	4	P	Pdif	00 21 44.0	+2.6
	baz=189						
F14K	Arctic Creek	98.41	5	P	Pdif	00 21 43.8	+2.2
	baz=191						
YFT	Old Faithful	98.50	42	IAMs_20	IAMs_20	01 06 29.4	
	comp=Z,1µm,18.0s						
H17K	Granite Mounta	98.50	8	IAMs_20	IAMs_20	01 01 54.3	
	comp=Z,1µm,20.0s						
H17K	Granite Mounta	98.50	8	P	Pdif	00 21 43.1	+1.0
	baz=196						
JTS	Las Juntas de	98.52	83	LR	LR	00 56 10.8	
	comp=Z,562nm,20.7s,baz=244,slow=29						
TRF	Thorofare Moun	98.53	12	P	Pdif	00 21 43.8	+1.4
	baz=204						
J20K	Nowinta River	98.56	11	IAMs_20	IAMs_20	00 57 55.7	
	comp=Z,1µm,22.0s						
J20K	Nowinta River	98.56	11	P	Pdif	00 21 43.2	+0.9
	baz=201						
H17A	Grant Village	98.61	42	IAMs_20	IAMs_20	01 10 36.4	
	comp=Z,1µm,18.0s						
G16K	Koyuk River	98.68	7	IAMs_20	IAMs_20	01 02 11.9	
	comp=Z,1µm,19.0s						
G16K	Koyuk River	98.68	7	P	Pdif	00 21 45.0	+2.2
	baz=194						
P30M	Million Dollar	98.71	20	P	Pdif	00 21 45.2	+2.0
	baz=215						
S34M	Telegraph Cree	98.73	23	IAMs_20	IAMs_20	01 01 21.6	
	comp=Z,1µm,20.0s						
BOZ	Bozeman (W)	98.76	41	P	Pdif	00 21 45.2	+1.3
BOZ	Bozeman (W)	98.76	41	P	Pdif	00 21 45.9	+2.0
	baz=232						
BOZ	Bozeman (W)	98.76	41	P	Pdif	00 21 45.2	+1.3
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ISCO	Idaho Springs	98.84	48	IAMs_20	IAMs_20	00 57 04.7	
	comp=Z,1µm,22.0s						
CPUP	Villa Florida	98.88	129	PKKPbc	PKKPbc	00 38 10.3	-0.6
	comp=Z,1.5nm,0.7s,baz=141,slow=0.8,SNR=5.1						
CPUP				LR	LR	00 58 16.7	
	comp=Z,2µm,22.0s,baz=230,slow=30						
H18K	Honhosa River	98.89	9	IAMs_20	IAMs_20	01 04 45.7	
	comp=Z,1µm,19.0s						
YUK8	Steele Glacier	98.92	18	P	Pdif	00 21 45.8	+1.4
	baz=212						
RWWY	Rawlins	98.96	46	IAMs_20	IAMs_20	01 03 30.6	
	comp=Z,1µm,20.0s						
G17K	Kiwalik Mounta	98.96	7	P	**Pdif**	**00 21 46.6**	**+2.5**
	baz=195						
BPAW	Bear Paw Mtn.	99.00	12	IAMs_20	IAMs_20	01 05 15.6	
	comp=Z,1µm,20.0s						
YUK6	Outpost Mounta	99.00	19	P	**Pdif**	**00 21 47.4**	**+2.7**
	baz=214						
MCK	McKinley	99.03	13	P	**Pdif**	**00 21 47.2**	**+2.7**
	baz=205						
PAX	Paxson	99.04	15	P	**Pdif**	**00 21 47.2**	**+2.6**
	baz=208						
YMP	Mirror Lake Pl	99.06	42	IAMs_20	IAMs_20	00 57 48.2	
	comp=Z,1µm,21.0s						
I20K	Naaghedeneel	99.09	10	IAMs_20	IAMs_20	00 59 30.0	
	comp=Z,1µm,20.0s						
M26K	Nabesna, AK	99.09	16	IAMs_20	IAMs_20	00 58 25.4	
	comp=Z,1µm,21.0s						
M26K	Nabesna, AK	99.09	16	P	**Pdif**	**00 21 47.4**	**+2.5**
	baz=210						
HYT	Haines Junctio	99.14	19	P	**Pdif**	**00 21 47.3**	**+2.2**
	baz=214						
YUK3	Moose Creek	99.16	17	P	**Pdif**	**00 21 47.7**	**+2.3**
	baz=212						
Q32M	Nakina River	99.18	22	P	**Pdif**	**00 21 47.2**	**+1.7**
	baz=218						
P32M	Atlin	99.23	21	IAMs_20	IAMs_20	01 02 22.6	
	comp=Z,1µm,20.0s						
P32M	Atlin	99.23	21	P	**Pdif**	**00 21 48.0**	**+2.5**
	baz=217						
M27K	Edge Creek, AK	99.32	16	P	**Pdif**	**00 21 48.2**	**+2.3**
	baz=211						
O30N	Mendenhall	99.49	20	IAMs_20	IAMs_20	01 02 33.2	
	comp=Z,1µm,20.0s						
O30N	Mendenhall	99.49	20	P	**Pdif**	**00 21 49.1**	**+2.5**
	baz=215						
H19K	Roundabout Mou	99.50	9	P	**Pdif**	**00 21 48.0**	**+1.6**
H19K				IAmb	IAmb	00 21 51.0	
	comp=Z,17nm,1.3s						
H19K				IAMs_20	IAMs_20	01 03 21.8	
	comp=Z,1µm,19.0s						
H19K	Roundabout Mou	99.50	9	P	**Pdif**	**00 21 48.6**	**+2.1**
	baz=199						
DLBC	Dease Lake	99.51	24	IAMs_20	IAMs_20	01 01 37.2	
	comp=Z,1µm,20.0s						
DLBC	Dease Lake	99.51	24	P	**Pdif**	**00 21 48.9**	**+2.1**
	baz=220						
DLBC	Dease Lake	99.51	24	LR	LR	01 01 30.4	
	comp=Z,680nm,19.2s,baz=227,slow=32						
L26K	Log Cabin Wild	99.56	15	IAMs_20	IAMs_20	00 59 23.6	
	comp=Z,1µm,20.0s						
L26K	Log Cabin Wild	99.56	15	P	**Pdif**	**00 21 48.9**	**+2.1**
	baz=210						
G18K	Tagagawik	99.57	8	IAMs_20	IAMs_20	01 03 07.6	
	comp=Z,1µm,20.0s						
G18K	Tagagawik	99.57	8	P	**Pdif**	**00 21 48.3**	**+1.5**
	baz=197						
H20K	Anotleneega Mo	99.68	10	P	**Pdif**	**00 21 49.5**	**+2.1**
	baz=200						
K24K	Donnelly Dome	99.72	14	P	**Pdif**	**00 21 49.8**	**+2.2**
	baz=208						
LZH	Lanzhou	99.75	307	*e*P	**Pdif**	**00 21 50.0**	**+1.5**
LZH				S	**S**	**00 33 18.6**	**-1.5**
LZH				sS	pS	00 33 27.9	-4.2
LZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
LZH				pmax	pmax		
	comp=Z,180nm,4.8s						
LZH				LR	LR		
	comp=Z,550nm,22.0s						
LZH				LR	LR		
	comp=Z,620nm,21.6s						
LZH				LR	LR		
	comp=Z,1µm,20.3s						
WHY	Whitehorse	99.75	20	IAMs_20	IAMs_20	01 02 42.1	
	comp=Z,1µm,19.0s						
WHY	Whitehorse	99.75	20	P	**Pdif**	**00 21 49.9**	**+2.1**
	baz=216						
N30M	Aishikik Lake	99.78	19	IAMs_20	IAMs_20	01 05 30.8	
	comp=Z,963nm,20.0s						
N30M	Aishikik Lake	99.78	19	P	**Pdif**	**00 21 50.2**	**+2.2**
	baz=215						
RLMT	Red Lodge	99.79	42	P	**Pdif**	**00 21 50.2**	**+1.6**
	baz=233						
F17K	Baldwin Pennin	99.81	7	IAMs_20	IAMs_20	01 01 36.9	
	comp=Z,1µm,20.0s						
F17K	Baldwin Pennin	99.81	7	P	**Pdif**	**00 21 50.3**	**+2.4**
	baz=195						
I21K	Tanana	99.83	11	P	**Pdif**	**00 21 50.3**	**+2.3**
	baz=203						
MLY	Manley	99.90	12	IAMs_20	IAMs_20	01 06 04.4	
	comp=Z,1µm,20.0s						
MLY	Manley	99.90	12	P	**Pdif**	**00 21 50.8**	**+2.4**
	baz=204						
L27K	Beaver Creek,	99.94	16	IAMs_20	IAMs_20	00 58 50.7	
	comp=Z,1µm,22.0s						
L27K	Beaver Creek,	99.94	16	P	**Pdif**	**00 21 51.4**	**+2.9**
	baz=211						
R33M	Jennings River	99.94	23	P	**Pdif**	**00 21 51.0**	**+2.2**
	baz=219						
P33M	Teslin, Yukon	100.00	21	IAMs_20	IAMs_20	01 03 05.0	
	comp=Z,1µm,19.0s						
G19K	Purcell Mounta	100.00	9	P	**Pdif**	**00 21 50.5**	**+1.8**
	baz=198						
HDA	Harding Lake	100.03	13	IAMs_20	IAMs_20	01 03 05.9	
	comp=Z,1µm,20.0s						
HDA	Harding Lake	100.03	13	P	**Pdif**	**00 21 50.6**	**+1.7**
	baz=207						
HDA				P	**Pdif**	**00 21 50.6**	**+1.7**
	baz=207						
CCB	Clear Creek Bu	100.08	13	IAMs_20	IAMs_20	01 03 07.1	
	comp=Z,1µm,20.0s						
H21K	Melozitna Rive	100.15	11	IAMs_20	IAMs_20	01 03 21.8	
	comp=Z,1µm,20.0s						
H21K	Melozitna Rive	100.15	11	P	**Pdif**	**00 21 51.9**	**+2.5**
	baz=202						
N31M	Braeburn, Yuko	100.16	19	P	**Pdif**	**00 21 51.4**	**+1.8**
	baz=216						
M29M	Somme Creek	100.23	18	P	**Pdif**	**00 21 52.5**	**+2.5**
	baz=214						
I23K	Minto, Yukon-K	100.25	12	P	**Pdif**	**00 21 51.8**	**+2.0**
	baz=205						
SCRK	Sand Creek	100.25	15	IAMs_20	IAMs_20	00 59 34.8	
	comp=Z,954nm,20.0s						
SCRK	Sand Creek	100.25	15	P	**Pdif**	**00 21 52.2**	**+2.2**
	baz=209						
COLA	College	100.27	13	P	**Pdif**	**00 21 50.9**	**+1.0**
ILAR	Eielson Array	100.36	13	P	**Pdif**	**00 21 50.9**	**+0.5**
	comp=Z,7.3nm,1.2s,baz=211,slow=4.4,SNR=16						
ILAR				PKiKP	**PKiKP**	**00 26 17.8**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=273,slow=2.8,SNR=16						
ILAR				PKKPbc	**PKKPbc**	**00 38 06.8**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=15,slow=2.5,SNR=6.7						
E17K	Hotham Inlet	100.38	7	P	**Pdif**	**00 21 52.8**	**+2.4**
	baz=194						
J25K	Salcha River,	100.52	14	IAMs_20	IAMs_20	00 59 27.0	
	comp=Z,1µm,22.0s						
J25K	Salcha River,	100.52	14	P	**Pdif**	**00 21 53.9**	**+2.7**
	baz=208						
WMOK	Wichita Mounta	100.54	56	P	**Pdif**	**00 21 53.9**	**+2.0**
	baz=238						
POKR	Poker Plat Res	100.57	13	P	**Pdif**	**00 21 54.1**	**+2.8**
	baz=206						
F19K	Shaleruckik Mo	100.58	8	IAMs_20	IAMs_20	01 04 06.2	
	comp=Z,1µm,20.0s						
F19K	Shaleruckik Mo	100.58	8	P	**Pdif**	**00 21 54.2**	**+3.0**
	baz=198						
H22K	Ishtalitna Cre	100.59	11	P	**Pdif**	**00 21 54.4**	**+3.0**
	baz=203						
N32M	Quiet Lake	100.67	21	P	**Pdif**	**00 21 54.9**	**+3.0**
	baz=218						
K27K	Chicken	100.71	15	IAMs_20	IAMs_20	00 58 54.2	
	comp=Z,1µm,22.0s						
K27K	Chicken	100.71	15	P	**Pdif**	**00 21 55.1**	**+3.2**
	baz=211						
M30M	Minto, Yukon	100.78	18	IAMs_20	IAMs_20	00 59 05.2	
	comp=Z,2µm,21.0s						
M30M	Minto, Yukon	100.78	18	P	**Pdif**	**00 21 54.9**	**+2.6**
	baz=215						
J26L	Joseph Creek	100.80	15	P	**Pdif**	**00 21 55.0**	**+2.6**
	baz=210						
E18K	Tukpahlearik C	100.83	7	P	**Pdif**	**00 21 55.0**	**+2.6**
	baz=196						
G21K	Allakaket	100.84	10	IAMs_20	IAMs_20	01 01 48.4	
	comp=Z,976nm,20.0s						
G21K	Allakaket	100.84	10	P	**Pdif**	**00 21 55.1**	**+2.6**
	baz=202						
L29M	L29M	100.88	17	P	**Pdif**	**00 21 55.1**	**+2.4**
	baz=214						
F20K	Avaraart Lake	101.04	9	IAMs_20	IAMs_20	01 03 53.5	
	comp=Z,1µm,20.0s						
F20K	Avaraart Lake	101.04	9	P	**Pdif**	**00 21 55.6**	**+2.3**
	baz=200						
M31M	Drury Creek, Y	101.13	19	IAMs_20	IAMs_20	01 04 12.6	
	comp=Z,1µm,20.0s						
M31M	Drury Creek, Y	101.13	19	P	**Pdif**	**00 21 56.3**	**+2.4**
	baz=217						
H24K	Noodor Dome	101.14	12	P	**Pdif**	**00 21 56.6**	**+2.8**
	baz=206						
BILL	Bilibino	101.17	354	IAMs_20	IAMs_20	01 01 33.0	
	comp=Z,1µm,21.0s						
BILL	Bilibino	101.17	354	*i*P	**Pdif**	**00 21 54.6**	**+0.8**
WTLY	Watson Lake, Y	101.20	23	IAMs_20	IAMs_20	01 03 36.9	
	comp=Z,1µm,19.0s						
RDOG	Red Dog Mine	101.23	6	P	**Pdif**	**00 21 56.7**	**+2.6**
	baz=194						
E19K	Redstone River	101.24	8	IAMs_20	IAMs_20	01 03 39.7	
	comp=Z,1µm,20.0s						
E19K	Redstone River	101.24	8	P	**Pdif**	**00 21 56.5**	**+2.3**
	baz=198						
EGMT	Eagleton	101.27	40	IAMs_20	IAMs_20	01 04 27.0	
	comp=Z,1µm,20.0s						
PRP	Porcupine Dome	101.29	13	IAMs_20	IAMs_20	01 04 02.3	
	comp=Z,1µm,21.0s						
PRP	Porcupine Dome	101.29	13	P	**Pdif**	**00 21 57.0**	**+2.3**
	baz=208						
BRLDA	Berland Lookou	101.33	32	IAMs_20	IAMs_20	00 59 03.2	
	comp=Z,1µm,21.0s						
DAWY	Dawson	101.37	16	P	**Pdif**	**00 21 58.0**	**+3.1**
	baz=213						
FARO	Faro, Yukon	101.45	20	P	**Pdif**	**00 21 58.3**	**+3.1**
	baz=218						
OK038	West end E0370	101.50	54	IAMs_20	IAMs_20	01 03 13.9	
	comp=Z,1µm,21.0s						
F21K	Alatna River	101.51	10	IAMs_20	IAMs_20	01 04 33.9	
	comp=Z,1µm,20.0s						
F21K	Alatna River	101.51	10	P	**Pdif**	**00 21 58.8**	**+3.4**
	baz=202						
G22K	Bettles	101.52	11	P	**Pdif**	**00 21 58.9**	**+3.4**
	baz=203						
EGAK	Eagle	101.56	15	IAMs_20	IAMs_20	01 00 03.7	
	comp=Z,1µm,22.0s						
EGAK	Eagle	101.56	15	P	**Pdif**	**00 21 58.5**	**+2.8**
	baz=212						
G23K	Bananza Creek	101.56	11	P	**Pdif**	**00 21 58.5**	**+2.8**
	baz=204						
C17K	DeLong Mountai	101.61	6	P	**Pdif**	**00 21 58.3**	**+2.5**
	baz=193						
K29M	Barlow Dome	101.64	17	IAMs_20	IAMs_20	01 00 36.8	
	comp=Z,2µm,21.0s						
K29M	Barlow Dome	101.64	17	P	**Pdif**	**00 21 59.5**	**+3.3**
	baz=214						
OK035	E0210 Rd and N	101.64	54	IAMs_20	IAMs_20	01 01 26.7	
	comp=Z,1µm,20.0s						
OGNE	Ogallala	101.74	49	IAMs_20	IAMs_20	01 03 40.6	
	comp=Z,1µm,20.0s						
C18K	Utukok River	101.96	6	P	**Pdif**	**00 22 00.1**	**+2.6**
	baz=195						
F22K	John River	101.96	10	P	**Pdif**	**00 22 00.0**	**+2.6**
	baz=203						
G24K	Hadweenzic Riv	101.99	12	P	**Pdif**	**00 22 00.4**	**+2.8**
	baz=207						
COLD	Coldfoot	102.01	11	P	**Pdif**	**00 22 00.4**	**+2.8**
	baz=204						
OK032	Salt Plains WL	102.03	54	IAMs_20	IAMs_20	00 58 04.1	
	comp=Z,927nm,20.0s						
CBKS	Cedar Bluff	102.08	52	P	**Pdif**	**00 22 00.6**	**+1.9**
	baz=238						
E20K	Nigu River	102.13	8	P	**Pdif**	**00 22 00.4**	**+2.2**
	baz=199						
D19K	Kuna River	102.13	8	IAMs_20	IAMs_20	01 06 15.1	
	comp=Z,1µm,19.0s						
D19K	Kuna River	102.13	8	P	**Pdif**	**00 22 01.0**	**+2.8**
	baz=198						
I27K	Kandik River	102.17	15	P	**Pdif**	**00 22 01.3**	**+2.8**
	baz=211						
RSSD	Black Hills	102.26	45	IAMs_20	IAMs_20	00 59 32.2	
	comp=Z,1µm,19.0s						
RSSD	Black Hills	102.26	45	P	**Pdif**	**00 22 01.9**	**+2.3**
	baz=236						
FYU	Fort Yukon	102.28	13	IAMs_20	IAMs_20	01 04 45.3	
	comp=Z,1µm,20.0s						
G25K	Bearman Lake	102.29	13	P	**Pdif**	**00 22 01.9**	**+3.1**
	baz=208						
I28M	Miner Creek	102.41	15	IAMs_20	IAMs_20	01 00 41.0	
	comp=Z,1µm,21.0s						
I28M	Miner Creek	102.41	15	P	**Pdif**	**00 22 02.2**	**+2.7**
	baz=213						
J30M	Hart River	102.54	17	IAMs_20	IAMs_20	01 01 36.7	
	comp=Z,1µm,20.0s						
J30M	Hart River	102.54	17	P	**Pdif**	**00 22 02.5**	**+2.3**
	baz=216						
C19K	Lookout Ridge	102.56	7	IAMs_20	IAMs_20	01 01 48.5	
	comp=Z,1µm,21.0s						
C19K	Lookout Ridge	102.56	7	P	**Pdif**	**00 22 02.4**	**+2.3**
	baz=196						
E21K	Killik River	102.58	9	IAMs_20	IAMs_20	00 59 49.3	
	comp=Z,1µm,22.0s						
E21K	Killik River	102.58	9	P	**Pdif**	**00 22 01.8**	**+1.6**
	baz=201						
E22K	Anaktuvuk Pass	102.60	10	P	**Pdif**	**00 22 02.6**	**+2.3**
	baz=203						
F24K	Squaw Lake	102.65	12	IAMs_20	IAMs_20	01 07 55.1	
	comp=Z,1µm,20.0s						
F24K	Squaw Lake	102.65	12	P	**Pdif**	**00 22 02.7**	**+2.2**
	baz=206						
I29M	Ogilvie Camp,	102.71	16	IAMs_20	IAMs_20	01 01 43.1	
	comp=Z,1µm,21.0s						
I29M	Ogilvie Camp,	102.71	16	P	**Pdif**	**00 22 03.1**	**+2.3**
	baz=214						
H27K	Steamboat Moun	102.73	15	P	**Pdif**	**00 22 03.0**	**+2.0**
	baz=212						
E23K	Chandalar	102.86	11	P	**Pdif**	**00 22 03.8**	**+2.2**
	baz=205						
G26K	Porcupine Rive	102.89	13	P	**Pdif**	**00 22 04.4**	**+2.8**
	baz=210						
E24K	Your Creek	103.06	11	IAMs_20	IAMs_20	01 05 25.7	
	comp=Z,1µm,19.0s						
E24K	Your Creek	103.06	11	P	**Pdif**	**00 22 05.0**	**+2.6**
	baz=206						
I30M	Mount Dempster	103.06	17	IAMs_20	IAMs_20	01 01 01.3	
	comp=Z,1µm,21.0s						
I30M	Mount Dempster	103.06	17	P	**Pdif**	**00 22 04.7**	**+2.2**
	baz=216						
F25K	Christian Rive	103.11	12	P	**Pdif**	**00 22 05.0**	**+2.4**
	baz=208						
C21K	Knifeblade Rid	103.15	9	P	**Pdif**	**00 22 05.1**	**+2.5**
	baz=201						
D22K	Ayikyak River	103.17	9	IAMs_20	IAMs_20	01 03 21.5	
	comp=Z,1µm,20.0s						
D22K	Ayikyak River	103.17	9	P	**Pdif**	**00 22 04.9**	**+2.1**
	baz=202						
G27K	Doyon Strip	103.20	14	IAMs_20	IAMs_20	01 04 43.8	
	comp=Z,1µm,20.0s						

G27K	Doyon Strip	103.20	14	P	Pdif	00 22 05.6	+2.6
	baz=212						
TUL3	Leonard	103.24	56	P	Pdif	00 22 05.4	+1.5
	baz=239						
YAK	Yakutsk	103.27	338	IAMs_20	IAMs_20	01 03 16.2	
	comp=Z,1µm,22.0s						
TOLK	Toolik Lake Re	103.40	11	IAMs_20	IAMs_20	01 03 09.7	
	comp=Z,1µm,20.0s						
TOLK	Toolik Lake Re	103.40	11	P	Pdif	00 22 06.8	+3.0
	baz=205						
H29M	Whitestone	103.41	16	IAMs_20	IAMs_20	01 01 45.5	
	comp=Z,1µm,20.0s						
H29M	Whitestone	103.41	16	P	Pdif	00 22 06.9	+3.0
	baz=214						
F26K	Sheenjek River	103.48	13	P	Pdif	00 22 07.2	+3.0
	baz=210						
A19K	Wainwright	103.48	6	P	Pdif	00 22 06.8	+2.7
	baz=195						
D23K	Nanushuk River	103.53	10	P	Pdif	00 22 07.0	+2.7
	baz=204						
E25K	Arctic Village	103.59	12	P	Pdif	00 22 07.2	+2.5
	baz=208						
B21K	Ikpikpuk River	103.61	8	IAMs_20	IAMs_20	01 06 16.4	
	comp=Z,1µm,19.0s						
B21K	Ikpikpuk River	103.61	8	P	Pdif	00 22 07.7	+3.1
	baz=201						
B20K	Meade River	103.68	7	P	Pdif	00 22 07.9	+3.0
	baz=199						
EPYK	Eagle Plains	103.92	16	IAMs_20	IAMs_20	01 00 32.9	
	comp=Z,1µm,22.0s						
EPYK	Eagle Plains	103.92	16	P	Pdif	00 22 08.4	+2.3
	baz=216						
D24K	Happy Valley	103.98	11	IAMs_20	IAMs_20	01 02 56.1	
	comp=Z,1µm,20.0s						
D24K	Happy Valley	103.98	11	P	Pdif	00 22 08.2	+1.9
	baz=206						
H31M	Peel River	104.03	17	P	Pdif	00 22 08.8	+2.2
	baz=217						
G29M	Pine Creek	104.06	15	IAMs_20	IAMs_20	01 02 45.7	
	comp=Z,1µm,21.0s						
G29M	Pine Creek	104.06	15	P	Pdif	00 22 09.1	+2.3
	baz=214						
MIAR	Mount Ida	104.11	58	P	Pdif	00 22 09.1	+1.3
	baz=240						
F28M	Old Crow	104.25	14	IAMs_20	IAMs_20	01 05 34.6	
	comp=Z,1µm,20.0s						
KSU1	Kansas State U	104.31	53	IAMs_20	IAMs_20	01 00 37.8	
	comp=Z,980nm,21.0s						
C23K	Itkillik River	104.34	10	P	Pdif	00 22 09.9	+2.0
	baz=204						
E27K	Coleen River	104.39	13	P	Pdif	00 22 10.4	+2.2
	baz=212						
B22K	Teshekpuk Lake	104.43	9	IAMs_20	IAMs_20	01 06 31.1	
	comp=Z,1µm,20.0s						
C24K	Franklin Bluff	104.51	10	P	Pdif	00 22 10.4	+1.7
	baz=206						
D25K	Kavik River	104.52	11	IAMs_20	IAMs_20	01 06 13.5	
	comp=Z,1µm,20.0s						
D25K	Kavik River	104.52	11	P	Pdif	00 22 11.3	+2.5
	baz=208						
G30M	tAoh Zraii Nji	104.53	16	IAMs_20	IAMs_20	01 02 17.1	
	comp=Z,1µm,22.0s						
G30M	tAoh Zraii Nji	104.53	16	P	Pdif	00 22 11.5	+2.6
	baz=216						
DGMT	Dagmar	104.57	41	P	Pdif	00 22 11.2	+1.7
	baz=237						
SONM	Songino Array	104.58	318	Pdiff	Pdif	00 22 09.3	-0.4
	comp=Z,0.6nm,0.8s,baz=136,slow=4.0,SNR=3.0						
SONM				PKiKP	PKiKP	00 26 24.9	-0.5
	comp=Z,0.6nm,0.6s,baz=124,slow=4.3,SNR=3.6						
SONM				PKKPbc	PKKPbc	00 37 57.7	+2.0
	comp=Z,0.6nm,0.6s,baz=291,slow=2.9,SNR=3.1						
A22K	Sinclair Lake	104.87	8	P	PKiKP	00 26 26.9	+1.8
	baz=201						
G31M	Satah River	104.94	17	IAMs_20	IAMs_20	01 02 43.0	
	comp=Z,1µm,22.0s						
G31M	Satah River	104.94	17	P	PKiKP	00 26 26.9	+1.6
	baz=218						
A21K	Barrow	104.99	7	P	PKiKP	00 26 27.0	+1.7
	baz=199						
F30M	Barrier River	105.14	16	P	PKiKP	00 26 27.0	+1.3
	baz=216						
E28M	Babbage River	105.16	14	P	PKiKP	00 26 28.0	+2.3
	baz=214						
WRGLY	Wrigley	105.22	23	P	PKiKP	00 26 28.1	+2.2
	baz=226						
C26K	Camden Bay	105.29	11	P	PKiKP	00 26 27.6	+1.8
	baz=209						
E29M	Blow River	105.31	15	IAMs_20	IAMs_20	01 06 08.7	
	comp=Z,1µm,21.0s						
E29M	Blow River	105.31	15	P	PKiKP	00 26 27.4	+1.4
	baz=215						
D27M	Malcolm River	105.42	13	IAMs_20	IAMs_20	01 06 36.2	
	comp=Z,1µm,22.0s						
D27M	Malcolm River	105.42	13	P	PKiKP	00 26 27.8	+1.5
	baz=212						
F31M	Tsiigehtchic	105.48	16	IAMs_20	IAMs_20	01 02 36.2	
	comp=Z,2µm,22.0s						
F31M	Tsiigehtchic	105.48	16	P	PKiKP	00 26 27.3	+1.1
	baz=218						
LSA	Lhasa	105.61	295	PKP	PKiKP	00 26 32.2	+3.9
SAML	Samuel	105.88	112	IAMs_20	IAMs_20	01 01 11.3	
	comp=Z,975nm,22.0s						
D28M	Stokes Point	105.92	14	P	PKiKP	00 26 28.7	+1.7
	baz=214						
GOMU	GeErMu	106.05	303	P	PP	00 26 35.7	-5.4
GOMU				pP	PKiKP	00 26 38.7	+10
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.5s						
INK	Inuvik	106.21	16	IAMs_20	IAMs_20	01 07 33.6	
	comp=Z,1µm,20.0s						
INK	Inuvik	106.21	16	P	PKiKP	00 26 29.2	+1.6
	baz=218						
ECSD	EROS Data Cent	106.62	49	P	PKiKP	00 26 30.0	+0.8
	baz=241						
MDND	Maddock	106.86	44	P	PKiKP	00 26 30.7	+1.2
	baz=240						
SPB	Sao Paulo	107.10	134	IAMs_20	IAMs_20	01 04 27.0	
	comp=Z,1µm,22.0s						
OXF	Oxford	107.10	60	IAMs_20	IAMs_20	01 02 17.3	
	comp=Z,957nm,22.0s						
OXF	Oxford	107.10	60	P	PKiKP	00 26 30.8	+0.5
	baz=242						
TAPN	Taplejung	107.14	292	*e*P	PKiKP	00 26 29.8	-1.2
	comp=Z,31nm,0.8s						
CCM	Cathedral Cave	107.46	56	IAMs_20	IAMs_20	01 06 40.8	
	comp=Z,889nm,19.0s						
CCM	Cathedral Cave	107.46	56	P	PKiKP	00 26 31.6	+0.7
	baz=242						
YKA	Yellowknife Ar	107.81	26	Pdiff	Pdif	00 22 25.1	+1.7
	comp=Z,0.4nm,0.9s,baz=237,slow=4.8,SNR=4.4						
YKA				PKiKP	PKiKP	00 26 31.9	+1.2
	comp=Z,2.7nm,0.8s,baz=260,slow=1.7,SNR=26						
YKA				PKKPbc	PKKPbc	00 37 42.2	-3.7
	comp=Z,3.1nm,0.7s,baz=35,slow=3.0,SNR=24						
YKA				PKKPab	PKKPab	00 37 56.9	+1.3
	comp=Z,1.4nm,0.8s,baz=41,slow=3.9,SNR=6.8						
RAMN	Ramite	107.82	291	*e*P	PKiKP	00 26 32.1	-0.1
	comp=Z,43nm,1.0s						
YKAW1	Yellowknife Wh	107.85	26	IAMs_20	IAMs_20	01 07 59.0	
	comp=Z,1µm,19.0s						
YKAW3	Yellowknife Wh	107.85	26	IAMs_20	IAMs_20	01 07 39.0	
	comp=Z,1µm,20.0s						
FOMA	Nahampoana Res	107.99	223	IAMs_20	IAMs_20	01 05 10.7	
	comp=Z,1µm,19.0s						
LRAL	Lakeview Retre	108.19	62	P	PKiKP	00 26 33.2	+0.8
	baz=242						
JIRN	Jiri	108.48	291	*e*P	PKiKP	00 26 33.0	-0.6
	comp=Z,6.9nm,0.4s						
MTDJ	Mount Denham	108.72	80	IAMs_20	IAMs_20	01 01 40.2	
	comp=Z,1µm,22.0s						
WVT	Waverly	108.99	59	P	PKiKP	00 26 34.4	+0.5
	baz=243						
FFC	Flin Flon	109.02	37	IAMs_20	IAMs_20	01 07 39.1	
	comp=Z,1µm,18.0s						
PKI	Pulchoki	109.05	291	*e*P	PKiKP	00 26 33.9	-0.7
	comp=Z,13nm,0.8s						
AGMN	Agassiz Nation	109.27	45	P	PKiKP	00 26 35.0	+1.1
	baz=242						
C36M	Paulatuk	109.30	18	IAMs_20	IAMs_20	01 09 30.4	
	comp=Z,1µm,20.0s						
C36M	Paulatuk	109.30	18	P	PKiKP	00 26 34.1	+0.7
	baz=227						
TIGA	Tifton	110.03	65	P	PKiKP	00 26 35.9	0.0
	baz=243						
ULM	Lac du Bonnet	110.16	43	PKiKP	PKiKP	00 26 35.0	-0.5
	comp=Z,1.7nm,0.7s,baz=36,slow=0.9,SNR=5.3						
ULM				PKKPbc	PKKPbc	00 37 35.8	-2.1
	comp=Z,1.0nm,0.6s,baz=322,slow=16,SNR=1.7						
JFWS	Jewell Farm	110.35	52	IAMs_20	IAMs_20	01 10 43.6	
	comp=Z,810nm,18.0s						
JFWS	Jewell Farm	110.35	52	P	PKiKP	00 26 36.4	+0.2
	baz=244						
TIXI	Tiksi	110.43	344	IAMs_20	IAMs_20	01 10 12.5	
	comp=Z,1µm,20.0s						
TIXI	Tiksi	110.43	344	⇑PKIKP	PKiKP	00 26 35.2	-0.2
DANN	Dangsing	110.70	291	*e*P	PKiKP	00 26 36.7	-1.0
A36M	Sachs Harbour	110.84	15	IAMs_20	IAMs_20	01 10 14.0	
	comp=Z,912nm,20.0s						
A36M	Sachs Harbour	110.84	15	P	PKiKP	00 26 37.1	+0.9
	baz=226						
WCI	Wyandotte Cave	111.02	57	IAMs_20	IAMs_20	01 06 52.2	
	comp=Z,1µm,20.0s						
WCI	Wyandotte Cave	111.02	57	P	PKiKP	00 26 38.6	+1.1
	baz=244						
WCI	Wyandotte Cave	111.02	57	P	PKiKP	00 26 38.3	+0.8
	baz=244						
PYUN	Piuthan	111.20	290	*e*P	PKiKP	00 26 37.3	-1.2
	comp=Z,102nm,1.0s						
SFIN	Lafayette	111.38	55	P	PKiKP	00 26 38.7	+0.5
	baz=245						
HQIL	Hanson Quary C	111.47	53	IAMs_20	IAMs_20	01 12 15.7	
	comp=Z,767nm,19.0s						
L44A	Lake County Fo	111.59	53	P	PKiKP	00 26 39.5	+1.0
	baz=245						
EYMN	Ely	111.73	46	IAMs_20	IAMs_20	01 12 01.7	
	comp=Z,942nm,19.0s						
EYMN	Ely	111.73	46	P	PKiKP	00 26 39.8	+1.2
	baz=245						
TZTN	Tazewell	112.28	60	P	PKiKP	00 26 40.9	+0.9
	baz=245						
ABPO	Ambohimpanom	112.38	227	IAMs_20	IAMs_20	01 08 09.2	
	comp=Z,1µm,19.0s						
BDFB	Brasilia	112.54	128	PKiKP	PKiKP	00 26 42.8	+1.4
	comp=Z,0.5nm,0.3s,baz=202,slow=2.0,SNR=1.7						
BDFB				PKKPbc	PKKPbc	00 37 27.7	-1.7
	comp=Z,1.4nm,0.6s,baz=48,slow=13,SNR=3.8						
O48B	Farmland	112.68	56	IAMs_20	IAMs_20	01 10 03.6	
	comp=Z,914nm,20.0s						
O48B	Farmland	112.68	56	P	PKiKP	00 26 41.8	+1.1
	baz=246						
P49A	Miami Univ. Ec	112.69	57	IAMs_20	IAMs_20	01 06 04.3	
	comp=Z,1µm,21.0s						
P49A	Miami Univ. Ec	112.69	57	P	PKiKP	00 26 41.5	+0.8
	baz=246						
KMSC	Kings Mountain	113.33	62	P	PKiKP	00 26 42.7	+0.6
	baz=246						
NHSC	New Hope	113.35	65	P	PKiKP	00 26 42.7	+0.6
	baz=245						
ACSO	Alum Creek Sta	114.19	57	IAMs_20	IAMs_20	01 08 40.7	
	comp=Z,1µm,21.0s						
ACSO	Alum Creek Sta	114.19	57	P	PKiKP	00 26 44.2	+0.7
	baz=247						
WMQ	Urumqi	114.30	308	PKP	PKPdf	00 26 43.4	-0.3
WMQ				AMB	AMB		
	comp=Z,260nm,5.3s						
WMQ				LR	LR		
	comp=Z,470nm,19.5s						
WMQ				LR	LR		
	comp=Z,610nm,21.9s						
WMQ				LR	LR		
	comp=Z,550nm,20.7s						
P52A	Corning	114.56	58	IAMs_20	IAMs_20	01 07 01.8	
	comp=Z,1µm,22.0s						
P52A	Corning	114.56	58	P	PKiKP	00 26 45.2	+0.9
	baz=247						
FCC	Fort Churchill	114.71	35	IAMs_20	IAMs_20	01 07 21.3	
	comp=Z,1µm,22.0s						
BLA	Blacksburg	114.84	61	P	PKiKP	00 26 45.8	+0.8
	baz=247						
GLMI	Grayling	114.85	51	IAMs_20	IAMs_20	01 06 14.6	
	comp=Z,1µm,21.0s						
GLMI	Grayling	114.85	51	P	PKiKP	00 26 45.8	+1.2
	baz=248						
BOSA	Boshof	114.87	203	PKP	PKPdf	00 26 46.1	+0.6
	comp=Z,10nm,0.9s,baz=156,slow=2.4,SNR=23						
BOSA				PKKPbc	PKKPbc	00 37 23.2	+1.3
	comp=Z,0.9nm,0.5s,baz=213,slow=19,SNR=1.2						
O53A	New Philadelph	115.44	57	IAMs_20	IAMs_20	01 07 29.3	
	comp=Z,1µm,22.0s						
O53A	New Philadelph	115.44	57	P	PKiKP	00 26 46.7	+0.8
	baz=248						
T57A	Hurt	115.62	61	P	PKPdf	00 26 46.3	-0.1
	baz=247						
T57A				P	PKPdf	00 26 46.3	-0.1
	baz=247						
N53A	Lisbon	115.92	57		PKiKP	00 26 47.8	+0.9
N53A	Lisbon	115.92	57	P	PKiKP	00 26 47.2	+0.3
	baz=248,SNR=6.5						
N53A				P	PKiKP	00 26 47.2	+0.3
	baz=248,SNR=6.5						
CNNC	Cliffs of the	115.95	63	P	PKiKP	00 26 48.2	+1.2
	baz=247						
MCWV	Mont Chateau	116.20	58	IAMs_20	IAMs_20	01 09 55.0	
	comp=Z,1µm,21.0s						
M53A	WI Miller and	116.27	56	IAMs_20	IAMs_20	01 12 14.0	
	comp=Z,949nm,19.0s						
M53A	WI Miller and	116.27	56	P	PKiKP	00 26 48.5	+1.0
	baz=248						
DGZ	Jazzator, Alta	116.61	314	*i* PKIKP	PKPdf	00 26 47.0	-1.1
DGZ				pmax	pmax		
	comp=Z,9.0nm,1.3s						
MSEY	Mahe Island	116.68	245	IAMs_20	IAMs_20	01 12 17.8	
	comp=Z,885nm,19.0s						
ERPA	Erie	116.99	56	IAMs_20	IAMs_20	01 12 54.7	
	comp=Z,1µm,19.0s						
ERPA	Erie	116.99	56	P	PKiKP	00 26 49.8	+0.9
	baz=249						
PABK	Blue Knob Stat	117.32	58	P	PKiKP	00 26 50.3	+0.7
	baz=249						
CBN	Corbin Frederi	117.45	61	IAMs_20	IAMs_20	01 14 00.4	
	comp=Z,658nm,18.0s						
CBN	Corbin Frederi	117.45	61	P	PKiKP	00 26 50.6	+0.7
	baz=249						
ZSN	Zaisan	117.46	311	*e*PKP	PKPdf	00 26 48.2	-1.5
	baz=311						
ZSN	Zaisan	117.46	311	*e*PKIKP	PKPdf	00 26 48.1	-1.5
SSPA	Standing Stone	117.95	58	IAMs_20	IAMs_20	01 10 57.6	
	comp=Z,1µm,21.0s						
SSPA	Standing Stone	117.95	58	P	PKiKP	00 26 51.7	+0.9
	baz=250						
SSPA	Standing Stone	117.95	58	P	PKiKP	00 26 51.1	+0.3
	baz=250						
LBTB	Lobatse	118.06	205		PKiKP	00 26 52.5	+0.7
LBTB	Lobatse	118.06	205	PKIKP	PKiKP	00 26 52.5	+0.7
M57A	Sunshine Farm,	118.73	57	P	PKiKP	00 26 52.9	+0.6
	baz=250						
M57A				P	PKiKP	00 26 52.9	+0.6
	baz=250						
N58A	Sunbury	118.86	58	P	PKiKP	00 26 52.9	+0.3
	baz=250						
N58A				P	PKiKP	00 26 52.9	+0.3
	baz=250						
MK31	Makanchi Array	118.91	309	*e*PKIKP	PKPdf	00 26 51.1	-1.4
MKAR	Makanchi Array	118.91	309	PKP	PKPdf	00 26 51.3	-1.2
	comp=Z,5.6nm,0.5s,baz=128,slow=1.0,SNR=67						
MKAR				PKKPbc	PKKPab	00 37 10.4	+2.5
	comp=Z,0.6nm,0.8s,baz=282,slow=2.8,SNR=2.0						
MAKZ	Makanchi	119.12	309	PKPdf	PKPdf	00 26 51.4	-1.4
MAKZ	Makanchi	119.12	309	PKIKP	PKPdf	00 26 51.4	-1.4
ZALV	Zalesovo Beam	119.47	318	PKP	PKPdf	00 26 52.2	-1.0
	comp=Z,4.4nm,0.4s,baz=141,slow=2.1,SNR=27						
K57A	Scipio Center	119.62	56	P	PKiKP	00 26 54.4	+0.4
	baz=251						
SHLS	Shalkode	119.67	305	*e*PKP	PKPdf	00 26 52.3	-2.0
	baz=305						
SHLS	Shalkode	119.67	305	*e*PKIKP	PKPdf	00 26 52.2	-2.0
RES	Resolute Bay	119.67	18	IAMs_20	IAMs_20	01 11 18.5	
	comp=Z,1µm,21.0s						
PDGK	Podgornoye	119.71	305	PKIKP	PKPdf	00 26 52.0	-2.3
KSPA	Keystone Colle	119.77	57	P	PKiKP	00 26 55.0	+0.7
	baz=251						
BINY	Binghamton	119.82	57	P	PKiKP	00 26 55.4	+1.0
	baz=251						
UZB	Uzynbulak	119.97	304	*e*PKP	PKPdf	00 26 53.4	-1.4
	baz=304						
UZB	Uzynbulak	119.97	304	*e*PKIKP	PKPdf	00 26 53.4	-1.4
J57A	Williamstown	120.19	55	P	PKiKP	00 26 55.5	+0.4
	baz=252,SNR=7.6						
J57A				P	PKiKP	00 26 55.5	+0.4
	baz=252,SNR=7.6						
KPKS	Kokpek	120.31	305	*e*PKP	PKPdf	00 26 54.0	-1.4
	baz=305						
KPKS	Kokpek	120.31	305	*e*PKIKP	PKPdf	00 26 54.0	-1.4
SATY	Saty	120.38	304	*e*PKP	PKPdf	00 26 55.1	-0.5
	baz=304						
SATY	Saty	120.38	304	*e*PKIKP	PKPdf	00 26 55.0	-0.5
ZHN	Zhinishke	120.39	304	*e*PKP	PKPdf	00 26 54.1	-1.5
	baz=304						
ZHN	Zhinishke	120.39	304	*e*PKIKP	PKPdf	00 26 54.0	-1.5
ODNJ	Ogdensburg	120.44	58	P	PKiKP	00 26 56.5	+0.8
	baz=252						
WCNY	West Carthage	120.60	55	P	PKiKP	00 26 56.1	+0.2
	baz=253,SNR=8.2						
J58A	Remsen	120.67	56	P	PKPdf	00 26 56.1	+0.1
	baz=252						
J58A				P	PKPdf	00 26 56.1	+0.1
	baz=252						
MPOM	Morne Pois Mar	120.88	92	IAMs_20	IAMs_20	01 10 02.1	
	comp=Z,777nm,22.0s						
PAL	Palisades	120.92	59	P	PKiKP	00 26 57.4	+0.8
	baz=252						
TDK	Taldyqorghan	120.96	306	*e*PKP	PKPdf	00 26 54.8	-1.7
	baz=306						
TDK	Taldyqorghan	120.96	306	*e*PKIKP	PKPdf	00 26 54.8	-1.7
KSH	Kashi	121.00	300	PKP	PKiKP	00 26 57.2	+0.2
KSH				LR	LR		
	comp=Z,400nm,23.7s						
KSH				LR	LR		
	comp=Z,250nm,22.5s						
KSH				LR	LR		
	comp=Z,670nm,24.2s						
CBE	Ff, Capester	121.04	90	IAMs_20	IAMs_20	01 10 19.0	
	comp=Z,824nm,22.0s						
NIL	Nilore	121.08	292	PKPdf	PKPdf	00 26 56.6	-0.5
NIL	Nilore	121.08	292	PKIKP	PKPdf	00 26 56.6	-0.5
J59A	Piesco	121.25	56	P	PKiKP	00 26 58.0	+0.8
	baz=253						
J59A				P	PKiKP	00 26 58.0	+0.8
	baz=253						
MDOK	Medeo	121.36	304	*e*PKP	PKPdf	00 26 56.6	-0.9
	baz=304						
MDOK	Medeo	121.36	304	*e*PKIKP	PKPdf	00 26 56.6	-0.9
TNSS	Tian-Shan	121.39	304	*e*PKP	PKPdf	00 26 56.8	-1.1
	baz=304						
TNSS	Tian-Shan	121.39	304	*e*PKIKP	PKPdf	00 26 56.7	-1.1
LONY	Lake Ozonia	121.53	54	IAMs_20	IAMs_20	01 17 11.6	
	comp=Z,721nm,20.0s						
LONY	Lake Ozonia	121.53	54	P	PKiKP	00 26 58.1	+0.4
	baz=254						
NCB	Newcomb	121.59	55	P	PKiKP	00 26 58.3	+0.5
	baz=253,SNR=6.3						
CHKK	Chushkaly	121.60	305	*e*PKP	PKPdf	00 26 55.8	-2.0
	baz=305						
CHKK	Chushkaly	121.60	305	*e*PKIKP	PKPdf	00 26 55.7	-2.0
TRY	Troy	121.62	57	IAMs_20	IAMs_20	01 14 52.6	
	comp=Z,1µm,20.0s						
YLE	Yale	121.71	59	IAMs_20	IAMs_20	01 13 13.3	
	comp=Z,1µm,21.0s						
KUU	Kurty	122.06	305	*e*PKP	PKPdf	00 26 56.7	-1.9
	baz=305						
KUU	Kurty	122.06	305	*e*PKIKP	PKPdf	00 26 56.6	-2.0
L61B	Northampton	122.23	57	IAMs_20	IAMs_20	01 15 50.9	
	comp=Z,1µm,20.0s						
L61B	Northampton	122.23	57	P	PKiKP	00 27 00.0	+0.9
	baz=253						
L61B	Northampton	122.23	57	P	PKiKP	00 26 59.6	+0.5
	baz=253						
KZA	Kyzart	122.31	302	P	PKPdf	00 26 59.8	+0.1
	SNR=7.3						
KURK	Kurchatov	122.32	313	PKPdf	PKPdf	00 26 57.6	-1.2
KURK	Kurchatov	122.32	313	IAMs_20	IAMs_20	01 15 35.9	
	comp=Z,1µm,22.0s						
KURK	Kurchatov	122.32	313*c*	*i*PKIKP	PKPdf	00 26 57.2	-1.6
KURK				pmax	pmax		
	comp=Z,42nm,1.3s						
KURBB	Kurchatov Arra	122.36	313	PKIKP	PKPdf	00 26 57.0	-1.9
KURBB	Kurchatov Arra	122.36	313	PKP	PKPdf	00 26 57.8	-1.1
	comp=Z,18nm,0.7s,baz=108,slow=1.9,SNR=77						
J61A	Chester	122.57	56	P	PKiKP	00 27 00.4	+0.6
	baz=254						
J61A				P	PKiKP	00 27 00.4	+0.6
	baz=254						
KBK	Karagaybulak	122.69	303	P	PKPdf	00 26 58.7	-1.4
	SNR=12						
VT1	Waterbury	122.70	55	IAMs_20	IAMs_20	01 23 21.2	
	comp=Z,793nm,18.0s						
UCH	Uchtor	122.88	302	P	PKPdf	00 27 00.3	-0.5
	SNR=16						
BRYW	Bryant College	122.89	58	IAMs_20	IAMs_20	01 19 27.5	
	comp=Z,939nm,20.0s						
CHMS	Chumysh	122.92	303	P	PKPdf	00 26 59.4	-1.0
	SNR=16						
WIN	Windhoek	122.95	197	IAMs_20	IAMs_20	01 29 11.7	
	comp=Z,953nm,18.0s						
AAK	Ala-Archa	123.00	303	P	PKPdf	00 26 59.8	-0.9
	SNR=12						
AAK	Ala-Archa	123.00	303	PKPdf	PKPdf	00 26 59.7	-0.9
AAK	Ala-Archa	123.00	303	PKIKP	PKPdf	00 26 59.7	-0.9
HRV	Adam Dziewonsk	123.04	58	IAMs_20	IAMs_20	01 15 36.4	
	comp=Z,827nm,20.0s						
HRV	Adam Dziewonsk	123.04	58	P	PKiKP	00 27 01.8	+1.1
	baz=254						
SGDS	Sogindy	123.13	304	*e*PKP	PKPdf	00 27 00.3	-0.4
	baz=304						
SGDS	Sogindy	123.13	304	*e*PKIKP	PKPdf	00 27 00.3	-0.4
USP	Ospenovka	123.17	303	P	PKPdf	00 26 59.8	-1.1
	SNR=12						
LBNH	Lisbon	123.25	55	IAMs_20	IAMs_20	01 23 12.4	
	comp=Z,759nm,19.0s						
LBNH	Lisbon	123.25	55	P	PKiKP	00 27 02.0	+0.9
	baz=255						
LBNH	Lisbon	123.25	55	P	PKiKP	00 27 01.4	+0.3
	baz=255						
AML	Almayashu	123.43	302	P	PKPdf	00 27 00.8	-1.0
	SNR=19						
M65A	Busby, Falmout	123.43	59	IAMs_20	IAMs_20	01 12 26.9	
	comp=Z,909nm,20.0s						
M65A	Busby, Falmout	123.43	59	P	PKiKP	00 27 02.6	+1.2
	baz=254						
EKS2	Erkin-Say	123.52	303	P	PKPdf	00 27 01.1	-0.6
	SNR=8.1						
BTLS	Baital	123.95	305	*e*PKP	PKPdf	00 27 00.8	-1.4
	baz=305						
BTLS	Baital	123.95	305	*e*PKIKP	PKPdf	00 27 00.8	-1.4
I63A	Otisfield	124.14	56	P	PKiKP	00 27 03.9	+1.0
	baz=256						
I63A				P	PKiKP	00 27 03.9	+1.0
	baz=256						
G62A	West of Eustis	124.46	55	P	PKPdf	00 27 03.3	+0.1
	baz=256,SNR=7.1						
G62A				P	PKPdf	00 27 03.3	+0.1
	baz=256,SNR=7.1						
LDAQ	Lac Daran	124.60	51		PKiKP	00 27 04.3	+0.6
KBL	Kabul	124.67	292	PKPdf	PKPdf	00 27 03.5	-0.7
KBL	Kabul	124.67	292	PKIKP	PKPdf	00 27 03.5	-0.7
WVL	Waterville	124.91	56	P	PKiKP	00 27 04.7	+0.4
	baz=256						
F62A	Pittston Farm,	125.00	54	P	PKiKP	00 27 04.9	+0.4
	baz=257,SNR=6.3						
F62A				P	PKiKP	00 27 04.9	+0.4
	baz=257,SNR=6.3						
DZA	Taraz	125.32	302	*e*PKP	PKPdf	00 27 03.5	-1.5
	baz=302						
DZA	Taraz	125.32	302	*e*PKIKP	PKPdf	00 27 03.4	-1.5
PKME	Peaks-Kenny Pk	125.32	55	IAMs_20	IAMs_20	01 17 48.1	
	comp=Z,767nm,18.0s						
PKME	Peaks-Kenny Pk	125.32	55	P	PKiKP	00 27 05.8	+0.7
	baz=257						
PKME	Peaks-Kenny Pk	125.32	55	P	PKPdf	00 27 04.5	-0.2
	baz=257,SNR=12						
E62A	Clayton Lake	125.46	53	P	PKiKP	00 27 05.9	+0.5
	baz=258						
E62A				P	PKiKP	00 27 05.9	+0.5
	baz=258						
F63A	Nahmakanta, Br	125.55	54	P	PKiKP	00 27 06.0	+0.4
	baz=258,SNR=5.8						
F63A				P	PKiKP	00 27 06.0	+0.4
	baz=258,SNR=5.8						
ALE	Alert	125.68	8	IAMs_20	IAMs_20	01 14 27.2	
	comp=Z,1µm,21.0s						
LSZ	Lusaka	125.78	212	PKPdf	PKiKP	00 27 07.5	+0.3
LSZ				IAMs_20	IAMs_20	01 23 47.6	
	comp=Z,835nm,19.0s						
LSZ	Lusaka	125.78	212	PKIKP	PKiKP	00 27 07.5	+0.3
LSZ				MLR	MLR		
	comp=Z,800nm,19.0s						
D62A	Allapoint, All	125.87	53	P	PKiKP	00 27 06.2	0.0
	baz=258						
D62A				P	PKiKP	00 27 06.2	0.0
	baz=258						
BRZS	Berezniki	125.90	311	*e*PKP	PKPdf	00 27 04.0	-1.8
	baz=311						

BRZS	Berezniki	125.90	311	ePKIKP	PKPdf	00 27 04.0	-1.8
KK31	Karatay Array	125.95	302	i PKIKP	PKPdf	00 27 04.9	-1.2
TSUM	Tsumeb	126.03	199		PKiKP	00 27 08.2	+0.6
F64A	Sherman	126.10	54	P	PKiKP	00 27 06.8	+0.2
	baz=258,SNR=5.6						
F64A				P	PKiKP	00 27 06.8	+0.2
	baz=258,SNR=5.6						
E63A	Oxbow	126.16	54	P	PKPdf	00 27 06.6	+0.2
	baz=258						
E63A				P	PKPdf	00 27 06.6	+0.2
	baz=258						
CHM	Chimkent	126.42	301	ePKP	PKPdf	00 27 06.2	-0.9
	baz=301						
CHM	Chimkent	126.42	301	ePKIKP	PKPdf	00 27 06.1	-0.9
EMMW	East Machias	126.47	56	IAMs_20	IAMs_20	01 13 20.9	
	comp=Z,956nm,20.0s						
G65A	Princeton	126.50	55	P	PKPdf	00 27 07.2	+0.2
	baz=258,SNR=5.9						
G65A				P	PKPdf	00 27 07.2	+0.2
	baz=258,SNR=5.9						
BVA0	Borovoye Array	127.74	315	PKIKP	PKPdf	00 27 07.5	-1.7
BVAR	Borovoye Array	127.74	315	PKP	PKPdf	00 27 08.8	-0.4
	comp=Z,16nm,0.5s,baz=149,slow=1.9,SNR=68						
BRVK	Borovoye	127.81	315	PKPdf	PKPdf	00 27 08.6	-0.7
BRVK	Borovoye	127.81	315c	i PKIKP	PKPdf	00 27 08.0	-1.3
BRVK				pmax	pmax		
	comp=Z,32nm,1.3s						
BATG	Bathurst New B	127.92	53	PKPdf	PKiKP	00 27 11.0	+0.7
SCHQ	Schefferville	128.34	43	PKP	PKiKP	00 27 11.0	+0.1
	comp=Z,16nm,1.1s,baz=271,slow=4.4,SNR=11						
KULLO	Kullorsuaq	129.54	17	i P	PKiKP	00 27 13.1	+0.4
KULLO				IAmb	IAmb	00 27 14.0	
	comp=Z,22nm,0.6s						
NEEM	North Greenlan	129.66	13	i P	PKPdf	00 27 12.8	+0.3
NEEM				IAmb	IAmb	00 27 14.7	
	comp=Z,44nm,0.6s						
NOR	Nord	130.61	3	i P	PKPdf	00 27 14.0	+0.1
NOR				IAmb	IAmb	00 27 16.3	
	comp=Z,3.5nm,0.9s						
KMBO	Kilima Mbogo	132.23	232	IAMs_20	IAMs_20	01 16 48.5	
	comp=Z,698nm,20.0s						
KMBO	Kilima Mbogo	132.23	232c	i PKIKP	PKiKP	00 27 20.1	-0.2
KMBO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KMBO	Kilima Mbogo	132.23	232	PKP	PKiKP	00 27 20.7	+0.4
	comp=Z,6.9nm,0.9s,baz=31,slow=1.3,SNR=14						
KMBO				SKPbc	SKPbc	00 30 41.9	-1.5
	comp=Z,15nm,0.9s,baz=99,slow=3.0,SNR=25						
SVE	Sverdlovsk	133.41	319	i PKIKP	PKPdf	00 27 19.8	0.0
SVE				pmax	pmax		
	comp=Z,17nm,0.8s						
SVE				MLR	MLR		
	comp=Z,884nm,19.0s						
SPA0	Spitsbergen Ar	134.05	356	ePKPdf	PKPdf	00 27 20.9	+0.5
SPA0				IAmb	IAmb	00 27 22.0	
	comp=Z,119nm,1.1s						
SPITS	Spitsbergen Ar	134.05	356	PKP	PKiKP	00 27 21.2	-0.6
	comp=Z,66nm,0.8s,baz=67,slow=6.4,SNR=14						
SPITS				SKPbc	SKPbc	00 30 47.9	+0.6
	comp=Z,10nm,0.7s,baz=58,slow=7.2,SNR=7.7						
AB31	Akbulak array	134.05	309	i PKIKP	PKPdf	00 27 20.0	-1.2
GEYT	Alibeck	134.07	293	PKP	PKiKP	00 27 22.5	-0.6
	comp=Z,8.1nm,0.8s,baz=207,slow=1.7,SNR=12						
GEYT				SKPbc	SKPbc	00 30 45.6	-3.0
	comp=Z,6.0nm,0.9s,baz=79,slow=3.9,SNR=5.3						
SFJD	Kangerlussuaq	134.37	26	i P	PKiKP	00 27 24.1	+1.4
SFJD				IAmb	IAmb	00 27 25.0	
	comp=Z,7.2nm,0.7s						
ARU	Arti	134.59	319	PKPdf	PKPdf	00 27 20.4	-1.6
ARU	Arti	134.59	319	i PKIKP	PKPdf	00 27 19.9	-2.1
ARU				MLR	MLR		
	comp=Z,895nm,21.0s						
DAG	Danmarks Havn	134.97	6	i P	PKPdf	00 27 21.2	-1.0
DAG				IAmb	IAmb	00 27 24.2	
	comp=Z,8.8nm,0.6s						
SUMG	Summit	135.13	16	PKPdf	PKiKP	00 27 25.3	+0.7
SUMG	Summit	135.13	16	PKIKP	PKiKP	00 27 25.3	+0.7
SUMG	Summit	135.13	16	i P	PKiKP	00 27 24.5	-0.1
SUMG				IAmb	IAmb	00 27 27.6	
	comp=Z,19nm,1.0s						
AKTO	Aktyubinsk	135.31	311	PKIKP	PKPdf	00 27 22.5	-1.1
LODK	Lodwar	136.84	235	IAMs_20	IAMs_20	01 22 24.7	
	comp=Z,751nm,20.0s						
ICESG	Greenland Ices	136.98	20	i P	PKiKP	00 27 28.3	-0.1
ICESG				IAmb	IAmb	00 27 30.0	
	comp=Z,24nm,0.9s						
DBG	Daneborg	137.04	8	i P	PKPdf	00 27 26.1	0.0
DBG				IAmb	IAmb	00 27 29.0	
	comp=Z,19nm,0.7s						
FURI	Furi	138.18	244	IAMs_20	IAMs_20	01 25 12.4	
	comp=Z,682nm,21.0s						
KIRV	Kirov	138.97	324c	i PKIKP	PKPdf	00 27 29.2	-0.8
PRGR	Permogore	139.63	329	ePKIKP	PKPdf	00 27 29.8	-1.3
PRGR				pmax	pmax		
	comp=Z,17nm,0.6s						
LVZ	Lovozero	139.96	341	i PKIKP	PKPdf	00 27 31.5	-0.2
HAMF	Hammerfest	140.18	349	ePKPdf	PKiKP	00 27 33.4	-1.0
APA	Apatity	140.53	341	⇓i PKIKP	PKPdf	00 27 32.3	-0.3
APA				pmax	pmax		
	comp=Z,14nm,0.7s						
ARA0	ARCESS Array S	140.81	347	ePKPdf	PKPpre	00 27 28.4	
ARCES	ARCESS Array B	140.81	347	PKhKP	PKPpre	00 27 28.1	
	comp=Z,7.0nm,0.6s,baz=32,slow=2.9,SNR=43						
ARCES				SKPbc	SKPbc	00 31 05.1	-2.2
	comp=Z,2.2nm,0.5s,baz=45,slow=2.1,SNR=4.9						
BELG	Belogornoye	141.55	315	i PKIKP	PKPdf	00 27 34.1	-0.8
KTK1	Kautokeino	141.68	348	ePKPdf	PKPpre	00 27 30.2	
KTK1				IAmb	IAmb	00 27 34.3	
	comp=Z,111nm,1.7s						
TRO	Tromso	141.83	350	ePKPdf	PKPdf	00 27 32.0	-2.9
KLMR	Klimovskoe	142.61	330	ePKPdf	PKPpre	00 27 31.4	
KLMR				AMP		00 27 44.3	
	comp=Z,29nm,1.1s						
KLMR				eSKP		00 31 15.6	
KLMR				LQ	LQ	01 17 04.6	
KLMR				LQ	LQ	01 17 04.6	
KLMR				LR	LR	01 21 18.8	
KLMR				LRM	MLR	01 31 49.0	
KLMR				AMP		01 32 00.9	
	comp=Z,1µm,15.4s						
KLMR	Klimovskoe	142.61	330	ePKHKP	PKPpre	00 27 31.4	
KLMR				pmax	pmax		
	comp=Z,29nm,1.1s						
KLMR				MLR	MLR		
	comp=Z,1µm,15.0s						
MAK	Makhachkala	142.64	299	i P	Pdif	00 24 57.4	-1.5
MAK				e		00 30 41.9	
MAK				ePPP	PPP	00 33 51.6	
MAK				e		00 34 45.3	
MAK				eSSS	SSS	00 54 35.3	
MAK				pmax	pmax		
	comp=Z,304nm,1.2s						
STEI	Steigen	143.92	351	ePKPdf	PKPbc	00 27 37.5	+1.0
FAUS	Fauske	144.43	351	ePKPdf	PKPdf	00 27 39.0	-0.6
GNI	Garni	144.67	295	PKPdf	PKPdf	00 27 41.0	-0.1
GNI	Garni	144.67	295c	i PKIKP	PKPab	00 27 38.6	-1.2
GNI				pmax	pmax		
	comp=Z,57nm,1.7s						
BORG	Borgarnes	145.10	17		PKPdf	00 27 41.8	+1.0
BORG	Borgarnes	145.10	17	PKIKP	PKPdf	00 27 41.8	+1.0
ZEI	Tsey	145.29	299	i PKIKP	PKPbc	00 27 40.6	-1.4
ZEI				pmax	pmax		
	comp=Z,15nm,0.6s						
VRH	Novokhopyorsk	145.40	314	ePKP2	PKPbc	00 27 40.1	-1.6
VRH				pmax	pmax		
	comp=Z,91nm,0.7s						
KONS	Konsvik	145.54	352	ePKPbc	PKPdf	00 27 41.1	-0.3
KONS				IAmb	IAmb	00 27 42.7	
	comp=Z,191nm,1.2s						
VALR	Valaam	145.66	335	i PKIKP	PKPdf	00 27 41.8	0.0
MOR8	Moi Rana	145.68	351	ePKPbc	PKPdf	00 27 40.4	-1.4
STOK	Stokkvaagen	145.71	352	ePKPab	PKPbc	00 27 42.2	0.0
GOF	Gofitskoye	145.74	303c	ePKIKP	PKPdf	00 27 41.5	-1.0
KBZ	Khabaz	145.97	301c	i PKP2	PKPdf	00 27 41.5	-1.4
KBZ	Khabaz	145.97	301	PKPbc	PKPdf	00 27 43.1	+0.2
	comp=Z,50nm,0.9s,baz=158,slow=2.9,SNR=44						
MOS	Moscow	145.99	323	i PKIKP	PKPdf	00 27 41.8	-0.8
MOS				pmax	pmax		
	comp=Z,232nm,1.3s						
MOS				MLR	MLR		
	comp=Z,800nm,22.0s						
KIV	Kislovodsk	146.10	301	⇑P	PKPbc	00 27 43.8	-0.5
KIV	Kislovodsk	146.10	301	PKPdf	PKPdf	00 27 42.8	-0.6
KIV				IAMs_20	IAMs_20	01 36 46.8	
	comp=Z,836nm,20.0s						
KIV	Kislovodsk	146.10	301	i PKIKP	PKPdf	00 27 42.4	-0.9
KIV				e		00 31 00.6	
KIV				eSS	SS	00 49 54.2	-6.5
KIV				eSSS	SSS	00 55 25.2	
KIV				pmax	pmax		
	comp=Z,40nm,1.0s						
SHA1	Shidzhatmaz	146.14	301	ePKP2	PKPdf	00 27 43.5	-0.1
NEUR	Neytrino	146.15	300	ePKP2	PKPdf	00 27 42.9	-0.6
LPSR	Galich'ya Gora	146.58	318	ePKIKP	PKPdf	00 27 43.4	-0.3
LPSR				pmax	pmax		
	comp=Z,280nm,1.3s						
VORR	Voronezh	146.75	316	ePKIKP	PKPdf	00 27 43.4	-0.6
VORR				pmax	pmax		
	comp=Z,170nm,0.8s						
OBN	Obninsk	146.81	323	⇓P	PKPbc	00 27 45.3	-0.5
OBN	Obninsk	146.81	323		PKPbc	00 27 45.4	-0.4
OBN	Obninsk	146.81	323c	i PKIKP	PKPdf	00 27 43.0	-1.0
OBN				e		00 31 10.5	
OBN				pmax	pmax		
	comp=Z,332nm,2.5s						
OBN				MLR	MLR		
	comp=Z,846nm,21.0s						
VSR	Storozhevoye	146.92	315	ePKIKP	PKPdf	00 27 43.6	-0.7
VSR				pmax	pmax		
	comp=Z,90nm,0.8s						
VORD	Divnogorie	146.93	315	ePKP2	PKPdf	00 27 44.6	+0.3
VORD				pmax	pmax		
	comp=Z,70nm,0.7s						
PUL	Pulkovo	146.93	333c	i PKP2	PKPdf	00 27 45.0	+1.0
PUL				pmax	pmax		
	comp=Z,288nm,1.0s						
FINES	FINESS Array B	147.20	338c	i PKP2	PKPdf	00 27 45.2	+0.8
FINES				pmax	pmax		
	comp=Z,79nm,0.5s						
FINES	FINESS Array B	147.20	338	PKPbc	PKPdf	00 27 45.3	+0.9
	comp=Z,79nm,0.5s,baz=47,slow=3.4,SNR=510						
NSS	Namsos	147.57	352	ePKPdf	PKPdf	00 27 44.9	-0.1
SOC	Sochi	148.28	301	ePKIKP	PKPdf	00 27 45.1	-1.7
SOC				i		00 27 49.8	
SOC				e		00 31 15.6	
SOC				eSS	SS	00 50 23.1	-2.0
SOC				eSSS	SSS	00 55 55.6	
SOC				pmax	pmax		
	comp=Z,12nm,0.8s						
SOC				pmax	pmax		
	comp=Z,46nm,1.0s						
SOC				MLR	MLR		
	comp=Z,399nm,19.0s						
KTUT	Trabzon	148.46	296	⇓P	PKPbc	00 27 49.8	-1.0
MEF	Metsahovi	148.67	338	eP	PKPbc	00 27 50.6	0.0
RAF	Rauma	148.80	341	eP	PKPbc	00 27 50.4	-0.6
TBLU	Trondheim	149.01	352	ePKPdf	PKPdf	00 27 47.9	+0.5
ARPR	Arapgir-MALATY	149.60	292	PKPbc	PKiKP	00 27 55.4	+0.4
ARPR				IAMs_20	IAMs_20	01 40 27.9	
	comp=Z,703nm,21.0s						
ANN	Anapa	149.72	304	i PKIKP	PKPdf	00 27 48.1	-1.0
MOL	Molde	149.95	354	ePKPbc	PKPbc	00 27 53.8	0.0
MOL				IAmb	IAmb	00 27 55.4	
	comp=Z,44nm,0.7s						
MTSE	Matsula	150.02	337	eP	PKPbc	00 27 53.9	-0.2
DOMB	Dombas	150.32	353	ePKPbc	PKPbc	00 27 54.6	-0.2
AKN	Aaknes	150.38	355	ePKPdf	PKPdf	00 27 50.2	+0.6
AKN				ePKPbc	PKPbc	00 27 55.4	+0.4
GAZ	Gaziantep	150.46	289	PKPbc	PKPbc	00 27 55.8	-0.2
EKNA	AfricaArray -	150.64	196⇑	eP	PKiKP	00 27 59.0	+1.3
NB2	NORSAR Subarra	151.03	350	PKP	PKPbc	00 27 56.1	-0.4
	comp=Z,367nm,1.7s,baz=17,slow=2.6						
NB2	NORSAR Subarra	151.03	350	PKP	PKPbc	00 27 56.1	-0.4
	baz=17,slow=2.6						
NOA	NORSAR Array B	151.03	350	PKP	PKPdf	00 27 51.2	+0.5
	comp=Z,21nm,1.2s,baz=28,slow=1.8,SNR=12						
NOA				PKPbc	PKPbc	00 27 56.8	+0.3
	comp=Z,42nm,0.7s,baz=14,slow=4.1,SNR=76						
GHAJ	Ghor Haditha	151.08	276		PKPbc	00 27 57.5	0.0
FOO	Floro	151.09	356	ePKPdf	PKPdf	00 27 51.5	+0.9
FOO				ePKPbc	PKiKP	00 27 57.0	0.0
FOO				IAmb	IAmb	00 27 57.8	
	comp=Z,148nm,0.7s						
HWQ	Hawqa	151.26	283	eP	PKPdf	00 27 50.0	-2.0
NC602	NORSAR Array S	151.27	350	ePKPbc	PKPbc	00 27 56.8	-0.3
IDID	Didziasalis	151.34	329	eP	PKPbc	00 27 56.9	-0.4
MNK	Minsk	151.36	327	i PKP	PKPbc	00 27 55.7	-1.7
	comp=E,21nm,1.2s						
MNK				i PKP	PKPbc	00 27 55.7	-1.7
	comp=N,25nm,0.8s						
MNK				i PKP	PKPbc	00 27 55.7	-1.7
	comp=Z,155nm,0.9s,baz=51						
MNK				i PP	PP	00 31 46.0	+10
MNK				i SKKS		00 44 22.3	
MNK				i SS	SS	00 50 32.8	-25
MNK				i SSS	SSS	00 57 13.2	
MNK				i LQ	LQ	01 28 04.7	
MNK				i LR	LR	01 35 35.3	
MNK				i LRM	MLR	01 37 26.0	
	comp=N,683nm,22.1s						
MNK				i LRM	MLR	01 37 51.4	
	comp=Z,823nm,19.6s						
MNK				i LRM	MLR	01 38 11.8	
	comp=E,208nm,20.6s						
MNK	Minsk	151.36	327	i PKIKP	PKPbc	00 27 55.7	-1.7
MNK						00 28 04.6	
MNK				i		00 31 46.0	
MNK				pmax	pmax		
	comp=Z,155nm,1.0s						
MNK				pmax	pmax		
	comp=E,21nm,1.2s						
MNK				pmax	pmax		
	comp=N,25nm,0.8s						
SLIT	Slitere, Latvi	151.37	336	eP	PKPbc	00 27 57.0	-0.3
ISAL	Salakas	151.43	330	eP	PKiKP	00 27 58.9	+0.9
HYA	Hoyanger	151.44	355	ePKPbc	PKiKP	00 27 57.7	-0.1
BHL	Bhannes	151.45	282	eP	PKPdf	00 27 49.9	-2.4
HFS	Hagfors	151.47	347	PKP	PKPdf	00 27 50.7	-0.6
	comp=N,9.8nm,0.8s,baz=111,slow=3.3,SNR=9.6						
HFS				PKPbc	PKPbc	00 27 57.2	-0.3
	comp=N,88nm,0.6s,baz=116,slow=3.4,SNR=64						
MMAI	Mount Meron Ar	151.53	280	PKPbc	PKiKP	00 27 58.9	-0.2
	comp=N,35nm,0.5s,baz=74,slow=6.2,SNR=97						
NACGM	Naroch	151.59	329	ePKiKP	PKPbc	00 27 57.1	-0.8
	comp=E,5µm,1.0s						
SUE	Sulen	151.64	357	ePKPbc	PKiKP	00 27 58.1	-0.1
SKAR	Skarslia	151.74	353	ePKPdf	PKPdf	00 27 51.7	-0.1
SKAR				ePKPbc	PKPbc	00 27 58.4	+0.3
SKAR				IAmb	IAmb	00 27 59.9	
	comp=Z,127nm,0.7s						
DIKM	Dikmen	151.78	298	⇑P	PKPbc	00 27 56.8	-2.0
SIM	Simferopol'	151.99	305	i PKIKP	PKPbc	00 27 58.1	-1.1
SIM				pmax	pmax		
	comp=Z,132nm,0.8s						
VSVD	Vaisvydziai	152.03	333	eP	PKPbc	00 27 58.8	-0.1
OSL	Oslo	152.16	350	ePKPbc	PKiKP	00 27 59.5	+0.1
ASK	Askoy	152.19	356	ePKPbc	PKiKP	00 27 59.9	+0.5
BER	Bergen	152.28	356	ePKPbc	PKiKP	00 28 00.4	+0.8
VIKU	Vikbolandet	152.29	343	eP	PKPbc	00 27 58.9	-0.5
PABE	Paberze	152.36	332	eP	PKiKP	00 27 59.9	0.0
KONO	Kongsberg	152.59	351		PKPbc	00 27 60.0	0.0
KONO	Kongsberg	152.59	351	ePKPbc	PKPbc	00 28 00.1	+0.1
KONO	Kongsberg	152.59	351	⇑PKIKP	PKPbc	00 27 59.4	-0.6
ODD1	Odda	152.65	354	ePKPbc	PKPbc	00 28 00.4	+0.2
PBUR	Paburge	152.74	335	eP	PKPbc	00 28 00.2	-0.2
AKASG	Malin Array Be	152.84	319	PKP	PKPdf	00 27 53.6	-0.1
	comp=Z,4.0nm,0.7s,baz=51,slow=1.5,SNR=16						
AKASG				PKPbc	PKPbc	00 28 00.7	-0.1
	comp=Z,16nm,0.6s,baz=43,slow=2.7,SNR=36						
KIEV	Kiev	152.86	319	⇑P	PKPbc	00 27 57.4	-3.4
KIEV	Kiev	152.86	319	PKPdf	PKPdf	00 27 53.6	-0.1
KIEV	Kiev	152.86	319	PKIKP	PKPdf	00 27 53.6	-0.1
LIC	Lamto	152.89	166	eP	PKPdf	00 27 55.9	+1.0
	comp=Z,130nm,0.6s						
STRU	Stroemstad	152.95	349	i P	PKPbc	00 27 59.6	-1.2
KIC	Kosan Boka	153.08	166	ePKIKP	PKPdf	00 27 56.2	+1.0
	comp=Z,68nm,0.7s						
BLS5	Blasjo	153.15	354	ePKPbc	PKiKP	00 28 01.8	+0.3
BLS5				IAmb	IAmb	00 28 03.5	
	comp=Z,43nm,0.9s						
BRTR	Keskin Array B	153.21	294	PKP	PKPdf	00 27 53.3	-1.5
	comp=Z,2.8nm,1.0s,baz=150,slow=2.7,SNR=18						
BRTR				PKPbc	PKPbc	00 28 00.9	-1.3
	comp=Z,12nm,0.6s,baz=144,slow=3.6,SNR=63						
TIC	Toumodi	153.30	166	ePKIKP	PKPdf	00 27 55.5	0.0
	comp=Z,52nm,0.9s						
DBIC	Dimbokro	153.36	166	⇑PKIKP	PKPdf	00 27 55.5	-0.1
DBIC	Dimbokro	153.36	166	PKP	PKPdf	00 27 56.9	+1.3
	comp=Z,38nm,1.0s,baz=193,slow=2.1,SNR=23						
SUW	Suwalki	153.74	330	eP	PKiKP	00 28 02.9	+0.1
TJOU	Tjoern	153.82	348	i P	PKPbc	00 28 01.9	-0.8
ANTO	Ankara	153.84	295	⇑P	PKPbc	00 28 01.5	-2.0
ANTO	Ankara	153.84	295	IAMs_20	IAMs_20	01 43 09.4	
	comp=Z,598nm,20.0s						
ANTO	Ankara	153.84	295	⇑PKIKP	PKPbc	00 28 01.5	-2.0
BORU	Boraas	153.97	346	i P	PKPbc	00 28 01.3	-1.8
HOMB	Homborsund	154.07	351	ePKPbc	PKPbc	00 28 03.4	+0.1
HOMB	Homborsund	154.07	351	i P	PKPbc	00 28 02.8	-0.4
SNART	Snartemo	154.15	353	ePKPbc	PKPbc	00 28 03.5	+0.1
SNART	Snartemo	154.15	353	i P	PKiKP	00 28 03.7	+0.2
PURM	Purcari	154.32	311	⇓P	PKPdf	00 27 45.1	-11
ONAU	Onsala	154.37	347	i P	PKPbc	00 28 02.2	-1.7
FABU	Falkenberg	154.57	346	i P	PKPbc	00 28 04.1	-0.3
SORM	Soroca	154.59	315	⇑P	PKPdf	00 27 58.0	+1.8
SORM	Soroca	154.59	315	⇑PKIKP	PKPdf	00 27 58.0	+1.8
DEL	Delary	154.80	344	eP	PKPbc	00 28 03.7	-1.2
DEL	Delary	154.80	344	i P	PKPbc	00 28 03.7	-1.2
MILM	Milestii Mici	154.83	312	ePKP	PKPdf	00 28 00.8	+4.2
	comp=Z,19nm,0.4s						
MILM	Milestii Mici	154.83	312	⇓P	PKPbc	00 28 03.0	-2.3
MILM	Milestii Mici	154.83	312	⇓PKIKP	PKPbc	00 28 03.0	-2.3
VLDR	Vladesti	155.73	310	⇓P	PKPdf	00 28 06.4	+8.6
MUD	Monsted U'grnd	155.74	349	i P	PKPdf	00 28 00.5	+3.0
BSD	Bornholm Skovb	155.75	341	eP	PKPdf	00 28 07.4	+10
BSD	Bornholm Skovb	155.75	341	i P	PKPdf	00 28 06.7	+9.1
LVV	L'vov	156.11	322	ePKIKP	PKPdf	00 27 58.2	-0.1
TESR	Tescani	156.35	313	⇓P	PKPdf	00 28 02.3	+3.6
ODBI	Odobesti	156.42	311	⇓P	PKPab	00 28 24.1	-3.3
VRI	Vrincioaia	156.58	311	⇓P	PKPab	00 28 28.2	0.0
VRI	Vrincioaia	156.58	311	⇓PKP2	PKPab	00 28 28.2	0.0
PLOR	Plostina	156.64	311	⇓P	PKPab	00 28 28.6	+0.2
PLOR	Plostina	156.64	311	⇓PKP2	PKPab	00 28 28.6	+0.2
BURAR	Bucovina Array	156.68	316	⇓P	PKPdf	00 28 00.4	+1.1
BURAR	Bucovina Array	156.68	316	⇓PKIKP	PKPdf	00 28 00.4	+1.1
COVR	Voineasa-Covas	156.92	312	⇓P	PKPdf	00 27 59.5	0.0
TURR	Turia	156.95	312	⇓P	PKPab	00 28 29.3	-0.4
EKA	Eskdalemuir Ar	157.24	7	PKP	PKPdf	00 27 59.9	+0.4
	comp=Z,1.8nm,0.7s,baz=342,slow=1.8,SNR=6.9						
EKA				PKPab	PKPab	00 28 30.7	+0.1
	comp=Z,7.5nm,0.6s,baz=329,slow=2.3,SNR=8.8						
MLR	Muntele Rosu	157.24	311	⇑P	PKPdf	00 27 59.6	-0.4
MLR	Muntele Rosu	157.24	311	⇑PKIKP	PKPdf	00 27 59.6	-0.4
MLR	Muntele Rosu	157.24	311	PKP	PKPdf	00 28 00.6	+0.6
	comp=Z,11nm,1.2s,baz=352,slow=5.9,SNR=6.3						
DOPR	Dopca	157.38	313	⇓P	PKPdf	00 28 00.4	+0.4
KOLS	Kolonicke sedl	157.56	322	ePKP	PKPdf	00 28 00.6	+0.4
KOLS	Kolonicke sedl	157.56	322	ePKIKP	PKPdf	00 28 00.6	+0.4
BSEG	Bad Segeberg	157.93	346	ePKPdf	PKPdf	00 28 00.5	+0.1
CRVS	Cervenica-Dubn	157.99	323	ePKP	PKPdf	00 28 01.1	+0.4
CRVS				e		00 28 33.5	
CRVS	Cervenica-Dubn	157.99	323	ePKIKP	PKPdf	00 28 01.1	+0.4
CRVS				e		00 28 33.5	
CJR	Cluj-Napoca	158.09	316	⇓P	PKPdf	00 27 57.3	-3.6
CJR	Cluj-Napoca	158.09	316	⇓PKIKP	PKPdf	00 27 57.3	-3.6
ARR	Arges	158.12	312	⇓P	PKPdf	00 28 00.9	-0.2
HUMR	Humele	158.27	309	⇓P	PKPab	00 28 35.0	-0.4
MARR	Marisel-Cluj	158.40	316	⇑P	PKPdf	00 28 02.2	+0.8
LANS	Liptovska Anna	158.81	326	ePKP	PKPdf	00 28 02.5	+0.8
LANS				e		00 28 37.6	
LANS	Liptovska Anna	158.81	326	ePKIKP	PKPdf	00 28 02.5	+0.8
LANS				e		00 28 37.6	
VLAD	Vladila	158.86	309	⇑P	PKPab	00 28 37.7	-0.3
OKC	Ostrava-Krasne	158.92	329	AMS	AMS	01 39 40.0	
	comp=Z,1µm,16.9s						
OSTC	Ostas	159.16	333	ePKPDF	PKPdf	00 28 02.6	+0.5
OSTC				ePKPAB	PKPab	00 28 39.0	-0.1
OSTC				AMS	AMS	01 42 10.0	
	comp=Z,800nm,19.9s						
OSTC	Ostas	159.16	333	ePKIKP	PKPdf	00 28 02.6	+0.5
OSTC				e		00 28 39.0	
OSTC				MLR	MLR		
	comp=Z,800nm,19.9s						
MORC	Moravsky Berou	159.22	329	PKPab	PKPab	00 28 39.9	+0.5
MORC	Moravsky Berou	159.22	329	ePKP	PKPdf	00 28 02.2	0.0
MORC				e		00 28 40.2	
MORC	Moravsky Berou	159.22	329	PKP2	PKPab	00 28 39.9	+0.5
RETH	Rethem/Aller,	159.26	346	ePKPdf	PKPdf	00 28 01.7	-0.3
UPC	Upice	159.28	333	ePKPDF	PKPdf	00 28 02.3	+0.1
UPC				ePKPAB	PKPab	00 28 39.3	-0.3
UPC				AMS	AMS	01 42 20.0	
	comp=Z,1µm,19.9s						
UPC	Upice	159.28	333	ePKIKP	PKPdf	00 28 02.3	+0.1
UPC				e		00 28 39.3	
UPC				MLR	MLR		
	comp=Z,1µm,19.9s						
DPC	Dobruska-Polom	159.28	332	ePKPDF	PKPdf	00 28 01.9	-0.4
DPC				ePKPAB	PKPab	00 28 38.9	-0.8
DPC				AMS	AMS	01 41 30.0	
	comp=Z,1µm,24.1s						
DPC	Dobruska-Polom	159.28	332	ePKIKP	PKPdf	00 28 01.9	-0.4
DPC				e		00 28 38.9	
DPC				MLR	MLR		
	comp=Z,1µm,24.1s						
KRLC	Kraliky	159.31	331	AMS	AMS	01 38 30.0	
	comp=Z,2µm,24.3s						
MAUC	Maruska	159.41	328	ePKPDF	PKPdf	00 28 02.5	+0.1
MAUC				ePKPAB	PKPab	00 28 39.2	-1.0
PSZ	Piszkesteto	159.43	323		PKPdf	00 28 02.8	+0.2
PSZ	Piszkesteto	159.43	323	PKIKP	PKPdf	00 28 02.8	+0.2
SIRR	Siria	159.46	317	⇑P	PKPab	00 28 39.1	-1.5
SURR	Surduc	159.47	315	⇓P	PKPdf	00 28 05.6	+3.1
CLL	Collm	159.64	339	PKPdf	PKPdf	00 28 02.8	+0.2
CLL				PKPab	PKPab	00 28 41.0	-0.1
CLL	Collm	159.64	339⇓	i PKPdf	PKPdf	00 28 02.6	+0.1
	comp=Z,189nm,2.9s						
CLL				ePKPdif	sPKPdf	00 28 17.0	+1.9
CLL				i PKPab	PKPab	00 28 41.0	-0.1
	comp=Z,23nm,0.9s						
CLL				ePP	PP	00 32 20.0	-2.3
CLL				ePPP	PPP	00 36 00.0	
CLL				ePPPP		00 38 24.0	
CLL				ePSKS		00 42 47.0	
CLL				e(SPP)		00 45 30.0	
CLL				ex	x	00 47 00.0	
CLL				eSS	SS	00 52 42.0	+15
CLL				eSSS	SSS	00 58 48.0	
CLL				eSSSS		01 02 42.0	
CLL	Collm	159.64	339⇓	i PKIKP	PKPdf	00 28 02.6	+0.1
CLL				i		00 28 41.0	
CLL				pmax	pmax		
	comp=Z,189nm,2.9s						
BRG	Berggiesshubel	159.72	337⇓	ePKPf		00 28 03.2	
BRG				Amp		00 28 08.0	
	comp=Z,9.0nm,1.1s						
BRG				⇑i PKP	PKPab	00 28 43.1	+1.7
BRG				Amp		00 28 45.2	
	comp=Z,8.9nm,0.7s						
BRG	Berggiesshubel	159.72	337	PP	PP	00 32 21.0	-1.8
BRG	Berggiesshubel	159.72	337	SKKS		00 42 58.0	
BRG	Berggiesshubel	159.72	337	i PKP2	PKPab	00 28 43.1	+1.7
BRG						00 32 21.0	
BRG				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BRG	Berggiesshubel	159.72	337	ePKPdf	PKPdf	00 28 03.2	+0.5
BZS	Buzias	159.84	315	⇑P	PKPdf	00 28 02.4	-0.6
BZS	Buzias	159.84	315	⇑PKIKP	PKPdf	00 28 02.4	-0.6
JAVC	Velka Javorina	159.85	328	ePKP	PKPdf	00 28 04.0	+1.0
JAVC				e		00 28 42.9	
SANT	Santorini	159.90	287	IAMs_20	IAMs_20	01 49 14.9	
	comp=Z,527nm,21.0s						
RICC	Richard	159.94	336	AMS	AMS	01 44 40.0	
	comp=Z,1µm,22.0s						
VRAC	Vranov	159.98	330	⇑P	PKPdf	00 28 03.2	+0.1
VRAC	Vranov	159.98	330	ePKP	PKPdf	00 28 03.5	+0.5
VRAC				e		00 28 41.7	
VRAC	Vranov	159.98	330	PKP	PKPdf	00 28 03.2	+0.1
	comp=Z,6.2nm,1.0s,baz=63,slow=0.5,SNR=8.8						
VRAC				PKPab	PKPab	00 28 41.9	-0.8
	comp=Z,5.3nm,0.7s,baz=12,slow=1.5,SNR=7.1						
HSKC	Hora Svate Kat	160.11	337	ePKPAB	PKPab	00 28 43.5	+0.3
HSKC				AMS	AMS	01 47 50.0	
	comp=Z,1µm,21.4s						
BLKB	Belogradchik	160.16	309	⇓P	PKPdf	00 28 04.6	+1.1
SMOL	Smolenice	160.21	327	ePKIKP	PKPdf	00 28 04.6	+1.3
GOPC	GO Pecny, Ondr	160.22	334	ePKPAB	PKPab	00 28 42.5	-1.2
GOPC				AMS	AMS	01 43 20.0	
	comp=Z,1µm,20.2s						
GOPC	GO Pecny, Ondr	160.22	334	ePKP2	PKPab	00 28 42.5	-1.2
GOPC				MLR	MLR		
	comp=Z,1µm,20.2s						
PRU	Pruhonice	160.25	334	ePKPAB	PKPab	00 28 43.7	-0.1

PRU AMS AMS 01 41 30.0
comp=Z,900nm,19.3s
PRU Pruhonice 160.25 334 *e*PKP2 **PKPab 00 28 43.7 -0.1**
PRU MLR MLR
comp=Z,900nm,19.3s
KRUC Moravsky 160.25 330 *e*PKP **PKPdf 00 28 02.9 -0.4**
KRUC *e* 00 28 42.8
MODS Modra-Piesok 160.38 327 *e*PKP **PKPdf 00 28 03.6 +0.1**
MODS *e* 00 28 44.2
MODS Modra-Piesok 160.38 327 *e*PKIKP **PKPdf 00 28 03.6 +0.1**
MODS *e* 00 28 44.2
IDI Anoyia 160.39 284 ⇓P **PKPdf 00 28 04.8 +0.8**
IDI Anoyia 160.39 284 PKP **PKPdf 00 28 04.3 +0.3**
comp=Z,20nm,1.1s,baz=95,slow=6.4,SNR=5.7
IDI PKPab **PKPab 00 28 44.1 -1.0**
comp=Z,11nm,0.6s,baz=53,slow=5.8,SNR=5.6
TOA0 Torodi Ar. Sit 160.44 181 PKPdf **PKPdf 00 28 04.8 +0.3**
TOA0 PKPab **PKPab 00 28 46.3 +0.9**
TORD Torodi Ar. Bea 160.44 181 PKPab **PKPab 00 28 46.9 +1.5**
TORD Torodi Ar. Bea 160.44 181 PKP **PKPdf 00 28 04.9 +0.4**
comp=Z,13nm,1.0s,baz=164,slow=3.5,SNR=29
TORD PKPab **PKPab 00 28 47.3 +1.9**
comp=Z,30nm,0.7s,baz=169,slow=2.4,SNR=27
TORD PP **PP 00 32 28.6 +2.2**
comp=Z,5.2nm,1.0s,baz=143,slow=5.0,SNR=5.7
TREC Trest 160.45 332 AMS AMS 01 42 50.0
comp=Z,1μm,23.4s
TANN Tannenbergstha 160.59 338 *e*PKPdf **PKPdf 00 28 03.5 -0.3**
WERD Werda 160.61 339 *e*PKPab **PKPab 00 28 45.9 +0.5**
baz=16,slow=4.8
PLN Plauen 160.62 339 *e*PKPab **PKPab 00 28 46.0 +0.6**
baz=16,slow=4.8
MOX Moxa 160.64 340 *e*PKPdf **PKPdf 00 28 04.1 +0.4**
MOX *e*L L 01 42 22.8
comp=Z,691nm,22.0s
GUNZ Gunzen 160.68 338 *e*PKPdf **PKPdf 00 28 04.4 +0.6**
GUNZ *e*PKPab **PKPab 00 28 46.6 +0.9**
baz=16,slow=4.8
WERN Wernitzgruen 160.73 338 *e*PKPab **PKPab 00 28 46.6 +0.7**
baz=16,slow=4.8
NKC Novy Kostel 160.75 338 *e*PKPAB **PKPab 00 28 46.3 +0.3**
NKC Novy Kostel 160.75 338 *e*PKP2 **PKPab 00 28 46.3 +0.3**
ZVC Zvikov 160.83 334 *e*PKPDF **PKPdf 00 28 03.2 -0.8**
KASTN Kahler Asten 160.90 346 *e*PKPdf **PKPdf 00 28 03.9 -0.1**
MANZ Manzenberg 161.08 338 *e*PKPdf **PKPdf 00 28 03.8 -0.4**
FRGS Fruska Gora 161.16 316 ⇑P **PKPdf 00 28 01.0 -3.5**
MORH Mrgy, Hungar 161.18 320 ⇓P **PKPdf 00 28 02.8 -1.6**
CKRC Cesky Krumlov 161.29 333 *e*PKPDF **PKPdf 00 28 04.0 -0.5**
CKRC *ex* x 00 42 50.1
CKRC AMS AMS 01 39 00.0
comp=Z,1μm,21.6s
CKRC Cesky Krumlov 161.29 333 *e*PKIKP **PKPdf 00 28 04.0 -0.5**
CKRC MLR MLR
comp=Z,1μm,21.6s
KHC Kasperske Hory 161.31 334 **PKPab 00 28 48.2 -0.3**
KHC Kasperske Hory 161.31 334 *e*PKPDF **PKPdf 00 28 04.4 -0.1**
KHC *e*PKPAB **PKPab 00 28 47.9 -0.6**
KHC *ex* x 00 42 47.8
KHC AMS AMS 01 44 20.0
comp=Z,1μm,18.7s
KHC Kasperske Hory 161.31 334 *e*PKIKP **PKPdf 00 28 04.4 -0.1**
KHC *e* 00 28 47.9
KHC MLR MLR
comp=Z,1μm,18.7s
RONA Rosalia, Austr 161.32 327 *i* PKP **PKPdf 00 28 04.3 -0.3**
comp=Z,1.8nm,0.6s
RONA *i* PKP **PKPab 00 28 48.2 -0.4**
comp=Z,12nm,1.1s
CONA Conrad Observa 161.35 328 *i* PKP **PKPdf 00 28 04.0 -0.7**
comp=Z,4.4nm,0.7s
CONA *i* PKP **PKPab 00 28 48.6 -0.1**
comp=Z,11nm,0.9s
GEC2 GERESS Array S 161.50 334 *e*PKPdf **PKPdf 00 28 04.3 -0.5**
GERES GERESS Array B 161.50 334 PKP **PKPdf 00 28 04.6 -0.2**
comp=Z,11nm,1.1s,baz=357,slow=2.7,SNR=5.4
GERES PKPab **PKPab 00 28 48.8 -0.7**
comp=Z,4.1nm,0.7s,baz=38,slow=5.0,SNR=4.5
WET Wettzell 161.55 336 *e*PKPdf **PKPdf 00 28 04.8 0.0**
GRF Grafenberg Arr 161.60 339 *e*PKPdf **PKPdf 00 28 06.2 +1.4**
GRF *e*PKPab **PKPab 00 28 50.8 +1.1**
baz=16,slow=4.8
GRF *e*L L 01 44 21.5
comp=Z,1μm,21.7s
DIVS Divibare 161.63 313 PKPab **PKPab 00 28 49.9 -0.3**
TNS Taunus Mts 161.82 345 *e*PKPdf **PKPdf 00 28 05.8 +0.7**
MEM Membach 161.88 351 *d*PKPdf **PKPdf 00 28 05.3 +0.3**
BTNL Ternell 161.88 350 *d*PKPdf **PKPdf 00 28 05.9 +0.8**
BTNL *d*PKP **PKPab 00 28 51.6 +0.6**
BSTI Sart Tilman 161.96 351 *d*PKPdf **PKPdf 00 28 05.9 +0.8**
BSTI *d*PKP **PKPab 00 28 50.6 -0.6**
ARSA Arzberg 162.01 327 *i* PKP **PKPdf 00 28 04.2 -1.1**
comp=Z,12nm,1.5s
ARSA *e*PKP **PKPab 00 28 51.0 -0.6**
comp=Z,12nm,1.2s
MOA Molln 162.09 331 *i* PKP **PKPdf 00 28 05.2 -0.2**
comp=Z,15nm,1.9s
MOA *i* pPKP **PKPab 00 28 54.1 +2.1**
comp=Z,14nm,1.3s
BHOU Houvegnez 162.13 350 *d*PKPdf **PKPdf 00 28 06.5 +1.2**
BHOU *d*PcP **PKPab 00 28 52.4 +0.4**
BCLA Clavier 162.16 352 *d*PKP **PKPab 00 28 50.7 -1.3**
BGES Gesves 162.21 352 *d*PKPdf **PKPdf 00 28 04.9 +0.5**
BGES *d*PcP **PKPab 00 28 50.7 -1.6**
BMRD Maredsous 162.33 353 *d*PKPdf **PKPdf 00 28 05.9 +0.4**
BMRD *d*PKP **PKPab 00 28 52.2 -0.6**
RCHB Rochefort 162.42 352 *d*PKPdf **PKPdf 00 28 06.7 +1.2**
RCHB *d*PKP **PKPab 00 28 51.7 -1.5**
BIOA Bad Ischl, Aus 162.47 332 *i* PKP **PKPdf 00 28 06.9 +1.1**
comp=Z,8.3nm,1.1s
BIOA *i* PKP **PKPab 00 28 53.4 -0.2**
comp=Z,12nm,1.1s
DOU Dourbes 162.55 353 *d*PKP **PKPab 00 28 53.1 -0.7**
SOKA Soboth 162.66 327 *i* PKP **PKPdf 00 28 05.0 -1.1**
comp=Z,19nm,1.8s
SOKA *i* PKP **PKPab 00 28 55.2 +0.6**
comp=Z,13nm,1.0s
WLF Walferdange 162.78 350 *d*PKPdf **PKPdf 00 28 07.2 +1.3**
WLF *d*PKP **PKPab 00 28 54.5 -0.3**
WLF Walferdange 162.78 350 *e*PKPdf **PKPdf 00 28 06.5 +0.6**
WLF *e*PKPab **PKPab 00 28 54.5 -0.3**
baz=16,slow=4.8
LESA Schwarzleotal 163.06 333 *i* PKP **PKPdf 00 28 06.0 -0.4**
comp=Z,20nm,1.2s
LESA *ep*PKP **PKPab 00 28 58.2 +1.9**
comp=Z,7.5nm,0.8s
KBA Koelnbreinsper 163.08 331 *e*PKP **PKPdf 00 28 07.7 +1.1**
comp=Z,12nm,1.4s
KBA *ep*PKP **PKPab 00 28 58.7 +2.2**
comp=Z,8.7nm,1.0s
MYKA Terra Mystica 163.31 329 *i* PKP **PKPdf 00 28 07.9 +1.2**
comp=Z,12nm,1.3s
MYKA *i* PKP **PKPab 00 28 57.7 +0.3**
comp=Z,8.9nm,1.0s
LJU Ljubljana 163.37 326 *i* PKPdf **PKPdf 00 28 05.3 -1.3**
BOJS Bojanci 163.41 324 *i* PKPdf **PKPdf 00 28 06.0 -0.7**
WATA Walderalm 163.55 335 *i* PKP **PKPdf 00 28 06.7 -0.2**
comp=Z,15nm,1.4s,SNR=5.7
WATA *i* PKP **PKPab 00 28 58.3 -0.2**
comp=Z,3.4nm,0.5s
WTTA Wattenberg 163.59 335 *i* PKP **PKPdf 00 28 07.9 +0.9**
comp=Z,31nm,1.7s,SNR=6.1
WTTA *i* pPKP **PKPab 00 29 00.5 +1.7**
comp=Z,15nm,1.4s
BFO Black Forest 163.63 343 **PKPab 00 28 58.5 -0.1**
BFO Black Forest 163.63 343 PKP2 **PKPab 00 28 58.5 -0.1**
BFO Black Forest 163.63 343 *e*PKPdf **PKPdf 00 28 07.0 +0.1**
BFO *e*PKPab **PKPab 00 28 59.0 +0.3**
baz=16,slow=4.8
ROBS Robic 163.67 329 *i* PKPdf **PKPdf 00 28 05.2 -1.7**
ABTA Abfaltersbach 163.69 332 *i* PKP **PKPdf 00 28 07.3 +0.3**
comp=Z,20nm,1.5s,SNR=5.8
ABTA *i* PKP **PKPab 00 28 57.0 -2.1**
comp=Z,8.7nm,1.0s
RETA Reutte 163.70 337 *i* PKP **PKPdf 00 28 07.2 +0.2**
comp=Z,14nm,1.8s
RETA *i* PKP **PKPab 00 28 58.8 -0.2**
comp=Z,14nm,0.7s
MOTA Moosalm 163.70 336 *i* PKP **PKPdf 00 28 06.7 -0.4**
comp=Z,19nm,1.5s
MOTA *i* PKP **PKPab 00 28 59.0 -0.2**
comp=Z,13nm,1.1s
SQTA Sankt Quirin 163.78 335 *i* PKP **PKPdf 00 28 07.1 -0.1**
comp=Z,14nm,1.0s,SNR=6.5
SQTA *i* PKP **PKPab 00 28 59.6 +0.2**
comp=Z,7.7nm,0.7s

FETA Feichten 164.11 336 *i* PKP **PKPdf 00 28 07.6 +0.1**
comp=Z,20nm,1.1s,SNR=6.7
FETA *i* PKP **PKPab 00 29 00.5 -0.5**
comp=Z,7.5nm,1.2s
DAVA Damuels 164.16 338 *i* PKP **PKPdf 00 28 07.5 0.0**
comp=Z,12nm,1.1s
DAVA *e*PKP **PKPab 00 29 00.6 -0.6**
comp=Z,17nm,1.1s
DAVOX Davos/Dischmat 164.60 338 PKP **PKPdf 00 28 08.2 +0.2**
baz=58,slow=4.1
DAVOX PKPab **PKPab 00 29 03.0 -0.2**
comp=Z,5.9nm,0.5s,baz=332,slow=4.9,SNR=13
FUORN Ofenpass-Fuorn 164.62 336 PKPab **PKPab 00 29 03.4 0.0**
CLF Chambon-Foret 164.77 358 PKPab **PKPab 00 29 04.0 +0.4**
PMPST Porto Santo, M 165.09 84 *e*PKPdf **PKPdf 00 28 08.8 +0.2**
PMPST Porto Santo, M 165.09 84 *e*SS SS 00 53 24.9 -1.5
PMPST Porto Santo, M 165.09 84 *e*LR LR 01 25 18.6
comp=Z,680nm,20.0s
PGAV Gavieira, Arco 168.04 37 *e*PKPdf **PKPdf 00 28 11.5 +0.8**
PGAV Gavieira, Arco 168.04 37 *e*PP **PP 00 33 09.4 +2.3**
PGAV Gavieira, Arco 168.04 37 *e*SS SS 00 54 00.2 +5.7
PGAV Gavieira, Arco 168.04 37 *e*LR LR 01 26 38.3
comp=Z,806nm,20.0s
VAE Valguarnera 168.38 297 PKP **PKPdf 00 28 11.4 +0.3**
comp=Z,8.3nm,0.9s,baz=262,slow=6.6,SNR=1.9
POLO Lamas de Olo 168.72 38 *e*PKPdf **PKPdf 00 28 12.6 +1.4**
PVRL Vila Real 168.83 38 *e*PKPdf **PKPdf 00 28 13.5 +2.3**
PBRG Braganca 168.91 33 *e*PKPdf **PKPdf 00 28 12.1 +0.9**
PVIS Viseu 169.13 41 *e*PKPdf **PKPdf 00 28 11.7 +0.3**
PCAS Casmilo, Conde 169.22 45 *e*PKPdf **PKPdf 00 28 13.2 +1.8**
MVO Moncorvo 169.26 37 *e*PKPdf **PKPdf 00 28 12.9 +1.4**
MVO Moncorvo 169.26 37 *e*PP **PP 00 33 19.3 +6.1**
MVO Moncorvo 169.26 37 *e*SS SS 00 54 00.7 -5.8
MVO Moncorvo 169.26 37 *e*LR LR 01 27 12.0
comp=Z,899nm,20.0s
PMAFR Mafra 169.37 52 *e*PKPdf **PKPdf 00 28 13.1 +1.5**
PSBE So Bento 169.37 48 *e*PKPdf **PKPdf 00 28 12.8 +1.2**
MTE Manteigas 169.54 41 *e*PKPdf **PKPdf 00 28 12.9 +1.2**
MTE Manteigas 169.54 41 *e*PP **PP 00 33 18.4 +3.6**
MTE Manteigas 169.54 41 *e*SS SS 00 54 13.6 +4.0
MTE Manteigas 169.54 41 *e*LR LR 01 27 34.6
comp=Z,988nm,20.0s
LIS Lisbon 169.58 52 *e*PKPdf **PKPdf 00 28 12.9 +1.2**
LIS *e*PP **PP 00 33 17.0 +1.8**
LIS IAMs_20 IAMs_20 01 42 33.7
comp=N,9μm,60.9s
LIS Lisbon 169.58 52 *e*PKIKP **PKPdf 00 28 12.8 +1.2**
LIS *e* 00 33 17.0
PACT Alcochete 169.76 52 *e*PKPdf **PKPdf 00 28 13.2 +1.4**
PCBR Castelo Branco 169.96 43 *e*PKPdf **PKPdf 00 28 11.7 -0.2**
PMTG Montargil 169.99 49 *e*PKPdf **PKPdf 00 28 13.5 +1.6**
PMRV Marv??o 170.28 45 *e*PKPdf **PKPdf 00 28 13.1 +1.0**
PMRV Marv??o 170.28 45 *e*PP **PP 00 33 18.7 +0.2**
PMRV Marv??o 170.28 45 *e*SS SS 00 54 05.1 -12
PMRV Marv??o 170.28 45 *e*LR LR 01 27 41.8
comp=N,682nm,20.0s
PNCL Nicolau / Gran 170.31 54 *e*PKPdf **PKPdf 00 28 13.9 +1.8**
EVO Evora 170.43 51 *e*PKPdf **PKPdf 00 28 12.7 +0.5**
PESTR Estremoz 170.51 48 *e*PKPdf **PKPdf 00 28 13.5 +1.3**
MORF Marmelete 170.60 59 *e*PKPdf **PKPdf 00 28 13.3 +0.9**
MORF Marmelete 170.60 59 *e*PKPdf **PKPdf 00 28 13.4 +1.1**
MORF *e*PP **PP 00 33 22.1 +1.5**
MORF IAMs_20 IAMs_20 01 49 19.3
comp=Z,1μm,14.8s
MORF Marmelete 170.60 59 *e*PKIKP **PKPdf 00 28 13.4 +1.1**
MORF *e* 00 33 22.1
MESJ Messejana 170.66 55 *e*PKPdf **PKPdf 00 28 13.8 +1.5**
MESJ Messejana 170.66 55 *e*PKPdf **PKPdf 00 28 13.6 +1.2**
MESJ *e*PP **PP 00 33 22.5 +1.8**
MESJ IAMs_20 IAMs_20 01 38 19.1
comp=Z,1μm,29.7s
MESJ Messejana 170.66 55 *e*PKIKP **PKPdf 00 28 13.5 +1.2**
MESJ *e* 00 33 22.5
PBEJ Beja 170.80 53 *e*PKPdf **PKPdf 00 28 15.0 +2.6**
PCVE Castro Verde 170.88 55 *e*PKPdf **PKPdf 00 28 14.4 +2.0**
PBDV Barranco-do-Ve 171.14 57 *e*PKPdf **PKPdf 00 28 14.6 +2.0**
PVAQ Vaqueiros 171.22 56 *e*SS SS 00 54 34.2 +7.3
PBAR Barrancos 171.26 50 *e*PKPdf **PKPdf 00 28 14.2 +1.6**
PAB San Pablo 171.81 33 ⇓PKIKP **PKPdf 00 28 15.1 +2.1**
ESDC Sonseca Array 171.88 31 PKPab **PKPab 00 29 37.0 +1.6**
ESDC Sonseca Array 171.88 31 PKP **PKPdf 00 28 14.2 +1.2**
comp=Z,13nm,1.3s,baz=339,slow=2.2,SNR=25
ESDC PKPab **PKPab 00 29 37.0 +1.6**
comp=Z,3.0nm,0.8s,baz=328,slow=3.9,SNR=10.0
ESDC PP **PP 00 33 27.9 +1.8**
comp=Z,1.3nm,1.0s,baz=310,slow=5.6,SNR=4.1
KEST Kesra 172.81 296 PKP **PKPdf 00 28 14.4 +0.9**
comp=Z,12nm,1.0s,baz=330,slow=3.6,SNR=4.9
MDT Midelt 174.93 88 PKP **PKPdf 00 28 16.2 +1.8**
comp=Z,13nm,1.0s,baz=332,slow=2.2,SNR=13

*DJA **04** 00:19:26.1±0.2,4°S±2°×12°9E±°,h179km±2km,M4.7/31, mb4.8/31,mB5.0/9,MLv5.1/13,Mw4.7/5,Mw(mB)4.4/9*
*NEIC **04** 00:19:26±1.4,4°.26S±0°.06×128°.71E±0°.07,h183km±7km, mb4.7/64,Error ellipse: s-maj=10.7km s-min=8.7km az=68.0*
*IDC **04** 00:19:28.5±1.4,4°.38S×128°.62E,h212km±13km,mb4.3/16, mbtmp4.8/22,Error ellipse: s-maj=16.9km s-min=8.3km az=66.0*

ISC 04 00:19:26.5±0.3,4°.34S±0°.04×128°.74E±0°.05,h200km,n180, σ188/197,mb4.6/55,2C-4D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.18**	**99**	P	**Pn**	**00 19 56.7**	**-0.9**
BNDI	**Bandanaira**	**1.18**	**99**	P	**Pn**	**00 19 56.6**	**-1.0**
SANI	**Sanana**	**3.56**	**310**	P	**Pn**	**00 20 20.6**	**-2.4**
FAKI	**Fak Fak**	**3.77**	**68**		**Pn**	**00 20 24.3**	**-1.3**
FAKI				Sn	**Sn**	**00 21 06.2**	**-5.6**
FAKI	**Fak Fak**	**3.77**	**68**	P	**Pn**	**00 20 24.4**	**-1.1**
FAKI	**Fak Fak**	**3.77**	**68**	P	**Pn**	**00 20 24.5**	**-1.1**
LBMI	**Labuha**	**3.88**	**341**	P	**Pn**	**00 20 25.3**	**-1.6**
SWI	**Sorong**	**4.27**	**36**	P	**Pn**	**00 20 30.1**	**-1.7**
SAUI	**Saumlaki**	**4.43**	**145**	Pn	**Pn**	**00 20 34.2**	**+0.5**
SAUI					**Sn**	**00 21 24.4**	**-2.2**
SAUI	**Saumlaki**	**4.43**	**145**	P	**Pn**	**00 20 37.0**	**+3.3**
KMPI	**Kaimana, Papua** 268nm,0.7s,4.7nm	**5.00**	**82**	P	**Pn**	**00 20 39.7**	**-1.3**
TNTI	**Ternate**	**5.26**	**345**		**Pn**	**00 20 41.8**	**-2.5**
TNTI	**Ternate**	**5.26**	**345**	P	**Pn**	**00 20 43.4**	**-0.9**
TNTI	**Ternate** 201nm,0.9s,2μm0.6nm	**5.26**	**345**	P	**Pn**	**00 20 42.8**	**-1.5**
LUWI	**Luwuk**	**6.80**	**299**	Pn	**Pn**	**00 21 02.2**	**-2.1**
KMSI	**Cibinong** 304nm,0.7s,1.4nm	**6.81**	**316**	P	**Pn**	**00 21 01.1**	**-3.3**
SOEI	**Soe**	**6.98**	**219**		**Pn**	**00 21 05.8**	**-0.9**
SOEI	**Soe** 74nm,1.1s,0.3nm	**6.98**	**219**	P	**Pn**	**00 21 07.4**	**+0.8**
BATI	**Baumata** 52nm,0.6s,0.2nm	**7.70**	**221**	P	**Pn**	**00 21 16.8**	**+0.8**
BATI	**Baumata** 31nm,0.7s,baz=9.5,slow=4.1,SNR=3.0	**7.70**	**221**	P	**Pn**	**00 21 16.6**	**+0.6**
EDFI	**Ende, Flores** 23nm,0.7s,2μm	**8.26**	**238**	P	**Pn**	**00 21 24.9**	**+1.5**
MRSI	**Marisa** 228nm,0.8s	**8.31**	**305**	P	**Pn**	**00 21 23.3**	**-0.6**
BKSI	**Bulukumba**	**8.64**	**263**	P	**Pn**	**00 21 27.5**	**-0.7**
MTN	**Manton Dam**	**8.78**	**165**	Pn	**Pn**	**00 21 28.4**	**-1.5**
MTN	**Manton Dam**	**8.78**	**165**	P	**Pn**	**00 21 29.3**	**-0.7**
SPSI	**Sidrap Palu**	**8.95**	**272**	P	**Pn**	**00 21 32.8**	**+0.5**
KAPI	**Kappang** 4.4nm,0.3s,baz=54,slow=16,SNR=2.0	**8.98**	**265**	P	**Pn**	**00 21 33.4**	**+0.7**
KDU	**Kaladu**	**9.08**	**156**	P	**Pn**	**00 21 32.7**	**-1.2**
BASI	**Baing, Sumba** 58nm,0.7s	**9.98**	**234**	P	**Pn**	**00 21 47.5**	**+1.9**
SMPI	**Sarmi** 47nm,0.9s	**10.22**	**77**	P	**Pn**	**00 21 49.7**	**+0.9**
KNRA	**Kununurra**	**11.27**	**180**	Pn	**Pn**	**00 22 00.7**	**-1.5**
PLAI	**Plampang**	**11.77**	**247**	P	**Pn**	**00 22 08.8**	**+0.2**
PLAI	**Plampang** 87nm,1.1s	**11.77**	**247**	P	**Pn**	**00 22 08.2**	**-0.4**
TABU	**Tabubil**	**12.47**	**95**	P	**P**	**00 22 18.7**	**-2.9**
TWSI	**Taliwang, Sumb** 78nm,0.7s,954nm	**12.56**	**249**	P	**P**	**00 22 19.6**	**-2.9**
SRBI	**Singaraja** 132nm,1.0s,1μm	**13.95**	**254**	P	**P**	**00 22 36.7**	**-1.2**
JAGI	**Jajag, Banyuwa**	**15.06**	**253**	P	**Pn**	**00 22 48.3**	**-1.4**
JAGI				IAmb	IAmb	00 22 51.2	
	comp=Z,35nm,0.9s						
JAGI	**Jajag, Banyuwa**	**15.06**	**253**	P	**P**	**00 22 50.4**	**+0.1**
JAGI	**Jajag, Banyuwa** comp=Z,43nm,1.1s	**15.06**	**253**	P	**Pn**	**00 22 48.2**	**-1.5**

BLJI Banyuglugur 15.43 257 P **P 00 22 55.9 +1.5**
comp=Z,95nm,0.7s
KKM Kota Kinabalu 16.21 309 P **Pn 00 23 02.7 -1.0**
KKM IAmb IAmb 00 23 05.6
comp=Z,32nm,0.9s
KKM Kota Kinabalu 16.21 309 P **Pn 00 23 04.7 +1.1**
WB0 Warramunga Arr 16.30 161 P **Pn 00 23 03.1 -1.4**
WRAB Tennant Creek 16.44 161 P **Pn 00 23 05.9 -0.3**
WRA Warramunga Arr 16.44 161 P **P 00 23 04.7 -0.7**
WRA Warramunga Arr 16.44 161 P **Pn 00 23 05.8 -0.5**
comp=Z,43nm,0.5s,baz=342,slow=13,SNR=85
WRA S **S 00 26 02.9 -4.6**
comp=Z,4.6nm,0.5s,baz=346,slow=20,SNR=3.2
WRA ScP **ScP 00 31 00.3 -1.1**
comp=Z,0.6nm,0.5s,baz=315,slow=2.1,SNR=4.9
WB2 Warramunga Arr 16.45 161 P **Pn 00 23 05.1 -1.2**
WR0 Warramunga Arr 16.52 160 P **Pn 00 23 06.2 -1.1**
WR0 IAmb IAmb 00 23 09.4
comp=Z,32nm,0.6s
COEN Coen 17.15 125 **Pn 00 23 13.5 -1.2**
COEN Coen 17.15 125 P **Pn 00 23 14.9 +0.2**
SBUM Sibu 17.83 292 **Pn 00 23 20.4 -2.3**
MBWA Marble Bar 18.87 207 **P 00 23 31.4 -0.6**
MBWA IAmb IAmb 00 23 36.4
comp=Z,22nm,0.8s
MBWA Marble Bar 18.87 207 P **P 00 23 31.6 -0.3**
PMG Port Moresby 18.96 106 P **Pn 00 23 35.9 -0.1**
comp=Z,15nm,0.6s,baz=291,slow=13,SNR=4.1
PSA00 Pilbara Seismi 19.18 206 **P 00 23 34.7 -0.5**
PSA00 Pilbara Seismi 19.18 206 P **P 00 23 33.7 -1.5**
PSA00 IAmb IAmb 00 23 35.5
comp=Z,13nm,1.1s
PSA00 Pilbara Seismi 19.18 206 P **P 00 23 35.2 -0.1**
QIS Mount Isa 19.28 148 P **Pn 00 23 37.6 -2.2**
KSM Kuching 19.30 287 **P 00 23 35.6 -1.0**
KSM IAmb IAmb 00 23 38.4
comp=Z,48nm,1.1s
KSM Kuching 19.30 287 P **Pn 00 23 37.3 -2.8**
AS31 Alice Springs 19.85 166 P **P 00 23 43.1 +0.7**
AS31 IAmb IAmb 00 23 44.8
comp=Z,39nm,0.8s
ASAR Alice Springs 19.85 166 P **P 00 23 43.4 +0.9**
comp=Z,91nm,0.6s,baz=346,slow=12,SNR=201
ASAR S **S 00 27 12.5 -2.6**
comp=Z,9.6nm,0.9s,baz=346,slow=18,SNR=12
ASAR PcP **PcP 00 27 51.9 +0.5**
comp=Z,2.2nm,0.6s,baz=15,slow=2.2,SNR=2.8
ASAR ScP **ScP 00 31 09.6 +0.8**
comp=Z,3.1nm,0.7s,baz=346,slow=2.1,SNR=10
AS01 Alice Springs 19.86 166 P **Pn 00 23 43.8 -3.0**
TGY Tagaytay City 19.89 337 P **Pn 00 23 44.9 -2.3**
comp=Z,186nm,0.3s,baz=306,slow=10,SNR=4.2
KPJI Karang Pucung 19.93 260 P **P 00 23 43.4 +0.1**
comp=Z,29nm,1.2s
CMJI Cimerak 20.46 259 P Pn 00 23 51.2 -3.1
comp=Z,81nm,1.2s
MTSU Mount Surprise 20.50 133 P Pn 00 23 51.0 -3.7
WRKA Warakurna 20.59 181 P **P 00 23 51.2 +0.9**
CTA Charters Tower 23.15 134 P **P 00 24 17.9 +2.5**
CTA Charters Tower 23.15 134 P **P 00 24 18.1 +2.6**
comp=Z,9.5nm,0.7s,baz=310,slow=11,SNR=8.0
comp=Z,9.5nm,0.7s
CTAO Charters Tower 23.15 134 P **P 00 24 16.2 +0.8**
CTAO IAmb IAmb 00 24 19.3
comp=Z,13nm,0.8s
MULG Mulgathing 26.29 170 P **P 00 24 44.5 +0.8**
IPM Ipoh 29.04 287 P **P 00 25 06.2 -2.2**
BBOO Buckleboo 29.14 167 P **P 00 25 09.7 +0.7**
BBOO Buckleboo 29.14 167 P **P 00 25 09.9 +0.9**
YHNB Yeheng 29.71 346 P **P 00 25 14.2 0.0**
STKA Stephens Creek 29.94 158 P **P 00 25 17.1 +1.1**
STKA Stephens Creek 29.94 158 P **P 00 25 17.3 +1.3**
STKA Stephens Creek 29.94 158 P **P 00 25 16.9 +0.9**
comp=Z,10.0nm,0.7s,baz=318,slow=8.5,SNR=12
comp=Z,10.0nm,0.7s
CMSA Cobar Meteorol 31.40 151 P **P 00 25 31.2 +2.3**
NONG Nongkai 33.65 312 P **P 00 25 49.0 +0.4**
ARMA Armidale 33.76 143 P **P 00 25 52.1 +2.6**
ARMA IAmb IAmb 00 25 54.5
comp=Z,16nm,1.1s
ARPS Mount Arapiles 34.45 161 P **P 00 25 57.3 +2.1**
CNSH ChangSha 35.74 336 S **S 00 31 23.1 -5.3**
CNSH pmax pmax
comp=Z,290nm,5.9s
CNSH LR LR
comp=N,460nm,25.5s
CNSH LR LR
comp=E,500nm,23.4s
CNSH LR LR
comp=Z,1μm,31.0s
CAN Canberra 36.08 151 P **P 00 26 11.8 +2.6**
CAN IAmb IAmb 00 26 55.8
comp=Z,59nm,1.4s
PHRA Phrae 36.12 310 P **P 00 26 11.2 +1.5**
TOO Toolangi 36.46 157 P **P 00 26 15.1 +2.7**
CRAI Chiangrai 37.05 312 P **P 00 26 17.3 -0.3**
CM31 Chiang Mai Arr 37.09 309 P **P 00 26 18.4 +0.5**
CM31 IAmb IAmb 00 26 19.9
comp=Z,27nm,0.9s
CMAR Chiang Mai Arr 37.09 309 **P 00 26 17.9 0.0**
CMAR Chiang Mai Arr 37.09 309 P **P 00 26 19.1 +1.1**
comp=Z,18nm,0.7s,baz=136,slow=7.2,SNR=26
CMAR ScP **ScP 00 32 02.3 0.0**
comp=Z,1.9nm,0.3s,baz=160,slow=1.7,SNR=4.8
comp=Z,18nm,0.7s
CHTO Chiang Mai 37.29 309 **P 00 26 19.8 +0.1**
CHTO Chiang Mai 37.29 309 P **P 00 26 20.6 +1.0**
JNU Nakatsue 37.31 3 P **P 00 26 19.4 -0.2**
JNU IAmb IAmb 00 26 21.2
comp=Z,22nm,1.0s
WHN Wuhan 37.31 339 P **P 00 26 21.2 +1.6**
WHN pmax pmax
comp=Z,58nm,1.1s
GYA Guiyang 37.34 326 ⇓P **P 00 26 20.8 +0.8**
GYA pmax pmax
comp=Z,9.0nm,0.8s
NJ2 Nanjing 37.39 346 *e*P **P 00 26 21.0 +0.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NJ2 pmax pmax
comp=Z,200nm,3.5s
KMI Kunming 38.67 321 ⇑P **P 00 26 33.2 +1.8**
KMI S **S 00 32 16.5 +3.2**
KMI pmax pmax
comp=Z,16nm,0.8s
KMI LR LR
comp=N,460nm,25.4s
KMI LR LR
comp=E,360nm,24.1s
KMI LR LR
comp=Z,540nm,42.6s
ENH Enshi 39.04 333 P **P 00 26 33.4 -0.7**
ENH IAmb IAmb 00 26 34.8
comp=Z,12nm,0.7s
PZH PanZhiHua 40.28 321 P **P 00 26 46.5 +2.0**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.7s
MND Mandalay 41.29 311 P **P 00 26 53.3 +0.6**
TNCH TengChong 41.40 316 P P 00 27 00.4 +6.6
TNCH S S 00 32 28.5 -25
TNCH SS SS 00 34 38.6 -88
TNCH pmax pmax
comp=Z,40nm,1.2s
TNCH pmax pmax
comp=Z,120nm,4.1s
TNCH LR LR
comp=N,450nm,23.2s
TNCH LR LR
comp=E,430nm,19.7s
TNCH LR LR
comp=Z,170nm,20.3s
KSAR Wonju Array Be 41.57 359 P **P 00 26 55.4 +0.7**
KSRS Korea Array 41.58 359 P **P 00 26 56.5 +1.7**
comp=Z,4.9nm,0.7s,baz=178,slow=9.0,SNR=12
comp=Z,4.9nm,0.7s
LYN LuoYang 41.61 340 ⇑P **P 00 26 55.8 +0.7**
LYN PP **PnPn 00 28 38.8 -3.8**
LYN S **S 00 32 48.5 -7.7**
LYN sS sS 00 33 56.4 -14
LYN pmax pmax
comp=Z,15nm,0.7s
LYN pmax pmax
comp=Z,160nm,4.3s

MJAR	**Matsushiro Arr**	**41.62**	**12**	P	**P**	**00 26 55.4**	**+0.3**
	comp=Z,80nm,0.8s,baz=186,slow=9.0,SNR=2.4						
	comp=Z,80nm,0.8s						
MAJO	**Matsushiro**	**41.62**	**12**	P	**P**	**00 26 55.0**	**-0.2**
MAJO				IAmb	IAmb	00 26 55.9	
	comp=Z,8.3nm,0.6s						
MJB9	**Matsu-Tunnel**	**41.62**	**12**	P	**P**	**00 26 54.5**	**-0.6**
CD2	**Chengdu**	**42.40**	**327**	P	**P**	**00 27 01.4**	**-0.2**
CD2				PP	**PP**	**00 28 42.2**	**-2.1**
CD2				S	**S**	**00 33 11.4**	**+3.4**
CD2				sS	sS	00 34 22.3	-0.1
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2				LR	LR		
	comp=N,320nm,19.8s						
CD2				LR	LR		
	comp=E,290nm,14.7s						
CD2				LR	LR		
	comp=Z,200nm,17.5s						
XAN	**Xi'an**	**42.51**	**335**	⇓P	**P**	**00 27 02.0**	**-0.4**
XAN				pmax	pmax		
	comp=Z,25nm,0.7s						
BJT	**Baijiatuau**	**45.63**	**346**		**P**	**00 27 27.0**	**0.0**
BJT				IAmb	IAmb	00 27 28.2	
	comp=Z,13nm,0.7s						
BJI	**Beijing**	**45.65**	**346**	P	**P**	**00 27 27.7**	**+0.6**
BJI				PcS	**PcS**	**00 32 55.9**	**-0.3**
BJI				S	**S**	**00 34 00.3**	**+5.8**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,47nm,4.8s						
BJI				LR	LR		
	comp=N,82nm,22.7s						
BJI				LR	LR		
	comp=E,100nm,13.3s						
BJI				LR	LR		
	comp=Z,140nm,17.1s						
LZH	**Lanzhou**	**46.48**	**332**	*e*P	**P**	**00 27 34.7**	**+0.8**
LZH				pP	pP	00 28 15.1	-2.4
LZH				pmax	pmax		
	comp=Z,24nm,1.1s						
HHC	**Hu-ho-hao-te**	**47.64**	**342**	*e*P	**P**	**00 27 44.3**	**+1.5**
HHC				pP	pP	00 28 26.3	-0.5
HHC				S	**S**	**00 34 25.2**	**+2.1**
HHC				sS	sS	00 35 37.7	-1.2
HHC	**Hu-ho-hao-te**	**47.64**	**342**	SS	SS	00 37 50.9	-3.3
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,210nm,5.7s						
HHC				LR	LR		
	comp=N,290nm,15.7s						
HHC				LR	LR		
	comp=E,260nm,17.3s						
HHC				LR	LR		
	comp=Z,210nm,17.4s						
USA0B	**Ussuriysk Arra**	**48.41**	**3**	P	**P**	**00 27 48.4**	**0.0**
USRK	**Ussuriysk Ar.**	**48.41**	**3**	P	**P**	**00 27 49.4**	**+1.0**
USRK	**Ussuriysk Ar.**	**48.41**	**3**	P	**P**	**00 27 49.1**	**+0.8**
	comp=Z,6.1nm,0.6s,baz=190,slow=7.2,SNR=12						
	comp=Z,6.1nm,0.6s						
MDJ	**Mudanjiang**	**48.74**	**1**	P	**P**	**00 27 52.5**	**+1.6**
MDJ				PcP	**PcP**	**00 29 15.2**	**+2.4**
MDJ				ScP	**ScP**	**00 32 53.5**	**+4.8**
MDJ				PcS	**PcS**	**00 33 15.2**	**+6.1**
MDJ				S	S	00 34 46.1	+8.0
MDJ				sS	sS	00 35 58.9	+4.7
MDJ	**Mudanjiang**	**48.74**	**1**	SS	**SS**	**00 38 18.8**	**+7.3**
MDJ				pmax	pmax		
	comp=Z,13nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,140nm,7.3s						
XLT	**XiLinHaoTe**	**49.35**	**348**	⇓*i*P	**P**	**00 27 56.3**	**+0.6**
XLT				pP	pP	00 28 33.8	-6.3
XLT				sP	sP	00 28 58.2	-4.2
XLT				PcS	**PcS**	**00 33 11.8**	**-0.2**
XLT				S	**S**	**00 34 39.0**	**-7.9**
XLT				sS	sS	00 36 01.2	-2.0
XLT				pmax	pmax		
	comp=Z,14nm,0.9s						
XLT				pmax	pmax		
	comp=Z,97nm,4.4s						
XLT				LR	LR		
	comp=N,32nm,23.4s						
XLT				LR	LR		
	comp=E,510nm,28.1s						
XLT				LR	LR		
	comp=Z,1μm,29.3s						
LSA	**Lhasa**	**49.42**	**316**	P	**P**	**00 27 56.6**	**-0.4**
LSA				IAmb	IAmb	00 27 58.9	
	comp=Z,14nm,0.8s						
GTA	**Gaotai**	**51.05**	**331**	P	**P**	**00 28 09.3**	**+0.7**
GTA				sP	pP	00 28 23.4	-30
GTA				pmax	pmax		
	comp=Z,13nm,0.7s						
RAMN	**Ramite**	**51.23**	**310**	*e*P	**P**	**00 28 11.0**	**+0.7**
	comp=Z,121nm,0.6s						
JIRN	**Jiri**	**51.91**	**310**	*e*P	**P**	**00 28 15.5**	**0.0**
	comp=Z,41nm,0.7s						
GUN	**Gumba**	**52.27**	**310**	*e*P	**P**	**00 28 18.2**	**+0.1**
	comp=Z,89nm,0.7s						
PKI	**Pulchoki**	**52.46**	**310**	*e*P	**P**	**00 28 19.3**	**-0.2**
	comp=Z,38nm,0.7s						
PKIN	**Phulchoki**	**52.47**	**310**	*e*P	**P**	**00 28 19.2**	**-0.3**
	comp=Z,36nm,0.7s						
DMN	**Daman**	**52.71**	**310**	*e*P	**P**	**00 28 21.3**	**0.0**
	comp=Z,59nm,0.8s						
GKN	**Gorkha**	**53.27**	**310**	*e*P	**P**	**00 28 25.1**	**-0.1**
	comp=Z,79nm,0.7s						
KOLN	**Koldanda**	**53.95**	**309**	*e*P	**P**	**00 28 30.5**	**+0.3**
	comp=Z,72nm,0.7s						
DANN	**Dangsing**	**54.11**	**310**	*e*P	**P**	**00 28 31.7**	**+0.2**
	comp=Z,107nm,0.7s						
HEH	**HeiHe**	**54.38**	**359**	*e*P	**P**	**00 28 30.6**	**-2.0**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PYUN	**Piuthan**	**54.58**	**309**	*e*P	**P**	**00 28 34.9**	**+0.1**
	comp=Z,105nm,0.9s						
TUWZ	**Tuamarina**	**54.70**	**139**	P	**P**	**00 28 36.4**	**+1.3**
TCW	**Tory Channel**	**54.81**	**139**	P	**P**	**00 28 37.0**	**+1.1**
BHW	**Baring Head**	**55.30**	**139**	P	**P**	**00 28 40.0**	**+0.6**
ULN	**Ulaanbaatar**	**55.36**	**342**	P	**P**	**00 28 41.2**	**+1.3**
ULN				IAmb	IAmb	00 28 42.2	
	comp=Z,11nm,0.9s						
SONM	**Songino Array**	**55.54**	**342**	P	**P**	**00 28 42.4**	**+1.3**
SONM	**Songino Array**	**55.54**	**342**	P	**P**	**00 28 41.8**	**+0.7**
	comp=Z,5.1nm,1.0s,baz=160,slow=8.3,SNR=12						
SONM				PcP	**PcP**	**00 29 38.4**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=174,slow=3.6,SNR=4.0						
	comp=Z,5.1nm,1.0s						
MCQ	**Macquarie Isla**	**55.69**	**159**	P	**P**	**00 28 44.9**	**+3.0**
WMQ	**Urumqi**	**60.49**	**327**	*e*P	**P**	**00 29 15.7**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,29nm,0.9s						
PETK	**Petropavlovsk-**	**62.22**	**19**	P	**P**	**00 29 28.1**	**+1.3**
PETK	**Petropavlovsk-**	**62.22**	**19**	P	**P**	**00 29 28.3**	**+1.5**
	comp=Z,7.0nm,0.9s,baz=190,slow=5.1,SNR=3.6						
	comp=Z,7.0nm,0.9s						
NIL	**Nilore**	**64.54**	**310**	P	**P**	**00 29 41.9**	**-0.6**
NIL				IAmb	IAmb	00 29 43.2	
	comp=Z,11nm,0.8s						
KSH	**Kashi**	**65.22**	**317**	P	**P**	**00 29 48.3**	**+1.4**
KSH				ScS	S	00 38 28.7	+14
KSH				pmax	pmax		
	comp=Z,11nm,0.7s						
MK31	**Makanchi Array**	**65.33**	**327**	P	**P**	**00 29 47.6**	**+0.4**
MK31				IAmb	IAmb	00 29 48.7	
	comp=Z,11nm,0.8s						
MKAR	**Makanchi Array**	**65.33**	**327**	P	**P**	**00 29 48.0**	**+0.7**
MKAR	**Makanchi Array**	**65.33**	**327**	P	**P**	**00 29 47.8**	**+0.5**
	comp=Z,15nm,0.7s,baz=113,slow=8.5,SNR=37						
	comp=Z,15nm,0.7s						
MAKZ	**Makanchi**	**65.51**	**327**	P	**P**	**00 29 49.0**	**+0.6**
MAKZ				IAmb	IAmb	00 29 49.3	
	comp=Z,9.5nm,0.6s						
YAK	**Yakutsk**	**66.18**	**0**	P	**P**	**00 29 53.4**	**+1.0**
AAK	**Ala-Archa**	**67.71**	**320**	P	**P**	**00 30 03.2**	**+0.5**
ARSB	**Arslanbob**	**68.09**	**318**	P	**P**	**00 30 04.8**	**-0.2**
KBL	**Kabul**	**68.10**	**310**	P	**P**	**00 30 05.3**	**0.0**
KBL				IAmb	IAmb	00 30 06.2	
	comp=Z,9.5nm,0.8s						
ZAA0	**Zalesovo Array**	**68.66**	**334**	P	**P**	**00 30 08.6**	**+0.5**
ZAA0				IAmb	IAmb	00 30 09.1	
	comp=Z,11nm,0.8s						
ZALV	**Zalesovo Beam**	**68.66**	**334**	P	**P**	**00 30 08.5**	**+0.5**
ZALV	**Zalesovo Beam**	**68.66**	**334**	P	**P**	**00 30 08.1**	**0.0**
	comp=Z,8.6nm,0.7s,baz=114,slow=4.8,SNR=13						
	comp=Z,8.6nm,0.7s						
BTK	**Batken**	**69.00**	**316**	P	**P**	**00 30 11.1**	**+0.5**
KURBB	**Kurchatov Arra**	**69.60**	**329**	P	**P**	**00 30 14.5**	**+0.6**
	comp=Z,12nm,0.7s,baz=130,slow=5.6,SNR=24						
	comp=Z,12nm,0.7s						
KURK	**Kurchatov**	**69.61**	**329**		**P**	**00 30 14.8**	**+0.8**
KURK				IAmb	IAmb	00 30 15.5	
	comp=Z,23nm,0.8s						
KK31	**Karatay Array**	**70.53**	**319**	P	**P**	**00 30 19.6**	**-0.1**
KKAR	**Karatay Array**	**70.53**	**319**	P	**P**	**00 30 19.4**	**-0.4**
XMAS	**Kiritimati**	**74.03**	**87**	P	**P**	**00 30 40.7**	**-0.4**
BVAR	**Borovoye Array**	**75.16**	**328**	P	**P**	**00 30 47.4**	**+0.6**
	comp=Z,11nm,0.8s,baz=124,slow=7.5,SNR=11						
	comp=Z,11nm,0.8s						
VNDA	**Vanda**	**75.22**	**173**	P	**P**	**00 30 47.6**	**+0.9**
VNDA	**Vanda**	**75.22**	**173**	P	**P**	**00 30 46.7**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=328,slow=4.5,SNR=5.9						
	comp=Z,1.2nm,0.6s						
BRVK	**Borovoye**	**75.23**	**328**	P	**P**	**00 30 47.9**	**+0.7**
BRVK				IAmb	IAmb	00 30 48.8	
	comp=Z,16nm,0.9s						
TIXI	**Tiksi**	**75.84**	**0**	P	**P**	**00 30 50.6**	**+0.4**
TIXI				IAmb	IAmb	00 30 51.8	
	comp=Z,7.7nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**77.55**	**310**	P	**P**	**00 31 01.6**	**+1.1**
GYA0B				IAmb	IAmb	00 31 10.4	
	comp=Z,11nm,1.0s						
WRMHI	**West Rim**	**78.26**	**69**	P	**P**	**00 31 03.2**	**-1.8**
ABKAR	**Akbulak array**	**79.66**	**322**	P	**P**	**00 31 12.4**	**+0.7**
VOI	**Vohitsoka**	**80.93**	**249**	P	**P**	**00 31 20.0**	**+0.7**
VOI				IAmb	IAmb	00 32 03.3	
	comp=Z,16nm,1.3s						
ARU	**Arti**	**82.80**	**328**	P	**P**	**00 31 29.0**	**+0.8**
ARU				IAmb	IAmb	00 31 32.5	
	comp=Z,6.7nm,0.8s						
F15K	**North Star Dit**	**84.53**	**22**	P	**P**	**00 31 35.0**	**-1.7**
F15K				IAmb	IAmb	00 31 40.6	
	comp=Z,11nm,1.2s						
ELIB	**Princess Elisa**	**90.64**	**197**	*d*P	**P**	**00 32 08.0**	**+1.9**
	comp=Z,3.3nm,0.8s						
ILAR	**Eielson Array**	**91.49**	**25**	P	**P**	**00 32 09.9**	**0.0**
	comp=Z,0.6nm,0.6s,baz=247,slow=5.0,SNR=10						
	comp=Z,0.6nm,0.6s						
BRTR	**Keskin Array B**	**96.67**	**309**	P	**P**	**00 32 33.9**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=130,slow=5.2,SNR=3.2						
	comp=Z,1.2nm,0.8s						
ARCES	**ARCESS Array B**	**98.66**	**340**	P	Pdif	00 32 41.9	-0.7
	comp=Z,4.0nm,0.8s,baz=77,slow=6.4,SNR=4.3						
	comp=Z,4.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**127.03**	**283**	PKP	**PKiKP**	**00 38 08.1**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=51,slow=2.2,SNR=3.9						
CPUP	**Villa Florida**	**148.95**	**169**	PKPbc	**PKiKP**	**00 38 51.3**	**-1.5**
	comp=Z,3.0nm,0.8s,baz=205,slow=2.8,SNR=5.4						

*TEH **04** 00:32:45.8, 35.13°N×45.78°E, h8km±39km, ML3.1*
*ISN **04** 00:32:46.0±1.1, 35.19°N×45.82°E, h20km±999km, ML3.2*
ISC 04 00:32:45.6±1.4, **35.13°N**±0.03×**45.73°E**±0.04, **h2**km±13km, **n25**, σ**1.26**/31, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.63**	**191**	Pg	**Pg**	**00 32 58.5**	**+0.9**
IDHR	**Dehrash**	**0.69**	**128**	Pg	**Pg**	**00 32 58.8**	**0.0**
IDHR				Sg	**Sb**	**00 33 09.1**	**-1.4**
ILIN	**Lien**	**1.03**	**101**	Pg	**Pb**	**00 33 05.7**	**-0.7**
ILIN				Sg	**Sb**	**00 33 19.6**	**-0.9**
SDS1	**Sardasht. Az.**	**1.04**	**349**	Pg	**Pg**	**00 33 05.8**	**+0.2**
IGHG	**Ghaleghazi**	**1.05**	**139**	Pg	**Pb**	**00 33 06.0**	**-0.7**
IKRK	**Kirkuk**	**1.17**	**284**	*e*Pg	**Pn**	**00 33 09.0**	**0.0**
IKRK				*e*Sg	**Sg**	**00 33 24.0**	**+0.8**
IKRK				AML	AML	00 33 29.9	
	comp=N,663nm,0.6s						
IKRK				AML	AML	00 33 30.4	
	comp=E,369nm,0.8s						
KCHF	**Cheshme Sefid,**	**1.37**	**128**	Pg	**Pg**	**00 33 11.8**	**-0.1**
ILBA	**Ilam Banvizeh**	**1.55**	**165**	Pg	**Pg**	**00 33 15.3**	**0.0**
MAHB	**Mahabad**	**1.64**	**359**	Pg	**Pg**	**00 33 17.2**	**+0.2**
IKOM	**Komasi**	**1.75**	**122**	Pg	**Pg**	**00 33 18.8**	**-0.3**
IBZA	**Bozab**	**1.87**	**110**	Pn	**Pb**	**00 33 20.0**	**-0.7**
IBDR	**Badra**	**2.02**	**175**	*e*Pn	**Pn**	**00 33 21.0**	**+0.3**
IBDR				*e*Sn	**Sb**	**00 33 48.0**	**-0.5**
BHD	**Baghdad**	**2.16**	**212**	*e*Pn	**Pn**	**00 33 24.0**	**+1.4**
BHD				*e*Sn	**Sb**	**00 33 52.0**	**-0.7**
IKFM	**Kafar-mosalman**	**2.37**	**132**	Pn	**Pb**	**00 33 27.1**	**-1.9**
IHSH	**Hashtrud**	**2.50**	**29**	Pn	**Pn**	**00 33 28.1**	**+0.4**
IAZR	**Azarshahr**	**2.56**	**4**	Pn	**Pb**	**00 33 30.0**	**-2.4**
HAGD	**Aghdareh**	**2.82**	**95**	Pn	**Pn**	**00 33 33.3**	**+1.4**
ISRB	**Sarab**	**3.12**	**30**	Pn	**Pn**	**00 33 37.7**	**+1.7**
ITBZ	**Tabriz**	**3.12**	**6**	Pn	**Pn**	**00 33 38.2**	**+2.2**
ISHB	**Shabestar**	**3.15**	**358**	Pn	**Pn**	**00 33 38.1**	**+1.6**
IHRS	**Heris**	**3.36**	**18**	Pn	**Pn**	**00 33 40.9**	**+1.5**
RAFI	**Al-Rafai**	**3.41**	**174**	*e*Pn	**Pn**	**00 33 41.0**	**+1.2**
RAFI				*e*Sn	**Sn**	**00 34 21.0**	**+0.2**
GRMI	**Germi**	**4.06**	**25**	Pn	**Pn**	**00 33 50.7**	**+1.8**
IKLH	**Kolahrood**	**5.17**	**109**	Pn	**Pn**	**00 34 06.2**	**+1.9**
ZNGN	**Zangian**	**5.22**	**124**	Pn	**Pn**	**00 34 06.3**	**+1.3**

*STR **04** 00:36:34.7±0.5, 46°N±3°×°±°, h5km, MLv3.2/15, Error ellipse: s-maj=0.0km s-min=0.0km az=117.5, preliminary*
*LDG **04** 00:36:34.1±0.1, 45.92°N×1.43°W, h5km, Md3.1/2, Ml3.0/40, Error ellipse: s-maj=1.5km s-min=1.1km az=91.0*
ISC 04 00:36:31.8±1.1, **45.92°N**±0.02×**1.41°W**±0.02, **h11**km±9km, **n88**, σ**1.59**/155, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHIF	**Chize**	**0.73**	**73**	Pg	**Pn**	**00 36 48.9**	**+0.8**
CHIF				Sg	**Sb**	**00 36 58.7**	**+2.1**
MFF	**Saint Martin d**	**1.11**	**52**	*e*Pg	**Pn**	**00 36 55.9**	**+2.5**
MFF				*e*Sg	**Sn**	**00 37 09.9**	**+1.2**
	55nm,0.2s						
MFF	**Saint Martin d**	**1.11**	**52**	Pg	**Pn**	**00 36 55.9**	**+2.5**
MFF				Sg	**Sn**	**00 37 11.3**	**+2.6**
LRVF	**chteau la Riv**	**1.24**	**141**	Pn	**Pn**	**00 36 56.5**	**+1.4**
LRVF				Sg	**Sn**	**00 37 15.0**	**+3.1**
LFF	**La Frestale**	**1.80**	**122**	*e*Pn	**Pb**	**00 37 05.1**	**+0.2**
LFF	**La Frestale**	**1.80**	**122**	*e*Pg	**Pg**	**00 37 06.9**	**+0.5**
LFF				*e*Sg	**Sg**	**00 37 30.5**	**+0.7**
	44nm,0.3s						
RJF	**Les Rejaudoux**	**2.15**	**106**	*e*Pn	**Pn**	**00 37 09.9**	**+2.3**
RJF	**Les Rejaudoux**	**2.15**	**106**	*e*Pg	**Pg**	**00 37 13.3**	**+0.4**
RJF				*e*Sn	**Sn**	**00 37 34.7**	**+0.5**
RJF				*e*Sg	**Sg**	**00 37 41.2**	**+0.5**
	42nm,0.2s						
TERF	**Tercis-les-Bai**	**2.25**	**174**	Pn	**Pn**	**00 37 10.7**	**+1.7**
QUIF	**Quistinic**	**2.33**	**330**	*e*Pn	**Pn**	**00 37 12.5**	**+2.4**
QUIF	**Quistinic**	**2.33**	**330**	*e*Pg	**Pg**	**00 37 16.7**	**+0.2**
QUIF				*e*Sg	**Sg**	**00 37 45.9**	**-0.8**
	16nm,0.2s						
MONQ	**Montcuq**	**2.41**	**129**	Pn	**Pn**	**00 37 13.4**	**+2.2**
MONQ				Sn	**Sn**	**00 37 42.7**	**+1.9**
SGMF	**Saint Gilles**	**2.46**	**342**	*e*Pn	**Pn**	**00 37 14.4**	**+2.5**
SGMF	**Saint Gilles**	**2.46**	**342**	*e*Pg	**Pg**	**00 37 19.6**	**+0.6**
SGMF				*e*Sg	**Sg**	**00 37 50.6**	**-0.4**
	16nm,0.2s						
GRR	**Gorron**	**2.50**	**8**	*e*Pn	**Pn**	**00 37 14.6**	**+2.2**
GRR	**Gorron**	**2.50**	**8**	*e*Pg	**Pg**	**00 37 19.7**	**0.0**
GRR				*e*Sn	**Sn**	**00 37 42.5**	**-0.4**
GRR				*e*Sg	**Sg**	**00 37 52.0**	**-0.1**
	24nm,0.3s						
TCF	**Toulx Ste Croi**	**2.55**	**80**	*e*Pn	**Pn**	**00 37 15.4**	**+2.3**
TCF	**Toulx Ste Croi**	**2.55**	**80**	*e*Pg	**Pg**	**00 37 21.8**	**+1.2**
TCF				*e*Sn	**Sn**	**00 37 44.4**	**+0.3**
TCF				*e*Sg	**Sg**	**00 37 54.1**	**+0.5**
	24nm,0.4s						
CAF	**Calviac**	**2.64**	**111**	*e*Pn	**Pn**	**00 37 15.8**	**+1.4**
CAF	**Calviac**	**2.64**	**111**	*e*Pg	**Pg**	**00 37 22.5**	**+0.1**
CAF				*e*Sn	**Sn**	**00 37 46.1**	**-0.4**
CAF				*e*Sg	**Sg**	**00 37 56.8**	**+0.1**
	20nm,0.3s						
OSSF	**Osses**	**2.67**	**178**	Pn	**Pn**	**00 37 15.9**	**+1.2**
EALK	**Alkurruntz**	**2.70**	**181**	Pn	**Pn**	**00 37 16.5**	**+1.2**
ROSF	**Rostrenen**	**2.73**	**333**	*e*Pn	**Pn**	**00 37 16.3**	**+0.7**
ROSF	**Rostrenen**	**2.73**	**333**	*e*Pg	**Pg**	**00 37 23.8**	**-0.4**
ROSF				*e*Sg	**Sg**	**00 37 58.5**	**-1.1**
	9.7nm,0.2s						
ROSF	**Rostrenen**	**2.73**	**333**	Pn	**Pn**	**00 37 18.5**	**+2.9**
SJPF	**Ste Jean**	**2.81**	**177**	*e*Pn	**Pn**	**00 37 17.6**	**+0.9**
SJPF	**Ste Jean**	**2.81**	**177**	*e*Pg	**Pg**	**00 37 25.2**	**-0.4**
SJPF				*e*Sg	**Sg**	**00 38 00.7**	**-1.3**
	9.6nm,0.3s						
LDF	**La Druitiere**	**2.82**	**18**	*e*Pn	**Pn**	**00 37 18.6**	**+1.8**
LDF	**La Druitiere**	**2.82**	**18**	*e*Pg	**Pg**	**00 37 25.7**	**-0.1**
LDF				*e*Sn	**Sn**	**00 37 50.0**	**-0.7**
LDF				*e*Sg	**Sg**	**00 38 01.7**	**-0.6**
	27nm,0.4s						
ATE	**Arette**	**2.88**	**170**	Pn	**Pn**	**00 37 18.3**	**+0.7**
ATE				Pg	**Pg**	**00 37 26.6**	**-0.3**
FLN	**La Foliniere**	**2.91**	**12**	*e*Pn	**Pn**	**00 37 20.2**	**+2.1**
	baz=193						
FLN	**La Foliniere**	**2.91**	**12**	*e*Pg	**Pg**	**00 37 27.4**	**-0.3**
	baz=193						
FLN				*e*Sn	**Sn**	**00 37 52.4**	**-0.7**
FLN				*e*Sg	**Sg**	**00 38 04.5**	**-0.9**
	14nm,0.2s						
PYLO	**Lourdes**	**2.98**	**160**	Pg	**Pg**	**00 37 30.2**	**+1.2**
BGF	**Bois d'Agland**	**3.02**	**76**	*e*Pn	**Pn**	**00 37 21.4**	**+1.8**
BGF	**Bois d'Agland**	**3.02**	**76**	*e*Pg	**Pg**	**00 37 30.7**	**+1.0**
BGF				*e*Sn	**Sn**	**00 37 55.5**	**-0.4**
BGF				*e*Sg	**Sg**	**00 38 08.9**	**0.0**
	101nm,0.4s						
ETSF	**Etsaut**	**3.08**	**168**	*e*Pn	**Pn**	**00 37 20.8**	**+0.3**
ETSF	**Etsaut**	**3.08**	**168**	*e*Pg	**Pg**	**00 37 30.1**	**-0.8**
ETSF				*e*Sn	**Sn**	**00 37 55.8**	**-1.6**
ETSF				*e*Sg	**Sg**	**00 38 09.5**	**-1.3**
	5.8nm,0.3s						
PYM	**Petit Puy Mans**	**3.09**	**92**	Pn	**Pn**	**00 37 23.0**	**+2.3**
PYM	**Petit Puy Mans**	**3.09**	**92**	Pg	**Pg**	**00 37 33.6**	**+2.5**
PYM				Sn	**Sn**	**00 37 57.9**	**+0.2**
HYF	**Humbligny**	**3.10**	**63**	*e*Pg	**Pg**	**00 37 31.5**	**+0.3**
HYF				*e*Sn	**Sn**	**00 37 57.4**	**-0.4**
HYF				*e*Sg	**Sg**	**00 38 11.7**	**+0.3**
EPF	**Esparros**	**3.15**	**156**	*e*Pn	**Pn**	**00 37 22.5**	**+1.1**
EPF	**Esparros**	**3.15**	**156**	*e*Pg	**Pg**	**00 37 31.8**	**-0.3**
EPF				*e*Sn	**Sn**	**00 37 57.8**	**-1.2**
EPF				*e*Sg	**Sg**	**00 38 12.4**	**-0.5**
	8.9nm,0.2s						
VIEF	**Viey**	**3.20**	**161**	Pn	**Pn**	**00 37 23.5**	**+1.3**
CAMF	**Camaret-sur-Me**	**3.21**	**318**	Pn	**Pn**	**00 37 25.9**	**+3.7**
CANF	**Canfranc**	**3.22**	**168**	Pn	**Pn**	**00 37 23.2**	**+0.8**
JSA	**Saint Aubin**	**3.31**	**351**	Pn	**Pn**	**00 37 26.2**	**+2.6**
LBL	**Lubilhac**	**3.34**	**100**	Pn	**Pn**	**00 37 26.6**	**+2.5**
AVF	**Avril sur Loir**	**3.41**	**73**	*e*Pn	**Pn**	**00 37 26.7**	**+1.7**
AVF	**Avril sur Loir**	**3.41**	**73**	*e*Pg	**Pg**	**00 37 37.3**	**+0.1**
AVF				*e*Sn	**Sn**	**00 38 04.8**	**-0.6**
AVF				*e*Sg	**Sg**	**00 38 21.0**	**-0.4**
	5.1nm,0.3s						
MLS	**Moulis**	**3.46**	**148**	Pn	**Pn**	**00 37 27.9**	**+2.2**
SSF	**Saint Saulge**	**3.58**	**70**	*e*Pn	**Pn**	**00 37 28.1**	**+0.8**
SSF	**Saint Saulge**	**3.58**	**70**	*e*Pg	**Pg**	**00 37 40.6**	**+0.1**
SSF				*e*Sn	**Sn**	**00 38 08.8**	**-0.9**
SSF				*e*Sg	**Sg**	**00 38 26.4**	**-0.5**
	9.1nm,0.3s						
COLF	**Collangettes**	**3.60**	**95**	Pn	**Pn**	**00 37 30.3**	**+2.7**
MTLF	**Montolieu**	**3.65**	**134**	*e*Pn	**Pn**	**00 37 29.8**	**+1.5**
MTLF	**Montolieu**	**3.65**	**134**	*e*Pg	**Pg**	**00 37 41.5**	**-0.3**
MTLF				*e*Sn	**Sn**	**00 38 10.3**	**-1.1**
MTLF				*e*Sg	**Sg**	**00 38 28.4**	**-0.7**
	6.9nm,0.3s						
MTLF	**Montolieu**	**3.65**	**134**	Pn	**Pn**	**00 37 30.3**	**+1.9**
SALF	**Salau**	**3.67**	**149**	Pn	**Pn**	**00 37 30.3**	**+1.7**
SMF	**Signal de Mont**	**3.71**	**77**	*e*Pn	**Pn**	**00 37 30.6**	**+1.5**
SMF	**Signal de Mont**	**3.71**	**77**	*e*Pg	**Pg**	**00 37 42.6**	**-0.4**
SMF				*e*Sn	**Sn**	**00 38 11.9**	**-1.0**
SMF				*e*Sg	**Sg**	**00 38 30.8**	**-0.2**
	8.6nm,0.3s						
LOR	**Lormes**	**3.88**	**68**	*e*Pn	**Pn**	**00 37 32.1**	**+0.7**
	baz=252						
LOR	**Lormes**	**3.88**	**68**	*e*Pg	**Pg**	**00 37 45.3**	**-0.8**
	baz=252						
LOR				*e*Sn	**Sn**	**00 38 15.8**	**-1.1**
LOR				*e*Sg	**Sg**	**00 38 35.5**	**-0.7**
	9.4nm,0.3s,baz=250						
LASF	**Ste Croix**	**4.17**	**114**	*e*Pn	**Pn**	**00 37 37.9**	**+2.5**
LASF				*e*Sn	**Sn**	**00 38 22.8**	**-1.3**
LASF				*e*Sg	**Sg**	**00 38 45.4**	**-0.2**
	7.2nm,0.4s						
VIVF	**Saint-Julien-l**	**4.42**	**102**	*e*Pn	**Pn**	**00 37 40.6**	**+1.8**
VIVF	**Saint-Julien-l**	**4.42**	**102**	*e*Pg	**Pg**	**00 37 56.1**	**-0.3**
VIVF				*e*Sn	**Sn**	**00 38 29.2**	**-1.1**
VIVF				*e*Sg	**Sg**	**00 38 52.7**	**-0.9**
	5.0nm,0.3s						
SJAF	**Saint Jean de**	**4.62**	**137**	Pn	**Pn**	**00 37 44.2**	**+2.6**
SFTF	**Sexfontaines**	**4.96**	**60**	*e*Pn	**Pn**	**00 37 47.2**	**+0.9**
SFTF	**Sexfontaines**	**4.96**	**60**	*e*Pg	**Pg**	**00 38 05.6**	**-1.3**
SFTF				*e*Sn	**Sn**	**00 38 42.0**	**-1.7**
SFTF				*e*Sg	**Sg**	**00 39 09.8**	**-1.4**
	2.9nm,0.3s						
MEZF	**Maizieres J'vi**	**5.11**	**57**	*e*Pn	**Pn**	**00 37 48.9**	**+0.7**
MEZF	**Maizieres J'vi**	**5.11**	**57**	*e*Pg	**Pg**	**00 38 09.7**	**+0.1**
	baz=242						
MEZF				*e*Sg	**Sg**	**00 39 13.9**	**-1.8**
	5.6nm,0.5s						
SAVF	**Savonnieres en**	**5.20**	**56**	*e*Pn	**Pn**	**00 37 50.5**	**+0.9**
SAVF	**Savonnieres en**	**5.20**	**56**	*e*Pg	**Pg**	**00 38 09.8**	**-1.6**
SAVF				*e*Sn	**Sn**	**00 38 47.9**	**-1.6**
	1.7nm,0.3s						
CABF	**La Chapelle**	**5.25**	**80**	*e*Pg	**Pg**	**00 38 10.7**	**-1.6**
CABF				*e*Sn	**Sn**	**00 38 48.1**	**-2.7**
CABF				*e*Sg	**Sg**	**00 39 18.3**	**-1.9**
	9.7nm,0.6s						
SMRF	**Simiane la Rot**	**5.33**	**109**	*e*Pn	**Pn**	**00 37 53.5**	**+2.2**
SMRF				*e*Sn	**Sn**	**00 38 50.9**	**-1.8**
SMRF				*e*Sg	**Sg**	**00 39 21.6**	**-1.2**
	6.5nm,0.7s						
PAGF	**Fort de Pagny**	**5.53**	**59**	*e*Pn	**Pn**	**00 37 54.8**	**+0.7**
PAGF	**Fort de Pagny**	**5.53**	**59**	*e*Pg	**Pg**	**00 38 16.1**	**-1.6**
PAGF				*e*Sn	**Sn**	**00 38 55.2**	**-2.4**
PAGF				*e*Sg	**Sg**	**00 39 26.9**	**-2.3**
	1.5nm,0.3s						
BAIF	**Baives**	**5.60**	**40**	*e*Pn	**Pn**	**00 37 55.8**	**+0.8**
BAIF				*e*Sn	**Sn**	**00 38 56.9**	**-2.5**
BAIF				*e*Sg	**Sg**	**00 39 29.3**	**-2.2**
	2.1nm,0.4s						
HAU	**Haudompre**	**5.71**	**66**	*e*Pn	**Pn**	**00 37 57.0**	**+0.5**
HAU	**Haudompre**	**5.71**	**66**	*e*Pg	**Pg**	**00 38 19.3**	**-1.8**
HAU				*e*Sn	**Sn**	**00 38 59.6**	**-2.4**
HAU				*e*Sg	**Sg**	**00 39 32.7**	**-2.2**
	6.3nm,0.4s						
LPL	**La Plagne**	**5.72**	**91**	*e*Sg	**Sg**	**00 39 32.7**	**-2.6**
	2.1nm,0.5s						
LPG	**La Plagne**	**5.73**	**91**	*e*Pn	**Pn**	**00 37 58.8**	**+1.7**
LPG	**La Plagne**	**5.73**	**91**	*e*Pg	**Pg**	**00 38 20.0**	**-1.6**
LPG				*e*Sg	**Sg**	**00 39 34.3**	**-1.5**
	2.1nm,0.4s						
MBDF	**Montbardon**	**5.89**	**99**	*e*Pg	**Pg**	**00 38 23.4**	**-1.2**
HINF	**Hinteralfeld**	**5.98**	**69**	*e*Sn	**Sn**	**00 39 06.1**	**-2.6**
HINF				*e*Sg	**Sg**	**00 39 41.1**	**-2.5**
	3.6nm,0.3s						
LMR	**La Mourre**	**6.21**	**112**	*e*Pn	**Pn**	**00 38 04.9**	**+1.4**
LMR				*e*Sn	**Sn**	**00 39 11.8**	**-2.7**
	0.2nm,0.2s						
MVO	**Moncorvo**	**6.26**	**223**	*e*Pn	**Pn**	**00 38 05.4**	**+1.2**
MVO				*e*Sn	**Sn**	**00 39 12.7**	**-3.1**
MVO				A	A	00 39 14.8	
	1.9nm,0.7s						
PGAV	**Gavieira, Arco**	**6.33**	**234**	*e*Pn	**Pn**	**00 38 05.5**	**+0.3**
PGAV				*e*Sn	**Sn**	**00 39 13.4**	**-4.2**
CDF	**Champ du Feu**	**6.43**	**64**	*e*Pn	**Pn**	**00 38 07.0**	**+0.5**
CDF	**Champ du Feu**	**6.43**	**64**	*e*Pg	**Pg**	**00 38 32.5**	**-2.3**
CDF				*e*Sn	**Sn**	**00 39 17.3**	**-2.5**
CDF				*e*Sg	**Sg**	**00 39 55.4**	**-2.6**
	2.7nm,0.4s						

*IDC **04** 00:38:49.9±1.0, 6.03°S×130.23°E, h0km, mb3.9/7, mbtmp3.9/10, ML3.8/3, MS4.4/2, Error ellipse: s-maj=46.6km s-min=20.4km az=74.0*
ISC 04 00:39:04.8±1.3, **6.8°S**±0.1×**129.8°E**±0.2, **h150**km, **n12**, σ**1.69**/7, **mb3.8**/7, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.95**	**240**	Pn	**Pn**	**00 40 44.0**	**-0.3**
	3.5nm,0.3s,baz=36,slow=4.0,SNR=4.9						
	19nm,0.4s						
WRA	**Warramunga Arr**	**13.84**	**162**	Pn	**Pn**	**00 42 13.8**	**-1.0**
	0.3nm,0.3s,baz=342,slow=13,SNR=8.9						
WRA				Sn	**Sn**	**00 44 48.1**	**-0.2**
	0.4nm,0.3s,baz=346,slow=21,SNR=9.1						
	1.4nm,0.7s						

ASAR	Alice Springs	17.28	167	P	Pn	00 43 00.3	+3.1
	0.2nm,0.3s,baz=342,slow=9.4,SNR=14						
ASAR				S	Sn	00 46 10.3	-0.4
	1.0nm,0.8s,baz=352,slow=24,SNR=4.3						
	0.9nm,0.6s						
CTA	Charters Tower	20.77	131	LR	LR	00 52 06.6	
	comp=Z,423nm,20.8s,baz=320,slow=38						
STKA	Stephens Creek	27.33	158	P	P	00 44 41.5	+5.8
	2.3nm,0.9s,baz=318,slow=3.3,SNR=3.3						
	2.3nm,0.9s						
SONM	Songino Array	58.13	342	P	P	00 48 42.4	-0.4
	0.1nm,0.4s,baz=161,slow=8.5,SNR=2.0						
	0.1nm,0.4s						
MKAR	Makanchi Array	67.89	327	P	P	00 49 48.1	+1.0
	1.4nm,0.6s,baz=127,slow=7.5,SNR=11						
	1.4nm,0.6s						
ZALV	Zalesovo Beam	71.26	334	P	P	00 50 07.9	+0.4
	0.8nm,0.6s,baz=129,slow=7.4,SNR=4.0						
	0.8nm,0.6s						
KURBB	Kurchatov Arra	72.18	329	P	P	00 50 14.4	+1.3
	2.3nm,0.8s,baz=130,slow=5.2,SNR=24						
	2.3nm,0.8s						
BVAR	Borovoye Array	77.73	328	P	P	00 50 46.1	+1.1
	0.8nm,0.9s,baz=128,slow=9.3,SNR=2.6						
	0.8nm,0.9s						
BELG	Belogornoye	90.52	323	LR	LR	01 37 59.8	
	comp=Z,433nm,19.0s,baz=113,slow=39						
ILAR	Eielson Array	93.22	25	P	P	00 52 02.2	+0.3
	0.7nm,1.2s,baz=255,slow=5.4,SNR=1.6						
	0.7nm,1.2s						

*NOU **04** 00:43:14.4, 40°.29S×173°.95E, h115km, MLv3.7/12, Cook Strait, New Zealand*
*WEL **04** 00:43:16.7±0.6, 40°S±3°×17°4E±°, h83km±7km, M3.1/40, ML3.4/39, MLv3.1/40, Error ellipse: s-maj=0.0km s-min=0.0km az=98.2, confirmed*
ISC 04 00:43:14.7±1.5**, 40°.35S**±0°.03×**173°.95E**±0°.04**, h109**km±9km**, n125, σ0s.92**/131**, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.46	183	P	Pn	00 43 31.3	+0.1
DUWZ				S	Sn	00 43 42.4	-1.1
HWHS	Hawera High Sc	0.80	18	S	Sn	00 43 47.8	-0.4
KIW	Kapiti Island	0.89	125	P	Pn	00 43 35.4	+0.7
KIW				S	Sn	00 43 48.7	-1.1
OPSS	Opunake Primar	0.90	355	P	Pn	00 43 33.3	-1.4
OPSS				S	Sn	00 43 48.7	-1.2
TCW	Tory Channel	0.90	164	P	Pn	00 43 35.6	+0.9
TCW				S	Sn	00 43 49.4	-0.5
NMEZ	Namu Road	0.93	357	P	Pn	00 43 35.4	+0.4
NMEZ				S	Sn	00 43 50.2	-0.2
QCCS	Picton Queen C	0.93	177	S	Sn	00 43 49.8	-0.6
WCDS	Wanganui Civil	0.94	64	P	Pn	00 43 35.5	+0.4
WCDS				S	Sn	00 43 51.6	+1.1
LREZ	Lake Rotokare	0.95	22	P	Pn	00 43 35.9	+0.6
NNZ	Nelson	0.97	206	P	Pn	00 43 36.2	+0.8
FXBS	Foxton Beach S	0.98	97	S	Sn	00 43 49.8	-1.5
WAZ	Wanganui	0.99	54	P	Pn	00 43 36.5	+0.8
WAZ				S	Sn	00 43 53.3	+1.8
PREZ	Palmer Road	1.01	9	P	Pn	00 43 36.4	+0.4
TKNZ	Takaka Hill	1.02	227	P	Pn	00 43 36.4	+0.4
OGWZ	Otaki Gorge	1.04	117	P	Pn	00 43 37.5	+1.3
KHEZ	Kahui Hut	1.05	3	P	Pn	00 43 36.2	-0.2
KHEZ	Kahui Hut	1.05	3	P	Pn	00 43 36.8	+0.4
OHWZ	Ohakea	1.05	83	P	Pn	00 43 37.0	+0.8
NBEZ	Newall Road No	1.08	357	P	Pn	00 43 37.0	+0.4
NEZ	North Egmont	1.08	6	P	Pn	00 43 37.0	+0.3
TUWZ	Tuamarina	1.08	180	P	Pn	00 43 37.5	+0.8
SNZO	South Karori	1.12	150	P	Pn	00 43 38.1	+1.1
CAW	Cannon Point	1.14	132	P	Pn	00 43 37.9	+0.7
PKE	Pukeiti	1.15	1	P	Pn	00 43 37.9	+0.5
QRZ	Quartz Range	1.18	246	P	Pn	00 43 37.8	+0.1
QRZ	Quartz Range	1.18	246	P	Pn	00 43 37.8	+0.1
BHW	Baring Head	1.27	147	P	Pn	00 43 39.2	+0.5
MRZ	Mangatainoka R	1.28	105	P	Pn	00 43 39.2	+0.4
MHEZ	Mangahewa	1.30	13	P	Pn	00 43 39.8	+0.7
HOWZ	Holdsworth Sta	1.31	115	P	Pn	00 43 39.8	+0.6
BSWZ	Blackbirch Sta	1.37	182	P	Pn	00 43 41.2	+1.4
VRZ	Vera Road	1.37	27	P	Pn	00 43 40.4	+0.6
MRNZ	Matariki Terra	1.39	220	P	Pn	00 43 40.9	+0.9
MTW	Mount Morrison	1.43	125	P	Pn	00 43 41.3	+0.7
PKVZ	Pokaka	1.51	46	P	Pn	00 43 42.2	+0.7
MTVZ	Mangateitei	1.51	51	P	Pn	00 43 42.2	+0.5
PAWZ	Paruwai Farm	1.52	133	P	Pn	00 43 42.3	+0.6
TIWZ	Tintock	1.54	107	P	Pn	00 43 43.6	+1.7
PRWZ	Pori Road	1.56	98	P	Pn	00 43 44.8	+2.8
TSZ	Takapari Road	1.57	80	P	Pn	00 43 42.0	-0.2
PLWZ	Palliser	1.57	141	P	Pn	00 43 42.8	+0.6
TRVZ	Turoa	1.61	50	P	Pn	00 43 43.5	+0.4
THZ	Tophouse	1.62	209	P	Pn	00 43 44.0	+1.1
WNVZ	Wahianoa	1.63	52	P	Pn	00 43 43.6	+0.5
MAVZ	Matarangi	1.64	50	P	Pn	00 43 44.8	+1.3
FWVZ	Far West T-bar	1.65	49	P	Pn	00 43 44.0	+0.5
WHVZ	Whangaehu Hut	1.65	50	P	Pn	00 43 43.9	+0.5
TMWZ	Te Maipa	1.66	118	P	Pn	00 43 44.1	+0.8
MOVZ	Moawhango	1.67	56	P	Pn	00 43 43.6	0.0
COVZ	Chateau Observ	1.68	47	P	Pn	00 43 44.5	+0.8
TRWZ	Traveller	1.69	129	P	Pn	00 43 44.4	+0.7
DVHZ	Dannevirke	1.69	89	P	Pn	00 43 43.4	-0.4
TUVZ	Tukino	1.70	51	P	Pn	00 43 44.4	+0.4
TWVZ	Taurewa	1.71	42	P	Pn	00 43 44.5	+0.4
NGZ	Ngauruhoe	1.73	48	P	Pn	00 43 44.7	+0.4
SNVZ	South Ngauruho	1.74	49	P	Pn	00 43 44.9	+0.4
WTVZ	West Tongariro	1.76	46	P	Pn	00 43 45.2	+0.5
NNVZ	North Ngauruho	1.77	47	P	Pn	00 43 45.3	+0.5
OTVZ	Oturere	1.77	49	P	Pn	00 43 45.3	+0.4
PNHZ	Pukenui	1.78	77	P	Pn	00 43 44.5	-0.4
BFZ	Birch Farm	1.78	102	P	Pn	00 43 45.0	+0.2
BFZ	Birch Farm	1.78	102	P	Pn	00 43 45.5	+0.6
KRVZ	Karewarewa	1.81	47	P	Pn	00 43 45.7	+0.5
ETVZ	East Tongariro	1.82	49	P	Pn	00 43 45.7	+0.3
NTVZ	North Tongarir	1.82	47	P	Pn	00 43 46.4	+0.9
TMVZ	Te Maari	1.83	48	P	Pn	00 43 46.3	+0.7
KATZ	Kakaramea	1.92	45	P	Pn	00 43 46.9	+0.2
HIZ	Hauiti	1.96	21	P	Pn	00 43 47.0	-0.1
HIZ	Hauiti	1.96	21	P	Pn	00 43 47.2	+0.1
KRHZ	Kereru	1.99	70	P	Pn	00 43 46.9	-0.5
RITZ	Rihia Road	2.01	48	P	Pn	00 43 47.9	+0.2
RATZ	Rangitukua	2.04	44	P	Pn	00 43 49.7	+1.6
PRHZ	Porangahau	2.05	89	P	Pn	00 43 48.0	-0.2
KHZ	Kahutara	2.09	188	P	Pn	00 43 49.7	+1.0
KHZ	Kahutara	2.09	188	P	Pn	00 43 49.8	+1.0
KWHZ	Kaweka Forest	2.11	65	P	Pn	00 43 49.3	+0.2
WATZ	Wairara	2.14	41	P	Pn	00 43 50.5	+1.1
DSZ	Denniston Nort	2.14	229	P	Pn	00 43 50.1	+0.7
MCHZ	McNeill Hill	2.30	68	P	Pn	00 43 54.6	+3.2
KAHZ	Kahuranaki	2.31	77	P	Pn	00 43 51.3	-0.3
TLZ	Tolley Road	2.36	32	P	Pn	00 43 52.6	+0.4
NMHZ	Naumai	2.53	61	P	Pn	00 43 54.1	-0.5
ARHZ	Aropaoanui	2.58	66	P	Pn	00 43 53.6	-1.5
MTHZ	Maungataniwha	2.69	57	P	Pn	00 43 55.6	-0.9
GVZ	Greta Valley S	2.71	194	P	Pn	00 43 57.0	+0.3
LTZ	Lake Taylor	2.74	207	P	Pn	00 43 58.6	+1.4
RAHZ	Arahi	2.81	60	P	Pn	00 44 03.1	+5.0
TOZ	Tahuroa Road	2.88	25	P	Pn	00 43 59.4	+0.4
RTZ	Ruatahuna	2.91	55	P	Pn	00 43 58.1	-1.5
AMCZ	Amberley	2.99	199	P	Pn	00 44 01.7	+1.3
INZ	Inchbonnie	3.03	218	P	Pn	00 44 01.8	+0.9
URZ	Urewera	3.22	51	P	Pn	00 44 02.1	-1.4
URZ	Urewera	3.22	51	P	Pn	00 44 01.6	-1.9
RAGZ	Rawiri	3.26	57	P	Pn	00 44 06.3	+2.2
OXZ	Oxford	3.30	205	P	Pn	00 44 05.7	+1.1
AWAZ	Awhitu Peninsu	3.32	10	P	Pn	00 44 05.6	+0.7
MKAZ	Moumakai	3.37	17	P	Pn	00 44 06.1	+0.5
MWZ	Matawai	3.42	55	P	Pn	00 44 04.1	-2.2
OKCZ	Okains Bay	3.44	191	P	Pn	00 44 05.8	-0.6
WTAZ	Waiatarua	3.44	8	P	Pn	00 44 06.5	0.0
ETAZ	East Tamaki Re	3.47	13	P	Pn	00 44 07.6	+0.6
MQZ	McQueen's Vall	3.49	196	P	Pn	00 44 05.9	-1.3
WVZ	Waitaha Valley	3.64	220	P	Pn	00 44 10.1	+1.0
RACZ	Rakaia	3.64	201	P	Pn	00 44 09.2	+0.2
MHCZ	Mount Hutt	3.65	208	P	Pn	00 44 09.6	+0.4
MBAZ	Motutapu North	3.65	12	P	Pn	00 44 09.9	+0.7
WIAZ	Waiheke Island	3.67	15	P	Pn	00 44 10.5	+1.0
ABAZ	Army Bay	3.80	11	P	Pn	00 44 12.2	+0.9
KUZ	Kuaotunu	3.85	22	P	Pn	00 44 11.7	-0.3
KUZ	Kuaotunu	3.85	22	P	Pn	00 44 11.9	-0.1
WACZ	Wakanui South	3.92	203	P	Pn	00 44 13.1	+0.3
RPZ	Rata Peaks	4.00	212	P	Pn	00 44 14.8	+0.9
RPZ	Rata Peaks	4.00	212	P	Pn	00 44 14.2	+0.3
GCSZ	Gaunt Creek Bo	4.02	221	P	Pn	00 44 14.8	+0.7
PKGZ	Pakihiroa	4.04	54	P	Pn	00 44 12.4	-2.1
ARCZ	Arundel	4.15	209	P	Pn	00 44 15.9	-0.1
FOZ	Fox Glacier	4.43	223	P	Pn	00 44 20.2	+0.5
TMZ	Timaru	4.59	207	P	Pn	00 44 21.7	-0.1
LBZ	Lake Benmore	4.91	213	P	Pn	00 44 25.5	-0.6
ODZ	Otahua Downs	5.29	206	P	Pn	00 44 31.6	+0.3
ODZ	Otahua Downs	5.29	206	P	Pn	00 44 31.7	+0.4
JCZ	Jackson Bay	5.35	224	P	Pn	00 44 32.2	0.0
JCZ	Jackson Bay	5.35	224	P	Pn	00 44 32.2	0.0
WKZ	Wanaka	5.77	217	P	Pn	00 44 38.0	+0.1
SYZ	Scrubby Hill	7.11	208	P	Pn	00 44 56.5	+0.6

*IDC **04** 00:45:17.6±1.7, 27°.30S×178°.37W, h299km±15km, mb3.6/9, mbtmp4.2/10, Error ellipse: s-maj=20.2km s-min=16.3km az=41.0*
*NEIC **04** 00:45:17.6±1.8, 27°.4S±0°.1×178°.4W±0°.2, h293km±12km, mb4.1/21, Error ellipse: s-maj=23.3km s-min=16.1km az=90.0*
ISC 04 00:45:17.4±0.6**, 27°.54S**±0°.07×**178°.58W**±0°.09**, h300**km**, n139, σ1s.97**/125**, mb3.9**/16**, 4C, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RIZ	Raoul Island	1.79	162	P	Pn	00 46 04.3	+1.7
RIZ				S	S	00 46 41.0	+2.5
RAO	Raoul Island	1.80	161	Pn	Pn	00 46 03.1	+0.5
RAO	Raoul Island	1.80	161	P	Pn	00 46 03.9	+1.3
	631nm,0.2s,baz=61,slow=13,SNR=5.2						
RAO				S	S	00 46 30.3	-8.3
	706nm,0.2s,baz=278,slow=20,SNR=1.6						
GLKZ	Green Lake	1.81	161	P	Pn	00 46 03.2	+0.5
GLKZ				S	S	00 46 38.7	+0.1
MXZ	Matakaoa Point	10.33	194	Pn	Pn	00 47 41.5	+2.0
MXZ	Matakaoa Point	10.33	194	P	Pn	00 47 42.4	+2.9
MXZ	Matakaoa Point	10.33	194	P	Pn	00 47 36.7	-2.8
MXZ				S	S	00 49 29.0	-6.5
URZ	Urewera	11.28	198	P	Pn	00 47 49.5	-1.6
URZ	Urewera	11.28	198	P	Pn	00 47 51.3	+0.2
	8.5nm,0.3s,baz=359,slow=3.7,SNR=24						
URZ				S	S	00 49 51.1	-6.0
	26nm,0.4s,baz=158,slow=23,SNR=14						
TOZ	Tahuroa Road	11.31	205	P	P	00 47 55.8	+2.2
TARZ	Mount Tarawera	11.43	200	P	Pn	00 47 56.0	+3.0
MUGZ	Murupara	11.58	198	P	Pn	00 47 54.4	-0.4
NIUE	Niue	11.58	45		P	00 47 54.1	-2.7
RTZ	Ruatahuna	11.65	197		Pn	00 47 55.4	-0.3
KNZ	Kokohu	11.87	194	P	Pn	00 47 57.5	-0.7
RAHZ	Arahi	11.91	197	P	Pn	00 47 58.1	-0.6
MTHZ	Maungataniwha	11.91	198	P	Pn	00 47 58.8	0.0
NMHZ	Naumai	12.15	197	P	Pn	00 48 00.2	-1.5
ARHZ	Aropaoanui	12.26	196	P	Pn	00 48 01.7	-1.2
NTVZ	North Tongarir	12.48	201	P	Pn	00 48 05.6	-0.2
TMVZ	Te Maari	12.49	201	P	Pn	00 48 05.6	-0.3
ETVZ	East Tongariro	12.51	201	P	Pn	00 48 05.4	-0.7
MCHZ	McNeill Hill	12.51	197	P	Pn	00 48 05.4	-0.5
WTVZ	West Tongariro	12.53	201	P	Pn	00 48 05.8	-0.5
NNVZ	North Ngauruho	12.53	201	P	Pn	00 48 06.6	+0.2
TWVZ	Taurewa	12.53	202	P	Pn	00 48 05.8	-0.6
OTVZ	Oturere	12.54	201	P	Pn	00 48 05.3	-1.3
KWHZ	Kaweka Forest	12.56	198	P	Pn	00 48 04.4	-2.3
SNVZ	South Ngauruho	12.57	201	P	Pn	00 48 05.2	-1.7
NGZ	Ngauruhoe	12.58	201	P	Pn	00 48 06.0	-1.0
CKHZ	Cape Kidnapper	12.61	196	P	Pn	00 48 06.0	-1.3
TUVZ	Tukino	12.64	201	P	Pn	00 48 06.5	-1.2
FWVZ	Far West T-bar	12.66	201	P	Pn	00 48 06.0	-2.1
WNVZ	Wahianoa	12.71	201	P	Pn	00 48 06.7	-1.9
MOVZ	Moawhango	12.74	200	P	Pn	00 48 07.4	-1.4
PKVZ	Pokaka	12.76	202	P	Pn	00 48 07.9	-1.2
KRHZ	Kereru	12.78	198	P	Pn	00 48 05.8	-3.5
KAHZ	Kahuranaki	12.79	196	P	Pn	00 48 06.8	-2.6
VRZ	Vera Road	12.82	204	P	Pn	00 48 10.5	+0.8
PXZ	Pawanui	13.02	196	P	Pn	00 48 09.6	-2.5
PNHZ	Pukenui	13.08	198	P	Pn	00 48 09.5	-3.4
WPHZ	Waipukurau	13.15	197	P	Pn	00 48 13.0	-0.8
TSZ	Takapari Road	13.28	199	P	P	00 48 12.5	-2.9
PRHZ	Porangahau	13.29	196	P	P	00 48 12.4	-3.2
DVHZ	Dannevirke	13.45	198	P	P	00 48 14.5	-2.7
ANWZ	Angora Road	13.52	196	P	P	00 48 16.3	-1.7
ANWZ	Angora Road	13.52	196	P	P	00 48 14.7	-3.3
ANWZ				S	S	00 50 38.5	-8.8
POWZ	Post Office Ro	13.64	199	P	P	00 48 17.7	-1.8
POWZ				S	S	00 50 41.4	-8.6
PRWZ	Pori Road	13.74	198	P	P	00 48 19.0	-1.5
PRWZ	Pori Road	13.74	198	P	P	00 48 18.1	-2.3
PRWZ				S	S	00 50 42.1	-10
BFZ	Birch Farm	13.79	197	P	P	00 48 16.8	-4.2
BFZ	Birch Farm	13.79	197	P	P	00 48 17.6	-3.4
BFZ	Birch Farm	13.79	197	P	P	00 48 16.7	-4.3
BFZ	Birch Farm	13.79	197	P	P	00 48 18.1	-2.9
BFZ				S	S	00 50 43.5	-10
MRZ	Mangatainoka R	13.95	199	P	P	00 48 18.4	-4.4
MRZ	Mangatainoka R	13.95	199	P	P	00 48 18.5	-4.2
MRZ	Mangatainoka R	13.95	199	P	P	00 48 16.2	-6.6
MRZ				S	S	00 50 45.5	-11
TIWZ	Tintock	13.97	198	P	P	00 48 20.9	-2.2
TIWZ	Tintock	13.97	198	P	P	00 48 20.6	-2.4
TIWZ				S	S	00 50 47.2	-10
CPWZ	Castlepoint	14.01	197	P	P	00 48 21.6	-1.9
CPWZ				S	S	00 50 50.1	-7.7
HOWZ	Holdsworth Sta	14.18	199	P	P	00 48 21.7	-3.7
HOWZ	Holdsworth Sta	14.18	199	P	P	00 48 20.2	-5.2
HOWZ				S	S	00 50 50.5	-11
OGWZ	Otaki Gorge	14.21	200	P	P	00 48 21.6	-4.1
OGWZ	Otaki Gorge	14.21	200	P	P	00 48 20.0	-5.7
OGWZ				S	S	00 50 50.8	-11
TMWZ	Te Maipa	14.28	197	P	P	00 48 24.6	-1.8
TMWZ	Te Maipa	14.28	197	P	P	00 48 22.4	-4.0
TMWZ				S	S	00 50 51.8	-12
KIW	Kapiti Island	14.33	200	P	P	00 48 24.2	-2.8
KIW	Kapiti Island	14.33	200	P	P	00 48 23.0	-4.0
MTW	Mount Morrison	14.43	198	P	P	00 48 25.3	-2.8
MTW	Mount Morrison	14.43	198	P	P	00 48 24.1	-4.0
MTW				P	S	00 50 53.6	-13
DUWZ	D'Urville Isla	14.60	203	P	P	00 48 28.0	-2.0
DUWZ	D'Urville Isla	14.60	203	P	P	00 48 26.4	-3.6
DUWZ				P	S	00 51 03.9	-6.0
TRWZ	Traveller	14.60	197	P	P	00 48 28.3	-1.7
TRWZ	Traveller	14.60	197	P	P	00 48 27.8	-2.2
DZM	Mont Dzumac	14.65	289		P	00 48 29.0	-1.8
PAWZ	Paruwai Farm	14.66	198	P	P	00 48 28.5	-2.1
TCW	Tory Channel	14.85	201	P	P	00 48 30.8	-1.9
TCW	Tory Channel	14.85	201	P	P	00 48 30.5	-2.2
PLWZ	Palliser	14.88	198	P	P	00 48 30.9	-2.2
PLWZ	Palliser	14.88	198	P	P	00 48 31.2	-1.9
PLWZ	Palliser	14.88	198	P	P	00 48 30.0	-3.1
PLWZ				S	S	00 51 06.4	-9.1
AFI	Afiamalu	14.97	26	P	P	00 48 30.1	-4.4
QRZ	Quartz Range	15.14	207	P	P	00 48 35.1	-0.9
QRZ				IAmb	IAmb	00 48 37.0	
	comp=Z,10nm,1.1s						
QRZ	Quartz Range	15.14	207	P	P	00 48 35.3	-0.6
QRZ	Quartz Range	15.14	207	P	P	00 48 35.0	-0.9
QRZ	Quartz Range	15.14	207	P	P	00 48 34.6	-1.4
QRZ				S	S	00 51 16.9	-3.8
TUWZ	Tuamarina	15.15	202	P	P	00 48 34.0	-2.0
TUWZ	Tuamarina	15.15	202	P	P	00 48 34.1	-1.9
TUWZ	Tuamarina	15.15	202	P	P	00 48 32.5	-3.5
TUWZ				S	S	00 51 15.7	-5.2
TKNZ	Takaka Hill	15.15	205	P	P	00 48 35.5	-0.6
TKNZ	Takaka Hill	15.15	205	P	P	00 48 35.2	-0.9
TKNZ	Takaka Hill	15.15	205	P	P	00 48 32.9	-3.2
TKNZ				S	S	00 51 16.9	-4.0
NNZ	Nelson	15.16	204	P	P	00 48 33.7	-2.4
NNZ	Nelson	15.16	204	P	P	00 48 34.8	-1.3
NNZ	Nelson	15.16	204	P	P	00 48 33.3	-2.8
NNZ				S	S	00 51 16.3	-4.7
BSWZ	Blackbirch Sta	15.43	202	P	P	00 48 37.3	-1.7
BSWZ	Blackbirch Sta	15.43	202	P	P	00 48 38.4	-0.7
MRNZ	Matariki Terra	15.55	205	P	P	00 48 38.8	-1.6
MRNZ	Matariki Terra	15.55	205	P	P	00 48 39.3	-1.0
MRNZ	Matariki Terra	15.55	205	P	P	00 48 37.8	-2.6
MRNZ				S	S	00 51 23.8	-5.0
THZ	Tophouse	15.81	204	P	P	00 48 42.1	-1.1
THZ				IAmb	IAmb	00 48 56.5	
	comp=Z,4.5nm,0.8s						
THZ	Tophouse	15.81	204	P	P	00 48 41.7	-1.6
KHZ	Kahutara	16.17	201	P	P	00 48 46.1	-1.1
KHZ	Kahutara	16.17	201	P	P	00 48 46.0	-1.1
CTZ	Chatham Island	16.23	175	P	P	00 48 50.0	+2.2
GVZ	Greta Valley S	16.83	202	P	P	00 48 51.9	-2.4
INZ	Inchbonnie	17.18	206	P	P	00 48 57.4	-0.8
INZ				IAmb	IAmb	00 49 04.6	
	comp=Z,8.8nm,1.1s						
RPZ	Rata Peaks	18.18	205	P	P	00 49 11.3	+2.4
	comp=Z,2.8nm,0.3s,baz=48,slow=12,SNR=2.2						
RPZ				S	S	00 52 16.6	-4.4
	comp=Z,1.3nm,0.4s,baz=294,slow=17,SNR=3.0						
FOZ	Fox Glacier	18.51	207	P	P	00 49 12.2	-0.1
LBZ	Lake Benmore	19.08	205	P	P	00 49 17.7	-0.8
LBZ				IAmb	IAmb	00 49 17.7	
	comp=Z,11nm,1.2s						
MLZ	Mavora Lakes	20.71	207	P	P	00 49 34.9	-0.4
MLZ				IAmb	IAmb	00 49 47.0	
	comp=Z,13nm,1.1s						
WHZ	Wether Hill Ro	21.21	207	P	P	00 49 40.6	+0.6
WHZ				IAmb	IAmb	00 49 51.1	
	comp=Z,16nm,1.2s						
CTA	Charters Tower	32.94	275	P	P	00 51 27.1	+2.5
	comp=Z,2.8nm,0.5s,baz=92,slow=9.1,SNR=8.6						
	comp=Z,2.8nm,0.5s						
COEN	Coen	38.07	283	P	P	00 52 10.1	+2.0
COEN				IAmb	IAmb	00 52 12.7	
	comp=Z,7.8nm,1.1s						
BBOO	Buckleboo	39.34	251	P	P	00 52 18.3	-0.1
AS31	Alice Springs	42.83	264	P	P	00 52 48.4	+1.6
ASAR	Alice Springs	42.83	264	P	P	00 52 47.6	+0.9
ASAR	Alice Springs	42.83	264	P	P	00 52 48.2	+1.5
	comp=Z,1.7nm,0.5s,baz=94,slow=6.7,SNR=38						
	comp=Z,1.7nm,0.5s						
WR0	Warramunga Arr	43.37	270	P	P	00 52 52.2	+1.1
WRA	Warramunga Arr	43.55	269	P	P	00 52 53.8	+1.2
WRA	Warramunga Arr	43.55	269	P	P	00 52 53.8	+1.2
	comp=Z,2.5nm,0.4s,baz=105,slow=8.2,SNR=15						
	comp=Z,2.5nm,0.4s						
WB0	Warramunga Arr	43.56	270	P	P	00 52 53.7	+1.1
WB0				IAmb	IAmb	00 52 54.5	
	comp=Z,4.4nm,0.8s						
FORT	Forrest	46.35	253	P	P	00 53 14.8	+0.5
FORT				IAmb	IAmb	00 53 26.5	
	comp=Z,13nm,1.0s						
KNRA	Kununurra	50.04	272	P	P	00 53 43.5	+1.0
KNRA				IAmb	IAmb	00 53 45.1	
	comp=Z,4.2nm,1.0s						
VNDA	Vanda	50.88	185	P	P	00 53 49.9	+2.1
VNDA	Vanda	50.88	185	P	P	00 53 50.8	+2.9
	comp=Z,2.2nm,0.7s,baz=342,slow=6.7,SNR=9.0						
	comp=Z,2.2nm,0.7s						
QSPA	South Pole Qui	62.56	180	P	P	00 55 11.5	+1.7
QSPA				IAmb	IAmb	00 55 12.9	
	comp=Z,8.4nm,1.0s						
QSPA	South Pole Qui	62.56	180	P	P	00 55 11.7	+1.9
	comp=Z,4.4nm,0.6s,baz=32,slow=2.2,SNR=9.1						
	comp=Z,4.4nm,0.6s						
MAW	Mawson	74.80	200	P	P	00 56 26.5	+1.9
	comp=Z,2.6nm,0.5s,baz=140,slow=6.6,SNR=9.3						
	comp=Z,2.6nm,0.5s						
TROLL	Troll, Antarti	80.72	180	⇑P	P	00 56 58.5	+1.2
	comp=Z,283nm,0.8s						
SNAA	Sanae	81.01	179	⇑P	P	00 56 59.4	+0.7
	comp=Z,28nm,0.8s						
SNAA	Sanae	81.01	179	P	P	00 56 59.2	+0.4
	comp=Z,1.8nm,1.0s,baz=230,slow=7.9,SNR=3.2						
	comp=Z,1.8nm,1.0s						
VNA3	Neumayer Olymp	81.18	176	⇑P	P	00 57 00.0	+0.5
	comp=Z,5.6nm,0.7s						
VNA2	Neumayer--Watz	81.61	177	⇑P	P	00 57 02.8	+1.0
	comp=Z,4.1nm,0.6s,baz=194,slow=6.0						
NVAR	Mina Array Bea	86.50	43	P	P	00 57 26.3	-0.7
	comp=Z,0.6nm,0.6s,baz=224,slow=7.4,SNR=4.4						
	comp=Z,0.6nm,0.6s						
PDAR	Pinedale Array	94.42	44	P	P	00 58 02.6	-1.2
	comp=Z,0.3nm,0.8s,baz=176,slow=3.6,SNR=2.3						
	comp=Z,0.3nm,0.8s						
HFS	Hagfors	146.35	349	PKPbc	PKPdf	01 04 21.2	+0.5
	comp=Z,10nm,1.2s,baz=46,slow=4.3,SNR=6.2						
EKA	Eskdalemuir Ar	152.03	6	PKPbc	PKPbc	01 04 35.7	-1.0
	comp=Z,0.9nm,0.7s,baz=328,slow=2.5,SNR=1.6						
TORD	Torodi Ar. Bea	165.68	181	PKPab	PKPab	01 05 48.2	+0.6
	comp=Z,0.6nm,0.7s,baz=169,slow=1.7,SNR=2.4						

*SDD **04** 01:26:04.4±1.9, 17°.77N×71°.11W, h5km±86km, MD3.2, ML2.3, MW4.5*
*OSPL **04** 01:26:08.3±1.5, 18°.12N×71°.22W, h7km±7km, ML1.9*
ISC 04 01:26:06.8±1.1**, 18°.02N**±0°.08×**71°.20W**±0°.03**, h17**km±6km**, n10, σ1s.18**/20**, 9C-4D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOBA2	Hotel Casa Bon	0.11	59	⇓ePg	Pg	01 26 10.2	-0.3
LOBA2				⇑eSg	Sg	01 26 13.6	+0.6
LOBA2				⇑eSg	Sg	01 26 13.6	+0.6
LOBA2				IAML		01 26 13.6	
	comp=N,214nm,0.3s						
LOBA2				IAML		01 26 13.9	
	comp=E,170nm,0.2s						
LOPE2	Hotel El Peder	0.52	271	⇑ePg	Pg	01 26 16.5	-0.8
LOPE2				⇑eSg	Sb	01 26 24.8	+0.1
LOPE2				IAML		01 26 26.8	
	comp=E,108nm,0.2s						
LOPE2				IAML		01 26 30.2	
	comp=N,154nm,1.1s						
LOPE2	Hotel El Peder	0.52	271	*i* P	Pg	01 26 16.5	-0.8
LOPE2				*e*S	Sb	01 26 24.9	+0.1
LOPE2				IAML		01 26 29.7	
	comp=Z,170nm,0.8s						
ABDR	Alto Bandera	0.95	34	⇑ePg	Pb	01 26 25.5	+0.4
ABDR				⇓eSg	Sn	01 26 41.3	+2.2
ABDR				IAML		01 26 43.1	
	comp=E,62nm,0.2s						
ABDR				IAML		01 26 43.5	
	comp=N,58nm,1.1s						
ABDR				IAML		01 26 43.5	
	comp=N,58nm,1.1s						
SDDR	Presa de Saban	0.96	355	*i* P	Pb	01 26 24.6	-0.4
SDDR				*e*S	Sb	01 26 34.8	-2.6
SDDR				IAML		01 26 47.2	
	comp=Z,26nm,0.5s						
PAPH	Port-au-Prince	1.16	296	⇑ePg	Pb	01 26 28.3	-0.1
PAPH				⇓eSg	Sg	01 26 46.8	+2.3
PAPH				IAML		01 26 52.5	
	comp=N,86nm,0.5s						
PAPH				IAML		01 26 57.8	
	comp=N,86nm,0.4s						
PAPH	Port-au-Prince	1.16	296	*i* P	Pb	01 26 28.2	-0.2
PAPH				IAML		01 26 52.3	
	comp=Z,27nm,0.4s						
SDD	Santo Domingo	1.29	70	*i* P	Pb	01 26 30.6	0.0
SDD				*e*S	Sn	01 26 47.3	+0.3
DR08	Loma La Naviza	1.45	50	⇓ePg	Pn	01 26 31.7	-0.6
DR08				⇑eSg	Sn	01 26 51.9	+0.9
DR08				IAML		01 26 57.6	
	comp=N,164nm,0.2s						
HATOM	Hato Mayor del	1.88	66	⇑ePg	Pb	01 26 39.7	-1.1
HATOM				⇑eSg	Sb	01 27 04.7	+0.7
HATOM				IAML		01 27 05.9	
	comp=N,37nm,0.7s						
HATOM				IAML		01 27 05.9	
	comp=N,37nm,0.7s						
HATOM				IAML		01 27 06.7	
	comp=E,28nm,1.1s						

*SOME **04** 01:32:59.1, 41°.68N×71°.52E, h10km*
*KRNET **04** 01:32:59.4±0.1, 41°.72N×71°.49E, h20km, mb3.0*
*NNC **04** 01:33:00.9±0.9, 41°.58N×71°.39E, h22km±4km, mb3.4, mpv3.0, Error ellipse: s-maj=8.6km s-min=3.0km az=15.0*
*ISU **04** 01:33:01.3, 41°.72N×71°.51E, h15km*
*KNET **04** 01:33:02.6±0.8, 41°.71N×71°.81E, h1km±5km, ml2.7, Error ellipse: s-maj=8.7km s-min=4.4km az=169.0*
ISC 04 01:33:00.8±1.0**, 41°.70N**±0°.02×**71°.56E**±0°.02**, h4**km±9km**, n70, σ1s.33**/108**, 34C-21D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARK	Arkit	0.32	72	⇑eP	Pg	01 33 06.9	-0.2
	baz=78						
ARK				⇑eS	Sg	01 33 12.2	+0.9
	baz=78						
ARK	Arkit	0.32	72	P	Pg	01 33 06.9	-0.2
ARK				S	Sg	01 33 12.2	+0.9
TRKS	Terek-Say	0.36	241	⇑eP	Pg	01 33 06.6	-1.2

baz=22
TRKS ⇑eS **Sg** **01 33 11.7 -0.8**
baz=22
NAM Namangan 0.71 174 P **Pg** **01 33 14.1 -0.4**
ANR Andizhan 1.12 147 P **Pn** **01 33 22.6 -0.7**
ANR S **Sn** **01 33 38.6 -0.6**
ARSB Arslanbob 1.14 109⇑eP **Pg** **01 33 21.3 -1.3**
baz=9.0
ARSB ⇑eS **Sg** **01 33 37.5 +0.2**
baz=9.0
ARSB Arslanbob 1.14 109 P **Pg** **01 33 21.3 -1.3**
ARSB S **Sg** **01 33 37.5 +0.2**
CHMG Chimgan 1.17 263 P **Pg** **01 33 21.5 -1.8**
CHMG S **Sb** **01 33 37.2 -2.0**
DZA Taraz 1.20 352 eP **Pg** **01 33 21.3 -2.6**
22nm,0.2s
DZA eS **Sg** **01 33 38.6 -0.9**
343nm,0.3s
MINT Mingtut 1.31 200 P **Sn** **01 33 46.6 +2.8**
TSTA Tashata 1.32 148 P **Pb** **01 33 25.6 -0.6**
TSTA S **Sn** **01 33 44.2 +0.1**
FRG Fergana 1.34 173 P **Pb** **01 33 26.4 -0.1**
CHMI Chimion 1.43 181 P **Pg** **01 33 28.4 +0.1**
CHMI P **Pg** **01 33 28.4 +0.1**
CHMI S **Sn** **01 33 48.1 +1.2**
CHMI S **Sn** **01 33 48.1 +1.2**
OHH Osh 1.50 141⇑eP **Pn** **01 33 27.8 -0.8**
baz=40
OHH ⇑eS **Sg** **01 33 48.4 -0.6**
baz=40
OHH Osh 1.50 141 P **Pn** **01 33 27.8 -0.8**
OHH S **Sg** **01 33 48.4 -0.6**
YBZ Yangibazar 1.53 256 P **Pg** **01 33 30.0 -0.2**
YBZ S **Sg** **01 33 50.3 +0.2**
TGS TashGRES 1.55 260 P **Pg** **01 33 34.8 +4.2**
TGS S **Sg** **01 33 57.1 +6.4**
CHM Chimkent 1.58 294 eP **Pg** **01 33 32.6 +1.5**
42nm,0.2s
CHM eS **Sg** **01 33 57.3 +5.7**
334nm,0.2s
KK31 Karatay Array 1.60 331⇓Pn **Pn** **01 33 29.1 -0.8**
3.4nm,0.3s,baz=161,slow=15,SNR=60
KK31 ⇑Sn **Sn** **01 33 49.8 -1.2**
12nm,0.2s,baz=157,slow=25
KK31 ⇓Lg Lg 01 33 54.7
108nm,0.7s
KKAR Karatay Array 1.60 331⇓eP **Pn** **01 33 27.9 -2.0**
baz=33
KKAR ⇓eS **Sn** **01 33 48.7 -2.3**
baz=33
MRKS Merke 1.62 49 eP **Pb** **01 33 31.2 -0.1**
11nm,0.2s
MRKS eS **Sg** **01 33 55.3 +2.4**
108nm,0.3s
MRKS Merke 1.62 49 S **Sb** **01 33 52.6 +0.4**
36nm,0.2s
AML Almayashu 1.65 74⇓P **Pn** **01 33 30.7 -0.2**
31nm,0.2s,SNR=71
AML ⇓S **Sb** **01 33 53.4 0.0**
158nm,0.3s
AML Almayashu 1.65 74⇓eP **Pn** **01 33 30.5 -0.5**
baz=75
AML ⇓eS **Sn** **01 33 53.2 +0.4**
baz=75
AML Almayashu 1.65 74⇑Pn **Pn** **01 33 30.8 -0.1**
0.2nm,0.2s
AML ⇓Sn **Sg** **01 33 54.0 +0.1**
12nm,0.5s
BTK Batken 1.73 199⇓eP **Pn** **01 33 31.2 -0.6**
baz=97
BTK ⇓eS **Sb** **01 33 54.2 -1.3**
baz=97
TAS Tashkent 1.74 258 S **Sg** **01 33 57.2 +0.5**
NZBK Nazarbek 1.90 256 P **Sg** **01 34 02.7 +1.0**
EKS2 Erkin-Say 1.91 59⇑P **Pb** **01 33 35.2 -1.1**
2.0nm,0.1s,SNR=14
EKS2 ⇑S **Sb** **01 34 00.6 +0.1**
10nm,0.2s
EKS2 Erkin-Say 1.91 59⇑eP **Pn** **01 33 34.1 -0.1**
baz=60
EKS2 ⇑eS **Sn** **01 33 59.3 +0.5**
baz=60
YNGY Yangiyul 1.99 253 P **Sg** **01 34 04.6 -0.1**
ARLS Aral 2.08 85⇑eP **Pn** **01 33 36.7 +0.1**
baz=86
ARLS ⇑eS **Sn** **01 34 03.9 +1.0**
baz=86
DRK Karamyk 2.23 175⇑eP **Pn** **01 33 38.6 -0.2**
baz=74
DRK ⇑eS **Sn** **01 34 06.7 -0.2**
baz=74
SFK Sufi-Kurgan 2.24 138⇑eP **Pn** **01 33 39.0 +0.1**
baz=37
SFK ⇑eS **Sn** **01 34 07.8 +0.7**
baz=37
UCH Uchtor 2.27 76⇑P **Pb** **01 33 41.8 -0.7**
4.1nm,0.1s,SNR=24
UCH ⇑S **Sb** **01 34 12.2 +1.1**
38nm,0.3s
UCH Uchtor 2.27 76⇓eP **Pn** **01 33 39.5 0.0**
baz=76
UCH ⇓eS **Sn** **01 34 08.6 +0.5**
baz=76
AAK Ala-Archa 2.38 66⇑P **Pb** **01 33 43.7 -0.6**
3.9nm,0.2s,SNR=8.8
AAK Ala-Archa 2.38 66⇑eP **Pn** **01 33 40.8 +0.1**
baz=67
AAK ⇑eS **Sn** **01 34 10.7 +0.4**
baz=67
FRU1 Bishkek 2.54 63⇓eP **Pn** **01 33 43.0 +0.2**
baz=64
FRU1 ⇓eS **Sn** **01 34 14.5 +0.3**
baz=64
USP Ospenovka 2.68 53⇑P **Pb** **01 33 47.7 -1.7**
2.7nm,0.2s,SNR=9.2
USP Ospenovka 2.68 53⇑eP **Pn** **01 33 44.8 0.0**
baz=54
USP ⇑eS **Sn** **01 34 17.7 0.0**
baz=54
KBK Karagaybulak 2.69 68⇑P **Pn** **01 33 47.0 +1.9**
3.3nm,0.1s,SNR=5.7
KBK Karagaybulak 2.69 68⇓eP **Pn** **01 33 45.3 +0.2**
baz=69
KBK ⇓eS **Sn** **01 34 18.5 +0.3**
baz=69
CHMS Chumysh 2.70 60⇓eP **Pn** **01 33 45.1 +0.1**
baz=61
CHMS ⇓eS **Sn** **01 34 18.2 +0.1**
baz=61
CHMS Chumysh 2.70 60 Sn **Sn** **01 34 20.3 +2.1**
KZA Kyzart 2.78 81⇑P **Pb** **01 33 48.8 -2.6**
11nm,0.3s,SNR=8.6
KZA Kyzart 2.78 81⇑eP **Pn** **01 33 46.7 +0.2**
baz=82
KZA ⇑eS **Sn** **01 34 21.0 +0.3**
baz=82
SGDS Sogindy 2.87 51 Pg **Pg** **01 33 55.6 -0.2**
1.0nm,0.2s
SGDS Lg Lg 01 34 30.7
15nm,0.4s
NRN Naryn 3.34 93⇓eP **Pn** **01 33 54.1 -0.1**
baz=94
NRN ⇓eS **Sn** **01 34 33.9 -0.6**
baz=94
DGS Degeres 3.48 62 ePg **Pb** **01 34 02.8 -0.2**
1.2nm,0.3s
DGS eLg Lg 01 34 49.2
18nm,0.7s
DGS Degeres 3.48 62 Pg **Pg** **01 34 07.4 0.0**
2.5nm,0.3s
DGS Lg Lg 01 34 50.3
18nm,0.7s
KST Kastek 3.53 66 ePg **Pb** **01 34 04.9 +1.0**
1.5nm,0.1s
KST eLg Lg 01 34 51.3
27nm,0.6s
KST Kastek 3.53 66 Pg **Pg** **01 34 08.6 +0.1**
0.5nm,0.2s
KST Lg Lg 01 34 52.1
27nm,0.6s
ULHL Ulahol 3.54 80⇑eP **Pn** **01 33 57.0 +0.3**
baz=80
ULHL ⇑eS **Sn** **01 34 38.8 -0.2**
baz=80
KRBS Karabastau 3.63 55 ePg **Pb** **01 34 05.4 -0.2**
1.5nm,0.3s
KRBS eLg Lg 01 34 52.5
4.3nm,0.5s
KRBS Karabastau 3.63 55 Pg **Pg** **01 34 09.0 -1.4**
1.3nm,0.5s
BTLS Baital 3.80 28 ePg **Pb** **01 34 08.7 +0.3**
1.4nm,0.4s
BTLS eLg Lg 01 34 59.0
4.2nm,0.5s
BTLS Baital 3.80 28 Pg **Pg** **01 34 12.7 -1.0**
2.3nm,0.6s
BTLS Lg Lg 01 34 59.1
4.2nm,0.5s
MTBS Maitube 3.88 67 ePg **Pb** **01 34 11.4 +1.6**
1.0nm,0.1s
MTBS eLg Lg 01 35 03.0
15nm,0.2s
MTBS Maitube 3.88 67 Pg **Pg** **01 34 14.9 -0.2**
1.0nm,0.1s
MTBS Lg Lg 01 35 03.0
9.6nm,0.4s
KUU Kurty 4.14 57 ePg **Pb** **01 34 13.8 -0.5**
0.6nm,0.4s
KUU eLg Lg 01 35 06.9
5.4nm,0.9s
KUU Kurty 4.14 57 Pg **Pg** **01 34 19.8 -0.4**
1.3nm,0.4s
KUU Lg Lg 01 35 11.6
5.4nm,0.9s
KTBS Karatobe 4.28 60 ePg **Pb** **01 34 17.7 +1.1**
2.0nm,0.4s
KTBS eLg Lg 01 35 13.8
11nm,0.5s
KTBS Karatobe 4.28 60 Pg **Pg** **01 34 21.4 -1.4**
2.0nm,0.4s
KTBS Lg Lg 01 35 14.4
11nm,0.5s
KOTS Kotyrbulak 4.39 68 ePg **Pb** **01 34 21.1 +2.6**
2.4nm,0.3s
KOTS eLg Lg 01 35 20.3
13nm,0.7s
KOTS Kotyrbulak 4.39 68 Pg **Pg** **01 34 25.1 +0.2**
4.1nm,1.1s
KOTS Lg Lg 01 35 20.3
13nm,0.7s
CHKK Chushkaly 4.54 60 ePg **Pb** **01 34 23.7 +2.6**
1.2nm,0.2s
CHKK eLg Lg 01 35 24.0
4.3nm,0.2s
CHKK Chushkaly 4.54 60 Pg **Pg** **01 34 27.2 -0.6**
0.4nm,0.1s
CHKK Lg Lg 01 35 24.0
4.3nm,0.2s
ARXS Arharly 5.24 59 Pg **Pg** **01 34 39.6 -1.6**
1.7nm,0.5s
ARXS Lg Lg 01 35 45.4
6.0nm,0.4s
BLB Baldybastay 5.62 62 Pg **Pg** **01 34 47.3 -1.2**
1.1nm,0.8s
BLB Lg Lg 01 35 58.5
2.4nm,0.5s

IDC 04 01:34:29.3±2.2, 13°.75S×170°.29E, h0km, mb3.7/3, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=82.8km s-min=31.0km az=131.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.04**	**203**	Pn	Pn	01 36 41.3	0.0
	0.6nm,0.3s,baz=78,slow=13,SNR=1.9						
	3.0nm,0.5s						
WRA	**Warramunga Arr**	**34.90**	**255**	P	P	01 41 22.9	-0.1
	0.4nm,0.8s,baz=88,slow=8.7,SNR=2.8						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**35.75**	**249**	P	P	01 41 30.1	-0.1
	1.4nm,0.8s,baz=77,slow=9.6,SNR=12						
	1.4nm,0.8s						
ILAR	**Eielson Array**	**84.72**	**17**	P	P	01 47 04.8	0.0
	0.7nm,0.8s,baz=229,slow=4.4,SNR=7.0						
	0.7nm,0.8s						

*IDC **04** 01:34:59.9±0.5, 13°.98S×170°.43E, h0km, mb4.8/21, mbtmp4.8/22, ML4.5/1, MS5.0/39, Error ellipse: s-maj=18.7km s-min=13.5km az=109.0*

*MOS **04** 01:35:00.3±1.2, 13°.95S×170°.37E, h10km, mb5.3/22, MS5.2/6, Error ellipse: s-maj=10.8km s-min=9.9km az=37.4*

*NEIC **04** 01:35:01.7, 13°.84S×170°.50E, h18km, Moment Tensor Solution. Duration: 2s9 Moment tensor: Scale 10^17^Nm; Mrr=0.24; Mθθ=0.99; Mφφ=-0.76; Mrθ=-0.84; Mθφ=1.85; Mφr=0.32; Fault plane solution: M0=2.24000×10^17^ NP1: φs=101.30000°, δ=84.42000°, λ=-24.01000°. NP2: φs=193.78000°, δ=66.11000°, λ=-173.89000°. Principal axes: T 2.2801, Plg13.0000°, Azm150.0000°; N -0.0814, Plg65.0000°, Azm269.0000°; P -2.1987, Plg21.0000°, Azm55.0000°;*

*NEIC **04** 01:35:01.6±1.4, 13°.93S±0°.09×170°.40E±0°.05, h10km±1km, mb5.3/188, Ms_20 5.2/200, Mww5.5/20 Error ellipse: s-maj=15.2km s-min=8.6km az=9.0*

*NEIC **04** 01:35:01.7, 13°.94S×170°.40E, h18km*

*BJI **04** 01:35:01.0, 13°.53S×170°.32E, h4km, mb4.9/56, mB5.3/40, Ms5.2/60, Ms7 5.0/58*

*GCMT **04** 01:35:05.6±0.1, 13°.89S±0°.01×170°.38E±0°.01, h12km, MW5.5/142, Moment Tensor Solution. s127,c222; s142,c274; Duration: 1s3 Moment tensor: Scale 10^17^ Nm; Mrr=0.39±.02; Mθθ=0.95±.02; Mφφ=-0.55±.02; Mrθ=-0.27±.05; Mθφ=1.81±.02; Mφr=0.03±.05; Best double couple: M0=1.97900×10^17^ NP1:φs=101.00000°, δ=88.00000°, λ=-8.00000°. NP2:φs=191.00000°, δ=82.00000°, λ=-178.00000°. Principal axes: T 2.1720, Plg5.0000°, Azm146.0000°; N -0.3870, Plg82.0000°, Azm270.0000°; P -1.7850, Plg7.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **04** 01:35:58.9, 14°.86S×167°.76E, h374km, mb4.8/55, Vanuatu Islands*

ISC 04 01:35:02.9±0.4, 13°.96S±0°.05×170°.40E±0°.06, h16km±2km, n702, σ1$42/573, mb5.3/177, MS5.1/161, 9C-5D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**7.42**	**204**	Pn	Pn	01 36 48.7	-1.8
MARNC	**Mare, Loyalty**	**7.81**	**196**	Pn	Pn	01 36 54.1	-1.9
KOUNC	**Koumac, New Ca**	**8.78**	**221**	Pn	Pn	01 37 07.9	-1.2
DZM	**Mont Dzumac**	**8.90**	**204**	ePn	Pn	01 37 09.4	-1.6
	265nm,1.4s						
DZM	**Mont Dzumac**	**8.90**	**204**	Pn	Pn	01 37 09.6	-1.4
DZM	**Mont Dzumac**	**8.90**	**204**	Pn	Pn	01 37 11.0	0.0
	5.7nm,0.3s,baz=288,slow=7.8,SNR=21						
DZM				Sn	**Sn**	**01 38 51.6**	**+0.6**
	baz=294,slow=23						
DZM				LR	LR	01 40 11.4	
	comp=Z,9μm,20.5s,baz=28,slow=35						
	28nm,0.5s						
NOUC	**Port Laguerre**	**8.98**	**205**	P	**Pn**	**01 37 12.3**	**+0.3**
PINNC	**Pines Island,**	**9.05**	**198**	Pn	**Pn**	**01 37 14.3**	**+1.4**
PINNC	**Pines Island,**	**9.05**	**198**	P	**Pn**	**01 37 15.9**	**+3.0**
OUENC	**Ouen Island, N**	**9.06**	**201**	Pn	**Pn**	**01 37 12.8**	**-0.4**
OUENC	**Ouen Island, N**	**9.06**	**201**	P	**Pn**	**01 37 13.5**	**+0.4**
ONTNC	**Ouen Toro**	**9.11**	**204**	Pn	**Pn**	**01 37 13.0**	**-0.7**
ONTNC	**Ouen Toro**	**9.11**	**204**	P	**Pn**	**01 37 15.8**	**+2.1**
HNR	**Honiara**	**11.18**	**293**	LR	LR	01 41 51.3	
	comp=Z,66μm,19.0s,baz=130,slow=37						
RAO	**Raoul Island**	**18.68**	**146**	LR	LR	01 44 53.1	
	comp=Z,10μm,19.6s,baz=336,slow=32						
KRVT	**Keravat (AS076**	**20.50**	**296**	LR	LR	01 47 34.1	
	comp=Z,2μm,20.2s,baz=31,slow=37						
RK1H	**Rockhampton Ha**	**21.04**	**241**	P	**P**	**01 39 48.5**	**+2.4**
	107nm,1.2s						
GC1S	**Gold Coast 1 S**	**21.13**	**225**	P	**P**	**01 39 52.3**	**+5.2**
EIDS	**Eidsvold**	**21.41**	**235**	P	**P**	**01 39 51.0**	**+0.8**
	baz=22,SNR=13						
EIDS	**Eidsvold**	**21.41**	**235**	P	**P**	**01 39 48.2**	**-1.9**
EIDS				IAmb	IAmb	01 39 55.0	
	comp=Z,140nm,1.2s						
EIDS				IAMs_20	IAMs_20	01 46 56.2	
	comp=Z,6μm,19.0s						
EIDS	**Eidsvold**	**21.41**	**235**	P	**P**	**01 39 52.3**	**+2.1**
AUMOU	**Moura State Hi**	**21.95**	**238**	P	**P**	**01 39 59.7**	**+3.7**
AUAYR	**Ayr State High**	**22.70**	**253**	P	**P**	**01 40 07.1**	**+3.1**
PMG	**Port Moresby**	**23.19**	**279**	P	**P**	**01 40 07.5**	**-1.7**
PMG				IAmb	IAmb	01 40 14.9	
	comp=Z,61nm,0.9s						
PMG	**Port Moresby**	**23.19**	**279**	P	**P**	**01 40 11.9**	**+2.7**
PMG	**Port Moresby**	**23.19**	**279**	ceP	**P**	**01 40 10.5**	**+1.3**
PMG				pmax	pmax		
	comp=Z,68nm,1.0s						
PMG	**Port Moresby**	**23.19**	**279**	LR	LR	01 48 48.2	
	comp=Z,6μm,18.2s,baz=15,slow=36						
TV1H	**Townsville Har**	**23.21**	**254**	P	**P**	**01 40 11.0**	**+1.6**
	comp=Z,114nm,1.2s						
RMQ	**Roma**	**23.78**	**235**	P	**P**	**01 40 16.8**	**+1.9**
	baz=24,SNR=21						
RMQ	**Roma**	**23.78**	**235**	P	**P**	**01 40 17.3**	**+2.4**
ARMA	**Armidale**	**23.82**	**223**	P	**P**	**01 40 16.6**	**+1.2**
	baz=24,SNR=17						
ARMA	**Armidale**	**23.82**	**223**	P	**P**	**01 40 15.3**	**-0.1**
ARMA	**Armidale**	**23.82**	**223**	P	**P**	**01 40 17.2**	**+1.8**
CTA	**Charters Tower**	**23.86**	**252**	P	**P**	**01 40 16.3**	**+0.5**
CTA	**Charters Tower**	**23.86**	**252**	P	**P**	**01 40 15.8**	**0.0**
	comp=Z,29nm,0.8s,baz=76,slow=10,SNR=22						
CTA				LR	LR	01 48 17.6	
	comp=Z,4μm,18.5s,baz=72,slow=33						
	comp=Z,29nm,0.8s						
CTAO	**Charters Tower**	**23.86**	**252**	P	**P**	**01 40 14.8**	**-1.0**
CTAO				IAmb	IAmb	01 40 18.2	
	comp=Z,96nm,1.1s						
CTAO	**Charters Tower**	**23.86**	**252**	P	**P**	**01 40 16.5**	**+0.7**
CTAO	**Charters Tower**	**23.86**	**252**	P	**P**	**01 40 14.8**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,96nm,1.2s						
CTAO				MLR	MLR		
	comp=Z,5μm,19.0s						
TOZ	**Tahuroa Road**	**24.11**	**170**	P	**P**	**01 40 18.1**	**+0.2**
TOZ				IAmb	IAmb	01 40 21.2	
	comp=Z,88nm,1.4s						
MXZ	**Matakaoa Point**	**24.54**	**165**	IAMs_20	IAMs_20	01 47 31.7	
	comp=Z,4μm,18.0s						
AUPHS	**Peel High Scho**	**24.74**	**223**	P	**P**	**01 40 25.6**	**+1.8**
HIZ	**Hauiti**	**24.77**	**172**	P	**P**	**01 40 23.0**	**-0.9**
HIZ				IAmb	IAmb	01 40 27.7	
	comp=Z,82nm,1.3s						
URZ	**Urewera**	**24.93**	**167**	P	**P**	**01 40 25.2**	**-0.1**
	comp=Z,53nm,1.1s,baz=104,slow=6.7,SNR=16						
URZ				LR	LR	01 47 52.3	
	comp=Z,4μm,21.6s,baz=74,slow=31						
	comp=Z,53nm,1.1s						
RTZ	**Ruatahuna**	**25.24**	**168**	P	**P**	**01 40 27.0**	**-1.2**
RTZ				IAmb	IAmb	01 40 30.7	
	comp=Z,137nm,1.8s						
MTSU	**Mount Surprise**	**25.39**	**257**	P	**P**	**01 40 30.3**	**+0.5**
	baz=26,SNR=24						
MTSU	**Mount Surprise**	**25.39**	**257**	P	**P**	**01 40 30.9**	**+1.1**
MANU	**Manus Island**	**25.66**	**295**	P	**P**	**01 40 29.7**	**-2.5**
AULRC	**Lightning Ridg**	**25.83**	**230**	P	**P**	**01 40 35.8**	**+2.2**
COEN	**Coen**	**26.41**	**267**	P	**P**	**01 40 37.1**	**-1.9**
COEN	**Coen**	**26.41**	**267**	P	**P**	**01 40 39.4**	**+0.3**
	comp=Z,42nm,1.7s						
QRZ	**Quartz Range**	**26.83**	**176**	P	**P**	**01 40 42.2**	**-0.3**
QRZ				IAmb	IAmb	01 40 45.9	
	comp=Z,64nm,1.3s						
AUDCS	**Dubbo College**	**26.95**	**224**	P	**P**	**01 40 45.6**	**+1.8**
	comp=Z,58nm,1.6s						
TKNZ	**Takaka Hill**	**27.07**	**176**	P	**P**	**01 40 43.6**	**-1.1**
BFZ	**Birch Farm**	**27.11**	**170**	P	**P**	**01 40 42.3**	**-2.7**
BFZ				IAmb	IAmb	01 41 08.3	
	comp=Z,73nm,1.5s						
TCW	**Tory Channel**	**27.36**	**174**	P	**P**	**01 40 45.4**	**-1.9**
MRNZ	**Matariki Terra**	**27.42**	**176**	P	**P**	**01 40 46.0**	**-1.8**
QLP	**Quilpie**	**27.50**	**239**	P	**P**	**01 40 49.0**	**+0.3**
SNZO	**South Karori**	**27.51**	**173**	IAMs_20	IAMs_20	01 50 04.1	
	comp=Z,6μm,20.0s						
BHW	**Baring Head**	**27.62**	**173**	IAMs_20	IAMs_20	01 50 17.3	
	comp=Z,6μm,19.0s						
DSZ	**Denniston Nort**	**27.71**	**178**	P	**P**	**01 40 48.9**	**-1.6**
DSZ				IAmb	IAmb	01 40 53.2	
	comp=Z,83nm,1.4s						
AUUHS	**Ulladulla High**	**27.86**	**217**	P	**P**	**01 40 56.4**	**+4.6**
	comp=Z,125nm,1.7s						
CNB	**Canberra Magne**	**28.48**	**218**	P	**P**	**01 41 01.0**	**+3.6**
KHZ	**Kahutara**	**28.48**	**175**	IAmb	IAmb	01 41 03.5	
	comp=Z,38nm,1.1s						
CMSA	**Cobar Meteorol**	**28.61**	**228**	P	**P**	**01 40 58.9**	**+0.3**
	baz=29,SNR=9.1						
CMSA	**Cobar Meteorol**	**28.61**	**228**	P	**P**	**01 41 00.0**	**+1.4**
RPZ	**Rata Peaks**	**29.66**	**179**	LR	LR	01 51 02.6	
	comp=Z,2μm,19.4s,baz=346,slow=32						
TABU	**Tabubil**	**30.00**	**284**	P	**P**	**01 41 15.7**	**+4.5**
QIS	**Mount Isa**	**30.09**	**253**	P	**P**	**01 41 11.7**	**-0.2**
	baz=30,SNR=9.8						
QIS	**Mount Isa**	**30.09**	**253**	P	**P**	**01 41 11.9**	**0.0**
INKA	**Innaminka**	**30.82**	**239**	P	**P**	**01 41 18.3**	**+0.1**
STKA	**Stephens Creek**	**31.81**	**231**	P	**P**	**01 41 27.6**	**+0.7**
	baz=32,SNR=38						
STKA	**Stephens Creek**	**31.81**	**231**	P	**P**	**01 41 26.2**	**-0.7**
STKA				IAmb	IAmb	01 41 29.7	
	comp=Z,40nm,1.2s						
STKA	**Stephens Creek**	**31.81**	**231**	P	**P**	**01 41 28.1**	**+1.2**
STKA	**Stephens Creek**	**31.81**	**231**	*i* P	**P**	**01 41 26.7**	**-0.2**
STKA	**Stephens Creek**	**31.81**	**231**	P	**P**	**01 41 27.1**	**+0.2**
	comp=Z,95nm,1.0s,baz=63,slow=8.3,SNR=63						
STKA				LR	LR	01 53 08.7	
	comp=Z,2μm,20.3s,baz=66,slow=34						
	comp=Z,95nm,1.0s						
TOO	**Toolangi**	**32.30**	**219**	IAmb	IAmb	01 41 33.0	
	comp=Z,57nm,1.4s						
TOO	**Toolangi**	**32.30**	**219**	P	**P**	**01 41 34.6**	**+3.4**
SMPI	**Sarmi**	**33.50**	**288**	P	**P**	**01 41 41.6**	**-0.3**
	comp=Z,120nm,1.0s,comp=Z,6μm						
LCRK	**Leigh Creek**	**33.85**	**236**	P	**P**	**01 41 46.7**	**+1.9**
HTT	**Hallett**	**34.53**	**230**	P	**P**	**01 41 51.0**	**+0.3**
	baz=35,SNR=8.4						
HTT	**Hallett**	**34.53**	**230**	P	**P**	**01 41 51.9**	**+1.2**
WR0	**Warramunga Arr**	**34.76**	**255**	P	**P**	**01 41 51.0**	**-1.9**
WB0	**Warramunga Arr**	**34.89**	**255**	IAmb	IAmb	01 41 54.3	
	comp=Z,108nm,1.8s						
WRA	**Warramunga Arr**	**34.95**	**255**	P	**P**	**01 41 52.3**	**-2.2**
	comp=Z,12nm,1.0s,baz=88,slow=8.7,SNR=34						
WRA				PcP	**PcP**	**01 44 25.9**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=83,slow=2.1,SNR=2.7						
	comp=Z,12nm,1.0s						
OOD	**Oodnadatta**	**35.09**	**241**	P	**P**	**01 41 56.2**	**+0.6**
WHYH	**Whyalla**	**35.37**	**232**	P	**P**	**01 41 58.9**	**+1.0**
	comp=Z,83nm,1.2s						
AS01	**Alice Springs**	**35.73**	**249**	P	**P**	**01 42 00.0**	**-1.2**
	comp=Z,56nm,1.1s						
AS31	**Alice Springs**	**35.77**	**249**	P	**P**	**01 41 59.8**	**-1.7**
ASAR	**Alice Springs**	**35.77**	**249**	P	**P**	**01 42 00.1**	**-1.5**
	comp=Z,59nm,1.1s,baz=81,slow=9.0,SNR=77						
ASAR				PcP	**PcP**	**01 44 29.2**	**-0.2**
	comp=Z,2.6nm,1.0s,baz=99,slow=4.1,SNR=2.1						
ASAR				LR	LR	01 55 14.7	
	comp=Z,4μm,20.4s,baz=80,slow=34						
	comp=Z,59nm,1.1s						
BBOO	**Buckleboo**	**36.45**	**233**	P	**P**	**01 42 07.5**	**+0.3**
	baz=37,SNR=20						
BBOO	**Buckleboo**	**36.45**	**233**	P	**P**	**01 42 06.5**	**-0.6**
BBOO	**Buckleboo**	**36.45**	**233**	P	**P**	**01 42 07.2**	**0.0**
KDU	**Kakadu**	**36.90**	**267**	P	**P**	**01 42 10.9**	**-0.3**
	baz=37,SNR=9.5						
KDU	**Kakadu**	**36.90**	**267**	P	**P**	**01 42 10.9**	**-0.3**
MULG	**Mulgathing**	**37.18**	**238**	P	**P**	**01 42 13.2**	**-0.2**
GUMO	**Guam**	**37.26**	**316**	IAMs_20	IAMs_20	01 54 24.9	
	comp=Z,3μm,21.0s						
MTN	**Manton Dam**	**38.18**	**267**	P	**P**	**01 42 21.9**	**-0.2**
	baz=38,SNR=10						
MTN	**Manton Dam**	**38.18**	**267**	P	**P**	**01 42 22.6**	**+0.5**
PPT2	**Papeete2**	**38.64**	**101**	eS	**S**	**01 48 22.3**	**+0.1**
	comp=Z,300nm,26.0s						
PPT2				eLQ	LQ	01 51 26.5	
	comp=Z,10μm,32.2s						
PPT2				eLR	LR	01 52 53.2	
	comp=Z,1μm,26.2s						
PPT2				eLR	LR	01 53 00.1	
	comp=Z,1μm,27.2s						
SAUI	**Saumlaki**	**38.80**	**275**	IAMs_20	IAMs_20	01 57 43.0	
	comp=Z,2μm,19.0s						
TBI	**Tubuai**	**39.05**	**110**	eS	**S**	**01 48 32.2**	**+4.0**
	comp=Z,2μm,26.0s						
TBI				eLQ	LQ	01 51 37.2	
	comp=Z,25μm,37.5s						
TBI				eLR	LR	01 53 02.2	
	comp=Z,14μm,30.5s						
TBI				eLR	LR	01 53 11.9	
	comp=Z,3μm,32.8s						
KNRA	**Kununurra**	**40.24**	**262**	P	**P**	**01 42 38.7**	**-0.6**
	baz=40,SNR=16						

KNRA Kununurra 40.24 262 P **P** **01 42 38.0 -1.3**
KNRA Kununurra 40.24 262 P **P** **01 42 38.7 -0.6**
SWI Sorong 40.84 285 P **P** **01 42 43.8 -0.4**
comp=Z,37nm,0.9s
SWI Sorong 40.84 285 P **P** **01 42 43.9 -0.3**
WRKA Warakurna 41.03 248 P **P** **01 42 44.5 -1.3**
baz=41,SNR=15
WRKA Warakurna 41.03 248 P **P** **01 42 45.0 -0.8**
FORT Forrest 42.29 239 P **P** **01 42 54.7 -1.3**
FORT IAmb IAmb 01 42 56.7
comp=Z,54nm,0.9s
FORT Forrest 42.29 239 P **P** **01 42 56.8 +0.8**
FITZ Fitzroy Crossi 43.13 258 P **P** **01 43 02.8 -0.2**
baz=43,SNR=9.4
NLAI Namlea 44.03 280 P **P** **01 43 10.3 0.0**
comp=Z,14nm,1.6s,comp=Z,2µm
SOEI Soe 45.28 270 P **P** **01 43 19.9 -0.5**
SOEI Soe 45.28 270 P **P** **01 43 20.1 -0.3**
comp=Z,64nm,0.8s
SANI Sanana 45.44 281 P **P** **01 43 24.5 +3.0**
SANI Sanana 45.44 281 P **P** **01 43 20.4 -1.1**
comp=Z,16nm,1.0s
BATI Baumata 45.79 269 P **P** **01 43 25.0 +0.7**
comp=Z,93nm,1.1s,comp=Z,1µm
BATI Baumata 45.79 269 LR LR 02 01 48.6
comp=Z,2µm,19.0s,baz=118,slow=35
MMRI Maumere 47.46 271 P **P** **01 43 35.9 -1.5**
MMRI Maumere 47.46 271 P **P** **01 43 38.3 +0.9**
MMRI Maumere 47.46 271 P **P** **01 43 37.0 -0.4**
comp=Z,66nm,1.2s
KMBL Kambalda 47.60 240 P **P** **01 43 37.9 -0.4**
baz=48,SNR=5.2
KMBL Kambalda 47.60 240 P **P** **01 43 39.0 +0.7**
EDFI Ende, Flores 47.97 271 P **P** **01 43 40.3 -1.1**
comp=Z,51nm,1.1s,comp=Z,574nm
KMSI Cibinong 48.17 284 P **P** **01 43 43.1 +0.2**
comp=Z,88nm,0.7s
PSA00 Pilbara Seismi 48.56 253 P **P** **01 43 44.6 -1.2**
PSA00 IAmb IAmb 01 43 46.7
comp=Z,41nm,1.1s
PSA00 Pilbara Seismi 48.56 253 IAmb IAmb 01 43 46.7
comp=Z,27nm,1.1s
PSA00 Pilbara Seismi 48.56 253 P **P** **01 43 45.3 -0.5**
MBWA Marble Bar 48.67 254 P **P** **01 43 45.3 -1.3**
MBWA IAmb IAmb 01 43 53.3
comp=Z,40nm,0.9s
MBWA Marble Bar 48.67 254 IAMs_20 IAMs_20 02 03 56.3
comp=Z,3µm,19.0s
MBWA Marble Bar 48.67 254 P **P** **01 43 46.7 0.0**
comp=Z,27nm,1.1s
TAOE Nuku Hiva Isla 48.68 90 *e*S S 01 50 37.5 -12
comp=Z,276nm,25.2s
TAOE *e*LQ LQ 01 55 08.3
comp=Z,3µm,28.9s
TAOE *e*LR LR 01 57 34.5
comp=Z,3µm,27.9s
BASI Baing, Sumba 48.79 269 P **P** **01 43 43.8 -3.8**
comp=Z,66nm,1.1s,comp=Z,1µm
LUWI Luwuk 48.81 281 P **P** **01 43 46.6 -1.2**
DAV Davao City (W) 49.14 292 LR LR 02 04 09.8
comp=Z,963nm,18.2s,baz=123,slow=36
JCJ Chichijima 49.15 326 LR LR 02 01 01.0
comp=Z,915nm,20.8s,baz=111,slow=32
MEEK Meekatharra 49.87 247 P **P** **01 43 55.6 -0.3**
baz=50,SNR=13
MEEK Meekatharra 49.87 247 P **P** **01 43 55.2 -0.7**
BKSI Bulukumba 50.21 275 P **P** **01 43 58.0 -0.5**
comp=Z,20nm,2.1s,comp=Z,379nm
KAPI Kappang 50.64 275 P **P** **01 44 00.3 -1.5**
KAPI IAmb IAmb 01 44 06.8
comp=Z,54nm,1.3s
KAPI Kappang 50.64 275 P **P** **01 44 03.3 +1.5**
KAPI Kappang 50.64 275*d i*P **P** **01 44 02.2 +0.4**
KAPI pmax pmax
comp=Z,51nm,1.4s
KAPI Kappang 50.64 275 LR LR 02 04 54.8
comp=Z,485nm,21.4s,baz=94,slow=35
SPSI Sidrap Palu 50.88 276 P **P** **01 44 02.8 -0.8**
comp=Z,15nm,1.0s
TTSI Tana Toraja 51.07 277 P **P** **01 44 04.2 -0.8**
comp=Z,25nm,1.3s
KLBR Kellerberrin 51.12 241 P **P** **01 44 04.8 -0.3**
baz=51,SNR=5.2
KLBR Kellerberrin 51.12 241 P **P** **01 44 05.3 +0.1**
comp=Z,69nm,1.1s
TOLI2 Tolitoli 51.37 283 P **P** **01 44 11.3 +4.1**
NWAO Narrogin (SRO) 51.74 239 P **P** **01 44 10.0 +0.2**
baz=52,SNR=8.7
NWAO P **P** **01 44 10.0 +0.2**
baz=52,SNR=8.7
NWAO Narrogin (SRO) 51.74 239 P **P** **01 44 08.6 -1.2**
NWAO Narrogin (SRO) 51.74 239 P **P** **01 44 09.8 0.0**
NWAO Narrogin (SRO) 51.74 239 P **P** **01 44 08.6 -1.2**
NWAO pmax pmax
comp=Z,79nm,1.1s
NWAO MLR MLR
comp=Z,4µm,18.0s
NWAO Narrogin (SRO) 51.74 239 LR LR 02 05 53.9
comp=Z,3µm,18.6s,baz=72,slow=36
PLAI Plampang 51.75 270 P **P** **01 44 09.5 -0.6**
PLAI Plampang 51.75 270 P **P** **01 44 09.6 -0.6**
comp=Z,59nm,0.8s,comp=Z,984nm
MORW Morawa 52.33 244 P **P** **01 44 13.9 -0.3**
baz=52,SNR=7.9
MORW Morawa 52.33 244 P **P** **01 44 13.1 -1.1**
MORW IAmb IAmb 01 44 15.6
comp=Z,57nm,1.3s
MORW Morawa 52.33 244 P **P** **01 44 13.9 -0.3**
TWSI Taliwang, Sumb 52.64 270 P **P** **01 44 15.9 -0.8**
comp=Z,128nm,1.1s,comp=Z,1µm
IGBI Denpasar 54.31 269 P **P** **01 44 28.7 -0.3**
comp=Z,110nm,1.2s
SRBI Singaraja 54.38 270 P **P** **01 44 29.3 -0.2**
comp=Z,60nm,1.3s,comp=Z,892nm
JAGI Jajag, Banyuwa 55.34 269 IAmb IAmb 01 44 42.9
comp=Z,42nm,1.0s
JAGI Jajag, Banyuwa 55.34 269 P **P** **01 44 37.5 +1.0**
JAGI Jajag, Banyuwa 55.34 269 P **P** **01 44 34.2 -2.3**
comp=Z,43nm,1.1s
BBKI Banjar Baru 55.77 275 P **P** **01 44 39.8 +0.2**
comp=Z,68nm,1.2s
BLJI Banyuglugur 56.02 270 P **P** **01 44 40.8 -0.6**
comp=Z,27nm,0.4s
KKM Kota Kinabalu 57.32 287 P **P** **01 44 50.0 -0.7**
KKM IAmb IAmb 01 45 06.0
comp=Z,59nm,1.4s
KKM Kota Kinabalu 57.32 287 P **P** **01 44 55.0 +4.3**
JOW Kunigami 57.60 315 LR LR 02 05 51.8
comp=Z,2µm,21.4s,baz=134,slow=32
MJAR Matsushiro Arr 58.70 330 P **P** **01 44 59.5 -0.3**
comp=Z,62nm,0.7s,baz=157,slow=6.6,SNR=2.3
MJAR LR LR 02 05 46.0
comp=Z,1µm,21.8s,baz=148,slow=31
comp=Z,62nm,0.7s
MAJO Matsushiro 58.70 330 P **P** **01 44 58.9 -0.9**
MAJO IAmb IAmb 01 45 30.0
comp=Z,64nm,2.0s
MAJO Matsushiro 58.70 330 IAMs_20 IAMs_20 02 06 08.7
comp=Z,2µm,22.0s
MAJO Matsushiro 58.70 330 P **P** **01 44 58.9 -0.9**
MAJO pmax pmax
comp=Z,64nm,2.0s
JNU Nakatsue 60.12 322 P **P** **01 45 08.4 -1.4**
JNU Nakatsue 60.12 322 LR LR 02 07 06.6
comp=Z,745nm,21.8s,baz=129,slow=32
TWG Pinlang 60.57 307 IAMs_20 IAMs_20 02 07 22.4
comp=Z,2µm,20.0s
KPJI Karang Pucung 60.63 269 P **P** **01 45 12.9 -0.7**
comp=Z,54nm,0.9s
YULB Yu-li 60.70 307 IAMs_20 IAMs_20 02 06 47.0
comp=Z,2µm,20.0s
NACB Ninganchiao 60.89 308 IAMs_20 IAMs_20 02 06 33.2
comp=Z,1µm,21.0s
NACB Ninganchiao 60.89 308 P P 01 45 25.4 +10
TPUB Ta-pu 61.17 307 IAMs_20 IAMs_20 02 07 11.5
comp=Z,2µm,20.0s
SSLB Suanglung 61.17 307 IAMs_20 IAMs_20 02 06 41.7
comp=Z,3µm,21.0s
KSM Kuching 61.45 279 P **P** **01 45 18.6 -0.6**
KSM IAmb IAmb 01 45 40.6
comp=Z,13nm,0.8s
LEM Lembang 62.01 270 P **P** **01 45 23.1 -0.1**
comp=Z,53nm,0.8s
CNJI Cibinong 62.38 269 P **P** **01 45 24.1 -1.4**
comp=Z,34nm,1.1s
DBJI Dramaga 62.91 270 P **P** **01 45 29.3 +0.3**
comp=Z,85nm,1.2s

ASAJ Asahikawa 63.11 338 LR LR 02 07 49.5
comp=Z,2µm,21.7s,baz=162,slow=31
VNDA Vanda 63.72 182 P **P** **01 45 33.6 +0.3**
VNDA IAmb IAmb 01 45 35.3
comp=Z,34nm,1.6s
VNDA Vanda 63.72 182 P **P** **01 45 33.6 +0.3**
comp=Z,3.2nm,1.1s,baz=348,slow=5.7,SNR=7.2
comp=Z,3.2nm,1.1s
CGJI Cibinong 63.92 269 P **P** **01 45 34.4 -1.3**
comp=Z,109nm,1.3s,comp=Z,3µm
SBA Scott Base 63.93 181 P **P** **01 45 36.2 +1.6**
SBA Scott Base 63.93 181 P **P** **01 45 36.2 +1.6**
SBA pmax pmax
comp=Z,159nm,2.0s
KSRS Korea Array 64.87 324 P **P** **01 45 41.8 +0.4**
comp=Z,4.4nm,0.9s,baz=142,slow=7.6,SNR=8.5
KSRS LR LR 02 09 25.2
comp=Z,614nm,21.3s,baz=130,slow=32
comp=Z,4.4nm,0.9s
KSAR Wonju Array Be 64.88 324 P **P** **01 45 40.7 -0.7**
KSAR Wonju Array Be 64.88 324 P **P** **01 45 40.7 -0.7**
SSE Sheshan 65.11 314 P **P** **01 45 44.0 +0.9**
SSE S **S** **01 54 28.1 +2.8**
SSE pmax pmax
comp=Z,14nm,0.7s
SSE pmax pmax
comp=Z,120nm,3.5s
SSE LR LR
comp=Z,340nm,22.6s
SSE LR LR
comp=Z,420nm,23.9s
KASI Kota Agung 65.32 270 P **P** **01 45 43.6 -1.2**
comp=Z,104nm,1.0s
CASY Casey 65.39 203 P **P** **01 45 44.4 +0.1**
YSS Yuzh-Sakhalins 65.51 340 *e*P **P** **01 45 47.3 +2.0**
YSS *e*PPP PPP 01 49 44.6
YSS *e*S **S** **01 54 30.2 +0.6**
YSS *e*PS **PnS** **01 54 47.0 -2.6**
YSS *e*PPS PPS 01 55 03.0
YSS *e*SS **SS** **01 58 41.9 -1.9**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS smax smax
comp=N,400nm,13.9s
HKPS Hong Kong Po S 65.85 302 IAMs_20 IAMs_20 02 09 40.5
comp=Z,1µm,21.0s
DSRI Dabo 66.44 276 P **P** **01 45 52.1 0.0**
comp=Z,13nm,0.8s
NJ2 Nanjing 67.28 314 *e*P **P** **01 45 59.0 +2.0**
NJ2 pP **pP** **01 46 00.7 -0.5**
NJ2 pmax pmax
comp=Z,15nm,0.7s
NJ2 LR LR
comp=Z,630nm,14.6s
NJ2 LR LR
comp=Z,790nm,21.5s
NJ2 LR LR
comp=Z,1µm,18.5s
USRK Ussuriysk Ar. 67.63 331 P **P** **01 45 58.0 -0.9**
USRK Ussuriysk Ar. 67.63 331 P **P** **01 45 58.0 -0.9**
USRK Ussuriysk Ar. 67.63 331 P **P** **01 45 58.0 -0.9**
comp=Z,5.7nm,1.0s,baz=141,slow=6.4,SNR=5.7
USRK LR LR 02 10 48.6
comp=Z,1µm,21.6s,baz=144,slow=32
comp=Z,5.7nm,1.0s
PETK Petropavlovsk- 67.68 352 P **P** **01 45 59.3 +0.2**
comp=Z,5.4nm,0.9s,baz=234,slow=6.9,SNR=2.5
PETK LR LR 02 09 32.1
comp=Z,1µm,21.9s,baz=158,slow=31
comp=Z,5.4nm,0.9s
QIZ Qiongzhong 68.05 297 P **P** **01 46 01.2 -0.9**
QIZ S **S** **01 55 03.4 +2.0**
QIZ LR LR
comp=Z,420nm,19.4s
QIZ LR LR
comp=Z,430nm,20.6s
QIZ LR LR
comp=Z,640nm,32.6s
NIKH Nikolski High 69.01 13 P **P** **01 46 07.1 -0.3**
baz=202
MDJ Mudanjiang 69.08 330 P **P** **01 46 08.5 +0.5**
MDJ pP pP 01 46 10.6 -1.6
MDJ sP sP 01 46 11.9 -1.8
MDJ PcP **PcP** **01 46 31.3 -0.7**
MDJ PP **PP** **01 48 40.8 -0.2**
MDJ S **S** **01 55 18.4 +5.7**
MDJ sS sS 01 55 19.4 -0.4
MDJ SS **SS** **01 59 40.3 +1.0**
MDJ pmax pmax
comp=Z,24nm,2.2s
MDJ pmax pmax
comp=Z,250nm,5.7s
MDJ LR LR
comp=Z,570nm,18.7s
MDJ LR LR
comp=Z,730nm,19.1s
MDJ LR LR
comp=Z,870nm,19.0s
DL2 Dalian 69.55 321 P **P** **01 46 11.7 +0.6**
DL2 S **S** **01 55 20.6 +2.1**
DL2 pmax pmax
comp=Z,43nm,1.3s
DL2 pmax pmax
comp=Z,260nm,5.6s
DL2 LR LR
comp=Z,620nm,13.9s
DL2 LR LR
comp=Z,600nm,21.3s
DL2 LR LR
comp=Z,700nm,25.3s
WHN Wuhan 69.72 310 P **P** **01 46 12.9 +0.6**
WHN pP **pP** **01 46 16.4 -0.1**
WHN sP **pwP** **01 46 20.6 -0.1**
WHN S **S** **01 55 20.1 -0.7**
WHN pmax pmax
comp=Z,56nm,0.9s
WHN LR LR
comp=Z,2µm,15.9s
WHN LR LR
comp=Z,4µm,20.1s
WHN LR LR
comp=Z,7µm,23.5s
BKNI Bangkinang 70.07 275 P **P** **01 46 13.3 -1.5**
SNY Shenyang 70.29 325 ⇑P P 01 46 29.2 +14
SNY S **S** **01 55 31.3 +4.3**
SNY pmax pmax
comp=Z,13nm,1.5s
SNY pmax pmax
comp=Z,140nm,6.1s
SNY LR LR
comp=N,500nm,19.6s
SNY LR LR
comp=E,600nm,19.8s
SNY LR LR
comp=Z,1µm,24.0s
CN2 Changchun 70.60 327 *e*P **P** **01 46 16.2 -1.2**
CN2 *e*PP **PP** **01 48 53.5 -0.6**
CN2 *e*S **S** **01 55 23.0 -7.6**
CN2 *es*S pS 01 55 34.1 -1.9
CN2 pmax pmax
comp=Z,10.0nm,1.9s
CN2 pmax pmax
comp=Z,180nm,3.5s
CN2 LR LR
comp=Z,640nm,19.0s
CN2 LR LR
comp=Z,600nm,19.0s
CN2 LR LR
comp=Z,1µm,21.0s
BNX BinXian 70.96 330 ⇓P **P** **01 46 20.0 +0.5**
BNX pP **sP** **01 46 24.6 -0.7**
BNX sP **pwP** **01 46 27.6 -0.4**
BNX S **S** **01 55 39.9 +5.2**
BNX sS **sS** **01 55 45.3 +3.5**
BNX pmax pmax
comp=Z,5.0nm,0.7s
BNX pmax pmax
comp=Z,180nm,4.5s
BNX LR LR
comp=Z,290nm,10.3s
BNX LR LR
comp=Z,610nm,15.3s
BNX LR LR
comp=Z,990nm,17.7s
KLR Kul'dur 71.58 334*ce*P **P** **01 46 22.9 -0.3**
KLR pmax pmax
comp=Z,17nm,1.7s
KLR Kul'dur 71.58 334 LR LR 02 14 30.3
comp=Z,816nm,20.2s,baz=151,slow=33
RPSI Rantau Prapat 72.72 277 P **P** **01 46 29.3 -1.6**
RPSI IAmb IAmb 01 46 34.9
comp=Z,30nm,1.1s
PSI Prapat 72.75 277 P **P** **01 46 29.3 -1.9**
PSI pmax pmax
comp=Z,30nm,1.1s
CHNA Chernabura Isl 73.09 18 P **P** **01 46 32.3 +0.2**
baz=210
HNS HongShan 73.09 317 ⇑P **P** **01 46 33.6 +1.1**
HNS S **SKiKP** **01 56 03.1 -1.6**
HNS pmax pmax
comp=Z,19nm,1.0s
HNS LR LR
comp=Z,530nm,21.0s
HNS LR LR
comp=Z,440nm,22.0s
HNS LR LR
comp=Z,780nm,20.0s
LYN LuoYang 73.13 313 ⇓P **P** **01 46 33.2 +0.4**
LYN sP sP 01 46 37.9 -0.7
LYN S **S** **01 56 01.1 +1.0**
LYN pmax pmax
comp=Z,61nm,1.0s
LYN pmax pmax
comp=Z,280nm,5.2s
LYN LR LR
comp=Z,1µm,17.5s
LYN LR LR
comp=Z,750nm,17.5s
LYN LR LR
comp=Z,2µm,18.9s
BJT Baijiatuau 73.60 319 IAMs_20 IAMs_20 02 14 27.4
comp=Z,929nm,22.0s
BJI Beijing 73.61 320 P **P** **01 46 35.6 +0.1**
BJI pP **pP** **01 46 38.2 -1.5**
BJI sP **sP** **01 46 39.3 -1.9**
BJI PcP **PcP** **01 46 51.3 0.0**
BJI S **SKiKP** **01 56 07.8 +2.4**
BJI sS **sS** **01 56 12.8 +0.4**
BJI pmax pmax
comp=Z,4.0nm,0.7s
BJI pmax pmax
comp=Z,110nm,4.1s
BJI LR LR
comp=Z,230nm,21.2s
BJI LR LR
comp=Z,370nm,22.0s
BJI LR LR
comp=Z,470nm,20.4s
GSI Gunungsitoli 73.66 276 P **P** **01 46 36.6 +0.2**
comp=Z,62nm,1.6s
GYA Guiyang 73.80 303 ⇓P **P** **01 46 37.9 +0.8**
GYA S **SKiKP** **01 56 05.8 -0.5**
GYA pmax pmax
comp=Z,6.0nm,0.9s
GYA pmax pmax
comp=Z,360nm,4.9s
GYA LR LR
comp=Z,310nm,8.7s
GYA LR LR
comp=Z,240nm,12.3s
GYA LR LR
comp=Z,350nm,21.4s
HEH HeiHe 74.21 333 *e*P **P** **01 46 38.2 -0.6**
HEH pP **pP** **01 46 41.2 -1.8**
HEH PP **PP** **01 49 26.4 +1.6**
HEH S **S** **01 56 10.6 -1.0**
HEH sS **sS** **01 56 18.7 0.0**
HEH pmax pmax
comp=Z,13nm,0.9s
HEH pmax pmax
comp=Z,190nm,6.4s
HEH LR LR
comp=Z,550nm,17.6s
HEH LR LR
comp=Z,620nm,18.3s
HEH LR LR
comp=Z,1µm,23.3s
CHGN Chignik 74.70 17 P **P** **01 46 41.1 -0.4**
baz=211
MA2 Magadan 74.99 350 IAMs_20 IAMs_20 02 13 15.2
comp=Z,2µm,22.0s
MA2 Magadan 74.99 350 LR LR 02 13 38.7
comp=Z,1µm,21.5s,baz=176,slow=31
XAN Xi'an 75.44 311 ⇑P **P** **01 46 47.0 +0.6**
XAN pP sP 01 46 51.7 -0.4
XAN sP pwP 01 46 55.0 +0.2
XAN S **S** **01 56 28.7 +2.5**
XAN pmax pmax
comp=Z,13nm,2.0s
XAN pmax pmax
comp=Z,310nm,6.1s
XAN LR LR
comp=Z,1µm,20.3s
XAN LR LR
comp=Z,2µm,23.7s
XAN LR LR
comp=Z,3µm,23.7s
XLT XiLinHaoTe 75.89 323 *e*P **P** **01 46 49.8 +1.0**
XLT pP pP 01 46 53.2 +0.2
XLT sP pwP 01 46 58.6 +1.3
XLT PcP **PcP** **01 47 02.8 +1.6**
XLT pmax pmax
comp=Z,19nm,0.9s
XLT pmax pmax
comp=Z,170nm,3.7s
R16K Pilot Point 76.02 17 P **P** **01 46 47.9 -1.1**
baz=212
QSPA South Pole Qui 76.06 180 P **P** **01 46 47.4 -2.2**
QSPA IAmb IAmb 01 47 01.8
comp=Z,20nm,1.1s
QSPA South Pole Qui 76.06 180 P **P** **01 46 48.5 -1.1**
comp=Z,7.8nm,0.9s,baz=4.7,slow=2.4,SNR=13
comp=Z,7.8nm,0.9s
SII Sitkinak Islan 76.21 19 P **P** **01 46 48.9 -1.3**
baz=215
R17K Ugashik Creek 76.42 18 P **P** **01 46 50.7 -0.7**
baz=213
KMI Kunming 76.50 300 ⇑P **P** **01 46 49.0 -3.9**
KMI S **S** **01 56 37.4 -1.2**
KMI SS **SS** **02 01 31.7 -2.3**
KMI pmax pmax
comp=Z,150nm,5.2s
KMI LR LR
comp=Z,350nm,19.7s
KMI LR LR
comp=Z,400nm,24.0s
KMI LR LR
comp=Z,630nm,30.7s
CRAI Chiangrai 76.76 295 P **P** **01 46 52.7 -1.4**
O15K Ungalikthiuk R 76.80 15 P **P** **01 46 52.2 -1.2**
baz=210
ZEA Zeya 76.82 335 *e*P **P** **01 46 55.5 +1.8**
ZEA *e* 01 57 43.5
ZEA pmax pmax
comp=Z,10.0nm,0.7s
N14K Kuskokwak Cree 77.00 14 P **P** **01 46 53.8 -0.7**
baz=208
HHC Hu-ho-hao-te 77.00 318 *e*P **P** **01 46 55.8 +0.6**
HHC pP sP 01 47 00.2 -0.7
HHC S **S** **01 56 41.9 -1.3**
HHC sS sS 01 56 50.4 +0.1
HHC pmax pmax
comp=Z,27nm,0.8s
HHC pmax pmax
comp=Z,150nm,6.7s
HHC LR LR
comp=Z,490nm,16.3s
HHC LR LR
comp=Z,830nm,15.7s
HHC LR LR
comp=Z,1µm,16.3s
OHAK Old Harbor 77.03 19 P **P** **01 46 54.0 -0.8**
baz=216
Q17K Contact Creek 77.09 18 P **P** **01 46 54.9 -0.4**
baz=214
P16K Nushagak River 77.15 16 P **P** **01 46 55.1 -0.3**
baz=211
HIA Hailar 77.17 329 IAMs_20 IAMs_20 02 15 08.5
comp=Z,780nm,21.0s
Q16K King Salmon 77.22 17 P **P** **01 46 55.8 0.0**
baz=213
CMAR Chiang Mai Arr 77.43 293 P **P** **01 46 57.0 -0.9**

CMAR	Chiang Mai Arr	77.43	293	P	P	01 46 58.9	+1.0
	comp=Z,1.6nm,0.4s,baz=109,slow=3.8,SNR=10						
	comp=Z,1.6nm,0.4s						
N15K	Kwethluk River	77.60	15	P	P	01 46 58.1	+0.1
	baz=209,SNR=6.2						
O16K	Kokwok River B	77.61	16	P	P	01 46 58.2	+0.3
	baz=211						
M14K	Bethel	77.67	13	P	P	01 46 57.9	-0.4
M14K	Bethel	77.67	13	P	P	01 46 58.8	+0.5
	baz=207						
Q18K	Katmai Hardscr	77.67	18	P	P	01 46 58.3	-0.2
	baz=214						
KDAK	Kodiak Island	77.71	19	P	P	01 46 59.4	+0.8
	baz=217						
PZH	PanZhiHua	77.86	301	P	P	01 46 47.2	-13
PZH	PanZhiHua	77.86	301	S	S	01 56 50.7	-2.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,140nm,5.5s						
PZH				LR	LR		
	comp=N,300nm,19.0s						
PZH				LR	LR		
	comp=E,340nm,20.8s						
PZH				LR	LR		
	comp=Z,480nm,19.0s						
BTO	Baotou	77.88	317	eP	P	01 47 02.0	+1.9
BTO				pP	sP	01 47 07.0	+1.1
BTO				sP	pwP	01 47 09.1	+0.6
BTO				PP	PP	01 50 00.8	+4.6
BTO				S	S	01 56 55.4	+2.7
BTO				sS	sS	01 57 03.2	+3.4
BTO				pmax	pmax		
	comp=Z,35nm,1.0s						
BTO				pmax	pmax		
	comp=Z,370nm,5.2s						
BTO				LR	LR		
	comp=Z,1μm,19.4s						
BTO				LR	LR		
	comp=Z,1μm,19.8s						
BTO				LR	LR		
	comp=Z,3μm,23.2s						
M15K	Kasigluk River	77.91	14	P	P	01 47 00.9	+1.2
	baz=209						
SEY	Seymchan	77.92	352	iP	P	01 46 59.5	-0.2
SEY				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SEY	Seymchan	77.92	352	LR	LR	02 16 07.8	
	comp=Z,825nm,21.1s,baz=160,slow=32						
CD2	Chengdu	77.97	306	P	P	01 47 00.0	-0.8
CD2				S	S	01 56 55.6	+1.6
CD2				SS	SS	02 01 53.4	-2.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CD2				LR	LR		
	comp=Z,590nm,15.3s						
CD2				LR	LR		
	comp=Z,820nm,25.1s						
CD2				LR	LR		
	comp=Z,850nm,25.9s						
O17K	Koliganek Bris	78.03	16	P	P	01 47 00.2	-0.1
	baz=212						
L14K	Kuka Creek	78.04	13	P	P	01 47 01.1	+0.8
	baz=207						
L15K	Ungalak Mounta	78.60	13	P	P	01 47 04.5	+1.1
	baz=208						
O18K	Koktuh Hills	78.61	17	P	P	01 47 04.6	+1.0
	baz=214						
M16K	Timber Creek	78.62	15	P	P	01 47 05.0	+1.5
	baz=210						
L16K	Owhat River	79.09	14	P	P	01 47 07.4	+1.3
	baz=210						
N18K	Kilae Creek	79.12	16	P	P	01 47 08.4	+2.0
	baz=213						
J14K	Nanvaranak Lak	79.12	12	P	P	01 47 07.8	+1.6
	baz=206						
K15K	Wolf Creek Mou	79.14	13	IAmb	IAmb	01 47 14.3	
	comp=Z,40nm,1.0s						
K15K	Wolf Creek Mou	79.14	13	P	P	01 47 07.3	+0.9
	baz=208						
M17K	Holitna River	79.32	15	P	P	01 47 08.8	+1.3
	baz=212						
L17K	Donlin	79.74	14	P	P	01 47 11.4	+1.7
	baz=211						
M18K	Stony River	79.81	16	P	P	01 47 11.8	+1.7
	baz=213						
TNCH	TengChong	80.03	299	P	P	01 47 11.1	-1.2
TNCH				S	S	01 57 19.1	+2.6
TNCH				SS	SS	02 02 24.5	-2.5
TNCH				pmax	pmax		
	comp=Z,74nm,1.0s						
TNCH				LR	LR		
	comp=Z,360nm,10.5s						
TNCH				LR	LR		
	comp=Z,410nm,20.9s						
TNCH				LR	LR		
	comp=Z,260nm,17.4s						
LZH	Lanzhou	80.08	311	eP	P	01 47 13.5	+1.2
LZH				pP	sP	01 47 17.7	-0.4
LZH				sP	pwP	01 47 21.1	+0.3
LZH				PP	PP	01 50 09.0	-5.7
LZH				S	S	01 57 22.5	+6.0
LZH				SS	SS	02 02 24.5	-2.8
LZH				pmax	pmax		
	comp=Z,33nm,1.2s						
LZH				LR	LR		
	comp=Z,770nm,18.6s						
LZH				LR	LR		
	comp=Z,1μm,21.3s						
LZH				LR	LR		
	comp=Z,2μm,21.3s						
L18K	Granite Mounta	80.21	15	P	P	01 47 15.2	+3.0
	baz=212						
J16K	Anvik River	80.22	13	IAmb	IAmb	01 47 20.8	
	comp=Z,24nm,1.1s						
J16K	Anvik River	80.22	13	P	P	01 47 13.9	+1.6
	baz=208						
K17K	Iditarod	80.24	14	P	P	01 47 13.9	+1.6
	baz=211						
ANM	Nome	80.44	10	P	P	01 47 15.0	+1.6
	baz=204						
CAPN	Captain Cook N	80.54	18	P	P	01 47 15.0	+1.0
	baz=218						
N20K	Mount Spurr	80.58	17	P	P	01 47 13.9	-0.4
	baz=217						
SPCR	Spurr Chakacha	80.58	17	P	P	01 47 15.0	+0.7
	baz=217						
L19K	White Mountain	80.65	16	P	P	01 47 15.3	+0.7
	baz=214						
I17K	Unalakleet	80.73	13	P	P	01 47 16.0	+1.0
	baz=208						
O22K	Cooper Landing	80.75	19	P	P	01 47 16.4	+1.3
	baz=219						
M20K	Styx River	80.87	17	P	P	01 47 16.7	+0.8
	baz=216						
TTA	Tatalina	80.98	15	P	P	01 47 16.9	+0.5
	baz=213						
G15K	Niukluk	81.07	11	P	P	01 47 17.3	+0.6
	baz=205						
H16K	Elim	81.08	12	P	P	01 47 17.2	+0.3
	baz=207						
F14K	Arctic Creek	81.12	10	P	P	01 47 17.2	+0.2
	baz=203						
P23K	Montague Islan	81.13	20	P	P	01 47 17.5	+0.3
	baz=221						
L20K	Farewell, AK	81.15	16	P	P	01 47 18.0	+0.7
	baz=215						
SUA	Susitna One	81.21	18	P	P	01 47 18.2	+0.4
	baz=218						
RC01	Rabbit Creek A	81.22	18	P	P	01 47 18.2	+0.5
	baz=219						
J18K	Innoko River	81.26	14	P	P	01 47 19.0	+1.2
	baz=212						
SKT	Skwentna	81.39	17	P	P	01 47 19.1	+0.5
	baz=217						
PWL	Port Wells	81.48	19	P	P	01 47 21.1	+2.0
	baz=220						
SNCC	San Nicolas Is	81.58	53	P	P	01 47 20.0	-0.3
	baz=247						
F15K	North Star Dit	81.61	10	P	P	01 47 21.4	+1.8
	baz=204						
M22K	Willow	81.63	18	P	P	01 47 19.9	+0.1
	baz=219						
G16K	Koyuk River	81.74	11	P	P	01 47 20.3	0.0
	baz=207						
PMR	Palmer	81.80	18	P	P	01 47 20.3	-0.4
	baz=220						
H17K	Granite Mounta	81.81	12	P	P	01 47 18.9	-1.8
	baz=209						
K20K	Telida	81.82	15	P	P	01 47 20.4	-0.4
	baz=215						
BILL	Bilibino	81.83	358	eP	P	01 47 20.7	0.0
KNK	Knik Glacier	81.87	19	P	P	01 47 20.5	-0.6
	baz=220						
GLI	Glacier Island	81.89	20	P	P	01 47 20.8	-0.5
	baz=222						
J19K	Poorman	81.97	14	P	P	01 47 21.5	0.0
J19K	Poorman	81.97	14	P	P	01 47 22.6	+1.0
	baz=213						
PKM	Mcpherson Peak	82.00	51	P	P	01 47 21.3	-1.4
	baz=247						
G17K	Kiwalik Mounta	82.16	12	P	P	01 47 23.0	+0.5
	baz=208						
SML	Sawmill	82.21	18	P	P	01 47 22.4	-0.5
	baz=220						
YAK	Yakutsk	82.21	342	IAMs_20	IAMs_20	02 23 04.3	
	comp=Z,1μm,20.0s						
YAK	Yakutsk	82.21	342	iP	P	01 47 22.0	-0.8
YAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GCSA	Galena City Sc	82.31	14	P	P	01 47 23.9	+0.6
	baz=212						
H18K	Honhosa River	82.33	13	P	P	01 47 23.0	-0.5
	baz=210						
M23K	Glacier View	82.38	19	P	P	01 47 23.8	-0.1
	baz=221						
CAST	Castle Rocks	82.40	16	IAmb	IAmb	01 47 29.1	
	comp=Z,26nm,0.9s						
CAST	Castle Rocks	82.40	16	P	P	01 47 23.5	-0.4
	baz=217,SNR=15						
J20K	Nowinta River	82.48	15	IAmb	IAmb	01 48 25.8	
	comp=Z,43nm,1.9s						
J20K	Nowinta River	82.48	15	P	P	01 47 23.9	-0.4
	baz=215						
ORV	Oroville	82.65	46	IAMs_20	IAMs_20	02 16 22.1	
	comp=Z,1μm,20.0s						
CHUM	Lake Minchumin	82.71	16	P	P	01 47 25.0	-0.4
	baz=216						
KLU	Klutina	82.73	20	P	P	01 47 25.5	-0.2
	baz=222						
YBH	Yreka Blue Hor	82.75	44	LR	LR	02 17 32.7	
	comp=Z,635nm,19.4s,baz=256,slow=31						
BMRM	Bremner River	82.78	20	P	P	01 47 26.1	+0.1
	baz=224						
KTH	Kantishna Hill	82.82	16	IAmb	IAmb	01 47 26.1	
	comp=Z,23nm,1.1s						
CMB	Columbia Colle	82.82	48	IAMs_20	IAMs_20	02 15 09.7	
	comp=Z,838nm,21.0s						
ARVC	Arvin	82.83	51	P	P	01 47 26.8	0.0
	baz=247						
F17K	Baldwin Pennin	82.88	11	IAmb	IAmb	01 47 32.9	
	comp=Z,22nm,1.2s						
F17K	Baldwin Pennin	82.88	11	P	P	01 47 26.5	+0.3
	baz=208						
G18K	Tagagawik	82.91	12	IAmb	IAmb	01 48 21.9	
	comp=Z,31nm,1.6s						
G18K	Tagagawik	82.91	12	P	P	01 47 26.6	+0.2
	baz=210						
TRF	Thorofare Moun	82.91	17	P	P	01 47 25.0	-1.7
TRF	Thorofare Moun	82.91	17	P	P	01 47 26.6	-0.1
	baz=218						
VES	Vestal, Richgr	82.92	51	P	P	01 47 26.9	-0.3
	baz=247						
WAT1	Susitna Watana	82.93	18	P	P	01 47 25.7	-0.9
	baz=220						
WAT6	Susitna Watana	82.98	18	P	P	01 47 26.6	-0.5
	baz=221						
H19K	Roundabout Mou	83.07	13	IAmb	IAmb	01 47 40.3	
	comp=Z,44nm,1.7s						
H19K	Roundabout Mou	83.07	13	P	P	01 47 27.6	+0.3
	baz=212						
M24K	Tolsona, Glenn	83.11	19	P	P	01 47 27.9	+0.3
	baz=222						
CRQE	Cirque	83.15	21	P	P	01 47 28.6	+0.7
	baz=225						
N25K	Chitina, Valde	83.25	20	P	P	01 47 29.3	+0.9
	baz=224						
ISA	Isabella, Lake	83.31	51	P	P	01 47 30.2	+0.9
	baz=248						
109C	Camp Elliot, M	83.33	54	P	P	01 47 30.3	+0.9
	baz=249						
ULN	Ulaanbaatar	83.33	323	P	P	01 47 28.4	-0.9
ULN	Ulaanbaatar	83.33	323	ceP	P	01 47 29.4	+0.1
ULN				pmax	pmax		
	comp=Z,38nm,1.0s						
E17K	Hotham Inlet	83.35	11	P	P	01 47 29.8	+1.1
	baz=207						
ELS	Elsinore Mount	83.36	53	IAmb	IAmb	01 47 34.1	
	comp=Z,24nm,1.5s						
EDW2	Edwards Air Fo	83.38	52	P	P	01 47 30.0	+0.4
	baz=248						
BFSC	Mount Baldy Ra	83.40	52	P	P	01 47 29.7	-0.1
	baz=248						
H20K	Anotleneega Mo	83.40	14	P	P	01 47 30.4	+1.5
	baz=214,SNR=5.5						
G19K	Purcell Mounta	83.45	13	IAmb	IAmb	01 47 30.8	
	comp=Z,17nm,1.2s						
G19K	Purcell Mounta	83.45	13	P	P	01 47 30.8	+1.5
	baz=212						
MCK	McKinley	83.51	17	P	P	01 47 30.0	+0.3
	baz=220,SNR=5.5						
MURC	Murrieta	83.52	53	P	P	01 47 29.9	-0.5
	baz=249						
MDPB	Devils Postpil	83.61	49	IAmb	IAmb	01 47 36.2	
	comp=Z,13nm,1.0s						
MCARA	McCarthy VSAT	83.62	21	P	P	01 47 31.6	+1.4
	baz=225						
HARP	HAARP	83.64	19	P	P	01 47 31.5	+1.1
	baz=223						
WAKR	Walker	83.70	48	P	P	01 47 30.7	-0.7
SONM	Songino Array	83.71	322	P	P	01 47 29.9	-1.3
SONM				IAmb	IAmb	01 47 36.1	
	comp=Z,22nm,1.1s						
SONM	Songino Array	83.71	322	P	P	01 47 29.9	-1.3
SONM				pmax	pmax		
	comp=Z,22nm,1.1s						
SONM	Songino Array	83.71	322	P	P	01 47 31.1	-0.1
	comp=Z,15nm,1.1s,baz=138,slow=4.2,SNR=21						
SONM				LR	LR	02 20 25.4	
	comp=Z,519nm,21.8s,baz=120,slow=32						
	comp=Z,15nm,1.1s						
PINM	Pinnacle	83.72	22	P	P	01 47 31.3	+0.4
	baz=228						
MAW	Mawson	83.72	202	LR	LR	02 20 54.9	
	comp=Z,498nm,19.2s,baz=90,slow=33						
MLAC	Mammoth, Mammo	83.79	49	P	P	01 47 31.8	-0.2
	baz=247						
PNTR	Pine Nut	83.81	47	IAmb	IAmb	01 47 50.5	
	comp=Z,25nm,1.3s						
I21K	Tanana	83.84	15	P	P	01 47 32.5	+1.2
	baz=217,SNR=9.9						
E18K	Tukpahlearik C	83.87	11	P	P	01 47 31.5	+0.1
	baz=208						
MONP2	Monument Peak	83.87	54	P	P	01 47 32.3	-0.2
	baz=249						
CWC	Cottonwood Cre	83.90	50	P	P	01 47 32.7	+0.3
	baz=248						
F19K	Shaleruckik Mo	83.90	12	IAmb	IAmb	01 47 32.7	
	comp=Z,26nm,1.4s						
F19K	Shaleruckik Mo	83.90	12	P	P	01 47 32.1	+0.6
	baz=211						
CTG	Chitna Glacier	83.91	21	P	P	01 47 31.6	-0.3
	baz=227						
S31K	Pelican	83.92	25	P	P	01 47 34.0	+2.3
	baz=232						
PAX	Paxson	83.97	19	P	P	01 47 32.4	+0.3
	baz=223						
BBRC	Big Bear Solar	83.97	53	P	P	01 47 34.5	+1.6
	baz=249						
H21K	Melozitna Rive	84.03	14	IAmb	IAmb	01 47 34.5	
	comp=Z,36nm,1.4s						
H21K	Melozitna Rive	84.03	14	P	P	01 47 33.0	+0.8
	baz=216						
YERR	Yerington	84.03	48	IAmb	IAmb	01 47 54.2	
	comp=Z,24nm,1.6s						
IKP	In-Ko-Pah, Jac	84.03	54	P	P	01 47 33.8	+0.7
	baz=249						
RDOG	Red Dog Mine	84.04	10	P	P	01 47 31.7	-0.5
	baz=206						
MLY	Manley	84.04	16	IAmb	IAmb	01 47 36.6	
	comp=Z,20nm,1.1s						
MLY	Manley	84.04	16	P	P	01 47 32.5	+0.2
	baz=218						
PFO	Pinyon Flats O	84.10	53	P	P	01 47 31.9	-1.6
PFO	Pinyon Flats O	84.10	53	P	P	01 47 33.1	-0.4
	baz=249						
PFO	Pinyon Flats O	84.10	53	iP	P	01 47 33.2	-0.3
PFO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
PFO	Pinyon Flats O	84.10	53	LR	LR	02 17 55.4	
	comp=Z,2μm,19.7s,baz=232,slow=31						
TPFO	Pinon Flats	84.10	53	P	P	01 47 33.2	-0.3
	baz=249						
NEA2	Nenana	84.14	16	IAmb	IAmb	01 47 40.8	
	comp=Z,22nm,1.2s						
NEA2	Nenana	84.14	16	P	P	01 47 33.7	+0.9
	baz=219						
YUH	Yuha Desert	84.18	54	IAmb	IAmb	01 47 35.8	
	comp=Z,31nm,1.6s						
O28M	Mount Upton	84.19	22	P	P	01 47 33.9	+0.4
	baz=228						
MPMC	Manual Prospec	84.20	51	P	P	01 47 33.7	-0.3
	baz=248						
PAHR	Pah Rah Range	84.21	47	IAmb	IAmb	01 47 35.8	
	comp=Z,30nm,1.5s						
LHV	Little Huntoon	84.27	48	IAmb	IAmb	01 47 39.1	
	comp=Z,22nm,1.2s						
GTA	Gaotai	84.35	313	eP	P	01 47 34.7	+0.1
GTA				sP	pwP	01 47 44.8	+1.7
GTA				S	S	01 58 00.4	+0.2
GTA				pmax	pmax		
	comp=Z,9.0nm,1.7s						
GTA				LR	LR		
	comp=Z,360nm,21.1s						
GTA				LR	LR		
	comp=Z,660nm,23.5s						
GTA				LR	LR		
	comp=Z,880nm,24.7s						
M26K	Nabesna, AK	84.35	20	P	P	01 47 35.4	+1.4
	baz=225						
P29M	Windy Craggy	84.37	24	P	P	01 47 34.4	+0.3
	baz=230						
C17K	DeLong Mountai	84.37	10	P	P	01 47 35.8	+1.9
	baz=206						
SWSC	Sam W. Stewart	84.38	54	P	P	01 47 34.6	-0.2
	baz=250						
RYN	Ryan	84.40	48	P	P	01 47 33.0	-2.0
RYN				IAmb	IAmb	01 47 38.9	
	comp=Z,39nm,1.6s						
GSC	Goldstone, Bar	84.44	52	IAmb	IAmb	01 47 37.2	
	comp=Z,22nm,1.4s						
GSC	Goldstone, Bar	84.44	52	P	P	01 47 34.2	-0.9
	baz=249						
K24K	Donnelly Dome	84.49	18	P	P	01 47 36.3	+1.6
	baz=222						
NVAR	Mina Array Bea	84.49	48	P	P	01 47 34.5	-1.0
	comp=Z,2.9nm,0.8s,baz=231,slow=9.7,SNR=14						
NVAR				LR	LR	02 18 15.8	
	comp=Z,547nm,20.5s,baz=272,slow=31						
	comp=Z,2.9nm,0.8s						
I23K	Minto, Yukon-K	84.50	16	P	P	01 47 34.8	+0.3
	baz=219						
F20K	Avaraart Lake	84.52	13	IAmb	IAmb	01 47 36.2	
	comp=Z,26nm,1.4s						
F20K	Avaraart Lake	84.52	13	P	P	01 47 35.7	+1.1
	baz=213						
E19K	Redstone River	84.55	12	IAmb	IAmb	01 47 36.5	
	comp=Z,27nm,1.2s						
E19K	Redstone River	84.55	12	P	P	01 47 35.9	+1.1
	baz=212						
G21K	Allakaket	84.56	14	IAmb	IAmb	01 47 36.3	
	comp=Z,24nm,1.1s						
G21K	Allakaket	84.56	14	P	P	01 47 36.1	+1.2
	baz=215						
H22K	Ishtalitna Cre	84.57	15	P	P	01 47 35.7	+0.7
	baz=217						
BELC	Belle Mtn. Jos	84.59	53	P	P	01 47 35.9	-0.1
	baz=249,SNR=11						
NV11	Mina Array Sit	84.59	48	IAmb	IAmb	01 47 38.0	
	comp=Z,39nm,1.7s						
HDA	Harding Lake	84.60	17	P	P	01 47 35.5	+0.3
	baz=221,SNR=8.7						
HDA				P	P	01 47 35.5	+0.3
	baz=221,SNR=8.7						
HEC	Hector,Ludlow	84.63	52	P	P	01 47 36.1	0.0
	baz=249						
GRAC	Grapevine Rang	84.64	50	P	P	01 47 34.5	-1.5
	baz=248						
MDM	Murphy Dome	84.66	16	IAmb	IAmb	01 47 41.4	
	comp=Z,23nm,1.1s						
L26K	Log Cabin Wild	84.68	19	P	P	01 47 36.5	+0.9
	baz=225						
M27K	Edge Creek, AK	84.69	20	IAmb	IAmb	01 47 42.0	
	comp=Z,20nm,1.1s						
M27K	Edge Creek, AK	84.69	20	P	P	01 47 37.7	+1.8
	baz=226						
WRAK	Wrangell Islan	84.69	28	P	P	01 47 36.3	+0.5
	baz=235						
COLA	College	84.69	17	P	P	01 47 34.7	-0.9
COLA	College	84.69	17	P	P	01 47 37.0	+1.5
	baz=220						
COLA	College	84.69	17	P	P	01 47 34.7	-0.9
COLA				pmax	pmax		
	comp=Z,38nm,1.3s						
YUK8	Steele Glacier	84.69	22	P	P	01 47 37.4	+1.4
	baz=228						
YUK3	Moose Creek	84.78	21	P	P	01 47 36.9	+0.6
	baz=228						
PINE	Pine Mountain	84.81	43	IAmb	IAmb	01 47 38.4	
	comp=Z,32nm,1.4s						
C18K	Utukok River	84.86	10	P	P	01 47 37.2	+0.7
	baz=208						
KVN	Kaiserville	84.87	48	IAmb	IAmb	01 47 39.2	
	comp=Z,37nm,1.8s						
IL31		84.89	17	IAmb	IAmb	01 47 36.8	
	comp=Z,22nm,1.2s						
ILAR	Eielson Array	84.89	17	P	P	01 47 34.6	-2.0
ILAR	Eielson Array	84.89	17	P	P	01 47 34.9	-1.7
	comp=Z,9.3nm,0.9s,baz=236,slow=5.6,SNR=23						
	comp=Z,9.3nm,0.9s						
BC3	Big Chuckawall	84.90	54	P	P	01 47 37.6	+0.1
	baz=250,SNR=6.3						
P30M	Million Dollar	84.98	24	P	P	01 47 37.9	+0.6
	baz=231						
POKR	Poker Plat Res	85.00	17	P	P	01 47 38.0	+0.9
	baz=221						
BOD	Bodaibo	85.12	333	eP	P	01 47 37.3	-0.6
BOD				pmax	pmax		
	comp=Z,19nm,1.5s						
GMRC	Granite Mounta	85.13	53	P	P	01 47 37.9	-0.7
	baz=249						
F21K	Alatna River	85.15	13	IAmb	IAmb	01 47 39.1	
	comp=Z,24nm,1.3s						
F21K	Alatna River	85.15	13	P	P	01 47 39.0	+1.1
	baz=215						
SCRK	Sand Creek	85.16	18	P	P	01 47 37.3	-0.8
SCRK				IAmb	IAmb	01 47 43.0	
	comp=Z,15nm,1.1s						
SCRK	Sand Creek	85.16	18	P	P	01 47 39.2	+1.1
	baz=224						
TUQ	Turquoise Moun	85.16	52	P	P	01 47 38.6	-0.2
	baz=249,SNR=7.3						
GLA	Glamis	85.18	54	P	P	01 47 38.6	-0.3
	baz=250						
L27K	Beaver Creek,	85.20	20	P	P	01 47 37.9	-0.3
	baz=226						
J25K	Salcha River,	85.21	18	IAmb	IAmb	01 47 45.3	
	comp=Z,15nm,0.9s						
J25K	Salcha River,	85.21	18	P	P	01 47 38.6	+0.3
	baz=223						
SKAG	Skagway	85.22	25	P	P	01 47 38.4	+0.1
	baz=232						
D19K	Kuna River	85.27	11	IAmb	IAmb	01 47 48.8	
	comp=Z,41nm,1.4s						
D19K	Kuna River	85.27	11	P	P	01 47 37.6	-0.9
	baz=211						
IRM	Iron Mountain	85.31	53	P	P	01 47 38.7	-0.8
	baz=250,SNR=13						
G22K	Bettles	85.36	14	P	P	01 47 39.4	+0.5
	baz=217						
E20K	Nigu River	85.44	12	P	P	01 47 40.4	+1.1
	baz=212						
TPNV	Topopah Spring	85.45	50	IAMs_20	IAMs_20	02 28 17.3	
	comp=Z,1μm,19.0s						
TPNV	Topopah Spring	85.45	50	P	P	01 47 39.6	-0.7
	baz=249						
C19K	Lookout Ridge	85.54	10	P	P	01 47 40.4	+0.6
	baz=209						
G23K	Bananza Creek	85.55	15	P	P	01 47 39.9	0.0
	baz=218						
BLYC	Blythe	85.66	54	P	P	01 47 40.7	-0.4
BLYC				IAmb	IAmb	01 47 46.1	
	comp=Z,18nm,1.1s						

Code	Station	Dist	Azm	Phase	Phase	Time	Res
J26L	Joseph Creek	85.66	18	P	P	01 47 40.3	-0.3
	baz=224						
F22K	John River	85.68	14	P	P	01 47 41.0	+0.5
	baz=216						
O30N	Mendenhall	85.73	23	P	P	01 47 41.2	+0.2
	baz=232						
D20K	Etivluk River	85.75	12	P	P	01 47 41.3	+0.5
	baz=212						
N30M	Aishikik Lake	85.79	22	P	P	01 47 40.5	-0.7
	baz=230						
K27K	Chicken	85.79	19	IAmb	IAmb	01 47 43.4	
	comp=Z,25nm,1.4s						
K27K	Chicken	85.79	19	P	P	01 47 42.0	+0.9
	baz=226						
PRP	Porcupine Dome	85.83	17	P	P	01 47 41.0	-0.4
	baz=223						
COLD	Coldfoot	85.92	14	P	P	01 47 42.6	+0.9
	baz=218						
M29M	Somme Creek	85.92	21	P	P	01 47 42.6	+0.7
	baz=229						
113A	Mohawk Valley,	85.93	55	IAmb	IAmb	01 47 44.8	
	comp=Z,35nm,1.8s						
BMN	Battle Mountai	86.02	47	P	P	01 47 41.4	-1.6
BMN	Battle Mountai	86.02	47	P	P	01 47 41.4	-1.6
BMN				pmax	pmax		
	comp=Z,15nm,1.2s						
E21K	Killik River	86.05	12	IAmb	IAmb	01 47 43.7	
	comp=Z,28nm,1.2s						
E21K	Killik River	86.05	12	P	P	01 47 42.8	+0.4
	baz=214						
V12A	Nelson	86.08	52	IAmb	IAmb	01 47 45.5	
	comp=Z,31nm,1.7s						
S34M	Telegraph Cree	86.09	27	P	P	01 47 43.4	+0.7
	baz=236						
LPIG	La Paz	86.13	64	LR	LR	02 17 49.2	
	comp=Z,463nm,20.3s,baz=274,slow=30						
PDMCI	Parker Dam,Lak	86.14	53	P	P	01 47 43.7	+0.1
	baz=250,SNR=6.7						
G24K	Hadweenzic Riv	86.19	16	P	P	01 47 43.0	-0.1
	baz=221						
E22K	Anaktuvuk Pass	86.27	13	P	P	01 47 44.3	+0.8
	baz=217						
N31M	Braeburn, Yuko	86.29	23	P	P	01 47 43.9	+0.2
	baz=232						
214A	Organ Pipe Nat	86.43	56	IAmb	IAmb	01 47 47.7	
	comp=Z,37nm,1.9s						
214A	Organ Pipe Nat	86.43	56	P	P	01 47 45.7	+0.7
	baz=251						
R11B	Troy Canyon, C	86.44	49	IAMs_20	IAMs_20	02 21 50.5	
	comp=Z,777nm,18.0s						
R11B	Troy Canyon, C	86.44	49	P	P	01 47 45.4	+0.2
	baz=249						
L29M	L29M	86.48	21	P	P	01 47 44.8	+0.3
	baz=230						
C21K	Knifeblade Rid	86.48	12	P	P	01 47 44.5	+0.1
	baz=214						
EGAK	Eagle	86.60	19	P	P	01 47 46.1	+1.1
	baz=227						
M30M	Minto, Yukon	86.60	22	P	P	01 47 45.5	+0.2
	baz=231						
W13A	Hualapai Mount	86.61	53	P	P	01 47 45.1	-1.0
D22K	Ayikyak River	86.68	13	P	P	01 47 44.9	-0.5
	baz=216						
DAWY	Dawson	86.68	20	P	P	01 47 46.0	+0.4
	baz=228						
P33M	Teslin, Yukon	86.68	25	P	P	01 47 45.8	+0.1
	baz=234						
ZAK	Zakamensk	86.70	324	eP	P	01 47 45.8	-0.2
ZAK				pmax	pmax		
	comp=Z,15nm,1.2s						
E23K	Chandalar	86.71	14	P	P	01 47 45.3	-0.4
	baz=219						
F24K	Squaw Lake	86.71	15	P	P	01 47 45.0	-0.6
	baz=220						
B20K	Meade River	86.75	11	P	P	01 47 45.7	0.0
	baz=211						
HAWA	Hanford	86.79	41	IAmb	IAmb	01 48 01.4	
	comp=Z,30nm,1.6s						
DLBC	Dease Lake	86.86	27	P	P	01 47 46.7	+0.1
	baz=237						
B21K	Ikpikpuk River	86.90	12	IAmb	IAmb	01 47 48.8	
	comp=Z,31nm,1.1s						
B21K	Ikpikpuk River	86.90	12	P	P	01 47 47.4	+1.0
	baz=214						
R33M	Jennings River	86.99	26	P	P	01 47 47.8	+0.5
	baz=236						
E24K	Your Creek	86.99	14	P	P	01 47 47.2	+0.2
	baz=220						
I27K	Kandik River	87.03	18	P	P	01 47 47.5	+0.3
	baz=226						
HSIG		87.04	59	P	P	01 47 47.1	-1.0
HSIG				IAmb	IAmb	01 47 49.9	
	comp=Z,30nm,1.7s						
E08A	Dider Farm, El	87.13	41	IAmb	IAmb	01 47 53.4	
	comp=Z,24nm,1.3s						
N32M	Quiet Lake	87.13	24	P	P	01 47 47.5	-0.3
	baz=234						
TOLK	Toolik Lake Re	87.17	14	P	P	01 47 48.7	+0.8
	baz=219						
D23K	Nanushuk River	87.18	13	P	P	01 47 48.1	+0.3
	baz=218						
M31M	Drury Creek, Y	87.25	23	P	P	01 47 47.9	-0.5
	baz=233						
F25K	Christian Rive	87.33	15	P	P	01 47 50.0	+1.3
	baz=222						
G26K	Porcupine Rive	87.36	16	P	P	01 47 49.1	+0.4
	baz=224						
D08A	Wollman Farm,	87.44	40	IAmb	IAmb	01 47 50.8	
	comp=Z,42nm,1.8s						
H27K	Steamboat Moun	87.49	18	P	P	01 47 49.7	+0.3
	baz=226						
ELK	Elko	87.54	47	IAmb	IAmb	01 47 51.6	
	comp=Z,27nm,1.8s						
ELK				IAMs_20	IAMs_20	02 17 37.4	
	comp=Z,908nm,20.0s						
ELK	Elko	87.54	47	LR	LR	02 22 09.6	
	comp=Z,644nm,18.6s,baz=265,slow=32						
SPR3	Spring Creek 3	87.59	49	IAmb	IAmb	01 48 09.8	
	comp=Z,29nm,1.7s						
BMO	Blue Mountains	87.62	43	IAMs_20	IAMs_20	02 16 58.4	
	comp=Z,829nm,21.0s						
B22K	Teshekpuk Lake	87.73	12	P	P	01 47 51.2	+0.8
	baz=215						
LCMT	Little Creek M	87.73	51	IAmb	IAmb	01 47 53.8	
	comp=Z,41nm,1.9s						
LSA	Lhasa	87.74	301	IAMs_20	IAMs_20	02 24 45.0	
	comp=Z,683nm,22.0s						
E25K	Arctic Village	87.74	15	P	P	01 47 50.4	-0.2
	baz=222						
D24K	Happy Valley	87.75	14	P	P	01 47 50.0	-0.5
	baz=219						
F26K	Sheenjek River	87.80	16	P	P	01 47 50.4	-0.5
	baz=224						
G27K	Doyon Strip	87.86	17	P	P	01 47 51.6	+0.4
	baz=226						
I29M	Ogilvie Camp,	87.89	19	P	P	01 47 51.7	+0.4
	baz=229						
C23K	Itkillik River	87.89	13	P	P	01 47 52.5	+1.3
	baz=218						
A21K	Barrow	87.97	10	P	P	01 47 53.0	+1.4
	baz=212						
A22K	Sinclair Lake	87.99	11	P	P	01 47 53.1	+1.4
	baz=214						
J30M	Hart River	88.03	20	P	P	01 47 53.2	+1.1
	baz=231						
TUC	Tucson	88.17	56	P	P	01 47 53.4	-0.1
TUC	Tucson	88.17	56	P	P	01 47 53.2	-0.4
	baz=252						
TUC	Tucson	88.17	56	P	P	01 47 53.4	-0.1
C24K	Franklin Bluff	88.21	13	P	P	01 47 53.6	+0.9
	baz=220						
X16A	Lo Mia Camp, P	88.30	54	IAmb	IAmb	01 47 57.0	
	comp=Z,31nm,1.8s						
H29M	Whitestone	88.43	18	P	P	01 47 54.4	+0.6
	baz=229						
D25K	Kavik River	88.44	14	P	P	01 47 54.5	+0.6
	baz=222						
PLID	Pearl Lake	88.57	43	IAMs_20	IAMs_20	02 18 34.5	
	comp=Z,950nm,21.0s						
PKCU	Pink Cliffs	88.58	51	P	P	01 47 55.3	-0.4
WUAZ	Wupatki	88.69	53	P	P	01 47 55.6	-0.4
	baz=252						
E27K	Coleen River	88.83	16	P	P	01 47 56.5	+0.8
	baz=226						
MTPU	Mount Pierson	88.86	50	IAmb	IAmb	01 48 00.1	
	comp=Z,24nm,1.6s						
F28M	Old Crow	88.92	17	P	P	01 47 56.4	+0.3
	baz=228						
NEW	Newport	89.03	40	P	P	01 47 56.9	-0.3
	baz=248						
EPYK	Eagle Plains	89.04	19	P	P	01 47 58.1	+1.3
	baz=231						
DUG	Dugway, Tooele	89.09	48	IAMs_20	IAMs_20	02 18 39.6	
	comp=Z,1µm,21.0s						
DUG	Dugway, Tooele	89.09	48	P	P	01 47 57.1	-0.7
	baz=251						
HLID	Hailey	89.10	45	IAmb	IAmb	01 48 13.0	
	comp=Z,26nm,1.9s						
HLID				IAMs_20	IAMs_20	02 19 49.5	
	comp=Z,1µm,20.0s						
HLID	Hailey	89.10	45	P	P	01 47 58.4	+0.6
	baz=250						
C26K	Camden Bay	89.23	14	P	P	01 47 58.2	+0.7
	baz=223						
X18A	Snowflake	89.50	54	IAmb	IAmb	01 48 02.4	
	comp=Z,42nm,1.8s						
G30M	tAoh Zraii Nji	89.58	18	P	P	01 47 59.9	+0.6
	baz=231						
E28M	Babbage River	89.67	16	P	P	01 48 00.5	+0.8
	baz=228						
D27M	Malcolm River	89.73	16	P	P	01 47 59.9	0.0
	baz=227						
TIXI	Tiksi	89.84	348	P	P	01 47 58.2	-2.1
TIXI				IAmb	IAmb	01 48 09.2	
	comp=Z,8.2nm,0.4s						
TIXI	Tiksi	89.84	348	IAMs_20	IAMs_20	02 26 26.4	
	comp=Z,578nm,20.0s						
TIXI	Tiksi	89.84	348	ceP	P	01 48 00.8	+0.5
W18A	Petrified Fore	89.84	54	IAmb	IAmb	01 48 07.1	
	comp=Z,16nm,1.1s						
W18A	Petrified Fore	89.84	54	P	P	01 48 00.4	-1.1
	baz=253						
E29M	Blow River	89.99	17	P	P	01 48 00.9	-0.2
	baz=230						
F30M	Barrier River	90.11	18	P	P	01 48 01.4	-0.3
	baz=232						
G31M	Satah River	90.15	19	P	P	01 48 01.6	-0.2
	baz=233						
JLU	Jordanelle	90.21	48	IAmb	IAmb	01 48 05.4	
	comp=Z,40nm,1.8s						
KOTAN	Kotaneelee Air	90.37	27	P	P	01 48 03.3	+0.2
	baz=242						
MSO	Missoula	90.53	42	P	P	01 48 02.9	-1.4
	baz=250						
121A	Cookes Peak, D	90.67	57	P	P	01 48 04.7	-0.6
	baz=254						
BSUT	Blindstream Ca	90.69	48	IAmb	IAmb	01 48 14.4	
	comp=Z,10nm,0.9s						
AHID	Auburn Hatcher	91.13	46	IAMs_20	IAMs_20	02 24 15.4	
	comp=Z,738nm,19.0s						
ELMT	Elliston	91.37	42	P	P	01 48 06.7	-1.6
PALK	Pallekele	91.43	277	LR	LR	02 30 42.8	
	comp=Z,450nm,19.6s,baz=205,slow=36						
FXWY	Fox Creek	91.45	45	IAMs_20	IAMs_20	02 19 43.8	
	comp=Z,1µm,21.0s						
ELIB	Princess Elisa	91.50	190	dP	P	01 48 06.4	-2.0
	comp=Z,5.0nm,1.4s						
EPT	El Paso	91.50	58	IAMs_20	IAMs_20	02 17 28.9	
	comp=Z,673nm,20.0s						
IMW	Indian Meadow	91.59	45	P	P	01 48 09.2	-0.3
IMW				IAmb	IAmb	01 48 24.5	
	comp=Z,20nm,1.6s						
IMW				IAMs_20	IAMs_20	02 21 49.3	
	comp=Z,971nm,20.0s						
BOZ	Bozeman (W)	91.64	43	IAmb	IAmb	01 48 11.8	
	comp=Z,23nm,1.8s						
BOZ				IAMs_20	IAMs_20	02 23 27.9	
	comp=Z,733nm,19.0s						
BOZ	Bozeman (W)	91.64	43	P	P	01 48 08.4	-1.2
	baz=252						
MOOW	Moose Ponds	91.67	45	IAMs_20	IAMs_20	02 22 03.8	
	comp=Z,1µm,20.0s						
LOHW	Long Hollow	91.73	46	IAmb	IAmb	01 48 11.2	
	comp=Z,17nm,1.8s						
FLWY	Flagg Ranch	91.81	45	IAMs_20	IAMs_20	02 21 39.3	
	comp=Z,1µm,20.0s						
PDAR	Pinedale Array	92.21	47	P	P	01 48 12.2	-0.2
	comp=Z,0.6nm,0.6s,baz=213,slow=4.8,SNR=6.6						
PDAR				LR	LR	02 27 42.8	
	comp=Z,336nm,18.1s,baz=262,slow=34						
	comp=Z,0.6nm,0.6s						
ANMO	Albuquerque	92.38	55	P	P	01 48 11.9	-1.4
ANMO				IAmb	IAmb	01 48 15.1	
	comp=Z,15nm,1.6s						
ANMO	Albuquerque	92.38	55	IAMs_20	IAMs_20	02 21 43.0	
	comp=Z,1µm,19.0s						
ANMO	Albuquerque	92.38	55	P	P	01 48 13.5	+0.2
	baz=255						
ANMO	Albuquerque	92.38	55	ceP	P	01 48 12.5	-0.8
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ANMO	Albuquerque	92.38	55	LR	LR	02 21 45.6	
	comp=Z,963nm,21.0s,baz=31,slow=30						
MNTX	Cornudas Mount	92.41	58	P	P	01 48 14.0	+0.7
	baz=255						
425A	Indio Mountain	92.51	59	P	P	01 48 13.0	-0.9
TX31	Lajitas Ar. Si	93.25	61	P	P	01 48 16.6	-0.7
TX32	Lajitas Array	93.25	61	IAmb	IAmb	01 48 19.6	
	comp=Z,20nm,1.6s						
TXAR	Lajitas Array	93.25	61	P	P	01 48 16.7	-0.6
	comp=Z,1.8nm,0.8s,baz=224,slow=5.8,SNR=16						
TXAR				LR	LR	02 21 11.8	
	comp=Z,432nm,21.8s,baz=300,slow=30						
	comp=Z,1.8nm,0.8s						
N23A	Red Feather La	94.31	49	P	P	01 48 23.0	+0.9
	baz=255						
WMQ	Urumqi	94.36	314	eP	P	01 48 22.5	+0.4
WMQ				sP	pwP	01 48 29.2	-1.3
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
WMQ				LR	LR		
	comp=Z,490nm,20.1s						
WMQ				LR	LR		
	comp=Z,530nm,26.9s						
WMQ				LR	LR		
	comp=Z,950nm,26.9s						
SNAA	Sanae	94.45	182	IAMs_20	IAMs_20	02 27 21.8	
	comp=Z,628nm,21.0s						
SNAA	Sanae	94.45	182	P	P	01 48 19.7	-2.3
	comp=Z,1.9nm,1.1s,baz=222,slow=11,SNR=3.0						
SNAA				LR	LR	02 26 45.3	
	comp=Z,600nm,21.6s,baz=178,slow=33						
	comp=Z,1.9nm,1.1s						
PHWY	Pilot Hill	94.76	49	IAMs_20	IAMs_20	02 26 39.7	
	comp=Z,1µm,20.0s						
MSTX	Muleshoe	95.09	56	P	P	01 48 23.9	-1.8
	baz=257						
BRIGG	Briggsdale	95.43	50	IAMs_20	IAMs_20	02 23 30.3	
	comp=Z,784nm,21.0s						
YKA	Yellowknife Ar	95.49	27	P	P	01 48 25.0	-1.6
	comp=Z,3.3nm,1.0s,baz=257,slow=4.4,SNR=13						
	comp=Z,3.3nm,1.0s						
LAO	LASA Array	95.56	43	IAMs_20	IAMs_20	02 22 55.4	
	comp=Z,711nm,20.0s						
A36M	Sachs Harbour	95.57	16	P	P	01 48 26.8	0.0
	baz=242						
DGZ	Jazzator, Alta	96.03	320	i P	P	01 48 29.5	-0.1
DGZ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
JCT	Junction City	96.78	60	IAMs_20	IAMs_20	02 32 19.8	
	comp=Z,615nm,19.0s						
OGNE	Ogallala	97.20	50	IAMs_20	IAMs_20	02 23 56.3	
	comp=Z,842nm,21.0s						
CMIG	Matias Romero	98.42	74	LR	LR	02 24 33.7	
	comp=Z,481nm,20.3s,baz=286,slow=30						
CBKS	Cedar Bluff	98.50	52	IAMs_20	IAMs_20	02 25 55.9	
	comp=Z,918nm,19.0s						
ZAA0	Zalesovo Array	98.57	323	P	P	01 48 39.0	-1.8
ZAA0				IAmb	IAmb	01 48 44.3	
	comp=Z,16nm,1.7s						
ZALV	Zalesovo Beam	98.57	323	P	P	01 48 40.3	-0.5
	comp=Z,2.3nm,0.8s,baz=98,slow=5.2,SNR=10						
	comp=Z,2.3nm,0.8s						
435B	Jarrell	98.72	60	IAMs_20	IAMs_20	02 23 27.0	
	comp=Z,775nm,20.0s						
MK31	Makanchi Array	98.75	316	i P	Pdif	01 48 42.3	+0.5
MKAR	Makanchi Array	98.75	316	P	Pdif	01 48 41.9	+0.1
	comp=Z,4.1nm,0.8s,baz=88,slow=4.9,SNR=8.4						
MKAR				LR	LR	02 30 59.0	
	comp=Z,476nm,21.7s,baz=94,slow=34						
	comp=Z,4.1nm,0.8s						
OK035	E0210 Rd and N	98.91	54	IAMs_20	IAMs_20	02 26 34.8	
	comp=Z,895nm,19.0s						
MAKZ	Makanchi	98.96	316	IAMs_20	IAMs_20	02 34 24.7	
	comp=Z,532nm,19.0s						
OK029	Liberty Lake	99.74	56	IAMs_20	IAMs_20	02 25 57.9	
	comp=Z,1µm,20.0s						
HKT	Hockley	100.05	62	IAMs_20	IAMs_20	02 31 14.4	
	comp=Z,793nm,20.0s						
OK033	Mehan	100.20	55	IAMs_20	IAMs_20	02 27 12.0	
	comp=Z,1µm,20.0s						
OK048	Pawnee Station	100.26	55	IAMs_20	IAMs_20	02 27 31.5	
	comp=Z,726nm,20.0s						
OK052	Battle Ridge R	100.30	55	IAMs_20	IAMs_20	02 25 21.6	
	comp=Z,880nm,21.0s						
OK030	Cody Creek RV	100.30	55	IAMs_20	IAMs_20	02 25 22.7	
	comp=Z,679nm,20.0s						
NATX	Nacogdoches	101.35	60	IAMs_20	IAMs_20	02 34 59.8	
	comp=Z,678nm,18.0s						
ECSD	EROS Data Cent	101.64	48	IAMs_20	IAMs_20	02 32 21.8	
	comp=Z,838nm,20.0s						
KURK	Kurchatov	101.78	320	IAMs_20	IAMs_20	02 31 38.9	
	comp=Z,998nm,22.0s						
AAK	Ala-Archa	103.62	311	IAMs_20	IAMs_20	02 39 55.2	
	comp=Z,672nm,19.0s						
CCM	Cathedral Cave	104.99	54	IAMs_20	IAMs_20	02 28 40.6	
	comp=Z,869nm,22.0s						
TGUH	Tegucigalpa,Un	105.02	79	IAMs_20	IAMs_20	02 28 21.6	
	comp=Z,521nm,19.0s						
HDIL	Hopedale	106.72	52	IAMs_20	IAMs_20	02 30 15.3	
	comp=Z,1µm,22.0s						
BRVK	Borovoye	107.10	322	IAMs_20	IAMs_20	02 39 02.5	
	comp=Z,511nm,20.0s						
PLAL	Pickwick Lake	107.23	57	IAMs_20	IAMs_20	02 29 13.2	
	comp=Z,603nm,22.0s						
HDC	Heredia	107.26	84	IAMs_20	IAMs_20	02 26 10.4	
	comp=Z,887nm,21.0s						
WVT	Waverly	107.52	56	IAMs_20	IAMs_20	02 29 20.0	
	comp=Z,575nm,20.0s						
HQIL	Hanson Quary C	107.88	50	IAMs_20	IAMs_20	02 32 56.0	
	comp=Z,710nm,19.0s						
TRQA	Tornquist	108.71	139	IAMs_20	IAMs_20	02 30 36.0	
	comp=Z,676nm,20.0s						
WCI	Wyandotte Cave	108.89	54	IAMs_20	IAMs_20	02 30 28.0	
	comp=Z,784nm,22.0s						
P49A	Miami Univ. Ec	110.17	53	IAMs_20	IAMs_20	02 35 22.9	
	comp=Z,832nm,19.0s						
ACSO	Alum Creek Sta	111.52	52	IAMs_20	IAMs_20	02 32 30.5	
	comp=Z,660nm,20.0s						
P52A	Corning	112.17	53	IAMs_20	IAMs_20	02 33 47.8	
	comp=Z,853nm,20.0s						
M53A	WI Miller and	113.26	51	IAMs_20	IAMs_20	02 37 43.3	
	comp=Z,583nm,20.0s						
ARU	Arti	113.57	326	i PKIKP	PKiKP	01 53 40.6	+0.4
ARU				pmax	pmax		
	comp=Z,2.0nm,1.2s						
NHSC	New Hope	113.66	60	IAMs_20	IAMs_20	02 35 25.8	
	comp=Z,476nm,20.0s						
ERPA	Erie	113.74	50	IAMs_20	IAMs_20	02 33 43.1	
	comp=Z,834nm,21.0s						
MCWV	Mont Chateau	113.94	53	IAMs_20	IAMs_20	02 36 06.5	
	comp=Z,740nm,19.0s						
ABPO	Ambohimpanom	115.14	241	IAMs_20	IAMs_20	02 31 36.6	
	comp=Z,619nm,21.0s						
CNNC	Cliffs of the	115.58	57	IAMs_20	IAMs_20	02 34 32.3	
	comp=Z,788nm,22.0s						
LONY	Lake Ozonia	117.45	47	IAMs_20	IAMs_20	02 40 26.0	
	comp=Z,678nm,19.0s						
SDDR	Presa de Saban	120.88	76	IAMs_20	IAMs_20	02 35 53.0	
	comp=Z,569nm,20.0s						
KLMR	Klimovskoe	121.33	334	ePKPdf	PKiKP	01 53 55.9	+0.8
KLMR				AMP		01 54 04.9	
	comp=Z,25nm,2.0s						
KLMR				LQ	LQ	02 32 16.4	
KLMR				LQ	LQ	02 32 16.4	
KLMR				LR	LR	02 37 20.4	
KLMR				AMP		02 44 24.9	
	comp=Z,901nm,16.6s						
KLMR				LRM	MLR	02 44 33.7	
KLMR	Klimovskoe	121.33	334	ePKIKP	PKiKP	01 53 55.8	+0.7
KLMR				pmax	pmax		
	comp=Z,25nm,2.0s						
KLMR				MLR	MLR		
	comp=Z,901nm,17.0s						
OBN	Obninsk	125.62	329	ePKIKP	PKiKP	01 54 04.2	+0.5
OBN				e		01 55 54.9	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KBZ	Khabaz	126.41	314	i PKIKP	PKPdf	01 54 04.8	-0.4
KBZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KIV	Kislovodsk	126.49	315	IAMs_20	IAMs_20	02 46 01.1	
	comp=Z,385nm,22.0s						
KIV	Kislovodsk	126.49	315	i PKIKP	PKiKP	01 54 06.8	+0.8
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,350nm,23.0s						
SPB	Sao Paulo	127.45	135	IAMs_20	IAMs_20	02 40 01.9	
	comp=Z,750nm,22.0s						
SOC	Sochi	128.65	315	i PKIKP	PKPdf	01 54 09.5	0.0
SOC				e		01 56 14.2	
SOC				ePPP	PPP	01 59 10.2	
SOC				ePS	PS	02 06 22.4	-1.4
SOC				eSS	SS	02 13 37.4	+5.3
SOC				eSSS	SSS	02 18 16.6	
ATD	Arta Tunnel	128.86	274	IAMs_20	IAMs_20	02 50 02.0	
	comp=Z,469nm,19.0s						
ANN	Anapa	129.75	317	i PKIKP	PKPdf	01 54 01.9	-10
ANN				pmax	pmax		
	comp=Z,110nm,2.0s						
ANN				MLR	MLR		
	comp=Z,896nm,25.0s						
NACGM	Naroch	130.32	333	ePKP	PKPdf	01 54 12.4	+0.1
	comp=Z,35nm,0.9s,baz=49						
FURI	Furi	132.47	269	IAMs_20	IAMs_20	02 49 34.6	
	comp=Z,317nm,21.0s						
BRTR	Keskin Array B	134.27	312	PKP	PKiKP	01 54 21.4	-0.4
	comp=Z,0.7nm,0.8s,baz=132,slow=3.5,SNR=4.7						
LODK	Lodwar	134.42	261	IAMs_20	IAMs_20	02 50 49.0	
	comp=Z,398nm,19.0s						
GHAJ	Ghor Haditha	135.22	300	IAMs_20	IAMs_20	03 04 54.7	
	comp=Z,277nm,19.0s						
CSS	Mathiatis	136.10	306	IAMs_20	IAMs_20	02 55 53.4	
	comp=Z,368nm,22.0s						
MLR	Muntele Rosu	136.55	324	IAMs_20	IAMs_20	02 59 26.4	
	comp=Z,643nm,21.0s						
CLL	Collm	138.52	339	e(PKPm)		01 54 35.0	
CLL				eSSS	SSS	02 20 42.0	
CLL				AMS	AMS	02 58 00.0	
	comp=Z,600nm,19.9s						
CLL	Collm	138.52	339	ePKIKP	PKiKP	01 54 35.0	+5.1
CLL				MLR	MLR		
	comp=Z,600nm,19.9s						
RONA	Rosalia, Austr	140.06	333	ePKP	PKPdf	01 54 27.5	-3.3
	comp=Z,9.3nm,2.4s						
CONA	Conrad Observa	140.07	333	epPKiKP	PKiKP	01 54 34.8	+1.5
	comp=Z,6.5nm,1.3s						
KHC	Kasperske Hory	140.08	336	ePKP	PKiKP	01 54 33.8	+0.6
KHC	Kasperske Hory	140.08	336	ePKIKP	PKiKP	01 54 33.8	+0.6
GRA1	Grafenberg Arr	140.50	339	IAMs_20	IAMs_20	03 02 21.1	
	comp=Z,580nm,20.0s						
GRFO	Grafenberg	140.50	339	IAMs_20	IAMs_20	03 02 21.2	
	comp=Z,595nm,20.0s						
KARP	Karpathos	140.62	310	IAMs_20	IAMs_20	03 03 34.7	
	comp=Z,317nm,19.0s						
DSB	Dublin	140.72	357	IAMs_20	IAMs_20	02 38 39.3	
	comp=Z,483nm,18.0s						
BIOA	Bad Ischl, Aus	141.21	335	ePKP	PKPdf	01 54 29.7	-3.2
	comp=Z,8.7nm,1.8s						
SOKA	Soboth	141.39	333	i PKiKP	PKPdf	01 54 34.0	+0.7
	comp=Z,6.7nm,1.4s						
LESA	Schwarzleotal	141.81	335	ePKP	PKPdf	01 54 32.5	-1.6
	comp=Z,8.0nm,1.4s						
PDG	Podgorica	142.25	324	IAMs_20	IAMs_20	02 57 45.8	
	comp=Z,556nm,21.0s						
WTTA	Wattenberg	142.36	336	epPKP	PKPdf	01 54 36.3	+1.2
	comp=Z,8.9nm,1.6s						
IDI	Anoyia	142.41	311	IAMs_20	IAMs_20	03 04 41.1	
	comp=Z,303nm,21.0s						
MOTA	Moosalm	142.50	337	ePKiKP	PKiKP	01 54 38.9	+0.5
	comp=Z,5.1nm,1.1s						
SQTA	Sankt Quirin	142.56	337	ePKP	PKPdf	01 54 34.4	-1.0
	comp=Z,7.7nm,1.6s						
BFO	Black Forest	142.65	340	IAMs_20	IAMs_20	02 57 08.9	
	comp=Z,520nm,20.0s						
FETA	Feichten	142.91	337	i PKP	PKPdf	01 54 33.5	-2.6
	comp=Z,4.4nm,1.1s						
DAVA	Damuels	143.00	338	ePKP	PKPbc	01 54 34.1	+1.1
	comp=Z,6.7nm,1.5s						
FUORN	Ofenpass-Fuorn	143.42	337	PKPdf	PKPbc	01 54 35.1	+0.8
FUORN				IAMs_20	IAMs_20	02 57 18.6	
	comp=Z,369nm,21.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SENIN	**Lac Senin/Sane**	**144.71**	**340**	PKPdf	PKPbc	01 54 38.3	+0.1
TIP	**Timpagrande**	**145.78**	**322**	IAMs_20	IAMs_20	03 03 15.8	
	comp=Z,396nm,20.0s						
CUC	**Castrocucco**	**145.80**	**324**	IAMs_20	IAMs_20	03 04 26.0	
	comp=Z,557nm,20.0s						
CEL	**Celeste**	**146.89**	**322**	IAMs_20	IAMs_20	03 02 49.2	
	comp=Z,328nm,20.0s						
KEST	**Kesra**	**152.43**	**325**	PKPbc	**PKiKP**	**01 55 01.0**	**+1.8**
	comp=Z,7.0nm,0.9s,baz=347,slow=0.8,SNR=4.5						
POLO	**Lamas de Olo**	**152.64**	**357**	*e*PKP	**PKiKP**	**01 55 01.2**	**+1.8**
PVRL	**Vila Real**	**152.74**	**357**	*e*PKP	**PKiKP**	**01 55 02.8**	**+3.3**
MVO	**Moncorvo**	**152.80**	**356**	*e*PKP	**PKiKP**	**01 55 01.9**	**+2.2**
MTE	**Manteigas**	**153.60**	**356**	*e*PKP	**PKiKP**	**01 55 05.1**	**+3.7**
MTE	**Manteigas**	**153.60**	**356**	IAMs_20	IAMs_20	03 08 20.9	
	comp=Z,507nm,20.0s						
ESDC	**Sonseca Array**	**153.91**	**350**	PKPbc	**PKiKP**	**01 55 03.7**	**+1.7**
	comp=Z,0.8nm,0.9s,baz=342,slow=1.6,SNR=4.2						
ESDC				PKPab	**PKPab**	**01 55 15.4**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=4.0,slow=2.2,SNR=6.4						
PMRV	**Marv??o**	**154.56**	**356**	*e*PKP	**PKiKP**	**01 55 05.2**	**+1.9**
CART	**Cartagena**	**155.25**	**344**	IAMs_20	IAMs_20	03 19 56.3	
	comp=Z,396nm,19.0s						
TORD	**Torodi Ar. Bea**	**168.98**	**267**	PKP	**PKPdf**	**01 55 10.2**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=14,slow=4.6,SNR=5.2						
TORD				PKPab	**PKPab**	**01 56 20.8**	**-0.8**
	comp=Z,3.3nm,0.9s,baz=74,slow=1.2,SNR=4.8						

IDC 04 01:39:01.1±6.9**, 14°.17S**×**170°.74E, h0km, mb3.6**/3**, mbtmp3.6**/3**, Error ellipse: s-maj=330.2km s-min=37.7km az=142.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.22**	**255**	P	P	01 45 57.0	-0.5
	0.8nm,1.0s,baz=90,slow=9.0,SNR=1.9						
	0.8nm,1.0s						
ASAR	**Alice Springs**	**36.01**	**249**	P	P	01 46 04.7	+0.4
	0.7nm,0.7s,baz=77,slow=9.1,SNR=2.8						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**84.99**	**17**	P	P	01 51 38.0	0.0
	0.3nm,0.8s,baz=230,slow=4.9,SNR=4.5						
	0.3nm,0.8s						

DJA 04 01:48:18.3±0.5**, 4°S**±6°×**12°8E**±°**, h10km, M3.9**/9**, mb4.1**/3**, mB5.8**/1**, MLv3.9**/9**, Mw(mB)5.4**/1**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.76**	**312**	P	Pg	01 48 31.9	-1.1
SANI	**Sanana**	**2.38**	**315**	P	Pn	01 48 58.5	+1.1
TNTI	**Ternate**	**4.50**	**356**	P	Pn	01 49 27.1	+0.5
LUWI	**Luwuk**	**5.58**	**299**	P	Pn	01 49 40.5	-1.0
MRSI	**Marisa**	**7.10**	**306**	P	Pn	01 50 01.6	-0.7
	15nm,0.5s,0.1nm						
EDFI	**Ende, Flores**	**7.75**	**230**	P	Pn	01 50 11.6	+0.3

IDC 04 01:56:24.6±3.1**, 13°.92S**×**170°.53E, h0km, mb3.8**/4**, mbtmp3.8**/4**, Error ellipse: s-maj=145.7km s-min=32.6km az=137.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**31.94**	**231**	P	P	02 02 52.0	-0.2
	2.7nm,0.8s,baz=53,slow=5.1,SNR=4.6						
	2.7nm,0.8s						
WRA	**Warramunga Arr**	**35.09**	**255**	P	P	02 03 19.6	-0.2
	0.4nm,0.7s,baz=86,slow=8.4,SNR=2.9						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**35.91**	**249**	P	P	02 03 27.0	+0.1
	1.1nm,0.7s,baz=79,slow=8.8,SNR=11						
	1.1nm,0.7s						
ILAR	**Eielson Array**	**84.81**	**17**	P	P	02 09 00.6	0.0
	0.5nm,0.9s,baz=238,slow=5.1,SNR=5.1						
	0.5nm,0.9s						

IDC 04 02:43:20.0±6.3**, 12°.78S**×**169°.10E, h0km, mb3.6**/3**, mbtmp3.6**/3**, Error ellipse: s-maj=313.9km s-min=35.6km az=140.0, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.05**	**253**	P	P	02 50 05.7	-0.6
	0.4nm,0.8s,baz=84,slow=9.5,SNR=2.5						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**35.05**	**247**	P	P	02 50 15.2	+0.3
	0.7nm,0.6s,baz=79,slow=8.6,SNR=9.8						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**84.14**	**17**	P	P	02 55 52.6	0.0
	0.4nm,0.8s,baz=225,slow=5.0,SNR=4.4						
	0.4nm,0.8s						

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*OMAN **04** 02:58:39.6±0.5, 31°.29N×57°.42E, h20km, mb3.9/12, ml4.1/1, Error ellipse: s-maj=8.2km s-min=6.8km az=12.0*
*DSN **04** 02:58:40.8±1.0, 30°.57N×59°.03E, h15km, ML3.6/7, Error ellipse: s-maj=43.5km s-min=9.5km az=116.0*
*IDC **04** 02:58:43.2±0.8, 30°.74N×57°.34E, h0km, mb3.8/16, mbtmp3.9/23, ML3.6/7, MS3.6/1, Error ellipse: s-maj=16.6km s-min=15.2km az=137.0*
*TEH **04** 02:58:43.4, 30°.69N×57°.38E, h11km±49km, ML4.3*
ISC 04 02:58:44.0±0.4**, 30°.67N**±0°.03×**57°.40E**±0°.03**, h10km, n103, σ2s.46**/115**, mb3.8**/17**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.81**	**292**	Pg	**Pg**	**02 58 58.3**	**-1.2**
ZRDN				Sg	**Sb**	**02 59 10.3**	**-1.0**
CHMN	**Cheshme madani**	**0.81**	**172**	Pg	**Pg**	**02 58 59.3**	**-0.4**
KHGB	**Koh Gabri**	**0.85**	**250**	Pg	**Pg**	**02 58 59.4**	**-1.1**
KHGB				Sg	**Sg**	**02 59 10.3**	**-1.3**
TVBK	**TV Kerman**	**0.88**	**220**	Pg	**Pb**	**02 59 00.9**	**-0.6**
NGRK	**Negar Kerman**	**1.17**	**210**	Pg	**Pb**	**02 59 06.2**	**-0.4**
NGRK				Sg	**Sb**	**02 59 22.1**	**+0.1**
KBAM	**BAM**	**1.78**	**149**	Pn	**Pb**	**02 59 16.3**	**-0.4**
IBAF	**Bafgh**	**1.82**	**301**	Pg	**Pb**	**02 59 16.5**	**-1.1**
BSRN	**Basiran**	**1.96**	**48**	Pn	**Pn**	**02 59 17.9**	**+0.4**
IKOO	**Kooshah**	**2.22**	**38**	Pn	**Pb**	**02 59 22.3**	**-2.2**
NHDN	**Nehbandan**	**2.38**	**72**	Pn	**Pn**	**02 59 24.5**	**+1.2**
TPRV	**Parvadeh(Tabas**	**2.43**	**346**	Pn	**Pn**	**02 59 24.3**	**+0.4**
IMEH	**Mehriz**	**2.50**	**288**	Pn	**Pn**	**02 59 26.0**	**+1.0**
ITEG	**Tejag**	**2.50**	**27**	Pn	**Pn**	**02 59 25.3**	**+0.4**
KHNJ	**Kahnooj**	**2.72**	**174**	Pn	**Pb**	**02 59 30.8**	**-2.0**
IDAH	**Dahanechah**	**2.95**	**45**	Pn	**Pn**	**02 59 32.6**	**+1.5**
TKDS	**Koohdasht(Taba**	**2.95**	**355**	Pn	**Pn**	**02 59 31.4**	**+0.3**
ICHK	**Chekchek**	**3.00**	**302**	Pn	**Pn**	**02 59 32.8**	**+0.9**
AFRZ	**Afriz**	**3.07**	**26**	Pn	**Pn**	**02 59 33.8**	**+1.1**
ZHDN	**Zahedan**	**3.21**	**112**	Pn	**Pn**	**02 59 36.3**	**+1.6**
IBND	**Bandar-abas**	**3.29**	**193**	Pn	**Pb**	**02 59 39.1**	**-3.4**
TNSJ	**Nastanj**	**3.36**	**349**	Pn	**Pn**	**02 59 37.1**	**+0.4**
ISAD	**Sadrabad**	**3.42**	**292**	Pn	**Pn**	**02 59 38.8**	**+1.2**
GENO	**Geno**	**3.43**	**199**	Pn	**Pn**	**02 59 40.7**	**+3.0**
SHRT	**Shahrakht**	**3.85**	**39**	Pn	**Pn**	**02 59 44.6**	**+1.2**
ANAR	**Anarak**	**4.01**	**310**	Pn	**Pn**	**02 59 46.6**	**+1.0**
QIR1	**Qir**	**4.38**	**241**	Pn	**Pn**	**02 59 52.7**	**+2.0**
IRAM	**Ramesheh**	**4.45**	**286**	Pn	**Pn**	**02 59 53.5**	**+1.7**
SHME	**Shamm**	**4.73**	**194**	P	**Pn**	**02 59 57.7**	**+2.3**
SHME	**Shamm**	**4.73**	**194**	P	**Pn**	**02 59 58.7**	**+3.2**
SHME				S	**Sb**	**03 01 00.7**	**-3.4**
JASK	**Jask - Hormozg**	**4.80**	**175**	P	**Pn**	**02 59 59.7**	**+3.3**
JASK	**Jask - Hormozg**	**4.80**	**175**	Pn	**Pn**	**02 59 59.0**	**+2.7**
IZEF	**Zefreh**	**4.86**	**299**	Pn	**Pn**	**02 59 58.8**	**+1.4**
IGAR	**Gharneh**	**4.89**	**292**	Pn	**Pn**	**02 59 59.0**	**+1.1**
TBHD	**Torbat heydari**	**4.98**	**18**	Pn	**Pn**	**02 59 59.9**	**+0.8**
TBJM	**Torbat-e-JAM**	**5.21**	**27**	Pn	**Pn**	**03 00 03.2**	**+1.1**
MASF	**Masafi**	**5.39**	**192**	P	**Pn**	**03 00 08.4**	**+3.9**
MASF				S	**Sb**	**03 01 16.6**	**-6.4**
MSFE	**Esma-Masafi**	**5.40**	**192**	P	**Pn**	**03 00 06.8**	**+2.2**
MSFE				S	**Sn**	**03 01 13.4**	**+6.5**
SRVN	**Saravan**	**5.45**	**125**	Pn	**Pn**	**03 00 07.8**	**+2.4**
IKLH	**Kolahrood**	**5.61**	**300**	Pn	**Pn**	**03 00 10.1**	**+2.3**
IMOG	**Moghan**	**5.67**	**16**	Pn	**Pn**	**03 00 09.7**	**+1.2**
ISFB	**Sefidab**	**5.70**	**311**	Pn	**Pn**	**03 00 10.3**	**+1.5**
SBZV	**Sabzevar**	**5.71**	**2**	Pn	**Pn**	**03 00 10.3**	**+1.2**
ZNGN	**Zangian**	**5.78**	**286**	Pn	**Pn**	**03 00 12.3**	**+2.1**
UOSS	**Minazif**	**5.80**	**191**	P	**Pn**	**03 00 11.7**	**+1.6**
UOSS	**Minazif**	**5.80**	**191**	P	**Pn**	**03 00 13.3**	**+3.2**
NAZ	**Nazwa, Dubai**	**5.86**	**196**	P	**Pn**	**03 00 13.9**	**+2.9**
NAZ	**Nazwa, Dubai**	**5.86**	**196**	P	**Pn**	**03 00 14.8**	**+3.8**
	SNR=5.5						
NAZ				S	**Sb**	**03 01 28.9**	**-7.7**
IPIR	**Pirpir**	**5.90**	**292**	Pn	**Pn**	**03 00 13.9**	**+2.1**
IPAY	**Payeh**	**5.92**	**13**	Pn	**Pn**	**03 00 13.5**	**+1.5**
HATD	**Hatta, Dubai**	**5.92**	**191**	P	**Pn**	**03 00 12.8**	**+0.9**
HATD	**Hatta, Dubai**	**5.92**	**191**	P	**Pn**	**03 00 15.2**	**+3.4**
HATD				S	**Sb**	**03 01 31.4**	**-7.1**
QAMS	**Qamsar**	**5.94**	**303**	Pn	**Pn**	**03 00 14.0**	**+1.8**
JHBN	**Jahan bin**	**5.96**	**287**	Pn	**Pn**	**03 00 13.7**	**+1.0**
IAKL	**Akhelmad**	**6.03**	**10**	Pn	**Pn**	**03 00 14.6**	**+1.0**
ASHO	**Ashiyiah**	**6.08**	**192**	P	**Pn**	**03 00 15.3**	**+1.3**
ASHO	**Ashiyiah**	**6.08**	**192**	P	**Pn**	**03 00 17.1**	**+3.1**
	SNR=5.5						
ASHO				S	Sn	03 01 33.0	+9.4
IMYA	**Miami**	**6.09**	**21**	Pn	**Pn**	**03 00 15.8**	**+1.5**
FAQ	**Al Faqa, Dubai**	**6.11**	**196**	P	**Pn**	**03 00 16.7**	**+2.2**
FAQ	**Al Faqa, Dubai**	**6.11**	**196**	P	**Pn**	**03 00 17.6**	**+3.2**
	SNR=7.5						
FAQ				S	**Sb**	**03 01 35.7**	**-8.1**
ASUD	**Al Ashush, Dub**	**6.29**	**197**	P	**Pn**	**03 00 19.1**	**+2.2**
ASUD	**Al Ashush, Dub**	**6.29**	**197**	P	**Pn**	**03 00 20.3**	**+3.4**
ASUD				S	Sb	03 01 39.1	-10
IFIR	**Firoozkooh**	**6.31**	**323**	Pn	**Pn**	**03 00 18.2**	**+0.8**
IKRD	**Kardeh**	**6.34**	**16**	Pn	**Pn**	**03 00 19.9**	**+2.1**
ISFR	**Sfrayin**	**6.39**	**4**	Pn	**Pn**	**03 00 19.4**	**+0.9**
IGLO	**Ghaloghah**	**6.54**	**334**	Pn	**Pn**	**03 00 21.9**	**+1.4**
SOHO	**SOHO**	**6.55**	**187**	P	**Pn**	**03 00 19.6**	**-0.8**
SOHO	**SOHO**	**6.55**	**187**	P	**Pn**	**03 00 22.7**	**+2.3**
IDMV	**Damavand**	**6.65**	**319**	Pn	**Pn**	**03 00 23.0**	**+0.9**
HOQ	**Hoqain**	**7.05**	**181**	P	**Pn**	**03 00 30.0**	**+2.5**
GEYT	**Alibeck**	**7.27**	**4**	Pn	**Pn**	**03 00 30.8**	**+0.5**
	0.4nm,0.3s,baz=206,slow=20,SNR=3.9						
	2.6nm,0.6s						
ARQ	**Araqi**	**7.34**	**186**	P	**Pn**	**03 00 34.7**	**+3.4**
WSAR	**Wadi Sarin**	**7.48**	**171**	P	**Pn**	**03 00 35.5**	**+2.3**
WSAR	**Wadi Sarin**	**7.48**	**171**	Pn	**Pn**	**03 00 35.6**	**+2.4**
	4.5nm,0.3s,baz=2.8,slow=10,SNR=32						
WSAR				Sn	**Sn**	**03 02 02.4**	**+4.3**
	baz=7.4,slow=9.5						
	14nm,0.4s						
SMDO	**Samad**	**7.60**	**175**	P	**Pn**	**03 00 38.0**	**+3.1**
BSY	**Bisya**	**7.89**	**181**	P	**Pn**	**03 00 42.4**	**+3.5**
TRNA	**Turayna**	**8.06**	**224**	P	**Pn**	**03 00 42.0**	**+0.8**
	SNR=9.5						
TRNA				S	**Sn**	**03 02 17.4**	**+5.0**
WBK	**Wadi Bani Khal**	**8.14**	**170**	P	**Pn**	**03 00 44.0**	**+1.6**
	SNR=6.0						
JMDO	**Jabal Madar**	**8.29**	**175**	P	**Pn**	**03 00 48.0**	**+3.7**
SMRA	**Abu-Samra**	**8.29**	**226**	P	**Pn**	**03 00 44.9**	**+0.6**
MHTO	**MHTO**	**9.65**	**177**	P	**Pn**	**03 01 06.2**	**+3.2**
GNI	**Garni**	**13.99**	**316**	Pn	**Pn**	**03 02 02.0**	**-0.5**
	0.5nm,0.3s,baz=102,slow=18,SNR=1.7						
	1.9nm,0.4s						
KBZ	**Khabaz**	**17.39**	**323**	P	**P**	**03 02 46.3**	**-1.6**
	0.1nm,0.3s,baz=86,slow=19,SNR=2.8						
	2.7nm,1.0s						
ASF	**Jabal al Asfar**	**17.57**	**280**	P	**Pn**	**03 02 48.4**	**-0.7**
	0.2nm,0.3s,baz=306,slow=20,SNR=2.4						
	1.5nm,0.7s						
AAK	**Ala-Archa**	**18.15**	**44**	P	**Pn**	**03 02 55.8**	**-0.5**
	0.1nm,0.3s,baz=255,slow=21,SNR=2.2						
	1.7nm,0.8s						
AKTO	**Aktyubinsk**	**19.75**	**1**	P	**Pn**	**03 03 14.6**	**-0.8**
	0.8nm,0.3s,baz=183,slow=9.1,SNR=18						
	6.5nm,0.7s						
BRTR	**Keskin Array B**	**21.37**	**301**	P	**P**	**03 03 32.4**	**+0.7**
	2.0nm,0.7s,baz=121,slow=13,SNR=17						
	2.0nm,0.7s						
BVAR	**Borovoye Array**	**24.27**	**19**	P	**P**	**03 04 02.5**	**+1.2**
	5.0nm,0.7s,baz=201,slow=6.3,SNR=19						
BVAR				LR	LR	03 13 58.5	
	comp=Z,119nm,18.7s,baz=220,slow=38						
	5.0nm,0.7s						
MKAR	**Makanchi Array**	**25.07**	**43**	P	**P**	**03 04 09.3**	**+0.7**
	0.7nm,0.6s,baz=224,slow=8.4,SNR=5.7						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**25.42**	**32**	P	**P**	**03 04 13.0**	**+1.3**
	1.8nm,0.2s,baz=231,slow=9.2,SNR=7.6						
	1.8nm,0.2s						
AKASG	**Malin Array Be**	**29.00**	**322**	P	**P**	**03 04 44.0**	**+0.3**
	0.8nm,0.5s,baz=123,slow=8.5,SNR=5.3						
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**30.52**	**32**	P	**P**	**03 04 57.1**	**-0.1**
	2.4nm,0.6s,baz=234,slow=9.1,SNR=8.7						
	2.4nm,0.6s						
KMBO	**Kilima Mbogo**	**36.98**	**215**	P	**P**	**03 05 56.8**	**+2.7**
	0.8nm,0.5s,baz=87,slow=5.4,SNR=3.5						
	0.8nm,0.5s						
FINES	**FINESS Array B**	**36.99**	**335**	P	**P**	**03 05 53.4**	**+0.1**
	2.0nm,0.6s,baz=126,slow=10,SNR=7.8						
	2.0nm,0.6s						
GERES	**GERESS Array B**	**37.58**	**312**	P	**P**	**03 05 58.7**	**0.0**
	1.7nm,0.7s,baz=114,slow=13,SNR=4.4						
	1.7nm,0.7s						
CLL	**Collm**	**38.60**	**315**	*e*Px	Px	03 06 09.0	
CLL				AMS	AMS	03 24 00.0	
	comp=Z,200nm,20.7s						
CLL				AMS	AMS	04 35 00.0	
	comp=Z,200nm,20.1s						
SONM	**Songino Array**	**40.89**	**51**	P	**P**	**03 06 27.2**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=279,slow=12,SNR=2.5						
	comp=Z,0.4nm,0.7s						
XLT	**XiLinHaoTe**	**47.59**	**57**	*e*P	**P**	**03 07 18.0**	**-2.0**
XLT				pP	pP	03 07 22.5	-1.1
XLT				sP	sP	03 07 25.9	+0.9
XLT				PcP	**PcP**	**03 08 49.5**	**-0.3**
XLT				PP	**PP**	**03 09 09.6**	**-1.8**
XLT				pmax	pmax		
	comp=Z,10.0nm,1.0s						
EKA	**Eskdalemuir Ar**	**48.82**	**319**	P	**P**	**03 07 29.2**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=96,slow=7.2,SNR=3.5						
	comp=Z,0.4nm,0.5s						
ESDC	**Sonseca Array**	**50.10**	**298**	P	**P**	**03 07 38.7**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=24,slow=9.8,SNR=1.2						
	comp=Z,0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**54.01**	**264**	P	**P**	**03 08 08.2**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=51,slow=7.9,SNR=8.3						
	comp=Z,0.9nm,0.7s						
YKA	**Yellowknife Ar**	**86.94**	**356**	P	**P**	**03 11 28.6**	**-0.3**
	comp=Z,0.4nm,1.0s,baz=358,slow=4.7,SNR=4.2						
	comp=Z,0.4nm,1.0s						
WRA	**Warramunga Arr**	**89.36**	**114**	P	**P**	**03 11 40.5**	**-0.6**
	comp=Z,0.4nm,1.0s,baz=316,slow=4.3,SNR=1.8						
	comp=Z,0.4nm,1.0s						
ASAR	**Alice Springs**	**91.04**	**117**	P	**P**	**03 11 50.3**	**+1.4**
	comp=Z,0.4nm,0.9s,baz=312,slow=4.3,SNR=3.1						
	comp=Z,0.4nm,0.9s						

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*IDC **04** 03:12:53.0±0.6, 1°.14S×127°.64E, h0km, mb4.6/18, mbtmp4.6/21, ML4.5/3, MS3.4/5, Error ellipse: s-maj=23.5km s-min=11.9km az=78.0*
*NEIC **04** 03:12:56.2±1.8, 1°.19S±0°.05×127°.70E±0°.05, h22km±6km, mb4.8/34, Error ellipse: s-maj=10.3km s-min=2.4km az=48.0*
*DJA **04** 03:12:56.0±0.6, 1°S±2°×12°8E±°, h16km±5km, M4.6/33, mb5.0/33, mB5.1/12, MLv4.7/16, Mw4.6/55, Mw(mB)4.4/12, MwMwp5.1/1, Mwp5.3/1*
ISC 04 03:12:54.5±0.3**, 1°.27S**±0°.04×**127°.61E**±0°.06**, h10km, n133, σ1s.80**/142**, mb4.8**/48**, MS3.3**/4**, 3C-1D, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.63**	**350**	P	**Pg**	**03 13 05.7**	**-1.1**
SANI	**Sanana**	**1.80**	**244**	P	**Pn**	**03 13 25.0**	**-0.6**
SANI	**Sanana**	**1.80**	**244**	P	**Pn**	**03 13 24.1**	**-1.5**
NLAI	**Namlea**	**2.03**	**195**	P	**Pn**	**03 13 30.5**	**+1.8**
TNTI	**Ternate**	**2.04**	**353**	Pn	**Pn**	**03 13 27.7**	**-1.2**
TNTI	**Ternate**	**2.04**	**353**	P	**Pb**	**03 13 30.9**	**-0.8**
TNTI	**Ternate**	**2.04**	**353**	P	**Pn**	**03 13 28.0**	**-0.9**
SWI	**Sorong**	**3.67**	**84**	P	**Pn**	**03 13 52.0**	**+0.7**
KMSI	**Cibinong**	**4.07**	**297**	P	**Pn**	**03 13 57.5**	**+0.7**
LUWI	**Luwuk**	**4.84**	**273**	Pn	**Pn**	**03 14 06.7**	**-0.8**
LUWI	**Luwuk**	**4.84**	**273**	P	**Pn**	**03 14 08.4**	**+0.9**
LUWI	**Luwuk**	**4.84**	**273**	P	**Pn**	**03 14 07.5**	**0.0**
FAKI	**Fak Fak**	**4.92**	**110**	Pn	**Pn**	**03 14 07.6**	**-0.9**
FAKI	**Fak Fak**	**4.92**	**110**	P	**Pn**	**03 14 09.5**	**+1.0**
FAKI	**Fak Fak**	**4.92**	**110**	P	**Pn**	**03 14 09.3**	**+0.8**
GTOI	**Gorontalo**	**4.97**	**292**	P	**Pn**	**03 14 12.6**	**+3.3**
	43nm,0.6s,696nm0.8nm						
MRSI	**Marisa**	**5.93**	**287**	P	**Pn**	**03 14 22.6**	**+0.1**
	127nm,0.5s,2μm1.0nm						
BBSI	**Bau Bau**	**6.55**	**230**	P	**Pn**	**03 14 33.3**	**+2.3**
	39nm,0.6s,0.2nm						
TOLI2	**Tolitoli**	**7.23**	**289**	Pn	**Pn**	**03 14 41.0**	**+0.7**
TOLI2	**Tolitoli**	**7.23**	**289**	P	**Pn**	**03 14 43.1**	**+2.8**
TTSI	**Tana Toraja**	**7.99**	**257**	P	**Pn**	**03 14 52.3**	**+1.6**
	91nm,0.7s,1μm						
SPSI	**Sidrap Palu**	**8.28**	**251**	P	**Pn**	**03 14 56.4**	**+1.6**
	175nm,0.6s,3μm						
BKSI	**Bulukumba**	**8.49**	**242**	P	**Pn**	**03 15 01.0**	**+3.3**
	68nm,0.5s,793nm						
KAPI	**Kappang**	**8.69**	**244**	Pn	**Pn**	**03 15 02.7**	**+2.3**
KAPI	**Kappang**	**8.69**	**244**	Pn	**Pn**	**03 15 02.8**	**+2.5**
	3.6nm,0.3s,baz=65,slow=8.0,SNR=14						
KAPI				Sn	**Sn**	**03 16 35.9**	**-2.5**
	0.8nm,0.3s,baz=164,slow=18,SNR=1.1						
KAPI				LR	LR	03 18 26.0	
	comp=Z,196nm,19.9s,baz=78,slow=38						
	22nm,0.7s						
SOEI	**Soe**	**9.07**	**201**	Pn	**Pn**	**03 15 07.2**	**+1.6**
EDFI	**Ende, Flores**	**9.49**	**218**	P	**Pn**	**03 15 14.7**	**+3.2**
	26nm,0.8s,1μm						
BATI	**Baumata**	**9.71**	**204**	Pn	**Pn**	**03 15 16.9**	**+2.4**
	3.1nm,0.3s,baz=161,slow=13,SNR=1.7						
	16nm,0.5s						
BKB	**Balikpapan**	**10.71**	**270**	Pn	**Pn**	**03 15 27.1**	**-1.0**
BKB	**Balikpapan**	**10.71**	**270**	P	**Pn**	**03 15 29.0**	**+0.9**
	101nm,0.7s						
MYLDM	**Lahad Datu**	**11.13**	**305**	Pn	**Pn**	**03 15 34.6**	**+0.8**
MTN	**Manton Dam**	**12.02**	**163**	Pn	**Pn**	**03 15 47.1**	**+1.0**
MTN	**Manton Dam**	**12.02**	**163**	P	**Pn**	**03 15 48.4**	**+2.4**
KDU	**Kakadu**	**12.33**	**157**	P	**Pn**	**03 15 50.5**	**+0.3**
PLAI	**Plampang**	**12.34**	**232**	P	**Pn**	**03 15 53.4**	**+3.0**
	21nm,0.8s						
KKM	**Kota Kinabalu**	**13.50**	**303**	Pn	**Pn**	**03 16 06.9**	**+0.6**
KNRA	**Kununurra**	**14.37**	**176**	Pn	**Pn**	**03 16 17.8**	**-0.3**
JAGI	**Jajag, Banyuwa**	**15.20**	**241**	Pn	**Pn**	**03 16 32.3**	**+2.9**
JAGI				IAmb	IAmb	03 16 38.5	
	comp=Z,36nm,1.2s						
JAGI	**Jajag, Banyuwa**	**15.20**	**241**	P	**Pn**	**03 16 32.2**	**+2.9**
	comp=Z,26nm,1.0s,comp=Z,1μm						
KSM	**Kuching**	**17.52**	**279**	Pn	**Pn**	**03 16 58.4**	**-0.7**
WB0	**Warramunga Arr**	**19.55**	**161**	P	**P**	**03 17 22.1**	**-0.5**
WB0				IAmb	IAmb	03 17 24.8	
	comp=Z,19nm,0.6s						
KPJI	**Karang Pucung**	**19.57**	**252**	P	**Pn**	**03 17 24.8**	**+0.7**
	comp=Z,31nm,1.1s						
WRAB	**Tennant Creek**	**19.69**	**161**	P	**P**	**03 17 23.8**	**-0.3**
WRA	**Warramunga Arr**	**19.70**	**161**	P	**P**	**03 17 23.4**	**-0.7**
WRA	**Warramunga Arr**	**19.70**	**161**	P	**P**	**03 17 24.1**	**0.0**
	comp=Z,1.7nm,0.3s,baz=342,slow=12,SNR=92						
WRA				S	**S**	**03 20 59.0**	**-7.5**
	comp=Z,3.8nm,0.7s,baz=340,slow=21,SNR=6.4						
	comp=Z,11nm,0.8s						
WB2	**Warramunga Arr**	**19.70**	**161**	P	**P**	**03 17 23.9**	**-0.3**
WR0	**Warramunga Arr**	**19.78**	**160**	P	**P**	**03 17 24.6**	**-0.5**
COEN	**Coen**	**19.90**	**130**	P	**P**	**03 17 26.1**	**-0.3**
COEN				IAmb	IAmb	03 17 30.2	
	comp=Z,32nm,0.9s						
LEM	**Lembang**	**20.69**	**254**	P	**P**	**03 17 35.5**	**+0.4**
	comp=Z,18nm,0.4s,baz=319,slow=24,SNR=2.2						
LEM				LR	LR	03 28 32.6	
	comp=Z,91nm,18.3s,baz=56,slow=45						
	comp=Z,18nm,0.4s						
MBWA	**Marble Bar**	**21.22**	**201**	P	**P**	**03 17 40.7**	**+0.1**
MBWA				IAmb	IAmb	03 17 41.9	
	comp=Z,20nm,0.8s						
PSA00	**Pilbara Seismi**	**21.56**	**200**	P	**P**	**03 17 44.0**	**-0.3**
PSA00				IAmb	IAmb	03 17 46.2	
	comp=Z,67nm,1.6s						
DSRI	**Dabo**	**23.05**	**272**	P	**P**	**03 18 00.4**	**+0.1**
AS31	**Alice Springs**	**23.09**	**165**	P	**P**	**03 17 59.9**	**-0.7**
ASAR	**Alice Springs**	**23.09**	**165**	P	**P**	**03 18 00.5**	**-0.2**
ASAR	**Alice Springs**	**23.09**	**165**	P	**P**	**03 18 00.8**	**+0.2**
	comp=Z,16nm,0.8s,baz=345,slow=10,SNR=147						
ASAR				S	**S**	**03 22 08.9**	**-3.0**
	comp=Z,11nm,1.1s,baz=347,slow=21,SNR=20						
	comp=Z,16nm,0.8s						
KASI	**Kota Agung**	**23.45**	**259**	P	**P**	**03 18 05.4**	**+1.0**
	comp=Z,77nm,0.9s						
MNAI	**Manna**	**24.82**	**262**	P	**P**	**03 18 18.1**	**+0.9**
GIRL	**Giralia**	**24.91**	**210**	P	**P**	**03 18 18.3**	**+0.4**
CTA	**Charters Tower**	**26.12**	**137**	LR	LR	03 30 53.7	
	comp=Z,131nm,18.5s,baz=264,slow=41						
RPSI	**Rantau Prapat**	**28.95**	**278**	P	**P**	**03 18 54.5**	**+0.2**
RPSI				IAmb	IAmb	03 18 55.4	
	comp=Z,18nm,0.7s						
FORT	**Forrest**	**29.36**	**179**	P	**P**	**03 18 58.9**	**+1.1**
FORT				IAmb	IAmb	03 18 59.5	
	comp=Z,21nm,0.7s						
GSI	**Gunungsitoli**	**30.14**	**275**	P	**P**	**03 19 04.5**	**-0.5**
GSI	**Gunungsitoli**	**30.14**	**275**	P	**P**	**03 19 04.1**	**-0.9**
	comp=Z,43nm,0.6s						
MLSI	**Meulaboh, Aceh**	**31.67**	**280**	P	**P**	**03 19 18.2**	**-0.2**
	comp=Z,54nm,0.5s						
NWAO	**Narrogin (SRO)**	**32.97**	**196**	P	**P**	**03 19 29.8**	**+0.1**
STKA	**Stephens Creek**	**33.19**	**158**	P	**P**	**03 19 32.7**	**+1.2**
STKA	**Stephens Creek**	**33.19**	**158**	P	**P**	**03 19 33.5**	**+2.0**
	comp=Z,11nm,0.7s,baz=330,slow=9.0,SNR=30						
STKA				LR	LR	03 33 29.7	
	comp=Z,75nm,19.2s,baz=28,slow=37						
	comp=Z,11nm,0.7s						
WHN	**Wuhan**	**34.06**	**339**	⇑P	**P**	**03 19 40.9**	**+1.8**
WHN				pmax	pmax		
	comp=Z,76nm,1.1s						
NJ2	**Nanjing**	**34.16**	**347**	*e*P	**P**	**03 19 41.8**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**34.34**	**306**	P	**P**	**03 19 41.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**34.34**	**306**	P	**P**	**03 19 42.1**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=136,slow=7.0,SNR=15						
	comp=Z,1.7nm,0.6s						
CHTO	**Chiang Mai**	**34.52**	**307**	P	**P**	**03 19 43.4**	**+0.1**
CHTO				IAmb	IAmb	03 19 45.2	
	comp=Z,19nm,1.2s						
KMI	**Kunming**	**35.62**	**319**	⇑P	**P**	**03 19 55.0**	**+2.1**
KMI				pmax	pmax		
	comp=Z,18nm,0.7s						
PZH	**PanZhiHua**	**37.22**	**320**	P	**P**	**03 20 08.3**	**+1.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
LYN	**LuoYang**	**38.36**	**340**	⇑P	**P**	**03 20 16.7**	**+0.9**
LYN				pP	sP	03 20 29.0	+8.9
LYN				pmax	pmax		
	comp=Z,21nm,0.6s						
LYN				pmax	pmax		
	comp=Z,200nm,4.3s						
KSRS	**Korea Array**	**38.53**	**0**	P	**P**	**03 20 16.9**	**-0.3**
	comp=Z,3.1nm,0.9s,baz=185,slow=10,SNR=2.6						
	comp=Z,3.1nm,0.9s						
MJAR	**Matsushiro Arr**	**38.88**	**14**	P	**P**	**03 20 19.7**	**-0.6**
	comp=Z,3.2nm,0.7s,baz=184,slow=9.6,SNR=5.2						
MJAR				LR	LR	03 34 36.9	
	comp=Z,36nm,21.5s,baz=286,slow=34						
CD2	**Chengdu**	**39.23**	**327**	P	**P**	**03 20 23.1**	**-0.2**
CD2				pmax	pmax		
	comp=Z,30nm,0.9s						
XAN	**Xi'an**	**39.27**	**335**	⇓P	**P**	**03 20 23.5**	**-0.1**
XAN				pmax	pmax		
	comp=Z,32nm,0.7s						
TOO	**Toolangi**	**39.71**	**158**	P	**P**	**03 20 28.1**	**+0.9**
TOO				IAmb	IAmb	03 20 31.4	
	comp=Z,11nm,0.7s						
BJI	**Beijing**	**42.42**	**347**	P	**P**	**03 20 52.0**	**+2.6**
BJI				sP	**sP**	**03 21 00.6**	**+6.9**
BJI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
LZH	**Lanzhou**	**43.26**	**332**	*e*P	**P**	**03 20 57.5**	**+1.0**
LZH				pP	sP	03 21 08.2	+7.4
LZH				sP	pP	03 21 13.0	+13
LZH				pmax	pmax		
	comp=Z,31nm,1.2s						
HHC	**Hu-ho-hao-te**	**44.39**	**343**	*e*P	**P**	**03 21 07.7**	**+2.2**
HHC				pmax	pmax		
	comp=Z,29nm,0.8s						
HHC				pmax	pmax		
	comp=Z,65nm,4.5s						
CN2	**Changchun**	**44.91**	**358**	*e*P	**P**	**03 21 10.4**	**+1.0**
CN2				*e*pP	sP	03 21 35.9	+22
CN2				*e*S	**PcS**	**03 26 39.8**	**-4.6**
USA0B	**Ussuriysk Arra**	**45.43**	**4**	P	**P**	**03 21 13.4**	**-0.2**
USA0B				IAmb	IAmb	03 21 28.4	
	comp=Z,38nm,1.9s						
USRK	**Ussuriysk Ar.**	**45.43**	**4**	P	**P**	**03 21 13.2**	**-0.3**
USRK	**Ussuriysk Ar.**	**45.43**	**4**	P	**P**	**03 21 13.8**	**+0.2**
	comp=Z,2.7nm,0.5s,baz=179,slow=6.1,SNR=10						
	comp=Z,2.7nm,0.5s						
MDJ	**Mudanjiang**	**45.72**	**2**	P	**P**	**03 21 16.9**	**+1.1**
MDJ				pP	sP	03 21 24.8	+4.7
MDJ				sP	pP	03 21 28.9	+10

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MDJ				PcP	**PcP**	**03 22 46.4**	**-7.2**
MDJ				PP	**PP**	**03 23 08.9**	**+5.9**
MDJ				ScP	**ScP**	**03 26 44.0**	**-2.9**
MDJ				PcS	**PcS**	**03 26 46.0**	**-1.7**
MDJ				S	S	03 28 08.9	+10
MDJ				sS	sS	03 28 16.8	+13
MDJ	**Mudanjiang**	**45.72**	**2**	SS	SS	03 31 33.7	+10
MDJ				pmax	pmax		
	comp=Z,12nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,130nm,4.6s						
XLT	**XiLinHaoTe**	**46.13**	**348**	*e*P	**P**	**03 21 21.0**	**+1.8**
XLT				pP	sP	03 21 33.6	+10
XLT				sP	pP	03 21 40.2	+18
XLT				PcP	**PcP**	**03 22 56.8**	**+1.5**
XLT				PP	**PP**	**03 23 08.0**	**+0.4**
XLT				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,88nm,4.8s						
LSA	**Lhasa**	**46.47**	**315**	P	**P**	**03 21 21.8**	**-0.7**
ODAN	**Odare**	**47.77**	**309**	*e*P	**P**	**03 21 33.0**	**+0.5**
	comp=Z,97nm,1.0s						
GTA	**Gaotai**	**47.84**	**331**	P	**P**	**03 21 33.0**	**+0.3**
GTA				pP	sP	03 21 39.6	+2.6
GTA				sP	pP	03 21 44.6	+8.8
GTA				pmax	pmax		
	comp=Z,12nm,0.9s						
GOMU	**GeErMu**	**48.17**	**324**	P	**P**	**03 21 37.1**	**+1.4**
GOMU				pP	pP	03 21 38.9	+0.1
GOMU				pmax	pmax		
	comp=Z,6.0nm,0.7s						
RAMN	**Ramite**	**48.43**	**308**	*e*P	**P**	**03 21 38.8**	**+1.1**
	comp=Z,111nm,0.7s						
JIRN	**Jiri**	**49.09**	**309**	*e*P	**P**	**03 21 43.3**	**+0.4**
	comp=Z,64nm,0.8s						
GUN	**Gumba**	**49.45**	**309**	*e*P	**P**	**03 21 45.8**	**+0.2**
	comp=Z,79nm,0.8s						
PKI	**Pulchoki**	**49.66**	**309**	*e*P	**P**	**03 21 47.2**	**0.0**
	comp=Z,30nm,0.8s						
PKIN	**Phulchoki**	**49.67**	**309**	*e*P	**P**	**03 21 47.5**	**+0.3**
	comp=Z,25nm,0.7s						
KKN	**Kakani**	**49.86**	**309**	*e*P	**P**	**03 21 48.7**	**+0.1**
	comp=Z,61nm,0.9s						
DMN	**Daman**	**49.91**	**308**	*e*P	**P**	**03 21 49.3**	**+0.3**
	comp=Z,86nm,1.0s						
GKN	**Gorkha**	**50.47**	**309**	*e*P	**P**	**03 21 53.2**	**+0.1**
	comp=Z,23nm,0.4s						
KOLN	**Koldanda**	**51.17**	**308**	*e*P	**P**	**03 21 59.1**	**+0.6**
	comp=Z,81nm,0.9s						
DANN	**Dangsing**	**51.31**	**309**	*e*P	**P**	**03 22 00.0**	**+0.4**
	comp=Z,109nm,0.7s						
PYUN	**Piuthan**	**51.80**	**308**	*e*P	**P**	**03 22 03.8**	**+0.6**
	comp=Z,103nm,0.9s						
ULN	**Ulaanbaatar**	**52.11**	**343**	P	**P**	**03 22 04.0**	**-1.1**
ULN				IAmb	IAmb	03 22 05.8	
	comp=Z,10.0nm,1.2s						
SONM	**Songino Array**	**52.29**	**342**	P	**P**	**03 22 05.7**	**-0.6**
SONM	**Songino Array**	**52.29**	**342**	P	**P**	**03 22 06.3**	**-0.1**
	comp=Z,4.7nm,1.0s,baz=155,slow=8.7,SNR=14						
	comp=Z,4.7nm,1.0s						
WMQ	**Urumqi**	**57.32**	**327**	*e*P	**P**	**03 22 43.3**	**+0.4**
WMQ				pP	sP	03 22 52.9	+5.7
WMQ				pmax	pmax		
	comp=Z,27nm,0.9s						
MK31	**Makanchi Array**	**62.16**	**326**	P	**P**	**03 23 15.9**	**-0.2**
MKAR	**Makanchi Array**	**62.16**	**326**	P	**P**	**03 23 15.7**	**-0.4**
	comp=Z,15nm,0.6s,baz=120,slow=8.4,SNR=138						
	comp=Z,15nm,0.6s						
MAKZ	**Makanchi**	**62.34**	**326**	P	**P**	**03 23 16.3**	**-1.0**
ZAA0	**Zalesovo Array**	**65.42**	**334**	P	**P**	**03 23 35.0**	**-2.3**
ZAA0				IAmb	IAmb	03 23 36.8	
	comp=Z,7.9nm,1.0s						
ZALV	**Zalesovo Beam**	**65.42**	**334**	P	**P**	**03 23 35.7**	**-1.7**
	comp=Z,5.3nm,0.8s,baz=107,slow=5.1,SNR=15						
	comp=Z,5.3nm,0.8s						
KURBB	**Kurchatov Arra**	**66.41**	**328**	P	**P**	**03 23 43.1**	**-0.7**
	comp=Z,18nm,0.6s,baz=126,slow=6.0,SNR=90						
	comp=Z,18nm,0.6s						
KURK	**Kurchatov**	**66.42**	**328**	P	**P**	**03 23 42.9**	**-0.9**
WSAR	**Wadi Sarin**	**71.26**	**295**	P	**P**	**03 24 15.2**	**+0.5**
	comp=Z,7.0nm,0.8s,baz=166,slow=5.3,SNR=1.8						
	comp=Z,7.0nm,0.8s						
BVAR	**Borovoye Array**	**71.97**	**328**	P	**P**	**03 24 17.4**	**-0.9**
	comp=Z,10nm,0.7s,baz=140,slow=7.7,SNR=42						
	comp=Z,10nm,0.7s						
BRVK	**Borovoye**	**72.05**	**328**	P	**P**	**03 24 16.7**	**-2.0**
BRVK				IAmb	IAmb	03 24 18.7	
	comp=Z,19nm,1.1s						
TIXI	**Tiksi**	**72.80**	**0**	P	**P**	**03 24 22.0**	**-0.8**
TIXI				IAmb	IAmb	03 24 23.0	
	comp=Z,5.9nm,0.5s						
ABKAR	**Akbulak array**	**76.57**	**321**	P	**P**	**03 24 43.7**	**-1.4**
ABKAR				IAmb	IAmb	03 24 45.1	
	comp=Z,12nm,1.2s						
VNDA	**Vanda**	**78.39**	**173**	P	**P**	**03 24 53.6**	**-1.3**
VNDA				IAmb	IAmb	03 27 24.9	
	comp=Z,13nm,1.9s						
VNDA	**Vanda**	**78.39**	**173**	P	**P**	**03 24 56.2**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=334,slow=6.6,SNR=6.6						
	comp=Z,1.2nm,0.8s						
MAW	**Mawson**	**79.41**	**201**	P	**P**	**03 25 01.3**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=102,slow=11,SNR=5.2						
	comp=Z,2.7nm,0.7s						
ARU	**Arti**	**79.61**	**328**	P	**P**	**03 25 00.3**	**-1.6**
ARU				IAmb	IAmb	03 25 01.1	
	comp=Z,7.6nm,0.7s						
ARU	**Arti**	**79.61**	**328**	P	**P**	**03 25 00.4**	**-1.5**
	comp=Z,6.3nm,0.6s,baz=188,slow=2.3,SNR=11						
	comp=Z,6.3nm,0.6s						
QSPA	**South Pole Qui**	**88.67**	**180**	P	**P**	**03 25 47.2**	**-0.8**
QSPA				IAmb	IAmb	03 25 56.6	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**88.67**	**180**	P	**P**	**03 25 48.5**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=316,slow=2.9,SNR=6.2						
	comp=Z,2.0nm,0.7s						
ILAR	**Eielson Array**	**89.21**	**25**	P	**P**	**03 25 49.8**	**-0.6**
	comp=Z,1.8nm,1.2s,baz=222,slow=5.6,SNR=4.4						
	comp=Z,1.8nm,1.2s						
ARCES	**ARCESS Array B**	**95.41**	**340**	P	**P**	**03 26 16.6**	**-2.4**
	comp=Z,3.9nm,0.9s,baz=78,slow=6.5,SNR=6.7						
	comp=Z,3.9nm,0.9s						
TXAR	**Lajitas Array**	**123.83**	**55**	PKP	**PKPdf**	**03 31 53.0**	**-0.7**
	comp=Z,0.4nm,0.9s,baz=162,slow=1.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**125.19**	**285**	PKP	**PKPdf**	**03 31 56.2**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=50,slow=5.5,SNR=4.4						
PLCA	**Paso Flores**	**135.04**	**160**	PKP	**PKiKP**	**03 32 15.9**	**-0.3**
	comp=Z,1.0nm,1.0s,baz=46,slow=22,SNR=1.5						

*IDC **04** 03:20:53.6±2.6, 36°.81N×71°.17E, h0km, mb3.7/6, mbtmp3.8/10, ML3.6/4, Error ellipse: s-maj=51.5km s-min=22.1km az=140.0*

*NNC **04** 03:21:04.6±5.1, 37°.45N×71°.45E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=47.1km s-min=39.2km az=80.0*

ISC 04 03:21:07.4±1.5**, 37°.3N**±0°.1×**71°.0E**±0°.1**, h100**km**, n14, σ2s41**/16**, mb3.6**/6**, 2C-1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.26**	**22**	⇑P	**Pn**	**03 22 21.3**	**-2.6**
	1.5nm,0.5s						
AML				⇑S	**Sn**	**03 23 20.0**	**-3.4**
	4.4nm,0.8s						
KK31	**Karatay Array**	**5.83**	**356**	⇓P	**Pn**	**03 22 29.5**	**-1.8**
	3.8nm,0.4s,baz=181,slow=13,SNR=29						
KK31				S	**Sn**	**03 23 38.3**	**+1.6**
	6.3nm,0.6s,baz=187,slow=24,SNR=3.8						
AAK	**Ala-Archa**	**5.97**	**25**	Pn	**Pn**	**03 22 32.2**	**-1.2**
	1.5nm,0.3s,baz=204,slow=9.6,SNR=7.8						
AAK				Sn	**Sn**	**03 23 44.1**	**+3.7**
	0.5nm,0.3s,baz=134,slow=23,SNR=1.5						
	3.6nm,0.3s						
CHMS	**Chumysh**	**6.38**	**25**	P	**Pn**	**03 22 36.7**	**-2.1**
GEYT	**Alibeck**	**10.27**	**278**	Pn	Pn	03 23 22.8	-9.0
	0.8nm,0.3s,baz=118,slow=11,SNR=2.9						
GEYT				Sn	Sn	03 25 15.4	-10
	1.3nm,0.3s,baz=220,slow=53,SNR=5.6						
	1.8nm,0.4s						
BVAR	**Borovoye Array**	**15.75**	**359**	Pn	**Pn**	**03 24 43.5**	**+0.2**
	0.1nm,0.3s,baz=154,slow=11,SNR=2.2						
AKTO	**Aktyubinsk**	**16.12**	**329**	Pn	**Pn**	**03 24 45.0**	**-2.9**
	0.4nm,0.3s,baz=144,slow=11,SNR=2.8						
	2.4nm,0.6s						
ZALV	**Zalesovo Beam**	**19.19**	**25**	P	**P**	**03 25 22.4**	**-0.7**
	0.4nm,0.3s,baz=209,slow=12,SNR=8.3						
	2.1nm,0.5s						
BRTR	**Keskin Array B**	**29.23**	**286**	P	**P**	**03 26 59.8**	**-0.1**
	0.2nm,0.3s,baz=101,slow=8.0,SNR=1.5						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**36.85**	**326**	P	**P**	**03 28 07.7**	**+2.1**
	1.3nm,0.7s,baz=125,slow=12,SNR=1.0						
	1.3nm,0.7s						
ARCES	**ARCESS Array B**	**40.43**	**337**	P	**P**	**03 28 38.2**	**+2.7**
	4.6nm,1.0s,baz=116,slow=9.4,SNR=2.1						
	4.6nm,1.0s						
HFS	**Hagfors**	**42.47**	**321**	P	**P**	**03 28 53.0**	**+0.8**
	1.3nm,0.7s,baz=78,slow=14,SNR=1.5						
	1.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**65.77**	**268**	P	**P**	**03 31 40.1**	**-1.9**
	0.2nm,0.6s,baz=50,slow=6.8,SNR=1.6						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**80.46**	**3**	P	**P**	**03 33 10.4**	**+2.6**
	0.4nm,0.8s,baz=343,slow=5.8,SNR=6.1						
	0.4nm,0.8s						

*IDC **04** 03:22:50.9±1.6, 5°.31S×128°.02E, h340km±17km, mb3.8/14, mbtmp4.6/18, Error ellipse: s-maj=16.4km s-min=9.4km az=50.0*

*NEIC **04** 03:22:50.1±1.7, 5°.26S±0°.08×128°.10E±0°.07, h330km±8km, mb4.3/33, Error ellipse: s-maj=11.2km s-min=9.8km az=192.0*

*DJA **04** 03:22:50.4±0.3, 5°S±3°×12°8E±°, h342km±7km, M4.6/19, mB5.1/12, mb4.6/19, MLv5.0/14, Mw(mB)4.4/12*

ISC 04 03:22:51.5±0.4**, 5°.36S**±0°.05×**128°.07E**±0°.06**, h350**km**, n123, σ1s41**/128**, mb4.2**/32**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.01**	**66**	P	**Pn**	**03 23 40.3**	**-2.6**
BNDI	**Bandanaira**	**2.01**	**66**	P	**Pn**	**03 23 40.1**	**-2.8**
NLAI	**Namlea**	**2.32**	**335**	P	**Pn**	**03 23 44.6**	**-0.6**
SANI	**Sanana**	**3.89**	**328**	P	**Pn**	**03 23 57.1**	**-2.4**
SANI	**Sanana**	**3.89**	**328**	P	**Pn**	**03 23 56.7**	**-2.8**
SAUI	**Saumlaki**	**4.13**	**129**	Pn	**Pn**	**03 23 59.3**	**-2.6**
LBMI	**Labuha**	**4.73**	**353**	P	**Pn**	**03 24 06.4**	**-1.8**
FAKI	**Fak Fak**	**4.82**	**60**	Pn	**Pn**	**03 24 05.9**	**-3.3**
FAKI	**Fak Fak**	**4.82**	**60**	P	**Pn**	**03 24 06.2**	**-3.0**
FAKI	**Fak Fak**	**4.82**	**60**	P	**Pn**	**03 24 05.9**	**-3.3**
SWI	**Sorong**	**5.49**	**36**	P	**Pn**	**03 24 13.2**	**-3.4**
	260nm,0.6s,5μm1.8nm						
SOEI	**Soe**	**5.77**	**221**	Pn	**Pn**	**03 24 18.9**	**-1.0**
SOEI	**Soe**	**5.77**	**221**	P	**Pn**	**03 24 20.0**	**+0.2**
SOEI	**Soe**	**5.77**	**221**	P	**Pn**	**03 24 21.1**	**+1.3**
	47nm,0.6s,0.3nm						
KMPI	**Kaimana, Papua**	**5.87**	**74**	P	**Pn**	**03 24 17.9**	**-2.9**
	672nm,0.6s,18μm5.3nm						
BATI	**Baumata**	**6.50**	**222**	P	**Pn**	**03 24 27.4**	**-0.7**
	22nm,0.4s,baz=109,slow=5.7,SNR=3.6						
BATI				S	**S**	**03 25 45.1**	**-1.5**
	31nm,0.5s,baz=52,slow=23,SNR=9.7						
MMRI	**Maumere**	**6.64**	**240**	Pn	**Pn**	**03 24 30.4**	**+0.6**
LUWI	**Luwuk**	**6.81**	**309**	Pn	**Pn**	**03 24 29.9**	**-1.8**
LUWI	**Luwuk**	**6.81**	**309**	P	**Pn**	**03 24 31.7**	**0.0**
	182nm,1.0s						
LUWI	**Luwuk**	**6.81**	**309**	P	**Pn**	**03 24 31.3**	**-0.4**
	184nm,0.9s,4μm0.8nm						
EDFI	**Ende, Flores**	**7.17**	**242**	P	**Pn**	**03 24 37.3**	**+1.3**
	29nm,0.7s,1μm0.1nm						
KMSI	**Cibinong**	**7.17**	**325**	P	**Pn**	**03 24 34.7**	**-1.3**
	274nm,0.7s,1.1nm						
GTOI	**Gorontalo**	**7.81**	**320**	P	**Pn**	**03 24 45.0**	**+1.5**
	122nm,0.8s,2μm						
BKSI	**Bulukumba**	**7.91**	**270**	P	**Pn**	**03 24 45.2**	**+0.5**
	23nm,1.1s						
MTN	**Manton Dam**	**8.03**	**158**	Pn	**Pn**	**03 24 45.0**	**-0.9**
MTN	**Manton Dam**	**8.03**	**158**	P	**Pn**	**03 24 45.1**	**-0.9**
KAPI	**Kappang**	**8.29**	**272**	Pn	**Pn**	**03 24 49.2**	**0.0**
KAPI	**Kappang**	**8.29**	**272**	P	**P**	**03 24 50.1**	**-1.9**
KAPI	**Kappang**	**8.29**	**272**	P	**Pn**	**03 24 48.5**	**-0.7**
	14nm,0.2s,baz=299,slow=19,SNR=11						
SPSI	**Sidrap Palu**	**8.39**	**279**	P	**Pn**	**03 24 51.0**	**+0.7**
	66nm,0.9s,7μm						
MRSI	**Marisa**	**8.43**	**313**	P	**Pn**	**03 24 50.2**	**-0.7**
	123nm,0.6s,1μm						
KDU	**Kakadu**	**8.48**	**149**	P	**Pn**	**03 24 50.1**	**-1.2**
TTSI	**Tana Toraja**	**8.54**	**285**	P	**P**	**03 24 53.3**	**-1.5**
	29nm,0.8s,5μm						
BASI	**Baing, Sumba**	**8.85**	**237**	P	**Pn**	**03 24 56.5**	**+0.7**
	48nm,0.9s						
TOLI2	**Tolitoli**	**9.71**	**311**	Pn	**Pn**	**03 25 03.8**	**-2.3**
TOLI2	**Tolitoli**	**9.71**	**311**	P	**P**	**03 25 06.4**	**-1.4**
KNRA	**Kununurra**	**10.27**	**176**	Pn	**Pn**	**03 25 12.1**	**-0.7**
KNRA	**Kununurra**	**10.27**	**176**	P	**Pn**	**03 25 12.7**	**-0.1**
PLAI	**Plampang**	**10.78**	**251**	P	**P**	**03 25 18.9**	**-0.8**
PLAI	**Plampang**	**10.78**	**251**	P	**Pn**	**03 25 18.5**	**-0.3**
	51nm,0.9s						
TWSI	**Taliwang, Sumb**	**11.60**	**253**	P	**P**	**03 25 29.3**	**+0.5**
TABU	**Tabubil**	**13.10**	**90**	P	**Pn**	**03 25 46.9**	**+0.5**
JAGI	**Jajag, Banyuwa**	**14.16**	**257**	P	**P**	**03 25 55.9**	**-1.2**
MYLDM	**Lahad Datu**	**14.18**	**317**	P	**P**	**03 25 56.6**	**-0.6**
WB0	**Warramunga Arr**	**15.59**	**157**	P	**P**	**03 26 11.9**	**-0.6**
WRAB	**Tennant Creek**	**15.72**	**158**	P	**P**	**03 26 13.9**	**-0.2**
WRA	**Warramunga Arr**	**15.72**	**158**	P	**P**	**03 26 14.0**	**-0.1**
WRA	**Warramunga Arr**	**15.72**	**158**	P	**P**	**03 26 14.2**	**+0.1**
	187nm,0.6s,baz=336,slow=12,SNR=191						
WRA				S	**S**	**03 28 59.4**	**-2.8**
	9.3nm,0.8s,baz=333,slow=18,SNR=9.5						
WB2	**Warramunga Arr**	**15.73**	**158**	P	**P**	**03 26 14.1**	**-0.1**
WR0	**Warramunga Arr**	**15.82**	**157**	P	**P**	**03 26 15.1**	**0.0**
COEN	**Coen**	**17.16**	**121**	P	**P**	**03 26 28.5**	**-1.1**
COEN	**Coen**	**17.16**	**121**	P	**P**	**03 26 29.6**	**0.0**
SBUM	**Sibu**	**17.63**	**296**	P	**P**	**03 26 35.0**	**+0.3**
MBWA	**Marble Bar**	**17.66**	**206**	P	**P**	**03 26 34.8**	**-0.2**
PSA00	**Pilbara Seismi**	**17.98**	**206**	P	**P**	**03 26 37.4**	**-0.9**
QIS	**Mount Isa**	**18.81**	**144**	P	**P**	**03 26 47.3**	**+0.2**
AS31	**Alice Springs**	**19.05**	**163**	P	**P**	**03 26 49.8**	**+0.1**
AS31				IAmb	IAmb	03 26 51.0	
	comp=Z,15nm,1.0s						
ASAR	**Alice Springs**	**19.05**	**163**	P	**P**	**03 26 50.0**	**+0.4**
ASAR	**Alice Springs**	**19.05**	**163**	P	**P**	**03 26 49.9**	**+0.2**
	comp=Z,43nm,0.8s,baz=343,slow=10,SNR=244						
ASAR				S	**S**	**03 30 06.7**	**-0.2**
	comp=Z,17nm,0.6s,baz=349,slow=22,SNR=16						
AS01	**Alice Springs**	**19.06**	**163**	P	**P**	**03 26 50.1**	**+0.3**
	comp=Z,71nm,0.8s						
PMG	**Port Moresby**	**19.35**	**103**	P	**P**	**03 26 53.0**	**+0.1**
PMG	**Port Moresby**	**19.35**	**103**	P	**P**	**03 26 54.2**	**+1.3**
PMG	**Port Moresby**	**19.35**	**103**	P	**P**	**03 26 53.8**	**+0.9**
	comp=Z,52nm,0.7s,baz=330,slow=3.1,SNR=14						
WRKA	**Warakurna**	**19.57**	**179**	P	**P**	**03 26 55.7**	**+0.6**
MTSU	**Mount Surprise**	**20.32**	**130**	P	**P**	**03 27 02.9**	**+0.2**
LEM	**Lembang**	**20.39**	**265**	P	**P**	**03 27 02.9**	**-0.6**
	comp=Z,30nm,0.7s,baz=296,slow=19,SNR=3.9						
	comp=Z,30nm,0.7s						
GIRL	**Giralia**	**21.77**	**217**	P	**P**	**03 27 18.1**	**+2.4**
CTA	**Charters Tower**	**22.96**	**131**	P	**P**	**03 27 28.5**	**+1.9**
CTAO	**Charters Tower**	**22.96**	**131**	P	**P**	**03 27 27.9**	**+1.4**
CTAO				IAmb	IAmb	03 27 30.5	
	comp=Z,10nm,0.8s						
CTAO	**Charters Tower**	**22.96**	**131**	P	**P**	**03 27 28.4**	**+1.9**
OOD	**Oodnadatta**	**23.46**	**163**	P	**P**	**03 27 31.3**	**+0.3**
FORT	**Forrest**	**25.28**	**180**	P	**P**	**03 27 46.3**	**-1.0**
FORT				IAmb	IAmb	03 27 54.5	
	comp=Z,17nm,1.0s						
BBOO	**Buckleboo**	**28.31**	**166**	P	**P**	**03 28 13.4**	**-0.7**
BBOO				IAmb	IAmb	03 28 15.5	
	comp=Z,7.8nm,0.7s						
STKA	**Stephens Creek**	**29.26**	**156**	P	**P**	**03 28 23.0**	**+0.4**
STKA	**Stephens Creek**	**29.26**	**156**	P	**P**	**03 28 23.2**	**+0.6**
STKA	**Stephens Creek**	**29.26**	**156**	P	**P**	**03 28 23.4**	**+0.9**
	comp=Z,5.2nm,0.5s,baz=328,slow=9.0,SNR=19						
	comp=Z,5.2nm,0.5s						
ARMA	**Armidale**	**33.37**	**141**	P	**P**	**03 28 59.7**	**+1.3**
CAN	**Canberra**	**35.52**	**150**	P	**P**	**03 29 18.3**	**+1.7**
CAN				IAmb	IAmb	03 29 20.4	
	comp=Z,13nm,1.0s						
CMAR	**Chiang Mai Arr**	**37.22**	**310**	P	**P**	**03 29 30.7**	**-0.2**
	comp=Z,2.9nm,0.6s,baz=136,slow=7.8,SNR=13						
	comp=Z,2.9nm,0.6s						
CHTO	**Chiang Mai**	**37.43**	**311**	P	**P**	**03 29 32.6**	**-0.1**
CHTO				IAmb	IAmb	03 29 33.6	
	comp=Z,8.6nm,0.8s						
PZH	**PanZhiHua**	**40.67**	**322**	P	**P**	**03 30 01.1**	**+1.8**
PZH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
HHC	**Hu-ho-hao-te**	**48.42**	**343**	*e*P	P	03 31 03.8	+4.1
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,6.1s						
USRK	**Ussuriysk Ar.**	**49.46**	**4**	P	**P**	**03 31 06.9**	**-0.4**
	comp=Z,2.7nm,0.5s,baz=194,slow=7.3,SNR=7.8						
	comp=Z,2.7nm,0.5s						
XLT	**XiLinHaoTe**	**50.21**	**349**	*e*P	P	03 31 17.4	+4.3
XLT				pP	pwP	03 32 27.2	+0.3
XLT				PcP	**PcP**	**03 32 32.6**	**+6.1**
XLT				sP	PP	03 33 08.5	-4.1
XLT				PP	**PP**	**03 33 17.3**	**+4.7**
XLT				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,67nm,4.3s						
RAMN	**Ramite**	**51.38**	**311**	*e*P	**P**	**03 31 22.3**	**+0.1**
	comp=Z,52nm,0.6s						
JIRN	**Jiri**	**52.07**	**311**	*e*P	**P**	**03 31 26.8**	**-0.6**
	comp=Z,13nm,0.3s						
GUN	**Gumba**	**52.44**	**311**	*e*P	**P**	**03 31 29.5**	**-0.5**
	comp=Z,36nm,0.7s						
PKI	**Pulchoki**	**52.61**	**311**	*e*P	**P**	**03 31 30.4**	**-0.9**
	comp=Z,9.5nm,0.6s						
PKIN	**Phulchoki**	**52.62**	**311**	*e*P	**P**	**03 31 30.4**	**-0.9**
	comp=Z,11nm,0.5s						
FOZ	**Fox Glacier**	**52.84**	**143**	P	**P**	**03 31 32.2**	**0.0**
FOZ				IAmb	IAmb	03 31 34.6	
	comp=Z,14nm,0.9s						
DMN	**Daman**	**52.86**	**311**	*e*P	**P**	**03 31 32.4**	**-0.6**
	comp=Z,22nm,0.8s						
QRZ	**Quartz Range**	**53.15**	**138**	P	**P**	**03 31 35.8**	**+1.2**
GKN	**Gorkha**	**53.42**	**311**	*e*P	**P**	**03 31 36.3**	**-0.6**
	comp=Z,22nm,0.3s						
DANN	**Dangsing**	**54.26**	**311**	*e*P	**P**	**03 31 42.6**	**-0.5**
	comp=Z,30nm,0.8s						
PYUN	**Piuthan**	**54.72**	**310**	*e*P	**P**	**03 31 45.8**	**-0.5**
	comp=Z,42nm,0.8s						
SONM	**Songino Array**	**56.30**	**343**	P	**P**	**03 31 57.9**	**+1.0**
SONM	**Songino Array**	**56.30**	**343**	P	**P**	**03 31 57.6**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=169,slow=8.2,SNR=14						
SONM				PcP	**PcP**	**03 32 50.0**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=159,slow=5.1,SNR=4.0						
	comp=Z,2.4nm,0.8s						
WMQ	**Urumqi**	**60.99**	**328**	*e*P	**P**	**03 32 28.7**	**-0.3**
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
NIL	**Nilore**	**64.70**	**311**	P	**P**	**03 32 52.5**	**-0.9**
NIL				IAmb	IAmb	03 32 53.8	
	comp=Z,12nm,0.8s						
MK31	**Makanchi Array**	**65.82**	**327**	P	**P**	**03 32 59.3**	**-1.0**
MK31				IAmb	IAmb	03 33 00.8	
	comp=Z,5.2nm,0.8s						
MKAR	**Makanchi Array**	**65.82**	**327**	P	**P**	**03 32 59.9**	**-0.4**
MKAR	**Makanchi Array**	**65.82**	**327**	P	**P**	**03 33 00.1**	**-0.2**
	comp=Z,7.2nm,0.7s,baz=117,slow=8.3,SNR=46						
MKAR				PcP	**PcP**	**03 33 27.9**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=129,slow=3.7,SNR=4.7						
	comp=Z,7.2nm,0.7s						
MAKZ	**Makanchi**	**65.99**	**327**	P	**P**	**03 33 00.7**	**-0.6**
MAKZ				IAmb	IAmb	03 33 01.6	
	comp=Z,4.6nm,0.6s						
ZAA0	**Zalesovo Array**	**69.28**	**334**	P	**P**	**03 33 20.7**	**-0.8**
ZAA0				IAmb	IAmb	03 33 21.4	
	comp=Z,7.0nm,0.8s						
ZALV	**Zalesovo Beam**	**69.28**	**334**	P	**P**	**03 33 20.2**	**-1.2**
ZALV	**Zalesovo Beam**	**69.28**	**334**	P	**P**	**03 33 20.6**	**-0.9**
	comp=Z,5.0nm,0.6s,baz=125,slow=4.0,SNR=24						
	comp=Z,5.0nm,0.6s						
KURBB	**Kurchatov Arra**	**70.12**	**329**	P	**P**	**03 33 26.7**	**0.0**
	comp=Z,6.5nm,0.8s,baz=130,slow=5.2,SNR=32						
	comp=Z,6.5nm,0.8s						
KURK	**Kurchatov**	**70.13**	**329**	P	**P**	**03 33 26.1**	**-0.6**
KURK				IAmb	IAmb	03 33 27.5	
	comp=Z,11nm,0.8s						
VNDA	**Vanda**	**74.30**	**173**	P	**P**	**03 33 51.1**	**+0.3**
BVAR	**Borovoye Array**	**75.67**	**328**	P	**P**	**03 33 58.6**	**-0.3**
	comp=Z,5.2nm,0.8s,baz=134,slow=6.4,SNR=16						
	comp=Z,5.2nm,0.8s						
BRVK	**Borovoye**	**75.74**	**328**	P	**P**	**03 33 58.7**	**-0.6**
BRVK				IAmb	IAmb	03 34 00.0	
	comp=Z,5.6nm,0.9s						
TIXI	**Tiksi**	**76.86**	**0**	P	**P**	**03 34 03.8**	**-1.4**
TIXI				IAmb	IAmb	03 34 05.2	
	comp=Z,5.2nm,0.8s						
GEYT	**Alibeck**	**77.70**	**311**	P	**P**	**03 34 12.0**	**+1.4**
	comp=Z,1.6nm,0.6s,baz=170,slow=9.0,SNR=4.6						
	comp=Z,1.6nm,0.6s						
ABKAR	**Akbulak array**	**80.04**	**322**	P	**P**	**03 34 22.5**	**-0.4**
ABKAR				IAmb	IAmb	03 34 26.0	
	comp=Z,3.0nm,0.8s						
AKTO	**Aktyubinsk**	**81.61**	**323**	P	**P**	**03 34 31.1**	**0.0**
	comp=Z,2.2nm,0.5s,baz=96,slow=5.7,SNR=8.0						
	comp=Z,2.2nm,0.5s						
ARU	**Arti**	**83.31**	**328**	P	**P**	**03 34 39.1**	**-0.6**
	comp=Z,1.5nm,0.3s,baz=9.9,slow=1.8,SNR=3.5						
	comp=Z,1.5nm,0.3s						
QSPA	**South Pole Qui**	**84.61**	**180**	P	**P**	**03 34 46.3**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=270,slow=2.0,SNR=6.0						
	comp=Z,1.1nm,0.3s						
GURO	**Guroymak-BITLI**	**90.21**	**309**	P	**P**	**03 35 13.7**	**+0.3**
GURO				IAmb	IAmb	03 35 15.1	
	comp=Z,2.8nm,0.8s						
ILAR	**Eielson Array**	**92.69**	**25**	P	**P**	**03 35 22.3**	**-1.8**
	comp=Z,0.5nm,0.9s,baz=238,slow=5.2,SNR=5.2						
	comp=Z,0.5nm,0.9s						
TXAR	**Lajitas Array**	**125.71**	**58**	PKP	**PKiKP**	**03 41 13.2**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=310,slow=0.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**126.60**	**282**	PKP	**PKiKP**	**03 41 14.8**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=76,slow=2.0,SNR=8.3						
CPUP	**Villa Florida**	**148.06**	**171**	PKPbc	**PKiKP**	**03 41 57.6**	**-0.9**
	comp=Z,2.3nm,0.5s,baz=132,slow=1.5,SNR=9.4						
LPAZ	**La Paz**	**153.17**	**144**	PKPbc	**PKiKP**	**03 42 11.0**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=68,slow=1.3,SNR=6.2						

*PGC **04** 03:51:41.2±2.0, 50°.42N×130°.31W, h10km, mb4.2, MLSn3.8/32, Mw4.5/32, 207km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

*NEIC **04** 03:51:44.2±2.2, 50°.60N±0°.06×130°.0W±0°.1, h10km±1km, mb4.2/69, ML3.9/34, Mwr4.8/16, Mwr4.5(OTT), Error ellipse: s-maj=12.4km s-min=8.3km az=232.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.48; $M_{\theta\theta}$-1.58; $M_{\phi\phi}$1.09; $M_{r\theta}$0.54; $M_{\theta\phi}$0.64; $M_{\phi r}$0.57; Fault plane solution: $M_0$1.73000×10^{16} NP1:ϕ_s324.29000°, δ60.31000°, λ164.35000°. NP2:ϕ_s62.19000°, δ76.45000°, λ30.63000°. Principal axes: T 1.6497, Plg31.0000°, Azm287.0000°; N 0.1474, Plg57.0000°, Azm84.0000°; P -1.7970, Plg11.0000°, Azm190.0000°;*

*NEIC **04** 03:51:44.7, 50°.67N×129°.88W, h10km*

*IDC **04** 03:51:47.4±0.7, 50°.77N×129°.53W, h0km, mb3.9/9, mbtmp3.9/19, ML3.6/9, MS4.1/77, Error ellipse: s-maj=11.5km s-min=7.2km az=86.0*

*GCMT **04** 03:51:47.2±0.2, 50°.48N±0°.01×130°.29W±0°.02, h18km±1km, MW5.1/120, Moment Tensor Solution. s60,c79; s120,c188; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.22±.11; $M_{\theta\theta}$-4.25±.10; $M_{\phi\phi}$4.47±.11; $M_{r\theta}$-0.31±.24; $M_{\theta\phi}$1.91±.10; $M_{\phi r}$-0.85±.24; Best double couple: $M_0$4.83900×10^{16} NP1:ϕ_s237.00000°, δ84.00000°, λ8.00000°. NP2:ϕ_s146.00000°, δ82.00000°, λ174.00000°. Principal axes: T 5.0240, Plg10.0000°, Azm102.0000°; N -0.3740, Plg80.0000°, Azm272.0000°; P -4.6540, Plg2.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 03:51:44.1±0.5**, 50°.59N**±0°.05×**130°.06W**±0°.04**, h10**km**, n607, σ2s00**/524**, mb4.2**/28**, MS4.2**/74**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.23**	**87**		**Pb**	**03 52 04.5**	**-3.0**
HOLB				Sg	**Sb**	**03 52 19.8**	**-3.6**
HOLB				IAML		03 52 30.3	
	comp=E,2μm,0.7s						
HOLB				IAML		03 52 43.6	
	comp=N,2μm,0.6s						
HOLB	**Holberg**	**1.23**	**87**	Pn	**Pb**	**03 52 04.7**	**-2.8**
HOLB				Sn	**Sn**	**03 52 22.1**	**-2.0**
PHC	**Port Hardy**	**1.68**	**85**	Pn	**Pn**	**03 52 11.2**	**-2.3**
PHC				Sn	**Sn**	**03 52 31.9**	**-3.1**
HG4B	**Hotspring**	**1.85**	**338**	Pn	**Pn**	**03 52 12.3**	**-3.5**

HG4B Sn **Sn** 03 52 34.6 -4.7
HG4B IAML 03 52 36.3
comp=N,1µm,0.7s
HG4B Hotspring 1.85 338 Pn **Pn** 03 52 11.9 -4.0
HG4B Sn **Sn** 03 52 35.0 -4.3
BBB Bella Bella 2.01 37 Pn **Pn** 03 52 16.6 -1.4
BBB IAML 03 52 59.2
comp=E,776nm,1.1s
BBB IAML 03 53 13.7
comp=N,795nm,1.4s
BBB Bella Bella 2.01 37 Pg **Pn** 03 52 16.5 -1.6
comp=N,40nm,0.3s,baz=233,slow=14,SNR=441
BBB Lg Lg 03 52 41.3
comp=N,94nm,0.3s,baz=241,slow=19,SNR=6.7
BBB LR LR 03 53 00.6
comp=N,1µm,20.6s,baz=78,slow=44
BBB Bella Bella 2.01 37 Pn **Pn** 03 52 16.4 -1.6
BBB Sn **Sn** 03 52 41.3 -1.9
EDB Eliza Dome 2.02 110 Pn **Pn** 03 52 14.5 -3.7
EDB Eliza Dome 2.02 110 Pn **Pn** 03 52 14.5 -3.7
BAIB Barry Inlet 2.25 333 Pn **Pn** 03 52 17.4 -4.1
BAIB Sn **Sn** 03 52 44.8 -4.6
BNB Barry Inlet 2.25 333 Pn **Pn** 03 52 17.2 -4.2
BNB Barry Inlet 2.25 333 Pn **Pn** 03 52 17.2 -4.2
WOSB Woss 2.28 100 Pn **Pn** 03 52 19.3 -2.5
WOSB Woss 2.28 100 Pn **Pn** 03 52 19.3 -2.5
NCRB Newcastle Ridg 2.56 93 Pn **Pn** 03 52 23.3 -2.5
NCRB Newcastle Ridg 2.56 93 Pn **Pn** 03 52 23.3 -2.5
ETB Estevan Point 2.58 117 Pn **Pn** 03 52 22.2 -3.7
ETB Estevan Point 2.58 117 Pn **Pn** 03 52 22.2 -3.7
BUTB Butedale 2.67 21 Pn **Pn** 03 52 25.8 -1.5
BUTB Sn **Sn** 03 52 57.6 -2.0
BUTB Butedale 2.67 21 Pn **Pn** 03 52 25.8 -1.5
BUTB Sn **Sn** 03 52 57.6 -2.0
HG1B Mitchell Dam 2.68 332 Sn **Sn** 03 52 56.1 -3.6
HG1B Mitchell Dam 2.68 332 Sn **Sn** 03 52 56.1 -3.6
BNKB Banks Island 2.75 2 Pn **Pn** 03 52 25.9 -2.3
BNKB Sn **Sn** 03 52 58.6 -2.9
BNKB Banks Island 2.75 2 Sn **Sn** 03 52 25.9 -2.3
BNKB Sn **Sn** 03 52 58.6 -2.9
GRIB Gribbell Islan 2.81 11 Pn **Pn** 03 52 27.1 -2.0
GRIB Sn **Sn** 03 53 00.7 -2.4
SPLB Strathcona Par 2.92 102 Pn **Pn** 03 52 28.0 -2.5
SPLB Strathcona Par 2.92 102 Pn **Pn** 03 52 28.0 -2.5
BNAB Bonilla 2.93 353 Pn **Pn** 03 52 28.1 -2.6
BNAB Sn **Sn** 03 53 02.4 -3.5
BNAB Bonilla 2.93 353 Pn **Pn** 03 52 28.1 -2.6
BNAB Sn **Sn** 03 53 02.4 -3.5
DIB Dawson Inlet, 3.01 331 Pn **Pn** 03 52 30.7 -1.2
DIB IAML 03 53 16.1
comp=E,297nm,0.9s
DIB IAML 03 53 19.4
comp=N,310nm,0.9s
DIB Dawson Inlet, 3.01 331 Pn **Pn** 03 52 28.1 -3.8
DIB Sn **Sn** 03 53 03.5 -4.5
H02S1 DAWSON INLET T 3.01 331 Pn **Pn** 03 52 28.3 -3.6
H02S1 Sn **Sn** 03 53 04.1 -3.9
TOFB Tofino 3.05 117 Pn **Pn** 03 52 29.7 -2.7
TOFB Tofino 3.05 117 Pn **Pn** 03 52 29.7 -2.7
CBB Campbell River 3.06 99 Pn **Pn** 03 52 30.1 -2.4
CBB Campbell River 3.06 99 Pn **Pn** 03 52 30.5 -2.1
CBB Campbell River 3.06 99 Pn **Pn** 03 52 30.5 -2.1
GRNB Grenville Isla 3.26 1 Pn **Pn** 03 52 33.1 -2.1
GRNB IAML 03 53 39.8
comp=N,381nm,1.1s
GRNB IAML 03 53 39.8
comp=E,358nm,1.2s
GRNB Grenville Isla 3.26 1 Pn **Pn** 03 52 33.2 -2.1
GRNB Sn **Sn** 03 53 10.9 -3.3
OZB Mount Ozzard 3.38 117 Pn **Pn** 03 52 33.7 -3.2
OZB Mount Ozzard 3.38 117 Pn **Pn** 03 52 33.2 -3.8
MBLB Minette Bay Lo 3.56 14 Pn **Pn** 03 52 37.9 -1.5
MBLB Sn **Sn** 03 53 20.0 -1.5
MBLB Minette Bay Lo 3.56 14 Pn **Pn** 03 52 37.9 -1.5
MBLB Sn **Sn** 03 53 20.0 -1.5
KITB Kitimat 3.60 13 Pn **Pn** 03 52 38.2 -1.7
KITB Sn **Sn** 03 53 21.3 -1.1
KITB Kitimat 3.60 13 Pn **Pn** 03 52 38.2 -1.7
KITB Sn **Sn** 03 53 21.3 -1.1
MASB Masset 3.64 341 Pn **Pn** 03 52 38.4 -2.0
MASB Masset 3.64 341 Pn **Pn** 03 52 38.4 -2.0
BFSB Bamfield 3.65 117 Pn **Pn** 03 52 38.0 -2.6
BFSB Bamfield 3.65 117 Pn **Pn** 03 52 38.0 -2.6
B928 Bamfield 3.65 117 Pn **Pn** 03 52 37.9 -2.7
B928 Bamfield 3.65 117 Pn **Pn** 03 52 37.9 -2.7
B927 Port Alberni 3.66 110 Pn **Pn** 03 52 38.9 -1.9
B927 Port Alberni 3.66 110 Pn **Pn** 03 52 38.9 -1.9
RUBB Prince Rupert 3.75 358 Pn **Pn** 03 52 40.0 -1.9
RUBB IAML 03 54 03.0
comp=N,210nm,1.3s
RUBB Prince Rupert 3.75 358 Pn **Pn** 03 52 40.2 -1.7
RUBB Sn **Sn** 03 53 22.6 -3.4
LIB Langara Island 4.10 335 Pn **Pn** 03 52 44.0 -2.9
LIB Langara Island 4.10 335 Pn **Pn** 03 52 44.0 -2.9
NLLB Nanaimo Lost L 4.16 107 Pn **Pn** 03 52 44.8 -2.8
NLLB Nanaimo Lost L 4.16 107 Pn **Pn** 03 52 44.8 -2.8
PFB Port Renfrew 4.18 117 Pn **Pn** 03 52 45.3 -2.7
PFB Port Renfrew 4.18 117 Pn **Pn** 03 52 45.3 -2.7
PTRF Port Renfrew 4.21 117 Pn **Pn** 03 52 45.6 -2.7
OCP Olym-Cheeka Pk 4.22 121 Pn **Pn** 03 52 47.4 -1.1
CLRS Cowichan Lake 4.24 112 Pn **Pn** 03 52 48.1 -0.6
CLRS IAML 03 54 43.2
comp=E,105nm,1.6s
CLRS Cowichan Lake 4.24 112 Pn **Pn** 03 52 46.8 -1.9
C03A Quillayute Air 4.46 124 Pn **Pn** 03 52 50.3 -1.5
BIB Bowen Island 4.52 103 Pn **Pn** 03 52 50.6 -1.9
BIB Bowen Island 4.52 103 Pn **Pn** 03 52 50.6 -1.9
GOBB Galiano Island 4.55 109 Pn **Pn** 03 52 51.9 -1.2
GOBB Galiano Island 4.55 109 Pn **Pn** 03 52 51.9 -1.2
SYMB Survey Mountai 4.55 114 Pn **Pn** 03 52 51.6 -1.6
SYMB Survey Mountai 4.55 114 Pn **Pn** 03 52 51.6 -1.6
OBC Olympics--Boni 4.67 121 Pn **Pn** 03 52 53.5 -1.3
OBC Olympics--Boni 4.67 121 Pn **Pn** 03 52 53.5 -1.3
B010 North Saanich 4.71 112 Pn **Pn** 03 52 53.5 -1.7
B010 North Saanich 4.71 112 Pn **Pn** 03 52 53.5 -1.7
B009 North Saanich 4.72 112 Pn **Pn** 03 52 53.1 -2.1
B009 North Saanich 4.72 112 Pn **Pn** 03 52 53.1 -2.1
PGC Sidney 4.72 112 Pn **Pn** 03 52 53.8 -1.5
PGC IAML 03 54 50.3
comp=N,77nm,1.9s
PGC Sidney 4.72 112 Pn **Pn** 03 52 53.4 -1.9
B011 North Saanich 4.72 112 Pn **Pn** 03 52 53.4 -1.9
B011 North Saanich 4.72 112 Pn **Pn** 03 52 53.4 -1.9
SNB Saturna Island 4.83 109 Pn **Pn** 03 52 56.2 -0.7
SNB Saturna Island 4.83 109 Pn **Pn** 03 52 56.2 -0.7
STW Striped Peak 4.84 118 Pn **Pn** 03 52 54.9 -2.1
STW Striped Peak 4.84 118 Pn **Pn** 03 52 54.9 -2.1
V35K Ketchikan 4.84 349 Pn **Pn** 03 52 54.9 -2.0
V35K IAML 03 54 32.0
comp=N,72nm,2.2s
V35K IAML 03 54 50.0
comp=E,129nm,4.4s
V35K Ketchikan 4.84 349 P **Pn** 03 52 55.0 -1.9
baz=170
VGZ Gonzales 4.90 114 Pn **Pn** 03 52 56.8 -1.0
VGZ Gonzales 4.90 114 Pn **Pn** 03 52 56.8 -1.0
B04A Port Angeles 4.98 118 Pn **Pn** 03 52 57.9 -1.0
B04A IAML 03 55 03.1
comp=E,55nm,1.5s
OSD Olympics--Snow 5.00 121 Pn **Pn** 03 52 58.4 -1.1
OSD Olympics--Snow 5.00 121 Pn **Pn** 03 52 58.4 -1.1
MCW Mount Constitu 5.07 109 Pn **Pn** 03 52 59.7 -0.5
MCW Mount Constitu 5.07 109 Pn **Pn** 03 52 59.7 -0.5
NLWA Neilton Lookou 5.18 126 Pn **Pn** 03 52 60.0 -1.8
NLWA IAML 03 55 09.7
comp=E,47nm,3.6s
CRAG Craig 5.22 340 Pn **Pn** 03 52 59.7 -2.6
CRAG IAML 03 54 38.1
comp=N,96nm,3.0s
CRAG Craig 5.22 340 P **Pn** 03 53 01.3 -0.9
baz=160
FSJB Fort St James 5.24 40 Pn **Pn** 03 53 02.6 +0.2
FSJB Sn **Sn** 03 54 01.3 -1.5
FSJB Fort St James 5.24 40 Pn **Pn** 03 53 02.6 +0.2
FSJB Sn **Sn** 03 54 01.3 -1.5
U35K Hyder 5.34 0 Pn **Pn** 03 53 03.5 -0.3
U35K Hyder 5.34 0 P **Pn** 03 53 03.4 -0.3
baz=182,SNR=11
WISH Wishkah 5.41 128 Pn **Pn** 03 53 05.2 +0.3
WISH IAML 03 55 34.2
comp=N,85nm,4.0s
HDW Hoodsport 5.46 120 Pn **Pn** 03 53 04.7 -0.9
HDW Hoodsport 5.46 120 Pn **Pn** 03 53 04.7 -0.9
MBW Mount Baker 5.60 106 Pn **Pn** 03 53 06.9 -0.6
MBW Mount Baker 5.60 106 Pn **Pn** 03 53 06.9 -0.6
CMW Cultus Mountai 5.61 110 Pn **Pn** 03 53 07.2 -0.4
CMW Cultus Mountai 5.61 110 Pn **Pn** 03 53 07.2 -0.4
GNW Green Mountain 5.64 120 Pn **Pn** 03 53 07.7 -0.2
HOPB Hope 5.70 99 Pn **Pn** 03 53 08.9 +0.1
HOPB Hope 5.70 99 Pn **Pn** 03 53 08.9 +0.1
JCW Jim Creek 5.83 111 Pn **Pn** 03 53 09.8 -0.8
JCW Jim Creek 5.83 111 Pn **Pn** 03 53 09.8 -0.8
U33K Whale Pass 5.83 343 Pn **Pn** 03 53 08.3 -2.2
U33K Whale Pass 5.83 343 P **Pn** 03 53 10.0 -0.5
baz=162
CPW Capitol Peak 5.83 126 Pn **Pn** 03 53 09.7 -1.0
CPW Capitol Peak 5.83 126 Pn **Pn** 03 53 09.7 -1.0
RPW Rockport 5.96 108 Pn **Pn** 03 53 11.4 -1.1
RPW Rockport 5.96 108 Pn **Pn** 03 53 11.4 -1.1
WRAK Wrangell Islan 6.00 348 Pn **Pn** 03 53 11.7 -1.2
WRAK Wrangell Islan 6.00 348 Sn **Sn** 03 54 18.5 -3.0
WRAK Wrangell Islan 6.00 348 P **Pn** 03 53 12.3 -0.6
baz=168
WRAK Wrangell Islan 6.00 348 Sn **Sn** 03 54 18.5 -3.0
D05A Enumclaw 6.32 119 Pn **Pn** 03 53 17.1 -0.1
T35M Bob Quinn 6.41 359 Pn **Pn** 03 53 18.7 +0.2
T35M Sn **Sn** 03 54 31.8 +0.2
T35M Bob Quinn 6.41 359 P **Pn** 03 53 19.8 +1.3
baz=180,SNR=12
T35M Bob Quinn 6.41 359 Pn **Pn** 03 53 18.7 +0.2
T35M Sn **Sn** 03 54 31.8 +0.2
FMW Mount Fremont 6.64 120 Pn **Pn** 03 53 21.9 -0.1
FMW Mount Fremont 6.64 120 Pn **Pn** 03 53 21.9 -0.1
LON Longmire 6.68 122 Pn **Pn** 03 53 21.9 -0.4
LON Longmire 6.68 122 Pn **Pn** 03 53 21.7 -0.6
PNT Penticton 6.86 97 Pn **Pn** 03 53 24.6 -0.2
PNT Penticton 6.86 97 Pn **Pn** 03 53 24.6 -0.2
LTY Liberty 7.03 115 Pn **Pn** 03 53 27.3 +0.2
LTY Liberty 7.03 115 Pn **Pn** 03 53 27.1 0.0
G03D McMinnville, O 7.06 137 Pn **Pn** 03 53 28.0 +0.6
S34M Telegraph Cree 7.37 356 Pn **Pn** 03 53 32.3 +0.7
S34M Telegraph Cree 7.37 356 P **Pn** 03 53 32.8 +1.2
baz=176
S34M Telegraph Cree 7.37 356 Pn **Pn** 03 53 32.3 +0.7
S34M Sn **Sn** 03 54 54.2 -0.9
S32K Killisnoo 7.39 341 P **Pn** 03 53 32.2 +0.3
baz=159
NBC4 NorthernBC 4 7.61 44 Pn **Pn** 03 53 36.2 +1.1
NBC4 NorthernBC 4 7.61 44 Pn **Pn** 03 53 36.2 +1.1
DLBC Dease Lake 7.86 0 Pn **Pn** 03 53 38.7 +0.1
DLBC Dease Lake 7.86 0 P **Pn** 03 53 40.4 +1.8
baz=181,SNR=7.3
DLBC Dease Lake 7.86 0 Pn **Pn** 03 53 39.3 +0.8
comp=N,1.6nm,0.3s,baz=188,slow=7.1,SNR=33
DLBC Sn **Sn** 03 55 08.0 +0.4
comp=N,0.5nm,0.3s,baz=148,slow=15,SNR=1.4
DLBC Lg Lg 03 55 49.2
comp=N,0.5nm,0.3s,baz=262,slow=14,SNR=4.5
DLBC LR LR 03 56 32.9
comp=N,3µm,22.0s,baz=186,slow=37
comp=N,13nm,0.5s
DLBC Dease Lake 7.86 0 Pn **Pn** 03 53 39.4 +0.9
DLBC Sn **Sn** 03 55 08.0 +0.4
E07A Sunnyside 7.88 117 Pn **Pn** 03 53 38.0 -0.8
H04A Detroit Lake 7.95 135 Pn **Pn** 03 53 41.1 +1.4
JIS Juneau Island 8.10 344 Pn **Pn** 03 53 41.2 -0.4
HAWA Hanford 8.16 117 Pn **Pn** 03 53 42.9 +0.3
D08A Wollman Farm, 8.16 111 Pn **Pn** 03 53 41.2 -1.3
NBC5 NorthernBC 5 8.19 29 Pn **Pn** 03 53 44.1 +1.1
NBC5 Sn **Sn** 03 55 15.5 -0.1
NBC5 NorthernBC 5 8.19 29 Pn **Pn** 03 53 44.1 +1.1
NBC5 Sn **Sn** 03 55 15.5 -0.1
C09A Chrisman Ranch 8.21 105 Pn **Pn** 03 53 41.6 -1.6
S31K Pelican 8.22 336 P **Pn** 03 53 42.4 -0.9
baz=153
Q32M Nakina River 8.48 352 Pn **Pn** 03 53 47.3 +0.1
Q32M Nakina River 8.48 352 P **Pn** 03 53 45.9 -1.2
baz=172
Q32M Nakina River 8.48 352 Pn **Pn** 03 53 47.3 +0.1
TOAD Toad River Com 8.73 17 Pn **Pn** 03 53 52.8 +2.3
NEW Newport 8.75 100 Pn **Pn** 03 53 49.9 -0.7
NEW Newport 8.75 100 P **Pn** 03 53 50.0 -0.7
baz=289
NEW Newport 8.75 100 Pn **Pn** 03 53 50.1 -0.6
comp=N,0.9nm,0.3s,baz=300,slow=14,SNR=11
NEW Lg Lg 03 56 24.2
baz=257,slow=5.1,SNR=3.4
NEW LR LR 03 57 14.0
comp=N,3µm,20.2s,baz=283,slow=39
comp=E,2.3nm,0.4s
R33M Jennings River 8.84 357 Pn **Pn** 03 53 52.8 +0.8
R33M Jennings River 8.84 357 P **Pn** 03 53 53.1 +1.1
baz=177
R33M Jennings River 8.84 357 Pn **Pn** 03 53 52.8 +0.8
E09A Wood Farm, Sta 8.89 113 Pn **Pn** 03 53 51.0 -1.6
LIRD Liard River Hi 9.13 13 P **Pn** 03 53 57.3 +1.5
baz=197
P32M Atlin 9.26 348 Pn **Pn** 03 53 57.5 -0.1
P32M Atlin 9.26 348 P **Pn** 03 53 58.6 +1.0
baz=167
P32M Atlin 9.26 348 Pn **Pn** 03 53 57.6 0.0
NBC6 NorthernBC 6 9.47 29 Pn **Pn** 03 54 01.3 +0.8
NBC6 Sn **Sn** 03 55 47.0 +0.1
NBC6 NorthernBC 6 9.47 29 Pn **Pn** 03 54 01.3 +0.8
NBC6 Sn **Sn** 03 55 47.0 +0.1
WTLY Watson Lake, Y 9.57 4 P **Pn** 03 54 03.8 +1.9
baz=186
I07A Izee 9.68 128 Pn **Pn** 03 54 03.3 -0.2
F10A Beach Ranch, E 9.72 113 Pn **Pn** 03 54 02.7 -1.3
P33M Teslin, Yukon 9.77 352 Pn **Pn** 03 54 04.2 -0.5
P33M Teslin, Yukon 9.77 352 P **Pn** 03 54 04.5 -0.1
baz=171
P33M Teslin, Yukon 9.77 352 Pn **Pn** 03 54 04.2 -0.5
KOTAN Kotaneelee Air 10.15 17 P **Pn** 03 54 11.8 +2.0
baz=203,SNR=8.0
YBH Yreka Blue Hor 10.22 147 Pn **Pn** 03 54 17.2 +6.3
comp=N,0.4nm,0.3s,baz=316,slow=20,SNR=7.2
YBH LR LR 03 57 14.5
comp=N,464nm,21.0s,baz=332,slow=32
comp=N,0.7nm,0.4s
WHY Whitehorse 10.45 347 Pn **Pn** 03 54 14.1 +0.1
WHY Whitehorse 10.45 347 Pn **Pn** 03 54 14.4 +0.5
WHY Whitehorse 10.45 347 P **Pn** 03 54 15.1 +1.1
baz=164
WHY Whitehorse 10.45 347 P **Pn** 03 54 14.4 +0.5
EDM Edmonton 10.66 69 Pn **Pn** 03 54 17.1 +0.4
N32M Quiet Lake 10.72 352 P **Pn** 03 54 17.9 +0.3
baz=171
O30N Mendenhall 10.75 344 Pn **Pn** 03 54 17.7 -0.4
O30N Mendenhall 10.75 344 P **Pn** 03 54 19.3 +1.3
baz=160
O29M Mount Kennedy 10.86 337 P **Pn** 03 54 19.9 +0.3
baz=151
PLID Pearl Lake 10.93 115 Pn **Pn** 03 54 20.5 -0.2
TGTN Hyland Airport 11.01 4 Pn **Pn** 03 54 23.5 +2.0
TGTN Hyland Airport 11.01 4 P **Pn** 03 54 23.4 +1.9
baz=187
TGTN Hyland Airport 11.01 4 P **Pn** 03 54 23.5 +2.0
HYT Haines Junctio 11.07 341 P **Pn** 03 54 21.7 -0.8
baz=156
MSO Missoula 11.29 103 Pn **Pn** 03 54 25.8 +0.2
MSO Missoula 11.29 103 P **Pn** 03 54 25.3 -0.3
baz=294
YUK6 Outpost Mounta 11.37 339 P **Pn** 03 54 26.2 -0.5
baz=153
N30M Aishikik Lake 11.57 343 P **Pn** 03 54 27.6 -1.6
baz=158
O28M Mount Upton 11.68 335 P **Pn** 03 54 32.2 +1.3
baz=148
CHMT Chamberlain Mo 11.69 102 Pn **Pn** 03 54 30.4 -0.7
MESA MESA 11.73 330 P **Pn** 03 54 32.8 +1.3
baz=141
OVMT Ovando 11.79 101 Pn **Pn** 03 54 33.7 +1.3
M31M Drury Creek, Y 11.88 350 Pn **Pn** 03 54 34.4 +0.9
YUK8 Steele Glacier 12.00 337 P **Pn** 03 54 36.4 +1.1
baz=150
BEMT Mount Belmont 12.33 101 Pn **Pn** 03 54 40.0 +0.1
CRQE Cirque 12.53 329 P **Pn** 03 54 43.4 +1.0
baz=140
M30M Minto, Yukon 12.56 346 P **Pn** 03 54 43.6 +0.8
baz=161
YUK3 Moose Creek 12.60 337 P **Pn** 03 54 44.3 +0.9
baz=149
M29M Somme Creek 12.74 342 P **Pn** 03 54 48.1 +2.8
baz=156
HLID Hailey 12.76 117 P **Pn** 03 54 46.8 +1.1
baz=308
WRGLY Wrigley 13.16 13 Pn **Pn** 03 54 52.3 +1.4
WRGLY Wrigley 13.16 13 P **Pn** 03 54 51.2 +0.3
baz=199
BMRM Bremner River 13.20 328 P **Pn** 03 54 54.4 +2.9
baz=136
BOZ Bozeman (W) 13.28 105 Pn **Pn** 03 54 52.7 -0.1
BOZ Bozeman (W) 13.28 105 P **Pn** 03 54 53.9 +1.1
baz=298
L29M L29M 13.29 344 P **Pn** 03 54 54.7 +2.1
baz=158
M27K Edge Creek, AK 13.45 336 P **Pn** 03 54 55.2 +0.2
baz=147
N25K Chitina, Valde 13.66 329 P **Pn** 03 54 58.1 +0.3
baz=138
K29M Barlow Dome 13.87 346 P **Pn** 03 54 59.3 -1.4
baz=161
KLU Klutina 14.02 327 P **Pn** 03 55 04.4 +1.8
baz=135
L27K Beaver Creek, 14.03 337 P **Pn** 03 55 00.9 -1.8
baz=148
GLI Glacier Island 14.03 324 P **Pn** 03 55 05.1 +2.3
baz=131
YMR Madison River 14.16 107 Pn **Pn** 03 55 03.9 -0.9
YHH Holmes Hill 14.16 107 Pn **Pn** 03 55 05.1 +0.1
ELK Elko 14.27 128 Pn **P** 03 55 13.5 -0.2
baz=237,slow=23,SNR=1.8
ELK LR LR 04 00 28.9
comp=N,703nm,18.2s,baz=325,slow=37
comp=N,1.2nm,0.9s
KVN Kaiserville 14.30 139 Pn **Pn** 03 55 07.8 +1.0
YNR Norris Junctio 14.31 107 Pn **Pn** 03 55 06.4 -0.5
YFT Old Faithful 14.35 108 Pn **Pn** 03 55 08.1 +0.6
L26K Log Cabin Wild 14.39 335 P **Pn** 03 55 08.0 +0.3
baz=145
DAWY Dawson 14.39 343 P **Pn** 03 55 08.4 +0.6
baz=156
J30M Hart River 14.41 349 P **P** 03 55 12.1 -2.9
J30M Hart River 14.41 349 P **Pn** 03 55 07.4 -0.6
baz=164
J30M Hart River 14.41 349 P **P** 03 55 12.1 -2.9
SEW Seward 14.52 318 P **Pn** 03 55 11.5 +2.1
baz=123
YKA Yellowknife Ar 14.61 29 Pn **Pn** 03 55 09.9 -0.7
YKA Yellowknife Ar 14.61 29 Pn **Pn** 03 55 08.7 -1.9
comp=N,0.3nm,0.3s,baz=222,slow=12,SNR=29
YKA Sn **Sn** 03 57 46.5 -5.8
comp=N,0.2nm,0.3s,baz=228,slow=29,SNR=5.3
YKA Lg Lg 03 59 19.6
baz=199,slow=29,SNR=2.4
YKA LR LR 04 00 29.7
comp=N,600nm,21.8s,baz=222,slow=36
comp=N,2.2nm,0.7s
FLWY Flagg Ranch 14.63 109 Pn **Pn** 03 55 11.7 +0.4
NVAR Mina Array Bea 14.75 141 Pn **P** 03 55 20.5 +1.5
comp=N,0.1nm,0.3s,baz=324,slow=12,SNR=6.2
NVAR LR LR 04 00 30.9
comp=N,233nm,21.6s,baz=334,slow=36
comp=N,0.2nm,0.4s
K27K Chicken 14.91 339 P **P** 03 55 17.8 -2.6
baz=150
REDW Red Top Meadow 14.95 112 Pn **P** 03 55 17.0 -4.3
PAX Paxson 14.95 332 P **P** 03 55 19.1 -1.8
baz=140
LOHW Long Hollow 14.95 110 Pn **Pn** 03 55 16.4 +0.7
KDAK Kodiak Island 14.97 307 LR LR 03 59 33.9
comp=N,1µm,21.0s,baz=145,slow=31
RLMT Red Lodge 14.97 103 Pn **Pn** 03 55 16.0 +0.1
RLMT Red Lodge 14.97 103 P **P** 03 55 18.1 -3.4
baz=298
I30M Mount Dempster 15.04 350 P **P** 03 55 18.8 -3.2
I30M Mount Dempster 15.04 350 IAmb IAmb 03 55 38.3
comp=Z,14nm,1.1s
I30M Mount Dempster 15.04 350 P **P** 03 55 18.8 -3.2
baz=165
I30M Mount Dempster 15.04 350 P **P** 03 55 18.8 -3.2
SML Sawmill 15.09 325 P **Pn** 03 55 15.3 -1.8
baz=131
AHID Auburn Hatcher 15.16 114 Pn **Pn** 03 55 17.5 -0.9
AHID IAmb IAmb 03 55 29.7
comp=Z,11nm,1.1s
Q20K Shuyak Island 15.17 311 P **Pn** 03 55 18.4 +0.2
baz=113
OMMB Old Mammoth Mi 15.19 144 Pn **Pn** 03 55 17.9 -1.0
SCRK Sand Creek 15.33 336 P **P** 03 55 22.0 -3.2
baz=145
EGAK Eagle 15.37 342 P **P** 03 55 22.1 -3.4
baz=153
WAT6 Susitna Watana 15.39 328 P **Pn** 03 55 21.9 +0.6
baz=134
H31M Peel River 15.42 353 P **P** 03 55 24.8 -1.3
H31M Peel River 15.42 353 P **P** 03 55 24.0 -2.2
baz=170
H31M Peel River 15.42 353 P **P** 03 55 24.8 -1.3
I29M Ogilvie Camp, 15.42 347 P **Pn** 03 55 22.3 +0.7
baz=161
HWUT Hardware Ranch 15.63 118 Pn **Pn** 03 55 23.6 -0.9
HWUT IAmb IAmb 03 55 31.8
comp=Z,26nm,1.5s
J26L Joseph Creek 15.66 338 P **Pn** 03 55 23.5 -1.2
baz=147,SNR=9.2
K24K Donnelly Dome 15.68 334 P **Pn** 03 55 25.6 +0.7
baz=141
I28M Miner Creek 15.76 345 P **P** 03 55 27.8 -2.1
baz=157,SNR=6.2
I28M Miner Creek 15.76 345 P **P** 03 55 29.2 -0.7
SUA Susitna One 15.80 321 P **Pn** 03 55 22.7 -3.8
baz=125
WAT1 Susitna Watana 15.84 328 P **Pn** 03 55 25.3 -1.6
baz=133
DUG Dugway, Tooele 15.92 124 P **Pn** 03 55 25.8 -2.6
baz=316
R11B Troy Canyon, C 15.98 134 P **P** 03 55 32.5 -0.1
baz=324
BW06 Boulder Array 16.07 111 Pn **Pn** 03 55 29.5 -0.7
BW06 IAmb IAmb 03 55 36.6
comp=Z,26nm,1.3s
BW06 Boulder Array 16.07 111 P **P** 03 55 32.3 -1.3
baz=306,SNR=11
PD31 Pinedale Array 16.07 111 Pn **Pn** 03 55 27.6 -2.6
PD31 IAmb IAmb 03 55 36.6
comp=Z,26nm,1.4s
PDAR Pinedale Array 16.07 111 Pn **Pn** 03 55 29.1 -1.1
PDAR Pinedale Array 16.07 111 Pn **P** 03 55 31.9 -1.8
comp=Z,0.1nm,0.3s,baz=311,slow=12,SNR=26
PDAR LR LR 04 01 50.5
comp=Z,915nm,18.8s,baz=314,slow=38
comp=Z,6.3nm,1.0s
EPYK Eagle Plains 16.19 350 P **P** 03 55 34.2 -0.4
baz=165
I27K Kandik River 16.20 343 P **P** 03 55 35.0 +0.2
I27K Kandik River 16.20 343 P **P** 03 55 34.2 -0.6
baz=154
I27K Kandik River 16.20 343 P **P** 03 55 35.0 +0.2
J25K Salcha River, 16.20 336 P **Pn** 03 55 31.8 +0.1
baz=144
H29M Whitestone 16.24 348 P **P** 03 55 33.4 -1.8
H29M Whitestone 16.24 348 P **P** 03 55 34.3 -0.9
baz=162
H29M Whitestone 16.24 348 P **P** 03 55 33.4 -1.8
N20K Mount Spurr 16.25 319 P **P** 03 55 33.6 -1.8
baz=122
HDA Harding Lake 16.47 334 P **P** 03 55 36.3 -1.5
baz=140
HDA P **P** 03 55 36.3 -1.5
baz=140
NLU North Lily Min 16.49 123 Pn **Pn** 03 55 35.0 -0.6
G31M Satah River 16.52 354 P **P** 03 55 37.4 -0.9
baz=171
CWC Cottonwood Cre 16.57 144 P **P** 03 55 39.0 -0.2
baz=332
MCK McKinley 16.58 330 P **P** 03 55 40.4 +1.4
baz=135
G30M tAoh Zraii Nji 16.73 352 P **P** 03 55 41.4 +0.8
G30M tAoh Zraii Nji 16.73 352 IAmb IAmb 03 55 49.2
comp=Z,23nm,1.4s
G30M tAoh Zraii Nji 16.73 352 P **P** 03 55 40.6 0.0
baz=167
G30M tAoh Zraii Nji 16.73 352 P **P** 03 55 41.4 +0.8
ILAR Eielson Array 16.73 334 Pn **P** 03 55 42.4 +1.7
comp=Z,0.1nm,0.3s,baz=148,slow=9.8,SNR=27
comp=Z,11nm,1.1s
H27K Steamboat Moun 16.75 344 P **P** 03 55 41.4 +0.5
H27K Steamboat Moun 16.75 344 P **P** 03 55 43.1 +2.3
baz=155
H27K Steamboat Moun 16.75 344 P **P** 03 55 41.4 +0.5
Q17K Contact Creek 16.79 307 P **Pn** 03 55 38.4 -0.8

baz=107
BSUT Blindstream Ca 16.80 119 P 03 55 40.2 -1.7
WCT Wildcat Mounta 16.83 140 P 03 55 40.2 -1.8
TRF Thorofare Moun 16.84 328 P P 03 55 43.7 +1.7
baz=131
TPNV Topopah Spring 16.86 139 P P 03 55 45.5 +3.1
baz=328
G29M Pine Creek 16.86 349 P P 03 55 41.6 -0.4
G29M Pine Creek 16.86 349 IAmb IAmb 03 56 08.2
comp=Z,24nm,1.0s
G29M Pine Creek 16.86 349 P P 03 55 41.4 -0.6
baz=163
G29M Pine Creek 16.86 349 P P 03 55 41.6 -0.4
DGMT Dagmar 16.90 87 P 03 55 41.0 -1.6
DGMT IAmb IAmb 03 55 45.6
comp=Z,31nm,1.1s
DGMT Dagmar 16.90 87 P P 03 55 41.8 -0.9
baz=286
PRP Porcupine Dome 16.97 338 P P 03 55 44.8 +1.3
baz=145
O18K Koktuh Hills 16.98 313 P P 03 55 43.2 -0.2
baz=113
M20K Styx River 16.98 321 P P 03 55 45.1 +1.6
baz=122
F31M Tsiigehtchic 17.00 355 P 03 55 42.5 -1.1
F31M Tsiigehtchic 17.00 355 P P 03 55 43.7 +0.1
baz=173,SNR=6.5
F31M Tsiigehtchic 17.00 355 P P 03 55 42.8 -0.8
FURC Furnace Creek, 17.02 141 P P 03 55 45.5 +1.6
baz=330
N19K Bonanza Creek 17.04 316 P P 03 55 44.9 +0.7
baz=117
COLA College 17.08 334 Pn Pn 03 55 41.8 -0.9
COLA IAmb IAmb 03 55 54.1
comp=Z,34nm,1.4s
ISA Isabella, Lake 17.12 146 P P 03 55 46.2 +1.0
baz=334
MPMC Manual Prospec 17.13 143 P P 03 55 44.7 -0.8
baz=331
POKR Poker Flat Res 17.15 335 P P 03 55 47.9 +2.7
baz=141
NEA2 Nenana 17.23 332 P P 03 55 46.6 +0.5
baz=136
G27K Doyon Strip 17.29 344 Pn Pn 03 55 44.7 -0.7
G27K IAmb IAmb 03 56 04.6
comp=Z,31nm,1.4s
G27K Doyon Strip 17.29 344 P P 03 55 49.8 +3.0
baz=155
G27K Doyon Strip 17.29 344 P P 03 55 46.6 -0.2
F30M Barrier River 17.31 353 P P 03 55 48.3 +1.3
baz=168
CAST Castle Rocks 17.45 326 P P 03 55 51.3 +2.7
baz=128
FFC Flin Flon 17.47 65 Pn Pn 03 55 46.3 -1.4
MSU Marysvale 17.50 127 P 03 55 48.3 -1.2
SHPR Sheep Range 17.70 137 P 03 55 50.5 -1.2
P18A Preston Nutter 17.71 121 P 03 55 50.6 -1.4
I23K Minto, Yukon-K 17.72 333 P P 03 55 51.3 -0.2
baz=137
SZCU Shurtz Canyon 17.76 131 P 03 55 51.4 -1.0
F28M Old Crow 17.76 348 P P 03 55 51.9 -0.1
baz=160
F28M Old Crow 17.76 348 P P 03 55 51.8 -0.1
G26K Porcupine Rive 17.80 342 P P 03 55 56.0 +3.6
baz=151
CHUM Lake Minchumin 17.82 327 P P 03 55 53.9 +1.3
baz=129
H24K Noodor Dome 17.82 336 P P 03 55 57.5 +4.8
baz=141
L19K White Mountain 17.84 320 P P 03 55 54.2 +1.3
baz=120
INK Inuvik 17.85 356 P 03 55 52.2 -0.7
INK Inuvik 17.85 356 P P 03 55 54.9 +2.0
baz=173
INK Inuvik 17.85 356 P P 03 55 53.1 +0.2
baz=173,slow=13,SNR=6.2
comp=Z,5.6nm,1.1s
INK Inuvik 17.85 356 P P 03 55 53.1 +0.2
M18K Stony River 17.92 317 P P 03 55 56.6 +2.8
baz=117
K22A Casper 17.96 107 P 03 55 53.9 -0.7
K22A Casper 17.96 107 P P 03 55 54.0 -0.5
baz=304
MLY Manley 18.05 331 P P 03 55 59.3 +4.0
baz=134
GSC Goldstone, Bar 18.06 143 P P 03 55 55.5 0.0
baz=331
G25K Bearman Lake 18.13 339 P P 03 55 56.0 0.0
baz=146
K20K Telida 18.14 324 P P 03 55 56.1 -0.2
baz=124
N17K Nushagak Hills 18.15 314 P P 03 55 58.0 +1.7
baz=112
E29M Blow River 18.26 351 P P 03 55 58.9 +1.5
baz=164
O16K Kokwok River B 18.27 310 P P 03 55 59.7 +2.1
baz=108
BMAR Burnt Mountain 18.38 342 P 03 55 59.6 +0.8
G24K Hadweenzic Riv 18.40 338 P P 03 55 59.2 +0.2
baz=144
O20A White River Ci 18.49 116 P Pn 03 56 00.4 -0.1
O20A IAmb IAmb 03 56 06.6
comp=Z,13nm,0.9s
F26K Sheenjek River 18.53 343 P Pn 03 56 04.0 +3.5
baz=151,SNR=19
I21K Tanana 18.54 330 P Pn 03 56 03.2 +2.5
baz=132,SNR=5.2
E27K Coleen River 18.54 346 P Pn 03 56 00.7 -0.1
E27K Coleen River 18.54 346 P Pn 03 55 59.6 -1.2
baz=157
E27K Coleen River 18.54 346 P Pn 03 56 00.7 -0.1
M17K Holitna River 18.59 316 P Pn 03 56 02.6 +1.2
baz=114
L18K Granite Mounta 18.61 319 P Pn 03 56 00.7 -1.0
baz=117
J20K Nowinta River 18.64 326 P Pn 03 56 05.5 +3.6
baz=126,SNR=7.0
E28M Babbage River 18.65 349 P Pn 03 56 04.0 +1.9
baz=162
TTA Tatalina 18.67 321 P Pn 03 56 02.8 +0.4
baz=120
RSSD Black Hills 18.72 100 P P 03 56 01.2 -1.8
RSSD Black Hills 18.72 100 P Pn 03 56 05.1 +1.7
baz=299
F25K Christian River 18.73 341 P Pn 03 56 06.4 +3.2
baz=148
H22K Ishtalitna Cre 18.84 332 P Pn 03 56 08.4 +4.0
baz=135
C36M Paulatuk 19.04 7 P Pn 03 56 05.5 -1.1
C36M IAmb IAmb 03 56 09.1
comp=Z,14nm,1.0s
C36M Paulatuk 19.04 7 P Pn 03 56 06.9 +0.2
C36M Paulatuk 19.04 7 P Pn 03 56 09.0 +2.3
baz=192,SNR=6.0
C36M Paulatuk 19.04 7 P Pn 03 56 06.9 +0.2
G23K Bananza Creek 19.05 335 P Pn 03 56 09.3 +2.3
baz=139
J19K Poorman 19.07 324 P Pn 03 56 09.8 +2.6
baz=123
H21K Melozitna Rive 19.11 331 P Pn 03 56 11.1 +3.4
baz=132
M16K Timber Creek 19.14 314 P Pn 03 56 09.2 +1.2
baz=111
F24K Squaw Lake 19.16 339 P Pn 03 56 10.1 +1.8
baz=144
E25K Arctic Village 19.17 342 P Pn 03 56 08.3 -0.1
E25K IAmb IAmb 03 56 31.4
comp=Z,19nm,1.1s
E25K Arctic Village 19.17 342 P Pn 03 56 07.0 -1.3
baz=149
J18K Innoko River 19.21 322 P Pn 03 56 12.8 +3.9
baz=120
D28M Stokes Point 19.25 351 P Pn 03 56 08.3 -1.0
baz=164
L17K Donlin 19.26 318 P Pn 03 56 11.2 +1.7
baz=115
ELS Elsinore Mount 19.30 146 P Pn 03 56 09.0 -1.3
D27M Malcolm River 19.43 348 P Pn 03 56 13.0 +1.4
baz=159
COLD Coldfoot 19.49 336 P Pn 03 56 15.1 +2.9
baz=140,SNR=5.4
K17K Iditarod 19.51 319 P Pn 03 56 15.8 +3.4
baz=116
BELC Belle Mtn. Jos 19.51 143 P Pn 03 56 12.7 -0.1
baz=332
G22K Bettles 19.61 335 P Pn 03 56 15.7 +2.2
baz=137
L16K Owhat River 19.61 316 P Pn 03 56 16.3 +2.7
baz=112
IMAR Indian Mountai 19.62 331 P Pn 03 56 13.5 -0.2
H20K Anotleneega Mo 19.68 329 P Pn 03 56 16.9 +2.5
baz=128
PFO Pinyon Flats O 19.69 144 P Pn 03 56 17.0 +2.1
comp=Z,0.7nm,0.4s,baz=15,slow=9.2,SNR=1.2
PFO LR LR 04 04 37.3
comp=Z,191nm,19.1s,baz=318,slow=39
E24K Your Creek 19.74 339 P Pn 03 56 15.2 0.0
baz=144
G21K Allakaket 19.90 332 P Pn 03 56 18.8 +1.7
baz=132
GCSA Galena City Sc 19.94 325 P Pn 03 56 18.5 +1.0
baz=123
E23K Chandalar 19.99 338 P Pn 03 56 19.4 +1.3
baz=142,SNR=18
PDMCI Parker Dam,Lak 20.00 138 P Pn 03 56 20.7 +2.2
baz=329
MDND Maddock 20.02 86 P Pn 03 56 17.1 -1.5
MDND Maddock 20.02 86 P Pn 03 56 20.4 +1.8
baz=289,SNR=8.3
BC3 Big Chuckawall 20.03 142 P Pn 03 56 19.1 +0.1
baz=331
F22K John River 20.21 335 P Pn 03 56 21.6 +0.9
baz=137
H19K Roundabout Mou 20.23 328 P Pn 03 56 21.6 +0.7
baz=126
ISCO Idaho Springs 20.23 113 P Pn 03 56 20.6 -0.9
ISCO Idaho Springs 20.23 113 P Pn 03 56 22.8 +1.3
baz=310
WUAZ Wupatki 20.25 131 P Pn 03 56 22.5 +0.9
baz=323
MONP2 Monument Peak 20.34 145 P Pn 03 56 22.4 -0.3
baz=334
D25K Kavik River 20.35 343 P Pn 03 56 23.5 +1.0
baz=150
F21K Alatna River 20.37 334 P Pn 03 56 22.8 +0.1
baz=134
MVCO Mesa Verde 20.40 123 P Pn 03 56 22.5 -0.9
MVCO IAmb IAmb 03 56 43.6
comp=Z,16nm,1.2s
MVCO Mesa Verde 20.40 123 P Pn 03 56 24.6 +1.1
baz=317
TOLK Toolik Lake Re 20.44 339 P Pn 03 56 21.6 -1.8
TOLK Toolik Lake Re 20.44 339 P Pn 03 56 23.5 +0.1
baz=143
M14K Bethel 20.45 312 P Pn 03 56 23.4 -0.2
baz=106
L15K Ungalak Mounta 20.50 315 P Pn 03 56 22.9 -1.3
baz=109
BRIGG Briggsdale 20.51 109 P Pn 03 56 22.7 -1.9
BRIGG IAmb IAmb 03 56 35.5
comp=Z,9.8nm,0.8s
SWSC Sam W. Stewart 20.53 144 P Pn 03 56 24.0 -0.7
baz=333
TKX Tecate 20.57 146 P P 03 56 22.0 -1.0
TKX IAmb IAmb 03 56 31.2
comp=Z,11nm,0.8s
E22K Anaktuvuk Pass 20.58 337 P Pn 03 56 25.2 +0.1
baz=138
C26K Camden Bay 20.62 345 P Pn 03 56 27.2 +1.7
baz=153
IKP In-Ko-Pah, Jac 20.68 145 P Pn 03 56 26.3 -0.2
baz=334
D24K Happy Valley 20.69 341 P Pn 03 56 28.1 +1.8
baz=145
H18K Honhosa River 20.69 325 P Pn 03 56 29.2 +2.8
baz=122
K15K Wolf Creek Mou 20.73 316 P Pn 03 56 29.2 +2.4
baz=111
G19K Purcell Mounta 20.80 329 P Pn 03 56 29.7 +2.2
baz=126
Y14A Wickenburg 20.80 137 P P 03 56 25.1 -0.4
Y14A IAmb IAmb 03 56 30.9
comp=Z,12nm,1.2s
F20K Avaraart Lake 20.91 332 P Pn 03 56 31.6 +2.7
baz=130
S22A 4UR Ranch, Cre 20.93 119 P P 03 56 26.8 -0.4
S22A IAmb IAmb 03 56 49.6
comp=Z,12nm,1.2s
S22A 4UR Ranch, Cre 20.93 119 P Pn 03 56 30.6 +0.9
baz=315
D23K Nanushuk River 20.94 339 P Pn 03 56 30.0 +0.7
baz=142
L14K Kuk Creek 20.95 313 P Pn 03 56 28.9 -0.5
baz=107
I17K Unalakleet 20.98 321 P Pn 03 56 31.2 +1.5
baz=116
M13K Dall Lake 21.03 311 P P 03 56 31.9 +4.2
baz=104
Q24A Divide 21.05 114 P P 03 56 30.2 +1.7
baz=311
X16A Lo Mia Camp, P 21.11 133 P P 03 56 29.0 +0.1
X16A IAmb IAmb 03 56 48.8
comp=Z,7.9nm,1.0s
C24K Franklin Bluff 21.13 342 P P 03 56 32.5 +3.8
baz=146
H17K Granite Mounta 21.15 324 P P 03 56 31.5 +2.5
baz=119
G18K Tagagawik 21.19 327 P P 03 56 33.2 +3.8
baz=123
D22K Ayikyak River 21.35 337 P P 03 56 32.5 +1.4
baz=138
E21K Killik River 21.36 336 P P 03 56 35.2 +4.0
baz=135
W18A Petrified Fore 21.37 129 P P 03 56 29.9 -1.9
W18A IAmb IAmb 03 56 55.7
comp=Z,14nm,1.1s
W18A Petrified Fore 21.37 129 P P 03 56 35.1 +3.4
baz=322
F19K Shaleruckik Mo 21.42 330 P P 03 56 36.1 +4.2
baz=126
A36M Sachs Harbour 21.58 4 P P 03 56 31.8 -1.8
A36M Sachs Harbour 21.58 4 P P 03 56 36.0 +2.4
baz=189
A36M Sachs Harbour 21.58 4 P P 03 56 32.8 -0.8
C23K Itkillik River 21.62 341 P P 03 56 36.3 +2.4
baz=143
E19K Redstone River 21.63 331 P P 03 56 37.9 +3.8
baz=128
ULM Lac du Bonnet 21.68 78 P P 03 56 33.4 -1.4
ULM IAmb IAmb 03 56 38.1
comp=Z,15nm,1.1s
ULM Lac du Bonnet 21.68 78 P P 03 56 35.4 +0.6
comp=Z,9.0nm,1.0s,baz=297,slow=9.8,SNR=8.7
ULM LR LR 04 05 14.2
comp=Z,797nm,18.5s,baz=284,slow=38
comp=Z,9.0nm,1.0s
SDCO Great Sand Dun 21.68 117 P P 03 56 34.4 -0.8
SDCO IAmb IAmb 03 56 56.2
comp=Z,8.5nm,1.1s
SDCO Great Sand Dun 21.68 117 P P 03 56 37.7 +2.5
baz=314
G17K Kiwalik Mounta 21.70 325 P P 03 56 39.0 +4.1
baz=119
X18A Snowflake 21.73 130 P P 03 56 34.7 -1.0
X18A IAmb IAmb 03 56 41.0
comp=Z,12nm,1.1s
J14K Nanvaranak Lak 21.76 317 P P 03 56 40.8 +5.3
baz=109
E20K Nigu River 21.83 334 P P 03 56 41.6 +5.2
baz=132
H16K Elim 21.91 322 P P 03 56 40.5 +3.3
baz=115
C21K Knifeblade Rid 22.07 337 P P 03 56 43.5 +4.7
baz=135
FCC Fort Churchill 22.11 54 P P 03 56 40.1 +0.7
FCC IAmb IAmb 03 56 53.3
comp=Z,15nm,1.1s
FCC Fort Churchill 22.11 54 P P 03 56 40.0 +0.7
AGMN Agassiz Nation 22.24 83 P P 03 56 41.6 +0.7
AGMN Agassiz Nation 22.24 83 P P 03 56 45.1 +4.2
baz=288,SNR=6.3
D20K Etivluk River 22.25 334 P P 03 56 47.1 +6.3
baz=132
G16K Koyuk River 22.28 324 P P 03 56 46.6 +5.5
baz=117
B21K Ikpikpuk River 22.36 338 P P 03 56 45.8 +3.9
baz=136
F17K Baldwin Pennin 22.38 327 P P 03 56 45.0 +2.9
baz=120
KSCO Kaye Shedlock' 22.51 110 P P 03 56 43.1 -0.9
KSCO Kaye Shedlock' 22.51 110 P P 03 56 46.2 +2.2
baz=310
D19K Kuna River 22.54 333 P P 03 56 46.4 +2.5
baz=129
BLKN Baker Lake 22.54 40 P P 03 56 44.8 +1.0
214A Organ Pipe Nat 22.59 139 P P 03 56 47.5 +2.8
baz=330,SNR=5.4
B22K Teshekpuk Lake 22.62 340 P P 03 56 47.0 +2.4
baz=140
E18K Tukpahlearik C 22.67 329 P P 03 56 49.3 +4.1
baz=123
T25A Trinidad 22.72 116 P P 03 56 48.0 +1.7
baz=314
G15K Niukluk 22.76 322 P P 03 56 49.1 +2.9
baz=114
F33A 5 Mile Ranch, 22.87 89 P P 03 56 45.6 -1.9
E17K Hotham Inlet 22.89 328 P P 03 56 50.8 +3.2
baz=121
TUC Tucson 23.17 135 P P 03 56 52.5 +1.7
baz=327
ANMO Albuquerque 23.19 123 P P 03 56 49.8 -1.4
ANMO Albuquerque 23.19 123 P P 03 56 52.3 +1.1
baz=319
ANMO Albuquerque 23.19 123 LR LR 04 05 38.9
comp=Z,636nm,20.9s,baz=48,slow=36
B20K Meade River 23.27 337 P P 03 56 55.3 +3.9
baz=133
F15K North Star Dit 23.28 324 P P 03 56 54.5 +2.9
baz=114
C19K Lookout Ridge 23.33 333 P P 03 56 55.9 +3.7
baz=128
A22K Sinclair Lake 23.46 340 P P 03 56 56.6 +3.4
baz=138
C18K Utukok River 23.54 332 P P 03 56 58.4 +4.2
baz=125
B35A Bob, Littlefor 23.57 81 P P 03 56 54.1 -0.5
ECSD EROS Data Cent 23.61 94 P P 03 56 54.5 -0.6
ECSD IAmb IAmb 03 57 00.3
comp=Z,8.7nm,0.8s
ECSD EROS Data Cent 23.61 94 P P 03 56 57.9 +2.8
baz=298,SNR=8.6
RTBA Rita Blanca 24.17 115 P P 03 57 00.8 +0.2
RTBA IAmb IAmb 03 57 05.8
comp=Z,8.5nm,1.1s
121A Cookes Peak, D 24.41 129 P P 03 57 05.7 +2.8
baz=324
C16K Lisburne Hills 24.65 329 P P 03 57 09.0 +4.5
baz=119
EYMN Ely 25.11 81 P P 03 57 11.4 +2.5
baz=290
SPMN Marine on St. 25.35 88 P P 03 57 11.3 +0.2
SPMN IAmb IAmb 03 57 38.9
comp=Z,7.0nm,1.0s
N35A Tabor 25.71 99 P P 03 57 13.3 -1.1
AMTX Amarillo 25.88 116 P P 03 57 14.4 -1.7
HSIG 25.93 139 P P 03 57 16.9 +0.5
HSIG IAmb IAmb 03 57 38.4
comp=Z,6.3nm,1.1s
MNTX Cornudas Mount 26.29 127 P P 03 57 23.6 +3.9
baz=323,SNR=5.3
WMOK Wichita Mounta 27.66 113 P P 03 57 31.0 -1.0
WMOK IAmb IAmb 03 57 36.2
comp=Z,5.5nm,0.9s
WMOK Wichita Mounta 27.66 113 P P 03 57 34.3 +2.2
baz=314
OK052 Battle Ridge R 27.98 109 P P 03 57 33.5 -1.4
RES Resolute Bay 28.20 19 LR LR 04 08 45.8
comp=Z,800nm,18.2s,baz=205,slow=36
TUL3 Leonard 28.65 108 P P 03 57 41.6 +0.8
baz=311
TX31 Lajitas Ar. Si 29.06 127 P P 03 57 43.1 -1.6
TX32 Lajitas Array 29.06 127 P P 03 57 43.8 -0.8
TX32 IAmb IAmb 03 57 49.7
comp=Z,4.7nm,1.1s
TXAR Lajitas Array 29.06 127 P P 03 57 42.6 -2.0
TXAR Lajitas Array 29.06 127 P P 03 57 46.7 +2.1
comp=Z,1.6nm,1.0s,baz=326,slow=6.3,SNR=13
TXAR LR LR 04 10 10.7
comp=Z,336nm,20.0s,baz=317,slow=38
comp=Z,1.6nm,1.0s
LOOK Love County 29.13 112 P P 03 57 43.9 -1.1
SAND Sanderson 29.37 124 P P 03 57 46.0 -1.3
SAND IAmb IAmb 03 57 55.8
comp=Z,5.0nm,1.4s
CCM Cathedral Cave 30.11 99 P P 03 57 54.6 +0.9
baz=307
JCT Junction City 30.21 120 P P 03 57 54.6 -0.1
JCT IAmb IAmb 03 58 03.9
comp=Z,5.3nm,1.1s
LPIG La Paz 30.56 143 LR LR 04 10 58.1
comp=Z,283nm,19.2s,baz=336,slow=38
MIAR Mount Ida 30.91 107 P P 03 58 02.2 +1.4
baz=312
FCAR Ozark Folk Cen 30.92 104 P P 03 57 59.6 -1.3
FCAR IAmb IAmb 03 58 04.2
comp=Z,5.1nm,0.9s
O48B Farmland 32.70 91 P P 03 58 14.3 -2.2
SHEM Shemya Is, Ala 33.97 296 LR LR 04 09 52.4
comp=Z,308nm,19.6s,baz=344,slow=32
SADO Sadowa 34.20 80 LR LR 04 12 57.0
comp=Z,741nm,18.5s,baz=302,slow=38
FRB Frobisher Bay 34.38 44 LR LR 04 13 23.9
comp=Z,456nm,19.3s,baz=268,slow=38
V52A Sevierville 36.30 96 P P 03 58 47.2 -0.5
V52A IAmb IAmb 03 59 00.1
comp=Z,4.9nm,0.9s
TKL Tuckaleechee C 36.30 96 LR LR 04 14 10.9
comp=Z,812nm,18.8s,baz=311,slow=37
SCHQ Schefferville 37.38 58 LR LR 04 12 52.6
comp=Z,798nm,19.5s,baz=294,slow=34
J61A Chester 39.03 78 P P 03 59 10.8 0.0
J61A IAmb IAmb 03 59 39.7
comp=Z,11nm,1.2s
SFJD Kangerlussuaq 41.02 36 LR LR 04 17 09.7
comp=Z,370nm,18.2s,baz=291,slow=37
SEY Seymchan 41.58 318 LR LR 04 16 51.9
comp=Z,394nm,18.9s,baz=68,slow=36
PEA0B Petropavlovsk- 42.95 303 P P 03 59 43.3 +0.5
PETK Petropavlovsk- 42.95 303 LR LR 04 14 43.1
comp=Z,209nm,21.7s,baz=63,slow=32
MA2 Magadan 43.60 314 LR LR 04 17 05.8
comp=Z,243nm,19.9s,baz=74,slow=35
CMIG Matias Romero 43.67 127 LR LR 04 17 57.4
comp=Z,179nm,20.7s,baz=320,slow=36
TEIG Tepich 44.67 117 LR LR 04 22 40.6
comp=Z,844nm,18.1s,baz=150,slow=42
TIXI Tiksi 46.20 334 LR LR 04 20 59.8
comp=Z,12nm,19.7s,baz=62,slow=38
SPITS Spitsbergen Ar 49.88 9 LR LR 04 22 50.0
comp=Z,409nm,18.8s,baz=309,slow=38
YAK Yakutsk 51.24 323 LR LR 04 23 04.6
comp=Z,13nm,18.2s,baz=104,slow=37
JMIC Jan Mayen 51.78 21 LR LR 04 21 33.5
comp=Z,160nm,20.4s,baz=248,slow=35
BORG Borgarnes 52.54 31 LR LR 04 22 32.2
comp=Z,194nm,20.0s,baz=310,slow=35
ASAJ Asahikawa 56.23 300 LR LR 04 22 13.6
comp=Z,96nm,21.8s,baz=62,slow=32
H11N2 WAKE ISLAND Hy 57.94 262 T T 05 04 10.7
baz=42,slow=75,SNR=1894
H11N3 WAKE ISLAND Hy 57.94 262 T T 05 04 13.3
baz=42,slow=75,SNR=1791
H11N1 WAKE ISLAND Hy 57.96 262 T T 05 04 11.9
baz=42,slow=75,SNR=1599
KLR Kul'dur 58.51 310 LR LR 04 27 05.6
comp=Z,166nm,18.8s,baz=38,slow=36
ARCES ARCESS Array B 58.86 10 LR LR 04 28 34.0
comp=Z,141nm,18.9s,baz=342,slow=38
H11S1 WAKE ISLAND Hy 58.97 261 T T 05 05 30.9
baz=40,slow=76,SNR=105
H11S2 WAKE ISLAND Hy 58.98 261 T T 05 05 35.2
baz=40,slow=76,SNR=87
H11S3 WAKE ISLAND Hy 58.99 261 T T 05 05 27.8
baz=40,slow=76,SNR=60
SJG San Juan 59.69 98 LR LR 04 30 06.2
comp=Z,91nm,18.1s,baz=329,slow=39
TAOE Nuku Hiva Isla 59.84 192 eLR LR 04 19 36.5
comp=Z,361nm,25.6s
TAOE Nuku Hiva Isla 59.84 192 eT T 05 06 35.4
comp=Z,23nm,0.2s
HEH HeiHe 59.86 314 eP P 04 01 50.3 +0.7
HEH pmax pmax
comp=Z,7.0nm,0.7s
USRK Ussuriysk Ar. 61.84 306 LR LR 04 28 56.9
comp=Z,163nm,19.6s,baz=41,slow=36
MJAR Matsushiro Arr 63.81 296 LR LR 04 25 39.9
comp=Z,104nm,21.6s,baz=43,slow=32
SDV Santo Domingo 63.98 109 LR LR 04 32 59.3
comp=Z,76nm,19.6s,baz=298,slow=39
NOA NORSAR Array B 64.46 20 LR LR 04 30 38.8
comp=Z,224nm,20.1s,baz=325,slow=36

ROSC	El Rosal	65.03	115	LR	LR	04 34 15.9	
	comp=Z,45nm,21.6s,baz=292,slow=39						
JHJ	Hachijo jima 2	65.32	293	LR	LR	04 32 32.9	
	comp=Z,88nm,18.0s,baz=96,slow=37						
HFS	Hagfors	65.81	19	LR	LR	04 31 29.4	
	comp=Z,343nm,19.1s,baz=322,slow=36						
PCRV	Puerto La Cruz	66.66	103	LR	LR	04 32 26.9	
	comp=Z,164nm,20.7s,slow=37						
FINES	FINESS Array B	66.69	12	LR	LR	04 31 28.4	
	comp=Z,225nm,21.9s,baz=341,slow=36						
TIAR	Tiarei	69.94	200	*e*T	T	05 19 04.8	
	comp=Z,3.3nm,0.3s						
PPT2	Papeete2	70.02	200	*e*LR	LR	04 24 10.7	
	comp=Z,248nm,27.0s						
PPT2				*e*LR	LR	04 24 18.4	
	comp=Z,144nm,24.8s						
PPT2	Papeete2	70.02	200	*e*T	T	05 19 06.3	
	comp=Z,6.4nm,0.3s						
TVO	Taravao	70.14	199	*e*T	T	05 19 24.0	
	comp=Z,3.2nm,0.3s						
SONM	Songino Array	70.60	323	P	P	04 03 05.0	+5.5
	comp=Z,0.4nm,0.7s,baz=2.6,slow=16,SNR=1.8						
SONM				LR	LR	04 34 18.8	
	comp=Z,247nm,19.6s,baz=32,slow=36						
	comp=Z,0.4nm,0.7s						
KIRV	Kirov	71.19	0	LR	LR	04 38 17.4	
	comp=Z,107nm,19.2s,baz=359,slow=39						
ZALV	Zalesovo Beam	71.80	339	P	P	04 03 06.7	+0.3
ZALV	Zalesovo Beam	71.80	339	P	P	04 03 11.7	+5.3
	comp=Z,1.0nm,0.7s,baz=35,slow=8.0,SNR=6.6						
ZALV				LR	LR	04 37 34.6	
	comp=Z,108nm,18.2s,baz=7.5,slow=38						
	comp=Z,1.0nm,0.7s						
ATAH	Atahualpa	72.71	125	LR	LR	04 36 09.7	
	comp=Z,130nm,18.5s,baz=344,slow=37						
ARU	Arti	73.11	355	LR	LR	04 36 29.6	
	comp=Z,116nm,21.2s,baz=353,slow=37						
OBN	Obninsk	74.08	8	LR	LR	04 38 55.5	
	comp=Z,123nm,18.3s,baz=357,slow=38						
HHC	Hu-ho-hao-te	74.20	316	*e*P	P	04 03 20.8	-0.2
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
BVAR	Borovoye Array	75.33	347	P	P	04 03 33.5	+6.3
	comp=Z,0.4nm,0.4s,baz=40,slow=2.5,SNR=4.8						
BVAR				LR	LR	04 39 23.1	
	comp=Z,79nm,19.9s,baz=19,slow=38						
	comp=Z,0.4nm,0.4s						
TBI	Tubuai	75.59	198	*e*LR	LR	04 26 53.8	
	comp=Z,879nm,28.8s						
TBI	Tubuai	75.59	198	*e*T	T	05 26 09.8	
	comp=Z,11nm,0.3s						
GERES	GERESS Array B	76.18	24	LR	LR	04 38 45.4	
	comp=Z,136nm,19.6s,baz=16,slow=37						
KURBB	Kurchatov Arra	76.26	342	P	P	04 03 37.3	+4.8
	comp=Z,2.3nm,1.2s,baz=19,slow=5.3,SNR=5.8						
KURBB				LR	LR	04 42 44.9	
	comp=Z,67nm,18.4s,baz=173,slow=40						
	comp=Z,2.3nm,1.2s						
VRAC	Vranov	76.46	22	LR	LR	04 38 56.7	
	comp=Z,216nm,18.1s,baz=326,slow=37						
GUMO	Guam	76.52	275	LR	LR	04 30 09.6	
	comp=Z,143nm,20.4s,baz=96,slow=30						
DAVOX	Davos/Dischmat	77.03	27	LR	LR	04 38 30.6	
	comp=Z,204nm,19.6s,baz=322,slow=36						
AKASG	Malin Array Be	77.55	13	P	P	04 03 43.0	+3.2
	comp=Z,0.8nm,0.7s,baz=345,slow=4.9,SNR=5.6						
AKASG				LR	LR	04 38 36.3	
	comp=Z,198nm,18.7s,baz=26,slow=36						
	comp=Z,0.8nm,0.7s						
NNA	Nana	77.62	127	LR	LR	04 37 59.3	
	comp=Z,61nm,18.6s,baz=334,slow=36						
MDP	Montagnes des	78.09	97	LR	LR	04 38 00.4	
	comp=Z,136nm,21.7s,baz=326,slow=36						
ESDC	Sonseca Array	78.46	40	P	P	04 03 50.0	+4.9
	comp=Z,0.6nm,1.0s,baz=337,slow=6.1,SNR=2.3						
	comp=Z,0.6nm,1.0s						
MKAR	Makanchi Array	79.05	338	P	P	04 03 49.7	+1.5
MKAR	Makanchi Array	79.05	338	P	P	04 03 52.3	+4.1
	comp=Z,1.4nm,1.0s,baz=22,slow=4.7,SNR=3.6						
MKAR				LR	LR	04 42 41.6	
	comp=Z,147nm,19.0s,baz=26,slow=39						
	comp=Z,1.4nm,1.0s						
ABKAR	Akbulak array	80.17	353	P	P	04 03 54.8	+0.6
WMQ	Urumqi	80.39	333	*e*P	P	04 03 58.2	+2.6
WMQ				LR	LR		
	comp=N,210nm,19.7s						
WMQ				LR	LR		
	comp=E,300nm,25.7s						
WMQ				LR	LR		
	comp=Z,130nm,19.7s						
MLR	Muntele Rosu	82.06	17	LR	LR	04 41 26.1	
	comp=Z,312nm,19.4s,baz=354,slow=36						
AAK	Ala-Archa	84.71	342	LR	LR	04 47 52.2	
	comp=Z,106nm,18.4s,baz=28,slow=40						
HNR	Honiara	84.85	249	LR	LR	04 42 03.9	
	comp=Z,483nm,18.2s,baz=337,slow=35						
KRVT	Keravat (AS076	85.66	258	LR	LR	04 37 31.1	
	comp=Z,54nm,21.3s,baz=338,slow=32						
LPAZ	La Paz	85.80	122	LR	LR	04 46 10.2	
	comp=Z,33nm,19.3s,baz=334,slow=38						
KBZ	Khabaz	85.86	5	LR	LR	04 46 32.1	
	comp=Z,97nm,18.4s,baz=353,slow=38						
KEST	Kesra	86.89	32	LR	LR	04 44 14.7	
	comp=Z,137nm,19.0s,baz=314,slow=36						
VAE	Valguarnera	86.90	28	LR	LR	04 44 25.6	
	comp=Z,134nm,18.1s,baz=338,slow=36						
BRTR	Keskin Array B	88.93	13	LR	LR	04 46 56.8	
	comp=Z,92nm,21.6s,baz=328,slow=37						
GNI	Garni	89.52	4	LR	LR	04 50 57.1	
	comp=Z,34nm,18.9s,baz=7.5,slow=40						
PZH	PanZhiHua	90.64	315	P	P	04 04 47.1	+0.1
PZH				pmax	pmax		
	comp=Z,9.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
DZM	Mont Dzumac	91.37	236	*e*LR	LR	04 33 54.7	
	comp=Z,122nm,27.5s						
DZM	Mont Dzumac	91.37	236	LR	LR	04 38 04.1	
	comp=Z,69nm,21.7s,baz=358,slow=30						
GEYT	Alibeck	91.56	354	LR	LR	04 50 26.5	
	comp=Z,73nm,18.6s,baz=2.0,slow=38						
IDI	Anoyia	91.68	20	LR	LR	04 49 00.5	
	comp=Z,70nm,18.9s,baz=344,slow=38						
DAV	Davao City (W)	93.59	286	LR	LR	04 38 25.0	
	comp=Z,102nm,22.0s,baz=42,slow=30						
MMAI	Mount Meron Ar	95.77	12	LR	LR	04 51 26.9	
	comp=Z,66nm,20.1s,baz=320,slow=38						
BDFB	Brasilia	96.98	106	LR	LR	04 52 02.9	
	comp=Z,76nm,21.2s,baz=351,slow=37						
RCBR	Riachuelo	97.11	91	LR	LR	04 46 28.9	
	comp=Z,122nm,19.6s,baz=315,slow=34						
CMAR	Chiang Mai Arr	98.88	314	LR	LR	04 53 49.6	
	comp=Z,53nm,18.6s,baz=45,slow=38						
EIL	Elat	99.00	13	LR	LR	04 52 14.4	
	comp=Z,63nm,20.1s,baz=318,slow=37						
CPUP	Villa Florida	99.80	120	LR	LR	04 54 50.4	
	comp=Z,32nm,21.8s,baz=359,slow=38						

*IDC **04** 04:31:30.8±0.7, 34.°79N×141.°47E, h0km, mb3.8/15, mbtmp3.9/18, ML3.9/2, MS3.5/5, Error ellipse: s-maj=19.6km s-min=14.8km az=92.0*

*JMA **04** 04:31:32.2±0.3, 35°N±1°×14°2E±°, h43km±2km, MV3.4/32, FAR SE OFF BOSO PEN*

*NEIC **04** 04:31:37.8±1.9, 34.°68N±0.°02×141.°3E±0.°1, h44km±8km, mb4.4/27, Error ellipse: s-maj=16.8km s-min=1.2km az=101.0*

ISC 04 04:31:32.0±2.0**, 34.°74N**±0.°05×**141.°48E**±0.°06**, h9**km±12km**, n74, σ1.ˢ61**/80**, mb4.2**/30**, MS3.6**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	0.43	258	*i* P	Pn	04 31 43.1	-0.8
BSO3	Boso 3	0.80	274	*i* P	Pn	04 31 48.9	-0.4
BSO3				S	Sn	04 32 01.2	0.0
BSO4	Boso 4	0.97	285	P	Pn	04 31 51.8	0.0
BSO4				*e*S	Sn	04 32 05.8	+0.1
KTR	Katsuura	1.04	293	*e*P	Pb	04 31 52.4	+0.2
JKUC	kamogawauchiur	1.13	292	P	Pg	04 31 53.6	-0.2
JKUC				*e*S	Sn	04 32 10.8	+1.0
JSMT	Sammumatsuo	1.23	317	*e*P	Pn	04 31 56.3	+0.9
JCN	Nagara	1.25	303	*e*P	Pn	04 31 56.1	+0.4
JIM2	Oshima 3	1.69	270	P	Pn	04 32 00.9	-0.9
JIM2				*e*S	Sn	04 32 22.1	-1.4
JMKN	Mikurajimanish	1.78	242	P	Pn	04 32 02.6	-0.4
JTHY	Toshimahigashi	1.82	264	*e*S	Sn	04 32 25.8	-1.0
JHJ2	Mitsune	2.14	221		Pn	04 32 08.0	+0.2
JHJ	Hachijo jima 2	2.15	222	Pn	Pn	04 32 08.4	+0.3
	55nm,0.3s,baz=88,slow=23,SNR=33						
JHJ				Sn	Sn	04 32 34.6	-0.2
	66nm,0.3s,baz=78,slow=22,SNR=5.5						
	101nm,0.3s						
JMM	Marumori	3.17	350		Pn	04 32 23.4	+1.4
MJAR	Matsushiro Arr	3.21	305	Pn	Pn	04 32 22.8	0.0
	117nm,0.9s,baz=104,slow=8.9,SNR=3.9						
MJAR				Sn	Sn	04 32 59.7	-1.4
	0.5nm,0.3s,baz=52,slow=12,SNR=2.2						
MJAR				LR	LR	04 34 01.1	
	comp=Z,274nm,19.8s,baz=18,slow=47						
MAJO	Matsushiro	3.22	305	Pn	Pn	04 32 25.2	+2.5
MJB9	Matsu-Tunnel	3.22	305	Pn	Pn	04 32 25.4	+2.6
JTM	Tenmabayashi	6.04	357	Pn	Pn	04 33 03.2	+1.6
ERM	Erimo	7.38	10	Pn	Pn	04 33 18.3	-1.6
JCJ	Chichijima	7.65	175	Pn	Pn	04 33 23.4	-0.3
JCJ	Chichijima	7.65	175	Pn	Pn	04 33 19.4	-4.3
	15nm,0.3s,baz=104,slow=23,SNR=15						
JCJ				Sn	Sn	04 34 36.5	-14
	4.9nm,0.3s,baz=310,slow=20,SNR=1.2						
JKA	Kamikawa-asahi	9.40	5	Pn	Pn	04 33 46.5	-1.1
ASAJ	Asahikawa	9.40	5	Pn	Pn	04 33 46.0	-1.6
	1.9nm,0.3s,baz=224,slow=14,SNR=4.1						
ASAJ				Sn	Sn	04 35 28.4	-5.0
	0.4nm,0.3s,baz=124,slow=30,SNR=1.7						
	3.7nm,0.3s						
SEY	Seymchan	29.03	10	LR	LR	04 51 14.1	
	comp=Z,103nm,18.3s,baz=239,slow=41						
SONM	Songino Array	29.16	307	P	P	04 37 34.8	+1.1
SONM	Songino Array	29.16	307	P	P	04 37 34.7	+1.1
	0.6nm,0.6s,baz=112,slow=7.7,SNR=5.7						
	0.6nm,0.6s						
ZALV	Zalesovo Beam	43.52	314	P	P	04 39 36.4	+0.6
	0.4nm,0.4s,baz=88,slow=4.6,SNR=1.9						
ZALV				PcP	PcP	04 41 22.9	-0.6
	0.9nm,0.5s,baz=61,slow=3.4,SNR=4.5						
	0.4nm,0.4s						
MK31	Makanchi Array	45.41	304	P	P	04 39 49.7	-1.3
MK31				IAmb	IAmb	04 39 59.0	
	comp=Z,9.6nm,1.4s						
MKAR	Makanchi Array	45.41	304	P	P	04 39 51.4	+0.3
MKAR	Makanchi Array	45.41	304	P	P	04 39 51.0	-0.1
	comp=Z,0.6nm,0.5s,baz=88,slow=11,SNR=10						
	comp=Z,0.6nm,0.5s						
SOEI	Soe	47.17	203	P	P	04 40 04.2	-1.0
KURK	Kurchatov	47.41	310	P	P	04 40 05.0	-1.6
KURK				IAmb	IAmb	04 40 22.7	
	comp=Z,4.3nm,0.8s						
E19K	Redstone River	47.47	27	P	P	04 40 08.5	+1.7
E19K				IAmb	IAmb	04 40 29.7	
	comp=Z,8.8nm,1.4s						
KURBB	Kurchatov Arra	47.48	310	P	P	04 40 06.0	-1.1
	comp=Z,0.5nm,0.2s,baz=83,slow=7.8,SNR=3.2						
	comp=Z,0.5nm,0.2s						
BATI	Baumata	47.79	204	LR	LR	05 03 28.9	
	comp=Z,167nm,18.0s,baz=12,slow=40						
MTN	Manton Dam	48.33	194	P	P	04 40 13.6	-0.5
KDAK	Kodiak Island	48.78	41	LR	LR	04 58 29.0	
	comp=Z,51nm,21.9s,baz=162,slow=33						
B21K	Ikpikpuk River	48.83	25	P	P	04 40 19.4	+2.1
B21K				IAmb	IAmb	04 40 26.6	
	comp=Z,10nm,1.4s						
D22K	Ayikyak River	49.39	26	P	P	04 40 23.8	+2.2
D22K				IAmb	IAmb	04 40 37.0	
	comp=Z,4.9nm,1.5s						
C23K	Itkillik River	50.24	25	P	P	04 40 28.6	+0.6
ILAR	Eielson Array	51.41	31	P	P	04 40 37.8	+0.9
	comp=Z,0.6nm,0.8s,baz=264,slow=7.4,SNR=5.4						
	comp=Z,0.6nm,0.8s						
D25K	Kavik River	51.68	26	P	P	04 40 40.4	+1.4
D25K				IAmb	IAmb	04 41 04.5	
	comp=Z,4.0nm,1.3s						
E25K	Arctic Village	51.94	27	P	P	04 40 44.3	+3.4
E25K				IAmb	IAmb	04 41 05.9	
	comp=Z,3.9nm,1.1s						
BMAR	Burnt Mountain	52.32	28	P	P	04 40 47.1	+3.4
E27K	Coleen River	53.43	27	P	P	04 40 54.7	+2.8
E27K				IAmb	IAmb	04 40 55.8	
	comp=Z,3.2nm,1.2s						
BCAR	Beaver Creek A	53.76	33	P	P	04 40 56.8	+2.4
F28M	Old Crow	54.12	28	P	P	04 40 59.6	+2.7
E28M	Babbage River	54.16	26	P	P	04 40 59.0	+1.7
I28M	Miner Creek	54.30	30	P	P	04 40 60.0	+1.6
KKAR	Karatay Array	54.34	302	P	P	04 40 59.1	+0.2
WB0	Warramunga Arr	54.63	188	P	P	04 41 00.1	-1.0
WB0				IAmb	IAmb	04 41 03.4	
	comp=Z,6.6nm,1.1s						
WR0	Warramunga Arr	54.80	188	P	P	04 41 01.7	-0.7
WR0				IAmb	IAmb	04 41 29.1	
	comp=Z,6.4nm,1.1s						
WRA	Warramunga Arr	54.80	188	P	P	04 41 00.7	-1.7
WRA	Warramunga Arr	54.80	188	P	P	04 41 02.4	-0.1
	comp=Z,2.8nm,0.7s,baz=2.4,slow=7.5,SNR=37						
WRA				PcP	PcP	04 42 05.5	+0.7
	comp=Z,0.4nm,0.6s,baz=8.1,slow=4.4,SNR=0.6						
	comp=Z,2.8nm,0.7s						
G29M	Pine Creek	54.90	28	P	P	04 41 05.4	+2.7
G29M				IAmb	IAmb	04 41 31.5	
	comp=Z,5.0nm,1.4s						
G30M	tAoh Zraii Nji	55.60	28	P	P	04 41 09.9	+2.3
G30M				IAmb	IAmb	04 41 10.8	
	comp=Z,5.8nm,1.3s						
G31M	Satah River	56.36	28	P	P	04 41 15.2	+2.1
INK	Inuvik	56.40	26	P	P	04 41 15.0	+1.6
INK				IAmb	IAmb	04 41 16.4	
	comp=Z,6.2nm,1.5s						
F31M	Tsiigehtchic	56.47	27	P	P	04 41 15.2	+1.4
F31M				IAmb	IAmb	04 41 27.9	
	comp=Z,3.6nm,1.2s						
H31M	Peel River	56.54	29	P	P	04 41 16.7	+2.3
ASAR	Alice Springs	58.53	188	P	P	04 41 29.2	+0.3
	comp=Z,0.6nm,0.4s,baz=15,slow=8.6,SNR=12						
ASAR				PcP	PcP	04 42 21.4	+2.1
	comp=Z,0.3nm,0.5s,baz=354,slow=4.8,SNR=1.2						
	comp=Z,0.6nm,0.4s						
ABKAR	Akbulak array	59.47	311	P	P	04 41 34.5	-0.7
RES	Resolute Bay	64.80	14	P	P	04 42 11.4	+0.9
RES				IAmb	IAmb	04 42 26.0	
	comp=Z,3.0nm,1.1s						
YKA	Yellowknife Ar	65.76	30	P	P	04 42 15.9	-1.0
	comp=Z,0.1nm,0.4s,baz=301,slow=6.2,SNR=3.1						
	comp=Z,0.1nm,0.4s						
FORT	Forrest	66.39	193	P	P	04 42 21.5	+0.2
FINES	FINESS Array B	70.87	333	P	P	04 42 48.9	-0.1
	comp=Z,4.7nm,1.1s,baz=118,slow=15,SNR=1.9						
	comp=Z,4.7nm,1.1s						
BMN	Battle Mountai	75.91	51	P	P	04 43 21.8	+2.5
AKASG	Malin Array Be	76.14	323	P	P	04 43 19.2	-1.0
	comp=Z,0.6nm,0.5s,baz=46,slow=5.5,SNR=2.6						
	comp=Z,0.6nm,0.5s						
NC204	NORSAR Array S	76.28	338	P	P	04 43 21.1	+0.2
NOA	NORSAR Array B	76.32	338	P	P	04 43 20.5	-0.6
	comp=Z,0.8nm,0.9s,baz=57,slow=6.4,SNR=1.8						
	comp=Z,0.8nm,0.9s						
NVAR	Mina Array Bea	76.32	53	P	P	04 43 21.7	0.0
	comp=Z,0.7nm,0.7s,baz=300,slow=5.5,SNR=5.5						
	comp=Z,0.7nm,0.7s						
BRTR	Keskin Array B	80.42	312	P	P	04 43 44.7	+0.4
	comp=Z,0.3nm,0.4s,baz=64,slow=3.4,SNR=2.4						
	comp=Z,0.3nm,0.4s						
GERES	GERESS Array B	84.69	328	P	P	04 44 05.6	-0.7
	comp=Z,0.4nm,0.6s,baz=46,slow=2.8,SNR=1.5						
	comp=Z,0.4nm,0.6s						
TXAR	Lajitas Array	91.47	52	P	P	04 44 40.0	+0.8
	comp=Z,0.3nm,0.9s,baz=209,slow=2.3,SNR=2.6						
	comp=Z,0.3nm,0.9s						
ESDC	Sonseca Array	99.36	334	LR	LR	05 35 40.5	
	comp=Z,22nm,18.0s,baz=52,slow=39						

*BER **04** 04:47:07.8±5.1, 71.°46N×12.°07W, h10km, mb(Pn)3.8, ML1.8(DNK)*

*DNK **04** 04:47:11.2±3.2, 71.°72N×12.°77W, h18km±48km, ML1.8*

ISC 04 04:47:04.2±0.9**, 71.°57N**±0.°06×**12.°28W**±0.°04**, h13**km**, n18, σ2.ˢ61**/28**, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMI	Jan Mayen	1.31	118	*e*P	Pb	04 47 28.8	+0.2
JMI				*e*S	Sb	04 47 43.0	-2.4
JMI				IAML		04 47 45.3	
	comp=Z,218nm,0.3s						
JMIC	Jan Mayen	1.35	114	*e*P	Pb	04 47 29.3	0.0
JMIC				*e*S	Sb	04 47 43.8	-2.7
JMIC				IAML		04 47 45.0	
	comp=Z,211nm,0.2s						
JNE	Jan Mayen East	1.41	112	*e*P	Pb	04 47 30.3	0.0
JNE				*e*S	Sn	04 47 44.9	-3.0
JNE				IAML		04 47 48.0	
	comp=Z,58nm,0.5s						
SCO	Scoresbysund	3.34	256	*e*	Pn	04 47 57.6	+1.6
	baz=77,slow=14						
SCO				*i* P	Pb	04 48 00.4	-2.8
SCO				*i* S	Sn	04 48 37.6	+2.0
SCO				IAML		04 48 41.1	
	comp=Z,3.1nm,0.3s						
SCO	Scoresbysund	3.34	256	*e*	Pn	04 47 57.6	+1.6
	baz=77,slow=14						
SCO				*i* P	Pb	04 48 00.4	-2.8
SCO				*i* S	Sn	04 48 37.6	+2.0
SCO				IAML		04 48 41.1	
	comp=Z,3.1nm,0.3s						
DBG	Daneborg	3.61	323	*i* P	Pn	04 48 03.3	+3.6
DBG				*i*		04 48 04.2	
DBG				*i* S	Sn	04 48 41.3	-0.9
DBG				IAML		04 48 44.3	
	comp=Z,19nm,0.3s						
DBG	Daneborg	3.61	323	*i* P	Pn	04 48 03.3	+3.6
DBG				*i*		04 48 04.2	
DBG				*i* S	Sn	04 48 41.3	-0.9
DBG				IAML		04 48 44.3	
	comp=Z,19nm,0.3s						
DAG	Danmarks Havn	5.51	345	*i* P	Pn	04 48 28.0	+2.2
DAG				*i* S	Sn	04 49 25.3	-3.6
DAG				IAML		04 49 30.2	
	comp=Z,8.5nm,0.4s						
DAG	Danmarks Havn	5.51	345	*i* P	Pn	04 48 28.0	+2.2
DAG				*i* S	Sn	04 49 25.3	-3.6
DAG				IAML		04 49 30.2	
	comp=Z,8.5nm,0.4s						
SUMG	Summit	8.10	289	*e*P	Pn	04 49 09.1	+7.4
SUMG				*e*S	Sn	04 50 32.4	-0.8
SUMG				IAML		04 50 43.1	
	comp=Z,1.0nm,0.4s						
SUMG	Summit	8.10	289	*e*P	Pn	04 49 09.1	+7.4
SUMG				*e*S	Sn	04 50 32.4	-0.8
SUMG				IAML		04 50 43.1	
	comp=Z,1.0nm,0.4s						
HSPB	Hornsund (broa	9.20	41	*e*P	Pn	04 49 19.6	+3.2
BRBB	Barentsburg B	9.42	34	*e*P	Pn	04 49 24.6	+5.2
KBS	Kingsbay	9.51	29	*e*P	Pn	04 49 23.2	+2.7
KBS				*e*S	Sn	04 50 58.9	-8.2
KBS				IAML		04 51 22.0	
	comp=Z,4.4nm,0.9s						
KBS	Kingsbay	9.51	29	*e*P	Pn	04 49 23.3	+2.7
SPA0	Spitsbergen Ar	9.86	35	*e*P	Pn	04 49 29.0	+3.7
NOR	Nord	10.14	356	*i* P	Pn	04 49 32.0	+2.9
NOR				*e*S	Sn	04 51 16.1	-6.4
NOR				IAML		04 51 27.0	
	comp=Z,1.3nm,0.4s						
NOR	Nord	10.14	356	*i* P	Pn	04 49 32.0	+2.9
NOR				IAML		04 51 27.0	
	comp=Z,1.3nm,0.4s						

DJA 04 04:50:31.6±0.3**, 1°S**±3°×**12°1E**±°**, h10**km**, M4.2**/13**, mb4.3**/2**, MLv4.2**/13**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRSI	Marisa	1.94	43	P	Pn	04 51 05.2	+0.6
LUWI	Luwuk	2.14	92	P	Pn	04 51 08.4	+1.0
TTSI	Tana Toraja	2.22	201	P	Pn	04 51 08.2	-0.4
GTOI	Gorontalo	2.86	56	P	Pn	04 51 17.5	+0.2
SPSI	Sidrap Palu	3.11	196	P	Pn	04 51 20.7	0.0
KMSI	Cibinong	3.68	66	P	Pn	04 51 28.8	+0.2
BKB	Balikpapan	3.75	265	P	Pn	04 51 29.1	-0.4
BKSI	Bulukumba	4.36	187	P	Pn	04 51 38.6	+0.6
BBSI	Bau Bau	4.90	157	P	Pn	04 51 44.2	-1.2
EDFI	Ende, Flores	7.81	172	P	Pn	04 52 25.1	-0.4

*CATAC **04** 05:09:30.8±0.7, 5.°83N×82.°64W, h10km, MB4.9, mb4.0, ML4.1*

*UPA **04** 05:09:31.1±0.5, 5.°67N×82.°46W, h47km±703km, MW4.5*

ISC 04 05:09:29.0±1.7**, 5.°74N**±0.°09×**82.°49W**±0.°06**, h10**km**, n46, σ1.ˢ55**/68**, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CACAO	El Cacao, Vera	2.27	45	*e*P	Pn	05 10 05.8	-0.8
GMAL	Guarumal, Vera	2.37	32	*e*S	Sn	05 10 35.9	-1.2
PTPM	Petroterminale	2.48	351	*e*P	Pn	05 10 09.7	+0.3
PTPM				*e*S	Sn	05 10 39.4	-0.4
RSUS3	Rio de Jesus,	2.59	31	*e*S	Sn	05 10 41.3	-1.3
PEDE3	Pedregal, Chir	2.63	2	*e*P	Pn	05 10 12.7	+1.2
PEDE3				*e*S	Sn	05 10 42.0	-1.5
DVD	David	2.68	1	*e*P	Pn	05 10 12.4	+0.2
DVD				*e*S	Sn	05 10 42.8	-2.0
CDITO	Canoas	2.84	352	*e*P	Pn	05 10 14.6	+0.1
CDITO				*e*S	Sn	05 10 47.4	-1.4
CDITO	Canoas	2.84	352	*i* P	Pn	05 10 14.5	+0.1
CDITO				*i* S	Sn	05 10 47.6	-1.1
CDITO				IAML		05 10 53.1	
	comp=Z,610nm,1.0s						
BCO2	Palmira	2.96	359	*e*P	Pn	05 10 16.9	+0.7
BCO2				*e*S	Sn	05 10 50.6	-1.3
AZU	Azuero	3.00	47	*e*P	Pn	05 10 16.4	-0.3
AZU				*e*S	Sn	05 10 50.3	-2.4
AZU	Azuero	3.00	47	*e*P	Pn	05 10 15.2	-1.4
CHIT3	Chitre	3.02	43	*e*P	Pn	05 10 17.1	+0.3
CHIT3				*e*S	Sn	05 10 51.0	-2.1
LNBQ3	Los Naranjos,	3.03	1	*e*P	Pn	05 10 17.0	-0.2
BRU2	Volcan	3.04	356	*e*P	Pn	05 10 17.7	+0.4
BRU2				*e*S	Sn	05 10 53.7	-0.2
BRU2	Volcan	3.04	356	*i* P	Pn	05 10 17.7	+0.4
BRU2				*i* S	Sn	05 10 52.2	-1.7
BRU2				IAML		05 11 03.2	
	comp=Z,550nm,1.0s						
MLIR3	Monte Lirio, C	3.05	354	*e*P	Pn	05 10 18.8	+1.4
MLIR3				*e*S	Sn	05 10 54.1	0.0
CHGR2	Aguacate	3.20	6	*e*P	Pn	05 10 20.4	+1.1
CHGR2				*e*S	Sn	05 10 56.6	-1.0
OCHAL	Ojochal	3.53	341	*i* P	Pn	05 10 24.0	+0.1
OCHAL				*i* S	Sn	05 11 06.3	+0.6
OCHAL				IAML		05 11 07.4	
	comp=Z,4.1nm,1.0s						
CNI2	El Empalme, Bo	3.66	0	*e*P	Pn	05 10 28.7	+3.0
CNI2				*e*S	Sn	05 11 11.2	+2.3
CDM	Cerro de Muert	3.99	342	*i* P	Pn	05 10 31.6	+0.9
CDM				*i* S	Sn	05 11 18.0	+0.2
CDM				IAML		05 11 23.6	
	comp=Z,190nm,1.0s						
RIMA	Rio Macho	4.23	341	*i* P	Pn	05 10 33.9	+0.2
RIMA				*i* S	Sn	05 11 23.7	+0.5
RIMA				IAML		05 11 25.2	
	comp=Z,140nm,1.0s						
LCR2	La Lucha 2	4.25	339	*i* P	Pn	05 10 34.4	+0.4
LCR2				*i* S	Sn	05 11 24.4	+0.6
LCR2				IAML		05 11 25.6	
	comp=Z,180nm,1.0s						
BCIP	Isla Barro Col	4.30	38	*e*P	Pn	05 10 34.1	-0.4
BCIP				*e*S	Sn	05 11 22.6	-2.3
BCIP	Isla Barro Col	4.30	38	*e*P	Pn	05 10 33.7	-0.9
UPA	Univ. de Panam	4.36	42	*e*P	Pn	05 10 36.7	+1.4
OCM	Ochomogo	4.38	341	*i* P	Pn	05 10 36.0	+0.3
OCM				*i* S	Sn	05 11 26.5	-0.5
OCM				IAML		05 11 29.4	
	comp=Z,250nm,1.0s						
JACO	JACO, Garabito	4.45	331	*i* P	Pn	05 10 36.0	-0.6
JACO				*i* S	Sn	05 11 27.8	-0.7
JACO				IAML		05 11 33.2	
	comp=Z,71nm,1.0s						
PTAC	Punta Ardita,	4.86	73	*e*P	Pn	05 10 44.0	+1.7
TRT2	Tortugero	4.94	346	*i* P	Pn	05 10 43.9	+0.6
TRT2				*i* S	Sn	05 11 39.5	-1.1
TRT2				IAML		05 11 51.8	
	comp=Z,99nm,1.0s						
INDI	Punta indio, G	5.07	324	*i* P	Pn	05 10 43.9	-1.2
INDI				IAML		05 10 46.5	
	comp=Z,62nm,1.0s						
DUNO	Dulce Nombre,	5.24	326	*i* P	Pn	05 10 47.5	+0.1
DUNO				IAmb	IAmb	05 10 49.9	
	comp=Z,36nm,1.0s						
DUNO				*i* S	Sn	05 11 45.6	-2.3
DUNO				IAML		05 11 57.8	

	comp=Z,59nm,1.0s						
ORTG	**Ortega, Santa**	**5.45**	**328**	*i* P	**Pn**	**05 10 49.8**	**-0.6**
ORTG				IAmb	IAmb	05 10 52.9	
	comp=Z,19nm,0.9s						
ORTG				*i* S	**Sn**	**05 11 53.0**	**-0.3**
ORTG				IAML		05 12 00.8	
	comp=Z,52nm,1.0s						
VRLE	**La Escondida,**	**5.77**	**331**	*i* P	**Pn**	**05 10 53.5**	**-1.3**
VRLE				IVmB_BB		05 10 58.4	
	comp=Z,1μm,1.0s						
VRLE				IAML		05 10 58.8	
	comp=Z,74nm,1.0s						
VRLE				IAmb	IAmb	05 10 58.8	
	comp=Z,32nm,1.2s						
PLMC	**San Jos del P**	**6.24**	**97**	*e*P	**Pn**	**05 10 59.1**	**-2.1**
APAC	**Apartado, Choc**	**6.25**	**70**	*e*P	**Pn**	**05 11 05.8**	**+4.5**
JAMC	**Jamundi, Valle**	**6.32**	**113**	*e*P	**Pn**	**05 11 02.2**	**-0.3**
BBAC	**Balboa, Cauca**	**6.41**	**125**	*e*P	**Pn**	**05 11 02.5**	**-1.2**
CBOC	**Ciudad Bolivar**	**6.45**	**89**	*e*P	**Pn**	**05 11 06.9**	**+2.7**
POPC	**Popayan, Colom**	**6.62**	**118**	*e*P	**Pn**	**05 11 07.1**	**+0.5**
GCUF	**Volcan Galeras**	**6.82**	**131**	*e*P	**Pn**	**05 11 11.5**	**+1.9**
GUY2C	**Guyana, Caldas**	**7.12**	**94**	*e*P	**Pn**	**05 11 15.9**	**+2.3**
UREC	**San Jos de Ur**	**7.20**	**73**	*e*P	**Pn**	**05 11 18.2**	**+3.8**
ORTC	**Ortega, Tolima**	**7.45**	**104**	*e*P	**Pn**	**05 11 21.1**	**+3.3**
GARC	**Garzon, Huila**	**7.82**	**117**	*e*P	**Pn**	**05 11 24.6**	**+1.4**
PRAC	**Prado**	**7.84**	**105**	*e*P	**Pn**	**05 11 26.5**	**+3.3**
CHIC	**Chingaza**	**8.79**	**97**	*e*P	Pn	05 11 42.0	+5.3

*IDC **04** 05:31:19.2±0.8, 7.°66N×127.°05E, h0^{km}, mb3.7/7, mbtmp3.7/7, MS2.8/1, Error ellipse: s-maj=23.2km s-min=19.6km az=90.0*

ISC 04 05:31:26.2±0.9**, 7.°6N**±0.°1×**127.°0E**±0.°1**, h52^{km}, n9, σ1^{s}00**/11**, mb3.6**/7**, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.46**	**249**	Pn	**Pn**	**05 31 49.9**	**-0.3**
	222nm,0.3s,baz=80,slow=3.3,SNR=16						
DAV				LR	LR	05 32 03.2	
	comp=Z,106nm,18.2s,baz=17,slow=28						
DAV				Sn	**Sn**	**05 32 08.5**	**+0.3**
	155nm,0.3s,baz=324,slow=15,SNR=9.6						
WRA	**Warramunga Arr**	**28.33**	**165**	P	**P**	**05 37 15.8**	**+0.6**
	0.4nm,0.7s,baz=345,slow=10,SNR=8.0						
WRA				PcP	**PcP**	**05 40 27.6**	**+0.3**
	0.5nm,0.8s,baz=346,slow=2.3,SNR=1.4						
	0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.29**	**294**	LR	LR	05 48 33.4	
	comp=Z,20nm,21.6s,baz=95,slow=35						
ASAR	**Alice Springs**	**31.82**	**168**	P	**P**	**05 37 45.4**	**-0.7**
	0.4nm,0.3s,baz=343,slow=7.1,SNR=5.0						
ASAR				PcP	**PcP**	**05 40 36.1**	**-0.2**
	0.5nm,0.5s,baz=355,slow=2.7,SNR=4.9						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**54.55**	**324**	P	**P**	**05 40 49.8**	**+0.7**
	0.4nm,0.4s,baz=113,slow=6.4,SNR=4.4						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**57.27**	**332**	P	**P**	**05 41 06.5**	**-1.8**
	0.5nm,0.3s,baz=142,slow=12,SNR=2.4						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**58.64**	**326**	P	**P**	**05 41 18.5**	**+0.6**
	0.6nm,0.7s,baz=124,slow=6.8,SNR=5.9						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**81.53**	**26**	P	**P**	**05 43 39.4**	**+1.4**
	0.4nm,0.6s,baz=248,slow=5.1,SNR=11						
	0.4nm,0.6s						
YKA	**Yellowknife Ar**	**95.90**	**24**	P	**P**	**05 44 46.1**	**-0.9**
	0.1nm,0.5s,baz=320,slow=1.8,SNR=3.9						
	0.1nm,0.5s						

*THE **04** 05:35:41.4, 37.°13N×28.°56E, h1^{km}±1^{km}, ML2.8/3, Error ellipse: s-maj=1.3km s-min=0.9km az=57.0*

*AFAD **04** 05:35:41.4±0.0, 37.°16N×28.°54E, h7^{km}±3^{km}, ML2.5*

ISC 04 05:35:41.2±1.1**, 37.°12N**±0.°03×**28.°58E**±0.°02**, h5^{km}**±9^{km}**, n17, σ0^{s}90**/33**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.24**	**273**	P	**Pg**	**05 35 45.8**	**0.0**
YER				S	**Sg**	**05 35 49.8**	**+0.9**
MULA	**Mugla, Merkez-**	**0.24**	**303**	P	**Pg**	**05 35 46.1**	**+0.1**
MULA				S	**Sg**	**05 35 48.9**	**-0.3**
MULA				*i* AML	AML	05 35 54.0	
	comp=N,1μm,0.7s						
TAVA	**DENIZLI_Tavas**	**0.44**	**38**	P	**Pg**	**05 35 50.0**	**+0.3**
TAVA				S	**Sg**	**05 35 55.6**	**+0.2**
TAVA				*i* AML	AML	05 35 58.0	
	comp=E,537nm,0.7s						
TAVA				*i* AML	AML	05 36 00.0	
	comp=N,468nm,0.5s						
CAEL	**Denizli, Camel**	**0.59**	**90**	P	**Pg**	**05 35 50.0**	**-2.6**
CAEL				S	**Sb**	**05 36 02.7**	**-0.2**
DNIZ	**Denizli-Tavas-**	**0.62**	**36**	P	**Pg**	**05 35 53.3**	**+0.1**
DNIZ				S	**Sg**	**05 36 02.3**	**+1.0**
DAT	**Datca**	**0.89**	**244**	P	**Pg**	**05 35 57.7**	**-0.6**
DAT				S	**Sb**	**05 36 12.1**	**+0.7**
DAT	**Datca**	**0.89**	**244**	P	**Pb**	**05 35 59.0**	**-0.2**
DAT				S	**Sn**	**05 36 12.9**	**-0.9**
ARG	**Arkhangelos**	**0.97**	**202**	P	**Pg**	**05 36 00.1**	**+0.3**
ARG				S	**Sb**	**05 36 14.8**	**+1.1**
	435nm,0.4s						
BODT	**Bodrum**	**1.01**	**267**	P	**Pg**	**05 36 00.5**	**-0.1**
BODT				S	**Sn**	**05 36 16.0**	**-0.8**
KSL	**Kastellorizon**	**1.26**	**140**	P	**Pg**	**05 36 04.4**	**-1.0**
KSL				S	**Sg**	**05 36 23.0**	**+1.3**
	318nm,0.7s						
BRDR	**BURDUR-Merkez**	**1.31**	**64**	P	**Pb**	**05 36 07.0**	**+0.6**
BRDR				S	**Sn**	**05 36 26.5**	**+2.2**
MANT	**Manisa**	**1.37**	**359**	P	**Pn**	**05 36 06.9**	**-0.2**
MANT				S	**Sg**	**05 36 24.1**	**-1.1**
MANT				*i* AML	AML	05 36 30.0	
	comp=E,80nm,0.7s						
KULA	**Kula-Manisa**	**1.39**	**3**	P	**Pn**	**05 36 07.2**	**-0.2**
KULA				S	**Sg**	**05 36 25.4**	**-0.6**
SMG	**Samos**	**1.50**	**293**	P	**Pn**	**05 36 08.4**	**-0.4**
USAK	**Uak-Merkez**	**1.63**	**12**	P	**Pn**	**05 36 10.8**	**+0.2**
USAK				S	**Sn**	**05 36 32.1**	**+0.1**
USAK				*i* AML	AML	05 36 35.0	
	comp=N,63nm,1.3s						
USAK				*i* AML	AML	05 36 44.0	
	comp=E,68nm,0.9s						
BLCB	**Balcova**	**1.75**	**317**	P	**Pn**	**05 36 11.2**	**-1.0**
BLCB				S	**Sn**	**05 36 34.5**	**-0.5**
KARP	**Karpathos**	**1.94**	**216**	P	**Pn**	**05 36 14.8**	**-0.1**
KARP				S	**Sn**	**05 36 39.7**	**0.0**
	205nm,0.7s						

*IDC **04** 05:39:33.1±1.6, 16.°13N×95.°47W, h0^{km}, mb3.6/5, mbtmp3.5/6, ML3.7/1, MS3.4/7, Error ellipse: s-maj=25.4km s-min=15.3km az=131.0*

*MEX **04** 05:39:34.2±0.5, 15.°74N×95.°32W, h48^{km}±18^{km}, MD4.4*

ISC 04 05:39:28.9±1.4**, 15.°93N**±0.°04×**95.°27W**±0.°02**, h2^{km}**±9^{km}**, n56, σ2^{s}68**/86**, mb3.6**/5**, MS3.5**/5**, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.83**	**259**	*e*P	**Pb**	**05 39 46.3**	**+0.3**
HUIG				*e*S	**Sb**	**05 39 57.3**	**-0.3**
NILT	**Santiago Nilte**	**0.89**	**44**	*e*P	**Pn**	**05 39 47.5**	**-0.9**
NILT				*e*S	**Sn**	**05 40 00.7**	**-1.1**
CMIG	**Matias Romero**	**1.21**	**17**	Pg	**Pg**	**05 39 53.9**	**+1.7**
	47nm,0.3s,baz=196,slow=12,SNR=182						
CMIG				LR	LR	05 39 54.2	
	comp=Z,18nm,21.6s,baz=282,slow=19						
CMIG				Lg	Lg	05 40 10.1	
	648nm,0.3s,baz=112,slow=22,SNR=37						
CMIG	**Matias Romero**	**1.21**	**17**	*e*P	**Pg**	**05 39 53.9**	**+1.7**
CMIG				*e*S	**Sn**	**05 40 10.1**	**+0.2**
CARR	**Arriaga**	**1.34**	**76**	*e*P	**Pb**	**05 39 54.3**	**-0.4**
CARR				*i* S	**Sb**	**05 40 10.7**	**-1.6**
UXUV	**UXUV**	**1.75**	**38**	*e*P	**Pg**	**05 40 03.0**	**+0.5**
UXUV				*i* S	**Sg**	**05 40 26.1**	**+0.9**
OXLC	**Oaxaca**	**1.78**	**310**	*e*P	**Pg**	**05 40 03.6**	**+0.4**
OXLC				*e*S	**Sg**	**05 40 26.9**	**+0.6**
VHO	**Vista Hermosa**	**1.81**	**309**	*e*P	**Pg**	**05 40 03.6**	**-0.1**
VHO				*i* S	**Sg**	**05 40 27.6**	**+0.4**
PEIG	**Puerto Escondi**	**1.81**	**272**	*e*P	**Pn**	**05 40 00.8**	**-0.4**
PEIG				*e*S	**Sn**	**05 40 24.4**	**-0.4**
NEUV	**Arroyo Zacate**	**1.85**	**344**	*e*P	**Pg**	**05 40 04.5**	**+0.1**
NEUV				*e*S	**Sg**	**05 40 27.6**	**-0.7**
PCIG		**1.98**	**96**	*e*P	**Pn**	**05 40 03.5**	**0.0**
PCIG				*i* S	**Sn**	**05 40 25.8**	**-3.1**
TGIG		**2.22**	**67**	*e*P	**Pb**	**05 40 09.2**	**-0.6**
TGIG				*e*S	**Sn**	**05 40 32.9**	**-2.0**
TUIG	**Tuzandepetl**	**2.24**	**21**	*e*P	**Pb**	**05 40 09.5**	**-0.7**
TGBT	**Tuxtla Gutierr**	**2.25**	**68**	*e*S	**Sb**	**05 40 38.1**	**-0.6**
YOIG	**Yosondua**	**2.38**	**293**	*e*P	**Pb**	**05 40 11.8**	**-0.8**
YOIG				*e*S	**Sn**	**05 40 37.7**	**-1.3**
PMUV	**Sontecomapan**	**2.60**	**3**	*e*P	**Pb**	**05 40 13.2**	**-3.2**
PMUV				*i* S	**Sn**	**05 40 44.2**	**-0.2**
TXIG	**Tlaxiaco**	**2.74**	**299**	*e*P	**Pb**	**05 40 18.2**	**-0.6**
TXIG				*e*S	**Sb**	**05 40 51.4**	**-1.5**
PNIG	**Pinotepa**	**2.79**	**280**	*e*P	**Pn**	**05 40 15.9**	**+1.3**
PNIG				*e*S	**Sn**	**05 40 46.7**	**-2.2**
CCIG	**Comitan**	**3.03**	**83**	*e*P	**Pb**	**05 40 21.4**	**-2.2**
CCIG				*i* S	**Sn**	**05 40 52.0**	**-3.0**
PATR	**El Naranjo**	**3.03**	**105**	*e*P	**Pn**	**05 40 18.7**	**+0.5**
PATR				*e*S	**Sn**	**05 40 53.3**	**-1.9**
PAVE	**Pavencul**	**3.06**	**103**	*e*P	**Pn**	**05 40 19.6**	**+1.0**
PAVE				*i* S	**Sn**	**05 40 54.9**	**-1.1**
HLIG	**Huajuapan de L**	**3.08**	**308**	*e*P	**Pb**	**05 40 23.7**	**-0.9**
HLIG				*e*S	**Sb**	**05 40 58.7**	**-4.0**
CHUJ	**Union Juarez**	**3.15**	**105**	*e*P	**Pn**	**05 40 20.5**	**+0.7**
CHUJ				*e*S	**Sn**	**05 40 55.4**	**-2.8**
TPIG	**Tehuac#an**	**3.19**	**321**	*e*P	**Pg**	**05 40 29.3**	**-0.8**
TPIG				*e*S	**Sb**	**05 41 02.0**	**-3.7**
FTIG	**Fresnillo de T**	**3.38**	**306**	*e*P	**Pb**	**05 40 28.2**	**-1.4**
FTIG				*e*S	**Sn**	**05 41 03.6**	**+0.1**
MGIG	**Malinaltepec**	**3.48**	**292**	*e*P	**Pb**	**05 40 27.5**	**-3.9**
MGIG				*e*S	**Sn**	**05 40 58.1**	**-8.0**
TLIG	**Tlapa**	**3.56**	**298**	*e*P	**Pb**	**05 40 31.3**	**-1.4**
TLIG				*e*S	**Sn**	**05 41 04.4**	**-3.5**
JAUV	**Jalcomulco**	**3.72**	**337**	*e*P	**Pn**	**05 40 29.0**	**+1.5**
JAUV				*e*S	**Sn**	**05 41 14.5**	**+2.6**
CRIG	**Cruz Grande**	**3.80**	**283**	*e*P	**Pn**	**05 40 29.9**	**+1.5**
CRIG				*e*S	**Sn**	**05 41 10.5**	**-3.2**
LVIG	**Laguna Verde**	**3.93**	**344**	*e*P	**Pn**	**05 40 33.3**	**+3.1**
LVIG				*e*S	**Sn**	**05 41 13.7**	**-3.3**
DAIG	**Los Arroyos**	**4.35**	**285**	*e*P	**Pn**	**05 40 37.0**	**+1.0**
DAIG				*e*S	**Sn**	**05 41 25.7**	**-1.6**
PPM	**Popocatepetl**	**4.48**	**315**	*e*P	**Pb**	**05 40 46.9**	**-1.6**
PPM				*e*S	**Sn**	**05 41 27.9**	**-3.3**
MEIG	**Mezcala**	**4.62**	**296**	*e*P	**Pb**	**05 40 47.8**	**-3.0**
MEIG				*e*S	**Sn**	**05 41 29.9**	**-4.2**
AMVM	**AMECAMECA**	**4.63**	**314**	*e*P	**Pb**	**05 40 48.4**	**-2.7**
AMVM				*e*S	**Sn**	**05 41 37.7**	**+3.0**
YAIG	**Yautepec**	**4.66**	**309**	*e*P	**Pn**	**05 40 44.3**	**+3.8**
YAIG				*e*S	**Sn**	**05 41 31.1**	**-4.0**
PLIG	**Platanillo**	**4.73**	**302**	*e*P	Pn	05 40 45.6	+4.2
PLIG				*e*S	**Sn**	**05 41 39.4**	**+2.4**
XCVM	**Xochimilco**	**4.94**	**313**	*e*S	**Sn**	**05 41 36.2**	**-6.2**
VTVM	**Tizayuca**	**5.08**	**319**	*e*P	**Pb**	**05 40 55.1**	**-3.5**
VTVM				*e*S	**Sb**	**05 41 51.9**	**-8.3**
AOVM	**Tlapan**	**5.10**	**311**	*e*P	Pb	05 40 52.9	-6.3
AOVM				*e*S	**Sn**	**05 41 46.8**	**+0.3**
INVM	**La Marquesa**	**5.16**	**311**	*e*S	**Sn**	**05 41 51.0**	**+3.2**
PTVM	**Pico Tres Padr**	**5.17**	**315**	*e*S	**Sn**	**05 41 52.3**	**+4.3**
ZUVM	**ZUMPANGO**	**5.31**	**317**	*i* S	**Sn**	**05 41 49.0**	**-2.4**
TOVM	**TOLUCA**	**5.37**	**309**	*e*P	Pn	05 40 56.0	+5.7
TOVM				*e*S	**Sn**	**05 41 56.1**	**+3.1**
ARIG	**Puente Sto Nin**	**5.39**	**296**	*e*P	**Pn**	**05 40 52.6**	**+2.1**
ARIG				*e*S	**Sn**	**05 41 54.2**	**+1.1**
ACIG	**Acambay**	**5.96**	**313**	*e*S	**Sn**	**05 42 07.5**	**+0.2**
TEIG	**Tepich**	**7.90**	**56**	Pn	**Pn**	**05 41 26.4**	**+1.6**
	35nm,0.3s,baz=87,slow=2.0,SNR=17						
TEIG				Sn	**Sn**	**05 42 48.6**	**-6.3**
	21nm,0.3s,baz=129,slow=20,SNR=1.6						
TEIG				LR	LR	05 44 56.7	
	comp=Z,1μm,18.6s,baz=354,slow=41						
TXAR	**Lajitas Array**	**15.42**	**331**	Pn	**P**	**05 43 09.9**	**-2.6**
	0.1nm,0.3s,baz=168,slow=14,SNR=7.0						
	0.3nm,0.9s						
LPIG	**La Paz**	**16.30**	**302**	LR	LR	05 49 42.0	
	comp=Z,61nm,21.2s,baz=187,slow=38						
ANMO	**Albuquerque**	**21.43**	**334**	P	**P**	**05 44 21.9**	**+3.3**
	1.0nm,0.8s,baz=238,slow=13,SNR=5.0						
ANMO				S	Sn	05 48 28.9	+4.1
	0.2nm,0.4s,baz=149,slow=17,SNR=1.2						
	1.0nm,0.8s						
ROSC	**El Rosal**	**23.33**	**116**	P	P	05 44 46.7	+7.6
	4.8nm,0.4s,baz=132,slow=20,SNR=5.1						
	4.8nm,0.4s						
SDV	**Santo Domingo**	**25.04**	**103**	LR	LR	05 55 11.9	
	comp=Z,62nm,21.4s,baz=272,slow=37						
SJG	**San Juan**	**27.91**	**81**	LR	LR	05 57 22.8	
	comp=Z,24nm,19.6s,baz=278,slow=38						
NVAR	**Mina Array Bea**	**30.21**	**322**	P	**P**	**05 45 44.0**	**+2.9**
	0.5nm,0.6s,baz=142,slow=7.9,SNR=9.2						
NVAR				LR	LR	05 59 27.0	
	comp=Z,118nm,19.4s,baz=98,slow=40						
	0.5nm,0.6s						
YBH	**Yreka Blue Hor**	**34.92**	**323**	LR	LR	06 00 50.2	
	comp=Z,86nm,18.5s,baz=161,slow=37						
YKA	**Yellowknife Ar**	**48.47**	**348**	P	**P**	**05 48 13.9**	**+1.2**
	0.2nm,0.7s,baz=116,slow=13,SNR=2.9						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**59.84**	**337**	P	**P**	**05 49 38.0**	**+2.3**
	0.8nm,0.8s,baz=123,slow=5.5,SNR=6.4						
ILAR				LR	LR	06 16 39.8	
	comp=Z,55nm,18.6s,baz=123,slow=37						
	0.8nm,0.8s						

*TUL **04** 05:44:39.6±0.3, 35.°971N±0.°007×97.°17W±0.°02, h5^{km}±4^{km}, ML2.5, mb_Lg2.3/20(NEIC), ML2.4/28(NEIC), Error ellipse: s-maj=1.8km s-min=0.9km az=106.0*

*ANF **04** 05:44:39.9±0.4, 36.°00N×97.°15W, h5^{km}, ML2.8/7, Error ellipse: s-maj=4.6km s-min=3.1km az=176.0*

*NEIC **04** 05:44:40.2±0.2, 35.°97N±0.°01×97.°17W±0.°01, h4^{km}±6^{km}, Error ellipse: s-maj=2.4km s-min=0.7km az=140.0*

ISC 04 05:44:39.8±1.0**, 35.°97N**±0.°03×**97.°19W**±0.°03**, h4^{km}, n33, σ0^{s}54**/25**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK033	**Mehan**	**0.21**	**71**	Pg	**Pg**	**05 44 44.1**	**+0.2**
OK033				IAML		05 44 47.6	
	605nm,0.2s						
OK033				IAML		05 44 47.6	
	663nm,0.3s						
OK029	**Liberty Lake**	**0.28**	**231**		**Pg**	**05 44 45.5**	**+0.2**
OK052	**Battle Ridge R**	**0.31**	**86**	Pg	**Pg**	**05 44 45.8**	**0.0**
OK052				IAML		05 44 50.7	
	661nm,0.2s						
ADOK	**Arcadia Dam**	**0.35**	**205**		**Pg**	**05 44 46.9**	**+0.2**
QUOK	**Quay**	**0.43**	**63**	Pg	**Pg**	**05 44 48.1**	**0.0**
QUOK				IAML		05 44 54.5	
	comp=N,314nm,0.3s						
QUOK				IAML		05 44 56.7	
	comp=E,236nm,0.2s						
OK048	**Pawnee Station**	**0.48**	**24**	Pg	**Pg**	**05 44 49.1**	**0.0**
OK048				IAML		05 44 56.3	
	comp=E,317nm,0.2s						
DEOK	**Depew**	**0.57**	**103**	Pg	**Pg**	**05 44 50.7**	**-0.1**
DEOK				IAML		05 44 58.8	
	comp=N,288nm,0.4s						
DEOK				IAML		05 45 00.6	
	comp=E,205nm,0.4s						
FNO	**Franklin**	**0.74**	**194**	Pg	**Pg**	**05 44 53.6**	**-0.4**
FNO				IAML		05 45 07.4	
	comp=N,196nm,0.1s						
CROK	**Carrier**	**0.83**	**310**	Pg	**Pg**	**05 44 55.8**	**-0.1**
W35A	**Tecumseh**	**0.86**	**163**		**Pg**	**05 44 55.2**	**-1.0**
GC02	**Grant County #**	**1.03**	**328**	Pg	**Pg**	**05 44 59.2**	**-0.4**
T35A	**Sooner Cattle**	**1.08**	**30**		**Pg**	**05 44 60.0**	**-0.7**
T35A				IAML		05 45 15.6	
	comp=N,140nm,0.1s						
T35B	**Sooner Cattle**	**1.09**	**30**	P	**Pg**	**05 45 00.1**	**-0.6**
	baz=209						
T35B				S	**Sg**	**05 45 14.6**	**-0.1**
	baz=209						
TUL3	**Leonard**	**1.13**	**93**	P	**Pg**	**05 45 00.5**	**-1.0**
	baz=274						
TUL3				S	**Sg**	**05 45 15.6**	**-0.5**
	baz=274						
OK032	**Salt Plains WL**	**1.17**	**315**		**Pg**	**05 45 01.5**	**-0.7**
CSTR	**Hydro, Custer**	**1.27**	**255**		**Pg**	**05 45 03.6**	**-0.5**
U32A	**Winter Ranch,**	**1.52**	**286**		**Pn**	**05 45 07.8**	**-0.1**
U32A	**Winter Ranch,**	**1.52**	**286**	P	**Pn**	**05 45 07.8**	**-0.1**
	baz=105						
U32A				S	**Sn**	**05 45 28.9**	**+0.7**
	baz=105						
RLO	**Rose Lookout**	**1.76**	**83**	IAmb_Lg		05 45 35.0	
	comp=Z,27nm,0.7s						
WMOK	**Wichita Mounta**	**1.79**	**227**	IAmb_Lg		05 45 41.6	
	comp=Z,11nm,0.8s						
WMOK	**Wichita Mounta**	**1.79**	**227**	P	**Pn**	**05 45 12.0**	**+0.4**
	baz=46						
X37A	**Clayton**	**2.03**	**132**	P	**Pn**	**05 45 15.1**	**+0.3**
	baz=314						
U38A	**Gravette**	**2.31**	**78**	P	**Pn**	**05 45 19.8**	**+1.1**
	baz=259						
KSU1	**Kansas State U**	**3.15**	**8**	IAmb_Lg		05 46 27.1	
	comp=Z,13nm,0.8s						
MIAR	**Mount Ida**	**3.28**	**115**	IAmb_Lg		05 46 31.9	
	comp=Z,7.6nm,1.0s						
S39A	**Bolivar**	**3.54**	**60**	P	**Pn**	**05 45 35.7**	**+0.2**
	baz=242						
AMTX	**Amarillo**	**3.83**	**255**	IAmb_Lg		05 46 52.1	
	comp=Z,7.7nm,0.8s						
X40A	**Basin Creek Fa**	**3.86**	**111**	IAmb_Lg		05 46 47.3	
	comp=Z,9.5nm,0.9s						
UALR	**University of**	**4.13**	**105**	IAmb_Lg		05 46 59.9	
	comp=Z,5.8nm,0.7s						
RTBA	**Rita Blanca**	**4.51**	**278**	IAmb_Lg		05 47 09.2	
	comp=Z,10nm,1.3s						
CCM	**Cathedral Cave**	**5.19**	**65**	IAmb_Lg		05 47 27.8	
	comp=Z,4.4nm,0.7s						
FVM	**French Village**	**5.77**	**68**	IAmb_Lg		05 47 51.8	
	comp=Z,3.3nm,0.9s						
S44A	**Carbondale**	**6.59**	**73**	IAmb_Lg		05 48 10.9	
	comp=Z,5.7nm,0.9s						

*IDC **04** 05:48:05.5±5.2, 19.°56S×178.°01W, h300^{km}±51^{km}, mb3.4/10, mbtmp4.1/11, Error ellipse: s-maj=22.1km s-min=14.3km az=116.0*

ISC 04 05:48:05.7±0.8**, 19.°6S**±0.°1×**178.°0W**±0.°2**, h300^{km}, n11, σ1^{s}05**/13**, mb3.6**/10**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.12**	**192**	P	**P**	**05 52 06.3**	**-0.9**
	4.5nm,0.7s,baz=167,slow=9.2,SNR=2.1						
URZ				S	**S**	**05 55 29.1**	**+1.5**
	2.3nm,0.7s,baz=160,slow=18,SNR=1.5						
STKA	**Stephens Creek**	**38.18**	**243**	P	**P**	**05 54 56.5**	**-0.6**
	1.4nm,0.7s,baz=139,slow=12,SNR=3.0						
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**44.70**	**261**	P	**P**	**05 55 50.1**	**+0.1**
	0.7nm,0.3s,baz=96,slow=6.3,SNR=36						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**44.71**	**256**	P	**P**	**05 55 50.4**	**+0.4**
	2.4nm,0.6s,baz=90,slow=8.3,SNR=37						
ASAR				PcP	**sP**	**05 57 23.7**	**-0.4**
	0.2nm,0.3s,baz=123,slow=4.5,SNR=1.4						
	2.4nm,0.6s						
MJAR	**Matsushiro Arr**	**69.42**	**323**	P	**P**	**05 58 41.9**	**+0.1**
	1.8nm,0.5s,baz=323,slow=22,SNR=2.1						
	1.8nm,0.5s						
PETK	**Petropavlovsk-**	**75.34**	**345**	P	**P**	**05 59 18.0**	**+1.8**
	3.1nm,0.8s,baz=278,slow=24,SNR=1.5						
	3.1nm,0.8s						
NVAR	**Mina Array Bea**	**80.36**	**43**	P	**P**	**05 59 44.6**	**+0.3**
	0.8nm,0.6s,baz=216,slow=8.0,SNR=7.1						
	0.8nm,0.6s						
ELK	**Elko**	**83.61**	**43**	P	**P**	**06 00 01.4**	**+0.3**
	0.9nm,0.8s,baz=222,slow=3.2,SNR=4.2						
	0.9nm,0.8s						
TXAR	**Lajitas Array**	**86.58**	**57**	P	**P**	**06 00 16.2**	**+0.4**
	0.4nm,0.7s,baz=219,slow=6.9,SNR=8.0						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**87.40**	**13**	P	**P**	**06 00 16.9**	**-1.9**
	0.6nm,0.8s,baz=227,slow=4.8,SNR=10						
	0.6nm,0.8s						
PDAR	**Pinedale Array**	**88.30**	**43**	P	**P**	**06 00 23.4**	**-0.4**
	0.4nm,0.5s,baz=227,slow=3.1,SNR=6.2						
	0.4nm,0.5s						

*DJA **04** 05:53:28.4±0.6, 8°S±6°×10°4E±°, h10^{km}, M4.3/10, mb4.6/1, MLv4.2/10*

*IDC **04** 05:53:34.2±2.2, 7.°19S×105.°04E, h0^{km}, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=86.8km s-min=20.9km az=51.0*

ISC 04 05:53:35.7±1.2**, 7.°5S**±0.°1×**104.°42E**±0.°10**, h27^{km}, n23, σ1^{s}51**/21**, mb4.0**/9**, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**1.54**	**55**	P	**Pn**	**05 54 02.0**	**+0.5**
KASI	**Kota Agung**	**1.98**	**2**	P	**Pn**	**05 54 07.3**	**-0.1**
SKJI	**Sukabumi**	**2.18**	**77**	P	**Pn**	**05 54 10.6**	**+0.4**
LWLI	**Liwa**	**2.50**	**352**	P	**Pn**	**05 54 13.9**	**-0.9**
CNJI	**Cibinong**	**2.69**	**86**	P	**Pn**	**05 54 16.5**	**-0.8**
LEM	**Lembang**	**3.24**	**78**	P	**Pn**	**05 54 25.7**	**+0.7**
LEM	**Lembang**	**3.24**	**78**	Pn	**Pn**	**05 54 26.4**	**+1.4**
	3.0nm,0.3s,baz=186,slow=20,SNR=5.5						
LEM				Sn	**Sn**	**05 55 00.3**	**-2.6**
	8.7nm,0.3s,baz=334,slow=6.8,SNR=5.0						
MNAI	**Manna**	**3.45**	**335**	P	**Pn**	**05 54 25.8**	**-2.0**
KPJI	**Karang Pucung**	**4.48**	**88**	P	**Pn**	**05 54 41.5**	**-0.3**
UGM	**Wanagama**	**6.06**	**94**	P	**Pn**	**05 55 02.3**	**-1.3**
CMAR	**Chiang Mai Arr**	**26.36**	**348**	P	**P**	**05 59 09.5**	**-0.3**
	0.8nm,0.3s,baz=174,slow=8.4,SNR=10.0						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**31.51**	**116**	P	**P**	**05 59 53.5**	**-2.3**
	1.0nm,0.8s,baz=285,slow=12,SNR=5.2						
	1.0nm,0.8s						
H08S2	**Diego Garcia H**	**31.65**	**268**	T	T	06 33 26.3	
	baz=91,slow=74						
H08S3	**Diego Garcia H**	**31.66**	**268**	T	T	06 33 48.2	
	baz=91,slow=74						
H08S1	**Diego Carcia H**	**31.66**	**268**	T	T	06 33 30.3	
	baz=91						
ASAR	**Alice Springs**	**32.52**	**123**	P	**P**	**06 00 04.9**	**+0.3**
	0.4nm,0.8s,baz=203,slow=10,SNR=1.9						
	0.4nm,0.8s						
SONM	**Songino Array**	**55.13**	**2**	P	**P**	**06 03 06.0**	**+0.2**
	1.9nm,0.9s,baz=182,slow=9.1,SNR=11						
	1.9nm,0.9s						
USRK	**Ussuriysk Ar.**	**57.18**	**23**	P	**P**	**06 03 19.8**	**-0.5**
	2.4nm,0.6s,baz=196,slow=5.7,SNR=4.9						
	2.4nm,0.6s						
MKAR	**Makanchi Array**	**57.54**	**342**	P	**P**	**06 03 24.1**	**+1.3**
	0.8nm,0.6s,baz=150,slow=7.9,SNR=6.6						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**62.09**	**342**	P	**P**	**06 03 56.4**	**+2.4**
	0.3nm,0.4s,baz=170,slow=16,SNR=6.3						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**63.42**	**347**	P	**P**	**06 04 05.0**	**+2.2**
	1.1nm,0.5s,baz=174,slow=5.8,SNR=5.0						
	1.1nm,0.5s						
BVAR	**Borovoye Array**	**66.87**	**338**	P	**P**	**06 04 27.7**	**+2.5**
	0.6nm,0.5s,baz=227,slow=37,SNR=2.8						
	0.6nm,0.5s						
TXAR	**Lajitas Array**	**145.80**	**47**	PKPbc	**PKPab**	**06 13 14.0**	**+0.4**
	0.3nm,0.9s,baz=281,slow=4.3,SNR=4.8						

*IDC **04** 06:40:28.4±15.0, 33.°91N×46.°08E, h0^{km}, mb3.8/4, mbtmp3.9/4, MS2.5/2, Error ellipse: s-maj=297.2km s-min=36.6km az=15.0*

*TEH **04** 06:40:30.0, 34.°08N×46.°19E, h15^{km}, ML3.4*

ISC 04 06:40:30.1±0.8**, 34.°03N**±0.°03×**46.°14E**±0.°04**, h10^{km}, n31, σ1^{s}33**/29**, mb3.8**/3**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.41**	**172**	Pg	**Pg**	**06 40 38.8**	**+0.6**
IGHG	**Ghaleghazi**	**0.46**	**50**	Pg	**Pg**	**06 40 37.8**	**-1.5**
KGS1	**Ghasr-e-Shirin**	**0.66**	**316**	Pg	**Pg**	**06 40 42.5**	**-0.4**
IDHR	**Dehrash**	**0.70**	**17**	Pg	**Pg**	**06 40 42.1**	**-1.6**
KCHF	**Cheshme Sefid,**	**0.79**	**72**	Pg	**Pg**	**06 40 44.2**	**-1.1**
ILIN	**Lien**	**1.12**	**37**	Pg	**Pg**	**06 40 50.4**	**-1.3**
IKOM	**Komasi**	**1.15**	**82**	Pg	**Pb**	**06 40 51.4**	**-0.7**
IBZA	**Bozab**	**1.49**	**72**	Pg	**Pg**	**06 40 57.7**	**-1.1**
IKFM	**Kafar-mosalman**	**1.51**	**109**	Pg	**Pb**	**06 40 58.1**	**-0.1**
BHD	**Baghdad**	**1.65**	**243**	*e*Pn	Pn	06 40 48.2	-11
BHD				Sn	**Sb**	**06 41 23.2**	**+1.7**
IKRK	**Kirkuk**	**2.02**	**313**	*e*Pn	Pn	06 40 48.7	-16
IKRK				Sn	**Sn**	**06 41 27.8**	**-1.8**
RAFI	**Al-Rafai**	**2.30**	**181**	*e*Pn	**Pn**	**06 41 04.3**	**-3.7**
RAFI				Sn	**Sb**	**06 41 39.6**	**-0.5**
HAGD	**Aghdareh**	**2.60**	**71**	Pn	**Pn**	**06 41 13.7**	**+1.2**
MAHB	**Mahabad**	**2.75**	**353**	Pn	**Pn**	**06 41 15.9**	**+1.4**
IRAZ	**Razeghan**	**3.41**	**65**	Pn	**Pn**	**06 41 24.4**	**+0.8**
AMIS	**Naft Sefid**	**3.54**	**131**	Pn	**Pn**	**06 41 26.4**	**+1.2**
IAZR	**Azarshahr**	**3.64**	**358**	Pn	**Pn**	**06 41 27.9**	**+1.1**
IPIR	**Pirpir**	**4.20**	**107**	Pn	**Pn**	**06 41 36.1**	**+1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ISHB	**Shabestar**	**4.27**	**354**	Pn	**Pn**	**06 41 35.8**	**+0.4**
QAMS	**Qamsar**	**4.38**	**92**	Pn	**Pn**	**06 41 37.4**	**+0.4**
IKLH	**Kolahrood**	**4.59**	**97**	Pn	**Pn**	**06 41 41.5**	**+1.6**
ISFB	**Sefidab**	**5.07**	**85**	Pn	**Pn**	**06 41 46.5**	**+0.3**
IDMV	**Damavand**	**5.09**	**71**	Pn	**Pn**	**06 41 47.2**	**+0.5**
IZEF	**Zefreh**	**5.29**	**101**	Pn	**Pn**	**06 41 50.2**	**+0.6**
IRAM	**Ramesheh**	**5.70**	**111**	Pn	**Pn**	**06 41 55.8**	**+0.8**
KBZ	**Khabaz**	**10.01**	**346**	LR	LR	06 46 57.9	
	comp=Z,22nm,21.1s,baz=188,slow=38						
AKASG	**Malin Array Be**	**20.75**	**329**	P	Pn	06 45 11.8	-1.4
	1.0nm,0.5s,baz=139,slow=9.4,SNR=12						
	1.0nm,0.5s						
BVAR	**Borovoye Array**	**25.67**	**35**	P	**P**	**06 46 00.8**	**+0.8**
	1.2nm,0.5s,baz=247,slow=7.5,SNR=5.8						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**30.06**	**54**	P	**P**	**06 46 40.3**	**+0.9**
	1.0nm,0.7s,baz=257,slow=7.5,SNR=7.1						
	1.0nm,0.7s						
FINES	**FINESS Array B**	**30.30**	**341**	P	**P**	**06 46 41.5**	**+0.1**
	2.2nm,0.8s,baz=148,slow=8.2,SNR=4.0						
	2.2nm,0.8s						
NOA	**NORSAR Array B**	**35.12**	**331**	LR	LR	07 01 42.0	
	comp=Z,8.4nm,18.9s,baz=315,slow=36						

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*IDC **04** 07:07:45.9±0.8, 33.˚86N×136.˚13E, h413km±11km, mb3.1/15, mbtmp3.9/19, Error ellipse: s-maj=20.8km s-min=12.5km az=66.0*

*JMA **04** 07:07:46.1±0.2, 34˚N±1˚×13˚6E±˚, h413km±1km, MV3.3/14, SOUTHERN MIE PREF*

ISC 04 07:07:45.8±0.7**, 33.˚94N**±0.˚09×**136.˚06E**±0.˚08**, h400**km**, n26,** σ1.˚**60**/32**, mb3.3**/15**, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTNC	**Tanabenakahech**	**0.39**	**253**	P	**Pn**	**07 08 37.3**	**+1.8**
JTNC				*e*S	**S**	**07 09 17.4**	**+1.8**
JWY	**Kouya**	**0.48**	**306**	P	**Pn**	**07 08 37.8**	**+2.1**
JWY				*e*S	**S**	**07 09 18.1**	**+2.3**
JIE	**Ise**	**0.71**	**50**	P	**Pn**	**07 08 38.2**	**+2.3**
JIE				*e*S	**S**	**07 09 19.2**	**+2.7**
JAI	**Aioi**	**1.34**	**264**	*e*P	**Pn**	**07 08 40.0**	**+1.7**
JAI				*e*S	**S**	**07 09 22.6**	**+2.1**
TK02	**Tokai 2**	**1.41**	**89**	P	**Pn**	**07 08 40.4**	**+2.1**
JWT	**Wachi**	**1.45**	**338**	*e*S	**S**	**07 09 23.2**	**+1.8**
MJAR	**Matsushiro Arr**	**3.14**	**34**	P	**Pn**	**07 08 52.1**	**+1.9**
	93nm,0.8s,baz=204,slow=8.0,SNR=3.9						
MJAR				S	**S**	**07 09 43.5**	**+1.3**
	1.8nm,0.3s,baz=225,slow=19,SNR=1.8						
JHJ	**Hachijo jima 2**	**3.22**	**104**	P	**Pn**	**07 08 52.3**	**+1.4**
	132nm,0.6s,baz=301,slow=12,SNR=5.7						
JHJ				S	**S**	**07 09 45.5**	**+2.1**
	42nm,0.6s,baz=104,slow=21,SNR=1.6						
KSRS	**Korea Array**	**7.49**	**300**	P	**P**	**07 09 36.5**	**+1.2**
	1.9nm,0.4s,baz=117,slow=12,SNR=5.1						
JCJ	**Chichijima**	**8.62**	**141**	P	Pn	07 09 38.5	-10
	94nm,0.9s,baz=354,slow=21,SNR=6.6						
JCJ				S	S	07 11 13.3	-15
	35nm,0.5s,baz=290,slow=22,SNR=6.6						
ASAJ	**Asahikawa**	**11.36**	**25**	P	**P**	**07 10 18.2**	**-0.1**
	3.1nm,0.4s,baz=81,slow=12,SNR=1.8						
ASAJ				S	**S**	**07 12 22.1**	**-2.1**
	3.4nm,0.6s,baz=308,slow=24,SNR=1.7						
SONM	**Songino Array**	**26.18**	**311**	P	**P**	**07 12 46.8**	**+0.9**
	0.7nm,0.6s,baz=115,slow=8.9,SNR=6.5						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**40.90**	**315**	P	**P**	**07 14 50.5**	**-0.3**
	0.5nm,0.3s,baz=89,slow=5.8,SNR=2.7						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**42.15**	**304**	P	**P**	**07 15 00.7**	**-0.3**
	0.5nm,0.5s,baz=89,slow=9.6,SNR=7.2						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**44.54**	**310**	P	**P**	**07 15 19.4**	**-0.2**
	0.4nm,0.4s,baz=90,slow=7.5,SNR=6.7						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**49.48**	**314**	P	**P**	**07 15 57.4**	**+0.1**
	0.8nm,0.5s,baz=103,slow=7.0,SNR=3.5						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**53.60**	**182**	P	**P**	**07 16 25.8**	**-2.0**
	0.3nm,0.3s,baz=0.0,slow=7.6,SNR=8.1						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**54.42**	**31**	P	**P**	**07 16 32.8**	**-0.2**
	0.2nm,0.7s,baz=272,slow=5.7,SNR=4.9						
	0.2nm,0.7s						
ARU	**Arti**	**55.80**	**319**	P	**P**	**07 16 41.9**	**-0.9**
	2.7nm,0.2s,baz=60,slow=8.4,SNR=3.1						
	2.7nm,0.2s						
ASAR	**Alice Springs**	**57.32**	**182**	P	**P**	**07 16 52.0**	**-1.8**
	0.1nm,0.5s,baz=7.9,slow=6.7,SNR=1.8						
	0.1nm,0.5s						
ARCES	**ARCESS Array B**	**65.32**	**339**	P	**P**	**07 17 45.9**	**-0.2**
	1.1nm,0.6s,baz=51,slow=9.6,SNR=6.1						
	1.1nm,0.6s						
FINES	**FINESS Array B**	**69.46**	**331**	P	**P**	**07 18 11.2**	**-0.7**
	1.2nm,0.4s,baz=73,slow=5.8,SNR=16						
	1.2nm,0.4s						
AKASG	**Malin Array Be**	**73.99**	**321**	P	**P**	**07 18 37.8**	**-0.9**
	0.2nm,0.3s,baz=50,slow=6.3,SNR=1.4						
	0.2nm,0.3s						
HFS	**Hagfors**	**75.03**	**334**	P	**P**	**07 18 43.5**	**-1.0**
	0.7nm,0.3s,baz=40,slow=2.5,SNR=4.5						
	0.7nm,0.3s						
NOA	**NORSAR Array B**	**75.27**	**336**	P	**P**	**07 18 44.9**	**-0.9**
	0.8nm,0.7s,baz=50,slow=8.2,SNR=1.4						
	0.8nm,0.7s						
BRTR	**Keskin Array B**	**77.53**	**310**	P	**P**	**07 18 58.3**	**-0.6**
	1.0nm,0.7s,baz=66,slow=7.3,SNR=4.8						
	1.0nm,0.7s						

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*MOS **04** 07:41:59.2±1.0, 38.˚96N×142.˚52E, h36km, mb4.6/16, Error ellipse: s-maj=9.5km s-min=5.6km az=94.5*

*IDC **04** 07:42:01.8±1.7, 38.˚91N×142.˚47E, h43km±16km, mb4.0/18, mbtmp4.3/24, ML3.8/6, MS3.1/8, Error ellipse: s-maj=16.1km s-min=10.4km az=118.0*

*JMA **04** 07:42:01.4±0.1, 39.˚0N±0.˚3×142.˚5E±0.˚6, h41km±1km, MD4.4/40, MV4.7/40, E OFF MIYAGI PREF*

JMA Felt II J1 at E OFF MIYAGI PREF .

*NIED **04** 07:42:01.4, 38.˚95N×142.˚52E, h41km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.18; $M_{\theta\theta}$-2.10; $M_{\phi\phi}$-0.08; $M_{r\theta}$-0.64; $M_{\theta\phi}$-1.08; $M_{\phi r}$-1.41; Fault plane solution: $M_0$2.86000×10^{15} NP1: ϕ_s225.00000°, δ62.00000°, λ66.00000°. NP2: ϕ_s88.00000°, δ36.00000°, λ127.00000°.*

*NEIC **04** 07:42:02.7±1.2, 38.˚90N±0.˚07×142.˚5E±0.˚1, h44km±10km, mb4.6/45 Error ellipse: s-maj=13.9km s-min=9.0km az=115.0*

ISC 04 07:42:00.4±0.8**, 38.˚91N**±0.˚04×**142.˚68E**±0.˚05**, h35**km±4km**, n187,** σ1.˚**79**/177**, mb4.5**/56**, MS3.7**/4**, 8C-21D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.81**	**283**	⥥P	**Pn**	**07 42 14.8**	**-0.5**
OFUJ				⥥S	**Sn**	**07 42 24.1**	**-2.0**
OFUJ	**Ofunato**	**0.81**	**283**	A	A	07 42 14.8	
	comp=E,14nm,1.0s,comp=N,50nm,0.5s						
MIYJ	**Miyakonagasawa**	**0.94**	**315**	⥥*i*P	**Pn**	**07 42 16.7**	**-0.5**
MIYJ				⥥S	**Sn**	**07 42 27.6**	**-1.9**
MIYJ	**Miyakonagasawa**	**0.94**	**315**	A	A	07 42 16.7	
	comp=E,17nm,0.3s,comp=N,13nm,0.2s						
JKMT	**Kesennumamotoy**	**0.95**	**264**	*i* P	**Pn**	**07 42 16.8**	**-0.4**
JKMT				S	**Sn**	**07 42 27.5**	**-2.0**
JKMT	**Kesennumamotoy**	**0.95**	**264**	A	A	07 42 16.8	
	comp=E,17nm,0.5s,comp=N,10.0nm,1.7s						
JIO	**Ouri**	**1.14**	**247**	*i* P	**Pn**	**07 42 19.6**	**-0.2**
JIO				S	**Sn**	**07 42 32.5**	**-1.7**
JIO	**Ouri**	**1.14**	**247**	A	A	07 42 19.6	
	comp=E,8.0nm,0.7s,comp=N,8.0nm,0.4s						
JMK	**Ichinoseki**	**1.14**	**273**	⥥*i*P	**Pn**	**07 42 19.6**	**-0.2**
JMK				⥥S	**Sn**	**07 42 32.6**	**-1.6**
JMK	**Ichinoseki**	**1.14**	**273**	A	A	07 42 19.6	
	comp=E,14nm,0.3s,comp=N,36nm,0.3s						
JTH	**Tanohata**	**1.21**	**329**	*i* P	**Pn**	**07 42 20.6**	**-0.1**
JTH	**Tanohata**	**1.21**	**329**	A	A	07 42 20.6	
	comp=E,5.0nm,1.2s,comp=N,3.0nm,0.8s						
JOM	**Ohasama**	**1.22**	**298**	⥥*i*P	**Pn**	**07 42 20.7**	**-0.2**
JOM				⥥S	**Sn**	**07 42 34.7**	**-1.5**
JOM	**Ohasama**	**1.22**	**298**	A	A	07 42 20.7	
	comp=E,26nm,0.3s,comp=N,47nm,0.4s						
JOFO	**Osakifurukawao**	**1.42**	**258**	A	A	07 42 23.7	
	comp=E,35nm,1.9s,comp=N,26nm,0.5s						
JKEN	**Kujiedanarisaw**	**1.50**	**330**	A	A	07 42 25.1	
	comp=E,15nm,0.5s,comp=N,14nm,1.4s						
JKZ	**Kuzumaki**	**1.50**	**316**	⥥*i*P	**Pn**	**07 42 25.1**	**+0.3**
JKZ				⥥*e*S	**Sn**	**07 42 42.6**	**-0.6**
JKZ	**Kuzumaki**	**1.50**	**316**	A	A	07 42 25.1	
	comp=E,8.0nm,0.5s,comp=N,8.0nm,0.5s						
JSZI	**Iwateshizukuis**	**1.58**	**302**	A	A	07 42 25.8	
	comp=E,14nm,1.0s,comp=N,15nm,1.0s						
JRG	**Rokugo**	**1.66**	**288**	⥥*i*P	**Pn**	**07 42 27.1**	**+0.1**
JRG				⥥*e*S	**Sn**	**07 42 47.1**	**-0.1**
JRG	**Rokugo**	**1.66**	**288**	A	A	07 42 27.1	
	comp=E,9.0nm,0.3s,comp=N,8.0nm,0.8s						
JOU	**Okura**	**1.67**	**252**	⥥*i*P	**Pn**	**07 42 27.4**	**+0.2**
JOU				⥥*e*S	**Sn**	**07 42 46.5**	**-0.9**
JOU	**Okura**	**1.67**	**252**	A	A	07 42 27.4	
	comp=E,7.0nm,1.3s,comp=N,7.0nm,0.8s						
JANG	**Nango**	**1.72**	**329**	⥥*i*P	**Pn**	**07 42 27.6**	**-0.2**
JANG				⥥*e*S	**Sn**	**07 42 47.1**	**-1.4**
JANG	**Nango**	**1.72**	**329**	A	A	07 42 27.6	
	comp=E,4.0nm,0.7s,comp=N,5.0nm,0.8s						
JYK	**Kaneyama**	**1.81**	**271**	⥥*i*P	**Pn**	**07 42 29.3**	**+0.2**
JYK	**Kaneyama**	**1.81**	**271**	A	A	07 42 29.3	
	comp=E,4.0nm,1.7s,comp=N,4.0nm,2.8s						
JMM	**Marumori**	**1.81**	**235**		**Pn**	**07 42 29.2**	**+0.1**
JMM	**Marumori**	**1.81**	**235**	⥥*i*P	**Pn**	**07 42 29.2**	**+0.1**
JMST	**Minamisoumatoc**	**1.84**	**231**	A	A	07 42 30.6	
	comp=E,5.0nm,2.0s,comp=N,6.0nm,2.6s						
JYW	**Yuwa**	**2.02**	**289**	A	A	07 42 32.2	
	comp=E,21nm,0.6s,comp=N,17nm,0.6s						
JAH	**Hinai**	**2.03**	**310**	A	A	07 42 32.5	
	comp=E,4.0nm,1.7s,comp=N,4.0nm,0.7s						
JYYZ	**Yamagatayuza**	**2.15**	**274**	A	A	07 42 34.1	
	comp=E,12nm,2.4s,comp=N,14nm,1.0s						
JYS	**Shirataka**	**2.16**	**252**	A	A	07 42 34.6	
	comp=E,5.0nm,2.9s,comp=N,4.0nm,1.1s						
JYAR	**Yonezawaarcadi**	**2.23**	**244**	A	A	07 42 35.7	
	comp=E,6.0nm,1.0s,comp=N,7.0nm,2.5s						
JTM	**Tenmabayashi**	**2.25**	**327**		**Pn**	**07 42 34.9**	**-0.2**
ONAJ	**Iwakimizuishiy**	**2.34**	**220**	A	A	07 42 38.0	
	comp=E,7.0nm,0.3s,comp=N,4.0nm,2.2s						
JYA	**Atsumi**	**2.34**	**263**	A	A	07 42 37.0	
	comp=E,8.0nm,1.0s,comp=N,6.0nm,1.2s						
JNTW	**Noshirotokiwa**	**2.37**	**306**	A	A	07 42 37.4	
	comp=E,16nm,1.5s,comp=N,20nm,2.7s						
JAHD	**Aomorihigashid**	**2.57**	**337**	A	A	07 42 40.7	
	comp=E,7.0nm,2.3s,comp=N,5.0nm,1.2s						
JIW	**Iwasaki**	**2.66**	**310**	A	A	07 42 41.5	
	comp=E,8.0nm,1.6s,comp=N,8.0nm,1.5s						
JSB	**Shiboa**	**2.92**	**229**	A	A	07 42 46.0	
	comp=E,5.0nm,1.1s,comp=N,5.0nm,1.2s						
JOG3	**Oga3**	**2.96**	**291**	A	A	07 42 38.4	
	comp=E,5.0nm,1.0s,comp=N,10.0nm,2.4s						
ERM	**Erimo**	**3.12**	**7**		**Pn**	**07 42 47.6**	**+0.5**
ERM	**Erimo**	**3.12**	**7**	*ce*P	**Pn**	**07 42 47.1**	**0.0**
ERM				pmax	pmax		
	comp=Z,26nm,0.5s						
MJAR	**Matsushiro Arr**	**4.26**	**238**	P	**Pn**	**07 43 02.3**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=45,slow=13,SNR=8.2						
MJAR				S	**Sn**	**07 43 50.4**	**-0.9**
	comp=Z,14nm,0.5s,baz=231,slow=48,SNR=1.2						
MJAR				LR	LR	07 44 55.4	
	comp=Z,244nm,20.5s,baz=54,slow=42						
	comp=Z,62nm,0.5s						
MAJO	**Matsushiro**	**4.26**	**238**		**Pn**	**07 43 05.1**	**+2.3**
MAJO	**Matsushiro**	**4.26**	**238**	*i* P	**Pn**	**07 43 04.7**	**+1.9**
MJB9	**Matsu-Tunnel**	**4.26**	**238**		**Pn**	**07 43 05.3**	**+2.5**
JKA	**Kamikawa-asahi**	**5.20**	**359**		**Pn**	**07 43 16.4**	**+0.8**
ASAJ	**Asahikawa**	**5.20**	**359**	P	**Pn**	**07 43 16.2**	**+0.5**
	comp=Z,9.7nm,0.3s,baz=204,slow=13,SNR=27						
ASAJ				S	**Sn**	**07 44 15.8**	**+1.3**
	comp=Z,24nm,0.4s,baz=82,slow=33,SNR=1.6						
	comp=Z,24nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.65**	**24**	*d i*P	**Pn**	**07 43 21.8**	**0.0**
YUK				*i* S	**Sn**	**07 44 20.5**	**-4.9**
YUK				pmax	pmax		
	comp=Z,167nm,0.2s						
YUK				pmax	pmax		
	comp=E,48nm,0.1s						
YUK				smax	smax		
	comp=N,913nm,0.4s						
YUK				smax	smax		
	comp=E,670nm,0.3s						
SHO	**Shikotan**	**5.86**	**31**	*e*P	**Pn**	**07 43 24.1**	**-0.6**
SHO				*e*S	**Sn**	**07 44 24.2**	**-6.3**
SHO				pmax	pmax		
	comp=N,9.0nm,0.2s						
SHO				pmax	pmax		
	comp=Z,23nm,0.2s						
SHO				smax	smax		
	comp=E,123nm,0.3s						
SHO				smax	smax		
	comp=N,338nm,0.4s						
JHJ2	**Mitsune**	**6.23**	**203**	Pn	**Pn**	**07 43 30.1**	**+0.2**
JHJ	**Hachijo jima 2**	**6.24**	**203**	P	**Pn**	**07 43 29.2**	**-0.7**
	comp=N,24nm,0.3s,baz=339,slow=23,SNR=13						
JHJ				S	**Sn**	**07 44 36.5**	**-3.5**
	comp=N,153nm,0.3s,baz=74,slow=23,SNR=11						
	comp=N,87nm,0.3s						
KUR	**Kuril'sk**	**7.40**	**30**	⥥*i*P	**Pn**	**07 43 47.0**	**+1.1**
KUR				*e*S	**Sn**	**07 45 04.3**	**-4.3**
KUR				pmax	pmax		
	comp=Z,99nm,0.5s						
KUR				smax	smax		
	comp=E,148nm,0.8s						
KUR				smax	smax		
	comp=N,60nm,0.6s						
TEY	**Ternei**	**7.61**	**325**	⥣*e*P	**Pn**	**07 43 52.2**	**+3.5**
TEY				pmax	pmax		
	comp=Z,10.0nm,1.4s						
YSS	**Yuzh-Sakhalins**	**8.04**	**0**	*be*P	**Pn**	**07 43 55.6**	**+1.0**
YSS				*e*S	**Sn**	**07 45 25.8**	**+1.6**
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS				MLR	MLR		
	comp=Z,400nm,14.0s						
JMN	**Monobe**	**8.78**	**237**	Pn	**Pn**	**07 44 05.9**	**+0.9**
USA0B	**Ussuriysk Arra**	**9.60**	**307**	Pn	**Pn**	**07 44 19.0**	**+3.1**
USA0B	**Ussuriysk Arra**	**9.60**	**307**	*i* P	**Pn**	**07 44 16.3**	**+0.3**
USRK	**Ussuriysk Ar.**	**9.60**	**307**	Pn	**Pn**	**07 44 19.4**	**+3.5**
USRK	**Ussuriysk Ar.**	**9.60**	**307**	P	**Pn**	**07 44 19.5**	**+3.5**
USRK	**Ussuriysk Ar.**	**9.60**	**307**	P	**Pn**	**07 44 15.6**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=117,slow=15,SNR=8.5						
USRK				LR	LR	07 47 49.5	
	comp=Z,186nm,18.4s,baz=167,slow=37						
	comp=Z,7.6nm,0.8s						
JNU	**Nakatsue**	**11.16**	**242**	LR	LR	07 49 50.2	
	comp=Z,37nm,18.9s,baz=39,slow=42						
MDJ	**Mudanjiang**	**11.31**	**304**	Pn	**Pn**	**07 44 39.4**	**-0.1**
MDJ	**Mudanjiang**	**11.31**	**304**	P	**Pn**	**07 44 40.3**	**+0.9**
MDJ				pmax	pmax		
	comp=Z,13nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,110nm,4.5s						
KSRS	**Korea Array**	**11.71**	**267**	P	**Pn**	**07 44 43.6**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=80,slow=14,SNR=2.7						
KSRS				LR	LR	07 48 51.8	
	comp=Z,83nm,19.4s,baz=80,slow=35						
	comp=Z,0.6nm,0.3s						
JCJ	**Chichijima**	**11.79**	**182**	P	Pn	07 44 38.5	-7.6
	comp=Z,34nm,0.3s,baz=15,slow=23,SNR=14						
JCJ				S	Sn	07 46 41.6	-15
	comp=Z,79nm,0.8s,baz=224,slow=13,SNR=1.9						
TYV	**Tymovskoe**	**11.95**	**360**	*e*P	**Pn**	**07 44 47.8**	**-0.4**
TYV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TYV				pmax	pmax		
	comp=Z,100nm,4.0s						
KLR	**Kul'dur**	**12.95**	**326**	*i* P	**Pn**	**07 45 00.5**	**-1.4**
KLR	**Kul'dur**	**12.95**	**326**	P	**Pn**	**07 45 01.7**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=137,slow=13,SNR=7.5						
KLR				LR	LR	07 50 00.5	
	comp=Z,165nm,18.9s,baz=147,slow=37						
	comp=Z,2.7nm,0.7s						
HEH	**HeiHe**	**15.68**	**321**	*e*P	**Pn**	**07 45 35.2**	**-3.3**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PETK	**Petropavlovsk-**	**17.57**	**31**	LR	LR	07 53 21.2	
	comp=Z,37nm,18.5s,baz=245,slow=38						
ZEA	**Zeya**	**18.20**	**330**	*e*P	**P**	**07 46 09.6**	**-0.5**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.7s						
BJI	**Beijing**	**20.47**	**282**	P	**P**	**07 46 33.2**	**-1.8**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BJI				pmax	pmax		
	comp=Z,59nm,6.3s						
XLT	**XiLinHaoTe**	**20.52**	**293**	*e*P	**P**	**07 46 37.1**	**+1.4**
XLT				pP	pP	07 46 46.2	+1.7
XLT				sP	sP	07 46 55.9	+7.1
XLT				PP	**PnPn**	**07 46 59.1**	**+5.5**
XLT				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,100nm,4.3s						
NJ2	**Nanjing**	**20.54**	**258**	*e*P	**P**	**07 46 35.7**	**-0.1**
NJ2				pP	**pP**	**07 46 42.9**	**-1.9**
NJ2				sP	**sP**	**07 46 50.4**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MA2	**Magadan**	**21.32**	**11**	P	**P**	**07 46 44.7**	**+0.8**
MA2				IAmb	IAmb	07 47 20.2	
	comp=Z,56nm,1.4s						
MA2	**Magadan**	**21.32**	**11**	P	**P**	**07 46 44.7**	**+0.8**
MA2				pmax	pmax		
	comp=Z,56nm,1.4s						
MA2	**Magadan**	**21.32**	**11**	P	**P**	**07 46 45.3**	**+1.4**
	comp=Z,17nm,0.9s,baz=200,slow=12,SNR=4.7						
MA2				LR	LR	07 55 02.4	
	comp=Z,34nm,20.3s,baz=164,slow=37						
	comp=Z,17nm,0.9s						
HHC	**Hu-ho-hao-te**	**23.90**	**285**	*e*P	**P**	**07 47 09.4**	**-1.5**
HHC				sP	sP	07 47 24.9	+0.4
HHC				S	**S**	**07 51 29.8**	**+4.9**
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,96nm,5.1s						
HHC				LR	LR		
	comp=N,130nm,10.4s						
HHC				LR	LR		
	comp=E,210nm,9.3s						
HHC				LR	LR		
	comp=Z,230nm,14.1s						
YAK	**Yakutsk**	**24.49**	**345**	P	**P**	**07 47 15.5**	**-0.4**
YAK	**Yakutsk**	**24.49**	**345**	*c i*P	**P**	**07 47 15.6**	**-0.4**
YAK				*e**PP	**sP**	**07 47 28.3**	**-1.3**
YAK				*e*		07 47 48.4	
YAK				*e*		07 50 52.7	
YAK				*e*S	**S**	**07 51 33.1**	**-0.6**
YAK				*e*SS	**SnSn**	**07 52 19.8**	**+0.2**
YAK				*e*		07 58 16.3	
YAK				pmax	pmax		
	comp=Z,25nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,94nm,3.3s						
YAK				pmax	pmax		
	comp=E,85nm,4.6s						
YAK				smax	smax		
	comp=E,123nm,3.0s						
YAK				smax	smax		
	comp=N,121nm,2.8s						
SEY	**Seymchan**	**24.76**	**11**	*ce*P	**P**	**07 47 20.1**	**+1.6**
SEY				pmax	pmax		
	comp=Z,17nm,1.7s						
SEY	**Seymchan**	**24.76**	**11**	P	**P**	**07 47 19.8**	**+1.3**
	comp=Z,7.9nm,0.7s,baz=211,slow=9.6,SNR=28						
	comp=Z,7.9nm,0.7s						
BOD	**Bodaibo**	**26.52**	**325**	*e*P	**P**	**07 47 33.5**	**-1.0**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ULN	**Ulaanbaatar**	**27.19**	**301**	*i* P	**P**	**07 47 39.9**	**-0.9**
ULN				pmax	pmax		
	comp=Z,6.0nm,2.0s						
SONM	**Songino Array**	**27.63**	**301**	P	**P**	**07 47 44.0**	**-0.7**
SONM	**Songino Array**	**27.63**	**301**	P	**P**	**07 47 44.0**	**-0.7**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**27.63**	**301**	P	**P**	**07 47 43.8**	**-0.9**
	comp=Z,1.7nm,0.5s,baz=96,slow=8.5,SNR=8.3						
	comp=Z,1.7nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.33**	**125**	T	T	08 18 23.2	
	baz=317,slow=75,SNR=705						
H11N1	**WAKE ISLAND Hy**	**28.34**	**126**	T	T	08 18 20.8	
	baz=317,slow=75,SNR=728						
H11N3	**WAKE ISLAND Hy**	**28.35**	**125**	T	T	08 18 21.4	
	baz=317,slow=75,SNR=681						
H11S1	**WAKE ISLAND Hy**	**29.12**	**127**	T	T	08 19 17.3	
	baz=318,slow=76,SNR=46						
H11S3	**WAKE ISLAND Hy**	**29.12**	**128**	T	T	08 19 17.9	
	baz=318,slow=76,SNR=87						
H11S2	**WAKE ISLAND Hy**	**29.14**	**127**	T	T	08 19 19.1	
	baz=318,slow=76,SNR=58						
ZAK	**Zakamensk**	**29.94**	**306**	*e*P	**P**	**07 48 03.6**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
LZH	**Lanzhou**	**30.79**	**277**	*e*P	**P**	**07 48 13.6**	**+0.8**
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
PZH	**PanZhiHua**	**36.31**	**263**	P	**P**	**07 49 01.3**	**+0.3**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
GOMU	**GeErMu**	**37.70**	**281**	P	**P**	**07 49 11.9**	**-1.1**
GOMU				pP	pP	07 49 13.1	-10
GOMU				sP	sP	07 49 17.1	-10
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
DGZ	**Jazzator, Alta**	**40.14**	**304**	*i* P	**P**	**07 49 33.0**	**+0.1**
DGZ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WMQ	**Urumqi**	**40.92**	**295**	*e*P	**P**	**07 49 38.9**	**-0.5**
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
ZAA0	**Zalesovo Array**	**41.42**	**311**	P	**P**	**07 49 42.2**	**-1.0**
ZALV	**Zalesovo Beam**	**41.42**	**311**	P	**P**	**07 49 42.4**	**-0.8**
ZALV	**Zalesovo Beam**	**41.42**	**311**	P	**P**	**07 49 42.8**	**-0.4**
	comp=Z,3.3nm,0.6s,baz=86,slow=8.4,SNR=16						
	comp=Z,3.3nm,0.6s						
G18K	**Tagagawik**	**42.52**	**31**	P	**P**	**07 49 54.2**	**+2.0**
D19K	**Kuna River**	**43.22**	**28**	P	**P**	**07 49 59.4**	**+1.7**
D19K				IAmb	IAmb	07 50 03.4	
	comp=Z,20nm,1.2s						
E19K	**Redstone River**	**43.35**	**29**	P	**P**	**07 50 00.7**	**+1.9**
E19K				IAmb	IAmb	07 50 02.2	
	comp=Z,12nm,1.1s						
SVW2	**Sparrevohn**	**43.43**	**38**	P	**P**	**07 50 02.4**	**+2.9**
SVW2				IAmb	IAmb	07 50 04.6	
	comp=Z,18nm,1.2s						
J19K	**Poorman**	**43.57**	**34**	P	**P**	**07 50 02.6**	**+2.0**
J19K				IAmb	IAmb	07 50 04.2	
	comp=Z,9.7nm,1.1s						
MK31	**Makanchi Array**	**44.00**	**301**	P	**P**	**07 50 04.0**	**-0.3**
MK31	**Makanchi Array**	**44.00**	**301**	*ce*P	**P**	**07 50 03.3**	**-1.0**
MKAR	**Makanchi Array**	**44.00**	**301**	P	**P**	**07 50 03.8**	**-0.5**
MKAR	**Makanchi Array**	**44.00**	**301**	P	**P**	**07 50 03.8**	**-0.5**
MKAR	**Makanchi Array**	**44.00**	**301**	P	**P**	**07 50 03.5**	**-0.8**
	comp=Z,6.2nm,0.8s,baz=82,slow=12,SNR=20						
	comp=Z,6.2nm,0.8s						
MAKZ	**Makanchi**	**44.20**	**301**	P	**P**	**07 50 05.7**	**-0.3**
MAKZ	**Makanchi**	**44.20**	**301**	P	**P**	**07 50 05.7**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
IMAR	**Indian Mountai**	**44.53**	**32**	P	**P**	**07 50 10.3**	**+2.0**
E21K	**Killik River**	**44.72**	**28**	P	**P**	**07 50 11.7**	**+2.0**
E21K				IAmb	IAmb	07 50 12.8	
	comp=Z,5.6nm,0.8s						
CAST	**Castle Rocks**	**45.12**	**35**	P	**P**	**07 50 15.4**	**+2.4**
CAST				IAmb	IAmb	07 50 28.5	
	comp=Z,10nm,1.3s						
KURK	**Kurchatov**	**45.59**	**307**	P	**P**	**07 50 16.1**	**-0.7**
KURK				IAmb	IAmb	07 50 20.3	
	comp=Z,8.0nm,0.8s						
KURK	**Kurchatov**	**45.59**	**307**	*ce*P	**P**	**07 50 16.3**	**-0.5**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KTH	**Kantishna Hill**	**45.64**	**35**	P	**P**	**07 50 19.3**	**+2.1**
KURBB	**Kurchatov Arra**	**45.66**	**307**	P	**P**	**07 50 16.6**	**-0.8**
	comp=Z,7.6nm,0.5s,baz=80,slow=8.2,SNR=70						
	comp=Z,7.6nm,0.5s						
SUA	**Susitna One**	**45.76**	**38**	P	**P**	**07 50 19.7**	**+1.4**
C23K	**Itkillik River**	**46.08**	**26**	P	**P**	**07 50 22.6**	**+2.1**
TOLK	**Toolik Lake Re**	**46.35**	**28**	P	**P**	**07 50 24.8**	**+2.1**
TOLK				IAmb	IAmb	07 50 26.5	
	comp=Z,7.1nm,1.1s						
GHO	**Glory Hole Cre**	**46.62**	**37**	P	**P**	**07 50 26.4**	**+1.5**
E24K	**Your Creek**	**46.72**	**29**	P	**P**	**07 50 27.7**	**+2.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
E24K				IAmb	IAmb	07 50 29.2	
	comp=Z,4.5nm,0.8s						
MDM	Murphy Dome	46.80	33	P	P	07 50 28.2	+1.9
MDM				IAmb	IAmb	07 51 05.2	
	comp=Z,16nm,1.4s						
SML	Sawmill	46.89	37	P	P	07 50 29.2	+2.1
H24K	Noodor Dome	46.93	32	P	P	07 50 29.9	+2.6
H24K				IAmb	IAmb	07 50 30.9	
	comp=Z,6.2nm,1.1s						
CCB	Clear Creek Bu	46.99	33	P	P	07 50 30.1	+2.4
POKR	Poker Plat Res	47.13	33	P	P	07 50 31.2	+2.4
SCM	Sheep Creek Mo	47.37	37	P	P	07 50 32.9	+2.1
SCM	Sheep Creek Mo	47.37	37	P	P	07 50 32.9	+2.1
SCM				pmax	pmax		
	comp=Z,44nm,1.4s						
IL31		47.38	33	P	P	07 50 32.4	+1.8
IL31				IAmb	IAmb	07 50 33.1	
	comp=Z,6.8nm,0.8s						
ILAR	Eielson Array	47.38	33	P	P	07 50 32.5	+1.8
ILAR	Eielson Array	47.38	33	P	P	07 50 32.2	+1.5
	comp=Z,4.6nm,0.7s,baz=265,slow=6.1,SNR=62						
ILAR				PcP	PcP	07 52 00.5	-0.4
	comp=Z,0.5nm,0.6s,baz=267,slow=3.5,SNR=2.1						
	comp=Z,4.6nm,0.7s						
D25K	Kavik River	47.53	27	P	P	07 50 33.6	+1.8
D25K				IAmb	IAmb	07 50 35.0	
	comp=Z,7.1nm,0.7s						
JIRN	Jiri	47.86	274	eP	P	07 50 36.8	+1.4
	comp=Z,12nm,0.7s						
RAMN	Ramite	47.88	273	eP	P	07 50 37.7	+2.3
	comp=Z,6.7nm,0.4s						
GUN	Gumba	47.98	275	eP	P	07 50 37.5	+1.2
	comp=Z,12nm,0.6s						
KLU	Klutina	48.07	38	P	P	07 50 38.3	+2.1
DANN	Dangsing	49.42	276	eP	P	07 50 47.6	+0.3
	comp=Z,32nm,0.7s						
E28M	Babbage River	50.02	28	P	P	07 50 53.1	+2.1
E28M				IAmb	IAmb	07 50 54.5	
	comp=Z,4.9nm,1.1s						
BVAR	Borovoye Array	50.07	311	P	P	07 50 51.1	-0.4
	comp=Z,1.9nm,0.5s,baz=76,slow=7.8,SNR=7.1						
	comp=Z,1.9nm,0.5s						
BRVK	Borovoye	50.12	311	iP	P	07 50 50.8	-1.1
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PYUN	Piuthan	50.14	276	eP	P	07 50 52.3	-0.3
	comp=Z,28nm,0.9s						
G29M	Pine Creek	50.80	30	P	P	07 51 00.3	+3.4
G29M				IAmb	IAmb	07 51 01.4	
	comp=Z,11nm,1.1s						
EPYK	Eagle Plains	51.40	31	P	P	07 51 03.5	+2.1
I30M	Mount Dempster	51.75	32	P	P	07 51 06.0	+1.8
G31M	Satah River	52.26	30	P	P	07 51 09.7	+2.0
G31M				IAmb	IAmb	07 51 10.1	
	comp=Z,5.5nm,0.6s						
INK	Inuvik	52.26	28	P	P	07 51 09.4	+1.8
INK				IAmb	IAmb	07 51 10.4	
	comp=Z,4.6nm,1.1s						
INK	Inuvik	52.26	28	P	P	07 51 09.5	+1.8
INK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
F31M	Tsiigehtchic	52.35	29	P	P	07 51 09.9	+1.5
F31M				IAmb	IAmb	07 51 40.9	
	comp=Z,12nm,1.4s						
M31M	Drury Creek, Y	53.30	35	P	P	07 51 17.9	+2.3
M31M				IAmb	IAmb	07 51 18.9	
	comp=Z,7.8nm,1.1s						
A36M	Sachs Harbour	54.15	23	P	P	07 51 23.6	+2.1
A36M				IAmb	IAmb	07 51 25.2	
	comp=Z,6.8nm,1.0s						
C36M	Paulatuk	55.31	26	P	P	07 51 31.8	+1.8
C36M				IAmb	IAmb	07 51 32.4	
	comp=Z,3.9nm,0.8s						
ARU	Arti	55.63	318c	iP	P	07 51 32.5	0.0
ARU				S	S	07 59 16.8	+1.0
ARU				SS	SS	08 03 00.2	-0.4
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ABKAR	Akbulak array	57.51	310	P	P	07 51 45.4	-0.5
ABKAR	Akbulak array	57.51	310	P	P	07 51 45.6	-0.4
ABKAR				IAmb	IAmb	07 52 05.0	
	comp=Z,3.4nm,0.7s						
WRA	Warramunga Arr	59.06	189	P	P	07 51 56.7	-0.3
	comp=Z,3.8nm,0.5s,baz=6.1,slow=7.0,SNR=7.9						
	comp=Z,3.8nm,0.5s						
YKA	Yellowknife Ar	61.69	31	iP	P	07 52 15.8	+1.3
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	61.69	31	P	P	07 52 15.3	+0.8
	comp=Z,0.9nm,0.6s,baz=299,slow=6.5,SNR=14						
	comp=Z,0.9nm,0.6s						
ASAR	Alice Springs	62.79	189	P	P	07 52 22.6	+0.3
	comp=Z,2.2nm,0.8s,baz=15,slow=9.5,SNR=2.5						
	comp=Z,2.2nm,0.8s						
GEYT	Alibeck	63.81	299	P	P	07 52 28.1	-1.0
	comp=Z,0.7nm,0.5s,baz=115,slow=8.4,SNR=1.6						
	comp=Z,0.7nm,0.5s						
FINES	FINESS Array B	67.62	332	P	P	07 52 52.7	-0.5
	comp=Z,1.8nm,0.7s,baz=45,slow=11,SNR=4.7						
	comp=Z,1.8nm,0.7s						
NACGM	Naroch	71.71	327	eP	P	07 53 22.1	+3.6
	comp=Z,25nm,0.8s,baz=47						
SOC	Sochi	72.39	312	eP	P	07 53 20.7	-2.1
SOC				ePPP	PPP	07 57 41.2	
SOC				eS	S	08 02 40.4	-3.5
SOC				eSS	SS	08 07 16.1	-5.7
SOC				MLR	MLR		
	comp=Z,65nm,16.0s						
BOZ	Bozeman (W)	72.70	45	P	P	07 53 26.4	+1.5
BOZ	Bozeman (W)	72.70	45	P	P	07 53 26.4	+1.5
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HFS	Hagfors	72.79	336	P	P	07 53 24.2	-0.7
	comp=Z,0.8nm,0.6s,baz=53,slow=6.0,SNR=1.2						
	comp=Z,0.8nm,0.6s						
NVAR	Mina Array Bea	73.07	54	P	P	07 53 28.5	+1.3
	comp=Z,1.5nm,0.8s,baz=292,slow=7.2,SNR=8.1						
	comp=Z,1.5nm,0.8s						
AKASG	Malin Array Be	73.42	323	P	P	07 53 28.8	0.0
	comp=Z,0.9nm,0.5s,baz=45,slow=6.1,SNR=7.6						
	comp=Z,0.9nm,0.5s						
R11B	Troy Canyon, C	74.83	53	P	P	07 53 39.4	+1.9
NWAO	Narrogin (SRO)	75.28	202	LR	LR	08 29 23.3	
	comp=Z,25nm,18.7s,baz=262,slow=38						
BW06	Boulder Array	75.64	46	P	P	07 53 43.2	+1.0
PD31	Pinedale Array	75.64	46	P	P	07 53 43.2	+1.1
PDAR	Pinedale Array	75.64	46	P	P	07 53 43.5	+1.3
	comp=Z,1.4nm,0.8s,baz=275,slow=1.5,SNR=15						
	comp=Z,1.4nm,0.8s						
CLL	Collm	79.96	331	eP	P	07 54 07.0	+1.3
CLL	Collm	79.96	331	eP	P	07 54 07.0	+1.3
ANMO	Albuquerque	82.62	51	iP	P	07 54 20.3	-0.1
TXAR	Lajitas Array	88.19	53	P	P	07 54 49.1	+1.0
	comp=Z,0.7nm,0.6s,baz=298,slow=3.8,SNR=14						
	comp=Z,0.7nm,0.6s						
SNAA	Sanae	142.83	197	PKhKP	PKPpre	08 01 24.7	
	comp=Z,1.4nm,0.5s,baz=108,slow=3.2,SNR=13						
LPAZ	La Paz	144.87	59	PKPbc	PKPab	08 01 33.9	-0.1
	comp=Z,1.0nm,0.5s,baz=359,slow=4.1,SNR=11						

WEL 04 07:42:09.7±0.8**, 35˚S**±10˚×**17˚9E**±1˚1**, h247**km±15km**, M4.3**/28**, ML4.6**/25**, MLv4.3**/28**, Error ellipse: s-maj=0.0km s-min=0.0km az=65.1, confirmed, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	2.90	190	P	Pn	07 43 01.0	+0.3
WMGZ				S	S	07 43 42.6	+1.5
WSRZ	White Island S	2.97	210	S	S	07 43 44.2	+1.7
WIZ	White Island	2.97	210	P	Pn	07 43 01.2	-0.3
WIZ				S	S	07 43 43.2	+0.7
HAZ	Te Kaha	2.97	200	P	Pn	07 43 01.0	-0.5
HAZ				S	S	07 43 41.7	-0.8
PKGZ	Pakihiroa	3.02	195	P	Pn	07 43 02.0	-0.2
PKGZ				S	S	07 43 44.4	+0.7
PUZ	Puketiti	3.17	191	P	Pn	07 43 03.3	-0.4
PUZ				S	S	07 43 46.1	-0.5
RUGZ	Raukumara Rang	3.20	200	P	Pn	07 43 03.4	-0.7
KUZ	Kuaotunu	3.24	236	P	Pn	07 43 04.0	-0.5
TWGZ	Tauwhareparae	3.32	195	P	Pn	07 43 05.7	+0.2
TWGZ				S	S	07 43 51.4	+1.6
WHRZ	Whale Island	3.34	210	P	Pn	07 43 07.3	+1.7
WHRZ				S	S	07 43 49.3	-0.8
OPRZ	Ohinepanea	3.51	214	P	Pn	07 43 08.0	+0.5
MARZ	Manawahe	3.58	212	P	Pn	07 43 08.8	+0.5
CNGZ	Carnagh Statio	3.58	191	P	Pn	07 43 08.5	+0.2
MWZ	Matawai	3.58	200	P	Pn	07 43 08.1	-0.3
MWZ				S	S	07 43 55.1	+0.1
TKGZ	Te Karaka	3.60	195	P	Pn	07 43 08.3	-0.3
TKGZ				S	S	07 43 56.0	+0.6
URZ	Urewera	3.64	205	P	Pn	07 43 08.3	-0.8
URZ				S	S	07 43 55.9	-0.2
RAGZ	Rawiri	3.76	200	P	Pn	07 43 10.5	0.0
KMRZ	Kaimai	3.82	220	P	Pn	07 43 12.2	+1.1
TARZ	Mount Tarawera	3.86	211	P	Pn	07 43 13.9	+2.3
RIGZ	Rimuhau	3.88	195	P	Pn	07 43 11.2	-0.6
RRRZ	Republican Roa	3.94	210	P	Pn	07 43 14.2	+1.6
RTZ	Ruatahuna	4.01	204	P	Pn	07 43 12.7	-0.7
HSRZ	Hossack Road	4.04	213	P	Pn	07 43 15.7	+2.0
SNGZ	Shannon Statio	4.05	199	P	Pn	07 43 13.6	-0.3
SNGZ				S	S	07 44 05.2	+0.3
PRGZ	Paritu Road	4.06	193	P	Pn	07 43 13.2	-0.7
KNZ	Kokohu	4.20	195	P	Pn	07 43 14.5	-1.1
ALRZ	Allen Road	4.20	210	P	Pn	07 43 15.8	+0.2
RAHZ	Arahi	4.25	201	P	Pn	07 43 15.7	-0.5
RAHZ				S	S	07 44 08.7	-0.4
MTHZ	Maungataniwha	4.27	204	P	Pn	07 43 15.6	-0.8
MTHZ				S	S	07 44 09.2	-0.4
MHGZ	Mahia Peninsul	4.28	192	P	Pn	07 43 16.1	-0.4
WHHZ	Waihua	4.36	199	P	Pn	07 43 17.0	-0.5
WHHZ				S	S	07 44 12.0	+0.6
KUTZ	Kaahu Road	4.37	215	P	Pn	07 43 19.5	+1.9
TLZ	Tolley Road	4.39	219	P	Pn	07 43 19.1	+1.2
MRHZ	Matea Rd	4.40	208	P	Pn	07 43 18.2	+0.1
OUZ	Omahuta	4.49	265	P	Pn	07 43 16.3	-2.7
NMHZ	Naumai	4.50	203	P	Pn	07 43 18.7	-0.6
WATZ	Wairara	4.59	215	P	Pn	07 43 21.7	+1.4
ARHZ	Aropaoanui	4.60	200	P	Pn	07 43 19.5	-0.8
ARHZ				S	S	07 44 16.5	-0.1
RATZ	Rangitukua	4.70	213	P	Pn	07 43 22.8	+1.1
RITZ	Rihia Road	4.75	212	P	Pn	07 43 22.8	+0.5
KATZ	Kakaramea	4.83	213	P	Pn	07 43 23.8	+0.6
MCHZ	McNeill Hill	4.85	202	P	Pn	07 43 22.7	-0.8
KWHZ	Kaweka Forest	4.92	204	P	Pn	07 43 23.3	-1.1
NTVZ	North Tongarir	4.94	212	P	Pn	07 43 24.3	-0.3
TMVZ	Te Maari	4.94	212	P	Pn	07 43 23.8	-0.8
CKHZ	Cape Kidnapper	4.95	198	P	Pn	07 43 23.3	-1.3
ETVZ	East Tongariro	4.95	212	P	Pn	07 43 24.1	-0.7
WTVZ	West Tongariro	4.99	213	P	Pn	07 43 25.7	+0.5
NNVZ	North Ngauruho	4.99	212	P	Pn	07 43 25.4	+0.1
OTVZ	Oturere	4.99	212	P	Pn	07 43 24.5	-0.8
TWVZ	Taurewa	5.02	214	P	Pn	07 43 25.8	+0.3
SNVZ	South Ngauruho	5.02	212	P	Pn	07 43 24.8	-0.9
TUVZ	Tukino	5.08	211	P	Pn	07 43 25.8	-0.7
BHHZ	Black Hill Sta	5.11	207	P	Pn	07 43 25.1	-1.6
FWVZ	Far West T-bar	5.12	212	P	Pn	07 43 25.9	-1.0
MAVZ	Matarangi	5.12	212	P	Pn	07 43 27.1	0.0
KAHZ	Kahuranaki	5.12	199	P	Pn	07 43 22.3	-4.6
WHVZ	Whangaehu Hut	5.12	212	P	Pn	07 43 26.9	-0.1
KRHZ	Kereru	5.14	204	P	Pn	07 43 23.5	-3.5
TRVZ	Turoa	5.16	212	P	Pn	07 43 27.1	-0.3
GLKZ	Green Lake	6.24	25	S	S	07 44 36.1	-17

*IDC **04** 07:45:07.7±2.3, 0˚05S×125˚02E, h59km±20km, mb4.0/20, mbtmp4.3/22, ML4.4/2, MS3.5/13, Error ellipse: s-maj=19.8km s-min=8.1km az=77.0*
*DJA **04** 07:45:08.2±0.2, 0˚S±2˚×12˚5E±˚, h63km±3km, M4.6/30, mb4.8/30, mB5.0/8, MLv4.8/20, Mw4.5/30, Mw(mB)4.3/8*
*NEIC **04** 07:45:09.2±1.8, 0˚12S±0˚06×124˚97E±0˚06, h70km±10km, mb4.5/19, Error ellipse: s-maj=10.4km s-min=7.0km az=128.0*

ISC 04 07:45:07.4±0.4**, 0˚08S**±0˚05×**125˚02E**±0˚05**, h53**km**, n104,** σ1.50/100**, mb4.5**/37**, MS3.6**/11**, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMSI	Cibinong	1.23	302	P	Pn	07 45 27.3	-1.0
SANI	Sanana	2.18	154	P	Pn	07 45 40.8	-0.5
SANI	Sanana	2.18	154	P	Pn	07 45 40.6	-0.7
LUWI	Luwuk	2.44	247	Pn	Pn	07 45 47.2	+2.4
LUWI	Luwuk	2.44	247	P	Pn	07 45 46.5	+1.7
TNTI	Ternate	2.50	70		Pn	07 45 48.2	+2.6
TNTI	Ternate	2.50	70	P	Pn	07 45 48.9	+3.3
TNTI	Ternate	2.50	70	P	Pn	07 45 47.6	+2.0
LBMI	Labuha	2.54	103	P	Pn	07 45 47.3	+1.1
MRSI	Marisa	3.13	280	P	Pn	07 45 52.0	-2.3
NLAI	Namlea	3.76	146	P	Pn	07 46 03.5	+0.5
TOLI2	Tolitoli	4.40	286	Pn	Pn	07 46 12.3	+0.5
TOLI2	Tolitoli	4.40	286	P	Pn	07 46 12.2	+0.5
TTSI	Tana Toraja	5.97	240	P	Pn	07 46 34.4	+1.1
	119nm,0.6s,0.6nm						
SPSI	Sidrap Palu	6.51	234	P	Pn	07 46 41.4	+0.7
	110nm,0.9s,2μm0.5nm						
BNDI	Bandanaira	6.58	132	P	Pn	07 46 42.5	+0.9
	271nm,1.1s,1.4nm						
DAV	Davao City (W)	7.13	4	LR	LR	07 49 57.8	
	comp=Z,659nm,19.9s,baz=168,slow=41						
BKSI	Bulukumba	7.14	223	P	Pn	07 46 50.8	+1.5
	40nm,0.6s,546nm0.3nm						
KAPI	Kappang	7.19	227	Pn	Pn	07 46 51.6	+1.6
KAPI	Kappang	7.19	227	P	Pn	07 46 51.4	+1.4
KAPI	Kappang	7.19	227	P	Pn	07 46 51.0	+1.0
	6.5nm,0.3s,baz=65,slow=1.9,SNR=14						
KAPI				S	Sn	07 48 11.0	+0.7
	27nm,0.5s,baz=210,slow=22,SNR=5.0						
KAPI				LR	LR	07 50 11.6	
	comp=Z,409nm,20.2s,baz=76,slow=42						
	28nm,0.5s						
FAKI	Fak Fak	7.76	111		Pn	07 46 57.3	-0.5
FAKI	Fak Fak	7.76	111	P	Pn	07 46 57.3	-0.5
	30nm,1.1s,0.2nm						
MYLDM	Lahad Datu	8.35	309	Pn	Pn	07 47 07.8	+1.9
EDFI	Ende, Flores	9.23	201	P	Pn	07 47 18.7	+0.7
	14nm,0.7s,622nm						
BATI	Baumata	10.15	188	P	Pn	07 47 31.6	+1.0
	3.8nm,0.3s,baz=30,slow=4.4,SNR=1.7						
BATI				LR	LR	07 52 10.6	
	comp=Z,298nm,21.8s,baz=3.0,slow=42						
	12nm,0.4s						
KKM	Kota Kinabalu	10.69	305	Pn	Pn	07 47 42.4	+4.3
SBUM	Sibu	13.04	281	Pn	Pn	07 48 10.9	+0.8
BLJI	Banyuglugur	13.70	236	P	Pn	07 48 18.3	-0.8
	24nm,0.7s,3μm						
MTN	Manton Dam	14.05	155	Pn	Pn	07 48 23.3	-0.5
MTN	Manton Dam	14.05	155	P	Pn	07 48 24.2	+0.4
KDU	Kakadu	14.54	150	P	Pn	07 48 29.4	-0.9
KSM	Kuching	14.79	276	Pn	Pn	07 48 33.5	0.0
KNRA	Kununurra	15.93	167	Pn	Pn	07 48 48.2	-0.1
KNRA				IAmb	IAmb	07 48 55.2	
	comp=Z,25nm,0.9s						
KPJI	Karang Pucung	17.59	245	P	P	07 49 10.8	+1.4
	comp=Z,22nm,0.8s						
LEM	Lembang	18.61	249	LR	LR	07 57 09.5	
	comp=Z,402nm,21.5s,baz=305,slow=39						
CGJI	Cibinong	20.34	251	P	Pn	07 49 42.2	+0.2
	comp=Z,54nm,0.7s						
WB0	Warramunga Arr	21.61	155	P	P	07 49 51.6	-1.6
WB0				IAmb	IAmb	07 50 17.5	
	comp=Z,20nm,1.0s						
WRA	Warramunga Arr	21.75	156	P	P	07 49 52.8	-1.9
WRA	Warramunga Arr	21.75	156	P	P	07 49 54.0	-0.6
	comp=Z,3.2nm,0.4s,baz=339,slow=10,SNR=38						
WRA				S	S	07 53 50.5	-2.0
	comp=Z,5.4nm,1.1s,baz=331,slow=16,SNR=8.2						
	comp=Z,3.2nm,0.4s						
WB2	Warramunga Arr	21.75	156	P	P	07 49 54.2	-0.5
WB2				IAmb	IAmb	07 50 15.9	
	comp=Z,30nm,1.2s						
WR0	Warramunga Arr	21.84	155	P	P	07 49 54.9	-0.8
WR0				IAmb	IAmb	07 50 19.1	
	comp=Z,17nm,1.1s						
PSA00	Pilbara Seismi	21.95	193	P	P	07 49 56.5	-0.3
PSA00				IAmb	IAmb	07 50 37.4	
	comp=Z,37nm,1.5s						
COEN	Coen	22.65	128	P	P	07 50 04.3	-0.1
COEN				IAmb	IAmb	07 50 12.8	
	comp=Z,18nm,0.8s						
COEN	Coen	22.65	128	P	P	07 50 07.1	+2.7
YOJ	Yonaguni jima	24.48	356	P	P	07 50 23.6	+2.0
QIS	Mount Isa	24.85	146	P	P	07 50 26.5	+1.3
AS31	Alice Springs	24.98	160	P	P	07 50 27.6	+1.3
ASAR	Alice Springs	24.98	160	P	P	07 50 26.9	+0.6
ASAR	Alice Springs	24.98	160	P	P	07 50 27.0	+0.6
	comp=Z,4.2nm,0.7s,baz=339,slow=8.9,SNR=51						
ASAR				PcP	PcP	07 54 01.1	+0.5
	comp=Z,1.9nm,0.4s,baz=347,slow=2.0,SNR=13						
ASAR				S	S	07 54 47.6	+1.0
	comp=Z,2.3nm,1.1s,baz=347,slow=20,SNR=7.3						
	comp=Z,4.2nm,0.7s						
AS01	Alice Springs	24.99	160	P	P	07 50 29.2	+2.7
	comp=Z,16nm,0.9s						
WRKA	Warakurna	25.01	173	P	P	07 50 27.7	+1.1
JOW	Kunigami	26.94	6	LR	LR	08 00 40.2	
	comp=Z,284nm,21.8s,baz=64,slow=35						
FORT	Forrest	30.66	175	P	P	07 51 15.2	-1.8
INKA	Innaminka	31.37	153	P	P	07 51 26.5	+3.2
	comp=Z,22nm,0.7s						
CMAR	Chiang Mai Arr	31.56	307	P	P	07 51 25.5	+0.4
	comp=Z,1.1nm,0.3s,baz=123,slow=6.6,SNR=1.6						
CMAR				PcP	PcP	07 54 16.6	-0.3
	comp=Z,1.4nm,0.3s,baz=185,slow=2.2,SNR=5.8						
CMAR				LR	LR	08 06 34.3	
	comp=Z,33nm,18.4s,baz=110,slow=41						
	comp=Z,1.1nm,0.3s						
NJ2	Nanjing	32.49	350	eP	P	07 51 35.2	+2.2
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NWAO	Narrogin (SRO)	33.48	192	LR	LR	08 08 22.9	
	comp=Z,24nm,18.6s,baz=324,slow=42						
BBOO	Buckleboo	34.18	163	P	P	07 51 48.0	+0.3
BBOO				IAmb	IAmb	07 52 20.6	
	comp=Z,11nm,1.1s						
PZH	PanZhiHua	34.66	321	P	P	07 51 53.6	+1.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.5s						
STKA	Stephens Creek	35.30	155	P	P	07 51 59.1	+1.7
STKA				IAmb	IAmb	07 52 01.4	
	comp=Z,5.5nm,1.3s						
STKA	Stephens Creek	35.30	155	P	P	07 51 59.6	+2.1
STKA	Stephens Creek	35.30	155	P	P	07 51 58.0	+0.5
	comp=Z,6.0nm,0.5s,baz=328,slow=10.0,SNR=22						
	comp=Z,6.0nm,0.5s						
CMSA	Cobar Meteorol	36.91	150	P	P	07 52 14.2	+3.0
KSRS	Korea Array	37.45	4	P	P	07 52 15.2	-0.5
	comp=Z,1.4nm,0.5s,baz=172,slow=9.9,SNR=4.4						
	comp=Z,1.4nm,0.5s						
MJAR	Matsushiro Arr	38.44	17	P	P	07 52 23.6	-0.6
	comp=Z,1.2nm,0.5s,baz=196,slow=8.4,SNR=2.0						
	comp=Z,1.2nm,0.5s						
LZH	Lanzhou	41.02	334	eP	P	07 52 47.0	+1.2
LZH				pP	pwP	07 53 03.0	-0.3
LZH				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC	Hu-ho-hao-te	42.54	345	eP	P	07 53 00.5	+2.5
HHC				sP	sP	07 53 27.8	+11
HHC				PP	PcP	07 54 43.7	-6.1
HHC				S	S	07 59 16.5	-0.3
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,170nm,6.6s						
HHC				LR	LR		
	comp=N,350nm,14.1s						
HHC				LR	LR		
	comp=E,700nm,13.4s						
HHC				LR	LR		
	comp=Z,820nm,13.5s						
XLT	XiLinHaoTe	44.51	351	eP	P	07 53 15.4	+1.5
XLT				pP	sP	07 53 32.7	+0.1
XLT				sP	pwP	07 53 42.3	+11
XLT				PcP	PP	07 54 59.0	+0.4
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,75nm,3.8s						
USRK	Ussuriysk Ar.	44.53	7	P	P	07 53 15.8	+2.0
USRK	Ussuriysk Ar.	44.53	7	P	P	07 53 13.4	-0.4
	comp=Z,2.4nm,0.5s,baz=194,slow=6.6,SNR=8.0						
	comp=Z,2.4nm,0.5s						
KLR	Kul'dur	49.46	6	P	P	07 53 51.6	-0.6
	comp=Z,1.6nm,0.5s,baz=196,slow=7.4,SNR=8.3						
	comp=Z,1.6nm,0.5s						
HEH	HeiHe	50.19	2	eP	P	07 53 57.6	-0.1
HEH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SONM	Songino Array	50.40	344	P	P	07 53 58.5	-1.1
	comp=Z,1.6nm,0.8s,baz=156,slow=9.2,SNR=7.1						
	comp=Z,1.6nm,0.8s						
WMQ	Urumqi	54.93	328	eP	P	07 54 34.8	+1.7
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
WMQ				LR	LR		
	comp=N,340nm,12.9s						
WMQ				LR	LR		
	comp=E,470nm,13.7s						
WMQ				LR	LR		
	comp=Z,170nm,19.9s						
PETK	Petropavlovsk-	59.58	22	P	P	07 55 05.3	-0.3
	comp=Z,5.1nm,1.1s,baz=193,slow=6.1,SNR=1.5						
	comp=Z,5.1nm,1.1s						
RPZ	Rata Peaks	59.71	143	LR	LR	08 21 09.4	
	comp=Z,28nm,20.0s,baz=274,slow=36						
MK31	Makanchi Array	59.76	327	P	P	07 55 06.0	-1.0
MK31				IAmb	IAmb	07 55 07.7	
	comp=Z,2.4nm,0.8s						
MKAR	Makanchi Array	59.76	327	P	P	07 55 06.0	-1.0
MKAR	Makanchi Array	59.76	327	P	P	07 55 05.0	-1.9
	comp=Z,2.5nm,0.5s,baz=122,slow=9.1,SNR=21						
	comp=Z,2.5nm,0.5s						
ZAA0	Zalesovo Array	63.24	335	P	P	07 55 30.2	0.0
ZAA0				IAmb	IAmb	07 56 11.5	
	comp=Z,8.1nm,1.1s						
ZALV	Zalesovo Beam	63.24	335	P	P	07 55 28.9	-1.4
ZALV	Zalesovo Beam	63.24	335	P	P	07 55 28.0	-2.3
	comp=Z,1.7nm,0.7s,baz=129,slow=6.1,SNR=7.5						
	comp=Z,1.7nm,0.7s						
GAR	Garm	63.30	315	P	P	07 55 30.2	-1.0
KURBB	Kurchatov Arra	64.06	329	P	P	07 55 34.0	-1.7
	comp=Z,2.7nm,0.6s,baz=129,slow=6.2,SNR=28						
	comp=Z,2.7nm,0.6s						
KURK	Kurchatov	64.07	329	P	P	07 55 35.2	-0.6
KK31	Karatay Array	64.90	319	P	P	07 55 39.8	-1.6
KKAR	Karatay Array	64.90	319	P	P	07 55 40.3	-1.2
WSAR	Wadi Sarin	68.42	295	LR	LR	08 28 12.9	
	comp=Z,15nm,19.2s,baz=52,slow=38						
BVAR	Borovoye Array	69.61	328	P	P	07 56 09.8	-1.2
	comp=Z,2.3nm,0.6s,baz=128,slow=9.5,SNR=7.0						
	comp=Z,2.3nm,0.6s						
GEYT	Alibeck	71.98	310	P	P	07 56 26.5	+0.6
	comp=Z,1.6nm,0.6s,baz=96,slow=2.9,SNR=2.2						
	comp=Z,1.6nm,0.6s						
ABKAR	Akbulak array	74.04	322	P	P	07 56 36.8	-0.9
MAW	Mawson	79.61	200	P	P	07 57 09.3	+0.7
	comp=Z,1.9nm,0.8s,baz=60,slow=5.7,SNR=2.7						
	comp=Z,1.9nm,0.8s						
VNDA	Vanda	79.89	172	P	P	07 57 10.7	+0.6
	comp=Z,0.8nm,0.8s,baz=302,slow=6.3,SNR=2.4						
	comp=Z,0.8nm,0.8s						
KMBO	Kilima Mbogo	87.77	269	P	P	07 57 51.8	-0.1
	comp=Z,1.1nm,0.3s,baz=96,slow=19,SNR=5.7						
	comp=Z,1.1nm,0.3s						
ILAR	Eielson Array	89.26	25	P	P	07 57 56.0	-1.5
	comp=Z,0.6nm,1.1s,baz=242,slow=5.5,SNR=5.2						
	comp=Z,0.6nm,1.1s						
QSPA	South Pole Qui	89.85	180	LR	LR	08 41 24.1	
	comp=Z,18nm,18.0s,baz=30,slow=38						
ARCES	ARCESS Array B	93.41	340	P	P	07 58 16.4	-0.3
	comp=Z,1.5nm,0.7s,baz=72,slow=3.1,SNR=1.2						
	comp=Z,1.5nm,0.7s						
LSZ	Lusaka	96.57	255	LR	LR	08 37 39.1	
	comp=Z,52nm,21.8s,baz=134,slow=33						
LBTB	Lobatse	98.51	245	LR	LR	08 43 14.5	
	comp=Z,24nm,18.9s,baz=100,slow=35						
BOSA	Boshof	98.53	241	LR	LR	08 35 09.9	
	comp=Z,23nm,21.7s,baz=237,slow=30						
TORD	Torodi Ar. Bea	122.38	285	PKP	PKPdf	08 03 57.1	-0.7
	comp=Z,1.2nm,0.6s,baz=69,slow=2.2,SNR=9.9						
TXAR	Lajitas Array	125.25	53	PKP	PKiKP	08 04 03.9	+0.5
	comp=Z,0.3nm,0.8s,baz=255,slow=3.5,SNR=2.9						
CPUP	Villa Florida	153.64	175	PKPbc	PKPbc	08 05 00.8	-0.4
	comp=Z,1.3nm,0.8s,baz=207,slow=4.5,SNR=3.6						

*JMA **04** 07:54:12.7±0.1, 32˚2N±0˚4×132˚0E±0˚7, h21km±1km, MD4.2/40, MV4.1/40, HYUGANADA REGION*
JMA Felt II J1 at HYUGANADA REGION .
*NIED **04** 07:54:12.7, 32˚19N×131˚98E, h21km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.66; $M_{\theta\theta}$-1.47; $M_{\phi\phi}$0.81; $M_{r\theta}$2.22; $M_{\theta\phi}$-1.03; $M_{\phi r}$3.70;*

Fault plane solution: M₀4.61000×10[15] NP1:φs32.00000°, δ85.00000°, λ71.00000°. NP2:φs289.00000°, δ19.00000°, λ166.00000°.

*NEIC **04** 07:54:17.3±1.3, 32°.20N±0°.07×131°.63E±0°.08, h63km±3km, mb4.5/30 Error ellipse: s-maj=10.3km s-min=9.6km az=78.0*

*IDC **04** 07:54:18.5±1.2, 32°.20N×131°.66E, h79km±9km, mb3.8/20, mbtmp4.1/23, MS3.6/20, Error ellipse: s-maj=17.6km s-min=12.6km az=74.0*

ISC 04 07:54:13.0±0.7, **32°.19N**±0°.04×**131°.93E**±0°.04, **h30**km±4km, **n140**, σ1§**99**/109, **mb4.4**/35, **MS3.7**/19, **2C-13D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHC	Hyugahichiya	0.35	315	⇓iP	Pb	07 54 20.8	-0.5
JHHC				⇓S	Sb	07 54 26.6	-0.2
JHHC	Hyugahichiya	0.35	315	A	A	07 54 20.8	
	comp=E,16nm,1.3s,comp=N,17nm,0.9s						
JTSN	Tsuno	0.37	278	⇓iP	Pb	07 54 20.8	-0.7
JTSN				⇓S	Sb	07 54 27.0	-0.1
JTSN	Tsuno	0.37	278	A	A	07 54 20.8	
	comp=E,19nm,0.4s,comp=N,40nm,1.2s						
JKIT	Kitakata	0.59	317	⇓iP	Pb	07 54 24.8	-0.1
JKIT	Kitakata	0.59	317	A	A	07 54 24.8	
	comp=E,9.0nm,1.9s,comp=N,9.0nm,0.4s						
JSKE	Saikikamae	0.60	357	⇓iP	Pb	07 54 24.6	-0.5
JSKE	Saikikamae	0.60	357	A	A	07 54 24.6	
	comp=E,19nm,1.0s,comp=N,7.0nm,1.8s						
JNKG	Nichinankitago	0.71	222	A	A	07 54 26.6	
	comp=E,20nm,1.0s,comp=N,26nm,0.6s						
JTZ	Takazaki	0.78	248	⇓iP	Pb	07 54 27.8	-0.2
JTZ				⇓S	Sn	07 54 39.2	+0.7
JTZ	Takazaki	0.78	248	A	A	07 54 27.8	
	comp=E,25nm,2.1s,comp=N,35nm,1.1s						
JNAR	Kushima--Naru	0.87	220	i P	Pn	07 54 30.1	+0.8
JNAR	Kushima--Naru	0.87	220	A	A	07 54 30.1	
	comp=E,37nm,2.8s,comp=N,37nm,1.2s						
JUS	Usuki	0.88	350	⇓iP	Pn	07 54 29.6	+0.1
JUS				⇓S	Sb	07 54 42.0	+0.7
JUS	Usuki	0.88	350	A	A	07 54 29.6	
	comp=E,20nm,1.5s,comp=N,10.0nm,1.1s						
JTO	Tosashimizu	0.99	48	⇓iP	Pn	07 54 29.8	-1.1
JTO	Tosashimizu	0.99	48	A	A	07 54 29.8	
	comp=E,7.0nm,1.0s,comp=N,6.0nm,4.4s						
JIU3	Izumi3	1.01	291	⇓P	Pn	07 54 31.9	+0.7
JIU3	Izumi3	1.01	291	A	A	07 54 31.9	
	comp=E,36nm,1.2s,comp=N,15nm,1.1s						
JZO	Okuchi	1.13	268	A	A	07 54 33.9	
	comp=E,14nm,1.8s,comp=N,13nm,1.0s						
UWA2	Uwa jima 2	1.17	30	P	Pn	07 54 33.1	-0.4
UWA2	Uwa jima 2	1.17	30	A	A	07 54 33.1	
	comp=E,4.0nm,2.9s,comp=N,4.0nm,2.5s						
JNU	Nakatsue	1.28	316	Pn	Pb	07 54 37.0	+0.3
JNU	Nakatsue	1.28	316	A	A	07 54 36.1	
	comp=E,10.0nm,1.5s,comp=N,11nm,1.8s						
JNU	Nakatsue	1.28	316	P	Pb	07 54 37.2	+0.6
	comp=N,3μm,0.8s,baz=128,slow=7.8,SNR=1142						
JNU				S	Sb	07 54 55.0	+2.3
	comp=N,3μm,0.7s,baz=227,slow=17,SNR=20						
JTSR	Tashiro 2	1.34	220	A	A	07 54 36.8	
	comp=E,12nm,0.5s,comp=N,12nm,5.7s						
JTA	Tamana	1.41	303	A	A	07 54 38.1	
	comp=E,16nm,3.2s,comp=N,6.0nm,1.1s						
JSU	Suzuyama	1.43	242	A	A	07 54 38.4	
	comp=E,4.0nm,2.0s,comp=N,4.0nm,1.7s						
JNA	Nagahama	1.44	18	P	Pn	07 54 37.5	+0.4
JNA	Nagahama	1.44	18	A	A	07 54 37.5	
	comp=E,4.0nm,4.6s,comp=N,3.0nm,9.1s						
JKU	Kubokawa	1.47	40	A	A	07 54 38.0	
	comp=E,5.0nm,4.5s,comp=N,3.0nm,7.6s						
JKI	Kunimi	1.47	348	A	A	07 54 38.6	
	comp=E,13nm,2.4s,comp=N,14nm,2.7s						
JHD	Hondo	1.54	281	A	A	07 54 40.2	
	comp=E,14nm,1.1s,comp=N,10.0nm,3.5s						
JTN	Tanegashima 3	1.74	208	A	A	07 54 42.6	
	comp=E,6.0nm,2.1s,comp=N,6.0nm,2.0s						
NGSJ	Nagasakinomoza	1.86	284	A	A	07 54 44.8	
	comp=Z,4.0nm,1.6s						
JUR	Ureshino	1.90	299	A	A	07 54 45.4	
	comp=E,9.0nm,1.4s,comp=N,4.0nm,1.8s						
JHM	Kurahashi	2.00	14	A	A	07 54 46.2	
	comp=E,5.0nm,1.1s,comp=N,2.0nm,1.5s						
JTY	Toyota	2.19	341	A	A	07 54 49.2	
	comp=E,3.0nm,1.5s,comp=N,3.0nm,2.0s						
JMN	Monobe	2.24	46	Pn	Pb	07 54 55.4	+2.6
JMN	Monobe	2.24	46	A	A	07 54 49.3	
	comp=E,2.0nm,1.1s,comp=N,3.0nm,1.1s						
JHIK	Hikimi	2.33	360	A	A	07 54 51.1	
	comp=E,2.0nm,1.2s,comp=N,3.0nm,3.7s						
JTU	Tsushima	3.15	318	Pn	Pn	07 55 02.9	+2.3
KSRS	Korea Array	6.20	329	P	Pn	07 55 44.0	+1.5
	comp=N,3.2nm,0.5s,baz=148,slow=14,SNR=8.6						
KSRS				S	Sn	07 56 53.6	+1.3
	comp=N,3.8nm,0.8s,baz=152,slow=30,SNR=1.9						
KSAR	Wonju Array Be	6.21	329	Pn	Pn	07 55 45.3	+2.7
JOW	Kunigami	6.22	212	Pn	Pn	07 55 45.8	+2.9
JHJ	Hachijo jima 2	6.68	80	P	Pn	07 55 48.5	-0.6
	comp=N,76nm,0.6s,baz=270,slow=20,SNR=2.9						
JHJ				S	Sn	07 57 05.2	+0.8
	comp=N,67nm,0.9s,baz=243,slow=23,SNR=1.3						
JHJ				LR	LR	07 58 33.0	
	comp=N,237nm,18.3s,baz=280,slow=37						
MAJO	Matsushiro	6.76	48	Pn	Pn	07 55 55.9	+5.6
MJB9	Matsu-Tunnel	6.76	48	Pn	Pn	07 55 56.6	+6.3
MJAR	Matsushiro Arr	6.76	48	P	Pn	07 55 53.2	+2.9
	comp=N,2.3nm,0.5s,baz=241,slow=14,SNR=2.4						
MJAR				LR	LR	07 58 34.7	
	comp=N,98nm,19.6s,baz=228,slow=37						
JCJ	Chichijima	10.26	117	LR	LR	08 00 00.2	
	comp=N,259nm,20.6s,baz=282,slow=33						
NJ2	Nanjing	11.09	273	eP	Pn	07 56 54.3	+4.7
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,470nm,3.5s						
NJ2				LR	LR		
	comp=N,400nm,10.7s						
NJ2				LR	LR		
	comp=E,780nm,10.7s						
NJ2				LR	LR		
	comp=Z,840nm,12.8s						
USRK	Ussuriysk Ar.	11.99	0	P	Pn	07 57 04.2	+2.4
	comp=Z,1.2nm,0.8s,baz=156,slow=11,SNR=1.6						
USRK				LR	LR	08 01 23.9	
	comp=Z,282nm,18.5s,baz=181,slow=36						
BJT	Baijiatuau	14.93	306	Pn	Pn	07 57 42.5	+0.5
BJI	Beijing	14.94	306	P	P	07 57 46.8	-0.5
BJI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BJI				pmax	pmax		
	comp=Z,41nm,4.7s						
BJI				LR	LR		
	comp=N,120nm,16.7s						
BJI				LR	LR		
	comp=E,210nm,14.5s						
BJI				LR	LR		
	comp=Z,340nm,16.3s						
HNS	HongShan	15.07	295	⇑P	P	07 57 50.8	+2.0
HNS				S	S	08 00 44.6	-1.9
HNS				pmax	pmax		
	comp=Z,23nm,1.2s						
HNS				LR	LR		
	comp=N,540nm,14.4s						
HNS				LR	LR		
	comp=E,710nm,15.8s						
HNS				LR	LR		
	comp=Z,760nm,14.5s						
LYN	LuoYang	16.43	284	⇓P	P	07 58 06.3	+2.3
LYN				sP	sP	07 58 15.1	-0.5
LYN				PP	pP	07 58 20.5	+8.7
LYN				pmax	pmax		
	comp=Z,33nm,0.9s						
LYN				pmax	pmax		
	comp=Z,400nm,4.3s						
LYN				LR	LR		
	comp=N,430nm,8.9s						
LYN				LR	LR		
	comp=E,770nm,14.4s						
LYN				LR	LR		
	comp=Z,940nm,17.2s						
KLR	Kul'dur	17.02	360	P	P	07 58 11.4	+1.0
	comp=Z,11nm,0.7s,baz=169,slow=8.1,SNR=44						
KLR				LR	LR	08 04 31.8	
	comp=Z,136nm,18.7s,baz=176,slow=36						
XLT	XiLinHaoTe	17.07	318	eP	Pn	07 58 05.0	-4.5
XLT				sP	P	07 58 15.1	+4.1
XLT				PP	sP	07 58 23.7	+1.0
XLT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,100nm,5.2s						
HEH	HeiHe	18.36	351	eP	P	07 58 23.7	-1.4
HEH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC	Hu-ho-hao-te	18.48	304	eP	P	07 58 26.6	-0.1
HHC				pP	pP	07 58 32.6	-2.0
HHC				S	Sn	08 01 44.5	-8.1
HHC				pmax	pmax		
	comp=Z,23nm,1.1s						
HHC				pmax	pmax		
	comp=Z,290nm,6.2s						
HHC				LR	LR		
	comp=N,410nm,17.1s						
HHC				LR	LR		
	comp=E,750nm,15.5s						
HHC				LR	LR		
	comp=Z,820nm,15.1s						
ENH	Enshi	19.29	270	P	P	07 58 32.8	-2.8
ENH				IAmb	IAmb	07 58 37.4	
	comp=Z,33nm,0.9s						
HIA	Hailar	19.35	335	P	P	07 58 36.6	+0.5
HIA				IAmb	IAmb	07 58 50.1	
	comp=Z,22nm,1.0s						
XAN	Xi'an	19.36	282	⇑P	P	07 58 36.5	+0.2
XAN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
XAN				LR	LR		
	comp=N,360nm,12.4s						
XAN				LR	LR		
	comp=E,550nm,15.1s						
XAN				LR	LR		
	comp=Z,870nm,15.1s						
BTO	Baotou	19.50	302	eP	Pn	07 58 40.2	+1.0
BTO				pP	pP	07 58 46.4	+0.6
BTO				sP	sP	07 58 50.5	+0.9
BTO				PP	PnPn	07 58 58.0	+5.2
BTO				S	Sn	08 02 18.8	+1.6
BTO				sS	sS	08 02 24.9	-4.0
BTO				SS	SnSn	08 02 39.7	+8.3
BTO				pmax	pmax		
	comp=Z,11nm,0.8s						
BTO				pmax	pmax		
	comp=Z,280nm,5.6s						
BTO				LR	LR		
	comp=N,590nm,16.8s						
BTO				LR	LR		
	comp=E,800nm,13.5s						
BTO				LR	LR		
	comp=Z,1μm,14.7s						
GUMO	Guam	21.98	144	LR	LR	08 06 20.1	
	comp=Z,79nm,20.4s,baz=119,slow=33						
LZH	Lanzhou	23.54	287	eP	P	07 59 20.6	-0.3
LZH				sP	sP	07 59 31.5	-1.2
LZH				sS	S	08 03 39.6	+6.4
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
LZH				LR	LR		
	comp=N,240nm,14.7s						
LZH				LR	LR		
	comp=E,410nm,13.1s						
LZH				LR	LR		
	comp=Z,480nm,14.6s						
CD2	Chengdu	24.02	274	P	P	07 59 24.9	-0.5
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
ULN	Ulaanbaatar	24.51	317	P	P	07 59 29.1	-0.8
ULN				IAmb	IAmb	07 59 31.1	
	comp=Z,28nm,1.4s						
SONM	Songino Array	24.87	316	P	P	07 59 32.4	-0.7
SONM				IAmb	IAmb	07 59 46.1	
	comp=Z,13nm,1.0s						
SONM	Songino Array	24.87	316	P	P	07 59 33.0	-0.1
	comp=Z,8.7nm,0.8s,baz=130,slow=9.9,SNR=42						
SONM				LR	LR	08 09 52.6	
	comp=Z,217nm,20.0s,baz=123,slow=38						
	comp=Z,8.7nm,0.8s						
PZH	PanZhiHua	26.87	266	P	P	07 59 57.3	+5.9
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
CMAR	Chiang Mai Arr	32.66	253	P	P	08 00 42.2	-0.5
	comp=Z,0.9nm,0.3s,baz=59,slow=7.4,SNR=4.5						
CMAR				LR	LR	08 15 35.8	
	comp=Z,122nm,18.4s,baz=115,slow=39						
	comp=Z,0.9nm,0.3s						
SEY	Seymchan	33.39	17	LR	LR	08 15 03.6	
	comp=Z,28nm,19.2s,baz=240,slow=37						
H11N2	WAKE ISLAND Hy	33.65	103	T	T	08 36 26.3	
	baz=298,slow=75,SNR=19						
H11N1	WAKE ISLAND Hy	33.65	103	T	T	08 36 25.8	
	baz=298,slow=75,SNR=10						
H11N3	WAKE ISLAND Hy	33.66	103	T	T	08 36 26.8	
	baz=298,slow=75,SNR=21						
H11S3	WAKE ISLAND Hy	34.08	105	T	T	08 37 03.1	
	baz=302,slow=75,SNR=15						
H11S1	WAKE ISLAND Hy	34.08	105	T	T	08 37 08.0	
	baz=302,slow=75,SNR=16						
H11S2	WAKE ISLAND Hy	34.10	105	T	T	08 37 06.8	
	baz=302,slow=75,SNR=7.0						
WMQ	Urumqi	36.34	302	eP	P	08 01 16.3	+2.0
WMQ				LR	LR		
	comp=N,350nm,14.1s						
WMQ				LR	LR		
	comp=E,440nm,13.3s						
WMQ				LR	LR		
	comp=Z,170nm,17.7s						
SHEM	Shemya Is, Ala	36.57	43	LR	LR	08 14 40.8	
	comp=Z,27nm,21.5s,baz=344,slow=33						
TIXI	Tiksi	39.55	358	LR	LR	08 18 31.7	
	comp=Z,6.9nm,18.9s,baz=197,slow=37						
ZALV	Zalesovo Beam	39.76	317	LR	LR	08 19 17.8	
	comp=Z,170nm,18.6s,baz=105,slow=38						
MK31	Makanchi Array	40.32	306	P	P	08 01 46.5	-1.2
MKAR	Makanchi Array	40.32	306	P	P	08 01 46.4	-1.3
MKAR	Makanchi Array	40.32	306	P	P	08 01 46.7	-1.0
	comp=Z,0.8nm,0.5s,baz=95,slow=9.4,SNR=9.1						
	comp=Z,0.8nm,0.5s						
KURK	Kurchatov	43.01	312	P	P	08 02 08.3	-1.3
KURBB	Kurchatov Arra	43.05	311	P	P	08 02 08.7	-1.2
	comp=Z,1.7nm,0.8s,baz=99,slow=9.2,SNR=11						
	comp=Z,1.7nm,0.8s						
KNRA	Kununurra	47.69	184		P	08 02 45.5	-1.5
BVAR	Borovoye Array	48.20	315	P	P	08 02 49.6	-1.0
	comp=Z,4.0nm,0.6s,baz=104,slow=9.0,SNR=16						
BVAR				LR	LR	08 24 42.6	
	comp=Z,80nm,19.6s,baz=91,slow=38						
	comp=Z,4.0nm,0.6s						
BRVK	Borovoye	48.26	315	P	P	08 02 49.7	-1.4
BRVK				IAmb	IAmb	08 02 51.0	
	comp=Z,3.7nm,0.6s						
KK31	Karatay Array	48.85	301	P	P	08 02 54.9	-0.9
KKAR	Karatay Array	48.85	301	P	P	08 02 54.7	-1.1
KKAR	Karatay Array	48.85	301	P	P	08 02 55.2	-0.6
WB0	Warramunga Arr	51.72	177	P	P	08 03 17.2	-0.5
WB0				IAmb	IAmb	08 03 27.7	
	comp=Z,5.1nm,0.7s						
WRA	Warramunga Arr	51.89	177	P	P	08 03 18.7	-0.2
WRA	Warramunga Arr	51.89	177	P	P	08 03 18.5	-0.4
	comp=Z,2.2nm,0.9s,baz=356,slow=8.0,SNR=16						
	comp=Z,2.2nm,0.9s						
WR0	Warramunga Arr	51.92	177	P	P	08 03 19.2	+0.1
D19K	Kuna River	53.13	26	P	P	08 03 28.6	+0.9
E19K	Redstone River	53.38	27	P	P	08 03 30.4	+1.0
E19K				IAmb	IAmb	08 03 32.6	
	comp=Z,4.1nm,1.0s						
B20K	Meade River	53.61	24	P	P	08 03 32.4	+1.3
ABKAR	Akbulak array	55.09	311	P	P	08 03 40.4	-1.8
ABKAR	Akbulak array	55.09	311	P	P	08 03 40.5	-1.6
ABKAR				IAmb	IAmb	08 03 55.0	
	comp=Z,6.8nm,1.2s						
AS31	Alice Springs	55.58	178	P	P	08 03 45.8	0.0
ASAR	Alice Springs	55.58	178	P	P	08 03 45.6	-0.3
ASAR	Alice Springs	55.58	178	P	P	08 03 46.0	+0.2
	comp=Z,1.9nm,0.9s,baz=1.6,slow=5.8,SNR=14						
	comp=Z,1.9nm,0.9s						
E24K	Your Creek	56.70	26	P	P	08 03 54.7	+1.2
E24K				IAmb	IAmb	08 03 56.7	
	comp=Z,4.2nm,0.8s						
ILAR	Eielson Array	57.67	30	P	P	08 04 01.0	+0.7
	comp=Z,1.0nm,0.7s,baz=282,slow=6.9,SNR=15						
	comp=Z,1.0nm,0.7s						
BMAR	Burnt Mountain	58.25	27	P	P	08 04 06.5	+2.2
E27K	Coleen River	59.25	26	P	P	08 04 11.9	+0.6
E27K				IAmb	IAmb	08 04 14.6	
	comp=Z,5.1nm,0.8s						
E28M	Babbage River	59.92	25	P	P	08 04 17.9	+2.0
E28M				IAmb	IAmb	08 04 32.9	
	comp=Z,5.6nm,1.3s						
BELG	Belogornoye	61.93	316	LR	LR	08 33 44.7	
	comp=Z,117nm,18.0s,baz=99,slow=38						
I30M	Mount Dempster	61.95	29	P	P	08 04 31.8	+1.9
INK	Inuvik	62.14	25	P	P	08 04 32.0	+1.0
INK				IAmb	IAmb	08 04 33.3	
	comp=Z,5.4nm,0.9s						
G31M	Satah River	62.28	26	P	P	08 04 32.7	+0.8
F31M	Tsiigehtchic	62.32	26	P	P	08 04 33.4	+1.2
F31M				IAmb	IAmb	08 04 42.7	
	comp=Z,9.0nm,1.3s						
FORT	Forrest	62.74	184	P	P	08 04 34.0	-1.2
STKA	Stephens Creek	64.38	171	P	P	08 04 46.8	+0.7
	comp=Z,2.3nm,0.7s,baz=341,slow=8.1,SNR=5.4						
STKA				LR	LR	08 33 08.6	
	comp=Z,27nm,19.0s,baz=27,slow=36						
	comp=Z,2.3nm,0.7s						
ARCES	ARCESS Array B	65.67	338	LR	LR	08 36 47.0	
	comp=Z,51nm,21.8s,baz=74,slow=39						
KBZ	Khabaz	67.94	309	P	P	08 05 08.3	-0.7
	comp=Z,2.1nm,0.8s,baz=72,slow=2.6,SNR=2.6						
	comp=Z,2.1nm,0.8s						
RES	Resolute Bay	69.08	12	P	P	08 05 14.9	-0.7
FINES	FINESS Array B	69.29	330	P	P	08 05 15.3	-1.8
	comp=Z,1.9nm,0.8s,baz=46,slow=4.4,SNR=5.0						
FINES				LR	LR	08 38 17.2	
	comp=Z,64nm,18.8s,baz=47,slow=38						
	comp=Z,1.9nm,0.8s						
YKA	Yellowknife Ar	71.77	27	P	P	08 05 33.1	+0.9
	comp=Z,1.1nm,0.8s,baz=305,slow=5.9,SNR=17						
	comp=Z,1.1nm,0.8s						
AKASG	Malin Array Be	73.11	320	P	P	08 05 38.8	-1.7
	comp=Z,3.9nm,0.7s,baz=54,slow=6.1,SNR=18						
	comp=Z,3.9nm,0.7s						
HFS	Hagfors	75.03	333	P	P	08 05 49.4	-2.1
	comp=Z,1.1nm,0.5s,baz=70,slow=8.3,SNR=1.5						
	comp=Z,1.1nm,0.5s						
SUMG	Summit	75.30	357	P	P	08 05 53.3	-0.1
SUMG				IAmb	IAmb	08 05 55.0	
	comp=Z,12nm,1.0s						
SUMG	Summit	75.30	357	i P	P	08 05 53.0	-0.3
NOA	NORSAR Array B	75.38	334	P	P	08 05 52.1	-1.4
	comp=Z,0.8nm,0.7s,baz=46,slow=5.7,SNR=3.5						
	comp=Z,0.8nm,0.7s						
BRTR	Keskin Array B	75.93	308	P	P	08 05 55.9	-1.3
	comp=Z,1.3nm,0.8s,baz=60,slow=7.3,SNR=5.9						
	comp=Z,1.3nm,0.8s						
BURAR	Bucovina Array	76.97	318	P	P	08 06 02.1	-0.8
BURAR				IAmb	IAmb	08 06 03.8	
	comp=Z,3.6nm,0.8s						
EIL	Elat	80.13	299	LR	LR	08 48 23.7	
	comp=Z,31nm,18.0s,baz=109,slow=41						
CLL	Collm	81.07	326	i P	P	08 06 24.4	-0.7
CLL				AMS	AMS	08 46 00.0	
	comp=Z,200nm,18.0s						
GERES	GERESS Array B	82.35	324	LR	LR	08 47 21.1	
	comp=Z,170nm,18.4s,baz=58,slow=39						
KVN	Kaiserville	83.84	47	P	P	08 06 41.5	+1.3
KVN				IAmb	IAmb	08 06 53.6	
	comp=Z,3.9nm,1.0s						
NVAR	Mina Array Bea	84.09	48	P	P	08 06 43.0	+1.6
	comp=Z,1.3nm,0.7s,baz=289,slow=4.9,SNR=8.9						
	comp=Z,1.3nm,0.7s						
RAR	Rarotonga	84.15	119	LR	LR	08 38 15.9	
	comp=Z,42nm,21.5s,baz=175,slow=31						
DAVOX	Davos/Dischmat	85.65	324	LR	LR	08 49 44.7	
	comp=Z,236nm,18.2s,baz=36,slow=39						
PDAR	Pinedale Array	86.52	40	P	P	08 06 53.6	+0.1
	comp=Z,0.8nm,0.8s,baz=270,slow=0.7,SNR=7.5						
	comp=Z,0.8nm,0.8s						
ULM	Lac du Bonnet	87.65	28	P	P	08 06 58.7	+0.1
	comp=Z,3.8nm,0.8s,baz=270,slow=1.0,SNR=5.6						
	comp=Z,3.8nm,0.8s						
TXAR	Lajitas Array	99.20	47	P	Pdif	08 07 53.6	+1.4
	comp=Z,0.3nm,1.0s,baz=311,slow=4.7,SNR=2.1						
	comp=Z,0.3nm,1.0s						

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*SDD **04** 08:07:42.4±1.8, 19°.67N×66°.52W, h18km±999km, MD3.8, ML3.5, MW3.7*

*NEIC **04** 08:07:43.0±1.9, 19°.53N±0°.04×66°.17W±0°.03, h29km±11km, ML3.6/20, Md3.5/12(RSPR), Error ellipse: s-maj=6.8km s-min=1.8km az=146.0*

*RSPR **04** 08:07:44.0, 19°.52N×66°.15W, h63km±17km, MD3.5/12*

*OSPL **04** 08:07:46.0±1.9, 19°.33N×66°.27W, h12km±120km, ML3.4*

ISC 04 08:07:40.2±2.9, **19°.53N**±0°.05×**66°.14W**±0°.03, **h8**km±22km, **n94**, σ1§**73**/105, **25C-3D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	Arecibo Observ	1.32	206	⇑eP	Pn	08 08 04.6	-0.4
AOPR	Arecibo Observ	1.32	206	eS	Sb	08 08 20.9	-1.3
AOPR	Arecibo Observ	1.32	206		Pn	08 08 04.6	-0.4
AOPR					Sb	08 08 20.9	-1.3
AGPR	Aguadilla, PR	1.41	221	⇑eP	Pn	08 08 05.6	-0.6
AGPR	Aguadilla, PR	1.41	221	eS	Sb	08 08 25.0	+0.2
AGPR	Aguadilla, PR	1.41	221		Pn	08 08 05.6	-0.6
AGPR					Sb	08 08 25.0	+0.2
AGPR	Aguadilla, PR	1.41	221	IAML		08 08 40.9	
	comp=N,620nm,0.5s						
AGPR	Aguadilla, PR	1.41	221	⇑ePg	Pn	08 08 05.5	-0.6
AGPR				IAML		08 08 28.4	
	comp=E,343nm,0.4s						
AGPR				IAML		08 08 40.8	
	comp=N,580nm,0.5s						
AGPR	Aguadilla, PR	1.41	221	i P	Pn	08 08 05.5	-0.6
AGPR				eS	Sn	08 08 22.2	-2.7
AGPR				IAML		08 08 36.7	
	comp=Z,267nm,0.6s						
SJG	San Juan	1.42	181	⇑eP	Pb	08 08 06.8	0.0
SJG	San Juan	1.42	181	eS	Sn	08 08 24.6	-0.5
SJG	San Juan	1.42	181		Pb	08 08 06.8	0.0
SJG	San Juan	1.42	181	IAML		08 08 27.8	
	comp=Z,1μm,0.5s						
SJG				IAML		08 08 30.8	
	comp=Z,820nm,0.7s						
SJG	San Juan	1.42	181	eP	Pn	08 08 06.7	+0.4
SJG				eS	Sb	08 08 25.3	+0.3
OBIP	Obispado Ponce	1.55	197	⇑eP	Pn	08 08 08.3	+0.2
OBIP	Obispado Ponce	1.55	197	eS	Sn	08 08 27.8	-0.6
OBIP	Obispado Ponce	1.55	197		Pn	08 08 08.3	+0.2
OBIP					Sn	08 08 27.8	-0.6
OBIP	Obispado Ponce	1.55	197	IAML		08 08 32.0	
	comp=E,616nm,0.6s						
PRSN	Puerto Rico Se	1.62	216	⇑eP	Pn	08 08 09.3	+0.2
PRSN	Puerto Rico Se	1.62	216	eS	Sn	08 08 29.3	-0.8
PRSN	Puerto Rico Se	1.62	216		Pn	08 08 09.3	+0.2
PRSN					Sn	08 08 29.3	-0.8
PRSN	Puerto Rico Se	1.62	216	IAML		08 08 32.8	
	comp=N,1μm,0.3s						
PRSN				IAML		08 08 34.3	
	comp=E,718nm,0.3s						
PRSN	Puerto Rico Se	1.62	216	⇓ePg	Pn	08 08 09.2	+0.2
PRSN				IAML		08 08 32.7	
	comp=N,954nm,0.3s						
LSP	Las Mesas	1.62	214	⇑eP	Pn	08 08 09.0	-0.1
LSP	Las Mesas	1.62	214	eS	Sn	08 08 29.9	-0.3
LSP	Las Mesas	1.62	214		Pn	08 08 09.0	-0.1
LSP					Sn	08 08 29.9	-0.3
GBPR	Guanica, Bosqu	1.70	205	⇑eP	Pb	08 08 12.1	+0.3
GBPR	Guanica, Bosqu	1.70	205	eS	Sb	08 08 34.0	+0.7
GBPR	Guanica, Bosqu	1.70	205		Pb	08 08 12.1	+0.3
GBPR					Sb	08 08 34.0	+0.7
IDE	Isla Desecheo	1.70	228	⇑eP	Pn	08 08 10.2	0.0
IDE	Isla Desecheo	1.70	228	eS	Sn	08 08 30.4	-1.8
IDE	Isla Desecheo	1.70	228		Pn	08 08 10.2	0.0
IDE					Sn	08 08 30.4	-1.8
CRPR	Cabo Rojo, PR	1.78	211	⇑eP	Pn	08 08 11.4	+0.2
CRPR	Cabo Rojo, PR	1.78	211	eS	Sn	08 08 32.8	-1.2
CRPR	Cabo Rojo, PR	1.78	211		Pn	08 08 11.4	+0.2
CRPR					Sn	08 08 32.8	-1.2
CRPR	Cabo Rojo, PR	1.78	211	⇑ePg	Pn	08 08 11.4	+0.2
CRPR				⇑eSg	Sn	08 08 34.6	+0.6
CRPR				IAML		08 08 42.0	
	comp=E,360nm,0.8s						
CRPR				IAML		08 08 43.8	
	comp=N,476nm,0.4s						
CRPR	Cabo Rojo, PR	1.78	211	i P	Pn	08 08 11.4	+0.2
CRPR				IAML		08 08 45.7	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,612nm,0.5s						
PCDR	Punta Cana, DR	2.35	245	⇓eP	Pn	08 08 19.6	+0.5
PCDR	Punta Cana, DR	2.35	245	eS	Sn	08 08 45.7	-2.5
PCDR	Punta Cana, DR	2.35	245		Pn	08 08 19.6	+0.5
PCDR					Sn	08 08 45.7	-2.5
PCDR	Punta Cana, DR	2.35	245	IAML		08 09 01.6	
	comp=N,376nm,0.7s						
PCDR	Punta Cana, DR	2.35	245	⇑ePg	Pn	08 08 19.4	+0.3
PCDR				IAML		08 09 01.4	
	comp=N,342nm,0.6s						
PCDR	Punta Cana, DR	2.35	245	i P	Pn	08 08 19.5	+0.3
PCDR				eS	Sn	08 08 44.9	-3.3
PCDR				IAML		08 08 48.2	
	comp=Z,228nm,0.4s						
SADR	Isla Saona	2.84	242	⇑ePg	Pn	08 08 27.2	+1.5
SADR				⇑ePg	Pn	08 08 27.3	+1.5
SADR				⇑eSg	Sn	08 09 00.1	-0.1
SADR				⇑eSg	Sn	08 09 00.1	-0.1
SADR				IAML		08 09 03.2	
	comp=E,106nm,0.2s						
SADR				IAML		08 09 07.4	
	comp=N,485nm,0.5s						
SMDR	Samana, DR	2.89	266	⇑ePg	Pn	08 08 26.5	0.0
SMDR				⇑eSg	Sn	08 08 59.1	-2.4
SMDR				IAML		08 09 37.9	
	comp=N,107nm,0.8s						
HATOM	Hato Mayor del	3.15	257	ePg	Pn	08 08 30.8	+0.6
HATOM				⇑eSg	Sn	08 09 07.2	-0.9
HATOM				IAML		08 09 17.9	
	comp=E,78nm,0.9s						
HATOM				IAML		08 09 26.9	
	comp=N,78nm,0.7s						
SMRT	St. Maarten	3.25	116	Pn	Pn	08 08 30.1	-1.5
SMRT				IAML		08 09 27.1	
	comp=N,152nm,0.6s						
SMRT				IAML		08 09 33.3	
	comp=E,203nm,0.4s						
DR08	Loma La Naviza	3.71	262	⇑ePg	Pn	08 08 40.9	+2.9
DR08				⇓eSg	Sn	08 09 22.5	+0.6
DR08				IAML		08 09 23.0	
	comp=N,455nm,0.1s						
SDD	Santo Domingo	3.73	254	eS	Sn	08 09 19.4	-2.8
SDD	Santo Domingo	3.73	254		Sn	08 09 19.4	-2.8
LOSC1	San Cristbal	3.92	254	eS	Sn	08 09 24.4	-2.6
BANI	BANI	4.15	255	⇑ePg	Pn	08 08 48.1	+4.1
BANI				⇑eSg	Sn	08 09 35.3	+2.5
BANI				IAML		08 09 40.0	
	comp=N,150nm,0.5s						
BANI				IAML		08 09 40.6	
	comp=E,173nm,0.5s						
ABDR	Alto Bandera	4.30	261	⇑ePg	Pn	08 08 48.8	+2.4
ABDR				IAML		08 10 01.4	
	comp=N,92nm,1.6s						
SC01	Santiago de lo	4.33	269		Pn	08 08 50.3	+3.9
SC01					Sn	08 09 37.7	+0.6
MBFL	Flemmings, Mon	4.65	126	eP	Pb	08 08 58.0	-4.0
MLYT	Lee's Yard	4.68	126	eP	Pn	08 08 56.9	+5.7
MLYT	Lee's Yard	4.68	126	eS	Sn	08 09 46.7	+0.9
ANBD	Bethesda, Anti	4.83	120	eP	Pn	08 08 55.6	+2.4
ANBD	Bethesda, Anti	4.83	120	eS	Sn	08 09 48.8	-0.7
SDDR	Presa de Saban	4.90	264	⇑eP	Pn	08 08 55.2	+0.9
SDDR	Presa de Saban	4.90	264	eS	Sn	08 09 50.1	-1.1
SDDR	Presa de Saban	4.90	264		Pn	08 08 55.2	+0.9
SDDR	Presa de Saban	4.90	264	IAML		08 10 32.7	
	comp=N,82nm,1.2s						
SDDR	Presa de Saban	4.90	264	eP	Pn	08 08 55.1	+0.9
SDDR	Presa de Saban	4.90	264	eS	Sn	08 09 49.1	-2.0
SDDR	Presa de Saban	4.90	264	IAML		08 09 55.4	
	comp=N,46nm,0.4s						
SDDR				IAML		08 09 56.5	
	comp=E,62nm,0.8s						
SDDR	Presa de Saban	4.90	264	i P	Pn	08 08 55.8	+1.6
SDDR				IAML		08 09 54.0	
	comp=Z,44nm,0.7s						
LOPE2	Hotel El Peder	5.52	255	i P	Pn	08 09 04.6	+1.9
CBE	Ff, Capester	5.52	128	Pn	Pn	08 09 07.0	+4.3
CBE	Ff, Capester	5.52	128	eP	Pn	08 09 08.7	+5.9
CBE	Ff, Capester	5.52	128	eS	Sn	08 10 13.2	+6.7
MAGL	Barre de l'ile	5.84	127	Pn	Pn	08 09 09.0	+1.9
MAGL	Barre de l'ile	5.84	127	eP	Pn	08 09 05.1	-2.0
MAGL	Barre de l'ile	5.84	127	eP	Pn	08 09 12.3	+5.2
MAGL	Barre de l'ile	5.84	127	eS	Sn	08 10 13.5	-0.9
MPOM	Morne Pois Mar	7.15	134	eP	Pn	08 09 28.3	+3.2
BAUV	El Baul	10.69	190	Pn	Pn	08 10 16.8	+3.1
SDV	Santo Domingo	11.45	203	Pn	Pn	08 10 27.0	+2.7
BBSR	BB Station	12.85	5	Pn	Pn	08 10 43.6	+0.5
OCAC	Ocana	13.21	213	eP	Pn	08 10 49.8	+1.4
PAMC	Pamplona, Colo	13.69	209	eP	Pn	08 10 54.9	-0.3
BARC	Barichara	14.57	209	eP	Pn	08 11 05.8	-1.3
RUSC	La Rusia	15.15	207	eP	Pn	08 11 14.9	-0.2
PTBC	PUERTO BERRIO,	15.24	213	eP	Pn	08 11 13.3	-2.5
SPBC	San Pablo de B	15.81	210	eP	P	08 11 28.1	+0.7
CHIC	Chingaza	16.56	208	eP	P	08 11 35.5	-0.5
CBOC	Ciudad Bolivar	16.64	217	eP	Pn	08 11 35.0	+0.8
GUY2C	Guyana, Caldas	16.83	213	eP	P	08 11 37.9	-1.0
PRAC	Prado	17.89	210	eP	Pn	08 11 49.6	-0.1
BOAV	Boa Vista	17.90	161	P	Pn	08 11 47.0	-2.6
GARC	Garzon, Huila	19.52	209	eP	Pn	08 12 11.5	+1.9
POPC	Popayan, Colom	19.79	213	eP	P	08 12 11.5	+0.2
FLOC	Florencia	20.13	209	eP	P	08 12 12.9	-1.9
GCUF	Volcan Galeras	21.25	212	eP	P	08 12 28.3	+0.8

IDC 04 08:09:59.4±3.7**,54°.19N**×**87°.57E,h0**km**,mbtmp2.6**/2**, ML2.2**/2**,Error ellipse: s-maj=29.9km s-min=18.0km az=53.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.64	263	I	I	08 22 21.6	
	baz=83,slow=343,SNR=1.2						
ZALV	Zalesovo Beam	1.64	263	Pg	Pn	08 10 28.1	-1.4
	1.2nm,0.3s,baz=77,slow=14,SNR=15						
ZALV				Lg	Lg	08 10 51.4	
	1.5nm,0.3s,baz=79,slow=22,SNR=8.7						
KURBB	Kurchatov Arra	6.58	241	Pn	Pn	08 11 38.8	+1.4
	baz=55,slow=12,SNR=2.2						
	0.1nm,0.3s						
MKAR	Makanchi Array	8.13	207	Pn	Pn	08 11 59.5	+0.8
	0.1nm,0.3s,baz=20,slow=17,SNR=2.0						
MKAR				Sn	Sn	08 13 30.9	-0.3
	0.1nm,0.3s,baz=21,slow=18,SNR=1.1						
	0.5nm,1.0s						

*SJA **04** 08:33:07.3±0.7,22°.75S×66°.23W,h254km±5km,ML3.8, MW3.6*

ISC 04 08:33:07.2±1.3**,22°.79S**±0°.06×**66°.32W**±0°.05**,h250**km**,n25, σ1§38**/42**,3C,Jujuy Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YJA	Yavi	0.96	50	eP	Pn	08 33 43.5	+0.9
YJA				eS	S	08 34 09.8	-0.6
AF01	San Pedro de A	1.73	264	⇑iP	Pn	08 33 49.8	+2.1
AZAP	Zapla	1.83	141	eP	Pn	08 33 48.9	+0.4
SLA	San Lorenzo	2.06	159	eP	Pn	08 33 52.0	+1.6
ASTB	Santa Barbara	2.06	124	eP	Pn	08 33 51.1	+0.6
ALOL	LOMAS DE OLMED	2.37	116	eP	Pn	08 33 53.5	+0.3
LVC	Limon Verde	2.40	274	eP	Pn	08 33 55.4	+1.5
PB09	IPOC Station P	2.89	290	eP	Pn	08 34 00.4	+1.7
PB09				eS	S	08 34 40.6	+1.3
PB09	IPOC Station P	2.89	290	⇑iP	Pn	08 34 00.6	+1.9
PB09				i S	S	08 34 41.0	+1.6
PB15	IPOC Station P	2.94	261	eP	Pn	08 34 00.6	+1.3
PB15				eS	S	08 34 40.9	+0.5
PB15	IPOC Station P	2.94	261	eP	Pn	08 34 00.5	+1.3
PB15				i S	S	08 34 39.8	-0.5
PB06	IPOC Station P	3.01	271	eP	Pn	08 34 01.3	+1.4
PB06				eS	S	08 34 42.0	+0.4
PB06				IAML		08 34 44.5	
	comp=Z,85nm,0.1s						
PB06	IPOC Station P	3.01	271	eP	Pn	08 34 00.7	+0.7
PB06				eS	S	08 34 40.7	-0.9
PB01	IPOC Station P	3.42	300	eP	Pn	08 34 05.6	+1.1
PB01				IAML		08 34 55.6	
	comp=Z,107nm,0.2s						
PB01	IPOC Station P	3.42	300	⇑iP	Pn	08 34 05.6	+1.1
PB01				i S	S	08 34 48.6	-1.3
PB07	IPOC Station P	3.47	287	eP	Pn	08 34 06.2	+1.0
PB07				IAML		08 34 53.7	
	comp=Z,179nm,0.2s						
PB04	IPOC Station P	3.57	277	eP	Pn	08 34 07.2	+1.0
PB04				eS	S	08 34 51.6	-1.4
PB04				IAML		08 34 55.2	
	comp=Z,156nm,0.1s						
PB05	IPOC Station P	3.59	268	eP	Pn	08 34 07.5	+1.1
PB05				eS	S	08 34 52.0	-1.2
PB02	IPOC Station P	3.63	293	eP	Pn	08 34 07.6	+0.8
PB02				eS	S	08 34 52.5	-1.7
PB02				IAML		08 34 52.7	
	comp=Z,252nm,0.3s						
PB08	IPOC Station P	3.73	314	eP	Pn	08 34 09.7	+1.3
PB08				eS	S	08 34 57.5	+0.6
PB08				IAML		08 35 00.1	
	comp=Z,46nm,0.6s						
PATCX	Punta Patache	4.07	298	eP	Pn	08 34 12.9	+1.0
PATCX				eS	S	08 35 01.4	-2.0
HMBC	Humberstone	4.16	306	eP	Pn	08 34 13.2	+0.1
HMBC				eS	S	08 35 02.9	-2.5
TA01	Diego Aracena	4.22	301	eP	Pn	08 34 14.0	+0.3
TA01				eS	S	08 35 03.8	-2.7
TA01				IAML		08 35 05.0	
	comp=Z,52nm,0.5s						
PB11	IPOC Station P	4.34	313	eP	Pn	08 34 15.4	+0.2
PB11				eS	S	08 35 07.5	-1.7
PB11				IAML		08 35 09.3	
	comp=Z,81nm,0.2s						
AC01	Pan de Azucar	5.14	229	eP	Pn	08 34 24.6	0.0
AC01				eS	S	08 35 23.6	-2.8

*IDC **04** 08:35:18.4±9.4,2°.95N×98°.13E,h134km±82km,mb3.8/12, mbtmp4.2/13,Error ellipse: s-maj=68.0km s-min=11.9km az=59.0*

*DJA **04** 08:35:18.2±0.4,3°N±4°×9°9E±°,h171km±4km,M4.4/9, mb4.8/5,MLv4.3/9*

ISC 04 08:35:19.9±0.7**,3°.04N**±0°.09×**98°.4E**±0°.1**,h150**km**,n21, σ1§24**/23**,mb4.0**/12**,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	1.92	206	P	Pn	08 35 54.5	+0.4
MLSI	Meulaboh, Aceh	2.34	301	P	Pn	08 35 59.2	0.0
LHMI	Lhok Sumawe	2.62	326	P	Pn	08 36 02.8	+0.3
PBSI	Pulau Batu	3.08	182	P	Pn	08 36 08.6	+0.3
PDSI	Padang	4.43	152	P	Pn	08 36 26.3	+0.5
PPSI	Pulau Pagai	5.98	164	P	Pn	08 36 46.9	+0.5
	242nm,1.6s,1.3nm						
MNAI	Manna	8.64	148	P	Pn	08 37 20.5	-1.4
	267nm,1.0s						
CMJI	Cimerak	14.69	137	P	Pn	08 38 36.7	-3.9
CMAR	Chiang Mai Arr	15.33	2	P	P	08 38 50.2	+0.4
	1.6nm,0.8s,baz=193,slow=12,SNR=7.9						
WRA	Warramunga Arr	42.02	124	P	P	08 42 57.8	+0.9
	1.5nm,0.6s,baz=303,slow=9.5,SNR=18						
WRA				PcP	PcP	08 44 50.3	+1.0
	0.3nm,0.4s,baz=317,slow=2.6,SNR=5.1						
	1.5nm,0.6s						
ASAR	Alice Springs	43.58	129	P	P	08 43 10.6	+1.2
	0.6nm,0.4s,baz=304,slow=7.8,SNR=8.5						
ASAR				PcP	PcP	08 44 55.8	+1.3
	0.2nm,0.6s,baz=314,slow=3.2,SNR=2.2						
	0.6nm,0.4s						
SONM	Songino Array	45.15	8	P	P	08 43 22.4	+0.7
	1.2nm,0.4s,baz=188,slow=10,SNR=12						
	1.2nm,0.4s						
MKAR	Makanchi Array	45.78	345	P	P	08 43 26.7	+0.2
	1.6nm,0.4s,baz=153,slow=8.9,SNR=22						
	1.6nm,0.4s						
KURBB	Kurchatov Arra	50.30	344	P	P	08 44 01.0	-0.1
	0.6nm,0.3s,baz=155,slow=7.1,SNR=7.1						
	0.6nm,0.3s						
ZALV	Zalesovo Beam	51.96	350	P	P	08 44 13.4	+0.1
	3.5nm,0.3s,baz=160,slow=6.7,SNR=9.8						
	3.5nm,0.3s						
STKA	Stephens Creek	53.71	134	P	P	08 44 27.9	+1.2
	2.9nm,0.7s,baz=318,slow=8.9,SNR=7.0						
	2.9nm,0.7s						
BVAR	Borovoye Array	54.94	340	P	P	08 44 35.0	-0.1
	1.4nm,0.4s,baz=135,slow=10,SNR=8.3						
	1.4nm,0.4s						
FINES	FINESS Array B	78.94	332	P	P	08 47 07.1	+0.5
	0.7nm,0.4s,baz=112,slow=6.6,SNR=7.9						
	0.7nm,0.4s						
ARCES	ARCESS Array B	81.23	340	P	P	08 47 19.3	+0.5
	4.8nm,1.1s,baz=104,slow=6.9,SNR=4.3						
	4.8nm,1.1s						
VNDA	Vanda	87.38	169	P	P	08 47 49.6	0.0
	0.4nm,0.4s,baz=287,slow=4.6,SNR=7.8						
	0.4nm,0.4s						
EKA	Eskdalemuir Ar	94.08	326	P	P	08 48 19.0	-2.2
	0.7nm,0.6s,baz=66,slow=4.1,SNR=1.4						
	0.7nm,0.6s						

*IDC **04** 08:37:18.9±2.5,9°.57S×114°.32E,h0km,mb3.4/5, mbtmp3.5/5,MS3.1/1,Error ellipse: s-maj=135.2km s-min=21.4km az=52.0*

*DJA **04** 08:37:22.7±0.3,10°S±3°×11°4E±°,h10km,M4.1/12, mb4.0/5,MLv4.2/12*

ISC 04 08:37:23.8±1.1**,9°.6S**±0°.1×**114°.24E**±0°.08**,h31**km**,n17, σ1§46**/16**,mb3.6**/5**,South of Bali**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	1.15	356	P	Pb	08 37 45.5	+0.4
IGBI	Denpasar	1.20	48	P	Pn	08 37 45.3	+0.9
DNP	Denpasar	1.34	46	P	Pb	08 37 48.3	0.0
SRBI	Singaraja	1.81	32	P	Pb	08 37 55.3	-0.9
BLJI	Banyuglugur	1.97	341	P	Pb	08 37 58.7	-0.3
KMMI	Kalianget	2.57	354	P	Pb	08 38 07.6	-1.6
TWSI	Taliwang, Sumb	2.75	72	P	Pn	08 38 06.5	+0.7
PLAI	Plampang	3.58	78	P	Pn	08 38 18.9	+1.7
UGM	Wanagama	4.05	295	P	Pn	08 38 26.8	+3.2
BKSI	Bulukumba	7.23	54	P	Pn	08 39 08.9	+1.5
	13nm,0.6s,0.1nm						
EDFI	Ende, Flores	7.41	84	P	Pn	08 39 11.9	+2.0
	5.3nm,1.0s,0.0nm						
WRA	Warramunga Arr	21.95	120	P	P	08 42 13.5	-1.6
	0.5nm,0.6s,baz=293,slow=12,SNR=7.4						
	0.5nm,0.6s						
ASAR	Alice Springs	23.41	129	P	P	08 42 29.6	-0.8
	0.5nm,0.6s,baz=306,slow=9.7,SNR=9.7						
	0.5nm,0.6s						
CTA	Charters Tower	32.59	112	LR	LR	08 56 39.0	
	comp=Z,30nm,18.5s,baz=264,slow=36						
STKA	Stephens Creek	33.65	135	P	P	08 44 01.6	-0.3
	0.6nm,0.6s,baz=322,slow=12,SNR=3.0						
	0.6nm,0.6s						
SONM	Songino Array	57.62	354	P	P	08 47 10.5	-0.5
	0.3nm,0.5s,baz=179,slow=7.2,SNR=2.5						
	0.3nm,0.5s						
MKAR	Makanchi Array	62.98	336	P	P	08 47 47.4	-0.2
	0.6nm,0.6s,baz=148,slow=8.1,SNR=6.1						
	0.6nm,0.6s						

*CNRM **04** 08:47:14.8,38°.86N×0°.80W,h9km,ml3.8*

*IDC **04** 08:47:16.1±1.9,38°.74N×1°.02W,h0km,mb3.2/1, mbtmp3.4/4,ML3.4/3,MS2.4/3,Error ellipse: s-maj=25.1km s-min=16.3km az=33.0*

*INMG **04** 08:47:17.8±2.1,38°.73N×0°.83W,h24km±4km,ML3.9,Error ellipse: s-maj=4.9km s-min=2.9km az=103.0*

*SFS **04** 08:47:18.4,38°.77N×0°.98W,h11km,mb3.9/4,ML4.2/20, ML4.3/18,MLv4.2/20*

*LDG **04** 08:47:18.3±0.1,38°.73N×0°.95W,h2km,Ml3.6/15,Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

*IGIL **04** 08:47:18.4,38°.73N×0°.95W,h12km*

*MDD **04** 08:47:19.4±0.2,38°.72N×0°.96W,h12km,mb_Lg4.0/52, Error ellipse: s-maj=1.7km s-min=1.1km az=127.0*

ISC 04 08:47:16.7±1.0**,38°.77N**±0°.02×**1°.00W**±0°.02**,h14**km±8km**, n126,**σ**1§66**/260**,10C-4D,Spain**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFON	Font Roja	0.37	107	Pg	Pg	08 47 24.0	-0.4
AFON				Sg	Sb	08 47 30.4	-0.5
AFON				i Vmb_Lg		08 47 37.2	
ETOB	Tobarra	0.45	254	⇑Pg	Pb	08 47 26.4	-0.1
ETOB				Sg	Sb	08 47 33.2	+0.1
ETOB				i Vmb_Lg		08 47 36.4	
ETOB	Tobarra	0.45	254	Sg	Sg	08 47 32.0	+0.2
ETOB				Pg	Pb	08 47 26.4	-0.1
EVIV	Cofrentes, Val	0.50	349	⇓Pg	Pb	08 47 28.2	+0.8
EVIV				Sg	Sb	08 47 36.7	+2.1
EVIV				i Vmb_Lg		08 47 39.8	
ECHE	Chera	0.82	2	⇓Pg	Pn	08 47 34.0	+0.1
ECHE				Sg	Sn	08 47 46.8	+0.9
ECHE				i Vmb_Lg		08 47 50.6	
ECHE	Chera	0.82	2	Sg	Sg	08 47 43.8	+0.4
ECHE				Pg	Pn	08 47 34.0	+0.1
EMUR	La Murta	0.95	192	⇑Pg	Pb	08 47 35.3	+0.3
EMUR				Sg	Sb	08 47 47.7	+0.4
EMUR				i Vmb_Lg		08 47 52.1	
EMUR	La Murta	0.95	192	Sg	Sb	08 47 48.4	+1.0
EMUR				Pg	Pg	08 47 34.7	-0.4
EZAR	Zarzadilla de	1.05	212	Pg	Pn	08 47 38.1	+1.0
EZAR				Sg	Sn	08 47 52.1	+0.5
EZAR				i Vmb_Lg		08 47 54.8	
CART	Cartagena	1.18	180	P	Pb	08 47 38.8	-0.2
CART	Cartagena	1.18	180	Pn	Pb	08 47 38.2	-0.8
CART				Sn	Sb	08 47 54.0	-0.2
EMOS	Mosqueruela	1.64	14	⇓Pn	Pb	08 47 46.9	0.0
EMOS				Pg	Pg	08 47 49.3	+1.1
EMOS				Sn	Sb	08 48 08.3	+0.8
EMOS				i Vmb_Lg		08 48 18.3	
ECOL	Islas Columbre	1.72	49	Pn	Pn	08 47 47.2	+0.9
ECOL				Sn	Sn	08 48 09.3	+1.3
EIBI	Ibiza	1.85	81	Pn	Pn	08 47 48.4	+0.4
EIBI				Sn	Sn	08 48 11.6	+0.5
EIBI				i Vmb_Lg		08 48 20.9	
EIBI	Ibiza	1.85	81	Pn	Pn	08 47 48.4	+0.4
EIBI				Sn	Sn	08 48 09.6	-1.5
EQES	Quesada	1.90	240	⇑Pn	Pb	08 47 50.2	-1.0
EQES				Sn	Sb	08 48 14.4	-0.3
EQES				Sg	Sg	08 48 17.7	-0.1
EQES				i Vmb_Lg		08 48 21.3	
ENIJ	Nijar	2.04	208	⇑Pn	Pn	08 47 52.1	+1.5
ENIJ				Sn	Sn	08 48 17.0	+1.2
ENIJ				i Vmb_Lg		08 48 25.0	
ENIJ	Nijar	2.04	208	Pn	Pn	08 47 52.1	+1.5
PSIM	Granatula de C	2.15	272	⇑Pn	Pn	08 47 53.4	+1.2
PSIM				Pg	Pg	08 47 59.4	+1.3
PSIM				Sn	Sb	08 48 21.9	-0.2
PSIM				Sg	Sg	08 48 26.5	+0.5
ETOR	Torete	2.20	339	Pn	Pb	08 47 56.5	+0.2
ETOR				Pg	Pg	08 47 59.7	+0.7
ETOR				Sn	Sb	08 48 23.4	-0.1
ETOR				Sg	Sg	08 48 29.5	+2.0
ETOR				i Vmb_Lg		08 48 31.7	
UCM	Universidad Co	2.32	312	Pn	Pn	08 47 56.1	+1.6
UCM				Sn	Sn	08 48 22.2	-0.6
UCM				Sg	Sg	08 48 32.5	+1.3
EBER	Berja	2.40	219	Pn	Pb	08 47 58.0	-1.8
EBER				Sn	Sn	08 48 26.3	+1.3
EBER				Sg	Sg	08 48 33.8	0.0
EBER				i Vmb_Lg		08 48 42.1	
EBER	Berja	2.40	219	Pn	Pn	08 47 57.4	+1.7
ERTA	Horta de San J	2.41	25	Pn	Pn	08 47 57.9	+2.1
ERTA				Sn	Sn	08 48 26.9	+1.8
ERTA				i Vmb_Lg		08 48 39.0	
ESDC	Sonseca Array	2.47	292	⇑Pn	Pn	08 47 58.1	+1.4
ESDC				Pg	Pg	08 48 05.1	+0.9
ESDC				Sn	Sb	08 48 29.7	-1.6
ESDC				Sg	Sg	08 48 36.5	+0.3
ESDC				i Vmb_Lg		08 48 41.9	
ESDC	Sonseca Array	2.47	292	Pn	Pn	08 47 58.0	+1.4
	9.4nm,0.3s,baz=108,slow=14,SNR=271						
ESDC				LR	LR	08 48 33.3	
	comp=Z,24nm,18.2s,baz=87,slow=31						
ESDC				Lg	Lg	08 48 34.9	
	84nm,0.3s,baz=111,slow=30,SNR=19						
	23nm,0.3s						
EQUE	Quentar	2.48	232	Pn	Pn	08 47 58.8	+1.9
EQUE				Pg	Pg	08 48 02.9	-1.4
EQUE				Sn	Sn	08 48 29.3	+2.3
EQUE				Sg	Sg	08 48 34.4	-2.1
EQUE				i Vmb_Lg		08 48 41.2	
EQTA	Presa de Quent	2.48	232	Pn	Pn	08 47 58.6	+1.8
EQTA				Sg	Sg	08 48 36.4	-0.2
ELGU	Los Guajares,	2.82	228	Pn	Pb	08 48 04.7	-2.2
ELGU				Sn	Sn	08 48 37.6	+2.3
ELGU				i Vmb_Lg		08 48 55.7	
ELGU	Los Guajares,	2.82	228	Sg	Sg	08 48 46.7	-0.6
ELGU				Pn	Pn	08 48 04.1	+2.7
EADA	Adamuz	2.87	259	⇑Pn	Pn	08 48 02.5	+0.4
EADA				Sn	Sn	08 48 39.3	+2.8
EADA				Sg	Sg	08 48 47.4	-1.6
EADA				i Vmb_Lg		08 48 53.0	
EADA	Adamuz	2.87	259	Pn	Pn	08 48 02.5	+0.4
EADA				Sn	Sn	08 48 36.6	+0.1
EADA				Sg	Sg	08 48 48.8	-0.2
EGOR	Sierra Gorda,	2.97	237	Pn	Pn	08 48 05.7	+2.1
EGOR				Sn	Sn	08 48 40.4	+1.4
EGOR				i Vmb_Lg		08 49 04.6	
EGOR	Sierra Gorda,	2.97	237	Pn	Pn	08 48 05.6	+2.1
ESAC	San Caprasio	2.97	8	Pn	Pn	08 48 06.4	+2.9
ESAC				Sn	Sb	08 48 44.2	-1.5
ESAC				Sg	Sg	08 48 50.3	-2.0
ESAC				i Vmb_Lg		08 48 57.4	
EPOB	Poblet	3.03	31	Pn	Pn	08 48 05.8	+1.4
EPOB				Sn	Sn	08 48 41.8	+1.4
GUD	Guadarrama	3.07	309	Pn	Pn	08 48 06.5	+1.6
GUD				Pg	Pg	08 48 15.4	-0.2
GUD				Sn	Sn	08 48 43.0	+1.6
GUD				Sg	Sg	08 48 56.1	+0.8
GUD				i Vmb_Lg		08 48 58.4	
ETOS	Mallorca	3.12	70	Pn	Pn	08 48 06.9	+1.4
ETOS				Sn	Sn	08 48 43.2	+0.5
ETOS	Mallorca	3.12	70	Pn	Pn	08 48 07.0	+1.4
ETOS				Sn	Sn	08 48 42.8	+0.1
EMAL	Malaga-Limoner	3.38	235	Pn	Pn	08 48 11.4	+2.4
EMAL				Sn	Sn	08 48 50.1	+1.2
EMAL				Sg	Sg	08 49 03.5	-1.8
ECAB	El Cabril	3.54	260	⇑Pn	Pn	08 48 11.6	+0.3
ECAB				Sn	Sn	08 48 53.4	+0.4
ECAB				Sg	Sg	08 49 09.7	-0.7
ECAB				i Vmb_Lg		08 49 15.0	
ECAB	El Cabril	3.54	260	Pn	Pn	08 48 11.6	+0.3
ECAB				Sn	Sn	08 48 52.9	-0.1
EMIJ	Mijas	3.72	235	Pn	Pn	08 48 15.7	+2.0
EMIJ				Sn	Sn	08 49 00.1	+2.8
EMIJ				i Vmb_Lg		08 49 18.4	
EMIJ	Mijas	3.72	235	Pn	Pn	08 48 15.8	+2.1
CHAS	Isla Isabel II	3.76	198	Pn	Pn	08 48 15.4	+1.1
GOG	Mont Gurugu	3.89	205	P	Pn	08 48 18.0	+1.9
EORO	Oroz-Betelu	4.12	357	Pn	Pn	08 48 23.0	+3.7
EORO				Pg	Pg	08 48 36.4	+0.7
EORO				Sg	Sg	08 49 28.2	-0.9
EORO				i Vmb_Lg		08 49 41.9	
ETSF	Etsaut	4.14	4	ePn	Pn	08 48 22.6	+3.1
ETSF				eSn	Sn	08 49 06.5	-1.2
	44nm,0.4s						
EPLA	Plasencia	4.14	290	Pn	Pn	08 48 20.6	+1.0
EPLA				Sn	Sn	08 49 10.7	+2.9
EPLA				Sg	Sg	08 49 27.7	-2.0
EPLA				i Vmb_Lg		08 49 36.4	
ESPR	Espera	4.29	245	Pn	Pn	08 48 22.7	+1.1
SJPF	Ste Jean	4.34	358	ePn	Pn	08 48 25.2	+2.9
SJPF	Ste Jean	4.34	358	ePg	Pg	08 48 40.0	+0.1
SJPF				eSg	Sg	08 49 35.7	-0.4
	38nm,0.5s						
EPF	Esparros	4.37	13	ePn	Pn	08 48 25.1	+2.3
EPF	Esparros	4.37	13	ePg	Pg	08 48 40.7	+0.2
EPF				eSg	Sg	08 49 37.0	-0.1
	66nm,0.5s						
EJUZ	Juzbado, Salam	4.41	303	Pn	Pn	08 48 25.3	+1.9
EJUZ				Sn	Sn	08 49 13.6	-0.9
EJUZ				Sg	Sg	08 49 38.4	-0.1
EALK	Alkurruntz	4.46	355	Pn	Pn	08 48 27.7	+3.7
EALK				i Vmb_Lg		08 49 46.8	
CEU	Ceuta	4.51	232	Pn	Pn	08 48 26.7	+2.1
EMIN	Mina Concepcio	4.58	259	Pn	Pn	08 48 25.7	+0.2
EMIN				Sn	Sn	08 49 16.8	-1.7
EMIN				Sg	Sg	08 49 40.6	-3.1
EMIN				i Vmb_Lg		08 49 46.3	
EMIN	Mina Concepcio	4.58	259	Pn	Pn	08 48 25.8	+0.2
EMIN				Sn	Sn	08 49 16.7	-1.8
JBK	JBK	4.61	196	P	Pn	08 48 28.0	+1.9
SMIR	Smir Dam	4.66	230	P	Pn	08 48 28.0	+1.3
EBAD	Badajoz	4.70	272	Pn	Pn	08 48 27.5	+0.3
EBAD				Sn	Sn	08 49 22.9	+1.3
EBAD				i Vmb_Lg		08 49 54.2	
EBAD	Badajoz	4.70	272	Pn	Pn	08 48 27.7	+0.4
EJON	La Jonquera	4.72	38	Pn	Pn	08 48 29.3	+1.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EJON				i Vmb_Lg		08 50 15.4	
PBAR	Barrancos	4.78	265	⇑iPn	Pn	08 48 28.4	+0.2
PBAR	Barrancos	4.78	265	ePg	Pg	08 48 49.6	+1.4
PBAR				eSn	Sn	08 49 23.1	-0.3
PBAR				eSg	Sg	08 49 48.6	-1.5
PBAR				A	A	08 49 55.5	
	120nm,0.6s						
PBAR	Barrancos	4.78	265	Pn	Pn	08 48 28.5	+0.2
ELAN	Lanestosa	4.82	338	Pn	Pn	08 48 31.7	+2.8
ELAN				Sn	Sn	08 49 28.2	+3.7
ELAN				i Vmb_Lg		08 50 07.6	
PMRV	Marv??o	5.02	280	ePn	Pn	08 48 32.8	+1.2
PMRV				eSn	Sn	08 49 29.8	+0.5
PMRV				eSg	Sg	08 49 55.3	-2.4
PMRV				A	A	08 50 05.7	
	132nm,0.5s						
PCBR	Castelo Branco	5.14	284	ePn	Pn	08 48 35.1	+1.9
PCBR				eSn	Sn	08 49 33.7	+1.4
PCBR				eSg	Sg	08 50 01.7	+0.1
PCBR				A	A	08 50 11.3	
	115nm,0.7s						
PESTR	Estremoz	5.15	273	⇑ePn	Pn	08 48 34.0	+0.6
PESTR				eSn	Sn	08 49 33.1	+0.5
PESTR				eSg	Sg	08 50 03.5	+1.5
PESTR				A	A	08 50 07.5	
	96nm,0.5s						
PESTR	Estremoz	5.15	273	P	Pn	08 48 34.0	+0.6
PESTR	Estremoz	5.15	273	Pn	Pn	08 48 34.0	+0.6
MTLF	Montolieu	5.17	27	ePn	Pn	08 48 34.7	+1.0
MTLF	Montolieu	5.17	27	ePg	Pg	08 48 55.2	-0.5
MTLF				eSg	Sg	08 50 01.9	-0.8
	42nm,0.6s						
MVO	Moncorvo	5.21	299	⇓iPn	Pn	08 48 35.8	+1.5
MVO				eSn	Sn	08 49 33.8	-0.4
MVO				eSg	Sg	08 50 03.9	-0.1
MVO				A	A	08 50 11.3	
	108nm,0.5s						
EGRO	El Granado	5.26	258	Pn	Pn	08 48 34.7	-0.2
EGRO				Sn	Sn	08 49 33.1	-2.2
EGRO				Sg	Sg	08 50 02.4	-3.1
EGRO				i Vmb_Lg		08 50 09.7	
EGRO	El Granado	5.26	258	Pn	Pn	08 48 34.7	-0.2
EGRO				Sn	Sn	08 49 33.7	-1.5
MTE	Manteigas	5.31	290	ePn	Pn	08 48 37.9	+2.2
MTE	Manteigas	5.31	290	ePg	Pg	08 48 58.1	-0.3
MTE				eSn	Sn	08 49 36.2	-0.5
MTE				eSg	Sg	08 50 07.5	+0.3
MTE				A	A	08 50 12.7	
	143nm,0.6s						
PBRG	Braganca	5.33	306	ePn	Pn	08 48 37.2	+1.2
PBRG				eSn	Sn	08 49 37.1	-0.1
PBRG				eSg	Sg	08 50 07.5	-0.4
PBRG				A	A	08 50 13.5	
	101nm,0.6s						
ECAL	Calabor	5.41	308	Pn	Pn	08 48 38.2	+1.2
ECAL				i Vmb_Lg		08 50 17.4	
ECAL	Calabor	5.41	308	Pn	Pn	08 48 38.2	+1.2
PBEJ	Beja	5.45	264	ePn	Pn	08 48 39.0	+1.5
PBEJ				eSn	Sn	08 49 39.8	-0.1
PBEJ				eSg	Sg	08 50 12.8	+1.3
PBEJ				A	A	08 50 23.4	
	70nm,0.5s						
PVAQ	Vaqueiros	5.47	258	ePn	Pn	08 48 37.7	-0.1
PVAQ				eSn	Sn	08 49 38.1	-2.5
PVAQ				eSg	Sg	08 50 10.0	-2.4
EVO	Evora	5.50	270	ePn	Pn	08 48 39.4	+1.3
EVO				eSn	Sn	08 49 40.3	-0.8
EVO				eSg	Sg	08 50 14.9	+1.8
EVO				A	A	08 50 26.4	
	68nm,0.5s						
PMTG	Montargil	5.64	275	ePn	Pn	08 48 41.2	+1.0
PMTG				eSn	Sn	08 49 40.4	-4.4
PMTG				eSg	Sg	08 50 18.0	+0.2
PMTG				A	A	08 50 24.7	
	118nm,0.6s						
PVIS	Viseu	5.66	292	ePn	Pn	08 48 41.6	+1.2
PVIS				eSn	Sn	08 49 44.9	-0.3
PVIS				eSg	Sg	08 50 17.6	-0.7
PVIS				A	A	08 50 28.5	
	76nm,0.4s						
PCVE	Castro Verde	5.66	261	ePn	Pn	08 48 40.2	-0.2
PCVE				eSn	Sn	08 49 42.4	-2.8
PCVE				eSg	Sg	08 50 16.5	-1.9
PCVE				A	A	08 50 26.1	
	69nm,0.5s						
PCVE	Castro Verde	5.66	261	Pn	Pn	08 48 40.4	-0.1
PBDV	Barranco-do-Ve	5.68	257	ePn	Pn	08 48 41.2	+0.5
PBDV				eSn	Sn	08 49 44.5	-1.3
PBDV				eSg	Sg	08 50 17.5	-1.6
PBDV				A	A	08 50 34.9	
	57nm,0.6s						
PVRL	Vila Real	5.73	298	ePn	Pn	08 48 42.7	+1.3
PVRL				eSg	Sg	08 50 20.4	-0.2
PVRL				A	A	08 50 38.4	
	61nm,0.8s						
MESJ	Messejana	5.75	263	ePn	Pn	08 48 42.0	+0.3
MESJ				eSn	Sn	08 49 45.3	-2.2
MESJ				eSg	Sg	08 50 20.6	-0.8
MESJ				A	A	08 50 28.3	
	79nm,0.8s						
MESJ	Messejana	5.75	263	eP	Pn	08 48 41.9	+0.2
POLO	Lamas de Olo	5.82	299	ePn	Pn	08 48 44.0	+1.3
POLO				eSn	Sn	08 49 48.6	-0.7
POLO				eSg	Sg	08 50 24.2	+0.6
POLO				A	A	08 50 35.5	
	36nm,0.6s						
PCAS	Casmilo, Conde	5.95	285	ePn	Pn	08 48 45.7	+1.4
PCAS				eSn	Sn	08 49 53.1	+0.9
PCAS				eSg	Sg	08 50 26.9	-0.7
PCAS				A	A	08 50 44.3	
	106nm,0.6s						
PNCL	Nicolau / Gran	5.95	266	ePn	Pn	08 48 44.8	+0.5
PNCL				eSn	Sn	08 49 50.3	-1.9
PNCL				eSg	Sg	08 50 27.3	-0.3
PNCL				A	A	08 50 41.3	
	48nm,0.6s						
PNCL	Nicolau / Gran	5.95	266	Pn	Pn	08 48 44.6	+0.2
PSBE	So Bento	6.11	279	ePn	Pn	08 48 48.7	+2.1
PSBE				eSg	Sg	08 50 32.1	-0.6
PSBE				A	A	08 50 41.1	
	98nm,0.5s						
PACT	Alcochete	6.12	272	ePn	Pn	08 48 49.0	+2.3
PACT				eSn	Sn	08 49 59.7	+3.2
PACT				eSg	Sg	08 50 33.5	+0.3
PACT				A	A	08 50 47.2	
	130nm,0.5s						
PTEO	Sao Teotonio	6.21	261	ePn	Pn	08 48 49.7	+1.8
PTEO				eSn	Sn	08 49 55.8	-2.9
PTEO				eSg	Sg	08 50 37.3	+1.3
PTEO				A	A	08 50 47.0	
	78nm,0.6s						
MORF	Marmelete	6.22	259	ePn	Pn	08 48 48.1	0.0
MORF				eSn	Sn	08 49 58.0	-0.9
MORF				A	A	08 50 47.4	
	33nm,0.7s						
MORF	Marmelete	6.22	259	eP	Pn	08 48 48.1	0.0
ELOB	Lobios	6.22	302	Pn	Pn	08 48 49.1	+1.0
ELOB				Sn	Sn	08 50 00.2	+1.2
ELOB				i Vmb_Lg		08 50 45.1	
PGAV	Gavieira, Arco	6.40	302	ePn	Pn	08 48 51.4	+0.7
PGAV				eSn	Sn	08 50 01.9	-1.7
PGAV				eSg	Sg	08 50 40.7	-1.5
PGAV				A	A	08 50 57.4	
	84nm,0.6s						
LASF	Ste Croix	6.43	33	ePn	Pn	08 48 52.3	+1.3
LASF				eSn	Sn	08 50 00.8	-3.4
	8.7nm,0.6s						
PMAFR	Mafra	6.47	274	ePn	Pn	08 48 53.0	+1.5
PMAFR				eSn	Sn	08 50 02.7	-2.4
PMAFR				eSg	Sg	08 50 46.9	+2.6
PMAFR				A	A	08 51 08.2	
	91nm,0.7s						
EPON	Pontenova	6.50	316	Pn	Pn	08 48 53.5	+1.5
EPON				i Vmb_Lg		08 50 55.7	
CAF	Calviac	6.56	19	ePn	Pn	08 48 54.2	+1.4
CAF				eSn	Sn	08 50 04.1	-3.3
CAF				eSg	Sg	08 50 45.9	-1.3
	14nm,0.6s						
MDT	Midelt	6.63	207	Pn	Pn	08 48 55.5	+1.7
	0.3nm,0.3s,baz=18,slow=9.6,SNR=7.5						
MDT				Sn	Sn	08 50 10.9	+1.7
	0.2nm,0.3s,baz=43,slow=18,SNR=1.4						
MDT				LR	LR	08 50 58.8	
	comp=Z,44nm,19.8s,baz=8.0,slow=34						
	0.7nm,0.4s						
EAGO	Agolada(Pontev	6.72	309	Pn	Pn	08 48 55.7	+0.7
EAGO				i Vmb_Lg		08 51 02.9	
SMRF	Simiane la Rot	7.17	41	ePn	Pn	08 49 01.5	+0.3
SMRF				eSn	Sn	08 50 17.9	-4.6
	1.9nm,0.3s						
EMAZ	Mazaricos	7.34	307	Pn	Pn	08 49 04.2	+0.6
EMAZ				i Vmb_Lg		08 51 20.2	
VIVF	Saint-Julien-l	7.41	33	ePn	Pn	08 49 05.3	+0.9
VIVF				eSn	Sn	08 50 24.1	-4.1
	2.2nm,0.5s						
TCF	Toulx Ste Croi	7.88	16	ePn	Pn	08 49 11.2	+0.4
TCF				eSn	Sn	08 50 35.5	-4.2
	4.7nm,0.5s						
BGF	Bois d'Agland	8.28	19	ePn	Pn	08 49 17.7	+1.4
BGF				eSn	Sn	08 50 45.4	-4.2
BGF				eSg	Sg	08 51 39.0	-3.2
	23nm,0.6s						
PGF	Pioggiola	8.48	60	ePn	Pn	08 49 19.5	+0.3
AVF	Avril sur Loir	8.63	20	eSn	Sn	08 50 53.3	-4.8
	3.0nm,0.5s						
SMF	Signal de Mont	8.63	23	ePn	Pn	08 49 22.8	+1.6
SMF				eSn	Sn	08 50 53.5	-4.9
	4.0nm,0.5s						
KEST	Kesra	8.79	107	Pn	Pn	08 49 26.5	+3.0
	0.5nm,0.3s,baz=283,slow=10,SNR=1.7						
KEST				Sn	Sn	08 51 04.6	+2.3
	0.6nm,0.3s,baz=269,slow=9.4,SNR=2.6						
	3.8nm,0.6s						
QUIF	Quistinic	9.28	351	ePn	Pn	08 49 30.6	+0.7
SGMF	Saint Gilles	9.54	354	ePn	Pn	08 49 34.4	+0.7
GRR	Gorron	9.61	1	ePn	Pn	08 49 35.4	+0.8
ROSF	Rostrenen	9.70	351	ePn	Pn	08 49 36.6	+0.8
ROSF				eSn	Sn	08 51 19.5	-5.0
	2.7nm,0.2s						
NOA	NORSAR Array B	23.56	15	LR	LR	09 02 29.2	
	comp=Z,12nm,18.0s,baz=115,slow=39						
TORD	Torodi Ar. Bea	25.63	174	P	P	08 52 46.0	+0.1
	0.3nm,0.7s,baz=353,slow=10,SNR=1.5						
	0.3nm,0.7s						

*JMA **04** 08:51:32.4±0.4, 43°N±1°×14°7E±°, h44^{km}, MV2.5/23, E OFF HOKKAIDO*
*SKHL **04** 08:51:35.3±0.6, 43°.40N×146°.80E, h33^{km}±3^{km}, mb3.5/3*
ISC 04 08:51:36.1±1.9, **43°.50N**±0°.09×**146°.78E**±0°.09, **h29**^{km}±14^{km}, **n13**, σ**0ˢ.81**/19, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.37	5	eP	Pb	08 51 44.6	+0.2
SHO				AMB	AMB	08 51 45.8	
	20nm,0.3s						
SHO				eS	Sn	08 51 51.3	-0.4
SHO				A	A	08 51 52.0	
	90nm,0.2s						
SHO				A	A	08 51 52.0	
	130nm,0.2s						
NEM2	Nemuro 2	0.77	260	iP	Pn	08 51 49.9	-1.0
NEM2				eS	Sn	08 52 02.3	+0.8
YUK	Yuzh-Kuril'sk	0.85	309	eP	Pn	08 51 51.2	-0.9
YUK				AMB	AMB	08 51 52.0	
	30nm,0.2s						
YUK				eS	Sn	08 52 03.6	0.0
YUK				A	A	08 52 06.3	
	100nm,0.2s						
YUK				A	A	08 52 06.3	
	80nm,0.2s						
JKHN	Kushirohamanak	1.25	251	P	Pn	08 51 56.9	-0.7
JRA	Rausu	1.28	291	eP	Pn	08 51 57.2	-0.8
JRA				eS	Sn	08 52 15.1	+0.9
JNSB	Nemuroshibetsu	1.32	283	eP	Pn	08 51 57.9	-0.6
JNK	Nakash	1.50	274	eP	Pn	08 52 00.1	-1.0
JNK				eS	Sn	08 52 21.1	+1.4
JAK	Akkeshi	1.60	252	P	Pn	08 52 01.3	-1.1
KUR	Kuril'sk	1.90	24	eP	Pn	08 52 06.6	+0.1
KUR				AMB	AMB	08 52 10.5	
	20nm,0.5s						
KUR				eS	Sn	08 52 29.8	+0.4
KUR				A	A	08 52 37.7	
	20nm,0.4s						
KUR				A	A	08 52 37.7	
	30nm,0.4s						
JTKR	Abashiri--Toko	2.13	284	eP	Pn	08 52 09.6	-0.1
JAR	Ashorobuto	2.20	266	eP	Pn	08 52 10.8	0.0
JOB	Onbets	2.24	256	eP	Pn	08 52 10.5	-0.6
JCH	Churui	2.66	252	eP	Pn	08 52 16.9	0.0

IDC 04 08:51:41.3±3.6, **54°.30N**×**87°.56E**, **h0**^{km}, **mbtmp3.5**/2, **ML2.5**/2, **Error ellipse: s-maj=28.7km s-min=18.0km az=56.0**, **Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.65	259	I	I	09 03 51.9	
	baz=76,slow=347,SNR=5.1						
ZALV	Zalesovo Beam	1.65	259	Pg	Pn	08 52 11.4	-0.2
	1.3nm,0.3s,baz=80,slow=17,SNR=15						
ZALV				Lg	Lg	08 52 33.2	
	1.2nm,0.3s,baz=79,slow=24,SNR=5.9						
KURBB	Kurchatov Arra	6.63	240	Pn	Pn	08 53 20.7	+0.7
	0.1nm,0.3s,baz=52,slow=13,SNR=3.1						
	3.1nm,0.2s						
MKAR	Makanchi Array	8.23	206	Pn	Pn	08 53 42.5	+0.6
	0.1nm,0.3s,baz=28,slow=14,SNR=1.5						
MKAR				Sn	Sn	08 55 16.0	+0.5
	0.1nm,0.3s,baz=24,slow=26,SNR=3.1						
MKAR				Lg	Lg	08 56 00.9	
	baz=16,slow=27,SNR=1.6						
	1.0nm,1.0s						

*DJA **04** 08:55:10.2±0.4, 1°N±3°×12°7E±°, h133^{km}±4^{km}, M4.4/12, mb4.6/6, mB5.1/1, MLv4.4/12, Mw(mB)4.5/1, MwMwp6.2/1, Mwp6.2/1*
*IDC **04** 08:55:19.4±9.6, 0°.58N×127°.11E, h193^{km}±71^{km}, mb3.6/4, mbtmp4.1/5, Error ellipse: s-maj=86.7km s-min=40.5km az=23.0*
ISC 04 08:55:09.9±1.3, **1°.3N**±0°.1×**127°.20E**±0°.09, **h150**^{km}, **n16**, σ**1ˢ.27**/19, **mb3.9**/4, **Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.50	160	P	Pn	08 55 30.7	-0.5
TNTI				S	Sn	08 55 45.7	-1.9
LBMI	Labuha	1.90	171	P	Pn	08 55 44.5	+0.6
LBMI				S	Sn	08 56 08.9	-1.1
SGSI	Sangihe	2.94	325	P	Pn	08 55 56.0	-0.5
KMSI	Cibinong	3.29	258	P	Pn	08 56 00.4	-0.5
SANI	Sanana	3.49	200	P	Pn	08 56 02.3	-1.3
GTOI	Gorontalo	4.23	262	P	Pn	08 56 14.4	+1.2
NLAI	Namlea	4.46	181	P	Pn	08 56 15.3	-0.9
LUWI	Luwuk	4.98	243	P	Pn	08 56 22.0	-1.0
MRSI	Marisa	5.31	262	P	Pn	08 56 27.0	-0.4
	68nm,0.7s,0.2nm						
TTSI	Tana Toraja	8.52	240	P	Pn	08 57 09.8	-0.5
	46nm,0.9s						
SPSI	Sidrap Palu	9.05	235	P	Pn	08 57 19.0	+1.6
	74nm,0.6s						
KAPI	Kappang	9.70	230	P	Pn	08 57 28.8	+2.9
	14nm,0.5s,baz=162,slow=1.5,SNR=8.5						
KAPI				S	Sn	08 59 12.1	-1.4
	4.0nm,0.3s,baz=170,slow=22,SNR=5.7						
WRA	Warramunga Arr	22.20	162	P	P	08 59 54.0	-0.2
	6.3nm,0.5s,baz=340,slow=11,SNR=56						
	6.3nm,0.5s						
ASAR	Alice Springs	25.61	166	P	P	09 00 25.6	+0.1
	0.4nm,0.2s,baz=344,slow=7.9,SNR=16						
	0.4nm,0.2s						
STKA	Stephens Creek	35.66	159	P	P	09 01 54.6	+0.9
	2.1nm,0.5s,baz=347,slow=7.8,SNR=9.4						
	2.1nm,0.5s						
VNDA	Vanda	80.92	173	P	P	09 07 07.8	+0.8
	0.8nm,0.7s,baz=324,slow=5.1,SNR=6.0						
	0.8nm,0.7s						

*MOS **04** 08:59:35.3±1.1, 21°.66N×121°.48E, h12^{km}, mb5.2/42, MS4.1/4, Error ellipse: s-maj=9.7km s-min=5.6km az=113.2*
*NIED **04** 08:59:37.6, 21°.79N×121°.36E, h12^{km}, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.42; $M_{\theta\theta}$-0.18; $M_{\phi\phi}$-1.25; $M_{r\theta}$0.66; $M_{\theta\phi}$-0.03; $M_{\phi r}$0.82; Fault plane solution: $M_0$1.69000×10^{16} NP1:ϕ_s22.00000°, δ64.00000°, λ105.00000°. NP2:ϕ_s169.00000°, δ30.00000°, λ61.00000°.*
*ASIES **04** 08:59:38.0, 21°.72N×121°.38E, h32^{km}, ML5.0, Mw4.7, Moment Tensor Solution. Moment tensor: Scale 10^{23}Nm; M_{rr}1.36; $M_{\theta\theta}$-0.08; $M_{\phi\phi}$-1.28; $M_{r\theta}$0.23; $M_{\theta\phi}$-0.39; $M_{\phi r}$-0.19; Fault plane solution: $M_0$1.41460×10^{23} NP1: ϕ_s185.31000°, δ48.44000°, λ74.85000°. NP2:ϕ_s27.51000°, δ43.76000°, λ106.42000°. Principal axes: T Plg78.4700°, Azm27.7430°; N Plg11.2750°, Azm195.4940°; P Plg2.3830°, Azm285.9700°;*
*TAP **04** 08:59:38.0, 21°.72N×121°.38E, h32^{km}, ML5.0, D*
*JMA **04** 08:59:37.6±0.3, 22°N±1°×12°1E±°, h12^{km}±4^{km}, MD4.6/18, MV5.1/18, TAIWAN REGION*
*NEIC **04** 08:59:38.5, 21°.81N×121°.31E, h16^{km}*
*NEIC **04** 08:59:38.5, 21°.71N×121°.53E, h16^{km}, Moment Tensor Solution. Duration: 1ˢ3 Moment tensor: Scale 10^{16}Nm; M_{rr}2.04; $M_{\theta\theta}$-0.30; $M_{\phi\phi}$-1.74; $M_{r\theta}$0.37; $M_{\theta\phi}$-0.36; $M_{\phi r}$-0.51; Fault plane solution: $M_0$2.02000×10^{16} NP1: ϕ_s181.73000°, δ52.11000°, λ75.96000°. NP2:ϕ_s23.89000°, δ40.04000°, λ107.31000°. Principal axes: T 2.1787, Plg77.0000°, Azm40.0000°; N -0.3087, Plg11.0000°, Azm190.0000°; P -1.8701, Plg6.0000°, Azm282.0000°;*
*BJI **04** 08:59:38.7, 21°.86N×121°.25E, h7^{km}, mb4.5/62, mB4.9/44, ML4.3/7, Ms4.6/77, Ms7 4.5/70*
*GCMT **04** 08:59:39.3±0.3, 21°.84N±0°.03×121°.40E±0°.02, h21^{km}, MW5.0/91, Moment Tensor Solution. s56,c62; s91,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.51±.17; $M_{\theta\theta}$-0.57±.10; $M_{\phi\phi}$-2.94±.11; $M_{r\theta}$-1.07±.20; $M_{\theta\phi}$-0.99±.08; $M_{\phi r}$-0.88±.17; Best double couple: $M_0$3.67000×10^{16} NP1:ϕ_s210.00000°, δ56.00000°, λ101.00000°. NP2: ϕ_s11.00000°, δ36.00000°, λ74.00000°. Principal axes: T 3.8330, Plg76.0000°, Azm156.0000°; N -0.3250, Plg9.0000°, Azm24.0000°; P -3.5080, Plg10.0000°, Azm292.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **04** 08:59:40.3±2.1, 21°.78N±0°.06×121°.46E±0°.07, h27^{km}±5^{km}, mb5.0/69, Mww4.8/18 Error ellipse: s-maj=9.8km s-min=8.7km az=90.0*
*IDC **04** 08:59:46.5±2.1, 21°.66N×121°.61E, h92^{km}±18^{km}, mb4.2/33, mbtmp4.6/35, MS3.9/50, Error ellipse: s-maj=14.7km s-min=8.6km az=73.0*
ISC 04 08:59:39.5±0.5, **21°.71N**±0°.03×**121°.38E**±0°.02, **h26**^{km}±2^{km}, **h27**^{km}**:pP-P**, **n489**, σ**1ˢ.74**/573, **mb4.8**/128, **MS4.0**/68, **11C-23D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LYUB	Lan-yu	0.34	33	⇓iP	Pb	08 59 46.1	-1.2
	baz=34						
LYUB				iS	Sb	08 59 52.0	-0.6
	baz=34						
LAY	Lan-yu	0.36	26	⇓P	Pb	08 59 46.3	-1.3
	baz=34						
LAY				S	Sb	08 59 52.8	-0.2
	baz=34						
TSEB	Hengchuen, Pin	0.48	293	⇓iP	Pb	08 59 49.6	+0.1
	baz=291						
TSEB				iS	Sn	08 59 57.6	-0.6
	baz=291						
TWKBT	Hengchun	0.57	293	⇓iP	Pb	08 59 50.1	-0.9
	baz=293						
TWKBT				iS	Sb	08 59 58.0	-0.8
	baz=293						
TWK1	Hengchun	0.58	293	⇓iP	Pb	08 59 50.0	-1.1
	baz=293						
TWK1				S	Sb	08 59 58.8	-0.3
	baz=293						
SMST	Manzhou Townsh	0.59	301	⇓P	Pb	08 59 50.1	-1.2
	baz=310						
SMST				S	Sb	08 59 58.6	-0.7
	baz=310						
HEN	Hengchun	0.66	296	⇓P	Pb	08 59 51.6	-0.9
	baz=303						
TAWH	Dawu Township	0.77	324	⇓iP	Pb	08 59 52.4	-1.9
	baz=324						
TAWH				eS	Sb	09 00 02.8	-1.7
	baz=324						
TAW	Tawu	0.78	325	⇓iP	Pb	08 59 52.4	-2.1
	baz=325						
TAW				eS	Sb	09 00 02.9	-1.8
	baz=325						
EAST	Anshuo	0.83	324	⇓iP	Pb	08 59 53.2	-2.1
	baz=332						
EAST				eS	Sb	09 00 04.5	-1.6
	baz=332						
LDUT	Ludao	0.96	5	⇓P	Pn	08 59 55.2	-2.0
	baz=5.0						
LDUT				S	Sb	09 00 08.6	-1.2
	baz=5.0						
SCZT	Fangliau	0.96	313	⇓iP	Pn	08 59 55.8	-1.4
	baz=321						
SCZT				S	Sb	09 00 08.3	-1.6
	baz=321						
ECL	Taimali	0.96	336	⇓iP	Pn	08 59 54.7	-2.6
	baz=336						
ECL				eS	Sb	09 00 06.0	-3.9
	baz=336						
TTN	Taitung	1.06	348	P	Pn	08 59 57.6	-1.0
	baz=349						
TTN				S	Sn	09 00 13.2	+0.7
	baz=349						
MASBT	Mashibuluo	1.13	322	⇓P	Pn	08 59 58.0	-1.6
	baz=330						
MASBT				eS	Sn	09 00 12.3	-2.0
	baz=330						
TWGBT	Beinan	1.14	346	P	Pn	08 59 57.6	-2.1
TWGBT	Beinan	1.14	346	⇓iP	Pn	08 59 57.3	-2.4
	baz=335						
TWGBT				S	Sn	09 00 11.2	-3.2
	baz=335						
TWG	Pinlang	1.14	346		Pn	08 59 57.4	-2.4
TWG					Sn	09 00 11.6	-2.9
TWG	Pinlang	1.14	346	⇓iP	Pn	08 59 57.3	-2.4
	baz=335						
TWG				iS	Sn	09 00 11.6	-2.9
	baz=335						
TSMG	Majia	1.20	326	eP	Pn	08 59 59.2	-1.3
	baz=335						
LONT	Longtian	1.21	349	⇓P	Pn	08 59 58.5	-2.2
	baz=338						
LONT				eS	Sn	09 00 14.5	-1.8
	baz=338						
SGLT	Jiouru	1.30	321	eP	Pb	09 00 03.4	+0.1
	baz=332						
KAU	Kaohsiung	1.31	311	eP	Pn	09 00 01.9	-0.2
	baz=294						
CHKT	Chengkung	1.38	359	iP	Pn	09 00 01.3	-1.8
	baz=8.0						
CHKT				S	Sn	09 00 19.3	-1.1
	baz=8.0						
ECS	Chishang	1.39	354	eP	Pn	09 00 01.3	-1.8
	baz=341						
ECS				eS	Sn	09 00 19.5	-1.1
	baz=341						
WSSB	Gushan	1.39	312	eP	Pn	09 00 03.8	+0.6
	baz=297						
TWM1	Shoushan	1.42	321	eP	Pb	09 00 05.0	-0.3
	baz=335						
SNJT	Kaohsiung City	1.42	317	eP	Pb	09 00 05.1	-0.1
	baz=317						
SCST	Cishan	1.43	325	eP	Pn	09 00 03.9	+0.3
	baz=334						
SCST				eS	Sb	09 00 22.3	-0.9
	baz=334						
EHD	Haiduan	1.44	354	eP	Pn	09 00 01.4	-2.4
	baz=342						
EHD				S	Sn	09 00 18.7	-3.2
	baz=342						
SLGT	Liugui	1.45	332	eP	Pn	09 00 03.8	-0.1
	baz=333						
SLGT				eS	Sb	09 00 23.1	-0.6
	baz=333						
FULB	Fuli	1.48	357	eP	Pn	09 00 03.0	-1.5
	baz=344						
FULB				eS	Sn	09 00 22.6	-0.4
	baz=344						
ELDTW	Lidau	1.51	347	eP	Pn	09 00 02.6	-2.3

baz=347
ELDTW eS Sn 09 00 21.1 -2.6
baz=347
SGST Jiashian 1.55 332 eP Pn 09 00 04.8 -0.6
baz=343
SGST S Sb 09 00 25.9 -0.8
baz=343
STYH Taoyuan 1.56 339 eP Pn 09 00 04.6 -0.8
baz=343
ECBN Changbin 1.60 2 eP Pn 09 00 05.0 -1.0
baz=9.0
ECBN eS Sn 09 00 23.2 -2.6
baz=9.0
SHHT Tainan City 1.61 324 eP Pb 09 00 07.8 -0.9
baz=324
EYUL Yuli 1.63 358 eP Pn 09 00 04.9 -1.5
baz=347
TWF1 Yuli 1.63 357 eP Pn 09 00 04.2 -2.3
baz=347
TWF1 eS Sn 09 00 22.7 -4.0
baz=347
CHN3 Shinhua 1.65 326 eP Pb 09 00 08.7 -0.5
baz=325
CHN3 eS Sb 09 00 29.8 +0.2
baz=325
CHN1 Nanshi 1.66 332 eP Pn 09 00 07.8 +0.8
baz=332
CHN1 eS Sb 09 00 29.6 -0.4
baz=332
YULB Yu-li 1.67 357 Pn 09 00 04.7 -2.4
YULB Yu-li 1.67 357 P Pn 09 00 07.3 +0.2
YULB Yu-li 1.67 357 eP Pn 09 00 04.5 -2.6
baz=348
WTP Ta-pu 1.68 335 ⇓iP Pn 09 00 07.8 +0.6
baz=335
WTP eS Sb 09 00 29.4 -1.2
baz=335
SNST Tainan City 1.71 332 eP Pb 09 00 08.9 -1.3
baz=331
SNST eS Sb 09 00 30.0 -1.3
baz=331
TPUB Ta-pu 1.73 336 Pn 09 00 08.5 +0.7
TPUB Ta-pu 1.73 336 P Pn 09 00 08.5 +0.7
TPUB Ta-pu 1.73 336 ⇓P Pn 09 00 08.2 +0.4
baz=336
TWK Hsinying 1.75 332 eP Pn 09 00 08.5 +0.2
baz=332
TWK eS Sn 09 00 29.8 +0.1
baz=332
HGSD Ruisui 1.77 1 eP Pn 09 00 07.5 -0.9
baz=11
CHN4 Tsaushan 1.79 336 eP Pn 09 00 09.4 +0.8
baz=336
EHY Hungye 1.79 358 eP Pn 09 00 06.4 -2.2
baz=349
SCLT Jiali 1.82 323 eP Pn 09 00 09.7 +0.6
baz=323
SCLT eS Sb 09 00 32.7 -1.9
baz=323
WCKO Fanlu 1.86 338 eP Pn 09 00 10.3 +0.6
baz=337
WCKO eS Sb 09 00 34.0 -1.7
baz=337
TSCK Chigu Township 1.86 320 P Pn 09 00 09.7 0.0
baz=320
TSCK eS Sn 09 00 32.6 +0.3
baz=320
ALS Alishan 1.87 344 iP Pn 09 00 09.7 -0.3
baz=344
ALS S Sb 09 00 34.4 -1.8
baz=344
ICHU Yijhu 1.93 328 eP Pn 09 00 10.7 +0.1
baz=328
ICHU eS Sb 09 00 35.8 -1.9
baz=328
EGFH Guangfu 1.95 1 eP Pn 09 00 10.1 -0.8
baz=350
CHN8 Yiju 1.95 327 eP Pn 09 00 09.5 -1.4
baz=327
CHN8 eS Sb 09 00 36.1 -2.2
baz=327
CHY Chiayi 1.98 334 eP Pn 09 00 11.2 -0.1
baz=334
CHY eS Sn 09 00 36.7 +1.4
baz=334
CHN5 Tsauling 1.98 341 eP Pn 09 00 12.2 +0.8
baz=341
TEGC Jichi Village 1.99 4 eP Pn 09 00 09.8 -1.7
baz=4.0
WARBT Fenglin Townsh 2.00 0 eP Pn 09 00 09.3 -2.3
baz=351
WHYT Xinyi Township 2.03 346 eP Pn 09 00 12.2 +0.1
baz=346
WHYT eS Sn 09 00 38.0 +1.4
baz=346
VWDT VWDT 2.04 354 eP Pn 09 00 11.6 -0.6
baz=5.0
VWDT eS Sn 09 00 35.5 -1.2
baz=5.0
ESL Shilin 2.09 1 eP Pn 09 00 12.3 -0.6
baz=351
ESL eS Sn 09 00 35.5 -2.5
baz=351
SSLB Suanglung 2.10 349 Pn 09 00 12.8 -0.2
SSLB Suanglung 2.10 349 P Pn 09 00 14.2 +1.2
SSLB Suanglung 2.10 349 eP Pn 09 00 12.8 -0.2
baz=349
WGK Gukeng 2.10 339 eP Pn 09 00 13.4 +0.4
baz=339
WDLH Douliu 2.12 339 eP Pn 09 00 13.4 +0.3
baz=338
WTK Tuku 2.17 335 eP Pn 09 00 13.7 -0.2
baz=335
WTK S Sn 09 00 41.4 +1.5
baz=335
WJS Zhushan 2.18 344 eP Pn 09 00 15.5 +1.4
baz=344
WJS eS Sn 09 00 42.0 +1.7
baz=344
WSF Szhu 2.19 331 eP Pn 09 00 12.9 -1.3
baz=331
WSF eS Sn 09 00 40.3 -0.2
baz=331
SMLT Sun Moon Lake 2.21 349 eP Pn 09 00 15.2 +0.7
baz=349
SMLT iS Sb 09 00 43.5 -2.2
baz=349
WDGT Dungji 2.21 314 iP Pn 09 00 13.0 -1.5
baz=314
WDGT S Sn 09 00 39.1 -1.9
baz=314
TYC Yuchr 2.23 348 P Pn 09 00 16.0 +1.2
baz=348
OWD Renai 2.24 355 eP Pn 09 00 13.8 -1.1
baz=3.0
ETM Tongmen 2.25 3 eP Pn 09 00 14.0 -1.0
baz=353
ETM eS Sn 09 00 39.0 -2.8
baz=353
WNT Mingjian 2.25 344 eP Pn 09 00 16.4 +1.5
baz=344
HWA Hwalien 2.26 5 eP Pn 09 00 13.8 -1.4
baz=15
WUSB Renai 2.28 354 eP Pn 09 00 15.4 -0.2
baz=3.0
WUSB S Sn 09 00 42.4 -0.5
baz=3.0
LXIB Xiulin Townshi 2.30 1 P Pn 09 00 14.1 -1.7
baz=1.0
LXIB eS Sn 09 00 41.4 -1.9
baz=1.0
VCHM Qimei 2.34 310 iP Pn 09 00 15.3 -0.9
baz=321
VCHM iS Sn 09 00 41.9 -2.2
baz=321
CHGB Renai 2.34 355 eP Pn 09 00 16.1 -0.5
baz=4.0
CHGB S Sn 09 00 45.1 +0.5
baz=4.0
TWD Chiawan 2.37 5 eP Pn 09 00 15.8 -0.7
baz=355
WRL Guolierlin Hig 2.37 337 eP Pn 09 00 16.4 -0.2
baz=337
WRL S Sn 09 00 45.8 +1.0
baz=337
WCS Beigang Elemen 2.37 350 eP Pn 09 00 17.8 +1.1
baz=349
WCS eS Sn 09 00 45.6 +0.6

baz=349
WHF Hehuan Shan 2.42 358 eP Pn 09 00 17.0 -0.8
baz=8.0
WHF eS Sn 09 00 45.5 -1.3
baz=8.0
ETL Fush Village 2.45 5 eP Pn 09 00 16.9 -0.9
baz=14
PHUB P'eng-hu 2.45 317 P Pn 09 00 16.8 -1.0
baz=317
PHUB iS Sn 09 00 44.9 -1.9
baz=317
NACB Ninganchiao 2.46 5 Pn 09 00 16.9 -1.0
NACB Ninganchiao 2.46 5 P Pn 09 00 17.9 0.0
NACB Ninganchiao 2.46 5 eP Pn 09 00 16.5 -1.4
baz=355
WCHH Zhanghua 2.48 342 eP Pn 09 00 17.2 -0.9
baz=329
ETLH Xiulin Townshi 2.48 2 eP Pn 09 00 16.9 -1.4
baz=2.0
ETLH eS Sn 09 00 46.8 -1.0
baz=2.0
PNG Penghu 2.50 318 eP Pn 09 00 17.4 -1.0
baz=318
PNG iS Sn 09 00 46.0 -2.1
baz=318
TDCB Techi 2.54 355 eP Pn 09 00 18.9 -0.2
baz=4.0
EOS4 EOS4 2.55 20 eP Pn 09 00 18.7 -0.1
baz=20
WHP Taichung City 2.58 351 eP Pn 09 00 21.0 +1.3
baz=351
WHP S Sb 09 00 53.2 -3.4
baz=351
TWQ1 Liyutan 2.68 348 eP Pn 09 00 21.4 +0.5
baz=335
EOS3 EOS3 2.70 18 eP Pn 09 00 21.4 +0.3
baz=17
EOS3 eS Sn 09 00 51.4 -1.5
baz=17
NNSB Datong 2.70 0 eP Pn 09 00 20.8 -0.5
baz=360
NNSB eS Sn 09 00 51.2 -2.1
baz=360
WDJ Dajia District 2.71 346 eP Pn 09 00 20.5 -0.8
baz=346
NNS Nan Shan 2.71 360 eP Pn 09 00 21.1 -0.4
baz=11
ENA Nanau 2.72 7 eP Pn 09 00 20.5 -1.0
baz=7.0
EWUT Wuta 2.75 8 eP Pn 09 00 21.3 -0.5
baz=18
EWUT eS Sn 09 00 54.2 +0.1
baz=18
EOS2 EOS2 2.81 16 eP Pn 09 00 21.7 -0.8
baz=14
LATG Datong 2.81 3 eP Pn 09 00 22.7 -0.2
baz=3.0
NDT Datong Townshi 2.88 2 eP Pn 09 00 24.1 +0.4
baz=2.0
NFF Wufeng Townshi 2.92 355 eP Pn 09 00 25.2 +1.0
baz=341
TWC Suao 2.92 8 eP Pn 09 00 25.0 +0.9
baz=9.0
ENTT Nioudou 2.92 3 eP Pn 09 00 24.5 +0.2
baz=3.0
NSTT Nanjuang 2.93 353 eP Pn 09 00 25.4 +1.1
baz=338
LIOB Emei 2.94 354 eP Pn 09 00 25.2 +0.7
baz=339
YHNB Yeheng 2.94 360 Pn 09 00 24.9 +0.3
YHNB Yeheng 2.94 360 P Pn 09 00 25.7 +1.1
YHNB Yeheng 2.94 360 eP Pn 09 00 24.9 +0.3
baz=9.0
NSK Sanguang 2.95 360 eP Pn 09 00 25.3 +0.6
baz=9.0
TWE Neicheng 3.01 5 eP Pn 09 00 26.9 +1.5
baz=5.0
FUSB Fushanzhiwuyua 3.04 4 eP Pn 09 00 26.2 +0.2
baz=4.0
NWLT Wulai 3.05 2 eP Pn 09 00 26.7 +0.7
baz=2.0
JYNG Yonagunijimaku 3.08 28 P Pn 09 00 27.9 +1.4
JYNG eS Sn 09 01 03.9 +1.4
JYNG Yonagunijimaku 3.08 28 A A 09 00 27.9
comp=E,4.0nm,3.7s,comp=N,7.0nm,3.3s
YOJ Yonaguni jima 3.12 28 Pn 09 00 26.3 -0.7
YOJ Yonaguni jima 3.12 28 P Pn 09 00 27.9 +0.9
YOJ Yonaguni jima 3.12 28 P Pn 09 00 28.1 +1.1
YOJ eS Sn 09 01 05.5 +2.1
YOJ Yonaguni jima 3.12 28 eP Pn 09 00 27.1 +0.1
baz=28
YOJ Yonaguni jima 3.12 28 P Pn 09 00 26.3 -0.7
HATJ Hateruma jima 3.23 43 P Pn 09 00 29.0 +0.5
HATJ S Sn 09 01 05.9 -0.2
HATJ Hateruma jima 3.23 43 A A 09 00 29.0
comp=E,14nm,1.5s,comp=N,11nm,3.3s
TATO Taipei 3.25 2 Pn 09 00 28.7 0.0
TATO Taipei 3.25 2 P Pn 09 00 30.1 +1.4
TWA Mucha 3.26 3 eP Pn 09 00 29.3 +0.4
baz=3.0
TIPB Shuangxi 3.27 7 eP Pn 09 00 29.8 +0.7
baz=358
TWB1 Santiao Chiao 3.33 10 eP Pn 09 00 31.8 +2.0
baz=10.0
NWF Wu-fen Shan 3.36 6 eP Pn 09 00 31.4 +1.0
baz=6.0
WFSB Wu-fen Shan 3.36 6 eP Pn 09 00 31.2 +0.9
baz=6.0
SXI1 Grass Mountain 3.40 8 eP Pn 09 00 32.0 +1.2
baz=359
JKRS Kuro-shima 3.49 43 eP Pn 09 00 32.7 +0.7
JKRS S Sn 09 01 13.0 +0.5
JIJ Ishigaki jima 3.67 43 P Pn 09 00 34.5 +0.1
JIJ eS Sn 09 01 16.3 -0.5
JIJ Ishigaki jima 3.67 43 A A 09 00 34.5
comp=E,3.0nm,1.1s,comp=N,3.0nm,1.2s
VWUC VWUC 3.71 332 eP Pn 09 00 34.7 -0.5
baz=332
KNM Kinmen 3.82 315 eP Pn 09 00 37.5 +0.9
baz=314
KNM S Sn 09 01 21.4 +0.7
baz=314
KNMB Chin-men Tao 3.88 315 Pn Pn 09 00 37.2 -0.3
KNMB Chin-men Tao 3.88 315 P Pn 09 00 37.1 -0.3
baz=315
JISG Ishigakijimahi 3.93 43 P Pn 09 00 38.8 +0.7
JISG eS Sn 09 01 23.4 -0.1
ZPLA Ao Xicun 4.01 304 P Pn 09 00 38.5 -0.6
baz=304
QZH Quanzhou 4.11 322 Pn Pn 09 00 40.5 -0.1
QZH Sn Sn 09 01 24.7 -3.1
QZH smax smax
comp=N,250nm,0.8s
QZH smax smax
comp=N,270nm,0.7s
QZH LR LR
comp=N,4μm,11.7s
QZH LR LR
comp=N,2μm,8.8s
QZH LR LR
comp=N,6μm,11.6s
DSXP Dongshan 4.16 299 eP Pn 09 00 41.8 +0.6
baz=299
DSXP S Sn 09 01 26.8 -2.2
baz=299
JTJ Tarama 4.22 46 P Pn 09 00 42.8 +0.7
JTJ eS Sn 09 01 30.9 +0.3
AXDP Jialang 4.46 316 eP Pn 09 00 44.5 -0.9
baz=316
MATB Ma-tsu 4.61 344 eP Pn 09 00 47.0 -0.4
baz=343
MATB iS Sn 09 01 37.2 -2.9
baz=343
JIRB Irabujima 4.67 48 P Pn 09 00 49.3 +1.1
JIRB S Sn 09 01 41.4 -0.2
JMJ2 Miyako jima3 4.72 50 P Pn 09 00 49.9 +0.9
JMJ2 S Sn 09 01 43.2 +0.3
JMJ Miyako jima 2 4.74 49 P Pn 09 00 49.7 +0.4
JIKM Ikemajima 4.78 47 P Pn 09 00 50.7 +0.9
JIKM eS Sn 09 01 45.3 +1.0
JOGS Gusukube 4.79 50 eS Sn 09 01 45.6 +1.1
MHZQ Yeshan 4.87 334 P Pn 09 00 51.2 +0.2
baz=334
MHZQ iS Sn 09 01 44.6 -1.9
baz=334
LYJJ Jianjiangzhen 5.04 343 eP Pn 09 00 52.3 -1.0
baz=343

XPSS Dashiqiu 5.31 348 eP Pn 09 00 55.6 -1.4
baz=349
SXFK Yanhouchang 5.78 325 eP Pn 09 01 02.3 -1.3
baz=325
HKPS Hong Kong Po S 6.74 276 Pn Pn 09 01 16.5 -0.3
HKPS Hong Kong Po S 6.74 276 P Pn 09 01 16.5 -0.3
GZH Guangzhou 7.56 282 Pn Pn 09 01 25.1 -2.9
GZH Sn Sn 09 02 48.8 -4.0
GZH smax smax
comp=N,260nm,0.8s
GZH smax smax
comp=N,190nm,0.8s
TGY Tagaytay City 7.58 183 P Pn 09 01 35.7 +7.4
comp=N,128nm,0.3s,baz=275,slow=5.5,SNR=4.5
JOW Kunigami 8.10 50 Pn Pn 09 01 35.7 +0.3
JOW Kunigami 8.10 50 P Pn 09 01 37.0 +1.7
JOW Kunigami 8.10 50 P Pn 09 01 35.8 +0.5
comp=N,27nm,0.3s,baz=162,slow=15,SNR=6.0
JOW S Sn 09 03 03.5 -2.5
comp=N,27nm,0.9s,baz=139,slow=28,SNR=1.4
SSE Sheshan 9.35 359 P Pn 09 01 52.0 -0.5
SSE S Sn 09 03 38.4 +1.7
SSE pmax pmax
comp=N,12nm,0.7s
SSE pmax pmax
comp=N,180nm,3.8s
SSE LR LR
comp=N,690nm,12.2s
SSE LR LR
comp=N,540nm,11.8s
CNSH ChangSha 10.01 312 ⇑P Pn 09 02 00.2 -1.4
CNSH S Sn 09 03 48.6 -4.4
CNSH smax smax
comp=N,170nm,1.2s
CNSH smax smax
comp=N,110nm,1.0s
CNSH LR LR
comp=N,2μm,14.6s
CNSH LR LR
comp=N,2μm,12.9s
NJ2 Nanjing 10.54 348 eP Pn 09 02 09.4 +0.6
NJ2 pmax pmax
comp=N,11nm,0.5s
NJ2 pmax pmax
comp=N,440nm,3.5s
NJ2 LR LR
comp=N,1μm,12.3s
NJ2 LR LR
comp=N,1μm,8.5s
NJ2 LR LR
comp=N,1μm,10.4s
GULI GuiLin 10.71 292 P Pn 09 02 11.6 +0.3
GULI S Sn 09 04 08.0 -2.4
GULI LR LR
comp=N,1μm,13.0s
GULI LR LR
comp=N,2μm,11.9s
GULI LR LR
comp=N,2μm,12.5s
WHN Wuhan 10.82 326 P Pn 09 02 12.6 -0.1
WHN S Sn 09 04 15.8 +2.8
WHN pmax pmax
comp=N,52nm,0.8s
WHN LR LR
comp=N,4μm,11.1s
WHN LR LR
comp=N,4μm,11.2s
WHN LR LR
comp=N,7μm,11.5s
QIZ Qiongzhong 11.14 258 P Pn 09 02 18.7 +1.5
QIZ S Sn 09 04 24.9 +3.9
QIZ pmax pmax
comp=N,34nm,2.7s
QIZ LR LR
comp=N,2μm,15.2s
QIZ LR LR
comp=N,1μm,13.6s
QIZ LR LR
comp=N,2μm,14.8s
ENH Enshi 13.67 311 Pn Pn 09 02 52.6 +1.0
JNU Nakatsue 14.14 35 Pn 09 02 56.4 -1.7
JNU Nakatsue 14.14 35 P Pn 09 02 58.5 +0.4
comp=N,12nm,0.8s,baz=137,slow=6.8,SNR=3.4
GYA Guiyang 14.24 292 ⇓P Pn 09 03 00.5 +0.9
GYA S Sn 09 05 34.0 -2.9
GYA pmax pmax
comp=N,23nm,1.1s
GYA pmax pmax
comp=N,140nm,3.5s
GYA LR LR
comp=N,1μm,10.8s
GYA LR LR
comp=N,730nm,8.0s
GYA LR LR
comp=N,910nm,19.6s
LYN LuoYang 15.00 330 ⇑P P 09 03 15.2 +0.3
LYN pP Pn 09 03 17.3 +7.6
LYN sP sP 09 03 19.6 -4.9
LYN SS S 09 06 17.7 +5.5
LYN pmax pmax
comp=N,29nm,0.9s
LYN pmax pmax
comp=N,320nm,5.2s
LYN LR LR
comp=N,2μm,10.6s
LYN LR LR
comp=N,2μm,11.3s
LYN LR LR
comp=N,2μm,10.0s
DLV T Lat 15.69 234 Pn Pn 09 03 20.7 +1.6
SLVN Son La 16.27 272 Pn Pn 09 03 25.0 -1.3
XAN Xi'an 16.48 321 ⇑P P 09 03 30.0 -1.4
XAN pP pP 09 03 33.7 -4.1
XAN SS S 09 06 54.0 +12
XAN pmax pmax
comp=N,10.0nm,1.0s
XAN LR LR
comp=N,1μm,12.7s
XAN LR LR
comp=N,3μm,12.7s
XAN LR LR
comp=N,4μm,12.4s
HNS HongShan 16.67 341 ⇓P P 09 03 35.9 +2.5
HNS pmax pmax
comp=N,41nm,0.9s
HNS pmax pmax
comp=N,430nm,9.4s
HNS LR LR
comp=N,1μm,13.1s
HNS LR LR
comp=N,1μm,12.2s
HNS LR LR
comp=N,2μm,13.9s
KSRS Korea Array 16.68 18 P P 09 03 33.8 +0.3
comp=N,11nm,0.7s,baz=201,slow=13,SNR=22
KMI Kunming 17.44 285 ⇓P Pn 09 03 41.8 +0.6
KMI S S 09 07 01.6 -1.0
KMI pmax pmax
comp=N,170nm,4.3s
KMI LR LR
comp=N,1μm,9.8s
KMI LR LR
comp=N,710nm,12.1s
KMI LR LR
comp=N,940nm,12.4s
TIY Taiyuan 17.72 336 eP P 09 03 48.5 +3.4
TIY pmax pmax
comp=N,380nm,6.4s
TIY LR LR
comp=N,2μm,10.7s
TIY LR LR
comp=N,2μm,17.7s
TIY LR LR
comp=N,2μm,11.7s
CD2 Chengdu 18.24 304 P P 09 03 52.3 +1.4
CD2 sP pP 09 03 56.6 -1.1
CD2 S Sn 09 07 13.1 -0.8
CD2 sS S 09 07 22.5 +4.1
CD2 pmax pmax
comp=N,40nm,0.8s
CD2 pmax pmax
comp=N,250nm,9.2s
CD2 LR LR
comp=N,1μm,12.1s
CD2 LR LR
comp=N,1μm,11.1s

CD2 LR LR
comp=N,1µm,10.2s
PZH PanZhiHua 18.55 289 P **Pn** **09 03 56.8 +2.1**
PZH sP **pP** **09 04 02.2 +1.1**
PZH S **Sn** **09 07 16.0 -5.4**
PZH sS **sS** **09 07 31.9 -3.8**
PZH pmax pmax
comp=N,20nm,1.1s
PZH pmax pmax
comp=N,240nm,6.1s
PZH LR LR
comp=N,940nm,15.3s
PZH LR LR
comp=N,740nm,10.3s
PZH LR LR
comp=N,880nm,12.6s
BJT Baijiatuau 18.78 347 **P** **09 03 55.9 -0.8**
BJT Baijiatuau 18.78 347 P **P** **09 03 55.9 -0.8**
BJT pmax pmax
comp=Z,16nm,1.0s
BJI Beijing 18.80 348 P **Pn** **09 03 58.6 +1.1**
BJI sP **pP** **09 04 02.1 -1.3**
BJI S **S** **09 07 29.0 -0.2**
BJI pmax pmax
comp=Z,5.0nm,0.6s
BJI pmax pmax
comp=Z,94nm,5.9s
BJI LR LR
comp=Z,540nm,12.1s
BJI LR LR
comp=Z,210nm,18.4s
BJI LR LR
comp=Z,580nm,14.8s
SNY Shenyang 20.14 5 ⇓P Pn 09 04 16.8 +3.3
SNY pmax pmax
comp=Z,18nm,0.5s
SNY pmax pmax
comp=Z,410nm,3.5s
SNY LR LR
comp=Z,640nm,9.8s
SNY LR LR
comp=Z,690nm,11.7s
SNY LR LR
comp=Z,900nm,11.4s
TOLI2 Tolitoli 20.48 182 P Pn 09 04 17.2 -0.5
TOLI2 IAmb IAmb 09 04 27.2
comp=Z,40nm,0.9s
MAJO Matsushiro 20.80 41 P **P** **09 04 18.5 -0.2**
MAJO Matsushiro 20.80 41 *i* P Pn 09 04 20.8 -0.4
MJAR Matsushiro Arr 20.80 41 P Pn 09 04 20.0 -1.3
comp=Z,7.4nm,0.7s,baz=233,slow=9.9,SNR=19
MJAR LR LR 09 12 56.4
comp=Z,117nm,19.1s,baz=212,slow=38
comp=Z,7.4nm,0.7s
HHC Hu-ho-hao-te 20.81 339 *e*P Pn 09 04 21.2 -0.3
HHC pP pP 09 04 25.1 -0.5
HHC S **S** **09 08 06.4 -3.6**
HHC sS Sn 09 08 16.5 +0.7
HHC pmax pmax
comp=Z,26nm,1.0s
HHC LR LR
comp=Z,2µm,12.3s
HHC LR LR
comp=Z,1µm,13.7s
HHC LR LR
comp=Z,2µm,13.7s
LZH Lanzhou 20.95 317 *e*P Pn 09 04 22.7 -0.5
LZH sP pwP 09 04 31.5 +0.9
LZH PP **PnPn** **09 04 44.4 +4.8**
LZH S Sn 09 08 18.3 -0.9
LZH SS **SnSn** **09 08 38.2 +3.9**
LZH pmax pmax
comp=Z,53nm,1.1s
LZH LR LR
comp=Z,1µm,12.5s
LZH LR LR
comp=Z,1µm,11.5s
LZH LR LR
comp=Z,2µm,13.1s
GTOI Gorontalo 21.01 175 P **P** **09 04 19.6 -1.5**
comp=Z,41nm,1.5s,comp=Z,541nm
MRSI Marisa 21.11 178 P **P** **09 04 23.2 +1.0**
comp=Z,88nm,1.2s,comp=Z,1µm
SBUM Sibu 21.12 206 P **P** **09 04 22.9 +0.6**
BTO Baotou 21.16 335 *e*P **P** **09 04 26.8 +4.1**
BTO pP **pwP** **09 04 30.9 -1.4**
BTO sP **sP** **09 04 33.9 +1.5**
BTO PP **PnPn** **09 04 50.8 +8.4**
BTO pmax pmax
comp=Z,22nm,0.6s
BTO pmax pmax
comp=Z,490nm,4.5s
BTO LR LR
comp=Z,4µm,11.8s
BTO LR LR
comp=Z,3µm,13.2s
BTO LR LR
comp=Z,4µm,12.6s
KMSI Cibinong 21.16 173 P **P** **09 04 23.2 +0.4**
comp=Z,265nm,1.0s
CHTO Chiang Mai 21.24 266 P **P** **09 04 24.3 +0.6**
CHTO Chiang Mai 21.24 266 P **P** **09 04 24.3 +0.6**
CHTO pmax pmax
comp=Z,13nm,0.9s
CM31 Chiang Mai Arr 21.32 265 P **P** **09 04 26.9 +2.4**
CMAR Chiang Mai Arr 21.32 265 P **P** **09 04 26.4 +1.9**
CMAR Chiang Mai Arr 21.32 265 P **P** **09 04 26.4 +1.9**
CMAR Chiang Mai Arr 21.32 265 P **P** **09 04 27.4 +2.9**
comp=Z,13nm,0.8s,baz=72,slow=9.2,SNR=47
CMAR PcP **PcP** **09 08 29.0 +0.5**
comp=Z,3.4nm,0.7s,baz=82,slow=0.5,SNR=13
CMAR LR LR 09 12 34.2
comp=Z,294nm,21.8s,baz=80,slow=36
comp=Z,13nm,0.8s
TNTI Ternate 21.62 164 P **P** **09 04 26.5 -1.1**
TNTI IAmb IAmb 09 04 35.7
comp=Z,66nm,1.0s
TNTI Ternate 21.62 164 P **P** **09 04 26.1 -1.6**
comp=Z,77nm,1.4s
CN2 Changchun 22.29 8 *e*P **P** **09 04 36.7 +2.1**
CN2 *e*S **S** **09 08 36.9 -1.5**
CN2 *e*SS **SnSn** **09 09 17.9 +11**
CN2 LR LR
comp=Z,700nm,13.0s
CN2 LR LR
comp=Z,800nm,13.0s
CN2 LR LR
comp=Z,760nm,15.0s
XLT XiLinHaoTe 22.56 350 *e*P **P** **09 04 39.1 +1.4**
XLT pP pP 09 04 42.5 -1.8
XLT sP sP 09 04 45.3 -2.1
XLT PP **PnPn** **09 05 05.1 +3.6**
XLT pmax pmax
comp=Z,18nm,1.1s
XLT pmax pmax
comp=Z,96nm,4.1s
LUWI Luwuk 22.66 176 P **P** **09 04 38.1 -0.7**
LUWI Luwuk 22.66 176 P **P** **09 04 39.9 +1.1**
comp=Z,126nm,1.4s,comp=Z,9µm
JMM Marumori 23.23 42 P **P** **09 04 43.2 -1.4**
JMM IAmb IAmb 09 04 56.2
comp=Z,56nm,1.2s
MDJ Mudanjiang 23.83 15 P **P** **09 04 51.6 +1.3**
MDJ pP pP 09 04 54.9 -2.7
MDJ S **S** **09 09 13.3 +8.8**
MDJ ScP **ScP** **09 12 10.0 +0.2**
MDJ PcS **PcS** **09 12 17.2 +4.7**
MDJ pmax pmax
comp=Z,9.0nm,1.3s
MDJ pmax pmax
comp=Z,310nm,6.6s
MDJ LR LR
comp=Z,670nm,13.3s
MDJ LR LR
comp=Z,590nm,10.6s
MDJ LR LR
comp=Z,480nm,14.2s
SANI Sanana 24.04 169 P **P** **09 04 52.2 -0.3**
comp=Z,30nm,0.6s
USA0B Ussuriysk Arra 24.09 19 *i* P **P** **09 04 52.5 -0.2**
USRK Ussuriysk Ar. 24.09 19 P **P** **09 04 53.7 +0.9**
comp=Z,5.0nm,0.7s,baz=198,slow=11,SNR=7.2
comp=Z,5.0nm,0.7s
TTSI Tana Toraja 24.65 184 P **P** **09 04 57.2 -0.9**
comp=Z,25nm,0.9s,comp=Z,1µm
JTM Tenmabayashi 25.29 37 P **P** **09 05 03.1 -0.6**
JTM IAmb IAmb 09 05 19.5
comp=Z,83nm,1.2s
NLAI Namlea 25.42 167 P **P** **09 05 05.8 +0.7**
comp=Z,34nm,0.6s
GTA Gaotai 25.51 319 *e*P **P** **09 05 07.4 +1.5**
GTA pP pwP 09 05 16.5 +0.3
GTA S **S** **09 09 34.6 +2.8**
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA LR LR
comp=Z,540nm,11.5s
GTA LR LR
comp=Z,400nm,13.5s
GTA LR LR
comp=Z,560nm,13.5s
SPSI Sidrap Palu 25.57 184 P **P** **09 05 08.9 +2.5**
comp=Z,40nm,1.3s,comp=Z,997nm
BBKI Banjar Baru 25.82 195 P **P** **09 05 10.6 +1.8**
comp=Z,90nm,1.2s,comp=Z,7µm
MYKOM Kota Tinggi 26.14 223 P **P** **09 05 12.2 +0.5**
KAPI Kappang 26.61 184 P **P** **09 05 16.2 +0.4**
KAPI IAmb IAmb 09 05 33.9
comp=Z,29nm,1.0s
KAPI Kappang 26.61 184 P **P** **09 05 16.2 +0.4**
KAPI pmax pmax
comp=Z,29nm,1.0s
KAPI Kappang 26.61 184 P **P** **09 05 16.4 +0.6**
comp=Z,3.9nm,0.3s,baz=258,slow=6.7,SNR=4.1
KAPI LR LR 09 16 07.9
comp=Z,177nm,21.2s,baz=14,slow=37
comp=Z,3.9nm,0.3s
GOMU GeErMu 27.25 308 P **P** **09 05 24.5 +2.6**
GOMU pP pP 09 05 26.5 -2.4
GOMU S **S** **09 10 09.3 +9.4**
GOMU pmax pmax
comp=Z,3.0nm,0.5s
GOMU LR LR
comp=Z,890nm,18.1s
GOMU LR LR
comp=Z,290nm,19.7s
GOMU LR LR
comp=Z,560nm,17.7s
SHL Shillong 27.27 284 P **P** **09 05 22.6 +0.6**
SHL IAmb IAmb 09 05 41.4
comp=Z,24nm,0.8s
SHL Shillong 27.27 284 P **P** **09 05 22.6 +0.6**
SHL pmax pmax
comp=Z,24nm,0.8s
ERM Erimo 27.28 37 *i* P **P** **09 05 21.9 +0.2**
ERM pmax pmax
comp=Z,47nm,1.1s
ASAJ Asahikawa 28.42 33 P **P** **09 05 31.4 -0.4**
ASAJ pmax pmax
comp=Z,86nm,1.6s
ASAJ Asahikawa 28.42 33 P **P** **09 05 33.0 +1.1**
comp=Z,9.2nm,0.8s,baz=151,slow=13,SNR=3.7
ASAJ LR LR 09 18 16.9
comp=Z,250nm,18.5s,baz=214,slow=39
comp=Z,9.2nm,0.8s
JKA Kamikawa-asahi 28.42 33 P **P** **09 05 31.4 -0.5**
JKA IAmb IAmb 09 05 47.8
comp=Z,86nm,1.6s
ULN Ulaanbaatar 28.53 340 P **P** **09 05 32.2 -0.8**
ULN Ulaanbaatar 28.53 340*ce*P **P** **09 05 32.8 -0.2**
ULN pmax pmax
comp=Z,16nm,1.3s
KLR Kul'dur 28.67 14 P **P** **09 05 34.5 +0.4**
comp=Z,1.1nm,0.5s,baz=210,slow=7.8,SNR=6.7
KLR LR LR 09 18 08.5
comp=Z,354nm,18.8s,baz=196,slow=38
comp=Z,1.1nm,0.5s
SONM Songino Array 28.72 339 P **P** **09 05 33.7 -0.9**
SONM Songino Array 28.72 339 P **P** **09 05 33.7 -0.9**
SONM pmax pmax
comp=Z,12nm,1.2s
SONM Songino Array 28.72 339 P **P** **09 05 35.1 +0.4**
comp=Z,5.6nm,0.7s,baz=154,slow=8.8,SNR=24
SONM LR LR 09 18 40.8
comp=Z,488nm,19.8s,baz=132,slow=39
comp=Z,5.6nm,0.7s
HEH HeiHe 28.88 8 *e*P **P** **09 05 34.8 -1.0**
HEH pmax pmax
comp=Z,5.0nm,0.7s
HEH pmax pmax
comp=Z,200nm,5.1s
HEH LR LR
comp=Z,660nm,13.9s
HEH LR LR
comp=Z,580nm,13.8s
HEH LR LR
comp=Z,720nm,15.2s
MMRI Maumere 30.17 178 P **P** **09 05 47.9 +0.3**
comp=Z,88nm,1.4s,comp=Z,3µm
EDFI Ende, Flores 30.27 179 P **P** **09 05 47.7 -0.9**
comp=Z,90nm,0.7s,comp=Z,7µm
YSS Yuzh-Sakhalins 30.55 29 *e*P **P** **09 05 50.5 -0.2**
YSS *e* 09 07 04.8
YSS *e*S **S** **09 10 49.0 -1.8**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS pmax pmax
comp=Z,300nm,6.8s
YSS MLR MLR
comp=E,300nm,15.0s
KPJI Karang Pucung 31.34 204 P **P** **09 06 01.3 +3.4**
comp=E,38nm,1.1s
BATI Baumata 31.80 176 LR LR 09 20 16.9
comp=E,184nm,20.2s,baz=343,slow=39
ZEA Zeya 32.29 7 *e*P **P** **09 06 06.9 +1.0**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
WMQ Urumqi 35.53 316 *e*P **P** **09 06 33.3 -1.0**
WMQ pP pP 09 06 40.1 -1.3
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ LR LR
comp=Z,600nm,11.9s
WMQ LR LR
comp=Z,310nm,15.3s
WMQ LR LR
comp=Z,180nm,16.3s
MTN Manton Dam 35.65 164 P **P** **09 06 36.7 +1.2**
DGZ Jazzator, Alta 38.69 325 *i* P **P** **09 07 01.8 +0.7**
DGZ pmax pmax
comp=Z,12nm,0.9s
MKAR Makanchi Array 40.26 318 P **P** **09 07 14.6 +0.4**
MKAR Makanchi Array 40.26 318 *i* P **P** **09 07 15.8 +1.6**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 40.26 318 P **P** **09 07 15.3 +1.2**
comp=Z,7.2nm,0.6s,baz=119,slow=9.0,SNR=8.1
MKAR PcP **PcP** **09 09 17.5 -0.2**
comp=Z,3.3nm,0.8s,baz=80,slow=3.1,SNR=4.6
MKAR LR LR 09 25 20.1
comp=Z,292nm,18.2s,baz=121,slow=38
comp=Z,7.2nm,0.6s
MAKZ Makanchi 40.46 318 P **P** **09 07 16.7 +0.9**
MAKZ Makanchi 40.46 318 P **P** **09 07 16.7 +0.9**
MAKZ pmax pmax
comp=Z,15nm,0.9s
HYB Hyderabad 40.49 272 *e*P **P** **09 07 17.1 +0.7**
YAK Yakutsk 40.70 6 P **P** **09 07 17.6 +0.2**
YAK IAmb IAmb 09 07 19.1
comp=Z,33nm,0.6s
YAK Yakutsk 40.70 6*ce*P **P** **09 07 17.9 +0.4**
YAK pmax pmax
comp=Z,27nm,0.7s
YAK Yakutsk 40.70 6 LR LR 09 25 25.2
comp=Z,6.2nm,18.8s,baz=136,slow=38
PALK Pallekele 41.77 256 LR LR 09 26 59.0
comp=Z,79nm,18.1s,baz=163,slow=39
PEA0B Petropavlovsk- 41.83 32*ce*P **P** **09 07 23.6 -3.3**
PETK Petropavlovsk- 41.83 32 LR LR 09 27 05.7
comp=Z,114nm,18.9s,baz=228,slow=39
ZAA0 Zalesovo Array 42.42 329 P **P** **09 07 31.8 0.0**
ZAA0 IAmb IAmb 09 07 41.3
comp=Z,16nm,0.9s
ZALV Zalesovo Beam 42.42 329 *i* P **P** **09 07 32.4 +0.6**
ZALV pmax pmax
comp=Z,9.0nm,0.6s
ZALV Zalesovo Beam 42.42 329 P **P** **09 07 32.2 +0.4**
comp=Z,9.3nm,0.6s,baz=118,slow=8.4,SNR=7.5
ZALV PcP **PcP** **09 09 23.2 -1.3**
comp=Z,1.9nm,0.6s,baz=119,slow=3.5,SNR=2.4
ZALV LR LR 09 27 06.0
comp=Z,220nm,19.6s,baz=122,slow=38
comp=Z,9.3nm,0.6s
KSH Kashi 42.43 305 P **P** **09 07 37.2 +5.0**
KSH sP pwP 09 07 45.1 +2.2
KSH PcP **PcP** **09 09 27.6 +2.6**
KSH pmax pmax
comp=Z,7.0nm,0.6s
KSH LR LR
comp=Z,320nm,18.1s
KSH LR LR
comp=Z,290nm,15.9s
KSH LR LR
comp=Z,250nm,18.6s
H11N1 WAKE ISLAND Hy 42.50 84 T T 09 52 48.9
baz=282,slow=75,SNR=76
H11N2 WAKE ISLAND Hy 42.50 84 T T 09 52 46.5
baz=282,slow=75,SNR=111
H11N3 WAKE ISLAND Hy 42.52 84 T T 09 52 50.9
baz=282,slow=75,SNR=86
MA2 Magadan 43.20 21 LR LR 09 27 21.1
comp=Z,187nm,18.2s,baz=238,slow=38
WRA Warramunga Arr 43.30 162 *i* P **P** **09 07 36.0 -3.2**
WRA pmax pmax
comp=Z,2.0nm,0.4s
WRA Warramunga Arr 43.30 162 P **P** **09 07 37.2 -1.9**
comp=Z,7.1nm,0.8s,baz=333,slow=11,SNR=57
WRA PcP **PcP** **09 09 26.8 -1.1**
comp=Z,1.0nm,0.6s,baz=342,slow=3.9,SNR=2.5
WRA S **S** **09 13 57.3 -7.9**
comp=Z,0.6nm,1.0s,baz=352,slow=14,SNR=3.4
comp=Z,7.1nm,0.8s
NIL Nilore 43.90 296 P **P** **09 07 45.0 +1.0**
NIL Nilore 43.90 296 P **P** **09 07 45.0 +1.0**
NIL pmax pmax
comp=Z,41nm,0.8s
KURBB Kurchatov Arra 44.13 322 P **P** **09 07 46.7 +1.1**
comp=Z,15nm,0.9s,baz=115,slow=7.9,SNR=7.7
KURBB LR LR 09 27 02.9
comp=Z,120nm,18.9s,baz=164,slow=37
comp=Z,15nm,0.9s
AAK Ala-Archa 44.17 309 P **P** **09 07 49.3 +3.0**
comp=Z,2.5nm,0.7s,baz=100,slow=18,SNR=2.3
AAK LR LR 09 27 48.0
comp=Z,269nm,18.8s,baz=100,slow=38
comp=Z,2.5nm,0.7s
SEY Seymchan 46.24 19 LR LR 09 29 18.2
comp=Z,146nm,18.4s,baz=185,slow=38
BTK Batken 46.44 305 P **P** **09 08 05.2 +1.0**
BTK IAmb IAmb 09 08 22.2
comp=Z,11nm,1.0s
BTK Batken 46.44 305 P **P** **09 08 05.2 +1.0**
BTK pmax pmax
comp=Z,11nm,1.0s
GAR Garm 46.69 304 P **P** **09 08 08.0 +1.8**
AS31 Alice Springs 46.72 164 P **P** **09 08 05.3 -1.1**
ASAR Alice Springs 46.72 164 P **P** **09 08 06.0 -0.5**
ASAR Alice Springs 46.72 164 P **P** **09 08 06.0 -0.5**
ASAR Alice Springs 46.72 164 P **P** **09 08 05.2 -1.2**
comp=Z,2.1nm,0.4s,baz=344,slow=7.7,SNR=70
ASAR PcP **PcP** **09 09 39.3 -0.5**
comp=Z,0.8nm,0.5s,baz=343,slow=3.7,SNR=1.6
ASAR S **S** **09 14 48.6 -6.1**
comp=Z,0.2nm,0.8s,baz=353,slow=22,SNR=2.1
ASAR LR LR 09 28 11.9
comp=Z,51nm,18.2s,baz=7.5,slow=37
comp=Z,2.1nm,0.4s
KK31 Karatay Array 47.14 309 P **P** **09 08 10.8 +1.3**
KK31 IAmb IAmb 09 08 27.8
comp=Z,12nm,1.1s
KK31 Karatay Array 47.14 309 P **P** **09 08 10.8 +1.3**
KK31 pmax pmax
comp=Z,12nm,1.2s
KKAR Karatay Array 47.14 309 P **P** **09 08 10.6 +1.1**
KKAR Karatay Array 47.14 309 P **P** **09 08 11.0 +1.5**
KKAR IAmb IAmb 09 08 27.9
comp=Z,12nm,1.1s
KKAR Karatay Array 47.14 309 P **P** **09 08 10.6 +1.1**
KKAR 09 08 11.0
KKAR pmax pmax
comp=Z,12nm,1.2s
KBL Kabul 47.42 297 P **P** **09 08 13.8 +1.7**
KBL Kabul 47.42 297 P **P** **09 08 13.8 +1.7**
KBL pmax pmax
comp=Z,60nm,1.2s
CHGR Chuyangaron 47.56 303 P **P** **09 08 14.4 +1.4**
CHGR Chuyangaron 47.56 303 P **P** **09 08 14.4 +1.4**
CHGR pmax pmax
comp=Z,45nm,0.9s
CTA Charters Tower 48.14 148 LR LR 09 27 16.8
comp=Z,162nm,20.7s,baz=306,slow=34
HNR Honiara 48.89 125 LR LR 09 28 30.2
comp=Z,1µm,18.9s,baz=334,slow=35
BVAR Borovoye Array 49.71 322 P **P** **09 08 30.7 +1.5**
comp=Z,5.3nm,0.5s,baz=108,slow=9.2,SNR=23
BVAR PcP **PcP** **09 09 50.0 0.0**
comp=Z,5.5nm,0.5s,baz=122,slow=3.5,SNR=8.2
BVAR LR LR 09 28 48.0
comp=Z,61nm,18.3s,baz=105,slow=35
comp=Z,5.3nm,0.5s
BRVK Borovoye 49.78 322 P **P** **09 08 31.6 +1.8**
BRVK IAmb IAmb 09 08 40.2
comp=Z,17nm,1.1s
BRVK Borovoye 49.78 322*ce*P **P** **09 08 28.6 -1.1**
BRVK pmax pmax
comp=Z,20nm,1.1s
TIXI Tiksi 50.14 3 P **P** **09 08 30.8 -1.3**
TIXI IAmb IAmb 09 08 32.3
comp=Z,6.7nm,0.8s
TIXI Tiksi 50.14 3 *i* P **P** **09 08 31.0 -1.1**
TIXI Tiksi 50.14 3 LR LR 09 32 56.4
comp=Z,13nm,19.9s,baz=197,slow=40
MORW Morawa 50.75 186 P **P** **09 08 36.5 -0.7**
MORW IAmb IAmb 09 08 49.0
comp=Z,10nm,0.8s
HRA Herat 53.04 297 P **P** **09 08 55.8 +1.2**
HRA IAmb IAmb 09 09 05.8
comp=Z,17nm,1.1s
BILL Bilibino 53.94 19 *i* P **P** **09 09 02.2 +1.7**
ABKAR Akbulak array 55.31 316 P **P** **09 09 10.7 0.0**
ABKAR IAmb IAmb 09 09 21.1
comp=Z,18nm,1.4s
BBOO Buckleboo 56.00 165 P **P** **09 09 15.0 -0.8**
BBOO IAmb IAmb 09 09 27.3
comp=Z,27nm,1.2s
SVE Sverdlovsk 56.15 325 *e*P **P** **09 09 17.9 +1.3**
SVE pmax pmax
comp=Z,20nm,0.9s
GEYT Alibeck 56.22 302 P **P** **09 09 19.3 +1.8**
comp=Z,3.5nm,0.7s,baz=54,slow=2.5,SNR=5.3
GEYT LR LR 09 38 51.0
comp=Z,112nm,18.8s,baz=195,slow=42
comp=Z,3.5nm,0.7s
AKTO Aktyubinsk 56.68 317 P **P** **09 09 21.2 +0.8**
comp=Z,1.6nm,0.4s,baz=96,slow=5.2,SNR=5.9
AKTO LR LR 09 33 22.9
comp=Z,174nm,19.8s,baz=28,slow=36
comp=Z,1.6nm,0.4s
STKA Stephens Creek 56.69 159 P **P** **09 09 19.7 -1.0**
STKA Stephens Creek 56.69 159 *i* P **P** **09 09 19.4 -1.3**
STKA Stephens Creek 56.69 159 P **P** **09 09 19.1 -1.7**
comp=Z,2.3nm,0.5s,baz=336,slow=8.0,SNR=10
STKA LR LR 09 35 27.6
comp=Z,53nm,20.7s,baz=18,slow=38
comp=Z,2.3nm,0.5s
ARU Arti 57.19 324 P **P** **09 09 23.9 -0.1**
ARU IAmb IAmb 09 09 25.6
comp=Z,17nm,0.6s
ARU Arti 57.19 324*c i* P **P** **09 09 24.5 +0.5**
ARU S **S** **09 17 21.7 +3.8**
ARU SS **SS** **09 21 04.0 -2.8**
ARU pmax pmax
comp=Z,14nm,0.6s
ARU Arti 57.19 324 P **P** **09 09 24.5 +0.5**
comp=Z,17nm,0.5s,baz=108,slow=4.9,SNR=24
ARU LR LR 09 34 45.6
comp=Z,106nm,20.5s,baz=112,slow=37
comp=Z,17nm,0.5s
WSAR Wadi Sarin 57.59 284 LR LR 09 37 59.1
comp=Z,52nm,18.1s,baz=52,slow=40
DZM Mont Dzumac 61.85 132 LR LR 09 33 53.4
comp=Z,132nm,19.5s,baz=354,slow=33
KIRV Kirov 62.35 326*ce*P **P** **09 09 59.6 +0.2**
KIRV Kirov 62.35 326 P **P** **09 10 00.1 +0.7**
comp=Z,24nm,0.6s,baz=91,slow=2.0,SNR=6.4
KIRV LR LR 09 39 23.0
comp=Z,232nm,18.4s,baz=95,slow=38
comp=Z,24nm,0.6s
BELG Belogornoye 63.25 319 *i* P **P** **09 10 05.1 -0.5**
BELG pmax pmax

comp=Z,4.0nm,1.1s
MAK Makhachkala 63.94 308 *e*P **P** 09 10 06.0 -4.3
MAK *e* 09 12 27.8
MAK *e*S **S** 09 18 40.4 -4.1
MAK *e*SS **SS** 09 22 53.0 0.0
PRGR Permogore 64.38 329 *e*P **P** 09 10 12.4 -0.4
PRGR pmax pmax
comp=Z,11nm,0.6s
GNI Garni 66.36 306 *i* P **P** 09 10 25.3 -1.0
GNI pmax pmax
comp=Z,16nm,1.1s
GNI Garni 66.36 306 LR LR 09 43 50.0
comp=Z,69nm,18.6s,baz=93,slow=40
ZEI Tsey 66.59 308 *e*P **P** 09 10 28.5 +0.7
ZEI pmax pmax
comp=Z,9.0nm,0.9s
E19K Redstone River 66.86 24 P **P** 09 10 28.6 -0.1
E19K IAmb IAmb 09 11 02.8
comp=Z,8.4nm,1.1s
ONI Oni 66.94 308 P **P** 09 10 31.2 +1.3
ONI IAmb IAmb 09 10 43.0
comp=Z,9.5nm,0.8s
ONI Oni 66.94 308 P **P** 09 10 31.2 +1.3
ONI pmax pmax
comp=Z,10.0nm,0.8s
VRH Novokhopyorsk 66.99 318 *e*P **P** 09 10 29.5 -0.4
VRH pmax pmax
comp=Z,20nm,0.8s
AKH Akhalkalaki 67.10 307 P **P** 09 10 32.6 +1.6
AKH Akhalkalaki 67.10 307 P **P** 09 10 32.6 +1.6
AKH pmax pmax
comp=Z,33nm,1.0s
KBZ Khabaz 67.17 310 *ce*P **P** 09 10 32.2 +1.0
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 67.17 310 P **P** 09 10 32.1 +1.0
comp=Z,6.1nm,0.9s,baz=136,slow=4.0,SNR=7.8
KBZ LR LR 09 44 07.3
comp=Z,98nm,18.5s,baz=72,slow=40
comp=Z,6.1nm,0.9s
KIV Kislovodsk 67.29 310 P **P** 09 10 33.0 +0.9
KIV IAmb IAmb 09 10 35.2
comp=Z,14nm,0.9s
KIV Kislovodsk 67.29 310 *e*P **P** 09 10 32.2 +0.1
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,58nm,17.0s
KLMR Klimovskoe 67.35 328 *e*P **P** 09 10 31.0 -1.0
KLMR AMP 09 10 41.8
comp=Z,37nm,1.4s
KLMR LR LR 09 42 15.2
KLMR AMP 09 43 15.0
comp=Z,461nm,15.5s
KLMR Klimovskoe 67.35 328 *e*P **P** 09 10 30.9 -1.0
KLMR pmax pmax
comp=Z,37nm,1.4s
KLMR MLR MLR
comp=Z,461nm,16.0s
NEUR Neytrino 67.39 309 *i* P **P** 09 10 30.2 -2.6
LPSR Galich'ya Gora 68.53 319 *e*P **P** 09 10 39.6 0.0
LPSR pmax pmax
comp=Z,30nm,0.8s
VORD Divnogorie 68.54 318 *e*P **P** 09 10 39.4 -0.2
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 68.58 318 *e*P **P** 09 10 38.9 -1.0
VSR pmax pmax
comp=Z,10.0nm,0.8s
MOS Moscow 68.87 323 *e*P **P** 09 10 40.3 -1.3
MOS *e* 09 10 46.6
MOS pmax pmax
comp=Z,46nm,0.7s
SOC Sochi 69.47 310 *e*P **P** 09 10 42.9 -2.7
SOC *e* 09 13 16.6
SOC *e*PPP PPP 09 14 56.4
SOC *e*S **S** 09 19 50.1 -1.4
SOC *e*SS **SS** 09 24 21.0 +2.2
SOC MLR MLR
comp=Z,197nm,21.0s
OBN Obninsk 69.55 322 *e*P **P** 09 10 45.3 -0.5
OBN *i* 09 10 55.0
OBN *e* 09 13 19.1
OBN *e*S **S** 09 19 43.7 -8.3
OBN pmax pmax
comp=Z,9.0nm,0.5s
OBN MLR MLR
comp=Z,89nm,16.0s
KDAK Kodiak Island 69.82 35 LR LR 09 42 55.7
comp=Z,70nm,19.1s,baz=208,slow=37
MDM Murphy Dome 70.72 27 P **P** 09 10 53.0 +0.1
MDM IAmb IAmb 09 11 23.2
comp=Z,22nm,1.4s
ANN Anapa 70.85 311 *e*P P 09 10 59.4 +5.4
ANN pmax pmax
comp=Z,60nm,1.1s
ILAR Eielson Array 71.32 27 P **P** 09 10 55.1 -1.4
comp=Z,1.2nm,0.8s,baz=270,slow=4.8,SNR=11
comp=Z,1.2nm,0.8s
ARPR Arapgir-MALATY 71.42 305 P **P** 09 10 59.3 +1.5
ARPR IAmb IAmb 09 11 20.3
comp=Z,32nm,2.0s
BMAR Burnt Mountain 71.70 24 P **P** 09 10 59.9 +1.1
ARCES ARCESS Array B 71.89 338 P **P** 09 10 59.0 -0.9
comp=Z,2.9nm,0.8s,baz=69,slow=4.9,SNR=2.2
comp=Z,2.9nm,0.8s
SPITS Spitsbergen Ar 71.93 348 P **P** 09 10 59.5 -0.5
comp=Z,6.3nm,0.6s,baz=90,slow=8.8,SNR=10.0
SPITS LR LR 09 47 18.4
comp=Z,127nm,18.6s,baz=40,slow=40
comp=Z,6.3nm,0.6s
F28M Old Crow 73.41 23 P **P** 09 11 09.3 +0.3
FINES FINESS Array B 73.66 330 *i* P **P** 09 11 10.6 +0.1
FINES pmax pmax
comp=Z,9.0nm,0.8s
FINES FINESS Array B 73.66 330 P **P** 09 11 10.7 +0.2
comp=Z,9.2nm,0.8s,baz=64,slow=9.4,SNR=34
FINES LR LR 09 45 39.5
comp=Z,126nm,18.8s,baz=70,slow=37
comp=Z,9.2nm,0.8s
BRTR Keskin Array B 74.79 307 P **P** 09 11 18.1 +0.4
BRTR Keskin Array B 74.79 307 P **P** 09 11 18.1 +0.4
BRTR Keskin Array B 74.79 307 P **P** 09 11 18.6 +0.9
comp=Z,1.6nm,0.7s,baz=92,slow=6.0,SNR=7.4
comp=Z,1.6nm,0.7s
MEF Metsahovi 74.80 329 *e*P **P** 09 11 17.8 +0.7
NOR Nord 74.81 354 *i* P **P** 09 11 15.1 -1.8
NOR IAmb IAmb 09 11 19.4
comp=Z,3.8nm,0.9s
AKASG Malin Array Be 74.83 319 P **P** 09 11 17.6 +0.1
comp=Z,3.1nm,0.6s,baz=61,slow=6.1,SNR=5.6
AKASG LR LR 09 46 58.1
comp=Z,128nm,18.0s,baz=36,slow=38
comp=Z,3.1nm,0.6s
KIEV Kiev 74.85 319 P **P** 09 11 17.8 +0.2
KIEV IAmb IAmb 09 11 27.4
comp=Z,31nm,1.6s
KIEV Kiev 74.85 319 P **P** 09 11 17.8 +0.2
KIEV pmax pmax
comp=Z,31nm,1.6s
IDID Didziasalis 75.00 324 *e*P **P** 09 11 19.5 +1.1
NACGM Naroch 75.09 323 *e*P **P** 09 11 20.7 +1.8
comp=Z,53nm,0.9s,baz=74
MMAI Mount Meron Ar 75.27 300 P **P** 09 11 22.0 +1.5
comp=Z,0.5nm,0.2s,baz=78,slow=9.0,SNR=1.5
MMAI LR LR 09 49 17.6
comp=Z,63nm,19.5s,baz=46,slow=39
comp=Z,0.5nm,0.2s
INK Inuvik 75.44 22 P **P** 09 11 20.2 -0.4
INK Inuvik 75.44 22 P **P** 09 11 20.3 -0.4
INK pmax pmax
comp=Z,5.0nm,1.0s
MTSE Matsula 75.53 328 *e*P **P** 09 11 21.9 +0.6
F31M Tsiigehtchic 75.69 23 P **P** 09 11 21.4 -0.7
F31M IAmb IAmb 09 11 27.7
comp=Z,30nm,1.9s
G31M Satah River 75.69 23 P **P** 09 11 21.7 -0.4
G31M IAmb IAmb 09 13 05.7
comp=Z,40nm,1.9s
A36M Sachs Harbour 76.42 17 P **P** 09 11 26.1 -0.1
A36M IAmb IAmb 09 11 41.4
comp=Z,14nm,1.2s
PABE Paberze 76.45 325 P **P** 09 11 27.0 +0.3
PABE Paberze 76.45 325 *e*P **P** 09 11 27.5 +0.8
HYT Haines Junctio 76.54 30 P **P** 09 11 27.0 -0.3
EIL Elat 76.61 297 LR LR 09 49 53.3
comp=Z,74nm,18.4s,baz=72,slow=39
SUW Suwalki 77.37 323 *e*P **P** 09 11 32.8 +0.9
SUW Suwalki 77.37 323 P **P** 09 11 32.2 +0.3
SUW Suwalki 77.37 323 *e*P **P** 09 11 32.8 +0.9
SUW Suwalki 77.37 323 P **P** 09 11 32.2 +0.3
SUW pmax pmax
comp=Z,85nm,1.0s
C36M Paulatuk 78.06 19 P **P** 09 11 34.7 -0.8
C36M IAmb IAmb 09 11 49.2
comp=Z,13nm,1.1s
UPP Uppsala 78.12 330 *e*P **P** 09 11 37.0 +1.1
BURAR Bucovina Array 78.27 317 P **P** 09 11 37.6 +0.4
BUR08 Bucovina Ar. S 78.27 317 P **P** 09 11 37.8 +0.6
BUR08 IAmb IAmb 09 11 49.9
comp=Z,9.9nm,1.1s
MLR Muntele Rosu 78.49 314 LR LR 09 50 20.5
comp=Z,60nm,18.3s,baz=62,slow=39
DAG Danmarks Havn 78.83 351 *i* P **P** 09 11 38.0 -1.6
DAG IAmb IAmb 09 11 40.6
comp=Z,4.3nm,0.8s
URZ Urewera 79.32 139 LR LR 09 41 31.3
comp=Z,34nm,21.7s,baz=18,slow=32
RPZ Rata Peaks 79.45 146 LR LR 09 46 06.1
comp=Z,29nm,19.5s,baz=285,slow=35
KOLS Kolonicke sedl 79.66 319 *e*P **P** 09 11 46.1 +1.4
KOLS Kolonicke sedl 79.66 319 *e*P **P** 09 11 46.1 +1.4
HFS Hagfors 79.80 331 P **P** 09 11 45.5 +0.3
comp=Z,7.9nm,0.9s,baz=64,slow=3.4,SNR=7.7
HFS LR LR 09 50 51.8
comp=Z,229nm,19.1s,baz=63,slow=38
comp=Z,7.9nm,0.8s
STHS Stebnicka Huta 80.12 319 *e*P **P** 09 11 47.7 +0.5
STHS Stebnicka Huta 80.12 319 *e*P **P** 09 11 47.7 +0.5
CRVS Cervenica-Dubn 80.17 319 *e*P **P** 09 11 49.0 +1.5
CRVS Cervenica-Dubn 80.17 319 *e*P **P** 09 11 49.0 +1.5
NC405 NORSAR Array S 80.24 332 P **P** 09 11 47.9 +0.3
NB2 NORSAR Subarra 80.49 332 P **P** 09 11 49.0 +0.1
comp=Z,2.5nm,0.6s,baz=63,slow=5.3
NB2 NORSAR Subarra 80.49 332 P **P** 09 11 48.8 -0.1
NOA NORSAR Array B 80.49 332 P **P** 09 11 48.8 -0.1
comp=Z,5.1nm,1.0s,baz=60,slow=5.2,SNR=7.5
NOA LR LR 09 50 54.4
comp=Z,210nm,18.7s,baz=60,slow=38
comp=Z,5.1nm,1.0s
OJC Ojcow 80.68 320 *e*P **P** 09 11 50.9 +0.7
OJC Ojcow 80.68 320 P **P** 09 11 50.0 -0.1
OJC Ojcow 80.68 320 P **P** 09 11 50.0 -0.1
OJC pmax pmax
comp=Z,18nm,0.6s
NIE Niedzica 80.69 320 *e*P **P** 09 11 52.1 +1.9
NEEM North Greenlan 80.95 358 *i* P **P** 09 11 50.8 -0.7
NEEM IAmb IAmb 09 11 54.6
comp=Z,17nm,0.8s
DLBC Dease Lake 80.97 30 LR LR 09 51 23.0
comp=Z,40nm,18.1s,baz=276,slow=38
DBG Daneborg 81.05 350 *i* P **P** 09 11 49.4 -2.3
DBG IAmb IAmb 09 11 53.1
comp=Z,6.2nm,0.7s
RES Resolute Bay 81.06 9 P **P** 09 11 51.2 -0.5
RES IAmb IAmb 09 12 06.5
comp=Z,13nm,1.2s
RES Resolute Bay 81.06 9 P **P** 09 11 51.2 -0.5
RES pmax pmax
comp=Z,13nm,1.2s
RES Resolute Bay 81.06 9 LR LR 09 51 08.3
comp=Z,64nm,20.0s,baz=17,slow=38
JMIC Jan Mayen 81.25 345 LR LR 09 51 41.3
comp=Z,98nm,18.7s,baz=236,slow=38
MORC Moravsky Berou 82.19 321 *e*P **P** 09 11 59.1 +0.9
KSP Ksiaz 82.47 322 *e*P **P** 09 12 00.9 +1.3
JAVC Velka Javorina 82.49 320 *e*P **P** 09 12 01.6 +1.8
DPC Dobruska-Polom 82.67 321 *e*P **P** 09 12 02.5 +1.8
DPC Dobruska-Polom 82.67 321 *e*P **P** 09 12 02.5 +1.8
IDI Anoyia 82.79 305 LR LR 09 53 21.4
comp=Z,28nm,21.5s,baz=84,slow=39
DIVS Divibare 82.95 315 P **P** 09 12 02.4 +0.1
VRAC Vranov 82.95 320 *e*P **P** 09 12 02.3 +0.2
VRAC Vranov 82.95 320 LR LR 09 49 14.2
comp=Z,48nm,19.6s,baz=72,slow=36
KRUC Moravsky 83.17 320 *e*P **P** 09 12 03.6 +0.3
GOPC GO Pecny, Ondr 83.75 321 *e*P **P** 09 12 07.7 +1.5
GOPC GO Pecny, Ondr 83.75 321 *e*P **P** 09 12 07.7 +1.5
BRG Berggiesshubel 83.80 323 *e*P **P** 09 12 08.3 +1.9
BRG Amp 09 12 09.1
comp=Z,2.7nm,0.6s
BRG Berggiesshubel 83.80 323 P P 09 12 12.8 +6.4
BRG Amp 09 12 13.7
comp=Z,5.6nm,1.0s
BRG Berggiesshubel 83.80 323 P P 09 12 17.7 +11
BRG Amp 09 12 21.8
comp=Z,7.6nm,1.0s
BRG Amp 09 54 58.0
comp=Z,0.3nm,17.0s
BRG Berggiesshubel 83.80 323 *e*P **P** 09 12 08.3 +1.9
BRG *e* 09 12 12.8
BRG pmax pmax
comp=Z,3.0nm,0.6s
RONA Rosalia, Austr 83.81 319 *e*P **P** 09 12 06.8 +0.2
comp=Z,5.4nm,0.9s
CONA Conrad Observa 83.98 319 *i* pP **P** 09 12 09.2 +1.7
comp=Z,10nm,1.2s
CLL Collm 84.13 323 *i* P **P** 09 12 08.6 +0.5
comp=Z,6.0nm,0.7s
CLL *i* (PcP) **PcP** 09 12 11.1 -0.8
CLL *i* pP **sP** 09 12 17.9 -0.7
comp=Z,18nm,1.1s
CLL *i* sP **pwP** 09 12 20.3 +1.6
CLL Collm 84.13 323 *i* P **P** 09 12 08.6 +0.5
CLL *i* 09 12 11.1
CLL *i* 09 12 17.9
CLL pmax pmax
comp=Z,6.0nm,0.7s
ARSA Arzberg 84.48 319 *e*PcP **PcP** 09 12 15.5 +1.9
comp=Z,3.3nm,0.7s
CKRC Cesky Krumlov 84.51 321 *e*P **P** 09 12 11.3 +1.1
CKRC Cesky Krumlov 84.51 321 *e*P **P** 09 12 11.3 +1.1
KHC Kasperske Hory 84.80 321 P **P** 09 12 11.5 -0.2
KHC IAmb IAmb 09 12 21.6
comp=Z,27nm,1.9s
KHC Kasperske Hory 84.80 321 *e*P **P** 09 12 11.3 -0.3
KHC Kasperske Hory 84.80 321 *ce*P **P** 09 12 10.6 -1.0
KHC pmax pmax
comp=Z,22nm,1.7s
GEC2 GERESS Array S 84.86 321 P **P** 09 12 12.7 +0.7
GEC2 IAmb IAmb 09 12 27.7
comp=Z,7.2nm,0.9s
GERES GERESS Array B 84.86 321 P **P** 09 12 12.6 +0.6
GERES GERESS Array B 84.86 321 P **P** 09 12 12.6 +0.6
GERES GERESS Array B 84.86 321 P **P** 09 12 12.4 +0.4
comp=Z,3.7nm,0.7s,baz=46,slow=5.8,SNR=9.1
comp=Z,3.7nm,0.7s
KMBO Kilima Mbogo 84.95 267 P **P** 09 12 14.1 +0.8
comp=Z,0.9nm,0.3s,baz=56,slow=9.6,SNR=4.8
KMBO LR LR 09 50 20.4
comp=Z,37nm,20.0s,baz=90,slow=36
comp=Z,0.9nm,0.3s
SUMG Summit 84.97 354 P **P** 09 12 12.4 0.0
SUMG IAmb IAmb 09 12 14.2
comp=Z,11nm,0.9s
SUMG Summit 84.97 354 P **P** 09 12 12.4 0.0
SUMG pmax pmax
comp=Z,11nm,0.9s
SUMG Summit 84.97 354 *i* P **P** 09 12 11.0 -1.5
SUMG IAmb IAmb 09 12 16.1
comp=Z,7.1nm,0.8s
MOA Molln 84.98 320 *i* P **P** 09 12 13.5 +1.0
comp=Z,6.4nm,0.8s
SOKA Soboth 85.04 318 *i* P **P** 09 12 13.7 +0.8
comp=Z,4.5nm,0.6s
YKA Yellowknife Ar 85.17 23 P **P** 09 12 12.3 -0.8
YKA Yellowknife Ar 85.17 23 *i* P **P** 09 12 12.6 -0.5
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 85.17 23 P **P** 09 12 12.4 -0.7
comp=Z,2.8nm,0.9s,baz=313,slow=4.8,SNR=45
comp=Z,2.8nm,0.9s
OBKA Obir 85.41 318 *i* P **P** 09 12 15.8 +1.0
comp=Z,3.9nm,0.7s
MYKA Terra Mystica 85.91 319 *e*P **P** 09 12 16.3 -0.9
comp=Z,2.7nm,0.7s
LESA Schwarzleotal 86.13 320 *i* P **P** 09 12 19.0 +0.6
comp=Z,2.0nm,0.5s
ABTA Abfaltersbach 86.55 319 *i* P **P** 09 12 20.4 -0.1
comp=Z,1.4nm,0.5s
WTTA Wattenberg 86.83 320 *e*P **P** 09 12 22.4 +0.5
comp=Z,3.7nm,0.5s
MOTA Moosalm 87.10 320 *e*P **P** 09 12 23.3 0.0
comp=Z,0.4nm,0.3s
RETA Reutte 87.24 321 *i* P **P** 09 12 22.3 -1.4
comp=Z,1.3nm,0.4s
FETA Feichten 87.49 320 *e*P **P** 09 12 24.2 -0.9
comp=Z,3.2nm,0.8s
RAR Rarotonga 87.97 114 LR LR 09 51 54.7
comp=Z,29nm,19.0s,baz=177,slow=36
ICESG Greenland Ices 88.42 353 *i* P **P** 09 12 28.2 -1.1
ICESG IAmb IAmb 09 12 33.1
comp=Z,9.3nm,0.8s
BORG Borgarnes 89.15 345 LR LR 09 55 46.8
comp=Z,73nm,20.0s,baz=25,slow=38
SFJD Kangerlussuaq 91.36 357 LR LR 09 55 09.7
comp=Z,49nm,18.4s,baz=352,slow=36
DY2G Dye2 91.59 355 *i* P **P** 09 12 43.8 -0.2
DY2G IAmb IAmb 09 12 50.4
comp=Z,12nm,0.7s
FRB Frobisher Bay 94.47 4 LR LR 09 58 43.0
comp=Z,67nm,20.5s,baz=359,slow=37
PPT Papeete 95.48 107 LR LR 09 54 16.3
comp=Z,38nm,19.2s,baz=37,slow=34
NVAR Mina Array Bea 98.11 43 P **P** 09 13 13.5 -0.9
comp=Z,1.0nm,0.7s,baz=293,slow=6.0,SNR=6.2
comp=Z,1.0nm,0.7s
CRJC Cerrejon, Guaj 144.59 25 *e*P **PKPab** 09 19 12.1 -1.0
SJCC San Jacinto, C 144.63 29 *e*P **PKPab** 09 19 12.2 -1.1
UREC San Jos de Ur 146.34 31 *e*P **PKPdf** 09 19 17.4 -0.2
ZARC Zaragoza, Cauc 146.89 31 *e*P **PKPdf** 09 19 19.2 +0.7
OCAC Ocana 146.92 27 *e*P **PKPdf** 09 19 19.5 +0.7
CBOC Ciudad Bolivar 147.72 34 *e*P **PKPdf** 09 19 20.2 0.0
PTBC PUERTO BERRIO 147.91 31 *e*P **PKPdf** 09 19 21.2 +0.9
PLMC San Jos del P 148.39 35 *e*P **PKPbc** 09 19 23.8 -0.8
BARC Barichara 148.45 29 *e*P **PKPbc** 09 19 23.8 -1.1
GUY2C Guyana, Caldas 148.60 33 *e*P **PKPbc** 09 19 26.0 +0.4
SPBC San Pablo de B 148.87 31 *e*P **PKPbc** 09 19 24.1 -1.8
RUSC La Rusia 149.12 29 *e*P **PKPbc** 09 19 26.0 -0.9
JAMC Jamundi, Valle 149.57 38 *e*P **PKPbc** 09 19 26.4 -1.4
ORTC Ortega, Tolima 149.78 35 *e*P **PKPdf** 09 19 25.1 +1.8
CHIC Chingaza 149.93 31 *e*P **PKPdf** 09 19 23.5 -0.5
POPC Popayan, Colom 150.12 38 *e*P **PKPbc** 09 19 27.8 -1.3
PRAC Prado 150.13 34 *e*P **PKPbc** 09 19 27.5 -1.4
VILC Villavicencio, 150.39 32 *e*P **PKPbc** 09 19 29.4 -0.2
GARC Garzon, Huila 151.08 37 *e*P **PKPbc** 09 19 30.2 -1.2

*IDC **04** 09:02:31.1±3.5,53°.64N×90°.71E,h0km,mbtmp3.4/3, ML3.2/2,Error ellipse: s-maj=31.2km s-min=22.5km az=38.0*
*NNC **04** 09:02:33.7±2.7,53°.28N×91°.00E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=22.9km s-min=11.6km az=68.0, Suspected Mining explosion.*
ISC 04 09:02:35.5±3.4,53°.6N±0°.1×90°.2E±0°.2,h0km,n8,σ1s59/12, 4C-1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.19**	**278**	⇓Pn		**Pb**		**09 03 32.4**	**-0.5**
	1.6nm,0.7s								
ZAA0				⇑Sn		**Sg**		**09 04 18.5**	**+0.8**
	24nm,1.0s								
ZALV	**Zalesovo Beam**	**3.19**	**278**	Pn		**Pn**		**09 03 28.2**	**+1.4**
	4.1nm,0.4s,baz=92,slow=12,SNR=6.5								
ZALV				Sn		**Sb**		**09 04 09.3**	**-2.9**
	1.8nm,0.3s,baz=116,slow=23,SNR=6.2								
ZALV				Lg		Lg		09 04 21.7	
	3.8nm,0.3s,baz=96,slow=26,SNR=9.2								
KURBB	**Kurchatov Arra**	**7.77**	**252**	Pn		**Pn**		**09 04 29.8**	**+0.1**
	0.2nm,0.3s,baz=65,slow=14,SNR=4.9								
KURBB				Sn		**Sn**		**09 05 59.5**	**+1.3**
	baz=69,slow=24,SNR=5.8								
KURBB				Lg		Lg		09 06 46.9	
	0.1nm,0.3s,baz=71,slow=30,SNR=7.0								
	1.9nm,0.6s								
MK31	**Makanchi Array**	**8.50**	**220**	Pn		**Pn**		**09 04 39.3**	**-0.4**
	0.7nm,0.5s,baz=35,slow=12,SNR=18								
MK31				⇑Sn		**Sn**		**09 06 18.8**	**+2.5**
	11nm,1.1s,baz=40,slow=26,SNR=4.4								
MKAR	**Makanchi Array**	**8.50**	**220**	Pn		**Pn**		**09 04 38.7**	**-1.1**
	0.6nm,0.3s,baz=39,slow=12,SNR=12								
MKAR				Sn		**Sn**		**09 06 17.9**	**+1.5**
	0.2nm,0.3s,baz=37,slow=23,SNR=3.5								
	0.9nm,0.4s								
MAKZ	**Makanchi**	**8.61**	**221**	⇑Pn		**Pn**		**09 04 40.9**	**-0.3**
	2.0nm,0.8s								
MAKZ				⇑Sn		**Sn**		**09 06 19.0**	**0.0**
	13nm,1.6s								
SONM	**Songino Array**	**11.80**	**113**	Lg		Lg		09 08 24.5	
	0.1nm,0.3s,baz=291,slow=28,SNR=7.3								
I34MN	**SONGINO INFRAS**	**11.82**	**113**	I		I		10 07 50.0	
	baz=308,slow=327,SNR=0.9								

*IDC **04** 09:04:18.1±1.1,21°.76N×122°.01E,h0km,mb3.6/6, mbtmp3.6/6,Error ellipse: s-maj=71.8km s-min=22.4km az=65.0*
*TAP **04** 09:04:22.5,21°.78N×121°.35E,h25km,ML3.9,D*
ISC 04 09:04:19.1±1.6,21°.68N±0°.05×121°.45E±0°.04,h8km±9km, n121,σ1s52/189,mb3.5/6,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**0.35**	**21**	*i* P		**Pn**		**09 04 29.9**	**-0.6**
	baz=44								
LYUB				*e*S		**Sb**		**09 04 35.0**	**+1.8**
	baz=44								
LAY	**Lan-yu**	**0.38**	**15**	P		**Pn**		**09 04 29.7**	**-1.1**
	baz=44								
LAY				S		**Sb**		**09 04 35.5**	**+1.5**
	baz=44								
TSEB	**Hengchuen, Pin**	**0.56**	**294**	P		**Pn**		**09 04 32.6**	**-0.7**
	baz=285								
TSEB				S		**Sb**		**09 04 41.0**	**+1.8**
	baz=285								
TWKBT	**Hengchun**	**0.65**	**294**	P		**Pn**		**09 04 33.4**	**-1.1**
	baz=298								
TWKBT				*e*S		**Sg**		**09 04 40.0**	**-0.1**
	baz=298								
TWK1	**Hengchun**	**0.66**	**294**	*e*P		**Pn**		**09 04 33.4**	**-1.2**
	baz=298								
TWK1				*e*S		**Sg**		**09 04 40.0**	**-0.3**
	baz=298								
SMST	**Manzhou Townsh**	**0.66**	**301**	P		**Pn**		**09 04 33.6**	**-1.2**
	baz=307								
SMST				*e*S		**Sg**		**09 04 41.9**	**+1.2**
	baz=307								
HEN	**Hengchun**	**0.74**	**297**	P		**Pn**		**09 04 35.0**	**-0.8**
	baz=299								
HEN				*e*S		**Sg**		**09 04 41.8**	**-1.2**
	baz=299								
SLIU	**Shizi**	**0.81**	**312**	*i* P		**Pb**		**09 04 35.6**	**+0.2**
	baz=310								
SLIU				S		**Sg**		**09 04 45.4**	**+0.2**
	baz=310								
TAWH	**Dawu Township**	**0.84**	**322**	*e*P		**Pg**		**09 04 35.7**	**+0.4**
	baz=334								
TAWH				S		**Sg**		**09 04 45.7**	**-0.6**
	baz=334								
TAW	**Tawu**	**0.85**	**323**	P		**Pg**		**09 04 35.9**	**+0.4**
	baz=324								
TAW				S		**Sg**		**09 04 46.1**	**-0.5**
	baz=324								
EAST	**Anshuo**	**0.90**	**322**	P		**Pg**		**09 04 36.6**	**+0.2**
	baz=332								
LDUT	**Ludao**	**0.99**	**1**	*e*P		**Pn**		**09 04 39.0**	**-0.4**
	baz=7.0								
LDUT				*e*S		**Sg**		**09 04 52.0**	**+0.8**
	baz=7.0								
ECL	**Taimali**	**1.03**	**334**	P		**Pb**		**09 04 38.3**	**-0.8**
	baz=336								
ECL				*e*S		**Sg**		**09 04 49.9**	**-2.3**
	baz=336								
SCZT	**Fangliau**	**1.04**	**312**	*e*P		**Pg**		**09 04 39.3**	**+0.3**
	baz=318								
TTN	**Taitung**	**1.11**	**345**	*e*P		**Pg**		**09 04 41.3**	**+0.9**
	baz=349								
TTN				*e*S		**Sb**		**09 04 56.5**	**+1.4**
	baz=349								
TWGBT	**Beinan**	**1.19**	**343**	P		**Pn**		**09 04 41.0**	**-1.0**
	baz=346								
TWGBT				*e*S		**Sb**		**09 04 54.7**	**-2.7**
	baz=346								
TWG	**Pinlang**	**1.19**	**343**	*e*P		**Pn**		**09 04 40.9**	**-1.2**
	baz=346								
TWG				*e*S		**Sb**		**09 04 54.8**	**-2.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=346						
MASBT	Mashibuluo baz=331	1.20	321	eP	Pg	09 04 43.4	+1.2
LONT	Longtian baz=336	1.26	347	eP	Pn	09 04 42.0	-1.0
LONT	baz=336			eS	Sn	09 04 56.9	-3.3
TSMG	Majia baz=325	1.27	324	eP	Pg	09 04 44.3	+0.9
SSD	Sandimen baz=326	1.31	325	eP	Pg	09 04 44.9	+0.7
SGLT	Jiouru baz=333	1.37	320	eP	Pg	09 04 45.8	+0.4
CHKT	Chengkung baz=8.0	1.42	357	eP	Pb	09 04 46.4	+0.5
CHKT	baz=8.0			eS	Sn	09 05 02.6	-1.5
ECS	Chishang baz=341	1.43	352	eP	Pn	09 04 45.5	+0.1
ECS	baz=341			eS	Sn	09 05 02.3	-2.0
WSSB	Gushan baz=311	1.46	311	eS	Sn	09 05 05.5	+0.4
EHD	Haiduan baz=342	1.48	351	eP	Pn	09 04 44.6	-1.5
EHD	baz=342			eS	Sn	09 05 02.2	-3.5
TWM1	Shoushan baz=321	1.49	320	eP	Pg	09 04 48.3	+0.7
SCST	Cishan baz=335	1.50	324	eP	Pg	09 04 48.2	+0.4
SCST	baz=335			eS	Sn	09 05 07.5	+1.6
SLGT	Liugui baz=334	1.51	331	eP	Pb	09 04 47.2	-0.1
SLGT	baz=334			eS	Sn	09 05 06.4	+0.2
FULB	Fuli baz=344	1.52	355	eP	Pn	09 04 46.2	-0.5
FULB	baz=344			eS	Sn	09 05 06.1	-0.5
ELDTW	Lidau baz=348	1.56	345	eP	Pn	09 04 47.1	-0.1
ELDTW	baz=348			eS	Sn	09 05 03.8	-3.9
SGST	Jiashian baz=344	1.61	330	eP	Pb	09 04 49.2	+0.1
SGST	baz=344			eS	Sn	09 05 08.9	0.0
STYH	Taoyuan baz=351	1.61	337	eP	Pb	09 04 48.9	-0.3
STYH	baz=351			eS	Sn	09 05 08.2	-0.6
ECBN	Changbin baz=11	1.63	0	eP	Pg	09 04 50.8	+0.3
ECBN	baz=11			eS	Sn	09 05 09.1	-0.3
EYUL	Yuli baz=347	1.67	356	eP	Pn	09 04 48.9	+0.3
TWF1	Yuli baz=347	1.68	355	eP	Pb	09 04 49.9	-0.3
TWF1	baz=347			eS	Sn	09 05 07.0	-3.4
SHHT	Tainan City baz=323	1.68	323	eP	Pb	09 04 50.5	+0.1
YULB	Yu-li baz=348	1.71	355	eP	Pn	09 04 48.6	-0.7
CHN3	Shinhua baz=325	1.72	324	eP	Pn	09 04 49.3	0.0
CHN1	Nanshi baz=332	1.73	331	eP	Pb	09 04 51.4	+0.3
CHN1	baz=332			eS	Sn	09 05 13.1	+1.4
WTP	Ta-pu baz=335	1.74	334	eP	Pb	09 04 51.6	+0.2
WTP	baz=335			eS	Sn	09 05 12.9	+0.8
SNST	Tainan City baz=331	1.77	330	eP	Pb	09 04 51.8	-0.1
SNST	baz=331			eS	Sn	09 05 14.5	+1.7
TPUB	Ta-pu baz=336	1.79	335	eP	Pb	09 04 51.8	-0.4
TPUB	baz=336			eS	Sn	09 05 14.2	+1.1
HGSD	Ruisui baz=13	1.81	359	eP	Pb	09 04 52.8	+0.4
HGSD	baz=13			eS	Sn	09 05 14.1	+0.4
TWK	Hsinying baz=332	1.82	331	eP	Pb	09 04 52.5	-0.1
TWK	baz=332			eS	Sn	09 05 13.8	-0.1
EHY	Hungye baz=349	1.83	356	eP	Pb	09 04 52.5	-0.3
EHY	baz=349			eS	Sn	09 05 12.0	-2.1
CHN4	Tsaushan baz=336	1.85	335	eP	Pb	09 04 52.7	-0.4
CHN4	baz=336			eS	Sn	09 05 15.2	+0.6
SCLT	Jiali baz=323	1.89	322	eS	Sn	09 05 16.3	+0.6
ALS	Alishan baz=353	1.92	342	eP	Pn	09 04 53.4	+1.1
ALS	baz=353			eS	Sn	09 05 16.4	-0.5
TSCK	Chigu Township baz=320	1.93	320	eP	Pn	09 04 52.0	-0.2
TSCK	baz=320			eS	Sn	09 05 15.6	-1.1
EGFH	Guangfu baz=351	1.98	359	eP	Pb	09 04 54.9	-0.6
ICHU	Yijhu baz=328	2.00	327	eP	Pn	09 04 54.3	+1.2
ICHU	baz=328			eS	Sn	09 05 18.1	-0.2
WARBT	Fenglin Townsh baz=350	2.03	358	eP	Pn	09 04 54.2	+0.5
WARBT	baz=350			eS	Sn	09 05 15.3	-4.0
CHN5	Tsauling baz=341	2.04	340	eP	Pb	09 04 55.8	-0.7
CHN5	baz=341			eS	Sn	09 05 21.1	+1.6
CHY	Chiayi baz=334	2.05	333	eP	Pb	09 04 55.7	-0.8
CHY	baz=334			eS	Sn	09 05 19.5	0.0
WHYT	Xinyi Township baz=346	2.09	345	eP	Pn	09 04 55.6	+1.2
WHYT	baz=346			eS	Sn	09 05 21.3	+0.7
VWDT	VWDT baz=349	2.09	352	eP	Pb	09 04 56.5	-0.7
ESL	Shilin baz=352	2.13	360	eP	Pn	09 04 55.5	+0.5
ESL	baz=352			eS	Sn	09 05 18.0	-3.6
SSLB	Suanglung baz=349	2.15	348	eP	Pb	09 04 57.0	-1.3
SSLB	baz=349			eS	Sn	09 05 22.0	-0.2
WDLH	Douliu baz=339	2.17	337	eP	Pn	09 04 57.2	+1.7
WDLH	baz=339			eS	Sn	09 05 23.2	+0.5
WTK	Tuku baz=335	2.23	334	eP	Pn	09 04 57.4	+1.1
WTK	baz=335			eS	Sn	09 05 24.0	-0.1
WJS	Zhushan baz=344	2.24	343	eP	Pb	09 04 59.1	-0.7
WJS	baz=344			eS	Sn	09 05 26.6	+2.3
SMLT	Sun Moon Lake baz=349	2.25	347	eP	Pb	09 04 58.7	-1.5
SMLT	baz=349			eS	Sn	09 05 26.2	+1.4
WSF	Szhu baz=331	2.26	330	eS	Sn	09 05 24.8	0.0
ETM	Tongmen baz=353	2.28	1	eP	Pn	09 04 58.1	+1.1
ETM	baz=353			eS	Sn	09 05 22.9	-2.4
TYC	Yuchr baz=348	2.29	346	eP	Pb	09 04 59.5	-1.1
TYC	baz=348			eS	Sn	09 05 26.5	+1.1
WDGT	Dungji baz=314	2.29	314	eS	Sn	09 05 21.9	-3.5
WNT	Mingjian baz=344	2.30	342	eP	Pb	09 05 00.4	-0.5
WUSB	Renai baz=4.0	2.33	353	P	Pn	09 04 58.6	+0.8
WUSB	baz=4.0			S	Sn	09 05 24.7	-1.9
LXIB	Xiulin Townshi baz=1.0	2.34	359	eP	Pb	09 05 00.1	-1.4
LXIB	baz=1.0			eS	Sn	09 05 24.4	-2.5
CHGB	Renai baz=5.0	2.39	354	eP	Pn	09 05 00.5	+1.8
CHGB	baz=5.0			eS	Sn	09 05 26.3	-1.9
TWD	Chiawan baz=355	2.40	3	eP	Pn	09 05 00.1	+1.5
TWD	baz=355			eS	Sn	09 05 26.6	-1.6
VCHM	Qimei baz=322	2.41	310	eP	Pn	09 04 58.0	-0.9
VCHM	baz=322			eS	Sn	09 05 25.7	-2.8
WCS	Beigang Elemen baz=350	2.42	348	eP	Pb	09 05 01.4	-1.5
WCS	baz=350			eS	Sn	09 05 29.2	+0.4
WRL	Guolierlin Hig baz=337	2.43	336	eP	Pn	09 05 00.0	+1.0
WRL	baz=337			eS	Sn	09 05 29.1	+0.2
WHF	Hehuan Shan baz=9.0	2.46	356	eP	Pb	09 05 02.2	-1.7
WHF	baz=9.0			eS	Sn	09 05 29.5	-1.0
NACB	Ninganchiao baz=355	2.49	3	eP	Pn	09 05 01.9	+1.9
NACB	baz=355			eS	Sn	09 05 27.9	-2.6
ETLH	Xiulin Townshi baz=2.0	2.52	1	eP	Pb	09 05 03.0	-1.7
ETLH	baz=2.0			eS	Sn	09 05 31.0	-0.4
PHUB	P'eng-hu baz=317	2.52	317	eP	Pn	09 04 59.6	-0.7
PHUB	baz=317			eS	Sn	09 05 27.9	-3.3
TCU	Taichung baz=333	2.56	344	eP	Pn	09 05 00.6	-0.3
TCU	baz=333			eS	Sn	09 05 33.9	+1.6
EOS4	EOS4 baz=20	2.56	18	eP	Pb	09 05 03.5	-1.6
FUSS	Fushou baz=7.0	2.57	356	eP	Pn	09 05 03.0	+1.8
PNG	Penghu baz=318	2.57	317	eP	Pn	09 05 00.9	-0.1
PNG	baz=318			eS	Sn	09 05 30.1	-2.3
TDCB	Techi baz=5.0	2.58	354	eP	Pn	09 05 03.2	+1.9
WHP	Taichung City baz=351	2.63	350	eP	Pn	09 05 04.2	+2.2
WHP	baz=351			eS	Sn	09 05 36.1	+2.0
EOS3	EOS3 baz=17	2.72	17	eP	Pn	09 05 03.6	+0.7
EOS3	baz=17			eS	Sn	09 05 38.4	+2.5
TWQ1	Liyutan baz=348	2.73	347	eP	Pb	09 05 06.7	-1.5
TWQ1	baz=348			eS	Sn	09 05 38.4	+1.9
NNSB	Datong	2.74	359	eP	Pb	09 05 06.0	-2.5
NNSB				eS	Sn	09 05 35.0	-1.9
NNS	Nan Shan baz=12	2.75	359	eP	Pn	09 05 05.5	+1.8
ENA	Nanau baz=356	2.75	6	eP	Pn	09 05 05.4	+1.9
ENA	baz=356			eS	Sn	09 05 36.5	-0.5
WDJ	Dajia District baz=346	2.76	345	eP	Pn	09 05 05.3	+1.6
WDJ	baz=346			eS	Sn	09 05 39.9	+2.6
EWUT	Wuta baz=356	2.77	6	eP	Pn	09 05 05.8	+1.9
EWUT	baz=356			eS	Sn	09 05 37.1	-0.4
LATG	Datong baz=3.0	2.85	1	eP	Pn	09 05 06.6	+1.6
NDT	Datong Townshi baz=3.0	2.92	1	eP	Pn	09 05 07.9	+2.1
TWC	Suao baz=9.0	2.94	7	eP	Pb	09 05 09.5	-2.4
ENTT	Nioudou baz=4.0	2.95	2	eP	Pb	09 05 10.3	-1.7
NFF	Wufeng Townshi baz=341	2.96	354	eP	Pb	09 05 10.5	-1.6
NFF	baz=341			eS	Sn	09 05 43.2	+1.1
NSTT	Nanjuang baz=339	2.97	352	eP	Pb	09 05 10.3	-2.0
YHNB	Yeheng baz=10.0	2.98	359	eP	Pb	09 05 09.9	-2.6
YHNB	baz=10.0			eS	Sn	09 05 41.6	-1.1
LIOB	Emei baz=339	2.98	352	eP	Pn	09 05 09.6	+2.8
NSK	Sanguang baz=10.0	2.99	358	eP	Pb	09 05 10.2	-2.4
NSK	baz=10.0			eS	Sn	09 05 41.6	-1.2
TWE	Neicheng baz=6.0	3.04	4	eP	Pn	09 05 09.8	+2.4
FUSB	Fushanzhiwuyua baz=4.0	3.07	2	eP	Pb	09 05 11.3	-2.8
NWLT	Wulai baz=2.0	3.09	1	eP	Pb	09 05 11.7	-2.6
VWUC	VWUC baz=332	3.78	331	eP	Pn	09 05 18.7	+1.0
VWUC	baz=332			S	Sn	09 06 00.0	-2.2
KNMB	Chin-men Tao baz=315	3.96	315	eP	Pn	09 05 19.9	-0.2
AXDP	Jialang baz=315	4.53	316	eP	Pn	09 05 28.0	0.0
MATB	Ma-tsu baz=343	4.66	343	eP	Pn	09 05 29.8	0.0
MHZQ	Yeshan baz=345	4.93	334	eP	Pn	09 05 34.2	+0.8
MKAR	Makanchi Array 0.7nm,0.7s,baz=120,slow=10,SNR=1.8 0.7nm,0.7s	40.33	318	P	P	09 11 59.4	+2.4
H11N1	WAKE ISLAND Hy baz=282	42.44	84	T	T	09 57 28.3	
H11N2	WAKE ISLAND Hy baz=282	42.45	84	T	T	09 57 28.5	
H11N3	WAKE ISLAND Hy baz=282	42.46	84	T	T	09 57 30.1	
ZALV	Zalesovo Beam 0.4nm,0.4s,baz=134,slow=6.2,SNR=2.1 0.4nm,0.4s	42.49	329	P	P	09 12 16.5	+1.8
H11S3	WAKE ISLAND Hy baz=281	42.49	86	T	T	09 57 34.7	
H11S1	WAKE ISLAND Hy baz=281	42.51	86	T	T	09 57 33.2	
H11S2	WAKE ISLAND Hy baz=281	42.51	86	T	T	09 57 39.8	
WRA	Warramunga Arr 0.3nm,0.5s,baz=344,slow=9.2,SNR=4.9 0.3nm,0.5s	43.24	162	P	P	09 12 20.7	-0.4
KURBB	Kurchatov Arra 0.5nm,0.3s,baz=128,slow=7.2,SNR=1.8 0.5nm,0.3s	44.20	322	P	P	09 12 30.7	+2.2
ASAR	Alice Springs 0.2nm,0.3s,baz=348,slow=8.5,SNR=2.1 0.2nm,0.3s	46.67	164	P	P	09 12 48.1	-0.2
YKA	Yellowknife Ar 0.3nm,0.8s,baz=317,slow=4.7,SNR=4.3 0.3nm,0.8s	85.18	23	P	P	09 16 54.6	-1.0

*JMA **04** 09:35:40.8±0.1, 24.°0N±0.°2×121.°7E±0.°4, h34km, MV3.1/15, TAIWAN REGION*
*TAP **04** 09:35:41.0, 24.°01N×121.°68E, h34km, ML3.6, C*
*ASIES **04** 09:35:41, 24.°01N×121.°68E, h34km, ML3.6, Mw3.3,*

Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}1.81; $M_{\theta\theta}$-2.92; $M_{\phi\phi}$1.17; $M_{r\theta}$9.02; $M_{\theta\phi}$-3.87; $M_{\phi r}$-2.89; Fault plane solution: $M_0$10.54950×10^{20} NP1: ϕ_s102.43000°, δ85.25000°, λ114.92000°. NP2: ϕ_s202.52000°, δ25.34000°, λ11.15000°. Principal axes: T Plg44.2340°, Azm36.9920°; N Plg24.8290°, Azm280.2170°; P Plg35.4890°, Azm170.9550°;

ISC 04 09:35:41.1±1.0**, 24.°00N**±0.°01×**121.°69E**±0.°02**, h33**km±2km**, n132,** σ0.74s/229**, 7C-21D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HWA	Hwalien baz=244	0.08	256	iP	Pb	09 35 47.0	+0.3
HWA	baz=244			iS	Sb	09 35 51.9	+1.2
TWD	Chiawan baz=317	0.12	315	⇑iP	Pb	09 35 46.9	-0.1
TWD	baz=317			iS	Sb	09 35 51.1	0.0
ETL	Fush Village baz=341	0.17	340	P	Pb	09 35 47.2	-0.3
ETL	baz=341			eS	Sb	09 35 52.2	+0.3
ETM	Tongmen baz=257	0.18	261	⇑iP	Pb	09 35 47.6	0.0
ETM	baz=257			S	Sb	09 35 52.2	+0.3
NACB	Ninganchiao	0.20	334	P	Pb	09 35 47.5	-0.3
NACB	Ninganchiao baz=328	0.20	334	⇑iP	Pb	09 35 47.4	-0.3
NACB	baz=328			iS	Sb	09 35 52.0	-0.2
LXIB	Xiulin Townshi baz=274	0.25	276	⇓iP	Pb	09 35 48.2	-0.3
LXIB	baz=274			iS	Sb	09 35 53.2	-0.3
ETLH	Xiulin Townshi baz=318	0.28	318	⇓iP	Pn	09 35 48.5	-0.2
ETLH	baz=318			iS	Sb	09 35 53.9	-0.1
ESL	Shilin baz=237	0.30	232	⇑iP	Pb	09 35 48.5	-0.3
ESL	baz=237			S	Sb	09 35 54.1	0.0
TEGC	Jichi Village baz=195	0.32	206	P	Pn	09 35 49.3	0.0
TEGC	baz=195			S	Sb	09 35 57.3	+2.8
WARBT	Fenglin Townsh baz=230	0.39	225	⇑iP	Pb	09 35 49.6	-0.6
WARBT	baz=230			iS	Sb	09 35 55.8	-0.5
EGFH	Guangfu baz=226	0.40	216	⇑P	Pb	09 35 49.9	-0.4
EGFH	baz=226			S	Sn	09 35 57.1	+0.2
WHF	Hehuan Shan baz=283	0.41	291	⇓iP	Pb	09 35 50.5	-0.3
WHF	baz=283			S	Sb	09 35 57.0	-0.5
ENA	Nanau baz=16	0.43	6	P	Pb	09 35 50.4	-0.4
ENA	baz=16			S	Sb	09 35 57.1	-0.2
EWUT	Wuta baz=13	0.46	10	eP	Pb	09 35 50.6	-0.5
EWUT	baz=13			eS	Sb	09 35 57.1	-0.7
OWD	Renai baz=269	0.47	265	⇓P	Pb	09 35 51.3	0.0
OWD	baz=269			S	Sb	09 35 58.0	-0.5
CHGB	Renai baz=270	0.47	278	⇓iP	Pn	09 35 51.5	-0.3
CHGB	baz=270			S	Sb	09 35 58.5	-0.2
NNSH	Datong baz=320	0.51	327	P	Pb	09 35 51.8	-0.3
NNSH	baz=320			eS	Sn	09 35 59.7	-0.1
NNSB	Datong baz=321	0.51	327	⇓P	Pb	09 35 51.8	-0.3
NNSB	baz=321			S	Sb	09 35 59.4	-0.2
WUSB	Renai baz=268	0.52	270	⇓P	Pn	09 35 52.2	-0.1
WUSB	baz=268			eS	Sn	09 35 59.8	-0.3
NNS	Nan Shan baz=322	0.53	327	⇓iP	Pb	09 35 52.0	-0.3
NNS	baz=322			iS	Sn	09 35 59.9	-0.4
TWT	Tachien baz=291	0.53	299	⇓P	Pn	09 35 52.6	+0.1
TWT	baz=291			S	Sn	09 36 00.8	+0.3
TDCB	Techi baz=292	0.55	298	eP	Pn	09 35 52.6	0.0
TDCB	baz=292			eS	Sb	09 36 00.1	-0.4
VWDT	VWDT baz=235	0.56	244	⇓P	Pb	09 35 52.8	+0.2
VWDT	baz=235			S	Sb	09 36 00.5	0.0
HGSD	Ruisui baz=216	0.56	206	⇑P	Pb	09 35 52.8	+0.1
HGSD	baz=216			eS	Sn	09 36 02.8	+2.1
LATG	Datong baz=338	0.56	345	⇓P	Pb	09 35 52.2	-0.6
LATG	baz=338			eS	Sb	09 36 00.4	-0.3
EOS4	EOS4 baz=90	0.59	78	⇓P	Pn	09 35 52.3	-0.4
EOS4	baz=90			eS	Sb	09 36 01.1	+0.2
EHY	Hungye baz=213	0.59	215	P	Pn	09 35 52.1	-1.0
EHY	baz=213			eS	Sn	09 36 01.8	+0.2
NDT	Datong Townshi baz=346	0.62	345	P	Pb	09 35 53.5	-0.3
NDT	baz=346			S	Sn	09 36 02.3	-0.1
TWC	Suao baz=22	0.63	13	P	Pb	09 35 53.6	-0.2
TWC	baz=22			eS	Sn	09 36 02.2	-0.2
NDS	Dongshan baz=355	0.64	2	eP	Pn	09 35 53.5	-0.2
NDS	baz=355			eS	Sn	09 36 02.9	+0.2
EOS3	EOS3 baz=70	0.64	63	eP	Pb	09 35 54.0	+0.1
ENTT	Nioudou baz=351	0.65	350	P	Pb	09 35 53.9	-0.3
ENTT	baz=351			eS	Sb	09 36 02.5	-0.6
EOS2	EOS2 baz=56	0.65	50	eP	Pb	09 35 54.5	+0.5
WPL	Puli Township baz=268	0.67	272	eP	Pb	09 35 54.5	0.0
WPL	baz=268			eS	Sb	09 36 04.2	+0.6
DPDB	Guoxing baz=276	0.70	273	P	Pb	09 35 54.9	-0.1
YULB	Yu-li	0.70	211	P	Pn	09 35 54.5	-0.1
YULB	Yu-li baz=219	0.70	211	eP	Pn	09 35 53.5	-1.1
SSLB	Suanglung	0.70	253	P	Pb	09 35 54.8	-0.2
SSLB	Suanglung baz=256	0.70	253	⇓P	Pn	09 35 54.6	-0.1
SSLB	baz=256			S	Sn	09 36 03.8	-0.7
ECBN	Changbin baz=211	0.71	198	eP	Pn	09 35 54.7	0.0
ECBN	baz=211			eS	Sb	09 36 06.4	+1.7
WCS	Beigang Elemen baz=272	0.71	275	P	Pb	09 35 55.1	-0.1
WCS	baz=272			S	Sb	09 36 04.6	-0.1
TWE	Neicheng baz=354	0.72	358	P	Pn	09 35 54.9	-0.1
EYUL	Yuli baz=217	0.73	208	eP	Pb	09 35 55.5	0.0
YHNB	Yeheng	0.73	337	P	Pb	09 35 55.1	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC	
YHNB	Yeheng	0.73	337	⇓P	Pb	09 35 55.1	-0.4	baz=337
YHNB				S	Sn	09 36 04.7	-0.5	baz=337
SMLT	Sun Moon Lake	0.73	261	⇓*i*P	Pb	09 35 55.3	-0.2	baz=260
SMLT				*i* S	Sb	09 36 05.4	+0.1	baz=260
TWF1	Yuli	0.73	209	*e*P	Pn	09 35 54.1	-1.0	baz=219
TWF1				*e*S	Sn	09 36 04.1	-1.1	baz=219
WHP	Taichung City	0.73	293	*e*P	Pb	09 35 55.6	0.0	baz=292
WHP				*e*S	Sb	09 36 05.9	+0.4	baz=292
NSK	Sanguang	0.74	336	⇓P	Pn	09 35 55.2	-0.1	baz=337
NSK				*e*S	Sn	09 36 05.0	-0.5	baz=337
FUSB	Fushanzhiwuyua	0.77	353	*e*P	Pn	09 35 55.6	-0.1	baz=354
FUSB				*e*S	Sn	09 36 05.2	-0.8	baz=354
TYC	Yuchr	0.77	263	⇓*i*P	Pb	09 35 55.6	-0.4	baz=262
TYC				S	Sb	09 36 05.9	-0.3	baz=262
NWLT	Wulai	0.80	348	P	Pn	09 35 56.0	0.0	baz=348
NWLT				S	Sn	09 36 06.2	-0.5	baz=348
NFF	Wufeng Townshi	0.82	321	P	Pb	09 35 56.7	-0.3	baz=321
NFF				S	Sb	09 36 07.5	-0.4	baz=321
WHYT	Xinyi Township	0.82	249	P	Pb	09 35 56.8	-0.2	baz=249
WHYT				S	Sb	09 36 07.9	0.0	baz=249
FULB	Fuli	0.87	205	*e*P	Pb	09 35 58.0	+0.2	baz=215
FULB				*e*S	Sb	09 36 10.4	+1.1	baz=215
EGS		0.87	15	*e*P	Pb	09 35 58.6	+0.7	baz=17
NSTT	Nanjuang	0.89	315	⇓P	Pb	09 35 58.4	+0.2	baz=315
NSTT				S	Sb	09 36 10.1	+0.3	baz=315
LIOB	Emei	0.89	317	⇓P	Pb	09 35 58.6	+0.4	baz=323
WJS	Zhushan	0.90	259	P	Pb	09 35 58.7	+0.5	baz=258
WJS				*e*S	Sb	09 36 11.1	+1.2	baz=258
TWQ1	Liyutan	0.91	293	⇓*i*P	Pb	09 35 58.9	+0.5	baz=292
TWQ1				*e*S	Sb	09 36 11.2	+1.0	baz=292
WWF	Wufeng	0.91	273	P	Pb	09 35 59.3	+0.9	baz=272
WNT	Mingjian	0.93	263	P	Pb	09 35 59.2	+0.4	baz=262
WNT				*e*S	Sb	09 36 12.2	+1.4	baz=262
TCU	Taichung	0.94	279	*e*P	Pb	09 35 59.6	+0.7	baz=278
TCU				*e*S	Sb	09 36 13.9	+2.8	baz=278
CHKT	Chengkung	0.94	198	*e*P	Pb	09 35 58.5	-0.4	baz=209
CHKT				*e*S	Sb	09 36 11.2	+0.1	baz=209
ALS	Alishan	0.94	239	P	Pb	09 35 59.0	-0.2	baz=229
ALS				*e*S	Sb	09 36 11.3	-0.2	baz=229
NSY	Sanyi	0.94	296	*e*P	Pb	09 35 59.6	+0.6	baz=296
NSY				*e*S	Sb	09 36 12.1	+0.8	baz=296
EHD	Haiduan	0.95	208	*e*P	Pn	09 35 57.2	-0.9	baz=207
TIPB	Shuangxi	0.98	7	*e*P	Pb	09 35 59.5	-0.2	baz=358
TIPB				*e*S	Sb	09 36 12.8	+0.5	baz=358
NMLH	Miaoli	0.98	304	*e*P	Pb	09 36 00.0	+0.4	baz=302
NMLH				*e*S	Sb	09 36 13.4	+1.1	baz=302
TWA	Mucha	0.98	354	P	Pb	09 35 59.3	-0.4	baz=346
TWA				S	Sb	09 36 12.1	-0.3	baz=346
TATO	Taipei	0.99	349	P	Pb	09 35 59.6	-0.2	
ECS	Chishang	0.99	206	*e*P	Pn	09 35 59.2	+0.5	baz=215
CHN5	Tsauling	1.01	247	⇓P	Pb	09 36 00.1	0.0	baz=234
CHN5				S	Sb	09 36 14.0	+0.8	baz=234
ELDTW	Lidau	1.01	218	*e*P	Pn	09 35 58.5	-0.5	baz=208
SBCB	Hsinchu	1.02	321	*e*P	Pb	09 36 01.3	+1.0	baz=321
SBCB				*e*S	Sb	09 36 15.7	+2.2	baz=321
WDJ	Dajia District	1.02	290	*e*P	Pb	09 36 00.6	+0.3	baz=289
WDJ				*e*S	Sb	09 36 14.9	+1.5	baz=289
HSN	Hsinchu	1.04	321	*e*S	Sb	09 36 15.7	+1.8	baz=323
WCHH	Zhanghua	1.04	275	*e*P	Pb	09 36 00.4	-0.2	baz=273
WCHH				*e*S	Sb	09 36 16.1	+2.2	baz=273
TWB1	Santiao Chiao	1.04	15	*e*P	Pb	09 36 00.8	+0.1	baz=28
TWB1				*e*S	Sb	09 36 14.2	+0.1	baz=28
NCUH	Zhongli	1.07	335	*e*P	Pb	09 36 00.9	-0.3	baz=335
NCUH				*e*S	Sb	09 36 15.4	+0.6	baz=335
NWF	Wu-fen Shan	1.07	4	*e*P	Pb	09 36 01.3	+0.1	baz=353
NWF				*e*S	Sb	09 36 16.2	+1.1	baz=353
WFSB	Wu-fen Shan	1.07	4	*e*P	Pb	09 36 01.2	0.0	baz=353
WFSB				*e*S	Sb	09 36 15.9	+1.0	baz=353
WGK	Gukeng	1.08	254	*e*P	Pb	09 36 01.6	+0.4	baz=252
WGK				*e*S	Sb	09 36 17.9	+2.9	baz=252
WDLH	Douliu	1.10	254	*e*P	Pb	09 36 02.0	+0.4	baz=253
SXI1	Grass Mountain	1.11	9	*e*P	Pb	09 36 02.0	+0.2	baz=356
SXI1				*e*S	Sb	09 36 17.1	+1.1	baz=356
TWS1	Kuangyinshan	1.13	347	*e*P	Pb	09 36 01.9	-0.2	baz=358
TWS1				*e*S	Sb	09 36 16.8	+0.3	baz=358
WCKO	Fanlu	1.14	241	*e*P	Pb	09 36 02.4	+0.2	baz=240
WCKO				*e*S	Sb	09 36 18.3	+1.5	baz=240
YM01	YM01	1.15	355	*e*P	Pb	09 36 01.5	-1.0	baz=356
STYH	Taoyuan	1.17	226	*e*P	Pb	09 36 02.2	-0.6	baz=220
STYH				*e*S	Sb	09 36 17.5	-0.2	baz=220
NTST	Danshui	1.18	349	*e*P	Pb	09 36 02.7	-0.3	baz=359
NTST				*e*S	Sb	09 36 18.6	+0.5	baz=359
STYT	Tauyuan	1.19	226	P	Pb	09 36 02.7	-0.5	baz=220
STYT				*e*S	Sb	09 36 18.5	+0.2	baz=220
CHN4	Tsaushan	1.19	238	P	Pb	09 36 03.2	0.0	baz=227
CHN4				*e*S	Sb	09 36 19.7	+1.4	baz=227
TPUB	Ta-pu	1.19	235	P	Pb	09 36 03.0	-0.2	
TPUB	Ta-pu	1.19	235	P	Pb	09 36 02.9	-0.3	baz=227
TPUB				S	Sb	09 36 19.1	+0.7	baz=227
ANP	Anpu	1.20	353	*e*P	Pb	09 36 02.4	-0.9	baz=354
LONT	Longtian	1.20	205	*e*P	Pn	09 36 00.7	-0.8	baz=205
WRL	Guolierlin Hig	1.20	266	*e*P	Pb	09 36 03.0	-0.3	baz=277
WRL				*e*S	Sb	09 36 19.4	+0.7	baz=277
WTK	Tuku	1.23	256	P	Pb	09 36 03.6	-0.2	baz=255
WTK				*e*S	Sb	09 36 20.4	+1.0	baz=255
JYNG	Yonagunijimaku	1.23	68	P	Pn	09 36 02.3	+0.3	
JYNG				S	Sn	09 36 17.0	-0.5	
WTP	Ta-pu	1.24	233	P	Pb	09 36 03.7	-0.3	baz=232
WTP				*e*S	Sb	09 36 19.6	0.0	baz=232
CHY	Chiayi	1.26	247	*e*P	Pb	09 36 03.6	-0.7	baz=246
CHY				*e*S	Sb	09 36 20.1	-0.1	baz=246
YOJ	Yonaguni jima	1.29	69	P	Pn	09 36 02.8	0.0	
YOJ				*e*S	Sn	09 36 18.1	-0.9	
TWGBT	Beinan	1.30	206	P	Pb	09 36 04.1	-0.9	
TWGBT	Beinan	1.30	206	*e*P	Pn	09 36 02.5	-0.4	baz=206
TWGBT				*e*S	Sn	09 36 17.6	-1.5	baz=206
TWG	Pinlang	1.30	206	*e*P	Pn	09 36 03.3	+0.4	baz=206
TWG				*e*S	Sn	09 36 17.5	-1.6	baz=206
TWK	Hsinying	1.32	237	P	Pb	09 36 04.9	-0.5	baz=225
TWK				*e*S	Sb	09 36 21.6	-0.4	baz=225
CHN1	Nanshi	1.34	233	P	Pb	09 36 05.1	-0.5	baz=233
CHN1				*e*S	Sb	09 36 22.2	-0.2	baz=233
SNST	Tainan City	1.34	235	*e*P	Pb	09 36 05.4	-0.3	baz=235
SNST				*e*S	Sb	09 36 23.5	+1.1	baz=235
SGST	Jiashian	1.36	228	P	Pb	09 36 04.9	-1.2	baz=217
SGST				*e*S	Sb	09 36 22.8	-0.4	baz=217
SLGT	Liugui	1.38	224	*e*P	Pb	09 36 06.5	+0.1	baz=224
SLGT				*e*S	Sb	09 36 24.1	+0.4	baz=224
WSF	Szhu	1.39	255	*e*P	Pb	09 36 05.6	-0.9	baz=254
WSF				*e*S	Sb	09 36 25.1	+1.2	baz=254
ICHU	Yijhu	1.44	244	*e*P	Pb	09 36 06.4	-0.9	baz=244
ICHU				*e*S	Sb	09 36 25.6	+0.3	baz=244
ECL	Taimali	1.55	206	*e*P	Pn	09 36 07.1	+0.8	baz=196
SCST	Cishan	1.56	225	*e*P	Pb	09 36 08.5	-0.8	baz=225
TSMG	Majia	1.60	217	*e*P	Pb	09 36 09.4	-0.8	baz=218
TSMG				*e*S	Sb	09 36 29.9	-0.1	baz=218
MASBT	Mashibuluo	1.69	215	*e*P	Pn	09 36 09.6	+1.4	baz=215
SCZT	Fangliau	1.89	212	*e*P	Pb	09 36 13.2	-1.8	baz=212
IRIF	Iriomote-Funau	1.90	79	P	Pn	09 36 11.2	+0.1	
IRIF				S	Sn	09 36 33.5	-0.3	
HATJ	Hateruma jima	1.94	88	*e*P	Pn	09 36 12.2	+0.5	
HATJ				*e*S	Sn	09 36 35.2	+0.4	
PHUB	P'eng-hu	2.00	257	*e*P	Pn	09 36 13.6	+1.1	baz=255
JKRS	Kuro-shima	2.13	83	P	Pn	09 36 15.3	+1.0	
JKRS				*e*S	Sn	09 36 40.5	+0.8	
VWUC	VWUC	2.27	296	*e*P	Pn	09 36 16.0	-0.2	baz=294
VWUC				*e*S	Sn	09 36 41.7	-1.3	baz=294
JIJ	Ishigaki jima	2.27	80	P	Pn	09 36 16.1	-0.1	
JIJ				*e*S	Sn	09 36 42.5	-0.6	
JISG	Ishigakijimahi	2.46	76	P	Pn	09 36 18.8	-0.1	
JISG				S	Sn	09 36 46.9	-1.0	
MATB	Ma-tsu	2.67	324	*e*P	Pn	09 36 21.1	-0.6	baz=322
JTJ	Tarama	2.82	76	P	Pn	09 36 24.7	+0.9	
JTJ				*e*S	Sn	09 36 57.5	+0.7	
KNMB	Chin-men Tao	3.05	279	*e*P	Pn	09 36 27.0	0.0	baz=278
LYJJ	Jianjiangzhen	3.08	326	*e*P	Pn	09 36 27.4	0.0	baz=324
MHZQ	Yeshan	3.19	312	*e*P	Pn	09 36 29.4	+0.4	baz=310
XPSS	Dashiqiu	3.22	335	*e*P	Pn	09 36 28.6	-0.7	baz=334
AXDP	Jialang	3.51	286	*e*P	Pn	09 36 33.5	+0.2	baz=283

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*IDC **04** 09:56:59.5±1.0, 24°.16N×142°.13E, h0km, mb3.8/10, mbtmp3.8/11, ML4.3/1, MS3.2/6, Error ellipse: s-maj=38.0km s-min=18.0km az=89.0*

ISC 04 09:57:01.3±1.0**, 24°.2N**±0°.1×**142°.1E**±0°.3**, h10km, n21, σ0s.87**/12**, mb4.0**/10**, MS3.8**/3**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	2.87	1	Pn	Pn	09 57 48.0	+0.8
	45nm,0.3s,baz=284,slow=19,SNR=17						
JCJ				Sn	Sn	09 58 19.8	-1.9
	10nm,0.3s,baz=121,slow=24,SNR=1.2						
JCJ				LR	LR	09 58 45.1	
	comp=Z,60nm,18.1s,baz=110,slow=36 55nm,0.4s						
MJAR	Matsushiro Arr	12.74	346	LR	LR	10 04 30.9	
	comp=Z,36nm,20.0s,baz=298,slow=35						
KSRS	Korea Array	17.95	321	LR	LR	10 07 21.6	
	comp=Z,24nm,20.7s,baz=120,slow=35						
H11N1	WAKE ISLAND Hy	23.38	96	T	T	10 26 58.8	
	baz=285						
H11N2	WAKE ISLAND Hy	23.38	96	T	T	10 26 58.8	
	baz=285						
H11N3	WAKE ISLAND Hy	23.39	96	T	T	10 27 05.1	
	baz=285						
H11S3	WAKE ISLAND Hy	23.55	99	T	T	10 27 51.2	
	baz=289						
H11S1	WAKE ISLAND Hy	23.55	99	T	T	10 27 44.2	
	baz=289						
H11S2	WAKE ISLAND Hy	23.57	99	T	T	10 27 21.4	
	baz=289						
KLR	Kul'dur	26.27	345	P	P	10 02 37.6	+1.0
	1.7nm,0.6s,baz=143,slow=8.4,SNR=6.3 1.7nm,0.6s						
WRA	Warramunga Arr	44.54	190	P	P	10 05 12.5	-0.9
	1.5nm,0.5s,baz=10,slow=8.5,SNR=22 1.5nm,0.5s						
ASAR	Alice Springs	48.26	190	P	P	10 05 42.4	-0.2
	0.2nm,0.6s,baz=18,slow=13,SNR=7.1 0.2nm,0.6s						
MKAR	Makanchi Array	52.30	311	P	P	10 06 13.2	+0.1
	0.3nm,0.5s,baz=90,slow=7.4,SNR=6.2 0.3nm,0.5s						
KURBB	Kurchatov Arra	55.04	316	P	P	10 06 33.0	-0.1
	0.9nm,0.5s,baz=92,slow=8.2,SNR=9.7 0.9nm,0.5s						
BVAR	Borovoye Array	60.15	319	P	P	10 07 09.0	0.0
	2.1nm,0.4s,baz=84,slow=6.8,SNR=9.2 2.1nm,0.4s						
ILAR	Eielson Array	60.26	28	P	P	10 07 09.7	+0.1
	0.3nm,0.9s,baz=259,slow=4.2,SNR=2.2 0.3nm,0.9s						
RPZ	Rata Peaks	72.62	158	LR	LR	10 34 15.5	
	comp=Z,149nm,21.7s,baz=48,slow=31						
YKA	Yellowknife Ar	74.69	28	P	P	10 08 40.9	0.0
	0.2nm,0.6s,baz=293,slow=6.4,SNR=4.5						
YKA				LR	LR	10 38 07.5	
	comp=Z,25nm,21.8s,baz=324,slow=33 0.2nm,0.6s						
ARCES	ARCESS Array B	76.24	341	P	P	10 08 50.3	+0.6
	2.0nm,0.8s,baz=41,slow=7.2,SNR=4.1 2.0nm,0.8s						
FINES	FINESS Array B	80.51	334	P	P	10 09 12.9	-0.4
	1.6nm,0.7s,baz=52,slow=5.4,SNR=5.1 1.6nm,0.7s						
FRB	Frobisher Bay	89.08	13	LR	LR	10 49 38.1	
	comp=Z,36nm,21.7s,baz=258,slow=35						

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*JMA **04** 09:59:35.2±0.2, 21°.8N±0°.7×121°.4E±0°.9, h21km, MV3.6/11, TAIWAN REGION*

*TAP **04** 09:59:37.0, 21°.96N×121°.29E, h2km, ML3.2, D*

ISC 04 09:59:37.8±1.2**, 21°.91N**±0°.05×**121°.32E**±0°.03**, h16km**±8km**, n81, σ1s.00**/99**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC	
LAY	Lan-yu	0.25	59	*e*P	Pg	09 59 43.6	+0.2	baz=71
LYUB	Lan-yu	0.26	70	*i* P	Pg	09 59 43.4	-0.2	baz=80
LYUB				*e*S	Sb	09 59 49.2	+0.9	baz=80
TSEB	Hengchuen, Pin	0.39	269	*e*S	Sn	09 59 54.9	-0.9	baz=262
SMST	Manzhou Townsh	0.46	284	*e*P	Pg	09 59 47.2	+0.2	baz=278
TWKBT	Hengchun	0.47	274	*e*P	Pg	09 59 47.2	0.0	baz=268
TWKBT				*e*S	Sb	09 59 54.0	-0.4	baz=268
TWK1	Hengchun	0.48	274	*e*P	Pg	09 59 47.2	-0.2	baz=268
TWK1				*e*S	Sg	09 59 54.0	+0.2	baz=268
HEN	Hengchun	0.55	280	*e*P	Pg	09 59 48.6	0.0	baz=275
TAWH	Dawu Township	0.59	317	*e*P	Pb	09 59 49.7	0.0	baz=315
TAW	Tawu	0.59	319	*e*P	Pg	09 59 49.1	-0.4	baz=317
EAST	Anshuo	0.64	317	*e*P	Pb	09 59 50.4	-0.2	baz=316
ECL	Taimali	0.76	334	P	Pb	09 59 51.9	-0.7	baz=334
ECL				*e*S	Sg	10 00 03.1	+0.3	baz=334
LDUT	Ludao	0.77	10	*e*P	Pb	09 59 50.9	-1.9	baz=12
LDUT				*e*S	Sn	10 00 05.9	+0.7	baz=12
SCZT	Fangliau	0.80	305	*e*P	Pb	09 59 52.9	-0.3	baz=303
TWGBT	Beinan	0.93	346	*e*P	Pb	09 59 54.4	-1.1	baz=347
TWGBT				*e*S	Sn	10 00 08.8	-0.4	baz=347
TWG	Pinlang	0.94	346	*e*P	Pb	09 59 54.5	-1.1	baz=347
TWG				*e*S	Sn	10 00 08.7	-0.6	baz=347
MASBT	Mashibuluo	0.94	318	*e*P	Pb	09 59 55.4	-0.3	baz=316
LONT	Longtian	1.01	350	*e*P	Pb	09 59 55.7	-1.2	baz=350
LONT				*e*S	Sn	10 00 11.1	+0.1	baz=350
TSMG	Majia	1.01	322	*e*P	Pg	09 59 58.0	+0.7	baz=321
CHKT	Chengkung	1.18	2	*e*P	Pb	10 00 00.0	+0.2	baz=3.0
CHKT				*e*S	Sg	10 00 16.6	+0.4	baz=3.0
TWM1	Shoushan	1.23	318	*e*P	Pb	10 00 00.9	+0.3	baz=317
SCST	Cishan	1.24	322	*e*P	Pg	10 00 02.1	+0.4	baz=321
EHD	Haiduan	1.24	355	*e*P	Pn	09 59 58.6	-1.8	baz=356
SLGT	Liugui	1.25	330	*e*P	Pg	10 00 01.8	-0.1	baz=329
FULB	Fuli	1.28	359	*e*P	Pn	10 00 00.4	-0.6	
FULB				*e*S	Sg	10 00 19.6	+0.3	
ELDTW	Lidau	1.30	348	*e*P	Pn	09 59 59.8	-1.6	baz=348
SGST	Jiashian	1.35	330	*e*P	Pb	10 00 02.7	0.0	baz=329
STYH	Taoyuan	1.35	338	*e*P	Pn	10 00 01.9	-0.1	baz=338
EYUL	Yuli	1.43	360	*e*P	Pn	10 00 02.9	-0.1	baz=1.0
TWF1	Yuli	1.44	359	*e*P	Pn	10 00 03.3	+0.2	
CHN1	Nanshi	1.47	330	*e*P	Pg	10 00 05.3	-0.7	baz=330
YULB	Yu-li	1.48	359	*e*P	Pn	10 00 03.2	-0.5	
WTP	Ta-pu	1.48	334	*e*P	Pb	10 00 05.2	+0.3	baz=334
SNST	Tainan City	1.51	330	*e*P	Pg	10 00 06.1	-0.8	baz=329
TPUB	Ta-pu	1.52	335	*e*P	Pb	10 00 05.3	-0.3	baz=335
TWK	Hsinying	1.55	330	*e*P	Pb	10 00 06.0	-0.2	baz=330
HGSD	Ruisui	1.58	3	*e*P	Pb	10 00 06.0	-0.5	baz=4.0
CHN4	Tsaushan	1.58	335	*e*P	Pb	10 00 07.0	+0.3	baz=335
EHY	Hungye	1.59	0	*e*P	Pn	10 00 05.6	+0.4	baz=1.0
WCKO	Fanlu	1.66	337	*e*P	Pb	10 00 07.2	-0.7	baz=336
ALS	Alishan	1.66	343	*e*P	Pn	10 00 07.0	+0.5	baz=344
TSCK	Chigu Township	1.68	317	*e*P	Pn	10 00 06.9	+0.5	baz=316
TSCK				*e*S	Sb	10 00 29.4	+0.3	baz=316
EGFH	Guangfu	1.75	3	*e*P	Pb	10 00 08.6	-0.9	baz=4.0
CHN5	Tsauling	1.78	341	*e*P	Pb	10 00 09.7	-0.4	baz=340
WARBT	Fenglin Townsh	1.80	2	*e*P	Pn	10 00 08.4	+0.3	baz=2.0
WHYT	Xinyi Township	1.83	346	*e*P	Pb	10 00 09.9	-1.0	baz=346
VWDT	VWDT	1.84	355	*e*P	Pb	10 00 09.8	-1.3	baz=355
ESL	Shilin	1.90	3	*e*P	Pb	10 00 10.7	-1.3	baz=4.0
SSLB	Suanglung	1.90	350	*e*P	Pn	10 00 10.5	+0.9	baz=350
WDLH	Douliu	1.91	338	*e*P	Pb	10 00 10.8	-1.4	baz=338
WTK	Tuku	1.97	334	*e*P	Pn	10 00 11.3	+0.9	baz=334
SMLT	Sun Moon Lake	2.00	349	*e*P	Pb	10 00 12.8	-1.1	baz=349
TYC	Yuchr	2.03	348	*e*P	Pb	10 00 12.7	-1.5	baz=348
ETM	Tongmen	2.05	4	*e*P	Pn	10 00 12.4	+0.9	baz=5.0
WUSB	Renai	2.08	355	*e*P	Pn	10 00 12.4	+0.3	baz=355
WUSB				*e*S	Sb	10 00 39.4	-1.5	baz=355
LXIB	Xiulin Townshi	2.10	2	*e*P	Pn	10 00 13.8	+1.4	baz=3.0
CHGB	Renai	2.14	356	*e*P	Pn	10 00 13.7	+0.7	baz=357
CHGB				*e*S	Sn	10 00 40.4	+1.0	baz=357
WCS	Beigang Elemen	2.17	350	*e*P	Pb	10 00 15.2	-1.5	baz=350
WHF	Hehuan Shan	2.23	359	*e*P	Pn	10 00 15.0	+0.6	baz=359
WHF				*e*S	Sn	10 00 42.8	+1.1	baz=359
NACB	Ninganchiao	2.27	6	*e*P	Pn	10 00 15.9	+1.4	baz=7.0
PHUB	P'eng-hu	2.27	315	*e*P	Pn	10 00 14.0	-0.5	baz=314
ETLH	Xiulin Townshi	2.29	4	*e*P	Pn	10 00 15.5	+0.6	baz=4.0

WHP	**Taichung City**	**2.38**	**352**	*e*P	**Pn**	**10 00 17.9**	**+1.7**
	baz=352						
EOS4	**EOS4**	**2.38**	**22**	*e*P	**Pn**	**10 00 17.6**	**+1.8**
	baz=23						
NNSB	**Datong**	**2.51**	**1**	*e*P	**Pn**	**10 00 19.7**	**+1.7**
	baz=1.0						
EOS3	**EOS3**	**2.54**	**21**	*e*P	**Pn**	**10 00 19.9**	**+1.8**
	baz=22						
LATG	**Datong**	**2.62**	**4**	*e*P	**Pn**	**10 00 21.1**	**+1.6**
	baz=4.0						
EOS2	**EOS2**	**2.63**	**18**	*e*P	**Pn**	**10 00 21.4**	**+1.9**
	baz=19						
NDT	**Datong Townshi**	**2.69**	**4**	*e*P	**Pn**	**10 00 22.1**	**+1.8**
	baz=4.0						
NFF	**Wufeng Townshi**	**2.71**	**356**	*e*P	**Pn**	**10 00 22.6**	**+1.8**
	baz=356						
ENTT	**Nioudou**	**2.73**	**5**	*e*P	**Pn**	**10 00 22.6**	**+1.8**
	baz=5.0						
LIOB	**Emei**	**2.74**	**354**	*e*P	**Pn**	**10 00 23.0**	**+1.9**
	baz=354						
YHNB	**Yeheng**	**2.75**	**1**	*e*P	**Pn**	**10 00 22.6**	**+1.4**
	baz=1.0						
NSK	**Sanguang**	**2.75**	**1**	*e*P	**Pn**	**10 00 23.1**	**+1.8**
	baz=1.0						
FUSB	**Fushanzhiwuyua**	**2.85**	**5**	*e*P	**Pn**	**10 00 24.2**	**+1.7**
	baz=5.0						
NWLT	**Wulai**	**2.86**	**3**	*e*P	**Pn**	**10 00 24.2**	**+1.5**
	baz=3.0						
TIPB	**Shuangxi**	**3.08**	**9**	*e*P	**Pn**	**10 00 27.9**	**+2.1**
	baz=9.0						
HATJ	**Hateruma jima**	**3.13**	**47**	*e*P	**Pn**	**10 00 26.2**	**-0.2**
HATJ				S	**Sn**	**10 01 03.4**	**-0.1**
IRIF	**Iriomote-Funau**	**3.28**	**42**	P	**Pn**	**10 00 28.3**	**-0.2**
IRIF				*e*S	**Sn**	**10 01 07.8**	**+0.7**
JKRS	**Kuro-shima**	**3.39**	**46**	*e*P	**Pn**	**10 00 30.3**	**+0.3**
JKRS				*e*S	**Sn**	**10 01 10.5**	**+0.7**
JIJ	**Ishigaki jima**	**3.57**	**46**	*e*S	**Sn**	**10 01 13.7**	**-0.5**
JISG	**Ishigakijimahi**	**3.83**	**45**	*e*P	**Pn**	**10 00 35.7**	**-0.3**
JISG				*e*S	**Sn**	**10 01 20.7**	**0.0**

IDC 04 10:12:20.5±1.8**, 2°.30N**×**126°.20E, h0**km**, mb3.5**/4**, mbtmp3.5**/4**, Error ellipse: s-maj=179.0km s-min=22.4km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.50**	**160**	P	P	10 17 31.9	-0.3
	0.5nm,0.4s,baz=339,slow=10,SNR=18						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**26.88**	**164**	P	P	10 18 03.5	+0.3
	0.3nm,0.3s,baz=345,slow=11,SNR=14						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**58.43**	**326**	P	P	10 22 18.3	+0.1
	0.3nm,0.4s,baz=123,slow=6.9,SNR=2.6						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**62.66**	**328**	P	P	10 22 46.7	-0.2
	0.3nm,0.5s,baz=132,slow=6.6,SNR=2.4						
	0.3nm,0.5s						

*IDC **04** 10:14:45.5±3.5, 34°.42N×45°.48E, h0km, mb3.8/6, mbtmp3.9/8, ML3.7/1, MS2.4/3, Error ellipse: s-maj=67.1km s-min=26.0km az=9.0*
*TEH **04** 10:14:52.7, 35°.29N×45°.74E, h7km±32km, ML3.8*
*ISN **04** 10:14:54.0±1.1, 35°.41N×45°.80E, h25km±112km, ML3.7*
ISC 04 10:14:52.9±0.6**, 35°.31N**±0°.02×**45°.73E**±0°.04**, h10**km**, n44, σ2s.04**/46**, mb3.7**/5**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.81**	**189**	Pg	**Pb**	**10 15 08.9**	**-0.1**
IDHR	**Dehrash**	**0.81**	**138**	Pg	**Pb**	**10 15 08.9**	**-0.3**
IDHR				Sg	**Sn**	**10 15 21.0**	**-1.7**
SDS1	**Sardasht. Az.**	**0.87**	**347**	Pg	**Pn**	**10 15 11.0**	**-0.4**
ILIN	**Lien**	**1.08**	**111**	Pg	**Pn**	**10 15 14.5**	**+0.2**
IKRK	**Kirkuk**	**1.14**	**275**	*e*Pg	**Pn**	**10 15 16.0**	**+1.0**
IKRK				*e*Sg	**Sn**	**10 15 31.0**	**+0.3**
IGHG	**Ghaleghazi**	**1.19**	**145**	Pg	**Pn**	**10 15 16.4**	**+0.5**
MAHB	**Mahabad**	**1.46**	**359**	Pg	**Pg**	**10 15 21.3**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.49**	**133**	Pg	**Pg**	**10 15 21.7**	**+0.2**
ILBA	**Ilam Banvizeh**	**1.72**	**167**	Pg	**Pg**	**10 15 25.3**	**-0.7**
IKOM	**Komasi**	**1.85**	**127**	Pn	**Pg**	**10 15 28.1**	**-0.2**
IBZA	**Bozab**	**1.94**	**115**	Pn	**Pg**	**10 15 29.3**	**-0.8**
IBDR	**Badra**	**2.19**	**176**	*e*Pn	**Pb**	**10 15 32.0**	**-0.7**
IBDR				*e*Sn	**Sb**	**10 16 00.0**	**+0.1**
BHD	**Baghdad**	**2.32**	**209**	*e*Pn	**Pb**	**10 15 34.0**	**-0.8**
BHD				*e*Sn	**Sb**	**10 16 04.0**	**+0.5**
BHD				AML	AML	10 16 07.2	
	comp=E,883nm,0.5s						
IHSH	**Hashtrud**	**2.35**	**31**	Pn	**Pb**	**10 15 35.1**	**-0.4**
IAZR	**Azarshahr**	**2.38**	**5**	Pn	**Pb**	**10 15 35.7**	**-0.3**
IKFM	**Kafar-mosalman**	**2.49**	**135**	Pn	**Pb**	**10 15 36.4**	**-1.3**
HAGD	**Aghdareh**	**2.83**	**99**	Pn	**Pb**	**10 15 41.6**	**-2.2**
ISRB	**Sarab**	**2.96**	**31**	Pn	**Pb**	**10 15 43.5**	**-2.3**
IHRS	**Heris**	**3.19**	**19**	Pn	**Pb**	**10 15 46.9**	**-2.8**
IMRD	**Marand**	**3.40**	**360**	Pn	**Pn**	**10 15 49.4**	**+3.2**
JIR1	**Jirandeh**	**3.58**	**66**	Pn	**Pn**	**10 15 51.7**	**+3.0**
RAFI	**Al-Rafai**	**3.59**	**175**	*e*Pn	**Pb**	**10 15 52.0**	**-4.4**
RAFI				*e*Sn	**Sn**	**10 16 33.0**	**+2.0**
RAFI				AML	AML	10 16 45.0	
	comp=N,202nm,0.3s						
RAFI				AML	AML	10 16 51.8	
	comp=E,162nm,0.3s						
GRMI	**Germi**	**3.90**	**26**	Pn	**Pn**	**10 15 56.6**	**+3.6**
MAKU	**Maku**	**4.13**	**349**	Pn	**Pn**	**10 15 59.8**	**+3.6**
KLST	**Kelardasht - M**	**4.49**	**73**	Pn	**Pn**	**10 16 05.0**	**+3.7**
AMIS	**Naft Sefid**	**4.69**	**140**	Pn	**Pn**	**10 16 06.2**	**+2.4**
GNI	**Garni**	**4.90**	**351**	Pn	**Pb**	**10 16 17.2**	**-1.8**
	comp=E,2.0nm,0.3s,baz=150,slow=2.6,SNR=3.4						
GNI				Sn	**Sg**	**10 17 26.7**	**-3.6**
	comp=E,2.2nm,0.3s,baz=247,slow=14,SNR=1.5						
	comp=E,5.7nm,0.3s						
QAMS	**Qamsar**	**4.93**	**107**	Pn	**Pn**	**10 16 10.5**	**+3.2**
JHBN	**Jahan bin**	**5.12**	**125**	Pn	**Pn**	**10 16 12.0**	**+2.0**
ZNGN	**Zangian**	**5.32**	**125**	Pn	**Pn**	**10 16 14.6**	**+1.9**
IBRJ	**Brojen**	**5.72**	**125**	Pn	**Pn**	**10 16 21.2**	**+3.0**
IZEF	**Zefreh**	**5.98**	**112**	Pn	**Pn**	**10 16 24.6**	**+3.0**
IRAM	**Ramesheh**	**6.55**	**120**	Pn	**Pn**	**10 16 31.9**	**+2.4**
KBZ	**Khabaz**	**8.69**	**346**	LR	LR	10 21 16.7	
	comp=E,23nm,21.8s,baz=158,slow=41						
GEYT	**Alibeck**	**10.29**	**72**	Pn	**Pn**	**10 17 23.2**	**+2.5**
	comp=E,3.7nm,0.6s,baz=256,slow=16,SNR=5.3						
BRTR	**Keskin Array B**	**10.57**	**298**	LR	LR	10 22 07.8	
	comp=E,32nm,20.4s,baz=148,slow=41						
EIL	**Elat**	**10.70**	**241**	LR	LR	10 21 16.4	
	comp=E,19nm,19.7s,baz=86,slow=39						
AKASG	**Malin Array Be**	**19.49**	**327**	P	**P**	**10 19 20.0**	**+0.1**
	comp=E,0.5nm,0.4s,baz=134,slow=9.2,SNR=4.3						
	comp=E,0.5nm,0.4s						
BVAR	**Borovoye Array**	**24.83**	**37**	P	**P**	**10 20 15.2**	**0.0**
	comp=E,0.6nm,0.4s,baz=231,slow=9.1,SNR=3.0						
	comp=E,0.6nm,0.4s						
FINES	**FINESS Array B**	**28.99**	**341**	P	**P**	**10 20 52.3**	**-0.2**
	comp=E,0.7nm,0.5s,baz=134,slow=8.0,SNR=4.2						
	comp=E,0.7nm,0.5s						
MKAR	**Makanchi Array**	**29.61**	**56**	P	**P**	**10 20 58.6**	**+0.4**
	comp=E,0.7nm,0.6s,baz=250,slow=8.6,SNR=4.6						
	comp=E,0.7nm,0.6s						
HFS	**Hagfors**	**32.32**	**330**	P	**P**	**10 21 21.4**	**-0.5**
	comp=E,2.0nm,0.6s,baz=129,slow=10.0,SNR=5.8						
	comp=E,2.0nm,0.6s						
EKA	**Eskdalemuir Ar**	**38.79**	**317**	P	**P**	**10 22 16.9**	**-0.6**
	comp=E,2.5nm,0.5s,baz=106,slow=8.6,SNR=16						
	comp=E,2.5nm,0.5s						
DAV	**Davao City (W)**	**77.67**	**90**	LR	LR	11 04 01.0	
	comp=E,58nm,21.5s,baz=144,slow=38						

*IDC **04** 10:23:28.8±0.7, 55°.92N×156°.34W, h0km, mb4.1/24, mbtmp4.1/27, ML4.7/3, MS3.3/22, Error ellipse: s-maj=20.1km s-min=12.6km az=14.0*
*NEIC **04** 10:23:35.1±1.7, 55°.83N±0°.06×156°.02W±0°.07, h46km±9km, Error ellipse: s-maj=9.5km s-min=5.3km az=169.0*
*AEIC **04** 10:23:35.7±1.7, 55°.82N±0°.05×155°.99W±0°.07, h59km±6km, ML4.3, mb4.5/56(NEIC), ML4.4/52(NEIC), Error ellipse: s-maj=8.5km s-min=2.4km az=140.0*
ISC 04 10:23:35.5±0.7**, 55°.88N**±0°.05×**156°.01W**±0°.03**, h51**km±6km**, n316, σ1s.00**/258**, mb4.4**/70**, MS3.2**/18**, 1C, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**0.23**	**105**	Pn	**Pn**	**10 23 44.6**	**+0.5**
CHIR	**Chirikof Islan**	**0.23**	**105**		**Sn**	**10 23 51.5**	**+1.2**
CHIR	**Chirikof Islan**	**0.23**	**105**	P	**Pn**	**10 23 44.6**	**+0.5**
	baz=269						
CHIR				S	**Sn**	**10 23 51.5**	**+1.2**
	baz=269						
SII	**Sitkinak Islan**	**1.23**	**56**		**Pn**	**10 23 56.5**	**+0.2**
SII				IAML		10 24 35.1	
	comp=N,7μm,0.6s						
SII				IAML		10 24 37.4	
	comp=E,7μm,0.6s						
SII	**Sitkinak Islan**	**1.23**	**56**		**Sn**	**10 24 11.9**	**+0.2**
SII	**Sitkinak Islan**	**1.23**	**56**	P	**Pn**	**10 23 56.6**	**+0.3**
SII	**Sitkinak Islan**	**1.23**	**56**	P	**Pn**	**10 23 56.5**	**+0.2**
	baz=234						
SII				S	**Sn**	**10 24 11.9**	**+0.2**
	baz=234						
CHGN	**Chignik**	**1.41**	**288**		**Pn**	**10 23 58.4**	**-0.4**
CHGN				IAML		10 24 16.6	
	comp=E,8μm,0.1s						
CHGN	**Chignik**	**1.41**	**288**		**Sn**	**10 24 15.9**	**-0.3**
CHGN	**Chignik**	**1.41**	**288**	P	**Pn**	**10 23 58.3**	**-0.4**
	baz=109						
CHGN				S	**Sn**	**10 24 15.9**	**-0.3**
	baz=109						
ANNE	**Aniakchak Nort**	**1.54**	**313**		**Pn**	**10 24 00.6**	**0.0**
AZAC	**Aniakchak**	**1.60**	**310**		**Pn**	**10 24 01.6**	**+0.2**
ANNW	**Aniakchak Nort**	**1.64**	**312**		**Pn**	**10 24 02.4**	**+0.5**
VNSG	**Veniaminof 6**	**1.75**	**279**		**Pn**	**10 24 03.2**	**-0.1**
VNSG					**Sn**	**10 24 23.7**	**-0.7**
R17K	**Ugashik Creek**	**1.77**	**353**		**Pn**	**10 24 04.9**	**+1.1**
R17K	**Ugashik Creek**	**1.77**	**353**	P	**Pn**	**10 24 04.9**	**+1.1**
	baz=173						
R17K				S	**Sn**	**10 24 26.7**	**+1.6**
	baz=173						
PLK3	**Peulik 3**	**1.82**	**356**		**Pn**	**10 24 05.2**	**+0.8**
PLK3					**Sn**	**10 24 28.0**	**+1.8**
PLBL	**Peulik Blue Cr**	**1.88**	**347**		**Pn**	**10 24 06.1**	**+1.0**
R18K	**Karluk**	**1.89**	**26**	P	**Pn**	**10 24 05.8**	**+0.4**
	baz=206						
R16K	**Pilot Point**	**1.90**	**334**	IAML		10 24 29.9	
	comp=N,4μm,0.6s						
R16K				IAML		10 24 45.4	
	comp=E,4μm,1.1s						
R16K	**Pilot Point**	**1.90**	**334**		**Pn**	**10 24 05.8**	**+0.4**
R16K					**Sn**	**10 24 29.5**	**+1.4**
R16K	**Pilot Point**	**1.90**	**334**	P	**Pn**	**10 24 05.8**	**+0.4**
	baz=153						
R16K				S	**Sn**	**10 24 29.4**	**+1.3**
	baz=153						
PLK1	**Peulik 1**	**1.95**	**351**		**Pn**	**10 24 07.1**	**+1.0**
VNWF	**Veniaminof 8**	**2.01**	**279**		**Pn**	**10 24 07.3**	**+0.2**
OHAK	**Old Harbor**	**2.02**	**47**		**Pn**	**10 24 06.6**	**-0.4**
OHAK	**Old Harbor**	**2.02**	**47**	P	**Pn**	**10 24 06.6**	**-0.4**
OHAK	**Old Harbor**	**2.02**	**47**	P	**Pn**	**10 24 06.7**	**-0.4**
	baz=228						
S14K	**Fog Glacier**	**2.03**	**283**	P	**Pn**	**10 24 07.5**	**+0.3**
	baz=102						
VNFG	**Fog Glacier, M**	**2.03**	**283**	P	**Pn**	**10 24 07.7**	**+0.4**
	baz=102						
CHNA	**Chernabura Isl**	**2.30**	**244**	P	**Pn**	**10 24 10.0**	**-0.9**
	baz=63						
CNBA	**Chernabura Isl**	**2.31**	**244**	Pn	**Pn**	**10 24 10.0**	**-1.0**
Q17K	**Contact Creek**	**2.39**	**2**	P	**Pn**	**10 24 12.2**	**0.0**
	baz=181						
SDPT	**Sand Point**	**2.59**	**260**	Pn	**Pn**	**10 24 14.6**	**-0.2**
SDPT				IAML		10 25 02.0	
	comp=N,2μm,0.8s						
SDPT	**Sand Point**	**2.59**	**260**	P	**Pn**	**10 24 14.7**	**-0.2**
SDPT	**Sand Point**	**2.59**	**260**	P	**Pn**	**10 24 14.6**	**-0.2**
	baz=78						
KDAK	**Kodiak Island**	**2.68**	**43**	Pn	**Pn**	**10 24 15.8**	**-0.3**
KDAK	**Kodiak Island**	**2.68**	**43**	Pn	**Pn**	**10 24 15.0**	**-1.0**
	comp=N,150nm,0.3s,baz=209,slow=11,SNR=1159						
KDAK				Sn	**Sn**	**10 24 40.2**	**-7.1**
	comp=N,164nm,0.3s,baz=253,slow=12,SNR=17						
KDAK				Lg	Lg	10 25 00.8	
	comp=N,18nm,0.3s,baz=162,slow=22,SNR=1.2						
	comp=N,377nm,0.4s						
Q16K	**King Salmon**	**2.83**	**353**	P	**Pn**	**10 24 18.1**	**0.0**
	baz=172						
KAHC	**Katmai Hardscr**	**2.83**	**11**	P	**Pn**	**10 24 18.4**	**+0.1**
	baz=191						
Q18K	**Katmai Hardscr**	**2.83**	**11**	P	**Pn**	**10 24 18.3**	**+0.1**
	baz=191						
Q19K	**Cape Douglas,**	**3.31**	**22**		**Pn**	**10 24 25.2**	**+0.4**
Q19K	**Cape Douglas,**	**3.31**	**22**	P	**Pn**	**10 24 25.3**	**+0.5**
	baz=203						
P17K	**Kvichak River**	**3.33**	**356**	P	**Pn**	**10 24 24.8**	**-0.2**
	baz=176						
P16K	**Nushagak River**	**3.33**	**342**	P	**Pn**	**10 24 25.3**	**+0.3**
	baz=161						
Q20K	**Shuyak Island**	**3.37**	**34**	P	**Pn**	**10 24 25.6**	**+0.1**
	baz=216						
SYI	**Shuyak Island**	**3.37**	**34**		**Pn**	**10 24 25.6**	**+0.1**
SYI				IAML		10 25 04.0	
	comp=N,594nm,0.8s						
SYI				IAML		10 25 04.1	
	comp=E,668nm,0.7s						
P18K	**Big Mountain,**	**3.54**	**6**	Pn	**Pn**	**10 24 27.6**	**-0.4**
P18K	**Big Mountain,**	**3.54**	**6**	P	**Pn**	**10 24 27.6**	**-0.4**
	baz=187						
O16K	**Kokwok River B**	**3.89**	**344**	P	**Pn**	**10 24 32.7**	**+0.1**
	baz=162						
O15K	**Ungalikthiuk R**	**3.89**	**330**	P	**Pn**	**10 24 32.9**	**+0.2**
	baz=147						
O17K	**Koliganek Bris**	**3.95**	**352**	P	**Pn**	**10 24 33.2**	**-0.2**
	baz=171						
O18K	**Koktuh Hills**	**4.01**	**6**		**Pn**	**10 24 34.4**	**+0.1**
O18K				IAML		10 25 43.7	
	comp=E,348nm,0.9s						
O18K	**Koktuh Hills**	**4.01**	**6**	P	**Pn**	**10 24 34.4**	**+0.1**
	baz=186						
P19K	**Oil Pt**	**4.06**	**20**		**Pn**	**10 24 35.1**	**+0.1**
P19K				IAML		10 25 21.0	
	comp=N,569nm,0.6s						
P19K				IAML		10 25 24.1	
	comp=E,484nm,0.5s						
P19K	**Oil Pt**	**4.06**	**20**	P	**Pn**	**10 24 35.3**	**+0.2**
	baz=202						
FALS	**False Pass**	**4.35**	**259**	Pn	**Pn**	**10 24 38.5**	**-0.5**
FALS	**False Pass**	**4.35**	**259**	P	**Pn**	**10 24 38.8**	**-0.2**
FALS	**False Pass**	**4.35**	**259**	P	**Pn**	**10 24 38.5**	**-0.5**
	baz=74						
ILSW	**Iliamna Southw**	**4.39**	**19**		**Pn**	**10 24 39.7**	**+0.1**
ILSW				IAML		10 25 30.1	
	comp=N,243nm,0.6s						
O14K	**Tigyukauivet M**	**4.41**	**322**	Pn	**Pn**	**10 24 40.0**	**+0.2**
O14K				IAML		10 25 57.5	
	comp=N,248nm,1.2s						
O14K	**Tigyukauivet M**	**4.41**	**322**	P	**Pn**	**10 24 39.9**	**+0.2**
	baz=138						
O19K	**Port Alsworth**	**4.42**	**11**		**Pn**	**10 24 39.8**	**0.0**
O19K				IAML		10 25 35.3	
	comp=N,543nm,0.5s						
O19K	**Port Alsworth**	**4.42**	**11**	P	**Pn**	**10 24 39.9**	**0.0**
	baz=192						
HOM	**Homer**	**4.45**	**30**		**Pn**	**10 24 40.6**	**+0.3**
HOM	**Homer**	**4.45**	**30**	P	**Pn**	**10 24 40.7**	**+0.3**
	baz=213						
CNPM	**China Poot**	**4.46**	**33**	Pn	**Pn**	**10 24 40.4**	**-0.1**
CNPM				IAML		10 25 29.2	
	comp=N,458nm,0.7s						
CNPM				IAML		10 25 30.3	
	comp=E,372nm,0.6s						
O20K	**Slope Mountain**	**4.58**	**22**	P	**Pn**	**10 24 42.6**	**+0.4**
	baz=204						
N17K	**Nushagak Hills**	**4.70**	**353**	IAML		10 26 10.3	
	comp=N,234nm,0.9s						
N17K				IAML		10 26 26.1	
	comp=E,192nm,0.9s						
N17K	**Nushagak Hills**	**4.70**	**353**	P	**Pn**	**10 24 43.7**	**-0.1**
	baz=172						
BRLK	**Bradley Lake**	**4.76**	**33**		**Pn**	**10 24 43.9**	**-0.7**
BRSE	**Bradley Lake S**	**4.79**	**34**	P	**Pn**	**10 24 44.5**	**-0.5**
	baz=218						
N18K	**Kilae Creek**	**4.81**	**1**	IAML		10 26 08.9	
	comp=E,292nm,1.1s						
N18K				IAML		10 26 20.4	
	comp=N,174nm,1.3s						
N18K	**Kilae Creek**	**4.81**	**1**	P	**Pn**	**10 24 45.2**	**-0.1**
	baz=181						
N15K	**Kwethluk River**	**4.81**	**335**	IAML		10 25 59.9	
	comp=N,286nm,0.7s						
N15K				IAML		10 26 09.7	
	comp=E,360nm,0.9s						
N15K	**Kwethluk River**	**4.81**	**335**	P	**Pn**	**10 24 46.1**	**+0.8**
	baz=152						
N16K	**Nishlik Lake**	**4.83**	**344**	P	**Pn**	**10 24 45.9**	**+0.4**
	baz=161						
N19K	**Bonanza Creek**	**5.01**	**9**	IAML		10 26 20.1	
	comp=E,205nm,1.1s						
N19K				IAML		10 26 22.7	
	comp=N,153nm,0.9s						
N19K	**Bonanza Creek**	**5.01**	**9**	P	**Pn**	**10 24 48.3**	**+0.2**
	baz=190						
N14K	**Kuskokwak Cree**	**5.06**	**326**	P	**Pn**	**10 24 48.9**	**+0.3**
	baz=141						
SVW2	**Sparrevohn**	**5.24**	**2**	Pn	**Pn**	**10 24 50.8**	**-0.2**
SVW2				IAML		10 26 24.7	
	comp=E,146nm,0.8s						
SVW2				IAML		10 26 26.1	
	comp=N,136nm,0.9s						
SVW2	**Sparrevohn**	**5.24**	**2**	P	**Pn**	**10 24 50.9**	**-0.2**
M16K	**Timber Creek**	**5.38**	**345**	P	**Pn**	**10 24 53.5**	**+0.4**
	baz=162						
M15K	**Kasigluk River**	**5.42**	**335**	P	**Pn**	**10 24 53.8**	**+0.2**
	baz=151						
SEW	**Seward**	**5.48**	**37**	Pn	**Pn**	**10 24 53.1**	**-1.3**
SEW	**Seward**	**5.48**	**37**	P	**Pn**	**10 24 53.5**	**-1.0**
	baz=222						
CAPN	**Captain Cook N**	**5.53**	**26**	Pn	**Pn**	**10 24 56.4**	**+1.4**
M17K	**Holitna River**	**5.59**	**353**	P	**Pn**	**10 24 55.9**	**+0.1**
	baz=172						
M18K	**Stony River**	**5.63**	**1**	P	**Pn**	**10 24 56.5**	**0.0**
	baz=181						
O22K	**Cooper Landing**	**5.68**	**33**	P	**Pn**	**10 24 56.9**	**-0.3**
	baz=218						
N20K	**Mount Spurr**	**5.69**	**19**	P	**Pn**	**10 24 57.6**	**+0.2**
	baz=202						
SPCR	**Spurr Chakacha**	**5.69**	**19**	P	**Pn**	**10 24 57.6**	**+0.1**
	baz=202						
M14K	**Bethel**	**5.80**	**330**		**Pn**	**10 24 59.1**	**+0.3**
M14K	**Bethel**	**5.80**	**330**	P	**Pn**	**10 24 59.3**	**+0.5**
	baz=145						
AKUT	**Akutan**	**5.88**	**257**	Pn	**Pn**	**10 24 59.6**	**-0.4**
AKUT	**Akutan**	**5.88**	**257**	P	**Pn**	**10 24 59.2**	**-0.8**
M13K	**Dall Lake**	**5.98**	**322**	P	**Pn**	**10 25 01.6**	**+0.4**
	baz=137						
L16K	**Owhat River**	**6.12**	**344**		**Pn**	**10 25 03.0**	**-0.1**
L16K	**Owhat River**	**6.12**	**344**	P	**Pn**	**10 25 03.2**	**+0.1**
	baz=161						
P23K	**Montague Islan**	**6.16**	**44**	P	**Pn**	**10 25 03.0**	**-0.8**
	baz=231						
RC01	**Rabbit Creek A**	**6.17**	**30**	P	**Pn**	**10 25 03.2**	**-0.7**
	baz=214						
M20K	**Styx River**	**6.20**	**13**	P	**Pn**	**10 25 05.0**	**+0.6**
	baz=195						
SUA	**Susitna One**	**6.23**	**24**	P	**Pn**	**10 25 04.5**	**-0.4**
	baz=208						
MID	**Middleton Isla**	**6.29**	**52**	P	**Pn**	**10 25 06.2**	**+0.7**
L19K	**White Mountain**	**6.35**	**5**	P	**Pn**	**10 25 06.2**	**-0.1**
	baz=186						
L18K	**Granite Mounta**	**6.37**	**357**	P	**Pn**	**10 25 06.7**	**+0.1**
	baz=176						
L17K	**Donlin**	**6.38**	**350**	P	**Pn**	**10 25 06.6**	**-0.2**
	baz=168						
UNV	**Unalaska Valle**	**6.39**	**256**	P	**Pn**	**10 25 05.3**	**-1.7**
UNV	**Unalaska Valle**	**6.39**	**256**	P	**Pn**	**10 25 05.5**	**-1.4**
	baz=68						
PWL	**Port Wells**	**6.42**	**36**	P	**Pn**	**10 25 06.1**	**-1.1**
	baz=222						
L15K	**Ungalak Mounta**	**6.47**	**336**	P	**Pn**	**10 25 08.1**	**+0.1**
	baz=152						
L14K	**Kuka Creek**	**6.49**	**330**	P	**Pn**	**10 25 08.2**	**0.0**
	baz=145						
SKT	**Skwentna**	**6.54**	**19**	P	**Pn**	**10 25 08.7**	**-0.3**
	baz=202						
M22K	**Willow**	**6.63**	**25**	P	**Pn**	**10 25 10.2**	**0.0**
	baz=210						
L20K	**Farewell, AK**	**6.71**	**8**	P	**Pn**	**10 25 11.3**	**+0.1**
	baz=190						
PMR	**Palmer**	**6.75**	**29**		**Pn**	**10 25 10.7**	**-1.1**
PMR	**Palmer**	**6.75**	**29**	P	**Pn**	**10 25 10.7**	**-1.1**
PMR	**Palmer**	**6.75**	**29**	P	**Pn**	**10 25 10.6**	**-1.2**
	baz=215						
KNK	**Knik Glacier**	**6.80**	**32**	P	**Pn**	**10 25 11.5**	**-1.1**
	baz=218						
GLI	**Glacier Island**	**6.86**	**39**	P	**Pn**	**10 25 11.8**	**-1.5**
	baz=226						
K17K	**Iditarod**	**6.96**	**351**	P	**Pn**	**10 25 14.5**	**-0.2**
	baz=169						
M11K	**Mekoryuk**	**7.03**	**314**	P	**Pn**	**10 25 15.2**	**-0.4**
	baz=126						
TTA	**Tatalina**	**7.07**	**360**	P	**Pn**	**10 25 16.2**	**-0.1**
TTA	**Tatalina**	**7.07**	**360**	P	**Pn**	**10 25 16.1**	**-0.2**
	baz=180						
SML	**Sawmill**	**7.15**	**31**	P	**Pn**	**10 25 16.5**	**-0.9**
	baz=217						
EYAK	**Cordova Ski Ar**	**7.16**	**45**	P	**Pn**	**10 25 16.3**	**-1.0**
EYAK	**Cordova Ski Ar**	**7.16**	**45**	P	**Pn**	**10 25 16.5**	**-0.9**
	baz=233						
CUT	**Chulitna**	**7.17**	**22**	P	**Pn**	**10 25 17.0**	**-0.6**
	baz=206						
M23K	**Glacier View**	**7.32**	**33**	P	**Pn**	**10 25 19.4**	**-0.2**
	baz=219						
KAIM	**Kayak Island**	**7.38**	**52**	P	**Pn**	**10 25 20.3**	**-0.2**
	baz=241						
SCM	**Sheep Creek Mo**	**7.47**	**33**	P	**Pn**	**10 25 20.9**	**-0.8**
	baz=220						
K13K	**Kusilvak Mount**	**7.54**	**327**	P	**Pn**	**10 25 22.8**	**+0.3**
	baz=140						
K20K	**Telida**	**7.56**	**7**	P	**Pn**	**10 25 22.4**	**-0.5**
	baz=188						
J18K	**Innoko River**	**7.62**	**358**	P	**Pn**	**10 25 23.1**	**-0.6**
	baz=177						
KLU	**Klutina**	**7.69**	**39**	P	**Pn**	**10 25 24.1**	**-0.7**
	baz=227						
SUCK	**Suckling Hills**	**7.74**	**52**	Pn	**Pn**	**10 25 26.1**	**+0.7**
J16K	**Anvik River**	**7.78**	**344**	P	**Pn**	**10 25 25.8**	**-0.1**
	baz=161						
CAST	**Castle Rocks**	**7.82**	**13**	P	**Pn**	**10 25 26.1**	**-0.4**
	baz=196						
BMRM	**Bremner River**	**7.86**	**45**	P	**Pn**	**10 25 25.2**	**-1.9**
	baz=234						
J14K	**Nanvaranak Lak**	**7.89**	**334**		**Pn**	**10 25 27.9**	**+0.5**
J14K	**Nanvaranak Lak**	**7.89**	**334**	P	**Pn**	**10 25 27.1**	**-0.3**
	baz=148						
WAT1	**Susitna Watana**	**7.94**	**26**	P	**Pn**	**10 25 27.0**	**-1.1**
	baz=212						
WAT6	**Susitna Watana**	**7.94**	**29**	P	**Pn**	**10 25 26.9**	**-1.3**
	baz=216						
SPIA	**Saint Paul Isl**	**7.98**	**285**	P	**Pn**	**10 25 29.7**	**+1.0**
NIKH	**Nikolski High**	**8.04**	**254**	P	**Pn**	**10 25 28.5**	**-1.0**
NIKH	**Nikolski High**	**8.04**	**254**	P	**Pn**	**10 25 28.1**	**-1.4**
	baz=64						
M24K	**Tolsona, Glenn**	**8.04**	**35**	P	**Pn**	**10 25 28.8**	**-0.7**
	baz=223						
J19K	**Poorman**	**8.14**	**1**	P	**Pn**	**10 25 30.8**	**0.0**
	baz=181						
CHUM	**Lake Minchumin**	**8.24**	**11**	P	**Pn**	**10 25 32.0**	**-0.1**
	baz=194						
N25K	**Chitina, Valde**	**8.25**	**41**	P	**Pn**	**10 25 31.6**	**-0.8**
	baz=231						
I17K	**Unalakleet**	**8.37**	**346**	P	**Pn**	**10 25 33.6**	**-0.3**
	baz=162						
J20K	**Nowinta River**	**8.37**	**6**	P	**Pn**	**10 25 33.8**	**-0.2**
	baz=187						
DHY	**Denali Highway**	**8.44**	**28**	P	**Pn**	**10 25 34.5**	**-0.6**
	baz=215						
VRDI	**Verde Repeater**	**8.47**	**46**		**Pn**	**10 25 33.6**	**-1.9**
HARP	**HAARP**	**8.58**	**36**	P	**Pn**	**10 25 36.5**	**-0.4**
	baz=225						
MESA	**MESA**	**8.61**	**54**	P	**Pn**	**10 25 36.6**	**-0.8**
	baz=246						
BPAW	**Bear Paw Mtn.**	**8.62**	**15**	P	**Pn**	**10 25 36.5**	**-0.8**
	baz=199						
MCK	**McKinley**	**8.64**	**21**	P	**Pn**	**10 25 36.9**	**-0.7**
	baz=207						
MCARA	**McCarthy VSAT**	**8.72**	**45**	P	**Pn**	**10 25 37.9**	**-1.0**
	baz=236						
PAX	**Paxson**	**8.90**	**33**	P	**Pn**	**10 25 40.1**	**-1.2**
	baz=222						
GCSA	**Galena City Sc**	**8.90**	**358**	P	**Pn**	**10 25 41.1**	**-0.2**
	baz=177						
CTG	**Chitna Glacier**	**9.22**	**50**	P	**Pn**	**10 25 44.9**	**-0.8**
	baz=243						
CTGM	**Chitina Glacie**	**9.22**	**50**		**Pn**	**10 25 44.8**	**-1.0**
H17K	**Granite Mounta**	**9.29**	**350**	P	**Pn**	**10 25 46.6**	**+0.1**
	baz=166						
H16K	**Elim**	**9.31**	**343**	P	**Pn**	**10 25 46.7**	**-0.1**
	baz=158						
M26K	**Nabesna, AK**	**9.34**	**40**	P	**Pn**	**10 25 46.9**	**-0.3**
	baz=231						
PINM	**Pinnacle**	**9.37**	**57**	P	**Pn**	**10 25 47.0**	**-0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=250						
H18K	Honhosa River	9.37	354	P	Pn	10 25 47.8	0.0
	baz=172						
K24K	Donnelly Dome	9.45	29	P	Pn	10 25 48.6	-0.2
	baz=217						
I21K	Tanana	9.54	10	P	Pn	10 25 49.0	-0.9
	baz=194						
MLY	Manley	9.54	14	P	Pn	10 25 47.9	-2.1
	baz=198						
O28M	Mount Upton	9.64	53	P	Pn	10 25 50.6	-1.1
	baz=246						
PNL	Peninsula	9.64	60	P	Pn	10 25 50.8	-0.6
PNL	Peninsula	9.64	60	P	Pn	10 25 50.7	-0.8
	baz=254						
H20K	Anotleneega Mo	9.66	3	P	Pn	10 25 51.7	+0.1
	baz=184						
HDA	Harding Lake	9.66	24	P	Pn	10 25 50.5	-1.2
	baz=212						
HDA				P	Pn	10 25 50.5	-1.2
	baz=212						
H19K	Roundabout Mou	9.68	359	P	Pn	10 25 52.0	+0.2
	baz=178						
M27K	Edge Creek, AK	9.73	42	P	Pn	10 25 52.1	-0.5
	baz=234						
I23K	Minto, Yukon-K	9.85	17	P	Pn	10 25 51.9	-2.3
	baz=202						
COLA	College	9.87	21		Pn	10 25 52.8	-1.7
COLA	College	9.87	21	P	Pn	10 25 51.9	-2.6
H21K	Melozitna Rive	9.93	8	P	Pn	10 25 54.8	-0.5
	baz=190						
YUK3	Moose Creek	9.98	47	P	Pn	10 25 55.7	-0.5
	baz=240						
ILAR	Eielson Array	9.98	23		Pn	10 25 53.2	-2.8
ILAR	Eielson Array	9.98	23	Pn	Pn	10 25 54.3	-1.7
	comp=N,5.3nm,0.3s,baz=217,slow=13,SNR=188						
ILAR				Sn	Sn	10 27 36.5	-10
	comp=N,1.4nm,0.3s,baz=232,slow=16,SNR=1.7						
ILAR				LR	LR	10 30 11.6	
	comp=N,128nm,21.6s,baz=232,slow=40						
SCRK	Sand Creek	10.10	32		Pn	10 25 57.0	-0.6
F15K	North Star Dit	10.71	340		Pn	10 26 07.4	+1.5
HYT	Haines Junctio	10.89	55		Pn	10 26 09.4	+0.8
PRP	Porcupine Dome	10.93	24		Pn	10 26 07.8	-1.2
F19K	Shaleruckik Mo	11.02	356		Pn	10 26 09.4	-0.8
ATKA	Atka Island	11.30	259	Pn	Pn	10 26 11.2	-2.9
ATKA	Atka Island	11.30	259	P	Pn	10 26 12.1	-2.0
SIT	Sitka	11.49	76	P	Pn	10 26 16.0	-0.7
SKAG	Skagway	11.62	64	P	Pn	10 26 20.1	+1.7
E19K	Redstone River	11.63	358	Pn	Pn	10 26 17.9	-0.7
DAWY	Dawson	11.65	39		Pn	10 26 19.0	+0.2
M30M	Minto, Yukon	11.87	48		Pn	10 26 21.6	-0.2
JIS	Juneau Island	11.99	70	P	Pn	10 26 24.8	+1.3
WHY	Whitehorse	12.08	58		Pn	10 26 25.1	+0.3
ADK	Adak	12.82	260	P	Pn	10 26 33.2	-1.6
TOLK	Toolik Lake Re	13.14	10		Pn	10 26 36.9	-2.2
DLBC	Dease Lake	14.29	69	Pn	Pn	10 26 54.9	+0.1
DLBC	Dease Lake	14.29	69	Pn	Pn	10 26 56.2	+1.4
	comp=N,1.5nm,0.3s,baz=278,slow=10,SNR=26						
DLBC				Sn	Sn	10 29 30.3	-1.4
	comp=N,1.0nm,0.3s,baz=196,slow=16,SNR=6.0						
	comp=N,5.9nm,0.4s						
E29M	Blow River	15.04	26	IAmb	IAmb	10 27 11.3	
	comp=Z,23nm,0.6s						
G31M	Satah River	15.08	34	IAmb	IAmb	10 27 05.1	
	comp=Z,26nm,0.9s						
F31M	Tsiigehtchic	15.56	33	IAmb	IAmb	10 27 10.8	
	comp=Z,33nm,0.8s						
INK	Inuvik	16.16	31	IAmb	IAmb	10 27 24.6	
	comp=Z,30nm,0.8s						
INK	Inuvik	16.16	31	Pn	Pn	10 27 18.2	-0.5
	comp=Z,2.5nm,0.3s,baz=234,slow=14,SNR=76						
INK				Sn	S	10 30 25.8	-1.8
	comp=Z,0.7nm,0.3s,baz=41,slow=30,SNR=15						
INK				LR	LR	10 34 07.2	
	comp=Z,159nm,19.8s,baz=322,slow=39						
	comp=Z,5.4nm,0.3s						
BBB	Bella Bella	16.75	91	LR	LR	10 32 15.3	
	comp=Z,139nm,21.5s,baz=240,slow=31						
SHEM	Shemya Is, Ala	17.66	272	LR	LR	10 33 52.3	
	comp=Z,94nm,21.7s,baz=254,slow=36						
A36M	Sachs Harbour	20.65	27	P	P	10 28 10.4	+0.1
YKA	Yellowknife Ar	21.89	55	P	P	10 28 24.0	+0.4
	comp=Z,1.7nm,0.7s,baz=272,slow=10.0,SNR=56						
	comp=Z,1.7nm,0.7s						
EDM	Edmonton	24.60	78	P	P	10 28 51.6	+1.1
G08A	Pilot Rock	25.50	99	P	P	10 29 00.8	+2.0
J05D	Fort Rock, OR	25.53	105	P	P	10 28 59.9	+0.8
YBH	Yreka Blue Hor	25.79	109	LR	LR	10 37 03.4	
	comp=Z,48nm,20.4s,baz=278,slow=31						
SEY	Seymchan	26.53	307	LR	LR	10 40 25.0	
	comp=Z,66nm,19.2s,baz=63,slow=39						
PETK	Petropavlovsk-	26.64	284	P	P	10 29 08.2	-0.8
	comp=Z,3.8nm,0.8s,baz=68,slow=12,SNR=8.2						
	comp=Z,3.8nm,0.8s						
MA2	Magadan	28.02	300	LR	LR	10 39 42.9	
	comp=Z,34nm,19.5s,baz=80,slow=35						
PNTR	Pine Nut	29.34	110	IAmb	IAmb	10 29 37.2	
	comp=Z,14nm,0.9s						
YERR	Yerington	29.61	109	IAmb	IAmb	10 29 39.4	
	comp=Z,11nm,1.0s						
RYN	Ryan	30.25	109	IAmb	IAmb	10 29 44.9	
	comp=Z,6.8nm,0.9s						
NVAR	Mina Array Bea	30.51	109	P	P	10 29 44.6	+0.8
NVAR	Mina Array Bea	30.51	109	P	P	10 29 46.4	+2.6
	comp=Z,4.3nm,0.7s,baz=311,slow=8.2,SNR=43						
NVAR				PcP	PcP	10 32 42.3	+0.7
	comp=Z,0.5nm,0.7s,baz=326,slow=4.4,SNR=2.9						
NVAR				LR	LR	10 39 48.3	
	comp=Z,83nm,21.3s,baz=314,slow=32						
	comp=Z,4.3nm,0.7s						
ELK	Elko	30.53	102	IAmb	IAmb	10 29 47.7	
	comp=Z,8.1nm,0.8s						
ELK	Elko	30.53	102	LR	LR	10 39 04.2	
	comp=Z,61nm,21.0s,baz=240,slow=30						
MZP	Montezuma Peak	31.54	109	IAmb	IAmb	10 29 55.0	
	comp=Z,5.8nm,0.9s						
R11B	Troy Canyon, C	32.03	106	IAmb	IAmb	10 30 00.5	
	comp=Z,9.2nm,0.8s						
DUG	Dugway, Tooele	32.25	101	IAmb	IAmb	10 30 03.1	
	comp=Z,8.1nm,1.2s						
PDAR	Pinedale Array	32.35	94	P	P	10 30 02.0	+2.1
	comp=Z,0.7nm,0.6s,baz=317,slow=4.9,SNR=10						
	comp=Z,0.7nm,0.6s						
ISA	Isabella, Lake	32.50	113	IAmb	IAmb	10 30 04.0	
	comp=Z,5.8nm,0.9s						
GWY	Greenwater Val	33.05	110	IAmb	IAmb	10 30 08.9	
	comp=Z,4.6nm,0.8s						
BSUT	Blindstream Ca	33.15	98	IAmb	IAmb	10 30 10.5	
	comp=Z,6.9nm,0.8s						
KNB	Kanab	34.50	105	IAmb	IAmb	10 30 22.4	
	comp=Z,6.8nm,0.9s						
PFO	Pinyon Flats O	35.14	113	LR	LR	10 42 31.6	
	comp=Z,35nm,21.4s,baz=234,slow=32						
W13A	Hualapai Mount	35.35	108	IAmb	IAmb	10 30 29.6	
	comp=Z,5.8nm,1.0s						
ULM	Lac du Bonnet	35.56	73	P	P	10 30 27.7	+0.4
	comp=Z,1.6nm,0.6s,baz=281,slow=8.2,SNR=3.3						
	comp=Z,1.6nm,0.6s						
ANMO	Albuquerque	39.52	101	P	P	10 31 02.0	+0.8
ANMO	Albuquerque	39.52	101	LR	LR	10 45 54.0	
	comp=Z,34nm,18.8s,baz=58,slow=34						
ASAJ	Asahikawa	39.88	280	LR	LR	10 49 13.1	
	comp=Z,19nm,18.1s,baz=344,slow=39						
HSIG		41.64	111	P	P	10 31 19.4	+0.8
MSTX	Muleshoe	42.29	98	IAmb	IAmb	10 31 26.3	
	comp=Z,9.1nm,0.8s						
KLR	Kul'dur	42.56	293	LR	LR	10 48 15.5	
	comp=Z,34nm,21.8s,baz=54,slow=35						
SMWD	Samnorwood	42.87	95	IAmb	IAmb	10 31 31.2	
	comp=Z,8.6nm,0.8s						
WMOK	Wichita Mounta	43.96	94	P	P	10 31 37.6	+0.2
WMOK				IAmb	IAmb	10 31 39.6	
	comp=Z,8.5nm,0.8s						
HEH	HeiHe	44.16	296	*e*P	P	10 31 48.7	+10
HEH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
APMT	Aspermont	44.25	97	IAmb	IAmb	10 31 41.4	
	comp=Z,6.6nm,0.8s						
SGCY	Sterling City	44.74	99	IAmb	IAmb	10 31 45.7	
	comp=Z,12nm,0.7s						
SUMG	Summit	44.83	22	*i* P	P	10 31 55.4	+11
TX32	Lajitas Array	45.31	104	IAmb	IAmb	10 31 51.1	
	comp=Z,5.5nm,0.9s						
TXAR	Lajitas Array	45.31	104	P	P	10 31 50.0	+1.8
	comp=Z,3.7nm,0.8s,baz=309,slow=5.7,SNR=51						
TXAR				PcP	PcP	10 33 27.4	+0.3
	comp=Z,1.0nm,0.5s,baz=262,slow=1.1,SNR=12						
TXAR				LR	LR	10 48 34.7	
	comp=Z,41nm,20.0s,baz=316,slow=33						
	comp=Z,3.7nm,0.8s						
OZNA	Ozona	45.49	100	IAmb	IAmb	10 31 51.6	
	comp=Z,6.6nm,0.7s						
H11N2	WAKE ISLAND Hy	45.52	233	T	T	11 20 59.2	
	baz=30						
H11N3	WAKE ISLAND Hy	45.53	233	T	T	11 21 02.0	
	baz=30						
H11N1	WAKE ISLAND Hy	45.54	233	T	T	11 21 14.9	
	baz=30						
USRK	Ussuriysk Ar.	45.64	287	LR	LR	10 50 07.9	
	comp=Z,33nm,21.5s,baz=9.8,slow=35						
PLPT	Palo Pinto	45.64	95	IAmb	IAmb	10 31 52.5	
	comp=Z,11nm,0.9s						
SAND	Sanderson	45.68	102	IAmb	IAmb	10 31 53.5	
	comp=Z,7.7nm,1.4s						
SPITS	Spitsbergen Ar	46.12	2	P	P	10 31 54.5	+0.6
	comp=Z,4.8nm,0.7s,baz=45,slow=8.4,SNR=9.9						
	comp=Z,4.8nm,0.7s						
BRDY	Brady	46.40	97	IAmb	IAmb	10 31 58.5	
	comp=Z,7.3nm,0.7s						
H11S1	WAKE ISLAND Hy	46.68	232	T	T	11 22 17.9	
	baz=27						
H11S2	WAKE ISLAND Hy	46.70	232	T	T	11 22 03.2	
	baz=27						
H11S3	WAKE ISLAND Hy	46.70	232	T	T	11 21 60.0	
	baz=27						
DRIO	Del Rio	46.92	101	IAmb	IAmb	10 32 02.3	
	comp=Z,7.1nm,0.9s						
MIAR	Mount Ida	47.03	90	IAmb	IAmb	10 32 03.1	
	comp=Z,8.1nm,1.1s						
SCHQ	Schefferville	47.27	52	P	P	10 32 04.0	+0.9
	comp=Z,2.8nm,0.7s,baz=260,slow=6.1,SNR=6.2						
	comp=Z,2.8nm,0.7s						
SADO	Sadowa	47.85	69	LR	LR	10 50 35.9	
	comp=Z,59nm,18.1s,baz=334,slow=34						
WVT	Waverly	49.12	84	P	P	10 32 17.7	+0.1
WVT				IAmb	IAmb	10 32 18.9	
	comp=Z,3.2nm,0.8s						
TKL	Tuckaleechee C	51.72	81	LR	LR	10 54 15.0	
	comp=Z,46nm,18.9s,baz=330,slow=36						
KSRS	Korea Array	52.54	283	P	P	10 32 43.4	+0.1
	comp=Z,2.3nm,0.6s,baz=43,slow=7.5,SNR=5.5						
	comp=Z,2.3nm,0.6s						
XLT	XiLinHaoTe	54.15	297	*e*P	P	10 32 55.1	-0.1
XLT				pP	pP	10 32 58.4	-11
XLT				sP	sP	10 33 01.9	-13
XLT				PcP	PcP	10 34 00.0	+0.8
XLT				PP	PP	10 34 55.6	-1.2
XLT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,71nm,3.7s						
ARCES	ARCESS Array B	54.88	359	P	P	10 32 59.5	-0.5
	comp=Z,7.0nm,1.1s,baz=6.6,slow=5.3,SNR=5.2						
	comp=Z,7.0nm,1.1s						
SONM	Songino Array	55.92	306	P	P	10 33 08.2	+0.2
	comp=Z,2.2nm,0.7s,baz=49,slow=6.5,SNR=10						
SONM				LR	LR	10 59 03.6	
	comp=Z,65nm,18.2s,baz=42,slow=38						
	comp=Z,2.2nm,0.7s						
TLIG	Tlapa	57.52	108	IAmb	IAmb	10 33 21.5	
	comp=Z,5.1nm,0.8s						
HHC	Hu-ho-hao-te	58.66	297	*e*P	P	10 33 26.4	-0.9
HHC				sP	sP	10 33 48.4	+1.2
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,6.2s						
ZALV	Zalesovo Beam	59.73	323	P	P	10 33 33.9	-0.5
	comp=Z,0.5nm,0.4s,baz=4.6,slow=7.4,SNR=5.0						
ZALV				LR	LR	11 01 27.4	
	comp=Z,20nm,20.9s,baz=45,slow=38						
	comp=Z,0.5nm,0.4s						
NB2	NORSAR Subarra	62.98	7	P	P	10 33 56.2	-0.1
	comp=Z,6.2nm,0.7s,baz=350,slow=6.9						
NOA	NORSAR Array B	62.98	7	P	P	10 33 56.0	-0.3
	comp=Z,0.9nm,0.6s,baz=352,slow=6.7,SNR=5.1						
	comp=Z,0.9nm,0.6s						
LYN	LuoYang	63.00	292	⇑P	P	10 33 56.8	+0.1
LYN				pmax	pmax		
	comp=Z,26nm,0.5s						
LYN				pmax	pmax		
	comp=Z,210nm,4.3s						
FINES	FINESS Array B	63.00	359	P	P	10 33 56.1	-0.2
	comp=Z,1.4nm,0.5s,baz=22,slow=7.8,SNR=13						
	comp=Z,1.4nm,0.5s						
HFS	Hagfors	64.04	6	P	P	10 34 03.0	-0.2
	comp=Z,1.3nm,0.5s,baz=20,slow=4.6,SNR=4.1						
	comp=Z,1.3nm,0.5s						
KIRV	Kirov	64.08	346	LR	LR	11 06 48.4	
	comp=Z,20nm,18.1s,baz=352,slow=41						
KURBB	Kurchatov Arra	64.62	325	P	P	10 34 07.2	+0.1
	comp=Z,0.6nm,0.4s,baz=27,slow=5.4,SNR=7.0						
	comp=Z,0.6nm,0.4s						
BVAR	Borovoye Array	64.94	331	P	P	10 34 08.7	-0.5
	comp=Z,1.9nm,0.9s,baz=31,slow=6.7,SNR=5.6						
BVAR				LR	LR	11 06 40.5	
	comp=Z,14nm,20.0s,baz=38,slow=40						
	comp=Z,1.9nm,0.9s						
GTA	Gaotai	65.45	304	*e*P	P	10 34 27.0	+14
GTA				pP	sP	10 34 31.7	-1.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MKAR	Makanchi Array	66.62	320	P	P	10 34 19.2	-1.0
	comp=Z,0.5nm,0.7s,baz=3.1,slow=4.7,SNR=2.5						
MKAR				LR	LR	11 06 16.7	
	comp=Z,38nm,18.0s,baz=3.0,slow=39						
	comp=Z,0.5nm,0.7s						
EKA	Eskdalemuir Ar	66.95	16	P	P	10 34 22.4	+0.4
	comp=Z,0.9nm,0.6s,baz=348,slow=5.2,SNR=1.7						
	comp=Z,0.9nm,0.6s						
WMQ	Urumqi	67.09	315	*e*P	P	10 34 25.4	+2.2
NACGM	Naroch	69.55	358	*e*P	P	10 34 36.1	-2.2
	comp=Z,32nm,0.9s,baz=2.0						
ABKAR	Akbulak array	71.02	336	P	P	10 34 47.2	-0.2
ABKAR	Akbulak array	71.02	336	P	P	10 34 47.3	-0.1
ABKAR				IAmb	IAmb	10 35 11.2	
	comp=Z,3.8nm,0.8s						
AKASG	Malin Array Be	73.70	357	P	P	10 35 02.6	-0.7
	comp=Z,0.5nm,0.4s,baz=5.1,slow=5.7,SNR=4.6						
	comp=Z,0.5nm,0.4s						
PZH	PanZhiHua	74.96	295	P	P	10 35 10.4	-0.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
GERES	GERESS Array B	75.29	7	P	P	10 35 11.9	-0.8
	comp=Z,0.3nm,0.3s,baz=350,slow=4.2,SNR=2.0						
	comp=Z,0.3nm,0.3s						
MOA	Molln	76.32	7	*i* pP	pP	10 35 35.7	+2.6
	comp=Z,8.1nm,1.3s						
CONA	Conrad Observa	76.34	6	*e*pP	pP	10 35 35.1	+1.8
	comp=Z,2.9nm,0.8s						
RETA	Reutte	76.41	9	*e*pP	pP	10 35 36.8	+3.2
	comp=Z,1.6nm,0.5s						
BIOA	Bad Ischl, Aus	76.43	7	*e*pP	pP	10 35 31.8	-2.0
	comp=Z,0.3nm,0.3s						
DAVA	Damuels	76.52	10	*i* pP	pP	10 35 37.5	+3.1
	comp=Z,4.2nm,0.8s						
MOTA	Moosalm	76.58	9	*i* pP	pP	10 35 37.2	+2.4
	comp=Z,4.9nm,0.8s						
WATA	Walderalm	76.63	9	*e*pP	pP	10 35 36.9	+1.9
	comp=Z,2.5nm,0.8s						
LESA	Schwarzleotal	76.63	8	*i* pP	pP	10 35 36.1	+1.1
	comp=Z,1.8nm,0.6s						
WTTA	Wattenberg	76.70	9	*e*pP	pP	10 35 37.9	+2.4
	comp=Z,1.8nm,0.4s						
SQTA	Sankt Quirin	76.71	9	*e*pP	pP	10 35 37.9	+2.4
	comp=Z,7.2nm,0.7s						
FETA	Feichten	76.86	9	*e*pP	pP	10 35 41.5	+5.1
	comp=Z,2.7nm,0.7s						
ARSA	Arzberg	76.99	6	*e*pP	pP	10 35 39.5	+2.6
	comp=Z,1.7nm,0.5s						
ABTA	Abfaltersbach	77.29	8	*i* pP	pP	10 35 38.2	-0.5
	comp=Z,3.0nm,0.8s						
SOKA	Soboth	77.53	6	*i* pP	pP	10 35 42.4	+2.3
	comp=Z,8.2nm,1.6s						
OBKA	Obir	77.67	7	*i* pP	pP	10 35 42.8	+2.0
	comp=Z,8.4nm,0.4s						
CHGR	Chuyangaron	78.30	325	P	P	10 35 30.1	+0.2
ESDC	Sonseca Array	81.88	21	P	P	10 35 51.3	+2.2
	comp=Z,0.2nm,0.3s,baz=350,slow=3.9,SNR=2.9						
	comp=Z,0.2nm,0.3s						
CMAR	Chiang Mai Arr	83.04	293	P	P	10 35 54.0	-1.3
	comp=Z,0.8nm,0.4s,baz=22,slow=5.2,SNR=7.7						
	comp=Z,0.8nm,0.4s						
BRTR	Keskin Array B	84.41	353	P	P	10 36 02.4	+0.2
	comp=Z,0.4nm,0.6s,baz=29,slow=3.3,SNR=2.1						
	comp=Z,0.4nm,0.6s						
H03N2	Juan Fernandez	110.35	120	T	T	12 41 37.0	
	baz=327,slow=74						
H03N1	Juan Fernandez	110.36	120	T	T	12 41 44.2	
	baz=327						
H03N3	Juan Fernandez	110.37	120	T	T	12 41 41.4	
	baz=327,slow=74						
QSPA	South Pole Qui	145.66	180	PKPbc	PKPab	10 43 06.4	-1.0
	comp=Z,8.9nm,0.8s,baz=25,slow=0.8,SNR=30						

WEL ***04*** *10:24:01.9±0.6, 33˚S±6˚×17˚8W±1˚3, h12km, M4.6/37, mB5.2/31, ML5.4/38, MLv5.1/37, Mw(mB)4.6/31, Error ellipse: s-maj=0.0km s-min=0.0km az=111.3, confirmed*

NEIC ***04*** *10:24:03.3±2.6, 32˚62S±0˚05×178˚7W±0˚1, h35km±2km, mb4.6/15, Error ellipse: s-maj=21.5km s-min=3.0km az=109.0*

IDC ***04*** *10:24:07.0±2.2, 32˚50S×179˚05W, h64km±20km, mb3.9/8, mbtmp4.2/9, MS3.7/35, Error ellipse: s-maj=17.7km s-min=14.1km az=73.0*

ISC 04 10:24:02.6±0.5, **32˚74S**±0˚05×**178˚70W**±0˚07, **h33km**, **n140**, σ**2˚16**/142, **mb4.6**/16, **MS3.8**/36, **4D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.53	11	P	Pn	10 24 53.6	-1.5
GLKZ				S	Sn	10 25 37.8	+2.0
RAO	Raoul Island	3.54	11	Pn	Pn	10 24 52.3	-2.9
RAO				Sn	Sn	10 25 32.7	-3.3
RAO	Raoul Island	3.54	11	P	Pn	10 24 56.1	+0.8
	301nm,0.3s,baz=105,slow=22,SNR=1.4						
RAO				S	Sn	10 25 36.7	+0.7
	523nm,0.4s,baz=71,slow=22,SNR=1.8						
MXZ	Matakaoa Point	5.40	206	Pn	Pn	10 25 21.0	+0.3
MXZ				Sn	Sn	10 26 23.2	+1.5
MXZ	Matakaoa Point	5.40	206	P	Pn	10 25 21.1	+0.3
MXZ				S	Sn	10 26 21.7	0.0
MXZ				T	T	10 30 26.9	
WMGZ	Waiomatatini S	5.59	204	P	Pn	10 25 24.5	+1.1
WMGZ				S	Sn	10 26 28.2	+1.8
HAZ	Te Kaha	5.77	209	P	Pn	10 25 25.7	-0.1
HAZ				S	Sn	10 26 34.8	+3.9
PKGZ	Pakihiroa	5.77	206	P	Pn	10 25 26.9	+1.0
PKGZ				S	Sn	10 26 29.5	-1.5
PUZ	Puketiti	5.87	204	P	Pn	10 25 27.3	+0.1
PUZ				S	Sn	10 26 32.9	-0.4
GRZ	Great Barrier	5.96	232	P	Pn	10 25 31.2	+2.8
RUGZ	Raukumara Rang	5.99	209	P	Pn	10 25 28.8	-0.2
RUGZ				S	Sn	10 26 36.9	+0.4
TWGZ	Tauwhareparae	6.06	206	P	Pn	10 25 30.7	+0.8
TWGZ				S	Sn	10 26 37.7	-0.4
KUZ	Kuaotunu	6.09	227	P	Pn	10 25 33.8	+3.6
WHRZ	Whale Island	6.21	214	P	Pn	10 25 35.0	+3.2
CNGZ	Carnagh Statio	6.26	203	P	Pn	10 25 33.3	+0.8
CNGZ				S	Sn	10 26 39.4	-3.5
TKGZ	Te Karaka	6.34	205	P	Pn	10 25 34.4	+0.7
TKGZ				S	Sn	10 26 41.9	-3.1
MWZ	Matawai	6.37	208	P	Pn	10 25 33.3	-0.9
MWZ				S	Sn	10 26 44.0	-1.7
OPRZ	Ohinepanea	6.40	216	P	Pn	10 25 37.2	+2.7
OPRZ				S	Sn	10 26 50.1	+3.7
MARZ	Manawahe	6.45	215	P	Pn	10 25 37.4	+2.1
URZ	Urewera	6.48	211	P	Pn	10 25 34.6	-1.0
	28nm,0.5s,baz=73,slow=17,SNR=32						
URZ				S	Sn	10 26 48.1	-0.2
	48nm,0.4s,baz=334,slow=4.6,SNR=9.8						
URZ	Urewera	6.48	211	P	Pn	10 25 35.4	-0.2
URZ				S	Sn	10 26 48.6	+0.3
EDRZ	Edgecumbe	6.52	214	P	Pn	10 25 39.3	+3.0
RAGZ	Rawiri	6.55	208	P	Pn	10 25 38.5	+1.8
RAGZ				S	Sn	10 26 49.5	-0.8
RIGZ	Rimuhau	6.61	205	P	Pn	10 25 37.4	0.0
RIGZ				S	Sn	10 26 49.1	-2.6
KARZ	Kaharoa	6.69	217	P	Pn	10 25 41.5	+3.0
KMRZ	Kaimai	6.72	219	P	Pn	10 25 43.3	+4.4
TARZ	Mount Tarawera	6.73	214	P	Pn	10 25 43.7	+4.5
PRGZ	Paritu Road	6.76	203	P	Pn	10 25 38.8	-0.7
PRGZ				S	Sn	10 26 52.9	-2.4
RRRZ	Republican Roa	6.81	214	P	Pn	10 25 43.7	+3.6
SNGZ	Shannon Statio	6.83	207	P	Pn	10 25 40.9	+0.4
SNGZ				S	Sn	10 26 56.8	-0.2
RTZ	Ruatahuna	6.83	210	Pn	Pn	10 25 40.1	-0.4
RTZ	Ruatahuna	6.83	210	P	Pn	10 25 40.5	0.0
RTZ				S	Sn	10 26 55.8	-1.4
TOZ	Tahuroa Road	6.88	222	Pn	Pn	10 25 44.0	+3.0
TOZ	Tahuroa Road	6.88	222	P	Pn	10 25 44.8	+3.8
KNZ	Kokohu	6.92	204	P	Pn	10 25 40.3	-1.4
KNZ				S	Sn	10 26 55.2	-4.0
MHGZ	Mahia Peninsul	6.96	202	P	Pn	10 25 40.5	-1.7
MHGZ				S	Sn	10 26 56.4	-3.9
PRRZ	Plateau Road	7.00	213	P	Pn	10 25 44.6	+1.9
RAHZ	Arahi	7.05	208	P	Pn	10 25 44.9	+1.4
RAHZ				S	Sn	10 27 01.6	-0.7
ALRZ	Allen Road	7.07	213	P	Pn	10 25 46.8	+3.1
MTHZ	Maungataniwha	7.09	209	P	Pn	10 25 44.8	+0.8
MTHZ				S	Sn	10 27 05.3	+1.8
WHHZ	Waihua	7.13	206	P	Pn	10 25 46.1	+1.6
WHHZ				S	Sn	10 27 02.2	-2.2
MRHZ	Matea Rd	7.26	212	P	Pn	10 25 48.6	+2.2
TLZ	Tolley Road	7.29	219	P	Pn	10 25 51.4	+4.6
NMHZ	Naumai	7.31	209	P	Pn	10 25 48.4	+1.3
NMHZ				S	Sn	10 27 08.8	-0.2
ARHZ	Aropaoanui	7.38	207	P	Pn	10 25 48.5	+0.5
ARHZ				S	Sn	10 27 07.5	-3.1
WATZ	Wairara	7.48	216	P	Pn	10 25 51.8	+2.5
MCHZ	McNeill Hill	7.66	208	P	Pn	10 25 51.9	+0.2
MCHZ				S	Sn	10 27 15.8	-1.5
KWHZ	Kaweka Forest	7.75	209	P	Pn	10 25 52.6	-0.5
HIZ	Hauiti	7.79	221	Pn	Pn	10 25 55.0	+1.4
HIZ	Hauiti	7.79	221	P	Pn	10 25 57.3	+3.8
TMVZ	Te Maari	7.81	214	P	Pn	10 25 54.6	+0.6
PXZ	Pawanui	8.11	205	P	Pn	10 25 56.7	-1.1
PXZ				S	Sn	10 27 24.3	-4.0
PNHZ	Pukenui	8.26	208	P	Pn	10 25 58.8	-1.2
PNHZ				S	Sn	10 27 28.5	-3.6
WPHZ	Waipukurau	8.29	207	P	Pn	10 25 59.1	-1.3
WPHZ				S	Sn	10 27 29.3	-3.6
PRHZ	Porangahau	8.39	205	P	Pn	10 25 60.0	-1.9
PRHZ				S	Sn	10 27 31.6	-3.9
TSZ	Takapari Road	8.47	209	P	Pn	10 26 01.1	-1.9
DVHZ	Dannevirke	8.60	207	P	Pn	10 26 03.6	-1.1
DVHZ				S	Sn	10 27 35.4	-5.1
ANWZ	Angora Road	8.62	205	P	Pn	10 26 04.5	-0.4
ANWZ				S	Sn	10 27 34.6	-6.5
BFZ	Birch Farm	8.90	206	Pn	Pn	10 26 08.1	-0.7
TUWZ	Tuamarina	10.47	212		Pn	10 26 27.6	-2.7
CTZ	Chatham Island	11.10	172	Pn	Pn	10 26 38.8	0.0
CTZ	Chatham Island	11.10	172	P	Pn	10 26 37.6	-1.2
CTZ				S	Sn	10 28 27.7	-14
RPZ	Rata Peaks	13.58	213	P	Pn	10 27 08.5	-4.3
	6.9nm,0.6s,baz=90,slow=18,SNR=6.8						
RPZ				S	Sn	10 29 28.5	-14
	4.2nm,0.4s,baz=296,slow=23,SNR=9.5						
DZM	Mont Dzumac	16.92	305	*e*Pn	P	10 28 00.5	+1.8
	50nm,1.1s						
DZM				*e*LR	LR	10 31 50.4	
	comp=Z,1μm,24.9s						
DZM	Mont Dzumac	16.92	305	P	Pn	10 27 55.0	-2.0
	7.2nm,1.0s,baz=110,slow=18,SNR=2.3						
DZM				LR	LR	10 33 08.6	
	comp=Z,686nm,20.0s,baz=190,slow=33						
RAR	Rarotonga	20.37	60	LR	LR	10 37 35.5	
	comp=Z,55nm,18.0s,baz=172,slow=39						
TBI	Tubuai	27.37	77	*e*S	S	10 34 20.7	-2.1
	294nm,29.8s						
TBI				*e*LR	LR	10 36 50.9	
	comp=Z,1μm,25.5s						
PPT2	Papeete2	30.24	67	*e*S	S	10 34 57.7	-10
	84nm,28.5s						
PPT2				*e*LR	LR	10 37 40.1	
	comp=Z,157nm,24.5s						
PPT2				*e*LR	LR	10 38 05.4	
	comp=Z,194nm,24.8s						
PPT	Papeete	30.25	67	LR	LR	10 43 14.8	
	comp=Z,62nm,18.3s,baz=198,slow=38						
STKA	Stephens Creek	33.44	261	LR	LR	10 43 25.0	
	comp=Z,236nm,18.1s,baz=42,slow=35						
CTA	Charters Tower	33.67	283	LR	LR	10 41 56.8	
	comp=Z,166nm,21.7s,baz=84,slow=32						

CTAO Charters Tower 33.67 283 P P 10 30 40.4 -0.1
CTAO IAmb IAmb 10 30 42.8
comp=Z,11nm,1.1s
BBOO Buckleboo 37.81 257 P P 10 31 14.8 -1.2
BBOO IAmb IAmb 10 31 36.1
comp=Z,17nm,1.4s
COEN Coen 39.41 289 P P 10 31 28.5 -1.0
COEN IAmb IAmb 10 31 43.0
comp=Z,19nm,1.4s
AS31 Alice Springs 42.45 270 P P 10 31 54.2 -0.4
ASAR Alice Springs 42.45 270 P P 10 31 53.6 -0.9
ASAR Alice Springs 42.45 270 P P 10 31 54.0 -0.5
comp=Z,2.0nm,0.4s,baz=104,slow=7.4,SNR=47
ASAR PcP PcP 10 33 47.0 -0.2
comp=Z,0.4nm,0.6s,baz=122,slow=4.2,SNR=0.8
ASAR S S 10 38 08.9 -5.5
comp=Z,0.7nm,0.9s,baz=111,slow=15,SNR=5.1
ASAR LR LR 10 48 03.9
comp=Z,76nm,20.5s,baz=107,slow=34
comp=Z,2.0nm,0.4s
WR0 Warramunga Arr 43.47 275 P P 10 32 02.2 -0.6
WR0 IAmb IAmb 10 32 06.3
comp=Z,5.9nm,0.7s
WB2 Warramunga Arr 43.64 275 P P 10 32 03.9 -0.2
WB2 IAmb IAmb 10 32 04.2
comp=Z,9.7nm,0.9s
WRA Warramunga Arr 43.65 275 P P 10 32 03.8 -0.5
WRA Warramunga Arr 43.65 275 P P 10 32 03.4 -0.9
comp=Z,4.3nm,0.4s,baz=115,slow=7.8,SNR=126
WRA S S 10 38 26.1 -5.9
comp=Z,1.4nm,1.1s,baz=119,slow=12,SNR=5.7
comp=Z,4.3nm,0.4s
WB0 Warramunga Arr 43.68 275 P P 10 32 04.2 -0.3
WB0 IAmb IAmb 10 32 05.4
comp=Z,8.3nm,0.7s
FORT Forrest 44.92 258 P P 10 32 13.6 -0.7
VNDA Vanda 45.71 186 P P 10 32 22.3 +2.4
VNDA Vanda 45.71 186 P P 10 32 22.2 +2.2
comp=Z,0.8nm,0.8s,baz=43,slow=6.5,SNR=4.2
VNDA LR LR 10 49 43.8
comp=Z,36nm,18.5s,baz=39,slow=34
comp=Z,0.8nm,0.8s
KNRA Kununurra 50.34 277 P P 10 32 56.2 -0.3
KNRA IAmb IAmb 10 32 58.8
comp=Z,7.4nm,0.9s
NWAO Narrogin (SRO) 53.05 251 LR LR 10 52 35.0
comp=Z,64nm,20.5s,baz=104,slow=32
MORW Morawa 55.33 255 P P 10 33 31.4 -1.8
QSPA South Pole Qui 57.37 180 P P 10 33 50.9 +3.4
QSPA South Pole Qui 57.37 180 P P 10 33 50.4 +3.0
comp=Z,4.6nm,0.9s,baz=59,slow=2.3,SNR=16
QSPA LR LR 10 54 35.6
comp=Z,55nm,21.1s,baz=42,slow=32
comp=Z,4.6nm,0.9s
BATI Baumata 57.40 279 LR LR 10 58 17.9
comp=Z,132nm,19.4s,baz=151,slow=36
RPN Rapa Nui 59.41 104 LR LR 10 53 21.4
comp=Z,81nm,20.2s,baz=234,slow=29
KAPI Kappang 63.47 282 LR LR 11 01 08.9
comp=Z,45nm,20.6s,baz=122,slow=35
BELA Belgrano 2 67.55 172 P P 10 34 56.3 +1.2
BELA IAmb IAmb 10 34 57.7
comp=Z,5.6nm,0.9s
MAW Mawson 69.91 201 P P 10 35 10.8 +1.0
comp=Z,2.4nm,0.8s,baz=143,slow=5.1,SNR=3.1
MAW LR LR 11 04 24.2
comp=Z,83nm,19.9s,baz=98,slow=34
comp=Z,2.4nm,0.8s
PMSA Palmer Station 70.38 156 LR LR 11 03 16.2
comp=Z,69nm,19.0s,baz=216,slow=33
TROLL Troll, Antarti 75.53 180 ⇓P P 10 35 45.6 +2.2
comp=Z,141nm,0.5s
SNAA Sanae 75.84 179 P P 10 35 47.4 +2.4
SNAA IAmb IAmb 10 35 51.8
comp=Z,5.5nm,0.8s
SNAA Sanae 75.84 179 ⇓P P 10 35 48.6 +3.5
SNAA Sanae 75.84 179 P P 10 35 47.4 +2.4
comp=Z,4.7nm,0.8s,baz=163,slow=17,SNR=8.2
comp=Z,4.7nm,0.8s
VNA3 Neumayer Olymp 76.01 176 ⇓P P 10 35 47.6 +1.7
JHJ Hachijo jima 2 76.30 325 LR LR 11 04 27.8
comp=Z,23nm,20.3s,baz=100,slow=32
VNA2 Neumayer--Watz 76.44 177 ⇓P P 10 35 47.9 -0.5
baz=246,slow=33
H03S2 Juan Fernandez 79.67 124 T T 12 04 37.2
baz=236,slow=74,SNR=21
H03S1 Juan Fernandez 79.68 124 T T 12 04 43.1
baz=236,slow=74,SNR=23
H03S3 Juan Fernandez 79.69 124 T T 12 04 37.5
baz=236,slow=74,SNR=29
MJAR Matsushiro Arr 79.83 326 LR LR 11 07 59.5
comp=Z,26nm,18.4s,baz=156,slow=33
H03N3 Juan Fernandez 79.88 123 T T 12 04 50.4
baz=240,slow=72,SNR=44
H03N2 Juan Fernandez 79.88 123 T T 12 04 51.5
baz=240,slow=72,SNR=24
H03N1 Juan Fernandez 79.89 123 T T 12 04 49.3
baz=240,slow=72,SNR=73
JNU Nakatsue 80.92 319 LR LR 11 11 01.6
comp=Z,21nm,18.1s,baz=129,slow=35
PLCA Paso Flores 81.35 133 LR LR 11 10 01.1
comp=Z,27nm,18.3s,baz=237,slow=34
ASAJ Asahikawa 84.25 333 LR LR 11 09 06.5
comp=Z,41nm,19.3s,baz=179,slow=32
KSRS Korea Array 85.75 320 LR LR 11 11 03.5
comp=Z,21nm,21.3s,baz=145,slow=33
LPIG La Paz 86.27 58 LR LR 11 08 44.2
comp=Z,38nm,19.0s,baz=209,slow=31
PETK Petropavlovsk- 87.93 346 LR LR 11 12 14.9
comp=Z,38nm,21.7s,baz=128,slow=33
PFO Pinyon Flats O 88.22 48 LR LR 11 11 19.9
comp=Z,39nm,18.3s,baz=254,slow=32
YBH Yreka Blue Hor 90.24 38 LR LR 11 08 25.4
comp=Z,32nm,21.1s,baz=217,slow=30
NVAR Mina Array Bea 90.36 43 P P 10 37 01.4 +0.9
comp=Z,0.6nm,0.8s,baz=220,slow=7.7,SNR=4.3
NVAR LR LR 11 12 25.8
comp=Z,26nm,18.3s,baz=244,slow=32
comp=Z,0.6nm,0.8s
KLR Kul'dur 92.76 330 LR LR 11 14 58.9
comp=Z,46nm,19.7s,baz=150,slow=33
LVC Limon Verde 93.32 119 LR LR 11 10 33.0
comp=Z,29nm,20.6s,baz=231,slow=30
NNA Nana 93.34 106 LR LR 11 09 59.3
comp=Z,65nm,20.4s,baz=256,slow=29
ELK Elko 93.66 43 LR LR 11 10 37.4
comp=Z,36nm,21.0s,baz=234,slow=30
TXAR Lajitas Array 94.14 58 P P 10 37 20.8 +2.7
comp=Z,0.5nm,1.0s,baz=224,slow=5.0,SNR=1.3
TXAR LR LR 11 14 17.7
comp=Z,38nm,18.0s,baz=222,slow=32
comp=Z,0.5nm,1.0s
MA2 Magadan 95.39 345 LR LR 11 14 51.5
comp=Z,24nm,21.3s,baz=84,slow=32
ANMO Albuquerque 95.50 52 LR LR 11 14 20.2
comp=Z,29nm,18.9s,baz=340,slow=32
NEW Newport 97.61 36 LR LR 11 17 28.3
comp=Z,39nm,18.0s,baz=232,slow=33
SEY Seymchan 98.12 347 LR LR 11 14 57.6
comp=Z,38nm,20.9s,baz=209,slow=31
CPUP Villa Florida 98.99 129 LR LR 11 13 48.1
comp=Z,44nm,21.8s,baz=220,slow=30
MKAR Makanchi Array 118.80 309 PKP PKPdf 10 42 46.5 -0.7
comp=Z,0.2nm,0.5s,baz=200,slow=2.3,SNR=4.1
KURBB Kurchatov Arra 122.25 313 PKP PKPdf 10 42 52.5 -1.1
comp=Z,0.4nm,0.3s,baz=124,slow=2.1,SNR=2.7
BVAR Borovoye Array 127.64 315 PKP PKPdf 10 43 03.5 -0.3
comp=Z,0.7nm,0.4s,baz=54,slow=2.7,SNR=4.8
ARCES ARCESS Array B 140.74 347 PKP PKPdf 10 43 27.6 -0.2
comp=Z,14nm,1.3s,baz=29,slow=2.1,SNR=3.8
FINES FINESS Array B 147.11 338 PKPbc PKPbc 10 43 40.8 -0.5
comp=Z,3.6nm,0.4s,baz=40,slow=4.2,SNR=52
NB2 NORSAR Subarra 150.96 350 PKP PKPbc 10 43 51.1 -0.1
comp=Z,0.6nm,0.4s,baz=18,slow=2.6
NOA NORSAR Array B 150.96 350 PKPbc PKPbc 10 43 50.3 -0.9
comp=Z,0.6nm,0.4s,baz=15,slow=4.1,SNR=5.9
HFS Hagfors 151.40 347 PKPbc PKPbc 10 43 51.8 -0.4
comp=Z,2.0nm,0.4s,baz=167,slow=2.6,SNR=14
AKASG Malin Array Be 152.74 319 PKPbc PKiKP 10 43 56.4 +0.7
comp=Z,0.5nm,0.5s,baz=65,slow=1.7,SNR=2.1
BRTR Keskin Array B 153.10 294 PKPbc PKPbc 10 43 55.3 -1.5
comp=Z,0.4nm,0.4s,baz=113,slow=3.7,SNR=2.2
TORD Torodi Ar. Bea 160.49 181 PKPab PKPab 10 44 41.1 +0.7
comp=Z,1.4nm,0.7s,baz=162,slow=2.2,SNR=9.1

KRSC 04 10:42:41.5±1.8**, 53°.77N**×**168°.53E, h21**km±10km**, Ml3.5,**

Komandorsky Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BKI Bering 2.07 315 *e*P Pb 10 43 17.0 -1.3
BKI *e*S Sb 10 43 43.7 +0.2
TUMD Tumrok D 4.95 290 *e*P Pn 10 43 57.7 +3.1
TUMD *e*S Sn 10 44 56.1 +5.0
TUMR Tumrok 5.11 291 *e*P Pn 10 44 01.4 +4.5
SMAR Somma 5.83 269 *e*P Pn 10 44 11.5 +4.8
KRX Arik 5.90 270 *e*P Pn 10 44 12.2 +4.5
KOK Koryaka 5.92 269 *e*P Pn 10 44 11.9 +4.0
MTVR Mutnovka 6.36 262 *e*P Pn 10 44 19.2 +5.2
GRL Gorelyy 6.41 263 *e*P Pn 10 44 19.1 +4.5
ASAK Asacha 6.55 262 *e*P Pn 10 44 22.2 +5.6
KDTR Khodutka, Kamc 6.64 257 *e*P Pn 10 44 23.0 +5.4
KDTR *e*S Sn 10 45 37.2 +4.6

IDC ***04*** *11:09:52.5±6.8, 12°.82N×92°.03E, h88km±61km, mb3.4/8, mbtmp3.7/9, ML3.8/1, MS3.2/1, Error ellipse: s-maj=44.5km s-min=15.9km az=50.0*
ISC 04 11:09:46.4±1.1**, 12°.6N**±0°.1×**91°.9E**±0°.1**, h35**km**, n16, σ1s.39**/11**, mb3.7**/8**, Andaman Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMAR Chiang Mai Arr 8.96 49 P Pn 11 11 55.3 +1.9
0.3nm,0.3s,baz=242,slow=15,SNR=1.7
CMAR S Sn 11 13 31.7 -1.4
1.1nm,0.5s,baz=29,slow=21,SNR=1.9
0.4nm,0.3s
H08S3 Diego Garcia H 27.85 225 T T 11 45 11.3
baz=44,slow=74
H08S2 Diego Garcia H 27.85 225 T T 11 45 16.4
baz=44,slow=74
H08S1 Diego Carcia H 27.87 225 T T 11 45 00.7
baz=44
MKAR Makanchi Array 35.00 349 P P 11 16 35.5 0.0
1.1nm,0.8s,baz=174,slow=9.4,SNR=5.0
1.1nm,0.8s
SONM Songino Array 37.15 16 P P 11 16 53.5 -0.4
0.6nm,0.6s,baz=194,slow=5.3,SNR=2.7
0.6nm,0.6s
GEYT Alibeck 39.21 316 P P 11 17 12.3 +1.0
1.3nm,0.5s,baz=102,slow=13,SNR=1.9
1.3nm,0.5s
KURBB Kurchatov Arra 39.42 347 P P 11 17 12.8 -0.1
0.8nm,0.9s,baz=164,slow=8.0,SNR=4.8
0.8nm,0.9s
ZALV Zalesovo Beam 41.60 354 P P 11 17 29.5 -1.3
0.5nm,0.5s,baz=193,slow=5.9,SNR=2.6
0.5nm,0.5s
WRA Warramunga Arr 52.88 127 P P 11 18 59.5 +0.4
0.4nm,0.6s,baz=300,slow=9.8,SNR=13
WRA PcP PcP 11 20 05.6 -2.5
0.2nm,0.7s,baz=298,slow=3.8,SNR=1.7
0.4nm,0.6s
ASAR Alice Springs 54.70 131 P P 11 19 13.4 +0.9
0.6nm,0.4s,baz=309,slow=6.8,SNR=21
0.6nm,0.4s
EIL Elat 55.19 297 LR LR 11 48 22.8
comp=Z,22nm,18.5s,baz=128,slow=42
BRTR Keskin Array B 57.67 309 P P 11 19 33.5 -0.2
0.6nm,0.7s,baz=90,slow=8.6,SNR=3.7
0.6nm,0.7s
H04N2 CROZET ISLANDS 68.71 209 T T 12 36 05.5
baz=43,slow=75,SNR=18
H04N1 CROZET ISLANDS 68.72 209 T T 12 36 06.1
baz=43,slow=75,SNR=16
H04N3 CROZET ISLANDS 68.72 209 T T 12 36 04.9
baz=43,slow=75,SNR=19

IDC ***04*** *11:33:04.9±5.2, 5°.35S×148°.06E, h98km±57km, mb3.4/5, mbtmp3.7/7, Error ellipse: s-maj=71.3km s-min=31.1km az=124.0*
ISC 04 11:33:05.4±1.4**, 5°.3S**±0°.1×**148°.0E**±0°.4**, h100**km**, n7, σ1s.09**/8**, mb3.5**/5**, New Britain region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 4.14 192 P Pn 11 34 07.2 +0.8
8.9nm,0.5s,baz=339,slow=4.9,SNR=2.0
PMG S Sn 11 34 53.4 -0.4
24nm,0.7s,baz=230,slow=1.2,SNR=3.8
WRA Warramunga Arr 19.70 221 P P 11 37 25.4 -1.6
1.2nm,0.6s,baz=42,slow=12,SNR=25
ASAR Alice Springs 22.74 215 P P 11 37 59.8 +0.4
0.5nm,0.6s,baz=51,slow=9.0,SNR=28
0.5nm,0.6s
MKAR Makanchi Array 77.63 320 P P 11 44 51.9 +1.0
0.5nm,0.8s,baz=103,slow=3.8,SNR=2.9
0.5nm,0.8s
ZALV Zalesovo Beam 78.99 327 P P 11 44 57.3 -0.9
0.8nm,0.7s,baz=96,slow=7.4,SNR=2.8
0.8nm,0.7s
ILAR Eielson Array 84.47 23 P P 11 45 26.1 -0.7
0.5nm,0.7s,baz=260,slow=5.2,SNR=8.3
0.5nm,0.7s
BVAR Borovoye Array 86.83 324 P P 11 45 38.7 0.0
0.3nm,0.4s,baz=96,slow=5.8,SNR=2.6
0.3nm,0.4s

JMA ***04*** *11:44:41.8±0.2, 24°.7N±0°.9×122°.3E±0°.3, h92km±1km, MV2.7/17, TAIWAN REGION*
TAP ***04*** *11:44:41.9, 24°.74N×122°.28E, h96km, ML3.8, C*
ISC 04 11:44:41.7±1.2**, 24°.67N**±0°.03×**122°.35E**±0°.02**, h93**km±5km**, n149, σ0s.95**/282**, 9C-1D, Taiwan region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
EOS2 EOS2 0.27 203 *i* P Pn 11 44 55.9 +0.7
baz=203
EOS2 *i* S Sn 11 45 06.8 +1.6
baz=203
EOS3 EOS3 0.38 184 *i* P Pn 11 44 56.7 +0.9
baz=191
EOS3 *i* S Sn 11 45 08.1 +1.8
baz=191
TWC Suao 0.46 263 *i* P Pn 11 44 56.2 -0.3
baz=250
TWC S Sn 11 45 06.6 -0.9
baz=250
TWB1 Santiao Chiao 0.47 316 *i* P Pn 11 44 56.5 -0.1
baz=312
TWB1 *i* S Sn 11 45 06.9 -0.8
baz=312
EOS4 EOS4 0.54 183 P Pn 11 44 57.1 +0.3
baz=184
EOS4 S Sn 11 45 08.8 +0.8
baz=184
ILA Ilan 0.56 280 *i* P Pn 11 44 57.5 +0.3
baz=272
ILA *i* S Sn 11 45 08.8 0.0
baz=272
EWUT Wuta 0.56 247 *i* P Pn 11 44 57.8 +0.5
baz=237
EWUT S Sn 11 45 09.1 +0.2
baz=237
TIPB Shuangxi 0.56 303⇑*i*P Pn 11 44 57.3 0.0
baz=299
TIPB *i* S Sn 11 45 08.2 -0.8
baz=299
NDS Dongshan 0.58 267 *i* P Pn 11 44 57.7 +0.3
baz=258
NDS S Sn 11 45 08.9 -0.2
baz=258
JYNG Yonagunijimaku 0.58 111 P Pn 11 44 57.6 +0.1
JYNG *e*S Sn 11 45 09.2 0.0
ENA Nanau 0.60 247 *i* P Pn 11 44 58.0 +0.4
baz=237
ENA *i* S Sn 11 45 09.9 +0.4
baz=237
SXI1 Grass Mountain 0.60 315 *i* P Pn 11 44 57.6 -0.2
baz=316
SXI1 S Sn 11 45 09.4 -0.3
baz=316
TWE Neicheng 0.62 275 *i* P Pn 11 44 58.0 +0.2
baz=274
TWE *i* S Sn 11 45 09.6 -0.2
baz=274
YOJ Yonaguni jima 0.64 109 P Pn 11 44 58.0 0.0
YOJ S Sn 11 45 09.9 -0.1
YOJ Yonaguni jima 0.64 109 P Pn 11 44 57.9 0.0
baz=119
YOJ S Sn 11 45 09.7 -0.4
baz=119
NWF Wu-fen Shan 0.65 308 *i* P Pn 11 44 58.1 0.0
baz=297
NWF *i* S Sn 11 45 10.0 -0.5
baz=297
WFSB Wu-fen Shan 0.65 308 *i* P Pn 11 44 58.2 +0.1
baz=297
WFSB *i* S Sn 11 45 10.1 -0.2
baz=297
FUSB Fushanzhiwuyua 0.70 278⇑*i*P Pn 11 44 58.6 +0.1
baz=277
FUSB S Sn 11 45 10.3 -0.9
baz=277
TNOU National Taiwa 0.71 313 *e*P Pn 11 44 58.6 0.0
baz=302
TNOU *e*S Sn 11 45 10.6 -0.7
baz=302
ENTT Nioudou 0.71 268⇓*i*P Pn 11 44 59.1 +0.5
baz=263
ENTT S Sn 11 45 11.3 0.0
baz=263
LATG Datong 0.76 260 *i* P Pn 11 44 59.6 +0.4
baz=247
LATG *e*S Sn 11 45 12.8 +0.4
baz=247
TWA Mucha 0.76 294 *i* P Pn 11 44 58.9 -0.2
baz=290
TWA S Sn 11 45 11.5 -0.7
baz=290
NDT Datong Townshi 0.76 265 *i* P Pn 11 44 59.8 +0.6
baz=260
NDT S Sn 11 45 12.8 +0.6
baz=260
NWLT Wulai 0.78 278 P Pn 11 44 59.2 -0.1
baz=278
NWLT *e*S Sn 11 45 11.7 -0.7
baz=278
NWRT Kuosheng 0.82 311 *e*P Pn 11 44 59.3 -0.4
baz=302
NWRT *e*S Sn 11 45 12.3 -0.9
baz=302
ETL Fush Village 0.83 233 *e*P Pn 11 44 59.6 -0.3
baz=219
ETL *e*S Sn 11 45 12.3 -1.2
baz=219
TATO Taipei 0.84 292 P Pn 11 44 59.6 -0.3
baz=288
TATO S Sn 11 45 12.1 -1.4
baz=288
NACB Ninganchiao 0.84 235 P Pn 11 44 59.7 -0.2
baz=221
NACB S Sn 11 45 13.2 -0.4
baz=221
YM01 YM01 0.85 304 *i* P Pn 11 44 60.0 -0.1
baz=295
YM01 S Sn 11 45 13.3 -0.5
baz=295
YM08 YM08 0.86 307 P Pn 11 44 59.8 -0.3
baz=298
YM08 S Sn 11 45 12.9 -1.1
baz=298
YHNB Yeheng 0.89 270⇑*i*P Pn 11 45 00.9 +0.5
baz=271
YHNB *i* S Sn 11 45 14.7 +0.2
baz=271
NSK Sanguang 0.90 271⇑*i*P Pn 11 45 01.0 +0.4
baz=272
NSK *i* S Sn 11 45 14.8 0.0
baz=272
TWD Chiawan 0.90 230 *e*P Pn 11 45 00.2 -0.3
baz=218
TWD *e*S Sn 11 45 14.1 -0.5
baz=218
NNSB Datong 0.91 255⇑*i*P Pn 11 45 01.2 +0.4
baz=243
NNSB S Sn 11 45 15.1 0.0
baz=243
TWY Chenhua 0.91 312 P Pn 11 45 00.7 +0.1
baz=304
TWY *e*S Sn 11 45 14.8 0.0
baz=304
ANP Anpu 0.91 305 P Pn 11 45 00.4 -0.4
baz=295
ANP *e*S Sn 11 45 13.7 -1.4
baz=295
ETLH Xiulin Townshi 0.91 240 P Pn 11 45 00.8 0.0
baz=233
ETLH *e*S Sn 11 45 14.7 -0.3
baz=233
NNS Nan Shan 0.92 256⇑*i*P Pn 11 45 01.2 +0.4
baz=243
NNS S Sn 11 45 14.7 -0.5
baz=243
NSM Shimen 0.93 312 P Pn 11 45 01.1 +0.3
baz=303
NSM *e*S Sn 11 45 15.8 +0.6
baz=303
TWS1 Kuangyinshan 0.95 297 *i* P Pn 11 45 01.0 0.0
baz=294
TWS1 *i* S Sn 11 45 15.3 -0.3
baz=294
NTST Danshui 0.95 301 *i* P Pn 11 45 01.2 +0.1
baz=299
NTST S Sn 11 45 15.4 -0.3
baz=299
HWA Hwalien 0.96 225 P Pn 11 45 01.5 +0.2
baz=218
HWA S Sn 11 45 17.0 +1.1
baz=218
PCYT Pengchaiyu 0.99 345 P Pn 11 45 00.9 -0.7
baz=341
PCYT *e*S Sn 11 45 15.9 -0.5
baz=341
NTY Taoyuan 1.01 289 *e*P Pn 11 45 01.8 +0.1
baz=287
NTY *e*S Sn 11 45 16.6 -0.2
baz=287
ETM Tongmen 1.05 228 *i* P Pn 11 45 02.1 -0.1
baz=231
ETM *i* S Sn 11 45 16.8 -0.8
baz=231
LXIB Xiulin Townshi 1.07 233⇑*i*P Pn 11 45 02.3 -0.3
baz=227
LXIB *e*S Sn 11 45 18.2 -0.1
baz=227
FUSS Fushou 1.09 248 P Pn 11 45 03.5 +0.6
baz=238
FUSS *e*S Sn 11 45 19.2 +0.3
baz=238
NCU National Centr 1.10 286 P Pn 11 45 03.2 +0.5
baz=290
NCU *e*S Sn 11 45 19.4 +0.8
baz=290
NCUH Zhongli 1.10 286 *e*P Pn 11 45 03.0 +0.3
baz=290
NCUH S Sn 11 45 18.8 +0.2
baz=290
WHF Hehuan Shan 1.12 242⇑*i*P Pn 11 45 03.8 +0.3
baz=231
WHF S Sn 11 45 19.4 -0.3
baz=231
NFF Wufeng Townshi 1.12 268 P Pn 11 45 03.5 +0.4
baz=273
NFF S Sn 11 45 19.5 +0.4
baz=273
TWT Tachien 1.15 249 *i* P Pn 11 45 04.4 +0.9
baz=238
TWT S Sn 11 45 20.4 +0.6
baz=238
TDCB Techi 1.16 249 P Pn 11 45 04.5 +0.9
baz=238
TDCB S Sn 11 45 20.1 0.0
baz=238
ESL Shilin 1.19 225 P Pn 11 45 03.4 -0.5
baz=227
ESL S Sn 11 45 19.4 -1.1
baz=227
LIOB Emei 1.21 269 P Pn 11 45 04.6 +0.5
baz=265
LIOB *e*S Sn 11 45 21.6 +0.6
baz=265
HSN1 Hsinchu 1.22 276 P Pn 11 45 04.8 +0.7
baz=272
HSN1 *e*S Sn 11 45 21.9 +0.8
baz=272
NSTT Nanjuang 1.23 269 P Pn 11 45 04.5 +0.3
baz=264
NSTT S Sn 11 45 21.5 +0.2
baz=264

CHGB	**Renai** baz=229	**1.23 241**	⇑*i*P	**Pn**	**11 45 05.2**	**+0.6**
CHGB			*i* S	**Sn**	**11 45 21.7**	**0.0**
NHW	**Xinwu Township** baz=288	**1.23 286**	P	**Pn**	**11 45 04.7**	**+0.4**
NHW			*e*S	**Sn**	**11 45 22.2**	**+0.8**
SBCB	**Hsinchu** baz=272	**1.25 276**	P	**Pn**	**11 45 05.0**	**+0.6**
SBCB			*e*S	**Sn**	**11 45 21.1**	**-0.6**
HSN	**Hsinchu** baz=274	**1.26 276**	*e*P	**Pn**	**11 45 04.8**	**+0.1**
HSN			*e*S	**Sn**	**11 45 22.0**	**0.0**
OWD	**Renai** baz=227	**1.28 237**	P	**Pn**	**11 45 05.5**	**+0.4**
OWD			S	**Sn**	**11 45 22.5**	**-0.2**
WARBT	**Fenglin Townsh** baz=224	**1.29 223**	*e*P	**Pn**	**11 45 04.3**	**-0.7**
WARBT			*e*S	**Sn**	**11 45 21.1**	**-1.6**
IRIF	**Iriomote-Funau**	**1.30 104**	P	**Pn**	**11 45 05.5**	**+0.3**
IRIF	baz=224		S	**Sn**	**11 45 22.8**	**-0.1**
EGFH	**Guangfu** baz=224	**1.30 220**	*e*P	**Pn**	**11 45 04.7**	**-0.5**
EGFH			*e*S	**Sn**	**11 45 21.9**	**-0.9**
WUSB	**Renai** baz=229	**1.31 239**	P	**Pn**	**11 45 06.0**	**+0.6**
WUSB			*e*S	**Sn**	**11 45 22.9**	**-0.4**
WHP	**Taichung City** baz=258	**1.34 253**	P	**Pn**	**11 45 06.8**	**+1.2**
WHP			S	**Sn**	**11 45 24.8**	**+1.0**
NMLH	**Miaoli** baz=261	**1.42 265**	P	**Pn**	**11 45 07.1**	**+0.5**
NMLH			*e*S	**Sn**	**11 45 26.0**	**+0.5**
WPL	**Puli Township** baz=235	**1.43 243**	P	**Pn**	**11 45 07.8**	**+1.1**
VWDT	**VWDT** baz=220	**1.43 231**	P	**Pn**	**11 45 07.2**	**+0.5**
VWDT			*e*S	**Sn**	**11 45 25.2**	**-0.4**
DPDB	**Guoxing** baz=235	**1.44 244**	P	**Pn**	**11 45 08.2**	**+1.3**
DPDB			*e*S	**Sn**	**11 45 27.6**	**+1.6**
HGSD	**Ruisui** baz=205	**1.44 216**	P	**Pn**	**11 45 06.8**	**-0.1**
HGSD			*e*S	**Sn**	**11 45 25.9**	**0.0**
WCS	**Beigang Elemen** baz=249	**1.44 245**	*e*P	**Pn**	**11 45 07.9**	**+1.0**
WCS			*e*S	**Sn**	**11 45 27.2**	**+1.2**
HATJ	**Hateruma jima**	**1.46 114**	P	**Pn**	**11 45 07.3**	**+0.2**
HATJ	baz=257		S	**Sn**	**11 45 26.9**	**+0.6**
NSY	**Sanyi** baz=254	**1.47 261**	*e*P	**Pn**	**11 45 08.0**	**+0.8**
TWQ1	**Liyutan** baz=254	**1.47 258**	P	**Pn**	**11 45 07.8**	**+0.5**
TWQ1			*e*S	**Sn**	**11 45 26.4**	**-0.2**
EHY	**Hungye** baz=221	**1.49 219**	*e*P	**Pn**	**11 45 06.8**	**-0.7**
SMLT	**Sun Moon Lake** baz=230	**1.54 240**	*e*P	**Pn**	**11 45 09.2**	**+1.1**
SMLT			*e*S	**Sn**	**11 45 29.9**	**+1.7**
SSLB	**Suanglung** baz=227	**1.54 236**	P	**Pn**	**11 45 08.6**	**+0.4**
SSLB			S	**Sn**	**11 45 29.5**	**+1.2**
TYC	**Yuchr** baz=234	**1.56 241**	*i* P	**Pn**	**11 45 09.4**	**+1.1**
TYC			S	**Sn**	**11 45 29.9**	**+1.3**
JKRS	**Kuro-shima**	**1.57 105**	P	**Pn**	**11 45 09.1**	**+0.6**
JKRS	baz=200		*e*S	**Sn**	**11 45 29.0**	**+0.2**
ECBN	**Changbin** baz=200	**1.57 212**	*e*P	**Pn**	**11 45 07.5**	**-1.1**
ECBN			*e*S	**Sn**	**11 45 28.5**	**-0.4**
WDJ	**Dajia District** baz=255	**1.59 259**	*e*P	**Pn**	**11 45 09.4**	**+0.7**
WDJ			*e*S	**Sn**	**11 45 29.8**	**+0.6**
YULB	**Yu-li** baz=220	**1.59 217**	P	**Pn**	**11 45 08.0**	**-0.8**
YULB			*e*S	**Sn**	**11 45 27.8**	**-1.5**
TCU	**Taichung** baz=256	**1.61 252**	P	**Pn**	**11 45 09.6**	**+0.6**
TCU			*e*S	**Sn**	**11 45 30.0**	**+0.3**
EYUL	**Yuli** baz=220	**1.62 216**	*e*P	**Pn**	**11 45 09.7**	**+0.6**
EYUL			*e*S	**Sn**	**11 45 29.2**	**-0.6**
TWF1	**Yuli** baz=220	**1.62 217**	*e*P	**Pn**	**11 45 08.5**	**-0.7**
TWF1			*e*S	**Sn**	**11 45 28.5**	**-1.6**
JIJ	**Ishigaki jima**	**1.66 100**	P	**Pn**	**11 45 09.8**	**+0.1**
JIJ	baz=240		*e*S	**Sn**	**11 45 30.7**	**-0.2**
WHYT	**Xinyi Township** baz=240	**1.67 235**	*e*P	**Pn**	**11 45 11.3**	**+1.4**
WHYT			*e*S	**Sn**	**11 45 33.3**	**+2.1**
WNT1	**Nantou City** baz=250	**1.70 244**	*e*P	**Pn**	**11 45 10.7**	**+0.6**
WNT1			*e*S	**Sn**	**11 45 32.7**	**+0.9**
WJS	**Zhushan** baz=246	**1.70 241**	*e*P	**Pn**	**11 45 11.5**	**+1.4**
WJS			*e*S	**Sn**	**11 45 33.4**	**+1.6**
WNT	**Mingjian** baz=239	**1.71 243**	*e*P	**Pn**	**11 45 11.3**	**+1.0**
WNT			*e*S	**Sn**	**11 45 33.2**	**+1.2**
WCHH	**Zhanghua** baz=247	**1.73 251**	P	**Pn**	**11 45 11.1**	**+0.5**
FULB	**Fuli** baz=219	**1.75 214**	*e*P	**Pn**	**11 45 10.8**	**0.0**
FULB			*e*S	**Sn**	**11 45 32.8**	**-0.2**
JISG	**Ishigakijimahi**	**1.79 92**	P	**Pn**	**11 45 11.4**	**+0.1**
JISG	baz=242		*e*S	**Sn**	**11 45 33.5**	**-0.3**
CHKT	**Chengkung** baz=200	**1.80 210**	*e*P	**Pn**	**11 45 10.9**	**-0.6**
CHKT			*e*S	**Sn**	**11 45 31.6**	**-2.5**
ALS	**Alishan** baz=220	**1.82 231**	*e*P	**Pn**	**11 45 13.5**	**+1.5**
ALS			*e*S	**Sn**	**11 45 36.9**	**+1.9**
EHD	**Haiduan** baz=219	**1.84 215**	*e*P	**Pn**	**11 45 12.3**	**+0.3**
EHD			*e*S	**Sn**	**11 45 33.4**	**-1.6**
CHN5	**Tsauling** baz=242	**1.86 235**	*e*P	**Pn**	**11 45 13.4**	**+1.1**
CHN5			*e*S	**Sn**	**11 45 37.5**	**+1.9**
ECS	**Chishang** baz=210	**1.88 214**	*e*P	**Pn**	**11 45 12.6**	**+0.1**
ECS			*e*S	**Sn**	**11 45 35.3**	**-0.6**
WGK	**Gukeng** baz=236	**1.90 239**	*e*P	**Pn**	**11 45 13.7**	**+1.0**
WGK			*e*S	**Sn**	**11 45 38.5**	**+2.1**
ELDTW	**Lidau** baz=216	**1.91 220**	*e*P	**Pn**	**11 45 12.7**	**-0.3**
ELDTW			*e*S	**Sn**	**11 45 35.6**	**-1.2**
WDLH	**Douliu** baz=236	**1.92 240**	*e*P	**Pn**	**11 45 14.0**	**+1.1**
WDLH			*e*S	**Sn**	**11 45 38.7**	**+1.9**
EDH	**Donghe** baz=215	**1.94 210**	*e*P	**Pn**	**11 45 11.8**	**-1.5**
EDH			*e*S	**Sn**	**11 45 34.7**	**-2.5**
WRL	**Guolierlin Hig** baz=251	**1.95 247**	P	**Pn**	**11 45 13.6**	**+0.1**
WRL			S	**Sn**	**11 45 37.1**	**-0.5**
WCKO	**Fanlu** baz=229	**2.01 233**	*e*P	**Pn**	**11 45 15.7**	**+1.5**
WCKO			*e*S	**Sn**	**11 45 41.0**	**+2.0**
WTK	**Tuku** baz=239	**2.04 242**	*e*P	**Pn**	**11 45 15.2**	**+0.7**
WTK			*e*S	**Sn**	**11 45 40.9**	**+1.3**
STYH	**Taoyuan** baz=221	**2.07 224**	*e*P	**Pn**	**11 45 16.1**	**+1.2**
STYH			*e*S	**Sn**	**11 45 41.5**	**+1.2**
CHN4	**Tsaushan** baz=228	**2.07 231**	*e*P	**Pn**	**11 45 16.5**	**+1.5**
CHN4			*e*S	**Sn**	**11 45 42.1**	**+1.7**
LONT	**Longtian** baz=209	**2.08 213**	*e*P	**Pn**	**11 45 14.8**	**-0.2**
LONT			S	**Sn**	**11 45 40.0**	**-0.5**
TPUB	**Ta-pu** baz=226	**2.08 229**	*e*P	**Pn**	**11 45 16.5**	**+1.4**
TPUB			*e*S	**Sn**	**11 45 41.8**	**+1.2**
STYT	**Tauyuan** baz=221	**2.09 225**	*e*P	**Pn**	**11 45 16.5**	**+1.2**
STYT			*e*S	**Sn**	**11 45 42.3**	**+1.4**
CHY	**Chiayi** baz=243	**2.11 237**	P	**Pn**	**11 45 16.4**	**+1.0**
CHY			*e*S	**Sn**	**11 45 41.9**	**+0.6**
WTP	**Ta-pu** baz=225	**2.13 229**	P	**Pn**	**11 45 17.2**	**+1.4**
WTP			*e*S	**Sn**	**11 45 42.9**	**+1.1**
JTJ	**Tarama**	**2.14 90**	P	**Pn**	**11 45 16.7**	**+0.8**
JTJ	baz=199		S	**Sn**	**11 45 42.5**	**+0.6**
LDUT	**Ludao** baz=199	**2.14 202**	*e*P	**Pn**	**11 45 15.3**	**-0.6**
LDUT			*e*S	**Sn**	**11 45 40.2**	**-1.8**
TWGBT	**Beinan** baz=209	**2.18 213**	*e*P	**Pn**	**11 45 15.7**	**-0.6**
TWGBT			*e*S	**Sn**	**11 45 40.9**	**-2.0**
TWG	**Pinlang** baz=209	**2.18 213**	*e*P	**Pn**	**11 45 16.2**	**-0.2**
TWG			*e*S	**Sn**	**11 45 40.8**	**-2.1**
WSF	**Szhu** baz=239	**2.20 243**	*e*P	**Pn**	**11 45 17.1**	**+0.5**
WSF			*e*S	**Sn**	**11 45 44.0**	**+0.7**
TWK	**Hsinying** baz=227	**2.20 231**	P	**Pn**	**11 45 17.7**	**+1.0**
TWK			*e*S	**Sn**	**11 45 44.7**	**+1.2**
SNST	**Tainan City** baz=227	**2.22 230**	*e*P	**Pn**	**11 45 18.2**	**+1.2**
SNST			*e*S	**Sn**	**11 45 45.1**	**+1.1**
CHN1	**Nanshi** baz=225	**2.23 229**	*e*P	**Pn**	**11 45 18.1**	**+1.1**
CHN1			*e*S	**Sn**	**11 45 44.8**	**+0.8**
WSL	**Shuilin Townsh** baz=245	**2.25 240**	*e*P	**Pn**	**11 45 19.4**	**+2.1**
WSL			*e*S	**Sn**	**11 45 46.1**	**+1.6**
SGST	**Jiashian** baz=222	**2.26 226**	*e*P	**Pn**	**11 45 18.2**	**+0.7**
SGST			*e*S	**Sn**	**11 45 46.0**	**+1.2**
SLGT	**Liugui** baz=228	**2.28 223**	*e*P	**Pn**	**11 45 19.6**	**+1.9**
SLGT			*e*S	**Sn**	**11 45 47.3**	**+2.0**
ICHU	**Yijhu** baz=233	**2.30 236**	*e*P	**Pn**	**11 45 18.6**	**+0.7**
ICHU			*e*S	**Sn**	**11 45 45.9**	**+0.3**
CHN8	**Yiju** baz=233	**2.36 237**	*e*P	**Pn**	**11 45 19.3**	**+0.6**
CHN8			*e*S	**Sn**	**11 45 48.2**	**+1.1**
ECL	**Taimali** baz=204	**2.42 212**	*e*P	**Pn**	**11 45 18.2**	**-1.4**
ECL			*e*S	**Sn**	**11 45 46.4**	**-2.3**
SCST	**Cishan** baz=221	**2.46 224**	*e*P	**Pn**	**11 45 21.7**	**+1.7**
SCLT	**Jiali** baz=230	**2.47 233**	*e*P	**Pn**	**11 45 20.1**	**0.0**
SCLT			*e*S	**Sn**	**11 45 51.3**	**+1.6**
TSMG	**Majia** baz=216	**2.50 219**	*e*P	**Pn**	**11 45 22.1**	**+1.5**
TSCK	**Chigu Township** baz=232	**2.56 234**	*e*P	**Pn**	**11 45 21.9**	**+0.4**
TSCK			*e*S	**Sn**	**11 45 52.5**	**+0.5**
JIRB	**Irabujima**	**2.57 86**	*e*P	**Pn**	**11 45 22.2**	**+0.7**
JIRB			S	**Sn**	**11 45 52.7**	**+0.5**
MASBT	**Mashibuluo** baz=227	**2.58 218**	*e*P	**Pn**	**11 45 23.2**	**+1.5**
MASBT			*e*S	**Sn**	**11 45 53.6**	**+1.2**
VWUC	**VWUC** baz=275	**2.65 278**	*e*P	**Pn**	**11 45 22.0**	**-0.7**
EAST	**Anshuo** baz=203	**2.66 212**	*e*P	**Pn**	**11 45 24.2**	**+1.5**
TAWH	**Dawu Township** baz=203	**2.68 210**	*e*P	**Pn**	**11 45 22.4**	**-0.6**
TAWH			*e*S	**Sn**	**11 45 53.0**	**-1.7**
JMJ2	**Miyako jima3**	**2.71 88**	P	**Pn**	**11 45 24.2**	**+0.8**
JMJ2			*e*S	**Sn**	**11 45 56.8**	**+1.3**
LYUB	**Lan-yu** baz=192	**2.74 195**	*e*P	**Pn**	**11 45 22.5**	**-1.4**
LYUB			*e*S	**Sn**	**11 45 53.2**	**-3.1**
PNG	**Penghu** baz=244	**2.78 247**	*e*P	**Pn**	**11 45 23.2**	**-1.1**
PNG			*e*S	**Sn**	**11 45 55.4**	**-1.6**
SCZT	**Fangliau** baz=211	**2.78 215**	*e*P	**Pn**	**11 45 24.8**	**+0.4**
PHUB	**P'eng-hu** baz=243	**2.79 246**	*e*P	**Pn**	**11 45 23.7**	**-0.7**
PHUB			S	**Sn**	**11 45 55.3**	**-2.0**
LYJJ	**Jianjiangzhen** baz=308	**3.00 309**	*e*P	**Pn**	**11 45 26.1**	**-1.1**
VCHM	**Qimei** baz=240	**3.04 242**	*e*P	**Pn**	**11 45 27.3**	**-0.5**
KNM	**Kinmen** baz=264	**3.57 267**	*e*P	**Pn**	**11 45 36.0**	**+1.0**
KNMB	**Chin-men Tao** baz=265	**3.61 268**	*e*P	**Pn**	**11 45 34.6**	**-0.9**
AXDP	**Jialang** baz=272	**3.99 274**	*i* P	**Pn**	**11 45 40.4**	**-0.2**
SXFK	**Yanhouchang** baz=292	**4.59 293**	*e*P	**Pn**	**11 45 48.5**	**-0.3**
DSXP	**Dongshan** baz=257	**4.59 259**	*e*P	**Pn**	**11 45 48.5**	**-0.4**

*IDC **04** 11:47:55.4±0.9,20.˚82S×172.˚62E,h0^{km},mb3.9/10, mbtmp3.9/11,ML3.2/1,MS3.9/29,Error ellipse: s-maj=41.9km s-min=19.6km az=155.0*
*NEIC **04** 11:47:59.6±2.7,20.˚7S±0.˚1×172.˚4E±0.˚1,h10^{km}±2^{km}, mb4.5/10,Error ellipse: s-maj=20.3km s-min=15.4km az=35.0*
*GCMT **04** 11:48:00.0±0.3,20˚.43S±0.˚01×172˚.62E±0.˚01,h14^{km}±1^{km}, MW4.9/100,Moment Tensor Solution. s29,c34; s100,c141; Duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-0.81±.12; M$_{\theta\theta}$-0.03±.12; M$_{\phi\phi}$0.83±.10; M$_{r\theta}$0.47±.23; M$_{\theta\phi}$3.09±.10; M$_{r\phi}$0.05±.18; Best double couple: M$_o$3.16100×10^{16} NP1:ϕ_s266.00000°,δ87.00000°, λ-10.00000°. NP2:ϕ_s356.00000°,δ80.00000°, λ-176.00000°. Principal axes: T 3.5500, Plg5.0000°, Azm311.0000°; N -0.7780, Plg79.0000°, Azm67.0000°; P -2.7720, Plg10.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 11:48:01.4±0.6,20.7S±0.˚1×172.40E±0.˚07,h35^{km},n62, σ1^{s}55/39,mb3.9/14,MS4.0/30,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**4.16**	**258**	Pn	**Pn**	**Pn**	**11 49 02.5**	**0.0**
LIFNC	**LIFOU**	**4.83**	**268**	Pn	**Pn**	**Pn**	**11 49 11.0**	**-0.7**
PINNC	**Pines Island,**	**5.00**	**246**		**Pn**	**Pn**	**11 49 13.5**	**-0.5**
OUENC	**Ouen Island, N**	**5.46**	**250**		**Pn**	**Pn**	**11 49 19.6**	**-0.7**
DZM	**Mont Dzumac** 88nm,1.5s	**5.73**	**255**	*e*Pn	**Pn**	**Pn**	**11 49 25.7**	**+1.6**
DZM	comp=Z,1μm,25.4s			*e*LR	LR	LR	11 50 51.5	
DZM	**Mont Dzumac**	**5.73**	**255**		**Pn**	**Pn**	**11 49 23.7**	**-0.4**
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=99,slow=19,SNR=4.7	**5.73**	**255**	Pn	**Pn**	**Pn**	**11 49 25.6**	**+1.5**
DZM	baz=107,slow=22			Sn	**Sn**	**Sn**	**11 50 23.9**	**-4.7**
DZM	comp=Z,630nm,19.9s,baz=38,slow=36 12nm,0.7s			LR	LR	LR	11 51 25.2	
ONTNC	**Ouen Toro**	**5.77**	**253**	Pn	**Pn**	**Pn**	**11 49 23.9**	**-0.7**
KOUNC	**Koumac, New Ca**	**7.60**	**269**	Pn	**Pn**	**Pn**	**11 49 49.5**	**-0.3**
RAO	**Raoul Island** comp=Z,2μm,20.3s,baz=140,slow=33	**12.24**	**136**	LR	LR	LR	11 54 34.6	
URZ	**Urewera** 11nm,1.0s,baz=301,slow=18,SNR=3.3	**18.00**	**168**	P	**Pn**	**Pn**	**11 52 07.8**	**-0.9**
URZ	comp=Z,480nm,19.6s,baz=66,slow=32			LR	LR	LR	11 57 26.8	
MRZ	**Mangatainoka R**	**20.11**	**173**	P	**P**	**P**	**11 52 33.3**	**+1.1**
MRZ	comp=Z,27nm,1.2s			IAmb	IAmb	IAmb	11 52 47.5	
ARMA	**Armidale**	**21.08**	**238**	P	**P**	**P**	**11 52 45.1**	**+2.2**
ARMA	comp=Z,34nm,1.2s			IAmb	IAmb	IAmb	11 53 03.3	
RPZ	**Rata Peaks** comp=Z,209nm,20.6s,baz=17,slow=34	**23.00**	**183**	LR	LR	LR	12 00 58.7	
CTA	**Charters Tower** comp=Z,2.6nm,1.0s,baz=86,slow=12,SNR=3.8	**24.51**	**267**	P	**P**	**P**	**11 53 19.7**	**+1.9**
CTAO	**Charters Tower** comp=Z,2.6nm,1.0s	**24.51**	**267**	P	**P**	**P**	**11 53 19.4**	**+1.7**
RAR	**Rarotonga** comp=Z,169nm,21.0s,baz=287,slow=31	**25.98**	**96**	LR	LR	LR	12 01 20.7	
STKA	**Stephens Creek**	**29.70**	**242**	P	**P**	**P**	**11 54 05.4**	**+1.2**
STKA	comp=Z,2.2nm,1.1s			IAmb	IAmb	IAmb	11 54 06.7	
STKA	**Stephens Creek** comp=Z,3.3nm,0.8s,baz=75,slow=13,SNR=6.5	**29.70**	**242**	P	**P**	**P**	**11 54 04.6**	**+0.4**
BBOO	**Buckleboo**	**34.47**	**242**	P	**P**	**P**	**11 54 47.8**	**+1.7**
BBOO	comp=Z,3.3nm,0.8s comp=Z,14nm,1.1s			IAmb	IAmb	IAmb	11 54 47.8	
TBI	**Tubuai** comp=Z,120nm,23.8s	**35.39**	**101**	*e*S	**S**	**S**	**12 00 27.6**	**+1.0**
TBI	comp=Z,3μm,31.2s			*e*LR	LR	LR	12 03 57.8	
WRAB	**Tennant Creek**	**35.64**	**264**	P	**P**	**P**	**11 54 58.3**	**+1.9**
WRAB	comp=Z,7.9nm,1.2s			IAmb	IAmb	IAmb	11 55 08.3	
WRA	**Warramunga Arr**	**35.65**	**264**	P	**P**	**P**	**11 54 57.3**	**+0.9**
WRA	**Warramunga Arr** comp=Z,1.7nm,1.1s,baz=100,slow=8.5,SNR=5.5	**35.65**	**264**	P	**P**	**P**	**11 54 55.6**	**-0.8**
	comp=Z,1.7nm,1.1s							
AS31	**Alice Springs**	**35.71**	**258**	P	**P**	**P**	**11 54 57.6**	**+0.7**
ASAR	**Alice Springs**	**35.71**	**258**	P	**P**	**P**	**11 54 58.4**	**+1.5**
ASAR	**Alice Springs** comp=Z,2.6nm,1.0s,baz=83,slow=8.9,SNR=15	**35.71**	**258**	P	**P**	**P**	**11 54 57.0**	**+0.1**
	comp=Z,2.6nm,1.0s							
PPT2	**Papeete2** comp=Z,34nm,24.0s	**36.00**	**92**	*e*S	**S**	**S**	**12 00 34.3**	**-1.9**
PPT2	comp=Z,722nm,36.8s			*e*LQ	LQ	LQ	12 03 02.1	
PPT2	comp=Z,458nm,26.0s			*e*LR	LR	LR	12 04 10.0	
PPT2	comp=Z,382nm,29.0s			*e*LR	LR	LR	12 04 16.7	
PPTF	**Pamatai, Papee**	**36.01**	**92**	P	**P**	**P**	**11 55 00.6**	**+1.1**
TAOE	**Nuku Hiva Isla** comp=Z,189nm,28.3s	**47.20**	**83**	*e*LR	LR	LR	12 09 33.2	
BATI	**Baumata** comp=Z,322nm,20.1s,baz=142,slow=35	**47.96**	**275**	LR	LR	LR	12 16 20.6	
NWAO	**Narrogin (SRO)** comp=Z,284nm,18.5s,baz=36,slow=36	**50.23**	**244**	LR	LR	LR	12 18 27.4	
KAPI	**Kappang** comp=Z,88nm,21.6s,baz=108,slow=36	**53.39**	**279**	LR	LR	LR	12 19 37.5	
DAV	**Davao City (W)** comp=Z,77nm,21.4s,baz=117,slow=34	**53.63**	**296**	LR	LR	LR	12 18 43.1	
JHJ	**Hachijo jima 2** comp=Z,30nm,18.5s,baz=105,slow=36	**61.90**	**329**	LR	LR	LR	12 24 45.7	
LEM	**Lembang** comp=Z,98nm,18.9s,baz=92,slow=36	**64.05**	**272**	LR	LR	LR	12 26 59.6	
JNU	**Nakatsue** comp=Z,29nm,18.9s,baz=128,slow=34	**66.58**	**323**	LR	LR	LR	12 26 15.7	
QSPA	**South Pole Qui**	**69.39**	**180**	P	**P**	**P**	**11 59 04.7**	**-1.0**
QSPA	comp=Z,6.6nm,1.4s			IAmb	IAmb	IAmb	11 59 20.9	
QSPA	**South Pole Qui** comp=Z,0.6nm,0.2s,baz=17,slow=1.3,SNR=3.1	**69.39**	**180**	P	**P**	**P**	**11 59 03.7**	**-1.9**
	comp=Z,0.6nm,0.2s							
KSRS	**Korea Array** comp=Z,40nm,19.1s,baz=160,slow=35	**71.39**	**324**	LR	LR	LR	12 29 14.4	
PETK	**Petropavlovsk-** comp=Z,81nm,20.5s,baz=149,slow=30	**74.57**	**351**	LR	LR	LR	12 25 22.1	
MA2	**Magadan** comp=Z,117nm,21.9s,baz=124,slow=31	**81.90**	**349**	LR	LR	LR	12 30 45.0	
HHC	**Hu-ho-hao-te**	**83.25**	**318**	*e*P	**P**	**P**	**12 00 28.0**	**+3.5**
HHC	comp=Z,19nm,0.7s			pmax	pmax			
HHC	comp=Z,140nm,4.5s			pmax	pmax			
SEY	**Seymchan** comp=Z,94nm,21.7s,baz=198,slow=31	**84.81**	**351**	LR	LR	LR	12 31 45.6	
YBH	**Yreka Blue Hor** comp=Z,20nm,18.8s,baz=220,slow=34	**85.29**	**43**	LR	LR	LR	12 36 51.6	
PFO	**Pinyon Flats O** comp=Z,57nm,21.4s,baz=242,slow=29	**86.60**	**52**	LR	LR	LR	12 30 15.0	
LPIG	**La Paz** comp=Z,64nm,18.4s,baz=239,slow=31	**87.38**	**63**	LR	LR	LR	12 33 03.3	
NVAR	**Mina Array Bea** comp=Z,0.5nm,0.8s,baz=242,slow=8.8,SNR=4.3	**87.55**	**47**	P	**P**	**P**	**12 00 45.8**	**-0.4**
NVAR	comp=Z,83nm,20.2s,baz=257,slow=30 comp=Z,0.5nm,0.8s			LR	LR	LR	12 32 07.7	
BBB	**Bella Bella** comp=Z,55nm,18.2s,baz=230,slow=33	**89.07**	**32**	LR	LR	LR	12 36 50.6	
SONM	**Songino Array** comp=Z,0.4nm,0.6s,baz=134,slow=4.2,SNR=3.1	**90.16**	**322**	P	**P**	**P**	**12 00 56.9**	**-1.2**
	comp=Z,0.4nm,0.6s							
ELK	**Elko** comp=Z,44nm,18.6s,baz=260,slow=32	**90.72**	**46**	LR	LR	LR	12 36 27.7	
ILAR	**Eielson Array** comp=Z,0.4nm,0.7s,baz=225,slow=5.0,SNR=2.2	**90.74**	**16**	P	**P**	**P**	**12 00 58.9**	**-1.3**
ILAR	comp=Z,89nm,19.5s,baz=216,slow=32 comp=Z,0.4nm,0.7s			LR	LR	LR	12 36 25.2	
DLBC	**Dease Lake** comp=Z,77nm,20.0s,baz=283,slow=30	**91.97**	**26**	LR	LR	LR	12 34 40.4	
NEW	**Newport** comp=Z,51nm,19.3s,baz=264,slow=31	**92.98**	**39**	LR	LR	LR	12 36 02.6	
PALK	**Pallekele** comp=Z,92nm,18.0s,baz=222,slow=38	**94.11**	**276**	LR	LR	LR	12 46 57.2	
ANMO	**Albuquerque** comp=Z,60nm,20.4s,baz=345,slow=30	**94.68**	**55**	LR	LR	LR	12 35 53.7	
TXAR	**Lajitas Array** comp=Z,0.2nm,0.7s,baz=218,slow=5.7,SNR=3.7	**94.85**	**61**	P	**P**	**P**	**12 01 19.4**	**-0.8**
TXAR	comp=Z,102nm,21.2s,baz=244,slow=30 comp=Z,0.2nm,0.7s			LR	LR	LR	12 34 58.3	
PDAR	**Pinedale Array** comp=Z,0.1nm,0.5s,baz=258,slow=3.6,SNR=2.0	**95.42**	**46**	P	**P**	**P**	**12 01 21.5**	**-1.2**
PDAR	comp=Z,38nm,20.9s,baz=268,slow=30 comp=Z,0.1nm,0.5s			LR	LR	LR	12 36 07.4	
EKA	**Eskdalemuir Ar**	**145.23**	**356**	PKPbc	**PKPdf**		**12 07 36.3**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=343,slow=2.2,SNR=2.7							
BRG	**Berggiesshubel**	**145.42**	**336**	*e*PKP	**PKPdf**		**12 07 35.5**	**-0.1**
BRG	comp=Z,2.6nm,0.7s			Amp			12 07 36.5	
CLL	**Collm**	**145.43**	**337**	*e*PKPbc	**PKiKP**		**12 07 38.0**	**-1.5**
CLL	comp=Z,100nm,20.2s			AMS	AMS		22 23 00.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GERES	GERESS Array B	147.12	334	PKPbc	PKPab	12 07 41.9	-0.5
	comp=Z,1.0nm,0.6s,baz=357,slow=5.9,SNR=2.2						

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*NNC **04** 11:48:45.6±6.8, 45.21N×80.22E, h0^{km}, mb3.1, mpv3.0, Error ellipse: s-maj=54.2km s-min=42.3km az=60.0*

SOME 04 11:48:43.0, 41.50N×79.53E, h10^{km}, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PDGK	Podgornoye	1.83	359	Pg	Pg	11 49 19.7	+1.7
	1.5nm,0.2s						
PDGK				Lg	Lg	11 49 46.4	
	2.7nm,0.5s						
PDGK	Podgornoye	1.83	359	Pn	Pg	11 49 20.8	+2.7
PDGK				Sn	Sg	11 49 47.3	+5.5
KPKS	Kokpek	2.06	343	ePg	Pb	11 49 21.3	+0.7
	4.4nm,0.1s						
KPKS				eLg	Lg	11 49 48.8	
	8.7nm,0.4s						
KPKS	Kokpek	2.06	343	Pg	Pb	11 49 21.4	+0.8
	4.4nm,0.1s						
KPKS				Lg	Lg	11 49 49.4	
	8.7nm,0.4s						
DJR	Jarkent	2.84	4	ePg	Pb	11 49 34.6	+0.9
	0.9nm,0.2s						
DJR				eLg	Lg	11 50 11.7	
	2.9nm,0.1s						
KTBS	Karatobe	3.05	317	ePg	Pb	11 49 39.0	+1.5
	1.0nm,0.2s						
KTBS				eLg	Lg	11 50 19.4	
	6.1nm,0.2s						
KTBS	Karatobe	3.05	317	Pg	Pb	11 49 39.0	+1.5
	1.0nm,0.2s						
KTBS				Lg	Lg	11 50 19.4	
	3.9nm,0.3s						

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*BJI **04** 11:52:20.0, 9.60S×123.00E, h35^{km}, mb5.3/68, mB5.1/38, Ms4.7/7, Ms7 4.3/8*
*MOS **04** 11:52:22.2±1.0, 9.47S×122.99E, h52^{km}, mb5.4/46, Error ellipse: s-maj=10.9km s-min=5.2km az=116.7*
*IDC **04** 11:52:25.9±0.8, 9.45S×123.01E, h65^{km}±6^{km}, mb4.6/28, mbtmp4.9/29, MS3.7/20, Error ellipse: s-maj=13.9km s-min=7.7km az=65.0*
*NEIC **04** 11:52:25.3±2.5, 9.69S±0.08×123.10E±0.08, h61^{km}±5^{km}, mb5.3/87, Mww5.0/9, Error ellipse: s-maj=13.5km s-min=9.2km az=51.0*
*NEIC **04** 11:52:25.6, 9.74S×123.20E, h70^{km}*
*NEIC **04** 11:52:25.6, 10.24S×123.09E, h70^{km}, Moment Tensor Solution. Duration: 1.4 Moment tensor: Scale 10^{16}Nm; M_{rr}2.11; $M_{\theta\theta}$-3.00; $M_{\phi\phi}$0.89; $M_{r\theta}$0.31; $M_{\theta\phi}$1.67; $M_{\phi r}$1.87; Fault plane solution: $M_0$3.68000×10^{16} NP1: ϕ_s323.34000°, δ60.68000°, λ137.57000°. NP2: ϕ_s77.45000°, δ53.97000°, λ37.26000°. Principal axes: T 3.7038, Plg50.0000°, Azm287.0000°; N -0.0551, Plg40.0000°, Azm115.0000°; P -3.6487, Plg4.0000°, Azm22.0000°;*
*DJA **04** 11:52:26.9±0.2, 10°S±2°×12°3E±°, h70^{km}±2^{km}, M5.1/68, mb5.3/68, mB5.5/42, MLv5.3/14, Mw5.0/8, Mw(mB)5.0/42, MwMwp4.7/3, Mwp5.0/3*
*KLM **04** 11:52:26, 9.74S×123.41E, h77^{km}, mb5.7*
*GCMT **04** 11:52:30.3±0.2, 9.66S±0.02×123.22E±0.02, h71^{km}±4^{km}, MW5.0/89, Moment Tensor Solution. s26,c32; s89,c123; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.88±.18; $M_{\theta\theta}$1.42±.19; $M_{\phi\phi}$-2.30±.21; $M_{r\theta}$1.96±.07; $M_{\theta\phi}$-0.24±.11; $M_{\phi r}$1.85±.10; Best double couple: $M_0$3.37000×10^{16} NP1: ϕ_s41.00000°, δ81.00000°, λ123.00000°. NP2: ϕ_s145.00000°, δ34.00000°, λ16.00000°. Principal axes: T 3.3400, Plg44.0000°, Azm344.0000°; N 0.0610, Plg32.0000°, Azm216.0000°; P -3.4010, Plg28.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 11:52:25.2±0.3**, 9.61S**±0.03×**123.05E**±0.04**, h61^{km}**±3^{km}**, h61^{km}:pP-P, n458,** σ1.90/462**, mb5.2**/112**, 23C-9D, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	0.84	134	P	Pn	11 52 44.3	+3.0
BATI	Baumata	0.84	134	P	Pn	11 52 44.3	+3.0
	15µm,0.4s,baz=9.0,slow=3.9,SNR=2370						
BATI				S	Sn	11 52 57.9	+4.7
	21µm,0.4s,baz=143,slow=19,SNR=9.1						
BATI				LR	LR	11 53 15.1	
	comp=Z,5µm,20.6s,baz=352,slow=50						
MMRI	Maumere	1.26	320	P	Pn	11 52 49.6	+2.9
EDFI	Ende, Flores	1.59	303	P	Pn	11 52 53.5	+2.3
BASI	Baing, Sumba	2.51	256	P	Pn	11 53 06.1	+2.6
BBSI	Bau Bau	4.13	353	P	Pn	11 53 30.0	+4.2
BKSI	Bulukumba	5.16	326	P	Pn	11 53 43.1	+3.3
	856nm,0.9s,8µm1µm2.4nm						
PLAI	Plampang	5.26	278	P	Pn	11 53 43.5	+2.2
	1µm,0.6s,17µm5.1nm						
KAPI	Kappang	5.62	324	Pn	Pn	11 53 50.6	+4.4
KAPI	Kappang	5.62	324	P	Pn	11 53 50.9	+4.7
KAPI	Kappang	5.62	324	P	Pn	11 53 50.6	+4.4
KAPI	Kappang	5.62	324	P	Pn	11 53 50.2	+4.0
	494nm,0.8s,baz=134,slow=7.4,SNR=72						
KAPI				LR	LR	11 56 14.1	
	comp=Z,2µm,19.7s,baz=150,slow=42						
TWSI	Taliwang, Sumb	6.15	278	P	Pn	11 53 55.5	+2.1
	942nm,1.0s,19µm4.3nm						
SPSI	Sidrap Palu	6.49	330	P	Pn	11 54 01.5	+3.4
	195nm,0.8s,2µm						
TTSI	Tana Toraja	7.27	334	P	Pn	11 54 13.6	+4.8
	218nm,1.1s,3µm0.7nm						
IGBI	Denpasar	7.84	275	P	Pn	11 54 16.3	-0.3
	298nm,0.4s,7µm1.9nm						
SRBI	Singaraja	7.89	280	P	Pn	11 54 17.3	0.0
	140nm,0.9s,2µm0.6nm						
SANI	Sanana	8.06	21	P	Pn	11 54 23.9	+4.2
	77nm,0.6s,1µm						
KNRA	Kununurra	8.21	138	P	Pn	11 54 19.5	-2.1
	baz=8.2,SNR=384						
KNRA				S	Sn	11 55 44.8	-8.2
	baz=8.2						
KNRA	Kununurra	8.21	138	Pn	Pn	11 54 19.7	-2.0
KNRA				Sn	Sn	11 55 46.5	-6.5
KNRA	Kununurra	8.21	138	P	Pn	11 54 20.3	-1.4
SAUI	Saumlaki	8.31	79	P	Pn	11 54 24.6	+1.5
	266nm,0.9s,9µm						
LUWI	Luwuk	8.52	358	P	Pn	11 54 29.3	+3.4
	184nm,0.9s,6µm						
MTN	Manton Dam	8.56	113	P	Pn	11 54 25.3	-1.1
	baz=8.6,SNR=269						
MTN				S	Sn	11 55 55.6	-5.9
	baz=8.6						
MTN	Manton Dam	8.56	113	Pn	Pn	11 54 25.2	-1.2
MTN				Sn	Sn	11 55 56.0	-5.5
MTN	Manton Dam	8.56	113	P	Pn	11 54 25.8	-0.6
FITZ	Fitzroy Crossi	8.80	164	P	Pn	11 54 28.1	-1.6
	baz=8.8,SNR=92						
FITZ				S	Sn	11 55 59.3	-8.2
	baz=8.8						
JAGI	Jajag, Banyuwa	8.86	277	P	Pn	11 54 29.2	-1.4
	216nm,0.5s,4µm						
KMMI	Kalianget	9.34	285	P	Pn	11 54 39.9	+2.8
	158nm,0.9s						
BLJI	Banyuglugur	9.53	281	P	Pn	11 54 39.3	-0.4
	171nm,0.9s,4µm						
KDU	Kakadu	9.74	109	P	Pn	11 54 41.3	-1.3
	baz=9.8,SNR=363						
KDU	Kakadu	9.74	109	P	Pn	11 54 41.4	-1.2
LBMI	Labuha	9.96	27	P	Pn	11 54 50.7	+5.1
	63nm,0.6s,2µm						
MRSI	Marisa	10.09	354	P	Pn	11 54 51.0	+3.7
	54nm,0.8s,862nm						
GTOI	Gorontalo	10.18	360	P	Pn	11 54 55.2	+6.5
	16nm,0.9s,231nm						
BBKI	Banjar Baru	10.19	306	P	Pn	11 54 52.5	+3.8
	163nm,1.3s,5µm						
NGJI	Ngawi	11.68	280	P	Pn	11 55 10.6	+1.5
	106nm,1.3s						
MTKI	Muara Teweh, K	11.83	316	P	Pn	11 55 14.1	+2.9
	86nm,0.8s						
MBWA	Marble Bar	11.91	195	Pn	Pn	11 55 11.3	-1.0
MBWA	Marble Bar	11.91	195	P	Pn	11 55 11.6	-0.7
SWI	Sorong	11.93	44	P	Pn	11 55 27.0	+14
PSA00	Pilbara Seismi	12.28	194	Pn	Pn	11 55 16.5	-0.9
PSA00	Pilbara Seismi	12.28	194		Pn	11 55 16.9	-0.4
PSA00	Pilbara Seismi	12.28	194	P	Pn	11 55 17.2	-0.1
SMRI	Semarang	12.73	281	P	P	11 55 37.3	+4.7
KPJI	Karang Pucung	14.15	278	P	Pn	11 55 41.1	-1.5
	127nm,0.8s,2µm						
CMJI	Cimerak	14.55	276	P	P	11 55 53.7	+0.9
WB0	Warramunga Arr	14.90	134	Pn	Pn	11 55 47.3	-5.1
WRA	Warramunga Arr	14.98	135	Pn	Pn	11 55 48.0	-5.4
WRA	Warramunga Arr	14.98	135	P	Pn	11 55 48.0	-5.4
WRA	Warramunga Arr	14.98	135	P	Pn	11 55 48.1	-5.3
	30nm,0.4s,baz=307,slow=15,SNR=265						
WRA				S	Sn	11 58 24.8	-14
	442nm,1.0s,baz=303,slow=24,SNR=27						
WRAB	Tennant Creek	14.98	134		Pn	11 55 48.3	-5.1
WRAB	Tennant Creek	14.98	134	P	Pn	11 55 48.3	-5.1
WB2	Warramunga Arr	14.99	135	Pn	Pn	11 55 48.4	-5.1
STKI	Sintang	15.00	309	P	Pn	11 55 56.6	+2.9
	148nm,0.9s,16µm						
WR0	Warramunga Arr	15.13	134	Pn	Pn	11 55 50.5	-4.9
MYLDM	Lahad Datu	15.38	343	P	P	11 56 04.3	+2.2
GIRL	Giralia	15.47	212	P	Pn	11 55 59.2	-0.5
	baz=15,SNR=15						
GIRL	Giralia	15.47	212	P	Pn	11 55 58.4	-1.2
LEM	Lembang	15.52	279	P	Pn	11 55 58.8	-1.8
	114nm,0.7s,baz=36,slow=13,SNR=17						
LEM				S	Sn	11 58 46.5	-5.2
	13nm,0.4s,baz=161,slow=22,SNR=1.5						
LEM				LR	LR	12 03 07.0	
	comp=Z,277nm,20.2s,baz=37,slow=42						
SPMM	Sapulut	15.67	335	P	P	11 56 06.0	+0.7
CNJI	Cibinong	15.91	277	P	Pn	11 56 03.4	-1.9
	151nm,0.7s,2µm						
SBUM	Sibu	16.12	317		Pn	11 56 10.2	+2.1
WRKA	Warakurna	16.13	163	P	Pn	11 56 06.2	-1.9
	baz=16,SNR=37						
WRKA	Warakurna	16.13	163	P	Pn	11 56 06.8	-1.3
DBJI	Dramaga	16.42	279	P	Pn	11 56 10.0	-1.8
	262nm,1.1s						
DAV	Davao City (W)	16.77	9	LR	LR	12 04 35.3	
	comp=Z,148nm,19.1s,baz=202,slow=44						
KSM	Kuching	16.80	310	P	P	11 56 19.6	+1.8
KSM	Kuching	16.80	310	P	P	11 56 18.7	+0.9
KKM	Kota Kinabalu	16.98	336	P	P	11 56 21.4	+1.6
KKM				IAmb	IAmb	11 56 24.2	
	comp=Z,167nm,0.8s						
KKM	Kota Kinabalu	16.98	336	P	P	11 56 21.8	+1.9
XMI	Christmas Isla	17.11	266	P	P	11 56 22.6	+1.3
XMIS	Christmas Isla	17.15	266	P	P	11 56 23.5	+1.8
XMIS				IAmb	IAmb	11 56 25.5	
	comp=Z,199nm,0.8s						
XMIS	Christmas Isla	17.15	266	P	P	11 56 24.1	+2.4
AS31	Alice Springs	17.40	145	P	Pn	11 56 22.5	-1.5
ASAR	Alice Springs	17.40	145	P	P	11 56 23.5	-1.0
ASAR	Alice Springs	17.40	145	P	P	11 56 23.5	-1.0
ASAR	Alice Springs	17.40	145	P	Pn	11 56 21.8	-2.2
	comp=Z,57nm,0.5s,baz=316,slow=12,SNR=970						
ASAR				S	Sn	11 59 24.1	-13
	comp=Z,108nm,0.7s,baz=319,slow=23,SNR=16						
ASAR				LR	LR	12 03 31.8	
	comp=Z,470nm,20.0s,baz=294,slow=38						
AS01	Alice Springs	17.43	145	P	Pn	11 56 22.7	-1.6
CGJI	Cibinong	17.44	279	P	Pn	11 56 20.8	-3.6
	comp=Z,285nm,0.5s,comp=Z,4µm						
MEEK	Meekatharra	17.45	193	P	Pn	11 56 22.9	-1.5
	baz=17,SNR=33						
MEEK	Meekatharra	17.45	193	P	P	11 56 26.3	+1.4
TABU	Tabubil	18.53	78	P	Pn	11 56 38.6	+0.9
KASI	Kota Agung	18.83	281	P	P	11 56 41.1	+0.9
	comp=Z,277nm,0.9s,comp=Z,4µm						
QIS	Mount Isa	19.32	126	P	Pn	11 56 45.8	-1.3
	baz=19,SNR=94						
QIS	Mount Isa	19.32	126	P	Pn	11 56 46.1	-1.0
LWLI	Liwa	19.38	282	P	Pn	11 56 52.9	+5.0
COEN	Coen	20.17	104	P	P	11 56 55.0	+0.2
COEN				IAmb	IAmb	11 56 57.1	
	comp=Z,152nm,1.3s						
COEN	Coen	20.17	104	P	Pn	11 56 55.9	-1.2
MORW	Morawa	20.44	198	P	Pn	11 56 58.7	-1.6
	baz=20,SNR=70						
MORW	Morawa	20.44	198	P	P	11 56 56.7	-0.9
MORW				IAmb	IAmb	11 56 59.4	
	comp=Z,126nm,0.7s						
MORW	Morawa	20.44	198	P	Pn	11 56 58.4	-1.8
DSRI	Dabo	20.50	295	P	P	11 56 59.1	+0.7
	comp=Z,127nm,1.1s,comp=Z,1µm						
TPRI	Tanjung Pinang	21.20	299	P	P	11 57 08.5	+2.5
	comp=Z,128nm,0.7s						
FORT	Forrest	21.57	168	P	P	11 57 08.7	-1.0
	baz=22,SNR=53						
FORT	Forrest	21.57	168	P	P	11 57 08.7	-1.0
FORT	Forrest	21.57	168	P	P	11 57 09.9	+0.2
OOD	Oodnadatta	21.66	148	P	P	11 57 11.0	+0.4
KMBL	Kambalda	21.67	183	P	P	11 57 09.6	-1.2
	baz=22,SNR=20						
KMBL	Kambalda	21.67	183	P	P	11 57 11.2	+0.4
BLDU	Ballidu	21.71	195	P	P	11 57 11.8	+0.6
	baz=22,SNR=62						
BLDU	Ballidu	21.71	195	P	P	11 57 11.8	+0.6
MYKOM	Kota Tinggi	22.23	300	P	P	11 57 17.1	+0.1
MTSU	Mount Surprise	22.30	115	P	P	11 57 19.4	+1.7
	baz=22,SNR=108						
MTSU	Mount Surprise	22.30	115	P	P	11 57 19.4	+1.7
KLBR	Kellerberrin	22.41	192	P	P	11 57 19.0	+0.2
	baz=22,SNR=119						
KLBR	Kellerberrin	22.41	192	P	P	11 57 18.7	-0.1
MULG	Mulgathing	22.99	155	P	P	11 57 24.8	0.0
MUN	Mundaring	23.14	195	P	P	11 57 26.0	-0.3
	baz=23,SNR=23						
MUN	Mundaring	23.14	195	P	P	11 57 26.0	-0.3
PMG	Port Moresby	23.78	92	P	P	11 57 31.7	-0.7
PMG	Port Moresby	23.78	92	P	P	11 57 34.4	+2.0
PMG	Port Moresby	23.78	92	P	P	11 57 34.7	+2.3
PMG	Port Moresby	23.78	92	*ce*P	P	11 57 33.8	+1.4
PMG				pmax	pmax		
	comp=Z,26nm,1.0s						
PMG	Port Moresby	23.78	92	P	P	11 57 33.4	+1.0
	comp=Z,24nm,0.7s,baz=274,slow=9.5,SNR=6.8						
	comp=Z,24nm,0.7s						
NWAO	Narrogin (SRO)	23.81	192	P	P	11 57 32.8	+0.3
	baz=24,SNR=44						
NWAO				P	P	11 57 32.8	+0.3
	baz=24,SNR=44						
NWAO	Narrogin (SRO)	23.81	192	P	P	11 57 31.7	-0.8
NWAO				IAmb	IAmb	11 57 33.8	
	comp=Z,65nm,0.8s						
NWAO	Narrogin (SRO)	23.81	192	P	P	11 57 31.7	-0.8
NWAO	Narrogin (SRO)	23.81	192	P	P	11 57 32.9	+0.3
NWAO	Narrogin (SRO)	23.81	192	P	P	11 57 32.7	+0.2
NWAO	Narrogin (SRO)	23.81	192	P	P	11 57 31.7	-0.8
NWAO				pmax	pmax		
	comp=Z,224nm,0.9s						
NWAO	Narrogin (SRO)	23.81	192	P	P	11 57 32.8	+0.3
	comp=Z,47nm,0.7s,baz=11,slow=7.6,SNR=41						
NWAO				S	S	12 01 48.1	+4.1
	comp=Z,37nm,0.9s,baz=108,slow=14,SNR=3.5						
	comp=Z,47nm,0.7s						
BKNI	Bangkinang	24.03	293	P	P	11 57 34.5	-0.2
	comp=Z,155nm,1.1s						
INKA	Innaminka	24.56	140	P	P	11 57 40.7	+1.3
CTA	Charters Tower	24.70	118	P	P	11 57 42.4	+1.7
CTA	Charters Tower	24.70	118	P	P	11 57 42.3	+1.6
	comp=Z,31nm,0.8s,baz=283,slow=11,SNR=44						
CTA				S	S	12 02 08.8	+10
	comp=Z,6.1nm,0.6s,baz=33,slow=21,SNR=2.8						
CTA				LR	LR	12 09 07.4	
	comp=Z,429nm,18.3s,baz=279,slow=40						
	comp=Z,31nm,0.8s						
CTAO	Charters Tower	24.70	118	P	P	11 57 40.1	-0.6
CTAO	Charters Tower	24.70	118	P	P	11 57 42.5	+1.7
CTAO	Charters Tower	24.70	118	P	P	11 57 40.1	-0.6
CTAO				pmax	pmax		
	comp=Z,35nm,0.9s						
TV1H	Townsville Har	24.89	115	P	P	11 57 44.8	+2.4
LCRK	Leigh Creek	25.10	148	P	P	11 57 45.3	+1.1
MANU	Manus Island	25.32	74	P	P	11 57 46.1	-0.4
MANU				IAmb	IAmb	11 57 49.8	
	comp=Z,71nm,0.8s						
MANU	Manus Island	25.32	74	P	P	11 57 49.1	+2.7
RKGY	Rocky Gully	25.49	192	P	P	11 57 49.6	+1.9
	baz=26,SNR=18						
RKGY	Rocky Gully	25.49	192	P	P	11 57 49.7	+1.9
AUALB	St Joseph's Co	25.70	190	P	P	11 57 51.4	+1.7
DLV	T Lat	25.85	326	P	P	11 57 54.0	+2.6
DLV				IAmb	IAmb	11 57 55.4	
	comp=Z,58nm,0.9s						
DLV	T Lat	25.85	326	P	P	11 57 54.7	+3.3
BBOO	Buckleboo	26.02	154	P	P	11 57 52.9	+0.3
	baz=26,SNR=77						
BBOO	Buckleboo	26.02	154	P	P	11 57 52.0	-0.7
BBOO				IAmb	IAmb	11 57 55.7	
	comp=Z,70nm,0.7s						
BBOO	Buckleboo	26.02	154	P	P	11 57 52.9	+0.3
QLP	Quilpie	26.20	133	P	P	11 57 54.6	+0.2
	baz=26,SNR=7.9						
QLP	Quilpie	26.20	133	P	P	11 57 56.4	+2.1
KULM	Kulim	26.78	303	P	P	11 57 57.7	-1.9
WHYH	Whyalla	26.89	152	P	P	11 58 01.3	+0.9
HTT	Hallett	27.85	151	P	P	11 58 10.2	+1.1
	baz=28,SNR=25						
HTT	Hallett	27.85	151	P	P	11 58 10.5	+1.4
STKA	Stephens Creek	28.04	145	P	P	11 58 11.9	+1.2
	baz=28,SNR=43						
STKA	Stephens Creek	28.04	145	P	P	11 58 09.8	-0.9
STKA	Stephens Creek	28.04	145	P	P	11 58 12.0	+1.2
STKA	Stephens Creek	28.04	145	*i*P	P	11 58 11.6	+0.8
STKA	Stephens Creek	28.04	145	P	P	11 58 11.8	+1.0
	comp=Z,24nm,0.6s,baz=314,slow=9.3,SNR=58						
	comp=Z,24nm,0.6s						
RMQ	Roma	29.55	128	P	P	11 58 26.7	+2.5
	baz=30,SNR=3.9						
RMQ	Roma	29.55	128	P	P	11 58 26.1	+1.8
CMSA	Cobar Meteorol	30.29	139	P	P	11 58 32.4	+1.6
	baz=30,SNR=73						
CMSA	Cobar Meteorol	30.29	139	P	P	11 58 32.3	+1.6
AULRC	Lightning Ridg	30.55	134	P	P	11 58 34.5	+1.5
ARPS	Mount Arapiles	31.95	151	P	P	11 58 46.9	+1.6
	baz=32,SNR=40						
ARPS	Mount Arapiles	31.95	151	P	P	11 58 46.9	+1.6
AUDCS	Dubbo College	32.66	137	P	P	11 58 53.5	+2.0
TPUB	Ta-pu	32.80	356	P	P	11 58 52.6	-0.2
AUPHS	Peel High Scho	33.56	134	P	P	11 59 01.8	+2.3
ARMA	Armidale	33.73	132	P	P	11 59 04.0	+2.9
	baz=34,SNR=15						
ARMA	Armidale	33.73	132	P	P	11 58 59.3	-1.7
ARMA				IAmb	IAmb	11 59 04.9	
	comp=Z,25nm,0.8s						
ARMA	Armidale	33.73	132	P	P	11 59 02.2	+1.1
YNG	Young	33.81	140	P	P	11 59 03.8	+2.2
GEXS	Deakin Univers	34.28	150	P	P	11 59 07.6	+2.1
TOO	Toolangi	34.42	148	P	P	11 59 09.5	+2.7
	baz=34,SNR=32						
TOO	Toolangi	34.42	148	P	P	11 59 07.7	+0.9
TOO				IAmb	IAmb	11 59 10.5	
	comp=Z,43nm,0.8s						
TOO	Toolangi	34.42	148	P	P	11 59 09.3	+2.5
TOO	Toolangi	34.42	148	P	P	11 59 07.7	+0.9
TOO				pmax	pmax		
	comp=Z,43nm,0.8s						
MGCD	Mangrove Creek	34.92	136	P	P	11 59 14.4	+3.3
	baz=35,SNR=6.5						
CNB	Canberra Magne	35.08	141	P	P	11 59 15.0	+2.4
	baz=35,SNR=8.5						
HNR	Honiara	36.38	93	LR	LR	12 15 21.7	
	comp=Z,1µm,19.5s,baz=342,slow=38						
CM31	Chiang Mai Arr	36.66	320	P	P	11 59 25.5	-0.7
CMAR	Chiang Mai Arr	36.66	320	P	P	11 59 25.3	-0.9
CMAR	Chiang Mai Arr	36.66	320	P	P	11 59 25.1	-1.1
	comp=Z,3.4nm,0.5s,baz=149,slow=7.0,SNR=30						
CMAR				PcP	PcP	12 01 49.4	+1.3
	comp=Z,1.6nm,0.6s,baz=181,slow=2.3,SNR=4.8						
CMAR				ScP	ScP	12 05 29.2	-0.6
	comp=Z,1.0nm,0.3s,baz=156,slow=2.8,SNR=7.6						
	comp=Z,3.4nm,0.5s						
GULI	GuiLin	36.83	341	P	P	11 59 29.0	+1.5
CHTO	Chiang Mai	36.92	320	P	P	11 59 28.0	-0.4
CHTO				IAmb	IAmb	11 59 29.2	
	comp=Z,34nm,1.5s						
CHTO	Chiang Mai	36.92	320	P	P	11 59 28.0	-0.4
CHTO				pmax	pmax		
	comp=Z,34nm,1.5s						
CRAI	Chiangrai	37.11	323	P	P	11 59 29.9	-0.2
CRAI				IAmb	IAmb	11 59 31.3	
	comp=Z,32nm,0.8s						
GYA	Guiyang	39.23	336	⇓P	P	11 59 48.0	+0.1
GYA				pmax	pmax		
	comp=Z,38nm,1.0s						
TAU	Tasmania Unive	39.37	152	P	P	11 59 47.6	-1.2
TAU	Tasmania Unive	39.37	152	P	P	11 59 47.6	-1.2
TAU				pmax	pmax		
	comp=Z,170nm,1.7s						
KMI	Kunming	39.80	331	⇓P	P	11 59 53.7	+0.9
KMI				sP	pP	12 00 07.5	+0.3
KMI				pmax	pmax		
	comp=Z,32nm,0.9s						
KMI				pmax	pmax		
	comp=Z,99nm,4.0s						
KMI				LR	LR		
	comp=Z,400nm,36.4s						
WHN	Wuhan	40.79	348	⇓*i*P	P	12 00 01.2	+0.6
WHN				pmax	pmax		
	comp=Z,90nm,0.9s						
KOUNC	Koumac, New Ca	41.16	110	P	P	12 00 03.5	-0.4
KOUNC				IAmb	IAmb	12 00 06.2	
	comp=Z,29nm,0.8s						
PZH	PanZhiHua	41.44	331	P	P	12 00 05.4	-0.8
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
NJ2	Nanjing	41.62	355	*e*P	P	12 00 11.0	+3.6
NJ2				pP	pP	12 00 18.5	-3.4
NJ2				sP	pwP	12 00 22.6	-3.6
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,500nm,4.0s						
ENH	Enshi	41.74	342	P	P	12 00 06.7	-1.8
ENH				IAmb	IAmb	12 00 08.9	
	comp=Z,41nm,0.8s						
DZM	Mont Dzumac	43.39	112	*e*P	P	12 00 22.6	+0.4
	comp=Z,82nm,1.2s						
DZM	Mont Dzumac	43.39	112	*e*LR	LR	12 12 45.9	
	comp=Z,508nm,35.9s						
DZM	Mont Dzumac	43.39	112	P	P	12 00 21.4	-0.8
DZM				IAmb	IAmb	12 00 24.4	
	comp=Z,31nm,1.0s						
DZM	Mont Dzumac	43.39	112	P	P	12 00 23.4	+1.2
	comp=Z,22nm,0.8s,baz=263,slow=6.5,SNR=13						
DZM				LR	LR	12 19 51.7	
	comp=Z,149nm,18.8s,baz=250,slow=38						
	comp=Z,22nm,0.8s						
DZM	Mont Dzumac	43.39	112	P	P	12 00 23.5	+1.4
ONTNC	Ouen Toro	43.44	112	P	P	12 00 21.8	-0.7
OUENC	Ouen Island, N	43.81	112	P	P	12 00 24.8	-0.7
CD2	Chengdu	44.34	336	P	P	12 00 28.5	-1.0
CD2				pP	pP	12 00 39.5	-4.6
CD2				sP	pwP	12 00 43.8	-4.7
CD2				S	S	12 07 05.1	+5.6
CD2				pmax	pmax		
	comp=Z,80nm,0.8s						
PINNC	Pines Island,	44.40	112	P	P	12 00 29.2	-0.8
LYN	LuoYang	45.05	348	⇓*i*P	P	12 00 34.6	-0.4
LYN				sP	pP	12 00 46.8	-2.9
LYN				pmax	pmax		
	comp=Z,54nm,0.8s						
LYN				pmax	pmax		
	comp=Z,360nm,3.8s						
PALK	Pallekele	45.40	290	LR	LR	12 20 08.2	
	comp=Z,83nm,20.6s,baz=220,slow=37						
XAN	Xi'an	45.44	343	⇑P	P	12 00 36.9	-1.3
XAN				pP	pP	12 00 48.7	-4.1
XAN				pmax	pmax		
	comp=Z,62nm,0.9s						
XAN	Xi'an	45.44	343	P	P	12 00 37.3	-0.9
XAN				pP	pP	12 00 52.4	-0.4
XAN				sP	pwP	12 00 59.0	+1.8
KSRS	Korea Array	47.04	5	P	P	12 00 50.0	-0.5
	comp=Z,5.2nm,0.8s,baz=183,slow=9.5,SNR=15						
KSRS				PcP	PcP	12 02 16.1	-5.8
	comp=Z,1.4nm,0.7s,baz=184,slow=3.7,SNR=2.6						
	comp=Z,5.2nm,0.8s						
HNS	HongShan	47.41	351	⇑P	P	12 00 52.3	-1.2
HNS				pmax	pmax		
	comp=Z,21nm,1.3s						
MAJO	Matsushiro	48.08	16	P	P	12 00 57.6	-1.0
MAJO				IAmb	IAmb	12 00 58.4	
	comp=Z,36nm,1.1s						
MAJO	Matsushiro	48.08	16*c*	*i*P	P	12 00 56.7	-2.0
MAJO				pmax	pmax		

comp=Z,39nm,1.1s
MAJO Matsushiro 48.08 16 P **P 12 00 57.2 -1.5**
MJAR Matsushiro Arr 48.08 16 P **P 12 00 57.3 -1.4**
comp=Z,16nm,0.8s,baz=191,slow=7.9,SNR=30
MJAR ScP **ScP 12 06 12.9 -2.2**
comp=Z,2.8nm,0.7s,baz=184,slow=4.6,SNR=4.5
MJAR LR LR 12 22 02.6
comp=Z,84nm,21.9s,baz=153,slow=37
comp=Z,16nm,0.8s
MJB9 Matsu-Tunnel 48.08 16 P **P 12 00 57.4 -1.3**
MJB9 IAmb IAmb 12 00 58.4
comp=Z,36nm,1.1s
LZH Lanzhou 48.93 339 ⇑P **P 12 01 05.4 0.0**
LZH pP pP 12 01 15.1 -5.1
LZH sP pwP 12 01 21.1 -3.5
LZH pmax pmax
comp=Z,98nm,1.2s
LSA Lhasa 49.71 323 P **P 12 01 10.8 -1.1**
LSA Lhasa 49.71 323 P **P 12 01 10.8 -1.1**
LSA pmax pmax
comp=Z,66nm,0.7s
LSA Lhasa 49.71 323 P **P 12 01 11.6 -0.3**
BJT Baijiatuau 49.79 353 P **P 12 01 10.9 -0.8**
BJT IAmb IAmb 12 01 12.2
comp=Z,18nm,0.8s
BJT Baijiatuau 49.79 353 P **P 12 01 10.9 -0.8**
BJT pmax pmax
comp=Z,18nm,0.8s
BJI Beijing 49.81 353 P **P 12 01 10.8 -1.0**
BJI pP **pP 12 01 20.1 -6.6**
BJI sP pwP 12 01 23.6 -7.5
BJI pmax pmax
comp=Z,12nm,1.1s
BJI pmax pmax
comp=Z,56nm,3.5s
H08S2 Diego Garcia H 49.99 268 T T 12 55 44.8
baz=99
H08S3 Diego Garcia H 50.00 268 T T 12 55 43.5
baz=99
H08S1 Diego Carcia H 50.01 268 T T 12 55 29.8
baz=99
JMM Marumori 50.06 18 P **P 12 01 14.1 +0.3**
JMM IAmb IAmb 12 01 28.7
comp=Z,38nm,0.9s
ODAN Odare 50.12 317 *e*P **P 12 01 13.1 -1.7**
TAPN Taplejung 50.23 318 *e*P **P 12 01 14.3 -1.4**
RAMN Ramite 50.71 317 *e*P **P 12 01 17.8 -1.4**
comp=Z,239nm,1.3s
BTO Baotou 51.40 347 *e*P **P 12 01 24.4 +0.4**
BTO pP **pP 12 01 34.4 -4.5**
BTO sP **pwP 12 01 38.4 -4.9**
BTO PP **PP 12 03 22.8 +1.0**
BTO pmax pmax
comp=Z,31nm,1.0s
BTO pmax pmax
comp=Z,150nm,4.3s
JIRN Jiri 51.45 317 *e*P **P 12 01 23.2 -1.7**
comp=Z,202nm,1.3s
HYB Hyderabad 51.52 301 *e*P **P 12 01 25.3 0.0**
HYB *e*sP **sP 12 01 48.4 +1.7**
GUN Gumba 51.82 317 *e*P **P 12 01 25.9 -1.7**
comp=Z,126nm,0.9s
PKI Pulchoki 51.92 316 *e*P **P 12 01 26.3 -2.1**
comp=Z,42nm,0.5s
PKIN Phulchoki 51.93 316 *e*P **P 12 01 26.3 -2.1**
comp=Z,40nm,0.4s
KKN Kakani 52.14 317 *e*P **P 12 01 28.0 -1.9**
DMN Daman 52.15 316 *e*P **P 12 01 28.3 -1.7**
comp=Z,47nm,0.7s
MLZ Mavora Lakes 52.51 141 P **P 12 01 31.1 -1.1**
MLZ IAmb IAmb 12 01 34.1
comp=Z,35nm,1.0s
WHZ Wether Hill Ro 52.66 142 P **P 12 01 31.4 -1.8**
GKN Gorkha 52.72 316 *e*P **P 12 01 32.3 -1.8**
comp=Z,40nm,0.4s
GOMU GeErMu 52.76 331 P **P 12 01 34.4 -0.1**
GOMU pmax pmax
comp=Z,8.0nm,0.9s
JTM Tenmabayashi 52.84 17 P **P 12 01 34.1 -0.4**
CN2 Changchun 53.20 2 *e*P **P 12 01 37.2 0.0**
KOLN Koldanda 53.28 315 *e*P **P 12 01 36.2 -2.1**
GTA Gaotai 53.34 338 ⇑P **P 12 01 38.3 -0.1**
GTA pP pP 12 01 49.5 -3.9
GTA sP pwP 12 01 56.1 -1.6
GTA pmax pmax
comp=Z,79nm,0.9s
LBZ Lake Benmore 53.37 139 P **P 12 01 37.8 -0.7**
LBZ IAmb IAmb 12 01 40.3
comp=Z,23nm,0.8s
DSZ Denniston Nort 53.38 135 P **P 12 01 37.8 -0.8**
INZ Inchbonnie 53.51 137 P **P 12 01 39.3 -0.3**
INZ IAmb IAmb 12 01 43.4
comp=Z,48nm,1.3s
DANN Dangsing 53.53 316 *e*P **P 12 01 38.3 -2.0**
comp=Z,83nm,0.5s
RPZ Rata Peaks 53.65 138 P **P 12 01 41.3 +0.7**
RPZ Rata Peaks 53.65 138 P **P 12 01 41.7 +1.1**
comp=Z,89nm,0.9s,baz=257,slow=4.0,SNR=29
RPZ LR LR 12 24 38.6
comp=Z,116nm,19.2s,baz=284,slow=36
comp=Z,89nm,0.9s
MRNZ Matariki Terra 53.91 135 P **P 12 01 42.4 -0.1**
PYUN Piuthan 53.91 315 *e*P **P 12 01 40.7 -2.2**
comp=Z,28nm,0.4s
THZ Tophouse 54.15 135 P **P 12 01 44.5 +0.2**
OXZ Oxford 54.15 137 P **P 12 01 43.3 -0.9**
USA0B Ussuriysk Arra 54.17 8 P **P 12 01 43.9 -0.3**
USA0B IAmb IAmb 12 01 44.6
comp=Z,28nm,0.8s
USA0B Ussuriysk Arra 54.17 8 *i* P **P 12 01 43.0 -1.2**
USRK Ussuriysk Ar. 54.17 8 P **P 12 01 44.0 -0.3**
USRK Ussuriysk Ar. 54.17 8 P **P 12 01 43.4 -0.8**
comp=Z,24nm,0.7s,baz=193,slow=6.8,SNR=41
comp=Z,24nm,0.7s
MDJ Mudanjiang 54.30 6 P **P 12 01 43.9 -1.3**
MDJ Mudanjiang 54.30 6 P **P 12 01 45.0 -0.1**
MDJ pP pP 12 01 53.0 -7.2
MDJ sP pwP 12 01 58.3 -6.3
MDJ ScP **ScP 12 06 43.1 +1.4**
MDJ pmax pmax
comp=Z,86nm,1.2s
MDJ pmax pmax
comp=Z,450nm,3.5s
MDJ Mudanjiang 54.30 6 P **P 12 01 44.8 -0.4**
MDJ pP **pP 12 01 59.1 -1.1**
MDJ sP **pwP 12 02 06.1 +1.5**
TUWZ Tuamarina 54.75 134 P **P 12 01 48.8 +0.2**
BNX BinXian 55.24 4 ⇓P **P 12 01 55.2 +3.3**
BNX pmax pmax
comp=Z,6.0nm,0.9s
BNX pmax pmax
comp=Z,98nm,4.3s
MRZ Mangatainoka R 55.66 133 P **P 12 01 54.0 -1.3**
MRZ IAmb IAmb 12 01 56.8
comp=Z,34nm,1.0s
TEY Ternei 55.76 12 *e*P P 12 01 48.9 -6.7
URZ Urewera 56.09 130 P **P 12 01 58.6 +0.3**
comp=Z,10nm,0.7s,baz=308,slow=19,SNR=10
URZ LR LR 12 25 32.9
comp=Z,50nm,21.2s,baz=16,slow=35
comp=Z,10nm,0.7s
ASAJ Asahikawa 56.34 17 P **P 12 01 59.9 0.0**
ASAJ pmax pmax
comp=Z,18nm,0.7s
JKA Kamikawa-asahi 56.34 17 P **P 12 01 59.9 0.0**
JKA IAmb IAmb 12 02 01.3
comp=Z,18nm,0.7s
CASY Casey 57.23 186 P **P 12 02 05.6 -0.2**
CASY IAmb IAmb 12 02 07.7
comp=Z,36nm,1.2s
CASY Casey 57.23 186 P **P 12 02 07.0 +1.1**
DRV Dumont d'Urvil 58.13 172 P **P 12 02 13.3 +1.1**
HIA Hailar 58.70 357 P **P 12 02 15.8 -0.6**
HIA IAmb IAmb 12 02 16.7
comp=Z,30nm,0.9s
HIA Hailar 58.70 357 P **P 12 02 15.8 -0.6**
HIA pmax pmax
comp=Z,30nm,0.9s
ULN Ulaanbaatar 58.96 347 P **P 12 02 17.7 -0.7**
ULN IAmb IAmb 12 02 18.9
comp=Z,32nm,1.0s
ULN Ulaanbaatar 58.96 347*ce*P **P 12 02 17.5 -0.9**
ULN pmax pmax
comp=Z,35nm,1.0s
ULN Ulaanbaatar 58.96 347 P **P 12 02 18.0 -0.4**

YSS Yuzh-Sakhalins 59.00 16 *e*P **P 12 02 19.4 +1.0**
YSS *e*S **S 12 10 18.3 -2.0**
YSS *e*PS **PnS 12 10 37.4 -3.2**
YSS *e*SS **SS 12 14 11.2 -4.1**
YSS pmax pmax
comp=Z,100nm,4.2s
YSS pmax pmax
comp=Z,10.0nm,1.1s
SONM Songino Array 59.07 347 P **P 12 02 18.4 -0.7**
SONM IAmb IAmb 12 02 19.6
comp=Z,25nm,0.9s
SONM Songino Array 59.07 347 P **P 12 02 18.4 -0.7**
comp=Z,18nm,0.7s,baz=160,slow=7.9,SNR=95
comp=Z,18nm,0.7s
KLR Kul'dur 59.09 7*ce*P **P 12 02 17.6 -1.4**
KLR pmax pmax
comp=Z,10.0nm,1.0s
HEH HeiHe 59.74 3 *e*P **P 12 02 22.4 -1.1**
HEH pmax pmax
comp=Z,100nm,1.0s
GRNR Gornyy 61.25 10⇑*i*P **P 12 02 32.0 -1.8**
GRNR pmax pmax
comp=N,9.0nm,0.9s
GRNR pmax pmax
comp=Z,20nm,0.9s
GRNR MLR MLR
comp=Z,140nm,14.0s
WMQ Urumqi 62.12 332 *e*P **P 12 02 39.4 -0.5**
WMQ pmax pmax
comp=Z,43nm,0.9s
WMQ pmax pmax
comp=Z,190nm,4.7s
ZAK Zakamensk 62.18 346 *e*P **P 12 02 38.3 -1.9**
ZAK pmax pmax
comp=Z,15nm,1.2s
TYV Tymovskoe 62.59 14 *e*P **P 12 02 44.8 +2.0**
TYV *e*S **S 12 11 14.5 +8.5**
TYV pmax pmax
comp=Z,200nm,4.2s
TYV pmax pmax
comp=Z,6.0nm,0.8s
TYV smax smax
comp=N,400nm,8.7s
TYV smax smax
comp=E,500nm,8.7s
ZEA Zeya 63.21 3 *e*P **P 12 02 46.5 -0.3**
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=N,30nm,1.1s
ZEA pmax pmax
comp=Z,50nm,1.0s
NIL Nilore 63.93 315 P **P 12 02 50.8 -1.3**
NIL Nilore 63.93 315 P **P 12 02 50.8 -1.3**
NIL pmax pmax
comp=Z,13nm,0.9s
MOY Mondy 63.93 345 *e*P **P 12 02 51.6 -0.2**
MOY pmax pmax
comp=Z,40nm,1.7s
WUS Wushi 64.66 325 P **P 12 02 56.3 -0.6**
CCD Concordia, Ant 65.46 180 P **P 12 03 04.1 +2.3**
CCD pP **pwP 12 03 19.4 -1.6**
TARG Taragay, Kyrgy 65.81 324 P **P 12 03 04.5 -0.1**
TARG IAmb IAmb 12 03 13.1
comp=Z,23nm,0.9s
TARG Taragay, Kyrgy 65.81 324 P **P 12 03 04.5 -0.1**
TARG pmax pmax
comp=Z,23nm,0.9s
SHLS Shalkode 65.82 326⇑*i*P **P 12 03 02.4 -1.9**
comp=Z,34nm,0.8s,baz=327
SHLS Shalkode 65.82 326*c i*P **P 12 03 02.4 -1.9**
SHLS pmax pmax
comp=Z,34nm,0.8s
UZB Uzynbulak 66.05 326 *e*P **P 12 03 05.2 -0.6**
comp=Z,33nm,1.3s,baz=326
UZB Uzynbulak 66.05 326 *e*P **P 12 03 05.2 -0.6**
UZB pmax pmax
comp=Z,33nm,1.3s
ZSN Zaisan 66.16 333 *e*P **P 12 03 05.6 -0.6**
baz=333
ZSN Zaisan 66.16 333 *e*P **P 12 03 05.6 -0.6**
SATY Saty 66.33 326⇑*i*P **P 12 03 07.3 -0.4**
comp=Z,19nm,0.7s,baz=326
SATY Saty 66.33 326*c i*P **P 12 03 07.2 -0.4**
SATY pmax pmax
comp=Z,19nm,0.7s
ZHN Zhinishke 66.39 326 *e*P **P 12 03 07.3 -0.7**
comp=Z,29nm,1.3s,baz=326
ZHN Zhinishke 66.39 326 *e*P **P 12 03 07.2 -0.7**
ZHN pmax pmax
comp=Z,29nm,1.3s
KPKS Kokpek 66.45 326⇑*i*P **P 12 03 07.7 -0.6**
comp=Z,42nm,1.0s,baz=326
KPKS Kokpek 66.45 326*c i*P **P 12 03 07.6 -0.6**
KPKS pmax pmax
comp=Z,42nm,1.0s
NRN Naryn 66.68 323 P **P 12 03 09.2 -0.9**
NRN IAmb IAmb 12 03 10.6
comp=Z,20nm,0.8s
NRN Naryn 66.68 323 P **P 12 03 09.2 -0.9**
NRN pmax pmax
comp=Z,20nm,0.8s
DGZ Jazzator, Alta 66.78 336 *i* P **P 12 03 09.1 -1.2**
DGZ pmax pmax
comp=Z,28nm,0.9s
MK31 Makanchi Array 66.88 331 P **P 12 03 10.1 -0.7**
MK31 IAmb IAmb 12 03 12.4
comp=Z,37nm,1.0s
MK31 Makanchi Array 66.88 331*ce*P **P 12 03 09.6 -1.3**
MKAR Makanchi Array 66.88 331 P **P 12 03 10.2 -0.7**
MKAR Makanchi Array 66.88 331 P **P 12 03 10.1 -0.8**
comp=Z,28nm,0.7s,baz=137,slow=7.5,SNR=100
MKAR S **S 12 11 53.8 -5.3**
comp=Z,1.6nm,1.0s,baz=153,slow=11,SNR=5.4
MKAR LR LR 12 35 33.8
comp=Z,29nm,19.5s,baz=137,slow=39
comp=Z,28nm,0.7s
MAKZ Makanchi 67.04 331 P **P 12 03 10.8 -1.0**
MAKZ IAmb IAmb 12 03 12.2
comp=Z,33nm,1.2s
MAKZ Makanchi 67.04 331 P **P 12 03 10.8 -1.0**
MAKZ pmax pmax
comp=Z,33nm,1.2s
MAKZ Makanchi 67.04 331 P **P 12 03 10.9 -1.0**
MAKZ pP **pP 12 03 26.6 -0.8**
MAKZ sP **pwP 12 03 33.4 +1.6**
TNSS Tian-Shan 67.14 325 *e*P **P 12 03 12.4 -0.7**
baz=325
TNSS Tian-Shan 67.14 325 *e*P **P 12 03 12.3 -0.7**
MDOK Medeo 67.16 325 *i* P **P 12 03 12.1 -0.9**
baz=325
MDOK Medeo 67.16 325 *i* P **P 12 03 12.0 -0.9**
AAA Alma-Ata 67.27 325 *e*P **P 12 03 13.2 -0.2**
baz=325
AAA Alma-Ata 67.27 325 *e*P **P 12 03 13.2 -0.2**
KBL Kabul 67.37 314 P **P 12 03 13.6 -0.8**
KBL IAmb IAmb 12 03 14.7
comp=Z,12nm,0.6s
KBL Kabul 67.37 314 P **P 12 03 13.6 -0.8**
KBL pmax pmax
comp=Z,13nm,0.6s
BOOM Boomskoye usch 67.37 324 P **P 12 03 14.1 -0.2**
BOOM IAmb IAmb 12 03 15.3
comp=Z,35nm,0.7s
BOOM Boomskoye usch 67.37 324 P **P 12 03 14.1 -0.2**
BOOM pmax pmax
comp=Z,35nm,0.7s
ARXS Arharly 67.41 326 *e*P **P 12 03 13.4 -0.9**
KZA Kyzart 67.52 323 P **P 12 03 14.7 -0.8**
SNR=20
BOD Bodaibo 67.60 355 *e*P **P 12 03 14.7 -0.4**
BOD pmax pmax
comp=Z,34nm,1.1s
TDK Taldyqorghan 67.61 327 *e*P **P 12 03 15.1 -0.4**
comp=Z,46nm,1.2s,baz=327
TDK Taldyqorghan 67.61 327 *e*P **P 12 03 15.1 -0.4**
TDK pmax pmax
comp=Z,46nm,1.2s
CHKK Chushkaly 67.64 326 *e*P **P 12 03 15.0 -0.8**
baz=326
CHKK Chushkaly 67.64 326 *e*P **P 12 03 14.9 -0.8**
KUU Kurty 68.02 325 *e*P **P 12 03 17.2 -0.9**
baz=325
KUU Kurty 68.02 325 *e*P **P 12 03 17.2 -0.9**
UCH Uchtor 68.04 323 P **P 12 03 18.3 -0.6**
SNR=11

KBK Karagaybulak 68.05 324 P **P 12 03 19.2 +0.6**
SNR=15
AAK Ala-Archa 68.30 323 P **P 12 03 19.5 -0.6**
SNR=25
AAK Ala-Archa 68.30 323 P **P 12 03 19.5 -0.6**
AAK IAmb IAmb 12 03 21.3
comp=Z,26nm,0.7s
AAK Ala-Archa 68.30 323 P **P 12 03 19.5 -0.6**
AAK pmax pmax
comp=Z,26nm,0.7s
AAK Ala-Archa 68.30 323 LR LR 12 36 59.8
comp=Z,58nm,21.7s,baz=123,slow=39
AAK Ala-Archa 68.30 323 P **P 12 03 19.6 -0.6**
CHMS Chumysh 68.37 324 P **P 12 03 19.7 -0.7**
SNR=5.8
AML Almayashu 68.47 323 P **P 12 03 20.8 -0.7**
SNR=25
USP Ospenovka 68.68 324 P **P 12 03 21.2 -1.1**
SNR=23
SGDS Sogindy 68.72 324 *e*P **P 12 03 21.3 -1.3**
baz=324
SGDS Sogindy 68.72 324 *e*P **P 12 03 21.2 -1.3**
EKS2 Erkin-Say 68.74 323 P **P 12 03 22.3 -0.5**
SNR=12
GAR Garm 68.82 318 P **P 12 03 22.4 -1.0**
BTK Batken 69.07 319 P **P 12 03 24.5 -0.3**
BTK IAmb IAmb 12 03 25.8
comp=Z,97nm,1.8s
BTK Batken 69.07 319 P **P 12 03 24.5 -0.3**
BTK pmax pmax
comp=Z,97nm,1.8s
PETK Petropavlovsk- 69.10 22 P **P 12 03 25.4 +0.8**
PETK Petropavlovsk- 69.10 22 P **P 12 03 25.4 +0.8**
PETK Petropavlovsk- 69.10 22 P **P 12 03 25.7 +1.0**
comp=Z,5.0nm,0.8s,baz=191,slow=5.9,SNR=3.2
comp=Z,5.0nm,0.8s
CHGR Chuyangaron 69.40 317 P **P 12 03 25.5 -1.4**
CHGR Chuyangaron 69.40 317 P **P 12 03 25.5 -1.4**
CHGR pmax pmax
comp=Z,105nm,1.3s
BTLS Baital 70.02 325 *e*P **P 12 03 29.3 -1.2**
baz=325
BTLS Baital 70.02 325 *e*P **P 12 03 29.3 -1.2**
MAW Mawson 70.05 201 P **P 12 03 31.9 +1.6**
baz=70,SNR=16
MAW Mawson 70.05 201 P **P 12 03 30.7 +0.4**
MAW Mawson 70.05 201 P **P 12 03 30.7 +0.4**
MAW Mawson 70.05 201 P **P 12 03 31.9 +1.6**
comp=Z,8.6nm,0.7s,baz=67,slow=9.5,SNR=22
comp=Z,8.6nm,0.7s
H04N2 CROZET ISLANDS 70.14 224 T T 13 19 10.5
baz=82,slow=75,SNR=9.5
H04N1 CROZET ISLANDS 70.16 224 T T 13 19 11.8
baz=82,slow=75,SNR=6.8
H04N3 CROZET ISLANDS 70.16 224 T T 13 19 05.8
baz=82,slow=75,SNR=8.0
VNDA Vanda 70.78 172 P **P 12 03 35.3 +0.7**
VNDA IAmb IAmb 12 03 37.1
comp=Z,35nm,1.4s
VNDA Vanda 70.78 172 P **P 12 03 35.3 +0.7**
VNDA pmax pmax
comp=Z,35nm,1.5s
VNDA Vanda 70.78 172 P **P 12 03 36.0 +1.3**
comp=Z,5.9nm,0.5s,baz=311,slow=8.1,SNR=31
VNDA LR LR 12 32 40.6
comp=Z,74nm,21.7s,baz=338,slow=34
comp=Z,5.9nm,0.5s
WSAR Wadi Sarin 70.94 299 LR LR 12 34 32.5
comp=Z,38nm,21.1s,baz=174,slow=36
KK31 Karatay Array 70.95 322 P **P 12 03 34.7 -1.5**
KK31 IAmb IAmb 12 03 37.0
comp=Z,40nm,1.8s
KK31 Karatay Array 70.95 322 P **P 12 03 34.7 -1.5**
KK31 pmax pmax
comp=Z,40nm,1.8s
KKAR Karatay Array 70.95 322 P **P 12 03 35.4 -0.9**
KKAR IAmb IAmb 12 03 37.0
comp=Z,39nm,1.8s
KKAR Karatay Array 70.95 322 P **P 12 03 34.7 -1.5**
KKAR Karatay Array 70.95 322 P **P 12 03 34.7 -1.5**
KKAR pmax pmax
comp=Z,39nm,1.8s
CHM Chimkent 71.08 321 *e*P **P 12 03 36.1 -1.0**
comp=Z,17nm,0.7s,baz=321
CHM Chimkent 71.08 321 *e*P **P 12 03 36.0 -1.0**
CHM pmax pmax
comp=Z,17nm,0.7s
ZAA0 Zalesovo Array 71.09 337 P **P 12 03 35.1 -1.7**
ZAA0 IAmb IAmb 12 03 37.3
comp=Z,50nm,1.1s
ZALV Zalesovo Beam 71.09 337 P **P 12 03 35.1 -1.7**
ZALV Zalesovo Beam 71.09 337 P **P 12 03 35.1 -1.7**
ZALV Zalesovo Beam 71.09 337 P **P 12 03 34.8 -2.0**
comp=Z,25nm,0.5s,baz=136,slow=4.8,SNR=91
ZALV S S 12 12 40.2 -8.3
comp=Z,2.0nm,0.8s,baz=140,slow=11,SNR=8.0
comp=Z,25nm,0.5s
KURBB Kurchatov Arra 71.34 332 P **P 12 03 37.1 -1.2**
comp=Z,11nm,0.5s,baz=146,slow=5.2,SNR=87
comp=Z,11nm,0.5s
KURK Kurchatov 71.36 332 P **P 12 03 37.9 -0.5**
KURK IAmb IAmb 12 03 39.8
comp=Z,36nm,0.8s
KURK Kurchatov 71.36 332*ce*P **P 12 03 37.6 -0.8**
KURK pmax pmax
comp=Z,41nm,0.8s
KURK Kurchatov 71.36 332 P **P 12 03 37.7 -0.8**
KURK pP **pP 12 03 52.7 -1.4**
YAK Yakutsk 71.61 3 P **P 12 03 39.1 -0.6**
YAK Yakutsk 71.61 3 *e*P **P 12 03 39.9 +0.2**
YAK *e* 12 03 59.5
YAK *e* 12 06 18.4
YAK *e*S **S 12 13 00.9 +6.8**
YAK *e* 12 13 43.9
YAK *e*SS **SS 12 17 31.6 +0.7**
YAK pmax pmax
comp=Z,89nm,0.9s
YAK pmax pmax
comp=N,20nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=Z,127nm,3.7s
YAK pmax pmax
comp=N,97nm,3.0s
YAK pmax pmax
comp=E,106nm,3.1s
YAK smax smax
comp=E,84nm,2.7s
YAK smax smax
comp=N,49nm,2.1s
BRZS Berezniki 73.78 329 *e*P **P 12 03 51.8 -1.1**
baz=329
BRZS Berezniki 73.78 329 *e*P **P 12 03 51.8 -1.1**
RAR Rarotonga 74.70 109 LR LR 12 37 45.0
comp=N,25nm,18.1s,baz=260,slow=36
SEY Seymchan 75.78 13*ce*P **P 12 04 03.7 -0.4**
SEY pmax pmax
comp=Z,47nm,2.5s
BVAR Borovoye Array 76.76 330 P **P 12 04 08.3 -1.7**
comp=Z,1.9nm,0.5s,baz=134,slow=8.3,SNR=11
comp=Z,1.9nm,0.5s
GEYT Alibeck 76.77 313 P **P 12 04 10.2 -0.2**
GEYT Alibeck 76.77 313 P **P 12 04 10.2 -0.2**
GEYT pmax pmax
comp=Z,10.0nm,0.9s
GEYT Alibeck 76.77 313 P **P 12 04 09.6 -0.8**
comp=Z,10nm,0.8s,baz=119,slow=1.8,SNR=13
comp=Z,10nm,0.8s
GYA0B ALIBECK ARRAY 76.77 313 P **P 12 04 10.4 0.0**
BRVK Borovoye 76.83 330 P **P 12 04 09.9 -0.4**
BRVK Borovoye 76.83 330*ce*P **P 12 04 09.4 -0.9**
BRVK pmax pmax
comp=Z,13nm,1.7s
QSPA South Pole Qui 80.38 180 P **P 12 04 30.5 +0.6**
QSPA IAmb IAmb 12 04 32.2
comp=Z,22nm,0.8s
QSPA South Pole Qui 80.38 180 P **P 12 04 31.3 +1.4**
comp=Z,19nm,0.6s,baz=295,slow=2.1,SNR=82
comp=Z,19nm,0.6s
ABKAR Akbulak array 80.39 324 P **P 12 04 28.1 -1.9**
ABKAR Akbulak array 80.39 324 P **P 12 04 28.2 -1.7**
ABKAR IAmb IAmb 12 04 51.4
comp=Z,8.1nm,1.2s
TIXI Tiksi 81.18 2 P **P 12 04 32.6 -1.1**
TIXI Tiksi 81.18 2 *i* P **P 12 04 32.0 -1.7**

AKTO	Aktyubinsk	82.03	324	LR	LR	12 44 58.9	
	comp=Z,39nm,21.9s,baz=92,slow=38						
ELIB	Princess Elisa	83.92	198	dP	P	12 04 50.2	+1.9
	comp=Z,13nm,0.9s						
TBI	Tubuai	83.97	113	eLR	LR	12 31 00.0	
	comp=Z,716nm,33.8s						
ARU	Arti	84.38	330	P	P	12 04 49.0	-1.6
ARU	Arti	84.38	330	c iP	P	12 04 48.5	-2.1
ARU				S	SKSac	12 15 08.7	-0.2
ARU				pmax	pmax		
	comp=Z,11nm,1.4s						
PPT2	Papeete2	84.67	107	eLR	LR	12 31 31.3	
	comp=Z,286nm,36.2s						
PPT2				eLR	LR	12 31 38.1	
	comp=Z,129nm,36.8s						
PPT	Papeete	84.67	107	LR	LR	12 42 05.7	
	comp=Z,40nm,18.3s,baz=254,slow=35						
KMBO	Kilima Mbogo	85.67	270	P	P	12 04 58.5	+0.1
KMBO	Kilima Mbogo	85.67	270	P	P	12 04 58.5	+0.1
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KMBO	Kilima Mbogo	85.67	270	P	P	12 04 59.5	+1.1
	comp=Z,2.1nm,0.5s,baz=71,slow=8.0,SNR=6.3						
	comp=Z,2.1nm,0.5s						
GNI	Garni	87.33	311	i P	P	12 05 05.0	-0.8
GNI				pmax	pmax		
	comp=Z,15nm,1.2s						
LODK	Lodwar	88.29	274	P	P	12 05 10.7	-0.1
AKH	Akhalkalaki	88.56	312	P	P	12 05 11.8	+0.1
AKH	Akhalkalaki	88.56	312	P	P	12 05 11.8	+0.1
AKH				pmax	pmax		
	comp=Z,31nm,0.9s						
ONI	Oni	88.88	313	P	P	12 05 12.9	-0.1
ONI	Oni	88.88	313	P	P	12 05 12.9	-0.1
ONI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KBZ	Khabaz	89.54	314	ceP	P	12 05 14.7	-1.3
KBZ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KBZ	Khabaz	89.54	314	P	P	12 05 16.0	+0.1
	comp=Z,4.5nm,0.9s,baz=86,slow=3.7,SNR=5.5						
	comp=Z,4.5nm,0.9s						
KIV	Kislovodsk	89.74	315	eP	P	12 05 13.6	-3.5
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KIRV	Kirov	89.76	330	ceP	P	12 05 15.9	-0.7
TROLL	Troll, Antarti	89.88	196	⇓P	P	12 05 18.6	+1.3
	comp=Z,242nm,0.6s						
SNAA	Sanae	91.46	195	P	P	12 05 25.0	+0.5
SNAA				IAmb	IAmb	12 05 28.4	
	comp=Z,5.2nm,0.7s						
SNAA	Sanae	91.46	195	⇓P	P	12 05 26.1	+1.6
	comp=Z,169nm,0.9s						
SNAA	Sanae	91.46	195	ceP	P	12 05 25.7	+1.2
SNAA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SNAA	Sanae	91.46	195	P	P	12 05 26.3	+1.8
	comp=Z,7.7nm,0.8s,baz=150,slow=5.6,SNR=19						
SNAA				LR	LR	12 44 00.6	
	comp=Z,58nm,21.7s,baz=181,slow=34						
	comp=Z,7.7nm,0.8s						
BELA	Belgrano 2	91.76	185	P	P	12 05 26.5	+0.7
SOC	Sochi	91.76	314	eP	P	12 05 22.9	-3.4
SOC				e		12 09 01.8	
SOC				ePPP	PPP	12 11 00.3	
SOC				eS	SKSac	12 15 52.6	-1.4
SOC				eSS	SS	12 22 35.1	+3.7
SOC				eSSS	SSS	12 26 10.5	
SOC				MLR	MLR		
	comp=Z,79nm,21.0s						
BOSA	Boshof	92.21	241	P	P	12 05 30.0	+1.0
BOSA	Boshof	92.21	241	P	P	12 05 29.9	+1.0
	comp=Z,2.9nm,0.9s,baz=94,slow=18,SNR=2.4						
	comp=Z,2.9nm,0.9s						
EIL	Elat	93.05	299	LR	LR	12 49 38.0	
	comp=Z,22nm,21.9s,baz=124,slow=37						
MMAI	Mount Meron Ar	93.21	303	LR	LR	12 55 58.7	
	comp=Z,18nm,18.2s,baz=64,slow=41						
VNA3	Neumayer Olymp	93.41	194	⇓P	P	12 05 31.6	-1.9
	comp=Z,23nm,0.7s						
ANN	Anapa	93.60	315	eP	P	12 05 32.1	-2.7
ANN				pmax	pmax		
	comp=Z,96nm,1.7s						
TAOE	Nuku Hiva Isla	95.17	100	eLR	LR	12 36 22.3	
	comp=Z,124nm,30.4s						
KLMR	Klimovskoe	95.18	331	eP	P	12 05 38.7	-2.9
KLMR				AMP		12 05 41.3	
	comp=Z,30nm,1.8s						
KLMR	Klimovskoe	95.18	331	eP	P	12 05 38.6	-3.0
KLMR				pmax	pmax		
	comp=Z,30nm,1.8s						
BRTR	Keskin Array B	95.61	309	P	P	12 05 43.6	-0.7
	comp=Z,1.3nm,0.8s,baz=123,slow=5.3,SNR=8.5						
	comp=Z,1.3nm,0.8s						
ILAR	Eielson Array	98.65	26	P	P	12 05 54.8	-2.5
	comp=Z,0.4nm,0.9s,baz=279,slow=7.2,SNR=2.5						
	comp=Z,0.4nm,0.9s						
AKASG	Malin Array Be	99.78	320	P	Pdif	12 06 00.7	-1.9
	comp=Z,0.3nm,0.3s,baz=82,slow=3.7,SNR=5.5						
	comp=Z,0.3nm,0.3s						
YKA	Yellowknife Ar	113.08	25	PKiKP	PKiKP	12 10 55.5	+0.3
	comp=Z,0.2nm,0.3s,baz=292,slow=2.3,SNR=8.7						
YKA				SKP		12 14 23.9	
	comp=Z,0.6nm,0.7s,baz=302,slow=2.0,SNR=9.3						
NVAR	Mina Array Bea	118.30	52	PKP	PKiKP	12 11 07.7	+1.4
	comp=Z,0.4nm,0.6s,baz=264,slow=4.7,SNR=4.2						
NVAR				SKP		12 14 34.2	
	comp=Z,0.4nm,0.6s,baz=308,slow=4.5,SNR=2.7						
HLID	Hailey	119.97	45		PKiKP	12 11 10.1	+0.7
TORD	Torodi Ar. Bea	122.50	279	PKP	PKPdf	12 11 14.9	+0.3
	comp=Z,2.7nm,0.5s,baz=55,slow=2.5,SNR=21						
TORD				SKP		12 14 42.9	
	comp=Z,0.5nm,0.6s,baz=74,slow=2.5,SNR=3.6						
U15A	North Rim	123.40	53		PKiKP	12 11 17.0	+0.5
PDAR	Pinedale Array	123.59	45	PKP	PKPdf	12 11 16.6	+0.2
	comp=Z,0.2nm,0.4s,baz=117,slow=0.3,SNR=4.1						
PDAR				PKKPbc	PKKPbc	12 21 05.5	-0.3
	comp=Z,0.3nm,0.5s,baz=121,slow=7.4,SNR=5.5						
SRU	San Rafael Swe	124.04	49		PKPdf	12 11 16.0	-1.3
SRU	San Rafael Swe	124.04	49	PKIKP	PKPdf	12 11 16.0	-1.3
ESDC	Sonseca Array	124.31	312	PKP	PKPdf	12 11 18.0	+0.4
	comp=Z,0.5nm,0.5s,baz=22,slow=2.7,SNR=5.9						
ULM	Lac du Bonnet	128.30	31	PKP	PKiKP	12 11 25.8	+0.4
	comp=Z,0.7nm,0.4s,baz=312,slow=1.4,SNR=3.5						
ULM				SKPbc	SKPbc	12 14 37.2	
	comp=Z,1.5nm,0.5s,baz=337,slow=6.8,SNR=2.5						
PLCA	Paso Flores	128.35	167	PKP	PKPdf	12 11 25.7	+0.3
	comp=Z,1.3nm,0.8s,baz=243,slow=4.5,SNR=3.4						
DBIC	Dimbokro	128.38	271	PKP	PKPdf	12 11 26.4	+0.4
	comp=Z,1.8nm,0.5s,baz=94,slow=3.5,SNR=4.8						
TXAR	Lajitas Array	132.16	59	PKP	PKPdf	12 11 32.5	-0.4
	comp=Z,0.3nm,0.5s,baz=336,slow=2.0,SNR=8.3						
TXAR				SKPbc	SKPbc	12 14 54.5	+0.2
	comp=Z,6.1nm,0.9s,baz=255,slow=2.7,SNR=31						
SCHQ	Schefferville	134.22	8	SKPbc	SKPbc	12 14 59.2	-1.1
	comp=Z,8.0nm,0.9s,baz=38,slow=9.9,SNR=5.3						
CPUP	Villa Florida	144.27	179		PKPbc	12 11 53.9	+0.6
CPUP	Villa Florida	144.27	179	PKIKP	PKPbc	12 11 53.9	+0.6
CPUP	Villa Florida	144.27	179	PKP	PKPdf	12 11 54.3	-0.7
	comp=Z,7.0nm,0.8s,baz=176,slow=4.0,SNR=14						
GOGA	Godfrey	146.00	42		PKPbc	12 11 58.7	+0.1
GOGA	Godfrey	146.00	42	PKP2	PKPbc	12 11 58.7	+0.1
T59A	Double "B" Far	147.00	31		PKPbc	12 12 01.2	-0.2
LPAZ	La Paz	151.99	157	PKPbc	PKiKP	12 12 16.2	+0.6
	comp=Z,4.3nm,0.5s,baz=159,slow=2.6,SNR=20						

*NEIC **04** 11:58:27.4±0.8, 19°.42N±0°.02×66°.18W±0°.06, h27km±12km, ML3.0/16, Md3.5/5(RSPR), Error ellipse: s-maj=8.5km s-min=1.4km az=106.0*
*RSPR **04** 11:58:29.1, 19°.43N×66°.16W, h34km±19km, MD3.5/5*
ISC 04 11:58:24.4±1.7**, 19°.43N**±0°.08×**66°.22W**±0°.06**, h14**km**, n26, σ0s.86**/28**, 6C-1D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	Arecibo Observ	1.19	205	⇑eP	Pg	11 58 48.1	+0.8
AOPR	Arecibo Observ	1.19	205	eS	Sg	11 59 03.5	+0.8
AOPR	Arecibo Observ	1.19	205		Pg	11 58 48.1	+0.8
AOPR					Sg	11 59 03.5	+0.8
SJG	San Juan	1.31	177	⇑eP	Pg	11 58 49.7	+0.1
SJG	San Juan	1.31	177		Pg	11 58 49.7	+0.1
SJG	San Juan	1.31	177	IAML		11 59 08.6	
	200nm,0.6s						
SJG				IAML		11 59 10.3	
	240nm,0.4s						
OBIP	Obispado Ponce	1.42	195	⇓eP	Pg	11 58 51.7	-0.1
OBIP	Obispado Ponce	1.42	195	eS	Sg	11 59 11.0	+0.6
OBIP	Obispado Ponce	1.42	195		Pg	11 58 51.7	-0.1
OBIP					Sg	11 59 11.0	+0.6
OBIP	Obispado Ponce	1.42	195	IAML		11 59 12.9	
	comp=N,128nm,0.4s						
OBIP				IAML		11 59 17.6	
	comp=E,137nm,0.6s						
LSP	Las Mesas	1.49	214	⇑eP	Pg	11 58 52.6	-0.5
LSP	Las Mesas	1.49	214		Pg	11 58 52.6	-0.5
GBPR	Guanica, Bosqu	1.57	204	eS	Sg	11 59 14.2	-0.8
GBPR	Guanica, Bosqu	1.57	204		Sg	11 59 14.2	-0.8
CRPR	Cabo Rojo, PR	1.65	211	⇑eP	Pg	11 58 55.0	-1.0
CRPR	Cabo Rojo, PR	1.65	211	eS	Sb	11 59 15.2	+0.1
CRPR	Cabo Rojo, PR	1.65	211		Pg	11 58 55.0	-1.0
CRPR					Sb	11 59 15.2	+0.1
MLPR	Magueyes Islan	1.65	208	⇑eP	Pg	11 58 54.8	-1.2
MLPR	Magueyes Islan	1.65	208	eS	Sb	11 59 14.6	-0.6
MLPR	Magueyes Islan	1.65	208		Pg	11 58 54.8	-1.2
MLPR					Sb	11 59 14.6	-0.6
PCDR	Punta Cana, DR	2.24	246	⇑eP	Pb	11 59 03.4	-1.2
PCDR	Punta Cana, DR	2.24	246	eS	Sn	11 59 29.8	+1.4
PCDR	Punta Cana, DR	2.24	246		Pb	11 59 03.4	-1.2
PCDR					Sn	11 59 29.8	+1.4
PCDR	Punta Cana, DR	2.24	246	IAML		11 59 36.1	
	comp=E,61nm,2.6s						
PCDR				IAML		11 59 47.9	
	comp=N,114nm,1.5s						
SMRT	St. Maarten	3.28	114	Pn	Pn	11 59 15.5	+0.1
SMRT				IAML		12 00 08.9	
	comp=N,40nm,0.3s						
SMRT				IAML		12 00 18.6	
	comp=E,57nm,0.4s						
SDDR	Presa de Saban	4.81	266	Pn	Pn	11 59 37.5	+1.0

*IDC **04** 12:00:48.2±5.5, 32°.09S×179°.95E, h273km±42km, mb3.7/4, mbtmp4.3/6, Error ellipse: s-maj=54.2km s-min=20.6km az=49.0*
ISC 04 12:00:52.6±1.5**, 32°.3S**±0°.1×**179°.6E**±0°.2**, h300**km**, n24, σ1s.55**/23**, mb3.9**/4**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUGZ	Raukumara Rang	5.88	195	P	Pn	12 02 22.3	+1.8
TWGZ	Tauwhareparae	6.02	192	P	Pn	12 02 25.9	+3.8
URZ	Urewera	6.29	198	P	Pn	12 02 25.6	+0.3
	11nm,0.3s,baz=344,slow=5.2,SNR=18						
URZ				S	S	12 03 39.4	-0.7
	14nm,0.3s,baz=336,slow=20,SNR=13						
URZ	Urewera	6.29	198	P	Pn	12 02 25.7	+0.3
TKGZ	Te Karaka	6.30	192	P	Pn	12 02 25.6	+0.2
RAGZ	Rawiri	6.44	195	P	Pn	12 02 27.9	+0.7
RIGZ	Rimuhau	6.58	192	P	Pn	12 02 28.5	-0.3
MUGZ	Murupara	6.59	199	P	Pn	12 02 31.7	+2.8
GRRZ	Galatos Road	6.68	204	P	Pn	12 02 35.7	+5.6
SNGZ	Shannon Statio	6.74	195	P	Pn	12 02 31.0	+0.3
PRGZ	Paritu Road	6.77	191	P	Pn	12 02 32.3	+1.2
ALRZ	Allen Road	6.80	202	P	Pn	12 02 32.3	+0.9
KNZ	Kokohu	6.90	192	P	Pn	12 02 31.9	-0.7
KUTZ	Kaahu Road	6.91	205	P	Pn	12 02 38.3	+5.5
RAHZ	Arahi	6.92	196	P	Pn	12 02 34.8	+1.9
MHGZ	Mahia Peninsul	6.99	191	P	Pn	12 02 35.6	+1.8
MRHZ	Matea Rd	7.02	201	P	Pn	12 02 36.5	+2.3
ARHZ	Aropaoanui	7.27	196	P	Pn	12 02 36.7	-0.5
RPZ	Rata Peaks	13.23	208	P	P	12 03 48.2	-1.8
	6.6nm,0.9s,baz=34,slow=3.6,SNR=1.8						
RPZ				S	S	12 06 06.4	-10
	6.0nm,0.7s,baz=9.2,slow=12,SNR=2.5						
ASAR	Alice Springs	40.98	270	P	P	12 08 07.8	+0.7
	1.6nm,0.6s,baz=108,slow=7.8,SNR=5.8						
	1.6nm,0.6s						
WRA	Warramunga Arr	42.14	276	P	P	12 08 16.8	+0.3
	4.3nm,0.3s,baz=113,slow=8.0,SNR=61						
	4.3nm,0.3s						
QSPA	South Pole Qui	57.83	180	P	P	12 10 12.8	-0.2
	2.9nm,0.6s,baz=38,slow=0.4,SNR=12						
	2.9nm,0.6s						
SNAA	Sanae	76.32	179	P	P	12 12 07.3	-1.2
	0.5nm,0.3s,baz=195,slow=19,SNR=2.2						
	0.5nm,0.3s						
FINES	FINESS Array B	146.13	337	PKPbc	PKPdf	12 19 54.2	-1.1
	1.1nm,0.6s,baz=58,slow=5.4,SNR=5.3						

*ISK **04** 12:05:12.8, 34°.83N×34°.09E, h28km, ML2.2/19*
*NIC **04** 12:05:15.7, 34°.88N×33°.89E, h47km±1km, Ml2.3/9*
*GII **04** 12:05:16.8±0.3, 34°.88N×33°.96E, h31km, MD2.0/4, Mm2.3/3*
*GRAL **04** 12:05:16.7±0.3, 34°.82N×34°.05E, h105km±31km, MD3.1*
ISC 04 12:05:15.1±1.2**, 34°.86N**±0°.03×**33°.94E**±0°.03**, h51**km±8km**, n42, σ0s.68**/66**, 1C-3D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARAL	Paralimni	0.16	32	P	Pn	12 05 23.8	+0.4
PARAL				S	Sn	12 05 30.2	+1.1
PARAL				AML	AML	12 05 32.6	
	1.0nm,0.4s						
PARAL				AML	AML	12 05 33.9	
	0.6nm,0.3s						
MVOU	Mavrovouni	0.30	302	⇓iP	Pn	12 05 23.9	-0.5
MVOU				S	Sn	12 05 30.6	-0.3
MVOU				AML	AML	12 05 31.5	
	0.7nm,0.2s						
MVOU				AML	AML	12 05 31.9	
	0.7nm,0.5s						
AKIN	Akıncılar- Kıb	0.42	292	Pg	Pn	12 05 24.7	-0.8
CSS	Mathiatis	0.51	282	Pg	Pn	12 05 26.0	-0.6
CSS	Mathiatis	0.51	282	Pg	Pn	12 05 25.5	-1.1
CSS	Mathiatis	0.51	282	⇓iP	Pn	12 05 26.0	-0.6
CSS				S	Sn	12 05 33.7	-1.1
CSS				AML	AML	12 05 34.6	
	0.4nm,0.3s						
CSS				AML	AML	12 05 34.9	
	0.5nm,0.2s						
ATHAL	Athalassa	0.53	302	P	Pn	12 05 26.5	-0.2
ATHAL				S	Sn	12 05 35.3	+0.1
ATHAL				AML	AML	12 05 38.0	
	1.0nm,0.2s						
ATHAL				AML	AML	12 05 40.9	
	0.8nm,0.5s						
LFK	Lefkose	0.53	321	Pg	Pn	12 05 26.9	0.0
LFK				Sg	Sn	12 05 36.1	+0.7
ASGA	Asgata	0.57	263	⇓iP	Pn	12 05 26.9	-0.4
ASGA				S	Sn	12 05 36.4	+0.3
ASGA				AML	AML	12 05 36.7	
	0.5nm,0.2s						
ASGA				AML	AML	12 05 37.8	
	0.4nm,0.5s						
TROD	Troodos	0.89	276	⇑iP	Pn	12 05 31.4	-0.2
TROD				S	Sn	12 05 43.9	+0.3
TROD				AML	AML	12 05 47.4	
	0.4nm,0.6s						
TROD				AML	AML	12 05 48.0	
	0.3nm,0.3s						
LEF	Lefka	0.90	287	Pg	Pn	12 05 32.1	+0.6
AKDN	Akdeniz- Kıbrı	0.91	299	Pg	Pn	12 05 31.9	+0.2
AKDN				Sg	Sn	12 05 45.3	+1.5
NATA	Nata	1.13	266	P	Pn	12 05 35.2	+0.6
NATA				S	Sn	12 05 50.8	+1.7
NATA				AML	AML	12 05 52.6	
	0.4nm,0.3s						
NATA				AML	AML	12 05 53.3	
	0.5nm,0.4s						
ALFC	Alefka	1.14	285	P	Pn	12 05 34.4	-0.4
ALFC				S	Sn	12 05 48.0	-1.4
ALFC				AML	AML	12 05 51.1	
	0.2nm,0.4s						
ALFC				AML	AML	12 05 52.7	
	0.3nm,0.3s						
TISA	Tisan-Mersin	1.31	351	Pn	Pn	12 05 36.5	-0.6
AKK1	Akkuyu-Mersin	1.32	346	Pn	Pn	12 05 36.9	-0.3
AKK1				Sn	Sn	12 05 54.5	+0.8
AKMS	Akamas	1.33	277	P	Pn	12 05 37.6	+0.3
AKMS				S	Sn	12 05 54.7	+0.8
AKMS				AML	AML	12 05 56.3	
	0.2nm,0.3s						
AKMS				AML	AML	12 05 58.1	
	0.2nm,0.3s						
AKKU	Akkuyu-Mersin	1.33	346	Pn	Pn	12 05 37.0	-0.4
AKKU				Sn	Sn	12 05 54.3	+0.3
KARG	Kargicak-Mersi	1.35	352	Pn	Pn	12 05 37.3	-0.4
KARG				Sn	Sn	12 05 54.7	+0.2
YESI	Yesilovacik-Me	1.35	350	Pn	Pn	12 05 37.4	-0.3
YESI				Sn	Sn	12 05 54.8	+0.3
IKL	Isikli	1.39	351	Pn	Pn	12 05 37.7	-0.5
TEPK	Tepekoy-MERSIN	1.40	347	Pn	Pn	12 05 37.9	-0.4
OREN	Orenkoy-Mersin	1.40	344	Pn	Pn	12 05 38.1	-0.2
TEKE	Tekeli-Mersin	1.45	332	Pn	Pn	12 05 38.2	-0.7
SILI	Silifke-Mersin	1.50	360	Pn	Pn	12 05 38.9	-0.8
SLFK	Silifke-Mersin	1.53	0	Pn	Pn	12 05 38.9	-1.1
BERE	Bereket-Mersin	1.59	339	Pn	Pn	12 05 41.0	-0.1
TEVE	Tevekalti-Mers	1.62	346	Pn	Pn	12 05 41.4	0.0
KIZK	Mersin	1.62	6	Pn	Pn	12 05 40.7	-0.7
HWQ	Hawqa	1.75	109	eP	Pn	12 05 44.1	+0.9
HWQ				eS	Sn	12 06 04.4	-0.1
DQRL	Deir Qamar	1.77	130	eP	Pn	12 05 44.3	+0.8
BEIL	Beino	1.88	99	eP	Pn	12 05 45.6	+0.7
BEIL				eS	Sn	12 06 07.0	-0.4
ZAHL	Zahle	1.90	121	eP	Pn	12 05 45.9	+0.7
HNTI	Hanita	2.05	150	Pn	Pn	12 05 47.1	-0.1
HNTI				Sn	Sn	12 06 11.4	-0.2
RCY	Rachaya	2.08	130	eP	Pn	12 05 48.1	+0.4
RCY				eS	Sn	12 06 11.4	-1.1
SHBL	Chebaa	2.12	135	eP	Pn	12 05 48.8	+0.5
GEM	Giv'at Ha'Em	2.18	139	Pn	Pn	12 05 49.0	0.0
GEM				Sn	Sn	12 06 13.8	-1.0
NATI	Neve Ativ	2.18	136	Pn	Pn	12 05 49.1	+0.1
NATI				Sn	Sn	12 06 14.1	-0.7
MMA0B	Mount Meron ar	2.21	146	Pn	Pn	12 05 49.3	-0.1
MMA0B				Sn	Sn	12 06 13.9	-1.6
KSHT	Keshet	2.44	140	Pn	Pn	12 05 53.0	+0.5
KSHT				Sn	Sn	12 06 20.9	-0.2
MMLI	Mount Malkishu	2.71	152	Pn	Pn	12 05 56.9	+0.6
DSI	Dead Sea	3.50	159	Pn	Pn	12 06 07.0	0.0
DSI				Sn	Sn	12 06 47.2	+0.1

*IDC **04** 12:07:31.2±1.5, 23°.71S×67°.86W, h104km±15km, mb3.4/5, mbtmp3.7/7, Error ellipse: s-maj=25.7km s-min=17.7km az=69.0*
*SJA **04** 12:07:32.1±2.1, 23°.70S×68°.09W, h100km, ML3.6, MW3.6*
*GUC **04** 12:07:32.4±0.5, 23°.69S×68°.13W, h122km±3km, ML4.0*
*NEIC **04** 12:07:32.0±1.3, 23°.69S±0°.07×68°.1W±0°.1, h124km±10km, mb4.1/3, ML4.0(GUC), Error ellipse: s-maj=16.2km s-min=7.2km az=115.0*
ISC 04 12:07:31.7±0.8**, 23°.72S**±0°.03×**68°.13W**±0°.06**, h123**km±8km**, n56, σ1s.22**/79**, mb3.8**/6**, 2C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	0.77	356		Pn	12 07 52.4	+0.1
AF01	San Pedro de A	0.77	356	i P	Pn	12 07 52.2	-0.1
AF01				eS	Sn	12 08 06.9	-1.0
AF01				IAML		12 08 09.9	
	comp=N,4μm,0.3s						
LVC	Limon Verde	1.32	327	eP	Pn	12 07 58.3	+0.5
LVC				eS	Sn	12 08 19.0	+1.5
LVC	Limon Verde	1.32	327	P	Pn	12 07 58.0	+0.3
	comp=N,172nm,0.3s,baz=140,slow=9.9,SNR=1023						
LVC				S	Sn	12 08 17.2	-0.2
	comp=N,358nm,0.4s,baz=99,slow=19,SNR=78						
LVC	Limon Verde	1.32	327	⇓iP	Pn	12 07 58.0	+0.3
LVC				eS	Sn	12 08 17.2	-0.2
LVC				IAML		12 08 18.8	
	comp=N,4μm,0.2s						
PB15	IPOC Station P	1.33	292		Pn	12 07 57.7	0.0
PB15	IPOC Station P	1.33	292	eP	Pn	12 07 57.9	+0.2
PB15				eS	Sn	12 08 18.2	+0.8
PB15	IPOC Station P	1.33	292	⇑iP	Pn	12 07 58.4	+0.7
PB15				eS	Sn	12 08 17.5	+0.1
PB15				IAML		12 08 21.3	
	comp=E,5μm,0.3s						
PB06	IPOC Station P	1.67	307		Pn	12 08 02.1	+0.5
PB06	IPOC Station P	1.67	307	eP	Pn	12 08 01.4	-0.1
PB06				eS	Sn	12 08 24.8	+0.6
PB06				IAML		12 08 28.2	
	comp=Z,592nm,0.3s						
PB06	IPOC Station P	1.67	307	i P	Pn	12 08 02.0	+0.5
PB06				eS	Sn	12 08 24.0	-0.2
GO02	Mina Guanaco	1.96	223		Pn	12 08 06.8	+1.7
GO02	Mina Guanaco	1.96	223	eP	Pn	12 08 06.6	+1.5
GO02				eS	Sn	12 08 32.7	+2.1
GO02				IAML		12 08 33.8	
	comp=Z,441nm,0.2s						
GO02	Mina Guanaco	1.96	223	⇑iP	Pn	12 08 06.7	+1.5
GO02				eS	Sn	12 08 32.3	+1.7
GO02				IAML		12 08 33.4	
	comp=E,775nm,0.3s						
PB09	IPOC Station P	2.17	332	eP	Pn	12 08 08.1	+0.4
PB09				eS	Sn	12 08 35.9	+0.6
PB09				IAML		12 08 37.8	
	comp=Z,246nm,0.8s						
PB09	IPOC Station P	2.17	332	i P	Pn	12 08 08.3	+0.7
PB09				eS	Sn	12 08 35.8	+0.6
PB04	IPOC Station P	2.32	306	eP	Pn	12 08 09.2	-0.3
PB04				eS	Sn	12 08 39.1	+0.6
PB04				IAML		12 08 50.7	
	comp=Z,188nm,0.2s						
PB07	IPOC Station P	2.56	320	eP	Pn	12 08 12.6	-0.1
PB07				eS	Sn	12 08 43.6	-0.5
PB07				IAML		12 08 47.2	
	comp=Z,221nm,0.1s						
PB07	IPOC Station P	2.56	320	i P	Pn	12 08 12.9	+0.2
YJA	Yavi	2.86	58	eP	Pn	12 08 18.7	+2.0
PB02	IPOC Station P	2.90	325	eP	Pn	12 08 16.7	-0.2
PB02				eS	Sn	12 08 50.4	-1.2
PB02				IAML		12 08 56.6	
	comp=Z,401nm,0.2s						
PB02	IPOC Station P	2.90	325	i P	Pn	12 08 16.6	-0.3
PB01	IPOC Station P	2.95	334	eP	Pn	12 08 17.7	+0.2
PB01				eS	Sn	12 08 50.4	-2.4
PB01				IAML		12 08 55.6	
	comp=Z,212nm,0.2s						
PB01	IPOC Station P	2.95	334	i P	Pn	12 08 17.9	+0.3
AC01	Pan de Azucar	3.30	222		Pn	12 08 22.5	+0.5
AC01	Pan de Azucar	3.30	222	eP	Pn	12 08 22.0	0.0
AC01				eS	Sn	12 09 01.4	+0.5
PATCX	Punta Patache	3.44	327		Pn	12 08 23.5	-0.5
PATCX	Punta Patache	3.44	327	eP	Pn	12 08 23.3	-0.7
PATCX				eS	Sn	12 09 03.4	-1.1
PATCX				IAML		12 09 12.9	
	comp=Z,74nm,0.5s						
PATCX	Punta Patache	3.44	327	i P	Pn	12 08 24.7	+0.7
PATCX				eS	Sn	12 09 04.3	-0.2
PATCX				IAML		12 09 12.1	
	comp=N,158nm,0.5s						
TA01	Diego Aracena	3.67	328		Pn	12 08 27.2	+0.2
TA01	Diego Aracena	3.67	328	i P	Pn	12 08 27.8	+0.8
TA01				eS	Sn	12 09 09.4	-0.4
PB08	IPOC Station P	3.69	345	i P	Pn	12 08 28.4	+0.8
PB08				eS	Sn	12 09 12.0	+1.3
ALOL	LOMAS DE OLMED	3.80	92	eP	Pn	12 08 29.6	+0.9
AC06	Mina Casimiro	4.14	209		Pn	12 08 32.6	-0.6
GO01	Chusmiza	4.15	346		Pn	12 08 33.6	-0.2
GO01	Chusmiza	4.15	346	i P	Pn	12 08 34.7	+0.9
GO03	Copiap	4.30	206		Pn	12 08 35.0	-0.4
GO03	Copiap	4.30	206	eP	Pn	12 08 35.3	-0.1
GO03				eS	Sn	12 09 25.4	+0.6
GO03				IAML		12 09 27.9	
	comp=Z,32nm,0.3s						
AC04	Llanos de Chal	5.19	210	eP	Pn	12 08 45.2	-2.1
AC04				eS	Sn	12 09 43.3	-2.8
AC05	El Transito	5.45	200		Pn	12 08 49.8	-1.0
LCO	Las Campanas	5.75	203		Pn	12 08 53.4	-1.7
CO01	Juntas del Tor	6.47	195	Pn	Pn	12 09 04.5	-0.2
GO04	Tololo Observa	6.85	200	Pn	Pn	12 09 06.9	-2.9
LPAZ	La Paz	7.40	360	P	Pn	12 09 16.3	-1.3
	comp=Z,1.5nm,0.4s,baz=203,slow=7.7,SNR=12						
CO03	El Pedregal	7.45	197	Pn	Pn	12 09 16.4	-1.3
CFA	Coronel Fontan	7.85	181	P	Pn	12 09 22.3	-0.9
	comp=Z,2.7nm,0.3s,baz=3.6,slow=12,SNR=16						
CFA				S	Sn	12 10 45.0	-5.5
	comp=Z,2.8nm,0.4s,baz=15,slow=18,SNR=5.6						
TRQA	Tornquist	15.22	161	P	P	12 11 02.9	+0.7
TRQA				IAmb	IAmb	12 11 20.4	
	comp=Z,16nm,1.4s						
BDFB	Brasilia	20.56	71	P	P	12 11 59.6	-1.2
	comp=Z,2.0nm,0.3s,baz=248,slow=9.4,SNR=4.5						
	comp=Z,2.0nm,0.3s						
BOAV	Boa Vista	27.00	17	P	P	12 13 01.5	-0.6
BOAV				IAmb	IAmb	12 13 14.8	
	comp=Z,3.3nm,1.0s						

TXAR	Lajitas Array	62.86	325	P	P	12 17 45.8	+1.1
	comp=Z,0.2nm,0.5s,baz=145,slow=7.7,SNR=2.0						
	comp=Z,0.2nm,0.5s						
QSPA	South Pole Qui	66.48	180	P	P	12 18 09.8	+1.9
	comp=Z,0.5nm,0.5s,baz=136,slow=4.8,SNR=6.3						
	comp=Z,0.5nm,0.5s						
TOA0	Torodi Ar. Sit	77.44	70	P	P	12 19 13.3	-0.6
TOA0				IAmb	IAmb	12 19 22.5	
	comp=Z,5.3nm,1.4s						
TORD	Torodi Ar. Bea	77.44	70	P	P	12 19 14.2	+0.4
	comp=Z,0.9nm,0.4s,baz=264,slow=5.9,SNR=13						
	comp=Z,0.9nm,0.4s						
NVAR	Mina Array Bea	77.68	322	P	P	12 19 19.1	+4.1
	comp=Z,0.3nm,0.7s,baz=132,slow=4.3,SNR=2.0						
	comp=Z,0.3nm,0.7s						
ZALV	Zalesovo Beam	143.62	27	PKP	PKPdf	12 26 50.8	-0.8
	comp=Z,0.3nm,0.3s,baz=316,slow=4.0,SNR=2.5						
MKAR	Makanchi Array	146.96	38	PKPbc	PKiKP	12 27 01.0	-1.2
	comp=Z,0.4nm,0.4s,baz=294,slow=4.6,SNR=2.7						

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*CATAC **04** 12:31:27.7±0.6, 8°.58N×83°.12W, h15km±5km, ML2.7*
*UPA **04** 12:31:27.7±1.3, 8°.59N×83°.11W, h27km±6km, ML3.6*
ISC 04 12:31:28.5±1.0, **8°.58N**±0°.04×**83°.07W**±0°.04, **h31**km±7km, **n18**, σ**1s.04**/31, **1C-2D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDITO	Canoas	0.20	92⇑	iP	Pb	12 31 34.1	-0.6
CDITO				AMP		12 31 34.3	
	comp=Z,12µm,0.1s						
CDITO				eS	Sb	12 31 39.1	+0.1
CDITO	Canoas	0.20	92	iP	Pb	12 31 34.1	-0.6
CDITO				iS	Sb	12 31 39.8	+0.8
CDITO				IAML		12 31 42.7	
	comp=Z,1µm,1.0s						
PTPM	Petroterminale	0.42	153	eP	Pb	12 31 36.5	-1.2
PTPM				AMP		12 31 36.7	
	comp=Z,14µm,0.1s						
PTPM				eS	Sn	12 31 45.1	0.0
BRU2	Volcan	0.43	60⇓	iP	Pb	12 31 37.6	-0.5
BRU2				AMP		12 31 37.8	
	comp=Z,513nm,0.1s						
BRU2				eS	Sn	12 31 45.7	-0.1
BRU2	Volcan	0.43	60	iP	Pb	12 31 37.5	-0.5
BRU2				iS	Sn	12 31 45.6	-0.1
BRU2				IAML		12 31 45.8	
	comp=Z,400nm,1.0s						
POTG	Potrero Grande	0.47	354	iP	Pn	12 31 38.4	-0.8
POTG				iS	Sn	12 31 45.6	-1.0
POTG				IAML		12 31 48.1	
	comp=Z,1µm,1.0s						
BC3P	Paso Ancho	0.51	63	eP	Pb	12 31 39.5	+0.2
LIMO3	Limones	0.52	157	eP	Pb	12 31 37.8	-1.4
LIMO3				AMP		12 31 38.0	
	comp=Z,3µm,0.1s						
BCO2	Palmira	0.55	75⇓	eP	Pb	12 31 39.3	-0.7
BCO2				AMP		12 31 41.0	
	comp=Z,4µm,0.1s						
BCO2				eS	Sb	12 31 48.4	+0.6
PTAR3	Potrerillos Ar	0.58	79	eP	Pb	12 31 39.6	-0.7
PTAR3				eS	Sb	12 31 48.6	+0.2
DVD	David	0.63	103	eP	Pb	12 31 41.2	+0.2
DVD				eS	Sb	12 31 49.2	-0.4
OCHAL	Ojochal	0.77	312	iP	Pb	12 31 42.2	-1.2
OCHAL				IAML		12 31 42.7	
	comp=Z,11nm,1.0s						
OCHAL				iS	Sn	12 31 53.1	-0.7
CHGR2	Aguacate	0.98	69	eP	Pb	12 31 45.4	-1.6
CHGR2				eS	Sb	12 31 59.3	-0.3
LCR2	La Lucha 2	1.48	321	iP	Pn	12 31 52.8	-0.4
LCR2				iS	Sb	12 32 13.4	-0.6
LCR2				IAML		12 32 19.7	
	comp=Z,77nm,1.0s						
JACO	JACO, Garabito	1.90	305	iP	Pn	12 31 58.5	-0.3
JACO				IAML		12 32 04.0	
	comp=Z,50nm,1.0s						
JACO				iS	Sn	12 32 22.5	+0.7
LAFE	Finca La Fe, P	2.19	304	iP	Pn	12 32 03.4	+0.6
LAFE				IAML		12 32 09.7	
	comp=Z,67nm,1.0s						
ORTG	Ortega, Santa	2.95	307	iP	Pn	12 32 14.6	+1.3
ORTG				IAML		12 34 27.3	
	comp=Z,89nm,1.0s						
JAYA	Jayaque - finc	8.04	309	iP	Pn	12 33 27.0	+3.6

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*TAP **04** 12:45:23.9, 24°.79N×122°.93E, h134km±1km, ML3.2, D*
*JMA **04** 12:45:24.3±0.2, 25°N±2°×122°.9E±0°.5, h132km±1km, MV2.5/15, NW OFF ISHIGAKIJIMA IS*
ISC 04 12:45:24.8±1.6, **24°.79N**±0°.06×**122°.91E**±0°.03, **h128**km±9km, **n72**, σ**0s.74**/126, **2C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.34	175	P	Pn	12 45 43.0	+0.2
JYNG				S	Sn	12 45 57.1	+0.7
YOJ	Yonaguni jima	0.34	164	P	Pn	12 45 42.9	+0.1
YOJ				S	Sn	12 45 57.0	+0.6
YOJ	Yonaguni jima	0.34	164	eP	Pn	12 45 42.3	-0.6
	baz=168						
EOS2	EOS2	0.72	239	iP	Pn	12 45 45.2	+0.2
	baz=239						
EOS2				S	Sn	12 46 01.2	+1.0
	baz=239						
EOS3	EOS3	0.74	227	iP	Pn	12 45 45.5	+0.5
	baz=228						
EOS3				iS	Sn	12 46 01.9	+1.6
	baz=228						
EOS4	EOS4	0.86	219	P	Pn	12 45 45.9	+0.1
	baz=219						
EOS4				S	Sn	12 46 02.8	+1.1
	baz=219						
IRIF	Iriomote-Funau	0.87	121	P	Pn	12 45 46.3	0.0
IRIF				S	Sn	12 46 02.9	+0.3
TWC	Suao	0.98	260⇑	iP	Pn	12 45 47.0	-0.3
	baz=259						
TWC				iS	Sn	12 46 04.1	-0.3
	baz=259						
TIPB	Shuangxi	1.00	281	P	Pn	12 45 47.5	0.0
	baz=280						
TIPB				S	Sn	12 46 04.9	+0.1
	baz=280						
EWUT	Wuta	1.09	252	P	Pn	12 45 48.1	-0.1
	baz=251						
EWUT				eS	Sn	12 46 05.5	-0.7
	baz=251						
HATJ	Hateruma jima	1.09	132	P	Pn	12 45 48.9	+0.5
HATJ				eS	Sn	12 46 06.4	+0.1
NDS	Dongshan	1.10	262	P	Pn	12 45 48.1	-0.3
	baz=261						
NDS				S	Sn	12 46 04.8	-1.6
	baz=261						
ENA	Nanau	1.12	252	iP	Pn	12 45 48.8	+0.1
	baz=251						
ENA				iS	Sn	12 46 06.7	-0.1
	baz=251						
TWE	Neicheng	1.13	267	iP	Pn	12 45 48.9	+0.2
	baz=266						
TWE				iS	Sn	12 46 06.8	-0.1
	baz=266						
JKRS	Kuro-shima	1.14	118	P	Pn	12 45 49.1	+0.3
JKRS				S	Sn	12 46 07.1	0.0
JIJ	Ishigaki jima	1.20	110	P	Pn	12 45 49.2	-0.2
JIJ				S	Sn	12 46 07.0	-1.2
FUSB	Fushanzhiwuyua	1.20	269	P	Pn	12 45 49.5	0.0
	baz=268						
FUSB				S	Sn	12 46 07.7	-0.7
	baz=268						
ENTT	Nioudou	1.23	263	P	Pn	12 45 50.0	+0.2
	baz=262						
ENTT				eS	Sn	12 46 09.1	+0.2
	baz=262						
YM01	YM01	1.27	287	eP	Pn	12 45 48.3	-1.9
	baz=285						
YM01				eS	Sn	12 46 09.6	+0.1
	baz=285						
NWLT	Wulai	1.28	270	eP	Pn	12 45 50.1	-0.2
	baz=269						
NWLT				eS	Sn	12 46 10.8	+1.0
	baz=269						
LATG	Datong	1.28	259	P	Pn	12 45 50.9	+0.5
	baz=258						
LATG				S	Sn	12 46 10.1	+0.1
	baz=258						
NDT	Datong Townshi	1.29	262	P	Pn	12 45 50.9	+0.6
	baz=261						
NDT				eS	Sn	12 46 10.0	+0.2
	baz=261						
JISG	Ishigakijimahi	1.29	99	eP	Pn	12 45 50.4	0.0
JISG				eS	Sn	12 46 08.8	-1.0
ETL	Fush Village	1.33	242	P	Pn	12 45 50.4	-0.5
	baz=242						
ETL				eS	Sn	12 46 11.0	+0.2
	baz=242						
NACB	Ninganchiao	1.35	243	P	Pn	12 45 50.6	-0.5
	baz=243						
NACB				S	Sn	12 46 10.1	-0.9
	baz=243						
TWD	Chiawan	1.39	240	iP	Pn	12 45 50.9	-0.6
	baz=239						
TWD				S	Sn	12 46 10.5	-1.3
	baz=239						
YHNB	Yeheng	1.40	266⇑	iP	Pn	12 45 51.9	+0.2
	baz=265						
YHNB				iS	Sn	12 46 12.1	-0.1
	baz=265						
NSK	Sanguang	1.42	266	iP	Pn	12 45 52.0	+0.1
	baz=265						
NSK				iS	Sn	12 46 12.3	-0.2
	baz=265						
ETLH	Xiulin Townshi	1.43	246	P	Pn	12 45 51.5	-0.5
	baz=246						
ETLH				S	Sn	12 46 12.7	0.0
	baz=246						
NNSB	Datong	1.44	256	P	Pn	12 45 52.4	+0.3
	baz=255						
NNSB				S	Sn	12 46 12.8	-0.2
	baz=255						
NNS	Nan Shan	1.44	256	iP	Pn	12 45 52.2	0.0
	baz=255						
NNS				S	Sn	12 46 12.6	-0.5
	baz=255						
ETM	Tongmen	1.53	238	P	Pn	12 45 52.6	-0.5
	baz=237						
ETM				S	Sn	12 46 13.7	-0.9
	baz=237						
LXIB	Xiulin Townshi	1.56	241	P	Pn	12 45 52.9	-0.7
	baz=241						
LXIB				S	Sn	12 46 14.1	-1.5
	baz=241						
WHF	Hehuan Shan	1.63	247	iP	Pn	12 45 54.9	+0.2
	baz=246						
WHF				iS	Sn	12 46 16.7	-0.7
	baz=246						
JTJ	Tarama	1.64	95	eP	Pn	12 45 54.4	+0.1
JTJ				eS	Sn	12 46 16.5	-0.2
NFF	Wufeng Townshi	1.64	265	eP	Pn	12 45 54.3	0.0
	baz=264						
NFF				S	Sn	12 46 16.5	-0.4
	baz=264						
ESL	Shilin	1.66	235	P	Pn	12 45 53.9	-0.7
	baz=234						
ESL				eS	Sn	12 46 15.4	-1.9
	baz=234						
TWT	Tachien	1.67	252	iP	Pn	12 45 56.1	+1.3
	baz=251						
TWT				iS	Sn	12 46 17.9	+0.1
	baz=251						
TDCB	Techi	1.68	252	P	Pn	12 45 55.5	+0.5
	baz=251						
TDCB				eS	Sn	12 46 17.5	-0.5
	baz=251						
CHGB	Renai	1.74	246	P	Pn	12 45 56.1	+0.3
	baz=245						
CHGB				S	Sn	12 46 19.1	-0.2
	baz=245						
NSTT	Nanjuang	1.75	265	S	Sn	12 46 18.3	-0.8
	baz=264						
WARBT	Fenglin Townsh	1.75	233	P	Pn	12 45 55.0	-0.7
	baz=232						
WARBT				eS	Sn	12 46 17.6	-1.7
	baz=232						
EGFH	Guangfu	1.75	231	eP	Pn	12 45 54.8	-0.9
	baz=230						
EGFH				eS	Sn	12 46 18.2	-1.0
	baz=230						
OWD	Renai	1.79	243	P	Pn	12 45 55.9	-0.3
	baz=242						
OWD				S	Sn	12 46 19.8	-0.4
	baz=242						
WUSB	Renai	1.82	245	P	Pn	12 45 56.9	+0.3
	baz=244						
WUSB				S	Sn	12 46 20.3	-0.5
	baz=244						
WHP	Taichung City	1.86	255	eP	Pn	12 45 57.9	+0.8
	baz=254						
WHP				eS	Sn	12 46 22.3	+0.6
	baz=254						
HGSD	Ruisui	1.87	227	eP	Pn	12 45 56.3	-0.8
	baz=226						
HGSD				eS	Sn	12 46 21.7	-0.1
	baz=226						
VWDT	VWDT	1.92	238	eP	Pn	12 45 57.6	0.0
	baz=237						
VWDT				eS	Sn	12 46 22.3	-0.4
	baz=237						
EHY	Hungye	1.93	229	P	Pn	12 45 56.4	-1.5
	baz=228						
WCS	Beigang Elemen	1.96	249	eP	Pn	12 45 59.2	+1.1
	baz=248						
WCS				eS	Sn	12 46 25.2	+1.5
	baz=248						
NSY	Sanyi	1.99	260	eP	Pn	12 45 58.7	+0.2
	baz=259						
NSY				eS	Sn	12 46 24.8	+0.4
	baz=259						
YULB	Yu-li	2.03	227	eP	Pn	12 45 58.5	-0.5
	baz=227						
YULB				eS	Sn	12 46 23.9	-1.3
	baz=227						
EYUL	Yuli	2.04	226	eP	Pn	12 46 00.3	+1.2
	baz=225						
SMLT	Sun Moon Lake	2.04	244	eP	Pn	12 45 60.0	+0.7
	baz=243						
SSLB	Suanglung	2.04	241	eP	Pn	12 45 59.4	+0.2
	baz=241						
SSLB				eS	Sn	12 46 27.0	+1.4
	baz=241						
TWF1	Yuli	2.05	226	P	Pn	12 45 58.7	-0.6
	baz=226						
TWF1				eS	Sn	12 46 25.1	-0.7
	baz=226						
TYC	Yuchr	2.07	245	P	Pn	12 46 00.6	+1.2
	baz=244						
TYC				eS	Sn	12 46 26.4	+0.3
	baz=244						
FULB	Fuli	2.17	223	eP	Pn	12 46 00.5	-0.2
	baz=223						
FULB				eS	Sn	12 46 28.4	+0.1
	baz=223						
WHYT	Xinyi Township	2.17	240	eP	Pn	12 46 01.5	+0.7
	baz=240						
JMJ2	Miyako jima3	2.20	91	eP	Pn	12 46 01.3	+0.3
JMJ2				S	Sn	12 46 28.7	-0.1
WJS	Zhushan	2.21	245	eP	Pn	12 46 02.0	+0.7
	baz=244						
EHD	Haiduan	2.26	224	eP	Pn	12 46 01.1	-0.8
	baz=223						
ALS	Alishan	2.31	237	eP	Pn	12 46 03.3	+0.6
	baz=236						
ELDTW	Lidau	2.35	228	eP	Pn	12 46 02.8	-0.4
	baz=227						
CHN5	Tsauling	2.36	240	eP	Pn	12 46 03.8	+0.6
	baz=240						
WCKO	Fanlu	2.50	238	eP	Pn	12 46 05.4	+0.5
	baz=237						
STYH	Taoyuan	2.53	231	eP	Pn	12 46 06.0	+0.7
	baz=230						
CHN4	Tsaushan	2.56	236	eP	Pn	12 46 06.5	+0.8
	baz=236						
TPUB	Ta-pu	2.56	235	eP	Pn	12 46 07.4	+1.7
	baz=234						
WTP	Ta-pu	2.60	234	eP	Pn	12 46 07.3	+1.1
	baz=233						
TWK	Hsinying	2.68	236	eP	Pn	12 46 08.5	+1.2
	baz=235						
CHN1	Nanshi	2.70	234	eP	Pn	12 46 08.1	+0.6
	baz=233						

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*NEIC **04** 13:21:01.8±0.5, 19°.48N±0°.05×66°.08W±0°.08, h35km±2km, ML2.8/12, Md3.2/5(RSPR), Error ellipse: s-maj=15.8km s-min=3.7km az=57.0*
*RSPR **04** 13:21:03.3, 19°.47N×66°.08W, h33km±24km, MD3.1/5*
ISC 04 13:20:59.8±3.1, **19°.4N**±0°.1×**66°.1W**±0°.2, **h14**km, **n22**, σ**0s.44**/19, **4C-2D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	Arecibo Observ	1.23	211⇑	eP	Pb	13 21 23.0	0.0
AOPR	Arecibo Observ	1.23	211	eS	Sn	13 21 39.3	+0.1
AOPR	Arecibo Observ	1.23	211		Sn	13 21 39.3	+0.1
AOPR	Arecibo Observ	1.23	211		Pn	13 21 22.7	0.0
AOPR	Arecibo Observ	1.23	211	IAML		13 21 40.4	
	comp=N,882nm,0.4s						
AOPR				IAML		13 21 44.2	
	comp=E,941nm,0.4s						
SJG	San Juan	1.30	182⇑	eP	Pg	13 21 24.3	-0.6
SJG	San Juan	1.30	182		Pg	13 21 24.3	-0.6
SJG	San Juan	1.30	182	IAML		13 21 45.0	
	comp=E,171nm,0.6s						
SJG				IAML		13 21 47.6	
	comp=E,132nm,0.4s						
OBIP	Obispado Ponce	1.45	200⇑	eP	Pb	13 21 26.9	+0.3
OBIP	Obispado Ponce	1.45	200	eS	Sb	13 21 45.1	+0.1
OBIP	Obispado Ponce	1.45	200		Pb	13 21 26.9	+0.3
OBIP					Sb	13 21 45.1	+0.1
OBIP	Obispado Ponce	1.45	200	IAML		13 21 47.1	
	comp=E,82nm,0.2s						
OBIP				IAML		13 21 52.1	
	comp=N,86nm,0.5s						
LSP	Las Mesas	1.55	217⇓	eP	Pn	13 21 27.6	+0.5
LSP	Las Mesas	1.55	217		Pn	13 21 27.6	+0.5
MLPR	Magueyes Islan	1.70	212⇓	eP	Pb	13 21 30.2	-0.6
MLPR	Magueyes Islan	1.70	212		Pn	13 21 29.6	+0.5
MLPR				IAML		13 21 56.6	
	comp=E,65nm,0.6s						
CRPR	Cabo Rojo, PR	1.70	215⇑	eP	Pb	13 21 30.4	-0.6
CRPR	Cabo Rojo, PR	1.70	215	eS	Sn	13 21 50.8	+0.1
CRPR	Cabo Rojo, PR	1.70	215		Sn	13 21 50.8	+0.1
CRPR	Cabo Rojo, PR	1.70	215		Pn	13 21 29.9	+0.8
CRPR	Cabo Rojo, PR	1.70	215	IAML		13 21 56.7	
	comp=N,51nm,0.7s						
CRPR				IAML		13 22 02.0	
	comp=E,38nm,0.6s						
SDDR	Presa de Saban	4.93	266	Pn	Pn	13 22 13.8	+0.3
SDDR				IAML		13 23 45.9	
	comp=E,18nm,0.9s						

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*IDC **04** 13:28:16.7±7.1, 7°.03S×155°.93E, h69km±56km, mb3.5/7, mbtmp3.8/8, ML2.0/1, MS2.9/1, Error ellipse: s-maj=48.0km s-min=27.1km az=96.0*
ISC 04 13:28:15.6±1.1, **7°.0S**±0°.2×**156°.1E**±0°.2, **h62**km, **n16**, σ**0s.81**/11, **mb3.8**/7, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	9.13	254	P	Pn	13 30 25.5	+0.8
	0.8nm,0.3s,baz=76,slow=11,SNR=2.9						
	7.8nm,0.6s						
CTA	Charters Tower	16.12	215	LR	LR	13 37 33.2	
	comp=Z,40nm,18.1s,baz=82,slow=35						
WRA	Warramunga Arr	24.69	236	P	P	13 33 30.3	-0.7
	0.3nm,0.4s,baz=60,slow=9.6,SNR=10.0						
WRA				PcP	PcP	13 37 07.8	+0.7
	0.3nm,0.6s,baz=64,slow=3.1,SNR=2.3						
	0.3nm,0.4s						
ASAR	Alice Springs	26.97	230	P	P	13 33 50.1	-1.6
	0.4nm,0.5s,baz=60,slow=10.0,SNR=19						
ASAR				PcP	PcP	13 37 12.7	+0.3
	0.2nm,0.5s,baz=65,slow=2.8,SNR=6.9						
	0.4nm,0.5s						
H11S3	WAKE ISLAND Hy	27.42	22	T	T	14 02 21.9	
	baz=202,slow=75,SNR=66						
H11S2	WAKE ISLAND Hy	27.42	22	T	T	14 02 22.2	
	baz=202,slow=75,SNR=42						
H11S1	WAKE ISLAND Hy	27.43	22	T	T	14 02 22.4	
	baz=202,slow=75,SNR=35						
H11N1	WAKE ISLAND Hy	28.61	22	T	T	14 03 54.8	
	baz=210						
H11N3	WAKE ISLAND Hy	28.62	22	T	T	14 04 09.7	
	baz=210						
H11N2	WAKE ISLAND Hy	28.62	22	T	T	14 03 55.5	
	baz=210						
CMAR	Chiang Mai Arr	61.74	295	P	P	13 38 27.4	-0.7
	0.3nm,0.4s,baz=116,slow=6.1,SNR=1.2						
	0.3nm,0.4s						
QSPA	South Pole Qui	82.98	180	P	P	13 40 34.3	+0.3
	0.7nm,0.6s,baz=0.2,slow=1.5,SNR=11						
	0.7nm,0.6s						
ILAR	Eielson Array	82.99	21	P	P	13 40 33.7	-0.1
	0.8nm,1.2s,baz=248,slow=4.8,SNR=4.6						
	0.8nm,1.2s						
MKAR	Makanchi Array	84.11	318	P	P	13 40 40.4	+0.4
	0.8nm,0.6s,baz=90,slow=7.3,SNR=5.9						
	0.8nm,0.6s						
ZALV	Zalesovo Beam	84.78	326	P	P	13 40 43.1	0.0
	0.8nm,0.5s,baz=94,slow=4.1,SNR=2.6						
	0.8nm,0.5s						
TORD	Torodi Ar. Bea	154.04	286	PKPbc	PKPbc	13 48 09.5	+0.1
	0.2nm,0.4s,baz=148,slow=37,SNR=2.7						

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*DNK **04** 13:33:21.5±1.0, 59°.95N×10°.47E, h0km, ML2.6(UPP), Suspected explosion*
*UPP **04** 13:33:21.3±0.8, 59°.97N×10°.53E, h0km, ML2.6*
*BER **04** 13:33:22.6±0.9, 59°.93N×10°.50E, h0km, ML1.1, Suspected explosion*
ISC 04 13:33:21.1±0.8, **59°.95N**±0°.03×**10°.51E**±0°.03, **h0**km, **n23**, σ**0s.29**/39, **Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAO01	NORSAR Array S	0.92	12	eP	Pb	13 33 39.6	-0.3
NC602	NORSAR Array S	0.94	33	eP	Pg	13 33 39.3	+0.3
NC602				eS	Sb	13 33 52.4	-0.9
NC602				IAML		13 33 57.0	
	comp=Z,4.2nm,0.3s						
STRU	Stroemstad	0.98	159	P	Pg	13 33 40.1	+0.2
STRU				S	Sg	13 33 52.8	+0.3
STRU	Stroemstad	0.98	159	eP	Pg	13 33 40.0	+0.2
STRU				eS	Sg	13 33 52.6	0.0
STRU	Stroemstad	0.98	159	P	Pg	13 33 40.1	+0.2
STRU				S	Sg	13 33 52.8	+0.3
NBO00	NORSAR Array S	1.09	7	eP	Pb	13 33 43.0	+0.2
NBO00				eS	Sb	13 33 57.3	-0.3
NBO00				IAML		13 34 01.0	
	comp=Z,3.6nm,0.3s						
FINU	Finntorp	1.14	118	P	Pg	13 33 42.5	-0.4
FINU				S	Sg	13 33 57.3	-0.4
FINU	Finntorp	1.14	118	P	Pg	13 33 42.5	-0.4
FINU				S	Sg	13 33 57.3	-0.4
NB201	NORSAR Array S	1.17	19	eP	Pg	13 33 43.6	+0.1
NB201				eS	Sb	13 34 00.0	+0.2
NB201				IAML		13 34 03.5	
	comp=Z,8.3nm,0.9s						
SKAR	Skarslia	1.32	305	eP	Pg	13 33 46.2	-0.1
SKAR				eS	Sb	13 34 04.2	0.0
SKAR				IAML		13 34 08.3	
	comp=Z,15nm,0.6s						
NC204	NORSAR Array S	1.33	5	eP	Pg	13 33 46.6	0.0
NC204				eS	Sb	13 34 05.0	+0.3
NC204				IAML		13 34 06.9	
	comp=Z,2.7nm,0.4s						
NC303	NORSAR Array S	1.35	18	eP	Pg	13 33 47.0	+0.1
NC303				eS	Sn	13 34 06.1	+0.4
NC303				IAML		13 34 07.8	
	comp=Z,2.8nm,0.4s						
UDD	Uddeholm	1.56	84	P	Pn	13 33 50.2	+0.1
UDD				S	Sn	13 34 11.2	+0.2
UDD	Uddeholm	1.56	84	P	Pn	13 33 50.2	+0.1
UDD				S	Sn	13 34 11.2	+0.2
VANU	Vaenersborg	1.67	150	P	Pn	13 33 51.8	+0.3
VANU	Vaenersborg	1.67	150	P	Pn	13 33 51.8	+0.3
NASU	Vaermlandsnaes	1.71	126	P	Pn	13 33 52.2	+0.1
NASU				S	Sb	13 34 15.3	-0.1
NASU	Vaermlandsnaes	1.71	126	P	Pn	13 33 52.2	+0.1
NASU				S	Sb	13 34 15.3	-0.1
ODD1	Odda	1.95	271	ePg	Pb	13 33 57.1	-0.4
ODD1				eSg	Sg	13 34 23.3	-0.4
ODD1				IAML		13 34 25.0	
	comp=Z,6.2nm,0.2s						
TJOU	Tjoern	2.01	163	P	Pn	13 33 56.3	+0.1
TJOU	Tjoern	2.01	163	P	Pn	13 33 56.3	+0.1
ASKU	Askersund	2.45	114	P	Pn	13 34 02.5	+0.3
ASKU	Askersund	2.45	114	P	Pn	13 34 02.5	+0.3

CATAC ***04*** *13:49:43.1±0.3, 9°.41N×84°.57W, h4^{km}±2^{km}, ML4.1*
UCR ***04*** *13:49:43.8±1.4, 9°.40N×84°.61W, h20^{km}±4^{km}, MW4.2*
ISC 04 13:49:41.8±1.2**, 9°.38N**±0°.03×**84°.62W**±0°.02**, h5**^{km}±10^{km}**,**
n143, σ0^{s}.71/180**, 10C-53D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACO	JACO, Garabito	0.28	351	⇓iP	Pb	13 49 49.6	+0.3
JACO				eS	Sb	13 49 54.3	0.0
JACO	JACO, Garabito	0.28	351	i P	Pb	13 49 48.8	-0.5
JACO				i S	Sb	13 49 53.3	-1.1
JACO				IAML		13 49 54.8	
	comp=Z,14µm,1.0s						
RITA	Parrita	0.31	64	⇓iP	Pb	13 49 50.0	+0.2
RITA				eS	Sb	13 49 55.7	+0.4
SVQ2	Quepos	0.45	84	eP	Pb	13 49 52.2	+0.1
LAFE	Finca La Fe, P	0.51	325	⇓iP	Pb	13 49 54.1	+0.8
LAFE				eS	Sb	13 50 02.6	+1.6
LAFE	Finca La Fe, P	0.51	325	i P	Pb	13 49 53.4	+0.1
LAFE				i S	Sb	13 50 02.3	+1.3
LAFE				IAML		13 50 03.9	
	comp=Z,10µm,1.0s						
CBL1	Cabuya	0.51	293	⇑iP	Pn	13 49 54.3	-1.5
LLNJ	Naranjito	0.52	80	eP	Pb	13 49 53.6	+0.2
LLNJ				eS	Sb	13 50 01.5	+0.3
TRB2	Turrubares	0.55	17	⇓iP	Pb	13 49 53.8	-0.2
ACOS	Acosta	0.60	47	⇓iP	Pb	13 49 54.7	-0.2
ACOS				eS	Sg	13 50 01.4	+0.1
ARZA	Esparza	0.60	355	⇓iP	Pn	13 49 55.8	-1.3
ABE2	San Pablo	0.64	60	⇓eP	Pb	13 49 55.3	-0.3
RAZU	San Marcos de	0.65	65	eP	Pb	13 49 55.6	-0.1
LCR2	La Lucha 2	0.70	59	⇓iP	Pb	13 49 56.2	-0.4
LCR2	La Lucha 2	0.70	59	i P	Pb	13 49 55.9	-0.7
LCR2				i S	Sg	13 50 04.3	-0.1
LCR2				IAML		13 50 07.6	
	comp=Z,4µm,1.0s						
SRA1	San Ramn	0.71	11	⇓iP	Pb	13 49 56.5	-0.3
RAMO	San Ramon	0.71	12	⇓iP	Pb	13 49 56.8	0.0
BELE	Belen	0.72	36	⇓iP	Pb	13 49 57.6	+0.6
BELE				eS	Sg	13 50 04.4	-0.7
AMPA	Desamparados	0.75	47	⇓iP	Pn	13 49 58.1	-1.0
AMPA				eS	Sb	13 50 08.3	+0.4
NARAN	Naranjo de Ala	0.75	18	⇓eP	Pn	13 49 58.6	-0.6
SARCI	Sarchi	0.75	21	⇓iP	Pb	13 49 57.8	+0.3
EDDO	Dominical	0.75	100	eP	Pb	13 49 57.3	0.0
EDDO				eP	Pn	13 49 57.5	-1.6
EDDO				eS	Sb	13 50 08.2	+0.3
LUJA	Lujan	0.76	45	⇓iP	Pb	13 49 58.3	+0.7
LUJA				eS	Sb	13 50 08.6	+0.3
MEXI	Barrio Mexico	0.76	43	⇓iP	Pb	13 49 57.5	-0.2
SJS	Escuela Geolog	0.78	45	⇓eP	Pb	13 49 57.8	-0.2
SJS3	Mercedes San J	0.78	45	⇓iP	Pb	13 49 57.9	-0.1
TIBA	Tibas	0.79	43	eP	Pb	13 49 57.8	-0.2
DOMI	Santo Domingo	0.79	41	⇓eP	Pb	13 49 58.0	-0.1
DOMI				eS	Sg	13 50 06.4	-0.8
HDC	Heredia	0.79	39	⇓iP	Pb	13 49 58.0	-0.1
HDC				eS	Sg	13 50 07.6	+0.4
HDC3	Heredia 3	0.79	39	⇓iP	Pb	13 49 58.0	-0.1
HDC3				eS	Sg	13 50 07.6	+0.3
HDC3	Heredia 3	0.79	39	i P	Pg	13 49 57.2	+0.2
HDC3				i S	Sg	13 50 06.7	-0.6
HDC3				IAML		13 50 12.2	
	comp=Z,4µm,1.0s						
TRIO	Tres Rios	0.80	50	eP	Pg	13 49 57.5	+0.2
OCM	Ochomogo	0.82	52	⇓eP	Pg	13 49 57.9	+0.3
OCM	Ochomogo	0.82	52	i P	Pg	13 49 57.9	+0.3
OCM				IAML		13 50 00.4	
	comp=Z,2µm,1.0s						
OCM				i S	Sb	13 50 10.3	+0.2
ZARE	Zarcero	0.82	16	⇓iP	Pb	13 49 59.1	+0.4
RIMA	Rio Macho	0.83	63	⇓iP	Pb	13 49 58.4	-0.5
RIMA				eS	Sb	13 50 11.2	+0.7
TAGO	Cartago	0.83	55	eP	Pb	13 49 58.6	-0.3
CORON	Coronado	0.84	46	⇓eP	Pb	13 49 59.1	+0.1
CDM	Cerro de Muert	0.86	79	⇓eP	Pb	13 49 59.1	-0.4
CDM				eS	Sn	13 50 12.9	-1.2
CDM	Cerro de Muert	0.86	79	i P	Pg	13 49 58.0	-0.3
CDM				i S	Sg	13 50 10.3	+0.8
CDM				IAML		13 50 13.8	
	comp=Z,7µm,1.0s						
REPA	Paraso	0.86	59	eP	Pn	13 49 59.9	-0.8
BUS1	Rivas	0.87	79	⇓eP	Pb	13 49 59.2	-0.5
NYURE	Nandayure	0.88	314	⇑iP	Pn	13 49 59.9	-0.8
VPTE	Poasito	0.88	28	⇓iP	Pb	13 49 59.9	+0.1
VPTE	Poasito	0.88	28	i P	Pg	13 49 58.5	-0.3
VPTE				IAML		13 50 00.1	
	comp=Z,10µm,1.0s						
VPTE				i S	Sg	13 50 10.1	-0.2
VPS6	Volcano Poas	0.89	25	⇓iP	Pb	13 49 59.7	-0.2
ZELE	Perez Zeledon	0.90	91	eP	Pb	13 49 59.9	0.0
POA5	Crater Von Fra	0.90	25	⇓iP	Pb	13 49 59.8	-0.3
CVIMO	Finca Echandi	0.92	46	⇓iP	Pb	13 50 00.3	-0.1
CPMI	Catarata Coope	0.92	14	⇓iP	Pb	13 50 00.4	0.0
CPMI				eS	Sb	13 50 13.9	+0.8
CPMI	Catarata Coope	0.92	14	i P	Pb	13 49 59.8	-0.6
CPMI				i S	Sg	13 50 10.4	-1.1
CPMI				IAML		13 50 14.8	
	comp=Z,4µm,1.0s						
MONTE	Monteverde	0.94	348	i P	Pb	13 50 00.3	-0.3
JUNT	Juntas	0.95	339	eP	Pb	13 50 00.4	-0.5
PCAYA	Pacayas	0.95	56	⇓eP	Pb	13 50 00.8	-0.1
HAYA	Volcan Irazu	0.96	52	i P	Pb	13 50 00.7	-0.6
HAYA				IAML		13 50 02.2	
	comp=Z,10µm,1.0s						
HAYA				i S	Sb	13 50 14.7	+0.2
VICA	Volcano Irazu	0.97	52	⇓eP	Pb	13 50 01.0	-0.3
ICR3	Volcano Irazu	0.97	53	⇓eP	Pb	13 50 01.1	-0.3
RAFA	San Farael, Vo	0.98	54	⇓eP	Pb	13 50 01.3	-0.1
RAFA	San Farael, Vo	0.98	54	i P	Pb	13 50 00.8	-0.6
RAFA				IAML		13 50 02.4	
	comp=Z,45µm,1.0s						
RAFA				i S	Sg	13 50 13.6	+0.3
SOCE	Pocosol	0.99	360	⇓eP	Pb	13 50 01.8	+0.2
SOCE	Pocosol	0.99	360	i P	Pb	13 50 01.6	+0.1
SOCE				i S	Sb	13 50 15.6	+0.7
SOCE				IAML		13 50 18.0	
	comp=Z,8µm,1.0s						
VINA	Juan Vinas	1.00	59	⇓iP	Pb	13 50 01.4	-0.2
INDI	Punta indio, G	1.00	299	eP	Pb	13 50 01.1	-0.5
INDI	Punta indio, G	1.00	299	i P	Pb	13 50 01.1	-0.5
INDI				i S	Sn	13 50 16.8	-0.1
INDI				IAML		13 50 22.9	
	comp=Z,4µm,1.0s						
OCHAL	Ojochal	1.00	106	i P	Pb	13 50 01.5	-0.1
OCHAL				i S	Sb	13 50 15.2	+0.1
OCHAL				IAML		13 50 18.0	
	comp=Z,36nm,1.0s						
VTRT	Volcan Turrial	1.02	53	⇓eP	Pb	13 50 01.9	-0.2
VTLA	Turrialba Volc	1.03	53	⇓eP	Pb	13 50 02.2	-0.2
CVTQ	Turrialba Volc	1.04	54	⇓eP	Pb	13 50 02.4	-0.1
CASO	Castillo	1.05	354	i P	Pb	13 50 02.5	0.0
VTR0	Volcan Turrial	1.05	53	⇓eP	Pb	13 50 02.8	0.0
CVTV	Tajo	1.05	54	⇓eP	Pb	13 50 02.7	0.0
TURIB	Turrialba	1.05	60	eP	Pn	13 50 03.3	0.0
CVTR	Volcan Turrial	1.05	53	⇓iP	Pb	13 50 02.6	-0.2
VTCV	VTCV, Calle Va	1.06	56	⇓iP	Pb	13 50 02.7	-0.1
VERB	Verbena	1.06	58	eP	Pb	13 50 02.7	-0.1
ARE1	Arenal 1	1.07	355	⇓iP	Pn	13 50 03.2	-0.3
ARE1				eS	Sn	13 50 19.4	+0.6
FORC	Fortuna	1.08	357	i P	Pn	13 50 03.4	-0.2
VACR	Volcan Arenal	1.08	357	⇓eP	Pn	13 50 03.5	-0.3
VACR	Volcan Arenal	1.08	357	i P	Pn	13 50 03.4	-0.3
VACR				IAML		13 50 24.2	
	comp=Z,5µm,1.0s						
NARJA	Naranjal	1.09	303	⇑eP	Pb	13 50 02.4	-0.7
VTLO	VTLO	1.09	53	eP	Pb	13 50 03.2	-0.2
SGBR	La Fortuna	1.09	353	i P	Pn	13 50 03.8	0.0
CEDE	Laguna Cedeo	1.10	355	i P	Pn	13 50 03.7	-0.2
CEDE				⇓eP	Pn	13 50 03.8	-0.2
NICO	Nicoya	1.11	312	eP	Pn	13 50 03.4	-0.6
ITAL	Pital	1.11	18	eP	Pb	13 50 03.5	0.0
RVSTA	Santa Teresita	1.12	58	eP	Pb	13 50 03.6	-0.1
RVSTA				eP	Pn	13 50 03.7	-0.5
CNAS	Canas	1.14	336	eP	Pn	13 50 05.1	+0.6
RIFO	Rio Frio, Sara	1.15	36	⇓iP	Pb	13 50 04.1	-0.1
RIFO				eS	Sb	13 50 20.0	+0.5
RIFO	Rio Frio, Sara	1.15	36	i P	Pb	13 50 04.1	-0.1
RIFO				IAML		13 50 22.2	
	comp=Z,4µm,1.0s						
JUD3	Juan Diaz 3	1.20	311	eP	Pn	13 50 04.8	-0.5
PLVR	Palo Verde	1.20	323	⇑eP	Pb	13 50 04.7	-0.4
SARA	Sarapiqu	1.21	29	eP	Pn	13 50 05.4	0.0
EDPN	Palmar Norte	1.22	110	eP	Pb	13 50 05.0	-0.4
EDPN				eP	Pn	13 50 10.4	+4.9
SRBA	San Rafael, Bu	1.25	97	⇑iP	Pn	13 50 05.8	-0.2
SRBA				eS	Sn	13 50 23.0	-0.3
SRBA	San Rafael, Bu	1.25	97	i P	Pn	13 50 05.9	-0.1
SRBA				IAML		13 50 28.4	
	comp=Z,1µm,1.0s						
LCOCO	El Coco	1.25	56	⇓eP	Pn	13 50 06.0	0.0
ORTG	Ortega, Santa	1.28	320	⇑iP	Pg	13 50 05.8	-0.6
ORTG				eS	Sn	13 50 24.7	+0.7
ORTG	Ortega, Santa	1.28	320	i P	Pg	13 50 05.7	-0.6
ORTG				IAML		13 50 33.0	
	comp=Z,1µm,1.0s						
SACU	Santa Cruz	1.29	313	eP	Pb	13 50 08.0	+1.4
BAGA	Bagaces	1.30	331	⇑iP	Pb	13 50 06.8	0.0
CARI	Cariari	1.30	42	eP	Pb	13 50 07.9	+1.1
IRES	Siquirres	1.30	57	⇓eP	Pb	13 50 07.0	+0.2
ACAL	Aguas Claras	1.31	342	i P	Pb	13 50 06.9	-0.1
EDBA	Buenos Aires	1.34	99	eP	Pn	13 50 06.8	-0.4
COVE	Coope Vega, Sa	1.34	9	⇓iP	Pn	13 50 07.0	-0.2
COVE	Coope Vega, Sa	1.34	9	i P	Pn	13 50 07.0	-0.2
COVE				IAML		13 50 34.1	
	comp=Z,3µm,1.0s						
MOTZ	Rio Naranjo	1.37	341	i P	Pb	13 50 07.9	0.0
PTEN	Parque Tenorio	1.37	345	i P	Pb	13 50 07.9	-0.1
DELF	Filadelfia	1.40	319	eP	Pg	13 50 09.2	+0.4
HORNC	Hornillas	1.43	337	i P	Pb	13 50 08.6	-0.4
TRT2	Tortugero	1.45	37	i P	Pn	13 50 08.8	+0.1
TRT2				IAML		13 50 10.2	
	comp=Z,2µm,1.0s						
EDP2	Potrero Grande	1.47	104	eP	Pn	13 50 09.0	+0.1
LIBE	Liberia	1.48	326	i P	Pg	13 50 10.2	+0.1
LIBE				IAML		13 50 35.5	
	comp=Z,4µm,1.0s						
VERA	Finca Concepci	1.48	350	eP	Pb	13 50 09.4	-0.4
CANAL	Canalete	1.50	343	i P	Pb	13 50 10.0	-0.2
POTG	Potrero Grande	1.51	102	⇑iP	Pn	13 50 09.5	-0.1
POTG				eS	Sn	13 50 29.6	-0.1
POTG	Potrero Grande	1.51	102	i P	Pn	13 50 09.5	-0.1
POTG				IAML		13 50 34.2	
	comp=Z,2µm,1.0s						
JIME	Puerto Jimenez	1.53	123	eP	Pg	13 50 13.1	+2.0
ELI1	Hacienda Flor	1.56	324	eP	Pb	13 50 10.6	-0.5
VRLE	La Escondida,	1.58	332	⇑eP	Pb	13 50 11.2	-0.3
VRLE	La Escondida,	1.58	332	i P	Pb	13 50 11.2	-0.3
VRLE				IAML		13 50 44.6	
	comp=Z,1µm,1.0s						
LAPC	Finca la Perla	1.59	330	i P	Pn	13 50 10.6	-0.1
PIRO	Carate, Puerto	1.59	128	eP	Pg	13 50 13.7	+1.2
VORI	VORI	1.60	333	⇑eP	Pb	13 50 11.2	-0.7
EDAD	Golfito	1.61	117	eP	Pn	13 50 09.9	-1.0
EDAD				⇓eP	Pn	13 50 09.9	-1.0
GB1A	Borinquen Arri	1.62	332	eP	Pb	13 50 11.8	-0.5
HZTE	Horizontes, Gu	1.64	324	eP	Pb	13 50 11.6	-0.9
HZTE	Horizontes, Gu	1.64	324	i P	Pb	13 50 11.6	-0.9
HZTE				IAML		13 50 15.7	
	comp=Z,2µm,1.0s						
LCHIL	Los Chiles	1.64	357	eP	Pb	13 50 12.5	-0.1
BRIBI	Bribri	1.76	82	eP	Pn	13 50 09.1	-3.8
CCOL	Caracol de Cor	1.89	121	eP	Pg	13 50 18.9	+0.9
CCOL	Caracol de Cor	1.89	121	i P	Pb	13 50 16.2	-0.6
CCOL				IAML		13 50 58.6	
	comp=Z,2µm,1.0s						
CTCR	Cotoan	1.90	105	i P	Pn	13 50 15.1	+0.1
CTCR				IAML		13 50 49.5	
	comp=Z,7µm,1.0s						
CDITO	Canoas	1.90	115	i P	Pn	13 50 14.5	-0.4
CDITO				IAML		13 51 05.7	
	comp=Z,870nm,1.0s						
LCRUZ	La Cruz	1.96	329	eP	Pb	13 50 17.7	-0.2
BRU2	Volcan	1.99	107	i P	Pb	13 50 17.6	-1.0
BRU2				IAML		13 50 54.6	
	comp=Z,1µm,1.0s						
OMEN	Al SSO del Vol	2.33	335	i P	Pn	13 50 21.7	+0.8
OMEN				IAML		13 50 22.3	
	comp=Z,1µm,1.0s						
CONN	Concepcion	2.38	335	i P	Pb	13 50 24.9	-0.3
CONN				IAML		13 50 37.4	
	comp=Z,3µm,1.0s						
ACON	Acoyapa	2.63	348	eP	Pn	13 50 25.4	+0.5
ACON	Acoyapa	2.63	348	i P	Pn	13 50 25.6	+0.7
ACON				IAML		13 50 37.9	
	comp=Z,310nm,1.0s						
COPN	Copaltepe	3.39	325	i P	Pb	13 50 38.9	-3.5
COPN				IAML		13 51 50.6	
	comp=Z,210nm,1.0s						
MOM2	El Cardon	3.55	329	i P	Pn	13 50 40.4	+2.9
MOM2				IAML		13 51 18.8	
	comp=Z,110nm,1.0s						
CNGA	Al SSO del Vol	3.71	327	i P	Pn	13 50 41.5	+1.7
CNGA				IAML		13 50 48.3	
	comp=Z,120nm,1.0s						

SOME ***04*** *14:17:52.7, 38°.93N×71°.95E, h15^{km}*
NEIC ***04*** *14:17:54.0±1.3, 38°.09N±0°.06×72°.88E±0°.10, h128^{km}±14^{km}, mb4.0/3, Error ellipse: s-maj=12.7km s-min=6.8km az=125.0*
IDC ***04*** *14:17:55.2±3.5, 38°.37N×72°.33E, h172^{km}±27^{km}, mb3.3/2, mbtmp3.6/9, Error ellipse: s-maj=39.7km s-min=17.2km az=159.0*
NNC ***04*** *14:17:58.6±1.6, 38°.47N×72°.69E, h162^{km}±50^{km}, mb2.5, mpv3.5, Error ellipse: s-maj=25.8km s-min=10.5km az=11.0*
ISC 04 14:17:52.5±0.7**, 38°.02N**±0°.05×**72°.71E**±0°.07**, h150**^{km}**, n57,**
σ2^{s}.48/62**, mb4.4**/6**, 4C-2D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BTK	Batken	2.51	325		Pn	14 18 35.1	+1.3
ARSB	Arslanbob	3.31	4		Pn	14 18 43.7	-0.2
AML	Almayashu	4.18	10	P	Pn	14 18 55.8	+0.4
	SNR=16						
AML	Almayashu	4.18	10	⇑Pn	Pn	14 18 55.9	+0.5
	1.1nm,0.6s						
AML				⇑Sn	Sn	14 19 41.5	-2.9
	27nm,0.8s						
NRN	Naryn	4.25	36	Pn	Pn	14 18 54.2	-2.1
NIL	Nilore	4.38	174	Pn	Pn	14 18 59.6	+1.9
UCH	Uchtor	4.43	18	P	Pn	14 18 59.2	+0.5
	SNR=11						
KZA	Kyzart	4.50	25	P	Pn	14 18 59.6	0.0
	SNR=14						
KBL	Kabul	4.56	222	Pn	Pn	14 19 03.1	+2.8
EKS2	Erkin-Say	4.71	10	P	Pn	14 19 03.3	+1.2
	SNR=11						
MRKS	Merke	4.74	5	ePg	Pn	14 19 03.2	+0.7
	10nm,0.5s						
MRKS				eLg	Lg	14 19 54.0	
	56nm,0.5s						
MRKS	Merke	4.74	5	Pg	Pn	14 19 03.2	+0.7
	10nm,0.5s						
MRKS				Lg	Lg	14 19 54.0	
	56nm,0.5s						
AAK	Ala-Archa	4.82	16	P	Pn	14 19 04.9	+1.3
	SNR=8.0						
AAK	Ala-Archa	4.82	16	Pn	Pn	14 19 04.0	+0.5
AAK	Ala-Archa	4.82	16	P	Pn	14 19 04.2	+0.6
	5.4nm,0.3s,baz=167,slow=4.8,SNR=29						
AAK				S	Sn	14 19 57.6	-1.3
	9.4nm,0.5s,baz=150,slow=20,SNR=12						
BOOM	Boomskoye usch	5.11	28		Pn	14 19 07.6	+0.2
CHMS	Chumysh	5.22	17	P	Pn	14 19 09.7	+1.0
	SNR=6.0						
CHMS	Chumysh	5.22	17	⇑Pn	Pn	14 19 09.8	+1.1
	5.5nm,0.5s						
CHMS				⇑Sn	Sn	14 20 05.3	-2.9
	10nm,0.6s						
KK31	Karatay Array	5.35	343	Pn	Pn	14 19 11.2	+0.7
KK31	Karatay Array	5.35	343	⇓P	Pn	14 19 11.4	+0.9
	8.1nm,0.4s,baz=156,slow=12,SNR=77						
KK31				⇓S	Sn	14 20 08.1	-3.3
	38nm,0.5s						
KKAR	Karatay Array	5.35	343	Pn	Pn	14 19 11.2	+0.7
TARG	Taragay, Kyrgy	5.40	45	Pn	Pn	14 19 11.1	-0.4
USP	Ospenovka	5.42	14	P	Pn	14 19 11.7	+0.3
	SNR=6.6						
KST	Kastek	5.60	25	P	Pn	14 19 14.5	+0.6
THN	Thein Dam	6.09	155	eP	Pn	14 19 21.0	+0.7
THN				eS	Sn	14 20 24.3	-4.8
THN				IAML		14 20 30.1	
	comp=N,86nm,0.4s						
KRBS	Karabastau	6.11	21	ePg	Pn	14 19 35.9	+15
	comp=N,1.7nm,0.5s						
KRBS				eLg	Lg	14 20 50.0	
	comp=N,1.7nm,0.3s						
DHRM	DHARAMSHALA	6.46	152	eP	Pn	14 19 25.1	-0.5
DHRM				eS	Sn	14 20 32.1	-6.3
SMLA	Simla	7.79	151	eP	Pn	14 19 42.3	-0.8
SMLA				eS	Sn	14 21 00.7	-9.3
KUDL	Kundal	10.34	161	eS	Sn	14 22 01.3	-10
MK31	Makanchi Array	11.27	36	Pn	Pn	14 20 29.3	+0.3
MKAR	Makanchi Array	11.27	36	Pn	Pn	14 20 28.9	-0.1
MKAR	Makanchi Array	11.27	36	P	Pn	14 20 28.5	-0.6
	comp=N,0.6nm,0.7s,baz=219,slow=15,SNR=5.6						
GEYT	Alibeck	11.52	274	P	Pn	14 20 31.1	-1.4
	comp=N,1.6nm,0.3s,baz=88,slow=8.7,SNR=12						
GEYT				S	Sn	14 22 34.8	-4.9
	comp=N,2.3nm,0.5s,baz=111,slow=21,SNR=3.1						
WMQ	Urumqi	12.73	58	eP	Pn	14 20 49.7	+1.6
PYUN	Piuthan	13.11	136	eP	Pn	14 20 49.6	-3.7
	comp=N,14nm,0.4s						
KURBB	Kurchatov Arra	13.27	16	P	Pn	14 20 52.6	-2.3
	comp=N,0.8nm,0.8s,baz=204,slow=12,SNR=4.5						
DANN	Dangsing	13.35	133	eP	Pn	14 20 52.6	-3.9
	comp=N,20nm,0.6s						
KURK	Kurchatov	13.38	16	Pn	Pn	14 20 56.6	+0.4
ABKAR	Akbulak array	14.52	325	Pn	Pn	14 21 11.9	+1.2
PKIN	Phulchoki	14.89	131	eP	Pn	14 21 13.4	-2.4
	comp=N,8.3nm,0.4s						
PKI	Pulchoki	14.90	131	eP	Pn	14 21 13.5	-2.5
	comp=N,7.6nm,0.4s						
GUN	Gumba	14.94	129	eP	Pn	14 21 13.4	-3.1
	comp=N,8.3nm,0.5s						
BVAR	Borovoye Array	15.10	355	P	Pn	14 21 13.3	-4.5
	comp=N,0.3nm,0.4s,baz=152,slow=8.0,SNR=1.6						
JIRN	Jiri	15.31	128	eP	Pn	14 21 18.5	-2.7
	comp=N,15nm,0.4s						
RAMN	Ramite	16.08	129	eP	Pn	14 21 28.3	-2.1
	comp=N,5.1nm,0.3s						
AKTO	Aktyubinsk	16.24	325	P	Pn	14 21 28.0	-3.9
	comp=N,0.7nm,0.5s,baz=95,slow=8.5,SNR=4.1						
AKTO				S	S	14 24 24.7	-7.5
	comp=N,1.5nm,0.7s,baz=180,slow=20,SNR=2.4						
LSA	Lhasa	17.40	113	P	Pn	14 21 47.5	+1.0
LSA				IAmb	IAmb	14 22 16.9	
	comp=Z,5.3nm,0.5s						
ZAA0	Zalesovo Array	17.98	24	P	P	14 21 52.1	+0.9
ZAA0				IAmb	IAmb	14 21 53.3	
	comp=Z,1.9nm,0.8s						
ZALV	Zalesovo Beam	17.98	24	P	Pn	14 21 52.4	-0.4
ZALV	Zalesovo Beam	17.98	24	P	P	14 21 51.8	+0.5
	comp=Z,2.3nm,0.6s,baz=214,slow=11,SNR=11						
SONM	Songino Array	26.36	57	P	P	14 23 16.0	+1.3
	comp=Z,0.2nm,0.4s,baz=248,slow=7.6,SNR=1.5						
	comp=Z,0.2nm,0.4s						
PZH	PanZhiHua	27.00	107	P	P	14 23 24.3	+3.8
PZH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
HHC	Hu-ho-hao-te	29.98	72	eP	P	14 23 51.1	+4.3
HHC				pmax	pmax		
	comp=Z,24nm,0.6s						
HHC				pmax	pmax		
	comp=Z,180nm,5.9s						
XLT	XiLinHaoTe	32.99	66	eP	P	14 24 16.5	+3.4
XLT				pP	pP	14 24 39.6	-6.7
XLT				sP	sP	14 24 59.9	-4.2
XLT				PP	PP	14 25 29.4	-1.2
XLT				pmax	pmax		
	comp=Z,10.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,150nm,4.2s						
FINES	FINESS Array B	37.01	325	P	P	14 24 51.1	+3.9
FINES	FINESS Array B	37.01	325	P	P	14 24 43.6	-3.6
	comp=Z,2.8nm,1.0s,baz=123,slow=10,SNR=2.0						
	comp=Z,2.8nm,1.0s						
ARCES	ARCESS Array B	40.28	336	P	P	14 25 17.9	+3.5
ARCES				IAmb	IAmb	14 25 42.9	
	comp=Z,9.4nm,1.1s						

CATAC ***04*** *14:41:18.7±0.4, 13°.46N×88°.49W, h3^{km}±2^{km}, ML2.6*
SNET ***04*** *14:41:18.9±1.5, 13°.51N×88°.50W, h6^{km}±3^{km}, ML2.2*
ISC 04 14:41:18.6±0.9**, 13°.50N**±0°.06×**88°.47W**±0°.03**, h15**^{km}±6^{km}**,**
n16, σ0^{s}.92/31**, 1D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TECA	Tecapa	0.03	253	⇓iP	Pg	14 41 20.4	-1.2
PQSS	Presa 15 de Se	0.15	325	eP	Pb	14 41 22.4	-0.7
PQSS				eS	Sg	14 41 25.0	-0.1
PQSS				IAML		14 41 25.2	
	comp=Z,1µm,0.1s						
PQSS	Presa 15 de Se	0.15	325	i P	Pb	14 41 22.4	-0.7
PQSS				i S	Sb	14 41 24.7	-1.4
PQSS				IAML		14 41 25.0	
	comp=Z,3µm,1.0s						
PACA	Pacayal	0.15	103	eP	Pg	14 41 24.3	+1.6
PACA				eS	Sg	14 41 26.4	+1.0
PACA	Pacayal	0.15	103	i P	Pg	14 41 23.9	+1.2
PACA				i S	Sg	14 41 26.2	+0.8
PACA				IAML		14 41 32.7	
	comp=Z,4µm,1.0s						
TECO	Alcaldia de Te	0.30	277	eP	Pg	14 41 25.0	0.0
TECO				eS	Sg	14 41 29.1	-0.2
TECO				IAML		14 41 30.1	
	comp=Z,184nm,0.3s						
TECO	Alcaldia de Te	0.30	277	i P	Pg	14 41 24.9	-0.1
TECO				i S	Sg	14 41 28.9	-0.4
TECO				IAML		14 41 29.8	
	comp=Z,490nm,1.0s						
SCLA	Alcaldia de Sa	0.32	309	eP	Pg	14 41 25.8	+0.5
SCLA				eS	Sg	14 41 30.7	+0.9
SCLA	Alcaldia de Sa	0.32	309	i P	Pg	14 41 25.3	0.0
SCLA				i S	Sg	14 41 29.4	-0.5
SCLA				IAML		14 41 34.4	
	comp=Z,260nm,1.0s						
UESV	Universidad de	0.33	294	i P	Pg	14 41 25.7	+0.1
UESV				i S	Sg	14 41 29.7	-0.6
UESV				IAML		14 41 35.1	
	comp=Z,570nm,1.0s						
PAVA	Las Pavas	0.50	295	i P	Pg	14 41 29.2	+0.6
PAVA				i S	Sg	14 41 36.1	+0.8
PAVA				IAML		14 41 38.6	
	comp=Z,560nm,1.0s						
CNCH	Conchagua	0.66	110	i P	Pb	14 41 30.5	-1.5
CNCH				i S	Sb	14 41 39.3	-1.7
CNCH				IAML		14 41 52.6	
	comp=Z,140nm,1.0s						
PMON	Piamonte	0.84	284	i P	Pb	14 41 35.3	+0.2
PMON				i S	Sg	14 41 47.6	+1.4
PMON				IAML		14 41 52.3	
	comp=Z,220nm,1.0s						
JAYA	Jayaque - finc	0.96	279	eP	Pb	14 41 37.5	+0.4
JAYA				eS	Sb	14 41 50.3	+0.6
JAYA				IAML		14 41 51.2	
	comp=Z,90nm,0.2s						
JAYA	Jayaque - finc	0.96	279	i P	Pb	14 41 36.0	-1.1
JAYA				i S	Sb	14 41 49.3	-0.4
JAYA				IAML		14 41 51.0	
	comp=Z,240nm,1.0s						
NUBE	Las Nubes	1.33	288	i P	Pn	14 41 43.2	+0.4
NUBE				i S	Sb	14 42 01.4	+1.1
NUBE				IAML		14 42 37.0	
	comp=Z,240nm,1.0s						

SKHL ***04*** *14:59:59.9±0.2, 43°.40N×147°.60E, h50^{km}±4^{km}, mb4.1/3*
JMA ***04*** *15:00:00.1±0.3, 43°N±1°×14°7E±°, h37^{km}, MV3.3/20, E OFF HOKKAIDO*
ISC 04 15:00:00.2±2.5**, 43°.5N**±0°.1×**147°.6E**±0°.1**, h45**^{km}±45^{km}**, n11,**
σ0^{s}.48/18**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHO	Shikotan	0.68	307	i P	Pn	15 00 13.5	0.0
SHO				AMB	AMB	15 00 13.8	
	120nm,0.2s						
SHO				i S	Sn	15 00 23.6	+0.5
SHO				A	A	15 00 23.9	
	200nm,0.2s						
SHO				A	A	15 00 23.9	
	430nm,0.2s						
NEM2	Nemuro 2	1.34	267	eP	Pn	15 00 22.0	-0.4

NEM2				eS	Sn	15 00 38.1	-1.0
YUK	**Yuzh-Kuril'sk**	**1.37**	**295**	i P	**Pn**	**15 00 22.6**	**-0.3**
YUK				AMB	AMB	15 00 23.7	
	50nm,0.2s						
YUK				i S	**Sn**	**15 00 39.6**	**-0.2**
YUK				A	A	15 00 43.7	
	200nm,0.4s						
YUK				A	A	15 00 43.7	
	140nm,0.4s						
KUR	**Kuril'sk**	**1.78**	**7**	eP	**Pn**	**15 00 28.4**	**-0.1**
KUR				AMB	AMB	15 00 29.4	
	20nm,0.2s						
KUR				i S	**Sn**	**15 00 50.0**	**0.0**
KUR				A	A	15 00 52.6	
	90nm,0.2s						
KUR				A	A	15 00 52.6	
	40nm,0.2s						
JKHN	**Kushirohamanak**	**1.81**	**259**	eP	**Pn**	**15 00 29.0**	**+0.1**
JKHN				eS	**Sn**	**15 00 50.1**	**-0.4**
JRA	**Rausu**	**1.84**	**286**	eP	**Pn**	**15 00 29.6**	**+0.2**
JRA				eS	**Sn**	**15 00 51.3**	**-0.1**
JNSB	**Nemuroshibetsu**	**1.90**	**280**	eP	**Pn**	**15 00 30.6**	**+0.5**
JNSB				eS	**Sn**	**15 00 53.2**	**+0.5**
JNK	**Nakash**	**2.08**	**274**	eP	**Pn**	**15 00 32.5**	**-0.1**
JAK	**Akkeshi**	**2.16**	**259**	eP	**Pn**	**15 00 33.6**	**0.0**
JAR	**Ashorobuto**	**2.78**	**268**	eS	**Sn**	**15 01 14.3**	**-0.2**
JCH	**Churui**	**3.20**	**256**	eP	**Pn**	**15 00 49.0**	**+0.9**

*CATAC **04** 15:07:53.4±0.3, 8°.95N×82°.99W, h7km±3km, ML2.5*
*UPA **04** 15:07:53.6±1.5, 8°.84N×82°.99W, h16km±4km, MD3.2, ML3.0, MW2.8*
ISC 04 15:07:53.2±1.0**, 8°.90N**±0°.03×**83°.00W**±0°.03**, h9**km±10km**, n19, σ0ˢ.57**/36**, 2D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTCR	**Cotoan**	**0.24**	**90**	i P	**Pg**	**15 07 58.6**	**+0.5**
CTCR				i S	**Sg**	**15 08 02.2**	**+0.8**
CTCR				IAML		15 08 04.0	
	comp=Z,4μm,1.0s						
BRU2	**Volcan**	**0.32**	**109**	i P	**Pb**	**15 08 00.8**	**-0.4**
BRU2				AMP		15 08 01.6	
	comp=Z,672nm,0.1s						
BRU2				i S	**Sb**	**15 08 06.8**	**+0.2**
BRU2	**Volcan**	**0.32**	**109**	i P	**Pb**	**15 08 00.6**	**-0.6**
BRU2				i S	**Sb**	**15 08 06.0**	**-0.6**
BRU2				IAML		15 08 09.1	
	comp=Z,400nm,1.0s						
CDITO	**Canoas**	**0.35**	**159**	i P	**Pb**	**15 08 01.6**	**0.0**
CDITO				i S	**Sb**	**15 08 08.7**	**+1.5**
CDITO				IAML		15 08 16.8	
	comp=Z,540nm,1.0s						
BC3P	**Paso Ancho**	**0.39**	**102**	eP	**Pb**	**15 08 02.3**	**-0.2**
BC3P				i S	**Sb**	**15 08 08.2**	**-0.6**
SRBA	**San Rafael, Bu**	**0.49**	**313**	i P	**Pg**	**15 08 02.6**	**-0.1**
SRBA				i S	**Sg**	**15 08 09.3**	**+0.1**
SRBA				IAML		15 08 11.7	
	comp=Z,190nm,1.0s						
CCOL	**Caracol de Cor**	**0.49**	**177**	i P	**Pg**	**15 08 01.7**	**-1.0**
CCOL				i S	**Sb**	**15 08 11.9**	**+0.6**
CCOL				IAML		15 08 21.9	
	comp=Z,710nm,1.0s						
BCO2	**Palmira**	**0.50**	**111**	i P	**Pb**	**15 08 04.2**	**-0.1**
BCO2				AMP		15 08 05.5	
	comp=Z,2μm,0.1s						
BCO2				i S	**Sb**	**15 08 11.8**	**0.0**
PTAR3	**Potrerillos Ar**	**0.54**	**112**	eP	**Pg**	**15 08 03.8**	**+0.1**
PTAR3				i S	**Sb**	**15 08 13.3**	**+0.5**
LNBQ3	**Los Naranjos,**	**0.56**	**101**	⇓eP	**Pg**	**15 08 03.9**	**-0.3**
LNBQ3				i S	**Sb**	**15 08 13.4**	**-0.1**
OCHAL	**Ojochal**	**0.67**	**287**	i P	**Pg**	**15 08 06.2**	**+0.1**
OCHAL				i S	**Sb**	**15 08 17.3**	**+0.8**
OCHAL				IAML		15 08 40.2	
	comp=Z,6.0nm,1.0s						
PTPM	**Petroterminale**	**0.70**	**170**	⇓eP	**Pg**	**15 08 06.1**	**-0.6**
PSOM3	**Paja de Sombre**	**0.70**	**107**	eP	**Pg**	**15 08 06.7**	**-0.1**
PSOM3				i S	**Sb**	**15 08 17.8**	**+0.3**
CNI2	**El Empalme, Bo**	**0.74**	**45**	eP	**Pb**	**15 08 08.5**	**+0.2**
CHGR2	**Aguacate**	**0.85**	**87**	eP	**Pg**	**15 08 09.3**	**-0.3**
CHGR2				i S	**Sg**	**15 08 19.9**	**-0.6**
CDM	**Cerro de Muert**	**1.00**	**311**	i P	**Pg**	**15 08 11.6**	**-0.9**
CDM				i S	**Sg**	**15 08 25.3**	**-0.2**
CDM				IAML		15 08 32.0	
	comp=Z,98nm,1.0s						
LCR2	**La Lucha 2**	**1.30**	**310**	i P	**Pn**	**15 08 17.3**	**-0.5**
LCR2				i S	**Sb**	**15 08 34.9**	**+0.1**
LCR2				IAML		15 08 37.5	
	comp=Z,68nm,1.0s						
TBLN	**Tablon, Guarco**	**1.35**	**313**	i P	**Pn**	**15 08 18.3**	**-0.1**
TBLN				i S	**Sb**	**15 08 35.6**	**-0.7**
TBLN				IAML		15 08 39.2	
	comp=Z,190nm,1.0s						
JACO	**JACO, Garabito**	**1.81**	**295**	i P	**Pn**	**15 08 25.1**	**+0.6**
JACO				i S	**Sn**	**15 08 48.3**	**+0.7**
JACO				IAML		15 09 06.0	
	comp=Z,35nm,1.0s						

*IDC **04** 15:09:26.5±3.3, 22°.93N×11°.56W, h0km, mb3.8/3, mbtmp3.7/4, ML3.0/1, MS3.2/1, Error ellipse: s-maj=112.2km s-min=44.7km az=82.0*
ISC 04 15:09:27.5±3.7**, 22°.9N**±0°.4×**11°.6W**±0°.6**, h10**km**, n7, σ0ˢ.45**/6**, mb3.9**/3**, Mauritania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.92**	**125**	Pn	**Pn**	**15 13 11.7**	**-0.1**
	0.1nm,0.3s,baz=311,slow=12,SNR=3.5						
	0.6nm,0.6s						
FINES	**FINESS Array B**	**46.39**	**24**	P	**P**	**15 17 53.5**	**-0.3**
	2.0nm,0.9s,baz=227,slow=7.7,SNR=4.1						
	2.0nm,0.9s						
PCRV	**Puerto La Cruz**	**52.13**	**265**	LR	LR	15 39 01.4	
	comp=Z,21nm,19.6s,slow=34						
KURBB	**Kurchatov Arra**	**72.75**	**42**	P	**P**	**15 20 56.0**	**+0.1**
	0.4nm,0.4s,baz=282,slow=6.1,SNR=4.5						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**76.24**	**45**	P	**P**	**15 21 17.1**	**+0.7**
	0.4nm,0.5s,baz=295,slow=5.1,SNR=8.3						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**148.21**	**91**	PKPbc	**PKPbc**	**15 29 14.4**	**-0.2**
	0.5nm,0.8s,baz=286,slow=2.6,SNR=5.9						
ASAR	**Alice Springs**	**148.35**	**98**	PKPbc	**PKPbc**	**15 29 14.8**	**0.0**
	0.5nm,0.7s,baz=286,slow=1.7,SNR=9.7						

DJA 04 15:14:43.2±0.4**, 11°S**±4°×**12°3E**±°**, h47**km±8km**, M3.6**/6**, mb3.8**/4**, MLv3.5**/6**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.45**	**44**	P	Pn	15 14 54.7	+1.0
BATI				S	Sn	15 15 04.4	+3.3
MMRI	**Maumere**	**2.18**	**330**	P	Pn	15 15 17.9	+0.9
MMRI				S	Sn	15 15 43.3	+0.5
EDFI	**Ende, Flores**	**2.41**	**317**	P	Pn	15 15 19.8	-0.5
EDFI				S	Sn	15 15 47.6	-1.0
PLAI	**Plampang**	**5.75**	**287**	P	Pn	15 16 06.6	+0.5
	13nm,1.0s,0.1nm						
TWSI	**Taliwang, Sumb**	**6.62**	**285**	P	Pn	15 16 19.2	+1.2
	8.2nm,1.3s						

*LDG **04** 15:19:01.9±0.1, 41°.81N×20°.19E, h10km, Ml3.7/15, Error ellipse: s-maj=5.4km s-min=2.5km az=7.0*
*TIR **04** 15:19:03.3, 41°.64N×20°.12E, h56km±1km, Md3.9, Ml3.2*
*PDG **04** 15:19:04.0±0.7, 41°.82N×20°.16E, h35km±3km, MD3.3/6, ML3.2/10, Error ellipse: s-maj=1.2km s-min=1.5km az=0.0*
*SKO **04** 15:19:04.4, 41°.77N×20°.11E, h37km, ML3.1*
*BEO **04** 15:19:04.0±0.2, 41°.83N×20°.25E, h25km±2km, ML2.9/20*
*THE **04** 15:19:04.4, 41°.62N×20°.10E, h71km±3km, ML2.8/7, Error ellipse: s-maj=3.9km s-min=1.8km az=270.0*
ISC 04 15:19:02.0±0.9**, 41°.71N**±0°.03×**20°.08E**±0°.03**, h83**km±7km**, n100, σ1ˢ.64**/165**, 14C-10D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.40**	**204**	P	**Pn**	**15 19 15.5**	**+0.3**
	baz=214						
TIR				S	**Sn**	**15 19 22.5**	**-2.5**
	baz=214						
TIR				AMP			
	comp=E,4.3nm,0.4s,baz=214						
TIR	**Tirane**	**0.40**	**204**	P	**Pn**	**15 19 15.3**	**+0.1**
TIR				S	**Sn**	**15 19 24.2**	**-0.7**
	comp=E,900nm,0.4s						
TIR	**Tirane**	**0.40**	**204**	ePg	**Pn**	**15 19 15.3**	**+0.1**
TIR				eSg	**Sn**	**15 19 24.7**	**-0.2**
BCI	**Bajram Curri**	**0.65**	**359**	P	**Pn**	**15 19 18.9**	**+1.5**
	baz=357						
BCI				S	**Sn**	**15 19 30.5**	**+1.6**
	baz=357						
BCI				AMP			
	comp=N,4.9nm,0.2s,baz=357						
ULC	**Ulcinj**	**0.67**	**292**	⇑iPg	**Pn**	**15 19 18.2**	**+0.6**
ULC	**Ulcinj**	**0.67**	**292**	⇑iPg	**Pn**	**15 19 18.1**	**+0.6**
ULC				i Sg	**Sn**	**15 19 29.1**	**-0.1**
OHR	**Ohrid**	**0.81**	**138**	ePg	**Pn**	**15 19 20.3**	**+1.3**
OHR				eSg	**Sn**	**15 19 33.0**	**+1.3**
OHR	**Ohrid**	**0.81**	**138**	⇓iPg	**Pn**	**15 19 20.6**	**+1.6**
OHR				i Sg	**Sn**	**15 19 33.0**	**+1.3**
OHR				eLg	Lg	15 19 33.2	
	comp=E,348nm,0.7s						
OHR				eLg	Lg	15 19 33.6	
	comp=N,536nm,0.4s						
DRME	**Dracevica, Mon**	**0.82**	**306**	⇓iPg	**Pn**	**15 19 20.0**	**+0.9**
DRME				i Sg	**Sn**	**15 19 32.5**	**+0.7**
PVY	**Plav**	**0.89**	**354**	⇓iPg	**Pn**	**15 19 21.8**	**+1.8**
PVY				i Sg	**Sn**	**15 19 32.6**	**-0.8**
PDG	**Podgorica**	**0.94**	**320**	⇑iPg	**Pn**	**15 19 21.7**	**+1.2**
PDG				i Sg	**Sn**	**15 19 34.7**	**+0.4**
SKO	**Skopje**	**1.05**	**75**	ePg	**Pn**	**15 19 22.2**	**+0.5**
SKO				eSg	**Sn**	**15 19 32.7**	**-3.9**
SKO	**Skopje**	**1.05**	**75**	⇑iPg	**Pn**	**15 19 22.7**	**+1.0**
SKO				i Sg	**Sn**	**15 19 37.2**	**+0.7**
IVA	**Berane**	**1.17**	**353**	⇓iPg	**Pn**	**15 19 25.4**	**+2.2**
IVA				i Sg	**Sn**	**15 19 39.1**	**-0.1**
CEME	**Cevo**	**1.20**	**314**	⇑iPg	**Pn**	**15 19 24.9**	**+1.3**
CEME				i Sg	**Sn**	**15 19 40.8**	**+0.9**
KOME	**Kolasin**	**1.21**	**340**	⇑iPg	**Pn**	**15 19 25.2**	**+1.4**
KOME				i Sg	**Sn**	**15 19 40.6**	**+0.4**
KBN	**Korca**	**1.21**	**154**	P	**Pn**	**15 19 24.4**	**+0.6**
	baz=153						
KBN				S	**Sn**	**15 19 41.0**	**+0.8**
	baz=153						
KBN				AMP			
	comp=N,1.9nm,0.6s,baz=153						
KBN	**Korca**	**1.21**	**154**	P	**Pn**	**15 19 24.8**	**+1.0**
KBN				S	**Sn**	**15 19 39.9**	**-0.3**
	comp=N,390nm,0.4s						
VLO	**Vlora**	**1.32**	**200**	P	**Pn**	**15 19 26.1**	**+1.1**
	baz=203						
VLO				S	**Sn**	**15 19 43.9**	**+1.5**
	baz=203						
VLO				AMP			
	comp=E,6.2nm,0.4s,baz=203						
VLO	**Vlora**	**1.32**	**200**	P	**Pn**	**15 19 26.3**	**+1.3**
VLO				S	**Sn**	**15 19 43.9**	**+1.5**
	comp=E,1μm,0.4s						
NKME	**Niksic**	**1.34**	**322**	⇑iPg	**Pn**	**15 19 27.0**	**+1.6**
NKME				i Sg	**Sn**	**15 19 44.0**	**+0.9**
FNA	**Florina**	**1.35**	**133**	P	**Pn**	**15 19 27.0**	**+1.4**
	baz=131						
FNA				S	**Sn**	**15 19 44.2**	**+1.0**
	baz=131						
FNA	**Florina**	**1.35**	**133**	P	**Pn**	**15 19 26.9**	**+1.4**
FNA				S	**Sn**	**15 19 44.5**	**+1.3**
	comp=E,655nm,0.5s						
FNA	**Florina**	**1.35**	**133**	ePg	**Pn**	**15 19 26.8**	**+1.3**
FNA				eSg	**Sn**	**15 19 45.0**	**+1.8**
FNA	**Florina**	**1.35**	**133**	i Pn	**Pn**	**15 19 26.9**	**+1.3**
NEST	**Nestorio**	**1.49**	**150**	P	**Pn**	**15 19 28.8**	**+1.5**
NEST				S	**Sn**	**15 19 46.5**	**0.0**
	comp=E,155nm,0.4s						
SJES	**Sjenica**	**1.55**	**357**	ePg	**Pn**	**15 19 30.3**	**+2.2**
SJES				eSg	**Sn**	**15 19 50.0**	**+2.1**
LSK	**Leskovik**	**1.61**	**166**	P	**Pn**	**15 19 30.7**	**+1.8**
	baz=166						
LSK				S	**Sn**	**15 19 51.2**	**+2.0**
	baz=166						
LSK				AMP			
	comp=E,1.1nm,0.6s,baz=166						
LSK	**Leskovik**	**1.61**	**166**	P	**Pn**	**15 19 30.3**	**+1.4**
BRY	**Bratogost**	**1.65**	**317**	⇓iPn	**Pn**	**15 19 31.1**	**+1.7**
BRY				i Sn	**Sn**	**15 19 51.9**	**+1.7**
PRVS	**Prvonek**	**1.69**	**61**	ePn	**Pn**	**15 19 30.7**	**+0.9**
PRVS				eSn	**Sn**	**15 19 49.5**	**-1.4**
SELS	**Selova**	**1.69**	**27**	ePn	**Pn**	**15 19 30.0**	**+0.1**
SELS				eSn	**Sn**	**15 19 50.5**	**-0.5**
PLE	**Pljevlja**	**1.69**	**343**	⇑iPn	**Pn**	**15 19 31.2**	**+1.2**
PLE				i Sn	**Sn**	**15 19 51.9**	**+0.7**
BARS	**Barje**	**1.70**	**49**	ePg	**Pn**	**15 19 30.7**	**+0.8**
BARS				eSg	**Sn**	**15 19 50.9**	**-0.2**
BARS	**Barje**	**1.70**	**49**	i Pn	**Pn**	**15 19 30.7**	**+0.8**
PENT	**Pentalofos**	**1.71**	**152**	P	**Pn**	**15 19 32.0**	**+1.7**
SRN	**Sarande**	**1.83**	**182**	P	**Pn**	**15 19 35.7**	**+4.0**
	baz=184						
SRN				AMP			
	comp=E,0.6nm,0.3s,baz=184						
SRN	**Sarande**	**1.83**	**182**	P	**Pn**	**15 19 32.4**	**+0.7**
SRN				S	**Sn**	**15 19 54.1**	**-0.2**
IVAS	**Ivanjica**	**1.86**	**2**	ePn	**Pn**	**15 19 33.0**	**+0.8**
IVAS				eSn	**Sn**	**15 19 55.4**	**+0.3**
GRG	**Griva**	**1.91**	**113**	P	**Pn**	**15 19 34.4**	**+1.7**
GRG				S	**Sn**	**15 19 56.7**	**+0.6**
	comp=E,122nm,0.4s						
GRG	**Griva**	**1.91**	**113**	i Pn	**Pn**	**15 19 34.1**	**+1.4**
VAY	**Valandovo**	**1.91**	**101**	ePn	**Pn**	**15 19 33.7**	**+1.0**
VAY				eSn	**Sn**	**15 19 56.4**	**+0.3**
VAY	**Valandovo**	**1.91**	**101**	i Pn	**Pn**	**15 19 33.5**	**+0.8**
BOSS	**Bosilegrad**	**1.95**	**66**	ePn	**Pn**	**15 19 34.1**	**+0.8**
BOSS				eSn	**Sn**	**15 19 55.3**	**-1.8**
KEK	**Kerkira**	**2.01**	**186**	P	**Pn**	**15 19 34.0**	**-0.1**
KEK				S	**Sn**	**15 19 57.4**	**-1.1**
	comp=E,192nm,0.2s						
PEHC	**Pehcevo**	**2.11**	**87**	i Pn	**Pn**	**15 19 37.3**	**+1.9**
KNT	**Kendrikon**	**2.19**	**104**	P	**Pn**	**15 19 37.7**	**+1.3**
KNT				S	**Sn**	**15 20 03.0**	**+0.2**
GRUS	**Gruza**	**2.22**	**12**	ePn	**Pn**	**15 19 38.0**	**+1.1**
GRUS				eSn	**Sn**	**15 20 03.4**	**-0.2**
BOVS	**Bovan**	**2.27**	**31**	⇓P	**Pn**	**15 19 38.4**	**+0.9**
BOVS	**Bovan**	**2.27**	**31**	ePn	**Pn**	**15 19 38.0**	**+0.6**
BOVS				eSn	**Sn**	**15 20 02.9**	**-1.6**
KKB	**Krupnik**	**2.29**	**86**	i Pn	**Pn**	**15 19 39.5**	**+1.8**
DIVS	**Divibare**	**2.38**	**358**	ePn	**Pn**	**15 19 40.4**	**+1.3**
DIVS				eSn	**Sn**	**15 20 07.7**	**+0.1**
THE	**Thessaloniki**	**2.43**	**115**	i Pn	**Pn**	**15 19 40.9**	**+1.3**
ZAPS	**Zavoj**	**2.45**	**50**	ePn	**Pn**	**15 19 41.4**	**+1.5**
ZAPS				eSn	**Sn**	**15 20 08.9**	**-0.1**
TRUS	**Trudelj**	**2.52**	**5**	ePn	**Pn**	**15 19 42.3**	**+1.4**
TRUS				eSn	**Sn**	**15 20 10.8**	**+0.1**
HORT	**Hortiatis**	**2.54**	**115**	P	**Pn**	**15 19 42.3**	**+1.1**
ZAGS	**Zajecar**	**2.63**	**36**	ePn	**Pn**	**15 19 43.2**	**+0.9**
ZAGS				eSn	**Sn**	**15 20 12.2**	**-1.1**
SVIS	**Svilajnac**	**2.68**	**18**	ePn	**Pn**	**15 19 44.6**	**+1.6**
SVIS				eSn	**Sn**	**15 20 13.8**	**-0.8**
BLKB	**Belogradchik**	**2.70**	**44**	⇑P	**Pn**	**15 19 45.2**	**+1.8**
SRS	**Serrai**	**2.71**	**102**	P	**Pn**	**15 19 44.8**	**+1.4**
SRS	**Serrai**	**2.71**	**102**	ePn	**Pn**	**15 19 44.7**	**+1.4**
SRS				eSn	**Sn**	**15 20 14.8**	**-0.5**
SRS	**Serrai**	**2.71**	**102**	i Pn	**Pn**	**15 19 44.9**	**+1.4**
MMB	**Musomishta**	**2.76**	**92**	i Pn	**Pn**	**15 19 45.8**	**+1.7**
NVR	**Nevrokopi**	**2.86**	**96**	P	**Pn**	**15 19 48.3**	**+2.8**
TEKS	**Tekeris**	**2.86**	**352**	ePn	**Pn**	**15 19 46.2**	**+0.7**
TEKS				eSn	**Sn**	**15 20 18.3**	**-0.7**
KUBS	**Kucevo**	**2.94**	**23**	ePn	**Pn**	**15 19 46.6**	**+0.1**
KUBS				eSn	**Sn**	**15 20 18.9**	**-1.9**
AGG	**Agios Georgios**	**3.19**	**147**	P	**Pn**	**15 19 51.2**	**+1.2**
MDVR	**Moldovita**	**3.29**	**21**	⇑P	**Pn**	**15 19 52.3**	**+1.0**
KAVA	**Kavala**	**3.41**	**101**	P	**Pn**	**15 19 54.6**	**+1.7**
DJES	**Djerdap**	**3.45**	**30**	⇑P	**Pn**	**15 19 55.0**	**+1.6**
FRGS	**Fruska Gora**	**3.45**	**357**	⇓P	**Pn**	**15 19 54.5**	**+1.1**
FRGS	**Fruska Gora**	**3.45**	**357**	ePn	**Pn**	**15 19 54.3**	**+0.9**
FRGS				eSn	**Sn**	**15 20 31.9**	**-1.3**
BZS	**Buzias**	**4.06**	**15**	⇓P	**Pn**	**15 20 02.6**	**+1.0**
GZR	**Gura Zlata**	**4.17**	**27**	⇑P	**Pn**	**15 20 05.1**	**+1.8**
SURR	**Surduc**	**4.30**	**19**	⇓P	**Pn**	**15 20 06.6**	**+1.6**
ELND	**Elena**	**4.47**	**72**	⇑P	**Pn**	**15 20 09.6**	**+2.4**
SIRR	**Siria**	**4.69**	**14**	⇓P	**Pn**	**15 20 11.6**	**+1.3**
VOIR		**5.18**	**42**	⇑P	**Pn**	**15 20 19.7**	**+2.6**
SOKA	**Soboth**	**6.15**	**326**	i Pn	**Pn**	**15 20 31.6**	**+1.4**
	comp=E,1.9nm,0.3s,SNR=4.4						
SOKA				i Sn	**Sn**	**15 21 36.2**	**-2.9**
	comp=E,1.6nm,0.4s						
OBKA	**Obir**	**6.23**	**322**	i Pn	**Pn**	**15 20 33.6**	**+2.3**
	comp=E,1.0nm,0.1s						
OBKA				i Sn	**Sn**	**15 21 43.4**	**+2.3**
	comp=E,6.0nm,0.4s						
MYKA	**Terra Mystica**	**6.75**	**319**	eSn	**Sn**	**15 21 52.0**	**-1.7**
	comp=E,4.9nm,0.5s						
KECS	**Kecovo**	**6.78**	**2**	eSN	**Sn**	**15 21 53.1**	**-1.2**
ABTA	**Abfaltersbach**	**7.40**	**315**	i Pn	**Pn**	**15 20 48.8**	**+1.5**
	comp=E,2.2nm,0.2s,SNR=10.0						
ABTA				i Sn	**Sn**	**15 22 07.5**	**-2.3**
	comp=E,2.1nm,0.3s						
WTTA	**Wattenberg**	**8.20**	**315**	i Pn	**Pn**	**15 21 00.1**	**+1.9**
	comp=E,1.8nm,0.2s						
WTTA				i Sn	**Sn**	**15 22 27.7**	**-1.5**
	comp=E,5.0nm,0.3s						
WATA	**Walderalm**	**8.27**	**316**	i Pn	**Pn**	**15 21 02.0**	**+2.8**
	comp=E,1.6nm,0.2s						
PGF	**Pioggiola**	**8.28**	**279**	ePn	**Pn**	**15 21 00.9**	**+1.6**
PGF				eSn	**Sn**	**15 22 29.7**	**-1.4**
	comp=E,0.3nm,0.3s						
SQTA	**Sankt Quirin**	**8.40**	**314**	i Pn	**Pn**	**15 21 03.3**	**+2.4**
	comp=E,2.6nm,0.2s						
MOTA	**Moosalm**	**8.53**	**314**	i Pn	**Pn**	**15 21 04.7**	**+2.0**
	comp=E,2.4nm,0.3s						
MOTA				i Sn	**Sn**	**15 22 35.7**	**-1.6**
	comp=E,9.3nm,0.6s						
SBF	**Sospel**	**9.54**	**287**	ePn	**Pn**	**15 21 17.7**	**+1.2**
SBF				eSn	**Sn**	**15 22 59.4**	**-2.5**
	comp=E,3.7nm,0.3s						
LMR	**La Mourre**	**10.15**	**284**	ePn	**Pn**	**15 21 26.4**	**+1.7**
LMR				eSn	**Sn**	**15 23 14.0**	**-2.6**
	comp=E,1.9nm,0.4s						
MBDF	**Montbardon**	**10.17**	**292**	ePn	**Pn**	**15 21 24.9**	**-0.2**
MBDF				eSn	**Sn**	**15 23 14.2**	**-3.2**
	comp=E,2.4nm,0.4s						
LPG	**La Plagne**	**10.38**	**296**	ePn	**Pn**	**15 21 29.0**	**+0.9**
LPG				eSn	**Sn**	**15 23 19.1**	**-3.5**
	comp=E,4.3nm,0.5s						
LPL	**La Plagne**	**10.40**	**296**	ePn	**Pn**	**15 21 29.5**	**+1.3**
LPL				eSn	**Sn**	**15 23 19.5**	**-3.5**
	comp=E,4.4nm,0.4s						
ORIF	**Oris-en-Rattie**	**10.83**	**292**	ePn	**Pn**	**15 21 34.9**	**+0.9**
ORIF				eSn	**Sn**	**15 23 30.0**	**-3.4**
	comp=E,6.4nm,0.7s						
SMRF	**Simiane la Rot**	**10.89**	**287**	ePn	**Pn**	**15 21 34.1**	**-0.7**
CABF	**La Chapelle**	**11.18**	**301**	ePn	**Pn**	**15 21 39.0**	**+0.3**
CABF				eSn	**Sn**	**15 23 37.8**	**-3.9**
	comp=E,3.7nm,0.5s						
HINF	**Hinteralfeld**	**11.20**	**307**	ePn	**Pn**	**15 21 40.2**	**+1.2**
HINF				eSn	**Sn**	**15 23 38.1**	**-4.2**
	comp=E,1.9nm,0.3s						
CDF	**Champ du Feu**	**11.25**	**311**	ePn	**Pn**	**15 21 38.9**	**-0.9**
CDF				eSn	**Sn**	**15 23 39.1**	**-4.5**
	comp=E,1.5nm,0.3s						
HAU	**Haudompre**	**11.59**	**308**	ePn	**Pn**	**15 21 45.0**	**+0.7**
LOR	**Lormes**	**12.84**	**301**	ePn	**Pn**	**15 22 02.2**	**+1.1**
	baz=109						
LOR				eSn	**Sn**	**15 24 17.6**	**-4.4**
	comp=E,4.0nm,0.4s						

*IDC **04** 15:32:32.1±7.6, 22°.10N×106°.46W, h0km, mb2.7/1, mbtmp3.0/3, ML3.2/1, MS3.1/5, Error ellipse: s-maj=118.4km s-min=41.9km az=131.0*
*MEX **04** 15:32:32.3±0.7, 21°.99N×106°.83W, h5km, MD4.3*
ISC 04 15:32:32.0±1.2**, 22°.07N**±0°.04×**106°.67W**±0°.09**, h10**km**, n23, σ1ˢ.77**/33**, Near coast of central Mexico**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAIG	**Mazatlaan**	**1.14**	**11**	eP	**Pb**	**15 32 52.2**	**-1.6**
MAIG				eS	**Sg**	**15 33 08.4**	**-0.3**
ANIG	**Ahuacatlan**	**2.24**	**116**	eP	**Pn**	**15 33 08.3**	**-1.0**
ANIG				eS	**Sn**	**15 33 36.5**	**-0.5**
SSIG	**Sanalona**	**2.77**	**351**	eP	**Pn**	**15 33 15.9**	**-0.6**
SSIG				eS	**Sn**	**15 33 49.2**	**-0.8**
CJM	**Chamela**	**2.97**	**149**	eP	**Pn**	**15 33 18.6**	**-0.7**
CJM				eS	**Sn**	**15 33 52.1**	**-2.9**
PDIG	**Papasquiaro**	**3.18**	**21**	eP	**Pn**	**15 33 24.0**	**+1.7**
PDIG				eS	**Sb**	**15 34 04.6**	**-3.0**
CIHU	**Emiliano Zapat**	**3.33**	**147**	eP	**Pn**	**15 33 24.7**	**+0.6**
CIHU				i S	**Sn**	**15 34 05.3**	**+1.6**
CEGR	**Campo Tres**	**3.74**	**135**	eP	**Pn**	**15 33 31.5**	**+1.4**
CEGR				eS	**Sn**	**15 34 14.5**	**+0.2**
SOMAC	**Volcano de Col**	**3.81**	**131**	eP	**Pn**	**15 33 29.9**	**-1.1**
SOMAC				eS	**Sn**	**15 34 18.7**	**+2.6**
INCO	**Volcan de Coli**	**3.82**	**131**	eP	**Pn**	**15 33 33.4**	**+2.1**
INCO				i S	**Sn**	**15 34 17.6**	**+1.0**
MNGA	**Volcan de Coli**	**3.85**	**132**	eP	**Pn**	**15 33 29.9**	**-1.7**
MNGA				eS	**Sn**	**15 34 17.2**	**+0.2**
JUBC	**Volcan de Coli**	**3.85**	**131**	eP	**Pn**	**15 33 31.4**	**-0.3**
JUBC				i S	**Sn**	**15 34 13.4**	**-3.8**
ZAIG	**Zacatecas**	**3.86**	**79**	eP	**Pn**	**15 33 31.1**	**-0.6**
ZAIG				eS	**Sn**	**15 34 20.9**	**+3.6**
LPIG	**La Paz**	**3.92**	**302**	LR	LR	15 34 46.9	
	comp=Z,216nm,20.3s,baz=182,slow=33						
CDAR	**Ciudad de Arme**	**3.98**	**141**	eP	**Pn**	**15 33 34.6**	**+1.4**
CDAR				eS	**Sn**	**15 34 21.0**	**+1.0**
COIG	**Colima**	**4.00**	**135**	eP	**Pn**	**15 33 34.1**	**+0.5**
COIG				i S	**Sn**	**15 34 22.1**	**+1.5**
H06E1	**SOCORRO T-PHAS**	**5.16**	**231**	T	T	15 38 50.4	
	SNR=49						
BCIG	**La Boquilla**	**5.57**	**12**	eP	**Pn**	**15 33 57.6**	**+2.5**
BCIG				eS	**Sn**	**15 34 58.1**	**-1.2**
TXAR	**Lajitas Array**	**7.72**	**20**	Pn	**Pn**	**15 34 25.6**	**+0.9**
	0.1nm,0.3s,baz=196,slow=14,SNR=10						
TXAR				Lg	Lg	15 36 32.5	
	0.1nm,0.3s,baz=199,slow=30,SNR=1.8						
	0.9nm,0.7s						
ANMO	**Albuquerque**	**12.83**	**1**	LR	LR	15 40 59.2	
	comp=Z,100nm,21.3s,baz=281,slow=40						
PFO	**Pinyon Flats O**	**14.38**	**325**	LR	LR	15 40 52.7	
	comp=Z,20nm,21.7s,baz=42,slow=35						
TEIG	**Tepich**	**17.25**	**93**	LR	LR	15 42 42.0	
	comp=Z,173nm,21.4s,baz=269,slow=36						
NVAR	**Mina Array Bea**	**19.13**	**331**	P	**Pn**	**15 36 57.6**	**+1.3**
	0.6nm,0.8s,baz=144,slow=12,SNR=4.3						
PDAR	**Pinedale Array**	**20.78**	**354**	P	**P**	**15 37 15.3**	**+1.8**
	0.3nm,0.8s,baz=170,slow=12,SNR=2.4						
PDAR				LR	LR	15 45 04.5	
	comp=Z,65nm,20.8s,baz=270,slow=36						
	0.3nm,0.8s						

*HEL **04** 15:38:36.2±0.4, 67°.88N×20°.02E, h0km, ML1.5, Suspected explosion*
*UPP **04** 15:38:37.6±0.0, 67°.82N×20°.22E, h0km, ML2.7, Confirmed Induced event*
*BER **04** 15:38:40.4±1.6, 67°.76N×20°.45E, h0km, ML2.0, Suspected explosion*
ISC 04 15:38:36.9±0.8**, 67°.75N**±0°.02×**20°.24E**±0°.02**, h0**km**, n32, σ1ˢ.16**/53**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.21**	**10**	P	**Pg**	**15 38 40.7**	**-0.2**
KUA				S	**Sg**	**15 38 42.6**	**-1.0**
RATU	**Laukkuluspa**	**0.26**	**288**	P	**Pg**	**15 38 42.3**	**+0.5**
RATU				S	**Sg**	**15 38 45.6**	**+0.4**
KOVU	**Salmi**	**0.48**	**356**	P	**Pg**	**15 38 45.4**	**-0.6**
DUNU	**Dundret**	**0.64**	**169**	P	**Pb**	**15 38 51.0**	**+0.1**
LANU	**Lannavaara**	**0.73**	**65**	P	**Pg**	**15 38 51.1**	**+0.3**
LANU	**Lannavaara**	**0.73**	**65**	PB	**Pg**	**15 38 50.9**	**+0.1**
	baz=258						
LANU				SG	**Sg**	**15 39 00.3**	**+0.1**
SALU	**Saltoluokta**	**0.76**	**242**	P	**Pb**	**15 38 52.4**	**-0.6**
PAJU	**Pajala**	**1.33**	**122**	P	**Pn**	**15 39 02.9**	**+0.2**
PAJU	**Pajala**	**1.33**	**122**	PG	**Pn**	**15 39 02.7**	**+0.1**
	baz=303						
PAJU				SG	**Sn**	**15 39 21.5**	**+0.5**
ERTU	**Ertsjaerv**	**1.42**	**147**	P	**Pb**	**15 39 04.8**	**+0.6**
ERTU	**Ertsjaerv**	**1.42**	**147**	PG	**Pb**	**15 39 04.6**	**+0.4**
ERTU				SG	**Sn**	**15 39 25.1**	**+1.9**
HEF	**Hetta**	**1.44**	**61**	eP	**Pn**	**15 39 04.0**	**-0.3**
HEF				eS	**Sg**	**15 39 23.2**	**0.0**
HEF	**Hetta**	**1.44**	**61**	PG	**Pn**	**15 39 01.4**	**-2.9**
HEF				MSG		15 39 20.0	
	comp=Z,3.9nm,0.2s						
HEF				SG	**Sg**	**15 39 22.9**	**-0.3**
KLF	**Kolari**	**1.52**	**108**	PG	**Pn**	**15 39 05.2**	**0.0**
KLF				MSG		15 39 25.4	
	comp=Z,5.1nm,0.2s						
KLF				SG	**Sn**	**15 39 27.6**	**+1.9**

HARU	**Harads**	**1.62**	**169**	P	**Pg**	**15 39 08.1**	**+0.3**
KTK1	**Kautokeino**	**1.69**	**40**	*e*P	**Pn**	**15 39 07.7**	**+0.1**
KTK1				*e*S	**Sn**	**15 39 29.9**	**0.0**
KTK1				IAML		15 39 32.3	
	comp=Z,14nm,0.3s						
KTK1	**Kautokeino**	**1.69**	**40**	PG	**Pn**	**15 39 06.1**	**-1.5**
KTK1				SN	**Sb**	**15 39 30.3**	**-0.2**
JETT	**Jettan, Norway**	**1.82**	**2**	*e*S	**Sn**	**15 39 33.0**	**-0.2**
JETT				IAML		15 39 36.4	
	comp=Z,54nm,0.4s						
FAUS	**Fauske**	**1.94**	**261**	*e*P	**Pb**	**15 39 13.1**	**+0.1**
FAUS				*e*S	**Sg**	**15 39 39.2**	**+0.2**
FAUS				IAML		15 39 43.4	
	comp=Z,17nm,0.4s						
TRO	**Tromso**	**1.96**	**346**	*e*P	**Pn**	**15 39 11.9**	**+0.7**
TRO				*e*S	**Sb**	**15 39 37.7**	**-0.5**
TRO				IAML		15 39 39.8	
	comp=Z,18nm,0.4s						
KALU	**Kalix**	**2.26**	**146**	PG	**Pb**	**15 39 18.3**	**-0.2**
	baz=325						
KALU				SG	**Sg**	**15 39 50.3**	**+0.9**
TOF	**Tornio**	**2.32**	**134**	PB	**Pb**	**15 39 19.2**	**-0.3**
	baz=322						
TOF				MSG		15 39 49.5	
	comp=Z,1.5nm,0.2s						
TOF				SB	**Sb**	**15 39 49.9**	**+1.2**
SGF	**Sodankyl**	**2.43**	**94**	PG	**Pb**	**15 39 20.6**	**-0.7**
	baz=282						
SGF				SG	**Sb**	**15 39 53.0**	**+1.3**
RNF	**Rovaniemi**	**2.52**	**114**	PB	**Pb**	**15 39 21.4**	**-1.6**
RNF				SG	**Sg**	**15 39 56.7**	**-1.1**
ARA0	**ARCESS Array S**	**2.63**	**45**	*e*P	**Pn**	**15 39 22.1**	**+1.5**
ARA0	**ARCESS Array S**	**2.63**	**45**	PB	**Pn**	**15 39 21.6**	**+1.0**
	baz=230						
ARA0				SG	**Sb**	**15 39 56.2**	**-1.5**
KEV	**Kevo**	**3.18**	**48**	PB	**Pn**	**15 39 29.7**	**+1.6**
KEV				SN	**Sn**	**15 40 07.8**	**+1.1**
BURU	**Burvik**	**3.21**	**171**	PB	**Pb**	**15 39 31.8**	**-2.9**
BURU				SB	**Sb**	**15 40 13.2**	**-1.1**
VRF	**Varrio**	**3.56**	**86**	SB	**Sb**	**15 40 24.4**	**0.0**
OUF	**Merijarvi**	**3.85**	**150**	PG	**Pg**	**15 39 48.7**	**-2.0**
OLKF	**Oulanka, Finla**	**3.86**	**107**	PG	**Pb**	**15 39 48.0**	**+2.2**
OLKF				SG	**Sg**	**15 40 39.4**	**-1.4**
KU6	**Riekki**	**4.18**	**110**	PG	**Pb**	**15 39 53.4**	**+2.2**
KU6				SG	**Sg**	**15 40 49.4**	**-1.5**

SDD 04 15:42:38.8±0.5**, 18.°05N**×**70.°74W, h12**km±9km**, MD2.9, ML2.0, MW3.7, 1C-3D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOBA2	**Hotel Casa Bon**	**0.34**	**276**⇓	*e*Pg	Pg	15 42 45.4	-0.2
LOBA2				*e*Sg	Sg	15 42 49.8	-0.4
BANI	**BANI**	**0.50**	**46**	*e*Pg	Pg	15 42 48.1	-0.5
BANI				*e*Sg	Sg	15 42 54.7	-0.6
BANI				IAML		15 43 01.3	
	comp=Z,26nm,0.5s						
ABDR	**Alto Bandera**	**0.77**	**8**⇓	*e*Pg	Pg	15 42 52.7	-1.1
ABDR				*e*Sg	Sg	15 43 03.3	-0.7
ABDR				IAML		15 43 04.1	
	comp=Z,44nm,0.2s						
DR08	**Loma La Naviza**	**1.14**	**37**⇑	*e*Pg	Pb	15 42 58.9	-1.5
DR08				*e*Sg	Sb	15 43 14.6	-0.7
HATOM	**Hato Mayor del**	**1.48**	**60**⇓	*e*Pg	Pn	15 43 05.7	+0.3
HATOM				*e*Sg	Sb	15 43 25.4	+0.2

SDD 04 15:43:31.7±3.0**, 19.°17N**×**69.°15W, h31**km±21km**, MD2.6, ML2.2, MW2.1, 1C, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMDR	**Samana, DR**	**0.13**	**342**	*e*Pg	Pb	15 43 37.4	0.0
SMDR				*e*Sg	Sn	15 43 40.3	-0.8
HATOM	**Hato Mayor del**	**0.44**	**210**⇑	*e*Pg	Pb	15 43 40.9	-0.4
HATOM				*e*Sg	Sb	15 43 47.4	-0.5
HATOM				IAML		15 43 52.8	
	comp=Z,159nm,0.2s						
NADR	**Nagua**	**0.69**	**286**	*e*Pg	Pb	15 43 43.7	-1.6
DR08	**Loma La Naviza**	**0.85**	**256**	*e*Pg	Pn	15 43 46.8	-0.8
DR08				*e*Sg	Sn	15 43 54.8	-4.3
SFDR	**San Fco. de Ma**	**1.04**	**277**	*e*Pg	Pn	15 43 47.7	-2.4
SFDR				*e*Sg	Sn	15 44 01.6	-2.0
BANI	**BANI**	**1.38**	**236**	*e*Pg	Pn	15 43 51.9	-3.1
ABDR	**Alto Bandera**	**1.44**	**256**	*e*Pg	Pn	15 43 54.4	-1.7
SODR	**Sosua Marina B**	**1.47**	**294**	*e*Pg	Pn	15 43 54.8	-1.2
SODR				*e*Sg	Sn	15 44 13.3	-0.9
SDDR	**Presa de Saban**	**2.03**	**265**	*e*Pg	Pn	15 44 02.6	-1.2
SDDR				*e*Sg	Sn	15 44 26.0	-2.3

*IDC **04** 15:54:30.4±1.1, 50.°08N×157.°73E, h0km, mb3.5/6, mbtmp3.6/8, ML3.1/2, MS2.2/2, Error ellipse: s-maj=36.8km s-min=22.2km az=119.0*
*KRSC **04** 15:54:35.5±1.9, 50.°46N×157.°37E, h44km±25km, Ml4.3*
ISC 04 15:54:35.3±2.2**, 50.°30N**±0.°08×**157.°27E**±0.°07**, h32**km±15km**, n41,** σ**1.s54**/46**, mb3.5**/6**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.83**	**298**	*e*P	**Pn**	**15 54 50.9**	**+0.2**
SKR				*e*S	**Sn**	**15 55 00.7**	**-1.1**
PAU	**Pauzhetka**	**1.20**	**346**	*e*P	**Pb**	**15 54 56.9**	**-0.6**
PAU				*e*S	**Sn**	**15 55 10.0**	**-1.1**
KDTR	**Khodutka, Kamc**	**1.59**	**18**	*e*P	**Pn**	**15 55 01.2**	**+0.1**
KDTR				*e*S	**Sn**	**15 55 19.1**	**-1.5**
ASAK	**Asacha**	**2.12**	**10**	*e*P	**Pn**	**15 55 08.6**	**+0.1**
ASAK				*e*S	**Sn**	**15 55 31.6**	**-2.2**
MTVR	**Mutnovka**	**2.26**	**14**	*e*P	**Pn**	**15 55 10.8**	**+0.4**
MTVR				*e*S	**Sn**	**15 55 36.1**	**-1.2**
GRL	**Gorelyy**	**2.31**	**12**	*e*P	**Pn**	**15 55 11.8**	**+0.7**
GRL				*e*S	**Sn**	**15 55 37.6**	**-0.9**
KRMR	**Karymshinskiy**	**2.59**	**12**	*e*P	**Pn**	**15 55 15.8**	**+1.0**
KRMR				*e*S	**Sn**	**15 55 45.1**	**-0.1**
APC	**Apacha**	**2.63**	**359**	*e*P	**Pn**	**15 55 15.3**	**-0.1**
PETK	**Petropavlovsk-**	**2.82**	**5**	Pn	**Pn**	**15 55 18.0**	**-0.1**
	5.7nm,0.3s,baz=195,slow=12,SNR=112						
PETK				Sn	**Sb**	**15 55 59.1**	**0.0**
	3.0nm,0.3s,baz=123,slow=17,SNR=3.5						
PETK				LR	LR	15 56 11.1	
	comp=Z,22nm,21.9s,baz=149,slow=33 11nm,0.4s						
PET	**Petropavlovsk**	**2.86**	**17**	*e*P	**Pn**	**15 55 19.3**	**+0.7**
PET				*e*S	**Sn**	**15 55 50.9**	**-0.9**
DALK	**Dalny**	**2.89**	**18**	*e*P	**Pn**	**15 55 19.7**	**+0.8**
DALK				*e*S	**Sn**	**15 55 51.2**	**-1.3**
INSR	**Institute**	**2.89**	**16**	*e*P	**Pn**	**15 55 20.0**	**+1.0**
INSR				*e*S	**Sn**	**15 55 52.7**	**0.0**
UGLR	**Uglovaya**	**3.07**	**18**	*e*P	**Pn**	**15 55 23.6**	**+2.0**
AVH	**Avacha**	**3.10**	**17**	*e*P	**Pn**	**15 55 24.1**	**+2.0**
KOK	**Koryaka**	**3.11**	**15**	*e*P	**Pn**	**15 55 24.3**	**+2.1**
SMAR	**Somma**	**3.12**	**17**	*e*P	**Pn**	**15 55 23.9**	**+1.6**
NLC	**Nalytchevo**	**3.15**	**23**	*e*P	**Pn**	**15 55 23.5**	**+0.9**
NLC				*e*S	**Sn**	**15 55 56.7**	**-2.3**
KRX	**Arik**	**3.18**	**15**	*e*P	**Pn**	**15 55 24.8**	**+1.7**
KRX				*e*S	**Sn**	**15 56 01.4**	**+1.4**
SPN	**Mys Shipunski**	**3.28**	**30**	*e*P	**Pn**	**15 55 24.6**	**+0.1**
SPN				*e*S	**Sn**	**15 56 00.8**	**-1.5**
TUMD	**Tumrok D**	**5.26**	**20**	*e*P	**Pn**	**15 55 53.4**	**+1.8**
TUMD				*e*S	**Sn**	**15 56 51.8**	**+0.6**
TUMR	**Tumrok**	**5.29**	**18**	*e*P	**Pn**	**15 55 55.8**	**+3.8**
KMNR	**Kamenistaya**	**5.75**	**17**	*e*P	**Pn**	**15 56 01.4**	**+3.0**
SMKR	**Semkarok**	**6.77**	**20**	*e*P	**Pn**	**15 56 15.8**	**+3.4**
KBTR	**Krutoberegovo**	**6.79**	**27**	*e*P	**Pn**	**15 56 12.3**	**-0.2**
ASAJ	**Asahikawa**	**11.73**	**244**	Pn	**Pn**	**15 57 20.8**	**+0.6**
	0.2nm,0.3s,baz=26,slow=23,SNR=2.0 7.2nm,1.0s						
KLR	**Kul'dur**	**16.50**	**276**	LR	LR	16 04 59.8	
	comp=Z,19nm,19.3s,baz=60,slow=37						
H11N2	**WAKE ISLAND Hy**	**31.45**	**162**	T	T	16 34 34.4	
	baz=348,slow=76,SNR=45						
H11N3	**WAKE ISLAND Hy**	**31.46**	**162**	T	T	16 34 36.5	
	baz=348,slow=76,SNR=77						
H11N1	**WAKE ISLAND Hy**	**31.47**	**162**	T	T	16 34 33.0	
	baz=348,slow=76,SNR=23						
ILAR	**Eielson Array**	**32.05**	**42**	P	**P**	**16 00 57.1**	**-1.5**
	0.2nm,0.8s,baz=266,slow=5.8,SNR=2.2 0.2nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**32.60**	**163**	T	T	16 35 59.6	
	baz=348,slow=76,SNR=89						
H11S3	**WAKE ISLAND Hy**	**32.62**	**163**	T	T	16 36 00.5	
	baz=348,slow=76,SNR=113						
H11S2	**WAKE ISLAND Hy**	**32.62**	**163**	T	T	16 36 00.3	
	baz=348,slow=76,SNR=52						
YKA	**Yellowknife Ar**	**46.42**	**40**	P	**P**	**16 02 57.3**	**-1.1**
	0.3nm,0.8s,baz=299,slow=7.4,SNR=4.1 0.3nm,0.8s						
PDAR	**Pinedale Array**	**60.46**	**58**	P	**P**	**16 04 41.9**	**0.0**
	0.5nm,0.8s,baz=321,slow=2.1,SNR=4.6 0.5nm,0.8s						
TXAR	**Lajitas Array**	**73.39**	**64**	P	**P**	**16 06 03.5**	**-0.6**
	0.5nm,0.6s,baz=286,slow=3.8,SNR=6.4 0.5nm,0.6s						
EKA	**Eskdalemuir Ar**	**73.47**	**348**	P	**P**	**16 06 07.1**	**+3.0**
	2.1nm,0.9s,baz=353,slow=13,SNR=3.6 2.1nm,0.9s						
ASAR	**Alice Springs**	**76.50**	**202**	P	**P**	**16 06 21.2**	**-0.6**
	0.2nm,0.5s,baz=13,slow=5.9,SNR=5.7 0.2nm,0.5s						
H03N2	**Juan Fernandez**	**135.98**	**90**	T	T	18 44 57.1	
	baz=314,slow=77,SNR=8.9						
H03N1	**Juan Fernandez**	**136.00**	**90**	T	T	18 44 55.9	
	baz=314,slow=77,SNR=8.3						
H03N3	**Juan Fernandez**	**136.00**	**90**	T	T	18 44 57.1	
	baz=314,slow=77,SNR=7.9						

*IDC **04** 16:02:48.3±1.2, 11.°84N×125.°80E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=142.9km s-min=17.4km az=68.0*
*NEIC **04** 16:02:50.9±1.0, 11.°7N±0.°1×125.°8E±0.°2, h22km±7km, mb4.5/11, Error ellipse: s-maj=26.9km s-min=14.9km az=88.0*
ISC 04 16:02:51.6±0.7**, 11.°82N**±0.°09×**125.°9E**±0.°2**, h28**km**, n29,** σ**0.s94**/28**, mb4.3**/13**, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.73**	**183**	Pn	**Pn**	**16 03 59.5**	**-1.6**
TPUB	**Ta-pu**	**12.45**	**337**	Pn	**Pn**	**16 05 46.6**	**-0.4**
SBUM	**Sibu**	**16.41**	**236**	P	**Pn**	**16 06 40.5**	**+0.3**
WRA	**Warramunga Arr**	**32.65**	**165**	P	**P**	**16 09 22.5**	**+1.1**
	0.3nm,0.8s,baz=345,slow=9.3,SNR=2.4						
WRA				PcP	**PcP**	**16 12 07.6**	**+0.4**
	0.3nm,0.6s,baz=333,slow=3.1,SNR=6.0 0.3nm,0.8s						
ASAR	**Alice Springs**	**36.14**	**167**	P	**P**	**16 09 53.5**	**+1.9**
	0.1nm,0.3s,baz=345,slow=7.0,SNR=9.7						
ASAR				PcP	**PcP**	**16 12 17.4**	**+0.2**
	0.2nm,0.5s,baz=343,slow=2.8,SNR=5.5 0.1nm,0.3s						
SONM	**Songino Array**	**39.43**	**339**	P	**P**	**16 10 21.0**	**+1.7**
	0.4nm,0.4s,baz=160,slow=9.8,SNR=4.7 0.4nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**40.18**	**73**	T	T	16 53 57.1	
	baz=265,slow=75,SNR=7.8						
H11N2	**WAKE ISLAND Hy**	**40.19**	**73**	T	T	16 53 56.7	
	baz=265,slow=75,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**40.20**	**73**	T	T	16 53 56.4	
	baz=265,slow=75,SNR=8.4						
PET	**Petropavlovsk**	**48.75**	**26**	P	**P**	**16 11 31.8**	**-1.9**
MK31	**Makanchi Array**	**50.55**	**322**	P	**P**	**16 11 48.0**	**+0.3**
MKAR	**Makanchi Array**	**50.55**	**322**	P	**P**	**16 11 47.8**	**+0.1**
MKAR	**Makanchi Array**	**50.55**	**322**	P	**P**	**16 11 48.4**	**+0.7**
	2.1nm,0.7s,baz=122,slow=8.2,SNR=16 2.1nm,0.7s						
MAKZ	**Makanchi**	**50.75**	**322**	P	**P**	**16 11 49.6**	**+0.5**
MAKZ				IAmb	IAmb	16 12 18.0	
	comp=Z,3.9nm,1.1s						
ZAA0	**Zalesovo Array**	**53.08**	**331**	P	**P**	**16 12 06.8**	**+0.4**
ZAA0				IAmb	IAmb	16 12 07.4	
	comp=Z,2.2nm,0.8s						
ZALV	**Zalesovo Beam**	**53.08**	**331**	P	**P**	**16 12 06.9**	**+0.6**
ZALV	**Zalesovo Beam**	**53.08**	**331**	P	**P**	**16 12 06.5**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=121,slow=7.5,SNR=7.0 comp=Z,1.5nm,0.6s						
KURK	**Kurchatov**	**54.57**	**325**	P	**P**	**16 12 17.2**	**0.0**
KURK				IAmb	IAmb	16 12 18.9	
	comp=Z,4.8nm,0.7s						
KURBB	**Kurchatov Arra**	**54.57**	**325**	P	**P**	**16 12 18.0**	**+0.7**
	comp=Z,1.9nm,0.5s,baz=127,slow=7.1,SNR=19 comp=Z,1.9nm,0.5s						
KKAR	**Karatay Array**	**56.88**	**314**	P	**P**	**16 12 33.5**	**-0.6**
BRVK	**Borovoye**	**60.24**	**325**	P	**P**	**16 12 57.3**	**0.0**
BRVK				IAmb	IAmb	16 12 59.1	
	comp=Z,9.1nm,1.4s						
ABKAR	**Akbulak array**	**65.44**	**319**	P	**P**	**16 13 31.0**	**-1.0**
ARCES	**ARCESS Array B**	**82.61**	**340**	P	**P**	**16 15 13.2**	**+1.3**
ARCES	**ARCESS Array B**	**82.61**	**340**	P	**P**	**16 15 13.3**	**+1.3**
	comp=Z,1.9nm,0.5s,baz=79,slow=7.0,SNR=14 comp=Z,1.9nm,0.5s						
FINES	**FINESS Array B**	**84.34**	**332**	P	**P**	**16 15 21.3**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=88,slow=4.5,SNR=8.6 comp=Z,1.3nm,0.6s						
P32M	**Atlin**	**85.12**	**30**	P	**P**	**16 15 25.3**	**+0.3**
CSS	**Mathiatis**	**85.37**	**305**	P	**P**	**16 15 25.9**	**-0.8**
BURAR	**Bucovina Array**	**88.42**	**318**	P	**P**	**16 15 41.0**	**-0.4**
BUR08	**Bucovina Ar. S**	**88.42**	**318**	P	**P**	**16 15 41.0**	**-0.4**
BUR08				IAmb	IAmb	16 16 16.7	
	comp=Z,3.8nm,1.4s						

*JMA **04** 16:15:17.4±0.6, 44°N±2°×14°8E±°, h0km, MV3.6/24, SE OFF ETOROFU*
*SKHL **04** 16:15:18.1±0.3, 44.°40N×148.°40E, h40km±3km, mb4.2/3*
ISC 04 16:15:14.6±3.0**, 44.°37N**±0.°09×**148.°4E**±0.°2**, h3**km±13km**, n14,** σ**1.s38**/22**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.94**	**336**	*i* P	**Pb**	**16 15 33.4**	**-0.3**
KUR				AMB	AMB	16 15 33.9	
	100nm,0.2s						
KUR				*i* S	**Sb**	**16 15 45.0**	**-1.6**
KUR				A	A	16 15 51.6	
	440nm,0.3s						
KUR				A	A	16 15 51.6	
	330nm,0.3s						
SHO	**Shikotan**	**1.24**	**247**	*i* P	**Pg**	**16 15 38.6**	**+0.2**
SHO				AMB	AMB	16 15 38.9	
	60nm,0.3s						
SHO				*e*S	**Sg**	**16 15 53.7**	**-0.8**
SHO				A	A	16 15 57.5	
	50nm,0.2s						
SHO				A	A	16 15 57.5	
	210nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.86**	**261**	*i* P	**Pn**	**16 15 47.8**	**+0.4**
YUK				AMB	AMB	16 15 48.9	
	80nm,0.2s						
YUK				*i* S	**Sn**	**16 16 10.0**	**-1.5**
YUK				A	A	16 16 16.3	
	200nm,0.4s						
YUK				A	A	16 16 16.3	
	280nm,0.4s						
NEM2	**Nemuro 2**	**2.17**	**243**	*e*P	**Pn**	**16 15 51.5**	**-0.2**
NEM2				*e*S	**Sn**	**16 16 16.7**	**-2.4**
JRA	**Rausu**	**2.41**	**261**	*e*P	**Pn**	**16 15 56.4**	**+1.5**
JRA				*e*S	**Sn**	**16 16 25.2**	**+0.4**
JNSB	**Nemuroshibetsu**	**2.52**	**258**	*e*P	**Pn**	**16 15 57.8**	**+1.3**
JKHN	**Kushirohamanak**	**2.68**	**242**	*e*P	**Pn**	**16 15 59.0**	**+0.3**
JNK	**Nakash**	**2.78**	**255**	*e*P	**Pn**	**16 16 01.1**	**+1.1**
JNK				*e*S	**Sn**	**16 16 34.0**	**-0.1**
JAK	**Akkeshi**	**3.02**	**244**	*e*P	**Pn**	**16 16 03.7**	**+0.3**
JTKR	**Abashiri--Toko**	**3.26**	**265**	*e*P	**Pn**	**16 16 09.6**	**+2.9**
JAR	**Ashorobuto**	**3.52**	**254**	*e*P	**Pn**	**16 16 12.0**	**+1.7**
JAR				*e*S	**Sn**	**16 16 53.7**	**+1.2**
JOB	**Onbets**	**3.63**	**248**	*e*P	**Pn**	**16 16 13.2**	**+1.5**
JOB				*e*S	**Sn**	**16 16 55.2**	**+0.1**
JCH	**Churui**	**4.07**	**246**	*e*P	**Pn**	**16 16 19.0**	**+1.2**
JNBK	**Urakawa-nobuka**	**4.62**	**245**	*e*P	**Pn**	**16 16 26.4**	**+1.0**

*IDC **04** 16:26:57.0±8.4, 13.°11S×166.°97E, h160km±74km, mb3.4/4, mbtmp3.8/5, Error ellipse: s-maj=70.0km s-min=40.1km az=168.0*
*NEIC **04** 16:26:58.4±1.6, 13.°2S±0.°2×167.°2E±0.°2, h184km±10km, mb4.4/11, Error ellipse: s-maj=28.7km s-min=14.9km az=140.0*
ISC 04 16:26:58.2±1.0**, 13.°2S**±0.°1×**167.°1E**±0.°2**, h180**km**, n19,** σ**0.s75**/20**, mb4.1**/10**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOUNC	**Koumac, New Ca**	**7.77**	**200**	Pn	**Pn**	**16 28 47.0**	**-1.5**
DZM	**Mont Dzumac**	**8.83**	**184**	Pn	**Pn**	**16 29 02.4**	**0.0**
DZM	**Mont Dzumac**	**8.83**	**184**	P	**Pn**	**16 29 02.7**	**+0.3**
	2.9nm,0.8s,baz=300,slow=20,SNR=1.1						
STKA	**Stephens Creek**	**29.86**	**227**	P	**P**	**16 32 49.5**	**+0.7**
STKA	**Stephens Creek**	**29.86**	**227**	P	**P**	**16 32 49.1**	**+0.3**
	1.1nm,0.4s,baz=29,slow=9.7,SNR=5.0 1.1nm,0.4s						
WB0	**Warramunga Arr**	**31.98**	**254**	P	**P**	**16 33 08.1**	**+0.5**
WB0				IAmb	IAmb	16 33 36.0	
	comp=Z,5.7nm,1.4s						
WB2	**Warramunga Arr**	**32.04**	**254**	P	**P**	**16 33 08.1**	**0.0**
WB2				IAmb	IAmb	16 33 09.5	
	comp=Z,8.4nm,1.1s						
WRAB	**Tennant Creek**	**32.04**	**254**	P	**P**	**16 33 08.1**	**0.0**
WRAB				IAmb	IAmb	16 33 48.6	
	comp=Z,6.1nm,0.5s						
WRA	**Warramunga Arr**	**32.05**	**254**	P	**P**	**16 33 08.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=81,slow=9.6,SNR=7.4 comp=Z,0.1nm,0.3s						
AS31	**Alice Springs**	**33.07**	**247**	P	**P**	**16 33 16.7**	**-0.3**
ASAR	**Alice Springs**	**33.07**	**247**	P	**P**	**16 33 17.1**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=75,slow=9.1,SNR=24						
ASAR				PcP	**PcP**	**16 35 56.9**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=73,slow=2.2,SNR=7.0 comp=Z,0.7nm,0.6s						
TAU	**Tasmania Unive**	**34.16**	**206**	P	**P**	**16 33 26.9**	**+0.7**
FORT	**Forrest**	**39.93**	**238**	P	**P**	**16 34 14.0**	**-1.0**
FORT				IAmb	IAmb	16 34 20.7	
	comp=Z,15nm,0.9s						
QSPA	**South Pole Qui**	**76.80**	**180**	P	**P**	**16 38 29.4**	**-0.4**
QSPA				IAmb	IAmb	16 38 35.4	
	comp=Z,5.8nm,1.5s						
OHAK	**Old Harbor**	**77.44**	**21**	P	**P**	**16 38 32.4**	**-0.8**
M24K	**Tolsona, Glenn**	**83.49**	**20**	P	**P**	**16 39 05.6**	**+0.2**
I21K	**Tanana**	**84.00**	**16**	P	**P**	**16 39 06.2**	**-1.6**
I21K				IAmb	IAmb	16 39 26.8	
	comp=Z,35nm,1.5s						
MKAR	**Makanchi Array**	**95.99**	**317**	P	**P**	**16 40 05.4**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=101,slow=5.7,SNR=2.2 comp=Z,0.3nm,0.7s						
ARCES	**ARCESS Array B**	**118.75**	**346**	PKP	**PKiKP**	**16 45 25.1**	**+0.7**
	comp=Z,6.5nm,1.1s,baz=46,slow=2.1,SNR=5.5						

*IDC **04** 16:33:00.2±1.4, 4.°71S×155.°12E, h492km±14km, mb2.9/7, mbtmp3.8/8, Error ellipse: s-maj=24.4km s-min=16.9km az=55.0*
ISC 04 16:33:00.9±0.9**, 4.°8S**±0.°1×**155.°0E**±0.°1**, h500**km**, n9,** σ**1.s02**/14**, mb3.2**/6**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.04**	**279**	P	**P**	**16 34 11.8**	**-0.5**
	168nm,0.6s,baz=323,slow=20,SNR=15						
HNR	**Honiara**	**6.70**	**134**	P	**P**	**16 34 43.5**	**-0.6**
	1μm,0.5s,baz=209,slow=19,SNR=4.0						
DZM	**Mont Dzumac**	**20.42**	**148**	P	**P**	**16 37 03.9**	**+0.4**
	2.9nm,0.5s,baz=305,slow=18,SNR=6.3 2.9nm,0.5s						
WRA	**Warramunga Arr**	**25.15**	**231**	P	**P**	**16 37 46.9**	**+1.0**
	0.6nm,0.4s,baz=55,slow=9.4,SNR=29						
WRA				PcP	**PcP**	**16 41 04.3**	**+0.8**
	0.3nm,0.5s,baz=59,slow=2.6,SNR=2.8						
WRA				S	**S**	**16 41 34.1**	**-1.1**
	0.2nm,0.5s,baz=56,slow=15,SNR=1.8 0.6nm,0.4s						
ASAR	**Alice Springs**	**27.69**	**225**	P	**P**	**16 38 08.9**	**+0.6**
	0.3nm,0.5s,baz=58,slow=9.3,SNR=21						
ASAR				PcP	**PcP**	**16 41 09.6**	**+0.1**
	0.3nm,0.5s,baz=60,slow=3.0,SNR=7.2						
ASAR				S	**S**	**16 42 14.2**	**-0.9**
	0.3nm,0.5s,baz=58,slow=14,SNR=7.4						
ASAR				ScP	**ScP**	**16 44 05.1**	**+2.4**
	0.1nm,0.8s,baz=43,slow=4.2,SNR=1.1 0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**59.90**	**294**	P	**P**	**16 42 19.1**	**+0.5**
	0.6nm,0.7s,baz=108,slow=4.7,SNR=4.6 0.6nm,0.7s						
SONM	**Songino Array**	**67.53**	**327**	P	**P**	**16 43 06.7**	**-0.3**
	0.4nm,0.4s,baz=140,slow=4.0,SNR=4.6 0.4nm,0.4s						
VNDA	**Vanda**	**72.76**	**178**	P	**P**	**16 43 37.1**	**-0.3**
	0.6nm,0.6s,baz=344,slow=7.2,SNR=5.2 0.6nm,0.6s						
MKAR	**Makanchi Array**	**81.80**	**318**	P	**P**	**16 44 26.5**	**-0.7**
	0.5nm,0.7s,baz=194,slow=4.6,SNR=3.9 0.5nm,0.7s						

*NEIC **04** 16:39:04.4±0.8, 19.°279N±0.°009×155.°392W±0.°007, h7km±3km, Error ellipse: s-maj=1.3km s-min=1.0km az=166.0*
HVO 04 16:39:03.5±1.0**, 19.°269N**±0.°009×**155.°381W**±0.°005**, h1**km±9km**, ML2.8**/30**, ML2.5**/50(NEIC)**, Error ellipse: s-maj=1.3km s-min=0.7km az=169.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.04**	**206**		Pg	16 39 05.6	+1.3
HLP	**Hilina Pali**	**0.07**	**69**		Pg	16 39 06.5	+1.4
HLP				IAML		16 39 07.3	
	comp=E,2μm,0.4s						
SDHHI	**Sand Hill**	**0.14**	**35**		Pg	16 39 07.4	+1.0
SDHHI				IAML		16 39 11.1	
	comp=E,2μm,0.5s						
WRMHI	**West Rim**	**0.16**	**29**		Pg	16 39 07.3	+0.7
WRMHI				IAML		16 39 11.1	
	comp=E,2μm,0.6s						
WRMHI				IAML		16 39 11.6	
	comp=N,1μm,0.5s						
RIM	**Rim**	**0.16**	**39**		Pg	16 39 07.6	+0.9
RIM				IAML		16 39 11.8	
	comp=E,1μm,0.5s						
RIM				IAML		16 39 11.9	
	comp=N,2μm,0.5s						
KKO	**Keanakako`i**	**0.17**	**40**		Pg	16 39 07.6	+0.8
KKO				IAML		16 39 11.8	
	comp=E,1μm,0.5s						
KKO				IAML		16 39 12.5	
	comp=N,1μm,0.7s						
NPH	**North Pit**	**0.17**	**34**		Pg	16 39 07.7	+0.8
UWE	**Uwekahuna**	**0.17**	**29**		Pg	16 39 07.8	+0.9
UWE				IAML		16 39 12.9	
	comp=E,1μm,0.4s						
UWE				IAML		16 39 12.0	
	comp=N,1μm,0.4s						
OBL	**Observatory Le**	**0.17**	**32**		Pg	16 39 07.6	+0.7
OBL				IAML		16 39 11.4	
	comp=N,2μm,0.6s						
BYL	**Byron's Ledge**	**0.18**	**39**	Pg	Pg	16 39 08.0	+0.9
BYL				IAML		16 39 13.2	
	comp=N,1μm,0.5s						
UWB	**Uwekahuna B**	**0.18**	**32**		Pg	16 39 07.9	+0.8
PUH	**Pauahi**	**0.19**	**56**		Pg	16 39 08.0	+0.8
PUH				IAML		16 39 13.1	
	comp=N,742nm,0.4s						
HATHI	**Halema‘uma‘u T**	**0.19**	**37**		Pg	16 39 08.1	+0.8
HATHI				IAML		16 39 12.5	
	comp=E,940nm,0.6s						
SBLHI	**Steaming Bluff**	**0.19**	**34**		Pg	16 39 08.0	+0.7
SBLHI				IAML		16 39 13.8	
	comp=N,788nm,0.3s						
RSD	**Rainshed**	**0.22**	**27**		Pg	16 39 08.1	+0.4
KHU	**Kahuku**	**0.22**	**264**		Pg	16 39 08.7	+0.9
KHU				IAML		16 39 14.1	
	comp=N,666nm,0.4s						
MLH	**Mauna Loa**	**0.22**	**359**		Pg	16 39 09.0	+1.1
KNHH	**Kane Nui o Ham**	**0.23**	**61**		Pg	16 39 08.8	+0.8
HPO	**Honuapo**	**0.24**	**222**		Pg	16 39 09.8	+1.6
STCH	**Steam Cracks**	**0.27**	**64**	Pg	Pg	16 39 09.2	+0.5
STCH				IAML		16 39 15.6	
	comp=N,666nm,0.3s						
STCH				IAML		16 39 16.3	
	comp=E,721nm,0.1s						
NPOC	**North of Pu‘u**	**0.28**	**64**		Sb	16 39 15.9	-0.9
NPOC	**North of Pu‘u**	**0.28**	**64**		Pb	16 39 10.5	-1.1
NPOC	**North of Pu‘u**	**0.28**	**64**	IAML		16 39 16.0	
	comp=E,769nm,0.3s						
NPOC				IAML		16 39 16.4	
	comp=N,1μm,0.3s						
JCUZ	**Jacuzzi**	**0.29**	**67**		Sb	16 39 16.0	-0.9
JCUZ	**Jacuzzi**	**0.29**	**67**		Pb	16 39 10.5	-1.1
JCUZ	**Jacuzzi**	**0.29**	**67**	IAML		16 39 16.0	
	comp=N,801nm,0.5s						
JCUZ				IAML		16 39 16.5	
	comp=E,744nm,0.2s						
MWH	**Moku‘aweowe**	**0.30**	**317**		Pg	16 39 10.0	+0.8
MWH				IAML		16 39 18.8	
	comp=E,932nm,0.6s						

MWH				IAML			16 39 19.4	
	comp=N,939nm,0.6s							
MLOA	**Mauna Loa Obse**	**0.32**	**325**		Pg		16 39 10.6	+0.8
HMH	**Humu'ula Sheep**	**0.34**	**344**		Pg		16 39 11.0	+0.8
HMH				IAML			16 39 16.7	
	comp=E,650nm,0.5s							
HMH				IAML			16 39 21.2	
	comp=N,533nm,0.6s							
ALEP	**Alea Permanent**	**0.37**	**318**		Pg		16 39 11.2	+0.5
ALEP					Sg		16 39 16.6	+1.2
JOKA	**Jonika Flow**	**0.39**	**65**		Pg		16 39 11.1	+0.1
JOKA					Sb		16 39 18.5	-1.4
POHA	**Pohakuloa**	**0.51**	**344**		Pg		16 39 13.8	+0.5
CPH	**Captain Cook**	**0.55**	**293**		Pg		16 39 15.0	+0.9
KHLU	**Kahalu`u**	**0.58**	**304**		Sb		16 39 23.9	-1.5
KHLU	**Kahalu`u**	**0.58**	**304**		Pg		16 39 14.7	0.0
KHLU	**Kahalu`u**	**0.58**	**304**	IAML			16 39 25.7	
	comp=E,428nm,0.4s							
KHLU				IAML			16 39 26.6	
	comp=N,390nm,0.4s							
HUH	**Hualalai**	**0.59**	**314**		Pg		16 39 15.4	+0.4
HPAH	**Hawaii Prepara**	**0.81**	**339**	Pg	Pg		16 39 19.3	+0.2
MHA	**Mahukona**	**1.04**	**332**	Pg	Pg		16 39 23.5	0.0

ROM 04 16:58:58.5±0.1, 42°389N±0°004×13°361E±0°006, h10km, ML1.6/20, 1C-2D, Error ellipse: s-maj=0.5km s-min=0.4km az=70.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.05**	**139**	⇓P	Pg	16 59 01.1	+0.6
AQU				S	Sg	16 59 02.5	+0.5
AQU				AML	AML		
	comp=N,1350μm,0.2s						
AQU				AML	AML		
	comp=N,1470μm,0.2s						
AQU				AML	AML		
	comp=E,1019μm,0.7s						
AQU				AML	AML		
	comp=E,1012μm,0.7s						
CAMP	**Campotosto**	**0.15**	**14**	P	Pg	16 59 02.7	+0.7
CAMP				S	Sg	16 59 05.3	+0.9
CAMP				AML	AML		
	comp=E,112μm,0.3s						
CAMP				AML	AML		
	comp=N,206μm,0.4s						
CAMP				AML	AML		
	comp=E,112μm,1.7s						
GIGS	**Gran Sasso**	**0.17**	**68**	⇑P	Pg	16 59 02.8	+0.6
GIGS				S	Sg	16 59 05.6	+0.8
GIGS				AML	AML		
	comp=E,238μm,0.4s						
GIGS				AML	AML		
	comp=N,168μm,0.1s						
FAGN	**Fagnano**	**0.21**	**127**	P	Pg	16 59 03.6	+0.7
FAGN				S	Sg	16 59 06.7	+0.9
FAGN				AML	AML		
	comp=N,341μm,1.5s						
FAGN				AML	AML		
	comp=E,538μm,0.4s						
FAGN				AML	AML		
	comp=N,342μm,1.5s						
FAGN				AML	AML		
	comp=N,342μm,0.5s						
FIAM	**Fiamignano**	**0.22**	**236**	P	Pg	16 59 03.6	+0.5
FIAM				S	Sg	16 59 07.3	+1.1
SMA1	**SAN MARTINO**	**0.24**	**356**	P	Pg	16 59 04.3	+0.7
SMA1				S	Sg	16 59 08.1	+1.2
SMA1				AML	AML		
	comp=E,252μm,0.5s						
SMA1				AML	AML		
	comp=N,220μm,0.6s						
SMA1				AML	AML		
	comp=E,252μm,1.5s						
TERO	**Teramo**	**0.29**	**37**	⇓P	Pg	16 59 04.9	+0.4
TERO				S	Sg	16 59 09.4	+0.9
TERO				AML	AML		
	comp=N,117μm,1.0s						
TERO				AML	AML		
	comp=E,98μm,0.1s						
LNSS	**Leonessa**	**0.32**	**312**	P	Pg	16 59 05.4	+0.4
LNSS				S	Sb	16 59 11.2	-0.5
LNSS				AML	AML		
	comp=N,96μm,0.3s						
LNSS				AML	AML		
	comp=E,120μm,0.5s						
LNSS				AML	AML		
	comp=E,114μm,1.1s						
T0110	**Collepietro**	**0.35**	**118**	P	Pg	16 59 06.1	+0.6
T0110				S	Sb	16 59 12.2	-0.4
T0110				AML	AML		
	comp=N,154μm,0.7s						
T0110				AML	AML		
	comp=E,176μm,1.1s						
T0110				AML	AML		
	comp=N,154μm,0.7s						
T0110				AML	AML		
	comp=E,176μm,0.9s						
T0110				AML	AML		
	comp=E,103μm,0.6s						
MTRA	**Matera**	**0.37**	**4**	P	Pb	16 59 06.7	-0.6
MTRA				S	Sg	16 59 11.9	+1.1
MTRA				AML	AML		
	comp=E,74μm,1.4s						
MTRA				AML	AML		
	comp=N,68μm,1.6s						
GAVE	**Gavelli**	**0.46**	**311**	AML	AML		
	comp=E,51μm,0.9s						
GAVE				AML	AML		
	comp=N,51μm,1.3s						
NRCA	**Norcia**	**0.48**	**338**	AML	AML		
	comp=E,148μm,0.1s						
NRCA				AML	AML		
	comp=N,61μm,0.6s						
T1221	**Campello sul C**	**0.60**	**321**	P	Pg	16 59 10.5	+0.2
CSP1	**Cessapalombo**	**0.71**	**351**	AML	AML		
	comp=N,547μm,0.3s						
CSP1				AML	AML		
	comp=E,1080μm,1.1s						

ROM 04 16:59:25.7±0.0, 43°025N±0°002×13°048E±0°004, h8km, ML2.0/66, Error ellipse: s-maj=0.3km s-min=0.1km az=86.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.03**	**68**	P	Pg	16 59 27.3	-0.1
FDMO				S	Sg	16 59 28.1	-0.5
FDMO				AML	AML		
	comp=N,36550μm,0.3s						
FDMO				AML	AML		
	comp=E,18550μm,0.2s						
FDMO				AML	AML		
	comp=E,18558μm,0.2s						
FDMO				AML	AML		
	comp=N,33224μm,0.2s						
FDMO				AML	AML		
	comp=E,18558μm,0.1s						
FEMA	**Monte Fema**	**0.06**	**179**	P	Pg	16 59 28.1	+0.2
FEMA				S	Sg	16 59 29.6	+0.3
FEMA				AML	AML		
	comp=E,12450μm,0.5s						
FEMA				AML	AML		
	comp=N,9310μm,1.4s						
FEMA				AML	AML		
	comp=N,9305μm,1.4s						
FEMA				AML	AML		
	comp=E,10035μm,0.2s						
FEMA				AML	AML		
	comp=N,9037μm,0.2s						
FEMA				AML	AML		
	comp=E,10035μm,0.2s						
CESI	**CESI - Serrava**	**0.11**	**259**	P	Pg	16 59 29.0	+0.6
CESI				S	Sg	16 59 31.1	+0.9
CESI				AML	AML		
	comp=E,2050μm,1.3s						
CESI				AML	AML		
	comp=N,2225μm,0.3s						
CESI				AML	AML		
	comp=E,1556μm,0.2s						
CESI				AML	AML		
	comp=N,2225μm,0.3s						
CESI				AML	AML		
	comp=E,1972μm,0.3s						
CSP1	**Cessapalombo**	**0.13**	**60**	P	Pg	16 59 29.2	+0.5
CSP1				S	Sg	16 59 31.5	+0.7
CSP1				AML	AML		
	comp=E,1080μm,1.1s						
CSP1				AML	AML		
	comp=N,547μm,0.3s						
CSP1				AML	AML		
	comp=N,313μm,0.3s						
CSP1				AML	AML		
	comp=N,547μm,0.3s						
CSP1				AML	AML		
	comp=E,937μm,0.1s						
SEF1	**Sefro**	**0.14**	**329**	P	Pg	16 59 29.3	+0.4
MC2	**Monte Cornacci**	**0.15**	**137**	P	Pg	16 59 29.8	+0.6
PF6	**Pievefavera**	**0.16**	**40**	P	Pg	16 59 29.5	+0.3
PF6				S	Sg	16 59 32.5	+0.9
MDAR	**Monte D'Aria**	**0.18**	**22**	P	Pg	16 59 30.0	+0.5
MDAR				S	Sg	16 59 33.2	+1.0
NRCA	**Norcia**	**0.20**	**166**	P	Pg	16 59 30.4	+0.6
NRCA				S	Sg	16 59 34.0	+1.4
NRCA				AML	AML		
	comp=E,2850μm,0.7s						
NRCA				AML	AML		
	comp=E,3020μm,0.7s						
NRCA				AML	AML		
	comp=N,2825μm,0.1s						
NRCA				AML	AML		
	comp=E,2850μm,0.7s						
NRCA				AML	AML		
	comp=N,2650μm,0.1s						
NRCA				AML	AML		
	comp=N,2647μm,0.1s						
NRCA				AML	AML		
	comp=E,2595μm,0.1s						
NRCA				AML	AML		
	comp=N,2828μm,0.1s						
NRCA				AML	AML		
	comp=E,2446μm,0.1s						
NRCA				AML	AML		
	comp=N,2828μm,0.1s						
NRCA				AML	AML		
	comp=E,2595μm,0.1s						
NRCA				AML	AML		
	comp=N,2647μm,0.1s						
GAG1	**Gagliole**	**0.21**	**4**	P	Pg	16 59 30.9	+0.8
GAG1				S	Sg	16 59 35.0	+1.9
GUMA	**Gualdo di Mace**	**0.21**	**80**	P	Pg	16 59 31.0	+0.9
GUMA				S	Sg	16 59 35.1	+2.0
GUMA				AML	AML		
	comp=N,4295μm,0.3s						
GUMA				AML	AML		
	comp=E,5375μm,0.2s						
GUMA				AML	AML		
	comp=N,3260μm,0.5s						
GUMA				AML	AML		
	comp=E,2730μm,0.3s						
GUMA				AML	AML		
	comp=N,4295μm,0.3s						
GUMA				AML	AML		
	comp=N,2954μm,0.3s						
GUMA				AML	AML		
	comp=E,5374μm,0.2s						
GUMA				AML	AML		
	comp=E,2528μm,0.3s						
GUMA				AML	AML		
	comp=N,3257μm,0.5s						
GUMA				AML	AML		
	comp=E,2731μm,0.3s						
GUMA				AML	AML		
	comp=E,5374μm,0.2s						
GUMA				AML	AML		
	comp=N,4294μm,0.3s						
T1221	**Campello sul C**	**0.22**	**222**	P	Pg	16 59 31.0	+0.8
T1221				S	Sg	16 59 35.0	+1.7
T1221				AML	AML		
	comp=E,402μm,1.5s						
T1221				AML	AML		
	comp=N,527μm,0.3s						
T1221				AML	AML		
	comp=E,402μm,1.6s						
T1221				AML	AML		
	comp=N,527μm,0.3s						
T1221				AML	AML		
	comp=E,924μm,0.3s						
T1221				AML	AML		
	comp=E,388μm,0.6s						
T1221				AML	AML		
	comp=N,563μm,0.3s						
T1221				AML	AML		
	comp=E,358μm,0.1s						
T1221				AML	AML		
	comp=N,527μm,0.3s						
T1221				AML	AML		
	comp=N,563μm,0.3s						
SSM1	**San Severino M**	**0.23**	**25**	P	Pg	16 59 30.9	+0.6
SSM1				S	Sg	16 59 34.9	+1.6
MTL1	**Matelica**	**0.23**	**353**	P	Pg	16 59 31.0	+0.5
MTL1				S	Sg	16 59 35.6	+2.0
MMO1	**Montemonaco**	**0.24**	**121**	P	Pg	16 59 31.1	+0.5
MMO1				S	Sg	16 59 35.3	+1.4
SNTG	**Esanatoglia**	**0.24**	**341**	P	Pg	16 59 31.3	+0.6
SNTG				S	Sg	16 59 35.5	+1.5
SNTG				AML	AML		
	comp=N,293μm,0.2s						
SNTG				AML	AML		
	comp=E,312μm,0.8s						
SNTG				AML	AML		
	comp=N,339μm,0.2s						
SNTG				AML	AML		
	comp=E,280μm,0.1s						
SNTG				AML	AML		
	comp=E,275μm,0.1s						
SNTG				AML	AML		
	comp=N,293μm,0.2s						
MF5	**Montefalcone A**	**0.30**	**97**	P	Pb	16 59 32.9	-0.6
MF5				S	Sb	16 59 38.5	-0.1
MF5				AML	AML		
	comp=E,898μm,0.8s						
MF5				AML	AML		
	comp=N,733μm,0.9s						
MF5				AML	AML		
	comp=E,898μm,0.8s						
MF5				AML	AML		
	comp=E,684μm,0.5s						
MF5				AML	AML		
	comp=N,599μm,0.4s						
EL6	**Elcito**	**0.31**	**7**	P	Pg	16 59 32.4	+0.5
EL6				S	Sb	16 59 37.6	-1.2
EL6				AML	AML		
	comp=E,1285μm,0.2s						
EL6				AML	AML		
	comp=N,1445μm,0.3s						
EL6				AML	AML		
	comp=N,1445μm,0.3s						
EL6				AML	AML		
	comp=E,1283μm,0.2s						
EL6				AML	AML		
	comp=N,1445μm,0.3s						
ATCC	**AVT- Casa Cast**	**0.34**	**298**	P	Pg	16 59 33.1	+0.6
ATCC				AML	AML		
	comp=N,566μm,0.3s						
ATCC				AML	AML		
	comp=E,414μm,0.7s						
ATCC				AML	AML		
	comp=E,384μm,0.2s						
ATCC				AML	AML		
	comp=N,566μm,0.3s						
ATCC				AML	AML		
	comp=E,384μm,0.2s						
ATCC				AML	AML		
	comp=N,566μm,0.3s						
FOSV	**Fossato di Vic**	**0.34**	**322**	P	Pg	16 59 33.1	+0.6
FOSV				AML	AML		
	comp=N,195μm,0.7s						
FOSV				AML	AML		
	comp=E,200μm,0.8s						
FOSV				AML	AML		
	comp=N,182μm,0.2s						
FOSV				AML	AML		
	comp=E,142μm,0.2s						
FOSV				AML	AML		
	comp=N,182μm,0.2s						
GAVE	**Gavelli**	**0.35**	**199**	AML	AML		
	comp=E,1044μm,0.6s						
GAVE				AML	AML		
	comp=N,884μm,0.3s						
GAVE				AML	AML		
	comp=E,955μm,0.3s						
GAVE				AML	AML		
	comp=E,955μm,0.3s						
GAVE				AML	AML		
	comp=N,884μm,0.3s						
CING	**Cingoli**	**0.37**	**17**	P	Pg	16 59 33.5	+0.5
CING				S	Sb	16 59 39.6	-0.8
CING				AML	AML		
	comp=E,721μm,0.6s						
CING				AML	AML		
	comp=N,405μm,0.9s						
CING				AML	AML		
	comp=N,400μm,0.2s						
CING				AML	AML		
	comp=E,709μm,0.2s						
CING				AML	AML		
	comp=N,400μm,0.2s						
CING				AML	AML		
	comp=E,709μm,0.2s						
MTRA	**Matera**	**0.37**	**136**	P	Pg	16 59 33.5	+0.4
MTRA				S	Sb	16 59 39.6	-0.8
MTRA				AML	AML		
	comp=N,392μm,0.3s						
MTRA				AML	AML		
	comp=E,472μm,0.4s						
MTRA				AML	AML		
	comp=N,393μm,0.3s						
MTRA				AML	AML		
	comp=N,446μm,0.3s						
MTRA				AML	AML		
	comp=E,330μm,0.2s						
MTRA				AML	AML		
	comp=N,393μm,0.3s						
MTRA				AML	AML		
	comp=E,327μm,0.2s						
LNSS	**Leonessa**	**0.42**	**181**	P	Pg	16 59 34.5	+0.5
LNSS				S	Sb	16 59 41.4	-0.6
LNSS				AML	AML		
	comp=E,639μm,0.1s						
LNSS				AML	AML		
	comp=N,766μm,0.1s						
LNSS				AML	AML		
	comp=E,639μm,0.1s						
LNSS				AML	AML		
	comp=N,766μm,0.1s						
SMA1	**SAN MARTINO**	**0.45**	**152**	P	Pg	16 59 35.0	+0.5
SMA1				S	Sb	16 59 42.2	-0.5
SMA1				AML	AML		
	comp=E,240μm,0.2s						
SMA1				AML	AML		
	comp=N,238μm,0.5s						
SMA1				AML	AML		
	comp=E,240μm,0.2s						
SMA1				AML	AML		
	comp=N,162μm,0.3s						
SMA1				AML	AML		
	comp=N,162μm,0.3s						
MURB	**Monte Urbino**	**0.45**	**302**	P	Pg	16 59 35.2	+0.7
MURB				AML	AML		
	comp=N,364μm,0.2s						
MURB				AML	AML		
	comp=E,576μm,0.3s						
MURB				AML	AML		
	comp=E,600μm,0.3s						
MURB				AML	AML		
	comp=N,336μm,0.9s						
MURB				AML	AML		
	comp=N,326μm,0.2s						
MURB				AML	AML		
	comp=E,576μm,0.3s						
MURB				AML	AML		
	comp=E,599μm,0.3s						
MURB				AML	AML		
	comp=E,576μm,0.3s						
MURB				AML	AML		
	comp=N,364μm,0.2s						
MURB				AML	AML		
	comp=N,326μm,0.2s						
SSFR	**Montelago di S**	**0.46**	**335**	P	Pg	16 59 35.1	+0.5
SSFR				S	Sb	16 59 43.3	+0.4
SSFR				AML	AML		
	comp=E,475μm,0.8s						
SSFR				AML	AML		
	comp=N,548μm,0.9s						
SSFR				AML	AML		
	comp=E,476μm,0.8s						
SSFR				AML	AML		
	comp=N,420μm,0.2s						
SSFR				AML	AML		
	comp=E,453μm,0.2s						
SSFR				AML	AML		
	comp=E,466μm,0.3s						
SSFR				AML	AML		
	comp=N,420μm,0.2s						
SSFR				AML	AML		
	comp=E,453μm,0.2s						
SSFR				AML	AML		
	comp=N,514μm,0.3s						
OFFI	**Offida**	**0.48**	**101**	P	Pb	16 59 36.4	+0.1
OFFI				AML	AML		
	comp=E,344μm,1.6s						
OFFI				AML	AML		
	comp=N,404μm,1.2s						
OFFI				AML	AML		
	comp=N,315μm,0.6s						
OFFI				AML	AML		
	comp=E,291μm,0.5s						
OFFI				AML	AML		
	comp=N,315μm,0.6s						
ARVD	**Arcevia**	**0.48**	**351**	P	Pg	16 59 35.4	+0.4
ARVD				S	Sb	16 59 43.5	-0.2
ARVD				AML	AML		
	comp=E,290μm,0.2s						
ARVD				AML	AML		
	comp=N,176μm,0.2s						
ARVD				AML	AML		
	comp=E,290μm,0.2s						
ARVD				AML	AML		
	comp=N,176μm,0.2s						
ARRO	**Arrone**	**0.49**	**205**	P	Pg	16 59 35.8	+0.5
CESX	**Cesi**	**0.54**	**220**	P	Pg	16 59 36.5	+0.3
CESX				S	Sb	16 59 45.0	-0.3
CESX				AML	AML		
	comp=E,237μm,0.4s						
CESX				AML	AML		
	comp=N,280μm,0.4s						
CESX				AML	AML		
	comp=N,229μm,0.3s						
CESX				AML	AML		
	comp=E,237μm,0.4s						
CESX				AML	AML		
	comp=N,229μm,0.3s						
FRON	**Frontone**	**0.55**	**335**	P	Pg	16 59 36.6	+0.3
FRON				AML	AML		
	comp=N,146μm,0.8s						
FRON				AML	AML		
	comp=E,117μm,0.9s						
FRON				AML	AML		
	comp=N,116μm,0.2s						
FRON				AML	AML		
	comp=E,100μm,0.2s						
CAMP	**Campotosto**	**0.56**	**151**	P	Pg	16 59 36.8	+0.2
CAMP				AML	AML		
	comp=E,66μm,0.3s						
CAMP				AML	AML		
	comp=N,64μm,0.7s						
CAMP				AML	AML		
	comp=E,66μm,0.3s						
CAMP				AML	AML		
	comp=N,61μm,0.7s						
CAMP				AML	AML		
	comp=E,66μm,0.3s						
CAMP				AML	AML		
	comp=N,61μm,0.7s						
TERO	**Teramo**	**0.57**	**134**	P	Pg	16 59 37.1	+0.2
TERO				AML	AML		
	comp=N,110μm,1.3s						
TERO				AML	AML		
	comp=E,109μm,0.9s						
TERO				AML	AML		
	comp=E,90μm,0.2s						
TERO				AML	AML		
	comp=N,97μm,0.1s						
TERO				AML	AML		
	comp=E,90μm,0.1s						
ATVO	**AVT- Monte Val**	**0.59**	**307**	P	Pg	16 59 37.5	+0.3
ATVO				AML	AML		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,56µm,0.8s						
ATVO				AML	AML		
	comp=E,69µm,1.4s						
ATVO				AML	AML		
	comp=E,66µm,0.3s						
ATVO				AML	AML		
	comp=N,55µm,0.5s						
MPAG	Monte Paganucc	0.64	341	P	Pb	16 59 39.0	-0.2
MPAG				AML	AML		
	comp=E,92µm,0.9s						
MPAG				AML	AML		
	comp=N,99µm,1.0s						
MPAG				AML	AML		
	comp=E,90µm,0.3s						
MPAG				AML	AML		
	comp=N,89µm,0.3s						
GIGS	Gran Sasso	0.69	146	P	Pg	16 59 39.2	+0.1
GIGS				AML	AML		
	comp=N,25µm,0.3s						
GIGS				AML	AML		
	comp=E,23µm,0.2s						
GIGS				AML	AML		
	comp=E,23µm,0.2s						
VCEL	Villa Celiera	0.86	137	P	Pg	16 59 42.5	+0.2
VCEL				AML	AML		
	comp=N,82µm,0.4s						
VCEL				AML	AML		
	comp=E,107µm,0.8s						

*GCG **04** 17:11:07.3±0.6, 13°.35N×91°.66W, h19km, MD3.6*
*CATAC **04** 17:11:13.5±0.5, 13°.81N×91°.39W, h75km±8km, ML3.6*
ISC 04 17:11:12.7±2.2**, 13°.8N**±0°.1×**91°.39W**±0°.07**, h92**km±20km**, n20,** σ0s.73/36**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTAL	Retalhuleu	0.76	337	*i* P	Pn	17 11 30.2	+0.2
RTAL				IAML		17 11 33.7	
	comp=Z,770nm,1.0s						
RTAL				*i* S	Sn	17 11 43.8	+0.9
ESSG	Sabana Grande	0.78	44	*i* P	Pn	17 11 30.0	-0.3
ESSG				*i* S	Sn	17 11 44.4	+0.9
ESSG				IAML		17 11 45.9	
	comp=Z,1µm,1.0s						
FUG	Fuego 3	0.82	40	*e*P	Pn	17 11 31.5	+0.7
STG3	Santiaguito 3,	0.90	349	*e*P	Pn	17 11 31.7	0.0
PCG	Pacaya	0.95	53	*e*P	Pn	17 11 32.8	+0.5
CHTG	Tecpan	1.02	23	*i* P	Pn	17 11 32.7	-0.4
CHTG				*i* S	Sn	17 11 48.0	-0.3
CHTG				IAML		17 11 53.3	
	comp=Z,3µm,1.0s						
GUMI	Mixco	1.10	43	*i* P	Pn	17 11 33.4	-0.6
GUMI				*i* S	Sn	17 11 48.6	-1.4
GUMI				IAML		17 11 59.6	
	comp=Z,2µm,1.0s						
GCG4	OSOP	1.13	47	*i* P	Pn	17 11 34.3	+0.1
GCG4				*i* S	Sn	17 11 49.7	-0.7
GCG4				IAML		17 12 07.9	
	comp=Z,2µm,1.0s						
SMSP	San Marcos	1.21	342	*i* P	Pn	17 11 35.7	+0.4
SMSP				*i* S	Sn	17 11 50.9	-1.3
SMSP				IAML		17 11 56.1	
	comp=Z,2µm,1.0s						
SMCA	Catarina	1.23	327	*i* P	Pn	17 11 35.7	+0.5
SMCA				*i* S	Sn	17 11 51.6	-0.5
SMCA				IAML		17 12 03.5	
	comp=Z,410nm,1.0s						
NBG	Las Nubes	1.27	53	*e*P	Pn	17 11 38.0	+2.1
HUEH	Huehuetenango	1.49	356	*i* P	Pn	17 11 39.1	+0.4
HUEH				*i* S	Sn	17 11 58.0	-0.4
HUEH				IAML		17 12 54.5	
	comp=Z,500nm,1.0s						
NUBE	Las Nubes	1.57	87	*i* P	Pn	17 11 40.1	+0.5
NUBE				*i* S	Sn	17 11 59.0	-0.9
NUBE				IAML		17 12 02.0	
	comp=Z,270nm,1.0s						
LOAL	Lomas de Alarc	1.57	83	*i* P	Pn	17 11 39.5	-0.1
LOAL				IAML		17 11 47.8	
	comp=Z,2µm,1.0s						
LOAL				*i* S	Sn	17 11 59.4	-0.5
CEVE	Cerro Verde	1.72	90	*i* P	Pn	17 11 40.8	-0.8
CEVE				*i* S	Sn	17 12 03.1	-0.4
CEVE				IAML		17 12 16.5	
	comp=Z,490nm,1.0s						
UNIC	Universidad Ca	1.80	85	*i* P	Pn	17 11 41.9	-0.5
UNIC				*i* S	Sn	17 12 05.9	+0.9
UNIC				IAML		17 13 14.1	
	comp=Z,350nm,1.0s						
JAYA	Jayaque - finc	1.90	95	*i* P	Pn	17 11 43.9	+0.1
JAYA				*i* S	Sn	17 12 07.3	-0.1
JAYA				IAML		17 12 12.1	
	comp=Z,950nm,1.0s						
CEDA	San Andres	1.94	90	*i* P	Pn	17 11 44.7	+0.4
CEDA				*i* S	Sn	17 12 07.8	-0.5
CEDA				IAML		17 13 14.1	
	comp=Z,4µm,1.0s						
PMON	Piamonte	2.02	93	*i* P	Pn	17 11 45.2	-0.2
PMON				*i* S	Sn	17 12 10.3	0.0
PMON				IAML		17 12 19.3	
	comp=Z,560nm,1.0s						
MTO3	Montecristo	2.05	73	*i* P	Pn	17 11 46.8	+0.9
MTO3				*i* S	Sn	17 12 11.6	+0.4
MTO3				IAML		17 12 24.8	
	comp=Z,75nm,1.0s						

*IDC **04** 17:24:33.4±16.0, 20°.05S×177°.37W, h417km±143km, mb3.3/7, mbtmp4.1/8, Error ellipse: s-maj=107.8km s-min=23.3km az=45.0*
ISC 04 17:24:32.4±1.8**, 20°.1S**±0°.2×**177°.4W**±0°.3**, h400**km**, n9,** σ1s.12/10**, mb3.6**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	18.72	194	P	P	17 28 23.8	-0.5
	1.5nm,0.3s,baz=308,slow=19,SNR=1.6						
CTA	Charters Tower	34.08	264	P	P	17 30 42.0	+0.5
	1.2nm,0.3s,baz=75,slow=11,SNR=1.5						
	1.2nm,0.3s						
STKA	Stephens Creek	38.46	244	P	P	17 31 18.1	+0.2
	1.4nm,0.5s,baz=103,slow=13,SNR=5.1						
	1.4nm,0.5s						
ASAR	Alice Springs	45.15	256	P	P	17 32 11.6	+0.1
	4.3nm,0.5s,baz=93,slow=7.7,SNR=145						
ASAR				PcP	PcP	17 33 41.7	-2.4
	0.3nm,0.5s,baz=84,slow=4.8,SNR=2.2						
	4.3nm,0.5s						
WRA	Warramunga Arr	45.20	262	P	P	17 32 11.8	-0.1
	1.9nm,0.7s,baz=97,slow=7.7,SNR=47						
	1.9nm,0.7s						
VNDA	Vanda	58.37	185	P	P	17 33 47.8	+0.8
	0.3nm,0.6s,baz=27,slow=6.0,SNR=1.5						
	0.3nm,0.6s						
QSPA	South Pole Qui	69.98	180	P	P	17 35 01.5	-0.2
	1.7nm,0.8s,baz=49,slow=19,SNR=5.1						
	1.7nm,0.8s						
CMAR	Chiang Mai Arr	90.50	289	P	P	17 36 50.4	-0.2
	0.4nm,0.7s,baz=133,slow=3.2,SNR=4.8						
	0.4nm,0.7s						
BRTR	Keskin Array B	146.97	313	PKPbc	PKPdf	17 43 27.7	+1.2
	0.2nm,0.4s,baz=105,slow=6.3,SNR=1.6						

IDC 04 17:46:01.7±8.6**, 25°.68S**×**174°.99W, h0**km**, mb4.1**/3**, mbtmp4.0**/3**, MS3.0**/4**, Error ellipse: s-maj=411.3km s-min=61.0km az=153.0, South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	14.65	75	LR	LR	17 55 08.2	
	comp=Z,33nm,18.8s,baz=168,slow=37						
DZM	Mont Dzumac	17.36	278	LR	LR	17 55 24.7	
	comp=Z,36nm,20.4s,baz=94,slow=32						
PPT	Papeete	24.93	76	LR	LR	17 58 22.0	
	comp=Z,26nm,21.2s,baz=132,slow=30						
ASAR	Alice Springs	46.25	261	P	P	17 54 28.6	-0.6
	0.9nm,0.8s,baz=97,slow=7.6,SNR=3.0						
	0.9nm,0.8s						
WRA	Warramunga Arr	46.83	266	P	P	17 54 33.8	+0.1
	1.1nm,0.5s,baz=106,slow=7.4,SNR=4.9						
	1.1nm,0.5s						
PFO	Pinyon Flats O	81.05	46	LR	LR	18 29 24.2	
	comp=Z,27nm,19.1s,baz=32,slow=32						
CMAR	Chiang Mai Arr	94.41	288	P	P	17 59 24.2	+0.2
	1.2nm,0.9s,baz=131,slow=3.5,SNR=8.0						
	1.2nm,0.9s						
AKASG	Malin Array Be	148.87	330	PKPbc	PKPbc	18 05 50.4	-0.7
	0.8nm,0.5s,baz=41,slow=4.2,SNR=5.1						

IDC 04 17:47:29.7±12.0**, 7°.15S**×**127°.96E, h122**km±129km**, mb3.1**/1**, mbtmp3.7**/4**, ML3.7**/3**, Error ellipse: s-maj=151.6km s-min=32.8km az=44.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	5.22	234	P	Pn	17 48 46.0	+0.2
	13nm,0.3s,baz=114,slow=3.0,SNR=45						
BATI				S	Sn	17 49 38.5	-6.4
	24nm,0.4s,baz=316,slow=22,SNR=7.9						
	71nm,0.6s						
WRA	Warramunga Arr	14.14	155	P	Pn	17 50 43.1	-1.5
	0.3nm,0.3s,baz=335,slow=13,SNR=11						
WRA				S	Sn	17 53 10.7	-10
	0.9nm,0.4s,baz=328,slow=22,SNR=10						
	0.3nm,0.3s						
ASAR	Alice Springs	17.39	161	P	Pn	17 51 25.0	+0.2
	0.1nm,0.3s,baz=334,slow=11,SNR=17						
	0.7nm,0.6s						
MKAR	Makanchi Array	67.26	328	P	P	17 58 11.0	-0.1
	0.3nm,0.6s,baz=132,slow=8.0,SNR=2.2						
	0.3nm,0.6s						

*IDC **04** 17:56:17.7±2.4, 28°.56S×62°.48E, h0km, mb3.8/4, mbtmp3.8/4, MS3.2/5, Error ellipse: s-maj=94.4km s-min=31.1km az=40.0*
*NEIC **04** 17:56:19.7±2.6, 28°.1S±0°.2×62°.25E±0°.07, h10km±2km, mb4.4/8, Error ellipse: s-maj=35.2km s-min=6.6km az=14.0*
ISC 04 17:56:20.3±0.8**, 28°.3S**±0°.2×**62°.5E**±0°.1**, h10**km**, n23,** σ1s.06/15**, mb4.2**/7**, MS3.2**/5**, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FOMA	Nahampoana Res	14.27	280	Pn	Pn	17 59 44.1	+1.6
VOI	Vohitsoka	15.57	290	P	Pn	17 59 59.1	-1.1
VOI				IAmb	IAmb	18 00 06.3	
	comp=Z,15nm,1.4s						
H04N2	CROZET ISLANDS	19.76	202	T	T	18 21 03.6	
	baz=30,slow=74,SNR=130						
H04N1	CROZET ISLANDS	19.77	202	T	T	18 21 03.7	
	baz=30,slow=74,SNR=125						
H04N3	CROZET ISLANDS	19.78	202	T	T	18 21 02.8	
	baz=30,slow=74,SNR=137						
BOSA	Boshof	32.67	260	P	P	18 02 51.1	-1.8
BOSA				IAmb	IAmb	18 03 01.4	
	comp=Z,7.0nm,1.4s						
BOSA	Boshof	32.67	260	LR	LR	18 14 45.9	
	comp=Z,33nm,18.0s,baz=210,slow=34						
MAW	Mawson	39.36	180	P	P	18 03 50.5	+0.9
TSUM	Tsumeb	41.90	272	LR	LR	18 19 41.2	
	comp=Z,26nm,19.6s,baz=148,slow=34						
CMAR	Chiang Mai Arr	58.31	41	P	P	18 06 16.2	+0.5
	comp=Z,0.4nm,0.7s,baz=236,slow=6.4,SNR=2.3						
	comp=Z,0.4nm,0.7s						
QSPA	South Pole Qui	61.88	180	P	P	18 06 39.5	-0.3
ASAR	Alice Springs	63.51	104	P	P	18 06 51.5	+0.3
ASAR	Alice Springs	63.51	104	P	P	18 06 50.0	-1.2
	comp=Z,1.2nm,0.7s,baz=247,slow=6.3,SNR=19						
	comp=Z,1.2nm,0.7s						
AS31	Alice Springs	63.51	104	P	P	18 06 51.3	+0.1
VNDA	Vanda	64.62	166	P	P	18 06 57.7	+0.2
VNDA				IAmb	IAmb	18 07 09.0	
	comp=Z,4.1nm,1.5s						
VNDA	Vanda	64.62	166	LR	LR	18 32 13.5	
	comp=Z,22nm,20.6s,baz=281,slow=34						
WRA	Warramunga Arr	65.26	100	P	P	18 07 01.4	-1.3
	comp=Z,1.3nm,0.7s,baz=247,slow=5.6,SNR=13						
	comp=Z,1.3nm,0.7s						
WB0	Warramunga Arr	65.38	100	P	P	18 07 02.6	-0.8
WB0				IAmb	IAmb	18 07 05.4	
	comp=Z,5.6nm,1.4s						
WR0	Warramunga Arr	65.43	100	P	P	18 07 04.3	+0.6
GEYT	Alibeck	65.98	356	LR	LR	18 32 34.3	
	comp=Z,23nm,18.5s,baz=327,slow=33						
BRTR	Keskin Array B	72.79	337	P	P	18 07 49.7	+0.7
	comp=Z,0.7nm,0.8s,baz=147,slow=6.0,SNR=4.2						
	comp=Z,0.7nm,0.8s						
KBZ	Khabaz	73.87	345	LR	LR	18 40 12.7	
	comp=Z,11nm,18.5s,baz=140,slow=36						
YKA	Yellowknife Ar	145.72	358	PKPbc	PKPdf	18 15 57.7	-0.7
	comp=Z,0.7nm,0.7s,baz=345,slow=3.3,SNR=14						

*IDC **04** 18:07:19.1±1.1, 7°.17S×146°.29E, h154km±11km, mb3.9/17, mbtmp4.4/20, Error ellipse: s-maj=20.8km s-min=10.2km az=87.0*
*DJA **04** 18:07:20.0±0.8, 7°S±6°×14°6E±°, h150km±7km, M4.8/19, mb4.5/19, mB6.0/6, MLv4.3/2, Mw(mB)5.6/6, MwMwp7.6/1, Mwp7.2/1*
*NEIC **04** 18:07:20.3±1.6, 7°.19S±0°.09×146°.2E±0°.1, h161km±7km, mb4.6/50, Error ellipse: s-maj=16.8km s-min=12.9km az=67.0*
ISC 04 18:07:21.0±0.4**, 7°.23S**±0°.04×**146°.13E**±0°.06**, h170**km**, n135,** σ1s.25/141**, mb4.6**/43**, 3C-1D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	2.40	155	P	Pn	18 08 01.4	-0.5
PMG	Port Moresby	2.40	155	P	Pn	18 08 01.0	-0.9
	107nm,0.5s,baz=28,slow=5.3,SNR=68						
PMG				S	Sn	18 08 29.9	-3.8
	91nm,0.6s,baz=252,slow=20,SNR=6.0						
BULU	Kimbe	4.49	68	P	Pn	18 08 28.2	+0.1
TABU	Tabubil	5.25	291	P	Pn	18 08 38.6	+0.5
COEN	Coen	7.29	203		Pn	18 09 05.5	+0.6
COEN	Coen	7.29	203	P	Pn	18 09 07.2	+2.2
MTSU	Mount Surprise	10.98	189	P	Pn	18 09 55.6	+2.0
TV1H	Townsville Har	11.98	177	P	Pn	18 10 08.8	+2.3
CTA	Charters Tower	12.79	179	P	Pn	18 10 19.0	+2.2
CTA	Charters Tower	12.79	179	P	Pn	18 10 16.6	-0.3
	16nm,1.0s,baz=360,slow=12,SNR=12						
CTAO	Charters Tower	12.79	179	Pn	Pn	18 10 15.5	-1.4
CTAO	Charters Tower	12.79	179	P	Pn	18 10 19.1	+2.2
KDU	Kakadu	14.50	247	P	Pn	18 10 37.9	-0.5
QIS	Mount Isa	14.68	205	P	Pn	18 10 42.6	+2.0
SAUI	Saumlaki	14.71	266	Pn	Pn	18 10 40.7	-0.4
MTN	Manton Dam	15.78	248		Pn	18 10 53.3	-0.8
MTN				IAmb	IAmb	18 10 54.8	
	comp=Z,43nm,1.4s						
SWI	Sorong	16.11	292	P	Pn	18 10 55.7	-2.5
	comp=Z,8.7nm,1.0s						
WB0	Warramunga Arr	16.88	221		P	18 11 06.6	-0.1
WR0	Warramunga Arr	16.93	220	P	P	18 11 06.3	-0.9
WR0				IAmb	IAmb	18 11 25.7	
	comp=Z,31nm,1.1s						
WRAB	Tennant Creek	17.03	221	P	P	18 11 07.8	-0.5
WB2	Warramunga Arr	17.04	221		P	18 11 08.0	-0.4
WRA	Warramunga Arr	17.04	221	P	P	18 11 07.8	-0.7
WRA	Warramunga Arr	17.04	221	P	P	18 11 08.0	-0.5
	comp=Z,11nm,0.8s,baz=42,slow=12,SNR=68						
WRA				S	Sn	18 14 21.0	+0.3
	comp=Z,0.7nm,0.8s,baz=50,slow=14,SNR=1.8						
WRA				ScP	ScP	18 19 05.5	+1.8
	comp=Z,1.6nm,0.9s,baz=30,slow=1.8,SNR=5.8						
EIDS	Eidsvold	18.65	166	P	P	18 11 28.0	+1.9
EIDS				IAmb	IAmb	18 11 29.0	
	comp=Z,26nm,0.8s						
EIDS	Eidsvold	18.65	166	P	P	18 11 27.9	+1.9
KNRA	Kununurra	18.96	242	P	P	18 11 28.6	-0.9
KNRA				IAmb	IAmb	18 11 45.3	
	comp=Z,16nm,0.7s						
RMQ	Roma	19.32	173	P	P	18 11 35.2	+2.0
QLP	Quilpie	19.33	185	P	P	18 11 35.4	+2.0
NLAI	Namlea	19.35	281	P	P	18 11 31.8	-1.9
	comp=Z,60nm,1.3s,comp=Z,21µm						
AS01	Alice Springs	20.09	214	P	P	18 11 42.7	+1.1
AS31	Alice Springs	20.12	214	P	P	18 11 41.8	-0.1
ASAR	Alice Springs	20.12	214	P	P	18 11 41.5	-0.4
ASAR	Alice Springs	20.12	214	P	P	18 11 42.3	+0.4
	comp=Z,4.0nm,0.3s,baz=47,slow=9.7,SNR=87						
ASAR				S	S	18 15 18.8	+0.1
	comp=Z,2.7nm,0.8s,baz=33,slow=26,SNR=9.5						
ASAR				ScP	ScP	18 19 13.3	+2.9
	comp=Z,1.2nm,0.8s,baz=37,slow=2.1,SNR=7.8						
	comp=Z,4.0nm,0.3s						
SANI	Sanana	20.71	283	P	P	18 11 49.7	+1.4
SANI	Sanana	20.71	283	P	P	18 11 46.9	-1.4
	comp=Z,8.3nm,0.8s						
INKA	Innaminka	21.03	193	P	P	18 11 53.4	+1.9
AULRC	Lightning Ridg	22.16	176	P	P	18 12 03.8	+0.6
OOD	Oodnadatta	22.72	205	P	P	18 12 09.0	+0.5
SGSI	Sangihe	23.24	297	P	P	18 12 01.9	-11
MMRI	Maumere	23.70	265	P	P	18 12 18.2	+0.7
LUWI	Luwuk	24.08	284	P	P	18 12 22.4	+1.4
	comp=Z,34nm,0.7s,comp=Z,1µm						
AUPHS	Peel High Scho	24.17	170	P	P	18 12 23.3	+1.7
CMSA	Cobar Meteorol	24.19	181	P	P	18 12 23.1	+1.3
LCRK	Leigh Creek	24.26	197	P	P	18 12 23.4	+0.9
WRKA	Warakurna	24.58	222	P	P	18 12 25.3	-0.2
STKA	Stephens Creek	24.89	189	P	P	18 12 28.1	0.0
STKA	Stephens Creek	24.89	189	P	P	18 12 28.9	+0.8
STKA	Stephens Creek	24.89	189	P	P	18 12 28.5	+0.4
	comp=Z,15nm,0.7s,baz=358,slow=8.8,SNR=27						
STKA				S	S	18 16 38.3	-0.4
	comp=Z,0.9nm,0.6s,baz=57,slow=16,SNR=1.5						
	comp=Z,15nm,0.7s						
MULG	Mulgathing	25.58	205	P	P	18 12 34.2	-0.2
WHYH	Whyalla	26.88	196	P	P	18 12 47.2	+1.2
	comp=Z,38nm,1.0s						
HTT	Hallett	26.92	193	P	P	18 12 47.3	+0.9
YNG	Young	27.02	176	P	P	18 12 48.6	+1.3
BBOO	Buckleboo	27.12	199	P	P	18 12 48.4	+0.2
FORT	Forrest	28.90	214	P	P	18 13 04.1	+0.1
ARPS	Mount Arapiles	29.67	187	P	P	18 13 12.5	+1.8
BBKI	Banjar Baru	31.36	275	P	P	18 13 26.1	+0.1
JAGI	Jajag, Banyuwa	31.69	266	P	P	18 13 28.1	-0.7
JCJ	Chichijima	34.33	354	P	P	18 13 50.1	-1.4
MORW	Morawa	35.71	229	P	P	18 14 03.0	-0.4
MORW				IAmb	IAmb	18 14 05.4	
	comp=Z,24nm,1.4s						
NWAO	Narrogin (SRO)	37.04	222	P	P	18 14 13.1	-1.5
NWAO				IAmb	IAmb	18 14 15.0	
	comp=Z,20nm,1.2s						
TPUB	Ta-pu	39.27	321	P	P	18 14 33.3	0.0
LTZ	Lake Taylor	42.25	151	P	P	18 14 58.3	+0.8
LTZ				IAmb	IAmb	18 15 07.0	
	comp=Z,18nm,1.4s						
MYKOM	Kota Tinggi	43.12	280	P	P	18 15 04.0	-1.0
MYKOM				IAmb	IAmb	18 15 06.0	
	comp=Z,14nm,1.0s						
MJAR	Matsushiro Arr	44.17	351	P	P	18 15 11.3	-1.6
	comp=Z,5.9nm,1.1s,baz=179,slow=9.3,SNR=6.3						
	comp=Z,5.9nm,1.1s						
NJ2	Nanjing	46.93	328	*e*P	P	18 15 36.5	+1.9
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KSRS	Korea Array	47.59	340	P	P	18 15 39.5	-0.2
	comp=Z,3.4nm,0.9s,baz=164,slow=8.1,SNR=5.4						
	comp=Z,3.4nm,0.9s						
USRK	Ussuriysk Ar.	52.76	347	P	P	18 16 17.4	-0.9
	comp=Z,2.6nm,0.6s,baz=161,slow=4.9,SNR=5.5						
	comp=Z,2.6nm,0.6s						
CM31	Chiang Mai Arr	53.08	299	IAmb	IAmb	18 16 23.1	
	comp=Z,8.3nm,0.8s						
CMAR	Chiang Mai Arr	53.08	299	P	P	18 16 21.2	+0.1
CMAR	Chiang Mai Arr	53.08	299	P	P	18 16 22.1	+0.9
	comp=Z,6.1nm,0.9s,baz=126,slow=5.8,SNR=38						
	comp=Z,6.1nm,0.9s						
CHTO	Chiang Mai	53.22	300	P	P	18 16 22.8	+0.5
PZH	PanZhiHua	54.55	310	P	P	18 16 34.3	+2.4
PZH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.3s						
HHC	Hu-ho-hao-te	57.42	329	*e*P	P	18 16 55.1	+3.1
HHC				pmax	pmax		
	comp=Z,30nm,0.7s						
HHC				pmax	pmax		
	comp=Z,98nm,5.0s						
XLT	XiLinHaoTe	57.69	335	*e*P	P	18 16 58.0	+4.2
XLT				pP	pP	18 17 35.6	+1.9
XLT				PcP	sP	18 17 49.0	-3.6
XLT				sP	PcP	18 17 54.6	+10
XLT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,81nm,4.7s						
BTO	Baotou	58.04	328	*e*P	P	18 16 59.0	+2.7
BTO				pP	pP	18 17 36.3	0.0
BTO				sP	sP	18 17 54.2	-0.9
BTO				pmax	pmax		
	comp=Z,12nm,1.0s						
BTO				pmax	pmax		
	comp=Z,140nm,3.9s						
LZH	Lanzhou	58.58	320	*e*P	P	18 17 02.1	+1.9
LZH				pP	pP	18 17 40.8	+0.5
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
HIA	Hailar	60.80	341	P	P	18 17 14.6	-0.4
PETK	Petropavlovsk-	60.90	8	P	P	18 17 15.2	-0.4
	comp=Z,5.3nm,0.9s,baz=165,slow=5.9,SNR=9.7						
	comp=Z,5.3nm,0.9s						
SHL	Shillong	61.96	304	P	P	18 17 23.4	0.0
SHL				IAmb	IAmb	18 17 25.1	
	comp=Z,13nm,1.0s						
CASY	Casey	63.85	195	P	P	18 17 34.6	-0.3
CASY				IAmb	IAmb	18 17 36.3	
	comp=Z,8.0nm,0.8s						
LSA	Lhasa	64.29	308	P	P	18 17 39.1	+0.1
LSA				IAmb	IAmb	18 17 41.2	
	comp=Z,6.9nm,0.9s						
ULN	Ulaanbaatar	64.77	332	P	P	18 17 41.9	+0.4
SONM	Songino Array	65.05	332	P	P	18 17 44.4	+1.2
SONM	Songino Array	65.05	332	P	P	18 17 44.2	+1.0
	comp=Z,1.6nm,0.8s,baz=165,slow=4.9,SNR=9.4						
	comp=Z,1.6nm,0.8s						
TAPN	Taplejung	66.10	304	*e*P	P	18 17 49.8	-0.8
	comp=Z,17nm,1.1s						
RAMN	Ramite	66.87	303	*e*P	P	18 17 54.5	-0.9
	comp=Z,5.4nm,0.6s						
JIRN	Jiri	67.47	304	*e*P	P	18 17 58.6	-0.7
	comp=Z,14nm,1.2s						
GUN	Gumba	67.82	304	*e*P	P	18 18 01.0	-0.5
	comp=Z,19nm,0.8s						
PKI	Pulchoki	68.08	303	*e*P	P	18 18 02.3	-0.8
	comp=Z,17nm,1.0s						
PKIN	Phulchoki	68.09	303	*e*P	P	18 18 02.3	-0.8
	comp=Z,56nm,1.8s						
DMN	Daman	68.35	303	*e*P	P	18 18 04.6	-0.1
	comp=Z,39nm,1.0s						
GKN	Gorkha	68.88	304	*e*P	P	18 18 07.6	-0.2
	comp=Z,31nm,1.1s						
DANN	Dangsing	69.72	304	*e*P	P	18 18 13.4	+0.2
	comp=Z,17nm,0.9s						
YAK	Yakutsk	70.22	352	P	P	18 18 14.8	-0.3
YAK				IAmb	IAmb	18 18 15.1	
	comp=Z,5.2nm,0.6s						
PYUN	Piuthan	70.27	303	*e*P	P	18 18 16.6	+0.2
	comp=Z,10nm,0.6s						
VNDA	Vanda	70.75	176	P	P	18 18 18.3	+0.2
VNDA	Vanda	70.75	176	P	P	18 18 18.4	+0.2
	comp=Z,2.9nm,0.9s,baz=324,slow=6.2,SNR=10						
	comp=Z,2.9nm,0.9s						
WMQ	Urumqi	73.16	320	*e*P	P	18 18 34.3	+1.2
MK31	Makanchi Array	77.89	321	P	P	18 19 00.0	0.0
MKAR	Makanchi Array	77.89	321	P	P	18 18 59.7	-0.2
MKAR	Makanchi Array	77.89	321	P	P	18 19 00.3	+0.3
	comp=Z,0.9nm,0.5s,baz=103,slow=7.8,SNR=9.2						
	comp=Z,0.9nm,0.5s						
ZALV	Zalesovo Beam	79.58	328	P	P	18 19 08.7	-0.3
	comp=Z,0.9nm,0.4s,baz=79,slow=7.7,SNR=6.5						
	comp=Z,0.9nm,0.4s						
NIL	Nilore	79.93	306		P	18 19 10.5	-0.9
NIL				IAmb	IAmb	18 19 13.1	
	comp=Z,11nm,0.9s						
MAW	Mawson	80.79	203	P	P	18 19 15.4	+0.2
	comp=Z,2.5nm,0.6s,baz=100,slow=7.8,SNR=2.6						
	comp=Z,2.5nm,0.6s						
I17K	Unalakleet	81.31	21	P	P	18 19 19.2	+1.3
KURBB	Kurchatov Arra	81.69	323	P	P	18 19 20.2	-0.1
	comp=Z,0.9nm,0.8s,baz=104,slow=4.4,SNR=8.6						
	comp=Z,0.9nm,0.8s						
QSPA	South Pole Qui	82.75	180	P	P	18 19 25.7	0.0
	comp=Z,6.7nm,0.6s,baz=325,slow=1.0,SNR=20						
	comp=Z,6.7nm,0.6s						
H19K	Roundabout Mou	83.75	21	P	P	18 19 31.4	+0.9
H19K				IAmb	IAmb	18 19 32.0	
	comp=Z,16nm,1.0s						
G19K	Purcell Mounta	83.86	20	P	P	18 19 31.1	-0.1
G19K				IAmb	IAmb	18 19 32.7	
	comp=Z,12nm,1.0s						
CAST	Castle Rocks	84.30	23	P	P	18 19 32.9	-0.5
CAST				IAmb	IAmb	18 19 33.8	
	comp=Z,14nm,1.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
E19K	Redstone River	84.55	19	P	P	18 19 34.6	+0.1
E19K				IAmb	IAmb	18 19 36.0	
	comp=Z,12nm,0.9s						
IMAR	Indian Mountai	84.94	21	P	P	18 19 36.4	-0.1
MLY	Manley	85.57	22	P	P	18 19 40.0	+0.2
MLY				IAmb	IAmb	18 19 40.6	
	comp=Z,13nm,1.0s						
NEA2	Nenana	86.02	23	P	P	18 19 41.5	-0.5
NEA2				IAmb	IAmb	18 19 42.4	
	comp=Z,9.9nm,1.2s						
CCB	Clear Creek Bu	86.53	23	P	P	18 19 43.6	-0.9
CCB				IAmb	IAmb	18 19 44.1	
	comp=Z,13nm,1.1s						
COLA	College	86.61	23	P	P	18 19 43.8	-1.0
IL31		86.94	23	P	P	18 19 44.9	-1.5
ILAR	Eielson Array	86.94	23	P	P	18 19 45.0	-1.4
ILAR	Eielson Array	86.94	23	P	P	18 19 44.8	-1.7
	comp=Z,7.3nm,0.9s,baz=255,slow=4.9,SNR=45						
	comp=Z,7.3nm,0.9s						
BVAR	Borovoye Array	87.24	324	P	P	18 19 48.9	+0.7
	comp=Z,0.8nm,0.7s,baz=75,slow=7.9,SNR=2.9						
	comp=Z,0.8nm,0.7s						
TOLK	Toolik Lake Re	87.63	19	P	P	18 19 50.7	+1.0
F24K	Squaw Lake	87.71	21	P	P	18 19 51.0	+0.8
F24K				IAmb	IAmb	18 19 52.0	
	comp=Z,11nm,1.2s						
C23K	Itkillik River	87.85	18	P	P	18 19 51.5	+0.9
BCAR	Beaver Creek A	88.41	26	P	P	18 19 54.2	+0.7
BMAR	Burnt Mountain	88.84	21	P	P	18 19 56.4	+1.0
E27K	Coleen River	90.17	21	P	P	18 20 02.2	+0.6
E27K				IAmb	IAmb	18 20 03.6	
	comp=Z,7.8nm,1.2s						
ELIB	Princess Elisa	92.79	195	*d*P	P	18 20 14.1	+0.2
BELA	Belgrano 2	95.03	180	P	P	18 20 21.6	-2.3
BELA				IAmb	IAmb	18 20 28.6	
	comp=Z,5.4nm,1.2s						
NVAR	Mina Array Bea	98.80	52	P	Pdif	18 20 42.6	+0.7
	comp=Z,0.3nm,0.3s,baz=316,slow=3.8,SNR=2.1						
	comp=Z,0.3nm,0.3s						
YKA	Yellowknife Ar	100.65	28	P	Pdif	18 20 48.4	-0.9
	comp=Z,0.6nm,1.0s,baz=276,slow=4.8,SNR=4.3						
TORD	Torodi Ar. Bea	144.53	282	PKP	PKPab	18 26 37.5	+0.5
	comp=Z,9.1nm,0.8s,baz=59,slow=4.3,SNR=33						
KIC	Kosan Boka	151.06	270	⇑*e*PKP1	PKPbc	18 26 55.2	+0.2
	comp=Z,14nm,0.8s						
DBIC	Dimbokro	151.19	271	PKPbc	PKPbc	18 26 55.6	+0.3
	comp=Z,8.8nm,0.7s,baz=94,slow=1.8,SNR=20						
LIC	Lamto	151.34	270	⇑*e*PKP1	PKPbc	18 26 55.8	+0.2
	comp=Z,27nm,0.6s						
TIC	Toumodi	151.35	271	⇑*e*PKP1	PKPbc	18 26 55.8	+0.1
	comp=Z,12nm,0.5s						

*BER **04** 18:37:42.1±2.7,81.27°N×3.80°W,h10^{km},mb(Pn)3.5, ML2.1(DNK),Confirmed Earthquake*
*DNK **04** 18:37:44.6±1.8,81.17°N×3.25°W,h36^{km}±27^{km},ML2.1*
*KOLA **04** 18:37:47.1,81.34°N×0.98°W,h0^{km},ML2.1,Error ellipse: s-maj=70.4km s-min=17.2km az=40.0,Greenland sea,Arctic Ocean,Knipovich ridge, north*
ISC 04 18:37:32.5±1.2,**81.33°N**±0.10×**1.60°W**±0.06,**h10^{km},n21, σ2^{s}85**/32,**North of Svalbard**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NOR	Nord	2.27	284	*e*P	Pb	18 38 13.2	-0.1
NOR				*e*S	Sn	18 38 34.6	-3.1
NOR	Nord	2.27	284	*i* P	Pb	18 38 13.9	+0.5
NOR				*i* S	Sn	18 38 33.0	-4.8
NOR	Nord	2.27	284	*i* P	Pb	18 38 14.0	+0.7
NOR				*i*		18 38 15.8	
NOR				IAML		18 38 43.2	
	comp=Z,9.9nm,0.4s						
KBS	Kingsbay	3.34	129	P	Pg	18 38 35.5	-1.0
KBS				S	Sb	18 39 12.9	+0.5
KBS	Kingsbay	3.34	129	*e*P	Pg	18 38 35.7	-0.8
KBS				*e*S	Sb	18 39 13.1	+0.7
KBS				IAML		18 39 17.6	
	comp=Z,7.1nm,0.3s						
KBS	Kingsbay	3.34	129	*i* P	Pg	18 38 35.6	-0.8
KBS				*i* S	Sb	18 39 12.4	0.0
KBS				IAML		18 39 18.0	
	comp=Z,296nm,0.3s						
BRBB	Barentsburg B	4.29	131	P	Pb	18 38 49.8	+2.0
BRBB				S	Sb	18 39 39.4	-0.1
BRBB	Barentsburg B	4.29	131	*e*P	Pb	18 38 50.2	+2.3
BRBA	Barentsburg A	4.32	131	*e*P	Pb	18 38 50.4	+2.1
SPA0	Spitsbergen Ar	4.48	125	*e*P	Pb	18 38 51.7	+0.6
SPA0				*e*S	Sb	18 39 41.8	-3.2
SPITS	Spitsbergen Ar	4.48	125	P	Pb	18 38 51.5	+0.5
SPITS				S	Sb	18 39 42.2	-2.8
HSPB	Hornsund (broa	5.38	135	P	Pb	18 39 04.2	-2.1
HSPB	Hornsund (broa	5.38	135	*e*P	Pb	18 39 04.2	-2.1
DAG	Danmarks Havn	5.58	224	*e*P	Pn	18 38 59.8	+4.5
DAG				*e*S	Sn	18 39 55.4	-3.9
DAG	Danmarks Havn	5.58	224	*e*	Pn	18 38 59.1	+3.8
	baz=35,slow=14						
DAG				*i* P	Pn	18 39 00.0	+4.7
DAG				*i* S	Sn	18 39 55.0	-4.3
DAG				IAML		18 40 06.4	
	comp=Z,6.1nm,0.3s						
DBG	Daneborg	8.01	219	*e*P	Pn	18 39 32.9	+4.3
DBG				*e*S	Sn	18 40 52.6	-6.5
DBG	Daneborg	8.01	219	*i* P	Pn	18 39 32.8	+4.2
DBG				*i* S	Sn	18 40 52.5	-6.6
DBG				IAML		18 41 10.2	
	comp=Z,2.2nm,0.3s						
NEEM	North Greenlan	9.58	273	*e*P	Pn	18 39 53.6	+3.2
NEEM				*i*		18 41 31.9	
NEEM				IAML		18 41 32.3	
	comp=Z,1.7nm,0.3s						
NEEM	North Greenlan	9.58	273	*e*P	Pn	18 39 53.6	+3.2
NEEM				*i*		18 41 31.9	
NEEM				IAML		18 41 32.3	
	comp=Z,1.7nm,0.3s						
SUMG	Summit	11.74	243	*e*P	Pn	18 40 22.2	+2.1
SUMG				*i*		18 42 22.2	
SUMG				IAML		18 42 31.3	
	comp=Z,1.3nm,0.3s						
SUMG	Summit	11.74	243	*e*P	Pn	18 40 22.2	+2.1
SUMG				*i*		18 42 22.2	
SUMG				IAML		18 42 31.3	
	comp=Z,1.3nm,0.3s						

IDC 04 18:59:41.6±1.8,**4.85°N**×**124.13°E,h0^{km},mb3.4**/4, **mbtmp3.4**/4,**Error ellipse: s-maj=218.2km s-min=22.1km az=64.0,Celebes Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.60	158	P	P	19 05 21.6	-0.4
	0.1nm,0.4s,baz=336,slow=10,SNR=5.8						
	0.1nm,0.4s						
ASAR	Alice Springs	29.90	162	P	P	19 05 51.9	+0.5
	0.1nm,0.4s,baz=340,slow=7.2,SNR=4.2						
	0.1nm,0.4s						
MKAR	Makanchi Array	55.17	326	P	P	19 09 16.6	+0.5
	0.7nm,0.5s,baz=118,slow=7.6,SNR=12						
	0.7nm,0.5s						
KURBB	Kurchatov Arra	59.41	328	P	P	19 09 45.2	-0.8
	0.3nm,0.6s,baz=133,slow=5.3,SNR=5.2						
	0.3nm,0.6s						

IDC 04 19:04:00.2±14.0,**31.11°N**×**68.56°E,h0^{km},mb3.2**/2, **mbtmp3.3**/4,**ML3.1**/2,**Error ellipse: s-maj=221.7km s-min=52.7km az=177.0,Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GEYT	Alibeck	10.97	311	Pn	Pn	19 06 38.4	-0.1
	0.2nm,0.3s,baz=124,slow=12,SNR=1.9						
	1.1nm,0.6s						
MKAR	Makanchi Array	18.91	30	P	P	19 08 22.6	+0.1
	baz=222,slow=13,SNR=2.2						
	0.8nm,1.0s						
KURBB	Kurchatov Arra	20.87	18	P	P	19 08 44.2	+0.5
	0.7nm,0.6s,baz=206,slow=11,SNR=6.0						
	0.7nm,0.6s						
ZALV	Zalesovo Beam	25.66	22	P	P	19 09 31.1	-0.4
	0.2nm,0.3s,baz=211,slow=11,SNR=3.3						
	0.2nm,0.3s						

IDC 04 19:13:42.1±2.2,**4.71°S**×**146.29°E,h0^{km},mb3.5**/2, **mbtmp3.4**/3,**ML3.5**/1,**MS3.4**/1,**Error ellipse: s-maj=232.0km s-min=31.5km az=120.0,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.09	217	P	P	19 18 06.5	0.0
	0.2nm,0.3s,baz=42,slow=9.7,SNR=11						
	0.3nm,0.3s						
ASAR	Alice Springs	22.31	211	P	P	19 18 41.3	-0.1
	0.4nm,0.5s,baz=43,slow=7.7,SNR=25						
	0.4nm,0.5s						
JCJ	Chichijima	31.87	353	LR	LR	19 31 33.0	
	comp=Z,69nm,19.5s,baz=222,slow=34						
ILAR	Eielson Array	84.59	23	P	P	19 26 17.2	+0.1
	0.9nm,1.2s,baz=236,slow=6.4,SNR=2.3						
	0.9nm,1.2s						

IDC 04 19:21:09.8±42.0,**28.06°S**×**176.29°W,h0^{km},mb3.8**/3, **mbtmp3.8**/3,**MS3.6**/1,**Error ellipse: s-maj=770.3km s-min=171.0km az=94.0,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.52	253	P	P	19 28 16.3	-0.7
	0.9nm,0.5s,baz=97,slow=10,SNR=3.6						
	0.9nm,0.5s						
KRVT	Keravat (AS076	38.29	302	LR	LR	19 40 39.4	
	comp=Z,89nm,21.3s,baz=301,slow=30						
ASAR	Alice Springs	44.79	264	P	P	19 29 25.6	+0.1
	0.6nm,0.5s,baz=100,slow=7.8,SNR=19						
	0.6nm,0.5s						
WRA	Warramunga Arr	45.57	269	P	P	19 29 31.8	0.0
	1.1nm,0.6s,baz=110,slow=7.7,SNR=15						
	1.1nm,0.6s						

*IDC **04** 19:25:06.1±2.4,36.12°N×21.54°E,h0^{km},mb3.4/5, mbtmp3.3/7,ML3.0/2,MS2.7/2,Error ellipse: s-maj=47.4km s-min=24.5km az=23.0*
*THE **04** 19:25:10.7,35.88°N×21.35°E,h38^{km}±40^{km},ML3.1/4,Error ellipse: s-maj=40.5km s-min=1.3km az=42.0*
ISC 04 19:25:11.2±1.8,**35.93°N**±0.10×**21.43°E**±0.10,**h53^{km}**±16^{km}, **n18,σ1^{s}44**/23,**mb3.6**/4,**Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.99	15	P	Pn	19 25 27.5	-1.4
PYL				S	Sn	19 25 43.1	+1.2
KLMT	Kalamata	1.24	24	P	Pn	19 25 32.3	+0.2
KLMT				S	Sn	19 25 49.1	+1.4
	778nm,0.9s						
ANKY	Antikythira Is	1.52	92	P	Pn	19 25 36.3	+0.3
ANKY				S	Sn	19 25 56.1	+1.4
	648nm,1.2s						
LTHK	Lithakia	1.83	345	P	Pn	19 25 39.7	-0.6
LTHK				S	Sn	19 26 03.6	+1.3
	245nm,0.6s						
RODP	Rodopos	1.93	100	P	Pn	19 25 42.3	+0.7
GUR	Goura	2.13	20	P	Pn	19 25 45.6	+1.2
IMMV	Iera Moni Meta	2.13	102	P	Pn	19 25 44.4	0.0
IMMV				S	Sn	19 26 10.8	+1.1
	265nm,0.8s						
KEF3	Kipouria, Keph	2.42	339	P	Pn	19 25 48.2	-0.1
DMLN	Damoulianata-K	2.45	340	P	Pn	19 25 48.5	-0.2
NYDR	Nydri-Lefkada	2.83	348	P	Pn	19 25 55.6	+1.7
IDI	Anoyia	2.90	102	Pn	Pn	19 25 54.6	-0.3
	1.0nm,0.3s,baz=218,slow=5.1,SNR=12						
IDI				Sn	Sn	19 26 28.2	-0.3
	3.3nm,0.3s,baz=109,slow=23,SNR=2.9						
	2.8nm,0.3s						
AKASG	Malin Array Be	15.80	18	Pn	Pn	19 28 45.5	-4.5
	0.1nm,0.3s,baz=201,slow=14,SNR=1.7						
	0.1nm,0.2s						
GNI	Garni	18.83	70	LR	LR	19 36 50.8	
	comp=Z,18nm,18.7s,baz=333,slow=38						
ESDC	Sonseca Array	20.38	288	P	P	19 29 44.2	+0.7
	0.4nm,0.8s,baz=92,slow=10,SNR=1.7						
ESDC				LR	LR	19 38 30.9	
	comp=Z,22nm,19.2s,baz=6.0,slow=39						
	0.4nm,0.8s						
FINES	FINESS Array B	25.70	5	P	P	19 30 37.3	+1.3
	1.9nm,0.8s,baz=157,slow=10,SNR=4.5						
	1.9nm,0.8s						
KURBB	Kurchatov Arra	43.02	52	P	P	19 33 04.1	-1.1
	0.2nm,0.4s,baz=277,slow=8.6,SNR=4.4						
	0.2nm,0.4s						
MKAR	Makanchi Array	45.89	57	P	P	19 33 28.8	+0.5
	0.3nm,0.3s,baz=270,slow=7.9,SNR=9.7						
	0.3nm,0.3s						
SONM	Songino Array	61.33	50	P	P	19 35 22.1	+0.6
	0.2nm,0.4s,baz=303,slow=8.4,SNR=1.7						
	0.2nm,0.4s						

IDC 04 19:28:14.2±2.5,**10.15°S**×**152.58°E,h0^{km},mb3.4**/3, **mbtmp3.6**/4,**ML3.7**/1,**MS3.0**/2,**Error ellipse: s-maj=135.3km s-min=30.8km az=130.0, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	11.61	211	Pn	Pn	19 31 00.3	-1.0
	0.3nm,0.3s,baz=28,slow=15,SNR=7.3						
CTA				LR	LR	19 35 22.8	
	comp=Z,58nm,18.2s,baz=78,slow=37						
	2.3nm,0.7s						
WRA	Warramunga Arr	20.11	239	P	P	19 32 49.3	-0.4
	0.6nm,0.5s,baz=61,slow=10,SNR=9.4						
	0.6nm,0.5s						
ASAR	Alice Springs	22.32	231	P	P	19 33 14.2	+0.6
	0.4nm,0.5s,baz=58,slow=10,SNR=13						
ASAR				LR	LR	19 41 12.7	
	comp=Z,40nm,19.5s,baz=68,slow=35						
	0.4nm,0.5s						
ILAR	Eielson Array	87.17	22	P	P	19 41 02.0	+0.1
	0.8nm,1.1s,baz=243,slow=6.0,SNR=3.2						
	0.8nm,1.1s						

*KRNET **04** 19:36:36.2±0.1,40.57°N×77.76°E,mb3.1*
*SOME **04** 19:36:37.1,40.62°N×77.78°E,h5^{km}*
*NNC **04** 19:36:40.9±1.2,40.73°N×77.87°E,h0^{km},mb3.8,mpv3.4, Error ellipse: s-maj=8.7km s-min=6.6km az=150.0*
ISC 04 19:36:38.7±1.4,**40.67°N**±0.06×**77.70°E**±0.04,**h10^{km},n67, σ1^{s}76**/87,**31C-11D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.06	4	⇑*e*P	Pg	19 36 58.2	-1.0
	baz=1.0						
TARG				⇑*i*S	Sn	19 37 14.2	-0.9
	baz=1.0						
NRN	Naryn	1.50	301	⇓*i*P	Pn	19 37 05.7	-0.3
	baz=3.0						
NRN				⇓*i*S	Sg	19 37 27.4	+0.5
	baz=3.0						
PRZ	Przheval'sk	1.88	16	⇑*e*P	Pb	19 37 12.4	-1.0
	baz=14						
PRZ				⇑*i*S	Sg	19 37 38.7	-0.6
	baz=14						
ANVS	Anan'yevo	2.11	359	⇑*i*P	Pb	19 37 15.5	-1.7
	baz=58						
ANVS				⇑*i*S	Sb	19 37 44.2	+0.7
	baz=58						
TNSS	Tian-Shan	2.43	347	*e*Pg	Pg	19 37 23.7	-1.6
	10nm,0.3s						
TNSS				*e*Lg	Lg	19 37 57.1	
	46nm,0.6s						
TNSS	Tian-Shan	2.43	347	Pg	Pg	19 37 24.2	-1.1
	10nm,0.3s						
TNSS				Lg	Lg	19 37 58.0	
	46nm,0.6s						
TNSS	Tian-Shan	2.43	347	Pg	Pg	19 37 23.8	-1.6
	12nm,0.5s						
TNSS				Lg	Lg	19 37 58.5	
	86nm,0.8s						
SATY	Saty	2.44	12	*e*Pg	Pg	19 37 23.5	-2.1
	12nm,0.4s						
SATY				*e*Lg	Lg	19 37 56.9	
	71nm,0.4s						
SATY	Saty	2.44	12	Lg	Lg	19 37 58.0	
	71nm,0.4s						
MDOK	Medeo	2.54	349	*e*Pg	Pg	19 37 25.7	-1.7
	10nm,0.4s						
MDOK				*e*Lg	Lg	19 38 00.7	
	28nm,0.7s						
MDOK	Medeo	2.54	349	⇑Pn	Pb	19 37 24.4	0.0
	3.1nm,0.6s						
MDOK				Pg	Pg	19 37 26.2	-1.2
	10nm,0.4s						
MDOK				⇓Sn	Sg	19 37 59.9	-0.4
	27nm,0.5s						
MDOK				Lg	Lg	19 38 01.3	
	28nm,0.7s						
ZHN	Zhinishke	2.55	12	*e*Pg	Pb	19 37 25.4	+0.7
	10nm,0.2s						
ZHN				*e*Lg	Lg	19 38 00.6	
	72nm,0.2s						
ZHN	Zhinishke	2.55	12	Pg	Pb	19 37 25.0	+0.3
	10nm,0.4s						
ZHN				Pg	Pb	19 37 25.4	+0.7
	10nm,0.2s						
ZHN				Lg	Lg	19 38 00.5	
	72nm,0.2s						
ZHN				Lg	Lg	19 38 00.6	
	125nm,0.4s						
KOTS	Kotyrbulak	2.60	350	*e*Pg	Pg	19 37 27.0	-1.5
	8.6nm,0.3s						
KOTS				*e*Lg	Lg	19 38 02.8	
	67nm,0.3s						
KOTS	Kotyrbulak	2.60	350	Pg	Pg	19 37 27.0	-1.5
	8.6nm,0.3s						
KOTS				Lg	Lg	19 38 02.8	
	67nm,0.3s						
KNDC	Almaty	2.60	348	⇑Pn	Pb	19 37 25.9	+0.4
	16nm,0.5s						
KNDC				⇓Sn	Sg	19 38 03.1	+0.7
	196nm,0.7s						
MTBS	Maitube	2.63	339	*e*Pg	Pg	19 37 27.4	-1.9
	7.3nm,0.3s						
MTBS				*e*Lg	Lg	19 38 03.6	
	26nm,0.4s						
MTBS	Maitube	2.63	339	Pg	Pg	19 37 27.3	-1.9
	7.3nm,0.3s						
MTBS				Lg	Lg	19 38 03.9	
	26nm,0.4s						
UZB	Uzynbulak	2.66	21	*e*Pg	Pg	19 37 27.4	-2.4
	7.7nm,0.3s						
UZB				*e*Lg	Lg	19 38 03.5	
	61nm,0.2s						
UZB	Uzynbulak	2.66	21	Lg	Lg	19 38 04.1	
	4.0nm,0.6s						
KST	Kastek	2.70	332	*e*Pg	Pg	19 37 29.3	-1.2
	7.0nm,0.2s						
KST				*e*Lg	Lg	19 38 06.9	
	29nm,0.3s						
KST	Kastek	2.70	332	Pg	Pg	19 37 29.3	-1.2
	9.5nm,0.7s						
KST				Lg	Lg	19 38 06.9	
	29nm,0.3s						
SHLS	Shalkode	2.81	27	*e*Pg	Pg	19 37 32.8	+0.2
	19nm,0.4s						
SHLS				*e*Lg	Lg	19 38 12.8	
	63nm,0.5s						
SHLS	Shalkode	2.81	27	Pg	Pg	19 37 31.6	-0.9
	26nm,0.6s						
SHLS				Lg	Lg	19 38 12.3	
	77nm,0.8s						
ARLS	Aral	2.81	296	⇑*i*P	Pn	19 37 24.9	+1.0
	baz=98						
ARLS				⇑*i*S	Sn	19 38 00.3	+2.3
	baz=98						
KURS	Kuram	2.84	7	*e*Pg	Pb	19 37 30.4	+0.9
	5.8nm,0.5s						
KURS				*e*Lg	Lg	19 38 08.6	
	22nm,0.3s						
KURS	Kuram	2.84	7	Pg	Pb	19 37 30.4	+0.9
	5.8nm,0.5s						
KURS				Lg	Lg	19 38 08.6	
	16nm,0.9s						
UCH	Uchtor	2.86	304	P	Pb	19 37 30.5	+0.4
	SNR=10.0						
UCH	Uchtor	2.86	304	⇑*i*P	Pn	19 37 25.9	+1.1
	baz=5.0						
UCH				⇑*i*S	Sn	19 38 02.2	+2.7
	baz=5.0						
KBK	Karagaybulak	2.86	315	P	Pb	19 37 31.3	+1.3
	SNR=11						
KBK	Karagaybulak	2.86	315	⇑*e*P	Pn	19 37 26.0	+1.4
	baz=16						
KBK				⇑*i*S	Sb	19 38 02.3	-2.9
	baz=16						
KPKS	Kokpek	2.89	14	*e*Pg	Pb	19 37 31.4	+1.0
	12nm,0.1s						
KPKS				*e*Lg	Lg	19 38 10.5	
	60nm,0.6s						
KPKS	Kokpek	2.89	14	Pg	Pb	19 37 30.7	+0.3
	12nm,0.4s						
KPKS				Pg	Pb	19 37 31.3	+1.0
	11nm,0.3s						
KPKS				Lg	Lg	19 38 10.5	
	60nm,0.6s						
KPKS				Lg	Lg	19 38 10.5	
	57nm,0.6s						
PDGK	Podgornoye	2.97	26	Pg	Pb	19 37 32.5	+0.7
	8.2nm,0.4s						
PDGK				Lg	Lg	19 38 12.5	
	25nm,0.7s						
PDGK	Podgornoye	2.97	26	⇓Pn	Pn	19 37 27.4	+1.3
	3.9nm,0.9s						
PDGK				⇓Pg	Pb	19 37 32.1	+0.2
	11nm,0.5s						
PDGK				⇑Sn	Sb	19 38 06.0	-2.2
	19nm,0.5s						
PDGK				⇑Lg	Lg	19 38 13.7	
	47nm,0.6s						
AAK	Ala-Archa	3.10	310	P	Pb	19 37 35.2	+1.1
	SNR=12						
AAK	Ala-Archa	3.10	310	⇓*e*P	Pn	19 37 29.2	+1.3
	baz=11						
AAK				⇓*i*S	Sn	19 38 07.9	+2.7
	baz=11						
KTBS	Karatobe	3.13	346	*e*Pg	Pg	19 37 36.5	-2.2
	5.8nm,0.4s						
KTBS				*e*Lg	Lg	19 38 19.1	
	25nm,0.5s						
KTBS	Karatobe	3.13	346	Pg	Pg	19 37 36.5	-2.2
	5.8nm,0.4s						
KTBS				Lg	Lg	19 38 19.1	
	25nm,0.5s						
FRU1	Bishkek	3.14	314	⇑*e*P	Pn	19 37 30.1	+1.8
	baz=15						
FRU1				⇑*e*S	Sn	19 38 09.3	+3.4
	baz=15						
CHMS	Chumysh	3.21	317	P	Pg	19 37 37.6	-2.5
	SNR=7.5						
CHMS	Chumysh	3.21	317	⇑*e*P	Pn	19 37 30.5	+1.3
	baz=18						
CHMS				⇑*i*S	Sn	19 38 10.4	+2.9
	baz=18						
CHMS	Chumysh	3.21	317	⇑Pn	Pb	19 37 37.4	+1.6
	10nm,0.7s						
CHMS				⇓Sn	Sg	19 38 20.1	-1.6
	25nm,0.6s						
CHKK	Chushkaly	3.22	351	*e*Pg	Pg	19 37 38.7	-1.8
	3.9nm,0.2s						
CHKK				*e*Lg	Lg	19 38 22.8	
	36nm,0.3s						
CHKK	Chushkaly	3.22	351	Pg	Pg	19 37 38.7	-1.8
	3.9nm,0.2s						
CHKK				Lg	Lg	19 38 22.8	
	36nm,0.3s						
SFK	Sufi-Kurgan	3.28	260	⇑*i*P	Pn	19 37 30.6	+0.2
	baz=62						
SFK				⇑*i*S	Sn	19 38 10.5	+1.0
	baz=62						
AML	Almayashu	3.35	297	P	Pg	19 37 41.6	-1.4
	SNR=7.7						
AML	Almayashu	3.35	297	⇑*e*P	Pn	19 37 32.5	+1.0
	baz=98						
AML				⇑*i*S	Sn	19 38 13.9	+2.3
	baz=98						
AML	Almayashu	3.35	297	⇓Pn	Pb	19 37 39.2	+0.7
	2.2nm,0.8s						
AML				⇓Sn	Sg	19 38 24.7	-1.7
	9.0nm,0.9s						
KUU	Kurty	3.38	343	*e*Pg	Pb	19 37 39.9	+1.3
	4.5nm,0.2s						
KUU				*e*Lg	Lg	19 38 25.0	
	20nm,0.6s						
KUU	Kurty	3.38	343	Lg	Lg	19 38 25.7	
	20nm,0.6s						
KTMS	Ketmen	3.40	35	*e*Pg	Pb	19 37 39.2	0.0
	1.4nm,0.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KTMS				eLg	Lg	19 38 23.9	
	13nm,0.3s						
KTMS	Ketmen	3.40	35	Lg	Lg	19 38 23.8	
	14nm,1.0s						
KTMS				Lg	Lg	19 38 24.6	
	12nm,1.0s						
BLB	Baldybastay	3.47	9	Pg	Pb	19 37 42.0	+1.6
	5.6nm,0.5s						
BLB				Lg	Lg	19 38 28.8	
	15nm,0.7s						
USP	Ospenovka	3.53	318	P	Pb	19 37 42.9	+1.7
	SNR=14						
USP	Ospenovka	3.53	318	⇑eP	Pn	19 37 35.0	+1.4
	baz=19						
USP				⇑iS	Sn	19 38 18.1	+2.7
	baz=19						
ARXS	Arharly	3.54	1	ePg	Pg	19 37 43.5	-3.1
	4.2nm,0.8s						
ARXS				eLg	Lg	19 38 31.2	
	30nm,0.5s						
EKS2	Erkin-Say	3.55	305	P	Pg	19 37 44.9	-1.9
	SNR=6.2						
EKS2	Erkin-Say	3.55	305	⇑eP	Pn	19 37 35.4	+1.4
	baz=6.0						
EKS2				⇑iS	Sn	19 38 18.6	+2.5
	baz=6.0						
SGDS	Sogindy	3.60	322	Pg	Pg	19 37 44.9	-2.8
	1.8nm,0.3s						
SGDS				Lg	Lg	19 38 33.7	
	20nm,1.0s						
ARSB	Arslanbob	3.63	282	⇑eP	Pn	19 37 36.0	+0.8
	baz=83						
ARSB				⇑iS	Sn	19 38 19.9	+1.7
	baz=83						
KNOS	Konyrlen	3.84	16	Pg	Pg	19 37 49.4	-2.9
	6.2nm,0.4s						
KNOS				Lg	Lg	19 38 40.2	
	6.6nm,0.7s						
KNOS				Lg	Lg	19 38 41.5	
	11nm,0.5s						
MRKS	Merke	3.94	303	ePg	Pg	19 37 50.9	-3.3
	3.7nm,0.5s						
MRKS				eLg	Lg	19 38 43.8	
	13nm,0.5s						
MRKS	Merke	3.94	303	Pg	Pg	19 37 50.9	-3.3
	3.7nm,0.5s						
MRKS				Lg	Lg	19 38 43.8	
	13nm,0.5s						
DJR	Jarkent	3.97	22	ePg	Pb	19 37 50.6	+1.8
	3.2nm,0.4s						
DJR				eLg	Lg	19 38 43.5	
	20nm,0.6s						
DJR	Jarkent	3.97	22	Pg	Pb	19 37 50.6	+1.8
	3.2nm,0.4s						
DJR				Lg	Lg	19 38 43.5	
	20nm,0.6s						
BTLS	Baital	5.13	330	ePg	Pg	19 38 12.9	-4.0
	0.7nm,0.1s						
BTLS				eLg	Lg	19 39 21.8	
	3.3nm,0.2s						

IDC 04 19:38:24.5±2.0**, 1°.93N**×**126°.95E, h0km, mb3.3**/4**, mbtmp3.3**/4**, Error ellipse: s-maj=180.9km s-min=23.5km az=67.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.91	162	P	P	19 43 29.7	-0.5
	0.5nm,0.3s,baz=341,slow=11,SNR=7.6						
	0.5nm,0.3s						
ASAR	Alice Springs	26.32	166	P	P	19 44 02.9	+0.6
	0.2nm,0.6s,baz=344,slow=12,SNR=4.2						
	0.2nm,0.6s						
MKAR	Makanchi Array	59.16	326	P	P	19 48 27.6	+0.3
	0.1nm,0.3s,baz=118,slow=7.8,SNR=1.7						
	0.1nm,0.3s						
KURBB	Kurchatov Arra	63.37	328	P	P	19 48 55.2	-0.4
	0.2nm,0.6s,baz=132,slow=6.5,SNR=3.2						
	0.2nm,0.6s						

WEL 04 19:41:17.7, 39°S±16°×**17°5E**±1°6**, h162**km±23km**, M2.3**/34**, mB3.8**/1**, ML1.1**/11**, MLv2.3**/34**, Mw(mB)2.7**/1**, Error ellipse: s-maj=0.0km s-min=0.0km az=133.9, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWVZ	Taurewa	0.11	203	P	Pn	19 41 39.2	-0.2
KATZ	Kakaramea	0.16	93	P	Pn	19 41 39.0	-0.5
WTVZ	West Tongariro	0.17	153	P	Pn	19 41 39.6	+0.1
KRVZ	Karewarewa	0.17	138	P	Pn	19 41 39.5	0.0
NNVZ	North Ngauruho	0.19	150	P	Pn	19 41 39.7	+0.1
NTVZ	North Tongarir	0.19	133	P	Pn	19 41 39.7	+0.1
TMVZ	Te Maari	0.22	132	P	Pn	19 41 39.9	+0.3
NGZ	Ngauruhoe	0.22	158	P	Pn	19 41 39.9	+0.3
OTVZ	Oturere	0.24	146	P	Pn	19 41 40.2	+0.6
ETVZ	East Tongariro	0.24	135	P	Pn	19 41 40.0	+0.4
SNVZ	South Ngauruho	0.25	152	P	Pn	19 41 40.2	+0.5
RITZ	Rihia Road	0.28	92	P	Pn	19 41 31.5	-8.1
FWVZ	Far West T-bar	0.29	171	P	Pn	19 41 40.2	+0.3
TUVZ	Tukino	0.33	157	P	Pn	19 41 40.4	+0.5
PKVZ	Pokaka	0.34	200	P	Pn	19 41 40.1	+0.3
WNVZ	Wahianoa	0.37	167	P	Pn	19 41 40.5	+0.5
MOVZ	Moawhango	0.48	155	P	Pn	19 41 40.7	+0.3
HIZ	Hauiti	0.68	312	P	Pn	19 41 38.3	-3.0
BHHZ	Black Hill Sta	0.68	140	P	Pn	19 41 41.9	+0.5
MRHZ	Matea Rd	0.73	80	P	Pn	19 41 40.7	-1.0
KWHZ	Kaweka Forest	0.85	123	P	Pn	19 41 43.2	+0.7
KRHZ	Kereru	0.96	135	P	Pn	19 41 44.0	+0.8
MTHZ	Maungataniwha	1.06	84	P	Pn	19 41 43.4	-0.7
TSZ	Takapari Road	1.15	162	P	Pn	19 41 45.7	+0.9
RTZ	Ruatahuna	1.21	74	P	Pn	19 41 44.1	-1.4
WPHZ	Waipukurau	1.32	147	P	Pn	19 41 47.2	+0.9
KAHZ	Kahuranaki	1.35	128	P	Pn	19 41 47.6	+0.9
DVHZ	Dannevirke	1.43	159	P	Pn	19 41 48.2	+0.8
URZ	Urewera	1.45	61	P	Pn	19 41 44.9	-2.7
PRHZ	Porangahau	1.57	146	P	Pn	19 41 49.7	+0.9
PRWZ	Pori Road	1.63	167	P	Pn	19 41 50.1	+0.7
MRZ	Mangatainoka R	1.69	178	P	Pn	19 41 50.6	+0.5
MWZ	Matawai	1.71	69	P	Pn	19 41 48.0	-2.4
BFZ	Birch Farm	1.81	162	P	Pn	19 41 51.7	+0.4
TIWZ	Tintock	1.83	171	P	Pn	19 41 52.3	+0.6
OGWZ	Otaki Gorge	1.86	188	P	Pn	19 41 52.4	+0.4
HOWZ	Holdsworth Sta	1.93	180	P	Pn	19 41 52.8	+0.1
KIW	Kapiti Island	1.94	193	P	Pn	19 41 52.8	-0.1
RUGZ	Raukumara Rang	1.98	60	P	Pn	19 41 49.6	-3.9
TMWZ	Te Maipa	2.16	172	P	Pn	19 41 55.3	-0.1
CAW	Cannon Point	2.16	189	P	Pn	19 41 55.4	0.0
HAZ	Te Kaha	2.17	57	P	Pn	19 41 49.0	-6.4
MTW	Mount Morrison	2.19	180	P	Pn	19 41 55.3	-0.3
DUWZ	D'Urville Isla	2.19	213	P	Pn	19 41 55.1	-0.6
PKGZ	Pakihiroa	2.30	63	P	Pn	19 41 52.5	-4.6
WEL	Wellington	2.38	193	P	Pn	19 41 57.5	-0.3
PAWZ	Paruwai Farm	2.41	181	P	Pn	19 41 57.7	-0.6
TCW	Tory Channel	2.43	202	P	Pn	19 41 57.9	-0.5
TRWZ	Traveller	2.43	177	P	Pn	19 41 58.2	-0.4
BHW	Baring Head	2.48	191	P	Pn	19 41 58.5	-0.6
WMGZ	Waiomatatini S	2.57	64	P	Pn	19 41 56.6	-3.5
PLWZ	Palliser	2.60	184	P	Pn	19 41 59.8	-0.8
TUWZ	Tuamarina	2.73	205	P	Pn	19 42 01.3	-0.8
NNZ	Nelson	2.77	215	P	Pn	19 42 01.6	-1.0
QRZ	Quartz Range	2.94	230	P	Pn	19 42 02.0	-2.7
BSWZ	Blackbirch Sta	3.01	204	P	Pn	19 42 04.8	-0.8
THZ	Tophouse	3.42	214	P	Pn	19 42 09.4	-1.5
KHZ	Kahutara	3.75	203	P	Pn	19 42 13.7	-1.2
DSZ	Denniston Nort	3.96	224	P	Pn	19 42 14.4	-3.3
GVZ	Greta Valley S	4.41	204	P	Pn	19 42 21.3	-2.1
LTZ	Lake Taylor	4.53	212	P	Pn	19 42 22.5	-2.6
INZ	Inchbonnie	4.85	218	P	Pn	19 42 26.8	-2.5
MQZ	McQueen's Vall	5.19	203	P	Pn	19 42 30.3	-3.5
RPZ	Rata Peaks	5.80	214	P	Pn	19 42 38.1	-3.7
GCSZ	Gaunt Creek Bo	5.84	220	P	Pn	19 42 39.2	-3.1
ARCZ	Arundel	5.94	212	P	Pn	19 42 40.4	-3.2
TMZ	Timaru	6.37	210	P	Pn	19 42 46.0	-3.3

*IDC **04** 19:43:48.6±5.4, 4°.97S×103°.29E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=269.8km s-min=32.5km az=51.0*
*DJA **04** 19:43:49.2±0.7, 6°S±7°×10°2E±°, h10km, M3.9/7, mb4.1/1, MLv3.8/7*
ISC 04 19:43:51.3±1.3**, 5°.6S**±0°.1×**102°.5E**±0°.1**, h35km, n19, σ0s.77**/10**, mb3.2**/3**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MNAI	Manna	1.29	20	P	Pn	19 44 13.3	+0.3
LWLI	Liwa	1.64	70	P	Pn	19 44 18.2	+0.4
KASI	Kota Agung	1.98	88	P	Pn	19 44 23.5	+1.2
CGJI	Cibinong	3.32	108	P	Pn	19 44 41.7	+0.8
PPSI	Pulau Pagai	3.75	318	P	Pn	19 44 47.5	+0.7
CNJI	Cibinong	4.90	111	P	Pn	19 45 02.5	0.0
SISI	Saibi	5.44	321	P	Pn	19 45 10.5	+0.5
H08S2	Diego Garcia H	29.89	264	T	T	20 20 59.0	
	baz=88,slow=76,SNR=7.3						
H08S3	Diego Garcia H	29.89	264	T	T	20 20 59.7	
	baz=88,slow=76,SNR=31						
H08S1	Diego Carcia H	29.90	264	T	T	20 21 00.5	
	baz=88,slow=76,SNR=5.7						
WRA	Warramunga Arr	34.07	118	P	P	19 50 32.2	-0.5
	0.1nm,0.3s,baz=295,slow=9.3,SNR=1.1						
	0.1nm,0.3s						
ASAR	Alice Springs	35.16	124	P	P	19 50 41.3	-0.8
	0.1nm,0.4s,baz=298,slow=8.3,SNR=2.2						
	0.1nm,0.4s						
MKAR	Makanchi Array	55.15	343	P	P	19 53 20.2	-0.2
	0.3nm,0.6s,baz=148,slow=8.5,SNR=1.5						
	0.3nm,0.6s						
H04N2	CROZET ISLANDS	59.50	219	T	T	20 58 19.3	
	baz=64,slow=75,SNR=10						
H04N1	CROZET ISLANDS	59.51	219	T	T	20 58 14.9	
	baz=64,slow=75,SNR=16						
H04N3	CROZET ISLANDS	59.52	219	T	T	20 58 19.0	
	baz=64,slow=75,SNR=15						
H04S1	CROZET ISLANDS	59.74	218	T	T	20 58 34.6	
	baz=62,slow=75,SNR=5.7						
H04S3	CROZET ISLANDS	59.75	218	T	T	20 58 31.8	
	baz=62,slow=75,SNR=14						
H04S2	CROZET ISLANDS	59.75	218	T	T	20 58 32.6	
	baz=62,slow=75,SNR=11						

CATAC 04 20:06:07.1±0.5**, 9°.61N**×**84°.54W, h16**km±6km**, ML2.2, Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LAFE	Finca La Fe, P	0.42	298	iP	Pb	20 06 16.6	+0.5
LAFE				IAML		20 06 17.3	
	comp=Z,280nm,1.0s						
LAFE				iS	Sb	20 06 23.3	+1.1
LCR2	La Lucha 2	0.54	76	iP	Pb	20 06 19.2	+0.9
LCR2				iS	Sb	20 06 27.2	+1.3
LCR2				IAML		20 06 28.2	
	comp=Z,130nm,1.0s						
TBLN	Tablon, Guarco	0.57	68	iP	Pb	20 06 19.1	+0.3
TBLN				iS	Sb	20 06 27.4	+0.6
TBLN				IAML		20 06 32.1	
	comp=Z,640nm,1.0s						
RIMA	Rio Macho	0.68	77	iP	Pb	20 06 21.3	+0.6
RIMA				iS	Sb	20 06 30.6	+0.6
RIMA				IAML		20 06 32.1	
	comp=Z,85nm,1.0s						
CDM	Cerro de Muert	0.76	94	iP	Pg	20 06 22.1	0.0
CDM				iS	Sb	20 06 33.4	+0.8
CDM	Cerro de Muert	0.76	94	iP	Pg	20 06 21.7	-0.4
CDM				IAML		20 06 24.6	
	comp=Z,68nm,1.0s						
CDM				iS	Sg	20 06 32.0	-0.3
POPE	POPE, Guanacas	0.85	302	iP	Pg	20 06 23.7	+0.1
POPE				IAML		20 06 24.9	
	comp=Z,86nm,1.0s						
POPE				iS	Sn	20 06 35.6	-0.9
INDI	Punta indio, G	0.98	285	iP	Pb	20 06 25.3	-0.5
INDI				IAML		20 06 33.6	
	comp=Z,50nm,1.0s						
INDI				iS	Sn	20 06 39.6	-0.3
INDI	Punta indio, G	0.98	285	iP	Pn	20 06 38.2	+12
INDI				IAML		20 07 36.6	
	comp=Z,58nm,1.0s						
SRBA	San Rafael, Bu	1.22	108	iP	Pb	20 06 30.0	+0.1
SRBA				iS	Sb	20 06 45.1	-0.4
SRBA	San Rafael, Bu	1.22	108	iP	Pn	20 06 28.8	-0.8
SRBA				IAML		20 06 30.7	
	comp=Z,56nm,1.0s						
SRBA				iS	Sb	20 06 43.4	-2.1

*NNC **04** 20:11:06.7±3.0, 43°.34N×81°.63E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=44.4km s-min=9.8km az=129.0*
SOME 04 20:10:37.4, 42°.15N×**81°.12E, h15km, 2C-3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDGK	Podgornoye	1.68	315	⇑Pn	Sg	20 11 36.0	+4.4
	10nm,1.7s						
KPKS	Kokpek	2.22	307	ePg	Pb	20 11 18.1	+0.8
	1.4nm,0.1s						
KPKS				eLg	Lg	20 11 48.5	
	4.3nm,0.4s						
KOTS	Kotyrbulak	3.15	291	ePg	Pb	20 11 34.5	+1.4
	4.0nm,0.6s						
KOTS				eLg	Lg	20 12 16.8	
	8.1nm,0.4s						
KTBS	Karatobe	3.61	297	ePg	Pb	20 11 41.9	+0.9
	1.8nm,0.6s						
KTBS				eLg	Lg	20 12 29.4	
	2.2nm,0.3s						
MAKZ	Makanchi	4.70	7	⇑Pn	Pb	20 12 02.4	+2.9
	4.0nm,1.1s						
MAKZ				⇓Lg	Lg	20 12 56.8	
	4.1nm,1.7s						
MK31	Makanchi Array	4.72	10	⇓Pn	Pb	20 12 01.8	+2.0
	3.8nm,1.4s,baz=198,slow=13,SNR=4.1						
MK31				⇓Lg	Lg	20 12 57.9	
	1.2nm,0.9s						

IDC 04 20:37:37.6±6.0**, 4°.42S**×**133°.51E, h0km, mb3.4**/1**, mbtmp3.6**/3**, ML3.6**/2**, Error ellipse: s-maj=356.4km s-min=30.4km az=77.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.45	177	Pn	Pn	20 41 15.0	-2.1
	0.2nm,0.3s,baz=355,slow=13,SNR=12						
WRA				Sn	Sn	20 43 59.1	-10
	0.2nm,0.3s,baz=359,slow=23,SNR=4.8						
	0.5nm,0.3s						
ASAR	Alice Springs	19.14	179	P	Pn	20 42 03.5	+0.1
	0.3nm,0.3s,baz=4.1,slow=11,SNR=17						
ASAR				S	Sn	20 45 27.6	-11
	0.5nm,0.5s,baz=357,slow=26,SNR=4.5						
	1.8nm,0.7s						
MKAR	Makanchi Array	68.07	325	P	P	20 48 39.2	0.0
	0.2nm,0.4s,baz=116,slow=8.0,SNR=6.4						
	0.2nm,0.4s						

*IDC **04** 20:41:42.0±3.2, 47°.01N×152°.84E, h62km±29km, mb3.4/8, mbtmp3.7/11, ML2.9/3, MS2.5/1, Error ellipse: s-maj=46.2km s-min=22.1km az=157.0*
ISC 04 20:41:41.5±1.3**, 47°.1N**±0°.2×**152°.8E**±0°.2**, h56km, n20, σ0s.60**/11**, mb3.6**/8**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	6.81	26	P	Pn	20 43 18.9	+0.2
	0.1nm,0.3s,baz=218,slow=9.1,SNR=1.2						
PETK				LR	LR	20 45 54.5	
	comp=Z,33nm,18.9s,baz=126,slow=37						
	1.7nm,0.6s						
ASAJ	Asahikawa	7.76	251	P	Pn	20 43 32.4	+0.6
	0.6nm,0.3s,baz=77,slow=20,SNR=6.7						
	6.0nm,0.6s						
MJAR	Matsushiro Arr	15.12	231	P	Pn	20 45 11.8	+0.2
	baz=48,slow=10,SNR=2.0						
	0.9nm,0.6s						
H11N2	WAKE ISLAND Hy	29.58	152	T	T	21 18 57.2	
	baz=340,slow=76,SNR=63						
H11N1	WAKE ISLAND Hy	29.59	152	T	T	21 18 56.6	
	baz=340,slow=76,SNR=37						
H11N3	WAKE ISLAND Hy	29.60	152	T	T	21 18 58.3	
	baz=340,slow=76,SNR=32						
H11S1	WAKE ISLAND Hy	30.67	154	T	T	21 20 20.6	
	baz=341,slow=76,SNR=64						
H11S3	WAKE ISLAND Hy	30.68	154	T	T	21 20 18.5	
	baz=341,slow=76,SNR=39						
H11S2	WAKE ISLAND Hy	30.69	154	T	T	21 20 17.3	
	baz=341,slow=76,SNR=47						
ILAR	Eielson Array	36.43	39	P	P	20 48 40.7	+0.4
	0.2nm,0.6s,baz=284,slow=4.5,SNR=1.8						
	0.2nm,0.6s						
MKAR	Makanchi Array	46.63	297	P	P	20 50 03.4	-0.6
	0.3nm,0.6s,baz=69,slow=9.4,SNR=1.9						
	0.3nm,0.6s						
YKA	Yellowknife Ar	50.79	37	P	P	20 50 36.2	+0.6
	0.3nm,0.8s,baz=296,slow=7.3,SNR=3.8						
	0.3nm,0.8s						
FINES	FINESS Array B	63.68	335	P	P	20 52 06.4	-0.1
	2.2nm,0.8s,baz=38,slow=6.2,SNR=8.6						
	2.2nm,0.8s						
NOA	NORSAR Array B	67.87	341	P	P	20 52 34.0	+0.5
	0.8nm,0.7s,baz=29,slow=6.6,SNR=3.9						
	0.8nm,0.7s						
HFS	Hagfors	68.10	339	P	P	20 52 35.3	+0.4
	1.3nm,0.5s,baz=64,slow=6.8,SNR=8.7						
	1.3nm,0.5s						
AKASG	Malin Array Be	71.18	326	P	P	20 52 53.3	-0.7
	0.7nm,0.4s,baz=32,slow=6.1,SNR=4.6						
	0.7nm,0.4s						
TXAR	Lajitas Array	77.50	60	P	P	20 53 30.5	-0.8
	0.2nm,0.5s,baz=282,slow=4.6,SNR=3.7						
	0.2nm,0.5s						
H03N2	Juan Fernandez	138.94	90	T	T	23 36 02.8	
	baz=308,slow=77,SNR=4.9						
H03N1	Juan Fernandez	138.96	90	T	T	23 36 03.4	
	baz=308,slow=77,SNR=5.0						
H03N3	Juan Fernandez	138.96	90	T	T	23 36 02.8	
	baz=308,slow=77,SNR=4.4						

*IDC **04** 20:57:55.9±6.0, 8°.76S×124°.58E, h78km±70km, mb3.3/1, mbtmp3.9/3, ML4.1/2, Error ellipse: s-maj=58.9km s-min=33.8km az=22.0*
ISC 04 20:57:53.6±1.3**, 8°.6S**±0°.1×**124°.7E**±0°.1**, h50km, n11, σ3s.03**/11**, Timor region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	1.89	214	P	Pn	20 58 24.9	+1.4
	710nm,0.3s,baz=30,slow=2.8,SNR=397						
BATI				S	Sn	20 58 44.9	-1.3
	332nm,0.3s,baz=331,slow=20,SNR=27						
MMRI	Maumere	2.46	270	P	Pn	20 58 31.7	+0.4
PLAI	Plampang	6.88	268	P	Pn	20 59 30.1	-1.8
MTN	Manton Dam	7.56	124	P	Pn	20 59 49.1	+7.8
KDU	Kakadu	8.62	119	P	Pn	21 00 02.7	+7.0
WRA	Warramunga Arr	14.60	141	P	Pn	21 01 17.7	+0.4
	1.1nm,0.3s,baz=322,slow=13,SNR=41						
WRA				S	Sn	21 03 51.9	-6.0
	2.2nm,0.6s,baz=316,slow=26,SNR=9.3						
	2.2nm,0.4s						
WRKA	Warakurna	16.68	169	P	P	21 01 47.3	+1.7
ASAR	Alice Springs	17.35	151	P	Pn	21 01 53.2	+0.9
	0.3nm,0.3s,baz=320,slow=11,SNR=26						
ASAR				S	Sn	21 04 54.4	-10
	1.5nm,0.7s,baz=320,slow=20,SNR=8.9						
	1.2nm,0.3s						
QIS	Mount Isa	18.64	131	P	Pn	21 02 12.7	+4.7
MEEK	Meekatharra	18.83	197	P	Pn	21 02 12.3	+1.9
MKAR	Makanchi Array	66.85	330	P	P	21 08 39.4	-0.9
	0.5nm,0.8s,baz=135,slow=5.4,SNR=2.9						
	0.5nm,0.8s						

*IDC **04** 21:01:41.7±0.9, 12°.25N×144°.07E, h0km, mb3.9/12, mbtmp3.9/12, MS2.7/1, Error ellipse: s-maj=28.0km s-min=17.6km az=121.0*
ISC 04 21:01:45.8±0.9**, 12°.2N**±0°.1×**144°.1E**±0°.2**, h26km, n17, σ0s.62**/14**, mb3.9**/12**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.54	30	Pn	Pn	21 02 11.9	+0.3
	42nm,0.3s,baz=34,slow=2.8,SNR=13						
GUMO				Sn	Sb	21 02 33.0	+0.2
	70nm,0.3s,baz=195,slow=23,SNR=11						
H11N1	WAKE ISLAND Hy	23.14	68	T	T	21 30 50.8	
	baz=255,slow=75,SNR=6.0						
H11N2	WAKE ISLAND Hy	23.15	68	T	T	21 30 50.4	
	baz=255,slow=75,SNR=8.2						
H11N3	WAKE ISLAND Hy	23.16	68	T	T	21 31 01.8	
	baz=255,slow=75,SNR=5.1						
ASAJ	Asahikawa	31.79	358	LR	LR	21 23 38.8	
	comp=Z,13nm,18.3s,baz=214,slow=41						
WRA	Warramunga Arr	33.39	197	P	P	21 08 22.1	-0.2
	0.9nm,0.9s,baz=19,slow=9.0,SNR=4.2						
	0.9nm,0.9s						
ASAR	Alice Springs	37.05	196	P	P	21 08 54.0	+0.2
	0.3nm,0.6s,baz=20,slow=14,SNR=2.6						
	0.3nm,0.6s						
CMAR	Chiang Mai Arr	43.87	284	P	P	21 09 50.9	+0.5
	0.3nm,0.5s,baz=63,slow=8.3,SNR=5.1						
	0.3nm,0.5s						
MKAR	Makanchi Array	61.93	317	P	P	21 12 03.7	+0.3
	0.8nm,0.8s,baz=96,slow=7.4,SNR=3.6						
	0.8nm,0.8s						
ZALV	Zalesovo Beam	62.27	325	P	P	21 12 05.1	-0.4
	0.6nm,0.7s,baz=100,slow=6.1,SNR=1.9						
	0.6nm,0.7s						
KURBB	Kurchatov Arra	65.16	320	P	P	21 12 24.3	-0.3
	0.4nm,0.3s,baz=102,slow=6.4,SNR=9.8						
	0.4nm,0.3s						
ILAR	Eielson Array	70.11	25	P	P	21 12 54.7	-0.8
	0.7nm,0.7s,baz=243,slow=6.2,SNR=11						
	0.7nm,0.7s						
BVAR	Borovoye Array	70.50	322	P	P	21 12 58.2	0.0
	1.6nm,0.5s,baz=104,slow=7.0,SNR=8.5						
	1.6nm,0.5s						
GEYT	Alibeck	79.43	307	P	P	21 13 50.9	+0.7
	2.2nm,0.9s,baz=86,slow=4.6,SNR=4.0						
	2.2nm,0.9s						
YKA	Yellowknife Ar	84.40	27	P	P	21 14 15.8	+0.2
	0.5nm,0.6s,baz=286,slow=5.3,SNR=6.1						
	0.5nm,0.6s						
NVAR	Mina Array Bea	88.36	51	P	P	21 14 36.6	+0.7
	0.5nm,0.3s,baz=265,slow=4.8,SNR=3.6						
	0.5nm,0.3s						
FINES	FINESS Array B	92.05	335	P	P	21 14 51.0	-1.3
	1.3nm,0.7s,baz=69,slow=9.7,SNR=1.2						
	1.3nm,0.7s						

*IDC **04** 21:38:58.1±2.9, 3°.90S×101°.40E, h0km, mb3.5/6, mbtmp3.5/6, MS2.9/1, Error ellipse: s-maj=100.7km s-min=24.5km az=56.0*
ISC 04 21:39:03.3±2.7**, 3°.9S**±0°.4×**101°.5E**±0°.5**, h34km, n16, σ0s.54**/6**, mb3.6**/6**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	29.07	261	T	T	22 15 03.9	
	baz=85						
H08S3	Diego Garcia H	29.08	261	T	T	22 15 04.0	
	baz=85						
H08S1	Diego Carcia H	29.09	261	T	T	22 15 03.5	
	baz=85						
WRA	Warramunga Arr	35.80	119	P	P	21 45 59.9	+0.1
	0.3nm,1.0s,baz=325,slow=12,SNR=1.8						
	0.3nm,1.0s						
ASAR	Alice Springs	36.98	125	P	P	21 46 09.9	0.0
	0.1nm,0.3s,baz=300,slow=8.4,SNR=1.6						
	0.1nm,0.3s						
GUMO	Guam	46.42	67	LR	LR	22 05 44.9	
	comp=Z,15nm,21.7s,baz=78,slow=35						
KSRS	Korea Array	47.91	29	P	P	21 47 38.3	-0.1
	1.6nm,0.8s,baz=214,slow=6.8,SNR=2.3						
	1.6nm,0.8s						
SONM	Songino Array	51.66	4	P	P	21 48 07.3	+0.3
	0.3nm,0.5s,baz=187,slow=9.6,SNR=4.1						
	0.3nm,0.5s						
MKAR	Makanchi Array	53.21	344	P	P	21 48 18.7	+0.4
	0.5nm,0.6s,baz=162,slow=9.9,SNR=6.2						
	0.5nm,0.6s						
ZALV	Zalesovo Beam	59.27	349	P	P	21 49 00.6	-0.8
	0.5nm,0.4s,baz=149,slow=3.4,SNR=3.8						
	0.5nm,0.4s						
H04N2	CROZET ISLANDS	60.20	218	T	T	22 54 00.3	
	baz=62,slow=75,SNR=56						
H04N1	CROZET ISLANDS	60.22	218	T	T	22 54 00.9	
	baz=62,slow=75,SNR=38						
H04N3	CROZET ISLANDS	60.22	218	T	T	22 53 59.0	
	baz=62,slow=75,SNR=51						
H04S1	CROZET ISLANDS	60.46	217	T	T	22 54 28.6	
	baz=60						
H04S3	CROZET ISLANDS	60.48	217	T	T	22 54 27.6	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=60						
H04S2	CROZET ISLANDS	60.48	217	T	T	22 54 21.9	
	baz=60						

*IDC **04** 21:40:39.6±1.3, 57.°81S×25.°55W, h0^{km}, mb3.6/2, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=76.6km s-min=34.4km az=90.0*

ISC 04 21:40:45.2±1.4**, 57.°9S**±0.°2×**25.°4W**±0.°4**, h35^{km}, n14, σ0.ˢ77**/9**, 4C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.69	157	⇑P	Pn	21 44 09.7	-0.3
	comp=Z,0.6nm,0.2s						
VNA3	Neumayer Olymp	14.90	160	⇑P	Pn	21 44 11.8	-1.1
	comp=Z,0.4nm,0.1s						
VNA2	Neumayer--Watz	15.09	157	⇑P	Pn	21 44 16.3	+0.9
	comp=Z,0.1nm,0.1s,baz=318,slow=12						
SNAA	Sanae	16.63	155	⇑P	Pn	21 44 35.6	+0.4
	comp=Z,7.5nm,0.2s						
SNAA	Sanae	16.63	155	Pn	Pn	21 44 35.1	-0.1
	comp=Z,0.1nm,0.3s,baz=322,slow=13,SNR=7.5						
	comp=Z,0.4nm,0.4s						
VNDA	Vanda	44.76	182	P	P	21 48 55.2	+0.8
	comp=Z,1.4nm,1.1s,baz=183,slow=9.3,SNR=2.2						
	comp=Z,1.4nm,1.1s						
H10S2	ASCENSION HYDR	49.53	14	T	T	22 42 22.4	
	baz=180,slow=74,SNR=6.8						
H10S3	ASCENSION HYDR	49.53	14	T	T	22 42 25.8	
	baz=40,slow=74,SNR=12						
H10N1	ASCENSION HYDR	50.65	14	T	T	22 43 54.2	
	baz=182						
H10N3	ASCENSION HYDR	50.65	14	T	T	22 43 52.1	
	baz=182						
H10N2	ASCENSION HYDR	50.66	14	T	T	22 43 53.7	
	baz=182						
TORD	Torodi Ar. Bea	74.21	27	P	P	21 52 18.4	+0.3
	comp=Z,0.2nm,0.5s,baz=196,slow=5.7,SNR=1.7						
	comp=Z,0.2nm,0.5s						
SONM	Songino Array	149.81	88	PKPbc	PKPbc	22 00 29.9	-0.5
	comp=Z,0.4nm,0.4s,baz=230,slow=3.5,SNR=5.2						
ILAR	Eielson Array	152.09	309	PKPbc	PKPbc	22 00 34.5	-0.6
	comp=Z,0.5nm,0.4s,baz=138,slow=3.2,SNR=8.5						

*IDC **04** 21:52:39.9±3.1, 36.°35N×71.°26E, h228^{km}±25^{km}, mb3.3/8, mbtmp3.9/15, Error ellipse: s-maj=29.6km s-min=15.2km az=161.0*

ISC 04 21:52:40.3±0.7**, 36.°55N**±0.°09×**71.°11E**±0.°07**, h200^{km}, n24, σ2.ˢ27**/23**, mb3.7**/8**, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	6.62	22	P	Pn	21 54 18.5	+2.9
	1.8nm,0.3s,baz=163,slow=5.0,SNR=10.0						
AAK				S	Sn	21 55 32.6	+1.4
	5.6nm,0.6s,baz=227,slow=10,SNR=5.1						
GEYT	Alibeck	10.45	281	P	Pn	21 55 05.9	+0.5
	1.5nm,0.5s,baz=97,slow=12,SNR=2.9						
GEYT				S	S	21 57 07.5	+5.0
	1.2nm,0.6s,baz=93,slow=10,SNR=1.9						
PYUN	Piuthan	13.10	127	eP	P	21 55 42.7	+0.3
	7.7nm,0.3s						
MKAR	Makanchi Array	13.20	36	P	Pn	21 55 40.5	+0.3
	1.2nm,0.5s,baz=214,slow=9.7,SNR=24						
DANN	Dangsing	13.44	124	eP	P	21 55 47.2	+1.0
	7.7nm,0.4s						
GKN	Gorkha	14.26	123	eP	P	21 55 57.0	+1.9
	10nm,0.3s						
PKIN	Phulchoki	15.04	122	eP	P	21 56 07.1	+3.1
	8.9nm,0.4s						
KURBB	Kurchatov Arra	15.05	18	P	Pn	21 56 02.5	-0.4
	0.4nm,0.4s,baz=214,slow=8.1,SNR=4.8						
PKI	Pulchoki	15.06	122	eP	P	21 56 06.6	+2.4
	9.7nm,0.4s						
GUN	Gumba	15.16	120	eP	P	21 56 08.2	+2.8
	11nm,0.4s						
JIRN	Jiri	15.54	121	eP	P	21 56 12.7	+3.2
	13nm,0.3s						
RAMN	Ramite	16.27	122	eP	Pn	21 56 21.1	+3.0
	10nm,0.5s						
BVAR	Borovoye Array	16.48	358	P	P	21 56 21.1	+1.8
	1.6nm,0.4s,baz=160,slow=10,SNR=15						
AKTO	Aktyubinsk	16.78	330	P	P	21 56 23.2	+0.7
	4.2nm,0.4s,baz=139,slow=9.1,SNR=15						
TAPN	Taplejung	16.79	118	eP	Pn	21 56 26.7	+2.3
	13nm,0.5s						
ZALV	Zalesovo Beam	19.83	24	P	P	21 56 54.9	-0.7
	1.2nm,0.4s,baz=217,slow=11,SNR=7.6						
ARU	Arti	21.61	341	P	P	21 57 13.9	-0.5
	1.5nm,0.4s,baz=180,slow=5.4,SNR=4.5						
	1.5nm,0.4s						
BRTR	Keskin Array B	29.50	288	P	P	21 58 25.1	-0.9
	0.5nm,0.7s,baz=87,slow=8.8,SNR=2.8						
	0.5nm,0.7s						
FINES	FINESS Array B	37.49	326	P	P	21 59 32.8	-1.5
	7.1nm,1.1s,baz=104,slow=8.0,SNR=6.5						
	7.1nm,1.1s						
ARCES	ARCESS Array B	41.13	338	P	P	22 00 03.5	-0.9
	2.8nm,1.0s,baz=121,slow=8.2,SNR=9.3						
	2.8nm,1.0s						
HFS	Hagfors	43.08	322	P	P	22 00 18.6	-1.6
	2.1nm,0.8s,baz=88,slow=9.2,SNR=2.0						
	2.1nm,0.8s						
NOA	NORSAR Array B	44.39	323	P	P	22 00 28.8	-1.9
	0.6nm,0.7s,baz=92,slow=7.9,SNR=2.0						
	0.6nm,0.7s						
KSRS	Korea Array	44.78	71	P	P	22 00 30.2	-3.8
	0.5nm,0.6s,baz=286,slow=8.7,SNR=1.3						
	0.5nm,0.6s						
TORD	Torodi Ar. Bea	65.81	269	P	P	22 03 01.4	-3.0
	1.1nm,0.5s,baz=50,slow=6.6,SNR=10						
	1.1nm,0.5s						

*KRNET **04** 21:58:01.3±0.1, 40.°40N×73.°41E, h11^{km}, mb2.1*
*ISU **04** 21:58:02.9, 40.°43N×73.°37E, h7^{km}*
*SOME **04** 21:58:03.3, 40.°52N×73.°43E, h5^{km}*
*NNC **04** 21:58:05.4±0.9, 40.°60N×73.°42E, h0^{km}, mb3.3, mpv3.1, Error ellipse: s-maj=8.9km s-min=4.9km az=121.0*

ISC 04 21:58:02.0±1.2**, 40.°44N**±0.°03×**73.°46E**±0.°02**, h2^{km}**±11^{km}**, n38, σ1.ˢ59**/52**, 6C-16D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.42	176	⇓iP	Pg	21 58 09.0	-1.1
	baz=70						
SFK				⇓iS	Sg	21 58 14.8	-0.9
	baz=70						
OHH	Osh	0.52	280	⇓iP	Pg	21 58 11.1	-0.9
	baz=85						
OHH				⇓iS	Sg	21 58 18.3	-0.5
	baz=85						
OHH	Osh	0.52	280	P	Pg	21 58 11.2	-0.8
OHH				S	Sg	21 58 18.3	-0.5
TSTA	Tashata	0.76	281	P	Pg	21 58 15.7	-0.9
TSTA				S	Sg	21 58 26.2	-0.3
ARSB	Arslanbob	0.96	338	⇓iP	Pg	21 58 20.1	-0.2
	baz=41						
ARSB				⇓iS	Sn	21 58 34.0	-2.9
	baz=41						
ARSB	Arslanbob	0.96	338	P	Pg	21 58 20.1	-0.2
ARSB				S	Sn	21 58 34.0	-2.9
FRG	Fergana	1.28	268	P	Pg	21 58 28.9	+2.4
FRG				S	Sn	21 58 46.3	+1.6
CHMI	Chimion	1.49	264	P	Pn	21 58 30.5	+0.7
CHMI				S	Sg	21 58 50.5	+0.7
ARLS	Aral	1.56	24	⇓eP	Pb	21 58 31.5	-0.3
	baz=25						
ARLS				⇓iS	Sg	21 58 53.6	+1.3
	baz=25						
DRK	Karamyk	1.59	234	⇑eP	Pn	21 58 29.9	-1.6
	baz=34						
DRK				⇑eS	Sn	21 58 51.7	-1.1
	baz=34						
AML	Almayashu	1.70	6	⇑eP	Pb	21 58 34.1	-0.1
	baz=7.0						
AML				⇑iS	Sg	21 58 58.0	+1.3
	baz=7.0						
ARK	Arkit	1.77	321	⇓eP	Pb	21 58 34.4	-0.8
	baz=22						
ARK				⇓eS	Sg	21 58 59.1	+0.3
	baz=22						
MINT	Mingtut	1.90	272	S	Sg	21 59 03.5	+0.6
UCH	Uchtor	1.96	24	⇓iP	Pb	21 58 38.6	0.0
	baz=24						
UCH				⇓iS	Sg	21 59 05.6	+0.7
	baz=24						
BTK	Batken	2.06	260	⇓eP	Pn	21 58 38.8	+1.2
	baz=61						
BTK				⇓eS	Sb	21 59 06.2	+0.1
	baz=61						
TRKS	Terek-Say	2.07	303	⇓eP	Pn	21 58 38.6	+0.7
	baz=3.0						
TRKS				⇓eS	Sb	21 59 05.6	-0.9
	baz=3.0						
NRN	Naryn	2.17	62	⇑eP	Pn	21 58 41.1	+1.7
	baz=61						
NRN				⇑iS	Sb	21 59 10.3	+0.8
	baz=61						
MRKS	Merke	2.31	356	ePg	Pg	21 58 45.2	-1.1
	1.9nm,0.2s						
MRKS				eLg	Lg	21 59 15.4	
	21nm,0.2s						
MRKS	Merke	2.31	356	Pg	Pg	21 58 45.4	-0.9
	1.9nm,0.2s						
MRKS				Lg	Lg	21 59 15.4	
	21nm,0.2s						
SGDS	Sogindy	3.14	16	Lg	Lg	21 59 40.7	
	3.5nm,0.4s						
SGDS	Sogindy	3.14	16	Pg	Pb	21 59 00.1	+1.6
	2.0nm,0.4s						
KST	Kastek	3.21	35	ePg	Pg	21 59 02.0	-1.4
	1.5nm,0.3s						
KST				eLg	Lg	21 59 44.4	
	9.9nm,0.3s						
KST	Kastek	3.21	35	Pg	Pg	21 59 02.0	-1.4
	1.5nm,0.3s						
DGS	Degeres	3.29	31	ePg	Pg	21 59 03.3	-1.7
	3.5nm,0.4s						
DGS				eLg	Lg	21 59 46.5	
	9.8nm,0.8s						
DGS	Degeres	3.29	31	Pg	Pg	21 59 03.3	-1.7
	3.5nm,0.4s						
KRBS	Karabastau	3.65	26	ePg	Pb	21 59 09.1	+1.8
	1.2nm,0.3s						
KRBS				eLg	Lg	21 59 56.6	
	4.3nm,0.8s						
KRBS	Karabastau	3.65	26	Pg	Pb	21 59 09.3	+2.1
	1.3nm,0.4s						
TNSS	Tian-Shan	3.68	44	ePg	Pg	21 59 10.9	-1.6
	2.3nm,0.1s						
TNSS				eLg	Lg	21 59 59.6	
	5.5nm,0.5s						
TNSS	Tian-Shan	3.68	44	Lg	Lg	21 59 59.6	
	3.2nm,0.6s						
TNSS	Tian-Shan	3.68	44	Pg	Pb	21 59 10.7	+2.7
	2.4nm,0.3s						
KOTS	Kotyrbulak	3.91	43	ePg	Pg	21 59 15.1	-1.8
	4.8nm,0.6s						
KOTS				eLg	Lg	22 00 06.7	
	13nm,0.5s						
KOTS	Kotyrbulak	3.91	43	Pg	Pg	21 59 14.9	-1.9
	2.8nm,0.5s						
KTBS	Karatobe	4.06	35	ePg	Pg	21 59 17.6	-2.1
	1.0nm,0.3s						
KTBS				eLg	Lg	22 00 11.1	
	7.8nm,0.3s						
KTBS	Karatobe	4.06	35	Pg	Pg	21 59 17.5	-2.2
	1.0nm,0.3s						
KTBS				Lg	Lg	22 00 11.0	
	7.8nm,0.6s						
KUU	Kurty	4.06	31	ePg	Pb	21 59 17.1	+2.8
	1.2nm,0.2s						
KUU				eLg	Lg	22 00 10.2	
	4.0nm,0.6s						
KUU	Kurty	4.06	31	Pg	Pb	21 59 17.1	+2.8
	1.2nm,0.2s						
KUU				Lg	Lg	22 00 10.2	
	4.0nm,0.6s						
CHKK	Chushkaly	4.31	36	ePg	Pg	21 59 22.1	-2.4
	0.4nm,0.1s						
CHKK				eLg	Lg	22 00 18.8	
	4.8nm,0.6s						
CHKK	Chushkaly	4.31	36	Pg	Pg	21 59 22.1	-2.4
	0.4nm,0.1s						
CHKK				Lg	Lg	22 00 18.8	
	4.8nm,0.6s						

IDC 04 22:05:20.9±5.2**, 7.°77S**×**128.°09E, h199^{km}**±54^{km}**, mb3.0**/1**, mbtmp3.8**/4**, Error ellipse: s-maj=56.9km s-min=23.6km az=48.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.00	241	P	Pn	22 06 35.4	+0.1
	14nm,0.3s,baz=68,slow=2.0,SNR=3.1						
BATI				S	Sn	22 07 34.4	+0.5
	48nm,0.4s,baz=189,slow=20,SNR=11						
WRA	Warramunga Arr	13.54	154	P	Pn	22 08 24.4	-0.8
	1.6nm,0.5s,baz=327,slow=14,SNR=23						
WRA				S	S	22 10 46.3	-10
	0.6nm,0.3s,baz=256,slow=27,SNR=9.2						
ASAR	Alice Springs	16.77	161	P	Pn	22 09 04.2	-0.3
	1.1nm,0.8s,baz=336,slow=9.9,SNR=3.0						
ASAR				S	S	22 12 09.0	+0.7
	0.7nm,0.6s,baz=342,slow=17,SNR=5.1						
MKAR	Makanchi Array	67.84	328	P	P	22 15 57.6	0.0
	0.4nm,0.8s,baz=110,slow=9.3,SNR=1.8						
	0.4nm,0.8s						

ATH 04 22:07:26.9, 39.°08N×**23.°40E, h20^{km}**±3^{km}**, ML1.7**/4**, Manual Solution by M.Kolligri This location: 2019/12/30 10:47:38 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	Neokhori	0.27	329	P	Pb	22 07 33.3	+0.2
NEO				S	Sb	22 07 37.7	+0.3
XOR	Xorichti	0.33	331	P	Pb	22 07 34.3	+0.1
XOR				S	Sb	22 07 39.3	+0.2
ALNA	Alonissos	0.37	79	P	Pb	22 07 34.3	-0.4
ALNA				S	Sb	22 07 40.1	+0.1
AXAR	Agios Charalam	0.66	242	P	Pb	22 07 38.9	-0.8
AXAR				S	Sb	22 07 48.4	0.0
KYMI	Kymi, Euboea I	0.70	129	P	Pb	22 07 40.6	+0.1
KYMI				S	Sb	22 07 49.8	+0.1
AGG	Agios Georgios	0.84	267	P	Pb	22 07 42.3	-0.5
VIL2	Platees	0.87	187	P	Pb	22 07 42.8	-0.5
VIL2				S	Sn	22 07 56.1	0.0
MAKR	Makrakomi, Fth	0.99	267	P	Pb	22 07 45.5	+0.1
DION	Dionisos Attik	1.08	157	P	Pn	22 07 47.4	+0.4
VLY	Voula,Athens	1.26	166	P	Pb	22 07 49.9	-0.1

ATH 04 22:08:17.5, 38.°31N×**22.°07E, h7^{km}**±2^{km}**, ML1.9**/7**, Error ellipse: s-maj=2.8km s-min=0.9km az=273.0, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	Trizonia	0.06	3	P	Pg	22 08 18.9	-0.3
TRIZ				S	Sg	22 08 20.1	-0.2
LAKA	Lakka	0.10	226	P	Pg	22 08 19.9	+0.1
LAKA				S	Sg	22 08 21.7	+0.4
LAKA				AML	AML	22 08 21.9	
	comp=N,3454µm,0.1s						
LAKA				AML	AML	22 08 22.0	
	comp=E,2529µm,0.1s						
EFP	Efpalio	0.17	313	P	Pg	22 08 20.8	-0.2
EFP				S	Sg	22 08 24.0	+0.5
EFP				AML	AML	22 08 24.7	
	comp=E,916µm,0.1s						
EFP				AML	AML	22 08 25.0	
	comp=N,1100µm,0.1s						
KLV	Kalavryta, Ach	0.27	166	P	Pg	22 08 22.7	-0.2
KLV				S	Sg	22 08 26.8	+0.3
KLV				AML	AML	22 08 28.3	
	comp=E,89µm,0.3s						
KLV				AML	AML	22 08 29.7	
	comp=N,75µm,0.1s						
ANX	Ano Chora	0.31	338	P	Pg	22 08 23.3	-0.4
ANX				S	Sg	22 08 28.0	+0.3
ANX				AML	AML	22 08 28.7	
	comp=E,1450µm,0.3s						
ANX				AML	AML	22 08 28.8	
	comp=N,1721µm,0.4s						
DLFA	Delphi	0.38	63	P	Pg	22 08 24.4	-0.4
DLFA				S	Sg	22 08 30.3	+0.5
GUR	Goura	0.43	150	P	Pg	22 08 25.4	-0.5
RLS	Riolos of Patr	0.54	242	P	Pg	22 08 27.8	-0.1
RLS				AML	AML	22 08 38.4	
	comp=E,121µm,0.2s						
RLS				AML	AML	22 08 40.0	
	comp=N,170µm,0.3s						
EVR	Evrytania	0.64	342	P	Pg	22 08 30.1	+0.2
AXAR	Agios Charalam	0.65	45	P	Pg	22 08 29.5	-0.6
AXAR				S	Sg	22 08 39.5	+0.9
AXAR				AML	AML	22 08 41.7	
	comp=E,430µm,0.3s						
AXAR				AML	AML	22 08 41.9	
	comp=N,434µm,0.4s						
MAKR	Makrakomi, Fth	0.70	4	P	Pg	22 08 30.9	-0.3
MAKR				AML	AML	22 08 43.3	
	comp=E,435µm,0.2s						
MAKR				AML	AML	22 08 43.7	
	comp=N,210µm,0.2s						
AGG	Agios Georgios	0.74	16	P	Pg	22 08 30.6	-1.2

*IDC **04** 22:08:34.3±0.4, 42.°14N×25.°76W, h0^{km}, mb4.3/36, mbtmp4.3/38, ML5.1/3, MS3.5/51, Error ellipse: s-maj=13.5km s-min=9.6km az=4.0*
*IGIL **04** 22:08:34.9, 41.°98N×25.°68W, h10^{km}, Mb5.4*
*NEIC **04** 22:08:35.7±1.5, 42.°10N±0.°09×25.°7W±0.°1, h10^{km}±1^{km}, mb4.8/153, Error ellipse: s-maj=14.8km s-min=12.5km az=340.0*
*SVSA **04** 22:08:39.1±1.7, 42.°20N×25.°65W, h10^{km}, ML4.8(INMG), Error ellipse: s-maj=8.2km s-min=5.7km az=95.0*
*MDD **04** 22:09:36.3±6.3, 42.°20N×19.°41W, h10^{km}, Mb4.8/6, M_mb4.3/6, Latitude uncertainty: 10.9 km; Longitude uncertainty: 51.9 km*

ISC 04 22:08:35.2±0.3**, 42.°02N**±0.°04×**25.°62W**±0.°04**, h10^{km}, n613, σ1.ˢ29**/575**, mb4.8**/129**, MS3.5**/52**, 6C-8D, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCRZ	Santa Cruz da	3.45	213	eP	Pn	22 09 28.5	-0.5
PAGU	Agualva, Azore	3.46	201	eP	Pn	22 09 29.2	0.0
PAGU				eS	Sn	22 10 06.8	-3.4
PAGU				A	A	22 10 08.5	
	380nm,0.3s						
PPV	Praia da Vit	3.47	199	eP	Pn	22 09 29.0	-0.2
PPV				eS	Sn	22 10 06.5	-3.9
PPV				A	A	22 10 11.5	
	864nm,0.4s						
PGRA	Graciosa	3.49	212	eP	Pn	22 09 31.9	+2.4
PGRA				eS	Sn	22 10 10.0	-0.9
PGRA				A	A	22 10 16.8	
	292nm,0.3s						
PSBA	Serra de Santa	3.50	202	eP	Pn	22 09 29.8	+0.1
PSBA				eS	Sn	22 10 08.5	-2.7
PSBA				A	A	22 10 10.9	
	245nm,0.2s						
PSCM	Serra do Cume	3.51	199	eP	Pn	22 09 29.9	+0.1
PSCM				eS	Sn	22 10 07.5	-3.9
PSCM				A	A	22 10 08.8	
	553nm,0.2s						
ADH	Angra Heroismo	3.58	201	eP	Pn	22 09 30.6	-0.2
ADH				eS	Sn	22 10 08.7	-4.4
ADH				A	A	22 10 12.3	
	215nm,0.3s						
PTOPO	Topo S. Jorge	3.83	206	eP	Pn	22 09 33.8	-0.4
ROSA	Rosais	3.86	212	Pn	Pn	22 09 33.4	-1.2
ROSA	Rosais	3.86	212	eP	Pn	22 09 34.4	-0.2
ROSA				eS	Sn	22 10 15.8	-4.2
ROSA				A	A	22 10 23.1	
	163nm,0.4s						
PMAN	Manadas	3.88	210	eP	Pn	22 09 33.9	-0.9
PMAN				eS	Sn	22 10 15.7	-4.7
PMAN				A	A	22 10 17.1	
	123nm,0.2s						
PID	Ribeirinha	4.05	209	eP	Pn	22 09 36.8	-0.5
PID				eS	Sn	22 10 21.0	-3.9
PID				A	A	22 10 24.2	
	161nm,0.4s						
PPNO	Prainha do Nor	4.08	211	eP	Pn	22 09 37.6	-0.1
PICO	Pico	4.12	212	eP	Pn	22 09 38.2	-0.1
PICO				eS	Sn	22 10 22.8	-3.7
PICO				A	A	22 10 27.1	
	179nm,0.3s						
PCED	Cedros	4.13	216	eP	Pn	22 09 38.8	+0.5
PCED				eS	Sn	22 10 22.0	-4.6
PCED				A	A	22 10 25.0	
	100nm,0.3s						
CALA	Caldeira	4.17	215	eP	Pn	22 09 40.0	+1.1
CALA				eS	Sn	22 10 24.0	-3.7
CALA				A	A	22 10 28.1	
	198nm,0.3s						
PCAN	Candelaria	4.17	213	eS	Sn	22 10 23.6	-4.2
PCAN				A	A	22 10 27.3	
	84nm,0.3s						
HOR	Horta	4.18	214	eP	Pn	22 09 39.4	+0.4
PSET	Sete Cidades	4.20	181	eP	Pn	22 09 39.6	+0.3
PSET				eS	Sn	22 10 25.5	-2.8
PSET				A	A	22 10 29.1	
	208nm,0.3s						
PCALD	Caldeiras da R	4.22	179	eP	Pn	22 09 39.8	+0.2
PCALD				eS	Sn	22 10 25.6	-3.3
PCALD				A	A	22 10 30.0	
	264nm,0.3s						
PGRON	Lagoa das Cont	4.25	177	eP	Pn	22 09 40.8	+0.8
PGRON				eS	Sn	22 10 26.1	-3.6
PGRON				A	A	22 10 28.4	
	132nm,0.4s						
PGRON				A	A	22 10 30.7	
	344nm,0.3s						
BART	Pico Bartolome	4.25	175	eP	Pn	22 09 41.5	+1.4
BART				eS	Sn	22 10 26.5	-3.4
BART				A	A	22 10 28.9	
	320nm,0.2s						
CMLA	Cha da Macela	4.25	179	Pn	Pn	22 09 40.0	-0.1
CMLA	Cha da Macela	4.25	179	P	Pn	22 09 39.0	-1.1
CMLA	Cha da Macela	4.25	179	eP	Pn	22 09 40.8	+0.7
CMLA				eS	Sn	22 10 26.1	-3.7
CMLA				A	A	22 10 30.1	
	278nm,0.3s						
PSMN	Pico do Norte,	5.03	175	eP	Pn	22 09 50.5	-0.2
PSMN				eS	Sn	22 10 44.8	-4.1
PSMN				A	A	22 10 47.2	
	62nm,0.3s						
PSMA	Santa Maria	5.04	175	eP	Pn	22 09 50.9	+0.1
PSMA				eS	Sn	22 10 45.0	-4.0
PSMA				A	A	22 10 47.4	
	104nm,0.4s						
PMAR	Madeira	11.57	140	eP	Pn	22 11 22.5	+1.9
PMAR				eT	T	22 22 59.2	
PMAR	Madeira	11.57	140	P	Pn	22 11 21.4	+0.7
EMAZ	Mazaricos	12.33	80	P	Pn	22 11 28.1	-2.6
EMAZ				⇑iVmb_V		22 11 29.0	
	386nm,SNR=3.6						
PTO	Porto	12.78	88	eP	Pn	22 11 34.3	-2.6
PTO				eS	Sn	22 13 44.9	-14
PTO				eT	T	22 24 10.2	
PMAFR	Mafra	12.81	98	eP	Pn	22 11 37.0	-0.4
PMAFR				eS	Sn	22 13 46.8	-13
PMAFR				eT	T	22 24 05.6	
PGAV	Gavieira, Arco	12.91	84	eP	Pn	22 11 35.6	-3.2
PGAV				eS	Sn	22 13 45.8	-17
PGAV				eT	T	22 24 01.2	
EAGO	Agolada(Pontev	12.98	81	P	Pn	22 11 37.0	-2.7
LIS	Lisbon	12.99	99	ePn	Pn	22 11 40.0	+0.2
PSBE	So Bento	13.00	96	eP	Pn	22 11 39.8	-0.2
PSBE				eS	Sn	22 13 52.2	-12
PSBE				eT	T	22 24 12.7	
ELOB	Lobios	13.08	85	P	Pn	22 11 38.2	-2.8
ELOB				⇑iVmb_V		22 11 38.8	
	450nm,SNR=6.5						
PCAS	Casmilo, Conde	13.08	93	eP	Pn	22 11 40.1	-0.9
PCAS				eS	Sn	22 13 51.3	-15
PCAS				eT	T	22 24 09.3	
COI	Coimbra	13.11	92	eP	Pn	22 11 40.7	-0.7
COI				eS	Sn	22 13 50.9	-16
COI				eT	T	22 24 09.3	
COI	Coimbra	13.11	92	Pn	Pn	22 11 39.3	-2.0
PACT	Alcochete	13.21	99	eP	Pn	22 11 42.1	-0.6
PACT				eS	Sn	22 13 58.3	-11
POLO	Lamas de Olo	13.34	87	eP	Pn	22 11 41.7	-3.0
POLO				eS	Sn	22 13 57.6	-15

POLO eT T 22 24 07.0
PVIS Viseu 13.38 90 eP **Pn 22 11 43.2 -2.0**
PVIS eS Sn 22 13 57.8 -16
PVIS eT T 22 24 13.4
PVRL Vila Real 13.42 87 eP **Pn 22 11 42.4 -3.2**
PVRL eS Sn 22 13 57.6 -17
PVRL eT T 22 24 15.0
PMTG Montargil 13.56 97 eP **Pn 22 11 46.5 -1.0**
PMTG eS Sn 22 14 03.4 -15
PMTG eT T 22 24 20.6
EPON Pontenova 13.66 78 P **Pn 22 11 45.8 -3.1**
EPON ⇑*i*Vmb_V 22 11 53.3
325nm,SNR=2.3
PNCL Nicolau / Gran 13.66 101 eP **Pn 22 11 48.5 -0.4**
PNCL eS Sn 22 14 07.1 -14
PNCL eT T 22 24 48.1
PNCL Nicolau / Gran 13.66 101 P **Pn 22 11 48.4 -0.6**
MTE Manteigas 13.71 91 eP **Pn 22 11 47.0 -2.7**
MTE eS Sn 22 14 05.2 -17
MTE eT T 22 24 25.4
MTE Manteigas 13.71 91 Pn **Pn 22 11 47.4 -2.2**
PTEO Sao Teotonio 13.74 103 eP **Pn 22 11 50.5 +0.5**
PTEO Sao Teotonio 13.74 103 eP **Pn 22 11 50.6 +0.5**
PTEO eS Sn 22 14 08.8 -14
PTEO eT T 22 25 02.5
PFVI Vila Bisbo 13.84 105 eP **Pn 22 11 51.6 +0.2**
PFVI eS Sn 22 14 09.8 -15
PFVI Vila Bisbo 13.84 105 Pn **Pn 22 11 51.5 +0.2**
PFVI Vila Bisbo 13.84 105 P **Pn 22 11 50.3 -1.1**
PFVI Vila Bisbo 13.84 105 P **Pn 22 11 50.7 -0.7**
EVO Evora 13.89 99 eP **Pn 22 11 51.0 -1.1**
EVO eS Sn 22 14 11.6 -15
EVO eT T 22 24 32.1
EVO Evora 13.89 99 P **Pn 22 11 51.0 -1.1**
EVO S Sn 22 14 11.4 -15
MORF Marmelete 13.89 104 eP **Pn 22 11 52.8 +0.7**
MORF eS Sn 22 14 12.7 -14
MORF Marmelete 13.89 104 Pn **Pn 22 11 52.5 +0.4**
MORF Marmelete 13.89 104 ePn **Pn 22 11 52.3 +0.2**
MORF IAmb IAmb 22 11 56.1
comp=Z,26nm,0.7s
PCBR Castelo Branco 13.89 93 eP **Pn 22 11 50.6 -1.5**
PCBR eS Sn 22 14 09.2 -17
PCBR eT T 22 24 23.5
MVO Moncorvo 13.95 87 eP **Pn 22 11 49.6 -3.3**
MVO eS Sn 22 14 09.8 -18
MVO eT T 22 24 24.3
MESJ Messejana 13.99 102 eP **Pn 22 11 53.7 +0.3**
MESJ eS Sn 22 14 13.6 -15
MESJ Messejana 13.99 102 Pn **Pn 22 11 53.4 -0.1**
MESJ Messejana 13.99 102 ePn **Pn 22 11 53.5 +0.1**
MESJ IAmb IAmb 22 11 56.2
comp=Z,29nm,0.3s
ECAL Calabor 14.05 84 P **Pn 22 11 51.7 -2.7**
ECAL ⇑*i*Vmb_V 22 11 53.4
comp=Z,196nm,SNR=3.4
ECAL Calabor 14.05 84 P **Pn 22 11 50.9 -3.4**
ECAL S Sn 22 14 12.5 -18
PBRG Braganca 14.07 85 eP **Pn 22 11 51.9 -2.6**
PBRG eS Sn 22 14 15.5 -15
PMRV Marv??o 14.07 95 eP **Pn 22 11 53.0 -1.5**
PMRV eS Sn 22 14 14.3 -16
PESTR Estremoz 14.09 97 eP **Pn 22 11 52.9 -1.9**
PESTR eS Sn 22 14 16.2 -15
PESTR Estremoz 14.09 97 Pn **Pn 22 11 53.1 -1.7**
PESTR Estremoz 14.09 97 P **Pn 22 11 52.4 -2.5**
PESTR Estremoz 14.09 97 P **Pn 22 11 53.2 -1.6**
PBEJ Beja 14.18 100 eP **Pn 22 11 55.1 -0.9**
PBEJ eS Sn 22 14 19.7 -14
PCVE Castro Verde 14.20 102 eP **Pn 22 11 56.4 0.0**
PCVE eS Sn 22 14 20.2 -14
PCVE eT T 22 25 25.4
PCVE Castro Verde 14.20 102 P **Pn 22 11 56.6 +0.2**
VAL Valentia 14.41 41 P **Pn 22 11 55.1 -4.0**
VAL S Sn 22 14 22.0 -17
PBDV Barranco-do-Ve 14.44 103 eP **Pn 22 12 00.8 +1.2**
PBDV eS Sn 22 14 25.1 -15
EBAD Badajoz 14.55 97 P **Pn 22 11 59.3 -1.9**
EBAD ⇑*i*Vmb_V 22 12 02.6
comp=Z,181nm,SNR=2.9
EBAD Badajoz 14.55 97 P **Pn 22 11 59.2 -2.0**
EGRO El Granado 14.65 102 P **Pn 22 12 02.6 +0.1**
EGRO ⇑*i*Vmb_V 22 12 07.4
comp=Z,257nm,SNR=2.8
EGRO El Granado 14.65 102 P **Pn 22 12 02.7 +0.3**
PBAR Barrancos 14.73 99 eP **Pn 22 12 02.9 -0.6**
PBAR eS Sn 22 14 32.6 -14
PBAR eT T 22 25 11.7
PBAR Barrancos 14.73 99 P **Pn 22 12 02.9 -0.6**
EPLA Plasencia 14.88 91 P **Pn 22 12 04.2 -1.4**
EARI Arriondas 15.07 78 P **Pn 22 12 05.5 -2.8**
EMIN Mina Concepcio 15.15 100 P **Pn 22 12 08.6 -0.6**
ECAB El Cabril 15.96 98 P **Pn 22 12 18.3 -1.5**
ESPR Espera 16.10 102 P **Pn 22 12 22.7 +1.1**
PAB San Pablo 16.30 92 Pn **Pn 22 12 23.6 -0.6**
EADA Adamuz 16.55 96 P **Pn 22 12 25.8 -1.6**
ESDC Sonseca Array 16.55 91 Pn **Pn 22 12 26.7 -0.7**
ESDC Sonseca Array 16.55 91 Pn **Pn 22 12 27.2 -0.2**
comp=Z,7.2nm,0.3s,baz=288,slow=13,SNR=248
ESDC Sn Sn 22 15 16.1 -15
comp=Z,0.2nm,0.3s,baz=290,slow=23,SNR=4.1
ESDC LR LR 22 17 36.4
comp=Z,114nm,21.4s,baz=284,slow=32
ESBB Sonseca Array 16.55 91 Pn **Pn 22 12 26.5 -1.0**
UCM Universidad Co 16.93 88 P **Pn 22 12 30.7 -1.5**
UCM S Sn 22 15 22.2 -18
SMIR Smir Dam 16.97 105 P **P 22 12 33.9 -0.7**
OUK Oukaimeden 17.84 121 P **Pn 22 12 43.0 -0.9**
ETOB Tobarra 18.65 92 P **Pn 22 12 54.6 +1.2**
OUZM OUZ 18.75 120 P **P 22 12 53.4 -1.0**
MD31 MD31 18.88 112 P **Pn 22 12 58.5 +2.2**
MDT Midelt 19.02 112 P **Pn 22 13 00.6 +2.6**
MDT Midelt 19.02 112 P **Pn 22 13 00.9 +2.9**
comp=Z,1.3nm,0.3s,baz=24,slow=7.4,SNR=49
MDT S Sn 22 16 17.7 -13
comp=Z,0.9nm,0.5s,baz=203,slow=21,SNR=1.9
MDT LR LR 22 19 12.3
comp=Z,47nm,19.3s,baz=318,slow=33
comp=Z,3.0nm,0.2s
ESK Eskdalemuir 19.79 40 P **Pn 22 13 06.8 -0.1**
ESK IAmb IAmb 22 13 16.7
comp=Z,82nm,1.4s
EKA Eskdalemuir Ar 19.82 40 P **Pn 22 13 07.0 -0.2**
baz=241,slow=12
comp=Z,12nm,0.8s
CLF Chambon-Foret 20.54 63 P **P 22 13 13.1 -0.5**
SSB Saint Sauveur 22.00 71 P **P 22 13 31.1 +1.6**
DOU Dourbes 22.35 58 *d*P **P 22 13 34.2 +1.1**
BMRD Maredsous 22.49 58 *d*P **P 22 13 35.6 +0.9**
BGES Gesves 22.71 58 *d*x x 22 13 38.6
BCLA Clavier 22.85 58 *d*P **P 22 13 37.8 -0.7**
BORG Borgarnes 22.90 5 LR LR 22 20 05.3
comp=Z,87nm,18.0s,baz=189,slow=30
BSTI Sart Tilman 23.05 57 *d*P **P 22 13 41.1 +0.7**
WLF Walferdange 23.29 60 P **P 22 13 43.0 +0.1**
WLF IAmb IAmb 22 13 51.9
comp=Z,33nm,1.3s
WLF Walferdange 23.29 60 *d*P **P 22 13 45.2 +2.3**
DRLN Deer Lake 23.31 299 P **P 22 13 41.8 -1.4**
DRLN IAmb IAmb 22 13 51.5
comp=Z,40nm,1.1s
MEM Membach 23.33 58 *d*P **P 22 13 44.1 +0.8**
BTNL Ternell 23.40 58 *d*P **P 22 13 44.3 +0.3**
BNI Bardonecchia 23.53 72 P **P 22 13 46.5 +1.0**
ECH Echery 23.82 64 P **P 22 13 46.4 -1.8**
SENIN Lac Senin/Sane 23.90 68 P **P 22 13 49.9 +0.7**
SENIN IAmb IAmb 22 14 02.2
comp=Z,32nm,1.0s
BFO Black Forest 24.61 64 P **P 22 13 56.2 +0.7**
BFO IAmb IAmb 22 14 05.8
comp=Z,73nm,2.0s
STU Stuttgart 25.20 63 P **P 22 14 00.4 -0.5**
STU IAmb IAmb 22 14 14.7
comp=Z,20nm,1.2s
TUE Stuetta 25.31 68 P **P 22 14 02.2 +0.1**
DAVA Damuels 25.65 66 *e*pP pP 22 14 08.2 +1.1
comp=Z,18nm,1.2s
DAVOX Davos/Dischmat 25.66 67 LR LR 22 22 49.9
comp=Z,86nm,21.2s,baz=259,slow=33
PRMA PARMA 26.13 72 P **P 22 14 09.4 +0.2**
FETA Feichten 26.23 67 *i* P **P 22 14 13.7 +3.3**
comp=Z,9.4nm,1.3s

RETA Reutte 26.24 65 *i* pP pP 22 14 13.2 +0.8
comp=Z,11nm,1.6s
MOTA Moosalm 26.48 66 *e*pP pP 22 14 15.4 +0.8
comp=Z,14nm,1.0s
SQTA Sankt Quirin 26.55 66 *e*P **P 22 14 16.4 +3.2**
comp=Z,18nm,1.4s
ZCCA Zocca 26.65 72 P **P 22 14 12.9 -1.2**
ZCCA IAmb IAmb 22 14 26.9
comp=Z,28nm,1.0s
WATA Walderalm 26.80 66 *e*P **P 22 14 19.4 +3.9**
comp=Z,11nm,0.9s
WTTA Wattenberg 26.84 66 *e*P **P 22 14 19.2 +3.3**
comp=Z,13nm,0.8s
CTI Castel Tesino 26.93 69 P **P 22 14 14.9 -1.8**
NKC Novy Kostel 27.38 59 *e*P **P 22 14 23.0 +2.4**
ABTA Abfaltersbach 27.47 67 *e*P **P 22 14 25.5 +4.0**
comp=Z,5.3nm,0.8s
LESA Schwarzleotal 27.54 66 *e*P **P 22 14 26.0 +3.9**
comp=Z,7.0nm,0.8s
KEST Kesra 27.80 91 P **P 22 14 24.4 -0.1**
KEST IAmb IAmb 22 14 35.8
comp=Z,36nm,1.4s
KEST Kesra 27.80 91 P **P 22 14 25.9 +1.3**
comp=Z,5.9nm,0.8s,baz=271,slow=6.6,SNR=4.9
KEST LR LR 22 25 03.8
comp=Z,82nm,19.4s,baz=293,slow=35
comp=Z,5.9nm,0.8s
KHC Kasperske Hory 28.10 62 P **P 22 14 25.4 -1.6**
KHC Kasperske Hory 28.10 62 *e*P **P 22 14 28.2 +1.2**
BIOA Bad Ischl, Aus 28.18 65 *i* pP pP 22 14 31.5 +1.7
comp=Z,8.2nm,0.7s
GERES GERESS Array B 28.18 62 P **P 22 14 29.1 +1.2**
GERES GERESS Array B 28.18 62 P **P 22 14 29.4 +1.6**
comp=Z,0.8nm,0.5s,baz=279,slow=8.7,SNR=4.8
GERES LR LR 22 24 23.5
comp=Z,62nm,21.6s,baz=229,slow=34
comp=Z,0.8nm,0.5s
FDMO Fiordimonte 28.38 75 P **P 22 14 30.8 +1.3**
FDMO IAmb IAmb 22 14 40.8
comp=Z,10nm,0.8s
NRCA Norcia 28.44 75 P **P 22 14 28.5 -1.7**
NRCA IAmb IAmb 22 14 40.2
comp=Z,12nm,0.9s
SFJD Kangerlussuaq 28.52 340 LR LR 22 22 53.0
comp=Z,47nm,19.0s,baz=152,slow=30
MOA Molln 28.59 64 *i* pP pP 22 14 33.5 0.0
comp=Z,3.7nm,0.6s
PRU Pruhonice 28.73 60 *e*P **P 22 14 29.4 -3.1**
PRU AMS AMS 22 25 00.0
comp=Z,200nm,17.4s
AQU L'Aquila 28.75 76 P **P 22 14 33.7 +0.9**
OBKA Obir 28.89 67 *i* pP pP 22 14 35.5 -0.7
comp=Z,24nm,0.7s
SOKA Soboth 29.20 67 *e*P **P 22 14 37.4 +0.5**
comp=Z,4.9nm,0.8s
NB2 NORSAR Subarra 29.21 37 P **P 22 14 37.7 +1.0**
comp=Z,5.8nm,1.0s,baz=247,slow=9.3
NOA NORSAR Array B 29.21 37 P **P 22 14 37.4 +0.7**
comp=Z,0.7nm,0.6s,baz=242,slow=8.6,SNR=3.4
NOA LR LR 22 25 02.8
comp=Z,113nm,20.5s,baz=245,slow=34
comp=Z,0.7nm,0.6s
NC602 NORSAR Array S 29.23 37 P **P 22 14 37.8 +0.9**
NC602 IAmb IAmb 22 15 25.0
comp=Z,47nm,1.8s
SCHQ Schefferville 29.74 310 P **P 22 14 40.2 -1.3**
SCHQ IAmb IAmb 22 14 54.2
comp=Z,10nm,0.8s
SCHQ Schefferville 29.74 310 P **P 22 14 41.0 -0.5**
comp=Z,4.7nm,0.8s,baz=100,slow=9.4,SNR=4.8
SCHQ LR LR 22 24 19.4
comp=Z,57nm,18.6s,baz=68,slow=32
comp=Z,4.7nm,0.8s
KRUC Moravsky 29.95 62 *e*P **P 22 14 43.7 +0.3**
HFS Hagfors 30.01 39 P **P 22 14 45.1 +1.2**
comp=Z,1.7nm,0.7s,baz=269,slow=10,SNR=5.3
HFS LR LR 22 25 48.0
comp=Z,108nm,18.8s,baz=252,slow=34
comp=Z,1.7nm,0.7s
VRAC Vranov 30.07 61 *e*P **P 22 14 44.4 -0.1**
VRAC Vranov 30.07 61 LR LR 22 25 33.5
comp=Z,62nm,21.1s,baz=262,slow=34
G65A Princeton 30.29 290 P **P 22 14 45.7 -0.7**
VAE Valguarnera 30.91 85 LR LR 22 25 59.0
comp=Z,146nm,19.3s,baz=322,slow=34
D62A Allapoint, All 31.05 294 P **P 22 14 50.5 -2.6**
CUC Castrocucco 31.12 80 P **P 22 14 54.2 +0.3**
CUC IAmb IAmb 22 15 03.3
comp=Z,19nm,0.9s
SUMG Summit 31.26 353 P **P 22 14 54.1 -1.0**
PKME Peaks-Kenny Pk 31.48 291 P **P 22 14 57.0 +0.1**
baz=80
VYHS Vyhne 31.60 63 *e*P **P 22 15 02.1 +4.2**
TIP Timpagrande 32.07 81 P **P 22 15 01.3 -0.9**
TIP IAmb IAmb 22 15 10.8
comp=Z,20nm,1.2s
OJC Ojcow 32.10 59 P **P 22 15 03.8 +1.4**
OJC IAmb IAmb 22 15 12.5
comp=Z,8.0nm,0.7s
TAM Tamanrasset 32.29 117 P **P 22 15 03.5 -0.8**
CRVS Cervenica-Dubn 33.29 62 *e*P **P 22 15 16.1 +3.3**
LBNH Lisbon 33.52 290 P **P 22 15 15.1 +0.2**
baz=77
KOLS Kolonicke sedl 33.82 62 *e*P **P 22 15 19.9 +2.5**
L61B Northampton 34.49 287 P **P 22 15 24.1 +0.8**
baz=74
DAG Danmarks Havn 34.98 3 *i* P **P 22 15 26.0 -1.1**
PAL Palisades 35.79 285 P **P 22 15 34.9 +0.5**
baz=72
BUR08 Bucovina Ar. S 35.94 63 P **P 22 15 36.5 +0.7**
BUR08 IAmb IAmb 22 16 04.0
comp=Z,30nm,1.9s
BURAR Bucovina Array 35.96 63 P **P 22 15 36.7 +0.7**
NACGM Naroch 36.20 51 *e*P P 22 15 29.7 -8.0
comp=Z,15nm,0.8s,baz=271
FINES FINESS Array B 36.22 40 P **P 22 15 38.2 +0.4**
FINES FINESS Array B 36.22 40 P **P 22 15 38.1 +0.2**
comp=Z,3.7nm,0.7s,baz=239,slow=5.0,SNR=10
FINES LR LR 22 29 30.8
comp=Z,94nm,19.6s,baz=266,slow=35
comp=Z,3.7nm,0.7s
MNK Minsk 36.85 51 *i* P **P 22 15 43.9 +0.5**
comp=E,7.0nm,1.2s
MNK *i* P **P 22 15 43.9 +0.5**
comp=N,11nm,0.9s
MNK *i* P **P 22 15 43.9 +0.5**
comp=Z,15nm,1.2s,baz=273
MNK *i* PP **PP 22 17 07.6 +0.5**
MNK *i* S **S 22 21 26.7 -0.8**
MNK *i* SS **SnSn 22 23 54.3 -4.7**
MNK *i* LQ LQ 22 28 05.3
MNK *i* LR LR 22 29 09.1
MNK *i* LRM MLR 22 30 44.5
comp=Z,145nm,18.7s
MNK *i* LRM MLR 22 31 43.0
comp=E,103nm,18.2s
MNK *i* LRM MLR 22 34 01.7
comp=N,177nm,29.3s
MLR Muntele Rosu 36.89 67 P **P 22 15 43.5 -0.4**
MLR IAmb IAmb 22 15 53.8
comp=Z,19nm,1.3s
MLR Muntele Rosu 36.89 67 LR LR 22 30 56.2
comp=Z,62nm,18.3s,baz=284,slow=36
BINY Binghamton 36.91 288 P **P 22 15 44.6 +0.5**
baz=73
TOA0 Torodi Ar. Sit 37.29 132 P **P 22 15 47.8 +0.4**
TOA0 IAmb IAmb 22 15 50.7
comp=Z,15nm,1.0s
TORD Torodi Ar. Bea 37.29 132 P **P 22 15 47.7 +0.3**
TORD Torodi Ar. Bea 37.29 132 P **P 22 15 48.6 +1.2**
comp=Z,9.8nm,0.8s,baz=339,slow=7.2,SNR=47
TORD PcP **PcP 22 18 07.6 +0.8**
comp=Z,1.0nm,0.9s,baz=328,slow=5.1,SNR=2.8
TORD LR LR 22 29 51.9
comp=Z,59nm,21.1s,baz=318,slow=34
comp=Z,9.8nm,0.8s
ARCES ARCESS Array B 37.93 26 P **P 22 15 52.3 0.0**
comp=Z,5.7nm,0.7s,baz=243,slow=6.7,SNR=14
ARCES LR LR 22 28 16.4
comp=Z,71nm,21.6s,baz=201,slow=31
comp=Z,5.7nm,0.7s
KIEV Kiev 38.04 58 P **P 22 15 53.9 +0.4**
AKASG Malin Array Be 38.05 58 P **P 22 15 54.2 +0.7**
comp=Z,1.7nm,0.6s,baz=274,slow=8.8,SNR=8.6
AKASG LR LR 22 30 37.6
comp=Z,104nm,20.5s,baz=223,slow=35
comp=Z,1.7nm,0.6s

AKBB Malin Array Si 38.05 58 P **P 22 15 54.3 +0.8**
SADO Sadowa 38.40 293 P **P 22 15 55.0 -1.6**
comp=Z,4.0nm,0.8s,baz=76,slow=7.2,SNR=1.3
SADO LR LR 22 30 18.3
comp=Z,73nm,18.1s,baz=50,slow=34
comp=Z,4.0nm,0.8s
MILM Milestii Mici 38.49 64 *e*P **P 22 15 58.0 +0.7**
comp=Z,24nm,0.9s
SSPA Standing Stone 38.77 286 P **P 22 15 59.8 0.0**
baz=70
IDI Anoyia 39.54 83 LR LR 22 32 03.5
comp=Z,27nm,21.4s,baz=254,slow=36
DBIC Dimbokro 39.73 147 P **P 22 16 08.1 +0.1**
DBIC Dimbokro 39.73 147 P **P 22 16 09.7 +1.7**
comp=Z,7.1nm,0.7s,baz=341,slow=6.8,SNR=7.9
DBIC LR LR 22 31 38.2
comp=Z,44nm,18.2s,baz=358,slow=35
comp=Z,7.1nm,0.7s
O53A New Philadelph 41.28 287 P **P 22 16 21.0 +0.4**
baz=69
P53A Whipple 41.69 286 P **P 22 16 23.6 -0.4**
SJG San Juan 41.87 248 LR LR 22 30 31.9
comp=Z,34nm,18.8s,baz=55,slow=32
BLA Blacksburg 41.88 282 P **P 22 16 26.3 +0.7**
baz=66
P52A Corning 42.16 286 P **P 22 16 27.0 -0.8**
P52A Corning 42.16 286 P **P 22 16 27.9 +0.1**
baz=68
ACSO Alum Creek Sta 42.54 288 P **P 22 16 31.4 +0.4**
baz=68
KLMR Klimovskoe 42.70 41 *e*P **P 22 16 28.6 -3.3**
KLMR AMP 22 16 41.3
comp=Z,32nm,2.2s
KLMR *e*PP **PP 22 18 07.2 -3.5**
KMSC Kings Mountain 43.43 280 P **P 22 16 38.7 +0.5**
baz=63
MDP Montagnes des 43.94 221 LR LR 22 30 45.8
comp=Z,48nm,21.9s,baz=50,slow=30
EUNU Eureka 43.95 347 P **P 22 16 41.8 0.0**
EUNU IAmb IAmb 22 17 38.2
comp=Z,25nm,2.0s
O48B Farmland 44.08 289 P **P 22 16 43.8 +0.5**
baz=67
BRTR Keskin Array B 44.09 72 P **P 22 16 44.8 +1.2**
BRTR Keskin Array B 44.09 72 P **P 22 16 45.1 +1.5**
comp=Z,1.6nm,0.8s,baz=281,slow=6.5,SNR=8.7
BRTR PcP **PcP 22 18 29.3 +0.5**
comp=Z,0.9nm,0.8s,baz=256,slow=3.6,SNR=3.4
BRTR LR LR 22 37 24.6
comp=Z,21nm,18.0s,baz=300,slow=39
comp=Z,1.6nm,0.8s
RES Resolute Bay 44.52 339 P **P 22 16 45.8 -0.6**
FCC Fort Churchill 44.62 316 P **P 22 16 46.9 -0.4**
FCC IAmb IAmb 22 16 55.6
comp=Z,15nm,1.0s
TKL Tuckaleechee C 44.99 282 LR LR 22 33 35.8
comp=Z,40nm,19.7s,baz=6.5,slow=34
GOGA Godfrey 45.80 279 P **P 22 16 57.3 +0.2**
baz=61
CSS Mathiatis 45.89 79 P **P 22 16 58.5 +0.7**
CSS IAmb IAmb 22 17 09.5
comp=Z,8.7nm,0.9s
BNN Bunyan 46.01 72 P **P 22 16 59.6 +0.8**
O44A Mansfield 46.45 290 P **P 22 17 02.1 0.0**
JFWS Jewell Farm 46.60 294 P **P 22 17 03.4 +0.1**
baz=68
PCRV Puerto La Cruz 46.60 239 LR LR 22 33 06.5
comp=Z,55nm,19.1s,slow=32
T47A Sharon Grove 46.81 285 P **P 22 17 05.1 0.0**
SPMN Marine on St. 47.46 298 P **P 22 17 10.4 +0.4**
baz=69
GAZ Gaziantep 47.70 74 P **P 22 17 11.5 -0.5**
GAZ IAmb IAmb 22 17 19.7
comp=Z,4.8nm,0.6s
ULM Lac du Bonnet 47.70 305 P **P 22 17 10.6 -1.2**
comp=Z,1.6nm,0.6s,baz=74,slow=3.5,SNR=3.3
comp=Z,1.6nm,0.6s
WVT Waverly 47.72 285 P **P 22 17 12.3 +0.2**
baz=63
KIRV Kirov 48.02 43 LR LR 22 36 33.9
comp=Z,56nm,20.4s,baz=288,slow=35
MMAI Mount Meron Ar 48.32 80 P **P 22 17 18.6 +1.6**
comp=Z,5.8nm,0.8s,baz=293,slow=8.7,SNR=11
MMAI PcP **PcP 22 18 44.2 +0.6**
comp=Z,0.6nm,0.6s,baz=297,slow=6.3,SNR=1.5
comp=Z,5.8nm,0.8s
AGMN Agassiz Nation 48.34 303 P **P 22 17 17.0 +0.2**
baz=70
LRAL Lakeview Retre 48.57 280 P **P 22 17 19.3 +0.6**
baz=60
BELG Belogornoye 48.80 51 LR LR 22 37 46.0
comp=Z,81nm,21.9s,baz=321,slow=36
KBZ Khabaz 48.91 64 P **P 22 17 23.8 +2.6**
comp=Z,3.5nm,1.0s,baz=306,slow=11,SNR=5.6
KBZ LR LR 22 38 14.7
comp=Z,34nm,20.9s,baz=45,slow=36
comp=Z,3.5nm,1.0s
CCM Cathedral Cave 49.29 288 P **P 22 17 23.4 -0.8**
CCM IAmb IAmb 22 17 32.8
comp=Z,10nm,0.9s
CCM Cathedral Cave 49.29 288 P **P 22 17 24.2 0.0**
baz=63
GHAJ Ghor Haditha 49.29 82 P **P 22 17 23.6 -0.6**
OXF Oxford 49.61 283 P **P 22 17 26.9 +0.3**
baz=61
EIL Elat 49.68 84 LR LR 22 39 44.2
comp=Z,16nm,18.8s,baz=310,slow=38
BAUV El Baul 49.72 241 P **P 22 17 28.4 +0.7**
FFC Flin Flon 49.82 312 P **P 22 17 26.4 -1.6**
FFC IAmb IAmb 22 17 36.2
comp=Z,12nm,1.2s
R40A Maddies Statio 49.91 289 P **P 22 17 28.2 -0.7**
R40A IAmb IAmb 22 19 09.4
comp=Z,17nm,1.1s
Y45A Yeager Farm, C 50.02 283 P **P 22 17 29.3 -0.5**
LCAR Lake Charles 50.13 286 P **P 22 17 30.0 -0.7**
AKH Akhalkalaki 50.26 66 P **P 22 17 33.1 +1.3**
AKH IAmb IAmb 22 17 42.0
comp=Z,19nm,1.0s
ECSD EROS Data Cent 50.55 297 P **P 22 17 33.2 -0.6**
baz=66
H10N2 ASCENSION HYDR 50.65 166 T T 23 12 03.7
baz=349,slow=75,SNR=9.9
H10N3 ASCENSION HYDR 50.66 166 T T 23 12 06.1
baz=349,slow=75,SNR=13
H10N1 ASCENSION HYDR 50.66 166 T T 23 12 04.8
baz=349,slow=75,SNR=9.6
S39A Bolivar 50.92 289 P **P 22 17 35.6 -1.0**
S39A IAmb IAmb 22 17 37.2
comp=Z,7.9nm,0.8s
GNI Garni 51.66 67 LR LR 22 41 49.6
comp=Z,13nm,19.0s,baz=296,slow=39
H10S3 ASCENSION HYDR 51.71 166 T T 23 13 19.3
baz=350,slow=74,SNR=19
H10S2 ASCENSION HYDR 51.72 166 T T 23 13 47.7
baz=230,slow=74,SNR=11
BGNE Belgrade 52.57 295 P **P 22 17 48.3 -0.6**
baz=63
MIAR Mount Ida 52.60 286 P **P 22 17 48.5 -0.7**
MIAR Mount Ida 52.60 286 P **P 22 17 48.7 -0.5**
baz=60
YKA Yellowknife Ar 53.36 325 P **P 22 17 53.7 -0.6**
YKA Yellowknife Ar 53.36 325 P **P 22 17 53.5 -0.8**
comp=Z,1.7nm,0.9s,baz=68,slow=7.2,SNR=13
comp=Z,1.7nm,0.9s
ARU Arti 53.38 44 P **P 22 17 54.4 -0.2**
ARU IAmb IAmb 22 17 56.2
comp=Z,8.2nm,0.9s
ARU Arti 53.38 44 LR LR 22 41 27.6
comp=Z,33nm,18.4s,baz=232,slow=37
DGMT Dagmar 53.41 306 P **P 22 17 54.5 -0.6**
baz=65
A36M Sachs Harbour 53.48 338 P **P 22 17 54.8 -0.2**
baz=66
TUL3 Leonard 53.51 288 P **P 22 17 55.2 -0.6**
baz=60
OK033 Mehan 54.26 289 P **P 22 18 00.3 -1.0**
OGNE Ogallala 55.39 297 P **P 22 18 09.4 -0.2**
baz=62
LAO LASA Array 55.42 304 P **P 22 18 09.9 +0.2**
LAO LASA Array 55.42 304 P **P 22 18 09.3 -0.4**
baz=63
U32A Winter Ranch, 55.54 290 P **P 22 18 10.4 -0.2**
AKTO Aktyubinsk 55.56 50 LR LR 22 42 00.9
comp=Z,45nm,21.1s,baz=143,slow=36
HILA High Level 56.05 321 P **P 22 18 13.0 -0.9**
WMOK Wichita Mounta 56.21 288 P **P 22 18 16.1 +0.6**

baz=59
FW07 Weatherford 56.56 286 P P 22 18 17.7 -0.3
FW07 IAmb IAmb 22 19 01.2
comp=Z,16nm,0.5s
EDM Edmonton 56.59 314 P P 22 18 17.0 -0.9
EDM IAmb IAmb 22 18 25.8
comp=Z,10nm,0.9s
TEIG Tepich 56.59 268 LR LR 22 39 59.6
comp=Z,190nm,19.5s,baz=180,slow=33
WHTX Lake Whitney, 56.70 285 P P 22 18 17.7 -1.2
WHTX Lake Whitney, 56.70 285 P P 22 18 18.6 -0.3
baz=58
PLPT Palo Pinto 56.88 286 P P 22 18 19.9 -0.3
PLPT IAmb IAmb 22 18 28.0
comp=Z,11nm,1.2s
EGMT Eagleton 56.94 307 P P 22 18 20.4 -0.2
baz=62
ABKAR Akbulak array 57.21 51 P P 22 18 21.7 -0.6
GUY2C Guyana, Caldas 57.33 245 eP P 22 18 25.9 +1.8
K22A Casper 57.51 300 P P 22 18 24.0 -0.8
baz=61
INK Inuvik 57.73 335 P P 22 18 25.2 -0.4
baz=57,SNR=5.1
ABTX Abilene, Hawle 57.93 287 P P 22 18 27.3 -0.4
baz=58
N23A Red Feather La 58.00 298 P P 22 18 27.7 -0.6
N23A IAmb IAmb 22 18 30.5
comp=Z,23nm,1.5s
N23A Red Feather La 58.00 298 P P 22 18 28.0 -0.3
baz=60,SNR=6.1
RLMT Red Lodge 58.03 304 P P 22 18 27.4 -1.1
RLMT Red Lodge 58.03 304 P P 22 18 27.9 -0.6
baz=61
AMTX Amarillo 58.18 290 P P 22 18 29.5 0.0
baz=58
PLMC San Jos del P 58.18 245 eP P 22 18 32.1 +2.5
BRDY Brady 58.19 285 IAmb IAmb 22 18 29.3
comp=Z,4.1nm,0.8s
F31M Tsiigehtchic 58.27 334 P P 22 18 28.6 -0.9
F31M Tsiigehtchic 58.27 334 P P 22 18 29.3 -0.1
baz=56,SNR=13
ISCO Idaho Springs 58.33 297 P P 22 18 30.2 -0.6
baz=59
Q24A Divide 58.45 296 P P 22 18 31.8 +0.2
baz=59
KOTAN Kotaneelee Air 58.49 324 P P 22 18 31.0 -0.1
baz=60
D28M Stokes Point 58.69 338 P P 22 18 33.1 +0.7
baz=53
G31M Satah River 58.73 334 P P 22 18 31.9 -0.7
G31M Satah River 58.73 334 P P 22 18 32.2 -0.4
baz=56,SNR=8.8
F30M Barrier River 58.82 335 P P 22 18 33.2 -0.2
baz=55
T25A Trinidad 58.89 294 P P 22 18 34.7 +0.2
baz=58
E29M Blow River 59.01 336 P P 22 18 34.6 0.0
baz=54
H17A Grant Village 59.20 304 P P 22 18 36.2 -0.5
baz=60
JCT Junction City 59.20 285 P P 22 18 36.8 +0.2
baz=56
BOZ Bozeman (W) 59.25 305 IAmb IAmb 22 18 37.9
comp=Z,5.2nm,0.8s
BOZ Bozeman (W) 59.25 305 P P 22 18 36.7 -0.1
baz=60,SNR=5.9
SDCO Great Sand Dun 59.31 295 P P 22 18 37.7 +0.2
baz=58
G30M tAoh Zraii Nji 59.33 335 P P 22 18 37.4 +0.5
baz=54
E28M Babbage River 59.36 337 IAmb IAmb 22 18 37.6
comp=Z,6.7nm,0.8s
E28M Babbage River 59.36 337 P P 22 18 36.8 -0.3
baz=52,SNR=6.8
D27M Malcolm River 59.37 338 P P 22 18 36.9 -0.3
baz=52
BW06 Boulder Array 59.39 302 P P 22 18 37.9 -0.1
baz=59
PD31 Pinedale Array 59.39 302 P P 22 18 35.3 -2.6
PDAR Pinedale Array 59.39 302 P P 22 18 36.8 -1.1
comp=Z,1.5nm,0.7s,baz=64,slow=6.8,SNR=10
comp=Z,1.5nm,0.7s
H31M Peel River 59.40 333 P P 22 18 36.9 -0.4
baz=55
MSTX Muleshoe 59.43 290 P P 22 18 37.6 -0.6
MSTX Muleshoe 59.43 290 P P 22 18 38.1 -0.1
baz=57
TGTN Hyland Airport 59.52 327 P P 22 18 38.5 +0.2
baz=58
IMW Indian Meadow 59.68 303 IAmb IAmb 22 18 41.1
comp=Z,5.9nm,0.8s
EPYK Eagle Plains 59.85 334 P P 22 18 40.3 -0.2
baz=54
O20A White River Ci 59.89 298 P P 22 18 41.0 -0.5
baz=58
BPMT Black Pine Rid 59.91 307 P P 22 18 41.2 -0.3
G29M Pine Creek 59.94 335 P P 22 18 41.4 +0.3
baz=53
C26K Camden Bay 60.00 340 P P 22 18 41.3 -0.1
baz=49
MSO Missoula 60.01 308 P P 22 18 41.9 -0.1
baz=59
SRBA San Rafael, Bu 60.07 254 P P 22 18 43.0 +0.2
F28M Old Crow 60.08 336 P P 22 18 40.5 -1.5
F28M IAmb IAmb 22 18 42.4
comp=Z,6.0nm,0.8s
F28M Old Crow 60.08 336 P P 22 18 41.8 -0.2
baz=52,SNR=6.6
MMPY Sheldon Lake, 60.10 329 P P 22 18 42.5 +0.2
baz=56
833A Chaparral WMA, 60.11 282 P P 22 18 42.9 +0.1
baz=55
POPC Popayan, Colom 60.18 244 eP P 22 18 44.9 +1.2
S22A 4UR Ranch, Cre 60.21 295 IAmb IAmb 22 18 46.2
comp=Z,9.1nm,1.5s
S22A 4UR Ranch, Cre 60.21 295 P P 22 18 43.4 -0.3
baz=58
E27K Coleen River 60.22 337 IAmb IAmb 22 18 50.6
comp=Z,5.7nm,0.9s
E27K Coleen River 60.22 337 P P 22 18 42.9 -0.1
baz=50
AHID Auburn Hatcher 60.37 302 IAmb IAmb 22 18 44.7
comp=Z,6.0nm,0.7s
DRIO Del Rio 60.38 284 IAmb IAmb 22 18 45.7
comp=Z,13nm,1.4s
I30M Mount Dempster 60.43 333 P P 22 18 44.8 +0.2
baz=53,SNR=5.3
H29M Whitestone 60.47 335 P P 22 18 45.0 +0.3
baz=52
JTS Las Juntas de 60.50 257 LR LR 22 40 03.9
comp=Z,40nm,21.4s,baz=348,slow=31
WTLY Watson Lake, Y 60.51 326 P P 22 18 45.8 +0.7
baz=56
RDMU Red Mountain 60.53 300 P P 22 18 45.8 0.0
RDMU IAmb IAmb 22 18 53.7
comp=Z,5.8nm,0.8s
D25K Kavik River 60.78 340 P P 22 18 46.9 0.0
baz=47
J30M Hart River 60.80 332 P P 22 18 47.5 +0.3
baz=53
BDFB Brasilia 60.98 205 P P 22 18 50.2 +1.3
comp=Z,2.4nm,0.6s,baz=24,slow=6.4,SNR=4.0
comp=Z,2.4nm,0.6s
I29M Ogilvie Camp, 60.98 334 P P 22 18 48.6 +0.4
baz=52,SNR=6.0
BVAR Borovoye Array 61.03 43 P P 22 18 50.0 +1.3
comp=Z,2.7nm,0.6s,baz=306,slow=5.3,SNR=13
BVAR LR LR 22 45 26.0
comp=Z,59nm,18.9s,baz=312,slow=36
comp=Z,2.7nm,0.6s
C24K Franklin Bluff 61.10 341 P P 22 18 49.0 +0.1
baz=46
NEW Newport 61.11 310 IAmb IAmb 22 18 50.2
comp=Z,7.9nm,0.8s
NEW Newport 61.11 310 P P 22 18 49.5 +0.1
baz=58,SNR=5.6
NEW Newport 61.11 310 P P 22 18 48.8 -0.5
comp=Z,6.3nm,0.7s,baz=36,slow=3.0,SNR=8.5
comp=Z,6.3nm,0.7s
FARO Faro, Yukon 61.12 329 P P 22 18 49.8 +0.6
baz=54
G27K Doyon Strip 61.12 336 P P 22 18 49.8 +0.6
baz=50
SAND Sanderson 61.16 286 P P 22 18 49.8 -0.2
SAND IAmb IAmb 22 18 50.7
comp=Z,8.5nm,0.7s
MAYO Mayo, Yukon 61.24 331 P P 22 18 50.5 +0.5
baz=53
HWUT Hardware Ranch 61.27 301 IAmb IAmb 22 18 51.8
comp=Z,9.5nm,0.8s
F26K Sheenjek River 61.27 338 P P 22 18 50.3 +0.1
baz=48
SAML Samuel 61.28 223 P P 22 18 51.6 +0.8
SAML IAmb IAmb 22 18 53.4
comp=Z,17nm,1.8s
BSUT Blindstream Ca 61.32 300 P P 22 18 51.2 -0.2
E25K Arctic Village 61.39 338 IAmb IAmb 22 18 52.1
comp=Z,6.9nm,1.0s
E25K Arctic Village 61.39 338 P P 22 18 51.1 +0.1
baz=47
ANMO Albuquerque 61.46 293 P P 22 18 53.2 +1.0
baz=57
ANMO Albuquerque 61.46 293 P P 22 18 53.1 +1.0
comp=Z,1.7nm,0.7s,baz=115,slow=4.8,SNR=3.8
ANMO LR LR 22 44 50.6
comp=Z,16nm,18.7s,baz=132,slow=36
comp=Z,1.7nm,0.7s
H27K Steamboat Moun 61.46 335 P P 22 18 52.0 +0.5
baz=50
I28M Miner Creek 61.46 334 P P 22 18 51.8 +0.3
baz=51
C23K Itkillik River 61.48 341 P P 22 18 52.2 +0.7
baz=44
M31M Drury Creek, Y 61.53 330 P P 22 18 53.2 +1.2
baz=53
D24K Happy Valley 61.53 340 P P 22 18 52.5 +0.7
baz=45
BMAR Burnt Mountain 61.58 337 P P 22 18 52.1 -0.1
A22K Sinclair Lake 61.61 343 P P 22 18 52.7 +0.4
baz=41
MVCO Mesa Verde 61.62 296 P P 22 18 54.1 +0.8
baz=57
N32M Quiet Lake 61.65 328 P P 22 18 53.4 +0.5
baz=54
K29M Baow Dome 61.66 332 P P 22 18 53.5 +0.6
baz=52
G26K Porcupine Rive 61.67 337 P P 22 18 53.2 +0.4
baz=48,SNR=5.7
F25K Christian Rive 61.77 338 P P 22 18 53.9 +0.3
baz=47
B22K Teshekpuk Lake 61.77 342 P P 22 18 54.0 +0.6
baz=42
GEYT Alibeck 61.80 63 P P 22 18 55.3 +1.1
comp=Z,3.0nm,0.9s,baz=276,slow=4.3,SNR=5.7
comp=Z,3.0nm,0.9s
R33M Jennings River 61.83 326 P P 22 18 54.5 +0.3
baz=55
I27K Kandik River 61.90 335 P P 22 18 55.0 +0.5
baz=49
HVU Hansel Valley 61.94 302 P P 22 18 54.7 -0.6
HVU IAmb IAmb 22 19 03.1
comp=Z,6.6nm,1.0s
DLBC Dease Lake 61.98 325 P P 22 18 55.7 +0.5
baz=55
HLID Hailey 62.00 305 P P 22 18 56.1 +0.4
baz=57
TOLK Toolik Lake Re 62.09 340 P P 22 18 55.7 0.0
baz=44
P33M Teslin, Yukon 62.10 327 P P 22 18 56.1 +0.1
baz=54
D23K Nanushuk River 62.13 340 P P 22 18 56.6 +0.7
baz=44
DAWY Dawson 62.16 333 P P 22 18 55.7 -0.6
DAWY IAmb IAmb 22 19 05.0
comp=Z,11nm,1.1s
DAWY Dawson 62.16 333 P P 22 18 56.3 0.0
baz=50
M30M Minto, Yukon 62.19 331 P P 22 18 56.5 +0.1
baz=52
E24K Your Creek 62.21 339 P P 22 18 56.7 +0.2
baz=45
EGAK Eagle 62.29 334 P P 22 18 57.1 +0.1
baz=49
L29M L29M 62.34 332 P P 22 18 57.7 +0.3
baz=51
F24K Squaw Lake 62.44 338 P P 22 18 58.4 +0.4
baz=45
G25K Bearman Lake 62.47 337 P P 22 18 58.8 +0.7
baz=46
N31M Braeburn, Yuko 62.49 329 P P 22 18 59.0 +0.5
baz=52
E23K Chandalar 62.52 339 P P 22 18 58.4 -0.3
baz=44
I26K Coal Creek Min 62.58 335 P P 22 18 59.2 +0.3
baz=48
B21K Ikpikpuk River 62.58 342 P P 22 18 59.7 +0.8
baz=41
TXAR Lajitas Array 62.62 286 P P 22 19 00.3 +0.3
comp=Z,4.0nm,0.6s,baz=70,slow=6.8,SNR=36
comp=Z,4.0nm,0.6s
WHY Whitehorse 62.65 328 P P 22 18 59.9 +0.2
baz=52
D22K Ayikyak River 62.69 341 P P 22 18 59.8 +0.2
baz=42
425A Indio Mountain 62.74 288 P P 22 19 00.2 -0.5
425A IAmb IAmb 22 19 09.3
comp=Z,8.2nm,1.2s
DUG Dugway, Tooele 62.82 301 P P 22 19 00.5 -0.7
DUG Dugway, Tooele 62.82 301 P P 22 19 01.7 +0.5
baz=57,SNR=11
M29M Somme Creek 62.88 331 P P 22 19 01.4 +0.2
baz=50
G24K Hadweenzic Riv 62.90 338 P P 22 19 01.6 +0.5
baz=45
T35M Bob Quinn 62.93 323 P P 22 19 02.0 +0.6
baz=54
C21K Knifeblade Rid 62.98 342 P P 22 19 02.4 +0.9
baz=40
E22K Anaktuvuk Pass 63.03 340 IAmb IAmb 22 19 03.1
comp=Z,14nm,1.5s
E22K Anaktuvuk Pass 63.03 340 P P 22 19 01.8 -0.2
baz=42
O30N Mendenhall 63.05 329 P P 22 19 02.3 +0.1
baz=52
K27K Chicken 63.09 334 P P 22 19 03.1 +0.7
baz=48
PRP Porcupine Dome 63.16 336 P P 22 19 03.3 +0.3
baz=46
J26L Joseph Creek 63.25 335 P P 22 19 03.7 +0.2
baz=48
COLD Coldfoot 63.27 339 P P 22 19 04.1 +0.6
baz=43,SNR=5.4
E21K Killik River 63.33 341 P P 22 19 04.2 +0.3
baz=41
MVU Marysvale 63.37 299 P P 22 19 05.0 +0.1
CMIG Matías Romero 63.44 269 LR LR 22 43 39.8
comp=Z,23nm,21.4s,baz=48,slow=33
A19K Wainwright 63.50 345 P P 22 19 04.7 -0.3
baz=36
SKAG Skagway 63.57 328 P P 22 19 06.3 +0.7
baz=52
F22K John River 63.59 340 P P 22 19 06.1 +0.5
baz=42
W18A Petrified Fore 63.60 294 P P 22 19 06.8 +0.4
baz=56
G23K Bananza Creek 63.60 339 P P 22 19 06.6 +0.8
baz=43
H24K Nonador Dome 63.63 337 P P 22 19 06.9 +0.9
baz=45
121A Cookes Peak, D 63.72 291 IAmb IAmb 22 19 09.6
comp=Z,9.3nm,1.1s
121A Cookes Peak, D 63.72 291 P P 22 19 07.8 +0.5
baz=55
D20K Etivluk River 63.74 342 P P 22 19 06.8 +0.2
baz=39
J25K Salcha River, 63.74 335 P P 22 19 07.1 +0.3
baz=46
SCRK Sand Creek 63.74 334 P P 22 19 07.0 +0.2
SCRK IAmb IAmb 22 19 08.3
comp=Z,8.2nm,0.9s
SCRK Sand Creek 63.74 334 P P 22 19 07.4 +0.6
baz=47
BVCY Beaver Creek 63.74 332 P P 22 19 06.7 -0.1
baz=49
YUK6 Outpost Mounta 63.80 330 P P 22 19 07.8 +0.4
baz=50
G22K Bettles 63.85 339 P P 22 19 07.9 +0.6
baz=42
R32K Eaglecrest 63.98 326 P P 22 19 08.2 -0.1
baz=52
E20K Nigu River 64.00 342 P P 22 19 08.6 +0.2
baz=39
POKR Poker Plat Res 64.02 336 P P 22 19 09.1 +0.6
baz=45
YUK3 Moose Creek 64.03 331 P P 22 19 08.6 -0.2
baz=49
ELK Elko 64.06 302 P P 22 19 09.0 -0.4
ELK IAmb IAmb 22 19 11.3
comp=Z,8.5nm,0.8s
ELK Elko 64.06 302 P P 22 19 10.4 +0.9
comp=Z,7.5nm,0.7s,baz=50,slow=4.6,SNR=19
comp=Z,7.5nm,0.7s
C19K Lookout Ridge 64.09 343 P P 22 19 09.6 +0.6
baz=37
ILAR Eielson Array 64.10 336 P P 22 19 08.5 -0.5
ILAR Eielson Array 64.10 336 P P 22 19 08.9 -0.1
comp=Z,1.6nm,0.7s,baz=39,slow=5.8,SNR=20
comp=Z,1.6nm,0.7s
YUK8 Steele Glacier 64.10 331 P P 22 19 09.9 +0.5
baz=49
F21K Alatna River 64.14 340 P P 22 19 09.9 +0.6
baz=41
M27K Edge Creek, AK 64.14 332 P P 22 19 10.0 +0.5
baz=48
L26K Log Cabin Wild 64.18 333 P P 22 19 10.3 +0.7
baz=47
WRAK Wrangell Islan 64.19 324 P P 22 19 10.6 +0.9
baz=52
D19K Kuna River 64.25 342 P P 22 19 10.7 +0.6
baz=38
B18K Kokolik River 64.34 344 P P 22 19 10.9 +0.4
baz=35
HDA Harding Lake 64.37 336 P P 22 19 11.0 +0.2
baz=45
HDA P P 22 19 11.0 +0.2
baz=45
PSUT Pine Spring 64.42 300 IAmb IAmb 22 19 13.4
comp=Z,7.5nm,1.0s
WUAZ Wupatki 64.48 296 P P 22 19 12.6 +0.3
WUAZ IAmb IAmb 22 19 14.5
comp=Z,14nm,1.3s
WUAZ Wupatki 64.48 296 P P 22 19 12.9 +0.7
baz=55
S32K Killisnoo 64.50 326 P P 22 19 12.4 +0.6
baz=51
V35K Ketchikan 64.53 323 P P 22 19 12.3 +0.3
baz=52
I23K Minto, Yukon-K 64.56 337 IAmb IAmb 22 19 20.4
comp=Z,7.8nm,0.9s
I23K Minto, Yukon-K 64.56 337 P P 22 19 12.6 +0.6
baz=43
H22K Ishtalitna Cre 64.58 338 P P 22 19 12.7 +0.5
baz=42
U15A North Rim 64.58 297 IAmb IAmb 22 19 14.2
comp=Z,3.7nm,0.7s
KNB Kanab 64.60 298 P P 22 19 12.3 -0.7
KNB IAmb IAmb 22 19 20.6
comp=Z,8.7nm,1.3s
DUN6 Lazy B Ranch 64.61 292 P P 22 19 13.3 +0.2
CCUT Cedar City 64.65 299 IAmb IAmb 22 19 22.6
comp=Z,8.8nm,1.0s
G21K Allakaket 64.68 340 P P 22 19 13.0 +0.2
baz=41
U33K Whale Pass 64.72 324 P P 22 19 13.3 +0.1
baz=52
C18K Utukok River 64.80 344 P P 22 19 13.9 +0.2
baz=35
F20K Avaraart Lake 64.83 341 P P 22 19 14.0 +0.2
baz=39
E19K Redstone River 64.88 341 IAmb IAmb 22 19 15.9
comp=Z,6.2nm,0.8s
E19K Redstone River 64.88 341 P P 22 19 14.4 +0.3
baz=38
NEA2 Nenana 64.88 337 IAmb IAmb 22 19 22.1
comp=Z,7.3nm,0.9s
NEA2 Nenana 64.88 337 P P 22 19 14.6 +0.5
baz=43
PAX Paxson 64.92 334 P P 22 19 14.5 -0.1
baz=46
PTLB Pontes e Lacer 65.01 216 P P 22 19 16.1 +0.7
PTLB IAmb IAmb 22 19 18.8
comp=Z,10.0nm,1.4s
MLY Manley 65.04 337 P P 22 19 15.3 0.0
baz=42
H21K Melozitna Rive 65.15 339 P P 22 19 15.8 -0.1
baz=41
MCARA McCarthy VSAT 65.20 332 P P 22 19 16.5 +0.3
baz=47
WVOR Wild Horse Val 65.21 305 P P 22 19 16.2 -0.6
WVOR IAmb IAmb 22 19 18.9
comp=Z,10.0nm,1.1s
HARP HAARP 65.22 333 P P 22 19 16.9 +0.5
baz=46
I21K Tanana 65.28 338 P P 22 19 17.1 +0.4
baz=41
C17K DeLong Mountai 65.36 344 P P 22 19 17.8 +0.6
baz=34
319A Douglas 65.42 291 P P 22 19 19.0 +0.7
319A IAmb IAmb 22 19 21.1
comp=Z,10.0nm,1.0s
DHY Denali Highway 65.46 335 P P 22 19 18.4 +0.3
baz=44
MCK McKinley 65.47 336 P P 22 19 18.2 +0.2
baz=43
BMN Battle Mountai 65.48 303 IAmb IAmb 22 19 19.9
comp=Z,4.2nm,0.7s
F19K Shaleruckik Mo 65.50 341 P P 22 19 18.5 +0.5
baz=37
BOSC San Juan Bosco 65.63 241 P P 22 19 18.8 -1.1
R11B Troy Canyon, C 65.64 300 P P 22 19 19.9 +0.2
baz=55
RDOG Red Dog Mine 65.66 344 P P 22 19 19.5 +0.4
baz=34
E18K Tukpahlearik C 65.68 343 P P 22 19 19.2 0.0
baz=35
BPAW Bear Paw Mtn. 65.81 337 P P 22 19 20.4 +0.2
baz=42
H20K Anotleneega Mo 65.83 339 P P 22 19 21.0 +0.7
baz=39
G19K Purcell Mounta 65.88 340 P P 22 19 21.2 +0.6
baz=38
TLIG Tlapa 65.89 272 P P 22 19 22.0 +0.5
TLIG IAmb IAmb 22 19 25.3
comp=Z,11nm,1.2s
TUC Tucson 65.92 292 P P 22 19 22.6 +1.1
baz=54
WAT6 Susitna Watana 65.94 335 P P 22 19 21.0 -0.2
baz=44
WAT1 Susitna Watana 66.01 335 P P 22 19 21.2 -0.4
baz=43
TRF Thorofare Moun 66.09 336 P P 22 19 21.7 -0.5
baz=42
KLU Klutina 66.12 333 P P 22 19 22.5 +0.2
baz=45
H19K Roundabout Mou 66.21 340 P P 22 19 22.7 0.0
baz=38
E17K Hotham Inlet 66.23 343 P P 22 19 23.1 +0.3
baz=34
I20K Naaghedeneel 66.26 339 P P 22 19 23.2 +0.2
baz=39
SCM Sheep Creek Mo 66.34 334 P P 22 19 24.2 +0.5
baz=44
CHUM Lake Minchumin 66.36 337 P P 22 19 24.3 +0.6
baz=41
LODK Lodwar 66.40 108 P P 22 19 24.2 -0.5
W13A Hualapai Mount 66.40 297 P P 22 19 24.4 -0.4
W13A IAmb IAmb 22 19 26.8
comp=Z,6.8nm,1.0s
G18K Tagagawik 66.47 341 P P 22 19 23.6 -0.7
baz=36
M23K Glacier View 66.50 334 P P 22 19 24.0 -0.7
baz=44
KURK Kurchatov 66.53 42 P P 22 19 25.2 +0.2
KURBB Kurchatov Arra 66.54 42 P P 22 19 25.5 +0.5
comp=Z,5.6nm,0.6s,baz=313,slow=6.7,SNR=26
KURBB LR LR 22 48 29.1
comp=Z,44nm,18.5s,baz=176,slow=36
comp=Z,5.6nm,0.6s
F17K Baldwin Pennin 66.63 342 P P 22 19 25.6 +0.2
baz=35
CAST Castle Rocks 66.64 337 P P 22 19 24.9 -0.7
baz=41
J20K Nowinta River 66.65 338 P P 22 19 25.8 +0.3
baz=39
KKAR Karatay Array 66.69 52 P P 22 19 26.3 +0.1
SML Sawmill 66.69 334 P P 22 19 25.4 -0.5
baz=43
EYAK Cordova Ski Ar 66.73 332 P P 22 19 25.7 -0.4
baz=44
KVN Kaiserville 66.83 302 P P 22 19 26.6 -0.8
CUT Chulitna 66.86 335 P P 22 19 27.2 +0.3
baz=42
TPNV Topopah Spring 66.88 299 P P 22 19 27.5 -0.2
baz=54

H18K	**Honhosa River**	**67.00**	**340**	P	**P**	**22 19 28.6**	**+0.8**
	baz=36						
KNK	**Knik Glacier**	**67.02**	**334**	P	**P**	**22 19 28.6**	**+0.6**
	baz=43						
PDMCI	**Parker Dam,Lak**	**67.04**	**296**	P	**P**	**22 19 29.0**	**+0.5**
	baz=54						
PMR	**Palmer**	**67.11**	**334**	P	**P**	**22 19 28.9**	**+0.4**
	baz=42						
MZP	**Montezuma Peak**	**67.17**	**301**	IAmb	IAmb	22 19 30.8	
	comp=Z,6.0nm,0.9s						
NV11	**Mina Array Sit**	**67.23**	**302**	IAmb	IAmb	22 19 37.9	
	comp=Z,7.7nm,1.2s						
K20K	**Telida**	**67.27**	**337**	P	**P**	**22 19 28.3**	**-1.2**
	baz=39						
G17K	**Kiwalik Mounta**	**67.27**	**341**	P	**P**	**22 19 28.5**	**-1.0**
	baz=35						
GMN	**Gold Mountain**	**67.33**	**300**	P	**P**	**22 19 30.0**	**-0.6**
NVAR	**Mina Array Bea**	**67.33**	**302**	P	**P**	**22 19 30.4**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=58,slow=6.3,SNR=4.8						
	comp=Z,0.7nm,0.5s						
ZAA0	**Zalesovo Array**	**67.41**	**37**	P	**P**	**22 19 31.0**	**+0.5**
ZAA0				IAmb	IAmb	22 19 32.1	
	comp=Z,5.0nm,0.9s						
ZALV	**Zalesovo Beam**	**67.41**	**37**	P	**P**	**22 19 30.9**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=309,slow=7.5,SNR=15						
ZALV				LR	LR	22 49 08.3	
	comp=Z,50nm,19.2s,baz=300,slow=36						
	comp=Z,3.2nm,0.8s						
214A	**Organ Pipe Nat**	**67.52**	**293**	P	**P**	**22 19 32.1**	**+0.4**
	baz=54						
H17K	**Granite Mounta**	**67.56**	**341**	P	**P**	**22 19 31.7**	**+0.4**
	baz=35						
SKT	**Skwentna**	**67.57**	**336**	P	**P**	**22 19 31.7**	**+0.2**
	baz=41						
GRAC	**Grapevine Rang**	**67.58**	**300**	P	**P**	**22 19 32.2**	**+0.2**
	baz=54						
GWY	**Greenwater Val**	**67.60**	**299**	IAmb	IAmb	22 19 34.1	
	comp=Z,6.5nm,1.0s						
RC01	**Rabbit Creek A**	**67.68**	**334**	P	**P**	**22 19 32.3**	**+0.2**
	baz=42						
P23K	**Montague Islan**	**67.70**	**333**	P	**P**	**22 19 30.4**	**-1.9**
	baz=43						
G16K	**Koyuk River**	**67.76**	**342**	P	**P**	**22 19 31.9**	**-0.6**
	baz=34						
IRM	**Iron Mountain**	**67.80**	**296**	P	**P**	**22 19 33.7**	**+0.3**
	baz=53						
L20K	**Farewell, AK**	**67.89**	**337**	P	**P**	**22 19 33.5**	**0.0**
	baz=39						
J18K	**Innoko River**	**67.92**	**339**	P	**P**	**22 19 33.5**	**-0.1**
	baz=37						
TTA	**Tatalina**	**68.15**	**338**	P	**P**	**22 19 35.5**	**+0.3**
	baz=38						
HEC	**Hector,Ludlow**	**68.19**	**298**	P	**P**	**22 19 36.7**	**+0.8**
	baz=53						
MPMC	**Manual Prospec**	**68.21**	**299**	P	**P**	**22 19 37.3**	**+1.1**
	baz=53,SNR=5.9						
GSC	**Goldstone, Bar**	**68.22**	**298**	P	**P**	**22 19 36.5**	**+0.5**
	baz=53						
BC3	**Big Chuckawall**	**68.30**	**296**	P	**P**	**22 19 37.1**	**+0.5**
	baz=53						
SEW	**Seward**	**68.32**	**333**	P	**P**	**22 19 35.2**	**-0.9**
	baz=42						
BELC	**Belle Mtn. Jos**	**68.46**	**297**	P	**P**	**22 19 38.0**	**+0.3**
	baz=53						
G15K	**Niukluk**	**68.48**	**342**	P	**P**	**22 19 36.4**	**-0.7**
	baz=32						
F14K	**Arctic Creek**	**68.57**	**344**	P	**P**	**22 19 37.5**	**-0.1**
	baz=30						
ATAH	**Atahualpa**	**68.59**	**238**	LR	LR	22 46 45.8	
	comp=Z,50nm,19.9s,baz=17,slow=33						
BTK	**Batken**	**68.69**	**55**	IAmb	IAmb	22 19 41.4	
	comp=Z,17nm,1.8s						
CMB	**Columbia Colle**	**68.88**	**302**	IAmb	IAmb	22 19 48.1	
	comp=Z,12nm,1.2s						
SWSC	**Sam W. Stewart**	**68.96**	**296**	P	**P**	**22 19 40.8**	**+0.2**
	baz=53						
PFO	**Pinyon Flats O**	**69.00**	**297**	P	**P**	**22 19 41.5**	**+0.5**
	baz=53						
PFO	**Pinyon Flats O**	**69.00**	**297**	P	**P**	**22 19 40.1**	**-0.9**
	comp=Z,4.5nm,0.8s,baz=92,slow=3.6,SNR=3.9						
PFO				LR	LR	22 48 12.0	
	comp=Z,58nm,21.1s,baz=260,slow=34						
	comp=Z,4.5nm,0.8s						
TPFO	**Pinon Flats**	**69.00**	**297**	P	**P**	**22 19 41.2**	**+0.2**
	baz=53						
J16K	**Anvik River**	**69.09**	**340**	P	**P**	**22 19 41.0**	**+0.1**
	baz=34						
M18K	**Stony River**	**69.24**	**337**	P	**P**	**22 19 42.3**	**+0.4**
	baz=38						
EDW2	**Edwards Air Fo**	**69.25**	**299**	P	**P**	**22 19 43.0**	**+0.5**
	baz=53						
AAK	**Ala-Archa**	**69.30**	**51**	LR	LR	22 50 20.3	
	comp=Z,50nm,21.5s,baz=305,slow=36						
IKP	**In-Ko-Pah, Jac**	**69.34**	**296**	P	**P**	**22 19 43.2**	**+0.1**
	baz=53						
N19K	**Bonanza Creek**	**69.38**	**336**	P	**P**	**22 19 42.7**	**-0.2**
	baz=38						
MONP2	**Monument Peak**	**69.41**	**296**	P	**P**	**22 19 44.3**	**+0.6**
	baz=53						
M17K	**Holitna River**	**69.78**	**338**	P	**P**	**22 19 45.0**	**-0.2**
	baz=36						
LPAZ	**La Paz**	**70.02**	**224**	P	**P**	**22 19 46.7**	**-1.3**
LPAZ	**La Paz**	**70.02**	**224**	P	**P**	**22 19 49.2**	**+1.3**
	comp=Z,2.4nm,0.7s,baz=40,slow=6.0,SNR=6.5						
LPAZ				LR	LR	22 47 00.9	
	comp=Z,53nm,20.2s,baz=329,slow=33						
	comp=Z,2.4nm,0.7s						
LPIG	**La Paz**	**70.49**	**285**	LR	LR	22 48 08.9	
	comp=Z,27nm,21.5s,baz=4.5,slow=34						
WSAR	**Wadi Sarin**	**70.71**	**76**	LR	LR	22 54 10.8	
	comp=Z,26nm,18.3s,baz=52,slow=39						
MK31	**Makanchi Array**	**70.91**	**44**	P	**P**	**22 19 52.5**	**+0.1**
MK31				IAmb	IAmb	22 19 53.9	
	comp=Z,4.7nm,0.7s						
MKAR	**Makanchi Array**	**70.91**	**44**	P	**P**	**22 19 52.2**	**-0.2**
MKAR	**Makanchi Array**	**70.91**	**44**	P	**P**	**22 19 53.0**	**+0.6**
	comp=Z,7.5nm,0.8s,baz=313,slow=4.7,SNR=54						
MKAR				LR	LR	22 51 09.7	
	comp=Z,76nm,19.6s,baz=289,slow=36						
	comp=Z,7.5nm,0.8s						
KMBO	**Kilima Mbogo**	**70.94**	**110**	P	**P**	**22 19 54.0**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=51,slow=23,SNR=2.7						
	comp=Z,0.7nm,0.4s						
KDAK	**Kodiak Island**	**71.14**	**333**	P	**P**	**22 19 54.0**	**+0.4**
	baz=39						
L14K	**Kuka Creek**	**71.25**	**340**	P	**P**	**22 19 54.5**	**+0.3**
	baz=32						
NNA	**Nana**	**71.40**	**234**	LR	LR	22 49 27.5	
	comp=Z,22nm,19.7s,baz=8.5,slow=34						
O16K	**Kokwok River B**	**71.44**	**337**	P	**P**	**22 19 55.5**	**+0.2**
	baz=35						
Q17K	**Contact Creek**	**71.84**	**335**	P	**P**	**22 19 56.7**	**-1.2**
	baz=37						
KSH	**Kashi**	**72.13**	**53**	P	**P**	**22 20 02.4**	**+2.3**
KSH				sP	pwP	22 20 10.6	+4.0
KSH				pmax	pmax		
	comp=Z,27nm,0.9s						
TSUM	**Tsumeb**	**72.83**	**137**	LR	LR	22 50 32.3	
	comp=Z,39nm,18.4s,baz=336,slow=34						
PB08	**IPOC Station P**	**73.78**	**222**	IAmb	IAmb	22 20 13.1	
	comp=Z,16nm,1.0s						
LSZ	**Lusaka**	**75.52**	**126**	P	**P**	**22 20 20.8**	**+0.7**
LSZ	**Lusaka**	**75.52**	**126**	LR	LR	22 52 53.8	
	comp=Z,32nm,19.7s,baz=306,slow=35						
WMQ	**Urumqi**	**75.72**	**43**	*e*P	**P**	**22 20 23.4**	**+2.5**
WMQ				LR	LR		
	comp=Z,55nm,23.3s						
SONM	**Songino Array**	**80.98**	**30**	P	**P**	**22 20 50.0**	**0.0**
SONM	**Songino Array**	**80.98**	**30**	P	**P**	**22 20 49.5**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=310,slow=5.3,SNR=15						
	comp=Z,1.9nm,0.7s						
ULN	**Ulaanbaatar**	**81.20**	**30**	P	**P**	**22 20 51.3**	**+0.1**
LBTB	**Lobatse**	**81.78**	**134**	LR	LR	22 56 54.5	
	comp=Z,27nm,18.5s,baz=268,slow=35						
PYUN	**Piuthan**	**84.12**	**57**	*e*P	**P**	**22 21 06.6**	**-0.2**
	comp=Z,16nm,1.0s						
DANN	**Dangsing**	**84.43**	**57**	*e*P	**P**	**22 21 08.7**	**+0.2**
	comp=Z,20nm,0.9s						
BOSA	**Boshof**	**84.51**	**137**	P	**P**	**22 21 11.0**	**+2.6**
	comp=Z,5.2nm,1.1s,baz=77,slow=6.4,SNR=1.9						
	comp=Z,5.2nm,1.1s						
GTA	**Gaotai**	**85.01**	**39**	*e*P	**P**	**22 21 11.4**	**+0.4**
GTA				sP	pwP	22 21 18.4	+0.8
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HEH	**HeiHe**	**85.12**	**17**	*e*P	P	22 21 26.0	+15
HEH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HEH				pmax	pmax		
	comp=Z,190nm,4.8s						
PETK	**Petropavlovsk-**	**85.20**	**358**	P	**P**	**22 21 12.0**	**+0.4**
	comp=Z,7.3nm,0.9s,baz=46,slow=11,SNR=4.0						
	comp=Z,7.3nm,0.9s						
GKN	**Gorkha**	**85.22**	**56**	*e*P	**P**	**22 21 12.6**	**+0.3**
	comp=Z,30nm,1.2s						
DMN	**Daman**	**85.79**	**56**	*e*P	**P**	**22 21 16.0**	**+0.7**
	comp=Z,17nm,0.8s						
PKIN	**Phulchoki**	**85.99**	**56**	*e*P	**P**	**22 21 17.1**	**+0.8**
	comp=Z,9.7nm,0.7s						
PKI	**Pulchoki**	**86.00**	**56**	*e*P	**P**	**22 21 16.9**	**+0.5**
	comp=Z,18nm,1.1s						
GUN	**Gumba**	**86.05**	**56**	*e*P	**P**	**22 21 18.0**	**+1.3**
	comp=Z,43nm,1.0s						
JIRN	**Jiri**	**86.42**	**56**	*e*P	**P**	**22 21 19.7**	**+1.1**
	comp=Z,32nm,1.1s						
RAMN	**Ramite**	**87.19**	**56**	*e*P	**P**	**22 21 22.3**	**+0.2**
	comp=Z,8.2nm,0.7s						
XLT	**XiLinHaoTe**	**87.81**	**27**	*e*P	**P**	**22 21 23.4**	**-1.3**
XLT				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,81nm,4.5s						
HHC	**Hu-ho-hao-te**	**88.86**	**31**	*e*P	**P**	**22 21 28.7**	**-1.0**
HHC				sP	pwP	22 21 35.4	-0.9
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,150nm,6.4s						
LZH	**Lanzhou**	**89.57**	**39**	*e*P	**P**	**22 21 31.0**	**-2.2**
LZH				pP	pP	22 21 35.2	-0.2
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
PLCA	**Paso Flores**	**91.87**	**212**	P	**P**	**22 21 44.5**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=335,slow=17,SNR=1.8						
	comp=Z,1.0nm,0.7s						
PZH	**PanZhiHua**	**96.27**	**46**	P	**P**	**22 22 03.6**	**-0.6**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.1s						
KSRS	**Korea Array**	**97.30**	**21**	LR	LR	23 08 02.6	
	comp=Z,9.4nm,19.3s,baz=115,slow=37						
NJ2	**Nanjing**	**99.37**	**30**	*e*P	**Pdif**	**22 22 16.0**	**-1.8**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,350nm,3.8s						
VNDA	**Vanda**	**144.26**	**183**	PKPdf	**PKPdf**	**22 28 10.8**	**+0.8**
VNDA	**Vanda**	**144.26**	**183**	PKP	**PKPdf**	**22 28 11.2**	**+1.2**
	comp=Z,10nm,0.9s,baz=234,slow=2.6,SNR=29						
PSA00	**Pilbara Seismi**	**144.60**	**66**	PKPdf	PKPbc	22 28 11.4	+0.5
MORW	**Morawa**	**146.51**	**80**	PKPbc	**PKPbc**	**22 28 16.6**	**-0.1**
WB0	**Warramunga Arr**	**152.09**	**43**	PKPbc	**PKPbc**	**22 28 28.9**	**-2.2**
WRA	**Warramunga Arr**	**152.21**	**44**	PKPbc	**PKPbc**	**22 28 31.5**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=316,slow=2.4,SNR=12						
WRA				PKPab	**PKPab**	**22 28 39.8**	**-1.3**
	comp=Z,3.6nm,0.7s,baz=322,slow=2.9,SNR=19						
ASAR	**Alice Springs**	**154.99**	**49**	PKPbc	**PKPbc**	**22 28 35.4**	**-2.0**
ASAR	**Alice Springs**	**154.99**	**49**	PKP	**PKPdf**	**22 28 28.5**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=1.3,slow=3.2,SNR=4.9						
ASAR				PKPbc	**PKiKP**	**22 28 37.5**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=352,slow=1.9,SNR=4.8						
ASAR				PKPab	**PKPab**	**22 28 52.6**	**-0.2**
	comp=Z,5.7nm,0.7s,baz=330,slow=4.2,SNR=38						

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*JSN **04** 22:36:04.3±0.3, 18°.21N×76°.51W, h8km±12km, MD2.7*
*SSNC **04** 22:36:04.6±1.4, 18°.29N×76°.53W, h11km±13km, MD3.0, ML2.6, MW2.3*
ISC 04 22:36:02.7±1.6**, 18°.3N**±0°.1×**76°.52W**±0°.06**, h15**km±21km**,**
n15, σ0s.68/27**, 3D, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.33**	**218**	⇓*i*P	**Pg**	**22 36 09.4**	**-0.1**
STH	**Stony Hill**	**0.38**	**227**	⇓*i*P	**Pg**	**22 36 10.5**	**+0.1**
STH	**Stony Hill**	**0.38**	**227**	*e*P	**Pg**	**22 36 10.5**	**+0.1**
STH				*e*S	**Sg**	**22 36 15.2**	**-0.4**
HOJ	**Hope**	**0.40**	**214**	⇓*i*P	**Pg**	**22 36 10.2**	**-0.4**
MTDJ	**Mount Denham**	**0.97**	**264**	*i* P	**Pb**	**22 36 21.6**	**+0.3**
MTDJ				*i* S	**Sb**	**22 36 34.5**	**+0.5**
MTDJ	**Mount Denham**	**0.97**	**264**	*e*P	**Pb**	**22 36 21.3**	**0.0**
MTDJ				*e*S	**Sb**	**22 36 34.0**	**0.0**
MTDJ				IAML		22 36 36.4	
	106nm,0.2s						
MTDJ				IAML		22 36 36.9	
	comp=Z,89nm,0.1s						
CHIV	**Chivirico**	**1.64**	**3**	*e*P	**Pn**	**22 36 31.0**	**0.0**
CHIV				*e*S	**Sn**	**22 36 51.3**	**-0.5**
MARVS	**Santiago de Cu**	**1.75**	**19**	*e*P	**Pn**	**22 36 33.1**	**+0.5**
MARVS				*e*S	**Sn**	**22 36 53.7**	**-1.0**
MARVS				IAML		22 36 56.6	
	comp=E,13nm,0.2s						
MARVS				IAML		22 36 56.6	
	comp=N,19nm,0.2s						
PILO	**Pilon**	**1.78**	**332**	*e*P	**Pn**	**22 36 33.1**	**+0.2**
PILO				*e*S	**Sn**	**22 36 54.0**	**-1.3**
PILO				IAML		22 36 56.0	
	comp=N,63nm,0.3s						
PILO				IAML		22 36 56.7	
	comp=E,34nm,0.2s						
LMGC	**Las Mercedes**	**1.78**	**345**	*e*P	**Pn**	**22 36 34.5**	**+1.6**
LMGC				*e*S	**Sn**	**22 36 54.5**	**-0.8**
LMGC				IAML		22 36 56.5	
	comp=N,54nm,0.1s						
LMGC				IAML		22 36 56.8	
	comp=E,58nm,0.1s						
RCC	**Rio Carpintero**	**1.82**	**25**	*e*P	**Pn**	**22 36 34.6**	**+1.0**
RCC				*e*S	**Sn**	**22 36 56.2**	**-0.2**
GTBY	**Guantanamo Bay**	**2.07**	**40**	*e*P	**Pn**	**22 36 37.4**	**+0.6**
GTBY				*e*S	**Sn**	**22 37 02.0**	**-0.4**
GTBY				IAML		22 37 05.4	
	comp=E,15nm,0.1s						
GTBY				IAML		22 37 05.6	
	comp=E,23nm,0.2s						
GTMO	**Guantanamo**	**2.17**	**37**	*e*P	**Pn**	**22 36 38.8**	**+0.5**
GTMO				*e*S	**Sn**	**22 37 04.2**	**-0.7**
GTMO				IAML		22 37 07.9	
	comp=E,627nm,0.2s						
GTMO				IAML		22 37 09.0	
	comp=N,567nm,0.2s						
PINC	**Pinares de May**	**2.25**	**18**	*e*P	**Pn**	**22 36 39.7**	**+0.3**
PINC				*e*S	**Sn**	**22 37 06.9**	**+0.1**
NMDO	**Nuevo Mundo**	**2.64**	**33**	*e*P	**Pn**	**22 36 45.2**	**+0.4**
NMDO				*e*S	**Sn**	**22 37 15.8**	**-0.9**
NMDO				IAML		22 37 24.6	
	comp=N,8.9nm,0.1s						
NMDO				IAML		22 37 24.7	
	comp=E,14nm,0.2s						

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*NOU **04** 22:39:00.3, 39°.82S×174°.40E, h119km, MLv3.6/8, North Island, New Zealand*
*WEL **04** 22:39:02.9±0.7, 40°S±3°×17°4E±°, h101km±6km, M3.0/12, ML3.4/8, MLv3.0/12, Error ellipse: s-maj=0.0km s-min=0.0km az=131.4, confirmed*
ISC 04 22:38:59.7±1.5**, 39°.86S**±0°.04×**174°.43E**±0°.04**, h133**km±9km**,**
n73, σ1s.10/96**, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.40**	**357**	P	**Pn**	**22 39 19.9**	**+1.4**
LREZ				S	**Sn**	**22 39 32.9**	**+0.1**
PREZ	**Palmer Road**	**0.56**	**338**	P	**Pn**	**22 39 20.3**	**+0.8**
PREZ				S	**Sn**	**22 39 34.0**	**-0.4**
NMEZ	**Namu Road**	**0.62**	**316**	P	**Pn**	**22 39 20.5**	**+0.8**
NMEZ				S	**Sn**	**22 39 34.7**	**-0.2**
NEZ	**North Egmont**	**0.64**	**336**	P	**Pn**	**22 39 21.0**	**+1.0**
NEZ				S	**Sn**	**22 39 33.2**	**-2.3**
KHEZ	**Kahui Hut**	**0.65**	**330**	P	**Pn**	**22 39 19.7**	**-0.4**
KHEZ	**Kahui Hut**	**0.65**	**330**	P	**Pn**	**22 39 20.9**	**+0.9**
KHEZ				S	**Sn**	**22 39 33.3**	**-2.2**
PKE	**Pukeiti**	**0.75**	**333**	P	**Pn**	**22 39 21.9**	**+1.2**
PKE				S	**Sn**	**22 39 35.2**	**-1.4**
PKVZ	**Pokaka**	**0.91**	**51**	P	**Pn**	**22 39 22.9**	**+0.8**
PKVZ				S	**Sn**	**22 39 37.9**	**-1.2**
MTVZ	**Mangateitei**	**0.94**	**60**	P	**Pn**	**22 39 23.2**	**+0.9**
MTVZ				S	**Sn**	**22 39 38.7**	**-0.8**
DUWZ	**D'Urville Isla**	**1.02**	**202**	P	**Pn**	**22 39 24.2**	**+1.2**
DUWZ				S	**Sn**	**22 39 40.0**	**-0.7**
TRVZ	**Turoa**	**1.03**	**57**	P	**Pn**	**22 39 24.1**	**+0.7**
TRVZ				S	**Sn**	**22 39 41.2**	**-0.1**
WNVZ	**Wahianoa**	**1.05**	**60**	P	**Pn**	**22 39 24.3**	**+0.8**
WNVZ				S	**Sn**	**22 39 40.3**	**-1.2**
MAVZ	**Matarangi**	**1.06**	**56**	P	**Pn**	**22 39 24.4**	**+0.7**
MAVZ				S	**Sn**	**22 39 41.1**	**-0.8**
FWVZ	**Far West T-bar**	**1.06**	**56**	P	**Pn**	**22 39 24.3**	**+0.7**
FWVZ				S	**Sn**	**22 39 40.6**	**-1.2**
WHVZ	**Whangaehu Hut**	**1.07**	**58**	P	**Pn**	**22 39 24.5**	**+0.9**
WHVZ				S	**Sn**	**22 39 40.8**	**-1.1**
COVZ	**Chateau Observ**	**1.09**	**53**	P	**Pn**	**22 39 24.6**	**+0.8**
TWVZ	**Taurewa**	**1.11**	**45**	P	**Pn**	**22 39 24.7**	**+0.7**
TWVZ				S	**Sn**	**22 39 42.6**	**+0.2**
TUVZ	**Tukino**	**1.12**	**58**	P	**Pn**	**22 39 25.2**	**+1.1**
TUVZ				S	**Sn**	**22 39 41.7**	**-0.9**
MOVZ	**Moawhango**	**1.12**	**66**	P	**Pn**	**22 39 24.5**	**+0.5**
MOVZ				S	**Sn**	**22 39 40.3**	**-2.2**
NGZ	**Ngauruhoe**	**1.14**	**53**	P	**Pn**	**22 39 25.0**	**+0.7**
KATZ	**Kakaramea**	**1.32**	**48**	P	**Pn**	**22 39 27.2**	**+1.1**
CAW	**Cannon Point**	**1.34**	**159**	P	**Pn**	**22 39 27.5**	**+1.4**
CAW				S	**Sn**	**22 39 46.4**	**0.0**
DVHZ	**Dannevirke**	**1.40**	**109**	P	**Pn**	**22 39 27.9**	**+1.0**
DVHZ				S	**Sn**	**22 39 46.0**	**-1.6**
RITZ	**Rihia Road**	**1.42**	**52**	P	**Pn**	**22 39 28.3**	**+1.2**
RATZ	**Rangitukua**	**1.44**	**47**	P	**Pn**	**22 39 28.7**	**+1.3**
SNZO	**South Karori**	**1.46**	**172**	P	**Pn**	**22 39 27.4**	**-0.1**
KRHZ	**Kereru**	**1.51**	**82**	P	**Pn**	**22 39 29.1**	**+1.0**
KRHZ				S	**Sn**	**22 39 48.9**	**-0.9**
KHLK	**Kaihoka Lakes**	**1.56**	**243**	P	**Pn**	**22 39 29.5**	**+1.0**
KHLK				S	**Sn**	**22 39 49.0**	**-1.6**
BHW	**Baring Head**	**1.58**	**168**	P	**Pn**	**22 39 30.0**	**+1.2**
BHW				S	**Sn**	**22 39 51.2**	**+0.1**
KWHZ	**Kaweka Forest**	**1.60**	**75**	P	**Pn**	**22 39 30.6**	**+1.5**
TUWZ	**Tuamarina**	**1.61**	**193**	P	**Pn**	**22 39 30.3**	**+1.2**
TUWZ				S	**Sn**	**22 39 51.7**	**+0.1**
QRZ	**Quartz Range**	**1.74**	**236**	P	**Pn**	**22 39 31.3**	**+0.6**
MCHZ	**McNeill Hill**	**1.80**	**77**	P	**Pn**	**22 39 33.0**	**+1.6**
MRHZ	**Matea Rd**	**1.85**	**57**	P	**Pn**	**22 39 32.6**	**+0.5**
MRHZ				S	**Sn**	**22 39 56.4**	**-0.5**
BSWZ	**Blackbirch Sta**	**1.90**	**193**	P	**Pn**	**22 39 34.4**	**+1.9**
NMHZ	**Naumai**	**1.99**	**68**	P	**Pn**	**22 39 33.5**	**-0.3**
CKHZ	**Cape Kidnapper**	**2.05**	**85**	P	**Pn**	**22 39 35.9**	**+1.6**
MTHZ	**Maungataniwha**	**2.12**	**62**	P	**Pn**	**22 39 35.9**	**+0.6**
THZ	**Tophouse**	**2.22**	**211**	P	**Pn**	**22 39 37.7**	**+1.2**
OPRZ	**Ohinepanea**	**2.61**	**40**	P	Pn	22 39 48.0	+6.7
URZ	**Urewera**	**2.63**	**53**	P	**Pn**	**22 39 41.9**	**+0.3**
URZ	**Urewera**	**2.63**	**53**	P	**Pn**	**22 39 41.1**	**-0.5**
KHZ	**Kahutara**	**2.64**	**194**	P	**Pn**	**22 39 43.1**	**+1.5**
KNZ	**Kokohu**	**2.65**	**73**	P	**Pn**	**22 39 42.1**	**+0.3**
DSZ	**Denniston Nort**	**2.74**	**226**	P	**Pn**	**22 39 43.9**	**+0.9**
MHGZ	**Mahia Peninsul**	**2.78**	**76**	P	**Pn**	**22 39 44.3**	**+0.8**
MKAZ	**Moumakai**	**2.81**	**12**	P	**Pn**	**22 39 45.5**	**+1.5**
PRGZ	**Paritu Road**	**2.84**	**72**	P	**Pn**	**22 39 44.6**	**+0.4**
MWZ	**Matawai**	**2.85**	**59**	P	**Pn**	**22 39 44.7**	**+0.2**
WIAZ	**Waiheke Island**	**3.11**	**10**	P	**Pn**	**22 39 49.7**	**+1.9**
RUGZ	**Raukumara Rang**	**3.16**	**54**	P	**Pn**	**22 39 48.7**	**+0.1**
WIZ	**White Island**	**3.18**	**44**	P	**Pn**	**22 39 52.5**	**+3.8**
TWGZ	**Tauwhareparae**	**3.24**	**60**	P	**Pn**	**22 39 50.2**	**+0.7**
CNGZ	**Carnagh Statio**	**3.24**	**66**	P	**Pn**	**22 39 50.1**	**+0.6**
GVZ	**Greta Valley S**	**3.27**	**198**	P	**Pn**	**22 39 50.4**	**+0.5**
LTZ	**Lake Taylor**	**3.34**	**208**	P	**Pn**	**22 39 52.5**	**+1.8**
HAZ	**Te Kaha**	**3.36**	**52**	P	**Pn**	**22 39 53.1**	**+2.1**
PKGZ	**Pakihiroa**	**3.46**	**56**	P	**Pn**	**22 39 52.8**	**+0.4**
INZ	**Inchbonnie**	**3.64**	**217**	P	**Pn**	**22 39 55.3**	**+0.7**
OXZ	**Oxford**	**3.90**	**207**	P	**Pn**	**22 39 58.4**	**+0.4**
MQZ	**McQueen's Vall**	**4.06**	**198**	P	**Pn**	**22 39 59.4**	**-0.8**
AKCZ	**Akaroa Harbour**	**4.17**	**195**	P	**Pn**	**22 40 01.1**	**-0.5**
RACZ	**Rakaia**	**4.22**	**203**	P	**Pn**	**22 40 01.9**	**-0.5**
MHCZ	**Mount Hutt**	**4.25**	**209**	P	**Pn**	**22 40 03.3**	**+0.6**
RPZ	**Rata Peaks**	**4.60**	**212**	P	**Pn**	**22 40 08.7**	**+1.3**
RPZ	**Rata Peaks**	**4.60**	**212**	P	**Pn**	**22 40 08.2**	**+0.8**
GCSZ	**Gaunt Creek Bo**	**4.62**	**220**	P	**Pn**	**22 40 07.8**	**+0.2**
ARCZ	**Arundel**	**4.75**	**210**	P	**Pn**	**22 40 09.3**	**-0.1**
TMZ	**Timaru**	**5.18**	**208**	P	**Pn**	**22 40 15.2**	**0.0**
ODZ	**Otahua Downs**	**5.89**	**207**	P	**Pn**	**22 40 25.1**	**+0.5**
ODZ	**Otahua Downs**	**5.89**	**207**	P	**Pn**	**22 40 24.9**	**+0.4**
JCZ	**Jackson Bay**	**5.95**	**223**	P	**Pn**	**22 40 25.5**	**0.0**
JCZ	**Jackson Bay**	**5.95**	**223**	P	**Pn**	**22 40 25.1**	**-0.4**

IDC 04 22:40:03.6±2.0**, 2°.88N×128°.44E, h0**km**, mb3.7**/4**, mbtmp3.7**/4**, Error ellipse: s-maj=144.0km s-min=24.0km az=67.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.41**	**166**	P	P	22 45 14.4	+0.1
	1.4nm,0.4s,baz=345,slow=10,SNR=7.1						
	1.4nm,0.4s						
ASAR	**Alice Springs**	**26.91**	**169**	P	P	22 45 46.3	-0.4
	0.3nm,0.5s,baz=356,slow=10,SNR=2.4						
	0.3nm,0.5s						
STKA	**Stephens Creek**	**36.75**	**161**	P	P	22 47 12.7	-0.2
	1.2nm,0.5s,baz=343,slow=11,SNR=3.7						
	1.2nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**40.53**	**65**	T	T	23 31 10.4	
	baz=251						
H11S2	**WAKE ISLAND Hy**	**40.55**	**65**	T	T	23 31 11.5	
	baz=251						
H11S1	**WAKE ISLAND Hy**	**40.55**	**65**	T	T	23 31 14.7	
	baz=251						
H11N1	**WAKE ISLAND Hy**	**41.10**	**63**	T	T	23 31 46.9	
	baz=250,slow=74						
H11N2	**WAKE ISLAND Hy**	**41.11**	**63**	T	T	23 31 49.7	
	baz=250						
H11N3	**WAKE ISLAND Hy**	**41.12**	**63**	T	T	23 31 46.5	
	baz=250,slow=74						
MKAR	**Makanchi Array**	**59.23**	**325**	P	P	22 50 07.0	+0.2
	0.3nm,0.4s,baz=112,slow=8.2,SNR=8.0						
	0.3nm,0.4s						

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*IDC **04** 22:53:12.6±2.0, 1°.45S×77°.88W, h140km±19km, mb3.6/14, mbtmp4.0/18, MS2.6/1, Error ellipse: s-maj=20.6km s-min=11.9km az=64.0*
*NEIC **04** 22:53:14.0±2.0, 1°.66S±0°.05×78°.05W±0°.09, h149km±7km, mb4.3/54, Error ellipse: s-maj=12.8km s-min=7.7km az=83.0*
ISC 04 22:53:13.3±0.4**, 1°.67S**±0°.04×**78°.14W**±0°.05**, h150**km**, n123,**
σ**1s.38**/132**, mb4.2**/36**, 4C-1D, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIAT	**Ana Tenorio**	**0.68**	**349**	⇓*i*P	**Pn**	**22 53 37.4**	**+1.3**
CHSH	**Refugio Sur-Vo**	**0.75**	**283**		**Pn**	**22 53 38.0**	**+1.1**
SLOR	**San Lorenzo -**	**1.00**	**339**	Pn	**Pn**	**22 53 40.2**	**+1.6**
COHC	**Cochancay**	**1.37**	**235**	Pn	**Pn**	**22 53 42.4**	**+0.8**
COHC	**Cochancay**	**1.37**	**235**	⇑*e*P	**Pn**	**22 53 42.1**	**+0.6**
COHC				*e*S	**Sn**	**22 54 04.8**	**+1.7**
BOSC	**San Juan Bosco**	**1.52**	**194**	Pn	**Pn**	**22 53 45.2**	**+2.0**
PULU	**Pululahua**	**1.72**	**348**	Pn	**Pn**	**22 53 46.2**	**+0.5**
OTAV	**Otavalo**	**1.92**	**351**	Pn	**Pn**	**22 53 48.5**	**+0.5**
OTAV	**Otavalo**	**1.92**	**351**	*e*P	**Pn**	**22 53 48.5**	**+0.5**
OTAV				*e*S	**Sn**	**22 54 14.5**	**-0.1**
IMBA	**Imbabura, San**	**1.93**	**358**	Pn	**Pn**	**22 53 49.4**	**+1.2**
BONI	**La Bonita**	**2.19**	**16**	⇑*e*P	**Pn**	**22 53 51.9**	**+0.9**
BONI				*e*S	**Sn**	**22 54 20.0**	**0.0**
BONI				*i*		22 54 23.4	
	comp=Z,42nm,0.7s						
TULM	**Tulcn-Chalpat**	**2.39**	**8**	Pn	**Pn**	**22 53 55.0**	**+1.4**
TULM	**Tulcn-Chalpat**	**2.39**	**8**	*e*P	**Pn**	**22 53 54.9**	**+1.4**
PPLP	**Puerto Lpez**	**2.64**	**273**	*e*P	**Pn**	**22 53 55.8**	**-0.4**
PPLP				*e*S	**Sn**	**22 54 25.3**	**-4.0**
ARNL	**Arenillas**	**2.68**	**226**	Pn	**Pn**	**22 53 55.2**	**-1.5**
SALI	**Salinas**	**2.90**	**260**	Pn	**Pn**	**22 53 58.4**	**-1.0**
GCUF	**Volcan Galeras**	**2.98**	**15**	*e*P	**Pn**	**22 54 02.4**	**+1.5**
MCRA	**Macar, Loja**	**3.24**	**214**	Pn	**Pn**	**22 54 02.4**	**-1.4**
MCRA	**Macar, Loja**	**3.24**	**214**	⇑*e*P	**Pn**	**22 54 02.5**	**-1.3**
MCRA				*e*S	**Sn**	**22 54 41.3**	**-1.6**
CRUC	**La Cruz**	**3.42**	**20**	*e*P	**Pn**	**22 54 07.9**	**+1.4**
BBAC	**Balboa, Cauca**	**3.77**	**14**	*e*P	**Pn**	**22 54 10.9**	**+0.1**
BBAC				*e*S	**Sn**	**22 54 56.0**	**+0.6**
BBAC				*i*		22 55 07.1	
	comp=Z,28nm,0.4s						
PTLC	**Puerto Leguiza**	**3.81**	**61**	*e*P	**Pn**	**22 54 09.6**	**-1.5**
FLOC	**Florencia**	**4.07**	**38**	⇑*e*P	**Pn**	**22 54 14.6**	**0.0**
POPC	**Popayan, Colom**	**4.43**	**19**	*e*P	**Pn**	**22 54 19.3**	**-0.1**
GARC	**Garzon, Huila**	**4.65**	**35**	*e*P	**Pn**	**22 54 22.9**	**+0.5**
JAMC	**Jamundi, Valle**	**5.07**	**17**	*e*P	**Pn**	**22 54 27.5**	**-0.4**
JAMC				*e*S	**Sn**	**22 55 24.6**	**-1.4**
BETC	**Betania**	**5.09**	**32**	*e*P	**Pn**	**22 54 29.8**	**+1.8**
ATAH	**Atahualpa**	**5.44**	**183**	P	**Pn**	**22 54 34.8**	**+1.9**
	comp=Z,28nm,0.5s,baz=19,slow=10,SNR=29						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ATAH				S	Sn	22 55 33.6	-1.5
	comp=Z,37nm,0.6s,baz=306,slow=7.6,SNR=3.9						
YOTC	Yotoco, Valle	5.89	18	eP	Pn	22 54 36.3	-2.5
ORTC	Ortega, Tolima	6.25	28	eP	Pn	22 54 43.7	+0.3
PRAC	Prado	6.25	31	eP	Pn	22 54 42.7	-0.8
PLMC	San Jos del P	6.79	16	eP	Pn	22 54 47.5	-3.2
VILC	Villavicencio,	7.26	38	eP	Pn	22 54 58.5	+1.6
GUY2C	Guyana, Caldas	7.38	22	eP	Pn	22 54 56.2	-2.7
ROSC	El Rosal	7.50	31	P	Pn	22 54 55.0	-5.5
	comp=Z,5.4nm,0.4s,baz=262,slow=23,SNR=1.5						
CHIC	Chingaza	7.65	35	eP	Pn	22 55 06.1	+3.6
CBOC	Ciudad Bolivar	7.78	16	eP	Pn	22 55 01.7	-2.3
CZSB	Cruzeiro do Su	8.10	138	Pn	Pn	22 55 07.1	-1.0
RUSC	La Rusia	9.05	34	eP	Pn	22 55 23.5	+2.4
BARC	Barichara	9.58	31	eP	Pn	22 55 29.4	+1.4
ZARC	Zaragoza, Cauc	9.67	20	eP	Pn	22 55 29.0	0.0
NNA	Nana	10.33	173	P	Pn	22 55 40.4	+2.6
	comp=Z,5.4nm,0.3s,baz=351,slow=5.3,SNR=2.0						
NNA				S	Sn	22 57 27.3	-5.0
	comp=Z,11nm,0.4s,baz=327,slow=18,SNR=3.7						
NNA				LR	LR	23 00 50.6	
	comp=Z,36nm,21.1s,baz=238,slow=44						
LCR2	La Lucha 2	12.75	333		P	22 56 17.2	+2.4
ETMB	Extrema	14.36	125		Pn	22 56 27.6	-2.2
BAUV	El Baul	14.57	44		P	22 56 34.0	-0.8
SAML	Samuel	16.55	116		P	22 56 55.5	-1.3
SAML				IAmb	IAmb	22 56 60.0	
	comp=Z,11nm,0.6s						
MACA	Manacapuru-AM	17.50	95	P	Pn	22 57 07.9	-0.5
LPAZ	La Paz	17.56	146	P	Pn	22 57 09.6	+0.1
LPAZ	La Paz	17.56	146	P	Pn	22 57 09.7	+0.1
	comp=Z,1.3nm,0.5s,baz=333,slow=10,SNR=7.2						
BOAV	Boa Vista	18.07	77	P	Pn	22 57 14.3	-0.8
PB16	IPOC Station P	18.60	153	P	Pn	22 57 22.4	+0.5
MTO3	Montecristo	19.45	326	P	Pn	22 57 31.2	-0.2
MTO3				IAmb	IAmb	22 57 31.9	
	comp=Z,13nm,0.8s						
PB11	IPOC Station P	19.80	156	P	Pn	22 57 35.0	-0.6
PB11				IAmb	IAmb	22 57 38.1	
	comp=Z,13nm,0.9s						
GO01	Chusmiza	19.92	155	P	Pn	22 57 35.8	-1.4
GO01				IAmb	IAmb	22 57 42.4	
	comp=Z,9.4nm,1.1s						
PB02	IPOC Station P	21.12	158	P	P	22 57 49.9	+3.4
PB02				IAmb	IAmb	22 58 08.6	
	comp=Z,19nm,1.1s						
SIV	San Ignacio	22.03	131	P	P	22 57 55.6	-0.5
	comp=Z,1.6nm,0.6s,baz=313,slow=8.8,SNR=8.0						
	comp=Z,1.6nm,0.6s						
ROC1	El Roble	31.86	169	P	P	22 59 26.4	+1.9
PLPT	Palo Pinto	39.24	333	P	P	23 00 27.7	+0.4
PLPT				IAmb	IAmb	23 00 29.0	
	comp=Z,8.9nm,0.6s						
TXAR	Lajitas Array	39.33	324	P	P	23 00 28.9	+0.7
	comp=Z,0.5nm,0.5s,baz=147,slow=8.7,SNR=10						
	comp=Z,0.5nm,0.5s						
PLCA	Paso Flores	39.49	171	P	P	23 00 30.4	+1.1
PLCA				IAmb	IAmb	23 00 32.3	
	comp=Z,3.8nm,0.9s						
PLCA	Paso Flores	39.49	171	P	P	23 00 30.6	+1.3
	comp=Z,2.2nm,0.7s,baz=355,slow=10,SNR=7.3						
PLCA				pP	pP	23 01 04.5	+2.1
	comp=Z,1.1nm,0.6s,baz=314,slow=8.3,SNR=3.1						
	comp=Z,2.2nm,0.7s						
ALPN	Alpine	40.08	325	P	P	23 00 35.4	+1.0
ALPN				IAmb	IAmb	23 00 36.7	
	comp=Z,4.8nm,1.0s						
425A	Indio Mountain	41.17	324	P	P	23 00 44.7	+1.4
425A				IAmb	IAmb	23 00 45.4	
	comp=Z,4.9nm,0.9s						
SMWD	Samnorwood	42.03	333	P	P	23 00 51.9	+1.7
SMWD				IAmb	IAmb	23 00 52.1	
	comp=Z,18nm,0.6s						
ANMO	Albuquerque	45.06	327	P	P	23 01 16.4	+1.8
ANMO				IAmb	IAmb	23 01 17.0	
	comp=Z,5.1nm,0.8s						
TUC	Tucson	45.79	320	P	P	23 01 21.6	+1.4
SDCO	Great Sand Dun	46.68	330	P	P	23 01 28.8	+1.5
SDCO				IAmb	IAmb	23 01 29.7	
	comp=Z,4.6nm,0.9s						
X16A	Lo Mia Camp, P	47.59	322	P	P	23 01 35.0	+0.6
LMN	Caledonia Moun	48.77	12	P	P	23 01 42.8	-0.1
W13A	Hualapai Mount	49.56	321	P	P	23 01 51.4	+2.0
W13A				IAmb	IAmb	23 01 52.1	
	comp=Z,2.9nm,0.6s						
EYMN	Ely	50.77	348	P	P	23 01 56.6	-1.4
PDAR	Pinedale Array	52.51	331	P	P	23 02 11.5	+0.2
	comp=Z,0.5nm,0.6s,baz=131,slow=11,SNR=5.2						
	comp=Z,0.5nm,0.6s						
R11B	Troy Canyon, C	52.69	323	P	P	23 02 14.1	+1.4
ULM	Lac du Bonnet	53.91	346	P	P	23 02 19.6	-1.5
	comp=Z,3.3nm,0.5s,baz=165,slow=6.5,SNR=6.7						
	comp=Z,3.3nm,0.5s						
NVAR	Mina Array Bea	54.41	321	P	P	23 02 25.5	+0.3
	comp=Z,0.8nm,0.5s,baz=126,slow=6.6,SNR=5.4						
	comp=Z,0.8nm,0.5s						
KVN	Kaiserville	54.66	322	P	P	23 02 27.8	+0.8
I07A	Izee	58.63	326	P	P	23 02 56.5	+1.7
G08A	Pilot Rock	59.10	327	P	P	23 02 59.4	+1.3
G08A				IAmb	IAmb	23 03 00.1	
	comp=Z,3.7nm,0.8s						
KSXB	Camp Six Broad	59.86	322	P	P	23 03 04.2	+0.9
K02D	Willamette Mer	60.22	323	P	P	23 03 05.3	-0.4
YKA	Yellowknife Ar	69.66	343	P	P	23 04 05.5	-0.7
	comp=Z,0.5nm,0.6s,baz=140,slow=5.7,SNR=9.5						
	comp=Z,0.5nm,0.6s						
DBIC	Dimbokro	73.60	83	P	P	23 04 29.9	-0.9
DBIC				IAmb	IAmb	23 04 40.0	
	comp=Z,10.0nm,1.3s						
DBIC	Dimbokro	73.60	83	P	P	23 04 29.9	-0.9
	comp=Z,1.7nm,0.3s,baz=256,slow=3.4,SNR=14						
	comp=Z,1.7nm,0.3s						
M31M	Drury Creek, Y	76.42	336	P	P	23 04 47.2	+1.1
M29M	Somme Creek	78.20	336	P	P	23 04 57.1	+1.0
L29M	L29M	78.37	336	P	P	23 04 57.9	+1.0
J30M	Hart River	78.38	338	P	P	23 04 58.6	+1.6
J30M				IAmb	IAmb	23 05 30.3	
	comp=Z,7.1nm,1.4s						
K29M	Barlow Dome	78.48	337	P	P	23 04 58.1	+0.5
K29M				IAmb	IAmb	23 05 02.4	
	comp=Z,4.5nm,1.1s						
G31M	Satah River	78.87	341	P	P	23 05 00.1	+0.6
G31M				IAmb	IAmb	23 05 01.4	
	comp=Z,5.9nm,0.8s						
ESDC	Sonseca Array	78.93	49	P	P	23 05 00.3	-0.2
	comp=Z,0.3nm,0.7s,baz=277,slow=4.1,SNR=4.8						
	comp=Z,0.3nm,0.7s						
INK	Inuvik	79.38	342	P	P	23 05 02.9	+0.7
INK				IAmb	IAmb	23 05 03.8	
	comp=Z,5.2nm,0.9s						
A36M	Sachs Harbour	79.39	347	P	P	23 05 01.9	-0.2
H29M	Whitestone	79.93	339	P	P	23 05 05.8	+0.5
H29M				IAmb	IAmb	23 05 13.4	
	comp=Z,7.3nm,1.4s						
G29M	Pine Creek	80.14	340	P	P	23 05 07.5	+1.1
G29M				IAmb	IAmb	23 05 08.1	
	comp=Z,6.6nm,0.9s						
I28M	Miner Creek	80.15	338	P	P	23 05 07.1	+0.5
I28M				IAmb	IAmb	23 05 46.8	
	comp=Z,9.7nm,1.5s						
TOA0	Torodi Ar. Sit	80.48	76	P	P	23 05 08.1	-1.1
TORD	Torodi Ar. Bea	80.48	76	P	P	23 05 07.8	-1.4
TORD	Torodi Ar. Bea	80.48	76	P	P	23 05 07.7	-1.6
	comp=Z,0.9nm,0.3s,baz=283,slow=5.3,SNR=19						
	comp=Z,0.9nm,0.3s						
E29M	Blow River	80.81	341	P	P	23 05 10.2	+0.3
E29M				IAmb	IAmb	23 05 11.3	
	comp=Z,3.4nm,0.9s						
SCRK	Sand Creek	81.11	336	P	P	23 05 12.1	+0.3
SCRK				IAmb	IAmb	23 05 43.7	
	comp=Z,9.1nm,1.4s						
J26L	Joseph Creek	81.15	337	P	P	23 05 12.6	+0.7
J26L				IAmb	IAmb	23 05 13.4	
	comp=Z,4.0nm,0.6s						
G27K	Doyon Strip	81.37	339	P	P	23 05 12.8	-0.2
J25K	Salcha River,	81.91	336	P	P	23 05 16.7	+0.8
E27K	Coleen River	81.94	340	P	P	23 05 16.5	+0.5
E27K				IAmb	IAmb	23 05 25.7	
	comp=Z,5.4nm,1.4s						
HDA	Harding Lake	82.48	336	P	P	23 05 18.8	+0.1
IL31		82.58	336	P	P	23 05 18.9	-0.3
IL31				IAmb	IAmb	23 05 37.4	
	comp=Z,6.6nm,1.4s						
ILAR	Eielson Array	82.58	336	P	P	23 05 19.1	-0.2
	comp=Z,1.0nm,0.5s,baz=145,slow=4.3,SNR=21						
	comp=Z,1.0nm,0.5s						
BMAR	Burnt Mountain	82.67	339	P	P	23 05 20.4	+0.6
EKA	Eskdalemuir Ar	82.86	34	P	P	23 05 19.8	-1.1
	comp=Z,0.4nm,0.5s,baz=250,slow=3.7,SNR=3.5						
	comp=Z,0.4nm,0.5s						
MDM	Murphy Dome	83.18	336	P	P	23 05 22.3	-0.1
MDM				IAmb	IAmb	23 05 23.3	
	comp=Z,8.5nm,1.3s						
E25K	Arctic Village	83.28	340	P	P	23 05 23.8	+0.9
I23K	Minto, Yukon-K	83.70	336	P	P	23 05 25.2	+0.3
I23K				IAmb	IAmb	23 05 36.9	
	comp=Z,6.6nm,1.3s						
SNAA	Sanae	83.82	162	P	P	23 05 26.4	+0.8
	comp=Z,0.8nm,0.6s,baz=300,slow=17,SNR=1.7						
	comp=Z,0.8nm,0.6s						
D25K	Kavik River	83.99	341	P	P	23 05 27.1	+0.7
D25K				IAmb	IAmb	23 05 28.0	
	comp=Z,4.0nm,0.8s						
CAST	Castle Rocks	84.34	334	P	P	23 05 28.2	-0.1
QSPA	South Pole Qui	88.40	180	P	P	23 05 49.8	+1.6
	comp=Z,2.5nm,0.9s,baz=160,slow=1.7,SNR=6.0						
	comp=Z,2.5nm,0.9s						
ZALV	Zalesovo Beam	126.03	12	PKP	PKPdf	23 11 57.4	-0.2
	comp=Z,0.6nm,0.4s,baz=332,slow=1.1,SNR=5.1						
KURBB	Kurchatov Arra	127.37	19	PKP	PKiKP	23 12 00.4	-0.4
	comp=Z,0.9nm,0.6s,baz=323,slow=2.3,SNR=13						
MKAR	Makanchi Array	131.92	18	PKP	PKPdf	23 12 08.2	-0.9
	comp=Z,0.4nm,0.6s,baz=283,slow=3.6,SNR=7.3						
SONM	Songino Array	133.84	356	PKP	PKPdf	23 12 11.5	-1.4
	comp=Z,0.4nm,0.7s,baz=0.0,slow=0.7,SNR=2.7						
ASAR	Alice Springs	139.94	229	PKhKP	PKPpre	23 12 18.2	
	comp=Z,0.3nm,0.7s,baz=109,slow=2.2,SNR=2.0						
ASAR				PKP	PKPdf	23 12 24.9	+0.2
	comp=Z,0.8nm,0.6s,baz=108,slow=2.1,SNR=8.1						
WRA	Warramunga Arr	141.58	234	PKhKP	PKPpre	23 12 22.1	
	comp=Z,0.8nm,0.6s,baz=117,slow=3.1,SNR=6.9						
WRA				PKP	PKPdf	23 12 27.2	-0.5
	comp=Z,1.4nm,0.8s,baz=112,slow=2.1,SNR=12						
LZH	Lanzhou	145.70	357	ePKPbc	PKPbc	23 12 34.9	-0.4

IDC ***04*** *23:37:20.1±0.6, 52°.03N×172°.70W, h0km, mb4.1/24, mbtmp4.1/26, ML4.0/2, MS3.3/13, Error ellipse: s-maj=19.7km s-min=12.9km az=179.0*

AEIC ***04*** *23:37:22.8±3.1, 51°.63N±0°.09×172°.65W±0°.05, h20km±5km, Error ellipse: s-maj=12.3km s-min=4.8km az=179.0*

NEIC ***04*** *23:37:25.2±2.1, 51°.83N±0°.09×172°.71W±0°.05, h32km±5km, mb4.3/201, ML4.2/8, ML4.1(AEIC), Error ellipse: s-maj=13.5km s-min=4.5km az=177.0*

ISC 04 23:37:23.6±1.8**, 51°.87N**±0°.10×**172°.70W**±0°.04**, h23**km±12km**, n354, σ1s.19**/337**, mb4.3**/88**, MS3.3**/13**, 1D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOFP	Korovin Flat P	0.95	296		Pb	23 37 41.4	0.0
ATKA	Atka Island	0.98	290		Pb	23 37 41.0	-0.8
ATKA					Sb	23 37 54.3	0.0
ATKA				IAML		23 37 54.9	
	comp=N,6µm,0.2s						
ATKA	Atka Island	0.98	290	P	Pb	23 37 41.0	-0.8
KONE	Korovin Northe	1.02	302		Pb	23 37 42.7	+0.2
KOKL	Mount Kliuchef	1.03	297		Pn	23 37 42.5	-0.1
KOWE	Korovin West	1.07	298		Pb	23 37 43.6	+0.1
CLES	Cleveland East	1.97	60	Pn	Pn	23 37 55.0	-0.5
CLES					Sn	23 38 19.0	-0.4
CLCO	Concord Point,	2.05	62		Pn	23 37 55.7	-0.8
GSMY	Great Sitkin M	2.08	276		Pn	23 37 55.9	-1.1
GSTR	Great Sitkin T	2.09	277	Pn	Pn	23 37 56.4	-0.8
GSCK	Great Sitkin C	2.15	275		Pn	23 37 56.5	-1.5
ADK	Adak	2.47	272	Pn	Pn	23 38 01.2	-1.1
ADK				IAML		23 38 34.4	
	comp=N,2µm,0.2s						
ADK				IAML		23 38 37.1	
	comp=N,2µm,0.3s						
NIKH	Nikolski High	2.60	63		Pn	23 38 02.5	-1.7
NIKH	Nikolski High	2.60	63		Sn	23 38 33.1	-1.9
KIWB	Kanaga Island	2.76	271		Pn	23 38 05.6	-0.7
KIKV	Kanaga Island	2.77	272		Pn	23 38 05.8	-0.7
TAPA	Tanaga Point A	3.17	271		Pn	23 38 11.7	-0.3
OKNC	Okmok New Cone	3.21	59		Pn	23 38 12.7	+0.2
OKER	Okmok East Rim	3.25	59		Pn	23 38 13.7	+0.6
TAFP	Tanaga Falls P	3.27	273		Pn	23 38 13.2	-0.2
OKFG	Magazine Ridge	3.30	60		Pn	23 38 13.9	+0.1
GANE	Gareloi Northe	3.77	272		Pn	23 38 19.5	-0.7
MAPS	Pakushin South	4.00	59		Pn	23 38 23.6	+0.2
MAPS					Sn	23 39 11.0	+1.6
MGOD	Makushin Gods	4.03	59		Pn	23 38 24.1	+0.3
MGOD					Sn	23 39 07.3	-3.0
MSW	Makushin Switc	4.13	58		Pn	23 38 25.7	+0.5
MNAT	Makushin Natee	4.17	59		Pn	23 38 26.0	+0.3
MNAT					Sn	23 39 14.7	+1.0
UNV	Unalaska Valle	4.25	60		Pn	23 38 27.0	+0.2
UNV	Unalaska Valle	4.25	60		Sn	23 39 16.7	+1.2
UNV	Unalaska Valle	4.25	60	P	Pn	23 38 27.1	+0.4
ZRO	Akutan Zero	4.63	59		Pn	23 38 32.4	+0.3
AKV	Akutan Volcano	4.66	58		Pn	23 38 33.5	+1.1
AKBBA	Akutan Broad B	4.66	59		Pn	23 38 33.7	+1.2
CEPE	Semis' Perret	4.74	274		Pn	23 38 33.5	0.0
AKUT	Akutan	4.76	59		Pn	23 38 35.0	+1.2
AKUT				IAML		23 39 58.8	
	comp=E,118nm,1.5s						
AKUT	Akutan	4.76	59	P	Pn	23 38 35.3	+1.5
CESW	Semis' Southwe	4.79	273		Pn	23 38 34.0	-0.2
AMKA	Amchitka	5.00	267	Pn	Pn	23 38 37.4	+0.2
LSNW	Little Sitkin	5.43	274		Pn	23 38 43.4	+0.3
SPIA	Saint Paul Isl	5.50	14		Pn	23 38 45.9	+1.9
SPIA	Saint Paul Isl	5.50	14	P	Pn	23 38 47.2	+3.2
ISLZ	Isanotski Laza	6.10	59		Pn	23 38 53.4	+1.1
FALS	False Pass	6.31	58		Pn	23 38 55.9	+0.8
SDPT	Sand Point	8.06	60	Pn	Pn	23 39 19.8	+0.7
SDPT	Sand Point	8.06	60	P	Pn	23 39 19.7	+0.7
CNBA	Chernabura Isl	8.38	64	Pn	Pn	23 39 23.3	-0.2
M11K	Mekoryuk	9.27	20		Pn	23 39 38.7	+3.1
CHGN	Chignik	9.49	57	Pn	Pn	23 39 38.0	-0.7
O14K	Tigyukauivet M	9.82	37	Pn	Pn	23 39 44.8	+1.6
M13K	Dall Lake	10.02	28	Pn	Pn	23 39 48.8	+3.0
M14K	Bethel	10.70	30	Pn	Pn	23 39 57.6	+2.4
N15K	Kwethluk River	10.89	35	Pn	Pn	23 40 00.5	+2.7
L14K	Kuka Creek	10.97	26	Pn	Pn	23 40 01.6	+2.7
K13K	Kusilvak Mount	10.99	20	Pn	Pn	23 40 02.6	+3.4
R17K	Ugashik Creek	11.04	52	Pn	Pn	23 40 01.7	+1.8
O16K	Kokwok River B	11.28	41	Pn	Pn	23 40 05.4	+2.3
SII	Sitkinak Islan	11.80	59	Pn	Pn	23 40 11.3	+1.0
M16K	Timber Creek	11.89	34	Pn	Pn	23 40 13.1	+1.7
J14K	Nanvaranak Lak	11.96	21	Pn	Pn	23 40 13.9	+1.6
K15K	Wolf Creek Mou	12.06	26		Pn	23 40 16.2	+2.4
L16K	Owhat River	12.21	31	Pn	Pn	23 40 17.8	+2.0
P18K	Big Mountain,	12.39	46	Pn	Pn	23 40 17.7	-0.7
OHAK	Old Harbor	12.46	57	Pn	Pn	23 40 18.5	-0.8
O18K	Koktuh Hills	12.63	44	Pn	Pn	23 40 20.7	-1.0
M17K	Holitna River	12.68	35	Pn	Pn	23 40 23.1	+0.8
N18K	Kilae Creek	12.81	40	Pn	Pn	23 40 23.7	-0.4
Q19K	Cape Douglas,	12.90	49	Pn	Pn	23 40 27.0	+1.7
KDAK	Kodiak Island	12.99	55	Pn	Pn	23 40 24.8	-1.7
KDAK	Kodiak Island	12.99	55	Pn	Pn	23 40 24.4	-2.1
	comp=E,0.8nm,0.3s,baz=266,slow=7.1,SNR=6.4						
KDAK				LR	LR	23 45 53.8	
	comp=E,236nm,22.0s,baz=232,slow=40						
J16K	Anvik River	13.12	25	Pn	Pn	23 40 30.9	+2.7
ANM	Nome	13.29	14	Pn	Pn	23 40 30.8	+0.3
K17K	Iditarod	13.33	30	Pn	Pn	23 40 33.8	+2.7
SYI	Shuyak Island	13.38	52	Pn	Pn	23 40 31.4	-0.4
N19K	Bonanza Creek	13.46	41	Pn	Pn	23 40 35.5	+2.6
L18K	Granite Mounta	13.50	34	Pn	Pn	23 40 36.0	+2.6
I17K	Unalakleet	13.60	23	Pn	Pn	23 40 34.7	-0.1
ILSW	Iliamna Southw	13.60	46	Pn	Pn	23 40 36.0	+1.1
TNA	Tin City	13.95	8	Pn	Pn	23 40 40.8	+1.3
RSO	Redoubt South	14.00	44		Pn	23 40 41.1	+0.6
L19K	White Mountain	14.12	36	Pn	Pn	23 40 44.1	+2.1
CNPM	China Poot	14.28	49	Pn	Pn	23 40 44.7	+0.6
J18K	Innoko River	14.37	30		Pn	23 40 47.6	+2.2
F15K	North Star Dit	14.47	13		P	23 40 50.9	-2.4
BRLK	Bradley Lake	14.53	49	Pn	Pn	23 40 48.7	+1.1
G16K	Koyuk River	14.56	17	Pn	Pn	23 40 49.3	+1.4
M20K	Styx River	14.60	39	Pn	Pn	23 40 51.1	+2.6
H17K	Granite Mounta	14.67	22	P	P	23 40 54.2	-1.2
J19K	Poorman	15.09	30	P	P	23 40 60.0	-0.1
J19K				IAmb	IAmb	23 41 16.6	
	comp=Z,9.8nm,1.0s						
K20K	Telida	15.16	33	P	P	23 41 00.5	-0.4
H18K	Honhosa River	15.22	23	P	P	23 41 02.5	+1.0
H18K				IAmb	IAmb	23 41 10.1	
	comp=Z,9.8nm,0.7s						
SKT	Skwentna	15.28	40	P	P	23 41 02.5	+0.2
SKT				IAmb	IAmb	23 41 10.4	
	comp=Z,17nm,1.0s						
SEW	Seward	15.33	48	P	P	23 41 03.2	+0.4
PPLA	Purkeypile	15.54	37	P	P	23 41 07.1	+1.8
RC01	Rabbit Creek A	15.61	45	P	P	23 41 07.3	+1.4
RC01				IAmb	IAmb	23 41 13.5	
	comp=Z,17nm,1.1s						
J20K	Nowinta River	15.68	31	P	P	23 41 06.5	-0.2
F17K	Baldwin Pennin	15.70	17	P	P	23 41 08.5	+1.6
F17K				IAmb	IAmb	23 41 23.7	
	comp=Z,13nm,1.1s						
G18K	Tagagawik	15.76	22	P	P	23 41 08.2	+0.7
CAST	Castle Rocks	15.89	35		P	23 41 09.3	+0.3
H19K	Roundabout Mou	16.01	25	P	P	23 41 12.9	+2.8
PWL	Port Wells	16.13	47	Pn	Pn	23 41 09.0	+0.4
PWL				IAmb	IAmb	23 41 22.3	
	comp=Z,29nm,1.0s						
GHO	Glory Hole Cre	16.26	43	Pn	Pn	23 41 11.5	+1.2
KNK	Knik Glacier	16.30	45	Pn	Pn	23 41 11.6	+0.8
G19K	Purcell Mounta	16.34	23	P	P	23 41 16.7	+2.8
KTH	Kantishna Hill	16.39	36	P	P	23 41 15.3	+0.7
SML	Sawmill	16.53	44	Pn	Pn	23 41 14.4	+0.8
TRF	Thorofare Moun	16.57	37	P	P	23 41 16.6	-0.1
BPAW	Bear Paw Mtn.	16.69	34	P	P	23 41 19.4	+1.5
BPAW				IAmb	IAmb	23 41 31.8	
	comp=Z,18nm,1.2s						
HIN	Hinchinbrook I	16.81	49	Pn	Pn	23 41 17.2	0.0
RDOG	Red Dog Mine	16.92	13	Pn	Pn	23 41 17.0	-1.5
SCM	Sheep Creek Mo	16.97	44	Pn	Pn	23 41 19.6	+0.3
SCM				IAmb	IAmb	23 41 22.5	
	comp=Z,16nm,0.8s						
I21K	Tanana	17.05	31		Pn	23 41 20.6	+0.5
IMAR	Indian Mountai	17.08	27	Pn	Pn	23 41 20.7	+0.1
RND	Reindeer	17.09	38	Pn	Pn	23 41 20.8	+0.1
H21K	Melozitna Rive	17.12	29		Pn	23 41 19.7	-1.4
BWN	Browne	17.28	36	Pn	Pn	23 41 18.1	-4.8
MLY	Manley	17.35	32	P	P	23 41 25.3	+0.1
PET	Petropavlovsk	17.45	285	Pn	Pn	23 41 24.8	-0.4
PET				IAmb	IAmb	23 41 31.1	
	comp=Z,26nm,1.1s						
KLU	Klutina	17.45	46	Pn	Pn	23 41 25.2	-0.1
DHY	Denali Highway	17.50	40		P	23 41 27.0	0.0
G21K	Allakaket	17.54	26	P	Pn	23 41 25.7	-0.6
M24K	Tolsona, Glenn	17.58	44		P	23 41 28.1	+0.4
M24K				IAmb	IAmb	23 41 42.5	
	comp=Z,33nm,1.1s						
NEA2	Nenana	17.66	35		P	23 41 28.2	-0.3
I23K	Minto, Yukon-K	17.89	33	P	P	23 41 32.3	+1.3
I23K				IAmb	IAmb	23 41 33.0	
	comp=Z,13nm,0.4s						
PEA0B	Petropavlovsk-	18.01	286		Pn	23 41 30.9	-1.2
PEA0B				IAmb	IAmb	23 41 36.0	
	comp=Z,21nm,0.8s						
PETK	Petropavlovsk-	18.01	286		Pn	23 41 32.1	-0.1
PETK	Petropavlovsk-	18.01	286	P	Pn	23 41 31.8	-0.3
	comp=Z,0.9nm,0.3s,baz=79,slow=15,SNR=9.1						
	comp=Z,9.7nm,0.7s						
SUCK	Suckling Hills	18.02	52		Pn	23 41 31.8	-0.4
F21K	Alatna River	18.08	24	P	P	23 41 34.0	+0.9
N25K	Chitina, Valde	18.09	46		P	23 41 33.5	+0.2
D19K	Kuna River	18.09	17	P	P	23 41 34.1	+0.8
BERG	Berg Lake	18.14	51		P	23 41 34.6	+0.8
CCB	Clear Creek Bu	18.14	36		Pn	23 41 32.2	-1.4
MDM	Murphy Dome	18.16	34		Pn	23 41 33.4	-0.5
HDA	Harding Lake	18.33	37	P	Pn	23 41 36.7	+0.8
HDA				IAmb	IAmb	23 41 41.3	
	comp=Z,11nm,0.8s						
C19K	Lookout Ridge	18.38	15	P	Pn	23 41 39.3	+2.7
GLB	Gilahina Butte	18.39	47	P	P	23 41 36.0	-0.7
GLB				IAmb	IAmb	23 41 44.5	
	comp=Z,13nm,1.0s						
VRDI	Verde Repeater	18.49	48	P	Pn	23 41 38.1	0.0
VRDI				IAmb	IAmb	23 41 54.6	
	comp=Z,14nm,1.1s						
CRQM	Cirque	18.50	50	P	Pn	23 41 39.9	+1.6
CRQM				IAmb	IAmb	23 41 41.0	
	comp=Z,36nm,1.1s						
POKR	Poker Plat Res	18.53	35	P	Pn	23 41 38.8	+0.4
IL31		18.54	36	P	P	23 41 36.6	-1.6
ILAR	Eielson Array	18.54	36	P	Pn	23 41 38.8	+0.3
ILAR	Eielson Array	18.54	36	P	P	23 41 36.5	-1.8
	comp=Z,1.3nm,0.3s,baz=243,slow=9.9,SNR=77						
ILAR				PcP	PcP	23 46 06.7	0.0
	comp=Z,0.4nm,0.6s,baz=262,slow=4.0,SNR=6.5						
	comp=Z,2.3nm,0.4s						
TGL	Tana Glacier	18.65	50	P	Pn	23 41 40.1	+0.2
TGL				IAmb	IAmb	23 41 58.8	
	comp=Z,27nm,1.0s						
G23K	Bananza Creek	18.67	29		Pn	23 41 41.8	+1.7
MCARA	McCarthy VSAT	18.73	48	P	Pn	23 41 41.7	+0.8
MCARA				IAmb	IAmb	23 41 46.4	
	comp=Z,24nm,1.0s						
H24K	Noodor Dome	18.80	32	P	Pn	23 41 41.8	+0.2
H24K				IAmb	IAmb	23 41 43.8	
	comp=Z,7.8nm,0.7s						
E21K	Killik River	18.91	21		Pn	23 41 44.7	+1.8
J25K	Salcha River,	19.02	37	P	P	23 41 42.9	-0.7
J25K				IAmb	IAmb	23 41 48.7	
	comp=Z,15nm,0.8s						
L26K	Log Cabin Wild	19.14	43	P	Pn	23 41 46.1	+0.3
BILL	Bilibino	19.15	336	P	P	23 41 43.0	-1.9
GRNC	Granite Creek	19.16	50	P	Pn	23 41 46.0	-0.2
GRNC				IAmb	IAmb	23 42 03.3	
	comp=Z,32nm,1.1s						
SCRK	Sand Creek	19.27	40	P	P	23 41 46.0	-0.3
SCRK				IAmb	IAmb	23 41 47.7	
	comp=Z,6.9nm,0.4s						
BARN	Barnard Glacie	19.28	49	Pn	Pn	23 41 49.2	+1.6
BARN				IAmb	IAmb	23 41 50.0	
	comp=Z,9.5nm,0.6s						
TABL	Table Mountain	19.39	51	Pn	Pn	23 41 49.8	+0.9
PRP	Porcupine Dome	19.43	35	P	P	23 41 48.3	+0.2
G24K	Hadweenzic Riv	19.45	31		Pn	23 41 50.3	+0.9
G24K				IAmb	IAmb	23 41 52.8	
	comp=Z,7.0nm,0.6s						
LOGN	Logan Glacier	19.54	50	P	Pn	23 41 50.4	-0.3
LOGN				IAmb	IAmb	23 42 03.7	
	comp=Z,31nm,1.1s						
D22K	Ayikyak River	19.54	22		Pn	23 41 52.2	+1.7
B20K	Meade River	19.58	16	Pn	Pn	23 41 52.3	+1.3
J26L	Joseph Creek	19.66	39	P	P	23 41 49.5	-1.1
J26L				IAmb	IAmb	23 42 07.8	
	comp=Z,12nm,0.8s						
B21K	Ikpikpuk River	19.72	19	P	Pn	23 41 52.7	+0.1
B21K				IAmb	IAmb	23 42 01.1	
	comp=Z,9.9nm,0.9s						
BCAR	Beaver Creek A	19.82	44	P	Pn	23 41 53.4	-0.5
F24K	Squaw Lake	19.83	28	P	Pn	23 41 53.6	-0.5
E24K	Your Creek	20.03	27		Pn	23 41 57.1	+0.8
E24K				IAmb	IAmb	23 42 07.3	
	comp=Z,10nm,0.9s						
K27K	Chicken	20.06	41	P	Pn	23 41 55.8	-0.9
K27K				IAmb	IAmb	23 42 00.4	
	comp=Z,8.6nm,1.0s						
FYU	Fort Yukon	20.09	32	P	P	23 41 55.7	+0.5
FYU				IAmb	IAmb	23 42 09.6	
	comp=Z,11nm,1.1s						
TOLK	Toolik Lake Re	20.13	25	P	Pn	23 41 56.7	-0.8
TOLK				IAmb	IAmb	23 42 11.9	
	comp=Z,10nm,0.9s						
I26K	Coal Creek Min	20.18	37	P	P	23 41 55.3	-0.8
I26K				IAmb	IAmb	23 41 59.3	
	comp=Z,11nm,0.9s						
B22K	Teshekpuk Lake	20.55	19	P	Pn	23 42 01.4	-0.9
B22K				IAmb	IAmb	23 42 12.4	
	comp=Z,14nm,1.1s						
O29M	Mount Kennedy	20.61	53	P	Pn	23 42 02.3	-1.0
D24K	Happy Valley	20.68	24	P	Pn	23 42 03.5	-0.5
D24K				IAmb	IAmb	23 42 15.1	
	comp=Z,11nm,1.1s						
EGAK	Eagle	20.72	39	P	P	23 42 02.8	+0.9
C23K	Itkillik River	20.75	22	P	Pn	23 42 03.9	-0.8
C23K				IAmb	IAmb	23 42 09.3	
	comp=Z,9.1nm,0.7s						
BMAR	Burnt Mountain	20.79	31	P	P	23 42 04.0	+1.2
E25K	Arctic Village	20.90	29	P	P	23 42 05.2	+1.2
P29M	Windy Craggy	20.94	55	P	Pn	23 42 05.9	-1.2
M29M	Somme Creek	21.10	47	P	P	23 42 08.0	+1.8
DAWY	Dawson	21.17	42	P	P	23 42 07.9	+1.0

DAWY IAmb IAmb 23 42 23.5
comp=Z,5.4nm,0.6s
HYT Haines Junctio 21.22 51 P P 23 42 09.3 +1.7
HYT IAmb IAmb 23 42 11.1
comp=Z,8.2nm,0.7s
D25K Kavik River 21.44 26 P P 23 42 11.0 +1.3
G27K Doyon Strip 21.44 34 P P 23 42 10.1 +0.4
I28M Miner Creek 21.46 38 P P 23 42 10.5 +0.4
I28M IAmb IAmb 23 42 11.6
comp=Z,9.7nm,0.8s
SEY Seymchan 21.52 314 P P 23 42 10.5 -0.1
comp=Z,1.4nm,0.2s,baz=350,slow=23,SNR=1.0
comp=Z,1.4nm,0.2s
N30M Aishikik Lake 21.52 50 P P 23 42 12.7 +2.0
S31K Pelican 21.63 59 P P 23 42 13.2 +1.5
MA2 Magadan 21.73 305 LR LR 23 50 35.0
comp=Z,23nm,18.7s,baz=99,slow=37
K29M Barlow Dome 21.89 43 P P 23 42 16.1 +1.5
K29M IAmb IAmb 23 42 16.9
comp=Z,7.1nm,0.6s
O30N Mendenhall 21.90 52 P P 23 42 15.8 +1.0
I29M Ogilvie Camp, 22.06 39 P P 23 42 15.4 -0.9
I29M IAmb IAmb 23 42 17.9
comp=Z,7.6nm,1.0s
E27K Coleen River 22.16 31 P P 23 42 18.2 +0.8
H29M Whitestone 22.36 37 P P 23 42 19.3 -0.3
H29M IAmb IAmb 23 42 30.1
comp=Z,9.7nm,0.6s
F28M Old Crow 22.43 33 P P 23 42 20.4 0.0
F28M IAmb IAmb 23 42 24.2
comp=Z,4.3nm,0.7s
WHY Whitehorse 22.48 52 P P 23 42 22.2 +1.3
S32K Killisnoo 22.52 61 P P 23 42 22.6 +1.2
S32K IAmb IAmb 23 42 31.9
comp=Z,15nm,1.1s
R32K Eaglecrest 22.54 58 P P 23 42 23.6 +2.0
R32K IAmb IAmb 23 42 32.9
comp=Z,12nm,0.8s
J30M Hart River 22.60 42 P P 23 42 22.9 +0.6
J30M IAmb IAmb 23 42 23.7
comp=Z,6.5nm,0.7s
JIS Juneau Island 22.61 58 P P 23 42 24.1 +1.8
G29M Pine Creek 22.77 35 P P 23 42 23.4 -0.5
G29M IAmb IAmb 23 42 27.4
comp=Z,7.9nm,0.8s
I30M Mount Dempster 22.77 40 P P 23 42 22.7 -1.5
I30M IAmb IAmb 23 42 24.8
comp=Z,7.4nm,0.8s
M31M Drury Creek, Y 22.91 48 P P 23 42 26.0 +0.5
D27M Malcolm River 22.92 29 P P 23 42 26.6 +1.1
E28M Babbage River 23.03 31 P P 23 42 27.2 +0.6
EPYK Eagle Plains 23.04 37 P P 23 42 25.9 -0.8
EPYK IAmb IAmb 23 42 27.3
comp=Z,8.1nm,0.9s
G30M tAoh Zraii Nji 23.45 36 P P 23 42 29.7 -1.1
G30M IAmb IAmb 23 42 31.4
comp=Z,8.4nm,1.1s
E29M Blow River 23.46 32 P P 23 42 31.2 +0.4
E29M IAmb IAmb 23 42 35.3
comp=Z,8.1nm,0.7s
P33M Teslin, Yukon 23.46 54 P P 23 42 30.7 -0.4
P33M IAmb IAmb 23 42 41.5
comp=Z,7.4nm,1.1s
CRAG Craig 23.50 66 P P 23 42 31.2 -0.2
Q32M Nakina River 23.71 57 P P 23 42 35.1 +1.5
Q32M IAmb IAmb 23 42 44.6
comp=Z,17nm,1.1s
H31M Peel River 23.76 39 P P 23 42 32.7 -1.2
H31M IAmb IAmb 23 42 38.1
comp=Z,5.8nm,1.1s
WRAK Wrangell Islan 23.82 63 P P 23 42 35.5 +1.1
G31M Satah River 24.14 37 P P 23 42 36.2 -1.2
G31M IAmb IAmb 23 42 41.0
comp=Z,7.0nm,1.1s
S34M Telegraph Cree 24.35 59 P P 23 42 41.5 +2.1
V35K Ketchikan 24.37 66 P P 23 42 41.0 +1.5
V35K IAmb IAmb 23 42 50.6
comp=Z,14nm,1.1s
R33M Jennings River 24.38 56 P P 23 42 41.7 +1.9
R33M IAmb IAmb 23 42 58.5
comp=Z,4.2nm,0.8s
F31M Tsiigehtchic 24.51 36 P P 23 42 40.4 -0.4
F31M IAmb IAmb 23 42 42.2
comp=Z,4.3nm,0.9s
DLBC Dease Lake 24.90 58 P P 23 42 46.7 +2.3
INK Inuvik 24.90 34 P P 23 42 43.9 -0.3
INK IAmb IAmb 23 42 45.2
comp=Z,8.5nm,0.6s
T35M Bob Quinn 24.90 61 P P 23 42 46.6 +2.2
BBB Bella Bella 27.11 72 LR LR 23 52 01.6
comp=Z,106nm,18.7s,baz=274,slow=33
A36M Sachs Harbour 28.83 28 P P 23 43 19.8 +0.3
A36M IAmb IAmb 23 43 26.3
comp=Z,4.0nm,1.0s
JKA Kamikawa-asahi 30.49 273 P P 23 43 36.5 +2.0
ERM Erimo 31.27 269 P P 23 43 43.2 +1.8
YKA Yellowknife Ar 32.11 48 P P 23 43 47.3 -1.3
YKA Yellowknife Ar 32.11 48 P P 23 43 48.1 -0.4
comp=Z,0.6nm,0.5s,baz=223,slow=10,SNR=14
YKA PcP PcP **23 46 37.8 +0.6**
comp=Z,0.7nm,0.7s,baz=286,slow=3.1,SNR=9.2
YKA LR LR 23 59 04.0
comp=Z,54nm,20.7s,baz=190,slow=41
comp=Z,0.6nm,0.5s
H04A Detroit Lake 33.79 82 P P 23 44 05.0 +1.5
DBO Dodson Butte 33.96 85 P P 23 44 06.6 +1.6
DBO IAmb IAmb 23 44 16.4
comp=Z,5.2nm,1.1s
C09A Chrisman Ranch 34.65 75 P P 23 44 11.8 +0.9
KLR Kul'dur 34.67 288 LR LR 00 00 48.8
comp=Z,30nm,18.0s,baz=112,slow=41
PINE Pine Mountain 35.02 82 P P 23 44 15.1 +0.7
YBH Yreka Blue Hor 35.05 87 P P 23 44 16.0 +1.4
YBH IAmb IAmb 23 44 17.4
comp=Z,6.0nm,1.1s
YBH Yreka Blue Hor 35.05 87 LR LR 23 55 41.3
comp=Z,48nm,18.5s,baz=0.5,slow=31
J05D Fort Rock, OR 35.11 83 P P 23 44 16.4 +1.3
J05D IAmb IAmb 23 44 17.8
comp=Z,4.5nm,0.8s
NEW Newport 35.12 73 P P 23 44 15.1 +0.1
NEW Newport 35.12 73 LR LR 23 58 23.2
comp=Z,26nm,18.0s,baz=306,slow=36
EDM Edmonton 35.22 64 P P 23 44 16.3 +0.5
K05A Summer Lake 35.62 84 P P 23 44 21.0 +1.5
I07A Izee 35.75 81 P P 23 44 21.0 +0.5
I07A IAmb IAmb 23 44 22.6
comp=Z,4.3nm,1.0s
H11N2 WAKE ISLAND Hy 35.83 214 T T 00 22 27.4
baz=21,slow=76,SNR=567
H11N3 WAKE ISLAND Hy 35.84 214 T T 00 22 23.7
baz=21,slow=76,SNR=514
H11N1 WAKE ISLAND Hy 35.85 214 T T 00 22 28.0
baz=21,slow=76,SNR=110
J08A Circle Bar Ran 36.77 81 P P 23 44 30.3 +1.1
J08A IAmb IAmb 23 44 32.6
comp=Z,5.3nm,1.0s
USA0B Ussuriysk Arra 36.97 280 P P 23 44 30.0 -0.8
USA0B IAmb IAmb 23 44 32.6
comp=Z,6.5nm,0.8s
USRK Ussuriysk Ar. 36.97 280 P P 23 44 31.2 +0.4
comp=Z,1.5nm,0.6s,baz=56,slow=8.4,SNR=2.5
comp=Z,1.5nm,0.6s
H11S1 WAKE ISLAND Hy 37.03 214 T T 00 23 41.5
baz=20,slow=76,SNR=128
H11S2 WAKE ISLAND Hy 37.05 214 T T 00 23 49.7
baz=20,slow=76,SNR=164
H11S3 WAKE ISLAND Hy 37.05 214 T T 00 24 03.1
baz=20,slow=76,SNR=88
ORV Oroville 37.06 89 P P 23 44 32.2 +0.6
ORV IAmb IAmb 23 44 33.2
comp=Z,3.9nm,0.8s
WVOR Wild Horse Val 37.17 83 P P 23 44 33.5 +0.8
WVOR IAmb IAmb 23 44 34.8
comp=Z,4.2nm,0.9s
MSO Missoula 37.70 74 P P 23 44 36.1 -1.1
MSO IAmb IAmb 23 44 38.3
comp=Z,5.4nm,1.1s
MSO PcP **23 46 54.6 +0.8**
AFDM Forest Hills D 37.76 89 P P 23 44 38.5 +1.0
AFDM IAmb IAmb 23 44 42.0
comp=Z,5.8nm,1.1s
OVMT Ovando 38.15 73 P P 23 44 41.1 +0.2
PAHR Pah Rah Range 38.28 87 P P 23 44 42.9 +0.8
MFID Camas Ranch 38.35 80 P P 23 44 43.3 +0.7
MFID IAmb IAmb 23 44 44.1
comp=Z,3.4nm,1.0s
PNTR Pine Nut 38.52 88 P P 23 44 45.6 +1.4
LYMT Lyon Mountain 38.61 73 P P 23 44 45.3 +0.3
CMB Columbia Colle 38.68 90 P P 23 44 46.2 +0.9
CMB IAmb IAmb 23 44 47.8
comp=Z,6.6nm,1.0s
ELMT Elliston 38.72 73 P P 23 44 46.2 +0.4
YERR Yerington 38.81 88 P P 23 44 47.1 +0.6
YERR IAmb IAmb 23 44 48.9
comp=Z,7.6nm,1.0s
WAKR Walker 38.98 89 P P 23 44 49.1 +1.1
WAKR IAmb IAmb 23 44 50.7
comp=Z,7.6nm,1.1s
KVN Kaiserville 39.47 87 P P 23 44 52.9 +0.7
KVN IAmb IAmb 23 44 54.1
comp=Z,3.7nm,1.2s
EGMT Eagleton 39.57 70 P P 23 44 52.9 +0.1
BOZ Bozeman (W) 39.71 74 P P 23 44 54.2 +0.2
BOZ IAmb IAmb 23 44 56.0
comp=Z,5.1nm,1.1s
NVAR Mina Array Bea 39.73 88 P P 23 44 54.1 -0.2
comp=Z,0.9nm,0.2s,baz=288,slow=9.2,SNR=4.2
NVAR PcP **PcP 23 47 01.3 +0.8**
comp=Z,1.4nm,0.7s,baz=273,slow=2.9,SNR=4.6
comp=Z,0.9nm,0.2s
MDPB Devils Postpil 39.74 89 P P 23 44 54.6 +0.2
OMMB Old Mammoth Mi 39.80 89 P P 23 44 55.7 +0.7
OMMB IAmb IAmb 23 44 58.3
comp=Z,7.0nm,1.0s
NV11 Mina Array Sit 39.81 88 P P 23 44 54.8 -0.1
ELK Elko 40.23 83 P P 23 44 59.0 +0.5
ELK IAmb IAmb 23 45 00.9
comp=Z,2.9nm,0.9s
ELK Elko 40.23 83 LR LR 23 59 04.9
comp=Z,47nm,21.4s,baz=292,slow=32
FFC Flin Flon 40.73 57 P P 23 45 02.3 +0.1
FFC IAmb IAmb 23 45 03.2
comp=Z,5.3nm,0.8s
ISA Isabella, Lake 41.36 91 P P 23 45 08.0 +0.3
ISA IAmb IAmb 23 45 09.2
comp=Z,6.8nm,1.0s
RLMT Red Lodge 41.37 73 P P 23 45 08.1 +0.2
RLMT IAmb IAmb 23 45 09.7
comp=Z,10.0nm,1.0s
REDW Red Top Meadow 41.40 77 P P 23 45 07.8 -0.3
R11B Troy Canyon, C 41.46 86 P P 23 45 09.3 +0.8
R11B IAmb IAmb 23 45 10.3
comp=Z,4.0nm,1.1s
TPNV Topopah Spring 41.92 88 P P 23 45 13.2 +0.9
DUG Dugway, Tooele 42.04 82 P P 23 45 13.9 +0.6
DUG IAmb IAmb 23 45 15.6
comp=Z,3.7nm,1.0s
GWY Greenwater Val 42.15 89 P P 23 45 14.6 +0.4
GWY IAmb IAmb 23 45 15.9
comp=Z,6.7nm,0.9s
PRN Pahroc Range 42.37 87 P P 23 45 16.6 +0.6
PRN IAmb IAmb 23 45 18.6
comp=Z,8.2nm,0.9s
BW06 Boulder Array 42.52 76 P P 23 45 17.2 0.0
BW06 IAmb IAmb 23 45 30.0
comp=Z,4.9nm,0.7s
PD31 Pinedale Array 42.52 76 P P 23 45 17.4 +0.2
PD31 IAmb IAmb 23 45 30.0
comp=Z,3.9nm,0.7s
PDAR Pinedale Array 42.52 76 P P 23 45 17.1 -0.2
PDAR Pinedale Array 42.52 76 P P 23 45 17.5 +0.2
comp=Z,3.5nm,0.8s,baz=305,slow=3.8,SNR=27
PDAR PcP **PcP 23 47 09.4 -0.1**
comp=Z,0.5nm,0.7s,baz=276,slow=2.4,SNR=2.9
PDAR LR LR 00 00 14.9
comp=Z,36nm,18.1s,baz=332,slow=32
comp=Z,3.5nm,0.8s
GSC Goldstone, Bar 42.63 90 P P 23 45 19.0 +0.9
FCC Fort Churchill 42.83 49 P P 23 45 18.1 -1.1
FCC IAmb IAmb 23 45 27.2
comp=Z,3.7nm,0.8s
KSRS Korea Array 43.41 275 P P 23 45 25.6 +1.5
comp=Z,2.9nm,0.9s,baz=46,slow=7.2,SNR=4.5
comp=Z,2.9nm,0.9s
PFO Pinyon Flats O 43.96 92 P P 23 45 29.2 +0.4
PFO IAmb IAmb 23 45 30.5
comp=Z,6.5nm,1.0s
PMD Palm Desert 43.99 92 P P 23 45 29.1 +0.2
PMD IAmb IAmb 23 45 30.2
comp=Z,4.0nm,0.8s
109C Camp Elliot, M 44.05 93 P P 23 45 30.3 +0.9
JNU Nakatsue 44.40 268 LR LR 00 04 29.9
comp=Z,11nm,20.0s,baz=72,slow=37
BAR Barrett 44.46 93 P P 23 45 33.1 +0.4
W13A Hualapai Mount 44.58 88 P P 23 45 34.5 +0.6
W13A IAmb IAmb 23 45 36.0
comp=Z,5.9nm,1.0s
U15A North Rim 44.70 86 P P 23 45 35.7 +0.8
U15A IAmb IAmb 23 45 37.4
comp=Z,7.1nm,1.0s
O20A White River Ci 44.87 79 P P 23 45 36.1 0.0
RSSD Black Hills 45.03 71 P P 23 45 37.0 -0.4
RSSD IAmb IAmb 23 45 45.7
comp=Z,4.0nm,1.1s
BLYC Blythe 45.07 90 P P 23 45 37.5 0.0
ESJX Sierra Juarez 45.37 93 P P 23 45 40.4 +0.3
WUAZ Wupatki 45.86 86 P P 23 45 44.3 +0.4
WUAZ IAmb IAmb 23 45 45.8
comp=Z,6.2nm,0.9s
Y14A Wickenburg 45.89 89 P P 23 45 44.6 +0.5
PV01 Paradox Valley 45.91 81 P P 23 45 43.9 -0.6
ULM Lac du Bonnet 46.19 60 P P 23 45 45.4 -0.8
comp=Z,1.7nm,0.4s,baz=294,slow=5.8,SNR=4.2
comp=Z,1.7nm,0.4s
X16A Lo Mia Camp, P 46.54 87 P P 23 45 49.7 +0.3
X16A IAmb IAmb 23 45 51.4
comp=Z,5.1nm,1.1s
SDCO Great Sand Dun 48.03 79 P P 23 46 01.0 -0.1
SDCO IAmb IAmb 23 46 02.6
comp=Z,2.7nm,1.1s
TUC Tucson 48.36 89 P P 23 46 03.7 +0.3
T25A Trinidad 49.09 79 P P 23 46 09.5 +0.4
ANMO Albuquerque 49.27 83 LR LR 00 04 45.5
comp=Z,32nm,20.6s,baz=65,slow=33
SONM Songino Array 49.77 299 P P 23 46 14.7 +0.6
comp=Z,0.4nm,0.5s,baz=47,slow=8.4,SNR=3.7
SONM PcP **PcP 23 47 35.0 +0.3**
comp=Z,0.4nm,0.6s,baz=23,slow=3.2,SNR=4.7
SONM LR LR 00 08 17.6
comp=Z,44nm,18.2s,baz=38,slow=37
comp=Z,0.4nm,0.5s
SPITS Spitsbergen Ar 50.10 358 P P 23 46 15.1 -0.9
comp=Z,8.3nm,0.9s,baz=37,slow=7.6,SNR=1.7
comp=Z,8.3nm,0.9s
HHC Hu-ho-hao-te 51.16 289 eP P 23 46 25.6 +0.9
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,39nm,6.1s
425A Indio Mountain 52.99 86 P P 23 46 38.6 +0.1
425A IAmb IAmb 23 46 40.0
comp=Z,6.2nm,1.0s
F42A Maple Grove Fa 53.03 61 P P 23 46 39.3 +0.9
SFJD Kangerlussuaq 53.70 24 LR LR 00 12 26.5
comp=Z,74nm,18.4s,baz=322,slow=39
SGCY Sterling City 54.59 82 P P 23 46 49.5 -0.5
SGCY IAmb IAmb 23 46 51.5
comp=Z,10nm,0.8s
TXAR Lajitas Array 54.82 86 P P 23 46 51.8 0.0
comp=Z,3.8nm,0.8s,baz=294,slow=5.2,SNR=47
comp=Z,3.8nm,0.8s
P40A Paris 54.88 69 P P 23 46 51.4 -0.5
SLBS Sierra La Lagu 55.00 96 P P 23 46 52.8 -0.3
ABTX Abilene, Hawle 55.01 80 P P 23 46 52.9 -0.1
OZNA Ozona 55.28 83 P P 23 46 55.0 -0.1
OZNA IAmb IAmb 23 46 55.7
comp=Z,6.3nm,1.0s
BRDY Brady 56.33 81 P P 23 47 02.1 -0.4
BRDY IAmb IAmb 23 47 03.0
comp=Z,5.1nm,1.1s
ZALV Zalesovo Beam 56.38 316 PcP PcP 23 48 00.2 +0.8
comp=Z,0.8nm,0.6s,baz=39,slow=2.3,SNR=4.0
JCT Junction City 56.40 82 P P 23 47 01.9 -1.2
MIAR Mount Ida 57.35 74 P P 23 47 09.6 -0.1
ARCES ARCESS Array B 58.17 353 P P 23 47 12.2 -2.8
comp=Z,1.7nm,0.7s,baz=16,slow=7.8,SNR=5.3
comp=Z,1.7nm,0.7s
LZH Lanzhou 58.84 290 eP P 23 47 23.3 +3.0
LZH S S 23 55 11.3 -13
LZH pmax pmax
comp=Z,17nm,1.0s
KURBB Kurchatov Arra 61.46 317 P P 23 47 36.6 -1.2
comp=Z,1.3nm,0.9s,baz=43,slow=6.9,SNR=6.5
comp=Z,1.3nm,0.9s
WMQ Urumqi 62.19 306 eP P 23 47 45.6 +2.7
MKAR Makanchi Array 62.63 312 P P 23 47 44.8 -0.9
comp=Z,0.5nm,0.7s,baz=51,slow=6.8,SNR=4.2
comp=Z,0.5nm,0.7s
BVAR Borovoye Array 62.88 323 P P 23 47 46.3 -1.1
comp=Z,1.2nm,0.4s,baz=53,slow=7.9,SNR=7.5
comp=Z,1.2nm,0.4s
HNR Honiara 65.44 210 LR LR 00 11 35.8
comp=Z,416nm,20.0s,baz=339,slow=31
FINES FINESS Array B 66.04 350 P P 23 48 07.0 -0.8
comp=Z,3.3nm,1.0s,baz=35,slow=7.0,SNR=4.6
comp=Z,3.3nm,1.0s
KMI Kunming 67.38 282 ||P P 23 48 18.1 +0.9
KMI pmax pmax
comp=Z,10.0nm,1.0s
NB2 NORSAR Subarra 67.40 358 P P 23 48 15.4 -1.1
comp=Z,2.8nm,0.8s,baz=7.3,slow=6.5
NOA NORSAR Array B 67.40 358 P P 23 48 15.0 -1.5
comp=Z,1.3nm,0.8s,baz=2.9,slow=6.5,SNR=5.1
comp=Z,1.3nm,0.8s
HFS Hagfors 68.23 357 P P 23 48 20.7 -1.0
comp=Z,1.4nm,0.4s,baz=5.7,slow=3.0,SNR=11
comp=Z,1.4nm,0.4s
EKA Eskdalemuir Ar 72.81 6 P P 23 48 48.9 -0.8
comp=Z,3.3nm,1.1s,baz=352,slow=4.4,SNR=1.6
comp=Z,3.3nm,1.1s
TAPN Taplejung 74.53 294 eP P 23 49 01.0 +0.3
comp=Z,18nm,1.1s
CMAR Chiang Mai Arr 74.70 280 P P 23 49 02.0 +0.6
comp=Z,3.0nm,0.6s,baz=29,slow=6.7,SNR=13
comp=Z,3.0nm,0.6s
GUN Gumba 75.12 296 eP P 23 49 05.1 +0.9
JIRN Jiri 75.14 296 eP P 23 49 04.8 +0.5
comp=Z,14nm,0.7s
RAMN Ramite 75.46 295 eP P 23 49 06.3 +0.3
comp=Z,8.8nm,0.5s
PKI Pulchoki 75.65 296 eP P 23 49 08.4 +1.2
comp=Z,19nm,1.2s
DANN Dangsing 75.95 298 eP P 23 49 10.3 +1.5
comp=Z,17nm,0.6s
AKASG Malin Array Be 76.13 346 P P 23 49 08.1 -1.0
comp=Z,0.6nm,0.5s,baz=13,slow=5.9,SNR=4.1
comp=Z,0.6nm,0.5s
PYUN Piuthan 76.57 298 eP P 23 49 13.8 +1.6
comp=Z,17nm,0.9s
WRA Warramunga Arr 85.10 229 P P 23 49 56.3 -1.2
comp=Z,7.7nm,0.8s,baz=34,slow=5.9,SNR=4.8
comp=Z,0.7nm,0.8s
BRTR Keskin Array B 85.93 340 P P 23 50 01.3 -0.4
comp=Z,0.3nm,0.5s,baz=6.2,slow=9.3,SNR=1.3
comp=Z,0.3nm,0.5s
ESDC Sonseca Array 88.30 9 P P 23 50 12.4 -0.6
comp=Z,1.4nm,0.8s,baz=346,slow=4.2,SNR=11
comp=Z,1.4nm,0.8s
ASAR Alice Springs 88.52 227 P P 23 50 14.2 +0.2
comp=Z,2.2nm,0.8s,baz=29,slow=5.1,SNR=18
comp=Z,2.2nm,0.8s
TORD Torodi Ar. Bea 115.07 6 PKP PKiKP 23 56 02.8 -0.1
comp=Z,0.4nm,0.8s,baz=4.9,slow=4.7,SNR=1.9
H03N2 Juan Fernandez 117.67 110 T T 02 04 49.4
baz=318,slow=77,SNR=26
H03N1 Juan Fernandez 117.69 110 T T 02 04 56.2
baz=318,slow=77,SNR=30
H03N3 Juan Fernandez 117.69 110 T T 02 05 04.9
baz=318,slow=77,SNR=31
PLCA Paso Flores 127.53 110 PKP PKPdf 23 56 25.6 -0.4
comp=Z,1.8nm,0.8s,baz=208,slow=5.1,SNR=4.4
MATP Matopo 144.52 324 PKP PKPbc 23 56 57.1 +0.4
comp=Z,0.3nm,0.4s,baz=22,slow=3.1,SNR=6.2
MAW Mawson 149.21 218 PKPbc PKPbc 23 57 08.8 +0.2
comp=Z,6.8nm,1.1s,baz=343,slow=5.2,SNR=2.7
LBTB Lobatse 149.77 326 PKPbc PKiKP 23 57 11.9 -0.5
comp=Z,3.0nm,0.7s,baz=223,slow=6.8,SNR=7.0
BOSA Boshof 153.17 323 PKPbc PKPbc 23 57 19.2 0.0
comp=Z,4.3nm,1.1s,baz=22,slow=5.0,SNR=5.5

IDC 04 23:56:07.6±5.7, 14°26S×170°65E, h0km, mb3.6/3, mbtmp3.6/3, MS3.2/5, Error ellipse: s-maj=269.5km s-min=38.3km az=142.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**24.00**	**253**	LR	LR	00 09 20.2	
	comp=Z,35nm,20.9s,baz=85,slow=33						
URZ	**Urewera**	**24.58**	**168**	LR	LR	00 09 21.3	
	comp=Z,36nm,20.3s,baz=216,slow=32						
WRA	**Warramunga Arr**	**35.11**	**256**	P	P	00 03 03.8	+0.8
	0.4nm,0.9s,baz=87,slow=9.9,SNR=1.9						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**35.89**	**249**	P	P	00 03 09.2	-0.6
	1.2nm,0.8s,baz=78,slow=8.7,SNR=10						
ASAR				LR	LR	00 16 36.0	
	comp=Z,56nm,19.8s,baz=51,slow=34						
	1.2nm,0.8s						
ASAJ	**Asahikawa**	**63.48**	**338**	LR	LR	00 29 41.6	
	comp=Z,31nm,19.3s,baz=209,slow=32						
MA2	**Magadan**	**75.33**	**350**	LR	LR	00 36 14.5	
	comp=Z,19nm,20.2s,baz=114,slow=32						
ILAR	**Eielson Array**	**85.11**	**17**	P	P	00 08 45.1	0.0
	0.6nm,0.9s,baz=225,slow=7.5,SNR=2.6						
	0.6nm,0.9s						

*IDC **04** 23:56:57.7±0.8, 5°65S×36°11E, h0km, mb4.0/9, mbtmp4.1/13, ML3.9/4, MS3.2/8, Error ellipse: s-maj=22.5km s-min=16.2km az=120.0*
*NEIC **04** 23:56:58.6±2.1, 5°63S±0°10×36°1E±0°1, h10km±2km, mb4.4/8, Error ellipse: s-maj=24.6km s-min=14.1km az=115.0*

ISC 04 23:56:58.2±0.6, 5°54S±0°05×36°00E±0°08, h9km, n35, σ1§93/42, mb4.2/10, MS3.2/6, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DODT	**Dodoma, Tanzan**	**0.69**	**201**	*i* P	Pn	23 57 13.3	-1.1
KIBK	**Kibwezi**	**3.78**	**33**		Pn	23 57 56.5	-0.4
KIBK	**Kibwezi**	**3.78**	**33**	eP	Pb	23 58 04.7	-0.6
KIBK				eS	Sn	23 58 43.8	+2.3
KMBO	**Kilima Mbogo**	**4.56**	**16**		Pn	23 58 07.0	-0.7
KMBO	**Kilima Mbogo**	**4.56**	**16**	eP	Pn	23 58 07.5	-0.2
KMBO				eS	Sb	23 59 10.3	-3.5
KMBO	**Kilima Mbogo**	**4.56**	**16**	Pn	Pn	23 58 07.2	-0.5
	11nm,0.3s,baz=192,slow=15,SNR=93						
KMBO				Pg	Pb	23 58 16.8	-1.9
	20nm,0.3s,baz=202,slow=18,SNR=14						
KMBO				Sn	Sn	23 58 58.2	-2.8
	37nm,0.3s,baz=70,slow=24,SNR=6.9						
KMBO				Lg	Lg	23 59 14.3	
	78nm,0.3s,baz=294,slow=23,SNR=20						
KMBO				LR	LR	00 00 05.1	
	comp=Z,94nm,18.6s,baz=108,slow=40						
	40nm,0.2s						
KMBO	**Kilima Mbogo**	**4.56**	**16**	eP	Pn	23 58 07.5	-0.2
KMBO				eS	Sb	23 59 10.3	-3.5
KMBO	**Kilima Mbogo**	**4.56**	**16**	eP	Pn	23 58 08.3	+0.6
KMBO				eS	Sb	23 59 15.0	+1.2
LODK	**Lodwar**	**8.93**	**356**		Pn	23 59 07.2	-0.3
LODK	**Lodwar**	**8.93**	**356**	eP	Pn	23 59 05.4	-2.1
LODK				eS	Sn	00 01 13.4	+25
LODK	**Lodwar**	**8.93**	**356**	eP	Pn	23 59 05.4	-2.1
LODK				eS	Sn	00 01 13.4	+25
LSZ	**Lusaka**	**12.35**	**218**		Pn	23 59 53.6	-0.9
LSZ	**Lusaka**	**12.35**	**218**	Pn	Pn	23 59 54.6	+0.1
	1.4nm,0.3s,baz=38,slow=11,SNR=9.6						
LSZ				Sn	Sn	00 02 05.7	-6.7
	1.5nm,0.3s,baz=126,slow=22,SNR=4.3						
LSZ				Lg	Lg	00 03 18.5	
	4.2nm,0.3s,baz=102,slow=16,SNR=3.4						
LSZ				LR	LR	00 04 47.9	
	comp=Z,129nm,18.0s,baz=46,slow=38						
	5.5nm,0.5s						
MATP	**Matopo**	**16.49**	**206**	Pn	Pn	00 00 49.1	-1.0
	0.1nm,0.3s,baz=27,slow=15,SNR=4.5						
MATP				Sn	Sn	00 03 56.9	+3.4
	0.1nm,0.3s,baz=357,slow=12,SNR=2.1						
MATP				Lg	Lg	00 05 26.9	
	0.5nm,0.3s,baz=118,slow=22,SNR=4.4						
	1.2nm,0.8s						
OPO	**Ambohidratompo**	**16.94**	**141**	Pn	Pn	00 00 54.5	-1.4
	baz=59,slow=7.0,SNR=2.1						
OPO				Sn	Sn	00 04 02.9	-1.5
	baz=274,slow=3.9,SNR=1.5						
	2.9nm,0.9s						

ATD Arta Tunnel 18.28 22 S Sn 00 04 37.6 +0.9
0.1nm,0.3s,baz=288,slow=22,SNR=1.9
ATD Lg Lg 00 06 28.8
baz=144,slow=20,SNR=3.7
LBTB Lobatse 21.78 206 P P 00 01 50.1 -0.6
LBTB IAmb IAmb 00 01 57.7
comp=Z,20nm,1.2s
LBTB Lobatse 21.78 206 P P 00 01 50.3 -0.4
comp=Z,6.2nm,0.7s,baz=27,slow=14,SNR=8.9
LBTB S Sn 00 05 59.7 -1.5
comp=Z,1.8nm,0.8s,baz=140,slow=12,SNR=1.5
LBTB Lg Lg 00 08 11.7
comp=Z,0.2nm,0.3s,baz=274,slow=17,SNR=2.5
LBTB LR LR 00 10 22.7
comp=Z,32nm,20.8s,baz=8.5,slow=37
comp=Z,6.2nm,0.7s
TSUM Tsumeb 22.50 231 LR LR 00 11 28.3
comp=Z,66nm,19.0s,baz=14,slow=39
BOSA Boshof 25.11 203 P P 00 02 24.2 +0.6
BOSA Boshof 25.11 203 P P 00 02 24.3 +0.7
comp=Z,6.8nm,1.0s,baz=12,slow=8.7,SNR=5.9
BOSA Lg Lg 00 09 59.2
comp=Z,0.1nm,0.3s,baz=313,slow=20,SNR=2.6
comp=Z,6.8nm,1.0s
TOA0 Torodi Ar. Sit 38.80 299 P P 00 04 26.2 +2.4
TORD Torodi Ar. Bea 38.80 299 P P 00 04 24.3 +0.5
TORD Torodi Ar. Bea 38.80 299 P P 00 04 26.2 +2.5
comp=Z,1.7nm,0.9s,baz=97,slow=7.4,SNR=9.0
TORD LR LR 00 19 53.9
comp=Z,41nm,18.3s,baz=138,slow=35
comp=Z,1.7nm,0.9s
DBIC Dimbokro 42.54 286 P P 00 04 54.5 -0.2
DBIC IAmb IAmb 00 04 57.7
comp=Z,5.4nm,0.9s
DBIC Dimbokro 42.54 286 P P 00 04 56.1 +1.4
comp=Z,4.2nm,0.9s,baz=122,slow=9.7,SNR=3.5
DBIC LR LR 00 22 24.3
comp=Z,64nm,19.0s,baz=89,slow=36
comp=Z,4.2nm,0.9s
PALK Pallekele 46.38 75 LR LR 00 23 20.1
comp=Z,42nm,18.2s,baz=12,slow=34
ESDC Sonseca Array 58.14 324 P P 00 06 54.7 +2.2
comp=Z,0.6nm,0.7s,baz=121,slow=6.3,SNR=4.1
comp=Z,0.6nm,0.7s
MAKZ Makanchi 66.08 33 P P 00 07 45.5 -0.2
MK31 Makanchi Array 66.24 33 P P 00 07 47.3 +0.6
MK31 IAmb IAmb 00 07 48.7
comp=Z,3.3nm,0.8s
MKAR Makanchi Array 66.24 33 P P 00 07 47.0 +0.3
MKAR Makanchi Array 66.24 33 P P 00 07 47.8 +1.0
comp=Z,1.9nm,0.7s,baz=228,slow=6.3,SNR=12
MKAR LR LR 00 41 38.5
comp=Z,13nm,18.2s,baz=328,slow=40
comp=Z,1.9nm,0.7s
CMAR Chiang Mai Arr 66.45 67 P P 00 07 49.3 +0.7
comp=Z,0.7nm,0.3s,baz=260,slow=7.6,SNR=7.2
comp=Z,0.7nm,0.3s
KURBB Kurchatov Arra 66.84 28 P P 00 07 51.5 +1.0
comp=Z,0.6nm,0.5s,baz=229,slow=7.2,SNR=9.9
comp=Z,0.6nm,0.5s
SONM Songino Array 81.13 40 P P 00 09 16.2 +1.9
comp=Z,1.1nm,0.8s,baz=238,slow=4.8,SNR=6.6
comp=Z,1.1nm,0.8s

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*IDC **05** 00:10:56.3±54.0, 19°.81S×179°.78W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=977.2km s-min=148.6km az=81.0*
*NEIC **05** 00:11:29.2±0.8, 20°.0S±0°.5×177°.6W±0°.3, h526km±42km, mb4.2/13, Error ellipse: s-maj=82.1km s-min=27.6km az=202.0*
ISC 05 00:11:29.1±1.3**, 19°.6S**±0°.3×**177°.5W**±0°.1**, h550**km**, n19, σ0s.57**/19**, mb4.2**/10**, Fiji Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NIUE Niue 7.17 87 P P 00 13 18.6 -0.2
CTAO Charters Tower 34.05 263 P P 00 17 28.4 +0.3
CTAO IAmb IAmb 00 17 29.6
comp=Z,12nm,1.2s
STKA Stephens Creek 38.59 243 P P 00 18 04.7 -0.7
STKA Stephens Creek 38.59 243 P P 00 18 05.0 -0.5
comp=Z,1.9nm,0.5s,baz=70,slow=12,SNR=5.8
comp=Z,1.9nm,0.5s
BBOO Buckleboo 43.36 243 P P 00 18 42.1 -1.1
BBOO IAmb IAmb 00 18 44.7
comp=Z,10nm,1.4s
WR0 Warramunga Arr 45.00 261 P P 00 18 56.1 0.0
WR0 IAmb IAmb 00 19 12.4
comp=Z,3.2nm,1.2s
WB0 Warramunga Arr 45.17 261 P P 00 18 57.4 0.0
WB0 IAmb IAmb 00 18 59.7
comp=Z,3.1nm,0.8s
AS31 Alice Springs 45.18 256 P P 00 18 57.9 +0.5
ASAR Alice Springs 45.18 256 P P 00 18 57.4 -0.1
ASAR Alice Springs 45.18 256 P P 00 18 57.6 +0.2
comp=Z,5.8nm,0.8s,baz=96,slow=8.1,SNR=39
comp=Z,5.8nm,0.8s
WB2 Warramunga Arr 45.18 261 P P 00 18 57.3 -0.2
WRAB Tennant Creek 45.18 261 P P 00 18 56.4 -1.1
WRAB IAmb IAmb 00 18 58.3
comp=Z,12nm,1.2s
WRA Warramunga Arr 45.19 261 P P 00 18 57.2 -0.3
WRA Warramunga Arr 45.19 261 P P 00 18 57.9 +0.4
comp=Z,1.1nm,0.4s,baz=98,slow=7.8,SNR=43
comp=Z,1.1nm,0.4s
FORT Forrest 50.07 246 P P 00 19 33.4 -0.5
PSA00 Pilbara Seismi 58.33 256 P P 00 20 32.8 +0.7
PSA00 IAmb IAmb 00 20 39.8
comp=Z,23nm,1.4s
MBWA Marble Bar 58.51 257 P P 00 20 33.9 +0.6
MBWA IAmb IAmb 00 20 40.1
comp=Z,22nm,1.4s
SBA Scott Base 58.77 184 P P 00 20 34.1 0.0
QSPA South Pole Qui 70.44 180 P P 00 21 48.5 +0.4

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*IDC **05** 00:22:46.8±0.6, 2°.63S×28°.59E, h0km, mb4.1/19, mbtmp4.1/23, ML2.0/1, MS3.4/24, Error ellipse: s-maj=17.8km s-min=11.4km az=99.0*
*NEIC **05** 00:22:49.7±1.5, 2°.66S±0°.07×28°.97E±0°.03, h10km±1km, mb4.6/39, Error ellipse: s-maj=12.5km s-min=5.4km az=192.0*
ISC 05 00:22:48.6±0.3**, 2°.65S**±0°.04×**28°.84E**±0°.05**, h12**km**, n125, σ2s.11**/127**, mb4.5**/59**, MS3.4**/20**, 1D, Lake Tanganyika region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KMBO Kilima Mbogo 8.55 80 Pn Pn 00 24 51.7 -0.8
KMBO Sn Sn 00 26 27.2 -1.8
KMBO Kilima Mbogo 8.55 80 eP Sn 00 26 36.4 +7.4
KMBO eS Sg 00 27 18.4 -4.7
KMBO IAML 00 27 30.5
comp=Z,89nm,0.6s
KMBO Kilima Mbogo 8.55 80 eP Pn 00 24 54.9 +2.5
KMBO Kilima Mbogo 8.55 80 Pn Pn 00 24 54.3 +1.8
4.6nm,0.4s,baz=232,slow=19,SNR=32
KMBO Sn Sn 00 26 36.5 +7.4
2.8nm,0.3s,baz=323,slow=20,SNR=5.4
KMBO Lg Lg 00 27 20.2
7.4nm,0.3s,baz=164,slow=23,SNR=11
KMBO LR LR 00 28 33.0
comp=Z,386nm,18.4s,baz=110,slow=39
KMBO Kilima Mbogo 8.55 80 eP Pn 00 24 55.1 +2.7
KMBO eS Sg 00 27 12.6 -10
KMBO Kilima Mbogo 8.55 80 eP Sn 00 26 36.4 +7.4
KMBO eS Sg 00 27 18.4 -4.7
KMBO IAML 00 27 30.5
comp=Z,89nm,0.6s
LODK Lodwar 8.88 47 Pn Pn 00 24 55.8 -1.1
LODK Sn Sn 00 26 36.1 -1.0
LODK Lodwar 8.88 47 eP Sn 00 26 38.8 +1.6
LODK eS Sg 00 27 27.1 -6.8
LODK Lodwar 8.88 47⇓ eP Pn 00 24 56.3 -0.6
LODK eS Sg 00 27 08.7 -25
LODK Lodwar 8.88 47 eP Sn 00 26 38.8 +1.6
LODK eS Sg 00 27 27.1 -6.8
KIBK Kibwezi 9.21 88 Pn Pn 00 25 01.5 +0.2
KIBK Kibwezi 9.21 88 eP Pn 00 25 01.6 +0.2
KIBK eS Sn 00 27 31.4 +46
LSZ Lusaka 12.56 183 Pn Pn 00 25 48.2 +0.8
LSZ Lusaka 12.56 183 Pn Pn 00 25 46.8 -0.6
3.3nm,0.5s,baz=354,slow=14,SNR=8.8
LSZ Sn Sn 00 28 00.3 -7.1
1.8nm,0.3s,baz=108,slow=19,SNR=4.8
LSZ Lg Lg 00 29 18.8
3.5nm,0.3s,baz=113,slow=21,SNR=8.1
LSZ LR LR 00 30 37.4
comp=Z,365nm,18.1s,baz=6.5,slow=37
FURI Furi 15.10 40 eS S 00 29 47.5 +20
FURI Furi 15.10 40 eS S 00 29 47.5 +20
MATP Matopo 17.67 181 P Pn 00 26 54.2 -0.6
1.0nm,0.5s,baz=1.5,slow=14,SNR=9.5
MATP S Sn 00 30 14.1 +2.3
9.5nm,0.8s,baz=136,slow=2.9,SNR=6.4
MATP Lg Lg 00 31 59.9
0.2nm,0.3s,baz=280,slow=13,SNR=3.6
MUSN Musina, Limpop 19.54 177 eP Pn 00 27 18.3 +0.8
MUSN IAmb IAmb 00 27 24.7
comp=Z,9.0nm,1.0s
TSUM Tsumeb 19.79 213 P P 00 27 18.6 -0.5
TSUM Tsumeb 19.79 213 eP P 00 27 17.4 -1.8
TSUM Tsumeb 19.79 213 P P 00 27 19.1 0.0
comp=Z,0.3nm,0.3s,baz=13,slow=9.3,SNR=8.8
TSUM S S 00 30 56.2 -6.0
comp=Z,4.3nm,0.7s,baz=282,slow=22,SNR=3.5
TSUM Lg Lg 00 33 05.2
comp=Z,0.3nm,0.3s,baz=108,slow=4.4,SNR=7.7
TSUM LR LR 00 33 31.1
comp=Z,77nm,20.1s,baz=34,slow=33
comp=Z,12nm,1.0s
ATD Arta Tunnel 19.82 44 LR LR 00 35 21.6
comp=Z,14nm,18.8s,baz=216,slow=38
MOPA Mopani 20.89 173 eP P 00 27 27.9 -2.9
LEPH Lephalale, Lim 21.11 183 eP P 00 27 32.2 -1.1
LEPH IAmb IAmb 00 28 06.8
comp=Z,10nm,0.9s
LBTB Lobatse 22.45 188 P P 00 27 46.4 -1.3
LBTB Lobatse 22.45 188 eP P 00 27 47.5 -0.2
LBTB IAmb IAmb 00 27 54.9
comp=Z,4.0nm,0.8s
LBTB Lobatse 22.45 188 LR LR 00 36 51.6
comp=Z,169nm,21.0s,baz=10,slow=38
OPO Ambohidratompo 23.95 133 LR LR 00 35 49.0
comp=Z,132nm,20.9s,baz=178,slow=32
ABPO Ambohimpanom 24.26 133 P P 00 28 04.0 -2.0
BOSA Boshof 26.04 187 eP P 00 28 22.0 0.0
BOSA Boshof 26.04 187 P P 00 28 21.9 -0.2
comp=Z,3.8nm,0.8s,baz=358,slow=9.5,SNR=7.6
BOSA S S 00 32 52.3 -0.7
comp=Z,1.0nm,0.6s,baz=197,slow=20,SNR=1.1
BOSA LR LR 00 38 51.9
comp=Z,236nm,20.4s,baz=267,slow=37
comp=Z,3.8nm,0.8s
SUR Sutherland 30.52 193 P P 00 29 01.8 -0.2
TOA0 Torodi Ar. Sit 31.18 301 P P 00 29 07.3 -0.5
TOA0 IAmb IAmb 00 29 09.3
comp=Z,4.2nm,0.7s
TORD Torodi Ar. Bea 31.18 301 P P 00 29 07.3 -0.6
TORD Torodi Ar. Bea 31.18 301 P P 00 29 04.3 -3.5
comp=Z,4.0nm,0.7s,baz=99,slow=7.7,SNR=25
TORD LR LR 00 40 46.0
comp=Z,77nm,19.0s,baz=118,slow=35
comp=Z,4.0nm,0.7s
EIL Elat 32.67 10 LR LR 00 41 14.6
comp=Z,50nm,18.3s,baz=241,slow=34
TAM Tamanrasset 34.02 319 P P 00 29 34.4 +1.6
DBIC Dimbokro 34.89 286 P P 00 29 37.5 -2.8
comp=Z,1.9nm,0.7s,baz=96,slow=7.7,SNR=4.2
DBIC LR LR 00 42 31.4
comp=Z,31nm,20.1s,baz=68,slow=34
comp=Z,1.9nm,0.7s
MMAI Mount Meron Ar 36.01 9 P P 00 29 50.5 +0.8
comp=Z,0.9nm,0.8s,baz=188,slow=8.0,SNR=1.7
MMAI LR LR 00 43 39.3
comp=Z,41nm,19.3s,baz=157,slow=35
comp=Z,0.9nm,0.8s
IDI Anoyia 37.92 355 LR LR 00 45 49.2
comp=Z,35nm,18.9s,baz=44,slow=36
KEST Kesra 42.31 336 LR LR 00 48 38.0
comp=Z,41nm,21.9s,baz=214,slow=37
BRTR Keskin Array B 42.40 5 P P 00 30 44.1 +1.0
comp=Z,2.8nm,0.8s,baz=172,slow=9.9,SNR=12
comp=Z,2.8nm,0.8s
ARPR Arapgir-MALATY 42.45 11 P P 00 30 44.7 +1.1
ARPR IAmb IAmb 00 30 50.0
comp=Z,17nm,1.2s
GNI Garni 45.02 17 P P 00 31 05.6 +1.3
GNI IAmb IAmb 00 31 18.4
comp=Z,15nm,1.2s
GNI Garni 45.02 17 LR LR 00 49 06.2
comp=Z,41nm,19.1s,baz=198,slow=35
DIVS Divibare 47.21 351 P P 00 31 21.9 +0.5
DIVS IAmb IAmb 00 31 27.6
comp=Z,10nm,1.3s
MDT Midelt 47.38 321 LR LR 00 52 50.3
comp=Z,47nm,21.6s,baz=118,slow=38
HRA Herat 48.41 38 P P 00 31 31.0 0.0
CTI Castel Tesino 50.83 345 P P 00 31 49.5 +0.3
CTI IAmb IAmb 00 32 09.6
comp=Z,6.3nm,1.2s
PSZ Piszkesteto 50.97 352 P P 00 31 50.5 +0.4
PSZ IAmb IAmb 00 31 55.9
comp=Z,5.5nm,0.9s
TRIS Tristan da Cun 51.01 223 P P 00 31 52.0 +1.5
ARSA Arzberg 51.05 348 *i* P P 00 31 51.6 +0.9
comp=Z,6.6nm,1.4s
RONA Rosalia, Austr 51.33 349 *i* P P 00 31 53.4 +0.6
comp=Z,5.3nm,1.1s
CONA Conrad Observa 51.64 349 *i* P P 00 31 55.7 +0.6
comp=Z,5.3nm,1.3s
VYHS Vyhne 51.68 352 eP P 00 31 55.8 +0.4
CRVS Cervenica-Dubn 51.74 354 eP P 00 31 56.7 +0.8
ESBB Sonseca Array 51.77 328 P P 00 31 56.9 +0.6
ESBB IAmb IAmb 00 32 09.8
comp=Z,7.7nm,1.2s
ESDC Sonseca Array 51.77 328 P P 00 31 56.1 -0.2
ESDC Sonseca Array 51.77 328 P P 00 31 56.2 0.0
comp=Z,2.3nm,0.9s,baz=146,slow=7.1,SNR=11
ESDC LR LR 00 55 03.8
comp=Z,34nm,18.3s,baz=108,slow=38
comp=Z,2.3nm,0.9s
LESA Schwarzleotal 51.85 346 eP P 00 31 56.8 +0.1
comp=Z,2.5nm,0.7s
TUE Stuetta 51.86 343 P P 00 31 56.8 -0.2
TUE IAmb IAmb 00 32 16.2
comp=Z,6.5nm,1.1s
BIOA Bad Ischl, Aus 51.88 347 *i* P P 00 31 56.4 -0.4
comp=Z,1.5nm,0.6s
MOA Molln 51.89 348 eP P 00 31 57.3 +0.3
comp=Z,5.3nm,0.8s
WTTA Wattenberg 51.95 345 *i* P P 00 31 57.7 +0.1
comp=Z,8.6nm,1.1s
DAVOX Davos/Dischmat 51.98 344 LR LR 00 54 42.2
comp=Z,22nm,20.6s,baz=94,slow=37
SQTA Sankt Quirin 52.03 345 *i* P P 00 31 58.2 +0.1
comp=Z,2.6nm,0.6s
MOTA Moosalm 52.17 345 *i* P P 00 31 58.8 -0.4
comp=Z,2.4nm,0.6s
RETA Reutte 52.39 345 *i* P P 00 32 00.2 -0.5
comp=Z,8.1nm,1.4s
DAVA Damuels 52.45 344 *i* P P 00 32 00.8 -0.5
comp=Z,8.7nm,1.1s
KRUC Moravsky 52.63 350 eP P 00 32 02.0 -0.4
PALK Pallekele 52.69 79 LR LR 00 51 53.0
comp=Z,39nm,18.7s,baz=12,slow=33
CKRC Cesky Krumlov 52.80 348 eP P 00 32 03.6 -0.1
VRAC Vranov 52.83 350 eP P 00 32 03.6 -0.3
GERES GERESS Array B 52.95 348 P P 00 32 04.5 -0.4
comp=Z,1.3nm,0.6s,baz=155,slow=7.3,SNR=7.1
comp=Z,1.3nm,0.6s
MORC Moravsky Berou 53.12 351 P P 00 32 06.6 +0.5
MORC IAmb IAmb 00 32 10.2
comp=Z,11nm,1.4s
MORC Moravsky Berou 53.12 351 eP P 00 32 06.2 +0.1
AKASG Malin Array Be 53.15 0 P P 00 32 04.8 -1.4
comp=Z,0.2nm,0.3s,baz=182,slow=6.2,SNR=4.4
comp=Z,0.2nm,0.3s
KHC Kasperske Hory 53.25 348 P P 00 32 06.0 -1.1
KHC IAmb IAmb 00 32 07.5
comp=Z,7.5nm,1.1s
KHC Kasperske Hory 53.25 348 eP P 00 32 05.9 -1.1
ZVC Zvikov 53.41 348 eP P 00 32 07.6 -0.6
BFO Black Forest 53.83 343 P P 00 32 12.6 +1.3
DPC Dobruska-Polom 53.88 350 eP P 00 32 11.6 -0.1
MTE Manteigas 54.23 326 P P 00 32 15.6 +1.2
MTE IAmb IAmb 00 32 36.7
comp=Z,21nm,1.5s
SACV Santiago Islan 54.78 290 P P 00 32 21.2 +2.4
CLL Collm 55.43 348 P P 00 32 23.6 +0.9
CLL IAmb IAmb 00 32 36.0
comp=Z,6.4nm,1.2s
SUW Suwalki 56.66 356 P P 00 32 32.8 +1.3
MNK Minsk 56.96 359 *i* P P 00 32 31.8 -1.8
comp=E,9.0nm,0.8s,baz=179
MNK *i* P P 00 32 31.8 -1.8
comp=N,3.0nm,0.8s
MNK *i* P P 00 32 31.8 -1.8
comp=Z,6.0nm,0.8s
MNK *i* PcP PcP 00 33 27.2 -1.7
MNK *i* PP PP 00 34 38.3 -2.1
MNK *i* PPP PPP 00 35 53.8
MNK *i* S S 00 40 26.2 -1.3
MNK *i* SS SS 00 44 59.5 +43
MNK *i* SSS SSS 00 46 10.4
NACGM Naroch 57.38 359 eP P 00 32 36.5 -0.1
comp=Z,20nm,1.0s,baz=178
KKAR Karatay Array 58.99 35 P P 00 32 49.1 +0.8
DSB Dublin 63.02 337 P P 00 33 16.5 +1.2
EKA Eskdalemuir Ar 63.49 340 P P 00 33 18.2 -0.2
comp=Z,2.8nm,0.9s,baz=125,slow=7.0,SNR=3.7
comp=Z,2.8nm,0.9s
HFS Hagfors 63.72 352 P P 00 33 19.3 -0.5
comp=Z,4.3nm,1.0s,baz=189,slow=8.7,SNR=1.9
comp=Z,4.3nm,1.0s
FINES FINESS Array B 63.95 359 P P 00 33 21.4 +0.1
comp=Z,2.9nm,0.9s,baz=224,slow=8.0,SNR=5.3
comp=Z,2.9nm,0.9s
CMLA Cha da Macela 64.33 314 P P 00 33 25.9 +1.6
NB2 NORSAR Subarra 64.96 351 P P 00 33 27.8 -0.3
comp=Z,8.0nm,1.0s,baz=162,slow=6.5
NOA NORSAR Array B 64.96 351 P P 00 33 27.8 -0.3
comp=Z,2.1nm,0.8s,baz=162,slow=6.4,SNR=5.0
NOA LR LR 01 04 46.8
comp=Z,14nm,18.4s,baz=355,slow=39
comp=Z,2.1nm,0.8s
BVAR Borovoye Array 65.48 26 P P 00 33 32.2 +0.7
comp=Z,0.8nm,0.8s,baz=225,slow=4.0,SNR=4.0
BVAR LR LR 01 06 27.4
comp=Z,37nm,18.7s,baz=230,slow=40
comp=Z,0.8nm,0.8s
MAKZ Makanchi 67.78 36 P P 00 33 46.9 +0.5
MAKZ IAmb IAmb 00 33 48.3
comp=Z,4.3nm,1.0s
KURBB Kurchatov Arra 67.90 32 P P 00 33 48.0 +1.0
comp=Z,2.2nm,1.0s,baz=238,slow=6.7,SNR=7.3
comp=Z,2.2nm,1.0s
MK31 Makanchi Array 67.96 37 P P 00 33 48.0 +0.5
MK31 IAmb IAmb 00 33 49.4
comp=Z,4.9nm,1.4s
MKAR Makanchi Array 67.96 37 P P 00 33 48.0 +0.5
MKAR Makanchi Array 67.96 37 P P 00 33 48.6 +1.1
comp=Z,1.9nm,0.7s,baz=245,slow=5.8,SNR=22
MKAR LR LR 01 08 06.5
comp=Z,34nm,18.2s,baz=336,slow=40
comp=Z,1.9nm,0.7s
KURK Kurchatov 68.00 32 P P 00 33 48.2 +0.6
KURK IAmb IAmb 00 33 53.8
comp=Z,7.0nm,1.4s
MAW Mawson 68.92 167 LR LR 01 03 35.5
comp=Z,28nm,18.1s,baz=211,slow=36
WMQ Urumqi 69.99 41 eP P 00 34 02.5 +2.2
WMQ pP sP 00 34 06.8 +0.4
WMQ pmax pmax
comp=Z,8.0nm,0.7s
SNAA Sanae 71.78 190 P P 00 34 12.6 +1.9
SNAA IAmb IAmb 00 34 23.2
comp=Z,6.2nm,1.5s
CMAR Chiang Mai Arr 72.05 70 P P 00 34 13.2 +0.1
CMAR Chiang Mai Arr 72.05 70 P P 00 34 14.6 +1.4
comp=Z,0.6nm,0.4s,baz=278,slow=6.1,SNR=1.9
comp=Z,0.6nm,0.4s
KULM Kulim 72.17 84 P P 00 34 11.9 -2.1
GOMU GeErMu 72.43 51 P P 00 34 18.0 +2.4
GOMU pP pP 00 34 18.8 -1.3
GOMU sP sP 00 34 22.1 +0.4
GOMU pmax pmax
comp=Z,2.0nm,0.5s
ZAA0 Zalesovo Array 72.95 31 P P 00 34 18.3 +0.5
ZAA0 IAmb IAmb 00 34 22.3
comp=Z,9.7nm,1.4s
ZALV Zalesovo Beam 72.95 31 P P 00 34 17.6 -0.2
ZALV Zalesovo Beam 72.95 31 P P 00 34 18.2 +0.4
comp=Z,2.9nm,1.0s,baz=250,slow=4.3,SNR=7.7
comp=Z,2.9nm,1.0s
MYKOM Kota Tinggi 75.12 87 P P 00 34 31.0 -0.4
PZH PanZhiHua 75.95 62 P P 00 34 36.2 +0.2
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,60nm,3.7s
BDFB Brasilia 76.63 255 P P 00 34 39.7 -0.3
comp=Z,4.2nm,0.8s,baz=359,slow=3.6,SNR=5.7
BDFB LR LR 01 05 58.7
comp=Z,28nm,18.3s,baz=303,slow=34
comp=Z,4.2nm,0.8s
ORCD Orcadas 79.70 209 P P 00 34 57.7 +1.7
BELA Belgrano 2 81.99 191 P P 00 35 09.2 +1.2
BELA IAmb IAmb 00 35 13.4
comp=Z,6.6nm,1.3s
SONM Songino Array 83.62 41 P P 00 35 17.8 +0.6
SONM Songino Array 83.62 41 P P 00 35 18.7 +1.4
comp=Z,0.4nm,0.6s,baz=253,slow=5.1,SNR=3.8
comp=Z,0.4nm,0.6s
ULN Ulaanbaatar 84.07 42 P P 00 35 19.8 +0.3
ULN IAmb IAmb 00 35 25.4
comp=Z,1.8nm,0.7s
HHC Hu-ho-hao-te 86.22 49 eP P 00 35 30.6 +0.2
HHC pmax pmax
comp=Z,5.0nm,0.5s
HHC pmax pmax
comp=Z,230nm,4.5s
NJ2 Nanjing 91.41 58 eP P 00 35 54.4 -0.6
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
VNDA Vanda 95.93 171 LR LR 01 17 51.2
comp=Z,18nm,18.6s,baz=210,slow=34
MDJ Mudanjiang 99.52 45 P Pdif 00 36 33.7 +2.0
MDJ pmax pmax
comp=Z,7.0nm,2.1s
MDJ pmax pmax
comp=Z,230nm,5.7s

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*NEIC **05** 00:31:59.2±0.7, 36°.57N±0°.01×98°.53W±0°.01, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.1km az=270.0*
*ANF **05** 00:31:59.8±0.4, 36°.58N×98°.55W, h5km, ML3.5/9, Error ellipse: s-maj=5.8km s-min=4.2km az=80.0*
*TUL **05** 00:31:59.6±0.9, 36°.58N±0°.01×98°.53W±0°.02, h3km±4km, ML3.0, mb_Lg2.8/66(NEIC), ML3.0/22(NEIC), Error ellipse: s-maj=2.2km s-min=1.6km az=125.0*
ISC 05 00:31:59.9±1.0**, 36°.57N**±0°.02×**98°.52W**±0°.02**, h6**km±9km**, n100, σ0s.66**/92**, Oklahoma**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OK035 E0210 Rd and N 0.20 312 Pg Pg 00 32 04.0 +0.1
OK035 Sg Sg 00 32 07.1 +0.5
OK035 IAML 00 32 07.3
4μm,0.3s
OK035 IAML 00 32 10.1
5μm,0.3s
OK038 West end E0370 0.20 242 Pg Pg 00 32 03.9 0.0
OK038 Sg Sg 00 32 07.0 +0.5
OK038 IAML 00 32 10.0
4μm,0.5s
OK038 IAML 00 32 11.3
4μm,0.3s
OK032 Salt Plains WL 0.34 48 Pg Pg 00 32 06.7 +0.1
OK032 Sg Sg 00 32 11.8 +0.8
OK032 IAML 00 32 14.5
2μm,0.2s
OK032 IAML 00 32 17.1
2μm,0.2s
U32A Winter Ranch, 0.43 243 Pg Pg 00 32 08.1 -0.2
U32A Sg Sg 00 32 14.1 +0.2
U32A IAML 00 32 23.0
comp=E,607nm,0.7s
U32A Winter Ranch, 0.43 243 P Pg 00 32 08.1 -0.2
baz=62,SNR=22
U32A S Sg 00 32 14.5 +0.5
baz=62
CROK Carrier 0.44 99 Pg Pg 00 32 08.5 +0.1
CROK Sg Sg 00 32 15.0 +0.8
CROK IAML 00 32 20.3
comp=E,1μm,0.3s
CROK IAML 00 32 21.9

	comp=N,2µm,0.2s						
KAN14	**Manchester OK**	**0.59**	**49**		**Pg**	**00 32 11.2**	**-0.1**
KAN14				Sg	**Sg**	**00 32 19.1**	**+0.1**
GC02	**Grant County #**	**0.60**	**62**	Pg	**Pg**	**00 32 11.4**	**-0.1**
GC02				Sg	**Sg**	**00 32 19.7**	**+0.4**
KAN10	**Anthony SW Sta**	**0.65**	**32**	Pg	**Pg**	**00 32 12.1**	**-0.3**
KAN10				Sg	**Sg**	**00 32 21.1**	**+0.3**
KAN05	**Bluff City Nor**	**0.75**	**44**	Pg	**Pg**	**00 32 13.9**	**-0.4**
KAN05				Sg	**Sg**	**00 32 24.2**	**+0.2**
KAN17	**Caldwell West**	**0.77**	**52**		**Pg**	**00 32 14.4**	**-0.3**
KAN08	**Anthony NE Sta**	**0.79**	**34**	Pg	**Pg**	**00 32 14.3**	**-0.7**
KAN12	**Harper NE Stat**	**0.83**	**30**		**Pg**	**00 32 15.9**	**0.0**
KAN01	**Argonia South**	**0.84**	**46**	Pg	**Pg**	**00 32 15.8**	**-0.3**
KAN06	**Argonia West S**	**0.86**	**38**		**Pg**	**00 32 16.1**	**-0.3**
ELIS	**Ellis County**	**0.88**	**235**		**Pb**	**00 32 17.5**	**-0.3**
ELIS				IAML		00 32 38.7	
	comp=E,416nm,0.2s						
ELIS				IAML		00 32 41.0	
	comp=N,528nm,0.2s						
KAN09	**Caldwell North**	**0.92**	**52**	Pg	**Pg**	**00 32 17.0**	**-0.5**
CSTR	**Hydro, Custer**	**0.94**	**188**	Pg	**Pg**	**00 32 17.5**	**-0.4**
KAN13	**South Haven SW**	**0.95**	**62**	Pg	**Pg**	**00 32 17.6**	**-0.5**
KS21	**Milan North St**	**0.99**	**44**	Pg	**Pg**	**00 32 18.5**	**-0.4**
BLOK	**Blackwell**	**1.07**	**80**	Pg	**Pg**	**00 32 19.8**	**-0.6**
OK029	**Liberty Lake**	**1.16**	**132**		**Pg**	**00 32 21.3**	**-0.9**
OK048	**Pawnee Station**	**1.28**	**97**		**Pn**	**00 32 23.8**	**-0.6**
OK048				IAML		00 32 46.2	
	comp=N,374nm,0.2s						
ADOK	**Arcadia Dam**	**1.31**	**134**	Pg	**Pn**	**00 32 23.6**	**-1.2**
OK051	**E0350 and S346**	**1.36**	**92**		**Pn**	**00 32 24.9**	**-0.6**
OK033	**Mehan**	**1.39**	**112**		**Pn**	**00 32 25.4**	**-0.5**
OKCSW	**OKLAHOMA CITY**	**1.46**	**143**		**Pn**	**00 32 25.9**	**-1.0**
OKCSW				IAmb_Lg		00 32 49.2	
	comp=Z,64nm,0.7s						
OK052	**Battle Ridge R**	**1.51**	**112**		**Pn**	**00 32 27.2**	**-0.3**
QUOK	**Quay**	**1.52**	**105**		**Pn**	**00 32 26.9**	**-0.8**
OK030	**Cody Creek RV**	**1.55**	**114**		**Pn**	**00 32 27.6**	**-0.5**
FNO	**Franklin**	**1.60**	**145**		**Pn**	**00 32 29.0**	**+0.2**
T35A	**Sooner Cattle**	**1.65**	**77**		**Pb**	**00 32 30.1**	**-0.7**
T35B	**Sooner Cattle**	**1.65**	**77**	P	**Pn**	**00 32 29.9**	**+0.3**
	baz=259,SNR=98						
T35B				S	**Sb**	**00 32 52.1**	**+0.2**
	baz=259						
DEOK	**Depew**	**1.79**	**113**	Pn	**Pn**	**00 32 30.8**	**-0.7**
WMOK	**Wichita Mounta**	**1.84**	**187**	Pn	**Pn**	**00 32 31.9**	**-0.3**
WMOK	**Wichita Mounta**	**1.84**	**187**	P	**Pn**	**00 32 32.4**	**+0.2**
	baz=6.3						
WMOK				S	**Sb**	**00 32 57.0**	**-0.5**
	baz=6.3						
WMOK	**Wichita Mounta**	**1.84**	**187**	P	**Pn**	**00 32 32.2**	**0.0**
	baz=6.3,SNR=45						
WMOK				S	**Sb**	**00 32 57.3**	**-0.2**
	baz=6.3						
R32A	**Long Quarter,**	**1.85**	**355**		**Pn**	**00 32 32.4**	**+0.1**
R32A	**Long Quarter,**	**1.85**	**355**	P	**Pb**	**00 32 33.2**	**-1.1**
	baz=175,SNR=38						
R32A				S	**Sg**	**00 32 58.1**	**-1.4**
	baz=175						
W35A	**Tecumseh**	**1.95**	**136**		**Pn**	**00 32 32.4**	**-1.3**
TUL3	**Leonard**	**2.31**	**106**		**Pn**	**00 32 38.2**	**-0.3**
TUL3				IAmb_Lg		00 33 18.4	
	comp=Z,28nm,0.7s						
TUL3	**Leonard**	**2.31**	**106**	P	**Pn**	**00 32 38.5**	**0.0**
	baz=288						
TUL3				S	**Sn**	**00 33 08.4**	**+1.2**
	baz=288						
TUL3	**Leonard**	**2.31**	**106**	P	**Pn**	**00 32 38.5**	**0.0**
	baz=288						
TUL3				S	**Sn**	**00 33 08.6**	**+1.4**
	baz=288						
CBKS	**Cedar Bluff**	**2.43**	**337**		**Pn**	**00 32 39.4**	**-1.0**
CBKS	**Cedar Bluff**	**2.43**	**337**	P	**Pn**	**00 32 40.3**	**0.0**
	baz=156						
CBKS				S	**Sn**	**00 33 11.3**	**+0.8**
	baz=156						
CBKS	**Cedar Bluff**	**2.43**	**337**	P	**Pn**	**00 32 40.6**	**+0.3**
	baz=156,SNR=20						
CBKS				S	**Sb**	**00 33 14.6**	**+0.1**
	baz=156						
LOOK	**Love County**	**2.80**	**157**		**Pb**	**00 32 50.6**	**+0.2**
WTFS	**Witchita Falls**	**2.80**	**179**		**Pb**	**00 32 50.9**	**+0.5**
RLO	**Rose Lookout**	**2.85**	**97**		**Pn**	**00 32 45.7**	**-0.3**
KSU1	**Kansas State U**	**2.94**	**30**		**Pn**	**00 32 46.7**	**-0.5**
KSU1	**Kansas State U**	**2.94**	**30**	P	**Pn**	**00 32 47.8**	**+0.6**
	baz=212						
KSU1				S	**Sn**	**00 33 24.1**	**+1.2**
	baz=212						
KSU1	**Kansas State U**	**2.94**	**30**	P	**Pn**	**00 32 48.0**	**+0.7**
	baz=212,SNR=6.8						
KSU1				S	**Sn**	**00 33 24.3**	**+1.4**
	baz=212						
AMTX	**Amarillo**	**3.07**	**238**		**Pb**	**00 32 55.7**	**+0.6**
AMTX				IAmb_Lg		00 33 38.2	
	comp=Z,26nm,1.0s						
AMTX	**Amarillo**	**3.07**	**238**	P	**Pn**	**00 32 49.6**	**+0.4**
	baz=56						
X37A	**Clayton**	**3.24**	**127**		**Pn**	**00 32 50.7**	**-0.7**
U38A	**Gravette**	**3.34**	**91**		**Pn**	**00 32 52.2**	**-0.5**
U38A				IAmb_Lg		00 33 46.8	
	comp=Z,21nm,1.0s						
Z35A	**Perchaven, San**	**3.40**	**162**	Pn	**Pn**	**00 32 52.1**	**-1.5**
Z35A				IAmb_Lg		00 33 53.3	
	comp=Z,21nm,1.1s						
APMT	**Aspermont**	**3.50**	**203**		**Pn**	**00 32 54.5**	**-0.4**
APMT				IAmb_Lg		00 33 56.6	
	comp=Z,13nm,1.0s						
DKNS	**Dickens**	**3.51**	**215**	Pn	**Pn**	**00 32 53.7**	**-1.4**
DKNS				IAmb_Lg		00 33 57.4	
	comp=Z,16nm,0.7s						
FW03	**Perrin-Whitt E**	**3.55**	**174**		**Pn**	**00 32 54.2**	**-1.4**
FW03				IAmb_Lg		00 33 55.8	
	comp=Z,8.6nm,0.7s						
FW06	**Azle**	**3.68**	**167**		**Pn**	**00 32 57.4**	**0.0**
FW06				IAmb_Lg		00 34 06.4	
	comp=Z,12nm,0.8s						
HHAR	**Hobbs**	**3.71**	**93**		**Pn**	**00 32 57.0**	**-0.8**
FW07	**Weatherford**	**3.91**	**171**	IAmb_Lg		00 34 07.4	
	comp=Z,11nm,0.7s						
ABTX	**Abilene, Hawle**	**4.05**	**194**	P	**Pn**	**00 33 02.2**	**-0.3**
	baz=13						
KSCO	**Kaye Shedlock'**	**4.06**	**308**	IAmb_Lg		00 34 18.4	
	comp=Z,28nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.06**	**308**	P	**Pn**	**00 33 01.8**	**-1.0**
	baz=126						
KSCO				S	**Sn**	**00 33 50.9**	**+0.2**
	baz=126						
KSCO	**Kaye Shedlock'**	**4.06**	**308**	P	**Pn**	**00 33 01.9**	**-0.9**
	baz=126						
SN05	**Snyder 5**	**4.17**	**208**	IAmb_Lg		00 34 15.3	
	comp=Z,38nm,0.9s						
SN01	**Snyder 1**	**4.19**	**208**	IAmb_Lg		00 34 19.6	
	comp=Z,30nm,0.8s						
POST	**Post**	**4.27**	**216**	IAmb_Lg		00 34 26.6	
	comp=Z,23nm,1.0s						
FW16	**Waxahatchie**	**4.30**	**161**	IAmb_Lg		00 34 28.4	
	comp=Z,27nm,0.8s						
S39A	**Bolivar**	**4.30**	**73**	P	**Pn**	**00 33 06.0**	**0.0**
	baz=257,SNR=14						
FW13	**Cleburne**	**4.31**	**168**	IAmb_Lg		00 34 28.5	
	comp=Z,8.2nm,0.9s						
Z38A	**Mt. Pleasant**	**4.40**	**138**	IAmb_Lg		00 34 30.7	
	comp=Z,21nm,1.0s						
MIAR	**Mount Ida**	**4.51**	**115**	IAmb_Lg		00 34 33.7	
	comp=Z,17nm,0.9s						
MIAR	**Mount Ida**	**4.51**	**115**	P	**Pn**	**00 33 09.1**	**+0.2**
	baz=298						
U40A	**Yellville**	**4.58**	**91**	P	**Pn**	**00 33 10.0**	**+0.3**
	baz=274,SNR=5.4						
U40A				P	**Pn**	**00 33 10.0**	**+0.3**
	baz=274,SNR=5.4						
T25A	**Trinidad**	**4.75**	**279**	P	**Pn**	**00 33 11.2**	**-1.2**
	baz=95						
P38A	**Dawn**	**4.98**	**51**	IAmb_Lg		00 34 48.3	
	comp=Z,14nm,0.8s						
MGMO	**Mountain Grove**	**5.05**	**82**	IAmb_Lg		00 34 45.2	
	comp=Z,14nm,0.7s						
X40A	**Basin Creek Fa**	**5.08**	**113**	IAmb_Lg		00 34 46.5	
	comp=Z,11nm,0.8s						
SGCY	**Sterling City**	**5.12**	**206**	IAmb_Lg		00 34 46.4	
	comp=Z,34nm,1.0s						
FCAR	**Ozark Folk Cen**	**5.22**	**96**	IAmb_Lg		00 34 45.1	
	comp=Z,13nm,0.8s						
WHAR	**Wooly Hollow**	**5.22**	**102**	IAmb_Lg		00 34 52.7	
	comp=Z,22nm,0.8s						
R40A	**Maddies Statio**	**5.26**	**69**	IAmb_Lg		00 34 54.0	
	comp=Z,11nm,0.8s						
R40A	**Maddies Statio**	**5.26**	**69**	P	**Pn**	**00 33 18.9**	**-0.3**
	baz=253,SNR=11						
WLAR	**White Oak Lake**	**5.29**	**121**	IAmb_Lg		00 34 57.4	
	comp=Z,13nm,0.9s						
UALR	**University of**	**5.34**	**108**	IAmb_Lg		00 34 56.5	
	comp=Z,22nm,1.1s						
ODSA	**Odessa**	**5.55**	**218**	IAmb_Lg		00 35 08.8	
	comp=Z,12nm,1.0s						
Q24A	**Divide**	**5.77**	**296**	IAmb_Lg		00 35 11.7	
	comp=Z,13nm,0.7s						
435B	**Jarrell**	**5.83**	**172**	IAmb_Lg		00 35 09.3	
	comp=Z,16nm,0.8s						
LCAR	**Lake Charles**	**5.97**	**93**	IAmb_Lg		00 35 11.8	
	comp=Z,10nm,0.9s						
BRIGG	**Briggsdale**	**6.05**	**313**	IAmb_Lg		00 35 21.7	
	comp=Z,16nm,0.7s						
JCT	**Junction City**	**6.17**	**190**	IAmb_Lg		00 35 21.9	
	comp=Z,13nm,0.8s						
ISCO	**Idaho Springs**	**6.45**	**302**	IAmb_Lg		00 35 26.1	
	comp=Z,12nm,0.8s						
PBMO	**Poplar Bluff**	**6.51**	**86**	IAmb_Lg		00 35 25.3	
	comp=Z,12nm,0.7s						
N23A	**Red Feather La**	**7.23**	**309**	IAmb_Lg		00 35 49.1	
	comp=Z,15nm,0.9s						
ECSD	**EROS Data Cent**	**7.30**	**11**	IAmb_Lg		00 35 52.6	
	comp=Z,11nm,0.8s						
S44A	**Carbondale**	**7.49**	**79**	IAmb_Lg		00 36 01.1	
	comp=Z,11nm,0.7s						
RSSD	**Black Hills**	**8.63**	**333**	IAmb_Lg		00 36 41.9	
	comp=Z,6.1nm,0.7s						

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*NEIC **05** 00:44:22.7±2.0, 35°.93N±0°.01×119°.73W±0°.01, h10^{km}±2^{km}, Error ellipse: s-maj=3.0km s-min=2.4km az=301.0*
*ANF **05** 00:44:22.3±0.2, 35°.94N×119°.75W, h28^{km}±2^{km}, ML3.0/15, Error ellipse: s-maj=2.3km s-min=1.3km az=120.0*
*NCEDC **05** 00:44:23.0±2.3, 35°.95N±0°.02×119°.75W±0°.03, h22^{km}±8^{km}, ML3.0/15, ML2.8/62(NEIC), Error ellipse: s-maj=3.3km s-min=2.7km az=89.0*
ISC 05 00:44:22.9±0.9**, 35°.93N**±0°.02×**119°.77W**±0°.02**, h30**^{km}±8^{km}**, n143,** σ**0^{s}80**/155**, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PKEM	**Kettleman Hill**	**0.30**	**296**		**Pb**	**00 44 30.5**	**+0.2**
PMRM	**Maxey Ranch**	**0.40**	**249**		**Pb**	**00 44 31.9**	**+0.1**
PSRM	**Scobie Ranch**	**0.42**	**260**		**Pb**	**00 44 32.2**	**+0.2**
PBPM	**Bitterwater Pu**	**0.43**	**215**		**Pb**	**00 44 32.4**	**+0.2**
PSNM	**Stone Corral**	**0.45**	**252**		**Pb**	**00 44 32.4**	**0.0**
CTM	**Castle Mountai**	**0.46**	**270**		**Pn**	**00 44 33.3**	**-0.3**
TRAY	**Twisselman Ran**	**0.47**	**217**		**Pb**	**00 44 32.9**	**0.0**
TRAM	**Private Proper**	**0.48**	**238**		**Pb**	**00 44 33.0**	**0.0**
GHC	**Gold Hill**	**0.48**	**258**		**Pb**	**00 44 32.7**	**-0.3**
PKLM	**Kerr Lake**	**0.49**	**251**		**Pb**	**00 44 33.1**	**0.0**
VOG	**Valley Oaks Go**	**0.50**	**39**		**Pb**	**00 44 32.7**	**-0.6**
VOG					**Sb**	**00 44 40.1**	**-0.3**
VOG	**Valley Oaks Go**	**0.50**	**39**	P	**Pb**	**00 44 32.7**	**-0.6**
	baz=219,SNR=6.5						
VOG				S	**Sb**	**00 44 39.8**	**-0.6**
	baz=219						
PHFM	**Heflinger Ranc**	**0.51**	**265**		**Pb**	**00 44 33.3**	**-0.2**
PHAM	**Harlan Ranch**	**0.52**	**260**		**Pb**	**00 44 33.6**	**0.0**
TCHL	**Shandon**	**0.56**	**245**		**Pb**	**00 44 34.6**	**+0.2**
TCHL					**Sn**	**00 44 43.5**	**+0.2**
VES	**Vestal, Richgr**	**0.57**	**99**		**Pb**	**00 44 33.8**	**-0.6**
VES	**Vestal, Richgr**	**0.57**	**99**	P	**Pb**	**00 44 33.6**	**-0.7**
	baz=282,SNR=8.4						
VES				S	**Sb**	**00 44 41.5**	**-0.7**
	baz=282						
RCTC	**Rector, Farmer**	**0.57**	**49**		**Pb**	**00 44 33.7**	**-0.7**
RCTC					**Sb**	**00 44 41.1**	**-1.1**
PSTM	**Stockdale Moun**	**0.60**	**270**		**Pb**	**00 44 34.5**	**-0.4**
TSCN	**Private Proper**	**0.61**	**231**		**Pb**	**00 44 35.1**	**0.0**
PWKM	**Work Ranch**	**0.61**	**259**		**Pb**	**00 44 35.0**	**-0.1**
PWMM	**Westland Maint**	**0.61**	**325**		**Pb**	**00 44 35.3**	**+0.1**
PVCM	**Vineyard Canyo**	**0.62**	**269**		**Pb**	**00 44 34.7**	**-0.5**
CARC	**Carrizo Plain**	**0.62**	**185**		**Pb**	**00 44 35.4**	**+0.1**
PDRM	**Domengine Ranc**	**0.63**	**310**		**Pb**	**00 44 35.3**	**-0.1**
SMMC	**Simmler**	**0.64**	**197**		**Pb**	**00 44 35.4**	**-0.2**
SMMC	**Simmler**	**0.64**	**197**	P	**Pb**	**00 44 35.3**	**-0.3**
	baz=17						
SMMC				S	**Sn**	**00 44 44.8**	**-0.4**
	baz=17						
MRHM	**Rocky Hill**	**0.66**	**57**		**Pb**	**00 44 35.0**	**-0.9**
PHPM	**Hope Ranch**	**0.68**	**274**		**Pb**	**00 44 35.6**	**-0.7**
PSMM	**Smith Mountain**	**0.68**	**282**		**Pb**	**00 44 35.9**	**-0.4**
TSCS	**Shell Creek So**	**0.68**	**224**		**Pb**	**00 44 35.7**	**-0.5**
PPO	**Portuguese Can**	**0.69**	**265**		**Pb**	**00 44 36.1**	**-0.3**
CRGC	**Crocker Grade**	**0.69**	**177**		**Pn**	**00 44 36.5**	**-0.2**
TCAS	**Cass Winery, P**	**0.72**	**244**		**Pb**	**00 44 36.7**	**-0.2**
TCAS					**Sb**	**00 44 46.7**	**+0.3**
PJUM	**Juniper Ridge**	**0.73**	**294**		**Pb**	**00 44 36.2**	**-0.9**
PPTM	**Peach Tree Val**	**0.79**	**283**		**Pb**	**00 44 37.3**	**-0.8**
BAKC	**Calstate**	**0.80**	**137**		**Pb**	**00 44 37.9**	**-0.3**
SPG2	**Springville 2**	**0.86**	**71**		**Pb**	**00 44 38.3**	**-0.9**
PMPB	**Monarch Peak**	**0.88**	**289**		**Pb**	**00 44 39.3**	**-0.4**
PMPB				IAML		00 44 56.6	
	comp=N,256nm,0.5s						
PMPB				IAML		00 45 05.7	
	comp=E,237nm,0.6s						
PSAM	**San Ardo**	**0.91**	**276**		**Pb**	**00 44 39.6**	**-0.5**
PTAM	**Tassajara Cree**	**0.93**	**235**		**Pn**	**00 44 40.3**	**+0.3**
PANM	**San Antonio Re**	**0.93**	**261**		**Pb**	**00 44 40.0**	**-0.5**
RAMR	**Ramage Ranch**	**0.94**	**252**		**Pb**	**00 44 40.2**	**-0.4**
EFD	**Emergency Oper**	**0.99**	**232**		**Pb**	**00 44 40.7**	**-0.7**
WASM	**Alta Sierra Ca**	**1.01**	**101**		**Pb**	**00 44 40.9**	**-0.9**
BCW	**Bitter Crk WRg**	**1.03**	**163**		**Pb**	**00 44 40.6**	**-1.6**
BCW				IAML		00 45 15.0	
	comp=E,323nm,0.5s						
PKM	**Mcpherson Peak**	**1.04**	**182**		**Pb**	**00 44 41.3**	**-1.1**
PKM	**Mcpherson Peak**	**1.04**	**182**	P	**Pb**	**00 44 41.3**	**-1.1**
	baz=2.6,SNR=14						
PKM				S	**Sn**	**00 44 55.9**	**+0.7**
	baz=2.6						
PHSB	**Hesperia Broad**	**1.05**	**265**		**Pn**	**00 44 41.3**	**-0.3**
ARDC	**Alexander Ranc**	**1.09**	**245**		**Pn**	**00 44 42.0**	**-0.1**
ISA	**Isabella, Lake**	**1.09**	**104**		**Pn**	**00 44 42.3**	**+0.1**
ISA				IAML		00 44 57.1	
	comp=N,328nm,0.2s						
ISA				IAML		00 44 57.1	
	comp=E,193nm,0.2s						
ISA	**Isabella, Lake**	**1.09**	**104**	Pb	**Pn**	**00 44 42.3**	**+0.1**
	baz=286,SNR=16						
ISA				S	**Sb**	**00 44 56.1**	**-0.9**
	baz=286						
ARVC	**Arvin**	**1.11**	**136**		**Pn**	**00 44 42.5**	**0.0**
ARVC	**Arvin**	**1.11**	**136**	P	**Pn**	**00 44 42.4**	**0.0**
	baz=318,SNR=9.0						
ARVC				S	**Sn**	**00 44 57.1**	**+0.4**
	baz=318						
TEJ	**El Tejon**	**1.13**	**128**		**Pn**	**00 44 42.4**	**-0.3**
PCCM	**Crazy Canyon**	**1.14**	**278**		**Pn**	**00 44 42.4**	**-0.4**
PHCM	**Hearst Castle**	**1.15**	**258**		**Pn**	**00 44 43.0**	**+0.1**
HULI	**Fort Hunter Li**	**1.19**	**275**		**Pn**	**00 44 43.2**	**-0.3**
BBGB	**Big Mountain B**	**1.21**	**303**		**Pn**	**00 44 43.6**	**-0.2**
FIGC	**Figueroa Mtn.**	**1.21**	**188**		**Pb**	**00 44 44.7**	**-0.5**
TJR	**Tejon Ranch**	**1.23**	**137**		**Pn**	**00 44 43.9**	**-0.2**
PMLM	**Mount Lospe**	**1.24**	**214**		**Pn**	**00 44 44.5**	**+0.2**
BPIM	**Pinnacles**	**1.26**	**297**		**Pn**	**00 44 44.2**	**-0.3**
WORM	**Onyx Ranch**	**1.27**	**100**		**Pb**	**00 44 45.8**	**-0.3**
BSGM	**Shirttail Gulc**	**1.29**	**292**		**Pn**	**00 44 44.4**	**-0.5**
BVL	**Bear Valley**	**1.31**	**300**		**Pn**	**00 44 45.5**	**+0.3**
BSMM	**Soledad Missio**	**1.41**	**289**		**Pn**	**00 44 46.1**	**-0.5**
NJQ	**Nojoqui County**	**1.43**	**193**		**Pn**	**00 44 47.7**	**+0.8**
KCC	**Kaiser Creek**	**1.44**	**15**		**Pn**	**00 44 47.6**	**+0.6**
BJCM	**Johnson Can.**	**1.45**	**296**		**Pn**	**00 44 46.8**	**-0.2**
CWC	**Cottonwood Cre**	**1.46**	**69**		**Pb**	**00 44 48.9**	**-0.6**
CWC	**Cottonwood Cre**	**1.46**	**69**	Pb	**Pb**	**00 44 48.8**	**-0.7**
	baz=251						
CWC				Sb	**Sb**	**00 45 07.5**	**-0.2**
	baz=251						
SCZ	**Santa Cruz**	**1.48**	**297**		**Pn**	**00 44 47.4**	**0.0**
SBC	**Santa Barbara**	**1.49**	**178**	Sb	**Sb**	**00 45 09.6**	**+1.3**
	baz=359						
GATR	**Gnd/Air Tx Cnt**	**1.50**	**204**		**Pn**	**00 44 48.6**	**+0.8**
HAST	**Hastings Reser**	**1.51**	**288**		**Pn**	**00 44 47.4**	**-0.5**
WNMM	**Nine Mile Cany**	**1.52**	**93**		**Pb**	**00 44 49.9**	**-0.5**
MYLM	**Yosemite Lake**	**1.54**	**340**		**Pn**	**00 44 48.7**	**+0.4**
OSI	**Osito Audit: C**	**1.57**	**147**	S	**Sn**	**00 45 09.0**	**+0.8**
	baz=328						
SAO	**San Andreas Ge**	**1.59**	**302**		**Pn**	**00 44 49.8**	**+0.9**
BSRM	**Salinas Radio**	**1.59**	**298**		**Pn**	**00 44 49.3**	**+0.3**
CCAC	**Calif City Air**	**1.63**	**118**		**Pn**	**00 44 50.6**	**+1.0**
CCAC				IAML		00 45 17.6	
	comp=E,124nm,0.7s						
CCAC				IAML		00 45 30.5	
	comp=N,132nm,1.0s						
BPCNC	**Pine Canyon**	**1.63**	**294**		**Pn**	**00 44 49.9**	**+0.3**
SLD	**San Luis Dam**	**1.63**	**315**		**Pn**	**00 44 50.0**	**+0.4**
BPRM	**Ponciano Ridge**	**1.65**	**287**		**Pn**	**00 44 49.3**	**-0.6**
HPCM	**Pacheco Lake**	**1.65**	**313**		**Pn**	**00 44 49.9**	**0.0**
SCHCA	**Scheelite**	**1.67**	**31**		**Pn**	**00 44 51.9**	**+1.5**
TIN	**Tinemaha, Big**	**1.67**	**48**		**Pb**	**00 44 52.4**	**-0.7**
TIN	**Tinemaha, Big**	**1.67**	**48**	Pb	**Pb**	**00 44 52.4**	**-0.7**
	baz=228,SNR=11						
TIN				Sb	**Sb**	**00 45 14.1**	**+0.3**
	baz=228						
BHPR	**Bishop**	**1.71**	**37**		**Pb**	**00 44 53.0**	**-0.9**
MTUM	**Tungsten Hills**	**1.72**	**34**		**Pb**	**00 44 53.0**	**-1.0**
HTUM	**Tustin Road**	**1.75**	**301**		**Pn**	**00 44 51.6**	**+0.4**
MRDM	**Red Cones**	**1.76**	**19**		**Pn**	**00 44 53.0**	**+1.4**
LRMC	**Laurel Mtn Rad**	**1.76**	**104**	Sb	**Sb**	**00 45 16.2**	**-0.1**
	baz=286						
RCCR	**Rock Creek Can**	**1.77**	**28**		**Pb**	**00 44 53.6**	**-1.2**
MMPM	**Mammoth Pass**	**1.78**	**19**		**Pn**	**00 44 53.5**	**+1.6**
GHS	**Gilroy Hot Spr**	**1.78**	**311**		**Pn**	**00 44 51.4**	**-0.3**
MDPB	**Devils Postpil**	**1.79**	**18**		**Pn**	**00 44 52.8**	**+0.8**
OMMB	**Old Mammoth Mi**	**1.79**	**20**	Pn	**Pn**	**00 44 53.3**	**+1.3**
OMMB				IAML		00 45 17.1	
	comp=E,139nm,0.4s						
EDW2	**Edwards Air Fo**	**1.79**	**125**	Pb	**Pb**	**00 44 54.1**	**-1.0**
	baz=307						
EDW2				Sb	**Sb**	**00 45 17.3**	**+0.2**
	baz=307						
MLIM	**Lincoln Peak**	**1.81**	**19**		**Pb**	**00 44 54.1**	**-1.4**
MINS	**Minaret Summit**	**1.81**	**18**		**Pn**	**00 44 53.9**	**+1.6**
MLCM	**Laurel Creek C**	**1.81**	**22**		**Pb**	**00 44 54.2**	**-1.4**
MCVM	**Convict Lake**	**1.82**	**24**		**Pb**	**00 44 54.3**	**-1.4**
MDYM	**Dry Creek**	**1.83**	**19**		**Pb**	**00 44 54.5**	**-1.3**
MMLB	**Mammoth Lakes**	**1.84**	**20**		**Pb**	**00 44 54.8**	**-1.2**
MFBM	**Five Bridges**	**1.84**	**35**		**Pb**	**00 44 55.4**	**-0.6**
MCBM	**Casa Benchmark**	**1.85**	**22**		**Pb**	**00 44 55.0**	**-1.2**
MLAC	**Mammoth, Mammo**	**1.85**	**24**		**Pb**	**00 44 55.2**	**-1.0**
MLAC	**Mammoth, Mammo**	**1.85**	**24**	Pb	**Pb**	**00 44 55.2**	**-1.0**
	baz=204						
MLAC				Sb	**Sb**	**00 45 19.2**	**+0.1**
	baz=204						
MCSM	**Casa Diablo Ho**	**1.86**	**22**		**Pb**	**00 44 55.0**	**-1.3**
MEMM	**East Mammoth H**	**1.86**	**21**		**Pb**	**00 44 55.1**	**-1.2**
MPMC	**Manual Prospec**	**1.86**	**85**	Pb	**Pb**	**00 44 55.9**	**-0.3**
	baz=267						
MPMC				Sb	**Sb**	**00 45 19.6**	**+0.5**
	baz=267						
MDRNC	**Doe Ridge**	**1.86**	**24**		**Pb**	**00 44 55.2**	**-1.2**
POCCA	**Poleta Canyon**	**1.87**	**40**		**Pb**	**00 44 55.7**	**-0.7**
MDCM	**Deadman Creek**	**1.87**	**18**		**Pn**	**00 44 54.9**	**+1.7**
MLHM	**Little Hot Cre**	**1.91**	**24**		**Pb**	**00 44 56.2**	**-0.9**
CASR	**Casa Diablo Mo**	**1.91**	**31**		**Pb**	**00 44 56.0**	**-1.3**
ORC	**Owens River**	**1.92**	**27**		**Pb**	**00 44 56.1**	**-1.3**
MCDM	**Chidago Canyon**	**1.94**	**33**		**Pb**	**00 44 56.8**	**-0.7**
MRCM	**Red Rock Canyo**	**2.01**	**30**		**Pb**	**00 44 58.1**	**-0.8**
MLNR	**Milner Canyon**	**2.02**	**34**		**Pb**	**00 44 58.2**	**-0.8**
BENR	**Benton**	**2.02**	**28**		**Pb**	**00 44 57.6**	**-1.5**
MGNR	**McGee Canyon**	**2.07**	**24**		**Pb**	**00 44 58.7**	**-1.2**
MCUB	**Copperopolis B**	**2.15**	**342**		**Pn**	**00 44 58.1**	**+1.4**
CMB	**Columbia Colle**	**2.16**	**347**	Pn	**Pn**	**00 44 58.2**	**+1.3**
CMB				IAML		00 45 31.0	
	comp=N,46nm,0.7s						
CMB				IAML		00 45 31.1	
	comp=E,56nm,0.5s						
PASC	**Pasadena Art C**	**2.19**	**143**	Pn	**Pn**	**00 44 57.7**	**+0.5**
PASC				IAML		00 45 30.8	
	comp=N,35nm,0.4s						
PASC				IAML		00 45 30.9	
	comp=E,36nm,0.4s						
GRAC	**Grapevine Rang**	**2.21**	**61**		**Pn**	**00 44 57.3**	**-0.3**
GRAC				IAML		00 45 36.6	
	comp=N,81nm,0.4s						
GRAC				IAML		00 45 40.8	
	comp=E,90nm,0.4s						
QSM	**Queen of Sheba**	**2.36**	**88**	Pn	**Pn**	**00 44 60.0**	**+0.4**
QSM				IAML		00 46 18.4	
	comp=E,71nm,0.7s						
QSM				IAML		00 46 32.4	
	comp=N,83nm,2.7s						
CNIC	**Niles Canyon**	**2.43**	**314**		**Pn**	**00 44 58.2**	**-2.3**
GMN	**Gold Mountain**	**2.44**	**55**		**Pb**	**00 45 06.6**	**+0.4**
GMN				IAML		00 45 39.4	
	comp=E,34nm,0.4s						
GSC	**Goldstone, Bar**	**2.50**	**104**		**Pn**	**00 45 01.4**	**-0.1**
GSC				IAML		00 45 46.9	
	comp=E,45nm,0.8s						
GWY	**Greenwater Val**	**2.53**	**83**		**Pn**	**00 45 03.4**	**+1.4**
GWY				IAML		00 45 47.1	
	comp=E,25nm,0.5s						
LHV	**Little Huntoon**	**2.53**	**23**		**Pn**	**00 45 03.3**	**+1.4**
LHV				IAML		00 45 43.6	
	comp=E,35nm,0.5s						
LHV				IAML		00 45 45.0	
	comp=N,42nm,0.5s						
WAKR	**Walker**	**2.58**	**6**		**Pn**	**00 45 04.0**	**+1.1**
WAKR				IAML		00 45 42.9	
	comp=E,65nm,0.5s						
MZP	**Montezuma Peak**	**2.61**	**47**		**Pb**	**00 45 11.1**	**+2.0**
WCT	**Wildcat Mounta**	**2.68**	**70**		**Pn**	**00 45 05.6**	**+1.5**
CIS	**Catalina Islan**	**2.76**	**156**	P	**Pn**	**00 45 05.3**	**+0.2**
	baz=337						
CIS				S	**Sn**	**00 45 37.2**	**-0.3**
	baz=337						
BBRC	**Big Bear Solar**	**2.87**	**125**	S	**Sn**	**00 45 40.7**	**+0.2**
	baz=307						
RYN	**Ryan**	**2.87**	**20**	IAML		00 45 54.0	
	comp=N,22nm,0.5s						
RYN				IAML		00 46 26.5	
	comp=E,23nm,0.3s						
PNTR	**Pine Nut**	**3.15**	**2**	IAML		00 46 13.4	
	comp=E,36nm,0.9s						
AFDM	**Forest Hills D**	**3.16**	**343**	IAML		00 46 02.7	
	comp=E,30nm,0.4s						
AFDM				IAML		00 46 04.3	
	comp=N,22nm,0.6s						
PAHR	**Pah Rah Range**	**3.78**	**5**	IAML		00 46 21.3	
	comp=N,11nm,1.1s						
PAHR				IAML		00 46 22.3	
	comp=E,24nm,1.6s						

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*NOU **05** 01:08:25.2, 23°.59S×179°.11W, h583^{km}, mb4.7/28, South of Fiji Islands*
*IDC **05** 01:08:26.7±1.1, 23°.78S×179°.91W, h524^{km}±10^{km}, mb3.8/17, mbtmp4.6/19, Error ellipse: s-maj=11.5km s-min=9.8km az=114.0*
*NEIC **05** 01:08:27.2±2.0, 23°.87S±0°.05×179°.7W±0°.1, h526^{km}±6^{km}, mb4.8/29, Error ellipse: s-maj=17.2km s-min=7.5km az=88.0*
ISC 05 01:08:27.6±0.5**, 23°.84S**±0°.05×**179°.79W**±0°.06**, h540**^{km}±5^{km}**, n306,** σ**1^{s}23**/336**, mb4.7**/48**, 25C-27D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**5.65**	**9**	P	**P**	**01 10 00.4**	**-2.2**
GLKZ	**Green Lake**	**5.66**	**163**	P	**P**	**01 10 00.5**	**-1.9**
GLKZ				S	**S**	**01 11 18.5**	**-1.6**
YSA	**Yasawairara**	**7.52**	**340**	P	**P**	**01 10 19.2**	**-1.2**
NIUE	**Niue**	**10.33**	**65**	P	P	01 10 37.4	-11
	baz=9.6,SNR=5.7						
NIUE	**Niue**	**10.33**	**65**	P	**P**	**01 10 46.2**	**-2.6**
PINNC	**Pines Island,**	**11.80**	**273**	P	**P**	**01 11 04.7**	**+0.6**
OUZ	**Omahuta**	**12.72**	**205**	P	**P**	**01 11 15.1**	**+1.7**
OUZ	**Omahuta**	**12.72**	**205**	P	**P**	**01 11 14.6**	**+1.2**
DZM	**Mont Dzumac**	**12.81**	**275**	P	**P**	**01 11 18.2**	**+3.5**
DZM	**Mont Dzumac**	**12.81**	**275**	P	**P**	**01 11 13.4**	**-1.2**
	8.4nm,0.9s,baz=87,slow=20,SNR=6.2						
DZM				S	**S**	**01 13 30.1**	**-2.1**
	2.6nm,0.3s,baz=114,slow=14,SNR=26						
WIAZ	**Waiheke Island**	**13.63**	**198**	P	**P**	**01 11 24.5**	**+1.6**
MXZ	**Matakaoa Point**	**13.78**	**186**	P	**P**	**01 11 26.2**	**+1.8**
MXZ	**Matakaoa Point**	**13.78**	**186**	P	**P**	**01 11 26.7**	**+2.4**
MXZ				S	**S**	**01 13 51.3**	**+1.3**
MKAZ	**Moumakai**	**13.92**	**197**	P	**P**	**01 11 29.8**	**+4.0**
WMGZ	**Waiomatatini S**	**14.02**	**186**	P	**P**	**01 11 28.7**	**+1.8**
WMGZ				S	**S**	**01 13 54.8**	**+0.2**
PKGZ	**Pakihiroa**	**14.13**	**187**	P	**P**	**01 11 30.8**	**+2.8**
PKGZ				S	**S**	**01 13 54.9**	**-1.9**
TWGZ	**Tauwhareparae**	**14.42**	**187**	P	**P**	**01 11 32.9**	**+1.8**

TWGZ S **S** **01 14 02.4 0.0**
TOZ Tahuroa Road 14.43 195 P **01 11 31.6 +0.5**
TOZ Tahuroa Road 14.43 195 P P **01 11 31.7 +0.7**
KMRZ Kaimai 14.44 194 P P **01 11 34.6 +3.4**
URZ Urewera 14.62 190 P P **01 11 32.1 -1.0**
11nm,0.3s,baz=112,slow=4.1,SNR=11
URZ S **S** **01 14 04.2 -1.9**
17nm,0.5s,baz=128,slow=22,SNR=13
URZ Urewera 14.62 190 S S **01 14 02.6 -3.4**
MWZ Matawai 14.63 188 P P **01 11 31.6 -1.6**
MWZ S **S** **01 14 03.5 -2.9**
CNGZ Carnagh Statio 14.70 186 P P **01 11 34.9 +1.0**
CNGZ S **S** **01 14 09.2 +1.6**
RIGZ Rimuhau 14.97 187 P P **01 11 36.7 -0.1**
RIGZ S **S** **01 14 10.4 -2.3**
RTZ Ruatahuna 14.99 190 P **01 11 36.7 -0.3**
RAHZ Arahi 15.27 189 P P **01 11 39.1 -0.8**
RAHZ S **S** **01 14 14.3 -3.8**
HIZ Hauiti 15.33 196 P **01 11 39.9 -0.6**
KHEZ Kahui Hut 16.28 197 P P **01 11 49.5 -0.6**
BFZ Birch Farm 17.13 190 P P **01 11 55.6 -2.2**
BFZ Birch Farm 17.13 190 P P **01 11 55.6 -2.2**
MRZ Mangatainoka R 17.22 192 P **01 11 55.8 -2.9**
SNZO South Karori 18.02 194 P P **01 12 04.7 -1.2**
TCW Tory Channel 18.02 195 P P **01 12 04.7 -1.2**
BHW Baring Head 18.08 193 P P **01 12 05.7 -0.8**
QRZ Quartz Range 18.13 199 P **01 12 07.3 +0.4**
QRZ Quartz Range 18.13 199 P P **01 12 07.0 +0.1**
TKNZ Takaka Hill 18.20 198 P P **01 12 06.8 -0.7**
NNZ Nelson 18.25 197 P P **01 12 07.3 -0.7**
TUWZ Tuamarina 18.31 195 P P **01 12 06.8 -1.8**
MRNZ Matariki Terra 18.59 198 P **01 12 10.3 -0.9**
THZ Tophouse 18.89 197 P **01 12 12.8 -1.1**
DSZ Denniston Nort 19.19 199 P P **01 12 16.6 -0.1**
KHZ Kahutara 19.34 195 P **01 12 16.6 -1.3**
KHZ Kahutara 19.34 195 P P **01 12 16.5 -1.4**
GVZ Greta Valley S 19.98 196 P **01 12 23.0 -0.8**
LTZ Lake Taylor 20.01 197 P P **01 12 22.2 -1.9**
INZ Inchbonnie 20.19 199 P **01 12 24.2 -1.4**
OXZ Oxford 20.58 197 P P **01 12 27.7 -1.4**
RPZ Rata Peaks 21.21 199 P P **01 12 35.1 +0.1**
RPZ Rata Peaks 21.21 199 P P **01 12 34.8 -0.1**
RPZ Rata Peaks 21.21 199 P P **01 12 34.9 -0.1**
12nm,0.5s,baz=319,slow=1.4,SNR=14
RPZ S **S** **01 15 54.6 -0.3**
2.8nm,0.5s,baz=265,slow=9.1,SNR=3.3
12nm,0.5s
JCZ Jackson Bay 22.26 202 P P **01 12 43.6 -0.8**
ODZ Otahua Downs 22.55 198 P P **01 12 45.5 -1.4**
MLZ Mavora Lakes 23.62 202 P P **01 12 56.0 -0.5**
WHZ Wether Hill Ro 24.14 201 P P **01 12 59.9 -1.2**
ARMA Armidale 26.23 249 P P **01 13 21.3 +1.4**
baz=27,SNR=16
ARMA Armidale 26.23 249 P P **01 13 21.2 +1.4**
EIDS Eidsvold 26.51 261 P P **01 13 22.5 +0.2**
baz=27,SNR=15
EIDS Eidsvold 26.51 261 P P **01 13 22.3 0.0**
EIDS Eidsvold 26.51 261 P P **01 13 22.5 +0.2**
MGCD Mangrove Creek 27.15 243 P P **01 13 29.3 +1.5**
baz=28,SNR=11
MGCD Mangrove Creek 27.15 243 P P **01 13 29.1 +1.3**
RMQ Roma 28.56 258 P P **01 13 41.6 +1.4**
baz=29,SNR=4.9
RMQ Roma 28.56 258 P P **01 13 41.7 +1.4**
CNB Canberra Magne 29.05 240 P P **01 13 45.8 +1.3**
baz=30,SNR=8.5
CNB Canberra Magne 29.05 240 P P **01 13 45.7 +1.2**
MILA Mila 29.70 236 P P **01 13 51.1 +1.1**
baz=30,SNR=4.3
MILA Mila 29.70 236 P P **01 13 51.1 +1.1**
CMSA Cobar Meteorol 31.42 248 P P **01 14 05.2 +0.3**
baz=32,SNR=8.1
CMSA Cobar Meteorol 31.42 248 P P **01 14 05.1 +0.3**
CTA Charters Tower 31.67 270 P P **01 14 07.3 +0.1**
CTAO Charters Tower 31.67 270 P P **01 14 07.4 +0.3**
CTAO Charters Tower 31.67 270 P P **01 14 07.2 +0.1**
CTAO Charters Tower 31.67 270 P P **01 14 07.4 +0.3**
CTAO PcP **PcP** **01 16 43.4 +0.8**
QLP Quilpie 32.60 258 P P **01 14 15.1 +0.1**
baz=33,SNR=5.5
TOO Toolangi 32.65 237 P P **01 14 15.9 +0.7**
baz=33,SNR=24
TOO Toolangi 32.65 237 P P **01 14 15.8 +0.5**
TOO IAmb IAmb 01 14 16.6
comp=Z,21nm,0.6s
TOO Toolangi 32.65 237 P P **01 14 15.7 +0.5**
TAU Tasmania Unive 33.12 227 P P **01 14 19.7 +0.6**
TAU IAmb IAmb 01 14 20.2
comp=Z,28nm,0.7s
TAU Tasmania Unive 33.12 227 P P **01 14 19.8 +0.8**
TAU PcP **PcP** **01 16 47.6 +1.3**
MTSU Mount Surprise 33.93 273 P P **01 14 26.6 +0.3**
baz=34,SNR=41
MTSU Mount Surprise 33.93 273 P P **01 14 26.6 +0.3**
STKA Stephens Creek 34.93 248 P P **01 14 34.9 +0.4**
baz=36,SNR=17
STKA Stephens Creek 34.93 248 P P **01 14 34.8 +0.4**
STKA Stephens Creek 34.93 248 P P **01 14 34.8 +0.4**
STKA Stephens Creek 34.93 248 P P **01 14 34.8 +0.4**
comp=Z,15nm,0.8s,baz=90,slow=9.8,SNR=31
STKA PcP **PcP** **01 16 52.7 +0.9**
comp=Z,2.4nm,0.7s,baz=66,slow=2.8,SNR=3.0
comp=Z,15nm,0.8s
ARPS Mount Arapiles 35.32 240 P P **01 14 37.7 +0.1**
baz=36,SNR=12
ARPS Mount Arapiles 35.32 240 P P **01 14 37.6 0.0**
INKA Innaminka 35.65 255 P P **01 14 40.8 +0.3**
COEN Coen 36.30 279 P P **01 14 46.2 +0.2**
COEN IAmb IAmb 01 14 47.1
comp=Z,42nm,1.5s
HTT Hallett 37.28 246 P P **01 14 53.9 0.0**
baz=38,SNR=33
QIS Mount Isa 37.65 267 P P **01 14 56.4 -0.7**
baz=38,SNR=6.6
BBOO Buckleboo 39.65 247 P P **01 15 12.5 -0.5**
baz=40,SNR=51
BBOO Buckleboo 39.65 247 P P **01 15 12.6 -0.5**
BBOO IAmb IAmb 01 15 13.2
comp=Z,34nm,1.0s
AS31 Alice Springs 42.24 260 P P **01 15 33.7 -0.1**
ASAR Alice Springs 42.24 260 P P **01 15 33.7 -0.1**
ASAR Alice Springs 42.24 260 P P **01 15 33.5 -0.3**
comp=Z,35nm,0.8s,baz=95,slow=7.9,SNR=228
ASAR PcP **pwP** **01 17 14.2 -0.8**
comp=Z,1.1nm,0.5s,baz=98,slow=3.8,SNR=4.4
ASAR ScP **ScP** **01 20 18.1 +3.4**
comp=Z,3.6nm,0.9s,baz=108,slow=4.2,SNR=12
ASAR S **S** **01 21 14.7 -0.9**
comp=Z,1.6nm,1.0s,baz=99,slow=17,SNR=6.5
comp=Z,35nm,0.8s
WR0 Warramunga Arr 42.42 266 P P **01 15 34.5 -0.7**
WR0 IAmb IAmb 01 15 35.1
comp=Z,24nm,0.8s
WB2 Warramunga Arr 42.59 266 P P **01 15 36.0 -0.6**
WB0 Warramunga Arr 42.60 266 P P **01 15 35.9 -0.8**
WRAB Tennant Creek 42.60 266 P P **01 15 36.0 -0.7**
WRAB IAmb IAmb 01 15 36.6
comp=Z,42nm,0.8s
WRA Warramunga Arr 42.61 266 P P **01 15 35.9 -0.8**
WRA Warramunga Arr 42.61 266 P P **01 15 35.8 -1.0**
comp=Z,47nm,0.7s,baz=103,slow=8.1,SNR=356
WRA PcP **PcP** **01 17 16.6 0.0**
comp=Z,2.9nm,0.9s,baz=103,slow=3.7,SNR=4.8
WRA ScP **ScP** **01 20 19.9 +3.7**
comp=Z,1.3nm,0.9s,baz=91,slow=4.2,SNR=5.1
WRA S **S** **01 21 17.6 -3.2**
comp=Z,3.0nm,0.8s,baz=102,slow=14,SNR=9.3
comp=Z,47nm,0.7s
JAY Jayapura 43.67 293 P P **01 15 44.0 -1.1**
comp=Z,33nm,0.9s
KDU Kakadu 46.48 275 P P **01 16 05.6 -1.0**
baz=47,SNR=9.8
FORT Forrest 46.52 250 P P **01 16 05.9 -0.7**
baz=47,SNR=112
FORT Forrest 46.52 250 P P **01 16 06.0 -0.7**
WRKA Warakurna 47.04 257 P P **01 16 10.3 -0.5**
baz=48,SNR=106
MTN Manton Dam 47.65 274 P P **01 16 14.3 -1.1**
baz=48,SNR=4.2
KNRA Kununurra 48.88 270 P P **01 16 24.3 -0.3**
baz=50,SNR=11
KNRA Kununurra 48.88 270 P P **01 16 24.5 -0.1**
KNRA IAmb IAmb 01 16 25.1
comp=Z,52nm,0.8s

DRV Dumont d'Urvil 49.67 200 P P **01 16 29.6 +0.1**
FITZ Fitzroy Crossi 51.03 265 P P **01 16 39.7 -0.6**
baz=52,SNR=21
SWI Sorong 52.61 288 P P **01 16 51.1 -0.6**
comp=Z,137nm,0.8s
VNDA Vanda 54.46 185 P P **01 17 04.3 +0.5**
VNDA Vanda 54.46 185 P P **01 17 05.6 +1.8**
comp=Z,3.6nm,0.7s,baz=352,slow=7.1,SNR=14
comp=Z,3.6nm,0.7s
VNDA Vanda 54.46 185 P P **01 17 05.6 +1.8**
VNDA PcP **PcP** **01 17 59.8 +0.9**
SOEI Soe 55.03 275 P P **01 17 09.3 +0.4**
NLAI Namlea 55.16 283 P P **01 17 09.6 -0.1**
comp=Z,17nm,1.3s
KLBR Kellerberrin 55.19 247 P P **01 17 09.3 -0.4**
baz=56,SNR=13
MEEK Meekatharra 55.32 253 P P **01 17 09.8 -0.9**
baz=56,SNR=9.0
NWAO Narrogin (SRO) 55.44 245 P P **01 17 10.9 -0.5**
baz=56,SNR=4.1
NWAO P **P** **01 17 10.9 -0.5**
baz=56,SNR=4.1
NWAO Narrogin (SRO) 55.44 245 P P **01 17 10.5 -0.9**
MBWA Marble Bar 55.58 260 P P **01 17 12.0 -0.5**
MBWA IAmb IAmb 01 17 13.2
comp=Z,30nm,0.8s
MBWA Marble Bar 55.58 260 P P **01 17 11.8 -0.7**
BLDU Ballidu 56.23 248 P P **01 17 16.5 -0.5**
baz=57,SNR=24
MUN Muncaring 56.44 246 P P **01 17 18.2 -0.1**
baz=57,SNR=5.1
MORW Morawa 57.08 250 P P **01 17 22.3 -0.5**
baz=58,SNR=21
MORW Morawa 57.08 250 P P **01 17 22.5 -0.3**
MORW IAmb IAmb 01 17 23.3
comp=Z,33nm,0.7s
MMRI Maumere 57.31 275 P P **01 17 24.7 +0.1**
comp=Z,33nm,0.8s
EDFI Ende, Flores 57.77 275 P P **01 17 26.9 -0.9**
comp=Z,71nm,0.8s
BASI Baing, Sumba 58.23 273 P P **01 17 30.8 0.0**
comp=Z,112nm,0.9s
CCD Concordia, Ant 58.84 195 P P **01 17 35.0 +0.7**
CCD PcP **PcP** **01 18 17.2 +0.4**
GIRL Giralia 60.12 257 P P **01 17 44.3 +1.0**
baz=61,SNR=8.9
CASY Casey 60.25 206 P P **01 17 43.4 -0.1**
BKSI Bulukumba 60.55 278 P P **01 17 45.3 -1.0**
comp=Z,45nm,0.9s
PLAI Plampang 61.31 273 P P **01 17 50.5 -0.8**
comp=Z,115nm,0.9s,comp=Z,900nm
TWSI Taliwang, Sumb 62.16 273 P P **01 17 56.2 -0.7**
comp=Z,39nm,1.2s
TOLI2 Tolitoli 62.75 284 P P **01 17 59.8 -0.9**
TOLI2 IAmb IAmb 01 18 02.0
comp=Z,34nm,0.7s
QSPA South Pole Qui 66.25 180 P P **01 18 23.2 +1.2**
QSPA IAmb IAmb 01 18 24.4
comp=Z,18nm,0.8s
QSPA South Pole Qui 66.25 180 P P **01 18 23.3 +1.2**
comp=Z,15nm,0.7s
comp=Z,15nm,0.7s
QSPA South Pole Qui 66.25 180 P P **01 18 23.2 +1.2**
MJAR Matsushiro Arr 71.95 325 P P **01 18 56.1 -0.5**
comp=Z,1.3nm,0.3s,baz=157,slow=5.4,SNR=4.2
KSM Kuching 72.29 280 P P **01 18 59.0 0.0**
KSM IAmb IAmb 01 18 59.8
comp=Z,33nm,0.7s
BELA Belgrano 2 76.47 173 P P **01 19 21.9 +0.4**
MAW Mawson 77.88 200 P P **01 19 29.9 +0.7**
MAW Mawson 77.88 200 P P **01 19 30.3 +1.1**
comp=Z,11nm,0.7s,baz=140,slow=5.7,SNR=16
comp=Z,11nm,0.7s
KSRS Korea Array 78.32 320 P P **01 19 32.6 +0.6**
comp=Z,4.2nm,0.7s,baz=138,slow=6.0,SNR=10
comp=Z,4.2nm,0.7s
PETK Petropavlovsk- 79.08 346 P P **01 19 35.5 -0.3**
comp=Z,6.9nm,0.7s,baz=125,slow=5.9,SNR=6.6
comp=Z,6.9nm,0.7s
USRK Ussuriysk Ar. 80.82 327 P P **01 19 46.0 +0.9**
comp=Z,6.5nm,0.9s,baz=146,slow=4.2,SNR=6.3
comp=Z,6.5nm,0.9s
BNX BinXian 84.22 326 ⇑P P **01 20 02.3 +0.2**
BNX pmax pmax
comp=Z,7.0nm,0.7s
BNX pmax pmax
comp=Z,220nm,3.8s
TROLL Troll, Antarti 84.40 181 ⇓P P **01 20 03.0 +0.1**
comp=Z,387nm,0.3s
NVAR Mina Array Bea 84.57 44 P P **01 20 05.1 +0.7**
comp=Z,0.4nm,0.5s,baz=225,slow=8.9,SNR=2.0
comp=Z,0.4nm,0.5s
SNAA Sanae 84.73 179 P P **01 20 03.9 -0.6**
SNAA Sanae 84.73 179 ⇓P P **01 20 03.8 -0.6**
comp=Z,74nm,0.6s
SNAA Sanae 84.73 179 P P **01 20 03.9 -0.6**
comp=Z,2.2nm,0.5s,baz=212,slow=7.9,SNR=30
comp=Z,2.2nm,0.5s
VNA3 Neumayer Olymp 84.93 177 ⇓P P **01 20 05.1 -0.2**
comp=Z,2.3nm,0.3s
VNA2 Neumayer--Watz 85.35 177 ⇓P P **01 20 07.2 -0.2**
comp=Z,3.4nm,0.5s,baz=174,slow=5.0
LYN LuoYang 86.60 310 ⇑P P **01 20 15.4 +1.5**
LYN pmax pmax
comp=Z,12nm,0.7s
HEH HeiHe 87.29 329 eP P **01 20 17.0 +0.3**
HEH pmax pmax
comp=Z,8.0nm,0.7s
TIY Taiyuan 88.29 313 ⇑P P **01 20 23.4 +1.6**
TIY pmax pmax
comp=Z,27nm,0.5s
PHRA Phrae 88.60 291 P P **01 20 23.9 +0.3**
XAN Xi'an 88.86 308 ⇓P P **01 20 25.3 +0.8**
XAN pmax pmax
comp=Z,24nm,0.9s
XAN LR LR
comp=N,350nm,8.2s
XAN LR LR
comp=E,350nm,8.9s
CMAR Chiang Mai Arr 89.69 290 P P **01 20 28.5 -0.2**
CMAR Chiang Mai Arr 89.69 290 P P **01 20 30.4 +1.7**
comp=E,2.4nm,0.3s,baz=133,slow=3.2,SNR=29
comp=E,2.4nm,0.3s
CHTO Chiang Mai 89.84 291 P P **01 20 29.9 +0.6**
CHTO IAmb IAmb 01 20 31.7
comp=Z,11nm,0.9s
TXAR Tajitas Array 90.23 58 P P **01 20 32.2 +1.1**
comp=Z,1.7nm,0.7s,baz=218,slow=6.3,SNR=24
comp=Z,1.7nm,0.7s
BTO Baotou 91.39 314 eP P **01 20 39.0 +2.8**
BTO pP **pwP** **01 22 37.6 -1.1**
BTO sP **sP** **01 23 32.6 +5.0**
BTO PP **PP** **01 24 29.3 +5.5**
BTO Baotou 91.39 314 S S **01 30 44.9 -4.5**
BTO Baotou 91.39 314 SS SS 01 37 11.7 -0.5
BTO pmax pmax
comp=Z,14nm,0.5s
BTO pmax pmax
comp=Z,220nm,4.5s
BTO LR LR
comp=N,230nm,4.6s
BTO LR LR
comp=E,250nm,8.8s
BTO LR LR
comp=Z,180nm,4.8s
ILAR Eielson Array 91.92 13 P P **01 20 36.8 -1.1**
comp=Z,0.4nm,1.0s,baz=241,slow=6.6,SNR=1.4
comp=Z,0.4nm,1.0s
PDAR Pinedale Array 92.51 44 P P **01 20 41.1 -0.3**
comp=Z,0.5nm,0.7s,baz=224,slow=3.5,SNR=6.4
comp=Z,0.5nm,0.7s
DRIO Del Rio 92.65 59 P P **01 20 41.8 -0.4**
DRIO IAmb IAmb 01 20 43.4
comp=Z,4.9nm,0.8s
CO01 Juntas del Tor 93.90 125 P P **01 20 48.3 0.0**
CO01 IAmb IAmb 01 21 39.6
comp=Z,6.3nm,1.1s
WMOK Wichita Mounta 96.32 55 P P **01 20 58.4 -0.2**
SONM Songino Array 97.18 319 P Pdif 01 21 02.1 -0.3
comp=Z,0.4nm,0.6s,baz=143,slow=3.7,SNR=4.3
comp=Z,0.4nm,0.6s
ZALV Zalesovo Beam 112.03 321 PKiKP PKiKP **01 26 00.5 -0.7**
comp=Z,1.1nm,0.5s,baz=86,slow=0.3,SNR=4.3
MKAR Makanchi Array 112.25 313 PKiKP PKiKP **01 26 01.1 -0.9**
comp=Z,1.2nm,0.6s,baz=207,slow=1.1,SNR=12
KURBB Kurchatov Arra 115.33 316 PKP PKPdf **01 26 06.8 -0.9**
comp=Z,1.7nm,0.6s,baz=105,slow=1.8,SNR=18

KSH Kashi 115.40 304 PKP PKiKP **01 26 11.5 +3.1**
KBL Kabul 119.99 297 PKPdf PKiKP **01 26 17.7 +0.1**
BVAR Borovoye Array 120.52 319 PKP PKPdf **01 26 17.1 -0.6**
comp=Z,3.4nm,0.5s,baz=111,slow=1.0,SNR=20
BRVK Borovoye 120.58 319 PKPdf PKPdf **01 26 17.2 -0.5**
BOSA Boshof 122.55 206 PKP PKPdf **01 26 22.2 -0.4**
comp=Z,4.3nm,1.0s,baz=229,slow=2.0,SNR=5.5
SPITS Spitsbergen Ar 125.07 356 PKP PKPdf **01 26 24.9 -0.8**
comp=Z,10nm,1.0s,baz=51,slow=17,SNR=5.6
GEYT Ailbeck 129.10 300 PKP PKPdf **01 26 35.0 +0.4**
comp=Z,2.2nm,0.7s,baz=64,slow=3.4,SNR=5.3
ARCES ARCESS Array B 131.86 348 PKP PKPdf **01 26 38.1 -0.7**
comp=Z,2.6nm,0.6s,baz=36,slow=1.2,SNR=15
ARCES SKPbc **SKPab** **01 29 17.3 +1.3**
comp=Z,2.6nm,0.8s,baz=2.6,slow=2.7,SNR=4.2
FINES FINESS Array B 138.45 342 PKhKP PKPpre 01 26 42.0
comp=Z,1.1nm,0.5s,baz=66,slow=2.3,SNR=6.9
FINES PKP **PKPdf** **01 26 51.2 -0.1**
comp=Z,3.3nm,0.8s,baz=117,slow=1.6,SNR=8.1
FINES SKPbc **SKPbc** **01 29 36.4 +1.3**
comp=Z,4.7nm,0.6s,baz=50,slow=2.4,SNR=11
NB2 NORSAR Subarra 142.05 351 PKP PKPdf **01 26 53.8 -4.0**
comp=Z,1.3nm,0.7s,baz=19,slow=3.6
NOA NORSAR Array B 142.05 351 PKhKP PKPpre 01 26 53.9
comp=Z,2.7nm,0.8s,baz=16,slow=4.8,SNR=7.1
HFS Hagfors 142.52 349 PKhKP PKPpre 01 26 54.8
comp=Z,5.9nm,0.4s,baz=66,slow=3.7,SNR=47
NACGM Naroch 143.23 334 *e*PKP PKPab 01 26 58.1 +0.1
comp=Z,28nm,1.1s,baz=42
PABE Paberze 143.83 337 PKPbc 01 27 00.1 0.0
STRU Stroemstad 143.98 350 *i* P PKPbc 01 26 59.5 -1.0
ARPR Arapgir-MALATY 144.39 304 PKPab **01 27 03.4 +0.2**
AKASG Malin Array Be 145.02 327 PKPdf **01 27 03.3 0.0**
AKASG Malin Array Be 145.02 327 PKP PKPdf **01 27 03.1 -0.1**
comp=Z,8.3nm,0.6s,baz=42,slow=4.2,SNR=31
AKASG SKPbc **SKiKP** **01 29 53.8 +1.5**
comp=Z,0.9nm,0.5s,baz=44,slow=2.7,SNR=10.0
AKBB Malin Array Si 145.02 327 PKPdf **01 27 03.3 +0.1**
KIEV Kiev 145.03 327 ⇓P PKPdf **01 27 03.2 -0.1**
KIEV Kiev 145.03 327 PKPdf **01 27 03.2 -0.1**
BORU Boraas 145.04 348 *i* P **PKPdf** **01 27 02.5 -0.6**
SUW Suwalki 145.29 336 *e*PKP **PKPdf** **01 27 03.5 -0.1**
SUW Suwalki 145.29 336 PKPbc **01 27 04.4 -0.3**
BLEU Blekinge 145.61 345 *i* P **PKPdf** **01 27 03.4 -0.6**
FABU Falkenberg 145.64 348 *i* P **PKPdf** **01 27 03.4 -0.7**
GAZ Gaziantep 145.68 302 PKPbc PKPbc **01 27 07.1 +0.6**
DEL Delary 145.90 346 *i* P **PKPdf** **01 27 04.9 +0.3**
BNN Bunyan 146.32 305 PKPbc **01 27 08.7 +0.4**
BJUU Bjuv 146.45 347 *i* P **PKPdf** **01 27 06.7 +1.2**
LUNU Lund 146.77 346 *i* P **PKPdf** **01 27 06.3 +0.3**
SORM Soroca 147.06 324 ⇓P PKPbc **01 27 09.5 -0.3**
MILM Milestii Mici 147.53 322 ⇑P PKPbc **01 27 10.8 -0.3**
BRTR Keskin Array B 147.69 307 PKPbc **01 27 11.8 -0.1**
BRTR Keskin Array B 147.69 307 PKPbc PKPbc **01 27 11.5 -0.5**
comp=Z,3.7nm,0.7s,baz=145,slow=4.4,SNR=22
BRTR SKPbc **SKiKP** **01 30 00.2 +1.7**
comp=Z,0.4nm,0.3s,baz=17,slow=1.7,SNR=4.6
MMAI Mount Meron Ar 147.85 294 PKPbc PKiKP **01 27 13.2 -0.6**
comp=Z,20nm,0.6s,baz=72,slow=5.4,SNR=70
GHAJ Ghor Haditha 147.89 291 PKPbc **01 27 12.9 +0.4**
BEL Belsk 147.90 336 *e*PKP **PKPbc** **01 27 12.5 +0.7**
ANTO Ankara 148.26 308 ⇓P PKPbc **01 27 13.4 +0.1**
ANTO Ankara 148.26 308 PKPbc **01 27 13.4 +0.1**
BR231 Keskin MP Arra 148.28 308 PKPdf PKPdf **01 27 09.4 +0.2**
EKA Eskdalemuir Ar 148.44 4 PKPbc PKPbc **01 27 12.2 -0.8**
comp=Z,0.9nm,0.4s,baz=346,slow=2.8,SNR=12
148.50 320 ⇓P PKPbc **01 27 12.5 -1.1**
TLCR 148.50 320 ⇑P PKPbc **01 27 12.5 -1.1**
CFR Carcaliu 148.91 320 ⇑P PKPbc **01 27 14.9 +0.3**
TPGR Topolog 148.92 319 ⇓P PKPbc **01 27 14.4 -0.2**
TESR Tescani 148.97 323 ⇑P PKPbc **01 27 14.6 -0.1**
BUR08 Bucovina Ar. S 149.01 326 PKiKP **01 27 15.5 -0.3**
BURAR Bucovina Array 149.03 326 ⇑P PKiKP **01 27 15.5 -0.4**
BURAR Bucovina Array 149.03 326 PKiKP **01 27 15.5 -0.4**
MDUB Mudurnu 149.17 310 PKPbc **01 27 15.8 +0.2**
CSS Mathiatis 149.22 299 PKPbc **01 27 15.8 +0.1**
MFTR Murfatlar 149.28 318 ⇓P PKiKP **01 27 16.3 0.0**
HARR Harsova 149.30 319 ⇑P PKiKP **01 27 16.2 -0.1**
TLBR Topalu 149.31 319 ⇓P PKPbc **01 27 15.9 +0.4**
VRI Vrincioaia 149.32 322 ⇑P PKPbc **01 27 15.2 -0.4**
KOLS Kolonicke sedl 149.51 331 *e*PKP **PKiKP** **01 27 16.7 0.0**
OJC Ojcow 149.56 335 *e*PKP **PKPbc** **01 27 16.1 +0.2**
OJC Ojcow 149.56 335 PKPbc **01 27 16.2 +0.2**
COVR Voineasa-Covas 149.62 323 ⇓P PKPbc **01 27 16.3 -0.1**
BOSR Bodos 149.78 324 ⇑P PKiKP **01 27 17.4 0.0**
ARCR ARCALIA 149.82 326 ⇑P PKiKP **01 27 17.2 -0.2**
BMR Baia Mare 149.84 328 ⇑P PKPbc **01 27 17.0 +0.2**
CRVS Cervenica-Dubn 149.90 332 *e*PKP **PKiKP** **01 27 17.4 -0.1**
MLR Muntele Rosu 149.98 322 ⇓P PKPbc **01 27 17.5 +0.2**
NIE Niedzica 149.99 333 *e*PKP **PKiKP** **01 27 18.6 +0.9**
DOPR Dopca 150.00 324 ⇑P PKiKP **01 27 17.8 0.0**
KSP Ksiaz 150.30 339 *e*PKP **PKiKP** **01 27 18.5 +0.2**
CBBR Cluj-Babes-Bol 150.44 327 ⇓P PKPbc **01 27 15.3 -2.8**
CJR Cluj-Napoca 150.45 326 ⇓P PKiKP **01 27 18.7 -0.1**
OKC Ostrava-Krasne 150.50 336⇑ *e*PKP **PKPbc** **01 27 18.2 0.0**
VOIR 150.51 323 ⇓P PKPbc **01 27 18.2 -0.3**
OSTC Ostas 150.57 339⇑ *e*PKP **PKiKP** **01 27 18.8 0.0**
CHVC Chvalec 150.59 339 *e*PKP **PKiKP** **01 27 18.8 -0.1**
UPC Upice 150.68 339⇑ *e*PKP **PKiKP** **01 27 19.0 0.0**
DPC Dobruska-Polom 150.71 339⇑ *e*PKP **PKPbc** **01 27 19.0 +0.3**
DPC *e*PKPAB **PKPab** **01 27 28.6 +0.4**
MARR Marisel-Cluj 150.72 327 ⇓P PKPbc **01 27 18.8 -0.2**
MORC Moravsky Berou 150.77 337 ⇓P PKPbc **01 27 19.0 +0.1**
MORC Moravsky Berou 150.77 337 PKPbc **01 27 18.9 +0.1**
MORC Moravsky Berou 150.77 337 *e*PKP **PKiKP** **01 27 19.3 0.0**
MORC *e* 01 27 28.8
ARR Arges 150.78 323 ⇓P PKPdf **01 27 13.6 +0.7**
KRLC Kraliky 150.79 338⇑ *e*PKP **PKPbc** **01 27 19.2 +0.3**
KRLC *e*PKPAB **PKPab** **01 27 27.8 -0.7**
CLL Collm 150.85 343 PKPbc **01 27 18.9 0.0**
CLL Collm 150.85 343 *i* PKPbc **PKPbc** **01 27 19.0 0.0**
comp=Z,20nm,0.9s
CLL *i* PKPab **PKPab** **01 27 28.2 -0.4**
comp=Z,8.0nm,0.9s
MAUC Maruska 151.00 336⇑ *e*PKP **PKiKP** **01 27 20.0 +0.2**
PVCC Panska Ves 151.11 341⇑ *e*PKP **PKPbc** **01 27 19.3 -0.3**
HUMR Humele 151.11 322 ⇑P PKPbc **01 27 19.6 -0.2**
COPA Copaceanca 151.21 321 ⇑P PKPdf **01 27 19.7 -6.2**
VYHS Vyhne 151.32 334 *e*PKP **PKPbc** **01 27 20.1 0.0**
VYHS *e* 01 27 31.3
ELL Elmali 151.44 304 PKPbc **01 27 21.0 +0.1**
JAVC Velka Javorina 151.48 335 *e*PKP **PKiKP** **01 27 21.8 +1.0**
VRAC Vranov 151.50 337 *e*PKP **PKPbc** **01 27 20.7 +0.2**
VRAC *e* 01 27 32.0
ELND Elena 151.51 318 ⇑P PKPbc **01 27 20.6 -0.2**
PRU Pruhonice 151.59 340⇑ *e*PKP **PKiKP** **01 27 20.9 0.0**
SIRR Siria 151.73 328 ⇓P PKPbc **01 27 21.4 0.0**
GZR Gura Zlata 151.76 325 ⇓P PKPbc **01 27 20.9 -0.4**
KRUC Moravsky 151.78 337 *e*PKP **PKPbc** **01 27 21.2 +0.1**
KRUC *e* 01 27 33.0
PLVB Pleven 152.00 320 ⇑P PKiKP **01 27 22.0 0.0**
MODS Modra-Piesok 152.03 335 *e*PKP **PKiKP** **01 27 22.2 +0.3**
MODS *e* 01 27 35.1
BZS Buzias 152.20 327 ⇓P PKPbc **01 27 21.9 -0.3**
DJES Djerdap 152.38 324 ⇓P PKPab **01 27 33.2 -2.2**
KHC Kasperske Hory 152.65 341⇑ *e*PKP **PKPbc** **01 27 23.0 -0.1**
KHC *e*PKPAB **PKPab** **01 27 36.7 +0.3**
CKRC Cesky Krumlov 152.69 339 *e*PKP **PKPbc** **01 27 22.8 -0.4**
CKRC *ex* x 01 27 35.6
GERES GERESS Array B 152.86 340 PKPbc PKPbc **01 27 23.1 -0.6**
comp=Z,1.5nm,0.7s,baz=90,slow=2.7,SNR=4.5
GERES PKPab **PKPab** **01 27 37.4 0.0**
comp=Z,0.6nm,0.6s,baz=32,slow=5.2,SNR=2.0
CONA Conrad Observa 152.93 337 *i* PKP **PKPab** **01 27 38.5 +0.8**
comp=Z,6.8nm,0.7s
RONA Rosalia, Austr 152.96 336 *i* PKP **PKPab** **01 27 38.5 +0.7**
comp=Z,6.4nm,0.7s
BLKB Belogradchik 152.97 322 ⇓P PKPbc **01 27 23.9 -0.1**
MORH Mrgy, Hungar 153.18 331 ⇓P PKPbc **01 27 23.7 -0.5**
BIOA Bad Ischl, Aus 153.90 339 *i* PKP **PKPab** **01 27 42.4 +0.6**
comp=Z,8.7nm,1.3s
SOKA Soboth 154.28 336 *i* PKP **PKPab** **01 27 43.5 0.0**
comp=Z,7.1nm,1.3s
LESA Schwarzleotal 154.44 340 *i* PKP **PKPab** **01 27 44.4 +0.3**
comp=Z,7.9nm,1.9s
OBKA Obir 154.60 337 *i* PKP **PKPab** **01 27 44.4 -0.5**
comp=Z,2.9nm,0.7s
MYKA Terra Mystica 154.82 338 *i* PKP **PKPab** **01 27 45.3 -0.6**
comp=Z,3.5nm,0.7s
WATA Walderalm 154.85 342 *i* PKP **PKPab** **01 27 46.1 +0.1**
comp=Z,7.8nm,1.5s
WTTA Wattenberg 154.90 341 *i* PKP **PKPab** **01 27 46.6 +0.3**
comp=Z,3.6nm,0.6s
RETA Reutte 154.94 343 *i* PKP **PKPab** **01 27 46.5 +0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,6.3nm,1.0s						
MOTA	Moosalm	154.98	342	i PKP	PKPab	01 27 46.6	+0.1
	comp=Z,7.6nm,1.1s						
SQTA	Sankt Quirin	155.06	342	i PKP	PKPab	01 27 47.0	+0.1
	comp=Z,4.8nm,1.2s						
ABTA	Abfaltersbach	155.09	340	i PKP	PKPab	01 27 46.2	-0.8
	comp=Z,3.8nm,1.0s						
JAVS	Javornik	155.31	336	i PKPbc	PKPab	01 27 47.1	-0.9
GBRS	Gornja Briga	155.33	335	i PKPbc	PKPab	01 27 47.7	-0.3
DAVA	Damuels	155.35	344	i PKP	PKPab	01 27 48.2	0.0
	comp=Z,6.3nm,0.9s						
FUORN	Ofenpass-Fuorn	155.87	343		PKPab	01 27 50.8	+0.2
ESDC	Sonseca Array	163.82	12	PKPab	PKPab	01 28 26.0	+0.8
	comp=Z,0.6nm,0.9s,baz=1.9,slow=4.5,SNR=3.0						
TORD	Torodi Ar. Bea	169.28	188		PKPdf	01 27 33.2	-0.6
TORD					PKPab	01 28 49.4	-0.3
TORD	Torodi Ar. Bea	169.28	188	PKP	PKPdf	01 27 32.4	-1.4
	comp=Z,1.4nm,0.9s,baz=124,slow=0.7,SNR=6.5						
TORD				PKPab	PKPab	01 28 49.8	+0.1
	comp=Z,2.5nm,0.6s,baz=159,slow=3.0,SNR=16						
TAM	Tamanrasset	175.01	259		PKPab	01 29 14.1	-1.6

WEL 05 01:23:12.0±1.0, 34°S±6°×17°9E±1°5, h33km, M3.8/12, mB4.4/4, ML4.1/17, MLv3.9/12, Mw(mB)3.5/4, Error ellipse: s-maj=0.0km s-min=0.0km az=96.5, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.38	183	P	Pn	01 24 04.1	+1.7
MXZ				S	Sn	01 24 45.0	+3.7
HAZ	Te Kaha	3.62	190	P	Pn	01 24 07.0	+1.3
WMGZ	Waiomatatini S	3.63	182	P	Pn	01 24 06.4	+0.5
WMGZ				S	Sn	01 24 48.7	+1.1
PKGZ	Pakihiroa	3.72	186	P	Pn	01 24 08.4	+1.3
PKGZ				S	Sn	01 24 51.6	+1.7
RUGZ	Raukumara Rang	3.84	190	P	Pn	01 24 09.9	+1.0
PUZ	Puketiti	3.89	183	P	Pn	01 24 08.7	-0.8
PUZ				S	Sn	01 24 54.3	+0.3
TWGZ	Tauwhareparae	4.01	186	P	Pn	01 24 12.8	+1.6
TWGZ				S	Sn	01 24 59.5	+2.4
TKGZ	Te Karaka	4.29	187	P	Pn	01 24 14.0	-0.9
TKGZ				S	Sn	01 25 04.0	+0.3
CNGZ	Carnagh Statio	4.30	183	P	Pn	01 24 14.3	-0.8
RIGZ	Rimuhau	4.56	188	P	Pn	01 24 17.5	-1.1
RIGZ				S	Sn	01 25 10.1	-0.5
SNGZ	Shannon Statio	4.69	192	P	Pn	01 24 20.6	+0.1
SNGZ				S	Sn	01 25 14.5	+0.7
PRGZ	Paritu Road	4.76	186	P	Pn	01 24 20.7	-0.8
PRGZ				S	Sn	01 25 13.8	-1.7
MTHZ	Maungataniwha	4.86	196	P	Pn	01 24 22.9	+0.1
MTHZ				S	Sn	01 25 20.4	+2.5
KNZ	Kokohu	4.88	188	P	Pn	01 24 22.0	-1.1
KNZ				S	Sn	01 25 15.9	-2.5
NMHZ	Naumai	5.10	195	P	Pn	01 24 26.1	0.0
NMHZ				S	Sn	01 25 26.1	+2.2
TMVZ	Te Maari	5.43	204	P	Pn	01 24 31.7	+1.0
ETVZ	East Tongariro	5.44	204	P	Pn	01 24 31.9	+1.0
KWHZ	Kaweka Forest	5.50	197	P	Pn	01 24 30.7	-1.0
KWHZ				S	Sn	01 25 32.9	-0.9
WNVZ	Wahianoa	5.65	204	P	Pn	01 24 34.0	+0.2
BHHZ	Black Hill Sta	5.66	200	P	Pn	01 24 32.9	-1.0
BHHZ				S	Sn	01 25 39.2	+1.6
KAHZ	Kahuranaki	5.76	193	P	Pn	01 24 32.5	-2.6
KAHZ				S	Sn	01 25 39.7	-0.4

DJA 05 01:32:15.4±0.5, 7°S±4°×13°0E±°, h177km±16km, M4.3/6, mb3.9/6, mB4.8/1, MLv4.4/6, Mw(mB)4.0/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.96	129	P	Pn	01 32 53.5	+1.7
FAKI	Fak Fak	4.53	33	P	Pn	01 33 22.6	-0.7
FAKI				S	Sn	01 34 16.0	-0.4
BATI	Baumata	6.95	240	P	Pn	01 33 54.6	-0.4
	24nm,0.6s,0.1nm						
EDFI	Ende, Flores	8.25	255	P	Pn	01 34 14.2	+2.0
	3.3nm,1.3s						
PLAI	Plampang	12.06	259	P	Pn	01 35 01.9	+0.1

NEIC 05 01:44:25.7±0.7, 35°34N±0°02×98°10W±0°02, h20km±1km, Error ellipse: s-maj=3.3km s-min=2.3km az=202.0

TUL 05 01:44:26.6±1.4, 35°374N±0°009×98°09W±0°01, h7km±4km, ML2.5, mb_Lg2.3/17(NEIC), ML2.4/28(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=97.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKCSW	OKLAHOMA CITY	0.54	86		Pg	01 44 36.4	-0.6
OKCSW				IAML		01 44 53.3	
	comp=N,150nm,0.3s						
OKCSW				IAML		01 44 53.9	
	comp=E,230nm,0.4s						
CSTR	Hydro, Custer	0.56	299	Pg	Pg	01 44 37.5	+0.1
CSTR				Sg	Sb	01 44 46.0	-1.0
FNO	Franklin	0.58	101		Pg	01 44 37.0	-0.7
FNO				Sg	Sg	01 44 45.3	0.0
FNO				IAML		01 44 53.0	
	comp=E,136nm,0.1s						
ADOK	Arcadia Dam	0.65	65	Pg	Pg	01 44 38.9	-0.3
OK029	Liberty Lake	0.67	51	Pg	Pg	01 44 39.1	-0.4
OK029				Sg	Sg	01 44 48.8	+0.6
OK029				IAML		01 44 51.9	
	comp=E,128nm,0.4s						
OK029				IAML		01 44 52.3	
	comp=E,139nm,0.7s						
WMOK	Wichita Mounta	0.85	222	Pg	Pg	01 44 41.9	-1.0
WMOK				Sg	Sg	01 44 52.5	-1.4
W35A	Tecumseh	1.02	102	Pg	Pg	01 44 45.5	-0.6
W35A				Sg	Sg	01 44 59.3	-0.2
W35A				IAML		01 45 06.5	
	comp=E,102nm,0.3s						
W35A				IAML		01 45 08.6	
	comp=N,69nm,0.3s						
CROK	Carrier	1.13	4		Pg	01 44 48.0	-0.3
OK052	Battle Ridge R	1.22	59		Pb	01 44 49.1	-0.9
OK052				IAML		01 45 10.7	
	comp=N,154nm,0.2s						
OK038	West end E0370	1.22	335		Pg	01 44 49.3	-0.7
U32A	Winter Ranch,	1.25	324		Pb	01 44 49.5	-1.0
U32A				IAML		01 45 11.0	
	comp=E,150nm,0.3s						
ELIS	Ellis County	1.28	303		Pn	01 44 50.2	-0.8
ELIS				IAML		01 45 14.2	
	comp=E,140nm,0.2s						
QUOK	Quay	1.38	54		Pn	01 44 50.9	-1.3
DEOK	Depew	1.38	70		Pn	01 44 51.6	-0.7
OK048	Pawnee Station	1.40	42		Pn	01 44 52.2	-0.3
OK035	E0210 Rd and N	1.42	340	Pg	Pn	01 44 52.1	-0.8
OK032	Salt Plains WL	1.43	356		Pn	01 44 52.3	-0.7
KAN14	Manchester OK	1.58	4	IAmb_Lg		01 45 20.1	
	comp=Z,12nm,0.8s						
KAN06	Argonia West S	1.88	6	IAmb_Lg		01 45 27.9	
	comp=Z,10nm,0.8s						
TUL3	Leonard	1.95	73		Pn	01 44 59.3	-0.8
T35A	Sooner Cattle	2.00	39		Pn	01 45 00.4	-0.5
FW03	Perrin-Whitt E	2.33	179	IAmb_Lg		01 45 44.2	
	comp=Z,13nm,0.8s						
X37A	Clayton	2.37	109		Pn	01 45 05.0	-0.8
FW06	Azle	2.44	169		Pn	01 45 05.3	-1.6
APMT	Aspermont	2.65	220	IAmb_Lg		01 45 53.8	
	comp=Z,6.7nm,1.0s						
ABTX	Abilene, Hawle	3.03	206	IAmb_Lg		01 46 08.2	
	comp=Z,6.3nm,0.9s						
HHAR	Hobbs	3.49	74	IAmb_Lg		01 46 21.7	
	comp=Z,7.9nm,0.8s						
MIAR	Mount Ida	3.80	101	Pn	Pn	01 45 25.2	-0.4
KSU1	Kansas State U	3.90	17	IAmb_Lg		01 46 35.6	
	comp=Z,11nm,0.7s						
SGCY	Sterling City	4.28	217	IAmb_Lg		01 46 46.8	
	comp=Z,11nm,0.8s						
X40A	Basin Creek Fa	4.41	100	IAmb_Lg		01 46 52.7	
	comp=Z,4.7nm,0.8s						
MGMO	Mountain Grove	5.03	68	IAmb_Lg		01 47 08.8	
	comp=Z,7.8nm,0.7s						

NOU 05 01:55:41.4, 21°61S×171°40E, h118km, MLv4.7/7, Southeast of Loyalty Islands

IDC 05 01:55:56.4±6.0, 21°36S×170°15E, h121km±38km, mb3.7/3, mbtmp4.1/4, MS2.5/1, Error ellipse: s-maj=80.2km s-min=38.9km az=145.0

ISC 05 01:55:52.8±1.6, 21°7S±0°1×170°5E±0°1, h100km, n21, σ0s87/22, mb4.0/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	2.28	276	P	Pn	01 56 29.5	+0.4
PINNC	Pines Island,	2.93	252	P	Pn	01 56 38.3	+0.6
PINNC	Pines Island,	2.93	252	P	Pn	01 56 38.2	+0.6
LIFNC	LIFOU	3.16	287	P	Pn	01 56 40.5	-0.2
LIFNC	LIFOU	3.16	287	P	Pn	01 56 40.6	-0.2
OUENC	Ouen Island, N	3.43	258	P	Pn	01 56 45.0	+0.7
OUENC	Ouen Island, N	3.43	258	P	Pn	01 56 45.1	+0.7
DZM	Mont Dzumac	3.75	264	P	Pn	01 56 49.5	+0.8
DZM	Mont Dzumac	3.75	264	P	Pn	01 56 49.5	+0.8
	50nm,0.3s,baz=83,slow=19,SNR=186						
DZM				S	Sn	01 57 31.2	-0.8
	243nm,0.7s,baz=336,slow=17,SNR=25						
DZM				LR	LR	01 58 06.7	
	comp=Z,61nm,19.4s,baz=31,slow=37						
ONTNC	Ouen Toro	3.77	261	P	Pn	01 56 49.5	+0.7
ONTNC	Ouen Toro	3.77	261	P	Pn	01 56 49.7	+0.9
NOUC	Port Laguerre	3.88	264	P	Pn	01 56 50.9	+0.5
NOUC	Port Laguerre	3.88	264	P	Pn	01 56 51.2	+0.8
RTV	Rentapao	4.38	334	P	Pn	01 56 58.3	+1.2
DVP	Devils Point	4.54	331	P	Pn	01 56 59.7	+0.4
KOUNC	Koumac, New Ca	5.89	281	P	Pn	01 57 19.8	+2.2
STKA	Stephens Creek	27.60	242	P	P	02 01 31.5	+0.7
	2.2nm,0.5s,baz=76,slow=9.6,SNR=6.7						
	2.2nm,0.5s						
ASAR	Alice Springs	33.73	260	P	P	02 02 24.7	-0.2
	2.2nm,0.7s,baz=83,slow=9.4,SNR=22						
	2.2nm,0.7s						
WRA	Warramunga Arr	33.77	266	P	P	02 02 24.1	-1.1
	0.6nm,0.4s,baz=98,slow=8.3,SNR=18						
	0.6nm,0.4s						
EKA	Eskdalemuir Ar	146.12	353	PKPbc	PKPdf	02 15 19.7	-0.2
	0.9nm,0.6s,baz=5.8,slow=2.9,SNR=4.7						
GERES	GERESS Array B	147.23	331	PKPbc	PKPbc	02 15 24.0	-0.6
	1.1nm,0.6s,baz=48,slow=2.0,SNR=4.3						

KRNET 05 02:16:10.0±0.1, 42°54N×69°65E, mb2.4

NNC 05 02:16:11.4±0.5, 42°72N×70°12E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=8.9km s-min=2.6km az=121.0

SOME 05 02:16:14.6, 42°78N×70°45E, h0km

ISC 05 02:16:09.3±2.1, 42°82N±0°04×70°02E±0°09, h16km±12km, n30, σ1s54/48, 25C-11D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK07	Karatay Array	0.45	52	⇑P	Pn	02 16 20.6	-0.6
KK07				⇑S	Sb	02 16 27.0	+1.6
KK08	Karatay Array	0.45	50	⇑P	Pn	02 16 20.6	-0.6
KK08				⇑S	Sb	02 16 27.2	+1.8
KK03	Karatay Array	0.46	51	⇑P	Pn	02 16 20.7	-0.6
KK03				⇑S	Sb	02 16 27.4	+1.8
KK01	Karatay Array	0.46	51	⇑P	Pn	02 16 20.6	-0.8
KK01				⇑S	Sb	02 16 27.5	+1.8
KK04	Karatay Array	0.47	51	⇑P	Pn	02 16 20.7	-0.7
KK04				⇓S	Sb	02 16 27.6	+1.7
KK06	Karatay Array	0.47	53	⇑P	Pn	02 16 20.9	-0.6
KK06				⇑S	Sb	02 16 27.7	+1.8
KK09	Karatay Array	0.47	49	⇑P	Pn	02 16 20.9	-0.6
	3.5nm,0.2s						
KK09				⇑S	Sb	02 16 27.8	+1.8
	13nm,0.2s						
KK05	Karatay Array	0.48	51	⇑P	Pn	02 16 21.0	-0.6
KK05				⇑S	Sb	02 16 27.8	+1.6
TRKS	Terek-Say	1.53	147	⇓eP	Pg	02 16 39.0	+0.2
	baz=33						
TRKS				⇓eS	Sg	02 16 59.3	+0.5
	baz=33						
ARK	Arkit	1.77	124	⇑eP	Pg	02 16 43.0	-0.3
	baz=12						
ARK				⇑eS	Sg	02 17 08.0	+1.7
	baz=12						
MRKS	Merke	2.37	91	ePg	Pg	02 16 54.3	-0.4
	1.4nm,0.1s						
MRKS				eLg	Lg	02 17 23.0	
	7.8nm,0.3s						
ARSB	Arslanbob	2.67	123	⇓eP	Pb	02 16 56.1	-0.7
	baz=15						
ARSB				⇓eS	Sb	02 17 29.9	+0.6
	baz=15						
EKS2	Erkin-Say	2.78	92	⇓eP	Pb	02 16 59.8	+1.2
	baz=86						
EKS2				⇓eS	Sb	02 17 36.5	+4.1
	baz=86						
AML	Almayashu	2.81	103	⇓eP	Pb	02 16 59.4	+0.1
	baz=96						
AML				⇓eS	Sb	02 17 35.9	+2.3
	baz=96						
BTK	Batken	2.82	167	⇑eP	Pn	02 16 54.5	+0.7
	baz=60						
BTK				⇑eS	Sn	02 17 26.1	-1.4
	baz=60						
AAK	Ala-Archa	3.31	92	⇑eP	Pb	02 17 07.2	-0.5
	baz=87						
AAK				⇑eS	Sb	02 17 49.1	+1.4
	baz=87						
USP	Ospenovka	3.32	81	⇑eP	Pb	02 17 08.1	+0.3
	baz=77						
USP				⇑eS	Sb	02 17 50.6	+2.6
	baz=77						
ARLS	Aral	3.33	105	⇓eP	Pb	02 17 06.8	-1.4
	baz=0.0						
ARLS				⇓eS	Sb	02 17 48.1	-0.4
	baz=0.0						
UCH	Uchtor	3.38	99	⇑eP	Pb	02 17 07.8	-1.3
	baz=93						
UCH				⇑eS	Sb	02 17 50.2	+0.1
	baz=93						
BTLS	Baital	3.66	51	ePg	Pg	02 17 19.7	+0.2
	1.4nm,0.2s						
BTLS				eLg	Lg	02 18 05.5	
	2.1nm,0.3s						
BTLS	Baital	3.66	51	Pg	Pg	02 17 19.7	+0.2
	1.4nm,0.2s						
BTLS				Lg	Lg	02 18 05.6	
	2.1nm,0.3s						
DGS	Degeres	4.24	82	ePg	Pg	02 17 28.7	-1.9
	1.4nm,0.2s						
DGS				eLg	Lg	02 18 21.2	
	5.5nm,0.5s						
DGS	Degeres	4.24	82	Pg	Pg	02 17 28.7	-1.9
	1.4nm,0.2s						
DGS				Lg	Lg	02 18 21.2	
	5.5nm,0.5s						
KST	Kastek	4.37	85	ePg	Pg	02 17 31.3	-1.8
	1.9nm,0.3s						
KST				eLg	Lg	02 18 25.5	
	4.0nm,0.5s						
KUU	Kurty	4.74	75	ePg	Pg	02 17 38.4	-1.6
	1.2nm,0.2s						
KUU				eLg	Lg	02 18 37.7	
	7.7nm,0.3s						
KUU	Kurty	4.74	75	Pg	Pg	02 17 38.4	-1.6
	1.2nm,0.2s						
KUU				Lg	Lg	02 18 37.7	
	7.7nm,0.3s						
KTBS	Karatobe	4.95	77	ePg	Pg	02 17 42.4	-1.8
	0.9nm,0.3s						
KTBS				eLg	Lg	02 18 44.5	
	5.5nm,0.4s						
KTBS	Karatobe	4.95	77	Pg	Pg	02 17 42.4	-1.8
	0.9nm,0.3s						
KTBS				Lg	Lg	02 18 44.5	
	5.5nm,0.4s						
CHKK	Chushkaly	5.19	76	ePg	Pg	02 17 46.2	-2.5
	0.4nm,0.1s						
CHKK				eLg	Lg	02 18 51.5	
	4.3nm,0.3s						
CHKK	Chushkaly	5.19	76	Pg	Pg	02 17 46.2	-2.5
	0.4nm,0.1s						
CHKK				Lg	Lg	02 18 51.5	
	4.3nm,0.3s						

NDI 05 02:24:13.7±2.1, 26°89N×96°41E, h100km, ML4.1, mb4.2(NEIC)

NEIC 05 02:24:15.8±1.6, 26°61N±0°08×96°4E±0°1, h89km±5km, mb4.2/35, Error ellipse: s-maj=13.9km s-min=11.9km az=70.0

IDC 05 02:24:18.9±3.5, 26°54N×96°36E, h124km±34km, mb3.6/9, mbtmp4.0/10, MS2.7/2, Error ellipse: s-maj=32.4km s-min=12.7km az=63.0

ISC 05 02:24:16.0±0.9, 26°70N±0°06×96°18E±0°06, h89km±8km, n71, σ1s80/86, mb4.2/27, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKP	Lekhapani	0.70	335	eP	Pn	02 24 30.7	-1.8
LKP				eS	Sn	02 24 43.7	-1.0
LKP				IAML		02 24 45.8	
	comp=E,16μm,0.3s						
MOKO	MOKOCHONG	1.54	256	eP	Pn	02 24 44.2	+1.8
MOKO				eS	Sn	02 25 06.6	+4.1
MOKO				IAML		02 25 13.2	
	comp=N,2μm,0.3s						
MOKO				IAML		02 25 13.4	
	comp=E,2μm,0.3s						
ZIRO	ZIRO	2.24	292	eP	Pn	02 24 51.1	-0.4
ZIRO				eS	Sn	02 25 17.4	-1.3
ZIRO				IAML		02 25 21.8	
	comp=E,3μm,0.2s						
ZIRO				IAML		02 25 27.0	
	comp=N,2μm,0.4s						
ITAN	ITANAGAR	2.24	282	eP	Pn	02 24 52.2	+0.8
ITAN				eS	Sn	02 25 18.5	0.0
ITAN				IAML		02 25 24.3	
	comp=N,2μm,0.2s						
IMP	Imphal	2.75	228	eP	Pn	02 24 59.4	+1.2
IMP				eS	Sn	02 25 33.9	+3.2
IMP				IAML		02 25 40.8	
	comp=N,339nm,0.4s						
TEZP	TEZPUR	3.03	269	eP	Pn	02 25 02.2	+0.3
TEZP				eS	Sn	02 25 37.8	+0.5
TEZP				IAML		02 25 41.0	
	comp=E,1μm,0.1s						
TEZP				IAML		02 25 41.7	
	comp=N,1μm,0.1s						
SHL	Shillong	4.03	255	Pn	Pn	02 25 15.6	0.0
SHL	Shillong	4.03	255	eP	Pn	02 25 15.6	0.0
SHL				eS	Sn	02 26 01.4	-0.4
SHL				IAML		02 26 04.6	
	comp=E,304nm,0.1s						
SAIH	SAIHA	5.10	215	eP	Pn	02 25 31.2	+1.0
SAIH				eS	Sn	02 26 28.5	+0.6
SAIH				IAML		02 26 36.7	
	comp=N,112nm,0.5s						
SAIH				IAML		02 26 38.2	
	comp=E,190nm,0.4s						
LSA	Lhasa	5.35	305	Pn	Pn	02 25 35.5	+1.6
GTK	Tadong	6.79	277	eS	Sn	02 27 07.3	-1.9
RAMN	Ramite	8.57	274	ePn	Pn	02 26 17.3	-0.2
CMAR	Chiang Mai Arr	8.59	162	P	Pn	02 26 17.7	0.0
	comp=E,2.5nm,0.3s,baz=336,slow=12,SNR=21						
CMAR				LR	LR	02 29 30.1	
	comp=E,26nm,20.2s,baz=325,slow=37						
JIRN	Jiri	8.95	278	ePn	Pn	02 26 22.6	-0.3
JIRN				eSn	Sn	02 27 59.5	-2.7
	comp=E,21nm,0.3s						
GUN	Gumba	9.25	280	ePn	Pn	02 26 26.2	-0.7
GUN				eSn	Sn	02 28 06.8	-2.5
	comp=E,85nm,0.4s						
PKI	Pulchoki	9.64	278	ePn	Pn	02 26 31.1	-1.1
PKI				eSn	Sn	02 28 16.2	-2.7
	comp=E,42nm,0.7s						
PKIN	Phulchoki	9.65	278	ePn	Pn	02 26 31.1	-1.2
PKIN				eSn	Sn	02 28 16.7	-2.4
	comp=E,21nm,0.3s						
DMN	Daman	9.91	278	ePn	Pn	02 26 34.5	-1.3
DMN				eSn	Sn	02 28 22.9	-2.5
	comp=E,22nm,0.3s						
GKN	Gorkha	10.35	280	ePn	Pn	02 26 40.5	-1.2
GKN				eSn	Sn	02 28 32.7	-3.2
	comp=E,50nm,0.5s						
DANN	Dangsing	11.15	281	ePn	Pn	02 26 49.7	-3.0
DANN				eSn	Sn	02 28 50.3	-5.3
	comp=E,21nm,0.3s						
PYUN	Piuthan	11.81	280	ePn	Pn	02 26 57.9	-3.6
PYUN				eSn	Sn	02 29 05.9	-5.6
	comp=E,16nm,0.4s						
ENH	Enshi	12.23	70	Pn	Pn	02 27 06.3	-0.7
HYB	Hyderabad	18.75	244	eP	P	02 28 28.9	+0.8
TARG	Taragay, Kyrgy	21.28	319	P	P	02 28 57.5	+1.9
TARG				IAmb	IAmb	02 29 18.2	
	comp=Z,14nm,1.1s						
SONM	Songino Array	22.57	18	P	P	02 29 11.5	+2.5
	comp=Z,0.8nm,0.6s,baz=199,slow=13,SNR=6.3						
	comp=Z,0.8nm,0.6s						
BOOM	Boomskoye usch	22.84	319	P	P	02 29 12.1	+0.2
BOOM				IAmb	IAmb	02 29 54.1	
	comp=Z,28nm,1.4s						
MK31	Makanchi Array	22.87	335	P	P	02 29 12.9	+0.9
MKAR	Makanchi Array	22.87	335	P	P	02 29 12.2	+0.2
MKAR	Makanchi Array	22.87	335	P	P	02 29 12.8	+0.9
	comp=Z,1.4nm,0.4s,baz=141,slow=10,SNR=20						
	comp=Z,1.4nm,0.4s						
KBL	Kabul	24.58	295	P	P	02 29 30.9	+2.9
KBL				IAmb	IAmb	02 29 32.7	
	comp=Z,8.2nm,0.9s						
KURBB	Kurchatov Arra	27.44	335	P	P	02 29 54.6	+1.3
	comp=Z,1.1nm,0.7s,baz=146,slow=9.5,SNR=5.0						
KURBB				LR	LR	02 43 32.0	
	comp=Z,28nm,19.1s,baz=182,slow=42						
	comp=Z,1.1nm,0.7s						
KURK	Kurchatov	27.48	335	P	P	02 29 55.3	+1.6
ZALV	Zalesovo Beam	28.49	346	P	P	02 30 03.3	+0.7
	comp=Z,0.8nm,0.5s,baz=147,slow=6.3,SNR=3.1						
	comp=Z,0.8nm,0.5s						
BVAR	Borovoye Array	32.58	331	P	P	02 30 40.2	+1.5
	comp=Z,1.1nm,0.3s,baz=129,slow=11,SNR=7.1						
	comp=Z,1.1nm,0.3s						
BRVK	Borovoye	32.64	331	P	P	02 30 40.8	+1.5
BRVK				IAmb	IAmb	02 30 41.2	
	comp=Z,2.0nm,0.7s						
ABKAR	Akbulak array	35.87	319	P	P	02 31 09.2	+2.0
ABKAR	Akbulak array	35.87	319	P	P	02 31 08.3	+1.1
ABKAR				IAmb	IAmb	02 31 25.5	
	comp=Z,4.7nm,1.5s						
BRTR	Keskin Array B	52.95	301	P	P	02 33 24.9	+1.4
AKASG	Malin Array Be	55.42	315	P	P	02 33 42.5	+1.5
AKASG				IAmb	IAmb	02 34 16.0	
	comp=Z,2.0nm,1.0s						
BUR08	Bucovina Ar. S	58.24	311	P	P	02 34 01.2	-0.1
WB0	Warramunga Arr	59.22	137	P	P	02 34 05.4	-2.7
WRA	Warramunga Arr	59.32	137	P	P	02 34 06.0	-2.8
WRA	Warramunga Arr	59.32	137	P	P	02 34 06.2	-2.7
	comp=Z,1.8nm,0.6s,baz=324,slow=7.5,SNR=34						
	comp=Z,1.8nm,0.6s						
WB2	Warramunga Arr	59.33	137	P	P	02 34 07.0	-1.9
ASAR	Alice Springs	61.94	141	P	P	02 34 24.4	-2.2
	comp=Z,1.4nm,0.5s,baz=324,slow=6.8,SNR=27						
	comp=Z,1.4nm,0.5s						
KMBO	Kilima Mbogo	63.07	254	P	P	02 34 35.5	+0.8
	comp=Z,0.6nm,0.3s,baz=66,slow=12,SNR=3.9						
	comp=Z,0.6nm,0.3s						
VOI	Vohitsoka	67.98	230	P	P	02 35 05.1	-0.8
FUORN	Ofenpass-Fuorn	68.43	312	P	P	02 35 09.8	+1.2
FUORN				IAmb	IAmb	02 35 22.3	
	comp=Z,2.8nm,1.1s						
C18K	Utukok River	69.86	22	P	P	02 35 16.4	-0.4
C19K	Lookout Ridge	70.23	22	P	P	02 35 19.2	+0.1
C19K				IAmb	IAmb	02 35 24.6	
	comp=Z,6.2nm,1.4s						
D19K	Kuna River	70.96	22	P	P	02 35 23.4	-0.1
B22K	Teshekpuk Lake	71.64	20	P	P	02 35 27.2	-0.3
B22K				IAmb	IAmb	02 35 27.8	
	comp=Z,4.0nm,0.7s						
F20K	Avaraart Lake	72.41	23	P	P	02 35 31.6	-0.5
F20K				IAmb	IAmb	02 35 47.7	
	comp=Z,9.3nm,1.5s						
STKA	Stephens Creek	72.58	141	P	P	02 35 30.9	-2.8
	comp=Z,0.8nm,0.6s,baz=333,slow=11,SNR=3.3						
	comp=Z,0.8nm,0.6s						
C23K	Itkillik River	72.72	19	P	P	02 35 34.0	0.0
E22K	Anaktuvuk Pass	73.21	21	P	P	02 35 36.6	-0.4
E22K				IAmb	IAmb	02 36 19.5	
	comp=Z,5.7nm,1.5s						
H21K	Melozitna Rive	74.11	24	P	P	02 35 42.0	-0.2
H21K				IAmb	IAmb	02 35 55.4	
	comp=Z,8.1nm,1.4s						
D25K	Kavik River	74.26	19	P	P	02 35 43.8	+0.7
D25K				IAmb	IAmb	02 36 14.9	
	comp=Z,4.0nm,1.4s						
E24K	Your Creek	74.31	21	P	P	02 35 42.9	-0.5
E24K				IAmb	IAmb	02 35 43.5	
	comp=Z,6.7nm,1.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I23K	Minto, Yukon-K	75.61	23	P	P	02 35 54.8	+3.9
I23K				IAmb	IAmb	02 35 59.2	
	comp=Z,6.2nm,1.3s						
D27M	Malcolm River	75.84	18	P	P	02 35 52.2	0.0
BMAR	Burnt Mountain	75.90	20	P	P	02 35 53.1	+0.6
E27K	Coleen River	76.33	19	P	P	02 35 54.9	-0.1
E28M	Babbage River	76.65	18	P	P	02 35 56.8	0.0
E29M	Blow River	77.25	18	P	P	02 35 59.8	-0.2
E29M				IAmb	IAmb	02 36 33.8	
	comp=Z,4.4nm,1.4s						
G29M	Pine Creek	78.21	19	P	P	02 36 05.0	-0.5
G29M				IAmb	IAmb	02 36 12.8	
	comp=Z,6.8nm,1.5s						
INK	Inuvik	78.47	17	P	P	02 36 06.6	-0.3
H29M	Whitestone	78.57	20	P	P	02 36 06.7	-0.8
I28M	Miner Creek	78.60	21	P	P	02 36 07.4	-0.4
G30M	tAoh Zraii Nji	78.68	19	P	P	02 36 07.5	-0.7
G30M				IAmb	IAmb	02 36 37.9	
	comp=Z,4.2nm,1.1s						
BCAR	Beaver Creek A	79.53	23	P	P	02 36 12.9	+0.1

*NEIC **05** 02:24:23.6±1.8, 17°.08N±0°.07×68°.60W±0°.06, h44km±70km, ML2.7/10, Md3.3/3(RSPR), Error ellipse: s-maj=12.1km s-min=6.0km az=146.0*
*OSPL **05** 02:24:26.9±2.5, 18°.30N×68°.17W, h161km±27km, ML2.3*
*RSPR **05** 02:24:28.0, 18°.22N×68°.35W, h147km±2km, MD3.3/3*
ISC 05 02:24:25.8±1.8, **18°.1N**±0°.2×**68°.39W**±0°.08, **h150**km, **n18**, σ**1s.48**/22, **3C-2D, Mona Passage**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.45	1	⇓eP	Pn	02 24 47.9	+0.9
PCDR	Punta Cana, DR	0.45	1		Pn	02 24 47.2	+0.3
PCDR					Sn	02 25 03.9	+0.8
PCDR				IAML		02 25 19.1	
	comp=N,92nm,1.8s						
PCDR				IAML		02 25 32.2	
	comp=E,66nm,2.2s						
PCDR	Punta Cana, DR	0.45	1	i P	Pn	02 24 46.8	-0.2
PCDR				eS	Sn	02 25 03.3	+0.1
PCDR				IAML		02 25 05.3	
	comp=Z,41nm,1.9s						
CRPR	Cabo Rojo, PR	1.22	92	⇓eP	Pn	02 24 53.6	+1.1
CRPR	Cabo Rojo, PR	1.22	92	eS	Sn	02 25 13.9	+0.9
CRPR	Cabo Rojo, PR	1.22	92		Pn	02 24 50.2	-2.4
CRPR					Sn	02 25 11.1	-1.9
CRPR	Cabo Rojo, PR	1.22	92	i P	Pn	02 24 53.6	+1.1
CRPR				eS	Sn	02 25 09.4	-3.6
CRPR				IAML		02 25 13.7	
	comp=Z,25nm,2.2s						
LSP	Las Mesas	1.25	84	⇑eP	Pn	02 24 53.6	+0.7
LSP	Las Mesas	1.25	84	eS	Sn	02 25 14.3	+0.8
LSP	Las Mesas	1.25	84		Pn	02 24 53.6	+0.7
LSP					Sn	02 25 14.3	+0.8
AGPR	Aguadilla, PR	1.28	71	⇑eP	Pn	02 24 54.6	+1.4
AGPR	Aguadilla, PR	1.28	71	eS	Sn	02 25 14.7	+0.6
AGPR	Aguadilla, PR	1.28	71		Pn	02 24 53.7	+0.5
AGPR				IAML		02 26 12.9	
	comp=E,72nm,2.2s						
AGPR	Aguadilla, PR	1.28	71	i P	Pn	02 24 50.7	-2.5
AGPR				eS	Sn	02 25 10.5	-3.6
AGPR				IAML		02 25 17.8	
	comp=Z,44nm,1.2s						
AOPR	Arecibo Observ	1.58	79	⇑eP	Pn	02 24 57.0	+0.7
AOPR	Arecibo Observ	1.58	79	eS	Sn	02 25 18.1	-1.5
AOPR	Arecibo Observ	1.58	79		Pn	02 24 56.5	+0.2
AOPR				IAML		02 25 21.1	
	comp=N,49nm,0.3s						
SDDR	Presa de Saban	2.90	289	Pn	Pn	02 25 11.8	-0.2
SDDR				IAML		02 25 52.5	
	comp=N,18nm,3.0s						
SDDR				IAML		02 26 27.8	
	comp=N,18nm,3.2s						

ISC 05 02:27:38.6±1.0, **45°.22N**±0°.03×**14°.59E**±0°.03, **h11**km±9km, **n13**, σ**0s.53**/23, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RIY	Rijeka	0.13	324	ePg	Pg	02 27 41.5	-0.3
RIY				Sg	Sg	02 27 44.3	+0.2
KNDS	Knezji Dol	0.34	334	i Pg	Pg	02 27 45.4	-0.1
KNDS				i Sg	Sb	02 27 51.8	-0.4
KNDS				IAML		02 27 52.6	
	comp=Z,2.3nm,0.1s						
GBRS	Gornja Briga	0.35	26	i Pg	Pg	02 27 45.5	0.0
GBRS				i Sg	Sg	02 27 51.2	+0.9
SMRN	Sveta Marina	0.36	239	ePg	Pg	02 27 45.4	-0.4
SMRN				Sg	Sg	02 27 50.9	+0.3
RABC	Rab	0.49	164	ePg	Pg	02 27 47.3	-0.9
RABC				Sg	Sg	02 27 54.5	-0.2
SKDS	Skadanscina	0.52	309	i Pg	Pg	02 27 48.3	-0.5
SKDS				i Sg	Sb	02 27 57.1	-0.2
SKDS				IAML		02 27 59.0	
	comp=Z,3.0nm,0.1s						
CEY	Cerknica	0.53	348	i Pg	Pg	02 27 49.1	+0.1
CEY				IAML		02 28 00.1	
	comp=Z,3.0nm,0.1s						
A253A	Karojba, Istri	0.55	278	ePg	Pg	02 27 49.5	+0.2
A253A				Sg	Sb	02 27 57.8	-0.4
VISS	Visnje	0.61	17	i Sg	Sb	02 27 59.4	-0.4
VISS				IAML		02 28 02.1	
	comp=Z,1.4nm,0.1s						
BRJN	Brijuni	0.67	242	ePg	Pb	02 27 52.4	+0.1
BRJN				Sg	Sb	02 28 01.6	0.0
NVLJ	Novalja	0.69	163	Sg	Sg	02 28 00.8	-0.1
A254A	Petrova Gora	0.86	83	ePg	Pg	02 27 55.2	-0.1
A254A				Sg	Sg	02 28 06.1	-0.5
DUGI	Dugi Otok	1.27	165	ePg	Pg	02 28 03.7	+0.6
DUGI				Sg	Sg	02 28 20.9	+1.3

*CATAC **05** 02:48:54.7±1.0, 14°.14N×91°.51W, h41km±14km, ML3.2*
*GCG **05** 02:48:58.5±0.5, 14°.35N×91°.41W, h38km±6km, MD3.2*
ISC 05 02:48:54.2±2.4, **14°.1N**±0°.1×**91°.56W**±0°.08, **h65**km±14km, **n11**, σ**1s.10**/18, **Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SULM	Suchitepequez,	0.17	358	eP	Pn	02 49 05.2	+1.2
SULM				eS	Sn	02 49 10.4	-0.8
RTAL	Retalhuleu	0.41	341	i P	Pn	02 49 05.7	0.0
RTAL				i S	Sn	02 49 14.6	+0.5
RTAL				IAML		02 49 17.3	
	comp=Z,690nm,1.0s						
STG3	Santiaguito 3,	0.57	359	eP	Pn	02 49 08.3	+0.7
STG3				eS	Sn	02 49 16.1	-1.2
SOKI	Kika Raxquin	0.70	12	i P	Pn	02 49 09.3	+0.1
SOKI				IAML		02 49 22.3	
	comp=Z,1µm,1.0s						
ESSG	Sabana Grande	0.75	71	i P	Pn	02 49 08.8	-0.6
ESSG				i S	Sn	02 49 19.3	-1.3
ESSG				IAML		02 49 23.6	
	comp=Z,1µm,1.0s						
FUG	Fuego 3	0.76	66	eP	Pn	02 49 10.2	+0.6
CHTG	Tecpan	0.84	42	i P	Pn	02 49 11.0	+0.3
CHTG				IAML		02 49 25.2	
	comp=Z,2µm,1.0s						
SMCA	Catarina	0.88	325	i P	Pn	02 49 11.2	+0.3
SMCA				i S	Sn	02 49 22.7	-0.5
SMCA				IAML		02 49 25.3	
	comp=Z,440nm,1.0s						
PCG	Pacaya	0.96	74	eP	Pn	02 49 14.2	+2.0
PCG				eS	Sn	02 49 25.8	+0.4
NBG	Las Nubes	1.26	69	eP	Pn	02 49 17.7	+1.7
NUBE	Las Nubes	1.74	97	i P	Pn	02 49 22.3	-0.1
NUBE				i S	Sn	02 49 42.1	-1.7
NUBE				IAML		02 49 44.4	
	comp=Z,110nm,1.0s						

KRSC 05 02:52:57.7±1.0, **55°.04N**×**162°.42E**, **h46**km±26km, **Ml3.7**, **Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TUMD	Tumrok D	1.17	279	eP	Pn	02 53 18.5	+0.8
TUMD				eS	Sn	02 53 32.3	-0.2
KBTR	Krutoberegovo	1.20	11	eP	Pn	02 53 18.9	+0.9
KBTR				eS	Sn	02 53 35.1	+2.0
KBG	Krutoberegovo	1.23	7	eP	Pn	02 53 20.4	+2.0
KBG				eS	Sn	02 53 38.0	+4.0
TUMR	Tumrok	1.33	282	eP	Pn	02 53 21.5	+1.6
BZGR	Bezymyannyi-Gr	1.34	313	eP	Pn	02 53 21.1	+1.2
BZGR				eS	Sn	02 53 37.1	+0.5
ZLN	Zelenaya	1.35	318	eP	Pn	02 53 22.1	+2.0
BZP	Bezymyannyi-Pe	1.39	310	eP	Pn	02 53 21.7	+1.0
BZMR	Bezymyannaya	1.42	310	eP	Pn	02 53 22.5	+1.4
BZWR	Bezymyannyi-We	1.44	311	eP	Pn	02 53 22.6	+1.2
LGNR	Loginova	1.44	318	eP	Pn	02 53 23.4	+1.9
KMNR	Kamenistaya	1.44	301	eP	Pn	02 53 22.5	+1.1
CIRR	Tsirk	1.44	319	eP	Pn	02 53 23.3	+1.9
KIRR	Kirishev	1.50	309	eP	Pn	02 53 23.7	+1.5
KPT	Kopyto	1.56	308	eP	Pn	02 53 24.6	+1.6
KRSR	Krestovskiy	1.58	319	eP	Pn	02 53 24.4	+1.1
KLY	Klyuchi	1.63	323	eP	Pn	02 53 24.0	+0.2
KLY				eS	Sn	02 53 44.2	+0.7
SMKR	Semkarok	1.64	341	eP	Pn	02 53 25.8	+1.7
SMKR				eS	Sn	02 53 46.5	+2.4
BDR	Baidarnaya	1.68	337	eP	Pn	02 53 26.9	+2.3
SRKR	Sorokina	1.77	337	eP	Pn	02 53 28.1	+2.3
KOZ	Kozyrevsk	1.77	306	eP	Pn	02 53 27.9	+2.0
SRDR	Sredinnyy	2.00	311	eP	Pn	02 53 30.2	+1.2
KII	Karymskiy	2.00	241	eP	Pn	02 53 32.1	+3.1
KII				eS	Sn	02 53 55.9	+3.1
BKI	Bering	2.05	84	eS	Sn	02 53 54.6	+0.7
ESO	Esso	2.30	294	eP	Pn	02 53 35.5	+2.5
SPN	Mys Shipunski	2.40	217	eP	Pn	02 53 36.8	+2.3
SPN				eS	Sn	02 54 02.4	-0.2
NLC	Nalytchevo	2.60	225	eP	Pn	02 53 40.8	+3.7
NLC				eS	Sn	02 54 11.2	+3.8
SDLR	Sedlovina	2.72	231	eP	Pn	02 53 41.9	+2.9
SDLR				eS	Sn	02 54 15.1	+4.3
KRER	Koryakskii	2.77	233	eP	Pn	02 53 42.8	+3.2
KRER				eS	Sn	02 54 15.8	+3.9
SMAR	Somma	2.77	232	eP	Pn	02 53 42.6	+2.9
SMAR				eS	Sn	02 54 16.0	+3.9
KRX	Arik	2.78	234	eP	Pn	02 53 43.2	+3.4
KRX				eS	Sn	02 54 16.9	+4.7
UGLR	Uglovaya	2.80	231	eP	Pn	02 53 43.0	+3.1
UGLR				eS	Sn	02 54 16.8	+4.2
AVH	Avacha	2.80	232	eP	Pn	02 53 44.4	+4.4
AVH				eS	Sn	02 54 17.5	+5.0
KOK	Koryaka	2.83	233	eP	Pn	02 53 43.6	+3.2
DALK	Dalny	2.95	229	eP	Pn	02 53 44.9	+2.9
DALK				eS	Sn	02 54 19.6	+3.5
PET	Petropavlovsk	3.00	229	eP	Pn	02 53 45.7	+3.1
PET				eS	Sn	02 54 20.7	+3.4
KRMR	Karymshinskiy	3.36	231	eP	Pn	02 53 51.7	+4.0
KRMR				eS	Sn	02 54 30.6	+4.4
GRL	Gorelyy	3.58	228	eP	Pn	02 53 54.6	+3.9
GRL				eS	Sn	02 54 34.7	+2.9
MTVR	Mutnovka	3.59	226	eP	Pn	02 53 54.3	+3.5
MTVR				eS	Sn	02 54 36.1	+4.1
ASAK	Asacha	3.78	227	eP	Pn	02 53 58.4	+5.0
KDTR	Khodutka, Kamc	4.15	221	eP	Pn	02 54 01.6	+3.3
KDTR				eS	Sn	02 54 48.5	+3.1

*IDC **05** 03:06:05.7±5.5, 32°.77S×179°.34W, h88km±44km, mb3.6/5, mbtmp3.9/6, Error ellipse: s-maj=38.1km s-min=24.1km az=50.0*
*WEL **05** 03:07:14.3, 38°S±18°×17°8E±1°7, h30km±17km, M2.2/12, ML2.5/16, MLv2.2/12, Error ellipse: s-maj=0.0km s-min=0.0km az=137.1*
ISC 05 03:06:01.3±0.8, **32°.7S**±0°.1×**179°.4W**±0°.2, **h50**km, **n36**, σ**1s.93**/36, **mb4.0**/6, **3C, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.18	200	P	Pn	03 07 20.7	+4.5
WMGZ	Waiomatatini S	5.39	198	P	Pn	03 07 23.6	+4.5
HAZ	Te Kaha	5.52	204	P	Pn	03 07 22.8	+1.9
PKGZ	Pakihiroa	5.55	201	P	Pn	03 07 22.2	+0.9
PUZ	Puketiti	5.67	199	P	Pn	03 07 25.8	+2.8
RUGZ	Raukumara Rang	5.75	203	P	Pn	03 07 25.0	+0.9
TWGZ	Tauwhareparae	5.84	200	P	Pn	03 07 28.5	+3.1
CNGZ	Carnagh Statio	6.07	198	P	Pn	03 07 32.6	+4.2
TKGZ	Te Karaka	6.12	200	P	Pn	03 07 29.1	-0.1
MWZ	Matawai	6.13	203	P	Pn	03 07 28.8	-0.5
URZ	Urewera	6.21	206	P	Pn	03 07 33.1	+2.8
	5.3nm,0.3s,baz=0.7,slow=4.5,SNR=11						
URZ				S	Sn	03 08 36.4	-3.5
	8.3nm,0.3s,baz=78,slow=18,SNR=7.1						
RAGZ	Rawiri	6.31	203	P	Pn	03 07 35.5	+3.7
RIGZ	Rimuhau	6.40	200	P	Pn	03 07 36.3	+3.3
SNGZ	Shannon Statio	6.60	203	P	Pn	03 07 38.8	+3.2
KNZ	Kokohu	6.72	200	P	Pn	03 07 39.3	+2.0
RAHZ	Arahi	6.80	204	P	Pn	03 07 40.9	+2.4
MTHZ	Maungataniwha	6.83	205	P	Pn	03 07 40.3	+1.4
NMHZ	Naumai	7.06	205	P	Pn	03 07 43.8	+1.7
KWHZ	Kaweka Forest	7.49	205	P	Pn	03 07 48.7	+0.8
OTVZ	Oturere	7.56	210	P	Pn	03 07 50.4	+1.3
KAHZ	Kahuranaki	7.67	202	P	Pn	03 07 50.6	+0.3
PRHZ	Porangahau	8.17	202	P	Pn	03 07 56.9	-0.4
ASAR	Alice Springs	41.82	270	P	P	03 13 48.5	+2.0
	0.5nm,0.5s,baz=109,slow=7.1,SNR=6.4						
ASAR				PcP	PcP	03 15 40.1	-1.7
	0.4nm,0.8s,baz=86,slow=4.7,SNR=2.6						
	0.5nm,0.5s						
WRA	Warramunga Arr	43.03	275	P	P	03 13 58.1	+1.9
	0.6nm,0.3s,baz=114,slow=7.7,SNR=24						
WRA				PcP	PcP	03 15 44.3	-1.4
	0.2nm,0.8s,baz=121,slow=4.8,SNR=1.3						
	0.6nm,0.3s						
QSPA	South Pole Qui	57.40	180	P	P	03 15 45.4	+1.0
	1.1nm,0.3s,baz=31,slow=1.6						
	1.1nm,0.3s						
TROLL	Troll, Antarti	75.56	181	⇑P	P	03 17 39.8	-0.4
	comp=Z,50nm,0.5s						
SNAA	Sanae	75.88	179	⇑P	P	03 17 41.4	-0.6
	comp=Z,10nm,0.3s						
SNAA	Sanae	75.88	179	P	P	03 17 41.7	-0.3
	comp=Z,1.1nm,0.7s,baz=211,slow=5.9,SNR=12						
	comp=Z,1.1nm,0.7s						
VNA2	Neumayer--Watz	76.50	177	⇑P	P	03 17 46.0	+0.6
	comp=Z,2.5nm,0.6s,baz=184,slow=4.0						
NVAR	Mina Array Bea	90.76	43	P	P	03 18 59.9	+0.8
	comp=Z,0.2nm,0.3s,baz=260,slow=4.0,SNR=1.7						
	comp=Z,0.2nm,0.3s						
FINES	FINESS Array B	146.86	338	PKPbc	PKPab	03 25 37.2	-1.4
	comp=Z,2.6nm,0.5s,baz=43,slow=4.8,SNR=33						
MMAI	Mount Meron Ar	150.81	280	PKPbc	PKPbc	03 25 46.3	-2.1
	comp=Z,0.5nm,0.4s,baz=84,slow=9.3,SNR=2.0						
NB2	NORSAR Subarra	150.82	349	PKP	PKiKP	03 25 48.2	+0.1
	comp=Z,0.9nm,0.5s,baz=16,slow=2.5						
NOA	NORSAR Array B	150.82	349	PKPbc	PKiKP	03 25 47.9	-0.2
	comp=Z,1.2nm,0.6s,baz=14,slow=4.1,SNR=6.1						
HFS	Hagfors	151.23	346	PKPbc	PKiKP	03 25 47.8	-1.1
	comp=Z,2.7nm,0.7s,baz=104,slow=4.7,SNR=9.9						
BRTR	Keskin Array B	152.52	294	PKPbc	PKPbc	03 25 50.1	-2.0
	comp=Z,0.3nm,0.3s,baz=140,slow=3.9,SNR=5.5						

*ISK **05** 03:16:58.2, 38°.26N×39°.18E, h10km, ML3.6/27*
*AFAD **05** 03:16:58.0±0.0, 38°.28N×39°.16E, h20km±1km, MW3.8*
ISC 05 03:16:58.6±1.0, **38°.28N**±0°.02×**39°.17E**±0°.02, **h14**km±9km, **n53**, σ**1s.30**/71, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NARI	Adyaman-Kaht	0.51	219	P	Pb	03 17 08.5	-0.8
NARI				S	Sb	03 17 15.5	-1.1
MAYA	Malatya/Merkez	0.58	275	P	Pg	03 17 09.8	-0.4
MAYA				S	Sb	03 17 18.3	-0.6
PTK	Pertek	0.64	16	Pg	Pg	03 17 10.9	-0.2
PTK				Sg	Sb	03 17 20.8	+0.3
KOVA	Elazig, Kovanc	0.66	50	P	Pg	03 17 11.0	-0.5
KOVA				S	Sb	03 17 21.1	0.0
HANM	anlurfa/Hi	0.73	198	P	Pb	03 17 12.8	-0.4
HANM				S	Sn	03 17 23.6	-2.0
DYBB	Diyarbakir	0.83	113	Pg	Pb	03 17 14.4	-0.5
AZEY	Adyaman-Merk	0.86	237	P	Pg	03 17 15.0	-0.3
AZEY				S	Sn	03 17 28.2	-0.6
URFA	Urfa	0.88	198	Pg	Pg	03 17 15.4	-0.3
URFA				Sg	Sn	03 17 27.9	-1.4
HANI	Diyarbakir_Han	0.98	82	P	Pb	03 17 16.5	-0.9
HANI				S	Sn	03 17 31.4	-0.3
ARPR	Arapgir-MALATY	1.04	322	Pg	Pn	03 17 18.6	-0.3
ARPR				Sg	Sn	03 17 34.3	+0.9
SANL	SANLIURFA_Merk	1.11	187	P	Pg	03 17 20.0	-0.1
SANL				S	Sn	03 17 36.8	+1.8
ILIC	ilic-Erzincan	1.26	338	Pn	Pb	03 17 22.0	-0.2
AKCA	Adyaman/G¶l	1.26	248	P	Pg	03 17 22.3	-0.7
AKCA				S	Sg	03 17 40.8	+1.4
MAZI	Mazidag	1.30	129	Pn	Pb	03 17 22.5	-0.4
DARE	Darende-Malaty	1.35	283	Pn	Pb	03 17 23.0	-0.8
ERZN	Erzincan	1.38	18	Pn	Pg	03 17 24.4	-0.7
BNGB	Bingl	1.38	59	Pn	Pb	03 17 24.2	-0.1
EUZM	Uzumlu	1.48	16	P	Pg	03 17 27.3	+0.2
EUZM				S	Sg	03 17 48.0	+1.5
CUGUR	Gurin_SVAS	1.55	287	P	Pg	03 17 28.0	-0.5
CUGUR				S	Sg	03 17 50.2	+1.6
YEDI	Yedisu-Bingol	1.58	42	Pn	Pb	03 17 27.1	-0.6
ELBS	KAHRAMANMARAS	1.60	272	P	Pb	03 17 27.9	-0.1
ELBS				S	Sg	03 17 51.0	+0.8
SLHN	Bingol, Solhan	1.60	64	P	Pb	03 17 27.8	-0.3
SLHN				S	Sg	03 17 50.7	+0.3
SVAN	Silvan-Diyarba	1.60	94	Pn	Pb	03 17 27.0	-1.0
SVAN	Silvan-Diyarba	1.60	94	P	Pb	03 17 26.7	-1.4
SVAN				S	Sb	03 17 47.2	-1.0
NZIP	Nizip/Gaziante	1.71	224	P	Pb	03 17 28.8	-1.1
NZIP				S	Sg	03 17 52.6	-1.0
KARO	Karliova-Bingo	1.79	54	Pn	Pb	03 17 30.1	-1.3
MUSM	Mu-Merkez	1.89	76	P	Pb	03 17 31.6	-1.4
MUSM				S	Sb	03 17 56.1	-0.4
GAZ	Gaziantep	1.90	235	Pn	Pb	03 17 31.7	-1.5
KMRS	Kahramanmaras	1.95	247	Pn	Pb	03 17 32.6	-1.4
MIDY	Mardin/Midyat-	1.97	116	P	Pb	03 17 33.1	-1.2
MIDY				S	Sb	03 17 58.5	-0.2
VRTB	Varto-Mus	2.00	63	Pn	Pb	03 17 33.0	-1.8
SARI	SarD1z-Kayseri	2.17	274	Pn	Pb	03 17 36.2	-1.5
BAYT	Aydıntepe-Bayb	2.24	19	Pn	Pb	03 17 36.8	-2.2
GURO	Guroymak-BITLI	2.27	82	Pn	Pn	03 17 36.6	+0.8
SVSK	Karacayir	2.35	315	Pn	Pb	03 17 38.4	-2.3
RSDY	Resadiye-TOKAT	2.55	327	Pn	Pb	03 17 41.5	-2.7
ESPY	Espiye-Giresun	2.66	353	Pn	Pn	03 17 42.6	+1.6
BNN	Bunyan	2.67	283	Pn	Pn	03 17 43.1	+1.9
KOPR	Koprukoy-ERZUR	2.70	50	Pn	Pn	03 17 43.6	+1.8
SIRT	Sirnak	2.70	106	Pn	Pn	03 17 42.1	+0.4
KOZT	Kozan	2.76	254	Pn	Pn	03 17 44.3	+1.9
MLAZ	Malazgirt-MUS	2.78	71	Pn	Pn	03 17 44.3	+1.4
TOKT	Tokat	2.88	316	Pn	Pn	03 17 45.8	+1.7
AKDM	Akdamar-Van	3.00	88	Pn	Pn	03 17 47.2	+1.3
AGRB	Hanur-Agry	3.25	65	Pn	Pn	03 17 50.9	+1.5
SENK	Senkaya-Erzuru	3.36	46	Pn	Pn	03 17 52.3	+1.5
CSS	Mathiatis	5.74	237	P	Pn	03 18 25.5	+2.1
SHMJ	Saham	6.20	208	P	Pn	03 18 32.3	+2.6
ASF	Jabal al Asfar	6.37	198	P	Pn	03 18 33.6	+1.5
HSUJ	Al Zarqa	6.62	202	P	Pn	03 18 37.4	+1.8
UJAP	Al Uja	7.00	207	P	Pn	03 18 43.5	+2.8
SWQJ	Swaqa	7.47	201	P	Pn	03 18 46.6	-0.6
KARJ	KARJ	7.71	203	P	Pn	03 18 41.0	-9.4

*MEX **05** 03:45:36.7±0.8, 14°.75N×93°.82W, h15km±9km, MD4.1*
*CATAC **05** 03:45:37.9±1.0, 14°.73N×93°.52W, h5km, ML4.2*
ISC 05 03:45:32.0±1.5, **14°.86N**±0°.05×**93°.78W**±0°.03, **h8**km±10km, **n27**, σ**1s.77**/47, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		1.00	33	i P	Pn	03 45 54.3	+1.8
PCIG				eS	Sn	03 46 07.3	+0.5
CARR	Arriaga	1.39	355	i P	Pg	03 45 59.5	+0.8
CARR				i S	Sg	03 46 17.7	+1.0
THIG		1.47	88	eP	Pg	03 45 59.9	-0.3
THIG				eS	Sn	03 46 16.8	-1.5
PATR	El Naranjo	1.52	80	i P	Pb	03 46 00.5	-0.1
PATR				eS	Sg	03 46 20.2	-0.7
PAVE	Pavencul	1.59	78	i P	Pg	03 46 02.0	-0.5
PAVE				eS	Sb	03 46 21.8	-0.4
CHUJ	Union Juarez	1.64	82	eP	Pb	03 46 02.1	-0.5
CHUJ				i S	Sn	03 46 22.0	-0.8
NILT	Santiago Nilte	1.88	335	i P	Pg	03 46 08.3	+0.2
NILT				i S	Sb	03 46 31.1	+0.9
SMSP	San Marcos	1.94	86	i P	Pb	03 46 07.7	-0.1
SMSP				i S	Sn	03 46 30.6	+0.3
SMSP				IAML		03 46 35.1	
	comp=Z,3µm,1.0s						
TGIG		2.01	18	eP	Pg	03 46 10.5	-0.1
TGIG				eS	Sb	03 46 35.0	+0.8
TGBT	Tuxtla Gutierr	2.02	19	eP	Pg	03 46 11.6	+0.8
TGBT				eS	Sg	03 46 37.0	-0.1
CCIG	Comitan	2.13	48	eP	Pg	03 46 12.5	-0.3
CCIG				eS	Sb	03 46 39.0	+1.3
CCIG	Comitan	2.13	48	i P	Pg	03 46 12.9	+0.1
CCIG				i S	Sg	03 46 39.4	-1.0
CCIG				IAML		03 46 42.6	
	comp=Z,720nm,1.0s						
HUEH	Huehuetenango	2.25	78	i P	Pb	03 46 12.7	-0.4
HUEH				IAML		03 46 46.6	
	comp=Z,3µm,1.0s						
SOKI	Kika Raxquin	2.30	91	i P	Pb	03 46 13.5	-0.6
SOKI				IAML		03 47 01.2	
	comp=Z,350nm,1.0s						
HUIG	Huatulco	2.42	292	eP	Pn	03 46 12.9	+1.0
HUIG				eS	Sn	03 46 38.8	-3.0
CMIG	Matias Romero	2.46	335	i P	Pb	03 46 14.9	-1.7
CMIG				eS	Sn	03 46 43.8	+1.0
UXUV	UXUV	2.47	352	eP	Pb	03 46 16.9	+0.2
UXUV				eS	Sb	03 46 46.0	-1.3
ESSG	Sabana Grande	2.90	99	i P	Pn	03 46 20.6	+2.0
ESSG				i S	Sn	03 46 52.4	-1.3
ESSG				IAML		03 47 02.5	
	comp=Z,460nm,1.0s						
PEIG	Puerto Escondi	3.44	290	eP	Pn	03 46 27.8	+1.8
PEIG				eS	Sn	03 47 03.8	-3.2
NEUV	Arroyo Zacate	3.44	326	eP	Pn	03 46 28.1	+2.1
NEUV				eS	Sn	03 47 08.6	+1.7
VHO	Vista Hermosa	3.59	308	e	Sn	03 47 13.0	+2.0
PMUV	Sontecomapan	3.88	341	e	Sn	03 47 15.2	-2.9
NUBE	Las Nubes	3.99	103	i P	Pn	03 46 35.5	+1.7
NUBE				i S	Sn	03 47 23.5	+2.6
NUBE				IAML		03 47 40.3	
	comp=Z,140nm,1.0s						
YOIG	Yosondua	4.13	299	eP	Pn	03 46 38.2	+2.5
YOIG				eS	Sn	03 47 21.0	-3.5
PETF	Flores	4.29	61	i P	Pb	03 46 43.0	-4.7
PETF				IAML		03 46 44.3	
	comp=Z,210nm,1.0s						
JAYA	Jayaque - finc	4.37	105	i P	Pn	03 46 40.6	+1.7
JAYA				IAML		03 47 55.3	
	comp=Z,280nm,1.0s						
SCIG	Sabancuy	4.78	31	e	Sn	03 47 36.5	-3.6

IDC 05 03:59:21.6±5.0, **23°.23S**×**176°.90W**, **h0**km, **mb4.1**/3, **mbtmp4.1**/3, **Error ellipse: s-maj=293.0km s-min=49.9km az=158.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	34.33	268	P	P	04 06 11.3	+1.1
	3.7nm,0.4s,baz=100,slow=9.2,SNR=2.5						
	3.7nm,0.4s						
ASAR	Alice Springs	44.95	259	P	P	04 07 38.9	+0.1
	1.2nm,0.8s,baz=96,slow=7.9,SNR=11						
	1.2nm,0.8s						
WRA	Warramunga Arr	45.30	264	P	P	04 07 40.6	-0.9
	0.8nm,0.5s,baz=102,slow=8.0,SNR=38						
	0.8nm,0.5s						
NOA	NORSAR Array B	141.80	354	PKP	PKPdf	04 18 55.6	+0.7
	1.3nm,0.9s,baz=40,slow=2.4,SNR=3.4						
GERES	GERESS Array B	153.10	344	PKPbc	PKPbc	04 19 21.0	-0.3
	0.8nm,0.8s,baz=29,slow=4.0,SNR=3.5						

TEH 05 04:19:54.6, 30°.71N×57°.33E, h6km±80km, **ML3.5, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.73	290	Pg	Pb	04 20 09.9	0.0
KHGB	Koh Gabri	0.81	246	Pg	Pb	04 20 11.3	+0.1
CHMN	Cheshme madani	0.87	168	Pg	Pb	04 20 12.3	0.0
TVBK	TV Kerman	0.88	214	Pg	Pb	04 20 13.1	+0.7
NGRK	Negar Kerman	1.19	206	Pg	Pn	04 20 18.7	+0.6
IBAF	Bafgh	1.75	300	Pg	Pg	04 20 28.5	+0.4
KBAM	BAM	1.85	148	Pn	Pg	04 20 29.7	-0.4
BSRN	Basiran	1.98	50	Pn	Pg	04 20 32.4	-0.1
IKOO	Kooshah	2.22	39	Pn	Pb	04 20 35.0	-0.4
TPRV	Parvadeh(Tabas	2.37	347	Pn	Pb	04 20 37.1	-0.7
NHDN	Nehbandan	2.43	73	Pn	Pb	04 20 38.0	-0.8
IMEH	Mehriz	2.43	287	Pn	Pb	04 20 38.0	-0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ITEG	Tejag	2.49	29	Pn	Pb	04 20 38.5	-1.3
TKDS	Koohdasht(Taba	2.90	356	Pn	Pn	04 20 43.9	+2.5
ICHK	Chekchek	2.93	302	Pn	Pb	04 20 45.3	-2.0
AFRZ	Afriz	3.06	27	Pn	Pn	04 20 46.4	+2.8
TNSJ	Nastanj	3.30	349	Pn	Pn	04 20 49.5	+2.6
SHRT	Shahrakht	3.85	40	Pn	Pn	04 20 57.8	+3.3
ANAR	Anarak	3.94	310	Pn	Pn	04 20 59.5	+3.8
TBJM	Torbat-e-JAM	5.19	28	Pn	Pn	04 21 16.6	+3.6

*NEIC **05** 04:25:27.7±1.8, 15°.78S±0°.06×71°.74W±0°.09, h142km±8km, mb4.4/18, Error ellipse: s-maj=15.2km s-min=1.8km az=53.0*

*IDC **05** 04:25:28.2±1.4, 15°.78S×71°.72W, h148km±12km, mb3.6/3, mbtmp4.2/7, Error ellipse: s-maj=32.1km s-min=11.6km az=25.0*

*VAO **05** 04:25:29.4±0.5, 15°.74S×71°.66W, h145km, mb4.2*

ISC 05 04:25:27.9±0.5**, 15°.84S**±0°.06×**71°.73W**±0°.06**, h150**km**, n96, σ1s.29**/99**, mb4.1**/9**, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	Visviri	2.77	129		Pn	04 26 16.2	+3.2
AP01	Chacalluta	2.85	152		Pn	04 26 14.5	+1.1
AP01					Sn	04 26 47.2	-1.4
PB12	IPOC Station P	3.07	154		Pn	04 26 16.2	0.0
PB16	IPOC Station P	3.27	140		Pn	04 26 20.7	+1.4
LPAZ	La Paz	3.49	98		Pn	04 26 23.8	+1.7
LPAZ	La Paz	3.49	98	eP	Pn	04 26 23.6	+1.5
LPAZ	La Paz	3.49	98	P	Pn	04 26 23.7	+1.5
	64nm,0.4s,baz=274,slow=6.6,SNR=261						
LPAZ				S	Sn	04 27 04.6	+0.6
	15nm,0.4s,baz=207,slow=20,SNR=4.5						
PB11	IPOC Station P	4.38	153		Pn	04 26 33.4	+0.2
GO01	Chusmiza	4.51	148		Pn	04 26 36.4	+1.1
TA02	Huaiquique	4.67	161		Pn	04 26 37.0	0.0
TA01	Diego Aracena	4.93	163	Pn	Pn	04 26 40.6	+0.2
PB08	IPOC Station P	4.93	151		Pn	04 26 41.5	+0.7
PATCX	Punta Patache	5.18	163		Pn	04 26 43.6	-0.2
PB01	IPOC Station P	5.60	158		Pn	04 26 49.1	-0.3
PB02	IPOC Station P	5.72	163		Pn	04 26 51.0	0.0
PB07	IPOC Station P	6.12	164		Pn	04 26 56.5	+0.2
NNA	Nana	6.27	307	Pn	Pn	04 26 58.7	+0.4
NNA	Nana	6.27	307	P	Pn	04 26 58.2	-0.1
	34nm,0.3s,baz=133,slow=11,SNR=24						
NNA				S	Sn	04 28 08.5	-0.5
	30nm,0.3s,baz=227,slow=19,SNR=10						
PB09	IPOC Station P	6.38	159		Pn	04 27 00.2	+0.3
PB06	IPOC Station P	7.13	164		Pn	04 27 08.8	-1.1
LVC	Limon Verde	7.25	159	Pn	Pn	04 27 11.1	-0.5
LVC	Limon Verde	7.25	159	eP	Pn	04 27 12.5	+0.9
LVC	Limon Verde	7.25	159	P	Pn	04 27 12.0	+0.4
	14nm,0.3s,baz=338,slow=8.4,SNR=14						
LVC				S	Sn	04 28 28.4	-4.5
	49nm,0.5s,baz=294,slow=20,SNR=18						
PB15	IPOC Station P	7.64	164		Pn	04 27 16.9	+0.2
ETMB	Extrema	8.04	43	Pn	Pn	04 27 20.4	-1.6
ETMB	Extrema	8.04	43	eP	Pn	04 27 20.3	-1.6
CZSB	Cruzeiro do Su	8.11	353	Pn	Pn	04 27 23.1	+0.2
CZSB	Cruzeiro do Su	8.11	353	eP	Pn	04 27 23.3	+0.4
SIV	San Ignacio	10.25	92	P	Pn	04 27 48.5	-2.9
	2.9nm,0.4s,baz=289,slow=9.0,SNR=30						
SIV				S	Sn	04 29 40.5	-4.4
	1.8nm,0.6s,baz=342,slow=20,SNR=3.5						
SAML	Samuel	10.79	52	Pn	Pn	04 27 55.5	-2.9
VILB	Vilhena	11.53	77	eP	Pn	04 28 09.9	+1.7
BBRB	Robore, Bolivi	11.65	104	eP	Pn	04 28 10.4	+0.6
TBTG	Tabatinga, AM	11.71	9	eP	Pn	04 28 10.2	-0.3
PTLB	Pontes e Lacer	12.13	90	Pn	Pn	04 28 16.2	+0.2
TEFE	Tefe	14.10	30	eP	P	04 28 44.2	0.0
BOSC	San Juan Bosco	14.26	331	P	P	04 28 44.8	-1.4
ARNL	Arenillas	14.71	325	P	P	04 28 50.6	-0.5
BDQN	Bodoquena, MS	14.96	110	eP	P	04 28 54.6	+0.9
PDRB	Porto dos Gac	15.16	76	eP	P	04 28 55.9	-0.2
COHC	Cochancay	15.21	330		P	04 28 56.1	-0.5
SALV	Santo Antonio	15.43	92	eP	P	04 28 59.3	+0.3
AQDB	Aquidauana	15.91	109		Pn	04 29 03.7	+0.1
AQDB				IAmb	IAmb	04 29 04.4	
	comp=Z,15nm,1.3s						
AQDB	Aquidauana	15.91	109	eP	Pn	04 29 03.8	+0.1
ANTJ	Antonio Joao (	16.09	115	eP	P	04 29 07.9	+1.6
PP1B	Ponte de Pedra	16.23	99	eP	Pn	04 29 08.1	+0.5
CLDB	Colider	16.26	74	eP	Pn	04 29 07.6	-0.4
SGCB	S£o Gabriel d	16.29	17	eP	Pn	04 29 07.5	-0.8
MACA	Manacapuru-AM	16.64	42		P	04 29 10.4	-2.0
MACA				IAmb	IAmb	04 29 13.6	
	comp=Z,27nm,0.5s						
MACA	Manacapuru-AM	16.64	42	eP	P	04 29 11.6	-0.7
CPUP	Villa Florida	17.00	130	eP	Pn	04 29 18.0	+1.2
CPUP	Villa Florida	17.00	130	P	Pn	04 29 17.4	+0.5
	comp=Z,1.4nm,0.4s,baz=320,slow=10,SNR=7.7						
AMBA	Amambai (Brazi	17.29	117	eP	Pn	04 29 21.8	+1.5
OTAV	Otavalo	17.30	337	eP	Pn	04 29 21.6	+0.7
NPGB	Novo Progresso	18.25	63	eP	P	04 29 30.8	+0.7
C2SB	Chapadao do Su	18.27	102	eP	Pn	04 29 33.5	+1.5
MCR1	Marechal Candi	18.68	120	eP	Pn	04 29 37.0	+0.2
ITTB	Itaituba	19.41	56	eP	P	04 29 43.0	+0.2
ITQB	Itaqui	19.56	137	P	P	04 29 45.5	+1.5
ITQB				IAmb	IAmb	04 29 49.3	
	comp=Z,25nm,1.1s						
ITQB	Itaqui	19.56	137	eP	Pn	04 29 46.3	-0.7
CRSM	Crissiumal (Br	20.09	128	eP	Pn	04 29 52.4	-0.9
FRBT	Francisco Belt	20.12	123	eP	P	04 29 52.2	+1.9
SNDB	Serra Nova Dou	20.20	82	eP	P	04 29 51.0	-0.1
PCMB	Pacaembu	20.21	110	eP	P	04 29 52.7	+1.5
UNIS	Unistalda (Bra	20.23	133	eP	Pn	04 29 54.5	-0.4
PTGB	Pitanga	20.43	119	eP	P	04 29 55.3	+1.7
ITRB	Iturama	20.71	104	eP	P	04 29 58.3	+1.7
LDASE	Londrina, Braz	20.80	114	eP	P	04 29 58.1	+0.5
RODS	Rosario do Sul	20.93	136	eP	P	04 30 00.1	+1.2
BOAV	Boa Vista	21.23	32	P	P	04 30 02.3	+0.1
BOAV				IAmb	IAmb	04 30 25.2	
	comp=Z,10nm,1.5s						
BOAV	Boa Vista	21.23	32	eP	P	04 30 02.6	+0.4
ITAB	Concordia	21.44	125	P	P	04 30 04.4	0.0
ITAB				IAmb	IAmb	04 30 20.5	
	comp=Z,32nm,1.4s						
ITAB	Concordia	21.44	125	eP	P	04 30 06.4	+2.1
ALGR	Alto Alegre (B	21.54	130	eP	P	04 30 07.7	+2.2
RUSC	La Rusia	21.63	356	P	P	04 30 06.5	-0.5
MALB	Monte Alegre	22.12	53	eP	P	04 30 11.7	+0.2
FRTB	Fartura	22.16	113	eP	P	04 30 13.8	+1.9
BB19B	Bebedouro	22.60	107	eP	P	04 30 17.0	+0.8
BDFB	Brasilia	22.82	93	P	P	04 30 17.6	-0.7
BDFB				IAmb	IAmb	04 30 19.6	
	comp=Z,12nm,1.4s						
BDFB	Brasilia	22.82	93	P	P	04 30 18.1	-0.3
	comp=Z,3.2nm,0.5s,baz=259,slow=9.9,SNR=9.6						
	comp=Z,3.2nm,0.5s						
PLTB	Pedras Altas	22.89	137	P	P	04 30 19.8	+1.1
PLTB				IAmb	IAmb	04 30 44.8	
	comp=Z,28nm,1.5s						
PRPB	Parauapebas	23.53	68	eP	P	04 30 25.5	+0.8
BAUV	El Baul	24.89	9		P	04 30 38.1	+1.2
JANB	Januaria	26.43	92	eP	P	04 30 51.7	+0.7
DIAM	Diamantina, MG	26.92	99	eP	P	04 30 56.3	+0.8
PV23	Carpenter Ridg	64.32	328	P	P	04 35 46.7	-1.2
EYMN	Ely	65.91	346	P	P	04 35 57.2	-0.3
QSM	Queen of Sheba	66.91	321	P	P	04 36 04.3	+0.2
QSM				IAmb	IAmb	04 36 32.0	
	comp=Z,11nm,0.8s						
BCW	Bitter Crk WRg	67.81	319	P	P	04 36 09.8	-0.2
SNAA	Sanae	68.47	162	P	P	04 36 16.8	+3.2
SNAA				IAmb	IAmb	04 36 22.1	
	comp=Z,3.7nm,1.4s						
DBIC	Dimbokro	69.86	77	P	P	04 36 22.8	-0.2
DBIC				IAmb	IAmb	04 36 56.0	
	comp=Z,12nm,1.4s						
TOA0	Torodi Ar. Sit	78.10	73	P	P	04 37 11.1	+0.2
TORD	Torodi Ar. Bea	78.10	73	P	P	04 37 10.9	0.0
TORD	Torodi Ar. Bea	78.10	73	P	P	04 37 11.2	+0.3
	comp=Z,2.0nm,0.7s,baz=276,slow=5.3,SNR=16						
	comp=Z,2.0nm,0.7s						
ESDC	Sonseca Array	83.76	46	P	P	04 37 40.6	+0.2
	comp=Z,0.4nm,0.6s,baz=257,slow=5.3,SNR=2.5						
	comp=Z,0.4nm,0.6s						
WRA	Warramunga Arr	136.18	217	PKP	PKiKP	04 44 33.3	-0.8
	comp=Z,0.2nm,0.3s,baz=141,slow=1.6,SNR=2.3						
SONM	Songino Array	148.05	2	PKPab	PKPab	04 44 59.3	+0.2
	comp=Z,0.8nm,0.5s,baz=330,slow=2.5,SNR=6.3						

*IDC **05** 04:26:37.2±0.5, 36°.41N×97°.18W, h0km, mb4.2/9, mbtmp4.1/18, ML3.6/8, MS3.5/30, Error ellipse: s-maj=9.6km s-min=7.2km az=6.0*

*ANF **05** 04:26:37.7±0.6, 36°.39N×97°.10W, h4km±4km, ML5.4/13, Error ellipse: s-maj=1.8km s-min=1.7km az=161.0*

*NEIC **05** 04:26:37.8±1.6, 36°.36N±0°.02×97°.14W±0°.05, h6km±4km, Error ellipse: s-maj=6.0km s-min=1.8km az=62.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.38; $M_{\theta\theta}$0.99; $M_{\phi\phi}$-0.61; $M_{r\theta}$0.22; $M_{\theta\phi}$1.34; $M_{\phi r}$-0.78; Fault plane solution: $M_0$1.79000×10^{15} NP1: ϕ_s281.60000°, δ65.75000°, λ-17.53000°. NP2: ϕ_s18.99000°, δ74.06000°, λ-154.71000°. Principal axes: T 1.7730, Plg6.0000°, Azm149.0000°; N 0.0341, Plg60.0000°, Azm49.0000°; P -1.8071, Plg29.0000°, Azm242.0000°;*

*TUL **05** 04:26:38.2±1.1, 36°.37N±0°.02×97°.13W±0°.04, h7km±4km, ML4.2, mb4.1/35(NEIC), mb_Lg4.6/148(NEIC), ML4.5/66(NEIC), Mwr4.1/49(NEIC) Error ellipse: s-maj=5.8km s-min=1.8km az=57.0*

*NEIC **05** 04:26:38.2, 36°.37N×97°.13W, h7km*

ISC 05 04:26:38.0±0.9**, 36°.37N**±0°.02×**97°.12W**±0°.02**, h7**km±6km**, n336, σ0s.96**/271**, mb4.2**/13**, MS3.6**/21**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK048	Pawnee Station	0.15	74		Pg	04 26 41.9	+0.7
OK048				Sg	Sg	04 26 44.2	+0.9
OK051	E0350 and S346	0.26	60		Pb	04 26 44.0	-1.1
OK051				Sg	Sg	04 26 47.6	+0.8
OK033	Mehan	0.36	156	Pg	Pg	04 26 45.5	+0.4
OK033				Sg	Sg	04 26 50.2	+0.4
QUOK	Quay	0.39	121	Pg	Pg	04 26 46.2	+0.6
QUOK				Sg	Sg	04 26 51.5	+0.7
QUOK				IAML		04 26 53.9	
	comp=N,28μm,0.7s						
BLOK	Blackwell	0.39	349		Pb	04 26 46.2	-1.1
BLOK				Sg	Sg	04 26 51.6	+0.7
BLOK				IAML		04 26 53.9	
	comp=E,72μm,0.4s						
BLOK				IAML		04 26 57.2	
	comp=N,58μm,0.3s						
OK052	Battle Ridge R	0.46	146		Pg	04 26 47.4	+0.4
OK030	Cody Creek RV	0.52	148		Pg	04 26 48.5	+0.4
OK029	Liberty Lake	0.64	205	Pg	Pg	04 26 50.4	+0.1
OK029				IAML		04 27 03.3	
	comp=N,37μm,0.6s						
KAN13	South Haven SW	0.70	336		Pb	04 26 51.8	-0.8
KAN13				IAML		04 27 07.3	
	comp=E,32μm,0.3s						
KAN13				IAML		04 27 10.5	
	comp=N,36μm,0.3s						
CROK	Carrier	0.71	281		Pg	04 26 51.8	+0.1
CROK				IAML		04 27 04.0	
	comp=E,34μm,0.3s						
T35A	Sooner Cattle	0.73	42		Pb	04 26 52.5	-0.6
T35B	Sooner Cattle	0.73	42	P	Pg	04 26 52.2	+0.1
	baz=224,SNR=1000						
T35B				S	Sb	04 27 02.2	-1.1
	baz=224						
DEOK	Depew	0.73	136	Pg	Pg	04 26 52.4	+0.3
ADOK	Arcadia Dam	0.75	196		Pg	04 26 52.5	0.0
GC02	Grant County #	0.76	309		Pb	04 26 52.8	-0.9
KAN17	Caldwell West	0.84	322		Pb	04 26 54.4	-0.7
KAN17				IAML		04 27 16.5	
	comp=N,21μm,0.3s						
KAN17				IAML		04 27 18.0	
	comp=E,25μm,0.3s						
KAN09	Caldwell North	0.86	332		Pb	04 26 54.6	-0.7
KAN14	Manchester OK	0.89	311		Pb	04 26 55.1	-0.7
KAN14				IAML		04 27 10.8	
	comp=N,14μm,0.8s						
KAN14				IAML		04 27 16.7	
	comp=E,12μm,0.3s						
KAN01	Argonia South	0.93	327		Pb	04 26 55.9	-0.6
KAN01				IAML		04 27 15.6	
	comp=N,10μm,0.3s						
KAN01				IAML		04 27 16.9	
	comp=E,8μm,0.5s						
KAN05	Bluff City Nor	0.95	321		Pb	04 26 56.2	-0.6
KAN05				IAML		04 27 14.6	
	comp=E,14μm,0.2s						
KAN05				IAML		04 27 18.1	
	comp=N,13μm,0.5s						
OK032	Salt Plains WL	0.98	296		Pg	04 26 56.5	-0.2
OK032				IAML		04 27 10.5	
	comp=N,22μm,0.2s						
OKCSW	OKLAHOMA CITY	1.00	195		Pg	04 26 57.0	-0.2
KS21	Milan North St	1.01	335		Pb	04 26 57.3	-0.5
KS21	Milan North St	1.01	335	IAML		04 27 17.0	
	comp=N,10μm,0.3s						
KS21				IAML		04 27 18.0	
	comp=N,10μm,0.2s						
KAN06	Argonia West S	1.05	326		Pb	04 26 58.2	-0.5
KAN06				IAML		04 27 17.9	
	comp=N,10μm,0.4s						
KAN06				IAML		04 27 22.7	
	comp=E,9μm,0.5s						
KAN10	Anthony SW Sta	1.08	314		Pb	04 26 58.6	-0.5
KAN10				IAML		04 27 17.8	
	comp=E,13μm,0.5s						
KAN10				IAML		04 27 21.2	
	comp=N,11μm,0.2s						
KAN08	Anthony NE Sta	1.09	322		Pb	04 26 58.8	-0.4
KAN08				IAML		04 27 17.2	
	comp=E,11μm,0.7s						
KAN08				IAML		04 27 19.0	
	comp=N,9μm,0.6s						
FNO	Franklin	1.14	192		Pg	04 26 59.3	-0.6
FNO				IAML		04 27 16.6	
	comp=N,9μm,0.3s						
FNO				IAML		04 27 29.4	
	comp=E,16μm,1.0s						
KAN12	Harper NE Stat	1.16	323		Pb	04 27 00.1	-0.4
TUL3	Leonard	1.17	113	Pg	Pg	04 26 60.0	-0.5
TUL3				IAML		04 27 22.9	
	comp=N,5μm,0.8s						
TUL3	Leonard	1.17	113	P	Pg	04 27 00.0	-0.5
	baz=293,SNR=903						
TUL3				S	Sb	04 27 16.1	+0.1
	baz=293						
TUL3	Leonard	1.17	113	P	Pg	04 26 59.9	-0.5
	baz=293,SNR=1000						
TUL3				S	Sb	04 27 16.2	+0.3
	baz=293						
W35A	Tecumseh	1.24	171		Pb	04 27 00.5	-1.2
W35A				IAML		04 27 24.8	
	comp=N,12μm,0.5s						
OK038	West end E0370	1.31	275		Pn	04 27 02.4	-0.4
OK035	E0210 Rd and N	1.32	285		Pn	04 27 02.7	-0.3
CSTR	Hydro, Custer	1.46	241		Pn	04 27 05.0	+0.2
U32A	Winter Ranch,	1.52	271		Pn	04 27 05.8	+0.2
U32A	Winter Ranch,	1.52	271	P	Pn	04 27 05.7	+0.1
	baz=90,SNR=752						
U32A				S	Sg	04 27 26.4	-0.4
	baz=90						
RLO	Rose Lookout	1.71	96		Pb	04 27 09.0	-0.8
ELIS	Ellis County	1.88	261	Pn	Pn	04 27 11.5	+0.8
WMOK	Wichita Mounta	2.12	220	Pn	Pn	04 27 14.6	+0.6
WMOK				IAmb_Lg		04 27 44.7	
	comp=Z,3μm,0.8s						
WMOK	Wichita Mounta	2.12	220	P	Pn	04 27 14.5	+0.6
	baz=39,SNR=1000						
WMOK				S	Sb	04 27 42.6	-0.7
	baz=39						
WMOK	Wichita Mounta	2.12	220	P	Pn	04 27 14.5	+0.6
	baz=39,SNR=394						
WMOK				S	Sb	04 27 42.5	-0.7
	baz=39						
U38A	Gravette	2.21	88		Pn	04 27 16.2	+1.1
U38A				IAmb_Lg		04 27 49.5	
	comp=Z,2μm,1.1s						
U38A	Gravette	2.21	88	P	Pn	04 27 16.3	+1.2
	baz=269,SNR=374						
U38A				S	Sb	04 27 47.1	+1.3
	baz=269						
X37A	Clayton	2.28	141		Pn	04 27 17.2	+1.1
X37A				IAmb_Lg		04 27 53.4	
	comp=Z,2μm,1.3s						
X37A	Clayton	2.28	141	P	Pn	04 27 17.1	+1.1
	baz=321,SNR=792						
X37A				S	Sb	04 27 46.8	-1.2
	baz=321						
LOOK	Love County	2.38	181		Pn	04 27 18.5	+1.0
R32A	Long Quarter,	2.41	329		Pn	04 27 18.6	+0.8
R32A				IAmb_Lg		04 28 00.8	
	comp=Z,2μm,0.7s						
R32A	Long Quarter,	2.41	329	P	Pn	04 27 18.7	+0.8
	baz=148,SNR=338						
HHAR	Hobbs	2.57	91	Pn	Pn	04 27 21.1	+1.0
HHAR	Hobbs	2.57	91	P	Pn	04 27 21.3	+1.2
	baz=273						
HHAR				S	Sb	04 27 57.5	+1.2
	baz=273						
KSU1	Kansas State U	2.75	8		Pn	04 27 23.7	+1.1
KSU1	Kansas State U	2.75	8	P	Pn	04 27 23.3	+0.7
	baz=189,SNR=200						
KSU1				Sb	Sg	04 28 05.4	-1.1
	baz=189						
KSU1	Kansas State U	2.75	8	P	Pn	04 27 23.7	+1.1
	baz=189,SNR=26						
WTFS	Witchita Falls	2.83	203	Pn	Pn	04 27 24.7	+1.1
WTFS				IAmb_Lg		04 28 11.9	
	comp=Z,398nm,0.7s						
Z35A	Perchaven, San	3.04	182		Pn	04 27 27.4	+0.9
Z35A	Perchaven, San	3.04	182	P	Pn	04 27 27.4	+0.9
	baz=1.6,SNR=59						
Z35A				S	Sn	04 28 06.2	+3.0
	baz=1.6						
CBKS	Cedar Bluff	3.20	320	Pn	Pn	04 27 29.4	+0.6
CBKS	Cedar Bluff	3.20	320	P	Pn	04 27 29.4	+0.6
	baz=139,SNR=28						
CBKS				Sb	Sb	04 28 16.8	+2.3
	baz=139						
CBKS	Cedar Bluff	3.20	320	P	Pn	04 27 29.2	+0.4
	baz=139,SNR=68						
CBKS				Sb	Sb	04 28 16.3	+1.9
	baz=139						
S39A	Bolivar	3.31	65		Pn	04 27 31.2	+0.9
S39A				IAmb_Lg		04 28 29.2	
	comp=Z,2μm,1.1s						
S39A	Bolivar	3.31	65	P	Pn	04 27 31.1	+0.9
	baz=248,SNR=139						
FW06	Azle	3.41	186	Pn	Pn	04 27 32.5	+0.8
FW06				IAmb_Lg		04 28 33.4	
	comp=Z,1μm,0.9s						
FW03	Perrin-Whitt E	3.42	193		Pn	04 27 32.4	+0.6
FW03				IAmb_Lg		04 28 32.8	
	comp=Z,1μm,0.9s						
MIAR	Mount Ida	3.42	121	Pn	Pn	04 27 31.9	+0.2
MIAR	Mount Ida	3.42	121	P	Pn	04 27 32.8	+1.0
	baz=303,SNR=102						
MIAR				S	Sn	04 28 14.1	+1.6
	baz=303						
MIAR	Mount Ida	3.42	121	P	Pn	04 27 32.7	+1.0
	baz=303,SNR=166						
U40A	Yellville	3.44	89	P	Pn	04 27 32.9	+0.8
	baz=272,SNR=55						
U40A				P	Pn	04 27 32.9	+0.8
	baz=272,SNR=55						
Z38A	Mt. Pleasant	3.57	150	Pn	Pn	04 27 34.3	+0.5
Z38A				IAmb_Lg		04 28 35.8	
	comp=Z,2μm,0.9s						
Z38A	Mt. Pleasant	3.57	150	P	Pn	04 27 34.6	+0.8
	baz=331,SNR=31						
Z38A				Sb	Sg	04 28 29.9	-2.8
	baz=331						
FW07	Weatherford	3.70	189	IAmb_Lg		04 28 43.0	
	comp=Z,877nm,0.7s						
FW16	Waxahatchie	3.89	177	IAmb_Lg		04 28 49.7	
	comp=Z,725nm,0.8s						
APMT	Aspermont	3.92	220	IAmb_Lg		04 28 51.2	
	comp=Z,894nm,1.0s						
FW14	Alvarado	3.97	181	IAmb_Lg		04 28 53.5	
	comp=Z,784nm,0.8s						
MGMO	Mountain Grove	3.97	77	IAmb_Lg		04 28 50.4	
	comp=Z,1μm,0.7s						
X40A	Basin Creek Fa	3.98	117	IAmb_Lg		04 28 49.0	
	comp=Z,1μm,0.8s						
X40A	Basin Creek Fa	3.98	117	P	Pn	04 27 41.0	+1.7
	baz=299						
X40A				P	Pn	04 27 41.0	+1.7
	baz=299						
AMTX	Amarillo	4.00	250		Pn	04 27 40.5	+0.7
AMTX	Amarillo	4.00	250	P	Pn	04 27 40.6	+0.7
	baz=67						
AMTX	Amarillo	4.00	250	P	Pn	04 27 40.9	+1.0
	baz=67,SNR=21						
FW13	Cleburne	4.02	184	IAmb_Lg		04 28 55.7	
	comp=Z,585nm,0.8s						
FCAR	Ozark Folk Cen	4.07	95	IAmb_Lg		04 28 50.9	
	comp=Z,1μm,0.7s						
DKNS	Dickens	4.13	230	IAmb_Lg		04 28 59.8	
	comp=Z,599nm,0.7s						
UALR	University of	4.21	111	IAmb_Lg		04 29 00.8	
	comp=Z,2μm,0.9s						
WLAR	White Oak Lake	4.24	128	IAmb_Lg		04 28 55.7	
	comp=Z,950nm,0.8s						
ABTX	Abilene, Hawle	4.28	210		Pn	04 27 43.6	-0.1
ABTX				IAmb_Lg		04 28 55.1	
	comp=Z,1μm,0.8s						
ABTX	Abilene, Hawle	4.28	210	P	Pn	04 27 43.7	+0.1
	baz=28						
ABTX				Sb	Sb	04 28 49.3	+3.8
	baz=28						
ABTX	Abilene, Hawle	4.28	210	P	Pn	04 27 45.0	+1.4
	baz=28,SNR=17						
P38A	Dawn	4.31	40	IAmb_Lg		04 29 00.5	
	comp=Z,1μm,0.9s						
P38A	Dawn	4.31	40	P	Pn	04 27 44.5	+0.5
	baz=222,SNR=36						
R40A	Maddies Statio	4.31	62	P	Pn	04 27 44.9	+0.9
	baz=245,SNR=62						
N33B	J Bar K, Exete	4.36	357	P	Pn	04 27 44.9	+0.2
	baz=177,SNR=19						
N33A	J Bar K, Exete	4.37	357	IAmb_Lg		04 29 03.0	
	comp=Z,1μm,0.8s						
WHTX	Lake Whitney,	4.38	184	P	Pn	04 27 45.1	+0.1
	baz=3.2,SNR=23						
WHTX				Sb	Sb	04 28 52.9	+4.6
	baz=3.2						
WHTX	Lake Whitney,	4.38	184	P	Pn	04 27 45.0	+0.1
	baz=3.2,SNR=30						
237A	Washetta, Mont	4.50	166	P	Pn	04 27 46.7	+0.2
	baz=346,SNR=77						
SN05	Snyder 5	4.67	223	IAmb_Lg		04 29 13.1	
	comp=Z,901nm,0.8s						
SN01	Snyder 1	4.68	223	IAmb_Lg		04 29 15.2	
	comp=Z,1μm,0.8s						
Z41A	Richland Creek	4.72	130	P	Pn	04 27 50.0	+0.4
	baz=312,SNR=15						
Z41A				P	Pn	04 27 50.0	+0.4
	baz=312,SNR=15						
LCAR	Lake Charles	4.83	92	IAmb_Lg		04 29 11.2	
	comp=Z,1μm,0.8s						
POST	Post	4.89	229	IAmb_Lg		04 29 16.9	
	comp=Z,755nm,0.8s						
CCM	Cathedral Cave	4.98	69	Pn	Pn	04 27 53.5	+0.3
CCM				IAmb_Lg		04 29 16.6	
	comp=Z,1μm,0.9s						
CCM	Cathedral Cave	4.98	69	P	Pn	04 27 53.1	-0.1
	baz=252						
CCM				S	Sn	04 28 52.5	+1.5
	baz=252						
CCM	Cathedral Cave	4.98	69	P	Pn	04 27 53.8	+0.5
	baz=252,SNR=31						
CCAR	Cane Creek	5.02	118	IAmb_Lg		04 29 29.2	
	comp=Z,1μm,1.0s						
NATX	Nacogdoches	5.04	155	P	Pn	04 27 53.8	-0.2
	baz=337,SNR=7.2						
NATX				S	Sn	04 28 53.0	+0.6
	baz=337						
BGNE	Belgrade	5.09	351	P	Pn	04 27 54.8	+0.1
	baz=171,SNR=14						
BGNE				S	Sn	04 28 54.9	+1.1
	baz=171						
BGNE	Belgrade	5.09	351	P	Pn	04 27 54.8	+0.1
	baz=171,SNR=16						
KSCO	Kaye Shedlock'	5.10	303	IAmb_Lg		04 29 27.3	
	comp=Z,757nm,0.8s						
KSCO	Kaye Shedlock'	5.10	303	P	Pn	04 27 55.2	+0.2
	baz=120,SNR=31						
KSCO				S	Sn	04 28 54.3	+0.2
	baz=120						
KSCO	Kaye Shedlock'	5.10	303	P	Pn	04 27 54.9	0.0
	baz=120,SNR=72						
P40A	Paris	5.10	50	IAmb_Lg		04 29 18.2	
	comp=Z,1μm,0.8s						
MSTX	Muleshoe	5.21	244	IAmb_Lg		04 29 35.9	
	comp=Z,709nm,1.1s						
MSTX	Muleshoe	5.21	244	P	Pn	04 27 56.6	0.0
	baz=61,SNR=18						
MSTX	Muleshoe	5.21	244	P	Pn	04 27 56.8	+0.3

baz=61,SNR=14
BRDY Brady 5.31 198 lAmb_Lg 04 29 35.5
comp=Z,999nm,0.8s
N38A Joes South For 5.36 33 lAmb_Lg 04 29 36.5
comp=Z,1µm,0.7s
SGCY Sterling City 5.55 218 lAmb_Lg 04 29 43.0
comp=Z,2µm,0.9s
FVM French Village 5.58 71 lAmb_Lg 04 29 38.6
comp=Z,684nm,0.9s
FVM French Village 5.58 71 P Pn **04 28 01.8 +0.3**
baz=255,SNR=26
435B Jarrell 5.59 184 lAmb_Lg 04 29 41.4
comp=Z,1µm,0.8s
435B Jarrell 5.59 184 P Pn **04 28 01.8 +0.2**
baz=3.6
435B Jarrell 5.59 184 P Pn **04 28 01.8 +0.2**
baz=3.6
T25A Trinidad 5.90 280 Pn Pn **04 28 05.8 -0.2**
T25A Trinidad 5.90 280 P Pn **04 28 06.4 +0.3**
baz=95,SNR=37
SLM Saint Louis 5.92 66 lAmb_Lg 04 29 47.1
comp=Z,1µm,1.1s
OGNE Ogallala 5.97 321 lAmb_Lg 04 29 54.6
comp=Z,1µm,0.7s
OGNE Ogallala 5.97 321 P Pn **04 28 07.6 +0.8**
baz=139,SNR=22
OGNE Ogallala 5.97 321 P Pn **04 28 07.9 +1.1**
baz=139,SNR=30
143A Socs Landing, 5.97 126 lAmb_Lg 04 29 56.6
comp=Z,529nm,0.7s
ODSA Odessa 6.18 228 lAmb_Lg 04 30 00.1
comp=Z,298nm,1.0s
JCT Junction City 6.29 202 P Pn **04 28 11.2 0.0**
baz=20,SNR=15
JCT Junction City 6.29 202 P Pn **04 28 11.0 -0.3**
baz=20,SNR=25
SCIA State Center 6.30 28 P Pn **04 28 12.1 +0.7**
baz=210
OZNA Ozona 6.38 213 lAmb_Lg 04 30 11.5
comp=Z,681nm,0.8s
S44A Carbondale 6.43 76 P Pn **04 28 13.2 +0.1**
baz=261,SNR=10
HKT Hockley 6.50 170 Pn Pn **04 28 13.8 -0.2**
OXF Oxford 6.56 104 lAmb_Lg 04 30 08.7
comp=Z,1µm,0.8s
OXF Oxford 6.56 104 P Pn **04 28 14.4 -0.5**
baz=289,SNR=6.4
K30B Basset 6.58 344 lAmb_Lg 04 30 18.9
comp=Z,981nm,0.8s
K30B Basset 6.58 344 P Pn **04 28 15.5 +0.3**
baz=162
Y45A Yeager Farm, C 6.70 110 lAmb_Lg 04 30 22.7
comp=Z,906nm,0.8s
P43A Skaggs, Pawnee 6.83 59 lAmb_Lg 04 30 15.7
comp=Z,922nm,0.9s
P43A Skaggs, Pawnee 6.83 59 P Pn **04 28 19.1 +0.5**
baz=244
SDCO Great Sand Dun 6.84 284 lAmb_Lg 04 30 18.6
comp=Z,538nm,1.0s
SDCO Great Sand Dun 6.84 284 P Pn **04 28 19.8 +0.8**
baz=99,SNR=58
SDCO Great Sand Dun 6.84 284 P Pn **04 28 20.2 +1.2**
baz=99,SNR=29
VBMS Vicksburg 6.86 125 P Pn **04 28 18.5 -0.5**
baz=309
Q24A Divide 6.87 294 lAmb_Lg 04 30 29.6
comp=Z,778nm,0.7s
Q24A Divide 6.87 294 P Pn **04 28 19.1 -0.4**
baz=110,SNR=18
Q44A Meyer Farm, Va 6.91 66 lAmb_Lg 04 30 28.5
comp=Z,856nm,1.0s
Q44A Meyer Farm, Va 6.91 66 P Pn **04 28 20.1 +0.5**
baz=251,SNR=12
L40A Anamosa 7.29 37 lAmb_Lg 04 30 38.9
comp=Z,666nm,0.8s
ECSD EROS Data Cent 7.36 3 Pn Pn **04 28 25.3 -0.6**
ECSD lAmb_Lg 04 30 35.8
comp=Z,390nm,0.8s
ECSD EROS Data Cent 7.36 3 P Pn **04 28 25.2 -0.7**
baz=183,SNR=26
ECSD EROS Data Cent 7.36 3 P Pn **04 28 25.2 -0.7**
baz=183,SNR=67
HDIL Hopedale 7.42 53 P Pn **04 28 26.9 +0.2**
baz=238,SNR=34
PLAL Pickwick Lake 7.49 98 lAmb_Lg 04 30 36.3
comp=Z,503nm,1.1s
PECS Pecos 7.51 230 lAmb_Lg 04 30 52.8
comp=Z,243nm,0.9s
WVT Waverly 7.51 89 Pn Pn **04 28 28.2 +0.2**
WVT Waverly 7.51 89 P Pn **04 28 28.0 0.0**
baz=275
WVT Waverly 7.51 89 P Pn **04 28 28.2 +0.2**
baz=275
ISCO Idaho Springs 7.52 300 Pn Pn **04 28 28.2 -0.2**
ISCO lAmb_Lg 04 30 37.3
comp=Z,477nm,0.8s
ISCO Idaho Springs 7.52 300 P Pn **04 28 28.3 0.0**
baz=115,SNR=37
ISCO Idaho Springs 7.52 300 P Pn **04 28 28.2 -0.2**
baz=115,SNR=35
735A Kenedy 7.52 185 lAmb_Lg 04 30 53.2
comp=Z,676nm,0.9s
DRIO Del Rio 7.53 204 lAmb_Lg 04 30 41.4
comp=Z,459nm,1.0s
OLIL Olney 7.54 69 lAmb_Lg 04 30 55.8
comp=Z,650nm,1.0s
146A Union 7.63 117 lAmb_Lg 04 30 55.8
comp=Z,364nm,0.8s
146A Union 7.63 117 P Pn **04 28 30.2 +0.6**
baz=302
SAND Sanderson 7.65 215 lAmb_Lg 04 31 00.1
comp=Z,515nm,0.8s
USIN University of 7.71 75 lAmb_Lg 04 30 49.2
comp=Z,798nm,1.0s
ANMO Albuquerque 7.73 262 Pn Pn **04 28 31.1 -0.1**
ANMO Albuquerque 7.73 262 P Pn **04 28 31.5 +0.3**
baz=77
ANMO Albuquerque 7.73 262 P Pn **04 28 31.9 +0.7**
baz=77,SNR=9.9
ANMO Albuquerque 7.73 262 Pn Pn **04 28 31.3 +0.2**
comp=Z,0.9nm,0.3s,baz=171,slow=13,SNR=33
ANMO Pg Pb 04 28 57.3 +4.7
comp=Z,5.9nm,0.3s,baz=172,slow=16,SNR=8.7
ANMO Lg Lg 04 30 36.9
comp=Z,15nm,0.3s,baz=194,slow=17,SNR=4.1
ANMO LR LR 04 31 47.7
comp=Z,329nm,20.0s,baz=166,slow=40
comp=Z,3.7nm,0.3s
O44A Mansfield 7.78 58 lAmb_Lg 04 30 43.0
comp=Z,540nm,0.7s
O44A Mansfield 7.78 58 P Pn **04 28 31.9 +0.3**
baz=244
S22A 4UR Ranch, Cre 7.88 283 Pn Pn **04 28 32.9 -0.4**
S22A 4UR Ranch, Cre 7.88 283 P Pn **04 28 33.4 0.0**
baz=97
346A Big Creek Wild 8.08 126 P Pn **04 28 36.3 +0.5**
baz=310
ALPN Alpine 8.09 224 lAmb_Lg 04 31 03.5
comp=Z,348nm,1.0s
I37A Lemond, Waseca 8.14 19 lAmb_Lg 04 31 07.8
comp=Z,637nm,0.8s
PHWY Pilot Hill 8.15 310 lAmb_Lg 04 31 16.8
comp=Z,392nm,0.9s
SUSD Miller 8.18 351 lAmb_Lg 04 31 04.2
comp=Z,703nm,0.8s
SUSD Miller 8.18 351 P Pn **04 28 38.1 +1.0**
baz=170
N23A Red Feather La 8.25 306 Pn Pn **04 28 38.1 -0.2**
N23A Red Feather La 8.25 306 P Pn **04 28 38.9 +0.6**
baz=120,SNR=30
833A Chaparral WMA, 8.25 194 P Pn **04 28 37.9 -0.3**
baz=13
MNTX Cornudas Mount 8.29 238 P Pn **04 28 38.2 -0.5**
baz=53,SNR=54
MNTX Cornudas Mount 8.29 238 P Pn **04 28 38.3 -0.4**
baz=53,SNR=36
JFWS Jewell Farm 8.41 37 Pn Pn **04 28 40.5 +0.2**
JFWS lAmb_Lg 04 31 09.3
comp=Z,636nm,0.7s
JFWS Jewell Farm 8.41 37 P Pn **04 28 39.8 -0.5**
baz=221,SNR=9.6
JFWS Jewell Farm 8.41 37 P Pn **04 28 40.6 +0.3**
baz=221,SNR=9.5
X48A Hartselle 8.45 100 P Pn **04 28 41.5 +0.7**
baz=286
P46A Rosedale 8.47 65 lAmb_Lg 04 31 10.0
comp=Z,561nm,0.9s
M44A Midewin, Midew 8.67 52 lAmb_Lg 04 31 16.6
comp=Z,556nm,0.9s
M44A Midewin, Midew 8.67 52 P Pn **04 28 43.9 +0.1**
baz=238
WCI Wyandotte Cave 8.82 75 Pn Pn **04 28 46.1 +0.2**
WCI Wyandotte Cave 8.82 75 P Pn **04 28 46.8 +0.8**
baz=261
SFIN Lafayette 8.83 60 P Pn **04 28 46.1 +0.1**
baz=246,SNR=9.0
SFIN Lafayette 8.83 60 P Pn **04 28 45.8 -0.2**
baz=246,SNR=11
TXAR Lajitas Array 8.92 220 Pn Pn **04 28 45.5 -1.9**
comp=Z,1.1nm,0.3s,baz=45,slow=12,SNR=56
TXAR Pg Pg 04 29 11.6 -17
comp=Z,4.5nm,0.3s,baz=42,slow=13,SNR=5.4
TXAR Lg Lg 04 31 15.0
comp=Z,7.1nm,0.3s,baz=36,slow=17,SNR=4.7
comp=Z,2.4nm,0.5s
LRAL Lakeview Retre 8.97 109 P Pn **04 28 47.2 -0.9**
baz=295
I40A Norwalk 9.01 32 lAmb_Lg 04 31 33.0
comp=Z,368nm,0.8s
I40A Norwalk 9.01 32 P Pn **04 28 49.0 +0.6**
baz=216
MVCO Mesa Verde 9.16 279 P Pn **04 28 49.2 -1.7**
baz=92
L44A Lake County Fo 9.19 48 P Pn **04 28 50.5 -0.5**
baz=234
K43A Burlington 9.27 44 P Pn **04 28 52.4 +0.3**
baz=230
RSSD Black Hills 9.37 328 Pn Pn **04 28 53.3 -0.3**
RSSD Black Hills 9.37 328 P Pn **04 28 53.8 +0.2**
baz=144
RSSD Black Hills 9.37 328 P Pn **04 28 54.3 +0.6**
baz=144,SNR=11
SPMN Marine on St. 9.43 19 lAmb_Lg 04 31 42.8
comp=Z,336nm,0.8s
SPMN Marine on St. 9.43 19 P Pn **04 28 54.0 -0.1**
baz=202,SNR=7.9
F33A 5 Mile Ranch, 9.48 4 lAmb_Lg 04 31 39.6
comp=Z,324nm,0.8s
K22A Casper 9.59 314 lAmb_Lg 04 31 51.4
comp=Z,405nm,0.9s
K22A Casper 9.59 314 P Pn **04 28 56.3 -0.3**
baz=128,SNR=36
K22A Casper 9.59 314 P Pn **04 28 56.1 -0.6**
baz=128,SNR=15
121A Cookes Peak, D 9.60 250 P Pn **04 28 56.2 -0.6**
baz=63
R49A Shelbyville 9.71 75 P Pn **04 28 58.4 +0.3**
baz=262
R49A P Pn **04 28 58.4 +0.3**
baz=262
I42A Draeger Farm, 9.79 37 lAmb_Lg 04 31 47.0
comp=Z,295nm,0.8s
I42A Draeger Farm, 9.79 37 P Pn **04 28 58.6 -0.5**
baz=223
BRAL Brewton 9.86 119 P Pn **04 28 59.9 -0.2**
baz=304
F36A Milaca 9.86 15 lAmb_Lg 04 31 58.1
comp=Z,337nm,0.9s
T50A Nancy 9.89 83 P Pn **04 29 01.0 +0.5**
baz=270
T50A P Pn **04 29 01.0 +0.5**
baz=270
O48B Farmland 10.17 64 P Pn **04 29 03.3 -1.1**
baz=251,SNR=7.2
O48B Farmland 10.17 64 P Pn **04 29 04.1 -0.3**
baz=251
CPCT Cooper Cave 10.26 91 Pn **04 29 05.8 +0.1**
P49A Miami Univ. Ec 10.29 68 P Pn **04 29 04.9 -1.2**
baz=256,SNR=7.4
G40A Rib Lake 10.31 28 Pn **04 29 05.5 -0.8**
W18A Petrified Fore 10.33 267 P Pn **04 29 05.5 -1.3**
baz=79
V51A Loudon 10.35 89 Pn **04 29 06.9 -0.1**
H43A Windswept, Lux 10.77 38 P Pn **04 29 12.3 -0.4**
baz=225,SNR=12
TKL Tuckaleechee C 10.84 90 Pn Pn **04 29 12.7 -0.8**
comp=Z,0.7nm,0.3s,baz=228,slow=8.8,SNR=10
TKL Pg **04 29 56.4**
comp=Z,1.3nm,0.3s,baz=262,slow=4.7,SNR=4.1
TKL Lg Lg 04 32 14.3
comp=Z,5.2nm,0.3s,baz=6.1,slow=19,SNR=4.5
TKL LR LR 04 33 28.3
comp=Z,161nm,21.4s,baz=283,slow=38
comp=Z,2.1nm,0.5s
S51A Beattyville 10.89 79 P Pn **04 29 14.2 -0.2**
baz=267
S51A P Pn **04 29 14.2 -0.2**
baz=267
TZTN Tazewell 10.93 85 P Pn **04 29 14.5 -0.4**
baz=273
E38A The Farm, Brul 11.04 20 Pn Pn **04 29 16.4 +0.1**
Q51A Peebles 11.23 72 Pn **04 29 18.5 -0.4**
L48A N Adams 11.31 57 Pn **04 29 18.6 -1.3**
BW06 Boulder Array 11.52 307 P Pn **04 29 21.9 -1.2**
baz=120,SNR=14
PDAR Pinedale Array 11.52 307 Pn Pn **04 29 21.2 -1.9**
PDAR Pinedale Array 11.52 307 Pn Pn **04 29 21.4 -1.7**
comp=Z,4.9nm,0.5s,baz=119,slow=13,SNR=51
PDAR Lg Lg 04 32 37.5
comp=Z,5.8nm,0.3s,baz=99,slow=36,SNR=3.6
PDAR LR LR 04 34 31.8
comp=Z,81nm,20.6s,baz=116,slow=41
F42A Maple Grove Fa 11.56 33 Pn **04 29 23.4 0.0**
WUAZ Wupatki 11.59 270 Pn Pn **04 29 23.8 -0.2**
WUAZ Wupatki 11.59 270 P Pn **04 29 23.3 -0.7**
baz=82
MDND Maddock 11.61 352 P Pn **04 29 24.8 +0.7**
baz=170
ACSO Alum Creek Sta 11.76 67 P Pn **04 29 24.7 -1.4**
baz=255,SNR=14
AGMN Agassiz Nation 11.95 4 P Pn **04 29 26.5 -2.3**
baz=185
AAM Ann Arbor 11.98 56 P Pn **04 29 28.3 -0.9**
baz=245,SNR=5.1
TUC Tucson 12.00 254 P Pn **04 29 30.8 +1.3**
baz=66
Q52A Bidwell 12.05 73 P Pn **04 29 29.8 -0.4**
baz=262,SNR=5.2
Q52A P Pn **04 29 29.8 -0.4**
baz=262,SNR=5.2
P52A Corning 12.26 70 **04 29 32.0 -1.0**
P52A Corning 12.26 70 P Pn **04 29 32.0 -1.0**
baz=259,SNR=12
EYMN Ely 12.29 18 P Pn **04 29 31.9 -1.5**
baz=202
LAO LASA Array 12.35 329 Pn Pn **04 29 32.7 -1.5**
LAO LASA Array 12.35 329 P Pn **04 29 32.8 -1.4**
baz=144,SNR=7.6
HWUT Hardware Ranch 12.39 299 Pn Pn **04 29 34.1 -0.8**
RLMT Red Lodge 12.68 317 P Pn **04 29 38.4 -0.6**
baz=130
GLMI Grayling 12.70 45 P Pn **04 29 37.2 -1.8**
baz=233
P53A Whipple 12.80 71 P Pn **04 29 38.6 -1.8**
baz=261,SNR=6.5
P53A P Pn **04 29 38.6 -1.8**
baz=261,SNR=6.5
O53A New Philadelph 13.08 68 P Pn **04 29 42.2 -1.9**
baz=258
DGMT Dagmar 13.16 339 P Pn **04 29 42.4 -2.9**
baz=154,SNR=20
BLA Blacksburg 13.41 81 Pn Pn **04 29 48.8 0.0**
BLA Blacksburg 13.41 81 P Pn **04 29 49.1 +0.3**
baz=272
M53A WI Miller and 13.77 63 P Pn **04 29 51.5 -2.1**
baz=254
ULM Lac du Bonnet 13.90 3 Pn Pn **04 29 50.1 -5.2**
comp=Z,1.2nm,0.3s,baz=181,slow=12,SNR=12
ULM Sn Sn 04 32 17.3 -13
comp=Z,1.7nm,0.3s,baz=240,slow=19,SNR=5.7
ULM Lg Lg 04 33 49.2
comp=Z,3.2nm,0.3s,baz=258,slow=20,SNR=5.6
ULM LR LR 04 35 20.8
comp=Z,168nm,21.5s,baz=276,slow=38
comp=Z,7.4nm,0.6s
BOZ Bozeman (W) 14.30 315 P Pn **04 30 03.2 +2.3**
baz=125
ELK Elko 14.83 293 Pn Pn **04 30 09.5 +1.2**
baz=82,slow=23,SNR=2.4
ELK Pg P 04 31 03.2 +49
baz=114,slow=5.1,SNR=2.1
ELK Lg Lg 04 34 21.4
baz=156,slow=10.0,SNR=2.3
ELK LR LR 04 35 42.2
comp=Z,78nm,21.5s,baz=98,slow=37
comp=Z,0.8nm,0.8s
EGMT Eagleton 14.91 325 Pn Pn **04 30 07.3 -1.9**
EGMT Eagleton 14.91 325 P Pn **04 30 07.2 -2.1**
baz=137,SNR=9.6
HLID Hailey 15.06 304 Pn Pn **04 30 11.5 +0.1**
HLID Hailey 15.06 304 P Pn **04 30 11.4 0.0**
baz=113
SADO Sadowa 16.01 53 Lg Lg 04 34 51.5
comp=Z,1.2nm,0.3s,baz=162,slow=14,SNR=3.2
SADO LR LR 04 36 45.3
comp=Z,230nm,21.1s,baz=274,slow=38
PFO Pinyon Flats O 16.09 266 Lg Lg 04 35 05.0
comp=Z,0.1nm,0.3s,baz=3.6,slow=18,SNR=2.1
PFO LR LR 04 37 03.0
comp=Z,123nm,19.6s,baz=91,slow=39
L56A Greenwood 16.20 63 lAmb lAmb 04 30 25.4
comp=Z,12nm,0.8s
M57A Sunshine Farm, 16.34 66 lAmb lAmb 04 30 32.4
comp=Z,13nm,0.8s
NVAR Mina Array Bea 16.95 283 Pn Pn **04 30 33.8 -2.2**
comp=Z,0.1nm,0.3s,baz=84,slow=29,SNR=1.6
NVAR Lg Lg 04 35 25.4
baz=26,slow=27
comp=Z,0.2nm,0.3s
WUPA West Chester U 17.29 72 lAmb lAmb 04 30 43.9
comp=Z,8.9nm,1.0s
TEIG Tepich 17.86 152 P Pn **04 30 46.1 -0.9**
comp=Z,106nm,0.8s,baz=297,slow=9.0,SNR=2.9
TEIG LR LR 04 39 37.0
comp=Z,447nm,18.2s,baz=19,slow=44
F10A Beach Ranch, E 17.88 309 lAmb lAmb 04 30 52.6
comp=Z,14nm,0.8s
ODNJ Ogdensburg 18.17 68 lAmb lAmb 04 30 53.1
comp=Z,11nm,0.8s
FFC Flin Flon 18.66 351 P P **04 30 55.0 -1.3**
FFC lAmb lAmb 04 30 58.3
comp=Z,11nm,0.9s
TLIG Tlapa 18.78 184 P P **04 30 57.8 -0.3**
TLIG lAmb lAmb 04 31 01.6
comp=Z,10nm,1.1s
NEW Newport 18.91 315 P Pn **04 30 59.9 +0.2**
baz=122
NEW Newport 18.91 315 P Pn **04 31 00.1 +0.4**
comp=Z,0.2nm,0.3s,baz=132,slow=10,SNR=6.4
NEW Lg Lg 04 36 24.7
comp=Z,0.1nm,0.3s,baz=86,slow=14,SNR=2.4
NEW LR LR 04 38 44.9
comp=Z,241nm,19.4s,baz=118,slow=39
comp=Z,3.0nm,0.7s
LONY Lake Ozonia 18.97 57 P Pn **04 31 00.2 -0.4**
baz=252
KSCT Kent School, K 19.10 67 lAmb lAmb 04 31 15.4
comp=Z,14nm,0.8s
CMIG Matias Romero 19.31 174 P Pn **04 31 04.3 -0.4**
comp=Z,0.7nm,0.3s,baz=353,slow=9.6,SNR=5.6
comp=Z,7.6nm,0.6s
K05A Summer Lake 19.37 296 lAmb lAmb 04 31 09.4
comp=Z,7.8nm,1.0s
D08A Wollman Farm, 19.40 310 lAmb lAmb 04 31 12.0
comp=Z,5.0nm,0.8s
HAWA Hanford 19.51 308 lAmb lAmb 04 31 10.6
comp=Z,4.8nm,0.7s
PINE Pine Mountain 19.63 299 lAmb lAmb 04 31 12.3
comp=Z,15nm,1.1s
L61B Northampton 19.80 65 lAmb lAmb 04 31 09.7
comp=Z,13nm,1.0s
L61B Northampton 19.80 65 P P **04 31 09.0 0.0**
baz=260
G06A Carlson Farm, 19.82 304 lAmb lAmb 04 31 14.3
comp=Z,17nm,1.4s
EDM Edmonton 20.32 331 P P **04 31 15.0 +0.4**
YBH Yreka Blue Hor 20.55 293 P Pn 04 31 18.2 -1.2
comp=Z,3.3nm,1.0s,baz=87,slow=7.8,SNR=5.4
YBH LR LR 04 40 36.4
comp=Z,102nm,19.2s,baz=100,slow=41
comp=Z,3.3nm,1.0s
LTY Liberty 20.57 309 lAmb lAmb 04 31 19.6
comp=Z,8.9nm,1.4s
LON Longmire 21.10 307 lAmb lAmb 04 31 27.7
comp=Z,5.6nm,0.9s
F04A Amboy 21.23 305 P P **04 31 24.5 +0.1**
D05A Enumclaw 21.37 308 lAmb lAmb 04 31 33.1
comp=Z,13nm,1.0s
LDAQ Lac Daran 22.29 51 P P **04 31 35.7 -0.2**
FCC Fort Churchill 22.49 4 P P **04 31 37.7 0.0**
FCC lAmb lAmb 04 32 22.2
comp=Z,5.7nm,0.7s
SCHQ Schefferville 27.77 39 P P **04 32 27.8 +0.5**
comp=Z,1.9nm,0.7s,baz=268,slow=17,SNR=1.6
SCHQ LR LR 04 43 42.8
comp=Z,98nm,21.4s,baz=248,slow=37
comp=Z,1.9nm,0.7s
YKA Yellowknife Ar 28.31 343 P P **04 32 31.3 -0.7**
comp=Z,1.9nm,0.8s,baz=142,slow=8.6,SNR=30
YKA LR LR 04 43 44.9
comp=Z,96nm,19.7s,baz=294,slow=36
comp=Z,1.9nm,0.8s
RIOS Rincon, Osa 30.20 152 P P **04 32 49.1 -0.1**
DLBC Dease Lake 30.84 326 P P **04 32 53.4 -1.2**
comp=Z,3.9nm,0.9s,baz=148,slow=15,SNR=2.2
comp=Z,3.9nm,0.9s
FRB Frobisher Bay 32.43 23 LR LR 04 44 36.0
comp=Z,84nm,20.9s,baz=139,slow=33
R32K Eaglecrest 32.85 324 P P **04 33 10.9 -1.2**
baz=115
P33M Teslin, Yukon 32.98 328 P P **04 33 12.2 -1.1**
baz=120
ROSC El Rosal 37.73 141 LR LR 04 52 45.6
comp=Z,42nm,18.4s,baz=290,slow=42
J26L Joseph Creek 39.38 330 lAmb lAmb 04 34 09.8
comp=Z,5.6nm,1.0s
IL31 40.81 330 P P **04 34 19.5 -0.2**
ILAR Eielson Array 40.81 330 P P **04 34 20.1 +0.4**
comp=Z,5.9nm,0.7s,baz=108,slow=6.9,SNR=47
ILAR LR LR 04 52 09.1
comp=Z,127nm,20.8s,baz=94,slow=38
comp=Z,5.9nm,0.7s
KDAK Kodiak Island 41.95 319 LR LR 04 50 27.3
comp=Z,120nm,18.6s,baz=100,slow=34
NNA Nana 51.77 154 LR LR 04 58 45.9
comp=Z,48nm,20.7s,baz=277,slow=37
BORG Borgarnes 51.80 32 LR LR 04 55 06.4
comp=Z,69nm,19.0s,baz=255,slow=33
LVC Limon Verde 64.44 151 LR LR 05 08 11.3
comp=Z,33nm,18.1s,baz=212,slow=39
ARCES ARCESS Array B 66.44 19 P P **04 37 27.6 +0.1**
comp=Z,4.0nm,0.9s,baz=18,slow=4.3,SNR=2.1
comp=Z,4.0nm,0.9s
SEY Seymchan 66.68 332 LR LR 05 09 07.1
comp=Z,75nm,19.0s,baz=52,slow=38
NOA NORSAR Array B 66.91 30 LR LR 05 05 52.9
comp=Z,30nm,18.2s,baz=290,slow=35
HFS Hagfors 68.43 30 LR LR 05 06 08.8
comp=Z,40nm,19.9s,baz=256,slow=35
MA2 Magadan 69.29 330 LR LR 05 10 45.9
comp=Z,60nm,18.2s,baz=65,slow=38
PETK Petropavlovsk- 69.90 322 LR LR 05 09 48.7
comp=Z,16nm,18.7s,baz=92,slow=37
FINES FINESS Array B 72.21 25 P P **04 38 04.2 +0.9**
comp=Z,1.4nm,0.6s,baz=328,slow=6.8,SNR=4.6
comp=Z,1.4nm,0.6s
CFA Coronel Fontan 72.84 154 P P **04 38 08.3 +0.9**
comp=Z,1.2nm,0.4s,baz=339,slow=4.5,SNR=5.7
comp=Z,1.2nm,0.4s
DAVOX Davos/Dischmat 74.53 43 LR LR 05 09 08.1
comp=Z,55nm,18.4s,baz=268,slow=34
PLCA Paso Flores 80.52 160 P P **04 38 52.2 +1.5**
comp=Z,1.4nm,0.9s,baz=306,slow=12,SNR=2.1
comp=Z,1.4nm,0.9s
AKASG Malin Array Be 81.28 31 LR LR 05 14 40.4
comp=Z,30nm,18.8s,baz=296,slow=36
KLR Kul'dur 84.38 330 LR LR 05 20 53.7
comp=Z,32nm,18.7s,baz=41,slow=39
KBZ Khabaz 92.38 28 LR LR 05 20 45.5
comp=Z,30nm,18.8s,baz=38,slow=35
KSRS Korea Array 95.52 326 LR LR 05 26 02.2
comp=Z,15nm,18.3s,baz=350,slow=37
GNI Garni 96.16 28 LR LR 05 23 13.1
comp=Z,16nm,18.3s,baz=344,slow=35
HHC Hu-ho-hao-te 98.76 338 *eP* Pdif 04 40 19.0 +0.4
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,250nm,5.5s
PZH PanZhiHua 114.98 341 PKP **PKiKP** **04 45 19.9 -0.3**

*NEIC **05** 04:33:07.3±0.3,36°38N±0°01,×97°13W±0°01,h7km±1km,*
Error ellipse: s-maj=1.9km s-min=1.3km az=184.0

TUL 05 04:33:07.4±0.3, 36°372N±0°007×97°13W±0°01, h6km±2km, ML2.5, ML2.4/30(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=108.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK048	**Pawnee Station**	**0.16**	**74**	Pg	Pg	04 33 10.9	+0.4
OK048				Sg	Sg	04 33 13.6	+0.9
OK051	**E0350 and S346**	**0.27**	**61**	Pg	Pg	04 33 13.0	+0.3
OK051				Sg	Sg	04 33 17.0	+0.7
BLOK	**Blackwell**	**0.39**	**350**	Pg	Pg	04 33 15.0	-0.1
BLOK				Sg	Sg	04 33 20.9	+0.7
BLOK	comp=E,369nm,0.3s			IAML		04 33 22.8	
BLOK	comp=N,468nm,0.2s			IAML		04 33 23.0	
QUOK	**Quay**	**0.40**	**120**	Pg	Pg	04 33 15.5	+0.4
QUOK				Sg	Sg	04 33 20.9	+0.7
QUOK	comp=N,374nm,0.5s			IAML		04 33 22.9	
OK052	**Battle Ridge R**	**0.46**	**145**	Pg	Pg	04 33 16.6	+0.3
OK052				Sg	Sg	04 33 22.9	+0.6
OK052	comp=N,248nm,0.8s			IAML		04 33 26.5	
KAN13	**South Haven SW**	**0.70**	**337**	Pg	Pg	04 33 20.8	0.0
KAN13	comp=E,225nm,1.4s			IAML		04 33 32.2	
CROK	**Carrier**	**0.70**	**281**	Pg	Pg	04 33 20.8	-0.1
CROK	comp=E,215nm,0.4s			IAML		04 33 34.0	
DEOK	**Depew**	**0.74**	**136**	Pg	Pg	04 33 21.7	+0.2
DEOK	comp=N,112nm,0.8s			IAML		04 33 39.9	
T35A	**Sooner Cattle**	**0.74**	**42**	Pg	Pg	04 33 21.6	+0.1
T35A	comp=N,119nm,0.6s			IAML		04 33 33.6	
T35A	comp=E,132nm,0.9s			IAML		04 33 38.3	
GC02	**Grant County #**	**0.76**	**309**	Pg	Pg	04 33 21.7	-0.2
KAN09	**Caldwell North**	**0.86**	**333**	Pg	Pg	04 33 23.5	-0.4
KAN14	**Manchester OK**	**0.89**	**311**	Pg	Pg	04 33 24.3	-0.2
FNO	**Franklin**	**1.13**	**191**	Pg	Pg	04 33 28.5	-0.7
FNO	comp=N,110nm,0.9s			IAML		04 33 47.5	
TUL3	**Leonard**	**1.18**	**113**	Pg	Pg	04 33 29.8	-0.2
TUL3	comp=E,67nm,0.9s			IAML		04 33 36.9	
TUL3	comp=N,73nm,0.6s			IAML		04 33 52.5	

*TEH **05** 04:40:57.5, 40°41N×51°79E, h10km, ML3.4*
*AZER **05** 04:41:00.8±0.1, 40°47N×51°73E, h56km±64km, Error ellipse: s-maj=6.1km s-min=3.2km az=257.0*
ISC 05 04:40:58.4±3.5, 40°51N±0°07×51°76E±0°08, h14km±27km, n26, σ1§40/37, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIZA	**Siyzn**	**2.25**	**286**	Pn	**Pb**	**04 41 37.7**	**-1.1**
SIZA				Sn	**Sb**	**04 42 06.4**	**-0.1**
QUBA	**Quba, Azerbaij**	**2.62**	**290**	Pn	**Pn**	**04 41 42.5**	**+2.2**
QUBA				Sn	**Sn**	**04 42 13.3**	**+1.5**
XNQ	**Khinaliq** SNR=7.1	**2.83**	**285**	Pn	**Pn**	**04 41 44.3**	**+1.0**
XNQ				Sn	**Sn**	**04 42 17.5**	**+0.2**
QSAR	**Qusar** SNR=19	**2.83**	**292**	Pn	**Pn**	**04 41 45.0**	**+1.7**
QSAR				Sn	**Sn**	**04 42 17.6**	**+0.4**
GLBA	**Clilabad** SNR=17	**2.88**	**245**	Pn	**Pn**	**04 41 45.7**	**+1.7**
GLBA				Sn	**Sn**	**04 42 19.3**	**+1.0**
ASTR	**Astara** SNR=8.4	**3.01**	**231**	Pn	**Pn**	**04 41 47.0**	**+1.3**
ASTR				Sn	**Sn**	**04 42 21.3**	**-0.2**
GAS1	**Astara - Iran**	**3.10**	**228**	Pn	**Pn**	**04 41 47.7**	**+0.8**
ZRD	**Zardab**	**3.12**	**267**	Sn	**Sn**	**04 42 24.6**	**+0.4**
YRD	**Yardimli**	**3.15**	**241**	Pn	**Pn**	**04 41 48.5**	**+0.8**
YRD				Sn	**Sn**	**04 42 25.5**	**+0.3**
LRK	**Lerik** SNR=18	**3.23**	**236**	Pn	**Pn**	**04 41 50.1**	**+1.1**
LRK				Sn	**Sn**	**04 42 26.6**	**-0.7**
BLQ	**Beylaqan**	**3.32**	**258**	Sn	**Sn**	**04 42 28.6**	**-0.5**
GRMI	**Germi**	**3.44**	**242**	Pn	**Pn**	**04 41 52.6**	**+1.0**
QRD	**Qoradiz**	**3.57**	**254**	Sn	**Sn**	**04 42 35.3**	**0.0**
JIR1	**Jirandeh**	**4.09**	**203**	Pn	**Pn**	**04 42 00.9**	**+0.2**
GANJ	**Ganja**	**4.14**	**274**	Sn	**Sn**	**04 42 46.4**	**-3.1**
ISRB	**Sarab**	**4.16**	**231**	Pn	**Pn**	**04 42 03.0**	**+1.3**
IHRS	**Heris**	**4.26**	**241**	Pn	**Pn**	**04 42 04.5**	**+1.5**
IGLO	**Ghaloghah**	**4.32**	**157**	Pn	**Pn**	**04 42 04.2**	**+0.4**
QSDN	**Sirdan**	**4.48**	**208**	Pn	**Pn**	**04 42 06.8**	**+0.6**
GDB	**GEDABAY**	**4.58**	**275**	Pn	**Pn**	**04 42 08.1**	**+0.8**
GDB				Sn	**Sn**	**04 42 56.7**	**-3.8**
ORD	**Ordubad** SNR=4.3	**4.72**	**252**	Pn	**Pn**	**04 42 11.0**	**+1.7**
ORD				Sn	**Sn**	**04 43 03.1**	**-0.7**
QZX	**Qazax, Azerbai**	**4.88**	**279**	Pn	**Pn**	**04 42 11.2**	**-0.2**
QZX				Sn	**Sn**	**04 43 05.7**	**-2.0**
SBZ	**Shahbuz**	**4.90**	**259**	Sn	**Sn**	**04 43 09.2**	**+1.0**
IMRD	**Marand**	**5.01**	**251**	Pn	**Pn**	**04 42 15.0**	**+1.7**
ISFR	**Sfrayin**	**5.97**	**123**	Pn	**Pn**	**04 42 27.4**	**+0.8**
IEMG	**Emamgholi**	**6.19**	**118**	Pn	**Pn**	**04 42 30.6**	**+0.9**

*KRNET **05** 04:42:33.3±0.1, 39°15N×69°85E, mb3.6*
ISC 05 04:42:34.1±3.7, 39°2N±0°1×69°9E±0°1, h3km±12km, n23, σ1§13/38, 28C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken** baz=39	**1.14**	**38**	↑*i*P	**Pg**	**04 42 55.1**	**-0.8**
BTK	baz=39			↑*i*S	**Sg**	**04 43 11.1**	**+0.5**
DRK	**Karamyk** baz=77	**1.50**	**77**	↑*e*P	**Pn**	**04 43 01.9**	**-0.2**
DRK	baz=77			↑*e*S	**Sg**	**04 43 22.5**	**+0.3**
TRKS	**Terek-Say** baz=23	**2.55**	**21**	↑*e*P	**Pn**	**04 43 15.6**	**-0.8**
TRKS	baz=23			↑*e*S	**Sn**	**04 43 47.2**	**-0.7**
OHH	**Osh** baz=58	**2.60**	**57**	↑*i*P	**Pn**	**04 43 17.3**	**+0.3**
OHH	baz=58			↑*i*S	**Sn**	**04 43 49.6**	**+0.5**
SFK	**Sufi-Kurgan** baz=72	**2.90**	**72**	↑*e*P	**Pn**	**04 43 21.7**	**+0.4**
SFK	baz=72			↑*i*S	**Sn**	**04 43 57.2**	**+0.4**
ARK	**Arkit** baz=31	**3.06**	**30**	↑*e*P	**Pn**	**04 43 24.0**	**+0.6**
ARK	baz=31			↑*i*S	**Sn**	**04 44 01.1**	**+0.5**
ARSB	**Arslanbob** baz=47	**3.19**	**46**	↑*e*P	**Pn**	**04 43 25.7**	**+0.5**
ARSB	baz=47			↑*e*S	**Sn**	**04 44 04.3**	**+0.5**
AML	**Almayashu** SNR=21	**4.13**	**43** P		**Pn**	**04 43 40.4**	**+2.0**
AML	**Almayashu** baz=43	**4.13**	**43**	↑*e*P	**Pn**	**04 43 39.0**	**+0.6**
AML	baz=43			↑*i*S	**Sn**	**04 44 27.1**	**-0.3**
ARLS	**Aral** baz=50	**4.31**	**50**	↑*e*P	**Pn**	**04 43 41.2**	**+0.6**
ARLS	baz=50			↑*e*S	**Sn**	**04 44 31.1**	**-0.3**
EKS2	**Erkin-Say** SNR=5.5	**4.56**	**39** P		Pb	04 43 50.0	-4.7
EKS2	**Erkin-Say** baz=39	**4.56**	**39**	↑*e*P	**Pn**	**04 43 44.7**	**+0.7**
EKS2	baz=39			↑*e*S	**Sn**	**04 44 37.1**	**-0.5**
UCH	**Uchtor** SNR=12	**4.65**	**47** P		**Pn**	**04 43 47.2**	**+1.7**
UCH	**Uchtor** baz=48	**4.65**	**47**	↑*i*P	**Pn**	**04 43 46.1**	**+0.6**
UCH	baz=48			↑*e*S	**Sn**	**04 44 39.6**	**-0.6**
AAK	**Ala-Archa** SNR=16	**4.91**	**44** P		**Pn**	**04 43 51.1**	**+2.3**
AAK	**Ala-Archa** baz=44	**4.91**	**44**	↓*i*P	**Pn**	**04 43 49.6**	**+0.7**
AAK	baz=44			↓*e*S	**Sn**	**04 44 45.3**	**-0.9**
KBK	**Karagaybulak** SNR=21	**5.17**	**46** P		**Pn**	**04 43 54.8**	**+2.4**
KBK	**Karagaybulak** baz=46	**5.17**	**46**	↑*e*P	**Pn**	**04 43 53.2**	**+0.7**
KBK	baz=46			↑*e*S	**Sn**	**04 44 51.6**	**-1.1**
NRN	**Naryn** baz=62	**5.18**	**62**	↑*e*P	**Pn**	**04 43 52.8**	**+0.1**
NRN	baz=62			↑*e*S	**Sn**	**04 44 51.1**	**-2.0**
CHMS	**Chumysh** SNR=5.5	**5.30**	**42** P		**Pn**	**04 43 56.2**	**+2.1**
CHMS	**Chumysh** baz=42	**5.30**	**42**	↓*e*P	**Pn**	**04 43 54.7**	**+0.6**
CHMS	baz=42			↓*i*S	**Sn**	**04 44 54.3**	**-1.3**
USP	**Ospenovka** SNR=8.9	**5.37**	**39** P		**Pn**	**04 43 57.1**	**+2.1**
USP	**Ospenovka** baz=39	**5.37**	**39**	↑*e*P	**Pn**	**04 43 55.7**	**+0.7**
USP	baz=39			↑*e*S	**Sn**	**04 44 56.2**	**-1.1**

NEIC 05 04:53:50.8±0.5, 36°373N±0°010×97°14W±0°01, h7km±1km, ML1.9/40, Error ellipse: s-maj=1.6km s-min=1.3km az=52.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK048	**Pawnee Station**	**0.16**	**75**	Pg	Pg	04 53 54.7	+0.5
OK048				Sg	Sg	04 53 57.1	+0.6
OK048	255nm,0.1s			IAML		04 53 57.4	
OK051	**E0350 and S346**	**0.28**	**62**	Pg	Pg	04 53 56.8	+0.5
OK051				Sg	Sg	04 54 00.6	+0.6
OK051	123nm,0.1s			IAML		04 54 03.9	
OK033	**Mehan**	**0.37**	**153**	Pg	Pg	04 53 58.4	+0.4
OK033				Sg	Sg	04 54 03.4	+0.6
BLOK	**Blackwell**	**0.39**	**351**	Pg	Pg	04 53 58.5	+0.1
BLOK				Sg	Sg	04 54 04.3	+0.7
BLOK	comp=E,140nm,0.3s			IAML		04 54 06.4	
BLOK	comp=N,161nm,0.2s			IAML		04 54 06.6	
QUOK	**Quay**	**0.40**	**120**	Pg	Pg	04 53 59.1	+0.4
QUOK				Sg	Sg	04 54 04.5	+0.5
QUOK	comp=N,157nm,0.3s			IAML		04 54 04.7	
QUOK	comp=E,90nm,0.2s			IAML		04 54 05.0	
OK052	**Battle Ridge R**	**0.47**	**144**	Pg	Pg	04 54 00.2	+0.4
OK052	comp=E,69nm,0.4s			IAML		04 54 10.1	
OK030	**Cody Creek RV**	**0.53**	**147**	Pg	Pg	04 54 01.3	+0.2
OK030	comp=E,66nm,0.4s			IAML		04 54 13.9	
OK029	**Liberty Lake**	**0.63**	**204**	Pg	Pg	04 54 03.1	+0.2
OK029	comp=E,82nm,0.4s			IAML		04 54 15.8	
OK029	comp=E,61nm,0.4s			IAML		04 54 15.9	
CROK	**Carrier**	**0.69**	**281**	Pg	Pg	04 54 04.1	-0.1
DEOK	**Depew**	**0.74**	**135**	Pg	Pg	04 54 05.1	+0.1
DEOK	comp=E,39nm,0.4s			IAML		04 54 17.3	
DEOK	comp=N,32nm,0.2s			IAML		04 54 17.3	
T35A	**Sooner Cattle**	**0.74**	**43**	Pg	Pg	04 54 05.2	+0.1
ADOK	**Arcadia Dam**	**0.74**	**195**	Pg	Pg	04 54 05.6	+0.5
GC02	**Grant County #**	**0.75**	**310**	Pg	Pg	04 54 05.4	+0.1
KAN17	**Caldwell West**	**0.84**	**323**	Pg	Pg	04 54 06.2	-0.7
KS21	**Milan North St**	**1.00**	**335**	IAML		04 54 27.8	
KS21	comp=N,34nm,0.1s			IAML		04 54 32.0	
KS21	comp=N,36nm,0.1s			IAML		04 54 32.0	
KS21	**Milan North St**	**1.00**	**335**	Pg	Pg	04 54 10.0	-0.1
FNO	**Franklin**	**1.13**	**191**	Pg	Pg	04 54 12.0	-0.5
TUL3	**Leonard**	**1.19**	**113**	Pg	Pg	04 54 13.0	-0.6
W35A	**Tecumseh**	**1.24**	**170**	Pg	Pb	04 54 13.5	-0.9
W35A	comp=E,28nm,0.3s			IAML		04 54 35.2	
W35A	comp=N,21nm,0.3s			IAML		04 54 36.0	
OK038	**West end E0370**	**1.30**	**275**	Pn	Pg	04 54 15.6	-0.1
U32A	**Winter Ranch,**	**1.50**	**271**		Pn	04 54 18.5	+0.3
WMOK	**Wichita Mounta**	**2.11**	**220**	Pn	Pn	04 54 26.0	-0.5
U38A	**Gravette**	**2.22**	**87**	Pn	Pn	04 54 28.0	-0.1
X37A	**Clayton**	**2.29**	**140**	Pn	Pn	04 54 28.8	-0.2
S39A	**Bolivar**	**3.33**	**66**	Pn	Pn	04 54 42.8	-0.4

*SVSA **05** 04:58:01.3±1.5, 39°36N×29°88W, h10km, ML3.3(INMG), Error ellipse: s-maj=13.1km s-min=4.6km az=25.0*
*IDC **05** 04:58:01.4±2.0, 40°15N×30°21W, h0km, mb3.7/8, mbtmp3.7/8, MS3.5/6, Error ellipse: s-maj=76.1km s-min=25.4km az=172.0*
ISC 05 04:57:58.5±0.8, 39°1N±0°1×29°88W±0°07, h10km, n27, σ2§12/25, mb4.0/7, MS3.5/6, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.02**	**116**	*e*S	**Sn**	**04 58 31.9**	**-1.4**
PCED	161nm,0.2s			A	A	04 58 33.5	
CALA	**Caldeira**	**1.04**	**118**	*e*S	**Sn**	**04 58 33.2**	**-0.7**
CALA	576nm,0.2s			A	A	04 58 36.4	
PFCBR	**Castelo Branco**	**1.06**	**121**	*e*S	**Sn**	**04 58 34.1**	**-0.2**
PFCBR	77nm,0.2s			A	A	04 58 35.1	
H07S1	**FLORES T-PHASE**	**1.07**	**287**	*e*S	**Sb**	**04 58 28.9**	**-4.4**
H07S1	391nm,0.4s			A	A	04 58 38.3	
HOR	**Horta**	**1.12**	**119**	*e*S	**Sn**	**04 58 35.4**	**-0.3**
HOR	346nm,0.2s			A	A	04 58 37.4	
PCAN	**Candelaria**	**1.25**	**119**	*e*S	**Sn**	**04 58 38.3**	**-0.6**
PCAN	216nm,0.2s			A	A	04 58 40.9	
PICO	**Pico**	**1.27**	**116**	*e*P	**Pg**	**04 58 22.6**	**-0.3**
PICO				*e*S	**Sg**	**04 58 38.5**	**-1.0**
PICO	277nm,0.3s			A	A	04 58 41.1	
ROSA	**Rosais**	**1.33**	**105**	*e*P	**Pn**	**04 58 22.6**	**-0.5**
ROSA				*e*S	**Sb**	**04 58 38.1**	**-2.4**
ROSA	153nm,0.3s			A	A	04 58 43.0	
PMAN	**Manadas**	**1.47**	**107**	*e*S	**Sn**	**04 58 41.8**	**-2.4**
PMAN	154nm,0.4s			A	A	04 58 43.5	
PID	**Ribeirinha**	**1.52**	**114**	*e*S	**Sb**	**04 58 44.9**	**-1.1**
PID	169nm,0.1s			A	A	04 58 54.0	
PAGU	**Agualva, Azore**	**2.12**	**98**	*e*P	**Pn**	**04 58 33.6**	**-0.4**
PAGU				*e*S	**Sn**	**04 58 56.9**	**-3.6**
PAGU	96nm,0.3s			A	A	04 59 00.1	
ESDC	**Sonseca Array** 1.4nm,1.1s,baz=288,slow=8.6,SNR=4.6 1.4nm,1.1s	**20.03**	**80**	P	**Pn**	**05 02 36.6**	**+3.3**
SCHQ	**Schefferville** comp=Z,90nm,18.5s,baz=0.5,slow=32	**29.32**	**315**	LR	LR	05 13 05.3	
FINES	**FINESS Array B** 2.7nm,0.8s,baz=254,slow=20,SNR=2.3 2.7nm,0.8s	**40.54**	**38**	P	**P**	**05 05 36.0**	**-1.5**
TKL	**Tuckaleechee C** comp=Z,69nm,18.5s,baz=330,slow=35	**42.45**	**283**	LR	LR	05 22 25.2	
PDAR	**Pinedale Array** 0.4nm,0.8s,baz=29,slow=3.4,SNR=3.7 0.4nm,0.8s	**58.17**	**301**	P	**P**	**05 07 51.6**	**-1.2**
ANMO	**Albuquerque** comp=Z,32nm,18.7s,baz=106,slow=34	**59.57**	**292**	LR	LR	05 31 34.3	
CMIG	**Matias Romero** comp=Z,21nm,18.2s,baz=128,slow=36	**60.14**	**268**	LR	LR	05 34 19.2	
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=46,slow=7.2,SNR=3.6 0.2nm,0.7s	**60.28**	**285**	P	**P**	**05 08 08.0**	**+0.6**
PFO	**Pinyon Flats O** comp=Z,45nm,18.1s,baz=46,slow=38	**67.38**	**296**	LR	LR	05 39 55.7	
LPIG	**La Paz** comp=Z,17nm,18.1s,baz=195,slow=36	**68.09**	**284**	LR	LR	05 38 36.4	
KURBB	**Kurchatov Arra** 0.9nm,0.9s,baz=312,slow=7.0,SNR=5.4 0.9nm,0.9s	**70.89**	**40**	P	**P**	**05 09 16.2**	**+0.7**
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=290,slow=6.1,SNR=3.5 0.6nm,0.3s	**71.69**	**34**	P	**P**	**05 09 20.4**	**+0.1**
MKAR	**Makanchi Array** 1.4nm,0.8s,baz=308,slow=6.0,SNR=8.0 1.4nm,0.8s	**75.26**	**41**	P	**P**	**05 09 42.4**	**+0.9**
SONM	**Songino Array** 0.9nm,0.9s,baz=316,slow=4.0,SNR=2.6 0.9nm,0.9s	**85.12**	**28**	P	**P**	**05 10 35.8**	**+1.0**
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=340,slow=11,SNR=2.1	**156.56**	**40**	PKP	**PKPdf**	**05 17 58.9**	**+4.9**
ASAR	**Alice Springs** 0.7nm,0.7s,baz=50,slow=8.9,SNR=4.2	**159.37**	**47**	PKP	**PKPdf**	**05 18 00.3**	**+2.9**
ASAR	0.1nm,0.3s,baz=310,slow=2.8,SNR=4.7			PKPab	**PKPab**	**05 18 35.1**	**+0.1**

*IDC **05** 04:59:27.9±1.3, 27°88N×141°09E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=38.8km s-min=24.3km az=85.0*
ISC 05 04:59:34.4±1.3, 27°9N±0°2×141°0E±0°2, h47km, n6, σ0§92/6, mb3.7/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array** 0.3nm,0.5s,baz=111,slow=8.7,SNR=1.4 0.3nm,0.5s	**33.43**	**316**	P	**P**	**05 06 09.3**	**+0.5**
CMAR	**Chiang Mai Arr** 1.2nm,0.3s,baz=72,slow=8.6,SNR=4.4 1.2nm,0.3s	**39.65**	**266**	P	**P**	**05 07 02.4**	**+0.4**
WRA	**Warramunga Arr** 1.0nm,0.7s,baz=17,slow=8.7,SNR=15 1.0nm,0.7s	**47.99**	**188**	P	**P**	**05 08 07.9**	**-0.9**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=12,slow=6.9,SNR=4.3 0.3nm,0.5s	**51.71**	**188**	P	**P**	**05 08 37.8**	**+0.8**
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=84,slow=8.5,SNR=1.4 0.2nm,0.4s	**51.75**	**314**	P	**P**	**05 08 36.2**	**-0.9**
ILAR	**Eielson Array** 1.2nm,1.2s,baz=270,slow=6.9,SNR=4.1 1.2nm,1.2s	**57.52**	**29**	P	**P**	**05 09 18.8**	**+0.2**

*AUST **05** 05:03:21.4±1.8, 23°31S×148°92E, h10km, Error ellipse: s-maj=28.0km s-min=18.5km az=36.0, Mining explosion.*
*IDC **05** 05:03:22.1±8.6, 23°14S×148°57E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=101.6km s-min=65.2km az=2.0*
ISC 05 05:03:19.0±0.8, 23°24S±0°05×148°86E±0°06, h0km, n9, σ0§98/13, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUNRC	**North Rockhamp** baz=1.5	**1.54**	**94**	P	**Pg**	**05 03 48.4**	**-0.1**
AUNRC	baz=1.5			S	**Sg**	**05 04 07.6**	**-0.8**
AUMOU	**Moura State Hi** baz=1.6	**1.68**	**143**	P	**Pb**	**05 03 50.2**	**-0.7**
AUMOU	baz=1.6			S	**Sn**	**05 04 11.8**	**-0.1**
EIDS	**Eidsvold** baz=2.9	**2.93**	**137**	P	**Pn**	**05 04 08.2**	**+1.3**
EIDS	baz=2.9			S	**Sb**	**05 04 49.6**	**+1.1**
RMQ	**Roma** baz=3.2	**3.23**	**182**	P	**Pn**	**05 04 10.9**	**-0.1**
RMQ	baz=3.2			S	**Sb**	**05 04 58.3**	**+1.1**
AUAYR	**Ayr State High** baz=4.0	**3.89**	**339**	S	**Sb**	**05 05 15.7**	**-0.5**
CTA	**Charters Tower** baz=4.1	**3.97**	**322**	P	**Pn**	**05 04 22.9**	**+1.7**
CTA	baz=4.1			S	**Sg**	**05 05 26.6**	**0.0**
ASAR	**Alice Springs** 0.1nm,0.3s,baz=91,slow=14,SNR=7.5	**13.74**	**265**	Pn	**Pn**	**05 06 34.5**	**-0.7**
ASAR	baz=84,slow=27,SNR=2.3 0.4nm,0.5s			Lg	Lg	05 10 30.9	
WRA	**Warramunga Arr** baz=90,slow=12,SNR=1.4	**13.90**	**281**	Pn	**Pn**	**05 06 36.8**	**-0.7**
WRA	baz=109,slow=30,SNR=2.0 0.3nm,1.0s			Lg	Lg	05 10 34.4	
I07AU	**WARRAMUNGA INF** baz=106,slow=310,SNR=3.3	**13.91**	**281**	I	I	06 27 10.0	

*BEO **05** 05:37:09.8±1.0, 40°30N×19°33E, h12km±4km, ML2.3/5*
*TIR **05** 05:37:13.3, 40°56N×19°71E, h2km±1km, Md2.5, Ml2.2*
*ATH **05** 05:37:15.8, 39°77N×19°45E, h98km±16km, ML2.5/4, Manual Solution by M.Papanikolaou This location: 2019/12/26 23:01:56 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 27 km; Longitude uncertainty: 9 km*
*THE **05** 05:37:16.0, 40°53N×19°65E, h2km±24km, ML1.9/6, Error ellipse: s-maj=24.9km s-min=0.7km az=266.0*
ISC 05 05:37:15.1±0.9, 40°54N±0°02×19°63E±0°03, h10km±7km, n29, σ1§27/50, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora** baz=241	**0.12**	**237**	P	**Pg**	**05 37 17.7**	**-0.3**
VLO	baz=241			S	**Sg**	**05 37 21.1**	**+1.1**
VLO	comp=E,54nm,0.4s,baz=241			AMP			
VLO	**Vlora**	**0.12**	**237**	P	**Pg**	**05 37 17.9**	**-0.1**
VLO	comp=E,17µm,0.4s			S	**Sg**	**05 37 20.9**	**+0.9**
SRN	**Sarande** baz=161	**0.71**	**157**	P	**Pg**	**05 37 28.2**	**-0.7**
SRN	baz=161			S	**Sb**	**05 37 39.7**	**+0.2**
SRN	comp=E,0.5nm,0.6s,baz=161			AMP			
SRN	**Sarande**	**0.71**	**157**	P	**Pg**	**05 37 29.6**	**+0.7**
SRN				S	**Sb**	**05 37 39.7**	**+0.2**
KASA	**Kassiopi**	**0.82**	**163**	P	**Pg**	**05 37 30.9**	**0.0**
KASA				S	**Sg**	**05 37 41.5**	**-0.1**
TIR	**Tirane** baz=8.0	**0.83**	**12**	P	**Pg**	**05 37 29.5**	**-1.6**
TIR	baz=8.0			S	**Sg**	**05 37 42.6**	**+0.6**
TIR	comp=E,0.2nm,0.2s,baz=8.0			AMP			
TIR	**Tirane**	**0.83**	**12**	P	**Pg**	**05 37 31.7**	**+0.6**
TIR	comp=E,68nm,0.5s			S	**Sb**	**05 37 44.0**	**+1.1**
TIR	**Tirane**	**0.83**	**12**	*e*Pg	**Pg**	**05 37 31.5**	**+0.4**
TIR				*e*Sg	**Sb**	**05 37 44.3**	**+1.4**
KEK	**Kerkira**	**0.83**	**171**	P	**Pg**	**05 37 31.1**	**-0.1**
KEK	comp=E,110nm,0.3s			S	**Sb**	**05 37 44.2**	**+1.3**
KEK	**Kerkira**	**0.83**	**171**	P	**Pg**	**05 37 30.0**	**-1.2**
KEK				S	**Sg**	**05 37 41.0**	**-1.0**
LSK	**Leskovik** baz=120	**0.83**	**117**	P	**Pg**	**05 37 29.6**	**-1.7**
LSK	baz=120			S	**Sg**	**05 37 42.4**	**+0.3**
LSK	comp=E,0.3nm,0.5s,baz=120			AMP			
LSK	**Leskovik**	**0.83**	**117**	P	**Pg**	**05 37 31.2**	**0.0**
LSK	comp=E,105nm,0.5s			S	**Sb**	**05 37 43.2**	**+0.1**
KBN	**Korca** baz=85	**0.89**	**84**	P	**Pg**	**05 37 30.1**	**-2.0**
KBN	baz=85			S	**Sg**	**05 37 43.0**	**-0.7**
KBN	**Korca**	**0.89**	**84**	P	**Pg**	**05 37 31.9**	**-0.3**
KBN	comp=E,90nm,0.5s			S	**Sg**	**05 37 43.0**	**-0.7**
SCTE	**Santa Cesarea** baz=244	**1.00**	**243**	P	**Pb**	**05 37 34.2**	**-0.4**
SCTE	comp=N,0.4nm,0.3s,baz=244			AMP			
SCTE	**Santa Cesarea**	**1.00**	**243**	P	**Pb**	**05 37 34.2**	**-0.4**
SCTE				S	**Sg**	**05 37 47.8**	**+0.4**
OHR	**Ohrid**	**1.06**	**57**	*e*Pg	**Pb**	**05 37 34.2**	**-1.3**
OHR				*e*Sg	**Sn**	**05 37 54.0**	**+3.1**
NEST	**Nestorio**	**1.09**	**96**	P	**Pg**	**05 37 36.5**	**+0.5**
NEST				S	**Sn**	**05 37 51.7**	**0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,40nm,0.7s						
NEST	Nestorio	1.09	96	P	Pb	05 37 36.2	+0.1
PENT	Pentalofos	1.20	106	P	Pg	05 37 38.7	+0.5
JAN	Janina	1.28	133	P	Pn	05 37 38.9	-0.3
FNA	Florina	1.35	79	P	Pn	05 37 39.0	-1.1
	baz=79						
FNA				S	Sg	05 37 58.9	+0.4
	baz=79						
FNA	Florina	1.35	79	*e*Pg	Pn	05 37 38.5	-1.6
FNA				*e*Sg	Sg	05 38 02.3	+3.7
FNA	Florina	1.35	79	P	Pn	05 37 39.0	-1.1
KPRO	Kipourio	1.45	113	P	Pn	05 37 41.9	+0.5
PRVS	Prvonek	2.69	42	*e*Pn	Pn	05 37 56.3	-2.2
PRVS				*e*Sn	Sn	05 38 33.3	+2.1
SJES	Sjenica	2.73	5	*e*Pn	Pn	05 37 56.3	-2.9
SJES				*e*Sn	Sn	05 38 33.1	+0.7
SELS	Selova	2.90	22	*e*Pn	Pn	05 38 01.3	-0.1
IVAS	Ivanjica	3.06	7	*e*Pn	Pn	05 38 02.1	-1.6

IDC 05 05:47:40.8±42.0, 15.70S×172.05W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=819.1km s-min=188.1km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	45.02	241	P	P	05 55 59.3	+1.0
	0.8nm,0.4s,baz=90,slow=10,SNR=3.3						
	0.8nm,0.4s						
WRA	Warramunga Arr	51.05	257	P	P	05 56 44.5	-0.7
	0.4nm,0.5s,baz=97,slow=7.1,SNR=17						
	0.4nm,0.5s						
ASAR	Alice Springs	51.26	252	P	P	05 56 46.6	-0.2
	4.7nm,0.5s,baz=88,slow=8.1,SNR=73						
	4.7nm,0.5s						

*UPA **05** 05:47:43.4±0.7, 8.63N×83.13W, h17km±4km, MW3.1*
*CATAC **05** 05:47:44.4±0.6, 8.59N×83.12W, h4km±3km, ML2.5*
ISC 05 05:47:43.5±1.1, 8.63N±0.03×83.13W±0.03, h9km±13km, n21, σ1.12/29, Costa Rica

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CDITO	Canoas	0.26	102	*i* P	Pg	05 47 49.7	+1.0
CDITO				IAML		05 47 57.9	
	comp=Z,520nm,1.0s						
PIRO	Carate, Puerto	0.30	223	*i* P	Pg	05 47 48.5	-1.0
PIRO				*i* S	Sb	05 47 55.2	-1.0
PIRO				IAML		05 47 56.9	
	comp=Z,3μm,1.0s						
MLIR3	Monte Lirio, C	0.34	61	*e*P	Pg	05 47 51.2	+0.9
CTCR	Cotoan	0.45	54	*i* P	Pb	05 47 54.1	+0.3
CTCR				IAML		05 48 02.2	
	comp=Z,3μm,1.0s						
BRU2	Volcan	0.46	69	*e*P	Pg	05 47 53.4	+0.9
BRU2				*e*S	Sb	05 48 01.7	+0.7
BRU2	Volcan	0.46	69	*i* P	Pg	05 47 52.8	+0.2
BRU2				*i* S	Sb	05 48 01.4	+0.4
BRU2				IAML		05 48 03.3	
	comp=Z,470nm,1.0s						
PTPM	Petroterminale	0.49	149	*e*P	Pg	05 47 53.6	+0.6
PTPM				*e*S	Sb	05 48 01.8	+0.2
BC3P	Paso Ancho	0.55	70	*e*P	Pg	05 47 54.6	+0.5
LIMO3	Limones	0.58	153	*e*P	Pg	05 47 55.1	+0.2
BCO2	Palmira	0.60	81	*e*P	Pg	05 47 55.5	+0.3
BCO2				*e*S	Sb	05 48 05.1	+0.2
PTAR3	Potrerillos Ar	0.63	84	*e*P	Pg	05 47 55.9	+0.2
OCHAL	Ojochal	0.69	312	*i* P	Pg	05 47 56.9	+0.1
OCHAL				IAML		05 48 08.2	
	comp=Z,2.3nm,1.0s						
DVD	David	0.70	106	*e*P	Pg	05 47 56.4	-0.5
DVD				*e*S	Sg	05 48 06.8	+0.8
LNBQ3	Los Naranjos,	0.70	77	*e*P	Pg	05 47 57.3	+0.3
GUAL3	Gualaca, Chiri	0.83	97	*e*P	Pg	05 47 58.3	-1.2
CHGR2	Aguacate	1.02	72	*e*P	Pg	05 48 01.4	-1.7
CHGR2				*e*S	Sg	05 48 15.1	-1.4
CNI2	El Empalme, Bo	1.02	39	*e*P	Pg	05 48 01.6	-1.6
CNI2				*e*S	Sg	05 48 14.3	-2.2
CDM	Cerro de Muert	1.11	326	*i* P	Pg	05 48 03.5	-1.4
CDM				IAML		05 48 27.1	
	comp=Z,51nm,1.0s						
RIMA	Rio Macho	1.34	327	*i* P	Pg	05 48 12.0	+2.7
RIMA				IAML		05 48 34.2	
	comp=Z,47nm,1.0s						
LCR2	La Lucha 2	1.40	322	*i* P	Pb	05 48 10.8	+0.8
LCR2				IAML		05 48 30.7	
	comp=Z,51nm,1.0s						
LAFE	Finca La Fe, P	2.11	304	*i* P	Pb	05 48 22.9	+0.9

*NEIC **05** 06:04:39.3±1.4, 36.61N±0.03×99.18W±0.02, h2km±5km, Error ellipse: s-maj=3.8km s-min=1.8km az=160.0*
TUL 05 06:04:38.5±1.0, 36.62N±0.03×99.20W±0.03, h2km±4km, ML2.5, mb_Lg2.5/24(NEIC), ML2.6/12(NEIC), Error ellipse: s-maj=4.8km s-min=2.4km az=132.0, Oklahoma

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.29	146	Pg	Pg	06 04 44.1	0.0
U32A				Sg	Sg	06 04 48.9	+1.1
U32A				IAML		06 04 49.4	
	comp=N,739nm,0.5s						
OK038	West end E0370	0.40	111	Pg	Pg	06 04 45.6	-0.5
OK035	E0210 Rd and N	0.40	77	Pg	Pg	06 04 45.0	-1.2
OK035				Sg	Sg	06 04 51.8	+0.3
OK035				IAML		06 04 53.3	
	comp=N,522nm,0.3s						
OK035				IAML		06 04 55.2	
	comp=N,522nm,0.2s						
ELIS	Ellis County	0.58	198	Pg	Pg	06 04 49.5	-0.2
ELIS				Sg	Sg	06 04 58.0	+0.8
ELIS				IAML		06 05 05.3	
	comp=E,366nm,0.3s						
OK032	Salt Plains WL	0.82	77	Pg	Pg	06 04 53.9	-0.3
OK032				IAML		06 05 14.5	
	comp=E,193nm,0.2s						
OK032				IAML		06 05 18.2	
	comp=E,200nm,0.2s						
CROK	Carrier	0.99	96	Pg	Pg	06 04 57.0	-0.5
CSTR	Hydro, Custer	1.06	157	Sg	Sg	06 05 12.6	+0.1
OK048	Pawnee Station	1.83	96	Pn	Pn	06 05 11.1	+0.2
R32A	Long Quarter,	1.84	12		Pn	06 05 11.1	0.0
OKCSW	OKLAHOMA CITY	1.87	130	Pn	Pn	06 05 12.1	+0.5
WMOK	Wichita Mounta	1.91	170	Pn	Pn	06 05 12.5	+0.4
OK033	Mehan	1.92	107	Pn	Pn	06 05 10.4	-1.7
FNO	Franklin	2.00	132	Pn	Pn	06 05 13.9	+0.7
OK052	Battle Ridge R	2.04	107	Pn	Pn	06 05 14.0	+0.2
OK030	Cody Creek RV	2.07	109	Pn	Pn	06 05 14.9	+0.6
T35A	Sooner Cattle	2.18	81	Pn	Pn	06 05 16.1	+0.3
T35A				IAmb_Lg		06 05 51.2	
	comp=Z,24nm,1.1s						
CBKS	Cedar Bluff	2.23	349		Pn	06 05 17.7	+1.2
W35A	Tecumseh	2.39	127	Pn	Pn	06 05 18.0	-0.7
AMTX	Amarillo	2.66	230	IAmb_Lg		06 06 05.5	
	comp=Z,28nm,1.0s						
WTFS	Witchita Falls	2.91	168	IAmb_Lg		06 06 15.6	
	comp=Z,8.0nm,0.8s						
LOOK	Love County	3.10	147	IAmb_Lg		06 06 22.8	
	comp=Z,21nm,1.2s						
APMT	Aspermont	3.38	193	Pn	Pn	06 05 32.7	+0.4
T25A	Trinidad	4.21	279	IAmb_Lg		06 06 55.6	
	comp=Z,14nm,0.8s						
S39A	Bolivar	4.81	75	IAmb_Lg		06 07 10.8	
	comp=Z,7.7nm,1.0s						
SDCO	Great Sand Dun	5.16	284	IAmb_Lg		06 07 26.1	
	comp=Z,4.7nm,1.1s						
Q24A	Divide	5.26	298	IAmb_Lg		06 07 30.1	
	comp=Z,6.2nm,0.8s						
WHAR	Wooly Hollow	5.76	101	IAmb_Lg		06 07 53.4	
	comp=Z,3.7nm,0.7s						
JCT	Junction City	6.15	185	IAmb_Lg		06 07 58.6	
	comp=Z,8.3nm,1.0s						
N23A	Red Feather La	6.78	311	IAmb_Lg		06 08 20.7	
	comp=Z,12nm,1.2s						
L40A	Anamosa	8.23	46	IAmb_Lg		06 09 02.2	
	comp=Z,9.7nm,0.9s						

*IDC **05** 06:10:36.2±1.4, 55.24N×157.86W, h0km, mb3.6/8, mbtmp3.6/11, ML3.5/3, Error ellipse: s-maj=29.9km s-min=18.8km az=164.0*
*NEIC **05** 06:10:36.8±1.8, 55.13N±0.04×157.56W±0.03, h3km±7km, Error ellipse: s-maj=6.6km s-min=0.9km az=154.0*
*AEIC **05** 06:10:40.3±1.4, 55.11N±0.05×157.55W±0.06, h26km±5km, ML3.3, ML3.5/38(NEIC), Error ellipse: s-maj=7.7km s-min=4.4km az=170.0*
ISC 05 06:10:36.5±1.4, 55.14N±0.05×157.55W±0.03, h5km±9km, n90, σ1.11/86, mb3.8/8, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNBA	Chernabura Isl	1.22	256		Pg	06 10 59.4	-0.5
CNBA					Sg	06 11 14.9	-0.8
CHGN	Chignik	1.27	338		Pg	06 11 00.8	-0.1
CHGN				IAML		06 11 21.1	
	comp=N,978nm,0.5s						
CHGN	Chignik	1.27	338		Sg	06 11 17.0	-0.2
CHIR	Chirikof Islan	1.29	57		Pg	06 11 01.6	+0.3
CHIR					Sg	06 11 17.6	-0.5
VNSG	Veniaminof 6	1.32	319		Pg	06 11 01.6	-0.3
VNSG					Sb	06 11 19.8	+0.7
VNKR	Veniaminof 5	1.37	312		Pn	06 11 02.3	-0.1
VNWF	Veniaminof 8	1.53	313		Pn	06 11 05.1	+0.5
VNSS	Veniaminof 8	1.54	316		Pn	06 11 05.6	+0.9
VNFG	Fog Glacier, M	1.62	316		Pn	06 11 06.4	+0.6
VNFG					Sn	06 11 27.0	-0.1
SDPT	Sand Point	1.69	278		Pn	06 11 06.2	-0.5
SDPT					Sn	06 11 28.3	-0.4
SDPT	Sand Point	1.69	278	IAML		06 11 32.4	
	comp=N,368nm,1.1s						
SDPT				IAML		06 11 36.2	
	comp=E,421nm,1.0s						
ANPB	Aniakchak Plen	1.72	346		Pn	06 11 07.5	+0.3
ANNE	Aniakchak Nort	1.81	351		Pn	06 11 08.8	+0.5
AZAC	Aniakchak	1.81	348		Pn	06 11 09.0	+0.6
ANNW	Aniakchak Nort	1.87	349		Pn	06 11 10.2	+0.9
SII	Sitkinak Islan	2.37	52		Pn	06 11 16.6	+0.5
SII	Sitkinak Islan	2.37	52	IAML		06 12 15.4	
	comp=N,254nm,1.2s						
SII				IAML		06 12 25.7	
	comp=E,236nm,1.2s						
PS1A	Pavlof South-1	2.42	279		Pn	06 11 16.4	-0.3
PS1A					Sn	06 11 46.2	-0.4
R16K	Pilot Point	2.44	360		Pn	06 11 17.6	+0.7
R16K	Pilot Point	2.44	360	IAML		06 12 41.3	
	comp=N,316nm,2.4s						
R16K				IAML		06 12 51.5	
	comp=E,347nm,2.2s						
PN7A	Pavlof North-7	2.56	278		Pn	06 11 18.7	-0.1
R17K	Ugashik Creek	2.59	14		Pn	06 11 20.0	+0.9
R18K	Karluk	2.98	34		Pn	06 11 25.0	+0.6
R18K	Karluk	2.98	34	IAML		06 12 32.4	
	comp=N,115nm,0.6s						
R18K				IAML		06 12 35.5	
	comp=E,126nm,0.6s						
OHAK	Old Harbor	3.17	47		Pn	06 11 27.3	+0.3
CNTC	Contact Creek	3.27	16		Pn	06 11 28.7	+0.2
ANCK	Angle Creek	3.27	19		Pn	06 11 29.3	+0.8
KABU	Katmai Buttres	3.38	21		Pn	06 11 31.1	+1.1
FALS	False Pass	3.39	268		Pn	06 11 29.9	-0.1
ISLZ	Isanotski Laza	3.58	266		Pn	06 11 32.4	-0.3
Q16K	King Salmon	3.58	7		Pn	06 11 33.8	+1.1
ISNN	Isanotski Nort	3.60	268		Pn	06 11 33.6	+0.6
KAHG	Katmai Hook Gl	3.75	25		Pn	06 11 35.8	+0.7
KAHC	Katmai Hardscr	3.79	21		Pn	06 11 36.4	+0.8
KDAK	Kodiak Island	3.82	44	IAML		06 13 02.0	
	comp=E,54nm,4.8s						
KDAK				IAML		06 13 04.8	
	comp=E,51nm,2.3s						
KDAK	Kodiak Island	3.82	44	Pn	Pn	06 11 35.8	-0.1
	comp=E,1.4nm,0.3s,baz=243,slow=6.8,SNR=46						
KDAK				Sn	Sn	06 12 16.3	-5.0
	comp=E,2.0nm,0.3s,baz=332,slow=16,SNR=1.8						
KDAK				Lg	Lg	06 12 39.5	
	comp=E,1.3nm,0.3s,baz=213,slow=18,SNR=1.5						
	comp=E,3.9nm,0.3s						
P16K	Nushagak River	3.91	357		Pn	06 11 38.1	+0.8
O15K	Ungalikthiuk R	4.24	344		Pn	06 11 41.9	+0.2
Q19K	Cape Douglas,	4.36	28	Pn	Pn	06 11 44.1	+0.7
P18K	Big Mountain,	4.45	15		Pn	06 11 44.5	-0.1
P18K	Big Mountain,	4.45	15	IAML		06 14 08.3	
	comp=N,37nm,4.8s						
P18K				IAML		06 14 43.6	
	comp=E,35nm,4.1s						
O16K	Kokwok River B	4.48	356		Pn	06 11 45.2	+0.2
O16K	Kokwok River B	4.48	356	IAML		06 12 56.9	
	comp=N,31nm,3.2s						
SYI	Shuyak Island	4.49	37		Pn	06 11 45.6	+0.6
SYI	Shuyak Island	4.49	37	IAML		06 13 08.8	
	comp=N,66nm,3.4s						
SYI				IAML		06 13 30.8	
	comp=E,59nm,3.6s						
O14K	Tigyukauivet M	4.60	335		Pn	06 11 46.9	+0.3
O14K	Tigyukauivet M	4.60	335	IAML		06 13 18.1	
	comp=N,52nm,2.0s						
O14K				IAML		06 13 29.3	
	comp=E,40nm,2.2s						
O17K	Koliganek Bris	4.66	3		Pn	06 11 47.8	+0.3
AKSA	Akutan Strait	4.84	261		Pn	06 11 50.5	+0.6
AKUT	Akutan	4.88	262	Pn	Pn	06 11 51.1	+0.5
O18K	Koktuh Hills	4.90	14		Pn	06 11 51.1	+0.3
O18K	Koktuh Hills	4.90	14	IAML		06 12 59.6	
	comp=N,38nm,2.8s						
O18K				IAML		06 13 14.4	
	comp=E,27nm,3.4s						
N15K	Kwethluk River	5.23	346		Pn	06 11 55.8	+0.5
N14K	Kuskokwak Cree	5.29	337		Pn	06 11 56.6	+0.5
UNV	Unalaska Valle	5.38	260		Pn	06 11 56.7	-0.7
ILSW	Iliamna Southw	5.41	24	Pn	Pn	06 11 59.7	+1.8
MSW	Makushin Switc	5.52	261		Pn	06 11 58.8	-0.4
CNPM	China Poot	5.57	35		Pn	06 12 00.2	+0.2
N18K	Kilae Creek	5.63	8		Pn	06 12 01.4	+0.6
MAPS	Pakushin South	5.64	260		Pn	06 12 00.4	-0.6
BRLK	Bradley Lake	5.87	35		Pn	06 12 03.7	-0.4
BRSE	Bradley Lake S	5.90	36		Pn	06 12 04.2	-0.3
N19K	Bonanza Creek	5.92	15		Pn	06 12 05.8	+0.9
RSO	Redoubt South	5.92	24	Pn	Pn	06 12 06.6	+1.6
M16K	Timber Creek	5.95	353		Pn	06 12 05.8	+0.6
M14K	Bethel	6.10	339		Pn	06 12 08.2	+0.9
M13K	Dall Lake	6.13	332		Pn	06 12 08.3	+0.6
L14K	Kuka Creek	6.79	339		Pn	06 12 17.2	+0.6
L18K	Granite Mounta	7.12	3	Pn	Pn	06 12 25.2	+4.0
RC01	Rabbit Creek A	7.26	32	Pn	Pn	06 12 25.2	+2.0
K17K	Iditarod	7.61	357		Pn	06 12 28.9	+0.9
K13K	Kusilvak Mount	7.76	334		Pn	06 12 31.4	+1.4
KNK	Knik Glacier	7.90	34	Pn	Pn	06 12 33.9	+1.9
GHO	Glory Hole Cre	8.04	31	Pn	Pn	06 12 35.3	+1.4
SML	Sawmill	8.24	32	Pn	Pn	06 12 36.6	-0.1
J16K	Anvik River	8.32	350		Pn	06 12 38.4	+0.7
CAST	Castle Rocks	8.76	16	Pn	Pn	06 12 45.4	+1.6
ISLE	Juniper Island	9.77	50	Pn	Pn	06 12 58.4	+0.8
GRNC	Granite Creek	10.08	50	Pn	Pn	06 13 03.9	+1.9
TABL	Table Mountain	10.23	52	Pn	Pn	06 13 05.1	+1.1
ILAR	Eielson Array	11.02	24	Pn	Pn	06 13 10.2	-4.5
	comp=E,0.1nm,0.3s,baz=221,slow=13,SNR=4.7						
	comp=E,0.2nm,0.5s						
INK	Inuvik	17.25	31	Pn	Pn	06 14 37.3	-0.5
	comp=E,0.4nm,0.3s,baz=198,slow=8.8,SNR=18						
	comp=E,1.0nm,0.3s						
YKA	Yellowknife Ar	23.03	54	P	P	06 15 42.3	+0.2
	comp=E,0.3nm,0.7s,baz=238,slow=8.8,SNR=5.3						
	comp=E,0.3nm,0.7s						
PETK	Petropavlovsk-	25.97	284	P	P	06 16 08.7	-1.1
	comp=E,2.4nm,0.8s,baz=72,slow=11,SNR=1.7						
	comp=E,2.4nm,0.8s						
PDAR	Pinedale Array	33.19	92	P	P	06 17 16.8	+2.7
	comp=E,0.3nm,0.4s,baz=308,slow=9.0,SNR=2.7						
	comp=E,0.3nm,0.4s						
TXAR	Lajitas Array	46.01	101	P	P	06 19 02.8	+2.0
	comp=E,0.1nm,0.6s,baz=327,slow=6.6,SNR=2.8						
	comp=E,0.1nm,0.6s						
ARCES	ARCESS Array B	55.62	359	P	P	06 20 11.1	-1.5
	comp=E,2.7nm,0.9s,baz=17,slow=7.5,SNR=1.3						
	comp=E,2.7nm,0.9s						
BVAR	Borovoye Array	65.16	330	P	P	06 21 17.7	-0.4
	comp=E,0.3nm,0.4s,baz=19,slow=9.2,SNR=2.0						
	comp=E,0.3nm,0.4s						
MKAR	Makanchi Array	66.63	320	P	P	06 21 27.2	-0.5
	comp=E,0.5nm,0.8s,baz=9.7,slow=6.2,SNR=2.5						
	comp=E,0.5nm,0.8s						
EKA	Eskdalemuir Ar	67.91	15	P	P	06 21 35.2	-0.4
	comp=E,1.9nm,0.9s,baz=326,slow=7.2,SNR=1.3						
	comp=E,1.9nm,0.9s						

*STR **05** 06:28:50.7±0.4, 45°N±2°×°±°, h5km, MLv1.4/10, Error ellipse: s-maj=0.0km s-min=0.0km az=83.3, preliminary*
LDG 05 06:28:50.6±0.1, 45.42N×6.34E, h2km, Md1.6/2, Ml1.6/2, Error ellipse: s-maj=1.6km s-min=1.2km az=106.0, France

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GDM	Grand'Maison	0.27	216	Pg	Pg	06 28 56.0	+0.3
GDM				Sg	Sg	06 28 59.4	+0.2
LPL	La Plagne	0.30	71	*e*Pg	Pg	06 28 56.7	+0.4
LPL				*e*Sg	Sg	06 28 59.9	-0.3
	15nm,0.4s						
LPG	La Plagne	0.30	75	*e*Pg	Pg	06 28 56.9	+0.4
LPG				*e*Sg	Sg	06 29 00.8	+0.3
	11nm,0.2s						
RSL	Roselend	0.34	37	Pg	Pg	06 28 57.1	0.0
RSL				Sg	Sg	06 29 01.2	-0.4
LSD	Lago del Serru	0.56	86	Sg	Sg	06 29 08.4	-0.3
LSD	Lago del Serru	0.56	86	Pg	Pg	06 29 00.4	-1.1
RRL	Rocca Remolon	0.59	147	Pg	Pb	06 29 03.1	-0.8
RRL	Rocca Remolon	0.59	147	Sg	Sg	06 29 10.6	+1.0
ORIF	Oris-en-Rattie	0.59	213	*e*Pg	Pg	06 29 01.5	-0.5
ORIF				*e*Sg	Sg	06 29 09.3	-0.4
	12nm,0.3s						
ORIF	Oris-en-Rattie	0.59	213	Pg	Pg	06 29 02.0	0.0
RSP	Reno Superiore	0.71	112	Pg	Pg	06 29 04.7	+0.5
RSP	Reno Superiore	0.71	112	Sg	Sg	06 29 13.6	+0.2
OGSI	Sixt	0.71	24	Pg	Pg	06 29 03.5	-0.7
MBDF	Montbardon	0.76	156	*e*Pg	Pg	06 29 04.5	-0.6
MBDF				*e*Sg	Sg	06 29 14.5	-0.4
	5.6nm,0.6s						
OG35	Corcelles	0.82	320	Pg	Pg	06 29 06.5	+0.1
OG35				Sg	Sg	06 29 17.3	+0.2
CREF	Crivoux	0.89	167	Pg	Pg	06 29 07.9	+0.2
CREF				Sg	Sg	06 29 20.1	+0.9
OGAG	Argentiere	0.97	171	Pg	Pg	06 29 03.5	-5.8
CABF	La Chapelle	1.21	352	*e*Pg	Pg	06 29 13.6	-0.1
CABF	La Chapelle	1.21	352	*e*P	Pn	06 29 14.6	0.0
CABF				*e*Sg	Sg	06 29 29.7	+0.4
	0.5nm,0.2s						
VIVF	Saint-Julien-l	1.30	245	*e*Pg	Pg	06 29 14.5	-1.1
VIVF				*e*Sg	Sg	06 29 31.4	-1.1
	1.7nm,0.2s						

ZUR 05 06:28:55.5, 46.33N×7.38E, h4km±1km, MLh-0.2/2, 1C-1D, Error ellipse: s-maj=2625.7km s-min=843.4km az=103.0, Switzerland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STSW2	Zeuzier, Staus	0.04	63	⇑Pg	Pg	06 28 57.0	+0.2
STSW2				Sg	Sg	06 28 58.1	+0.3
SENIN	Lac Senin/Sane	0.07	303	⇓Pg	Pg	06 28 57.3	+0.1
SENIN				Sg	Sg	06 28 58.6	+0.2
LKBD2	Leukerbad 2	0.19	75	Sg	Sg	06 29 02.3	+0.6
GRYON	Gryon	0.20	248	Sg	Sg	06 29 02.7	+0.5

IDC 05 06:30:00.9±1.4, 2.22N×125.42E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=152.4km s-min=22.3km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.70	159	P	P	06 35 13.9	-0.8
	0.7nm,0.5s,baz=336,slow=10,SNR=19						
	0.7nm,0.5s						
ASAR	Alice Springs	27.02	163	P	P	06 35 45.7	+0.7
	0.3nm,0.3s,baz=339,slow=7.2,SNR=8.4						
	0.3nm,0.3s						
SONM	Songino Array	48.33	343	P	P	06 38 43.9	-0.4
	0.1nm,0.4s,baz=147,slow=7.5,SNR=1.5						
	0.1nm,0.4s						
MKAR	Makanchi Array	58.06	326	P	P	06 39 56.2	+0.2
	0.3nm,0.7s,baz=122,slow=6.5,SNR=2.1						
	0.3nm,0.7s						

IDC 05 07:13:59.9±4.7, 53.50N×90.84E, h0km, mbtmp2.8/3, ML2.3/3, Error ellipse: s-maj=49.4km s-min=29.2km az=40.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	3.61	280	Pn	Pn	07 14 58.3	+1.3
	0.5nm,0.3s,baz=97,slow=16,SNR=7.4						
ZALV				Lg	Lg	07 15 53.5	
	1.3nm,0.3s,baz=96,slow=31,SNR=8.8						
	1.4nm,0.4s						
KURBB	Kurchatov Arra	8.12	254	Pn	Pn	07 15 58.2	-0.7
	0.1nm,0.3s,baz=65,slow=15,SNR=6.3						
KURBB				Lg	Lg	07 18 20.9	
	baz=72,slow=33						
	0.4nm,0.5s						
MKAR	Makanchi Array	8.67	223	Pn	Pn	07 16 07.7	+1.1
	0.1nm,0.3s,baz=40,slow=17,SNR=2.3						
	0.2nm,0.5s						
SONM	Songino Array	11.37	114	Lg	Lg	07 19 53.9	
	0.1nm,0.3s,baz=301,slow=26,SNR=3.1						
I34MN	SONGINO INFRAS	11.40	114	I	I	08 18 40.0	
	baz=304,slow=325,SNR=1.1						

IDC 05 07:14:07.4±2.6, 4.20S×138.65E, h0km, mb3.5/3, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=131.2km s-min=25.0km az=82.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.20	195	Pn	P	07 17 58.4	-1.5
	0.1nm,0.3s,baz=10,slow=12,SNR=9.9						
	0.3nm,0.4s						
ASAR	Alice Springs	19.89	193	P	P	07 18 40.1	-0.4
	0.1nm,0.3s,baz=24,slow=9.8,SNR=7.2						
	0.4nm,0.6s						
STKA	Stephens Creek	27.67	175	P	P	07 19 56.9	-0.3
	1.3nm,0.6s,baz=337,slow=10,SNR=2.8						
	1.3nm,0.6s						
SONM	Songino Array	59.04	335	P	P	07 24 10.0	+0.6
	0.2nm,0.6s,baz=139,slow=6.8,SNR=2.0						
	0.2nm,0.6s						
MKAR	Makanchi Array	70.93	323	P	P	07 25 26.1	-0.6
	0.3nm,0.8s,baz=134,slow=4.2,SNR=1.8						
	0.3nm,0.8s						

*NIED **05** 07:25:33.3, 37.06N×141.19E, h49km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.15; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$-1.03; $M_{r\theta}$1.20; $M_{\theta\phi}$-0.45; $M_{\phi r}$2.84; Fault plane solution: $M_0$3.30000×10^{14} NP1:ϕ_s23.00000°, δ79.00000°, λ90.00000°. NP2:ϕ_s202.00000°, δ11.00000°, λ89.00000°.*
*JMA **05** 07:25:33.3±0.1, 37.1N±0.4×141.2E±0.8, h49km±1km, MV3.9/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*IDC **05** 07:25:36.2±4.0, 36.91N×141.23E, h73km±33km, mb3.4/6, mbtmp3.7/8, ML2.7/2, MS2.4/1, Error ellipse: s-maj=32.3km s-min=23.5km az=90.0*
ISC 05 07:25:32.0±1.7, 37.02N±0.05×141.35E±0.08, h32km±9km, n20, σ0.87/28, mb3.7/6, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.45	280	⇓*i*P	Pb	07 25 42.5	+0.7
ONAJ				⇓S	Sb	07 25 48.6	+0.1
JFK	Kawauchi	0.51	312	⇓*i*P	Pb	07 25 43.2	+0.4
JFK				⇓S	Sb	07 25 50.0	-0.2
JFFD	Fukushimafurud	0.64	277	⇓*i*P	Pb	07 25 44.6	-0.2
JFFD				⇓*e*S	Sb	07 25 52.4	-1.1
JHO	Hitachi	0.75	237	⇓*i*P	Pn	07 25 46.2	-0.1
JHO				⇓S	Sb	07 25 55.3	-1.2
JMM	Marumori	0.95	332	⇓*i*P	Pn	07 25 49.0	-0.1
JMM				⇓S	Sn	07 26 00.4	-1.1
JOTO	OTAMA OYAMA	0.97	304	*i* P	Pn	07 25 49.8	+0.4
JOTO				S	Sn	07 26 01.6	-0.6
JFY	Yanaizu	1.37	287	*i* P	Pn	07 25 54.7	-0.1
JIO	Ouri	1.43	360	*i* P	Pn	07 25 56.0	+0.3
JIO				S	Sn	07 26 12.3	-1.1
JOU	Okura	1.45	338	*i* P	Pn	07 25 56.2	+0.2
JOU				S	Sn	07 26 14.0	+0.2
JYS	Shirataka	1.57	320	P	Pn	07 25 58.2	+0.5
JYS				*e*S	Sn	07 26 16.6	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JAG	Ashikaga	1.64	249	iP	Pn	07 25 58.4	-0.1
MJAR	Matsushiro Arr	2.57	260	P	Pn	07 26 11.9	+0.6
	1.3nm,0.3s,baz=85,slow=15,SNR=7.4						
MJAR				S	Sn	07 26 43.6	+2.2
	9.2nm,0.4s,baz=89,slow=26,SNR=3.0						
	52nm,0.5s						
USRK	Ussuriysk Ar.	10.10	318	P	Pn	07 27 60.0	+5.3
	0.1nm,0.3s,baz=125,slow=14,SNR=4.3						
	2.1nm,0.6s						
KSRS	Korea Array	10.72	276	LR	LR	07 31 42.5	
	comp=Z,21nm,19.4s,baz=110,slow=34						
SONM	Songino Array	27.75	304	P	P	07 31 17.1	-0.5
	0.4nm,0.6s,baz=102,slow=7.9,SNR=2.7						
	0.4nm,0.6s						
ZALV	Zalesovo Beam	41.89	312	P	P	07 33 18.4	-0.6
	1.5nm,0.6s,baz=108,slow=8.0,SNR=5.5						
	1.5nm,0.6s						
KURBB	Kurchatov Arra	45.97	308	P	P	07 33 50.7	-1.1
	1.0nm,0.6s,baz=84,slow=7.6,SNR=6.5						
	1.0nm,0.6s						
ILAR	Eielson Array	49.53	32	P	P	07 34 20.0	+0.8
	0.3nm,0.8s,baz=231,slow=11,SNR=2.3						
	0.3nm,0.8s						
WRA	Warramunga Arr	57.04	188	P	P	07 35 13.8	-1.0
	0.3nm,0.5s,baz=4.8,slow=7.2,SNR=7.2						
	0.3nm,0.5s						
HFS	Hagfors	74.08	336	P	P	07 37 06.1	+1.7
	2.9nm,0.9s,baz=99,slow=8.9,SNR=1.7						
	2.9nm,0.9s						

*THR **05** 07:26:40.1±0.6,27°.68N×51°.77E,h24km±7km,ML4.8*
*MOS **05** 07:26:41.4±1.2,27°.80N×52°.00E,h18km,mb5.0/48, MS4.1/10,Error ellipse: s-maj=6.0km s-min=3.7km az=111.5*
*NEIC **05** 07:26:43.0±1.9,27°.87N±0°.08×51°.94E±0°.08,h10km±1km, mb4.9/83,Error ellipse: s-maj=13.3km s-min=11.6km az=208.0*
*BJI **05** 07:26:42.0,27°.90N×52°.00E,h10km,mb4.8/51,mB5.0/25, Ms4.6/33,Ms7 4.3/31*
*TEH **05** 07:26:42.7,27°.85N×51°.93E,h19km±23km,ML4.9*
*GCMT **05** 07:26:42.0±0.3,27°.64N±0°.02×51°.83E±0°.02,h13km±1km, MW4.9/90,Moment Tensor Solution. s19,c21; s90,c117; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.96±.12; $M_{\theta\theta}$-1.49±.10; $M_{\phi\phi}$0.53±.10; $M_{r\theta}$-0.60±.25; $M_{\theta\phi}$2.18±.10; $M_{\phi r}$-0.40±.24; Best double couple: $M_0$2.58300×10^{16} NP1:ϕ_s261.00000°,δ74.00000°,λ23.00000°. NP2: ϕ_s165.00000°,δ68.00000°,λ163.00000°. Principal axes: T 2.2610, Plg27.0000°, Azm124.0000°; N 0.6400, Plg62.0000°, Azm293.0000°; P -2.9050, Plg4.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **05** 07:26:43.0±1.8,27°.79N×51°.90E,h21km±10km,mb4.2/30, mbtmp4.4/37,ML4.4/7,MS4.1/65 Error ellipse: s-maj=12.1km s-min=10.4km az=168.0*
*OMAN **05** 07:26:45.5±0.8,27°.80N×52°.12E,h18km,mb5.6/10, ml5.0/12,Mwp5.2/4,Error ellipse: s-maj=8.6km s-min=4.1km az=172.0*
*SGS **05** 07:26:46.7,27°.92N×51°.79E,h20km,Ml4.8*
*DSN **05** 07:26:48.0±0.7,27°.68N×52°.26E,h15km,mb5.0/1, ML4.7/12,Error ellipse: s-maj=17.1km s-min=6.4km az=47.0*
*NAO **05** 07:27:22.4,31°.27N×48°.22E,h33km,mb4.7*
ISC 05 07:26:43.5±0.4,**27°.91N**±0°.03×**51°.99E**±0°.02,**h19**km±1km, **h20**km**:pP-P,n607,**σ1s**.78**/655,**mb4.9**/146,**MS4.2**/79, **36C-8D,Persian Gulf**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DSBU	Dashti - Bushe	0.78	305	Pg	Pb	07 26 57.7	-0.9
GHIR	Ghir-Karzin	0.96	67	ePg	Pg	07 27 02.7	+0.5
GHIR				IAML		07 27 25.5	
	comp=E,16μm,0.5s						
GHIR				IAML		07 27 26.8	
	comp=N,16μm,0.4s						
LMD1	Lamerd	1.19	118	Pg	Pb	07 27 05.7	+0.2
LMD1				Sg	Sg	07 27 22.5	+0.3
JHRM	Jahrom	1.52	67	Pg	Pg	07 27 12.6	-0.4
JHRM				Sg	Sg	07 27 34.0	+1.2
SHI	Shiraz	1.78	15	Pn	Pb	07 27 16.0	+0.3
LAR1	LAR	2.13	96	Pn	Pn	07 27 19.5	+1.4
SHMA	Al-Shehemyia	2.24	204	P	Pn	07 27 20.7	+1.1
	SNR=124						
SHMA				S	Sb	07 27 50.6	-0.2
SAKB	Bahrain	2.32	214	P	Pn	07 27 21.5	+0.8
SAKB	Bahrain	2.32	214	Pn	Pn	07 27 21.4	+0.7
JRN	Qarnain Island	3.06	165	P	Pn	07 27 31.3	+0.5
JRN				S	Sn	07 28 08.5	+1.6
JRN	Qarnain Island	3.06	165	Pn	Pn	07 27 31.3	+0.5
ABEH	Behbahan	3.08	331	Pn	Pn	07 27 32.8	+1.7
BOQSS		3.10	229	P	Pn	07 27 31.6	+0.3
BOQSS		3.10	229	S	Sg	07 28 23.3	+0.2
KLNJ	Kolanjah	3.10	354	Pn	Pn	07 27 33.4	+1.6
TRNA	Turayna	3.24	193	P	Pn	07 27 33.1	-0.2
	SNR=45						
TRNA				S	Sn	07 28 11.1	-0.3
SMRA	Abu-Samra	3.32	199	P	Pn	07 27 35.0	+0.5
	SNR=10						
SMRA				S	Sn	07 28 14.8	+1.4
ESRB	Sir Abu	3.35	143	Pn	Pn	07 27 35.5	+0.6
BNDS	Bandar-Abbas	3.75	97	ePn	Pn	07 27 41.0	+0.6
BNDS				IAML		07 29 01.3	
	comp=E,652nm,0.3s						
GENO	Geno	3.75	97	Pn	Pn	07 27 41.0	+0.5
IRAM	Ramesheh	3.90	5	Pn	Pn	07 27 44.3	+1.7
SMAN	Sihmah	3.90	245	P	Pn	07 27 41.2	-1.3
GHWR	Ruwais	4.01	168	Pn	Pn	07 27 45.9	+1.9
IBRJ	Brojen	4.03	351	Pn	Pn	07 27 45.6	+1.2
UMQ	Umm Al-Quwin	4.06	125	iP	Pn	07 27 46.0	+1.4
	SNR=37						
UMQ	Umm Al-Quwin	4.06	125	P	Pn	07 27 46.3	+1.7
	SNR=36						
UMQ	Umm Al-Quwin	4.06	125	Pn	Pn	07 27 46.3	+1.7
IBND	Bandar-abas	4.06	95	Pn	Pn	07 27 45.6	+0.9
SHME	Shamm	4.15	116	iP	Pn	07 27 46.6	+0.8
	SNR=27						
SHME	Shamm	4.15	116	P	Pn	07 27 46.6	+0.8
	SNR=27						
SHME				S	Sn	07 28 33.5	-0.3
SHME	Shamm	4.15	116	Pn	Pn	07 27 46.0	+0.2
NHRD	Haradh	4.15	221	P	Pn	07 27 46.4	+0.5
IMEH	Mehriz	4.15	33	Pn	Pn	07 27 48.8	+2.7
ISAD	Sadrabad	4.25	20	Pn	Pn	07 27 49.8	+2.3
AJN	Ajban	4.29	140	iP	Pn	07 27 48.8	+1.1
	SNR=21						
AJN	Ajban	4.29	140	P	Pn	07 27 48.9	+1.1
	SNR=21						
AJN				P	Pn	07 27 48.9	+1.1
	SNR=21						
AJN				S	Sn	07 28 39.1	+1.8
AJN				S	Sn	07 28 39.1	+1.8
AJN	Ajban	4.29	140	Pn	Pn	07 27 48.9	+1.1
ZNGN	Zangian	4.30	347	Pn	Pn	07 27 49.6	+1.3
NAZ	Nazwa, Dubai	4.40	131	iP	Pn	07 27 50.8	+1.5
	SNR=117						
NAZ	Nazwa, Dubai	4.40	131	P	Pn	07 27 50.8	+1.5
	SNR=117						
NAZ				S	Sn	07 28 41.1	+1.1
AMIS	Naft Sefid	4.41	329	Pn	Pn	07 27 50.8	+1.3
ASUD	Al Ashush, Dub	4.44	137	iP	Pn	07 27 51.2	+1.4
	SNR=316						
ASUD	Al Ashush, Dub	4.44	137	P	Pn	07 27 51.2	+1.4
	SNR=316						
ASUD				S	Sn	07 28 42.1	+1.1
JHBN	Jahan bin	4.45	345	Pn	Pn	07 27 51.9	+1.6
IGAR	Gharneh	4.47	1	Pn	Pn	07 27 52.4	+1.9
NGRK	Negar Kerman	4.51	66	Pn	Pn	07 27 52.8	+1.7
MASF	Masafi	4.51	123	P	Pn	07 27 51.8	+0.9
	SNR=191						
MASF				S	Sn	07 28 42.7	-0.2
MSFE	Esma-Masafi	4.52	123	iP	Pn	07 27 51.8	+0.8
	SNR=192						
FAQ	Al Faqa, Dubai	4.52	133	iP	Pn	07 27 52.0	+1.0
	SNR=60						
FAQ	Al Faqa, Dubai	4.52	133	P	Pn	07 27 51.8	+0.9
	SNR=60						
FAQ				S	Sn	07 28 44.1	+1.1
KHGB	Koh Gabri	4.63	57	Pn	Pn	07 27 54.8	+2.2
KRBR	Kerman	4.66	63	ePn	Pn	07 27 56.0	+2.8
KRBR				IAML		07 28 54.7	
	comp=N,497nm,0.3s						
KRBR				IAML		07 28 57.1	
	comp=E,758nm,1.2s						
TVBK	TV Kerman	4.67	63	Pn	Pn	07 27 55.4	+2.1
ICHK	Chekchek	4.80	25	Pn	Pn	07 27 57.8	+2.8
UOSS	Minazif	4.80	127	Pn	Pn	07 27 55.2	+0.4
UOSS	Minazif	4.80	127	iP	Pn	07 27 55.1	+0.2
	SNR=376						
UOSS	Minazif	4.80	127	P	Pn	07 27 55.2	+0.4
UOSS				S	Sn	07 28 49.1	-0.8
IBAF	Bafgh	4.81	39	Pn	Pn	07 27 57.3	+2.2
HATD	Hatta, Dubai	4.83	129	iP	Pn	07 27 55.7	+0.5
	SNR=34						
HATD				S	Sn	07 28 47.2	-3.3
HATD	Hatta, Dubai	4.83	129	P	Pn	07 27 55.6	+0.5
	SNR=34						
HATD				P	Pn	07 27 55.6	+0.5
	SNR=34						
HATD				S	Sn	07 28 50.7	+0.1
HATD				S	Sn	07 28 50.7	+0.1
IPIR	Pirpir	4.85	349	Pn	Pn	07 27 56.9	+1.2
ASHO	Ashiyiah	4.87	130	iP	Pn	07 27 56.4	+0.6
	SNR=516						
ASHO	Ashiyiah	4.87	130	P	Pn	07 27 56.4	+0.6
	SNR=516						
ASHO				S	Sn	07 28 51.4	-0.2
NASN	Na'in	4.92	8	ePn	Pn	07 27 57.5	+0.8
IZEF	Zefreh	4.97	3	Pn	Pn	07 27 59.5	+2.0
YZKH	Yazd	5.00	26	ePn	Pn	07 28 00.7	+3.1
ZRDN	Zarand Kerman	5.00	51	Pn	Pn	07 27 59.9	+2.2
KHNJ	Kahnooj	5.06	88	Pn	Pn	07 27 59.2	+0.8
MZR	Muzera	5.07	164	iP	Pn	07 27 58.7	+0.1
	SNR=6.7						
MZR	Muzera	5.07	164	P	Pn	07 27 58.8	+0.2
	SNR=6.8						
MZR				S	Sn	07 28 56.2	-0.5
ALNE	Al Ain	5.12	138	iP	Pn	07 27 59.8	+0.5
	SNR=69						
ALNE	Al Ain	5.12	138	P	Pn	07 27 59.8	+0.5
	SNR=69						
ALNE				S	Sn	07 28 59.0	+1.2
RMAH	Rumah	5.24	242	P	Pn	07 28 00.3	-0.5
RMAH	Rumah	5.24	242	S	Sg	07 29 32.0	+0.3
CHMN	Cheshme madani	5.24	67	Pn	Pn	07 28 03.9	+2.7
RQBS	RQBS	5.38	265	P	Pn	07 28 01.5	-1.3
IKLH	Kolahrood	5.40	356	Pn	Pn	07 28 04.5	+1.2
ANAR	Anarak	5.47	16	Pn	Pn	07 28 06.5	+2.4
SOHO	SOHO	5.56	132	iP	Pn	07 28 05.4	+0.2
	SNR=143						
SOHO	SOHO	5.56	132	P	Pn	07 28 05.4	+0.2
SOHO				S	Sn	07 29 09.0	+0.5
JASK	Jask - Hormozg	5.63	110	P	Pn	07 28 06.7	+0.4
	SNR=28						
JASK				S	Sn	07 29 11.4	+1.0
JASK	Jask - Hormozg	5.63	110	Pn	Pn	07 28 06.6	+0.4
KBAM	BAM	5.82	76	Pn	Pn	07 28 11.4	+2.5
QAMS	Qamsar	5.83	355	Pn	Pn	07 28 10.6	+1.5
MJMS	Al Majmaah	5.95	253	P	Pn	07 28 09.4	-1.2
KHMZ	Khomeyn	6.06	344	ePn	Pn	07 28 13.7	+1.4
ARQ	Araqi	6.12	137	P	Pn	07 28 13.1	0.0
	SNR=154						
ARQ				S	Sn	07 29 22.9	+0.3
ISFB	Sefidab	6.42	2	Pn	Pn	07 28 18.1	+0.9
HOQ	Hoqain	6.45	131	P	Pn	07 28 16.8	-0.8
	SNR=46						
HOQ				S	Sn	07 29 28.9	-1.8
HOQ	Hoqain	6.45	131	Pn	Pn	07 28 17.6	0.0
TPRV	Parvadeh(Tabas	6.51	37	Pn	Pn	07 28 20.4	+2.0
GHVR	GHOM	6.57	355	ePn	Pn	07 28 20.7	+1.5
IKFM	Kafar-mosalman	6.63	329	Pn	Pn	07 28 20.5	+0.6
ASYS		6.79	268	P	Pn	07 28 20.9	-1.3
ASAO	Ashtian	6.82	346	ePn	Pn	07 28 24.3	+1.4
IQOM	Qom	6.95	354	Pn	Pn	07 28 25.2	+0.6
BSY	Bisya	6.98	136	P	Pn	07 28 24.6	-0.2
	SNR=600						
BSY				P	Pn	07 28 24.6	-0.2
	SNR=600						
BSY				S	Sn	07 29 41.0	-2.6
BSY				S	Sn	07 29 41.0	-2.6
BIDO	Bidbid	7.06	127	P	Pn	07 28 25.0	-0.8
	SNR=23						
BIDO				S	Sn	07 29 44.8	-0.7
IVRN	Varamin	7.06	358	Pn	Pn	07 28 26.9	+0.9
TKDS	Koohdasht(Taba	7.20	37	Pn	Pn	07 28 29.3	+1.5
TNSJ	Nastanj	7.22	32	Pn	Pn	07 28 30.3	+2.2
TABS	Tabas	7.22	36	ePn	Pn	07 28 30.4	+2.2
DWDS	Al Duwadimi	7.25	244	P	Pn	07 28 27.2	-1.4
LYLS		7.26	217	P	Pn	07 28 27.7	-0.9
HAGD	Aghdareh	7.30	341	Pn	Pn	07 28 30.7	+1.3
SMDO	Samad	7.30	130	P	Pn	07 28 29.4	+0.1
	SNR=66						
SMDO				S	Sn	07 29 50.8	-1.0
IKOM	Komasi	7.33	330	Pn	Pn	07 28 31.4	+1.7
BSRN	Basiran	7.39	55	ePn	Pn	07 28 33.2	+2.6
BSRN	Basiran	7.39	55	Pn	Pn	07 28 31.6	+1.1
IBZA	Bozab	7.43	333	Pn	Pn	07 28 31.7	+0.6
ILBA	Ilam Banvizeh	7.56	320	ePn	Pn	07 28 32.2	-0.6
ILBA	Ilam Banvizeh	7.56	320	Pn	Pn	07 28 32.4	-0.4
WSAR	Wadi Sarin	7.59	126	P	Pn	07 28 33.3	+0.2
	SNR=115						
WSAR				S	Sn	07 29 56.1	-2.6
WSAR	Wadi Sarin	7.59	126	Pn	Pn	07 28 32.2	-1.0
	comp=E,23nm,0.3s,baz=315,slow=8.2,SNR=135						
WSAR				Sn	Sn	07 29 57.0	-1.8
	comp=E,9.9nm,0.3s,baz=44,slow=19,SNR=2.6						
WSAR				LR	LR	07 31 56.8	
	comp=E,1μm,18.0s,baz=315,slow=41						
	comp=E,54nm,0.3s						
KCHF	Cheshme Sefid,	7.63	327	Pn	Pn	07 28 34.3	+0.5
IDMV	Damavand	7.64	0	Pn	Pn	07 28 34.5	+0.4
ITEG	Tejag	7.66	48	Pn	Pn	07 28 36.2	+1.9
DAMV	Damavand	7.69	360	ePn	Pn	07 28 36.0	+1.2
IANJ	Anjilo	7.71	12	Pn	Pn	07 28 36.0	+1.0
IFIR	Firoozkooh	7.73	5	Pn	Pn	07 28 32.4	-2.9
JMDO	Jabal Madar	7.82	134	P	Pn	07 28 35.6	-0.7
	SNR=22						
JMDO				S	Sn	07 30 01.6	-2.8
NHDN	Nehbandan	7.83	62	Pn	Pn	07 28 38.0	+1.5
ZHDN	Zahedan	7.89	77	Pn	Pn	07 28 39.3	+1.8
ZHSF	Zahedan	7.90	76	ePn	Pn	07 28 36.8	-0.7
IGHG	Ghaleghazi	7.90	325	Pn	Pn	07 28 38.3	+0.6
CHBR	Chabahar	7.94	105	ePn	Pn	07 28 38.0	+0.2
CHBR	Chabahar	7.94	105	Pn	Pn	07 28 37.7	-0.2
CHTH	Charan	8.00	355	ePn	Pn	07 28 40.2	+1.2
THKV	Tehran--Karaj	8.03	354	ePn	Pn	07 28 41.2	+1.8
AFRZ	Afriz	8.17	46	Pn	Pn	07 28 41.9	+0.6
IALA	Alasht	8.18	5	Pn	Pn	07 28 42.9	+1.5
SNGE	Sanandaj	8.18	332	ePn	Pn	07 28 41.7	+0.3
ILIN	Lien	8.20	330	Pn	Pn	07 28 42.7	+1.0
WBK	Wadi Bani Khal	8.23	128	P	Pn	07 28 41.7	-0.3
	SNR=193						
WBK				S	Sn	07 30 11.3	-3.3
WBK	Wadi Bani Khal	8.23	128	Pn	Pn	07 28 41.8	-0.3
IDHR	Dehrash	8.29	326	Pn	Pn	07 28 42.5	-0.4
NGCH	Negor - Chabah	8.57	105	P	Pn	07 28 47.3	+0.7
	SNR=31						
NGCH				S	Sn	07 30 20.9	-1.9
	SNR=9.0						
NGCH	Negor - Chabah	8.57	105	Pn	Pn	07 28 47.1	+0.5
IGLO	Ghaloghah	8.70	10	Pn	Pn	07 28 51.0	+2.4
SHRO	Shahrood	8.75	22	ePn	Pn	07 28 51.2	+2.1
MHTO	MHTO	8.79	140	P	Pn	07 28 49.2	-0.4
	SNR=43						
JLN	Jalan Bani Buh	8.84	129	P	Pn	07 28 49.2	-1.1
	SNR=14						
JLN				S	Sn	07 30 25.2	-4.3
SHRT	Shahrakht	9.14	49	ePn	Pn	07 28 57.1	+2.6
SHRT	Shahrakht	9.14	49	Pn	Pn	07 28 57.2	+2.6
GIDE	GILAN DEYLAMAN	9.15	349	ePn	Pn	07 28 56.7	+2.0
ZNJK	Zanjan	9.17	343	ePn	Pn	07 28 56.0	+1.1
SRVN	Saravan	9.25	91	Pn	Pn	07 28 57.2	+1.2
SBZV	Sabzevar	9.70	28	Pn	Pn	07 29 04.6	+2.4
TBJM	Torbat-e-JAM	10.21	42	Pn	Pn	07 29 11.0	+1.8
MAHB	Mahabad	10.30	331	Pn	Pn	07 29 09.9	-0.5
MRVT	Maraveh tapeh	10.31	18	ePn	Pn	07 29 12.9	+2.5
MRVT	Maraveh tapeh	10.31	18	Pn	Pn	07 29 12.7	+2.2
ISFR	Sfrayin	10.43	28	Pn	Pn	07 29 14.5	+2.2
BJRD	Bojnurd	10.77	24	ePn	Pn	07 29 19.7	+2.9
HRA	Herat	10.90	51		Pn	07 29 20.3	+1.7
IHRS	Heris	11.17	340	Pn	Pn	07 29 22.2	-0.2
GEYT	Alibeck	11.23	26		Pn	07 29 25.7	+2.6
GEYT	Alibeck	11.23	26	P	Pn	07 29 25.0	+1.9
GEYT	Alibeck	11.23	26	Pn	Pn	07 29 24.9	+1.9
	comp=E,2.2nm,0.3s,baz=198,slow=8.9,SNR=39						
GEYT				LR	LR	07 35 01.6	
	comp=E,1μm,19.9s,baz=220,slow=44						
	comp=E,13nm,0.5s						
GYA0B	ALIBECK ARRAY	11.23	26		Pn	07 29 25.8	+2.7
GRMI	Germi	11.39	344	ePn	Pn	07 29 27.1	+1.8
ISHB	Shabestar	11.63	334	Pn	Pn	07 29 30.6	+1.8
SIRT	Sirnak	12.48	322	Pn	Pn	07 29 37.9	-2.3
MAKU	Maku	12.93	334	ePn	Pn	07 29 47.4	+1.0
GURO	Guroymak-BITLI	13.48	324	Pn	Pn	07 29 50.9	-2.9
GNI	Garni	13.60	336	Pn	Pn	07 29 57.2	+1.7
GNI	Garni	13.60	336	iP	Pn	07 29 51.9	-3.6
GNI	Garni	13.60	336	Pn	Pn	07 29 58.9	+3.5
	comp=E,1.5nm,0.3s,baz=162,slow=15,SNR=5.1						
GNI				LR	LR	07 36 04.4	
	comp=E,468nm,21.5s,baz=156,slow=41						
	comp=E,4.7nm,0.3s						
ASF	Jabal al Asfar	13.74	292	P	Pn	07 29 57.4	0.0
ASF	Jabal al Asfar	13.74	292	Pn	Pn	07 29 56.1	-1.3
	comp=E,1.6nm,0.3s,baz=157,slow=2.4,SNR=5.6						
ASF				Sn	Sn	07 32 28.1	-1.5
	comp=E,1.0nm,0.3s,baz=125,slow=10.0,SNR=5.8						
ASF				LR	LR	07 36 24.4	
	comp=E,1μm,19.0s,baz=118,slow=42						
	comp=E,3.1nm,0.3s						
SWQJ	Swaqa	14.25	287	P	Pn	07 30 03.8	-0.6
HSUJ	Al Zarqa	14.31	291	P	Pn	07 30 08.0	+2.9
KARS	Kars	14.65	332		Pn	07 30 11.3	+1.4
KARS	Kars	14.65	332	P	Pn	07 30 11.3	+1.4
SHMJ	Saham	14.81	293	P	Pn	07 30 10.0	-1.9
KSHT	Keshet	14.84	294	Pn	P	07 30 17.8	-0.3
MSBI	Mazada	14.86	287	Pn	P	07 30 17.4	-0.8
QRNJ	Al-Qirein	14.87	291	P	Pn	07 30 11.3	-1.4
DSI	Dead Sea	14.88	288	Pn	P	07 30 17.4	-1.1
ZFRI	Zfri	14.91	284	Pn	P	07 30 18.3	-0.5
NATI	Neve Ativ	14.97	295	Pn	P	07 30 19.4	-0.1
GEM	Giv'at Ha'Em	15.02	295	Pn	P	07 30 19.8	-0.2
MMLI	Mount Malkishu	15.02	291	Pn	P	07 30 18.1	-2.0
PRNI	Paran	15.04	283	Pn	P	07 30 19.9	-0.4
EIL	Elat	15.04	281	Pn	P	07 30 20.5	+0.2
EIL	Elat	15.04	281	P	Pn	07 30 16.8	+1.7
EIL	Elat	15.04	281	LR	LR	07 36 28.8	
	comp=E,810nm,19.1s,baz=98,slow=39						
MBRI	Mt Berech	15.08	281	Pn	P	07 30 20.6	-0.2
MMA0B	Mount Meron ar	15.17	294	Pn	P	07 30 21.9	+0.1
MMAI	Mount Meron Ar	15.17	294	Pn	Pn	07 30 14.7	-2.2
	comp=E,2.5nm,0.3s,baz=109,slow=15,SNR=8.4						
MMAI				LR	LR	07 37 20.2	
	comp=E,1μm,18.8s,baz=78,slow=42						
	comp=E,1.6nm,0.3s						
KRMI	Paran Flat	15.26	282	Pn	P	07 30 22.8	0.0
BLGI	Bet Lehem HaGe	15.28	292	Pn	P	07 30 23.1	+0.2
SLTI	Sal'it	15.29	290	Pn	P	07 30 22.5	-0.6
MAK	Makhachkala	15.45	348	eP	Pn	07 30 15.6	-4.7
MAK				pmax	pmax		
	comp=Z,626nm,1.1s						
MAK				MLR	MLR		
	comp=Z,1μm,12.0s						
KZIT	Kziot	15.62	285	Pn	P	07 30 26.3	-0.4
ARPR	Arapgir-MALATY	15.91	318	Pn	Pn	07 30 26.2	-0.4
ARPR				IAmb	IAmb	07 30 35.8	
	comp=Z,136nm,1.3s						
KBL	Kabul	16.01	61		P	07 30 30.6	-0.6
KBL	Kabul	16.01	61	P	P	07 30 30.6	-0.6
KBL				pmax	pmax		
	comp=Z,51nm,1.1s						
ONI	Oni	16.20	337	P	Pn	07 30 31.1	+1.0
ONI	Oni	16.20	337	P	Pn	07 30 31.1	+1.0
ONI				pmax	pmax		
	comp=Z,92nm,1.8s						
ZEI	Tsey	16.23	338	eP	P	07 30 32.2	-1.4
ZEI				pmax	pmax		
	comp=Z,83nm,1.6s						
NCK	Nalchik	16.96	339	iP	Pn	07 30 37.3	-2.4
NEUR	Neytrino	17.06	336	iP	Pn	07 30 37.0	-4.1
BNN	Bunyan	17.31	313	P	P	07 30 47.1	+1.5
BNN				IAmb	IAmb	07 30 50.8	
	comp=Z,152nm,1.2s						
CSS	Mathiatis	17.39	298		Pn	07 30 44.4	-0.7
CSS	Mathiatis	17.39	298	P	Pn	07 30 45.2	+0.1
KBZ	Khabaz	17.40	337	iP	Pn	07 30 43.0	-2.1
KBZ	Khabaz	17.40	337	P	P	07 30 46.0	-0.3
	comp=Z,0.5nm,0.3s,baz=152,slow=8.8,SNR=16						
	comp=Z,27nm,1.0s						
SHA1	Shidzhatmaz	17.49	337	iP	Pn	07 30 45.1	-1.4
KIV	Kislovodsk	17.67	337	⇑P	P	07 30 53.3	+3.8
KIV	Kislovodsk	17.67	337	P	P	07 30 50.2	+0.8
KIV	Kislovodsk	17.67	337	iP	P	07 30 56.7	+7.3
	SNR=9.3						
KIV	Kislovodsk	17.67	337	eP	Pn	07 30 47.2	-1.4
KIV				eS	Sn	07 34 03.1	-1.8
KIV				pmax	pmax		
	comp=Z,52nm,1.1s						
RPOR	Krasnaya Polya	18.37	332	iP	P	07 30 56.6	-0.5
ATD	Arta Tunnel	18.41	210	P	Pn	07 30 58.6	+0.7
ATD	Arta Tunnel	18.41	210	eP	P	07 30 56.5	-1.3
ATD				eS	S	07 34 30.7	+3.2
ATD	Arta Tunnel	18.41	210	eP	S	07 34 29.8	+2.2
ATD	Arta Tunnel	18.41	210	eP	Pn	07 31 00.8	+2.9
ATD				eS	S	07 34 32.0	+4.5
ATD	Arta Tunnel	18.41	210	eP	P	07 30 56.5	-1.3
ATD				eS	S	07 34 30.7	+3.2
ATD	Arta Tunnel	18.41	210	eP	Pn	07 31 00.8	+2.9
ATD				eS	S	07 34 32.0	+4.5
SOC	Sochi	18.50	331	eP	Pn	07 31 00.2	+1.5
SOC				e		07 34 31.0	
SOC				pmax	pmax		
	comp=Z,40nm,0.8s						
SOC				MLR	MLR		
	comp=Z,841nm,19.0s						
GUZR	Guzeripl'	18.67	332	iP	P	07 30 58.4	-2.0
NIL	Nilore	19.13	67	P	Pn	07 31 07.0	+0.5
NIL	Nilore	19.13	67	P	Pn	07 31 07.0	+0.5
NIL				pmax	pmax		
	comp=Z,163nm,1.2s						
BR131	Keskin Array S	19.22	312	iP	P	07 31 04.9	-1.7
BRTR	Keskin Array B	19.22	312	P	Pn	07 31 07.4	-0.2
BRTR	Keskin Array B	19.22	312	iP	Pn	07 31 07.4	-0.2
BRTR				pmax	pmax		
	comp=Z,17nm,1.0s						
BRTR	Keskin Array B	19.22	312	P	P	07 31 06.0	-0.6
	comp=Z,0.5nm,0.3s,baz=130,slow=13,SNR=22						
BRTR				ScP	ScP	07 39 03.4	-1.0
	comp=Z,1.6nm,0.7s,baz=145,slow=3.9,SNR=7.2						
BRTR				LR	LR	07 41 53.2	
	comp=Z,136nm,21.7s,baz=113,slow=47						
	comp=Z,17nm,1.0s						
BTK	Batken	19.72	47	P	Pn	07 31 13.1	-0.4
BTK				IAmb	IAmb	07 31 16.8	
	comp=Z,44nm,1.1s						
BTK	Batken	19.72	47	P	Pn	07 31 13.1	-0.4
BTK				pmax	pmax		
	comp=Z,44nm,1.1s						
BR231	Keskin MP Arra	19.85	312	P	Pn	07 31 15.3	+0.2
BR231				IAmb	IAmb	07 31 19.1	
	comp=Z,124nm,1.6s						
ANTO	Ankara	19.85	312	⇑P	Pn	07 31 14.5	-0.6
ANTO	Ankara	19.85	312	P	Pn	07 31 14.9	-0.2
ANTO				IAmb	IAmb	07 31 19.0	
	comp=Z,75nm,1.2s						
ANTO	Ankara	19.85	312	P	Pn	07 31 14.9	-0.2
ANTO				pmax	pmax		
	comp=Z,75nm,1.2s						
DESE	Dese	20.34	217	eP	S	07 35 10.1	+3.6
ANN	Anapa	20.47	329	eP	P	07 31 16.8	-3.2
ANN				eS	S	07 35 09.1	+0.8
ANN				pmax	pmax		
	comp=Z,66nm,1.8s						
ANN				MLR	MLR		
	comp=N,1μm,18.0s						
ANN				MLR	MLR		
	comp=Z,760nm,21.0s						
ELL	Elmali	20.60	301	P	Pn	07 31 23.8	-0.1
ELL	Elmali	20.60	301	P	Pn	07 31 23.8	-0.1
ELL				pmax	pmax		
	comp=Z,198nm,1.2s						
MDUB	Mudurnu	21.21	312	P	P	07 31 30.3	+2.1
KK31	Karatay Array	21.31	40	P	P	07 31 29.0	-0.1
KK31				IAmb	IAmb	07 31 38.6	
	comp=Z,39nm,1.1s						
KK31	Karatay Array	21.31	40	P	P	07 31 29.0	-0.1
KK31				pmax	pmax		
	comp=Z,39nm,1.1s						

KKAR Karatay Array 21.31 40 P **P** **07 31 29.3 +0.2**
KKAR IAmb IAmb 07 31 38.7
comp=Z,39nm,1.1s
KKAR Karatay Array 21.31 40 P **P** **07 31 29.5 +0.3**
KKAR Karatay Array 21.31 40 P **P** **07 31 29.3 +0.2**
KKAR pmax pmax
comp=Z,39nm,1.1s
ARSB Arslanbob 21.78 47 P **P** **07 31 35.2 +0.9**
ARSB Arslanbob 21.78 47 P **P** **07 31 35.2 +0.9**
ARSB pmax pmax
comp=Z,8.0nm,0.8s
AB31 Akbulak array 22.17 14 *i* P **P** **07 31 39.2 +0.9**
ABKAR Akbulak array 22.17 14 P **P** **07 31 38.8 +0.5**
SIM Simferopol' 22.18 325 *eP* **P** **07 31 43.8 +5.3**
SIM *e* 07 32 08.0
SIM *eS* **S** **07 35 43.0 +1.1**
SIM pmax pmax
comp=Z,68nm,1.2s
AML Almayashu 22.66 46 P **P** **07 31 49.4 +5.4**
SNR=20
AKTO Aktyubinsk 22.95 10 P **P** **07 31 46.4 -0.2**
comp=Z,1.3nm,0.4s,baz=197,slow=11,SNR=12
comp=Z,1.3nm,0.4s
EKS2 Erkin-Say 22.99 45 P **P** **07 31 51.4 +4.2**
SNR=7.2
KSH Kashi 22.99 54 *eP* **P** **07 31 44.5 -2.7**
KSH PP **PnPn** **07 32 11.2 -1.0**
KSH S S 07 35 40.9 -16
KSH ScP **ScP** **07 39 13.4 -0.3**
KSH pmax pmax
comp=Z,20nm,0.7s
KSH pmax pmax
comp=Z,180nm,5.0s
KSH LR LR
comp=Z,510nm,13.2s
KSH LR LR
comp=Z,800nm,11.5s
KSH LR LR
comp=Z,780nm,12.5s
UCH Uchtor 23.23 46 P **P** **07 31 52.1 +2.1**
SNR=16
AAK Ala-Archa 23.43 45 P **P** **07 31 57.8 +6.1**
SNR=7.5
AAK Ala-Archa 23.43 45 P **P** **07 31 52.0 +0.3**
AAK IAmb IAmb 07 32 02.6
comp=Z,28nm,1.1s
AAK Ala-Archa 23.43 45 P **P** **07 31 52.0 +0.3**
AAK pmax pmax
comp=Z,28nm,1.1s
AAK Ala-Archa 23.43 45 P **P** **07 31 53.2 +1.6**
comp=Z,4.0nm,0.6s,baz=216,slow=10,SNR=8.6
AAK LR LR 07 43 00.9
comp=Z,644nm,18.8s,baz=250,slow=42
comp=Z,4.0nm,0.6s
KZA Kyzart 23.63 47 P **P** **07 31 59.9 +6.0**
SNR=9.2
KBK Karagaybulak 23.72 46 P **P** **07 32 00.2 +5.6**
SNR=7.2
USP Ospenovka 23.77 44 P **P** **07 31 56.1 +1.3**
SNR=22
NRN Naryn 23.82 49 P **P** **07 31 56.0 +0.4**
NRN IAmb IAmb 07 32 20.7
comp=Z,54nm,1.2s
NRN Naryn 23.82 49 P **P** **07 31 56.0 +0.4**
NRN pmax pmax
comp=Z,54nm,1.2s
IDI Anoyia 24.17 294 ⇑P **P** **07 31 59.0 +0.3**
IDI Anoyia 24.17 294 P **P** **07 32 00.3 +1.6**
IDI Anoyia 24.17 294 P **P** **07 32 00.8 +2.1**
IDI Anoyia 24.17 294 LR LR 07 45 01.5
comp=Z,240nm,20.6s,baz=98,slow=46
TKM2 Tokmak 2 24.27 46 P P 07 31 50.0 -10
SNR=604
BOOM Boomskoye usch 24.27 47 P **P** **07 31 59.8 +0.1**
BOOM IAmb IAmb 07 32 29.6
comp=Z,46nm,1.3s
BOOM Boomskoye usch 24.27 47 P **P** **07 31 59.8 +0.1**
BOOM pmax pmax
comp=Z,46nm,1.3s
VRH Novokhopyorsk 24.52 344 *eP* **P** **07 32 02.6 +1.0**
VRH *eS* **S** **07 36 19.1 -1.9**
VRH pmax pmax
comp=Z,130nm,0.6s
VRH smax smax
comp=E,410nm,1.4s
VORD Divnogorie 24.95 341 *eP* **P** **07 32 06.4 +0.9**
VORD *eS* **S** **07 36 29.3 +1.3**
VORD pmax pmax
comp=Z,30nm,0.6s
VORD smax smax
comp=E,240nm,1.2s
VSR Storozhevoye 25.21 341 *eP* **P** **07 32 08.3 +0.5**
VSR *eS* **S** **07 36 29.8 -2.3**
VSR pmax pmax
comp=Z,20nm,0.5s
VSR smax smax
comp=N,190nm,1.2s
TPGR Topolog 25.27 318 ⇑P **P** **07 32 11.5 +3.0**
RDO Rodhopi 25.36 308 P **P** **07 32 10.6 +1.2**
HARR Harsova 25.47 317 ⇑P **P** **07 32 11.3 +1.0**
HARR Harsova 25.47 317 P **P** **07 32 11.3 +1.0**
VORR Voronezh 25.60 341 *eP* **P** **07 32 12.3 +0.9**
VORR pmax pmax
comp=Z,90nm,0.5s
CFR Carcaliu 25.62 319 ⇑P **P** **07 32 13.9 +2.3**
CFR Carcaliu 25.62 319 P **P** **07 32 13.9 +2.3**
RAZG Razgrad 25.77 314 ⇑P **P** **07 32 14.7 +1.6**
ELND Elena 25.89 312 ⇑P **P** **07 32 16.6 +2.5**
MILM Milestii Mici 26.27 322 *eP* **P** **07 32 16.0 -1.5**
comp=Z,150nm,1.5s
MILM Milestii Mici 26.27 322 LRM MLR 07 46 51.0
comp=Z,700nm,17.0s
MILM Milestii Mici 26.27 322 *eP* **P** **07 32 16.0 -1.5**
MILM *i* 07 32 20.0
MILM *eS* **S** **07 36 58.0 +9.0**
MILM *i* 07 37 04.0
MILM pmax pmax
comp=Z,150nm,1.5s
MILM Milestii Mici 26.27 322 *e*PP PnPn 07 32 40.0 -17
MILM Milestii Mici 26.27 322 *eS* **S** **07 36 58.0 +9.0**
MILM Milestii Mici 26.27 322 *eL* L 07 43 10.0
ARXS Arharly 26.32 45 *eP* **P** **07 32 19.7 +1.6**
LPSR Galich'ya Gora 26.51 342 *eP* **P** **07 32 20.4 +0.8**
LPSR pmax pmax
comp=Z,110nm,0.9s
ISR Istrita 26.54 317 ⇑P **P** **07 32 22.2 +2.1**
ISR Istrita 26.54 317 P **P** **07 32 22.1 +2.1**
VASR Vaslui 26.66 321 ⇑P **P** **07 32 23.5 +2.4**
SRS Serrai 26.71 307 P **P** **07 32 23.9 +2.2**
VRI Vrincioaia 26.83 319 ⇑P **P** **07 32 24.6 +1.9**
VRI Vrincioaia 26.83 319 P **P** **07 32 24.5 +1.9**
PLOR Plostina 26.86 319 ⇓P **P** **07 32 25.5 +2.5**
PLOR Plostina 26.86 319 P **P** **07 32 25.5 +2.5**
PLVB Pleven 26.91 322 ⇑P **P** **07 32 28.3 +0.9**
MLR Muntele Rosu 27.09 317 ⇑P **P** **07 32 27.0 +1.9**
MLR Muntele Rosu 27.09 317 P **P** **07 32 26.3 +1.2**
MLR IAmb IAmb 07 32 54.2
comp=Z,20nm,1.0s
MLR Muntele Rosu 27.09 317 P **P** **07 32 26.3 +1.2**
MLR pmax pmax
comp=Z,20nm,1.0s
MLR Muntele Rosu 27.09 317 LR LR 07 45 51.7
comp=Z,633nm,20.6s,baz=108,slow=42
COVR Voineasa-Covas 27.12 318 ⇑P **P** **07 32 27.7 +2.4**
HUMR Humele 27.20 315 ⇑P **P** **07 32 27.8 +1.9**
TESR Tescani 27.23 320 ⇑P **P** **07 32 27.7 +1.5**
SORM Soroca 27.27 324 ⇑P **P** **07 32 28.6 +2.0**
SORM Soroca 27.27 324 P **P** **07 32 28.5 +2.0**
PYUN Piuthan 27.34 82 *eP* **P** **07 32 28.1 +0.5**
comp=Z,45nm,1.1s
TURR Turia 27.35 318 ⇑P **P** **07 32 29.4 +2.1**
BOSR Bodos 27.57 318 ⇑P **P** **07 32 31.0 +1.7**
VOIR 27.60 316 ⇑P **P** **07 32 31.7 +2.0**
VOIR 27.60 316 P **P** **07 32 31.6 +2.0**
DOPR Dopca 27.67 318 ⇑P **P** **07 32 32.0 +1.8**
ARR Arges 27.82 316 ⇑P **P** **07 32 34.1 +2.5**
DANN Dangsing 27.98 82 *eP* **P** **07 32 34.1 +0.6**
comp=Z,31nm,0.7s
FNA Florina 28.19 305 P **P** **07 32 36.2 +1.2**
FNA Florina 28.19 305 P **P** **07 32 36.2 +1.2**
FNA pmax pmax
comp=Z,12nm,1.3s
BRVK Borovoye 28.55 23 P **P** **07 32 40.3 +2.4**
BRVK Borovoye 28.55 23 P **P** **07 32 40.3 +2.4**

BRVK pmax pmax
comp=Z,19nm,1.6s
BVAR Borovoye Array 28.56 24 P **P** **07 32 39.0 +1.1**
comp=Z,4.2nm,0.5s,baz=222,slow=8.1,SNR=13
BVAR PcP **PcP** **07 35 48.9 -0.1**
comp=Z,2.1nm,0.3s,baz=192,slow=2.1,SNR=12
BVAR ScP **ScP** **07 39 27.9 -1.3**
comp=Z,0.3nm,0.3s,baz=174,slow=1.4,SNR=5.4
BVAR LR LR 07 46 07.3
comp=Z,440nm,20.0s,baz=217,slow=41
comp=Z,4.2nm,0.5s
AKASG Malin Array Be 28.56 329 *i* P **P** **07 32 38.7 +0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 28.56 329 P **P** **07 32 37.4 -0.6**
comp=Z,0.6nm,0.3s,baz=133,slow=8.3,SNR=14
comp=Z,0.6nm,0.3s
AKBB Malin Array Si 28.56 329 *i* P **P** **07 32 37.5 -0.5**
BURAR Bucovina Array 28.66 321 ⇑P **P** **07 32 40.9 +1.7**
BURAR Bucovina Array 28.66 321 P **P** **07 32 40.1 +1.0**
BURAR Bucovina Array 28.66 321 P **P** **07 32 40.8 +1.7**
BUR08 Bucovina Ar. S 28.68 321 P **P** **07 32 40.1 +0.8**
ARU Arti 28.88 8*c i*P **P** **07 32 39.6 -1.2**
ARU 07 33 28.8
ARU 07 35 47.5
ARU S **S** **07 37 29.8 -0.2**
ARU pmax pmax
comp=Z,10.0nm,1.8s
ARU Arti 28.88 8 LR LR 07 46 32.5
comp=Z,299nm,18.9s,baz=150,slow=41
BOVS Bovan 28.95 311 ⇑P **P** **07 32 43.2 +1.7**
GZR Gura Zlata 28.99 315 ⇑P **P** **07 32 43.8 +1.7**
GZR Gura Zlata 28.99 315 P **P** **07 32 43.7 +1.7**
DMN Daman 29.26 83 *eP* **P** **07 32 44.4 -0.4**
comp=Z,20nm,0.3s
MARR Marisel-Cluj 29.39 317 ⇑P **P** **07 32 47.3 +1.7**
OBN Obninsk 29.39 342⇑ *eP* **P** **07 32 43.4 -1.9**
OBN *e**PP **pP** **07 32 48.1 -3.3**
OBN *SP **sP** **07 32 52.0 -1.7**
OBN PPP PPP 07 33 46.0
OBN 07 35 48.0
OBN *i* S **S** **07 37 40.0 +2.1**
OBN pmax pmax
comp=Z,94nm,1.6s
OBN MLR MLR
comp=Z,318nm,20.0s
OBN Obninsk 29.39 342 LR LR 07 45 29.7
comp=Z,311nm,20.4s,baz=160,slow=38
MDVR Moldovita 29.40 313 ⇑P **P** **07 32 46.6 +0.9**
PKI Pulchoki 29.53 83 *eP* **P** **07 32 47.0 -0.3**
comp=Z,22nm,0.9s
MOS Moscow 29.67 344 *eP* **P** **07 32 48.9 +1.1**
BZS Buzias 29.82 314 ⇑P **P** **07 32 50.5 +1.2**
BZS Buzias 29.82 314 P **P** **07 32 50.4 +1.2**
GUN Gumba 29.90 82 *eP* **P** **07 32 51.1 +0.5**
comp=Z,19nm,0.8s
SIRR Siria 30.08 316 ⇑P **P** **07 32 53.8 +2.2**
MAKZ Makanchi 30.13 43 P **P** **07 32 53.5 +1.5**
MAKZ IAmb IAmb 07 33 00.9
comp=Z,10nm,0.7s
MAKZ Makanchi 30.13 43 P **P** **07 32 53.5 +1.5**
MAKZ pmax pmax
comp=Z,10.0nm,0.7s
JIRN Jiri 30.20 82 *eP* **P** **07 32 53.2 -0.1**
comp=Z,9.5nm,0.3s
MK31 Makanchi Array 30.31 43 P **P** **07 32 54.7 +1.1**
MK31 Makanchi Array 30.31 43 P **P** **07 32 54.7 +1.1**
MK31 pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 30.31 43 P **P** **07 32 54.0 +0.4**
MKAR Makanchi Array 30.31 43 *i* P **P** **07 32 54.9 +1.3**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 30.31 43 P **P** **07 32 54.3 +0.6**
comp=Z,2.5nm,0.3s,baz=231,slow=9.8,SNR=34
MKAR PcP **PcP** **07 35 54.2 +0.5**
comp=Z,1.0nm,0.7s,baz=237,slow=8.0,SNR=2.0
MKAR ScP **ScP** **07 39 34.0 -1.0**
comp=Z,2.2nm,1.1s,baz=256,slow=4.9,SNR=5.2
MKAR LR LR 07 47 31.8
comp=Z,473nm,20.0s,baz=245,slow=41
comp=Z,2.5nm,0.3s
KURBB Kurchatov Arra 30.32 34 P **P** **07 32 53.5 0.0**
comp=Z,1.9nm,0.5s,baz=234,slow=8.9,SNR=17
KURBB PcP **PcP** **07 35 52.6 -0.9**
comp=Z,0.8nm,0.6s,baz=233,slow=3.4,SNR=3.6
KURBB ScP **ScP** **07 39 34.2 -0.7**
comp=Z,1.7nm,0.9s,baz=234,slow=4.2,SNR=8.3
KURBB LR LR 07 47 00.4
comp=Z,871nm,19.7s,baz=215,slow=40
comp=Z,1.9nm,0.5s
KURK Kurchatov 30.42 34 P **P** **07 32 56.3 +1.8**
KURK Kurchatov 30.42 34 *i* P **P** **07 32 53.4 -1.1**
KURK pmax pmax
comp=Z,9.0nm,0.9s
LVV L'vov 30.56 323 *eP* **P** **07 32 57.4 +1.6**
RAMN Ramite 30.68 84 *eP* **P** **07 32 56.9 -0.5**
comp=Z,15nm,0.9s
KIRV Kirov 30.71 357 *i* P **P** **07 32 54.9 -2.0**
KIRV Kirov 30.71 357 LR LR 07 47 44.6
comp=Z,237nm,18.1s,baz=175,slow=41
FRGS Fruska Gora 30.79 313 ⇑P **P** **07 32 58.8 +0.9**
KOLS Kolonicke sedl 31.03 321 *eP* **P** **07 33 03.3 +3.4**
KOLS Kolonicke sedl 31.03 321 *eP* **P** **07 33 03.3 +3.4**
KOLS pmax pmax
comp=Z,14nm,0.7s
CRVS Cervenica-Dubn 31.47 320 *eP* **P** **07 33 07.2 +3.4**
CRVS Cervenica-Dubn 31.47 320 *eP* **P** **07 33 07.2 +3.4**
CRVS pmax pmax
comp=Z,59nm,1.9s
MNK Minsk 31.85 333 *i* P **P** **07 33 04.1 -2.9**
comp=E,5.0nm,0.8s
MNK *i* P **P** **07 33 04.1 -2.9**
comp=N,11nm,0.8s,baz=137
MNK *i* P **P** **07 33 04.1 -2.9**
comp=Z,10.0nm,0.8s
MNK *i* PP **PnPn** **07 34 08.4 -3.4**
MNK *i* PPP PPP 07 34 17.6
MNK *i* S **S** **07 38 13.7 -2.9**
MNK *i* SS **SnSn** **07 40 02.2 -2.6**
MNK *i* LQ LQ 07 43 19.5
MNK *i* LR LR 07 45 41.3
MNK *i* LRM MLR 07 46 54.3
comp=N,457nm,17.8s
MNK *i* LRM MLR 07 47 05.3
comp=E,89nm,17.8s
MNK *i* LRM MLR 07 48 19.2
comp=Z,243nm,16.5s
MNK Minsk 31.85 333 *i* P **P** **07 33 04.1 -2.9**
MNK *i* PPP PPP 07 34 17.5
MNK *i* 07 35 55.1
MNK *i* S **S** **07 38 13.7 -2.9**
MNK pmax pmax
comp=E,5.0nm,0.8s
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK pmax pmax
comp=N,11nm,0.8s
MNK MLR MLR
comp=N,457nm,18.0s
MNK MLR MLR
comp=E,89nm,18.0s
MNK MLR MLR
comp=Z,243nm,16.0s
CUC Castrocucco 32.12 301 P **P** **07 33 09.2 -0.5**
CUC IAmb IAmb 07 33 15.2
comp=Z,21nm,1.0s
KMBO Kilima Mbogo 32.16 209 P **P** **07 33 08.1 -2.4**
comp=Z,1.0nm,0.4s,baz=7.1,slow=8.1,SNR=1.8
KMBO LR LR 07 46 54.5
comp=Z,615nm,18.9s,baz=54,slow=38
comp=Z,1.0nm,0.4s
NACGM Naroch 32.58 333 *eP* **P** **07 33 16.7 +3.2**
comp=Z,16nm,1.1s,baz=136
WMQ Urumqi 32.71 51 *eP* **P** **07 33 19.2 +4.4**
WMQ pmax pmax
comp=Z,18nm,0.8s
WMQ LR LR
comp=Z,960nm,15.1s
WMQ LR LR
comp=Z,540nm,15.1s
WMQ LR LR
comp=Z,380nm,22.7s
LANS Liptovska Anna 32.73 319 *eP* **P** **07 33 16.9 +1.9**
LANS Liptovska Anna 32.73 319 *eP* **P** **07 33 16.9 +1.9**
LANS pmax pmax
comp=Z,19nm,1.3s
VYHS Vyhne 32.80 318 *eP* **P** **07 33 18.6 +3.1**
VYHS Vyhne 32.80 318 *eP* **P** **07 33 18.6 +3.1**
VYHS pmax pmax
comp=Z,10.0nm,1.2s
OJC Ojcow 33.07 321 P **P** **07 33 18.4 +0.6**
OJC Ojcow 33.07 321 P **P** **07 33 18.4 +0.6**
OJC pmax pmax
comp=Z,39nm,1.2s
SMOL Smolenice 33.65 317 *eP* **P** **07 33 25.9 +3.0**
SMOL pmax pmax
comp=Z,15nm,1.5s
JAVC Velka Javorina 33.66 318 *eP* **P** **07 33 24.4 +1.4**
MODS Modra-Piesok 33.68 317 *eP* **P** **07 33 26.1 +2.9**
MODS Modra-Piesok 33.68 317 *eP* **P** **07 33 26.1 +2.9**
MODS pmax pmax
comp=Z,30nm,1.2s
BOJS Bojanci 33.92 311 *i* P **P** **07 33 26.7 +1.4**
PRGR Permogore 33.99 355 *eP* **P** **07 33 24.8 -0.8**
PRGR pmax pmax
comp=Z,10.0nm,0.6s
KLMR Klimovskoe 34.00 349 *eP* **P** **07 33 25.9 +0.2**
KLMR AMP 07 33 29.1
comp=Z,69nm,1.5s
KLMR LQ LQ 07 45 00.6
KLMR LQ LQ 07 45 00.6
KLMR LR LR 07 46 07.9
KLMR AMP 07 49 08.7
comp=Z,413nm,16.0s
KLMR Klimovskoe 34.00 349 *eP* **P** **07 33 25.9 +0.2**
KLMR pmax pmax
comp=Z,69nm,1.5s
KLMR MLR MLR
comp=Z,413nm,16.0s
RONA Rosalia, Austr 34.02 315 *i* P **P** **07 33 27.6 +1.4**
comp=Z,8.9nm,0.9s
PALK Pallekele 34.05 122 LR LR 07 47 11.6
comp=Z,186nm,19.1s,baz=63,slow=36
MORC Moravsky Berou 34.14 319 P **P** **07 33 27.1 -0.1**
MORC IAmb IAmb 07 33 30.9
comp=Z,18nm,1.3s
MORC Moravsky Berou 34.14 319 *eP* **P** **07 33 27.6 +0.4**
MORC *epP **pP** **07 33 29.7 -3.5**
MORC Moravsky Berou 34.14 319 P **P** **07 33 27.1 -0.1**
MORC pmax pmax
comp=Z,17nm,1.3s
ARSA Arzberg 34.34 314 *i* P **P** **07 33 29.4 +0.5**
comp=Z,12nm,1.2s
CONA Conrad Observa 34.37 315 *i* P **P** **07 33 29.2 -0.1**
comp=Z,13nm,1.2s,SNR=5.9
CAMP Campotosto 34.41 305 P **P** **07 33 30.3 +0.6**
SOKA Soboth 34.45 313 *i* P **P** **07 33 31.0 +1.0**
comp=Z,9.2nm,1.0s
VRAC Vranov 34.49 318 *eP* **P** **07 33 31.3 +1.1**
VRAC *epP **pP** **07 33 33.2 -3.0**
VRAC Vranov 34.49 318 LR LR 07 50 23.9
comp=Z,364nm,19.6s,baz=94,slow=41
KRUC Moravsky 34.50 317 *eP* **P** **07 33 31.1 +0.8**
KRUC *epP **pP** **07 33 33.1 -3.2**
DGZ Jazzator, Alta 34.69 41 *i* P **P** **07 33 30.6 -1.5**
DGZ pmax pmax
comp=Z,4.0nm,0.3s
NRCA Norcia 34.69 306 P **P** **07 33 33.1 +1.1**
OBKA Obir 34.71 312 *i* P **P** **07 33 34.2 +1.9**
comp=Z,24nm,1.2s
FDMO Fiordimonte 34.75 306 P **P** **07 33 32.8 +0.3**
CRNS Crni Vrh 34.76 312 *i* P **P** **07 33 33.3 +0.7**
CRNS *i* 07 33 36.2
JAVS Javornik 34.83 311 *i* P **P** **07 33 34.2 +0.9**
CESX Cesi 35.02 305 P **P** **07 33 36.2 +1.3**
DPC Dobruska-Polom 35.10 319 *eP* **P** **07 33 36.1 +0.6**
DPC Dobruska-Polom 35.10 319 *eP* **P** **07 33 36.1 +0.6**
MURB Monte Urbino 35.20 306 P **P** **07 33 36.7 +0.2**
MYKA Terra Mystica 35.34 312 *i* P **P** **07 33 38.2 +0.6**
comp=Z,25nm,1.7s
MOA Molln 35.34 315 *eP* **P** **07 33 38.3 +0.7**
comp=Z,20nm,1.1s,SNR=6.5
ZAA0 Zalesovo Array 35.40 34 P **P** **07 33 38.9 +1.0**
ZAA0 IAmb IAmb 07 33 46.8
comp=Z,24nm,1.1s
ZALV Zalesovo Beam 35.40 34 P **P** **07 33 38.8 +0.8**
comp=Z,11nm,0.5s,baz=246,slow=9.0,SNR=22
ZALV PcP **PcP** **07 36 06.6 -1.0**
comp=Z,0.8nm,0.3s,baz=248,slow=7.6,SNR=1.3
ZALV S **S** **07 39 12.9 +1.4**
comp=Z,5.0nm,0.9s,baz=225,slow=14,SNR=7.3
ZALV ScP **ScP** **07 39 50.9 -1.5**
comp=Z,0.8nm,0.3s,baz=321,slow=1.8,SNR=2.4
ZALV LR LR 07 50 39.9
comp=Z,490nm,19.3s,baz=234,slow=40
comp=Z,11nm,0.5s
KBA Koelnbreinsper 35.67 313 *i* P **P** **07 33 42.0 +1.3**
comp=Z,23nm,0.7s
BIOA Bad Ischl, Aus 35.69 314 *i* P **P** **07 33 41.5 +0.9**
comp=Z,26nm,1.1s,SNR=5.4
STAL STALIGIAL 35.84 311 P **P** **07 33 42.6 +0.7**
STAL IAmb IAmb 07 33 45.3
comp=Z,24nm,1.0s
ZVC Zvikov 35.98 317 *eP* **P** **07 33 43.4 +0.4**
GEC2 GERESS Array S 36.05 316 P **P** **07 33 43.8 0.0**
GERES GERESS Array B 36.05 316 P **P** **07 33 44.9 +1.1**
GERES GERESS Array B 36.05 316 P **P** **07 33 43.1 -0.6**
comp=Z,2.2nm,0.8s,baz=54,slow=6.8,SNR=4.8
GERES ScP **ScP** **07 39 54.9 -0.2**
comp=Z,0.5nm,0.4s,baz=124,slow=8.7,SNR=2.7
GERES LR LR 07 51 06.4
comp=Z,218nm,18.4s,baz=79,slow=41
comp=Z,2.2nm,0.8s
ABTA Abfaltersbach 36.11 312 *i* P **P** **07 33 45.0 +0.7**
comp=Z,26nm,1.2s,SNR=7.1
LESA Schwarzleotal 36.22 313 *i* P **P** **07 33 45.7 +0.5**
comp=Z,4.3nm,0.5s
KHC Kasperske Hory 36.23 316 P **P** **07 33 47.3 +2.1**
KHC IAmb IAmb 07 33 48.7
comp=Z,20nm,1.2s
KHC Kasperske Hory 36.23 316 *eP* **P** **07 33 46.1 +0.9**
KHC *ex* x 07 33 54.6
KHC Kasperske Hory 36.23 316 *i* P **P** **07 33 42.8 -2.4**
CTI Castel Tesino 36.49 311 P **P** **07 33 48.0 +0.4**
CTI IAmb IAmb 07 33 51.0
comp=Z,34nm,1.2s
CTI Castel Tesino 36.49 311 P **P** **07 33 48.0 +0.4**
CTI pmax pmax
comp=Z,33nm,1.2s
BRG Berggiesshubel 36.69 319 *eP* **P** **07 33 52.4 +3.3**
BRG Amp 07 33 54.0
comp=Z,4.9nm,0.8s
BRG Amp 07 53 12.0
comp=N,0.2nm,17.3s
BRG Amp 07 53 17.0
comp=E,0.2nm,14.2s
BRG Amp 07 53 22.0
comp=Z,0.3nm,13.4s
BRG Berggiesshubel 36.69 319 *eP* **P** **07 33 52.4 +3.3**
BRG pmax pmax
comp=Z,5.0nm,0.8s
BRG MLR MLR
comp=N,200nm,17.3s
BRG MLR MLR
comp=E,183nm,14.2s
BRG MLR MLR
comp=Z,286nm,13.4s
KEST Kesra 36.83 293 P **P** **07 33 49.3 -1.3**
comp=Z,3.0nm,0.7s,baz=90,slow=20,SNR=2.5
KEST LR LR 07 51 53.0
comp=Z,318nm,19.0s,baz=344,slow=41
comp=Z,3.0nm,0.7s
WTTA Wattenberg 36.84 313 *i* P **P** **07 33 51.2 +0.6**
comp=Z,49nm,1.0s,SNR=9.4
WATA Walderalm 36.90 313 *i* P **P** **07 33 52.0 +0.9**
comp=Z,37nm,1.1s,SNR=7.5
VSL Villasalto 36.97 299 P **P** **07 33 52.1 +0.5**
GOMU GeErMu 36.98 66 P **P** **07 33 53.9 +1.7**
GOMU pP pP 07 33 57.0 -1.4
GOMU S **S** **07 39 40.0 +3.0**
GOMU pmax pmax
comp=Z,12nm,0.7s
GOMU LR LR
comp=Z,350nm,17.2s
GOMU LR LR
comp=Z,170nm,16.2s
GOMU LR LR
comp=Z,310nm,16.7s
SQTA Sankt Quirin 37.11 312 *i* P **P** **07 33 53.2 +0.4**
comp=Z,27nm,0.9s,SNR=5.8
MOTA Moosalm 37.21 313 *i* P **P** **07 33 53.7 -0.1**

comp=Z,40nm,1.1s,SNR=9.6
FETA Feichten 37.36 312 *i* P **P 07 33 55.5 +0.5**
comp=Z,29nm,1.2s,SNR=15
CLL Collm 37.41 319 ⇓*i* P **P 07 33 55.7 +0.5**
comp=Z,8.0nm,0.8s
CLL ⇑*i* pP **pP 07 33 58.0 -3.2**
comp=Z,15nm,1.0s
CLL *i* sP **sP 07 34 00.4 -3.3**
CLL *ex* x 07 35 30.0
CLL *e*S S 07 40 12.0 +30
CLL AMS AMS 07 52 00.0
comp=Z,300nm,19.6s
CLL Collm 37.41 319 ⇓*i* P **P 07 33 55.7 +0.5**
CLL *i* 07 33 58.0
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL MLR MLR
comp=Z,300nm,19.6s
RETA Reutte 37.47 313 *i* P **P 07 33 55.9 0.0**
comp=Z,15nm,1.0s,SNR=5.7
FUORN Ofenpass-Fuorn 37.57 311 P **P 07 33 55.2 -1.7**
FINES FINESS Array B 37.73 340 P **P 07 33 58.5 +0.8**
FINES FINESS Array B 37.73 340 *i* P **P 07 33 58.9 +1.2**
FINES pmax pmax
comp=Z,8.0nm,0.5s
FINES FINESS Array B 37.73 340 P **P 07 33 57.9 +0.2**
comp=Z,8.3nm,0.5s,baz=144,slow=8.3,SNR=63
FINES LR LR 07 52 22.2
comp=Z,361nm,20.2s,baz=141,slow=41
comp=Z,8.3nm,0.5s
DAVOX Davos/Dischmat 37.86 311 LR LR 07 52 20.2
comp=Z,217nm,19.6s,baz=90,slow=41
GRA1 Grafenberg Arr 37.87 316 P **P 07 34 00.1 +1.0**
GRA1 IAmb IAmb 07 34 02.4
comp=Z,36nm,1.3s
GRF Grafenberg Arr 37.87 316 P **P 07 34 00.1 +1.0**
GRF pmax pmax
comp=Z,36nm,1.3s
GRFO Grafenberg 37.87 316 P **P 07 34 00.6 +1.5**
GRFO IAmb IAmb 07 34 02.3
comp=Z,34nm,1.3s
GRFO Grafenberg 37.87 316 P **P 07 34 00.6 +1.5**
GRFO pmax pmax
comp=Z,34nm,1.3s
DAVA Damuels 37.99 312 *i* P **P 07 34 00.1 -0.3**
comp=Z,48nm,0.8s,SNR=20
TUE Stuetta 38.14 311 P **P 07 34 01.6 -0.1**
SBF Sospel 38.95 306 *e*P **P 07 34 10.4 +2.1**
SENIN Lac Senin/Sane 39.50 310 P **P 07 34 13.5 +0.5**
SENIN IAmb IAmb 07 34 15.6
comp=Z,46nm,1.1s
BNI Bardonecchia 39.68 308 P **P 07 34 15.3 +0.8**
BNI Bardonecchia 39.68 308 P **P 07 34 15.3 +0.8**
BNI pmax pmax
comp=Z,20nm,1.3s
ECH Echery 40.01 313 P **P 07 34 16.7 -0.4**
ECH IAmb IAmb 07 34 19.8
comp=Z,22nm,1.1s
ECH Echery 40.01 313 P **P 07 34 16.7 -0.4**
ECH pmax pmax
comp=Z,22nm,1.1s
HINF Hinteralfeld 40.11 312 P **P 07 34 17.2 -0.8**
GTA Gaotai 41.00 61 *e*P **P 07 34 27.0 +1.5**
GTA pP pP 07 34 32.0 +0.3
GTA S **S 07 40 36.9 0.0**
GTA SS **SS 07 43 38.0 -1.0**
GTA pmax pmax
comp=Z,11nm,0.9s
GTA LR LR
comp=Z,170nm,14.7s
GTA LR LR
comp=Z,290nm,13.9s
GTA LR LR
comp=Z,320nm,14.7s
VIVF Saint-Julien-l 41.05 307 P **P 07 34 27.0 +1.2**
APA Apatity 41.24 349 ⇓*i* P **P 07 34 27.9 +1.0**
APA *i* 07 36 00.0
APA pmax pmax
comp=Z,6.0nm,0.7s
APA MLR MLR
comp=Z,1μm,12.0s
HFS Hagfors 41.34 332 P **P 07 34 27.5 -0.4**
comp=Z,11nm,0.4s,baz=116,slow=10,SNR=52
HFS LR LR 07 54 43.5
comp=Z,284nm,18.8s,baz=118,slow=41
comp=Z,11nm,0.4s
SMF Signal de Mont 41.90 310 P **P 07 34 33.9 +1.3**
GIVF Givet 41.95 315 P **P 07 34 35.1 +2.1**
TAM Tamanrasset 42.11 274 P **P 07 34 33.5 -1.3**
TAM Tamanrasset 42.11 274 P **P 07 34 33.5 -1.3**
TAM pmax pmax
comp=Z,11nm,1.0s
SSF Saint Saulge 42.19 310 P **P 07 34 35.7 +0.7**
NC602 NORSAR Array S 42.56 332 *e*P **P 07 34 38.0 +0.2**
NC405 NORSAR Array S 42.70 332 P **P 07 34 38.6 -0.3**
NB201 NORSAR Array S 42.84 332 P **P 07 34 40.3 +0.2**
NB201 IAmb IAmb 07 35 03.2
comp=Z,57nm,1.5s
NB2 NORSAR Subarra 42.86 332 P **P 07 34 39.9 -0.4**
comp=Z,6.6nm,0.5s,baz=124,slow=8.6
NB2 NORSAR Subarra 42.86 332 P **P 07 34 39.9 -0.4**
baz=124,slow=8.6
NB2 NORSAR Subarra 42.86 332 P **P 07 34 37.0 -3.3**
NOA NORSAR Array B 42.86 332 P **P 07 34 39.6 -0.7**
comp=Z,4.1nm,0.5s,baz=127,slow=9.3,SNR=24
NOA LR LR 07 54 57.7
comp=Z,253nm,20.1s,baz=135,slow=40
comp=Z,4.1nm,0.5s
NC204 NORSAR Array S 43.17 332 P **P 07 34 43.6 +0.8**
CHTO Chiang Mai 43.83 91 P **P 07 34 48.4 -0.2**
CHTO IAmb IAmb 07 34 50.2
comp=Z,34nm,1.5s
CHTO Chiang Mai 43.83 91 P **P 07 34 48.4 -0.2**
CHTO pmax pmax
comp=Z,34nm,1.5s
LFF La Frestale 43.84 307 P **P 07 34 50.7 +2.3**
SKAR Skarsila 43.92 331 *e*P **P 07 34 49.7 +0.9**
CMAR Chiang Mai Arr 43.95 92 P **P 07 34 49.9 +0.3**
CMAR Chiang Mai Arr 43.95 92 P **P 07 34 50.0 +0.3**
comp=Z,6.3nm,0.8s,baz=290,slow=8.1,SNR=19
CMAR PcP **PcP 07 36 35.8 +0.4**
comp=Z,2.3nm,0.7s,baz=285,slow=5.0,SNR=4.2
CMAR LR LR 07 56 04.0
comp=Z,208nm,21.2s,baz=295,slow=40
comp=Z,6.3nm,0.8s
PZH PanZhiHua 44.03 80 P **P 07 34 51.4 +1.1**
PZH S **S 07 41 18.5 -3.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,60nm,4.3s
PZH LR LR
comp=Z,320nm,18.1s
PZH LR LR
comp=Z,270nm,17.8s
PZH LR LR
comp=Z,350nm,15.2s
VADS Vadso 44.19 349 *e* **P 07 34 54.2 +3.4**
DOMB Dombas 44.26 333 *e*P **P 07 34 52.7 +1.2**
LZH Lanzhou 44.29 66 *e*P **P 07 34 53.2 +0.9**
LZH pP sP 07 35 05.2 +4.4
LZH pmax pmax
comp=Z,25nm,1.1s
LZH LR LR
comp=Z,680nm,18.2s
LZH LR LR
comp=Z,370nm,20.3s
LZH LR LR
comp=Z,400nm,21.3s
ODD1 Odda 44.31 329 *e*P **P 07 34 53.4 +1.5**
ARA0 ARCESS Array S 44.40 347 *e*P **P 07 34 56.2 +3.7**
ARCES ARCESS Array B 44.40 347 P **P 07 34 52.8 +0.3**
comp=Z,1.9nm,0.5s,baz=149,slow=5.7,SNR=24
ARCES LR LR 07 54 26.4
comp=Z,302nm,18.1s,baz=136,slow=37
comp=Z,1.9nm,0.5s
KTK1 Kautokeino 44.44 346 *e*P **P 07 34 54.7 +1.8**
MFF Saint Martin d 44.62 309 P **P 07 34 56.0 +1.4**
LDF La Druitiere 44.84 312 P **P 07 34 55.5 -0.8**
CD2 Chengdu 44.87 73 P **P 07 34 56.9 0.0**
CD2 S **S 07 41 29.7 -4.1**
CD2 LR LR
comp=Z,280nm,12.8s
CD2 LR LR
comp=Z,410nm,11.9s
CD2 LR LR
comp=Z,350nm,13.1s
AKN Aaknes 45.18 332 *e*P **P 07 35 00.6 +1.8**
KMI Kunming 45.24 81 ⇓P **P 07 35 00.7 +0.6**
KMI pmax pmax
comp=Z,24nm,0.8s
JETT Jettan, Norway 45.50 345 *e*P **P 07 35 04.0 +2.6**
SONM Songino Array 46.28 49 P **P 07 35 08.1 +0.2**
comp=Z,0.6nm,0.5s,baz=271,slow=7.6,SNR=7.3
SONM LR LR 07 56 21.2
comp=Z,352nm,20.1s,baz=253,slow=38
comp=Z,0.6nm,0.5s
ULN Ulaanbaatar 46.72 49 *i* P **P 07 35 11.2 -0.2**
ULN pmax pmax
comp=Z,3.0nm,1.0s
ABPO Ambohimpanom 46.88 186 P **P 07 35 13.2 +0.3**
ABPO IAmb IAmb 07 35 14.6
comp=Z,16nm,1.1s
ABPO Ambohimpanom 46.88 186 P **P 07 35 13.2 +0.3**
ABPO pmax pmax
comp=Z,16nm,1.1s
ESDC Sonseca Array 47.27 299 P **P 07 35 16.4 +0.7**
ESDC IAmb IAmb 07 35 19.8
comp=Z,25nm,1.9s
ESDC Sonseca Array 47.27 299 P **P 07 35 14.6 -1.1**
comp=Z,5.6nm,1.1s,baz=81,slow=6.6,SNR=16
ESDC LR LR 07 57 52.7
comp=Z,104nm,18.6s,baz=78,slow=40
comp=Z,5.6nm,1.1s
PAB San Pablo 47.58 299 P **P 07 35 18.2 +0.1**
PAB IAmb IAmb 07 35 21.5
comp=Z,12nm,1.1s
PAB San Pablo 47.58 299 P **P 07 35 18.2 +0.1**
PAB pmax pmax
comp=Z,12nm,1.1s
EKA Eskdalemuir Ar 47.84 321 P **P 07 35 19.0 -0.8**
EKA Eskdalemuir Ar 47.84 321 P **P 07 35 19.0 -0.8**
comp=Z,0.6nm,0.3s,baz=103,slow=7.9,SNR=5.4
comp=Z,0.6nm,0.3s
GYA Guiyang 48.31 78 ⇓P P 07 35 30.0 +6.0
GYA pmax pmax
comp=Z,12nm,1.1s
MDT Midelt 48.59 290 LR LR 07 58 59.0
comp=Z,180nm,20.9s,baz=104,slow=40
XAN Xi'an 48.67 68 ⇑P **P 07 35 26.3 -0.3**
XAN pmax pmax
comp=Z,12nm,0.9s
XAN LR LR
comp=Z,720nm,20.6s
XAN LR LR
comp=Z,380nm,17.9s
LSZ Lusaka 48.74 211 LR LR 07 57 00.3
comp=Z,497nm,20.4s,baz=32,slow=37
BTO Baotou 48.80 59 *e*P **P 07 35 28.8 +1.2**
BTO pP **pP 07 35 33.3 -0.6**
BTO sP **sP 07 35 36.1 0.0**
BTO PP **PP 07 37 24.1 +3.3**
BTO S **S 07 42 32.9 +3.0**
BTO SS **SS 07 45 52.3 -8.0**
BTO pmax pmax
comp=Z,20nm,0.5s
BTO pmax pmax
comp=Z,240nm,4.7s
BTO LR LR
comp=Z,1μm,17.1s
BTO LR LR
comp=Z,400nm,13.7s
BTO LR LR
comp=Z,560nm,16.3s
TOA0 Torodi Ar. Sit 49.01 263 P **P 07 35 28.0 -1.3**
TOA0 IAmb IAmb 07 35 31.9
comp=Z,8.5nm,1.0s
TORD Torodi Ar. Bea 49.01 263 P **P 07 35 28.3 -1.0**
TORD Torodi Ar. Bea 49.01 263 P **P 07 35 27.8 -1.5**
comp=Z,2.5nm,0.5s,baz=55,slow=8.6,SNR=19
TORD ScP **ScP 07 40 46.3 -1.1**
comp=Z,1.7nm,1.0s,baz=46,slow=8.1,SNR=3.6
TORD LR LR 07 57 56.8
comp=Z,228nm,19.3s,baz=62,slow=38
comp=Z,2.5nm,0.5s
PBRG Bragança 49.25 302 *e*P **P 07 35 32.2 +1.2**
comp=Z,22nm,1.4s
PBRG *e*pP **sP 07 35 41.7 +2.1**
MVO Moncorvo 49.51 302 *e*P **P 07 35 35.6 +2.6**
comp=Z,18nm,1.6s
PBAR Barrancos 49.79 298 *e*P **P 07 35 35.5 +0.5**
comp=Z,35nm,1.3s
PBAR *e*pP **sP 07 35 46.6 +3.0**
PMRV Marv??o 49.93 299 *e*P **P 07 35 36.6 +0.5**
comp=Z,10nm,1.4s
HHC Hu-ho-hao-te 49.96 59 *e*P **P 07 35 39.6 +3.2**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,200nm,3.9s
HHC LR LR
comp=Z,470nm,19.0s
HHC LR LR
comp=Z,490nm,19.8s
HHC LR LR
comp=Z,520nm,19.0s
PCBR Castelo Branco 49.96 300 *e*P **P 07 35 37.6 +1.3**
comp=Z,20nm,1.4s
PVRL Vila Real 50.02 302 *e*P **P 07 35 37.3 +0.5**
comp=Z,25nm,1.4s
POLO Lamas de Olo 50.07 302 *e*P **P 07 35 37.7 +0.4**
comp=Z,12nm,1.4s
PVIS Viseu 50.20 301 *e*P **P 07 35 39.6 +1.4**
PGAV Gavieira, Arco 50.38 303 *e*P **P 07 35 40.5 +0.9**
comp=Z,27nm,1.4s
EVO Evora 50.51 298 *e*P **P 07 35 43.0 +2.5**
comp=Z,21nm,1.7s
EVO *e*pP **sP 07 35 53.5 +4.4**
PCAS Casmilo, Conde 50.72 300 *e*P **P 07 35 45.5 +3.4**
PACT Alcochete 51.12 299 *e*P **P 07 35 45.5 +0.4**
comp=Z,232nm,1.8s
PACT *e*pP **sP 07 35 57.8 +4.1**
LYN LuoYang 51.48 67 ⇑P **P 07 35 48.5 +0.7**
LYN pP pP 07 35 53.0 -1.2
LYN pmax pmax
comp=Z,21nm,1.0s
LYN pmax pmax
comp=Z,90nm,4.5s
LYN LR LR
comp=Z,670nm,13.7s
LYN LR LR
comp=Z,270nm,11.7s
LYN LR LR
comp=Z,550nm,20.6s
BOD Bodaibo 52.00 37 *e*P **P 07 35 54.5 +3.1**
BOD pmax pmax
comp=Z,12nm,1.4s
SPITS Spitsbergen Ar 52.84 351 P **P 07 35 56.8 -0.6**
comp=Z,7.1nm,0.9s,baz=139,slow=8.0,SNR=1.2
SPITS LR LR 08 00 24.6
comp=Z,151nm,19.8s,baz=120,slow=38
comp=Z,7.1nm,0.9s
JMIC Jan Mayen 54.35 339 LR LR 08 01 25.8
comp=Z,144nm,20.4s,baz=0,slow=38
NJ2 Nanjing 57.24 68 *e*P **P 07 36 30.4 +0.6**
NJ2 pP **sP 07 36 42.6 +4.2**
NJ2 sP pP 07 36 46.6 +10
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,370nm,4.4s
TSUM Tsumeb 57.47 219 LR LR 08 02 47.5
comp=Z,288nm,20.8s,baz=126,slow=38
DBIC Dimbokro 57.69 260 P **P 07 36 32.4 -0.8**
DBIC IAmb IAmb 07 36 55.4
comp=Z,14nm,1.1s
DBIC Dimbokro 57.69 260 P **P 07 36 32.4 -0.8**
DBIC pmax pmax
comp=Z,14nm,1.1s
DBIC Dimbokro 57.69 260 P **P 07 36 32.3 -0.8**
comp=Z,7.7nm,0.9s,baz=48,slow=10.0,SNR=5.8
comp=Z,7.7nm,0.9s
KIC Kosan Boka 57.74 259 ⇑*i* PKIKP **P 07 36 35.7 +2.2**
comp=Z,27nm,1.1s
TIC Toumodi 57.84 260 ⇓*i* PKIKP **P 07 36 36.0 +1.7**
comp=Z,5.9nm,0.3s
LIC Lamto 58.05 259 ⇓*i* PKIKP **P 07 36 35.5 -0.2**
comp=Z,36nm,0.7s
LBTB Lobatse 58.44 208 P **P 07 36 37.8 -0.5**
LBTB IAmb IAmb 07 36 42.9
comp=Z,10nm,0.8s
LBTB Lobatse 58.44 208 P **P 07 36 37.8 -0.5**
LBTB pmax pmax
comp=Z,10.0nm,0.8s
LBTB Lobatse 58.44 208 LR LR 08 02 52.7
comp=Z,240nm,19.7s,baz=28,slow=37
DAG Danmarks Havn 58.62 345 *i* P **P 07 36 39.7 +0.9**
ZEA Zeya 59.45 42 *e*P P 07 36 52.3 +7.4
ZEA MLR MLR
comp=E,200nm,15.0s
ZEA MLR MLR
comp=Z,300nm,14.0s
TIXI Tiksi 59.65 21 *i* P **P 07 36 46.7 +0.8**
TIXI Tiksi 59.65 21 LR LR 08 05 47.3
comp=Z,11nm,20.0s,baz=339,slow=39
HEH HeiHe 60.00 46 *e*P **P 07 36 48.6 -0.1**
HEH pmax pmax
comp=Z,10.0nm,0.8s
YAK Yakutsk 60.03 32 LR LR 08 05 55.2
comp=Z,17nm,18.4s,baz=292,slow=39
BOSA Boshof 61.77 207 P **P 07 36 58.9 -2.2**
comp=Z,3.6nm,0.8s,baz=29,slow=2.9,SNR=5.3
BOSA LR LR 08 04 51.2
comp=Z,409nm,20.4s,baz=12,slow=37
comp=Z,3.6nm,0.8s
MDJ Mudanjiang 62.51 52 P **P 07 37 05.7 -0.1**
MDJ pmax pmax
comp=Z,7.0nm,2.0s
MDJ pmax pmax
comp=Z,270nm,6.3s
KLR Kul'dur 62.95 46 P **P 07 37 07.9 -0.8**
comp=Z,1.4nm,0.4s,baz=268,slow=6.1,SNR=6.2
KLR LR LR 08 07 46.1
comp=Z,406nm,20.0s,baz=277,slow=39
comp=Z,1.4nm,0.4s
KSRS Korea Array 63.05 60 P **P 07 37 09.2 -0.4**
comp=Z,1.3nm,0.5s,baz=280,slow=5.8,SNR=2.5
KSRS LR LR 08 07 57.2
comp=Z,125nm,19.6s,baz=275,slow=39
comp=Z,1.3nm,0.5s
SUMG Summit 63.77 340 P **P 07 37 14.9 +0.7**
SUMG Summit 63.77 340 P **P 07 37 14.9 +0.7**
SUMG pmax pmax
comp=Z,19nm,1.2s
SUMG Summit 63.77 340 *i* P **P 07 37 16.0 +1.8**
SUMG IAmb IAmb 07 37 18.5
comp=Z,20nm,1.2s
USRK Ussuriysk Ar. 64.28 52 P **P 07 37 18.6 +1.0**
comp=Z,1.5nm,0.6s,baz=247,slow=7.5,SNR=2.1
USRK LR LR 08 07 39.4
comp=Z,196nm,19.7s,baz=284,slow=38
comp=Z,1.5nm,0.6s
ICESG Greenland Ices 64.81 337 *i* P **P 07 37 22.9 +1.9**
ICESG IAmb IAmb 07 37 24.7
comp=Z,7.7nm,0.8s
NEEM North Greenlan 65.75 346 *e*P **P 07 37 29.6 +2.7**
JNU Nakatsue 66.65 64 LR LR 08 10 34.0
comp=Z,206nm,20.0s,baz=284,slow=39
SUR Sutherland 66.89 208 LR LR 08 07 20.8
comp=Z,199nm,19.9s,baz=28,slow=36
DY2G Dye2 67.94 335 *e*P **P 07 37 43.3 +2.3**
DY2G IAmb IAmb 07 37 45.6
comp=Z,18nm,1.0s
SFJD Kangerlussuaq 69.37 336 LR LR 08 09 50.5
comp=Z,141nm,20.2s,baz=60,slow=37
SEY Seymchan 70.06 29 LR LR 08 12 56.5
comp=Z,254nm,19.5s,baz=278,slow=40
MA2 Magadan 70.60 32 LR LR 08 12 02.8
comp=Z,189nm,18.8s,baz=288,slow=38
TOLI2 Tolitoli 70.79 99 P **P 07 37 58.4 -0.8**
MJAR Matsushiro Arr 71.15 58 LR LR 08 11 33.3
comp=Z,115nm,19.2s,baz=293,slow=38
ASAJ Asahikawa 71.56 49 LR LR 08 12 43.7
comp=Z,209nm,20.5s,baz=273,slow=38
DAV Davao City (W) 72.24 91 LR LR 08 16 43.7
comp=Z,69nm,18.2s,baz=332,slow=42
KAPI Kappang 72.95 105 LR LR 08 14 17.8
comp=Z,60nm,18.5s,baz=283,slow=39
RES Resolute Bay 75.41 351 LR LR 08 15 32.1
comp=Z,101nm,18.7s,baz=24,slow=39
PETK Petropavlovsk- 76.88 37 LR LR 08 15 41.5
comp=Z,215nm,19.6s,baz=288,slow=38
FRB Frobisher Bay 77.46 337 LR LR 08 14 53.6
comp=Z,148nm,18.1s,baz=26,slow=37
BATI Baumata 78.94 108 LR LR 08 16 39.2
comp=Z,119nm,21.0s,baz=300,slow=38
B22K Teshekpuk Lake 80.35 8 P **P 07 38 54.6 +1.6**
B22K IAmb IAmb 07 39 33.0
comp=Z,33nm,1.6s
A36M Sachs Harbour 80.35 359 P **P 07 38 53.6 +0.6**
A36M IAmb IAmb 07 38 58.0
comp=Z,15nm,0.8s
C23K Itkillik River 81.17 8 P **P 07 38 58.2 +0.8**
E18K Tukpahlearik C 81.86 12 P **P 07 39 01.6 +0.5**
E18K IAmb IAmb 07 41 34.2
comp=Z,19nm,1.4s
D25K Kavik River 82.13 6 P **P 07 39 02.8 +0.3**
D25K IAmb IAmb 07 39 36.5
comp=Z,18nm,1.6s
SCHQ Schefferville 82.36 329 P **P 07 39 04.0 0.0**
comp=Z,2.9nm,0.5s,baz=38,slow=7.8,SNR=3.3
SCHQ LR LR 08 18 19.2
comp=Z,70nm,18.3s,baz=66,slow=38
comp=Z,2.9nm,0.5s
E19K Redstone River 82.42 11 P **P 07 39 04.4 +0.3**
TOLK Toolik Lake Re 82.43 8 P **P 07 39 04.4 +0.2**
TOLK IAmb IAmb 07 40 40.4
comp=Z,22nm,1.6s
C36M Paulatuk 82.98 359 P **P 07 39 07.5 +0.6**
C36M IAmb IAmb 07 39 10.4
comp=Z,21nm,1.6s
E25K Arctic Village 83.37 7 P **P 07 39 10.2 +1.1**
E25K IAmb IAmb 07 39 24.2
comp=Z,10nm,1.3s
E28M Babbage River 83.39 4 P **P 07 39 09.6 +0.5**
E28M IAmb IAmb 07 40 15.8
comp=Z,17nm,1.8s
E29M Blow River 83.71 4 P **P 07 39 11.9 +1.2**
E29M IAmb IAmb 07 39 16.0
comp=Z,11nm,1.5s
INK Inuvik 83.98 2 P **P 07 39 11.6 -0.5**
INK IAmb IAmb 07 39 15.8
comp=Z,16nm,1.7s
INK Inuvik 83.98 2 P **P 07 39 11.6 -0.5**
INK pmax pmax
comp=Z,16nm,1.7s
INK Inuvik 83.98 2 LR LR 08 20 54.6
comp=Z,54nm,20.9s,baz=7.0,slow=39
BMAR Burnt Mountain 84.14 6 P **P 07 39 14.3 +1.3**
IMAR Indian Mountai 84.34 10 P **P 07 39 14.4 +0.5**
G24K Hadweenzic Riv 84.53 8 P **P 07 39 16.3 +1.3**
G24K IAmb IAmb 07 39 20.0
comp=Z,8.6nm,1.1s
F31M Tsiigehtchic 84.84 2 P **P 07 39 17.2 +0.8**
SHEM Shemya Is, Ala 85.20 31 LR LR 08 21 01.6
comp=Z,146nm,19.1s,baz=296,slow=38
GUMO Guam 86.25 77 LR LR 08 20 48.7
comp=Z,42nm,20.5s,baz=224,slow=38
ILAR Eielson Array 86.45 8 P **P 07 39 24.2 -0.3**
comp=Z,0.9nm,0.8s,baz=319,slow=2.3,SNR=8.4
ILAR LR LR 08 23 54.3
comp=Z,115nm,18.5s,baz=327,slow=40
comp=Z,0.9nm,0.8s
H31M Peel River 86.46 3 P **P 07 39 24.1 -0.5**
I30M Mount Dempster 86.94 4 P **P 07 39 27.3 +0.2**
I30M IAmb IAmb 07 39 31.5
comp=Z,7.1nm,0.9s
YKA Yellowknife Ar 89.27 354 *i* P **P 07 39 37.7 -0.3**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 89.27 354 P **P 07 39 37.5 -0.6**
comp=Z,1.3nm,0.6s,baz=8.3,slow=5.2,SNR=24
YKA LR LR 08 28 16.6
comp=Z,71nm,18.6s,baz=290,slow=41
comp=Z,1.3nm,0.6s
KDAK Kodiak Island 92.17 13 LR LR 08 29 49.8
comp=Z,95nm,18.5s,baz=19,slow=41
WRA Warramunga Arr 92.70 111 *i* P **P 07 39 54.2 -0.5**
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRA Warramunga Arr 92.70 111 P **P 07 39 53.3 -1.4**
comp=Z,1.4nm,0.9s,baz=312,slow=3.8,SNR=20
WRA PKKPbc **PKKPbc 07 57 05.9 -0.3**
comp=Z,0.3nm,0.3s,baz=112,slow=2.7,SNR=16
comp=Z,1.4nm,0.9s
DLBC Dease Lake 93.96 1 LR LR 08 28 36.6
comp=Z,72nm,20.2s,baz=294,slow=40
ASAR Alice Springs 94.12 114 P **P 07 39 59.5 -1.7**
comp=Z,2.5nm,0.6s,baz=306,slow=4.5,SNR=37
ASAR LR LR 08 25 18.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,42nm,18.9s,baz=282,slow=37						
	comp=Z,2.5nm,0.6s						
ULM	Lac du Bonnet	97.12	340	LR	LR	08 25 48.5	
	comp=Z,144nm,19.8s,baz=267,slow=36						
QSPA	South Pole Qui	117.76	180	PKP	PKPdf	07 45 26.9	-0.9
	comp=Z,2.2nm,0.7s,baz=261,slow=0.9,SNR=7.2						
TXAR	Lajitas Array	118.49	336	PKP	PKPdf	07 45 29.9	-0.6
	comp=Z,0.2nm,0.7s,baz=28,slow=2.1,SNR=2.6						
DZM	Mont Dzumac	120.92	100	eLR	LR	08 23 00.8	
	comp=Z,91nm,23.3s						
PLCA	Paso Flores	131.64	239	SKPbc	SKPbc	07 49 19.8	+0.1
	comp=Z,0.9nm,0.6s,baz=81,slow=2.1,SNR=3.7						
PPT2	Papeete2	157.65	67	eLR	LR	08 39 45.2	
	comp=Z,105nm,24.8s						
PPT2				eLR	LR	08 39 46.1	
	comp=Z,142nm,28.5s						
TBI	Tubuai	160.14	82	eLR	LR	08 41 03.1	
	comp=Z,511nm,33.2s						

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*ANF **05** 07:31:42.8±0.8, 31°.81N×116°.05W, h5km, ML3.5/12, Error ellipse: s-maj=6.4km s-min=4.9km az=40.0*
*NEIC **05** 07:31:44.7±1.9, 31°.81N±0°.02×116°.09W±0°.02, h8km±4km, Error ellipse: s-maj=2.9km s-min=2.4km az=176.0*
*PAS **05** 07:31:44.8±2.4, 31°.80N±0°.02×116°.05W±0°.02, h5km±2km, ML3.7/236, ML3.5/42(NEIC), Error ellipse: s-maj=3.0km s-min=2.8km az=206.0*
*ECX **05** 07:31:45.0±0.5, 31°.79N×116°.03W, h0km±3km, MD3.4, ML3.6, Fault plane solution: NP1:ϕ_s0.00000°, δ49.00000°, λ-142.00000°.*
*MEX **05** 07:31:46.2±0.9, 31°.73N×116°.15W, h10km±6km, MD4.0*
ISC 05 07:31:45.0±0.8, **31°.80N**±0°.02×**116°.05W**±0°.01, **h13**km±5km, **n162**, σ1**§32**/218, **48C-19D, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJOX	Ej. Ojos Negro	0.07	322	⇓iP	Pg	07 31 45.8	-2.0
OJOX				eS	Sg	07 31 47.1	-2.6
SJX	San Joaquin	0.09	118	⇓iP	Pg	07 31 49.1	+1.3
SJX				i S	Sg	07 31 52.1	+2.3
SJX				IAML		07 31 52.3	
	comp=N,14µm,0.2s						
SJX				⇓e		07 31 52.3	
ESJX	Sierra Juarez	0.22	23		Pg	07 31 49.0	-1.0
ESJX				IAML		07 31 52.5	
	comp=N,12µm,0.2s						
ALAMX	Rancho Alamar	0.35	55	⇑iP	Pg	07 31 51.3	-0.9
ALAMX				IAML		07 31 56.6	
	comp=E,9µm,0.2s						
ALAMX				⇓e		07 31 56.6	
VTX	Valle De La Tr	0.47	151		Pg	07 31 53.5	-0.8
VTX					Sg	07 32 00.0	-0.5
VTX	Valle De La Tr	0.47	151	IAML		07 32 00.4	
	comp=N,2µm,0.1s						
VTX				IAML		07 32 00.9	
	comp=E,3µm,0.6s						
VTX	Valle De La Tr	0.47	151	⇑eP	Pg	07 31 53.5	-0.8
VTX				eS	Sg	07 32 00.1	-0.5
VTX				⇑e		07 32 00.1	
VTX				IAML		07 32 00.1	
	comp=N,3µm,0.1s						
CNAEN	Presa Emilio L	0.48	281	⇑iP	Pg	07 31 54.1	-0.3
CNAEN				eS	Sg	07 32 00.7	-0.1
SV2X	San Vicente	0.49	199	⇓eP	Pg	07 31 54.2	-0.5
SV2X				eS	Sg	07 32 00.9	-0.3
SV2X				⇓e		07 32 01.4	
SV2X				IAML		07 32 01.4	
	comp=E,4µm,0.1s						
SV2X				IAML		07 32 01.6	
	comp=N,4µm,0.1s						
SV2X				⇑e		07 32 01.6	
CCX	Cicese	0.53	277		Pg	07 31 55.2	-0.2
CCX	Cicese	0.53	277		Sg	07 32 03.0	+0.6
CCX	Cicese	0.53	277	⇑iP	Pg	07 31 55.2	-0.2
CCX				eS	Sg	07 32 02.9	+0.5
PBX	Punta Banda	0.58	264	⇑iP	Pg	07 31 56.2	-0.2
PBX				eS	Sg	07 32 04.4	+0.4
CBX	Cerro Bola	0.73	314		Pg	07 31 58.6	-0.6
CBX	Cerro Bola	0.73	314		Sg	07 32 08.9	+0.1
CBX	Cerro Bola	0.73	314	IAML		07 32 10.3	
	comp=E,3µm,0.6s						
CBX				IAML		07 32 11.2	
	comp=N,3µm,0.5s						
CBX	Cerro Bola	0.73	314	⇑iP	Pg	07 31 58.6	-0.6
CBX				eS	Sg	07 32 09.0	+0.2
CBX	Cerro Bola	0.73	314	eP	Pg	07 31 58.4	-0.8
CBX				eS	Sg	07 32 08.6	-0.2
RHX	Rio Hardy	0.73	63	⇑iP	Pg	07 31 58.5	-0.7
RHX				eS	Sg	07 32 07.7	-1.1
FRM1	Rumorosa	0.75	1	i P	Pg	07 31 59.0	-0.6
FRM1				eS	Sg	07 32 08.4	-1.1
RMX	La Rumorosa	0.80	358		Pg	07 31 58.8	-1.7
RMX	La Rumorosa	0.80	358		Sg	07 32 08.2	-2.8
RMX	La Rumorosa	0.80	358	IAML		07 32 09.0	
	comp=N,1µm,0.3s						
RMX				IAML		07 32 14.6	
	comp=E,1µm,0.2s						
RMX	La Rumorosa	0.80	358	⇓eP	Pg	07 31 58.8	-1.7
RMX				eS	Sg	07 32 08.2	-2.8
TJIG	Tijuana	0.82	320	⇑iP	Pg	07 31 60.0	-1.0
TJIG				eS	Sg	07 32 10.7	-1.1
TJIG				⇓e		07 32 12.0	
TJIG				IAML		07 32 12.0	
	comp=N,2µm,0.2s						
TJIG	Tijuana	0.82	320	eP	Pg	07 31 59.9	-1.0
TJIG				eS	Sg	07 32 10.6	-1.1
JARAX	Ej. Heriberto	0.83	28	⇑eP	Pg	07 32 00.4	-0.8
JARAX				eS	Sg	07 32 12.1	+0.1
IKP	In-Ko-Pah, Jac	0.85	357		Pg	07 32 00.6	-0.8
IKP					Sg	07 32 11.1	-1.4
IKP	In-Ko-Pah, Jac	0.85	357	⇓iP	Pg	07 32 00.6	-0.8
IKP	In-Ko-Pah, Jac	0.85	357	P	Pg	07 32 00.6	-0.8
	baz=176,SNR=106						
IKP				S	Sg	07 32 11.2	-1.4
	baz=176						
YUH2	Yuha Desert	0.85	7	⇓iP	Pg	07 32 00.4	-1.0
YUH	Yuha Desert	0.85	7		Pg	07 32 00.4	-1.0
CPBX	Cerro Prieto	0.88	46		Pg	07 32 01.8	-0.2
CPBX	Cerro Prieto	0.88	46		Sb	07 32 14.7	+0.8
CPBX	Cerro Prieto	0.88	46	IAML		07 32 21.7	
	comp=E,7µm,0.5s						
CPBX				IAML		07 32 22.0	
	comp=N,6µm,0.5s						
CPBX	Cerro Prieto	0.88	46	⇑eP	Pg	07 32 01.8	-0.2
AGSX	Ej. Aguas Cali	0.88	58	⇑iP	Pg	07 32 01.8	-0.3
AGSX				eS	Sb	07 32 14.3	+0.4
TKX	Tecate	0.90	328		Pg	07 32 01.3	-1.1
TKX	Tecate	0.90	328	⇑eP	Pg	07 32 01.3	-1.1
TKX				eS	Sg	07 32 12.7	-1.5
SPIG	San Pedro Mart	0.91	146	⇑eP	Pg	07 32 01.4	-1.2
SPIG				eS	Sg	07 32 12.9	-1.5
SPIG	San Pedro Mart	0.91	146	eP	Pg	07 32 01.3	-1.2
SPIG				eS	Sg	07 32 12.8	-1.7
MDOC	Michoac¡n de	0.91	43	⇓iP	Pg	07 32 02.2	-0.3
MDOC				eS	Sg	07 32 14.7	+0.3
ECBX	El Chinero	0.91	111	⇑iP	Pg	07 32 01.7	-1.0
ECBX				eS	Sg	07 32 13.2	-1.4
ECBX				IAML		07 32 15.2	
	comp=N,1µm,0.3s						
ECBX				⇓e		07 32 15.2	
ZC01	Zona Comercial	0.92	26	⇑iP	Pg	07 32 02.5	-0.2
ZC01				eS	Sg	07 32 15.4	+0.6
POTX	Potabilizadora	0.93	31	eP	Pg	07 32 03.0	0.0
POTX				eS	Sb	07 32 16.5	+1.3
MBIG	Mexicali	0.94	50	⇑eP	Pg	07 32 03.4	+0.2
MBIG	Mexicali	0.94	50	eP	Pg	07 32 01.7	-1.5
MBIG				eP	Pb	07 32 03.2	0.0
MBIG				eS	Sg	07 32 14.0	-1.5
MBIG				eS	Sb	07 32 16.9	+1.4
VIC1	Col Coahuila,	0.94	59	⇑iP	Pg	07 32 03.2	0.0
VIC1				eS	Sb	07 32 17.0	+1.5
GUVIX	Guadalupe Vict	0.96	59		Pg	07 32 03.5	-0.2
GUVIX	Guadalupe Vict	0.96	59		Sb	07 32 17.7	+1.4
GUVIX	Guadalupe Vict	0.96	59	IAML		07 32 18.2	
	comp=E,4µm,0.7s						
GUVIX				IAML		07 32 21.5	
	comp=N,6µm,0.7s						
GUVIX	Guadalupe Vict	0.96	59	⇑iP	Pg	07 32 03.4	-0.2
ZC06	Zona comercial	0.97	35	⇓iP	Pb	07 32 04.4	+0.7
ZC06				eS	Sg	07 32 16.2	-0.3
CNATJ	Tijuana	0.97	312	⇓iP	Pg	07 32 02.7	-1.1
CNATJ	Tijuana	0.97	312	eS	Sg	07 32 15.5	-0.9
UABX	UABC, Campus M	0.97	32		Sb	07 32 17.9	+1.4
UABX	UABC, Campus M	0.97	32		Pg	07 32 03.7	-0.1
UABX	UABC, Campus M	0.97	32	IAML		07 32 19.4	
	comp=N,7µm,0.7s						
UABX				IAML		07 32 19.8	
	comp=E,6µm,0.2s						
UABX	UABC, Campus M	0.97	32	⇑eP	Pg	07 32 03.7	-0.1
UABX				eS	Sb	07 32 17.6	+1.1
5053	Calexico	0.98	29		Pg	07 32 03.9	-0.1
5053					Sb	07 32 17.7	+0.9
ICBC	Inst. de Cultu	0.99	30	⇓iP	Pb	07 32 04.8	+0.8
ICBC				eS	Sb	07 32 18.0	+1.1
WESC	Westside Schoo	0.99	16		Pg	07 32 04.1	0.0
WESC					Sg	07 32 17.4	+0.3
WESC	Westside Schoo	0.99	16	⇑eP	Pg	07 32 04.1	0.0
CNATK	Presa El Carri	0.99	313	⇓iP	Pg	07 32 00.9	-3.3
CNATK	Presa El Carri	0.99	313	eS	Sg	07 32 12.1	-5.1
PIPTJ	Tijuana	0.99	314	⇑iP	Pg	07 32 03.0	-1.2
RITX	Riito Sonora	0.99	68	⇑eP	Pg	07 32 03.8	-0.4
SALX	Saltillo	0.99	51	⇑iP	Pb	07 32 04.9	+0.8
POT2	Potabilizadora	1.00	34	eP	Pg	07 32 04.4	+0.1
POT2				eS	Sb	07 32 18.1	+0.9
POT2				eS	Sg	07 32 18.3	+1.1
DUZA	Dulzura	1.01	323		Pg	07 32 03.1	-1.4
TAMA	Ej. Tamaulipas	1.01	44	eS	Sb	07 32 19.5	+1.9
DRETJ	Distrito Refor	1.01	311	⇑iP	Pg	07 32 03.5	-1.1
DRETJ				eS	Sg	07 32 17.3	-0.6
BAR	Barrett	1.02	329		Pg	07 32 03.2	-1.6
BAR	Barrett	1.02	329		Sg	07 32 16.4	-1.7
BAR	Barrett	1.02	329	⇑iP	Pg	07 32 03.2	-1.6
BAR				eS	Sg	07 32 16.4	-1.7
BAR				IAML		07 32 20.4	
	comp=E,1µm,0.2s						
BAR				⇓e		07 32 20.4	
BAR				⇓e		07 32 20.8	
BAR				IAML		07 32 20.8	
	comp=N,1µm,0.2s						
AGUTJ	Tijuana	1.05	310	⇑iP	Pg	07 32 04.2	-1.1
COK2	Cook Ranch 2	1.08	15		Pg	07 32 05.3	-0.5
COK2					Sg	07 32 20.4	+0.5
CRR	Carrizo Plain	1.08	4		Pg	07 32 05.0	-0.9
CRR					Sg	07 32 19.3	-0.7
OLP	Otay Lakes Par	1.09	317		Pg	07 32 04.6	-1.5
OLP					Sg	07 32 18.8	-1.6
OLP	Otay Lakes Par	1.09	317	⇑iP	Pg	07 32 04.6	-1.5
OLP				eS	Sg	07 32 18.8	-1.6
TJX	Tijuana	1.10	310	Pg	Pg	07 32 05.2	-1.2
TJX	Tijuana	1.10	310		Sg	07 32 19.9	-0.9
TJX	Tijuana	1.10	310	IAML		07 32 25.5	
	comp=N,2µm,0.4s						
TJX				IAML		07 32 34.0	
	comp=E,2µm,0.8s						
TJX	Tijuana	1.10	310	⇑iP	Pg	07 32 06.0	-0.3
TJX				eS	Sg	07 32 20.9	+0.2
TJX	Tijuana	1.10	310	⇑eP	Pg	07 32 05.0	-1.3
PLMO	Planta Morelos	1.12	50	⇑iP	Pg	07 32 05.9	-0.7
PLMO				eS	Sg	07 32 20.4	-0.8
EDOMX	El Doctor, EDO	1.12	82	⇑eP	Pg	07 32 05.0	-1.6
DREC	Desert Rsrch C	1.12	27		Pg	07 32 06.2	-0.4
MONP2	Monument Peak	1.13	344		Pg	07 32 05.5	-1.3
MONP2					Sg	07 32 19.9	-1.6
MONP2	Monument Peak	1.13	344	⇑eP	Pg	07 32 05.5	-1.3
MONP2	Monument Peak	1.13	344	P	Pg	07 32 05.5	-1.3
	baz=164,SNR=85						
MONP2				S	Sg	07 32 20.0	-1.6
	baz=164						
YUCAX	Ej. Yucat¡n	1.14	45	⇑iP	Pg	07 32 05.7	-1.2
SWSC	Sam W. Stewart	1.16	10		Pg	07 32 06.8	-0.5
SWSC					Sg	07 32 22.4	0.0
SWSC	Sam W. Stewart	1.16	10	⇑eP	Pg	07 32 06.6	-0.8
SWSC	Sam W. Stewart	1.16	10	P	Pg	07 32 06.4	-0.9
	baz=190,SNR=85						
SWSC				S	Sg	07 32 21.4	-1.0
	baz=190						
IMPE	Imperial	1.17	21		Pg	07 32 07.1	-0.4
SDRC	San Diego Road	1.20	321		Pg	07 32 06.3	-1.8
SDRC	San Diego Road	1.20	321	⇑eP	Pg	07 32 06.2	-1.9
SDRC				eS	Sg	07 32 21.7	-2.0
SQX	San Quintin	1.23	173	⇓eP	Pg	07 32 06.4	-2.3
SQX				IAML		07 32 23.6	
	comp=E,1µm,0.2s						
SQX				⇑e		07 32 23.6	
SQX				⇑e		07 32 23.8	
SQX				IAML		07 32 23.8	
	comp=N,1µm,0.2s						
EML	El Monte Cty P	1.28	328		Pg	07 32 07.4	-2.2
EML					Sg	07 32 23.9	-2.3
EML	El Monte Cty P	1.28	328	⇑iP	Pg	07 32 07.4	-2.2
SFX	San Felipe	1.28	126	Pg	Pg	07 32 07.9	-1.7
SFX				IAML		07 32 26.5	
	comp=N,1µm,0.5s						
SFX				IAML		07 32 26.7	
	comp=E,1µm,0.6s						
SFX	San Felipe	1.28	126	e	Sg	07 32 26.6	+0.3
SFX				IAML		07 32 26.6	
	comp=N,2µm,0.3s						
SFX	San Felipe	1.28	126	eP	Pg	07 32 08.6	-1.1
SFX				eS	Sg	07 32 24.9	-1.4
EMSC	East Mesa	1.30	44		Pg	07 32 07.9	-2.1
EMSC	East Mesa	1.30	44	⇑eP	Pg	07 32 07.8	-2.1
COA	Coachella	1.32	36		Pg	07 32 08.1	-2.2
JUEM	Julian Eagle M	1.35	340		Pg	07 32 09.3	-1.8
CLI2	Calipatria 2	1.37	17		Pn	07 32 10.4	+0.6
SLH	Sleepy Hollow	1.40	353		Pn	07 32 10.4	+0.2
SLH					Sg	07 32 29.0	-1.0
SLH	Sleepy Hollow	1.40	353	⇑eP	Pn	07 32 10.2	0.0
109C	Camp Elliot, M	1.40	321	Pn	Pn	07 32 09.5	-0.8
109C				IAML		07 32 30.3	
	comp=E,1µm,0.3s						
109C	Camp Elliot, M	1.40	321	P	Pn	07 32 09.6	-0.7
	baz=140,SNR=88						
109C				S	Sg	07 32 27.7	-2.5
	baz=140						
CPE	Camp Elliot	1.40	321		Pn	07 32 09.6	-0.7
DPP	Dos Picos Cty	1.41	328		Pn	07 32 09.6	-0.8
DPP					Sg	07 32 28.0	-2.4
RUN	Ruthven	1.48	38		Pn	07 32 10.1	-1.2
RUN					Sg	07 32 28.4	-4.2
MATG	Mataguay Scout	1.48	340		Pn	07 32 11.3	-0.2
MATG	Mataguay Scout	1.48	340	⇑eP	Pn	07 32 11.3	-0.2
BORC	Borrego Spring	1.49	348		Pn	07 32 12.1	+0.5
GORC	Green Oak Ranc	1.68	324		Pn	07 32 14.1	0.0
GORC					Sn	07 32 35.8	+0.4
PLM	Palomar	1.69	336		Pn	07 32 14.6	+0.1
PLM					Sn	07 32 36.5	+0.5
FRD	Ford Ranch, An	1.75	345		Pn	07 32 16.5	+1.3
FRD	Ford Ranch, An	1.75	345		Pn	07 32 16.4	+1.3
BZNA	Buzz No.'s Pla	1.76	343		Pn	07 32 16.7	+1.3
SNDA	J Saunders Pla	1.81	345		Pn	07 32 17.8	+1.8
DNR	Dunn Ranch,Anz	1.82	345		Pn	07 32 18.0	+1.8
PFO	Pinyon Flats O	1.84	349	Pn	Pn	07 32 16.6	+0.2
PFO				IAML		07 32 43.8	
	comp=E,295nm,0.5s						
PFO	Pinyon Flats O	1.84	349		Pn	07 32 17.0	+0.6
PFO	Pinyon Flats O	1.84	349	Pb	Pn	07 32 16.6	+0.2
	baz=169,SNR=22						
PFO				Sb	Sn	07 32 41.5	+2.0
	baz=169						
CRY	Cary Ranch	1.85	342		Pn	07 32 17.9	+1.4
PMD	Palm Desert	1.86	352	Pn	Pn	07 32 16.7	+0.1
PMD				IAML		07 32 43.4	
	comp=E,318nm,0.5s						
BACC	Bachelor Mtn.	1.99	335		Pn	07 32 19.3	+0.9
BACC					Sn	07 32 44.5	+1.4
DGR	Domenigoni Val	2.01	337		Pn	07 32 19.7	+1.0
POB	Polly Butte	2.02	339		Pn	07 32 20.2	+1.4
MURC	Murrieta	2.04	332		Pn	07 32 20.7	+1.7
MURC					Sn	07 32 46.4	+2.1
MURC	Murrieta	2.04	332	Pb	Pn	07 32 20.2	+1.2
	baz=152						
HMTC	Hemet	2.06	337		Pn	07 32 20.7	+1.3
PPXB	Puerto Peasco	2.12	102	⇑eP	Pn	07 32 18.3	-1.8
EW2	E Wide Canyon	2.15	352		Sg	07 32 53.9	-0.3
113A	Mohawk Valley,	2.16	63		Pn	07 32 20.1	-0.6
ELS	Elsinore Mount	2.17	328		Pn	07 32 22.0	+1.1
ELS				IAML		07 32 51.5	
	comp=N,245nm,0.2s						
ELS				IAML		07 32 53.7	
	comp=E,389nm,0.5s						
PIX	Pinacate	2.22	96	⇑eP	Pn	07 32 19.8	-1.8
BLAC	Blackrock camp	2.28	353		Sb	07 32 56.3	+2.1
TPC	Twentynine Pal	2.30	0		Pn	07 32 23.8	+1.2
SLGB	San Luis Gonza	2.42	144	⇑eP	Pb	07 32 29.7	+1.2
IRM	Iron Mountain	2.47	18	Pb	Pn	07 32 27.2	+2.3
	baz=198						
CIS	Catalina Islan	2.55	309	P	Pn	07 32 25.7	-0.5
	baz=128						
CIS				Sb	Sb	07 33 03.3	+1.2
	baz=128						
BBRC	Big Bear Solar	2.56	344	Pb	Pn	07 32 28.8	+2.4
	baz=163						
BBRC				Sb	Sb	07 33 03.3	+1.0
	baz=163						
214A	Organ Pipe Nat	2.76	86	Pn	Pn	07 32 28.1	-0.9
214A				IAML		07 33 03.5	
	comp=E,154nm,0.3s						
214A	Organ Pipe Nat	2.76	86	⇑eP	Pn	07 32 28.0	-1.0
214A	Organ Pipe Nat	2.76	86	P	Pn	07 32 27.7	-1.3
	baz=268,SNR=14						
214A				S	Sn	07 33 00.7	-1.5
	baz=268						
BFSC	Mount Baldy Ra	2.78	331	Pb	Pn	07 32 32.8	+3.5
	baz=151						
PEM	Pine Mountain	2.81	328		Pb	07 32 33.9	-1.1
PASC	Pasadena Art C	2.97	323		Pn	07 32 31.7	-0.1
PASC				IAML		07 33 17.0	
	comp=N,98nm,0.9s						
PASC				IAML		07 33 20.0	
	comp=E,104nm,0.6s						
Y14A	Wickenburg	3.33	49		Pn	07 32 37.2	+0.3
LAPR	La Primavera	3.45	111	⇑eP	Pn	07 32 38.2	-0.2
EDW2	Edwards Air Fo	3.47	333	Sb	Sb	07 33 30.1	+1.5
	baz=152						
CCAC	Calif City Air	3.72	334		Pn	07 32 43.4	+1.2
CCAC				IAML		07 33 42.4	
	comp=E,93nm,1.3s						
CCAC				IAML		07 33 46.5	
	comp=N,130nm,0.8s						
W13A	Hualapai Mount	3.75	28		Pn	07 32 42.8	0.0
QSM	Queen of Sheba	4.21	351		Sn	07 33 18.0	-20
ISA	Isabella, Lake	4.35	333		Pn	07 32 51.0	+0.1
SHPR	Sheep Range	4.75	9		Pn	07 32 57.4	+1.0

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*TEH **05** 07:42:22.9, 27°.90N×51°.94E, h13km±58km, ML3.4*
*OMAN **05** 07:42:27.1±0.2, 27°.86N×52°.28E, h20km, mb3.7/2, ml3.5/9, Error ellipse: s-maj=4.9km s-min=3.0km az=352.0*
ISC 05 07:42:25.4±1.0, **27°.86N**±0°.04×**51°.99E**±0°.04, **h26**km, **n31**, σ1**§64**/51, **1D, Persian Gulf**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	Dashti - Bushe	0.82	308	Pg	Pb	07 42 38.5	-2.6
LMD1	Lamerd	1.16	116	Pg	Pb	07 42 46.4	-0.5
LMD1				Sg	Sb	07 43 05.4	+3.8
JHRM	Jahrom	1.54	65	Pg	Pb	07 42 52.8	-0.6
SHI	Shiraz	1.83	14	Pn	Pb	07 42 58.7	+0.3
SHMA	Al-Shehemyia	2.20	205	P	Pb	07 43 04.1	-0.4
	SNR=9.6						
SHMA				S	Sb	07 43 33.2	+1.9
SAKB	Bahrain	2.28	215	P	Pb	07 43 06.0	0.0
SAKB				S	Sb	07 43 36.3	+2.6
JRN	Qarnain Island	3.01	165	P	Pn	07 43 12.1	+0.7
JRN				S	Sn	07 43 48.7	+2.1
SHME	Shamm	4.12	115	P	Pn	07 43 26.0	-0.7
	SNR=6.1						
SHME				S	Sn	07 44 15.0	+0.9
IMEH	Mehriz	4.19	32	Pn	Pn	07 43 29.6	+1.7
NAZ	Nazwa, Dubai	4.36	130	⇓P	Pn	07 43 30.2	+0.2
NAZ				S	Sn	07 44 19.4	-0.6
ASUD	Al Ashush, Dub	4.40	136	P	Pn	07 43 30.6	+0.1
ASUD				S	Sn	07 44 21.1	+0.1
AMIS	Naft Sefid	4.46	329	Pn	Pn	07 43 32.4	+0.9
MASF	Masafi	4.48	123	P	Pn	07 43 31.1	-0.6
	SNR=7.9						
MASF				S	Sn	07 44 21.8	-1.3
FAQ	Al Faqa, Dubai	4.48	133	P	Pn	07 43 31.3	-0.4
FAQ				S	Sn	07 44 23.0	0.0
KHGB	Koh Gabri	4.66	56	Pn	Pn	07 43 35.0	+0.6
UOSS	Minazif	4.76	127	P	Pn	07 43 34.3	-1.3
UOSS				S	Sn	07 44 26.4	-3.7
HATD	Hatta, Dubai	4.79	128	P	Pn	07 43 35.4	-0.5
HATD				S	Sn	07 44 28.5	-2.2
ASHO	Ashiyiah	4.83	130	P	Pn	07 43 36.0	-0.6
	SNR=12						
ASHO				S	Sn	07 44 31.9	+0.2
IBAF	Bafgh	4.85	39	Pn	Pn	07 43 38.1	+1.2
IZEF	Zefreh	5.03	3	Pn	Pn	07 43 39.8	+0.4
ALNE	Al Ain	5.08	137	P	Pn	07 43 40.2	+0.2
ALNE				S	Sn	07 44 36.4	-1.4
IKLH	Kolahrood	5.45	356	Pn	Pn	07 43 45.7	+0.4
SOHO	SOHO	5.52	131	P	Pn	07 43 45.2	-0.8
SOHO				S	Sn	07 44 48.4	-0.2
JASK	Jask - Hormozg	5.61	109	P	Pn	07 43 46.6	-0.7
	SNR=7.4						
JASK				S	Sn	07 44 51.5	+0.6
KBAM	BAM	5.83	76	Pn	Pn	07 43 51.3	+1.0
ARQ	Araqi	6.08	137	P	Pn	07 43 52.5	-1.3
ARQ				S	Sn	07 45 01.3	-1.3
HOQ	Hoqain	6.42	130	P	Pn	07 43 57.7	-0.6
HOQ				S	Sn	07 45 08.3	-2.5
BSY	Bisya	6.94	136	P	Pn	07 44 04.4	-1.1
BSY				S	Sn	07 45 19.2	-4.5
SMDO	Samad	7.27	130	P	Pn	07 44 09.6	-0.5
SMDO				S	Sn	07 45 28.1	-3.8
WSAR	Wadi Sarin	7.56	126	P	Pn	07 44 13.7	-0.3
WSAR				S	Sn	07 45 36.0	-2.9
MHTO	MHTO	8.74	140	P	Pn	07 44 28.8	-1.4

NNC 05 07:42:57.0±1.5, **54°.44N**×**86°.09E**, **h0**km, **mb3.9**, **mpv3.0**, **5C-2D, Error ellipse: s-maj=24.7km s-min=8.2km az=152.0, Suspected Mining explosion., Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	0.89	237	⇑P	Pg	07 43 14.0	0.0
	0.7nm,0.3s						
ZAA0				⇑S	Sg	07 43 26.6	+1.0
	1.5nm,0.2s						
KURBB	Kurchatov Arra	5.99	233	⇑Pn	Pn	07 44 28.0	+1.2
	4.9nm,0.4s						
KURBB				⇓Sn	Sn	07 45 38.0	+2.1
	2.8nm,0.4s						
KURBB				⇓Lg	Lg	07 46 07.6	
	7.8nm,0.6s						
MK31	Makanchi Array	8.02	199	⇑Pn	Pn	07 44 55.4	+0.6
	0.4nm,0.3s,baz=25,slow=14,SNR=52						
MK31				Sn	Sn	07 46 26.9	+0.8
	0.3nm,0.4s,baz=23,slow=24,SNR=3.7						
MK31				⇑Lg	Lg	07 47 12.7	
	1.1nm,0.7s,baz=26,slow=13,SNR=15						

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*NOU **05** 07:45:47.9, 14°.21S×172°.76W, h134km, MLv3.8/5, Samoa Islands*
IDC 05 07:45:30.7±5.7, **13°.96S**×**174°.04W**, **h0**km, **mb3.8**/3, **mbtmp3.8**/3, **Error ellipse: s-maj=322.1km s-min=39.1km az=144.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.20	89	P	Pb	07 46 11.1	-0.4
WRA	Warramunga Arr	49.58	256	P	P	07 54 24.1	+0.1
	0.6nm,0.7s,baz=90,slow=6.7,SNR=12						
	0.6nm,0.7s						
ASAR	Alice Springs	49.98	251	P	P	07 54 26.8	-0.3
	2.7nm,0.7s,baz=85,slow=8.3,SNR=39						
	2.7nm,0.7s						
YKA	Yellowknife Ar	89.04	24	P	P	07 58 27.3	0.0
	0.3nm,1.0s,baz=240,slow=4.0,SNR=3.7						
	0.3nm,1.0s						

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*IDC **05** 07:46:54.4±1.5, 54°.20N×169°.28E, h0km, mb3.5/8, mbtmp3.5/10, ML3.0/2, MS3.2/2, Error ellipse: s-maj=47.6km s-min=17.9km az=6.0*
*KRSC **05** 07:46:57.2±1.9, 53°.71N×168°.81E, h30km±28km, Ml3.9*
ISC 05 07:46:57.0±0.8, **53°.8N**±0°.1×**169°.20E**±0°.05, **h25**km, **n28**, σ1**§63**/32, **mb3.6**/8, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	2.33	307	eP	Pn	07 47 33.4	-0.2
BKI				eS	Sn	07 48 01.6	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SHEM	Shemya Is, Ala	3.14	109	Pn	Pn	07 47 45.6	+0.8
	4.0nm,0.3s,baz=279,slow=22,SNR=1.9						
SHEM				Sn	Sn	07 48 23.2	+1.7
	6.6nm,0.3s,baz=232,slow=20,SNR=6.5						
	34nm,0.6s						
KBTR	Krutoberegovo	4.37	305	eP	Pn	07 48 05.8	+4.0
TUMD	Tumrok D	5.31	288	eP	Pn	07 48 16.5	+1.9
TUMD				eS	Sn	07 49 15.5	+0.6
TUMR	Tumrok	5.46	289	eP	Pn	07 48 18.8	+1.9
KMNR	Kamenistaya	5.53	294	eP	Pn	07 48 18.9	+1.1
SDLR	Sedlovina	6.17	269	eP	Pn	07 48 27.7	+1.1
UGLR	Uglovaya	6.22	268	eP	Pn	07 48 28.7	+1.4
SMAR	Somma	6.23	269	eP	Pn	07 48 29.2	+1.8
KRER	Koryakskii	6.25	269	eP	Pn	07 48 28.5	+0.7
KRX	Arik	6.30	270	eP	Pn	07 48 29.9	+1.5
KOK	Koryaka	6.32	269	eP	Pn	07 48 29.5	+0.9
KRMR	Karymshinskiy	6.71	266	eP	Pn	07 48 37.0	+3.2
MTVR	Mutnovka	6.76	263	eP	Pn	07 48 36.6	+1.9
MTVR				eS	Sn	07 49 50.5	-0.4
GRL	Gorelyy	6.81	264	eP	Pn	07 48 36.9	+1.5
PETK	Petropavlovsk-	6.91	269	Pn	Pn	07 48 38.4	+1.8
	0.7nm,0.3s,baz=93,slow=20,SNR=8.3						
PETK				Sn	Sn	07 49 53.9	-0.4
	0.2nm,0.3s,baz=92,slow=40,SNR=2.0						
	1.2nm,0.4s						
ASAK	Asacha	6.96	262	eP	Pn	07 48 39.4	+2.0
KDTR	Khodutka, Kamc	7.04	258	eP	Pn	07 48 38.5	+0.2
KDTR				eS	Sn	07 49 54.8	-2.7
ILAR	Eielson Array	24.39	46	P	P	07 52 11.2	-1.7
	0.4nm,0.6s,baz=254,slow=7.8,SNR=7.9						
	0.4nm,0.6s						
YKA	Yellowknife Ar	38.83	46	P	P	07 54 17.9	-1.4
	0.1nm,0.4s,baz=245,slow=7.5,SNR=4.1						
	0.1nm,0.4s						
NVAR	Mina Array Bea	50.31	77	P	P	07 55 51.4	-0.2
	0.3nm,0.5s,baz=309,slow=9.1,SNR=1.8						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	51.94	306	P	P	07 56 02.4	-1.0
	0.7nm,0.8s,baz=52,slow=7.2,SNR=4.7						
	0.7nm,0.8s						
MKAR	Makanchi Array	52.61	300	P	P	07 56 08.6	+0.1
	0.3nm,0.6s,baz=354,slow=7.2,SNR=1.9						
	0.3nm,0.6s						
BVAR	Borovoye Array	54.05	312	P	P	07 56 18.5	-0.4
	1.8nm,0.6s,baz=50,slow=9.8,SNR=5.8						
	1.8nm,0.6s						
ARU	Arti	56.38	321	LR	LR	08 23 47.8	
	comp=Z,23nm,19.2s,baz=170,slow=39						
CMAR	Chiang Mai Arr	63.67	265	LR	LR	08 28 00.3	
	comp=Z,15nm,18.4s,baz=305,slow=39						
TXAR	Lajitas Array	65.26	74	P	P	07 57 37.5	+0.9
	0.7nm,0.6s,baz=302,slow=4.5,SNR=13						
	0.7nm,0.6s						
AKASG	Malin Array Be	70.55	334	P	P	07 58 09.2	-0.1
	0.4nm,0.4s,baz=26,slow=6.2,SNR=3.4						
	0.4nm,0.4s						

OMAN 05 08:55:31.8±0.2, 27°.88N×52°.25E, h20km, mb3.7/1, ml3.2/1, Error ellipse: s-maj=5.3km s-min=4.0km az=15.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHMA	Al-Shehemyia	2.32	210	P	Pn	08 56 08.8	0.0
SHMA				S	Sb	08 56 39.4	-1.7
SAKB	Bahrain	2.43	219	P	Pn	08 56 11.6	+1.2
SAKB				S	Sn	08 56 41.8	+2.2
SHME	Shamm	3.92	117	P	Pn	08 56 31.0	+0.2
	SNR=12						
SHME				S	Sn	08 57 17.2	+0.9
NAZ	Nazwa, Dubai	4.20	133	P	Pn	08 56 35.0	+0.3
NAZ				S	Sn	08 57 24.8	+1.6
ASUD	Al Ashush, Dub	4.26	139	P	Pn	08 56 35.6	+0.1
	SNR=7.5						
ASUD				S	Sn	08 57 25.9	+1.3
MASF	Masafi	4.30	125	P	Pn	08 56 36.2	+0.1
	SNR=8.8						
UOSS	Minazif	4.59	129	P	Pn	08 56 39.6	-0.5
UOSS				S	Sn	08 57 32.8	-0.1
HATD	Hatta, Dubai	4.62	130	P	Pn	08 56 40.2	-0.3
HATD				S	Sn	08 57 34.9	+1.3
ASHO	Ashiyiah	4.67	132	P	Pn	08 56 40.6	-0.6
	SNR=6.0						
ASHO				S	Sn	08 57 37.1	+2.3
ALNE	Al Ain	4.94	140	P	Pn	08 56 45.4	+0.5
SOHO	SOHO	5.36	133	P	Pn	08 56 49.9	-0.7
SOHO				S	Sn	08 57 51.5	-0.3
JASK	Jask - Hormozg	5.40	110	P	Pn	08 56 51.3	+0.1
JASK				S	Sn	08 57 55.6	+2.8
ARQ	Araqi	5.94	139	P	Pn	08 56 57.3	-1.4
	SNR=20						
ARQ				S	Sn	08 58 05.7	-0.5
HOQ	Hoqain	6.25	132	P	Pn	08 57 02.8	-0.2
BSY	Bisya	6.79	138	P	Pn	08 57 09.4	-1.0
BSY				S	Sn	08 58 27.9	+0.7
SMDO	Samad	7.10	131	P	Pn	08 57 14.3	-0.4
WSAR	Wadi Sarin	7.38	127	P	Pn	08 57 17.8	-0.6
	SNR=6.6						
MHTO	MHTO	8.61	142	P	Pn	08 57 33.9	-1.4
	SNR=7.8						

IDC 05 08:58:59.1±4.6, 5°.46S×102°.65E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=185.4km s-min=28.1km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	30.03	264	T	T	09 36 05.0	
	baz=89,slow=76,SNR=60						
H08S3	Diego Garcia H	30.04	264	T	T	09 36 08.3	
	baz=89,slow=76,SNR=250						
H08S1	Diego Carcia H	30.05	264	T	T	09 36 05.4	
	baz=89,slow=76,SNR=12						
H01W3	Cape Leeuwin H	31.15	162	T	T	09 37 09.5	
	baz=337,slow=76,SNR=16						
H01W2	Cape Leeuwin H	31.16	162	T	T	09 37 09.3	
	baz=337,slow=76,SNR=17						
H01W1	Cape Leeuwin H	31.17	162	T	T	09 37 15.0	
	baz=337,slow=76,SNR=16						
WRA	Warramunga Arr	34.01	118	P	P	09 05 43.3	-1.8
	0.5nm,1.0s,baz=292,slow=10.0,SNR=2.7						
	0.5nm,1.0s						
ASAR	Alice Springs	35.12	124	P	P	09 05 56.0	+1.4
	0.1nm,0.4s,baz=302,slow=8.0,SNR=1.9						
	0.1nm,0.4s						
SONM	Songino Array	53.16	3	P	P	09 08 20.3	+1.3
	0.4nm,0.6s,baz=188,slow=8.7,SNR=2.6						
	0.4nm,0.6s						
MKAR	Makanchi Array	55.06	343	P	P	09 08 31.5	-1.3
	0.1nm,0.5s,baz=152,slow=6.5,SNR=2.6						
	0.1nm,0.5s						
H04N2	CROZET ISLANDS	59.68	219	T	T	10 12 48.6	
	baz=64,slow=75						
H04N1	CROZET ISLANDS	59.70	219	T	T	10 12 48.9	
	baz=64,slow=75						
H04N3	CROZET ISLANDS	59.70	219	T	T	10 12 47.6	
	baz=64,slow=75						
H04S1	CROZET ISLANDS	59.92	218	T	T	10 13 01.2	
	baz=62,slow=75						
H04S3	CROZET ISLANDS	59.93	218	T	T	10 13 01.7	
	baz=62,slow=75						
H04S2	CROZET ISLANDS	59.94	218	T	T	10 13 01.9	
	baz=62,slow=75						

*KRSC **05** 09:06:03.0±0.9, 53°.71N×161°.13E, h44km±19km, Ml4.9*
*MOS **05** 09:06:05.6±1.1, 53°.82N×160°.79E, h64km, mb4.9/39, Error ellipse: s-maj=6.4km s-min=3.3km az=84.6*
*NEIC **05** 09:06:06.0±1.4, 53°.84N±0°.08×160°.8E±0°.1, h48km±5km, mb4.6/153, Error ellipse: s-maj=12.6km s-min=8.9km az=159.0*
*IDC **05** 09:06:09.2±1.5, 53°.95N×160°.59E, h78km±13km, mb4.1/32, mbtmp4.4/35, MS3.5/44, Error ellipse: s-maj=12.6km s-min=9.4km az=137.0*
ISC 05 09:06:06.0±0.4, 53°.81N±0°.03×160°.87E±0°.03, h56km±2km, h56km:pP-P, n667, σ1s.33/683, mb4.6/154, MS3.6/47, 30C-13D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.87	216	eP	Pn	09 06 20.6	-1.5
SPN				eS	Sn	09 06 31.8	-2.2
SPN	Mys Shipunski	0.87	216	PN	Pn	09 06 20.6	-1.5
SPN				S	Sn	09 06 31.8	-2.2
KII	Karymskiy	0.87	286	i P	Pn	09 06 22.0	-0.3
KII	Karymskiy	0.87	286	PN	Pn	09 06 22.0	-0.3
MKZ	Mys Kozlova	0.91	33	eP	Pn	09 06 20.9	-1.6
MKZ	Mys Kozlova	0.91	33	PN	Pn	09 06 20.9	-1.6
NLC	Nalytchevo	1.11	236	eP	Pn	09 06 26.0	+0.7
NLC				eS	Sn	09 06 40.3	+0.6
NLC	Nalytchevo	1.11	236	PN	Pn	09 06 26.0	+0.7
NLC				S	Sn	09 06 40.3	+0.6
SDLR	Sedlovina	1.30	247	eP	Pn	09 06 28.0	0.0
SDLR	Sedlovina	1.30	247	PN	Pn	09 06 28.0	0.0
SMAR	Somma	1.35	247	eP	Pn	09 06 28.8	+0.1
SMAR	Somma	1.35	247	PN	Pn	09 06 28.8	+0.1
UGLR	Uglovaya	1.36	245	eP	Pn	09 06 29.1	+0.3
UGLR	Uglovaya	1.36	245	PN	Pn	09 06 29.1	+0.3
KRER	Koryakskii	1.36	249	i P	Pn	09 06 29.3	+0.4
KRER	Koryakskii	1.36	249	PN	Pn	09 06 29.3	+0.4
AVH	Avacha	1.39	248	eP	Pn	09 06 29.5	+0.5
AVH	Avacha	1.39	248	PN	Pn	09 06 29.5	+0.5
KRX	Arik	1.40	252	i P	Pn	09 06 29.6	+0.3
KRX	Arik	1.40	252	PN	Pn	09 06 29.6	+0.3
TUMD	Tumrok D	1.43	349	i P	Pn	09 06 29.7	+0.1
TUMD				eS	Sn	09 06 47.8	+0.5
KOK	Koryaka	1.43	250	i P	Pn	09 06 30.0	+0.3
KOK	Koryaka	1.43	250	PN	Pn	09 06 30.0	+0.3
DALK	Dalny	1.49	239	eP	Pn	09 06 30.2	-0.1
DALK				eS	Sn	09 06 48.8	+0.1
DALK	Dalny	1.49	239	PN	Pn	09 06 30.2	-0.1
DALK				S	Sn	09 06 48.8	+0.1
TUMR	Tumrok	1.54	344	i P	Pn	09 06 31.9	+0.7
TUMR	Tumrok	1.54	344	PN	Pn	09 06 29.7	-1.5
TUMR				S	Sn	09 06 47.8	-2.4
PET	Petropavlovsk	1.54	240		Pn	09 06 31.0	-0.1
PET	Petropavlovsk	1.54	240	i P	Pn	09 06 31.1	0.0
PET				eS	Sn	09 06 50.3	+0.3
PET	Petropavlovsk	1.54	240	cePN	Pn	09 06 30.8	-0.3
PET				pmax	pmax		
	comp=Z,865nm,0.6s						
KRMR	Karymshinskiy	1.92	240	eP	Pn	09 06 36.7	+0.5
KRMR				eS	Sn	09 06 59.8	+0.7
KRMR	Karymshinskiy	1.92	240	PN	Pn	09 06 36.7	+0.5
KRMR				S	Sn	09 06 59.8	+0.7
KMNR	Kamenistaya	1.99	350	eP	Pn	09 06 38.7	+1.4
KMNR	Kamenistaya	1.99	350	PN	Pn	09 06 38.7	+1.4
PEA0B	Petropavlovsk-	2.02	251	Pn	Pn	09 06 38.6	+1.0
PEA0B	Petropavlovsk-	2.02	251	cePN	Pn	09 06 37.8	+0.1
PETK	Petropavlovsk-	2.02	251	Pn	Pn	09 06 37.5	-0.2
PETK	Petropavlovsk-	2.02	251	P	Pn	09 06 38.4	+0.7
	comp=Z,161nm,0.3s,baz=82,slow=20,SNR=352						
PETK				S	Sn	09 07 04.6	+2.8
	comp=Z,611nm,0.8s,baz=74,slow=17,SNR=4.7						
PETK				LR	LR	09 07 35.2	
	comp=Z,846nm,21.8s,baz=71,slow=45						
MTVR	Mutnovka	2.09	232	eP	Pn	09 06 38.6	-0.2
MTVR	Mutnovka	2.09	232	PN	Pn	09 06 38.6	-0.2
GRL	Gorelyy	2.10	234	eP	Pn	09 06 39.4	+0.5
GRL	Gorelyy	2.10	234	PN	Pn	09 06 39.4	+0.5
BZGR	Bezymyannyi-Gr	2.14	357	eP	Pn	09 06 40.8	+1.4
BZGR	Bezymyannyi-Gr	2.14	357	PN	Pn	09 06 40.8	+1.4
BZMR	Bezymyannaya	2.15	354	eP	Pn	09 06 41.0	+1.6
BZMR	Bezymyannaya	2.15	354	PN	Pn	09 06 41.0	+1.6
BZWR	Bezymyannyi-We	2.17	354	eP	Pn	09 06 41.6	+1.7
BZWR	Bezymyannyi-We	2.17	354	PN	Pn	09 06 41.6	+1.7
KIRR	Kirishev	2.17	352	eP	Pn	09 06 41.4	+1.5
KIRR	Kirishev	2.17	352	PN	Pn	09 06 41.4	+1.5
KPT	Kopyto	2.20	350	eP	Pn	09 06 41.5	+1.4
KPT	Kopyto	2.20	350	PN	Pn	09 06 41.5	+1.4
ZLN	Zelenaya	2.22	359	eP	Pn	09 06 42.2	+1.8
ZLN	Zelenaya	2.22	359	PN	Pn	09 06 42.2	+1.8
ASAK	Asacha	2.29	233	eP	Pn	09 06 43.1	+1.7
ASAK	Asacha	2.29	233	PN	Pn	09 06 43.1	+1.7
CIRR	Tsirk	2.32	358	eP	Pn	09 06 43.6	+1.8
CIRR	Tsirk	2.32	358	PN	Pn	09 06 43.6	+1.8
KOZ	Kozyrevsk	2.33	346	eP	Pn	09 06 43.2	+1.3
KOZ	Kozyrevsk	2.33	346	PN	Pn	09 06 43.2	+1.3
APC	Apacha	2.40	250	eP	Pn	09 06 44.6	+1.9
APC				eS	Sn	09 07 13.2	+2.4
APC	Apacha	2.40	250	PN	Pn	09 06 44.6	+1.9
APC				S	Sn	09 07 13.2	+2.4
ESO	Esso	2.47	330	eP	Pn	09 06 45.6	+1.9
ESO	Esso	2.47	330	PN	Pn	09 06 45.6	+1.9
KLY	Klyuchi	2.52	357	eP	Pn	09 06 45.5	+1.2
KLY	Klyuchi	2.52	357	PN	Pn	09 06 45.5	+1.2
SRDR	Sredinnyy	2.60	346	eP	Pn	09 06 46.5	+0.8
SRDR	Sredinnyy	2.60	346	PN	Pn	09 06 46.5	+0.8
KDTR	Khodutka, Kamc	2.62	221	eP	Pn	09 06 46.4	+0.6
KDTR				eS	Sn	09 07 16.3	-0.1
KDTR	Khodutka, Kamc	2.62	221	PN	Pn	09 06 46.4	+0.6
KDTR				S	Sn	09 07 16.3	-0.1
KBTR	Krutoberegovo	2.66	24	eP	Pn	09 06 46.9	+0.6
KBTR	Krutoberegovo	2.66	24	PN	Pn	09 06 46.9	+0.6
KBG	Krutoberegovo	2.67	22	eP	Pn	09 06 48.0	+1.5
KBG				eS	Sn	09 07 19.9	+2.3
KBG	Krutoberegovo	2.67	22	PN	Pn	09 06 48.0	+1.5
KBG				S	Sn	09 07 19.9	+2.3
BDR	Baidarnaya	2.77	4	eP	Pn	09 06 49.6	+1.6
BDR	Baidarnaya	2.77	4	PN	Pn	09 06 49.6	+1.6
SMKR	Semkarok	2.80	7	eP	Pn	09 06 49.7	+1.3
SMKR	Semkarok	2.80	7	PN	Pn	09 06 49.7	+1.3
SRKR	Sorokina	2.86	3	eP	Pn	09 06 51.0	+1.9
SRKR	Sorokina	2.86	3	PN	Pn	09 06 51.0	+1.9
BKI	Bering	3.29	63	eP	Pn	09 06 53.6	-1.3
BKI				eS	Sn	09 07 28.5	-4.1
BKI	Bering	3.29	63	PN	Pn	09 06 53.6	-1.3
BKI				S	Sn	09 07 28.5	-4.1
PAU	Pauzhetka	3.41	228	eP	Pn	09 06 59.7	+3.1
PAU	Pauzhetka	3.41	228	PN	Pn	09 06 59.7	+3.1
SKR	Severo-Kuril's	4.28	225	eP	Pn	09 07 10.0	+1.5
SKR	Severo-Kuril's	4.28	225	ePN	Pn	09 07 17.8	+9.3
SKR				eS	Sn	09 07 57.0	-0.1
SKR				pmax	pmax		
	comp=Z,91nm,0.8s						
SKR				smax	smax		
	comp=N,518nm,0.9s						
SKR				smax	smax		
	comp=E,429nm,0.6s						
SHEM	Shemya Is, Ala	8.01	92	P	Pn	09 07 58.5	-1.0
	comp=E,46nm,0.5s,baz=0.7,slow=2.3,SNR=8.0						
SHEM				S	Sn	09 09 21.0	-7.5
	comp=E,46nm,0.8s,baz=75,slow=20,SNR=1.3						
SHEM				LR	LR	09 11 04.4	
	comp=E,273nm,21.5s,baz=286,slow=36						
MA2	Magadan	8.02	320	Pn	Pn	09 07 59.5	-0.2
MA2	Magadan	8.02	320	i PN	Pn	09 07 59.1	-0.6
MA2	Magadan	8.02	320	P	Pn	09 08 00.3	+0.6
	comp=E,27nm,0.7s,baz=127,slow=9.9,SNR=16						
MA2				LR	LR	09 11 39.3	
	comp=E,267nm,18.7s,baz=130,slow=42						
SEY	Seymchan	10.17	338	P	Pn	09 08 28.3	-0.7
	comp=E,0.3nm,0.3s,baz=136,slow=17,SNR=0.8						
SEY				LR	LR	09 12 57.9	
	comp=E,260nm,18.5s,baz=200,slow=41						
AMKA	Amchitka	11.47	95	Pn	Pn	09 08 48.1	+1.3
TYV	Tymovskoe	11.53	263	ePN	Pn	09 08 53.2	+5.6
TYV				eS	Sn	09 11 06.0	+11
TYV				pmax	pmax		
	comp=Z,15nm,1.0s						
TYV				pmax	pmax		
	comp=Z,200nm,3.4s						
TYV				smax	smax		
	comp=N,200nm,5.2s						
KIWB	Kanaga Island	13.42	89	Pn	Pn	09 09 12.8	-0.6
ADK	Adak	13.69	89	Pn	Pn	09 09 16.3	-0.8
ADK	Adak	13.69	89	P	Pn	09 09 16.3	-0.8
BILL	Bilibino	14.51	8	Pn	Pn	09 09 29.0	+1.1
BILL	Bilibino	14.51	8	i P	Pn	09 09 29.2	+1.3
GRNR	Gornyy	15.24	268	eP	Pn	09 09 38.4	+0.9
GRNR				MLR	MLR		
	comp=Z,100nm,11.0s						
JKA	Kamikawa-asahi	15.38	238	Pn	Pn	09 09 39.0	-0.3
JKA				IAmb	IAmb	09 09 55.1	
	comp=Z,29nm,1.0s						
ASAJ	Asahikawa	15.39	238	P	Pn	09 09 39.0	-0.4
ASAJ				pmax	pmax		
	comp=Z,29nm,1.0s						
ASAJ	Asahikawa	15.39	238	P	Pn	09 09 40.0	+0.6
	comp=Z,11nm,0.8s,baz=63,slow=9.0,SNR=2.0						
ASAJ				LR	LR	09 15 09.6	
	comp=Z,128nm,19.6s,baz=104,slow=35						
ERM	Erimo	16.68	232	Pn	Pn	09 09 54.8	-1.0
ERM	Erimo	16.68	232	P	Pn	09 09 54.8	-1.0
ERM				pmax	pmax		
	comp=Z,153nm,1.5s						
YAK	Yakutsk	18.34	309	P	P	09 10 14.8	-0.6
YAK				IAmb	IAmb	09 10 17.7	
	comp=Z,51nm,0.9s						
YAK	Yakutsk	18.34	309	eP	P	09 10 14.8	-0.6
YAK				eS	Sn	09 13 39.1	-0.5
YAK				pmax	pmax		
	comp=Z,33nm,0.8s						
YAK				pmax	pmax		
	comp=E,12nm,1.1s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				smax	smax		
	comp=E,44nm,2.3s						
YAK				smax	smax		
	comp=N,63nm,2.8s						
YAK	Yakutsk	18.34	309	P	P	09 10 14.6	-0.8
	comp=N,1.6nm,0.4s,baz=98,slow=18,SNR=11						
YAK				LR	LR	09 17 47.9	
	comp=N,8.5nm,20.0s,baz=105,slow=39						
KLR	Kul'dur	18.62	268	i P	P	09 10 18.2	-0.5
KLR	Kul'dur	18.62	268	P	Pn	09 10 19.8	+0.3
	comp=N,4.5nm,0.6s,baz=66,slow=9.5,SNR=16						
KLR				LR	LR	09 18 05.3	
	comp=N,114nm,18.8s,baz=68,slow=39						
ZEA	Zeya	19.77	283	eP	P	09 10 31.4	+0.2
M13K	Dall Lake	20.32	57	P	Pn	09 10 38.4	-1.1
M13K				IAmb	IAmb	09 10 54.6	
	comp=Z,25nm,1.1s						
HEH	HeiHe	20.78	274	eP	P	09 10 41.2	-0.9
HEH				pmax	pmax		
	comp=Z,14nm,0.8s						
USRK	Ussuriysk Ar.	21.11	255	P	P	09 10 47.3	+1.6
	comp=Z,4.6nm,0.8s,baz=58,slow=12,SNR=6.5						
USRK				LR	LR	09 18 39.5	
	comp=Z,94nm,21.0s,baz=37,slow=36						
	comp=Z,4.6nm,0.8s						
C16K	Lisburne Hills	21.44	34	P	P	09 10 49.3	+0.2
C16K				IAmb	IAmb	09 10 52.3	
	comp=Z,31nm,1.2s						
N15K	Kwethluk River	21.93	57	P	P	09 10 55.7	+1.2
N15K				IAmb	IAmb	09 11 05.5	
	comp=Z,39nm,1.4s						
D17K	Noatak River	22.00	37	P	P	09 10 56.0	+1.0
	baz=249						
RDOG	Red Dog Mine	22.19	36	P	P	09 10 58.4	+1.3
RDOG	Red Dog Mine	22.19	36	P	P	09 10 58.2	+1.1
	baz=249						
E17K	Hotham Inlet	22.24	39	P	P	09 10 59.0	+1.3
	baz=252						
MDJ	Mudanjiang	22.25	258	P	P	09 10 55.9	-2.0
MDJ				pP	pP	09 11 05.2	-5.2
MDJ				sP	sP	09 11 09.8	-7.5
MDJ				PP	PnPn	09 11 16.3	-5.9
MDJ				S	S	09 14 53.1	-6.0
MDJ				sS	Sn	09 15 05.4	-8.4
MDJ				SS	SnSn	09 15 10.9	-19
MDJ				ScP	ScP	09 18 30.1	+5.7
MDJ				PcS	PcS	09 18 35.9	+5.4
MDJ	Mudanjiang	22.25	258	ScS	ScS	09 22 12.0	+2.7
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,150nm,4.9s						
L16K	Owhat River	22.27	53	P	P	09 11 00.5	+2.5
	baz=268						
G17K	Kiwalik Mounta	22.27	43	P	P	09 10 59.6	+1.7
	baz=257						
F17K	Baldwin Pennin	22.27	41	P	P	09 11 00.4	+2.5
F17K	Baldwin Pennin	22.27	41	P	P	09 10 59.3	+1.4
	baz=254						
H17K	Granite Mounta	22.46	45	P	P	09 11 00.7	+0.7
M16K	Timber Creek	22.49	55	P	P	09 11 03.0	+2.6
	baz=270						
S14K	Fog Glacier	22.59	68	P	P	09 11 01.3	-0.3
	baz=281						
TIXI	Tiksi	22.64	334	P	P	09 11 00.6	-1.2
TIXI	Tiksi	22.64	334	ceP	P	09 11 01.1	-0.7
TIXI	Tiksi	22.64	334	LR	LR	09 20 48.0	
	comp=Z,5.0nm,21.1s,baz=175,slow=39						
E18K	Tukpahlearik C	22.80	38	P	P	09 11 04.8	+1.2
E18K	Tukpahlearik C	22.80	38	P	P	09 11 05.3	+1.7
	baz=253						
L17K	Donlin	22.84	52	P	P	09 11 05.6	+1.5
	baz=268						
K17K	Iditarod	22.87	51	P	P	09 11 06.7	+2.3
K17K	Iditarod	22.87	51	P	P	09 11 05.4	+1.0
	baz=266						
C18K	Utukok River	23.00	35	P	P	09 11 05.9	+0.2
C18K	Utukok River	23.00	35	P	P	09 11 06.2	+0.6
	baz=249						
P16K	Nushagak River	23.06	60	P	P	09 11 08.0	+1.7
	baz=275						
B18K	Kokolik River	23.07	33	P	P	09 11 06.8	+0.5
	baz=247						
H18K	Honhosa River	23.14	45	P	P	09 11 07.5	+0.4
H18K				IAmb	IAmb	09 11 20.9	
	comp=Z,20nm,1.4s						
H18K	Honhosa River	23.14	45	P	P	09 11 08.1	+1.1
	baz=261						
G18K	Tagagawik	23.16	43	P	P	09 11 08.9	+1.7
G18K	Tagagawik	23.16	43	P	P	09 11 07.6	+0.3
	baz=259						
MJB9	Matsu-Tunnel	23.36	232	P	P	09 11 10.5	+1.1
MJB9				IAmb	IAmb	09 11 12.1	
	comp=Z,29nm,0.8s						
MAJO	Matsushiro	23.36	232	P	P	09 11 09.6	+0.2
MAJO				IAmb	IAmb	09 11 11.2	
	comp=Z,30nm,0.8s						
MAJO	Matsushiro	23.36	232	i P	P	09 11 09.8	+0.4
MAJO				pmax	pmax		
	comp=Z,86nm,1.9s						
MJAR	Matsushiro Arr	23.36	232	P	P	09 11 10.6	+1.2
	comp=Z,10nm,0.8s,baz=21,slow=11,SNR=21						
MJAR				LR	LR	09 20 30.1	
	comp=Z,85nm,21.7s,baz=56,slow=37						
	comp=Z,10nm,0.8s						
O17K	Koliganek Bris	23.46	58	P	P	09 11 10.6	+0.5
	baz=274						
A19K	Wainwright	23.64	32	P	P	09 11 11.9	+0.2
	baz=246						
J18K	Innoko River	23.65	49	P	P	09 11 12.8	+0.9
	baz=266						
C19K	Lookout Ridge	23.71	35	P	P	09 11 13.5	+1.1
C19K				IAmb	IAmb	09 11 15.6	
	comp=Z,28nm,1.1s						
C19K	Lookout Ridge	23.71	35	P	P	09 11 13.3	+1.0
	baz=250						
GCSA	Galena City Sc	23.71	46	P	P	09 11 13.3	+1.0
	baz=263						
F19K	Shaleruckik Mo	23.71	41	P	P	09 11 12.4	+0.1
F19K	Shaleruckik Mo	23.71	41	P	P	09 11 13.4	+1.1
	baz=258						
G19K	Purcell Mounta	23.84	42	P	P	09 11 14.3	+0.7
G19K				IAmb	IAmb	09 11 16.4	
	comp=Z,18nm,1.4s						
G19K	Purcell Mounta	23.84	42	P	P	09 11 14.4	+0.9
	baz=260						
H19K	Roundabout Mou	23.99	44	P	P	09 11 17.5	+2.6
H19K	Roundabout Mou	23.99	44	P	P	09 11 16.1	+1.2
	baz=262						
D19K	Kuna River	24.02	36	P	P	09 11 16.2	+1.0
D19K				IAmb	IAmb	09 11 19.2	
	comp=Z,14nm,0.9s						
D19K	Kuna River	24.02	36	P	P	09 11 16.2	+1.0
	baz=253						
E19K	Redstone River	24.06	39	P	P	09 11 16.8	+1.2
E19K				IAmb	IAmb	09 11 20.4	
	comp=Z,17nm,1.1s						
E19K	Redstone River	24.06	39	P	P	09 11 16.7	+1.1
	baz=257,SNR=8.5						
J19K	Poorman	24.17	48	P	P	09 11 16.8	+0.2
	baz=266						
Q17K	Contact Creek	24.24	62	P	P	09 11 17.6	+0.2
	baz=279						
O18K	Koktuh Hills	24.40	58	P	P	09 11 19.7	+1.0
	baz=276						
F20K	Avaraart Lake	24.55	40	P	P	09 11 21.2	+1.3
F20K	Avaraart Lake	24.55	40	P	P	09 11 21.1	+1.2
	baz=259						
D20K	Etivluk River	24.61	36	P	P	09 11 21.6	+1.0
	baz=255						
H20K	Anotleneega Mo	24.64	44	P	P	09 11 21.8	+1.0
	baz=264						
E20K	Nigu River	24.64	37	P	P	09 11 21.1	+0.2
	baz=256						

B20K Meade River 24.81 33 P P 09 11 23.2 +0.8
K20K Telida 24.83 49 P P 09 11 23.8 +1.2
K20K IAmb IAmb 09 11 35.5
comp=Z,18nm,1.4s
K20K Telida 24.83 49 P P 09 11 23.8 +1.2
baz=269
J20K Nowinta River 24.83 47 P P 09 11 22.4 -0.1
J20K IAmb IAmb 09 11 34.6
comp=Z,13nm,1.0s
CHIR Chirikof Islan 24.85 68 P P 09 11 24.2 +1.4
baz=284
CN2 Changchun 25.14 261 *eP* **P 09 11 24.4 -1.2**
CN2 *eS* **S 09 15 41.8 -4.6**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,200nm,10.0s
CN2 LR LR
comp=E,540nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
IMAR Indian Mountai 25.16 43 P P 09 11 26.1 +0.5
M20K Styx River 25.28 53 P P 09 11 28.9 +2.1
M20K Styx River 25.28 53 P P 09 11 27.9 +1.1
baz=273
G21K Allakaket 25.33 42 P P 09 11 28.5 +1.4
G21K IAmb IAmb 09 11 30.6
comp=Z,13nm,1.1s
G21K Allakaket 25.33 42 P P 09 11 27.8 +0.7
baz=263
C21K Knifeblade Rid 25.36 36 P P 09 11 28.5 +1.1
baz=256
F21K Alatna River 25.44 40 P P 09 11 29.2 +1.1
F21K Alatna River 25.44 40 P P 09 11 29.5 +1.4
baz=261
E21K Killik River 25.48 38 P P 09 11 28.8 +0.2
E21K Killik River 25.48 38 P P 09 11 29.2 +0.6
baz=258
H21K Melozitna Rive 25.51 44 P P 09 11 29.3 +0.5
baz=265
B21K Ikpikpuk River 25.54 35 P P 09 11 29.8 +0.8
B21K IAmb IAmb 09 11 32.7
comp=Z,17nm,0.8s
B21K Ikpikpuk River 25.54 35 P P 09 11 29.5 +0.5
baz=255
O20K Slope Mountain 25.67 57 P P 09 11 31.5 +1.2
baz=277
HIA Hailar 25.71 277 P P 09 11 29.9 -0.9
HIA IAmb IAmb 09 11 33.3
comp=Z,14nm,0.6s
HIA Hailar 25.71 277 P P 09 11 29.9 -0.9
HIA pmax pmax
comp=Z,14nm,0.6s
CAST Castle Rocks 25.73 49 P P 09 11 32.1 +1.4
baz=271
N20K Mount Spurr 25.76 54 P P 09 11 32.4 +1.2
baz=275
I21K Tanana 25.82 45 P P 09 11 31.8 +0.3
baz=267
A22K Sinclair Lake 25.83 32 P P 09 11 32.2 +0.7
baz=252,SNR=9.1
F22K John River 25.98 40 P P 09 11 34.1 +1.1
baz=262
D22K Ayikyak River 26.04 37 P P 09 11 34.5 +1.0
D22K IAmb IAmb 09 11 59.9
comp=Z,16nm,1.4s
D22K Ayikyak River 26.04 37 P P 09 11 34.2 +0.7
baz=259
H22K Ishtalitna Cre 26.12 44 P P 09 11 35.3 +1.0
baz=266
B22K Teshekpuk Lake 26.13 33 P P 09 11 34.1 -0.1
B22K IAmb IAmb 09 11 35.5
comp=Z,11nm,0.8s
B22K Teshekpuk Lake 26.13 33 P P 09 11 34.5 +0.3
baz=255
G22K Bettles 26.16 41 P P 09 11 34.8 +0.2
baz=264
BPAW Bear Paw Mtn. 26.21 48 P P 09 11 35.7 +0.5
baz=270
E22K Anaktuvuk Pass 26.22 39 P P 09 11 35.5 +0.4
E22K IAmb IAmb 09 11 38.2
comp=Z,7.0nm,0.7s
E22K Anaktuvuk Pass 26.22 39 P P 09 11 35.9 +0.7
baz=261,SNR=8.7
BOD Bodaibo 26.22 298 *eP* **P 09 11 35.5 +0.3**
BOD pmax pmax
comp=Z,13nm,1.3s
MLY Manley 26.34 46 P P 09 11 36.6 +0.3
baz=268
CUT Chulitna 26.59 52 P P 09 11 37.9 -0.6
CUT Chulitna 26.59 52 P P 09 11 39.1 +0.6
baz=274
COLD Coldfoot 26.71 41 P P 09 11 40.5 +0.9
baz=265
M22K Willow 26.71 53 P P 09 11 40.0 +0.4
baz=276
G23K Bananza Creek 26.73 42 P P 09 11 40.5 +0.7
G23K Bananza Creek 26.73 42 P P 09 11 40.8 +1.0
baz=266
D23K Nanushuk River 26.77 37 P P 09 11 41.1 +1.1
baz=261
I23K Minto, Yukon-K 26.93 45 P P 09 11 41.7 +0.2
baz=270
C23K Itkillik River 26.95 35 P P 09 11 42.2 +0.6
C23K Itkillik River 26.95 35 P P 09 11 42.5 +0.8
baz=259
E23K Chandalar 27.02 39 P P 09 11 42.9 +0.4
baz=264
TOLK Toolik Lake Re 27.11 38 P P 09 11 43.6 +0.4
TOLK IAmb IAmb 09 11 44.4
comp=Z,4.3nm,0.5s
TOLK Toolik Lake Re 27.11 38 P P 09 11 43.8 +0.6
baz=262
MCK McKinley 27.13 49 P P 09 11 43.5 +0.2
baz=273
WAT1 Susitna Watana 27.35 51 P P 09 11 46.0 +0.5
baz=275
E24K Your Creek 27.45 39 P P 09 11 46.3 +0.1
E24K Your Creek 27.45 39 P P 09 11 47.0 +0.8
baz=265
D24K Happy Valley 27.45 37 P P 09 11 46.6 +0.4
D24K Happy Valley 27.45 37 P P 09 11 46.9 +0.7
baz=262
KNK Knik Glacier 27.54 54 P P 09 11 48.1 +1.1
baz=278
SML Sawmill 27.55 53 P P 09 11 47.8 +0.6
baz=277
H24K Noodor Dome 27.55 44 P P 09 11 48.0 +0.8
baz=270
COLA College 27.57 46 P P 09 11 48.0 +0.8
baz=271
C24K Franklin Bluff 27.58 35 P P 09 11 48.0 +0.7
baz=261
CCB Clear Creek Bu 27.59 47 P P 09 11 46.8 -0.7
CCB IAmb IAmb 09 11 51.9
comp=Z,19nm,1.4s
F24K Squaw Lake 27.62 40 P P 09 11 47.5 -0.3
F24K Squaw Lake 27.62 40 P P 09 11 48.2 +0.4
baz=266
G24K Hadweenzic Riv 27.74 42 P P 09 11 49.5 +0.7
G24K IAmb IAmb 09 11 50.8
comp=Z,10nm,0.7s
G24K Hadweenzic Riv 27.74 42 P P 09 11 50.3 +1.5
baz=268
POKR Poker Plat Res 27.74 46 P P 09 11 49.2 +0.4
baz=271
DHY Denali Highway 27.87 50 P P 09 11 50.9 +0.7
baz=275
KSRS Korea Array 27.92 248 P P 09 11 51.0 +0.4
comp=Z,1.8nm,0.6s,baz=41,slow=9.1,SNR=5.5
KSRS LR LR 09 22 36.4
comp=Z,54nm,19.3s,baz=55,slow=35
comp=Z,1.8nm,0.6s
HDA Harding Lake 27.97 47 P P 09 11 51.5 +0.6
baz=273
HDA Harding Lake 27.97 47 P P 09 11 51.5 +0.6
baz=273
ILAR Eielson Array 27.98 46 P P 09 11 51.6 +0.7
comp=Z,12nm,0.5s,baz=262,slow=9.2,SNR=9.0
comp=Z,12nm,0.5s
G25K Bearman Lake 28.29 42 P P 09 11 54.7 +1.1
baz=269
D25K Kavik River 28.34 37 P P 09 11 54.4 +0.2
D25K IAmb IAmb 09 11 55.2
comp=Z,11nm,0.5s
D25K Kavik River 28.34 37 P P 09 11 54.8 +0.6
baz=264
F25K Christian Rive 28.49 40 P P 09 11 56.3 +0.8
baz=268
E25K Arctic Village 28.54 39 P P 09 11 56.9 +1.0
E25K Arctic Village 28.54 39 P P 09 11 57.1 +1.1
baz=267
FYU Fort Yukon 28.63 42 P P 09 11 57.3 +0.6
FYU IAmb IAmb 09 12 23.5
comp=Z,21nm,1.4s
J25K Salcha River, 28.64 46 P P 09 11 57.8 +0.9
baz=274
BMAR Burnt Mountain 28.89 41 P P 09 12 00.7 +1.6
C26K Camden Bay 28.91 35 P P 09 11 59.7 +0.5
baz=265
RIDG Independent Ri 28.94 48 P P 09 11 59.7 +0.2
baz=276
F26K Sheenjek River 29.06 40 P P 09 12 01.4 +0.8
baz=270
G26K Porcupine Rive 29.20 42 P P 09 12 03.2 +1.5
baz=271
SCRK Sand Creek 29.30 48 P P 09 12 03.2 +0.4
baz=276
JNU Nakatsue 29.67 238 LR LR 09 24 58.8
comp=Z,34nm,20.7s,baz=343,slow=38
KAIM Kayak Island 29.76 56 P P 09 12 07.8 +1.1
baz=283
M26K Nabesna, AK 29.95 51 P P 09 12 09.2 +0.6
baz=280
E27K Coleen River 30.03 39 P P 09 12 10.5 +1.4
E27K Coleen River 30.03 39 P P 09 12 10.2 +1.1
baz=271
G27K Doyon Strip 30.05 42 P P 09 12 10.3 +1.0
G27K Doyon Strip 30.05 42 P P 09 12 10.4 +1.1
baz=273
K27K Chicken 30.13 47 P P 09 12 10.4 +0.4
K27K Chicken 30.13 47 P P 09 12 10.4 +0.4
baz=278
H27K Steamboat Moun 30.14 43 P P 09 12 11.7 +1.6
baz=274
D27M Malcolm River 30.26 37 P P 09 12 11.4 +0.2
D27M Malcolm River 30.26 37 P P 09 12 11.5 +0.4
baz=270,SNR=5.2
BGLC Bering Glacier 30.27 55 P P 09 12 12.6 +1.4
baz=284
L27K Beaver Creek, 30.38 49 P P 09 12 13.2 +0.9
baz=280
BCAR Beaver Creek A 30.40 49 P P 09 12 13.9 +1.4
EGAK Eagle 30.43 46 P P 09 12 11.8 -0.8
EGAK IAmb IAmb 09 12 15.0
comp=Z,9.0nm,1.1s
EGAK Eagle 30.43 46 P P 09 12 12.9 +0.2
baz=277
M27K Edge Creek, AK 30.48 51 P P 09 12 15.1 +1.9
baz=281
F28M Old Crow 30.70 40 P P 09 12 16.2 +1.3
F28M Old Crow 30.70 40 P P 09 12 16.3 +1.3
baz=274,SNR=5.6
E28M Babage River 30.78 38 P P 09 12 16.5 +0.8
baz=272
I28M Miner Creek 30.86 44 P P 09 12 17.4 +0.8
baz=277
DAWY Dawson 31.29 47 P P 09 12 21.3 +1.0
baz=280
E29M Blow River 31.39 39 P P 09 12 22.0 +0.9
E29M Blow River 31.39 39 P P 09 12 22.0 +0.9
baz=274,SNR=6.5
H29M Whitestone 31.41 43 P P 09 12 22.4 +1.2
H29M IAmb IAmb 09 12 25.5
comp=Z,5.2nm,0.8s
H29M Whitestone 31.41 43 P P 09 12 22.6 +1.3
baz=277
G29M Pine Creek 31.47 41 P P 09 12 21.4 -0.4
G29M IAmb IAmb 09 12 24.2
comp=Z,7.8nm,0.8s
G29M Pine Creek 31.47 41 P P 09 12 23.4 +1.6
baz=276
M29M Somme Creek 32.02 50 P P 09 12 27.1 +0.3
baz=283
L29M L29M 32.02 49 P P 09 12 28.7 +2.0
L29M IAmb IAmb 09 12 29.5
comp=Z,9.7nm,1.1s
L29M L29M 32.02 49 P P 09 12 28.2 +1.5
baz=282
EPYK Eagle Plains 32.05 42 P P 09 12 27.8 +0.9
EPYK IAmb IAmb 09 12 28.4
comp=Z,5.7nm,0.9s
EPYK Eagle Plains 32.05 42 P P 09 12 27.9 +0.9
baz=278
G30M tAoh Zraii Nji 32.17 41 P P 09 12 29.1 +1.1
G30M IAmb IAmb 09 12 29.2
comp=Z,13nm,1.3s
G30M tAoh Zraii Nji 32.17 41 P P 09 12 28.7 +0.7
baz=278
F30M Barrier River 32.26 40 P P 09 12 30.0 +1.3
baz=277
I30M Mount Dempster 32.37 44 P P 09 12 30.6 +0.7
I30M Mount Dempster 32.37 44 P P 09 12 30.6 +0.7
baz=280
YUK6 Outpost Mounta 32.43 53 P P 09 12 30.4 -0.1
baz=286
G31M Satah River 32.94 41 P P 09 12 35.6 +1.1
G31M IAmb IAmb 09 12 36.6
comp=Z,18nm,1.5s
G31M Satah River 32.94 41 P P 09 12 36.1 +1.5
baz=279
INK Inuvik 33.02 38 P P 09 12 36.2 +0.9
INK IAmb IAmb 09 12 47.3
comp=Z,8.6nm,1.4s
INK Inuvik 33.02 38 P P 09 12 36.5 +1.2
baz=278,SNR=5.7
INK Inuvik 33.02 38 P P 09 12 36.2 +0.9
INK pmax pmax
comp=Z,9.0nm,1.4s
F31M Tsiigehtchic 33.06 40 P P 09 12 36.7 +1.0
F31M IAmb IAmb 09 12 37.1
comp=Z,8.6nm,0.6s
F31M Tsiigehtchic 33.06 40 P P 09 12 36.6 +1.0
baz=278,SNR=9.4
H31M Peel River 33.10 43 P P 09 12 37.0 +0.9
M31M Drury Creek, Y 33.92 49 P P 09 12 44.8 +1.5
baz=286
SONM Songino Array 34.20 283 P P 09 12 45.3 -0.6
SONM Songino Array 34.20 283 P P 09 12 45.3 -0.6
SONM pmax pmax
comp=Z,2.0nm,1.2s
SONM Songino Array 34.20 283 P P 09 12 44.6 -1.3
comp=Z,1.0nm,0.6s,baz=62,slow=8.3,SNR=4.9
SONM PcP **PcP 09 15 21.8 +0.3**
comp=Z,1.5nm,0.7s,baz=81,slow=1.6,SNR=7.1
SONM LR LR 09 28 12.4
comp=Z,113nm,18.4s,baz=18,slow=39
comp=Z,1.0nm,0.6s
SKAG Skagway 34.31 54 P P 09 12 46.9 +0.2
baz=290
H11N2 WAKE ISLAND Hy 34.33 170 T T 09 49 42.3
baz=354,slow=76,SNR=1048
H11N3 WAKE ISLAND Hy 34.34 170 T T 09 49 40.0
baz=354,slow=76,SNR=429
H11N1 WAKE ISLAND Hy 34.34 170 T T 09 49 40.2
baz=354,slow=76,SNR=362
HHC Hu-ho-hao-te 35.12 269 *eP* **P 09 12 54.0 0.0**
HHC pmax pmax
comp=Z,27nm,0.5s
HHC pmax pmax
comp=Z,190nm,4.3s
HHC LR LR
comp=Z,270nm,16.5s
A36M Sachs Harbour 35.27 31 P P 09 12 56.0 +1.3
A36M IAmb IAmb 09 12 58.5
comp=Z,10nm,0.8s
A36M Sachs Harbour 35.27 31 P P 09 12 56.4 +1.7
baz=280,SNR=11
H11S1 WAKE ISLAND Hy 35.52 170 T T 09 50 37.3
baz=354,slow=74,SNR=19
H11S3 WAKE ISLAND Hy 35.53 170 T T 09 50 38.2
baz=92,slow=74,SNR=36
H11S2 WAKE ISLAND Hy 35.53 170 T T 09 51 16.0
SNR=15
BTO Baotou 36.19 270 *eP* **P 09 13 03.7 +0.6**
BTO pP **pP 09 13 18.8 +1.6**
BTO sP **sP 09 13 26.1 +2.4**
BTO PP **PP 09 14 26.5 +0.4**
BTO S **S 09 18 39.7 +0.6**
BTO SS **SnSn 09 20 57.8 -11**
BTO pmax pmax
comp=Z,16nm,0.7s
BTO pmax pmax
comp=Z,220nm,4.1s
BTO LR LR
comp=N,210nm,8.1s
BTO LR LR
comp=E,170nm,4.8s
BTO LR LR
comp=Z,130nm,6.6s
C36M Paulatuk 36.20 35 P P 09 13 03.3 +0.7
C36M IAmb IAmb 09 13 04.4
comp=Z,8.7nm,1.0s
C36M Paulatuk 36.20 35 P P 09 13 03.3 +0.7
baz=284,SNR=7.3
NJ2 Nanjing 36.93 251 *eP* **P 09 13 08.4 -0.9**
NJ2 pP **pP 09 13 22.1 -1.4**
NJ2 sP **sP 09 13 30.5 +0.6**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,180nm,3.7s
DLBC Dease Lake 37.25 54 P P 09 13 13.9 +2.0
baz=294
DLBC Dease Lake 37.25 54 LR LR 09 28 07.5
comp=Z,72nm,19.2s,baz=282,slow=35
BBB Bella Bella 41.13 62 LR LR 09 29 02.0
comp=Z,41nm,18.6s,baz=332,slow=33
EUNU Eureka 41.15 14 P P 09 13 45.0 +0.9
YKA Yellowknife Ar 42.32 43 P P 09 13 54.8 +1.0
comp=Z,1.8nm,0.5s,baz=297,slow=8.1,SNR=53
YKA PcP **PcP 09 15 46.7 +0.5**
comp=Z,0.6nm,0.7s,baz=304,slow=4.1,SNR=5.7
YKA LR LR 09 33 45.3
comp=Z,30nm,18.2s,baz=303,slow=39
comp=Z,1.8nm,0.5s
RES Resolute Bay 42.49 22 P P 09 13 55.9 +0.9
RES IAmb IAmb 09 13 56.8
comp=Z,8.3nm,0.9s
RES Resolute Bay 42.49 22 P P 09 13 55.9 +0.9
RES pmax pmax
comp=Z,8.0nm,1.0s
RES Resolute Bay 42.49 22 LR LR 09 33 18.3
comp=Z,34nm,18.1s,baz=230,slow=38
ZAA0 Zalesovo Array 42.79 302 P P 09 13 56.0 -1.7
ZALV Zalesovo Beam 42.79 302 P P 09 13 55.9 -1.8
ZALV Zalesovo Beam 42.79 302 *i* **P P 09 13 55.5 -2.2**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 42.79 302 P P 09 13 55.6 -2.0
comp=Z,1.0nm,0.6s,baz=58,slow=8.9,SNR=5.4
ZALV LR LR 09 33 10.9
comp=Z,80nm,18.7s,baz=78,slow=38
comp=Z,1.0nm,0.6s
TPUB Ta-pu 42.87 241 P P 09 13 57.1 -1.6
DGZ Jazzator, Alta 43.77 296 *i* **P P 09 14 04.4 -1.5**
DGZ pmax pmax
comp=Z,4.0nm,0.7s
SPITS Spitsbergen Ar 46.51 351 P P 09 14 27.4 +0.4
comp=Z,7.4nm,0.4s,baz=50,slow=6.7,SNR=30
comp=Z,7.4nm,0.4s
WMQ Urumqi 47.17 289 *eP* **P 09 14 31.9 -0.8**
WMQ pmax pmax
comp=Z,22nm,0.6s
WMQ LR LR
comp=Z,120nm,19.7s
NEEM North Greenlan 47.51 9 *i* **P P 09 14 34.3 -0.8**
NEEM IAmb IAmb 09 14 36.0
comp=Z,29nm,1.1s
KURK Kurchatov 47.75 302 P P 09 14 35.2 -1.9
KURK IAmb IAmb 09 14 39.4
comp=Z,6.3nm,0.6s
KURK Kurchatov 47.75 302 *i* **P P 09 14 35.1 -1.9**
KURK pmax pmax
comp=Z,5.0nm,0.6s
KURBB Kurchatov Arra 47.86 302 P P 09 14 35.7 -2.1
comp=Z,3.5nm,0.5s,baz=57,slow=7.7,SNR=11
KURBB LR LR 09 35 53.6
comp=Z,102nm,20.9s,baz=173,slow=38
comp=Z,3.5nm,0.5s
EDM Edmonton 47.97 54 P P 09 14 38.2 -0.5
EDM IAmb IAmb 09 14 41.6
comp=Z,9.2nm,1.0s
EDM Edmonton 47.97 54 P P 09 14 38.2 -0.5
EDM pmax pmax
comp=Z,9.0nm,1.0s
MK31 Makanchi Array 48.27 296 P P 09 14 39.3 -1.8
MK31 Makanchi Array 48.27 296 *ce* **P P 09 14 38.6 -2.5**
MKAR Makanchi Array 48.27 296 P P 09 14 39.2 -1.9
MKAR Makanchi Array 48.27 296 *i* **P P 09 14 39.0 -2.1**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 48.27 296 P P 09 14 39.0 -2.1
comp=Z,2.6nm,0.7s,baz=57,slow=7.2,SNR=20
comp=Z,2.6nm,0.7s
NEW Newport 49.15 61 LR LR 09 34 12.0
comp=Z,62nm,18.3s,baz=275,slow=34
KULLO Kullorsuaq 49.39 13 *i* **P P 09 14 48.7 -0.6**
KULLO IAmb IAmb 09 14 50.5
comp=Z,24nm,0.8s
DAG Danmarks Havn 49.69 360 *i* **P P 09 14 50.4 -1.1**
DAG IAmb IAmb 09 14 52.4
comp=Z,4.5nm,1.0s
BVAR Borovoye Array 50.31 308 P P 09 14 54.5 -2.1
comp=Z,3.5nm,0.4s,baz=62,slow=7.5,SNR=15
BVAR PcP **PcP 09 16 14.4 -0.1**
comp=Z,0.9nm,0.4s,baz=55,slow=5.3,SNR=2.6
BVAR LR LR 09 38 52.7
comp=Z,85nm,18.3s,baz=59,slow=39
comp=Z,3.5nm,0.4s
BRVK Borovoye 50.34 308 P P 09 14 55.6 -1.2
BRVK IAmb IAmb 09 14 57.6
comp=Z,5.4nm,1.1s
BRVK Borovoye 50.34 308 *ce* **P P 09 14 54.7 -2.1**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
YBH Yreka Blue Hor 50.34 71 LR LR 09 32 55.9
comp=Z,47nm,21.2s,baz=248,slow=32
PZH PanZhiHua 50.95 262 P P 09 15 02.5 +0.7
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,70nm,5.1s
FCC Fort Churchill 52.63 39 P P 09 15 14.8 +1.1
FCC Fort Churchill 52.63 39 P P 09 15 14.9 +1.1
FCC pmax pmax
comp=Z,10.0nm,0.7s
ARCES ARCESS Array B 52.75 342 P P 09 15 13.4 -1.1
comp=Z,0.6nm,0.3s,baz=32,slow=8.0,SNR=16
ARCES PcP **PcP 09 16 24.6 +1.2**
comp=Z,0.6nm,0.5s,baz=14,slow=4.2,SNR=4.6
ARCES LR LR 09 42 08.7
comp=Z,29nm,18.9s,baz=2.5,slow=41
comp=Z,0.6nm,0.3s
ARU Arti 53.19 317 *c* *i* **P P 09 15 17.8 -0.1**
ARU S **S 09 22 44.8 +0.5**
ARU SS **SS 09 26 24.0 +0.4**
ARU pmax pmax
comp=Z,26nm,2.3s
ARU Arti 53.19 317 LR LR 09 39 59.1
comp=Z,84nm,19.8s,baz=146,slow=38
SUMG Summit 53.19 7 P P 09 15 18.9 +0.7
SUMG Summit 53.19 7 P P 09 15 18.9 +0.7
SUMG pmax pmax
comp=Z,26nm,0.9s
SUMG Summit 53.19 7 *i* **P P 09 15 17.7 -0.5**
SUMG IAmb IAmb 09 15 19.8
comp=Z,26nm,0.9s
BOZ Bozeman (W) 53.74 60 P P 09 15 23.4 +1.1
baz=313
PRGR Permogore 54.09 328 *eP* **P 09 15 21.0 -3.4**
PRGR pmax pmax
comp=Z,6.0nm,0.6s
YERR Yerington 54.15 71 IAmb IAmb 09 15 29.5
comp=Z,3.4nm,0.8s
BMN Battle Mountai 54.28 69 IAmb IAmb 09 15 30.5
comp=Z,5.9nm,1.2s
KVN Kaiserville 54.74 70 P P 09 15 31.7 +1.9
KVN IAmb IAmb 09 15 34.0
comp=Z,3.7nm,0.8s
KVN Kaiserville 54.74 70 P P 09 15 31.7 +1.9
KVN pmax pmax
comp=Z,4.0nm,0.8s
NVAR Mina Array Bea 55.06 71 P P 09 15 33.7 +1.6
comp=Z,2.2nm,0.8s,baz=295,slow=7.2,SNR=11
NVAR LR LR 09 37 39.8
comp=Z,37nm,18.4s,baz=258,slow=34
comp=Z,2.2nm,0.8s
KIRV Kirov 55.10 324 LR LR 09 42 09.8

comp=Z,87nm,18.1s,baz=54,slow=39
ELK Elko 55.15 67 P **P** 09 15 32.7 0.0
ELK Elko 55.15 67 P **P** 09 15 32.7 0.0
ELK pmax pmax
comp=Z,2.0nm,0.8s
ELK Elko 55.15 67 LR LR 09 38 00.5
comp=Z,27nm,18.2s,baz=312,slow=35
AAK Ala-Archa 55.18 296 LR LR 09 40 10.8
comp=Z,70nm,18.1s,baz=22,slow=37
RLMT Red Lodge 55.27 59 P **P** **09 15 34.9 +1.3**
RLMT IAmb IAmb 09 15 38.0
comp=Z,3.8nm,0.9s
RLMT Red Lodge 55.27 59 P **P** **09 15 34.8 +1.3**
baz=314
ICESG Greenland Ices 56.49 9 *i* P **P** **09 15 41.7 -0.3**
ICESG IAmb IAmb 09 15 42.9
comp=Z,8.7nm,0.7s
HWUT Hardware Ranch 56.53 64 P **P** **09 15 43.0 +0.5**
HWUT IAmb IAmb 09 15 47.1
comp=Z,9.5nm,1.5s
KLMR Klimovskoe 56.57 330 *eP* **P** **09 15 42.1 -0.1**
KLMR AMP 09 15 43.9
comp=Z,28nm,1.6s
KLMR Klimovskoe 56.57 330 *eP* **P** **09 15 42.1 -0.1**
KLMR pmax pmax
comp=Z,28nm,1.6s
CWC Cottonwood Cre 56.59 73 P **P** **09 15 44.6 +1.6**
baz=316
R11B Troy Canyon, C 56.64 69 P **P** **09 15 44.8 +1.4**
baz=315
BW06 Boulder Array 56.77 62 P **P** **09 15 44.9 +0.6**
BW06 IAmb IAmb 09 15 48.7
comp=Z,6.3nm,1.2s
BW06 Boulder Array 56.77 62 P **P** **09 15 45.6 +1.3**
baz=315
PD31 Pinedale Array 56.77 62 P **P** **09 15 43.4 -0.9**
PD31 IAmb IAmb 09 15 48.7
comp=Z,6.4nm,1.4s
PDAR Pinedale Array 56.77 62 P **P** **09 15 45.7 +1.4**
PDAR Pinedale Array 56.77 62 P **P** **09 15 46.0 +1.7**
comp=Z,1.2nm,0.7s,baz=315,slow=1.7,SNR=12
comp=Z,1.2nm,0.7s
DUG Dugway, Tooele 56.85 66 P **P** **09 15 45.5 +0.7**
DUG IAmb IAmb 09 15 49.0
comp=Z,6.1nm,1.2s
DUG Dugway, Tooele 56.85 66 P **P** **09 15 46.8 +2.0**
baz=315
DUG Dugway, Tooele 56.85 66 P **P** **09 15 45.5 +0.7**
DUG pmax pmax
comp=Z,6.0nm,1.2s
SPR3 Spring Creek 3 56.87 68 P **P** **09 15 45.6 +0.5**
SPR3 IAmb IAmb 09 15 50.5
comp=Z,7.5nm,1.2s
ARSB Arslanbob 56.90 296 P **P** **09 15 45.4 +0.3**
ARSB Arslanbob 56.90 296 P **P** **09 15 45.4 +0.3**
ARSB pmax pmax
comp=Z,1.0nm,1.1s
KK31 Karatay Array 56.95 299 P **P** **09 15 43.5 -1.7**
KK31 Karatay Array 56.95 299 P **P** **09 15 43.5 -1.7**
KK31 pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 56.95 299 P **P** **09 15 43.3 -2.0**
KKAR Karatay Array 56.95 299 P **P** **09 15 43.3 -2.0**
KKAR pmax pmax
comp=Z,2.0nm,0.7s
SBC Santa Barbara 57.09 75 P **P** **09 15 49.1 +2.8**
baz=316
SFJD Kangerlussuaq 57.21 14 *i* P **P** **09 15 46.1 -0.5**
TPNV Topopah Spring 57.26 71 P **P** **09 15 49.8 +2.1**
baz=316
AKTO Aktyubinsk 57.69 312 LR LR 09 42 36.9
comp=Z,39nm,18.6s,baz=189,slow=38
ABKAR Akbulak array 57.69 310 IAmb IAmb 09 15 52.0
comp=Z,5.4nm,1.1s
ULM Lac du Bonnet 57.99 47 P **P** **09 15 53.5 +1.1**
comp=Z,1.2nm,0.3s,baz=336,slow=4.8,SNR=2.7
ULM LR LR 09 41 53.4
comp=Z,62nm,20.1s,baz=307,slow=37
comp=Z,1.2nm,0.3s
SNCC San Nicolas Is 58.06 76 P **P** **09 15 54.3 +1.1**
baz=317
DY2G Dye2 58.30 12 *i* P **P** **09 15 53.4 -1.3**
K22A Casper 58.42 60 P **P** **09 15 57.3 +1.5**
baz=316
RSSD Black Hills 58.62 57 P **P** **09 15 58.3 +1.1**
baz=316
CMAR Chiang Mai Arr 58.78 258 *i* P **P** **09 16 00.2 +1.8**
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CMAR Chiang Mai Arr 58.78 258 P **P** **09 15 58.9 +0.5**
comp=Z,2.3nm,0.6s,baz=25,slow=7.2,SNR=11
CMAR LR LR 09 43 10.8
comp=Z,30nm,18.7s,baz=5.0,slow=38
comp=Z,2.3nm,0.6s
O20A White River Ci 59.34 63 P **P** **09 16 03.7 +1.4**
baz=317
FINES FINESS Array B 59.65 337 P **P** **09 16 04.0 +0.3**
comp=Z,6.3nm,0.6s,baz=35,slow=8.9,SNR=38
FINES LR LR 09 47 29.2
comp=Z,31nm,18.2s,baz=16,slow=42
comp=Z,6.3nm,0.6s
N23A Red Feather La 59.99 61 P **P** **09 16 08.3 +1.5**
baz=317
IKP In-Ko-Pah, Jac 60.45 74 P **P** **09 16 11.4 +1.6**
baz=318
ISCO Idaho Springs 60.97 62 P **P** **09 16 15.2 +1.7**
baz=318
WUAZ Wupatki 61.01 69 P **P** **09 16 14.8 +1.1**
baz=318
MVCO Mesa Verde 61.34 65 P **P** **09 16 17.8 +1.9**
baz=318
EYMN Ely 61.62 47 P **P** **09 16 17.8 +0.3**
baz=320
S22A 4UR Ranch, Cre 61.84 64 P **P** **09 16 20.8 +1.4**
baz=318
OGNE Ogallala 61.96 58 P **P** **09 16 20.7 +0.8**
baz=318
OBN Obninsk 62.16 328⇓ *e*P **P** **09 16 20.6 -0.3**
OBN *e**PP **sP** **09 16 40.8 -1.4**
OBN *SP pP 09 16 44.0 +8.0
OBN *i* 09 16 55.5
OBN *e* 09 24 57.8
OBN pmax pmax
comp=Z,43nm,1.7s
OBN MLR MLR
comp=Z,46nm,15.0s
ECSD EROS Data Cent 62.52 53 P **P** **09 16 24.2 +0.7**
baz=320
SDCO Great Sand Dun 62.54 63 P **P** **09 16 24.8 +0.7**
baz=318
214A Organ Pipe Nat 62.84 72 P **P** **09 16 27.1 +1.3**
baz=319
NB2 NORSAR Subarra 62.99 344 P **P** **09 16 26.5 +0.1**
comp=Z,2.6nm,0.5s,baz=20,slow=6.9
NB2 NORSAR Subarra 62.99 344 P **P** **09 16 26.4 +0.1**
NOA NORSAR Array B 62.99 344 P **P** **09 16 26.5 +0.1**
comp=Z,6.7nm,0.8s,baz=23,slow=6.0,SNR=20
comp=Z,6.7nm,0.8s
HNR Honiara 63.00 181 LR LR 09 39 16.1
comp=Z,416nm,20.2s,baz=336,slow=32
KSCO Kaye Shedlock' 63.10 60 P **P** **09 16 29.0 +1.4**
baz=319
HFS Hagfors 63.41 342 P **P** **09 16 29.0 -0.2**
HFS Hagfors 63.41 342 P **P** **09 16 29.0 -0.2**
comp=Z,2.8nm,0.4s,baz=61,slow=4.2,SNR=18
comp=Z,2.8nm,0.4s
BGNE Belgrade 63.54 56 P **P** **09 16 31.7 +1.4**
baz=320
T25A Trinidad 63.57 63 P **P** **09 16 32.7 +1.8**
baz=319
TUC Tucson 63.72 71 P **P** **09 16 33.5 +1.8**
baz=319
ANMO Albuquerque 64.12 66 P **P** **09 16 36.0 +1.5**
baz=319
SCHQ Schefferville 64.80 28 P **P** **09 16 38.5 +0.2**
comp=Z,5.9nm,0.7s,baz=278,slow=8.3,SNR=8.0
comp=Z,5.9nm,0.7s
MNK Minsk 65.28 332 *i* P **P** **09 16 41.8 +0.4**
comp=E,3.0nm,0.8s
MNK *i* P **P** **09 16 41.8 +0.4**
comp=N,9.0nm,0.8s
MNK *i* P **P** **09 16 41.8 +0.4**
comp=Z,15nm,0.8s,baz=29
MNK *i* pP **pP** **09 16 58.0 +1.4**
MNK *i* sP **sP** **09 17 02.6 -0.3**
MNK *i* PP **PP** **09 19 05.4 +0.4**
MNK *i* PPP PPP 09 20 38.3
MNK *i* S **S** **09 25 20.2 -0.3**
MNK *i* sS **sS** **09 25 48.2 +1.9**
MNK *i* SS SS 09 29 16.5 -16
MNK *i* SSS SSS 09 30 54.5
MNK *i* LQ LQ 09 40 34.8
MNK *i* LR LR 09 45 07.9
MNK *i* LRM MLR 09 47 21.3
comp=Z,74nm,16.6s
MNK *i* LRM MLR 09 47 43.9
comp=E,115nm,16.4s
MNK *i* LRM MLR 09 48 20.5
comp=N,438nm,16.9s
MNK Minsk 65.28 332 *i* P **P** **09 16 41.8 +0.4**
MNK *i* *PP **pP** **09 16 58.0 +1.4**
MNK *i* *SP **sP** **09 17 02.5 -0.3**
MNK *i* 09 17 13.9
MNK *i* 09 19 05.3
MNK *i* PPP PPP 09 20 38.3
MNK *i* S **S** **09 25 20.1 -0.3**
MNK *i* *SS **sS** **09 25 48.1 +1.9**
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK pmax pmax
comp=Z,15nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK MLR MLR
comp=Z,74nm,17.0s
MNK MLR MLR
comp=E,115nm,16.0s
MNK MLR MLR
comp=N,438nm,17.0s
JFWS Jewell Farm 66.09 49 P **P** **09 16 48.0 +1.1**
baz=322
MSTX Muleshoe 66.84 64 P **P** **09 16 52.9 +1.0**
baz=320
GEYT Alibeck 67.09 303 P **P** **09 16 52.5 -0.9**
comp=N,1.4nm,0.5s,baz=45,slow=2.2,SNR=3.1
comp=N,1.4nm,0.5s
MNTX Cornudas Mount 67.17 67 P **P** **09 16 55.5 +1.6**
baz=320
MAK Makhachkala 68.04 313 *eP* **P** **09 16 57.2 -1.9**
MAK *e**PP **pP** **09 17 13.2 -1.1**
MAK *e**SP **sP** **09 17 19.7 -0.7**
MAK *e* 09 19 28.3
MAK *eS **S** **09 25 50.7 -3.3**
MAK *e**SS **sS** **09 26 20.0 +0.1**
MAK *eSS **SS** **09 30 15.7 -0.4**
AKASG Malin Array Be 68.24 329 P **P** **09 16 59.8 -0.5**
comp=N,5.6nm,0.5s,baz=28,slow=6.2,SNR=17
AKASG LR LR 09 50 16.3
comp=N,50nm,18.0s,baz=186,slow=39
comp=N,5.6nm,0.5s
AKBB Malin Array Si 68.24 329 *ceP* **P** **09 17 00.0 -0.3**
AKBB pmax pmax
comp=Z,13nm,1.0s
KIEV Kiev 68.25 329⇑ P **P** **09 17 00.3 0.0**
KIEV Kiev 68.25 329 P **P** **09 16 58.8 -1.6**
KIEV Kiev 68.25 329 P **P** **09 16 58.8 -1.6**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
WMOK Wichita Mounta 68.35 61 P **P** **09 17 02.2 +1.0**
WMOK IAmb IAmb 09 17 03.2
comp=Z,5.0nm,0.8s
WMOK Wichita Mounta 68.35 61 P **P** **09 17 02.4 +1.1**
baz=321,SNR=5.4
WMOK Wichita Mounta 68.35 61 P **P** **09 17 02.3 +1.0**
WMOK pmax pmax
comp=Z,5.0nm,0.8s
HDIL Hopedale 68.40 50 P **P** **09 17 01.7 +0.3**
baz=323
TUL3 Leonard 68.95 58 P **P** **09 17 06.2 +1.2**
baz=322
KIV Kislovodsk 69.23 317 *eP* **P** **09 17 04.9 -1.9**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,31nm,17.0s
KBZ Khabaz 69.34 317 P **P** **09 17 07.1 -0.1**
comp=Z,6.5nm,1.0s,baz=166,slow=2.7,SNR=4.5
KBZ LR LR 09 52 32.8
comp=Z,64nm,18.5s,baz=22,slow=40
comp=Z,6.5nm,1.0s
CCM Cathedral Cave 69.48 53 P **P** **09 17 08.8 +0.6**
SFIN Lafayette 69.54 49 P **P** **09 17 07.5 -1.0**
baz=324
ABTX Abilene, Hawle 69.54 63 P **P** **09 17 09.1 +0.4**
baz=322
FVM French Village 69.93 53 IAmb IAmb 09 17 13.8
comp=Z,8.9nm,0.8s
TXAR Lajitas Array 69.93 68 P **P** **09 17 12.9 +1.7**
TXAR Lajitas Array 69.93 68 P **P** **09 17 12.9 +1.7**
TXAR Lajitas Array 69.93 68 P **P** **09 17 13.0 +1.7**
comp=Z,3.5nm,0.8s,baz=297,slow=4.5,SNR=42
comp=Z,3.5nm,0.8s
EKA Eskdalemuir Ar 70.43 350 P **P** **09 17 13.9 +0.1**
comp=Z,5.3nm,0.7s,baz=21,slow=4.6,SNR=14
comp=Z,5.3nm,0.7s
O48B Farmland 70.50 48 P **P** **09 17 14.5 +0.1**
baz=325
S44A Carbondale 70.71 52 P **P** **09 17 16.6 +0.8**
SIUC Southern Illin 70.71 52 P **P** **09 17 16.2 +0.4**
SORM Soroca 70.78 328⇑ P **P** **09 17 15.6 -0.3**
SORM Soroca 70.78 328⇑ P **P** **09 17 15.6 -0.3**
FCAR Ozark Folk Cen 70.79 55 P **P** **09 17 16.6 +0.4**
FCAR IAmb IAmb 09 17 17.2
comp=Z,5.9nm,0.8s
PBMO Poplar Bluff 70.89 54 P **P** **09 17 17.3 +0.4**
PBMO IAmb IAmb 09 17 18.4
comp=Z,6.8nm,0.7s
P48A Milroy 71.03 49 P **P** **09 17 17.6 -0.1**
LONY Lake Ozonia 71.13 38 P **P** **09 17 18.0 -0.3**
baz=329
JCT Junction City 71.13 64 P **P** **09 17 19.3 +0.8**
JCT IAmb IAmb 09 17 22.6
comp=Z,7.7nm,1.1s
JCT Junction City 71.13 64 P **P** **09 17 19.6 +1.1**
baz=322
JCT Junction City 71.13 64 P **P** **09 17 19.3 +0.8**
JCT pmax pmax
comp=Z,8.0nm,1.1s
MIAR Mount Ida 71.14 57 P **P** **09 17 19.0 +0.6**
MIAR IAmb IAmb 09 17 20.1
comp=Z,5.7nm,0.8s
MIAR Mount Ida 71.14 57 P **P** **09 17 18.6 +0.1**
baz=323
MIAR Mount Ida 71.14 57 P **P** **09 17 19.0 +0.6**
MIAR pmax pmax
comp=Z,6.0nm,0.9s
E62A Clayton Lake 71.17 34 P **P** **09 17 18.9 +0.5**
E62A IAmb IAmb 09 17 19.7
comp=Z,9.7nm,0.8s
WHAR Wooly Hollow 71.19 56 P **P** **09 17 19.0 +0.3**
WHAR IAmb IAmb 09 17 30.4
comp=Z,17nm,1.5s
PARMO Parma 71.31 53 P **P** **09 17 21.0 +1.6**
M53A WI Miller and 71.43 44 P **P** **09 17 19.9 -0.2**
baz=327
ACSO Alum Creek Sta 71.46 46 P **P** **09 17 19.4 -0.9**
baz=326
GNI Garni 71.53 313 LR LR 09 53 51.3
comp=Z,44nm,18.9s,baz=56,slow=40
WCI Wyandotte Cave 71.64 50 P **P** **09 17 22.2 +0.8**
WCI IAmb IAmb 09 17 24.6
comp=Z,10nm,0.8s
WCI Wyandotte Cave 71.64 50 P **P** **09 17 21.0 -0.4**
baz=325
WCI Wyandotte Cave 71.64 50 P **P** **09 17 22.2 +0.8**
WCI pmax pmax
comp=Z,10.0nm,0.8s
STHS Stebnicka Huta 71.66 334 *eP* **P** **09 17 22.2 +0.8**
STHS Stebnicka Huta 71.66 334 *eP* **P** **09 17 22.2 +0.8**
STHS pmax pmax
comp=Z,6.0nm,0.8s
GNAR Gosnell 71.74 54 P **P** **09 17 23.6 +1.5**
KOLS Kolonicke sedl 71.83 333 *eP* **P** **09 17 23.1 +0.7**
KOLS Kolonicke sedl 71.83 333 *eP* **P** **09 17 23.1 +0.7**
KOLS pmax pmax
comp=Z,6.0nm,0.6s
CLL Collm 71.85 339 P **P** **09 17 22.3 -0.1**
CLL Collm 71.85 339⇓ *i*P **P** **09 17 23.0 +0.6**
comp=Z,16nm,1.1s
CLL Collm 71.85 339⇓ *i*P **P** **09 17 23.0 +0.6**
CLL pmax pmax
comp=Z,16nm,1.1s
DPC Dobruska-Polom 72.02 337 *eP* **P** **09 17 24.5 +1.0**
DPC Dobruska-Polom 72.02 337 *eP* **P** **09 17 24.5 +1.0**
O52A Adamsville 72.05 46 P **P** **09 17 24.4 +0.6**
R49A Shelbyville 72.10 49 P **P** **09 17 24.6 +0.4**
R49A IAmb IAmb 09 17 25.7
comp=Z,5.0nm,0.7s
BUR08 Bucovina Ar. S 72.17 330 P **P** **09 17 24.7 +0.2**
BURAR Bucovina Array 72.19 330⇑ P **P** **09 17 24.4 -0.2**
BURAR Bucovina Array 72.19 330 P **P** **09 17 25.0 +0.3**
BURAR IAmb IAmb 09 17 25.7
comp=Z,6.5nm,0.6s
BURAR Bucovina Array 72.19 330⇑ P **P** **09 17 24.4 -0.2**
O53A New Philadelph 72.20 45 P **P** **09 17 24.1 -0.6**
baz=327
PVCC Panska Ves 72.25 338 *eP* **P** **09 17 26.6 +1.8**
PVCC Panska Ves 72.25 338 *eP* **P** **09 17 26.6 +1.8**
MORC Moravsky Berou 72.27 336⇑ P **P** **09 17 26.0 +1.0**
MORC Moravsky Berou 72.27 336 P **P** **09 17 26.0 +1.0**
MORC IAmb IAmb 09 17 26.8
comp=Z,6.8nm,0.9s
MORC Moravsky Berou 72.27 336 *eP* **P** **09 17 25.9 +1.0**
MORC Moravsky Berou 72.27 336⇑ P **P** **09 17 26.0 +1.0**
T47A Sharon Grove 72.29 51 P **P** **09 17 25.9 +0.7**
P52A Corning 72.32 46 P **P** **09 17 25.2 -0.2**
baz=327
LANS Liptovska Anna 72.37 335 *eP* **P** **09 17 27.6 +2.0**
LANS Liptovska Anna 72.37 335 *eP* **P** **09 17 27.6 +2.0**
LANS pmax pmax
comp=Z,7.0nm,0.8s
LBNH Lisbon 72.42 37 P **P** **09 17 25.6 -0.4**
baz=331
PKME Peaks-Kenny Pk 72.44 35 P **P** **09 17 24.6 -1.4**
baz=332
R50A Paris 72.48 49 P **P** **09 17 27.2 +0.8**
R50A IAmb IAmb 09 17 29.8
comp=Z,10.0nm,0.9s
WVT Waverly 72.65 52 P **P** **09 17 28.4 +1.0**
WVT IAmb IAmb 09 17 29.3
comp=Z,8.4nm,0.8s
WVT Waverly 72.65 52 P **P** **09 17 27.5 +0.1**
baz=325
WVT Waverly 72.65 52 P **P** **09 17 28.4 +1.0**
WVT pmax pmax
comp=Z,8.0nm,0.8s
BINY Binghamton 72.67 41 P **P** **09 17 27.3 -0.2**
TESR Tescani 72.75 329⇑ P **P** **09 17 28.1 +0.2**
PRU Pruhonice 72.76 338 *eP* **P** **09 17 28.6 +0.7**
PRU Pruhonice 72.76 338 *eP* **P** **09 17 28.6 +0.7**
NATX Nacogdoches 72.81 60 P **P** **09 17 30.1 +1.6**
NATX Nacogdoches 72.81 60 P **P** **09 17 28.6 +0.1**
baz=323
VLDR Vladesti 72.90 328⇓ P **P** **09 17 27.8 -0.9**
VRAC Vranov 72.93 336 *eP* **P** **09 17 30.0 +1.1**
VRAC Vranov 72.93 336 LR LR 09 54 51.5
comp=Z,33nm,20.3s,baz=24,slow=40
M57A Sunshine Farm, 72.96 42 P **P** **09 17 29.1 0.0**
833A Chaparral WMA, 73.05 65 P **P** **09 17 30.6 +0.7**
baz=323
JAVC Velka Javorina 73.09 336 *eP* **P** **09 17 31.5 +1.6**
VYHS Vyhne 73.14 335 *eP* **P** **09 17 30.8 +0.7**
VYHS Vyhne 73.14 335 *eP* **P** **09 17 30.8 +0.7**
VYHS pmax pmax
comp=Z,5.0nm,1.1s
KRUC Moravsky 73.21 336 *eP* **P** **09 17 31.3 +0.8**
SSPA Standing Stone 73.25 43 P **P** **09 17 31.1 +0.1**
baz=328
MCWV Mont Chateau 73.27 45 P **P** **09 17 31.4 +0.3**
baz=328
T50A Nancy 73.30 50 P **P** **09 17 31.8 +0.5**
T50A IAmb IAmb 09 17 32.5
comp=Z,3.5nm,0.6s
VRI Vrincioaia 73.30 328⇑ P **P** **09 17 29.8 -1.4**
VRI Vrincioaia 73.30 328⇑ P **P** **09 17 29.8 -1.4**
PLOR Plostina 73.34 328⇓ P **P** **09 17 29.5 -2.0**
PLOR Plostina 73.34 328⇓ P **P** **09 17 29.5 -2.0**
ZVC Zvikov 73.36 338 *eP* **P** **09 17 32.4 +1.0**
CLTN Cedars of Leba 73.38 51 P **P** **09 17 32.8 +1.1**
CLTN IAmb IAmb 09 17 33.5
comp=Z,8.3nm,0.7s
V48A Smith Brothers 73.44 52 P **P** **09 17 32.9 +0.8**
V48A IAmb IAmb 09 17 33.7
comp=Z,9.2nm,0.9s
PLAL Pickwick Lake 73.47 53 P **P** **09 17 33.4 +1.1**
PLAL IAmb IAmb 09 17 35.6
comp=Z,10nm,1.1s
COVR Voineasa-Covas 73.48 329⇑ P **P** **09 17 30.3 -1.9**
R53A Hurricane 73.49 47 P **P** **09 17 33.4 +1.0**
Y45A Yeager Farm, C 73.67 55 P **P** **09 17 34.5 +1.0**
KHC Kasperske Hory 73.78 338 P **P** **09 17 35.1 +1.1**
KHC IAmb IAmb 09 17 36.0
comp=Z,9.7nm,1.0s
KHC Kasperske Hory 73.78 338 *eP* **P** **09 17 35.1 +1.1**
KHC Kasperske Hory 73.78 338 *ceP* **P** **09 17 35.2 +1.2**
KHC pmax pmax
comp=Z,20nm,1.0s
MEM Membach 73.83 344 *dP* **P** **09 17 34.6 +0.4**
comp=Z,15nm,0.9s
BTNL Ternell 73.84 344 *dP* **P** **09 17 34.7 +0.5**
comp=Z,13nm,0.9s
MLR Muntele Rosu 73.88 329⇑ P **P** **09 17 35.2 +0.5**
MLR Muntele Rosu 73.88 329⇑ P **P** **09 17 35.2 +0.5**
MLR Muntele Rosu 73.88 329 LR LR 09 53 51.5
comp=Z,62nm,18.2s,baz=317,slow=39
CKRC Cesky Krumlov 73.91 338 *eP* **P** **09 17 35.8 +1.1**
CKRC Cesky Krumlov 73.91 338 *eP* **P** **09 17 35.8 +1.1**
GEC2 GERESS Array S 74.03 338 IAmb IAmb 09 17 36.9
comp=Z,5.0nm,0.6s
GERES GERESS Array B 74.03 338 P **P** **09 17 35.5 0.0**
GERES GERESS Array B 74.03 338 P **P** **09 17 36.4 +0.9**
comp=Z,3.7nm,0.6s,baz=116,slow=6.2,SNR=8.5
comp=Z,3.7nm,0.6s
HRV Adam Dziewonsk 74.06 38 P **P** **09 17 35.6 0.0**
baz=331
VOIR 74.20 329⇑ P **P** **09 17 37.4 +0.9**
VOIR 74.20 329⇑ P **P** **09 17 37.4 +0.9**
SWET Sewanee 74.28 51 P **P** **09 17 37.4 +0.3**
BMRD Maredsous 74.33 344 *dP* **P** **09 17 36.3 -0.8**
ARR Arges 74.39 330⇑ P **P** **09 17 37.6 0.0**
CONA Conrad Observa 74.39 336 *i* P **P** **09 17 39.1 +1.5**
comp=Z,10nm,1.4s
SIRR Siria 74.43 332⇑ P **P** **09 17 39.1 +1.3**
RONA Rosalia, Austr 74.50 336 *eP* **P** **09 17 39.6 +1.4**
comp=Z,4.5nm,0.7s
W50A Signal Mountai 74.58 51 IAmb IAmb 09 17 40.3
comp=Z,8.4nm,0.8s
MOA Molln 74.84 337 *i* P **P** **09 17 41.1 +1.0**
comp=Z,3.1nm,0.7s
GZR Gura Zlata 74.92 331⇑ P **P** **09 17 40.8 +0.2**
GZR Gura Zlata 74.92 331⇑ P **P** **09 17 40.8 +0.2**
BZS Buzias 75.04 332⇑ P **P** **09 17 42.2 +0.9**
BZS Buzias 75.04 332⇑ P **P** **09 17 42.2 +0.9**
BLA Blacksburg 75.08 46 P **P** **09 17 42.3 +0.5**
baz=328
ARSA Arzberg 75.11 336 *i* P **P** **09 17 42.9 +1.2**
comp=Z,9.9nm,1.4s
BIOA Bad Ischl, Aus 75.13 338 *eP* **P** **09 17 43.3 +1.5**
comp=Z,2.2nm,0.4s
Y49A Blount Mountai 75.17 53 P **P** **09 17 42.3 +0.1**
Y49A IAmb IAmb 09 17 43.4
comp=Z,8.4nm,0.7s
LRAL Lakeview Retre 75.57 53 P **P** **09 17 44.5 0.0**
baz=326
LESA Schwarzleotal 75.59 338 *i* P **P** **09 17 46.3 +1.7**
comp=Z,6.2nm,0.5s
SOKA Soboth 75.76 336 *i* P **P** **09 17 46.6 +1.1**
comp=Z,6.8nm,0.5s
KBA Koelnbreinsper 75.77 338 *i* P **P** **09 17 47.4 +1.7**
comp=Z,2.1nm,0.6s
MDVR Moldovita 75.78 331⇑ P **P** **09 17 45.2 -0.4**
PERS Pernice 75.78 336 *i* P **P** **09 17 46.6 +1.0**
WATA Walderalm 75.92 339 *i* P **P** **09 17 47.7 +1.3**
comp=Z,5.2nm,0.8s
RETA Reutte 75.94 340 *i* P **P** **09 17 47.6 +1.1**
comp=Z,9.1nm,1.2s
ECH Echery 75.94 342 P **P** **09 17 47.2 +0.8**
ECH IAmb IAmb 09 17 47.8
comp=Z,9.3nm,1.1s
ECH Echery 75.94 342 P **P** **09 17 47.2 +0.8**
ECH pmax pmax
comp=Z,9.0nm,1.1s
FRGS Fruska Gora 75.96 333⇓ P **P** **09 17 46.7 +0.1**
WTTA Wattenberg 75.97 339 *i* P **P** **09 17 48.2 +1.4**
comp=Z,8.7nm,0.6s
MOTA Moosalm 76.01 339 *i* P **P** **09 17 48.1 +1.1**
comp=Z,8.8nm,0.8s

OBKA	Obir	76.03	337	*i* P	P	09 17 48.5	+1.4
	comp=Z,7.8nm,0.6s						
SQTA	Sankt Quirin	76.10	339	*i* P	P	09 17 48.8	+1.3
	comp=Z,9.2nm,0.6s						
MYKA	Terra Mystica	76.13	337	*i* P	P	09 17 49.4	+1.8
	comp=Z,5.7nm,0.8s						
ABTA	Abfaltersbach	76.27	338	*i* P	P	09 17 49.6	+1.2
	comp=Z,14nm,0.9s						
DAVA	Damuels	76.31	340	*i* P	P	09 17 50.3	+1.5
	comp=Z,11nm,1.4s						
BRTR	Keskin Array B	76.36	321	*i* P	P	09 17 49.0	-0.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	Keskin Array B	76.36	321	P	P	09 17 49.0	-0.1
	comp=Z,1.5nm,0.5s,baz=54,slow=3.5,SNR=7.7						
BRTR				LR	LR	09 54 44.4	
	comp=Z,38nm,19.3s,baz=27,slow=38						
	comp=Z,1.5nm,0.5s						
FETA	Feichten	76.39	339	*i* P	P	09 17 50.4	+1.2
	comp=Z,12nm,1.0s						
KMSC	Kings Mountain	76.43	48	P	P	09 17 48.5	-0.8
	baz=328						
ROBS	Robic	76.52	337	*i* P	P	09 17 50.6	+0.9
FLN	La Foliniere	76.60	347	*e*P	P	09 17 49.7	-0.4
DAVOX	Davos/Dischmat	76.80	340	LR	LR	09 56 35.6	
	comp=Z,25nm,18.1s,baz=28,slow=40						
BOVS	Bovan	76.83	331	⇓P	P	09 17 51.6	+0.1
FUORN	Ofenpass-Fuorn	76.87	340	P	P	09 17 53.2	+1.1
FUORN				IAmb	IAmb	09 17 54.1	
	comp=Z,6.3nm,0.8s						
DIVS	Divibare	76.89	332	P	P	09 17 52.1	+0.2
DIVS				IAmb	IAmb	09 17 56.1	
	comp=Z,8.1nm,1.1s						
GOGA	Godfrey	76.91	51	P	P	09 17 51.6	-0.5
	baz=327						
WRA	Warramunga Arr	76.93	206	P	P	09 17 52.5	+0.4
WRA	Warramunga Arr	76.93	206	P	P	09 17 52.8	+0.6
	comp=Z,3.1nm,0.8s,baz=21,slow=5.8,SNR=15						
	comp=Z,3.1nm,0.8s						
GRR	Gorron	77.01	348	P	P	09 17 52.3	-0.1
SKDS	Skadanscina	77.07	337	*i* P	P	09 17 52.8	-0.1
CTI	Castel Tesino	77.12	339	P	P	09 17 53.3	+0.1
CTI	Castel Tesino	77.12	339	P	P	09 17 53.3	+0.1
CTI				pmax	pmax		
	comp=Z,11nm,0.6s						
SSF	Saint Saulge	77.68	344	P	P	09 17 56.1	-0.1
AVF	Avril sur Loir	77.97	344	P	P	09 17 57.8	0.0
BGF	Bois d'Agland	78.28	345	*e*P	P	09 17 57.6	-1.9
TIGA	Tifton	78.50	52	P	P	09 18 01.8	+0.8
	baz=327						
SRS	Serrai	78.57	328	P	P	09 18 01.3	+0.1
LPL	La Plagne	78.62	342	P	P	09 18 02.8	+1.1
LPG	La Plagne	78.64	342	P	P	09 18 03.0	+1.1
NHSC	New Hope	78.65	49	P	P	09 18 02.2	+0.4
	baz=328						
MFF	Saint Martin d	78.67	347	P	P	09 18 01.9	+0.2
ORIF	Oris-en-Rattie	79.36	342	P	P	09 18 06.6	+1.0
MBDF	Montbardon	79.38	342	P	P	09 18 07.0	+1.2
FNA	Florina	79.55	330	P	P	09 18 06.3	-0.3
VIVF	Saint-Julien-l	79.63	343	P	P	09 18 07.7	+0.7
NRCA	Norcia	79.84	337	P	P	09 18 08.3	+0.1
LFF	La Frestale	80.18	346	P	P	09 18 10.6	+0.7
AS31	Alice Springs	80.60	205	P	P	09 18 13.8	+1.5
ASAR	Alice Springs	80.60	205	P	P	09 18 13.4	+1.1
ASAR	Alice Springs	80.60	205	P	P	09 18 13.4	+1.1
ASAR	Alice Springs	80.60	205	P	P	09 18 13.6	+1.3
	comp=Z,3.7nm,0.8s,baz=19,slow=5.9,SNR=35						
	comp=Z,3.7nm,0.8s						
MMAI	Mount Meron Ar	81.52	316	P	P	09 18 17.8	+0.5
	comp=Z,3.4nm,0.4s,baz=42,slow=7.8,SNR=8.5						
MMAI				LR	LR	09 59 53.4	
	comp=Z,25nm,18.6s,baz=337,slow=40						
	comp=Z,3.4nm,0.4s						
ASF	Jabal al Asfar	81.63	315	LR	LR	09 59 49.8	
	comp=Z,94nm,19.9s,baz=304,slow=40						
TIP	Timpagrande	82.35	333	P	P	09 18 22.3	+0.7
IDI	Anoyia	83.45	325	LR	LR	09 58 16.0	
	comp=Z,23nm,21.7s,baz=258,slow=38						
CMIG	Matias Romero	84.51	69	LR	LR	09 52 44.2	
	comp=Z,16nm,21.7s,baz=114,slow=33						
EIL	Elat	84.62	315	LR	LR	10 01 29.8	
	comp=Z,36nm,18.4s,baz=311,slow=39						
ESDC	Sonseca Array	85.98	348	P	P	09 18 39.3	-0.7
	comp=Z,1.8nm,0.9s,baz=358,slow=4.5,SNR=10						
	comp=Z,1.8nm,0.9s						
STKA	Stephens Creek	86.95	196	P	P	09 18 45.2	+0.8
	comp=Z,2.7nm,0.8s,baz=332,slow=5.4,SNR=7.4						
	comp=Z,2.7nm,0.8s						
KEST	Kesra	87.48	337	LR	LR	10 03 54.1	
	comp=Z,31nm,19.7s,baz=248,slow=40						
RPZ	Rata Peaks	97.54	173	LR	LR	09 56 14.0	
	comp=Z,27nm,20.6s,baz=326,slow=31						
SJG	San Juan	97.80	45	LR	LR	10 05 14.1	
	comp=Z,8.1nm,20.4s,baz=263,slow=36						
LPAZ	La Paz	126.73	65	PKP	PKPdf	09 25 03.5	-0.3
	comp=Z,1.0nm,0.6s,baz=332,slow=4.9,SNR=2.9						
VILB	Vilhena	127.97	54	PKPdf	PKiKP	09 25 06.8	+0.6
VNDA	Vanda	131.06	180	PKP	PKiKP	09 25 11.0	+0.6
	comp=Z,0.9nm,0.9s,baz=330,slow=5.3,SNR=5.6						
BOSA	Boshof	139.14	290	PKP	PKPdf	09 25 25.2	-1.0
	comp=Z,1.8nm,0.6s,baz=39,slow=6.5,SNR=2.2						
PLCA	Paso Flores	143.55	90	PKPdf	PKPbc	09 25 32.4	+1.1
PLCA	Paso Flores	143.55	90	PKP	PKPbc	09 25 31.7	+0.4
	comp=Z,1.2nm,0.6s,baz=331,slow=3.1,SNR=7.8						
QSPA	South Pole Qui	143.55	180	PKP	PKPbc	09 25 30.8	+0.3
	comp=Z,3.7nm,0.8s,baz=45,slow=2.0,SNR=8.6						
LL02	Futaleuf	144.27	95	PKPdf	PKPdf	09 25 34.8	0.0
AY01	Puyuhuapi	144.51	97	PKPdf	PKPdf	09 25 35.3	+0.2
AY02	Valle Explorad	145.34	100	PKPdf	PKPab	09 25 37.1	+0.4
COYC	Coyhaique	145.49	98	PKPdf	PKPab	09 25 38.7	+1.4
TRQA	Tornquist	146.88	79	PKPbc	PKPab	09 25 42.7	-0.2
TRQA	Tornquist	146.88	79	PKP2	PKPab	09 25 42.7	-0.2
PLTB	Pedras Altas	146.95	62	PKPbc	PKPab	09 25 43.3	0.0
MG04	Isla Riesco	149.25	110	PKPdf	PKPdf	09 25 42.2	-0.6
ELIB	Princess Elisa	154.34	209	*d*PKP	PKiKP	09 25 58.9	+0.4
ELIB				*d*pPKP	pPKPbc	09 26 14.0	-0.4

*NEIC **05** 09:08:40.9±1.6, 60.°02N±0.°02×150.°33W±0.°06, h27km±10km, Error ellipse: s-maj=4.7km s-min=1.1km az=118.0*

AEIC 05 09:08:41.3±1.8**, 60.°02N**±0.°02×**150.°31W**±0.°06**, h18**km±5km**, ML2.5, ML2.6**/142(NEIC)**, Error ellipse: s-maj=4.8km s-min=2.9km az=121.0, Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRSE	Bradley Lake S	0.36	218		Pg	09 08 48.8	-0.1
BRSE					Sb	09 08 55.0	+0.5
BRLK	Bradley Lake	0.39	228		Pg	09 08 49.4	0.0
BRLK					Sb	09 08 56.1	+0.7
SEW	Seward	0.44	79		Pg	09 08 49.8	-0.5
SLKM	Skilak Lake	0.49	5		Pg	09 08 50.8	-0.4
SLKM					Sb	09 08 58.4	+0.2
O22K	Cooper Landing	0.54	32		Pg	09 08 51.6	-0.6
O22K					Sg	09 08 59.5	0.0
CNPM	China Poot	0.69	224		Pb	09 08 53.5	-1.2
CNPM					Sb	09 09 02.5	-1.4
HOM	Homer	0.77	242		Pb	09 08 54.9	-1.2
CAPN	Captain Cook N	0.86	331	Pg	Pb	09 08 57.4	-0.3
RC01	Rabbit Creek A	1.11	15		Pn	09 09 00.1	-1.8
RC01					Sb	09 09 14.8	-1.1
RC01				IAML		09 09 17.1	
	comp=E,198nm,0.6s						
RC01				IAML		09 09 18.6	
	comp=N,127nm,0.3s						
FIS	Fire Island	1.12	2	Pn	Pn	09 09 01.1	-1.1
FIS				IAML		09 09 18.4	
	comp=N,215nm,1.4s						
FIS				IAML		09 09 18.4	
	comp=E,192nm,0.7s						
O20K	Slope Mountain	1.16	274		Pn	09 09 00.7	-2.0
RDT	Redoubt	1.18	299		Pn	09 09 00.6	-2.4
PWL	Port Wells	1.29	49	Pn	Pn	09 09 02.6	-1.8
PWL					Sn	09 09 18.6	-2.6
PWL				IAML		09 09 21.2	
	comp=E,137nm,0.3s						
RDSO	Redoubt South	1.29	291		Pn	09 09 02.2	-2.3
RED	Redoubt Volcan	1.29	289		Pn	09 09 02.1	-2.4
RSO	Redoubt South	1.30	291		Pn	09 09 02.5	-2.2
DFR	Drift River	1.31	297		Pn	09 09 02.5	-2.3
DFR					Sn	09 09 19.8	-2.1
RDWB	Redoubt West	1.34	291		Pn	09 09 02.8	-2.5
IVE	Iliamna Volcan	1.36	271		Pn	09 09 02.9	-2.6
RDJH	Redoubt Jeurge	1.37	296		Pn	09 09 03.4	-2.2
RDJH					Sn	09 09 21.3	-2.0
NCT	North Crescent	1.41	294		Pn	09 09 04.0	-2.2
ILW	Iliamna West	1.42	273		Pn	09 09 04.1	-2.3
ILSW	Iliamna Southw	1.42	270		Pn	09 09 03.9	-2.5
SUA	Susitna One	1.46	352		Pn	09 09 05.1	-1.8
SUA					Sn	09 09 25.1	-0.5
SPCR	Spurr Chakacha	1.51	322		Pn	09 09 05.5	-1.9
SPCN	Chakachatna No	1.52	323		Pn	09 09 06.0	-1.6
P19K	Oil Pt	1.52	257		Pn	09 09 05.9	-1.8
P19K				IAML		09 09 27.0	
	comp=E,121nm,0.4s						
SPCG	Spurr Capps Gl	1.53	327		Pn	09 09 06.3	-1.5
SPCG					Sn	09 09 26.2	-1.0
SPCP	Crater Peak Br	1.54	325		Pn	09 09 06.5	-1.5
STLK	Strandline Lak	1.66	334		Pn	09 09 08.1	-1.4
KNK	Knik Glacier	1.66	32	Pn	Pn	09 09 07.6	-1.9
KNK				IAML		09 09 33.4	
	comp=E,83nm,0.6s						
KNK				IAML		09 09 37.8	
	comp=N,56nm,1.3s						
PMR	Palmer	1.68	20		Pn	09 09 07.8	-1.9
PMR				IAML		09 09 35.0	
	comp=N,44nm,0.4s						
PMR				IAML		09 09 36.0	
	comp=E,50nm,0.4s						
AUL	Augustine Lava	1.71	249		Pn	09 09 09.2	-1.0
AUQ	Augustine Qik'	1.71	248		Pn	09 09 09.2	-1.0
AUCH	Augustine Cone	1.72	249		Pn	09 09 09.4	-1.0
M22K	Willow	1.74	3		Pn	09 09 09.0	-1.5
M22K				IAML		09 09 39.5	
	comp=N,68nm,0.6s						
M22K				IAML		09 09 39.5	
	comp=E,85nm,0.5s						
SYI	Shuyak Island	1.77	218		Pn	09 09 10.4	-0.7
SYI				IAML		09 09 35.6	
	comp=E,55nm,0.8s						
SYI				IAML		09 09 38.8	
	comp=N,41nm,0.8s						
SPNN	North Nagishla	1.79	320		Pn	09 09 10.3	-1.1
GLI	Glacier Island	1.81	60	Pn	Pn	09 09 10.0	-1.6
GLI				IAML		09 09 37.7	
	comp=N,46nm,0.8s						
GLI				IAML		09 09 38.2	
	comp=E,82nm,0.8s						
GHO	Glory Hole Cre	1.88	20		Pn	09 09 10.9	-1.7
HIN	Hinchinbrook I	1.94	77	Pn	Pn	09 09 10.5	-2.8
HIN				IAML		09 09 43.3	
	comp=N,66nm,1.0s						
HIN				IAML		09 09 51.0	
	comp=E,71nm,1.5s						
O19K	Port Alsworth	2.02	277		Pn	09 09 13.1	-1.2
Q19K	Cape Douglas,	2.03	239		Pn	09 09 13.8	-0.7
SML	Sawmill	2.03	28	Pn	Pn	09 09 13.0	-1.7
SML				IAML		09 09 44.5	
	comp=E,38nm,0.7s						
SML				IAML		09 09 45.2	
	comp=N,43nm,0.6s						
FID	Port Fidalgo	2.04	67	Pn	Pn	09 09 11.2	-3.5
FID				IAML		09 09 42.0	
	comp=E,56nm,0.6s						
FID				IAML		09 09 44.9	
	comp=N,68nm,0.5s						
SKT	Skwentna	2.05	344	Pn	Pn	09 09 13.8	-1.1
SKT				IAML		09 09 44.5	
	comp=N,51nm,0.4s						
SKT				IAML		09 09 46.0	
	comp=E,53nm,0.4s						
M23K	Glacier View	2.18	34		Pn	09 09 15.5	-1.1
N19K	Bonanza Creek	2.22	293	Pn	Pn	09 09 15.4	-1.9
N19K				IAML		09 09 46.7	
	comp=E,29nm,0.6s						
N19K				IAML		09 09 47.2	
	comp=N,31nm,0.5s						
M20K	Styx River	2.32	325		Pn	09 09 18.3	-0.4
M20K				IAML		09 09 50.7	
	comp=E,31nm,0.5s						
SCM	Sheep Creek Mo	2.33	37		Pn	09 09 18.0	-0.7
SCM				IAML		09 09 57.8	
	comp=E,43nm,0.8s						
SCM				IAML		09 10 01.0	
	comp=N,36nm,1.3s						
CUT	Chulitna	2.39	0	Pn	Pn	09 09 19.2	-0.3
CUT				IAML		09 09 55.2	
	comp=N,43nm,0.3s						
O18K	Koktuh Hills	2.47	268	Pn	Pn	09 09 19.1	-1.6
O18K				IAML		09 10 06.5	
	comp=N,20nm,0.6s						
KDAK	Kodiak Island	2.54	209	Pn	Pn	09 09 20.9	-0.7
KDAK				IAML		09 10 02.8	
	comp=N,27nm,1.0s						
KDAK				IAML		09 10 03.9	
	comp=N,20nm,0.6s						
P18K	Big Mountain,	2.57	258	Pn	Pn	09 09 20.4	-1.7
SVW2	Sparrevohn	2.82	295	Pn	Pn	09 09 23.4	-2.1
SVW2				IAML		09 10 06.5	
	comp=N,17nm,0.3s						
WAT6	Susitna Watana	2.85	25		Pn	09 09 24.9	-1.0
N18K	Kilae Creek	2.85	286	Pn	Pn	09 09 24.1	-1.7
M24K	Tolsona, Glenn	2.90	42	Pn	Pn	09 09 26.1	-0.5
M24K				IAML		09 10 26.1	
	comp=N,32nm,1.3s						
WAT7	Susitna Watana	2.91	13		Pn	09 09 25.6	-1.1
WAT1	Susitna Watana	2.94	16		Pn	09 09 26.2	-0.9
L19K	White Mountain	3.09	316	Pn	Pn	09 09 28.0	-1.2
L19K				IAML		09 10 23.7	
	comp=E,12nm,1.0s						
OHAK	Old Harbor	3.21	210	Pn	Pn	09 09 28.8	-2.0
OHAK				IAML		09 10 50.0	
	comp=N,13nm,1.5s						
OHAK				IAML		09 10 57.8	
	comp=E,13nm,1.5s						
N25K	Chitina, Valde	3.22	58		Pn	09 09 29.5	-1.5
N25K				IAML		09 10 19.6	
	comp=N,14nm,1.4s						
N25K				IAML		09 10 24.4	
	comp=E,14nm,1.5s						
DHY	Denali Highway	3.37	23		Pn	09 09 30.6	-2.5
DHY				IAML		09 10 21.6	
	comp=E,20nm,0.9s						
TRF	Thorofare Moun	3.44	0	Pn	Pn	09 09 34.1	0.0
TRF				IAML		09 10 36.4	
	comp=N,12nm,1.3s						
N17K	Nushagak Hills	3.46	281	Pn	Pn	09 09 34.1	-0.1
RND	Reindeer	3.46	11	Pn	Pn	09 09 32.5	-1.9
GLB	Gilahina Butte	3.49	63	Pn	Pn	09 09 34.2	-0.6
GLB				IAML		09 10 26.2	
	comp=E,9.4nm,1.1s						
GLB				IAML		09 10 31.0	
	comp=N,11nm,1.4s						
KTH	Kantishna Hill	3.55	356		Pn	09 09 34.1	-1.4
KTH				IAML		09 10 25.5	
	comp=N,10nm,1.0s						
KTH				IAML		09 10 42.0	
	comp=E,8.6nm,0.8s						
M17K	Holitna River	3.77	295	Pn	Pn	09 09 38.2	-0.2
TGL	Tana Glacier	3.78	76	Pn	Pn	09 09 37.8	-1.0
TGL				IAML		09 10 22.2	
	comp=E,14nm,1.5s						
K20K	Telida	3.79	333	Pn	Pn	09 09 38.6	-0.2
L18K	Granite Mounta	3.80	308	Pn	Pn	09 09 37.2	-1.7
L18K				IAML		09 10 23.6	
	comp=N,10nm,1.1s						
L18K				IAML		09 11 22.3	
	comp=E,7.8nm,1.4s						
MCARA	McCarthy VSAT	3.83	66	Pn	Pn	09 09 38.5	-0.9
O16K	Kokwok River B	3.96	267	Pn	Pn	09 09 39.1	-1.9
O16K				IAML		09 11 11.1	
	comp=E,5.9nm,1.1s						
O16K				IAML		09 11 47.0	
	comp=N,8.9nm,1.5s						
TTA	Tatalina	4.00	319	Pn	Pn	09 09 42.1	+0.4
BPAW	Bear Paw Mtn.	4.10	356		Pn	09 09 42.8	-0.3
M26K	Nabesna, AK	4.26	53	Pn	Pn	09 09 44.6	-0.7
M26K				IAML		09 10 53.2	
	comp=N,5.9nm,0.9s						
GRNC	Granite Creek	4.31	77	Pn	Pn	09 09 45.0	-1.0
M16K	Timber Creek	4.39	287	Pn	Pn	09 09 46.4	-0.6
M16K				IAML		09 10 59.0	
	comp=E,8.7nm,1.2s						
BARN	Barnard Glacie	4.40	73	Pn	Pn	09 09 45.5	-1.7
BARN				IAML		09 10 34.5	
	comp=E,5.0nm,1.4s						
BARN				IAML		09 11 17.9	
	comp=N,8.9nm,1.5s						
RIDG	Independent Ri	4.54	32	Pn	Pn	09 09 48.2	-0.8
RIDG				IAML		09 11 03.5	
	comp=E,7.0nm,1.3s						
RIDG				IAML		09 11 04.7	
	comp=N,7.1nm,0.7s						
CTGM	Chitina Glacie	4.54	74	Pn	Pn	09 09 47.6	-1.5
J20K	Nowinta River	4.54	338	Pn	Pn	09 09 47.5	-1.6
J20K				IAML		09 11 08.6	
	comp=E,4.2nm,1.2s						
J20K				IAML		09 11 10.3	
	comp=N,4.5nm,1.5s						
NEA2	Nenana	4.62	7	Pn	Pn	09 09 49.4	-0.8
HDA	Harding Lake	4.67	18	Pn	Pn	09 09 50.7	-0.2
HDA				IAML		09 11 01.1	
	comp=N,3.9nm,1.1s						
K17K	Iditarod	4.70	309	Pn	Pn	09 09 49.6	-1.6
CCB	Clear Creek Bu	4.78	13	Pn	Pn	09 09 50.8	-1.5
L16K	Owhat River	4.79	295	Pn	Pn	09 09 51.5	-0.9
L16K				IAML		09 11 06.6	
	comp=E,4.2nm,1.5s						
L16K				IAML		09 11 14.1	
	comp=N,5.2nm,1.3s						
N15K	Kwethluk River	4.90	276	Pn	Pn	09 09 52.8	-1.2
SCRK	Sand Creek	4.96	34	Pn	Pn	09 09 54.4	-0.5
SCRK				IAML		09 11 11.8	
	comp=E,3.1nm,1.3s						
SCRK				IAML		09 11 37.1	
	comp=N,2.9nm,1.5s						
IL31		5.02	17		Pn	09 09 54.9	-0.7
MLY	Manley	5.03	358	Pn	Pn	09 09 55.1	-0.7
MDM	Murphy Dome	5.05	10	Pn	Pn	09 09 55.6	-0.4
MDM				IAML		09 11 22.1	
	comp=E,3.5nm,1.4s						
L27K	Beaver Creek,	5.07	49	Pn	Pn	09 09 55.8	-0.6
L27K				IAML		09 10 47.3	
	comp=N,2.8nm,1.4s						
BCAR	Beaver Creek A	5.09	50	Pn	Pn	09 09 55.4	-1.2
J25K	Salcha River,	5.15	24	Pn	Pn	09 09 57.3	-0.1
J25K				IAML		09 11 14.3	
	comp=E,3.2nm,0.8s						
I23K	Minto, Yukon-K	5.16	4	Pn	Pn	09 09 56.8	-0.8
I23K				IAML		09 12 36.3	
	comp=N,3.5nm,1.4s						
I21K	Tanana	5.23	352	Pn	Pn	09 09 58.0	-0.5
I21K				IAML		09 12 11.6	
	comp=N,4.8nm,1.5s						
POKR	Poker Plat Res	5.28	13	Pn	Pn	09 09 57.1	-2.2
POKR				IAML		09 11 22.5	
	comp=N,3.6nm,1.2s						
POKR				IAML		09 11 33.2	
	comp=E,3.0nm,0.9s						
J26L	Joseph Creek	5.49	32	Pn	Pn	09 10 00.9	-1.2
H21K	Melozitna Rive	5.77	350	Pn	Pn	09 10 05.0	-0.9
K15K	Wolf Creek Mou	5.89	298	Pn	Pn	09 10 07.4	-0.1
H24K	Noodor Dome	5.94	10	Pn	Pn	09 10 08.2	-0.1
IMAR	Indian Mountai	6.18	347	Pn	Pn	09 10 11.2	-0.4
I26K	Coal Creek Min	6.24	29	Pn	Pn	09 10 11.0	-1.4
G21K	Allakaket	6.67	349	Pn	Pn	09 10 17.6	-0.8
J14K	Nanvaranak Lak	6.92	299	Pn	Pn	09 10 20.4	-1.3
G16K	Koyuk River	7.71	319	Pn	Pn	09 10 32.6	+0.1
BMAR	Burnt Mountain	7.85	16	Pn	Pn	09 10 32.9	-1.6
E21K	Killik River	8.60	351	Pn	Pn	09 10 44.8	+0.1
P33M	Teslin, Yukon	8.73	81	Pn	Pn	09 10 47.8	+1.2

*IDC **05** 09:21:01.2±61.0, 20.°76S×175.°62W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=1135.0km s-min=172.2km az=84.0*

*NEIC **05** 09:22:32.9±1.7, 23.°1S±0.°2×179.°7E±0.°1, h604km±33km, mb4.2/22, Error ellipse: s-maj=35.5km s-min=13.3km az=174.0*

ISC 05 09:22:29.6±8.5**, 22.°8S**±0.°6×**179.°9E**±0.°8**, h600**km**, n28, σ0.s86**/28**, mb4.0**/11**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BFZ	Birch Farm	18.08	189	P	P	09 26 06.0	+0.3
BFZ				IAmb	IAmb	09 26 12.1	
	comp=Z,16nm,1.1s						
MRZ	Mangatainoka R	18.17	191	P	P	09 26 05.8	-0.8
MRZ				IAmb	IAmb	09 26 15.7	
	comp=Z,7.4nm,0.9s						
QRZ	Quartz Range	19.01	197	P	P	09 26 15.7	+1.5
BHW	Baring Head	19.02	192	P	P	09 26 15.5	+1.2
BHW				IAmb	IAmb	09 26 31.4	
	comp=Z,9.6nm,1.1s						
NNZ	Nelson	19.16	195	P	P	09 26 15.9	+0.4
DSZ	Denniston Nort	20.07	198	P	P	09 26 24.6	+0.8
KHZ	Kahutara	20.26	194	P	P	09 26 26.2	+0.8
LTZ	Lake Taylor	20.91	196	P	P	09 26 30.9	-0.5
LTZ				IAmb	IAmb	09 26 40.0	
	comp=Z,11nm,1.2s						
RPZ	Rata Peaks	22.10	197	P	P	09 26 40.3	-1.6
RPZ				IAmb	IAmb	09 26 50.6	
	comp=Z,11nm,1.1s						
WKZ	Wanaka	23.71	200	P	P	09 26 55.4	-0.9
MLZ	Mavora Lakes	24.48	200	P	P	09 27 04.0	+1.0
MLZ				IAmb	IAmb	09 27 07.2	
	comp=Z,8.5nm,1.0s						
WHZ	Wether Hill Ro	25.00	200	P	P	09 27 08.6	+1.1
WHZ				IAmb	IAmb	09 27 10.2	
	comp=Z,6.1nm,0.7s						
ARMA	Armidale	26.36	247	P	P	09 27 20.9	+1.0
EIDS	Eidsvold	26.43	259	P	P	09 27 20.9	+0.4
EIDS				IAmb	IAmb	09 27 37.7	
	comp=Z,4.0nm,1.1s						
CTAO	Charters Tower	31.42	269	P	P	09 28 03.5	-0.1
CTAO				IAmb	IAmb	09 28 04.4	
	comp=Z,5.1nm,0.5s						
TOO	Toolangi	32.99	236	P	P	09 28 14.5	-2.2
STKA	Stephens Creek	35.07	247	P	P	09 28 33.8	-0.3
STKA	Stephens Creek	35.07	247	P	P	09 28 34.5	+0.4
	comp=Z,0.9nm,0.4s,baz=107,slow=11,SNR=4.6						
	comp=Z,0.9nm,0.4s						
BBOO	Buckleboo	39.81	246	P	P	09 29 12.5	-0.1
BBOO				IAmb	IAmb	09 29 19.6	
	comp=Z,3.8nm,1.0s						
AS31	Alice Springs	42.15	259	P	P	09 29 31.4	+0.2
ASAR	Alice Springs	42.15	259	P	P	09 29 31.9	+0.6
ASAR	Alice Springs	42.15	259	P	P	09 29 31.4	+0.2
	comp=Z,0.9nm,0.5s,baz=95,slow=6.9,SNR=11						
	comp=Z,0.9nm,0.5s						
WR0	Warramunga Arr	42.23	265	P	P	09 29 31.8	0.0
WB0	Warramunga Arr	42.41	265	P	P	09 29 32.9	-0.4
WB2	Warramunga Arr	42.41	265	P	P	09 29 33.4	+0.1
WB2				IAmb	IAmb	09 29 38.9	
	comp=Z,11nm,1.1s						
WRAB	Tennant Creek	42.41	265	P	P	09 29 33.1	-0.2
WRAB				IAmb	IAmb	09 29 39.6	
	comp=Z,2.8nm,1.1s						
WRA	Warramunga Arr	42.42	265	P	P	09 29 33.2	-0.2
WRA	Warramunga Arr	42.42	265	P	P	09 29 33.1	-0.3
	comp=Z,0.4nm,0.2s,baz=96,slow=8.2,SNR=45						
	comp=Z,0.4nm,0.2s						

*IDC **05** 09:23:41.7±0.9, 30.°72N×57.°24E, h0km, mb3.8/14, mbtmp3.9/19, ML3.9/5, Error ellipse: s-maj=19.0km s-min=17.4km az=141.0*

*TEH **05** 09:23:43.0, 30.°78N×57.°29E, h9km±45km, ML4.3*

*NEIC **05** 09:23:43.5±2.0, 30.°72N±0.°04×57.°28E±0.°03, h8km±5km, mb4.3/29, Error ellipse: s-maj=5.9km s-min=2.8km az=165.0*

ISC 05 09:23:44.2±0.4**, 30.°75N**±0.°03×**57.°28E**±0.°03**, h15**km**, n123, σ1.s24**/127**, mb4.1**/29**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.67	289	Pg	Pg	09 23 56.0	-1.5
ZRDN	Zarand Kerman	0.67	289	Pg	Pg	09 23 55.9	-1.6
ZRDN				Sg	Sg	09 24 06.5	0.0
KHGB	Koh Gabri	0.78	242	Pg	Pg	09 23 58.0	-1.5
KHGB	Koh Gabri	0.78	242	Pg	Pg	09 23 58.2	-1.3
KHGB				Sg	Sg	09 24 08.9	-0.9
TVBK	TV Kerman	0.88	211	Pg	Pb	09 24 00.9	-0.5
TVBK	TV Kerman	0.88	211	Pg	Pb	09 24 01.0	-0.5
CHMN	Cheshme madani	0.91	165	Pg	Pg	09 24 00.3	-1.7
CHMN	Cheshme madani	0.91	165	Pg	Pg	09 24 00.6	-1.4
CHMN				Sg	Sb	09 24 13.7	-0.3
NGRK	Negar Kerman	1.20	203		Pg	09 24 06.8	-0.6
NGRK	Negar Kerman	1.20	203	Pg	Pn	09 24 06.6	-0.2
NGRK				Sg	Sn	09 24 23.2	+0.3
IBAF	Bafgh	1.69	300		Pb	09 24 14.9	-0.2

IBAF	Bafgh	1.69	300	Pg	Pn	09 24 14.4	+1.0
KBAM	BAM	1.90	147	Pn	Pb	09 24 17.4	-1.3
KBAM	BAM	1.90	147	Pn	Pn	09 24 17.2	+1.0
BSRN	Basiran	2.00	52	Pn	Pn	09 24 18.9	+1.3
BSRN	Basiran	2.00	52	Pn	Pn	09 24 18.0	+0.4
IKOO	Kooshah	2.23	41	Pn	Pn	09 24 21.4	+0.5
IKOO	Kooshah	2.23	41	Pn	Pn	09 24 21.5	+0.6
TPRV	Parvadeh(Tabas	2.33	348	Pn	Pn	09 24 22.5	+0.4
TPRV	Parvadeh(Tabas	2.33	348	Pn	Pn	09 24 22.5	+0.4
IMEH	Mehriz	2.37	286	Pn	Pn	09 24 24.4	+1.5
NHDN	Nehbandan	2.47	74	Pn	Pn	09 24 24.9	+0.9
ITEG	Tejag	2.48	30	Pn	Pn	09 24 24.4	+0.1
ITEG	Tejag	2.48	30	Pn	Pn	09 24 24.5	+0.1
KHNJ	Kahnooj	2.81	172	Pn	Pn	09 24 30.7	+1.9
TKDS	Koohdasht(Taba	2.86	357	Pn	Pn	09 24 29.5	0.0
TKDS	Koohdasht(Taba	2.86	357	Pn	Pn	09 24 29.8	+0.3
ICHK	Chekchek	2.87	302	Pn	Pn	09 24 31.6	+1.9
IDAH	Dahanechah	2.97	47	Pn	Pn	09 24 31.5	+0.4
IDAH	Dahanechah	2.97	47	Pn	Pn	09 24 31.9	+0.8
AFRZ	Afriz	3.05	28	Pn	Pn	09 24 32.8	+0.7
IMON	Monand	3.17	39	Pn	Pn	09 24 35.7	+1.8
TNSJ	Nastanj	3.26	350	Pn	Pn	09 24 35.4	+0.5
ISAD	Sadrabad	3.29	292	Pn	Pn	09 24 37.5	+2.1
ISAD	Sadrabad	3.29	292	Pn	Pn	09 24 36.5	+1.0
ZHDN	Zahedan	3.34	113	Pn	Pn	09 24 37.4	+1.2
ZHDN	Zahedan	3.34	113	Pn	Pn	09 24 37.6	+1.4
IBND	Bandar-abas	3.35	191	Pn	Pn	09 24 38.6	+2.6
GENO	Geno	3.47	196	Pn	Pn	09 24 40.8	+2.9
GENO	Geno	3.47	196	Pn	Pn	09 24 40.6	+2.7
SHRT	Shahrakht	3.86	41	Pn	Pn	09 24 44.2	+1.0
ANAR	Anarak	3.88	310	Pn	Pn	09 24 45.0	+1.6
ANAR	Anarak	3.88	310	Pn	Pn	09 24 44.8	+1.4
IRAM	Ramesheh	4.32	285	Pn	Pn	09 24 51.8	+2.1
IZEF	Zefreh	4.72	298	Pn	Pn	09 24 56.5	+1.3
JASK	Jask - Hormozg	4.89	174	Pn	Pn	09 24 59.5	+2.2
TBJM	Torbat-e-JAM	5.19	29	Pn	Pn	09 25 02.5	+1.0
IANJ	Anjilo	5.49	330	Pn	Pn	09 25 06.7	+1.0
HRA	Herat	5.55	48		Pn	09 25 07.4	+0.9
ISFB	Sefidab	5.57	312	Pn	Pn	09 25 07.9	+1.2
SRVN	Saravan	5.58	125	Pn	Pn	09 25 09.2	+2.2
SBZV	Sabzevar	5.63	3	Pn	Pn	09 25 08.8	+1.1
JRKH	Jarkhoshk	5.75	26	Pn	Pn	09 25 10.4	+1.2
JHBN	Jahan bin	5.84	286	Pn	Pn	09 25 12.7	+2.1
UOSS	Minazif	5.86	190	Pn	Pn	09 25 07.7	-2.9
IMYA	Miami	6.06	22	Pn	Pn	09 25 14.6	+1.1
IVRN	Varamin	6.30	314	Pn	Pn	09 25 18.6	+1.9
ISFR	Sfrayin	6.32	5	Pn	Pn	09 25 18.6	+1.4
IDMV	Damavand	6.52	319	Pn	Pn	09 25 21.1	+1.2
IEMG	Emamgholi	6.75	9	Pn	Pn	09 25 25.2	+2.1
MRVT	Maraveh tapeh	6.97	352	Pn	Pn	09 25 27.0	+1.2
GEYT	Alibeck	7.20	5	Pn	Pn	09 25 28.4	-0.6
GEYT	Alibeck	7.20	5	Pn	Pn	09 25 28.6	-0.4
	2.1nm,0.3s,baz=190,slow=16,SNR=7.6						
GEYT				Lg	Lg	09 27 31.6	
	0.7nm,0.3s,baz=176,slow=25,SNR=1.9						
	2.2nm,0.4s						
GYA0B	ALIBECK ARRAY	7.20	5	Pn	Pn	09 25 27.6	-1.4
WSAR	Wadi Sarin	7.57	170	Pn	Pn	09 25 35.3	+1.1
	3.8nm,0.3s,baz=6.9,slow=10,SNR=19						
	29nm,0.6s						
WBK	Wadi Bani Khal	8.24	169	Pn	Pn	09 25 45.4	+2.0
BTK	Batken	14.42	46	Pn	Pn	09 27 06.4	-1.5
KK31	Karatay Array	16.23	37	Pn	Pn	09 27 31.6	0.0
KKAR	Karatay Array	16.23	37	Pn	Pn	09 27 30.9	-0.7
ARSB	Arslanbob	16.49	46	Pn	Pn	09 27 34.8	-0.4
ASF	Jabal al Asfar	17.45	280	P	Pn	09 27 47.0	-0.2
	0.5nm,0.3s,baz=113,slow=13,SNR=1.8						
	2.2nm,0.4s						
AAK	Ala-Archa	18.17	44	P	P	09 27 57.2	+0.8
	0.1nm,0.3s,baz=238,slow=8.9,SNR=3.5						
	1.9nm,0.9s						
ABKAR	Akbulak array	18.60	5	P	P	09 28 00.8	-0.1
AKTO	Aktyubinsk	19.68	1	P	P	09 28 13.7	+1.1
	0.4nm,0.3s,baz=173,slow=11,SNR=9.8						
	4.5nm,0.6s						
BR131	Keskin Array S	21.24	301	P	P	09 28 29.2	-0.6
BRTR	Keskin Array B	21.24	301	P	P	09 28 28.4	-1.4
BRTR	Keskin Array B	21.24	301	P	P	09 28 28.7	-1.2
	1.9nm,0.9s,baz=128,slow=14,SNR=11						
	1.9nm,0.9s						
PYUN	Piuthan	22.54	90	eP	P	09 28 46.6	+2.6
	20nm,1.0s						
DANN	Dangsing	23.15	89	eP	P	09 28 52.2	+1.8
	35nm,1.0s						
ELL	Elmali	23.49	292	P	P	09 28 54.4	+0.8
BRVK	Borovoye	24.23	19	P	P	09 29 00.8	+0.4
BVAR	Borovoye Array	24.23	20	P	P	09 29 01.8	+1.4
	2.0nm,0.6s,baz=200,slow=7.8,SNR=5.0						
	2.0nm,0.6s						
PKI	Pulchoki	24.75	90	eP	P	09 29 06.6	+0.9
	15nm,0.8s						
MAKZ	Makanchi	24.91	43	P	P	09 29 05.5	-1.1
MAKZ				IAmb	IAmb	09 29 12.0	
	comp=Z,6.8nm,0.9s						
GUN	Gumba	25.07	89	eP	P	09 29 10.2	+1.6
	comp=Z,37nm,1.0s						
MK31	Makanchi Array	25.09	43	P	P	09 29 08.5	+0.3
MKAR	Makanchi Array	25.09	43	P	P	09 29 06.8	-1.4
	comp=Z,0.6nm,0.6s,baz=229,slow=7.8,SNR=4.4						
	comp=Z,0.6nm,0.6s						
KURBB	Kurchatov Arra	25.41	33	P	P	09 29 09.6	-1.5
	comp=Z,0.7nm,0.6s,baz=238,slow=5.5,SNR=2.5						
	comp=Z,0.7nm,0.6s						
RAMN	Ramite	25.93	91	eP	P	09 29 17.3	+1.0
	comp=Z,22nm,0.7s						
FINES	FINESS Array B	36.87	335	P	P	09 30 51.9	+0.1
	comp=Z,3.6nm,1.0s,baz=107,slow=10,SNR=5.7						
	comp=Z,3.6nm,1.0s						
GEC2	GERESS Array S	37.45	312	P	P	09 30 57.2	+0.2
GEC2				IAmb	IAmb	09 31 03.4	
	comp=Z,4.9nm,1.1s						
GERES	GERESS Array B	37.45	312	P	P	09 30 57.5	+0.5
GERES	GERESS Array B	37.45	312	P	P	09 30 55.0	-2.0
	comp=Z,1.5nm,0.7s,baz=75,slow=7.1,SNR=4.3						
	comp=Z,1.5nm,0.7s						
KHC	Kasperske Hory	37.59	312	P	P	09 30 56.9	-1.2
KIBK	Kibwezi	37.66	213	P	P	09 30 57.8	-1.3
KIBK				IAmb	IAmb	09 31 22.4	
	comp=Z,3.5nm,1.2s						
CLL	Collm	38.47	315	eP	P	09 31 07.0	+1.5
	comp=Z,6.0nm,1.1s						
CLL				ex	x	09 31 11.0	
DAVOX	Davos/Dischmat	39.64	308	P	P	09 31 14.9	-0.6
	comp=Z,1.8nm,0.5s,baz=79,slow=5.2,SNR=2.9						
	comp=Z,1.8nm,0.5s						
SONM	Songino Array	40.93	51	P	P	09 31 26.2	+0.1
	comp=Z,1.0nm,1.0s,baz=268,slow=6.9,SNR=1.4						
	comp=Z,1.0nm,1.0s						
ARCES	ARCESS Array B	42.81	344	P	P	09 31 41.9	+0.8
	comp=Z,1.9nm,0.8s,baz=166,slow=4.6,SNR=5.4						
	comp=Z,1.9nm,0.8s						
TOA0	Torodi Ar. Sit	53.91	264	P	P	09 33 07.2	-0.2
TOA0				IAmb	IAmb	09 33 07.5	
	comp=Z,3.8nm,0.9s						
TORD	Torodi Ar. Bea	53.91	264	P	P	09 33 07.1	-0.3
	comp=Z,2.3nm,0.7s,baz=52,slow=8.0,SNR=17						
	comp=Z,2.3nm,0.7s						
B22K	Teshekpuk Lake	76.81	10	P	P	09 35 35.0	+0.1
C19K	Lookout Ridge	76.84	13	P	P	09 35 35.8	+0.6
C18K	Utukok River	76.91	14	P	P	09 35 37.9	+2.3
B21K	Ikpikpuk River	77.27	11	P	P	09 35 38.8	+1.3
A36M	Sachs Harbour	77.53	1	P	P	09 35 39.3	+0.4
A36M				IAmb	IAmb	09 35 42.9	
	comp=Z,2.0nm,0.8s						
C23K	Itkillik River	77.69	10	P	P	09 35 39.7	-0.2
D22K	Ayikyak River	78.24	11	P	P	09 35 43.7	+0.8
E19K	Redstone River	78.71	13	P	P	09 35 45.0	-0.5
E19K				IAmb	IAmb	09 36 09.7	
	comp=Z,2.6nm,1.1s						
D25K	Kavik River	78.73	8	P	P	09 35 45.7	0.0
D25K				IAmb	IAmb	09 36 04.5	
	comp=Z,6.6nm,1.5s						
TOLK	Toolik Lake Re	78.94	10	P	P	09 35 47.3	+0.4
TOLK				IAmb	IAmb	09 35 54.0	
	comp=Z,2.4nm,0.9s						
PSA00	Pilbara Seismi	79.44	123	P	P	09 35 51.1	+0.9
PSA00				IAmb	IAmb	09 35 57.6	
	comp=Z,4.9nm,1.3s						
E25K	Arctic Village	79.97	8	P	P	09 35 53.9	+1.5
E25K				IAmb	IAmb	09 36 07.5	
	comp=Z,4.2nm,1.5s						
C36M	Paulatuk	80.20	0	P	P	09 35 54.0	+0.4
C36M				IAmb	IAmb	09 35 58.1	
	comp=Z,1.4nm,0.7s						
H17K	Granite Mounta	80.32	15	P	P	09 35 53.3	-1.0
H17K				IAmb	IAmb	09 36 12.8	
	comp=Z,14nm,1.4s						
IMAR	Indian Mountai	80.67	12	P	P	09 35 56.6	+0.4
F28M	Old Crow	81.10	7	P	P	09 35 58.4	-0.2
F28M				IAmb	IAmb	09 36 00.3	
	comp=Z,2.0nm,1.2s						
F31M	Tsiigehtchic	81.77	4	P	P	09 36 02.4	+0.4
F31M				IAmb	IAmb	09 36 02.8	
	comp=Z,9.0nm,1.4s						
G30M	tAoh Zraii Nji	82.04	5	P	P	09 36 05.3	+1.8
G30M				IAmb	IAmb	09 36 18.1	
	comp=Z,6.9nm,1.4s						
ILAR	Eielson Array	82.94	10	P	P	09 36 09.2	+1.0
	comp=Z,0.2nm,0.6s,baz=314,slow=5.4,SNR=4.2						
	comp=Z,0.2nm,0.6s						
YKA	Yellowknife Ar	86.86	356	P	P	09 36 28.0	+0.1
	comp=Z,0.5nm,1.0s,baz=3.4,slow=5.0,SNR=5.4						
	comp=Z,0.5nm,1.0s						
WRA	Warramunga Arr	89.49	114	P	P	09 36 40.6	-0.5
	comp=Z,0.4nm,0.8s,baz=317,slow=3.8,SNR=2.1						
	comp=Z,0.4nm,0.8s						
ASAR	Alice Springs	91.17	117	P	P	09 36 48.0	-0.9
	comp=Z,0.2nm,0.7s,baz=308,slow=4.6,SNR=2.1						
	comp=Z,0.2nm,0.7s						

IDC 05 09:31:29.1±402.0**, 57.46N×31.69E, h0km, Error ellipse: s-maj=166.1km s-min=78.0km az=97.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	3.11	101	I	I	09 51 05.9	
	0.3nm,0.9s,baz=284,slow=301,SNR=1.2						
I37NO	I37NO	13.02	339	I	I	10 43 30.0	
	baz=139,slow=326,SNR=0.7						
I31KZ	AKTYUBINSK INF	16.96	103	I	I	11 16 10.0	
	baz=306,slow=329,SNR=1.0						
I46RU	ZALESOVO INFRA	29.50	74	I	I	12 34 00.0	
	baz=296,slow=322,SNR=1.2						
I34MN	SONGINO INFRAS	44.16	69	I	I	14 00 40.0	
	baz=302,slow=328,SNR=0.5						

IDC 05 09:31:41.8±6.8**, 55.52N×86.26E, h0km, mbtmp2.9**/2**, ML2.7**/2**, Error ellipse: s-maj=69.6km s-min=26.1km az=30.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.78	209	I	I	09 42 20.0	
	baz=25,slow=344,SNR=4.5						
ZALV	Zalesovo Beam	1.78	209	Pn	Pn	09 32 12.8	-1.1
	4.8nm,0.3s,baz=32,slow=15,SNR=27						
ZALV				Sn	Sg	09 32 38.6	-0.4
	3.4nm,0.3s,baz=31,slow=25,SNR=8.6						
KURBB	Kurchatov Arra	6.76	227	Pn	Pn	09 33 21.9	-0.3
	0.1nm,0.3s,baz=45,slow=14,SNR=3.9						
	0.4nm,0.3s						
MKAR	Makanchi Array	9.08	198	Pn	Pn	09 33 55.1	+0.9
	0.1nm,0.3s,baz=13,slow=12,SNR=2.2						
	0.1nm,0.3s						

*SNET **05** 09:47:44.7±0.9, 13.25N×89.61W, h60km, ML4.6*
*CATAC **05** 09:47:45.8±0.3, 13.31N×89.58W, h37km±10km, MB5.3, mb4.8, ML4.6*
*IDC **05** 09:47:46.6±2.2, 13.33N×89.46W, h92km±18km, mb3.5/6, mbtmp3.9/8, MS3.1/5, Error ellipse: s-maj=44.3km s-min=13.7km az=43.0*
*NEIC **05** 09:47:46.6±1.9, 13.41N±0.06×89.48W±0.07, h78km±8km, mb4.2/59, Error ellipse: s-maj=11.2km s-min=8.0km az=49.0*
*GCG **05** 09:47:47.4±0.5, 13.61N×89.66W, h109km±17km, MD3.8*
ISC 05 09:47:44.8±0.7**, 13.31N**±0.05×**89.57W**±0.04**, h69**km±5km**, n217, σ0.96**/246**, mb4.2**/34**, 10C-27D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.30	54	eP	Pn	09 47 55.5	-0.4
LALI	Alcalda de L	0.30	54	⇑iP	Pn	09 47 55.5	-0.4
LALI				iS	Sn	09 48 02.5	-1.5
LALI				IAML		09 48 02.8	
	comp=Z,17μm,1.0s						
JAYA	Jayaque - finc	0.36	19	⇓iP	Pn	09 47 56.2	-0.4
JAYA				IAML		09 48 06.4	
	comp=Z,960μm,1.0s						
ITCA	Escuela Especi	0.46	39	eP	Pn	09 47 57.3	-0.1
ITCA	Escuela Especi	0.46	39	⇓iP	Pn	09 47 57.2	-0.1
ITCA				iS	Sn	09 48 06.7	+0.2
ITCA				IAML		09 48 08.1	
	comp=Z,95μm,1.0s						
MAGS	Ministerio de	0.46	37	⇓iP	Pn	09 47 57.3	-0.1
MAGS				iS	Sn	09 48 06.8	+0.3
MAGS				IAML		09 48 08.3	
	comp=Z,34μm,1.0s						
PMON	Piamonte	0.47	32	iP	Pn	09 47 57.5	+0.1
PMON	Piamonte	0.47	32	⇓iP	Pn	09 47 57.4	0.0
PMON				iS	Sn	09 48 07.2	+0.5
PMON				IAML		09 48 12.6	
	comp=Z,67μm,1.0s						
PANCS	Alcalda de	0.48	52	⇓iP	Pn	09 47 57.2	-0.3
PANCS				IAML		09 48 07.5	
	comp=Z,110μm,1.0s						
SNET	Serv Nac Est T	0.50	42		Pn	09 47 57.7	+0.1
SNET				Sn	Sn	09 48 07.7	+0.6
SNET	Serv Nac Est T	0.50	42	iP	Pn	09 47 57.7	+0.1
SNET	Serv Nac Est T	0.50	42	⇓iP	Pn	09 47 57.7	+0.1
SNET				iS	Sn	09 48 07.2	+0.1
SNET				IAML		09 48 09.9	
	comp=Z,110μm,1.0s						
BOQS	Boqueron	0.51	34	eP	Pn	09 47 58.2	+0.3
LOMA	Loma Larga	0.51	50	eP	Pn	09 47 58.0	+0.1
LOMA				eS	Sn	09 48 07.7	+0.3
LOMA	Loma Larga	0.51	50	⇓iP	Pn	09 47 57.8	0.0
LOMA				iS	Sn	09 48 07.6	+0.2
LOMA				IAML		09 48 09.0	
	comp=Z,67μm,1.0s						
CEVE	Cerro Verde	0.52	354	eP	Pn	09 47 58.0	0.0
CEVE	Cerro Verde	0.52	354	⇓iP	Pn	09 47 58.0	0.0
CEVE				IAML		09 48 14.9	
	comp=Z,18μm,1.0s						
CEVE	Cerro Verde	0.52	354	iP	Pn	09 47 57.4	-0.6
CEVE				IAML		09 48 14.9	
	comp=Z,18μm,1.0s						
SEMO	Seminario San	0.52	41	eP	Pn	09 47 58.0	+0.1
SEMO	Seminario San	0.52	41	⇓iP	Pn	09 47 57.9	+0.1
SEMO				iS	Sn	09 48 08.0	+0.6
SEMO				IAML		09 48 12.0	
	comp=Z,110μm,1.0s						
UEES	Universidad Ev	0.52	39	iP	Pn	09 47 58.1	+0.2
UEES				eS	Sn	09 48 08.0	+0.7
UEES	Universidad Ev	0.52	39	⇓iP	Pn	09 47 57.9	+0.1
UEES				iS	Sn	09 48 08.1	+0.7
UEES				IAML		09 48 08.9	
	comp=Z,47μm,1.0s						
CEDA	San Andres	0.52	19	eP	Pn	09 47 58.0	+0.2
CEDA				eS	Sn	09 48 08.3	+0.9
CEDA	San Andres	0.52	19	⇓iP	Pn	09 47 58.0	+0.2
CEDA				iS	Sn	09 48 08.2	+0.9
CEDA				IAML		09 48 12.7	
	comp=Z,76μm,1.0s						
CEDA	San Andres	0.52	19	iP	Pn	09 47 57.7	-0.1
CEDA				IAML		09 48 12.7	
	comp=Z,76μm,1.0s						
SBLS	San Blas	0.53	355	iP	Pn	09 47 58.2	+0.1
UTEC	Universidad Te	0.53	43	eP	Pn	09 47 58.2	+0.2
UTEC	Universidad Te	0.53	43	⇓iP	Pn	09 47 58.1	+0.2
UTEC				iS	Sn	09 48 08.2	+0.6
UTEC				IAML		09 48 09.5	
	comp=Z,54μm,1.0s						
SNJE	San Jose	0.55	357	iP	Pn	09 47 58.5	+0.1
IGN	Direccin Gen	0.56	44	eP	Pn	09 47 58.6	+0.3
IGN	Direccin Gen	0.56	44	⇓iP	Pn	09 47 58.5	+0.3
IGN				IAML		09 48 11.7	
	comp=Z,290μm,1.0s						
UDBS	Universidad Do	0.57	45	⇓iP	Pn	09 47 58.7	+0.3
UDBS				iS	Sn	09 48 09.3	+1.0
UDBS				IAML		09 48 10.5	
	comp=Z,180μm,1.0s						
AEIL	Aeropuerto Ilo	0.58	49	eP	Pn	09 47 59.2	+0.7
LFRS	El Faro	0.58	58	eP	Pn	09 47 58.8	+0.2
QUEZ	Alcaldia de Qu	0.59	29	⇓iP	Pn	09 47 58.8	+0.2
QUEZ				iS	Sn	09 48 10.1	+1.4
QUEZ				IAML		09 48 13.3	
	comp=Z,79μm,1.0s						
QUEZ	Alcaldia de Qu	0.59	29	iP	Pn	09 47 58.3	-0.3
QUEZ				IAML		09 48 13.3	
	comp=Z,79μm,1.0s						
NUBE	Las Nubes	0.62	341	iP	Pn	09 47 59.0	0.0
NUBE				eS	Sn	09 48 09.9	+0.5
NUBE	Las Nubes	0.62	341	⇓iP	Pn	09 47 58.9	0.0
NUBE				iS	Sn	09 48 09.2	-0.1
NUBE				IAML		09 48 12.0	
	comp=Z,27μm,1.0s						
NUBE	Las Nubes	0.62	341	iP	Pn	09 47 58.6	-0.4
NUBE				iS	Sn	09 48 09.3	-0.1
NUBE				IAML		09 48 12.0	
	comp=Z,27μm,1.0s						
LFU	La Fuente	0.62	46	iP	Pn	09 47 59.5	+0.6
SJTE	Alcalda de S	0.63	61	eP	Pn	09 47 59.5	+0.5
SJTE	Alcalda de S	0.63	61	iP	Pn	09 47 58.8	-0.2
SJTE				iS	Sn	09 48 09.7	+0.3
SJTE				IAML		09 48 12.5	
	comp=Z,21μm,1.0s						
UNIC	Universidad Ca	0.67	2	⇓iP	Pn	09 47 59.5	+0.1
UNIC				IAML		09 48 00.2	
	comp=Z,8μm,1.0s						
UNIC	Universidad Ca	0.67	2	iP	Pn	09 47 59.4	+0.1
UNIC				IAML		09 48 00.2	
	comp=Z,8μm,1.0s						
LBRS	Las Brisas	0.67	51	eP	Pn	09 48 00.2	+0.8
LOAL	Lomas de Alarc	0.71	343	⇓iP	Pn	09 48 00.2	+0.3
LOAL				IAML		09 48 00.8	
	comp=Z,26μm,1.0s						
LOAL	Lomas de Alarc	0.71	343	iP	Pn	09 48 00.1	+0.2
LOAL				IAML		09 48 00.8	
	comp=Z,26μm,1.0s						
PAVA	Las Pavas	0.73	57	eP	Pn	09 48 00.8	+0.6
PAVA	Las Pavas	0.73	57	⇓iP	Pn	09 48 00.7	+0.6
PAVA				iS	Sn	09 48 13.1	+1.5
PAVA				IAML		09 48 14.1	
	comp=Z,42μm,1.0s						
PAVA	Las Pavas	0.73	57	iP	Pn	09 48 00.6	+0.4
PAVA				iS	Sn	09 48 13.0	+1.5
PAVA				IAML		09 48 14.1	
	comp=Z,42μm,1.0s						
SLOZ	Alcaldia de Sa	0.74	344	iP	Pn	09 48 00.6	+0.4
SNVI	San Vicente	0.77	67	iP	Pn	09 48 01.1	+0.4
TECO	Alcaldia de Te	0.80	74	⇑iP	Pn	09 48 00.8	-0.1
TECO				iS	Sn	09 48 12.4	-0.4
TECO				IAML		09 48 14.4	
	comp=Z,9μm,1.0s						
TECO	Alcaldia de Te	0.80	74	iP	Pn	09 48 00.7	-0.1
TECO				iS	Sn	09 48 12.1	-0.7
TECO				IAML		09 48 14.4	
	comp=Z,9μm,1.0s						
UESV	Universidad de	0.83	67	eP	Pn	09 48 01.7	+0.5
UESV	Universidad de	0.83	67	⇓iP	Pn	09 48 01.5	+0.3
UESV				iS	Sn	09 48 14.6	+1.2
UESV				IAML		09 48 15.8	
	comp=Z,11μm,1.0s						
UESV	Universidad de	0.83	67	iP	Pn	09 48 01.7	+0.5
UESV				IAML		09 48 15.8	
	comp=Z,11μm,1.0s						
SCLA	Alcaldia de Sa	0.91	65	iP	Pn	09 48 02.7	+0.4
SCLA	Alcaldia de Sa	0.91	65	⇓iP	Pn	09 48 02.6	+0.4
SCLA				IAML		09 48 27.1	
	comp=Z,2μm,1.0s						
SCLA	Alcaldia de Sa	0.91	65	iP	Pn	09 48 02.6	+0.4
SCLA				IAML		09 48 27.1	
	comp=Z,2μm,1.0s						
ALJI	Alcalda de J	0.97	89	eP	Pn	09 48 02.1	-0.8
ALJI	Alcalda de J	0.97	89	⇑iP	Pn	09 48 02.0	-0.9
ALJI				iS	Sn	09 48 14.7	-1.7
ALJI				IAML		09 48 19.4	
	comp=Z,6μm,1.0s						
JUAM	Asuncion Mita	1.02	353	⇑iP	Pn	09 48 04.0	+0.3
JUAM				IAML		09 48 04.3	
	comp=Z,9μm,1.0s						
COEB	Comit de Eme	1.03	80	eP	Pn	09 48 04.0	+0.2
COEB				eS	Sn	09 48 18.3	+0.4
PQSS	Presa 15 de Se	1.03	72	iP	Pn	09 48 04.1	+0.5
PQSS	Presa 15 de Se	1.03	72	⇑iP	Pn	09 48 04.0	+0.3
PQSS				IAML		09 48 20.2	
	comp=Z,12μm,1.0s						
PQSS	Presa 15 de Se	1.03	72	iP	Pn	09 48 03.5	-0.2
PQSS				IAML		09 48 20.2	
	comp=Z,12μm,1.0s						
LLGN	La Laguna	1.04	36	eP	Pn	09 48 04.4	+0.5
LLGN	La Laguna	1.04	36	⇓iP	Pn	09 48 04.3	+0.4
LLGN				IAML		09 48 04.7	
	comp=Z,4μm,1.0s						
LLGN	La Laguna	1.04	36	iP	Pn	09 48 04.3	+0.4
LLGN				IAML		09 48 04.7	
	comp=Z,4μm,1.0s						
TECA	Tecapa	1.06	80	iP	Pn	09 48 04.4	+0.2
MTO3	Montecristo	1.10	11	Pn	Pn	09 48 05.3	+0.5
MTO3				Sn	Sn	09 48 19.1	-0.5
MTO3	Montecristo	1.10	11	⇓iP	Pn	09 48 05.2	+0.4
MTO3				IAML		09 48 05.4	
	comp=Z,6μm,1.0s						
MTO3	Montecristo	1.10	11	iP	Pn	09 48 04.6	-0.2
MTO3				IAML		09 48 05.4	
	comp=Z,6μm,1.0s						
PACA	Pacayal	1.23	83	iP	Pn	09 48 07.4	+1.1
PACA				IAML		09 48 26.3	
	comp=Z,55μm,1.0s						
PACA	Pacayal	1.23	83	iP	Pn	09 48 07.6	+1.3
PACA				iS	Sn	09 48 22.3	0.0
PACA				IAML		09 48 26.3	
	comp=Z,55μm,1.0s						
RANC	El Ranchito	1.25	84	eP	Pn	09 48 07.3	+0.6
ESQI	Esquipulas	1.26	10	Pn	Pn	09 48 07.7	+1.0
ESQI				Sn	Sn	09 48 21.2	-1.9
ESQI	Esquipulas	1.26	10	⇓iP	Pn	09 48 07.6	+0.9
ESQI				IAML		09 48 07.8	
	comp=Z,4μm,1.0s						
CNRM	Centro Naciona	1.37	83	⇑iP	Pn	09 48 08.8	+0.7
CNRM				IAML		09 48 47.1	
	comp=Z,11μm,1.0s						
CNRM	Centro Naciona	1.37	83	iP	Pn	09 48 08.6	+0.5
CNRM				IAML		09 48 47.1	
	comp=Z,11μm,1.0s						
PCG	Pacaya	1.47	317	eP	Pn	09 48 12.1	+2.4
NBG	Las Nubes	1.47	329	eP	Pn	09 48 11.6	+1.9
ESSG	Sabana Grande	1.62	311	⇓iP	Pn	09 48 11.7	+0.2
ESSG				IAML		09 48 35.9	
	comp=Z,6μm,1.0s						
LCND	La Caada	1.64	90	eP	Pn	09 48 12.2	+0.6
LCND	La Caada	1.64	90	⇑iP	Pn	09 48 12.2	+0.6
LCND				IAML		09 48 37.4	
	comp=Z,3μm,1.0s						
SARH	Santa Rosa de	1.65	28	⇓iP	Pn	09 48 13.3	+1.4
FUG	Fuego 3	1.67	313	eP	Pn	09 48 13.6	+1.4
FUG				eS	Sn	09 48 34.7	+1.8
CNCH	Conchagua	1.69	91	eP	Pn	09 48 13.0	+0.5
CNCH	Conchagua	1.69	91	⇑iP	Pn	09 48 12.9	+0.5
CNCH				IAML		09 48 41.5	
	comp=Z,12μm,1.0s						
INTHN	La Esperanza I	1.74	55	⇓iP	Pn	09 48 13.8	+0.6
AMPH	Amapala	1.86	91	⇑iP	Pn	09 48 14.9	+0.3
CSGN	Cosiguina Volc	1.99	99	⇑iP	Pn	09 48 16.4	0.0
CSGN				IAML		09 48 48.5	
	comp=Z,8μm,1.0s						
SULM	Suchitepequez,	2.17	297	eP	Pn	09 48 20.3	+1.5
TGUH	Tegucigalpa,Un	2.35	71	Pn	Pn	09 48 22.1	+0.8
STG3	Santiaguito 3,	2.39	306	eP	Pn	09 48 23.4	+1.6
STG3				eS	Sn	09 48 51.3	+1.1
RTAL	Retalhuleu	2.39	301	Pn	Pn	09 48 22.1	+0.4
CRIN	San Cristobal	2.53	104	Pn	Pn	09 48 24.6	+0.8
HUEH	Huehuetenango	2.73	317	Pn	Pn	09 48 28.3	+1.7
MATN	Matagalpa	3.57	96	Pn	Pn	09 48 38.3	+0.4
PETF	Flores	3.59	356	Pn	Pn	09 48 40.5	+2.3
CCIG	Comitan	3.86	320	Pn	Pn	09 48 44.4	+2.6
ACON	Acoyapa	4.50	107	Pn	Pn	09 48 50.5	+0.1
HZTE	Horizontes, Gu	4.67	123	Pn	Pn	09 48 54.8	+2.0
HZTE	Horizontes, Gu	4.67	123	iP	Pn	09 48 54.2	+1.3
HZTE				IAML		09 49 54.6	
	comp=Z,220nm,1.0s						
ORTG	Ortega, Santa	4.98	126	Pn	Pn	09 48 58.9	+1.7
ORTG	Ortega, Santa	4.98	126	iP	Pn	09 48 58.6	+1.4
ORTG				IAML		09 48 58.9	
	comp=Z,250nm,1.0s						
POPE	POPE, Guanacas	5.31	127	iP	Pn	09 49 03.0	+1.4
POPE				IAML		09 49 03.4	

comp=Z,340nm,1.0s
POPE IVmB_BB 09 49 25.6
comp=Z,6µm,1.0s
JTS Las Juntas de 5.43 123 Pn Pn 09 49 02.9 -0.3
JTS Las Juntas de 5.43 123 P **Pn 09 49 04.5 +1.3**
comp=Z,22nm,0.3s,baz=306,slow=18,SNR=58
JTS S **Sn 09 50 03.9 -0.5**
comp=Z,12nm,0.3s,baz=286,slow=22,SNR=2.0
ARE1 Arenal 1 5.53 120 Pn **Pn 09 49 05.9 +1.2**
VACR Volcan Arenal 5.56 120 *i* P **Pn 09 49 07.2 +2.1**
VACR IAmb IAmb 09 49 19.8
comp=Z,35nm,0.5s
VACR IAML 09 50 42.2
comp=Z,98nm,1.0s
SOCE Pocosol 5.66 120 Pn **Pn 09 49 06.9 +0.5**
SOCE Pocosol 5.66 120 *i* P **Pn 09 49 06.6 +0.2**
SOCE IAML 09 49 15.9
comp=Z,110nm,1.0s
SOCE IVmB_BB 09 49 15.9
comp=Z,2µm,1.0s
SOCE IAmb IAmb 09 49 15.9
comp=Z,43nm,0.5s
LAFE Finca La Fe, P 5.75 127 *i* P **Pn 09 49 08.3 +0.8**
LAFE IAML 09 49 08.9
comp=Z,300nm,1.0s
LAFE IVmB_BB 09 49 08.9
comp=Z,5µm,1.0s
LAFE IAmb IAmb 09 49 08.9
comp=Z,91nm,0.5s
CPMI Catarata Coope 5.91 120 *i* P **Pn 09 49 10.4 +0.4**
CPMI IAmb IAmb 09 49 15.2
comp=Z,22nm,0.7s
CPMI IAML 09 50 53.1
comp=Z,84nm,1.0s
JACO JACO, Garabito 6.03 126 Pn **Pn 09 49 12.5 +1.1**
JACO JACO, Garabito 6.03 126 *i* P **Pn 09 49 13.0 +1.6**
JACO IAmb IAmb 09 49 15.4
comp=Z,37nm,0.5s
JACO IAML 09 50 20.9
comp=Z,85nm,1.0s
HDC Heredia 6.28 121 Pn **Pn 09 49 15.6 +0.6**
CMIG Matias Romero 6.36 307 P **Pn 09 49 17.6 +1.7**
comp=Z,10nm,0.4s,baz=130,slow=9.7,SNR=4.7
OCM Ochomogo 6.46 121 *i* P **Pn 09 49 18.6 +1.0**
OCM IAML 09 49 20.2
comp=Z,110nm,1.0s
LCR2 La Lucha 2 6.51 122 Pn **Pn 09 49 19.7 +1.5**
LCR2 La Lucha 2 6.51 122 *i* P **Pn 09 49 19.6 +1.4**
LCR2 IAML 09 49 22.4
comp=Z,77nm,1.0s
LCR2 IAmb IAmb 09 49 22.7
comp=Z,48nm,0.6s
LCR2 IVmB_BB 09 49 24.3
comp=Z,980nm,1.0s
LCR2 *i* S **Sn 09 50 31.8 +0.6**
RIMA Rio Macho 6.61 122 Pn **Pn 09 49 21.3 +1.7**
CDM Cerro de Muert 6.81 123 *i* P **Pn 09 49 24.5 +2.0**
CDM IAmb IAmb 09 49 26.1
comp=Z,50nm,0.5s
CDM IAML 09 49 27.1
comp=Z,110nm,1.0s
TEIG Tepich 6.99 10 Pn **Pn 09 49 26.9 +2.4**
TEIG Tepich 6.99 10 P **Pn 09 49 27.6 +3.1**
comp=Z,2µm,0.4s,baz=295,slow=1.7,SNR=344
TEIG LR LR 09 52 46.8
comp=Z,427nm,19.9s,baz=338,slow=43
OCHAL Ojochal 7.17 125 *i* P **Pn 09 49 30.2 +3.2**
OCHAL IAML 09 49 46.1
comp=Z,6.5nm,1.0s
OCHAL IVmB_BB 09 49 46.1
comp=Z,530nm,1.0s
POTG Potrero Grande 7.62 123 *i* P **Pn 09 49 35.1 +1.9**
POTG IAML 09 49 36.8
comp=Z,350nm,1.0s
POTG IVmB_BB 09 49 36.8
comp=Z,4µm,1.0s
POTG IAmb IAmb 09 49 36.9
comp=Z,190nm,0.6s
POTG *i* S **Sn 09 50 59.4 +1.3**
CDITO Canoas 8.09 125 Pn **Pn 09 49 40.9 +1.3**
CDITO Canoas 8.09 125 *i* P **Pn 09 49 40.8 +1.2**
CDITO IAmb IAmb 09 49 54.3
comp=Z,56nm,1.0s
BRU2 Volcan 8.11 123 Pn **Pn 09 49 41.8 +1.7**
TLIG Tlapa 9.65 297 Pn **Pn 09 50 03.1 +2.1**
SOR Soroa 11.30 33 Pn **Pn 09 50 21.6 -1.9**
ZAIG Zacatecas 15.52 309 Pn 09 51 20.5 +0.6
735A Kenedy 17.26 335 P 09 51 42.8 +1.0
735A IAmb IAmb 09 51 55.3
comp=Z,8.9nm,0.7s
441A DeRidder 17.67 350 Pn 09 51 44.9 -1.4
HNDO Hondo 18.48 332 P **Pn 09 51 56.9 +0.8**
HNDO IAmb IAmb 09 51 58.1
comp=Z,4.2nm,0.6s
DRIO Del Rio 19.03 329 P **P 09 52 01.5 +0.2**
DRIO IAmb IAmb 09 52 03.9
comp=Z,2.3nm,0.7s
SDV Santo Domingo 19.09 101 LR LR 09 59 51.1
comp=Z,40nm,18.8s,baz=317,slow=38
JCT Junction City 19.52 333 P **P 09 52 07.2 +0.5**
BRDY Brady 19.88 336 P **P 09 52 11.0 +0.4**
BRDY IAmb IAmb 09 52 11.7
comp=Z,8.4nm,0.8s
SAND Sanderson 20.23 327 P **P 09 52 15.4 +1.0**
SAND IAmb IAmb 09 52 21.5
comp=Z,5.2nm,1.5s
TXAR Lajitas Array 20.62 323 P Pn 09 52 21.0 -0.5
TXAR Lajitas Array 20.62 323 P Pn 09 52 20.8 -0.8
comp=Z,1.2nm,0.4s,baz=143,slow=11,SNR=53
TXAR PcP **PcP 09 56 26.9 -0.1**
comp=Z,0.5nm,0.9s,baz=123,slow=3.3,SNR=3.8
comp=Z,1.2nm,0.4s
ALPN Alpine 21.38 325 P **P 09 52 27.9 +1.0**
ALPN IAmb IAmb 09 52 37.1
comp=Z,6.4nm,1.5s
X37A Clayton 21.82 347 P **P 09 52 29.4 -2.0**
X37A IAmb IAmb 09 52 52.5
comp=Z,20nm,1.4s
SLBS Sierra La Lagu 21.87 301 P **P 09 52 33.9 +1.8**
SLBS IAmb IAmb 09 52 36.3
comp=Z,16nm,1.2s
WHAR Wooly Hollow 22.02 354 P **P 09 52 33.6 +0.1**
WHAR IAmb IAmb 09 52 56.7
comp=Z,11nm,1.2s
APMT Aspermont 22.12 336 P **P 09 52 34.0 -0.6**
APMT IAmb IAmb 09 52 36.6
comp=Z,5.2nm,0.7s
HALT Halls 22.50 0 P **P 09 52 38.4 -0.3**
CPCT Cooper Cave 22.51 11 P **P 09 52 38.3 -0.5**
LCAR Lake Charles 22.70 357 P **P 09 52 41.1 +0.2**
LCAR IAmb IAmb 09 52 42.3
comp=Z,8.8nm,1.3s
WVT Waverly 22.77 4 P **P 09 52 40.3 -1.3**
WVT IAmb IAmb 09 52 41.4
comp=Z,8.0nm,1.2s
TKL Tuckaleechee C 22.86 12 LR LR 10 02 02.4
comp=Z,48nm,18.4s,baz=216,slow=38
WMOK Wichita Mounta 22.90 340 P **P 09 52 41.8 -1.2**
FNO Franklin 22.96 343 P **P 09 52 43.0 -0.6**
FNO IAmb IAmb 09 52 44.8
comp=Z,12nm,0.7s
ATAH Atahualpa 23.15 151 LR LR 09 59 38.8
comp=Z,29nm,19.8s,baz=335,slow=31
PBMO Poplar Bluff 23.38 358 P **P 09 52 47.2 -0.2**
PBMO IAmb IAmb 09 52 48.9
comp=Z,4.7nm,0.7s
MGMO Mountain Grove 23.86 355 P **P 09 52 52.4 +0.6**
MGMO IAmb IAmb 09 53 11.2
comp=Z,14nm,1.4s
S44A Carbondale 24.28 1 P **P 09 52 53.5 -2.1**
S44A IAmb IAmb 09 52 56.3
comp=Z,6.3nm,0.8s
S39A Bolivar 24.51 353 P **P 09 52 57.6 -0.1**
S39A IAmb IAmb 09 52 59.3
comp=Z,4.7nm,0.8s
CCM Cathedral Cave 24.69 357 P **P 09 52 59.6 +0.3**
ANMO Albuquerque 26.40 328 LR LR 10 05 52.2
comp=Z,16nm,18.2s,baz=164,slow=41
P38A Dawn 26.44 353 P **P 09 53 14.4 -0.8**
P38A IAmb IAmb 09 53 42.0
comp=Z,11nm,1.4s
T25A Trinidad 27.19 333 P **P 09 53 22.1 -0.1**
I42A Draeger Farm, 30.48 1 P **P 09 53 50.4 -0.6**
ESJX Sierra Juarez 30.50 312 P **P 09 53 53.1 +1.5**
ESJX IAmb IAmb 09 54 17.7
comp=Z,4.9nm,1.5s
YUH Yuha Desert 30.82 313 P **P 09 53 54.6 +0.3**
YUH IAmb IAmb 09 54 10.3
comp=Z,9.7nm,1.3s
F36A Milaca 32.62 355 P **P 09 54 09.6 -0.2**
ETMB Extrema 32.65 134 P **P 09 54 11.3 +0.9**
PDAR Pinedale Array 34.06 333 P **P 09 54 22.2 -0.6**
PDAR Pinedale Array 34.06 333 P **P 09 54 22.4 -0.3**
comp=Z,0.4nm,0.7s,baz=130,slow=11,SNR=5.1
PDAR PcP **PcP 09 56 57.6 -1.5**
comp=Z,0.3nm,0.6s,baz=146,slow=5.0,SNR=3.5
comp=Z,0.4nm,0.7s
REDW Red Top Meadow 35.10 333 P **P 09 54 32.7 +0.9**
SNOW Snow King Moun 35.14 333 P **P 09 54 32.8 +0.7**
LOHW Long Hollow 35.19 333 P **P 09 54 32.5 0.0**
LOHW IAmb IAmb 09 54 34.2
comp=Z,2.2nm,0.7s
TPAW Teton Pass 35.25 333 P **P 09 54 33.3 +0.3**
TPAW IAmb IAmb 09 55 00.7
comp=Z,3.3nm,0.9s
MOOW Moose Ponds 35.36 333 P **P 09 54 34.1 +0.2**
IMW Indian Meadow 35.56 333 P **P 09 54 36.0 +0.2**
IMW IAmb IAmb 09 54 38.2
comp=Z,1.6nm,0.6s
NVAR Mina Array Bea 35.70 320 P **P 09 54 37.9 +0.9**
NVAR Mina Array Bea 35.70 320 P **P 09 54 36.7 -0.3**
comp=Z,0.9nm,0.6s,baz=138,slow=8.2,SNR=7.7
NVAR PcP **PcP 09 57 03.6 -0.3**
comp=Z,0.8nm,0.7s,baz=82,slow=1.9,SNR=5.0
comp=Z,0.9nm,0.6s
DGMT Dagmar 37.09 344 P **P 09 54 49.0 +0.5**
BOZ Bozeman (W) 37.22 334 P **P 09 54 50.4 +0.8**
ELMT Elliston 38.32 334 P **P 09 54 59.6 +0.6**
BPMT Black Pine Rid 38.66 333 P **P 09 55 02.9 +1.0**
FFC Flin Flon 42.45 349 P **P 09 55 32.2 -0.5**
FFC IAmb IAmb 09 55 32.5
comp=Z,4.4nm,1.4s
FCC Fort Churchill 45.49 357 P **P 09 55 56.0 -0.9**
FCC IAmb IAmb 09 55 56.4
comp=Z,4.9nm,1.1s
H03N2 Juan Fernandez 47.59 168 T T 10 47 08.0
baz=350
H03N1 Juan Fernandez 47.59 168 T T 10 47 07.1
baz=350
H03N3 Juan Fernandez 47.60 168 T T 10 47 07.5
baz=350
YKA Yellowknife Ar 52.25 346 P **P 09 56 47.5 -1.1**
comp=Z,0.6nm,0.3s,baz=145,slow=7.5,SNR=44
comp=Z,0.6nm,0.3s
M29M Somme Creek 59.98 336 P **P 09 57 43.6 -0.4**
L29M L29M 60.21 337 P **P 09 57 46.7 +1.2**
L29M IAmb IAmb 09 58 03.6
comp=Z,3.5nm,1.1s
J30M Hart River 60.38 339 P **P 09 57 46.4 -0.2**
CTGM Chitina Glacie 60.42 334 P **P 09 57 46.9 -0.2**
G31M Satah River 61.12 342 P **P 09 57 50.6 -0.8**
G31M IAmb IAmb 09 58 10.7
comp=Z,4.4nm,1.4s
MCARA McCarthy VSAT 61.34 334 P **P 09 57 52.6 -0.5**
RES Resolute Bay 61.44 358 P **P 09 57 52.0 -1.5**
RES IAmb IAmb 09 58 14.3
comp=Z,2.2nm,1.2s
BCAR Beaver Creek A 61.62 336 P **P 09 57 53.6 -1.4**
INK Inuvik 61.77 343 P **P 09 57 55.2 -0.6**
INK IAmb IAmb 09 57 55.6
comp=Z,4.3nm,1.2s
I28M Miner Creek 62.14 339 P **P 09 57 59.6 +1.1**
A36M Sachs Harbour 62.39 348 P **P 09 57 58.4 -1.5**
A36M IAmb IAmb 09 58 23.8
comp=Z,4.7nm,1.4s
F28M Old Crow 63.29 341 P **P 09 58 06.3 +0.3**
F28M IAmb IAmb 09 58 06.7
comp=Z,2.9nm,0.9s
ILAR Eielson Array 64.40 336 P **P 09 58 12.5 -0.8**
ILAR Eielson Array 64.40 336 P **P 09 58 11.8 -1.5**
comp=Z,0.2nm,0.4s,baz=118,slow=4.8,SNR=5.3
comp=Z,0.2nm,0.4s
D27M Malcolm River 64.51 342 P **P 09 58 14.0 -0.1**
D27M IAmb IAmb 09 58 21.1
comp=Z,3.7nm,1.4s
BMAR Burnt Mountain 64.75 340 P **P 09 58 15.7 0.0**
OHAK Old Harbor 64.75 327 P **P 09 58 14.1 -1.6**
BPAW Bear Paw Mtn. 65.79 335 P **P 09 58 21.5 -0.9**
BPAW IAmb IAmb 09 58 31.9
comp=Z,3.0nm,1.2s
D25K Kavik River 66.22 341 P **P 09 58 24.5 -0.6**
D25K IAmb IAmb 09 58 50.7
comp=Z,3.2nm,1.2s
EUNU Eureka 66.78 1 P **P 09 58 27.5 -1.1**
F21K Alatna River 67.83 338 P **P 09 58 35.5 +0.2**
F21K IAmb IAmb 09 58 46.4
comp=Z,4.6nm,1.4s
DBIC Dimbokro 83.37 85 P **P 10 00 04.1 -1.0**
comp=Z,1.0nm,0.2s,baz=252,slow=4.0,SNR=6.6
comp=Z,1.0nm,0.2s
WRA Warramunga Arr 137.50 255 PKP **PKPdf 10 07 00.8 -0.8**
comp=Z,0.3nm,0.7s,baz=89,slow=2.9,SNR=5.2
ASAR Alice Springs 137.65 249 PKP **PKPdf 10 07 02.2 +0.4**
comp=Z,0.5nm,1.0s,baz=106,slow=2.0,SNR=3.3
PZH PanZhiHua 138.92 344 PKP **PKPdf 10 07 04.4 +0.1**
CMAR Chiang Mai Arr 147.33 345 PKPbc **PKPdf 10 07 19.5 +0.4**
comp=Z,1.0nm,0.5s,baz=330,slow=3.8,SNR=5.4

*NNC **05** 10:00:04.2±0.8, 44.72N×81.85E, h0km, mb3.6, mpv3.5,*
Error ellipse: s-maj=10.3km s-min=2.7km az=122.0
*SOME **05** 10:00:05.1, 44.65N×82.00E, h30km*
ISC 05 10:00:03.9±1.6, 44.60N±0.07×82.1E±0.1, h10km, n24,
σ0s46/30, 4C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.66**	**262**	*e*P	**Pb**	**10 00 34.1**	**-0.5**
	10nm,0.1s						
DJR				*e*S	**Sn**	**10 00 55.0**	**+0.3**
	23nm,0.2s						
DJR	**Jarkent**	**1.66**	**262**	P	**Pb**	**10 00 34.1**	**-0.5**
	10nm,0.1s						
DJR				S	**Sn**	**10 00 55.0**	**+0.3**
	23nm,0.2s						
KTMS	**Ketmen**	**1.70**	**228**	*e*P	**Pb**	**10 00 35.1**	**-0.2**
	3.9nm,0.1s						
KTMS				*e*S	**Sb**	**10 00 56.5**	**-0.2**
	13nm,0.3s						
KTMS	**Ketmen**	**1.70**	**228**	P	**Pb**	**10 00 35.1**	**-0.2**
	3.9nm,0.1s						
KTMS				S	**Sb**	**10 00 56.5**	**-0.2**
	13nm,0.3s						
MK31	**Makanchi Array**	**2.20**	**4**	⇑Pn	**Pn**	**10 00 40.8**	**+0.2**
	6.4nm,0.4s,baz=187,slow=16,SNR=75						
MK31				⇑Sn	**Sn**	**10 01 08.4**	**+0.5**
	12nm,0.5s,baz=186,slow=26,SNR=17						
MAKZ	**Makanchi**	**2.21**	**358**	⇑Pn	**Pn**	**10 00 40.5**	**-0.2**
	3.3nm,0.3s						
MAKZ				⇑Sn	**Sn**	**10 01 08.0**	**-0.2**
	11nm,0.6s						
PDGK	**Podgornoye**	**2.26**	**237**	Pg	**Pb**	**10 00 44.0**	**-0.8**
	5.7nm,0.3s						
PDGK				Lg	Lg	10 01 12.0	
	10.0nm,0.5s						
SHLS	**Shalkode**	**2.38**	**234**	*e*Pg	**Pn**	**10 00 43.2**	**+0.1**
	23nm,0.2s						
SHLS				*e*Lg	Lg	10 01 10.6	
	36nm,0.4s						
SHLS	**Shalkode**	**2.38**	**234**	Pg	**Pn**	**10 00 43.2**	**+0.1**
	23nm,0.2s						
SHLS				Lg	Lg	10 01 10.5	
	36nm,0.4s						
BLB	**Baldybastay**	**2.63**	**260**	Pg	**Pb**	**10 00 50.5**	**-0.8**
	17nm,0.2s						
BLB				Lg	Lg	10 01 22.9	
	12nm,0.1s						
UZB	**Uzynbulak**	**2.65**	**238**	*e*Pg	**Pb**	**10 00 51.4**	**0.0**
	5.2nm,0.1s						
UZB				*e*Lg	Lg	10 01 24.5	
	4.7nm,0.2s						
UZB	**Uzynbulak**	**2.65**	**238**	Pg	**Pb**	**10 00 51.4**	**0.0**
	5.2nm,0.1s						
UZB				Lg	Lg	10 01 24.5	
	4.7nm,0.2s						
KPKS	**Kokpek**	**2.70**	**246**	*e*Pg	**Pb**	**10 00 52.6**	**+0.3**
	7.1nm,0.1s						
KPKS				*e*Lg	Lg	10 01 26.7	
	30nm,0.2s						
KPKS	**Kokpek**	**2.70**	**246**	Pg	**Pb**	**10 00 52.6**	**+0.3**
	7.1nm,0.1s						
KPKS				Lg	Lg	10 01 26.7	
	30nm,0.2s						
SATY	**Saty**	**3.07**	**241**	*e*Pg	**Pb**	**10 00 58.6**	**-0.2**
	4.3nm,0.2s						
SATY				*e*Lg	Lg	10 01 36.8	
	20nm,0.2s						
SATY	**Saty**	**3.07**	**241**	Pg	**Pb**	**10 00 58.6**	**-0.2**
	4.3nm,0.2s						
SATY				Lg	Lg	10 01 36.8	
	20nm,0.2s						
ARXS	**Arharly**	**3.08**	**264**	*e*Pg	**Pb**	**10 00 58.2**	**-0.5**
	3.2nm,0.2s						
ARXS				*e*Lg	Lg	10 01 36.3	
	11nm,0.4s						
ARXS	**Arharly**	**3.08**	**264**	Pg	**Pb**	**10 00 58.2**	**-0.5**
	3.2nm,0.2s						
ARXS				Lg	Lg	10 01 36.3	
	11nm,0.4s						
CHKK	**Chushkaly**	**3.74**	**260**	*e*Pg	**Pb**	**10 01 09.6**	**-0.4**
	1.6nm,0.2s						
CHKK				*e*Lg	Lg	10 01 55.9	
	6.9nm,0.1s						
CHKK	**Chushkaly**	**3.74**	**260**	Pg	**Pb**	**10 01 09.6**	**-0.4**
	1.6nm,0.2s						
CHKK				Lg	Lg	10 01 55.9	
	6.9nm,0.1s						
KTBS	**Karatobe**	**3.99**	**259**	*e*Pg	**Pb**	**10 01 14.9**	**+0.6**
	2.2nm,0.4s						
KTBS				*e*Lg	Lg	10 02 04.8	
	6.6nm,0.3s						
KTBS	**Karatobe**	**3.99**	**259**	Pg	**Pb**	**10 01 14.9**	**+0.6**
	2.2nm,0.4s						
KTBS				Lg	Lg	10 02 04.8	
	6.6nm,0.3s						
KUU	**Kurty**	**4.19**	**262**	*e*Pg	**Pb**	**10 01 18.4**	**+0.8**
	1.8nm,0.3s						
KUU				*e*Lg	Lg	10 02 10.8	
	5.8nm,0.1s						
KUU	**Kurty**	**4.19**	**262**	Pg	**Pb**	**10 01 18.4**	**+0.8**
	1.8nm,0.3s						
KUU				Lg	Lg	10 02 10.8	
	5.8nm,0.1s						

ISK 05 10:03:11.4, 41.16N×28.76E, h0km, ML0.9/3, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BGKT	**Bogazkoy**	**0.03**	**25**	Pg	Pg	10 03 12.8	+0.9
CTKS	**Kestanelik-??a**	**0.21**	**292**	Pg	Pg	10 03 16.1	+0.8
CTKS				Sg	Sg	10 03 19.5	+1.5
KLYT	**Kilyos**	**0.23**	**66**	Pg	Pg	10 03 16.7	+0.8
KLYT				Sg	Sg	10 03 20.4	+1.5
ISK	**Istanbul-Kandi**	**0.24**	**112**	Pg	Pg	10 03 17.0	+0.9
ISK				Sg	Sg	10 03 20.7	+1.5

AFAD 05 10:03:50.0±0.0, 41.60N×27.44E, h6km±27km, ML1.1, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARMN	**Kirklareli, Me**	**0.27**	**358**	P	Pg	10 03 55.1	-0.2
ARMN				S	Sg	10 03 59.1	+0.3
ARMN				*i* AML	AML	10 04 02.0	
	comp=E,39nm,0.7s						
ARMN				*i* AML	AML	10 04 02.0	
	comp=N,42nm,0.9s						
VIZE	**Kirklareli, Vi**	**0.30**	**94**	P	Pg	10 03 56.1	+0.2
VIZE				S	Sg	10 03 59.5	-0.4
VIZE				*i* AML	AML	10 04 14.0	
	comp=N,19nm,1.1s						
KIRK	**Kirklareli**	**0.32**	**306**	P	Pg	10 03 56.6	+0.4
KIRK				S	Sg	10 04 01.0	+0.6
KIRK				*i* AML	AML	10 04 16.0	
	comp=N,19nm,1.3s						

*JMA **05** 10:06:58.8±0.3, 44.2×14.8E±, h25km, MV2.9/9, E OFF HOKKAIDO*
*SKHL **05** 10:06:59.0±0.2, 43.50N×147.60E, h35km±3km, mb3.9/2*
ISC 05 10:06:59.6±2.5, 43.7N±0.1×147.6E±0.1, h31km±18km, n7, σ0s97/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.59**	**287**	*e*P	**Pb**	**10 07 11.1**	**-0.4**
SHO				AMB	AMB	10 07 12.3	
	60nm,0.4s						
SHO				*e*S	**Sn**	**10 07 20.3**	**-0.1**
SHO				A	A	10 07 22.6	
	170nm,0.2s						
SHO				A	A	10 07 22.6	
	150nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.31**	**285**	*e*P	**Pn**	**10 07 21.2**	**-0.5**
YUK				AMB	AMB	10 07 24.4	
	70nm,0.4s						
YUK				*e*S	**Sn**	**10 07 37.7**	**-0.4**
YUK				A	A	10 07 39.5	
	150nm,0.4s						
YUK				A	A	10 07 39.5	
	260nm,0.4s						
NEM2	**Nemuro 2**	**1.40**	**257**	*e*P	**Pn**	**10 07 22.4**	**-0.6**
NEM2				*e*S	**Sn**	**10 07 39.1**	**-1.2**
KUR	**Kuril'sk**	**1.54**	**7**	*e*P	**Pb**	**10 07 26.9**	**-0.6**
KUR				*i* S	**Sb**	**10 07 47.8**	**+1.1**
KUR				A	A	10 07 54.9	
	20nm,0.3s						
KUR				A	A	10 07 54.9	
	50nm,0.3s						
JAK	**Akkeshi**	**2.24**	**253**	*e*P	**Pn**	**10 07 34.3**	**-0.2**
JAR	**Ashorobuto**	**2.82**	**263**	*e*P	**Pn**	**10 07 43.4**	**+0.8**
JAR				*e*S	**Sn**	**10 08 17.0**	**+1.5**
JCH	**Churui**	**3.29**	**252**	*e*P	**Pn**	**10 07 49.8**	**+0.8**

*NNC **05** 10:23:43.9±0.5, 51.52N×75.73E, h0km, mb3.2, mpv2.8,*
Error ellipse: s-maj=41.4km s-min=2.8km az=26.0,
Suspected Mining explosion.
*IDC **05** 10:23:46.8±1.1, 51.60N×75.82E, h0km, mbtmp2.7/3,*
ML2.1/3, Error ellipse: s-maj=32.5km s-min=8.9km az=28.0
ISC 05 10:23:43.7±1.1, 52.2N±0.1×76.39E±0.06, h0km, n11, σ1s56/10, 8C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**2.04**	**136**	⇑Pg	**Pn**	**10 24 19.9**	**+0.6**
	6.5nm,0.9s						
KURK				⇑Lg	Lg	10 24 46.6	
	7.5nm,0.6s						
KURBB	**Kurchatov Arra**	**2.08**	**139**	Pg	**Pb**	**10 24 21.9**	**-0.3**
	0.7nm,0.3s,baz=300,slow=18,SNR=10						
KURBB				Lg	Lg	10 24 48.6	
	0.7nm,0.3s,baz=304,slow=32,SNR=7.5						
KURBB	**Kurchatov Arra**	**2.08**	**139**	⇑Pg	**Pn**	**10 24 20.1**	**+0.3**
	5.8nm,0.3s						
KURBB				⇑Lg	Lg	10 24 48.3	
	19nm,0.3s						
BVA0	**Borovoye Array**	**3.75**	**285**	⇑Pg	**Pb**	**10 24 51.0**	**+0.3**
	0.5nm,0.3s,baz=111,slow=17,SNR=4.1						
BVA0				⇑Sn	**Sn**	**10 25 25.5**	**-2.0**
	1.1nm,0.5s,baz=0.0,slow=0.1,SNR=5.8						
BVA0				⇓Lg	Lg	10 25 38.7	
	1.7nm,0.4s,baz=0.0,slow=0.1,SNR=4.4						
BVAR	**Borovoye Array**	**3.75**	**285**	Pn	**Pn**	**10 24 44.1**	**+1.4**
	baz=109,slow=15,SNR=3.0						
BVAR				Sn	**Sn**	**10 25 25.9**	**-1.6**
	0.2nm,0.3s,baz=104,slow=24,SNR=8.9						
BVAR				Lg	Lg	10 25 37.1	
	0.3nm,0.3s,baz=105,slow=29,SNR=62						
	0.4nm,0.3s						
BRVK	**Borovoye**	**3.82**	**285**	⇓Sn	**Sn**	**10 25 26.5**	**-2.7**
	1.3nm,0.5s						
BRVK				⇓Lg	Lg	10 25 41.7	
	1.6nm,0.4s						
I46RU	**ZALESOVO INFRA**	**5.38**	**68**	I	I	10 57 20.0	
	baz=249,slow=331,SNR=1.7						
ZALV	**Zalesovo Beam**	**5.38**	**68**	Pn	**Pb**	**10 25 18.2**	**-0.2**
	0.4nm,0.3s,baz=253,slow=13,SNR=6.1						
	1.2nm,0.4s						
MAKZ	**Makanchi**	**6.51**	**144**	⇑Lg	Lg	10 27 01.1	
	3.2nm,0.9s						
MK31	**Makanchi Array**	**6.64**	**142**	⇑Lg	Lg	10 27 07.2	
	1.7nm,0.7s,baz=315,slow=27,SNR=4.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MKAR	Makanchi Array	6.64	142	Pn	Pn	10 25 23.3	+0.8
	0.1nm,0.3s,baz=318,slow=13,SNR=2.0						
MKAR				Lg	Lg	10 27 06.6	
	0.4nm,0.3s,baz=314,slow=25,SNR=5.2						
	0.1nm,0.4s						

*UCR **05** 10:33:10.6±1.3, 9.°27N×84.°06W, h38km±6km, MW3.5*
*CATAC **05** 10:33:10.1±0.3, 9.°30N×84.°08W, h22km±4km, ML3.2*
*UPA **05** 10:33:10.0±1.4, 9.°63N×83.°75W, h0km±60km, MW3.4*
ISC 05 10:33:10.9±1.0, **9.°30N**±0.°03×**84.°05W**±0.°03, **h32**km±4km, **n96**, σ**0.s86**/116, **2D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLNJ	Naranjito	0.17	345	eP	Pn	10 33 17.3	-0.1
LLNJ				eS	Sb	10 33 23.0	+1.5
EDDO	Dominical	0.19	105	eP	Pn	10 33 17.4	-0.3
RITA	Parrita	0.35	308	eP	Pn	10 33 19.9	+0.2
RAZU	San Marcos de	0.35	5	eP	Pn	10 33 19.6	-0.5
CDM	Cerro de Muert	0.38	49	eP	Pn	10 33 20.2	-0.5
CDM				eS	Sn	10 33 27.6	+0.5
CDM	Cerro de Muert	0.38	49	i P	Pn	10 33 19.9	-0.7
CDM				i S	Sn	10 33 27.2	+0.1
CDM				IAML		10 33 28.0	
	comp=Z,6μm,1.0s						
BUS1	Rivas	0.39	51	eP	Pn	10 33 20.2	-0.6
BUS1				eS	Sn	10 33 27.7	+0.3
ABE2	San Pablo	0.40	0	eP	Pn	10 33 20.1	-0.6
LCR2	La Lucha 2	0.44	6	eP	Pb	10 33 20.4	-0.3
LCR2	La Lucha 2	0.44	6	i P	Pb	10 33 20.2	-0.5
LCR2				IAML		10 33 20.4	
	comp=Z,1μm,1.0s						
LCR2				i S	Sn	10 33 27.6	-0.6
OCHAL	Ojochal	0.45	117	i P	Pb	10 33 20.2	-0.6
OCHAL				IAML		10 33 20.4	
	comp=Z,49nm,1.0s						
OCHAL				i S	Sn	10 33 29.7	+1.4
ACOS	Acosta	0.50	347	eP	Pb	10 33 21.2	-0.4
REPA	Paraso	0.55	19	eP	Pn	10 33 23.0	+0.3
AMPA	Desamparados	0.59	359	eP	Pb	10 33 22.3	-0.7
OCM	Ochomogo	0.59	9	eP	Pb	10 33 22.5	-0.7
OCM	Ochomogo	0.59	9	i P	Pb	10 33 22.4	-0.8
OCM				IAML		10 33 22.5	
	comp=Z,2μm,1.0s						
OCM				i S	Sn	10 33 31.2	-0.9
TRIO	Tres Rios	0.60	6	eP	Pb	10 33 22.6	-0.6
LUJA	Lujan	0.62	358	eP	Pn	10 33 24.0	+0.3
SJS	Escuela Geolog	0.63	360	eP	Pb	10 33 23.2	-0.5
VINA	Juan Vinas	0.66	27	eP	Pn	10 33 23.8	-0.5
CORON	Coronado	0.67	4	eP	Pn	10 33 24.1	-0.2
DOMI	Santo Domingo	0.67	357	eP	Pn	10 33 24.0	-0.4
BELE	Belen	0.68	349	eP	Pn	10 33 24.8	+0.3
EDPN	Palmar Norte	0.68	120	eP	Pb	10 33 21.7	-2.8
HDC	Heredia	0.69	355	eP	Pn	10 33 24.3	-0.4
JACO	JACO, Garabito	0.69	301	eP	Pb	10 33 23.8	-0.9
JACO	JACO, Garabito	0.69	301	i P	Pb	10 33 23.6	-1.1
JACO				IAML		10 33 24.1	
	comp=Z,580nm,1.0s						
JACO				i S	Sn	10 33 34.7	+0.4
HDC3	Heredia 3	0.70	355	eP	Pn	10 33 24.3	-0.4
HDC3	Heredia 3	0.70	355	i P	Pb	10 33 24.2	-0.6
HDC3				i S	Sn	10 33 34.4	-0.1
HDC3				IAML		10 33 36.0	
	comp=Z,730nm,1.0s						
HAYA	Volcan Irazu	0.70	17	i P	Pb	10 33 24.3	-0.8
HAYA				i S	Sn	10 33 34.9	-0.1
HAYA				IAML		10 33 36.0	
	comp=Z,2μm,1.0s						
ICR3	Volcano Irazu	0.70	18	eP	Pb	10 33 24.6	-0.6
VICA	Volcano Irazu	0.71	17	eP	Pb	10 33 24.6	-0.6
TRB2	Turrubares	0.72	327	eP	Pb	10 33 24.4	-0.8
CVIMO	Finca Echandi	0.72	9	eP	Pn	10 33 24.9	-0.3
VERB	Verbena	0.73	29	eP	Pn	10 33 24.9	-0.3
VTRT	Volcan Turrial	0.74	20	eP	Pb	10 33 25.0	-0.6
VTLA	Turrialba Volc	0.75	22	eP	Pn	10 33 25.3	-0.3
VTCV	VTCV, Calle Va	0.75	26	eP	Pn	10 33 25.2	-0.3
CVTR	Volcan Turrial	0.77	22	eP	Pn	10 33 25.6	-0.4
RVSTA	Santa Teresita	0.78	31	eP	Pn	10 33 25.7	-0.2
EDBA	Buenos Aires	0.78	100	eP	Pn	10 33 24.7	-1.1
VTLO	VTLO	0.80	24	eP	Pn	10 33 26.0	-0.3
SARCI	Sarchi	0.83	340	eP	Pb	10 33 26.7	-0.4
VPTE	Poasito	0.87	351	eP	Pn	10 33 27.1	-0.2
VPTE	Poasito	0.87	351	i P	Pn	10 33 27.0	-0.3
VPTE				i S	Sn	10 33 39.4	+0.4
VPTE				IAML		10 33 40.1	
	comp=Z,1μm,1.0s						
SRA1	San Ramn	0.88	332	eP	Pn	10 33 26.9	-0.4
EDP2	Potrero Grande	0.91	108	eP	Pn	10 33 27.6	0.0
LCOCO	El Coco	0.92	32	eP	Pb	10 33 27.9	-0.5
IRES	Siquirres	0.95	34	eP	Pb	10 33 28.6	-0.5
POTG	Potrero Grande	0.96	105	eP	Pn	10 33 27.9	-0.3
POTG	Potrero Grande	0.96	105	i P	Pn	10 33 27.8	-0.4
POTG				IAML		10 33 45.7	
	comp=Z,1μm,1.0s						
LAFE	Finca La Fe, P	0.98	301	eP	Pn	10 33 27.8	-0.7
LAFE	Finca La Fe, P	0.98	301	i P	Pn	10 33 27.6	-0.9
LAFE				IAML		10 33 28.4	
	comp=Z,210nm,1.0s						
RIFO	Rio Frio, Sara	1.01	7	i P	Pn	10 33 28.8	-0.2
RIFO				IAML		10 33 47.0	
	comp=Z,520nm,1.0s						
CPMI	Catarata Coope	1.02	342	i P	Pn	10 33 28.9	-0.4
CPMI				IAML		10 33 47.0	
	comp=Z,230nm,1.0s						
CBL1	Cabuya	1.06	285	eP	Pn	10 33 28.2	-1.4
EDAD	Golfito	1.09	126	eP	Pn	10 33 29.2	-0.9
CARI	Cariari	1.10	17	eP	Pb	10 33 30.6	-0.9
EDSV	San Vito	1.17	114	eP	Pb	10 33 31.9	-0.8
SOCE	Pocosol	1.21	333	eP	Pn	10 33 32.1	+0.4
SOCE	Pocosol	1.21	333	i P	Pn	10 33 32.0	+0.3
SOCE				IAML		10 33 52.5	
	comp=Z,970nm,1.0s						
BRIBI	Bribri	1.23	75	eP	Pb	10 33 33.8	+0.1
MONTE	Monteverde	1.24	323	eP	Pn	10 33 32.3	0.0
MONTE				eS	Sb	10 33 49.3	-0.4
FORC	Fortuna	1.30	332	eP	Pb	10 33 33.9	-1.1
CASO	Castillo	1.31	329⇓	eP	Pb	10 33 33.9	-1.1
CASO				eS	Sb	10 33 52.1	+0.6
VACR	Volcan Arenal	1.31	332	eP	Pb	10 33 34.0	-1.2
VACR	Volcan Arenal	1.31	332	i P	Pb	10 33 33.9	-1.2
VACR				IAML		10 33 56.1	
	comp=Z,640nm,1.0s						
MLIR3	Monte Lirio, C	1.32	113	eP	Pb	10 33 34.2	-1.0
JUNT	Juntas	1.32	318	eP	Pn	10 33 33.0	-0.2
ARE1	Arenal 1	1.32	330	eP	Pb	10 33 34.4	-0.9
CEDE	Laguna Cedeo	1.34	331	eP	Pb	10 33 34.6	-1.0
CEDE				eS	Sb	10 33 53.6	+1.2
CDITO	Canoas	1.38	122	eP	Pn	10 33 34.4	+0.4
TABAC	Tabacon	1.38	329	eP	Pb	10 33 35.4	-0.9
TABAC				eS	Sb	10 33 56.0	+2.4
POPE	POPE, Guanacas	1.41	302	i P	Pn	10 33 33.2	-1.2
POPE				IAML		10 33 59.0	
	comp=Z,170nm,1.0s						
BRU2	Volcan	1.44	111	eP	Pb	10 33 35.9	-1.4
BRU2				eS	Sb	10 33 54.9	-0.4
BRU2	Volcan	1.44	111	i P	Pn	10 33 35.2	+0.2
BRU2				IAML		10 34 00.0	
	comp=Z,180nm,1.0s						
COVE	Coope Vega, Sa	1.45	346	eP	Pn	10 33 35.6	+0.6
BC3P	Paso Ancho	1.51	109	eP	Pn	10 33 36.7	+0.8
COTE	Lago Cote	1.52	326	eP	Pn	10 33 36.6	+0.6
CNI2	El Empalme, Bo	1.57	86	eP	Pn	10 33 33.7	-2.8
PTPM	Petroterminale	1.59	133	eP	Pb	10 33 39.6	-0.2
PTPM				eS	Sb	10 34 03.0	+3.4
BCO2	Palmira	1.61	111	eP	Pn	10 33 37.8	+0.4
BCO2				eS	Sn	10 33 58.5	+1.2
ACAL	Aguas Claras	1.64	324	eP	Pn	10 33 38.1	+0.5
ACAL				eS	Sb	10 34 02.0	+1.1
PLVR	Palo Verde	1.65	309	eP	Pn	10 33 37.3	-0.6
PTEN	Parque Tenorio	1.68	327	eP	Pn	10 33 38.8	+0.6
CUI	Cuipilapa	1.73	321⇓	eP	Pn	10 33 39.2	+0.3
HORNC	Hornillas	1.78	322	eP	Pn	10 33 39.8	+0.1
SAJU	San Juanillo,	1.80	295	eP	Pn	10 33 41.2	+1.4
DVD	David	1.80	118	eP	Pn	10 33 40.2	+0.4
CANAL	Canalete	1.81	327	eP	Pn	10 33 39.6	-0.3
MESS	Mesas	1.82	322	eP	Pn	10 33 39.8	-0.3
MESS				eS	Sb	10 34 06.7	+0.7
VMAR	Armenia, Volca	1.83	325	eP	Pn	10 33 40.2	0.0
VMAR	Armenia, Volca	1.83	325	i P	Pn	10 33 40.6	+0.4
VMAR				IAML		10 33 58.2	
	comp=Z,130nm,1.0s						
LAPC	Finca la Perla	1.99	317	eP	Pn	10 33 41.5	-0.9
BUEV	Buena Vista	2.00	318	eP	Pn	10 33 42.8	+0.3
HZTE	Horizontes, Gu	2.06	313	i P	Pn	10 33 44.2	+0.7
HZTE				IAML		10 33 49.3	
	comp=Z,120nm,1.0s						

*IDC **05** 10:35:13.1±1.2, 13.°41N×145.°91E, h0km, mb3.6/8, mbtmp3.6/8, Error ellipse: s-maj=47.8km s-min=24.5km az=100.0*
ISC 05 10:35:19.3±1.1, **13.°4N**±0.°2×**145.°9E**±0.°3, **h43**km, **n9**, σ**0.s93**/8, **mb3.6**/8, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.02	283	LR	LR	10 35 28.2	
	comp=Z,39nm,19.7s,baz=110,slow=15						
WRA	Warramunga Arr	34.99	199	P	P	10 42 07.6	-0.2
	0.3nm,0.7s,baz=27,slow=9.2,SNR=1.7						
	0.3nm,0.7s						
ASAR	Alice Springs	38.62	198	P	P	10 42 38.9	+0.2
	0.5nm,1.1s,baz=20,slow=11,SNR=1.6						
	0.5nm,1.1s						
MKAR	Makanchi Array	62.34	316	P	P	10 45 35.9	-1.6
	0.2nm,0.3s,baz=96,slow=7.3,SNR=2.6						
	0.2nm,0.3s						
KURBB	Kurchatov Arra	65.44	320	P	P	10 45 58.6	+0.8
	0.5nm,0.5s,baz=100,slow=6.9,SNR=3.1						
	0.5nm,0.5s						
ILAR	Eielson Array	68.35	25	P	P	10 46 15.6	-0.4
	0.4nm,0.7s,baz=248,slow=6.2,SNR=6.2						
	0.4nm,0.7s						
BVAR	Borovoye Array	70.72	322	P	P	10 46 31.7	+0.9
	0.5nm,0.5s,baz=84,slow=5.9,SNR=2.4						
	0.5nm,0.5s						
YKA	Yellowknife Ar	82.60	28	P	P	10 47 38.0	+0.3
	0.2nm,0.7s,baz=285,slow=5.7,SNR=2.2						
	0.2nm,0.7s						
FINES	FINESS Array B	91.78	335	P	P	10 48 22.3	-0.1
	1.2nm,0.9s,baz=83,slow=4.3,SNR=0.9						
	1.2nm,0.9s						

*UPP **05** 10:43:47.1±2.6, 64.°64N×30.°88E, h0km, ML1.9*
*IDC **05** 10:43:48.8±2.2, 64.°68N×30.°95E, h0km, mbtmp2.9/3, ML2.2/3, Error ellipse: s-maj=29.6km s-min=9.6km az=104.0*
*HEL **05** 10:43:48.0±0.2, 64.°78N×30.°83E, h0km, ML2.1, Suspected explosion*
ISC 05 10:43:48.3±1.0, **64.°82N**±0.°02×**30.°86E**±0.°05, **h0**km, **n41**, σ**1.s49**/65, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	Romuvaara	0.72	214	PB	Pg	10 44 00.9	-1.3
RMF				MSG		10 44 09.5	
	comp=Z,42nm,0.2s						
RMF				SG	Sg	10 44 10.0	-1.5
KU6	Riekki	1.28	342	PG	Pg	10 44 11.6	-1.2
	baz=165						
KU6				MSG		10 44 27.7	
	comp=Z,13nm,0.2s						
KU6				SB	Sg	10 44 29.2	-0.1
MSF	Maaselka	1.34	326	PG	Pg	10 44 12.1	-1.8
MSF				SB	Sg	10 44 30.9	-0.4
OLKF	Oulanka, Finla	1.63	339	PG	Pn	10 44 17.3	-0.9
OLKF				MSG		10 44 37.5	
	comp=Z,12nm,0.2s						
OLKF				SN	Sg	10 44 41.4	+0.9
JOF	Joensuu	1.92	174	PG	Pn	10 44 21.6	-0.6
JOF				SN	Sb	10 44 48.1	-0.4
NIF	Nilsia	1.96	224	PG	Pn	10 44 22.6	-0.2
NIF				SG	Sn	10 44 47.9	-0.2
OUL	Oulu	2.13	280	PG	Pn	10 44 25.2	+0.2
OUL				SG	Sn	10 44 51.4	-0.8
OBF4	Vikkela, Lumij	2.46	273	PB	Pn	10 44 29.9	+0.3
	baz=84						
OBF4				MSG		10 45 00.6	
	comp=Z,12nm,0.2s						
OBF4				SG	Sb	10 45 03.3	-0.9
OUF	Merijarvi	2.68	263	PB	Pn	10 44 33.8	+1.2
	baz=79						
OUF				MSG		10 45 06.5	
	comp=Z,14nm,0.2s						
OUF				SG	Sn	10 45 07.7	+1.9
RNF	Rovaniemi	2.69	314	PN	Pn	10 44 32.8	0.0
	baz=135						
RNF				SG	Sb	10 45 09.2	-1.6
OBF0	Syolatti, Pyha	2.87	267	PN	Pn	10 44 35.1	-0.1
OBF0				MSG		10 45 11.9	
	comp=Z,8.7nm,0.2s						
OBF0				SG	Sb	10 45 16.0	+0.2
VRF	Varrio	2.99	351	PB	Pn	10 44 37.9	+1.1
VRF				MSG		10 45 16.9	
	comp=Z,4.1nm,0.2s						
VRF				SG	Sb	10 45 20.9	+1.6
TOF	Tornio	3.01	298	PN	Pn	10 44 37.8	+0.6
TOF				MSG		10 45 16.6	
	comp=Z,3.8nm,0.2s						
TOF				SB	Sn	10 45 16.7	+2.9
SGF	Sodankyl	3.17	328	PN	Pn	10 44 39.8	+0.5
SGF				SB	Sb	10 45 22.9	-1.7
KALU	Kalix	3.32	292	P	Pn	10 44 41.5	+0.1
KALU				S	Sn	10 45 22.1	+0.7
KALU	Kalix	3.32	292	PN	Pn	10 44 41.9	+0.6
KALU				SG	Sb	10 45 28.7	0.0
KAF	Kangasniemi	3.40	219	PB	Pn	10 44 44.0	+1.5
KAF				SG	Sb	10 45 30.2	-0.9
LVZ	Lovozero	3.45	25	PN	Pn	10 44 44.5	+1.3
LVZ				SG	Sg	10 45 37.7	-1.3
RUF	Ruokolahti	3.52	195	PN	Pn	10 44 44.5	+0.4
KLF	Kolari	3.72	314	PN	Pn	10 44 47.1	+0.2
KEF	Keuruu	3.78	228	PB	Pn	10 44 49.6	+1.8
PAJU	Pajala	3.87	308	P	Pn	10 44 49.0	0.0
PAJU				S	Sn	10 45 36.8	+1.6
PAJU	Pajala	3.87	308	PN	Pn	10 44 49.1	+0.1
PAJU				SG	Sb	10 45 46.8	+2.1
SJUU	Sjulsmark	3.97	284	P	Pn	10 44 48.5	-1.8
ERTU	Ertsjaerv	3.99	300	P	Pn	10 44 50.6	0.0
ERTU				S	Sn	10 45 37.5	-0.4
ERTU	Ertsjaerv	3.99	300	PN	Pn	10 44 51.2	+0.6
ERTU				SG	Sb	10 45 51.5	+3.4
FIA0	FINESS Array S	4.02	215	PN	Pn	10 44 51.2	+0.2
	baz=35						
FIA0				SG	Sb	10 45 51.3	+2.3
FINES	FINESS Array B	4.02	215	Pn	Pn	10 44 51.2	+0.2
	comp=Z,0.2nm,0.3s,baz=33,slow=14,SNR=7.2						
FINES				Lg	Lg	10 45 49.8	
	comp=Z,1.1nm,0.3s,baz=36,slow=33,SNR=12						
	comp=Z,0.4nm,0.3s						
VAF	Ylistaro	4.03	248	PN	Pn	10 44 52.0	+0.8
	baz=59						
BURU	Burvik	4.08	271	P	Pn	10 44 50.6	-1.2
BURU	Burvik	4.08	271	PN	Pn	10 44 51.1	-0.8
	baz=79						
HARU	Harads	4.34	293	P	Pn	10 44 55.1	-0.2
ODEU	Stanfors	4.39	269	P	Pn	10 44 54.5	-1.6
UMAU	Umeaa	4.53	263	P	Pn	10 44 56.2	-1.8
UMAU	Umeaa	4.53	263	PN	Pn	10 44 56.2	-1.8
UMAU				SG	Sb	10 46 07.3	+3.9
VJF	Virojoki	4.56	201	SG	Sb	10 46 08.3	+3.9
HEF	Hetta	4.61	325	PN	Pn	10 44 58.8	-0.3
HEF				SG	Sb	10 46 09.7	+3.8
ARCES	ARCESS Array B	5.18	339	Pn	Pn	10 45 06.6	-0.3
	comp=Z,0.4nm,0.3s,baz=156,slow=13,SNR=63						
ARCES				Sn	Sn	10 46 05.2	-2.0
	comp=Z,0.2nm,0.3s,baz=151,slow=15,SNR=1.3						
ARCES				Lg	Lg	10 46 27.3	
	comp=Z,0.4nm,0.3s,baz=148,slow=34,SNR=3.4						
	comp=Z,0.9nm,0.2s						
I37NO	I37NO	6.43	317	I	I	11 29 00.0	
	baz=124,slow=331,SNR=0.7						
I43RU	DUBNA INFRASON	8.69	156	I	I	11 38 40.0	
	baz=346,slow=330,SNR=3.0						
NOA	NORSAR Array B	9.71	256	Pn	Pn	10 46 06.8	-2.2
	baz=58,slow=12,SNR=1.5						
NOA				Lg	Lg	10 48 53.5	
	baz=65,slow=21,SNR=2.3						
	comp=Z,0.5nm,0.7s						

IDC 05 10:44:03.3±3.0, **17.°64S**×**177.°81W**, **h0**km, **mb3.8**/3, **mbtmp3.8**/3, **Error ellipse: s-maj=360.9km s-min=33.1km az=159.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.24	259	P	P	10 52 22.6	-0.2
	0.6nm,0.5s,baz=96,slow=7.7,SNR=20						
	0.6nm,0.5s						
ASAR	Alice Springs	45.41	254	P	P	10 52 24.2	0.0
	3.0nm,0.6s,baz=87,slow=8.8,SNR=35						
	3.0nm,0.6s						
TXAR	Lajitas Array	85.37	57	P	P	10 56 43.0	0.0
	0.3nm,0.7s,baz=228,slow=4.9,SNR=4.3						
	0.3nm,0.7s						

GUC 05 11:30:21.7±0.7, **39.°63S**×**72.°49W**, **h86**km±3km, **ML3.8**, **3D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LR03	Panguipulli	0.11	94	eP	Pn	11 30 33.9	-0.1
LR03				eS	Sn	11 30 42.8	-0.3
LR03				IAML		11 30 44.5	
	comp=N,6μm,0.4s						
LR02	Universidad Au	0.62	253	eP	Pn	11 30 37.0	0.0
LR02				eS	Sn	11 30 47.9	-0.5
LR02				IAML		11 30 50.9	
	comp=E,8μm,0.4s						
LR05	Currie	0.71	149	eP	Pn	11 30 37.6	-0.4
LR05				eS	Sn	11 30 50.1	+0.1
LR05				IAML		11 30 52.1	
	comp=E,4μm,0.4s						
LR04	Corral	0.77	250	i P	Pn	11 30 38.2	-0.4
LR04				eS	Sn	11 30 50.5	-0.6
LR04				IAML		11 30 52.0	
	comp=E,6μm,0.3s						
GO06	Curarrehue	0.78	87⇓	eP	Pn	11 30 38.5	-0.3
GO06				eS	Sn	11 30 51.5	-0.2
LC02	Puerto Saavedr	1.09	320⇓	iP	Pn	11 30 42.5	+0.4
LC02				i S	Sn	11 30 57.1	-0.4
LC02				IAML		11 30 59.4	
	comp=N,6μm,0.5s						
LL03	Petrohue	1.51	178	eP	Pn	11 30 47.0	-0.4
LL03				eS	Sn	11 31 06.8	-0.1
LL03				IAML		11 31 13.3	
	comp=E,1μm,0.3s						
BI04	Isla Mocha	1.63	318	eP	Pn	11 30 48.5	-0.4
BI04				eS	Sn	11 31 07.7	-1.9
BI04				IAML		11 31 09.9	
	comp=E,3μm,0.3s						
PLCA	Paso Flores	1.85	127⇓	iP	Pn	11 30 51.2	-0.7
LL05	Los Muermos	1.93	203	eP	Pn	11 30 51.1	-1.7
LL05				eS	Sn	11 31 13.9	-2.7
LL05				IAML		11 31 15.6	
	comp=N,493nm,0.2s						
LL06	Loncomilla	2.73	198	eP	Pn	11 31 01.3	-2.2
LL06				eS	Sn	11 31 31.0	-4.5
LL06				IAML		11 31 33.7	
	comp=N,434nm,0.1s						
LL01	San Ignacio de	2.75	179	eP	Pn	11 31 03.4	-0.3
LL01				eS	Sn	11 31 37.7	+1.6
BI05	Punta Hualpn	2.93	349	eP	Pn	11 31 04.7	-1.4
BI05				eS	Sn	11 31 35.7	-4.6
BI05				IAML		11 31 39.4	
	comp=N,255nm,0.3s						
GO05	Huala	4.63	6	eP	Pn	11 31 27.5	-1.8
BO02	Sierra Bellavi	5.01	16	eP	Pn	11 31 33.7	-0.8
BO02				eS	Sn	11 32 27.8	-3.4

*IDC **05** 11:41:47.7±1.0, 55.°38S×27.°73W, h0km, mb3.9/4, mbtmp3.9/5, ML4.2/1, MS3.3/1, Error ellipse: s-maj=45.8km s-min=22.6km az=80.0*
*NEIC **05** 11:41:50.5±1.0, 55.°5S±0.°1×28.°4W±0.°2, h10km±1km, mb4.6/12, Error ellipse: s-maj=22.9km s-min=18.0km az=51.0*
ISC 05 11:41:49.3±0.7, **55.°39S**±0.°10×**28.°3W**±0.°1, **h10**km, **n49**, σ**0.s69**/52, **mb4.4**/9, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	4.89	280	Pn	Pn	11 43 01.4	-1.4
ORCD	Orcadas	10.23	232	Pn	Pn	11 44 15.7	-0.3
SNAA	Sanae	19.59	156	P	P	11 46 16.5	-0.7
SNAA	Sanae	19.59	156	P	P	11 46 16.1	-1.1
	0.7nm,0.3s,baz=290,slow=14,SNR=15						
	1.6nm,0.4s						
BELA	Belgrano 2	22.70	183	P	P	11 46 50.7	+0.1
GO09	Cerro Castillo	26.31	260	P	P	11 47 25.1	+0.3
ITAB	Concordia	33.03	319	P	P	11 48 25.2	+0.7
QSPA	South Pole Qui	34.87	180	P	P	11 48 40.8	+0.4
QSPA	South Pole Qui	34.87	180	P	P	11 48 40.5	+0.1
	1.0nm,0.4s,baz=24,slow=2.7,SNR=22						
	1.0nm,0.4s						
LVC	Limon Verde	44.45	301	P	P	11 49 59.8	-1.0
LVC				IAmb	IAmb	11 50 02.9	
	comp=Z,6.2nm,1.2s						
PB06	IPOC Station P	44.69	300	P	P	11 50 01.6	-0.8
PB06				IAmb	IAmb	11 50 05.2	
	comp=Z,12nm,1.0s						
PB04	IPOC Station P	45.29	300	P	P	11 50 08.4	+1.2
PB01	IPOC Station P	46.06	301	P	P	11 50 13.0	-0.2
PB01				IAmb	IAmb	11 50 17.0	
	comp=Z,5.4nm,0.8s						
BOSA	Boshof	46.40	77	LR	LR	12 07 10.4	
	comp=Z,30nm,19.7s,baz=198,slow=33						
PB08	IPOC Station P	46.66	302	P	P	11 50 18.0	-0.3
PB08				IAmb	IAmb	11 50 23.8	
	comp=Z,15nm,1.4s						
VNDA	Vanda	47.21	183	P	P	11 50 21.9	+0.5
VNDA				IAmb	IAmb	11 50 51.0	
	comp=Z,3.8nm,1.4s						
VNDA	Vanda	47.21	183	P	P	11 50 21.6	+0.1
	comp=Z,0.9nm,0.7s,baz=173,slow=9.0,SNR=7.3						
	comp=Z,0.9nm,0.7s						
PB11	IPOC Station P	47.23	302	P	P	11 50 22.7	+0.2
PB11				IAmb	IAmb	11 50 45.5	
	comp=Z,8.4nm,1.1s						
LPAZ	La Paz	49.50	306	P	P	11 50 42.3	+1.7
	comp=Z,1.6nm,0.7s,baz=180,slow=7.1,SNR=4.3						
	comp=Z,1.6nm,0.7s						
TORD	Torodi Ar. Bea	72.78	31	P	P	11 53 17.0	-0.6
	comp=Z,0.7nm,0.7s,baz=208,slow=6.0,SNR=4.3						
	comp=Z,0.7nm,0.7s						
E29M	Blow River	146.50	321	PKPdf	PKPbc	12 01 28.8	-0.3
I28M	Miner Creek	146.53	315	PKPdf	PKPdf	12 01 28.4	+0.6
BCAR	Beaver Creek A	146.61	311	PKPbc	PKPbc	12 01 30.2	+0.6
L27K	Beaver Creek,	146.62	311	PKPbc	PKPbc	12 01 30.1	+0.5
F28M	Old Crow	147.05	319	PKPbc	PKPbc	12 01 31.2	+0.5
E28M	Babbage River	147.13	321	PKPbc	PKPbc	12 01 31.7	+0.8
MID	Middleton Isla	147.48	303	PKPbc	PKPab	12 01 33.6	-0.5
Q23K	Middleton Isla	147.48	303	PKPbc	PKPab	12 01 33.7	-0.5
D27M	Malcolm River	147.76	322	PKPbc	PKPbc	12 01 33.9	+1.2
J26L	Joseph Creek	147.77	313	PKPbc	PKPbc	12 01 33.6	+0.8
I26K	Coal Creek Min	147.80	314	PKPbc	PKPbc	12 01 33.4	+0.6
SCRK	Sand Creek	147.81	312	PKPbc	PKPbc	12 01 33.7	+0.7
RIDG	Independent Ri	148.12	311	PKPbc	PKPbc	12 01 34.9	+1.1
BMAR	Burnt Mountain	148.79	318	PKPbc	PKPbc	12 01 36.3	+0.9
IL31		149.23	313	PKPbc	PKPbc	12 01 37.2	+0.8
ILAR	Eielson Array	149.23	313	PKPbc	PKPbc	12 01 37.0	+0.5
ILAR	Eielson Array	149.23	313	PKPbc	PKPbc	12 01 36.8	+0.3
	comp=Z,1.1nm,0.7s,baz=130,slow=2.4,SNR=15						
E25K	Arctic Village	149.26	319	PKPbc	PKiKP	12 01 37.6	-0.1
D25K	Kavik River	149.68	322	PKPbc	PKiKP	12 01 38.8	+0.2
RND	Reindeer	149.78	310	PKPbc	PKiKP	12 01 39.2	+0.3
TOLK	Toolik Lake Re	150.79	320		PKiKP	12 01 40.9	0.0
G23K	Bananza Creek	150.81	316	PKPbc	PKiKP	12 01 41.6	+0.6
BPAW	Bear Paw Mtn.	150.85	311	PKPbc	PKPbc	12 01 40.9	+0.5
RSO	Redoubt South	150.87	303	PKPbc	PKPbc	12 01 41.0	+0.2
C23K	Itkillik River	151.19	323	PKPdf	PKPdf	12 01 35.6	+0.5
C23K				PKPbc	PKiKP	12 01 42.1	+0.6
C23K				PKPab	pPKPab	12 01 50.6	-0.2
SONM	Songino Array	151.28	86	PKPbc	PKPbc	12 01 41.6	-0.5
SONM	Songino Array	151.28	86	PKPbc	PKPbc	12 01 40.7	-1.4
	comp=Z,0.6nm,0.5s,baz=241,slow=2.8,SNR=4.0						
H21K	Melozitna Rive	151.83	314	PKPdf	PKPdf	12 01 36.1	-0.1
H21K				PKPbc	PKiKP	12 01 43.3	+0.3
H21K				PKPab	pPKPab	12 01 53.5	-0.1
IMAR	Indian Mountai	152.24	314	PKPbc	PKiKP	12 01 44.5	+0.6

*IDC **05** 12:01:13.7±2.6, 22.°93S×179.°99E, h523km±24km, mb3.5/9, mbtmp4.3/9, Error ellipse: s-maj=76.8km s-min=16.4km az=154.0*
*NEIC **05** 12:01:13.8±1.1, 23.°21S±0.°09×179.°6W±0.°1, h560km±14km,*

mb4.6/39, Error ellipse: s-maj=20.1km s-min=10.9km az=62.0

ISC 05 12:01:14.3±0.5**, 23°.36S**±0°.07×**179°.69W**±0°.08**, h550**km**, n100,** σ**1s.44**/106**, mb4.6**/29**, 1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**10.06**	**67**	P	**P**	**12 03 31.2**	**-1.6**
PINNC	**Pines Island,**	**11.87**	**271**	P	**P**	**12 03 51.8**	**+0.3**
AFI	**Afiamalu**	**12.02**	**40**	P	**P**	**12 03 50.1**	**-3.2**
LIFNC	**LIFOU**	**12.38**	**279**	P	**P**	**12 03 55.5**	**-1.3**
OUENC	**Ouen Island, N**	**12.45**	**272**	P	**P**	**12 03 58.8**	**+1.3**
DZM	**Mont Dzumac**	**12.86**	**273**	P	**P**	**12 04 04.0**	**+2.1**
KUZ	**Kuaotunu**	**13.92**	**195**	P	**P**	**12 04 12.9**	**+0.5**
MKAZ	**Moumakai**	**14.40**	**197**	P	**P**	**12 04 18.4**	**+1.0**
RUGZ	**Raukumara Rang**	**14.73**	**188**	P	**P**	**12 04 21.2**	**+0.3**
RUGZ				S	**S**	**12 06 53.6**	**-1.1**
TWGZ	**Tauwhareparae**	**14.90**	**187**	P	**P**	**12 04 20.4**	**-2.2**
TOZ	**Tahuroa Road**	**14.91**	**195**	P	**P**	**12 04 23.2**	**+0.6**
TOZ				IAmb	IAmb	12 04 29.6	
	comp=Z,15nm,0.7s						
TOZ	**Tahuroa Road**	**14.91**	**195**	P	**P**	**12 04 23.0**	**+0.5**
KMRZ	**Kaimai**	**14.92**	**194**	P	**P**	**12 04 23.1**	**+0.4**
URZ	**Urewera**	**15.10**	**190**	P	**P**	**12 04 21.9**	**-2.6**
MWZ	**Matawai**	**15.12**	**188**	P	**P**	**12 04 21.0**	**-3.7**
MWZ				S	**S**	**12 06 57.1**	**-4.4**
TKGZ	**Te Karaka**	**15.18**	**187**	P	**P**	**12 04 26.3**	**+1.0**
RAGZ	**Rawiri**	**15.29**	**189**	P	**P**	**12 04 27.5**	**+0.8**
RIGZ	**Rimuhau**	**15.45**	**187**	P	**P**	**12 04 28.1**	**-0.1**
TLZ	**Tolley Road**	**15.47**	**194**	P	**P**	**12 04 29.0**	**+0.6**
RTZ	**Ruatahuna**	**15.47**	**190**	P	**P**	**12 04 26.3**	**-2.1**
SNGZ	**Shannon Statio**	**15.58**	**189**	P	**P**	**12 04 29.4**	**-0.1**
POIZ	**Poihipi**	**15.65**	**192**	P	P	12 04 22.4	-7.8
MTHZ	**Maungataniwha**	**15.72**	**190**	P	**P**	**12 04 31.7**	**+0.7**
MTHZ				S	**S**	**12 07 13.0**	**+1.0**
RAHZ	**Arahi**	**15.75**	**189**	P	**P**	**12 04 31.7**	**+0.5**
RAHZ				S	**S**	**12 07 11.6**	**-0.7**
MRHZ	**Matea Rd**	**15.78**	**191**	P	**P**	**12 04 30.6**	**-0.9**
NMHZ	**Naumai**	**15.97**	**190**	P	**P**	**12 04 32.3**	**-1.2**
NMHZ				S	**S**	**12 07 17.7**	**+1.7**
RITZ	**Rihia Road**	**16.02**	**193**	P	**P**	**12 04 34.2**	**+0.3**
NTVZ	**North Tongarir**	**16.18**	**193**	P	**P**	**12 04 36.9**	**+1.4**
TMVZ	**Te Maari**	**16.19**	**193**	P	**P**	**12 04 34.0**	**-1.6**
ETVZ	**East Tongariro**	**16.21**	**193**	P	**P**	**12 04 34.0**	**-1.7**
NNVZ	**North Ngauruho**	**16.22**	**193**	P	**P**	**12 04 37.4**	**+1.5**
OTVZ	**Oturere**	**16.24**	**193**	P	**P**	**12 04 33.9**	**-2.2**
SNVZ	**South Ngauruho**	**16.27**	**193**	P	**P**	**12 04 35.7**	**-0.7**
MCHZ	**McNeill Hill**	**16.33**	**190**	P	**P**	**12 04 35.7**	**-1.0**
TUVZ	**Tukino**	**16.34**	**193**	P	**P**	**12 04 36.0**	**-1.0**
KWHZ	**Kaweka Forest**	**16.35**	**191**	P	**P**	**12 04 36.5**	**-0.5**
PKVZ	**Pokaka**	**16.43**	**194**	P	**P**	**12 04 37.0**	**-0.8**
BHHZ	**Black Hill Sta**	**16.48**	**192**	P	**P**	**12 04 34.8**	**-3.3**
KRHZ	**Kereru**	**16.57**	**191**	P	**P**	**12 04 38.2**	**-0.8**
KAHZ	**Kahuranaki**	**16.64**	**189**	P	**P**	**12 04 39.5**	**-0.1**
PNHZ	**Pukenui**	**16.87**	**191**	P	**P**	**12 04 40.7**	**-0.9**
TSZ	**Takapari Road**	**17.05**	**191**	P	**P**	**12 04 42.6**	**-0.7**
BFZ	**Birch Farm**	**17.61**	**190**	P	**P**	**12 04 46.5**	**-1.9**
BFZ				IAmb	IAmb	12 04 52.5	
	comp=Z,16nm,0.6s						
MRZ	**Mangatainoka R**	**17.70**	**192**	P	**P**	**12 04 47.1**	**-2.1**
MRZ				IAmb	IAmb	12 04 55.7	
	comp=Z,11nm,0.9s						
TCW	**Tory Channel**	**18.50**	**194**	P	**P**	**12 04 56.7**	**+0.2**
BHW	**Baring Head**	**18.57**	**193**	P	**P**	**12 04 56.0**	**-1.1**
BHW				IAmb	IAmb	12 04 58.5	
	comp=Z,18nm,1.0s						
QRZ	**Quartz Range**	**18.60**	**199**	P	**P**	**12 04 58.2**	**+0.7**
PLWZ	**Palliser**	**18.64**	**192**	P	**P**	**12 04 56.9**	**-0.9**
TKNZ	**Takaka Hill**	**18.67**	**198**	P	**P**	**12 04 58.0**	**-0.2**
TUWZ	**Tuamarina**	**18.79**	**195**	P	**P**	**12 04 58.9**	**-0.3**
MRNZ	**Matariki Terra**	**19.07**	**198**	P	**P**	**12 05 02.2**	**+0.5**
THZ	**Tophouse**	**19.37**	**197**	P	**P**	**12 05 05.5**	**+1.1**
THZ				IAmb	IAmb	12 05 14.1	
	comp=Z,38nm,1.5s						
DSZ	**Denniston Nort**	**19.66**	**199**	P	**P**	**12 05 07.3**	**+0.1**
KHZ	**Kahutara**	**19.82**	**195**	P	**P**	**12 05 07.9**	**-0.5**
KHZ				IAmb	IAmb	12 05 13.2	
	comp=Z,23nm,1.1s						
LTZ	**Lake Taylor**	**20.49**	**197**	P	**P**	**12 05 13.9**	**-0.7**
INZ	**Inchbonnie**	**20.67**	**199**	P	**P**	**12 05 16.1**	**-0.1**
INZ				IAmb	IAmb	12 05 23.5	
	comp=Z,23nm,0.9s						
OXZ	**Oxford**	**21.05**	**197**	P	**P**	**12 05 19.2**	**-0.5**
OXZ				IAmb	IAmb	12 05 24.4	
	comp=Z,17nm,0.7s						
RPZ	**Rata Peaks**	**21.69**	**198**	P	**P**	**12 05 25.7**	**+0.3**
RPZ				IAmb	IAmb	12 05 29.8	
	comp=Z,10nm,0.6s						
MLZ	**Mavora Lakes**	**24.09**	**201**	P	**P**	**12 05 47.8**	**+1.0**
MLZ				IAmb	IAmb	12 05 52.1	
	comp=Z,17nm,1.1s						
WHZ	**Wether Hill Ro**	**24.61**	**201**	P	**P**	**12 05 52.1**	**+0.8**
WHZ				IAmb	IAmb	12 05 54.2	
	comp=Z,29nm,1.4s						
ARMA	**Armidale**	**26.48**	**248**	P	**P**	**12 06 08.1**	**-0.1**
ARMA				IAmb	IAmb	12 06 22.9	
	comp=Z,33nm,1.5s						
EIDS	**Eidsvold**	**26.68**	**260**	P	**P**	**12 06 10.0**	**+0.1**
EIDS				IAmb	IAmb	12 06 10.3	
	comp=Z,11nm,0.8s						
CAN	**Canberra**	**29.66**	**239**	P	**P**	**12 06 36.2**	**+0.5**
CTAO	**Charters Tower**	**31.76**	**269**	P	**P**	**12 06 53.9**	**-0.1**
TOO	**Toolangi**	**32.98**	**236**	P	**P**	**12 07 04.4**	**+0.3**
TOO				IAmb	IAmb	12 07 35.6	
	comp=Z,19nm,1.4s						
PMG	**Port Moresby**	**34.59**	**288**	P	**P**	**12 07 16.8**	**-1.0**
STKA	**Stephens Creek**	**35.19**	**247**	P	**P**	**12 07 23.0**	**+0.3**
STKA	**Stephens Creek**	**35.19**	**247**	P	**P**	**12 07 22.8**	**+0.2**
	comp=Z,9.2nm,0.6s,baz=96,slow=11,SNR=23						
	comp=Z,9.2nm,0.6s						
BBOO	**Buckleboo**	**39.91**	**246**	P	**P**	**12 08 00.3**	**-0.9**
BBOO				IAmb	IAmb	12 08 00.9	
	comp=Z,8.0nm,0.6s						
AS31	**Alice Springs**	**42.40**	**260**	P	**P**	**12 08 20.6**	**-0.5**
AS31				IAmb	IAmb	12 08 21.7	
	comp=Z,6.3nm,0.5s						
ASAR	**Alice Springs**	**42.40**	**260**	P	**P**	**12 08 20.6**	**-0.6**
	comp=Z,18nm,0.8s,baz=94,slow=6.8,SNR=322						
ASAR				ScP	**ScP**	**12 13 02.6**	**+2.4**
	comp=Z,1.0nm,0.8s,baz=94,slow=4.4,SNR=6.0						
	comp=Z,18nm,0.8s						
WR0	**Warramunga Arr**	**42.54**	**265**	P	**P**	**12 08 20.9**	**-1.2**
WB2	**Warramunga Arr**	**42.71**	**265**	P	**P**	**12 08 22.1**	**-1.5**
WB2				IAmb	IAmb	12 08 23.2	
	comp=Z,23nm,0.8s						
WB0	**Warramunga Arr**	**42.72**	**266**	P	**P**	**12 08 22.3**	**-1.3**
WRAB	**Tennant Creek**	**42.72**	**265**	P	**P**	**12 08 22.4**	**-1.2**
WRAB				IAmb	IAmb	12 08 23.1	
	comp=Z,17nm,0.8s						
WRA	**Warramunga Arr**	**42.73**	**265**	P	**P**	**12 08 21.7**	**-1.9**
WRA	**Warramunga Arr**	**42.73**	**265**	P	**P**	**12 08 22.5**	**-1.2**
	comp=Z,18nm,0.6s,baz=91,slow=8.4,SNR=236						
WRA				ScP	**ScP**	**12 13 04.4**	**+2.9**
	comp=Z,1.7nm,1.0s,baz=104,slow=3.9,SNR=6.8						
	comp=Z,18nm,0.6s						
FORT	**Forrest**	**46.76**	**249**	P	**P**	**12 08 54.0**	**-0.5**
MTN	**Manton Dam**	**47.70**	**274**	P	**P**	**12 09 00.3**	**-1.4**
MTN				IAmb	IAmb	12 09 01.1	
	comp=Z,9.0nm,0.6s						
KNRA	**Kununurra**	**48.97**	**269**	P	**P**	**12 09 10.2**	**-1.0**
KNRA				IAmb	IAmb	12 09 11.4	
	comp=Z,24nm,1.1s						
VNDA	**Vanda**	**54.94**	**185**	P	**P**	**12 09 54.0**	**+0.9**
PSA00	**Pilbara Seismi**	**55.54**	**259**	P	**P**	**12 09 56.9**	**-1.3**
NWAO	**Narrogin (SRO)**	**55.71**	**245**	P	**P**	**12 09 58.2**	**-1.0**
MBWA	**Marble Bar**	**55.74**	**260**	P	**P**	**12 09 58.0**	**-1.5**
MBWA				IAmb	IAmb	12 09 59.5	
	comp=Z,18nm,0.8s						
MORW	**Morawa**	**57.32**	**250**	P	**P**	**12 10 09.6**	**-0.7**
QSPA	**South Pole Qui**	**66.72**	**180**	P	**P**	**12 11 12.4**	**+1.6**
NJ2	**Nanjing**	**80.52**	**311**	*e*P	**P**	**12 12 29.4**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MDJ	**Mudanjiang**	**81.97**	**326**	P	**P**	**12 12 35.9**	**-0.8**
MDJ				pmax	pmax		
	comp=Z,12nm,2.2s						
MDJ				pmax	pmax		
	comp=Z,270nm,8.3s						
NVAR	**Mina Array Bea**	**84.17**	**44**	P	**P**	**12 12 49.6**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=234,slow=6.4,SNR=4.8						
	comp=Z,0.7nm,0.8s						
SNAA	**Sanae**	**85.20**	**179**	P	**P**	**12 12 51.8**	**-0.7**
LYN	**LuoYang**	**86.36**	**310**	*e*P	**P**	**12 13 01.7**	**+3.2**
LYN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GYA	**Guiyang**	**86.72**	**301**	⇓P	**P**	**12 12 58.6**	**-1.9**
GYA				pmax	pmax		
	comp=Z,12nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.60**	**290**	P	**P**	**12 13 15.5**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=136,slow=4.6,SNR=5.2						
	comp=Z,0.8nm,0.7s						
TXAR	**Lajitas Array**	**89.91**	**58**	P	**P**	**12 13 17.6**	**+2.3**
	comp=Z,0.9nm,0.7s,baz=210,slow=6.6,SNR=14						
	comp=Z,0.9nm,0.7s						
HHC	**Hu-ho-hao-te**	**90.24**	**315**	*e*P	**P**	**12 13 19.4**	**+2.8**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,200nm,5.8s						
PZH	**PanZhiHua**	**90.67**	**299**	P	**P**	**12 13 17.5**	**-1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,4.9s						
ILAR	**Eielson Array**	**91.44**	**13**	P	**P**	**12 13 21.1**	**-0.4**
	comp=Z,0.4nm,1.0s,baz=232,slow=6.1,SNR=4.3						
	comp=Z,0.4nm,1.0s						
PDAR	**Pinedale Array**	**92.11**	**44**	P	**P**	**12 13 26.3**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=225,slow=2.9,SNR=6.5						
	comp=Z,0.5nm,0.6s						
LZH	**Lanzhou**	**93.26**	**308**	*e*P	**P**	**12 13 33.3**	**+2.6**
LZH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
YKA	**Yellowknife Ar**	**99.76**	**25**	P	**Pdif**	**12 13 58.9**	**-0.1**
	comp=Z,0.3nm,0.9s,baz=231,slow=5.5,SNR=3.3						
	comp=Z,0.3nm,0.9s						

IDC ***05*** *12:14:19.3±0.3, 2°.23N×126°.59E, h0km, mb5.0/31, mbtmp5.0/31, MS4.1/46, Error ellipse: s-maj=17.6km s-min=9.6km az=80.0*

NEIC ***05*** *12:14:20.5, 2°.27N×126°.79E, h40km, Moment Tensor Solution. Duration: 1s.9 Moment tensor: Scale 10^{17}Nm; M_{rr}0.99; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$-0.86; $M_{r\theta}$-0.16; $M_{\theta\phi}$-0.51; $M_{\phi r}$-0.30; Fault plane solution: $M_0$1.11000×10^{17} NP1: ϕ_s207.13000°, δ53.96000°, λ90.01000°. NP2:ϕ_s27.11000°, δ36.04000°, λ89.98000°. Principal axes: T 1.0450, Plg81.0000°, Azm117.0000°; N 0.1288, Plg0.0000°, Azm27.0000°; P -1.1738, Plg9.0000°, Azm297.0000°;*

NEIC ***05*** *12:14:20.5, 2°.27N×126°.79E, h40km*

BJI ***05*** *12:14:23.7, 1°.95N×126°.65E, h64km, mb5.0/79, mB5.2/44, Ms4.5/66, Ms7 4.5/65*

MOS ***05*** *12:14:23.9±1.1, 2°.30N×126°.54E, h39km, mb5.4/68, MS4.3/4, Error ellipse: s-maj=8.0km s-min=4.2km az=111.9*

NEIC ***05*** *12:14:25.6±2.5, 2°.22N±0°.06×126°.76E±0°.06, h35km±1km, mb5.3/239, Mww5.3/19, Error ellipse: s-maj=11.7km s-min=8.5km az=239.0*

DJA ***05*** *12:14:27.3±0.2, 2°N±2°×12°7E±°, h41km±3km, M5.1/49, mb5.2/49, mB5.6/33, MLv5.1/16, Mw(mB)5.1/33, MwMwp5.0/16, Mwp5.3/16*

GCMT ***05*** *12:14:27.7±0.1, 2°.47N±0°.01×126°.78E±0°.01, h42km, MW5.3/118, Moment Tensor Solution. s118,c195; s108,c172; Duration: 1s.1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.94±.02; $M_{\theta\theta}$-0.19±.02; $M_{\phi\phi}$-0.75±.02; $M_{r\theta}$-0.17±.02; $M_{\theta\phi}$-0.66±.02; $M_{\phi r}$-0.57±.03; Best double couple: $M_0$1.22700×10^{17} NP1:ϕ_s203.00000°, δ60.00000°, λ78.00000°. NP2:ϕ_s46.00000°, δ32.00000°, λ109.00000°. Principal axes: T 1.1210, Plg72.0000°, Azm85.0000°; N 0.2130, Plg10.0000°, Azm209.0000°; P -1.3330, Plg14.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 12:14:26.1±0.3**, 2°.24N**±0°.03×**126°.72E**±0°.04**, h47**km±2km**, h47**km**:pP-P, n1096,** σ**1s.40**/1144**, mb5.2**/226**, MS4.3**/79**, 19C-18D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.60**	**156**	Pn	**Pn**	**12 14 51.9**	**-0.1**
TNTI	**Ternate**	**1.60**	**156**	P	**Pn**	**12 14 52.4**	**+0.4**
TNTI	**Ternate**	**1.60**	**156**	P	**Pn**	**12 14 51.6**	**-0.4**
SGSI	**Sangihe**	**1.86**	**320**	P	**Pn**	**12 14 55.3**	**-0.2**
LBMI	**Labuha**	**2.97**	**165**	P	**Pn**	**12 15 12.0**	**+1.3**
KMSI	**Cibinong**	**3.20**	**239**	P	**Pn**	**12 15 17.2**	**+3.3**
GTOI	**Gorontalo**	**4.04**	**247**	P	**Pn**	**12 15 29.0**	**+3.6**
SANI	**Sanana**	**4.33**	**190**	P	**Pn**	**12 15 29.9**	**+0.5**
SANI	**Sanana**	**4.33**	**190**	P	**Pn**	**12 15 29.5**	**+0.1**
DAV	**Davao City (W)**	**4.93**	**347**	Pn	**Pn**	**12 15 39.5**	**+1.9**
DAV	**Davao City (W)**	**4.93**	**347**	Pn	**Pn**	**12 15 40.5**	**+2.8**
	48nm,0.3s,baz=88,slow=3.2,SNR=5.5						
DAV				Sn	**Sn**	**12 16 39.8**	**+6.4**
	169nm,0.3s,baz=80,slow=22,SNR=2.5						
MRSI	**Marisa**	**5.09**	**250**	P	**Pn**	**12 15 42.8**	**+3.0**
	2µm,0.7s,14µm10µm5.1nm						
LUWI	**Luwuk**	**5.12**	**230**	Pn	**Pn**	**12 15 39.5**	**-0.7**
LUWI	**Luwuk**	**5.12**	**230**	P	Pn	12 15 44.8	+4.5
LUWI	**Luwuk**	**5.12**	**230**	P	**Pn**	**12 15 43.7**	**+3.4**
	1µm,1.1s,15µm6µm7.9nm						
NLAI	**Namlea**	**5.46**	**176**	P	**Pn**	**12 15 46.4**	**+1.4**
	89nm,0.7s,6µm0.6nm						
SWI	**Sorong**	**5.49**	**124**	P	**Pn**	**12 15 43.3**	**-2.1**
	143nm,1.0s,3µm15µm0.7nm						
TOLI2	**Tolitoli**	**6.04**	**259**	Pn	**Pn**	**12 15 54.9**	**+2.0**
TOLI2	**Tolitoli**	**6.04**	**259**	P	**Pn**	**12 15 54.9**	**+2.0**
FAKI	**Fak Fak**	**7.54**	**133**	Pn	**Pn**	**12 16 11.8**	**-1.7**
FAKI	**Fak Fak**	**7.54**	**133**	P	**Pn**	**12 16 15.4**	**+1.8**
FAKI	**Fak Fak**	**7.54**	**133**	P	**Pn**	**12 16 13.9**	**+0.3**
	82nm,0.9s,1µm10µm0.4nm						
TTSI	**Tana Toraja**	**8.67**	**233**	P	**Pn**	**12 16 32.4**	**+3.4**
	250nm,1.1s,3µm4µm						
MYLDM	**Lahad Datu**	**8.70**	**290**	Pn	**Pn**	**12 16 29.1**	**-0.3**
SPSI	**Sidrap Palu**	**9.29**	**228**	P	**Pn**	**12 16 40.1**	**+2.6**
	82nm,0.8s,1µm						
BKSI	**Bulukumba**	**9.99**	**221**	P	**Pn**	**12 16 50.1**	**+2.9**
	72nm,1.0s,1µm2µm						
KAPI	**Kappang**	**10.02**	**224**	Pn	**Pn**	**12 16 46.2**	**-1.3**
KAPI	**Kappang**	**10.02**	**224**	P	**Pn**	**12 16 50.9**	**+3.4**
KAPI	**Kappang**	**10.02**	**224**	*d i*P	**Pn**	**12 16 45.6**	**-1.9**
KAPI	**Kappang**	**10.02**	**224**	Pn	**Pn**	**12 16 49.5**	**+1.9**
	4.5nm,0.3s,baz=17,slow=8.4,SNR=4.1						
KAPI				Sn	**Sn**	**12 18 37.1**	**-1.6**
	5.3nm,0.3s,baz=78,slow=22,SNR=1.5						
KAPI				LR	LR	12 20 00.5	
	comp=Z,374nm,19.9s,baz=40,slow=34						
BKB	**Balikpapan**	**10.42**	**251**	Pn	**Pn**	**12 16 50.8**	**-2.1**
KKM	**Kota Kinabalu**	**11.13**	**290**	Pn	**Pn**	**12 17 01.6**	**-1.3**
KKM	**Kota Kinabalu**	**11.13**	**290**	P	**Pn**	**12 17 06.4**	**+3.5**
SAUI	**Saumlaki**	**11.14**	**156**	Pn	**Pn**	**12 17 00.5**	**-2.3**
MMRI	**Maumere**	**11.69**	**202**	Pn	**Pn**	**12 17 07.8**	**-2.6**
MMRI	**Maumere**	**11.69**	**202**	P	Pn	12 17 26.8	+16
EDFI	**Ende, Flores**	**12.02**	**205**	P	**Pn**	**12 17 15.9**	**+1.0**
	77nm,1.0s,769nm2µm						
SOEI	**Soe**	**12.17**	**192**	Pn	**Pn**	**12 17 15.1**	**-1.9**
SOEI	**Soe**	**12.17**	**192**	P	**Pn**	**12 17 19.5**	**+2.5**
	136nm,1.2s,2µm3µm						
MTKI	**Muara Teweh, K**	**12.24**	**255**	P	P	12 17 24.0	-5.0
	116nm,0.9s,3µm						
SMPI	**Sarmi**	**12.71**	**109**	P	**Pn**	**12 17 26.4**	**+2.2**
	75nm,1.0s						
BATI	**Baumata**	**12.74**	**194**	P	P	12 17 29.6	-5.0
	76nm,1.0s,2µm						
BATI	**Baumata**	**12.74**	**194**	Pn	**Pn**	**12 17 27.4**	**+2.8**
	1.4nm,0.3s,baz=186,slow=9.3,SNR=2.8						
BBKI	**Banjar Baru**	**13.15**	**245**	P	**P**	**12 17 36.0**	**-3.3**
	140nm,1.5s,8µm						
BASI	**Baing, Sumba**	**13.81**	**206**	P	**Pn**	**12 17 42.3**	**+3.0**
	206nm,1.2s,3µm						
PLAI	**Plampang**	**14.16**	**219**	P	**P**	**12 17 48.5**	**-1.9**
PLAI	**Plampang**	**14.16**	**219**	P	**P**	**12 17 47.8**	**-2.6**
	378nm,1.0s,3µm1µm						
GENI	**Genyem**	**14.28**	**110**	P	**P**	**12 17 53.3**	**+1.5**
SBUM	**Sibu**	**14.49**	**271**	Pn	**Pn**	**12 17 48.6**	**+0.2**
TWSI	**Taliwang, Sumb**	**14.67**	**222**	P	**P**	**12 17 54.3**	**-1.8**
	719nm,0.9s,5µm						
JAY	**Jayapura**	**14.76**	**109**	P	**Pn**	**12 17 51.0**	**-1.1**
	70nm,1.1s,1µm						
STKI	**Sintang**	**15.39**	**262**	P	**P**	**12 18 04.0**	**-0.1**
	113nm,1.5s,9µm						
MTN	**Manton Dam**	**15.62**	**164**	P	**Pn**	**12 18 01.5**	**-1.7**
	baz=16,SNR=14						
MTN	**Manton Dam**	**15.62**	**164**	Pn	**Pn**	**12 18 01.7**	**-1.5**
KDU	**Kakadu**	**15.90**	**159**	P	**Pn**	**12 18 05.9**	**-0.9**
	baz=16,SNR=25						
KDU	**Kakadu**	**15.90**	**159**	P	**Pn**	**12 18 06.0**	**-0.7**
IGBI	**Denpasar**	**15.93**	**226**	P	**P**	**12 18 11.7**	**+1.6**
	202nm,1.1s,3µm						
ABJI	**Asem Bagus**	**15.95**	**231**	P	**P**	**12 18 11.7**	**+1.3**
	87nm,1.0s						
KSM	**Kuching**	**16.42**	**268**	Pn	**Pn**	**12 18 13.9**	**+0.5**
BLJI	**Banyuglugur**	**16.43**	**233**	P	**P**	**12 18 18.7**	**+3.1**
	167nm,0.8s,3µm						
JAGI	**Jajag, Banyuwa**	**16.44**	**230**	Pn	**Pn**	**12 18 13.8**	**+0.1**
JAGI				IAmb	IAmb	12 18 22.7	
	comp=Z,333nm,1.2s						
JAGI	**Jajag, Banyuwa**	**16.44**	**230**	P	**P**	**12 18 15.8**	**0.0**
JAGI	**Jajag, Banyuwa**	**16.44**	**230**	P	**P**	**12 18 19.1**	**+3.3**
	comp=Z,246nm,1.2s,comp=Z,3µm						
KNRA	**Kununurra**	**17.92**	**174**	P	**Pn**	**12 18 31.6**	**-0.4**
	baz=18,SNR=50						
KNRA	**Kununurra**	**17.92**	**174**		**Pn**	**12 18 31.9**	**0.0**
KNRA	**Kununurra**	**17.92**	**174**	P	**Pn**	**12 18 32.0**	**0.0**
SMRI	**Semarang**	**18.68**	**240**	P	**P**	**12 18 38.2**	**-2.4**
UGM	**Wanagama**	**19.05**	**238**	P	**P**	**12 18 44.6**	**0.0**
UGM				IAmb	IAmb	12 18 57.5	
	comp=Z,408nm,1.5s						
UGM	**Wanagama**	**19.05**	**238**	P	**Pn**	**12 18 46.6**	**+0.9**
KPJI	**Karang Pucung**	**20.14**	**242**	P	**P**	**12 18 56.3**	**-0.2**
	comp=Z,125nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.24**	**183**	P	**P**	**12 18 57.2**	**-0.3**
	baz=20,SNR=92						
DLV	**T Lat**	**20.48**	**299**	P	**P**	**12 19 00.1**	**-0.3**
DLV				IAmb	IAmb	12 19 02.7	
	comp=Z,202nm,1.5s						
PPBI	**Pangkal Pinang**	**21.04**	**258**	P	**P**	**12 19 08.2**	**+2.0**
LEM	**Lembang**	**21.09**	**245**	P	**P**	**12 19 06.0**	**-0.9**
LEM	**Lembang**	**21.09**	**245**	P	**P**	**12 19 06.0**	**-0.9**
	comp=Z,11nm,0.4s,baz=300,slow=18,SNR=2.5						
LEM				LR	LR	12 27 28.7	
	comp=Z,736nm,21.7s,baz=56,slow=38						
	comp=Z,11nm,0.4s						
TWGBT	**Beinan**	**21.17**	**345**	P	**P**	**12 19 05.5**	**-2.0**
TWG	**Pinlang**	**21.18**	**345**	P	**P**	**12 19 06.0**	**-1.6**
TWG				IAmb	IAmb	12 19 11.8	
	comp=Z,64nm,0.6s						
BBJI	**Bungbulang**	**21.33**	**243**	P	**P**	**12 19 11.9**	**+2.5**
YULB	**Yu-li**	**21.67**	**346**	P	**P**	**12 19 09.3**	**-3.6**
YULB				IAmb	IAmb	12 19 11.8	
	comp=Z,230nm,1.4s						
YULB	**Yu-li**	**21.67**	**346**	P	**P**	**12 19 10.1**	**-2.8**
TPUB	**Ta-pu**	**21.75**	**345**	P	**P**	**12 19 11.0**	**-2.8**
TPUB	**Ta-pu**	**21.75**	**345**	P	**P**	**12 19 10.9**	**-2.8**
SSLB	**Suanglung**	**22.13**	**346**	P	**P**	**12 19 15.8**	**-2.0**
SSLB				IAmb	IAmb	12 19 19.5	
	comp=Z,104nm,0.9s						
SSLB	**Suanglung**	**22.13**	**346**	P	**P**	**12 19 15.6**	**-2.3**
DSRI	**Dabo**	**22.30**	**263**	P	**P**	**12 19 24.5**	**+4.7**
	comp=Z,65nm,1.4s,comp=Z,1µm						
NACB	**Ninganchiao**	**22.36**	**348**	P	**P**	**12 19 17.8**	**-2.5**
NACB				IAmb	IAmb	12 19 22.1	
	comp=Z,205nm,2.0s						
NACB	**Ninganchiao**	**22.36**	**348**	P	**P**	**12 19 17.6**	**-2.7**
YOJ	**Yonaguni jima**	**22.38**	**351**	P	**P**	**12 19 18.2**	**-2.2**
YOJ	**Yonaguni jima**	**22.38**	**351**	P	**P**	**12 19 18.3**	**-2.2**
YOJ				pmax	pmax		
	comp=Z,559nm,1.5s						
JMJ	**Miyako jima 2**	**22.48**	**357**	P	**P**	**12 19 22.9**	**+1.3**
CGJI	**Cibinong**	**22.76**	**247**	P	**P**	**12 19 28.6**	**+4.0**
	comp=Z,138nm,1.2s						
MYKOM	**Kota Tinggi**	**22.86**	**269**	P	**P**	**12 19 26.0**	**+0.3**
YHNB	**Yeheng**	**22.88**	**347**	P	**P**	**12 19 24.6**	**-1.4**
YHNB				IAmb	IAmb	12 19 36.3	
	comp=Z,110nm,1.1s						
YHNB	**Yeheng**	**22.88**	**347**	P	**P**	**12 19 24.3**	**-1.6**
COEN	**Coen**	**22.92**	**135**	P	**P**	**12 19 25.0**	**-1.3**
WB0	**Warramunga Arr**	**23.14**	**161**	P	**P**	**12 19 26.7**	**-1.8**
WB0				IAmb	IAmb	12 19 38.6	
	comp=Z,79nm,0.9s						
TATO	**Taipei**	**23.16**	**348**	P	**P**	**12 19 28.1**	**-0.5**
WRAB	**Tennant Creek**	**23.28**	**162**	P	**P**	**12 19 28.0**	**-1.8**
WRAB				IAmb	IAmb	12 19 32.2	
	comp=Z,82nm,1.0s						
WRAB	**Tennant Creek**	**23.28**	**162**	P	**P**	**12 19 28.0**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,82nm,1.0s						
WRA	**Warramunga Arr**	**23.28**	**162**	*i* P	**P**	**12 19 27.8**	**-2.1**
WRA				pmax	pmax		
	comp=Z,58nm,0.7s						
WRA	**Warramunga Arr**	**23.28**	**162**	P	**P**	**12 19 27.2**	**-2.7**
	comp=Z,56nm,0.7s,baz=340,slow=11,SNR=285						
WRA				PcP	**PcP**	**12 23 16.9**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=333,slow=2.4,SNR=0.9						
WRA				S	**S**	**12 23 32.8**	**-6.2**
	comp=Z,5.9nm,0.9s,baz=332,slow=20,SNR=4.7						
WRA				ScP	**ScP**	**12 26 51.7**	**+1.0**
	comp=Z,2.1nm,1.0s,baz=343,slow=2.9,SNR=4.8						
	comp=Z,56nm,0.7s						
WB2	**Warramunga Arr**	**23.29**	**162**	P	**P**	**12 19 28.4**	**-1.5**
WB2				IAmb	IAmb	12 19 32.3	
	comp=Z,85nm,0.9s						
WR0	**Warramunga Arr**	**23.36**	**161**	P	**P**	**12 19 28.9**	**-1.8**
HKPS	**Hong Kong Po S**	**23.36**	**329**	P	**P**	**12 19 29.4**	**-1.2**
PMG	**Port Moresby**	**23.43**	**120**	P	**P**	**12 19 28.9**	**-2.3**
PMG	**Port Moresby**	**23.43**	**120**	*i* P	**P**	**12 19 31.7**	**+0.4**
PMG				pmax	pmax		
	comp=Z,26nm,0.9s						
QIZ	**Qiongzhong**	**23.48**	**316**	P	**P**	**12 19 30.2**	**-1.6**
QIZ				IAmb	IAmb	12 19 50.1	
	comp=Z,115nm,1.4s						
QIZ	**Qiongzhong**	**23.48**	**316**	P	**P**	**12 19 31.1**	**-0.7**
QIZ				S	**S**	**12 23 44.0**	**+1.8**
QIZ				pmax	pmax		
	comp=Z,54nm,2.3s						
QIZ				LR	LR		
	comp=Z,620nm,25.1s						
QIZ				LR	LR		
	comp=Z,770nm,22.5s						
QIZ				LR	LR		
	comp=Z,2µm,31.2s						
KASI	**Kota Agung**	**23.50**	**251**	P	**P**	**12 19 35.4**	**+3.4**
	comp=Z,209nm,0.9s						
KNMB	**Chin-men Tao**	**23.51**	**341**	P	**P**	**12 19 30.1**	**-1.9**
KNMB				IAmb	IAmb	12 19 53.2	
	comp=Z,242nm,1.7s						
LWLI	**Liwa**	**23.76**	**252**	P	**P**	**12 19 37.9**	**+3.3**
	comp=Z,161nm,0.7s,comp=Z,7µm						
MBWA	**Marble Bar**	**24.24**	**196**	P	**P**	**12 19 38.1**	**-0.6**
MBWA	**Marble Bar**	**24.24**	**196**	P	**P**	**12 19 38.6**	**-0.2**
XMIS	**Christmas Isla**	**24.48**	**239**	P	**P**	**12 19 41.1**	**0.0**
JOW	**Kunigami**	**24.49**	**3**	P	**P**	**12 19 40.2**	**-0.9**
JOW	**Kunigami**	**24.49**	**3**	P	**P**	**12 19 41.1**	**+0.1**
	comp=Z,92nm,0.9s,baz=184,slow=8.7,SNR=9.2						
	comp=Z,92nm,0.9s						
PSA00	**Pilbara Seismi**	**24.61**	**196**	P	**P**	**12 19 41.7**	**-0.4**
PSA00	**Pilbara Seismi**	**24.61**	**196**	P	**P**	**12 19 42.8**	**+0.7**
MNAI	**Manna**	**24.63**	**255**	P	**P**	**12 19 39.7**	**-2.8**
BKNI	**Bangkinang**	**25.74**	**266**	P	**P**	**12 19 51.9**	**-0.7**
BKNI				IAmb	IAmb	12 20 28.8	
	comp=Z,108nm,1.2s						
QIS	**Mount Isa**	**25.95**	**151**	P	**P**	**12 19 53.8**	**-0.5**
	baz=26,SNR=88						
QIS	**Mount Isa**	**25.95**	**151**	P	**P**	**12 19 54.1**	**-0.2**
KRVT	**Keravat (AS076**	**26.11**	**104**	LR	LR	12 29 56.4	
	comp=Z,1µm,19.6s,baz=234,slow=36						
KULM	**Kulim**	**26.18**	**277**	P	**P**	**12 19 54.7**	**-1.8**
RABL	**Rabaul**	**26.22**	**104**	P	**P**	**12 19 53.1**	**-3.8**
MTSU	**Mount Surprise**	**26.66**	**140**	P	**P**	**12 20 00.2**	**-0.6**
	baz=27,SNR=13						
MTSU	**Mount Surprise**	**26.66**	**140**	P	**P**	**12 20 01.4**	**+0.6**
AS31	**Alice Springs**	**26.69**	**165**	P	**P**	**12 20 00.0**	**-1.0**
ASAR	**Alice Springs**	**26.69**	**165**	P	**P**	**12 19 59.9**	**-1.1**
ASAR	**Alice Springs**	**26.69**	**165**	P	**P**	**12 19 58.8**	**-2.2**
	comp=Z,7.6nm,0.4s,baz=340,slow=6.4,SNR=89						
ASAR				PcP	**PcP**	**12 23 24.1**	**+0.2**
	comp=Z,8.7nm,0.8s,baz=345,slow=2.0,SNR=9.9						
ASAR				S	**S**	**12 24 43.2**	**+10**
	comp=Z,5.7nm,0.9s,baz=348,slow=21,SNR=6.0						
ASAR				ScP	**ScP**	**12 27 00.4**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=330,slow=2.6,SNR=3.7						
	comp=Z,7.6nm,0.4s						
AS01	**Alice Springs**	**26.70**	**165**	P	**P**	**12 20 00.9**	**-0.2**
WRKA	**Warakurna**	**27.16**	**177**	P	**P**	**12 20 05.3**	**0.0**
	baz=27,SNR=40						
WRKA	**Warakurna**	**27.16**	**177**	P	**P**	**12 20 05.5**	**+0.3**
GIRL	**Giralia**	**27.57**	**206**	P	**P**	**12 20 10.8**	**+2.0**
	baz=28,SNR=4.3						
GIRL	**Giralia**	**27.57**	**206**	P	**P**	**12 20 10.7**	**+1.8**
RPSI	**Rantau Prapat**	**27.77**	**272**	P	**P**	**12 20 10.1**	**-0.7**
PSI	**Prapat**	**27.77**	**272**	P	**P**	**12 20 10.1**	**-0.9**

PSI pmax pmax
comp=Z,29nm,1.1s
NAYO Nakonayok 27.80 297 P **P** **12 20 13.1 +2.0**
GULI GuiLin 27.81 327 P **P** **12 20 11.5 +0.5**
PBKT Sadao Pong 29.05 301 P **P** **12 20 21.8 -0.4**
TV1H Townsville Har 29.09 138 P **P** **12 20 23.7 +1.3**
GSI Gunungsitoli 29.14 269 P **P** **12 20 23.2 +0.2**
GSI IAmb IAmb 12 20 52.8
comp=Z,128nm,1.6s
SLVN Son La 29.22 312 P **P** **12 20 23.2 -0.4**
SLVN IAmb IAmb 12 20 25.3
comp=Z,93nm,1.8s
CTA Charters Tower 29.33 140 LR LR 12 33 34.3
comp=Z,2µm,21.2s,baz=324,slow=39
CTAO Charters Tower 29.33 140 P **P** **12 20 23.1 -1.5**
CTAO Charters Tower 29.33 140 P **P** **12 20 24.3 -0.3**
CTAO Charters Tower 29.33 140 P **P** **12 20 23.1 -1.5**
CTAO pmax pmax
comp=Z,42nm,1.5s
MEEK Meekatharra 29.76 195 P **P** **12 20 28.8 +0.4**
baz=30,SNR=23
MEEK Meekatharra 29.76 195 P **P** **12 20 28.3 -0.1**
WHN Wuhan 30.49 339 P **P** **12 20 35.3 +0.6**
WHN pmax pmax
comp=Z,150nm,1.2s
WHN LR LR
comp=Z,6µm,34.3s
NJ2 Nanjing 30.56 347 *e*P **P** **12 20 36.7 +1.4**
NJ2 pmax pmax
comp=Z,16nm,0.5s
NJ2 pmax pmax
comp=Z,130nm,3.6s
NJ2 LR LR
comp=Z,620nm,18.0s
NJ2 LR LR
comp=Z,510nm,19.9s
NJ2 LR LR
comp=Z,580nm,20.8s
PHRA Phrae 30.57 304 P **P** **12 20 35.8 +0.2**
GYA Guiyang 30.83 323 ⇓P **P** **12 20 38.3 +0.4**
GYA pmax pmax
comp=Z,22nm,1.5s
JNU Nakatsue 30.96 7 P **P** **12 20 39.0 +0.1**
JNU IAmb IAmb 12 20 52.9
comp=Z,48nm,0.9s
JNU Nakatsue 30.96 7 P **P** **12 20 39.1 +0.1**
JNU Nakatsue 30.96 7 P **P** **12 20 38.5 -0.4**
comp=Z,20nm,0.8s,baz=169,slow=4.2,SNR=8.1
JNU LR LR 12 33 33.8
comp=Z,168nm,21.7s,baz=190,slow=37
comp=Z,20nm,0.8s
OOD Oodnadatta 31.09 164 P **P** **12 20 39.4 -0.6**
CM31 Chiang Mai Arr 31.63 302 P **P** **12 20 44.3 -0.7**
CM31 IAmb IAmb 12 20 46.4
comp=Z,46nm,1.1s
CMAR Chiang Mai Arr 31.63 302 *ce*P **P** **12 20 44.7 -0.3**
CMAR pmax pmax
comp=Z,19nm,0.9s
CMAR Chiang Mai Arr 31.63 302 P **P** **12 20 44.5 -0.5**
comp=Z,19nm,0.9s,baz=120,slow=7.4,SNR=61
CMAR PcP **PcP** **12 23 38.0 +1.6**
comp=Z,2.6nm,0.7s,baz=156,slow=1.9,SNR=8.2
CMAR ScP **ScP** **12 27 17.9 +1.8**
comp=Z,0.8nm,0.8s,baz=151,slow=1.8,SNR=4.2
CMAR PKiKP **PKiKP** **12 31 05.5 -0.2**
comp=Z,0.9nm,0.3s,baz=258,slow=1.6,SNR=5.1
CMAR LR LR 12 35 19.5
comp=Z,214nm,18.0s,baz=115,slow=40
comp=Z,19nm,0.9s
CHTO Chiang Mai 31.80 303 P **P** **12 20 46.0 -0.4**
CHTO Chiang Mai 31.80 303 P **P** **12 20 46.2 -0.2**
CHTO Chiang Mai 31.80 303 P **P** **12 20 46.0 -0.4**
CHTO pmax pmax
comp=Z,123nm,1.4s
CHTO Chiang Mai 31.80 303 P **P** **12 20 45.9 -0.4**
CHTO pP **pP** **12 20 56.0 -2.4**
CHTO PcP **PcP** **12 23 38.4 +1.4**
JMN Monobe 32.03 11 P **P** **12 20 49.2 +0.9**
JMN Monobe 32.03 11 P **P** **12 20 49.3 +0.9**
JTU Tsushima 32.21 4 P **P** **12 20 51.6 +1.7**
ENH Enshi 32.31 331 P **P** **12 20 49.6 -1.3**
ENH IAmb IAmb 12 20 54.4
comp=Z,70nm,1.2s
ENH Enshi 32.31 331 P **P** **12 20 51.1 +0.3**
KMI Kunming 32.43 317 ⇓P **P** **12 20 52.3 +0.1**
KMI S **S** **12 26 02.5 -1.3**
KMI pmax pmax
comp=Z,56nm,1.3s
KMI LR LR
comp=Z,360nm,19.3s
KMI LR LR
comp=Z,600nm,25.6s
KMI LR LR
comp=Z,890nm,28.0s
INKA Innaminka 32.73 157 P **P** **12 20 53.9 -0.5**
MORW Morawa 32.77 197 P **P** **12 20 55.2 +0.4**
baz=33,SNR=13
MORW Morawa 32.77 197 P **P** **12 20 54.1 -0.8**
MORW IAmb IAmb 12 20 56.1
comp=Z,73nm,1.4s
MORW Morawa 32.77 197 P **P** **12 20 53.9 -0.9**
FORT Forrest 32.86 178 P **P** **12 20 55.8 +0.2**
baz=33,SNR=58
FORT Forrest 32.86 178 P **P** **12 20 55.6 +0.1**
FORT Forrest 32.86 178 P **P** **12 20 54.7 -0.9**
QLP Quilpie 33.28 151 P **P** **12 20 58.2 -1.0**
baz=33,SNR=7.6
QLP Quilpie 33.28 151 P **P** **12 21 00.0 +0.7**
KMBL Kambalda 33.74 187 P **P** **12 21 03.7 +0.4**
baz=34,SNR=16
KMBL Kambalda 33.74 187 P **P** **12 21 03.3 +0.1**
TJN Taejon 33.97 1 ⇑*i*P **P** **12 21 05.6 +0.5**
PZH PanZhiHua 34.01 317 P **P** **12 21 05.0 -0.8**
PZH pP **pP** **12 21 16.1 -1.6**
PZH pmax pmax
comp=Z,30nm,1.4s
PZH pmax pmax
comp=Z,110nm,4.3s
PZH LR LR
comp=Z,400nm,23.5s
PZH LR LR
comp=Z,390nm,24.9s
PZH LR LR
comp=Z,560nm,24.0s
BLDU Ballidu 34.04 196 P **P** **12 21 06.3 +0.4**
baz=34,SNR=5.9
BLDU Ballidu 34.04 196 P **P** **12 21 06.3 +0.4**
LCRK Leigh Creek 34.31 162 P **P** **12 21 07.9 -0.3**
RK1H Rockhampton Ha 34.43 139 P **P** **12 21 09.4 +0.1**
KLBR Kellerberrin 34.71 194 P **P** **12 21 12.0 +0.4**
baz=35,SNR=12
KLBR Kellerberrin 34.71 194 P **P** **12 21 12.1 +0.4**
LYN LuoYang 34.78 339 ⇑P **P** **12 21 13.0 +0.8**
LYN S **S** **12 26 36.6 -2.9**
LYN pmax pmax
comp=Z,63nm,1.5s
LYN pmax pmax
comp=Z,280nm,4.1s
LYN LR LR
comp=Z,790nm,27.1s
LYN LR LR
comp=Z,540nm,22.7s
LYN LR LR
comp=Z,2µm,30.2s
TIA Tai'an 34.95 346 ⇓P **P** **12 21 14.1 +0.5**
TIA S **S** **12 26 39.0 -3.1**
TIA pmax pmax
comp=Z,18nm,1.6s
TIA LR LR
comp=Z,310nm,25.5s
TIA LR LR
comp=Z,260nm,18.6s
TIA LR LR
comp=Z,490nm,33.3s
KSAR Wonju Array Be 35.04 2 P **P** **12 21 13.2 -1.2**
KSAR Wonju Array Be 35.04 2 P **P** **12 21 13.2 -1.2**
KSRS Korea Array 35.06 2 P **P** **12 21 14.6 +0.1**
comp=Z,12nm,0.5s,baz=177,slow=9.9,SNR=56
KSRS PcP **PcP** **12 23 47.3 +1.6**
comp=Z,4.3nm,0.8s,baz=176,slow=2.8,SNR=7.3
comp=Z,12nm,0.5s
HNR Honiara 35.08 110 LR LR 12 34 08.4
comp=Z,5µm,21.3s,baz=292,slow=34
KS19 Wonju Array Si 35.10 2 P **P** **12 21 14.6 -0.3**
TNCH TengChong 35.39 312 P **P** **12 21 18.7 +0.9**
TNCH PP **PP** **12 22 40.3 +1.5**
TNCH S **S** **12 26 48.4 -1.1**
TNCH pmax pmax
comp=Z,100nm,1.1s
TNCH pmax pmax
comp=Z,260nm,3.8s
TNCH LR LR
comp=Z,320nm,20.8s
TNCH LR LR
comp=Z,450nm,18.2s
TNCH LR LR
comp=Z,680nm,28.2s
MUN Mundaring 35.47 195 P **P** **12 21 18.8 +0.6**
baz=36,SNR=8.2
MUN Mundaring 35.47 195 P **P** **12 21 18.7 +0.6**
comp=Z,22nm,0.7s
XAN Xi'an 35.73 334 ⇑P **P** **12 21 19.2 -1.3**
XAN pP sP 12 21 36.0 -1.7
XAN sP pwP 12 21 47.1 +12
XAN pmax pmax
comp=Z,23nm,1.0s
XAN LR LR
comp=Z,1µm,23.8s
XAN LR LR
comp=Z,830nm,24.8s
XAN LR LR
comp=Z,2µm,22.6s
XAN Xi'an 35.73 334 P **P** **12 21 19.6 -0.9**
MAJO Matsushiro 35.74 16 P **P** **12 21 19.2 -1.3**
MAJO IAmb IAmb 12 21 21.8
comp=Z,46nm,0.7s
MAJO Matsushiro 35.74 16 P **P** **12 21 19.8 -0.7**
comp=Z,78nm,1.0s
MAJO Matsushiro 35.74 16 *d*P **P** **12 21 19.8 -0.7**
MAJO pmax pmax
comp=Z,145nm,2.1s
MAJO Matsushiro 35.74 16 P **P** **12 21 19.9 -0.6**
MAJO PcP **PcP** **12 23 49.2 +1.5**
MJAR Matsushiro Arr 35.74 16 P **P** **12 21 19.8 -0.7**
comp=Z,17nm,0.6s,baz=190,slow=9.1,SNR=36
MJAR PcP **PcP** **12 23 49.0 +1.3**
comp=Z,5.2nm,0.8s,baz=182,slow=2.6,SNR=5.0
comp=Z,17nm,0.6s
MJB9 Matsu-Tunnel 35.74 16 P **P** **12 21 19.7 -0.9**
MJB9 IAmb IAmb 12 21 22.7
comp=Z,44nm,0.7s
CD2 Chengdu 35.84 325 P **P** **12 21 20.3 -1.1**
CD2 S **S** **12 26 51.2 -4.8**
CD2 sS ScP 12 27 23.5 -7.2
CD2 pmax pmax
comp=Z,50nm,1.1s
CD2 pmax pmax
comp=Z,230nm,5.1s
CD2 LR LR
comp=Z,510nm,17.8s
CD2 LR LR
comp=Z,430nm,13.9s
CD2 LR LR
comp=Z,620nm,15.9s
BBOO Buckleboo 35.97 167 P **P** **12 21 21.7 -0.7**
baz=36,SNR=75
BBOO Buckleboo 35.97 167 P **P** **12 21 21.1 -1.4**
BBOO IAmb IAmb 12 21 23.7
comp=Z,26nm,0.8s
BBOO Buckleboo 35.97 167 P **P** **12 21 21.7 -0.7**
NWAO Narrogin (SRO) 36.11 194 P **P** **12 21 22.8 -0.8**
baz=36,SNR=10
NWAO P **P** **12 21 22.8 -0.8**
baz=36,SNR=10
NWAO Narrogin (SRO) 36.11 194 P **P** **12 21 23.3 -0.4**
NWAO IAmb IAmb 12 21 34.8
comp=Z,96nm,1.6s
NWAO Narrogin (SRO) 36.11 194 P **P** **12 21 22.9 -0.7**
NWAO IAmb IAmb 12 21 34.8
comp=Z,315nm,1.6s
NWAO Narrogin (SRO) 36.11 194 P **P** **12 21 24.5 +0.8**
NWAO Narrogin (SRO) 36.11 194 P **P** **12 21 23.3 -0.4**
NWAO pmax pmax
comp=Z,96nm,1.7s
EIDS Eidsvold 36.20 141 P **P** **12 21 23.6 -1.0**
baz=36,SNR=22
EIDS Eidsvold 36.20 141 P **P** **12 21 23.7 -0.8**
EIDS IAmb IAmb 12 21 26.7
comp=Z,40nm,0.9s
EIDS Eidsvold 36.20 141 P **P** **12 21 24.3 -0.3**
HNS HongShan 36.69 344 ⇑P **P** **12 21 28.1 -0.4**
HNS S **S** **12 27 13.5 +4.8**
HNS pmax pmax
comp=Z,35nm,1.1s
HNS LR LR
comp=Z,520nm,23.5s
HNS LR LR
comp=Z,520nm,23.3s
HNS LR LR
comp=Z,980nm,24.9s
STKA Stephens Creek 36.76 159 P **P** **12 21 28.4 -0.8**
baz=37,SNR=20
STKA Stephens Creek 36.76 159 P **P** **12 21 27.9 -1.2**
STKA Stephens Creek 36.76 159 P **P** **12 21 29.2 0.0**
STKA Stephens Creek 36.76 159 *d*P **P** **12 21 29.1 -0.1**
STKA Stephens Creek 36.76 159 P **P** **12 21 28.4 -0.8**
STKA LR LR 12 38 48.9
comp=Z,21nm,0.6s,baz=339,slow=8.4,SNR=43
comp=Z,408nm,21.3s,baz=345,slow=40
comp=Z,21nm,0.6s
HTT Hallett 37.31 163 P **P** **12 21 34.3 +0.4**
baz=37,SNR=13
HTT Hallett 37.31 163 P **P** **12 21 34.2 +0.3**
TIY Taiyuan 37.66 341 ⇓P **P** **12 21 39.9 +3.0**
TIY pP **pP** **12 21 49.0 +0.2**
TIY sP sP 12 21 58.9 +4.8
TIY S **S** **12 27 20.4 -3.2**
TIY pmax pmax
comp=Z,36nm,0.8s
TIY LR LR
comp=Z,610nm,12.4s
TIY LR LR
comp=Z,340nm,15.9s
TIY LR LR
comp=Z,1µm,23.0s
JMM Marumori 37.73 18 P **P** **12 21 36.1 -1.2**
JMM Marumori 37.73 18 P **P** **12 21 37.7 +0.3**
RKGY Rocky Gully 37.78 193 P **P** **12 21 39.7 +1.9**
baz=38,SNR=8.2
CMSA Cobar Meteorol 38.13 153 P **P** **12 21 40.6 -0.2**
baz=38,SNR=7.4
CMSA Cobar Meteorol 38.13 153 P **P** **12 21 41.3 +0.5**
BJT Baijiatuau 38.80 347 P **P** **12 21 45.7 -0.6**
BJT IAmb IAmb 12 21 49.4
comp=Z,106nm,1.4s
BJT Baijiatuau 38.80 347 P **P** **12 21 46.9 +0.6**
BJT Baijiatuau 38.80 347 P **P** **12 21 45.7 -0.6**
BJT pmax pmax
comp=Z,106nm,1.4s
BJT Baijiatuau 38.80 347 P **P** **12 21 46.2 -0.2**
BJI Beijing 38.82 347 P **P** **12 21 45.9 -0.6**
BJI S **S** **12 27 41.6 +0.7**
BJI pmax pmax
comp=Z,24nm,1.3s
BJI LR LR
comp=Z,140nm,26.9s
BJI LR LR
comp=Z,170nm,22.9s
BJI LR LR
comp=Z,230nm,24.3s
SNY Shenyang 39.51 356 ⇑P **P** **12 21 52.6 +0.4**
SNY S **S** **12 27 50.5 -0.7**
SNY pmax pmax
comp=Z,14nm,1.0s
SNY pmax pmax
comp=Z,300nm,3.9s
SNY LR LR
comp=Z,200nm,14.9s
SNY LR LR
comp=Z,460nm,22.0s
SNY LR LR
comp=Z,430nm,23.3s
LZH Lanzhou 39.78 331 ⇑*e*P **P** **12 21 54.7 -0.1**
LZH S **S** **12 27 50.1 -5.7**
LZH sS sS 12 28 19.3 +3.4
LZH SS **SS** **12 30 47.5 -5.7**
LZH pmax pmax
comp=Z,51nm,1.0s
LZH pmax pmax
comp=Z,170nm,4.4s
LZH LR LR
comp=Z,710nm,19.2s
LZH LR LR
comp=Z,580nm,20.3s
LZH LR LR
comp=Z,1µm,20.6s
ARMA Armidale 40.25 146 P **P** **12 21 58.8 +0.2**
baz=40,SNR=50
ARMA Armidale 40.25 146 P **P** **12 21 58.1 -0.6**
ARMA IAmb IAmb 12 22 01.8
comp=Z,61nm,0.8s
ARMA Armidale 40.25 146 P **P** **12 21 58.8 +0.2**
MSHR Mys Shultsa 40.36 5*c i*P **P** **12 22 00.4 +1.2**
MSHR pmax pmax
comp=Z,54nm,1.3s
PSTR Posyet 40.40 5 ⇑*i*P **P** **12 22 00.0 +0.5**
SHL Shillong 40.76 308 P **P** **12 22 01.8 -1.3**
SHL Shillong 40.76 308 P **P** **12 22 01.8 -1.3**
SHL pmax pmax
comp=Z,220nm,1.5s
HHC Hu-ho-hao-te 40.80 342 *e*P **P** **12 22 03.1 0.0**
HHC S **S** **12 28 08.8 -2.0**
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,300nm,4.8s
HHC LR LR
comp=Z,770nm,19.0s
HHC LR LR
comp=Z,500nm,19.4s
HHC LR LR
comp=Z,2µm,20.0s
BTO Baotou 41.07 341 *e*P **P** **12 22 09.6 +4.3**
BTO pP **sP** **12 22 23.6 +0.9**
BTO sP pwP 12 22 32.2 +12
BTO PP **PnPn** **12 23 46.6 +1.2**
BTO S **S** **12 28 21.7 +6.9**
BTO SS **SS** **12 31 20.4 +1.7**
BTO pmax pmax
comp=Z,20nm,0.5s
BTO pmax pmax
comp=Z,290nm,3.5s
BTO LR LR
comp=Z,2µm,23.7s
BTO LR LR
comp=Z,790nm,18.2s
BTO LR LR
comp=Z,3µm,22.2s
ARPS Mount Arapiles 41.29 161 P **P** **12 22 07.8 +0.8**
baz=41,SNR=17
ARPS Mount Arapiles 41.29 161 P **P** **12 22 07.9 +0.9**
CN2 Changchun 41.40 359 *e*P **P** **12 22 10.5 +2.7**
CN2 *e*S **S** **12 28 21.1 +1.8**
CN2 SS **SS** **12 31 17.7 -7.2**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,100nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,200nm,17.0s
YNG Young 41.68 153 P **P** **12 22 12.5 +2.2**
USA0B Ussuriysk Arra 42.04 6 P **P** **12 22 12.6 -0.4**
USA0B IAmb IAmb 12 22 15.6
comp=Z,41nm,0.8s
USA0B Ussuriysk Arra 42.04 6*c i*P **P** **12 22 13.9 +0.9**
USRK Ussuriysk Ar. 42.04 6 P **P** **12 22 13.1 +0.1**
USRK Ussuriysk Ar. 42.04 6 P **P** **12 22 13.1 +0.1**
USRK Ussuriysk Ar. 42.04 6 P **P** **12 22 13.5 +0.5**
comp=Z,46nm,0.7s,baz=186,slow=7.3,SNR=60
USRK LR LR 12 41 40.3
comp=Z,114nm,20.0s,baz=192,slow=39
comp=Z,46nm,0.7s
MGCD Mangrove Creek 42.12 149 P **P** **12 22 13.9 0.0**
ERM Erimo 42.26 18 P **P** **12 22 13.5 -1.3**
ERM Erimo 42.26 18 P **P** **12 22 13.5 -1.3**
ERM pmax pmax
comp=Z,183nm,1.3s
MDJ Mudanjiang 42.27 3 P **P** **12 22 14.3 -0.6**
MDJ IAmb IAmb 12 22 21.0
comp=Z,177nm,1.8s
MDJ Mudanjiang 42.27 3 P **P** **12 22 15.2 +0.3**
MDJ PcP **PcP** **12 24 08.0 -0.1**
MDJ ScP **ScP** **12 27 54.0 -1.1**
MDJ PcS **PcS** **12 28 01.5 +1.7**
MDJ S **S** **12 28 35.8 +3.5**
MDJ pmax pmax
comp=Z,31nm,1.2s
MDJ pmax pmax
comp=Z,320nm,7.2s
MDJ LR LR
comp=Z,390nm,12.4s
MDJ LR LR
comp=Z,260nm,9.3s
MDJ LR LR
comp=Z,440nm,10.5s
MDJ Mudanjiang 42.27 3 P **P** **12 22 16.0 +1.1**
MDJ pP **pP** **12 22 26.6 -0.4**
MDJ PcP **PcP** **12 24 08.5 +0.4**
H11S3 WAKE ISLAND Hy 42.35 65 T T 13 07 30.5
baz=253,slow=75,SNR=11
H11S2 WAKE ISLAND Hy 42.37 65 T T 13 07 40.0
baz=253,slow=75,SNR=8.5
H11S1 WAKE ISLAND Hy 42.37 65 T T 13 07 38.8
baz=253,slow=75,SNR=7.7
XLT XiLinHaoTe 42.54 349 ⇑*i*P **P** **12 22 17.5 +0.2**
XLT sP sP 12 22 42.3 +7.7
XLT S **S** **12 28 33.9 -2.6**
XLT pmax pmax
comp=Z,68nm,1.2s
XLT pmax pmax
comp=Z,140nm,3.8s
XLT LR LR
comp=Z,42nm,23.8s
XLT LR LR
comp=Z,270nm,18.9s
XLT LR LR
comp=Z,570nm,27.4s
CAN Canberra 42.80 153 P **P** **12 22 20.3 +0.9**
CAN Canberra 42.80 153 P **P** **12 22 20.5 +1.1**
H11N1 WAKE ISLAND Hy 42.92 63 T T 13 08 15.6
baz=259
H11N2 WAKE ISLAND Hy 42.93 63 T T 13 08 16.4
baz=259
H11N3 WAKE ISLAND Hy 42.93 63 T T 13 08 21.0
baz=259
CNB Canberra Magne 42.96 152 P **P** **12 22 21.3 +0.5**
TOO Toolangi 43.27 158 P **P** **12 22 24.5 +1.3**
baz=43,SNR=5.6
TOO Toolangi 43.27 158 P **P** **12 22 23.0 -0.2**
TOO IAmb IAmb 12 22 25.3
comp=Z,128nm,1.9s
TOO Toolangi 43.27 158 P **P** **12 22 24.2 +1.0**
TOO Toolangi 43.27 158 P **P** **12 22 23.0 -0.2**
TOO pmax pmax
comp=Z,128nm,1.9s
BNX BinXian 43.32 1 ⇓P **P** **12 22 23.5 +0.1**
BNX pP **sP** **12 22 39.1 -1.7**
BNX sP pwP 12 22 46.8 +8.5
BNX PP **PcP** **12 24 10.1 -1.5**
BNX S **S** **12 28 47.5 -0.2**
BNX pmax pmax
comp=Z,7.0nm,0.5s
BNX pmax pmax
comp=Z,120nm,3.9s
BNX LR LR
comp=Z,240nm,15.3s
BNX LR LR
comp=Z,250nm,5.1s
BNX LR LR
comp=Z,550nm,28.6s
LSA Lhasa 43.42 313 P **P** **12 22 24.8 -0.2**
LSA IAmb IAmb 12 22 27.1
comp=Z,106nm,1.6s
LSA Lhasa 43.42 313 P **P** **12 22 24.8 -0.2**
LSA pmax pmax
comp=Z,106nm,1.6s
LSA Lhasa 43.42 313 P **P** **12 22 25.2 +0.2**
LSA pmax pmax
comp=Z,42nm,1.3s
LSA Lhasa 43.42 313 P **P** **12 22 26.0 +1.0**
TEY Ternei 43.50 10 *e*P **P** **12 22 24.7 -0.1**
ASAJ Asahikawa 44.01 16 P **P** **12 22 28.8 -0.2**

ASAJ pmax pmax
comp=Z,160nm,1.5s
ASAJ Asahikawa 44.01 16 P **P** **12 22 28.6 -0.4**
comp=Z,15nm,0.8s,baz=225,slow=9.2,SNR=8.7
ASAJ LR LR 12 41 56.5
comp=Z,125nm,19.1s,baz=222,slow=38
comp=Z,15nm,0.8s
JKA Kamikawa-asahi 44.01 16 P **P** **12 22 28.8 -0.2**
GTA Gaotai 44.36 330 *e*P **P** **12 22 31.5 -0.6**
GTA PcP **PP** **12 24 17.2 +0.9**
GTA S **S** **12 29 08.0 +4.6**
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA LR LR
comp=Z,420nm,19.9s
GTA LR LR
comp=Z,420nm,21.5s
GTA LR LR
comp=Z,880nm,22.3s
GOMU GeErMu 44.84 323 P **P** **12 22 35.9 -0.4**
GOMU sP sP 12 22 54.6 +0.8
GOMU PcP **PcP** **12 24 18.2 +0.7**
GOMU S **S** **12 29 10.0 -0.9**
GOMU pmax pmax
comp=Z,5.0nm,0.9s
GOMU LR LR
comp=Z,160nm,17.4s
GOMU LR LR
comp=Z,110nm,17.5s
GOMU LR LR
comp=Z,380nm,18.0s
ODAN Odare 44.93 307 *e*P **P** **12 22 35.9 -1.0**
comp=Z,285nm,1.6s
RAMN Ramite 45.60 306 *e*P **P** **12 22 41.6 -0.7**
comp=Z,332nm,1.4s
DZM Mont Dzumac 45.70 124 *e*P **P** **12 22 40.7 -2.2**
comp=Z,74nm,1.3s
DZM *e*S S 12 29 14.2 -9.0
comp=Z,484nm,33.0s
DZM *e*LR LR 12 35 43.3
comp=Z,2µm,31.9s
DZM Mont Dzumac 45.70 124 P **P** **12 22 42.0 -0.9**
DZM IAmb IAmb 12 22 49.4
comp=Z,56nm,1.4s
DZM Mont Dzumac 45.70 124 P **P** **12 22 44.1 +1.2**
DZM Mont Dzumac 45.70 124 LR LR 12 42 52.0
comp=Z,408nm,21.5s,baz=290,slow=37
DZM Mont Dzumac 45.70 124 P **P** **12 22 43.5 +0.6**
LIFNC LIFOU 45.81 122 P **P** **12 22 40.9 -2.8**
PALK Pallekele 46.11 278 LR LR 12 45 01.9
comp=Z,260nm,19.6s,baz=208,slow=40
JIRN Jiri 46.24 307 *e*P **P** **12 22 46.4 -1.0**
comp=Z,392nm,1.4s
GUN Gumba 46.60 307 *e*P **P** **12 22 49.1 -1.1**
comp=Z,73nm,0.6s
YSS Yuzh-Sakhalins 46.67 15 P **P** **12 22 51.1 +1.1**
PKI Pulchoki 46.83 307 *e*P **P** **12 22 51.0 -1.0**
comp=Z,204nm,1.4s
PKIN Phulchoki 46.84 307 *e*P **P** **12 22 50.6 -1.4**
comp=Z,83nm,0.9s
KLR Kul'dur 47.01 5*c i*P **P** **12 22 52.9 +0.3**
KLR pmax pmax
comp=Z,41nm,1.1s
KLR Kul'dur 47.01 5 P **P** **12 22 52.5 -0.1**
comp=Z,14nm,0.4s,baz=189,slow=8.7,SNR=52
KLR LR LR 12 45 24.6
comp=Z,87nm,19.1s,baz=200,slow=40
comp=Z,14nm,0.4s
KKN Kakani 47.02 307 *e*P **P** **12 22 52.0 -1.4**
comp=Z,236nm,1.5s
DMN Daman 47.09 306 *e*P **P** **12 22 52.9 -1.0**
comp=Z,33nm,0.3s
HIA Hailar 47.23 354 P **P** **12 22 54.0 -0.4**
HIA IAmb IAmb 12 22 58.6
comp=Z,33nm,1.1s
HIA Hailar 47.23 354 P **P** **12 22 54.0 -0.4**
HIA pmax pmax
comp=Z,33nm,1.1s
GKN Gorkha 47.63 307 *e*P **P** **12 22 57.2 -0.8**
comp=Z,11nm,0.6s
HEH HeiHe 47.84 1 *e*P **P** **12 22 58.9 -0.1**
HEH PcP **PcP** **12 24 27.5 +0.3**
HEH S **S** **12 29 51.1 -1.5**
HEH pmax pmax
comp=Z,42nm,1.4s
HEH pmax pmax
comp=Z,310nm,5.0s
HEH LR LR
comp=Z,320nm,17.9s
HEH LR LR
comp=Z,220nm,17.1s
HEH LR LR
comp=Z,480nm,18.4s
KOLN Koldanda 48.37 306 *e*P **P** **12 23 02.8 -1.0**
comp=Z,597nm,1.6s
DANN Dangsing 48.48 307 *e*P **P** **12 23 03.4 -1.3**
comp=Z,129nm,1.0s
ULN Ulaanbaatar 48.52 342 P **P** **12 23 05.4 +0.8**
ULN IAmb IAmb 12 23 08.8
comp=Z,56nm,1.2s
ULN Ulaanbaatar 48.52 342*d i*P **P** **12 23 04.4 -0.2**
ULN pmax pmax
comp=Z,31nm,1.5s
ULN Ulaanbaatar 48.52 342 P **P** **12 23 05.3 +0.7**
SONM Songino Array 48.70 342 P **P** **12 23 05.8 -0.1**
SONM IAmb IAmb 12 23 07.5
comp=Z,31nm,1.4s
SONM Songino Array 48.70 342 P **P** **12 23 05.8 -0.1**
SONM pmax pmax
comp=Z,31nm,1.4s
SONM Songino Array 48.70 342 P **P** **12 23 05.4 -0.4**
comp=Z,6.0nm,0.5s,baz=159,slow=8.8,SNR=51
SONM LR LR 12 46 04.6
comp=Z,227nm,21.9s,baz=166,slow=39
comp=Z,6.0nm,0.5s
PYUN Piuthan 48.99 306 *e*P **P** **12 23 07.7 -0.9**
comp=Z,21nm,0.5s
GRNR Gornyy 49.04 8 *e*P **P** **12 23 07.5 -0.8**
HYB Hyderabad 49.62 291 *e*P **P** **12 23 15.1 +1.8**
TYV Tymovskoe 50.28 13 *e*P **P** **12 23 19.4 +1.7**
TYV eS **S** **12 30 32.5 +5.6**
TYV pmax pmax
comp=Z,10.0nm,1.1s
TYV pmax pmax
comp=Z,300nm,3.4s
TYV smax smax
comp=N,600nm,6.0s
TYV smax smax
comp=E,400nm,6.0s
CIT Chita 50.82 350 *e*P **P** **12 23 23.3 +1.5**
CIT *e* 12 23 31.4
CIT *e* 12 23 40.5
CIT pmax pmax
comp=Z,146nm,1.5s
ZEA Zeya 51.33 0 *e*P **P** **12 23 25.4 -0.1**
ZEA pmax pmax
comp=Z,20nm,0.7s
ZAK Zakamensk 51.92 341 *e*P **P** **12 23 28.7 -1.5**
ZAK pmax pmax
comp=Z,13nm,1.6s
IRK Irkutsk 53.23 343 *e*P **P** **12 23 39.5 -0.3**
IRK pmax pmax
comp=Z,98nm,2.0s
FUNA Funafuti 53.40 102 P **P** **12 23 40.8 -0.8**
MOY Mondy 53.77 340 *e*P **P** **12 23 44.3 +0.5**
MOY pmax pmax
comp=Z,84nm,1.7s
WMQ Urumqi 53.93 326 *e*P **P** **12 23 44.2 -0.9**
WMQ pmax pmax
comp=Z,28nm,1.5s
WMQ LR LR
comp=Z,230nm,15.7s
WMQ LR LR
comp=Z,410nm,16.9s
WMQ LR LR
comp=Z,560nm,27.3s
DGTI Dogotuki 55.50 111 P **P** **12 23 57.1 +0.3**
BOD Bodaibo 56.32 352 *e*P **P** **12 24 02.1 +0.1**
BOD pmax pmax
comp=Z,33nm,1.5s
PEA0B Petropavlovsk- 56.80 22 P **P** **12 24 06.2 +0.7**
PEA0B Petropavlovsk- 56.80 22 P **P** **12 24 06.2 +0.7**
PEA0B pmax pmax
comp=Z,132nm,1.7s
PETK Petropavlovsk- 56.80 22 P **P** **12 24 05.9 +0.4**
comp=Z,8.3nm,0.6s,baz=180,slow=3.6,SNR=40
PETK LR LR 12 48 50.6
comp=Z,36nm,19.9s,baz=199,slow=36
comp=Z,8.3nm,0.6s
ZSN Zaisan 57.74 328 *e*P **P** **12 24 11.9 -0.4**
baz=328
ZSN *e*S **S** **12 32 08.9 +1.0**
baz=328
ZSN Zaisan 57.74 328 *e*P **P** **12 24 11.9 -0.4**
ZSN *e*S **S** **12 32 08.8 +1.0**
DGZ Jazzator, Alta 57.88 331*d i*P **P** **12 24 12.8 -0.5**
DGZ pmax pmax
comp=Z,14nm,1.3s
SHLS Shalkode 58.48 321 *e*P **P** **12 24 15.1 -2.5**
comp=Z,16nm,1.1s,baz=321
SHLS Shalkode 58.48 321 *e*P **P** **12 24 15.1 -2.5**
SHLS pmax pmax
comp=Z,16nm,1.1s
UZB Uzynbulak 58.75 321 *e*P **P** **12 24 19.1 -0.5**
baz=321
UZB Uzynbulak 58.75 321 *e*P **P** **12 24 19.1 -0.5**
MK31 Makanchi Array 58.77 326 P **P** **12 24 18.3 -1.1**
MK31 IAmb IAmb 12 24 23.6
comp=Z,28nm,1.4s
MK31 Makanchi Array 58.77 326*d i*P **P** **12 24 18.4 -1.0**
MKAR Makanchi Array 58.77 326 P **P** **12 24 18.6 -0.9**
comp=Z,9.1nm,0.4s,baz=120,slow=7.8,SNR=119
MKAR ScP **ScP** **12 29 05.5 -0.1**
comp=Z,2.6nm,0.9s,baz=123,slow=6.0,SNR=4.9
MKAR LR LR 12 51 32.7
comp=Z,293nm,18.4s,baz=126,slow=38
comp=Z,9.1nm,0.4s
NIL Nilore 58.83 308 P **P** **12 24 20.8 +0.7**
NIL Nilore 58.83 308 P **P** **12 24 20.8 +0.7**
NIL pmax pmax
comp=Z,83nm,1.5s
TARG Taragay, Kyrgy 58.85 319 P **P** **12 24 20.0 -0.6**
TARG IAmb IAmb 12 24 31.0
comp=Z,21nm,1.1s
TARG Taragay, Kyrgy 58.85 319 P **P** **12 24 20.0 -0.6**
TARG pmax pmax
comp=Z,21nm,1.1s
MAKZ Makanchi 58.95 326 P **P** **12 24 20.7 0.0**
MAKZ IAmb IAmb 12 24 24.2
comp=Z,41nm,1.2s
MAKZ Makanchi 58.95 326 P **P** **12 24 20.7 0.0**
MAKZ pmax pmax
comp=Z,41nm,1.2s
MAKZ Makanchi 58.95 326 P **P** **12 24 19.9 -0.8**
MAKZ PcP **PcP** **12 25 10.1 +0.6**
KSH Kashi 59.09 316 P **P** **12 24 22.4 +0.5**
KSH pP pP 12 24 34.7 +0.1
KSH pmax pmax
comp=Z,21nm,1.3s
KSH LR LR
comp=Z,500nm,23.5s
KSH LR LR
comp=Z,360nm,23.2s
KSH LR LR
comp=Z,560nm,21.1s
SATY Saty 59.10 320 *e*P **P** **12 24 20.3 -1.7**
comp=Z,12nm,0.9s,baz=320
SATY Saty 59.10 320 *e*P **P** **12 24 20.2 -1.7**
SATY pmax pmax
comp=Z,12nm,0.9s
KPKS Kokpek 59.13 321 *i*P **P** **12 24 21.3 -0.8**
comp=Z,13nm,1.1s,baz=321
KPKS *e*S **S** **12 32 26.7 +0.4**
baz=321
KPKS Kokpek 59.13 321 *i*P **P** **12 24 21.3 -0.8**
KPKS *e*S **S** **12 32 26.6 +0.4**
KPKS pmax pmax
comp=Z,13nm,1.1s
ZHN Zhinishke 59.13 320 *e*P **P** **12 24 21.0 -1.3**
baz=321
ZHN Zhinishke 59.13 320 *e*P **P** **12 24 20.9 -1.3**
YAK Yakutsk 59.68 2 P **P** **12 24 25.8 +0.3**
YAK Yakutsk 59.68 2 *e*P **P** **12 24 25.6 +0.2**
YAK *e**PP **sP** **12 24 41.7 -1.5**
YAK *e* 12 26 36.6
YAK *e*S **S** **12 32 31.7 -0.8**
YAK *e* 12 34 08.7
YAK pmax pmax
comp=Z,77nm,0.7s
YAK pmax pmax
comp=N,19nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.8s
YAK pmax pmax
comp=Z,41nm,1.7s
YAK pmax pmax
comp=N,34nm,1.8s
YAK pmax pmax
comp=E,20nm,2.0s
YAK smax smax
comp=E,190nm,2.8s
YAK smax smax
comp=N,78nm,1.8s
YAK Yakutsk 59.68 2 P **P** **12 24 25.7 +0.3**
YAK pP **pP** **12 24 37.2 -0.8**
YAK sP **pwP** **12 24 41.2 +0.5**
QRZ Quartz Range 59.79 141 P **P** **12 24 26.7 +0.1**
NRN Naryn 59.91 318 P **P** **12 24 26.9 -0.9**
NRN Naryn 59.91 318 P **P** **12 24 26.9 -0.9**
NRN pmax pmax
comp=Z,10.0nm,0.9s
MDOK Medeo 60.02 320 *e*P **P** **12 24 27.7 -0.6**
baz=320
MDOK Medeo 60.02 320 *e*P **P** **12 24 27.7 -0.6**
TNSS Tian-Shan 60.02 320 *e*P **P** **12 24 28.1 -0.6**
baz=320
TNSS Tian-Shan 60.02 320 *e*P **P** **12 24 28.0 -0.6**
TDK Taldyqorghan 60.07 322 *e*P **P** **12 24 27.7 -0.8**
comp=Z,12nm,0.9s,baz=322
TDK Taldyqorghan 60.07 322 *e*P **P** **12 24 27.7 -0.8**
TDK pmax pmax
comp=Z,12nm,0.9s
MA2 Magadan 60.14 14 P **P** **12 24 27.0 -1.6**
MA2 IAmb IAmb 12 24 31.5
comp=Z,28nm,0.8s
MA2 Magadan 60.14 14*ce*P **P** **12 24 29.7 +1.0**
MA2 pmax pmax
comp=Z,31nm,0.9s
MA2 Magadan 60.14 14 P **P** **12 24 29.6 +1.0**
MA2 PcP **PcP** **12 25 15.3 +1.4**
WHZ Wether Hill Ro 60.20 148 P **P** **12 24 28.4 -0.9**
WHZ IAmb IAmb 12 24 36.0
comp=Z,55nm,1.4s
CHKK Chushkaly 60.39 321 *e*P **P** **12 24 28.9 -1.8**
baz=321
CHKK Chushkaly 60.39 321 *e*P **P** **12 24 28.8 -1.8**
BOOM Boomskoye usch 60.43 319 P **P** **12 24 30.0 -1.2**
BOOM Boomskoye usch 60.43 319 P **P** **12 24 30.0 -1.2**
BOOM pmax pmax
comp=Z,23nm,1.3s
LBZ Lake Benmore 60.47 145 P **P** **12 24 30.0 -1.2**
THZ Tophouse 60.55 142 P **P** **12 24 30.1 -1.8**
THZ IAmb IAmb 12 24 33.5
comp=Z,22nm,0.8s
RPZ Rata Peaks 60.56 144 P **P** **12 24 30.7 -1.2**
RPZ IAmb IAmb 12 24 49.5
comp=Z,37nm,1.1s
RPZ Rata Peaks 60.56 144 P **P** **12 24 32.2 +0.4**
RPZ Rata Peaks 60.56 144 LR LR 12 53 01.8
comp=Z,228nm,18.3s,baz=314,slow=38
KZA Kyzart 60.70 318 P **P** **12 24 34.4 +1.1**
SNR=13
LTZ Lake Taylor 60.74 143 P **P** **12 24 32.0 -1.0**
LTZ IAmb IAmb 12 24 33.5
comp=Z,48nm,1.4s
KUU Kurty 60.82 320 *e*P **P** **12 24 33.0 -0.7**
baz=320
KUU Kurty 60.82 320 *e*P **P** **12 24 32.9 -0.7**
OXZ Oxford 60.91 144 P **P** **12 24 33.2 -1.0**
OXZ IAmb IAmb 12 24 36.4
comp=Z,18nm,0.7s
TUWZ Tuamarina 61.01 141 P **P** **12 24 33.7 -1.2**
TCW Tory Channel 61.10 141 P **P** **12 24 33.7 -1.9**
UCH Uchtor 61.26 318 P **P** **12 24 37.5 +0.3**
SNR=23
AAK Ala-Archa 61.45 318 P **P** **12 24 36.7 -1.4**
AAK Ala-Archa 61.45 318 P **P** **12 24 36.7 -1.4**
AAK pmax pmax
comp=Z,15nm,1.0s
AAK Ala-Archa 61.45 318 LR LR 12 54 60.0
comp=Z,226nm,19.9s,baz=92,slow=40
AAK Ala-Archa 61.45 318 P **P** **12 24 38.8 +0.7**
AAK pP **pP** **12 24 50.1 -0.6**
URZ Urewera 61.48 136 LR LR 12 52 50.1
comp=Z,424nm,18.3s,baz=34,slow=38
RTZ Ruatahuna 61.56 137 P **P** **12 24 36.8 -2.0**
RTZ IAmb IAmb 12 24 41.3
comp=Z,28nm,1.1s
SGDS Sogindy 61.72 319 *e*P **P** **12 24 38.7 -1.2**
baz=319
SGDS Sogindy 61.72 319 *e*P **P** **12 24 38.6 -1.2**
USP Ospenovka 61.72 319 P **P** **12 24 39.4 -0.4**
SNR=14
AML Almayashu 61.77 318 P **P** **12 24 40.3 -0.3**
SNR=22
ZAA0 Zalesovo Array 61.90 333 P **P** **12 24 39.2 -1.5**
ZAA0 IAmb IAmb 12 24 41.4
comp=Z,31nm,1.4s
ZALV Zalesovo Beam 61.90 333 P **P** **12 24 39.6 -1.0**
ZALV Zalesovo Beam 61.90 333 *i*P **P** **12 24 40.2 -0.5**
ZALV pmax pmax
comp=Z,5.0nm,0.4s
ZALV Zalesovo Beam 61.90 333 P **P** **12 24 39.5 -1.2**
comp=Z,4.6nm,0.4s,baz=114,slow=6.5,SNR=34
ZALV PKP2bc 12 53 57.0
comp=Z,2.9nm,0.9s,baz=321,slow=3.8,SNR=10.0
ZALV LR LR 12 54 44.3
comp=Z,106nm,19.4s,baz=126,slow=39
comp=Z,4.6nm,0.4s
EKS2 Erkin-Say 61.94 318 P **P** **12 24 41.5 +0.2**
SNR=12
KBL Kabul 62.42 308 P **P** **12 24 43.7 -1.1**
KBL IAmb IAmb 12 24 46.9
comp=Z,27nm,1.1s
KBL Kabul 62.42 308 P **P** **12 24 43.7 -1.1**
KBL pmax pmax
comp=Z,27nm,1.1s
BTLS Baital 62.81 321 *e*P **P** **12 24 46.1 -0.8**
baz=321
BTLS Baital 62.81 321 *e*P **P** **12 24 46.1 -0.8**
BTK Batken 62.94 314 P **P** **12 24 46.8 -1.2**
BTK IAmb IAmb 12 24 50.8
comp=Z,39nm,1.1s
BTK Batken 62.94 314 P **P** **12 24 46.8 -1.2**
BTK pmax pmax
comp=Z,39nm,1.1s
KURBB Kurchatov Arra 62.98 328 P **P** **12 24 47.0 -1.0**
comp=Z,14nm,0.4s,baz=129,slow=5.9,SNR=183
KURBB PKP2bc 12 53 54.1
comp=Z,1.0nm,1.1s,baz=305,slow=3.6,SNR=6.3
comp=Z,14nm,0.4s
KURK Kurchatov 62.98 328 P **P** **12 24 47.2 -0.8**
KURK IAmb IAmb 12 25 00.1
comp=Z,40nm,0.9s
KURK Kurchatov 62.98 328*d i*P **P** **12 24 47.1 -0.8**
KURK pmax pmax
comp=Z,45nm,1.0s
KURK Kurchatov 62.98 328 P **P** **12 24 47.2 -0.8**
KURK pP **pP** **12 24 59.2 -1.5**
SEY Seymchan 63.47 13⇓*i*P **P** **12 24 53.0 +2.0**
SEY pmax pmax
comp=Z,30nm,1.0s
DZA Taraz 63.67 318 *e*P **P** **12 24 52.1 -0.7**
comp=Z,9.2nm,0.8s,baz=318
DZA Taraz 63.67 318 *e*P **P** **12 24 52.1 -0.7**
DZA pmax pmax
comp=Z,9.0nm,0.8s
SHEM Shemya Is, Ala 63.75 30 LR LR 12 48 48.1
comp=Z,70nm,21.8s,baz=272,slow=32
KK31 Karatay Array 64.31 318 P **P** **12 24 55.9 -1.0**
KK31 IAmb IAmb 12 24 59.4
comp=Z,25nm,1.1s
KK31 Karatay Array 64.31 318 *i*P **P** **12 24 55.9 -1.0**
KKAR Karatay Array 64.31 318 P **P** **12 24 55.4 -1.5**
KKAR Karatay Array 64.31 318 P **P** **12 24 56.1 -0.8**
KKAR IAmb IAmb 12 24 59.4
comp=Z,25nm,1.1s
KKAR Karatay Array 64.31 318 P **P** **12 24 55.4 -1.5**
KKAR pmax pmax
comp=Z,25nm,1.1s
CHM Chimkent 64.63 316 *e*P **P** **12 24 57.7 -1.4**
baz=316
CHM Chimkent 64.63 316 *e*P **P** **12 24 57.6 -1.4**
BRZS Berezniki 65.89 325 *e*P **P** **12 25 06.4 -0.6**
comp=Z,10nm,1.1s,baz=325
BRZS Berezniki 65.89 325 *e*P **P** **12 25 06.4 -0.6**
BRZS pmax pmax
comp=Z,10.0nm,1.1s
HRA Herat 67.79 306 P **P** **12 25 18.8 -0.9**
HRA IAmb IAmb 12 25 22.0
comp=Z,36nm,1.4s
ADK Adak 68.19 34 P **P** **12 25 20.8 -0.8**
BVA0 Borovoye Array 68.55 327 P **P** **12 25 23.2 -0.6**
BVAR Borovoye Array 68.55 327 P **P** **12 25 23.0 -0.8**
comp=Z,6.5nm,0.4s,baz=122,slow=7.2,SNR=39
BVAR PKP2bc 12 53 39.9
comp=Z,0.4nm,0.5s,baz=294,slow=1.5,SNR=3.6
BVAR LR LR 12 58 41.2
comp=Z,83nm,18.8s,baz=115,slow=39
comp=Z,6.5nm,0.4s
BRVK Borovoye 68.62 327 P **P** **12 25 23.4 -0.9**
BRVK IAmb IAmb 12 25 30.0
comp=Z,24nm,0.9s
BRVK Borovoye 68.62 327*d i*P **P** **12 25 23.6 -0.7**
BRVK pmax pmax
comp=Z,51nm,1.5s
BRVK Borovoye 68.62 327 P **P** **12 25 23.8 -0.5**
WSAR Wadi Sarin 69.01 294 LR LR 13 01 13.0
comp=Z,56nm,18.2s,baz=76,slow=41
TIXI Tiksi 69.32 1 P **P** **12 25 28.0 -0.2**
TIXI IAmb IAmb 12 25 30.1
comp=Z,36nm,1.2s
TIXI Tiksi 69.32 1⇓*i*P **P** **12 25 27.4 -0.8**
TIXI Tiksi 69.32 1 LR LR 12 57 02.8
comp=Z,5.9nm,21.9s,baz=196,slow=37
CASY Casey 69.35 187 P **P** **12 25 27.4 -1.0**
CASY Casey 69.35 187 P **P** **12 25 29.5 +1.0**
ATKA Atka Island 69.72 34 P **P** **12 25 31.4 +0.4**
ATKA Atka Island 69.72 34 P **P** **12 25 31.0 0.0**
BILL Bilibino 70.98 15 P **P** **12 25 38.7 +0.3**
BILL Bilibino 70.98 15*i*P **P** **12 25 39.1 +0.6**
BILL Bilibino 70.98 15 P **P** **12 25 38.8 +0.3**
GEYT Alibeck 71.81 309 P **P** **12 25 44.0 -0.2**
GEYT IAmb IAmb 12 25 47.7
comp=Z,49nm,1.6s
GEYT Alibeck 71.81 309 P **P** **12 25 44.0 -0.2**
GEYT pmax pmax
comp=Z,49nm,1.6s
GEYT Alibeck 71.81 309 P **P** **12 25 43.6 -0.6**
comp=Z,11nm,0.9s,baz=99,slow=4.5,SNR=10
comp=Z,11nm,0.9s
GYA0B ALIBECK ARRAY 71.81 309 P **P** **12 25 44.0 -0.2**
NIKH Nikolski High 73.03 35 P **P** **12 25 51.8 +0.8**
NIKH Nikolski High 73.03 35 P **P** **12 25 50.5 -0.6**
baz=250
AB31 Akbulak array 73.29 321 *i*P **P** **12 25 52.2 -0.4**
ABKAR Akbulak array 73.29 321 P **P** **12 25 51.9 -0.7**
ABKAR IAmb IAmb 12 25 53.9
comp=Z,54nm,1.6s
ABKAR Akbulak array 73.29 321 P **P** **12 25 51.9 -0.7**
SPIA Saint Paul Isl 73.78 30 P **P** **12 25 55.6 +0.3**
baz=248
UNV Unalaska Valle 74.64 34 P **P** **12 26 02.0 +1.5**
UNV IAmb IAmb 12 26 10.7
comp=Z,52nm,1.1s
UNV Unalaska Valle 74.64 34 P **P** **12 26 00.5 +0.1**
UNV Unalaska Valle 74.64 34 P **P** **12 26 00.2 -0.2**
baz=252
AKTO Aktyubinsk 74.81 322 P **P** **12 26 01.2 -0.3**
AKTO Aktyubinsk 74.81 322 LR LR 13 01 55.5
comp=Z,214nm,21.9s,baz=122,slow=38
AKUT Akutan 75.14 34 P **P** **12 26 04.5 +1.2**
AKUT Akutan 75.14 34 P **P** **12 26 03.5 +0.2**
SVE Sverdlovsk 75.21 329*ce*P **P** **12 26 03.4 -0.3**
SVE pmax pmax
comp=Z,120nm,1.5s
RAR Rarotonga 75.48 112 LR LR 12 57 39.6
comp=Z,110nm,20.5s,baz=285,slow=34
GAMB Gambell 75.75 24 P **P** **12 26 06.1 -0.5**
baz=245
ARU Arti 76.18 328 P **P** **12 26 08.4 -0.8**
ARU Arti 76.18 328*d i*P **P** **12 26 08.2 -1.0**
ARU S **S** **12 35 51.2 +1.5**
ARU pmax pmax
comp=Z,79nm,1.3s
ARU Arti 76.18 328 LR LR 13 01 59.4

comp=Z,105nm,21.9s,baz=116,slow=38
FALS False Pass 76.67 34 P **P** **12 26 12.6 +0.6**
FALS False Pass 76.67 34 P **P** **12 26 12.5 +0.6**
FALS False Pass 76.67 34 P **P** **12 26 11.9 -0.1**
baz=254
M11K Mekoryuk 76.88 28 P **P** **12 26 13.0 0.0**
baz=251
K13K Kusilvak Mount 78.08 27 P **P** **12 26 21.6 +1.9**
K13K IAmb IAmb 12 26 22.6
comp=Z,20nm,0.8s
K13K Kusilvak Mount 78.08 27 P **P** **12 26 21.0 +1.2**
baz=252
M13K Dall Lake 78.23 28 P **P** **12 26 21.9 +1.3**
baz=253
SDPT Sand Point 78.43 34 P **P** **12 26 22.2 +0.4**
SDPT Sand Point 78.43 34 P **P** **12 26 22.1 +0.4**
baz=257
ANM Nome 78.62 24 P **P** **12 26 23.6 +0.9**
baz=251
L14K Kuka Creek 78.81 28 P **P** **12 26 25.5 +1.8**
L14K IAmb IAmb 12 26 27.2
comp=Z,30nm,0.8s
L14K Kuka Creek 78.81 28 P **P** **12 26 25.4 +1.7**
baz=254
CHNA Chernabura Isl 78.81 34 P **P** **12 26 24.2 +0.3**
baz=258
J14K Nanvaranak Lak 78.82 26 P **P** **12 26 24.2 +0.4**
baz=253
N14K Kuskokwak Cree 78.90 29 P **P** **12 26 25.3 +1.0**
baz=255
O14K Tigyukauivet M 78.94 30 P **P** **12 26 25.0 +0.4**
baz=256
M14K Bethel 78.99 28 P **P** **12 26 26.6 +1.9**
M14K IAmb IAmb 12 26 27.1
comp=Z,33nm,0.8s
M14K Bethel 78.99 28 P **P** **12 26 26.0 +1.3**
baz=255,SNR=6.9
S14K Fog Glacier 79.14 33 P **P** **12 26 26.6 +0.8**
baz=258
LKRN Lenkeran, Azer 79.19 309 P **P** **12 26 26.5 +0.2**
F15K North Star Dit 79.28 23 P **P** **12 26 27.4 +1.1**
baz=251
G15K Niukluk 79.30 24 P **P** **12 26 27.4 +1.0**
baz=252
L15K Ungalak Mounta 79.45 27 P **P** **12 26 28.1 +0.8**
baz=255
M15K Kasigluk River 79.58 29 P **P** **12 26 28.9 +0.9**
baz=256
K15K Wolf Creek Mou 79.59 27 P **P** **12 26 29.7 +1.6**
K15K IAmb IAmb 12 26 30.8
comp=Z,30nm,0.9s
K15K Wolf Creek Mou 79.59 27 P **P** **12 26 29.9 +1.8**
baz=255
N15K Kwethluk River 79.74 29 P **P** **12 26 30.2 +1.3**
baz=256
C16K Lisburne Hills 79.87 21 P **P** **12 26 30.8 +1.4**
baz=250
H16K Elim 79.93 24 P **P** **12 26 30.9 +1.1**
baz=254
G16K Koyuk River 80.09 24 P **P** **12 26 32.4 +1.7**
baz=253
J16K Anvik River 80.26 26 P **P** **12 26 33.8 +2.2**
J16K IAmb IAmb 12 26 34.6
comp=Z,25nm,0.8s
J16K Anvik River 80.26 26 P **P** **12 26 33.6 +2.0**
baz=255
I17K Unalakleet 80.38 25 P **P** **12 26 34.2 +2.0**
I17K Unalakleet 80.38 25 P **P** **12 26 34.2 +2.0**
baz=255
L16K Owhat River 80.39 28 P **P** **12 26 33.7 +1.3**
L16K Owhat River 80.39 28 P **P** **12 26 34.2 +1.8**
baz=257,SNR=9.3
N16K Nishlik Lake 80.45 29 P **P** **12 26 34.5 +1.7**
baz=258
R16K Pilot Point 80.46 32 P **P** **12 26 34.5 +1.7**
baz=259
M16K Timber Creek 80.48 28 P **P** **12 26 33.8 +0.9**
M16K Timber Creek 80.48 28 P **P** **12 26 34.8 +1.9**
baz=257
D17K Noatak River 80.50 21 P **P** **12 26 34.9 +2.1**
baz=252
P16K Nushagak River 80.53 30 P **P** **12 26 35.0 +1.9**
baz=258
O16K Kokwok River B 80.59 30 P **P** **12 26 34.5 +1.0**
O16K IAmb IAmb 12 27 35.3
comp=Z,36nm,1.4s
O16K Kokwok River B 80.59 30 P **P** **12 26 35.3 +1.8**
baz=258
SEKA Sheki 80.64 311 P **P** **12 26 33.8 -0.5**
RDOG Red Dog Mine 80.67 21 P **P** **12 26 35.4 +1.6**
RDOG IAmb IAmb 12 27 01.6
comp=Z,48nm,1.6s
RDOG Red Dog Mine 80.67 21 P **P** **12 26 35.4 +1.6**
baz=252
MNGR Mingechevir, A 80.69 311 P **P** **12 26 34.5 +0.1**
C17K DeLong Mountai 80.70 21 P **P** **12 26 35.5 +1.6**
baz=252
E17K Hotham Inlet 80.78 22 P **P** **12 26 35.8 +1.5**
baz=254
G17K Kiwalik Mounta 80.81 24 P **P** **12 26 35.8 +1.2**
baz=255
F17K Baldwin Pennin 80.82 23 P **P** **12 26 36.1 +1.5**
baz=254
H17K Granite Mounta 80.97 24 P **P** **12 26 36.9 +1.5**
baz=256
L17K Donlin 81.03 27 P **P** **12 26 37.3 +1.6**
baz=258
ZKTA Zakatala 81.11 312 P **P** **12 26 36.6 -0.1**
O17K Koliganek Bris 81.13 30 P **P** **12 26 37.9 +1.5**
baz=259
K17K Iditarod 81.15 27 P **P** **12 26 38.5 +2.0**
K17K IAmb IAmb 12 26 39.8
comp=Z,25nm,0.8s
K17K Iditarod 81.15 27 P **P** **12 26 38.1 +1.7**
baz=258
CHIR Chirikof Islan 81.22 34 P **P** **12 26 37.2 +0.3**
baz=261
N17K Nushagak Hills 81.22 29 P **P** **12 26 37.2 +0.4**
baz=259
GANJ Ganja 81.25 311 P **P** **12 26 37.6 +0.1**
M17K Holitna River 81.28 28 P **P** **12 26 38.9 +1.8**
baz=258
E18K Tukpahlearik C 81.33 22 P **P** **12 26 38.9 +1.6**
baz=255
B18K Kokolik River 81.44 20 P **P** **12 26 39.9 +2.1**
baz=253
C18K Utukok River 81.45 21 P **P** **12 26 39.5 +1.6**
C18K IAmb IAmb 12 26 40.2
comp=Z,102nm,1.9s
C18K Utukok River 81.45 21 P **P** **12 26 38.9 +1.0**
baz=254
Q17K Contact Creek 81.47 31 P **P** **12 26 37.7 -0.6**
baz=260
KIRV Kirov 81.48 329 ⇑ *i*P **P** **12 26 38.2 0.0**
KIRV Kirov 81.48 329 LR LR 13 06 16.7
comp=Z,132nm,20.5s,baz=100,slow=38
F18K Selawik 81.48 23 P **P** **12 26 38.4 +0.4**
baz=256
VOI Vohitsoka 81.49 248 P **P** **12 26 39.7 +0.4**
VOI Vohitsoka 81.49 248 P **P** **12 26 40.5 +1.2**
H18K Honhosa River 81.66 24 P **P** **12 26 37.6 -1.5**
H18K Honhosa River 81.66 24 P **P** **12 26 38.8 -0.3**
baz=257
G18K Tagagawik 81.71 24 P **P** **12 26 40.3 +1.0**
G18K IAmb IAmb 12 27 37.5
comp=Z,49nm,2.0s
G18K Tagagawik 81.71 24 P **P** **12 26 40.2 +0.8**
baz=257
NAX Nakhchivan 81.78 309 P **P** **12 26 40.4 0.0**
L18K Granite Mounta 81.78 27 P **P** **12 26 41.3 +1.5**
baz=259
N18K Kilae Creek 81.88 29 P **P** **12 26 41.6 +1.2**
baz=260
A19K Wainwright 81.92 19 P **P** **12 26 41.0 +0.7**
baz=254
VNDA Vanda 81.96 173 P **P** **12 26 40.6 +0.2**
VNDA Vanda 81.96 173 P **P** **12 26 40.7 +0.2**
VNDA pmax pmax
comp=Z,13nm,0.7s
VNDA Vanda 81.96 173 P **P** **12 26 40.0 -0.4**
comp=Z,11nm,0.6s,baz=315,slow=7.4,SNR=63
VNDA LR LR 13 02 02.0
comp=Z,166nm,21.6s,baz=338,slow=35
comp=Z,11nm,0.6s
Q18K Katmai Hardscr 81.99 31 P **P** **12 26 41.2 +0.1**
baz=261
P18K Big Mountain, 82.00 30 P **P** **12 26 41.5 +0.5**
baz=261
J18K Innoko River 82.01 26 P **P** **12 26 42.9 +1.9**
baz=259
M18K Stony River 82.06 28 P **P** **12 26 43.1 +1.9**
baz=260
O18K Koktuh Hills 82.08 30 P **P** **12 26 43.2 +1.8**
baz=261
R18K Karluk 82.12 32 P **P** **12 26 41.8 +0.2**
baz=262
C19K Lookout Ridge 82.13 20 P **P** **12 26 43.6 +2.1**
baz=255
GCSA Galena City Sc 82.19 25 P **P** **12 26 43.8 +2.0**
baz=259,SNR=10
TTA Tatalina 82.22 27 P **P** **12 26 42.6 +0.4**
TTA Tatalina 82.22 27 P **P** **12 26 43.4 +1.2**
TTA Tatalina 82.22 27 P **P** **12 26 44.0 +1.8**
baz=260,SNR=6.8
TTA Tatalina 82.22 27 P **P** **12 26 42.6 +0.4**
TTA pmax pmax
comp=Z,11nm,0.8s
F19K Shaleruckik Mo 82.26 23 P **P** **12 26 42.8 +0.7**
F19K Shaleruckik Mo 82.26 23 P **P** **12 26 43.7 +1.6**
baz=257
MAW Mawson 82.37 200 P **P** **12 26 42.3 -0.3**
baz=82,SNR=11
MAW Mawson 82.37 200 P **P** **12 26 43.3 +0.6**
MAW Mawson 82.37 200 P **P** **12 26 43.3 +0.6**
MAW pmax pmax
comp=Z,4.0nm,0.9s
MAW Mawson 82.37 200 P **P** **12 26 42.4 -0.3**
comp=Z,19nm,0.8s,baz=59,slow=5.8,SNR=15
comp=Z,19nm,0.8s
G19K Purcell Mounta 82.39 23 P **P** **12 26 43.8 +0.9**
G19K IAmb IAmb 12 26 47.0
comp=Z,24nm,0.8s
G19K Purcell Mounta 82.39 23 P **P** **12 26 44.8 +2.0**
baz=258
GNI Garni 82.42 310 *ce*P **P** **12 26 45.0 +1.2**
GNI pmax pmax
comp=Z,76nm,1.4s
GNI Garni 82.42 310 LR LR 13 09 04.8
comp=Z,18nm,19.5s,baz=87,slow=40
D19K Kuna River 82.50 21 P **P** **12 26 45.3 +1.8**
D19K Kuna River 82.50 21 P **P** **12 26 45.6 +2.1**
baz=257
H19K Roundabout Mou 82.52 24 P **P** **12 26 44.7 +1.2**
H19K Roundabout Mou 82.52 24 P **P** **12 26 45.9 +2.3**
baz=259
O19K Port Alsworth 82.57 30 P **P** **12 26 45.3 +1.4**
baz=262
J19K Poorman 82.59 26 P **P** **12 26 45.7 +1.8**
J19K IAmb IAmb 12 26 46.6
comp=Z,35nm,1.0s
J19K Poorman 82.59 26 P **P** **12 26 45.7 +1.8**
baz=260
N19K Bonanza Creek 82.59 29 P **P** **12 26 45.3 +1.2**
N19K Bonanza Creek 82.59 29 P **P** **12 26 46.0 +1.8**
baz=261
E19K Redstone River 82.60 22 P **P** **12 26 45.4 +1.5**
E19K IAmb IAmb 12 26 48.7
comp=Z,39nm,0.8s
E19K Redstone River 82.60 22 P **P** **12 26 46.0 +2.0**
baz=258
L19K White Mountain 82.62 28 P **P** **12 26 45.9 +1.7**
L19K IAmb IAmb 12 26 46.9
comp=Z,26nm,1.1s
L19K White Mountain 82.62 28 P **P** **12 26 45.6 +1.4**
baz=261
OHAK Old Harbor 82.70 33 P **P** **12 26 45.6 +1.0**
OHAK IAmb IAmb 12 27 16.6
comp=Z,76nm,1.6s
OHAK Old Harbor 82.70 33 P **P** **12 26 45.7 +1.0**
OHAK Old Harbor 82.70 33 P **P** **12 26 45.7 +1.0**
baz=263
Q19K Cape Douglas, 82.73 31 P **P** **12 26 44.0 -0.9**
baz=262
D20K Etivluk River 83.09 21 P **P** **12 26 48.7 +2.2**
baz=258
F20K Avaraart Lake 83.10 23 P **P** **12 26 48.0 +1.5**
F20K IAmb IAmb 12 26 49.4
comp=Z,30nm,1.1s
F20K Avaraart Lake 83.10 23 P **P** **12 26 48.7 +2.2**
baz=259
L20K Farewell, AK 83.12 27 P **P** **12 26 48.8 +2.0**
baz=262,SNR=7.0
KDAK Kodiak Island 83.14 32 P **P** **12 26 48.5 +1.5**
KDAK Kodiak Island 83.14 32 P **P** **12 26 47.6 +0.6**
baz=263
KDAK Kodiak Island 83.14 32 P **P** **12 26 48.5 +1.5**
KDAK pmax pmax
comp=Z,211nm,2.0s
KDAK Kodiak Island 83.14 32 LR LR 12 57 43.7
comp=Z,268nm,21.1s,baz=267,slow=31
E20K Nigu River 83.15 21 P **P** **12 26 49.1 +2.3**
baz=259
H20K Anotleneega Mo 83.16 24 P **P** **12 26 48.9 +2.0**
baz=260
K20K Telida 83.16 26 P **P** **12 26 48.7 +1.7**
K20K IAmb IAmb 12 26 49.8
comp=Z,24nm,0.9s
K20K Telida 83.16 26 P **P** **12 26 49.2 +2.2**
baz=261
B20K Meade River 83.17 20 P **P** **12 26 48.9 +2.1**
baz=258
ZEI Tsey 83.20 313 *e*P **P** **12 26 46.9 -1.0**
ZEI pmax pmax
comp=Z,63nm,1.4s
I20K Naaghedeneel 83.21 25 P **P** **12 26 48.9 +1.7**
I20K Naaghedeneel 83.21 25 P **P** **12 26 49.1 +2.0**
baz=261
J20K Nowinta River 83.25 26 P **P** **12 26 48.7 +1.3**
J20K IAmb IAmb 12 26 50.2
comp=Z,31nm,0.8s
J20K Nowinta River 83.25 26 P **P** **12 26 49.2 +1.8**
baz=261,SNR=20
RSO Redoubt South 83.38 29 P **P** **12 26 48.5 +0.1**
M20K Styx River 83.38 28 P **P** **12 26 50.3 +2.0**
baz=262
AKH Akhalkalaki 83.44 311 P **P** **12 26 50.1 +1.0**
AKH Akhalkalaki 83.44 311 P **P** **12 26 50.1 +1.0**
AKH pmax pmax
comp=Z,141nm,0.9s
ONI Oni 83.53 312 P **P** **12 26 48.9 -0.5**
ONI IAmb IAmb 12 27 09.2
comp=Z,30nm,1.1s
ONI Oni 83.53 312 P **P** **12 26 48.9 -0.5**
ONI pmax pmax
comp=Z,30nm,1.1s
A21K Barrow 83.62 18 P **P** **12 26 51.6 +2.4**
baz=258
GEVA Geas 83.64 308 P **P** **12 26 50.6 +0.4**
IMAR Indian Mountai 83.70 24 P **P** **12 26 50.6 +0.9**
KARS Kars 83.71 310 P **P** **12 26 51.0 +0.5**
KARS Kars 83.71 310 P **P** **12 26 51.0 +0.5**
KARS pmax pmax
comp=Z,309nm,1.2s
N20K Mount Spurr 83.74 29 P **P** **12 26 51.2 +1.1**
baz=263
PRGR Permogore 83.80 332 *e*P **P** **12 26 49.2 -1.0**
PRGR pmax pmax
comp=Z,28nm,0.8s
C21K Knifeblade Rid 83.82 21 P **P** **12 26 52.6 +2.3**
baz=260
G21K Allakaket 83.87 23 P **P** **12 26 51.3 +0.7**
G21K IAmb IAmb 12 26 53.6
comp=Z,23nm,0.9s
G21K Allakaket 83.87 23 P **P** **12 26 52.7 +2.1**
baz=261
GOF Gofitskoye 83.95 315 *ce*P **P** **12 26 52.1 +0.7**
PPLA Purkeypile 83.95 27 P **P** **12 26 52.4 +1.2**
baz=263
B21K Ikpikpuk River 83.96 20 P **P** **12 26 52.3 +1.4**
B21K Ikpikpuk River 83.96 20 P **P** **12 26 53.1 +2.2**
baz=260
KBZ Khabaz 83.99 314 *ce*P **P** **12 26 51.9 +0.3**
KBZ pmax pmax
comp=Z,47nm,1.5s
KBZ Khabaz 83.99 314 P **P** **12 26 51.2 -0.3**
comp=Z,15nm,0.9s,baz=88,slow=2.8,SNR=11
KBZ LR LR 13 10 39.5
comp=Z,72nm,18.4s,baz=72,slow=40
comp=Z,15nm,0.9s
F21K Alatna River 83.99 23 P **P** **12 26 52.3 +1.1**
F21K Alatna River 83.99 23 P **P** **12 26 52.7 +1.6**
baz=261
E21K Killik River 83.99 21 P **P** **12 26 52.9 +1.7**
baz=261
CHUM Lake Minchumin 84.01 26 P **P** **12 26 53.3 +2.0**
baz=263
H21K Melozitna Rive 84.03 24 P **P** **12 26 53.0 +1.5**
H21K IAmb IAmb 12 26 54.0
comp=Z,22nm,1.0s
H21K Melozitna Rive 84.03 24 P **P** **12 26 53.3 +1.9**
baz=262,SNR=19
CAST Castle Rocks 84.06 27 P **P** **12 26 52.1 +0.5**
CAST Castle Rocks 84.06 27 P **P** **12 26 53.5 +1.9**
baz=263,SNR=12
A22K Sinclair Lake 84.08 19 P **P** **12 26 53.7 +2.2**
baz=260
SIRT Sirnak 84.10 307 P **P** **12 26 53.2 +0.8**
NEUR Neytrino 84.11 313 *i*P **P** **12 26 53.5 +1.0**
NEUR pmax pmax
comp=Z,28nm,1.4s
SKT Skwentna 84.15 28 P **P** **12 26 51.8 -0.3**
SKT IAmb IAmb 12 26 53.8
comp=Z,26nm,0.9s
SKT Skwentna 84.15 28 P **P** **12 26 52.7 +0.7**
baz=264,SNR=9.8
KIV Kislovodsk 84.15 314 P **P** **12 26 52.9 +0.4**
KIV Kislovodsk 84.15 314 *e*P **P** **12 26 52.8 +0.2**
KIV *e* 12 37 12.5
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,84nm,20.0s
BRSE Bradley Lake S 84.31 30 P **P** **12 26 54.2 +1.3**
baz=265
I21K Tanana 84.31 25 P **P** **12 26 53.8 +1.0**
I21K IAmb IAmb 12 27 28.7
comp=Z,22nm,1.1s
I21K Tanana 84.31 25 P **P** **12 26 54.5 +1.7**
baz=263,SNR=6.6
GURO Guroymak-BITLI 84.45 308 P **P** **12 26 55.6 +1.3**
SUA Susitna One 84.47 29 P **P** **12 26 53.8 0.0**
SUA Susitna One 84.47 29 P **P** **12 26 54.7 +0.9**
baz=264,SNR=20
B22K Teshekpuk Lake 84.48 20 P **P** **12 26 54.8 +1.3**
B22K Teshekpuk Lake 84.48 20 P **P** **12 26 55.4 +1.8**
baz=261
D22K Ayikyak River 84.53 21 P **P** **12 26 55.9 +2.0**
D22K Ayikyak River 84.53 21 P **P** **12 26 55.9 +2.0**
baz=262
F22K John River 84.53 22 P **P** **12 26 55.9 +2.0**
baz=263,SNR=17
BPAW Bear Paw Mtn. 84.62 26 P **P** **12 26 55.2 +0.8**
BPAW Bear Paw Mtn. 84.62 26 P **P** **12 26 55.9 +1.5**
baz=264,SNR=5.9
H22K Ishtalitna Cre 84.65 24 P **P** **12 26 55.7 +1.2**
baz=264
PPT Papeete 84.67 108 LR LR 13 03 29.7
comp=Z,73nm,18.1s,baz=279,slow=35
PPT2 Papeete2 84.67 108 *e*P P 12 26 51.0 -4.7
comp=Z,68nm,28.5s
PPT2 Papeete2 84.67 108 *e*S S 12 37 30.7 +10
comp=Z,80nm,26.2s
PPT2 Papeete2 84.67 108 *e*LR LR 12 53 27.0
comp=Z,883nm,29.8s
PPT2 *e*LR LR 12 53 31.2
comp=Z,536nm,30.2s
G22K Bettles 84.72 23 P **P** **12 26 55.7 +0.9**
baz=263
E22K Anaktuvuk Pass 84.75 22 P **P** **12 26 56.3 +1.3**
E22K IAmb IAmb 12 26 58.1
comp=Z,32nm,0.8s
E22K Anaktuvuk Pass 84.75 22 P **P** **12 26 56.8 +1.8**
baz=263,SNR=29
CUT Chulitna 84.78 28 P **P** **12 26 57.0 +1.8**
baz=265
M22K Willow 84.79 28 P **P** **12 26 55.6 +0.4**
M22K Willow 84.79 28 P **P** **12 26 56.1 +0.9**
baz=265,SNR=11
MLY Manley 84.82 25 P **P** **12 26 56.5 +1.1**
MLY Manley 84.82 25 P **P** **12 26 56.9 +1.4**
baz=264,SNR=6.9
TRF Thorofare Moun 84.86 27 P **P** **12 26 55.6 -0.2**
TRF Thorofare Moun 84.86 27 P **P** **12 26 56.2 +0.3**
baz=265
O22K Cooper Landing 84.88 30 P **P** **12 26 56.1 +0.4**
O22K Cooper Landing 84.88 30 P **P** **12 26 56.7 +1.0**
baz=265
RC01 Rabbit Creek A 84.92 29 P **P** **12 26 55.9 -0.1**
RC01 Rabbit Creek A 84.92 29 P **P** **12 26 56.8 +0.8**
baz=265,SNR=8.3
SEW Seward 84.98 30 P **P** **12 26 56.9 +0.6**
baz=266
VRH Novokhopyorsk 85.12 321 *e*P **P** **12 26 56.9 -0.2**
VRH pmax pmax
comp=Z,74nm,0.7s
TBI Tubuai 85.21 114 *e*P **P** **12 26 57.8 -0.4**
comp=Z,286nm,30.5s
TBI Tubuai 85.21 114 *e*S **S** **12 37 25.7 +0.5**
comp=Z,532nm,29.0s
TBI Tubuai 85.21 114 *e*LR LR 12 53 49.3
comp=Z,3μm,31.0s
PMR Palmer 85.25 29 P **P** **12 26 57.8 +0.3**
PMR IAmb IAmb 12 27 00.1
comp=Z,32nm,1.0s
PMR Palmer 85.25 29 P **P** **12 26 58.3 +0.8**
baz=266,SNR=8.2
PMR Palmer 85.25 29 P **P** **12 26 57.8 +0.3**
PMR pmax pmax
comp=Z,32nm,1.0s
D23K Nanushuk River 85.25 21 P **P** **12 26 59.3 +1.8**
baz=264
COLD Coldfoot 85.26 23 P **P** **12 26 59.1 +1.6**
COLD IAmb IAmb 12 27 01.3
comp=Z,18nm,0.8s
COLD Coldfoot 85.26 23 P **P** **12 26 59.4 +1.9**
baz=264,SNR=20
G23K Bananza Creek 85.28 23 P **P** **12 26 59.2 +1.5**
baz=265
GHO Glory Hole Cre 85.36 28 P **P** **12 26 58.8 +0.5**
GHO IAmb IAmb 12 27 01.9
comp=Z,16nm,0.8s
C23K Itkillik River 85.37 20 P **P** **12 26 59.7 +1.6**
baz=264
I23K Minto, Yukon-K 85.41 25 P **P** **12 26 59.0 +0.7**
I23K IAmb IAmb 12 27 28.1
comp=Z,22nm,1.3s
I23K Minto, Yukon-K 85.41 25 P **P** **12 26 59.6 +1.3**
baz=265,SNR=5.2
MARD Mardin 85.42 307 P **P** **12 26 59.7 +0.6**
MCK McKinley 85.49 26 P **P** **12 26 58.8 +0.1**
baz=266
NEA2 Nenana 85.50 26 P **P** **12 26 59.7 +0.9**
NEA2 Nenana 85.50 26 P **P** **12 27 00.6 +1.8**
baz=266
RND Reindeer 85.50 27 P **P** **12 26 58.9 0.0**
RND Reindeer 85.50 27 P **P** **12 26 58.9 0.0**
RND pmax pmax
comp=Z,12nm,0.8s
E23K Chandalar 85.56 22 P **P** **12 27 01.1 +2.0**
baz=265,SNR=26
KNK Knik Glacier 85.56 29 P **P** **12 26 59.8 +0.6**
KNK Knik Glacier 85.56 29 P **P** **12 27 00.9 +1.7**
baz=266,SNR=8.1
PWL Port Wells 85.58 29 P **P** **12 27 00.1 +0.8**
baz=267
WAT1 Susitna Watana 85.60 27 P **P** **12 27 00.3 +0.9**
baz=266
TOLK Toolik Lake Re 85.62 21 P **P** **12 27 00.8 +1.4**
TOLK IAmb IAmb 12 27 02.6
comp=Z,14nm,0.8s
TOLK Toolik Lake Re 85.62 21 P **P** **12 27 01.5 +2.1**
baz=265,SNR=13
SML Sawmill 85.64 28 P **P** **12 27 00.1 +0.4**
SML Sawmill 85.64 28 P **P** **12 27 00.9 +1.3**
baz=267,SNR=7.5
MDM Murphy Dome 85.88 25 P **P** **12 27 00.9 +0.3**
MDM IAmb IAmb 12 27 17.4
comp=Z,46nm,2.0s
M23K Glacier View 85.93 28 P **P** **12 27 02.2 +1.2**
baz=267,SNR=6.0
D24K Happy Valley 85.94 21 P **P** **12 27 01.7 +0.8**
D24K IAmb IAmb 12 27 04.1
comp=Z,25nm,0.7s
D24K Happy Valley 85.94 21 P **P** **12 27 02.8 +1.9**
baz=266
WAT6 Susitna Watana 85.96 28 P **P** **12 27 02.9 +1.6**
baz=267,SNR=6.3
E24K Your Creek 85.98 22 P **P** **12 27 02.2 +1.0**
E24K Your Creek 85.98 22 P **P** **12 27 02.5 +1.3**

baz=266,SNR=7.1
P23K Montague Islan 86.00 30 P P 12 27 02.4 +1.0
baz=268
C24K Franklin Bluff 86.02 20 P P 12 27 02.5 +1.3
baz=266
COLA College 86.03 25 P P 12 27 01.6 +0.2
COLA College 86.03 25 P P 12 27 01.5 +0.2
baz=267
COLA College 86.03 25 P P 12 27 01.6 +0.2
COLA pmax pmax
comp=Z,7.0nm,0.8s
CCB Clear Creek Bu 86.04 25 P P 12 27 00.9 -0.6
H24K Noodor Dome 86.08 24 P P 12 27 02.6 +0.9
H24K IAmb IAmb 12 27 15.3
comp=Z,35nm,1.8s
H24K Noodor Dome 86.08 24 P P 12 27 03.1 +1.4
baz=267
SCM Sheep Creek Mo 86.12 28 P P 12 27 02.8 +0.8
SCM Sheep Creek Mo 86.12 28 P P 12 27 03.6 +1.6
baz=267
SCM Sheep Creek Mo 86.12 28 P P 12 27 02.8 +0.8
SCM pmax pmax
comp=Z,52nm,1.4s
DHY Denali Highway 86.15 27 P P 12 27 02.5 +0.2
baz=267
F24K Squaw Lake 86.17 23 P P 12 27 03.2 +1.1
F24K IAmb IAmb 12 27 07.5
comp=Z,12nm,0.8s
F24K Squaw Lake 86.17 23 P P 12 27 04.4 +2.3
baz=267
GLI Glacier Island 86.19 29 P P 12 27 03.4 +1.1
baz=268
POKR Poker Plat Res 86.22 25 P P 12 27 04.6 +2.2
POKR Poker Plat Res 86.22 25 P P 12 27 04.2 +1.8
baz=267
G24K Hadweenzic Riv 86.29 23 P P 12 27 04.1 +1.4
G24K IAmb IAmb 12 27 05.5
comp=Z,14nm,0.8s
G24K Hadweenzic Riv 86.29 23 P P 12 27 04.0 +1.4
baz=267
SOC Sochi 86.29 313 *e*P P 12 27 02.3 -0.8
SOC *e* 12 30 17.9
SOC *e*PPP PPP 12 32 15.4
SOC *e*S **SKSac** **12 37 25.1 -0.7**
SOC pmax pmax
comp=Z,50nm,1.2s
SOC MLR MLR
comp=Z,186nm,22.0s
HDA Harding Lake 86.40 26 P P 12 27 02.9 -0.4
HDA IAmb IAmb 12 27 04.3
comp=Z,12nm,0.8s
HDA Harding Lake 86.40 26 P P 12 27 03.2 0.0
baz=268,SNR=8.6
HDA P P 12 27 03.2 0.0
baz=268,SNR=8.6
IL31 86.44 25 P P 12 27 02.2 -1.1
ILAR Eielson Array 86.44 25 P P 12 27 02.6 -0.8
ILAR Eielson Array 86.44 25 P P 12 27 02.2 -1.2
comp=Z,2.4nm,0.8s,baz=259,slow=4.4,SNR=40
ILAR PP PP 12 30 23.7 -1.4
comp=Z,0.6nm,0.9s,baz=289,slow=6.9,SNR=4.0
ILAR PKKPbc **PKKPbc** **12 45 00.7 -2.3**
comp=Z,0.7nm,0.8s,baz=62,slow=1.6,SNR=6.2
comp=Z,2.4nm,0.8s
IL03 Eielson Array 86.46 25 P P 12 27 02.5 -1.1
Q23K Middleton Isla 86.52 31 P P 12 27 04.6 +0.7
baz=268
GOYR Goytkh 86.54 314 *i* P P 12 27 05.8 +1.4
GOYR pmax pmax
comp=Z,79nm,1.1s
VORD Divnogorie 86.64 321 *e*P P 12 27 04.9 +0.2
VORD pmax pmax
comp=Z,60nm,1.2s
M24K Tolsona, Glenn 86.67 28 P P 12 27 05.3 +0.6
baz=268
KLMR Klimovskoe 86.69 331 *e*P P 12 27 02.9 -1.8
KLMR AMP 12 27 08.5
comp=Z,85nm,1.3s
KLMR LR LR 13 02 04.7
KLMR Klimovskoe 86.69 331 *e*P P 12 27 02.9 -1.8
KLMR pmax pmax
comp=Z,85nm,1.3s
VORR Voronezh 86.70 321 *e*P P 12 27 05.8 +0.8
VORR pmax pmax
comp=Z,103nm,0.4s
VSR Storozhevoye 86.73 321 *e*P P 12 27 04.2 -0.9
VSR pmax pmax
comp=Z,70nm,1.4s
D25K Kavik River 86.82 21 P P 12 27 05.5 +0.2
D25K Kavik River 86.82 21 P P 12 27 06.1 +0.8
baz=268
G25K Bearman Lake 86.84 23 P P 12 27 06.4 +1.1
baz=268
DIV Divide 86.84 29 P P 12 27 06.6 +1.1
DIV IAmb IAmb 12 27 30.4
comp=Z,34nm,1.2s
LPSR Galich'ya Gora 86.89 322 *e*P P 12 27 06.0 +0.2
LPSR pmax pmax
comp=Z,80nm,1.3s
K24K Donnelly Dome 86.89 26 P P 12 27 06.2 +0.5
baz=269
PAX Paxson 87.02 27 P P 12 27 07.1 +0.7
baz=269
F25K Christian Rive 87.04 23 P P 12 27 07.1 +0.8
baz=269,SNR=8.1
E25K Arctic Village 87.08 22 P P 12 27 07.3 +0.7
E25K IAmb IAmb 12 27 09.5
comp=Z,19nm,0.9s
E25K Arctic Village 87.08 22 P P 12 27 08.1 +1.6
baz=269,SNR=17
J25K Salcha River, 87.09 26 P P 12 27 05.9 -0.8
J25K Salcha River, 87.09 26 P P 12 27 06.2 -0.5
baz=269
FYU Fort Yukon 87.18 24 P P 12 27 08.0 +1.1
FYU IAmb IAmb 12 27 20.1
comp=Z,31nm,1.5s
RIDG Independent Ri 87.31 26 P P 12 27 08.0 +0.2
RIDG IAmb IAmb 12 27 09.4
comp=Z,18nm,0.9s
RIDG Independent Ri 87.31 26 P P 12 27 08.2 +0.4
baz=270,SNR=6.6
ARPR Arapgir-MALATY 87.34 309 P P 12 27 09.3 +0.7
C26K Camden Bay 87.34 20 P P 12 27 09.1 +1.4
baz=269
BMRM Bremner River 87.41 29 P P 12 27 08.7 +0.4
baz=270
N25K Chitina, Valde 87.41 29 P P 12 27 08.7 +0.3
baz=270
BMAR Burnt Mountain 87.44 23 P P 12 27 09.5 +1.2
F26K Sheenjek River 87.61 22 P P 12 27 10.1 +1.0
baz=270
MOS Moscow 87.65 326 *e*P P 12 27 09.6 +0.2
MOS pmax pmax
comp=Z,82nm,1.3s
SCRK Sand Creek 87.69 26 P P 12 27 09.5 -0.1
baz=270
G26K Porcupine Rive 87.75 23 P P 12 27 09.9 +0.2
baz=270,SNR=8.9
MENT Mentasta 87.82 27 P P 12 27 11.2 +1.0
J26L Joseph Creek 87.87 26 P P 12 27 11.2 +0.7
baz=271
ANN Anapa 87.93 315 *e*P P 12 27 08.3 -2.7
ANN pmax pmax
comp=Z,154nm,1.4s
L26K Log Cabin Wild 87.99 27 P P 12 27 11.8 +0.8
L26K Log Cabin Wild 87.99 27 P P 12 27 11.9 +0.8
baz=271
I26K Coal Creek Min 88.03 25 P P 12 27 11.3 +0.2
I26K Coal Creek Min 88.03 25 P P 12 27 12.0 +0.9
baz=271
M26K Nabesna, AK 88.16 28 P P 12 27 12.8 +0.9
baz=271
OBN Obninsk 88.26 325 P P 12 27 13.7 +1.3
OBN Obninsk 88.26 325 *d* P P 12 27 13.8 +1.5
OBN *e*SP **pP** **12 27 23.0 -2.6**
OBN *i* S **SKSac** **12 37 36.7 -0.5**
OBN *i* 12 37 54.3
OBN *i* PS **PS** **12 39 03.8 +1.3**
OBN *e* 12 39 32.9
OBN SS **SS** **12 43 39.0 -4.3**
OBN pmax pmax
comp=Z,48nm,1.1s
OBN MLR MLR
comp=Z,210nm,26.0s
OBN Obninsk 88.26 325 LR LR 13 09 31.6
comp=Z,81nm,21.1s,baz=0.5,slow=38

GAZ Gaziantep 88.27 307 P P 12 27 14.0 +1.1
K27K Chicken 88.53 26 P P 12 27 14.3 +0.9
K27K IAmb IAmb 12 27 16.6
comp=Z,18nm,0.8s
K27K Chicken 88.53 26 P P 12 27 14.5 +1.0
baz=272
E27K Coleen River 88.56 22 P P 12 27 14.8 +1.2
baz=272,SNR=15
G27K Doyon Strip 88.60 23 P P 12 27 15.3 +1.5
baz=272
I27K Kandik River 88.67 25 P P 12 27 15.6 +1.4
baz=272
H27K Steamboat Moun 88.67 24 P P 12 27 15.4 +1.2
baz=272
L27K Beaver Creek, 88.68 27 P P 12 27 15.2 +1.0
L27K Beaver Creek, 88.68 27 P P 12 27 15.3 +1.1
baz=272
M27K Edge Creek, AK 88.68 28 P P 12 27 14.8 +0.4
baz=272
BCAR Beaver Creek A 88.70 27 P P 12 27 15.0 +0.6
D27M Malcolm River 88.74 21 P P 12 27 15.7 +1.2
D27M IAmb IAmb 12 27 16.6
comp=Z,12nm,0.8s
D27M Malcolm River 88.74 21 P P 12 27 15.9 +1.4
baz=273
KIBK Kibwezi 88.76 268 P P 12 27 15.5 -0.3
KIBK IAmb IAmb 12 27 19.8
comp=Z,48nm,1.8s
BARN Barnard Glacie 88.84 29 P P 12 27 14.6 -0.6
EGAK Eagle 88.90 25 P P 12 27 15.6 +0.4
EGAK Eagle 88.90 25 P P 12 27 16.0 +0.8
baz=273
CTG Chitna Glacier 89.00 29 P P 12 27 17.6 +1.7
baz=273
BVCY Beaver Creek 89.15 28 P P 12 27 18.0 +1.5
baz=273
APA Apatity 89.21 337 ||| *i* P P 12 27 24.4 +7.8
APA pmax pmax
comp=Z,6.0nm,1.1s
F28M Old Crow 89.25 22 P P 12 27 17.5 +0.7
F28M Old Crow 89.25 22 P P 12 27 17.5 +0.7
baz=274,SNR=7.1
E28M Babbage River 89.30 21 P P 12 27 17.6 +0.6
E28M IAmb IAmb 12 27 19.2
comp=Z,13nm,1.0s
E28M Babbage River 89.30 21 P P 12 27 18.2 +1.1
baz=274,SNR=18
I28M Miner Creek 89.37 25 P P 12 27 18.1 +0.6
I28M IAmb IAmb 12 27 19.6
comp=Z,14nm,0.7s
I28M Miner Creek 89.37 25 P P 12 27 18.4 +0.8
baz=274
KMBO Kilima Mbogo 89.51 269 P P 12 27 19.1 -0.4
KMBO Kilima Mbogo 89.51 269 P P 12 27 19.1 -0.4
KMBO pmax pmax
comp=Z,9.0nm,1.1s
KMBO Kilima Mbogo 89.51 269 P P 12 27 18.9 -0.6
comp=Z,3.5nm,0.9s,baz=98,slow=4.2,SNR=8.6
comp=Z,3.5nm,0.9s
D28M Stokes Point 89.53 21 P P 12 27 19.3 +1.3
baz=275,SNR=5.6
O28M Mount Upton 89.57 29 P P 12 27 19.3 +0.5
baz=274
PINM Pinnacle 89.59 30 P P 12 27 19.0 +0.4
baz=274
DAWY Dawson 89.71 26 P P 12 27 20.1 +1.0
DAWY Dawson 89.71 26 P P 12 27 20.1 +1.0
baz=274,SNR=10
YUK8 Steele Glacier 89.75 29 P P 12 27 20.9 +1.3
baz=274
MMAI Mount Meron Ar 89.89 303 P P 12 27 20.5 -0.2
comp=Z,1.8nm,0.4s,baz=91,slow=6.9,SNR=7.8
comp=Z,1.8nm,0.4s
E29M Blow River 89.92 22 P P 12 27 19.9 -0.1
E29M Blow River 89.92 22 P P 12 27 20.6 +0.7
baz=276
H29M Whitestone 89.95 24 P P 12 27 20.9 +0.8
H29M IAmb IAmb 12 30 23.9
comp=Z,31nm,1.9s
H29M Whitestone 89.95 24 P P 12 27 20.7 +0.6
baz=275
G29M Pine Creek 90.02 23 P P 12 27 20.6 +0.1
G29M IAmb IAmb 12 27 21.9
comp=Z,16nm,0.9s
G29M Pine Creek 90.02 23 P P 12 27 21.0 +0.6
baz=276
I29M Ogilvie Camp, 90.06 25 P P 12 27 21.4 +0.8
baz=275
M29M Somme Creek 90.27 28 P P 12 27 23.6 +1.8
M29M Somme Creek 90.27 28 P P 12 27 23.4 +1.6
baz=275
YUK4 Talbot Arm 90.28 29 P P 12 27 23.6 +1.6
baz=275
L29M L29M 90.35 27 P P 12 27 22.7 +0.5
L29M IAmb IAmb 12 27 25.2
comp=Z,18nm,0.8s
L29M L29M 90.35 27 P P 12 27 23.7 +1.6
baz=276
EIL Elat 90.44 300 LR LR 13 11 49.0
comp=Z,60nm,21.5s,baz=112,slow=38
K29M Barlow Dome 90.55 26 P P 12 27 24.0 +0.9
K29M Barlow Dome 90.55 26 P P 12 27 24.2 +1.0
baz=276
EPYK Eagle Plains 90.60 24 P P 12 27 23.8 +0.6
EPYK IAmb IAmb 12 27 55.8
comp=Z,16nm,1.2s
EPYK Eagle Plains 90.60 24 P P 12 27 23.7 +0.5
baz=277
G30M tAoh Zraii Nji 90.72 23 P P 12 27 23.6 -0.2
baz=277
F30M Barrier River 90.80 22 P P 12 27 24.8 +0.7
baz=278
I30M Mount Dempster 90.88 25 P P 12 27 25.0 +0.4
I30M Mount Dempster 90.88 25 P P 12 27 25.2 +0.6
baz=277
HYT Haines Junctio 90.88 29 P P 12 27 25.7 +1.0
baz=276
P29M Windy Craggy 90.89 30 P P 12 27 25.4 +0.7
baz=276
BRTR Keskin Array B 90.95 310 *i* P P 12 27 24.8 -0.8
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 90.95 310 P P 12 27 24.5 -1.1
comp=Z,4.1nm,0.9s,baz=120,slow=4.1,SNR=11
BRTR LR LR 13 15 29.9
comp=Z,48nm,19.8s,baz=85,slow=40
comp=Z,4.1nm,0.9s
J30M Hart River 90.98 25 P P 12 27 25.9 +0.8
baz=277
N30M Aishikik Lake 91.01 29 P P 12 27 26.5 +1.3
baz=276
M30M Minto, Yukon 91.02 27 P P 12 27 26.6 +1.4
M30M IAmb IAmb 12 27 27.7
comp=Z,9.9nm,0.8s
M30M Minto, Yukon 91.02 27 P P 12 27 26.4 +1.2
baz=277
MAYO Mayo, Yukon 91.30 26 P P 12 27 28.0 +1.6
MAYO Mayo, Yukon 91.30 26 P P 12 27 27.4 +0.9
baz=278
G31M Satah River 91.49 23 P P 12 27 27.3 +0.1
G31M IAmb IAmb 12 27 27.9
comp=Z,9.8nm,0.9s
G31M Satah River 91.49 23 P P 12 27 27.5 +0.3
baz=279
INK Inuvik 91.54 22 P P 12 27 27.7 +0.3
baz=280
INK Inuvik 91.54 22 LR LR 13 08 10.0
comp=Z,32nm,21.9s,baz=284,slow=35
F31M Tsiigehtchic 91.61 22 P P 12 27 27.8 +0.1
F31M IAmb IAmb 12 27 28.4
comp=Z,11nm,0.8s
F31M Tsiigehtchic 91.61 22 P P 12 27 27.8 +0.1
baz=280
N31M Braeburn, Yuko 91.63 28 P P 12 27 28.5 +0.4
baz=278
H31M Peel River 91.64 24 P P 12 27 28.8 +0.8
baz=279
ARCES ARCESS Array B 91.83 340 P P 12 27 27.9 -0.9
comp=Z,4.7nm,0.7s,baz=79,slow=6.3,SNR=13
ARCES LR LR 13 12 14.8
comp=Z,69nm,21.4s,baz=82,slow=38
comp=Z,4.7nm,0.7s
SPITS Spitsbergen Ar 91.92 349 P P 12 27 28.7 -0.4
comp=Z,20nm,1.0s,baz=54,slow=5.7,SNR=4.2
SPITS LR LR 13 15 50.1
comp=Z,117nm,18.6s,baz=30,slow=40
comp=Z,20nm,1.0s

QSPA South Pole Qui 92.16 180 P P 12 27 31.3 +0.8
QSPA IAmb IAmb 12 27 31.4
comp=Z,30nm,1.8s
QSPA South Pole Qui 92.16 180 P P 12 27 30.2 -0.3
comp=Z,2.8nm,0.7s,baz=336,slow=1.2,SNR=25
QSPA LR LR 13 11 06.3
comp=Z,72nm,19.5s,baz=359,slow=37
comp=Z,2.8nm,0.7s
M31M Drury Creek, Y 92.18 28 P P 12 27 31.4 +0.8
baz=279
WHY Whitehorse 92.18 29 P P 12 27 32.0 +1.3
baz=278
FARO Faro, Yukon 92.66 28 P P 12 27 34.0 +1.2
FARO Faro, Yukon 92.66 28 P P 12 27 33.9 +1.0
baz=280
N32M Quiet Lake 92.97 29 P P 12 27 35.3 +1.0
N32M Quiet Lake 92.97 29 P P 12 27 35.0 +0.8
baz=280
AKASG Malin Array Be 93.03 321 *i* P P 12 27 33.7 -1.0
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 93.03 321 P P 12 27 32.9 -1.8
comp=Z,0.7nm,0.4s,baz=73,slow=4.3,SNR=12
AKASG LR LR 13 14 11.4
comp=Z,74nm,20.1s,baz=36,slow=39
comp=Z,0.7nm,0.4s
AKBB Malin Array Si 93.03 321 *ce*P P 12 27 36.2 +1.5
AKBB pmax pmax
comp=Z,12nm,1.3s
FINES FINESS Array B 93.13 332 *i* P P 12 27 34.7 -0.2
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 93.13 332 P P 12 27 34.4 -0.5
comp=Z,2.8nm,0.5s,baz=78,slow=5.3,SNR=27
FINES LR LR 13 13 51.6
comp=Z,98nm,19.8s,baz=74,slow=38
comp=Z,2.8nm,0.5s
P33M Teslin, Yukon 93.26 29 P P 12 27 36.7 +1.0
baz=280
MNK Minsk 93.32 325 *i* P P 12 27 33.2 -2.8
comp=E,11nm,0.9s
MNK *i* P P 12 27 33.2 -2.8
comp=N,15nm,0.9s
MNK *i* P P 12 27 33.2 -2.8
comp=Z,7.0nm,0.9s,baz=82
MNK *i* PP PP 12 31 16.9 -3.2
MNK *i* PPP PPP 12 33 32.9
MNK *i* SKS SKSac 12 37 43.3 -23
MNK *i* S **SKSac** **12 38 04.3 -2.0**
MNK *i* PS **pS** **12 39 03.9 +6.8**
MNK *i* SS SS 12 44 36.4 -20
MNK *i* SSS SSS 12 48 59.1
MNK *i* LQ LQ 13 04 40.4
MNK *i* LR LR 13 08 02.1
MNK *i* LRM MLR 13 10 28.1
comp=E,45nm,20.3s
MNK *i* LRM MLR 13 10 28.1
comp=N,85nm,20.0s
MNK *i* LRM MLR 13 11 15.5
comp=Z,155nm,20.0s
MNK Minsk 93.32 325 *i* P P 12 27 33.1 -2.8
MNK *i* 12 31 16.8
MNK *i* S **SKSac** **12 38 04.3 -2.0**
MNK pmax pmax
comp=N,15nm,0.9s
MNK pmax pmax
comp=E,11nm,0.9s
MNK pmax pmax
comp=Z,7.0nm,0.9s
MNK MLR MLR
comp=E,45nm,20.0s
MNK MLR MLR
comp=N,85nm,20.0s
MNK MLR MLR
comp=Z,155nm,20.0s
A36M Sachs Harbour 93.40 17 P P 12 27 36.9 +1.0
baz=288
TAOE Nuku Hiva Isla 93.44 99 *e*LR LR 12 57 44.2
comp=Z,470nm,28.2s
NACGM Naroch 93.89 325 *e*P P 12 27 33.8 -4.8
comp=Z,22nm,0.9s,baz=81
WRAK Wrangell Islan 94.19 33 P P 12 27 41.0 +1.2
baz=280
R33M Jennings River 94.34 30 P P 12 27 41.3 +0.6
R33M IAmb IAmb 12 27 59.3
comp=Z,25nm,1.6s
R33M Jennings River 94.34 30 P P 12 27 41.9 +1.1
baz=282
S34M Telegraph Cree 94.55 32 P P 12 27 42.8 +1.3
baz=282
NOR Nord 94.56 355 *i* P P 12 27 40.7 -0.5
NOR IAmb IAmb 12 27 50.0
comp=Z,11nm,1.2s
C36M Paulatuk 94.61 20 P P 12 27 41.1 -0.4
C36M IAmb IAmb 12 27 42.8
comp=Z,17nm,0.9s
C36M Paulatuk 94.61 20 P P 12 27 42.1 +0.6
baz=289
DLBC Dease Lake 95.02 31 P P 12 27 44.9 +1.2
baz=282
DLBC Dease Lake 95.02 31 LR LR 13 04 56.2
comp=Z,312nm,20.8s,baz=290,slow=32
TGTN Hyland Airport 95.16 28 P P 12 27 45.1 +0.8
baz=284
WTLY Watson Lake, Y 95.25 29 P P 12 27 45.9 +1.1
baz=284
U35K Hyder 95.56 33 P P 12 27 47.0 +0.9
baz=282
MLR Muntele Rosu 95.95 316 LR LR 13 17 35.3
comp=Z,130nm,21.9s,baz=80,slow=40
BURAR Bucovina Array 96.09 318 P P 12 27 48.7 -0.3
BURAR IAmb IAmb 12 27 53.6
comp=Z,17nm,1.2s
BUR08 Bucovina Ar. S 96.10 318 P P 12 27 49.4 +0.4
BUR08 IAmb IAmb 12 27 53.4
comp=Z,23nm,1.3s
EUNU Eureka 96.15 5 P P 12 27 49.0 +0.4
EUNU IAmb IAmb 12 28 05.3
comp=Z,22nm,1.9s
LIRD Liard River Hi 96.75 29 P P 12 27 52.3 +0.7
baz=286
WRGLY Wrigley 96.82 25 P P 12 27 52.5 +0.8
baz=289
CRVS Cervenica-Dubn 98.30 320 *e*PDIFF Pdif 12 28 00.2 +1.4
CRVS Cervenica-Dubn 98.30 320 *e*P Pdif 12 28 00.3 +1.5
IDI Anoyia 98.35 306 LR LR 13 20 30.5
comp=Z,23nm,20.8s,baz=80,slow=40
DAG Danmarks Havn 98.72 352 *i* P P 12 27 58.0 -2.0
LSZ Lusaka 98.81 255 LR LR 13 09 47.7
comp=Z,102nm,21.5s,baz=116,slow=34
RES Resolute Bay 99.27 10 P Pdif 12 28 02.9 +0.4
RES IAmb IAmb 12 28 04.1
comp=Z,7.7nm,0.8s
RES Resolute Bay 99.27 10 P Pdif 12 28 02.9 +0.4
RES pmax pmax
comp=Z,8.0nm,0.8s
RES Resolute Bay 99.27 10 LR LR 13 22 41.5
comp=Z,22nm,18.1s,baz=328,slow=41
HFS Hagfors 99.32 332 LR LR 13 16 56.2
comp=Z,151nm,19.0s,baz=68,slow=38
NOA NORSAR Array B 100.10 334 P Pdif 12 28 04.5 -2.1
comp=Z,2.5nm,1.1s,baz=66,slow=4.5,SNR=3.8
NEEM North Greenlan 100.40 360 *i* P Pdif 12 28 08.4 +0.5
SOE Somerset East 100.60 237 Pdif Pdif 12 28 07.5 -2.0
YKA Yellowknife Ar 100.85 25 Pdif Pdif 12 28 09.3 -0.4
YKA Yellowknife Ar 100.85 25 *i* P Pdif 12 28 10.3 +0.5
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 100.85 25 P Pdif 12 28 10.1 +0.3
comp=Z,1.5nm,0.8s,baz=297,slow=4.9,SNR=20
YKA PKiKP **PKiKP** **12 32 35.7 +0.5**
comp=Z,0.8nm,0.7s,baz=298,slow=1.9,SNR=12
YKA PKKPbc **PKKPbc** **12 44 21.8 -3.2**
comp=Z,0.4nm,0.7s,baz=115,slow=2.3,SNR=6.7
CLL Collm 102.83 324 *e*Pdif Pdif 12 28 19.0 +0.2
CLL *e*SP SP 12 41 36.0 +0.9
CLL *e*PPS PPS 12 42 30.0
CLL Collm 102.83 324 *e*P Pdif 12 28 19.0 +0.2
SNAA Sanae 103.78 195 PKKPbc PKKPbc 12 44 13.6 -3.1
comp=Z,0.6nm,0.4s,baz=273,slow=5.0,SNR=5.9
NEW Newport 105.39 38 P PKiKP 12 32 44.1 +0.1
baz=292
NVAR Mina Array Bea 107.90 48 PKKPbc PKKPbc 12 44 03.7 +0.5
comp=Z,0.3nm,0.5s,baz=120,slow=5.3,SNR=3.5
SBC Santa Barbara 107.96 53 P PKiKP 12 32 48.6 -0.6
baz=286

SCZ2	**Santa Cruz Isl**	**108.14**	**53**	P	**PKiKP**	**12 32 49.0**	**-0.5**
	baz=286						
HLID	**Hailey**	**108.90**	**42**	P	**PKiKP**	**12 32 52.2**	**+1.3**
	baz=292						
IRM	**Iron Mountain**	**111.66**	**52**	P	**PKiKP**	**12 32 56.7**	**+0.5**
	baz=289						
PDAR	**Pinedale Array**	**112.47**	**42**	PKiKP	**PKiKP**	**12 32 58.5**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=107,slow=0.9,SNR=6.6						
PDAR				PKKPbc	**PKKPbc**	**12 43 46.6**	**-2.0**
	comp=Z,0.7nm,0.7s,baz=132,slow=4.0,SNR=6.6						
WUAZ	**Wupatki**	**114.10**	**49**	P	**PKiKP**	**12 33 02.0**	**+1.0**
	baz=292						
O20A	**White River Ci**	**114.51**	**44**	P	PKPdf	12 33 02.4	+0.7
	baz=296						
K22A	**Casper**	**114.51**	**41**	P	PKPdf	12 33 02.1	+0.5
	baz=298						
RSSD	**Black Hills**	**115.36**	**38**	P	**PKPdf**	**12 33 03.5**	**+0.3**
	baz=301						
RSSD	**Black Hills**	**115.36**	**38**	P	**PKPdf**	**12 33 03.4**	**+0.2**
	baz=301						
W18A	**Petrified Fore**	**115.49**	**49**	P	**PKPdf**	**12 33 04.1**	**+0.4**
	baz=293						
MVCO	**Mesa Verde**	**115.58**	**47**	P	**PKPdf**	**12 33 04.9**	**+1.1**
	baz=295						
TUC	**Tucson**	**115.72**	**52**	P	**PKPdf**	**12 33 04.6**	**+0.6**
	baz=291						
ULM	**Lac du Bonnet**	**116.26**	**29**	PKP	**PKiKP**	**12 33 04.0**	**-0.4**
	comp=Z,4.5nm,0.7s,baz=330,slow=1.1,SNR=8.0						
ISCO	**Idaho Springs**	**116.46**	**43**	P	**PKiKP**	**12 33 06.5**	**+0.9**
	baz=298						
S22A	**4UR Ranch, Cre**	**116.55**	**45**	P	**PKiKP**	**12 33 06.8**	**+0.9**
	baz=296						
Q24A	**Divide**	**117.17**	**44**	P	**PKiKP**	**12 33 08.1**	**+1.1**
	baz=298						
SDCO	**Great Sand Dun**	**117.49**	**45**	P	**PKiKP**	**12 33 08.7**	**+1.0**
	baz=297						
SDCO	**Great Sand Dun**	**117.49**	**45**	P	**PKiKP**	**12 33 08.8**	**+1.2**
	baz=297						
121A	**Cookes Peak, D**	**117.99**	**51**	P	**PKiKP**	**12 33 09.4**	**+0.8**
	baz=293						
ANMO	**Albuquerque**	**118.02**	**48**	P	**PKiKP**	**12 33 09.6**	**+1.0**
	baz=295						
ANMO	**Albuquerque**	**118.02**	**48**	P	**PKiKP**	**12 33 09.9**	**+1.3**
	baz=295						
T25A	**Trinidad**	**118.54**	**45**	P	**PKiKP**	**12 33 10.3**	**+0.7**
	baz=298						
ESDC	**Sonseca Array**	**118.55**	**318**	PP	**PP**	**12 34 30.5**	**+4.1**
	comp=Z,2.0nm,1.1s,baz=64,slow=6.9,SNR=6.1						
F33A	**5 Mile Ranch,**	**118.88**	**33**	P	**PKiKP**	**12 33 09.9**	**+0.3**
	baz=309						
ECSD	**EROS Data Cent**	**120.00**	**35**	PKPdf	**PKPdf**	**12 33 11.6**	**-0.3**
ECSD	**EROS Data Cent**	**120.00**	**35**	P	**PKiKP**	**12 33 12.4**	**+0.4**
	baz=308,SNR=7.2						
ECSD	**EROS Data Cent**	**120.00**	**35**	P	**PKPdf**	**12 33 11.7**	**-0.2**
	baz=308						
MNTX	**Cornudas Mount**	**120.19**	**51**	PKPdf	**PKiKP**	**12 33 13.0**	**+0.3**
MNTX	**Cornudas Mount**	**120.19**	**51**	P	**PKiKP**	**12 33 13.6**	**+0.9**
	baz=294						
F36A	**Milaca**	**120.34**	**32**		**PKPdf**	**12 33 12.0**	**-0.5**
F36A	**Milaca**	**120.34**	**32**	P	**PKPdf**	**12 33 11.6**	**-0.8**
	baz=312						
BGNE	**Belgrade**	**120.47**	**38**	PKPdf	**PKPdf**	**12 33 12.4**	**-0.5**
BGNE	**Belgrade**	**120.47**	**38**	P	**PKiKP**	**12 33 13.3**	**+0.3**
	baz=305						
425A	**Indio Mountain**	**120.87**	**52**	PKPdf	**PKPdf**	**12 33 14.2**	**+0.1**
CLN7	**Carlsbad 7**	**121.10**	**50**	PKPdf	**PKiKP**	**12 33 15.2**	**+0.6**
SPMN	**Marine on St.**	**121.15**	**32**	P	**PKiKP**	**12 33 14.7**	**+0.5**
	baz=312						
COI	**Coimbra**	**121.15**	**321**	PKPdf	**PKiKP**	**12 33 15.1**	**+0.8**
COI	**Coimbra**	**121.15**	**321**	PKIKP	**PKiKP**	**12 33 15.1**	**+0.8**
MSTX	**Muleshoe**	**121.19**	**48**	P	**PKiKP**	**12 33 15.3**	**+0.6**
	baz=297						
HTMS	**Hat Mesa**	**121.21**	**50**	PKPdf	**PKiKP**	**12 33 15.5**	**+0.7**
AMTX	**Amarillo**	**121.55**	**46**	P	**PKiKP**	**12 33 16.4**	**+1.0**
	baz=299						
I37A	**Lemond, Waseca**	**121.63**	**33**	PKPdf	**PKiKP**	**12 33 15.4**	**+0.3**
I37B	**Waseca**	**121.63**	**33**	P	**PKiKP**	**12 33 15.4**	**+0.2**
	baz=311						
R32A	**Long Quarter,**	**121.79**	**41**	P	**PKiKP**	**12 33 15.8**	**+0.1**
	baz=303						
SCHQ	**Schefferville**	**122.03**	**9**	PKPdf	**PKPdf**	**12 33 15.1**	**-0.4**
SCHQ	**Schefferville**	**122.03**	**9**	PKP	**PKPdf**	**12 33 15.2**	**-0.2**
	comp=Z,9.9nm,0.6s,baz=347,slow=1.6,SNR=23						
TXAR	**Lajitas Array**	**122.51**	**53**	PKP	**PKiKP**	**12 33 17.8**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=228,slow=1.6,SNR=20						
U32A	**Winter Ranch,**	**122.69**	**43**	P	**PKiKP**	**12 33 18.1**	**+0.6**
	baz=302						
KSU1	**Kansas State U**	**122.76**	**39**	PKPdf	**PKiKP**	**12 33 18.0**	**+0.4**
KSU1	**Kansas State U**	**122.76**	**39**	P	**PKiKP**	**12 33 17.9**	**+0.4**
	baz=305						
KSU1	**Kansas State U**	**122.76**	**39**	P	**PKiKP**	**12 33 18.1**	**+0.6**
	baz=305						
TOA0	**Torodi Ar. Sit**	**123.36**	**287**		**PKPdf**	**12 33 19.1**	**0.0**
TORD	**Torodi Ar. Bea**	**123.36**	**287**	PKP	**PKPdf**	**12 33 18.8**	**-0.2**
	comp=Z,3.0nm,0.6s,baz=75,slow=2.2,SNR=22						
TORD				PKKPbc	**PKKPab**	**12 43 10.6**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=291,slow=3.7,SNR=5.4						
WMOK	**Wichita Mounta**	**123.69**	**45**	P	**PKPdf**	**12 33 19.0**	**-0.2**
	baz=301						
JFWS	**Jewell Farm**	**124.07**	**32**	PKPdf	**PKPdf**	**12 33 19.1**	**-0.6**
JFWS	**Jewell Farm**	**124.07**	**32**	P	**PKPdf**	**12 33 19.3**	**-0.4**
	baz=314						
JFWS	**Jewell Farm**	**124.07**	**32**	PKIKP	**PKPdf**	**12 33 19.1**	**-0.6**
L40A	**Anamosa**	**124.12**	**34**		**PKPdf**	**12 33 19.4**	**-0.5**
L40A	**Anamosa**	**124.12**	**34**	P	**PKPdf**	**12 33 19.5**	**-0.3**
	baz=312						
P38A	**Dawn**	**124.36**	**37**	PKPdf	**PKiKP**	**12 33 20.8**	**+0.1**
P38A	**Dawn**	**124.36**	**37**	P	**PKPdf**	**12 33 19.6**	**-0.7**
	baz=309						
QUOK	**Quay**	**124.36**	**42**	PKPdf	**PKiKP**	**12 33 21.5**	**+0.7**
E46A	**Sault Ste Mari**	**124.40**	**26**	PKPdf	**PKiKP**	**12 33 21.3**	**+0.8**
E46A	**Sault Ste Mari**	**124.40**	**26**	P	**PKiKP**	**12 33 20.9**	**+0.4**
	baz=321						
WTFS	**Witchita Falls**	**124.42**	**46**	PKPdf	**PKiKP**	**12 33 21.5**	**+0.5**
W35A	**Tecumseh**	**124.80**	**43**	PKPdf	**PKiKP**	**12 33 21.8**	**+0.1**
DRIO	**Del Rio**	**124.87**	**51**	PKPdf	**PKiKP**	**12 33 22.1**	**+0.2**
JCT	**Junction City**	**125.03**	**50**	PKPdf	**PKiKP**	**12 33 23.0**	**+0.7**
JCT	**Junction City**	**125.03**	**50**	P	**PKiKP**	**12 33 22.5**	**+0.2**
	baz=298						
JCT	**Junction City**	**125.03**	**50**	P	**PKiKP**	**12 33 23.0**	**+0.7**
	baz=298						
JCT	**Junction City**	**125.03**	**50**	PKIKP	**PKiKP**	**12 33 23.0**	**+0.7**
FW03	**Perrin-Whitt E**	**125.07**	**46**	PKPdf	**PKiKP**	**12 33 22.4**	**+0.1**
BRDY	**Brady**	**125.25**	**49**	PKPdf	**PKiKP**	**12 33 23.0**	**+0.3**
S39A	**Bolivar**	**125.68**	**39**	PKPdf	**PKiKP**	**12 33 23.3**	**0.0**
S39A	**Bolivar**	**125.68**	**39**	P	**PKPdf**	**12 33 23.1**	**+0.2**
	baz=308						
U38A	**Gravette**	**125.75**	**41**	PKPdf	**PKiKP**	**12 33 23.6**	**0.0**
U38A	**Gravette**	**125.75**	**41**	P	**PKPdf**	**12 33 22.5**	**-0.7**
	baz=306						
R40A	**Maddies Statio**	**125.96**	**38**	PKPdf	**PKiKP**	**12 33 23.9**	**0.0**
R40A	**Maddies Statio**	**125.96**	**38**	P	**PKPdf**	**12 33 23.4**	**-0.1**
	baz=309						
HHAR	**Hobbs**	**126.13**	**41**	PKPdf	**PKiKP**	**12 33 24.3**	**0.0**
HDIL	**Hopedale**	**126.20**	**34**	P	**PKiKP**	**12 33 24.3**	**0.0**
	baz=313						
833A	**Chaparral WMA,**	**126.33**	**52**	P	**PKiKP**	**12 33 25.3**	**+0.4**
	baz=297						
J47A	**Sunmer**	**126.57**	**28**	PKPdf	**PKiKP**	**12 33 25.2**	**+0.2**
P43A	**Skaggs, Pawnee**	**126.70**	**35**	PKPdf	**PKiKP**	**12 33 25.8**	**+0.5**
CCM	**Cathedral Cave**	**126.73**	**37**	P	**PKiKP**	**12 33 25.6**	**+0.1**
	baz=310						
CCM	**Cathedral Cave**	**126.73**	**37**	P	**PKPdf**	**12 33 24.4**	**-0.6**
	baz=310						
U40A	**Yellville**	**126.79**	**40**	P	**PKPdf**	**12 33 25.4**	**+0.3**
	baz=307						
U40A				P	**PKPdf**	**12 33 25.4**	**+0.3**
	baz=307						
FVM	**French Village**	**127.27**	**37**	PKPdf	**PKiKP**	**12 33 27.0**	**+0.5**
FVM	**French Village**	**127.27**	**37**	PKIKP	**PKiKP**	**12 33 27.0**	**+0.5**
MIAR	**Mount Ida**	**127.39**	**42**	P	**PKiKP**	**12 33 27.5**	**+0.7**
	baz=306						
Q44A	**Meyer Farm, Va**	**127.48**	**35**	PKPdf	**PKPdf**	**12 33 25.0**	**-1.4**
L48A	**N Adams**	**127.74**	**29**	PKPdf	**PKiKP**	**12 33 27.3**	**-0.1**
L48A	**N Adams**	**127.74**	**29**	P	**PKPdf**	**12 33 26.7**	**-0.1**
	baz=319						
L48A				P	**PKPdf**	**12 33 26.7**	**-0.1**
	baz=319						
LCAR	**Lake Charles**	**128.04**	**39**	P	**PKiKP**	**12 33 28.0**	**-0.1**
	baz=309						
O48B	**Farmland**	**128.64**	**31**	P	**PKPdf**	**12 33 28.8**	**+0.3**
	baz=318						
O49A	**Covington**	**129.11**	**31**		**PKPdf**	**12 33 29.4**	**0.0**
P49A	**Miami Univ. Ec**	**129.40**	**31**	P	**PKPdf**	**12 33 30.2**	**+0.2**
	baz=318						
WCI	**Wyandotte Cave**	**129.49**	**34**	P	**PKPdf**	**12 33 30.5**	**+0.3**
	baz=315						
ACSO	**Alum Creek Sta**	**129.75**	**30**	PKPdf	**PKPdf**	**12 33 31.0**	**+0.3**
ACSO	**Alum Creek Sta**	**129.75**	**30**	P	**PKPdf**	**12 33 30.7**	**0.0**
	baz=320						
M53A	**WI Miller and**	**129.90**	**27**	P	**PKPdf**	**12 33 30.8**	**-0.1**
	baz=323						
WVT	**Waverly**	**130.05**	**37**	P	**PKPdf**	**12 33 30.8**	**-0.5**
	baz=312						
OXF	**Oxford**	**130.13**	**40**	P	**PKPdf**	**12 33 31.0**	**-0.5**
	baz=310						
O53A	**New Philadelph**	**130.59**	**28**	P	**PKPdf**	**12 33 32.7**	**+0.4**
	baz=322						
P52A	**Corning**	**130.63**	**29**	P	**PKPdf**	**12 33 32.8**	**+0.4**
	baz=321						
PLAL	**Pickwick Lake**	**130.66**	**38**	PKPdf	**PKPdf**	**12 33 32.1**	**-0.4**
M55A	**Ridgway**	**130.71**	**25**	PKPdf	**PKiKP**	**12 33 33.8**	**+0.4**
LBNH	**Lisbon**	**130.81**	**18**	P	**PKPdf**	**12 33 33.1**	**+0.5**
	baz=335						
DBIC	**Dimbokro**	**130.86**	**281**	PKP	**PKPdf**	**12 33 33.5**	**0.0**
	comp=Z,3.5nm,0.7s,baz=92,slow=2.4,SNR=4.2						
Q52A	**Bidwell**	**131.08**	**30**		**PKPdf**	**12 33 33.1**	**-0.1**
P53A	**Whipple**	**131.11**	**29**	PKPdf	**PKiKP**	**12 33 34.1**	**-0.1**
BINY	**Binghamton**	**131.22**	**22**	P	**PKiKP**	**12 33 34.2**	**-0.1**
	baz=329						
S51A	**Beattyville**	**131.39**	**32**	PKPdf	**PKPdf**	**12 33 34.3**	**+0.5**
SSPA	**Standing Stone**	**131.77**	**25**	PKPdf	**PKiKP**	**12 33 35.1**	**-0.4**
SSPA	**Standing Stone**	**131.77**	**25**	P	**PKPdf**	**12 33 34.9**	**+0.4**
	baz=326						
SSPA	**Standing Stone**	**131.77**	**25**	P	**PKPdf**	**12 33 34.8**	**+0.3**
	baz=326						
L61B	**Northampton**	**132.18**	**19**	P	**PKiKP**	**12 33 36.2**	**0.0**
	baz=333						
W50A	**Signal Mountai**	**132.18**	**36**	PKPdf	**PKPdf**	**12 33 36.0**	**+0.5**
TZTN	**Tazewell**	**132.22**	**33**	P	**PKiKP**	**12 33 36.2**	**-0.3**
	baz=317						
HRV	**Adam Dziewonsk**	**132.49**	**18**	P	**PKPdf**	**12 33 36.2**	**+0.5**
	baz=335						
LRAL	**Lakeview Retre**	**132.62**	**39**	P	**PKiKP**	**12 33 37.0**	**-0.4**
	baz=311						
V52A	**Sevierville**	**132.70**	**34**	PKPdf	**PKiKP**	**12 33 37.5**	**0.0**
V52A	**Sevierville**	**132.70**	**34**	P	**PKiKP**	**12 33 37.2**	**-0.3**
	baz=317						
TKL	**Tuckaleechee C**	**132.74**	**34**	PKPdf	**PKiKP**	**12 33 37.7**	**+0.1**
TKL	**Tuckaleechee C**	**132.74**	**34**	P	**PKiKP**	**12 33 37.1**	**-0.4**
	baz=316						
TKL	**Tuckaleechee C**	**132.74**	**34**	PKIKP	**PKiKP**	**12 33 37.7**	**+0.1**
MVL	**Millersville**	**132.95**	**24**	PKPdf	**PKiKP**	**12 33 37.7**	**-0.1**
PAL	**Palisades**	**133.03**	**21**	P	**PKPdf**	**12 33 37.4**	**+0.6**
	baz=331						
BLA	**Blacksburg**	**133.35**	**30**	P	**PKiKP**	**12 33 38.9**	**+0.1**
	baz=321						
KMSC	**Kings Mountain**	**134.46**	**33**	P	**PKiKP**	**12 33 41.0**	**-0.1**
	baz=319						
GOGA	**Godfrey**	**134.52**	**36**	P	**PKPdf**	**12 33 40.1**	**+0.2**
	baz=315						
PLCA	**Paso Flores**	**138.62**	**160**	PKhKP	PKPpre	12 33 38.5	
	comp=Z,1.6nm,0.9s,baz=200,slow=7.0,SNR=2.9						
PLCA				PKP	**PKPdf**	**12 33 48.5**	**+1.1**
	comp=Z,4.8nm,0.9s,baz=204,slow=2.2,SNR=9.8						
TRQA	**Tornquist**	**143.48**	**168**		PKPbc	12 33 53.9	+0.6
TRQA	**Tornquist**	**143.48**	**168**	PKIKP	PKPbc	12 33 53.9	+0.6
BO02	**Sierra Bellavi**	**143.75**	**155**		**PKPdf**	**12 33 56.0**	**-0.7**
BO01	**Tunca**	**143.96**	**155**	PKPdf	PKPbc	12 33 55.7	+0.9
LMEL	**Las Melosas**	**144.80**	**155**	PKPdf	**PKPdf**	**12 33 58.6**	**-0.1**
MT13	**San Alfonso**	**144.86**	**155**		**PKPab**	**12 33 57.7**	**-0.1**
MT02	**Curacav**	**144.90**	**153**		PKPbc	12 33 58.3	+0.5
MT05	**Renca**	**144.96**	**154**	PKPdf	**PKPdf**	**12 33 59.2**	**+0.4**
PEL	**Peldehue**	**145.20**	**154**	PKPbc	**PKPbc**	**12 33 58.3**	**-0.6**
PEL	**Peldehue**	**145.20**	**154**	PKIKP	**PKPbc**	**12 33 58.3**	**-0.6**
ACON	**Acoyapa**	**145.31**	**65**	PKPbc	**PKPdf**	**12 33 60.0**	**+0.1**
JTS	**Las Juntas de**	**146.10**	**68**	PKPbc	**PKPab**	**12 34 02.8**	**0.0**
JTS	**Las Juntas de**	**146.10**	**68**	PKPbc	**PKPbc**	**12 34 02.6**	**+0.4**
	comp=Z,23nm,0.8s,baz=272,slow=6.3,SNR=13						
CO03	**El Pedregal**	**147.13**	**152**	PKPbc	**PKPbc**	**12 34 05.4**	**+0.6**
RIMA	**Rio Macho**	**147.29**	**68**	PKPbc	**PKPbc**	**12 34 06.9**	**+1.0**
ZON	**Zonda**	**147.43**	**155**	PKPbc	**PKPbc**	**12 34 06.2**	**+0.6**
ZON	**Zonda**	**147.43**	**155**	PKP2	**PKPbc**	**12 34 06.2**	**+0.6**
CO05	**La Serena**	**147.63**	**150**	PKPbc	**PKPbc**	**12 34 06.8**	**+0.7**
GO04	**Tololo Observa**	**147.63**	**151**	PKPbc	**PKPbc**	**12 34 07.2**	**+0.8**
LCO	**Las Campanas**	**148.63**	**150**	PKPbc	**PKPbc**	**12 34 09.9**	**+0.8**
LCO	**Las Campanas**	**148.63**	**150**	PKP2	**PKPbc**	**12 34 09.9**	**+0.8**
AC04	**Llanos de Chal**	**149.09**	**148**	PKPbc	**PKiKP**	**12 34 10.9**	**-0.3**
PLTB	**Pedras Altas**	**150.64**	**179**	PKPbc	**PKiKP**	**12 34 14.9**	**+0.6**
ITQB	**Itaqui**	**152.54**	**174**	PKPbc	**PKiKP**	**12 34 19.1**	**+0.8**
MCRA	**Macar, Loja**	**153.29**	**95**	PKPbc	**PKPbc**	**12 34 20.3**	**+0.1**
ATAH	**Atahualpa**	**154.51**	**102**	PKP	**PKPdf**	**12 34 17.0**	**+2.1**
	comp=Z,5.0nm,0.9s,baz=302,slow=9.5,SNR=3.9						
ATAH				PKPbc	**PKiKP**	**12 34 25.6**	**+2.3**
	comp=Z,11nm,0.8s,baz=191,slow=2.4,SNR=9.0						
LVC	**Limon Verde**	**154.70**	**144**	PKPdf	**PKPdf**	**12 34 13.0**	**-1.8**
LVC				PKPbc	**PKiKP**	**12 34 24.6**	**+1.1**
LVC				PKPab	**PKPab**	**12 34 39.1**	**+0.9**
LVC	**Limon Verde**	**154.70**	**144**	PKP2	**PKPab**	**12 34 39.1**	**+0.9**
LVC						13 34 13.0	
LVC						13 34 24.6	
LVC	**Limon Verde**	**154.70**	**144**	PKPbc	**PKiKP**	**12 34 24.9**	**+1.5**
	comp=Z,6.0nm,0.7s,baz=327,slow=4.0,SNR=5.1						
CPUP	**Villa Florida**	**155.74**	**171**	PKPdf	**PKPdf**	**12 34 12.8**	**-2.9**
CPUP				PKPab	**PKPab**	**12 34 40.6**	**-1.4**
CPUP	**Villa Florida**	**155.74**	**171**	PKP2	**PKPab**	**12 34 40.6**	**-1.4**
CPUP						13 34 12.8	
CPUP	**Villa Florida**	**155.74**	**171**	PKP	**PKPdf**	**12 34 16.8**	**+1.1**
	comp=Z,4.2nm,1.0s,baz=163,slow=2.3,SNR=4.2						
CPUP				PKPab	sPKPbc	12 34 42.9	-0.7
	comp=Z,6.5nm,0.9s,baz=201,slow=5.0,SNR=5.5						
SDV	**Santo Domingo**	**159.47**	**57**	PKPdf	**PKPdf**	**12 34 19.8**	**-1.1**
SDV				PKPab	**PKPab**	**12 34 57.2**	**-1.6**
SDV	**Santo Domingo**	**159.47**	**57**	PKP	**PKPdf**	**12 34 20.9**	**0.0**
	comp=Z,9.6nm,0.9s,baz=297,slow=2.3,SNR=9.7						
SDV				PKPab	**PKPab**	**12 34 59.8**	**+0.9**
	comp=Z,9.5nm,0.7s,baz=319,slow=2.8,SNR=9.2						
LPAZ	**La Paz**	**159.79**	**135**	PKP	**PKPdf**	**12 34 22.4**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=259,slow=5.2,SNR=6.0						
SIV	**San Ignacio**	**164.33**	**151**	PKP	**PKPdf**	**12 34 26.8**	**+1.2**
	comp=Z,2.5nm,0.8s,baz=136,slow=2.8,SNR=9.9						
SIV				PKPab	**PKPab**	**12 35 19.9**	**+0.2**
	comp=Z,3.8nm,0.5s,baz=204,slow=4.2,SNR=12						
ETMB	**Extrema**	**165.11**	**121**	PKPdf	**PKPdf**	**12 34 23.6**	**-2.7**
ETMB				PKPab	**PKPab**	**12 35 23.1**	**-0.2**
PTLB	**Pontes e Lacer**	**165.66**	**157**	PKPdf	**PKPdf**	**12 34 24.2**	**-2.5**
PTLB				PKPab	**PKPab**	**12 35 25.0**	**-0.5**
BDFB	**Brasilia**	**165.71**	**201**	PKP	**PKPdf**	**12 34 27.8**	**+0.9**
	comp=Z,1.9nm,0.5s,baz=153,slow=6.8,SNR=3.7						
BDFB				PKPab	**PKPab**	**12 35 26.8**	**+1.0**
	comp=Z,4.0nm,0.8s,baz=170,slow=3.6,SNR=4.7						
VILB	**Vilhena**	**167.35**	**148**	PKPdf	**PKPdf**	**12 34 28.5**	**+0.4**
VILB				PKPab	**PKPab**	**12 35 31.3**	**-1.7**
SAML	**Samuel**	**168.11**	**124**	PKPdf	**PKPdf**	**12 34 25.3**	**-3.3**
SAML				PKPab	**PKPab**	**12 35 34.2**	**-2.4**
SAML	**Samuel**	**168.11**	**124**	PKP2	**PKPab**	**12 35 34.2**	**-2.4**
SAML						13 34 25.3	

IDC 05 12:18:41.8±907.0**, 52°.93N**×**5°.09E, h0km, Error ellipse: s-maj=392.0km s-min=133.6km az=113.0, The Netherlands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**6.81**	**123**	I	I	13 00 10.0	
	baz=310,slow=321,SNR=0.9						
I43RU	**DUBNA INFRASON**	**18.79**	**66**	I	I	14 10 22.1	
	baz=272,slow=320,SNR=1.9						
I31KZ	**AKTYUBINSK INF**	**32.32**	**73**	I	I	15 35 50.0	
	baz=294,slow=324,SNR=0.5						

JMA 05 12:20:43.3±0.3**, 39°N**±1°×**14°5E**±°**, h40km, MV3.5**/27**, FAR E OFF NORTH HONSHU, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.34**	**284**	P	Pn	12 21 20.7	+1.5
MIYJ	**Miyakonagasawa**	**2.39**	**296**	P	Pn	12 21 21.3	+1.4
JKMT	**Kesennumamotoy**	**2.45**	**277**	P	Pn	12 21 22.3	+1.6
JMK	**Ichinoseki**	**2.66**	**280**	*e*P	Pn	12 21 25.5	+1.9
JMK				*e*S	Sn	12 21 57.1	+2.4
JOM	**Ohasama**	**2.73**	**291**	P	Pn	12 21 26.7	+2.2
JANG	**Nango**	**3.00**	**308**	P	Pn	12 21 29.8	+1.5
JYK	**Kaneyama**	**3.33**	**278**	P	Pn	12 21 35.7	+2.9
JOTO	**OTAMA OYAMA**	**3.50**	**255**	S	Sn	12 22 18.0	+2.7
JCH	**Churui**	**4.17**	**347**	*e*P	Pn	12 21 42.9	-1.4
JCH				*e*S	Sn	12 22 28.7	-3.1
NEM2	**Nemuro 2**	**4.89**	**10**	*e*P	Pn	12 21 52.3	-2.0
NEM2				*e*S	Sn	12 22 41.4	-8.2
JRY	**Ryogami san**	**5.19**	**243**	*e*P	Pn	12 22 00.1	+1.6
JRY				*e*S	Sn	12 22 57.6	+0.5
JTKR	**Abashiri--Toko**	**5.44**	**355**	*e*P	Pn	12 22 00.1	-1.7
JTKR				*e*S	Sn	12 22 57.9	-5.2

IDC ***05*** *12:26:29.9±1.3, 10°.50S×153°.02E, h0km, mb3.6/7, mbtmp3.7/9, ML1.4/1, Error ellipse: s-maj=33.4km s-min=23.7km az=115.0*

ISC 05 12:26:31.3±1.1**, 10°.5S**±0°.1×**153°.1E**±0°.1**, h10km, n9,** σ1s**22**/10**, mb3.9**/6**, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.97**	**280**	Pn	**Pn**	**12 27 58.4**	**-1.4**
	0.6nm,0.3s,baz=100,slow=11,SNR=2.6						
PMG				Sn	**Sn**	**12 29 10.4**	**+2.2**
	baz=151,slow=20						
	8.0nm,0.8s						
CTA	**Charters Tower**	**11.58**	**214**	Pn	**Pn**	**12 29 17.2**	**+0.4**
	1.9nm,0.6s,baz=44,slow=14,SNR=6.9						
WRA	**Warramunga Arr**	**20.37**	**240**	P	**P**	**12 31 07.4**	**-1.0**
	1.2nm,0.9s,baz=62,slow=10,SNR=5.1						
	1.2nm,0.9s						
ASAR	**Alice Springs**	**22.50**	**232**	P	**P**	**12 31 30.2**	**-1.0**
	0.3nm,0.5s,baz=62,slow=9.4,SNR=6.9						
	0.3nm,0.5s						
STKA	**Stephens Creek**	**23.77**	**205**	P	**P**	**12 31 43.9**	**-0.2**
	1.2nm,0.7s,baz=49,slow=9.3,SNR=1.9						
	1.2nm,0.7s						
SONM	**Songino Array**	**71.32**	**329**	P	**P**	**12 37 51.0**	**-0.3**
	0.7nm,0.9s,baz=154,slow=7.7,SNR=1.6						
	0.7nm,0.9s						
QSPA	**South Pole Qui**	**79.48**	**180**	P	**P**	**12 38 38.8**	**+0.9**
	1.6nm,1.0s,baz=326,slow=1.9,SNR=2.6						
	1.6nm,1.0s						
ZALV	**Zalesovo Beam**	**86.06**	**327**	P	**P**	**12 39 11.8**	**-0.3**
	0.5nm,0.5s,baz=111,slow=7.9,SNR=1.5						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**87.31**	**22**	P	**P**	**12 39 18.8**	**+0.7**
	0.8nm,0.9s,baz=234,slow=5.3,SNR=3.6						
	0.8nm,0.9s						

IDC ***05*** *12:27:32.0±0.5, 2°.19N×126°.79E, h0km, mb4.3/21, mbtmp4.3/21, MS3.5/1, Error ellipse: s-maj=27.4km s-min=9.0km az=74.0*

NEIC ***05*** *12:27:38.6±2.3, 2°.28N±0°.08×126°.80E±0°.07, h35km±1km, mb4.7/63, Error ellipse: s-maj=16.7km s-min=5.2km az=220.0*

DJA ***05*** *12:27:40.4±0.5, 2°N±3°×12°7E±°, h36km±7km, M4.6/18, mB5.2/7, mb4.8/18, MLv4.5/13, Mw(mB)4.6/7*

ISC 05 12:27:37.9±0.3**, 2°.27N**±0°.04×**126°.79E**±0°.06**, h35km, n142,** σ1s**82**/138**, mb4.6**/57**, 1C, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.59**	**159**	Pn	**Pn**	**12 28 05.6**	**+2.0**
TNTI	**Ternate**	**1.59**	**159**	P	**Pn**	**12 28 05.6**	**+2.0**
TNTI	**Ternate**	**1.59**	**159**	P	**Pn**	**12 28 05.4**	**+1.8**
SGSI	**Sangihe**	**1.89**	**318**	P	**Pn**	**12 28 09.0**	**+1.3**
LBMI	**Labuha**	**2.97**	**166**	P	**Pn**	**12 28 25.6**	**+3.0**
KMSI	**Cibinong**	**3.27**	**239**	P	Pn	12 28 32.0	+5.2
GTOI	**Gorontalo**	**4.11**	**247**	P	**Pn**	**12 28 41.7**	**+3.4**
SANI	**Sanana**	**4.36**	**191**	P	**Pn**	**12 28 43.6**	**+1.9**
SANI	**Sanana**	**4.36**	**191**	P	**Pn**	**12 28 43.7**	**+2.0**
MRSI	**Marisa**	**5.17**	**250**	P	Pn	12 28 57.4	+4.6
	314nm,0.6s,3μm1.3nm						
LUWI	**Luwuk**	**5.19**	**231**	Pn	**Pn**	**12 28 56.0**	**+2.9**
LUWI	**Luwuk**	**5.19**	**231**	P	Pn	12 28 58.4	+5.3
	222nm,0.9s,2.2nm						
SWI	**Sorong**	**5.44**	**125**	P	**Pn**	**12 28 59.4**	**+2.8**
	39nm,0.8s,1μm0.1nm						
NLAI	**Namlea**	**5.48**	**177**	P	**Pn**	**12 29 00.9**	**+3.8**
	31nm,0.7s,6μm1.4nm						
TOLI2	**Tolitoli**	**6.12**	**259**	Pn	**Pn**	**12 29 07.7**	**+1.9**
TOLI2	**Tolitoli**	**6.12**	**259**	P	**Pn**	**12 29 08.1**	**+2.3**
FAKI	**Fak Fak**	**7.50**	**133**	Pn	Pn	12 29 30.4	+5.5
FAKI	**Fak Fak**	**7.50**	**133**	P	Pn	12 29 30.4	+5.5
TTSI	**Tana Toraja**	**8.74**	**233**	P	Pn	12 29 45.6	+3.7
	87nm,1.1s,1μm						
MYLDM	**Lahad Datu**	**8.77**	**290**	Pn	Pn	12 29 47.8	+5.6
BKSI	**Bulukumba**	**10.06**	**221**	P	Pn	12 30 04.8	+4.8
	22nm,0.7s						
KKM	**Kota Kinabalu**	**11.20**	**290**	Pn	Pn	12 30 20.9	+5.3
KKM	**Kota Kinabalu**	**11.20**	**290**	P	Pn	12 30 21.2	+5.6
EDFI	**Ende, Flores**	**12.07**	**205**	P	Pn	12 30 31.3	+3.7
	21nm,0.9s						
SOEI	**Soe**	**12.21**	**192**	Pn	**Pn**	**12 30 26.9**	**-2.6**
SOEI	**Soe**	**12.21**	**192**	P	**P**	**12 30 36.9**	**-4.6**
PLAI	**Plampang**	**14.22**	**219**	P	**P**	**12 31 02.6**	**-1.2**
	60nm,0.9s,664nm						
SBUM	**Sibu**	**14.56**	**271**	Pn	**Pn**	**12 31 00.8**	**-0.8**
TWSI	**Taliwang, Sumb**	**14.73**	**222**	P	**P**	**12 31 08.6**	**-0.9**
	135nm,0.9s,1μm						
MTN	**Manton Dam**	**15.62**	**164**		**Pn**	**12 31 15.1**	**-0.4**
KDU	**Kakadu**	**15.89**	**159**	P	**P**	**12 31 22.8**	**+0.4**
KSM	**Kuching**	**16.49**	**268**	Pn	**Pn**	**12 31 26.6**	**-0.1**
JAGI	**Jajag, Banyuwa**	**16.51**	**230**		**P**	**12 31 28.4**	**-0.9**
JAGI				IAmb	IAmb	12 31 35.1	
	comp=Z,77nm,1.3s						
KNRA	**Kununurra**	**17.93**	**174**	Pn	**Pn**	**12 31 41.8**	**-2.8**
GUMO	**Guam**	**21.12**	**57**	LR	LR	12 38 12.4	
	comp=Z,130nm,21.8s,baz=228,slow=30						
TWG	**Pinlang**	**21.17**	**345**	P	**P**	**12 32 17.9**	**-2.4**
TWG				IAmb	IAmb	12 32 26.4	
	comp=Z,64nm,1.3s						
YULB	**Yu-li**	**21.66**	**346**	P	**P**	**12 32 22.7**	**-2.9**
YULB				IAmb	IAmb	12 32 31.6	
	comp=Z,38nm,1.1s						
TPUB	**Ta-pu**	**21.75**	**345**	P	**P**	**12 32 24.9**	**-1.6**
SSLB	**Suanglung**	**22.13**	**346**	P	**P**	**12 32 29.8**	**-0.8**
SSLB				IAmb	IAmb	12 32 41.9	
	comp=Z,44nm,1.2s						
YHNB	**Yeheng**	**22.88**	**347**	P	**P**	**12 32 38.3**	**-0.3**
COEN	**Coen**	**22.88**	**135**	P	**P**	**12 32 37.1**	**-1.6**
MYKOM	**Kota Tinggi**	**22.93**	**269**	P	**P**	**12 32 38.6**	**-0.6**
WB0	**Warramunga Arr**	**23.13**	**162**	P	**P**	**12 32 40.3**	**-0.9**
WB0				IAmb	IAmb	12 32 49.3	
	comp=Z,16nm,0.8s						
WRAB	**Tennant Creek**	**23.28**	**162**	P	**P**	**12 32 41.7**	**-0.9**
WRAB				IAmb	IAmb	12 32 52.8	
	comp=Z,20nm,0.9s						
WRA	**Warramunga Arr**	**23.28**	**162**	P	**P**	**12 32 40.9**	**-1.8**
WRA	**Warramunga Arr**	**23.28**	**162**	P	**P**	**12 32 40.0**	**-2.6**
	comp=Z,4.5nm,0.4s,baz=338,slow=11,SNR=66						
WRA				PcP	**PcP**	**12 36 29.7**	**0.0**
	comp=Z,0.2nm,0.4s,baz=334,slow=2.2,SNR=1.4						
WRA				S	**S**	**12 36 49.8**	**-3.0**
	comp=Z,1.2nm,0.9s,baz=338,slow=17,SNR=3.0						
	comp=Z,4.5nm,0.4s						
WB2	**Warramunga Arr**	**23.29**	**162**	P	**P**	**12 32 41.0**	**-1.7**
WB2				IAmb	IAmb	12 32 52.9	
	comp=Z,24nm,0.9s						
WR0	**Warramunga Arr**	**23.36**	**161**	P	**P**	**12 32 42.7**	**-0.8**
MBWA	**Marble Bar**	**24.29**	**196**	P	**P**	**12 32 51.6**	**-0.6**
MBWA				IAmb	IAmb	12 33 19.2	
	comp=Z,14nm,0.9s						
PSA00	**Pilbara Seismi**	**24.65**	**196**	P	**P**	**12 32 54.0**	**-1.4**
PSA00				IAmb	IAmb	12 33 04.3	
	comp=Z,25nm,1.3s						
AS31	**Alice Springs**	**26.69**	**165**	P	**P**	**12 33 13.9**	**-0.1**
ASAR	**Alice Springs**	**26.69**	**165**	P	**P**	**12 33 12.9**	**-1.0**
ASAR	**Alice Springs**	**26.69**	**165**	P	**P**	**12 33 11.2**	**-2.8**
	comp=Z,1.3nm,0.5s,baz=346,slow=6.9,SNR=22						
ASAR				PcP	**PcP**	**12 36 36.8**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=343,slow=2.4,SNR=2.9						
ASAR				S	**S**	**12 37 54.3**	**+7.1**
	comp=Z,0.9nm,0.7s,baz=335,slow=17,SNR=5.0						
	comp=Z,1.3nm,0.5s						
CTA	**Charters Tower**	**29.30**	**140**	P	**P**	**12 33 36.8**	**-0.5**
	comp=Z,7.3nm,1.1s,baz=337,slow=6.2,SNR=2.8						
	comp=Z,7.3nm,1.1s						
NJ2	**Nanjing**	**30.56**	**347**	*e*P	**P**	**12 33 50.5**	**+2.3**
NJ2				pP	**sP**	**12 34 05.4**	**+3.8**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,410nm,5.0s						
PHRA	**Phrae**	**30.62**	**304**	P	**P**	**12 33 49.3**	**+0.2**
CRAI	**Chiangrai**	**31.37**	**307**	P	**P**	**12 33 55.9**	**+0.3**
CM31	**Chiang Mai Arr**	**31.68**	**302**	P	**P**	**12 33 58.6**	**+0.2**
CM31				IAmb	IAmb	12 33 59.1	
	comp=Z,8.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.68**	**302**	P	**P**	**12 33 58.3**	**-0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**31.68**	**302**	P	**P**	**12 33 57.8**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=116,slow=6.6,SNR=14						
	comp=Z,2.6nm,0.8s						
CHTO	**Chiang Mai**	**31.84**	**303**	P	**P**	**12 33 59.7**	**-0.1**
CHTO				IAmb	IAmb	12 34 00.2	
	comp=Z,7.2nm,0.7s						
FORT	**Forrest**	**32.88**	**178**	P	**P**	**12 34 08.9**	**+0.2**
KSRS	**Korea Array**	**35.03**	**2**	P	**P**	**12 34 27.5**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=177,slow=9.9,SNR=8.4						
	comp=Z,2.3nm,0.6s						
MJAR	**Matsushiro Arr**	**35.70**	**16**	P	**P**	**12 34 32.2**	**-0.9**
	comp=Z,2.2nm,0.6s,baz=190,slow=9.4,SNR=6.6						
	comp=Z,2.2nm,0.6s						
XAN	**Xi'an**	**35.75**	**334**	⇑P	**P**	**12 34 35.0**	**+1.4**
XAN				pmax	pmax		
	comp=Z,11nm,0.7s						
BBOO	**Buckleboo**	**35.97**	**167**	P	**P**	**12 34 35.5**	**0.0**
BBOO				IAmb	IAmb	12 34 54.3	
	comp=Z,10nm,1.1s						
NWAO	**Narrogin (SRO)**	**36.15**	**194**	P	**P**	**12 34 36.1**	**-0.9**
EIDS	**Eidsvold**	**36.18**	**141**	P	**P**	**12 34 35.7**	**-1.6**
EIDS				IAmb	IAmb	12 34 40.5	
	comp=Z,18nm,1.1s						
STKA	**Stephens Creek**	**36.75**	**159**	P	**P**	**12 34 41.5**	**-0.6**
STKA	**Stephens Creek**	**36.75**	**159**	P	**P**	**12 34 41.0**	**-1.2**
	comp=Z,2.5nm,0.4s,baz=339,slow=9.2,SNR=17						
	comp=Z,2.5nm,0.4s						
JMM	**Marumori**	**37.69**	**18**	P	**P**	**12 34 50.8**	**+0.8**
LZH	**Lanzhou**	**39.79**	**330**	*e*P	**P**	**12 35 08.9**	**+1.0**
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
ARMA	**Armidale**	**40.22**	**146**	P	**P**	**12 35 11.8**	**+0.4**
ARMA				IAmb	IAmb	12 35 14.9	
	comp=Z,20nm,0.9s						
HHC	**Hu-ho-hao-te**	**40.80**	**342**	*e*P	**P**	**12 35 16.2**	**+0.1**
HHC				pmax	pmax		
	comp=Z,28nm,0.5s						
HHC				pmax	pmax		
	comp=Z,89nm,4.3s						
SHL	**Shillong**	**40.80**	**308**	P	**P**	**12 35 15.1**	**-1.3**
SHL				IAmb	IAmb	12 35 18.2	
	comp=Z,12nm,0.7s						
USA0B	**Ussuriysk Arra**	**42.01**	**6**	P	**P**	**12 35 27.4**	**+1.6**
USA0B				IAmb	IAmb	12 35 29.7	
	comp=Z,13nm,0.9s						
USRK	**Ussuriysk Ar.**	**42.01**	**6**	P	**P**	**12 35 27.2**	**+1.4**
USRK	**Ussuriysk Ar.**	**42.01**	**6**	P	**P**	**12 35 26.7**	**+0.9**
	comp=Z,8.6nm,0.8s,baz=191,slow=8.8,SNR=10						
	comp=Z,8.6nm,0.8s						
MDJ	**Mudanjiang**	**42.24**	**3**	P	**P**	**12 35 28.1**	**+0.3**
MDJ				IAmb	IAmb	12 35 41.6	
	comp=Z,13nm,1.2s						
MDJ	**Mudanjiang**	**42.24**	**3**	P	**P**	**12 35 28.0**	**+0.3**
MDJ				pP	pP	12 35 38.2	+0.8
MDJ				sP	sP	12 35 41.4	+0.1
MDJ				PP	PP	12 36 56.2	-10
MDJ				PcP	**PcP**	**12 37 25.1**	**+3.8**
MDJ				ScP	**ScP**	**12 41 09.0**	**-0.4**
MDJ				PcS	**PcS**	**12 41 17.9**	**+4.9**
MDJ				S	**S**	**12 41 42.1**	**-3.8**
MDJ				sS	sS	12 41 59.8	-1.9
MDJ				SS	**SS**	**12 44 48.4**	**-6.7**
MDJ				ScS	**ScS**	**12 45 28.2**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,14nm,2.1s						
MDJ				pmax	pmax		
	comp=Z,320nm,7.6s						
MDJ				LR	LR		
	comp=N,170nm,3.8s						
MDJ				LR	LR		
	comp=E,480nm,3.9s						
MDJ				LR	LR		
	comp=Z,440nm,4.0s						
H11S3	**WAKE ISLAND Hy**	**42.28**	**65**	T	T	13 20 48.8	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**42.29**	**65**	T	T	13 20 56.7	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**42.29**	**65**	T	T	13 20 59.1	
	baz=253						
RAMN	**Ramite**	**45.65**	**306**	*e*P	**P**	**12 35 52.8**	**-2.9**
	comp=Z,33nm,1.0s						
JIRN	**Jiri**	**46.28**	**307**	*e*P	**P**	**12 35 59.5**	**-1.3**
	comp=Z,17nm,0.6s						
GUN	**Gumba**	**46.64**	**307**	*e*P	**P**	**12 36 02.5**	**-1.1**
	comp=Z,25nm,0.5s						
PKI	**Pulchoki**	**46.87**	**306**	*e*P	**P**	**12 36 03.9**	**-1.5**
	comp=Z,8.7nm,0.7s						
KLR	**Kul'dur**	**46.98**	**4**	P	**P**	**12 36 05.4**	**-0.1**
	comp=Z,4.0nm,0.7s,baz=197,slow=6.0,SNR=11						
	comp=Z,4.0nm,0.7s						
HEH	**HeiHe**	**47.81**	**1**	*e*P	**P**	**12 36 12.6**	**+0.7**
HEH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HEH				pmax	pmax		
	comp=Z,120nm,4.9s						
DANN	**Dangsing**	**48.52**	**307**	*e*P	**P**	**12 36 17.3**	**-0.8**
	comp=Z,35nm,0.7s						
SONM	**Songino Array**	**48.70**	**342**	P	**P**	**12 36 19.4**	**+0.4**
SONM	**Songino Array**	**48.70**	**342**	P	**P**	**12 36 18.3**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=153,slow=8.1,SNR=8.3						
	comp=Z,1.2nm,0.6s						
PYUN	**Piuthan**	**49.04**	**306**	*e*P	**P**	**12 36 21.4**	**-0.6**
	comp=Z,65nm,1.2s						
WMQ	**Urumqi**	**53.95**	**326**	*e*P	**P**	**12 37 00.7**	**+2.3**
PETK	**Petropavlovsk-**	**56.75**	**22**	P	**P**	**12 37 16.3**	**-2.0**
MK31	**Makanchi Array**	**58.79**	**326**	P	**P**	**12 37 32.6**	**-0.2**
MKAR	**Makanchi Array**	**58.79**	**326**	P	**P**	**12 37 32.2**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=118,slow=7.7,SNR=28						
	comp=Z,1.3nm,0.4s						
MAKZ	**Makanchi**	**58.97**	**326**	P	**P**	**12 37 34.4**	**+0.4**
MAKZ				IAmb	IAmb	12 37 37.7	
	comp=Z,5.6nm,1.3s						
YAK	**Yakutsk**	**59.66**	**2**	P	**P**	**12 37 39.2**	**+0.8**
YAK	**Yakutsk**	**59.66**	**2**	P	**P**	**12 37 39.0**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=162,slow=3.8,SNR=5.5						
NRN	**Naryn**	**59.94**	**318**	P	**P**	**12 37 40.6**	**-0.5**
NRN				IAmb	IAmb	12 37 45.2	
	comp=Z,5.4nm,1.4s						
ZALV	**Zalesovo Beam**	**61.91**	**333**	P	**P**	**12 37 52.9**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=125,slow=6.8,SNR=4.0						
	comp=Z,0.6nm,0.3s						
BTK	**Batken**	**62.98**	**314**	P	**P**	**12 38 02.5**	**+1.1**
BTK				IAmb	IAmb	12 38 12.7	
	comp=Z,3.3nm,0.6s						
KURBB	**Kurchatov Arra**	**63.00**	**328**	P	**P**	**12 38 00.3**	**-0.8**
	comp=Z,2.4nm,0.5s,baz=130,slow=6.1,SNR=24						
	comp=Z,2.4nm,0.5s						
KURK	**Kurchatov**	**63.00**	**328**	P	**P**	**12 38 00.9**	**-0.3**
KK31	**Karatay Array**	**64.34**	**317**	P	**P**	**12 38 09.2**	**-1.1**
KK31				IAmb	IAmb	12 38 12.2	
	comp=Z,6.4nm,1.5s						
KKAR	**Karatay Array**	**64.34**	**317**	P	**P**	**12 38 09.6**	**-0.6**
BVAR	**Borovoye Array**	**68.57**	**327**	P	**P**	**12 38 36.8**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=97,slow=6.0,SNR=7.4						
	comp=Z,1.5nm,0.5s						
BRVK	**Borovoye**	**68.65**	**327**	P	**P**	**12 38 37.4**	**-0.1**
BRVK				IAmb	IAmb	12 38 49.3	
	comp=Z,5.7nm,1.1s						
TIXI	**Tiksi**	**69.29**	**1**	P	**P**	**12 38 41.8**	**+0.6**
TIXI				IAmb	IAmb	12 38 50.3	
	comp=Z,5.7nm,1.1s						
GEYT	**Alibeck**	**71.86**	**309**	P	**P**	**12 38 58.3**	**+0.7**
	comp=Z,1.3nm,0.4s,baz=86,slow=6.4,SNR=3.2						
	comp=Z,1.3nm,0.4s						
ABKAR	**Akbulak array**	**73.32**	**321**	P	**P**	**12 39 04.9**	**-1.1**
ARU	**Arti**	**76.20**	**328**	P	**P**	**12 39 22.3**	**-0.2**
ARU				IAmb	IAmb	12 39 24.4	
	comp=Z,5.3nm,0.7s						
VNDA	**Vanda**	**81.98**	**173**	P	**P**	**12 39 53.6**	**-0.1**
VNDA	**Vanda**	**81.98**	**173**	P	**P**	**12 39 53.4**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=315,slow=7.1,SNR=18						
	comp=Z,1.6nm,0.6s						
G19K	**Purcell Mounta**	**82.33**	**23**	P	**P**	**12 39 56.9**	**+1.1**
G19K				IAmb	IAmb	12 39 59.4	
	comp=Z,12nm,1.2s						
MAW	**Mawson**	**82.41**	**200**	P	**P**	**12 39 55.5**	**-0.6**
	comp=Z,3.7nm,0.9s,baz=72,slow=9.6,SNR=1.8						
	comp=Z,3.7nm,0.9s						
D19K	**Kuna River**	**82.45**	**21**	P	**P**	**12 39 58.2**	**+1.7**
D19K				IAmb	IAmb	12 40 01.0	
	comp=Z,9.2nm,1.0s						
H19K	**Roundabout Mou**	**82.47**	**24**	P	**P**	**12 39 58.6**	**+2.2**
E19K	**Redstone River**	**82.55**	**22**	P	**P**	**12 39 57.4**	**+0.4**
E19K				IAmb	IAmb	12 40 02.0	
	comp=Z,11nm,1.0s						
F20K	**Avaraart Lake**	**83.05**	**23**	P	**P**	**12 40 00.0**	**+0.6**
F20K				IAmb	IAmb	12 40 02.7	
	comp=Z,6.3nm,1.1s						
IMAR	**Indian Mountai**	**83.65**	**24**	P	**P**	**12 40 04.5**	**+1.9**
GEVA	**Gevas**	**83.68**	**308**	P	**P**	**12 40 04.2**	**+0.6**
B21K	**Ikpikpuk River**	**83.91**	**20**	P	**P**	**12 40 05.6**	**+1.7**
F21K	**Alatna River**	**83.94**	**23**	P	**P**	**12 40 06.1**	**+2.0**
E21K	**Killik River**	**83.94**	**21**	P	**P**	**12 40 05.3**	**+1.2**
E21K				IAmb	IAmb	12 40 07.6	
	comp=Z,5.2nm,0.8s						
SUA	**Susitna One**	**84.41**	**29**	P	**P**	**12 40 07.7**	**+0.9**
B22K	**Teshekpuk Lake**	**84.44**	**20**	P	**P**	**12 40 08.2**	**+1.7**
D24K	**Happy Valley**	**85.89**	**21**	P	**P**	**12 40 16.2**	**+2.4**
D24K				IAmb	IAmb	12 40 20.1	
	comp=Z,5.3nm,1.0s						
ILAR	**Eielson Array**	**86.39**	**25**	P	**P**	**12 40 15.3**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=266,slow=4.3,SNR=5.5						
	comp=Z,0.4nm,0.7s						
BMAR	**Burnt Mountain**	**87.39**	**23**	P	**P**	**12 40 23.5**	**+2.2**
BCAR	**Beaver Creek A**	**88.64**	**27**	P	**P**	**12 40 27.3**	**0.0**
E28M	**Babbage River**	**89.25**	**21**	P	**P**	**12 40 31.8**	**+1.8**
E28M				IAmb	IAmb	12 40 32.4	
	comp=Z,3.1nm,1.1s						
BRTR	**Keskin Array B**	**91.00**	**310**	P	**P**	**12 40 40.0**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=106,slow=7.2,SNR=4.1						
	comp=Z,0.6nm,0.7s						
ARCES	**ARCESS Array B**	**91.83**	**340**	P	**P**	**12 40 43.4**	**+1.4**
	comp=Z,3.5nm,1.0s,baz=90,slow=7.2,SNR=1.9						
	comp=Z,3.5nm,1.0s						
QSPA	**South Pole Qui**	**92.18**	**180**	P	**P**	**12 40 44.4**	**+0.6**
QSPA	**South Pole Qui**	**92.18**	**180**	P	**P**	**12 40 43.7**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=308,slow=0.6,SNR=6.2						
	comp=Z,0.8nm,0.9s						
FARO	**Faro, Yukon**	**92.60**	**28**	P	**P**	**12 40 47.5**	**+1.7**
YKA	**Yellowknife Ar**	**100.80**	**25**	P	**Pdif**	**12 41 22.9**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=293,slow=5.4,SNR=3.9						
SCHQ	**Schefferville**	**121.99**	**9**	PKPdf	**PKiKP**	**12 46 29.2**	**+0.4**
TXAR	**Lajitas Array**	**122.43**	**53**	PKP	**PKPdf**	**12 46 30.2**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=272,slow=3.5,SNR=2.4						
TORD	**Torodi Ar. Bea**	**123.42**	**287**	PKP	**PKPdf**	**12 46 31.3**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=48,slow=2.1,SNR=2.1						

IDC 05 12:28:28.9±958.0**, 53.̊12N**×**5.̊06E, h0**km**, Error ellipse: s-maj=421.8km s-min=138.2km az=115.0, The Netherlands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**6.93**	**125**	I	I	13 09 50.0	
	0.1nm,0.6s,baz=311,slow=320,SNR=2.0						
I43RU	**DUBNA INFRASON**	**18.73**	**66**	I	I	14 20 50.0	
	baz=274,slow=321,SNR=1.0						
I31KZ	**AKTYUBINSK INF**	**32.28**	**73**	I	I	15 45 50.0	
	baz=294,slow=324,SNR=1.2						

*SOME **05** 12:33:55.1, 41.̊20N×79.̊12E, h10km*
*NNC **05** 12:33:55.9±1.5, 41.̊23N×79.̊11E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=9.8km s-min=8.8km az=157.0*
ISC 05 12:33:55.4±3.8**, 41.̊2N**±0.̊2×**79.̊2E**±0.̊1**, h10**km**, n20, σ0.̊s41**/22**, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**1.93**	**356**	*e*P	**Pb**	**12 34 31.3**	**+0.5**
	1.1nm,0.1s						
UZB				*e*S	**Sg**	**12 34 57.6**	**0.0**
	4.6nm,0.3s						
UZB	**Uzynbulak**	**1.93**	**356**	Pg	**Pb**	**12 34 31.3**	**+0.5**
	1.1nm,0.1s						
UZB				Lg	Lg	12 34 57.6	
	4.6nm,0.3s						
SATY	**Saty**	**1.94**	**342**	*e*P	**Pb**	**12 34 31.3**	**+0.4**
	3.3nm,0.2s						
SATY				*e*S	**Sg**	**12 34 57.4**	**-0.3**
	8.0nm,0.1s						
SATY	**Saty**	**1.94**	**342**	Pg	**Pb**	**12 34 31.3**	**+0.4**
	3.3nm,0.2s						
SATY				Lg	Lg	12 34 57.4	
	8.0nm,0.1s						
SHLS	**Shalkode**	**1.94**	**5**	*e*Pg	**Pg**	**12 34 32.5**	**-0.2**
	5.8nm,0.3s						
SHLS				*e*Lg	Lg	12 34 59.9	
	76nm,0.3s						
SHLS	**Shalkode**	**1.94**	**5**	Pg	**Pg**	**12 34 32.5**	**-0.2**
	5.8nm,0.3s						
SHLS				Lg	Lg	12 34 59.9	
	76nm,0.3s						
ZHN	**Zhinishke**	**2.04**	**343**	*e*Pg	**Pb**	**12 34 33.1**	**+0.6**
	3.8nm,0.0s						
ZHN				*e*Lg	Lg	12 35 00.8	
	24nm,0.2s						
ZHN	**Zhinishke**	**2.04**	**343**	Pg	**Pb**	**12 34 33.1**	**+0.6**
	3.8nm,0.0s						
ZHN				Lg	Lg	12 35 00.8	
	24nm,0.2s						
PDGK	**Podgornoye**	**2.12**	**5**	Pg	**Pb**	**12 34 33.6**	**-0.4**
	0.7nm,0.1s						
PDGK				Lg	Lg	12 35 02.1	
	5.9nm,0.3s						
KPKS	**Kokpek**	**2.28**	**350**	*e*Pg	**Pb**	**12 34 36.8**	**+0.1**
	9.3nm,0.3s						
KPKS				*e*Lg	Lg	12 35 06.6	
	11nm,0.4s						
KPKS	**Kokpek**	**2.28**	**350**	Pg	**Pb**	**12 34 36.8**	**+0.1**
	9.3nm,0.3s						
KPKS				Lg	Lg	12 35 06.6	
	11nm,0.4s						
TNSS	**Tian-Shan**	**2.48**	**318**	*e*Pg	**Pb**	**12 34 40.4**	**0.0**
	3.2nm,0.2s						
TNSS				*e*Lg	Lg	12 35 13.0	
	2.4nm,0.4s						
TNSS	**Tian-Shan**	**2.48**	**318**	Pg	**Pb**	**12 34 40.6**	**+0.3**
	3.2nm,0.2s						
TNSS				Lg	Lg	12 35 13.0	
	2.4nm,0.4s						
KOTS	**Kotyrbulak**	**2.55**	**323**	*e*Pg	**Pb**	**12 34 41.4**	**0.0**
	2.1nm,0.2s						
KOTS				*e*Lg	Lg	12 35 14.6	
	5.5nm,0.2s						
KOTS	**Kotyrbulak**	**2.55**	**323**	Pg	**Pb**	**12 34 41.4**	**0.0**
	2.1nm,0.2s						
KOTS				Lg	Lg	12 35 14.6	
	5.5nm,0.2s						
MTBS	**Maitube**	**2.82**	**314**	*e*Pg	**Pb**	**12 34 46.3**	**+0.3**
	1.0nm,0.1s						
MTBS				*e*Lg	Lg	12 35 23.0	
	3.2nm,0.2s						
CHKK	**Chushkaly**	**3.11**	**329**	*e*Pg	**Pb**	**12 34 50.7**	**-0.1**
	0.6nm,0.1s						
CHKK				*e*Lg	Lg	12 35 30.7	
	8.6nm,0.4s						
CHKK	**Chushkaly**	**3.11**	**329**	Pg	**Pb**	**12 34 50.3**	**-0.5**
	1.4nm,0.3s						
CHKK				Lg	Lg	12 35 30.7	
	8.6nm,0.4s						
ARXS	**Arharly**	**3.17**	**341**	*e*Pg	**Pb**	**12 34 52.6**	**+0.8**
	1.1nm,0.2s						
ARXS				*e*Lg	Lg	12 35 33.8	
	3.7nm,0.4s						
ARXS	**Arharly**	**3.17**	**341**	Pg	**Pb**	**12 34 52.2**	**+0.5**
	1.1nm,0.2s						
ARXS				Lg	Lg	12 35 33.2	
	5.1nm,0.6s						

IDC 05 12:39:58.0±26.0**, 20.̊40S**×**177.̊77W, h355**km±227km**, mb3.1**/3**, mbtmp3.9**/3**, Error ellipse: s-maj=145.9km s-min=36.4km az=47.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.75**	**257**	P	P	12 47 37.7	-0.1
	1.7nm,0.5s,baz=97,slow=8.0,SNR=33						
ASAR				PcP	PcP	12 49 12.4	-0.6
	0.4nm,0.6s,baz=112,slow=3.9,SNR=5.9						
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**44.83**	**262**	P	P	12 47 38.1	-0.3
	0.4nm,0.3s,baz=96,slow=7.2,SNR=47						
WRA				PcP	PcP	12 49 13.2	-0.1
	0.7nm,1.1s,baz=94,slow=2.8,SNR=0.9						
	0.4nm,0.3s						
QSPA	**South Pole Qui**	**69.67**	**180**	P	P	12 50 29.8	0.0
	0.6nm,0.6s,baz=64,slow=5.8,SNR=5.7						
	0.6nm,0.6s						
AKASG	**Malin Array Be**	**143.03**	**331**	PKP	PKPdf	12 58 49.3	-0.4
	1.3nm,0.4s,baz=44,slow=4.2,SNR=11						

*IDC **05** 12:47:10.6±1.1, 40.̊08S×75.̊03W, h0km, mb3.8/6, mbtmp3.9/7, ML4.0/1, MS3.0/1, Error ellipse: s-maj=30.1km s-min=22.3km az=66.0*
*GUC **05** 12:47:12.2±0.6, 40.̊12S×75.̊13W, h40km±12km, ML3.6*
*NEIC **05** 12:47:14.3±1.7, 40.̊20S±0.̊05×74.̊9W±0.̊1, h25km±6km, mb4.5/6, Error ellipse: s-maj=14.9km s-min=7.3km az=93.0*
ISC 05 12:47:13.3±0.7**, 40.̊17S**±0.̊04×**74.̊83W**±0.̊06**, h25**km**, n56, σ1.̊s94**/58**, mb4.2**/8**, 3C, Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LR04	**Corral**	**1.12**	**75**	⇑*i*P	**Pb**	**12 47 34.7**	**+0.8**
LR04				IAML		12 47 53.2	
	comp=N,1μm,0.3s						
LL05	**Los Muermos**	**1.61**	**141**		**Pb**	**12 47 40.5**	**-1.8**
LC02	**Puerto Saavedr**	**1.77**	**40**	Pn	**Pb**	**12 47 43.3**	**-1.8**
LC02	**Puerto Saavedr**	**1.77**	**40**	*i* S	**Sb**	**12 48 05.5**	**-1.4**
BI04	**Isla Mocha**	**1.90**	**23**	*e*P	**Pn**	**12 47 43.8**	**-0.3**
BI04				*e*S	**Sn**	**12 48 06.8**	**-0.4**
BI04				IAML		12 48 08.3	
	comp=E,965nm,0.4s						
LR03	**Panguipulli**	**1.98**	**75**	*e*P	**Pb**	**12 47 46.7**	**-2.0**
LR03				IAML		12 48 20.4	
	comp=E,994nm,0.7s						
LL03	**Petrohue**	**2.08**	**118**		**Pb**	**12 47 48.1**	**-2.3**
LR05	**Currie**	**2.17**	**93**	*e*P	**Pb**	**12 47 49.5**	**-2.3**
LR05				*i* S	**Sb**	**12 48 17.9**	**-0.3**
LR05				IAML		12 48 21.7	
	comp=E,482nm,0.4s						
LL06	**Loncomilla**	**2.24**	**156**		**Pn**	**12 47 48.5**	**-0.3**
LL06	**Loncomilla**	**2.24**	**156**	*e*P	**Pn**	**12 47 49.3**	**+0.6**
LL06				IAML		12 48 17.7	
	comp=E,278nm,0.6s						
GO06	**Curarrehue**	**2.65**	**78**	Pn	**Pb**	**12 47 56.8**	**-3.3**
GO06	**Curarrehue**	**2.65**	**78**	*e*P	**Pn**	**12 47 55.7**	**+1.2**
GO06				*i* S	**Sb**	**12 48 30.0**	**-2.3**
GO06				IAML		12 48 35.5	
	comp=E,91nm,0.4s						
LL01	**San Ignacio de**	**2.86**	**141**		**Pn**	**12 47 58.4**	**+1.0**
LL01	**San Ignacio de**	**2.86**	**141**	*e*P	**Pn**	**12 47 58.4**	**+1.0**
LL01				IAML		12 48 33.5	
	comp=N,95nm,0.3s						
GO07	**Milladeo Hill,**	**3.07**	**164**		**Pn**	**12 48 00.5**	**+0.3**
GO07	**Milladeo Hill,**	**3.07**	**164**	*e*P	**Pn**	**12 48 00.5**	**+0.3**
GO07				IAML		12 48 38.9	
	comp=E,264nm,0.6s						
PLCA	**Paso Flores**	**3.31**	**101**	Pn	**Pb**	**12 48 06.7**	**-4.7**
PLCA	**Paso Flores**	**3.31**	**101**	Pn	**Pb**	**12 48 07.0**	**-4.4**
	comp=E,3.4nm,0.3s,baz=274,slow=10,SNR=85						
PLCA				Sn	**Sb**	**12 48 50.4**	**-1.0**
	comp=E,2.8nm,0.3s,baz=28,slow=4.9,SNR=3.5						
PLCA				LR	LR	12 49 27.3	
	comp=E,218nm,20.7s,baz=222,slow=39						
	comp=E,12nm,0.4s						
PLCA	**Paso Flores**	**3.31**	**101**	*e*P	**Pb**	**12 48 07.6**	**-3.8**
BI05	**Punta Hualpn**	**3.65**	**21**	*e*P	**Pn**	**12 48 09.7**	**+1.5**
LL02	**Futaleuf**	**3.75**	**144**		**Pn**	**12 48 11.4**	**+1.8**
LL02	**Futaleuf**	**3.75**	**144**	*e*P	Pb	12 48 13.2	-5.7
AY01	**Puyuhuapi**	**4.55**	**160**		**Pn**	**12 48 21.4**	**+0.9**
AY01	**Puyuhuapi**	**4.55**	**160**	*i* P	**Pb**	**12 48 28.2**	**-4.2**
GO05	**Huala**	**5.64**	**25**	Pn	**Pn**	**12 48 34.4**	**-1.2**
BO02	**Sierra Bellavi**	**6.26**	**32**		**Pn**	**12 48 44.5**	**+0.4**
AY02	**Valle Explorad**	**6.42**	**170**		**Pn**	**12 48 47.3**	**+1.0**
BO01	**Tunca**	**6.49**	**29**		**Pn**	**12 48 46.5**	**-0.7**
MT01	**Popeta**	**6.91**	**26**		**Pn**	**12 48 52.0**	**-1.0**
MT09	**Talagante**	**7.08**	**27**		**Pn**	**12 48 55.2**	**-0.2**
H03S1	**Juan Fernandez**	**7.10**	**331**	Pn	**Pn**	**12 48 52.2**	**-3.2**
	baz=242,slow=75						
H03S1				T	T	12 56 42.0	
	baz=151,slow=72						
H03S2	**Juan Fernandez**	**7.12**	**331**	Pn	**Pn**	**12 48 53.3**	**-2.2**
	baz=242,slow=75						
H03S2				T	T	12 56 29.4	
	baz=151,slow=72						
H03S3	**Juan Fernandez**	**7.12**	**331**	Pn	**Pn**	**12 48 53.8**	**-1.9**
	baz=242,slow=75						
H03S3				T	T	12 56 32.6	
	baz=151,slow=72						
LMEL	**Las Melosas**	**7.31**	**32**		**Pn**	**12 48 60.0**	**+1.3**
H03N3	**Juan Fernandez**	**7.46**	**333**	Pn	**Pn**	**12 48 58.3**	**-2.1**
	baz=214,slow=25						
H03N1	**Juan Fernandez**	**7.47**	**333**	Pn	**Pn**	**12 48 58.0**	**-2.4**
	baz=214,slow=25						
H03N2	**Juan Fernandez**	**7.48**	**333**	Pn	**Pn**	**12 48 58.9**	**-1.6**
	baz=214,slow=25						
ROC1	**El Roble**	**7.81**	**24**		**Pn**	**12 49 05.8**	**+0.3**
GO08	**Villa O'Higgin**	**8.45**	**170**		**Pn**	**12 49 16.6**	**+2.6**
CO02	**Combarbal**	**9.47**	**20**		**Pn**	**12 49 26.6**	**-1.7**
CO03	**El Pedregal**	**9.90**	**21**		**Pn**	**12 49 32.9**	**-1.2**
AC05	**El Transito**	**11.91**	**20**	Pn	**Pn**	**12 49 59.7**	**-1.9**
CPUP	**Villa Florida**	**20.07**	**52**	P	Pn	12 51 45.7	-0.9
	comp=E,1.4nm,0.4s,baz=246,slow=18,SNR=3.4						
	comp=E,1.4nm,0.4s						
LPAZ	**La Paz**	**24.50**	**16**	P	**P**	**12 52 32.3**	**+1.0**
LPAZ	**La Paz**	**24.50**	**16**	P	**P**	**12 52 30.9**	**-0.4**
	comp=E,2.5nm,0.9s,baz=190,slow=9.0,SNR=4.0						
	comp=E,2.5nm,0.9s						
SNAA	**Sanae**	**46.81**	**156**	P	**P**	**12 55 41.2**	**+0.7**
SNAA	**Sanae**	**46.81**	**156**	⇑P	**P**	**12 55 42.9**	**+2.5**
SNAA	**Sanae**	**46.81**	**156**	P	**P**	**12 55 42.3**	**+1.8**
	comp=E,2.3nm,0.9s,baz=251,slow=6.1,SNR=5.6						
	comp=E,2.3nm,0.9s						
TROLL	**Troll, Antarti**	**48.49**	**156**	⇑P	**P**	**12 55 56.2**	**+2.7**
	comp=Z,202nm,0.7s						
QSPA	**South Pole Qui**	**50.08**	**180**	P	**P**	**12 56 07.1**	**+1.2**
QSPA				IAmb	IAmb	12 56 18.5	
	comp=Z,1.9nm,0.9s						
QSPA	**South Pole Qui**	**50.08**	**180**	P	**P**	**12 56 07.4**	**+1.6**
	comp=Z,1.7nm,1.0s,baz=144,slow=8.8,SNR=3.6						
	comp=Z,1.7nm,1.0s						
TXAR	**Lajitas Array**	**74.16**	**334**	P	**P**	**12 58 48.8**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=152,slow=9.8,SNR=6.3						
	comp=Z,0.6nm,0.8s						
ANMO	**Albuquerque**	**80.23**	**334**	P	**P**	**12 59 23.0**	**+1.3**
ANMO				IAmb	IAmb	12 59 25.2	
	comp=Z,5.9nm,1.1s						
T25A	**Trinidad**	**81.59**	**336**	P	**P**	**12 59 30.5**	**+1.6**
T25A				IAmb	IAmb	12 59 40.7	
	comp=Z,6.8nm,1.1s						
SMCO	**Snowmass**	**84.26**	**335**	P	**P**	**12 59 44.4**	**+1.5**
SMCO				IAmb	IAmb	12 59 51.3	
	comp=Z,4.9nm,1.3s						
PDAR	**Pinedale Array**	**88.33**	**335**	P	**P**	**13 00 03.3**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=147,slow=5.4,SNR=5.4						
	comp=Z,0.9nm,0.9s						

*IDC **05** 12:48:13.2±1.9, 7.̊61S×127.̊53E, h173km±17km, mb4.0/16, mbtmp4.5/18, MS3.5/1, Error ellipse: s-maj=14.7km s-min=9.6km az=61.0*
*DJA **05** 12:48:13.8±0.2, 8.̊S±3.̊×12.̊8E±.̊, h176km±8km, M4.7/15, mB5.1/13, mb4.8/13, MLv5.2/15, Mw(mB)4.5/13*
*NEIC **05** 12:48:13.8±2.1, 7.̊64S±0.̊07×127.̊54E±0.̊07, h173km±7km, mb4.6/35, Error ellipse: s-maj=10.6km s-min=9.8km az=59.0*
ISC 05 12:48:12.3±0.3**, 7.̊69S**±0.̊05×**127.̊57E**±0.̊05**, h162**km**, n143, σ1.̊s64**/148**, mb4.5**/38**, 3C-2D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.71**	**95**	Pn	**Pn**	**12 49 11.2**	**+2.1**
SAUI	**Saumlaki**	**3.71**	**95**	P	**Pn**	**12 49 11.9**	**+2.8**
SOEI	**Soe**	**3.86**	**238**	Pn	**Pn**	**12 49 12.4**	**+1.2**
SOEI	**Soe**	**3.86**	**238**	P	**Pn**	**12 49 13.2**	**+2.0**
BNDI	**Bandanaira**	**3.91**	**37**	P	**Pn**	**12 49 14.4**	**+2.6**
BNDI	**Bandanaira**	**3.91**	**37**	P	**Pn**	**12 49 14.4**	**+2.6**
NLAI	**Namlea**	**4.45**	**354**	P	**Pn**	**12 49 22.2**	**+3.4**
BATI	**Baumata**	**4.60**	**237**	P	**Pn**	**12 49 23.0**	**+2.3**
BATI	**Baumata**	**4.60**	**237**	P	**Pn**	**12 49 23.1**	**+2.3**
	2μm,0.6s,baz=119,slow=1.9,SNR=534						
BATI				S	**Sn**	**12 50 15.4**	**+1.3**
	1μm,0.5s,baz=73,slow=21,SNR=12						
MMRI	**Maumere**	**5.36**	**260**		**Pn**	**12 49 31.8**	**+1.0**
MMRI	**Maumere**	**5.36**	**260**	P	**Pn**	**12 49 32.6**	**+1.9**
	225nm,0.6s,2μm0.9nm						
SANI	**Sanana**	**5.82**	**344**	P	**Pn**	**12 49 39.9**	**+3.1**
SANI	**Sanana**	**5.82**	**344**	P	**Pn**	**12 49 39.6**	**+2.8**
	84nm,0.8s,1μm0.2nm						
EDFI	**Ende, Flores**	**5.92**	**259**	P	**Pn**	**12 49 39.5**	**+1.4**
	100nm,1.2s,1μm0.4nm						
MTN	**Manton Dam**	**6.20**	**146**	Pn	**Pn**	**12 49 42.7**	**+0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MTN	**Manton Dam**	**6.20**	**146**	P	**Pn**	**12 49 43.1**	**+1.2**
FAKI	**Fak Fak**	**6.65**	**45**		**Pn**	**12 49 47.1**	**-0.6**
KDU	**Kakadu**	**6.92**	**136**	P	**Pn**	**12 49 51.9**	**+0.5**
LBMI	**Labuha**	**7.01**	**359**	P	**Pn**	**12 49 55.9**	**+3.3**
	128nm,1.1s,2µm0.5nm						
KMPI	**Kaimana, Papua**	**7.30**	**57**	P	**Pn**	**12 49 57.4**	**+1.0**
	182nm,0.7s,3µm2.0nm						
BASI	**Baing, Sumba**	**7.35**	**250**	P	**Pn**	**12 49 57.1**	**0.0**
	250nm,0.8s,3µm2.8nm						
SWI	**Sorong**	**7.72**	**29**	P	**Pn**	**12 50 02.7**	**+0.7**
KNRA	**Kununurra**	**8.02**	**172**	Pn	**Pn**	**12 50 06.0**	**+0.1**
KNRA	**Kununurra**	**8.02**	**172**	P	**Pn**	**12 50 05.8**	**-0.2**
TNTI	**Ternate**	**8.41**	**359**	P	**Pn**	**12 50 15.6**	**+4.4**
PLAI	**Plampang**	**9.76**	**263**	P	**Pn**	**12 50 29.2**	**+0.2**
PLAI	**Plampang**	**9.76**	**263**	P	**Pn**	**12 50 28.4**	**-0.6**
	80nm,0.7s,801nm						
TWSI	**Taliwang, Sumb**	**10.63**	**264**	P	**Pn**	**12 50 41.1**	**+0.6**
	35nm,0.7s						
BKB	**Balikpapan**	**12.41**	**300**	P	P	12 51 13.7	+4.7
BKB	**Balikpapan**	**12.41**	**300**	P	**P**	**12 51 07.8**	**-1.2**
WB0	**Warramunga Arr**	**13.71**	**152**	Pn	**Pn**	**12 51 18.1**	**-2.0**
TABU	**Tabubil**	**13.78**	**81**	P	**P**	**12 51 24.8**	**+0.5**
WRAB	**Tennant Creek**	**13.83**	**152**		**Pn**	**12 51 20.3**	**-1.4**
WRA	**Warramunga Arr**	**13.83**	**152**	Pn	**Pn**	**12 51 19.4**	**-2.4**
WRA	**Warramunga Arr**	**13.83**	**152**	P	**Pn**	**12 51 18.4**	**-3.3**
	16nm,0.5s,baz=322,slow=14,SNR=162						
WRA				S	Sn	12 53 44.2	-11
	27nm,0.6s,baz=332,slow=22,SNR=9.2						
WB2	**Warramunga Arr**	**13.84**	**152**	Pn	**Pn**	**12 51 21.0**	**-0.7**
WR0	**Warramunga Arr**	**13.94**	**152**		**Pn**	**12 51 21.1**	**-2.0**
MBWA	**Marble Bar**	**15.38**	**209**		**Pn**	**12 51 39.6**	**-1.4**
MBWA				IAmb	IAmb	12 51 44.5	
	comp=Z,20nm,0.8s						
MYLDM	**Lahad Datu**	**15.67**	**324**	P	**P**	**12 51 49.5**	**+4.4**
PSA00	**Pilbara Seismi**	**15.69**	**208**	P	**Pn**	**12 51 43.8**	**-0.9**
PSA00	**Pilbara Seismi**	**15.69**	**208**	P	**P**	**12 51 46.7**	**+1.4**
COEN	**Coen**	**16.54**	**113**	P	**P**	**12 51 55.5**	**+0.7**
COEN	**Coen**	**16.54**	**113**	P	**Pn**	**12 51 58.4**	**+3.3**
AS31	**Alice Springs**	**17.00**	**160**	P	**P**	**12 52 00.8**	**+0.9**
AS31				IAmb	IAmb	12 52 04.8	
	comp=Z,20nm,0.6s						
ASAR	**Alice Springs**	**17.01**	**160**	P	**P**	**12 52 00.6**	**+0.6**
	comp=Z,38nm,0.5s,baz=345,slow=14,SNR=211						
ASAR				S	**S**	**12 55 04.1**	**-4.9**
	comp=Z,12nm,0.5s,baz=327,slow=20,SNR=8.8						
AS01	**Alice Springs**	**17.02**	**160**	P	**Pn**	**12 52 01.9**	**+1.0**
WRKA	**Warakurna**	**17.26**	**178**	P	**Pn**	**12 52 04.4**	**+0.6**
QIS	**Mount Isa**	**17.30**	**139**	P	**Pn**	**12 52 05.2**	**+1.0**
KKM	**Kota Kinabalu**	**17.73**	**320**	P	**Pn**	**12 52 10.3**	**+0.7**
KKM				IAmb	IAmb	12 52 18.6	
	comp=Z,18nm,0.7s						
SBUM	**Sibu**	**18.33**	**303**	P	**Pn**	**12 52 16.9**	**+0.4**
SBUM				IAmb	IAmb	12 52 18.4	
	comp=Z,23nm,0.8s						
MTSU	**Mount Surprise**	**19.32**	**124**	P	**Pn**	**12 52 29.2**	**+1.1**
PMG	**Port Moresby**	**19.45**	**96**	P	**Pn**	**12 52 32.1**	**+2.6**
PMG	**Port Moresby**	**19.45**	**96**	P	**Pn**	**12 52 31.7**	**+2.2**
PMG	**Port Moresby**	**19.45**	**96**	P	**P**	**12 52 27.2**	**+0.6**
	comp=Z,9.3nm,0.5s,baz=291,slow=12,SNR=1.2						
PMG				S	**S**	**12 55 58.7**	**+0.9**
	comp=Z,4.3nm,0.6s,baz=306,slow=6.4,SNR=1.4						
KSM	**Kuching**	**19.48**	**297**	P	**P**	**12 52 27.4**	**+0.4**
KSM	**Kuching**	**19.48**	**297**	P	**Pn**	**12 52 30.5**	**+0.6**
GIRL	**Giralia**	**19.64**	**219**	P	**P**	**12 52 30.7**	**+2.1**
MEEK	**Meekatharra**	**20.68**	**203**	P	**P**	**12 52 41.6**	**+1.9**
OOD	**Oodnadatta**	**21.42**	**160**	P	**P**	**12 52 50.2**	**+2.6**
CTAO	**Charters Tower**	**21.89**	**126**	P	**P**	**12 52 53.9**	**+1.2**
CTAO				IAmb	IAmb	12 52 56.7	
	comp=Z,30nm,1.4s						
CTAO	**Charters Tower**	**21.89**	**126**	P	**P**	**12 52 57.0**	**+4.3**
FORT	**Forrest**	**22.97**	**179**	P	**P**	**12 53 03.8**	**+1.1**
MULG	**Mulgathing**	**23.28**	**166**	P	**P**	**12 53 07.3**	**+1.7**
INKA	**Innaminka**	**23.52**	**150**	P	**P**	**12 53 11.3**	**+3.5**
MORW	**Morawa**	**23.88**	**206**	P	**P**	**12 53 11.6**	**+0.6**
MORW				IAmb	IAmb	12 53 13.9	
	comp=Z,18nm,0.8s						
QLP	**Quilpie**	**24.57**	**142**	P	**P**	**12 53 21.4**	**+4.0**
LCRK	**Leigh Creek**	**24.74**	**158**	P	**P**	**12 53 22.6**	**+3.8**
MYKOM	**Kota Tinggi**	**25.47**	**291**	P	**P**	**12 53 26.1**	**+0.5**
MYKOM				IAmb	IAmb	12 53 27.4	
	comp=Z,31nm,1.1s						
BBOO	**Buckleboo**	**26.21**	**164**	P	**P**	**12 53 33.2**	**+1.1**
BBOO				IAmb	IAmb	12 54 13.9	
	comp=Z,23nm,1.4s						
NWAO	**Narrogin (SRO)**	**26.88**	**200**	P	**P**	**12 53 38.8**	**+0.7**
NWAO	**Narrogin (SRO)**	**26.88**	**200**	LR	LR	13 05 59.9	
	comp=Z,92nm,18.8s,baz=106,slow=40						
STKA	**Stephens Creek**	**27.38**	**153**	P	**P**	**12 53 44.0**	**+1.4**
STKA	**Stephens Creek**	**27.38**	**153**	P	**P**	**12 53 43.4**	**+0.8**
	comp=Z,3.6nm,0.5s,baz=339,slow=8.9,SNR=9.9						
	comp=Z,3.6nm,0.5s						
KULM	**Kulim**	**29.79**	**295**	P	**P**	**12 54 03.9**	**-0.3**
RPSI	**Rantau Prapat**	**30.39**	**289**	P	**P**	**12 54 08.6**	**-0.8**
CM31	**Chiang Mai Arr**	**38.38**	**313**	P	**P**	**12 55 17.8**	**-0.3**
CM31				IAmb	IAmb	12 55 18.6	
	comp=Z,7.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**38.38**	**313**	P	**P**	**12 55 17.7**	**-0.4**
	comp=Z,5.8nm,0.6s,baz=140,slow=6.6,SNR=48						
CMAR				PcP	**PcP**	**12 57 28.4**	**0.0**
	comp=Z,2.4nm,0.6s,baz=161,slow=3.0,SNR=11						
	comp=Z,5.8nm,0.6s						
CHTO	**Chiang Mai**	**38.61**	**313**	P	**P**	**12 55 19.4**	**-0.6**
CHTO				IAmb	IAmb	12 55 20.4	
	comp=Z,8.1nm,0.7s						
NJ2	**Nanjing**	**40.39**	**349**	*e*P	**P**	**12 55 37.2**	**+2.7**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PZH	**PanZhiHua**	**42.23**	**324**	P	**P**	**12 55 49.3**	**-0.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,130nm,3.5s						
KSRS	**Korea Array**	**44.91**	**0**	P	**P**	**12 56 09.8**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=181,slow=8.8,SNR=4.7						
	comp=Z,1.2nm,0.6s						
XAN	**Xi'an**	**45.11**	**338**	⇓P	**P**	**12 56 11.1**	**-1.5**
XAN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SHL	**Shillong**	**47.93**	**315**	P	**P**	**12 56 35.0**	**+0.1**
SHL				IAmb	IAmb	12 56 37.3	
	comp=Z,10nm,0.6s						
LZH	**Lanzhou**	**48.93**	**334**	*e*P	**P**	**12 56 42.4**	**+0.1**
LZH				pP	pwP	12 57 20.4	-3.1
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC	**Hu-ho-hao-te**	**50.50**	**344**	*e*P	**P**	**12 56 54.4**	**+0.4**
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,180nm,4.2s						
LSA	**Lhasa**	**51.07**	**318**	P	**P**	**12 56 57.4**	**-1.5**
LSA				IAmb	IAmb	12 57 01.9	
	comp=Z,12nm,0.7s						
USRK	**Ussuriysk Ar.**	**51.80**	**4**	P	**P**	**12 57 04.0**	**+0.5**
	comp=Z,2.7nm,0.6s,baz=203,slow=7.4,SNR=4.6						
	comp=Z,2.7nm,0.6s						
ODAN	**Odare**	**51.92**	**313**	*e*P	**P**	**12 57 04.6**	**-0.4**
	comp=Z,56nm,0.6s						
ODAN	**Odare**	**51.92**	**313**	*e*P	**P**	**12 57 04.8**	**-0.2**
MDJ	**Mudanjiang**	**52.10**	**2**	P	**P**	**12 57 03.6**	**-2.1**
MDJ				pmax	pmax		
	comp=Z,13nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,310nm,8.9s						
RAMN	**Ramite**	**52.55**	**313**	*e*P	**P**	**12 57 09.2**	**-0.5**
	comp=Z,53nm,0.5s						
TUWZ	**Tuamarina**	**52.99**	**137**	P	**P**	**12 57 12.6**	**+0.2**
JIRN	**Jiri**	**53.26**	**313**	*e*P	**P**	**12 57 14.1**	**-0.9**
PKI	**Pulchoki**	**53.78**	**312**	*e*P	**P**	**12 57 17.5**	**-1.2**
	comp=Z,24nm,0.5s						
GKN	**Gorkha**	**54.58**	**312**	*e*P	**P**	**12 57 23.1**	**-1.2**
	comp=Z,28nm,0.5s						
KOLN	**Koldanda**	**55.22**	**311**	*e*P	**P**	**12 57 27.9**	**-1.1**
DANN	**Dangsing**	**55.42**	**312**	*e*P	**P**	**12 57 29.2**	**-1.3**
	comp=Z,31nm,0.7s						
PYUN	**Piuthan**	**55.85**	**311**	*e*P	**P**	**12 57 32.4**	**-1.1**
	comp=Z,32nm,0.7s						
ULN	**Ulaanbaatar**	**58.22**	**344**	P	**P**	**12 57 49.1**	**-0.5**
SONM	**Songino Array**	**58.37**	**343**	P	**P**	**12 57 50.0**	**-0.7**
	comp=Z,3.1nm,1.0s,baz=178,slow=7.8,SNR=12						
	comp=Z,3.1nm,1.0s						
WMQ	**Urumqi**	**62.69**	**329**	*e*P	**P**	**12 58 19.4**	**-0.6**
WMQ				PcP	**PcP**	**12 58 58.3**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,15nm,0.9s						
PETK	**Petropavlovsk-**	**65.75**	**19**	P	**P**	**12 58 39.3**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=179,slow=3.3,SNR=1.8						
	comp=Z,2.6nm,0.7s						
KSH	**Kashi**	**66.92**	**319**	P	**P**	**12 58 47.5**	**0.0**
KSH				pmax	pmax		
	comp=Z,12nm,0.6s						
MK31	**Makanchi Array**	**67.51**	**328**	P	**P**	**12 58 49.9**	**-1.1**
MKAR	**Makanchi Array**	**67.51**	**328**	P	**P**	**12 58 49.7**	**-1.3**
MKAR	**Makanchi Array**	**67.51**	**328**	P	**P**	**12 58 50.1**	**-0.9**
	comp=Z,5.2nm,0.6s,baz=128,slow=7.8,SNR=55						
	comp=Z,5.2nm,0.6s						
MAKZ	**Makanchi**	**67.68**	**328**	P	**P**	**12 58 51.0**	**-1.0**
ZAA0	**Zalesovo Array**	**71.16**	**335**	P	**P**	**12 59 11.6**	**-1.5**
ZAA0				IAmb	IAmb	12 59 13.3	
	comp=Z,6.9nm,0.7s						
ZALV	**Zalesovo Beam**	**71.16**	**335**	P	**P**	**12 59 11.6**	**-1.6**
ZALV	**Zalesovo Beam**	**71.16**	**335**	P	**P**	**12 59 11.5**	**-1.7**
	comp=Z,6.6nm,0.5s,baz=137,slow=5.2,SNR=38						
	comp=Z,6.6nm,0.5s						
KURBB	**Kurchatov Arra**	**71.86**	**330**	P	**P**	**12 59 16.3**	**-1.1**
	comp=Z,5.8nm,0.6s,baz=134,slow=5.1,SNR=28						
	comp=Z,5.8nm,0.6s						
KURK	**Kurchatov**	**71.87**	**330**	P	**P**	**12 59 16.3**	**-1.2**
KURK				IAmb	IAmb	12 59 17.5	
	comp=Z,8.6nm,0.7s						
VNDA	**Vanda**	**72.06**	**173**	P	**P**	**12 59 19.0**	**+0.7**
VNDA	**Vanda**	**72.06**	**173**	P	**P**	**12 59 18.6**	**+0.4**
	comp=Z,2.7nm,0.5s,baz=318,slow=6.3,SNR=36						
	comp=Z,2.7nm,0.5s						
SBA	**Scott Base**	**72.98**	**172**	P	**P**	**12 59 24.4**	**+0.7**
SBA				IAmb	IAmb	12 59 26.4	
	comp=Z,22nm,1.2s						
MAW	**Mawson**	**73.43**	**201**	P	**P**	**12 59 27.4**	**+1.0**
	comp=Z,3.0nm,0.6s,baz=106,slow=7.4,SNR=2.0						
	comp=Z,3.0nm,0.6s						
BVAR	**Borovoye Array**	**77.38**	**329**	P	**P**	**12 59 47.9**	**-1.3**
	comp=Z,1.9nm,0.5s,baz=132,slow=6.4,SNR=20						
	comp=Z,1.9nm,0.5s						
BRVK	**Borovoye**	**77.45**	**329**	P	**P**	**12 59 48.5**	**-1.1**
BRVK				IAmb	IAmb	12 59 49.8	
	comp=Z,11nm,1.1s						
VOI	**Vohitsoka**	**78.65**	**249**	P	**P**	**12 59 57.4**	**+0.3**
VOI				IAmb	IAmb	12 59 57.8	
	comp=Z,11nm,0.8s						
GEYT	**Alibeck**	**78.83**	**311**	P	**P**	**12 59 56.8**	**-0.9**
	comp=Z,3.4nm,0.7s,baz=108,slow=4.8,SNR=5.3						
	comp=Z,3.4nm,0.7s						
TIXI	**Tiksi**	**79.18**	**0**	P	**P**	**12 59 57.6**	**-1.0**
ABKAR	**Akbulak array**	**81.56**	**322**	P	**P**	**13 00 10.5**	**-1.4**
QSPA	**South Pole Qui**	**82.29**	**180**	P	**P**	**13 00 15.3**	**-0.3**
QSPA				IAmb	IAmb	13 00 16.9	
	comp=Z,9.6nm,0.9s						
QSPA	**South Pole Qui**	**82.29**	**180**	P	**P**	**13 00 15.2**	**-0.4**
	comp=Z,6.0nm,0.6s,baz=313,slow=1.1,SNR=64						
	comp=Z,6.0nm,0.6s						
ELIB	**Princess Elisa**	**87.11**	**198**	*d*PcP	**PcP**	**13 00 41.2**	**-0.4**
	comp=Z,9.7nm,0.7s						
TROLL	**Troll, Antarti**	**92.89**	**195**	⇑P	**P**	**13 01 08.0**	**+1.4**
	comp=Z,241nm,0.7s						
SNAA	**Sanae**	**94.42**	**194**	P	**P**	**13 01 13.3**	**-0.3**
SNAA				IAmb	IAmb	13 01 15.1	
	comp=Z,2.8nm,0.7s						
SNAA	**Sanae**	**94.42**	**194**	⇑P	**P**	**13 01 14.6**	**+1.0**
	comp=Z,50nm,0.5s						
SNAA	**Sanae**	**94.42**	**194**	P	**P**	**13 01 13.7**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=188,slow=4.6,SNR=16						
	comp=Z,2.3nm,0.6s						
ILAR	**Eielson Array**	**95.00**	**25**	P	**P**	**13 01 14.1**	**-2.1**
	comp=Z,0.3nm,0.7s,baz=251,slow=5.5,SNR=5.4						
	comp=Z,0.3nm,0.7s						
VNA3	**Neumayer Olymp**	**96.29**	**193**	⇑P	P	13 01 12.6	-9.4
	comp=Z,4.2nm,0.8s						
ARCES	**ARCESS Array B**	**101.38**	**339**	P	**Pdif**	**13 01 43.1**	**-1.6**
	comp=Z,3.0nm,1.0s,baz=74,slow=6.7,SNR=5.2						
ARCES				PKiKP	**PKiKP**	**13 06 07.3**	**-0.7**
	comp=Z,2.5nm,1.0s,baz=90,slow=0.9,SNR=6.7						
YKA	**Yellowknife Ar**	**109.42**	**26**	PKiKP	**PKiKP**	**13 06 22.2**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=294,slow=1.9,SNR=19						
YKA				PKKPbc	**PKKPbc**	**13 17 28.2**	**-3.1**
	comp=Z,0.3nm,0.6s,baz=112,slow=2.9,SNR=6.7						
CLL	**Collm**	**111.23**	**322**	*e*PKPdf	**PKiKP**	**13 06 27.0**	**+0.2**
GERES	**GERESS Array B**	**111.39**	**320**	PKiKP	**PKiKP**	**13 06 26.2**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=118,slow=5.8,SNR=4.5						
NVAR	**Mina Array Bea**	**113.61**	**51**	PKiKP	**PKiKP**	**13 06 31.9**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=248,slow=3.7,SNR=4.0						
EKA	**Eskdalemuir Ar**	**118.60**	**330**	PKP	**PKPdf**	**13 06 39.3**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=21,slow=2.6,SNR=5.0						
PDAR	**Pinedale Array**	**119.08**	**45**	PKP	**PKPdf**	**13 06 41.4**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=290,slow=1.4,SNR=8.4						
PDAR				PKKPbc	**PKKPbc**	**13 16 58.9**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=119,slow=5.2,SNR=4.0						
ULM	**Lac du Bonnet**	**124.33**	**32**	PKP	**PKPdf**	**13 06 50.4**	**-1.6**
	comp=Z,3.7nm,0.6s,baz=313,slow=6.9,SNR=6.2						
ESDC	**Sonseca Array**	**126.28**	**314**	PKP	**PKPdf**	**13 06 56.0**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=30,slow=2.2,SNR=7.0						
TORD	**Torodi Ar. Bea**	**126.57**	**281**	PKP	**PKPdf**	**13 06 56.4**	**-0.9**
	comp=Z,3.1nm,0.8s,baz=53,slow=2.6,SNR=15						
TXAR	**Lajitas Array**	**127.35**	**59**	PKP	**PKPdf**	**13 06 58.6**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=242,slow=1.9,SNR=4.1						
CPUP	**Villa Florida**	**145.85**	**172**	PKPbc	**PKPdf**	**13 07 33.0**	**+0.5**
	comp=Z,4.2nm,0.5s,baz=202,slow=2.7,SNR=7.9						

*NOU **05** 13:03:30.9, 33°.68S×179°.26W, h333km, mb4.1/7, South of Kermadec Islands*

*IDC **05** 13:03:52.1±4.8, 34°.67S×179°.10E, h129km±38km, mb3.6/4, mbtmp4.2/6, Error ellipse: s-maj=42.4km s-min=23.6km az=52.0*

*WEL **05** 13:04:00.3±0.6, 36°S±6°×17°9E±1°0, h241km±6km, M3.8/49, mB4.3/7, ML4.5/48, MLv4.2/49, Mw(mB)3.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=112.6, confirmed*

ISC 05 13:04:02.4±1.2**, 35°.62S**±0°.09×**178°.93E**±0°.09**, h244**km±8km**, n97,** σ1**$.38**/131**, mb3.5**/4**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.00**	**194**	P	**Pn**	**13 04 43.5**	**-0.8**
MXZ	**Matakaoa Point**	**2.00**	**194**	P	**Pn**	**13 04 42.5**	**-1.8**
WMGZ	**Waiomatatini S**	**2.23**	**190**	P	**Pn**	**13 04 45.4**	**-1.1**
WMGZ				S	**S**	**13 05 20.8**	**-0.6**
HAZ	**Te Kaha**	**2.32**	**203**	P	**Pn**	**13 04 45.8**	**-1.5**
HAZ				S	**S**	**13 05 22.9**	**+0.1**
PKGZ	**Pakihiroa**	**2.37**	**197**	P	**Pn**	**13 04 46.4**	**-1.5**
PKGZ				S	**S**	**13 05 22.9**	**-0.9**
PUZ	**Puketiti**	**2.51**	**192**	P	**Pn**	**13 04 47.9**	**-1.3**
PUZ				S	**S**	**13 05 25.1**	**-1.2**
RUGZ	**Raukumara Rang**	**2.55**	**203**	P	**Pn**	**13 04 48.3**	**-1.4**
RUGZ				S	**S**	**13 05 26.2**	**-1.0**
TWGZ	**Tauwhareparae**	**2.66**	**196**	P	**Pn**	**13 04 49.8**	**-1.1**
TWGZ				S	**S**	**13 05 30.0**	**+0.8**
KUZ	**Kuaotunu**	**2.83**	**246**	P	**Pn**	**13 04 50.5**	**-2.0**
CNGZ	**Carnagh Statio**	**2.92**	**191**	P	**Pn**	**13 04 53.1**	**-0.4**
CNGZ				S	**S**	**13 05 35.6**	**+1.7**
OPRZ	**Ohinepanea**	**2.93**	**220**	P	**Pn**	**13 04 52.8**	**-0.8**
MWZ	**Matawai**	**2.93**	**202**	P	**Pn**	**13 04 53.0**	**-0.8**
MWZ				S	**S**	**13 05 33.9**	**-0.5**
TKGZ	**Te Karaka**	**2.94**	**197**	P	**Pn**	**13 04 52.6**	**-1.1**
TKGZ				S	**S**	**13 05 35.0**	**+0.5**
MARZ	**Manawahe**	**2.97**	**217**	P	**Pn**	**13 04 53.7**	**-0.4**
URZ	**Urewera**	**3.01**	**208**	P	**Pn**	**13 04 53.5**	**-1.0**
URZ	**Urewera**	**3.01**	**208**	P	**Pn**	**13 04 52.2**	**-2.2**
	21nm,0.2s,baz=22,slow=4.2,SNR=92						
URZ				S	**S**	**13 05 35.6**	**-0.2**
	42nm,0.3s,baz=202,slow=1.2,SNR=16						
URZ	**Urewera**	**3.01**	**208**	P	**Pn**	**13 04 53.1**	**-1.4**
URZ				S	**S**	**13 05 35.2**	**-0.6**
RAGZ	**Rawiri**	**3.12**	**202**	P	**Pn**	**13 04 55.2**	**-0.6**
RAGZ				S	**S**	**13 05 39.7**	**+1.7**
MKRZ	**Makatiti**	**3.20**	**217**	P	**Pn**	**13 04 59.1**	**+2.4**
OMRZ	**Omania**	**3.22**	**219**	P	**Pn**	**13 04 56.7**	**-0.1**
RIGZ	**Rimuhau**	**3.22**	**196**	P	**Pn**	**13 04 55.9**	**-0.9**
RIGZ				S	**S**	**13 05 40.7**	**+0.6**
KARZ	**Kaharoa**	**3.22**	**221**	P	**Pn**	**13 04 57.1**	**+0.2**
TARZ	**Mount Tarawera**	**3.25**	**216**	P	**Pn**	**13 04 58.3**	**+1.0**
RTZ	**Ruatahuna**	**3.37**	**207**	P	**Pn**	**13 04 57.3**	**-1.3**
RTZ				S	**S**	**13 05 43.5**	**+0.3**
PRGZ	**Paritu Road**	**3.40**	**194**	P	**Pn**	**13 04 58.0**	**-0.9**
PRGZ				S	**S**	**13 05 43.2**	**-0.6**
SNGZ	**Shannon Statio**	**3.40**	**201**	P	**Pn**	**13 04 58.2**	**-0.7**
SNGZ				S	**S**	**13 05 45.7**	**+1.9**
HRRZ	**Handcock Road**	**3.48**	**217**	P	**Pn**	**13 05 00.3**	**+0.4**
PRRZ	**Plateau Road**	**3.52**	**214**	P	**Pn**	**13 04 59.9**	**-0.3**
PRRZ				S	**S**	**13 05 46.4**	**+0.4**
KNZ	**Kokohu**	**3.54**	**196**	P	**Pn**	**13 04 59.3**	**-1.1**
KNZ				S	**S**	**13 05 46.8**	**+0.3**
ALRZ	**Allen Road**	**3.59**	**214**	P	**Pn**	**13 05 00.7**	**-0.4**
ALRZ				S	**S**	**13 05 47.8**	**+0.2**
RAHZ	**Arahi**	**3.60**	**204**	P	**Pn**	**13 05 00.4**	**-0.8**
RAHZ				S	**S**	**13 05 49.1**	**+1.2**
MHGZ	**Mahia Peninsul**	**3.62**	**193**	P	**Pn**	**13 05 00.9**	**-0.4**
MHGZ				S	**S**	**13 05 47.6**	**-0.6**
MTHZ	**Maungataniwha**	**3.63**	**207**	P	**Pn**	**13 05 00.4**	**-1.2**
MTHZ				S	**S**	**13 05 51.0**	**+2.5**
WHHZ	**Waihua**	**3.71**	**201**	P	**Pn**	**13 05 01.7**	**-0.7**
WHHZ				S	**S**	**13 05 52.3**	**+2.3**
MRHZ	**Matea Rd**	**3.78**	**211**	P	**Pn**	**13 05 02.1**	**-1.2**
KUTZ	**Kaahu Road**	**3.79**	**220**	P	**Pn**	**13 05 05.1**	**+1.8**
TLZ	**Tolley Road**	**3.83**	**224**	P	**Pn**	**13 05 04.3**	**+0.5**
NMHZ	**Naumai**	**3.86**	**205**	P	**Pn**	**13 05 03.7**	**-0.5**
NMHZ				S	**S**	**13 05 55.4**	**+2.0**
ARHZ	**Aropaoanui**	**3.95**	**202**	P	**Pn**	**13 05 04.4**	**-0.8**
ARHZ				S	**S**	**13 05 56.4**	**+1.3**
MCHZ	**McNeill Hill**	**4.21**	**204**	P	**Pn**	**13 05 07.9**	**-0.4**
MCHZ				S	**S**	**13 06 03.5**	**+2.8**
KWHZ	**Kaweka Forest**	**4.29**	**207**	P	**Pn**	**13 05 08.1**	**-1.2**
KWHZ				S	**S**	**13 06 04.8**	**+2.3**
CKHZ	**Cape Kidnapper**	**4.29**	**199**	P	**Pn**	**13 05 08.5**	**-0.7**
CKHZ				S	**S**	**13 06 04.1**	**+1.6**
NTVZ	**North Tongarir**	**4.33**	**216**	P	**Pn**	**13 05 10.1**	**+0.2**
TMVZ	**Te Maari**	**4.33**	**215**	P	**Pn**	**13 05 09.1**	**-0.8**
ETVZ	**East Tongariro**	**4.35**	**215**	P	**Pn**	**13 05 09.2**	**-0.9**
HIZ	**Hauiti**	**4.35**	**227**	P	**Pn**	**13 05 11.5**	**+1.5**
HIZ	**Hauiti**	**4.35**	**227**	P	**Pn**	**13 05 11.5**	**+1.5**
WTVZ	**West Tongariro**	**4.39**	**216**	P	**Pn**	**13 05 10.9**	**+0.3**
NNVZ	**North Ngauruho**	**4.39**	**216**	P	**Pn**	**13 05 10.8**	**+0.2**
OTVZ	**Oturere**	**4.39**	**215**	P	**Pn**	**13 05 09.8**	**-0.8**
SNVZ	**South Ngauruho**	**4.42**	**215**	P	**Pn**	**13 05 10.2**	**-0.8**
NGZ	**Ngauruhoe**	**4.43**	**216**	P	**Pn**	**13 05 11.8**	**+0.7**
KAHZ	**Kahuranaki**	**4.47**	**201**	P	**Pn**	**13 05 10.8**	**-0.7**
KAHZ				S	**S**	**13 06 07.6**	**+1.1**
TUVZ	**Tukino**	**4.48**	**215**	P	**Pn**	**13 05 11.4**	**-0.2**
BHHZ	**Black Hill Sta**	**4.48**	**210**	P	**Pn**	**13 05 10.6**	**-1.0**
KRHZ	**Kereru**	**4.50**	**206**	P	**Pn**	**13 05 10.6**	**-1.2**
MOVZ	**Moawhango**	**4.55**	**213**	P	**Pn**	**13 05 11.3**	**-1.1**
WNVZ	**Wahianoa**	**4.55**	**215**	P	**Pn**	**13 05 12.1**	**-0.4**
MTVZ	**Mangateitei**	**4.66**	**215**	P	**Pn**	**13 05 13.9**	**+0.1**
PXZ	**Pawanui**	**4.70**	**200**	P	**Pn**	**13 05 12.5**	**-1.7**
PNHZ	**Pukenui**	**4.80**	**206**	P	**Pn**	**13 05 14.0**	**-1.5**
WPHZ	**Waipukurau**	**4.85**	**203**	P	**Pn**	**13 05 15.3**	**-0.7**
WPHZ				S	**S**	**13 06 16.4**	**+1.6**
PRHZ	**Porangahau**	**4.98**	**201**	P	**Pn**	**13 05 16.1**	**-1.5**
TSZ	**Takapari Road**	**5.01**	**207**	P	**Pn**	**13 05 16.4**	**-1.7**
DVHZ	**Dannevirke**	**5.16**	**204**	P	**Pn**	**13 05 18.3**	**-1.5**
DVHZ				S	**S**	**13 06 20.5**	**-1.0**
ANWZ	**Angora Road**	**5.21**	**201**	P	**Pn**	**13 05 19.6**	**-0.7**
ANWZ				S	**S**	**13 06 24.1**	**+1.5**
POWZ	**Post Office Ro**	**5.38**	**207**	P	**Pn**	**13 05 21.8**	**-0.7**
PRWZ	**Pori Road**	**5.45**	**204**	P	**Pn**	**13 05 22.8**	**-0.6**
PRWZ				S	**S**	**13 06 27.1**	**-1.0**
BFZ	**Birch Farm**	**5.48**	**202**	P	**Pn**	**13 05 22.6**	**-1.2**
BFZ	**Birch Farm**	**5.48**	**202**	P	**Pn**	**13 05 22.3**	**-1.4**
BFZ				S	**S**	**13 06 27.7**	**-1.0**
TIWZ	**Tintock**	**5.68**	**204**	P	**Pn**	**13 05 24.2**	**-2.0**
TIWZ				S	**S**	**13 06 33.0**	**-0.3**
MRZ	**Mangatainoka R**	**5.68**	**207**	P	**Pn**	**13 05 24.1**	**-2.2**
CPWZ	**Castlepoint**	**5.70**	**201**	P	**Pn**	**13 05 26.1**	**-0.4**
CPWZ				S	**S**	**13 06 34.0**	**+0.3**
TMWZ	**Te Maipa**	**5.98**	**203**	P	**Pn**	**13 05 28.2**	**-1.8**
TRWZ	**Traveller**	**6.30**	**203**	P	**Pn**	**13 05 32.3**	**-1.7**
TRWZ				S	**S**	**13 06 46.1**	**-1.4**
SNZO	**South Karori**	**6.58**	**209**	P	**Pn**	**13 05 37.0**	**-0.5**
	36nm,1.1s						
KHZ	**Kahutara**	**7.98**	**210**	P	**Pn**	**13 05 53.3**	**-1.9**
CTZ	**Chatham Island**	**8.80**	**158**	P	Pn	13 06 13.7	+8.1
CTZ				S	**S**	**13 07 48.1**	**+3.0**
INZ	**Inchbonnie**	**9.17**	**217**	P	**P**	**13 06 16.3**	**-1.3**
OXZ	**Oxford**	**9.36**	**213**	P	**P**	**13 06 21.7**	**+2.0**
MHCZ	**Mount Hutt**	**9.73**	**213**	P	**P**	**13 06 22.8**	**-1.1**
WVZ	**Waitaha Valley**	**9.78**	**218**	P	**P**	**13 06 23.0**	**-1.4**
RPZ	**Rata Peaks**	**10.10**	**214**	P	**P**	**13 06 26.7**	**-1.4**
	15nm,0.5s,baz=16,slow=18,SNR=32						
RPZ				S	**S**	**13 08 10.1**	**-5.6**
	1.4nm,0.3s,baz=58,slow=23,SNR=1.2						
RPZ	**Rata Peaks**	**10.10**	**214**	P	**P**	**13 06 27.7**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**10.16**	**218**	P	**P**	**13 06 29.5**	**+0.8**
ARCZ	**Arundel**	**10.23**	**213**	P	**P**	**13 06 31.2**	**+1.7**
FOZ	**Fox Glacier**	**10.57**	**219**	P	P	13 06 38.4	+5.2
TMZ	**Timaru**	**10.65**	**212**	P	**P**	**13 06 38.6**	**+4.5**
LBZ	**Lake Benmore**	**11.02**	**215**	P	P	13 06 43.7	+5.5
ASAR	**Alice Springs**	**40.59**	**274**	P	**P**	**13 11 19.8**	**+1.2**
	0.8nm,0.3s,baz=116,slow=7.4,SNR=25						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**42.06**	**280**	P	**P**	**13 11 31.5**	**+1.0**
	0.9nm,0.5s,baz=119,slow=7.6,SNR=19						
	0.9nm,0.5s						
QSPA	**South Pole Qui**	**54.50**	**180**	P	P	13 13 13.6	+8.9
	0.4nm,0.4s,baz=204,slow=1.5,SNR=16						
	0.4nm,0.4s						
PETK	**Petropavlovsk-**	**90.27**	**347**	P	**P**	**13 16 33.5**	**-1.3**
	2.8nm,1.0s,baz=126,slow=7.5,SNR=6.8						
	2.8nm,1.0s						
MKAR	**Makanchi Array**	**119.08**	**309**	PKP	**PKiKP**	**13 22 22.4**	**+0.7**
	0.2nm,0.3s,baz=132,slow=2.1,SNR=1.9						
KURBB	**Kurchatov Arra**	**122.73**	**312**	PKP	**PKiKP**	**13 22 29.2**	**+0.5**
	0.4nm,0.6s,baz=116,slow=2.6,SNR=1.6						
ARCES	**ARCESS Array B**	**143.04**	**345**	PKhKP	PKPpre	13 23 04.2	
	3.9nm,1.1s,baz=11,slow=0.9,SNR=1.5						
FINES	**FINESS Array B**	**148.96**	**335**	PKPbc	**PKiKP**	**13 23 21.2**	**-0.3**
	2.5nm,0.7s,baz=48,slow=2.8,SNR=6.6						

*IDC **05** 13:08:02.6±1.4, 36°.56N×140°.14E, h116km±12km, mb3.4/8, mbtmp3.8/11, Error ellipse: s-maj=19.7km s-min=11.0km az=63.0*

*NEIC **05** 13:08:03.5±1.5, 36°.56N±0°.04×140°.09E±0°.05, h107km±7km, mb4.3/35, Error ellipse: s-maj=7.3km s-min=4.6km az=216.0*

*JMA **05** 13:08:03.8±0.1, 36°.6N±0°.4×140°.1E±0°.6, h109km, MV3.5/35, SOUTHERN TOCHIGI PREF*

JMA Felt I J1 at SOUTHERN TOCHIGI PREF .

ISC 05 13:08:03.0±0.7**, 36°.57N**±0°.04×**140°.10E**±0°.05**, h113**km±6km**, n71,** σ1**$.07**/76**, mb4.3**/24**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.35**	**168**	*i* P	**Pn**	**13 08 19.9**	**+0.6**
JYT				*e*S	**Sn**	**13 08 31.4**	**-0.2**
JAG	**Ashikaga**	**0.54**	**255**	*i* P	**Pn**	**13 08 20.6**	**+0.2**
JAG				S	**Sn**	**13 08 33.5**	**-0.1**
JKT	**Katashina**	**0.71**	**286**	P	**Pn**	**13 08 22.3**	**+0.4**
JFY	**Yanaizu**	**0.89**	**339**	*i* P	**Pn**	**13 08 23.7**	**+0.3**
JFY				*e*S	**Sn**	**13 08 38.5**	**-0.3**
JOTO	**OTAMA OYAMA**	**1.00**	**11**	*i* P	**Pn**	**13 08 25.0**	**+0.5**
JOTO				S	**Sn**	**13 08 41.4**	**+0.6**
JFK	**Kawauchi**	**1.01**	**38**	*i* P	**Pn**	**13 08 25.1**	**+0.5**
JFK				S	**Sn**	**13 08 40.8**	**0.0**
JUON	**Uonuma**	**1.05**	**308**	*i* P	**Pn**	**13 08 25.3**	**+0.3**
JUON				*e*S	**Sn**	**13 08 41.4**	**-0.2**
JRY	**Ryogami san**	**1.12**	**241**	*i* P	**Pn**	**13 08 26.3**	**+0.6**
JRY				S	**Sn**	**13 08 43.0**	**+0.2**
JNS	**Sasagawa**	**1.40**	**334**	*e*P	**Pn**	**13 08 29.1**	**+0.4**
JNS				S	**Sn**	**13 08 47.7**	**-0.6**
JMM	**Marumori**	**1.41**	**23**		**Pn**	**13 08 29.2**	**+0.3**
JMM				Sn	**Sn**	**13 08 47.0**	**-1.5**
MJAR	**Matsushiro Arr**	**1.52**	**269**	P	**Pn**	**13 08 29.9**	**-0.4**
	15nm,0.3s,baz=81,slow=27,SNR=101						
MJAR				S	**Sn**	**13 08 51.2**	**+0.2**
	27nm,0.7s,baz=62,slow=20,SNR=16						
MAJO	**Matsushiro**	**1.53**	**270**		**Pn**	**13 08 30.5**	**+0.2**
JSG	**Sagara**	**2.45**	**220**	Pn	**Pn**	**13 08 41.5**	**-0.4**
JHJ	**Hachijo jima 2**	**3.45**	**184**	P	**Pn**	**13 08 55.4**	**+0.3**
	59nm,0.4s,baz=133,slow=23,SNR=6.4						
JHJ				S	**Sn**	**13 09 34.2**	**-1.2**
	69nm,0.3s,baz=32,slow=14,SNR=1.8						
JHJ2	**Mitsune**	**3.46**	**184**	Pn	**Pn**	**13 08 54.7**	**-0.5**
JMN	**Monobe**	**5.83**	**243**	Pn	**Pn**	**13 09 27.2**	**+0.1**
ASAJ	**Asahikawa**	**7.77**	**13**	P	**Pn**	**13 09 51.4**	**-1.9**
	14nm,1.1s,baz=201,slow=17,SNR=1.4						
KSRS	**Korea Array**	**9.78**	**279**	P	**Pn**	**13 10 22.4**	**+1.8**
	0.7nm,0.4s,baz=91,slow=14,SNR=1.9						
SONM	**Songino Array**	**27.18**	**305**	P	**P**	**13 13 34.7**	**-1.1**
SONM	**Songino Array**	**27.18**	**305**	P	**P**	**13 13 34.8**	**-1.1**
	0.4nm,0.6s,baz=114,slow=8.7,SNR=4.1						

	0.4nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.84**	**118**	T	T	13 44 10.1	
	baz=312,slow=75,SNR=7.2						
H11N1	**WAKE ISLAND Hy**	**28.84**	**118**	T	T	13 44 09.7	
	baz=312,slow=75,SNR=8.7						
H11N3	**WAKE ISLAND Hy**	**28.85**	**118**	T	T	13 44 12.2	
	baz=312,slow=75,SNR=5.9						
H11S1	**WAKE ISLAND Hy**	**29.51**	**120**	T	T	13 44 55.2	
	baz=314,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hy**	**29.51**	**120**	T	T	13 44 56.4	
	baz=314,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**29.53**	**120**	T	T	13 44 56.8	
	baz=314,slow=75,SNR=9.6						
MIDW	**Midway**	**36.62**	**91**	P	**P**	**13 14 57.1**	**-1.3**
ZALV	**Zalesovo Beam**	**41.45**	**313**	P	**P**	**13 15 37.4**	**-1.0**
	0.5nm,0.4s,baz=92,slow=10,SNR=2.2						
	0.5nm,0.4s						
MK31	**Makanchi Array**	**43.47**	**302**	P	**P**	**13 15 54.1**	**-0.7**
MKAR	**Makanchi Array**	**43.47**	**302**	P	**P**	**13 15 54.5**	**-0.4**
MKAR	**Makanchi Array**	**43.47**	**302**	P	**P**	**13 15 53.6**	**-1.2**
	0.7nm,0.7s,baz=83,slow=10.0,SNR=5.7						
	0.7nm,0.7s						
F17K	**Baldwin Pennin**	**44.64**	**29**	P	**P**	**13 16 05.7**	**+2.0**
C18K	**Utukok River**	**45.16**	**26**	P	**P**	**13 16 09.3**	**+1.3**
KURBB	**Kurchatov Arra**	**45.46**	**308**	P	**P**	**13 16 09.3**	**-1.2**
	1.3nm,0.2s,baz=88,slow=8.3,SNR=5.8						
	1.3nm,0.2s						
D19K	**Kuna River**	**46.23**	**27**	P	**P**	**13 16 17.7**	**+1.3**
E19K	**Redstone River**	**46.38**	**28**	P	**P**	**13 16 19.0**	**+1.5**
J19K	**Poorman**	**46.65**	**33**	P	**P**	**13 16 20.6**	**+1.0**
J19K				IAmb	IAmb	13 16 24.8	
	comp=Z,8.3nm,1.5s						
B20K	**Meade River**	**46.85**	**25**	P	**P**	**13 16 22.5**	**+1.4**
K20K	**Telida**	**47.30**	**34**	P	**P**	**13 16 26.8**	**+2.0**
J20K	**Nowinta River**	**47.30**	**33**	P	**P**	**13 16 26.2**	**+1.5**
J20K				IAmb	IAmb	13 16 29.9	
	comp=Z,10.0nm,1.5s						
B21K	**Ikpikpuk River**	**47.66**	**25**	P	**P**	**13 16 28.9**	**+1.5**
B21K				IAmb	IAmb	13 16 60.0	
	comp=Z,5.7nm,1.1s						
E21K	**Killik River**	**47.73**	**27**	P	**P**	**13 16 29.5**	**+1.5**
E21K				IAmb	IAmb	13 16 51.7	
	comp=Z,6.1nm,1.5s						
D22K	**Ayikyak River**	**48.25**	**27**	P	**P**	**13 16 33.6**	**+1.6**
D22K				IAmb	IAmb	13 16 44.9	
	comp=Z,8.5nm,1.3s						
E22K	**Anaktuvuk Pass**	**48.50**	**28**	P	**P**	**13 16 35.6**	**+1.6**
E22K				IAmb	IAmb	13 17 18.4	
	comp=Z,5.3nm,1.4s						
CNPM	**China Poot**	**48.72**	**39**	P	**P**	**13 16 37.5**	**+1.7**
G23K	**Bananza Creek**	**49.12**	**30**	P	**P**	**13 16 39.8**	**+1.0**
D24K	**Happy Valley**	**49.66**	**26**	P	**P**	**13 16 44.2**	**+1.6**
D24K				IAmb	IAmb	13 17 05.2	
	comp=Z,5.2nm,1.2s						
GHO	**Glory Hole Cre**	**49.71**	**36**	P	**P**	**13 16 44.5**	**+1.2**
CCB	**Clear Creek Bu**	**50.06**	**32**	P	**P**	**13 16 46.3**	**+0.5**
BVAR	**Borovoye Array**	**50.11**	**312**	P	**P**	**13 16 46.6**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=81,slow=8.9,SNR=3.2						
	comp=Z,0.3nm,0.3s						
IL31		**50.45**	**32**	P	**P**	**13 16 49.5**	**+0.8**
IL31				IAmb	IAmb	13 17 05.7	
	comp=Z,6.5nm,1.4s						
ILAR	**Eielson Array**	**50.45**	**32**	P	**P**	**13 16 49.4**	**+0.7**
ILAR	**Eielson Array**	**50.45**	**32**	P	**P**	**13 16 48.2**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=258,slow=5.1,SNR=7.6						
	comp=Z,0.5nm,0.7s						
D25K	**Kavik River**	**50.53**	**26**	P	**P**	**13 16 50.7**	**+1.3**
D25K				IAmb	IAmb	13 17 20.3	
	comp=Z,7.8nm,1.5s						
E27K	**Coleen River**	**52.32**	**28**	P	**P**	**13 17 04.5**	**+1.8**
E27K				IAmb	IAmb	13 17 25.8	
	comp=Z,6.2nm,1.4s						
K27K	**Chicken**	**52.60**	**33**	P	**P**	**13 17 06.4**	**+1.7**
K27K				IAmb	IAmb	13 17 24.8	
	comp=Z,6.5nm,1.4s						
I28M	**Miner Creek**	**53.30**	**31**	P	**P**	**13 17 11.6**	**+1.5**
I28M				IAmb	IAmb	13 17 42.8	
	comp=Z,5.7nm,1.4s						
E29M	**Blow River**	**53.66**	**27**	P	**P**	**13 17 14.5**	**+2.1**
I30M	**Mount Dempster**	**54.81**	**31**	P	**P**	**13 17 22.6**	**+1.7**
G31M	**Satah River**	**55.29**	**29**	P	**P**	**13 17 25.1**	**+0.9**
G31M				IAmb	IAmb	13 17 56.8	
	comp=Z,4.8nm,1.4s						
F31M	**Tsiigehtchic**	**55.38**	**28**	P	**P**	**13 17 25.5**	**+0.7**
F31M				IAmb	IAmb	13 17 43.9	
	comp=Z,4.6nm,1.4s						
WB0	**Warramunga Arr**	**56.29**	**186**	P	**P**	**13 17 31.5**	**-0.4**
WB0				IAmb	IAmb	13 17 45.4	
	comp=Z,4.8nm,1.2s						
WRAB	**Tennant Creek**	**56.46**	**186**	P	**P**	**13 17 32.7**	**-0.4**
WRAB				IAmb	IAmb	13 18 00.2	
	comp=Z,6.7nm,1.5s						
WRA	**Warramunga Arr**	**56.47**	**187**	P	**P**	**13 17 32.8**	**-0.4**
WRA	**Warramunga Arr**	**56.47**	**187**	P	**P**	**13 17 32.9**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=2.3,slow=7.2,SNR=18						
	comp=Z,0.5nm,0.4s						
POHA	**Pohakuloa**	**58.17**	**88**	P	**P**	**13 17 45.1**	**-0.5**
H04D	**Lebanon**	**69.95**	**49**	P	**P**	**13 19 01.8**	**-0.2**
ELMT	**Elliston**	**74.76**	**43**	P	**P**	**13 19 30.8**	**0.0**
PDAR	**Pinedale Array**	**78.74**	**45**	P	**P**	**13 19 53.5**	**+0.2**
PDAR	**Pinedale Array**	**78.74**	**45**	P	**P**	**13 19 53.3**	**0.0**
	comp=Z,0.1nm,0.4s,baz=339,slow=4.0,SNR=1.9						
	comp=Z,0.1nm,0.4s						
PPTF	**Pamatai, Papee**	**85.40**	**116**	P	**P**	**13 20 29.6**	**+1.5**

MDD ***05*** *13:08:35.9±0.2, 37.°09N×5.°54W, h0km, mb_Lg2.7/23, Error ellipse: s-maj=2.4km s-min=1.4km az=175.0*
SFS ***05*** *13:08:36.4, 37.°08N×5.°55W, h2km, ML2.6/14, ML2.7/12, MLv2.6/14*
IGIL ***05*** *13:08:36.2, 37.°09N×5.°54W, h0km*
INMG ***05*** *13:08:36.9±1.8, 37.°01N×5.°53W, h15km±3km, ML2.4, Error ellipse: s-maj=2.3km s-min=2.3km az=165.0*
CNRM ***05*** *13:08:41.4, 36.°59N×5.°97W, h144km*
ISC 05 13:08:35.0±1.1**, 37.°00N**±0.°02×**5.°53W**±0.°01**, h11**km±9km**, n73,** σ1**s54**/152**, 4C, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.29**	**243**	Pg	**Pb**	**13 08 42.8**	**+0.5**
ESPR				Sg	**Sb**	**13 08 47.4**	**+0.2**
ESPR				*i* Vmb_Lg		13 08 53.6	
ESPR	**Espera**	**0.29**	**243**	Pg	**Pb**	**13 08 42.7**	**+0.5**
ESPR				Sg	**Sb**	**13 08 46.9**	**-0.2**
EMIJ	**Mijas**	**0.75**	**125**	⇑Pg	**Pb**	**13 08 50.0**	**-0.1**
EMIJ				Sg	**Sn**	**13 09 00.9**	**-1.9**
EMIJ				*i* Vmb_Lg		13 09 07.9	
EMIJ	**Mijas**	**0.75**	**125**	Sg	**Sn**	**13 09 02.8**	**-0.1**
EMIJ				Pg	**Pb**	**13 08 49.9**	**-0.1**
EMAL	**Malaga-Limoner**	**0.91**	**105**	Pg	**Pn**	**13 08 54.1**	**+0.3**
EMAL				Sg	**Sn**	**13 09 06.7**	**-0.2**
ECAB	**El Cabril**	**1.08**	**5**	Pg	**Pg**	**13 08 55.4**	**-0.4**
ECAB				Sg	**Sg**	**13 09 08.8**	**-1.0**
ECAB				*i* Vmb_Lg		13 09 12.0	
ECAB	**El Cabril**	**1.08**	**5**	Pg	**Pg**	**13 08 55.4**	**-0.4**
ECAB				Sg	**Sg**	**13 09 08.8**	**-1.0**
EGOR	**Sierra Gorda,**	**1.14**	**84**	Pg	**Pn**	**13 08 57.7**	**+0.6**
EGOR				Sg	**Sn**	**13 09 13.3**	**+0.5**
EGOR				*i* Vmb_Lg		13 09 17.9	
EGOR	**Sierra Gorda,**	**1.14**	**84**	Sn	**Sn**	**13 09 14.1**	**+1.3**
EGOR				Pn	**Pn**	**13 08 57.7**	**+0.6**
EMIN	**Mina Concepcio**	**1.19**	**310**	Pg	**Pn**	**13 08 57.3**	**-0.3**
EMIN				Sg	**Sb**	**13 09 13.3**	**+0.4**
EMIN				*i* Vmb_Lg		13 09 16.2	
EMIN	**Mina Concepcio**	**1.19**	**310**	Pn	**Pn**	**13 08 57.3**	**-0.3**
EMIN				Sn	**Sb**	**13 09 13.2**	**+0.2**
EADA	**Adamuz**	**1.39**	**33**	⇑Pg	**Pn**	**13 09 00.1**	**-0.3**
EADA				Sg	**Sb**	**13 09 19.1**	**+0.3**
EADA				*i* Vmb_Lg		13 09 20.9	
EADA	**Adamuz**	**1.39**	**33**	Sn	**Sb**	**13 09 18.6**	**-0.1**
EADA				Pn	**Pn**	**13 09 00.1**	**-0.3**
ELGU	**Los Guajares,**	**1.53**	**94**	Pn	**Pg**	**13 09 04.0**	**-0.4**
ELGU				Sg	**Sg**	**13 09 25.8**	**+1.4**
ELGU				*i* Vmb_Lg		13 09 31.7	
ELGU	**Los Guajares,**	**1.53**	**94**	Sn	**Sg**	**13 09 25.1**	**+0.8**
ELGU				Pn	**Pg**	**13 09 04.0**	**-0.4**
EGRO	**El Granado**	**1.65**	**289**	Pn	**Pn**	**13 09 04.2**	**+0.3**
EGRO				Pg	**Pb**	**13 09 06.0**	**+0.7**
EGRO				Sn	**Sn**	**13 09 24.9**	**-0.1**
EGRO				Sg	**Sb**	**13 09 26.7**	**+0.6**
EGRO				*i* Vmb_Lg		13 09 31.5	
EGRO	**El Granado**	**1.65**	**289**	Sn	**Sb**	**13 09 27.1**	**+1.0**
EGRO				Pn	**Pn**	**13 09 03.9**	**+0.1**
PBAR	**Barrancos**	**1.68**	**315**	*e*Pn	**Pn**	**13 09 04.0**	**-0.3**
PBAR				*e*Sg	**Sb**	**13 09 28.1**	**+1.1**
PBAR				A	A	13 09 35.0	
	20nm,0.5s						
PBAR	**Barrancos**	**1.68**	**315**	Pn	**Pn**	**13 09 04.0**	**-0.3**
EQTA	**Presa de Quent**	**1.68**	**82**	Pn	**Pb**	**13 09 05.6**	**-0.5**
EQTA				Sn	**Sg**	**13 09 28.1**	**-1.0**
EQUE	**Quentar**	**1.68**	**82**	Pn	**Pb**	**13 09 05.6**	**-0.4**
EQUE				Sn	**Sb**	**13 09 26.6**	**-0.7**
EQUE				Sg	**Sg**	**13 09 30.2**	**+1.0**
EQUE				*i* Vmb_Lg		13 09 33.1	
PVAQ	**Vaqueiros**	**1.79**	**284**	*e*Pn	**Pn**	**13 09 06.0**	**+0.1**
PVAQ				*e*Sn	**Sn**	**13 09 27.1**	**-1.5**
PVAQ				*e*Sg	**Sb**	**13 09 32.3**	**+2.0**
PVAQ	**Vaqueiros**	**1.79**	**284**	Pn	**Pn**	**13 09 05.9**	**0.0**
PBDV	**Barranco-do-Ve**	**1.94**	**278**	*e*Pn	**Pn**	**13 09 08.4**	**+0.5**
PBDV				*e*Sn	**Sn**	**13 09 30.3**	**-1.9**
PBDV				*e*Sg	**Sg**	**13 09 37.1**	**-0.2**
PBDV				A	A	13 09 48.8	
	16nm,0.4s						
PCVE	**Castro Verde**	**2.10**	**288**	*e*Pn	**Pn**	**13 09 10.2**	**+0.1**
PCVE	**Castro Verde**	**2.10**	**288**	*e*Pg	**Pb**	**13 09 14.4**	**+1.3**
PCVE				*e*Sg	**Sg**	**13 09 42.3**	**-0.2**
PCVE				A	A	13 09 51.0	
	16nm,0.3s						
PCVE	**Castro Verde**	**2.10**	**288**	Pn	**Pn**	**13 09 10.2**	**+0.1**
EBAD	**Badajoz**	**2.11**	**327**	Pn	**Pn**	**13 09 09.8**	**-0.4**
EBAD				Sn	**Sn**	**13 09 36.3**	**-0.1**
EBAD				*i* Vmb_Lg		13 09 47.0	
EBAD	**Badajoz**	**2.11**	**327**	Pn	**Pn**	**13 09 09.8**	**-0.4**
EBAD				Sg	**Sb**	**13 09 41.7**	**+2.2**
EQES	**Quesada**	**2.12**	**67**	Pn	**Pn**	**13 09 11.2**	**+0.8**
EQES				Pg	**Pg**	**13 09 14.4**	**-1.2**
EQES				Sn	**Sn**	**13 09 37.6**	**+0.9**
EQES				Sg	**Sg**	**13 09 42.7**	**-0.3**
EQES				*i* Vmb_Lg		13 09 46.8	
EBER	**Berja**	**2.12**	**92**	Pn	**Pn**	**13 09 11.0**	**+0.5**
PBEJ	**Beja**	**2.12**	**300**	*e*Sg	**Sg**	**13 09 44.2**	**+1.0**
PSIM	**Granatula de C**	**2.29**	**37**	Pn	**Pn**	**13 09 12.9**	**+0.1**
PSIM				Pg	**Pb**	**13 09 17.2**	**+0.7**
PSIM				Sn	**Sn**	**13 09 39.8**	**-1.3**
PSIM				Sg	**Sb**	**13 09 46.0**	**+1.2**
MESJ	**Messejana**	**2.30**	**292**	*e*Pn	**Pn**	**13 09 13.1**	**+0.2**
MESJ				*e*Sg	**Sg**	**13 09 48.5**	**-0.5**
MESJ				A	A	13 09 56.9	
	13nm,0.4s						
MESJ	**Messejana**	**2.30**	**292**	*e*P	**Pn**	**13 09 12.9**	**0.0**
PESTR	**Estremoz**	**2.48**	**319**	*e*Pn	**Pn**	**13 09 15.1**	**-0.2**
PESTR				*e*Sg	**Sb**	**13 09 53.2**	**+3.2**
PESTR				A	A	13 10 03.9	
	12nm,0.3s						
PESTR	**Estremoz**	**2.48**	**319**	Pn	**Pn**	**13 09 15.0**	**-0.2**
PESTR				Sn	**Sn**	**13 09 44.3**	**-1.2**
PESTR				Sg	**Sb**	**13 09 53.1**	**+3.2**
EVO	**Evora**	**2.49**	**309**	*e*Pn	**Pn**	**13 09 15.7**	**+0.2**
EVO				*e*Sg	**Sg**	**13 09 55.8**	**+0.7**
EVO	**Evora**	**2.49**	**309**	Pn	**Pn**	**13 09 15.6**	**+0.2**
EVO				Sg	**Sg**	**13 09 54.1**	**-1.1**
MORF	**Marmelete**	**2.51**	**278**	*e*Pn	**Pn**	**13 09 16.1**	**+0.3**
MORF	**Marmelete**	**2.51**	**278**	*e*Pg	**Pg**	**13 09 22.3**	**-0.9**
MORF				*e*Sn	**Sn**	**13 09 46.8**	**+0.3**
MORF				*e*Sg	**Sg**	**13 09 57.0**	**+1.2**
MORF				A	A	13 10 00.3	
	15nm,0.2s						
MORF	**Marmelete**	**2.51**	**278**	*e*P	**Pn**	**13 09 16.1**	**+0.3**
PTEO	**Sao Teotonio**	**2.61**	**283**	⇑*e*Pn	**Pn**	**13 09 17.4**	**+0.3**
PTEO				*e*Sn	**Sn**	**13 09 46.7**	**-2.0**
PTEO				*e*Sg	**Sg**	**13 09 58.8**	**0.0**
PTEO				A	A	13 10 06.3	
	17nm,0.5s						
PNCL	**Nicolau / Gran**	**2.63**	**296**	*e*Pn	**Pn**	**13 09 17.6**	**+0.2**
PNCL	**Nicolau / Gran**	**2.63**	**296**	*e*Pg	**Pg**	**13 09 24.5**	**-0.9**
PNCL				*e*Sn	**Sn**	**13 09 49.1**	**-0.1**
PNCL				A	A	13 10 12.5	
	13nm,0.4s						
PNCL	**Nicolau / Gran**	**2.63**	**296**	Pn	**Pn**	**13 09 17.6**	**+0.2**
PFVI	**Vila Bisbo**	**2.64**	**274**	*e*Pn	**Pn**	**13 09 17.9**	**+0.4**
PFVI				*e*Sn	**Sn**	**13 09 49.0**	**-0.5**
PFVI				*e*Sg	**Sg**	**13 10 00.6**	**+0.7**
PFVI	**Vila Bisbo**	**2.64**	**274**	P	**Pn**	**13 09 19.8**	**+2.3**
PFVI				S	**Sn**	**13 09 51.2**	**+1.6**
PAB	**San Pablo**	**2.71**	**20**	Pn	**Pn**	**13 09 19.9**	**+1.3**
PAB				Sn	**Sn**	**13 09 51.6**	**+0.3**
PAB				Sg	**Sb**	**13 09 58.6**	**+1.9**
PAB				*i* Vmb_Lg		13 10 03.4	
PMRV	**Marv??o**	**2.83**	**329**	*e*Pn	**Pn**	**13 09 20.0**	**-0.2**
PMRV				*e*Sn	**Sn**	**13 09 53.1**	**-1.2**
PMRV				*e*Sg	**Sb**	**13 10 04.1**	**+3.8**
PMRV				A	A	13 10 13.3	
	8.7nm,0.5s						
ESDC	**Sonseca Array**	**2.94**	**24**	Pn	**Pn**	**13 09 22.8**	**+1.1**
ESDC				Sn	**Sn**	**13 09 56.6**	**-0.5**
ESDC				Sg	**Sb**	**13 10 07.1**	**+3.7**
ESDC				*i* Vmb_Lg		13 10 10.9	
PMTG	**Montargil**	**2.96**	**315**	*e*Pn	**Pn**	**13 09 22.4**	**+0.4**
PMTG				*e*Sn	**Sn**	**13 09 57.8**	**+0.3**
PMTG				*e*Sg	**Sg**	**13 10 10.0**	**-0.3**
PMTG				A	A	13 10 20.1	
	10nm,0.9s						
EPLA	**Plasencia**	**3.09**	**352**	Pn	**Pn**	**13 09 24.6**	**+0.8**
EPLA				Sn	**Sn**	**13 09 59.3**	**-1.3**
EPLA				Sg	**Sb**	**13 10 11.7**	**+4.0**
EPLA				*i* Vmb_Lg		13 10 15.1	
PACT	**Alcochete**	**3.15**	**305**	⇑*e*Pn	**Pn**	**13 09 25.3**	**+0.7**
PACT				*e*Sn	**Sn**	**13 10 03.5**	**+1.3**
PACT				*e*Sg	**Sg**	**13 10 20.4**	**+4.1**
PACT				A	A	13 10 25.6	
	17nm,0.6s						
PCBR	**Castelo Branco**	**3.22**	**332**	*e*Pn	**Pn**	**13 09 21.8**	**-3.7**
PCBR				*e*Sn	**Sn**	**13 10 03.0**	**-0.9**
PCBR				*e*Sg	**Sg**	**13 10 17.6**	**-0.9**
PCBR				A	A	13 10 22.3	
	7.2nm,0.8s						
PMAFR	**Mafra**	**3.55**	**304**	*e*Pn	**Pn**	**13 09 30.3**	**+0.2**
PMAFR				*e*Sn	**Sn**	**13 10 11.2**	**-0.8**
PMAFR				A	A	13 10 34.4	
	13nm,0.6s						
ETOB	**Tobarra**	**3.55**	**61**	Pn	**Pn**	**13 09 29.8**	**-0.4**
ETOB				Sn	**Sn**	**13 10 12.0**	**-0.2**
ETOB				*i* Vmb_Lg		13 10 37.0	
PSBE	**So Bento**	**3.59**	**315**	*e*Pn	**Pn**	**13 09 31.3**	**+0.6**
PSBE				*e*Sg	**Sg**	**13 10 30.2**	**-0.2**
ZHG	**ZHG**	**3.66**	**195**	P	**Pn**	**13 09 32.9**	**+1.3**
ZHG				S	**Sn**	**13 10 13.0**	**-1.9**
MTE	**Manteigas**	**3.74**	**336**	*e*Sn	**Sn**	**13 10 15.3**	**-1.5**
MTE				*e*Sg	**Sg**	**13 10 33.3**	**-1.9**
MTE				A	A	13 10 38.6	
	13nm,0.6s						
PCAS	**Casmilo, Conde**	**3.83**	**324**	*e*Sn	**Sn**	**13 10 14.1**	**-4.9**
PCAS				*e*Sg	**Sg**	**13 10 38.4**	**+0.2**
PCAS				A	A	13 10 47.7	
	8.6nm,0.6s						
PVIS	**Viseu**	**4.14**	**334**	*e*Sn	**Sn**	**13 10 26.0**	**-0.7**
PVIS				*e*Sg	**Sg**	**13 10 48.1**	**0.0**
EVIV	**Cofrentes, Val**	**4.15**	**56**	Sn	**Sn**	**13 10 24.4**	**-2.4**
EVIV				Sg	**Sb**	**13 10 42.0**	**+3.8**
EVIV				*i* Vmb_Lg		13 10 53.2	
MD31	**MD31**	**4.17**	**171**	P	**Pn**	**13 09 39.3**	**+0.6**
MD31				S	**Sn**	**13 10 25.5**	**-2.0**
MDT	**Midelt**	**4.25**	**169**	P	**Pn**	**13 09 40.2**	**+0.5**
MDT				S	**Sn**	**13 10 27.6**	**-1.7**
MVO	**Moncorvo**	**4.32**	**345**	*e*Sn	**Sn**	**13 10 29.2**	**-1.8**
MVO				*e*Sg	**Sg**	**13 10 51.3**	**-2.4**
MVO				A	A	13 11 00.3	
	5.7nm,0.5s						
PVRL	**Vila Real**	**4.59**	**339**	*e*Sn	**Sn**	**13 10 36.1**	**-1.7**
ETOR	**Torete**	**4.68**	**34**	Pn	**Pn**	**13 09 45.8**	**+0.2**
ETOR				Sn	**Sn**	**13 10 39.4**	**-0.5**
ETOR				Sg	**Sg**	**13 11 04.1**	**-1.1**
ETOR				*i* Vmb_Lg		13 11 13.0	
POLO	**Lamas de Olo**	**4.71**	**339**	*e*Sn	**Sn**	**13 10 38.8**	**-1.9**
PBRG	**Braganca**	**4.89**	**349**	*e*Sn	**Sn**	**13 10 43.1**	**-2.0**
PBRG				*e*Sg	**Sg**	**13 11 09.3**	**-2.7**
PBRG				A	A	13 11 17.2	
	4.5nm,0.5s						
PGAV	**Gavieira, Arco**	**5.39**	**338**	*e*Sn	**Sn**	**13 10 54.1**	**-3.4**
PGAV				A	A	13 11 34.3	
	3.9nm,0.8s						
OUK	**Oukaimeden**	**6.09**	**199**	P	**Pn**	**13 10 05.0**	**-0.4**
OUK				S	**Sn**	**13 11 06.6**	**-8.6**
OUZM	**OUZ**	**6.16**	**190**	P	**Pn**	**13 10 05.4**	**-0.6**

IDC ***05*** *13:12:07.0±1.8, 1.°05N×97.°03E, h0km, mb3.9/9, mbtmp3.9/10, ML3.8/1, MS3.4/6, Error ellipse: s-maj=58.1km s-min=19.9km az=57.0*
NEIC ***05*** *13:12:13.3±1.6, 1.°2N±0.°1×97.°18E±0.°07, h34km±7km, mb4.2/10, Error ellipse: s-maj=15.8km s-min=10.5km az=183.0*
ISC 05 13:12:11.0±0.9**, 1.°1N**±0.°1×**97.°12E**±0.°09**, h25**km**, n43,** σ1**s17**/29**, mb4.1**/15**, MS3.4**/5**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.51**	**62**		**Pn**	**13 12 22.3**	**-0.4**
GSI					**Sb**	**13 12 28.7**	**+0.1**
LHMI	**Lhok Sumawe**	**4.14**	**358**	Pn	**Pn**	**13 13 12.3**	**-0.4**
KULM	**Kulim**	**5.48**	**40**	Pn	**Pn**	**13 13 30.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**17.38**	**6**	P	**Pn**	**13 16 10.6**	**-1.4**
	0.1nm,0.3s,baz=198,slow=11,SNR=7.7						
CMAR				LR	LR	13 22 40.6	
	comp=Z,41nm,19.4s,baz=155,slow=36						
	1.3nm,0.8s						
PHRA	**Phrae**	**17.60**	**10**	P	**P**	**13 16 16.0**	**+0.5**
SLVN	**Son La**	**21.21**	**18**	P	**P**	**13 16 54.6**	**-0.5**
SLVN				IAmb	IAmb	13 16 56.3	
	comp=Z,7.3nm,0.8s						
KAPI	**Kappang**	**23.40**	**105**	LR	LR	13 27 07.1	
	comp=Z,61nm,18.8s,baz=254,slow=38						
PZH	**PanZhiHua**	**25.68**	**10**	P	**P**	**13 17 42.0**	**+2.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
H08S2	**Diego Garcia H**	**26.04**	**250**	T	T	13 44 42.8	
	baz=71,slow=76,SNR=255						
H08S3	**Diego Garcia H**	**26.05**	**250**	T	T	13 44 43.6	
	baz=71,slow=76,SNR=957						
H08S1	**Diego Carcia H**	**26.06**	**250**	T	T	13 44 36.5	
	baz=71,slow=76,SNR=183						
TPUB	**Ta-pu**	**31.77**	**44**	P	**P**	**13 18 31.2**	**-2.3**
ROCAM	**Rodrigues Isla**	**39.03**	**236**	P	**P**	**13 19 35.4**	**-0.6**
H01W3	**Cape Leeuwin H**	**39.15**	**158**	T	T	14 01 04.4	
	baz=331						
H01W2	**Cape Leeuwin H**	**39.16**	**158**	T	T	14 01 10.2	
	baz=331,slow=74						
H01W1	**Cape Leeuwin H**	**39.16**	**158**	T	T	14 01 14.5	
	baz=331,slow=74						
HHC	**Hu-ho-hao-te**	**41.71**	**17**	*e*P	**P**	**13 20 01.7**	**+3.7**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,330nm,5.7s						
WB0	**Warramunga Arr**	**42.00**	**122**	P	**P**	**13 20 00.8**	**+0.2**
WRA	**Warramunga Arr**	**42.03**	**122**	P	**P**	**13 20 00.6**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=301,slow=9.1,SNR=5.8						
	comp=Z,0.6nm,0.7s						
WRAB	**Tennant Creek**	**42.03**	**122**	P	**P**	**13 20 01.3**	**+0.4**
WRAB				IAmb	IAmb	13 20 17.8	
	comp=Z,4.1nm,1.1s						
WR0	**Warramunga Arr**	**42.20**	**122**	P	**P**	**13 20 02.6**	**+0.3**
WR0				IAmb	IAmb	13 20 34.5	
	comp=Z,4.5nm,1.1s						
ASAR	**Alice Springs**	**43.37**	**127**	P	**P**	**13 20 12.4**	**+0.7**
	comp=Z,0.7nm,0.9s,baz=309,slow=7.9,SNR=6.0						
	comp=Z,0.7nm,0.9s						
WMQ	**Urumqi**	**43.40**	**350**	*e*P	**P**	**13 20 13.2**	**+1.6**
KSRS	**Korea Array**	**46.01**	**34**	P	**P**	**13 20 32.4**	**0.0**
	comp=Z,2.4nm,0.8s,baz=215,slow=11,SNR=5.3						
	comp=Z,2.4nm,0.8s						
SONM	**Songino Array**	**47.28**	**8**	P	**P**	**13 20 42.4**	**0.0**
	comp=Z,0.9nm,0.7s,baz=184,slow=9.4,SNR=5.8						
	comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**47.36**	**346**	P	**P**	**13 20 43.2**	**+0.2**
MKAR	**Makanchi Array**	**47.36**	**346**	P	**P**	**13 20 43.4**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=165,slow=8.0,SNR=8.6						
MKAR				LR	LR	13 43 10.1	
	comp=Z,18nm,18.7s,baz=227,slow=39						
	comp=Z,1.2nm,0.7s						
JHJ	**Hachijo jima 2**	**51.17**	**47**	LR	LR	13 41 12.1	
	comp=Z,174nm,21.9s,baz=84,slow=34						
KURBB	**Kurchatov Arra**	**51.84**	**345**	P	**P**	**13 21 17.1**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=168,slow=7.6,SNR=4.6						
	comp=Z,0.3nm,0.3s						
USRK	**Ussuriysk Ar.**	**52.93**	**31**	P	**P**	**13 21 25.6**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=238,slow=7.1,SNR=5.0						
	comp=Z,3.9nm,0.9s						
ZAA0	**Zalesovo Array**	**53.68**	**351**	P	**P**	**13 21 30.0**	**-0.6**
ZAA0				IAmb	IAmb	13 21 31.7	
	comp=Z,3.9nm,1.0s						
ZALV	**Zalesovo Beam**	**53.68**	**351**	P	**P**	**13 21 29.9**	**-0.7**
ZALV	**Zalesovo Beam**	**53.68**	**351**	P	**P**	**13 21 30.3**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=180,slow=7.1,SNR=13						
ZALV				LR	LR	13 46 53.5	
	comp=Z,31nm,18.6s,baz=34,slow=39						
	comp=Z,1.3nm,0.4s						
BVAR	**Borovoye Array**	**56.36**	**341**	P	**P**	**13 21 48.7**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=144,slow=10,SNR=6.7						
	comp=Z,1.1nm,0.7s						
ABKAR	**Akbulak array**	**57.60**	**332**	P	**P**	**13 21 58.2**	**-0.5**
H04N2	**CROZET ISLANDS**	**61.62**	**214**	T	T	14 29 27.8	
	baz=54,slow=75,SNR=55						
H04N1	**CROZET ISLANDS**	**61.63**	**214**	T	T	14 29 28.4	
	baz=54,slow=75,SNR=38						
H04N3	**CROZET ISLANDS**	**61.63**	**214**	T	T	14 29 27.1	
	baz=54,slow=75,SNR=304						
H04S1	**CROZET ISLANDS**	**61.95**	**214**	T	T	14 29 41.8	
	baz=53,slow=75,SNR=164						
H04S3	**CROZET ISLANDS**	**61.97**	**214**	T	T	14 29 35.1	
	baz=53,slow=75,SNR=129						
H04S2	**CROZET ISLANDS**	**61.97**	**214**	T	T	14 29 41.7	
	baz=53,slow=75,SNR=186						
YAK	**Yakutsk**	**65.58**	**16**	P	**P**	**13 22 52.4**	**+0.1**
RPZ	**Rata Peaks**	**79.16**	**135**	LR	LR	14 01 23.5	
	comp=Z,30nm,18.1s,baz=219,slow=37						

IDC ***05*** *13:26:19.2±1.1, 26.°11N×66.°48E, h0km, mb3.7/9, mbtmp3.7/11, ML3.9/2, MS3.2/2, Error ellipse: s-maj=28.0km s-min=22.9km az=121.0*
ISC 05 13:26:20.1±0.9**, 26.°0N**±0.°1×**66.°63E**±0.°08**, h10**km**, n17,** σ2**s29**/22**, mb3.7**/9**, 1C, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**7.78**	**251**	Pn	**Pn**	**13 28 11.6**	**-1.9**
	1.7nm,0.3s,baz=65,slow=3.7,SNR=16						
WSAR				Sn	Sn	13 29 29.6	-12
	2.5nm,0.3s,baz=208,slow=20,SNR=10						
	4.3nm,0.3s						
KHET	**Khetri**	**8.44**	**74**	*e*P	**Pn**	**13 28 23.9**	**+1.4**
KHET				⇑*e*S	**Sn**	**13 29 51.7**	**-6.2**
KUDL	**Kundal**	**9.04**	**74**	*e*P	**Pn**	**13 28 32.9**	**+2.1**
KUDL				*e*S	**Sn**	**13 30 11.0**	**-1.7**
THN	**Thein Dam**	**10.20**	**49**	*e*P	**Pn**	**13 28 48.9**	**+2.4**
THN				*e*S	**Sn**	**13 30 38.6**	**-2.4**
DHRM	**DHARAMSHALA**	**10.49**	**51**	*e*P	**Pn**	**13 28 54.0**	**+3.1**
DHRM				*e*S	**Sn**	**13 30 46.4**	**-2.3**
DHRM				IAML		13 30 52.6	
	comp=E,60nm,0.9s						
SMLA	**Simla**	**10.57**	**59**	*e*P	**Pn**	**13 28 54.5**	**+2.8**
SMLA				*e*S	**Sn**	**13 30 47.6**	**-2.6**
SMLA				*e*S	**Sn**	**13 30 50.6**	**+0.3**
SMLA				IAML		13 30 55.2	
	comp=N,36nm,0.5s						
SMLA				IAML		13 30 55.6	
	comp=E,29nm,0.5s						
AAK	**Ala-Archa**	**17.80**	**19**	P	**Pn**	**13 30 27.9**	**-0.2**
	comp=E,0.4nm,0.3s,baz=200,slow=7.7,SNR=4.4						
AAK				LR	LR	13 38 50.9	
	comp=E,35nm,19.8s,baz=8.5,slow=42						
	comp=E,1.9nm,0.5s						
MKAR	**Makanchi Array**	**24.19**	**27**	P	**P**	**13 31 36.6**	**-0.1**
	comp=E,1.6nm,0.8s,baz=215,slow=10,SNR=10						
	comp=E,1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**26.22**	**17**	P	**P**	**13 31 55.3**	**+0.2**
	comp=E,0.8nm,0.7s,baz=210,slow=8.9,SNR=9.8						
	comp=E,0.8nm,0.7s						
BVAR	**Borovoye Array**	**27.13**	**5**	P	**P**	**13 32 03.6**	**+0.3**
	comp=E,1.1nm,0.5s,baz=170,slow=8.8,SNR=5.7						
	comp=E,1.1nm,0.5s						
ZALV	**Zalesovo Beam**	**31.00**	**21**	P	**P**	**13 32 38.1**	**+0.5**
	comp=E,0.6nm,0.4s,baz=228,slow=9.7,SNR=3.7						
	comp=E,0.6nm,0.4s						
FINES	**FINESS Array B**	**44.68**	**334**	P	**P**	**13 34 32.2**	**-0.7**
	comp=E,2.6nm,0.9s,baz=150,slow=8.1,SNR=5.0						
	comp=E,2.6nm,0.9s						
ARCES	**ARCESS Array B**	**49.71**	**342**	P	**P**	**13 35 10.8**	**-1.2**
	comp=E,1.5nm,0.7s,baz=111,slow=4.9,SNR=1.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,1.5nm,0.7s						
USRK	Ussuriysk Ar.	55.05	53	LR	LR	14 00 23.5	
	comp=E,48nm,21.4s,baz=233,slow=37						
TORD	Torodi Ar. Bea	61.97	272	P	P	13 36 41.1	+0.4
	comp=E,0.3nm,0.6s,baz=52,slow=5.7,SNR=2.0						
	comp=E,0.3nm,0.6s						
WRA	Warramunga Arr	80.03	118	P	P	13 38 32.0	+1.8
	comp=E,0.2nm,0.8s,baz=316,slow=4.8,SNR=1.1						
	comp=E,0.2nm,0.8s						
ASAR	Alice Springs	81.68	121	P	P	13 38 40.6	+1.5
	comp=E,0.1nm,0.6s,baz=306,slow=5.6,SNR=1.3						
	comp=E,0.1nm,0.6s						

IDC 05 13:51:33.4±999.0, 46°.75N×5°.83W, h0km, Error ellipse: s-maj=614.4km s-min=205.5km az=55.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	13.30	74	I	I	15 12 50.0	
	baz=269,slow=319,SNR=0.7						
I37NO	I37NO	25.52	20	I	I	16 26 10.0	
	baz=221,slow=335,SNR=0.8						
I43RU	DUBNA INFRASON	28.02	53	I	I	16 43 40.0	
	baz=263,slow=330,SNR=1.3						

IDC 05 13:52:46.0±1.2, 38°.46N×144°.91E, h0km, mb3.7/6, mbtmp3.7/9, ML3.3/3, MS3.0/4, Error ellipse: s-maj=32.7km s-min=19.7km az=85.0

NIED 05 13:52:50.9, 38°.56N×144°.59E, h47km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.26; $M_{\theta\theta}$0.75; $M_{\phi\phi}$2.52; $M_{r\theta}$1.09; $M_{\theta\phi}$0.65; $M_{\phi r}$1.08; Fault plane solution: $M_0$3.35000×10^{14} NP1: ϕ_s209.00000°, δ58.00000°, λ-80.00000°. NP2:ϕ_s11.00000°, δ33.00000°, λ-105.00000°.

JMA 05 13:52:50.9±0.2, 38°.6N±0°.9×14°5E±°, h47km, MV3.9/30, FAR E OFF NORTH HONSHU

ISC 05 13:52:50.9±1.1, 38°.62N±0°.06×144°.78E±0°.09, h35km, n30, σ2^{s}24/36, mb3.8/6, MS3.1/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.47	282	P	Pn	13 53 28.0	-0.6
MIYJ	Miyakonagasawa	2.49	293	P	Pn	13 53 28.5	-0.4
JKMT	Kesennumamotoy	2.59	275	P	Pn	13 53 29.7	-0.6
JKMT				eS	Sn	13 53 58.8	-1.8
JMK	Ichinoseki	2.80	278	P	Pn	13 53 33.0	-0.2
JOM	Ohasama	2.84	288	i P	Pn	13 53 33.7	0.0
JOM				eS	Sn	13 54 05.1	-1.7
JANG	Nango	3.07	306	P	Pn	13 53 36.5	-0.4
JANG				eS	Sn	13 54 10.5	-1.9
JYK	Kaneyama	3.47	276	P	Pn	13 53 42.5	+0.2
JYK				eS	Sn	13 54 21.8	-0.4
JOTO	OTAMA OYAMA	3.66	255	P	Pn	13 53 44.9	-0.2
JOTO				S	Sn	13 54 25.3	-1.8
JOT	Ohata	3.98	315	eS	Sn	13 54 32.8	-1.8
JCH	Churui	4.13	345	P	Pn	13 53 50.6	-0.8
JCH				eS	Sn	13 54 34.5	-3.9
NEM2	Nemuro 2	4.79	8	P	Pn	13 53 58.8	-1.7
NEM2				eS	Sn	13 54 48.9	-5.9
JOSM	Okushiri--Mats	5.32	312	eP	Pn	13 54 09.3	+1.5
JRY	Ryogami san	5.36	243	P	Pn	13 54 07.2	-1.2
JRY				eS	Sn	13 55 03.2	-5.6
JTKR	Abashiri--Toko	5.38	353	eP	Pn	13 54 08.0	-0.7
JTKR				eS	Sn	13 55 06.0	-3.3
MJAR	Matsushiro Arr	5.62	250	Pn	Pn	13 54 11.9	0.0
	0.3nm,0.3s,baz=51,slow=9.9,SNR=17						
MJAR				Sn	Sn	13 55 16.0	+0.8
	0.2nm,0.3s,baz=133,slow=6.9,SNR=4.4						
	3.6nm,0.5s						
JOD2	Odawara 2	5.66	235	eP	Pn	13 54 10.8	-1.7
JOD2				eS	Sn	13 55 11.4	-4.8
ASAJ	Asahikawa	5.73	344	Pn	Pn	13 54 13.1	-0.3
	1.0nm,0.3s,baz=174,slow=12,SNR=15						
ASAJ				Sn	Sn	13 55 16.7	-1.2
	0.7nm,0.3s,baz=207,slow=33,SNR=1.9						
	3.0nm,0.3s						
USRK	Ussuriysk Ar.	11.10	304	Pn	Pn	13 55 29.3	+2.3
	0.3nm,0.3s,baz=101,slow=15,SNR=3.3						
	2.5nm,0.6s						
KSRS	Korea Array	13.34	270	LR	LR	14 00 13.4	
	comp=Z,20nm,19.1s,baz=320,slow=33						
SEY	Seymchan	24.78	8	P	P	13 58 11.2	+2.1
	1.6nm,0.7s,baz=196,slow=24,SNR=1.8						
	1.6nm,0.7s						
H11N2	WAKE ISLAND Hy	26.85	128	T	T	14 26 22.1	
	baz=320,slow=74,SNR=4.7						
H11N1	WAKE ISLAND Hy	26.86	128	T	T	14 26 19.7	
	baz=320,slow=74,SNR=6.3						
H11N3	WAKE ISLAND Hy	26.87	128	T	T	14 26 24.3	
	baz=320,slow=74,SNR=6.2						
MKAR	Makanchi Array	45.55	301	P	P	14 01 08.8	+1.7
	0.4nm,0.7s,baz=81,slow=8.7,SNR=4.0						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	47.14	307	P	P	14 01 21.2	+1.7
	0.8nm,0.7s,baz=81,slow=8.3,SNR=6.3						
KURBB				LR	LR	14 21 38.3	
	comp=Z,19nm,18.2s,baz=170,slow=37						
	0.8nm,0.7s						
WRA	Warramunga Arr	59.07	191	P	P	14 02 46.7	-0.8
	1.0nm,0.8s,baz=13,slow=7.2,SNR=9.8						
	1.0nm,0.8s						
ASAR	Alice Springs	62.80	191	P	P	14 03 12.6	-0.3
	0.3nm,0.7s,baz=12,slow=7.7,SNR=6.9						
	0.3nm,0.7s						
ARCES	ARCESS Array B	63.44	340	LR	LR	14 33 22.6	
	comp=Z,12nm,21.3s,baz=250,slow=38						
GEYT	Alibeck	65.38	300	LR	LR	14 34 58.0	
	comp=Z,20nm,18.1s,baz=275,slow=39						
FINES	FINESS Array B	68.63	333	P	P	14 03 51.6	+1.6
	0.9nm,0.6s,baz=115,slow=6.3,SNR=3.8						
	0.9nm,0.6s						

NIED 05 14:15:15.1, 37°.72N×142°.33E, h33km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.12; $M_{\theta\theta}$-0.30; $M_{\phi\phi}$-0.82; $M_{r\theta}$0.90; $M_{\theta\phi}$-0.88; $M_{\phi r}$2.74; Fault plane solution: $M_0$3.17000×10^{14} NP1:ϕ_s19.00000°, δ79.00000°, λ80.00000°. NP2:ϕ_s240.00000°, δ15.00000°, λ130.00000°.

JMA 05 14:15:15.1±0.3, 37°.7N±0°.5×14°2E±°, h33km±3km, MV3.8/38, SE OFF MIYAGI PREF

IDC 05 14:15:16.4±2.6, 37°.76N×142°.68E, h45km±20km, mb3.6/6, mbtmp3.8/11, ML3.2/5, MS2.8/1, Error ellipse: s-maj=36.3km s-min=16.5km az=93.0

NEIC 05 14:15:19.2±1.3, 37°.69N±0°.04×141°.93E±0°.07, h35km±2km, mb4.5/12, Error ellipse: s-maj=10.7km s-min=5.4km az=115.0

ISC 05 14:15:17.8±0.8, 37°.73N±0°.05×142°.22E±0°.07, h35km, n52, σ1^{s}51/50, mb4.2/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.83	314	i P	Pn	14 15 31.5	-1.5
JIO	Ouri	1.00	317	i P	Pn	14 15 34.1	-1.3
JIO				S	Sn	14 15 47.3	-0.9
JMST	Minamisoumatoc	1.06	270	i P	Pn	14 15 35.0	-1.2
JMST				eS	Sn	14 15 49.0	-0.7
JFK	Kawauchi	1.13	252	P	Pn	14 15 36.0	-1.2
JMM	Marumori	1.14	277		Pn	14 15 36.1	-1.2
JMM					Sn	14 15 47.3	-4.4
JMM	Marumori	1.14	277	i P	Pn	14 15 36.4	-0.9
JOU	Okura	1.39	298	P	Pn	14 15 40.5	-0.2
JMK	Ichinoseki	1.45	327	i P	Pn	14 15 40.6	-1.0
JOTO	OTAMA OYAMA	1.51	264	i P	Pn	14 15 42.7	+0.3
JYS	Shirataka	1.77	287	P	Pn	14 15 47.5	+1.4
JYS				eS	Sn	14 16 10.0	+2.6
JYK	Kaneyama	1.89	310	P	Pn	14 15 47.4	-0.1
JOM	Ohasama	1.89	338	P	Pn	14 15 46.8	-0.8
JFY	Yanaizu	2.03	262	P	Pn	14 15 50.7	+1.2
JRG	Rokugo	2.08	324	P	Pn	14 15 50.5	+0.3
JYA	Atsumi	2.16	294	P	Pn	14 15 51.6	+0.3
JTM	Tenmabayashi	3.18	344		Pn	14 16 05.9	+0.6
MJAR	Matsushiro Arr	3.42	251	P	Pn	14 16 10.8	+2.2
	0.4nm,0.3s,baz=326,slow=23,SNR=18						
	9.4nm,0.9s						
MAJO	Matsushiro	3.42	251		Pn	14 16 07.7	-0.9
JHJ2	Mitsune	5.01	204	Pn	Pn	14 16 29.1	-1.3
JHJ	Hachijo jima 2	5.01	204	P	Pn	14 16 30.7	+0.2
	18nm,0.3s,baz=79,slow=18,SNR=2.1						
JHJ				S	Sn	14 17 23.9	-3.4
	68nm,0.3s,baz=87,slow=18,SNR=2.1						
	173nm,0.9s						
ASAJ	Asahikawa	6.39	2	P	Pn	14 16 48.1	-1.3
	0.6nm,0.3s,baz=135,slow=16,SNR=8.7						
ASAJ				S	Sn	14 17 58.5	-2.5
	15nm,1.0s,baz=275,slow=27,SNR=1.7						
	14nm,1.0s						
JKA	Kamikawa-asahi	6.39	2	Pn	Pn	14 16 49.3	-0.1
USRK	Ussuriysk Ar.	10.08	313	P	Pn	14 17 42.8	+2.8
	0.2nm,0.3s,baz=117,slow=15,SNR=4.4						
	3.1nm,0.6s						
KSRS	Korea Array	11.35	273	P	Pn	14 18 02.5	+5.0
	0.2nm,0.3s,baz=84,slow=14,SNR=2.0						
	1.0nm,0.7s						
KLR	Kul'dur	13.77	330	LR	LR	14 23 07.3	
	comp=Z,33nm,18.2s,baz=134,slow=34						
HIA	Hailar	19.89	313	P	P	14 19 46.4	+0.3
HIA				IAmb	IAmb	14 19 46.9	
	comp=Z,5.4nm,0.5s						
SONM	Songino Array	27.94	303	P	P	14 21 04.0	-0.8
SONM	Songino Array	27.94	303	P	P	14 21 05.5	+0.6
	comp=Z,1.6nm,0.6s,baz=104,slow=8.3,SNR=9.5						
	comp=Z,1.6nm,0.6s						
H11N2	WAKE ISLAND Hy	27.97	123	T	T	14 50 13.8	
	baz=316,slow=75,SNR=86						
H11N1	WAKE ISLAND Hy	27.98	123	T	T	14 50 26.0	
	baz=316,slow=75,SNR=43						
H11N3	WAKE ISLAND Hy	27.98	123	T	T	14 50 10.1	
	baz=316,slow=75,SNR=47						
H11S1	WAKE ISLAND Hy	28.71	125	T	T	14 51 13.0	
	baz=317,slow=76,SNR=27						
H11S3	WAKE ISLAND Hy	28.71	125	T	T	14 51 11.7	
	baz=317,slow=76,SNR=24						
H11S2	WAKE ISLAND Hy	28.73	125	T	T	14 51 16.1	
	baz=317,slow=76,SNR=32						
ZALV	Zalesovo Beam	41.93	312	P	P	14 23 04.6	-0.2
ZALV	Zalesovo Beam	41.93	312	P	P	14 23 03.8	-1.0
	comp=Z,1.0nm,0.6s,baz=74,slow=8.0,SNR=4.6						
	comp=Z,1.0nm,0.6s						
J16K	Anvik River	42.45	34	P	P	14 23 11.5	+2.6
J16K				IAmb	IAmb	14 23 49.5	
	comp=Z,20nm,1.4s						
MK31	Makanchi Array	44.30	302	P	P	14 23 23.9	-0.2
MKAR	Makanchi Array	44.30	302	P	P	14 23 23.8	-0.4
	comp=Z,0.7nm,0.6s,baz=87,slow=9.5,SNR=7.8						
	comp=Z,0.7nm,0.6s						
B20K	Meade River	45.09	25	P	P	14 23 30.6	+0.6
B20K				IAmb	IAmb	14 24 06.4	
	comp=Z,12nm,1.3s						
KURK	Kurchatov	46.02	308	P	P	14 23 37.3	-0.3
KURK				IAmb	IAmb	14 23 41.2	
	comp=Z,3.7nm,0.7s						
KURBB	Kurchatov Arra	46.09	308	P	P	14 23 37.4	-0.8
	comp=Z,1.7nm,0.6s,baz=82,slow=8.3,SNR=15						
	comp=Z,1.7nm,0.6s						
BVAR	Borovoye Array	50.59	312	P	P	14 24 12.2	-0.6
	comp=Z,0.4nm,0.5s,baz=75,slow=7.8,SNR=2.7						
	comp=Z,0.4nm,0.5s						
MTN	Manton Dam	51.37	194	P	P	14 24 19.0	0.0
WB0	Warramunga Arr	57.66	189	P	P	14 25 03.7	-1.0
WB0				IAmb	IAmb	14 25 46.4	
	comp=Z,9.0nm,1.5s						
WR0	Warramunga Arr	57.83	189	P	P	14 25 04.5	-1.4
WR0				IAmb	IAmb	14 25 43.4	
	comp=Z,8.4nm,1.5s						
WB2	Warramunga Arr	57.84	189	P	P	14 25 04.2	-1.7
WRA	Warramunga Arr	57.84	189	P	P	14 25 04.0	-1.9
WRA	Warramunga Arr	57.84	189	P	P	14 25 04.2	-1.7
	comp=Z,0.4nm,0.7s,baz=5.7,slow=7.0,SNR=7.6						
	comp=Z,0.4nm,0.7s						
V35K	Ketchikan	57.97	42	P	P	14 25 09.0	+2.5
ABKAR	Akbulak array	57.99	310	P	P	14 25 06.5	-0.2
ASAR	Alice Springs	61.57	189	P	P	14 25 31.9	+0.4

IDC 05 14:45:30.5±1.2, 61°.40N×150°.00W, h48km±16km, mb3.4/4, mbtmp3.6/8, ML3.5/5, MS3.4/3, Error ellipse: s-maj=21.0km s-min=9.7km az=113.0

NEIC 05 14:45:31.7±1.2, 61°.45N±0°.02×149°.68W±0°.05, h32km±6km, Error ellipse: s-maj=3.5km s-min=3.0km az=149.0

AEIC 05 14:45:32.5±1.4, 61°.46N±0°.02×149°.70W±0°.04, h31km±5km, ML3.9, mb4.2/8(NEIC), ML4.0/204(NEIC), Error ellipse: s-maj=3.3km s-min=2.5km az=156.0

ISC 05 14:45:31.6±0.8, 61°.45N±0°.03×149°.70W±0°.03, h37km, n392, σ0^{s}93/406, mb3.9/8, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMR	Palmer	0.30	63		Pn	14 45 39.0	-0.8
PMR	Palmer	0.30	63		Sn	14 45 45.5	-1.4
PMR	Palmer	0.30	63	P	Pn	14 45 39.2	-0.6
PMR	Palmer	0.30	63	P	Pn	14 45 39.1	-0.6
	baz=245						
PMR				S	Sn	14 45 45.5	-1.4
	baz=245						
M22K	Willow	0.36	326		Pn	14 45 39.6	-0.5
M22K	Willow	0.36	326		Sn	14 45 46.6	-0.3
M22K	Willow	0.36	326	P	Pn	14 45 39.8	-0.4
	baz=146						
M22K				S	Sn	14 45 46.6	-0.3
	baz=146						
RC01	Rabbit Creek A	0.37	183		Pn	14 45 40.2	0.0
RC01				IAML		14 45 47.5	
	comp=E,13μm,0.5s						
RC01	Rabbit Creek A	0.37	183		Sn	14 45 47.3	+0.3
RC01	Rabbit Creek A	0.37	183	P	Pn	14 45 40.4	+0.2
	baz=2.3						
RC01				S	Sn	14 45 47.3	+0.3
	baz=2.3						
FIS	Fire Island	0.40	219		Pn	14 45 41.0	+0.4
FIS				IAML		14 45 52.6	
	comp=E,7μm,0.5s						
GHO	Glory Hole Cre	0.49	49		Pn	14 45 41.5	-0.6
GHO				IAML		14 45 50.5	
	comp=N,9μm,0.3s						
GHO				IAML		14 45 50.8	
	comp=E,14μm,0.6s						
GHO	Glory Hole Cre	0.49	49		Sn	14 45 49.9	+0.4
SUA	Susitna One	0.50	272		Pn	14 45 41.7	-0.7
SUA	Susitna One	0.50	272		Sn	14 45 49.8	-0.1
SUA	Susitna One	0.50	272	P	Pn	14 45 41.7	-0.7
	baz=90						
SUA				S	Sn	14 45 49.9	0.0
	baz=90						
KNK	Knik Glacier	0.60	93		Pn	14 45 43.3	-0.5
KNK				IAML		14 45 53.9	
	comp=N,8μm,0.5s						
KNK				IAML		14 45 54.5	
	comp=E,6μm,0.5s						
KNK	Knik Glacier	0.60	93		Sn	14 45 52.5	+0.4
KNK	Knik Glacier	0.60	93	P	Pn	14 45 43.3	-0.5
	baz=275						
KNK				S	Sn	14 45 52.5	+0.4
	baz=275						
SML	Sawmill	0.74	61		Pn	14 45 44.8	-0.8
SML	Sawmill	0.74	61	P	Pn	14 45 44.9	-0.8
	baz=243						
PWL	Port Wells	0.89	131		Pn	14 45 47.3	-0.3
PWL				IAML		14 46 04.2	
	comp=E,6μm,0.4s						
PWL				IAML		14 46 05.6	
	comp=N,4μm,0.4s						
PWL	Port Wells	0.89	131	P	Pn	14 45 47.4	-0.3
	baz=313						
O22K	Cooper Landing	0.98	181		Pn	14 45 48.4	-0.3
O22K	Cooper Landing	0.98	181		Sn	14 46 03.3	+2.0
O22K	Cooper Landing	0.98	181	P	Pn	14 45 48.5	-0.2
	baz=0.5						
O22K				S	Sn	14 46 03.3	+2.0
	baz=0.5						
SLKM	Skilak Lake	0.98	195		Pn	14 45 48.5	-0.4
SLKM					Sn	14 46 03.0	+1.4
CAPN	Captain Cook N	0.99	226		Pn	14 45 49.9	+1.0
CAPN				IAML		14 46 08.9	
	comp=E,6μm,0.6s						
CAPN	Captain Cook N	0.99	226	P	Pn	14 45 50.3	+1.5
	baz=44						
CUT	Chulitna	0.99	344		Pn	14 45 48.4	-0.5
CUT	Chulitna	0.99	344	P	Pn	14 45 48.7	-0.2
	baz=164						
M23K	Glacier View	1.00	69		Pn	14 45 49.0	-0.2
M23K					Sn	14 46 03.4	+1.4
M23K	Glacier View	1.00	69	P	Pn	14 45 49.1	0.0
	baz=252						
M23K				S	Sn	14 46 03.4	+1.4
	baz=252						
SKT	Skwentna	1.02	302	Pn	Pn	14 45 49.0	-0.4
SKT				IAML		14 46 03.5	
	comp=N,4μm,0.7s						
SKT				IAML		14 46 03.6	
	comp=E,4μm,0.6s						
SKT	Skwentna	1.02	302	P	Pn	14 45 49.0	-0.4
	baz=120						
STLK	Strandline Lak	1.02	273		Pn	14 45 49.5	0.0
SPCG	Spurr Capps Gl	1.13	263		Pn	14 45 51.3	+0.4
SPCG					Sn	14 46 07.1	+1.8
SCM	Sheep Creek Mo	1.19	70		Pn	14 45 51.8	0.0
SCM				IAML		14 46 09.2	
	comp=E,3μm,0.8s						
SCM				IAML		14 46 10.7	
	comp=N,4μm,0.9s						
SCM	Sheep Creek Mo	1.19	70	P	Pn	14 45 52.0	+0.2
	baz=253						
SPCP	Crater Peak Br	1.20	262		Pn	14 45 52.2	+0.3
SPCN	Chakachatna No	1.22	260		Pn	14 45 52.4	+0.3
SPCN					Sn	14 46 09.6	+2.2
N20K	Mount Spurr	1.24	259	P	Pn	14 45 52.5	+0.1
	baz=77						
SPCR	Spurr Chakacha	1.24	259		Pn	14 45 52.5	+0.1
SEW	Seward	1.36	175		Pn	14 45 53.9	-0.1
SEW	Seward	1.36	175	P	Pn	14 45 54.4	+0.4
	baz=355						
GLI	Glacier Island	1.39	113		Pn	14 45 54.5	+0.1
GLI				IAML		14 46 14.9	
	comp=N,3μm,0.5s						
GLI				IAML		14 46 17.1	
	comp=E,3μm,0.6s						
GLI	Glacier Island	1.39	113		Sn	14 46 13.1	+1.6
GLI	Glacier Island	1.39	113	P	Pn	14 45 54.7	+0.3
	baz=296						
GLI				S	Sn	14 46 13.1	+1.6
	baz=296						
WAT7	Susitna Watana	1.44	16		Pn	14 45 55.5	+0.3
SPNN	North Nagishla	1.45	268		Pn	14 45 56.1	+0.7
WAT6	Susitna Watana	1.46	38		Pn	14 45 55.7	+0.2
WAT6					Sn	14 46 15.4	+1.9
WAT6	Susitna Watana	1.46	38	P	Pn	14 45 55.7	+0.2
	baz=220						
WAT6				S	Sn	14 46 15.4	+1.9
	baz=220						
WAT1	Susitna Watana	1.48	21		Pn	14 45 56.0	+0.3
WAT1	Susitna Watana	1.48	21	P	Pn	14 45 56.0	+0.3
	baz=202						
RDT	Redoubt	1.59	237		Pn	14 45 57.3	+0.1
DFR	Drift River	1.69	241		Pn	14 45 58.8	+0.1
M20K	Styx River	1.69	286		Pn	14 45 59.1	+0.4
M20K	Styx River	1.69	286	IAML		14 46 23.7	
	comp=E,1μm,1.0s						
FID	Port Fidalgo	1.72	113		Pn	14 45 58.5	-0.4
FID				IAML		14 46 24.8	
	comp=E,3μm,0.3s						
FID	Port Fidalgo	1.72	113		Sn	14 46 19.9	+0.3
RDJH	Redoubt Jeurge	1.74	242		Pn	14 46 00.0	+0.6
RDSO	Redoubt South	1.79	237		Pn	14 46 00.3	+0.2
RSO	Redoubt South	1.79	238		Pn	14 46 00.4	+0.3
BRLK	Bradley Lake	1.79	200		Pn	14 45 59.9	-0.1
BRLK				IAML		14 46 27.7	
	comp=N,2μm,0.6s						
BRLK				IAML		14 46 28.2	
	comp=E,1μm,0.4s						
BRSE	Bradley Lake S	1.79	197		Pn	14 45 60.0	0.0
BRSE					Sn	14 46 22.5	+1.0
BRSE	Bradley Lake S	1.79	197	P	Pn	14 45 60.0	0.0
	baz=16						
BRSE				S	Sn	14 46 22.5	+1.0
	baz=16						
M24K	Tolsona, Glenn	1.80	67		Pn	14 46 01.4	+1.3
M24K	Tolsona, Glenn	1.80	67	P	Pn	14 46 01.6	+1.5
	baz=250						
NCT	North Crescent	1.81	242		Pn	14 46 01.0	+0.7
KLU	Klutina	1.81	87		Pn	14 46 00.5	+0.2
KLU				IAML		14 46 25.9	
	comp=E,1μm,0.7s						
KLU	Klutina	1.81	87	P	Pn	14 46 00.9	+0.6
	baz=271						
RDWB	Redoubt West	1.81	239		Pn	14 46 01.0	+0.6
RDWB					Sn	14 46 24.5	+2.3
RED	Redoubt Volcan	1.82	237		Pn	14 46 00.8	+0.3
P23K	Montague Islan	1.85	141		Pn	14 46 00.4	-0.3
P23K	Montague Islan	1.85	141	P	Pn	14 46 00.5	-0.2
	baz=323						
PPLA	Purkeypile	1.86	322		Pn	14 46 01.5	+0.5
PPLA	Purkeypile	1.86	322	P	Pn	14 46 01.5	+0.5
	baz=140						
HIN	Hinchinbrook I	1.89	123		Pn	14 46 01.3	0.0
HIN				IAML		14 46 32.5	
	comp=N,2μm,0.8s						
HIN				IAML		14 46 35.1	
	comp=E,2μm,0.7s						
DIV	Divide	1.92	98		Pn	14 46 01.9	0.0
DHY	Denali Highway	1.96	33		Pn	14 46 02.9	+0.5
DHY				IAML		14 46 31.7	
	comp=E,1μm,0.5s						
DHY				IAML		14 46 35.2	
	comp=N,813nm,0.5s						
DHY	Denali Highway	1.96	33	P	Pn	14 46 03.0	+0.7
	baz=215						
O20K	Slope Mountain	1.99	227		Pn	14 46 03.8	+1.0
O20K	Slope Mountain	1.99	227	P	Pn	14 46 03.8	+1.0
	baz=45						
RND	Reindeer	2.00	11	Pn	Pn	14 46 03.5	+0.7
RND				IAML		14 46 29.3	
	comp=E,1μm,1.1s						
RND				IAML		14 46 29.8	
	comp=N,1μm,0.9s						
TRF	Thorofare Moun	2.02	352		Pn	14 46 04.0	+0.8
TRF				IAML		14 46 39.2	
	comp=E,1μm,0.7s						
TRF				IAML		14 46 40.9	
	comp=N,2μm,0.5s						
TRF	Thorofare Moun	2.02	352	P	Pn	14 46 04.3	+1.0
	baz=172						
HOM	Homer	2.04	209		Pn	14 46 03.6	+0.3
HOM	Homer	2.04	209	P	Pn	14 46 03.9	+0.6
	baz=27						
CNPM	China Poot	2.08	202		Pn	14 46 03.8	-0.1
CNPM				IAML		14 46 34.2	
	comp=E,1μm,1.1s						
CNPM				IAML		14 46 36.5	
	comp=N,2μm,0.5s						
EYAK	Cordova Ski Ar	2.13	114		Pn	14 46 04.5	-0.1
EYAK					Sn	14 46 32.2	+2.6
EYAK	Cordova Ski Ar	2.13	114	P	Pn	14 46 04.7	+0.2
EYAK	Cordova Ski Ar	2.13	114	P	Pn	14 46 04.6	+0.1
	baz=297						
EYAK				S	Sn	14 46 32.2	+2.6
	baz=297						
IVE	Iliamna Volcan	2.18	230		Pn	14 46 05.7	+0.4
KTH	Kantishna Hill	2.18	345		Pn	14 46 06.4	+1.0
KTH				IAML		14 46 35.0	
	comp=E,1μm,0.6s						
ILW	Iliamna West	2.19	232		Pn	14 46 06.2	+0.6
L20K	Farewell, AK	2.23	299		Pn	14 46 06.5	+0.5
L20K	Farewell, AK	2.23	299	P	Pn	14 46 06.4	+0.5
	baz=116						
CAST	Castle Rocks	2.26	332	Pn	Pn	14 46 06.7	+0.3
CAST				IAML		14 46 35.7	
	comp=E,879nm,0.4s						
CAST				IAML		14 46 38.4	
	comp=N,683nm,0.4s						
CAST	Castle Rocks	2.26	332	P	Pn	14 46 06.8	+0.4
	baz=150						
MCK	McKinley	2.31	8		Pn	14 46 08.4	+1.2
MCK	McKinley	2.31	8	P	Pn	14 46 08.4	+1.2
	baz=189						
HARP	HAARP	2.35	64		Pn	14 46 08.8	+1.2
HARP	HAARP	2.35	64	P	Pn	14 46 08.8	+1.2
	baz=248						
N19K	Bonanza Creek	2.41	257		Pn	14 46 08.9	+0.4
N19K	Bonanza Creek	2.41	257	P	Pn	14 46 09.2	+0.7
	baz=72						
N25K	Chitina, Valde	2.45	84		Pn	14 46 10.2	+1.1
N25K				IAML		14 46 49.3	
	comp=N,1μm,0.8s						
N25K	Chitina, Valde	2.45	84	P	Pn	14 46 09.3	+0.3
	baz=269						
PAX	Paxson	2.50	51		Pn	14 46 11.2	+1.5
PAX	Paxson	2.50	51	P	Pn	14 46 11.2	+1.5
	baz=234						

BMRM **Bremner River** 2.51 99 Pn 14 46 09.6 -0.3
BMRM **Bremner River** 2.51 99 P Pn 14 46 09.6 -0.3
baz=284
P19K **Oil Pt** 2.51 226 Pn 14 46 10.4 +0.5
P19K IAML 14 46 50.2
comp=N,1µm,0.8s
P19K IAML 14 46 50.4
comp=E,884nm,0.5s
P19K **Oil Pt** 2.51 226 P Pn 14 46 11.0 +1.1
baz=42
L19K **White Mountain** 2.55 289 Pn 14 46 11.1 +0.6
L19K **White Mountain** 2.55 289 P Pn 14 46 11.3 +0.9
baz=104
GOAT **Goat Mountain** 2.57 108 Pn 14 46 10.7 -0.1
O19K **Port Alsworth** 2.59 243 Pn 14 46 10.8 -0.1
O19K IAML 14 47 03.6
comp=N,961nm,0.5s
O19K **Port Alsworth** 2.59 243 P Pn 14 46 11.1 +0.2
baz=59
WACK **Wrangell Chich** 2.61 76 Pn 14 46 12.3 +0.9
Q23K **Middleton Isla** 2.62 139 Pn Pn 14 46 11.0 -0.3
Q23K IAML 14 47 14.7
comp=E,601nm,2.4s
Q23K IAML 14 47 19.9
comp=N,488nm,2.8s
MID **Middleton Isla** 2.63 139 Pn Pn 14 46 11.0 -0.4
MID IAML 14 47 04.7
comp=N,442nm,1.4s
MID IAML 14 47 13.2
comp=E,570nm,2.1s
MID **Middleton Isla** 2.63 139 P Pn 14 46 14.4 +3.0
WASW **Wrangell South** 2.68 77 Pn 14 46 13.3 +1.0
WAZA **Wrangell Mount** 2.71 74 Pn 14 46 13.8 +1.0
CHUM **Lake Minchumin** 2.72 335 Pn 14 46 13.0 +0.3
BPAW **Bear Paw Mtn.** 2.72 348 Pn Pn 14 46 12.6 -0.1
BPAW IAML 14 46 58.6
comp=N,467nm,0.8s
BPAW IAML 14 46 59.3
comp=E,410nm,0.6s
BPAW **Bear Paw Mtn.** 2.72 348 P Pn 14 46 13.0 +0.3
baz=167
BWN **Browne** 2.73 2 Pn 14 46 13.9 +1.0
K20K **Telida** 2.79 315 Pn 14 46 14.0 +0.3
AUQ **Augustine Qik'** 2.80 223 Pn 14 46 15.5 +1.7
GLB **Gilahina Butte** 2.83 88 Pn 14 46 14.2 -0.1
GLB IAML 14 46 59.7
comp=E,633nm,0.5s
SVW2 **Sparrevohn** 2.86 265 Pn Pn 14 46 14.9 +0.2
SVW2 **Sparrevohn** 2.86 265 P Pn 14 46 14.9 +0.2
HMT **Hamilton** 2.88 110 Pn Pn 14 46 14.3 -0.7
M18K **Stony River** 2.94 273 Pn 14 46 16.2 +0.5
K24K **Donnelly Dome** 2.97 36 Pn 14 46 19.6 +3.4
KAIM **Kayak Island** 3.02 118 Pn Pn 14 46 16.3 -0.5
KAIM IAML 14 47 37.0
comp=E,484nm,3.2s
KAIM IAML 14 47 40.8
comp=N,478nm,2.7s
VRDI **Verde Repeater** 3.02 92 Pn 14 46 16.7 -0.3
VRDI IAML 14 47 03.4
comp=E,402nm,0.6s
VRDI IAML 14 47 04.2
comp=N,503nm,0.7s
N18K **Kilae Creek** 3.11 258 Pn 14 46 18.4 +0.4
WRH **Wood River Hil** 3.12 13 Pn 14 46 18.9 +0.8
WRH IAML 14 47 10.2
comp=N,275nm,1.2s
O18K **Koktuh Hills** 3.15 242 Pn 14 46 18.6 -0.1
O18K **Koktuh Hills** 3.15 242 P Pn 14 46 18.5 -0.2
baz=57
SYI **Shuyak Island** 3.16 207 Pn 14 46 18.6 -0.1
Q20K **Shuyak Island** 3.16 207 P Pn 14 46 18.7 0.0
baz=24
NEA2 **Nenana** 3.16 5 Pn 14 46 19.0 +0.2
NEA2 **Nenana** 3.16 5 P Pn 14 46 19.3 +0.5
baz=186
MENT **Mentasta** 3.17 59 Pn 14 46 19.2 +0.3
RIDG **Independent Ri** 3.21 42 Pn Pn 14 46 20.4 +0.9
RIDG IAML 14 47 05.8
comp=N,468nm,0.9s
RIDG **Independent Ri** 3.21 42 P Pn 14 46 20.8 +1.3
baz=227
MCARA **McCarthy VSAT** 3.21 88 Pn 14 46 19.7 +0.3
MCARA **McCarthy VSAT** 3.21 88 P Pn 14 46 20.1 +0.6
baz=274
Q19K **Cape Douglas,** 3.21 220 Pn 14 46 19.5 +0.1
Q19K IAML 14 47 08.1
comp=N,576nm,0.6s
Q19K **Cape Douglas,** 3.21 220 P Pn 14 46 20.0 +0.6
baz=36
HDA **Harding Lake** 3.22 22 Pn 14 46 20.7 +1.1
HDA IAML 14 47 05.5
comp=N,552nm,0.3s
HDA IAML 14 47 15.8
comp=E,441nm,0.5s
HDA **Harding Lake** 3.22 22 P Pn 14 46 20.7 +1.1
baz=204
HDA P Pn 14 46 20.7 +1.1
baz=204
CRQM **Cirque** 3.26 100 Pn 14 46 21.1 +0.8
CRQE **Cirque** 3.28 99 P Pn 14 46 20.5 -0.1
baz=285
KHIT **Khitrov Hills** 3.31 105 Pn 14 46 20.5 -0.3
TTA **Tatalina** 3.31 299 Pn Pn 14 46 21.1 +0.2
TTA **Tatalina** 3.31 299 P Pn 14 46 20.9 +0.1
TTA **Tatalina** 3.31 299 P Pn 14 46 21.0 +0.2
baz=114
CCB **Clear Creek Bu** 3.32 14 Pn 14 46 21.1 +0.2
CCB IAML 14 47 22.2
comp=E,242nm,0.9s
GRIN **Grindle Hills** 3.33 108 Pn 14 46 20.5 -0.7
L26K **Log Cabin Wild** 3.36 59 Pn 14 46 21.4 -0.1
L26K IAML 14 47 21.1
comp=E,411nm,0.5s
L26K IAML 14 47 25.5
comp=N,499nm,0.4s
L18K **Granite Mounta** 3.40 286 Pn Pn 14 46 21.8 -0.2
TGL **Tana Glacier** 3.41 99 Pn 14 46 21.9 -0.3
J20K **Nowinta River** 3.41 325 Pn 14 46 22.1 0.0
J20K **Nowinta River** 3.41 325 IAML 14 47 24.4
comp=N,358nm,0.6s
J20K IAML 14 47 32.3
comp=E,295nm,0.7s
P18K **Big Mountain,** 3.44 235 Pn 14 46 22.0 -0.6
P18K **Big Mountain,** 3.44 235 P Pn 14 46 22.7 +0.2
baz=50
WAX **Waxell Ridge** 3.49 104 Pn 14 46 22.8 -0.6
PTPK **Patty Peak** 3.50 91 Pn 14 46 23.7 +0.1
COLA **College** 3.53 13 Pn 14 46 24.2 +0.4
COLA **College** 3.53 13 P Pn 14 46 24.3 +0.4
IL31 3.57 20 Pn 14 46 25.0 +0.8
ILAR **Eielson Array** 3.57 20 Pn 14 46 25.3 +1.0
ILAR **Eielson Array** 3.57 20 P Pn 14 46 24.9 +0.5
comp=E,9.4nm,0.3s,baz=203,slow=14,SNR=266
ILAR S Sn 14 47 07.5 +2.4
comp=E,28nm,0.4s,baz=111,slow=15,SNR=1.7
MDM **Murphy Dome** 3.58 10 Pn 14 46 25.0 +0.4
MDM IAML 14 47 10.2
comp=N,235nm,0.5s
MDM IAML 14 47 24.1
comp=E,253nm,1.0s
KIAG **Kiagna River** 3.59 95 Pn 14 46 24.6 -0.3
SNH **Sunshine Point** 3.59 108 Pn Pn 14 46 24.4 -0.3
SNH IAML 14 47 23.6
comp=N,374nm,0.9s
SNH IAML 14 47 24.7
comp=E,419nm,0.9s
MLY **Manley** 3.62 353 Pn 14 46 25.5 +0.4
MLY IAML 14 47 08.2
comp=E,187nm,0.4s
MLY IAML 14 47 08.3
comp=N,240nm,0.5s
MLY **Manley** 3.62 353 P Pn 14 46 25.5 +0.4
baz=172
SCRK **Sand Creek** 3.65 44 Pn 14 46 25.7 +0.1
SCRK IAML 14 47 25.1
comp=N,287nm,0.6s
SCRK IAML 14 47 27.2
comp=E,265nm,0.6s
SCRK **Sand Creek** 3.65 44 P Pn 14 46 26.3 +0.8
baz=229
ISLE **Juniper Island** 3.68 100 Pn Pn 14 46 25.8 -0.2
I23K **Minto, Yukon-K** 3.71 2 Pn 14 46 26.8 +0.5
I23K IAML 14 47 28.6
comp=E,304nm,1.1s
I23K IAML 14 47 36.1
comp=N,236nm,1.1s
I23K **Minto, Yukon-K** 3.71 2 P Pn 14 46 26.9 +0.6
baz=183
M17K **Holitna River** 3.72 273 Pn 14 46 26.8 +0.4
M17K **Holitna River** 3.72 273 IAML 14 47 38.9
comp=E,381nm,1.1s
J19K **Poorman** 3.73 316 Pn 14 46 26.6 0.0
J25K **Salcha River,** 3.73 30 Pn Pn 14 46 26.7 0.0
J25K IAML 14 47 18.2
comp=N,264nm,0.5s
J25K IAML 14 47 20.2
comp=E,313nm,0.6s
N17K **Nushagak Hills** 3.77 259 Pn Pn 14 46 27.2 +0.1
N17K IAML 14 47 31.3
comp=N,186nm,0.6s
M27K **Edge Creek, AK** 3.81 73 Pn 14 46 29.0 +1.2
POKR **Poker Plat Res** 3.82 15 Pn 14 46 28.5 +0.7
POKR IAML 14 47 18.4
comp=E,208nm,0.7s
POKR IAML 14 47 19.6
comp=N,191nm,0.6s
POKR **Poker Plat Res** 3.82 15 P Pn 14 46 28.7 +0.9
baz=197
J18K **Innoko River** 3.83 305 Pn Pn 14 46 28.1 +0.1
BAGL **Bagley Icefiel** 3.83 101 Pn 14 46 28.5 +0.6
KAHG **Katmai Hook Gl** 3.84 221 Pn 14 46 28.6 +0.4
KAHC **Katmai Hardscr** 3.87 226 Pn 14 46 28.8 +0.2
Q18K **Katmai Hardscr** 3.87 226 P Pn 14 46 29.0 +0.4
baz=41
I21K **Tanana** 3.88 346 Pn 14 46 29.3 +0.8
I21K IAML 14 47 36.0
comp=E,164nm,0.9s
I21K IAML 14 47 40.0
comp=N,213nm,1.0s
I21K **Tanana** 3.88 346 P Pn 14 46 29.8 +1.2
baz=164
BARN **Barnard Glacie** 3.90 92 Pn Pn 14 46 28.5 -0.6
BARN IAML 14 47 32.7
comp=N,362nm,0.7s
GRNC **Granite Creek** 3.92 97 Pn Pn 14 46 29.0 -0.4
GRNC IAML 14 47 27.6
comp=E,213nm,0.6s
KDAK **Kodiak Island** 3.96 203 Pn 14 46 28.8 -1.0
KDAK IAML 14 47 38.3
comp=E,153nm,0.7s
KDAK IAML 14 47 52.5
comp=E,142nm,1.2s
KDAK **Kodiak Island** 3.96 203 P Pn 14 46 28.4 -1.3
comp=E,3.2nm,0.3s,baz=66,slow=9.6,SNR=56
KDAK S Sn 14 47 11.1 -3.8
comp=E,35nm,0.5s,baz=132,slow=23,SNR=6.0
KDAK LR LR 14 48 18.0
comp=E,164nm,20.2s,baz=64,slow=44
comp=E,12nm,0.3s
I20K **Naaghedeneel** 3.99 329 Pn 14 46 30.5 +0.4
MESA **MESA** 4.00 105 Pn 14 46 29.8 -0.8
MESA **MESA** 4.00 105 P Pn 14 46 30.5 0.0
baz=292
O17K **Koliganek Bris** 4.02 248 Pn 14 46 31.1 +0.6
O17K **Koliganek Bris** 4.02 248 P Pn 14 46 31.1 +0.6
baz=62
BCAR **Beaver Creek A** 4.04 63 Pn 14 46 31.2 +0.4
P17K **Kvichak River** 4.04 239 Pn 14 46 31.1 +0.3
CTG **Chitna Glacier** 4.07 93 P Pn 14 46 32.0 +0.5
baz=281
CTGM **Chitina Glacie** 4.08 93 Pn Pn 14 46 31.7 +0.2
CTGM IAML 14 47 37.7
comp=E,202nm,1.0s
L17K **Donlin** 4.14 283 Pn 14 46 32.6 +0.5
J26L **Joseph Creek** 4.14 40 Pn 14 46 33.2 +0.9
J26L **Joseph Creek** 4.14 40 IAML 14 47 27.1
comp=E,206nm,0.5s
J26L IAML 14 47 32.3
comp=N,208nm,0.6s
KAKN **Katmai Knife C** 4.16 223 Pn 14 46 32.6 0.0
K17K **Iditarod** 4.24 291 Pn 14 46 34.1 +0.6
K17K IAML 14 47 59.1
comp=E,172nm,1.2s
K17K IAML 14 48 03.2
comp=N,140nm,0.9s
K17K **Iditarod** 4.24 291 P Pn 14 46 33.8 +0.3
baz=104
KABU **Katmai Buttres** 4.26 224 Pn 14 46 34.5 +0.6
LOGN **Logan Glacier** 4.26 95 Pn Pn 14 46 33.9 -0.2
LOGN IAML 14 47 49.3
comp=N,262nm,0.6s
TABL **Table Mountain** 4.29 100 Pn Pn 14 46 34.5 0.0
TABL IAML 14 47 50.1
comp=E,249nm,0.7s
ANCK **Angle Creek** 4.38 224 Pn 14 46 36.0 +0.4
YUK3 **Moose Creek** 4.42 82 Pn 14 46 36.7 +0.4
YUK3 **Moose Creek** 4.42 82 P Pn 14 46 37.3 +1.0
baz=270
H21K **Melozitna Rive** 4.44 343 Pn 14 46 36.4 +0.1
H21K **Melozitna Rive** 4.44 343 IAML 14 47 53.6
comp=N,103nm,0.8s
H21K IAML 14 47 55.0
comp=E,141nm,0.7s
CNTC **Contact Creek** 4.47 227 Pn 14 46 37.2 +0.4
Q17K **Contact Creek** 4.47 227 P Pn 14 46 37.2 +0.4
baz=42
H24K **Noodor Dome** 4.47 10 Pn 14 46 38.0 +1.2
H24K **Noodor Dome** 4.47 10 IAML 14 47 51.7
comp=E,145nm,0.8s
PRP **Porcupine Dome** 4.49 23 Pn 14 46 37.7 +0.7
PRP IAML 14 47 36.3
comp=N,173nm,0.8s
PRP IAML 14 47 46.0
comp=E,170nm,0.8s
PRP **Porcupine Dome** 4.49 23 P Pn 14 46 38.6 +1.6
baz=207
M16K **Timber Creek** 4.50 269 Pn 14 46 37.5 +0.5
M16K **Timber Creek** 4.50 269 IAML 14 47 58.0
comp=E,109nm,1.3s
H22K **Ishtalitna Cre** 4.52 351 Pn 14 46 38.0 +0.6
N16K **Nishlik Lake** 4.53 261 Pn 14 46 38.1 +0.5
O16K **Kokwok River B** 4.55 249 Pn Pn 14 46 37.7 -0.1
OHAK **Old Harbor** 4.62 205 Pn Pn 14 46 37.2 -1.6
GCSA **Galena City Sc** 4.64 318 Pn 14 46 39.8 +0.8
GCSA **Galena City Sc** 4.64 318 P Pn 14 46 39.8 +0.8
baz=132
O28M **Mount Upton** 4.66 94 Pn 14 46 40.1 +0.4
O28M **Mount Upton** 4.66 94 P Pn 14 46 40.2 +0.6
baz=283
H20K **Anotleneega Mo** 4.67 332 Pn 14 46 39.8 +0.3
L16K **Owhat River** 4.68 277 Pn 14 46 39.4 -0.2
L16K IAML 14 48 05.9
comp=N,83nm,1.1s
L16K IAML 14 48 07.2
comp=E,86nm,0.9s
L16K **Owhat River** 4.68 277 P Pn 14 46 40.0 +0.5
baz=89
P16K **Nushagak River** 4.79 243 Pn 14 46 41.6 +0.4
IMAR **Indian Mountai** 4.89 340 Pn 14 46 43.1 +0.6
EGAK **Eagle** 5.11 46 Pn 14 46 46.3 +0.8
EGAK **Eagle** 5.11 46 P Pn 14 46 46.4 +0.9
baz=233
BCPM **Bancas Point** 5.17 103 Pn Pn 14 46 46.0 -0.3
N15K **Kwethluk River** 5.25 260 Pn 14 46 47.9 +0.5
N15K IAML 14 48 19.1
comp=E,101nm,0.7s
N15K IAML 14 48 25.5
comp=N,87nm,0.8s
G23K **Bananza Creek** 5.28 359 Pn Pn 14 46 48.5 +0.6
G21K **Allakaket** 5.35 343 Pn 14 46 49.5 +0.8
G21K IAML 14 47 52.0
comp=E,89nm,0.4s
G21K IAML 14 48 33.6
comp=N,73nm,0.8s
G21K **Allakaket** 5.35 343 P Pn 14 46 50.4 +1.6
baz=160
G24K **Hadweenzic Riv** 5.36 10 Pn Pn 14 46 49.6 +0.7
G24K IAML 14 48 23.1
comp=N,77nm,1.1s
G24K IAML 14 48 26.9
comp=E,63nm,1.6s
H18K **Honhosa River** 5.39 317 Pn 14 46 49.8 +0.5
H18K **Honhosa River** 5.39 317 P Pn 14 46 49.9 +0.5
baz=130
PNL **Peninsula** 5.39 105 P Pn 14 46 49.7 +0.3
comp=E,59nm,2.2s
M15K **Kasigluk River** 5.39 267 Pn 14 46 49.3 0.0
M29M **Somme Creek** 5.40 74 Pn 14 46 49.1 -0.5
M29M **Somme Creek** 5.40 74 P Pn 14 46 50.5 +1.0
baz=264
J16K **Anvik River** 5.40 295 Pn 14 46 49.8 +0.4
J16K **Anvik River** 5.40 295 IAML 14 48 36.5
comp=N,68nm,1.0s
DAWY **Dawson** 5.41 57 Pn 14 46 49.7 +0.1
SII **Sitkinak Islan** 5.43 207 Pn 14 46 50.2 +0.3
SII **Sitkinak Islan** 5.43 207 P Pn 14 46 52.0 +2.1
FYU **Fort Yukon** 5.49 19 Pn 14 46 52.1 +1.4
O15K **Ungalikthiuk R** 5.53 250 Pn 14 46 52.0 +0.8
O29M **Mount Kennedy** 5.55 97 Pn Pn 14 46 51.9 +0.2
G25K **Bearman Lake** 5.56 15 Pn 14 46 52.8 +1.1
G25K **Bearman Lake** 5.56 15 P Pn 14 46 52.2 +0.6
baz=198
I17K **Unalakleet** 5.62 301 Pn 14 46 52.3 -0.2
I17K **Unalakleet** 5.62 301 P Pn 14 46 53.1 +0.6
baz=111
L15K **Ungalak Mounta** 5.64 277 Pn 14 46 52.5 -0.2
L29M **L29M** 5.65 68 Pn 14 46 53.5 +0.6
K15K **Wolf Creek Mou** 5.66 284 Pn Pn 14 46 53.3 +0.2
G19K **Purcell Mounta** 5.73 328 Pn Pn 14 46 54.1 +0.2
H17K **Granite Mounta** 5.79 312 Pn Pn 14 46 55.6 +0.8
COLD **Coldfoot** 5.80 358 Pn 14 46 56.4 +1.4
COLD **Coldfoot** 5.80 358 P Pn 14 46 56.4 +1.4
baz=178
I28M **Miner Creek** 5.93 43 Pn Pn 14 46 57.8 +0.9
HYT **Haines Junctio** 5.94 91 Pn Pn 14 46 56.4 -0.7
G18K **Tagagawik** 5.97 322 Pn Pn 14 46 57.6 +0.3
G18K **Tagagawik** 5.97 322 P Pn 14 46 57.8 +0.4
baz=134
M14K **Bethel** 5.99 269 Pn 14 46 58.1 +0.6
M14K **Bethel** 5.99 269 P Pn 14 46 58.3 +0.8
baz=78
H27K **Steamboat Moun** 6.00 33 Pn 14 46 59.3 +1.5
H27K **Steamboat Moun** 6.00 33 P Pn 14 46 59.3 +1.5
baz=221
F21K **Alatna River** 6.02 346 Pn Pn 14 46 59.0 +1.0
N30M **Aishikik Lake** 6.05 84 Pn Pn 14 46 57.9 -0.5
N14K **Kuskokwak Cree** 6.08 261 Pn 14 46 59.5 +0.7
G26K **Porcupine Rive** 6.09 22 Pn 14 46 59.5 +0.6
F24K **Squaw Lake** 6.14 7 Pn 14 47 00.8 +1.1
F24K **Squaw Lake** 6.14 7 P Pn 14 47 00.9 +1.2
baz=188
O14K **Tigyukauivet M** 6.15 254 Pn Pn 14 47 00.0 +0.3
F22K **John River** 6.17 351 Pn 14 47 01.8 +1.7
P29M **Windy Craggy** 6.18 102 Pn 14 46 60.0 -0.3
M30M **Minto, Yukon** 6.18 74 Pn Pn 14 46 60.0 -0.2
F20K **Avaraart Lake** 6.20 338 Pn 14 47 01.0 +0.7
F20K **Avaraart Lake** 6.20 338 P Pn 14 47 01.6 +1.2
baz=152
L14K **Kuka Creek** 6.24 275 Pn Pn 14 47 01.9 +1.0
G17K **Kiwalik Mounta** 6.36 314 Pn 14 47 03.6 +1.0
P30M **Million Dollar** 6.38 96 Pn 14 47 02.6 -0.4
BMAR **Burnt Mountain** 6.39 18 Pn 14 47 03.6 +0.5
F25K **Christian Rive** 6.41 14 Pn 14 47 04.4 +1.1
G27K **Doyon Strip** 6.42 30 Pn Pn 14 47 03.9 +0.4
CHIR **Chirikof Islan** 6.44 211 Pn Pn 14 47 04.4 +0.7
I29M **Ogilvie Camp,** 6.44 48 Pn 14 47 04.6 +0.8
F19K **Shaleruckik Mo** 6.45 330 Pn 14 47 03.6 -0.2
H16K **Elim** 6.53 305 Pn 14 47 05.8 +0.8
H16K **Elim** 6.53 305 P Pn 14 47 05.7 +0.8
baz=114
O30N **Mendenhall** 6.63 90 Pn Pn 14 47 06.4 0.0
E23K **Chandalar** 6.63 0 Pn 14 47 07.8 +1.3
E24K **Your Creek** 6.67 4 Pn 14 47 08.4 +1.5
N31M **Braeburn, Yuko** 6.67 84 Pn Pn 14 47 07.8 +0.8
F26K **Sheenjek River** 6.70 18 Pn 14 47 08.0 +0.6
M19K **Dall Lake** 6.74 267 Pn Pn 14 47 07.9 +0.2
E22K **Anaktuvuk Pass** 6.77 353 Pn 14 47 09.5 +1.2
J30M **Hart River** 6.84 57 Pn Pn 14 47 09.3 0.0
E19K **Redstone River** 6.84 335 Pn 14 47 09.9 +0.6
CHGN **Chignik** 6.86 225 Pn Pn 14 47 08.9 -0.6
G16K **Koyuk River** 6.91 310 Pn Pn 14 47 10.8 +0.6
H29M **Whitestone** 6.92 41 Pn 14 47 12.6 +2.3
F17K **Baldwin Pennin** 7.13 320 Pn 14 47 13.7 +0.6
TOLK **Toolik Lake Re** 7.22 0 Pn Pn 14 47 15.4 +1.0
WHY **Whitehorse** 7.24 90 Pn Pn 14 47 15.2 +0.5
E21K **Killik River** 7.25 347 Pn 14 47 17.2 +2.4
VNFG **Fog Glacier, M** 7.27 229 Pn 14 47 17.4 +2.1
E20K **Nigu River** 7.36 341 Pn 14 47 18.6 +2.1
G15K **Niukluk** 7.38 305 Pn 14 47 17.6 +1.0
SKAG **Skagway** 7.38 99 Pn Pn 14 47 16.6 0.0
SKAG **Skagway** 7.38 99 P Pn 14 47 17.3 +0.7
G29M **Pine Creek** 7.47 38 Pn Pn 14 47 20.3 +2.4
F28M **Old Crow** 7.49 30 Pn Pn 14 47 18.2 +0.1
EPYK **Eagle Plains** 7.54 44 Pn 14 47 19.6 +0.7
E27K **Colleen River** 7.58 24 Pn Pn 14 47 20.1 +0.7
E18K **Tukpahlearik C** 7.61 327 Pn Pn 14 47 20.9 +1.2
E17K **Hotham Inlet** 7.72 322 Pn 14 47 21.1 -0.1
E17K **Hotham Inlet** 7.72 322 P Pn 14 47 21.1 -0.1
baz=131
D24K **Happy Valley** 7.74 2 Pn 14 47 23.1 +1.6
ANM **Nome** 7.78 300 Pn Pn 14 47 23.6 +1.6
F15K **North Star Dit** 7.91 309 Pn Pn 14 47 24.8 +1.0
D19K **Kuna River** 7.91 337 Pn Pn 14 47 25.6 +1.7
D25K **Kavik River** 8.02 8 Pn Pn 14 47 27.3 +1.8
P32M **Atlin** 8.10 96 Pn Pn 14 47 26.8 +0.2
R32K **Eaglecrest** 8.27 106 Pn Pn 14 47 29.1 +0.2
SDPT **Sand Point** 8.33 228 Pn Pn 14 47 29.8 +0.2
SDPT **Sand Point** 8.33 228 P Pn 14 47 32.0 +2.4
JIS **Juneau Island** 8.34 106 Pn Pn 14 47 29.6 0.0
JIS **Juneau Island** 8.34 106 P Pn 14 47 29.7 +0.1
P33M **Teslin, Yukon** 8.34 91 Pn Pn 14 47 29.3 -0.5
E28M **Babbage River** 8.35 26 Pn Pn 14 47 30.1 +0.1
B21K **Ikpikpuk River** 8.45 348 Pn Pn 14 47 32.9 +1.8
E29M **Blow River** 8.56 31 Pn Pn 14 47 33.7 +1.0
D27M **Malcolm River** 8.62 21 Pn Pn 14 47 34.9 +1.2
G31M **Satah River** 8.66 44 Pn 14 47 35.2 +1.0
S32K **Killisnoo** 8.67 111 Pn Pn 14 47 33.4 -0.9
C18K **Utukok River** 8.69 331 Pn Pn 14 47 35.9 +1.3
C19K **Lookout Ridge** 8.71 336 Pn Pn 14 47 36.7 +1.8
Q32M **Nakina River** 9.03 98 Pn Pn 14 47 39.5 +0.1
B20K **Meade River** 9.11 344 Pn Pn 14 47 40.9 +0.7
F31M **Tsiigehtchic** 9.12 42 Pn Pn 14 47 40.8 +0.4
R33M **Jennings River** 9.48 94 Pn Pn 14 47 45.0 -0.5
INK **Inuvik** 9.69 38 Pn Pn 14 47 48.4 +0.2
INK **Inuvik** 9.69 38 P Pn 14 47 49.6 +1.4
comp=N,0.9nm,0.3s,baz=241,slow=16,SNR=33
INK S Sn 14 49 35.3 -0.3
comp=N,4.3nm,0.7s,baz=112,slow=28,SNR=3.4
comp=N,2.4nm,0.4s
S34M **Telegraph Cree** 10.03 102 Pn Pn 14 47 52.5 -0.3
DLBC **Dease Lake** 10.31 98 Pn Pn 14 47 56.3 -0.5
DLBC **Dease Lake** 10.31 98 P Pn 14 47 57.0 +0.2
comp=N,0.1nm,0.3s,baz=63,slow=26,SNR=1.9
DLBC S Sn 14 49 51.7 +0.8
comp=N,1.6nm,0.7s,baz=0.9,slow=27,SNR=1.8
comp=N,2.1nm,1.0s
CRAG **Craig** 10.53 117 Pn Pn 14 47 59.0 -0.7
UNV **Unalaska Valle** 11.77 237 P Pn 14 48 18.8 +2.2
C36M **Paulatuk** 13.18 42 Pn 14 48 36.4 +0.6
YKA **Yellowknife Ar** 16.40 71 Pn Pn 14 49 19.1 +0.4
YKA **Yellowknife Ar** 16.40 71 P Pn 14 49 19.4 +0.8
comp=N,0.1nm,0.3s,baz=283,slow=11,SNR=7.1
comp=N,0.3nm,0.7s
K02D **Willamette Mer** 24.39 128 P P 14 50 45.8 -0.4
K02D IAmb IAmb 14 51 02.4
comp=Z,9.8nm,1.1s
I07A **Izee** 24.87 120 P P 14 50 52.0 +1.4
I07A IAmb IAmb 14 50 54.5
comp=Z,5.3nm,1.0s
K05A **Summer Lake** 25.43 124 P P 14 50 57.1 +1.3
K05A IAmb IAmb 14 50 58.9
comp=Z,8.7nm,1.2s
PLID **Pearl Lake** 25.56 114 P P 14 50 56.8 -0.2
FCC **Fort Churchill** 27.13 71 P P 14 51 10.6 -0.2
FCC IAmb IAmb 14 51 20.0
comp=Z,8.3nm,1.2s
PDAR **Pinedale Array** 30.25 110 P P 14 51 39.5 +0.6
PDAR **Pinedale Array** 30.25 110 P P 14 51 38.6 -0.3
comp=Z,0.5nm,0.5s,baz=319,slow=5.6,SNR=6.1
comp=Z,0.5nm,0.5s
R11B **Troy Canyon, C** 31.28 122 P P 14 51 48.9 +0.9
ULM **Lac du Bonnet** 31.30 86 LR LR 15 04 35.7
comp=Z,45nm,20.5s,baz=94,slow=36
X16A **Lo Mia Camp, P** 36.36 120 P P 14 52 31.2 -0.9
SUMG **Summit** 38.38 27 P P 14 52 48.9 -0.1
ZALV **Zalesovo Beam** 57.14 325 P P 14 55 12.3 -1.5
comp=Z,0.4nm,0.4s,baz=52,slow=9.7,SNR=2.7
comp=Z,0.4nm,0.4s
TEIG **Tepich** 58.85 106 LR LR 15 24 40.1
comp=Z,173nm,18.2s,baz=167,slow=40
MKAR **Makanchi Array** 64.28 323 P P 14 55 59.0 -3.6
comp=Z,0.5nm,1.0s,baz=40,slow=6.9,SNR=1.8
comp=Z,0.5nm,1.0s

ABKAR	**Akbulak array**	**67.10**	**339**	P	**P**	**14 56 22.1**	**+1.3**
AKASG	**Malin Array Be**	**68.19**	**1**	P	**P**	**14 56 24.9**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=2.6,slow=6.5,SNR=2.5						
	comp=Z,0.3nm,0.3s						

JMA 05 15:13:06.6±0.1**, 37°.7N**±0°.4×**139°.9E**±0°.4**, h8**km±1km**, MV0.3**/10**, WESTERN FUKUSHIMA PREF, Eastern Honshu**

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*IDC **05** 15:13:47.3±0.5, 36°.24N×138°.03E, h0km, mb4.6/29, mbtmp4.7/35, ML3.9/6, MS4.3/66, Error ellipse: s-maj=12.5km s-min=5.2km az=128.0*

*NEIC **05** 15:13:49.7±2.1, 36°.40N±0°.05×137°.93E±0°.06, h3km±3km, mb5.0/170, Mww5.1/20, Error ellipse: s-maj=7.8km s-min=5.2km az=136.0*

*JMA **05** 15:13:49.4±0.1, 36°.4N±0°.2×138°.0E±0°.3, h10km, MD5.3/20, MW5.0/20, CENTRAL NAGANO PREF*

JMA Felt IV J1 at CENTRAL NAGANO PREF .

*NIED **05** 15:13:49.4, 36°.38N×137°.97E, h10km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr1.41; Mθθ0.85; Mφφ-2.26; Mrθ-3.16; Mθφ-2.42; Mφr-0.36; Fault plane solution: M0 4.45000×10^16 NP1: φs248.00000°, δ77.00000°, λ131.00000°. NP2: φs352.00000°, δ43.00000°, λ19.00000°.*

*NEIC **05** 15:13:49.8, 36°.40N×137°.94E, h20km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^16Nm; Mrr1.22; Mθθ1.63; Mφφ-2.85; Mrθ-3.35; Mθφ-2.66; Mφr-1.23; Fault plane solution: M0 5.09000×10^16 NP1: φs244.23000°, δ80.90000°, λ132.29000°. NP2: φs344.09000°, δ43.07000°, λ13.39000°. Principal axes: T 4.9558, Plg39.0000°, Azm192.0000°; N 0.2617, Plg42.0000°, Azm56.0000°; P -5.2175, Plg24.0000°, Azm303.0000°;*

*MOS **05** 15:13:49.5±1.9, 36°.29N×137°.99E, h15km, mb5.3/42, MS4.7/19 Error ellipse: s-maj=7.3km s-min=4.1km az=108.8*

*NEIC **05** 15:13:49.8, 36°.40N×137°.94E, h20km*

*GCMT **05** 15:13:51.7±0.2, 36°.45N±0°.01×137°.97E±0°.02, h16km, MW5.1/103, Moment Tensor Solution. s51,c75; s103,c160; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.29±.17; Mθθ1.27±.11; Mφφ-3.56±.12; Mrθ-4.02±.46; Mθφ-3.17±.09; Mφr-2.32±.35; Best double couple: M0 6.36800×10^16 NP1: φs239.00000°, δ77.00000°, λ124.00000°. NP2: φs348.00000°, δ36.00000°, λ23.00000°. Principal axes: T 5.8490, Plg47.0000°, Azm184.0000°; N 1.0380, Plg33.0000°, Azm50.0000°; P -6.8870, Plg24.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **05** 15:13:55.5, 36°.69N×139°.84E, h33km, mb5.2, Ms4.6*

ISC 05 15:13:50.6±0.6**, 36°.32N**±0°.02×**138°.02E**±0°.02**, h12**km±3km**, n886, σ2s31**/726**, mb5.0**/197**, MS4.5**/102**, 49C-24D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.10**	**37**	⇓*i*P	**Pg**	**15 13 52.0**	**-1.5**
JNG				⇓S	**Sg**	**15 13 53.9**	**-1.8**
JNG	**Nsakai**	**0.10**	**37**	A	A	15 13 52.0	
	comp=E,1µm,1.4s,comp=N,4µm,1.2s						
MAJO	**Matsushiro**	**0.27**	**34**	Pg	**Pg**	**15 13 54.3**	**-1.8**
MAJO				Sg	**Sg**	**15 13 57.7**	**-2.0**
MAJO	**Matsushiro**	**0.27**	**34**	P	**Pg**	**15 13 54.8**	**-1.3**
MAJO	**Matsushiro**	**0.27**	**34**	*i* P	**Pg**	**15 13 54.3**	**-1.8**
MAT	**Matsushiro**	**0.27**	**34**	*i* P	**Pg**	**15 13 54.3**	**-1.7**
MAT				S	**Sg**	**15 13 57.9**	**-1.8**
MJAR	**Matsushiro Arr**	**0.27**	**34**	Pg	**Pg**	**15 13 53.8**	**-2.3**
	comp=N,510nm,0.3s,baz=0.3,slow=4.1						
MJAR				Lg	Lg	15 13 58.3	
	comp=N,673nm,0.3s,baz=109,slow=38,SNR=41						
MJB9	**Matsu-Tunnel**	**0.27**	**33**	Pg	**Pg**	**15 13 55.2**	**-0.9**
MJB9				Sg	**Sg**	**15 13 58.2**	**-1.6**
JNT	**Takato**	**0.46**	**168**	*i* P	**Pg**	**15 13 59.3**	**-0.3**
JNT				S	**Sb**	**15 14 06.9**	**-0.6**
JNT	**Takato**	**0.46**	**168**	A	A	15 13 59.3	
	comp=E,177nm,6.1s,comp=N,142nm,1.2s						
JGK	**Kuni**	**0.55**	**64**	⇓*i*P	**Pg**	**15 14 00.5**	**-0.8**
JGK				⇓S	**Sg**	**15 14 08.5**	**-0.2**
JGK	**Kuni**	**0.55**	**64**	A	A	15 14 00.5	
	comp=E,209nm,1.4s,comp=N,344nm,3.1s						
JGN	**Niukaw**	**0.58**	**260**	⇓*i*P	**Pg**	**15 13 59.8**	**-2.1**
JGN				⇓S	**Sg**	**15 14 07.2**	**-2.3**
JGN	**Niukaw**	**0.58**	**260**	A	A	15 13 59.8	
	comp=E,92nm,6.6s,comp=N,130nm,5.1s						
JTT	**Ttatey**	**0.62**	**297**	⇓*i*P	**Pg**	**15 14 00.5**	**-2.2**
JTT	**Ttatey**	**0.62**	**297**	A	A	15 14 00.5	
	comp=E,276nm,1.7s,comp=N,202nm,2.5s						
JRY	**Ryogami san**	**0.77**	**113**	⇓*i*P	**Pg**	**15 14 04.4**	**-1.2**
JRY	**Ryogami san**	**0.77**	**113**	A	A	15 14 04.4	
	comp=E,76nm,6.0s,comp=N,58nm,3.8s						
JJN	**Nakama**	**0.79**	**8**	A	A	15 14 03.6	
	comp=E,247nm,0.7s,comp=N,267nm,0.5s						
JGF	**Kuroka**	**0.90**	**217**	Pg	**Pg**	**15 14 07.4**	**-0.6**
JGF	**Kuroka**	**0.90**	**217**	P	**Pb**	**15 14 08.3**	**+0.1**
JGF	**Kuroka**	**0.90**	**217**	A	A	15 14 06.8	
	comp=E,57nm,3.8s,comp=N,95nm,3.1s						
JYN	**Shimob**	**0.93**	**153**	⇓*i*P	**Pg**	**15 14 08.2**	**-0.3**
JYN				⇓S	**Sn**	**15 14 22.1**	**-0.7**
JYN	**Shimob**	**0.93**	**153**	A	A	15 14 08.2	
	comp=E,150nm,4.9s,comp=N,110nm,2.6s						
JNY	**Yasuok**	**0.97**	**188**	A	A	15 14 08.5	
	comp=E,114nm,1.5s,comp=N,191nm,6.7s						
JKT	**Katashina**	**1.08**	**65**	A	A	15 14 09.9	
	comp=E,48nm,6.8s,comp=N,64nm,1.3s						
JHU	**Hanno**	**1.12**	**114**	A	A	15 14 11.3	
	comp=E,75nm,5.3s,comp=N,67nm,4.3s						
JAG	**Ashikaga**	**1.16**	**85**	A	A	15 14 11.5	
	comp=E,44nm,6.0s,comp=N,44nm,3.3s						
JJH	**Hakui**	**1.17**	**301**	A	A	15 14 10.0	
	comp=E,62nm,2.9s,comp=N,65nm,5.5s						
JSGW	**Sagamiharawaka**	**1.20**	**126**	A	A	15 14 12.7	
	comp=E,53nm,2.3s,comp=N,62nm,3.7s						
JUON	**Uonuma**	**1.21**	**43**	A	A	15 14 11.7	
	comp=E,31nm,2.4s,comp=N,37nm,3.5s						
JAO	**Obara**	**1.22**	**211**	A	A	15 14 12.5	
	comp=E,61nm,3.5s,comp=N,73nm,5.4s						
JSZ	**Suzu**	**1.24**	**335**	A	A	15 14 11.3	
	comp=E,106nm,1.9s,comp=N,48nm,1.7s						
JFNN	**Fujinakano**	**1.25**	**154**	A	A	15 14 13.5	
	comp=E,196nm,2.4s,comp=N,151nm,1.8s						
SHZ3	**Shizuoka 3**	**1.26**	**173**	A	A	15 14 13.6	
	comp=E,184nm,1.5s,comp=N,175nm,1.7s						
JYTA	**Yamagatataniai**	**1.27**	**236**	A	A	15 14 12.8	
	comp=E,85nm,2.4s,comp=N,114nm,2.5s						
JIZZ	**Izumozaki**	**1.33**	**24**	A	A	15 14 13.2	
	comp=E,187nm,2.8s,comp=N,178nm,1.6s						
JKG	**Kaga**	**1.37**	**269**	A	A	15 14 13.8	
	comp=E,59nm,0.9s,comp=N,98nm,2.7s						
JOD2	**Odawara 2**	**1.37**	**140**	A	A	15 14 15.3	
	comp=E,79nm,6.6s,comp=N,99nm,4.5s						
JICN	**Ichinomiyachia**	**1.40**	**224**	A	A	15 14 15.0	
	comp=E,114nm,1.9s,comp=N,108nm,2.4s						
JSSY	**Shinshiroyabe**	**1.47**	**197**	A	A	15 14 16.5	
	comp=E,65nm,4.9s,comp=N,59nm,4.6s						
HMMJ	**Hamamatsu 2**	**1.48**	**190**	A	A	15 14 16.9	
	comp=E,59nm,4.0s,comp=N,90nm,4.1s						
TOK	**Tokyo**	**1.54**	**114**	A	A	15 14 18.0	
	comp=E,324nm,4.1s,comp=N,319nm,6.1s						
JKKS	**Kakegawashinom**	**1.57**	**181**	A	A	15 14 18.3	
	comp=E,225nm,3.9s,comp=N,203nm,2.2s						
JHTM	**Izuhatsuma**	**1.58**	**149**	A	A	15 14 18.7	
	comp=E,177nm,1.3s,comp=N,178nm,1.2s						
JSG	**Sagara**	**1.65**	**175**		**Pb**	**15 14 20.7**	**-0.2**
JSG	**Sagara**	**1.65**	**175**	P	**Pg**	**15 14 22.3**	**+0.1**
JSG	**Sagara**	**1.65**	**175**	A	A	15 14 19.5	
	comp=E,228nm,3.1s,comp=N,267nm,4.2s						
JSB	**Shiboa**	**1.66**	**67**	A	A	15 14 19.0	
	comp=E,108nm,2.9s,comp=N,99nm,4.0s						
JSD	**Sado**	**1.72**	**6**	A	A	15 14 19.1	
	comp=E,31nm,3.1s,comp=N,25nm,1.3s						
JYO	**Yokosk**	**1.73**	**129**	A	A	15 14 20.8	
	comp=E,135nm,5.0s,comp=N,125nm,4.9s						
JFY	**Yanaizu**	**1.73**	**51**	A	A	15 14 19.9	
	comp=E,48nm,2.5s,comp=N,51nm,8.4s						
JIZS	**Izushimoda**	**1.75**	**156**	A	A	15 14 21.1	
	comp=E,88nm,1.1s,comp=N,105nm,1.5s						
JYT	**Yasato**	**1.76**	**92**	A	A	15 14 20.9	
	comp=E,23nm,1.6s,comp=N,49nm,3.1s						
JHG	**Hegura jima**	**1.76**	**330**	A	A	15 14 19.4	
	comp=E,54nm,2.4s,comp=N,40nm,3.3s						
JEG	**Eigenji**	**1.78**	**229**	A	A	15 14 20.7	
	comp=E,32nm,2.3s,comp=N,54nm,4.2s						
JNS	**Sasagawa**	**1.82**	**34**	A	A	15 14 20.9	
	comp=E,36nm,0.8s,comp=N,26nm,5.3s						
JAA	**Atsumi**	**1.83**	**203**	A	A	15 14 21.9	
	comp=E,47nm,1.5s,comp=N,55nm,1.8s						
JFM	**Mihama**	**1.83**	**245**	A	A	15 14 21.3	
	comp=E,43nm,5.2s,comp=N,70nm,6.3s						
JIM2	**Oshima 3**	**1.97**	**144**	A	A	15 14 24.4	
	comp=E,65nm,4.1s,comp=N,92nm,2.4s						
JCN	**Nagara**	**1.99**	**116**	A	A	15 14 24.5	
	comp=E,149nm,4.7s,comp=N,162nm,5.9s						
TATJ	**Tateyama 2**	**1.99**	**130**	A	A	15 14 24.7	
	comp=E,95nm,4.4s,comp=N,93nm,2.8s						
JIHU	**Itakohorinouch**	**2.06**	**99**	A	A	15 14 25.4	
	comp=E,123nm,3.6s,comp=N,103nm,4.2s						
JHYU	**Hitachinakayam**	**2.07**	**89**	A	A	15 14 25.5	
	comp=E,35nm,2.9s,comp=N,41nm,4.8s						
JTHY	**Toshimahigashi**	**2.07**	**150**	A	A	15 14 25.9	
	comp=E,124nm,4.1s,comp=N,151nm,4.6s						
JHO	**Hitachi**	**2.07**	**81**	A	A	15 14 25.4	
	comp=E,26nm,4.6s,comp=N,26nm,9.9s						
TSUJ	**Tsu 2**	**2.07**	**220**	A	A	15 14 25.2	
	comp=E,37nm,3.0s,comp=N,32nm,5.7s						
JSMT	**Sammumatsuo**	**2.08**	**108**	A	A	15 14 25.9	
	comp=E,147nm,3.4s,comp=N,125nm,4.5s						
TTO5	**TONANKAI O.B.S**	**2.08**	**187**	A	A	15 14 25.8	
	comp=E,241nm,2.1s,comp=N,194nm,5.4s						
JKUC	**kamogawauchiur**	**2.12**	**123**	A	A	15 14 26.5	
	comp=E,48nm,5.8s,comp=N,42nm,3.6s						
I30JP	**ISUMI INFRASON**	**2.12**	**118**	I	I	15 25 50.0	
	baz=307,slow=311,SNR=1.2						
JFFD	**Fukushimafurud**	**2.18**	**69**	A	A	15 14 26.8	
	comp=E,21nm,3.0s,comp=N,25nm,8.2s						
JIE	**Ise**	**2.21**	**210**	A	A	15 14 27.3	
	comp=E,28nm,6.7s,comp=N,23nm,1.1s						
JSKK	**Shikinejimakit**	**2.21**	**154**	A	A	15 14 27.9	
	comp=E,135nm,2.0s,comp=N,67nm,1.9s						
JNIO	**Niijimaoohara**	**2.21**	**152**	A	A	15 14 27.9	
	comp=E,133nm,2.2s,comp=N,174nm,2.2s						
JOTO	**OTAMA OYAMA**	**2.23**	**56**	A	A	15 14 27.2	
	comp=E,46nm,3.1s,comp=N,51nm,3.0s						
JKO	**Kozu shima**	**2.32**	**157**	A	A	15 14 29.4	
	comp=E,345nm,3.4s,comp=N,227nm,3.2s						
JYAR	**Yonezawaarcadi**	**2.32**	**46**	A	A	15 14 28.4	
	comp=E,23nm,1.3s,comp=N,24nm,4.9s						
JAW	**Awa shima**	**2.34**	**24**	A	A	15 14 28.4	
	comp=E,22nm,9.0s,comp=N,19nm,3.9s						
TTO4	**TONANKAI O.B.S**	**2.34**	**190**	A	A	15 14 29.5	
	comp=E,174nm,7.4s,comp=N,228nm,4.6s						
ONAJ	**Iwakimizuishiy**	**2.36**	**70**	A	A	15 14 29.4	
	comp=E,21nm,3.1s,comp=N,29nm,2.7s						
JWT	**Wachi**	**2.37**	**245**	A	A	15 14 29.1	
	comp=E,29nm,3.7s,comp=N,34nm,4.9s						
JKY	**Yasaka**	**2.47**	**255**	A	A	15 14 30.3	
	comp=E,33nm,1.5s,comp=N,39nm,2.5s						
JYS	**Shirataka**	**2.50**	**40**	A	A	15 14 30.9	
	comp=E,36nm,3.2s,comp=N,33nm,1.7s						
TTO3	**TONANKAI O.B.S**	**2.51**	**192**	A	A	15 14 31.9	
	comp=E,245nm,7.5s,comp=N,185nm,2.4s						
JFK	**Kawauchi**	**2.51**	**65**	A	A	15 14 31.5	
	comp=E,19nm,3.3s,comp=N,26nm,8.9s						
JKN2	**Miekihoku**	**2.52**	**215**	A	A	15 14 31.8	
	comp=E,18nm,4.8s,comp=N,16nm,1.8s						
JHE	**Heguri**	**2.53**	**230**	A	A	15 14 31.6	
	comp=E,31nm,6.4s,comp=N,28nm,6.1s						
JMYK	**Miyake Tsubota**	**2.58**	**151**	A	A	15 14 33.2	
	comp=E,68nm,2.4s,comp=N,68nm,2.6s						
JYA	**Atsumi**	**2.63**	**30**	A	A	15 14 32.7	
	comp=E,32nm,2.1s,comp=N,25nm,1.6s						
JMST	**Minamisoumatoc**	**2.69**	**58**	A	A	15 14 33.9	
	comp=E,12nm,3.9s,comp=N,19nm,2.9s						
JNTK	**Naratenkawa**	**2.69**	**221**	A	A	15 14 34.1	
	comp=E,24nm,8.0s,comp=N,14nm,4.6s						
JMM	**Marumori**	**2.70**	**54**		**Pn**	**15 14 34.2**	**+0.5**
JMM	**Marumori**	**2.70**	**54**	P	**Pn**	**15 14 35.8**	**+2.0**
JMM	**Marumori**	**2.70**	**54**	A	A	15 14 34.0	
	comp=N,17nm,5.9s						
TTO2	**TONANKAI O.B.S**	**2.71**	**198**	A	A	15 14 34.7	
	comp=E,176nm,8.3s,comp=N,150nm,2.1s						
JMKN	**Mikurajimanish**	**2.75**	**152**	A	A	15 14 35.6	
	comp=E,27nm,4.5s,comp=N,33nm,5.8s						
JKSM	**Kasumi**	**2.82**	**256**	A	A	15 14 35.4	
	comp=E,12nm,3.9s,comp=N,29nm,5.7s						
JMIK	**Miki**	**2.85**	**239**	A	A	15 14 36.1	
	comp=E,40nm,4.5s,comp=N,48nm,4.9s						
TTO1	**TONANKAI O.B.S**	**2.88**	**201**	A	A	15 14 37.1	
	comp=E,114nm,5.8s,comp=N,136nm,4.9s						
JWY	**Kouya**	**2.89**	**224**	A	A	15 14 36.9	
	comp=E,22nm,3.0s,comp=N,28nm,2.8s						
JKS	**Kasai**	**2.91**	**244**	A	A	15 14 36.9	
	comp=E,29nm,3.3s,comp=N,45nm,3.3s						
JOU	**Okura**	**2.93**	**45**	A	A	15 14 37.1	
	comp=E,14nm,4.5s,comp=N,20nm,4.0s						
JMMH	**Miemihama**	**2.99**	**214**	A	A	15 14 38.4	
	comp=E,22nm,6.0s,comp=N,14nm,5.3s						
JYYZ	**Yamagatayuza**	**3.08**	**29**	A	A	15 14 39.1	
	comp=E,50nm,3.4s,comp=N,83nm,3.4s						
JTB	**Tobi-shima**	**3.12**	**23**	A	A	15 14 39.4	
	comp=E,15nm,2.7s						
JAWN	**Awajishima-nag**	**3.14**	**235**	A	A	15 14 40.2	
	comp=E,30nm,6.5s,comp=N,31nm,5.7s						
JYK	**Kaneyama**	**3.19**	**35**	A	A	15 14 40.6	
	comp=E,10.0nm,3.4s,comp=N,9.0nm,3.7s						
JTNC	**Tanabenakahech**	**3.19**	**219**	A	A	15 14 41.2	
	comp=E,21nm,7.7s,comp=N,20nm,6.2s						
JOFO	**Osakifurukawao**	**3.23**	**44**	A	A	15 14 41.4	
	comp=E,59nm,4.6s,comp=N,61nm,3.9s						
JWM	**Minabe**	**3.30**	**222**	A	A	15 14 42.7	
	comp=E,19nm,4.0s,comp=N,22nm,3.5s						
JIKH	**Ishinomakikobu**	**3.39**	**53**	A	A	15 14 43.8	
	comp=E,8.0nm,4.4s,comp=N,8.0nm,6.7s						
JWKM	**Wakayamakushim**	**3.42**	**214**	A	A	15 14 44.5	
	comp=E,27nm,2.3s,comp=N,20nm,4.3s						
JHJ	**Hachijo jima 2**	**3.51**	**155**	Pn	**Pn**	**15 14 47.3**	**+2.4**
	comp=N,212nm,0.3s,baz=15,slow=7.8,SNR=25						
JHJ				LR	LR	15 15 27.0	
	comp=N,2µm,19.5s,baz=288,slow=29						
JHJ				Sn	**Sn**	**15 15 30.1**	**+3.7**
	comp=N,8.4nm,0.3s,baz=39,slow=21,SNR=1.4						
JHJ2	**Mitsune**	**3.53**	**155**		**Pn**	**15 14 47.2**	**+2.0**
JHJ2	**Mitsune**	**3.53**	**155**	P	**Pn**	**15 14 48.2**	**+3.0**
JKR	**Kurayoshi**	**3.54**	**256**	A	A	15 14 45.6	
	comp=E,15nm,4.2s,comp=N,24nm,9.7s						
JYW	**Yuwa**	**3.65**	**28**	A	A	15 14 47.1	
	comp=E,13nm,3.4s,comp=N,16nm,3.9s						
JMK	**Ichinoseki**	**3.65**	**43**	A	A	15 14 47.3	
	comp=E,5.0nm,6.0s,comp=N,6.0nm,3.4s						
JOG3	**Oga3**	**3.69**	**13**	A	A	15 14 49.9	
	comp=E,13nm,1.9s,comp=N,12nm,1.9s						
JKMT	**Kesennumamotoy**	**3.70**	**47**	A	A	15 14 48.1	
	comp=E,9.0nm,8.4s,comp=N,8.0nm,5.8s						
JRG	**Rokugo**	**3.70**	**33**	A	A	15 14 47.9	
	comp=E,8.0nm,4.9s,comp=N,10.0nm,1.7s						
JAI	**Aioi**	**3.87**	**230**	A	A	15 14 50.6	
	comp=E,11nm,6.8s,comp=N,12nm,3.5s						
JJS	**Sakaide**	**3.87**	**241**	A	A	15 14 50.5	
	comp=E,19nm,6.4s,comp=N,21nm,4.9s						
JMAF	**Mimaanabuki**	**3.90**	**235**	A	A	15 14 51.0	
	comp=E,13nm,6.0s,comp=N,16nm,5.1s						
OFUJ	**Ofunato**	**3.99**	**45**	A	A	15 14 52.2	
	comp=E,9.0nm,6.8s,comp=N,7.0nm,4.7s						
JSZI	**Iwateshizukuis**	**4.12**	**33**	A	A	15 14 53.9	
	comp=E,18nm,3.8s,comp=N,21nm,3.7s						
JHS	**Saijyo**	**4.21**	**253**	A	A	15 14 55.1	
	comp=E,5.0nm,7.6s,comp=N,16nm,9.3s						
JMN	**Monobe**	**4.27**	**234**		**Pn**	**15 14 55.2**	**-0.3**
JMN	**Monobe**	**4.27**	**234**	P	**Pn**	**15 14 56.7**	**+1.2**
JMN	**Monobe**	**4.27**	**234**	A	A	15 14 56.3	
	comp=E,15nm,6.0s,comp=N,20nm,5.0s						
JISK	**Izumosakaura**	**4.28**	**260**	A	A	15 14 55.9	
	comp=N,11nm,3.8s						
JNTW	**Noshirotokiwa**	**4.29**	**22**	A	A	15 14 56.0	
	comp=E,22nm,5.2s,comp=N,19nm,2.7s						
MRT2	**Murotomisaki 2**	**4.33**	**229**	A	A	15 14 57.2	
	comp=E,16nm,6.7s,comp=N,12nm,5.1s						
JKHR	**Kochiharuno**	**4.66**	**234**	A	A	15 15 01.7	
	comp=E,15nm,8.9s,comp=N,13nm,8.9s						
JTH	**Tanohata**	**4.71**	**39**	A	A	15 15 02.2	
	comp=E,6.0nm,4.8s						
JET	**Tanbara**	**4.80**	**240**	A	A	15 15 03.7	
	comp=E,8.0nm,6.1s,comp=N,11nm,4.0s						
JHT	**Toyohira**	**4.86**	**252**	A	A	15 15 04.3	
	comp=E,5.0nm,5.6s,comp=N,18nm,3.0s						
JHM	**Kurahashi**	**5.00**	**246**	A	A	15 15 06.3	
	comp=E,16nm,2.7s,comp=N,15nm,3.0s						
JTM	**Tenmabayashi**	**5.06**	**27**	Pn	**Pn**	**15 15 06.0**	**-0.2**
JTM	**Tenmabayashi**	**5.06**	**27**	P	**Pn**	**15 15 08.3**	**+2.1**
JKU	**Kubokawa**	**5.07**	**235**	A	A	15 15 07.4	
	comp=E,12nm,7.3s,comp=N,11nm,2.8s						
JHIK	**Hikimi**	**5.29**	**252**	A	A	15 15 10.2	
	comp=E,4.0nm,2.5s,comp=N,12nm,3.6s						
JNA	**Nagahama**	**5.32**	**240**	A	A	15 15 10.9	
	comp=E,7.0nm,6.7s,comp=N,8.0nm,5.7s						
UWA2	**Uwa jima 2**	**5.42**	**237**	A	A	15 15 12.3	
	comp=E,8.0nm,2.1s,comp=N,10.0nm,7.8s						
JKD	**Kudamatsu**	**5.52**	**248**	A	A	15 15 13.6	
	comp=E,10.0nm,3.6s,comp=N,18nm,3.8s						
JTO	**Tosashimizu**	**5.52**	**233**	A	A	15 15 13.8	
	comp=E,8.0nm,4.1s,comp=N,8.0nm,9.0s						
JKI	**Kunimi**	**5.94**	**245**	A	A	15 15 19.5	
	comp=E,13nm,9.0s,comp=N,10.0nm,5.9s						
JNU	**Nakatsue**	**6.69**	**244**	Pn	**Pn**	**15 15 29.5**	**+0.7**
JNU	**Nakatsue**	**6.69**	**244**	P	**Pn**	**15 15 30.0**	**+1.2**
JNU	**Nakatsue**	**6.69**	**244**	Pn	**Pn**	**15 15 28.4**	**-0.3**
	comp=N,3.6nm,0.3s,baz=55,slow=6.5,SNR=40						
JNU				Lg	Lg	15 17 18.8	
	comp=N,1.5nm,0.3s,baz=197,slow=15,SNR=3.9						
JNU				LR	LR	15 18 11.5	
	comp=N,5µm,18.7s,baz=56,slow=40						
	comp=N,109nm,0.8s						
ERM	**Erimo**	**6.94**	**33**		**Pn**	**15 15 32.9**	**+0.8**
ERM	**Erimo**	**6.94**	**33**	*ce*P	**Pn**	**15 15 33.9**	**+1.8**
ERM				pmax	pmax		
	comp=Z,143nm,0.8s						
KSRS	**Korea Array**	**8.17**	**281**	Pn	**Pn**	**15 15 49.6**	**+0.6**
	comp=Z,2.8nm,0.3s,baz=95,slow=14,SNR=44						
KSRS				Sn	**Sn**	**15 17 19.7**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=94,slow=25,SNR=5.4						
	comp=Z,14nm,0.6s						
MSHR	**Mys Shultsa**	**8.20**	**322**	*ce*P	**Pn**	**15 15 46.9**	**-2.4**
MSHR				pmax	pmax		
	comp=Z,78nm,1.7s						
KSAR	**Wonju Array Be**	**8.20**	**281**		**Pn**	**15 15 48.7**	**-0.7**
KSAR	**Wonju Array Be**	**8.20**	**281**	P	**Pn**	**15 15 48.7**	**-0.7**
KS19	**Wonju Array Si**	**8.22**	**281**		**Pn**	**15 15 49.0**	**-0.7**
PSTR	**Posyet**	**8.43**	**321**	*i* P	**Pn**	**15 15 52.5**	**0.0**
ASAJ	**Asahikawa**	**8.53**	**23**	Pn	**Pn**	**15 15 54.7**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=252,slow=13,SNR=2.0						
ASAJ				LR	LR	15 19 32.8	
	comp=Z,1µm,18.5s,baz=222,slow=40						
	comp=Z,20nm,1.0s						
TJN	**Taejon**	**8.60**	**274**	Pn	**Pn**	**15 15 54.8**	**-0.1**
TJN	**Taejon**	**8.60**	**274**	*i* P	**Pn**	**15 15 54.8**	**-0.1**
USA0B	**Ussuriysk Arra**	**9.12**	**331**	Pn	**Pn**	**15 16 00.5**	**-1.5**
USA0B	**Ussuriysk Arra**	**9.12**	**331**	*i* P	**Pn**	**15 16 00.4**	**-1.5**
USRK	**Ussuriysk Ar.**	**9.12**	**331**	Pn	**Pn**	**15 16 00.8**	**-1.2**
USRK	**Ussuriysk Ar.**	**9.12**	**331**	Pn	**Pn**	**15 16 01.5**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=156,slow=15,SNR=44						
USRK				Sn	**Sn**	**15 17 43.8**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=124,slow=48,SNR=2.7						
USRK				LR	LR	15 19 24.3	
	comp=Z,2µm,18.4s,baz=149,slow=37						
	comp=Z,82nm,0.9s						
JCJ	**Chichijima**	**9.86**	**158**	Pn	**Pn**	**15 16 10.2**	**-1.9**
	comp=Z,6.9nm,0.3s,baz=287,slow=17,SNR=1.1						
JCJ				LR	LR	15 19 44.5	
	comp=Z,2µm,19.3s,baz=8.5,slow=37						
	comp=Z,90nm,0.8s						
MDJ	**Mudanjiang**	**10.48**	**325**	P	**Pn**	**15 16 22.5**	**+1.9**
MDJ				pP		15 16 24.9	
MDJ				sP		15 16 26.4	
MDJ				PP	**PnPn**	**15 16 30.7**	**+2.5**
MDJ				S	Sn	15 18 28.5	+11
MDJ				sS		15 18 31.6	
MDJ				pmax	pmax		
	comp=Z,15nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,450nm,5.8s						
MDJ				LR	LR		
	comp=Z,8µm,14.5s						
MDJ				LR	LR		
	comp=Z,8µm,14.7s						
MDJ				LR	LR		
	comp=Z,4µm,16.3s						
YSS	**Yuzh-Sakhalins**	**11.19**	**17**	*e*P	Pn	15 16 36.8	+6.5
YSS				*e*S	**Sn**	**15 18 43.1**	**+7.7**
YSS				pmax	pmax		
	comp=Z,90nm,1.1s						
YSS				MLR	MLR		
	comp=Z,4µm,14.0s						
YSS				MLR	MLR		
	comp=N,3µm,15.0s						
YSS				MLR	MLR		
	comp=E,2µm,12.0s						
CN2	**Changchun**	**12.18**	**312**	*e*P	**Pn**	**15 16 46.0**	**+2.1**
CN2				*e*S	**Sn**	**15 19 03.0**	**+3.4**
CN2				pmax	pmax		
	comp=E,70nm,1.2s						
CN2				pmax	pmax		
	comp=E,100nm,3.0s						
CN2				LR	LR		
	comp=E,2µm,13.0s						
CN2				LR	LR		
	comp=E,2µm,13.0s						
CN2				LR	LR		
	comp=E,900nm,12.4s						
BNX	**BinXian**	**12.35**	**323**	⇓P	**Pn**	**15 16 48.0**	**+1.8**
BNX				pP	P	15 16 51.4	-6.9
BNX				sP		15 16 53.7	
BNX				PP	**PnPn**	**15 16 58.3**	**+4.4**
BNX				S	**Sn**	**15 19 08.9**	**+5.2**
BNX				sS		15 19 12.0	
BNX				pmax	pmax		
	comp=E,54nm,1.5s						
BNX				pmax	pmax		
	comp=E,400nm,3.8s						
BNX				LR	LR		
	comp=E,6µm,16.0s						
BNX				LR	LR		
	comp=E,5µm,15.6s						
BNX				LR	LR		
	comp=E,3µm,17.4s						
SNY	**Shenyang**	**12.49**	**300**	⇑P	**Pn**	**15 16 50.4**	**+2.3**
SNY				S	**Sn**	**15 19 11.6**	**+4.4**
SNY				pmax	pmax		
	comp=E,32nm,1.4s						
SNY				pmax	pmax		
	comp=E,520nm,3.5s						
SNY				LR	LR		
	comp=E,1µm,14.2s						
SNY				LR	LR		
	comp=E,1µm,14.7s						
SNY				LR	LR		
	comp=E,2µm,15.9s						
KLR	**Kul'dur**	**13.69**	**342**	*i* P	**Pn**	**15 17 06.0**	**+1.5**
KLR	**Kul'dur**	**13.69**	**342**	Pn	**Pn**	**15 17 05.2**	**+0.8**
	comp=E,0.3nm,0.3s,baz=149,slow=12,SNR=30						
KLR				LR	LR	15 22 05.0	
	comp=E,1µm,19.8s,baz=158,slow=36						
	comp=E,26nm,1.1s						
GRNR	**Gornyy**	**14.49**	**356**	⇑*i*P	**Pn**	**15 17 17.6**	**+2.2**
GRNR				*e*S	**Sn**	**15 20 02.3**	**+6.4**
GRNR				pmax	pmax		
	comp=E,10.0nm,1.1s						
GRNR				pmax	pmax		
	comp=N,20nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,20nm,1.1s						
GRNR				smax	smax		
	comp=N,3.0nm,1.1s						
GRNR				MLR	MLR		
	comp=Z,1µm,15.0s						
TYV	**Tymovskoe**	**14.91**	**11**	*e*P	**P**	**15 17 25.4**	**-1.4**
TYV				*e*S	**S**	**15 20 16.4**	**-7.8**
TYV				pmax	pmax		
	comp=Z,400nm,3.4s						
TYV				pmax	pmax		
	comp=Z,45nm,1.5s						
TYV				smax	smax		
	comp=N,600nm,5.8s						
TYV				smax	smax		
	comp=E,500nm,5.8s						
SSE	**Sheshan**	**14.95**	**254**	P	**Pn**	**15 17 19.1**	**-2.6**
SSE				S	**Sn**	**15 20 06.5**	**-0.7**
SSE				pmax	pmax		
	comp=E,14nm,0.6s						
SSE				pmax	pmax		
	comp=E,180nm,3.9s						
SSE				LR	LR		
	comp=E,3µm,17.7s						

SSE LR LR
comp=E,2µm,18.7s
HEH HeiHe 15.90 334 *e*P **Pn** **15 17 32.8 -1.3**
HEH pP **P** **15 17 35.4 -2.3**
HEH S **Sn** **15 20 30.1 0.0**
HEH pmax pmax
comp=E,62nm,0.9s
HEH pmax pmax
comp=E,490nm,4.2s
HEH LR LR
comp=E,6µm,15.8s
HEH LR LR
comp=E,9µm,15.4s
HEH LR LR
comp=E,4µm,13.1s
NJ2 Nanjing 16.42 261 *e*P **P** **15 17 43.8 +0.2**
NJ2 pmax pmax
comp=E,20nm,0.8s
NJ2 pmax pmax
comp=E,470nm,3.7s
NJ2 LR LR
comp=E,7µm,19.0s
NJ2 LR LR
comp=E,2µm,17.1s
NJ2 LR LR
comp=E,2µm,14.7s
TIA Tai'an 16.86 276 ⇑P **P** **15 17 48.1 -0.4**
TIA pmax pmax
comp=E,28nm,1.3s
TIA pmax pmax
comp=E,810nm,7.5s
TIA LR LR
comp=E,2µm,13.3s
TIA LR LR
comp=E,2µm,13.1s
TIA LR LR
comp=E,3µm,17.2s
BJI Beijing 17.57 289 P **P** **15 17 55.9 -0.4**
BJI pmax pmax
comp=E,19nm,1.7s
BJI pmax pmax
comp=E,460nm,8.9s
BJI LR LR
comp=E,690nm,11.6s
BJI LR LR
comp=E,650nm,12.9s
BJI LR LR
comp=E,630nm,11.6s
BJT Baijiatuau 17.57 289 P **Pn** **15 17 55.7 +0.4**
BJT Baijiatuau 17.57 289 P **Pn** **15 17 55.7 +0.4**
BJT pmax pmax
comp=Z,146nm,1.8s
XLT XiLinHaoTe 18.38 301 *e*P **P** **15 18 05.7 +0.4**
XLT sP sP 15 18 14.3 +3.9
XLT S **Sn** **15 21 27.5 -3.0**
XLT sS S 15 21 33.7 -1.5
XLT SS 15 21 49.9
XLT pmax pmax
comp=Z,46nm,1.2s
XLT pmax pmax
comp=Z,720nm,8.3s
XLT LR LR
comp=Z,1µm,12.2s
XLT LR LR
comp=Z,1µm,15.1s
HIA Hailar 18.57 320 P **P** **15 18 06.5 -0.9**
HIA Hailar 18.57 320 P **P** **15 18 06.5 -0.9**
HIA pmax pmax
comp=Z,71nm,1.6s
HNS HongShan 18.68 280 ⇑P **Pn** **15 18 10.0 +1.0**
HNS S **S** **15 21 42.5 +1.3**
HNS pmax pmax
comp=Z,130nm,1.3s
HNS pmax pmax
comp=Z,940nm,7.2s
HNS LR LR
comp=Z,3µm,15.7s
HNS LR LR
comp=Z,840nm,14.1s
HNS LR LR
comp=Z,1µm,15.7s
ZEA Zeya 18.97 340 *e*P **Pn** **15 18 12.4 +0.1**
ZEA pmax pmax
comp=E,10.0nm,1.0s
ZEA pmax pmax
comp=N,30nm,1.1s
ZEA pmax pmax
comp=Z,50nm,0.9s
ZEA pmax pmax
comp=E,100nm,3.2s
ZEA pmax pmax
comp=N,200nm,3.4s
ZEA pmax pmax
comp=Z,200nm,5.8s
ZEA MLR MLR
comp=N,500nm,13.0s
ZEA MLR MLR
comp=Z,700nm,12.0s
TIY Taiyuan 20.46 282 *e*P Pn 15 18 33.9 +3.6
TIY S Sn 15 22 22.2 +1.3
TIY pmax pmax
comp=Z,21nm,0.7s
TIY pmax pmax
comp=Z,380nm,3.5s
TIY LR LR
comp=Z,1µm,12.6s
TIY LR LR
comp=Z,1µm,13.7s
TIY LR LR
comp=Z,1µm,14.3s
WHN Wuhan 20.56 261 P Pn 15 18 31.3 -0.1
WHN pP sP 15 18 34.3 +0.1
WHN sP pP 15 18 36.9 +4.2
WHN PP **PnPn** **15 18 50.3 +3.7**
WHN S Sn 15 22 21.5 -1.6
WHN pmax pmax
comp=Z,2µm,4.6s
WHN LR LR
comp=Z,7µm,11.4s
WHN LR LR
comp=Z,5µm,10.5s
WHN LR LR
comp=Z,10µm,13.7s
LYN LuoYang 20.88 273 ⇓P **P** **15 18 33.8 +1.2**
LYN PP **PnPn** **15 18 56.1 +5.1**
LYN S **S** **15 22 23.5 -1.8**
LYN sS Sn 15 22 29.0 -1.9
LYN SS **SnSn** **15 22 53.2 +7.6**
LYN pmax pmax
comp=Z,46nm,1.0s
LYN pmax pmax
comp=Z,680nm,8.6s
LYN LR LR
comp=Z,4µm,14.8s
LYN LR LR
comp=Z,4µm,15.5s
LYN LR LR
comp=Z,6µm,13.4s
HHC Hu-ho-hao-te 21.14 290 *e*P **P** **15 18 35.9 +0.4**
HHC sP sP 15 18 42.4 +1.8
HHC S **S** **15 22 26.0 -4.5**
HHC sS sS 15 22 34.4 -1.7
HHC SS Sn 15 22 55.0 +18
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,310nm,4.1s
HHC LR LR
comp=Z,2µm,17.1s
HHC LR LR
comp=Z,1µm,17.4s
HHC LR LR
comp=Z,3µm,18.4s
PEA0B Petropavlovsk- 21.73 33 **P** **15 18 42.3 +0.8**
PEA0B IAmb IAmb 15 18 58.8
comp=Z,73nm,1.2s
PEA0B Petropavlovsk- 21.73 33 P **P** **15 18 42.3 +0.8**
PEA0B pmax pmax
comp=Z,73nm,1.2s
PETK Petropavlovsk- 21.73 33 P **P** **15 18 42.4 +0.9**
PETK Petropavlovsk- 21.73 33 P **P** **15 18 42.4 +0.9**
PETK Petropavlovsk- 21.73 33 P **P** **15 18 41.7 +0.2**
comp=Z,23nm,1.1s,baz=224,slow=8.1,SNR=3.6
PETK LR LR 15 26 30.9
comp=Z,869nm,20.9s,baz=218,slow=35
comp=Z,23nm,1.1s
PET Petropavlovsk 22.10 34 *e*P **P** **15 18 49.0 +3.5**
PET *e*S **S** **15 22 42.0 -6.8**
PET pmax pmax
comp=Z,48nm,1.4s
PET pmax pmax
comp=Z,400nm,4.5s
PET MLR MLR
comp=Z,800nm,16.0s
PET MLR MLR
comp=Z,900nm,13.0s
BTO Baotou 22.30 290 *e*P **P** **15 18 47.4 -0.5**
BTO pP **pP** **15 18 51.6 +0.2**
BTO sP **sP** **15 18 54.1 +1.1**
BTO PP **PnPn** **15 19 13.4 +3.0**
BTO S **S** **15 22 53.6 +0.6**
BTO SS **SnSn** **15 23 23.9 +3.6**
BTO pmax pmax
comp=Z,15nm,0.5s
BTO pmax pmax
comp=Z,360nm,4.3s
BTO LR LR
comp=Z,2µm,13.2s
BTO LR LR
comp=Z,2µm,13.2s
BTO LR LR
comp=Z,2µm,13.4s
CNSH ChangSha 22.68 256 ⇑P **P** **15 18 52.5 +0.6**
CNSH S **S** **15 23 03.7 +3.7**
CNSH LR LR
comp=Z,4µm,20.6s
CNSH LR LR
comp=Z,2µm,18.0s
CNSH LR LR
comp=Z,2µm,16.2s
GUMO Guam 23.46 163 LR LR 15 26 53.7
comp=Z,1µm,20.3s,baz=348,slow=34
XAN Xi'an 23.86 273 ⇓P **P** **15 19 02.5 -1.4**
XAN pP pP 15 19 07.0 -0.6
XAN sP sP 15 19 10.1 +1.0
XAN S **S** **15 23 18.9 -0.9**
XAN SS **SnSn** **15 24 03.2 +4.6**
XAN pmax pmax
comp=Z,10.0nm,2.2s
XAN pmax pmax
comp=Z,580nm,4.6s
XAN LR LR
comp=Z,5µm,15.2s
XAN LR LR
comp=Z,1µm,15.1s
XAN LR LR
comp=Z,2µm,18.9s
ENH Enshi 24.55 264 P **P** **15 19 08.5 -1.8**
MA2 Magadan 24.70 16 P **P** **15 19 11.8 +0.5**
MA2 IAmb IAmb 15 19 13.9
comp=Z,73nm,1.2s
MA2 Magadan 24.70 16 *i*P **P** **15 19 12.3 +1.0**
MA2 pmax pmax
comp=Z,182nm,2.6s
MA2 Magadan 24.70 16 P **P** **15 19 10.6 -0.7**
comp=Z,33nm,0.9s,baz=192,slow=8.8,SNR=14
MA2 LR LR 15 29 58.0
comp=Z,757nm,18.5s,baz=202,slow=39
comp=Z,33nm,0.9s
ULN Ulaanbaatar 25.54 307 P **P** **15 19 18.2 -1.1**
ULN IAmb IAmb 15 19 35.1
comp=Z,31nm,1.2s
ULN Ulaanbaatar 25.54 307 *ce*P **P** **15 19 16.8 -2.5**
ULN pmax pmax
comp=Z,19nm,1.3s
SONM Songino Array 25.96 306 P **P** **15 19 20.9 -2.1**
SONM Songino Array 25.96 306 P **P** **15 19 21.0 -2.1**
SONM pmax pmax
comp=Z,30nm,1.4s
SONM Songino Array 25.96 306 P **P** **15 19 21.2 -1.8**
comp=Z,2.4nm,1.0s,baz=111,slow=10,SNR=9.8
SONM ScP **ScP** **15 26 28.9 -1.8**
comp=Z,0.4nm,0.5s,baz=134,slow=4.2,SNR=4.2
SONM LR LR 15 29 31.7
comp=Z,601nm,21.4s,baz=112,slow=36
comp=Z,2.4nm,1.0s
GULI GuiLin 26.09 253 P **P** **15 19 23.7 -0.5**
GULI S **S** **15 23 55.7 +0.3**
GULI pmax pmax
comp=Z,20nm,1.4s
GULI LR LR
comp=Z,2µm,18.2s
GULI LR LR
comp=Z,1µm,18.1s
GULI LR LR
comp=Z,2µm,11.7s
YAK Yakutsk 26.26 351 P **P** **15 19 23.3 -2.1**
YAK Yakutsk 26.26 351 *e*P **P** **15 19 23.3 -2.1**
YAK *e* 15 20 02.8
YAK *e*S **S** **15 23 56.9 -0.5**
YAK pmax pmax
comp=Z,177nm,0.8s
YAK pmax pmax
comp=N,77nm,1.0s
YAK pmax pmax
comp=E,21nm,0.8s
YAK pmax pmax
comp=Z,39nm,1.4s
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,39nm,1.7s
YAK smax smax
comp=N,110nm,2.1s
YAK smax smax
comp=E,56nm,2.5s
YAK MLR MLR
comp=Z,857nm,16.0s
YAK MLR MLR
comp=N,562nm,15.0s
YAK Yakutsk 26.26 351 LR LR 15 29 27.7
comp=N,40nm,20.7s,baz=153,slow=36
LZH Lanzhou 27.50 280 *e*P **P** **15 19 38.6 +1.5**
LZH PP PP 15 20 21.0 -18
LZH PcP **PcP** **15 22 54.4 -0.8**
LZH S **S** **15 24 14.2 -3.7**
LZH SS **SnSn** **15 25 33.9 +6.1**
LZH pmax pmax
comp=N,28nm,1.3s
LZH pmax pmax
comp=N,200nm,7.2s
LZH LR LR
comp=N,2µm,14.4s
LZH LR LR
comp=N,2µm,17.9s
LZH LR LR
comp=N,2µm,18.5s
SEY Seymchan 28.08 14 *i*P **P** **15 19 42.3 +0.6**
SEY pmax pmax
comp=Z,22nm,1.5s
SEY Seymchan 28.08 14 LR LR 15 32 17.5
comp=Z,599nm,18.5s,baz=186,slow=39
GYA Guiyang 28.41 259 ⇓P **P** **15 19 45.5 +0.3**
GYA pmax pmax
comp=Z,9.0nm,1.0s
ZAK Zakamensk 28.61 310 *e*P **P** **15 19 45.3 -1.5**
ZAK pmax pmax
comp=Z,7.0nm,1.3s
SHEM Shemya Is, Ala 30.11 46 LR LR 15 36 17.2
comp=Z,109nm,18.6s,baz=238,slow=45
QIZ Qiongzhong 30.17 243 P **P** **15 20 00.1 -0.6**
QIZ S **S** **15 24 59.6 -0.1**
QIZ pmax pmax
comp=Z,41nm,5.9s
QIZ LR LR
comp=Z,1µm,22.4s
QIZ LR LR
comp=Z,1µm,18.8s
QIZ LR LR
comp=Z,1µm,10.8s
GTA Gaotai 30.17 288 *e*P **P** **15 20 00.4 -0.4**
GTA sP sP 15 20 07.8 +1.7
GTA PcP **PcP** **15 23 05.4 +3.6**
GTA S **S** **15 25 03.0 +3.2**
GTA ScP **ScP** **15 26 43.1 -0.8**
GTA PcS **PcS** **15 26 50.6 +5.2**
GTA LR LR
comp=Z,810nm,12.7s
GTA LR LR
comp=Z,480nm,14.7s
GTA LR LR
comp=Z,850nm,13.5s
DAV Davao City (W) 31.26 204 LR LR 15 34 05.2
comp=Z,826nm,18.1s,baz=27,slow=39
PZH PanZhiHua 32.31 263 P **P** **15 20 19.1 -0.6**
PZH S **S** **15 25 32.0 -1.5**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,70nm,3.5s
PZH LR LR
comp=Z,3µm,18.8s
PZH LR LR
comp=Z,2µm,19.0s
PZH LR LR
comp=Z,2µm,14.7s
SLVN Son La 33.21 253 P **P** **15 20 26.9 -0.7**
GOMU GeErMu 34.62 283 P **P** **15 20 42.8 +2.7**
GOMU pP sP 15 20 48.7 +3.3
GOMU PcP **PcP** **15 23 17.5 +3.1**
GOMU S **S** **15 26 03.5 -6.1**
GOMU pmax pmax
comp=Z,3.0nm,0.9s
GOMU LR LR
comp=Z,750nm,15.7s
GOMU LR LR
comp=Z,240nm,15.3s
GOMU LR LR
comp=Z,1µm,17.0s
BILL Bilibino 35.51 18 *e*P **P** **15 20 48.6 +1.7**
TNCH TengChong 35.57 263 P **P** **15 20 47.2 -0.9**
TNCH S **S** **15 26 24.3 +0.3**
TNCH pmax pmax
comp=Z,34nm,0.4s
TNCH pmax pmax
comp=Z,79nm,4.7s
TNCH LR LR
comp=Z,2µm,18.6s
TNCH LR LR
comp=Z,960nm,16.8s
TNCH LR LR
comp=Z,740nm,19.5s
TIXI Tiksi 35.72 355 P **P** **15 20 46.9 -1.7**
TIXI IAmb IAmb 15 20 51.0
comp=Z,36nm,0.9s
TIXI Tiksi 35.72 355 *ce*P **P** **15 20 46.5 -2.1**
TIXI Tiksi 35.72 355 LR LR 15 34 23.7
comp=Z,25nm,19.3s,baz=177,slow=35
SWI Sorong 37.53 191 P **P** **15 21 04.4 -0.2**
comp=Z,16nm,0.9s
PHRA Phrae 37.66 252 P **P** **15 21 04.5 -1.3**
CHTO Chiang Mai 38.48 254 P **P** **15 21 11.4 -1.3**
CHTO Chiang Mai 38.48 254 P **P** **15 21 11.4 -1.3**
CHTO pmax pmax
comp=Z,11nm,1.1s
DGZ Jazzator, Alta 38.61 306 *i*P **P** **15 21 11.9 -1.8**
DGZ pmax pmax
comp=Z,7.0nm,1.0s
MRSI Marisa 38.66 206 P **P** **15 21 12.5 -1.7**
comp=Z,35nm,1.1s
CMAR Chiang Mai Arr 38.68 253 PcP **PcP** **15 23 26.2 -0.1**
CMAR Chiang Mai Arr 38.68 253 *i*P **P** **15 21 13.1 -1.3**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 38.68 253 P **P** **15 21 13.2 -1.2**
comp=Z,1.7nm,0.9s,baz=49,slow=5.5,SNR=11
CMAR PcP **PcP** **15 23 25.9 -0.4**
comp=Z,1.9nm,0.9s,baz=30,slow=2.4,SNR=7.1
CMAR LR LR 15 39 19.9
comp=Z,480nm,18.2s,baz=40,slow=40
comp=Z,1.7nm,0.9s
WMQ Urumqi 38.73 297 *e*P **P** **15 21 17.2 +2.5**
WMQ sP sP 15 21 23.7 +3.7
WMQ pmax pmax
comp=Z,6.0nm,1.1s
WMQ LR LR
comp=Z,580nm,14.9s
WMQ LR LR
comp=Z,360nm,13.5s
WMQ LR LR
comp=Z,320nm,23.9s
FAKI Fak Fak 39.41 189 P **P** **15 21 21.3 +0.9**
FAKI IAmb IAmb 15 21 25.0
comp=Z,37nm,1.0s
FAKI Fak Fak 39.41 189 P **P** **15 21 22.7 +2.3**
comp=Z,41nm,1.1s
NIKH Nikolski High 40.29 48 P **P** **15 21 28.1 +0.7**
baz=268
ZAA0 Zalesovo Array 40.39 313 P **P** **15 21 27.7 -0.5**
ZALV Zalesovo Beam 40.39 313 *i*P **P** **15 21 28.3 0.0**
ZALV pmax pmax
comp=Z,3.0nm,0.9s
ZALV Zalesovo Beam 40.39 313 P **P** **15 21 28.0 -0.3**
comp=Z,2.6nm,0.9s,baz=93,slow=6.2,SNR=10
ZALV PcP **PcP** **15 23 29.6 -1.6**
comp=Z,5.8nm,0.9s,baz=108,slow=4.7,SNR=7.4
ZALV LR LR 15 36 40.1
comp=Z,268nm,20.9s,baz=94,slow=34
comp=Z,2.6nm,0.9s
MK31 Makanchi Array 42.19 302 P **P** **15 21 42.5 -0.6**
MK31 Makanchi Array 42.19 302 *ce*P **P** **15 21 42.6 -0.6**
MKAR Makanchi Array 42.19 302 *i*P **P** **15 21 44.0 +0.8**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR Makanchi Array 42.19 302 P **P** **15 21 42.1 -1.0**
comp=Z,2.6nm,0.9s,baz=92,slow=9.5,SNR=13
MKAR PcP **PcP** **15 23 34.9 -2.3**
comp=Z,1.1nm,0.9s,baz=90,slow=5.8,SNR=1.3
MKAR ScP **ScP** **15 27 27.5 -0.1**
comp=Z,0.9nm,1.0s,baz=130,slow=2.3,SNR=3.0
MKAR LR LR 15 39 23.6
comp=Z,486nm,20.1s,baz=90,slow=36
comp=Z,2.6nm,0.9s
MAKZ Makanchi 42.40 302 P **P** **15 21 44.8 -0.1**
MAKZ Makanchi 42.40 302 P **P** **15 21 44.8 -0.1**
MAKZ pmax pmax
comp=Z,7.0nm,1.2s
KRVT Keravat (AS076 42.49 159 LR LR 15 37 12.3
comp=Z,215nm,21.0s,baz=228,slow=33
TNA Tin City 42.82 30 P **P** **15 21 50.6 +2.7**
baz=254
F14K Arctic Creek 43.44 30 P **P** **15 21 55.3 +2.3**
baz=256
M13K Dall Lake 43.89 38 P **P** **15 21 59.2 +2.5**
baz=264
F15K North Star Dit 44.17 30 P **P** **15 22 01.7 +2.8**
baz=257
KURK Kurchatov 44.23 308 P **P** **15 21 59.3 -0.2**
KURK Kurchatov 44.23 308 *ce*P **P** **15 22 00.2 +0.7**
KURK pmax pmax
comp=Z,9.0nm,0.6s
G15K Niukluk 44.27 31 P **P** **15 22 01.8 +2.1**
baz=259
KURBB Kurchatov Arra 44.29 308 P **P** **15 21 58.9 -1.2**
comp=Z,6.4nm,0.8s,baz=86,slow=8.2,SNR=19
KURBB LR LR 15 40 25.8
comp=Z,553nm,21.1s,baz=118,slow=36
comp=Z,6.4nm,0.8s
RAMN Ramite 44.33 273 *e*P **P** **15 21 59.7 -1.2**
comp=Z,42nm,1.0s
JIRN Jiri 44.36 274 *e*P **P** **15 22 00.0 -1.3**
comp=Z,114nm,1.5s
GUN Gumba 44.50 275 *e*P **P** **15 22 00.9 -1.6**
comp=Z,5.5nm,0.8s
KAPI Kappang 44.54 206 LR LR 15 39 40.7
comp=Z,104nm,21.3s,baz=14,slow=35
C16K Lisburne Hills 44.54 26 P **P** **15 22 04.3 +2.5**
baz=254
H16K Elim 44.97 32 P **P** **15 22 07.0 +1.7**
baz=261
PKI Pulchoki 45.02 274 *e*P **P** **15 22 05.3 -1.3**
comp=Z,4.3nm,0.8s
PKIN Phulchoki 45.03 274 *e*P **P** **15 22 04.7 -1.9**
comp=Z,67nm,1.6s
D17K Noatak River 45.22 27 P **P** **15 22 09.8 +2.6**
baz=257
M15K Kasigluk River 45.23 37 P **P** **15 22 10.3 +2.9**
baz=266
RDOG Red Dog Mine 45.37 27 P **P** **15 22 10.6 +2.2**
baz=257
C17K DeLong Mountai 45.37 26 P **P** **15 22 10.6 +2.2**
baz=256
GKN Gorkha 45.47 275 *e*P **P** **15 22 08.4 -1.5**
comp=Z,2.9nm,0.3s
I17K Unalakleet 45.53 33 P **P** **15 22 11.4 +1.7**
baz=263
E17K Hotham Inlet 45.57 28 P **P** **15 22 12.7 +2.7**
baz=259
O15K Ungalikthiuk R 45.59 40 P **P** **15 22 12.6 +2.3**

baz=269
F17K **Baldwin Pennin** 45.67 29 P P 15 22 12.8 +2.0
baz=260
S14K **Fog Glacier** 45.73 44 P P 15 22 13.9 +2.3
baz=272
L16K **Owhat River** 45.88 36 P P 15 22 14.5 +1.9
baz=266
DANN **Dangsing** 46.03 276 *e*P P 15 22 13.4 -1.1
comp=Z,386nm,0.9s
B18K **Kokolik River** 46.06 25 P P 15 22 17.0 +3.1
baz=257
E18K **Tukpahlearik C** 46.10 28 P P 15 22 17.5 +3.3
baz=260
C18K **Utukok River** 46.12 26 P P 15 22 17.3 +2.9
baz=258
N16K **Nishlik Lake** 46.16 38 P P 15 22 17.7 +2.9
baz=268
L17K **Donlin** 46.46 36 P P 15 22 20.0 +2.9
baz=267
K17K **Iditarod** 46.49 35 P P 15 22 20.2 +2.9
baz=266
G18K **Tagagawik** 46.64 30 P P 15 22 21.2 +2.7
baz=263
H18K **Honhosa River** 46.67 31 P P 15 22 21.2 +2.5
baz=264
PYUN **Piuthan** 46.75 276 *e*P P 15 22 18.6 -1.5
comp=Z,59nm,1.1s
R16K **Pilot Point** 46.78 42 P P 15 22 20.7 +1.1
baz=272
C19K **Lookout Ridge** 46.78 26 P P 15 22 22.1 +2.5
baz=259
M17K **Holitna River** 46.84 37 P P 15 22 21.9 +1.8
baz=268
N17K **Nushagak Hills** 46.95 38 P P 15 22 23.8 +2.9
baz=270
O17K **Koliganek Bris** 46.99 39 P P 15 22 24.1 +2.9
baz=270
F19K **Shaleruckik Mo** 47.10 29 P P 15 22 24.0 +2.0
baz=263
D19K **Kuna River** 47.20 27 P P 15 22 24.7 +1.9
baz=261
L18K **Granite Mounta** 47.22 35 P P 15 22 26.5 +3.5
baz=268
Q16K **King Salmon** 47.23 40 P P 15 22 25.3 +2.2
baz=272
J18K **Innoko River** 47.26 34 P P 15 22 26.0 +2.7
baz=267
GCSA **Galena City Sc** 47.27 32 P P 15 22 25.9 +2.6
baz=266
G19K **Purcell Mounta** 47.30 30 P P 15 22 26.1 +2.5
baz=264
E19K **Redstone River** 47.39 28 IAmb IAmb 15 22 41.7
comp=Z,12nm,0.9s
E19K **Redstone River** 47.39 28 P P 15 22 26.0 +1.6
baz=263
TTA **Tatalina** 47.55 34 P P 15 22 28.4 +2.7
baz=268
N18K **Kilae Creek** 47.59 38 P P 15 22 28.6 +2.7
baz=271
M18K **Stony River** 47.62 36 P P 15 22 28.5 +2.4
baz=270
Q17K **Contact Creek** 47.65 41 P P 15 22 29.3 +2.7
baz=273
J19K **Poorman** 47.77 33 P P 15 22 30.0 +2.7
baz=268
B20K **Meade River** 47.78 25 P P 15 22 29.6 +2.4
baz=261
D20K **Etivluk River** 47.78 27 P P 15 22 29.8 +2.5
baz=262
E20K **Nigu River** 47.88 27 P P 15 22 31.1 +3.0
baz=263
F20K **Avaraart Lake** 47.93 29 P P 15 22 31.5 +3.1
baz=265
CHIR **Chirikof Islan** 47.96 44 P P 15 22 32.5 +3.7
baz=275
L19K **White Mountain** 48.08 36 P P 15 22 33.1 +3.4
baz=270
Q18K **Katmai Hardscr** 48.09 40 P P 15 22 33.1 +3.1
baz=273
A21K **Barrow** 48.18 23 P P 15 22 33.3 +2.9
baz=260
KSH **Kashi** 48.20 294 P P 15 22 38.9 +7.8
KSH pmax pmax
comp=Z,8.0nm,0.9s
KSH LR LR
comp=Z,420nm,12.9s
KSH LR LR
comp=Z,580nm,13.7s
KSH LR LR
comp=Z,810nm,14.4s
BATI **Baumata** 48.22 199 LR LR 15 42 09.2
comp=Z,244nm,21.0s,baz=1.5,slow=35
N19K **Bonanza Creek** 48.27 37 P P 15 22 34.0 +2.7
baz=272
I20K **Naaghedeneel** 48.30 32 P P 15 22 34.4 +3.1
baz=268
O19K **Port Alsworth** 48.38 38 P P 15 22 35.1 +3.1
baz=272
AAK **Ala-Archa** 48.42 298 LR LR 15 42 14.9
comp=Z,388nm,20.4s,baz=87,slow=35
J20K **Nowinta River** 48.42 33 P P 15 22 36.0 +3.7
baz=269
K20K **Telida** 48.44 34 P P 15 22 35.9 +3.4
baz=270
R18K **Karluk** 48.46 42 P P 15 22 35.1 +2.4
baz=275
C21K **Knifeblade Rid** 48.49 26 P P 15 22 35.7 +2.9
baz=264
L20K **Farewell, AK** 48.53 35 P P 15 22 36.9 +3.7
baz=271
B21K **Ikpikpuk River** 48.60 26 P P 15 22 37.2 +3.5
baz=264
A22K **Sinclair Lake** 48.66 24 P P 15 22 37.6 +3.5
baz=262
SII **Sitkinak Islan** 48.69 43 P P 15 22 38.2 +3.7
baz=276
E21K **Killik River** 48.72 27 P P 15 22 37.2 +2.6
baz=265
G21K **Allakaket** 48.77 30 IAmb IAmb 15 22 54.7
comp=Z,15nm,1.1s
G21K **Allakaket** 48.77 30 P P 15 22 38.2 +3.2
baz=267
Q19K **Cape Douglas,** 48.79 40 P P 15 22 37.3 +2.1
baz=274
F21K **Alatna River** 48.82 29 P P 15 22 37.6 +2.3
baz=267
BVAR **Borovoye Array** 49.03 312 P P 15 22 35.8 -1.4
comp=Z,7.4nm,0.9s,baz=79,slow=7.7,SNR=17
BVAR PcP PcP 15 23 59.7 -1.2
comp=Z,7.2nm,0.9s,baz=90,slow=3.5,SNR=7.2
BVAR LR LR 15 45 06.1
comp=Z,328nm,18.4s,baz=79,slow=38
comp=Z,7.4nm,0.9s
B22K **Teshekpuk Lake** 49.09 25 P P 15 22 40.1 +2.7
baz=264
BRVK **Borovoye** 49.09 312 P P 15 22 38.3 +0.7
BRVK **Borovoye** 49.09 312 *ce*P P 15 22 38.1 +0.5
BRVK pmax pmax
comp=Z,9.0nm,1.1s
OHAK **Old Harbor** 49.12 42 P P 15 22 41.0 +3.3
baz=276
D22K **Ayikyak River** 49.22 27 IAmb IAmb 15 22 42.8
comp=Z,24nm,0.9s
D22K **Ayikyak River** 49.22 27 P P 15 22 41.8 +3.4
baz=266
CHUM **Lake Minchumin** 49.23 33 P P 15 22 42.2 +3.7
baz=271
PPLA **Purkeypile** 49.30 35 P P 15 22 43.1 +3.8
baz=272
MTN **Manton Dam** 49.33 189 IAmb IAmb 15 22 38.3
comp=Z,29nm,1.1s
F22K **John River** 49.33 28 P P 15 22 42.3 +3.0
baz=268
CAST **Castle Rocks** 49.34 34 P P 15 22 42.6 +3.2
baz=271
I21K **Tanana** 49.36 32 P P 15 22 43.5 +4.0
baz=270
N20K **Mount Spurr** 49.37 37 P P 15 22 42.9 +3.1
baz=273
KDAK **Kodiak Island** 49.44 41 P P 15 22 43.5 +3.3
baz=276
Q20K **Shuyak Island** 49.46 40 P P 15 22 43.6 +3.3
baz=275
E22K **Anaktuvuk Pass** 49.50 28 P P 15 22 40.9 +0.3
E22K IAmb IAmb 15 22 44.9
comp=Z,29nm,1.2s
E22K **Anaktuvuk Pass** 49.50 28 P P 15 22 44.0 +3.4
baz=268
G22K **Bettles** 49.58 29 P P 15 22 43.3 +2.1
baz=269
H22K **Ishtalitna Cre** 49.62 31 P P 15 22 46.2 +4.7
baz=270
SKT **Skwentna** 49.65 36 P P 15 22 44.8 +3.0
baz=273
BPAW **Bear Paw Mtn.** 49.81 33 P P 15 22 46.4 +3.4
baz=272
MLY **Manley** 49.89 32 P P 15 22 47.2 +3.6
baz=271,SNR=5.2
D23K **Nanushuk River** 49.95 27 P P 15 22 46.6 +2.7
baz=268
HNR **Honiara** 49.97 151 LR LR 15 43 02.8
comp=Z,4μm,20.1s,baz=340,slow=35
C23K **Itkillik River** 50.01 25 P P 15 22 47.1 +2.7
baz=267
SUA **Susitna One** 50.05 36 P P 15 22 48.5 +3.5
baz=274
COLD **Coldfoot** 50.09 29 P P 15 22 48.7 +3.7
baz=270
TRF **Thorofare Moun** 50.14 34 P P 15 22 49.4 +3.7
baz=273
G23K **Bananza Creek** 50.16 29 P P 15 22 48.3 +2.6
baz=270
CUT **Chulitna** 50.21 35 P P 15 22 47.4 +1.4
baz=274
COEN **Coen** 50.24 173 IAmb IAmb 15 22 51.5
comp=Z,24nm,1.0s
E23K **Chandalar** 50.32 28 P P 15 22 50.5 +3.6
baz=270
M22K **Willow** 50.33 36 P P 15 22 50.2 +3.3
baz=275
TOLK **Toolik Lake Re** 50.34 27 P P 15 22 49.9 +2.9
baz=269
I23K **Minto, Yukon-K** 50.47 32 P P 15 22 51.2 +3.3
baz=272
RC01 **Rabbit Creek A** 50.57 37 P P 15 22 51.3 +2.5
baz=275
D24K **Happy Valley** 50.62 26 P P 15 22 51.9 +2.8
baz=270
NEA2 **Nenana** 50.62 32 P P 15 22 51.8 +2.7
baz=273
C24K **Franklin Bluff** 50.67 26 P P 15 22 52.1 +2.7
baz=269
MCK **McKinley** 50.73 33 P P 15 22 52.2 +2.2
baz=274
E24K **Your Creek** 50.74 28 P P 15 22 52.3 +2.2
baz=271
RND **Reindeer** 50.79 34 IAmb IAmb 15 22 54.4
comp=Z,14nm,0.9s
SEW **Seward** 50.81 38 P P 15 22 53.6 +3.0
baz=276
PMR **Palmer** 50.81 36 P P 15 22 51.7 +1.1
baz=276
MDM **Murphy Dome** 50.96 32 IAmb IAmb 15 23 18.7
comp=Z,19nm,1.2s
WAT1 **Susitna Watana** 50.97 34 P P 15 22 53.6 +1.8
baz=275
F24K **Squaw Lake** 50.98 28 P P 15 22 54.1 +2.2
baz=272
H24K **Noodor Dome** 51.06 31 P P 15 22 54.6 +2.2
baz=273
KK31 **Karatay Array** 51.11 300 IAmb IAmb 15 23 00.4
comp=Z,24nm,1.2s
KK31 **Karatay Array** 51.11 300 *i* P P 15 22 51.5 -1.7
KKAR **Karatay Array** 51.11 300 IAmb IAmb 15 23 00.4
comp=Z,24nm,1.2s
KNK **Knik Glacier** 51.15 36 P P 15 22 55.1 +2.0
baz=276
SML **Sawmill** 51.17 36 P P 15 22 53.0 -0.3
SML IAmb IAmb 15 22 58.4
comp=Z,22nm,0.8s
SML **Sawmill** 51.17 36 P P 15 22 55.7 +2.4
baz=276
G24K **Hadweenzic Riv** 51.18 29 P P 15 22 55.9 +2.6
baz=273
POKR **Poker Plat Res** 51.29 32 IAmb IAmb 15 23 24.9
comp=Z,23nm,1.1s
POKR **Poker Plat Res** 51.29 32 P P 15 22 57.5 +3.4
baz=274,SNR=7.0
WAT6 **Susitna Watana** 51.37 35 P P 15 22 57.2 +2.3
baz=276
M23K **Glacier View** 51.46 36 P P 15 22 58.6 +3.2
baz=277
DHY **Denali Highway** 51.48 34 P P 15 22 58.8 +3.0
baz=276
D25K **Kavik River** 51.49 26 P P 15 22 58.8 +3.1
baz=272
LEM **Lembang** 51.54 220 LR LR 15 44 37.7
comp=Z,137nm,21.7s,baz=358,slow=36
ILAR **Eielson Array** 51.55 32 P P 15 22 54.7 -1.3
comp=Z,4.0nm,0.8s,baz=271,slow=4.7,SNR=31
ILAR LR LR 15 48 26.8
comp=Z,198nm,18.0s,baz=276,slow=40
comp=Z,4.0nm,0.8s
HDA **Harding Lake** 51.55 32 IAmb IAmb 15 23 07.3
comp=Z,16nm,1.0s
HDA **Harding Lake** 51.55 32 P P 15 22 58.5 +2.5
baz=275,SNR=5.9
HDA P P 15 22 58.5 +2.5
baz=275,SNR=5.9
SCM **Sheep Creek Mo** 51.64 36 P P 15 22 59.3 +2.4
baz=277
G25K **Bearman Lake** 51.72 29 P P 15 22 59.6 +2.3
baz=274
E25K **Arctic Village** 51.84 28 P P 15 23 01.3 +3.1
baz=273,SNR=7.9
F25K **Christian Rive** 51.84 28 P P 15 23 00.7 +2.4
baz=274
P23K **Montague Islan** 51.84 38 P P 15 23 02.2 +3.9
baz=278
C26K **Camden Bay** 51.98 25 P P 15 23 01.9 +2.7
baz=273
PRP **Porcupine Dome** 52.05 31 P P 15 23 02.8 +2.8
baz=276
M24K **Tolsona, Glenn** 52.15 35 P P 15 23 03.5 +2.9
baz=278
J25K **Salcha River,** 52.21 32 P P 15 23 02.9 +1.8
baz=276
PAX **Paxson** 52.36 34 P P 15 23 04.6 +2.3
baz=278
F26K **Sheenjek River** 52.41 28 P P 15 23 04.8 +2.4
baz=275
RIDG **Independent Ri** 52.54 33 P P 15 23 05.9 +2.4
baz=278
HARP **HAARP** 52.58 35 P P 15 23 07.2 +3.4
baz=278
G26K **Porcupine Rive** 52.61 29 P P 15 23 06.9 +2.9
baz=276
SCRK **Sand Creek** 52.89 33 P P 15 23 05.4 -0.8
SCRK IAmb IAmb 15 23 17.7
comp=Z,20nm,1.3s
SCRK **Sand Creek** 52.89 33 P P 15 23 08.0 +1.8
baz=278,SNR=6.5
BMRM **Bremner River** 53.06 37 P P 15 23 10.5 +3.1
baz=280
L26K **Log Cabin Wild** 53.31 34 P P 15 23 12.3 +3.1
baz=279
E27K **Coleen River** 53.31 27 IAmb IAmb 15 23 13.9
comp=Z,22nm,1.5s
E27K **Coleen River** 53.31 27 P P 15 23 12.2 +3.1
baz=277
KAIM **Kayak Island** 53.34 38 P P 15 23 12.6 +3.2
baz=281
D27M **Malcolm River** 53.42 26 P P 15 23 13.0 +3.1
baz=277
G27K **Doyon Strip** 53.47 29 P P 15 23 13.0 +2.7
baz=278
M26K **Nabesna, AK** 53.57 35 P P 15 23 14.2 +3.1
baz=280
H27K **Steamboat Moun** 53.60 30 P P 15 23 13.8 +2.5
baz=278
I27K **Kandik River** 53.66 31 P P 15 23 14.2 +2.5
baz=279
K27K **Chicken** 53.71 33 P P 15 23 14.3 +2.2
baz=280
MCARA **McCarthy VSAT** 53.74 36 P P 15 23 15.1 +2.7
baz=281
CRQE **Cirque** 53.83 37 P P 15 23 15.9 +2.8
baz=281
BGLC **Bering Glacier** 53.86 37 P P 15 23 16.4 +3.2
baz=281
SVE **Sverdlovsk** 53.87 318 *de*P P 15 23 15.2 +1.9
SVE pmax pmax
comp=Z,21nm,1.0s
EGAK **Eagle** 53.98 32 P P 15 23 16.7 +2.7
baz=280
L27K **Beaver Creek,** 53.99 34 IAmb IAmb 15 23 20.0
comp=Z,13nm,0.9s
L27K **Beaver Creek,** 53.99 34 P P 15 23 17.7 +3.6
baz=280,SNR=13
E28M **Babbage River** 54.01 27 IAmb IAmb 15 23 18.9
comp=Z,18nm,1.4s
E28M **Babbage River** 54.01 27 P P 15 23 18.1 +3.9
baz=278,SNR=7.9
F28M **Old Crow** 54.04 28 P P 15 23 18.5 +4.1
baz=279
M27K **Edge Creek, AK** 54.09 35 P P 15 23 18.4 +3.3
baz=281
D28M **Stokes Point** 54.19 26 P P 15 23 18.7 +3.2
baz=279
I28M **Miner Creek** 54.37 31 P P 15 23 19.5 +2.5
baz=280
MESA **MESA** 54.50 37 P P 15 23 20.3 +2.2
baz=282
CTG **Chitna Glacier** 54.63 36 P P 15 23 21.5 +2.5
baz=282
E29M **Blow River** 54.64 27 P P 15 23 21.9 +3.1
baz=280
H29M **Whitestone** 54.86 30 P P 15 23 23.8 +3.4
baz=281
DAWY **Dawson** 54.87 32 P P 15 23 23.4 +2.8
baz=282
G29M **Pine Creek** 54.87 29 P P 15 23 23.0 +2.5
baz=281
YUK3 **Moose Creek** 54.87 35 P P 15 23 24.1 +3.3
baz=282
I29M **Ogilvie Camp,** 55.06 31 P P 15 23 25.5 +3.6
baz=282
ARU **Arti** 55.08 318 P P 15 23 20.2 -2.0
ARU IAmb IAmb 15 23 24.3
comp=Z,18nm,0.9s
ARU **Arti** 55.08 318 *d i*P P 15 23 21.7 -0.4
ARU 15 24 19.8
ARU S S 15 31 04.6 +0.3
ARU SS SS 15 34 41.4 -6.2
ARU pmax pmax
comp=Z,23nm,0.9s
ARU MLR MLR
comp=Z,521nm,15.0s
YUK8 **Steele Glacier** 55.30 36 P P 15 23 27.3 +3.3
baz=283
HYB **Hyderabad** 55.45 267 *e*P PP 15 25 46.5 +17
EPYK **Eagle Plains** 55.48 29 IAmb IAmb 15 23 30.4
comp=Z,18nm,0.8s
EPYK **Eagle Plains** 55.48 29 P P 15 23 28.6 +3.6
baz=282,SNR=6.3
G30M **tAoh Zraii Nji** 55.55 28 P P 15 23 28.1 +2.7
baz=282
F30M **Barrier River** 55.58 28 P P 15 23 28.9 +3.3
baz=282
L29M **L29M** 55.62 33 P P 15 23 29.3 +3.2
baz=284
M29M **Somme Creek** 55.63 34 P P 15 23 30.6 +4.4
baz=284
K29M **Barlow Dome** 55.72 32 P P 15 23 29.1 +2.3
baz=284
YUK4 **Talbot Arm** 55.81 35 P P 15 23 31.3 +3.7
baz=284
I30M **Mount Dempster** 55.88 31 IAmb IAmb 15 23 33.5
comp=Z,24nm,0.9s
I30M **Mount Dempster** 55.88 31 P P 15 23 29.9 +1.9
baz=284,SNR=21
WB0 **Warramunga Arr** 55.89 184 P P 15 23 25.8 -2.5
WB0 IAmb IAmb 15 23 27.3
comp=Z,22nm,0.9s
YUK6 **Outpost Mounta** 56.04 36 P P 15 23 32.4 +3.1
baz=285
J30M **Hart River** 56.05 31 P P 15 23 31.9 +2.8
baz=284
WRAB **Tennant Creek** 56.06 184 P P 15 23 27.0 -2.5
WRAB IAmb IAmb 15 23 28.6
comp=Z,22nm,1.0s
WRAB **Tennant Creek** 56.06 184 P P 15 23 27.0 -2.5
WRAB pmax pmax
comp=Z,22nm,1.0s
WB2 **Warramunga Arr** 56.07 184 IAmb IAmb 15 23 28.6
comp=Z,18nm,0.9s
WRA **Warramunga Arr** 56.07 184 P P 15 23 27.0 -2.5
comp=Z,14nm,0.9s,baz=1.9,slow=7.4,SNR=98
comp=Z,14nm,0.9s
WR0 **Warramunga Arr** 56.07 184 IAmb IAmb 15 23 28.6
comp=Z,20nm,0.9s
O29M **Mount Kennedy** 56.11 37 P P 15 23 33.8 +4.1
baz=285
INK **Inuvik** 56.25 27 IAmb IAmb 15 23 34.1
comp=Z,11nm,0.9s
INK **Inuvik** 56.25 27 P P 15 23 33.4 +3.1
baz=284,SNR=9.8
INK **Inuvik** 56.25 27 LR LR 15 49 31.4
comp=Z,480nm,19.5s,baz=357,slow=38
AB31 **Akbulak array** 56.30 310 *i* P P 15 23 29.1 -1.9
ABKAR **Akbulak array** 56.30 310 IAmb IAmb 15 23 33.1
comp=Z,18nm,0.9s
G31M **Satah River** 56.31 28 IAmb IAmb 15 23 34.4
comp=Z,10nm,0.8s
G31M **Satah River** 56.31 28 P P 15 23 33.5 +2.8
baz=284,SNR=9.3
M30M **Minto, Yukon** 56.35 34 P P 15 23 34.8 +3.5
baz=285
F31M **Tsiigehtchic** 56.38 28 IAmb IAmb 15 23 35.0
comp=Z,36nm,1.4s
F31M **Tsiigehtchic** 56.38 28 P P 15 23 34.0 +2.8
baz=284,SNR=13
HYT **Haines Junctio** 56.48 36 IAmb IAmb 15 23 38.7
comp=Z,14nm,0.8s
HYT **Haines Junctio** 56.48 36 P P 15 23 35.7 +3.4
baz=286
MAYO **Mayo, Yukon** 56.48 32 P P 15 23 35.6 +3.5
baz=285
H31M **Peel River** 56.56 30 P P 15 23 35.7 +3.1
baz=285
CTA **Charters Tower** 56.64 171 LR LR 15 45 11.0
comp=Z,156nm,21.4s,baz=356,slow=33
CTAO **Charters Tower** 56.64 171 P P 15 23 31.8 -1.8
CTAO **Charters Tower** 56.64 171 P P 15 23 31.8 -1.8
CTAO pmax pmax
comp=Z,10.0nm,1.0s
P29M **Windy Craggy** 56.69 37 P P 15 23 37.5 +3.8
baz=286
P30M **Million Dollar** 56.93 37 P P 15 23 39.2 +3.7
baz=286
N31M **Braeburn, Yuko** 57.10 35 P P 15 23 40.8 +4.2
baz=286
M31M **Drury Creek, Y** 57.53 34 P P 15 23 42.9 +3.3
baz=287
WHY **Whitehorse** 57.76 36 P P 15 23 43.4 +2.0
baz=288
A36M **Sachs Harbour** 57.92 21 IAmb IAmb 15 23 57.6
comp=Z,21nm,1.0s
A36M **Sachs Harbour** 57.92 21 P P 15 23 45.9 +3.7
baz=289,SNR=13
FARO **Faro, Yukon** 57.99 34 P P 15 23 45.8 +3.0
baz=288
N32M **Quiet Lake** 58.45 35 P P 15 23 48.5 +2.5
baz=289
SIT **Sitka** 58.69 40 P P 15 23 49.0 +1.3
baz=290
P33M **Teslin, Yukon** 58.88 36 IAmb IAmb 15 23 56.9
comp=Z,10nm,0.9s
P33M **Teslin, Yukon** 58.88 36 P P 15 23 51.9 +2.8
baz=290
KIRV **Kirov** 59.16 322 *i* P P 15 23 50.5 -0.4
KIRV **Kirov** 59.16 322 LR LR 15 51 40.8
comp=Z,412nm,19.4s,baz=64,slow=38
C36M **Paulatuk** 59.20 24 IAmb IAmb 15 23 54.7
comp=Z,26nm,1.2s
C36M **Paulatuk** 59.20 24 P P 15 23 54.0 +2.9
baz=292,SNR=8.8
PALK **Pallekele** 59.55 256 LR LR 15 51 54.6
comp=Z,261nm,18.2s,baz=155,slow=38
ASAR **Alice Springs** 59.79 184 P P 15 23 53.5 -2.2
ASAR **Alice Springs** 59.79 184 P P 15 23 53.9 -1.8
comp=Z,8.3nm,0.8s,baz=11,slow=7.7,SNR=79
ASAR LR LR 15 49 23.9
comp=Z,237nm,19.5s,baz=3.5,slow=36
ASAR PKP2bc 15 53 32.5
comp=Z,1.7nm,1.0s,baz=186,slow=1.9,SNR=6.8
ASAR PKP2ab 15 53 43.8
comp=Z,1.1nm,0.9s,baz=108,slow=3.0,SNR=4.1
comp=Z,8.3nm,0.8s
PRGR **Permogore** 59.87 327 *e*P P 15 23 56.5 +0.8
PRGR pmax pmax
comp=Z,40nm,1.1s
R33M **Jennings River** 60.04 36 P P 15 24 01.3 +4.1
baz=291

TGTN **Hyland Airport** 60.49 33 P P 15 24 04.3 +4.1
baz=292,SNR=6.6
S34M **Telegraph Cree** 60.51 38 P P 15 24 04.5 +4.3
baz=292
SPITS **Spitsbergen Ar** 60.68 348 LR LR 15 50 52.0
comp=Z,491nm,19.4s,baz=7.5,slow=37
WTLY **Watson Lake, Y** 60.79 35 P P 15 24 05.4 +3.3
baz=293
DLBC **Dease Lake** 60.85 37 P P 15 24 05.0 +2.3
baz=293
DLBC **Dease Lake** 60.85 37 LR LR 15 53 14.6
comp=Z,108nm,19.2s,baz=300,slow=39
V35K **Ketchikan** 61.25 41 P P 15 24 07.0 +1.8
baz=293
T35M **Bob Quinn** 61.30 39 P P 15 24 08.3 +2.6
baz=293
NOR **Nord** 61.58 356 *i* P P 15 24 07.7 +0.6
NOR IAmb IAmb 15 24 10.8
comp=Z,7.6nm,0.9s
GEYT **Alibeck** 61.78 298 P P 15 24 08.2 -1.1
comp=Z,4.2nm,1.0s,baz=151,slow=46,SNR=3.4
GEYT LR LR 15 51 24.1
comp=Z,251nm,18.7s,baz=58,slow=36
comp=Z,4.2nm,1.0s
VADS **Vadso** 62.24 339 *e*P P 15 24 12.6 +0.8
LIRD **Liard River Hi** 62.32 35 P P 15 24 15.8 +3.2
baz=295,SNR=7.4
EIDS **Eidsvold** 62.59 167 P P 15 24 13.5 -1.0
KLMR **Klimovskoe** 62.88 327 *e*P P 15 24 14.7 -1.5
KLMR AMP 15 24 18.6
comp=Z,43nm,1.1s
KLMR LQ LQ 15 42 03.7
KLMR LQ LQ 15 42 03.7
KLMR LR LR 15 47 20.3
KLMR LRM MLR 15 54 09.7
KLMR AMP 15 54 11.9
comp=Z,429nm,11.8s
KLMR **Klimovskoe** 62.88 327 *e*P P 15 24 14.6 -1.6
KLMR pmax pmax
comp=Z,43nm,1.1s
KLMR MLR MLR
comp=Z,429nm,12.0s
HAMF **Hammerfest** 63.58 340 *e*P P 15 24 21.0 +0.4
ARA0 **ARCESS Array S** 63.69 339 *e*P P 15 24 23.4 +2.0
ARCES **ARCESS Array B** 63.69 339 P P 15 24 20.3 -1.1
comp=Z,22nm,0.9s,baz=51,slow=7.1,SNR=22
ARCES LR LR 15 55 31.7
comp=Z,699nm,18.9s,baz=70,slow=39
comp=Z,22nm,0.9s
RES **Resolute Bay** 63.95 14 P P 15 24 21.5 -1.5
RES **Resolute Bay** 63.95 14 P P 15 24 21.5 -1.5
RES pmax pmax
comp=Z,37nm,1.0s
RES **Resolute Bay** 63.95 14 LR LR 15 55 53.5
comp=Z,236nm,18.0s,baz=350,slow=40
DZM **Mont Dzumac** 63.99 151 LR LR 15 48 43.4
comp=Z,356nm,21.7s,baz=34,slow=33
KTK1 **Kautokeino** 64.65 339 *e*P P 15 24 27.9 +0.1
JETT **Jettan, Norway** 65.13 340 *e*P P 15 24 31.8 +0.9
TRO **Tromso** 65.48 340 *e*P P 15 24 34.3 +1.2
YKA **Yellowknife Ar** 65.77 29 *i* P P 15 24 35.2 +0.1
YKA pmax pmax
comp=Z,5.0nm,0.9s
YKA **Yellowknife Ar** 65.77 29 P P 15 24 34.1 -1.0
comp=Z,1.6nm,0.7s,baz=304,slow=6.8,SNR=19
YKA LR LR 15 57 05.4
comp=Z,160nm,19.5s,baz=330,slow=39
comp=Z,1.6nm,0.7s
DAG **Danmarks Havn** 66.23 354 *i* P P 15 24 39.0 +1.2
DAG IAmb IAmb 15 24 41.4
comp=Z,12nm,1.0s
VRH **Novokhopyorsk** 66.26 317 *e*P P 15 24 39.3 +0.9
VRH pmax pmax
comp=Z,23nm,0.4s
NEEM **North Greenlan** 66.36 2 *i* P P 15 24 40.1 +1.0
NEEM IAmb IAmb 15 24 43.3
comp=Z,42nm,0.8s
OBN **Obninsk** 67.01 322 *de*P P 15 24 44.3 +1.2
OBN PPP PPP 15 28 46.0
OBN *e*S S 15 33 38.6 +2.4
OBN PS PnS 15 33 56.0 -1.2
OBN *e* 15 34 43.8
OBN *i* SSS SSS 15 40 54.8
OBN pmax pmax
comp=Z,24nm,1.0s
OBN MLR MLR
comp=Z,969nm,17.0s
OBN **Obninsk** 67.01 322 LR LR 15 56 18.7
comp=Z,362nm,18.7s,baz=80,slow=38
LPSR **Galich'ya Gora** 67.08 319 *e*P P 15 24 43.9 +0.3
LPSR pmax pmax
comp=Z,30nm,0.9s
VORR **Voronezh** 67.39 318 *e*P P 15 24 47.2 +1.6
VORR pmax pmax
comp=Z,59nm,0.4s
STEI **Steigen** 67.62 340 *e*P P 15 24 48.0 +1.3
VSR **Storozhevoye** 67.65 318 *e*P P 15 24 47.5 +0.3
VSR pmax pmax
comp=Z,20nm,0.8s
STKA **Stephens Creek** 67.93 177 P P 15 24 47.9 -1.2
STKA **Stephens Creek** 67.93 177 P P 15 24 47.9 -1.2
STKA pmax pmax
comp=Z,2.0nm,1.3s
STKA **Stephens Creek** 67.93 177 P P 15 24 46.6 -2.4
comp=Z,3.0nm,0.7s,baz=341,slow=7.1,SNR=7.9
STKA LR LR 15 52 47.3
comp=Z,164nm,21.7s,baz=9.2,slow=34
comp=Z,3.0nm,0.7s
LOF **Lofoten** 67.94 341 *e*P P 15 24 49.4 +0.6
FAUS **Fauske** 67.98 339 *e*P P 15 24 50.6 +1.5
FINES **FINESS Array B** 68.15 331 *i* P P 15 24 49.7 -0.5
FINES pmax pmax
comp=Z,34nm,1.0s
FINES **FINESS Array B** 68.15 331 P P 15 24 48.7 -1.5
comp=Z,34nm,1.0s,baz=64,slow=8.7,SNR=38
FINES LR LR 15 55 01.1
comp=Z,270nm,18.2s,baz=50,slow=36
comp=Z,34nm,1.0s
WSAR **Wadi Sarin** 68.40 283 LR LR 15 58 42.7
comp=Z,192nm,19.1s,baz=60,slow=39
DBG **Daneborg** 68.69 354 *i* P P 15 24 53.7 +0.2
DBG IAmb IAmb 15 24 57.4
comp=Z,8.4nm,0.9s
BBOO **Buckleboo** 68.80 182 P P 15 24 52.7 -1.8
MOR8 **Moi Rana** 69.06 339 *e*P P 15 24 56.0 +0.2
ZEI **Tsey** 69.12 308 *e*P P 15 24 57.1 +0.2
ZEI pmax pmax
comp=Z,15nm,1.6s
KBZ **Khabaz** 69.27 309 *i* P P 15 24 57.9 +0.4
KBZ pmax pmax
comp=Z,23nm,1.0s
KBZ **Khabaz** 69.27 309 P P 15 24 57.5 -0.1
comp=Z,18nm,1.0s,baz=205,slow=1.7,SNR=14
KBZ LR LR 15 57 02.3
comp=Z,231nm,20.5s,baz=36,slow=37
comp=Z,18nm,1.0s
KIV **Kislovodsk** 69.29 310 ⇑P P 15 25 00.5 +2.7
KIV **Kislovodsk** 69.29 310 P P 15 24 57.1 -0.7
KIV **Kislovodsk** 69.29 310 *e*P P 15 25 00.0 +2.2
KIV *e*S S 15 34 06.4 +2.3
KIV pmax pmax
comp=Z,16nm,3.8s
KIV pmax pmax
comp=Z,49nm,1.1s
KIV MLR MLR
comp=Z,198nm,17.0s
MEF **Metsahovi** 69.55 331 *e*P P 15 24 59.7 +0.8
GNI **Garni** 69.92 305 LR LR 15 57 30.2
comp=Z,218nm,19.8s,baz=57,slow=38
RAF **Rauma** 70.06 332 *e*P P 15 25 02.3 +0.3
MTSE **Matsula** 70.72 330 *e*P P 15 25 06.6 +0.5
SOC **Sochi** 71.31 311 *e*P P 15 25 10.0 -0.1
SOC *e* 15 27 46.8
SOC *e*S S 15 34 29.2 +1.6
SOC pmax pmax
comp=Z,22nm,0.8s
SOC MLR MLR
comp=Z,252nm,18.0s
SUMG **Summit** 71.37 359 P P 15 25 10.1 -0.3
SUMG **Summit** 71.37 359 P P 15 25 10.1 -0.3
SUMG pmax pmax
comp=Z,76nm,0.9s
SUMG **Summit** 71.37 359 *i* P P 15 25 11.6 +1.2
SUMG IAmb IAmb 15 25 15.4
comp=Z,61nm,1.0s
MNK **Minsk** 71.53 325 *i* P P 15 25 13.4 +2.2
comp=E,7.0nm,0.8s
MNK *i* P P 15 25 13.4 +2.2
comp=N,7.0nm,0.8s
MNK *i* P P 15 25 13.4 +2.2
comp=Z,31nm,0.8s,baz=53
MNK *i* PcP PcP 15 25 32.9 +2.4
MNK *i* PP PP 15 27 51.4 +2.1
MNK *i* PPP PPP 15 29 34.5
MNK *i* S S 15 34 31.9 +2.3
MNK *i* SS SS 15 39 07.1 +3.4
MNK *i* SSS SSS 15 43 20.4
MNK *i* LQ LQ 15 50 48.3
MNK *i* LR LR 15 54 31.5
MNK *i* LRM MLR 15 59 05.7
comp=E,144nm,17.1s
MNK *i* LRM MLR 15 59 05.7
comp=N,170nm,17.1s
MNK *i* LRM MLR 15 59 05.7
comp=Z,304nm,17.1s
MNK **Minsk** 71.53 325 *i* P P 15 25 13.3 +2.2
MNK *i* 15 25 32.8
MNK *i* 15 27 51.3
MNK *i* PPP PPP 15 29 34.5
MNK *i* S S 15 34 31.9 +2.3
MNK *i* SS SS 15 39 07.1 +3.4
MNK pmax pmax
comp=E,7.0nm,0.8s
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK pmax pmax
comp=Z,31nm,0.8s
MNK MLR MLR
comp=N,170nm,17.0s
MNK MLR MLR
comp=E,144nm,17.0s
MNK MLR MLR
comp=Z,304nm,17.0s
IDID **Didziasalis** 71.56 326 *e*P P 15 25 11.7 +0.4
NWAO **Narrogin (SRO)** 71.58 198 LR LR 15 58 29.3
comp=Z,48nm,19.3s,baz=32,slow=38
ISAL **Salakas** 71.68 326 *e*P P 15 25 12.6 +0.6
NACGM **Naroch** 71.79 325 *e*P P 15 25 12.5 -0.2
comp=Z,67nm,1.0s,baz=52
ANN **Anapa** 72.03 313 *e*P P 15 25 14.5 +0.2
ANN *e*S S 15 34 40.9 +5.2
ANN pmax pmax
comp=Z,56nm,1.0s
ANN MLR MLR
comp=Z,90nm,5.0s
C09A **Chrisman Ranch** 72.15 43 IAmb IAmb 15 25 21.2
comp=Z,22nm,1.1s
D08A **Wollman Farm,** 72.20 44 IAmb IAmb 15 25 22.0
comp=Z,9.6nm,1.0s
UPP **Uppsala** 72.37 333 *e*P P 15 25 16.4 +0.4
NEW **Newport** 72.52 43 IAmb IAmb 15 25 21.5
comp=Z,12nm,1.1s
NEW **Newport** 72.52 43 P P 15 25 17.9 +0.7
baz=305
PABE **Paberze** 72.68 327 *e*P P 15 25 18.3 +0.3
YBH **Yreka Blue Hor** 72.92 51 IAmb IAmb 15 25 27.2
comp=Z,12nm,1.2s
E09A **Wood Farm, Sta** 72.95 45 IAmb IAmb 15 25 26.3
comp=Z,20nm,1.2s
J05D **Fort Rock, OR** 72.96 49 P P 15 25 20.3 +0.2
J05D IAmb IAmb 15 25 25.1
comp=Z,10nm,0.9s
AKASG **Malin Array Be** 73.16 321 IAmb IAmb 15 25 23.4
comp=Z,11nm,0.9s
AKASG **Malin Array Be** 73.16 321 *i* P P 15 25 22.5 +1.5
AKASG pmax pmax
comp=Z,11nm,0.8s
AKASG **Malin Array Be** 73.16 321 P P 15 25 19.3 -1.7
comp=Z,11nm,0.8s,baz=48,slow=6.1,SNR=40
AKASG LR LR 16 00 18.0
comp=Z,872nm,18.1s,baz=38,slow=38
comp=Z,11nm,0.8s
AKBB **Malin Array Si** 73.16 321 *ce*P P 15 25 22.6 +1.6
AKBB pmax pmax
comp=Z,25nm,0.9s
KIEV **Kiev** 73.17 321 ⇑P P 15 25 22.2 +1.2
KIEV **Kiev** 73.17 321 P P 15 25 20.6 -0.4
KIEV **Kiev** 73.17 321 P P 15 25 20.6 -0.4
KIEV pmax pmax
comp=Z,21nm,0.9s
HFS **Hagfors** 73.58 334 P P 15 25 21.4 -1.9
comp=Z,21nm,1.0s,baz=54,slow=7.5,SNR=9.9
HFS LR LR 15 58 12.7
comp=Z,446nm,19.7s,baz=44,slow=36
comp=Z,21nm,1.0s
VIKU **Vikbolandet** 73.65 332 *e*P P 15 25 24.3 +0.6
DOMB **Dombas** 73.69 338 *e*P P 15 25 26.2 +2.3
NB2 **NORSAR Subarra** 73.76 336 P P 15 25 25.5 +1.1
comp=Z,43nm,1.1s,baz=42,slow=5.9
NB2 **NORSAR Subarra** 73.76 336 P P 15 25 25.5 +1.1
baz=42,slow=5.9
NOA **NORSAR Array B** 73.76 336 P P 15 25 22.7 -1.7
comp=Z,25nm,0.9s,baz=41,slow=5.9,SNR=34
NOA LR LR 16 01 21.0
comp=Z,283nm,19.5s,baz=0.0,slow=39
comp=Z,25nm,0.9s
SIM **Simferopol'** 73.89 314 *e*P P 15 25 28.0 +2.6
SIM *e* 15 25 37.0
SIM pmax pmax
comp=Z,37nm,0.9s
SUW **Suwalki** 73.99 326 *e*P P 15 25 27.8 +2.0
SUW **Suwalki** 73.99 326 *e*P P 15 25 26.2 +0.4
AKN **Aaknes** 74.21 338 *e*P P 15 25 29.7 +2.8
J08A **Circle Bar Ran** 74.58 47 IAmb IAmb 15 25 37.0
comp=Z,19nm,1.3s
ICESG **Greenland Ices** 74.89 359 *i* P P 15 25 33.1 +1.9
ICESG IAmb IAmb 15 25 36.1
comp=Z,21nm,0.9s
ORV **Oroville** 74.90 52 P P 15 25 30.4 -1.0
ORV **Oroville** 74.90 52 P P 15 25 30.4 -1.0
ORV pmax pmax
comp=Z,6.0nm,0.8s
SKAR **Skarslia** 74.97 337 *e*P P 15 25 34.3 +2.9
MSO **Missoula** 75.10 42 P P 15 25 33.4 +0.8
baz=308
SORM **Soroca** 75.18 319 ⇑P P 15 25 33.9 +1.1
SORM **Soroca** 75.18 319 ⇑P P 15 25 33.9 +1.1
HYA **Hoyanger** 75.24 338 *e*P P 15 25 35.4 +2.6
FFC **Flin Flon** 75.75 31 P P 15 25 35.0 -1.0
FFC IAmb IAmb 15 25 40.1
comp=Z,25nm,1.1s
FFC **Flin Flon** 75.75 31 P P 15 25 35.0 -1.0
FFC pmax pmax
comp=Z,25nm,1.1s
FCC **Fort Churchill** 75.83 25 P P 15 25 35.6 -0.6
FCC **Fort Churchill** 75.83 25 P P 15 25 35.7 -0.6
FCC pmax pmax
comp=Z,40nm,1.3s
PAHR **Pah Rah Range** 76.15 51 IAmb IAmb 15 25 43.1
comp=Z,11nm,0.9s
LVV **L'vov** 76.31 322 *e*P P 15 25 41.8 +2.5
CMB **Columbia Colle** 76.48 53 IAmb IAmb 15 25 45.6
comp=Z,33nm,1.6s
EGMT **Eagleton** 76.58 40 P P 15 25 42.2 +1.3
baz=310
YERR **Yerington** 76.66 51 IAmb IAmb 15 25 46.3
comp=Z,15nm,0.9s
SFJD **Kangerlussuaq** 76.79 3 *i* P P 15 25 43.0 +1.4
SFJD IAmb IAmb 15 25 45.9
comp=Z,10nm,0.8s
SFJD **Kangerlussuaq** 76.79 3 LR LR 16 02 23.0
comp=Z,109nm,19.5s,baz=358,slow=38
WAKR **Walker** 76.82 52 IAmb IAmb 15 25 47.4
comp=Z,9.0nm,0.9s
HLID **Hailey** 76.83 45 P P 15 25 43.1 +0.5
baz=308
BMN **Battle Mountai** 77.06 49 IAmb IAmb 15 25 49.4
comp=Z,32nm,1.7s
KWP **Kalwaria Pacla** 77.08 323 *e*P P 15 25 46.6 +3.0
TESR **Tescani** 77.10 319 ⇑P P 15 25 45.8 +2.0
BOZ **Bozeman (W)** 77.13 42 IAmb IAmb 15 25 53.4
comp=Z,13nm,1.1s
BOZ **Bozeman (W)** 77.13 42 P P 15 25 44.9 +0.7
baz=309
BUR08 **Bucovina Ar. S** 77.14 320 IAmb IAmb 15 25 47.7
comp=Z,11nm,1.0s
CFR **Carcaliu** 77.14 317 ⇑P P 15 25 45.3 +1.3
CFR **Carcaliu** 77.14 317 ⇑P P 15 25 45.3 +1.3
BURAR **Bucovina Array** 77.14 320 ⇑P P 15 25 46.2 +2.1
BURAR **Bucovina Array** 77.14 320 IAmb IAmb 15 25 47.5
comp=Z,11nm,0.9s
BURAR **Bucovina Array** 77.14 320 ⇑P P 15 25 46.2 +2.1
TPGR **Topolog** 77.18 317 ⇑P P 15 25 44.9 +0.6
BR131 **Keskin Array S** 77.25 310 *i* P P 15 25 44.6 -0.3
BRTR **Keskin Array B** 77.25 310 P P 15 25 43.1 -1.8
BRTR **Keskin Array B** 77.25 310 *i* P P 15 25 47.7 +2.8
BRTR pmax pmax
comp=Z,13nm,1.0s
BRTR **Keskin Array B** 77.25 310 P P 15 25 44.0 -0.9
comp=Z,12nm,1.0s,baz=98,slow=5.1,SNR=27
comp=Z,12nm,1.0s
RYN **Ryan** 77.32 51 IAmb IAmb 15 25 50.0
comp=Z,11nm,1.0s
KVN **Kaiserville** 77.34 51 IAmb IAmb 15 25 50.7
comp=Z,27nm,1.3s
VRI **Vrincioaia** 77.47 318 ⇑P P 15 25 48.2 +2.3
VRI **Vrincioaia** 77.47 318 ⇑P P 15 25 48.2 +2.3
DY2G **Dye2** 77.47 2 *i* P P 15 25 47.0 +1.2
DY2G IAmb IAmb 15 25 50.6
comp=Z,24nm,0.8s
NVAR **Mina Array Bea** 77.58 51 P P 15 25 46.0 -0.9
comp=Z,3.3nm,0.8s,baz=285,slow=5.6,SNR=17
comp=Z,3.3nm,0.8s
NV11 **Mina Array Sit** 77.67 51 IAmb IAmb 15 25 53.7
comp=Z,13nm,1.3s
OZUR 77.83 319 ⇑P P 15 25 50.9 +3.0
ARCR **ARCALIA** 77.94 320 ⇑P P 15 25 51.5 +3.0
STHS **Stebnicka Huta** 77.94 323 *e*P P 15 25 51.0 +2.6
STHS **Stebnicka Huta** 77.94 323 *e*P P 15 25 51.0 +2.6
STHS pmax pmax
comp=Z,28nm,1.3s
FRB **Frobisher Bay** 78.05 12 LR LR 16 02 31.9
comp=Z,132nm,21.6s,baz=318,slow=37
OJC **Ojcow** 78.08 325 *e*P P 15 25 51.8 +2.6
DOPR **Dopca** 78.12 319 ⇑P P 15 25 52.9 +3.3
MLR **Muntele Rosu** 78.13 318 LR LR 16 01 52.1
comp=Z,253nm,18.3s,baz=83,slow=37
CRVS **Cervenica-Dubn** 78.18 323 *e*P P 15 25 52.5 +2.7
CRVS **Cervenica-Dubn** 78.18 323 *e*P P 15 25 52.5 +2.7
CRVS pmax pmax
comp=Z,37nm,1.2s
NIE **Niedzica** 78.39 324 *e*P P 15 25 54.7 +3.8
H17A **Grant Village** 78.47 43 P P 15 25 52.6 +0.8
baz=310
FLWY **Flagg Ranch** 78.60 43 IAmb IAmb 15 26 15.3
comp=Z,17nm,1.2s
VOIR 78.65 319 ⇑P P 15 25 54.0 +1.5
VOIR 78.65 319 ⇑P P 15 25 54.0 +1.5
RLMT **Red Lodge** 78.71 42 IAmb IAmb 15 25 57.6
comp=Z,37nm,1.8s
RLMT **Red Lodge** 78.71 42 P P 15 25 53.9 +0.9
baz=311
MARR **Marisel-Cluj** 78.84 320 ⇑P P 15 25 56.0 +2.4
CWC **Cottonwood Cre** 78.91 53 P P 15 25 55.6 +1.3
baz=307
ARR **Arges** 78.91 319 ⇑P P 15 25 56.9 +3.0
KECS **Kecovo** 78.94 323 *e*P P 15 25 56.3 +2.4
KECS **Kecovo** 78.94 323 *e*P P 15 25 56.3 +2.4
LANS **Liptovska Anna** 78.97 324 *e*P P 15 25 57.4 +3.2
LANS **Liptovska Anna** 78.97 324 *e*P P 15 25 57.4 +3.2
LANS pmax pmax
comp=Z,13nm,1.0s
GRAC **Grapevine Rang** 79.03 52 P P 15 25 55.3 +0.5
baz=308
SBC **Santa Barbara** 79.03 55 P P 15 25 55.6 +0.9
baz=307
DGMT **Dagmar** 79.07 37 P P 15 25 55.2 +0.6
baz=314
OKC **Ostrava-Krasne** 79.11 325 AMS AMS 16 01 30.0
comp=Z,500nm,14.8s
ISA **Isabella, Lake** 79.12 54 P P 15 25 56.1 +0.8
baz=307
KSP **Ksiaz** 79.23 327 *e*P P 15 25 58.3 +2.8
R11B **Troy Canyon, C** 79.33 50 P P 15 25 57.1 +0.6
baz=308
BSEG **Bad Segeberg** 79.42 332 *e*P P 15 25 59.0 +2.6
comp=Z,38nm,1.0s,baz=39,slow=5.2
MORC **Moravsky Berou** 79.43 325 ⇑P P 15 25 59.6 +2.9
MORC **Moravsky Berou** 79.43 325 IAmb IAmb 15 26 00.7
comp=Z,30nm,1.1s
MORC **Moravsky Berou** 79.43 325 *e*P P 15 25 59.0 +2.3
MORC **Moravsky Berou** 79.43 325 ⇑P P 15 25 59.6 +2.9
OSTC **Ostas** 79.47 327 *e*P P 15 25 59.5 +2.6
OSTC AMS AMS 16 04 00.0
comp=Z,600nm,14.8s
OSTC **Ostas** 79.47 327 *e*P P 15 25 59.5 +2.6
OSTC MLR MLR
comp=Z,600nm,14.8s
MPMC **Manual Prospec** 79.52 53 P P 15 25 58.5 +0.8
baz=308
CHVC **Chvalec** 79.52 327 *e*P P 15 25 59.5 +2.4
CHVC AMS AMS 16 03 50.0
comp=Z,500nm,14.6s
CHVC **Chvalec** 79.52 327 *e*P P 15 25 59.5 +2.4
CHVC MLR MLR
comp=Z,500nm,14.6s
NUUK **Nuuk** 79.53 4 *i* P P 15 25 59.5 +2.6
NUUK IAmb IAmb 15 26 04.6
comp=Z,20nm,0.9s
DPC **Dobruska-Polom** 79.57 326 *e*P P 15 26 00.4 +3.0
DPC AMS AMS 16 04 20.0
comp=Z,600nm,16.4s
DPC **Dobruska-Polom** 79.57 326 *e*P P 15 26 00.4 +3.0
DPC MLR MLR
comp=Z,600nm,16.4s
MAUC **Maruska** 79.59 325 AMS AMS 16 04 30.0
comp=Z,1µm,16.3s
UPC **Upice** 79.60 327 *e*P P 15 26 00.2 +2.7
UPC AMS AMS 16 03 40.0
comp=Z,500nm,14.1s
UPC **Upice** 79.60 327 *e*P P 15 26 00.2 +2.7
UPC MLR MLR
comp=Z,500nm,14.1s
PSZ **Piszkesteto** 79.61 323 ⇑P P 15 26 00.6 +2.9
PSZ **Piszkesteto** 79.61 323 IAmb IAmb 15 26 02.0
comp=Z,29nm,1.1s
PSZ **Piszkesteto** 79.61 323 ⇑P P 15 26 00.6 +2.9
FURC **Furnace Creek,** 79.67 52 P P 15 25 59.0 +0.9
baz=308
VYHS **Vyhne** 79.72 324 *e*P P 15 26 01.1 +2.8
VYHS **Vyhne** 79.72 324 *e*P P 15 26 01.1 +2.8
VYHS pmax pmax
comp=Z,22nm,1.1s
TPNV **Topopah Spring** 79.77 52 IAmb IAmb 15 26 12.6
comp=Z,19nm,1.2s
TPNV **Topopah Spring** 79.77 52 P P 15 25 59.8 +0.8
baz=308
ELND **Elena** 79.83 316 ⇑P P 15 25 53.1 -5.8
DUG **Dugway, Tooele** 79.86 47 IAmb IAmb 15 26 05.9
comp=Z,18nm,1.3s
DUG **Dugway, Tooele** 79.86 47 P P 15 25 59.9 +0.6
baz=309
GZR **Gura Zlata** 79.88 320 ⇑P P 15 26 01.2 +2.0
GZR **Gura Zlata** 79.88 320 ⇑P P 15 26 01.2 +2.0
EDW2 **Edwards Air Fo** 79.90 54 P P 15 26 00.1 +0.6
baz=308
GWY **Greenwater Val** 79.97 52 IAmb IAmb 15 26 05.5
comp=Z,23nm,1.3s
SURR **Surduc** 79.97 320 ⇑P P 15 26 01.9 +2.3
JAVC **Velka Javorina** 80.02 325 *e*P P 15 26 03.4 +3.5
BW06 **Boulder Array** 80.08 44 P P 15 26 00.6 -0.1
baz=311
PDAR **Pinedale Array** 80.08 44 P P 15 25 59.8 -0.8
comp=Z,1.5nm,0.6s,baz=275,slow=2.3,SNR=17
comp=Z,1.5nm,0.6s
MMAI **Mount Meron Ar** 80.12 304 LR LR 16 03 57.7
comp=Z,145nm,19.3s,baz=32,slow=38
VRAC **Vranov** 80.20 325 ⇑P P 15 26 03.4 +2.6
VRAC **Vranov** 80.20 325 *e*P P 15 26 03.2 +2.4
VRAC **Vranov** 80.20 325 ⇑P P 15 26 03.4 +2.6
VRAC **Vranov** 80.20 325 LR LR 16 02 33.8
comp=Z,309nm,18.3s,baz=39,slow=36
PVCC **Panska Ves** 80.22 327 *e*P P 15 26 03.1 +2.2
PVCC AMS AMS 16 05 00.0
comp=Z,500nm,15.0s
PVCC **Panska Ves** 80.22 327 *e*P P 15 26 03.1 +2.2
PVCC MLR MLR
comp=Z,500nm,15.0s
BRG **Berggiesshubel** 80.24 328 *i* P P 15 26 04.2 +3.2
BRG Amp 15 26 05.7
comp=Z,17nm,1.0s
BRG Amp 16 03 22.0
comp=N,0.3nm,16.1s
BRG Amp 16 03 38.0
comp=Z,0.6nm,18.2s
BRG Amp 16 03 41.0
comp=E,0.3nm,12.3s
BRG **Berggiesshubel** 80.24 328 *i* P P 15 26 04.1 +3.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BRG				pmax	pmax		
	comp=Z,17nm,1.0s						
BRG				MLR	MLR		
	comp=N,298nm,16.1s						
BRG				MLR	MLR		
	comp=Z,582nm,18.2s						
BRG				MLR	MLR		
	comp=E,303nm,12.3s						
BRG	**Berggiesshubel**	**80.24**	**328**	*e*P	**P**	**15 26 04.2**	**+3.2**
	comp=E,16nm,1.0s,baz=39,slow=5.2						
FLTG	**Flechtingen**	**80.28**	**330**	*e*P	**P**	**15 26 03.0**	**+1.9**
	comp=E,37nm,1.0s,baz=39,slow=5.2						
CLL	**Collm**	**80.32**	**329**	*i* P	**P**	**15 26 03.0**	**+1.6**
	comp=Z,50nm,1.1s						
CLL				*e*S	**S**	**15 36 00.0**	**-6.7**
CLL				*e*SSSS		15 47 06.0	
CLL				AMS	AMS	15 56 00.0	
	comp=N,500nm,19.1s						
CLL				AMS	AMS	15 56 00.0	
	comp=E,800nm,20.6s						
CLL	**Collm**	**80.32**	**329**	*i* P	**P**	**15 26 03.0**	**+1.6**
CLL				*e*S	**S**	**15 36 00.0**	**-6.7**
CLL				pmax	pmax		
	comp=Z,50nm,1.1s						
CLL	**Collm**	**80.32**	**329**	*e*P	**P**	**15 26 03.5**	**+2.1**
	comp=Z,35nm,0.9s,baz=39,slow=5.2						
BZS	**Buzias**	**80.33**	**320**	⇑P	**P**	**15 26 03.8**	**+2.2**
BZS	**Buzias**	**80.33**	**320**	⇑P	**P**	**15 26 03.8**	**+2.2**
SMOL	**Smolenice**	**80.38**	**325**	*e*P	**P**	**15 26 05.1**	**+3.3**
SMOL				pmax	pmax		
	comp=Z,15nm,1.1s						
GSC	**Goldstone, Bar**	**80.42**	**53**	P	**P**	**15 26 01.9**	**-0.5**
	baz=308						
FBE	**Freiberg**	**80.45**	**328**	*e*P	**P**	**15 26 04.9**	**+2.8**
	comp=Z,34nm,0.9s,baz=39,slow=5.2						
KRUC	**Moravsky**	**80.46**	**325**	*e*P	**P**	**15 26 04.6**	**+2.4**
MODS	**Modra-Piesok**	**80.55**	**324**	*e*P	**P**	**15 26 05.9**	**+3.2**
MODS	**Modra-Piesok**	**80.55**	**324**	*e*P	**P**	**15 26 05.9**	**+3.2**
MODS				pmax	pmax		
	comp=Z,53nm,1.2s						
GOPC	**GO Pecny, Ondr**	**80.57**	**327**	*e*P	**P**	**15 26 04.5**	**+1.7**
GOPC				AMS	AMS	16 05 30.0	
	comp=Z,500nm,15.0s						
GOPC	**GO Pecny, Ondr**	**80.57**	**327**	*e*P	**P**	**15 26 04.5**	**+1.7**
GOPC				MLR	MLR		
	comp=Z,500nm,15.0s						
NRDL	**Niedersach Rie**	**80.60**	**331**	*e*P	**P**	**15 26 05.1**	**+2.3**
	comp=Z,15nm,1.0s,baz=39,slow=5.2						
PRA	**Prague**	**80.61**	**327**	AMS	AMS	16 06 10.0	
	comp=Z,400nm,15.2s						
PRU	**Pruhonice**	**80.63**	**327**	*e*P	**P**	**15 26 03.6**	**+0.5**
PRU				AMS	AMS	16 08 00.0	
	comp=Z,400nm,12.3s						
PRU	**Pruhonice**	**80.63**	**327**	*e*P	**P**	**15 26 03.6**	**+0.5**
PRU				MLR	MLR		
	comp=Z,400nm,12.3s						
HSKC	**Hora Svate Kat**	**80.65**	**328**	*e*P	**P**	**15 26 05.5**	**+2.2**
HSKC				AMS	AMS	16 05 50.0	
	comp=Z,400nm,15.1s						
ASSE	**Asse, Remlinge**	**80.66**	**330**	*e*P	**P**	**15 26 05.1**	**+2.0**
	comp=Z,14nm,1.0s,baz=39,slow=5.2						
RETH	**Rethem/Aller,**	**80.71**	**331**	*e*P	**P**	**15 26 05.7**	**+2.3**
	comp=Z,34nm,1.1s,baz=39,slow=5.2						
TREC	**Trest**	**80.71**	**326**	AMS	AMS	16 05 20.0	
	comp=Z,600nm,16.2s						
SHPR	**Sheep Range**	**80.73**	**51**	P	**P**	**15 26 03.9**	**-0.2**
NEUB	**Neuenburg**	**80.90**	**329**	*e*P	**P**	**15 26 06.8**	**+2.3**
	comp=Z,50nm,0.9s,baz=39,slow=5.2						
CLZ	**Clausthal**	**81.00**	**330**	*e*P	**P**	**15 26 07.4**	**+2.3**
	comp=Z,43nm,1.1s,baz=39,slow=5.2						
HEC	**Hector,Ludlow**	**81.02**	**53**	P	**P**	**15 26 05.3**	**-0.2**
	baz=308						
BLKB	**Belogradchik**	**81.12**	**318**	⇑P	**P**	**15 26 07.9**	**+2.0**
ZVC	**Zvikov**	**81.18**	**327**	*e*P	**P**	**15 26 08.4**	**+2.3**
ZVC				AMS	AMS	16 07 00.0	
	comp=Z,500nm,12.9s						
TANN	**Tannenbergstha**	**81.21**	**328**	*e*P	**P**	**15 26 08.5**	**+2.3**
	comp=Z,7.9nm,1.0s,baz=39,slow=5.2						
WERD	**Werda**	**81.25**	**328**	*e*P	**P**	**15 26 08.7**	**+2.2**
	comp=Z,16nm,1.1s,baz=39,slow=5.2						
PLN	**Plauen**	**81.29**	**328**	*e*P	**P**	**15 26 08.8**	**+2.2**
	comp=Z,12nm,1.0s,baz=39,slow=5.2						
GUNZ	**Gunzen**	**81.31**	**328**	*e*P	**P**	**15 26 09.2**	**+2.4**
	comp=Z,19nm,1.0s,baz=39,slow=5.2						
WERN	**Wernitzgruen**	**81.34**	**328**	*e*P	**P**	**15 26 09.6**	**+2.6**
	comp=Z,22nm,1.0s,baz=39,slow=5.2						
NKC	**Novy Kostel**	**81.35**	**328**	*e*P	**P**	**15 26 09.2**	**+2.2**
NKC				AMS	AMS	16 05 40.0	
	comp=Z,600nm,16.0s						
NKC	**Novy Kostel**	**81.35**	**328**	*e*P	**P**	**15 26 09.2**	**+2.2**
NKC				MLR	MLR		
	comp=Z,600nm,16.0s						
GTTG	**Gottingen**	**81.39**	**330**	*e*P	**P**	**15 26 09.5**	**+2.4**
	comp=Z,32nm,0.9s,baz=39,slow=5.2						
MOX	**Moxa**	**81.40**	**329**	*e*P	**P**	**15 26 09.4**	**+2.2**
	comp=Z,16nm,1.0s,baz=39,slow=5.2						
MOX				*e*L	L	15 59 05.3	
	comp=Z,216nm,21.0s						
MORH	**Mrgy, Hungar**	**81.41**	**322**	⇑P	**P**	**15 26 09.1**	**+1.8**
GMRC	**Granite Mounta**	**81.48**	**53**	P	**P**	**15 26 08.5**	**+0.4**
	baz=309						
RONA	**Rosalia, Austr**	**81.49**	**324**	*i* PcP	**PcP**	**15 26 10.9**	**-2.8**
	comp=Z,35nm,1.1s,SNR=10						
CONA	**Conrad Observa**	**81.53**	**325**	*i* PcP	**P**	**15 26 10.9**	**+2.9**
	comp=Z,32nm,1.1s,SNR=10						
ULM	**Lac du Bonnet**	**81.56**	**32**	IAmb	IAmb	15 26 11.2	
	comp=Z,20nm,1.2s						
ULM	**Lac du Bonnet**	**81.56**	**32**	P	**P**	**15 26 07.3**	**-0.7**
	comp=Z,12nm,1.0s,baz=317,slow=7.3,SNR=6.1						
ULM				LR	LR	16 06 23.9	
	comp=Z,163nm,18.7s,baz=325,slow=39						
	comp=Z,12nm,1.0s						
FRGS	**Fruska Gora**	**81.57**	**321**	⇑P	**P**	**15 26 10.1**	**+1.9**
CKRC	**Cesky Krumlov**	**81.59**	**326**	*e*P	**P**	**15 26 10.4**	**+2.2**
CKRC	**Cesky Krumlov**	**81.59**	**326**	*e*P	**P**	**15 26 10.4**	**+2.2**
IBBN	**Ibbenburen**	**81.66**	**332**	*e*P	**P**	**15 26 10.6**	**+2.1**
	comp=Z,36nm,0.8s,baz=39,slow=5.2						
KHC	**Kasperske Hory**	**81.68**	**327**	IAmb	IAmb	15 26 12.1	
	comp=Z,21nm,1.0s						
KHC	**Kasperske Hory**	**81.68**	**327**	*e*P	**P**	**15 26 10.9**	**+2.1**
KHC				AMS	AMS	16 05 40.0	
	comp=Z,500nm,15.9s						
KHC	**Kasperske Hory**	**81.68**	**327**	*ce*P	**P**	**15 26 09.6**	**+0.8**
KHC				pmax	pmax		
	comp=Z,50nm,1.0s						
MANZ	**Manzenberg**	**81.68**	**328**	*e*P	**P**	**15 26 11.2**	**+2.4**
	comp=Z,3.2nm,0.8s,baz=39,slow=5.2						
MDND	**Maddock**	**81.68**	**35**	P	**P**	**15 26 09.1**	**+0.4**
	baz=317						
PFO	**Pinyon Flats O**	**81.68**	**54**	P	**P**	**15 26 09.2**	**0.0**
	baz=308						
TPFO	**Pinon Flats**	**81.69**	**54**	P	**P**	**15 26 09.2**	**-0.1**
	baz=308						
BELC	**Belle Mtn. Jos**	**81.75**	**54**	P	**P**	**15 26 11.1**	**+1.6**
	baz=309						
ROTZ	**Rotzenmuhle**	**81.81**	**328**	*e*P	**P**	**15 26 12.0**	**+2.6**
	comp=Z,5.2nm,1.1s,baz=39,slow=5.2						
GEC2	**GERESS Array S**	**81.84**	**327**	IAmb	IAmb	15 26 12.5	
	comp=Z,13nm,1.0s						
GEC2	**GERESS Array S**	**81.84**	**327**	*e*P	**P**	**15 26 11.7**	**+2.1**
	comp=Z,13nm,1.0s,baz=39,slow=5.2						
GERES	**GERESS Array B**	**81.84**	**327**	P	**P**	**15 26 09.2**	**-0.5**
	comp=Z,10nm,0.9s,baz=27,slow=6.1,SNR=17						
GERES				LR	LR	16 07 20.7	
	comp=Z,202nm,19.0s,baz=50,slow=39						
	comp=Z,10nm,0.9s						
UBBA	**Unterbreizbach**	**81.93**	**330**	*e*P	**P**	**15 26 12.1**	**+2.3**
	comp=Z,9.5nm,1.1s,baz=39,slow=5.2						
WET	**Wettzell**	**81.98**	**327**	*e*P	**P**	**15 26 12.9**	**+2.6**
	comp=Z,15nm,1.0s,baz=39,slow=5.2						
RAR	**Rarotonga**	**82.00**	**124**	LR	LR	15 57 43.1	
	comp=Z,164nm,19.1s,baz=338,slow=32						
RSSD	**Black Hills**	**82.15**	**40**	P	**P**	**15 26 12.6**	**+1.1**
	baz=314						
MONP2	**Monument Peak**	**82.15**	**55**	P	**P**	**15 26 11.7**	**0.0**
	baz=308						
ARSA	**Arzberg**	**82.18**	**325**	*i* PcP	**P**	**15 26 14.0**	**+2.6**
	comp=Z,16nm,1.4s						
IRM	**Iron Mountain**	**82.20**	**53**	P	**P**	**15 26 12.4**	**+0.6**
	baz=309						
DIVS	**Divibare**	**82.21**	**320**	IAmb	IAmb	15 26 14.7	
	comp=Z,15nm,1.2s						
KASTN	**Kahler Asten**	**82.27**	**331**	*e*P	**P**	**15 26 14.0**	**+2.2**
	comp=Z,21nm,1.1s,baz=39,slow=5.2						
GRF	**Grafenberg Arr**	**82.28**	**328**	*e*P	**P**	**15 26 14.8**	**+2.9**
	comp=Z,57nm,1.0s,baz=39,slow=5.2						
GRF				*e*L	L	16 01 42.0	
	comp=Z,353nm,18.1s						
MOA	**Molln**	**82.32**	**326**	*i* PcP	**P**	**15 26 14.7**	**+2.5**
	comp=Z,18nm,1.5s						
W13A	**Hualapai Mount**	**82.42**	**52**	IAmb	IAmb	15 26 19.3	
	comp=Z,11nm,1.3s						
EIL	**Elat**	**82.44**	**301**	LR	LR	16 07 15.8	
	comp=Z,132nm,19.0s,baz=40,slow=39						
IKP	**In-Ko-Pah, Jac**	**82.51**	**55**	P	**P**	**15 26 14.7**	**+1.2**
	baz=309						
URZ	**Urewera**	**82.54**	**150**	LR	LR	15 59 49.7	
	comp=Z,72nm,21.1s,baz=9.0,slow=34						
O20A	**White River Ci**	**82.56**	**45**	IAmb	IAmb	15 26 23.8	
	comp=Z,11nm,1.0s						
O20A	**White River Ci**	**82.56**	**45**	P	**P**	**15 26 14.5**	**+0.7**
	baz=312						
U15A	**North Rim**	**82.57**	**50**	IAmb	IAmb	15 26 20.3	
	comp=Z,15nm,1.1s						
BIOA	**Bad Ischl, Aus**	**82.72**	**326**	*i* PcP	**PcP**	**15 26 16.7**	**-2.4**
	comp=Z,28nm,1.2s,SNR=8.6						
PERS	**Pernice**	**82.81**	**324**	*i* P	**P**	**15 26 17.2**	**+2.4**
SOKA	**Soboth**	**82.82**	**324**	*i* PcP	**P**	**15 26 16.4**	**+1.6**
	comp=Z,48nm,1.1s,SNR=22						
EKA	**Eskdalemuir Ar**	**82.85**	**339**	P	**P**	**15 26 15.0**	**+0.3**
EKA	**Eskdalemuir Ar**	**82.85**	**339**	P	**P**	**15 26 15.0**	**+0.3**
	comp=Z,3.9nm,0.8s,baz=18,slow=3.9,SNR=4.2						
	comp=Z,3.9nm,0.8s						
ESJX	**Sierra Juarez**	**83.02**	**55**	IAmb	IAmb	15 26 23.1	
	comp=Z,20nm,1.3s						
TNS	**Taunus Mts**	**83.02**	**330**	*e*P	**P**	**15 26 18.0**	**+2.2**
	comp=Z,17nm,0.9s,baz=39,slow=5.2						
RJOB	**Jochberg**	**83.07**	**326**	*e*P	**P**	**15 26 18.9**	**+2.8**
	comp=Z,26nm,0.9s,baz=39,slow=5.2						
OBKA	**Obir**	**83.17**	**325**	*i* PcP	**PcP**	**15 26 19.2**	**-2.0**
	comp=Z,8.9nm,1.0s						
KBA	**Koelnbreinsper**	**83.31**	**326**	*i* PcP	**PcP**	**15 26 20.5**	**-1.4**
	comp=Z,18nm,0.9s						
N23A	**Red Feather La**	**83.34**	**43**	P	**P**	**15 26 18.5**	**+0.6**
	baz=313						
LESA	**Schwarzleotal**	**83.36**	**326**	*i* PcP	**PcP**	**15 26 19.9**	**-2.1**
	comp=Z,36nm,1.0s						
MYKA	**Terra Mystica**	**83.51**	**325**	*i* PcP	**P**	**15 26 20.1**	**+1.7**
	comp=Z,18nm,1.2s,SNR=7.2						
BTNL	**Ternell**	**83.65**	**331**	*d*PcP	**P**	**15 26 20.6**	**+1.7**
MEM	**Membach**	**83.68**	**332**	*d*PcP	**P**	**15 26 20.6**	**+1.6**
WUAZ	**Wupatki**	**83.73**	**50**	IAmb	IAmb	15 26 30.6	
	comp=Z,14nm,1.0s						
WUAZ	**Wupatki**	**83.73**	**50**	P	**P**	**15 26 20.9**	**+1.0**
	baz=311						
PDG	**Podgorica**	**83.76**	**319**	⇑P	**P**	**15 26 21.7**	**+2.1**
STU	**Stuttgart**	**83.84**	**329**	*e*P	**P**	**15 26 22.1**	**+2.2**
	comp=Z,100nm,0.8s,baz=39,slow=5.2						
JAVS	**Javornik**	**83.86**	**324**	*i* P	**P**	**15 26 21.6**	**+1.3**
WATA	**Walderalm**	**83.92**	**327**	*i* PcP	**PcP**	**15 26 22.8**	**-1.7**
	comp=Z,12nm,1.1s						
ABTA	**Abfaltersbach**	**83.94**	**326**	*i* PcP	**P**	**15 26 22.4**	**+1.8**
	comp=Z,26nm,1.0s,SNR=11						
WTTA	**Wattenberg**	**83.94**	**327**	*i* PcP	**PcP**	**15 26 22.8**	**-1.9**
	comp=Z,17nm,1.1s,SNR=5.8						
BCLA	**Clavier**	**84.10**	**332**	*d*P	**P**	**15 26 20.5**	**-0.7**
MOTA	**Moosalm**	**84.12**	**327**	*i* PcP	**P**	**15 26 23.3**	**+1.7**
	comp=Z,23nm,1.2s,SNR=7.8						
RETA	**Reutte**	**84.16**	**327**	*i* PcP	**PcP**	**15 26 24.1**	**-1.5**
	comp=Z,37nm,1.1s,SNR=15						
SQTA	**Sankt Quirin**	**84.17**	**327**	*i* PcP	**PcP**	**15 26 23.8**	**-1.9**
	comp=Z,20nm,1.4s						
BGES	**Gesves**	**84.21**	**332**	*d*P	**P**	**15 26 23.7**	**+1.9**
ISCO	**Idaho Springs**	**84.28**	**44**	P	**P**	**15 26 21.8**	**-0.9**
	baz=314						
RCHB	**Rochefort**	**84.34**	**332**	*d*PcP	**P**	**15 26 24.1**	**+1.7**
MVCO	**Mesa Verde**	**84.36**	**47**	P	**P**	**15 26 22.9**	**-0.3**
	baz=312						
BMRD	**Maredsous**	**84.40**	**332**	*d*PcP	**PcP**	**15 26 24.8**	**-1.6**
X16A	**Lo Mia Camp, P**	**84.40**	**51**	IAmb	IAmb	15 26 35.1	
	comp=Z,11nm,1.0s						
FETA	**Feichten**	**84.53**	**327**	*i* PcP	**PcP**	**15 26 26.1**	**-1.2**
	comp=Z,20nm,1.0s,SNR=9.6						
BFO	**Black Forest**	**84.55**	**329**	P	**P**	**15 26 23.9**	**+0.3**
BFO	**Black Forest**	**84.55**	**329**	P	**P**	**15 26 23.9**	**+0.3**
BFO				pmax	pmax		
	comp=Z,41nm,1.1s						
BFO	**Black Forest**	**84.55**	**329**	*e*P	**P**	**15 26 25.6**	**+2.0**
	comp=Z,35nm,1.0s,baz=39,slow=5.2						
DOU	**Dourbes**	**84.63**	**332**	*d*P	**P**	**15 26 25.5**	**+1.6**
DAVA	**Damuels**	**84.70**	**327**	*i* PcP	**PcP**	**15 26 26.7**	**-1.3**
	comp=Z,36nm,1.0s,SNR=11						
S22A	**4UR Ranch, Cre**	**84.98**	**46**	IAmb	IAmb	15 26 33.1	
	comp=Z,16nm,1.2s						
S22A	**4UR Ranch, Cre**	**84.98**	**46**	P	**P**	**15 26 27.1**	**+0.8**
	baz=313						
W18A	**Petrified Fore**	**85.00**	**50**	P	**P**	**15 26 27.1**	**+0.8**
	baz=312						
DAVOX	**Davos/Dischmat**	**85.09**	**327**	LR	LR	16 07 36.1	
	comp=Z,136nm,20.3s,baz=28,slow=38						
OXZ	**Oxford**	**85.11**	**156**	P	**P**	**15 26 25.0**	**-1.1**
OXZ				IAmb	IAmb	15 26 30.9	
	comp=Z,20nm,1.1s						
214A	**Organ Pipe Nat**	**85.11**	**54**	P	**P**	**15 26 28.0**	**+1.3**
	baz=310						
Q24A	**Divide**	**85.11**	**44**	P	**P**	**15 26 27.7**	**+0.8**
	baz=314						
RPZ	**Rata Peaks**	**85.14**	**157**	LR	LR	15 59 54.4	
	comp=Z,165nm,20.6s,baz=339,slow=32						
EYMN	**Ely**	**85.18**	**31**	P	**P**	**15 26 27.3**	**+0.5**
	baz=322						
OGNE	**Ogallala**	**85.43**	**41**	P	**P**	**15 26 28.1**	**-0.2**
	baz=316						
IDI	**Anoyia**	**85.43**	**311**	LR	LR	16 07 25.2	
	comp=Z,62nm,20.0s,baz=67,slow=38						
LBZ	**Lake Benmore**	**85.47**	**157**	P	**P**	**15 26 27.1**	**-0.7**
TUE	**Stuetta**	**85.56**	**327**	P	**P**	**15 26 29.4**	**+0.4**
TUE				IAmb	IAmb	15 26 31.7	
	comp=Z,14nm,0.9s						
SDCO	**Great Sand Dun**	**85.75**	**45**	P	**P**	**15 26 30.0**	**-0.1**
	baz=314						
ECSD	**EROS Data Cent**	**86.13**	**36**	IAmb	IAmb	15 26 34.1	
	comp=Z,34nm,1.8s						
ECSD	**EROS Data Cent**	**86.13**	**36**	P	**P**	**15 26 31.9**	**+0.3**
	baz=319						
TUC	**Tucson**	**86.19**	**52**	P	**P**	**15 26 31.6**	**-0.5**
	baz=311						
SCHQ	**Schefferville**	**86.73**	**14**	P	**P**	**15 26 33.6**	**-0.7**
	comp=Z,13nm,1.0s,baz=326,slow=4.9,SNR=7.9						
SCHQ				LR	LR	16 07 35.6	
	comp=Z,148nm,21.2s,baz=338,slow=37						
	comp=Z,13nm,1.0s						
PPT	**Papeete**	**86.79**	**114**	LR	LR	15 56 51.8	
	comp=Z,184nm,21.2s,baz=328,slow=30						
T25A	**Trinidad**	**86.80**	**45**	P	**P**	**15 26 35.0**	**-0.3**
	baz=314						
CESX	**Cesi**	**87.01**	**323**	IAmb	IAmb	15 26 38.7	
	comp=Z,15nm,1.1s						
ANMO	**Albuquerque**	**87.11**	**48**	P	**P**	**15 26 36.3**	**-0.4**
	baz=313						
LPIG	**La Paz**	**91.89**	**58**	LR	LR	16 02 34.6	
	comp=Z,58nm,19.2s,baz=342,slow=32						
SADO	**Sadowa**	**92.55**	**26**	LR	LR	16 11 22.7	
	comp=Z,155nm,19.6s,baz=253,slow=37						
TXAR	**Lajitas Array**	**92.69**	**50**	P	**P**	**15 27 02.0**	**-0.9**
TXAR	**Lajitas Array**	**92.69**	**50**	P	**P**	**15 27 02.0**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=305,slow=4.3,SNR=8.4						
	comp=Z,1.6nm,0.7s						
KEST	**Kesra**	**93.88**	**320**	LR	LR	16 12 31.7	
	comp=Z,203nm,18.1s,baz=329,slow=38						
PKME	**Peaks-Kenny Pk**	**95.12**	**19**	P	**P**	**15 27 12.9**	**-0.7**
	baz=338						
ESDC	**Sonseca Array**	**96.66**	**331**	P	**P**	**15 27 20.1**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=31,slow=4.3,SNR=6.1						
ESDC				LR	LR	16 13 43.7	
	comp=Z,336nm,18.4s,baz=12,slow=37						
	comp=Z,1.1nm,0.8s						
TKL	**Tuckaleechee C**	**98.51**	**33**	LR	LR	16 15 43.6	
	comp=Z,103nm,18.9s,baz=338,slow=38						
TORD	**Torodi Ar. Bea**	**115.83**	**312**	PKP	**PKiKP**	**15 32 32.4**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=36,slow=1.2,SNR=3.6						
DBIC	**Dimbokro**	**124.86**	**313**	PKPdf	**PKPdf**	**15 32 50.5**	**-0.6**
DBIC	**Dimbokro**	**124.86**	**313**	PKIKP	**PKPdf**	**15 32 50.5**	**-0.6**
QSPA	**South Pole Qui**	**126.07**	**180**	PKP	**PKPdf**	**15 32 49.8**	**-2.0**
	comp=Z,7.0nm,0.9s,baz=336,slow=1.9,SNR=15						
SDV	**Santo Domingo**	**127.57**	**37**		**PKPdf**	**15 32 55.1**	**-1.5**
SNAA	**Sanae**	**139.26**	**198**	PKP	**PKPdf**	**15 33 15.6**	**-0.9**
	comp=Z,2.0nm,0.8s,baz=195,slow=2.4,SNR=5.9						
ETMB	**Extrema**	**145.66**	**46**	PKPdf	**PKPdf**	**15 33 27.5**	**-2.0**
SAML	**Samuel**	**146.62**	**41**	PKPdf	**PKPdf**	**15 33 30.1**	**-1.0**
SAML	**Samuel**	**146.62**	**41**	PKIKP	**PKPdf**	**15 33 30.1**	**-1.0**
LPAZ	**La Paz**	**149.38**	**56**	PKPbc	**PKPbc**	**15 33 38.8**	**-2.0**
	comp=Z,1.9nm,0.7s,baz=342,slow=2.5,SNR=6.8						
PB11	**IPOC Station P**	**150.67**	**63**		**PKPbc**	**15 33 42.4**	**-0.8**
VILB	**Vilhena**	**151.54**	**40**		**PKPbc**	**15 33 44.7**	**-0.5**

*WEL **05** 15:14:18.0±0.3, 41°S±5°×17°4E±°, h34km±4km, M3.7/19, ML4.1/19, MLv3.7/19, Error ellipse: s-maj=0.0km s-min=0.0km az=155.2, confirmed*

*NOU **05** 15:14:18.6, 41°28S×174°26E, h45km, MLv4.1/11, Cook Strait, New Zealand*

ISC 05 15:14:18.9±1.0, **41°20S**±0°02×**174°15E**±0°02, **h34**km±2km, **n142**, σ1s**16**/158, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCW	**Tory Channel**	**0.09**	**98**	P	**Pb**	**15 14 26.0**	**+1.2**
TCW				S	**Sb**	**15 14 31.4**	**+2.6**
QCCS	**Picton Queen C**	**0.13**	**230**	P	**Pb**	**15 14 24.6**	**-0.4**
QCCS				S	**Sb**	**15 14 30.0**	**+0.9**
TUWZ	**Tuamarina**	**0.28**	**214**	P	**Pn**	**15 14 26.8**	**+0.4**
TUWZ				S	**Sb**	**15 14 32.6**	**+0.9**
HAVS	**Havelock**	**0.29**	**255**	P	**Pn**	**15 14 26.6**	**0.0**
BWRS	**Waikakaho Road**	**0.30**	**218**	P	**Pn**	**15 14 27.1**	**+0.2**
BWRS				S	**Sb**	**15 14 33.2**	**+1.0**
MGCS	**Blenheim Marlb**	**0.35**	**207**	P	**Pb**	**15 14 26.4**	**-0.9**
MGCS				S	**Sn**	**15 14 33.3**	**+0.3**
MKBS	**Makara Bunker**	**0.41**	**94**	P	**Pb**	**15 14 28.9**	**+0.6**
MKBS				S	**Sn**	**15 14 36.5**	**+1.6**
MKVS	**Makara Village**	**0.42**	**99**	P	**Pb**	**15 14 27.6**	**-0.8**
MKVS				S	**Sb**	**15 14 35.4**	**+0.5**
SNZO	**South Karori**	**0.43**	**105**	P	**Pb**	**15 14 29.1**	**+0.6**
DUWZ	**D'Urville Isla**	**0.43**	**336**	P	**Pb**	**15 14 27.9**	**-0.7**
DUWZ				S	**Sb**	**15 14 35.6**	**+0.4**
WNKS	**Wellington Kar**	**0.45**	**101**	P	**Pb**	**15 14 28.0**	**-0.9**
WNKS				S	**Sb**	**15 14 36.3**	**+0.6**
SDNS	**Seddon**	**0.47**	**181**	P	**Pb**	**15 14 29.7**	**+0.6**
WEL	**Wellington**	**0.47**	**101**	P	**Pb**	**15 14 29.7**	**+0.6**
WEL				S	**Sn**	**15 14 38.3**	**+1.8**
WTES	**Wellington The**	**0.48**	**100**	P	**Pb**	**15 14 28.3**	**-0.9**
SEDS	**Seddon Fire St**	**0.48**	**187**	P	**Pb**	**15 14 29.6**	**+0.4**
SEDS				S	**Sn**	**15 14 37.9**	**+1.3**
BOWS	**Bowen St Turnb**	**0.48**	**100**	P	**Pb**	**15 14 28.6**	**-0.6**
WFES	**Wellington Fea**	**0.48**	**101**	P	**Pb**	**15 14 28.4**	**-0.8**
VUWS	**Victoria Unive**	**0.48**	**100**	P	**Pb**	**15 14 28.6**	**-0.7**
CMWZ	**Cape Campbell**	**0.55**	**175**	P	**Pb**	**15 14 31.1**	**+0.7**
CMWZ				S	**Sn**	**15 14 41.4**	**+3.0**
BSWZ	**Blackbirch Sta**	**0.56**	**202**	P	**Pn**	**15 14 30.1**	**-0.4**
BSWZ				S	**Sb**	**15 14 38.6**	**+0.2**
BHW	**Baring Head**	**0.58**	**111**	P	**Pn**	**15 14 30.9**	**+0.2**
BHW				S	**Sb**	**15 14 40.4**	**+1.4**
NNZ	**Nelson**	**0.58**	**268**	P	**Pn**	**15 14 29.6**	**-1.2**
NNZ				S	**Sn**	**15 14 38.4**	**-0.7**
KIW	**Kapiti Island**	**0.67**	**60**	P	**Pn**	**15 14 32.1**	**+0.1**
KIW				S	**Sn**	**15 14 42.1**	**+0.9**
CAW	**Cannon Point**	**0.70**	**83**	P	**Pn**	**15 14 32.5**	**+0.1**
CAW				S	**Sn**	**15 14 42.8**	**+0.8**
PAPS	**Paraparaumu Pr**	**0.70**	**67**	P	**Pn**	**15 14 33.0**	**+0.6**
PAPS				S	**Sb**	**15 14 44.1**	**+1.8**
KEKS	**Kekerengu Vall**	**0.77**	**190**	P	**Pn**	**15 14 33.6**	**+0.2**
KEKS				S	**Sb**	**15 14 45.7**	**+1.5**
OGWZ	**Otaki Gorge**	**0.86**	**64**	P	**Pn**	**15 14 34.8**	**+0.2**
OGWZ				S	**Sb**	**15 14 47.5**	**+0.8**
PLWZ	**Palliser**	**0.91**	**114**	P	**Pn**	**15 14 34.7**	**-0.7**
TKNZ	**Takaka Hill**	**0.92**	**280**	P	**Pn**	**15 14 34.2**	**-1.2**
PAWZ	**Paruwai Farm**	**0.98**	**101**	P	**Pn**	**15 14 35.6**	**-0.7**
MTW	**Mount Morrison**	**1.02**	**88**	P	**Pn**	**15 14 36.0**	**-0.8**
MRNZ	**Matariki Terra**	**1.07**	**259**	P	**Pn**	**15 14 36.7**	**-0.9**
HOWZ	**Holdsworth Sta**	**1.07**	**74**	P	**Pn**	**15 14 37.0**	**-0.6**
THZ	**Tophouse**	**1.09**	**239**	P	**Pn**	**15 14 36.5**	**-1.5**
TRWZ	**Traveller**	**1.17**	**100**	P	**Pn**	**15 14 38.0**	**-1.0**
MRZ	**Mangatainoka R**	**1.21**	**64**	P	**Pn**	**15 14 38.8**	**-0.6**
QRZ	**Quartz Range**	**1.28**	**286**	P	**Pn**	**15 14 39.9**	**-0.6**
QRZ	**Quartz Range**	**1.28**	**286**	P	**Pn**	**15 14 39.7**	**-0.8**
KHZ	**Kahutara**	**1.30**	**200**	P	**Pn**	**15 14 40.1**	**-0.6**
KHZ	**Kahutara**	**1.30**	**200**	P	**Pn**	**15 14 40.1**	**-0.6**
TMWZ	**Te Maipa**	**1.32**	**87**	P	**Pn**	**15 14 39.8**	**-1.2**
OHWZ	**Ohakea**	**1.33**	**42**	P	**Pn**	**15 14 41.5**	**+0.4**
TIWZ	**Tintock**	**1.38**	**73**	P	**Pn**	**15 14 40.7**	**-1.2**
POWZ	**Post Office Ro**	**1.47**	**57**	P	**Pn**	**15 14 42.0**	**-1.0**
PRWZ	**Pori Road**	**1.52**	**66**	P	**Pn**	**15 14 42.8**	**-1.0**
CPWZ	**Castlepoint**	**1.58**	**80**	P	**Pn**	**15 14 43.7**	**-0.8**
WAZ	**Wanganui**	**1.58**	**24**	P	**Pn**	**15 14 45.2**	**+0.7**
BFZ	**Birch Farm**	**1.67**	**73**	P	**Pn**	**15 14 44.3**	**-1.5**
BFZ	**Birch Farm**	**1.67**	**73**	P	**Pn**	**15 14 44.1**	**-1.7**
LREZ	**Lake Rotokare**	**1.75**	**6**	P	**Pn**	**15 14 47.7**	**+0.9**
DVHZ	**Dannevirke**	**1.77**	**60**	P	**Pn**	**15 14 45.6**	**-1.6**
TSZ	**Takapari Road**	**1.79**	**51**	P	**Pn**	**15 14 46.3**	**-1.1**
NMEZ	**Namu Road**	**1.79**	**353**	P	**Pn**	**15 14 48.1**	**+0.5**
DSZ	**Denniston Nort**	**1.85**	**252**	P	**Pn**	**15 14 47.5**	**-0.8**
PREZ	**Palmer Road**	**1.85**	**0**	P	**Pn**	**15 14 49.4**	**+1.0**
KHEZ	**Kahui Hut**	**1.90**	**357**	P	**Pn**	**15 14 49.7**	**+0.6**
KHEZ	**Kahui Hut**	**1.90**	**357**	P	**Pn**	**15 14 49.9**	**+0.8**
ANWZ	**Angora Road**	**1.91**	**68**	P	**Pn**	**15 14 47.3**	**-1.8**
NEZ	**North Egmont**	**1.93**	**359**	P	**Pn**	**15 14 50.1**	**+0.7**
NBEZ	**Newall Road No**	**1.94**	**353**	P	**Pn**	**15 14 50.1**	**+0.6**
GVZ	**Greta Valley S**	**1.95**	**205**	P	**Pn**	**15 14 48.6**	**-1.1**
PKE	**Pukeiti**	**2.01**	**356**	P	**Pn**	**15 14 51.1**	**+0.6**
DREZ	**Durham Road**	**2.01**	**1**	P	**Pn**	**15 14 51.3**	**+0.8**
PNHZ	**Pukenui**	**2.02**	**51**	P	**Pn**	**15 14 49.1**	**-1.5**
MTVZ	**Mangateitei**	**2.07**	**30**	P	**Pn**	**15 14 51.8**	**+0.4**
WPHZ	**Waipukurau**	**2.08**	**58**	P	**Pn**	**15 14 49.7**	**-1.7**
PRHZ	**Porangahau**	**2.10**	**65**	P	**Pn**	**15 14 49.7**	**-2.0**
PKVZ	**Pokaka**	**2.11**	**26**	P	**Pn**	**15 14 52.0**	**0.0**
LTZ	**Lake Taylor**	**2.12**	**221**	P	**Pn**	**15 14 50.9**	**-1.0**
MHEZ	**Mangahewa**	**2.12**	**4**	P	**Pn**	**15 14 53.2**	**+1.2**
VRZ	**Vera Road**	**2.12**	**13**	P	**Pn**	**15 14 52.6**	**+0.6**
MOVZ	**Moawhango**	**2.17**	**35**	P	**Pn**	**15 14 52.0**	**-0.8**
WNVZ	**Wahianoa**	**2.17**	**31**	P	**Pn**	**15 14 53.1**	**+0.2**
TRVZ	**Turoa**	**2.18**	**30**	P	**Pn**	**15 14 53.3**	**+0.3**
WHVZ	**Whangaehu Hut**	**2.21**	**30**	P	**Pn**	**15 14 53.5**	**+0.1**
FWVZ	**Far West T-bar**	**2.22**	**29**	P	**Pn**	**15 14 53.6**	**+0.1**
TUVZ	**Tukino**	**2.25**	**31**	P	**Pn**	**15 14 53.9**	**0.0**
BHHZ	**Black Hill Sta**	**2.25**	**41**	P	**Pn**	**15 14 53.0**	**-0.8**
COVZ	**Chateau Observ**	**2.26**	**29**	P	**Pn**	**15 14 54.2**	**+0.1**
AMCZ	**Amberley**	**2.27**	**209**	P	**Pn**	**15 14 53.5**	**-0.5**
KRHZ	**Kereru**	**2.30**	**48**	P	**Pn**	**15 14 52.8**	**-1.7**
NGZ	**Ngauruhoe**	**2.31**	**29**	P	**Pn**	**15 14 54.7**	**+0.1**
SNVZ	**South Ngauruho**	**2.31**	**30**	P	**Pn**	**15 14 54.9**	**+0.1**
OTVZ	**Oturere**	**2.34**	**30**	P	**Pn**	**15 14 55.2**	**0.0**
TWVZ	**Taurewa**	**2.34**	**25**	P	**Pn**	**15 14 55.1**	**0.0**
NNVZ	**North Ngauruho**	**2.35**	**29**	P	**Pn**	**15 14 55.3**	**0.0**
WTVZ	**West Tongariro**	**2.35**	**28**	P	**Pn**	**15 14 55.3**	**-0.1**
PXZ	**Pawanui**	**2.37**	**61**	P	**Pn**	**15 14 53.2**	**-2.3**
ETVZ	**East Tongariro**	**2.38**	**31**	P	**Pn**	**15 14 55.6**	**-0.1**
KRVZ	**Karewarewa**	**2.39**	**29**	P	**Pn**	**15 14 55.9**	**+0.1**
TMVZ	**Te Maari**	**2.40**	**30**	P	**Pn**	**15 14 55.9**	**0.0**
NTVZ	**North Tongarir**	**2.40**	**30**	P	**Pn**	**15 14 56.1**	**+0.2**
KWHZ	**Kaweka Forest**	**2.48**	**45**	P	**Pn**	**15 14 55.3**	**-1.8**
KAHZ	**Kahuranaki**	**2.51**	**57**	P	**Pn**	**15 14 55.2**	**-2.1**
KATZ	**Kakaramea**	**2.52**	**29**	P	**Pn**	**15 14 57.8**	**+0.3**
INZ	**Inchbonnie**	**2.53**	**232**	P	**Pn**	**15 14 57.4**	**-0.3**
RITZ	**Rihia Road**	**2.58**	**31**	P	**Pn**	**15 14 57.8**	**-0.5**
MCHZ	**McNeill Hill**	**2.62**	**49**	P	**Pn**	**15 14 57.4**	**-1.5**
RATZ	**Rangitukua**	**2.64**	**29**	P	**Pb**	**15 15 03.9**	**-1.7**
OXZ	**Oxford**	**2.64**	**216**	P	**Pn**	**15 14 58.0**	**-1.2**
OKCZ	**Okains Bay**	**2.65**	**197**	P	**Pn**	**15 14 56.9**	**-2.4**
HIZ	**Hauiti**	**2.74**	**12**	P	**Pn**	**15 15 01.1**	**+0.6**
HIZ	**Hauiti**	**2.74**	**12**	P	**Pn**	**15 15 00.9**	**+0.4**
MQZ	**McQueen's Vall**	**2.74**	**203**	P	Pn	15 14 57.3	-3.2
WATZ	**Wairara**	**2.77**	**27**	P	**Pn**	**15 15 04.6**	**+3.7**
AKCZ	**Akaroa Harbour**	**2.83**	**199**	P	**Pn**	**15 14 59.8**	**-1.9**
ARHZ	**Aropaoanui**	**2.91**	**49**	P	**Pn**	**15 15 00.7**	**-2.2**
NMHZ	**Naumai**	**2.92**	**45**	P	**Pn**	**15 15 01.2**	**-1.9**
MRHZ	**Matea Rd**	**2.93**	**37**	P	**Pn**	**15 15 01.2**	**-2.1**
RACZ	**Rakaia**	**2.93**	**210**	P	**Pn**	**15 15 01.5**	**-1.6**
KUTZ	**Kaahu Road**	**3.00**	**26**	P	**Pb**	**15 15 09.1**	**-2.5**
MHCZ	**Mount Hutt**	**3.02**	**219**	P	**Pn**	**15 15 03.3**	**-1.1**
TLZ	**Tolley Road**	**3.06**	**21**	P	**Pn**	**15 15 05.0**	**+0.1**
WVZ	**Waitaha Valley**	**3.16**	**232**	P	**Pn**	**15 15 06.4**	**+0.2**
RPZ	**Rata Peaks**	**3.40**	**221**	P	**Pn**	**15 15 10.1**	**+0.4**
RPZ	**Rata Peaks**	**3.40**	**221**	P	**Pn**	**15 15 09.7**	**+0.1**
KNZ	**Kokohu**	**3.47**	**52**	P	Pn	15 15 07.2	-3.3
ARCZ	**Arundel**	**3.52**	**218**	P	**Pn**	**15 15 10.9**	**-0.4**
MHGZ	**Mahia Peninsul**	**3.53**	**56**	P	Pn	15 15 08.2	-3.1
GCSZ	**Gaunt Creek Bo**	**3.54**	**232**	P	**Pn**	**15 15 11.8**	**+0.2**
TOZ	**Tahuroa Road**	**3.62**	**17**	P	**Pn**	**15 15 13.4**	**+0.8**
PRGZ	**Paritu Road**	**3.66**	**53**	P	**Pn**	**15 15 10.3**	**-2.9**
TMZ	**Timaru**	**3.94**	**215**	P	**Pn**	**15 15 15.6**	**-1.3**
FOZ	**Fox Glacier**	**3.97**	**233**	P	**Pn**	**15 15 16.0**	**-1.4**
AWAZ	**Awhitu Peninsu**	**4.15**	**5**	P	**Pn**	**15 15 20.1**	**+0.2**
MKAZ	**Moumakai**	**4.16**	**11**	P	**Pn**	**15 15 20.1**	**+0.1**

WTAZ	Waiatarua	4.27	5	P	Pn	15 15 22.0	+0.4
ETAZ	East Tamaki Re	4.28	8	P	Pn	15 15 22.0	+0.3
LBZ	Lake Benmore	4.32	221	P	Pn	15 15 21.8	-0.5
RVAZ	Riverhead Bore	4.43	4	P	Pn	15 15 23.6	-0.2
WIAZ	Waiheke Island	4.46	10	P	Pn	15 15 24.6	+0.4
ODZ	Otahua Downs	4.62	213	P	Pn	15 15 24.6	-1.8
ODZ	Otahua Downs	4.62	213	P	Pn	15 15 23.2	-3.2
JCZ	Jackson Bay	4.89	232	P	Pn	15 15 29.7	-0.5
JCZ	Jackson Bay	4.89	232	P	Pn	15 15 28.3	-1.8
WKZ	Wanaka	5.23	224	P	Pn	15 15 33.8	-0.9
WCZ	Waipu Caves	5.25	2	P	Pn	15 15 35.5	+0.4
MSZ	Milford Sound	5.74	231	P	Pn	15 15 41.2	-0.5
OUZ	Omahuta	5.99	356	P	Pn	15 15 46.0	+0.9
OUZ	Omahuta	5.99	356	P	Pn	15 15 45.6	+0.5
CTZ	Chatham Island	7.28	113	P	Pn	15 15 59.9	-3.0
CTZ	Chatham Island	7.28	113	P	Pn	15 15 59.9	-3.0

*TAP **05** 15:15:33.8, 24°.84N×121°.99E, h101km, ML3.8, C*
*JMA **05** 15:15:34.2±0.1, 24°.8N±0°.5×122°.0E±0°.3, h98km±1km, MV3.0/19, TAIWAN REGION*
ISC 05 15:15:34.6±1.3**, 24°.81N**±0°.04×**121°.99E**±0°.03**, h96**km±6km**, n103, σ0.s66**/171**, 12C-2D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		0.06	304	i P	Pn	15 15 46.0	-2.0
	baz=281						
TWB1	Santiao Chiao	0.20	0	i P	Pn	15 15 48.1	-0.3
	baz=3.0						
TWB1				i S	Sn	15 15 58.0	-0.6
	baz=3.0						
TIPB	Shuangxi	0.22	318	i P	Pn	15 15 48.3	-0.2
	baz=312						
ILA	Ilan	0.22	259	P	Pn	15 15 48.6	+0.2
	baz=251						
ILA				S	Sn	15 15 59.5	+0.8
	baz=251						
TWC	Suao	0.24	212	⇑iP	Pn	15 15 48.4	-0.1
	baz=207						
TWC				i S	Sn	15 15 58.1	-0.6
	baz=207						
SXI1	Grass Mountain	0.30	340	P	Pn	15 15 48.6	-0.2
	baz=338						
NDS	Dongshan	0.30	235	P	Pn	15 15 49.6	+0.8
	baz=230						
NDS				S	Sn	15 16 00.9	+1.6
	baz=230						
TWE	Neicheng	0.30	253	i P	Pn	15 15 49.0	+0.2
	baz=247						
TWE				S	Sn	15 16 00.9	+1.6
	baz=247						
NWF	Wu-fen Shan	0.32	324	i P	Pn	15 15 48.7	-0.3
	baz=321						
NWF				S	Sn	15 15 59.3	-0.4
	baz=321						
WFSB	Wu-fen Shan	0.32	324	P	Pn	15 15 48.8	-0.1
	baz=321						
WFSB				S	Sn	15 15 58.9	-0.6
	baz=321						
FUSB	Fushanzhiwuyua	0.37	262	⇑iP	Pn	15 15 49.2	0.0
	baz=258						
FUSB				S	Sn	15 16 00.3	+0.2
	baz=258						
TNOU	National Taiwa	0.39	330	eP	Pn	15 15 48.4	-0.8
	baz=328						
TNOU				S	Sn	15 15 59.6	-0.5
	baz=328						
TWA	Mucha	0.40	295	i P	Pn	15 15 49.1	-0.3
	baz=291						
TWA				i S	Sn	15 15 59.8	-0.6
	baz=291						
EWUT	Wuta	0.41	208	P	Pn	15 15 49.7	+0.3
	baz=206						
EWUT				eS	Sn	15 16 01.2	+0.8
	baz=206						
ENTT	Nioudou	0.42	246	⇑iP	Pn	15 15 50.0	+0.5
	baz=242						
ENTT				i S	Sn	15 16 01.6	+1.1
	baz=242						
ENA	Nanau	0.44	211	i P	Pn	15 15 49.9	+0.3
	baz=208						
ENA				S	Sn	15 16 01.7	+0.9
	baz=208						
NWLT	Wulai	0.44	266	⇓iP	Pn	15 15 49.7	+0.1
	baz=262						
NWLT				S	Sn	15 16 00.9	+0.1
	baz=262						
NHY	Taipei	0.44	301	P	Pn	15 15 49.6	0.0
	baz=298						
NHY				S	Sn	15 16 01.4	+0.7
	baz=298						
EOS2	EOS2	0.45	150	i P	Pn	15 15 50.0	+0.6
	baz=151						
NDT	Datong Townshi	0.48	245	⇓iP	Pn	15 15 50.3	+0.4
	baz=241						
NDT				S	Sn	15 16 01.7	+0.5
	baz=241						
LATG	Datong	0.50	237	⇑iP	Pn	15 15 50.5	+0.3
	baz=234						
LATG				i S	Sn	15 16 02.5	+0.7
	baz=234						
YM01	YM01	0.51	312	P	Pn	15 15 49.8	-0.3
	baz=309						
YM01				eS	Sn	15 16 02.5	+0.8
	baz=309						
YM08	YM08	0.52	316	P	Pn	15 15 49.6	-0.6
	baz=314						
YM08				eS	Sn	15 16 02.2	+0.4
	baz=314						
ANP	Anpu	0.57	312	eP	Pn	15 15 49.1	-1.5
	baz=309						
YHNB	Yeheng	0.57	256	⇑iP	Pn	15 15 50.5	-0.1
	baz=253						
YHNB				i S	Sn	15 16 02.1	-0.6
	baz=253						
TWY	Chenhua	0.58	323	P	Pn	15 15 50.2	-0.4
	baz=321						
TWY				S	Sn	15 16 02.5	-0.1
	baz=321						
NSK	Sanguang	0.59	257	i P	Pn	15 15 50.5	-0.2
	baz=254						
NSK				i S	Sn	15 16 02.2	-0.6
	baz=254						
TWS1	Kuangyinshan	0.59	299	⇑iP	Pn	15 15 51.0	+0.2
	baz=297						
TWS1				i S	Sn	15 16 03.7	+0.9
	baz=297						
EOS3	EOS3	0.60	150	i P	Pn	15 15 51.3	+0.7
	baz=151						
NTST	Danshui	0.60	306	i P	Pn	15 15 50.8	+0.1
	baz=303						
NTST				S	Sn	15 16 03.7	+0.8
	baz=303						
NNSB	Datong	0.67	235	⇑iP	Pn	15 15 51.7	+0.1
	baz=233						
NNSB				S	Sn	15 16 04.2	0.0
	baz=233						
NNS	Nan Shan	0.67	237	⇑iP	Pn	15 15 51.7	+0.1
	baz=234						
NNS				i S	Sn	15 16 04.5	+0.3
	baz=234						
NACB	Ninganchiao	0.73	210	P	Pn	15 15 51.2	-0.7
	baz=208						
NACB				S	Sn	15 16 04.6	-0.3
	baz=208						
ETL	Fush Village	0.73	207	P	Pn	15 15 51.4	-0.6
	baz=206						
ETL				eS	Sn	15 16 04.3	-0.7
	baz=206						
NCUH	Zhongli	0.75	282	i P	Pn	15 15 52.3	+0.2
	baz=280						
NCUH				i S	Sn	15 16 06.2	+0.9
	baz=280						
EOS4	EOS4	0.75	156	i P	Pn	15 15 51.6	-0.1
	baz=157						
ETLH	Xiulin Townshi	0.76	218	i P	Pn	15 15 52.1	-0.3
	baz=216						
ETLH				S	Sn	15 16 04.6	-1.0
	baz=216						
TWD	Chiawan	0.81	206	P	Pn	15 15 51.9	-0.8
	baz=204						
TWD				eS	Sn	15 16 05.2	-1.1
	baz=204						
NFF	Wufeng Townshi	0.81	258	i P	Pn	15 15 52.6	-0.2
	baz=255						
NFF				i S	Sn	15 16 06.1	-0.4
	baz=255						
HWA	Hwalien	0.90	203	P	Pn	15 15 54.9	+1.2
	baz=201						
SBCB	Hsinchu	0.91	269	i P	Pn	15 15 53.8	0.0
	baz=267						
SBCB				S	Sn	15 16 07.5	-0.6
	baz=267						
NSTT	Nanjuang	0.92	259	⇑iP	Pn	15 15 53.6	-0.2
	baz=257						
NSTT				i S	Sn	15 16 07.7	-0.5
	baz=257						
TWT	Tachien	0.92	233	i P	Pn	15 15 54.8	+0.6
	baz=232						
TWT				i S	Sn	15 16 09.5	+0.8
	baz=232						
HSN	Hsinchu	0.93	270	i P	Pn	15 15 53.6	-0.3
	baz=269						
HSN				S	Sn	15 16 07.8	-0.6
	baz=269						
WHF	Hehuan Shan	0.93	225	P	Pn	15 15 54.6	+0.1
	baz=223						
WHF				i S	Sn	15 16 09.5	+0.1
	baz=223						
TDCB	Techi	0.94	234	⇑iP	Pn	15 15 54.7	+0.5
	baz=232						
TDCB				i S	Sn	15 16 09.2	+0.2
	baz=232						
JYNG	Yonagunijimaku	0.94	112	P	Pn	15 15 53.9	-0.2
JYNG				S	Sn	15 16 08.4	-0.3
LXIB	Xiulin Townshi	0.94	214	eP	Pn	15 15 53.6	-0.8
	baz=212						
LXIB				eS	Sn	15 16 08.2	-0.9
	baz=212						
ETM	Tongmen	0.95	208	i P	Pn	15 15 53.4	-0.9
	baz=207						
ETM				S	Sn	15 16 07.8	-1.2
	baz=207						
YOJ	Yonaguni jima	0.99	110	P	Pn	15 15 54.4	-0.3
YOJ				eS	Sn	15 16 08.8	-0.9
CHGB	Renai	1.05	225	⇑iP	Pn	15 15 56.0	+0.4
	baz=223						
CHGB				i S	Sn	15 16 11.4	+0.1
	baz=223						
WHP	Taichung City	1.09	241	⇑eP	Pn	15 15 56.3	+0.5
	baz=239						
WHP				eS	Sn	15 16 11.8	0.0
	baz=239						
ESL	Shilin	1.11	207	P	Pn	15 15 54.9	-1.1
	baz=206						
NMLH	Miaoli	1.12	256	eP	Pn	15 15 55.4	-0.7
	baz=254						
NMLH				eS	Sn	15 16 11.9	-0.4
	baz=254						
OWD	Renai	1.13	221	P	Pn	15 15 56.7	+0.3
	baz=220						
OWD				eS	Sn	15 16 12.4	-0.3
	baz=220						
WUSB	Renai	1.14	224	i P	Pn	15 15 56.8	+0.3
	baz=223						
WUSB				i S	Sn	15 16 13.1	+0.2
	baz=223						
TEGC	Jichi Village	1.17	201	P	Pn	15 15 57.2	+0.5
	baz=199						
TEGC				S	Sn	15 16 14.0	+0.7
	baz=199						
NSY	Sanyi	1.18	251	i P	Pn	15 15 57.0	+0.2
	baz=249						
NSY				i S	Sn	15 16 12.6	-1.0
	baz=249						
WARBT	Fenglin Townsh	1.22	207	eP	Pn	15 15 55.6	-1.7
	baz=206						
WCS	Beigang Elemen	1.23	233	P	Pn	15 15 57.9	+0.5
	baz=231						
WCS				i S	Sn	15 16 15.1	+0.4
	baz=231						
EGFH	Guangfu	1.25	204	eP	Pn	15 15 56.1	-1.5
	baz=203						
VWDT	VWDT	1.30	216	P	Pn	15 15 58.9	+0.6
	baz=215						
VWDT				S	Sn	15 16 16.8	+0.7
	baz=215						
WDJ	Dajia District	1.31	250	i P	Pn	15 15 58.5	+0.2
	baz=248						
WDJ				i S	Sn	15 16 16.4	+0.2
	baz=248						
SMLT	Sun Moon Lake	1.35	227	P	Pn	15 15 59.0	0.0
	baz=226						
SMLT				S	Sn	15 16 19.0	+1.6
	baz=226						
TCU	Taichung	1.36	241	eP	Pn	15 15 59.0	0.0
	baz=239						
TCU				S	Sn	15 16 17.9	+0.4
	baz=239						
SSLB	Suanglung	1.39	223	P	Pn	15 15 59.6	+0.3
	baz=222						
SSLB				S	Sn	15 16 18.6	+0.6
	baz=222						
HGSD	Ruisui	1.41	202	P	Pn	15 15 59.5	-0.1
	baz=201						
EHY	Hungye	1.43	205	eP	Pn	15 15 58.3	-1.6
	baz=204						
WCHH	Zhanghua	1.49	241	eP	Pn	15 15 59.0	-1.5
	baz=239						
WCHH				eS	Sn	15 16 20.5	+0.3
	baz=239						
WNT	Mingjian	1.51	232	eP	Pn	15 16 00.7	-0.1
	baz=231						
WNT				eS	Sn	15 16 20.7	+0.1
	baz=231						
WJS	Zhushan	1.51	230	eP	Pn	15 16 01.0	+0.2
	baz=228						
WHYT	Xinyi Township	1.52	223	eP	Pn	15 16 00.8	-0.1
	baz=222						
ECBN	Changbin	1.57	198	eP	Pn	15 16 00.3	-1.2
	baz=197						
EYUL	Yuli	1.58	203	eP	Pn	15 16 01.8	+0.2
	baz=202						
IRIF	Iriomote-Funau	1.66	106	P	Pn	15 16 02.5	-0.1
IRIF				eS	Sn	15 16 23.2	-0.6
ALS	Alishan	1.69	220	P	Pn	15 16 04.2	+0.9
	baz=219						
WGK	Gukeng	1.72	230	P	Pn	15 16 03.6	+0.2
	baz=228						
WGK				S	Sn	15 16 26.0	+0.8
	baz=228						
FULB	Fuli	1.73	202	P	Pn	15 16 03.5	0.0
	baz=201						
WRL	Guolierlin Hig	1.73	239	eP	Pn	15 16 03.6	+0.1
	baz=237						
WDLH	Douliu	1.73	230	eP	Pn	15 16 03.3	-0.2
	baz=229						
WDLH				eS	Sn	15 16 26.4	+0.9
	baz=229						
CHKT	Chengkung	1.80	199	eP	Pn	15 16 03.3	-1.1
	baz=197						
EHD	Haiduan	1.80	204	eP	Pn	15 16 03.2	-1.3
	baz=203						
HATJ	Hateruma jima	1.82	114	P	Pn	15 16 04.4	-0.3
HATJ				eS	Sn	15 16 26.8	-0.8
ELDTW	Lidau	1.84	209	P	Pn	15 16 04.2	-0.9
	baz=208						
ECS	Chishang	1.85	203	eP	Pn	15 16 04.5	-0.5
	baz=202						
WCKO	Fanlu	1.86	223	eP	Pn	15 16 05.5	+0.2
	baz=222						
JKRS	Kuro-shima	1.93	107	P	Pn	15 16 06.1	0.0
JKRS				eS	Sn	15 16 30.1	0.0
CHY	Chiayi	1.94	228	eP	Pn	15 16 06.0	-0.2
	baz=226						
TPUB	Ta-pu	1.95	220	P	Pn	15 16 06.5	0.0
	baz=219						
STYH	Taoyuan	1.97	214	eP	Pn	15 16 06.9	+0.2
	baz=213						
WTP	Ta-pu	2.00	219	P	Pn	15 16 06.9	-0.2
	baz=218						
JIJ	Ishigaki jima	2.01	102	P	Pn	15 16 06.8	-0.4
JIJ				eS	Sn	15 16 31.0	-1.0
TWK	Hsinying	2.06	222	eP	Pn	15 16 07.9	0.0
	baz=221						
CHN1	Nanshi	2.10	220	eP	Pn	15 16 08.1	-0.3
	baz=219						
JISG	Ishigakijimahi	2.12	96	P	Pn	15 16 08.7	+0.1
JISG				eS	Sn	15 16 34.5	-0.2
SGST	Jiashian	2.15	217	P	Pn	15 16 08.7	-0.3
	baz=216						
SLGT	Liugui	2.19	214	eP	Pn	15 16 10.1	+0.6
	baz=213						
VWUC	VWUC	2.31	275	P	Pn	15 16 10.1	-0.9
	baz=273						
JTJ	Tarama	2.47	93	P	Pn	15 16 13.7	+0.4
JTJ				eS	Sn	15 16 43.3	+0.4
JIRB	Irabujima	2.89	89	eP	Pn	15 16 19.3	+0.4
JIRB				eS	Sn	15 16 53.5	+0.6
JIKM	Ikemajima	2.96	87	P	Pn	15 16 20.1	+0.3
JIKM				eS	Sn	15 16 55.6	+1.1
JMJ2	Miyako jima3	3.04	91	P	Pn	15 16 21.4	+0.6
JMJ2				eS	Sn	15 16 57.0	+0.7
JOGS	Gusukube	3.11	90	S	Sn	15 16 58.6	+0.5

*MOS **05** 15:22:09.8±1.2, 36°.76N×140°.53E, h18km, mb4.8/9, Error ellipse: s-maj=9.3km s-min=5.8km az=96.6*
*NIED **05** 15:22:10.5, 36°.81N×140°.54E, h8km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-3.04; $M_{\theta\theta}$0.74; $M_{\phi\phi}$2.29; $M_{r\theta}$-0.41; $M_{\theta\phi}$-0.90; $M_{\phi r}$2.21; Fault plane solution: $M_0$3.64000×10^{15} NP1: ϕ_s164.00000°, δ64.00000°, λ-84.00000°. NP2: ϕ_s329.00000°, δ27.00000°, λ-103.00000°.*
*JMA **05** 15:22:10.5±0.0, 36°.8N±0°.1×140°.5E±0°.2, h8km, MD4.5/20, MW4.4/20, NORTHERN IBARAKI PREF*
JMA Felt III J1 at NORTHERN IBARAKI PREF .
*NEIC **05** 15:22:11.1±2.6, 36°.93N±0°.05×140°.60E±0°.09, h12km±5km, mb4.8/71, Error ellipse: s-maj=10.8km s-min=6.1km az=111.0*
*IDC **05** 15:22:16.4±1.9, 36°.82N×140°.42E, h56km±16km, mb4.0/21, mbtmp4.3/24, ML3.9/3, MS3.6/1, Error ellipse: s-maj=14.8km s-min=10.9km az=132.0*
ISC 05 15:22:10.9±0.6**, 36°.82N**±0°.02×**140°.58E**±0°.04**, h13**km±3km**, n194, σ1.s59**/137**, mb4.7**/68**, MS4.4**/4**, 1D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.21	183	P	Pg	15 22 14.6	-0.8
JHO				S	Sg	15 22 17.6	-0.9
JHO	Hitachi	0.21	183	A	A	15 22 14.6	
	comp=E,74nm,2.0s,comp=N,88nm,1.8s						
JFFD	Fukushimafurud	0.27	356	P	Pg	15 22 16.0	-0.6
JFFD				S	Sg	15 22 19.8	-0.7
JFFD	Fukushimafurud	0.27	356	A	A	15 22 16.0	
	comp=E,69nm,1.4s,comp=N,52nm,2.7s						
ONAJ	Iwakimizuishiy	0.33	31	P	Pg	15 22 17.5	-0.2
ONAJ	Iwakimizuishiy	0.33	31	A	A	15 22 17.5	
	comp=E,62nm,1.6s,comp=N,61nm,4.0s						
JHYU	Hitachinakayam	0.48	180	A	A	15 22 19.8	
	comp=E,38nm,0.6s,comp=N,37nm,2.6s						
JSB	Shiboa	0.55	286	i P	Pg	15 22 21.2	-0.6
JSB				S	Sg	15 22 28.8	-0.3
JSB	Shiboa	0.55	286	A	A	15 22 21.2	
	comp=E,97nm,4.2s,comp=N,81nm,2.7s						
JFK	Kawauchi	0.59	23	P	Pg	15 22 21.9	-0.7
JFK				S	Sg	15 22 30.2	-0.3
JFK	Kawauchi	0.59	23	A	A	15 22 21.9	
	comp=E,16nm,2.9s,comp=N,26nm,3.7s						
JYT	Yasato	0.67	208	i P	Pg	15 22 22.6	-1.2
JYT				S	Sg	15 22 31.7	-1.0
JYT	Yasato	0.67	208	A	A	15 22 22.6	
	comp=E,33nm,0.4s,comp=N,23nm,2.6s						
JOTO	OTAMA OYAMA	0.77	345	i P	Pg	15 22 25.1	-0.7
JOTO				S	Sg	15 22 35.4	-0.5
JOTO	OTAMA OYAMA	0.77	345	A	A	15 22 25.1	
	comp=E,47nm,1.4s,comp=N,49nm,3.2s						
JIHU	Itakohorinouch	0.85	183	A	A	15 22 26.7	
	comp=E,145nm,5.1s,comp=N,89nm,5.6s						
JFY	Yanaizu	0.92	310	A	A	15 22 27.6	
	comp=E,14nm,4.5s,comp=N,8.0nm,3.4s						
JMST	Minamisoumatoc	0.94	15	A	A	15 22 28.6	
	comp=E,16nm,3.0s,comp=N,19nm,4.1s						
JAG	Ashikaga	0.99	247	A	A	15 22 28.7	
	comp=E,13nm,4.0s,comp=N,13nm,2.8s						
JMM	Marumori	1.06	9	Pn	Pb	15 22 29.8	-1.3
JMM				Sn	Sb	15 22 42.6	-2.3
JMM	Marumori	1.06	9	A	A	15 22 30.7	
	comp=E,18nm,5.0s,comp=N,24nm,1.9s						
JKT	Katashina	1.07	268	A	A	15 22 30.1	
	comp=E,12nm,2.8s,comp=N,12nm,4.6s						
JYAR	Yonezawaarcadi	1.15	342	A	A	15 22 31.9	
	comp=E,20nm,1.0s,comp=N,22nm,1.2s						
JUON	Uonuma	1.28	288	A	A	15 22 33.8	
	comp=E,5.0nm,2.3s,comp=N,7.0nm,1.6s						
TOK	Tokyo	1.31	211	A	A	15 22 34.4	
	comp=E,33nm,5.7s,comp=N,57nm,3.7s						
JNS	Sasagawa	1.42	315	A	A	15 22 36.2	
	comp=E,5.0nm,8.1s,comp=N,10.0nm,4.0s						
JHU	Hanno	1.43	228	A	A	15 22 36.1	
	comp=E,6.0nm,3.2s,comp=N,8.0nm,3.9s						
JYS	Shirataka	1.46	344	A	A	15 22 37.1	
	comp=E,23nm,1.9s,comp=N,13nm,1.5s						
JOU	Okura	1.55	2	A	A	15 22 38.6	
	comp=E,30nm,0.7s,comp=N,29nm,2.4s						
JRY	Ryogami san	1.57	240	A	A	15 22 38.4	
	comp=E,6.0nm,6.2s,comp=N,7.0nm,1.4s						
JGK	Kuni	1.58	261	A	A	15 22 38.5	
	comp=E,8.0nm,3.2s,comp=N,9.0nm,2.8s						
JSGW	Sagamiharawaka	1.65	223	A	A	15 22 39.6	
	comp=E,5.0nm,7.6s,comp=N,4.0nm,2.2s						
JIZZ	Izumozaki	1.66	296	A	A	15 22 39.8	
	comp=E,23nm,4.0s,comp=N,23nm,4.7s						
JIO	Ouri	1.74	20	A	A	15 22 41.7	
	comp=E,20nm,2.3s,comp=N,9.0nm,5.2s						
JYO	Yokosk	1.76	205	A	A	15 22 41.2	
	comp=E,14nm,6.6s,comp=N,17nm,5.2s						
JOFO	Osakifurukawao	1.80	8	A	A	15 22 42.4	
	comp=E,71nm,2.0s,comp=N,69nm,3.4s						
JYA	Atsumi	1.90	339	A	A	15 22 43.7	
	comp=E,18nm,1.2s,comp=N,11nm,3.6s						
MJAR	Matsushiro Arr	1.93	263	P	Pn	15 22 42.9	-0.5
	comp=N,286nm,0.4s,baz=84,slow=16,SNR=750						
MJAR				S	Sn	15 23 06.8	-0.8
	comp=N,166nm,0.4s,baz=259,slow=21,SNR=16						
MAJO	Matsushiro	1.93	263	Pn	Pn	15 22 43.6	+0.2
MAJO	Matsushiro	1.93	263	i P	Pn	15 22 43.3	-0.1
JJN	Nakama	1.96	279	A	A	15 22 44.2	
	comp=E,14nm,4.4s,comp=N,11nm,1.8s						
JOD2	Odawara 2	1.97	218	A	A	15 22 44.4	
	comp=E,5.0nm,1.2s,comp=N,8.0nm,5.3s						
JYK	Kaneyama	2.10	355	A	A	15 22 46.8	
	comp=E,13nm,2.9s,comp=N,10.0nm,0.9s						
JMK	Ichinoseki	2.19	13	A	A	15 22 48.2	
	comp=E,7.0nm,4.8s,comp=N,4.0nm,5.7s						
JSD	Sado	2.21	304	A	A	15 22 48.0	
	comp=E,5.0nm,2.2s,comp=N,4.0nm,2.2s						
JHTM	Izuhatsuma	2.25	215	A	A	15 22 48.5	
	comp=E,12nm,1.2s,comp=N,15nm,6.1s						
JYYZ	Yamagatayuza	2.25	347	A	A	15 22 48.9	
	comp=E,24nm,1.8s,comp=N,28nm,2.6s						
OFUJ	Ofunato	2.42	20	A	A	15 22 51.5	
	comp=E,7.0nm,2.3s,comp=N,4.0nm,1.4s						
JRG	Rokugo	2.58	1	A	A	15 22 53.7	
	comp=E,9.0nm,3.8s,comp=N,7.0nm,3.9s						
JNY	Yasuok	2.64	237	A	A	15 22 54.0	
	comp=E,3.0nm,1.4s,comp=N,3.0nm,3.4s						
JYW	Yuwa	2.73	354	A	A	15 22 55.9	
	comp=E,13nm,1.9s,comp=N,16nm,1.9s						
JSG	Sagara	2.90	223	Pn	Pn	15 22 56.9	+0.2
JSZI	Iwateshizukuis	2.93	6	A	A	15 22 58.8	
	comp=E,11nm,2.5s,comp=N,13nm,1.8s						
JKEN	Kujiedanarisaw	3.50	14	A	A	15 23 06.9	
	comp=E,13nm,2.2s,comp=N,10.0nm,1.0s						
JANG	Nango	3.62	11	A	A	15 23 08.7	
	comp=E,6.0nm,3.9s,comp=N,3.0nm,5.2s						
JHJ	Hachijo jima 2	3.75	190	P	Pn	15 23 08.6	+0.2
	comp=N,105nm,0.5s,baz=223,slow=22,SNR=2.2						
JHJ				S	Sn	15 23 52.2	-0.2
	comp=N,134nm,0.5s,baz=73,slow=19,SNR=1.9						
ERM	Erimo	5.56	20	Pn	Pn	15 23 33.5	+0.3
ERM	Erimo	5.56	20	i P	Pn	15 23 35.2	+1.9
ASAJ	Asahikawa	7.45	11	P	Pn	15 24 01.4	+2.1
	comp=N,9.9nm,0.3s,baz=220,slow=8.9,SNR=60						
ASAJ				S	Sn	15 25 25.7	+2.1
	comp=N,17nm,0.7s,baz=288,slow=20,SNR=1.5						
	comp=N,29nm,0.3s						
JKA	Kamikawa-asahi	7.45	11	Pn	Pn	15 23 59.4	+0.2
SHO	Shikotan	8.50	32	P	Pn	15 24 14.6	+0.9
SHO				eS	Sn	15 25 45.0	-4.5
TEY	Ternei	8.74	341	eP	Pn	15 24 21.7	+4.7
TEY				e		15 26 03.9	
JNU	Nakatsue	8.78	248	P	Pn	15 24 16.1	-1.4
	comp=N,4.3nm,0.8s,baz=43,slow=19,SNR=1.4						
JNU				LR	LR	15 28 05.1	
	comp=N,344nm,18.4s,baz=136,slow=40						
USRK	Ussuriysk Ar.	9.85	321	P	Pn	15 24 33.4	+1.2

comp=N,0.1nm,0.3s,baz=147,slow=8.6,SNR=5.3
comp=N,8.9nm,1.1s
USA0B Ussuriysk Arra 9.86 321 *i* P **Pn 15 24 34.8 +2.6**
KUR Kuril'sk 10.04 31 *eP* **Pn 15 24 35.3 +0.6**
KUR pmax pmax
comp=Z,79nm,0.6s
KSRS Korea Array 10.13 277 P **Pn 15 24 38.6 +2.7**
comp=Z,0.2nm,0.3s,baz=98,slow=13,SNR=15
comp=Z,3.6nm,0.9s
YSS Yuzh-Sakhalins 10.26 8 *eP* **Pn 15 24 40.3 +2.6**
YSS pmax pmax
comp=Z,40nm,0.8s
MDJ Mudanjiang 11.40 316 **Pn 15 24 51.5 -1.9**
MDJ Mudanjiang 11.40 316 P **Pn 15 24 51.2 -2.2**
MDJ pmax pmax
comp=Z,12nm,1.7s
MDJ pmax pmax
comp=Z,1μm,10.4s
KLR Kul'dur 13.97 335 *i* P **Pn 15 25 28.5 0.0**
KLR Kul'dur 13.97 335 P **P 15 25 32.9 -3.6**
comp=Z,5.8nm,1.2s,baz=139,slow=15,SNR=3.2
TYV Tymovskoe 14.12 5 *eP* **Pn 15 25 31.9 +1.4**
TYV *eS* **Sn 15 28 09.3 +2.4**
TYV pmax pmax
comp=Z,300nm,2.9s
TYV pmax pmax
comp=Z,10.0nm,1.0s
TYV smax smax
comp=N,300nm,5.2s
TYV smax smax
comp=E,300nm,5.2s
HEH HeiHe 16.44 329 *eP* **P 15 26 03.1 -0.8**
HEH pmax pmax
comp=Z,6.0nm,1.4s
NJ2 Nanjing 18.53 262 *eP* **Pn 15 26 28.2 +0.9**
NJ2 sP **sP 15 26 33.8 +1.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
ZEA Zeya 19.29 335 *eP* Pn 15 26 45.4 +9.1
ZEA pmax pmax
comp=Z,10.0nm,0.9s
PETK Petropavlovsk- 20.21 31 P Pn 15 26 48.6 +1.3
comp=Z,11nm,0.9s,baz=206,slow=9.6,SNR=46
comp=Z,11nm,0.9s
PET Petropavlovsk 20.55 32 *eP* Pn 15 26 56.2 +5.0
PET pmax pmax
comp=Z,20nm,0.7s
HHC Hu-ho-hao-te 22.91 289 *eP* **P 15 27 14.5 -0.1**
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,1μm,9.0s
MA2 Magadan 23.71 13 *i* P **P 15 27 23.0 +0.8**
MA2 pmax pmax
comp=Z,9.0nm,0.6s
MA2 Magadan 23.71 13 P **P 15 27 24.1 +1.8**
comp=Z,9.9nm,0.6s,baz=185,slow=8.1,SNR=8.5
comp=Z,9.9nm,0.6s
BTO Baotou 24.09 288 *eP* **P 15 27 25.1 -1.1**
BTO pP **pP 15 27 29.0 -1.3**
BTO sP **sP 15 27 32.1 +0.2**
BTO PP **PnPn 15 28 02.5 +7.4**
BTO S **S 15 31 42.8 -0.6**
BTO SS **SnSn 15 32 28.6 +4.4**
BTO pmax pmax
comp=Z,11nm,0.6s
BTO AMB AMB
comp=Z,1μm,10.9s
BTO LR LR
comp=N,630nm,10.0s
BTO LR LR
comp=E,700nm,9.4s
BTO LR LR
comp=Z,820nm,12.7s
XAN Xi'an 25.89 273 ||P **P 15 27 43.9 +1.4**
XAN pmax pmax
comp=Z,12nm,2.6s
XAN LR LR
comp=N,920nm,12.7s
XAN LR LR
comp=E,420nm,12.0s
XAN LR LR
comp=Z,620nm,11.7s
YAK Yakutsk 26.14 348 P **P 15 27 42.9 -1.6**
YAK IAmb IAmb 15 27 47.7
comp=Z,36nm,1.1s
YAK Yakutsk 26.14 348 *i* P **P 15 27 45.9 +1.5**
YAK pmax pmax
comp=Z,22nm,0.8s
ENH Enshi 26.65 265 P **P 15 27 49.5 +0.1**
ULN Ulaanbaatar 26.93 305 P **P 15 27 52.2 +0.3**
ULN Ulaanbaatar 26.93 305 *i* P **P 15 27 51.8 -0.1**
ULN pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 27.36 305 P **P 15 27 54.8 -0.9**
SONM Songino Array 27.36 305 *eP* **P 15 27 55.0 -0.7**
SONM pmax pmax
comp=Z,5.0nm,0.9s
SONM Songino Array 27.36 305 P **P 15 27 55.0 -0.7**
comp=Z,5.5nm,0.9s,baz=105,slow=7.3,SNR=17
comp=Z,5.5nm,0.9s
H11N2 WAKE ISLAND Hy 28.61 119 T T 15 57 53.2
baz=312,slow=75,SNR=1185
H11N1 WAKE ISLAND Hy 28.62 119 T T 15 57 53.8
baz=312,slow=75,SNR=825
H11N3 WAKE ISLAND Hy 28.63 119 T T 15 57 52.9
baz=312,slow=75,SNR=592
H11S1 WAKE ISLAND Hy 29.31 121 T T 15 58 43.3
baz=314,slow=76,SNR=2199
H11S3 WAKE ISLAND Hy 29.31 121 T T 15 58 44.5
baz=314,slow=76,SNR=1440
H11S2 WAKE ISLAND Hy 29.32 121 T T 15 58 46.3
baz=314,slow=76,SNR=1399
LZH Lanzhou 29.45 280 *eP* P 15 28 19.9 +5.4
LZH pmax pmax
comp=Z,10.0nm,1.0s
CD2 Chengdu 31.01 270 P **P 15 28 27.5 -0.7**
PZH PanZhiHua 34.42 264 P **P 15 28 59.1 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.6s
BILL Bilibino 34.42 17 P **P 15 28 57.4 -0.2**
BILL IAmb IAmb 15 29 01.3
comp=Z,9.7nm,1.1s
TIXI Tiksi 35.43 354 P **P 15 29 05.0 -1.2**
TIXI Tiksi 35.43 354 P **P 15 29 05.0 -1.2**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
DGZ Jazzator, Alta 39.98 306 *i* P **P 15 29 46.0 +0.8**
DGZ pmax pmax
comp=Z,15nm,2.3s
WMQ Urumqi 40.34 297 *eP* **P 15 29 47.9 -0.3**
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ LR LR
comp=N,450nm,12.1s
WMQ LR LR
comp=E,460nm,15.5s
WMQ LR LR
comp=Z,170nm,16.3s
CMAR Chiang Mai Arr 40.80 255 P **P 15 29 51.6 -0.6**
comp=Z,0.5nm,0.7s,baz=47,slow=6.1,SNR=2.4
comp=Z,0.5nm,0.7s
ZALV Zalesovo Beam 41.57 313 P **P 15 29 57.1 -0.9**
ZALV Zalesovo Beam 41.57 313 *eP* **P 15 29 57.1 -0.9**
ZALV pmax pmax
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 41.57 313 P **P 15 29 57.3 -0.8**
comp=Z,4.3nm,0.8s,baz=94,slow=7.9,SNR=11
ZALV PcP **PcP 15 31 54.2 -0.9**
comp=Z,1.1nm,0.5s,baz=94,slow=2.8,SNR=3.8
comp=Z,4.3nm,0.8s
MK31 Makanchi Array 43.67 302 P **P 15 30 15.3 0.0**
MK31 Makanchi Array 43.67 302 *i* P **P 15 30 15.2 0.0**
MKAR Makanchi Array 43.67 302 P **P 15 30 14.4 -0.9**
MKAR Makanchi Array 43.67 302 *eP* **P 15 30 14.9 -0.4**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 43.67 302 P **P 15 30 14.7 -0.6**
comp=Z,1.0nm,0.7s,baz=85,slow=9.4,SNR=8.2
MKAR PcP **PcP 15 32 02.3 0.0**
comp=Z,1.1nm,0.9s,baz=4.4,slow=1.9,SNR=2.8
comp=Z,1.0nm,0.7s
M17K Holitna River 45.21 37 IAmb IAmb 15 30 33.3
comp=Z,16nm,0.9s
TAPN Taplejung 45.29 274 *eP* **P 15 30 30.1 +1.3**
comp=Z,35nm,1.6s

KURK Kurchatov 45.54 308 *i* P **P 15 30 28.8 -1.3**
KURK pmax pmax
comp=Z,12nm,1.1s
KURBB Kurchatov Arra 45.61 308 P **P 15 30 29.9 -0.8**
comp=Z,4.7nm,0.9s,baz=85,slow=8.0,SNR=18
comp=Z,4.7nm,0.9s
RAMN Ramite 46.36 274 *eP* **P 15 30 38.7 +1.5**
comp=Z,36nm,1.1s
JIRN Jiri 46.37 275 *eP* **P 15 30 39.3 +1.9**
comp=Z,13nm,0.9s
GUN Gumba 46.52 275 *eP* **P 15 30 40.3 +1.8**
comp=Z,30nm,1.1s
PKI Pulchoki 47.04 275 *eP* **P 15 30 44.5 +1.9**
comp=Z,14nm,1.1s
PKIN Phulchoki 47.04 275 *eP* **P 15 30 43.8 +1.2**
comp=Z,9.4nm,0.8s
D22K Ayikyak River 47.85 27 IAmb IAmb 15 30 52.4
comp=Z,16nm,1.4s
DANN Dangsing 48.02 277 *eP* **P 15 30 51.2 +1.0**
comp=Z,25nm,0.9s
E22K Anaktuvuk Pass 48.10 28 P **P 15 30 50.1 +0.1**
E22K IAmb IAmb 15 30 55.9
comp=Z,15nm,1.3s
MLY Manley 48.38 32 P **P 15 30 53.4 +1.2**
MLY IAmb IAmb 15 31 31.3
comp=Z,20nm,1.7s
PYUN Piuthan 48.74 277 *eP* **P 15 30 57.1 +1.5**
comp=Z,24nm,0.9s
SOEI Soe 48.80 202 P **P 15 30 56.5 +0.6**
MDM Murphy Dome 49.45 32 IAmb IAmb 15 31 05.8
comp=Z,12nm,1.1s
POKR Poker Plat Res 49.78 32 IAmb IAmb 15 31 09.0
comp=Z,11nm,1.0s
HDA Harding Lake 50.02 33 IAmb IAmb 15 31 09.5
comp=Z,7.9nm,1.0s
IL31 50.03 32 IAmb IAmb 15 32 48.5
comp=Z,21nm,1.8s
ILAR Eielson Array 50.03 32 *eP* **P 15 31 07.5 +2.8**
ILAR pmax pmax
comp=Z,4.0nm,1.1s
ILAR Eielson Array 50.03 32 P **P 15 31 05.5 +0.7**
comp=Z,3.9nm,1.1s,baz=257,slow=4.8,SNR=21
comp=Z,3.9nm,1.1s
D25K Kavik River 50.14 26 IAmb IAmb 15 31 10.1
comp=Z,9.7nm,1.3s
BVAR Borovoye Array 50.23 312 P **P 15 31 05.7 -0.7**
comp=Z,4.0nm,0.9s,baz=77,slow=6.4,SNR=9.4
comp=Z,4.0nm,0.9s
COEN Coen 50.56 177 P **P 15 31 11.3 +2.1**
COEN IAmb IAmb 15 31 13.3
comp=Z,14nm,0.9s
SCRK Sand Creek 51.35 33 P **P 15 31 15.4 +0.6**
SVE Sverdlovsk 54.87 319 *eP* **P 15 31 41.3 +0.6**
SVE pmax pmax
comp=Z,10.0nm,0.9s
WB0 Warramunga Arr 56.58 187 P **P 15 31 52.5 -0.8**
WB0 IAmb IAmb 15 31 56.5
comp=Z,12nm,1.1s
A36M Sachs Harbour 56.71 22 IAmb IAmb 15 31 58.1
comp=Z,10nm,0.9s
WRAB Tennant Creek 56.75 187 P **P 15 31 54.1 -0.4**
WRAB Tennant Creek 56.75 187 P **P 15 31 54.1 -0.4**
WRAB pmax pmax
comp=Z,30nm,1.7s
WRA Warramunga Arr 56.76 187 *eP* **P 15 31 53.9 -0.7**
WRA pmax pmax
comp=Z,7.0nm,0.8s
WRA Warramunga Arr 56.76 187 P **P 15 31 53.4 -1.2**
comp=Z,6.3nm,0.8s,baz=3.5,slow=7.1,SNR=49
comp=Z,6.3nm,0.8s
ASAR Alice Springs 60.49 187 P **P 15 32 19.9 -0.6**
ASAR Alice Springs 60.49 187 P **P 15 32 20.1 -0.4**
comp=Z,4.2nm,0.8s,baz=15,slow=3.8,SNR=24
comp=Z,4.2nm,0.8s
EUNU Eureka 60.50 8 P **P 15 32 21.1 +1.1**
NOR Nord 61.23 356 *i* P **P 15 32 24.5 -0.4**
ARCES ARCESS Array B 63.96 339 *eP* **P 15 32 44.8 +1.5**
ARCES pmax pmax
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 63.96 339 P **P 15 32 41.1 -2.3**
comp=Z,1.8nm,0.9s,baz=45,slow=3.6,SNR=5.6
comp=Z,1.8nm,0.9s
YKA Yellowknife Ar 64.33 30 *eP* **P 15 32 48.1 +2.3**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 64.33 30 P **P 15 32 45.0 -0.8**
comp=Z,0.9nm,0.7s,baz=302,slow=6.9,SNR=9.7
comp=Z,0.8nm,0.7s
NEEM North Greenlan 65.78 3 *i* P **P 15 32 55.4 0.0**
NEEM IAmb IAmb 15 32 58.9
comp=Z,19nm,1.1s
DAG Danmarks Havn 65.93 355 *i* P **P 15 32 54.9 -1.1**
DAG IAmb IAmb 15 32 58.6
comp=Z,3.5nm,0.8s
STKA Stephens Creek 68.34 179 P **P 15 33 12.4 +0.6**
comp=Z,2.5nm,0.8s,baz=297,slow=8.7,SNR=4.6
comp=Z,2.5nm,0.8s
SUMG Summit 70.90 360 *i* P **P 15 33 26.3 -1.3**
E09A Wood Farm, Sta 71.14 46 IAmb IAmb 15 33 34.1
comp=Z,5.5nm,0.9s
K05A Summer Lake 71.59 50 IAmb IAmb 15 33 37.8
comp=Z,12nm,0.9s
SOC Sochi 72.55 312 *eP* **P 15 33 36.1 -1.4**
SOC *e* 15 36 15.3
SOC *e*PPP PPP 15 38 02.5
SOC *e*S **S 15 42 59.9 -1.8**
SOC *e*SS **SS 15 47 34.0 -5.8**
SOC MLR MLR
comp=Z,121nm,14.0s
WVOR Wild Horse Val 73.14 49 IAmb IAmb 15 33 47.5
comp=Z,14nm,1.8s
HFS Hagfors 74.01 335 P **P 15 33 45.5 -0.4**
HFS Hagfors 74.01 335 P **P 15 33 45.5 -0.4**
comp=Z,4.2nm,0.6s,baz=57,slow=5.3,SNR=13
comp=Z,4.2nm,0.6s
AKASG Malin Array Be 74.06 322 *eP* **P 15 33 47.4 +1.1**
AKASG Malin Array Be 74.06 322 P **P 15 33 45.4 -0.9**
comp=Z,0.8nm,0.4s,baz=44,slow=6.1,SNR=5.8
comp=Z,0.8nm,0.4s
NOA NORSAR Array B 74.13 337 *eP* **P 15 33 48.7 +2.1**
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA NORSAR Array B 74.13 337 P **P 15 33 46.2 -0.4**
comp=Z,2.2nm,0.9s,baz=39,slow=5.6,SNR=4.8
comp=Z,2.2nm,0.9s
PAHR Pah Rah Range 74.23 52 IAmb IAmb 15 33 52.7
comp=Z,7.6nm,1.0s
CMB Columbia Colle 74.53 54 IAmb IAmb 15 33 54.4
comp=Z,6.7nm,0.9s
YERR Yerington 74.73 53 IAmb IAmb 15 33 55.9
comp=Z,11nm,0.9s
BMN Battle Mountai 75.16 51 IAmb IAmb 15 33 58.5
comp=Z,7.2nm,0.9s
BOZ Bozeman (W) 75.36 44 IAmb IAmb 15 33 59.0
comp=Z,6.3nm,0.9s
KVN Kaiserville 75.42 52 IAmb IAmb 15 33 59.9
comp=Z,12nm,1.0s
LHV Little Huntoon 75.62 53 IAmb IAmb 15 34 01.4
comp=Z,15nm,1.0s
NVAR Mina Array Bea 75.65 53 P **P 15 33 56.6 +0.5**
comp=Z,6.5nm,0.9s,baz=290,slow=6.1,SNR=17
comp=Z,6.5nm,0.9s
ELK Elko 76.19 49 P **P 15 33 58.9 -0.3**
ELK Elko 76.19 49 P **P 15 33 58.9 -0.3**
ELK pmax pmax
comp=Z,3.0nm,0.7s
IMW Indian Meadow 76.80 45 IAmb IAmb 15 34 08.3
comp=Z,7.7nm,1.1s
R11B Troy Canyon, C 77.42 51 P **P 15 34 06.2 +0.2**
R11B IAmb IAmb 15 34 11.2
comp=Z,7.1nm,0.9s
TPNV Topopah Spring 77.84 53 IAmb IAmb 15 34 13.4
comp=Z,10nm,0.8s
HWUT Hardware Ranch 77.86 47 IAmb IAmb 15 34 13.8
comp=Z,9.2nm,1.1s
DUG Dugway, Tooele 78.00 49 P **P 15 34 10.3 +1.1**
DUG IAmb IAmb 15 34 14.5
comp=Z,7.7nm,0.9s
DUG Dugway, Tooele 78.00 49 P **P 15 34 10.3 +1.1**
DUG pmax pmax
comp=Z,1μm,0.9s
PDAR Pinedale Array 78.29 45 P **P 15 34 11.1 +0.2**
comp=Z,1.6nm,0.7s,baz=251,slow=4.5,SNR=15
comp=Z,1.6nm,0.7s
BRTR Keskin Array B 78.50 311 P **P 15 34 10.6 -1.3**
comp=Z,1.9nm,1.1s,baz=60,slow=8.8,SNR=3.0
comp=Z,1.9nm,1.1s

CLL Collm 80.95 330 *eP* **P 15 34 25.0 +0.1**
ESJX Sierra Juarez 81.03 57 IAmb IAmb 15 34 30.9
comp=Z,7.2nm,0.9s
WUAZ Wupatki 81.82 52 IAmb IAmb 15 34 35.2
comp=Z,12nm,0.9s
MVCO Mesa Verde 82.50 49 IAmb IAmb 15 34 38.5
comp=Z,9.3nm,1.1s
S22A 4UR Ranch, Cre 83.14 47 IAmb IAmb 15 34 42.5
comp=Z,7.8nm,1.1s
SDCO Great Sand Dun 83.92 47 IAmb IAmb 15 34 46.0
comp=Z,6.1nm,1.2s
TXAR Lajitas Array 90.78 52 P **P 15 35 15.7 +1.6**
comp=Z,2.0nm,0.6s,baz=298,slow=2.7,SNR=11
comp=Z,2.0nm,0.6s
LPAZ La Paz 147.37 59 PKPbc **PKPbc 15 41 55.9 +0.3**
comp=Z,3.8nm,0.8s,baz=347,slow=3.6,SNR=8.3

JMA 05 15:26:39.4±0.2,38°.1N±0°.8×144°.7E±0°.8, h39km, MV3.5/25, FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.57**	**276**	P	Pn	15 27 19.8	+1.3
JIKH				S	Sn	15 27 49.9	+1.5
OFUJ	**Ofunato**	**2.59**	**294**	P	Pn	15 27 20.4	+1.7
OFUJ				S	Sn	15 27 51.1	+2.2
JKMT	**Kesennumamotoy**	**2.65**	**287**	*e*P	Pn	15 27 20.9	+1.4
JKMT				*e*S	Sn	15 27 51.7	+1.4
JIO	**Ouri**	**2.67**	**279**	P	Pn	15 27 21.5	+1.6
JIO				S	Sn	15 27 52.7	+1.7
JMK	**Ichinoseki**	**2.88**	**289**	P	Pn	15 27 24.7	+2.0
JMK				S	Sn	15 27 58.7	+2.8
JOM	**Ohasama**	**3.02**	**299**	P	Pn	15 27 26.7	+2.1
JANG	**Nango**	**3.38**	**314**	P	Pn	15 27 31.9	+2.3
JANG				*e*S	Sn	15 28 09.9	+1.5
JOTO	**OTAMA OYAMA**	**3.51**	**263**	S	Sn	15 28 13.5	+1.9
JYK	**Kaneyama**	**3.52**	**285**	P	Pn	15 27 34.2	+2.7
JYK				*e*S	Sn	15 28 14.9	+3.0
JCH	**Churui**	**4.65**	**348**	*e*P	Pn	15 27 47.9	+0.9
JRY	**Ryogami san**	**5.08**	**248**	*e*P	Pn	15 27 53.5	+0.4
JRY				*e*S	Sn	15 28 48.6	-1.9
NEM2	**Nemuro 2**	**5.34**	**8**	*e*P	Pn	15 27 55.3	-1.2
NEM2				*e*S	Sn	15 28 51.0	-5.7

*NSSP **05** 15:27:03.4,38°.67N×43°.22E,h10km,Ms3.5*
*AFAD **05** 15:27:04.8±0.0,38°.77N×43°.15E,h7km±2km,MW3.6*
*ISK **05** 15:27:04.4,38°.76N×43°.21E,h5km,ML3.4/23*

ISC 05 15:27:05.7±0.9, 38°.75N±0°.02×43°.18E±0°.02, h20km±5km, n53,σ1°.38/80, 1C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.22**	**133**	Pg	**Pg**	**15 27 11.6**	**+0.3**
VANB				Sg	**Sg**	**15 27 16.8**	**+1.7**
TVAN	**Van**	**0.28**	**141**	P	**Pb**	**15 27 16.3**	**-0.6**
TVAN				S	**Sb**	**15 27 16.3**	**-0.1**
ERCV	**ERCIS-VAN**	**0.30**	**24**	Pg	**Pb**	**15 27 11.3**	**-1.2**
ERCV				Sg	**Sb**	**15 27 16.2**	**-0.9**
VMUR	**Van-Muradiye**	**0.39**	**51**	P	**Pb**	**15 27 13.3**	**-0.8**
VMUR				S	**Sb**	**15 27 18.5**	**-1.2**
GEVA	**Gevas**	**0.44**	**192**	P	**Pg**	**15 27 14.0**	**-1.0**
GEVA				S	**Sg**	**15 27 19.2**	**-2.0**
AKDM	**Akdamar-Van**	**0.45**	**201**	Pg	**Pg**	**15 27 14.0**	**-1.0**
AKDM				Sg	**Sb**	**15 27 22.3**	**+1.0**
MLAZ	**Malazgirt-MUS**	**0.63**	**309**	Pg	**Pb**	**15 27 17.9**	**-0.2**
MLAZ				Sg	**Sb**	**15 27 28.0**	**+1.4**
OZAP	**Van, Ozalp-Mer**	**0.64**	**97**	P	**Pb**	**15 27 18.6**	**+0.2**
OZAP				S	**Sg**	**15 27 25.4**	**-1.9**
CLDR	**Caldiran**	**0.70**	**55**	Pg	**Pb**	**15 27 18.4**	**-1.0**
CLDR				Sg	**Sb**	**15 27 29.0**	**+0.3**
CLDR	**Caldiran**	**0.70**	**55**	P	**Pb**	**15 27 18.2**	**-1.1**
CLDR				S	**Sb**	**15 27 27.7**	**-1.0**
DORK	**Agr/Tutak/Do**	**0.71**	**334**	P	**Pg**	**15 27 18.6**	**-1.2**
DORK				S	**Sg**	**15 27 28.0**	**-1.4**
AGRB	**Hanur-Agry**	**0.84**	**350**	Pg	**Pb**	**15 27 21.2**	**-0.6**
DYDN	**Diyadin**	**0.89**	**26**	P	**Pg**	**15 27 21.6**	**-1.6**
DYDN				S	**Sb**	**15 27 34.1**	**-0.1**
BLIS	**Bitlis-Merkez**	**0.90**	**249**	P	**Pg**	**15 27 22.0**	**-1.3**
BLIS				S	**Sg**	**15 27 32.6**	**-2.6**
GURO	**Guroymak-BITLI**	**0.92**	**258**	Pg	**Pg**	**15 27 22.8**	**-0.9**
PERV	**Siirt/Pervari-**	**0.94**	**212**	P	**Pg**	**15 27 22.5**	**-1.6**
EATA	**Eleskirt**	**1.24**	**335**	P	**Pg**	**15 27 28.2**	**-1.5**
EATA				S	**Sg**	**15 27 44.3**	**-1.7**
HAKT	**HAKKARI**	**1.26**	**161**	P	**Pg**	**15 27 27.9**	**-2.2**
MUSM	**Mu-Merkez**	**1.30**	**270**	P	**Pn**	**15 27 28.9**	**-0.1**
IGDI	**IGDIR**	**1.32**	**32**	P	**Pb**	**15 27 29.4**	**-0.4**
IGDI				S	**Sn**	**15 27 47.5**	**+1.3**
SIRT	**Sirnak**	**1.37**	**205**	Pn	**Pg**	**15 27 32.2**	**-0.1**
SIRN	**Sirnak**	**1.39**	**206**	P	**Pb**	**15 27 31.0**	**0.0**
VRTB	**Varto-Mus**	**1.41**	**288**	Pn	**Pg**	**15 27 31.3**	**-1.0**
VRTB	**Varto-Mus**	**1.41**	**288**	P	**Pg**	**15 27 31.6**	**-1.3**
VRTB				S	**Sb**	**15 27 49.8**	**+0.8**
VNNZ	**Vanand**	**1.44**	**20**	*e*P	**Pg**	**15 27 32.4**	**-1.2**
VNNZ				*e*S	**Sg**	**15 27 53.0**	**+0.5**
YOVA	**Hakkari_Yksek**	**1.45**	**143**	P	**Pb**	**15 27 31.8**	**-0.4**
YOVA				S	**Sb**	**15 27 49.5**	**-0.7**
TASB	**TASBURUN-IGDIR**	**1.48**	**33**	Pn	**Pg**	**15 27 32.8**	**-1.6**
CUKT	**Cukurca**	**1.53**	**167**	Pn	**Pg**	**15 27 34.0**	**-1.3**
CUKT	**Cukurca**	**1.53**	**167**	P	**Pg**	**15 27 33.7**	**-1.6**
CUKT				S	**Sg**	**15 27 55.0**	**-0.3**
METS	**Metsamor**	**1.57**	**26**	*e*P	**Pg**	**15 27 34.8**	**-1.1**
METS				*e*S	**Sg**	**15 27 58.0**	**+1.7**
KOPR	**Koprukoy-ERZUR**	**1.61**	**321**	Pn	**Pg**	**15 27 35.5**	**-1.4**
HOMI	**Horasan**	**1.63**	**323**	P	**Pb**	**15 27 35.4**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.67**	**250**	Pn	**Pg**	**15 27 36.4**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.67**	**250**	P	**Pg**	**15 27 36.5**	**-1.3**
DIGO	**Kars**	**1.67**	**5**	P	**Pb**	**15 27 35.9**	**-0.1**
ARUZ	**Aruch**	**1.69**	**24**	*e*P	**Pg**	**15 27 36.2**	**-2.1**
ARUZ				*e*S	**Sg**	**15 28 01.0**	**+0.7**
SLHN	**Bingol, Solhan**	**1.70**	**278**	P	**Pb**	**15 27 36.6**	**+0.2**
SLHN				S	**Sn**	**15 27 54.4**	**-1.2**
NRKZ	**NAREK**	**1.70**	**42**	*e*P	**Pg**	**15 27 36.4**	**-2.1**
NRKZ				*e*S	**Sg**	**15 28 01.4**	**+0.8**
KARO	**Karliova-Bingo**	**1.75**	**289**	Pn	**Pg**	**15 27 38.0**	**-1.5**
ERZM	**Erzurum**	**1.82**	**310**	P	**Pb**	**15 27 38.8**	**+0.3**
ERZM				S	**Sg**	**15 28 04.2**	**-0.4**
BOZK	**Kars-Merkez-Bo**	**1.85**	**355**	P	**Pg**	**15 27 39.9**	**-1.5**
GNI	**Garni**	**1.85**	**40**	||*i*P	**Pg**	**15 27 39.0**	**-2.4**
GNI				||*i*S	**Sg**	**15 28 06.3**	**+0.8**
KARS	**Kars**	**1.88**	**358**	Pn	**Pb**	**15 27 38.9**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.92**	**341**	Pn	**Pb**	**15 27 40.2**	**0.0**
KAPZ	**Kaputan**	**1.96**	**36**	*e*P	**Pb**	**15 27 40.0**	**-1.0**
KAPZ				*e*S	**Sg**	**15 28 08.2**	**-0.9**
EAK	**Akyaka**	**1.97**	**10**	P	**Pg**	**15 27 42.9**	**-0.7**
EAK				S	**Sn**	**15 28 03.0**	**+0.7**
BNGB	**Bingl**	**1.97**	**278**	Pn	**Pb**	**15 27 40.7**	**-0.2**
MAZI	**Mazidag**	**2.51**	**240**	Pn	**Pb**	**15 27 48.7**	**-1.5**
DYBB	**Diyarbakir**	**2.52**	**253**	Pn	**Pb**	**15 27 48.8**	**-1.5**
BAYT	**Aydıntepe-Bayb**	**2.87**	**306**	Pn	**Pn**	**15 27 53.6**	**+3.1**
BCA	**Borcka**	**2.95**	**337**	Pn	**Pb**	**15 27 54.7**	**-2.9**
PTK	**Pertek**	**2.96**	**274**	Pn	**Pn**	**15 27 55.0**	**+3.2**
CHOM	**Cayeli-Rize**	**3.00**	**322**	Pn	**Pn**	**15 27 55.4**	**+3.3**

*IDC **05** 15:27:13.9±0.8,37°.17N×50°.09E,h0km,mb4.3/20, mbtmp4.3/28,ML4.2/6,MS3.5/15,Error ellipse: s-maj=17.4km s-min=10.7km az=11.0*
*MOS **05** 15:27:15.8±1.1,37°.35N×50°.24E,h17km,mb4.8/21,Error ellipse: s-maj=4.9km s-min=4.0km az=112.3*
*TIF **05** 15:27:15.7,37°.28N×50°.03E,h20km±3km*
*NEIC **05** 15:27:15.9±1.5,37°.18N±0°.09×50°.21E±0°.09,h10km±1km, mb4.8/70,Error ellipse: s-maj=15.7km s-min=11.3km az=195.0*
*TEH **05** 15:27:16.7,37°.25N×50°.24E,h24km±22km,ML4.7*
*THR **05** 15:27:16.2±1.0,37°.31N×50°.21E,h23km±6km,ML4.8*
*AZER **05** 15:27:17.0±0.2,37°.35N×49°.90E,h23km±12km,Error ellipse: s-maj=27.1km s-min=3.4km az=337.0*
*NNC **05** 15:27:23.5±1.7,37°.99N×50°.83E,h0km,mb4.9,Error ellipse: s-maj=21.7km s-min=13.2km az=40.0*

ISC 05 15:27:16.5±0.5, 37°.35N±0°.03×50°.22E±0°.03, h14km±3km, n398,σ1°.68/418, mb4.7/89, MS3.6/13, 28C-16D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHJ2	**Lahijan - Gila**	**0.22**	**215**	Pg	**Pb**	**15 27 22.2**	**0.0**
GIDE	**GILAN DEYLAMAN**	**0.49**	**210**	*e*Pg	**Pg**	**15 27 25.5**	**-0.7**
GIDE				IAML		15 27 34.0	

comp=E,83µm,0.6s
GIDE IAML 15 27 35.9
comp=N,67µm,0.4s
JIR1 Jirandeh 0.72 208 Pg **Pg 15 27 28.8 -1.8**
CSN1 Caspian 0.92 284 Pg **Pn 15 27 35.0 0.0**
QSDN Sirdan 1.19 225 Pg **Pb 15 27 37.8 -1.1**
ZNJK Zanjan 1.40 242 *e*Pg **Pn 15 27 41.4 -0.5**
ZNJK IAML 15 28 00.3
comp=E,10µm,0.3s
ZNJK IAML 15 28 01.1
comp=N,21µm,0.5s
MZPU Pul - Mazandar 1.41 129 Pg **Pn 15 27 41.4 -0.5**
GAS1 Astara - Iran 1.50 314 Pg **Pb 15 27 43.8 -0.4**
THKV Tehran--Karaj 1.52 159 *e*Pg **Pn 15 27 43.6 +0.1**
CHTH Charan 1.61 153 *e*Pg **Pn 15 27 44.7 0.0**
ASTR Astara 1.66 318 P **Pn 15 27 45.2 +0.1**
SNR=11
ASTR S **Sb 15 28 07.3 -0.2**
ASTR Astara 1.66 318 Pg **Pn 15 27 45.2 +0.1**
IMHD Mahdasht 1.70 168 Pg **Pn 15 27 45.9 +0.1**
LKRN Lenkeran, Azer 1.77 321 P **Pn 15 27 47.1 +0.4**
SNR=13
LKRN S **Sb 15 28 10.9 0.0**
TEHA Amirabad Tehra 1.85 149 Pg **Pb 15 27 49.3 -0.9**
TEH Tehran 1.86 149 Pg **Pb 15 27 49.2 -1.2**
TEH Tehran 1.86 149 P **Pb 15 27 49.2 -1.2**
IRAZ Razeghan 1.95 187 Pn **Pn 15 27 48.8 -0.6**
LRK Lerik 1.97 312 P **Pn 15 27 49.5 -0.1**
SNR=17
LRK S **Sb 15 28 16.1 -0.6**
IPRN Peran 2.03 122 Pn **Pn 15 27 50.4 +0.1**
ISRB Sarab 2.08 284 Pn **Pb 15 27 53.4 -0.8**
IHSB Hasanabad 2.09 156 Pn **Pn 15 27 51.6 +0.5**
YRD Yardimli 2.21 316 P **Pn 15 27 53.0 0.0**
SNR=163
YRD S **Sn 15 28 20.0 -0.2**
DAMV Damavand 2.22 140 *e*Pn **Pn 15 27 53.6 +0.5**
IDMV Damavand 2.29 140 Pn **Pn 15 27 54.8 +0.6**
GRMI Germi 2.34 309 *e*Pn **Pn 15 27 56.3 +1.6**
GRMI Germi 2.34 309 Pn **Pn 15 27 56.2 +1.5**
IHSH Hashtrud 2.35 270 Pn **Pn 15 27 56.3 +1.2**
GLBA Clilabad 2.38 323 P **Pn 15 27 55.4 +0.4**
SNR=29
GLBA S **Sn 15 28 24.4 +0.4**
IALA Alasht 2.44 120 Pn **Pn 15 27 55.7 -0.4**
IQOM Qom 2.59 164 Pn **Pn 15 27 57.9 -0.3**
IVRN Varamin 2.65 152 Pn **Pn 15 28 00.0 +1.3**
IFIR Firoozkooh 2.66 129 Pn **Pn 15 28 00.5 +1.3**
HAGD Aghdareh 2.67 199 Pn **Pn 15 27 59.1 -0.1**
IHRS Heris 2.69 292 Pn **Pn 15 28 01.6 +2.0**
ALIB Äli-Bayra 2.77 340 P **Pn 15 28 02.4 +1.9**
SNR=16
ALIB S **Sn 15 28 37.1 +3.3**
ASAO Ashtian 2.80 183 *e*Pn **Pn 15 28 00.9 -0.1**
SAAT Saatly 2.88 331 P **Pn 15 28 04.3 +2.4**
SAAT S **Sn 15 28 39.7 +3.5**
ILAS Lasjerd 2.96 131 Pn **Pn 15 28 04.2 +0.9**
GHVR GHOM 2.99 163 *e*Pn **Pn 15 28 04.0 +0.5**
GHVR IAML 15 29 02.8
comp=N,3µm,0.5s
GHVR IAML 15 29 05.1
comp=E,2µm,0.5s
IGLO Ghaloghah 3.02 105 Pn **Pn 15 28 04.6 +0.6**
QRD Qoradiz 3.10 314 P **Pn 15 28 06.0 +0.9**
QRD S **Sn 15 28 42.1 +0.2**
BLQ Beylaqan 3.16 319 P **Pn 15 28 06.8 +1.0**
SNR=6.6
BLQ S **Sn 15 28 44.2 +1.0**
SNGE Sanandaj 3.23 227 *e*Pn **Pn 15 28 07.0 0.0**
SNGE IAML 15 29 01.2
comp=N,1µm,0.6s
NDR Nardaran 3.24 357 P **Pn 15 28 09.6 +2.8**
SNR=9.8
NDR S **Sn 15 28 49.2 +4.1**
NDR Nardaran 3.24 357 Pn **Pn 15 28 09.6 +2.8**
GBS Qobustan 3.34 343 P **Pn 15 28 10.6 +2.3**
SNR=4.4
GBS S **Sn 15 28 50.6 +2.9**
ISFB Sefidab 3.41 151 Pn **Pn 15 28 10.0 +0.7**
KDMR Kurdemir 3.42 333 P **Pn 15 28 10.9 +1.6**
KDMR S **Sn 15 28 51.4 +1.8**
IBZA Bozab 3.45 214 Pn **Pn 15 28 10.7 +0.7**
IANJ Anjilo 3.52 121 Pn **Pn 15 28 11.7 +0.7**
ZRD Zardab 3.53 327 P **Pn 15 28 12.5 +1.6**
SNR=5.7
ZRD S **Sn 15 28 54.1 +1.6**
KHMZ Khomeyn 3.60 183 *e*Pn **Pn 15 28 12.9 +0.8**
ATGJ Altiaghaj 3.65 345 P **Pn 15 28 14.9 +2.3**
SNR=7.1
ATGJ S **Sn 15 28 57.0 +1.6**
PQL Pirkuli 3.66 340 P **Pn 15 28 14.3 +1.4**
SNR=24
PQL S **Sn 15 28 57.4 +1.4**
ORD Ordubad 3.69 297 P **Pn 15 28 13.1 0.0**
ORD S **Sn 15 28 55.4 -0.9**
QAMS Qamsar 3.73 165 Pn **Pn 15 28 14.1 +0.3**
BRDA Brd 3.76 322 P **Pn 15 28 15.2 +1.2**
BRDA S **Sn 15 28 58.0 +0.1**
IML Ismayilli 3.79 336 P **Pn 15 28 16.1 +1.6**
SNR=9.2
IML S **Sn 15 28 59.7 +0.8**
IKOM Komasi 3.85 216 Pn **Pn 15 28 16.7 +1.2**
SIZA Siyzn 3.86 345 P **Pn 15 28 17.3 +1.8**
SNR=26
SIZA S **Sn 15 29 04.9 +4.2**
KCHF Cheshme Sefid, 4.01 221 Pn **Pn 15 28 18.5 +0.9**
QBL Gabala 4.04 334 P **Pn 15 28 19.4 +1.5**
SNR=22
QBL S **Sn 15 29 05.2 0.0**
IDHR Dehrash 4.08 231 Pn **Pn 15 28 20.2 +1.6**
IMND Minoodasht 4.14 90 Pn **Pn 15 28 19.2 0.0**
XNQ Khinaliq 4.15 338 P **Pn 15 28 20.3 +0.7**
SNR=48
XNQ S **Sn 15 29 09.1 +1.2**
IKLH Kolahrood 4.17 164 Pn **Pn 15 28 20.2 +0.3**
MNGR Mingechevir, A 4.20 326 P **Pn 15 28 21.2 +1.1**
MNGR S **Sn 15 29 10.8 +1.9**
MNGR Mingechevir, A 4.20 326 P **Pn 15 28 21.2 +1.1**
QUBA Quba, Azerbaij 4.22 342 P **Pn 15 28 21.4 +0.9**
QUBA S **Sn 15 29 10.6 +1.1**
IGHG Ghaleghazi 4.22 226 Pn **Pn 15 28 22.0 +1.3**
IKFM Kafar-mosalman 4.28 208 Pn **Pn 15 28 22.5 +1.4**
QSAR Qusar 4.43 341 P **Pn 15 28 25.0 +1.7**
SNR=20
QSAR S **Sn 15 29 15.1 +0.4**
GANJ Ganja 4.48 319 P **Pn 15 28 24.5 +0.5**
GANJ S **Sn 15 29 14.0 -1.9**
GANJ Ganja 4.48 319 P **Pn 15 28 24.4 +0.5**
SEKA Sheki 4.51 330 P **Pn 15 28 25.4 +0.9**
SNR=22
SEKA S **Sn 15 29 16.5 -0.3**
SEKA Sheki 4.51 330 P **Pn 15 28 25.4 +0.9**
AKT Akhty 4.56 336 *i* P **Pn 15 28 27.9 +2.8**
MRVT Maraveh tapeh 4.68 84 *e*Pn **Pn 15 28 27.0 +0.3**
MRVT IAML 15 29 22.8
comp=N,412nm,0.6s
MRVT Maraveh tapeh 4.68 84 Pn **Pn 15 28 27.1 +0.3**
IPIR Pirpir 4.68 173 Pn **Pn 15 28 28.3 +1.3**
KGS1 Ghasr-e-Shirin 4.71 234 Pn **Pn 15 28 28.8 +1.7**
IZEF Zefreh 4.76 158 Pn **Pn 15 28 29.1 +1.0**
GDB GEDABAY 4.84 315 P **Pn 15 28 30.0 +1.0**
GDB S **Sn 15 29 23.3 -1.7**
SHRO Shahrood 4.85 104 *e*Pn **Pn 15 28 30.4 +1.3**
VSHL Vashlovani 4.88 324 P **Pn 15 28 32.5 +3.0**
VSHL S **Sn 15 29 21.4 -4.3**
ILBA Ilam Banvizeh 4.95 223 *e*Pn **Pn 15 28 30.8 +0.3**
ILBA Ilam Banvizeh 4.95 223 Pn **Pn 15 28 31.2 +0.7**
NASN Na'in 5.01 154 *e*Pn **Pn 15 28 32.1 +0.6**
ANAR Anarak 5.04 144 Pn **Pn 15 28 32.6 +0.8**
ZKTA Zakatala 5.11 328 P **Pn 15 28 33.9 +1.2**
SNR=14
ZKTA S **Sn 15 29 30.6 -0.8**
ZKTA Zakatala 5.11 328 P **Pn 15 28 33.8 +1.2**
GNI Garni 5.11 305 LR LR 15 31 01.5
comp=N,750nm,20.1s,baz=132,slow=44
JHBN Jahan bin 5.12 176 Pn **Pn 15 28 33.9 +0.9**
LGD Lagodekhi 5.43 327 P **Pn 15 28 39.3 +2.3**
LGD S **Sn 15 29 39.1 -0.2**
LGD Lagodekhi 5.43 327 P **Pn 15 28 39.3 +2.3**
LGD S **Sn 15 29 39.1 -0.2**
IBRJ Brojen 5.49 171 Pn **Pn 15 28 38.4 +0.3**
AMIS Naft Sefid 5.72 188 Pn **Pn 15 28 41.3 +0.3**

BJRD Bojnurd 5.73 84 *e*Pn **Pn 15 28 41.4 +0.2**
IRAM Ramesheh 5.80 161 Pn **Pn 15 28 42.9 +0.5**
MAK Makhachkala 5.98 341 *e*P **Pn 15 28 44.5 0.0**
MAK *e*S **Sn 15 29 53.4 +0.7**
MAK pmax pmax
comp=Z,603nm,1.3s
MAK MLR MLR
comp=Z,287nm,16.0s
SBZV Sabzevar 6.00 97 Pn **Pn 15 28 46.4 +1.3**
YZKH Yazd 6.11 143 *e*Pn **Pn 15 28 47.8 +1.4**
ISAD Sadrabad 6.13 151 Pn **Pn 15 28 48.0 +1.1**
BTLR Botlikh 6.13 331 *i* P **Pn 15 28 50.2 +3.5**
ICHK Chekchek 6.15 145 Pn **Pn 15 28 47.8 +0.7**
TNSJ Nastanj 6.20 121 Pn **Pn 15 28 48.9 +1.1**
ISFR Sfrayin 6.22 90 Pn **Pn 15 28 49.4 +1.3**
DBC Dubki 6.23 336 *i* P **Pn 15 28 50.8 +2.7**
GEYT Alibeck 6.30 82 Pn **Pn 15 28 48.8 -0.2**
GEYT Alibeck 6.30 82 Pn **Pn 15 28 49.3 +0.4**
comp=Z,13nm,0.3s,baz=264,slow=14,SNR=90
GEYT Sn **Sn 15 29 58.7 -2.0**
comp=Z,15nm,0.3s,baz=111,slow=8.4,SNR=7.7
GEYT LR LR 15 32 23.4
comp=Z,212nm,18.2s,baz=304,slow=48
comp=Z,45nm,0.6s
GYA0B ALIBECK ARRAY 6.30 82 Pn **Pn 15 28 49.0 0.0**
GYA0B ALIBECK ARRAY 6.30 82 ⇓Pn **Pn 15 28 48.6 -0.3**
GYA0B ⇑Sn **Sn 15 29 58.8 -1.9**
KLNJ Kolanjah 6.42 169 Pn **Pn 15 28 51.7 +0.7**
CHRG Chargali 6.43 322 P **Pn 15 28 53.2 +2.4**
CHRG S **Sn 15 30 03.5 -0.5**
SHTL Shatili 6.58 325 P **Pn 15 28 56.3 +3.5**
SHTL S **Sn 15 30 12.8 +5.1**
SHTL Shatili 6.58 325 P **Pn 15 28 56.3 +3.5**
SHTL S **Sn 15 30 12.7 +5.1**
IEMG Emamgholi 6.72 87 Pn **Pn 15 28 55.6 +0.7**
TABS Tabas 6.73 121 *e*Pn **Pn 15 28 56.2 +1.2**
TKDS Koohdasht(Taba 6.75 121 Pn **Pn 15 28 56.3 +1.1**
TPRV Parvadeh(Tabas 6.83 127 Pn **Pn 15 28 58.1 +1.8**
IAKL Akhelmad 6.88 94 Pn **Pn 15 28 58.2 +1.1**
IMEH Mehriz 6.96 147 Pn **Pn 15 28 58.8 +0.5**
IPAY Payeh 7.09 95 Pn **Pn 15 29 01.4 +1.4**
IBAF Bafgh 7.24 141 Pn **Pn 15 29 03.2 +1.1**
IMOG Moghan 7.43 97 Pn **Pn 15 29 06.3 +1.6**
IKRD Kardeh 7.46 92 Pn **Pn 15 29 06.9 +1.9**
IMYA Miami 7.99 94 Pn **Pn 15 29 14.4 +2.1**
AFRZ Afriz 8.18 116 Pn **Pn 15 29 16.5 +1.6**
ITEG Tejag 8.28 120 Pn **Pn 15 29 17.5 +1.2**
TBJM Torbat-e-JAM 8.42 101 Pn **Pn 15 29 19.7 +1.4**
KBZ Khabaz 8.46 321 Pn **Pn 15 29 21.5 +2.9**
comp=Z,0.7nm,0.5s,baz=108,slow=6.4,SNR=1.0
KBZ Sn **Sn 15 30 56.8 +2.9**
comp=Z,0.4nm,0.3s,baz=18,slow=20,SNR=1.3
IKOO Kooshah 8.73 122 Pn **Pn 15 29 23.6 +1.1**
KIV Kislovodsk 8.73 321 *e*P **Pn 15 29 21.1 -1.3**
KIV *e*S **Sn 15 31 00.5 -0.2**
KIV pmax pmax
comp=Z,8.0nm,0.9s
SHRT Shahrakht 9.01 111 Pn **Pn 15 29 27.0 +0.8**
BSRN Basiran 9.09 124 *e*Pn **Pn 15 29 28.7 +1.3**
BSRN Basiran 9.09 124 Pn **Pn 15 29 28.4 +1.1**
SOC Sochi 10.13 311 *e*P **Pn 15 29 41.1 -0.4**
SOC *e* 15 31 35.8
SOC MLR MLR
comp=Z,210nm,14.0s
MMAI Mount Meron Ar 12.86 255 LR LR 15 35 45.0
comp=Z,341nm,20.7s,baz=40,slow=40
BRTR Keskin Array B 13.20 285 Pn **Pn 15 30 26.3 +2.7**
comp=Z,2.0nm,1.0s,baz=81,slow=8.9,SNR=4.2
BRTR LR LR 15 36 22.1
comp=Z,532nm,19.0s,baz=102,slow=42
UOSS Minazif 13.38 156 Pn **Pn 15 30 22.5 -3.5**
AB31 Akbulak array 13.84 28 Pn **Pn 15 30 29.0 -3.0**
comp=Z,3.8nm,0.4s,baz=260,slow=38,SNR=50
AB31 ⇑Sn Sn 15 32 56.7 -8.7
comp=Z,7.3nm,0.5s,baz=199,slow=20,SNR=5.8
ABKAR Akbulak array 13.84 28 Pn 15 30 29.7 -2.3
AKTO Aktyubinsk 14.23 21 Pn **Pn 15 30 35.0 -2.4**
comp=Z,2.1nm,0.3s,baz=206,slow=10,SNR=27
AKTO Sn **Sn 15 33 06.6 -8.4**
comp=Z,2.0nm,0.3s,baz=203,slow=20,SNR=5.5
AKTO LR LR 15 38 32.3
comp=Z,398nm,19.1s,baz=254,slow=47
comp=Z,9.9nm,0.5s
AKTO Aktyubinsk 14.23 21 ⇓Pn **Pn 15 30 34.1 -3.4**
comp=Z,7.3nm,0.5s
AKTO ⇑Sn Sn 15 33 05.6 -9.4
comp=Z,14nm,0.8s
EIL Elat 14.85 243 Pn **Pn 15 30 44.4 -1.6**
comp=Z,0.2nm,0.3s,baz=45,slow=13,SNR=2.5
EIL LR LR 15 37 20.2
comp=Z,411nm,19.6s,baz=58,slow=41
comp=Z,2.4nm,0.8s
VRH Novokhopyorsk 15.11 339 *e*P **Pn 15 30 48.9 -0.5**
VRH pmax pmax
comp=Z,10.0nm,0.9s
KBL Kabul 15.50 95 Pn **Pn 15 30 54.6 -0.3**
KBL Kabul 15.50 95 P **Pn 15 30 54.6 -0.3**
KBL pmax pmax
comp=Z,39nm,2.0s
CHM Chimkent 15.69 66 *e*P **Pn 15 30 57.5 +0.4**
baz=65
CHM Chimkent 15.69 66 *e*P **Pn 15 30 57.5 +0.4**
WSAR Wadi Sarin 15.81 150 Pn **Pn 15 30 57.0 -1.7**
comp=Z,0.2nm,0.3s,baz=1.0,slow=12,SNR=1.3
comp=Z,4.4nm,0.8s
VSR Storozhevoye 15.94 334 *e*P **P 15 31 02.4 -1.3**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 16.30 335 *e*P **Pn 15 31 06.3 +1.4**
VORR pmax pmax
comp=Z,40nm,0.9s
BTK Batken 16.31 74 Pn **Pn 15 31 04.8 -0.3**
BTK Batken 16.31 74 P **Pn 15 31 04.8 -0.3**
BTK pmax pmax
comp=Z,44nm,1.1s
KK31 Karatay Array 16.52 63 **Pn 15 31 07.6 -0.1**
KK31 IAmb IAmb 15 31 10.1
comp=Z,52nm,0.9s
KK31 Karatay Array 16.52 63 P **Pn 15 31 07.6 -0.1**
KK31 Karatay Array 16.52 63 P **Pn 15 31 07.7 0.0**
comp=Z,56nm,1.0s,baz=266,slow=12,SNR=192
KKAR Karatay Array 16.52 63 **Pn 15 31 07.3 -0.4**
KKAR Karatay Array 16.52 63 P **Pn 15 31 07.3 -0.4**
DZA Taraz 17.06 64 *e*P **Pn 15 31 14.8 +0.3**
baz=64
DZA Taraz 17.06 64 *e*P **Pn 15 31 14.8 +0.3**
LPSR Galich'ya Gora 17.18 336 *e*P **Pn 15 31 13.9 -2.1**
LPSR pmax pmax
comp=Z,30nm,0.8s
ARK Arkit 17.33 68 P **Pn 15 31 17.3 -0.8**
OHH Osh 17.83 73 P **Pn 15 31 23.7 -0.5**
TPGR Topolog 18.03 301 ⇓P **P 15 31 28.5 +1.6**
HARR Harsova 18.31 301 ⇑P **P 15 31 32.5 +2.4**
HARR Harsova 18.31 301 ⇑P **P 15 31 32.5 +2.4**
CFR Carcaliu 18.32 302 ⇑P **P 15 31 32.5 +2.4**
CFR Carcaliu 18.32 302 ⇑P **P 15 31 32.5 +2.4**
EKS2 Erkin-Say 18.79 66 P **Pn 15 31 39.9 +3.9**
SNR=19
ARLS Aral 19.09 69 P **Pn 15 31 40.4 +0.7**
NIL Nilore 19.10 94 Pn **Pn 15 31 40.1 +0.4**
NIL Nilore 19.10 94 P **Pn 15 31 40.1 +0.4**
NIL pmax pmax
comp=Z,33nm,1.0s
UCH Uchtor 19.27 68 P **Pn 15 31 43.5 +1.3**
SNR=10
SORM Soroca 19.28 311 ⇑P **Pn 15 31 42.9 +1.3**
SORM Soroca 19.28 311 ⇑P **Pn 15 31 42.9 +1.3**
AAK Ala-Archa 19.31 67 **Pn 15 31 42.2 -0.1**
AAK Ala-Archa 19.31 67 P **Pn 15 31 42.2 -0.1**
AAK pmax pmax
comp=Z,16nm,0.9s
AAK Ala-Archa 19.31 67 P **Pn 15 31 42.9 +0.6**
comp=Z,0.6nm,0.3s,baz=247,slow=14,SNR=10
comp=Z,12nm,0.8s
ELND Elena 19.40 294 ⇑P **Pn 15 31 45.2 +2.0**
USP Ospenovka 19.41 65 P **Pn 15 31 43.4 +0.1**
SNR=14
BTLS Baital 19.46 59 *e*P **P 15 31 43.6 +0.8**
baz=59
BTLS Baital 19.46 59 *e*P **P 15 31 43.5 +0.8**
VRI Vrincioaia 19.47 303 ⇓P **Pn 15 31 45.2 +1.3**
VRI Vrincioaia 19.47 303 ⇓P **Pn 15 31 45.2 +1.3**
OTUK Ortayu 19.48 49 P **Pn 15 31 43.8 -0.3**
OTUK Ortayu 19.48 49 ⇑P **Pn 15 31 43.9 -0.3**

comp=Z,35nm,0.7s
PLOR Plostina 19.51 303 ⇑P **Pn 15 31 45.8 +1.2**
PLOR Plostina 19.51 303 ⇑P **Pn 15 31 45.8 +1.2**
SGDS Sogindy 19.53 64 *e*P **P 15 31 44.4 +0.9**
baz=64
SGDS Sogindy 19.53 64 *e*P **P 15 31 44.4 +0.9**
CHMS Chumysh 19.55 66 P **Pn 15 31 45.8 +0.8**
SNR=5.9
KBK Karagaybulak 19.64 67 P **Pn 15 31 46.8 +0.5**
SNR=5.8
TESR Tescani 19.72 305 ⇑P **Pn 15 31 48.5 +1.5**
MLR Muntele Rosu 19.89 302 P **P 15 31 46.8 -0.6**
comp=Z,0.4nm,0.3s,baz=93,slow=11,SNR=2.0
comp=Z,1.8nm,0.4s
ARU Arti 19.90 14 P **P 15 31 47.7 +0.4**
ARU IAmb IAmb 15 31 49.6
comp=Z,32nm,0.6s
ARU Arti 19.90 14*c* *i*P **P 15 31 47.5 +0.2**
ARU S **S 15 35 31.6 +0.9**
ARU pmax pmax
comp=Z,43nm,0.9s
ARU MLR MLR
comp=Z,479nm,17.0s
ARU Arti 19.90 14 P **P 15 31 47.7 +0.4**
comp=Z,28nm,0.5s,baz=206,slow=7.3,SNR=51
ARU S S 15 35 19.9 -11
comp=Z,2.7nm,0.5s,baz=354,slow=19,SNR=1.5
comp=Z,28nm,0.5s
OBN Obninsk 20.06 337 ⇓*i*P **P 15 31 49.3 +0.3**
OBN *e**PP **sP 15 31 57.3 +2.5**
OBN 15 32 12.0
OBN *e*S **S 15 35 33.0 -0.9**
OBN SSS SSS 15 36 11.0
OBN pmax pmax
comp=Z,19nm,0.8s
OBN MLR MLR
comp=Z,64nm,15.0s
AKASG Malin Array Be 20.06 318 P **P 15 31 48.4 -0.8**
AKASG Malin Array Be 20.06 318 *e*P **P 15 31 49.3 +0.2**
AKASG pmax pmax
comp=Z,9.0nm,0.7s
AKASG Malin Array Be 20.06 318 P **P 15 31 49.1 0.0**
comp=Z,9.0nm,0.7s,baz=125,slow=11,SNR=29
AKASG S **S 15 35 28.8 -5.2**
comp=Z,0.1nm,0.3s,baz=213,slow=34,SNR=1.5
comp=Z,9.0nm,0.7s
AKBB Malin Array Si 20.06 318 **P 15 31 48.5 -0.6**
AKBB Malin Array Si 20.06 318⇑ *e*P **P 15 31 49.6 +0.5**
AKBB pmax pmax
comp=Z,21nm,1.0s
KIEV Kiev 20.07 318 ⇑P **P 15 31 49.5 +0.3**
KIEV Kiev 20.07 318 P **P 15 31 48.6 -0.5**
KIEV Kiev 20.07 318 P **P 15 31 48.7 -0.5**
KIEV pmax pmax
comp=Z,20nm,1.1s
KSH Kashi 20.27 76 P **P 15 31 50.6 -1.1**
KSH sP sP 15 31 58.2 +0.6
KSH pmax pmax
comp=Z,28nm,0.8s
KSH LR LR
comp=N,420nm,12.9s
KSH LR LR
comp=E,580nm,13.7s
KSH LR LR
comp=Z,810nm,14.3s
MOS Moscow 20.27 339 *e*P **P 15 31 47.6 -3.8**
NRN Naryn 20.31 70 Pn **Pn 15 31 53.9 -0.5**
NRN Naryn 20.31 70 P **Pn 15 31 53.9 -0.5**
NRN pmax pmax
comp=Z,16nm,0.8s
BOOM Boomskoye usch 20.35 67 P **P 15 31 52.6 0.0**
BOOM Boomskoye usch 20.35 67 P **P 15 31 52.6 0.0**
BOOM pmax pmax
comp=Z,22nm,0.8s
DOPR Dopca 20.39 303 ⇑P **Pn 15 31 54.7 -0.2**
VOIR 20.48 301 ⇑P **Pn 15 31 56.4 +0.4**
VOIR 20.48 301 ⇑P **Pn 15 31 56.4 +0.4**
BRZS Berezniki 20.48 45 ⇓*i*P **Pn 15 31 55.3 -0.7**
comp=Z,20nm,0.8s,baz=45
BRZS Berezniki 20.48 45*d* *i*P **Pn 15 31 55.2 -0.8**
BRZS pmax pmax
comp=Z,20nm,0.8s
SVE Sverdlovsk 20.70 16 *e*P **Pn 15 31 58.1 -0.2**
SVE *e*S **S 15 35 42.1 -4.4**
SVE pmax pmax
comp=Z,39nm,1.4s
KUU Kurty 20.83 64 ⇓*i*P **Pn 15 31 59.1 -0.9**
baz=63
KUU Kurty 20.83 64*d* *i*P **Pn 15 31 59.1 -1.0**
BURAR Bucovina Array 21.02 307 ⇑P **P 15 32 01.2 +1.5**
BURAR Bucovina Array 21.02 307 **P 15 32 00.6 +1.0**
BURAR Bucovina Array 21.02 307 ⇑P **P 15 32 01.2 +1.5**
BRVK Borovoye 21.02 35 **P 15 32 01.0 +1.4**
BRVK Borovoye 21.02 35 *i* P **P 15 32 01.3 +1.7**
BRVK pmax pmax
comp=Z,92nm,1.0s
BUR08 Bucovina Ar. S 21.04 307 **P 15 31 59.1 -0.8**
BVA0 Borovoye Array 21.05 35 *i* P **P 15 32 01.1 +1.3**
BVA0 Borovoye Array 21.05 35 ⇑P **P 15 32 01.2 +1.3**
comp=Z,70nm,0.8s,baz=227,slow=10.0,SNR=8.1
BVAR Borovoye Array 21.05 35 P **P 15 32 01.7 +1.8**
comp=Z,55nm,0.6s,baz=238,slow=9.1,SNR=166
BVAR S **S 15 35 44.9 -8.8**
comp=Z,1.3nm,0.7s,baz=237,slow=20,SNR=2.2
comp=Z,55nm,0.6s
TNSS Tian-Shan 21.15 66 ⇓*i*P **P 15 32 03.2 +1.7**
baz=66
TNSS Tian-Shan 21.15 66 ⇓*i*P **P 15 32 03.1 +1.7**
MDOK Medeo 21.24 66 *i* P **P 15 32 03.9 +1.7**
baz=66
MDOK Medeo 21.24 66 *i* P **P 15 32 03.8 +1.7**
MDOK Medeo 21.24 66 P **P 15 32 04.1 +1.9**
comp=Z,40nm,0.9s
KIRV Kirov 21.26 359 *i* P **P 15 32 02.7 +0.7**
KIRV Kirov 21.26 359 P **P 15 32 03.8 +1.8**
comp=Z,137nm,0.5s,baz=318,slow=1.1,SNR=24
CHKK Chushkaly 21.29 64 *e*P **P 15 32 04.0 +1.4**
baz=64
CHKK Chushkaly 21.29 64 *e*P **P 15 32 03.9 +1.4**
GZR Gura Zlata 22.03 300 ⇑P **P 15 32 12.0 +1.5**
GZR Gura Zlata 22.03 300 ⇑P **P 15 32 12.0 +1.5**
SATY Saty 22.22 66 *e*P **P 15 32 14.3 +1.7**
comp=Z,15nm,0.9s,baz=66
SATY Saty 22.22 66 *e*P **P 15 32 14.3 +1.7**
SATY pmax pmax
comp=Z,15nm,0.9s
ZHN Zhinishke 22.25 66 *e*P **P 15 32 14.3 +1.4**
baz=66
ZHN Zhinishke 22.25 66 *e*P **P 15 32 14.3 +1.4**
KPKS Kokpek 22.46 65 *e*P **P 15 32 16.3 +1.1**
baz=65
KPKS Kokpek 22.46 65 *e*P **P 15 32 16.3 +1.1**
TDK Taldyqorghan 22.48 61 *e*P **P 15 32 16.1 +0.8**
baz=61
TDK Taldyqorghan 22.48 61 *e*P **P 15 32 16.0 +0.8**
LVV L'vov 22.57 312 *e*P **P 15 32 17.5 +1.3**
UZB Uzynbulak 22.67 66 *e*P **P 15 32 18.8 +1.2**
baz=66
UZB Uzynbulak 22.67 66 *e*P **P 15 32 18.7 +1.2**
MNK Minsk 22.98 325 *i* P **P 15 32 18.8 -1.6**
comp=E,13nm,0.8s
MNK *i* P **P 15 32 18.8 -1.6**
comp=N,15nm,0.8s
MNK *i* P **P 15 32 18.8 -1.6**
comp=Z,16nm,0.9s,baz=129
MNK *i* PP **PnPn 15 32 43.9 -1.3**
MNK *i* S **S 15 36 29.6 -0.7**
MNK *i* LR LR 15 40 46.2
MNK *i* LRM MLR 15 42 31.3
comp=Z,22nm,15.9s
MNK *i* LRM MLR 15 43 31.2
comp=E,44nm,16.2s
MNK *i* LRM MLR 15 43 49.1
comp=N,163nm,16.3s
MNK Minsk 22.98 325 *i* P **P 15 32 18.8 -1.6**
MNK *i* 15 32 43.9
MNK *i* 15 36 07.5
MNK *i* S **S 15 36 29.5 -0.7**
MNK pmax pmax
comp=Z,16nm,0.9s
MNK pmax pmax
comp=N,15nm,0.8s
MNK pmax pmax
comp=E,13nm,0.8s
MNK MLR MLR

comp=Z,22nm,16.0s
MNK MLR MLR
comp=E,44nm,16.0s
MNK MLR MLR
comp=N,163nm,16.0s
SHLS Shalkode 23.00 66 *e*P **P 15 32 24.8 +3.9**
comp=N,14nm,1.2s,baz=66
SHLS Shalkode 23.00 66 *e*P **P 15 32 24.7 +3.9**
SHLS pmax pmax
comp=Z,14nm,1.2s
NACGM Naroch 23.73 325 *e*P **P 15 32 28.1 +0.1**
comp=Z,46nm,0.8s,baz=128
CRVS Cervenica-Dubn 23.81 308 *e*P **P 15 32 30.7 +1.9**
CRVS Cervenica-Dubn 23.81 308 *e*P **P 15 32 30.7 +1.9**
KURBB Kurchatov Arra 24.14 48 P **P 15 32 34.3 +2.5**
comp=Z,35nm,0.9s,baz=252,slow=9.7,SNR=76
comp=Z,35nm,0.9s
KURBB Kurchatov Arra 24.14 48 ⇑P **P 15 32 33.8 +2.0**
comp=Z,55nm,1.4s
KURK Kurchatov 24.23 47 P **P 15 32 34.7 +2.0**
KURK Kurchatov 24.23 47⇓*i*P **P 15 32 35.2 +2.6**
KURK pmax pmax
comp=Z,79nm,0.9s
PRGR Permogore 24.48 355 *e*P **P 15 32 34.8 0.0**
PRGR *e*S **S 15 36 57.6 +3.2**
PRGR pmax pmax
comp=Z,37nm,0.6s
KLMR Klimovskoe 24.48 347 *e*P **P 15 32 33.3 -1.6**
KLMR *e*P **P 15 32 33.3 -1.6**
KLMR *e*P **P 15 32 33.3 -1.6**
KLMR AMP 15 32 42.8
comp=Z,24nm,0.8s
KLMR *e*PP **PnPn 15 33 05.2 -0.5**
KLMR S **S 15 36 53.1 -1.4**
KLMR S **S 15 36 53.1 -1.4**
KLMR Klimovskoe 24.48 347 *e*P **P 15 32 33.2 -1.6**
KLMR *e* 15 33 05.1
KLMR S **S 15 36 53.0 -1.4**
KLMR pmax pmax
comp=Z,24nm,0.8s
SCTE Santa Cesarea 24.86 286 P **P 15 32 38.6 +0.1**
MORH Mrgy, Hungar 25.02 301 ⇓P **P 15 32 42.5 +2.7**
MAKZ Makanchi 25.25 58 P **P 15 32 42.8 +0.8**
MAKZ Makanchi 25.25 58 P **P 15 32 42.8 +0.8**
MAKZ pmax pmax
comp=Z,42nm,1.0s
MAKZ Makanchi 25.25 58 ⇓P **P 15 32 44.1 +2.1**
comp=Z,48nm,1.1s
OJC Ojcow 25.26 310 P **P 15 32 41.3 -0.7**
OJC Ojcow 25.26 310 P **P 15 32 41.3 -0.7**
OJC pmax pmax
comp=Z,11nm,0.9s
VYHS Vyhne 25.36 306 *e*P **P 15 32 44.7 +1.7**
VYHS Vyhne 25.36 306 *e*P **P 15 32 44.7 +1.7**
MK31 Makanchi Array 25.46 58 P **P 15 32 45.3 +1.4**
MK31 IAmb IAmb 15 32 49.1
comp=Z,24nm,0.9s
MK31 Makanchi Array 25.46 58 P **P 15 32 45.3 +1.4**
MK31 pmax pmax
comp=Z,24nm,1.0s
MK31 Makanchi Array 25.46 58 P **P 15 32 46.0 +2.1**
comp=Z,33nm,0.9s,baz=251,slow=7.4,SNR=69
MKAR Makanchi Array 25.46 58 P **P 15 32 45.2 +1.3**
MKAR Makanchi Array 25.46 58 P **P 15 32 46.0 +2.1**
comp=Z,23nm,0.9s,baz=251,slow=8.0,SNR=48
comp=Z,23nm,0.9s
ATD Arta Tunnel 26.55 196 LR LR 15 44 10.1
comp=Z,13nm,20.3s,baz=29,slow=39
ZSN Zaisan 27.30 57 *e*P **P 15 33 01.3 +0.7**
baz=57
ZSN Zaisan 27.30 57 *e*P **P 15 33 01.2 +0.7**
FINES FINESS Array B 28.45 336 *e*P **P 15 33 12.4 +1.8**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 28.45 336 P **P 15 33 11.8 +1.2**
comp=Z,3.0nm,0.6s,baz=138,slow=9.5,SNR=17
comp=Z,3.0nm,0.6s
GERES GERESS Array B 28.77 305 *e*P **P 15 33 14.6 +0.9**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 28.77 305 P **P 15 33 13.5 -0.2**
comp=Z,1.0nm,0.6s,baz=64,slow=9.1,SNR=4.6
comp=Z,1.0nm,0.6s
PYUN Piuthan 28.95 99 *e*P **P 15 33 16.5 +0.8**
comp=Z,19nm,1.0s
ZALV Zalesovo Beam 28.96 44 P **P 15 33 15.4 +0.2**
ZALV Zalesovo Beam 28.96 44 P **P 15 33 16.6 +1.4**
comp=Z,5.9nm,0.7s,baz=255,slow=9.4,SNR=22
comp=Z,5.9nm,0.7s
WMQ Urumqi 29.01 65 *e*P **P 15 33 17.7 +1.8**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
LESA Schwarzleotal 29.25 302 *e*pP pP 15 33 21.0 -1.4
comp=Z,3.3nm,1.0s
DGZ Jazzator, Alta 29.37 53 *i* P **P 15 33 21.2 +2.1**
DGZ pmax pmax
comp=Z,9.0nm,0.8s
DANN Dangsing 29.45 98 *e*P **P 15 33 21.5 +1.3**
comp=Z,77nm,0.8s
KOLN Koldanda 29.58 99 *e*P **P 15 33 22.4 +1.1**
comp=Z,63nm,1.2s
CLL Collm 29.70 310 *i* P **P 15 33 23.0 +1.2**
comp=Z,7.0nm,0.6s
CLL *i* x x 15 33 28.8
CLL Collm 29.70 310 *i* P **P 15 33 23.0 +1.2**
CLL *i* 15 33 28.8
CLL pmax pmax
comp=Z,7.0nm,0.6s
WTTA Wattenberg 29.93 302 *i* pP **P 15 33 26.1 +1.9**
comp=Z,8.7nm,1.2s
WATA Walderalm 29.98 302 *e*pP **P 15 33 25.3 +0.8**
comp=Z,5.6nm,0.9s
SQTA Sankt Quirin 30.22 302 *e*pP pP 15 33 31.1 +0.1
comp=Z,7.2nm,1.4s
GKN Gorkha 30.30 98 *e*P **P 15 33 28.5 +1.0**
comp=Z,55nm,1.0s
MOTA Moosalm 30.30 302 *i* pP **P 15 33 28.5 +1.1**
comp=Z,2.3nm,0.7s
FETA Feichten 30.53 301 *i* pP **P 15 33 31.4 +2.0**
comp=Z,6.9nm,1.0s
RETA Reutte 30.55 302 *e*pP **P 15 33 30.7 +1.2**
comp=Z,4.3nm,1.1s
DMN Daman 30.84 98 *e*P **P 15 33 33.9 +1.4**
comp=Z,69nm,0.9s
KKN Kakani 30.90 98 *e*P **P 15 33 34.1 +1.2**
comp=Z,141nm,2.6s
PKIN Phulchoki 31.09 98 *e*P **P 15 33 35.8 +1.2**
comp=Z,49nm,1.1s
PKI Pulchoki 31.10 98 *e*P **P 15 33 35.8 +1.0**
comp=Z,49nm,1.1s
DAVA Damuels 31.13 302 *i* pP **P 15 33 35.8 +1.2**
comp=Z,4.7nm,0.7s
GUN Gumba 31.32 97 *e*P **P 15 33 37.9 +1.1**
comp=Z,56nm,0.9s
JIRN Jiri 31.68 97 *e*P **P 15 33 41.3 +1.3**
comp=Z,53nm,1.1s
RAMN Ramite 32.33 98 *e*P **P 15 33 46.9 +1.4**
comp=Z,78nm,0.7s
ODAN Odare 32.99 98 *e*P **P 15 33 52.9 +1.6**
comp=Z,219nm,1.1s
TAPN Taplejung 33.02 97 *e*P **P 15 33 52.9 +1.2**
comp=Z,34nm,1.0s
BNI Bardonecchia 33.32 297 P **P 15 33 53.1 -0.8**
BNI IAmb IAmb 15 34 23.8
comp=Z,12nm,1.1s
BNI Bardonecchia 33.32 297 P **P 15 33 53.1 -0.8**
BNI pmax pmax
comp=Z,12nm,1.2s
NB2 NORSAR Subarra 33.99 327 P **P 15 34 00.1 +0.6**
comp=Z,3.3nm,0.7s,baz=116,slow=8.6
NOA NORSAR Array B 33.99 327 P **P 15 33 59.4 -0.1**
comp=Z,0.6nm,0.5s,baz=118,slow=8.1,SNR=3.5
comp=Z,0.6nm,0.5s
ARCES ARCESS Array B 34.91 345 *e*P **P 15 34 08.9 +1.7**
ARCES pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 34.91 345 P **P 15 34 08.1 +0.9**
comp=Z,1.1nm,0.5s,baz=148,slow=9.3,SNR=14
comp=Z,1.1nm,0.5s
GOMU GeErMu 35.49 78 P **P 15 34 16.1 +3.0**
GOMU pmax pmax
comp=Z,4.0nm,0.7s
SHL Shillong 37.16 96 P **P 15 34 26.3 -0.9**
SHL Shillong 37.16 96 P **P 15 34 26.3 -0.9**
SHL pmax pmax
comp=Z,25nm,0.7s

GTA Gaotai 38.54 71 *e*P **P 15 34 40.9 +2.2**
GTA sP sP 15 34 49.3 +4.4
GTA pmax pmax
comp=Z,5.0nm,1.2s
ZAK Zakamensk 39.59 53 *e*P **P 15 34 48.2 +0.9**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
EKA Eskdalemuir Ar 39.88 314 P **P 15 34 50.0 +0.5**
EKA Eskdalemuir Ar 39.88 314 P **P 15 34 50.0 +0.5**
comp=Z,1.3nm,0.5s,baz=102,slow=8.8,SNR=4.6
comp=Z,1.3nm,0.5s
KMBO Kilima Mbogo 40.12 200 LR LR 15 51 51.0
comp=Z,152nm,21.3s,baz=69,slow=37
SONM Songino Array 41.82 57 P **P 15 35 06.5 +0.7**
comp=Z,1.9nm,0.9s,baz=282,slow=11,SNR=8.7
SONM PcP **PcP 15 37 01.8 +0.1**
comp=Z,0.8nm,0.7s,baz=230,slow=4.2,SNR=4.0
comp=Z,1.9nm,0.9s
ESDC Sonseca Array 41.92 290 P **P 15 35 04.8 -1.9**
comp=Z,0.8nm,0.8s,baz=62,slow=8.4,SNR=4.8
comp=Z,0.8nm,0.8s
ULN Ulaanbaatar 42.26 57 P **P 15 35 09.8 +0.4**
ULN IAmb IAmb 15 35 13.2
comp=Z,15nm,1.1s
ULN Ulaanbaatar 42.26 57 *i* P **P 15 35 11.3 +1.9**
ULN pmax pmax
comp=Z,17nm,1.1s
LZH Lanzhou 42.52 75 *e*P **P 15 35 13.7 +2.0**
LZH pmax pmax
comp=Z,10.0nm,1.4s
SPITS Spitsbergen Ar 43.32 350 P **P 15 35 18.9 +1.5**
comp=Z,11nm,0.5s,baz=130,slow=9.9,SNR=26
comp=Z,11nm,0.5s
CD2 Chengdu 44.29 82 P **P 15 35 25.1 -0.8**
PZH PanZhiHua 44.57 89 P **P 15 35 29.4 +1.2**
PZH pmax pmax
comp=Z,10.0nm,1.0s
BTO Baotou 45.83 67 *e*P **P 15 35 35.8 -2.3**
BTO pP **pP 15 35 40.8 -1.7**
BTO sP **sP 15 35 43.6 -0.7**
BTO PP **PP 15 37 22.2 -3.1**
BTO S **S 15 42 19.1 -2.5**
BTO SS **ScS 15 45 27.8 -6.0**
BTO pmax pmax
comp=Z,10.0nm,0.8s
BTO pmax pmax
comp=Z,660nm,4.9s
BTO LR LR
comp=N,330nm,11.0s
BTO LR LR
comp=E,350nm,5.3s
BTO LR LR
comp=Z,340nm,10.0s
KMI Kunming 46.00 90 ⇑P **P 15 35 41.1 +1.3**
KMI pmax pmax
comp=Z,23nm,0.9s
CHTO Chiang Mai 46.24 100 P **P 15 35 40.8 -0.7**
CHTO IAmb IAmb 15 35 42.6
comp=Z,11nm,0.7s
CHTO Chiang Mai 46.24 100 P **P 15 35 40.8 -0.7**
CHTO pmax pmax
comp=Z,11nm,0.7s
CMAR Chiang Mai Arr 46.44 100 P **P 15 35 42.5 -0.5**
CMAR Chiang Mai Arr 46.44 100 *e*P **P 15 35 43.3 +0.3**
CMAR pmax pmax
comp=Z,13nm,0.9s
CMAR Chiang Mai Arr 46.44 100 P **P 15 35 43.4 +0.3**
comp=Z,12nm,0.9s,baz=299,slow=8.3,SNR=59
comp=Z,12nm,0.9s
HHC Hu-ho-hao-te 46.88 66 *e*P **P 15 35 48.7 +2.3**
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,470nm,6.7s
XAN Xi'an 47.13 76 ⇑P **P 15 35 49.7 +1.4**
XAN pmax pmax
comp=Z,15nm,1.2s
GYA Guiyang 48.51 86 ⇓P **P 15 35 59.3 +0.2**
GYA pmax pmax
comp=Z,12nm,0.8s
TOA0 Torodi Ar. Sit 49.41 254 P **P 15 36 03.9 -2.1**
TOA0 IAmb IAmb 15 36 06.0
comp=Z,13nm,1.6s
TORD Torodi Ar. Bea 49.41 254 P **P 15 36 03.8 -2.2**
TORD Torodi Ar. Bea 49.41 254 P **P 15 36 04.2 -1.8**
comp=Z,1.9nm,0.9s,baz=33,slow=8.3,SNR=8.5
TORD LR LR 16 01 43.6
comp=Z,42nm,18.8s,baz=30,slow=42
comp=Z,1.9nm,0.9s
NOR Nord 49.95 350 P **P 15 36 10.7 +1.4**
TIXI Tiksi 51.49 23 *i* P **P 15 36 22.5 +1.5**
TIXI Tiksi 51.49 23 LR LR 16 02 20.5
comp=Z,5.2nm,18.9s,baz=354,slow=41
YAK Yakutsk 53.03 35 *i* P **P 15 36 33.1 +0.5**
YAK pmax pmax
comp=Z,3.0nm,0.4s
HEH HeiHe 54.79 50 *e*P **P 15 36 47.6 +2.0**
HEH pmax pmax
comp=Z,12nm,1.0s
HEH pmax pmax
comp=Z,420nm,8.6s
NJ2 Nanjing 55.56 74 *e*P **P 15 36 50.1 -1.4**
NJ2 pP **pP 15 36 53.2 -2.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
MDJ Mudanjiang 58.15 56 P P 15 37 04.6 -5.0
MDJ pmax pmax
comp=Z,16nm,2.0s
MDJ pmax pmax
comp=Z,350nm,7.9s
USRK Ussuriysk Ar. 59.89 55 P **P 15 37 22.1 +0.4**
comp=Z,2.9nm,0.7s,baz=250,slow=3.9,SNR=4.4
comp=Z,2.9nm,0.7s
KSRS Korea Array 59.95 64 *e*P **P 15 37 22.8 +0.6**
KSRS pmax pmax
comp=Z,4.0nm,0.8s
KSRS Korea Array 59.95 64 P **P 15 37 21.5 -0.7**
comp=Z,3.8nm,0.8s,baz=295,slow=7.4,SNR=6.5
KSRS LR LR 16 09 11.2
comp=Z,31nm,18.2s,baz=155,slow=42
comp=Z,3.8nm,0.8s
EUNU Eureka 60.39 352 P **P 15 37 26.2 +1.5**
SEY Seymchan 62.59 30 LR LR 16 11 03.9
comp=Z,67nm,18.3s,baz=30,slow=42
MA2 Magadan 63.53 34 *i* P **P 15 37 47.6 +1.6**
MA2 pmax pmax
comp=Z,27nm,1.4s
MA2 Magadan 63.53 34 LR LR 16 08 10.7
comp=Z,59nm,18.6s,baz=287,slow=38
BILL Bilibino 64.66 22 *i* P **P 15 37 54.2 +0.9**
ASAJ Asahikawa 66.72 52 LR LR 16 09 49.6
comp=Z,40nm,19.2s,baz=218,slow=38
A36M Sachs Harbour 70.92 359 **P 15 38 33.6 +1.0**
A36M IAmb IAmb 15 38 35.0
comp=Z,9.4nm,0.8s
D22K Ayikyak River 72.73 8 IAmb IAmb 15 38 46.9
comp=Z,6.0nm,0.8s
D25K Kavik River 72.94 6 IAmb IAmb 15 38 48.0
comp=Z,5.8nm,0.9s
E22K Anaktuvuk Pass 73.54 8 P **P 15 38 49.8 +1.4**
E22K IAmb IAmb 15 39 01.1
comp=Z,6.0nm,0.9s
E24K Your Creek 73.96 7 IAmb IAmb 15 38 54.2
comp=Z,11nm,1.2s
F19K Shaleruckik Mo 73.96 11 IAmb IAmb 15 38 53.6
comp=Z,12nm,1.2s
E28M Babbage River 74.11 4 IAmb IAmb 15 39 19.9
comp=Z,17nm,2.0s
E25K Arctic Village 74.18 6 IAmb IAmb 15 38 55.0
comp=Z,12nm,1.2s
F21K Alatna River 74.20 9 IAmb IAmb 15 38 55.9
comp=Z,9.3nm,0.8s
E29M Blow River 74.41 3 IAmb IAmb 15 38 56.3
comp=Z,15nm,1.4s
E27K Coleen River 74.41 5 IAmb IAmb 15 38 56.7
comp=Z,9.3nm,1.1s
F24K Squaw Lake 74.56 7 IAmb IAmb 15 39 29.4
comp=Z,23nm,1.9s
G21K Allakaket 74.87 10 IAmb IAmb 15 38 58.8
comp=Z,12nm,1.1s
H19K Roundabout Mou 75.38 11 IAmb IAmb 15 39 02.0
comp=Z,12nm,1.2s
G24K Hadweenzic Riv 75.39 7 IAmb IAmb 15 39 10.7
comp=Z,7.1nm,0.9s
H21K Melozitna Rive 75.78 10 IAmb IAmb 15 39 04.6
comp=Z,7.9nm,0.9s
MLY Manley 76.64 9 IAmb IAmb 15 39 09.6

comp=Z,8.1nm,1.0s
POKR Poker Plat Res 76.94 8 IAmb IAmb 15 39 11.5
comp=Z,10nm,1.0s
J20K Nowinta River 76.99 11 IAmb IAmb 15 39 11.0
comp=Z,5.1nm,0.8s
MDM Murphy Dome 77.01 8 IAmb IAmb 15 39 12.1
comp=Z,15nm,1.3s
I28M Miner Creek 77.23 4 IAmb IAmb 15 39 20.6
comp=Z,7.1nm,1.1s
ILAR Eielson Array 77.33 7 P **P 15 39 11.3 +1.1**
comp=Z,2.0nm,0.9s,baz=331,slow=4.5,SNR=16
comp=Z,2.0nm,0.9s
J25K Salcha River, 77.64 7 IAmb IAmb 15 39 14.7
comp=Z,13nm,1.4s
EGAK Eagle 77.82 5 IAmb IAmb 15 39 15.6
comp=Z,12nm,1.1s
CAST Castle Rocks 78.01 10 P **P 15 39 14.8 +0.7**
CAST IAmb IAmb 15 39 16.9
comp=Z,11nm,1.0s
J30M Hart River 78.28 3 IAmb IAmb 15 39 18.8
comp=Z,11nm,1.3s
SCRK Sand Creek 78.39 6 P **P 15 39 17.3 +1.0**
L27K Beaver Creek, 79.47 6 IAmb IAmb 15 39 34.6
comp=Z,15nm,1.4s
YKA Yellowknife Ar 79.75 353 *e*P **P 15 39 24.6 +1.0**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 79.75 353 P **P 15 39 24.1 +0.5**
comp=Z,1.1nm,0.6s,baz=5.9,slow=5.2,SNR=21
comp=Z,1.1nm,0.6s
SJG San Juan 98.63 300 LR LR 16 23 46.8
comp=Z,26nm,22.0s,baz=238,slow=34

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*WEL **05** 15:39:11.4±0.5, 43°S±2°×17°3E±°, h7km±3km, M3.4/12, ML3.6/12, MLv3.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=104.1, confirmed*
*NOU **05** 15:39:11.6, 43.51S×173.00E, h24km, MLv3.6/8, South Island, New Zealand*
ISC 05 15:39:10.9±0.9, **43.47S**±0.02×**172.87E**±0.03, **h10**km±6km, **n88, σ0.96**/101, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBLC	**New Brighton L**	**0.11**	**250**	P	**Pg**	**15 39 13.4**	**-0.3**
NNBS	**New Brighton**	**0.12**	**257**	P	**Pg**	**15 39 13.0**	**-0.7**
SUMS	**Sumner**	**0.13**	**220**	P	**Pg**	**15 39 14.9**	**+1.0**
PARS	**Panorama Road**	**0.13**	**222**	P	**Pg**	**15 39 13.7**	**-0.3**
PARS				S	**Sg**	**15 39 16.2**	**+0.1**
RCBS	**Redcliffs Bore**	**0.13**	**229**	P	**Pg**	**15 39 15.0**	**+1.0**
PRPC	**Pages Road Pum**	**0.15**	**248**	P	**Pg**	**15 39 13.8**	**-0.5**
DALS	**Dallington**	**0.15**	**254**	P	**Pg**	**15 39 13.7**	**-0.5**
DALS				S	**Sg**	**15 39 16.8**	**+0.2**
MQZ	**McQueen's Vall**	**0.28**	**214**	P	**Pg**	**15 39 17.6**	**+0.9**
MQZ				S	**Sg**	**15 39 21.6**	**+1.1**
OKCZ	**Okains Bay**	**0.29**	**152**	P	**Pb**	**15 39 18.6**	**+0.5**
AMBC	**Amberley HDC**	**0.33**	**342**	P	**Pg**	**15 39 17.3**	**-0.2**
AMCZ	**Amberley**	**0.34**	**331**	P	**Pg**	**15 39 18.3**	**+0.8**
AMCZ				S	**Sg**	**15 39 22.7**	**+0.6**
AKSS	**Akaroa School**	**0.35**	**169**	S	**Sb**	**15 39 24.9**	**+0.2**
AKCZ	**Akaroa Harbour**	**0.40**	**176**	P	**Pb**	**15 39 20.5**	**+0.3**
AKCZ				S	**Sb**	**15 39 26.4**	**+0.1**
SMHS	**Summerhill**	**0.44**	**298**	P	**Pg**	**15 39 20.0**	**+0.5**
SMHS				S	**Sg**	**15 39 26.4**	**+1.0**
GVZ	**Greta Valley S**	**0.52**	**13**	P	**Pg**	**15 39 22.2**	**+1.2**
GVZ				S	**Sb**	**15 39 29.7**	**+0.1**
RACZ	**Rakaia**	**0.59**	**244**	P	**Pg**	**15 39 23.4**	**+1.1**
RACZ				S	**Sg**	**15 39 31.6**	**+1.4**
OXZ	**Oxford**	**0.62**	**283**	P	**Pg**	**15 39 23.3**	**+0.3**
OXZ				S	**Sg**	**15 39 31.9**	**+0.7**
CECS	**Cheviot Emerge**	**0.72**	**24**	P	**Pn**	**15 39 26.5**	**-0.6**
CECS				S	**Sb**	**15 39 36.7**	**+1.3**
LTZ	**Lake Taylor**	**0.82**	**327**	P	**Pb**	**15 39 27.1**	**0.0**
LTZ				S	**Sb**	**15 39 37.9**	**-0.4**
CSHS	**Castle Hill**	**0.87**	**286**	P	**Pb**	**15 39 27.9**	**-0.3**
CSHS				S	**Sb**	**15 39 38.6**	**-1.2**
WACZ	**Wakanui South**	**0.89**	**237**	P	**Pb**	**15 39 28.7**	**+0.3**
WACZ				S	**Sb**	**15 39 40.5**	**+0.3**
MHCZ	**Mount Hutt**	**0.95**	**266**	P	**Pb**	**15 39 29.1**	**-0.4**
MHCZ				S	**Sb**	**15 39 41.8**	**-0.3**
KHZ	**Kahutara**	**1.16**	**25**	P	**Pn**	**15 39 32.2**	**-1.0**
KHZ	**Kahutara**	**1.16**	**25**	P	**Pn**	**15 39 32.1**	**-1.0**
INZ	**Inchbonnie**	**1.28**	**305**	P	**Pn**	**15 39 33.9**	**-1.0**
ARCZ	**Arundel**	**1.32**	**248**	P	**Pn**	**15 39 34.6**	**-0.8**
ARCZ				S	**Sn**	**15 39 51.0**	**-2.0**
RPZ	**Rata Peaks**	**1.34**	**259**	P	**Pn**	**15 39 34.7**	**-1.0**
RPZ	**Rata Peaks**	**1.34**	**259**	P	**Pn**	**15 39 34.7**	**-1.0**
WVZ	**Waitaha Valley**	**1.61**	**284**	P	**Pn**	**15 39 39.0**	**-0.3**
TMZ	**Timaru**	**1.63**	**235**	P	**Pn**	**15 39 39.2**	**-0.5**
THZ	**Tophouse**	**1.71**	**1**	P	**Pn**	**15 39 40.1**	**-0.6**
GCSZ	**Gaunt Creek Bo**	**1.86**	**274**	P	**Pn**	**15 39 43.2**	**+0.4**
DSZ	**Denniston Nort**	**1.90**	**335**	P	**Pn**	**15 39 43.2**	**-0.2**
BSWZ	**Blackbirch Sta**	**1.91**	**23**	P	**Pn**	**15 39 43.2**	**-0.2**
MRNZ	**Matariki Terra**	**2.07**	**358**	P	**Pn**	**15 39 46.4**	**+0.7**
LBZ	**Lake Benmore**	**2.15**	**244**	P	**Pn**	**15 39 46.6**	**-0.1**
TUWZ	**Tuamarina**	**2.19**	**22**	P	**Pn**	**15 39 46.8**	**-0.5**
FOZ	**Fox Glacier**	**2.23**	**267**	P	**Pn**	**15 39 48.7**	**+0.9**
ODZ	**Otahua Downs**	**2.24**	**225**	P	**Pn**	**15 39 47.9**	**-0.2**
ODZ	**Otahua Downs**	**2.24**	**225**	P	**Pn**	**15 39 47.5**	**-0.6**
NNZ	**Nelson**	**2.28**	**10**	P	**Pn**	**15 39 48.7**	**+0.2**
TKNZ	**Takaka Hill**	**2.44**	**2**	P	**Pn**	**15 39 51.2**	**+0.5**
TCW	**Tory Channel**	**2.49**	**25**	P	**Pn**	**15 39 50.7**	**-0.7**
BHW	**Baring Head**	**2.54**	**36**	P	**Pn**	**15 39 51.0**	**-1.1**
SNZO	**South Karori**	**2.55**	**33**	P	**Pn**	**15 39 51.3**	**-0.9**
PLWZ	**Palliser**	**2.59**	**44**	P	**Pn**	**15 39 51.5**	**-1.4**
QRZ	**Quartz Range**	**2.66**	**354**	P	**Pn**	**15 39 54.3**	**+0.6**
QRZ	**Quartz Range**	**2.66**	**354**	P	**Pn**	**15 39 54.0**	**+0.3**
DUWZ	**D'Urville Isla**	**2.78**	**17**	P	**Pn**	**15 39 56.3**	**+0.8**
PAWZ	**Paruwai Farm**	**2.82**	**43**	P	**Pn**	**15 39 54.3**	**-1.7**
CAW	**Cannon Point**	**2.87**	**35**	P	**Pn**	**15 39 55.5**	**-1.1**
HHSZ	**Highcliff Hill**	**2.91**	**213**	P	**Pn**	**15 39 56.8**	**-0.4**
TRWZ	**Traveller**	**2.94**	**46**	P	**Pn**	**15 39 56.1**	**-1.5**
JCZ	**Jackson Bay**	**3.02**	**257**	P	**Pn**	**15 39 58.9**	**+0.1**
JCZ	**Jackson Bay**	**3.02**	**257**	P	**Pn**	**15 39 58.4**	**-0.5**
MTW	**Mount Morrison**	**3.02**	**41**	P	**Pn**	**15 39 57.2**	**-1.6**
WKZ	**Wanaka**	**3.09**	**243**	P	**Pn**	**15 39 59.6**	**-0.1**
EAZ	**Earnscleugh**	**3.10**	**234**	P	**Pn**	**15 39 59.3**	**-0.6**
OGWZ	**Otaki Gorge**	**3.15**	**34**	P	**Pn**	**15 39 59.5**	**-1.0**
TUZ	**Tuapeka**	**3.39**	**222**	P	**Pn**	**15 40 03.7**	**-0.1**
MRZ	**Mangatainoka R**	**3.46**	**37**	P	**Pn**	**15 40 03.2**	**-1.5**
BFZ	**Birch Farm**	**3.75**	**43**	P	**Pn**	**15 40 06.7**	**-2.1**
BFZ	**Birch Farm**	**3.75**	**43**	P	**Pn**	**15 40 06.8**	**-2.1**
MSZ	**Milford Sound**	**3.76**	**250**	P	**Pn**	**15 40 09.7**	**+0.8**
MSZ				P	Pb	15 40 12.9	-4.4
MLZ	**Mavora Lakes**	**3.90**	**239**	P	**Pn**	**15 40 10.3**	**-0.5**
ANWZ	**Angora Road**	**4.03**	**43**	P	**Pn**	**15 40 11.0**	**-1.6**
SYZ	**Scrubby Hill**	**4.05**	**220**	P	**Pn**	**15 40 13.3**	**+0.4**
SYZ	**Scrubby Hill**	**4.05**	**220**	P	**Pn**	**15 40 12.8**	**0.0**
TSZ	**Takapari Road**	**4.12**	**35**	P	**Pn**	**15 40 12.4**	**-1.5**
WHZ	**Wether Hill Ro**	**4.27**	**234**	P	**Pn**	**15 40 14.2**	**-1.6**
VRZ	**Vera Road**	**4.57**	**19**	P	**Pn**	**15 40 21.4**	**+1.4**
WNVZ	**Wahianoa**	**4.62**	**27**	P	**Pn**	**15 40 21.8**	**+0.9**
BHHZ	**Black Hill Sta**	**4.64**	**32**	P	**Pn**	**15 40 20.8**	**-0.3**
TUVZ	**Tukino**	**4.69**	**27**	P	**Pn**	**15 40 22.6**	**+0.7**
SNVZ	**South Ngauruho**	**4.76**	**27**	P	**Pn**	**15 40 23.4**	**+0.6**
OTVZ	**Oturere**	**4.79**	**27**	P	**Pn**	**15 40 23.3**	**+0.1**
NNVZ	**North Ngauruho**	**4.80**	**26**	P	**Pn**	**15 40 23.6**	**+0.3**
WTVZ	**West Tongariro**	**4.81**	**26**	P	**Pn**	**15 40 23.9**	**+0.5**
APZ	**The Paps**	**4.82**	**224**	P	**Pn**	**15 40 23.5**	**0.0**
ETVZ	**East Tongariro**	**4.83**	**27**	P	**Pn**	**15 40 23.9**	**+0.2**
TMVZ	**Te Maari**	**4.84**	**27**	P	**Pn**	**15 40 24.4**	**+0.4**
NTVZ	**North Tongarir**	**4.85**	**27**	P	**Pn**	**15 40 24.7**	**+0.7**
HIZ	**Hauiti**	**5.17**	**18**	P	**Pn**	**15 40 29.1**	**+0.7**
TLZ	**Tolley Road**	**5.52**	**22**	P	**Pn**	**15 40 32.8**	**-0.3**
TOZ	**Tahuroa Road**	**6.07**	**20**	P	**Pn**	**15 40 44.2**	**+3.6**
KMRZ	**Kaimai**	**6.08**	**24**	P	Pn	15 40 46.1	+5.2
MKAZ	**Moumakai**	**6.59**	**16**	P	Pn	15 40 52.4	+4.6
HAZ	**Te Kaha**	**6.82**	**35**	P	**Pn**	**15 40 48.6**	**-2.3**

NOU 05 15:46:04.3, 21.69S×**168.84E, h0**km**, MLv3.2**/5**, Loyalty Islands, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**1.58**	**234**	P	Pn	15 46 32.7	-0.9
LIFNC	**LIFOU**	**1.75**	**301**	P	Pg	15 46 53.8	+16
OUENC	**Ouen Island, N**	**1.99**	**248**	P	Pn	15 46 39.2	0.0
OUENC	**Ouen Island, N**	**1.99**	**248**	P	Pb	15 46 41.2	-0.2
DZM	**Mont Dzumac**	**2.26**	**260**	P	Pn	15 46 42.4	-0.6
DZM	**Mont Dzumac**	**2.26**	**260**	P	Pn	15 46 43.9	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONTNC	**Ouen Toro**	**2.30**	**254**	P	Pn	15 46 43.0	-0.5
ONTNC	**Ouen Toro**	**2.30**	**254**	P	Pb	15 46 45.5	-1.2
NOUC	**Port Laguerre**	**2.39**	**260**	P	Pn	15 46 45.0	+0.2
NOUC	**Port Laguerre**	**2.39**	**260**	P	Pn	15 46 44.9	+0.1

*IDC **05** 15:50:47.5±0.9, 24°.28N×94°.45E, h0km, mb3.9/8, mbtmp3.8/9, ML3.2/1, Error ellipse: s-maj=52.4km s-min=16.6km az=56.0*
*NEIC **05** 15:50:58.3±1.1, 24°.54N±0°.10×94°.7E±0°.1, h80km±7km, mb4.3/34, Error ellipse: s-maj=19.3km s-min=10.4km az=51.0*
*NDI **05** 15:50:59.1±3.0, 24°.62N×94°.66E, h50km, ML3.5, mb4.3(NEIC)*
ISC 05 15:50:57.7±1.0, **24°.57N**±0°.04×**94°.69E**±0°.07, **h77**km±9km, **n59**, σ1s.**21**/65, **mb4.3**/26, **Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.72**	**291**	*e*P	**Pn**	**15 51 14.5**	**+1.1**
IMP				*e*S	**Sn**	**15 51 25.7**	**+0.5**
KOHI	**KOHIMA**	**1.26**	**336**	*e*P	**Pn**	**15 51 21.1**	**+1.1**
KOHI				*e*S	**Sn**	**15 51 36.0**	**-0.7**
KOHI				IAML		15 51 44.0	
	comp=N,608nm,0.8s						
MOKO	**MOKOCHONG**	**1.75**	**355**	*e*P	**Pn**	**15 51 27.8**	**+1.4**
MOKO				*e*S	**Sn**	**15 51 45.4**	**-2.7**
MOKO				IAML		15 51 50.0	
	comp=E,465nm,0.6s						
SAIH	**SAIHA**	**2.59**	**217**	*e*P	**Pn**	**15 51 38.5**	**+0.9**
SAIH				*e*S	**Sn**	**15 52 07.8**	**-0.4**
SAIH				IAML		15 52 13.6	
	comp=N,112nm,0.5s						
SAIH				IAML		15 52 14.7	
	comp=E,252nm,0.5s						
TEZP	**TEZPUR**	**2.66**	**321**	*e*P	**Pn**	**15 51 37.9**	**-0.5**
TEZP				*e*S	**Sn**	**15 52 06.8**	**-2.8**
TEZP				IAML		15 52 08.6	
	comp=E,480nm,0.2s						
ITAN	**ITANAGAR**	**2.71**	**341**	*e*S	**Sn**	**15 52 08.9**	**-1.9**
ITAN				IAML		15 52 10.9	
	comp=E,319nm,0.2s						
SHL	**Shillong**	**2.73**	**292**	Pn	**Pn**	**15 51 39.0**	**-0.6**
SHL	**Shillong**	**2.73**	**292**	*e*P	**Pn**	**15 51 38.4**	**-1.1**
SHL				*e*S	**Sn**	**15 52 08.4**	**-3.2**
SHL				IAML		15 52 11.6	
	comp=E,211nm,0.1s						
MND	**Mandalay**	**2.86**	**152**	Pn	**Pn**	**15 51 40.2**	**-0.9**
ZIRO	**ZIRO**	**3.04**	**346**	*e*P	**Pn**	**15 51 43.5**	**-0.3**
ZIRO				*e*S	**Sn**	**15 52 15.9**	**-3.3**
ZIRO				IAML		15 52 20.1	
	comp=E,703nm,0.6s						
CHTO	**Chiang Mai**	**6.96**	**145**	Pn	**Pn**	**15 52 38.4**	**+1.3**
CMAR	**Chiang Mai Arr**	**7.25**	**146**	Pn	Pn	15 52 34.9	-6.2
	comp=E,0.1nm,0.3s,baz=336,slow=22,SNR=1.7						
	comp=E,0.2nm,0.2s						
MK31	**Makanchi Array**	**24.30**	**339**	P	**P**	**15 56 09.2**	**+1.4**
MKAR	**Makanchi Array**	**24.30**	**339**	P	**P**	**15 56 09.3**	**+1.5**
MKAR	**Makanchi Array**	**24.30**	**339**	P	**P**	**15 56 08.3**	**+0.5**
	comp=E,1.0nm,0.6s,baz=148,slow=9.7,SNR=17						
	comp=E,1.0nm,0.6s						
SONM	**Songino Array**	**25.01**	**19**	P	**P**	**15 56 16.3**	**+1.9**
	comp=E,0.4nm,0.7s,baz=198,slow=9.1,SNR=2.5						
	comp=E,0.4nm,0.7s						
ZAA0	**Zalesovo Array**	**30.26**	**348**	P	**P**	**15 57 00.9**	**-0.2**
ZALV	**Zalesovo Beam**	**30.26**	**348**	P	**P**	**15 57 00.9**	**-0.2**
TIXI	**Tiksi**	**50.89**	**13**	P	**P**	**15 59 50.5**	**0.0**
KNRA	**Kununurra**	**52.01**	**137**	P	**P**	**15 59 58.8**	**-0.7**
BRTR	**Keskin Array B**	**52.91**	**302**	P	**P**	**16 00 05.4**	**-0.8**
	comp=E,0.5nm,0.6s,baz=96,slow=10,SNR=4.4						
	comp=E,0.5nm,0.6s						
FINES	**FINESS Array B**	**58.52**	**328**	P	**P**	**16 00 47.1**	**+1.4**
	comp=E,1.7nm,0.8s,baz=92,slow=7.0,SNR=1.5						
	comp=E,1.7nm,0.8s						
WB0	**Warramunga Arr**	**58.62**	**135**	P	**P**	**16 00 45.9**	**-1.0**
WRA	**Warramunga Arr**	**58.71**	**135**	P	**P**	**16 00 46.0**	**-1.6**
WRA	**Warramunga Arr**	**58.71**	**135**	P	**P**	**16 00 46.7**	**-0.9**
	comp=E,1.4nm,0.4s,baz=323,slow=7.3,SNR=61						
	comp=E,1.4nm,0.4s						
WRAB	**Tennant Creek**	**58.71**	**135**	P	**P**	**16 00 46.6**	**-1.0**
WRAB				IAmb	IAmb	16 00 47.4	
	comp=Z,4.5nm,1.1s						
WR0	**Warramunga Arr**	**58.85**	**135**	P	**P**	**16 00 47.4**	**-1.2**
WR0				IAmb	IAmb	16 01 21.7	
	comp=Z,7.7nm,1.3s						
ARCES	**ARCESS Array B**	**59.94**	**338**	P	**P**	**16 00 56.8**	**+1.4**
	comp=Z,4.9nm,1.1s,baz=91,slow=8.1,SNR=2.3						
	comp=Z,4.9nm,1.1s						
AS31	**Alice Springs**	**61.20**	**139**	P	**P**	**16 01 03.8**	**-0.8**
ASAR	**Alice Springs**	**61.20**	**139**	P	**P**	**16 01 03.8**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=316,slow=6.4,SNR=57						
	comp=Z,0.8nm,0.3s						
HFS	**Hagfors**	**64.58**	**327**	P	**P**	**16 01 26.6**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=113,slow=11,SNR=5.2						
	comp=Z,2.1nm,0.8s						
NC204	**NORSAR Array S**	**65.89**	**328**	P	**P**	**16 01 35.6**	**+0.6**
NC204				IAmb	IAmb	16 01 42.1	
	comp=Z,11nm,1.1s						
C16K	**Lisburne Hills**	**71.03**	**23**	P	**P**	**16 02 08.5**	**+1.6**
D19K	**Kuna River**	**73.44**	**22**	P	**P**	**16 02 21.8**	**+0.5**
D19K				IAmb	IAmb	16 02 31.6	
	comp=Z,14nm,1.4s						
B21K	**Ikpikpuk River**	**74.07**	**20**	P	**P**	**16 02 25.5**	**+0.6**
B22K	**Teshekpuk Lake**	**74.09**	**19**	P	**P**	**16 02 25.4**	**+0.4**
D22K	**Ayikyak River**	**75.03**	**20**	P	**P**	**16 02 31.6**	**+1.0**
D22K				IAmb	IAmb	16 03 13.5	
	comp=Z,13nm,1.5s						
C23K	**Itkillik River**	**75.17**	**19**	P	**P**	**16 02 31.9**	**+0.6**
C23K				IAmb	IAmb	16 02 45.3	
	comp=Z,7.8nm,1.5s						
EUNU	**Eureka**	**75.59**	**0**	P	**P**	**16 02 34.6**	**+0.9**
EUNU				IAmb	IAmb	16 02 35.6	
	comp=Z,2.3nm,0.9s						
IMAR	**Indian Mountai**	**76.10**	**23**	P	**P**	**16 02 37.5**	**+0.8**
TOLK	**Toolik Lake Re**	**76.12**	**20**	P	**P**	**16 02 37.4**	**+0.6**
TOLK				IAmb	IAmb	16 02 38.7	
	comp=Z,5.2nm,1.2s						
H21K	**Melozitna Rive**	**76.60**	**23**	P	**P**	**16 02 40.0**	**+0.5**
H21K				IAmb	IAmb	16 02 41.2	
	comp=Z,4.7nm,1.2s						
D25K	**Kavik River**	**76.70**	**19**	P	**P**	**16 02 40.4**	**+0.3**
E24K	**Your Creek**	**76.77**	**20**	P	**P**	**16 02 41.3**	**+0.8**
E24K				IAmb	IAmb	16 02 41.9	
	comp=Z,5.4nm,1.3s						
D27M	**Malcolm River**	**78.28**	**17**	P	**P**	**16 02 49.6**	**+0.7**
D27M				IAmb	IAmb	16 03 02.4	
	comp=Z,3.5nm,1.4s						
BMAR	**Burnt Mountain**	**78.36**	**20**	P	**P**	**16 02 50.9**	**+1.5**
SKT	**Skwentna**	**78.98**	**26**	P	**P**	**16 02 52.9**	**0.0**
SKT				IAmb	IAmb	16 02 58.8	
	comp=Z,5.8nm,1.2s						
E28M	**Babbage River**	**79.09**	**18**	P	**P**	**16 02 53.9**	**+0.6**
E29M	**Blow River**	**79.68**	**17**	P	**P**	**16 02 57.0**	**+0.5**
A36M	**Sachs Harbour**	**79.88**	**12**	P	**P**	**16 02 57.9**	**+0.5**
INK	**Inuvik**	**80.89**	**16**	P	**P**	**16 03 02.9**	**0.0**
H29M	**Whitestone**	**81.02**	**19**	P	**P**	**16 03 03.8**	**0.0**
H29M				IAmb	IAmb	16 03 38.1	
	comp=Z,3.3nm,1.3s						
I28M	**Miner Creek**	**81.06**	**20**	P	**P**	**16 03 04.2**	**+0.1**
I28M				IAmb	IAmb	16 03 26.8	
	comp=Z,4.6nm,1.4s						
G31M	**Satah River**	**81.70**	**17**	P	**P**	**16 03 07.0**	**-0.3**
G31M				IAmb	IAmb	16 03 38.9	
	comp=Z,5.0nm,1.4s						
L27K	**Beaver Creek,**	**81.99**	**23**	P	**P**	**16 03 10.0**	**+1.0**
L27K				IAmb	IAmb	16 03 52.6	
	comp=Z,3.8nm,1.2s						
BCAR	**Beaver Creek A**	**82.01**	**23**	P	**P**	**16 03 10.1**	**+1.1**
C36M	**Paulatuk**	**82.26**	**13**	P	**P**	**16 03 09.7**	**-0.4**
C36M				IAmb	IAmb	16 03 10.5	
	comp=Z,5.0nm,0.9s						
J30M	**Hart River**	**82.78**	**20**	P	**P**	**16 03 13.7**	**+0.6**
J30M				IAmb	IAmb	16 03 48.8	
	comp=Z,4.6nm,1.5s						
LIFNC	**LIFOU**	**83.70**	**116**	P	**P**	**16 03 16.8**	**-1.6**

*SNET **05** 15:57:06.0±1.6, 13°.29N×90°.66W, h13km±407km, ML3.3*
*GCG **05** 15:57:08.4±0.5, 14°.51N×91°.07W, h98km±5km, MD3.7*
*CATAC **05** 15:57:11.8±1.0, 13°.86N×90°.46W, h6km±5km, ML3.2*
ISC 05 15:57:10.5±1.9, **13°.8N**±0°.1×**90°.54W**±0°.08, **h10**km, **n19**, σ1s.**60**/25, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.67**	**335**	*i* P	**Pg**	**15 57 24.5**	**+1.0**
ESSG				IAML		15 57 39.7	
	comp=Z,2μm,1.0s						
FUG	**Fuego 3**	**0.73**	**337**	*e*P	**Pg**	**15 57 21.7**	**-3.0**
FUG				*e*S	**Sg**	**15 57 34.7**	**+0.3**
NUBE	**Las Nubes**	**0.75**	**80**	*e*P	**Pg**	**15 57 25.0**	**0.0**
NUBE				*e*S	**Sn**	**15 57 38.2**	**-0.7**
NUBE	**Las Nubes**	**0.75**	**80**	*i* P	**Pb**	**15 57 25.3**	**-0.5**
NUBE				IAML		15 57 48.9	
	comp=Z,300nm,1.0s						
LOAL	**Lomas de Alarc**	**0.77**	**73**	*i* P	**Pb**	**15 57 25.4**	**-0.7**
LOAL				IAML		15 57 45.2	
	comp=Z,2μm,1.0s						
SLOZ	**Alcaldia de Sa**	**0.78**	**71**	*e*P	**Pg**	**15 57 25.3**	**-0.3**
SLOZ				*e*S	**Sn**	**15 57 42.5**	**+3.1**
NBG	**Las Nubes**	**0.83**	**13**	*e*P	**Pb**	**15 57 26.7**	**-0.6**
NBG				*e*S	**Sn**	**15 57 41.1**	**0.0**
CEVE	**Cerro Verde**	**0.90**	**86**	*e*P	**Pg**	**15 57 27.0**	**-0.8**
CEVE				*e*S	**Sn**	**15 57 43.9**	**+1.3**
CEVE	**Cerro Verde**	**0.90**	**86**	*i* P	**Pb**	**15 57 28.3**	**0.0**
CEVE				IAML		15 57 48.3	
	comp=Z,660nm,1.0s						
SNJE	**San Jose**	**0.92**	**84**	*e*P	**Pg**	**15 57 27.4**	**-0.7**
SNJE				*e*S	**Sn**	**15 57 44.9**	**+1.9**
JAYA	**Jayaque - finc**	**1.07**	**96**	*e*P	**Pg**	**15 57 28.0**	**-3.1**
JAYA				*e*S	**Sg**	**15 57 43.8**	**-1.3**
JAYA				IAML		15 57 53.9	
	comp=Z,560nm,0.2s						
JAYA	**Jayaque - finc**	**1.07**	**96**	*i* P	**Pg**	**15 57 29.5**	**-1.6**
JAYA				IAML		15 57 53.7	
	comp=Z,1μm,1.0s						
PMON	**Piamonte**	**1.20**	**93**	*i* P	**Pn**	**15 57 36.0**	**+2.6**
MTO3	**Montecristo**	**1.31**	**61**	*i* P	**Pb**	**15 57 33.5**	**-1.8**
MTO3				IAML		15 57 58.1	
	comp=Z,150nm,1.0s						
LOMA	**Loma Larga**	**1.34**	**95**	*i* P	**Pn**	**15 57 34.8**	**-0.6**
LOMA				IAML		15 58 06.7	
	comp=Z,340nm,1.0s						
STG3	**Santiaguito 3,**	**1.36**	**313**	*e*P	Pn	15 57 25.9	-10
STG3				*e*S	Sb	15 57 37.9	-16
PAVA	**Las Pavas**	**1.56**	**92**	*i* P	**Pb**	**15 57 39.6**	**0.0**
PAVA				IAML		15 58 08.2	
	comp=Z,400nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.77**	**92**	*i* P	**Pn**	**15 57 41.1**	**-0.1**
SCLA				IAML		15 58 15.7	
	comp=Z,86nm,1.0s						
POTN	**Potosi Cosigui**	**3.05**	**104**	*i* P	**Pn**	**15 58 01.0**	**+2.2**
POTN				IAML		15 58 21.8	
	comp=Z,280nm,1.0s						

PGC 05 16:01:22.4±0.0, **54°.21N**×**116°.64W**, **h1**km, **ML3.5**/16, **175km northeast of Jasper, Alberta Alberta, Canada, Alberta**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRLDA	**Berland Lookou**	**0.47**	**256**	P	Pg	16 01 31.2	-0.1
BRLDA				S	Sg	16 01 37.9	+0.6
SWHSA	**Sweathouse Loo**	**0.70**	**355**	P	Pg	16 01 34.9	-0.9
SWHSA				S	Sg	16 01 44.1	-0.6
BDMTA	**Bald Mountain**	**1.46**	**295**	Pn	Pn	16 01 48.7	-1.3
BDMTA				Sn	Sg	16 02 07.9	-1.3
STPRA	**Salt Prairie L**	**1.53**	**17**	Pn	Pn	16 01 49.1	-1.8
STPRA				Sn	Sn	16 02 09.3	-2.1
WTMTA	**White Mountain**	**2.11**	**316**	Pn	Pn	16 01 58.3	-0.6
WTMTA				Pg	Pb	16 01 59.5	-2.1
WTMTA				Sn	Sn	16 02 26.3	+0.4
EDM	**Edmonton**	**2.19**	**115**	Pn	Pn	16 01 59.9	-0.1
EDM				Pg	Pb	16 02 01.5	-1.3
EDM				Sn	Sn	16 02 27.3	-0.4
MNB	**Mounoet Dainar**	**2.27**	**208**	Pn	Pn	16 02 01.5	+0.2
MNB				Pg	Pb	16 02 02.9	-1.4
MNB				Sg	Sb	16 02 32.3	-0.6
BLBC	**Blue River**	**2.68**	**217**	Pn	Pn	16 02 07.1	+0.3
BLBC				Sg	Sb	16 02 45.2	+0.5
NBC4	**NorthernBC 4**	**2.75**	**304**	Pg	Pb	16 02 11.8	-0.6
NBC4				Sn	Sn	16 02 39.3	-2.3
SLEB	**Sale Mountain**	**3.18**	**197**	Pn	Pn	16 02 13.8	+0.1
SLEB				Pg	Pb	16 02 19.3	-0.5
SLEB				Sg	Sb	16 03 00.5	+1.4
BMTB	**Bullhead Mount**	**3.65**	**302**	Pg	Pb	16 02 28.6	+0.9
BMTB				Sn	Sn	16 03 01.4	-2.5
FSJB	**Fort St James**	**4.49**	**276**	Pn	Pn	16 02 30.5	-1.0
FSJB				Sg	Sb	16 03 40.8	+4.3
NBC5	**NorthernBC 5**	**4.75**	**317**	Pn	Pn	16 02 33.5	-1.7
NBC5				Pg	Pb	16 02 48.0	+1.5
NBC6	**NorthernBC 6**	**5.10**	**331**	Pn	Pn	16 02 38.8	-1.1
NBC6				Pg	Pb	16 02 55.4	+3.0
NBC6				Sg	Sb	16 03 56.0	+1.9
HSPGA	**Hill Springs,**	**5.20**	**158**	Sn	Sn	16 03 39.5	-2.4
PNT	**Penticton**	**5.24**	**202**	Pg	Pb	16 02 56.2	+1.6
PNT				Sg	Sb	16 04 04.2	+6.1
HOPB	**Hope**	**5.67**	**213**	Sg	Sb	16 04 16.7	+6.3
FNSB	**Fort Nelson**	**5.71**	**326**	Pn	Pn	16 02 52.0	+3.7
FNSB				Pg	Pg	16 03 09.4	-2.4
MKRVA	**Milk River, Al**	**5.91**	**147**	Pn	Pn	16 02 50.4	-0.6
MKRVA				Sn	Sn	16 03 54.3	-5.0
MBW	**Mount Baker**	**6.35**	**213**	Pg	Pb	16 03 16.7	+3.0
BSMT	**Bassoo Peak**	**6.47**	**169**	Pn	Pn	16 02 58.2	-0.7
RPW	**Rockport**	**6.53**	**210**	Pg	Pb	16 03 20.7	+4.0
YBMT	**Yellow Bay**	**6.57**	**164**	Pg	Pb	16 03 20.9	+3.4
JTMT	**Jette**	**6.64**	**166**	Pn	Pn	16 03 00.6	-0.6
JTMT				Pg	Pb	16 03 21.8	+3.2

*UPA **05** 16:25:21.3±1.2, 10°.01N×79°.58W, h38km±7km, MW3.5*
ISC 05 16:25:19.4±1.6, **10°.03N**±0°.07×**79°.56W**±0°.03, **h21**km±8km, **n22**, σ0s.**89**/40, **1D**, **North of Panama**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**0.90**	**198**	*e*P	**Pb**	**16 25 36.5**	**+0.2**
BCIP				*e*S	**Sn**	**16 25 48.7**	**-0.5**
BCIP				*e*S		16 25 48.9	
BCIP	**Isla Barro Col**	**0.90**	**198**	*e*P	**Pb**	**16 25 36.3**	**0.0**
BCIP				*e*S	**Sn**	**16 25 49.6**	**+0.4**
BCIP				*i*		16 25 50.1	
	comp=Z,92nm,0.2s						
CHPO	**Chepo, Panama**	**0.95**	**153**	*e*P	**Pn**	**16 25 37.7**	**+0.1**
CHPO				*e*S	**Sn**	**16 25 50.8**	**+0.2**
UPA	**Univ. de Panam**	**1.04**	**179**	*e*P	**Pb**	**16 25 38.8**	**+0.1**
UPA				*e*S	**Sn**	**16 25 53.3**	**+0.6**
UPA	**Univ. de Panam**	**1.04**	**179**	⇓*i*P	**Pb**	**16 25 38.7**	**+0.1**
UPA				*e*S	**Sn**	**16 25 52.7**	**0.0**
UPA				*i*		16 25 54.4	
	comp=Z,6μm,0.3s						
TOTI	**Torti**	**1.64**	**131**	*e*P	**Pn**	**16 25 48.1**	**+1.0**
PNME	**Penonome**	**1.71**	**207**	*e*P	**Pn**	**16 25 48.4**	**+0.4**
UPD2	**Meteti**	**2.11**	**134**	*e*P	**Pn**	**16 25 54.5**	**+0.9**
SAFE3	**Santa Fe, Vera**	**2.12**	**225**	*e*P	**Pn**	**16 25 54.4**	**+0.7**
CHIT3	**Chitre**	**2.23**	**203**	*e*P	**Pn**	**16 25 55.0**	**-0.1**
CHIT3				*e*S	**Sn**	**16 26 22.1**	**+0.1**
AZU	**Azuero**	**2.33**	**198**	*e*P	**Pn**	**16 25 56.4**	**-0.2**
AZU				*e*S	**Sn**	**16 26 24.1**	**-0.5**
AZU	**Azuero**	**2.33**	**198**	*e*P	**Pn**	**16 25 56.3**	**-0.2**
AZU				*e*S	**Sn**	**16 26 24.3**	**-0.3**
AZU				*i*		16 26 26.3	
	comp=Z,135nm,0.1s						
CAPC	**Capurgana**	**2.58**	**122**	*e*P	**Pn**	**16 26 01.1**	**+1.1**
CAPC				*e*S	**Sn**	**16 26 30.7**	**0.0**
CAPC				*i*		16 26 33.6	
	comp=Z,53nm,0.2s						
CHGR2	**Aguacate**	**2.77**	**247**	*e*P	**Pn**	**16 26 03.6**	**+1.0**
CHGR2				*e*S	**Sn**	**16 26 34.0**	**-1.6**
CACAO	**El Cacao, Vera**	**2.96**	**206**	*e*P	**Pn**	**16 26 06.0**	**+0.8**
CACAO				*e*S	**Sn**	**16 26 38.6**	**-1.6**
BCO2	**Palmira**	**3.21**	**246**	*e*P	**Pn**	**16 26 10.0**	**+1.2**
BCO2				*e*S	**Sn**	**16 26 45.1**	**-1.5**
BRU2	**Volcan**	**3.33**	**249**	*e*P	**Pn**	**16 26 11.1**	**+0.7**
BRU2				*e*S	**Sn**	**16 26 48.7**	**-0.7**
LCBC	**Los crdobas,**	**3.35**	**110**	*e*P	**Pn**	**16 26 11.2**	**+0.6**
LCBC				*e*S	**Sn**	**16 26 49.6**	**-0.2**
LCBC				*i*		16 26 54.1	
	comp=Z,72nm,0.2s						
SJCC	**San Jacinto, C**	**4.31**	**91**	*e*P	**Pn**	**16 26 24.6**	**+0.6**
SJCC				*e*S	**Sn**	**16 27 13.2**	**-0.5**
SJCC				*i*		16 27 14.9	
	comp=Z,30nm,0.2s						
UREC	**San Jos de Ur**	**4.57**	**119**	*e*P	**Pn**	**16 26 27.6**	**+0.2**
UREC				*e*S	**Sn**	**16 27 19.3**	**-0.7**
UREC	**San Jos de Ur**	**4.57**	**119**	*e*P	**Pn**	**16 26 27.4**	**-0.1**
UREC				*e*S	**Sn**	**16 27 19.6**	**-0.4**
UREC				*i*		16 27 20.8	
	comp=N,38nm,0.3s						
ZARC	**Zaragoza, Cauc**	**5.28**	**118**	*e*P	**Pn**	**16 26 37.1**	**-0.1**
ZARC				*e*S	**Sn**	**16 27 34.3**	**-3.2**
ZARC				*i*		16 27 37.3	
	comp=Z,24nm,0.3s						

*IDC **05** 16:31:37.5±1.5, 30°.67N×57°.20E, h0km, mb3.5/4, mbtmp3.5/6, ML3.2/2, Error ellipse: s-maj=44.2km s-min=24.9km az=126.0*
*TEH **05** 16:31:39.2, 30°.76N×57°.27E, h13km±52km, ML3.7*
ISC 05 16:31:39.6±0.8, **30°.76N**±0°.04×**57°.29E**±0°.04, **h10**km, **n32**, σ1s.**31**/35, **mb3.5**/4, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.68**	**288**	Pg	**Pg**	**16 31 52.2**	**-0.7**
ZRDN				Sg	**Sg**	**16 32 02.7**	**+0.8**
KHGB	**Koh Gabri**	**0.80**	**242**	Pg	**Pg**	**16 31 54.1**	**-1.0**
KHGB				Sg	**Sg**	**16 32 05.0**	**-0.5**
TVBK	**TV Kerman**	**0.90**	**211**	Pg	**Pg**	**16 31 56.9**	**0.0**
CHMN	**Cheshme madani**	**0.92**	**166**	Pg	**Pg**	**16 31 56.5**	**-0.9**
NGRK	**Negar Kerman**	**1.21**	**204**	Pg	**Pg**	**16 32 02.8**	**-0.2**
NGRK				Sg	**Sn**	**16 32 19.9**	**+0.3**
IBAF	**Bafgh**	**1.70**	**300**	Pg	**Pn**	**16 32 10.5**	**+1.0**
KBAM	**BAM**	**1.90**	**148**	Pn	**Pn**	**16 32 13.6**	**+1.3**
BSRN	**Basiran**	**1.98**	**52**	Pn	**Pn**	**16 32 13.8**	**+0.5**
IKOO	**Kooshah**	**2.21**	**41**	Pn	**Pn**	**16 32 17.6**	**+0.9**
TPRV	**Parvadeh(Tabas**	**2.32**	**347**	Pn	**Pn**	**16 32 18.6**	**+0.6**
NHDN	**Nehbandan**	**2.45**	**74**	Pn	**Pn**	**16 32 20.9**	**+1.1**
ITEG	**Tejag**	**2.47**	**30**	Pn	**Pn**	**16 32 20.9**	**+0.8**
TKDS	**Koohdasht(Taba**	**2.85**	**357**	Pn	**Pn**	**16 32 26.0**	**+0.7**
ICHK	**Chekchek**	**2.88**	**302**	Pn	**Pn**	**16 32 27.5**	**+1.7**
IDAH	**Dahanechah**	**2.95**	**47**	Pn	**Pn**	**16 32 28.1**	**+1.3**
AFRZ	**Afriz**	**3.04**	**28**	Pn	**Pn**	**16 32 29.1**	**+1.2**
TNSJ	**Nastanj**	**3.25**	**350**	Pn	**Pn**	**16 32 32.0**	**+1.2**
ISAD	**Sadrabad**	**3.29**	**291**	Pn	**Pn**	**16 32 33.5**	**+2.0**
ZHDN	**Zahedan**	**3.34**	**113**	Pn	**Pn**	**16 32 33.5**	**+1.4**
SHRT	**Shahrakht**	**3.84**	**41**	Pn	**Pn**	**16 32 40.3**	**+1.4**
ANAR	**Anarak**	**3.88**	**310**	Pn	**Pn**	**16 32 40.0**	**+0.5**
IRAM	**Ramesheh**	**4.33**	**285**	Pn	**Pn**	**16 32 47.7**	**+1.9**
IZEF	**Zefreh**	**4.73**	**298**	Pn	**Pn**	**16 32 53.3**	**+2.0**
TBJM	**Torbat-e-JAM**	**5.17**	**29**	Pn	**Pn**	**16 32 58.7**	**+1.5**
ISFB	**Sefidab**	**5.57**	**311**	Pn	**Pn**	**16 33 04.2**	**+1.5**
SRVN	**Saravan**	**5.58**	**126**	Pn	**Pn**	**16 33 05.2**	**+2.3**
GEYT	**Alibeck**	**7.19**	**5**	Pn	**Pn**	**16 33 27.1**	**+2.2**
	0.3nm,0.3s,baz=139,slow=20,SNR=2.0						
	0.5nm,0.4s						
WSAR	**Wadi Sarin**	**7.58**	**171**	Pn	**Pn**	**16 33 29.0**	**-1.3**
	0.4nm,0.3s,baz=14,slow=12,SNR=1.7						
	8.1nm,0.9s						
MKAR	**Makanchi Array**	**25.07**	**43**	P	**P**	**16 37 05.1**	**+0.9**
	0.3nm,0.6s,baz=226,slow=8.7,SNR=3.9						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**25.39**	**33**	P	**P**	**16 37 08.0**	**+0.9**
	0.3nm,0.5s,baz=230,slow=8.4,SNR=4.5						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**30.49**	**33**	P	**P**	**16 37 51.3**	**-1.4**
	0.7nm,0.4s,baz=243,slow=9.5,SNR=3.0						
	0.7nm,0.4s						
TORD	**Torodi Ar. Bea**	**53.93**	**264**	P	**P**	**16 41 02.3**	**-1.4**
	0.6nm,0.7s,baz=61,slow=8.3,SNR=5.0						
	0.6nm,0.7s						

*NEIC **05** 16:56:36.8±0.2, 36°.110N±0°.010×97°.87W±0°.01, h8km±5km, Error ellipse: s-maj=1.5km s-min=1.4km az=188.0*
TUL 05 16:56:36.8±0.3, **36°.11N**±0°.01×**97°.87W**±0°.01, **h7**km±1km, **ML2.5**, **mb_Lg2.2**/10(NEIC), **ML2.4**/62(NEIC), **Error ellipse: s-maj=1.7km s-min=1.4km az=222.0**, **Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.40**	**346**		Pg	16 56 44.8	+0.2
CROK				Sg	Sg	16 56 49.6	-0.3
CROK				IAML		16 56 51.2	
	comp=E,404nm,0.3s						
CROK				IAML		16 56 54.5	
	comp=N,259nm,0.2s						
OK029	**Liberty Lake**	**0.46**	**133**	Sg	Sg	16 56 52.1	+0.3
ADOK	**Arcadia Dam**	**0.61**	**139**	Pg	Pg	16 56 48.7	+0.1
ADOK				Sg	Sg	16 56 57.1	+0.5
GC02	**Grant County #**	**0.74**	**0**		Pg	16 56 50.8	-0.2
OK032	**Salt Plains WL**	**0.74**	**338**		Pg	16 56 50.9	-0.2
OK032				IAML		16 57 01.4	
	comp=N,251nm,0.3s						
OK032				IAML		16 57 08.0	
	comp=N,206nm,0.2s						
OK033	**Mehan**	**0.76**	**95**		Pg	16 56 51.1	-0.2
OK033				IAML		16 57 01.4	
	comp=N,197nm,0.1s						
OK033				IAML		16 57 01.8	
	comp=N,129nm,0.1s						
OKCSW	**OKLAHOMA CITY**	**0.79**	**154**	Pg	Pg	16 56 51.6	-0.3
OKCSW				IAML		16 57 04.7	
	comp=E,203nm,0.1s						
OK038	**West end E0370**	**0.80**	**297**	Pg	Pg	16 56 51.8	-0.3
OK048	**Pawnee Station**	**0.80**	**68**		Pg	16 56 52.0	-0.3
CSTR	**Hydro, Custer**	**0.82**	**235**	Pg	Pg	16 56 52.4	-0.1
BLOK	**Blackwell**	**0.83**	**39**	Pg	Pg	16 56 52.2	-0.6
BLOK				IAML		16 57 13.9	
	comp=N,206nm,0.2s						
KAN14	**Manchester OK**	**0.84**	**355**		Pg	16 56 52.6	-0.5
KAN14				IAML		16 57 08.0	
	comp=N,85nm,0.2s						
KAN14				IAML		16 57 08.0	
	comp=E,78nm,0.1s						
OK052	**Battle Ridge R**	**0.87**	**98**		Pg	16 56 53.1	-0.4
OK052				IAML		16 57 12.4	
	comp=E,78nm,0.4s						
OK030	**Cody Creek RV**	**0.90**	**102**		Pg	16 56 53.6	-0.4
OK030				IAML		16 57 07.6	
	comp=E,85nm,0.3s						
OK030				IAML		16 57 08.5	
	comp=E,78nm,0.2s						
OK051	**E0350 and S346**	**0.92**	**65**		Pg	16 56 54.1	-0.4
OK051				IAML		16 57 13.3	
	comp=E,152nm,0.2s						
OK051				IAML		16 57 14.2	
	comp=E,154nm,0.2s						
KAN17	**Caldwell West**	**0.93**	**5**		Pg	16 56 54.2	-0.5
FNO	**Franklin**	**0.94**	**156**	Pg	Pg	16 56 54.2	-0.6
FNO				IAML		16 57 12.5	
	comp=E,95nm,0.5s						
QUOK	**Quay**	**0.94**	**86**		Pg	16 56 54.4	-0.5
QUOK				IAML		16 57 13.7	
	comp=E,70nm,0.2s						
KAN13	**South Haven SW**	**0.95**	**19**	Pg	Pg	16 56 54.7	-0.4
KAN13				IAML		16 57 15.3	
	comp=N,166nm,0.2s						
U32A	**Winter Ranch,**	**0.95**	**286**	Pg	Pg	16 56 54.6	-0.5
U32A				IAML		16 57 13.0	
	comp=E,82nm,0.3s						
U32A				IAML		16 57 13.1	
	comp=N,92nm,0.4s						
KAN05	**Bluff City Nor**	**0.99**	**360**	Pg	Pg	16 56 55.4	-0.5
KAN05				IAML		16 57 11.2	
	comp=N,143nm,0.2s						
KAN10	**Anthony SW Sta**	**1.02**	**350**	Pg	Pg	16 56 56.1	-0.3
KAN10				IAML		16 57 14.4	
	comp=E,78nm,1.2s						
KAN10				IAML		16 57 17.3	
	comp=N,68nm,0.2s						
KAN09	**Caldwell North**	**1.04**	**11**	Pg	Pg	16 56 56.3	-0.5
KAN01	**Argonia South**	**1.04**	**5**		Pg	16 56 56.4	-0.4
KAN08	**Anthony NE Sta**	**1.11**	**356**	Pg	Pg	16 56 57.7	-0.5
KAN08				IAML		16 57 25.5	
	comp=N,58nm,2.7s						
KAN06	**Argonia West S**	**1.13**	**0**		Pg	16 56 58.0	-0.5
KAN06				IAML		16 57 16.0	
	comp=E,57nm,0.3s						
KAN06				IAML		16 57 21.4	
	comp=N,55nm,0.3s						
DEOK	**Depew**	**1.14**	**103**	Pg	Pg	16 56 58.3	-0.4
DEOK				IAML		16 57 14.1	
	comp=N,55nm,0.3s						
DEOK				IAML		16 57 21.0	
	comp=E,52nm,0.3s						
KS21	**Milan North St**	**1.18**	**8**	IAML		16 57 15.9	
	comp=E,77nm,0.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KS21				IAML		16 57 17.9	
	comp=E,74nm,0.3s						
KS21	Milan North St	1.18	8	Pg	Pg	16 56 58.9	-0.6
W35A	Tecumseh	1.25	140		Pn	16 57 00.0	-0.7
W35A				IAML		16 57 21.0	
	comp=N,101nm,0.3s						
ELIS	Ellis County	1.26	268		Pn	16 57 00.3	-0.6
T35A	Sooner Cattle	1.35	53		Pn	16 57 01.7	-0.5
WMOK	Wichita Mounta	1.56	209		Pn	16 57 04.8	-0.2
WMOK				IAmb_Lg		16 57 30.4	
	comp=Z,13nm,0.7s						
TUL3	Leonard	1.69	96		Pn	16 57 06.8	+0.1
SMWD	Samnorwood	2.18	243		Pn	16 57 12.7	-0.8
SMWD				IAmb_Lg		16 57 47.6	
	comp=Z,11nm,0.7s						
LOOK	Love County	2.19	165	Pn	Pn	16 57 13.5	-0.1
R32A	Long Quarter,	2.40	344	Pn	Pn	16 57 16.6	+0.1
R32A				IAmb_Lg		16 57 55.2	
	comp=Z,8.0nm,0.9s						
U38A	Gravette	2.83	82	Pn	Pn	16 57 22.0	-0.4
APMT	Aspermont	3.34	214	IAmb_Lg		16 58 24.2	
	comp=Z,6.1nm,1.1s						
AMTX	Amarillo	3.35	250	IAmb_Lg		16 58 32.0	
	comp=Z,7.1nm,0.9s						
POST	Post	4.27	226	IAmb_Lg		16 58 57.0	
	comp=Z,4.9nm,0.7s						

*IDC **05** 16:58:30.6±17.0, 22°.78S×178°.98W, h402km±135km, mb3.5/4, mbtmp4.3/5, Error ellipse: s-maj=157.7km s-min=27.6km az=41.0*

*NEIC **05** 16:58:35.5±1.0, 23°.2S±0°.2×178°.7W±0°.2, h473km±11km, mb4.4/30, Error ellipse: s-maj=27.4km s-min=18.1km az=137.0*

ISC 05 16:58:31.5±1.7**, 22°.9S**±0°.2×**178°.8W**±0°.2**, h426km, n39, σ1s.05**/38**, mb4.3**/18**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIUE	Niue	9.14	67	P	P	17 00 43.3	+3.9
PINNC	Pines Island,	12.68	269	P	P	17 01 26.1	+8.0
URZ	Urewera	15.68	192	P	P	17 01 52.1	+1.7
	2.8nm,0.5s,baz=47,slow=19,SNR=1.8						
URZ				S	S	17 04 22.9	-12
	2.9nm,0.6s,baz=127,slow=20,SNR=1.6						
MRZ	Mangatainoka R	18.31	194	P	P	17 02 17.2	-0.9
TCW	Tory Channel	19.14	196	P	P	17 02 25.6	-0.6
QRZ	Quartz Range	19.29	200	P	P	17 02 27.0	-0.6
TKNZ	Takaka Hill	19.34	199	P	P	17 02 27.6	-0.6
THZ	Tophouse	20.03	198	P	P	17 02 33.7	-0.8
THZ				IAmb	IAmb	17 02 50.4	
	comp=Z,19nm,1.2s						
DSZ	Denniston Nort	20.35	201	P	P	17 02 36.7	-0.7
GVZ	Greta Valley S	21.11	197	P	P	17 02 42.6	-1.6
DCZ	Deep Cove	25.23	204	P	P	17 03 20.3	-1.0
DCZ				IAmb	IAmb	17 03 25.8	
	comp=Z,26nm,1.5s						
ARMA	Armidale	27.39	248	P	P	17 03 41.9	+1.1
ARMA				IAmb	IAmb	17 03 58.7	
	comp=Z,18nm,1.3s						
EIDS	Eidsvold	27.55	259	P	P	17 03 43.3	+1.2
EIDS				IAmb	IAmb	17 03 43.9	
	comp=Z,6.5nm,0.8s						
CAN	Canberra	30.57	239	P	P	17 04 08.4	-0.1
CAN				IAmb	IAmb	17 04 14.9	
	comp=Z,45nm,1.5s						
CTAO	Charters Tower	32.57	268	P	P	17 04 28.1	+2.2
CTAO				IAmb	IAmb	17 04 29.1	
	comp=Z,12nm,0.9s						
TOO	Toolangi	33.89	236	P	P	17 04 36.0	-1.0
TAU	Tasmania Unive	34.39	226	P	P	17 04 40.3	-0.8
TAU				IAmb	IAmb	17 04 44.9	
	comp=Z,43nm,1.5s						
STKA	Stephens Creek	36.10	247	P	P	17 04 55.0	-0.6
STKA	Stephens Creek	36.10	247	P	P	17 04 54.8	-0.8
	comp=Z,1.9nm,0.5s,baz=104,slow=10,SNR=7.9						
	comp=Z,1.9nm,0.5s						
BBOO	Buckleboo	40.83	246	P	P	17 05 33.1	-1.3
AS31	Alice Springs	43.27	259		P	17 05 54.2	+0.2
ASAR	Alice Springs	43.27	259	P	P	17 05 53.8	-0.1
ASAR	Alice Springs	43.27	259	P	P	17 05 54.0	+0.1
	comp=Z,4.7nm,0.7s,baz=93,slow=6.6,SNR=98						
ASAR				PcP	PcP	17 07 35.2	+1.2
	comp=Z,0.8nm,0.9s,baz=92,slow=5.6,SNR=3.8						
	comp=Z,4.7nm,0.7s						
WR0	Warramunga Arr	43.38	265	P	P	17 05 55.1	+0.3
WR0				IAmb	IAmb	17 05 56.0	
	comp=Z,8.4nm,1.1s						
WB0	Warramunga Arr	43.55	265		P	17 05 56.5	+0.3
WB0				IAmb	IAmb	17 05 57.3	
	comp=Z,11nm,0.8s						
WB2	Warramunga Arr	43.55	265	P	P	17 05 56.5	+0.4
WB2				IAmb	IAmb	17 05 57.1	
	comp=Z,8.9nm,0.6s						
WRAB	Tennant Creek	43.56	265	P	P	17 05 56.5	+0.3
WRA	Warramunga Arr	43.56	265		P	17 05 56.6	+0.3
WRA	Warramunga Arr	43.56	265	P	P	17 05 56.3	0.0
	comp=Z,7.6nm,0.6s,baz=96,slow=8.4,SNR=191						
	comp=Z,7.6nm,0.6s						
FORT	Forrest	47.67	249	P	P	17 06 26.5	-1.2
MTN	Manton Dam	48.47	273	P	P	17 06 35.1	+1.2
MTN				IAmb	IAmb	17 06 45.5	
	comp=Z,28nm,1.4s						
KNRA	Kununurra	49.78	268	P	P	17 06 45.1	+1.3
KNRA				IAmb	IAmb	17 07 17.9	
	comp=Z,31nm,1.5s						
VNDA	Vanda	55.44	185	P	P	17 07 25.4	+1.8
	comp=Z,0.7nm,0.7s,baz=14,slow=5.4,SNR=5.3						
	comp=Z,0.7nm,0.7s						
PSA00	Pilbara Seismi	56.41	259	P	P	17 07 30.6	-0.7
PSA00				IAmb	IAmb	17 08 00.7	
	comp=Z,20nm,1.3s						
MBWA	Marble Bar	56.62	259	P	P	17 07 32.4	-0.3
MBWA				IAmb	IAmb	17 08 02.8	
	comp=Z,31nm,1.4s						
MORW	Morawa	58.23	249	P	P	17 07 43.1	-0.7
MORW				IAmb	IAmb	17 08 07.4	
	comp=Z,28nm,1.4s						
CASY	Casey	61.46	206	P	P	17 08 03.8	-0.9
KS19	Wonju Array Si	78.27	319	P	P	17 09 43.6	-2.4
USRK	Ussuriysk Ar.	80.54	327	P	P	17 09 58.3	+0.4

*SJA **05** 17:00:33.6±0.7, 33°.26S×72°.33W, h18km±3km, ML4.4, MW4.7*

*IDC **05** 17:00:34.7±0.8, 33°.14S×71°.93W, h0km, mb4.3/7, mbtmp4.2/12, ML4.0/5, MS3.9/24, Error ellipse: s-maj=29.5km s-min=16.7km az=92.0*

*NEIC **05** 17:00:36.0±1.7, 33°.20S±0°.03×72°.22W±0°.02, h15km±4km, mb4.7/24, Mwr4.5/65, Error ellipse: s-maj=5.2km s-min=1.6km az=198.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}4.33; $M_{\theta\theta}$0.88; $M_{\phi\phi}$-5.22; $M_{r\theta}$2.12; $M_{\theta\phi}$-1.99; $M_{\phi r}$-4.18; Fault plane solution: $M_0$7.03000×10^{15} NP1:ϕ_s168.97000°, δ68.14000°, λ62.41000°. NP2:ϕ_s43.50000°, δ34.66000°, λ139.10000°. Principal axes: T 7.0892, Plg58.0000°, Azm41.0000°; N -0.1272, Plg25.0000°, Azm180.0000°; P -6.9619, Plg19.0000°, Azm279.0000°;*

*NEIC **05** 17:00:35.8, 33°.21S×72°.25W, h14km*

*GUC **05** 17:00:37.5±0.7, 33°.26S×72°.17W, h27km±9km, ML4.4*

ISC 05 17:00:35.6±1.2**, 33°.17S**±0°.02×**72°.19W**±0°.04**, h13km**±7km**, n157, σ1s.33**/179**, mb4.7**/19**, MS4.0**/21**, 11C-11D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VA01	Torpederas	0.48	72		Pb	17 00 46.7	+0.8
VA01	Torpederas	0.48	72	eP	Pb	17 00 46.3	+0.4
VA01	Torpederas	0.48	72	⇓iP	Pn	17 00 47.0	-1.1
VA01				eS	Sn	17 00 54.8	-1.7
VA05	Santo Domingo	0.68	135		Pg	17 00 49.0	+0.1
VA05				Sg	Sg	17 00 58.0	+0.1
VA05	Santo Domingo	0.68	135	⇓iP	Pg	17 00 49.1	+0.2
VA05				eS	Sg	17 00 58.0	+0.1
VA05				IAML		17 00 59.4	
	comp=E,44µm,0.3s						
MT02	Curacav	0.89	96		Pg	17 00 53.1	+0.3
MT02				Sg	Sn	17 01 05.2	-1.3
MT02	Curacav	0.89	96	eP	Pg	17 00 53.1	+0.3
MT02				IAML		17 01 14.4	
	comp=Z,5µm,1.1s						
MT02	Curacav	0.89	96	⇓iP	Pg	17 00 53.1	+0.3
MT02				eS	Sg	17 01 04.7	+0.3
ROC1	El Roble	1.01	79		Pn	17 00 55.2	-0.4
ROC1				Sn	Sn	17 01 09.4	-0.4
ROCH	El Roble	1.01	79	⇓iP	Pg	17 00 55.6	+0.4
ROCH				⇓iP	Pg	17 00 55.6	+0.4
ROCH				eS	Sn	17 01 09.4	-0.4
ROCH				eS	Sg	17 01 09.6	+1.1
ROCH				IAML		17 01 10.7	
	comp=E,17µm,0.5s						
ROCH				IAML		17 01 14.2	
	comp=E,17µm,0.6s						
MT01	Popeta	1.05	131		Pb	17 00 54.6	-0.9
MT01				Sn	Sb	17 01 08.3	-0.9
MT01	Popeta	1.05	131	eP	Pb	17 00 54.1	-1.5
MT01				IAML		17 01 10.5	
	comp=Z,9µm,0.5s						
MT01	Popeta	1.05	131	⇓iP	Pb	17 00 54.8	-0.8
MT01				eS	Sb	17 01 08.1	-1.1
MT01				IAML		17 01 10.4	
	comp=E,11µm,0.3s						
MT09	Talagante	1.17	121		Pn	17 00 57.2	-0.6
MT09				Sn	Sn	17 01 12.4	-1.4
MT09	Talagante	1.17	121	⇓iP	Pn	17 00 57.3	-0.6
MT09				eS	Sn	17 01 12.3	-1.4
MT09				IAML		17 01 14.2	
	comp=N,18µm,0.3s						
MT05	Renca	1.24	101		Pb	17 00 58.9	0.0
MT05				Sn	Sg	17 01 15.3	-0.3
MT05	Renca	1.24	101	eP	Pg	17 00 59.3	-0.2
MT05				eS	Sg	17 01 17.5	+1.9
MT05				IAML		17 01 24.8	
	comp=Z,8µm,1.1s						
MT05	Renca	1.24	101	⇓iP	Pb	17 00 59.0	+0.1
MT05				eS	Sg	17 01 15.1	-0.5
MT05				IAML		17 01 17.9	
	comp=E,18µm,0.4s						
PEL	Peldehue	1.27	89		Pg	17 00 59.8	-0.2
PEL				Sn	Sg	17 01 16.0	-0.5
PEL	Peldehue	1.27	89	⇓iP	Pg	17 00 59.8	-0.2
PEL				eS	Sg	17 01 15.7	-0.7
PEL				IAML		17 01 20.5	
	comp=N,7µm,0.4s						
BO03	Pichilemu	1.33	172	⇑iP	Pn	17 00 59.0	-0.9
BO03				eS	Sn	17 01 15.5	-2.0
MT10	Hacienda Santa	1.39	95	iP	Pb	17 01 01.4	-0.2
MT10				eS	Sg	17 01 20.0	-0.5
MT14	Cerro Cal¡n	1.41	100	⇓iP	Pb	17 01 01.6	-0.2
MT14				eS	Sb	17 01 19.1	-0.5
MT14				IAML		17 01 27.2	
	comp=E,16µm,0.4s						
MT03	Universidad Ad	1.45	103		Pb	17 01 02.3	-0.1
MT03				Sn	Sg	17 01 20.9	-1.2
MT03	Universidad Ad	1.45	103	eP	Pb	17 01 02.6	+0.2
MT03				eS	Sg	17 01 23.6	+1.4
MT03				IAML		17 01 27.1	
	comp=Z,9µm,0.4s						
MT03	Universidad Ad	1.45	103	⇓iP	Pb	17 01 02.3	-0.1
MT03				eS	Sb	17 01 20.3	-0.4
MT03				IAML		17 01 24.8	
	comp=E,15µm,0.3s						
MT15	Las Vizcachas	1.47	107	iP	Pb	17 01 02.3	-0.6
MT15				eS	Sb	17 01 21.1	-0.4
MT15				IAML		17 01 25.9	
	comp=N,18µm,0.3s						
MT12	Pirque	1.48	113	iP	Pb	17 01 02.3	-0.8
MT12				eS	Sb	17 01 21.2	-0.6
BO01	Tunca	1.53	143		Pn	17 01 02.0	-0.6
BO01				Sn	Sb	17 01 21.9	-1.1
BO01	Tunca	1.53	143	eP	Pn	17 00 56.5	-6.1
BO01				eP	Pn	17 01 02.0	-0.6
BO01				eS	Sn	17 01 09.2	-13
BO01	Tunca	1.53	143	⇑iP	Pn	17 01 02.0	-0.6
BO04	La Punta	1.55	122		Pb	17 01 03.1	-1.1
BO04				Sn	Sb	17 01 22.6	-1.2
BO04	La Punta	1.55	122	iP	Pb	17 01 03.2	-1.1
BO04				eS	Sb	17 01 22.4	-1.4
FCH	Farellones	1.60	96	⇑iP	Pb	17 01 05.0	-0.2
FCH				eS	Sg	17 01 26.2	-1.1
FCH				IAML		17 01 34.1	
	comp=E,5µm,0.3s						
MT13	San Alfonso	1.69	110		Pb	17 01 06.2	-0.4
MT13	San Alfonso	1.69	110	⇑iP	Pb	17 01 06.2	-0.4
MT13				eS	Sb	17 01 27.0	-0.9
MT13				IAML		17 01 33.6	
	comp=E,7µm,0.3s						
MT04	Ro Olivares	1.74	98	iP	Pb	17 01 07.0	-0.5
MT04				eS	Sb	17 01 28.8	-0.5
MT04				IAML		17 01 37.6	
	comp=N,5µm,0.6s						
LMEL	Las Melosas	1.79	113		Pb	17 01 07.3	-1.0
LMEL	Las Melosas	1.79	113	⇑iP	Pb	17 01 07.4	-1.0
LMEL				eS	Sb	17 01 30.0	-0.9
LMEL				IAML		17 01 33.4	
	comp=N,6µm,0.4s						
MT08	Bocatoma Ro	1.84	99		Pb	17 01 08.3	-1.0
MT08	Bocatoma Ro	1.84	99	⇑iP	Pb	17 01 08.4	-0.9
MT08				eS	Sb	17 01 32.5	+0.1
MT08				IAML		17 01 38.0	
	comp=E,4µm,0.5s						
GO05	Huala	1.84	173		Pn	17 01 05.9	-1.0
GO05	Huala	1.84	173	eP	Pn	17 01 05.5	-1.5
GO05				eS	Sg	17 01 39.0	+4.0
GO05				IAML		17 01 45.2	
	comp=Z,2µm,0.8s						
BO02	Sierra Bellavi	2.00	144		Pn	17 01 09.3	+0.2
BO02	Sierra Bellavi	2.00	144	eP	Pn	17 01 09.0	-0.1
BO02				eS	Sb	17 01 35.0	-1.6
BO02				IAML		17 01 41.5	
	comp=Z,3µm,0.3s						
BO02	Sierra Bellavi	2.00	144	⇑iP	Pn	17 01 09.5	+0.4
CO02	Combarbal	2.21	28		Pn	17 01 13.1	+1.0
CO02	Combarbal	2.21	28	eP	Pn	17 01 13.4	+1.4
CO02				eS	Sb	17 01 42.5	-0.2
CO02				IAML		17 01 54.0	
	comp=Z,3µm,0.7s						
CO06	Fray Jorge	2.54	11		Pn	17 01 16.6	+0.1
CO03	El Pedregal	2.66	29	Pn	Pn	17 01 19.3	+1.1
CO03	El Pedregal	2.66	29	eP	Pn	17 01 19.9	+1.7
CO03				eS	Sb	17 01 56.5	+0.9
CO03				IAML		17 02 05.5	
	comp=Z,1µm,1.2s						
ML02	Panimavida	2.66	166		Pn	17 01 17.9	-0.3
ML02	Panimavida	2.66	166	iP	Pn	17 01 19.2	+1.1
RTLS	Leoncito	2.81	62	eP	Pb	17 01 24.7	-1.0
RTLS				IAML		17 02 08.8	
	comp=Z,3µm,1.1s						
GO04	Tololo Observa	3.22	22		Pn	17 01 26.9	+0.8
GO04	Tololo Observa	3.22	22	eP	Pn	17 01 27.3	+1.3
GO04				eS	Sb	17 02 12.4	+0.5
GO04				IAML		17 02 32.0	
	comp=Z,1µm,0.6s						
CO05	La Serena	3.35	14		Pn	17 01 28.6	+1.0
ZON	Zonda	3.39	62	Pn	Pn	17 01 28.6	+0.4
DOCA	Reserva Natura	3.45	51	eP	Pn	17 01 32.7	+3.4
DOCA				eS	Sn	17 02 13.4	+3.2
DOCA				IAML		17 02 37.9	
	comp=Z,574nm,0.8s						
RFA	San Rafael	3.48	118	eP	Pn	17 01 31.8	+2.3
RFA				IAML		17 02 31.4	
	comp=Z,590nm,0.9s						
CO01	Juntas del Tor	3.66	30		Pn	17 01 33.8	+1.7
CO01	Juntas del Tor	3.66	30	eP	Pn	17 01 34.6	+2.5
CO01				eS	Sb	17 02 25.9	+1.4
CO01				IAML		17 02 36.9	
	comp=Z,406nm,0.6s						
BI05	Punta Hualpn	3.66	193		Pn	17 01 30.6	-1.3
ACCO	Cerro Coronel	3.71	47	eP	Pb	17 01 36.9	-4.2
ACCO				eS	Sb	17 02 27.9	+1.9
AROD	Rodeo	3.79	38	eP	Pn	17 01 37.9	+3.9
AROD				eS	Sg	17 02 38.0	+0.6
LCO	Las Campanas	4.34	18	Pn	Pn	17 01 42.2	+0.7
LCO	Las Campanas	4.34	18	eP	Pn	17 01 38.0	-3.6
LCO				eP	Pb	17 01 43.5	-8.5
LCO				eS	Sb	17 02 38.5	-5.9
AC05	El Transito	4.63	21	Pn	Pn	17 01 46.4	+1.1
AC05	El Transito	4.63	21	eP	Pn	17 01 46.8	+1.4
AC05				eS	Sn	17 02 41.0	+2.0
AC05				IAML		17 03 13.2	
	comp=Z,337nm,0.7s						
AVFE	Valle Fertil	4.74	59	eP	Pn	17 01 45.0	-1.9
AVFE				IAML		17 03 10.4	
	comp=Z,292nm,0.8s						
AC04	Llanos de Chal	5.05	11	Pn	Pn	17 01 50.8	-0.1
VA04	Juan Fernndez	5.57	263	Pn	Pn	17 01 58.5	+0.4
H03N1	Juan Fernandez	5.63	265	T	T	17 08 29.8	
	baz=90,slow=73						
H03N3	Juan Fernandez	5.64	265	T	T	17 07 53.1	
	baz=90,slow=73						
H03S1	Juan Fernandez	5.65	261	T	T	17 07 48.1	
	baz=84,slow=74						
H03N2	Juan Fernandez	5.65	265	T	T	17 08 05.4	
	baz=90,slow=73						
H03S3	Juan Fernandez	5.65	262	T	T	17 08 17.7	
	baz=84,slow=74						
H03S2	Juan Fernandez	5.66	261	T	T	17 07 37.4	
	baz=84,slow=74						
LC02	Puerto Saavedr	5.69	189	Pn	Pn	17 01 57.8	-2.0
GO03	Copiap	5.81	17	Pn	Pn	17 02 01.5	-0.1
AC06	Mina Casimiro	6.01	16		Pn	17 02 04.0	-0.2
GO06	Curarrehue	6.42	175	Pn	Pn	17 02 09.6	-0.4
AC01	Pan de Azucar	7.14	12	Pn	Pn	17 02 18.2	-1.5
PLCA	Paso Flores	7.66	171	Pn	Pn	17 02 24.9	-1.9
PLCA	Paso Flores	7.66	171	Pn	Pn	17 02 27.1	+0.2
	comp=Z,0.5nm,0.3s,baz=346,slow=12,SNR=12						
PLCA				Sn	Sn	17 03 56.2	+2.7
	baz=338,slow=16						
PLCA				Lg	Lg	17 04 30.8	
	baz=270,slow=20						
	comp=Z,2.6nm,0.5s						
GO02	Mina Guanaco	8.30	17	Pn	Pn	17 02 34.1	-1.8
PB14	IPOC Station P	8.66	11	Pn	Pn	17 02 38.6	-2.3
LL01	San Ignacio de	9.19	181	Pn	Pn	17 02 48.0	+0.2
TRQA	Tornquist	9.63	123	Pn	Pn	17 02 54.5	+0.5
LVC	Limon Verde	10.92	16	Pn	Pn	17 03 09.2	-2.6
	comp=Z,1.0nm,0.3s,baz=132,slow=7.2,SNR=7.2						
LVC				Sn	Sn	17 05 13.7	-0.3
	comp=Z,0.5nm,0.3s,baz=333,slow=9.0,SNR=2.2						
LVC				LR	LR	17 07 34.4	
	comp=Z,476nm,21.9s,baz=208,slow=39						
	comp=Z,3.1nm,0.3s						
ITQB	Itaqui	13.74	79	Pn	Pn	17 03 51.4	+1.3
CPUP	Villa Florida	14.59	66	Pn	Pn	17 03 59.3	-2.5
	comp=Z,0.1nm,0.3s,baz=241,slow=15,SNR=1.5						
CPUP				Sn	Sn	17 06 40.4	-3.0
	comp=Z,0.2nm,0.3s,baz=204,slow=20,SNR=1.5						
CPUP				Lg	Lg	17 07 55.2	
	comp=Z,0.2nm,0.3s,baz=149,slow=19,SNR=1.8						
CPUP				LR	LR	17 09 40.9	
	comp=Z,349nm,19.7s,baz=242,slow=38						
	comp=Z,0.6nm,0.4s						
PB16	IPOC Station P	14.97	10		Pn	17 04 06.5	-0.9
PB18	Visviri	15.71	10	P	P	17 04 20.6	-0.6
PB18				IAmb	IAmb	17 04 53.2	
	comp=Z,63nm,1.2s						
LPAZ	La Paz	17.21	13	P	P	17 04 37.7	-0.2
LPAZ	La Paz	17.21	13	P	P	17 04 37.5	-0.4
	comp=Z,0.4nm,0.3s,baz=194,slow=7.5,SNR=20						
	comp=Z,4.4nm,0.6s						
AQDB	Aquidauana	19.37	53		P	17 05 00.7	-0.4
SIV	San Ignacio	19.85	33	P	P	17 05 06.5	+0.1
	comp=Z,0.1nm,0.3s,baz=214,slow=10.0,SNR=24						
SIV				LR	LR	17 14 12.5	
	comp=Z,601nm,18.8s,baz=230,slow=42						
	comp=Z,5.0nm,0.6s						
EFI	East Falkland	21.16	155	P	P	17 05 19.1	-1.1
PTLB	Pontes e Lacer	21.25	37	P	P	17 05 20.6	-0.9
PTLB				IAmb	IAmb	17 05 23.8	
	comp=Z,40nm,1.2s						
VILB	Vilhena	22.92	31	P	P	17 05 38.3	-1.1
VILB				IAmb	IAmb	17 05 41.8	
	comp=Z,20nm,1.0s						
SPB	Sao Paulo	23.74	73	P	P	17 05 46.6	-0.9
SPB				IAmb	IAmb	17 06 02.5	
	comp=Z,27nm,1.1s						
ETMB	Extrema	23.89	15	P	P	17 05 50.3	+1.3
ETMB				IAmb	IAmb	17 05 53.5	
	comp=Z,31nm,1.4s						
CZSB	Cruzeiro do Su	25.32	359	P	P	17 06 02.2	+0.1
SAML	Samuel	25.50	21	P	P	17 06 04.6	+0.8
BDFB	Brasilia	27.99	57	P	P	17 06 26.0	-0.3
BDFB	Brasilia	27.99	57	P	P	17 06 25.7	-0.6
	comp=Z,3.2nm,0.5s,baz=173,slow=5.9,SNR=4.9						
BDFB				LR	LR	17 19 13.7	
	comp=Z,479nm,19.6s,baz=192,slow=40						
	comp=Z,3.2nm,0.5s						
TBTG	Tabatinga, AM	28.92	5	P	P	17 06 35.2	+0.8
PMSA	Palmer Station	32.02	173	LR	LR	17 20 04.1	
	comp=Z,223nm,19.5s,baz=323,slow=36						
RPN	Rapa Nui	32.56	271	LR	LR	17 17 20.6	
	comp=Z,288nm,19.2s,baz=76,slow=31						
BOAV	Boa Vista	37.06	20	P	P	17 07 45.6	+0.2
RUSC	La Rusia	38.86	359	P	P	17 08 02.3	+1.1
RUSC				IAmb	IAmb	17 08 14.1	
	comp=Z,32nm,1.3s						
SDV	Santo Domingo	41.85	2	LR	LR	17 27 33.8	
	comp=Z,110nm,18.0s,baz=235,slow=39						
BAUV	El Baul	42.07	6	P	P	17 08 27.2	0.0
BAUV				IAmb	IAmb	17 08 35.9	
	comp=Z,18nm,1.2s						
MDP	Montagnes des	42.34	30	LR	LR	17 28 01.5	
	comp=Z,366nm,19.8s,baz=196,slow=39						
RCBR	Riachuelo	43.32	59	LR	LR	17 27 41.9	
	comp=Z,275nm,20.4s,baz=237,slow=38						
PCRV	Puerto La Cruz	43.70	11	LR	LR	17 29 01.7	
	comp=Z,214nm,18.6s,slow=39						
BELA	Belgrano 2	47.71	170		P	17 09 11.2	-0.3
VNA3	Neumayer Olymp	50.17	158	⇑P	P	17 09 32.0	+1.6
	comp=Z,3.1nm,0.7s						
VNA2	Neumayer--Watz	50.82	157	⇑P	P	17 09 36.2	+0.9
	comp=Z,4.0nm,0.7s,baz=290,slow=7.0						
SNAA	Sanae	52.40	158	P	P	17 09 46.4	-0.8
SNAA	Sanae	52.40	158	⇑P	P	17 09 48.0	+0.9
	comp=Z,75nm,0.7s						
SNAA	Sanae	52.40	158	P	P	17 09 47.4	+0.2
	comp=Z,4.7nm,0.9s,baz=284,slow=5.5,SNR=12						
SNAA				LR	LR	17 30 54.2	
	comp=Z,61nm,19.8s,baz=341,slow=35						
	comp=Z,4.7nm,0.9s						
TROLL	Troll, Antarti	54.10	158	⇑P	P	17 10 00.6	+0.8
	comp=Z,97nm,0.7s						
TEIG	Tepich	55.28	342	P	P	17 10 07.7	-0.9
QSPA	South Pole Qui	57.06	180	P	P	17 10 21.8	+0.7
QSPA				IAmb	IAmb	17 10 32.7	
	comp=Z,10.0nm,0.9s						
LPIG	La Paz	67.55	322	LR	LR	17 35 09.4	
	comp=Z,58nm,18.1s,baz=204,slow=31						
SAND	Sanderson	68.89	332	P	P	17 11 40.2	+0.2
SAND				IAmb	IAmb	17 11 54.0	
	comp=Z,9.3nm,1.3s						
TXAR	Lajitas Array	68.95	331	P	P	17 11 42.3	+1.8
	comp=Z,0.9nm,0.7s,baz=153,slow=8.4,SNR=4.7						
	comp=Z,0.9nm,0.7s						
WVT	Waverly	70.48	347	P	P	17 11 49.5	-0.1
WVT				IAmb	IAmb	17 11 51.7	
	comp=Z,8.0nm,0.9s						
MAW	Mawson	74.01	164	P	P	17 12 12.9	+2.5
	comp=Z,3.0nm,0.5s,baz=234,slow=19,SNR=1.9						
MAW				LR	LR	17 45 52.4	
	comp=Z,134nm,18.3s,baz=233,slow=37						
	comp=Z,3.0nm,0.5s						
DBIC	Dimbokro	75.04	72	LR	LR	17 45 44.0	
	comp=Z,60nm,18.2s,baz=194,slow=36						
SUR	Sutherland	75.34	119	LR	LR	17 41 55.7	
	comp=Z,46nm,19.3s,baz=182,slow=33						
PFO	Pinyon Flats O	78.40	324	LR	LR	17 41 18.4	
	comp=Z,38nm,18.0s,baz=170,slow=31						
TSUM	Tsumeb	79.56	106	LR	LR	17 43 08.2	
	comp=Z,92nm,20.9s,baz=152,slow=32						
BOSA	Boshof	80.57	118	P	P	17 12 48.8	+0.6
	comp=Z,6.9nm,1.0s,baz=237,slow=4.0,SNR=4.7						
BOSA				LR	LR	17 47 13.6	
	comp=Z,37nm,18.1s,baz=200,slow=35						
	comp=Z,6.9nm,1.0s						
LBTB	Lobatse	82.77	115	P	P	17 12 59.2	-0.6
LBTB	Lobatse	82.77	115	LR	LR	17 46 12.6	
	comp=Z,61nm,19.1s,baz=222,slow=33						
NVAR	Mina Array Bea	83.13	325	P	P	17 13 03.7	+2.4
	comp=Z,0.3nm,0.6s,baz=170,slow=6.4,SNR=2.1						
	comp=Z,0.3nm,0.6s						
TOA0	Torodi Ar. Sit	84.05	70	P	P	17 13 05.9	-0.3
TOA0				IAmb	IAmb	17 13 08.0	
	comp=Z,5.5nm,0.9s						
TORD	Torodi Ar. Bea	84.05	70	P	P	17 13 05.8	-0.5
TORD				IAmb	IAmb	17 13 08.0	
	comp=Z,5.5nm,1.1s						
TORD	Torodi Ar. Bea	84.05	70	P	P	17 13 06.5	+0.3
	comp=Z,4.5nm,0.9s,baz=283,slow=4.1,SNR=21						
TORD				LR	LR	17 47 42.5	
	comp=Z,70nm,21.9s,baz=152,slow=34						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,4.5nm,0.9s						
LSZ	Lusaka	90.19	108	LR	LR	17 50 37.8	
	comp=Z,134nm,19.7s,baz=270,slow=33						
MDT	Midelt	91.40	51	LR	LR	17 53 42.4	
	comp=Z,81nm,20.7s,baz=214,slow=35						
ESDC	Sonseca Array	96.10	46	LR	LR	17 57 01.3	
	comp=Z,52nm,18.1s,baz=250,slow=35						
FRB	Frobisher Bay	96.64	2	LR	LR	18 01 05.8	
	comp=Z,29nm,19.6s,baz=184,slow=38						
H11S2	WAKE ISLAND Hy	125.65	270	T	T	19 37 53.0	
	baz=118,slow=74						
H11S1	WAKE ISLAND Hy	125.66	270	T	T	19 37 56.2	
	baz=118,slow=74						
H11S3	WAKE ISLAND Hy	125.67	270	T	T	19 37 56.7	
	baz=118,slow=74						
H11N3	WAKE ISLAND Hy	126.04	271	T	T	19 38 24.0	
	baz=120						
H11N1	WAKE ISLAND Hy	126.06	271	T	T	19 38 31.6	
	baz=120						
H11N2	WAKE ISLAND Hy	126.06	271	T	T	19 38 22.4	
	baz=120						
BVAR	Borovoye Array	146.76	42	PKPbc	PKPab	17 20 17.1	-0.9
	comp=Z,1.3nm,0.6s,baz=214,slow=5.0,SNR=6.5						
KURBB	Kurchatov Arra	152.35	42	PKPbc	PKPbc	17 20 30.4	-0.4
	comp=Z,0.4nm,0.5s,baz=304,slow=3.0,SNR=9.9						
ZALV	Zalesovo Beam	153.59	31	PKP	PKPdf	17 20 26.4	+0.7
	comp=Z,0.9nm,0.8s,baz=276,slow=2.8,SNR=4.3						
ZALV				PKPbc	PKiKP	17 20 33.4	-0.1
	comp=Z,1.8nm,0.8s,baz=318,slow=1.9,SNR=7.8						
MKAR	Makanchi Array	156.31	47	PKP	PKPdf	17 20 29.9	+0.2
	comp=Z,0.6nm,0.9s,baz=348,slow=4.7,SNR=3.6						
MKAR				PKPab	PKPab	17 20 58.6	+0.7
	comp=Z,0.8nm,0.5s,baz=289,slow=3.1,SNR=14						
PZH	PanZhiHua	171.52	140	PKP	PKPdf	17 20 43.6	-0.7

IDC 05 17:15:46.1±374.0, 67°.31N×42°.29E, h0km, Error ellipse: s-maj=237.5km s-min=127.1km az=43.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	18.70	147	I	I	19 12 30.0	
	baz=339,slow=340,SNR=0.9						
I46RU	ZALESOVO INFRA	24.16	103	I	I	19 41 10.0	
	baz=320,slow=324,SNR=0.9						
I18DK	QAANAAQ INFRAS	29.73	336	I	I	20 17 20.0	
	baz=46,slow=338,SNR=2.1						
I34MN	SONGINO INFRAS	37.35	89	I	I	21 05 30.0	
	baz=320,slow=331,SNR=0.6						

*ISK **05** 17:21:47.6, 36°.02N×31°.12E, h5km, ML3.7/43*
*NIC **05** 17:21:48.8, 36°.47N×31°.48E, h10km±3km, Ml4.0/10*
*AFAD **05** 17:21:49.2±0.0, 36°.00N×31°.15E, h7km±1km, MW3.7*
*IDC **05** 17:21:51.3±1.6, 36°.10N×31°.06E, h50km±16km, mb3.5/8, mbtmp3.7/14, ML3.4/6, MS2.9/5, Error ellipse: s-maj=20.8km s-min=15.2km az=95.0*
*GII **05** 17:21:55.7±0.0, 35°.64N×31°.28E, h10km, MD3.1/8*
ISC 05 17:21:51.5±1.0, 36°.08N±0°.03×31°.16E±0°.03, h44km±12km, n147, σ1s96/187, mb3.7/8, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKUM	Antalya-Kumluc	0.70	291	P	Pn	17 22 03.2	-1.9
AKUM				S	Sn	17 22 13.0	-1.8
KEPZ	Antalya-Kepez	0.90	24	P	Pn	17 22 06.9	-0.9
KEPZ				S	Sn	17 22 17.8	-1.9
GAZI	Gazipasa	0.95	80	Pg	Pn	17 22 07.6	-0.9
GAZI	Gazipasa	0.95	80	P	Pn	17 22 07.3	-1.2
GAZI				S	Sn	17 22 17.9	-3.0
KORT	Korkueli	1.12	325	Pn	Pn	17 22 10.7	-0.3
KORT				Sn	Sn	17 22 28.3	+3.0
KORT	Korkueli	1.12	325	P	Pn	17 22 10.0	-0.9
KORT				S	Sn	17 22 28.5	+3.2
ELL	Elmali	1.21	304	Pn	Pn	17 22 12.3	+0.2
ELL				Sn	Sn	17 22 29.7	+2.4
ELL	Elmali	1.21	304	P	Pn	17 22 13.2	+1.2
ELL				S	Sn	17 22 30.8	+3.5
ELL				AML	AML	17 22 39.8	
	3.9nm,0.8s						
ELL				AML	AML	17 22 41.4	
	3.3nm,1.0s						
KSL	Kastellorizon	1.27	274	S	Sn	17 22 38.1	+9.4
KSL				AML	AML	17 22 41.9	
	0.8nm,1.0s						
KSL				AML	AML	17 22 44.2	
	1.1nm,0.7s						
BUCA	Burdur, Bucak-	1.33	339	P	Pn	17 22 16.4	+2.7
BUCA				S	Sn	17 22 33.9	+3.5
HDMB	Hadim	1.39	50	Pn	Pn	17 22 15.2	+0.6
AKMS	Akamas	1.43	137	P	Pn	17 22 16.5	+1.5
AKMS				S	Sn	17 22 37.5	+4.8
AKMS				AML	AML	17 22 43.9	
	8.4nm,0.4s						
AKMS				AML	AML	17 22 48.1	
	7.2nm,0.7s						
SEYD	Seydisehir-KON	1.43	22	Pn	Pn	17 22 15.6	+0.4
SEDI	Konya, Seydise	1.45	19	P	Pn	17 22 15.5	+0.1
SEDI				S	Sn	17 22 31.2	-2.2
ALFC	Alefka	1.49	128	P	Pn	17 22 15.2	-0.7
ALFC				S	Sn	17 22 35.7	+1.5
ALFC				AML	AML	17 22 46.8	
	6.6nm,0.3s						
ALFC				AML	AML	17 22 48.4	
	6.2nm,0.5s						
TEKE	Tekeli-Mersin	1.59	87	Pn	Pn	17 22 18.5	+1.4
IZZE	Mula-Seydike	1.60	283	P	Pn	17 22 17.1	-0.2
IZZE				S	Sn	17 22 34.4	-2.4
AKDN	Akdeniz- Kıbrı	1.67	117	Pn	Pn	17 22 19.1	+0.8
BERE	Bereket-Mersin	1.69	80	Pn	Pn	17 22 20.3	+1.6
LEF	Lefka	1.71	124	Pn	Pn	17 22 19.0	+0.2
LEF	Lefka	1.71	124	P	Pn	17 22 17.3	-1.5
CAME	Cameli-Denizli	1.72	301	Pn	Pn	17 22 20.0	+0.8
GOLH	Golhisar	1.73	313	P	Pn	17 22 21.4	+2.3
GOLH				S	Sn	17 22 44.4	+4.3
NATA	Nata	1.74	138	P	Pn	17 22 23.1	+3.9
NATA				S	Sn	17 22 47.5	+7.3
FETY	Fethiye	1.76	289	Pn	Pn	17 22 20.4	+0.8
TROD	Troodos	1.80	128	P	Pn	17 22 21.7	+1.5
TROD				S	Sn	17 22 46.8	+4.9
TROD				AML	AML	17 22 54.9	
	4.1nm,0.7s						
TROD				AML	AML	17 23 02.8	
	3.8nm,1.1s						
CAEL	Denizli, Camel	1.81	306	P	Pn	17 22 22.2	+1.9
ISP	Isparta	1.81	344	Pn	Pn	17 22 22.2	+1.8
KKBE	Karaman, Kazim	1.83	51	P	Pn	17 22 22.2	+1.6
KKBE				S	Sn	17 22 44.0	+1.4
BRDR	BURDUR-Merkez	1.84	332	P	Pn	17 22 22.5	+1.9
BRDR				S	Sn	17 22 44.2	+1.4
OREN	Orenkoy-Mersin	1.87	85	Pn	Pn	17 22 22.7	+1.7
TEVE	Tevekalti-Mers	1.88	78	Pn	Pn	17 22 23.1	+1.8
AKK1	Akkuyu-Mersin	1.93	87	Pn	Pn	17 22 23.6	+1.7
GULN	MERSIN_Gulnar	1.94	86	P	Pn	17 22 22.8	+0.9
GULN				S	Sn	17 22 44.8	-0.2
AKK2	Akkuyu-Mersin	1.94	88	Pn	Pn	17 22 23.7	+1.8
TEPK	Tepekoy-MERSIN	1.94	85	Pn	Pn	17 22 23.8	+1.8
AKKU	Akkuyu-Mersin	1.94	87	Pn	Pn	17 22 23.3	+1.3
KMER	Konya-Meram	1.95	30	P	Pn	17 22 23.2	+1.0
YESI	Yesilovacik-Me	2.02	86	Pn	Pn	17 22 24.9	+1.9
KRMN	Karaman	2.02	57	Pn	Pn	17 22 24.9	+1.7
APMY	Acipayam-Deniz	2.04	314	Pn	Pn	17 22 25.2	+1.8
BASM	Basmaki-Afyon	2.04	335	Pn	Pn	17 22 25.4	+2.0
TISA	Tisan-Mersin	2.04	87	Pn	Pn	17 22 25.2	+1.8
ATHAL	Athalassa	2.05	116	P	Pn	17 22 27.1	+3.6
ATHAL				S	Sn	17 22 50.5	+2.6
ATHAL				AML	AML	17 23 11.6	
	4.4nm,0.7s						
ATHAL				AML	AML	17 23 13.0	
	4.6nm,0.8s						
IKL	Isikli	2.05	85	Pn	Pn	17 22 25.1	+1.6
DOGA	KONYA_Doganhis	2.06	11	P	Pn	17 22 24.4	+0.6
DOGA				S	Sn	17 22 46.0	-2.4
KARG	Kargicak-Mersi	2.07	86	Pn	Pn	17 22 25.5	+1.7
LFK	Lefkose	2.09	112	Pn	Pn	17 22 25.2	+1.0
CSS	Mathiatis	2.10	121	Pn	Pn	17 22 24.4	+0.3
CSS	Mathiatis	2.10	121	P	Pn	17 22 23.9	-0.2
CSS				S	Sn	17 22 51.5	+2.5
CSS				AML	AML	17 23 07.0	
	1.8nm,0.6s						
CSS				AML	AML	17 23 08.4	
	1.4nm,0.4s						
CSS	Mathiatis	2.10	121	P	Pn	17 22 26.0	+1.9
KONT	Konya--Tatoy	2.10	27	Pn	Pn	17 22 25.6	+1.4
KONT	Konya--Tatoy	2.10	27	P	Pn	17 22 25.3	+1.1
ASGA	Asgata	2.14	126	AML	AML	17 23 07.6	
	2.5nm,0.6s						
ASGA				AML	AML	17 23 07.6	
	2.8nm,1.1s						
DALY	Dalyan (Mula)	2.15	291	Pn	Pn	17 22 26.0	+1.2
AKIN	Akıncılar- Kıb	2.16	119	Pn	Pn	17 22 26.0	+0.9
YVAC	Isparta, Yalva	2.19	2	P	Pn	17 22 26.3	+0.8
YVAC				S	Sn	17 22 52.1	+0.6
SILI	Silifke-Mersin	2.26	82	Pn	Pn	17 22 28.4	+2.1
TAVA	DENIZLI_Tavas	2.27	308	P	Pn	17 22 28.2	+1.6
SLFK	Silifke-Mersin	2.28	81	Pn	Pn	17 22 28.4	+1.8
MVOU	Mavrovouni	2.28	117	P	Pn	17 22 25.9	-0.7
MVOU				AML	AML	17 23 06.3	
	1.9nm,0.8s						
MVOU				AML	AML	17 23 08.4	
	1.5nm,0.8s						
DNIZ	Denizli-Tavas-	2.29	313	P	Pn	17 22 30.2	+3.2
DNIZ				S	Sn	17 22 56.2	+2.2
KZIL	AFYON_Kizioren	2.32	340	P	Pn	17 22 28.7	+1.4
KZIL				S	Sn	17 22 56.3	+1.6
LADK	Ladik-KONYA	2.33	24	Pn	Pn	17 22 29.5	+2.1
KIZK	Mersin	2.45	80	Pn	Pn	17 22 31.1	+2.1
KIZK	Mersin	2.45	80	P	Pn	17 22 30.9	+1.9
KIZK				S	Sn	17 22 58.4	+0.8
EREN	Erenkoy	2.51	102	Pn	Pn	17 22 31.5	+1.7
SHUT	Suhut-Afyon	2.52	349	Pn	Pn	17 22 32.1	+2.1
KDHN	Kadinhani	2.56	17	P	Pn	17 22 31.1	+0.6
KDHN				S	Sn	17 22 56.4	-4.1
PARAL	Paralimni	2.59	114	AML	AML	17 23 20.3	
	2.4nm,0.6s						
PARAL				AML	AML	17 23 24.3	
	1.8nm,1.1s						
ALIN	Konya, Altinte	2.61	31	P	Pn	17 22 32.4	+1.1
ALIN				S	Sn	17 23 00.3	-1.5
PASA	Karahalli, USA	2.63	330	P	Pn	17 22 32.2	+0.7
PASA				S	Sn	17 23 00.5	-1.7
KURO	Afyon-Bolvadin	2.66	356	P	Pn	17 22 32.6	+0.7
YESY	Yesilyurt	2.68	50	Pn	Pn	17 22 34.9	+2.6
KERG	Konya-Eregli	2.73	60	P	Pn	17 22 35.3	+2.3
CHBY	Cihanbeyli	2.86	28	Pn	Pn	17 22 37.1	+2.4
OSC2	CSNet OBS 4	3.13	163	P	Pn	17 22 42.7	+4.4
KARA	Karaisali	3.35	68	Pn	Pn	17 22 44.1	+2.7
CMRD	Camardi-Nigde	3.46	62	Pn	Pn	17 22 46.0	+3.1
YAYX	Yaylak	3.55	36	Pn	Pn	17 22 47.0	+2.8
CEYT	Ceyhan	3.81	75	Pn	Pn	17 22 50.6	+2.9
KOZT	Kozan	4.00	68	Pn	Pn	17 22 53.1	+2.8
TAHT	Tahtakopru-Hat	4.08	84	Pn	Pn	17 22 54.2	+2.9
BRTR	Keskin Array B	4.14	28	P	Pn	17 22 52.9	+0.6
	1.3nm,0.3s,baz=195,slow=14,SNR=30						
BRTR				S	Sn	17 23 40.1	+0.7
	7.5nm,0.6s,baz=197,slow=24,SNR=6.4						
BRTR				LR	LR	17 24 56.0	
	comp=Z,130nm,19.2s,baz=170,slow=44						
	5.6nm,0.5s						
BHL	Bhannes	4.28	119	eP	Pn	17 22 57.7	+3.4
HWQ	Hawqa	4.32	113	eP	Pn	17 22 58.5	+3.8
BEIL	Beino	4.39	109	eP	Pn	17 22 58.3	+2.6
HNTI	Hanita	4.46	131	Pn	Pn	17 22 58.8	+2.1
HNTI				Sn	Sn	17 23 46.8	-0.5
HNTI	Hanita	4.46	131	P	Pn	17 22 58.6	+1.9
QRWL	Qaraoun	4.50	123	eP	Pn	17 23 00.2	+3.0
RCY	Rachaya	4.63	122	eP	Pn	17 23 02.5	+3.4
MMC7	Mount Meron ar	4.64	130	Pn	Pn	17 23 01.1	+2.0
MMA0B	Mount Meron ar	4.65	130	Pn	Pn	17 23 01.1	+1.8
MMA0B				Sn	Sn	17 23 51.7	-0.3
MMAI	Mount Meron Ar	4.65	130	P	Pn	17 23 00.7	+1.4
	8.6nm,0.3s,baz=310,slow=12,SNR=27						
MMAI				S	Sn	17 23 51.2	-0.9
	21nm,0.3s,baz=316,slow=27,SNR=19						
	6.2nm,0.3s						
SHBL	Chebaa	4.66	124	eP	Pn	17 23 03.5	+4.0
OFRI	\`Ofer	4.68	136	Pn	Pn	17 23 01.1	+1.4
OFRI				Sn	Sn	17 23 51.9	-0.9
GEM	Giv'at Ha'Em	4.69	126	Pn	Pn	17 23 02.2	+2.4
GEM				Sn	Sn	17 23 52.7	-0.2
GEM	Giv'at Ha'Em	4.69	126	P	Pn	17 23 02.9	+3.1
NATI	Neve Ativ	4.71	125	Pn	Pn	17 23 02.6	+2.6
NATI				Sn	Sn	17 23 52.7	-0.6
BLGI	Bet Lehem HaGe	4.72	134	Pn	Pn	17 23 01.9	+1.7
BLGI				Sn	Sn	17 23 52.8	-0.8
KSHT	Keshet	4.93	127	Pn	Pn	17 23 05.7	+2.6
KSHT				Sn	Sn	17 23 58.8	-0.1
SLTI	Sal'it	5.00	139	Pn	Pn	17 23 06.0	+1.9
SLTI				Sn	Sn	17 23 59.3	-1.3
MMLI	Mount Malkishu	5.07	135	Pn	Pn	17 23 06.2	+1.2
MMLI				Sn	Sn	17 24 01.2	-1.0
SHMJ	Saham	5.07	130	P	Pn	17 23 07.0	+2.0
IDI	Anoyia	5.16	263	P	Pn	17 23 05.8	-0.4
	1.6nm,0.3s,baz=349,slow=4.6,SNR=13						
IDI				S	Sn	17 24 00.4	-4.2
	8.4nm,0.3s,baz=288,slow=19,SNR=2.0						
	15nm,1.0s						
QRNJ	Al-Qirein	5.23	134	P	Pn	17 23 09.4	+2.3
HMDT	Nahal Hemdat	5.26	135	Pn	Pn	17 23 09.6	+2.0
HMDT				Sn	Sn	17 24 06.2	-0.8
UJAP	Al Uja	5.45	138	Pn	Pn	17 23 11.8	+1.6
UJAP				Sn	Sn	17 24 10.5	-1.1
UJAP	Al Uja	5.45	138	P	Pn	17 23 11.8	+1.6
AMAZ	Amatzia	5.51	144	Pn	Pn	17 23 12.6	+1.6
AMAZ				Sn	Sn	17 24 11.6	-1.5
DSI	Dead Sea	5.71	141	Pn	Pn	17 23 15.0	+1.3
DSI				Sn	Sn	17 24 16.1	-1.9
DSI	Dead Sea	5.71	141	P	Pn	17 23 15.9	+2.2
YTIR	Yattir	5.75	144	Pn	Pn	17 23 15.8	+1.5
YTIR				Sn	Sn	17 24 17.5	-1.5
YTIR	Yattir	5.75	144	P	Pn	17 23 01.3	-13
KZIT	Kziot	5.83	151	Pn	Pn	17 23 16.4	+1.0
KZIT				Sn	Sn	17 24 18.6	-2.3
MDBI	Mazsada	5.90	142	P	Pn	17 23 18.2	+1.8
MSBI	Mazada	5.90	142	Pn	Pn	17 23 17.7	+1.3
MSBI				Sn	Sn	17 24 20.9	-1.8
GHAJ	Ghor Haditha	6.02	141	Pn	Pn	17 23 19.4	+1.5
GHAJ				Sn	Sn	17 24 24.0	-1.5
GHAJ	Ghor Haditha	6.02	141	P	Pn	17 23 19.3	+1.4
ASF	Jabal al Asfar	6.15	128	P	Pn	17 23 21.8	+1.9
ASF	Jabal al Asfar	6.15	128	P	Pn	17 23 20.9	+1.0
	0.3nm,0.3s,baz=326,slow=11,SNR=1.2						
ASF				S	Sn	17 24 28.3	-0.7
	3.9nm,0.4s,baz=122,slow=15,SNR=1.3						
	1.4nm,0.3s						
KARJ	KARJ	6.21	142	P	Pn	17 23 11.9	-8.7
PRNI	Paran	6.56	149	Pn	Pn	17 23 26.5	+1.1
PRNI				Sn	Sn	17 24 36.9	-2.1
PRNI	Paran	6.56	149	P	Pn	17 23 26.0	+0.6
KRMI	Paran Flat	6.66	152	Pn	Pn	17 23 27.8	+1.0
KRMI				Sn	Sn	17 24 39.1	-2.3
KRMI	Paran Flat	6.66	152	P	Pn	17 23 28.2	+1.4
HRFI	Mount Harif	6.85	151	Pn	Pn	17 23 30.5	+1.1
HRFI				Sn	Sn	17 24 43.9	-2.2
HRFI	Mount Harif	6.85	151	P	Pn	17 23 30.6	+1.1
MBRI	Mt Berech	7.02	152	Pn	Pn	17 23 32.1	+0.3
MBRI				Sn	Sn	17 24 48.1	-2.2
MBRI	Mt Berech	7.02	152	P	Pn	17 23 33.3	+1.5
AQBJ	Aqaba	7.13	152	P	Pn	17 23 35.3	+2.1
EIL	Elat	7.14	152	Pn	Pn	17 23 33.0	-0.5
EIL				Sn	Sn	17 24 50.7	-2.6
EIL	Elat	7.14	152	P	Pn	17 23 35.5	+2.0
EIL	Elat	7.14	152	P	Pn	17 23 32.4	-1.1
	1.1nm,0.3s,baz=349,slow=9.1,SNR=13						
EIL				S	Sn	17 24 49.8	-3.5
	8.1nm,0.4s,baz=79,slow=19,SNR=2.8						
	13nm,0.7s						
GNI	Garni	11.45	65	LR	LR	17 29 32.4	
	comp=Z,31nm,19.8s,baz=212,slow=40						
AKASG	Malin Array Be	14.68	355	P	Pn	17 25 16.9	+0.7
	0.1nm,0.3s,baz=176,slow=9.2,SNR=1.4						
	0.2nm,0.4s						
DAVOX	Davos/Dischmat	19.14	311	LR	LR	17 35 19.5	
	comp=Z,35nm,18.5s,baz=82,slow=42						
GEYT	Alibeck	21.59	77	P	P	17 26 37.4	-0.1
	0.9nm,0.4s,baz=256,slow=18,SNR=2.5						
	0.9nm,0.4s						
FINES	FINESS Array B	25.59	354	P	P	17 27 13.7	-2.5
	1.9nm,0.8s,baz=152,slow=8.6,SNR=6.8						
	1.9nm,0.8s						
HFS	Hagfors	26.57	340	LR	LR	17 38 23.7	
	comp=Z,44nm,18.3s,baz=32,slow=37						
NOA	NORSAR Array B	28.02	339	LR	LR	17 39 02.0	
	comp=Z,16nm,18.5s,baz=345,slow=37						
ARCES	ARCESS Array B	33.66	356	P	P	17 28 26.4	-1.3
	1.6nm,0.8s,baz=164,slow=8.2,SNR=5.1						
	1.6nm,0.8s						
KURBB	Kurchatov Arra	36.73	52	P	P	17 28 54.0	-0.4
	1.1nm,0.7s,baz=272,slow=8.8,SNR=7.7						
	1.1nm,0.7s						
MKAR	Makanchi Array	39.17	58	P	P	17 29 14.8	-0.2
	0.4nm,0.6s,baz=287,slow=6.0,SNR=5.6						
	0.4nm,0.6s						
ZALV	Zalesovo Beam	40.83	47	P	P	17 29 28.1	-0.5
	0.5nm,0.5s,baz=267,slow=11,SNR=4.5						
	0.5nm,0.5s						
SONM	Songino Array	55.09	53	P	P	17 31 18.7	-0.4
	0.3nm,0.4s,baz=285,slow=7.0,SNR=3.5						
	0.3nm,0.4s						
SEY	Seymchan	70.78	24	P	P	17 33 03.0	+0.1
	0.8nm,0.6s,baz=286,slow=13,SNR=4.4						
	0.8nm,0.6s						

IDC 05 17:32:31.2±975.0, 53°.09N×4°.23E, h0km, Error ellipse: s-maj=429.2km s-min=145.8km az=111.0, North Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	7.34	122	I	I	18 18 10.0	
	baz=308,slow=313,SNR=0.7						
I43RU	DUBNA INFRASON	19.20	66	I	I	19 26 50.0	
	baz=272,slow=326,SNR=1.9						
I31KZ	AKTYUBINSK INF	32.77	73	I	I	20 51 30.0	
	baz=295,slow=320,SNR=0.4						

MEX 05 17:43:11.0±0.8, 16°.31N×98°.23W, h14km±4km, MD3.4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.13	51	*i* P	Pg	17 43 13.7	-0.8
PNIG				*i* S	Sg	17 43 16.4	-0.5
YOIG	Yosondua	0.85	50	*e*P	Pg	17 43 24.9	-2.7
YOIG				*e*S	Sg	17 43 35.6	-3.3
CRIG	Cruz Grande	0.96	296	*e*P	Pb	17 43 26.4	-3.1
CRIG				*e*S	Sb	17 43 38.4	-3.7
MGIG	Malinaltepec	1.00	337	*e*P	Pb	17 43 26.5	-3.7
MGIG				*e*P	Pg	17 43 27.7	-2.6
MGIG				*e*S	Sb	17 43 39.1	-4.2
TXIG	Tlaxiaco	1.04	25	*e*P	Pb	17 43 27.9	-3.1
TXIG				*e*S	Sb	17 43 40.3	-4.3
HLIG	Huajuapan de L	1.56	15	*e*P	Pn	17 43 36.7	-1.9
HLIG				*e*P	Pn	17 43 36.7	-1.9
HLIG				*e*S	Sn	17 43 55.2	-3.7
HLIG				*e*S	Sn	17 43 55.2	-3.7
FTIG	Fresnillo de T	1.59	3	*e*P	Pn	17 43 36.6	-2.3
FTIG				*e*P	Pn	17 43 36.6	-2.3
FTIG				*e*S	Sn	17 43 55.1	-4.3
FTIG				*e*S	Sn	17 43 55.1	-4.3

*IDC **05** 17:43:35.6±5.9, 26°.85N×127°.40E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=332.6km s-min=24.2km az=62.0*
*JMA **05** 17:43:37.7±0.1, 27°.3N±0°.4×128°.6E±0°.7, h39km, MV3.4/23, NEAR OKINAWAJIMA ISLAND*
JMA Felt I J1 at NEAR OKINAWAJIMA ISLAND .
ISC 05 17:43:37.4±1.0, 27°.25N±0°.03×128°.59E±0°.04, h32km±9km, n28, σ1s13/35, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOKE	Okinoerabujima	0.12	352	*i* P	Pn	17 43 44.0	+0.9
JOKE				*e*S	Sn	17 43 48.2	+1.8
JYRO	Yoronjima	0.25	209	*i* P	Pn	17 43 45.6	+0.7
JYRO				*e*S	Sn	17 43 50.8	+1.1
JOW	Kunigami	0.50	214	*i* P	Pb	17 43 48.5	+0.6
JOW				*e*S	Sn	17 43 56.2	+0.4
JIH	Iheya	0.59	249	*i* P	Pb	17 43 49.3	-0.1
JIH				*e*S	Sb	17 43 57.5	-0.2
JTK	Tokunoshima	0.63	31	*i* P	Pb	17 43 49.8	-0.2
JTK				*e*S	Sb	17 43 58.0	-0.7
JNTH	Nagotoyohara	0.88	215	*i* P	Pn	17 43 54.0	+0.4
JAMN	Amaminishikomi	1.12	27	P	Pn	17 43 56.5	-0.3
JJT3	Tamagusuku3	1.31	213	*e*P	Pb	17 44 01.4	-0.1
JAGN	Aguni-jima	1.37	242	*e*P	Pn	17 44 00.2	0.0
JAGN				S	Sn	17 44 17.1	-0.2
JAM	Amami Oshima	1.47	38	*e*P	Pn	17 44 02.1	+0.4
JZK	Kikaishima	1.62	49	*e*P	Pn	17 44 05.5	+1.8
JZK				*e*S	Sn	17 44 26.2	+2.6
JKE	Kume jima 2	1.85	241	*e*P	Pn	17 44 06.8	-0.2
JKE				*e*S	Sn	17 44 28.9	-0.4
JTAJ	Takarajima	1.98	16	*e*P	Pn	17 44 08.2	-0.5
JTAJ				*e*S	Sn	17 44 30.7	-1.6
JKDJ	Kitadaitoujima	2.75	117	*e*S	Sn	17 44 50.0	-1.4
JMZ	Minamidaito 2	2.75	120	*e*P	Pn	17 44 19.8	+0.5
JMZ				*e*S	Sn	17 44 49.6	-1.9
JYAK	Yakushimahirau	3.42	29	*e*P	Pn	17 44 29.2	+0.7
JYAK				*e*S	Sn	17 45 06.5	-1.6
JKC	Kuchinoerabu	3.50	23	*e*P	Pn	17 44 30.7	+1.1
JKC				*e*S	Sn	17 45 08.7	-1.2
JMTN	Minamitane	3.74	32	*e*P	Pn	17 44 34.0	+1.2
JMTN				*e*S	Sn	17 45 16.6	+0.8
H11N1	WAKE ISLAND Hy	35.81	94	T	T	18 28 23.3	
	baz=290,slow=74						
H11N2	WAKE ISLAND Hy	35.81	94	T	T	18 28 22.8	
	baz=290,slow=74						
H11N3	WAKE ISLAND Hy	35.83	94	T	T	18 28 23.3	
	baz=290,slow=74						
H11S3	WAKE ISLAND Hy	36.05	96	T	T	18 28 43.2	
	baz=292						
H11S1	WAKE ISLAND Hy	36.06	96	T	T	18 28 48.0	
	baz=292						
H11S2	WAKE ISLAND Hy	36.07	96	T	T	18 28 47.1	
	baz=292						
MKAR	Makanchi Array	41.11	311	P	P	17 51 17.3	-1.0
	0.2nm,0.6s,baz=95,slow=11,SNR=2.2						
	0.2nm,0.6s						
KURBB	Kurchatov Arra	44.35	316	P	P	17 51 43.1	-1.3
	0.7nm,0.5s,baz=102,slow=8.9,SNR=12						
	0.7nm,0.5s						
WRA	Warramunga Arr	47.24	173	P	P	17 52 07.5	0.0
	0.3nm,0.5s,baz=352,slow=8.4,SNR=3.5						
	0.3nm,0.5s						
ASAR	Alice Springs	50.87	174	P	P	17 52 37.2	+1.8
	0.3nm,0.7s,baz=1.7,slow=9.4,SNR=5.3						
	0.3nm,0.7s						

MEX 05 17:44:08.6±0.8, 16°.60N×99°.25W, h5km, MD3.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRIG	Cruz Grande	0.18	40	*i* P	Pg	17 44 12.1	0.0
CRIG				*i* S	Sg	17 44 14.6	+0.2
DAIG	Los Arroyos	0.57	317	*e*P	Pg	17 44 19.0	-0.6
DAIG				*e*S	Sg	17 44 27.0	+0.1
DAIG	Los Arroyos	0.57	317	*e*P	Pg	17 44 19.1	-0.5
DAIG				*e*S	Sg	17 44 27.2	+0.2
MGIG	Malinaltepec	0.86	43	*e*P	Pg	17 44 23.1	-2.1
MGIG				*e*S	Sg	17 44 33.5	-2.9
CAIG	El Cayaco	1.07	295	*e*P	Pg	17 44 27.9	-1.2
CAIG				*e*P	Pg	17 44 27.9	-1.2
CAIG				*e*S	Sg	17 44 42.9	-0.2
CAIG				*e*S	Sg	17 44 42.9	-0.2
CAIG	El Cayaco	1.07	295	*e*P	Pg	17 44 26.8	-2.4
CAIG				*e*S	Sg	17 44 40.8	-2.3
TLIG	Tlapa	1.16	34	*e*P	Pg	17 44 27.8	-3.0
TLIG				*e*S	Sg	17 44 42.9	-3.0
MEIG	Mezcala	1.36	345	*e*P	Pn	17 44 31.8	-2.6
MEIG				*e*S	Sb	17 44 49.5	-3.0
ARIG	Puente Sto Nin	1.97	328	*e*P	Pn	17 44 37.3	-5.4
ARIG				*e*S	Sn	17 45 07.2	-0.6
ARIG	Puente Sto Nin	1.97	328	*e*S	Sn	17 45 06.3	-1.6

*IDC **05** 18:35:15.1±3.2, 6°.92S×127°.59E, h306km±34km, mb3.2/4, mbtmp4.2/8, Error ellipse: s-maj=44.2km s-min=13.1km az=62.0*
*NEIC **05** 18:35:17.3±2.1, 7°.03S±0°.09×127°.45E±0°.09, h337km±10km, mb4.2/13, Error ellipse: s-maj=14.0km s-min=12.6km az=147.0*
ISC 05 18:35:15.9±0.6, 7°.04S±0°.06×127°.47E±0°.07, h315km, n42, σ1s86/42, mb3.7/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.91**	**104**	Pn	**Pn**	**18 36 24.7**	**+2.8**
SAUI	**Saumlaki**	**3.91**	**104**	P	Pn	18 36 26.8	+4.8
SOEI	**Soe**	**4.17**	**229**	Pn	**Pn**	**18 36 27.3**	**+2.4**
SOEI	**Soe**	**4.17**	**229**	P	**Pn**	**18 36 27.4**	**+2.5**
BATI	**Baumata**	**4.91**	**230**	P	**Pn**	**18 36 34.9**	**+1.8**
	11nm,0.5s,baz=61,slow=10,SNR=7.4						
BATI				S	**S**	**18 37 36.7**	**+1.5**
	20nm,0.5s,baz=48,slow=22,SNR=11						
SANI	**Sanana**	**5.17**	**343**	P	Pn	18 36 41.4	+5.3
MMRI	**Maumere**	**5.42**	**253**	Pn	**Pn**	**18 36 40.8**	**+1.9**
FAKI	**Fak Fak**	**6.27**	**50**	Pn	**Pn**	**18 36 52.5**	**+3.5**
FAKI	**Fak Fak**	**6.27**	**50**	P	**Pn**	**18 36 53.2**	**+4.2**
MTN	**Manton Dam**	**6.80**	**148**		Pn	18 36 51.3	-4.0
KDU	**Kakadu**	**7.47**	**139**	P	**Pn**	**18 37 05.5**	**+2.3**
DAV	**Davao City (W)**	**14.14**	**352**	P	**P**	**18 38 21.3**	**-1.6**
DAV	**Davao City (W)**	**14.14**	**352**	P	**P**	**18 38 21.5**	**-1.4**
	165nm,0.5s,baz=254,slow=18,SNR=2.7						
WB0	**Warramunga Arr**	**14.33**	**153**	P	**P**	**18 38 24.9**	**0.0**
WRAB	**Tennant Creek**	**14.45**	**153**	P	**P**	**18 38 25.6**	**-0.7**
WRA	**Warramunga Arr**	**14.46**	**153**	P	**P**	**18 38 26.5**	**+0.1**
	3.5nm,0.6s,baz=326,slow=12,SNR=85						
WRA				S	**S**	**18 40 58.6**	**-5.9**
	0.9nm,0.3s,baz=331,slow=19,SNR=4.0						
WR0	**Warramunga Arr**	**14.56**	**153**	P	**P**	**18 38 27.7**	**+0.2**
MBWA	**Marble Bar**	**15.91**	**207**	P	**P**	**18 38 41.1**	**-1.2**
MBWA				IAmb	IAmb	18 39 01.1	
	comp=Z,13nm,1.1s						
PSA00	**Pilbara Seismi**	**16.22**	**206**	P	**P**	**18 38 44.8**	**-0.9**
PSA00				IAmb	IAmb	18 39 16.6	
	comp=Z,20nm,1.2s						
PSA00	**Pilbara Seismi**	**16.22**	**206**	P	**P**	**18 38 44.2**	**-1.4**
PSA00				IAmb	IAmb	18 38 52.9	
	comp=Z,6.3nm,1.2s						
COEN	**Coen**	**16.89**	**115**	P	**P**	**18 38 52.2**	**-0.8**
COEN				IAmb	IAmb	18 39 16.5	
	comp=Z,11nm,1.2s						
AS31	**Alice Springs**	**17.65**	**160**	P	**P**	**18 39 01.7**	**+0.6**
ASAR	**Alice Springs**	**17.65**	**160**	P	**P**	**18 39 01.5**	**+0.4**
ASAR	**Alice Springs**	**17.65**	**160**	P	**P**	**18 39 01.7**	**+0.6**
	comp=Z,3.9nm,0.5s,baz=341,slow=12,SNR=91						
ASAR				S	**S**	**18 42 10.5**	**+2.5**
	comp=Z,0.8nm,0.7s,baz=347,slow=24,SNR=5.2						
AS01	**Alice Springs**	**17.67**	**160**	P	**P**	**18 39 01.9**	**+0.6**
QIS	**Mount Isa**	**17.86**	**140**	P	**P**	**18 39 04.5**	**+1.2**
WRKA	**Warakurna**	**17.92**	**178**	P	**P**	**18 39 04.2**	**+0.2**
OOD	**Oodnadatta**	**22.07**	**160**	P	**P**	**18 39 45.1**	**-0.3**
FORT	**Forrest**	**23.63**	**179**	P	**P**	**18 40 00.8**	**+1.2**
RABL	**Rabaul**	**24.73**	**85**	P	**P**	**18 40 08.3**	**-1.5**
BBOO	**Buckleboo**	**26.86**	**164**	P	**P**	**18 40 27.3**	**-1.2**
BBOO				IAmb	IAmb	18 41 08.0	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**28.01**	**154**	P	**P**	**18 40 38.5**	**-0.1**
STKA	**Stephens Creek**	**28.01**	**154**	P	**P**	**18 40 38.6**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=319,slow=9.3,SNR=4.0						
	comp=Z,1.2nm,0.5s						
HTT	**Hallett**	**28.33**	**160**	P	**P**	**18 40 42.1**	**+0.6**
SSLB	**Suanglung**	**31.29**	**348**	P	**P**	**18 41 05.0**	**-2.6**
SSLB				IAmb	IAmb	18 41 24.9	
	comp=Z,20nm,1.1s						
NACB	**Ninganchiao**	**31.55**	**350**	P	**P**	**18 41 09.9**	**+0.2**
MKAR	**Makanchi Array**	**66.91**	**328**	P	**P**	**18 45 35.2**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=118,slow=8.2,SNR=5.7						
	comp=Z,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**70.53**	**335**	P	**P**	**18 45 56.0**	**-0.9**
ZALV	**Zalesovo Beam**	**70.53**	**335**	P	**P**	**18 45 56.3**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=142,slow=7.5,SNR=3.8						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**71.25**	**330**	P	**P**	**18 46 01.3**	**0.0**
	comp=Z,0.8nm,0.5s,baz=133,slow=5.3,SNR=11						
	comp=Z,0.8nm,0.5s						
SBA	**Scott Base**	**73.64**	**172**	P	**P**	**18 46 15.1**	**+0.2**
SBA				IAmb	IAmb	18 46 22.3	
	comp=Z,8.7nm,1.2s						
O14K	**Tigyukauivet M**	**86.59**	**29**	P	**P**	**18 47 22.1**	**-1.7**

*HEL **05** 18:51:05.4±0.5, 67°.12N×20°.41E, h0km, ML2.2, Explosion*
*UPP **05** 18:51:09.1±0.1, 67°.07N×20°.93E, h1km, ML2.1, Suspected explosion*
*IDC **05** 18:51:09.5±1.1, 67°.12N×21°.33E, h0km, mbtmp3.0/4, ML2.1/4, Error ellipse: s-maj=16.4km s-min=8.2km az=117.0*
ISC 05 18:51:09.2±0.8**, 67°.11N**±0°.02×**20°.97E**±0°.02**, h0km, n40, σ1s.30**/57**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.16**	**276**	P	**Pg**	**18 51 12.2**	**0.0**
DUNU				S	**Sg**	**18 51 14.3**	**+0.1**
MASU	**Masugnsbyn**	**0.53**	**48**	P	**Pg**	**18 51 19.9**	**+0.5**
MASU				S	**Sg**	**18 51 27.5**	**+1.2**
ERTU	**Ertsjaerv**	**0.74**	**138**	P	**Pg**	**18 51 22.5**	**-0.8**
ERTU	**Ertsjaerv**	**0.74**	**138**	PB	**Pg**	**18 51 22.3**	**-1.0**
ERTU				SB	**Sb**	**18 51 35.3**	**-0.2**
PAJU	**Pajala**	**0.85**	**95**	P	**Pg**	**18 51 25.1**	**-0.3**
KUA	**Kurravaara**	**0.89**	**344**	P	**Pg**	**18 51 26.1**	**0.0**
RATU	**Laukkuluspa**	**0.90**	**324**	P	**Pg**	**18 51 25.8**	**-0.5**
HARU	**Harads**	**0.95**	**180**	P	**Pg**	**18 51 25.8**	**-1.5**
SALU	**Saltoluokta**	**0.99**	**287**	P	**Pg**	**18 51 27.6**	**-0.7**
LANU	**Lannavaara**	**1.02**	**22**	P	**Pg**	**18 51 28.4**	**-0.4**
LANU	**Lannavaara**	**1.02**	**22**	PN	**Pg**	**18 51 28.3**	**-0.6**
LANU				SN	**Sn**	**18 51 46.7**	**+0.7**
KOVU	**Salmi**	**1.16**	**345**	P	**Pg**	**18 51 31.5**	**0.0**
KLF	**Kolari**	**1.18**	**82**	PG	**Pg**	**18 51 31.1**	**-0.6**
KLF				MSG		18 51 47.4	
	comp=Z,32nm,0.2s						
KLF				SB	**Sb**	**18 51 48.4**	**+0.2**
KALU	**Kalix**	**1.58**	**141**	P	**Pn**	**18 51 37.5**	**-0.8**
KALU	**Kalix**	**1.58**	**141**	PG	**Pn**	**18 51 37.3**	**-1.0**
	baz=321						
KALU				SN	**Sg**	**18 52 02.3**	**+2.5**
SJUU	**Sjulsmark**	**1.63**	**171**	P	**Pn**	**18 51 38.3**	**-0.8**
HEF	**Hetta**	**1.66**	**37**	eP	**Pn**	**18 51 39.7**	**+0.1**
TOF	**Tornio**	**1.69**	**126**	PG	**Pn**	**18 51 39.8**	**-0.2**
	baz=307						
TOF				MSG		18 52 01.4	
	comp=Z,15nm,0.2s						
TOF				SG	**Sn**	**18 52 02.7**	**+0.5**
RNF	**Rovaniemi**	**2.06**	**102**	PG	**Pn**	**18 51 45.6**	**+0.6**
RNF				SG	**Sb**	**18 52 14.7**	**+1.3**
KTK1	**Kautokeino**	**2.10**	**23**	eP	**Pb**	**18 51 47.3**	**-0.8**
I37NO	**I37NO**	**2.17**	**337**	I	I	19 06 30.0	
	baz=154,slow=329,SNR=1.5						
SGF	**Sodankyl**	**2.19**	**79**	PG	**Pn**	**18 51 47.9**	**+1.2**
SGF				SG	**Sg**	**18 52 19.0**	**-0.3**
BURU	**Burvik**	**2.54**	**176**	PG	**Pn**	**18 51 51.7**	**+0.1**
OUL	**Oulu**	**2.85**	**133**	PB	**Pn**	**18 51 58.0**	**+2.1**
OUL				SG	**Sb**	**18 52 37.0**	**+0.6**
OBF4	**Vikkela, Lumij**	**2.86**	**142**	PB	**Pn**	**18 51 57.1**	**+1.1**
OBF4				MSG		18 52 33.8	
	comp=Z,8.5nm,0.2s						
OBF0	**Syolatti, Pyha**	**2.95**	**151**	PB	**Pn**	**18 51 58.9**	**+1.7**
OBF0				MSG		18 52 35.6	
	comp=Z,8.9nm,0.2s						
ARA0	**ARCESS Array S**	**2.96**	**33**	PB	**Pn**	**18 51 58.2**	**+0.7**
ARA0				SG	**Sb**	**18 52 38.9**	**-0.7**
ARCES	**ARCESS Array B**	**2.96**	**33**	Pn	**Pn**	**18 51 57.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=210,slow=14,SNR=2.3						
ARCES				Lg	Lg	18 52 38.8	
	comp=Z,0.7nm,0.3s,baz=224,slow=29,SNR=2.7						
	comp=Z,0.7nm,0.3s						
OUF	**Merijarvi**	**3.16**	**149**	PB	**Pn**	**18 52 01.2**	**+1.1**
	baz=325						
UMAU	**Umeaa**	**3.24**	**182**	PB	**Pn**	**18 52 01.3**	**+0.1**
	baz=354						
UMAU				SB	**Sn**	**18 52 43.3**	**+2.9**
VRF	**Varrio**	**3.40**	**75**	PB	**Pn**	**18 52 05.4**	**+2.0**
VRF				SG	**Sg**	**18 52 55.6**	**-2.6**
OLKF	**Oulanka, Finla**	**3.44**	**99**	PB	**Pn**	**18 52 05.8**	**+1.8**
OLKF				SB	**Sb**	**18 52 51.7**	**-1.6**
MSF	**Maaselka**	**3.45**	**107**	PB	**Pn**	**18 52 06.2**	**+2.1**
MSF				SB	**Sb**	**18 52 51.6**	**-1.9**
KEV	**Kevo**	**3.47**	**37**	PB	**Pn**	**18 52 05.8**	**+1.4**
	baz=230						
KU6	**Riekki**	**3.73**	**103**	PN	**Pn**	**18 52 09.1**	**+1.2**
HUSU	**Husum**	**3.85**	**192**	PB	**Pn**	**18 52 10.0**	**+0.4**
HUSU				SB	**Sn**	**18 52 57.8**	**+2.3**
VAF	**Ylistaro**	**4.14**	**169**	PB	**Pn**	**18 52 17.0**	**+3.4**
FINES	**FINESS Array B**	**6.10**	**156**	Pn	**Pn**	**18 52 40.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=344,slow=14,SNR=1.7						
FINES				Sn	**Sn**	**18 53 48.6**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=339,slow=23,SNR=2.7						
FINES				Lg	Lg	18 54 21.3	
	comp=Z,0.4nm,0.3s,baz=335,slow=26,SNR=1.7						
	comp=Z,1.9nm,0.8s						
NOA	**NORSAR Array B**	**7.43**	**220**	Pn	**Pn**	**18 52 58.8**	**0.0**
	baz=38,slow=10,SNR=5.2						
NOA				Sn	**Sn**	**18 54 22.6**	**-1.1**
	baz=304,slow=12,SNR=4.1						
NOA				Lg	Lg	18 55 05.9	
	baz=50,slow=21,SNR=1.5						
	comp=Z,0.9nm,0.9s						
HFS	**Hagfors**	**7.71**	**208**	Pn	**Pn**	**18 53 02.2**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=33,slow=14,SNR=2.6						
	comp=Z,2.1nm,0.6s						

*SNET **05** 18:57:09.8±11.0, 12°.94N×91°.30W, h88km, ML3.9*
*CATAC **05** 18:57:34.2±1.0, 13°.45N×89°.87W, h16km±5km, ML3.2*
ISC 05 18:57:32.1±1.8**, 13°.35N**±0°.07×**89°.97W**±0°.06**, h14km**±12km**, n27, σ0s.98**/32**, 1C, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.58**	**18**	eP	**Pb**	**18 57 43.2**	**-0.9**
NUBE				eS	**Sn**	**18 57 55.2**	**-0.2**
NUBE	**Las Nubes**	**0.58**	**18**	iP	**Pb**	**18 57 43.5**	**-0.6**
NUBE				iS	**Sb**	**18 57 52.5**	**+0.3**
NUBE				IAML		18 57 56.6	
	comp=Z,600nm,1.0s						
CEVE	**Cerro Verde**	**0.58**	**35**	⇑iP	**Pg**	**18 57 44.2**	**+0.6**
CEVE				eS	**Sn**	**18 57 57.6**	**+2.0**
CEVE	**Cerro Verde**	**0.58**	**35**	iP	**Pg**	**18 57 44.2**	**+0.6**
CEVE				iS	**Sn**	**18 57 57.7**	**+2.1**
CEVE				IAML		18 57 59.1	
	comp=Z,2μm,1.0s						
JAYA	**Jayaque - finc**	**0.59**	**59**	eP	**Pb**	**18 57 44.3**	**0.0**
JAYA	**Jayaque - finc**	**0.59**	**59**	iP	**Pb**	**18 57 44.0**	**-0.3**
JAYA				IAML		18 58 00.4	
	comp=Z,2μm,1.0s						
LALI	**Alcalda de L**	**0.64**	**78**	eP	**Pb**	**18 57 44.9**	**-0.2**
LOAL	**Lomas de Alarc**	**0.67**	**16**	iP	**Pg**	**18 57 45.1**	**-0.1**
LOAL				IAML		18 58 00.3	
	comp=Z,3μm,1.0s						
PMON	**Piamonte**	**0.73**	**60**	iP	**Pb**	**18 57 46.6**	**-0.1**
PMON				IAML		18 58 12.1	
	comp=Z,980nm,1.0s						
PANCS	**Alcalda de**	**0.81**	**71**	iP	**Pg**	**18 57 48.8**	**+1.0**
PANCS				IAML		18 57 50.5	
	comp=Z,2μm,1.0s						
LOMA	**Loma Larga**	**0.83**	**69**	iP	**Pn**	**18 57 48.8**	**-0.7**
LOMA				IAML		18 58 08.3	
	comp=Z,430nm,1.0s						
LFRS	**El Faro**	**0.92**	**73**	eP	**Pb**	**18 57 48.8**	**-1.1**
SJTE	**Alcalda de S**	**0.97**	**74**	iP	**Pn**	**18 57 49.8**	**-1.6**
SJTE				IAML		18 57 50.0	
	comp=Z,370nm,1.0s						
SJTE				iS	**Sb**	**18 58 03.1**	**-0.4**
PAVA	**Las Pavas**	**1.06**	**70**	iP	**Pg**	**18 57 53.0**	**+0.3**
PAVA				IAML		18 57 53.2	
	comp=Z,420nm,1.0s						
COEG	**Centro de Oper**	**1.09**	**76**	iP	**Pn**	**18 57 51.9**	**-1.1**
COEG				IAML		18 57 53.0	
	comp=Z,430nm,1.0s						
TECO	**Alcaldia de Te**	**1.17**	**81**	iP	**Pn**	**18 57 53.5**	**-0.6**
MTO3	**Montecristo**	**1.20**	**29**	eP	**Pn**	**18 57 52.9**	**-1.7**
MTO3	**Montecristo**	**1.20**	**29**	iP	**Pn**	**18 57 53.7**	**-0.9**
MTO3				IAML		18 57 54.7	
	comp=Z,140nm,1.0s						
ESSG	**Sabana Grande**	**1.33**	**321**	iP	**Pg**	**18 57 58.7**	**+1.1**
ESSG				IAML		18 58 13.2	
	comp=Z,690nm,1.0s						
PACA	**Pacayal**	**1.60**	**86**	iP	**Pb**	**18 58 00.8**	**-0.8**
PACA				IAML		18 58 26.6	
	comp=Z,1μm,1.0s						
SARH	**Santa Rosa de**	**1.84**	**39**	iP	**Pn**	**18 58 02.9**	**-0.4**
LCND	**La Caada**	**2.02**	**91**	iP	**Pb**	**18 58 07.0**	**-1.7**
LCND				IAML		18 58 39.0	
	comp=Z,96nm,1.0s						
CNCH	**Conchagua**	**2.08**	**92**	iP	**Pn**	**18 58 06.7**	**0.0**
CNCH				IAML		18 58 45.1	
	comp=Z,280nm,1.0s						
AMPH	**Amapala**	**2.25**	**91**	iP	**Pn**	**18 58 08.8**	**-0.1**
CSGN	**Cosiguina Volc**	**2.38**	**99**	iP	**Pn**	**18 58 11.4**	**+0.7**
CSGN				IAML		18 59 03.2	
	comp=Z,220nm,1.0s						
PKGN	**Cerro Pekin**	**2.99**	**103**	iP	**Pn**	**18 58 18.4**	**-0.7**
YUSH	**Yuscaran**	**3.10**	**78**	iP	**Pn**	**18 58 21.0**	**+0.3**

*ISK **05** 19:31:02.9, 38°.81N×26°.01E, h9km, ML2.9/27*
*AFAD **05** 19:31:03.5±0.0, 38°.83N×26°.09E, h7km±3km, ML2.8*
*ATH **05** 19:31:04.2, 38°.83N×26°.04E, h13km±1km, ML3.0/4, Error ellipse: s-maj=1.9km s-min=0.9km az=292.0*
*THE **05** 19:31:04.2, 38°.84N×26°.05E, h6km, ML2.9/4, Error ellipse: s-maj=1.2km s-min=0.4km az=80.0*
ISC 05 19:31:03.9±0.9**, 38°.83N**±0°.02×**26°.07E**±0°.02**, h11km**±8km**, n74, σ0s.58**/101**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.32**	**121**	P	**Pg**	**19 31 10.0**	**-0.3**
KARB				S	**Sg**	**19 31 14.4**	**-0.1**
KARB				i AML	AML	19 31 17.0	
	comp=E,1μm,0.3s						
SIGR	**SIGRI**	**0.42**	**337**	Pg	**Pg**	**19 31 12.1**	**0.0**
SIGR				Sg	**Sg**	**19 31 18.1**	**+0.4**
SIGR	**SIGRI**	**0.42**	**337**	P	**Pg**	**19 31 12.3**	**+0.1**
SIGR				S	**Sg**	**19 31 17.2**	**-0.5**
	1μm,0.3s						
SIGR	**SIGRI**	**0.42**	**337**	P	**Pg**	**19 31 12.2**	**0.0**
SIGR				S	**Sg**	**19 31 17.9**	**+0.2**
SIGR				AML	AML	19 31 18.9	
	comp=N,3265μm,0.4s						
SIGR				AML	AML	19 31 20.7	
	comp=E,2377μm,0.3s						
CHOS	**Chios island**	**0.44**	**181**	P	**Pg**	**19 31 13.1**	**+0.5**
CHOS				S	**Sg**	**19 31 19.4**	**+1.0**
PRK	**Paraskevi**	**0.45**	**21**	P	**Pg**	**19 31 13.0**	**+0.3**
PRK				S	**Sg**	**19 31 19.5**	**+0.8**
	comp=E,2μm,0.4s						
PRK	**Paraskevi**	**0.45**	**21**	P	**Pg**	**19 31 12.8**	**+0.1**
PRK				S	**Sg**	**19 31 19.2**	**+0.5**
PRK				AML	AML	19 31 20.9	
	comp=N,3760μm,0.3s						
PRK				AML	AML	19 31 22.7	
	comp=E,3317μm,0.7s						
PSRA	**Psara**	**0.48**	**234**	P	**Pg**	**19 31 13.5**	**+0.1**
PSRA				S	**Sg**	**19 31 19.8**	**0.0**
PSRA				AML	AML	19 31 21.1	
	comp=E,13941μm,0.2s						
PSRA				AML	AML	19 31 22.1	
	comp=N,13146μm,0.2s						
CESE	**eme**	**0.53**	**160**	Pg	**Pg**	**19 31 13.8**	**-0.4**
CESE				Sg	**Sg**	**19 31 21.7**	**+0.5**
FOCM	**Foa**	**0.53**	**102**	Pg	**Pg**	**19 31 14.2**	**-0.1**
URLA	**Izmir**	**0.62**	**138**	Pg	**Pg**	**19 31 15.8**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.63**	**5**	Pg	**Pg**	**19 31 16.1**	**-0.1**
GPNR				Sg	**Sb**	**19 31 25.6**	**-0.1**
KOCA	**Canakkale, Ayv**	**0.68**	**5**	P	**Pg**	**19 31 16.8**	**-0.2**
ZEYE	**Izmir, Urla-Ze**	**0.68**	**150**	P	**Pg**	**19 31 16.2**	**-0.9**
DKL	**Dikili**	**0.70**	**69**	Pg	**Pg**	**19 31 17.4**	**0.0**
DKL				Sg	**Sb**	**19 31 28.8**	**+1.1**
RFT1	**Sazli**	**0.76**	**22**	Pg	**Pg**	**19 31 18.4**	**-0.3**
RFT1				Sg	**Sb**	**19 31 30.3**	**+0.7**
ZEDA	**zmir-Bergama**	**0.80**	**80**	P	**Pg**	**19 31 18.7**	**-0.7**
ZEDA				S	**Sg**	**19 31 29.5**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**0.99**	**22**	P	**Pg**	**19 31 22.3**	**-0.6**
BAYC				S	**Sg**	**19 31 35.4**	**-0.4**
BAYC				i AML	AML	19 31 39.0	
	comp=N,189nm,0.3s						
GMLD	**Gumuldur**	**1.00**	**138**	Pg	**Pg**	**19 31 22.7**	**-0.5**
GMLD				Sg	**Sg**	**19 31 36.7**	**+0.4**
DGB	**zmir**	**1.00**	**140**	P	**Pg**	**19 31 22.1**	**-1.2**
DGB				S	**Sg**	**19 31 35.3**	**-1.0**
EZN	**Ezine**	**1.02**	**11**	Pg	**Pg**	**19 31 23.1**	**-0.4**
EZN				Sg	**Sb**	**19 31 37.9**	**+1.0**
EZN	**Ezine**	**1.02**	**11**	P	**Pg**	**19 31 23.1**	**-0.4**
BUHA	**Balikesir, Bur**	**1.03**	**49**	P	**Pg**	**19 31 23.5**	**-0.3**
BUHA				S	**Sg**	**19 31 36.8**	**-0.5**
BUHA				i AML	AML	19 31 40.0	
	comp=N,213nm,0.5s						
SKY	**Skiros Island**	**1.19**	**273**	P	**Pb**	**19 31 25.9**	**-0.5**
ECEA	**Canakkale, Ece**	**1.22**	**4**	P	**Pn**	**19 31 25.8**	**-1.0**
ECEA				S	**Sb**	**19 31 41.8**	**-0.9**
ECEA				i AML	AML	19 31 45.0	
	comp=N,445nm,0.3s						
ECEA				i AML	AML	19 31 45.0	
	comp=N,740nm,0.9s						
IKRA	**Agios-Kirikos-**	**1.23**	**172**	P	**Pn**	**19 31 27.2**	**+0.3**
CNKL	**anakkale-Mer**	**1.26**	**11**	P	**Pn**	**19 31 26.9**	**-0.5**
CNKL				S	**Sb**	**19 31 44.1**	**+0.2**
CNKL				i AML	AML	19 31 46.0	
	comp=N,275nm,0.5s						
LIA	**Limnos Island**	**1.27**	**328**	P	**Pn**	**19 31 27.1**	**-0.4**
LIA				S	**Sn**	**19 31 45.3**	**+0.8**
	comp=N,800nm,0.4s						
LIA	**Limnos Island**	**1.27**	**328**	P	**Pn**	**19 31 26.9**	**-0.6**
LIA				S	**Sb**	**19 31 42.7**	**-1.5**
LIA				AML	AML	19 31 46.8	
	comp=N,1712μm,0.4s						
LIA				AML	AML	19 31 47.9	
	comp=E,1550μm,0.6s						
SMG	**Samos**	**1.27**	**151**	P	**Pn**	**19 31 28.2**	**+0.6**
SMG				S	**Sg**	**19 31 45.4**	**+0.6**
	comp=E,745nm,0.4s						
SMG	**Samos**	**1.27**	**151**	P	**Pn**	**19 31 27.0**	**-0.6**
COMU	**Canakkale**	**1.31**	**14**	Pn	**Pn**	**19 31 28.0**	**-0.1**
GOKA	**anakkale-Gk**	**1.37**	**355**	P	**Pn**	**19 31 28.5**	**-0.3**
GADA	**Gvkgeada**	**1.37**	**355**	Pn	**Pn**	**19 31 28.8**	**-0.1**
GADA				Sn	**Sn**	**19 31 47.6**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.40**	**66**	P	**Pn**	**19 31 28.6**	**-0.7**
CANM	**Can-anakkale**	**1.41**	**33**	Pn	**Pn**	**19 31 29.9**	**+0.5**
GCAM	**G?zelcaml?**	**1.45**	**140**	Pn	**Pn**	**19 31 30.3**	**+0.3**
KYMI	**Kymi, Euboea I**	**1.55**	**263**	P	**Pn**	**19 31 31.4**	**0.0**
GELI	**Tayfur-Gelibol**	**1.60**	**11**	Pn	**Pn**	**19 31 31.7**	**-0.4**
BALB	**Balikesir**	**1.63**	**59**	Pn	**Pn**	**19 31 31.9**	**-0.5**
IZMR	**zmir-demi**	**1.63**	**114**	P	**Pb**	**19 31 34.2**	**+0.2**
IZMR				S	**Sn**	**19 31 53.4**	**-0.1**
LPK	**Lapseki**	**1.63**	**19**	Pn	**Pn**	**19 31 32.8**	**+0.3**
BKES	**Balkesir-Mer**	**1.71**	**57**	P	**Pn**	**19 31 32.8**	**-0.8**
GONE	**Gonen-Balikesi**	**1.75**	**45**	Pn	**Pn**	**19 31 34.6**	**+0.5**
APE	**Apeiranthos**	**1.81**	**194**	Pn	**Pn**	**19 31 33.9**	**-1.0**
APE	**Apeiranthos**	**1.81**	**194**	P	**Pn**	**19 31 34.3**	**-0.6**
APE				S	**Sn**	**19 31 59.0**	**+1.2**
APE	**Apeiranthos**	**1.81**	**194**	P	**Pn**	**19 31 33.6**	**-1.4**
KRBG	**Karabiga-Canak**	**1.83**	**31**	Pn	**Pn**	**19 31 35.9**	**+0.7**
ERIK	**Erikli-Kesan**	**1.87**	**10**	Pn	**Pn**	**19 31 36.4**	**+0.6**
PTL	**Penteli**	**1.90**	**246**	P	**Pn**	**19 31 36.6**	**+0.4**
ENEZ	**Enez**	**1.91**	**2**	Pn	**Pn**	**19 31 36.6**	**+0.3**
ENEZ	**Enez**	**1.91**	**2**	P	**Pn**	**19 31 36.1**	**-0.2**
VLY	**Voula,Athens**	**2.03**	**242**	P	**Pn**	**19 31 38.5**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.05**	**24**	Pn	**Pn**	**19 31 38.8**	**+0.5**
EDC	**Edincik**	**2.06**	**42**	Pn	**Pn**	**19 31 39.0**	**+0.6**
THAS	**Thassos island**	**2.06**	**330**	P	**Pn**	**19 31 39.1**	**+0.7**
THAS	**Thassos island**	**2.06**	**330**	P	**Pn**	**19 31 39.0**	**+0.6**
ALN	**Alexandroupoli**	**2.07**	**360**	Pn	**Pn**	**19 31 38.1**	**-0.4**
ALN	**Alexandroupoli**	**2.07**	**360**	P	**Pn**	**19 31 38.0**	**-0.4**
ALN				S	**Sn**	**19 32 03.9**	**-0.3**
ALN	**Alexandroupoli**	**2.07**	**360**	P	**Pn**	**19 31 37.8**	**-0.7**
OUR	**Ouranopolis**	**2.20**	**314**	Pn	**Pn**	**19 31 40.1**	**-0.3**
VILL	**Villia**	**2.26**	**254**	P	**Pn**	**19 31 41.1**	**-0.1**
KCTX	**Karacabey (Bur**	**2.28**	**50**	Pn	**Pn**	**19 31 42.3**	**+0.8**
UKOP	**Uzunkopru-Edir**	**2.34**	**11**	Pn	**Pn**	**19 31 42.5**	**+0.3**
RDO	**Rodhopi**	**2.35**	**350**	Pn	**Pn**	**19 31 42.2**	**-0.2**
RDO	**Rodhopi**	**2.35**	**350**	P	**Pn**	**19 31 42.2**	**-0.2**
RDO	**Rodhopi**	**2.35**	**350**	P	**Pn**	**19 31 42.1**	**-0.2**
KAVA	**Kavala**	**2.47**	**332**	P	**Pn**	**19 31 43.4**	**-0.7**
KOKK	**Kokkinochori,**	**2.55**	**322**	P	**Pn**	**19 31 44.8**	**-0.3**
KOKK	**Kokkinochori,**	**2.55**	**322**	P	**Pn**	**19 31 44.5**	**-0.6**
AXAR	**Agios Charalam**	**2.66**	**270**	P	**Pn**	**19 31 46.2**	**-0.5**
SRS	**Serrai**	**2.97**	**321**	P	**Pn**	**19 31 50.9**	**-0.1**
NVR	**Nevrokopi**	**3.03**	**327**	P	**Pn**	**19 31 52.5**	**+0.7**
GUR	**Goura**	**3.06**	**254**	P	**Pn**	**19 31 52.1**	**-0.1**

DJA 05 19:32:35.4±0.7**, 8°S**±5°×**10°8E**±°**, h12km**±6km**, M3.8**/12**, mb4.2**/1**, MLv3.7**/12**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.72**	**55**	P	Pb	19 32 50.4	+0.5
CNJI	**Cibinong**	**1.14**	**321**	P	Pb	19 32 56.2	-0.8
KPJI	**Karang Pucung**	**1.38**	**51**	P	Pn	19 32 59.1	-1.3
LEM	**Lembang**	**1.38**	**350**	P	Pn	19 32 59.8	-0.9
SKJI	**Sukabumi**	**1.75**	**313**	P	Pn	19 33 06.1	+0.5
CGJI	**Cibinong**	**2.66**	**306**	P	Pn	19 33 17.9	-0.2
UGM	**Wanagama**	**2.66**	**84**	P	Pn	19 33 18.3	+0.1
SMRI	**Semarang**	**2.81**	**66**	P	Pn	19 33 20.2	0.0
KASI	**Kota Agung**	**4.26**	**308**	P	Pn	19 33 40.2	+0.1
TWSI	**Taliwang, Sumb**	**8.95**	**94**	P	Pn	19 34 45.1	+0.5

IDC 05 19:36:55.8±791.0**, 53°.04N**×**4°.45E, h0km, Error ellipse: s-maj=340.4km s-min=134.0km az=121.0, North Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**7.19**	**122**	I	I	20 20 50.0	
	baz=309,slow=318,SNR=0.7						
I48TN	**KESRA INFRASON**	**17.57**	**167**	I	I	21 20 30.0	
	baz=351,slow=320,SNR=1.0						
I43RU	**DUBNA INFRASON**	**19.10**	**66**	I	I	21 30 50.0	
	baz=273,slow=324,SNR=2.0						

*IDC **05** 19:50:45.5±0.8, 54°.93S×30°.40W, h0km, mb4.1/5, mbtmp4.2/5, MS3.4/7, Error ellipse: s-maj=38.2km s-min=21.6km az=64.0*
*NEIC **05** 19:50:47.9±1.8, 55°.07S±0°.06×30°.9W±0°.2, h10km±1km, mb4.5/18, Error ellipse: s-maj=18.0km s-min=9.8km az=251.0*
ISC 05 19:50:47.6±0.6**, 55°.1S**±0°.1×**30°.9W**±0°.1**, h10km, n41, σ1s.23**/33**, mb4.4**/12**, MS3.5**/7**, 3C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.36**	**281**		**Pn**	**19 51 39.4**	**-0.6**
HOPE				Sn	Sn	19 52 15.3	-4.7
VNA3	**Neumayer Olymp**	**18.66**	**159**	⇑P	**P**	**19 55 04.4**	**-0.9**
	comp=Z,11nm,0.9s						
SNAA	**Sanae**	**20.52**	**155**	P	**P**	**19 55 24.8**	**-0.8**
SNAA	**Sanae**	**20.52**	**155**	⇑P	**P**	**19 55 25.5**	**-0.1**
	comp=Z,128nm,0.7s						
SNAA	**Sanae**	**20.52**	**155**	P	**P**	**19 55 25.1**	**-0.5**
	comp=Z,5.2nm,0.8s,baz=300,slow=9.5,SNR=18						
	comp=Z,5.2nm,0.8s						
TROLL	**Troll, Antarti**	**22.08**	**153**	⇑P	**P**	**19 55 41.9**	**-0.5**
	comp=Z,164nm,0.7s						
MG02	**Cerro Sombrero**	**22.53**	**260**	P	**P**	**19 55 48.5**	**+1.3**
TRQA	**Tornquist**	**27.01**	**296**	P	**P**	**19 56 29.4**	**-0.1**
CPUP	**Villa Florida**	**34.61**	**315**	P	**P**	**19 57 36.2**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=157,slow=8.6,SNR=5.2						
	comp=Z,2.1nm,0.6s						
QSPA	**South Pole Qui**	**35.21**	**180**	P	**P**	**19 57 40.6**	**-1.0**
QSPA				IAmb	IAmb	19 57 42.0	
	comp=Z,4.8nm,0.8s						
CO02	**Combarbal**	**37.01**	**293**	P	**P**	**19 57 57.0**	**-0.3**
CO02				IAmb	IAmb	19 58 39.4	
	comp=Z,33nm,1.4s						
CO03	**El Pedregal**	**37.13**	**294**	P	**P**	**19 57 58.5**	**+0.2**
CO03				IAmb	IAmb	19 58 30.8	
	comp=Z,11nm,1.2s						
CO01	**Juntas del Tor**	**37.51**	**296**	P	**P**	**19 58 03.3**	**+1.6**
GO02	**Mina Guanaco**	**41.19**	**301**	P	**P**	**19 58 33.3**	**+0.8**
GO02				IAmb	IAmb	19 58 34.9	
	comp=Z,7.5nm,0.7s						
PB07	**IPOC Station P**	**44.22**	**303**	P	**P**	**19 58 56.8**	**-0.2**
PB01	**IPOC Station P**	**44.61**	**304**	P	**P**	**19 59 00.7**	**+0.6**
PB01				IAmb	IAmb	19 59 12.6	
	comp=Z,13nm,1.2s						
GO01	**Chusmiza**	**45.66**	**305**	P	**P**	**19 59 08.7**	**-0.1**
GO01				IAmb	IAmb	19 59 16.2	
	comp=Z,9.3nm,1.2s						
VNDA	**Vanda**	**47.46**	**184**	P	**P**	**19 59 21.9**	**+0.2**
VNDA				IAmb	IAmb	19 59 23.6	
	comp=Z,2.8nm,0.8s						
VNDA	**Vanda**	**47.46**	**184**	P	**P**	**19 59 22.4**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=182,slow=5.1,SNR=14						
	comp=Z,2.6nm,0.8s						
BOSA	**Boshof**	**47.80**	**80**	LR	LR	20 15 33.1	
	comp=Z,24nm,19.2s,baz=196,slow=31						
LPAZ	**La Paz**	**48.11**	**309**	P	**P**	**19 59 28.4**	**+0.3**
LPAZ				IAmb	IAmb	19 59 37.7	
	comp=Z,4.6nm,0.8s						
LPAZ	**La Paz**	**48.11**	**309**	P	**P**	**19 59 29.0**	**+0.9**

	comp=Z,3.5nm,0.7s,baz=147,slow=5.1,SNR=16						
	comp=Z,3.5nm,0.7s						
TSUM	**Tsumeb**	**51.08**	**65**	LR	LR	20 16 58.6	
	comp=Z,23nm,21.1s,baz=152,slow=31						
SAML	**Samuel**	**52.64**	**318**	P	**P**	**20 00 00.9**	**-0.8**
SAML				IAmb	IAmb	20 00 25.3	
	comp=Z,5.5nm,1.3s						
LSZ	**Lusaka**	**60.01**	**73**	LR	LR	20 24 57.9	
	comp=Z,35nm,18.5s,baz=182,slow=34						
MDP	**Montagnes des**	**62.61**	**335**	LR	LR	20 29 33.7	
	comp=Z,27nm,18.1s,baz=208,slow=37						
TOA0	**Torodi Ar. Sit**	**73.28**	**33**	P	**P**	**20 02 19.3**	**+0.4**
TOA0				IAmb	IAmb	20 02 19.8	
	comp=Z,3.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**73.28**	**33**	P	**P**	**20 02 18.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**73.28**	**33**	P	**P**	**20 02 17.8**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=203,slow=4.9,SNR=6.2						
	comp=Z,1.2nm,0.8s						
BIM	**Bigot**	**73.86**	**330**	P	**P**	**20 02 21.8**	**-0.6**
TEIG	**Tepich**	**89.43**	**308**	P	**P**	**20 03 44.5**	**+0.1**
MDT	**Midelt**	**90.37**	**22**	LR	LR	20 39 09.6	
	comp=Z,26nm,19.9s,baz=204,slow=32						
KEST	**Kesra**	**96.77**	**32**	LR	LR	20 42 13.1	
	comp=Z,33nm,21.6s,baz=257,slow=32						
ESDC	**Sonseca Array**	**97.12**	**21**	LR	LR	20 41 12.8	
	comp=Z,22nm,20.9s,baz=180,slow=31						
FINES	**FINESS Array B**	**124.49**	**29**	PKP	**PKPdf**	**20 09 43.1**	**-2.3**
	comp=Z,4.1nm,1.1s,baz=221,slow=15,SNR=1.7						
CMAR	**Chiang Mai Arr**	**127.37**	**113**	PKP	**PKPdf**	**20 09 52.1**	**-0.3**
	comp=Z,1.6nm,1.0s,baz=235,slow=3.2,SNR=4.4						
YKA	**Yellowknife Ar**	**134.05**	**320**	PKP	**PKPdf**	**20 10 02.6**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=123,slow=2.4,SNR=5.0						
BVAR	**Borovoye Array**	**136.01**	**59**	PKP	**PKPdf**	**20 10 08.3**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=248,slow=6.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**143.80**	**64**	PKP	PKPab	20 10 19.2	+0.5
	comp=Z,0.3nm,0.4s,baz=252,slow=4.2,SNR=2.3						
ILAR	**Eielson Array**	**147.90**	**314**	PKPbc	**PKPdf**	**20 10 30.9**	**+2.5**
	comp=Z,2.4nm,0.7s,baz=129,slow=1.7,SNR=34						
SONM	**Songino Array**	**152.75**	**87**	PKPbc	**PKPdf**	**20 10 41.0**	**+4.4**
	comp=Z,0.7nm,0.7s,baz=214,slow=4.0,SNR=4.7						

*JMA **05** 20:00:33.3±0.2, 43°.1N±0°.8×14°7E±°, h52km±2km, MV3.4/38, OFF NEMURO PENINSULA*
*SKHL **05** 20:00:34.0±0.1, 43°.10N×146°.80E, h37km±3km, mb4.6/3*
*IDC **05** 20:00:38.5±4.6, 43°.29N×146°.65E, h75km±31km, mb3.3/10, mbtmp3.6/11, MS2.4/1, Error ellipse: s-maj=78.4km s-min=21.6km az=180.0*
ISC 05 20:00:33.9±1.2, **43°.10N**±0°.10×**146°.78E**±0°.08, **h40**km±10km, **n33**, σ**0s.87**/37, **mb3.5**/10, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.77**	**3**	eP	**Pn**	**20 00 48.0**	**-0.3**
SHO				AMB	AMB	20 00 48.7	
	350nm,0.2s						
SHO				eS	**Sn**	**20 00 58.2**	**-0.5**
SHO				A	A	20 00 59.6	
	4µm,0.5s						
SHO				A	A	20 00 59.6	
	3µm,0.5s						
NEM2	**Nemuro 2**	**0.80**	**290**	eP	**Pn**	**20 00 48.4**	**-0.3**
NEM2				eS	**Sn**	**20 00 59.5**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**1.15**	**325**	eP	**Pn**	**20 00 53.0**	**-0.5**
YUK				AMB	AMB	20 00 55.3	
	260nm,0.4s						
YUK				eS	**Sn**	**20 01 07.3**	**-0.6**
YUK				A	A	20 01 10.3	
	2µm,0.6s						
YUK				A	A	20 01 10.3	
	2µm,0.6s						
JKHN	**Kushirohamanak**	**1.18**	**270**	eP	**Pn**	**20 00 53.9**	**0.0**
JKHN				eS	**Sn**	**20 01 09.2**	**+0.4**
JNSB	**Nemuroshibetsu**	**1.46**	**298**	P	**Pn**	**20 00 57.3**	**-0.4**
JNSB				eS	**Sn**	**20 01 15.6**	**0.0**
JRA	**Rausu**	**1.47**	**305**	P	**Pn**	**20 00 58.0**	**+0.1**
JAK	**Akkeshi**	**1.53**	**267**	iP	**Pn**	**20 00 58.4**	**-0.2**
JAK				eS	**Sn**	**20 01 16.8**	**-0.5**
JNK	**Nakash**	**1.58**	**289**	iP	**Pn**	**20 00 59.0**	**-0.4**
JNK				eS	**Sn**	**20 01 17.9**	**-0.7**
JOB	**Onbets**	**2.17**	**266**	P	**Pn**	**20 01 07.5**	**+0.1**
JAR	**Ashorobuto**	**2.21**	**276**	iP	**Pn**	**20 01 08.3**	**+0.3**
JAR				eS	**Sn**	**20 01 34.3**	**+0.3**
JTKR	**Abashiri--Toko**	**2.26**	**294**	P	**Pn**	**20 01 09.4**	**+0.7**
KUR	**Kuril'sk**	**2.27**	**20**	eP	**Pn**	**20 01 09.5**	**+0.6**
KUR				AMB	AMB	20 01 10.4	
	50nm,0.4s						
KUR				eS	**Sn**	**20 01 36.0**	**+0.3**
KUR				A	A	20 01 39.3	
	70nm,0.4s						
KUR				A	A	20 01 39.3	
	260nm,0.4s						
JCH	**Churui**	**2.56**	**260**	eP	**Pn**	**20 01 12.5**	**-0.3**
JCH				eS	**Sn**	**20 01 42.0**	**-0.6**
JMP	**Maruseppu**	**2.64**	**291**	eP	**Pn**	**20 01 15.0**	**+1.0**
JKK2	**Kamakawa 2**	**3.03**	**286**	eP	**Pn**	**20 01 21.0**	**+1.7**
ASAJ	**Asahikawa**	**3.20**	**290**	P	**Pn**	**20 01 23.4**	**+1.7**
	13nm,0.6s,baz=102,slow=14,SNR=12						
ASAJ				S	**Sn**	**20 02 01.3**	**+2.8**
	11nm,0.7s,baz=274,slow=27,SNR=1.4						
KSRS	**Korea Array**	**15.44**	**255**	LR	LR	20 10 13.1	
	comp=Z,15nm,21.1s,baz=70,slow=37						
SONM	**Songino Array**	**28.48**	**294**	P	**P**	**20 06 24.2**	**-1.0**
	0.3nm,0.6s,baz=73,slow=8.8,SNR=1.9						
	0.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.80**	**138**	T	T	20 37 10.1	
	baz=329,slow=76,SNR=26						
H11N1	**WAKE ISLAND Hy**	**28.81**	**138**	T	T	20 37 11.9	
	baz=329,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	**28.81**	**138**	T	T	20 37 16.8	
	baz=329,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**29.74**	**139**	T	T	20 38 29.1	
	baz=330,slow=76,SNR=40						
H11S3	**WAKE ISLAND Hy**	**29.75**	**139**	T	T	20 38 23.1	
	baz=330,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**29.76**	**139**	T	T	20 38 23.0	
	baz=330,slow=76,SNR=32						
ILAR	**Eielson Array**	**42.17**	**36**	P	**P**	**20 08 22.1**	**-0.2**
	0.7nm,0.8s,baz=270,slow=5.5,SNR=8.2						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**44.65**	**298**	P	**P**	**20 08 41.9**	**-0.6**
	0.4nm,0.8s,baz=81,slow=10,SNR=4.3						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**49.71**	**310**	P	**P**	**20 09 22.6**	**+0.9**
	0.3nm,0.5s,baz=68,slow=0.8,SNR=2.2						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**56.49**	**33**	P	**P**	**20 10 11.9**	**+0.4**
	0.3nm,0.7s,baz=299,slow=6.6,SNR=3.5						
	0.3nm,0.7s						
FINES	**FINESS Array B**	**65.33**	**333**	P	**P**	**20 11 10.2**	**-1.2**
	3.8nm,1.1s,baz=46,slow=5.5,SNR=3.4						
	3.8nm,1.1s						
NVAR	**Mina Array Bea**	**68.16**	**57**	P	**P**	**20 11 31.2**	**+1.0**
	0.7nm,0.6s,baz=290,slow=7.8,SNR=5.2						
	0.7nm,0.6s						
NOA	**NORSAR Array B**	**70.11**	**339**	P	**P**	**20 11 40.4**	**-1.3**
	0.5nm,0.5s,baz=32,slow=6.1,SNR=4.0						
	0.5nm,0.5s						
PDAR	**Pinedale Array**	**70.54**	**49**	P	**P**	**20 11 45.4**	**+0.5**
	0.2nm,0.4s,baz=306,slow=3.2,SNR=2.5						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**83.24**	**56**	P	**P**	**20 12 57.0**	**+0.6**
	0.3nm,0.6s,baz=305,slow=3.2,SNR=2.6						
	0.3nm,0.6s						

*IDC **05** 20:07:22.8±3.0, 21°.12S×112°.94W, h0km, mb3.6/2, mbtmp3.6/2, MS3.5/12, Error ellipse: s-maj=228.8km s-min=58.2km az=106.0*
ISC 05 20:07:24.2±3.6, **21°.2S**±0°.6×**11°3W**±°, **h10**km, **n29**, σ**0s.30**/7, **MS3.5**/12, **Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**32.56**	**119**	T	T	20 49 35.5	
	baz=287,slow=76,SNR=20						
H03N3	**Juan Fernandez**	**32.57**	**119**	T	T	20 49 35.4	
	baz=287,slow=76,SNR=22						
H03N1	**Juan Fernandez**	**32.58**	**119**	T	T	20 49 35.4	
	baz=287,slow=76,SNR=21						
ATAH	**Atahualpa**	**36.28**	**73**	LR	LR	20 25 53.1	
	comp=Z,35nm,19.6s,baz=221,slow=31						
PLCA	**Paso Flores**	**40.88**	**128**	LR	LR	20 28 51.8	
	comp=Z,53nm,19.2s,baz=242,slow=32						
LVC	**Limon Verde**	**40.89**	**100**	LR	LR	20 27 41.4	
	comp=Z,87nm,20.5s,baz=237,slow=30						
CMIG	**Matias Romero**	**41.98**	**26**	LR	LR	20 26 51.7	
	comp=Z,16nm,18.6s,baz=196,slow=28						
LPAZ	**La Paz**	**42.72**	**91**	LR	LR	20 29 26.4	
	comp=Z,83nm,19.4s,baz=239,slow=31						
RAR	**Rarotonga**	**43.43**	**261**	LR	LR	20 28 47.1	
	comp=Z,34nm,20.9s,baz=358,slow=30						
TEIG	**Tepich**	**47.74**	**32**	LR	LR	20 31 39.3	
	comp=Z,352nm,19.2s,baz=170,slow=31						
CPUP	**Villa Florida**	**50.95**	**107**	LR	LR	20 34 31.3	
	comp=Z,54nm,19.3s,baz=224,slow=32						
PCRV	**Puerto La Cruz**	**56.85**	**62**	LR	LR	20 38 57.4	
	comp=Z,36nm,18.1s,slow=33						
NVAR	**Mina Array Bea**	**59.47**	**355**	P	**P**	**20 17 27.6**	**0.0**
	0.9nm,0.9s,baz=178,slow=9.8,SNR=4.8						
	0.9nm,0.9s						
URZ	**Urewera**	**61.66**	**237**	LR	LR	20 39 58.2	
	comp=Z,27nm,18.0s,baz=354,slow=32						
TKL	**Tuckaleechee C**	**62.95**	**27**	LR	LR	20 41 37.3	
	comp=Z,16nm,18.1s,baz=226,slow=33						
RPZ	**Rata Peaks**	**65.66**	**231**	LR	LR	20 40 27.9	
	comp=Z,42nm,20.6s,baz=74,slow=30						
YKA	**Yellowknife Ar**	**83.37**	**359**	P	**P**	**20 19 51.1**	**+0.1**
	0.1nm,0.3s,baz=185,slow=5.6,SNR=2.3						
	0.1nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**87.87**	**291**	T	T	21 56 16.1	
	baz=113						
H11S1	**WAKE ISLAND Hy**	**87.88**	**291**	T	T	21 56 24.4	
	baz=113						
H11S3	**WAKE ISLAND Hy**	**87.89**	**291**	T	T	21 56 18.0	
	baz=113						
H11N3	**WAKE ISLAND Hy**	**88.17**	**292**	T	T	21 56 34.6	
	baz=116						
H11N1	**WAKE ISLAND Hy**	**88.18**	**292**	T	T	21 56 39.4	
	baz=116						
H11N2	**WAKE ISLAND Hy**	**88.19**	**292**	T	T	21 56 41.7	
	baz=116						
SONM	**Songino Array**	**138.65**	**320**	PKP	**PKiKP**	**20 26 52.6**	**-0.1**
	0.3nm,0.8s,baz=50,slow=2.3,SNR=2.2						
ZALV	**Zalesovo Beam**	**144.54**	**342**	PKP	PKPbc	20 26 59.1	-0.2
	0.5nm,0.5s,baz=66,slow=2.8,SNR=2.6						
BVAR	**Borovoye Array**	**148.07**	**356**	PKPbc	**PKPbc**	**20 27 10.2**	**+0.3**
	0.7nm,0.5s,baz=344,slow=4.7,SNR=4.1						
KURBB	**Kurchatov Arra**	**149.21**	**346**	PKPbc	**PKPbc**	**20 27 12.6**	**-0.2**
	0.3nm,0.7s,baz=25,slow=2.5,SNR=4.7						
CMAR	**Chiang Mai Arr**	**149.79**	**271**	PKPbc	**PKPbc**	**20 27 15.5**	**+0.2**
	1.8nm,0.8s,baz=45,slow=1.0,SNR=14						
MKAR	**Makanchi Array**	**151.54**	**338**	PKPbc	**PKPbc**	**20 27 18.2**	**-0.4**
	0.7nm,0.6s,baz=7.2,slow=1.7,SNR=8.1						

*CATAC **05** 20:31:05.1±0.6, 13°.07N×89°.01W, h28km±4km, ML3.5*
*SNET **05** 20:31:06.1±1.4, 13°.13N×89°.03W, h45km, ML3.6*
ISC 05 20:31:05.8±1.7, **13°.06N**±0°.09×**89°.03W**±0°.05, **h45**km±19km, **n40**, σ**0s.52**/50, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.51**	**326**	iP	**Pn**	**20 31 16.2**	**-0.7**
LALI				IAML		20 31 29.9	
	comp=Z,320nm,1.0s						
ALJI	**Alcalda de J**	**0.52**	**59**	eP	**Pn**	**20 31 16.8**	**-0.2**
ALJI				eS	**Sn**	**20 31 25.7**	**+0.8**
ALJI	**Alcalda de J**	**0.52**	**59**	iP	**Pn**	**20 31 16.8**	**-0.2**
ALJI				IAML		20 31 16.9	
	comp=Z,3µm,1.0s						
ALJI				iS	**Sn**	**20 31 24.5**	**-0.4**
TECO	**Alcaldia de Te**	**0.53**	**27**	iP	**Pn**	**20 31 16.9**	**-0.3**
TECO				iS	**Sn**	**20 31 25.5**	**+0.2**
TECO				IAML		20 31 29.1	
	comp=Z,2µm,1.0s						
SJTE	**Alcalda de S**	**0.55**	**2**	iP	**Pn**	**20 31 17.3**	**-0.2**
SJTE				IAML		20 31 28.1	
	comp=Z,2µm,1.0s						
LFRS	**El Faro**	**0.56**	**357**	eP	**Pn**	**20 31 17.4**	**-0.2**
COEG	**Centro de Oper**	**0.57**	**14**	eP	**Pn**	**20 31 17.6**	**-0.2**
COEG				eS	**Sn**	**20 31 27.0**	**+0.7**
COEG	**Centro de Oper**	**0.57**	**14**	iP	**Pn**	**20 31 17.6**	**-0.2**
COEG				IAML		20 31 30.9	
	comp=Z,2µm,1.0s						
LOMA	**Loma Larga**	**0.60**	**346**	iP	**Pn**	**20 31 18.0**	**-0.2**
LOMA				IAML		20 31 28.6	
	comp=Z,2µm,1.0s						
UESV	**Universidad de**	**0.62**	**22**	iP	**Pn**	**20 31 18.3**	**0.0**
UESV				IAML		20 31 18.4	
	comp=Z,2µm,1.0s						
COEB	**Comit de Eme**	**0.65**	**48**	eP	**Pn**	**20 31 18.6**	**-0.2**
COEB				eS	**Sn**	**20 31 29.1**	**+1.0**
SNET	**Serv Nac Est T**	**0.66**	**342**	iP	**Pn**	**20 31 18.6**	**-0.2**
SNET				IAML		20 31 29.9	
	comp=Z,3µm,1.0s						
PAVA	**Las Pavas**	**0.66**	**8**	iP	**Pn**	**20 31 18.9**	**0.0**
PAVA				IAML		20 31 31.2	
	comp=Z,3µm,1.0s						
UEES	**Universidad Ev**	**0.69**	**342**	iP	**Pn**	**20 31 19.0**	**-0.3**
UEES				IAML		20 31 32.4	
	comp=Z,980nm,1.0s						
LFU	**La Fuente**	**0.69**	**353**	eP	**Pn**	**20 31 19.4**	**+0.1**
SCLA	**Alcaldia de Sa**	**0.70**	**24**	iP	**Pn**	**20 31 19.5**	**+0.1**
SCLA				iS	**Sn**	**20 31 28.8**	**-0.5**
SCLA				IAML		20 31 31.5	
	comp=Z,560nm,1.0s						
PMON	**Piamonte**	**0.71**	**337**	iP	**Pn**	**20 31 19.4**	**-0.2**
PMON				iS	**Sn**	**20 31 29.7**	**+0.2**
PMON				IAML		20 31 33.2	
	comp=Z,2µm,1.0s						
BOQS	**Boqueron**	**0.72**	**340**	eP	**Pn**	**20 31 19.8**	**+0.1**
JAYA	**Jayaque - finc**	**0.72**	**325**	eP	**Pn**	**20 31 19.5**	**-0.3**
JAYA	**Jayaque - finc**	**0.72**	**325**	iP	**Pn**	**20 31 19.5**	**-0.3**
JAYA				iS	**Sn**	**20 31 29.8**	**-0.1**
JAYA				IAML		20 31 32.2	
	comp=Z,6µm,1.0s						
PQSS	**Presa 15 de Se**	**0.72**	**39**	iP	**Pn**	**20 31 19.7**	**+0.1**
PQSS				iS	**Sn**	**20 31 29.5**	**-0.1**
PQSS				IAML		20 31 32.3	
	comp=Z,6µm,1.0s						
JUCU	**Jucuar¡n**	**0.78**	**76**	eS	**Sn**	**20 31 31.1**	**-0.1**
PACA	**Pacayal**	**0.80**	**59**	iP	**Pn**	**20 31 20.8**	**0.0**
PACA				iS	**Sn**	**20 31 32.7**	**+1.1**
PACA				IAML		20 31 35.7	
	comp=Z,21µm,1.0s						
CEVE	**Cerro Verde**	**0.96**	**323**	iP	**Pn**	**20 31 23.0**	**-0.1**
CEVE				IAML		20 31 44.3	
	comp=Z,1µm,1.0s						
LLGN	**La Laguna**	**1.10**	**4**	iP	**Pn**	**20 31 24.8**	**-0.1**
LLGN				IAML		20 31 42.3	
	comp=Z,370nm,1.0s						
NUBE	**Las Nubes**	**1.11**	**319**	iP	**Pn**	**20 31 25.0**	**-0.1**
NUBE				IAML		20 31 43.5	
	comp=Z,810nm,1.0s						
LCND	**La Caada**	**1.14**	**77**	eP	**Pn**	**20 31 24.8**	**-0.4**
LCND				eS	**Sn**	**20 31 40.1**	**+0.4**
LCND	**La Caada**	**1.14**	**77**	iP	**Pn**	**20 31 24.3**	**-0.9**
LCND				IAML		20 31 43.2	
	comp=Z,600nm,1.0s						
CNCH	**Conchagua**	**1.18**	**79**	eP	**Pn**	**20 31 25.3**	**-0.7**
CNCH	**Conchagua**	**1.18**	**79**	iP	**Pn**	**20 31 25.2**	**-0.7**
CNCH				IAML		20 31 48.4	
	comp=Z,1µm,1.0s						
AMPH	**Amapala**	**1.35**	**80**	iP	**Pn**	**20 31 27.9**	**-0.3**
MTO3	**Montecristo**	**1.37**	**346**	iP	**Pn**	**20 31 28.6**	**-0.1**
MTO3				IAML		20 31 28.9	
	comp=Z,140nm,1.0s						
CSGN	**Cosiguina Volc**	**1.43**	**93**	iP	**Pn**	**20 31 29.2**	**-0.2**
CSGN				IAML		20 31 57.6	
	comp=Z,2µm,1.0s						
POTN	**Potosi Cosigui**	**1.48**	**92**	iP	**Pn**	**20 31 29.3**	**-0.7**
POTN				IAML		20 31 56.0	
	comp=Z,68nm,1.0s						
SARH	**Santa Rosa de**	**1.73**	**9**	iP	**Pn**	**20 31 33.7**	**+0.3**
COMHN	**El Horno**	**1.98**	**46**	iP	**Pn**	**20 31 36.1**	**-1.0**
PKGN	**Cerro Pekin**	**2.04**	**101**	iP	**Pn**	**20 31 39.2**	**+1.6**
YUSH	**Yuscaran**	**2.30**	**67**	iP	**Pn**	**20 31 40.7**	**-0.7**
MOMN	**Momotombo**	**2.51**	**105**	iP	Pn	20 31 51.7	+7.5
LIMN	**Finca el Limon**	**2.59**	**90**	iP	**Pn**	**20 31 44.5**	**-0.8**
LIMN				IAML		20 32 31.7	
	comp=Z,51nm,1.0s						

*IDC **05** 20:46:24.9±0.4, 3°.00S×102°.21E, h0km, mb4.8/29, mbtmp4.8/30, ML4.0/1, MS4.1/55, Error ellipse: s-maj=15.4km s-min=11.3km az=64.0*
*MOS **05** 20:46:25.0±1.2, 3°.04S×102°.13E, h13km, mb5.2/63, Error ellipse: s-maj=7.9km s-min=4.0km az=115.6*
*DJA **05** 20:46:29.1±0.5, 3°S±2°×10°2E±°, h11km±4km, M5.0/43, mb5.1/43, mB5.5/29, MLv5.4/24, Mw5.2/6, Mw(mB)5.0/29, MwMwp4.5/6, Mwp4.9/6*
*GCMT **05** 20:46:30.8±0.2, 3°.13S±0°.01×102°.19E±0°.01, h19km±1km, MW5.0/96, Moment Tensor Solution. s40,c47; s96,c147; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.73±.14; $M_{\theta\theta}$-2.78±.09; $M_{\phi\phi}$4.52±.12; $M_{r\theta}$-1.10±.23; $M_{\theta\phi}$-0.32±.08; $M_{\phi r}$-1.22±.23; Best double couple: $M_0$4.16700×10^{16} NP1: ϕ_s36.00000°, δ74.00000°, λ-33.00000°. NP2: ϕ_s136.00000°, δ58.00000°, λ-162.00000°. Principal axes: T 4.7510, Plg11.0000°, Azm89.0000°; N -1.1580, Plg54.0000°, Azm194.0000°; P -3.5830, Plg34.0000°, Azm352.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **05** 20:46:30.8±1.6, 3°.11S±0°.06×102°.17E±0°.06, h46km±5km, mb5.1/142 Error ellipse: s-maj=10.0km s-min=7.5km az=50.0*
ISC 05 20:46:28.7±0.4, **3°.17S**±0°.03×**102°.16E**±0°.04, **h29**km±2km, **h29km:pP-P**, **n593**, σ**1s.47**/588, **mb5.0**/184, **MS4.2**/77, **33C-21D**, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**1.27**	**327**	P	**Pb**	**20 46 52.1**	**-0.1**
MNAI	**Manna**	**1.43**	**146**	Pn	**Pb**	**20 46 54.4**	**-0.4**
MNAI				Sn	**Sb**	**20 47 13.2**	**+0.6**
MNAI	**Manna**	**1.43**	**146**	P	**Pb**	**20 46 54.7**	**-0.1**
LHSI	**Lahat**	**1.52**	**116**	P	**Pn**	**20 46 54.7**	**+0.8**
JMBI	**JAMBI**	**2.13**	**44**	P	**Pn**	**20 47 03.4**	**+1.1**
PPSI	**Pulau Pagai**	**2.18**	**281**	P	**Pb**	**20 47 05.1**	**-2.4**
PMBI	**Palembang**	**2.62**	**85**		**Pn**	**20 47 07.4**	**-1.8**
PMBI	**Palembang**	**2.62**	**85**	P	**Pn**	**20 47 08.2**	**-1.0**
LWLI	**Liwa**	**2.64**	**134**	P	**Pn**	**20 47 12.1**	**+2.5**
PDSI	**Padang**	**2.81**	**323**	P	**Pn**	**20 47 14.6**	**+2.9**
KLI	**Kotabumi**	**3.18**	**122**	P	**Pn**	**20 47 18.3**	**+1.5**
KASI	**Kota Agung**	**3.31**	**135**	P	**Pn**	**20 47 21.4**	**+2.8**
DSRI	**Dabo**	**3.60**	**42**	P	**Pn**	**20 47 23.9**	**+1.2**
BKNI	**Bangkinang**	**3.64**	**342**		**Pn**	**20 47 25.0**	**+1.8**
BKNI	**Bangkinang**	**3.64**	**342**	P	**Pn**	**20 47 25.3**	**+2.1**
TPRI	**Tanjung Pinang**	**4.70**	**30**	P	**Pn**	**20 47 39.1**	**+1.4**
CGJI	**Cibinong**	**4.91**	**134**	P	**Pn**	**20 47 43.5**	**+2.8**
SBJI	**Serang**	**4.93**	**127**	P	Pn	20 47 45.8	+4.9
PBSI	**Pulau Batu**	**4.96**	**309**	P	**Pn**	**20 47 44.6**	**+3.3**
MYKOM	**Kota Tinggi**	**5.21**	**19**		**Pn**	**20 47 46.0**	**+1.2**
DBJI	**Dramaga**	**5.68**	**127**	P	Pn	20 47 56.6	+5.3
	590nm,1.5s,9µm3µm3.5nm						
SKJI	**Sukabumi**	**5.81**	**131**	P	Pn	20 47 58.2	+5.2
	364nm,0.9s,4µm1µm1.8nm						
GSI	**Gunungsitoli**	**6.38**	**314**	Pn	**Pn**	**20 48 02.0**	**+1.2**
GSI	**Gunungsitoli**	**6.38**	**314**	P	**Pn**	**20 48 03.6**	**+2.8**
	130nm,0.4s,3µm1.4nm						
CNJI	**Cibinong**	**6.44**	**130**	P	**Pn**	**20 48 03.9**	**+2.2**
	104nm,1.0s,2µm676nm0.5nm						
LEM	**Lembang**	**6.54**	**124**	Pn	**Pn**	**20 48 07.5**	**+4.2**
	4.1nm,0.3s,baz=240,slow=8.3,SNR=30						
LEM				Lg	Lg	20 49 55.5	
	2.0nm,0.3s,baz=328,slow=23,SNR=1.4						
LEM				LR	LR	20 51 09.2	
	comp=Z,5µm,21.7s,baz=297,slow=43						
RPSI	**Rantau Prapat**	**6.66**	**331**		**Pn**	**20 48 05.7**	**+1.0**
PSI	**Prapat**	**6.75**	**331**	P	**Pn**	**20 48 05.7**	**-0.4**
CMJI	**Cimerak**	**7.76**	**126**	P	**Pn**	**20 48 23.3**	**+3.4**
	167nm,1.1s,2µm2µm0.5nm						
KPJI	**Karang Pucung**	**7.92**	**122**	P	**Pn**	**20 48 25.7**	**+3.8**
	83nm,0.7s,2µm0.5nm						
XMIS	**Christmas Isla**	**8.05**	**155**	Pn	Pn	20 48 19.6	-4.2
KULM	**Kulim**	**8.53**	**350**	Pn	**Pn**	**20 48 30.9**	**+0.5**
SMRI	**Semarang**	**9.11**	**115**		**Pn**	**20 48 39.5**	**+1.1**
SMRI	**Semarang**	**9.11**	**115**	P	Pn	20 48 49.8	+11
MLSI	**Meulaboh, Aceh**	**9.36**	**322**	P	**Pn**	**20 48 44.5**	**+2.8**
	67nm,0.8s						
KSM	**Kuching**	**9.36**	**61**	Pn	**Pn**	**20 48 41.8**	**0.0**
UGM	**Wanagama**	**9.57**	**120**		**Pn**	**20 48 47.1**	**+2.4**
UGM	**Wanagama**	**9.57**	**120**	P	**Pn**	**20 48 47.7**	**+3.0**
	298nm,1.4s,5µm						
STKI	**Sintang**	**9.85**	**71**	P	**Pn**	**20 48 51.7**	**+3.1**
	47nm,0.8s,2µm						
NGJI	**Ngawi**	**10.16**	**115**	P	Pn	20 49 03.8	+11
COCO	**West Island**	**10.40**	**210**		**Pn**	**20 48 56.9**	**+0.9**
COCO	**West Island**	**10.40**	**210**	P	**Pn**	**20 48 56.9**	**+0.9**
SBUM	**Sibu**	**11.50**	**61**	Pn	**Pn**	**20 49 10.5**	**-0.7**
SRIT	**Nakonsritamara**	**11.96**	**348**	Pn	**Pn**	**20 49 17.5**	**+0.1**
KMMI	**Kalianget**	**12.38**	**109**	P	Pn	20 49 28.2	+5.1
	116nm,1.1s,2µm						
BBKI	**Banjar Baru**	**12.67**	**92**	P	**Pn**	**20 49 30.6**	**+3.5**
	79nm,0.5s,15µm						
ABJI	**Asem Bagus**	**12.87**	**111**	P	Pn	20 49 35.4	+5.5
	193nm,0.8s,2µm						
MTKI	**Muara Teweh, K**	**12.92**	**80**	P	**Pn**	**20 49 34.6**	**+4.0**
JAGI	**Jajag, Banyuwa**	**13.04**	**114**	Pn	**Pn**	**20 49 31.9**	**-0.3**
JAGI	**Jajag, Banyuwa**	**13.04**	**114**	P	**Pn**	**20 49 32.0**	**-0.3**
	171nm,0.8s,2µm						
SRBI	**Singaraja**	**13.88**	**111**	P	**Pn**	**20 49 47.5**	**+3.9**
	123nm,1.6s,2µm						
BKB	**Balikpapan**	**14.85**	**83**		**Pn**	**20 50 00.4**	**+3.5**
BKB	**Balikpapan**	**14.85**	**83**	P	**P**	**20 50 04.8**	**+2.4**
TWSI	**Taliwang, Sumb**	**15.65**	**111**	P	**P**	**20 50 11.0**	**-0.3**
	50nm,1.4s,838nm						
PLAI	**Plampang**	**16.52**	**111**	P	**Pn**	**20 50 19.7**	**+1.2**
	78nm,1.2s,839nm						
KKM	**Kota Kinabalu**	**16.76**	**57**		**Pn**	**20 50 21.1**	**-0.6**
SPSI	**Sidrap Palu**	**17.60**	**93**	P	**P**	**20 50 36.2**	**+3.4**
	68nm,1.6s,1µm						
TTSI	**Tana Toraja**	**17.64**	**90**	P	P	20 50 40.5	+7.2
KAPI	**Kappang**	**17.65**	**97**	P	**Pn**	**20 50 31.2**	**-1.4**
KAPI				IAmb	IAmb	20 50 39.7	
	comp=Z,177nm,1.4s						
KAPI	**Kappang**	**17.65**	**97**	iP	**P**	**20 50 35.2**	**+1.8**
KAPI	**Kappang**	**17.65**	**97**	P	**Pn**	**20 50 33.4**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=265,slow=11,SNR=8.5						
KAPI				S	**S**	**20 53 55.5**	**+0.1**
	comp=Z,3.7nm,0.4s,baz=229,slow=20,SNR=1.5						
KAPI				LR	LR	20 57 37.1	
	comp=Z,1µm,21.7s,baz=253,slow=38						
	comp=Z,15nm,1.0s						
BKSI	**Bulukumba**	**18.04**	**97**	P	**P**	**20 50 41.2**	**+3.4**
	comp=Z,117nm,1.3s,comp=Z,2µm						
MYLDM	**Lahad Datu**	**18.31**	**63**	P	**P**	**20 50 39.3**	**-1.4**
TOLI2	**Tolitoli**	**19.10**	**77**		**P**	**20 50 49.4**	**+0.1**
BASI	**Baing, Sumba**	**19.58**	**112**	P	**Pn**	**20 50 57.6**	**+1.5**
	comp=Z,213nm,1.1s,comp=Z,2µm						
MRSI	**Marisa**	**20.10**	**80**	P	Pn	20 51 04.7	+2.4
	comp=Z,90nm,1.3s,comp=Z,1µm						
EDFI	**Ende, Flores**	**20.20**	**107**	P	Pn	20 51 05.9	+2.3
	comp=Z,28nm,1.2s,comp=Z,383nm						
MMRI	**Maumere**	**20.69**	**106**	P	**P**	**20 51 06.5**	**-0.3**
LUWI	**Luwuk**	**20.71**	**85**	P	**P**	**20 51 06.6**	**-0.4**
LUWI				IAmb	IAmb	20 51 21.1	
	comp=Z,243nm,1.5s						
PHRA	**Phrae**	**21.61**	**355**	P	**P**	**20 51 17.0**	**+0.5**
CM31	**Chiang Mai Arr**	**21.72**	**352**	P	**P**	**20 51 16.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**21.72**	**352**	P	**P**	**20 51 18.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**21.72**	**352**	P	**P**	**20 51 15.6**	**-2.1**
	comp=Z,4.2nm,0.8s,baz=181,slow=9.0,SNR=5.4						
CMAR				PcP	**PcP**	**20 55 19.5**	**+1.3**
	comp=Z,2.9nm,0.8s,baz=206,slow=3.5,SNR=10						
CMAR				ScP	**ScP**	**20 58 55.2**	**+1.6**
	comp=Z,2.3nm,0.9s,baz=198,slow=2.8,SNR=8.5						
CMAR				LR	LR	21 00 12.7	
	comp=Z,572nm,18.8s,baz=195,slow=38						
	comp=Z,4.2nm,0.8s						
CHTO	**Chiang Mai**	**22.07**	**352**	P	**P**	**20 51 21.2**	**-0.3**
CHTO	**Chiang Mai**	**22.07**	**352**	P	**P**	**20 51 21.2**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BATI	**Baumata**	**22.46**	**109**	P	**P**	**20 51 30.9**	**+5.0**
	comp=Z,44nm,1.1s						
SOEI	**Soe**	**22.91**	**108**	P	**P**	**20 51 32.0**	**+1.2**
SOEI				IAmb	IAmb	20 51 46.8	
	comp=Z,65nm,1.0s						
SOEI	**Soe**	**22.91**	**108**	P	P	20 51 38.3	+7.6
CRAI	**Chiangrai**	**23.31**	**356**	P	**P**	**20 51 33.7**	**-0.9**
QIZ	**Qiongzhong**	**23.32**	**19**	P	**P**	**20 51 34.1**	**-0.5**
QIZ				IAmb	IAmb	20 51 38.7	
	comp=Z,56nm,1.0s						
QIZ	**Qiongzhong**	**23.32**	**19**	P	**P**	**20 51 37.4**	**+2.8**
QIZ				pmax	pmax		
	comp=Z,52nm,2.2s						
QIZ				LR	LR		
	comp=Z,1µm,14.2s						
QIZ				LR	LR		
	comp=Z,790nm,12.8s						
QIZ				LR	LR		

comp=Z,1μm,19.8s
PALK Pallekele 23.79 296 LR LR 21 00 55.8
comp=Z,1μm,18.6s,baz=221,slow=37
SANI Sanana 23.83 88 P **P**
comp=Z,26nm,1.3s
SLVN So La 24.41 4 P **P** **20 51 43.3 -1.7**
MBWA Marble Bar 24.75 138 P **P** **20 51 47.5 -0.5**
NLAI Namlea 24.91 91 P P 20 52 00.4 +11
PSA00 Pilbara Seismi 25.11 138 P **P** **20 51 51.3 0.0**
PSA00 IAmb IAmb 20 51 59.4
comp=Z,40nm,1.1s
PSA00 Pilbara Seismi 25.11 138 P **P** **20 51 51.2 -0.1**
PSA00 IAmb IAmb 20 51 59.4
comp=Z,27nm,1.2s
LBMI Labuha 25.45 85 P **P** **20 51 58.4 +3.9**
comp=Z,101nm,1.0s,comp=Z,2μm
TNTI Ternate 25.50 82 P **P** **20 51 51.0 -3.9**
FITZ Fitzroy Crossi 27.38 124 P **P** **20 52 12.7 +0.8**
baz=28,SNR=8.3
KMI Kunming 28.12 1 ⇑P **P** **20 52 20.7 +2.1**
KMI pP sP 20 52 30.4 -0.5
KMI S **S** **20 57 03.5 +1.2**
KMI sS sS 20 57 20.9 +3.8
KMI pmax pmax
comp=Z,15nm,1.0s
KMI LR LR
comp=Z,2μm,12.6s
KMI LR LR
comp=Z,1μm,10.3s
KMI LR LR
comp=Z,2μm,15.2s
TNCH TengChong 28.25 353 P P 20 52 27.1 +7.4
TNCH PP **PnPn** **20 53 16.5 +7.8**
TNCH pmax pmax
comp=Z,8.0nm,1.9s
TNCH pmax pmax
comp=Z,55nm,4.9s
TNCH LR LR
comp=Z,810nm,10.4s
TNCH LR LR
comp=Z,920nm,9.0s
TNCH LR LR
comp=Z,880nm,13.0s
MORW Morawa 28.95 154 P **P** **20 52 25.4 -0.3**
MORW IAmb IAmb 20 52 50.6
comp=Z,85nm,1.9s
KNRA Kununurra 28.99 117 P **P** **20 52 25.0 -1.2**
SWI Sorong 29.17 86 P P 20 52 32.9 +5.0
comp=Z,17nm,1.4s
PZH PanZhiHua 29.50 359 P P 20 52 35.4 +4.7
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.7s
PZH LR LR
comp=Z,950nm,12.0s
PZH LR LR
comp=Z,860nm,13.3s
PZH LR LR
comp=Z,1μm,12.0s
GYA Guiyang 29.77 8 ⇓P **P** **20 52 35.4 +2.3**
GYA S **S** **20 57 31.4 +3.4**
GYA pmax pmax
comp=Z,31nm,1.0s
GYA pmax pmax
comp=Z,260nm,4.7s
GYA LR LR
comp=Z,540nm,9.5s
GYA LR LR
comp=Z,650nm,9.7s
GYA LR LR
comp=Z,310nm,14.4s
DGAR Diego Garcia 29.87 261 P **P** **20 52 33.4 -0.6**
DGAR Diego Garcia 29.87 261 P **P** **20 52 33.4 -0.6**
DGAR pmax pmax
comp=Z,162nm,1.2s
FAKI Fak Fak 30.05 90 P **P** **20 52 34.8 -0.9**
FAKI IAmb IAmb 20 52 50.0
comp=Z,22nm,0.9s
MTN Manton Dam 30.23 110 P **P** **20 52 34.5 -2.7**
SHL Shillong 30.25 341 P **P** **20 52 35.5 -1.9**
SHL Shillong 30.25 341 P **P** **20 52 35.5 -1.9**
SHL pmax pmax
comp=Z,11nm,1.0s
HYB Hyderabad 30.99 312 *e*P **P** **20 52 43.6 -0.4**
KDU Kakadu 31.45 109 P **P** **20 52 46.6 -1.4**
baz=32,SNR=3.4
NWAO Narrogin (SRO) 32.80 156 P **P** **20 52 59.9 +0.2**
NWAO Narrogin (SRO) 32.80 156 P **P** **20 52 59.6 -0.1**
NWAO IAmb IAmb 20 53 38.1
comp=Z,26nm,1.0s
NWAO Narrogin (SRO) 32.80 156 P **P** **20 52 59.9 +0.2**
NWAO pmax pmax
comp=Z,94nm,1.1s
NWAO Narrogin (SRO) 32.80 156 LR LR 21 04 44.9
comp=Z,976nm,21.7s,baz=348,slow=33
ODAN Odare 33.08 335 *e*P **P** **20 53 01.3 -1.1**
comp=Z,42nm,1.4s
WRKA Warakurna 33.26 133 P **P** **20 53 05.2 +1.4**
baz=34,SNR=6.6
TAPN Taplejung 33.39 336 *e*P **P** **20 53 04.5 -0.7**
comp=Z,46nm,0.9s
RAMN Ramite 33.50 334 *e*P **P** **20 53 05.7 -0.4**
comp=Z,16nm,0.9s
TATO Taipei 33.69 33 P **P** **20 53 06.9 -0.6**
CD2 Chengdu 33.92 2 P **P** **20 53 09.8 +0.4**
CD2 S **S** **20 58 33.6 +1.1**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 LR LR
comp=Z,2μm,11.2s
CD2 LR LR
comp=Z,1μm,14.5s
CD2 LR LR
comp=Z,2μm,11.3s
ENH Enshi 33.98 11 P **P** **20 53 09.1 -0.9**
ENH IAmb IAmb 20 53 11.8
comp=Z,19nm,0.8s
ENH Enshi 33.98 11 P **P** **20 53 10.2 +0.3**
JIRN Jiri 34.29 334 *e*P **P** **20 53 12.6 -0.5**
comp=Z,50nm,0.9s
LSA Lhasa 34.34 343 P **P** **20 53 11.7 -1.9**
LSA Lhasa 34.34 343 P **P** **20 53 11.7 -1.9**
LSA pmax pmax
comp=Z,7.0nm,0.9s
LSA Lhasa 34.34 343 P **P** **20 53 13.7 +0.1**
LSA pmax pmax
comp=Z,5.0nm,1.1s
PKI Pulchoki 34.56 333 *e*P **P** **20 53 14.7 -0.7**
comp=Z,11nm,0.8s
PKIN Phulchoki 34.57 333 *e*P **P** **20 53 15.1 -0.3**
comp=Z,9.3nm,0.7s
GUN Gumba 34.65 334 *e*P **P** **20 53 16.0 -0.1**
comp=Z,36nm,0.8s
DMN Daman 34.73 333 *e*P **P** **20 53 16.4 -0.4**
comp=Z,27nm,0.9s
KKN Kakani 34.81 333 *e*P **P** **20 53 17.1 -0.3**
comp=Z,107nm,1.8s
GKN Gorkha 35.28 333 *e*P **P** **20 53 21.2 -0.2**
comp=Z,24nm,0.9s
WB0 Warramunga Arr 35.53 120 P **P** **20 53 22.3 -1.2**
WRA Warramunga Arr 35.55 120 P **P** **20 53 23.1 -0.6**
WRA Warramunga Arr 35.55 120 P **P** **20 53 23.1 -0.6**
WRA pmax pmax
comp=Z,2.0nm,1.2s
WRA Warramunga Arr 35.55 120 P **P** **20 53 23.2 -0.5**
comp=Z,7.0nm,0.9s,baz=302,slow=8.8,SNR=28
WRA PcP **PcP** **20 55 53.1 +0.5**
comp=Z,1.7nm,0.7s,baz=315,slow=2.0,SNR=2.2
WRA S **S** **20 58 54.5 -3.4**
comp=Z,1.6nm,1.1s,baz=294,slow=16,SNR=4.9
WRA ScP **ScP** **20 59 37.1 +0.4**
comp=Z,2.5nm,1.0s,baz=301,slow=2.7,SNR=8.0
comp=Z,7.0nm,0.9s
WRAB Tennant Creek 35.55 120 P **P** **20 53 22.9 -0.8**
WRAB IAmb IAmb 20 53 31.2
comp=Z,48nm,1.6s
WRAB Tennant Creek 35.55 120 P **P** **20 53 22.9 -0.8**
WRAB pmax pmax
comp=Z,48nm,1.6s
WB2 Warramunga Arr 35.56 120 P **P** **20 53 22.9 -0.9**
WB2 IAmb IAmb 20 53 30.1
comp=Z,70nm,1.7s
KOLN Koldanda 35.58 331 *e*P **P** **20 53 23.6 -0.4**
comp=Z,43nm,0.9s
WR0 Warramunga Arr 35.73 120 P **P** **20 53 24.1 -1.1**
WR0 IAmb IAmb 20 53 32.8
comp=Z,25nm,1.0s
DANN Dangsing 35.98 332 *e*P **P** **20 53 27.4 -0.2**
comp=Z,20nm,0.4s
PYUN Piuthan 36.15 331 *e*P **P** **20 53 29.0 +0.1**
comp=Z,59nm,1.4s
FORT Forrest 36.78 141 P **P** **20 53 32.8 -1.3**
FORT IAmb IAmb 20 53 41.3
comp=Z,21nm,0.9s
AS31 Alice Springs 36.83 126 P **P** **20 53 33.8 -0.9**
ASAR Alice Springs 36.83 126 P **P** **20 53 34.1 -0.6**
ASAR Alice Springs 36.83 126 P **P** **20 53 34.7 +0.1**
comp=Z,7.6nm,0.7s,baz=302,slow=8.4,SNR=55
ASAR PcP **PcP** **20 55 57.5 +1.2**
comp=Z,2.8nm,0.8s,baz=313,slow=2.2,SNR=6.6
ASAR S **S** **20 59 16.5 -1.0**
comp=Z,1.7nm,0.9s,baz=286,slow=17,SNR=6.7
ASAR ScP **ScP** **20 59 42.5 +1.1**
comp=Z,2.2nm,0.8s,baz=300,slow=3.3,SNR=8.1
ASAR LR LR 21 08 56.3
comp=Z,443nm,21.9s,baz=300,slow=37
comp=Z,7.6nm,0.7s
XAN Xi'an 37.55 9 ⇑P **P** **20 53 41.0 +0.4**
XAN pP sP 20 53 53.9 +0.7
XAN pmax pmax
comp=Z,78nm,0.9s
XAN LR LR
comp=Z,2μm,13.4s
XAN LR LR
comp=Z,860nm,12.4s
XAN LR LR
comp=Z,2μm,14.8s
XAN Xi'an 37.55 9 P **P** **20 53 40.9 +0.3**
XAN sP sP 20 53 55.5 +2.3
NJ2 Nanjing 38.45 23 *e*P **P** **20 53 50.3 +2.2**
NJ2 pP **sP** **20 53 59.2 -1.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 LR LR
comp=Z,690nm,12.4s
NJ2 LR LR
comp=Z,560nm,10.4s
NJ2 LR LR
comp=Z,920nm,12.3s
LYN LuoYang 38.75 14 ⇑P **P** **20 53 53.0 +2.4**
LYN pmax pmax
comp=Z,69nm,1.0s
LYN pmax pmax
comp=Z,260nm,4.1s
LYN LR LR
comp=Z,990nm,12.0s
LYN LR LR
comp=Z,830nm,14.1s
LYN LR LR
comp=Z,1μm,15.8s
LZH Lanzhou 39.08 2 *e*P **P** **20 53 54.8 +1.2**
LZH sP sP 20 54 08.2 +2.2
LZH pmax pmax
comp=Z,44nm,1.1s
LZH pmax pmax
comp=Z,190nm,4.0s
LZH LR LR
comp=Z,1μm,12.4s
LZH LR LR
comp=Z,1μm,13.7s
LZH LR LR
comp=Z,2μm,12.0s
GOMU GeErMu 39.76 351 P **P** **20 53 59.7 +0.3**
GOMU PcP **PcP** **20 56 06.1 +0.5**
GOMU pmax pmax
comp=Z,1.0nm,0.6s
GOMU LR LR
comp=Z,160nm,16.1s
GOMU LR LR
comp=Z,210nm,16.0s
GOMU LR LR
comp=Z,150nm,16.4s
QIS Mount Isa 40.36 118 P **P** **20 54 04.3 0.0**
baz=41,SNR=6.4
GTA Gaotai 42.42 357 *e*P **P** **20 54 22.0 +1.0**
GTA pmax pmax
comp=Z,12nm,1.1s
GTA LR LR
comp=Z,470nm,15.1s
GTA LR LR
comp=Z,660nm,17.5s
GTA LR LR
comp=Z,590nm,15.5s
BBOO Buckleboo 43.33 137 P **P** **20 54 27.5 -0.9**
BBOO IAmb IAmb 20 54 38.1
comp=Z,55nm,1.9s
MTSU Mount Surprise 43.88 113 P **P** **20 54 33.0 -0.1**
baz=44,SNR=7.7
BTO Baotou 44.15 9 *e*P **P** **20 54 37.6 +2.6**
BTO pP sP 20 54 49.7 +2.0
BTO sP pP 20 54 55.3 +11
BTO PP **PcP** **20 56 21.1 +1.4**
BTO S **S** **21 01 09.4 +3.1**
BTO pmax pmax
comp=Z,23nm,0.9s
BTO pmax pmax
comp=Z,420nm,3.8s
BTO LR LR
comp=Z,440nm,7.6s
BTO LR LR
comp=Z,2μm,14.5s
BTO LR LR
comp=Z,510nm,14.1s
HHC Hu-ho-hao-te 44.64 10 *e*P **P** **20 54 41.0 +2.1**
HHC pmax pmax
comp=Z,38nm,0.5s
HHC pmax pmax
comp=Z,170nm,4.4s
HHC LR LR
comp=Z,1μm,18.2s
HHC LR LR
comp=Z,1μm,18.8s
HHC LR LR
comp=Z,1μm,18.2s
BJT Baijiatuau 44.86 15 P **P** **20 54 41.4 +0.9**
BJT IAmb IAmb 20 55 03.8
comp=Z,50nm,2.0s
BJT Baijiatuau 44.86 15 P **P** **20 54 41.4 +0.9**
BJT pmax pmax
comp=Z,50nm,2.0s
BJI Beijing 44.88 15 P **P** **20 54 42.5 +1.9**
BJI pP **sP** **20 54 52.6 -0.8**
BJI pmax pmax
comp=Z,4.0nm,1.1s
BJI LR LR
comp=Z,280nm,19.1s
BJI LR LR
comp=Z,660nm,18.6s
BJI LR LR
comp=Z,410nm,16.0s
PMG Port Moresby 45.13 100 LR LR 21 16 25.2
comp=Z,212nm,19.4s,baz=252,slow=40
JNU Nakatsue 45.17 35 P **P** **20 54 41.9 -1.3**
comp=Z,10nm,1.0s,baz=209,slow=10,SNR=2.0
JNU LR LR 21 13 05.0
comp=Z,197nm,22.0s,baz=226,slow=36
comp=Z,10nm,1.0s
GUMO Guam 45.53 68 LR LR 21 13 58.8
comp=Z,54nm,21.7s,baz=256,slow=36
HTT Hallett 45.66 136 P **P** **20 54 49.6 +2.5**
baz=46,SNR=5.0
NIL Nilore 45.66 326 P **P** **20 54 45.2 -1.8**
NIL Nilore 45.66 326 P **P** **20 54 45.2 -1.8**
NIL pmax pmax
comp=Z,51nm,0.9s
NIL Nilore 45.66 326 P **P** **20 54 47.1 +0.1**
CTA Charters Tower 46.16 115 LR LR 21 16 43.0
comp=Z,242nm,18.7s,baz=288,slow=39
CTAO Charters Tower 46.16 115 P **P** **20 54 50.3 -0.9**
CTAO IAmb IAmb 20 54 57.3
comp=Z,15nm,1.0s
CTAO Charters Tower 46.16 115 P **P** **20 54 50.3 -0.9**
CTAO pmax pmax
comp=Z,15nm,1.0s
CTAO Charters Tower 46.16 115 P **P** **20 54 52.3 +1.1**
CTAO sP **sP** **20 55 08.9 +5.0**
CTAO PcP **PcP** **20 56 26.5 -0.4**
INCN Inchon 46.40 27 P **P** **20 54 52.0 -0.7**
INCN Inchon 46.40 27 P **P** **20 54 52.0 -0.7**
INCN pmax pmax
comp=Z,224nm,1.9s
QLP Quilpie 46.52 124 P **P** **20 54 55.6 +1.7**
baz=47,SNR=4.0
MSEY Mahe Island 46.59 267 P **P** **20 54 54.6 -0.1**
MSEY Mahe Island 46.59 267 P **P** **20 54 54.6 -0.1**
MSEY pmax pmax
comp=Z,183nm,1.7s
STKA Stephens Creek 46.77 132 P **P** **20 54 57.2 +1.4**
baz=47,SNR=8.0
STKA Stephens Creek 46.77 132 P **P** **20 54 56.4 +0.5**
STKA Stephens Creek 46.77 132 *i*P **P** **20 54 57.4 +1.6**
STKA Stephens Creek 46.77 132 P **P** **20 54 56.6 +0.8**
comp=Z,7.3nm,0.8s,baz=308,slow=8.3,SNR=17
STKA S **S** **21 01 45.2 +0.9**
comp=Z,1.0nm,0.8s,baz=332,slow=15,SNR=2.1
STKA LR LR 21 15 49.2
comp=Z,213nm,21.7s,baz=291,slow=38
comp=Z,7.3nm,0.8s
KSAR Wonju Array Be 46.94 28 P **P** **20 54 56.2 -0.7**
KSAR Wonju Array Be 46.94 28 P **P** **20 54 56.3 -0.7**
KSRS Korea Array 46.97 28 P **P** **20 54 57.6 +0.4**
comp=Z,4.5nm,0.9s,baz=217,slow=7.4,SNR=7.5
KSRS LR LR 21 13 58.0
comp=Z,142nm,21.4s,baz=190,slow=35
comp=Z,4.5nm,0.9s
WMQ Urumqi 48.55 346 ⇑P **P** **20 55 10.6 +1.2**
WMQ pP sP 20 55 22.3 +0.3
WMQ pmax pmax
comp=Z,39nm,0.9s
WMQ LR LR
comp=Z,120nm,17.1s
WMQ LR LR
comp=Z,430nm,17.1s
WMQ LR LR
comp=Z,170nm,24.3s
KBL Kabul 48.74 323 P **P** **20 55 10.3 -1.0**
KBL IAmb IAmb 20 55 13.4
comp=Z,13nm,1.1s
KBL Kabul 48.74 323 P **P** **20 55 10.3 -1.0**
KBL pmax pmax
comp=Z,13nm,1.1s
KSH Kashi 48.83 333 P **P** **20 55 11.1 -0.6**
KSH pmax pmax
comp=Z,22nm,1.0s
KSH LR LR
comp=Z,270nm,21.6s
KSH LR LR
comp=Z,280nm,21.5s
KSH LR LR
comp=Z,530nm,21.6s
JCJ Chichijima 48.95 49 LR LR 21 15 33.3
comp=Z,100nm,21.0s,baz=72,slow=36
CMSA Cobar Meteorol 49.71 130 P **P** **20 55 20.4 +1.9**
baz=50,SNR=16
TARG Taragay, Kyrgy 49.87 336 P **P** **20 55 18.7 -1.3**
TARG IAmb IAmb 20 55 37.7
comp=Z,13nm,0.8s
TARG Taragay, Kyrgy 49.87 336 P **P** **20 55 18.7 -1.3**
TARG pmax pmax
comp=Z,13nm,0.8s
WSAR Wadi Sarin 49.88 304 LR LR 21 16 16.9
comp=Z,364nm,18.6s,baz=140,slow=36
PRZ Przheval'sk 50.27 337 P **P** **20 55 21.9 -0.9**
PRZ Przheval'sk 50.27 337 P **P** **20 55 21.9 -0.9**
PRZ pmax pmax
comp=Z,150nm,1.6s
NRN Naryn 50.38 335 P **P** **20 55 23.1 -0.6**
NRN IAmb IAmb 20 55 25.6
comp=Z,25nm,1.0s
NRN PcP **PcP** **20 56 43.2 +1.2**
SHLS Shalkode 50.45 339 *e*P **P** **20 55 22.9 -1.1**
comp=Z,14nm,0.9s,baz=339
SHLS Shalkode 50.45 339 *e*P **P** **20 55 22.9 -1.1**
SHLS pmax pmax
comp=Z,14nm,0.9s
UZB Uzynbulak 50.61 338 *e*P **P** **20 55 25.3 +0.1**
baz=338
UZB Uzynbulak 50.61 338 *e*P **P** **20 55 25.3 +0.1**
SATY Saty 50.76 338 *i*P **P** **20 55 26.4 -0.1**
baz=338
SATY Saty 50.76 338 *i*P **P** **20 55 26.3 -0.1**
ZHN Zhinishke 50.84 338 *e*P **P** **20 55 26.9 -0.1**
baz=338
ZHN Zhinishke 50.84 338 *e*P **P** **20 55 26.9 -0.1**
SONM Songino Array 50.92 4 P **P** **20 55 28.4 +1.0**
SONM PcP **PcP** **20 56 43.4 -0.3**
SONM Songino Array 50.92 4 P **P** **20 55 28.5 +1.0**
SONM 20 56 43.4
SONM pmax pmax
comp=Z,43nm,0.8s
SONM Songino Array 50.92 4 P **P** **20 55 28.7 +1.2**
comp=Z,42nm,0.8s,baz=182,slow=9.0,SNR=218
SONM PcP **PcP** **20 56 44.2 +0.6**
comp=Z,2.6nm,0.6s,baz=203,slow=2.3,SNR=1.1
comp=Z,42nm,0.8s
ULN Ulaanbaatar 51.00 4 P **P** **20 55 28.7 +0.5**
ULN IAmb IAmb 20 55 31.0
comp=Z,23nm,0.9s
ULN PcP **PcP** **20 56 42.2 -1.8**
ULN Ulaanbaatar 51.00 4*c**e*P **P** **20 55 29.3 +1.2**
ULN pmax pmax
comp=Z,37nm,1.3s
ULN Ulaanbaatar 51.00 4 P **P** **20 55 29.5 +1.3**
ULN sP **sP** **20 55 46.5 +5.7**
ULN PcP **PcP** **20 56 44.3 +0.3**
KPKS Kokpek 51.01 338 *e*P **P** **20 55 28.1 -0.1**
comp=Z,14nm,1.0s,baz=338
KPKS Kokpek 51.01 338 *e*P **P** **20 55 28.1 -0.1**
KPKS pmax pmax
comp=Z,15nm,1.0s
KZA Kyzart 51.23 334 P **P** **20 55 31.2 +1.0**
SNR=8.8
TNSS Tian-Shan 51.31 336 *e*P **P** **20 55 30.5 -0.3**
baz=336
TNSS Tian-Shan 51.31 336 *e*P **P** **20 55 30.5 -0.3**
MDOK Medeo 51.38 337 *e*P **P** **20 55 31.0 0.0**
baz=337
MDOK Medeo 51.38 337 *e*P **P** **20 55 31.0 0.0**
UCH Uchtor 51.67 334 P **P** **20 55 34.0 +0.4**
SNR=15
KBK Karagaybulak 51.83 335 P **P** **20 55 35.3 +0.9**
SNR=14
MJAR Matsushiro Arr 51.86 37 P **P** **20 55 34.6 0.0**
comp=Z,2.7nm,0.9s,baz=209,slow=7.7,SNR=8.7
MJAR LR LR 21 17 38.6
comp=Z,155nm,20.6s,baz=232,slow=36
EIDS Eidsvold 51.91 120 P **P** **20 55 35.9 +0.8**
baz=52,SNR=4.8
EIDS Eidsvold 51.91 120 P **P** **20 55 35.5 +0.3**
EIDS IAmb IAmb 20 55 37.5
comp=Z,15nm,0.8s
AML Almayashu 51.95 333 P **P** **20 55 35.6 0.0**
SNR=17
CHKK Chushkaly 51.98 337 *e*P **P** **20 55 34.9 -0.5**
baz=337
CHKK Chushkaly 51.98 337 *e*P **P** **20 55 34.9 -0.5**
AAK Ala-Archa 52.01 334 P **P** **20 55 36.6 +0.8**
SNR=9.3
AAK Ala-Archa 52.01 334 P **P** **20 55 36.0 +0.2**
AAK IAmb IAmb 20 55 48.5
comp=Z,9.5nm,0.8s
AAK Ala-Archa 52.01 334 P **P** **20 55 36.0 +0.2**
AAK pmax pmax
comp=Z,10.0nm,0.8s
AAK Ala-Archa 52.01 334 LR LR 21 20 28.7
comp=Z,318nm,19.7s,baz=155,slow=39
AAK Ala-Archa 52.01 334 P **P** **20 55 36.2 +0.5**
FRU1 Bishkek 52.09 334 P **P** **20 55 36.1 -0.2**
FRU1 IAmb IAmb 20 55 38.0
comp=Z,32nm,0.9s
FRU1 Bishkek 52.09 334 P **P** **20 55 36.1 -0.2**
FRU1 pmax pmax
comp=Z,32nm,0.9s
CHMS Chumysh 52.19 335 P **P** **20 55 37.5 +0.6**
SNR=11
KUU Kurty 52.27 337 *e*P **P** **20 55 37.1 -0.5**
baz=337
KUU Kurty 52.27 337 *e*P **P** **20 55 37.0 -0.5**
EKS2 Erkin-Say 52.34 334 P **P** **20 55 38.6 +0.4**
SNR=37
TDK Taldyqorghan 52.43 339 *e*P **P** **20 55 38.1 -0.6**
comp=Z,16nm,0.7s,baz=339
TDK Taldyqorghan 52.43 339 *e*P **P** **20 55 38.1 -0.6**
TDK pmax pmax
comp=Z,16nm,0.7s
USP Ospenovka 52.51 335 P **P** **20 55 39.7 +0.3**
SNR=20

SGDS Sogindy 52.61 335 *e*P P 20 55 39.8 -0.3
baz=335
SGDS Sogindy 52.61 335 *e*P P 20 55 39.8 -0.3
ZSN Zaisan 52.64 345 *e*P P 20 55 40.7 +0.5
comp=Z,14nm,1.0s,baz=345
ZSN Zaisan 52.64 345 *e*P P 20 55 40.7 +0.5
ZSN pmax pmax
comp=Z,14nm,1.0s
MK31 Makanchi Array 52.74 343 P P 20 55 40.3 -0.7
MK31 IAmb IAmb 20 55 42.3
comp=Z,15nm,0.9s
MK31 Makanchi Array 52.74 343 *ce*P P 20 55 40.7 -0.3
MKAR Makanchi Array 52.74 343 P P 20 55 40.5 -0.5
comp=Z,17nm,0.8s,baz=147,slow=7.2,SNR=109
MKAR LR LR 21 20 40.2
comp=Z,170nm,21.5s,baz=166,slow=39
comp=Z,17nm,0.8s
MAKZ Makanchi 52.85 343 P P 20 55 41.0 -0.8
MAKZ IAmb IAmb 20 55 43.0
comp=Z,11nm,0.9s
MAKZ Makanchi 52.85 343 P P 20 55 41.0 -0.8
MAKZ pmax pmax
comp=Z,11nm,1.0s
MAKZ Makanchi 52.85 343 P P 20 55 41.3 -0.4
MAKZ pP **sP** 20 55 51.6 -2.8
HRA Herat 52.95 318 P P 20 55 42.2 -0.8
ZAK Zakamensk 53.35 1 *e*P P 20 55 45.1 -0.3
ZAK pmax pmax
comp=Z,7.0nm,1.0s
MDJ Mudanjiang 53.52 24 P P 20 55 48.5 +1.8
MDJ pmax pmax
comp=Z,16nm,2.0s
MDJ pmax pmax
comp=Z,310nm,4.4s
DZA Taraz 53.63 332 *e*P P 20 55 47.0 -0.6
baz=332
DZA Taraz 53.63 332 *e*P P 20 55 47.0 -0.6
ARMA Armidale 53.98 126 P P 20 55 50.5 -0.1
CHM Chimkent 54.03 330 *e*P P 20 55 50.5 -0.1
baz=330
CHM Chimkent 54.03 330 *e*P P 20 55 50.4 -0.1
BTLS Baital 54.15 336 *e*P P 20 55 50.2 -1.1
baz=336
BTLS Baital 54.15 336 *e*P P 20 55 50.2 -1.1
DGZ Jazzator, Alta 54.17 348 *i*P P 20 55 51.8 +0.2
DGZ pmax pmax
comp=Z,30nm,0.7s
KK31 Karatay Array 54.18 332 P P 20 55 50.8 -0.8
KK31 Karatay Array 54.18 332 P P 20 55 50.8 -0.8
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 54.18 332 P P 20 55 50.6 -1.0
KKAR Karatay Array 54.18 332 P P 20 55 50.9 -0.7
KKAR IAmb IAmb 20 55 54.1
comp=Z,8.3nm,0.8s
KKAR Karatay Array 54.18 332 P P 20 55 50.9 -0.7
KKAR pmax pmax
comp=Z,8.0nm,0.8s
USA0B Ussuriysk Arra 54.20 26 P P 20 55 49.5 -2.1
USA0B IAmb IAmb 20 56 33.3
comp=Z,12nm,0.9s
USA0B Ussuriysk Arra 54.20 26 P P 20 55 49.6 -2.1
USA0B pmax pmax
comp=Z,13nm,0.9s
USRK Ussuriysk Ar. 54.20 26 P P 20 55 49.8 -1.9
USRK Ussuriysk Ar. 54.20 26 P P 20 55 52.1 +0.4
comp=Z,9.7nm,0.8s,baz=212,slow=7.2,SNR=16
comp=Z,9.7nm,0.8s
MOY Mondy 54.63 359 *e*P P 20 55 46.1 -8.7
SEM Semipalatinsk 56.59 343 *e*P P 20 56 09.3 +0.2
comp=Z,10nm,0.7s,baz=343
SEM Semipalatinsk 56.59 343 *e*P P 20 56 09.2 +0.2
SEM pmax pmax
comp=Z,10.0nm,0.7s
KURBB Kurchatov Arra 57.29 342 P P 20 56 13.2 -0.4
comp=Z,17nm,0.8s,baz=160,slow=6.7,SNR=109
KURBB PcP **PcP** 20 57 07.3 -0.4
comp=Z,3.1nm,0.9s,baz=154,slow=3.1,SNR=2.0
comp=Z,17nm,0.8s
KURK Kurchatov 57.34 342 P P 20 56 13.4 -0.7
KURK IAmb IAmb 20 56 15.0
comp=Z,26nm,0.8s
KURK Kurchatov 57.34 342 *i*P P 20 56 13.7 -0.4
KURK pmax pmax
comp=Z,33nm,0.9s
KURK Kurchatov 57.34 342 P P 20 56 13.9 -0.2
KURK pP **sP** 20 56 23.9 -3.0
KURK sP pP 20 56 28.9 +5.6
HEH HeiHe 57.48 19 *e*P P 20 56 15.9 +0.9
HEH pmax pmax
comp=Z,23nm,0.9s
HEH pmax pmax
comp=Z,140nm,5.3s
HNR Honiara 57.72 99 LR LR 21 23 30.6
comp=Z,1μm,19.4s,baz=239,slow=39
GEYT Alibeck 57.72 319 P P 20 56 16.8 -0.3
comp=Z,12nm,1.0s,baz=144,slow=10,SNR=12
GEYT LR LR 21 24 03.5
comp=Z,106nm,18.6s,baz=148,slow=39
comp=Z,12nm,1.0s
GYA0B ALIBECK ARRAY 57.72 319 P P 20 56 15.6 -1.5
GYA0B IAmb IAmb 20 56 18.6
comp=Z,11nm,0.9s
KLR Kul'dur 58.15 22 *ce*P P 20 56 20.8 +1.0
KLR pmax pmax
comp=Z,14nm,1.7s
KLR Kul'dur 58.15 22 P P 20 56 19.7 -0.1
comp=Z,7.6nm,0.9s,baz=276,slow=6.3,SNR=18
KLR LR LR 21 20 57.5
comp=Z,254nm,21.7s,baz=214,slow=36
comp=Z,7.6nm,0.9s
ERM Erimo 58.33 35 P P 20 56 19.9 -1.2
ERM Erimo 58.33 35 P P 20 56 20.0 -1.2
ERM pmax pmax
comp=Z,123nm,1.2s
BRZS Berezniki 58.72 338 *e*P P 20 56 23.2 -0.7
baz=338
BRZS Berezniki 58.72 338 *e*P P 20 56 23.1 -0.7
ZAA0 Zalesovo Array 58.72 348 P P 20 56 22.2 -1.5
ZALV Zalesovo Beam 58.72 348 P P 20 56 22.1 -1.6
ZALV Zalesovo Beam 58.72 348 *i*P P 20 56 23.5 -0.2
ZALV pmax pmax
comp=Z,36nm,0.8s
ZALV Zalesovo Beam 58.72 348 P P 20 56 23.1 -0.6
comp=Z,36nm,0.8s,baz=165,slow=5.3,SNR=114
comp=Z,36nm,0.8s
ASAJ Asahikawa 59.38 33 LR LR 21 23 57.3
comp=Z,119nm,18.1s,baz=188,slow=38
ZEA Zeya 60.46 17 *e*P P 20 56 36.9 +1.2
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA MLR MLR
comp=Z,400nm,13.0s
ATD Arta Tunnel 60.75 285 LR LR 21 18 27.5
comp=Z,8.5nm,21.4s,baz=74,slow=32
CRZF Crozet Islands 61.26 217 P P 20 56 39.8 -1.5
BOD Bodaibo 61.53 7 *e*P P 20 56 43.5 +0.6
BOD pmax pmax
comp=Z,15nm,1.0s
BVAR Borovoye Array 62.03 339 P P 20 56 45.0 -1.3
comp=Z,12nm,0.7s,baz=144,slow=9.0,SNR=46
BVAR LR LR 21 26 59.0
comp=Z,201nm,20.6s,baz=146,slow=39
comp=Z,12nm,0.7s
BRVK Borovoye 62.09 339 P P 20 56 44.2 -2.5
BRVK IAmb IAmb 20 56 47.1
comp=Z,9.1nm,0.8s
BRVK Borovoye 62.09 339 *ce*P P 20 56 46.2 -0.5
BRVK pmax pmax
comp=Z,14nm,1.7s
ABKAR Akbulak array 63.70 331 P P 20 56 56.4 -1.2
ABKAR Akbulak array 63.70 331 P P 20 56 56.5 -1.0
ABKAR IAmb IAmb 20 56 58.7
comp=Z,50nm,0.9s
KMBO Kilima Mbogo 64.88 270 P P 20 57 07.4 +1.1
comp=Z,0.3nm,0.3s,baz=42,slow=12,SNR=1.4
KMBO LR LR 21 23 11.3
comp=Z,59nm,18.3s,baz=90,slow=34
DZM Mont Dzumac 65.02 113 *e*P P 20 57 06.3 -0.6
comp=Z,21nm,24.0s
DZM Mont Dzumac 65.02 113 *e*SS SS 21 10 12.3 +12
comp=Z,96nm,26.6s
DZM *e*LR LR 21 16 49.0
comp=Z,521nm,25.0s
DZM Mont Dzumac 65.02 113 LR LR 21 27 38.2
comp=Z,167nm,18.7s,baz=236,slow=38

OUENC Ouen Island, N 65.43 113 P P 20 57 07.7 -1.6
OUENC IAmb IAmb 20 57 27.3
comp=Z,19nm,1.0s
MARNC Mare, Loyalty 66.42 112 P P 20 57 14.3 -1.4
LODK Lodwar 67.08 275 P P 20 57 18.9 -1.4
MAK Makhachkala 67.24 320 *e*P P 20 57 21.6 +1.0
MAK *e* 20 59 48.6
MAK *e*PPP PPP 21 01 24.9
MAK *e*S S 21 06 14.1 +0.4
MAK *e*SS SS 21 10 33.0 -0.7
GNI Garni 67.86 316 P P 20 57 24.1 -0.6
GNI IAmb IAmb 20 57 35.0
comp=Z,20nm,0.8s
GNI Garni 67.86 316 P P 20 57 24.2 -0.6
GNI pmax pmax
comp=Z,20nm,0.9s
GNI Garni 67.86 316 LR LR 21 28 47.5
comp=Z,100nm,21.6s,baz=117,slow=38
YAK Yakutsk 68.34 14 P P 20 57 25.3 -1.8
YAK Yakutsk 68.34 14 *e*P P 20 57 26.8 -0.3
YAK *e* 20 59 53.0
YAK *e*S S 21 06 24.0 -2.1
YAK *e*S S 21 06 24.0 -2.1
YAK pmax pmax
comp=Z,60nm,0.9s
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=Z,66nm,2.8s
YAK pmax pmax
comp=N,32nm,2.7s
YAK pmax pmax
comp=E,45nm,2.4s
YAK smax smax
comp=N,46nm,3.3s
YAK smax smax
comp=E,59nm,2.3s
YAK MLR MLR
comp=Z,239nm,18.0s
YAK MLR MLR
comp=N,252nm,18.0s
YAK Yakutsk 68.34 14 P P 20 57 25.0 -2.1
comp=N,2.6nm,0.8s,baz=153,slow=1.3,SNR=26
YAK LR LR 21 31 45.0
comp=N,11nm,18.2s,baz=232,slow=40
YAK Yakutsk 68.34 14 P P 20 57 26.6 -0.5
SVE Sverdlovsk 68.58 337 *e*P P 20 57 28.8 +0.1
SVE pmax pmax
comp=Z,29nm,1.0s
ARU Arti 69.14 336 P P 20 57 30.7 -1.5
ARU IAmb IAmb 20 57 32.9
comp=Z,14nm,0.9s
ARU Arti 69.14 336 *d*iP P 20 57 31.5 -0.7
ARU 20 57 55.1
ARU S S 21 06 38.2 +2.4
ARU pmax pmax
comp=Z,19nm,1.0s
ARU Arti 69.14 336 LR LR 21 31 36.1
comp=Z,43nm,18.7s,baz=136,slow=39
ARU Arti 69.14 336 P P 20 57 32.0 -0.2
ARU PcP **PcP** 20 57 56.3 +0.3
KARS Kars 69.21 316 P P 20 57 33.1 -0.1
KARS Kars 69.21 316 P P 20 57 33.1 -0.1
KARS pmax pmax
comp=Z,95nm,1.0s
AKH Akhalkalaki 69.24 317 P P 20 57 32.4 -1.0
AKH IAmb IAmb 20 57 59.6
comp=Z,72nm,1.6s
AKH Akhalkalaki 69.24 317 P P 20 57 32.4 -1.0
AKH pmax pmax
comp=Z,72nm,1.6s
ZEI Tsey 69.54 318 *e*P P 20 57 35.2 0.0
ZEI pmax pmax
comp=Z,16nm,0.9s
MAW Mawson 69.71 195 P P 20 57 34.7 -0.8
baz=70,SNR=15
ONI Oni 69.75 318 P P 20 57 36.1 -0.3
ONI Oni 69.75 318 P P 20 57 36.1 -0.3
ONI pmax pmax
comp=Z,8.0nm,0.8s
NEUR Neytrino 70.53 318 *i*P P 20 57 42.9 +1.6
NEUR pmax pmax
comp=Z,14nm,1.7s
KBZ Khabaz 70.60 319 *ce*P P 20 57 42.1 +0.7
KBZ pmax pmax
comp=Z,23nm,0.9s
KBZ Khabaz 70.60 319 P P 20 57 41.5 +0.1
comp=Z,17nm,0.8s,baz=114,slow=6.5,SNR=21
KBZ LR LR 21 34 02.5
comp=Z,58nm,18.1s,baz=109,slow=40
comp=Z,17nm,0.8s
KIV Kislovodsk 70.83 319 ⇓P P 20 57 44.5 +1.5
KIV Kislovodsk 70.83 319 P P 20 57 42.4 -0.6
KIV IAmb IAmb 20 57 45.3
comp=Z,26nm,1.0s
KIV Kislovodsk 70.83 319 *e*P P 20 57 44.0 +1.0
KIV pmax pmax
comp=Z,23nm,1.1s
KIV Kislovodsk 70.83 319 P P 20 57 44.3 +1.3
GHAJ Ghor Haditha 71.87 304 P P 20 57 48.9 -0.5
GHAJ IAmb IAmb 20 58 18.8
comp=Z,21nm,1.1s
EIL Elat 71.96 302 LR LR 21 29 45.1
comp=Z,436nm,19.1s,baz=70,slow=36
LBZ Lake Benmore 72.18 136 P P 20 57 51.3 +0.2
LBZ IAmb IAmb 20 59 31.0
comp=Z,97nm,1.9s
GAZ Gaziantep 72.26 311 P P 20 57 52.1 +0.4
GAZ IAmb IAmb 20 57 54.7
comp=Z,23nm,1.0s
MMAI Mount Meron Ar 72.46 306 P P 20 57 55.3 +2.3
comp=Z,3.5nm,0.7s,baz=83,slow=12,SNR=3.3
MMAI LR LR 21 31 18.3
comp=Z,342nm,18.0s,baz=87,slow=37
comp=Z,3.5nm,0.7s
RPZ Rata Peaks 72.64 135 P P 20 57 54.0 +0.2
RPZ IAmb IAmb 20 58 40.5
comp=Z,72nm,1.8s
RPZ Rata Peaks 72.64 135 LR LR 21 30 25.9
comp=Z,341nm,20.0s,baz=277,slow=36
SOC Sochi 72.66 318 *e*P P 20 57 53.2 -0.7
SOC *e* 21 00 35.6
SOC *e*PPP PPP 21 02 17.1
SOC *e*S S 21 07 19.0 +1.8
SOC pmax pmax
comp=Z,22nm,0.8s
INZ Inchbonnie 72.70 134 P P 20 57 54.2 0.0
INZ IAmb IAmb 20 58 09.0
comp=Z,20nm,0.9s
PEA0B Petropavlovsk- 72.73 31 P P 20 57 53.8 -0.3
PEA0B Petropavlovsk- 72.73 31 P P 20 57 53.8 -0.3
PEA0B pmax pmax
comp=Z,90nm,1.6s
PETK Petropavlovsk- 72.73 31 P P 20 57 53.9 -0.2
PETK Petropavlovsk- 72.73 31 P P 20 57 54.5 +0.3
comp=Z,7.2nm,0.7s,baz=222,slow=3.9,SNR=11
PETK LR LR 21 30 01.3
comp=Z,66nm,20.5s,baz=235,slow=36
comp=Z,7.2nm,0.7s
DSZ Denniston Nort 72.77 133 P P 20 57 54.0 -0.7
QRZ Quartz Range 73.13 132 P P 20 57 55.7 -1.0
MA2 Magadan 73.22 24 P P 20 57 56.9 +0.1
MA2 IAmb IAmb 20 57 58.7
comp=Z,16nm,0.8s
MA2 Magadan 73.22 24 *ce*P P 20 57 57.6 +0.8
MA2 pmax pmax
comp=Z,45nm,2.5s
MA2 Magadan 73.22 24 LR LR 21 31 47.8
comp=Z,93nm,20.0s,baz=232,slow=37
OXZ Oxford 73.25 134 P P 20 57 57.3 -0.1
OXZ IAmb IAmb 20 58 32.8
comp=Z,13nm,0.5s
LTZ Lake Taylor 73.31 134 P P 20 57 57.5 -0.3
LTZ IAmb IAmb 20 59 36.9
comp=Z,46nm,1.5s
MRNZ Matariki Terra 73.40 132 P P 20 57 58.5 +0.2
THZ Tophouse 73.58 133 P P 20 57 59.7 +0.2
THZ IAmb IAmb 20 58 19.6
comp=Z,58nm,1.6s
AMCZ Amberley 73.66 134 P P 20 58 01.0 +1.2
LSZ Lusaka 73.71 255 P P 20 58 01.4 +0.6
LSZ IAmb IAmb 20 59 08.8
comp=Z,31nm,2.0s

LSZ Lusaka 73.71 255 P P 20 58 01.4 +0.6
LSZ pmax pmax
comp=Z,31nm,2.0s
LSZ Lusaka 73.71 255 LR LR 21 25 16.3
comp=Z,119nm,21.9s,baz=98,slow=32
BNN Bunyan 73.80 312 P P 20 58 01.0 +0.1
BNN IAmb IAmb 20 58 02.5
comp=Z,48nm,1.2s
GVZ Greta Valley S 73.90 134 P P 20 58 01.3 0.0
GVZ IAmb IAmb 20 58 40.0
comp=Z,43nm,1.2s
KHZ Kahutara 74.16 133 P P 20 58 02.5 -0.2
KHZ IAmb IAmb 20 58 13.9
comp=Z,16nm,1.0s
TUWZ Tuamarina 74.29 132 P P 20 58 03.6 +0.1
KIRV Kirov 74.34 334 *ce*P P 20 58 03.6 +0.2
KIRV Kirov 74.34 334 LR LR 21 35 35.5
comp=Z,99nm,18.2s,baz=135,slow=40
VRH Novokhopyorsk 74.50 325 *e*P P 20 58 04.0 -0.5
VRH pmax pmax
comp=Z,50nm,0.8s
ANN Anapa 74.63 318 *e*P P 20 58 05.0 -0.4
ANN *e*S S 21 07 42.8 +3.4
ANN pmax pmax
comp=Z,48nm,1.0s
CSS Mathiatis 74.64 307 P P 20 58 04.9 -0.9
CSS IAmb IAmb 21 00 16.6
comp=Z,69nm,1.5s
BR131 Keskin Array S 75.69 312 *i*P P 20 58 12.2 +0.3
BRTR Keskin Array B 75.69 312 P P 20 58 11.3 -0.6
BRTR Keskin Array B 75.69 312 *i*P P 20 58 12.1 +0.2
BRTR pmax pmax
comp=Z,12nm,0.9s
BRTR Keskin Array B 75.69 312 P P 20 58 11.8 0.0
comp=Z,11nm,0.8s,baz=127,slow=7.0,SNR=42
BRTR LR LR 21 35 01.1
comp=Z,165nm,19.1s,baz=122,slow=39
comp=Z,11nm,0.8s
VORD Divnogorie 75.79 325 *e*P P 20 58 10.3 -1.6
VORD pmax pmax
comp=Z,10.0nm,0.7s
BFZ Birch Farm 75.89 131 P P 20 58 11.9 -0.9
SEY Seymchan 75.91 21 *ce*P P 20 58 13.3 +0.9
SEY pmax pmax
comp=Z,12nm,1.0s
SEY Seymchan 75.91 21 P P 20 58 12.5 +0.1
comp=Z,12nm,0.9s,baz=234,slow=5.9,SNR=23
SEY LR LR 21 36 55.8
comp=Z,70nm,18.6s,baz=260,slow=40
comp=Z,12nm,0.9s
VSR Storozhevoye 75.96 325 *e*P P 20 58 11.9 -1.0
VSR pmax pmax
comp=Z,20nm,0.8s
VORR Voronezh 76.12 325 *e*P P 20 58 13.4 -0.4
VORR pmax pmax
comp=Z,33nm,0.5s
RTZ Ruatahuna 76.18 129 P P 20 58 14.2 -0.4
RTZ IAmb IAmb 20 58 22.1
comp=Z,46nm,1.6s
URZ Urewera 76.24 128 LR LR 21 35 24.7
comp=Z,248nm,18.2s,baz=27,slow=38
ANTO Ankara 76.36 312 ⇑P P 20 58 17.2 +1.6
ANTO Ankara 76.36 312 P P 20 58 13.8 -1.8
ANTO IAmb IAmb 20 58 22.4
comp=Z,13nm,0.8s
ANTO Ankara 76.36 312 P P 20 58 13.8 -1.8
ANTO pmax pmax
comp=Z,13nm,0.8s
BR231 Keskin MP Arra 76.36 312 P P 20 58 14.7 -0.9
BR231 IAmb IAmb 20 58 25.3
comp=Z,20nm,1.1s
LBTB Lobatse 76.49 245 P P 20 58 13.9 -2.7
LBTB IAmb IAmb 20 58 25.3
comp=Z,28nm,1.6s
LBTB Lobatse 76.49 245 P P 20 58 13.9 -2.7
LBTB pmax pmax
comp=Z,28nm,1.7s
LBTB Lobatse 76.49 245 LR LR 21 26 18.3
comp=Z,135nm,21.6s,baz=90,slow=31
LPSR Galich'ya Gora 76.65 326 *e*P P 20 58 15.5 -1.3
LPSR pmax pmax
comp=Z,30nm,0.7s
TIXI Tiksi 76.67 8 P P 20 58 15.3 -1.2
TIXI Tiksi 76.67 8 *i*P P 20 58 15.9 -0.6
SIM Simferopol' 76.91 317 *e*P P 20 58 19.6 +1.2
SIM *e* 20 58 26.0
SIM *e*S S 21 08 06.0 +1.4
SIM pmax pmax
comp=Z,35nm,1.0s
BOSA Boshof 76.99 242 P P 20 58 18.1 -1.4
BOSA IAmb IAmb 20 58 27.5
comp=Z,54nm,1.8s
BOSA Boshof 76.99 242 P P 20 58 18.1 -1.4
BOSA pmax pmax
comp=Z,54nm,1.8s
BOSA Boshof 76.99 242 P P 20 58 22.9 +3.4
comp=Z,4.2nm,0.7s,baz=100,slow=8.4,SNR=5.3
BOSA LR LR 21 26 39.7
comp=Z,100nm,20.3s,baz=135,slow=31
comp=Z,4.2nm,0.7s
MXZ Matakaoa Point 77.10 128 P P 20 58 17.9 -1.8
PRGR Permogore 77.60 336 *e*P P 20 58 21.1 -0.8
PRGR pmax pmax
comp=Z,29nm,0.9s
MOS Moscow 78.60 329 *e*P P 20 58 26.6 -1.0
MOS *e* 21 01 27.0
MOS pmax pmax
comp=Z,31nm,0.7s
OBN Obninsk 78.92 328 *c*iP P 20 58 29.9 +0.6
OBN *e**PP **pP** 20 58 33.0 -5.8
OBN *e**SP **PcP** 20 58 34.9 -3.0
OBN S **SKSac** 21 08 39.0 -3.8
OBN pmax pmax
comp=Z,70nm,1.7s
OBN MLR MLR
comp=Z,142nm,21.0s
KLMR Klimovskoe 79.81 334 *e*P P 20 58 33.5 -0.6
KLMR AMP 20 58 36.2
comp=Z,52nm,1.3s
KLMR LR LR 21 32 40.9
KLMR LRM MLR 21 35 50.8
KLMR Klimovskoe 79.81 334 *e*P P 20 58 33.5 -0.6
KLMR pmax pmax
comp=Z,52nm,1.3s
VNDA Vanda 80.61 169 P P 20 58 38.2 0.0
VNDA Vanda 80.61 169 P P 20 58 38.2 0.0
VNDA pmax pmax
comp=Z,7.0nm,1.0s
VNDA Vanda 80.61 169 P P 20 58 39.7 +1.5
comp=Z,6.1nm,1.0s,baz=348,slow=4.3,SNR=13
VNDA LR LR 21 32 16.1
comp=Z,49nm,19.9s,baz=312,slow=34
comp=Z,6.1nm,1.0s
MILM Milestii Mici 81.01 318 ⇓P P 20 58 42.0 +1.1
MILM Milestii Mici 81.01 318 ⇓P P 20 58 42.0 +1.1
CFR Carcaliu 81.05 317 ⇓P P 20 58 42.4 +1.3
CFR Carcaliu 81.05 317 ⇓P P 20 58 42.4 +1.3
HARR Harsova 81.07 316 ⇓P P 20 58 42.0 +0.7
HARR Harsova 81.07 316 ⇓P P 20 58 42.0 +0.7
IDI Anoyia 81.46 306 P P 20 58 41.8 -1.9
IDI Anoyia 81.46 306 LR LR 21 39 50.7
comp=Z,71nm,19.2s,baz=92,slow=39
SORM Soroca 81.61 319 ⇑P P 20 58 44.7 +0.7
SORM Soroca 81.61 319 ⇑P P 20 58 44.7 +0.7
VASR Vaslui 81.62 318 ⇑P P 20 58 45.4 +1.2
SHEM Shemya Is, Ala 81.68 36 LR LR 21 35 17.1
comp=Z,34nm,20.4s,baz=140,slow=36
SBA Scott Base 81.70 169 P P 20 58 43.6 -0.4
SBA IAmb IAmb 20 58 53.0
comp=Z,17nm,1.3s
SBA Scott Base 81.70 169 P P 20 58 43.6 -0.4
SBA pmax pmax
comp=Z,17nm,1.3s
AK05 Malin Array Si 81.71 322 P P 20 58 43.3 -1.2
AK05 IAmb IAmb 20 58 46.0
comp=Z,13nm,0.9s
AKASG Malin Array Be 81.72 322 P P 20 58 42.6 -1.9
AKASG Malin Array Be 81.72 322 *i*P P 20 58 44.7 +0.2
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 81.72 322 P P 20 58 43.9 -0.7
comp=Z,4.5nm,0.8s,baz=87,slow=4.9,SNR=20
AKASG LR LR 21 39 35.6
comp=Z,88nm,19.7s,baz=119,slow=39
comp=Z,4.5nm,0.8s

AKBB	**Malin Array Si**	**81.72**	**322**	P	**P**	**20 58 43.1**	**-1.4**
AKBB	**Malin Array Si**	**81.72**	**322**	*ce*P	**P**	**20 58 44.3**	**-0.2**
AKBB				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KIEV	**Kiev**	**81.73**	**322**	⇓P	**P**	**20 58 44.4**	**-0.2**
KIEV	**Kiev**	**81.73**	**322**	P	**P**	**20 58 43.4**	**-1.2**
KIEV	**Kiev**	**81.73**	**322**	P	**P**	**20 58 43.4**	**-1.2**
KIEV				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GHRR		**81.75**	**317**	⇓P	**P**	**20 58 46.4**	**+1.6**
ELND	**Elena**	**82.14**	**314**	⇓P	**P**	**20 58 45.6**	**-1.4**
VRI	**Vrincioaia**	**82.17**	**317**	⇑P	**P**	**20 58 48.9**	**+1.9**
VRI	**Vrincioaia**	**82.17**	**317**	⇑P	**P**	**20 58 48.9**	**+1.9**
TESR	**Tescani**	**82.36**	**318**	⇑P	**P**	**20 58 49.5**	**+1.4**
MLR	**Muntele Rosu**	**82.62**	**316**	⇑P	**P**	**20 58 51.2**	**+1.6**
MLR	**Muntele Rosu**	**82.62**	**316**	P	**P**	**20 58 48.7**	**-0.9**
MLR				IAmb	IAmb	20 59 00.3	
	comp=Z,18nm,0.9s						
MLR	**Muntele Rosu**	**82.62**	**316**	P	**P**	**20 58 48.7**	**-0.9**
MLR				pmax	pmax		
	comp=Z,18nm,0.9s						
MLR	**Muntele Rosu**	**82.62**	**316**	LR	LR	21 39 51.6	
	comp=Z,111nm,21.1s,baz=245,slow=39						
PRAR	**RASCA**	**82.83**	**318**	⇑P	**P**	**20 58 51.5**	**+1.0**
OZUR		**82.86**	**317**	⇑P	**P**	**20 58 52.5**	**+1.8**
MIDW	**Midway**	**83.11**	**61**	P	**P**	**20 58 50.6**	**-1.6**
PLVB	**Pleven**	**83.13**	**314**	⇑P	**P**	**20 58 52.6**	**+0.4**
MNK	**Minsk**	**83.49**	**326**	*i* P	**P**	**20 58 54.5**	**+0.8**
	comp=E,11nm,0.8s						
MNK				*i* P	**P**	**20 58 54.5**	**+0.8**
	comp=N,9.0nm,0.8s						
MNK				*i* P	**P**	**20 58 54.5**	**+0.8**
	comp=Z,42nm,0.8s,baz=105						
MNK				*i* PP	PP	21 01 48.7	-18
MNK				*i* PPP	PPP	21 03 58.0	
MNK				*i* S	**S**	**21 09 15.8**	**+2.3**
MNK				*i* SS	SS	21 15 19.8	+40
MNK				*i* SSS	SSS	21 18 41.8	
MNK	**Minsk**	**83.49**	**326**	*i* P	**P**	**20 58 54.5**	**+0.8**
MNK				*i*		20 58 58.5	
MNK				*i* PPP	PPP	21 03 57.9	
MNK				*i* S	**S**	**21 09 15.7**	**+2.3**
MNK				pmax	pmax		
	comp=E,11nm,0.8s						
MNK				pmax	pmax		
	comp=N,9.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,42nm,0.8s						
ARR	**Arges**	**83.50**	**316**	⇓P	**P**	**20 58 55.3**	**+1.2**
BILL	**Bilibino**	**83.50**	**20**	*i* P	**P**	**20 58 53.2**	**-0.3**
ELIB	**Princess Elisa**	**83.54**	**198**	*d*PcP	**P**	**20 58 57.8**	**+4.0**
BURAR	**Bucovina Array**	**83.55**	**318**	⇓P	**P**	**20 58 56.3**	**+1.9**
BURAR	**Bucovina Array**	**83.55**	**318**	P	**P**	**20 58 55.0**	**+0.6**
BURAR				IAmb	IAmb	20 58 57.3	
	comp=Z,14nm,0.8s						
BURAR	**Bucovina Array**	**83.55**	**318**	⇓P	**P**	**20 58 56.3**	**+1.9**
BUR08	**Bucovina Ar. S**	**83.57**	**318**	P	**P**	**20 58 54.7**	**+0.2**
BUR08				IAmb	IAmb	20 58 57.6	
	comp=Z,12nm,0.8s						
TSUM	**Tsumeb**	**83.85**	**251**	P	**P**	**20 58 56.1**	**-0.4**
TSUM	**Tsumeb**	**83.85**	**251**	LR	LR	21 31 43.7	
	comp=Z,96nm,20.3s,baz=118,slow=32						
AGG	**Agios Georgios**	**84.09**	**310**	P	**P**	**20 58 56.4**	**-0.8**
AGG	**Agios Georgios**	**84.09**	**310**	P	**P**	**20 58 56.4**	**-0.8**
AGG				pmax	pmax		
	comp=Z,100nm,2.0s						
NACGM	**Naroch**	**84.21**	**326**	*e*P	**P**	**20 58 58.6**	**+1.2**
	comp=Z,63nm,0.9s,baz=102						
IDID	**Didziasalis**	**84.33**	**326**	*e*P	**P**	**20 58 59.4**	**+1.4**
AMKA	**Amchitka**	**84.46**	**38**	P	**P**	**20 58 56.2**	**-2.5**
BLKB	**Belogradchik**	**84.57**	**314**	⇑P	**P**	**20 59 00.1**	**+0.5**
LVZ	**Lovozero**	**84.62**	**339**	P	**P**	**20 58 57.4**	**-1.8**
LVZ	**Lovozero**	**84.62**	**339**	P	**P**	**20 58 57.4**	**-1.8**
LVZ				pmax	pmax		
	comp=Z,171nm,2.0s						
ISAL	**Salakas**	**84.73**	**326**	*e*P	**P**	**20 59 01.8**	**+1.8**
MARR	**Marisel-Cluj**	**84.78**	**317**	⇓P	**P**	**20 59 02.2**	**+1.6**
DEV	**Deva**	**84.79**	**316**	⇑P	**P**	**20 59 02.9**	**+2.4**
DEV	**Deva**	**84.79**	**316**	⇑P	**P**	**20 59 02.9**	**+2.4**
GZR	**Gura Zlata**	**84.79**	**316**	⇓P	**P**	**20 59 01.8**	**+1.2**
GZR	**Gura Zlata**	**84.79**	**316**	⇓P	**P**	**20 59 01.8**	**+1.2**
SURR	**Surduc**	**85.31**	**316**	⇑P	**P**	**20 59 04.6**	**+1.5**
MDVR	**Moldovita**	**85.44**	**315**	⇑P	**P**	**20 59 04.4**	**+0.5**
KWP	**Kalwaria Pacla**	**85.57**	**320**	P	**P**	**20 59 03.5**	**-0.9**
KWP	**Kalwaria Pacla**	**85.57**	**320**	P	**P**	**20 59 03.5**	**-0.9**
KWP				pmax	pmax		
	comp=Z,100nm,1.9s						
BZS	**Buzias**	**85.63**	**316**	⇓P	**P**	**20 59 05.8**	**+1.1**
BZS	**Buzias**	**85.63**	**316**	⇓P	**P**	**20 59 05.8**	**+1.1**
SIRR	**Siria**	**85.71**	**317**	⇑P	**P**	**20 59 06.7**	**+1.5**
PABE	**Paberze**	**85.92**	**326**	P	**P**	**20 59 05.8**	**-0.1**
PABE	**Paberze**	**85.92**	**326**	*e*P	**P**	**20 59 07.5**	**+1.6**
SUW	**Suwalki**	**86.08**	**325**	P	**P**	**20 59 05.7**	**-1.0**
SUW	**Suwalki**	**86.08**	**325**	*e*P	**P**	**20 59 07.7**	**+0.9**
SUW	**Suwalki**	**86.08**	**325**	P	**P**	**20 59 05.7**	**-1.0**
SUW				pmax	pmax		
	comp=Z,50nm,1.0s						
KEK	**Kerkira**	**86.13**	**310**	P	**P**	**20 59 06.1**	**-1.2**
FIA1	**FINESS Array S**	**86.14**	**332**	P	**P**	**20 59 06.3**	**-0.5**
FINES	**FINESS Array B**	**86.14**	**332**	P	**P**	**20 59 06.2**	**-0.7**
FINES	**FINESS Array B**	**86.14**	**332**	*i* P	**P**	**20 59 10.0**	**+3.1**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES	**FINESS Array B**	**86.14**	**332**	P	**P**	**20 59 06.1**	**-0.8**
	comp=Z,9.9nm,1.1s,baz=113,slow=4.4,SNR=7.5						
FINES				LR	LR	21 43 39.9	
	comp=Z,119nm,20.0s,baz=107,slow=40						
	comp=Z,9.9nm,1.1s						
CRVS	**Cervenica-Dubn**	**86.25**	**319**	*e*P	**P**	**20 59 10.1**	**+2.3**
CRVS	**Cervenica-Dubn**	**86.25**	**319**	*e*P	**P**	**20 59 10.1**	**+2.3**
STHS	**Stebnicka Huta**	**86.48**	**320**	*e*P	**P**	**20 59 10.2**	**+1.3**
STHS	**Stebnicka Huta**	**86.48**	**320**	*e*P	**P**	**20 59 10.2**	**+1.3**
STHS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
DIVS	**Divibare**	**86.56**	**314**	P	**P**	**20 59 07.5**	**-2.0**
DIVS				IAmb	IAmb	20 59 42.3	
	comp=Z,18nm,1.4s						
QSPA	**South Pole Qui**	**86.80**	**180**	P	**P**	**20 59 10.9**	**+0.7**
QSPA				IAmb	IAmb	20 59 16.8	
	comp=Z,13nm,1.1s						
QSPA	**South Pole Qui**	**86.80**	**180**	P	**P**	**20 59 12.5**	**+2.2**
	comp=Z,2.2nm,0.3s,baz=334,slow=1.8						
	comp=Z,2.2nm,0.3s						
ADK	**Adak**	**87.02**	**38**	P	**P**	**20 59 11.7**	**+0.3**
ADK	**Adak**	**87.02**	**38**	P	**P**	**20 59 11.7**	**+0.3**
ADK				pmax	pmax		
	comp=Z,144nm,1.5s						
PSZ	**Piszkesteto**	**87.14**	**318**	P	**P**	**20 59 10.6**	**-1.6**
PSZ				IAmb	IAmb	20 59 14.3	
	comp=Z,8.0nm,1.0s						
PSZ	**Piszkesteto**	**87.14**	**318**	P	**P**	**20 59 10.6**	**-1.6**
PSZ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
OJC	**Ojcow**	**87.52**	**320**	P	**P**	**20 59 13.4**	**-0.5**
OJC				IAmb	IAmb	20 59 18.9	
	comp=Z,9.5nm,1.2s						
OJC	**Ojcow**	**87.52**	**320**	P	**P**	**20 59 13.4**	**-0.5**
OJC				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MORH	**Mrgy, Hungar**	**87.77**	**316**	⇑P	**P**	**20 59 16.4**	**+1.2**
KEV	**Kevo**	**87.84**	**340**	P	**P**	**20 59 14.7**	**-0.3**
KEV	**Kevo**	**87.84**	**340**	P	**P**	**20 59 14.7**	**-0.3**
KEV				pmax	pmax		
	comp=Z,121nm,2.0s						
VYHS	**Vyhne**	**87.92**	**319**	*e*P	**P**	**20 59 17.0**	**+1.1**
VYHS	**Vyhne**	**87.92**	**319**	*e*P	**P**	**20 59 17.0**	**+1.1**
VYHS				pmax	pmax		
	comp=Z,11nm,1.5s						
SRO	**Srobarova**	**88.19**	**318**	*e*P	**P**	**20 59 18.7**	**+1.6**
SRO	**Srobarova**	**88.19**	**318**	*e*P	**P**	**20 59 18.7**	**+1.6**
ARCES	**ARCESS Array B**	**88.30**	**340**	P	**P**	**20 59 16.6**	**-0.6**
ARCES	**ARCESS Array B**	**88.30**	**340**	P	**P**	**20 59 16.6**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,66nm,1.7s						
ARCES	**ARCESS Array B**	**88.30**	**340**	P	**P**	**20 59 17.3**	**+0.1**
	comp=Z,11nm,0.9s,baz=108,slow=4.0,SNR=13						
ARCES				LR	LR	21 44 57.7	
	comp=Z,124nm,19.2s,baz=116,slow=40						
	comp=Z,11nm,0.9s						
JAVC	**Velka Javorina**	**88.73**	**319**	*e*P	**P**	**20 59 21.8**	**+2.0**
MORC	**Moravsky Berou**	**88.91**	**320**	⇑P	**P**	**20 59 21.8**	**+1.2**
MORC	**Moravsky Berou**	**88.91**	**320**	P	**P**	**20 59 19.8**	**-0.8**
MORC				IAmb	IAmb	20 59 23.0	
	comp=Z,6.2nm,0.9s						
MORC	**Moravsky Berou**	**88.91**	**320**	*e*P	**P**	**20 59 22.0**	**+1.4**
MORC	**Moravsky Berou**	**88.91**	**320**	P	**P**	**20 59 19.8**	**-0.8**
MORC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MODS	**Modra-Piesok**	**88.94**	**318**	*e*P	**P**	**20 59 22.8**	**+2.1**
MODS	**Modra-Piesok**	**88.94**	**318**	*e*P	**P**	**20 59 22.8**	**+2.1**
MODS				pmax	pmax		
	comp=Z,37nm,1.4s						
VRAC	**Vranov**	**89.48**	**319**	LR	LR	21 47 07.0	
	comp=Z,50nm,18.4s,baz=90,slow=41						
RONA	**Rosalia, Austr**	**89.53**	**318**	*e*P	**P**	**20 59 24.4**	**+0.9**
	comp=Z,5.7nm,0.9s						
DPC	**Dobruska-Polom**	**89.75**	**320**	*e*P	**P**	**20 59 26.1**	**+1.6**
DPC	**Dobruska-Polom**	**89.75**	**320**	*e*P	**P**	**20 59 26.1**	**+1.6**
OSTC	**Ostas**	**89.84**	**320**	*e*P	**P**	**20 59 25.9**	**+1.0**
OSTC	**Ostas**	**89.84**	**320**	*e*P	**P**	**20 59 25.9**	**+1.0**
CHVC	**Chvalec**	**89.94**	**321**	*e*P	**P**	**20 59 26.6**	**+1.2**
CHVC	**Chvalec**	**89.94**	**321**	*e*P	**P**	**20 59 26.6**	**+1.2**
CRES	**Cresnjev**	**89.94**	**316**	*i* P	**P**	**20 59 27.1**	**+1.7**
ARSA	**Arzberg**	**90.01**	**317**	*i* PcP	**P**	**20 59 27.7**	**+2.0**
	comp=Z,5.7nm,0.8s						
PERS	**Pernice**	**90.24**	**317**	*i* P	**P**	**20 59 28.4**	**+1.6**
SOKA	**Soboth**	**90.30**	**317**	*i* PcP	**P**	**20 59 28.9**	**+1.7**
	comp=Z,8.8nm,1.0s						
LJU	**Ljubljana**	**90.61**	**316**	*i* P	**P**	**20 59 30.3**	**+1.8**
OBKA	**Obir**	**90.62**	**316**	*i* PcP	**P**	**20 59 30.4**	**+1.7**
	comp=Z,4.3nm,1.1s						
PRU	**Pruhonice**	**90.86**	**320**	*e*P	**P**	**20 59 30.9**	**+1.3**
PRU	**Pruhonice**	**90.86**	**320**	*e*P	**P**	**20 59 30.9**	**+1.3**
CKRC	**Cesky Krumlov**	**90.94**	**319**	*e*P	**P**	**20 59 31.2**	**+1.2**
CKRC	**Cesky Krumlov**	**90.94**	**319**	*e*P	**P**	**20 59 31.2**	**+1.2**
MYKA	**Terra Mystica**	**91.25**	**316**	*e*P	**P**	**20 59 32.8**	**+1.2**
	comp=Z,0.9nm,0.4s						
PRED	**Cave del Predi**	**91.30**	**316**	P	**P**	**20 59 30.7**	**-1.1**
PRED				IAmb	IAmb	20 59 34.5	
	comp=Z,8.0nm,0.9s						
BIOA	**Bad Ischl, Aus**	**91.32**	**318**	*e*P	**P**	**20 59 32.9**	**+1.1**
	comp=Z,2.6nm,0.8s						
GERES	**GERESS Array B**	**91.34**	**319**	P	**P**	**20 59 32.2**	**+0.2**
	comp=Z,3.2nm,0.9s,baz=59,slow=5.1,SNR=4.2						
GERES				LR	LR	21 46 01.9	
	comp=Z,53nm,19.2s,baz=65,slow=39						
	comp=Z,3.2nm,0.9s						
KHC	**Kasperske Hory**	**91.44**	**319**	*e*P	**P**	**20 59 30.8**	**-1.6**
KHC	**Kasperske Hory**	**91.44**	**319**	*e*P	**P**	**20 59 30.8**	**-1.6**
SNAA	**Sanae**	**91.70**	**198**	P	**P**	**20 59 36.3**	**+3.1**
	comp=Z,1.7nm,1.0s,baz=63,slow=2.5,SNR=4.3						
	comp=Z,1.7nm,1.0s						
CLUD	**Cludinico**	**91.77**	**316**	P	**P**	**20 59 32.4**	**-1.6**
CLUD				IAmb	IAmb	20 59 36.1	
	comp=Z,11nm,0.9s						
STAL	**STALIGIAL**	**91.88**	**316**	P	**P**	**20 59 32.8**	**-1.7**
STAL				IAmb	IAmb	20 59 36.7	
	comp=Z,9.9nm,1.0s						
HFS	**Hagfors**	**91.95**	**330**	P	**P**	**20 59 35.0**	**+0.6**
	comp=Z,11nm,0.8s,baz=142,slow=5.3,SNR=8.6						
HFS				LR	LR	21 46 52.7	
	comp=Z,92nm,19.8s,baz=81,slow=40						
	comp=Z,11nm,0.8s						
CIMO	**Cimolais**	**92.07**	**316**	P	**P**	**20 59 33.1**	**-2.3**
CIMO				IAmb	IAmb	20 59 37.2	
	comp=Z,9.0nm,0.9s						
SPITS	**Spitsbergen Ar**	**92.21**	**348**	LR	LR	21 45 40.1	
	comp=Z,261nm,21.8s,baz=70,slow=39						
CTI	**Castel Tesino**	**92.61**	**316**	P	**P**	**20 59 35.5**	**-2.5**
CTI				IAmb	IAmb	20 59 40.5	
	comp=Z,6.2nm,0.8s						
CTI	**Castel Tesino**	**92.61**	**316**	P	**P**	**20 59 35.5**	**-2.5**
CTI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WTTA	**Wattenberg**	**92.66**	**317**	*i* P	**P**	**20 59 38.8**	**+0.6**
	comp=Z,3.2nm,0.6s						
WATA	**Walderalm**	**92.70**	**317**	*e*P	**P**	**20 59 39.1**	**+0.7**
	comp=Z,5.2nm,1.0s						
SQTA	**Sankt Quirin**	**92.94**	**317**	*e*P	**P**	**20 59 39.3**	**-0.2**
	comp=Z,3.8nm,0.9s						
MOTA	**Moosalm**	**93.02**	**317**	*i* P	**P**	**20 59 40.1**	**+0.2**
	comp=Z,5.5nm,1.0s						
NB2	**NORSAR Subarra**	**93.20**	**331**	P	**P**	**20 59 40.0**	**-0.3**
	comp=Z,9.3nm,1.0s,baz=92,slow=4.8						
NOA	**NORSAR Array B**	**93.20**	**331**	P	**P**	**20 59 39.7**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=95,slow=4.8,SNR=8.3						
NOA				LR	LR	21 45 55.0	
	comp=Z,73nm,20.3s,baz=95,slow=38						
	comp=Z,3.2nm,0.8s						
RETA	**Reutte**	**93.25**	**317**	*i* P	**P**	**20 59 41.3**	**+0.4**
	comp=Z,2.6nm,0.8s						
FETA	**Feichten**	**93.27**	**317**	*i* P	**P**	**20 59 41.9**	**+0.9**
	comp=Z,3.3nm,0.9s,SNR=4.9						
FUORN	**Ofenpass-Fuorn**	**93.58**	**316**	P	**P**	**20 59 40.6**	**-2.0**
FUORN				IAmb	IAmb	20 59 52.6	
	comp=Z,7.3nm,1.2s						
DAVOX	**Davos/Dischmat**	**93.85**	**317**	LR	LR	21 49 05.5	
	comp=Z,66nm,19.3s,baz=80,slow=40						
DAVA	**Damuels**	**93.85**	**317**	*e*PcP	**P**	**20 59 45.2**	**+1.5**
	comp=Z,6.3nm,1.0s						
KEST	**Kesra**	**94.11**	**305**	LR	LR	21 41 46.9	
	comp=Z,76nm,21.7s,baz=273,slow=35						
C18K	**Utukok River**	**95.36**	**21**	P	**P**	**20 59 49.2**	**-0.8**
	baz=275						
F17K	**Baldwin Pennin**	**95.53**	**24**	P	**P**	**20 59 49.1**	**-1.6**
	baz=275						
G17K	**Kiwalik Mounta**	**95.85**	**25**	P	**P**	**20 59 51.8**	**-0.5**
	baz=275						
H17K	**Granite Mounta**	**96.22**	**25**	P	**P**	**20 59 53.6**	**-0.3**
	baz=276						
RAR	**Rarotonga**	**96.38**	**112**	LR	LR	21 42 23.5	
	comp=Z,56nm,21.9s,baz=328,slow=35						
D20K	**Etivluk River**	**97.01**	**21**	P	**P**	**20 59 57.0**	**-0.5**
	baz=279						
G19K	**Purcell Mounta**	**97.23**	**24**	P	**P**	**20 59 57.7**	**-0.8**
	baz=279						
E20K	**Nigu River**	**97.24**	**22**	P	**P**	**20 59 58.0**	**-0.6**
	baz=280						
B21K	**Ikpikpuk River**	**97.55**	**20**	P	**P**	**21 00 00.2**	**+0.3**
	baz=281						
C21K	**Knifeblade Rid**	**97.58**	**21**	P	**P**	**20 59 60.0**	**-0.1**
	baz=281						
H19K	**Roundabout Mou**	**97.59**	**24**	P	**P**	**20 59 57.8**	**-2.3**
H19K				IAmb	IAmb	21 00 02.0	
	comp=Z,8.6nm,0.8s						
H19K	**Roundabout Mou**	**97.59**	**24**	P	**P**	**21 00 00.2**	**+0.1**
	baz=279						
F20K	**Avaraart Lake**	**97.62**	**23**	P	**P**	**21 00 00.0**	**-0.2**
	baz=280						
E21K	**Killik River**	**98.02**	**21**	P	**P**	**21 00 01.0**	**-1.1**
	baz=282						
H20K	**Anotleneega Mo**	**98.24**	**24**	P	**P**	**21 00 02.9**	**-0.2**
	baz=280						
F21K	**Alatna River**	**98.45**	**22**	P	**P**	**21 00 03.8**	**-0.2**
	baz=282						
G21K	**Allakaket**	**98.59**	**23**	P	**P**	**21 00 04.7**	**+0.1**
	baz=282						
IMAR	**Indian Mountai**	**98.60**	**24**	P	**P**	**21 00 02.3**	**-2.3**
F22K	**John River**	**98.88**	**22**	P	**P**	**21 00 06.0**	**+0.1**
	baz=283						
TORD	**Torodi Ar. Bea**	**100.89**	**283**	P	**Pdif**	**21 00 17.0**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=87,slow=4.9,SNR=2.7						
TBI	**Tubuai**	**105.53**	**115**	*e*LR	LR	21 35 23.5	
	comp=Z,1µm,25.0s						
I30M	**Mount Dempster**	**105.63**	**22**	P	**PKiKP**	**21 04 47.7**	**-1.4**
	baz=298						
PPT2	**Papeete2**	**106.38**	**109**	*e*LR	LR	21 35 48.3	
	comp=Z,184nm,23.8s						
PPT2				*e*LR	LR	21 35 57.1	
	comp=Z,154nm,24.0s						
YKA	**Yellowknife Ar**	**114.83**	**18**	PKP	**PKiKP**	**21 05 05.8**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=318,slow=2.0,SNR=3.8						
TAOE	**Nuku Hiva Isla**	**116.76**	**101**	*e*LR	LR	21 40 47.2	
	comp=Z,255nm,28.5s						
NVAR	**Mina Array Bea**	**129.10**	**41**	PKP	**PKiKP**	**21 05 36.3**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=242,slow=3.2,SNR=5.3						
ELK	**Elko**	**129.67**	**37**	PKIKP	**PKPdf**	**21 05 37.0**	**+1.1**
ELK	**Elko**	**129.67**	**37**	PKP	**PKPdf**	**21 05 37.0**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=220,slow=7.7,SNR=6.8						
ULM	**Lac du Bonnet**	**130.66**	**15**	PKP	**PKPdf**	**21 05 36.1**	**-1.0**
	comp=Z,2.1nm,0.6s,baz=295,slow=14,SNR=3.3						
PDAR	**Pinedale Array**	**131.50**	**31**	PKP	**PKPdf**	**21 05 39.2**	**0.0**
	comp=Z,0.6nm,0.7s,baz=149,slow=1.1,SNR=4.6						
T42A	**Van Buren**	**144.16**	**18**		**PKPab**	**21 05 59.5**	**-0.4**
TXAR	**Lajitas Array**	**144.25**	**41**	PKP	**PKPab**	**21 06 01.3**	**+0.6**
	comp=Z,3.4nm,0.7s,baz=230,slow=0.4,SNR=16						
R49A	**Shelbyville**	**144.40**	**10**		**PKPab**	**21 06 00.0**	**-0.8**
CPUP	**Villa Florida**	**144.59**	**213**	PKP	PKPbc	21 06 03.5	+1.5
	comp=Z,24nm,0.9s,baz=118,slow=3.6,SNR=43						
PBMO	**Poplar Bluff**	**144.60**	**18**		**PKPab**	**21 05 59.9**	**-1.6**
BDFB	**Brasilia**	**145.07**	**237**	PKPbc	**PKPdf**	**21 06 05.3**	**+0.7**
	comp=Z,11nm,0.7s,baz=105,slow=5.1,SNR=13						
TKL	**Tuckaleechee C**	**147.21**	**9**	PKPbc	**PKPdf**	**21 06 08.6**	**+1.1**
	comp=Z,15nm,0.7s,baz=298,slow=15,SNR=6.9						
LPAZ	**La Paz**	**158.42**	**206**	PKIKP	**PKPdf**	**21 06 25.0**	**-0.2**
LPAZ	**La Paz**	**158.42**	**206**	PKP	**PKPdf**	**21 06 25.0**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=207,slow=2.3,SNR=2.1						

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*IDC **05** 20:46:29.5±2.2, 49°.55N×150°.65E, h362km±25km, mb3.1/11, mbtmp3.8/13, Error ellipse: s-maj=28.8km s-min=13.0km az=163.0*

ISC 05 20:46:28.6±1.1, **49°.5N**±0°.2×**150°.7E**±0°.1, **h350**km, **n14**, σ**1s.29**/14, **mb3.3**/10, **Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.67**	**48**	P	**Pn**	**20 47 57.5**	**+2.0**
	7.3nm,1.1s,baz=222,slow=7.6,SNR=6.1						
KLR	**Kul'dur**	**12.38**	**276**	P	**Pn**	**20 49 17.0**	**+2.3**
	5.6nm,0.7s,baz=79,slow=11,SNR=20						
MJAR	**Matsushiro Arr**	**15.83**	**220**	P	**P**	**20 49 51.5**	**-0.8**
	2.0nm,0.9s,baz=359,slow=12,SNR=4.1						
KSRS	**Korea Array**	**20.38**	**242**	P	**P**	**20 50 39.7**	**-0.3**
	1.0nm,0.6s,baz=65,slow=12,SNR=2.1						
	1.0nm,0.6s						
ILAR	**Eielson Array**	**35.45**	**41**	P	**P**	**20 52 52.2**	**-0.3**
	0.7nm,0.7s,baz=241,slow=6.2,SNR=8.9						
	0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**39.74**	**302**	P	**P**	**20 53 26.9**	**-1.3**
	0.6nm,0.5s,baz=64,slow=6.8,SNR=4.2						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**44.31**	**294**	P	**P**	**20 54 04.4**	**-0.4**
	0.7nm,0.7s,baz=71,slow=8.6,SNR=5.6						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**44.65**	**300**	P	**P**	**20 54 06.6**	**-0.7**
	1.1nm,0.6s,baz=69,slow=8.4,SNR=10						
	1.1nm,0.6s						
BVAR	**Borovoye Array**	**47.91**	**307**	P	**P**	**20 54 31.7**	**-0.7**
	1.3nm,0.5s,baz=68,slow=7.8,SNR=4.4						
	1.3nm,0.5s						
YKA	**Yellowknife Ar**	**49.69**	**37**	P	**P**	**20 54 43.8**	**-1.9**
	0.4nm,0.5s,baz=304,slow=7.3,SNR=6.4						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**60.87**	**333**	P	**P**	**20 56 04.0**	**-0.6**
	1.0nm,0.3s,baz=38,slow=7.6,SNR=15						
	1.0nm,0.3s						
NVAR	**Mina Array Bea**	**62.56**	**62**	P	**P**	**20 56 17.3**	**+0.8**
	0.3nm,0.2s,baz=357,slow=3.6,SNR=2.5						
	0.3nm,0.2s						
PDAR	**Pinedale Array**	**64.40**	**54**	P	**P**	**20 56 28.8**	**+0.4**
	0.5nm,0.6s,baz=318,slow=2.0,SNR=4.9						
	0.5nm,0.6s						
HFS	**Hagfors**	**65.31**	**338**	P	**P**	**20 56 32.7**	**-0.9**
	6.8nm,1.0s,baz=51,slow=5.9,SNR=7.0						
	6.8nm,1.0s						

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*IDC **05** 21:16:48.7±3.5, 7°.32S×129°.29E, h128km±30km, mb3.3/6, mbtmp4.0/9, Error ellipse: s-maj=51.7km s-min=18.3km az=61.0*

*NEIC **05** 21:16:50.9±2.2, 7°.42S±0°.07×129°.11E±0°.07, h155km±9km, mb4.2/7, Error ellipse: s-maj=11.8km s-min=7.8km az=131.0*

*DJA **05** 21:16:50.2±0.3, 7°S±4°×12°9E±°, h187km±10km, M4.4/11, mb4.2/11, mB5.0/5, MLv4.6/10, Mw(mB)4.3/5*

ISC 05 21:16:49.4±0.6, **7°.39S**±0°.07×**129°.07E**±0°.05, **h131**km, **n47**, σ**1s.93**/50, **mb3.6**/9, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.28**	**105**		**Pn**	**21 17 29.4**	**+2.5**
SAUI				Sn	**Sn**	**21 17 57.9**	**+2.2**
SAUI	**Saumlaki**	**2.28**	**105**	P	**Pn**	**21 17 30.9**	**+4.0**
SAUI	**Saumlaki**	**2.28**	**105**	P	**Pn**	**21 17 29.6**	**+2.7**
SOEI	**Soe**	**5.30**	**243**		**Pn**	**21 18 09.5**	**+2.8**
SOEI				Sn	**Sn**	**21 19 07.4**	**+0.6**
SOEI	**Soe**	**5.30**	**243**	P	**Pn**	**21 18 10.3**	**+3.7**
SOEI	**Soe**	**5.30**	**243**	P	**Pn**	**21 18 09.6**	**+3.0**
	53nm,0.8s,1µm1.3nm						
FAKI	**Fak Fak**	**5.46**	**36**	Pn	**Pn**	**21 18 08.9**	**+0.2**
FAKI	**Fak Fak**	**5.46**	**36**	P	**Pn**	**21 18 08.7**	**+0.1**
	34nm,1.0s,0.2nm						
MTN	**Manton Dam**	**5.78**	**160**		**Pn**	**21 18 14.4**	**+1.4**
MTN	**Manton Dam**	**5.78**	**160**	P	**Pn**	**21 18 14.4**	**+1.4**
KMPI	**Kaimana, Papua**	**5.92**	**51**	P	**Pn**	**21 18 13.8**	**-1.0**
	127nm,0.7s,0.8nm						
BATI	**Baumata**	**6.03**	**242**	P	**Pn**	**21 18 19.1**	**+2.7**
	57nm,0.4s,2µm0.6nm						
BATI	**Baumata**	**6.03**	**242**	P	**Pn**	**21 18 18.9**	**+2.5**
	48nm,0.3s,baz=86,slow=5.6,SNR=17						
BATI				S	**Sn**	**21 19 23.3**	**-1.0**
	83nm,0.4s,baz=71,slow=21,SNR=17						
KDU	**Kakadu**	**6.23**	**148**	P	**Pn**	**21 18 20.2**	**+1.1**
MMRI	**Maumere**	**6.88**	**259**	Pn	**Pn**	**21 18 29.3**	**+1.5**
MMRI	**Maumere**	**6.88**	**259**	P	**Pn**	**21 18 29.5**	**+1.7**
	23nm,1.5s,0.2nm						
EDFI	**Ende, Flores**	**7.43**	**259**	P	**Pn**	**21 18 38.9**	**+3.6**
	6.8nm,0.5s,0.1nm						
KNRA	**Kununurra**	**8.24**	**182**		**Pn**	**21 18 45.9**	**-0.1**
KNRA	**Kununurra**	**8.24**	**182**	P	**Pn**	**21 18 46.1**	**0.0**
BASI	**Baing, Sumba**	**8.85**	**251**	P	**Pn**	**21 18 56.8**	**+2.5**
	32nm,0.6s						
PLAI	**Plampang**	**11.28**	**262**	P	**Pn**	**21 19 31.2**	**+4.4**
	23nm,0.8s						
PLAI	**Plampang**	**11.28**	**262**	P	**Pn**	**21 19 27.6**	**+0.8**
	23nm,0.8s						
WB0	**Warramunga Arr**	**13.34**	**158**		**Pn**	**21 19 50.8**	**-2.9**
WRA	**Warramunga Arr**	**13.48**	**158**		Pn	21 19 51.3	-4.2
WRA	**Warramunga Arr**	**13.48**	**158**	P	**Pn**	**21 19 52.9**	**-2.6**
	13nm,0.9s,baz=338,slow=13,SNR=51						
WRA				S	Sn	21 22 12.7	-12
	14nm,0.6s,baz=332,slow=24,SNR=8.0						
JAGI	**Jajag, Banyuwa**	**14.82**	**265**	Pn	**Pn**	**21 20 12.3**	**-0.3**
COEN	**Coen**	**15.31**	**116**	Pn	**Pn**	**21 20 16.6**	**-2.1**
COEN				IAmb	IAmb	21 20 34.3	
	comp=Z,7.8nm,1.1s						
MBWA	**Marble Bar**	**16.40**	**212**	P	**Pn**	**21 20 30.8**	**-1.2**
MBWA				IAmb	IAmb	21 20 47.4	
	comp=Z,26nm,1.3s						
QIS	**Mount Isa**	**16.59**	**143**	P	**P**	**21 20 36.5**	**+1.9**
	comp=Z,7.5nm,2.8s						
PSA00	**Pilbara Seismi**	**16.68**	**211**	P	**Pn**	**21 20 33.3**	**-2.1**
PSA00				IAmb	IAmb	21 20 52.0	
	comp=Z,28nm,1.2s						
AS31	**Alice Springs**	**16.83**	**165**	P	**P**	**21 20 36.7**	**-0.6**
ASAR	**Alice Springs**	**16.83**	**165**		**P**	**21 20 36.5**	**-0.7**
ASAR	**Alice Springs**	**16.83**	**165**	P	**P**	**21 20 36.0**	**-1.3**
	comp=Z,6.6nm,0.7s,baz=335,slow=9.6,SNR=85						
ASAR				S	Sn	21 23 34.9	-10
	comp=Z,3.3nm,0.7s,baz=324,slow=18,SNR=6.2						
ASAR				ScP	**ScP**	**21 28 38.6**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=346,slow=1.9,SNR=2.7						
AS01	**Alice Springs**	**16.84**	**164**	P	**Pn**	**21 20 38.9**	**+1.4**
WRKA	**Warakurna**	**17.56**	**182**	P	**P**	**21 20 46.8**	**+1.5**
FORT	**Forrest**	**23.29**	**182**	P	**P**	**21 21 46.0**	**+0.6**
BBOO	**Buckleboo**	**26.11**	**167**	P	**P**	**21 22 10.3**	**-0.8**
BBOO				IAmb	IAmb	21 22 26.9	
	comp=Z,14nm,1.5s						
STKA	**Stephens Creek**	**27.01**	**156**	P	**P**	**21 22 19.9**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=281,slow=16,SNR=3.1						
	comp=Z,1.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**39.29**	**311**	P	**P**	**21 24 05.9**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=139,slow=8.1,SNR=6.4						
	comp=Z,0.7nm,0.8s						
SONM	**Songino Array**	**58.53**	**342**	P	**P**	**21 26 31.3**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=142,slow=7.2,SNR=1.6						
	comp=Z,0.2nm,0.4s						
MK31	**Makanchi Array**	**68.05**	**327**	P	**P**	**21 27 33.3**	**-1.5**
MK31				IAmb	IAmb	21 27 52.9	
	comp=Z,2.5nm,1.4s						
MKAR	**Makanchi Array**	**68.05**	**327**	P	**P**	**21 27 33.7**	**-1.1**
MKAR	**Makanchi Array**	**68.05**	**327**	P	**P**	**21 27 35.1**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=126,slow=7.7,SNR=9.7						
	comp=Z,0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**71.53**	**334**	P	**P**	**21 27 54.7**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=144,slow=5.4,SNR=3.0						
	comp=Z,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**72.37**	**329**	P	**P**	**21 28 00.6**	**-0.3**
	comp=Z,0.3nm,0.2s,baz=134,slow=5.2,SNR=2.6						
BVAR	**Borovoye Array**	**77.91**	**328**	P	**P**	**21 28 33.9**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=101,slow=7.8,SNR=2.2						
	comp=Z,0.4nm,0.8s						
ABKAR	**Akbulak array**	**82.25**	**322**	P	**P**	**21 28 55.8**	**-0.3**

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*IDC **05** 21:21:02.2±1.1, 22°.11N×120°.44E, h0km, mb3.7/8,*

mbtmp3.7/8, MS3.1/2, Error ellipse: s-maj=75.3km s-min=20.5km az=64.0

*TAP **05** 21:21:05.3, 22°.07N×120°.20E, h42km, ML3.7, D*

*JMA **05** 21:21:06.0±0.5, 22°N±2°×12°0E±°, h70km±3km, MV3.5/11, TAIWAN REGION*

ISC 05 21:21:06.6±1.0, **22°.04N**±0°.04×**120°.18E**±0°.03, **h44**km±8km, **n146**, σ1.11/238, **mb3.6**/8, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWP	**Hsiaoliuchiu**	**0.35**	**30**	*i* P	**Pn**	**21 21 14.7**	**-1.0**
	baz=26						
TWP				S	**Sn**	**21 21 22.2**	**+0.1**
	baz=26						
HEN	**Hengchun**	**0.52**	**94**	*i* P	**Pn**	**21 21 17.3**	**-0.5**
	baz=97						
HEN				*i* S	**Sn**	**21 21 26.5**	**+0.8**
	baz=97						
SCZT	**Fangliau**	**0.53**	**51**	*i* P	**Pn**	**21 21 16.5**	**-1.3**
	baz=53						
SCZT				S	**Sn**	**21 21 24.5**	**-1.3**
	baz=53						
KAU	**Kaohsiung**	**0.54**	**13**	*e*P	**Pn**	**21 21 17.6**	**-0.4**
	baz=13						
KAU				*e*S	**Sn**	**21 21 27.1**	**+1.0**
	baz=13						
TWK1	**Hengchun**	**0.59**	**99**	*e*P	**Pn**	**21 21 17.9**	**-0.8**
	baz=103						
TWK1				*e*S	**Sn**	**21 21 27.2**	**-0.1**
	baz=103						
TWKBT	**Hengchun**	**0.60**	**99**	P	**Pn**	**21 21 17.9**	**-0.8**
	baz=103						
TWKBT				*e*S	**Sn**	**21 21 27.2**	**-0.2**
	baz=103						
SLIU	**Shizi**	**0.60**	**73**	P	**Pn**	**21 21 17.6**	**-1.2**
	baz=66						
SLIU				*e*S	**Sn**	**21 21 26.2**	**-1.4**
	baz=66						
WSSB	**Gushan**	**0.60**	**8**	*i* P	**Pn**	**21 21 18.1**	**-0.7**
	baz=354						
WSSB				S	**Sn**	**21 21 27.4**	**-0.2**
	baz=354						
SMST	**Manzhou Townsh**	**0.61**	**92**	P	**Pn**	**21 21 18.1**	**-0.8**
	baz=95						
SMST				*e*S	**Sn**	**21 21 27.3**	**-0.5**
	baz=95						
TSEB	**Hengchuen, Pin**	**0.69**	**102**	P	**Pn**	**21 21 18.8**	**-1.1**
	baz=105						
TSEB				*e*S	**Sn**	**21 21 28.9**	**-0.6**
	baz=105						
TSPT	**Pingtung City**	**0.70**	**25**	P	**Pn**	**21 21 20.1**	**0.0**
	baz=36						
MASBT	**Mashibuluo**	**0.71**	**37**	*i* P	**Pn**	**21 21 18.9**	**-1.4**
	baz=37						
MASBT				*e*S	**Sn**	**21 21 28.5**	**-1.6**
	baz=37						
EAST	**Anshuo**	**0.71**	**61**	*e*P	**Pn**	**21 21 19.3**	**-1.0**
	baz=63						
EAST				S	**Sn**	**21 21 29.5**	**-0.6**
	baz=63						
TAWH	**Dawu Township**	**0.72**	**66**	P	**Pn**	**21 21 19.4**	**-1.0**
	baz=67						
TAWH				S	**Sn**	**21 21 29.0**	**-1.4**
	baz=67						
TAW	**Tawu**	**0.74**	**65**	*e*P	**Pn**	**21 21 19.6**	**-1.0**
	baz=66						
TAW				*e*S	**Sn**	**21 21 29.7**	**-1.0**
	baz=66						
SGLT	**Jiouru**	**0.74**	**23**	P	**Pn**	**21 21 20.6**	**-0.1**
	baz=35						
SGLT				*i* S	**Sn**	**21 21 32.2**	**+1.3**
	baz=35						
TSMG	**Majia**	**0.79**	**33**	*i* P	**Pn**	**21 21 20.2**	**-1.1**
	baz=33						
TSMG				*e*S	**Sn**	**21 21 30.8**	**-1.3**
	baz=33						
TWM1	**Shoushan**	**0.81**	**16**	*e*P	**Pn**	**21 21 21.7**	**0.0**
	baz=6.0						
TWM1				*e*S	**Sn**	**21 21 31.9**	**-0.7**
	baz=6.0						
SSD	**Sandimen**	**0.82**	**31**	P	**Pn**	**21 21 20.7**	**-1.1**
	baz=31						
SSD				S	**Sn**	**21 21 31.5**	**-1.3**
	baz=31						
SCST	**Cishan**	**0.89**	**19**	P	**Pn**	**21 21 22.3**	**-0.4**
	baz=19						
SCST				*e*S	**Sn**	**21 21 33.7**	**-0.7**
	baz=19						
ECL	**Taimali**	**0.91**	**52**	P	**Pn**	**21 21 21.9**	**-1.1**
	baz=53						
ECL				*e*S	**Sn**	**21 21 33.4**	**-1.5**
	baz=53						
SHHT	**Tainan City**	**0.99**	**9**	*e*P	**Pn**	**21 21 23.7**	**-0.3**
	baz=9.0						
SHHT				*e*S	**Sn**	**21 21 37.6**	**+0.8**
	baz=9.0						
TAI1	**Yung-k'ang**	**1.00**	**3**	*e*P	**Pn**	**21 21 24.1**	**0.0**
	baz=2.0						
TAI1				*e*S	**Sn**	**21 21 37.2**	**+0.2**
	baz=2.0						
CHN3	**Shinhua**	**1.04**	**10**	P	**Pn**	**21 21 24.6**	**-0.2**
	baz=9.0						
CHN3				*e*S	**Sn**	**21 21 38.8**	**+0.6**
	baz=9.0						
SSHA	**Shanhua**	**1.09**	**5**	P	**Pn**	**21 21 24.9**	**-0.6**
	baz=5.0						
SSHA				S	**Sn**	**21 21 39.9**	**+0.4**
	baz=5.0						
SGST	**Jiashian**	**1.10**	**20**	*i* P	**Pn**	**21 21 24.0**	**-1.7**
	baz=20						
SGST				S	**Sn**	**21 21 38.3**	**-1.4**
	baz=20						
TSCK	**Chigu Township**	**1.10**	**356**	P	**Pn**	**21 21 24.5**	**-1.1**
	baz=355						
TSCK				*e*S	**Sn**	**21 21 37.8**	**-1.9**
	baz=355						
SCLT	**Jiali**	**1.13**	**1**	*e*P	**Pn**	**21 21 25.3**	**-0.7**
	baz=1.0						
SCLT				S	**Sn**	**21 21 39.9**	**-0.4**
	baz=1.0						
TWG	**Pinlang**	**1.14**	**47**	*e*P	**Pn**	**21 21 25.9**	**-0.2**
	baz=36						
TWG				*e*S	**Sn**	**21 21 38.1**	**-2.4**
	baz=36						
TWGBT	**Beinan**	**1.14**	**47**	P	**Pn**	**21 21 25.9**	**-0.2**
TWGBT	**Beinan**	**1.14**	**47**	P	**Pn**	**21 21 25.8**	**-0.3**
	baz=36						
TWGBT				*e*S	**Sn**	**21 21 38.2**	**-2.3**
	baz=36						
TTN	**Taitung**	**1.15**	**52**	*e*P	**Pn**	**21 21 25.7**	**-0.5**
	baz=52						
TTN				*e*S	**Sn**	**21 21 38.4**	**-2.2**
	baz=52						
CHN1	**Nanshi**	**1.18**	**16**	*e*P	**Pn**	**21 21 26.0**	**-0.7**
	baz=16						
CHN1				*e*S	**Sn**	**21 21 40.3**	**-1.4**
	baz=16						
LONT	**Longtian**	**1.23**	**45**	*e*P	**Pn**	**21 21 27.5**	**+0.1**
	baz=46						
STYT	**Tauyuan**	**1.24**	**26**	*e*P	**Pn**	**21 21 26.8**	**-0.7**
	baz=26						
STYT				*e*S	**Sn**	**21 21 42.0**	**-1.1**
	baz=26						
STYH	**Taoyuan**	**1.25**	**26**	P	**Pn**	**21 21 26.9**	**-0.7**
	baz=26						
STYH				S	**Sn**	**21 21 42.7**	**-0.6**
	baz=26						
TWK	**Hsinying**	**1.25**	**13**	P	**Pn**	**21 21 26.7**	**-1.0**
	baz=25						
TWK				*e*S	**Sn**	**21 21 42.4**	**-1.1**
	baz=25						
WTP	**Ta-pu**	**1.27**	**19**	*e*P	**Pn**	**21 21 26.9**	**-0.9**
	baz=19						
WTP				*e*S	**Sn**	**21 21 42.8**	**-0.9**
	baz=19						
LAY	**Lan-yu**	**1.27**	**90**	*e*P	**Pn**	**21 21 26.5**	**-1.5**
	baz=91						
LAY				*e*S	**Sn**	**21 21 42.6**	**-1.3**
	baz=91						
CHN8	**Yiju**	**1.30**	**1**	*e*P	**Pn**	**21 21 27.6**	**-0.7**
	baz=350						
CHN8				*e*S	**Sn**	**21 21 43.7**	**-0.8**
	baz=350						
WDGT	**Dungji**	**1.30**	**339**	*e*P	**Pn**	**21 21 26.9**	**-1.4**
	baz=351						
WDGT				*e*S	**Sn**	**21 21 42.7**	**-1.8**
	baz=351						
LYUB	**Lan-yu**	**1.31**	**91**	*e*P	**Pn**	**21 21 25.8**	**-2.6**
	baz=93						
LYUB				*e*S	**Sn**	**21 21 41.4**	**-3.3**
	baz=93						
ICHU	**Yijhu**	**1.32**	**4**	*e*P	**Pn**	**21 21 27.1**	**-1.4**
	baz=4.0						
ICHU				*e*S	**Sn**	**21 21 43.8**	**-1.1**
	baz=4.0						
TPUB	**Ta-pu**	**1.32**	**18**	P	**Pn**	**21 21 27.5**	**-1.2**
TPUB	**Ta-pu**	**1.32**	**18**	P	**Pn**	**21 21 27.4**	**-1.2**
	baz=18						
TPUB				*e*S	**Sn**	**21 21 43.6**	**-1.5**
	baz=18						
LDUT	**Ludao**	**1.35**	**62**	*e*P	**Pn**	**21 21 28.2**	**-0.8**
	baz=54						
VCHM	**Qimei**	**1.35**	**329**	P	**Pn**	**21 21 27.5**	**-1.5**
	baz=340						
VCHM				*e*S	**Sn**	**21 21 44.6**	**-1.1**
	baz=340						
CHN4	**Tsaushan**	**1.36**	**16**	P	**Pn**	**21 21 28.0**	**-1.1**
	baz=16						
CHN4				*e*S	**Sn**	**21 21 44.6**	**-1.4**
	baz=16						
ELDTW	**Lidau**	**1.38**	**34**	*e*P	**Pn**	**21 21 28.9**	**-0.7**
	baz=21						
EDH	**Donghe**	**1.40**	**48**	*e*P	**Pn**	**21 21 28.5**	**-1.1**
	baz=48						
ECS	**Chishang**	**1.43**	**42**	*e*P	**Pn**	**21 21 29.9**	**-0.2**
	baz=32						
WCKO	**Fanlu**	**1.45**	**16**	P	**Pn**	**21 21 29.2**	**-1.1**
	baz=16						
WCKO				S	**Sn**	**21 21 46.8**	**-1.3**
	baz=16						
EHD	**Haiduan**	**1.46**	**41**	*e*P	**Pn**	**21 21 30.0**	**-0.5**
	baz=31						
CHY	**Chiayi**	**1.47**	**9**	*e*P	**Pn**	**21 21 29.7**	**-0.9**
	baz=9.0						
CHY				*e*S	**Sn**	**21 21 47.3**	**-1.3**
	baz=9.0						
WSL	**Shuilin Townsh**	**1.48**	**2**	*e*P	**Pn**	**21 21 29.9**	**-0.7**
	baz=350						
WSL				*e*S	**Sn**	**21 21 48.1**	**-0.7**
	baz=350						
CHN2	**Minshiung**	**1.51**	**10**	*e*P	**Pn**	**21 21 30.3**	**-0.9**
	baz=10.0						
CHN2				*e*S	**Sn**	**21 21 47.5**	**-2.1**
	baz=10.0						
CHKT	**Chengkung**	**1.52**	**46**	*e*P	**Pn**	**21 21 28.6**	**-2.7**
	baz=47						
PHUB	**P'eng-hu**	**1.57**	**339**	*e*P	**Pn**	**21 21 30.3**	**-1.7**
	baz=349						
PHUB				*e*S	**Sn**	**21 21 49.6**	**-1.5**
	baz=349						
ALS	**Alishan**	**1.57**	**22**	*e*P	**Pn**	**21 21 31.5**	**-0.9**
	baz=22						
ALS				*e*S	**Sn**	**21 21 50.0**	**-1.6**
	baz=22						
WSF	**Szhu**	**1.59**	**2**	*e*P	**Pn**	**21 21 31.3**	**-1.0**
	baz=1.0						
WSF				*e*S	**Sn**	**21 21 50.7**	**-0.9**
	baz=1.0						
CHN5	**Tsauling**	**1.62**	**17**	*e*S	**Sn**	**21 21 51.1**	**-1.3**
	baz=16						
PNG	**Penghu**	**1.62**	**339**	*e*P	**Pn**	**21 21 31.6**	**-1.2**
	baz=350						
PNG				*e*S	**Sn**	**21 21 51.5**	**-0.9**
	baz=350						
WTK	**Tuku**	**1.65**	**7**	*e*P	**Pn**	**21 21 32.1**	**-1.0**
	baz=355						
WTK				S	**Sn**	**21 21 52.4**	**-0.7**
	baz=355						
TWF1	**Yuli**	**1.67**	**38**	*e*P	**Pn**	**21 21 33.3**	**0.0**
	baz=31						
TWF1				*e*S	**Sn**	**21 21 52.6**	**-0.9**
	baz=31						
WDLH	**Douliu**	**1.67**	**11**	*e*P	**Pn**	**21 21 32.5**	**-1.0**
	baz=11						
WDLH				*e*S	**Sn**	**21 21 52.4**	**-1.3**
	baz=11						
EYUL	**Yuli**	**1.68**	**39**	*e*P	**Pn**	**21 21 33.5**	**+0.1**
	baz=39						
WGK	**Gukeng**	**1.68**	**12**	*e*P	**Pn**	**21 21 32.5**	**-1.0**
	baz=12						
WGK				*e*S	**Sn**	**21 21 53.2**	**-0.6**
	baz=12						
YULB	**Yu-li**	**1.70**	**37**	P	**Pn**	**21 21 33.6**	**-0.2**
YULB	**Yu-li**	**1.70**	**37**	*e*P	**Pn**	**21 21 33.6**	**-0.2**
	baz=30						
YULB				*e*S	**Sn**	**21 21 54.4**	**+0.1**
	baz=30						
EHY	**Hungye**	**1.80**	**36**	*e*P	**Pn**	**21 21 35.4**	**+0.2**
	baz=36						
EHY				*e*S	**Sn**	**21 21 57.1**	**+0.3**
	baz=36						
WJS	**Zhushan**	**1.84**	**16**	*e*P	**Pn**	**21 21 34.7**	**-1.1**
	baz=16						
WJS				*e*S	**Sn**	**21 21 57.2**	**-0.7**
	baz=16						
HGSD	**Ruisui**	**1.85**	**38**	*e*P	**Pn**	**21 21 36.3**	**+0.5**
	baz=38						
RLNB	**Erlin**	**1.85**	**5**	*e*P	**Pn**	**21 21 35.0**	**-0.8**
	baz=15						
RLNB				*e*S	**Sn**	**21 21 56.5**	**-1.4**
	baz=15						
WRL	**Guolierlin Hig**	**1.86**	**6**	*e*P	**Pn**	**21 21 34.7**	**-1.2**
	baz=16						
WRL				*e*S	**Sn**	**21 21 56.5**	**-1.8**
	baz=16						
SSLB	**Suanglung**	**1.88**	**22**	P	**Pn**	**21 21 35.6**	**-0.7**
SSLB	**Suanglung**	**1.88**	**22**	*e*P	**Pn**	**21 21 35.5**	**-0.8**
	baz=22						
SSLB				*e*S	**Sn**	**21 21 56.9**	**-1.9**
	baz=22						
WNT	**Mingjian**	**1.89**	**14**	*e*P	**Pn**	**21 21 35.4**	**-0.9**
	baz=25						
WNT				*e*S	**Sn**	**21 21 57.8**	**-1.2**
	baz=25						
VWDT	**VWDT**	**1.92**	**27**	*e*P	**Pn**	**21 21 36.5**	**-0.3**
	baz=27						
WYL	**Yuanlin Townsh**	**1.95**	**11**	*e*P	**Pn**	**21 21 36.1**	**-1.0**
	baz=11						
WYL				*e*S	**Sn**	**21 21 59.5**	**-0.9**
	baz=11						
SMLT	**Sun Moon Lake**	**1.95**	**20**	*e*P	**Pn**	**21 21 36.5**	**-0.9**
	baz=20						
SMLT				*e*S	**Sn**	**21 21 58.3**	**-2.4**
	baz=20						
TYC	**Yuchr**	**1.96**	**19**	*e*P	**Pn**	**21 21 36.6**	**-0.7**
	baz=19						
TYC				*e*S	**Sn**	**21 21 60.0**	**-0.7**
	baz=19						
WARBT	**Fenglin Townsh**	**2.01**	**34**	*e*P	**Pn**	**21 21 37.8**	**-0.2**
	baz=23						
WARBT				*e*S	**Sn**	**21 22 01.3**	**-0.6**
	baz=23						
WWF	**Wufeng**	**2.05**	**13**	*e*P	**Pn**	**21 21 37.8**	**-0.7**
	baz=23						
WWF				*e*S	**Sn**	**21 22 02.1**	**-0.9**
	baz=23						
WCHH	**Zhanghua**	**2.06**	**10**	*e*P	**Pn**	**21 21 38.1**	**-0.6**
	baz=10.0						
WCHH				*e*S	**Sn**	**21 22 02.5**	**-0.6**
	baz=10.0						
WPL	**Puli Township**	**2.09**	**20**	*e*P	**Pn**	**21 21 38.1**	**-1.0**
	baz=20						
WPL				*e*S	**Sn**	**21 22 02.6**	**-1.4**
	baz=20						
DPDB	**Guoxing**	**2.10**	**19**	*e*P	**Pn**	**21 21 38.7**	**-0.7**
	baz=19						
DPDB				*e*S	**Sn**	**21 22 03.2**	**-1.1**
	baz=19						
ESL	**Shilin**	**2.11**	**33**	*e*P	**Pn**	**21 21 39.9**	**+0.5**
	baz=23						
ESL				*e*S	**Sn**	**21 22 02.6**	**-1.8**
	baz=23						
WCS	**Beigang Elemen**	**2.12**	**19**	*e*P	**Pn**	**21 21 38.9**	**-0.6**
	baz=18						
WCS				*e*S	**Sn**	**21 22 03.3**	**-1.3**
	baz=18						
WUSB	**Renai**	**2.13**	**24**	*e*P	**Pn**	**21 21 39.2**	**-0.6**
	baz=24						
WUSB				*e*S	**Sn**	**21 22 03.6**	**-1.4**
	baz=24						
TCU	**Taichung**	**2.15**	**12**	*e*P	**Pn**	**21 21 39.5**	**-0.4**
	baz=22						
TCU				*e*S	**Sn**	**21 22 04.2**	**-1.1**
	baz=22						
CHGB	**Renai**	**2.21**	**24**	*e*P	**Pn**	**21 21 40.6**	**-0.4**
	baz=15						
CHGB				*e*S	**Sn**	**21 22 06.2**	**-1.1**
	baz=15						
ETM	**Tongmen**	**2.27**	**32**	*e*P	**Pn**	**21 21 41.4**	**-0.2**
	baz=22						
ETM				*e*S	**Sn**	**21 22 07.1**	**-1.2**
	baz=22						
LXIB	**Xiulin Townshi**	**2.28**	**30**	*e*P	**Pn**	**21 21 41.9**	**0.0**
	baz=21						
LXIB				*e*S	**Sn**	**21 22 08.6**	**-0.1**
	baz=21						
WHF	**Hehuan Shan**	**2.32**	**25**	*e*P	**Pn**	**21 21 42.8**	**0.0**
	baz=26						
TWQ1	**Liyutan**	**2.36**	**13**	*e*P	**Pn**	**21 21 42.8**	**0.0**
	baz=13						
TWQ1				*e*S	**Sn**	**21 22 09.8**	**-0.9**
	baz=13						
TDCB	**Techi**	**2.38**	**22**	*e*P	**Pn**	**21 21 42.8**	**-0.5**
	baz=22						
TDCB				*e*S	**Sn**	**21 22 09.6**	**-1.7**
	baz=22						
TWT	**Tachien**	**2.39**	**22**	*e*P	**Pn**	**21 21 43.4**	**0.0**
	baz=22						
TWT				*e*S	**Sn**	**21 22 09.6**	**-1.9**
	baz=22						
FUSS	**Fushou**	**2.41**	**24**	*e*P	**Pn**	**21 21 43.7**	**0.0**
	baz=24						
TWD	**Chiawan**	**2.41**	**33**	*e*P	**Pn**	**21 21 43.1**	**-0.5**
	baz=23						
NSY	**Sanyi**	**2.42**	**13**	*e*P	**Pn**	**21 21 43.8**	**0.0**
	baz=23						
NACB	**Ninganchiao**	**2.49**	**31**	P	**Pn**	**21 21 45.6**	**+0.9**
NACB	**Ninganchiao**	**2.49**	**31**	*e*P	**Pn**	**21 21 44.1**	**-0.5**
	baz=31						
NMLH	**Miaoli**	**2.55**	**13**	*e*P	**Pn**	**21 21 44.5**	**-1.0**
	baz=13						
NMLH				*e*S	**Sn**	**21 22 13.2**	**-2.1**
	baz=13						
NNSB	**Datong**	**2.62**	**25**	*e*P	**Pn**	**21 21 46.8**	**+0.2**
	baz=17						
NNSB				*e*S	**Sn**	**21 22 16.1**	**-1.1**
	baz=17						
NNS	**Nan Shan**	**2.63**	**25**	*e*P	**Pn**	**21 21 46.9**	**+0.3**
	baz=17						
NNS				*e*S	**Sn**	**21 22 16.5**	**-0.9**
	baz=17						
NSTT	**Nanjuang**	**2.69**	**16**	*e*P	**Pn**	**21 21 46.9**	**-0.5**
	baz=16						
NSTT				*e*S	**Sn**	**21 22 16.9**	**-1.8**
	baz=16						
NFF	**Wufeng Townshi**	**2.72**	**18**	*e*P	**Pn**	**21 21 48.2**	**+0.4**
	baz=18						
NFF				S	**Sn**	**21 22 19.3**	**-0.3**
	baz=18						
LATG	**Datong**	**2.78**	**26**	*e*P	**Pn**	**21 21 49.1**	**+0.4**
	baz=26						
LATG				*e*S	**Sn**	**21 22 21.7**	**+0.7**
	baz=26						
ENA	**Nanau**	**2.78**	**31**	*e*P	**Pn**	**21 21 48.2**	**-0.4**
	baz=42						
ENA				*e*S	**Sn**	**21 22 18.6**	**-2.3**
	baz=42						
EWUT	**Wuta**	**2.81**	**31**	*e*P	**Pn**	**21 21 49.9**	**+0.9**
	baz=31						
NSK	**Sanguang**	**2.84**	**22**	*e*P	**Pn**	**21 21 49.5**	**+0.1**
	baz=23						
YHNB	**Yeheng**	**2.84**	**23**	P	**Pn**	**21 21 49.6**	**+0.1**
YHNB	**Yeheng**	**2.84**	**23**	*e*P	**Pn**	**21 21 49.1**	**-0.4**
	baz=23						
YHNB				*e*S	**Sn**	**21 22 19.8**	**-2.7**
	baz=23						
KNM	**Kinmen**	**2.86**	**326**	*e*P	**Pn**	**21 21 50.3**	**+0.7**
	baz=324						
KNM				*e*S	**Sn**	**21 22 23.1**	**+0.3**
	baz=324						
EOS4	**EOS4**	**2.86**	**43**	*e*P	**Pn**	**21 21 49.4**	**+0.1**
	baz=43						
EOS4				*e*S	**Sn**	**21 22 21.0**	**-1.3**
	baz=43						
ENTT	**Nioudou**	**2.88**	**26**	*e*P	**Pn**	**21 21 50.8**	**+0.7**
	baz=26						
ENTT				*e*S	**Sn**	**21 22 24.6**	**+1.1**
	baz=26						
KNMB	**Chin-men Tao**	**2.92**	**326**	*e*P	**Pn**	**21 21 49.9**	**-0.6**
	baz=326						
ZPLA	**Ao Xicun**	**2.92**	**311**	*e*P	**Pn**	**21 21 49.3**	**-1.3**
	baz=310						
ZPLA				*e*S	**Sn**	**21 22 22.8**	**-1.6**
	baz=310						
EOS3	**EOS3**	**2.98**	**41**	*e*P	**Pn**	**21 21 51.2**	**0.0**
	baz=40						
TWC	**Suao**	**2.98**	**31**	*e*P	**Pn**	**21 21 49.7**	**-1.7**
	baz=31						
NWLT	**Wulai**	**2.98**	**24**	*e*P	**Pn**	**21 21 50.6**	**-0.8**
	baz=24						
NWLT				*e*S	**Sn**	**21 22 24.3**	**-1.7**
	baz=24						
TWE	**Neicheng**	**3.00**	**27**	*e*P	**Pn**	**21 21 51.8**	**+0.2**
	baz=41						
FUSB	**Fushanzhiwuyua**	**3.00**	**25**	*e*P	**Pn**	**21 21 51.7**	**0.0**
	baz=17						
VWUC	**VWUC**	**3.01**	**347**	*e*P	**Pn**	**21 21 51.1**	**-0.7**
	baz=347						
EOS2	**EOS2**	**3.03**	**38**	*e*P	**Pn**	**21 21 53.0**	**+1.1**
	baz=46						
DSXP	**Dongshan**	**3.03**	**304**	*e*P	**Pn**	**21 21 51.1**	**-0.9**
	baz=303						
AXDP	**Jialang**	**3.49**	**325**	*e*P	**Pn**	**21 21 57.7**	**-0.7**
	baz=325						
AXDP				*e*S	**Sn**	**21 22 36.5**	**-2.0**
	baz=325						
HATJ	**Hateruma jima**	**3.90**	**58**	*e*P	**Pn**	**21 22 02.6**	**-1.3**
IRIF	**Iriomote-Funau**	**3.99**	**54**	P	**Pn**	**21 22 05.2**	**0.0**
MATB	**Ma-tsu**	**4.10**	**357**	*e*P	**Pn**	**21 22 06.0**	**-0.7**
	baz=357						
MATB				*e*S	**Sn**	**21 22 50.3**	**-3.1**
	baz=357						
JKRS	**Kuro-shima**	**4.15**	**57**	P	**Pn**	**21 22 07.8**	**+0.4**
JKRS				*e*S	**Sn**	**21 22 54.4**	**-0.3**
MHZQ	**Yeshan**	**4.17**	**346**	*e*P	**Pn**	**21 22 07.1**	**-0.7**
	baz=346						
JIJ	**Ishigaki jima**	**4.32**	**57**	P	**Pn**	**21 22 10.0**	**+0.3**
JIJ				*e*S	**Sn**	**21 22 56.9**	**-2.0**
LYJJ	**Jianjiangzhen**	**4.50**	**355**	*e*P	**Pn**	**21 22 11.2**	**-1.0**
	baz=356						
LYJJ				S	**Sn**	**21 23 00.9**	**-2.5**
	baz=356						
JISG	**Ishigakijimahi**	**4.57**	**56**	P	**Pn**	**21 22 12.9**	**-0.2**
JISG				*e*S	**Sn**	**21 23 04.1**	**-0.8**
XPSS	**Dashiqiu**	**4.87**	**0**	*e*P	**Pn**	**21 22 16.1**	**-1.1**
	baz=1.0						
CMAR	**Chiang Mai Arr**	**20.23**	**264**	LR	LR	21 34 45.0	
	comp=Z,31nm,18.7s,baz=225,slow=40						
JCJ	**Chichijima**	**20.63**	**71**	LR	LR	21 33 28.4	
	comp=Z,68nm,18.2s,baz=50,slow=37						
SONM	**Songino Array**	**28.02**	**340**	P	**P**	**21 26 54.2**	**+0.7**
	0.2nm,0.3s,baz=142,slow=7.3,SNR=1.7						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**39.27**	**318**	P	P	21 28 34.0	+3.0
	0.5nm,0.6s,baz=114,slow=9.6,SNR=4.7						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**41.56**	**329**	P	**P**	**21 28 51.6**	**+1.8**
	0.5nm,0.7s,baz=119,slow=12,SNR=2.0						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**43.18**	**322**	P	P	21 29 05.4	+2.4
	1.2nm,0.2s,baz=136,slow=6.6,SNR=2.0						
	1.2nm,0.2s						
WRA	**Warramunga Arr**	**43.96**	**161**	P	**P**	**21 29 10.5**	**+0.9**
	0.8nm,0.7s,baz=344,slow=8.5,SNR=4.2						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**47.35**	**163**	P	P	21 29 38.4	+2.0
	0.5nm,0.6s,baz=354,slow=6.8,SNR=3.0						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**48.76**	**322**	P	P	21 29 49.7	+2.7
	0.3nm,0.5s,baz=85,slow=6.1,SNR=1.7						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**85.30**	**22**	P	P	21 33 40.6	+2.0
	0.2nm,0.7s,baz=313,slow=5.2,SNR=1.9						
	0.2nm,0.7s						

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*IDC **05** 21:27:14.2±0.8, 49°.82S×112°.02E, h0km, mb4.3/6, mbtmp4.3/6, MS3.7/13, Error ellipse: s-maj=40.9km s-min=18.5km az=113.0*

*NEIC **05** 21:27:14.2±1.0, 49°.9S±0°.1×111°.4E±0°.2, h10km±1km, mb4.5/13, Error ellipse: s-maj=28.0km s-min=17.3km az=111.0*

ISC 05 21:27:14.7±0.7, **49°.79S**±0°.10×**111°.8E**±0°.2, **h10**km, **n40,**

σ1ˢ50/24, mb4.4/10, MS3.7/12, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	14.98	8	T	T	21 46 21.9	
	baz=186,slow=74,SNR=54						
H01W1	Cape Leeuwin H	14.99	8	T	T	21 46 19.8	
	baz=186,slow=74,SNR=80						
H01W3	Cape Leeuwin H	15.00	8	T	T	21 46 20.4	
	baz=186,slow=74,SNR=62						
NWAO	Narrogin (SRO)	17.33	16	LR	LR	21 36 22.1	
	comp=Z,197nm,21.3s,baz=186,slow=32						
MORW	Morawa	20.95	11	P	P	21 31 57.4	-0.2
MORW				IAmb	IAmb	21 32 03.1	
	comp=Z,16nm,1.1s						
BBOO	Buckleboo	24.75	56	P	P	21 32 37.9	+1.6
BBOO				IAmb	IAmb	21 32 46.6	
	comp=Z,18nm,1.4s						
STKA	Stephens Creek	28.54	62	LR	LR	21 42 29.8	
	comp=Z,119nm,21.4s,baz=206,slow=32						
PSA00	Pilbara Seismi	28.88	16	P	P	21 33 12.8	-0.7
MBWA	Marble Bar	29.26	15	P	P	21 33 17.6	+0.7
MBWA				IAmb	IAmb	21 33 33.6	
	comp=Z,20nm,1.2s						
MAW	Mawson	29.92	215	P	P	21 33 25.0	+2.7
	comp=Z,10nm,0.3s,baz=85,slow=16,SNR=22						
MAW				LR	LR	21 42 34.3	
	comp=Z,138nm,21.2s,baz=74,slow=31						
	comp=Z,10nm,0.3s						
ASAR	Alice Springs	31.31	42	P	P	21 33 36.0	+1.0
ASAR	Alice Springs	31.31	42	P	P	21 33 36.4	+1.4
	comp=Z,2.4nm,0.6s,baz=208,slow=8.0,SNR=42						
ASAR				LR	LR	21 44 34.5	
	comp=Z,165nm,21.9s,baz=205,slow=33						
	comp=Z,2.4nm,0.6s						
AS31	Alice Springs	31.31	42		P	21 33 35.9	+0.8
VNDA	Vanda	33.52	162	P	P	21 33 53.0	-0.8
VNDA				IAmb	IAmb	21 34 03.0	
	comp=Z,5.9nm,1.4s						
VNDA	Vanda	33.52	162	P	P	21 33 53.0	-0.8
	comp=Z,1.3nm,0.9s,baz=309,slow=6.5,SNR=6.5						
	comp=Z,1.3nm,0.9s						
WRA	Warramunga Arr	34.80	39	P	P	21 34 06.5	+1.1
WRA	Warramunga Arr	34.80	39	P	P	21 34 06.9	+1.5
	comp=Z,7.0nm,0.8s,baz=203,slow=11,SNR=41						
	comp=Z,7.0nm,0.8s						
WR0	Warramunga Arr	34.86	40	P	P	21 34 07.2	+1.1
WR0				IAmb	IAmb	21 34 11.0	
	comp=Z,6.5nm,0.8s						
QSPA	South Pole Qui	40.34	180	P	P	21 34 49.7	-2.5
QSPA				IAmb	IAmb	21 35 02.8	
	comp=Z,5.6nm,0.8s						
BATI	Baumata	40.68	18	LR	LR	21 49 35.5	
	comp=Z,77nm,19.8s,baz=210,slow=33						
UGM	Wanagama	41.75	358	P	P	21 35 01.1	-2.9
KAPI	Kappang	45.13	11	LR	LR	21 52 39.4	
	comp=Z,42nm,21.3s,baz=196,slow=34						
RTZ	Ruatahuna	46.68	102	P	P	21 35 43.6	+0.2
PMG	Port Moresby	49.84	48	LR	LR	21 55 21.0	
	comp=Z,87nm,22.0s,baz=222,slow=34						
SNAA	Sanae	50.43	202	P	P	21 36 10.3	-1.6
SNAA	Sanae	50.43	202	P	P	21 36 14.5	+2.7
	comp=Z,2.0nm,0.8s,baz=188,slow=7.9,SNR=3.1						
SNAA				LR	LR	21 54 46.7	
	comp=Z,75nm,20.8s,baz=154,slow=33						
	comp=Z,2.0nm,0.8s						
H08S2	Diego Garcia H	53.27	308	T	T	22 33 50.6	
	baz=147						
H08S1	Diego Carcia H	53.28	308	T	T	22 33 49.2	
	baz=147						
H08S3	Diego Garcia H	53.29	308	T	T	22 33 49.7	
	baz=147						
HNR	Honiara	56.61	62	LR	LR	21 58 53.3	
	comp=Z,631nm,21.0s,baz=154,slow=34						
PALK	Pallekele	62.93	325	LR	LR	21 58 57.8	
	comp=Z,26nm,19.7s,baz=278,slow=30						
SUR	Sutherland	66.62	247	LR	LR	22 01 30.7	
	comp=Z,74nm,19.4s,baz=161,slow=31						
CMAR	Chiang Mai Arr	68.88	347	P	P	21 38 19.9	+0.4
CMAR	Chiang Mai Arr	68.88	347	P	P	21 38 20.2	+0.8
	comp=Z,1.1nm,0.6s,baz=194,slow=5.9,SNR=8.8						
	comp=Z,1.1nm,0.6s						
LBTB	Lobatse	68.92	256	LR	LR	22 01 47.2	
	comp=Z,62nm,20.8s,baz=154,slow=30						
TSUM	Tsumeb	78.20	254	LR	LR	22 08 32.0	
	comp=Z,73nm,18.0s,baz=156,slow=32						
ILAR	Eielson Array	137.97	39	PKP	PKiKP	21 46 39.6	-0.6
	comp=Z,0.2nm,0.8s,baz=243,slow=4.0,SNR=1.3						
TXAR	Lajitas Array	146.34	114	PKPbc	PKPdf	21 46 54.6	+0.3
	comp=Z,1.6nm,0.7s,baz=190,slow=6.4,SNR=7.2						
PDAR	Pinedale Array	150.89	88	PKPbc	PKiKP	21 47 08.0	+0.2
	comp=Z,0.1nm,0.4s,baz=224,slow=3.4,SNR=3.2						
YKA	Yellowknife Ar	151.90	46	PKPbc	PKPbc	21 47 07.0	-1.4
	comp=Z,0.2nm,0.5s,baz=283,slow=2.3,SNR=3.1						

*IDC **05** 21:29:14.5±0.6, 55°.58S×27°.54W, h0km, mb4.4/9, mbtmp4.4/10, ML4.3/1, MS3.4/7, Error ellipse: s-maj=22.0km s-min=19.9km az=50.0*

*NEIC **05** 21:29:16.3±1.1, 55°.7S±0°.1×27°.6W±0°.2, h10km±1km, mb4.9/37, Error ellipse: s-maj=18.2km s-min=16.2km az=208.0*

ISC 05 21:29:15.9±0.4, 55°.67S±0°.08×27°.63W±0°.08, h10km, n85, σ0ˢ82/73, mb4.8/23, MS3.4/6, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	Hope Point	5.29	282		Pn	21 30 36.0	+1.1
ORCD	Orcadas	10.34	234	Pn	Pn	21 31 41.9	-2.2
VNA1	Neumayer--Stat	17.24	158	⇑P	P	21 33 21.4	+3.5
	comp=Z,15nm,0.9s						
VNA3	Neumayer Olymp	17.43	161	⇑P	P	21 33 21.1	+1.0
	comp=Z,5.8nm,0.5s						
VNA2	Neumayer--Watz	17.64	158	⇑P	P	21 33 23.9	+1.5
	comp=Z,2.0nm,0.3s,baz=317,slow=12						
EFI	East Falkland	18.39	270	P	P	21 33 30.8	+0.1
EFI				IAmb	IAmb	21 33 34.8	
	comp=Z,80nm,1.4s						
SNAA	Sanae	19.19	156	P	Pn	21 33 40.5	+0.2
SNAA	Sanae	19.19	156	⇑P	Pn	21 33 40.6	+0.2
	comp=Z,124nm,0.6s						
SNAA	Sanae	19.19	156	P	Pn	21 33 40.5	+0.2
	comp=Z,0.9nm,0.3s,baz=298,slow=10,SNR=37						
SNAA				LR	LR	21 39 06.7	
	comp=Z,152nm,21.6s,baz=38,slow=31						
	comp=Z,5.6nm,0.6s						
PMSA	Palmer Station	19.97	228	P	Pn	21 33 50.3	+0.8
	comp=Z,19nm,0.6s,baz=1.3,slow=15,SNR=5.0						
	comp=Z,19nm,0.6s						
TROLL	Troll, Antarti	20.70	154	⇑P	Pn	21 33 58.2	0.0
	comp=Z,296nm,0.4s						
BELA	Belgrano 2	22.44	184	P	P	21 34 14.6	+0.1
MG02	Cerro Sombrero	24.23	259		P	21 34 32.2	-0.3
GO08	Villa O'Higgin	28.12	266	P	P	21 35 08.1	+0.4
TRQA	Tornquist	28.95	293	P	P	21 35 16.3	+1.1
TRQA				IAmb	IAmb	21 35 17.5	
	comp=Z,18nm,0.8s						
PLTB	Pedras Altas	30.06	312	P	P	21 35 25.2	+0.1
PLTB				IAmb	IAmb	21 36 15.1	
	comp=Z,57nm,1.9s						
PLCA	Paso Flores	31.69	280	P	P	21 35 39.6	+0.1
PLCA	Paso Flores	31.69	280	P	P	21 35 38.2	-1.3
	comp=Z,3.4nm,1.0s,baz=225,slow=7.1,SNR=3.6						
	comp=Z,3.4nm,1.0s						
QSPA	South Pole Qui	34.58	180	P	P	21 36 03.9	-0.7
QSPA				IAmb	IAmb	21 36 14.1	
	comp=Z,17nm,1.4s						
CPUP	Villa Florida	36.38	311	P	P	21 36 20.0	-0.1
CPUP				IAmb	IAmb	21 36 41.3	
	comp=Z,45nm,1.9s						
CPUP	Villa Florida	36.38	311	P	P	21 36 20.0	-0.1
	comp=Z,3.3nm,0.8s,baz=162,slow=9.6,SNR=6.6						
CPUP				LR	LR	21 49 00.5	
	comp=Z,62nm,21.9s,baz=179,slow=33						
	comp=Z,3.3nm,0.8s						
GO05	Huala	36.54	286	P	P	21 36 20.7	-0.8
GO05				IAmb	IAmb	21 37 18.1	
	comp=Z,47nm,1.8s						
MT09	Talagante	36.96	288	P	P	21 36 25.0	-0.2
MT09				IAmb	IAmb	21 36 25.9	
	comp=Z,12nm,0.8s						
CFA	Coronel Fontan	37.18	293	LR	LR	21 50 04.3	
	comp=Z,72nm,21.8s,baz=176,slow=34						
ZON	Zonda	37.46	293	P	P	21 36 29.2	-0.2
CO03	El Pedregal	39.07	291	P	P	21 36 43.7	+0.7
CO03				IAmb	IAmb	21 36 45.3	
	comp=Z,48nm,1.9s						
GO04	Tololo Observa	39.66	292	P	P	21 36 48.0	-0.1
GO04				IAmb	IAmb	21 36 49.6	
	comp=Z,12nm,0.8s						
AC05	El Transito	40.45	294	P	P	21 36 55.2	+0.6
LCO	Las Campanas	40.53	293	P	P	21 36 55.6	+0.3
LCO				IAmb	IAmb	21 36 56.9	
	comp=Z,17nm,0.7s						
AC04	Llanos de Chal	41.37	293	P	P	21 37 01.9	-0.1
GO03	Copiap	41.43	295	P	P	21 37 02.4	-0.2
GO03				IAmb	IAmb	21 37 04.0	
	comp=Z,26nm,0.7s						
AC06	Mina Casimiro	41.68	295	P	P	21 37 04.3	-0.3
AC06				IAmb	IAmb	21 37 06.1	
	comp=Z,22nm,0.8s						
LVC	Limon Verde	44.90	300	P	P	21 37 31.1	+0.2
LVC				IAmb	IAmb	21 37 34.5	
	comp=Z,15nm,0.6s						
BOSA	Boshof	46.12	77	P	P	21 37 39.9	-0.4
BOSA	Boshof	46.12	77	P	P	21 37 39.4	-0.9
	comp=Z,4.7nm,0.9s,baz=186,slow=8.2,SNR=4.0						
BOSA				LR	LR	21 52 54.1	
	comp=Z,83nm,20.2s,baz=187,slow=31						
	comp=Z,4.7nm,0.9s						
PTLB	Pontes e Lacer	46.85	316	P	P	21 37 45.7	-0.3
PTLB				IAmb	IAmb	21 37 46.9	
	comp=Z,7.3nm,0.9s						
VNDA	Vanda	46.94	183	P	P	21 37 47.1	+1.0
VNDA	Vanda	46.94	183	P	P	21 37 47.3	+1.3
	comp=Z,2.8nm,0.7s,baz=188,slow=6.6,SNR=25						
	comp=Z,2.8nm,0.7s						
PB08	IPOC Station P	47.11	302	P	P	21 37 49.2	+0.8
PB08				IAmb	IAmb	21 37 51.2	
	comp=Z,10nm,0.7s						
SIV	San Ignacio	47.13	314	LR	LR	21 56 01.8	
	comp=Z,56nm,21.9s,baz=129,slow=34						
GO01	Chusmiza	47.53	302	P	P	21 37 52.9	+1.0
H10S2	ASCENSION HYDR	47.71	17	T	T	22 29 25.3	
	baz=189,slow=74,SNR=57						
H10S3	ASCENSION HYDR	47.71	17	T	T	22 29 53.2	
	baz=31,slow=74,SNR=87						
H04S2	CROZET ISLANDS	47.93	115	T	T	22 30 09.3	
	baz=230,slow=75,SNR=9.5						
H04S3	CROZET ISLANDS	47.94	115	T	T	22 30 08.0	
	baz=230,slow=75,SNR=8.4						
H04S1	CROZET ISLANDS	47.95	115	T	T	22 30 05.4	
	baz=230,slow=75,SNR=11						
H10N1	ASCENSION HYDR	48.83	17	T	T	22 31 14.1	
	baz=189,slow=75,SNR=34						
H10N3	ASCENSION HYDR	48.83	17	T	T	22 30 51.7	
	baz=189,slow=75,SNR=72						
H10N2	ASCENSION HYDR	48.84	17	T	T	22 31 02.7	
	baz=189,slow=75,SNR=48						
LBTB	Lobatse	49.14	74	P	P	21 38 03.0	-0.8
LBTB				IAmb	IAmb	21 39 52.6	
	comp=Z,27nm,1.6s						
LPAZ	La Paz	49.95	305	P	P	21 38 11.8	+1.1
LPAZ				IAmb	IAmb	21 38 12.9	
	comp=Z,14nm,0.7s						
LPAZ	La Paz	49.95	305	P	P	21 38 11.7	+1.1
	comp=Z,13nm,0.6s,baz=137,slow=5.4,SNR=49						
LPAZ				LR	LR	21 59 56.5	
	comp=Z,30nm,20.3s,baz=160,slow=37						
	comp=Z,13nm,0.6s						
RCBR	Riachuelo	50.14	349	LR	LR	21 57 40.9	
	comp=Z,24nm,19.0s,baz=59,slow=34						
SAML	Samuel	54.36	315	P	P	21 38 42.5	-0.2
SAML				IAmb	IAmb	21 38 43.8	
	comp=Z,8.4nm,0.8s						
ETMB	Extrema	54.83	311	P	P	21 38 45.6	-0.5
ETMB				IAmb	IAmb	21 38 47.4	
	comp=Z,11nm,0.9s						
BOAV	Boa Vista	63.83	323	P	P	21 39 48.0	-0.3
MCRA	Macar, Loja	65.94	300	P	P	21 40 01.9	-0.3
COHC	Cochancay	67.26	302	P	P	21 40 11.3	+0.8
BAUV	El Baul	72.61	318	P	P	21 40 43.5	+0.2
TOA0	Torodi Ar. Sit	72.85	30	P	P	21 40 45.0	+0.3
TORD	Torodi Ar. Bea	72.85	30	P	P	21 40 44.8	0.0
TORD	Torodi Ar. Bea	72.85	30	P	P	21 40 45.1	+0.4
	comp=Z,2.1nm,0.7s,baz=197,slow=5.2,SNR=12						
	comp=Z,2.1nm,0.7s						
SDV	Santo Domingo	73.56	315	P	P	21 40 48.8	-0.5
MDT	Midelt	90.31	19	P	P	21 42 17.2	+0.6
	comp=Z,1.0nm,0.9s,baz=135,slow=2.9,SNR=1.9						
	comp=Z,1.0nm,0.9s						
ASAR	Alice Springs	99.43	163	P	Pdif	21 42 58.0	-0.8
ASAR	Alice Springs	99.43	163	P	Pdif	21 42 58.5	-0.2
	comp=Z,0.6nm,0.7s,baz=187,slow=3.6,SNR=8.2						
	comp=Z,0.6nm,0.7s						
PDAR	Pinedale Array	119.93	303	PKP	PKPdf	21 48 04.9	-1.1
	comp=Z,0.1nm,0.4s,baz=133,slow=4.0,SNR=1.1						
NVAR	Mina Array Bea	121.02	294	PKP	PKPdf	21 48 07.7	-0.5
	comp=Z,0.1nm,0.3s,baz=124,slow=4.8,SNR=1.9						
FINES	FINESS Array B	124.16	28	PKPdf	PKPdf	21 48 12.8	-0.4
FINES	FINESS Array B	124.16	28	PKP	PKPdf	21 48 12.3	-0.8
	comp=Z,2.2nm,0.6s,baz=168,slow=1.5,SNR=16						
ABKAR	Akbulak array	127.36	55	PKPdf	PKPdf	21 48 19.3	-0.4
ARCES	ARCESS Array B	130.68	22	PKP	PKPdf	21 48 24.9	-0.5
	comp=Z,1.1nm,0.5s,baz=186,slow=1.2,SNR=12						
ARU	Arti	131.63	48	PKP	PKPdf	21 48 27.1	-0.4
	comp=Z,0.7nm,0.4s,baz=256,slow=12,SNR=3.3						
PZH	PanZhiHua	133.46	107	PKP	PKiKP	21 48 34.0	+0.6
BVAR	Borovoye Array	134.78	57	PKP	PKiKP	21 48 34.7	-0.3
	comp=Z,0.8nm,0.6s,baz=233,slow=14,SNR=2.9						
YKA	Yellowknife Ar	135.72	318	PKP	PKPdf	21 48 34.4	-0.7
	comp=Z,0.5nm,0.7s,baz=131,slow=1.9,SNR=5.8						
SPITS	Spitsbergen Ar	136.24	12	PKP	PKiKP	21 48 37.8	+0.5
	comp=Z,14nm,1.0s,baz=240,slow=11,SNR=2.1						
MKAR	Makanchi Array	137.00	71	PKPdf	PKPdf	21 48 38.0	0.0
MKAR	Makanchi Array	137.00	71	PKP	PKPdf	21 48 36.8	-1.3
	comp=Z,0.3nm,0.7s,baz=262,slow=8.2,SNR=2.7						
KURBB	Kurchatov Arra	137.36	65	PKP	PKPdf	21 48 37.3	-1.2
	comp=Z,0.3nm,0.7s,baz=241,slow=3.3,SNR=5.1						
ZALV	Zalesovo Beam	142.42	64	PKP	PKPdf	21 48 48.5	+1.0
	comp=Z,1.1nm,0.5s,baz=231,slow=4.5,SNR=8.1						
G29M	Pine Creek	146.63	318		PKPbc	21 48 56.0	-0.1
SCRK	Sand Creek	148.26	311		PKPbc	21 49 00.8	-0.1
ILAR	Eielson Array	149.68	312	PKPbc	PKPbc	21 49 04.0	-0.3
	comp=Z,7.6nm,0.8s,baz=133,slow=2.7,SNR=81						
SONM	Songino Array	150.95	86	PKPbc	PKPbc	21 49 07.5	-0.5
	comp=Z,2.6nm,0.7s,baz=226,slow=3.2,SNR=21						

*IDC **05** 21:42:33.6±0.8, 1°.06N×125°.66E, h0km, mb3.8/8, mbtmp3.9/9, ML4.9/1, Error ellipse: s-maj=67.0km s-min=15.8km az=70.0*

*DJA **05** 21:42:39.9±0.3, 2°N±4°×12°7E±°, h47km±8km, M3.9/7, mb4.1/2, mB5.4/1, MLv3.8/7, Mw(mB)4.8/1*

*NEIC **05** 21:42:41.9±1.1, 1°.6N±0°.1×127°.0E±0°.1, h71km±6km, mb4.1/13, Error ellipse: s-maj=18.8km s-min=10.1km az=225.0*

ISC 05 21:42:39.8±0.6, 1°.73N±0°.08×127°.1E±0°.1, h50km, n33, σ1ˢ32/34, mb4.0/15, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	0.99	165	Pn	Pn	21 42 59.2	+1.8
TNTI				Sn	Sn	21 43 13.3	+3.0
TNTI	Ternate	0.99	165	P	Pn	21 42 58.1	+0.7
LBMI	Labuha	2.38	171	P	Pn	21 43 18.2	+1.7
SANI	Sanana	3.92	197	P	Pn	21 43 39.5	+1.9
NLAI	Namlea	4.94	180	P	Pn	21 43 52.2	+0.7
	7.7nm,1.0s,4µm0.1nm						
TOLI2	Tolitoli	6.36	265	Pn	Pn	21 44 10.7	-0.4
FAKI	Fak Fak	6.91	132	Pn	Pn	21 44 20.4	+1.9
MYLDM	Lahad Datu	9.25	292	Pn	Pn	21 44 51.9	+1.2
BATI	Baumata	12.35	196	Pn	Pn	21 45 16.6	-17
	7.2nm,0.3s,baz=327,slow=9.0,SNR=5.5						
	18nm,0.4s						
WB0	Warramunga Arr	22.53	162	P	P	21 47 34.6	-1.0
WB0				IAmb	IAmb	21 47 39.2	
	comp=Z,7.7nm,1.3s						
WRA	Warramunga Arr	22.68	162	P	P	21 47 34.9	-2.3
WRA	Warramunga Arr	22.68	162	P	P	21 47 36.2	-1.0
	comp=Z,2.6nm,0.6s,baz=338,slow=11,SNR=31						
WRA				PcP	PcP	21 51 27.5	-1.0
	comp=Z,0.2nm,0.5s,baz=332,slow=2.1,SNR=2.1						
	comp=Z,2.6nm,0.6s						
WR0	Warramunga Arr	22.75	162	P	P	21 47 36.9	-1.1
WR0				IAmb	IAmb	21 47 56.4	
	comp=Z,2.7nm,0.9s						
AS31	Alice Springs	26.09	166	P	P	21 48 08.7	-0.4
ASAR	Alice Springs	26.09	166	P	P	21 48 08.3	-0.8
	comp=Z,0.3nm,0.3s,baz=350,slow=14,SNR=15						
ASAR				PcP	PcP	21 51 35.1	-0.8
	comp=Z,0.2nm,0.6s,baz=351,slow=2.3,SNR=1.7						
	comp=Z,0.3nm,0.3s						
NJ2	Nanjing	31.15	346	eP	P	21 48 56.2	+2.2
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BBOO	Buckleboo	35.38	167	P	P	21 49 29.6	-1.3
STKA	Stephens Creek	36.14	159	P	P	21 49 36.4	-0.9
STKA	Stephens Creek	36.14	159	P	P	21 49 35.9	-1.4
	comp=Z,1.0nm,0.4s,baz=320,slow=8.3,SNR=3.6						
	comp=Z,1.0nm,0.4s						
SONM	Songino Array	49.30	342	P	P	21 51 24.6	+0.6
	comp=Z,0.6nm,0.8s,baz=158,slow=6.6,SNR=1.6						
	comp=Z,0.6nm,0.8s						
MK31	Makanchi Array	59.41	326	P	P	21 52 36.3	-1.0
MK31				IAmb	IAmb	21 52 40.9	
	comp=Z,1.4nm,1.0s						
MKAR	Makanchi Array	59.41	326	P	P	21 52 36.6	-0.7
MKAR	Makanchi Array	59.41	326	P	P	21 52 37.0	-0.3
	comp=Z,0.6nm,0.4s,baz=118,slow=8.0,SNR=16						
	comp=Z,0.6nm,0.4s						
MAKZ	Makanchi	59.59	326	P	P	21 52 37.5	-1.1
LBZ	Lake Benmore	59.83	146	P	P	21 52 39.2	-1.0
KURBB	Kurchatov Arra	63.62	328	P	P	21 53 05.2	-0.4
	comp=Z,2.4nm,0.8s,baz=125,slow=6.2,SNR=23						
	comp=Z,2.4nm,0.8s						
KURK	Kurchatov	63.62	328	P	P	21 53 05.4	-0.2
KURK				IAmb	IAmb	21 53 06.9	
	comp=Z,4.0nm,0.8s						
VNDA	Vanda	81.41	173	P	P	21 54 49.6	-1.3
VNDA				IAmb	IAmb	21 55 12.8	
	comp=Z,2.0nm,1.4s						
VNDA	Vanda	81.41	173	P	P	21 54 49.6	-1.3
	comp=Z,0.2nm,0.5s,baz=289,slow=5.9,SNR=1.5						
	comp=Z,0.2nm,0.5s						
H19K	Roundabout Mou	82.82	24	P	P	21 54 58.6	+0.1
H19K				IAmb	IAmb	21 55 00.7	
	comp=Z,6.1nm,1.1s						
D19K	Kuna River	82.84	21	P	P	21 54 58.6	0.0
D19K				IAmb	IAmb	21 55 11.1	
	comp=Z,7.8nm,1.4s						
ILAR	Eielson Array	86.73	25	P	P	21 55 26.1	+7.8
	comp=Z,0.5nm,1.0s,baz=238,slow=6.2,SNR=2.7						
	comp=Z,0.5nm,1.0s						
BMAR	Burnt Mountain	87.76	23	P	P	21 55 23.1	-0.2

*IDC **05** 22:11:31.9±1.3, 4°.00N×126°.02E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=194.5km s-min=16.6km az=67.0*

*NEIC **05** 22:11:32.4±1.0, 4°.35N±0°.09×127°.0E±0°.1, h10km±1km, mb4.3/9, Error ellipse: s-maj=20.2km s-min=12.3km az=52.0*

ISC 05 22:11:36.1±0.7, 4°.17N±0°.07×126°.9E±0°.1, h35km, n25, σ1ˢ54/26, mb4.0/12, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.17	335	Sn	Sn	22 13 04.5	+4.4
	30nm,0.3s,baz=102,slow=20,SNR=1.3						
TNTI	Ternate	3.41	172	Pn	Pn	22 12 27.3	+0.6
TNTI				Sn	Sn	22 13 05.7	-0.2
LUWI	Luwuk	6.62	219	Pn	Pn	22 13 13.1	+2.1
TOLI2	Tolitoli	6.83	244	Pn	Pn	22 13 14.2	+0.4
MYLDM	Lahad Datu	8.44	277	Pn	Pn	22 13 35.4	-0.6
FAKI	Fak Fak	8.84	143	Pn	Pn	22 13 41.0	-0.4
WB0	Warramunga Arr	24.90	163	P	P	22 16 56.1	+0.2
WB0				IAmb	IAmb	22 17 06.6	
	comp=Z,15nm,1.4s						
WRA	Warramunga Arr	25.05	163		P	22 16 57.5	+0.2
WRA	Warramunga Arr	25.05	163	P	P	22 16 58.8	+1.5
	comp=Z,2.2nm,0.9s,baz=340,slow=10,SNR=9.9						
	comp=Z,2.2nm,0.9s						
ASAR	Alice Springs	28.50	166	P	P	22 17 29.8	+1.4
	comp=Z,0.4nm,0.6s,baz=337,slow=7.3,SNR=7.5						
	comp=Z,0.4nm,0.6s						
BBOO	Buckleboo	37.79	167	P	P	22 18 49.4	+0.3
BBOO				IAmb	IAmb	22 18 50.5	
	comp=Z,6.2nm,1.4s						
STKA	Stephens Creek	38.48	160	P	P	22 18 56.5	+1.6
STKA	Stephens Creek	38.48	160	P	P	22 18 57.5	+2.6
	comp=Z,1.3nm,0.6s,baz=298,slow=4.6,SNR=4.4						
	comp=Z,1.3nm,0.6s						
SHL	Shillong	39.76	306	P	P	22 19 04.6	-1.4
SONM	Songino Array	46.94	341	P	P	22 20 03.8	+0.2
	comp=Z,0.4nm,0.5s,baz=160,slow=7.6,SNR=5.0						
	comp=Z,0.4nm,0.5s						
MK31	Makanchi Array	57.30	325	P	P	22 21 18.6	-1.9
MK31				IAmb	IAmb	22 21 21.6	
	comp=Z,0.8nm,0.8s						
MKAR	Makanchi Array	57.30	325	P	P	22 21 19.4	-1.1
MKAR	Makanchi Array	57.30	325	P	P	22 21 19.0	-1.5
	comp=Z,0.8nm,0.5s,baz=119,slow=7.8,SNR=13						
	comp=Z,0.8nm,0.5s						
ZALV	Zalesovo Beam	60.28	333	P	P	22 21 39.5	-1.5
	comp=Z,0.4nm,0.4s,baz=102,slow=6.1,SNR=2.3						
	comp=Z,0.4nm,0.4s						
KURBB	Kurchatov Arra	61.47	327	P	P	22 21 48.3	-0.8
	comp=Z,2.2nm,0.8s,baz=124,slow=6.3,SNR=21						
	comp=Z,2.2nm,0.8s						
KURK	Kurchatov	61.47	327	P	P	22 21 47.5	-1.6
KURK				IAmb	IAmb	22 21 50.6	
	comp=Z,3.6nm,0.8s						
ABKAR	Akbulak array	71.92	321	P	P	22 22 54.7	-1.2
IMAR	Indian Mountai	81.87	24	P	P	22 23 51.3	-0.3
H24K	Noodor Dome	84.26	24	P	P	22 24 03.4	-0.6
I28M	Miner Creek	87.55	25	P	P	22 24 20.1	-0.3
I28M				IAmb	IAmb	22 24 32.4	
	comp=Z,5.1nm,1.5s						

*NEIC **05** 22:14:14.1±2.2, 51°.393N±0°.010×130°.87W±0°.06, h10km±2km, mb4.0/18, ML4.0/22, Mwr4.4(OTT), Error ellipse: s-maj=6.7km s-min=3.1km az=276.0*

*PGC **05** 22:14:14.6±2.5, 51°.37N×130°.76W, h10km, mb4.0, MLSn4.0/28, Mw4.4, 201km Wsw of Bella Bella, Bc Haida Gwaii Region*

*NEIC **05** 22:14:14.6, 51°.37N×130°.76W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.09; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$-0.37; $M_{r\theta}$-2.64; $M_{\theta\phi}$3.21; $M_{\phi r}$-0.04; Fault plane solution: $M_0$4.40000×10^{15} NP1:ϕ_s279.00000°, δ76.00000°, λ44.00000°. NP2:ϕ_s176.00000°, δ47.00000°, λ161.00000°. Principal axes: T 4.1446, Plg41.0000°, Azm147.0000°; N 0.4059, Plg44.0000°, Azm293.0000°; P -4.5506, Plg18.0000°, Azm41.0000°;*

*IDC **05** 22:14:18.3±0.9, 51°.47N×130°.19W, h0km, mb3.7/6, mbtmp3.7/13, ML3.8/6, MS3.4/23 Error ellipse: s-maj=11.3km s-min=10.9km az=93.0*

ISC 05 22:14:14.7±0.7, 51°.43N±0°.05×130°.84W±0°.04, h10km, n195, σ1ˢ42/186, mb3.9/10, MS3.4/15, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HG4B	Hotspring	0.89	346		Pb	22 14 31.6	-0.6
HG4B					Sg	22 14 43.0	-0.4
HG4B				IAML		22 14 48.0	
	comp=E,6µm,0.3s						
HG4B	Hotspring	0.89	346	P	Pb	22 14 31.6	-0.6
HG4B				S	Sb	22 14 43.9	-0.3
BNB	Barry Inlet	1.28	334	Pn	Pn	22 14 37.3	-1.3
BNB				Sn	Sb	22 14 54.0	-1.4
BNB	Barry Inlet	1.28	334	Pn	Pn	22 14 37.3	-1.3
BNB				Sn	Sb	22 14 54.0	-1.4
BAIB	Barry Inlet	1.28	334	Pn	Pn	22 14 37.3	-1.4
BAIB				Sn	Sb	22 14 53.6	-1.7
HG1B	Mitchell Dam	1.70	333	Pn	Pn	22 14 43.5	-0.9
HG1B	Mitchell Dam	1.70	333	Pn	Pn	22 14 43.5	-0.9
BBB	Bella Bella	1.85	65		Pn	22 14 44.4	-2.1
BBB				Sn	Sn	22 15 10.0	+0.1
BBB				IAML		22 15 18.8	
	comp=E,2µm,0.6s						
BBB	Bella Bella	1.85	65	Pg	Pn	22 14 44.5	-1.9
	comp=E,32nm,0.3s,baz=250,slow=8.3,SNR=186						
BBB				Lg	Lg	22 15 04.8	
	comp=E,180nm,0.3s,baz=246,slow=16,SNR=6.1						
BBB				LR	LR	22 15 32.9	
	comp=E,329nm,19.0s,baz=158,slow=51						
BBB	Bella Bella	1.85	65	Pn	Pn	22 14 44.3	-2.1
BBB				Sn	Sn	22 15 06.5	-3.3
BBB				Sg	Sb	22 15 10.9	-0.9
HOLB	Holberg	1.88	114	Pn	Pn	22 14 44.4	-2.5
HOLB				IAML		22 15 32.3	
	comp=E,2µm,0.6s						

HOLB Holberg 1.88 114 Pn **Pn** 22 14 44.5 -2.5
HOLB Holberg 1.88 114 Pn **Pn** 22 14 44.5 -2.5
BNKB Banks Island 1.99 16 Pn **Pn** 22 14 46.9 -1.5
BNKB Sg **Sb** 22 15 16.6 +0.9
BNKB Banks Island 1.99 16 Pn **Pn** 22 14 46.9 -1.5
BNKB Sg **Sb** 22 15 16.6 +0.9
DIB Dawson Inlet, 2.04 331 Pn **Pn** 22 14 47.8 -1.2
DIB Dawson Inlet, 2.04 331 Pn **Pn** 22 14 47.8 -1.2
H02S1 DAWSON INLET T 2.04 331 Pn **Pn** 22 14 48.1 -1.0
H02S1 Sn **Sn** 22 15 10.1 -4.4
BNAB Bonilla 2.07 3 Pn **Pn** 22 14 48.3 -1.1
BNAB Sg **Sb** 22 15 18.9 +0.9
BNAB Bonilla 2.07 3 Pn **Pn** 22 14 48.3 -1.1
BNAB Sg **Sb** 22 15 18.9 +0.9
GRIB Gribbell Islan 2.17 28 Pn **Pn** 22 14 49.5 -1.4
GRIB Sg **Sg** 22 15 22.5 -2.0
BUTB Butedale 2.19 41 Pn **Pn** 22 14 49.4 -1.8
BUTB Sg **Sb** 22 15 21.8 +0.2
BUTB Butedale 2.19 41 Pn **Pn** 22 14 49.4 -1.8
BUTB Sg **Sb** 22 15 21.8 +0.2
PHC Port Hardy 2.27 107 Pn **Pn** 22 14 48.6 -3.6
GRNB Grenville Isla 2.48 12 Pn **Pn** 22 14 53.8 -1.2
GRNB IAML 22 15 43.9
comp=N,1µm,0.8s
GRNB Grenville Isla 2.48 12 Pn **Pn** 22 14 53.9 -1.2
GRNB Sg **Sb** 22 15 30.6 +0.7
NDB Naden 2.83 334 Pn **Pn** 22 14 59.5 -0.5
NDB Naden 2.83 334 Pn **Pn** 22 14 59.5 -0.5
MBLB Minette Bay Lo 2.93 26 Pn **Pn** 22 15 00.8 -0.5
MBLB Minette Bay Lo 2.93 26 Pn **Pn** 22 15 00.8 -0.5
KITB Kitimat 2.97 26 Pn **Pn** 22 15 00.8 -1.0
KITB Kitimat 2.97 26 Pn **Pn** 22 15 00.8 -1.0
WOSB Woss 2.99 114 Pn **Pn** 22 14 59.7 -2.5
WOSB Woss 2.99 114 Pn **Pn** 22 14 59.7 -2.5
NCRB Newcastle Ridg 3.20 107 Pn **Pn** 22 15 03.2 -1.8
NCRB Newcastle Ridg 3.20 107 Pn **Pn** 22 15 03.2 -1.8
SPLB Strathcona Par 3.64 113 Pn **Pn** 22 15 09.2 -1.9
SPLB Strathcona Par 3.64 113 Pn **Pn** 22 15 09.2 -1.9
CBB Campbell River 3.75 110 Pn **Pn** 22 15 11.3 -1.2
CBB IAML 22 16 17.5
comp=E,198nm,0.7s
CBB IAML 22 16 22.9
comp=N,232nm,0.9s
CBB Campbell River 3.75 110 Pn **Pn** 22 15 11.0 -1.5
TOFB Tofino 3.90 124 Pn **Pn** 22 15 12.4 -2.1
TOFB Tofino 3.90 124 Pn **Pn** 22 15 12.4 -2.1
V35K Ketchikan 3.93 353 Pn **Pn** 22 15 15.1 +0.1
V35K IAML 22 16 21.9
comp=E,195nm,1.0s
CRAG Craig 4.27 342 Pn **Pn** 22 15 19.7 +0.1
CRAG IAML 22 16 37.6
comp=E,191nm,1.0s
UBRB Upper Baezaeko 4.41 68 Pn **Pn** 22 15 21.8 +0.1
UBRB Upper Baezaeko 4.41 68 Pn **Pn** 22 15 21.8 +0.1
TXB Texada 4.43 111 Pn **Pn** 22 15 20.6 -1.4
TXB Texada 4.43 111 Pn **Pn** 22 15 20.6 -1.4
B927 Port Alberni 4.45 118 Pn **Pn** 22 15 21.3 -0.9
B927 Port Alberni 4.45 118 Pn **Pn** 22 15 21.3 -0.9
B928 Bamfield 4.50 123 Pn **Pn** 22 15 20.2 -2.6
B928 Bamfield 4.50 123 Pn **Pn** 22 15 20.2 -2.6
U35K Hyder 4.52 6 **Pn** 22 15 22.4 -0.7
MGMB Mountain Meage 4.76 97 Pn **Pn** 22 15 24.2 -2.2
SHB Sechelt 4.81 110 Pn **Pn** 22 15 25.9 -1.2
SHB Sechelt 4.81 110 Pn **Pn** 22 15 25.9 -1.2
U33K Whale Pass 4.88 345 Pn **Pn** 22 15 28.1 0.0
U33K IAML 22 16 59.9
comp=E,151nm,1.4s
U33K IAML 22 17 04.2
comp=N,96nm,1.1s
NLLB Nanaimo Lost L 4.91 114 Pn **Pn** 22 15 26.4 -2.1
NLLB Nanaimo Lost L 4.91 114 Pn **Pn** 22 15 26.4 -2.1
FSJB Fort St James 4.98 50 Pn **Pn** 22 15 29.0 -0.6
FSJB Fort St James 4.98 50 Pn **Pn** 22 15 29.0 -0.6
B926 Mesachie Lake 5.04 119 Pn **Pn** 22 15 28.4 -1.9
B926 Mesachie Lake 5.04 119 Pn **Pn** 22 15 28.4 -1.9
CLRS Cowichan Lake 5.04 119 Pn **Pn** 22 15 30.3 0.0
CLRS IAML 22 17 05.2
comp=N,84nm,0.9s
CLRS IAML 22 17 14.6
comp=E,72nm,1.3s
CLRS Cowichan Lake 5.04 119 Pn **Pn** 22 15 29.3 -1.0
PTRF Port Renfrew 5.05 122 Pn **Pn** 22 15 29.3 -1.1
GOBB Galiano Island 5.32 115 Pn **Pn** 22 15 33.9 -0.2
GOBB Galiano Island 5.32 115 Pn **Pn** 22 15 33.9 -0.2
SYMB Survey Mountai 5.37 120 Pn **Pn** 22 15 34.3 -0.7
SYMB Survey Mountai 5.37 120 Pn **Pn** 22 15 34.3 -0.7
B010 North Saanich 5.51 117 Pn **Pn** 22 15 35.9 -0.9
B010 North Saanich 5.51 117 Pn **Pn** 22 15 35.9 -0.9
PGC Sidney 5.51 117 Pn **Pn** 22 15 36.3 -0.4
PGC Sidney 5.51 117 Pn **Pn** 22 15 36.0 -0.7
B009 North Saanich 5.51 117 Pn **Pn** 22 15 35.6 -1.1
B009 North Saanich 5.51 117 Pn **Pn** 22 15 35.6 -1.1
OBC Olympics--Boni 5.55 125 Pn **Pn** 22 15 36.4 -0.9
OBC Olympics--Boni 5.55 125 Pn **Pn** 22 15 36.4 -0.9
T35M Bob Quinn 5.57 3 **Pn** 22 15 37.8 +0.2
T35M Bob Quinn 5.57 3 Pn **Pn** 22 15 38.3 +0.7
VGZ Gonzales 5.71 119 Pn **Pn** 22 15 37.8 -1.7
VGZ Gonzales 5.71 119 Pn **Pn** 22 15 37.8 -1.7
MCW Mount Constitu 5.84 115 Pn **Pn** 22 15 39.0 -2.4
MCW Mount Constitu 5.84 115 Pn **Pn** 22 15 39.0 -2.4
NLWA Neilton Lookou 6.08 129 Pn **Pn** 22 15 42.5 -2.1
SIT Sitka 6.22 337 Pn **Pn** 22 15 46.6 +0.2
MBW Mount Baker 6.33 111 Pn **Pn** 22 15 47.3 -0.8
MBW Mount Baker 6.33 111 Pn **Pn** 22 15 47.3 -0.8
CMW Cultus Mountai 6.38 115 Pn **Pn** 22 15 47.4 -1.4
CMW Cultus Mountai 6.38 115 Pn **Pn** 22 15 47.4 -1.4
S34M Telegraph Cree 6.50 359 Pn **Pn** 22 15 50.6 +0.4
S34M Telegraph Cree 6.50 359 Pn **Pn** 22 15 51.6 +1.4
RADR Rader Ridge 6.83 135 Pn **Pn** 22 15 52.1 -2.7
DLBC Dease Lake 7.04 3 Pn **Pn** 22 15 57.3 -0.4
DLBC Dease Lake 7.04 3 Pn Pn 22 16 02.4 +4.6
comp=E,2.9nm,0.3s,baz=185,slow=12,SNR=14
DLBC Lg Lg 22 17 57.0
comp=E,1.7nm,0.3s,baz=126,slow=19,SNR=5.6
comp=E,8.9nm,0.3s
DLBC Dease Lake 7.04 3 Pn **Pn** 22 15 58.9 +1.2
F03A Seaside 7.31 136 Pn **Pn** 22 15 59.9 -1.6
FMW Mount Fremont 7.50 123 Pn **Pn** 22 16 04.2 -0.1
FMW Mount Fremont 7.50 123 Pn **Pn** 22 16 04.2 -0.1
LON Longmire 7.55 125 **Pn** 22 16 04.5 -0.3
LON Longmire 7.55 125 Pn **Pn** 22 16 04.6 -0.2
Q32M Nakina River 7.59 354 Pn **Pn** 22 16 06.5 +1.1
Q32M Nakina River 7.59 354 Pn **Pn** 22 16 05.0 -0.5
Q32M Nakina River 7.59 354 Pn **Pn** 22 16 06.5 +1.1
NBC5 NorthernBC 5 7.73 35 Pn **Pn** 22 16 07.8 +0.5
NBC5 NorthernBC 5 7.73 35 Pn **Pn** 22 16 07.8 +0.5
MNB Mounoet Dainar 7.76 79 Pn **Pn** 22 16 07.7 -0.1
MNB Mounoet Dainar 7.76 79 Pn **Pn** 22 16 07.7 -0.1
LTY Liberty 7.84 118 **Pn** 22 16 08.2 -0.6
BDMTA Bald Mountain 7.93 60 Pn **Pn** 22 16 10.0 0.0
BDMTA Bald Mountain 7.93 60 Pn **Pn** 22 16 10.0 0.0
R33M Jennings River 7.98 360 Pn **Pn** 22 16 11.9 +1.2
R33M Jennings River 7.98 360 Pn **Pn** 22 16 11.5 +0.7
R33M Jennings River 7.98 360 Pn **Pn** 22 16 11.9 +1.2
BRLDA Berland Lookou 8.57 67 Pn **Pn** 22 16 17.6 -1.2
HOOD Mount Hood Mea 8.64 131 **Pn** 22 16 20.0 +0.2
H04D Lebanon 8.79 139 Pn **Pn** 22 16 22.1 +0.4
P33M Teslin, Yukon 8.87 354 Pn **Pn** 22 16 21.9 -0.9
P33M Teslin, Yukon 8.87 354 Pn **Pn** 22 16 24.1 +1.2
P33M Teslin, Yukon 8.87 354 Pn **Pn** 22 16 24.1 +1.2
H04A Detroit Lake 8.89 136 Pn **Pn** 22 16 23.3 +0.1
BUCK Buck Mountain 8.96 141 Pn **Pn** 22 16 23.8 -0.3
NEW Newport 9.41 104 LR LR 22 19 59.9
comp=E,238nm,18.6s,baz=288,slow=38
WHY Whitehorse 9.52 348 Pn **Pn** 22 16 31.3 -0.5
WHY Whitehorse 9.52 348 Pn **Pn** 22 16 33.4 +1.6
DBO Dodson Butte 9.78 145 Pn **Pn** 22 16 33.3 -2.1
N32M Quiet Lake 9.82 354 Pn **Pn** 22 16 37.1 +1.3
N32M Quiet Lake 9.82 354 Pn **Pn** 22 16 37.1 +1.3
J05D Fort Rock, OR 10.43 138 Pn **Pn** 22 16 44.3 0.0
BMO Blue Mountains 11.17 121 Pn **Pn** 22 16 54.0 -0.5
YBH Yreka Blue Hor 11.19 147 Pn **Pn** 22 16 57.9 +3.1
comp=E,0.2nm,0.3s,baz=315,slow=6.8,SNR=7.1
comp=E,2.5nm,0.7s
M30M Minto, Yukon 11.63 346 Pn **Pn** 22 17 00.8 +0.3
PLID Pearl Lake 11.74 117 **Pn** 22 17 02.5 +0.1
M29M Somme Creek 11.79 342 **Pn** 22 17 03.2 +0.4
CHMT Chamberlain Mo 12.36 105 **Pn** 22 17 09.6 -1.2
OVMT Ovando 12.44 104 **Pn** 22 17 11.4 -0.5
HLID Hailey 13.59 119 **Pn** 22 17 27.6 0.0
BOZ Bozeman (W) 13.99 107 Pn **Pn** 22 17 32.7 -0.2

KDAK Kodiak Island 14.08 305 LR LR 22 21 45.4
comp=E,318nm,21.3s,baz=134,slow=31
I30M Mount Dempster 14.12 350 **Pn** 22 17 36.4 +1.7
YKA Yellowknife Ar 14.13 32 Pn **Pn** 22 17 33.8 -0.8
YKA Yellowknife Ar 14.13 32 Pn **Pn** 22 17 33.3 -1.3
comp=E,0.2nm,0.3s,baz=227,slow=12,SNR=11
YKA Lg Lg 22 21 30.8
baz=230,slow=23,SNR=2.2
YKA LR LR 22 22 60.0
comp=E,113nm,19.2s,baz=275,slow=38
comp=E,0.8nm,0.7s
YHL Hebgen Lake 14.66 109 **Pn** 22 17 40.8 -1.5
YMR Madison River 14.89 109 **Pn** 22 17 44.1 -1.2
YHH Holmes Hill 14.89 109 **Pn** 22 17 45.0 -0.4
ELK Elko 15.18 129 LR LR 22 24 06.4
comp=E,154nm,19.0s,baz=328,slow=40
H17A Grant Village 15.27 110 Pn **Pn** 22 17 48.2 -2.2
H17A IAmb IAmb 22 18 07.6
comp=Z,11nm,1.1s
IMW Indian Meadow 15.35 112 **Pn** 22 17 50.1 -1.4
RLMT Red Lodge 15.66 105 **Pn** 22 17 55.7 +0.2
RLMT IAmb IAmb 22 18 10.5
comp=Z,11nm,1.1s
NVAR Mina Array Bea 15.71 141 Pn **P** 22 17 59.4 -0.8
comp=Z,0.2nm,0.3s,baz=324,slow=11,SNR=7.6
NVAR Lg Lg 22 22 28.2
comp=Z,0.1nm,0.3s,baz=172,slow=28,SNR=1.9
NVAR LR LR 22 24 38.6
comp=Z,193nm,19.4s,baz=279,slow=40
comp=Z,1.0nm,0.7s
ILAR Eielson Array 15.76 334 Pn **P** 22 18 04.0 +3.6
comp=Z,0.6nm,0.9s,baz=145,slow=11,SNR=5.6
ILAR LR LR 22 23 35.0
comp=Z,219nm,18.6s,baz=158,slow=35
AHID Auburn Hatcher 15.95 115 **Pn** 22 17 59.1 -0.2
AHID IAmb IAmb 22 18 20.4
comp=Z,11nm,1.1s
R17K Ugashik Creek 16.02 303 **Pn** 22 18 00.9 +1.1
M20K Styx River 16.02 319 P **P** 22 18 01.6 -1.8
G27K Doyon Strip 16.35 345 **Pn** 22 18 04.0 0.0
TPH Toopah 16.45 139 P **P** 22 18 06.1 -2.3
HWUT Hardware Ranch 16.46 119 P **P** 22 18 06.6 -1.9
PD31 Pinedale Array 16.83 113 **Pn** 22 18 09.8 -0.8
PD31 IAmb IAmb 22 18 17.6
comp=Z,9.9nm,0.9s
PDAR Pinedale Array 16.83 113 P **P** 22 18 10.8 -1.9
PDAR Pinedale Array 16.83 113 Pn **P** 22 18 12.8 +0.1
comp=Z,0.3nm,0.3s,baz=305,slow=7.0,SNR=26
PDAR LR LR 22 24 46.8
comp=Z,130nm,19.8s,baz=334,slow=38
comp=Z,7.2nm,0.8s
L19K White Mountain 16.88 319 Pn **Pn** 22 18 09.9 -0.8
L19K IAmb IAmb 22 18 23.1
comp=Z,12nm,1.1s
INK Inuvik 16.98 357 Pn **P** 22 18 17.6 +3.7
baz=178,slow=12,SNR=2.0
INK LR LR 22 25 17.0
comp=Z,191nm,18.3s,baz=164,slow=39
comp=Z,0.6nm,0.6s
IMAR Indian Mountai 18.65 330 **Pn** 22 18 32.4 -0.1
N23A Red Feather La 20.11 112 P **P** 22 18 48.1 -0.7
N23A IAmb IAmb 22 18 50.7
comp=Z,6.5nm,0.8s
PHWY Pilot Hill 20.14 110 P **P** 22 18 48.8 -0.2
PHWY IAmb IAmb 22 18 50.7
comp=Z,9.7nm,1.0s
PFO Pinyon Flats O 20.66 144 P Pn 22 18 58.2 +1.4
comp=Z,5.3nm,0.8s,baz=318,slow=5.3,SNR=5.5
comp=Z,5.3nm,0.8s
ISCO Idaho Springs 21.02 114 **P** 22 18 57.4 -1.2
MVCO Mesa Verde 21.27 123 P **P** 22 19 01.6 +0.2
MVCO IAmb IAmb 22 19 17.9
comp=Z,5.5nm,1.0s
B22K Teshekpuk Lake 21.65 339 P **P** 22 19 04.7 -0.2
B22K IAmb IAmb 22 19 23.2
comp=Z,8.8nm,0.9s
S22A 4UR Ranch, Cre 21.77 120 P **P** 22 19 07.3 +0.6
S22A IAmb IAmb 22 19 09.5
comp=Z,4.1nm,0.8s
ULM Lac du Bonnet 21.99 79 P **P** 22 19 09.9 +1.3
comp=Z,2.8nm,0.8s,baz=300,slow=14,SNR=2.3
ULM LR LR 22 26 43.9
comp=Z,112nm,18.8s,baz=32,slow=34
comp=Z,2.8nm,0.8s
ANMO Albuquerque 24.07 124 LR LR 22 29 49.7
comp=Z,44nm,21.2s,baz=102,slow=39
RES Resolute Bay 27.57 20 LR LR 22 30 21.5
comp=Z,74nm,20.5s,baz=26,slow=35
SHEM Shemya Is, Ala 33.17 294 LR LR 22 31 30.9
comp=Z,40nm,19.6s,baz=358,slow=31
FRB Frobisher Bay 34.12 45 LR LR 22 35 10.3
comp=Z,88nm,19.9s,baz=226,slow=37
TKL Tuckaleechee C 36.88 97 LR LR 22 36 36.5
comp=Z,103nm,19.1s,baz=326,slow=37
SCHQ Schefferville 37.36 59 LR LR 22 36 47.1
comp=Z,93nm,18.3s,baz=256,slow=36
PETK Petropavlovsk- 42.09 301 LR LR 22 37 31.2
comp=Z,41nm,19.6s,baz=75,slow=33
MA2 Magadan 42.86 313 LR LR 22 38 44.6
comp=Z,50nm,21.3s,baz=86,slow=34
BORG Borgarnes 52.07 31 LR LR 22 45 35.9
comp=Z,24nm,18.8s,baz=12,slow=36
H11N2 WAKE ISLAND Hy 57.58 261 T T 23 26 45.5
baz=41,slow=76,SNR=928
H11N3 WAKE ISLAND Hy 57.58 261 T T 23 26 48.1
baz=41,slow=76,SNR=819
H11N1 WAKE ISLAND Hy 57.60 261 T T 23 26 46.7
baz=41,slow=76,SNR=529
SJG San Juan 60.30 98 LR LR 22 50 52.4
comp=Z,28nm,21.0s,baz=266,slow=37
NOA NORSAR Array B 63.83 19 LR LR 22 51 39.3
comp=Z,21nm,19.1s,baz=305,slow=35
FINES FINESS Array B 65.97 12 P P 22 25 05.0 +4.5
comp=Z,1.4nm,0.7s,baz=306,slow=8.2,SNR=4.3
comp=Z,1.4nm,0.7s
KIRV Kirov 70.34 360 LR LR 23 00 48.8
comp=Z,20nm,19.2s,baz=58,slow=40
HHC Hu-ho-hao-te 73.26 315 eP **P** 22 25 46.1 +0.1
HHC pmax pmax
comp=Z,21nm,0.5s
HHC pmax pmax
comp=Z,120nm,6.0s
KURBB Kurchatov Arra 75.31 341 P P 22 26 04.4 +6.8
comp=Z,0.3nm,0.5s,baz=20,slow=6.3,SNR=3.1
comp=Z,0.3nm,0.5s
DAVOX Davos/Dischmat 76.50 27 LR LR 22 59 46.9
comp=Z,23nm,20.7s,baz=268,slow=36
AKASG Malin Array Be 76.84 13 LR LR 23 00 17.8
comp=Z,33nm,18.0s,baz=10.0,slow=36
MKAR Makanchi Array 78.09 337 P P 22 26 18.6 +5.1
comp=Z,0.2nm,0.6s,baz=38,slow=7.3,SNR=2.0
comp=Z,0.2nm,0.6s
ESDC Sonseca Array 78.11 39 P P 22 26 17.9 +4.2
comp=Z,0.1nm,0.3s,baz=335,slow=7.9,SNR=1.6
comp=Z,0.1nm,0.3s
WMQ Urumqi 79.42 333 eP **P** 22 26 23.9 +3.0
PZH PanZhiHua 89.70 315 P **P** 22 27 15.0 +1.8
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s

DJA ***05*** *22:19:02.5±0.3, 1˚N±3˚×12˚3E±˚, h10km, M4.8/16, mB5.2/8, mb4.9/16, MLv5.0/12, Mw(mB)4.6/8*
IDC ***05*** *22:19:05.3±2.8, 1.34N×122.84E, h65km±27km, mb3.8/8, mbtmp4.3/11, ML4.8/3, MS3.4/16, Error ellipse: s-maj=32.1km s-min=13.5km az=72.0*
NEIC ***05*** *22:19:05.3±2.5, 1.30N±0.06×122.39E±0.05, h57km±8km, mb4.6/31, Error ellipse: s-maj=9.2km s-min=6.3km az=217.0*
ISC 05 22:19:03.2±0.5,**1˚39N**±0.05×**122˚63E**±0.06,**h38**km,**n98, σ2s18/89, mb4.5**/25,**MS3.2**/13,**1C, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**		**1.14**	**217**	P	**Pn**		**22 19 20.4**	**-2.2**
KMSI	**Cibinong**		**1.57**	**121**	P	**Pn**		**22 19 29.4**	**+0.8**
TOLI2	**Tolitoli**		**1.87**	**262**		**Pn**		**22 19 30.2**	**-2.4**
TOLI2					Sn	**Sn**		**22 19 51.5**	**-3.6**
LUWI	**Luwuk**		**2.42**	**177**		**Pn**		**22 19 40.8**	**+0.6**
LUWI					Sn	**Sn**		**22 20 11.4**	**+2.8**
LUWI	**Luwuk**		**2.42**	**177**	P	**Pn**		**22 19 41.0**	**+0.8**
TNTI	**Ternate**		**4.77**	**97**	Pn	Pn		22 20 16.4	+3.8
SANI	**Sanana**		**4.79**	**135**	P	**Pn**		**22 20 12.9**	**+0.1**

TTSI Tana Toraja 5.22 213 P **Pn** 22 20 19.7 +0.9
406nm,0.8s,4µm1.2nm
LBMI Labuha 5.27 112 P **Pn** 22 20 21.5 +2.1
129nm,0.7s,2µm1.0nm
MYLDM Lahad Datu 5.58 312 **Pn** 22 20 24.1 +0.4
SPSI Sidrap Palu 6.04 208 P **Pn** 22 20 32.0 +2.0
170nm,1.0s,2µm0.6nm
BKB Balikpapan 6.31 245 **Pn** 22 20 31.2 -2.5
BKB Balikpapan 6.31 245 P **Pn** 22 20 35.4 +1.7
124nm,0.8s,2µm0.5nm
DAV Davao City (W) 6.36 27 P **Pn** 22 20 36.4 +2.0
27nm,0.3s,baz=245,slow=13,SNR=4.1
DAV LR LR 22 23 17.2
comp=Z,443nm,19.0s,baz=132,slow=40
111nm,0.3s
NLAI Namlea 6.41 136 P **Pn** 22 20 38.1 +3.0
51nm,0.5s,3µm0.4nm
BBSI Bau Bau 6.83 181 P **Pn** 22 20 42.6 +1.7
77nm,0.6s,0.5nm
KAPI Kappang 6.98 204 **Pn** 22 20 43.4 +0.4
KAPI Kappang 6.98 204 P **Pn** 22 20 45.5 +2.6
14nm,0.3s,baz=55,slow=13,SNR=10
KAPI LR LR 22 23 55.5
comp=Z,737nm,18.8s,baz=41,slow=41
26nm,0.4s
BKSI Bulukumba 7.12 201 P **Pn** 22 20 46.1 +1.2
67nm,1.1s,642nm0.3nm
KKM Kota Kinabalu 7.90 306 **Pn** 22 20 55.9 +0.2
MTKI Muara Teweh, K 8.07 253 P **Pn** 22 21 01.5 +3.5
55nm,0.5s,0.4nm
BBKI Banjar Baru 9.16 238 P **Pn** 22 21 16.5 +3.7
61nm,0.7s,3µm
EDFI Ende, Flores 10.12 185 P Pn 22 21 30.2 +4.1
17nm,0.8s
FAKI Fak Fak 10.52 114 Pn Pn 22 21 36.2 +4.7
SOEI Soe 11.19 172 Pn **Pn** 22 21 42.4 +1.6
BATI Baumata 11.56 175 LR LR 22 26 00.5
comp=Z,451nm,21.0s,baz=340,slow=36
JAGI Jajag, Banyuwa 12.94 221 Pn **Pn** 22 22 03.1 -1.5
KPJI Karang Pucung 16.18 237 P **P** 22 22 55.2 +4.5
LEM Lembang 17.06 241 P **P** 22 23 02.1 +1.5
2.4nm,0.3s,baz=166,slow=22,SNR=6.0
29nm,0.9s
CNJI Cibinong 17.72 241 P **P** 22 23 11.9 +4.2
23nm,0.9s
KNRA Kununurra 18.01 161 P **P** 22 23 10.3 -0.5
CGJI Cibinong 18.68 245 P **Pn** 22 23 23.0 +4.1
29nm,0.7s
KASI Kota Agung 19.37 249 P Pn 22 23 34.0 +6.8
MNAI Manna 20.47 254 P **P** 22 23 36.0 -1.9
XMIS Christmas Isla 20.60 235 P **P** 22 23 37.3 -2.0
XMIS IAmb IAmb 22 23 43.1
comp=Z,29nm,0.9s
BKNI Bangkinang 21.61 267 P **P** 22 23 47.8 -2.4
KULM Kulim 22.28 281 P **P** 22 23 54.7 -2.7
KULM IAmb IAmb 22 23 57.5
comp=Z,36nm,1.5s
PDSI Padang 22.29 264 P **P** 22 24 00.4 +3.0
comp=Z,17nm,0.8s
MBWA Marble Bar 22.59 187 P **P** 22 23 56.9 -3.6
MBWA IAmb IAmb 22 24 07.9
comp=Z,46nm,1.4s
PSA00 Pilbara Seismi 22.98 187 P **P** 22 24 01.9 -2.8
PSA00 IAmb IAmb 22 24 24.4
comp=Z,22nm,1.2s
RPSI Rantau Prapat 23.73 274 P **P** 22 24 08.9 -3.2
RPSI IAmb IAmb 22 24 13.0
comp=Z,40nm,1.5s
WB0 Warramunga Arr 23.98 152 P **P** 22 24 12.2 -2.2
WB0 IAmb IAmb 22 24 18.8
comp=Z,11nm,0.8s
WRA Warramunga Arr 24.11 152 P **P** 22 24 13.1 -2.4
WRA Warramunga Arr 24.11 152 P **P** 22 24 13.2 -2.3
comp=Z,5.4nm,0.6s,baz=326,slow=10,SNR=76
comp=Z,5.4nm,0.6s
GSI Gunungsitoli 25.05 270 P **P** 22 24 22.0 -2.2
GSI IAmb IAmb 22 24 32.0
comp=Z,27nm,0.8s
GIRL Giralia 25.25 198 P **P** 22 24 22.6 -3.2
COEN Coen 25.43 128 P **P** 22 24 26.9 -0.7
JOW Kunigami 25.87 12 LR LR 22 35 10.6
comp=Z,72nm,21.0s,baz=132,slow=37
AS31 Alice Springs 27.21 157 P **P** 22 24 41.7 -1.9
ASAR Alice Springs 27.21 157 P **P** 22 24 42.1 -1.5
ASAR Alice Springs 27.21 157 P **P** 22 24 41.7 -1.9
comp=Z,1.1nm,0.8s,baz=345,slow=15,SNR=8.8
ASAR LR LR 22 37 33.5
comp=Z,66nm,18.4s,baz=331,slow=41
comp=Z,1.1nm,0.8s
CMAR Chiang Mai Arr 28.77 308 LR LR 22 36 54.3
comp=Z,60nm,21.6s,baz=115,slow=37
KMI Kunming 30.42 322 ⇑P **P** 22 25 16.6 +4.2
KMI pmax pmax
comp=Z,7.0nm,0.7s
MORW Morawa 30.93 191 P **P** 22 25 13.3 -3.3
MORW IAmb IAmb 22 25 32.3
comp=Z,20nm,1.3s
FORT Forrest 32.40 171 P **P** 22 25 27.7 -1.8
JNU Nakatsue 32.50 13 LR LR 22 37 20.9
comp=Z,24nm,21.2s,baz=137,slow=34
NWAO Narrogin (SRO) 34.51 188 LR LR 22 40 35.9
comp=Z,82nm,19.0s,baz=162,slow=37
KSRS Korea Array 36.22 7 LR LR 22 43 41.0
comp=Z,39nm,18.3s,baz=175,slow=41
BBOO Buckleboo 36.30 161 P **P** 22 26 01.3 -2.0
BBOO IAmb IAmb 22 26 29.7
comp=Z,8.3nm,1.2s
STKA Stephens Creek 37.65 153 P **P** 22 26 13.7 -1.1
STKA Stephens Creek 37.65 153 P **P** 22 26 13.2 -1.6
comp=Z,6.1nm,0.8s,baz=325,slow=9.5,SNR=13
comp=Z,6.1nm,0.8s
MJAR Matsushiro Arr 37.83 21 LR LR 22 44 28.7
comp=Z,20nm,18.1s,baz=185,slow=40
BTO Baotou 40.68 345 eP **P** 22 26 44.4 +4.4
BTO pP **pP** 22 26 48.6 -1.4
BTO sP **sP** 22 26 50.7 -2.7
BTO PP **PnPn** 22 28 23.3 +4.8
BTO S S 22 32 57.2 +10
BTO SS **SS** 22 35 45.0 -4.2
BTO pmax pmax
comp=Z,14nm,0.6s
BTO pmax pmax
comp=Z,250nm,5.0s
BTO LR LR
comp=N,220nm,4.5s
BTO LR LR
comp=E,230nm,4.3s
BTO LR LR
comp=Z,110nm,5.3s
ARMA Armidale 42.00 141 P **P** 22 26 51.3 +0.3
ARMA IAmb IAmb 22 27 03.1
comp=Z,22nm,1.4s
PALK Pallekele 42.19 279 LR LR 22 45 05.3
comp=Z,84nm,21.0s,baz=195,slow=37
ODAN Odare 42.25 310 eP **P** 22 26 56.6 +3.3
comp=Z,79nm,2.3s
TAPN Taplejung 42.26 311 eP **P** 22 26 55.3 +1.8
comp=Z,15nm,1.0s
RAMN Ramite 42.90 310 eP **P** 22 27 01.6 +2.9
comp=Z,23nm,1.0s
GTA Gaotai 43.19 334 eP **P** 22 27 02.8 +2.2
GTA pP pP 22 27 09.2 -1.4
GTA sP sP 22 27 13.8 -0.2
GTA pmax pmax
comp=Z,3.0nm,1.0s
JIRN Jiri 43.58 310 eP **P** 22 27 05.3 +1.1
comp=Z,54nm,1.5s
GUN Gumba 43.94 310 eP **P** 22 27 07.5 +0.4
comp=Z,41nm,1.2s
CAN Canberra 44.06 149 P **P** 22 27 07.9 +0.3
KKN Kakani 44.34 310 eP **P** 22 27 10.8 +0.6
comp=Z,102nm,2.5s
GKN Gorkha 44.94 310 eP **P** 22 27 15.1 +0.2
comp=Z,16nm,0.9s
KOLN Koldanda 45.63 309 eP **P** 22 27 21.5 +1.1
comp=Z,97nm,2.9s
DANN Dangsing 45.78 309 eP **P** 22 27 21.7 0.0
comp=Z,13nm,0.7s
PYUN Piuthan 46.26 309 eP **P** 22 27 26.2 +0.8
comp=Z,20nm,0.8s
ULN Ulaanbaatar 48.22 346 P **P** 22 27 40.8 +0.5
SONM Songino Array 48.36 345 P **P** 22 27 41.5 +0.2
SONM IAmb IAmb 22 27 57.2
comp=Z,4.2nm,1.0s
SONM Songino Array 48.36 345 P **P** 22 27 41.6 +0.2
comp=Z,1.4nm,1.0s,baz=145,slow=7.9,SNR=6.0

comp=Z,1.4nm,1.0s
MK31 Makanchi Array 57.25 328 P 22 28 46.4 -0.5
MKAR Makanchi Array 57.25 328 P 22 28 46.3 -0.5
MKAR Makanchi Array 57.25 328 P P 22 28 47.3 +0.5
comp=Z,2.0nm,0.8s,baz=134,slow=7.5,SNR=13
MKAR LR LR 22 54 26.3
comp=Z,36nm,21.0s,baz=82,slow=37
comp=Z,2.0nm,0.8s
KBL Kabul 59.77 310 P P 22 29 04.3 -0.6
KBL IAmb IAmb 22 29 29.5
comp=Z,10nm,1.4s
ZALV Zalesovo Beam 60.91 335 P P 22 29 12.5 +0.5
ZALV Zalesovo Beam 60.91 335 P P 22 29 12.0 0.0
comp=Z,0.3nm,0.3s,baz=107,slow=5.0,SNR=2.1
comp=Z,0.3nm,0.3s
KURBB Kurchatov Arra 61.59 330 P P 22 29 16.1 -0.6
comp=Z,1.0nm,0.9s,baz=127,slow=6.5,SNR=8.9
comp=Z,1.0nm,0.9s
KURK Kurchatov 61.60 330 P 22 29 16.8 0.0
KURK IAmb IAmb 22 29 35.0
comp=Z,7.4nm,1.1s
MA2 Magadan 62.01 16 LR LR 22 54 47.7
comp=Z,12nm,21.3s,baz=196,slow=35
KKAR Karatay Array 62.23 319 P P 22 29 21.0 -0.2
RPZ Rata Peaks 62.32 142 P P 22 29 21.6 -0.2
VNDA Vanda 81.66 172 P P 22 31 15.8 -1.2
VNDA IAmb IAmb 22 31 16.9
comp=Z,3.9nm,0.9s
VNDA Vanda 81.66 172 P P 22 31 16.3 -0.7
comp=Z,2.9nm,0.8s,baz=307,slow=9.9,SNR=14
VNDA LR LR 23 09 38.7
comp=Z,31nm,18.1s,baz=322,slow=37
comp=Z,2.9nm,0.8s
K17K Iditarod 83.76 27 P P 22 31 28.0 -0.1
K17K IAmb IAmb 22 31 54.9
comp=Z,17nm,1.4s
G19K Purcell Mounta 84.80 24 P P 22 31 33.2 -0.2
KMBO Kilima Mbogo 85.41 269 LR LR 23 06 01.0
comp=Z,24nm,21.3s,baz=86,slow=33
B22K Teshekpuk Lake 86.66 20 P P 22 31 43.0 +0.5
B22K IAmb IAmb 22 31 58.9
comp=Z,12nm,1.4s
NOA NORSAR Array B 99.01 333 LR LR 23 21 26.2
comp=Z,20nm,20.8s,baz=55,slow=38

LDG ***05*** *22:22:11.8±0.1, 42.2°42N×13.7°42E, h8km, Md2.9/1, Ml2.4/12, Error ellipse: s-maj=2.4km s-min=1.7km az=43.0*
BEO ***05*** *22:22:12.9±0.8, 42.2°32N×13.7°37E, h3km±9km, ML3.3/7*
ROM ***05*** *22:22:12.4±0.1, 42.2°428N±0.002×13.7°458E±0.004, h8km, ML3.0/150, Error ellipse: s-maj=0.3km s-min=0.2km az=71.0*
PRU ***05*** *22:22:13.8, 42.2°26N×13.7°83E, h10km*
IDC ***05*** *22:22:14.4±2.0, 42.2°55N×13.7°66E, h0km, mb3.3/1, mbtmp3.4/4, ML3.1/3, Error ellipse: s-maj=40.6km s-min=19.8km az=89.0*

ISC 05 22:22:12.9±0.6, 42.2°40N±0.02×13.7°42E±0.02, h12km±4km, n131, σ1°87/185, 6C-6D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQU	**L'Aquila**	**0.05**	**195**	P	**Pg**	**22 22 15.3**	**+0.1**
AQU				S	**Sg**	**22 22 16.8**	**-0.1**
AQU				AML	AML		
	comp=N,50450μm,1.0s						
AQU				AML	AML		
	comp=E,51850μm,0.4s						
AQU				AML	AML		
	comp=N,48850μm,1.0s						
AQU				AML	AML		
	comp=N,48850μm,1.0s						
AQU				AML	AML		
	comp=N,50450μm,1.0s						
AQU				AML	AML		
	comp=E,51300μm,0.4s						
CAMP	**Campotosto**	**0.14**	**357**	P	**Pg**	**22 22 15.7**	**-0.6**
CAMP				S	**Sg**	**22 22 17.9**	**-1.0**
CAMP				AML	AML		
	comp=E,7585μm,1.1s						
CAMP				AML	AML		
	comp=N,12550μm,0.9s						
CAMP				AML	AML		
	comp=E,7585μm,0.9s						
FAGN	**Fagnano**	**0.18**	**137**	P	**Pg**	**22 22 17.2**	**+0.3**
FAGN				S	**Sg**	**22 22 20.3**	**+0.5**
FAGN				AML	AML		
	comp=N,50100μm,0.3s						
FAGN				AML	AML		
	comp=E,44500μm,0.5s						
RM33	**Pellescritta (**	**0.19**	**306**	P	**Pg**	**22 22 16.9**	**-0.2**
RM33				S	**Sg**	**22 22 20.4**	**+0.4**
RM33				AML	AML		
	comp=E,7280μm,0.9s						
RM33				AML	AML		
	comp=N,7205μm,1.4s						
RM33				AML	AML		
	comp=E,7280μm,0.9s						
RM33				AML	AML		
	comp=N,7065μm,1.4s						
RM33				AML	AML		
	comp=E,7065μm,0.9s						
RM33				AML	AML		
	comp=N,7065μm,0.6s						
RM33				AML	AML		
	comp=N,7205μm,0.6s						
RM33				AML	AML		
	comp=E,7280μm,1.1s						
RM33				AML	AML		
	comp=E,7065μm,1.1s						
SMA1	**SAN MARTINO**	**0.24**	**345**	P	**Pg**	**22 22 17.5**	**-0.5**
SMA1				S	**Sg**	**22 22 21.3**	**-0.2**
SMA1				AML	AML		
	comp=E,6555μm,0.7s						
SMA1				AML	AML		
	comp=N,7695μm,0.7s						
SMA1				AML	AML		
	comp=E,6555μm,1.3s						
TERO	**Teramo**	**0.26**	**31**	P	**Pg**	**22 22 17.4**	**-0.9**
TERO				S	**Sg**	**22 22 21.4**	**-0.7**
TERO				AML	AML		
	comp=N,7075μm,0.7s						
TERO				AML	AML		
	comp=N,13050μm,0.7s						
TERO				AML	AML		
	comp=N,7070μm,0.7s						
TERO				AML	AML		
	comp=N,7070μm,1.3s						
TERO				AML	AML		
	comp=E,4120μm,0.3s						
TERO				AML	AML		
	comp=N,13050μm,1.3s						
TERO				AML	AML		
	comp=E,5720μm,0.9s						
VCEL	**Villa Celiera**	**0.31**	**91**	P	**Pg**	**22 22 19.3**	**0.0**
VCEL				S	**Sg**	**22 22 23.7**	**+0.2**
VCEL				AML	AML		
	comp=E,23750μm,0.6s						
VCEL				AML	AML		
	comp=N,29750μm,0.3s						
VCEL				AML	AML		
	comp=E,23750μm,1.4s						
T0110	**Collepietro**	**0.32**	**123**	P	**Pb**	**22 22 19.4**	**-1.1**
T0110				S	**Sb**	**22 22 25.2**	**-0.6**
T0110				AML	AML		
	comp=N,16650μm,0.7s						
T0110				AML	AML		
	comp=N,16650μm,1.3s						
T0110				AML	AML		
	comp=E,17800μm,0.4s						
LNSS	**Leonessa**	**0.35**	**306**	P	**Pg**	**22 22 19.6**	**-0.4**
LNSS				S	**Sg**	**22 22 25.9**	**+1.3**
LNSS				AML	AML		
	comp=E,3350μm,1.1s						
LNSS				AML	AML		
	comp=N,2615μm,0.7s						
LNSS				AML	AML		
	comp=E,3350μm,0.9s						
MTRA	**Matera**	**0.36**	**357**	P	**Pg**	**22 22 19.5**	**-0.6**
MTRA				S	**Sg**	**22 22 24.7**	**-0.3**
MTRA				AML	AML		
	comp=N,5805μm,0.3s						
MTRA				AML	AML		
	comp=E,5705μm,0.3s						
MTRA				AML	AML		
	comp=E,5705μm,1.7s						
PTQR	**Pietraquaria**	**0.38**	**182**	⇑P	**Pb**	**22 22 20.5**	**-1.1**
PTQR				AML	AML		
	comp=E,2875μm,1.2s						
PTQR				AML	AML		
	comp=N,1895μm,0.5s						
PTQR				AML	AML		
	comp=E,2875μm,0.8s						
GAVE	**Gavelli**	**0.49**	**307**	P	**Pg**	**22 22 21.8**	**-0.6**
GAVE				S	**Sg**	**22 22 30.1**	**+1.2**
GAVE				AML	AML		
	comp=E,1550μm,0.8s						
GAVE				AML	AML		
	comp=N,420μm,0.9s						
GAVE				AML	AML		
	comp=N,1246μm,1.0s						
GAVE				AML	AML		
	comp=E,1555μm,0.8s						
GAVE				AML	AML		
	comp=E,1495μm,0.8s						
GAVE				AML	AML		
	comp=N,1370μm,0.8s						
GAVE				AML	AML		
	comp=E,1555μm,1.2s						
GAVE				AML	AML		
	comp=E,1495μm,1.2s						
GAVE				AML	AML		
	comp=N,1370μm,1.2s						
GAVE				AML	AML		
	comp=N,420μm,1.1s						
NRCA	**Norcia**	**0.49**	**333**	P	**Pg**	**22 22 21.8**	**-0.8**
NRCA				S	**Sg**	**22 22 29.4**	**+0.4**
NRCA				AML	AML		
	comp=E,1670μm,0.3s						
NRCA				AML	AML		
	comp=N,1225μm,0.9s						
NRCA				AML	AML		
	comp=E,1770μm,0.3s						
NRCA				AML	AML		
	comp=N,1270μm,0.1s						
NRCA				AML	AML		
	comp=E,1670μm,0.3s						
MMO1	**Montemonaco**	**0.51**	**352**	P	**Pg**	**22 22 22.1**	**-0.8**
MMO1				S	**Sg**	**22 22 29.8**	**+0.2**
ARRO	**Arrone**	**0.52**	**291**	P	**Pg**	**22 22 22.6**	**-0.4**
ARRO				S	**Sb**	**22 22 31.9**	**+0.6**
ARRO				AML	AML		
	comp=N,958μm,1.5s						
ARRO				AML	AML		
	comp=E,679μm,1.4s						
ARRO				AML	AML		
	comp=E,679μm,0.6s						
ARRO				AML	AML		
	comp=N,959μm,1.5s						
INTR	**Introdacqua**	**0.53**	**137**	P	**Pb**	**22 22 23.3**	**-0.8**
INTR				S	**Sb**	**22 22 31.3**	**-0.5**
INTR				AML	AML		
	comp=E,4310μm,1.1s						
INTR				AML	AML		
	comp=N,10425μm,1.1s						
INTR				AML	AML		
	comp=E,4μm,1.1s						
INTR				AML	AML		
	comp=N,7μm,1.1s						
INTR				AML	AML		
	comp=E,4μm,0.9s						
INTR				AML	AML		
	comp=N,7μm,0.9s						
INTR				AML	AML		
	comp=E,4310μm,0.9s						
INTR				AML	AML		
	comp=N,10425μm,0.9s						
MC2	**Monte Cornacci**	**0.54**	**342**	P	**Pg**	**22 22 22.7**	**-0.8**
MC2				S	**Sg**	**22 22 31.4**	**+0.7**
TRTR	**Tortoreto Alta**	**0.55**	**42**	P	**Pg**	**22 22 23.1**	**-0.5**
TRTR				S	**Sg**	**22 22 30.2**	**-0.7**
TRTR				AML	AML		
	comp=E,10635μm,1.1s						
TRTR				AML	AML		
	comp=N,8735μm,0.6s						
TRTR				AML	AML		
	comp=E,10635μm,0.9s						
CERT	**Cerreto**	**0.55**	**216**	P	**Pb**	**22 22 24.6**	**0.0**
CERT				S	**Sb**	**22 22 33.7**	**+1.2**
CERT				AML	AML		
	comp=E,2820μm,0.5s						
CERT				AML	AML		
	comp=N,1760μm,1.3s						
CERT				AML	AML		
	comp=N,1760μm,0.7s						
OFFI	**Offida**	**0.57**	**20**	⇑P	**Pg**	**22 22 24.0**	**0.0**
OFFI				S	**Sg**	**22 22 32.2**	**+0.5**
OFFI				AML	AML		
	comp=E,8140μm,0.8s						
OFFI				AML	AML		
	comp=N,7815μm,0.7s						
MF5	**Montefalcone A**	**0.59**	**3**	P	**Pg**	**22 22 23.8**	**-0.7**
MF5				S	**Sg**	**22 22 31.8**	**-0.5**
MF5				AML	AML		
	comp=E,2405μm,0.8s						
MF5				AML	AML		
	comp=N,2375μm,0.7s						
MF5				AML	AML		
	comp=E,2410μm,0.8s						
MF5				AML	AML		
	comp=N,2370μm,0.7s						
MF5				AML	AML		
	comp=E,2410μm,1.2s						
GUAR	**Guarcino**	**0.61**	**187**	P	**Pb**	**22 22 25.8**	**+0.3**
GUAR				S	**Sb**	**22 22 34.5**	**+0.4**
GUAR				AML	AML		
	comp=E,1580μm,1.0s						
GUAR				AML	AML		
	comp=N,1860μm,0.9s						
GUAR				AML	AML		
	comp=E,1580μm,1.0s						
T1221	**Campello sul C**	**0.62**	**318**	P	**Pg**	**22 22 24.3**	**-0.8**
T1221				S	**Sg**	**22 22 34.5**	**+1.1**
T1221				AML	AML		
	comp=E,636μm,0.7s						
T1221				AML	AML		
	comp=N,632μm,1.4s						
T1221				AML	AML		
	comp=N,634μm,1.4s						
T1221				AML	AML		
	comp=E,636μm,1.3s						
T1221				AML	AML		
	comp=N,634μm,0.6s						
MTCE	**Montecelio**	**0.63**	**233**	P	**Pg**	**22 22 25.0**	**-0.1**
MTCE				S	**Sb**	**22 22 36.0**	**+1.4**
MTCE				AML	AML		
	comp=E,1770μm,0.7s						
MTCE				AML	AML		
	comp=N,1020μm,0.8s						
MTCE				AML	AML		
	comp=N,1020μm,1.2s						
MTCE				AML	AML		
	comp=E,1770μm,1.3s						
RCAV	**Rocca di Cave**	**0.65**	**213**	P	**Pb**	**22 22 25.4**	**-0.9**
RCAV				S	**Sb**	**22 22 35.7**	**+0.3**
RCAV				AML	AML		
	comp=N,1665μm,1.5s						
RCAV				AML	AML		
	comp=E,1450μm,0.4s						
RCAV				AML	AML		
	comp=N,1660μm,1.5s						
RCAV				AML	AML		
	comp=N,1660μm,0.5s						
CESX	**Cesi**	**0.66**	**289**	P	**Pg**	**22 22 25.1**	**-0.5**
CESX				S	**Sg**	**22 22 35.0**	**+0.7**
CESX				AML	AML		
	comp=N,718μm,0.9s						
CESX				AML	AML		
	comp=E,952μm,0.4s						
CESX				AML	AML		
	comp=N,718μm,1.1s						
GUMA	**Gualdo di Mace**	**0.67**	**355**	P	**Pg**	**22 22 25.3**	**-0.6**
GUMA				S	**Sg**	**22 22 34.7**	**+0.1**
GUMA				AML	AML		
	comp=N,2945μm,0.7s						
GUMA				AML	AML		
	comp=E,4145μm,0.4s						
GUMA				AML	AML		
	comp=E,6450μm,0.4s						
GUMA				AML	AML		
	comp=N,4550μm,0.5s						
LPEL	**Lama dei Pelig**	**0.67**	**121**	P	**Pg**	**22 22 25.1**	**-0.8**
LPEL				S	**Sb**	**22 22 35.2**	**-0.6**
LPEL				AML	AML		
	comp=N,5665μm,0.9s						
LPEL				AML	AML		
	comp=E,8710μm,0.2s						
LPEL				AML	AML		
	comp=N,5665μm,1.1s						
FDMO	**Fiordimonte**	**0.68**	**339**	P	**Pg**	**22 22 25.1**	**-1.0**
FDMO				S	**Sg**	**22 22 35.3**	**+0.1**
FDMO				AML	AML		
	comp=E,512μm,0.8s						
FDMO				AML	AML		
	comp=N,624μm,1.3s						
FDMO				AML	AML		
	comp=N,624μm,0.7s						
CSP1	**Cessapalombo**	**0.71**	**347**	P	**Pg**	**22 22 25.9**	**-0.8**
CSP1				S	**Sg**	**22 22 35.7**	**-0.3**
CSP1				AML	AML		
	comp=E,546μm,0.3s						
CSP1				AML	AML		
	comp=N,274μm,1.1s						
CSP1				AML	AML		
	comp=N,274μm,0.9s						
CESI	**CESI - Serrava**	**0.71**	**328**	P	**Pg**	**22 22 25.9**	**-0.9**
CESI				S	**Sg**	**22 22 36.9**	**+0.7**
CESI				AML	AML		
	comp=N,1034μm,0.5s						
CESI				AML	AML		
	comp=E,682μm,0.7s						
POFI	**Posta Fibreno**	**0.71**	**162**	P	**Pb**	**22 22 26.7**	**-0.6**
POFI				S	**Sb**	**22 22 36.9**	**-0.2**
POFI				AML	AML		
	comp=E,1256μm,0.5s						
POFI				AML	AML		
	comp=N,1300μm,0.5s						
POFI				AML	AML		
	comp=N,1285μm,0.5s						
POFI				AML	AML		
	comp=N,1285μm,1.5s						
POFI				AML	AML		
	comp=E,1275μm,0.5s						
POFI				AML	AML		
	comp=N,1300μm,1.5s						
MOMA	**Monte Martano**	**0.75**	**303**	P	**Pg**	**22 22 26.7**	**-0.7**
MOMA				S	**Sb**	**22 22 38.4**	**+0.3**
MOMA				AML	AML		
	comp=E,974μm,0.8s						
MOMA				AML	AML		
	comp=N,778μm,0.4s						
MOMA				AML	AML		
	comp=E,978μm,0.8s						
MOMA				AML	AML		
	comp=E,974μm,0.8s						
MOMA				AML	AML		
	comp=N,779μm,0.4s						
MOMA				AML	AML		
	comp=N,764μm,0.4s						
MOMA				AML	AML		
	comp=E,978μm,1.2s						
MOMA				AML	AML		
	comp=E,974μm,1.2s						
VIVA	**Pratoni del Vi**	**0.81**	**217**	P	**Pb**	**22 22 29.6**	**+0.7**
VIVA				AML	AML		
	comp=E,2745μm,1.5s						
VIVA				AML	AML		
	comp=N,3465μm,1.1s						
GIUL	**Giuliano Di Ro**	**0.85**	**188**	P	**Pb**	**22 22 28.9**	**-0.6**
GIUL				S	**Sb**	**22 22 41.4**	**+0.5**
GIUL				AML	AML		
	comp=E,968μm,0.7s						
GIUL				AML	AML		
	comp=N,1011μm,0.7s						
ASSB	**Assisi San Ben**	**0.85**	**319**	P	**Pg**	**22 22 28.5**	**-0.9**
ASSB				S	**Sg**	**22 22 40.4**	**-0.1**
ASSB				AML	AML		
	comp=N,658μm,0.9s						
ASSB				AML	AML		
	comp=E,552μm,0.5s						
ASSB				AML	AML		
	comp=E,552μm,1.5s						
CERA	**Filignano**	**0.92**	**151**	P	**Pg**	**22 22 29.6**	**-1.0**
CERA				S	**Sb**	**22 22 42.5**	**-0.4**
CERA				AML	AML		
	comp=E,1640μm,0.6s						
CERA				AML	AML		
	comp=N,1795μm,0.5s						
CERA				AML	AML		
	comp=E,1675μm,0.6s						
CERA				AML	AML		
	comp=E,1645μm,0.6s						
CERA				AML	AML		
	comp=N,1835μm,0.6s						
CERA				AML	AML		
	comp=N,1835μm,1.4s						
CERA				AML	AML		
	comp=E,1675μm,1.4s						
CERA				AML	AML		
	comp=E,1645μm,1.4s						
CERA				AML	AML		
	comp=N,1795μm,1.5s						
SNTG	**Esanatoglia**	**0.93**	**338**	P	**Pg**	**22 22 29.4**	**-1.3**
SNTG				S	**Sg**	**22 22 42.4**	**-0.5**
SNTG				AML	AML		
	comp=E,421μm,1.1s						
SNTG				AML	AML		
	comp=N,434μm,1.1s						
SNTG				AML	AML		
	comp=E,422μm,1.0s						
SNTG				AML	AML		
	comp=N,467μm,0.3s						
SNTG				AML	AML		
	comp=N,434μm,0.9s						
SNTG				AML	AML		
	comp=E,422μm,1.0s						
LATB	**Latina**	**0.97**	**201**	P	**Pb**	**22 22 31.4**	**-0.1**
LATB				AML	AML		
	comp=E,504μm,0.8s						
LATB				AML	AML		
	comp=N,284μm,0.8s						
LATB				AML	AML		
	comp=E,504μm,1.2s						
ATCC	**AVT- Casa Cast**	**0.97**	**324**	P	**Pg**	**22 22 30.5**	**-1.2**
ATCC				S	**Sg**	**22 22 43.7**	**-0.6**
ATCC				AML	AML		
	comp=E,686μm,0.7s						
ATCC				AML	AML		
	comp=E,686μm,0.7s						
ATCC				AML	AML		
	comp=N,545μm,0.6s						
MIDA	**Miranda**	**0.98**	**140**	⇑P	**Pg**	**22 22 30.9**	**-0.9**
MIDA				S	**Sb**	**22 22 44.2**	**-0.6**
MIDA				AML	AML		
	comp=N,1101μm,0.6s						
MIDA				AML	AML		
	comp=E,982μm,0.4s						
MIDA				AML	AML		
	comp=N,1029μm,0.7s						
MIDA				AML	AML		
	comp=E,919μm,0.4s						
PP3	**Marolino**	**0.99**	**8**	P	**Pg**	**22 22 30.6**	**-1.4**
PP3				AML	AML		
	comp=E,2195μm,1.1s						
PP3				AML	AML		
	comp=N,2415μm,0.8s						
PP3				AML	AML		
	comp=E,2140μm,0.8s						
PP3				AML	AML		
	comp=N,2655μm,0.8s						
PP3				AML	AML		
	comp=E,2195μm,0.9s						
CING	**Cingoli**	**0.99**	**351**	P	**Pg**	**22 22 30.7**	**-1.3**
CING				S	**Sg**	**22 22 44.5**	**-0.4**
CING				AML	AML		
	comp=E,566μm,0.4s						
CING				AML	AML		
	comp=N,458μm,0.7s						
FOSV	**Fossato di Vic**	**1.02**	**332**	P	**Pg**	**22 22 31.2**	**-1.3**
FOSV				S	**Sg**	**22 22 45.5**	**-0.3**
FOSV				AML	AML		
	comp=E,398μm,1.0s						
FOSV				AML	AML		
	comp=N,492μm,0.4s						
MGAB	**Montegabbione**	**1.09**	**299**	P	**Pg**	**22 22 33.3**	**-0.6**
MGAB				S	**Sg**	**22 22 48.6**	**+0.5**
MGAB				AML	AML		
	comp=E,496μm,0.4s						
MGAB				AML	AML		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,521µm,1.1s						
MGAB				AML	AML		
	comp=E,576µm,0.5s						
MGAB				AML	AML		
	comp=N,494µm,1.1s						
MGAB				AML	AML		
	comp=N,521µm,0.9s						
MGAB				AML	AML		
	comp=E,576µm,1.5s						
MGAB				AML	AML		
	comp=E,496µm,1.6s						
MGAB				AML	AML		
	comp=N,494µm,0.9s						
TOLF	**Tolfa**	**1.10**	**253**	P	**Pb**	**22 22 33.9**	**0.0**
TOLF				AML	AML		
	comp=N,544µm,0.6s						
TOLF				AML	AML		
	comp=E,796µm,0.7s						
SSFR	**Montelago di S**	**1.14**	**336**	P	**Pg**	**22 22 33.6**	**-1.2**
SSFR				AML	AML		
	comp=E,548µm,0.4s						
SSFR				AML	AML		
	comp=N,606µm,1.0s						
SSFR				AML	AML		
	comp=E,514µm,1.0s						
SSFR				AML	AML		
	comp=N,525µm,1.1s						
SSFR				AML	AML		
	comp=N,606µm,1.0s						
SSFR				AML	AML		
	comp=N,525µm,0.9s						
SSFR				AML	AML		
	comp=E,548µm,1.6s						
SSFR				AML	AML		
	comp=E,514µm,1.0s						
ATFO	**Monte Foce - G**	**1.15**	**328**	P	**Pg**	**22 22 33.9**	**-1.1**
ATFO				AML	AML		
	comp=E,440µm,1.3s						
ATFO				AML	AML		
	comp=N,350µm,1.0s						
ATFO				AML	AML		
	comp=N,350µm,1.0s						
ARVD	**Arcevia**	**1.15**	**343**	P	**Pg**	**22 22 33.3**	**-1.8**
ARVD				AML	AML		
	comp=N,422µm,0.7s						
ARVD				AML	AML		
	comp=E,398µm,1.0s						
VAGA	**Valle Agricola**	**1.16**	**148**	P	**Pb**	**22 22 34.2**	**-0.6**
VAGA				AML	AML		
	comp=E,451µm,0.8s						
VAGA				AML	AML		
	comp=N,596µm,0.5s						
VAGA				AML	AML		
	comp=N,604µm,0.5s						
VAGA				AML	AML		
	comp=E,451µm,1.2s						
VAGA				AML	AML		
	comp=E,466µm,1.6s						
VAGA				AML	AML		
	comp=N,604µm,1.5s						
VAGA				AML	AML		
	comp=N,596µm,1.5s						
SACS	**San Casciano d**	**1.20**	**293**	P	**Pg**	**22 22 34.7**	**-1.3**
SACS				AML	AML		
	comp=E,292µm,1.3s						
SACS				AML	AML		
	comp=N,324µm,1.1s						
SACS				AML	AML		
	comp=E,240µm,1.3s						
SACS				AML	AML		
	comp=N,348µm,0.8s						
SACS				AML	AML		
	comp=E,240µm,0.7s						
SACS				AML	AML		
	comp=E,292µm,0.7s						
SACS				AML	AML		
	comp=N,324µm,0.9s						
ATMI	**Monte Miggiano**	**1.26**	**318**	P	**Pg**	**22 22 36.0**	**-1.2**
COR1	**Corinaldo**	**1.27**	**346**	P	**Pg**	**22 22 35.9**	**-1.4**
COR1				AML	AML		
	comp=E,452µm,1.1s						
COR1				AML	AML		
	comp=N,846µm,0.8s						
COR1				AML	AML		
	comp=E,452µm,0.9s						
COR1				AML	AML		
	comp=N,846µm,1.2s						
NARO	**Abbazia di Nar**	**1.36**	**333**	P	**Pn**	**22 22 36.9**	**-0.8**
NARO				AML	AML		
	comp=E,201µm,1.0s						
NARO				AML	AML		
	comp=N,248µm,1.2s						
NARO				AML	AML		
	comp=E,201µm,1.0s						
MELA	**Melanico ??? S**	**1.45**	**118**	⇑P	**Pg**	**22 22 41.3**	**+0.6**
MELA				AML	AML		
	comp=E,604µm,1.6s						
MELA				AML	AML		
	comp=N,662µm,1.3s						
MELA				AML	AML		
	comp=N,662µm,0.7s						
PE3	**Peglio**	**1.46**	**333**	S	**Sn**	**22 23 01.3**	**+3.0**
PE3				AML	AML		
	comp=E,804µm,0.5s						
PE3				AML	AML		
	comp=N,3µm,1.3s						
PE3				AML	AML		
	comp=N,3µm,0.7s						
PE3				AML	AML		
	comp=E,804µm,1.5s						
VENT	**Ventotene**	**1.60**	**180**	⇓P	**Pg**	**22 22 43.4**	**-0.2**
VENT				AML	AML		
	comp=E,260µm,1.0s						
VENT				AML	AML		
	comp=N,264µm,0.8s						
MAON	**Monte Argentar**	**1.69**	**272**	⇑P	**Pn**	**22 22 43.3**	**+1.0**
MAON				AML	AML		
	comp=N,82µm,1.6s						
MAON				AML	AML		
	comp=E,124µm,0.7s						
MAON				AML	AML		
	comp=N,82µm,0.4s						
SGRT	**San Giovanni R**	**1.85**	**110**	⇑P	**Pg**	**22 22 47.1**	**-1.2**
MSAG	**Monte S. Angel**	**1.98**	**109**	⇓P	**Pg**	**22 22 50.4**	**-0.4**
CDRU	**Civita di Ruta**	**2.38**	**143**	S	**Sg**	**22 23 28.4**	**-0.9**
MTCR	**Monte La Croce**	**2.40**	**313**	P	**Pn**	**22 22 53.5**	**+1.4**
A050A	**Klekovaca**	**3.08**	**46**	*e*Pn	**Pn**	**22 23 02.8**	**+1.4**
SKDS	**Skadanscina**	**3.18**	**8**	*e*Pn	**Pn**	**22 23 00.1**	**-2.6**
PGF	**Pioggiola**	**3.27**	**274**	*e*P	**Pn**	**22 23 04.8**	**+0.7**
PGF				*e*Sn	**Sn**	**22 23 38.5**	**-4.5**
	comp=N,0.5nm,0.3s						
TRI	**Trieste**	**3.32**	**4**	S	**Sb**	**22 23 55.8**	**+3.8**
MGRS	**Mrkonjic Grad**	**3.35**	**52**	*e*Pn	**Pn**	**22 23 07.2**	**+2.1**
BOJS	**Bojanci**	**3.38**	**22**	*e*Pn	**Pn**	**22 23 06.5**	**+1.1**
BOJS	**Bojanci**	**3.38**	**22**	P	**Pn**	**22 23 05.9**	**+0.5**
BOJS				AML	AML		
	comp=N,91µm,1.2s						
BOJS				AML	AML		
	comp=E,119µm,0.8s						
CEY	**Cerknica**	**3.42**	**12**	*e*Pn	**Pn**	**22 23 05.8**	**-0.2**
NEVS	**Nevesinje**	**3.56**	**74**	*e*Pn	**Pn**	**22 23 10.1**	**+2.1**
SABO	**M.te Sabotino**	**3.58**	**2**	S	**Sn**	**22 23 50.5**	**-0.1**
SABO				AML	AML		
	comp=N,13350µm,1.6s						
SABO				AML	AML		
	comp=E,38µm,1.6s						
SABO				AML	AML		
	comp=N,58µm,0.7s						
SABO				AML	AML		
	comp=E,38µm,0.4s						
SABO				AML	AML		
	comp=N,13350µm,0.4s						
SABO				AML	AML		
	comp=E,13550µm,1.4s						
BLY	**Banja Luka**	**3.61**	**48**	*e*Pn	**Pn**	**22 23 10.8**	**+2.2**
TREB	**Trebinje**	**3.66**	**83**	*e*Pn	**Pn**	**22 23 10.6**	**+1.3**
TREB	**Trebinje**	**3.66**	**83**	*e*Pn	**Pn**	**22 23 09.9**	**+0.6**
CGRP	**Cima Grappa**	**3.67**	**342**	⇓P	**Pn**	**22 23 11.5**	**+1.8**
CRES	**Cresnjev**	**3.73**	**22**	*e*Pn	**Pn**	**22 23 12.1**	**+1.8**
MAGA	**Magasa**	**3.93**	**330**	⇓P	**Pn**	**22 23 15.2**	**+2.0**
LUSI	**Trento, Gardas**	**3.98**	**334**	⇓P	**Pn**	**22 23 17.3**	**+3.5**
OBKA	**Obir**	**4.19**	**11**	*i* Pn	**Pn**	**22 23 18.7**	**+2.0**
	comp=E,0.7nm,0.3s						
OBKA	**Obir**	**4.19**	**11**	*e*Pn	**Pn**	**22 23 18.3**	**+1.6**
MYKA	**Terra Mystica**	**4.23**	**2**	*i* Pn	**Pn**	**22 23 20.9**	**+3.6**
	comp=E,0.9nm,0.3s						
DRME	**Dracevica, Mon**	**4.28**	**91**	*e*Pn	**Pn**	**22 23 19.3**	**+1.4**
IMI	**Imperia**	**4.32**	**292**	P	**Pn**	**22 23 18.8**	**+0.4**
PDG	**Podgorica**	**4.32**	**88**	*e*Pn	**Pn**	**22 23 19.4**	**+1.0**
PDG				*e*Sn	**Sn**	**22 24 09.3**	**+0.6**
PDG	**Podgorica**	**4.32**	**88**	*e*Pn	**Pn**	**22 23 19.5**	**+1.0**
ABTA	**Abfaltersbach**	**4.40**	**352**	*i* Pn	**Pn**	**22 23 21.0**	**+1.5**
	comp=E,7.1nm,0.6s						
RUDO	**Rudo**	**4.53**	**72**	*e*Pn	**Pn**	**22 23 24.1**	**+2.8**
RUDO	**Rudo**	**4.53**	**72**	*e*Pn	**Pn**	**22 23 22.5**	**+1.2**
SBF	**Sospel**	**4.62**	**291**	*e*P	**Pn**	**22 23 23.6**	**+1.0**
MMGO	**Monte Magaggia**	**4.74**	**184**	⇓P	**Pb**	**22 23 33.7**	**-2.3**
SJES	**Sjenica**	**4.90**	**78**	*e*Pn	**Pn**	**22 23 26.7**	**+0.3**
SJES				*e*Sn	**Sn**	**22 24 25.0**	**+1.9**
SJES	**Sjenica**	**4.90**	**78**	*e*Pn	**Pn**	**22 23 26.7**	**+0.3**
FETA	**Feichten**	**5.00**	**338**	*i* Pn	**Pn**	**22 23 31.7**	**+3.7**
	comp=E,1.8nm,0.7s						
WTTA	**Wattenberg**	**5.03**	**346**	*i* Pn	Pn	22 23 33.4	+5.2
	comp=E,0.3nm,0.2s						
LESA	**Schwarzleotal**	**5.05**	**354**	*e*Pn	**Pn**	**22 23 30.7**	**+2.1**
	comp=E,1.3nm,0.3s						
DAVOX	**Davos/Dischmat**	**5.06**	**331**	Pn	**Pn**	**22 23 31.8**	**+3.0**
	comp=E,0.7nm,0.3s,baz=164,slow=18,SNR=12						
DAVOX				Sn	**Sn**	**22 24 28.7**	**+1.5**
	comp=E,0.1nm,0.3s,baz=278,slow=21,SNR=1.4						
	comp=E,4.7nm,0.7s						
SQTA	**Sankt Quirin**	**5.07**	**343**	*i* Pn	**Pn**	**22 23 32.8**	**+4.0**
	comp=E,1.2nm,0.3s						
IVAS	**Ivanjica**	**5.08**	**74**	*e*Pn	**Pn**	**22 23 29.9**	**+1.0**
IVAS				*e*Sn	**Sn**	**22 24 29.0**	**+1.5**
DIVS	**Divibare**	**5.09**	**68**	*e*Pn	**Pn**	**22 23 30.3**	**+1.2**
DIVS				*e*Sn	**Sn**	**22 24 29.1**	**+1.2**
DIVS	**Divibare**	**5.09**	**68**	*e*Pn	**Pn**	**22 23 30.3**	**+1.2**
WATA	**Walderalm**	**5.11**	**346**	*i* Pn	**Pn**	**22 23 33.6**	**+4.2**
	comp=E,0.8nm,0.3s						
LMR	**La Mourre**	**5.16**	**283**	*e*P	**Pn**	**22 23 31.7**	**+1.7**
LMR				*e*Sn	**Sn**	**22 24 23.5**	**-6.0**
	comp=E,0.6nm,0.3s						
MOTA	**Moosalm**	**5.21**	**342**	*i* Pn	Pn	22 23 36.0	+5.2
	comp=E,1.4nm,0.4s						
BIOA	**Bad Ischl, Aus**	**5.29**	**2**	*e*Pn	Pn	22 23 36.6	+4.8
	comp=E,1.8nm,0.3s						
MBDF	**Montbardon**	**5.36**	**298**	*e*P	**Pn**	**22 23 34.1**	**+1.3**
MBDF				*e*Sn	**Sn**	**22 24 28.2**	**-6.4**
	comp=E,0.8nm,0.3s						
TRUS	**Trudelj**	**5.42**	**68**	*e*Pn	**Pn**	**22 23 34.3**	**+0.8**
RETA	**Reutte**	**5.43**	**341**	*e*Pn	**Pn**	**22 23 37.4**	**+3.7**
	comp=E,0.5nm,0.2s						
MOA	**Molln**	**5.48**	**6**	*i* Pn	**Pn**	**22 23 38.1**	**+3.7**
	comp=E,2.2nm,0.4s						
MOA	**Molln**	**5.48**	**6**	*e*Pn	**Pn**	**22 23 36.0**	**+1.6**
DAVA	**Damuels**	**5.50**	**334**	*i* Pn	**Pn**	**22 23 38.8**	**+4.1**
	comp=E,2.5nm,0.5s						
GRUS	**Gruza**	**5.54**	**72**	*e*Pn	**Pn**	**22 23 36.4**	**+1.2**
GRUS				*e*Sn	**Sn**	**22 24 38.5**	**-0.3**
RONA	**Rosalia, Austr**	**5.68**	**20**	*i* Pn	**Pn**	**22 23 35.4**	**-1.8**
	comp=E,1.8nm,0.5s						
LPG	**La Plagne**	**5.72**	**305**	*e*P	**Pn**	**22 23 39.4**	**+1.5**
LPG				*e*Sn	**Sn**	**22 24 37.0**	**-6.7**
	comp=E,0.3nm,0.3s						
SELS	**Selova**	**5.72**	**79**	*e*Pn	**Pn**	**22 23 37.9**	**+0.2**
SELS				*e*Sn	**Sn**	**22 24 42.8**	**-0.6**
LPL	**La Plagne**	**5.74**	**305**	*e*P	**Pn**	**22 23 39.5**	**+1.3**
LPL				*e*Sn	**Sn**	**22 24 37.3**	**-6.8**
	comp=E,0.8nm,0.4s						
CONA	**Conrad Observa**	**5.79**	**17**	*i* Pn	**Pn**	**22 23 40.6**	**+1.9**
	comp=E,0.7nm,0.4s						
SMRF	**Simiane la Rot**	**5.95**	**288**	*e*P	**Pn**	**22 23 42.6**	**+1.8**
SMRF				*e*Sn	**Sn**	**22 24 42.3**	**-6.6**
	comp=E,0.5nm,0.3s						
ORIF	**Oris-en-Rattie**	**6.02**	**297**	*e*P	**Pn**	**22 23 43.7**	**+1.9**
ORIF				*e*Sn	**Sn**	**22 24 43.9**	**-6.8**
	comp=E,0.9nm,0.4s						
BARS	**Barje**	**6.21**	**83**	*e*Pn	**Pn**	**22 23 46.1**	**+1.7**
BARS				*e*Sn	**Sn**	**22 24 54.6**	**-0.7**
PRVS	**Prvonek**	**6.41**	**86**	*e*Pn	**Pn**	**22 23 48.6**	**+1.5**
PRVS				*e*Sn	**Sn**	**22 24 59.8**	**-0.4**
GERES	**GERESS Array B**	**6.45**	**2**	Pn	**Pn**	**22 23 49.3**	**+1.6**
	comp=E,0.2nm,0.3s,baz=181,slow=10,SNR=4.4						
GERES				Sn	**Sn**	**22 25 00.8**	**-0.6**
	comp=E,0.7nm,0.3s,baz=190,slow=23,SNR=4.1						
	comp=E,1.2nm,0.7s						
CKRC	**Cesky Krumlov**	**6.45**	**5**	*e*SN	**Sn**	**22 25 02.3**	**+1.0**
KHC	**Kasperske Hory**	**6.74**	**1**	*e*SN	**Sn**	**22 25 08.4**	**+0.2**
HINF	**Hinteralfeld**	**7.13**	**322**	*e*P	**Pn**	**22 23 58.9**	**+1.8**
HINF				*e*Sn	Sn	22 25 10.4	-7.7
	comp=E,2.2nm,0.5s						
KEST	**Kesra**	**7.37**	**207**	Pn	Pn	22 24 06.2	+5.8
	comp=E,0.6nm,0.3s,baz=53,slow=5.1,SNR=14						
	comp=E,3.7nm,0.5s						
CDF	**Champ du Feu**	**7.40**	**326**	*e*P	**Pn**	**22 24 02.9**	**+2.1**
CDF				*e*Sn	Sn	22 25 16.6	-8.2
	comp=E,1.1nm,0.3s						
HAU	**Haudompre**	**7.50**	**321**	*e*P	**Pn**	**22 24 04.1**	**+1.9**
HAU				*e*Sn	Sn	22 25 18.7	-8.5
	comp=E,2.1nm,0.4s						
MKAR	**Makanchi Array**	**47.81**	**60**	P	**P**	**22 30 51.5**	**+1.3**
	comp=E,0.2nm,0.6s,baz=301,slow=8.2,SNR=1.6						
	comp=E,0.2nm,0.6s						
PTBC	**PUERTO BERRIO,**	**84.07**	**273**	*e*P	**P**	**22 34 47.3**	**+3.4**
CHIC	**Chingaza**	**84.80**	**272**	*e*P	**P**	**22 34 47.3**	**-0.8**

PGC 05 22:31:14.4±4.3**, 50°.96N**×**130°.60W, h10**km**, MLSn2.9**/15**, Mw3.5**/15**, 217km Wsw of Bella Bella, Bc Vancouver Island, Canada Region, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HG4B	**Hotspring**	**1.39**	**345**	Pn	Pn	22 31 37.5	-2.5
HOLB	**Holberg**	**1.59**	**100**	Pn	Pn	22 31 40.7	-2.0
HOLB				Sn	Sn	22 31 58.9	-4.5
BAIB	**Barry Inlet**	**1.77**	**337**	Pn	Pn	22 31 43.3	-2.0
BAIB				Sn	Sn	22 32 04.1	-3.8
BNB	**Barry Inlet**	**1.77**	**337**	Pn	Pn	22 31 43.2	-2.0
BNB				Sn	Sn	22 32 03.8	-4.1
BBB	**Bella Bella**	**1.98**	**51**	Pn	Pn	22 31 45.8	-2.2
BBB				Sn	Sn	22 32 09.5	-3.3
PHC	**Port Hardy**	**2.02**	**96**	Pn	Pn	22 31 46.7	-1.8
PHC				Sn	Sn	22 32 10.1	-3.7
BNKB	**Banks Island**	**2.42**	**10**	Pn	Pn	22 31 51.9	-2.2
BUTB	**Butedale**	**2.49**	**31**	Pn	Pn	22 31 53.5	-1.5
DIB	**Dawson Inlet,**	**2.53**	**333**	Pn	Pn	22 31 54.3	-1.3
BNAB	**Bonilla**	**2.54**	**359**	Pn	Pn	22 31 54.5	-1.1
GRIB	**Gribbell Islan**	**2.55**	**20**	Pn	Pn	22 31 54.1	-1.8
WOSB	**Woss**	**2.69**	**106**	Pn	Pn	22 31 56.4	-1.4
GRNB	**Grenville Isla**	**2.92**	**7**	Pn	Pn	22 31 59.7	-1.3
NCRB	**Newcastle Ridg**	**2.94**	**99**	Pn	Pn	22 32 00.1	-1.2
KITB	**Kitimat**	**3.35**	**20**	Pn	Pn	22 32 05.1	-1.6
CBB	**Campbell River**	**3.46**	**103**	Pn	Pn	22 32 06.6	-1.8
TXB	**Texada**	**4.14**	**105**	Pn	Pn	22 32 16.1	-1.6
UBRB	**Upper Baezaeko**	**4.47**	**62**	Pn	Pn	22 32 21.7	-0.7
SHB	**Sechelt**	**4.52**	**105**	Pn	Pn	22 32 21.9	-1.1
FSJB	**Fort St James**	**5.19**	**45**	Pn	Pn	22 32 30.6	-1.5

*NEIC **05** 22:31:13.3±1.2, 60°.84N±0°.03×151°.66W±0°.07, h86km±6km, Error ellipse: s-maj=5.2km s-min=4.2km az=131.0*

*IDC **05** 22:31:13.3±1.4, 60°.75N×151°.43W, h74km±28km, mb3.4/2, mbtmp3.6/6, Error ellipse: s-maj=40.4km s-min=9.7km az=113.0*

*AEIC **05** 22:31:14.7±1.1, 60°.84N±0°.03×151°.62W±0°.06, h73km±5km, ML3.3, ML3.5/190(NEIC), Error ellipse: s-maj=4.9km s-min=3.3km az=130.0*

ISC 05 22:31:14.1±0.8**, 60°.84N**±0°.03×**151°.62W**±0°.02**, h85**km±5km**, n298,** σ**0s.93**/314**, Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPN	**Captain Cook N**	**0.24**	**106**		**Pn**	**22 31 26.7**	**+0.2**
CAPN				Sn	**Sn**	**22 31 35.3**	**-0.5**
CAPN	**Captain Cook N**	**0.24**	**106**	P	**Pn**	**22 31 27.0**	**+0.5**
	baz=289						
N20K	**Mount Spurr**	**0.47**	**322**	P	**Pn**	**22 31 27.0**	**-1.1**
	baz=141						
N20K				S	**Sn**	**22 31 36.9**	**-1.6**
	baz=141						
SPCR	**Spurr Chakacha**	**0.47**	**322**		**Pn**	**22 31 26.8**	**-1.3**
SPCR					**Sn**	**22 31 36.9**	**-1.6**
RDT	**Redoubt**	**0.47**	**236**		**Pn**	**22 31 26.9**	**-1.2**
RDT					**Sn**	**22 31 37.0**	**-1.5**
SPCN	**Chakachatna No**	**0.48**	**325**		**Pn**	**22 31 27.1**	**-1.0**
SPCN					**Sn**	**22 31 37.6**	**-0.9**
SPCG	**Spurr Capps Gl**	**0.50**	**337**		**Pn**	**22 31 27.2**	**-1.2**
SPCG					**Sn**	**22 31 37.4**	**-1.6**
SPCP	**Crater Peak Br**	**0.50**	**329**		**Pn**	**22 31 27.5**	**-1.0**
SPCP					**Sn**	**22 31 38.0**	**-1.2**
DFR	**Drift River**	**0.58**	**245**		**Pn**	**22 31 28.1**	**-0.9**
DFR					**Sn**	**22 31 39.1**	**-1.0**
RDJH	**Redoubt Jeurge**	**0.63**	**248**		**Pn**	**22 31 28.6**	**-1.0**
RSO	**Redoubt South**	**0.67**	**237**		**Pn**	**22 31 29.3**	**-0.8**
RDSO	**Redoubt South**	**0.67**	**236**		**Sn**	**22 31 41.3**	**-0.5**
STLK	**Strandline Lak**	**0.67**	**351**		**Pn**	**22 31 28.9**	**-1.0**
RDWB	**Redoubt West**	**0.69**	**240**		**Sn**	**22 31 41.4**	**-0.8**
SPNN	**North Nagishla**	**0.75**	**316**		**Pn**	**22 31 29.9**	**-0.8**
FIS	**Fire Island**	**0.75**	**65**		**Pn**	**22 31 30.8**	**+0.2**
FIS				Sn	**Sn**	**22 31 42.8**	**0.0**
FIS				IAML		22 31 46.6	
	comp=E,2µm,0.7s						
FIS				IAML		22 31 47.6	
	comp=N,2µm,0.7s						
SUA	**Susitna One**	**0.76**	**34**		**Pn**	**22 31 30.0**	**-0.8**
SUA				Sn	**Sn**	**22 31 41.8**	**-1.5**
SUA				IAML		22 31 43.5	
	comp=E,2µm,0.6s						
SUA	**Susitna One**	**0.76**	**34**	P	**Pn**	**22 31 30.0**	**-0.8**
	baz=214						
SUA				S	**Sn**	**22 31 42.3**	**-1.1**
	baz=214						
SLKM	**Skilak Lake**	**0.76**	**115**		**Sn**	**22 31 42.3**	**-0.9**
O20K	**Slope Mountain**	**0.90**	**214**		**Sn**	**22 31 46.1**	**+0.1**
O20K	**Slope Mountain**	**0.90**	**214**	P	**Pn**	**22 31 32.1**	**-0.3**
	baz=33						
O20K				S	**Sn**	**22 31 46.1**	**+0.1**
	baz=33						
RC01	**Rabbit Creek A**	**0.95**	**74**		**Pn**	**22 31 32.1**	**-0.8**
RC01				IAML		22 31 47.8	
	comp=E,1µm,0.4s						
RC01				IAML		22 31 48.3	
	comp=N,1µm,0.3s						
RC01	**Rabbit Creek A**	**0.95**	**74**	P	**Pn**	**22 31 32.1**	**-0.8**
	baz=256						
O22K	**Cooper Landing**	**1.00**	**110**		**Pn**	**22 31 32.9**	**-0.4**
O22K	**Cooper Landing**	**1.00**	**110**		**Sn**	**22 31 47.8**	**0.0**
O22K	**Cooper Landing**	**1.00**	**110**	P	**Pn**	**22 31 32.9**	**-0.4**
	baz=292						
O22K				S	**Sn**	**22 31 48.1**	**+0.3**
	baz=292						
ILW	**Iliamna West**	**1.08**	**225**		**Pn**	**22 31 33.7**	**-0.8**
ILW					**Sn**	**22 31 49.1**	**-0.7**
BRLK	**Bradley Lake**	**1.14**	**161**		**Pn**	**22 31 34.4**	**-0.6**
BRLK				IAML		22 31 54.3	
	comp=E,1µm,0.5s						
ILSW	**Iliamna Southw**	**1.14**	**222**		**Pn**	**22 31 34.7**	**-0.5**
SKT	**Skwentna**	**1.15**	**2**		**Pn**	**22 31 34.4**	**-0.8**
SKT				IAML		22 31 51.8	
	comp=E,1µm,0.5s						
SKT				IAML		22 31 52.5	
	comp=N,829nm,0.3s						
SKT	**Skwentna**	**1.15**	**2**		**Sn**	**22 31 50.6**	**-0.5**
SKT	**Skwentna**	**1.15**	**2**	P	**Pn**	**22 31 34.4**	**-0.8**
	baz=182						
SKT				S	**Sn**	**22 31 50.6**	**-0.5**
	baz=182						
M22K	**Willow**	**1.17**	**38**		**Pn**	**22 31 35.4**	**0.0**
M22K	**Willow**	**1.17**	**38**	P	**Pn**	**22 31 35.4**	**0.0**
	baz=219						
BRSE	**Bradley Lake S**	**1.18**	**158**		**Pn**	**22 31 35.0**	**-0.6**
BRSE					**Sn**	**22 31 51.9**	**+0.2**
BRSE	**Bradley Lake S**	**1.18**	**158**	P	**Pn**	**22 31 35.1**	**-0.4**
	baz=339						
BRSE				S	**Sn**	**22 31 52.1**	**+0.4**
	baz=339						
HOM	**Homer**	**1.18**	**181**		**Pn**	**22 31 35.4**	**-0.1**
HOM				IAML		22 31 55.4	
	comp=N,1µm,0.5s						
HOM				IAML		22 31 55.5	
	comp=E,2µm,0.3s						
HOM	**Homer**	**1.18**	**181**	P	**Pn**	**22 31 35.4**	**-0.1**
	baz=0.8						
M20K	**Styx River**	**1.28**	**326**		**Pn**	**22 31 36.4**	**-0.4**
SEW	**Seward**	**1.30**	**123**		**Pn**	**22 31 36.1**	**-0.9**
SEW	**Seward**	**1.30**	**123**	P	**Pn**	**22 31 36.1**	**-0.9**
	baz=306						
CNPM	**China Poot**	**1.33**	**171**		**Pn**	**22 31 36.8**	**-0.6**
CNPM				IAML		22 31 59.6	
	comp=N,861nm,0.3s						
CNPM	**China Poot**	**1.33**	**171**		**Sn**	**22 31 54.4**	**-0.6**
N19K	**Bonanza Creek**	**1.40**	**270**		**Pn**	**22 31 37.5**	**-0.9**
N19K	**Bonanza Creek**	**1.40**	**270**	IAML		22 31 56.0	
	comp=N,355nm,0.5s						
N19K	**Bonanza Creek**	**1.40**	**270**	P	**Pn**	**22 31 37.5**	**-0.9**
	baz=88						
PMR	**Palmer**	**1.43**	**57**		**Pn**	**22 31 37.8**	**-0.8**
PMR				IAML		22 31 58.9	
	comp=E,1µm,0.4s						
PMR	**Palmer**	**1.43**	**57**	P	**Pn**	**22 31 37.8**	**-0.8**
PMR	**Palmer**	**1.43**	**57**	P	**Pn**	**22 31 37.7**	**-0.8**
	baz=239						
P19K	**Oil Pt**	**1.43**	**215**		**Pn**	**22 31 38.7**	**0.0**
P19K				IAML		22 32 03.9	
	comp=N,891nm,0.5s						
P19K	**Oil Pt**	**1.43**	**215**	P	**Pn**	**22 31 38.8**	**0.0**
	baz=33						
O19K	**Port Alsworth**	**1.48**	**245**		**Pn**	**22 31 38.3**	**-0.9**
O19K	**Port Alsworth**	**1.48**	**245**		**Sn**	**22 31 57.1**	**-1.2**
O19K	**Port Alsworth**	**1.48**	**245**	P	**Pn**	**22 31 38.5**	**-0.8**
	baz=63						
O19K				S	**Sn**	**22 31 57.1**	**-1.2**
	baz=63						
GHO	**Glory Hole Cre**	**1.61**	**53**		**Pn**	**22 31 40.1**	**-0.9**
PWL	**Port Wells**	**1.61**	**88**		**Pn**	**22 31 39.7**	**-1.2**
PWL	**Port Wells**	**1.61**	**88**	P	**Pn**	**22 31 39.7**	**-1.2**
	baz=271						
KNK	**Knik Glacier**	**1.64**	**68**		**Pn**	**22 31 40.4**	**-1.0**
KNK				IAML		22 32 02.3	
	comp=E,992nm,0.4s						
KNK	**Knik Glacier**	**1.64**	**68**		**Sn**	**22 32 01.2**	**-0.9**
KNK	**Knik Glacier**	**1.64**	**68**	P	**Pn**	**22 31 40.5**	**-0.9**
	baz=251						
KNK				S	**Sn**	**22 32 01.2**	**-0.9**
	baz=251						
CUT	**Chulitna**	**1.70**	**22**		**Pn**	**22 31 41.6**	**-0.5**
CUT	**Chulitna**	**1.70**	**22**	P	**Pn**	**22 31 41.7**	**-0.5**
	baz=203						
AUQ	**Augustine Qik'**	**1.73**	**212**		**Pn**	**22 31 42.9**	**+0.3**
AUCH	**Augustine Cone**	**1.74**	**213**		**Pn**	**22 31 43.0**	**+0.3**
SML	**Sawmill**	**1.86**	**57**		**Pn**	**22 31 43.4**	**-0.9**
SML				IAML		22 32 06.3	
	comp=N,843nm,0.7s						
SML				IAML		22 32 10.7	
	comp=E,630nm,0.6s						
SML	**Sawmill**	**1.86**	**57**	P	**Pn**	**22 31 43.4**	**-0.9**
	baz=240						
SVW2	**Sparrevohn**	**1.95**	**279**		**Pn**	**22 31 44.1**	**-1.3**
SVW2				IAML		22 32 07.7	
	comp=E,188nm,0.9s						
SVW2	**Sparrevohn**	**1.95**	**279**		**Sn**	**22 32 07.5**	**-1.8**
SVW2	**Sparrevohn**	**1.95**	**279**	P	**Pn**	**22 31 44.1**	**-1.3**
L20K	**Farewell, AK**	**1.97**	**328**	P	**Pn**	**22 31 45.2**	**-0.5**
	baz=146						
O18K	**Koktuh Hills**	**2.04**	**243**		**Pn**	**22 31 45.7**	**-0.8**
O18K				IAML		22 32 10.8	
	comp=N,331nm,0.6s						
O18K				IAML		22 32 10.9	
	comp=E,218nm,0.3s						
O18K	**Koktuh Hills**	**2.04**	**243**	P	**Pn**	**22 31 45.8**	**-0.8**
	baz=59						
L19K	**White Mountain**	**2.06**	**313**		**Pn**	**22 31 46.9**	**0.0**
L19K	**White Mountain**	**2.06**	**313**	IAML		22 32 12.3	
	comp=E,198nm,0.6s						
L19K				IAML		22 32 12.4	
	comp=N,199nm,0.7s						
PPLA	**Purkeypile**	**2.09**	**353**		**Pn**	**22 31 47.1**	**-0.2**
PPLA	**Purkeypile**	**2.09**	**353**	P	**Pn**	**22 31 47.2**	**-0.2**
	baz=172						
N18K	**Kilae Creek**	**2.10**	**268**		**Pn**	**22 31 46.4**	**-1.0**
M23K	**Glacier View**	**2.11**	**61**		**Pn**	**22 31 46.8**	**-0.7**
M23K					**Sn**	**22 32 11.8**	**-1.3**
M23K	**Glacier View**	**2.11**	**61**	P	**Pn**	**22 31 46.8**	**-0.7**
	baz=245						
M23K				S	**Sn**	**22 32 11.8**	**-1.3**
	baz=245						
M18K	**Stony River**	**2.14**	**290**		**Pn**	**22 31 47.1**	**-0.8**
M18K	**Stony River**	**2.14**	**290**	P	**Pn**	**22 31 47.1**	**-0.8**
	baz=106						
Q19K	**Cape Douglas,**	**2.17**	**209**		**Pn**	**22 31 48.0**	**-0.3**
Q19K	**Cape Douglas,**	**2.17**	**209**	P	**Pn**	**22 31 48.3**	**0.0**
	baz=27						

GLI	**Glacier Island**	**2.21**	**87**		**Pn**	**22 31 46.7**	**-2.3**
GLI	**Glacier Island**	**2.21**	**87**		**Sn**	**22 32 13.3**	**-2.2**
GLI	**Glacier Island**	**2.21**	**87**	P	**Pn**	**22 31 46.6**	**-2.3**
	baz=271						
GLI				S	**Sn**	**22 32 13.3**	**-2.2**
	baz=271						
P23K	**Montague Islan**	**2.25**	**110**		**Pn**	**22 31 48.1**	**-1.4**
P23K	**Montague Islan**	**2.25**	**110**	P	**Pn**	**22 31 48.1**	**-1.4**
	baz=294						
Q20K	**Shuyak Island**	**2.27**	**190**	P	**Pn**	**22 31 49.6**	**0.0**
	baz=9.6						
SYI	**Shuyak Island**	**2.27**	**190**		**Pn**	**22 31 49.5**	**-0.1**
SYI	**Shuyak Island**	**2.27**	**190**	IAML		22 32 22.2	
	comp=E,448nm,0.6s						
SYI				IAML		22 32 22.7	
	comp=N,427nm,0.6s						
SCM	**Sheep Creek Mo**	**2.30**	**62**		**Pn**	**22 31 49.2**	**-0.9**
SCM				IAML		22 32 26.8	
	comp=E,556nm,0.7s						
SCM	**Sheep Creek Mo**	**2.30**	**62**	P	**Pn**	**22 31 49.5**	**-0.6**
	baz=246						
P18K	**Big Mountain,**	**2.31**	**233**		**Pn**	**22 31 49.4**	**-0.9**
P18K	**Big Mountain,**	**2.31**	**233**	P	**Pn**	**22 31 49.4**	**-0.9**
	baz=50						
WAT1	**Susitna Watana**	**2.48**	**35**		**Pn**	**22 31 51.8**	**-0.6**
WAT1	**Susitna Watana**	**2.48**	**35**	P	**Pn**	**22 31 52.0**	**-0.4**
	baz=217						
FID	**Port Fidalgo**	**2.52**	**90**		**Pn**	**22 31 50.3**	**-2.8**
FID	**Port Fidalgo**	**2.52**	**90**		**Sn**	**22 32 20.4**	**-2.5**
WAT6	**Susitna Watana**	**2.55**	**45**	P	**Pn**	**22 31 52.7**	**-0.7**
	baz=228						
HIN	**Hinchinbrook I**	**2.56**	**98**		**Pn**	**22 31 51.4**	**-2.2**
HIN				IAML		22 32 24.3	
	comp=E,305nm,0.9s						
HIN				IAML		22 32 25.7	
	comp=N,331nm,0.9s						
CAST	**Castle Rocks**	**2.60**	**355**		**Pn**	**22 31 53.3**	**-0.8**
CAST	**Castle Rocks**	**2.60**	**355**	P	**Pn**	**22 31 53.5**	**-0.6**
	baz=175						
TRF	**Thorofare Moun**	**2.70**	**13**		**Pn**	**22 31 54.6**	**-1.0**
TRF				IAML		22 32 34.0	
	comp=N,262nm,0.5s						
TRF				IAML		22 32 34.1	
	comp=E,242nm,0.5s						
TRF	**Thorofare Moun**	**2.70**	**13**	P	**Pn**	**22 31 54.7**	**-0.8**
	baz=194						
KTH	**Kantishna Hill**	**2.75**	**7**		**Pn**	**22 31 55.8**	**-0.3**
KTH				IAML		22 32 30.9	
	comp=E,168nm,0.9s						
KTH				IAML		22 32 32.3	
	comp=N,184nm,0.7s						
KTH	**Kantishna Hill**	**2.75**	**7**		**Sn**	**22 32 28.6**	**+0.2**
N17K	**Nushagak Hills**	**2.75**	**266**		**Pn**	**22 31 55.5**	**-0.6**
N17K	**Nushagak Hills**	**2.75**	**266**	IAML		22 32 27.4	
	comp=N,98nm,0.6s						
N17K	**Nushagak Hills**	**2.75**	**266**	P	**Pn**	**22 31 55.7**	**-0.5**
	baz=81						
KAHG	**Katmai Hook Gl**	**2.78**	**214**		**Pn**	**22 31 56.8**	**+0.3**
K20K	**Telida**	**2.78**	**337**		**Pn**	**22 31 56.1**	**-0.3**
KAHC	**Katmai Hardscr**	**2.78**	**219**		**Pn**	**22 31 56.3**	**-0.3**
KAHC	**Katmai Hardscr**	**2.78**	**219**	P	**Pn**	**22 31 56.5**	**-0.2**
	baz=36						
Q18K	**Katmai Hardscr**	**2.78**	**219**	P	**Pn**	**22 31 56.4**	**-0.2**
	baz=36						
L18K	**Granite Mounta**	**2.80**	**302**		**Pn**	**22 31 56.3**	**-0.4**
L18K					**Sn**	**22 32 27.8**	**-1.6**
L18K	**Granite Mounta**	**2.80**	**302**	P	**Pn**	**22 31 56.3**	**-0.4**
	baz=117						
L18K				S	**Sn**	**22 32 27.8**	**-1.6**
	baz=117						
KLU	**Klutina**	**2.84**	**74**	Pn	**Pn**	**22 31 56.0**	**-1.3**
KLU				IAML		22 32 30.1	
	comp=E,222nm,0.5s						
M17K	**Holitna River**	**2.88**	**284**		**Pn**	**22 31 57.2**	**-0.6**
M17K	**Holitna River**	**2.88**	**284**	IAML		22 32 31.0	
	comp=E,132nm,0.6s						
M17K				IAML		22 32 31.8	
	comp=N,145nm,0.7s						
RND	**Reindeer**	**2.89**	**26**		**Pn**	**22 31 57.3**	**-0.7**
RND				IAML		22 32 45.7	
	comp=N,122nm,0.6s						
RND				IAML		22 32 47.5	
	comp=E,142nm,0.8s						
EYAK	**Cordova Ski Ar**	**2.90**	**93**		**Pn**	**22 31 55.9**	**-2.2**
EYAK	**Cordova Ski Ar**	**2.90**	**93**	P	**Pn**	**22 31 57.0**	**-1.1**
M24K	**Tolsona, Glenn**	**2.91**	**62**		**Pn**	**22 31 57.8**	**-0.4**
M24K	**Tolsona, Glenn**	**2.91**	**62**	P	**Pn**	**22 31 57.9**	**-0.3**
	baz=246						
O17K	**Koliganek Bris**	**2.92**	**251**		**Pn**	**22 31 58.1**	**-0.3**
O17K					**Sn**	**22 32 31.1**	**-1.4**
O17K	**Koliganek Bris**	**2.92**	**251**	P	**Pn**	**22 31 58.2**	**-0.3**
	baz=66						
O17K				S	**Sn**	**22 32 31.1**	**-1.4**
	baz=66						
P17K	**Kvichak River**	**2.92**	**238**	P	**Pn**	**22 31 58.4**	**0.0**
	baz=54						
TTA	**Tatalina**	**2.96**	**317**		**Pn**	**22 31 58.4**	**-0.5**
TTA	**Tatalina**	**2.96**	**317**	P	**Pn**	**22 31 58.3**	**-0.5**
TTA	**Tatalina**	**2.96**	**317**	P	**Pn**	**22 31 58.4**	**-0.5**
	baz=133						
DHY	**Denali Highway**	**3.01**	**40**		**Pn**	**22 31 58.9**	**-0.8**
DHY				IAML		22 32 43.2	
	comp=E,223nm,0.7s						
DHY				IAML		22 32 49.8	
	comp=N,174nm,0.7s						
DHY	**Denali Highway**	**3.01**	**40**	P	**Pn**	**22 31 59.2**	**-0.6**
	baz=224						
CHUM	**Lake Minchumin**	**3.08**	**354**		**Pn**	**22 31 59.5**	**-0.9**
KVTA	**Katmai Vly 10**	**3.09**	**219**		**Pn**	**22 32 00.8**	**+0.1**
KAKN	**Katmai Knife C**	**3.09**	**216**		**Pn**	**22 32 00.6**	**-0.2**
KDAK	**Kodiak Island**	**3.10**	**190**		**Pn**	**22 31 59.3**	**-1.5**
KDAK				IAML		22 32 51.1	
	comp=N,140nm,0.5s						
KDAK				IAML		22 32 55.8	
	comp=N,142nm,1.2s						
KDAK	**Kodiak Island**	**3.10**	**190**	P	**Pn**	**22 31 59.3**	**-1.5**
	comp=N,24nm,0.3s,baz=33,slow=9.5,SNR=383						
KDAK				S	**Sn**	**22 32 34.4**	**-2.4**
	comp=N,32nm,0.3s,baz=150,slow=23,SNR=7.2						
MCK	**McKinley**	**3.17**	**22**		**Pn**	**22 32 01.4**	**-0.3**
MCK	**McKinley**	**3.17**	**22**	P	**Pn**	**22 32 01.7**	**0.0**
	baz=204						
KCE	**Katmai Mt Cerb**	**3.17**	**216**		**Pn**	**22 32 02.6**	**+0.9**
KABU	**Katmai Buttres**	**3.18**	**218**		**Pn**	**22 32 02.1**	**+0.2**
ACHA	**Angle Creek He**	**3.24**	**217**		**Pn**	**22 32 02.9**	**+0.1**
BPAW	**Bear Paw Mtn.**	**3.29**	**5**		**Pn**	**22 32 02.2**	**-1.2**
BPAW				IAML		22 32 43.7	
	comp=N,66nm,0.4s						
BPAW				IAML		22 32 43.9	
	comp=E,109nm,0.4s						
BPAW	**Bear Paw Mtn.**	**3.29**	**5**	P	**Pn**	**22 32 02.6**	**-0.8**
	baz=185						
ANCK	**Angle Creek**	**3.30**	**218**		**Pn**	**22 32 03.7**	**+0.2**
CNTC	**Contact Creek**	**3.37**	**222**		**Pn**	**22 32 04.5**	**0.0**
Q17K	**Contact Creek**	**3.37**	**222**	P	**Pn**	**22 32 04.5**	**-0.1**
	baz=38						
GOAT	**Goat Mountain**	**3.40**	**91**		**Pn**	**22 32 02.6**	**-2.2**
BMRM	**Bremner River**	**3.43**	**85**		**Pn**	**22 32 03.1**	**-2.1**
BMRM	**Bremner River**	**3.43**	**85**	P	**Pn**	**22 32 03.2**	**-2.1**
	baz=271						
L17K	**Donlin**	**3.46**	**295**	P	**Pn**	**22 32 05.1**	**-0.5**
	baz=109						
O16K	**Kokwok River B**	**3.46**	**252**		**Pn**	**22 32 05.3**	**-0.3**
O16K	**Kokwok River B**	**3.46**	**252**	IAML		22 32 58.8	
	comp=E,47nm,0.6s						
HARP	**HAARP**	**3.46**	**60**		**Pn**	**22 32 05.4**	**-0.2**
HARP	**HAARP**	**3.46**	**60**	P	**Pn**	**22 32 05.5**	**-0.2**
	baz=246						
N25K	**Chitina, Valde**	**3.48**	**74**		**Pn**	**22 32 04.6**	**-1.4**
N25K				IAML		22 32 45.8	
	comp=N,138nm,0.4s						
N25K				IAML		22 32 46.3	
	comp=E,91nm,0.5s						
N25K	**Chitina, Valde**	**3.48**	**74**	P	**Pn**	**22 32 04.7**	**-1.4**
	baz=260						
BWN	**Browne**	**3.50**	**16**		**Pn**	**22 32 06.7**	**+0.6**
BWN				IAML		22 33 10.4	
	comp=E,126nm,0.8s						
BWN				IAML		22 33 15.7	
	comp=N,137nm,1.0s						
N16K	**Nishlik Lake**	**3.54**	**267**	P	**Pn**	**22 32 06.5**	**-0.3**
	baz=81						
J20K	**Nowinta River**	**3.55**	**342**		**Pn**	**22 32 06.3**	**-0.6**
J20K				IAML		22 32 48.6	
	comp=N,59nm,1.0s						
J20K				IAML		22 32 48.6	
	comp=E,72nm,0.7s						
J20K	**Nowinta River**	**3.55**	**342**	P	**Pn**	**22 32 06.2**	**-0.7**
	baz=160						
J18K	**Innoko River**	**3.56**	**320**		**Pn**	**22 32 06.7**	**-0.3**
M16K	**Timber Creek**	**3.59**	**276**		**Pn**	**22 32 07.0**	**-0.4**
R18K	**Karluk**	**3.59**	**205**		**Pn**	**22 32 06.6**	**-0.7**
PAX	**Paxson**	**3.61**	**51**	P	**Pn**	**22 32 07.8**	**0.0**
	baz=236						
J19K	**Poorman**	**3.68**	**331**		**Pn**	**22 32 08.0**	**-0.6**
P16K	**Nushagak River**	**3.68**	**243**	P	**Pn**	**22 32 08.9**	**+0.3**
	baz=58						
K17K	**Iditarod**	**3.69**	**304**		**Pn**	**22 32 08.7**	**-0.1**
K17K	**Iditarod**	**3.69**	**304**	IAML		22 32 50.9	
	comp=N,52nm,1.2s						
K17K				IAML		22 32 51.3	
	comp=E,88nm,0.7s						
OHAK	**Old Harbor**	**3.72**	**194**		**Pn**	**22 32 07.5**	**-1.6**
OHAK				IAML		22 33 04.0	
	comp=N,84nm,0.4s						
OHAK				IAML		22 33 06.4	
	comp=E,78nm,0.6s						
OHAK	**Old Harbor**	**3.72**	**194**	P	**Pn**	**22 32 07.6**	**-1.6**
GLB	**Gilahina Butte**	**3.84**	**77**	Pn	**Pn**	**22 32 09.2**	**-1.6**
GLB				IAML		22 33 03.5	
	comp=E,64nm,0.5s						
GLB				IAML		22 33 15.2	
	comp=N,79nm,0.5s						
L16K	**Owhat River**	**3.89**	**286**		**Pn**	**22 32 10.9**	**-0.6**
L16K	**Owhat River**	**3.89**	**286**	P	**Pn**	**22 32 10.9**	**-0.6**
	baz=100						
NEA2	**Nenana**	**3.95**	**16**		**Pn**	**22 32 11.7**	**-0.6**
NEA2	**Nenana**	**3.95**	**16**	P	**Pn**	**22 32 12.1**	**-0.2**
	baz=198						
VRDI	**Verde Repeater**	**3.99**	**81**	Pn	**Pn**	**22 32 11.1**	**-2.0**
VRDI				IAML		22 33 20.7	
	comp=E,40nm,0.7s						
VRDI				IAML		22 33 25.6	
	comp=N,53nm,1.2s						
WRH	**Wood River Hil**	**4.00**	**23**	Pn	**Pn**	**22 32 12.1**	**-0.8**
WRH				IAML		22 33 18.7	
	comp=N,41nm,1.3s						
R17K	**Ugashik Creek**	**4.03**	**219**		**Pn**	**22 32 14.3**	**+0.9**
R17K				IAML		22 33 09.2	
	comp=E,49nm,0.9s						
R17K				IAML		22 33 20.4	
	comp=N,45nm,1.4s						
K24K	**Donnelly Dome**	**4.04**	**40**		**Pn**	**22 32 15.1**	**+1.6**
KHIT	**Khitrov Hills**	**4.14**	**92**		**Pn**	**22 32 12.1**	**-2.9**
HDA	**Harding Lake**	**4.19**	**29**		**Pn**	**22 32 15.0**	**-0.5**
HDA				IAML		22 33 11.6	
	comp=E,75nm,0.3s						
HDA				IAML		22 33 12.5	
	comp=N,102nm,0.5s						
HDA	**Harding Lake**	**4.19**	**29**	P	**Pn**	**22 32 14.9**	**-0.6**
	baz=213						
HDA				P	**Pn**	**22 32 14.9**	**-0.6**
	baz=213						
I20K	**Naaghedeneel**	**4.19**	**343**		**Pn**	**22 32 15.4**	**0.0**
I20K				IAML		22 33 21.1	
	comp=E,96nm,0.8s						
I20K				IAML		22 33 36.4	
	comp=N,93nm,1.2s						
MCARA	**McCarthy VSAT**	**4.21**	**79**	Pn	**Pn**	**22 32 14.4**	**-1.4**
MCARA				IAML		22 33 26.1	
	comp=E,118nm,0.7s						
CCB	**Clear Creek Bu**	**4.21**	**23**		**Pn**	**22 32 14.4**	**-1.4**
CCB				IAML		22 33 26.6	
	comp=E,40nm,0.9s						
MLY	**Manley**	**4.23**	**5**		**Pn**	**22 32 15.4**	**-0.8**
MLY	**Manley**	**4.23**	**5**	P	**Pn**	**22 32 15.8**	**-0.3**
	baz=186						
N15K	**Kwethluk River**	**4.24**	**265**		**Pn**	**22 32 16.3**	**+0.1**
N15K	**Kwethluk River**	**4.24**	**265**	IAML		22 33 05.4	
	comp=E,44nm,0.9s						
N15K				IAML		22 33 05.4	
	comp=N,37nm,0.8s						
MENT	**Mentasta**	**4.29**	**57**		**Pn**	**22 32 16.2**	**-0.7**
RIDG	**Independent Ri**	**4.30**	**44**		**Pn**	**22 32 17.4**	**+0.3**
TGL	**Tana Glacier**	**4.31**	**87**		**Pn**	**22 32 14.9**	**-2.3**
TGL	**Tana Glacier**	**4.31**	**87**	IAML		22 33 24.1	
	comp=N,56nm,1.3s						
TGL				IAML		22 33 26.8	
	comp=E,71nm,0.6s						
WAX	**Waxell Ridge**	**4.33**	**91**		**Pn**	**22 32 14.8**	**-2.8**
WAX	**Waxell Ridge**	**4.33**	**91**	IAML		22 33 08.3	
	comp=E,87nm,0.5s						
I21K	**Tanana**	**4.37**	**358**		**Pn**	**22 32 17.0**	**-0.8**
COLA	**College**	**4.41**	**21**		**Pn**	**22 32 18.2**	**-0.3**
COLA				IAML		22 33 44.1	
	comp=E,102nm,0.5s						
COLA	**College**	**4.41**	**21**	P	**Pn**	**22 32 19.7**	**+1.3**
M26K	**Nabesna, AK**	**4.41**	**65**		**Pn**	**22 32 18.1**	**-0.5**
M26K				IAML		22 33 31.1	
	comp=E,50nm,0.4s						
M26K				IAML		22 33 37.3	
	comp=N,63nm,0.5s						
MDM	**Murphy Dome**	**4.42**	**19**		**Pn**	**22 32 17.7**	**-1.0**
MDM				IAML		22 33 26.5	
	comp=N,23nm,0.9s						
MDM				IAML		22 33 44.2	
	comp=E,29nm,1.1s						
O15K	**Ungalikthiuk R**	**4.44**	**252**		**Pn**	**22 32 19.0**	**+0.1**
O15K	**Ungalikthiuk R**	**4.44**	**252**	P	**Pn**	**22 32 19.0**	**+0.1**
	baz=64						
M15K	**Kasigluk River**	**4.45**	**272**	P	**Pn**	**22 32 18.6**	**-0.5**
	baz=84						
I23K	**Minto, Yukon-K**	**4.45**	**12**		**Pn**	**22 32 18.6**	**-0.4**
I23K				IAML		22 33 40.6	
	comp=E,27nm,1.1s						
I23K				IAML		22 33 40.0	
	comp=N,28nm,1.3s						
I23K	**Minto, Yukon-K**	**4.45**	**12**	P	**Pn**	**22 32 18.9**	**-0.1**
	baz=194						
PTPK	**Patty Peak**	**4.47**	**81**		**Pn**	**22 32 18.2**	**-1.3**
L26K	**Log Cabin Wild**	**4.48**	**57**		**Pn**	**22 32 19.2**	**-0.3**
L26K				IAML		22 33 35.0	
	comp=N,93nm,0.6s						
SII	**Sitkinak Islan**	**4.49**	**198**	Pn	**Pn**	**22 32 18.5**	**-1.2**
SII	**Sitkinak Islan**	**4.49**	**198**	P	**Pn**	**22 32 17.7**	**-2.0**
SII	**Sitkinak Islan**	**4.49**	**198**	P	**Pn**	**22 32 18.3**	**-1.3**
	baz=16						
IL31		**4.51**	**27**		**Pn**	**22 32 19.7**	**-0.1**
ILAR	**Eielson Array**	**4.51**	**27**		**Pn**	**22 32 19.2**	**-0.6**
ILAR	**Eielson Array**	**4.51**	**27**	P	**Pn**	**22 32 19.6**	**-0.3**
	comp=N,8.5nm,0.4s,baz=212,slow=14,SNR=146						
ILAR				S	**Sn**	**22 33 10.5**	**-0.4**
	comp=N,3.7nm,0.3s,baz=205,slow=25,SNR=3.2						
KIAG	**Kiagna River**	**4.53**	**85**		**Pn**	**22 32 18.2**	**-2.1**
POKR	**Poker Plat Res**	**4.70**	**22**		**Pn**	**22 32 22.2**	**-0.3**
POKR				IAML		22 33 46.4	
	comp=E,33nm,0.8s						
POKR				IAML		22 33 52.2	
	comp=N,24nm,0.8s						
POKR	**Poker Plat Res**	**4.70**	**22**	P	**Pn**	**22 32 22.1**	**-0.3**
	baz=206						
SCRK	**Sand Creek**	**4.75**	**45**		**Pn**	**22 32 22.4**	**-0.8**
SCRK				IAML		22 33 35.0	
	comp=N,46nm,1.1s						
SCRK				IAML		22 33 40.9	
	comp=E,52nm,1.0s						
SCRK	**Sand Creek**	**4.75**	**45**	P	**Pn**	**22 32 22.6**	**-0.6**
	baz=232						
J25K	**Salcha River,**	**4.76**	**34**		**Pn**	**22 32 23.3**	**0.0**
MESA	**MESA**	**4.83**	**94**	Pn	**Pn**	**22 32 24.2**	**-0.2**
L15K	**Ungalak Mounta**	**4.84**	**284**		**Pn**	**22 32 23.6**	**-0.7**
H21K	**Melozitna Rive**	**4.87**	**354**		**Pn**	**22 32 23.9**	**-0.9**
H21K	**Melozitna Rive**	**4.87**	**354**	P	**Pn**	**22 32 24.5**	**-0.3**
	baz=173						
M27K	**Edge Creek, AK**	**4.90**	**68**		**Pn**	**22 32 24.9**	**-0.3**
M27K	**Edge Creek, AK**	**4.90**	**68**	IAML		22 33 55.0	
	comp=E,22nm,1.4s						
M27K				IAML		22 34 08.1	
	comp=N,21nm,1.1s						
H20K	**Anotleneega Mo**	**4.90**	**344**		**Pn**	**22 32 24.6**	**-0.6**
K15K	**Wolf Creek Mou**	**4.96**	**291**		**Pn**	**22 32 25.8**	**-0.1**
CTG	**Chitna Glacier**	**5.02**	**84**	P	**Pn**	**22 32 26.2**	**-0.8**
	baz=273						
CTGM	**Chitina Glacie**	**5.03**	**84**		**Pn**	**22 32 26.2**	**-0.8**
CTGM	**Chitina Glacie**	**5.03**	**84**	IAML		22 33 23.4	
	comp=N,29nm,0.4s						
CTGM				IAML		22 33 30.8	
	comp=E,23nm,1.4s						
M14K	**Bethel**	**5.07**	**274**	Pn	**Pn**	**22 32 27.1**	**-0.3**
M14K				IAML		22 33 44.0	
	comp=E,19nm,1.4s						
M14K				IAML		22 35 33.6	
	comp=N,19nm,1.4s						
N14K	**Kuskokwak Cree**	**5.08**	**264**		**Pn**	**22 32 27.8**	**+0.2**
H22K	**Ishtalitna Cre**	**5.08**	**1**		**Pn**	**22 32 26.7**	**-0.9**
O14K	**Tigyukauivet M**	**5.09**	**256**		**Pn**	**22 32 27.9**	**+0.2**
O14K	**Tigyukauivet M**	**5.09**	**256**	IAML		22 34 10.9	
	comp=N,18nm,1.4s						
O14K				IAML		22 35 43.7	
	comp=E,16nm,1.5s						
BCAR	**Beaver Creek A**	**5.15**	**60**	Pn	**Pn**	**22 32 28.4**	**-0.3**
H19K	**Roundabout Mou**	**5.19**	**337**		**Pn**	**22 32 28.3**	**-0.8**
I17K	**Unalakleet**	**5.22**	**310**	Pn	**Pn**	**22 32 29.4**	**-0.1**
I17K				IAML		22 33 30.5	
	comp=E,13nm,0.4s						
I17K	**Unalakleet**	**5.22**	**310**	P	**Pn**	**22 32 29.3**	**-0.1**
	baz=122						
J26L	**Joseph Creek**	**5.23**	**42**		**Pn**	**22 32 29.1**	**-0.6**
IMAR	**Indian Mountai**	**5.26**	**350**		**Pn**	**22 32 29.5**	**-0.5**
H24K	**Noodor Dome**	**5.30**	**17**		**Pn**	**22 32 30.8**	**+0.2**
H24K				IAML		22 34 19.1	
	comp=E,15nm,1.1s						
H18K	**Honhosa River**	**5.31**	**328**		**Pn**	**22 32 30.8**	**0.0**
H18K	**Honhosa River**	**5.31**	**328**	P	**Pn**	**22 32 30.5**	**-0.3**
	baz=142						
L14K	**Kuka Creek**	**5.39**	**280**		**Pn**	**22 32 32.0**	**+0.2**
L14K	**Kuka Creek**	**5.39**	**280**	IAML		22 34 33.9	
	comp=N,13nm,1.3s						
L14K				IAML		22 34 40.1	
	comp=E,15nm,1.3s						
PRP	**Porcupine Dome**	**5.45**	**28**		**Pn**	**22 32 32.8**	**0.0**
PRP	**Porcupine Dome**	**5.45**	**28**	P	**Pn**	**22 32 32.4**	**-0.4**
	baz=213						
K27K	**Chicken**	**5.47**	**50**		**Pn**	**22 32 32.3**	**-0.7**
H17K	**Granite Mounta**	**5.59**	**321**		**Pn**	**22 32 34.6**	**0.0**
PCA	**Pinnacle**	**5.67**	**93**		**Pn**	**22 32 35.2**	**-0.6**
G21K	**Allakaket**	**5.76**	**352**		**Pn**	**22 32 36.9**	**0.0**
G21K	**Allakaket**	**5.76**	**352**	P	**Pn**	**22 32 36.3**	**-0.6**
	baz=171						
CHGN	**Chignik**	**5.77**	**221**	Pn	**Pn**	**22 32 37.0**	**0.0**
M13K	**Dall Lake**	**5.79**	**271**		**Pn**	**22 32 37.2**	**0.0**
G19K	**Purcell Mounta**	**5.86**	**338**		**Pn**	**22 32 37.8**	**-0.5**
G23K	**Bananza Creek**	**5.94**	**6**		**Pn**	**22 32 39.7**	**+0.3**
J14K	**Nanvaranak Lak**	**5.98**	**294**		**Pn**	**22 32 39.8**	**+0.1**
G18K	**Tagagawik**	**5.98**	**331**		**Pn**	**22 32 40.1**	**+0.3**
G18K	**Tagagawik**	**5.98**	**331**	P	**Pn**	**22 32 39.4**	**-0.5**
	baz=145						
G24K	**Hadweenzic Riv**	**6.17**	**16**		**Pn**	**22 32 41.9**	**-0.6**
H16K	**Elim**	**6.19**	**313**		**Pn**	**22 32 43.5**	**+0.8**
G17K	**Kiwalik Mounta**	**6.21**	**323**		**Pn**	**22 32 43.4**	**+0.4**
EGAK	**Eagle**	**6.21**	**46**		**Pn**	**22 32 42.3**	**-0.7**
EGAK	**Eagle**	**6.21**	**46**	P	**Pn**	**22 32 42.4**	**-0.6**
	baz=235						
K13K	**Kusilvak Mount**	**6.36**	**286**		**Pn**	**22 32 45.4**	**+0.3**
FYU	**Fort Yukon**	**6.41**	**23**		**Pn**	**22 32 45.3**	**-0.4**
COLD	**Coldfoot**	**6.45**	**5**		**Pn**	**22 32 46.2**	**0.0**
COLD	**Coldfoot**	**6.45**	**5**	P	**Pn**	**22 32 46.2**	**0.0**
	baz=186						
F21K	**Alatna River**	**6.46**	**354**		**Pn**	**22 32 46.7**	**+0.2**
M29M	**Somme Creek**	**6.47**	**70**		**Pn**	**22 32 46.0**	**-0.7**
F20K	**Avaraart Lake**	**6.49**	**346**		**Pn**	**22 32 46.7**	**-0.1**
DAWY	**Dawson**	**6.53**	**55**	Pn	**Pn**	**22 32 46.7**	**-0.8**
I27K	**Kandik River**	**6.58**	**39**		**Pn**	**22 32 47.4**	**-0.6**
F19K	**Shaleruckik Mo**	**6.60**	**338**		**Pn**	**22 32 47.8**	**-0.5**
F24K	**Squaw Lake**	**6.91**	**12**		**Pn**	**22 32 51.5**	**-1.0**
P29M	**Windy Craggy**	**7.02**	**94**		**Pn**	**22 32 53.4**	**-0.7**
I28M	**Miner Creek**	**7.03**	**44**		**Pn**	**22 32 53.4**	**-0.8**
G26K	**Porcupine Rive**	**7.04**	**26**		**Pn**	**22 32 53.4**	**-0.8**
F17K	**Baldwin Pennin**	**7.07**	**327**	Pn	**Pn**	**22 32 55.3**	**+0.7**
E19K	**Redstone River**	**7.08**	**342**		**Pn**	**22 32 55.1**	**+0.2**
M30M	**Minto, Yukon**	**7.26**	**70**	Pn	**Pn**	**22 32 57.1**	**-0.2**
F25K	**Christian Rive**	**7.26**	**18**	P	**Pn**	**22 32 56.8**	**-0.6**
	baz=204						
BMAR	**Burnt Mountain**	**7.30**	**22**		**Pn**	**22 32 57.1**	**-0.8**
E24K	**Your Creek**	**7.39**	**9**		**Pn**	**22 32 59.2**	**+0.1**
G27K	**Doyon Strip**	**7.43**	**32**		**Pn**	**22 32 58.6**	**-1.1**
E18K	**Tukpahlearik C**	**7.68**	**333**		**Pn**	**22 33 03.7**	**+0.7**
E25K	**Arctic Village**	**7.76**	**17**		**Pn**	**22 33 02.8**	**-1.4**
TOLK	**Toolik Lake Re**	**7.89**	**5**		**Pn**	**22 33 06.7**	**+0.8**
J30M	**Hart River**	**7.96**	**55**		**Pn**	**22 33 06.9**	**-0.1**
M31M	**Drury Creek, Y**	**8.35**	**73**	Pn	**Pn**	**22 33 10.9**	**-1.3**
F28M	**Old Crow**	**8.50**	**32**		**Pn**	**22 33 13.4**	**-0.8**
INK	**Inuvik**	**10.76**	**38**	P	**Pn**	**22 33 45.0**	**+0.2**
	comp=E,1.1nm,0.6s,baz=226,slow=14,SNR=4.8						
INK				S	**Sn**	**22 35 44.0**	**+0.9**
	comp=E,0.6nm,0.5s,baz=240,slow=16,SNR=1.6						
YKA	**Yellowknife Ar**	**17.50**	**68**	P	**Pn**	**22 35 12.7**	**+0.5**
	comp=E,0.1nm,0.4s,baz=280,slow=10,SNR=5.2						
SONM	**Songino Array**	**54.85**	**306**	P	**P**	**22 40 36.7**	**+1.4**
	comp=E,0.7nm,0.7s,baz=37,slow=8.6,SNR=4.6						
	comp=E,0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**57.10**	**324**	P	**P**	**22 40 52.1**	**+1.0**
	comp=E,0.5nm,0.4s,baz=38,slow=6.4,SNR=3.0						
	comp=E,0.5nm,0.4s						

NEIC ***05*** *22:52:45.1±1.1, 3°.31S±0°.04×148°.80E±0°.10, h10^{km}±1^{km}, mb4.3/14, Error ellipse: s-maj=17.3km s-min=4.9km az=106.0*

IDC ***05*** *22:52:47.3±1.2, 3°.33S×148°.37E, h0^{km}, mb3.9/9, mbtmp3.9/11, ML2.9/2, MS3.6/35, Error ellipse: s-maj=50.9km s-min=17.3km az=92.0*

GCMT ***05*** *22:52:49.1±0.4, 3°.29S±0°.02×149°.01E±0°.03, h16^{km}±2^{km}, MW4.7/77, Moment Tensor Solution. s13,c13; s77,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.09±.08; $M_{\theta\theta}$1.21±.08; $M_{\phi\phi}$-1.12±.08; $M_{r\theta}$-0.03±.23; $M_{\theta\phi}$1.09±.07; $M_{\phi r}$-0.23±.23; Best double couple: $M_0$1.61300×10^{16} NP1:ϕ_s24.00000°, δ87.00000°, λ-172.00000°. NP2: ϕ_s293.00000°, δ82.00000°, λ-3.00000°. Principal axes: T 1.6480, Plg4.0000°, Azm158.0000°; N -0.0700, Plg81.0000°, Azm43.0000°; P -1.5780, Plg8.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 22:52:46.0±0.7**, 3°.31S**±0°.06×**148°.7E**±0°.1**, h10^{km}, n70,** σ**1s.68**/35**, mb4.0**/15**, MS3.6**/32**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.81**	**314**		**Pn**	**22 53 17.5**	**+0.3**
PMG	**Port Moresby**	**6.24**	**194**	Pn	**Pn**	**22 54 17.9**	**-0.3**
PMG	**Port Moresby**	**6.24**	**194**	Pn	**Pn**	**22 54 19.1**	**+1.0**
	1.7nm,0.3s,baz=228,slow=23,SNR=1.5						
PMG				Sn	**Sn**	**22 55 32.4**	**+2.8**
	0.6nm,0.3s,baz=31,slow=5.7,SNR=3.4						
PMG				LR	LR	22 56 52.3	
	comp=Z,575nm,18.1s,baz=296,slow=40						
	6.6nm,0.4s						
COEN	**Coen**	**11.88**	**207**	Pn	**Pn**	**22 55 34.4**	**-1.3**
HNR	**Honiara**	**12.75**	**119**	LR	LR	23 00 36.9	
	comp=Z,3μm,19.3s,baz=293,slow=36						
CTA	**Charters Tower**	**16.84**	**188**	Pn	**P**	**22 56 43.7**	**-0.5**
	0.2nm,0.3s,baz=27,slow=14,SNR=4.6						
CTA				LR	LR	23 03 43.3	
	comp=Z,227nm,19.2s,baz=1.0,slow=39						
	2.2nm,0.6s						
CTAO	**Charters Tower**	**16.84**	**188**	Pn	**Pn**	**22 56 41.0**	**-1.1**
GUMO	**Guam**	**17.21**	**347**	LR	LR	23 02 00.6	
	comp=Z,283nm,21.7s,baz=170,slow=32						
MTN	**Manton Dam**	**19.75**	**240**	P	**P**	**22 57 15.0**	**-1.3**
MTN				IAmb	IAmb	22 57 44.4	
	comp=Z,20nm,1.4s						
WB0	**Warramunga Arr**	**21.48**	**219**	P	**P**	**22 57 33.9**	**-1.1**
WB0				IAmb	IAmb	22 57 45.6	
	comp=Z,22nm,1.1s						
WRA	**Warramunga Arr**	**21.65**	**219**	P	**P**	**22 57 36.0**	**-0.8**
WRA	**Warramunga Arr**	**21.65**	**219**	P	**P**	**22 57 37.3**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=42,slow=11,SNR=16						
	comp=Z,1.7nm,0.8s						
EIDS	**Eidsvold**	**22.05**	**174**	P	**P**	**22 57 38.7**	**-2.4**
EIDS				IAmb	IAmb	22 57 55.6	
	comp=Z,20nm,1.2s						
AS31	**Alice Springs**	**24.76**	**214**	P	**P**	**22 58 07.0**	**-1.1**
ASAR	**Alice Springs**	**24.76**	**214**	P	**P**	**22 58 07.5**	**-0.5**
ASAR	**Alice Springs**	**24.76**	**214**	P	**P**	**22 58 09.1**	**+1.0**
	comp=Z,5.0nm,0.8s,baz=49,slow=8.2,SNR=26						
ASAR				LR	LR	23 08 14.5	
	comp=Z,187nm,21.1s,baz=42,slow=38						
	comp=Z,5.0nm,0.8s						
DAV	**Davao City (W)**	**25.24**	**294**	LR	LR	23 05 47.5	
	comp=Z,92nm,21.8s,baz=298,slow=31						
DZM	**Mont Dzumac**	**25.41**	**139**	P	**P**	**22 58 11.3**	**-2.7**
DZM	**Mont Dzumac**	**25.41**	**139**	LR	LR	23 06 39.8	
	comp=Z,403nm,20.1s,baz=253,slow=32						

BATI	**Baumata**	**25.74**	**253**	LR	LR	23 11 01.5	
	comp=Z,221nm,18.7s,baz=98,slow=43						
H11S3	**WAKE ISLAND Hy**	**28.01**	**39**	T	T	23 27 44.5	
	baz=220,slow=76,SNR=612						
H11S2	**WAKE ISLAND Hy**	**28.02**	**39**	T	T	23 27 46.0	
	baz=220,slow=76,SNR=480						
H11S1	**WAKE ISLAND Hy**	**28.03**	**39**	T	T	23 27 46.8	
	baz=220,slow=76,SNR=375						
KAPI	**Kappang**	**28.88**	**266**	LR	LR	23 11 13.6	
	comp=Z,54nm,19.1s,baz=74,slow=39						
H11N1	**WAKE ISLAND Hy**	**29.06**	**37**	T	T	23 29 02.8	
	baz=219,slow=76,SNR=36						
H11N3	**WAKE ISLAND Hy**	**29.07**	**37**	T	T	23 29 03.8	
	baz=219,slow=76,SNR=46						
H11N2	**WAKE ISLAND Hy**	**29.08**	**37**	T	T	23 29 04.1	
	baz=219,slow=76,SNR=47						
STKA	**Stephens Creek**	**29.18**	**192**	LR	LR	23 11 10.9	
	comp=Z,190nm,21.1s,baz=18,slow=38						
JCJ	**Chichijima**	**30.87**	**349**	LR	LR	23 11 12.4	
	comp=Z,73nm,19.2s,baz=108,slow=36						
BBOO	**Buckleboo**	**31.63**	**201**	P	**P**	**22 59 08.7**	**-0.7**
JOW	**Kunigami**	**35.86**	**328**	LR	LR	23 12 52.9	
	comp=Z,83nm,20.8s,baz=178,slow=34						
JHJ	**Hachijo jima 2**	**37.20**	**348**	LR	LR	23 13 08.3	
	comp=Z,188nm,20.9s,baz=300,slow=33						
JNU	**Nakatsue**	**39.95**	**336**	LR	LR	23 15 21.7	
	comp=Z,54nm,18.2s,baz=148,slow=34						
MJAR	**Matsushiro Arr**	**40.83**	**347**	LR	LR	23 16 41.7	
	comp=Z,92nm,19.4s,baz=188,slow=35						
LEM	**Lembang**	**41.02**	**263**	LR	LR	23 19 20.2	
	comp=Z,46nm,21.9s,baz=76,slow=39						
NWAO	**Narrogin (SRO)**	**41.63**	**221**	LR	LR	23 17 52.2	
	comp=Z,155nm,21.9s,baz=234,slow=36						
URZ	**Urewera**	**43.41**	**147**	LR	LR	23 15 46.5	
	comp=Z,216nm,20.7s,baz=34,slow=32						
RPZ	**Rata Peaks**	**44.86**	**157**	LR	LR	23 16 09.8	
	comp=Z,211nm,21.6s,baz=320,slow=31						
ASAJ	**Asahikawa**	**47.53**	**354**	LR	LR	23 24 04.2	
	comp=Z,30nm,18.0s,baz=144,slow=40						
USRK	**Ussuriysk Ar.**	**49.61**	**344**	LR	LR	23 20 25.7	
	comp=Z,102nm,21.1s,baz=165,slow=34						
CMAR	**Chiang Mai Arr**	**53.52**	**296**	P	**P**	**23 02 06.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**53.52**	**296**	LR	LR	23 24 44.5	
	comp=Z,20nm,19.6s,baz=55,slow=36						
KLR	**Kul'dur**	**54.35**	**346**	LR	LR	23 23 39.9	
	comp=Z,46nm,19.9s,baz=168,slow=34						
PETK	**Petropavlovsk-**	**56.73**	**7**	LR	LR	23 23 20.7	
	comp=Z,41nm,21.7s,baz=198,slow=32						
HIA	**Hailar**	**58.06**	**338**	P	**P**	**23 02 38.6**	**-0.7**
SHEM	**Shemya Is, Ala**	**59.82**	**18**	LR	LR	23 22 37.3	
	comp=Z,30nm,20.3s,baz=74,slow=30						
MA2	**Magadan**	**62.72**	**1**	LR	LR	23 32 19.2	
	comp=Z,35nm,18.3s,baz=167,slow=38						
SONM	**Songino Array**	**62.91**	**329**	P	**P**	**23 03 15.4**	**+2.7**
	comp=Z,0.6nm,0.9s,baz=162,slow=6.9,SNR=4.2						
	comp=Z,0.6nm,0.9s						
SEY	**Seymchan**	**66.13**	**2**	LR	LR	23 34 01.5	
	comp=Z,32nm,18.4s,baz=135,slow=37						
VNDA	**Vanda**	**74.49**	**177**	P	**P**	**23 04 22.9**	**-1.3**
VNDA				IAmb	IAmb	23 04 31.7	
	comp=Z,2.6nm,1.2s						
VNDA	**Vanda**	**74.49**	**177**	P	**P**	**23 04 27.9**	**+3.7**
	comp=Z,1.0nm,0.8s,baz=322,slow=5.1,SNR=6.9						
VNDA				LR	LR	23 35 38.6	
	comp=Z,32nm,18.2s,baz=308,slow=34						
	comp=Z,1.0nm,0.8s						
MK31	**Makanchi Array**	**76.51**	**320**	P	**P**	**23 04 35.6**	**-0.9**
MK31				IAmb	IAmb	23 04 40.6	
	comp=Z,4.4nm,1.4s						
MKAR	**Makanchi Array**	**76.51**	**320**	P	**P**	**23 04 35.8**	**-0.7**
MKAR	**Makanchi Array**	**76.51**	**320**	P	**P**	**23 04 38.6**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=100,slow=5.4,SNR=6.0						
	comp=Z,0.7nm,0.7s						
ZAA0	**Zalesovo Array**	**77.65**	**327**	P	**P**	**23 04 41.3**	**-1.3**
ZAA0				IAmb	IAmb	23 04 48.3	
	comp=Z,2.1nm,0.9s						
ZALV	**Zalesovo Beam**	**77.65**	**327**	P	**P**	**23 04 41.5**	**-1.1**
ZALV	**Zalesovo Beam**	**77.65**	**327**	P	**P**	**23 04 45.0**	**+2.4**
	comp=Z,1.1nm,0.7s,baz=104,slow=6.3,SNR=5.2						
	comp=Z,1.1nm,0.7s						
KURK	**Kurchatov**	**80.08**	**323**	P	**P**	**23 04 54.7**	**-1.3**
KURK				IAmb	IAmb	23 05 02.3	
	comp=Z,3.4nm,0.9s						
KURBB	**Kurchatov Arra**	**80.10**	**323**	P	**P**	**23 04 58.0**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=106,slow=4.7,SNR=7.4						
KURBB				LR	LR	23 41 26.6	
	comp=Z,28nm,19.4s,baz=176,slow=36						
	comp=Z,0.8nm,0.7s						
ILAR	**Eielson Array**	**82.38**	**23**	LR	LR	23 33 43.0	
	comp=Z,22nm,21.8s,baz=128,slow=30						
BMAR	**Burnt Mountain**	**84.31**	**21**	P	**P**	**23 05 16.5**	**-1.4**
BVAR	**Borovoye Array**	**85.59**	**324**	P	**P**	**23 05 26.9**	**+2.3**
	comp=Z,0.6nm,0.6s,baz=193,slow=11,SNR=2.1						
BVAR				LR	LR	23 45 39.0	
	comp=Z,27nm,18.1s,baz=61,slow=37						
	comp=Z,0.6nm,0.6s						
BRVK	**Borovoye**	**85.66**	**324**	P	**P**	**23 05 24.4**	**-0.6**
BRVK				IAmb	IAmb	23 05 24.8	
	comp=Z,2.7nm,0.9s						
BBB	**Bella Bella**	**88.44**	**38**	LR	LR	23 40 00.6	
	comp=Z,40nm,18.2s,baz=232,slow=32						
INK	**Inuvik**	**88.56**	**21**	LR	LR	23 40 20.1	
	comp=Z,33nm,21.6s,baz=289,slow=32						
YBH	**Yreka Blue Hor**	**91.16**	**48**	LR	LR	23 36 49.2	
	comp=Z,37nm,20.0s,baz=256,slow=29						
GEYT	**Alibeck**	**92.44**	**308**	LR	LR	23 47 19.8	
	comp=Z,12nm,19.9s,baz=339,slow=36						
NVAR	**Mina Array Bea**	**94.42**	**52**	LR	LR	23 40 26.2	
	comp=Z,44nm,20.0s,baz=270,slow=30						
YKA	**Yellowknife Ar**	**96.04**	**28**	P	**P**	**23 06 16.0**	**+2.6**
	comp=Z,0.2nm,0.5s,baz=278,slow=4.8,SNR=3.6						
	comp=Z,0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**145.93**	**289**	PKPbc	**PKPab**	**23 12 28.1**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=68,slow=4.2,SNR=7.7						

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*TUL **05** 23:06:39.1±0.7, 35°.66N±0°.01×97°.16W±0°.01, h5km±3km, ML2.9, mb_Lg2.4/38(NEIC), ML2.6/30(NEIC), Error ellipse: s-maj=1.8km s-min=1.3km az=148.0*
*ANF **05** 23:06:39.1±0.3, 35°.70N×97°.15W, h5km, ML3.1/6, Error ellipse: s-maj=4.2km s-min=2.8km az=161.0*
*NEIC **05** 23:06:39.9±0.6, 35°.66N±0°.01×97°.16W±0°.01, h7km±3km, Error ellipse: s-maj=2.0km s-min=1.4km az=135.0*
ISC 05 23:06:39.5±1.0**, 35°.67N**±0°.02×**97°.16W**±0°.02**, h10**km±9km**, n61, σ0s.61**/60**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.17**	**264**	Pg	**Pg**	**23 06 42.8**	**-0.4**
ADOK				Sg	**Sg**	**23 06 45.6**	**-0.1**
OK029	**Liberty Lake**	**0.27**	**298**	Pg	**Pg**	**23 06 44.9**	**-0.1**
OK029				Sg	**Sg**	**23 06 48.9**	**+0.3**
OK029				IAML		23 06 49.2	
	780nm,0.4s						
OKCSW	**OKLAHOMA CITY**	**0.35**	**220**	Pg	**Pg**	**23 06 46.1**	**-0.3**
OKCSW				Sg	**Sg**	**23 06 51.3**	**+0.2**
OKCSW				IAML		23 06 51.4	
	comp=E,801nm,0.4s						
OK030	**Cody Creek RV**	**0.40**	**50**	Pg	**Pg**	**23 06 47.5**	**+0.2**
OK030				Sg	**Sg**	**23 06 53.2**	**+0.5**
OK030				IAML		23 06 54.1	
	comp=E,424nm,0.1s						
OK033	**Mehan**	**0.41**	**26**	Sg	**Sg**	**23 06 53.9**	**+0.7**
OK052	**Battle Ridge R**	**0.43**	**42**	Pg	**Pg**	**23 06 48.1**	**+0.1**
OK052				Sg	**Sg**	**23 06 54.4**	**+0.6**
OK052				IAML		23 06 54.8	
	comp=E,593nm,0.2s						
OK052				IAML		23 06 54.9	
	comp=E,466nm,0.1s						
FNO	**Franklin**	**0.46**	**205**	Pg	**Pg**	**23 06 48.0**	**-0.4**
FNO				Sg	**Sg**	**23 06 54.5**	**0.0**
FNO				IAML		23 06 54.8	
	comp=E,1μm,0.4s						
FNO				IAML		23 06 54.8	
	comp=N,478nm,0.4s						
DEOK	**Depew**	**0.57**	**72**	Pg	**Pg**	**23 06 50.3**	**-0.2**
DEOK				Sg	**Sg**	**23 06 58.3**	**+0.4**
DEOK				IAML		23 06 58.8	
	comp=E,452nm,0.2s						
W35A	**Tecumseh**	**0.57**	**156**	IAmb_Lg		23 06 56.7	
	comp=Z,36nm,1.0s						
QUOK	**Quay**	**0.62**	**36**	Pg	**Pg**	**23 06 51.2**	**-0.4**
QUOK				Sg	**Sg**	**23 06 60.0**	**+0.3**
QUOK				IAML		23 07 00.9	
	comp=N,408nm,0.1s						
OK048	**Pawnee Station**	**0.76**	**13**	Pg	**Pg**	**23 06 53.7**	**-0.5**
OK048				Sg	**Sg**	**23 07 04.6**	**+0.3**
OK048				IAML		23 07 05.3	
	comp=N,196nm,0.1s						
OK051	**E0350 and S346**	**0.87**	**17**	Pg	**Pg**	**23 06 55.7**	**-0.6**
OK051				Sg	**Sg**	**23 07 07.9**	**+0.2**
CROK	**Carrier**	**1.06**	**322**	Pg	**Pg**	**23 06 59.2**	**-0.8**
CROK				Sg	**Sg**	**23 07 13.8**	**0.0**
CROK				IAML		23 07 22.0	
	comp=N,280nm,0.2s						
CROK				IAML		23 07 24.1	
	comp=E,214nm,0.3s						
BLOK	**Blackwell**	**1.09**	**358**	Pg	**Pg**	**23 06 59.8**	**-0.6**
TUL3	**Leonard**	**1.14**	**77**	Pg	**Pg**	**23 07 00.5**	**-0.9**
TUL3				IAML		23 07 21.1	
	comp=E,111nm,0.2s						
TUL3				IAML		23 07 21.2	
	comp=N,139nm,0.4s						
TUL3	**Leonard**	**1.14**	**77**	P	**Pg**	**23 07 00.0**	**-1.4**
	baz=258						
TUL3				S	**Sg**	**23 07 15.9**	**-0.3**
	baz=258						
GC02	**Grant County #**	**1.31**	**335**		**Pn**	**23 07 03.4**	**-0.5**
T35A	**Sooner Cattle**	**1.35**	**23**		**Pn**	**23 07 03.9**	**-0.5**
T35B	**Sooner Cattle**	**1.35**	**23**	P	**Pn**	**23 07 04.0**	**-0.4**
	baz=203						
T35B				S	**Sb**	**23 07 22.7**	**+0.5**
	baz=203						
KAN13	**South Haven SW**	**1.36**	**349**		**Pn**	**23 07 04.4**	**-0.2**
OK032	**Salt Plains WL**	**1.41**	**323**		**Pn**	**23 07 05.3**	**0.0**
KAN14	**Manchester OK**	**1.44**	**333**		**Pn**	**23 07 05.6**	**0.0**
KAN17	**Caldwell West**	**1.45**	**341**		**Pn**	**23 07 06.3**	**+0.5**
KAN09	**Caldwell North**	**1.51**	**346**		**Pn**	**23 07 07.0**	**+0.4**
OK038	**West end E0370**	**1.51**	**303**		**Pn**	**23 07 07.0**	**+0.3**
KAN05	**Bluff City Nor**	**1.54**	**338**		**Pn**	**23 07 07.8**	**+0.7**
KAN01	**Argonia South**	**1.56**	**342**		**Pn**	**23 07 07.3**	**0.0**
WMOK	**Wichita Mounta**	**1.62**	**235**		**Pn**	**23 07 07.8**	**-0.3**
WMOK	**Wichita Mounta**	**1.62**	**235**	P	**Pn**	**23 07 08.1**	**0.0**
	baz=55						
WMOK				S	**Sb**	**23 07 30.5**	**+0.5**
	baz=55						
OK035	**E0210 Rd and N**	**1.62**	**310**		**Pn**	**23 07 08.3**	**+0.1**
KAN10	**Anthony SW Sta**	**1.63**	**333**	Pn	**Pn**	**23 07 08.4**	**+0.1**
U32A	**Winter Ranch,**	**1.65**	**296**	Pn	**Pn**	**23 07 08.9**	**+0.3**
U32A	**Winter Ranch,**	**1.65**	**296**	P	**Pn**	**23 07 09.2**	**+0.6**
	baz=115						
U32A				S	**Sb**	**23 07 31.8**	**+0.9**
	baz=115						
LOOK	**Love County**	**1.68**	**181**	Pn	**Pn**	**23 07 09.4**	**+0.5**
LOOK				IAmb_Lg		23 07 32.1	
	comp=Z,17nm,0.7s						
RLO	**Rose Lookout**	**1.81**	**74**	Pn	**Pn**	**23 07 10.9**	**+0.2**
X37A	**Clayton**	**1.82**	**126**	Pn	**Pn**	**23 07 11.4**	**+0.5**
X37A				IAmb_Lg		23 07 37.8	
	comp=Z,20nm,0.7s						
X37A	**Clayton**	**1.82**	**126**	P	**Pn**	**23 07 11.6**	**+0.7**
	baz=307						
WTFS	**Witchita Falls**	**2.18**	**210**	Pn	**Pn**	**23 07 16.5**	**+0.7**
Z35A	**Perchaven, San**	**2.34**	**182**	IAmb_Lg		23 07 59.2	
	comp=Z,19nm,0.9s						
SMWD	**Samnorwood**	**2.58**	**258**	Pn	**Pn**	**23 07 21.1**	**-0.3**
SMWD				IAmb_Lg		23 07 58.5	
	comp=Z,7.8nm,0.7s						
FW06	**Azle**	**2.71**	**187**	IAmb_Lg		23 08 11.5	
	comp=Z,18nm,1.3s						
FW03	**Perrin-Whitt E**	**2.73**	**196**	IAmb_Lg		23 08 07.2	
	comp=Z,11nm,1.0s						
PLPT	**Palo Pinto**	**3.01**	**199**	Pn	**Pn**	**23 07 25.6**	**-1.5**
PLPT				IAmb_Lg		23 08 12.9	
	comp=Z,7.3nm,1.0s						
R32A	**Long Quarter,**	**3.01**	**336**	IAmb_Lg		23 08 22.1	
	comp=Z,8.8nm,0.9s						
MIAR	**Mount Ida**	**3.15**	**110**	Pn	**Pn**	**23 07 29.6**	**+0.6**
MIAR	**Mount Ida**	**3.15**	**110**	P	**Pn**	**23 07 30.6**	**+1.5**
	baz=292						
ABTX	**Abilene, Hawle**	**3.67**	**215**	IAmb_Lg		23 08 37.2	
	comp=Z,6.3nm,0.8s						
S39A	**Bolivar**	**3.69**	**56**	Pn	**Pn**	**23 07 36.4**	**-0.1**
S39A				IAmb_Lg		23 08 41.4	
	comp=Z,5.9nm,0.8s						
DKNS	**Dickens**	**3.69**	**238**	IAmb_Lg		23 08 42.1	
	comp=Z,12nm,1.1s						
X40A	**Basin Creek Fa**	**3.74**	**107**	IAmb_Lg		23 08 41.1	
	comp=Z,16nm,0.8s						
AMTX	**Amarillo**	**3.78**	**259**	IAmb_Lg		23 08 40.3	
	comp=Z,12nm,0.9s						
WHAR	**Wooly Hollow**	**4.00**	**94**	Pn	**Pn**	**23 07 40.0**	**-0.7**
MGMO	**Mountain Grove**	**4.21**	**68**	IAmb_Lg		23 09 02.9	
	comp=Z,10.0nm,0.8s						
POST	**Post**	**4.43**	**235**	IAmb_Lg		23 09 08.7	
	comp=Z,8.1nm,1.0s						
BRDY	**Brady**	**4.63**	**200**	IAmb_Lg		23 09 10.9	
	comp=Z,6.5nm,0.7s						
R40A	**Maddies Statio**	**4.71**	**55**	Pn	**Pn**	**23 07 48.8**	**-1.8**
P38A	**Dawn**	**4.89**	**35**	Pn	**Pn**	**23 07 53.3**	**+0.3**
CCM	**Cathedral Cave**	**5.31**	**62**	IAmb_Lg		23 09 28.2	
	comp=Z,9.6nm,0.8s						
JCT	**Junction City**	**5.63**	**204**	IAmb_Lg		23 09 47.7	
	comp=Z,8.2nm,0.8s						
T25A	**Trinidad**	**6.03**	**286**	IAmb_Lg		23 09 51.0	
	comp=Z,8.4nm,0.8s						
HNDO	**Hondo**	**6.38**	**197**	IAmb_Lg		23 10 03.7	
	comp=Z,14nm,1.0s						

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*IDC **05** 23:10:02.5±4.6, 22°.34N×120°.97E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=356.7km s-min=27.2km az=60.0*
*TAP **05** 23:10:06.8, 22°.08N×120°.22E, h44km, ML3.8, D*
ISC 05 23:10:07.3±1.1**, 22°.07N**±0°.04×**120°.16E**±0°.03**, h32**km±8km**, n128, σ0s.87**/216**, mb3.7**/3**, 1C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWP	**Hsiaoliuchiu**	**0.33**	**34**	*i* P	**Pb**	**23 10 15.8**	**+0.5**
	baz=23						
TWP				*i* S	**Sn**	**23 10 23.5**	**+1.9**
	baz=23						
KAU	**Kaohsiung**	**0.51**	**15**	P	**Pb**	**23 10 18.6**	**+0.6**
	baz=11						
KAU				S	**Sn**	**23 10 27.7**	**+1.6**
	baz=11						
SCZT	**Fangliau**	**0.52**	**55**	*i* P	**Pb**	**23 10 17.7**	**-0.4**
	baz=52						
SCZT				*i* S	**Sb**	**23 10 25.7**	**+0.1**
	baz=52						
HEN	**Hengchun**	**0.54**	**97**	*i* P	**Pb**	**23 10 18.4**	**0.0**
	baz=87						
HEN				S	**Sb**	**23 10 27.2**	**+1.2**
	baz=87						
WSSB	**Gushan**	**0.58**	**9**	P	**Pb**	**23 10 19.2**	**+0.1**
	baz=352						
WSSB				S	**Sn**	**23 10 28.9**	**+1.2**
	baz=352						
SLIU	**Shizi**	**0.61**	**76**	⇑*i*P	**Pb**	**23 10 18.7**	**-0.9**
	baz=67						
SLIU				S	**Sb**	**23 10 28.1**	**+0.1**
	baz=67						
TWK1	**Hengchun**	**0.61**	**102**	P	**Pb**	**23 10 19.3**	**-0.3**
	baz=104						
TWK1				S	**Sb**	**23 10 28.4**	**+0.3**
	baz=104						
TWKBT	**Hengchun**	**0.62**	**102**	*i* P	**Pb**	**23 10 19.1**	**-0.6**
	baz=104						
TWKBT				*i* S	**Sb**	**23 10 28.4**	**+0.1**
	baz=104						
SMST	**Manzhou Townsh**	**0.63**	**94**	P	**Pb**	**23 10 19.4**	**-0.5**
	baz=96						
SMST				S	**Sb**	**23 10 28.6**	**0.0**
	baz=96						
TSPT	**Pingtung City**	**0.68**	**27**	*e*P	**Pb**	**23 10 21.0**	**+0.3**
	baz=23						
TSPT				*e*S	**Sn**	**23 10 32.1**	**+2.0**
	baz=23						
MASBT	**Mashibuluo**	**0.69**	**39**	*e*P	**Pb**	**23 10 20.0**	**-1.0**
	baz=36						
MASBT				*e*S	**Sb**	**23 10 29.3**	**-1.0**
	baz=36						
TSEB	**Hengchuen, Pin**	**0.71**	**104**	*e*P	**Pb**	**23 10 19.8**	**-1.4**
	baz=107						
TSEB				S	**Sb**	**23 10 29.9**	**-0.7**
	baz=107						
EAST	**Anshuo**	**0.71**	**64**	P	**Pb**	**23 10 20.4**	**-0.9**
	baz=63						
EAST				S	**Sb**	**23 10 30.2**	**-0.6**
	baz=63						
SGLT	**Jiouru**	**0.72**	**25**	P	**Pb**	**23 10 21.9**	**+0.5**
	baz=22						
SGLT				S	**Sn**	**23 10 32.6**	**+1.5**
	baz=22						
TAWH	**Dawu Township**	**0.72**	**68**	*e*P	**Pb**	**23 10 20.4**	**-1.0**
	baz=67						
TAWH				*e*S	**Sb**	**23 10 30.1**	**-1.1**
	baz=67						
TAW	**Tawu**	**0.74**	**67**	P	**Pb**	**23 10 20.8**	**-0.9**
	baz=66						
TAW				*e*S	**Sb**	**23 10 30.5**	**-1.1**
	baz=66						
TSMG	**Majia**	**0.77**	**35**	P	**Pb**	**23 10 21.3**	**-1.0**
	baz=32						
TSMG				*e*S	**Sb**	**23 10 31.6**	**-0.9**
	baz=32						
TWM1	**Shoushan**	**0.79**	**18**	*e*P	**Pb**	**23 10 22.8**	**+0.2**
	baz=15						
TWM1				*e*S	**Sn**	**23 10 35.2**	**+2.4**
	baz=15						
SSD	**Sandimen**	**0.80**	**33**	*e*P	**Pb**	**23 10 21.6**	**-1.2**
	baz=30						
SSD				*e*S	**Sb**	**23 10 31.8**	**-1.6**
	baz=30						
SCST	**Cishan**	**0.87**	**21**	*e*P	**Pb**	**23 10 23.4**	**-0.5**
	baz=28						
ECL	**Taimali**	**0.90**	**54**	*e*P	**Pb**	**23 10 23.0**	**-1.4**
	baz=53						
SHHT	**Tainan City**	**0.96**	**10**	*e*P	**Pb**	**23 10 24.9**	**-0.6**
	baz=7.0						
SHHT				*e*S	**Sb**	**23 10 38.5**	**+0.6**
	baz=7.0						
CHN3	**Shinhua**	**1.02**	**11**	*e*S	**Sb**	**23 10 38.0**	**-1.5**
	baz=8.0						
SSHA	**Shanhua**	**1.07**	**6**	*e*S	**Sb**	**23 10 41.0**	**+0.2**
	baz=4.0						
TSCK	**Chigu Township**	**1.07**	**356**	*e*P	**Pn**	**23 10 25.3**	**-0.8**
	baz=354						
TSCK				*e*S	**Sb**	**23 10 39.4**	**-1.7**
	baz=354						
SGST	**Jiashian**	**1.08**	**21**	*e*P	**Pn**	**23 10 25.2**	**-1.0**
	baz=19						
SGST				*e*S	**Sb**	**23 10 39.1**	**-2.1**
	baz=19						
SCLT	**Jiali**	**1.10**	**2**	*e*S	**Sb**	**23 10 41.1**	**-0.7**
	baz=359						
TWG	**Pinlang**	**1.13**	**48**	*i* P	**Pn**	**23 10 26.8**	**-0.1**
	baz=47						
TWGBT	**Beinan**	**1.13**	**49**	P	**Pn**	**23 10 27.0**	**+0.1**
TWGBT	**Beinan**	**1.13**	**49**	P	**Pn**	**23 10 26.7**	**-0.2**
	baz=47						
CHN1	**Nanshi**	**1.16**	**17**	*e*P	**Pn**	**23 10 27.1**	**-0.2**
	baz=15						
CHN1				*e*S	**Sb**	**23 10 41.4**	**-2.1**
	baz=15						
STYT	**Tauyuan**	**1.22**	**27**	P	**Pn**	**23 10 27.8**	**-0.4**
	baz=25						
STYT				*e*S	**Sn**	**23 10 42.7**	**-0.9**
	baz=25						
LONT	**Longtian**	**1.22**	**47**	P	**Pn**	**23 10 28.2**	**+0.1**
	baz=45						
TWK	**Hsinying**	**1.23**	**14**	*e*P	**Pn**	**23 10 27.9**	**-0.4**
	baz=13						
TWK				*e*S	**Sn**	**23 10 43.4**	**-0.4**
	baz=13						
STYH	**Taoyuan**	**1.23**	**27**	P	**Pn**	**23 10 28.0**	**-0.3**
	baz=25						
STYH				*e*S	**Sn**	**23 10 43.4**	**-0.4**
	baz=25						
WTP	**Ta-pu**	**1.24**	**20**	*e*P	**Pn**	**23 10 28.0**	**-0.5**
	baz=18						
WTP				*e*S	**Sn**	**23 10 43.8**	**-0.4**
	baz=18						
CHN8	**Yiju**	**1.27**	**2**	*e*P	**Pn**	**23 10 28.4**	**-0.4**
	baz=349						
CHN8				*e*S	**Sn**	**23 10 44.8**	**+0.1**
	baz=349						
ICHU	**Yijhu**	**1.29**	**5**	*e*P	**Pn**	**23 10 28.6**	**-0.4**
	baz=15						
ICHU				*e*S	**Sn**	**23 10 44.7**	**-0.5**
	baz=15						
LAY	**Lan-yu**	**1.29**	**91**	*e*P	**Pn**	**23 10 27.8**	**-1.3**
	baz=92						
TPUB	**Ta-pu**	**1.30**	**19**	P	**Pn**	**23 10 28.7**	**-0.5**
TPUB	**Ta-pu**	**1.30**	**19**	P	**Pn**	**23 10 28.5**	**-0.8**
	baz=17						
TPUB				S	**Sn**	**23 10 44.5**	**-1.0**
	baz=17						
VCHM	**Qimei**	**1.32**	**329**	*e*P	**Pn**	**23 10 28.4**	**-1.0**
	baz=339						
VCHM				*e*S	**Sn**	**23 10 45.1**	**-0.9**
	baz=339						
LYUB	**Lan-yu**	**1.32**	**93**	*e*P	**Pn**	**23 10 26.6**	**-2.9**
	baz=93						
CHN4	**Tsaushan**	**1.33**	**17**	P	**Pn**	**23 10 29.2**	**-0.5**
	baz=15						
CHN4				S	**Sn**	**23 10 45.8**	**-0.6**
	baz=15						
LDUT	**Ludao**	**1.35**	**63**	*e*P	**Pn**	**23 10 29.2**	**-0.7**
	baz=63						
LDUT				*e*S	**Sn**	**23 10 45.7**	**-1.1**
	baz=63						
ELDTW	**Lidau**	**1.36**	**35**	*e*P	**Pn**	**23 10 29.9**	**-0.3**
	baz=34						
ELDTW				*e*S	**Sn**	**23 10 46.9**	**-0.4**
	baz=34						
EDH	**Donghe**	**1.39**	**49**	*e*P	**Pn**	**23 10 29.6**	**-0.8**
	baz=48						
ECS	**Chishang**	**1.41**	**44**	*e*P	**Pn**	**23 10 32.0**	**+1.2**
	baz=34						
ECS				*e*S	**Sn**	**23 10 50.0**	**+1.7**
	baz=34						
WCKO	**Fanlu**	**1.42**	**17**	*e*P	**Pn**	**23 10 30.4**	**-0.5**
	baz=15						
WCKO				S	**Sn**	**23 10 47.6**	**-0.9**
	baz=15						
CHY	**Chiayi**	**1.44**	**10**	*e*P	**Pn**	**23 10 30.8**	**-0.4**
	baz=8.0						
CHY				*e*S	**Sn**	**23 10 48.5**	**-0.4**
	baz=8.0						
EHD	**Haiduan**	**1.44**	**42**	*e*P	**Pn**	**23 10 31.1**	**-0.1**
	baz=31						
EHD				*e*S	**Sn**	**23 10 48.8**	**-0.3**
	baz=31						
WSL	**Shuilin Townsh**	**1.45**	**2**	*e*P	**Pn**	**23 10 30.9**	**-0.3**
	baz=349						
WSL				*e*S	**Sn**	**23 10 49.3**	**+0.2**
	baz=349						
CHN2	**Minshiung**	**1.48**	**11**	*e*P	**Pn**	**23 10 31.7**	**0.0**
	baz=9.0						
CHN2				*e*S	**Sn**	**23 10 49.8**	**-0.2**
	baz=9.0						
CHKT	**Chengkung**	**1.51**	**47**	*e*P	**Pn**	**23 10 32.2**	**+0.1**
	baz=46						
PHUB	**P'eng-hu**	**1.54**	**339**	*e*P	**Pn**	**23 10 31.5**	**-1.0**
	baz=348						
PHUB				*e*S	**Sn**	**23 10 49.7**	**-1.6**
	baz=348						
ALS	**Alishan**	**1.55**	**22**	*e*P	**Pn**	**23 10 32.5**	**-0.4**
	baz=21						
ALS				*e*S	**Sn**	**23 10 51.4**	**-0.7**
	baz=21						
WSF	**Szhu**	**1.56**	**2**	*e*P	**Pn**	**23 10 32.0**	**-0.8**
	baz=12						
WSF				*i* S	**Sn**	**23 10 51.8**	**-0.1**
	baz=12						
PNG	**Penghu**	**1.59**	**340**	*e*P	**Pn**	**23 10 33.1**	**-0.1**
	baz=348						
PNG				*e*S	**Sn**	**23 10 52.5**	**-0.2**
	baz=348						
CHN5	**Tsauling**	**1.59**	**17**	*e*P	**Pn**	**23 10 32.7**	**-0.6**
	baz=16						
CHN5				*e*S	**Sn**	**23 10 51.9**	**-1.0**
	baz=16						
WTK	**Tuku**	**1.62**	**7**	*e*P	**Pn**	**23 10 33.1**	**-0.6**
	baz=355						
WTK				*i* S	**Sn**	**23 10 52.6**	**-0.9**
	baz=355						
WDLH	**Douliu**	**1.65**	**12**	P	**Pn**	**23 10 33.5**	**-0.4**
	baz=10.0						
WDLH				S	**Sn**	**23 10 53.5**	**-0.6**
	baz=10.0						
WGK	**Gukeng**	**1.65**	**13**	P	**Pn**	**23 10 33.6**	**-0.4**
	baz=12						
WGK				S	**Sn**	**23 10 54.4**	**+0.2**
	baz=12						
TWF1	**Yuli**	**1.65**	**39**	*e*P	**Pn**	**23 10 34.5**	**+0.4**
	baz=32						
TWF1				*e*S	**Sn**	**23 10 53.8**	**-0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=32						
EYUL	**Yuli**	**1.66**	**40**	*e*P	**Pn**	**23 10 34.5**	**+0.3**
	baz=32						
EYUL				*e*S	**Sn**	**23 10 55.0**	**+0.5**
	baz=32						
YULB	**Yu-li**	**1.68**	**38**	P	**Pn**	**23 10 34.5**	**0.0**
YULB	**Yu-li**	**1.68**	**38**	*e*P	**Pn**	**23 10 34.7**	**+0.2**
	baz=30						
YULB				*e*S	**Sn**	**23 10 54.4**	**-0.6**
	baz=30						
EHY	**Hungye**	**1.79**	**37**	*e*P	**Pn**	**23 10 36.3**	**+0.4**
	baz=36						
EHY				*e*S	**Sn**	**23 10 58.2**	**+0.7**
	baz=36						
WJS	**Zhushan**	**1.82**	**17**	P	**Pn**	**23 10 35.9**	**-0.5**
	baz=15						
WJS				*e*S	**Sn**	**23 10 57.5**	**-0.9**
	baz=15						
RLNB	**Erlin**	**1.82**	**6**	*e*P	**Pn**	**23 10 36.1**	**-0.3**
	baz=14						
RLNB				*e*S	**Sn**	**23 10 57.4**	**-0.9**
	baz=14						
WRL	**Guolierlin Hig**	**1.83**	**6**	*e*P	**Pn**	**23 10 36.1**	**-0.4**
	baz=14						
WRL				*i* S	**Sn**	**23 10 57.8**	**-0.9**
	baz=14						
HGSD	**Ruisui**	**1.83**	**39**	*e*P	**Pn**	**23 10 37.2**	**+0.6**
	baz=38						
SSLB	**Suanglung**	**1.86**	**23**	P	**Pn**	**23 10 36.7**	**-0.3**
SSLB	**Suanglung**	**1.86**	**23**	*e*P	**Pn**	**23 10 36.6**	**-0.3**
	baz=22						
SSLB				*e*S	**Sn**	**23 10 58.3**	**-1.1**
	baz=22						
WNT	**Mingjian**	**1.86**	**15**	*e*P	**Pn**	**23 10 36.5**	**-0.5**
	baz=25						
WNT				*e*S	**Sn**	**23 10 58.9**	**-0.5**
	baz=25						
VWDT	**VWDT**	**1.90**	**28**	*e*P	**Pn**	**23 10 37.6**	**+0.1**
	baz=27						
SMLT	**Sun Moon Lake**	**1.93**	**21**	*e*P	**Pn**	**23 10 37.9**	**0.0**
	baz=19						
SMLT				*i* S	**Sn**	**23 10 59.7**	**-1.5**
	baz=19						
TYC	**Yuchr**	**1.93**	**19**	*e*P	**Pn**	**23 10 38.0**	**0.0**
	baz=18						
TYC				S	**Sn**	**23 11 01.0**	**-0.1**
	baz=18						
WARBT	**Fenglin Townsh**	**1.99**	**34**	*e*P	**Pn**	**23 10 39.2**	**+0.4**
	baz=22						
WARBT				*e*S	**Sn**	**23 11 02.4**	**-0.2**
	baz=22						
WWF	**Wufeng**	**2.02**	**14**	*e*P	**Pn**	**23 10 39.0**	**-0.2**
	baz=22						
WWF				*e*S	**Sn**	**23 11 03.3**	**-0.1**
	baz=22						
WCHH	**Zhanghua**	**2.03**	**10**	*e*P	**Pn**	**23 10 39.1**	**-0.1**
	baz=9.0						
WCHH				*e*S	**Sn**	**23 11 03.9**	**+0.3**
	baz=9.0						
DPDB	**Guoxing**	**2.08**	**20**	*e*P	**Pn**	**23 10 39.5**	**-0.4**
	baz=19						
DPDB				*e*S	**Sn**	**23 11 04.0**	**-0.8**
	baz=19						
ESL	**Shilin**	**2.09**	**34**	*e*P	**Pn**	**23 10 40.8**	**+0.7**
	baz=22						
ESL				*e*S	**Sn**	**23 11 03.8**	**-1.3**
	baz=22						
WCS	**Beigang Elemen**	**2.09**	**19**	*e*P	**Pn**	**23 10 40.0**	**-0.2**
	baz=18						
WCS				*e*S	**Sn**	**23 11 04.3**	**-0.8**
	baz=18						
WUSB	**Renai**	**2.10**	**25**	*e*P	**Pn**	**23 10 40.5**	**+0.1**
	baz=23						
WUSB				*e*S	**Sn**	**23 11 04.4**	**-1.2**
	baz=23						
CHGB	**Renai**	**2.19**	**25**	*e*P	**Pn**	**23 10 41.9**	**+0.2**
	baz=14						
CHGB				*e*S	**Sn**	**23 11 07.1**	**-0.7**
	baz=14						
ETM	**Tongmen**	**2.25**	**33**	*e*P	**Pn**	**23 10 42.8**	**+0.5**
	baz=22						
ETM				*e*S	**Sn**	**23 11 09.0**	**0.0**
	baz=22						
LXIB	**Xiulin Townshi**	**2.26**	**30**	*e*P	**Pn**	**23 10 42.8**	**+0.3**
	baz=21						
LXIB				*e*S	**Sn**	**23 11 09.2**	**-0.2**
	baz=21						
WHF	**Hehuan Shan**	**2.30**	**26**	*e*P	**Pn**	**23 10 43.9**	**+0.5**
	baz=15						
TWQ1	**Liyutan**	**2.33**	**14**	*e*P	**Pn**	**23 10 45.0**	**+1.5**
	baz=13						
TWQ1				*e*S	**Sn**	**23 11 09.7**	**-1.4**
	baz=13						
TDCB	**Techi**	**2.36**	**23**	*e*P	**Pn**	**23 10 44.2**	**+0.3**
	baz=22						
TWT	**Tachien**	**2.36**	**23**	*e*P	**Pn**	**23 10 44.1**	**+0.1**
	baz=22						
TWT				*e*S	**Sn**	**23 11 11.3**	**-0.8**
	baz=22						
FUSS	**Fushou**	**2.38**	**25**	*e*P	**Pn**	**23 10 44.7**	**+0.3**
	baz=23						
FUSS				*e*S	**Sn**	**23 11 13.6**	**+0.9**
	baz=23						
TWD	**Chiawan**	**2.40**	**33**	*e*P	**Pn**	**23 10 43.6**	**-0.7**
	baz=23						
TWD				*e*S	**Sn**	**23 11 11.5**	**-1.0**
	baz=23						
NACB	**Ninganchiao**	**2.48**	**32**	P	**Pn**	**23 10 45.9**	**+0.5**
NACB	**Ninganchiao**	**2.48**	**32**	*e*P	**Pn**	**23 10 45.0**	**-0.4**
	baz=31						
NACB				*e*S	**Sn**	**23 11 14.2**	**-0.3**
	baz=31						
NNSB	**Datong**	**2.60**	**25**	*e*P	**Pn**	**23 10 48.3**	**+1.0**
	baz=16						
NNS	**Nan Shan**	**2.61**	**25**	*e*P	**Pn**	**23 10 48.5**	**+1.1**
	baz=17						
NNS				S	**Sn**	**23 11 18.9**	**+0.9**
	baz=17						
NSTT	**Nanjuang**	**2.66**	**17**	*e*P	**Pn**	**23 10 47.6**	**-0.4**
	baz=16						
NSTT				*e*S	**Sn**	**23 11 18.2**	**-1.0**
	baz=16						
NFF	**Wufeng Townshi**	**2.70**	**19**	*e*P	**Pn**	**23 10 49.1**	**+0.7**
	baz=18						
NFF				*e*S	**Sn**	**23 11 19.5**	**-0.6**
	baz=18						
LATG	**Datong**	**2.75**	**27**	*e*P	**Pn**	**23 10 49.9**	**+0.5**
	baz=26						
LATG				*e*S	**Sn**	**23 11 21.5**	**-0.1**
	baz=26						
ENA	**Nanau**	**2.76**	**31**	*e*P	**Pn**	**23 10 49.9**	**+0.6**
	baz=41						
ENA				*e*S	**Sn**	**23 11 20.5**	**-1.0**
	baz=41						
EWUT	**Wuta**	**2.79**	**32**	*e*P	**Pn**	**23 10 50.2**	**+0.5**
	baz=41						
EWUT				*e*S	**Sn**	**23 11 21.9**	**-0.4**
	baz=41						
NSK	**Sanguang**	**2.82**	**23**	*e*P	**Pn**	**23 10 51.0**	**+0.9**
	baz=22						
NSK				*e*S	**Sn**	**23 11 21.5**	**-1.5**
	baz=22						
YHNB	**Yeheng**	**2.82**	**23**	P	**Pn**	**23 10 51.3**	**+1.1**
YHNB	**Yeheng**	**2.82**	**23**	*e*P	**Pn**	**23 10 51.0**	**+0.9**
	baz=22						
YHNB				*e*S	**Sn**	**23 11 22.6**	**-0.5**
	baz=22						
KNM	**Kinmen**	**2.82**	**326**	*e*P	**Pn**	**23 10 51.0**	**+0.9**
	baz=323						
KNM				*e*S	**Sn**	**23 11 24.0**	**+0.9**
	baz=323						
EOS4	**EOS4**	**2.85**	**44**	*e*P	**Pn**	**23 10 51.0**	**+0.9**
	baz=43						
ENTT	**Nioudou**	**2.87**	**27**	*e*P	**Pn**	**23 10 52.3**	**+1.5**
	baz=17						
ENTT				*e*S	**Sn**	**23 11 25.1**	**+1.0**
	baz=17						
KNMB	**Chin-men Tao**	**2.88**	**326**	*e*P	**Pn**	**23 10 51.1**	**+0.1**
	baz=325						
ZPLA	**Ao Xicun**	**2.89**	**310**	*e*P	**Pn**	**23 10 50.4**	**-0.7**
	baz=309						
NWLT	**Wulai**	**2.96**	**24**	*e*P	**Pn**	**23 10 52.7**	**+0.6**
	baz=24						
NWLT				*e*S	**Sn**	**23 11 25.2**	**-1.3**
	baz=24						
TWC	**Suao**	**2.96**	**31**	*e*P	**Pn**	**23 10 52.8**	**+0.7**
	baz=30						
EOS3	**EOS3**	**2.97**	**42**	*e*P	**Pn**	**23 10 51.4**	**-0.6**
	baz=39						
TWE	**Neicheng**	**2.98**	**27**	*e*P	**Pn**	**23 10 54.1**	**+1.8**
	baz=40						
VWUC	**VWUC**	**2.98**	**347**	P	**Pn**	**23 10 52.3**	**0.0**
	baz=347						
FUSB	**Fushanzhiwuyua**	**2.98**	**26**	*e*P	**Pn**	**23 10 53.7**	**+1.3**
	baz=25						
FUSB				*e*S	**Sn**	**23 11 27.8**	**+0.7**
	baz=25						
DSXP	**Dongshan**	**3.00**	**303**	*e*P	**Pn**	**23 10 52.2**	**-0.4**
	baz=303						
EOS2	**EOS2**	**3.02**	**39**	*e*P	**Pn**	**23 10 52.9**	**+0.3**
	baz=46						
SXI1	**Grass Mountain**	**3.40**	**27**	*e*P	**Pn**	**23 10 58.7**	**+0.6**
	baz=14						
AXDP	**Jialang**	**3.46**	**325**	*e*P	**Pn**	**23 10 59.4**	**+0.4**
	baz=325						
AXDP				*e*S	**Sn**	**23 11 37.8**	**-1.0**
	baz=325						
YOJ	**Yonaguni jima**	**3.54**	**47**	P	**Pn**	**23 11 01.8**	**+1.8**
MATB	**Ma-tsu**	**4.07**	**357**	*e*P	**Pn**	**23 11 06.4**	**-0.9**
	baz=357						
MATB				*e*S	**Sn**	**23 11 51.3**	**-2.5**
	baz=357						
MHZQ	**Yeshan**	**4.14**	**346**	*e*P	**Pn**	**23 11 08.1**	**-0.2**
	baz=346						
LYJJ	**Jianjiangzhen**	**4.47**	**355**	*e*P	**Pn**	**23 11 13.0**	**+0.1**
	baz=355						
XPSS	**Dashiqiu**	**4.84**	**0**	*e*P	**Pn**	**23 11 16.7**	**-1.2**
	baz=1.0						
MKAR	**Makanchi Array**	**39.23**	**318**	P	**P**	**23 17 35.0**	**+2.4**
	0.5nm,0.6s,baz=116,slow=9.5,SNR=5.7						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**44.00**	**161**	P	**P**	**23 18 11.8**	**0.0**
	0.9nm,0.7s,baz=343,slow=8.8,SNR=9.5						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**47.39**	**163**	P	**P**	**23 18 39.0**	**+0.4**
	0.4nm,0.5s,baz=347,slow=7.7,SNR=4.7						
	0.4nm,0.5s						

*IDC **05** 23:16:34.2±1.6, 51°.39N×174°.05W, h0km, mb3.5/5, mbtmp3.6/7, ML3.5/2, MS3.3/1, Error ellipse: s-maj=44.1km s-min=25.6km az=163.0*

*NEIC **05** 23:16:38.9±2.8, 51°.33N±0°.04×174°.10W±0°.08, h27km±3km, mb3.9/39, ML3.2(AEIC), Error ellipse: s-maj=8.1km s-min=5.4km az=117.0*

*AEIC **05** 23:16:39.9±5.0, 51°.50N±0°.05×174°.4W±0°.1, h2km±6km, Error ellipse: s-maj=9.2km s-min=6.9km az=87.0*

ISC 05 23:16:39.5±0.9**, 51°.30N**±0°.09×**174°.04W**±0°.06**, h35**km**, n75,** σ**1.s35**/71**, mb3.8**/12**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.91**	**354**		**Pn**	**23 16 55.0**	**-0.8**
ATKA					**Sn**	**23 17 06.0**	**-1.6**
KOFP	**Korovin Flat P**	**0.98**	**358**		**Pn**	**23 16 56.6**	**-0.1**
KOKL	**Mount Kliuchef**	**1.03**	**355**		**Pn**	**23 16 57.3**	**-0.2**
KOSE	**Korovin Southe**	**1.04**	**360**		**Pn**	**23 16 57.7**	**0.0**
KOSE					**Sn**	**23 17 11.9**	**+0.8**
GSMY	**Great Sitkin M**	**1.46**	**301**		**Pn**	**23 17 02.6**	**-0.7**
GSMY					**Sn**	**23 17 21.4**	**+0.2**
GSTR	**Great Sitkin T**	**1.48**	**303**		**Pn**	**23 17 02.9**	**-0.9**
GSCK	**Great Sitkin C**	**1.50**	**299**		**Pn**	**23 17 03.3**	**-0.6**
ADK	**Adak**	**1.75**	**291**		**Sn**	**23 17 27.4**	**-0.9**
ADK	**Adak**	**1.75**	**291**	Pn	**Pn**	**23 17 06.6**	**-0.6**
KIWB	**Kanaga Island**	**2.02**	**287**	Pn	**Pn**	**23 17 10.4**	**-0.6**
KIMD	**Kanaga Island**	**2.05**	**284**		**Pn**	**23 17 12.0**	**+0.6**
TAPA	**Tanaga Point A**	**2.41**	**284**		**Pn**	**23 17 17.2**	**+0.8**
GANE	**Gareloi Northe**	**3.00**	**282**		**Pn**	**23 17 25.2**	**+0.7**
CNBA	**Chernabura Isl**	**9.39**	**62**	Pn	**Pn**	**23 18 51.4**	**-0.7**
CHGN	**Chignik**	**10.50**	**55**	Pn	**Pn**	**23 19 06.8**	**-0.5**
O14K	**Tigyukauivet M**	**10.78**	**37**	Pn	**Pn**	**23 19 14.0**	**+2.8**
M14K	**Bethel**	**11.61**	**31**	Pn	**Pn**	**23 19 23.8**	**+1.3**
L16K	**Owhat River**	**13.13**	**32**	Pn	**Pn**	**23 19 46.7**	**+3.4**
J16K	**Anvik River**	**13.99**	**26**	Pn	**Pn**	**23 19 58.1**	**+3.1**
KDAK	**Kodiak Island**	**14.01**	**54**	Pn	**Pn**	**23 19 55.0**	**-0.2**
	0.1nm,0.3s,baz=177,slow=21,SNR=1.0						
	7.3nm,0.8s						
K17K	**Iditarod**	**14.24**	**31**	Pn	**Pn**	**23 19 57.8**	**-0.6**
TTA	**Tatalina**	**15.15**	**33**	Pn	**Pn**	**23 20 12.4**	**+1.8**
TTA				IAmb	IAmb	23 20 31.6	
	comp=Z,9.1nm,1.4s						
CNPM	**China Poot**	**15.28**	**49**	Pn	**Pn**	**23 20 12.4**	**+0.1**
BRLK	**Bradley Lake**	**15.54**	**48**	Pn	**Pn**	**23 20 15.8**	**+0.1**
H18K	**Honhosa River**	**16.08**	**24**	P	**P**	**23 20 27.3**	**+1.7**
H18K				IAmb	IAmb	23 20 44.4	
	comp=Z,18nm,1.4s						
J20K	**Nowinta River**	**16.60**	**31**	P	**P**	**23 20 33.2**	**+1.8**
CAST	**Castle Rocks**	**16.84**	**35**	P	**P**	**23 20 35.2**	**+1.2**
KTH	**Kantishna Hill**	**17.35**	**36**		**Pn**	**23 20 38.6**	**+0.1**
KTH				IAmb	IAmb	23 21 05.5	
	comp=Z,12nm,1.3s						
SML	**Sawmill**	**17.52**	**43**	Pn	**Pn**	**23 20 38.8**	**-1.9**
FID	**Port Fidalgo**	**17.94**	**48**		**Pn**	**23 20 46.4**	**+0.5**
SCM	**Sheep Creek Mo**	**17.96**	**44**	Pn	**Pn**	**23 20 44.8**	**-1.4**
H21K	**Melozitna Rive**	**18.03**	**29**	Pn	**P**	**23 20 49.6**	**+2.5**
RND	**Reindeer**	**18.05**	**38**		**Pn**	**23 20 48.0**	**+0.7**
RND				IAmb	IAmb	23 20 50.4	
	comp=Z,15nm,1.5s						
E19K	**Redstone River**	**18.21**	**21**		**Pn**	**23 20 50.0**	**+0.8**
M24K	**Tolsona, Glenn**	**18.57**	**44**	P	**P**	**23 20 52.3**	**-0.9**
I23K	**Minto, Yukon-K**	**18.82**	**33**	P	**P**	**23 20 55.9**	**+0.1**
I23K				IAmb	IAmb	23 21 05.4	
	comp=Z,12nm,1.5s						
D19K	**Kuna River**	**18.89**	**18**	P	**P**	**23 20 55.9**	**-0.7**
D19K				IAmb	IAmb	23 21 11.5	
	comp=Z,8.6nm,1.4s						
F21K	**Alatna River**	**18.95**	**25**	P	**P**	**23 20 58.0**	**+0.8**
IL31		**19.50**	**36**	P	**P**	**23 21 02.8**	**-0.3**
ILAR	**Eielson Array**	**19.50**	**36**	P	**P**	**23 21 02.5**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=239,slow=9.2,SNR=14						
	comp=Z,0.4nm,0.3s						
H24K	**Noodor Dome**	**19.73**	**33**	P	**P**	**23 21 05.8**	**+0.1**
J25K	**Salcha River,**	**19.98**	**37**	P	**P**	**23 21 06.1**	**-2.5**
J25K				IAmb	IAmb	23 21 08.7	
	comp=Z,8.3nm,1.2s						
M26K	**Nabesna, AK**	**20.06**	**44**	P	**P**	**23 21 10.4**	**+1.0**
M26K				IAmb	IAmb	23 21 27.1	
	comp=Z,14nm,1.4s						
D22K	**Ayikyak River**	**20.39**	**22**	P	**P**	**23 21 09.7**	**-3.2**
D22K				IAmb	IAmb	23 21 23.4	
	comp=Z,5.6nm,1.2s						
B21K	**Ikpikpuk River**	**20.54**	**19**	P	**P**	**23 21 13.4**	**-1.0**
B21K				IAmb	IAmb	23 21 20.7	
	comp=Z,8.5nm,1.2s						
M27K	**Edge Creek, AK**	**20.54**	**45**	P	**P**	**23 21 17.0**	**+2.3**
J26L	**Joseph Creek**	**20.63**	**39**	P	**P**	**23 21 15.0**	**-0.7**
J26L				IAmb	IAmb	23 21 15.6	
	comp=Z,4.3nm,0.8s						
F24K	**Squaw Lake**	**20.73**	**29**	P	**P**	**23 21 18.6**	**+2.0**
F24K				IAmb	IAmb	23 21 38.6	
	comp=Z,4.8nm,1.2s						
L27K	**Beaver Creek,**	**20.79**	**43**	P	**P**	**23 21 18.9**	**+1.5**
BCAR	**Beaver Creek A**	**20.81**	**43**	P	**P**	**23 21 19.6**	**+2.1**
E24K	**Your Creek**	**20.91**	**27**	P	**P**	**23 21 18.6**	**0.0**
E24K				IAmb	IAmb	23 21 24.2	
	comp=Z,4.3nm,1.3s						
TOLK	**Toolik Lake Re**	**21.00**	**25**	P	**P**	**23 21 19.9**	**+0.4**
TOLK				IAmb	IAmb	23 21 31.3	
	comp=Z,4.4nm,1.4s						
K27K	**Chicken**	**21.03**	**41**	P	**P**	**23 21 20.1**	**+0.2**
K27K				IAmb	IAmb	23 21 31.4	
	comp=Z,6.4nm,1.3s						
D24K	**Happy Valley**	**21.55**	**25**	P	**P**	**23 21 27.3**	**+2.0**
D24K				IAmb	IAmb	23 21 45.5	
	comp=Z,7.2nm,1.3s						
C23K	**Itkillik River**	**21.59**	**22**	P	**P**	**23 21 24.7**	**-1.0**
C23K				IAmb	IAmb	23 21 26.6	
	comp=Z,9.9nm,1.4s						
EGAK	**Eagle**	**21.69**	**39**	P	**P**	**23 21 26.9**	**0.0**
EGAK				IAmb	IAmb	23 21 37.0	
	comp=Z,6.1nm,1.1s						
BMAR	**Burnt Mountain**	**21.71**	**31**	P	**P**	**23 21 29.2**	**+2.0**
I28M	**Miner Creek**	**22.43**	**38**	P	**P**	**23 21 34.1**	**-0.8**
I28M				IAmb	IAmb	23 21 34.4	
	comp=Z,3.8nm,1.4s						
H29M	**Whitestone**	**23.32**	**37**	P	**P**	**23 21 42.4**	**-1.6**
I30M	**Mount Dempster**	**23.75**	**40**	P	**P**	**23 21 46.4**	**-1.9**
I30M				IAmb	IAmb	23 21 50.2	
	comp=Z,5.2nm,1.2s						
E29M	**Blow River**	**24.38**	**32**	P	**P**	**23 21 54.4**	**+0.4**
E29M				IAmb	IAmb	23 22 20.0	
	comp=Z,3.6nm,1.2s						
G30M	**tAoh Zraii Nji**	**24.40**	**36**	P	**P**	**23 21 53.7**	**-0.5**
H31M	**Peel River**	**24.73**	**39**	P	**P**	**23 21 54.8**	**-2.4**
H11N2	**WAKE ISLAND Hy**	**34.90**	**213**	T	T	00 01 13.9	
	baz=20,slow=76,SNR=3.3						
H11N3	**WAKE ISLAND Hy**	**34.91**	**212**	T	T	00 01 06.8	
	baz=20,slow=76,SNR=3.4						
H11N1	**WAKE ISLAND Hy**	**34.91**	**213**	T	T	00 01 19.4	
	baz=20,slow=76,SNR=3.9						
H11S1	**WAKE ISLAND Hy**	**36.10**	**212**	T	T	00 02 43.9	
	baz=20,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**36.12**	**212**	T	T	00 02 44.9	
	baz=20,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy**	**36.12**	**212**	T	T	00 02 47.0	
	baz=20,slow=75,SNR=9.2						
PDAR	**Pinedale Array**	**43.47**	**75**	P	**P**	**23 24 39.3**	**0.0**
	comp=Z,0.1nm,0.5s,baz=282,slow=6.2,SNR=1.6						
	comp=Z,0.1nm,0.5s						
ANMO	**Albuquerque**	**50.17**	**81**	LR	LR	23 44 47.9	
	comp=Z,37nm,21.6s,baz=350,slow=34						
MKAR	**Makanchi Array**	**62.38**	**311**	P	**P**	**23 26 58.0**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=46,slow=7.0,SNR=5.4						
	comp=Z,0.1nm,0.4s						
BVAR	**Borovoye Array**	**62.83**	**322**	P	**P**	**23 27 01.0**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=56,slow=6.8,SNR=6.3						
	comp=Z,0.3nm,0.4s						
HFS	**Hagfors**	**68.74**	**356**	P	**P**	**23 27 38.4**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=152,slow=7.8,SNR=1.6						
	comp=Z,2.3nm,0.8s						
WRA	**Warramunga Arr**	**84.10**	**228**	P	**P**	**23 29 06.7**	**+0.1**
	comp=Z,0.1nm,0.6s,baz=31,slow=5.5,SNR=1.7						
	comp=Z,0.1nm,0.6s						

TEH 05 23:31:21.5, 30°.78N×57°.35E, h8km±38km**, ML3.5, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.72**	**285**	Pg	Pg	23 31 35.7	+0.3
KHGB	**Koh Gabri**	**0.85**	**242**	Pg	Pg	23 31 37.7	-0.2
CHMN	**Cheshme madani**	**0.93**	**170**	Pg	Pg	23 31 39.8	+0.3
TVBK	**TV Kerman**	**0.94**	**213**	Pg	Pb	23 31 40.3	0.0
NGRK	**Negar Kerman**	**1.25**	**205**	Pg	Pn	23 31 45.8	+0.1
IBAF	**Bafgh**	**1.73**	**298**	Pg	Pg	23 31 54.4	-0.2
KBAM	**BAM**	**1.90**	**149**	Pn	Pb	23 31 56.0	-0.5
BSRN	**Basiran**	**1.93**	**52**	Pn	Pb	23 31 56.8	-0.3
IKOO	**Kooshah**	**2.17**	**40**	Pn	Pb	23 32 00.1	-1.0
TPRV	**Parvadeh(Tabas**	**2.31**	**346**	Pn	Pb	23 32 01.9	-1.7
NHDN	**Nehbandan**	**2.40**	**75**	Pn	Pb	23 32 03.6	-1.5
IMEH	**Mehriz**	**2.42**	**285**	Pn	Pb	23 32 04.0	-1.6
ITEG	**Tejag**	**2.42**	**29**	Pn	Pb	23 32 04.2	-1.4
BAGH	**Bagheran - Bir**	**2.55**	**38**	Pn	Pn	23 32 05.5	+2.0
TKDS	**Koohdasht(Taba**	**2.83**	**356**	Pn	Pn	23 32 08.9	+1.7
KHNJ	**Kahnooj**	**2.84**	**174**	Pn	Pn	23 32 08.9	+1.7
IDAH	**Dahanechah**	**2.90**	**47**	Pn	Pn	23 32 10.5	+2.2
ICHK	**Chekchek**	**2.91**	**301**	Pn	Pn	23 32 10.8	+2.5
AFRZ	**Afriz**	**2.99**	**28**	Pn	Pn	23 32 11.4	+1.9
TNSJ	**Nastanj**	**3.24**	**349**	Pn	Pn	23 32 14.6	+1.8
ZHDN	**Zahedan**	**3.30**	**114**	Pn	Pn	23 32 15.3	+1.6
ISAD	**Sadrabad**	**3.33**	**291**	Pn	Pn	23 32 16.6	+2.4
SHRT	**Shahrakht**	**3.79**	**40**	Pn	Pn	23 32 22.3	+1.9
ANAR	**Anarak**	**3.90**	**309**	Pn	Pn	23 32 24.1	+2.1
IRAM	**Ramesheh**	**4.37**	**285**	Pn	Pn	23 32 31.2	+2.7
IZEF	**Zefreh**	**4.76**	**298**	Pn	Pn	23 32 36.4	+2.5
TBJM	**Torbat-e-JAM**	**5.13**	**28**	Pn	Pn	23 32 41.5	+2.7

*IDC **05** 23:39:09.1±2.4, 16°.53N×94°.98W, h0km, mb3.4/2, mbtmp3.8/4, ML4.2/2, Error ellipse: s-maj=43.0km s-min=15.0km az=107.0*

*MEX **05** 23:39:13.5±1.1, 16°.55N×95°.06W, h50km±15km, MD4.3*

ISC 05 23:39:08.1±1.4**, 16°.51N**±0°.04×**95°.11W**±0°.03**, h3**km±10km**, n40,** σ**2.s18**/74**, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.47**	**83**	*e*P	**Pb**	**23 39 19.0**	**-0.1**
NILT				*e*S	**Sb**	**23 39 26.2**	**-0.3**
CMIG	**Matias Romero**	**0.62**	**20**	Pg	**Pg**	**23 39 19.9**	**-0.1**
	77nm,0.3s,baz=212,slow=12,SNR=465						
CMIG				Lg	Lg	23 39 28.1	
	260nm,0.3s,baz=119,slow=20,SNR=26						
CMIG	**Matias Romero**	**0.62**	**20**	*e*P	**Pg**	**23 39 19.9**	**-0.1**
CMIG				*e*S	**Sg**	**23 39 28.1**	**+0.1**
CARR	**Arriaga**	**1.18**	**103**	*e*P	**Pn**	**23 39 32.3**	**+0.8**
CARR				*e*S	**Sn**	**23 39 47.4**	**-0.7**
HUIG	**Huatulco**	**1.21**	**233**	*e*P	**Pn**	**23 39 30.8**	**-1.2**
UXUV	**UXUV**	**1.22**	**49**	*e*P	**Pb**	**23 39 31.5**	**-0.4**
UXUV				*e*S	**Sn**	**23 39 49.0**	**-0.2**
NEUV	**Arroyo Zacate**	**1.37**	**331**	*e*P	**Pn**	**23 39 32.3**	**-1.8**
NEUV				*i* S	**Sb**	**23 39 50.5**	**-1.8**
OXLC	**Oaxaca**	**1.62**	**290**	*e*P	**Pn**	**23 39 37.5**	**-0.3**
OXLC				*e*S	**Sn**	**23 39 57.7**	**-1.7**
VHO	**Vista Hermosa**	**1.66**	**290**	*e*P	**Pn**	**23 39 37.8**	**-0.4**
VHO				*e*S	**Sn**	**23 39 59.0**	**-1.1**
TGIG		**1.92**	**82**	*e*P	**Pb**	**23 39 43.3**	**-0.6**
TGIG				*e*S	**Sg**	**23 40 10.5**	**+0.5**
TGBT	**Tuxtla Gutierr**	**1.95**	**82**	*e*S	**Sg**	**23 40 10.9**	**-0.1**
PCIG		**1.98**	**114**	*e*P	**Pb**	**23 39 44.2**	**-0.7**
PCIG				*e*S	**Sg**	**23 40 13.5**	**+1.6**
PEIG	**Puerto Escondi**	**2.02**	**256**	*e*P	**Pn**	**23 39 42.6**	**-0.6**
PEIG				*e*S	**Sn**	**23 40 09.0**	**0.0**
PMUV	**Sontecomapan**	**2.02**	**360**	*e*P	**Pn**	**23 39 43.1**	**-0.2**
PMUV				*e*S	**Sn**	**23 40 06.4**	**-2.8**
YOIG	**Yosondua**	**2.36**	**279**	*e*P	**Pn**	**23 39 49.5**	**+1.5**
YOIG				*e*S	**Sn**	**23 40 20.1**	**+2.4**
TXIG	**Tlaxiaco**	**2.65**	**287**	*e*P	**Pn**	**23 39 53.6**	**+1.6**
TXIG				*e*S	**Sb**	**23 40 29.3**	**-0.2**
CCIG	**Comitan**	**2.86**	**94**	*e*P	**Pn**	**23 39 57.1**	**+2.3**
CCIG				*e*S	**Sn**	**23 40 30.2**	**+0.3**
TPIG	**Tehuac#an**	**2.87**	**312**	*e*P	**Pn**	**23 39 56.7**	**+1.7**
TPIG				*e*S	**Sn**	**23 40 29.8**	**-0.4**
HLIG	**Huajuapan de L**	**2.89**	**297**	*e*P	**Pn**	**23 39 56.7**	**+1.4**
HLIG				*e*S	**Sn**	**23 40 30.9**	**+0.2**
PNIG	**Pinotepa**	**2.90**	**268**	*e*P	**Pn**	**23 39 54.3**	**-1.0**
PNIG				*e*S	**Sn**	**23 40 30.2**	**-0.5**
PATR	**El Naranjo**	**3.09**	**116**	*e*P	**Pn**	**23 40 00.8**	**+2.7**
PATR				*e*S	**Sb**	**23 40 38.6**	**-3.6**
PAVE	**Pavencul**	**3.11**	**114**	*e*P	**Pb**	**23 40 01.8**	**-2.5**
PAVE				*e*S	**Sb**	**23 40 39.4**	**-3.3**
FTIG	**Fresnillo de T**	**3.21**	**296**	*e*P	**Pn**	**23 40 01.4**	**+1.8**
FTIG				*e*S	**Sn**	**23 40 41.4**	**+3.0**
CHUJ	**Union Juarez**	**3.21**	**116**	*e*P	**Pn**	**23 40 02.7**	**+2.9**
CHUJ				*e*S	**Sb**	**23 40 41.8**	**-3.8**
JAUV	**Jalcomulco**	**3.27**	**331**	*e*P	**Pn**	**23 39 58.1**	**-2.2**
JAUV				*e*S	**Sn**	**23 40 36.7**	**-3.1**
LVIG	**Laguna Verde**	**3.43**	**339**	*e*P	**Pn**	**23 40 05.6**	**+3.1**
LVIG				*e*S	**Sn**	**23 40 38.9**	**-4.8**
MGIG	**Malinaltepec**	**3.45**	**283**	*e*P	**Pn**	**23 40 03.7**	**+0.8**
MGIG				*i* S	**Sn**	**23 40 46.3**	**+1.8**
TLIG	**Tlapa**	**3.47**	**288**	*e*P	**Pn**	**23 40 05.3**	**+2.1**
TLIG				*e*S	**Sn**	**23 40 46.8**	**+1.9**
CRIG	**Cruz Grande**	**3.86**	**274**	*e*P	**Pn**	**23 40 07.9**	**-0.5**
CRIG				*e*S	**Sn**	**23 40 56.4**	**+1.9**
PPM	**Popocatepetl**	**4.21**	**308**	*e*P	**Pn**	**23 40 16.2**	**+2.5**
PPM				*e*S	**Sn**	**23 41 06.9**	**+3.2**
DAIG	**Los Arroyos**	**4.38**	**277**	*e*P	**Pn**	**23 40 15.2**	**-0.4**
DAIG				*e*S	**Sn**	**23 41 12.2**	**+5.0**
YAIG	**Yautepec**	**4.44**	**302**	*e*P	**Pn**	**23 40 18.2**	**+1.6**
YAIG				*e*S	**Sn**	**23 41 07.7**	**-1.1**
MEIG	**Mezcala**	**4.54**	**289**	*e*P	**Pn**	**23 40 18.9**	**+1.0**
MEIG				*e*S	**Sn**	**23 41 14.3**	**+3.2**
PLIG	**Platanillo**	**4.59**	**295**	*e*P	**Pn**	**23 40 20.5**	**+1.9**
PLIG				*e*S	**Sn**	**23 41 14.0**	**+1.4**
CAIG	**El Cayaco**	**4.97**	**277**	*e*P	**Pn**	**23 40 24.0**	**+0.3**
CAIG				*e*S	**Sn**	**23 41 15.0**	**-6.8**
ARIG	**Puente Sto Nin**	**5.30**	**290**	*e*P	**Pn**	**23 40 30.1**	**+1.8**
ARIG				*e*S	**Sn**	**23 41 31.8**	**+1.8**
TEIG	**Tepich**	**7.47**	**59**	Pn	**Pn**	**23 40 58.2**	**+0.3**
	18nm,0.3s,baz=336,slow=6.9,SNR=6.2						
TEIG				Sn	**Sn**	**23 42 18.1**	**-5.1**
	38nm,0.3s,baz=335,slow=22,SNR=16						
	46nm,0.3s						
TXAR	**Lajitas Array**	**14.99**	**330**	Pn	**P**	**23 42 46.4**	**-0.4**
	0.1nm,0.3s,baz=148,slow=12,SNR=4.5						
	0.8nm,0.7s						
NVAR	**Mina Array Bea**	**29.85**	**322**	P	**P**	**23 45 19.6**	**+2.6**
	0.4nm,0.7s,baz=127,slow=10,SNR=2.9						
	0.4nm,0.7s						
YKA	**Yellowknife Ar**	**47.93**	**348**	P	**P**	**23 47 48.7**	**+1.1**
	0.4nm,0.7s,baz=154,slow=7.2,SNR=4.5						
	0.4nm,0.7s						

IDC **05** *23:45:53.8±0.6, 10°.70S×161°.53E, h0km, mb4.7/21, mbtmp4.7/24, ML4.8/3, MS4.2/48, Error ellipse: s-maj=17.0km s-min=13.6km az=90.0*

MOS **05** *23:45:54.1±1.1, 10°.71S×161°.48E, h10km, mb5.0/24, Error ellipse: s-maj=9.2km s-min=8.7km az=120.6*

NEIC **05** *23:45:57.4±2.3, 10°.79S±0°.08×161°.6E±0°.1, h19km±4km, mb5.1/96, Error ellipse: s-maj=17.3km s-min=9.7km az=60.0*

GCMT **05** *23:45:58.4±0.2, 10°.99S±0°.02×161°.37E±0°.02, h28km, MW5.1/75, Moment Tensor Solution. s56,c62; s75,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.55±.16; $M_{\theta\theta}$-1.00±.11; $M_{\phi\phi}$-2.55±.11; $M_{r\theta}$1.46±.21; $M_{\theta\phi}$1.82±.10; $M_{\phi r}$-2.89±.20; Best double couple: $M_0$4.88100×10^{16} NP1:ϕ_s151.00000°,δ66.00000°,λ94.00000°. NP2: ϕ_s322.00000°,δ24.00000°,λ81.00000°. Principal axes: T 4.7910, Plg69.0000°, Azm69.0000°; N 0.1800, Plg4.0000°, Azm329.0000°; P -4.9710, Plg21.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NOU **05** *23:46:02.6, 10°.80S×161°.45E, h37km, mb5.0/53, Solomon Islands*

ISC 05 23:45:58.7±0.3**, 10°.81S**±0°.05×**161°.53E**±0°.05**, h28km, n408,** σ**1s.47**/342**, mb5.0**/98**, MS4.3**/53**, 8C-2D,**
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.07	311	Pn	Pn	23 46 30.3	-1.3
HNR	Honiara	2.07	311	P	Pn	23 46 31.6	0.0
HNR	Honiara	2.07	311	Pn	Pn	23 46 30.4	-1.2
	2µm,0.3s,baz=163,slow=8.9,SNR=28						
HNR				Sn	Sn	23 46 55.9	-0.6
	13µm,0.3s,baz=28,slow=21,SNR=7.0						
HNR				LR	LR	23 46 56.8	
	comp=Z,12µm,21.4s,baz=156,slow=31						
	8µm,0.5s						
KOUNC	Koumac, New Ca	10.05	165	Pn	Pn	23 48 19.6	-1.6
KOUNC	Koumac, New Ca	10.05	165	P	Pn	23 48 25.4	+4.2
LIFNC	LIFOU	11.34	152	Pn	Pn	23 48 37.6	-1.3
LIFNC	LIFOU	11.34	152	P	Pn	23 48 38.6	-0.3
NOUC	Port Laguerre	12.13	158	P	Pn	23 48 51.8	+2.1
DZM	Mont Dzumac	12.15	158	*e*Pn	Pn	23 48 43.8	-6.4
	139nm,1.4s						
DZM				*e*LR	LR	23 51 27.4	
	comp=Z,1µm,23.8s						
DZM	Mont Dzumac	12.15	158	Pn	Pn	23 48 51.5	+1.4
DZM	Mont Dzumac	12.15	158	P	Pn	23 48 53.8	+3.6
DZM	Mont Dzumac	12.15	158	Pn	Pn	23 48 51.1	+0.9
	1.4nm,0.3s,baz=286,slow=18,SNR=10						
DZM				Sn	Sn	23 50 59.9	-5.0
	0.5nm,0.3s,baz=330,slow=18,SNR=1.3						
DZM				LR	LR	23 52 46.2	
	comp=Z,1µm,18.7s,baz=34,slow=34						
	23nm,1.1s						
MARNC	Mare, Loyalty	12.31	150	Pn	Pn	23 48 49.8	-2.5
ONTNC	Ouen Toro	12.37	158	Pn	Pn	23 48 54.6	+1.6
ONTNC	Ouen Toro	12.37	158	P	Pn	23 48 56.7	+3.6
OUENC	Ouen Island, N	12.62	157	Pn	Pn	23 48 56.6	+0.2
OUENC	Ouen Island, N	12.62	157	P	Pn	23 48 59.5	+3.1
PINNC	Pines Island,	13.04	155	Pn	Pn	23 49 03.1	+1.0
PINNC	Pines Island,	13.04	155	P	Pn	23 49 05.8	+3.7
PMG	Port Moresby	14.21	274	*i* P	Pn	23 49 17.5	-0.8
PMG				pmax	pmax		
	comp=Z,16nm,1.2s						
PMG	Port Moresby	14.21	274	LR	LR	23 54 51.8	
	comp=Z,3µm,18.9s,baz=110,slow=38						
RK1H	Rockhampton Ha	16.35	219	P	P	23 49 48.4	-0.6
TV1H	Townsville Har	16.52	238	P	P	23 49 50.0	-0.9
YSA	Yasawairara	16.65	112	P	P	23 49 52.7	+0.3
CTA	Charters Tower	17.36	236	P	P	23 50 00.7	+0.4
CTA	Charters Tower	17.36	236	P	Pn	23 49 59.0	-0.2
CTA	Charters Tower	17.36	236	P	Pn	23 49 59.0	-0.2
	comp=Z,1.8nm,0.3s,baz=58,slow=11,SNR=41						
	comp=Z,26nm,0.7s						
CTAO	Charters Tower	17.36	236		Pn	23 49 58.6	-0.5
CTAO	Charters Tower	17.36	236	P	P	23 50 00.6	+0.3
CTAO	Charters Tower	17.36	236	P	Pn	23 49 58.6	-0.5
CTAO				pmax	pmax		
	comp=Z,82nm,1.3s						
EIDS	Eidsvold	17.55	213	P	Pn	23 50 01.7	+0.4
	baz=18,SNR=7.5						
EIDS	Eidsvold	17.55	213		Pn	23 50 01.3	-0.1
EIDS	Eidsvold	17.55	213	P	P	23 50 02.0	-0.3
PATS	Pohnpei	17.82	350		P	23 50 05.1	-0.2
PATS				IAmb	IAmb	23 50 06.3	
	comp=Z,229nm,1.6s						
MTSU	Mount Surprise	18.18	244	P	P	23 50 10.2	+0.9
	baz=18,SNR=30						
MTSU	Mount Surprise	18.18	244	P	P	23 50 11.4	+2.1
COEN	Coen	18.20	258		P	23 50 09.7	+0.2
COEN	Coen	18.20	258	P	P	23 50 11.4	+1.9
DGTI	Dogotuki	18.52	109	P	Pn	23 50 18.3	+4.9
TAVE	Taveuni	18.96	110	P	Pn	23 50 21.6	+2.9
RMQ	Roma	19.71	216	P	Pn	23 50 27.0	-0.7
	baz=20,SNR=15						
RMQ	Roma	19.71	216	P	Pn	23 50 28.3	+0.6
LKBA	Tubou, Lakemba	20.40	113	P	Pn	23 50 35.9	+0.1
TABU	Tabubil	20.84	284	P	Pn	23 50 41.8	+0.8
ARMA	Armidale	21.58	204	P	P	23 50 46.9	+0.5
	baz=22,SNR=4.7						
ARMA	Armidale	21.58	204	P	P	23 50 45.9	-0.5
ARMA	Armidale	21.58	204	P	P	23 50 47.7	+1.3
JAY	Jayapura	22.24	290	P	P	23 50 55.9	+2.3
	comp=Z,38nm,1.4s						
QLP	Quilpie	22.64	224	P	P	23 50 56.5	-1.1
	baz=23,SNR=6.9						
QLP	Quilpie	22.64	224	P	P	23 50 58.0	+0.3
QIS	Mount Isa	23.20	243	P	P	23 51 03.2	-0.4
	baz=23,SNR=14						
QIS	Mount Isa	23.20	243	P	P	23 51 03.3	-0.3
SMPI	Sarmi	24.29	290	P	P	23 51 17.4	+3.5
	comp=Z,207nm,0.9s,comp=Z,7µm						
CMSA	Cobar Meteorol	25.31	213	P	P	23 51 23.3	+0.3
	baz=25,SNR=17						
CMSA	Cobar Meteorol	25.31	213	P	P	23 51 23.6	+0.6
INKA	Innaminka	25.79	226	P	P	23 51 28.5	+1.1
YNG	Young	26.29	205	P	P	23 51 34.0	+2.1
WR0	Warramunga Arr	27.53	247	P	P	23 51 42.6	-0.7
WR0				IAmb	IAmb	23 51 53.6	
	comp=Z,42nm,1.1s						
WB0	Warramunga Arr	27.61	248	P	P	23 51 42.8	-1.2
WRAB	Tennant Creek	27.70	248	P	P	23 51 43.5	-1.3
WRAB				IAmb	IAmb	23 51 55.1	
	comp=Z,52nm,1.4s						
WRAB	Tennant Creek	27.70	248	P	P	23 51 43.5	-1.3
WRAB				pmax	pmax		
	comp=Z,53nm,1.4s						
WB2	Warramunga Arr	27.70	248	P	P	23 51 44.1	-0.7
WRA	Warramunga Arr	27.71	248	P	P	23 51 43.1	-1.8
WRA	Warramunga Arr	27.71	248	*i* P	P	23 51 43.5	-1.4
WRA				pmax	pmax		
	comp=Z,13nm,0.9s						
WRA	Warramunga Arr	27.71	248	P	P	23 51 44.2	-0.7
	comp=Z,12nm,0.9s,baz=75,slow=9.8,SNR=37						
	comp=Z,12nm,0.9s						
STKA	Stephens Creek	27.91	218	P	P	23 51 46.8	+0.2
	baz=28,SNR=12						
STKA	Stephens Creek	27.91	218	P	P	23 51 46.8	+0.2
STKA	Stephens Creek	27.91	218	P	P	23 51 46.5	0.0
STKA	Stephens Creek	27.91	218	*i* P	P	23 51 46.6	0.0
STKA	Stephens Creek	27.91	218	P	P	23 51 46.7	+0.2
	comp=Z,8.9nm,0.8s,baz=23,slow=12,SNR=8.4						
STKA				LR	LR	00 02 30.6	
	comp=Z,2µm,18.5s,baz=41,slow=36						
	comp=Z,8.9nm,0.8s						
KDU	Kakadu	28.50	263	P	P	23 51 50.8	-1.2
	baz=28,SNR=10						
KDU	Kakadu	28.50	263	P	P	23 51 51.2	-0.8
LCRK	Leigh Creek	29.18	225	P	P	23 51 59.6	+1.8
AS01	Alice Springs	29.21	240	P	P	23 51 58.0	-0.2
AS31	Alice Springs	29.25	240	P	P	23 51 56.8	-1.8
ASAR	Alice Springs	29.25	240	P	P	23 51 57.8	-0.8
ASAR	Alice Springs	29.25	240	P	P	23 51 57.8	-0.8
ASAR	Alice Springs	29.25	240	P	P	23 51 57.4	-1.2
	comp=Z,3.8nm,0.8s,baz=71,slow=9.5,SNR=24						
ASAR				LR	LR	00 03 30.7	
	comp=Z,1µm,18.5s,baz=70,slow=36						
	comp=Z,3.8nm,0.8s						
GUMO	Guam	29.34	325	LR	LR	00 02 51.5	
	comp=Z,618nm,21.2s,baz=142,slow=35						
H11S2	WAKE ISLAND Hy	29.55	10	T	T	00 22 59.0	
	baz=188,slow=76,SNR=35						
H11S3	WAKE ISLAND Hy	29.56	10	T	T	00 23 02.7	
	baz=188,slow=76,SNR=63						
OOD	Oodnadatta	29.57	231	P	P	23 52 05.1	+3.8
H11S1	WAKE ISLAND Hy	29.57	10	T	T	00 23 00.3	
	baz=188,slow=76,SNR=30						
MTN	Manton Dam	29.81	263	P	P	23 52 01.4	-2.2
MTN				IAmb	IAmb	23 52 57.0	
	comp=Z,14nm,0.5s						
TOO	Toolangi	30.30	206	P	P	23 52 09.7	+2.0
TOO				IAmb	IAmb	23 52 22.7	
	comp=Z,74nm,1.7s						
TOO	Toolangi	30.30	206	P	P	23 52 09.7	+2.0
TOO				pmax	pmax		
	comp=Z,74nm,1.7s						
HTT	Hallett	30.61	219	P	P	23 52 10.3	-0.2
	baz=31,SNR=6.5						
HTT	Hallett	30.61	219	P	P	23 52 10.8	+0.2
URZ	Urewera	30.70	156	LR	LR	00 03 22.5	
	comp=Z,279nm,18.4s,baz=34,slow=34						
H11N1	WAKE ISLAND Hy	30.78	10	T	T	00 24 31.2	
	baz=188,slow=76,SNR=17						
H11N3	WAKE ISLAND Hy	30.79	10	T	T	00 24 32.8	
	baz=188,slow=76,SNR=19						
H11N2	WAKE ISLAND Hy	30.80	10	T	T	00 24 34.4	
	baz=188,slow=76,SNR=18						
RTZ	Ruatahuna	30.95	156	P	P	23 52 13.7	+0.2
ARPS	Mount Arapiles	31.37	211	P	P	23 52 20.5	+3.4
MULG	Mulgathing	32.06	229	P	P	23 52 22.5	-0.8
BBOO	Buckleboo	32.07	223	P	P	23 52 22.8	-0.6
	baz=32,SNR=16						
BBOO	Buckleboo	32.07	223	P	P	23 52 22.1	-1.2
BBOO				IAmb	IAmb	23 52 24.2	
	comp=Z,30nm,1.1s						
BBOO	Buckleboo	32.07	223	P	P	23 52 22.7	-0.6
MRZ	Mangatainoka R	32.23	160	P	P	23 52 24.1	-0.5
KNRA	Kununurra	32.23	258	P	P	23 52 24.6	-0.4
	baz=32,SNR=11						
KNRA	Kununurra	32.23	258	P	P	23 52 24.2	-0.8
KNRA	Kununurra	32.23	258	P	P	23 52 24.9	-0.1
LTZ	Lake Taylor	33.21	165	P	P	23 52 33.1	-0.1
WRKA	Warakurna	34.52	241	P	P	23 52 43.3	-1.6
	baz=35,SNR=15						
WRKA	Warakurna	34.52	241	P	P	23 52 45.6	+0.7
DCZ	Deep Cove	34.87	173	P	P	23 52 46.9	-0.7
DCZ				IAmb	IAmb	23 52 52.8	
	comp=Z,45nm,1.3s						
LBMI	Labuha	35.28	284	P	P	23 53 04.0	+12
FITZ	Fitzroy Crossi	35.45	254	P	P	23 52 52.1	-0.8
	baz=36,SNR=8.7						
SANI	Sanana	36.33	281	P	P	23 53 03.9	+3.4
SANI	Sanana	36.33	281	P	P	23 53 02.2	+1.7
	comp=Z,68nm,1.0s,comp=Z,850nm						
FORT	Forrest	36.85	232	P	P	23 53 09.2	+4.5
BATI	Baumata	37.22	267	P	P	23 53 09.5	+1.4
	comp=Z,49nm,0.7s						
BATI	Baumata	37.22	267	P	P	23 53 07.8	-0.3
	comp=Z,24nm,0.3s,baz=144,slow=4.6,SNR=6.5						
BATI				LR	LR	00 10 10.3	
	comp=Z,507nm,19.1s,baz=83,slow=39						
	comp=Z,24nm,0.3s						
RAR	Rarotonga	38.52	110	LR	LR	00 06 08.0	
	comp=Z,203nm,19.1s,baz=340,slow=32						
SGSI	Sangihe	38.61	290	P	P	23 53 27.2	+7.3
MMRI	Maumere	38.77	270	P	P	23 53 19.4	-1.8
MMRI				IAmb	IAmb	23 53 24.4	
	comp=Z,50nm,0.9s						
MMRI	Maumere	38.77	270	P	P	23 53 23.8	+2.6
MMRI	Maumere	38.77	270	P	P	23 53 24.2	+3.0
	comp=Z,56nm,0.4s,comp=Z,4µm						
EDFI	Ende, Flores	39.29	269	P	P	23 53 28.8	+3.1
LUWI	Luwuk	39.70	282	P	P	23 53 29.0	0.0
LUWI	Luwuk	39.70	282	P	P	23 53 30.7	+1.8
LUWI	Luwuk	39.70	282	P	P	23 53 30.9	+2.0
	comp=Z,74nm,1.3s						
DAV	Davao City (W)	39.95	295	LR	LR	00 07 34.2	
	comp=Z,186nm,21.8s,baz=94,slow=33						
BKSI	Bulukumba	41.33	274	P	P	23 53 45.3	+2.9
	comp=Z,17nm,0.9s,comp=Z,417nm						
KAPI	Kappang	41.74	275	P	P	23 53 48.3	+2.5
KAPI	Kappang	41.74	275	*i* P	P	23 53 47.5	+1.6
KAPI				pmax	pmax		
	comp=Z,58nm,1.3s						
KAPI	Kappang	41.74	275	P	P	23 53 45.8	-0.1
	comp=Z,24nm,1.0s,baz=101,slow=10,SNR=2.8						
KAPI				LR	LR	00 12 30.3	
	comp=Z,96nm,20.9s,baz=92,slow=38						
	comp=Z,24nm,1.0s						
JCJ	Chichijima	42.09	334	LR	LR	00 09 57.1	
	comp=Z,363nm,21.6s,baz=116,slow=34						
TOLI2	Tolitoli	42.21	284	P	P	23 53 49.9	+0.2
TOLI2				IAmb	IAmb	23 53 58.9	
	comp=Z,31nm,0.9s						
TOLI2	Tolitoli	42.21	284	P	P	23 53 52.3	+2.6
PLAI	Plampang	43.13	269	P	P	23 53 56.3	-0.8
PLAI	Plampang	43.13	269	P	P	23 53 57.0	-0.1
	comp=Z,53nm,0.7s,comp=Z,629nm						
MEEK	Meekatharra	43.35	243	P	P	23 53 59.0	+0.1
	baz=43,SNR=7.7						
MEEK	Meekatharra	43.35	243	P	P	23 54 02.2	+3.3
TWSI	Taliwang, Sumb	44.02	269	P	P	23 54 13.6	+9.3
MYLDM	Lahad Datu	45.68	288	P	P	23 54 17.7	+0.2
NWAO	Narrogin (SRO)	46.19	234	P	P	23 54 23.6	+2.2
NWAO	Narrogin (SRO)	46.19	234	LR	LR	00 14 06.9	
	comp=Z,564nm,18.7s,baz=71,slow=37						
JAGI	Jajag, Banyuwa	46.73	269	P	P	23 54 24.6	-1.2
JAGI	Jajag, Banyuwa	46.73	269	P	P	23 54 24.8	-1.0
JAGI	Jajag, Banyuwa	46.73	269	P	P	23 54 28.1	+2.3
	comp=Z,91nm,0.9s						
PPT	Papeete	47.78	104	LR	LR	00 11 42.0	
	comp=Z,294nm,18.0s,baz=288,slow=32						
PPT2	Papeete2	47.78	104	*e*P	P	23 54 27.1	-6.9
	comp=Z,51nm,23.8s						
PPT2				*e*S	S	00 01 27.2	-2.0
	comp=Z,140nm,27.5s						
PPT2				*e*LR	LR	00 07 50.3	
	comp=Z,421nm,27.2s						
PPT2				*e*LR	LR	00 08 21.1	
	comp=Z,482nm,22.2s						
KKM	Kota Kinabalu	48.11	288	P	P	23 54 36.0	-0.7
KKM	Kota Kinabalu	48.11	288	P	P	23 54 39.8	+3.1
TBI	Tubuai	48.27	112	*e*S	S	00 01 38.8	+2.9
	comp=Z,515nm,28.8s						
TBI				*e*LQ	LQ	00 06 16.4	
	comp=Z,3µm,30.8s						
TBI				*e*LR	LR	00 08 07.3	
	comp=Z,950nm,30.8s						
TBI				*e*LR	LR	00 08 29.8	
	comp=Z,1µm,30.2s						
JOW	Kunigami	49.42	320	LR	LR	00 15 06.3	
	comp=Z,122nm,18.7s,baz=150,slow=36						
SMRI	Semarang	50.56	270	P	P	23 54 54.0	-1.3
SBUM	Sibu	50.79	282	P	P	23 54 56.9	-0.2
STKI	Sintang	50.90	279	P	P	23 55 08.9	+11
MJAR	Matsushiro Arr	51.96	336	P	P	23 55 03.8	-1.6
	comp=Z,3.5nm,0.6s,baz=171,slow=7.5,SNR=3.6						
KPJI	Karang Pucung	52.00	269	P	P	23 55 18.5	+12
KSM	Kuching	52.38	280	P	P	23 55 11.6	+2.7
JNU	Nakatsue	52.55	327	LR	LR	00 17 11.9	
	comp=Z,53nm,18.1s,baz=152,slow=36						
BBJI	Bungbulang	53.24	269	P	P	23 55 15.4	0.0
LEM	Lembang	53.37	269	LR	LR	00 22 35.3	
	comp=Z,100nm,18.8s,baz=62,slow=41						
JTM	Tenmabayashi	54.71	341	P	P	23 55 24.8	-0.7
CGJI	Cibinong	55.29	269	P	P	23 55 29.3	-0.9
	comp=Z,88nm,1.0s,comp=Z,1µm						
KASI	Kota Agung	56.63	270	P	P	23 55 48.6	+8.8
JKA	Kamikawa-asahi	57.30	344	P	P	23 55 43.1	-0.9
ASAJ	Asahikawa	57.30	344	P	P	23 55 43.1	-0.9
ASAJ				pmax	pmax		
	comp=Z,132nm,1.5s						
ASAJ	Asahikawa	57.30	344	LR	LR	00 18 06.2	
	comp=Z,192nm,21.6s,baz=176,slow=34						
KSRS	Korea Array	57.42	328	P	P	23 55 44.1	-0.8
	comp=Z,3.0nm,0.8s,baz=146,slow=6.8,SNR=6.0						
KSRS				LR	LR	00 19 15.2	
	comp=Z,167nm,19.1s,baz=140,slow=35						
	comp=Z,3.0nm,0.8s						
TAOE	Nuku Hiva Isla	57.43	94	*e*S	S	00 03 40.9	-0.5
	comp=Z,312nm,28.0s						
TAOE				*e*LR	LR	00 12 47.5	
	comp=Z,427nm,23.9s						
NJ2	Nanjing	59.00	318	*e*P	P	23 55 58.7	+2.6
NJ2				pP	pP	23 56 02.5	-1.7
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
USA0B	Ussuriysk Arra	60.96	336	P	P	23 56 09.8	+0.5
USA0B	Ussuriysk Arra	60.96	336	P	P	23 56 09.8	+0.5
USA0B				pmax	pmax		
	comp=Z,35nm,1.3s						
USRK	Ussuriysk Ar.	60.96	336	P	P	23 56 09.5	+0.2
USRK	Ussuriysk Ar.	60.96	336	P	P	23 56 09.5	+0.2
USRK	Ussuriysk Ar.	60.96	336	P	P	23 56 08.4	-0.9
	comp=Z,12nm,0.8s,baz=142,slow=6.9,SNR=18						
	comp=Z,12nm,0.8s						
WHN	Wuhan	61.19	314	P	P	23 56 13.9	+2.8
MDJ	Mudanjiang	62.28	335	P	P	23 56 21.2	+3.0
MDJ				pmax	pmax		
	comp=Z,15nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,360nm,7.7s						
COCO	West Island	63.27	262	*i* P	P	23 56 25.3	-0.1
PET	Petropavlovsk	63.62	358	*e*P	P	23 56 31.9	+5.0
PET				*e*S	S	00 05 05.8	+6.8
PET				MLR	MLR		
	comp=Z,100nm,18.0s						
PETK	Petropavlovsk-	63.74	357	P	P	23 56 26.7	-1.0
	comp=Z,5.8nm,1.0s,baz=143,slow=5.0,SNR=2.9						
PETK				LR	LR	00 21 03.5	
	comp=Z,94nm,21.2s,baz=173,slow=33						
	comp=Z,5.8nm,1.0s						
BNX	BinXian	64.11	334	⇑P	P	23 56 29.6	-0.7
BNX				pmax	pmax		
	comp=Z,12nm,0.7s						
BNX				pmax	pmax		
	comp=Z,23nm,3.6s						
SHEM	Shemya Is, Ala	64.19	8	LR	LR	00 20 12.4	
	comp=Z,86nm,19.5s,baz=256,slow=32						
HNS	HongShan	64.99	320	⇑P	P	23 56 36.1	-0.1
HNS				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KIWB	Kanaga Island	65.07	14	P	P	23 56 36.1	-0.3
KLR	Kul'dur	65.27	339	*i* P	P	23 56 38.6	+0.8
KLR				pmax	pmax		
	comp=Z,20nm,1.4s						
VNDA	Vanda	66.70	180	P	P	23 56 46.6	-0.1
VNDA	Vanda	66.70	180	P	P	23 56 46.6	-0.1
VNDA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
VNDA	Vanda	66.70	180	P	P	23 56 47.3	+0.6
	comp=Z,2.6nm,0.8s,baz=345,slow=6.3,SNR=10.0						
VNDA				LR	LR	00 22 43.7	
	comp=Z,87nm,18.1s,baz=354,slow=33						
	comp=Z,2.6nm,0.8s						
XAN	Xi'an	66.94	314	⇓P	P	23 56 56.5	+7.5
XAN				pmax	pmax		
	comp=Z,14nm,0.9s						
XAN				LR	LR		
	comp=Z,320nm,11.7s						
XAN				LR	LR		
	comp=Z,370nm,16.1s						
SBA	Scott Base	67.09	179	P	P	23 56 50.3	+1.2
SBA	Scott Base	67.09	179	P	P	23 56 50.3	+1.2
SBA				pmax	pmax		
	comp=Z,14nm,1.3s						
PHRA	Phrae	67.11	295	P	P	23 56 48.9	-1.3
CRAI	Chiangrai	67.60	297	P	P	23 56 51.9	-1.4
CRAI				IAmb	IAmb	23 57 04.8	
	comp=Z,14nm,0.9s						
HEH	HeiHe	67.71	337	*e*P	P	23 56 51.9	-1.5
HEH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HEH				pmax	pmax		
	comp=Z,250nm,4.9s						
CMAR	Chiang Mai Arr	68.23	295	*ce*P	P	23 56 57.2	-0.2
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CMAR	Chiang Mai Arr	68.23	295	P	P	23 56 56.8	-0.6
	comp=Z,3.5nm,0.7s,baz=124,slow=5.0,SNR=14						
CMAR				LR	LR	00 26 05.8	
	comp=Z,26nm,21.6s,baz=110,slow=35						
	comp=Z,3.5nm,0.7s						
CHTO	Chiang Mai	68.36	295	P	P	23 56 57.0	-1.2
CHTO				IAmb	IAmb	23 57 09.6	
	comp=Z,19nm,1.5s						
CHTO	Chiang Mai	68.36	295	P	P	23 56 57.0	-1.2
CHTO				pmax	pmax		
	comp=Z,19nm,1.5s						
PZH	PanZhiHua	68.87	304	P	P	23 57 04.2	+2.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,90nm,4.4s						
HHC	Hu-ho-hao-te	69.02	322	*e*P	P	23 57 05.6	+3.6
HHC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,220nm,4.6s						
HHC				LR	LR		
	comp=Z,320nm,20.4s						
HHC				LR	LR		
	comp=Z,290nm,20.4s						
HHC				LR	LR		
	comp=Z,310nm,19.2s						
CD2	Chengdu	69.20	309	P	P	23 57 02.1	-1.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
HIA	Hailar	70.17	332	*i* P	P	23 57 08.3	-0.5
HIA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MA2	Magadan	70.68	354	LR	LR	00 25 49.0	
	comp=Z,64nm,20.1s,baz=188,slow=34						
LZH	Lanzhou	71.56	314	*e*P	P	23 57 20.8	+3.1
LZH				sP	pwP	23 57 30.6	+2.4
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
LZH				LR	LR		
	comp=Z,210nm,16.5s						
LZH				LR	LR		
	comp=Z,260nm,17.2s						
SEY	Seymchan	73.85	356	*i* P	P	23 57 29.1	-1.4
SEY				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CHGN	Chignik	74.66	22	P	P	23 57 34.5	-0.9
	baz=221						
ULN	Ulaanbaatar	75.72	326	P	P	23 57 40.5	-1.4
ULN				IAmb	IAmb	23 57 49.3	
	comp=Z,11nm,0.8s						
ULN	Ulaanbaatar	75.72	326	*i* P	P	23 57 41.2	-0.7
ULN				pmax	pmax		
	comp=Z,12nm,0.9s						
SONM	Songino Array	76.07	325	P	P	23 57 43.3	-0.5
	comp=Z,7.7nm,0.8s,baz=142,slow=5.5,SNR=50						
SONM				LR	LR	00 32 12.6	
	comp=Z,140nm,18.4s,baz=132,slow=37						
	comp=Z,7.7nm,0.8s						
O15K	Ungalikthiuk R	76.38	19	P	P	23 57 46.5	+1.4
	baz=219						
YAK	Yakutsk	76.75	345	*e*P	P	23 57 46.6	-0.6
YAK				*e**PP	PcP	23 57 57.2	-1.2
YAK				*e*		00 00 38.7	
YAK				*e*S	S	00 07 31.5	-0.7
YAK				*e**SS	sS	00 07 50.8	+5.6
YAK				*e*		00 08 27.9	
YAK				pmax	pmax		
	comp=Z,26nm,1.1s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.5s						
YAK				pmax	pmax		
	comp=Z,261nm,6.6s						
YAK				pmax	pmax		
	comp=N,54nm,3.4s						
YAK				pmax	pmax		
	comp=E,105nm,3.0s						
YAK				smax	smax		
	comp=N,97nm,4.8s						
YAK				smax	smax		
	comp=E,67nm,5.7s						
P16K	Nushagak River	76.88	20	P	P	23 57 48.6	+0.7
	baz=221						
M14K	Bethel	76.97	17	P	P	23 57 49.1	+0.7
	baz=217						
Q17K	Contact Creek	77.04	22	P	P	23 57 49.8	+0.8
	baz=223						
N15K	Kwethluk River	77.07	19	P	P	23 57 49.7	+0.6
	baz=219						
GAMB	Gambell	77.12	12	P	P	23 57 50.6	+1.4
	baz=207						
L14K	Kuka Creek	77.23	17	P	P	23 57 50.4	+0.5
	baz=216						

OHAK Old Harbor 77.27 23 P P 23 57 51.8 +1.6
baz=226
M15K Kasigluk River 77.30 18 P P 23 57 50.4 +0.1
baz=218
Q18K Katmai Hardscr 77.64 22 P P 23 57 52.2 -0.2
baz=224
KDAK Kodiak Island 77.93 23 LR LR 00 28 51.4
comp=E,173nm,18.3s,baz=244,slow=33
P18K Big Mountain, 78.10 21 P P 23 57 54.6 -0.3
baz=223
J14K Nanvaranak Lak 78.14 16 P P 23 57 55.1 +0.2
baz=215
N17K Nushagak Hills 78.28 19 IAmb IAmb 23 58 03.9
comp=Z,33nm,1.4s
N17K Nushagak Hills 78.28 19 P P 23 57 55.6 -0.2
baz=221
K15K Wolf Creek Mou 78.33 17 P P 23 57 55.5 -0.5
baz=217
L16K Owhat River 78.46 18 P P 23 57 57.0 +0.3
baz=219
BILL Bilibino 78.71 2 P P 23 57 57.0 -1.1
BILL IAmb IAmb 23 58 05.3
comp=Z,20nm,1.2s
BILL Bilibino 78.71 2 *e*P P 23 57 57.4 -0.6
M17K Holitna River 78.85 19 P P 23 57 59.8 +0.9
ZAK Zakamensk 79.17 326 *e*P P 23 57 59.0 -2.0
ZAK pmax pmax
comp=Z,7.0nm,1.4s
QSPA South Pole Qui 79.20 180 P P 23 58 00.4 -0.6
QSPA IAmb IAmb 23 58 06.5
comp=Z,26nm,1.3s
QSPA South Pole Qui 79.20 180 P P 23 58 01.3 +0.2
comp=Z,7.4nm,0.7s,baz=357,slow=2.1
comp=Z,7.4nm,0.7s
J16K Anvik River 79.37 16 P P 23 58 00.7 -1.0
J16K Anvik River 79.37 16 P P 23 58 02.7 +1.0
baz=218
M18K Stony River 79.44 19 P P 23 58 02.7 +0.6
baz=223
O20K Slope Mountain 79.52 21 P P 23 58 03.8 +1.2
baz=226
K17K Iditarod 79.59 18 P P 23 58 03.1 +0.2
baz=220
L18K Granite Mounta 79.71 19 P P 23 58 04.3 +0.8
baz=222
L19K White Mountain 80.26 19 IAmb IAmb 00 00 29.3
comp=Z,5nm,1.8s
L19K White Mountain 80.26 19 P P 23 58 06.7 +0.1
baz=223
TTA Tatalina 80.45 18 P P 23 58 07.7 0.0
TTA IAmb IAmb 23 58 16.8
comp=Z,23nm,1.3s
TTA Tatalina 80.45 18 P P 23 58 07.9 +0.2
baz=222
TTA Tatalina 80.45 18 P P 23 58 07.7 0.0
TTA pmax pmax
comp=Z,23nm,1.3s
J18K Innoko River 80.63 18 P P 23 58 08.3 -0.2
baz=222
L20K Farewell, AK 80.79 19 P P 23 58 10.1 +0.6
baz=224
SUA Susitna One 81.14 21 P P 23 58 10.2 -1.3
J19K Poorman 81.35 18 P P 23 58 13.3 +0.9
baz=222
K20K Telida 81.36 19 IAmb IAmb 23 58 21.4
comp=Z,18nm,1.2s
K20K Telida 81.36 19 P P 23 58 13.1 +0.7
baz=224
J20K Nowinta River 81.93 18 IAmb IAmb 23 58 24.3
comp=Z,23nm,1.3s
J20K Nowinta River 81.93 18 P P 23 58 16.3 +0.9
baz=224
G18K Tagagawik 81.95 15 P P 23 58 15.1 -0.4
baz=219
CAST Castle Rocks 82.04 19 P P 23 58 15.0 -1.0
CAST IAmb IAmb 23 58 16.3
comp=Z,13nm,1.0s
CAST Castle Rocks 82.04 19 P P 23 58 15.7 -0.3
baz=226
E17K Hotham Inlet 82.11 14 P P 23 58 16.7 +0.4
baz=216
H19K Roundabout Mou 82.26 16 IAmb IAmb 23 58 25.2
comp=Z,38nm,1.6s
H19K Roundabout Mou 82.26 16 P P 23 58 18.0 +0.9
baz=222
CHUM Lake Minchumin 82.29 19 P P 23 58 17.4 +0.1
baz=226
PALK Pallekele 82.41 279 LR LR 00 37 22.1
comp=Z,50nm,20.0s,baz=211,slow=38
G19K Purcell Mounta 82.55 16 IAmb IAmb 23 58 26.9
comp=Z,21nm,1.3s
G19K Purcell Mounta 82.55 16 P P 23 58 17.8 -0.8
baz=221
GUN Gumba 82.60 300 *e*P P 23 58 12.1 -8.1
comp=Z,10.0nm,0.7s
TRF Thorofare Moun 82.65 20 P P 23 58 18.3 -1.1
baz=228
E18K Tukpahlearik C 82.66 14 P P 23 58 19.2 0.0
baz=217
H20K Anotleneega Mo 82.67 17 P P 23 58 19.0 -0.3
baz=223
WAT1 Susitna Watana 82.82 21 P P 23 58 19.8 -0.4
baz=229
PKI Pulchoki 82.91 300 *e*P P 23 58 17.6 -4.2
comp=Z,8.8nm,0.6s
PKIN Phulchoki 82.92 300 *e*P P 23 58 18.1 -3.7
comp=Z,13nm,0.7s
KLU Klutina 82.92 23 P P 23 58 20.8 +0.1
baz=232
MCK McKinley 83.29 20 P P 23 58 22.2 -0.4
baz=229
I21K Tanana 83.30 18 P P 23 58 22.6 +0.1
baz=226
MAW Mawson 83.37 202 P P 23 58 23.6 +0.6
comp=Z,7.6nm,0.7s,baz=104,slow=15,SNR=5.0
MAW LR LR 00 30 37.6
comp=Z,84nm,20.2s,baz=104,slow=32
comp=Z,7.6nm,0.7s
H21K Melozitna Rive 83.39 17 P P 23 58 23.1 +0.1
baz=225
E19K Redstone River 83.51 15 IAmb IAmb 23 58 40.9
comp=Z,17nm,1.1s
E19K Redstone River 83.51 15 P P 23 58 23.3 -0.2
baz=221
C18K Utukok River 83.51 13 P P 23 58 23.2 -0.4
MLY Manley 83.58 18 P P 23 58 24.2 +0.2
baz=227
F20K Avaraart Lake 83.59 16 P P 23 58 24.1 +0.2
baz=222
G21K Allakaket 83.80 17 P P 23 58 24.4 -0.7
baz=224
H22K Ishtalitna Cre 83.98 18 P P 23 58 26.4 +0.4
baz=226
D19K Kuna River 84.09 14 P P 23 58 25.9 -0.7
D19K Kuna River 84.09 14 P P 23 58 26.7 +0.1
baz=220
F21K Alatna River 84.32 16 P P 23 58 27.2 -0.5
baz=224
MDM Murphy Dome 84.33 19 P P 23 58 26.8 -1.0
MDM IAmb IAmb 23 58 54.4
comp=Z,24nm,1.5s
E20K Nigu River 84.38 15 P P 23 58 27.9 -0.2
baz=222
HDA Harding Lake 84.39 20 P P 23 58 28.1 0.0
baz=231
HDA P P 23 58 28.1 0.0
baz=231
RPN Rapa Nui 84.40 116 LR LR 00 28 48.2
comp=Z,152nm,19.4s,baz=279,slow=30
K24K Donnelly Dome 84.41 21 P P 23 58 28.2 -0.1
baz=232
DANN Dangsing 84.52 300 *e*P P 23 58 24.6 -5.4
comp=Z,14nm,0.7s
M26K Nabesna, AK 84.58 23 P P 23 58 29.0 -0.2
baz=234
D20K Etivluk River 84.62 14 P P 23 58 28.4 -0.9
baz=221
IL31 84.64 20 IAmb IAmb 23 58 37.3
comp=Z,11nm,1.1s
ILAR Eielson Array 84.64 20 P P 23 58 28.0 -1.4
ILAR Eielson Array 84.64 20 P P 23 58 28.4 -1.0
comp=Z,1.4nm,0.6s,baz=239,slow=4.8,SNR=24
ILAR LR LR 00 33 00.3
comp=Z,175nm,19.5s,baz=244,slow=33
comp=Z,1.4nm,0.6s
O28M Mount Upton 84.77 25 P P 23 58 31.1 +0.6
baz=237
L26K Log Cabin Wild 84.81 22 P P 23 58 31.3 +1.0
baz=234
F22K John River 84.88 16 P P 23 58 31.3 +0.8
baz=225
G23K Bananza Creek 84.94 17 P P 23 58 31.4 +0.5
baz=228
M27K Edge Creek, AK 84.98 23 P P 23 58 31.4 +0.1
baz=235
J25K Salcha River, 85.05 20 IAmb IAmb 23 58 39.1
comp=Z,23nm,1.6s
J25K Salcha River, 85.05 20 P P 23 58 31.6 +0.1
baz=232
TIXI Tiksi 85.11 350 *ce*P P 23 58 30.0 -1.5
PYUN Piuthan 85.11 300 *e*P P 23 58 30.7 -2.2
comp=Z,14nm,0.8s
SCRK Sand Creek 85.15 21 P P 23 58 32.4 +0.3
baz=233
YUK3 Moose Creek 85.21 24 P P 23 58 32.5 0.0
baz=237
C21K Knifeblade Rid 85.39 14 P P 23 58 33.9 +0.8
baz=223
L27K Beaver Creek, 85.40 22 P P 23 58 33.5 +0.2
baz=235
B20K Meade River 85.47 13 P P 23 58 33.8 +0.3
baz=221
G24K Hadweenzic Riv 85.69 18 P P 23 58 35.2 +0.5
baz=230
D22K Ayikyak River 85.72 15 P P 23 58 34.9 +0.2
baz=225
B21K Ikpikpuk River 85.77 14 P P 23 58 35.6 +0.7
baz=223
K27K Chicken 85.86 22 P P 23 58 35.6 +0.1
baz=235
WMQ Urumqi 86.01 316 *e*P P 23 58 37.6 +0.8
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ LR LR
comp=Z,160nm,22.1s
F24K Squaw Lake 86.10 17 P P 23 58 38.1 +1.4
baz=230
G25K Bearman Lake 86.16 18 P P 23 58 38.2 +1.3
baz=231
D23K Nanushuk River 86.30 16 P P 23 58 38.0 +0.4
baz=227
TOLK Toolik Lake Re 86.37 16 P P 23 58 38.7 +0.7
baz=228
B22K Teshekpuk Lake 86.58 14 P P 23 58 40.7 +1.8
baz=224
EGAK Eagle 86.61 21 IAmb IAmb 23 58 59.6
comp=Z,20nm,1.1s
EGAK Eagle 86.61 21 P P 23 58 39.3 +0.1
baz=236
YBH Yreka Blue Hor 86.71 47 LR LR 00 34 54.0
comp=Z,111nm,18.1s,baz=237,slow=34
BBB Bella Bella 86.76 36 LR LR 00 28 50.5
comp=Z,83nm,21.8s,baz=262,slow=30
L29M L29M 86.84 23 IAmb IAmb 23 58 55.2
comp=Z,21nm,1.2s
L29M L29M 86.84 23 P P 23 58 41.1 +0.7
baz=239
DAWY Dawson 86.86 22 IAmb IAmb 23 58 50.3
comp=Z,18nm,1.1s
DAWY Dawson 86.86 22 P P 23 58 40.9 +0.4
baz=238
C23K Itkillik River 86.91 15 P P 23 58 40.6 0.0
baz=227
D24K Happy Valley 86.92 16 P P 23 58 40.6 0.0
baz=228
I27K Kandik River 86.92 20 P P 23 58 39.8 -0.9
baz=235
G26K Porcupine Rive 87.00 19 P P 23 58 41.9 +0.9
baz=233
M30M Minto, Yukon 87.09 24 P P 23 58 41.4 -0.3
baz=240
E25K Arctic Village 87.17 17 P P 23 58 42.4 +0.5
baz=232
H27K Steamboat Moun 87.31 20 P P 23 58 42.8 +0.2
baz=236
C24K Franklin Bluff 87.33 15 P P 23 58 42.7 +0.2
baz=229
CMB Columbia Colle 87.37 51 IAmb IAmb 23 58 56.9
comp=Z,6.3nm,0.7s
I28M Miner Creek 87.42 21 P P 23 58 43.3 +0.1
baz=237
S34M Telegraph Cree 87.45 30 P P 23 58 43.2 -0.1
baz=245
K29M Barlow Dome 87.45 23 P P 23 58 43.7 +0.2
baz=239
G27K Doyon Strip 87.60 19 P P 23 58 44.6 +0.6
baz=235
DGZ Jazzator, Alta 88.10 321 *i* P P 23 58 47.3 +0.4
DGZ pmax pmax
comp=Z,2.0nm,0.6s
DLBC Dease Lake 88.20 29 LR LR 00 34 44.5
comp=Z,250nm,18.4s,baz=272,slow=33
J05D Fort Rock, OR 88.21 45 P P 23 58 48.0 +0.4
J05D IAmb IAmb 23 58 49.2
comp=Z,5.6nm,0.7s
E27K Coleen River 88.40 18 IAmb IAmb 23 59 10.9
comp=Z,11nm,1.2s
E27K Coleen River 88.40 18 P P 23 58 47.6 -0.2
baz=235
C26K Camden Bay 88.47 16 P P 23 58 49.1 +1.1
baz=232
I30M Mount Dempster 88.58 22 IAmb IAmb 23 58 55.3
comp=Z,7.3nm,0.9s
I30M Mount Dempster 88.58 22 P P 23 58 49.0 +0.2
baz=240
CWC Cottonwood Cre 88.74 53 P P 23 58 50.4 +0.1
baz=256
G29M Pine Creek 88.86 20 P P 23 58 50.9 +0.9
baz=239
NVAR Mina Array Bea 89.06 51 P P 23 58 52.2 +0.4
comp=Z,2.1nm,0.7s,baz=233,slow=6.1,SNR=12
NVAR LR LR 00 34 36.8
comp=Z,160nm,18.0s,baz=269,slow=33
comp=Z,2.1nm,0.7s
MPMC Manual Prospec 89.11 53 P P 23 58 52.5 +0.5
baz=256
NV11 Mina Array Sit 89.17 51 IAmb IAmb 23 58 58.7
comp=Z,22nm,1.3s
MONP2 Monument Peak 89.22 56 P P 23 58 52.8 +0.2
baz=257
E28M Babbage River 89.27 18 IAmb IAmb 23 59 26.9
comp=Z,22nm,1.9s
E28M Babbage River 89.27 18 P P 23 58 52.4 +0.6
baz=237
PFO Pinyon Flats O 89.35 56 LR LR 00 30 36.0
comp=Z,245nm,21.3s,baz=292,slow=30
KVN Kaiserville 89.37 50 IAmb IAmb 23 58 54.5
comp=Z,18nm,1.6s
G30M tAoh Zraii Nji 89.50 20 P P 23 58 52.5 -0.5
G30M IAmb IAmb 23 59 14.8
comp=Z,15nm,1.4s
G30M tAoh Zraii Nji 89.50 20 P P 23 58 52.6 -0.4
baz=240
H31M Peel River 89.60 22 P P 23 58 53.6 +0.1
baz=242
WVOR Wild Horse Val 89.82 47 IAmb IAmb 23 58 57.4
comp=Z,13nm,1.2s
D28M Stokes Point 89.90 18 P P 23 58 55.0 +0.3
baz=238
G31M Satah River 90.15 21 P P 23 58 55.6 -0.3
baz=242
J08A Circle Bar Ran 90.17 46 IAmb IAmb 23 58 58.7
comp=Z,12nm,1.2s
TPNV Topopah Spring 90.29 53 P P 23 58 58.0 +0.5
baz=257
G08A Pilot Rock 90.33 44 IAmb IAmb 23 59 17.6
comp=Z,24nm,2.0s
MK31 Makanchi Array 90.53 318 *i* P P 23 58 56.4 -1.8
MKAR Makanchi Array 90.53 318 *i* P P 23 58 56.5 -1.7
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 90.53 318 P P 23 58 56.7 -1.5
comp=Z,2.0nm,0.6s,baz=94,slow=6.0,SNR=28
MKAR LR LR 00 39 11.9
comp=Z,81nm,20.8s,baz=92,slow=35
comp=Z,2.0nm,0.6s
MAKZ Makanchi 90.74 318 P P 23 58 56.7 -2.5
MAKZ Makanchi 90.74 318 P P 23 58 56.7 -2.5
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
ZALV Zalesovo Beam 90.96 325 *i* P P 23 58 58.7 -1.3
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 90.96 325 P P 23 58 57.6 -2.3
comp=Z,0.8nm,0.6s,baz=117,slow=5.2,SNR=4.6
ZALV LR LR 00 41 01.7
comp=Z,75nm,19.1s,baz=90,slow=36
comp=Z,0.8nm,0.6s
SHPR Sheep Range 91.04 53 P P 23 59 01.0 0.0
INK Inuvik 91.05 20 LR LR 00 35 53.5
comp=Z,211nm,19.0s,baz=186,slow=33
R11B Troy Canyon, C 91.11 51 P P 23 59 00.9 -0.4
baz=257
E09A Wood Farm, Sta 91.19 43 IAmb IAmb 23 59 11.8
comp=Z,10nm,1.3s
PRN Pahroc Range 91.32 52 IAmb IAmb 23 59 04.5
comp=Z,10nm,1.0s
BMO Blue Mountains 91.35 45 IAmb IAmb 00 01 35.2
comp=Z,22nm,1.9s
F10A Beach Ranch, E 91.67 44 IAmb IAmb 23 59 05.0
comp=Z,5.4nm,0.8s
W13A Hualapai Mount 91.76 55 IAmb IAmb 23 59 09.3
comp=Z,20nm,2.0s
ELK Elko 91.90 49 IAmb IAmb 23 59 16.0
comp=Z,9.8nm,1.5s
ELK Elko 91.90 49 LR LR 00 32 49.2
comp=Z,113nm,20.6s,baz=246,slow=31
NEW Newport 92.28 41 LR LR 00 36 43.7
comp=Z,140nm,18.0s,baz=268,slow=33
PLID Pearl Lake 92.31 45 P P 23 59 07.0 +0.2
LPIG La Paz 92.69 66 LR LR 00 33 31.2
comp=Z,98nm,19.6s,baz=234,slow=31
ELIB Princess Elisa 92.94 192 *d*P P 23 59 09.1 0.0
comp=Z,4.6nm,1.2s
HLID Hailey 93.09 46 P P 23 59 11.2 +0.8
baz=258
KURK Kurchatov 93.82 321 *i* P P 23 59 14.0 +0.7
KURK pmax pmax
comp=Z,4.0nm,1.0s
KURBB Kurchatov Arra 93.86 321 P P 23 59 11.5 -2.0
comp=Z,0.8nm,0.3s,baz=101,slow=3.3,SNR=5.9
KURBB LR LR 00 43 51.4
comp=Z,95nm,18.5s,baz=168,slow=37
comp=Z,0.8nm,0.3s
C36M Paulatuk 94.61 20 P P 23 59 15.6 -0.9
baz=252
ELMT Elliston 95.00 44 P P 23 59 18.9 -0.2
A36M Sachs Harbour 95.09 17 P P 23 59 18.7 +0.1
baz=251
TROLL Troll, Antarti 96.20 186 ⇑P P 23 59 23.2 -0.8
comp=Z,213nm,1.0s
PDAR Pinedale Array 96.45 48 P P 23 59 24.4 -1.4
comp=Z,0.7nm,0.7s,baz=242,slow=3.2,SNR=5.5
PDAR LR LR 00 40 37.1
comp=Z,70nm,18.1s,baz=282,slow=34
comp=Z,0.7nm,0.7s
YKA Yellowknife Ar 96.67 28 P P 23 59 25.2 -0.9
comp=Z,0.8nm,0.7s,baz=260,slow=4.8,SNR=11
YKA LR LR 00 41 17.8
comp=Z,92nm,18.7s,baz=298,slow=34
comp=Z,0.8nm,0.7s
SNAA Sanae 97.05 185 ⇑P P 23 59 26.3 -1.5
comp=Z,24nm,0.7s
SNAA Sanae 97.05 185 *i* P P 23 59 26.7 -1.1
SNAA pmax pmax
comp=Z,7.0nm,1.3s
SNAA Sanae 97.05 185 P P 23 59 26.6 -1.2
comp=Z,1.2nm,0.7s,baz=198,slow=5.8,SNR=6.0
SNAA LR LR 00 41 22.3
comp=Z,120nm,18.5s,baz=160,slow=34
comp=Z,1.2nm,0.7s
ANMO Albuquerque 97.74 56 *i* P Pdif 23 59 32.1 +0.2
ANMO pmax pmax
comp=Z,6.0nm,2.6s
ANMO Albuquerque 97.74 56 LR LR 00 38 44.0
comp=Z,113nm,18.8s,baz=6.5,slow=32
VNA3 Neumayer Olymp 97.92 183 ⇑P P 23 59 30.1 -1.6
comp=Z,4.3nm,0.7s
VNA2 Neumayer--Watz 98.11 184 ⇑P P 23 59 30.7 -1.8
comp=Z,3.5nm,0.7s,baz=188,slow=4.0
BVAR Borovoye Array 99.22 322 P Pdif 23 59 34.3 -3.4
comp=Z,0.9nm,0.8s,baz=33,slow=3.5,SNR=5.5
BVAR LR LR 00 46 08.8
comp=Z,95nm,19.6s,baz=82,slow=36
BRVK Borovoye 99.29 322 *i* P Pdif 23 59 38.9 +0.9
BRVK pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 99.36 62 LR LR 00 39 56.9
comp=Z,125nm,18.2s,baz=272,slow=33
ARCES ARCESS Array B 115.03 344 PKP PKiKP 00 04 35.7 -0.9
comp=Z,1.7nm,0.8s,baz=100,slow=1.7,SNR=7.6
LPAZ La Paz 123.98 118 PKIKP PKPdf 00 04 56.0 -0.2
LPAZ La Paz 123.98 118 PKP PKPdf 00 04 56.0 -0.2
comp=Z,1.2nm,0.7s,baz=210,slow=4.6,SNR=4.3
KHC Kasperske Hory 133.43 331 *e*PKP PKiKP 00 05 13.4 -0.3
KHC *ex* x 00 05 22.2
KHC Kasperske Hory 133.43 331 *e*PKIKP PKiKP 00 05 13.4 -0.3
ESDC Sonseca Array 148.49 338 PKPbc PKPbc 00 05 42.0 -1.2
comp=Z,0.4nm,0.8s,baz=20,slow=3.9,SNR=2.4

*IDC **06** 00:06:10.4±17.0, 12.68S×167.32E, h268km±168km, mb3.5/6, mbtmp4.0/6, Error ellipse: s-maj=103.3km s-min=64.3km az=152.0*

ISC 06 00:06:08.5±2.9, 12.6S±0.6×167.4E±0.5, h250km, n7, σ0.85/7, mb3.9/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**21.56**	**247**	P	P	**00 10 39.6**	**+1.0**
	1.6nm,0.6s,baz=54,slow=14,SNR=4.7						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**32.48**	**253**	P	P	**00 12 15.2**	**-0.9**
	1.3nm,0.4s,baz=84,slow=8.9,SNR=33						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**33.56**	**246**	P	P	**00 12 24.9**	**-0.5**
	2.3nm,0.7s,baz=70,slow=9.7,SNR=29						
	2.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**74.16**	**293**	P	P	**00 17 19.0**	**+0.7**
	1.1nm,0.3s,baz=101,slow=4.8,SNR=4.4						
	1.1nm,0.3s						
ILAR	**Eielson Array**	**84.48**	**18**	P	P	**00 18 13.0**	**+0.1**
	0.3nm,0.6s,baz=233,slow=5.5,SNR=2.4						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**95.71**	**317**	P	P	**00 19 05.5**	**-0.6**
	0.5nm,0.7s,baz=90,slow=5.4,SNR=5.2						
	0.5nm,0.7s						
ARCES	**ARCESS Array B**	**118.21**	**346**	PKP	**PKiKP**	**00 24 25.4**	**+0.1**
	1.8nm,0.8s,baz=58,slow=2.2,SNR=4.4						

*AEIC **06** 00:36:49.5±3.4, 52.5N±0.2×176.0W±0.1, h235km±7km, Error ellipse: s-maj=35.0km s-min=9.5km az=167.0*

NEIC 06 00:36:48.4±1.9, 52.2N±0.1×175.90W±0.09, h239km±6km, mb3.6/6, ML2.9(AEIC)**, Error ellipse: s-maj=18.9km s-min=7.4km az=186.0, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSTR	**Great Sitkin T**	**0.14**	**224**	Pn	Pn	00 37 17.8	-1.6
GSMY	**Great Sitkin M**	**0.18**	**213**		Pn	00 37 19.6	+0.2
GSCK	**Great Sitkin C**	**0.25**	**221**		Pn	00 37 20.0	+0.5
GSCK					S	00 37 43.6	-0.3
ADK	**Adak**	**0.58**	**237**	Pn	Pn	00 37 20.8	+0.5
ADK					S	00 37 44.5	-0.8
KIRH	**Kanaga Island**	**0.80**	**248**		Pn	00 37 22.0	+0.8
KIWB	**Kanaga Island**	**0.85**	**246**	Pn	Pn	00 37 20.4	-1.1
KIMD	**Kanaga Island**	**0.94**	**243**		Pn	00 37 22.8	+0.8
ATKA	**Atka Island**	**1.05**	**89**	Pn	Pn	00 37 21.7	-0.8
ATKA				Sn	S	00 37 48.7	-0.6
KOFP	**Korovin Flat P**	**1.11**	**85**		Pn	00 37 23.6	+0.6
TAFP	**Tanaga Falls P**	**1.32**	**258**		Pn	00 37 24.8	+0.4
TASE	**Tanaga Southea**	**1.37**	**255**		Pn	00 37 25.6	+0.8
GANE	**Gareloi Northe**	**1.82**	**259**		Pn	00 37 29.1	+0.7
GANO	**Gareloi North**	**1.84**	**259**		Pn	00 37 29.0	+0.5
CEPE	**Semis' Perret**	**2.76**	**267**		Pn	00 37 37.8	+0.2
AMKA	**Amchitka**	**3.09**	**257**	Pn	Pn	00 37 41.0	-0.2
AMKA				Sn	S	00 38 19.7	-3.1
N15K	**Kwethluk River**	**11.86**	**41**	P	P	00 39 33.8	0.0
M16K	**Timber Creek**	**12.81**	**40**	P	P	00 39 44.9	+0.5
N17K	**Nushagak Hills**	**13.27**	**44**	P	P	00 39 50.0	+0.6
OHAK	**Old Harbor**	**13.97**	**60**	P	Pn	00 39 56.3	0.0
KDAK	**Kodiak Island**	**14.46**	**58**	P	Pn	00 40 00.4	-1.9
SKT	**Skwentna**	**16.36**	**44**	P	P	00 40 24.1	+0.5
SKT				IAmb	IAmb	00 40 49.8	
	comp=Z,4.8nm,1.0s						
KTH	**Kantishna Hill**	**17.34**	**39**	P	P	00 40 34.1	-0.1
E19K	**Redstone River**	**17.82**	**24**	P	P	00 40 38.6	-0.8
E19K				IAmb	IAmb	00 41 07.6	
	comp=Z,2.6nm,1.1s						
G21K	**Allakaket**	**18.17**	**29**	P	P	00 40 42.4	-0.7
H24K	**Noodor Dome**	**19.62**	**35**	P	P	00 40 58.1	-0.7

F24K	**Squaw Lake**	**20.53**	**31**	P	P	00 41 08.0	-0.5
F24K				IAmb	IAmb	00 41 18.7	
	comp=Z,1.9nm,1.1s						
I28M	**Miner Creek**	**22.45**	**40**	P	P	00 41 26.1	-1.1
F28M	**Old Crow**	**23.26**	**35**	P	P	00 41 35.4	+1.1
F28M				IAmb	IAmb	00 41 36.2	
	comp=Z,1.3nm,1.1s						

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*IDC **06** 00:56:42.9±0.4, 38°.98S×175°.12E, h204km±4km, mb4.2/7, mbtmp4.7/8, Error ellipse: s-maj=12.3km s-min=11.7km az=179.0*

*NEIC **06** 00:56:42.7±2.1, 39°.03S±0°.07×174°.8E±0°.1, h196km±5km, mb4.5/26, Error ellipse: s-maj=12.0km s-min=9.2km az=114.0*

*NOU **06** 00:56:43.4, 39°.10S×174°.73E, h188km, mb4.8/33, North Island, New Zealand*

*WEL **06** 00:56:45.3±0.4, 39°S±3°×17°5E±°, h176km±2km, M4.9/126, ML4.7/30, MLv4.9/126, Error ellipse: s-maj=0.0km s-min=0.0km az=151.6, confirmed*

*WEL **06** 00:56:45.3, 39°.04S×174°.85E, h172km, ML4.9, Mw4.6, Moment Tensor Solution. s6 Moment tensor: M_{rr}54.86; $M_{\theta\theta}$231.20; $M_{\phi\phi}$-286.06; $M_{r\theta}$766.45; $M_{\theta\phi}$-219.02; $M_{\phi r}$602.96; Fault plane solution: NP1:ϕ_s27.00000°, δ18.00000°, λ171.00000°. NP2:ϕ_s126.00000°, δ87.00000°, λ72.00000°. NORTH ISLAND*

ISC 06 00:56:43.2±0.4**, 39°.09S**±0°.04**×174°.80E**±0°.04**, h201**km±3km**, h201km:pP-P, n293, σ1.41**/354**, mb4.6**/27**, 1C-5D, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.04**	**218**	P	**Pn**	**00 57 08.9**	**-0.6**
VRZ				S	**Sn**	**00 57 28.5**	**-1.5**
HUKS	**Huiakama Schoo**	**0.25**	**226**	P	**Pn**	**00 57 07.8**	**-1.9**
MHEZ	**Mangahewa**	**0.37**	**272**	P	**Pn**	**00 57 10.2**	**+0.2**
MHEZ				S	**Sn**	**00 57 30.4**	**-0.2**
TUHS	**Taumarunui Hig**	**0.42**	**58**	S	**Sn**	**00 57 28.6**	**-2.3**
DREZ	**Durham Road**	**0.47**	**258**	P	**Pn**	**00 57 10.3**	**0.0**
DREZ				S	**Sn**	**00 57 29.2**	**-2.1**
PKVZ	**Pokaka**	**0.47**	**115**	P	**Pn**	**00 57 10.2**	**-0.2**
PKVZ				S	**Sn**	**00 57 30.1**	**-1.4**
LREZ	**Lake Rotokare**	**0.48**	**219**	P	**Pn**	**00 57 10.5**	**+0.2**
LREZ				S	**Sn**	**00 57 29.8**	**-1.7**
TWVZ	**Taurewa**	**0.50**	**88**	P	**Pn**	**00 57 10.0**	**-0.5**
TWVZ				S	**Sn**	**00 57 29.9**	**-1.8**
PREZ	**Palmer Road**	**0.56**	**243**	P	**Pn**	**00 57 10.9**	**+0.2**
PREZ				S	**Sn**	**00 57 31.9**	**-0.1**
NPCS	**New Plymouth C**	**0.56**	**272**	P	**Pn**	**00 57 09.6**	**-1.0**
NPCS				S	**Sn**	**00 57 30.3**	**-1.5**
NEZ	**North Egmont**	**0.57**	**251**	P	**Pn**	**00 57 10.9**	**+0.1**
NEZ				S	**Sn**	**00 57 31.6**	**-0.6**
HIZ	**Hauiti**	**0.58**	**5**	Pn	**Pn**	**00 57 09.6**	**-1.2**
HIZ				Sn	**Sn**	**00 57 29.9**	**-2.2**
HIZ	**Hauiti**	**0.58**	**5**	P	**Pn**	**00 57 10.1**	**-0.7**
HIZ	**Hauiti**	**0.58**	**5**	P	**Pn**	**00 57 10.0**	**-0.7**
HIZ				S	**Sn**	**00 57 30.3**	**-1.8**
ORCS	**Ohakune Ruapeh**	**0.58**	**125**	S	**Sn**	**00 57 29.3**	**-2.9**
COVZ	**Chateau Observ**	**0.59**	**101**	P	**Pn**	**00 57 10.7**	**-0.3**
MTVZ	**Mangateitei**	**0.60**	**120**	P	**Pn**	**00 57 11.1**	**+0.2**
MTVZ				S	**Sn**	**00 57 30.9**	**-1.5**
FWVZ	**Far West T-bar**	**0.61**	**106**	P	**Pn**	**00 57 10.9**	**-0.3**
FWVZ				S	**Sn**	**00 57 31.0**	**-1.8**
WTVZ	**West Tongariro**	**0.62**	**93**	P	**Pn**	**00 57 10.8**	**-0.3**
WTVZ				S	**Sn**	**00 57 31.1**	**-1.5**
MAVZ	**Matarangi**	**0.62**	**107**	P	**Pn**	**00 57 11.1**	**-0.3**
MAVZ				S	**Sn**	**00 57 30.9**	**-2.2**
TRVZ	**Turoa**	**0.62**	**110**	P	**Pn**	**00 57 11.1**	**-0.2**
TRVZ				S	**Sn**	**00 57 31.0**	**-1.9**
NGZ	**Ngauruhoe**	**0.63**	**98**	P	**Pn**	**00 57 10.9**	**-0.2**
NGZ				S	**Sn**	**00 57 31.0**	**-1.8**
PKE	**Pukeiti**	**0.64**	**260**	P	**Pn**	**00 57 11.0**	**0.0**
PKE				S	**Sn**	**00 57 32.0**	**-0.6**
HWHS	**Hawera High Sc**	**0.64**	**219**	P	**Pn**	**00 57 10.3**	**-0.7**
HWHS				S	**Sn**	**00 57 32.1**	**-0.5**
KHEZ	**Kahui Hut**	**0.64**	**251**	P	**Pn**	**00 57 11.4**	**+0.3**
KHEZ	**Kahui Hut**	**0.64**	**251**	P	**Pn**	**00 57 11.0**	**-0.1**
KHEZ				S	**Sn**	**00 57 32.1**	**-0.6**
NNVZ	**North Ngauruho**	**0.64**	**94**	P	**Pn**	**00 57 11.0**	**-0.3**
NNVZ				S	**Sn**	**00 57 31.2**	**-1.7**
WHVZ	**Whangaehu Hut**	**0.65**	**108**	P	**Pn**	**00 57 11.3**	**0.0**
WHVZ				S	**Sn**	**00 57 31.3**	**-1.8**
KRVZ	**Karewarewa**	**0.66**	**91**	P	**Pn**	**00 57 11.0**	**-0.3**
KRVZ				S	**Sn**	**00 57 31.3**	**-1.6**
SNVZ	**South Ngauruho**	**0.67**	**99**	P	**Pn**	**00 57 11.2**	**-0.1**
SNVZ				S	**Sn**	**00 57 31.0**	**-2.1**
WNVZ	**Wahianoa**	**0.67**	**111**	P	**Pn**	**00 57 11.4**	**+0.1**
WNVZ				S	**Sn**	**00 57 31.4**	**-1.8**
OTVZ	**Oturere**	**0.68**	**97**	P	**Pn**	**00 57 11.2**	**-0.2**
OTVZ				S	**Sn**	**00 57 31.4**	**-1.8**
WAZ	**Wanganui**	**0.68**	**168**	P	**Pn**	**00 57 11.6**	**+0.4**
WAZ				S	**Sn**	**00 57 32.3**	**-0.9**
NTVZ	**North Tongarir**	**0.69**	**91**	P	**Pn**	**00 57 11.2**	**-0.2**
NTVZ				S	**Sn**	**00 57 31.4**	**-1.8**
TUVZ	**Tukino**	**0.69**	**105**	P	**Pn**	**00 57 11.5**	**0.0**
TUVZ				S	**Sn**	**00 57 31.8**	**-1.5**
TMVZ	**Te Maari**	**0.71**	**92**	P	**Pn**	**00 57 11.5**	**0.0**
TMVZ				S	**Sn**	**00 57 32.0**	**-1.4**
KATZ	**Kakaramea**	**0.71**	**81**	P	**Pn**	**00 57 11.0**	**-0.5**
KATZ				S	**Sn**	**00 57 31.7**	**-1.7**
ETVZ	**East Tongariro**	**0.71**	**94**	P	**Pn**	**00 57 11.1**	**-0.4**
ETVZ				S	**Sn**	**00 57 32.0**	**-1.4**
NBEZ	**Newall Road No**	**0.74**	**256**	P	**Pn**	**00 57 11.7**	**+0.2**
NMEZ	**Namu Road**	**0.78**	**245**	P	**Pn**	**00 57 12.0**	**+0.3**
NMEZ				S	**Sn**	**00 57 34.1**	**+0.3**
RATZ	**Rangitukua**	**0.79**	**74**	P	**Pn**	**00 57 11.3**	**-0.6**
MOVZ	**Moawhango**	**0.81**	**113**	P	**Pn**	**00 57 11.6**	**-0.4**
MOVZ				S	**Sn**	**00 57 31.6**	**-2.7**
OPSS	**Opunake Primar**	**0.81**	**243**	S	**Sn**	**00 57 32.9**	**-1.3**
WATZ	**Wairara**	**0.82**	**63**	P	**Pn**	**00 57 11.7**	**-0.3**
RITZ	**Rihia Road**	**0.84**	**83**	P	**Pn**	**00 57 11.9**	**-0.2**
RITZ				S	**Sn**	**00 57 33.1**	**-1.3**
WCDS	**Wanganui Civil**	**0.87**	**167**	S	**Sn**	**00 57 34.5**	**-0.3**
TLZ	**Tolley Road**	**0.96**	**38**	P	**Pn**	**00 57 12.1**	**-0.8**
TLZ				S	**Sn**	**00 57 32.7**	**-3.0**
THHS	**Taihape Hospit**	**0.97**	**128**	S	**Sn**	**00 57 32.9**	**-3.1**
WHTZ	**Whakaora**	**1.00**	**65**	P	**Pn**	**00 57 12.8**	**-0.4**
KUTZ	**Kaahu Road**	**1.00**	**54**	P	**Pn**	**00 57 12.8**	**-0.3**
HATZ	**Hinemaiaia**	**1.03**	**79**	P	**Pn**	**00 57 12.5**	**-0.8**
HATZ				S	**Sn**	**00 57 33.9**	**-2.7**
BHHZ	**Black Hill Sta**	**1.06**	**112**	P	**Pn**	**00 57 13.3**	**-0.2**
BHHZ				S	**Sn**	**00 57 30.3**	**-6.8**
POIZ	**Poihipi**	**1.07**	**65**	P	**Pn**	**00 57 13.2**	**-0.4**
ARAZ	**Aratiatia Land**	**1.13**	**66**	P	**Pn**	**00 57 13.8**	**-0.3**
OHWZ	**Ohakea**	**1.19**	**160**	P	**Pn**	**00 57 15.4**	**+1.1**
OHWZ				S	**Sn**	**00 57 37.2**	**-1.5**
WPRZ	**Whakapapatarin**	**1.21**	**62**	P	**Pn**	**00 57 13.8**	**-0.8**
GRRZ	**Galatos Road**	**1.27**	**55**	P	**Pn**	**00 57 14.6**	**-0.5**
MRHZ	**Matea Rd**	**1.29**	**79**	P	**Pn**	**00 57 14.5**	**-0.8**
MRHZ				S	**Sn**	**00 57 36.6**	**-3.5**
KWHZ	**Kaweka Forest**	**1.31**	**105**	P	**Pn**	**00 57 15.8**	**+0.3**
KWHZ				S	**Sn**	**00 57 39.0**	**-1.4**
ALRZ	**Allen Road**	**1.32**	**67**	P	**Pn**	**00 57 14.7**	**-0.8**
TSZ	**Takapari Road**	**1.32**	**137**	P	**Pn**	**00 57 16.0**	**+0.5**
KRHZ	**Kereru**	**1.34**	**115**	P	**Pn**	**00 57 15.9**	**+0.2**
KRHZ				S	**Sn**	**00 57 38.9**	**-1.9**
HRRZ	**Handcock Road**	**1.36**	**60**	P	**Pn**	**00 57 15.3**	**-0.5**
PNHZ	**Pukenui**	**1.36**	**128**	P	**Pn**	**00 57 16.2**	**+0.3**
HSRZ	**Hossack Road**	**1.38**	**56**	P	**Pn**	**00 57 15.3**	**-0.6**
PRRZ	**Plateau Road**	**1.38**	**65**	P	**Pn**	**00 57 15.1**	**-0.9**
UTU	**Utuhina**	**1.43**	**51**	P	**Pn**	**00 57 16.0**	**-0.4**
TOZ	**Tahuroa Road**	**1.47**	**23**	Pn	**Pn**	**00 57 15.4**	**-1.3**
TOZ				Sn	**Sn**	**00 57 40.3**	**-2.4**
TOZ	**Tahuroa Road**	**1.47**	**23**	P	**Pn**	**00 57 15.8**	**-0.9**
NGRZ	**Ngongotaha**	**1.47**	**48**	P	**Pn**	**00 57 16.3**	**-0.5**
HLRZ	**Highlands Stat**	**1.48**	**56**	P	**Pn**	**00 57 16.9**	**0.0**
POWZ	**Post Office Ro**	**1.50**	**150**	P	**Pn**	**00 57 17.3**	**+0.3**
MCHZ	**McNeill Hill**	**1.52**	**104**	P	**Pn**	**00 57 17.9**	**+0.8**
KMRZ	**Kaimai**	**1.53**	**36**	P	**Pn**	**00 57 16.9**	**-0.5**
RRRZ	**Republican Roa**	**1.54**	**61**	P	**Pn**	**00 57 16.7**	**-0.7**
KARZ	**Kaharoa**	**1.56**	**47**	P	**Pn**	**00 57 16.9**	**-0.6**
NMHZ	**Naumai**	**1.57**	**91**	P	**Pn**	**00 57 18.2**	**+0.5**
OMRZ	**Omania**	**1.58**	**52**	P	**Pn**	**00 57 17.0**	**-0.7**
TARZ	**Mount Tarawera**	**1.59**	**58**	P	**Pn**	**00 57 17.2**	**-0.7**
WPHZ	**Waipukurau**	**1.60**	**128**	P	**Pn**	**00 57 18.4**	**+0.5**
DVHZ	**Dannevirke**	**1.61**	**139**	P	**Pn**	**00 57 18.2**	**+0.3**
MTHZ	**Maungataniwha**	**1.61**	**82**	P	**Pn**	**00 57 17.4**	**-0.7**
MKRZ	**Makatiti**	**1.62**	**55**	P	**Pn**	**00 57 17.7**	**-0.4**
LIRZ	**Lichensteins R**	**1.65**	**49**	P	**Pn**	**00 57 17.8**	**-0.6**
MUGZ	**Murupara**	**1.66**	**69**	P	**Pn**	**00 57 17.4**	**-1.1**
MRZ	**Mangatainoka R**	**1.68**	**159**	Pn	**Pn**	**00 57 18.6**	**0.0**
MRZ	**Mangatainoka R**	**1.68**	**159**	P	**Pn**	**00 57 18.8**	**+0.2**
ARHZ	**Aropaoanui**	**1.72**	**96**	P	**Pn**	**00 57 19.3**	**+0.3**
PRWZ	**Pori Road**	**1.72**	**149**	P	**Pn**	**00 57 19.5**	**+0.6**
OGWZ	**Otaki Gorge**	**1.75**	**171**	P	**Pn**	**00 57 19.7**	**+0.5**
KAHZ	**Kahuranaki**	**1.76**	**114**	P	**Pn**	**00 57 20.0**	**+0.6**
RTZ	**Ruatahuna**	**1.77**	**75**	P	**Pn**	**00 57 18.6**	**-1.0**
KIW	**Kapiti Island**	**1.77**	**177**	P	**Pn**	**00 57 19.6**	**+0.1**
TGRZ	**Tauranga**	**1.78**	**41**	P	**Pn**	**00 57 19.0**	**-0.6**
RAHZ	**Arahi**	**1.79**	**85**	P	**Pn**	**00 57 19.7**	**0.0**
EDRZ	**Edgecumbe**	**1.81**	**58**	P	**Pn**	**00 57 19.0**	**-1.0**
DUWZ	**D'Urville Isla**	**1.84**	**201**	P	**Pn**	**00 57 20.0**	**-0.1**
MARZ	**Manawahe**	**1.84**	**54**	P	**Pn**	**00 57 19.7**	**-0.6**
PRHZ	**Porangahau**	**1.84**	**130**	P	**Pn**	**00 57 20.8**	**+0.6**
PXZ	**Pawanui**	**1.85**	**121**	P	**Pn**	**00 57 20.7**	**+0.4**
CKHZ	**Cape Kidnapper**	**1.86**	**109**	P	**Pn**	**00 57 20.9**	**+0.6**
OPRZ	**Ohinepanea**	**1.86**	**49**	P	**Pn**	**00 57 19.5**	**-0.9**
TIWZ	**Tintock**	**1.88**	**154**	P	**Pn**	**00 57 20.8**	**+0.2**
ANWZ	**Angora Road**	**1.89**	**137**	P	**Pn**	**00 57 21.3**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.89**	**163**	P	**Pn**	**00 57 20.7**	**+0.1**
WHHZ	**Waihua**	**1.90**	**90**	P	**Pn**	**00 57 20.8**	**0.0**
BFZ	**Birch Farm**	**1.94**	**145**		**Pn**	**00 57 21.2**	**+0.1**
BFZ	**Birch Farm**	**1.94**	**145**	P	**Pn**	**00 57 21.3**	**+0.1**
BFZ	**Birch Farm**	**1.94**	**145**	P	**Pn**	**00 57 21.3**	**+0.1**
URZ	**Urewera**	**1.99**	**66**	P	**Pn**	**00 57 20.2**	**-1.5**
URZ	**Urewera**	**1.99**	**66**	P	**Pn**	**00 57 20.2**	**-1.5**
	4μm,0.6s,baz=337,slow=6.8,SNR=3089						
URZ				S	**Sn**	**00 57 46.2**	**-5.4**
	661nm,0.5s,baz=80,slow=12,SNR=3.7						
URZ	**Urewera**	**1.99**	**66**	P	**Pn**	**00 57 20.2**	**-1.5**
MKAZ	**Moumakai**	**2.00**	**8**	P	**Pn**	**00 57 21.2**	**-0.7**
SNGZ	**Shannon Statio**	**2.01**	**82**	P	**Pn**	**00 57 21.6**	**-0.3**
AWAZ	**Awhitu Peninsu**	**2.02**	**357**	P	**Pn**	**00 57 21.5**	**-0.5**
CAW	**Cannon Point**	**2.03**	**174**	P	**Pn**	**00 57 22.2**	**+0.2**
WHRZ	**Whale Island**	**2.11**	**55**	P	**Pn**	**00 57 22.1**	**-0.8**
CPWZ	**Castlepoint**	**2.12**	**150**	P	**Pn**	**00 57 23.5**	**+0.6**
RAGZ	**Rawiri**	**2.13**	**75**	P	**Pn**	**00 57 22.4**	**-0.8**
ETAZ	**East Tamaki Re**	**2.13**	**3**	P	**Pn**	**00 57 22.6**	**-0.6**
MYRZ	**Mayor Island**	**2.13**	**33**	P	**Pn**	**00 57 22.8**	**-0.5**
MTW	**Mount Morrison**	**2.14**	**166**	P	**Pn**	**00 57 22.9**	**-0.2**
TCW	**Tory Channel**	**2.16**	**190**	Pn	**Pn**	**00 57 22.8**	**-0.6**
TCW	**Tory Channel**	**2.16**	**190**	P	**Pn**	**00 57 23.5**	**+0.1**
WTAZ	**Waiatarua**	**2.16**	**355**	P	**Pn**	**00 57 23.2**	**-0.3**
TMWZ	**Te Maipa**	**2.18**	**158**	P	**Pn**	**00 57 23.6**	**-0.1**
WEL	**Wellington**	**2.19**	**181**	P	**Pn**	**00 57 23.7**	**0.0**
EPAZ	**Eden Park BICE**	**2.21**	**359**	P	**Pn**	**00 57 23.5**	**-0.5**
SNZO	**South Karori**	**2.22**	**182**	Pn	**Pn**	**00 57 23.7**	**-0.3**
SNZO	**South Karori**	**2.22**	**182**	P	**Pn**	**00 57 23.9**	**-0.1**
HBAZ	**Herne Bay Bore**	**2.24**	**359**	P	**Pn**	**00 57 23.8**	**-0.5**
KNZ	**Kokohu**	**2.24**	**89**	P	**Pn**	**00 57 23.8**	**-0.5**
MWZ	**Matawai**	**2.27**	**71**	P	**Pn**	**00 57 23.4**	**-1.3**
WIAZ	**Waiheke Island**	**2.31**	**7**	P	**Pn**	**00 57 24.4**	**-0.7**
BHW	**Baring Head**	**2.32**	**179**	Pn	**Pn**	**00 57 24.5**	**-0.5**
BHW	**Baring Head**	**2.32**	**179**	P	**Pn**	**00 57 24.7**	**-0.3**
MBAZ	**Motutapu North**	**2.32**	**2**	P	**Pn**	**00 57 24.5**	**-0.7**
RVAZ	**Riverhead Bore**	**2.32**	**356**	P	**Pn**	**00 57 24.7**	**-0.5**
PAWZ	**Paruwai Farm**	**2.34**	**168**	P	**Pn**	**00 57 25.1**	**-0.3**
RIGZ	**Rimuhau**	**2.35**	**82**	P	**Pn**	**00 57 25.0**	**-0.5**
MSWZ	**Moikau Station**	**2.35**	**172**	Pn	**Pn**	**00 57 23.6**	**-1.8**
MSWZ	**Moikau Station**	**2.35**	**172**	P	**Pn**	**00 57 25.2**	**-0.3**
NNZ	**Nelson**	**2.39**	**207**	Pn	**Pn**	**00 57 24.8**	**-1.1**
NNZ	**Nelson**	**2.39**	**207**	P	**Pn**	**00 57 25.3**	**-0.6**
TKNZ	**Takaka Hill**	**2.40**	**215**	P	**Pn**	**00 57 25.0**	**-1.0**
TRWZ	**Traveller**	**2.41**	**164**	P	**Pn**	**00 57 25.8**	**-0.2**
PRGZ	**Paritu Road**	**2.41**	**87**	P	**Pn**	**00 57 25.7**	**-0.5**
MHGZ	**Mahia Peninsul**	**2.42**	**92**	P	**Pn**	**00 57 26.1**	**-0.1**
TUWZ	**Tuamarina**	**2.43**	**195**	Pn	**Pn**	**00 57 25.3**	**-1.0**
TUWZ	**Tuamarina**	**2.43**	**195**	P	**Pn**	**00 57 25.9**	**-0.4**
WIZ	**White Island**	**2.45**	**51**	P	**Pn**	**00 57 25.1**	**-1.4**
KUZ	**Kuaotunu**	**2.45**	**18**	P	**Pn**	**00 57 26.0**	**-0.7**
KUZ	**Kuaotunu**	**2.45**	**18**	P	**Pn**	**00 57 26.0**	**-0.7**
QRZ	**Quartz Range**	**2.46**	**224**	Pn	**Pn**	**00 57 25.1**	**-1.6**
QRZ	**Quartz Range**	**2.46**	**224**	P	**Pn**	**00 57 25.6**	**-1.0**
QRZ	**Quartz Range**	**2.46**	**224**	P	**Pn**	**00 57 25.6**	**-1.0**
TKGZ	**Te Karaka**	**2.47**	**76**	P	**Pn**	**00 57 26.3**	**-0.5**
ABAZ	**Army Bay**	**2.48**	**1**	P	**Pn**	**00 57 26.6**	**-0.5**
PLWZ	**Palliser**	**2.50**	**172**	Pn	**Pn**	**00 57 26.0**	**-1.1**
PLWZ	**Palliser**	**2.50**	**172**	P	**Pn**	**00 57 26.6**	**-0.6**
RUGZ	**Raukumara Rang**	**2.52**	**65**	P	**Pn**	**00 57 25.3**	**-2.2**
TWGZ	**Tauwhareparae**	**2.66**	**71**	P	**Pn**	**00 57 28.0**	**-1.0**
CMWZ	**Cape Campbell**	**2.69**	**189**	Pn	**Pn**	**00 57 29.0**	**-0.3**
CMWZ	**Cape Campbell**	**2.69**	**189**	P	**Pn**	**00 57 29.6**	**+0.4**
HAZ	**Te Kaha**	**2.70**	**61**	P	**Pn**	**00 57 27.2**	**-2.2**
BSWZ	**Blackbirch Sta**	**2.71**	**195**	Pn	**Pn**	**00 57 28.8**	**-0.7**
BSWZ	**Blackbirch Sta**	**2.71**	**195**	P	**Pn**	**00 57 29.4**	**-0.1**
CNGZ	**Carnagh Statio**	**2.73**	**78**	P	**Pn**	**00 57 29.3**	**-0.5**
MRNZ	**Matariki Terra**	**2.79**	**213**	Pn	**Pn**	**00 57 28.6**	**-1.7**
MRNZ	**Matariki Terra**	**2.79**	**213**	P	**Pn**	**00 57 29.1**	**-1.2**
PKGZ	**Pakihiroa**	**2.84**	**66**	P	**Pn**	**00 57 29.7**	**-1.4**
GRZ	**Great Barrier**	**2.88**	**11**	P	**Pn**	**00 57 31.0**	**-0.6**
PUZ	**Puketiti**	**2.90**	**71**	P	**Pn**	**00 57 30.2**	**-1.5**
THZ	**Tophouse**	**3.04**	**208**	Pn	**Pn**	**00 57 32.2**	**-1.1**
THZ	**Tophouse**	**3.04**	**208**	P	**Pn**	**00 57 32.2**	**-1.1**
WMGZ	**Waiomatatini S**	**3.11**	**67**	P	**Pn**	**00 57 32.5**	**-1.7**
MXZ	**Matakaoa Point**	**3.15**	**62**	Pn	**Pn**	**00 57 32.4**	**-2.3**
MXZ	**Matakaoa Point**	**3.15**	**62**	P	**Pn**	**00 57 33.3**	**-1.4**
MXZ	**Matakaoa Point**	**3.15**	**62**	P	**Pn**	**00 57 33.3**	**-1.4**
WCZ	**Waipu Caves**	**3.17**	**353**	P	**Pn**	**00 57 34.1**	**-0.7**
KHZ	**Kahutara**	**3.46**	**196**	Pn	**Pn**	**00 57 37.3**	**-0.9**
KHZ	**Kahutara**	**3.46**	**196**	P	**Pn**	**00 57 37.8**	**-0.4**
KHZ	**Kahutara**	**3.46**	**196**	P	**Pn**	**00 57 37.6**	**-0.6**
DSZ	**Denniston Nort**	**3.50**	**220**	Pn	**Pn**	**00 57 36.9**	**-1.9**
DSZ	**Denniston Nort**	**3.50**	**220**	P	**Pn**	**00 57 37.2**	**-1.6**
OUZ	**Omahuta**	**3.98**	**346**	P	**Pn**	**00 57 44.0**	**-0.8**
OUZ	**Omahuta**	**3.98**	**346**	P	**Pn**	**00 57 44.0**	**-0.8**
GVZ	**Greta Valley S**	**4.10**	**198**	P	**Pn**	**00 57 44.8**	**-1.4**
LTZ	**Lake Taylor**	**4.15**	**207**	P	**Pn**	**00 57 44.9**	**-2.1**
AMCZ	**Amberley**	**4.39**	**201**	P	**Pn**	**00 57 48.1**	**-1.7**
INZ	**Inchbonnie**	**4.43**	**214**	P	**Pn**	**00 57 48.0**	**-2.3**
OXZ	**Oxford**	**4.72**	**205**	P	**Pn**	**00 57 51.3**	**-2.6**
OKCZ	**Okains Bay**	**4.81**	**195**	P	**Pn**	**00 57 53.1**	**-2.1**
MQZ	**McQueen's Vall**	**4.89**	**199**	P	**Pn**	**00 57 53.2**	**-2.8**
AKCZ	**Akaroa Harbour**	**4.98**	**196**	P	**Pn**	**00 57 55.0**	**-2.4**
WVZ	**Waitaha Valley**	**5.03**	**216**	P	**Pn**	**00 57 55.0**	**-2.9**
RACZ	**Rakaia**	**5.04**	**202**	P	**Pn**	**00 57 55.4**	**-2.6**
MHCZ	**Mount Hutt**	**5.06**	**208**	P	**Pn**	**00 57 55.6**	**-2.7**
WACZ	**Wakanui South**	**5.33**	**204**	P	**Pn**	**00 57 59.7**	**-2.1**
GCSZ	**Gaunt Creek Bo**	**5.40**	**217**	P	**Pn**	**00 57 59.8**	**-2.9**
RPZ	**Rata Peaks**	**5.41**	**210**	P	**Pn**	**00 58 00.3**	**-2.5**
RPZ	**Rata Peaks**	**5.41**	**210**	P	**Pn**	**00 58 00.2**	**-2.5**
	112nm,0.5s,baz=352,slow=1.0,SNR=87						
RPZ				S	**Sn**	**00 58 58.4**	**-7.3**
	2μm,0.8s,baz=53,slow=5.1,SNR=36						
RPZ	**Rata Peaks**	**5.41**	**210**	P	**Pn**	**00 58 00.1**	**-2.7**
ARCZ	**Arundel**	**5.56**	**208**	P	**Pn**	**00 58 01.9**	**-2.8**
TMZ	**Timaru**	**6.00**	**207**	P	**Pn**	**00 58 08.0**	**-2.4**
LBZ	**Lake Benmore**	**6.32**	**212**	P	**Pn**	**00 58 11.4**	**-3.0**
ODZ	**Otahua Downs**	**6.70**	**206**	P	**Pn**	**00 58 16.8**	**-2.7**
ODZ	**Otahua Downs**	**6.70**	**206**	P	**Pn**	**00 58 16.7**	**-2.8**
JCZ	**Jackson Bay**	**6.71**	**220**	P	**Pn**	**00 58 18.3**	**-1.4**
HHSZ	**Highcliff Hill**	**7.46**	**203**	P	**Pn**	**00 58 28.1**	**-1.3**
TUZ	**Tuapeka**	**7.85**	**207**	P	**Pn**	**00 58 32.4**	**-1.9**
CTZ	**Chatham Island**	**7.95**	**128**	P	**Pn**	**00 58 36.8**	**+1.2**
SYZ	**Scrubby Hill**	**8.52**	**207**	P	**Pn**	**00 58 41.1**	**-2.0**
SYZ	**Scrubby Hill**	**8.52**	**207**	P	**Pn**	**00 58 40.9**	**-2.1**
PYZ	**Puysegur Point**	**9.26**	**218**	Pn	**Pn**	**00 58 50.9**	**-1.8**
PYZ	**Puysegur Point**	**9.26**	**218**	P	**Pn**	**00 58 51.3**	**-1.4**
PYZ	**Puysegur Point**	**9.26**	**218**	P	**Pn**	**00 58 51.9**	**-0.8**
DZM	**Mont Dzumac**	**18.41**	**335**		**P**	**01 00 40.7**	**-2.8**
DZM				IAmb	IAmb	01 00 46.1	
	comp=Z,17nm,1.0s						
DZM	**Mont Dzumac**	**18.41**	**335**	P	**Pn**	**01 00 45.0**	**-1.1**
DZM	**Mont Dzumac**	**18.41**	**335**	P	**P**	**01 00 44.8**	**+1.3**
	comp=Z,14nm,1.0s,baz=172,slow=8.7,SNR=4.9						
SYDH	**Sydney Hard Ro**	**20.05**	**278**	P	**P**	**01 01 01.4**	**+0.5**
GLAD	**Gladstone**	**20.57**	**256**	P	**P**	**01 01 05.8**	**-0.6**
KOUNC	**Koumac, New Ca**	**20.57**	**331**	P	**P**	**01 01 07.3**	**+0.7**
ARMA	**Armidale**	**20.86**	**287**	P	Pn	01 01 14.1	-1.7
TAU	**Tasmania Unive**	**21.05**	**251**	P	**P**	**01 01 14.5**	**+3.0**
TAU				IAmb	IAmb	01 01 31.5	
	comp=Z,22nm,1.1s						
YSA	**Yasawairara**	**22.44**	**7**	P	**P**	**01 01 25.2**	**-0.2**
TOO	**Toolangi**	**23.00**	**265**	P	**P**	**01 01 32.3**	**+2.0**
TOO	**Toolangi**	**23.00**	**265**	P	**P**	**01 01 31.4**	**+1.0**
EIDS	**Eidsvold**	**24.19**	**297**	P	**P**	**01 01 43.3**	**+2.0**
EIDS				IAmb	IAmb	01 01 46.4	
	comp=Z,8.6nm,0.8s						
STKA	**Stephens Creek**	**27.86**	**275**	P	**P**	**01 02 15.3**	**+1.1**
STKA	**Stephens Creek**	**27.86**	**275**	P	**P**	**01 02 16.4**	**+2.3**
	comp=Z,12nm,0.7s,baz=99,slow=11,SNR=28						
STKA				pP	**pP**	**01 02 56.8**	**+2.0**
	comp=Z,4.2nm,0.9s,baz=118,slow=13,SNR=2.2						
	comp=Z,12nm,0.7s						
HTT	**Hallett**	**29.34**	**270**	P	**P**	**01 02 29.1**	**+1.8**
LCRK	**Leigh Creek**	**31.09**	**275**	P	**P**	**01 02 44.1**	**+1.5**
BBOO	**Buckleboo**	**31.80**	**269**	P	**P**	**01 02 49.2**	**+0.4**
BBOO	**Buckleboo**	**31.80**	**269**	P	**P**	**01 02 49.7**	**+0.9**
OOD	**Oodnadatta**	**34.28**	**277**	P	**P**	**01 03 11.4**	**+1.1**
MULG	**Mulgathing**	**34.40**	**272**	P	**P**	**01 03 12.1**	**+0.8**
COEN	**Coen**	**37.45**	**303**	P	**P**	**01 03 38.3**	**+1.0**
COEN				IAmb	IAmb	01 03 39.3	
	comp=Z,8.6nm,0.8s						
AS01	**Alice Springs**	**37.77**	**282**	P	**P**	**01 03 40.7**	**+0.6**
AS31	**Alice Springs**	**37.81**	**282**	P	**P**	**01 03 40.4**	**+0.1**
AS31				IAmb	IAmb	01 03 42.3	
	comp=Z,9.3nm,1.0s						
ASAR	**Alice Springs**	**37.81**	**282**	P	**P**	**01 03 40.7**	**+0.3**
ASAR	**Alice Springs**	**37.81**	**282**	P	**P**	**01 03 41.0**	**+0.6**
	comp=Z,22nm,0.9s,baz=123,slow=7.6,SNR=141						
ASAR				pP	**pP**	**01 04 23.1**	**+0.7**
	comp=Z,7.4nm,1.0s,baz=125,slow=7.5,SNR=4.5						
ASAR				PcP	**PcP**	**01 05 50.6**	**-1.9**
	comp=Z,1.9nm,0.7s,baz=127,slow=3.7,SNR=5.6						
ASAR				S	**S**	**01 09 15.5**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=124,slow=17,SNR=6.7						
	comp=Z,22nm,0.9s						
FORT	**Forrest**	**38.85**	**268**	P	**P**	**01 03 49.1**	**+0.2**
FORT	**Forrest**	**38.85**	**268**	P	**P**	**01 03 49.8**	**+0.9**
VNDA	**Vanda**	**38.93**	**184**	P	**P**	**01 03 50.7**	**+1.7**
VNDA	**Vanda**	**38.93**	**184**	P	**P**	**01 03 51.1**	**+2.1**
	comp=Z,2.2nm,0.5s,baz=20,slow=8.7,SNR=14						
VNDA				pP	**pP**	**01 04 32.5**	**+1.3**
	comp=Z,2.9nm,0.8s,baz=3.3,slow=12,SNR=3.8						
	comp=Z,2.2nm,0.5s						
SBA	**Scott Base**	**39.02**	**183**	P	**P**	**01 03 52.6**	**+3.0**
SBA				IAmb	IAmb	01 03 54.2	
	comp=Z,11nm,1.1s						
WR0	**Warramunga Arr**	**39.48**	**287**	IAmb	IAmb	01 03 55.8	
	comp=Z,16nm,1.0s						
WB2	**Warramunga Arr**	**39.64**	**287**	IAmb	IAmb	01 03 56.9	
	comp=Z,15nm,0.7s						
WRAB	**Tennant Creek**	**39.64**	**287**	P	**P**	**01 03 55.5**	**-0.1**
WRAB				IAmb	IAmb	01 03 56.9	
	comp=Z,14nm,0.7s						
WRA	**Warramunga Arr**	**39.65**	**287**	P	**P**	**01 03 55.9**	**+0.3**
	comp=Z,10nm,0.6s,baz=129,slow=7.2,SNR=162						
	comp=Z,10nm,0.6s						
WB0	**Warramunga Arr**	**39.71**	**287**	P	**P**	**01 03 56.0**	**-0.1**
WB0				IAmb	IAmb	01 03 57.5	
	comp=Z,15nm,0.8s						
WRKA	**Warakurna**	**41.39**	**276**	P	**P**	**01 04 09.5**	**-0.4**
CASY	**Casey**	**44.68**	**211**	P	**P**	**01 04 35.0**	**-0.6**
CASY				IAmb	IAmb	01 04 36.0	
	comp=Z,15nm,0.8s						
KNRA	**Kununurra**	**46.44**	**287**	P	**P**	**01 04 50.0**	**0.0**
KNRA				IAmb	IAmb	01 04 51.7	
	comp=Z,16nm,0.9s						
BLDU	**Ballidu**	**47.71**	**262**	P	**P**	**01 04 59.6**	**-0.1**
MEEK	**Meekatharra**	**48.11**	**267**	P	**P**	**01 05 02.4**	**-0.5**
MORW	**Morawa**	**48.93**	**263**	P	**P**	**01 05 09.0**	**-0.1**
PSA00	**Pilbara Seismi**	**49.79**	**274**	P	**P**	**01 05 14.6**	**-1.0**
MBWA	**Marble Bar**	**50.11**	**274**	P	**P**	**01 05 17.3**	**-0.8**
MBWA				IAmb	IAmb	01 05 23.2	
	comp=Z,19nm,1.1s						
TAOE	**Nuku Hiva Isla**	**50.26**	**65**	P	**P**	**01 05 18.4**	**-0.9**
TAOE	**Nuku Hiva Isla**	**50.26**	**65**	P	**P**	**01 05 21.1**	**+1.8**
QSPA	**South Pole Qui**	**51.04**	**180**	P	**P**	**01 05 26.9**	**+2.4**
BELA	**Belgrano 2**	**61.93**	**173**	P	**P**	**01 06 41.7**	**+0.8**
BELA				IAmb	IAmb	01 06 43.4	
	comp=Z,10nm,0.7s						
TROLL	**Troll, Antarti**	**69.07**	**183**	⇓P	**P**	**01 07 27.7**	**+0.9**
	comp=Z,1μm,0.8s						
TROLL				pP	**pP**	**01 08 13.5**	**-0.5**
	comp=Z,414nm,0.9s						
SNAA	**Sanae**	**69.53**	**181**	P	**P**	**01 07 30.1**	**+0.5**
SNAA	**Sanae**	**69.53**	**181**	⇓P	**P**	**01 07 30.2**	**+0.5**
	comp=Z,310nm,1.1s						
SNAA				pP	**pP**	**01 08 16.0**	**-0.8**
	comp=Z,127nm,0.9s						
SNAA	**Sanae**	**69.53**	**181**	P	**P**	**01 07 29.9**	**+0.3**
	comp=Z,14nm,0.9s,baz=164,slow=5.4,SNR=34						
SNAA				pP	**pP**	**01 08 16.2**	**-0.6**
	comp=Z,5.9nm,0.9s,baz=192,slow=5.5,SNR=3.5						
	comp=Z,14nm,0.9s						
VNA3	**Neumayer Olymp**	**69.93**	**178**	⇓P	**P**	**01 07 32.7**	**+0.7**
	comp=Z,29nm,0.8s						
VNA3				pP	**pP**	**01 08 17.8**	**-1.4**
	comp=Z,12nm,0.9s						
VNA2	**Neumayer--Watz**	**70.28**	**179**	⇓P	**P**	**01 07 35.8**	**+1.7**
	comp=Z,27nm,0.6s,baz=171,slow=6.0						
VNA2				pP	**pP**	**01 08 22.5**	**+1.1**
	comp=Z,11nm,0.8s,baz=186,slow=5.0						
VNA1	**Neumayer--Stat**	**70.55**	**179**	⇓P	**P**	**01 07 37.1**	**+1.5**
	comp=Z,36nm,0.9s						
VNA1				pP	**pP**	**01 08 24.6**	**+1.6**
	comp=Z,8.5nm,1.0s						
MJAR	**Matsushiro Arr**	**82.47**	**331**	P	**P**	**01 08 42.9**	**0.0**
	comp=Z,1.4nm,0.4s,baz=160,slow=7.6,SNR=1.7						
	comp=Z,1.4nm,0.4s						
KSRS	**Korea Array**	**87.53**	**324**	P	**P**	**01 09 08.7**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=142,slow=6.2,SNR=5.0						
	comp=Z,2.2nm,0.9s						
NJ2	**Nanjing**	**87.80**	**315**	*e*P	**P**	**01 09 10.7**	**+1.4**
NJ2				pP	**pP**	**01 09 57.6**	**-1.2**
NJ2				sP	**sP**	**01 10 17.4**	**-2.4**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,140nm,5.2s						
KMI	**Kunming**	**92.74**	**300**	⇑P	**P**	**01 09 34.0**	**+1.2**
KMI				pmax	pmax		
	comp=Z,12nm,0.9s						
PZH	**PanZhiHua**	**94.33**	**301**	P	**P**	**01 09 40.7**	**+0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,4.7s						
HHC	**Hu-ho-hao-te**	**98.24**	**317**	*e*P	Pdif	01 09 58.8	+1.5
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,160nm,4.7s						
WMQ	**Urumqi**	**113.88**	**308**	*e*P	**PKiKP**	**01 14 58.1**	**+0.5**
MKAR	**Makanchi Array**	**118.66**	**309**	PKP	**PKPdf**	**01 15 04.6**	**-2.0**
	comp=Z,0.3nm,0.6s,baz=120,slow=3.3,SNR=3.4						
KURBB	**Kurchatov Arra**	**122.56**	**311**	PKP	**PKPdf**	**01 15 12.0**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=82,slow=1.6,SNR=4.3						
KBZ	**Khabaz**	**144.03**	**293**	PKP	**PKPab**	**01 15 52.1**	**-0.1**
	comp=Z,6.7nm,0.8s,baz=162,slow=4.4,SNR=8.8						
ARCES	**ARCESS Array B**	**145.40**	**342**	PKPbc	**PKPdf**	**01 15 55.4**	**-0.5**
	comp=Z,17nm,0.8s,baz=63,slow=2.5,SNR=31						
ARCES				pPKPbc	**pPKPdf**	**01 16 48.5**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=96,slow=1.2,SNR=1.9						
MMAI	**Mount Meron Ar**	**146.82**	**272**	PKPbc	**PKPdf**	**01 16 01.3**	**+1.8**
	comp=Z,5.0nm,0.6s,baz=84,slow=7.6,SNR=6.5						
DBIC	**Dimbokro**	**147.72**	**181**	PKPbc	**PKPdf**	**01 16 03.4**	**+1.9**
	comp=Z,2.4nm,0.6s,baz=114,slow=6.8,SNR=4.3						
DBIC				pPKPbc	**pPKPbc**	**01 16 55.4**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=152,slow=4.3,SNR=1.8						
BRTR	**Keskin Array B**	**150.14**	**284**	PKPbc	**PKPbc**	**01 16 09.3**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=114,slow=5.5,SNR=6.7						
BRTR				PKPab	**PKPab**	**01 16 16.5**	**-0.3**
	comp=Z,5.7nm,0.8s,baz=130,slow=4.7,SNR=18						
FINES	**FINESS Array B**	**150.49**	**330**	PKPbc	**PKPbc**	**01 16 08.6**	**-1.3**
	comp=Z,2.3nm,0.8s,baz=132,slow=2.8,SNR=4.6						
FINES				PKPab	**PKPab**	**01 16 16.6**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=57,slow=4.6,SNR=14						
FINES				pPKPbc	**pPKPbc**	**01 17 01.6**	**-0.2**
	comp=Z,3.1nm,0.9s,baz=45,slow=4.3,SNR=2.5						
AKASG	**Malin Array Be**	**153.23**	**307**	PKPbc	**PKPbc**	**01 16 15.1**	**-1.4**
	comp=Z,0.3nm,0.2s,baz=45,slow=2.6,SNR=1.5						
TORD	**Torodi Ar. Bea**	**153.45**	**195**	PKPbc	**PKPbc**	**01 16 16.4**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=155,slow=3.7,SNR=6.8						
TORD				PKPab	**PKPab**	**01 16 29.2**	**-1.7**
	comp=Z,6.0nm,0.9s,baz=150,slow=2.6,SNR=22						
TORD				pPKPab	**pPKPab**	**01 17 19.7**	**-1.4**
	comp=Z,1.6nm,0.7s,baz=159,slow=3.4,SNR=3.2						
NB2	**NORSAR Subarra**	**155.77**	**340**	PKP	**PKPab**	**01 16 38.5**	**-1.3**
	comp=Z,3.0nm,0.8s,baz=31,slow=3.4						
NOA	**NORSAR Array B**	**155.77**	**340**	PKPab	**PKPab**	**01 16 39.1**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=30,slow=3.2,SNR=6.6						
HFS	**Hagfors**	**155.81**	**337**	PKPab	**PKPab**	**01 16 39.2**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=3.8,slow=2.2,SNR=2.2						
CLL	**Collm**	**162.34**	**320**	*i* PKPdf	**PKPdf**	**01 16 19.9**	**-0.1**
CLL				*i* PKPab	**PKPab**	**01 17 07.0**	**-1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ESDC	**Sonseca Array**	**178.87**	**302**	PKPab		01 18 21.7	
	comp=Z,0.3nm,0.4s,baz=16,slow=3.4,SNR=5.2						

*TEH **06** 01:29:50.8, 30°.79N×57°.37E, h8km±45km, ML4.2*
*OMAN **06** 01:29:52.9±0.6, 30°.93N×57°.36E, h21km±28km, mb3.6/9, ml3.9/1, Error ellipse: s-maj=37.4km s-min=4.2km az=3.0*
*NEIC **06** 01:29:52.1±1.1, 30°.71N±0°.07×57°.2E±0°.1, h10km±1km, mb4.1/12, Error ellipse: s-maj=17.4km s-min=12.1km az=89.0*
*IDC **06** 01:29:55.4±3.1, 30°.67N×57°.26E, h39km±31km, mb3.7/10, mbtmp3.9/14, ML3.6/4, Error ellipse: s-maj=20.7km s-min=17.5km az=130.0*
*DSN **06** 01:29:55.9±1.5, 30°.53N×57°.92E, h15km, ML3.5/4, Error ellipse: s-maj=135.5km s-min=13.0km az=105.0*
ISC 06 01:29:52.2±0.5, **30°.81N**±0°.04×**57°.32E**±0°.04, **h10**km, **n103**, σ**1s66**/120, **mb3.9**/15, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.69**	**284**	Pg	**Pg**	**01 30 04.9**	**-0.7**
KHGB	**Koh Gabri**	**0.84**	**239**	Pg	**Pg**	**01 30 07.2**	**-1.3**
TVBK	**TV Kerman**	**0.95**	**210**	Pg	**Pg**	**01 30 09.8**	**-0.7**
CHMN	**Cheshme madani**	**0.96**	**168**	Pg	**Pg**	**01 30 08.8**	**-2.0**
NGRK	**Negar Kerman**	**1.27**	**204**	Pg	**Pn**	**01 30 15.4**	**-0.9**
NGRK				Sg	**Sb**	**01 30 32.2**	**-0.7**
IBAF	**Bafgh**	**1.69**	**298**	Pg	**Pn**	**01 30 23.1**	**+1.2**
BSRN	**Basiran**	**1.93**	**53**	Pn	**Pn**	**01 30 25.1**	**-0.2**
KBAM	**BAM**	**1.94**	**149**	Pn	**Pn**	**01 30 24.6**	**-0.7**
IKOO	**Kooshah**	**2.16**	**41**	Pn	**Pn**	**01 30 29.0**	**+0.5**
TPRV	**Parvadeh(Tabas**	**2.28**	**347**	Pn	**Pn**	**01 30 30.5**	**+0.5**
IMEH	**Mehriz**	**2.39**	**285**	Pn	**Pn**	**01 30 32.4**	**+0.8**
ITEG	**Tejag**	**2.41**	**30**	Pn	**Pn**	**01 30 32.3**	**+0.3**
NHDN	**Nehbandan**	**2.42**	**75**	Pn	**Pn**	**01 30 31.9**	**-0.1**
TKDS	**Koohdasht(Taba**	**2.80**	**357**	Pn	**Pn**	**01 30 37.7**	**+0.4**
ICHK	**Chekchek**	**2.87**	**301**	Pn	**Pn**	**01 30 38.9**	**+0.6**
KHNJ	**Kahnooj**	**2.87**	**173**	Pn	**Pn**	**01 30 39.2**	**+1.1**
IDAH	**Dahanechah**	**2.90**	**48**	Pn	**Pn**	**01 30 39.3**	**+0.6**
AFRZ	**Afriz**	**2.98**	**28**	Pn	**Pn**	**01 30 40.5**	**+0.7**
TNSJ	**Nastanj**	**3.20**	**349**	Pn	**Pn**	**01 30 43.3**	**+0.6**
ISAD	**Sadrabad**	**3.29**	**290**	Pn	**Pn**	**01 30 46.0**	**+1.8**
ZHDN	**Zahedan**	**3.34**	**114**	Pn	**Pn**	**01 30 45.0**	**+0.4**
IBND	**Bandar-abas**	**3.42**	**192**	Pn	**Pn**	**01 30 46.7**	**+1.1**
GENO	**Geno**	**3.54**	**197**	Pn	**Pn**	**01 30 48.9**	**+1.5**
SHRT	**Shahrakht**	**3.79**	**41**	Pn	**Pn**	**01 30 52.3**	**+1.5**
ANAR	**Anarak**	**3.86**	**309**	Pn	**Pn**	**01 30 53.7**	**+1.9**
IRAM	**Ramesheh**	**4.34**	**285**	Pn	**Pn**	**01 30 60.0**	**+1.5**
IZEF	**Zefreh**	**4.73**	**297**	Pn	**Pn**	**01 31 05.8**	**+2.0**
SHME	**Shamm**	**4.85**	**193**	P	**Pn**	**01 31 06.8**	**+1.5**
SHME	**Shamm**	**4.85**	**193**	P	**Pn**	**01 31 07.8**	**+2.5**
SHME				S	**Sn**	**01 32 04.9**	**+3.3**
KLNJ	**Kolanjah**	**4.92**	**274**	Pn	**Pn**	**01 31 09.1**	**+2.5**
JASK	**Jask - Hormozg**	**4.95**	**174**	P	**Pn**	**01 31 08.0**	**+1.4**
	SNR=6.4						
JASK				S	**Sn**	**01 32 06.2**	**+2.3**
JASK	**Jask - Hormozg**	**4.95**	**174**	Pn	**Pn**	**01 31 08.1**	**+1.4**
TBJM	**Torbat-e-JAM**	**5.12**	**29**	Pn	**Pn**	**01 31 10.3**	**+1.1**
UMQ	**Umm Al-Quwin**	**5.46**	**196**	P	**Pn**	**01 31 16.6**	**+2.9**
UMQ				S	**Sn**	**01 32 19.5**	**+2.9**
HRA	**Herat**	**5.48**	**48**		**Pn**	**01 31 15.4**	**+1.3**
MASF	**Masafi**	**5.51**	**191**	P	**Pn**	**01 31 16.9**	**+2.5**
MASF				S	**Sn**	**01 32 20.7**	**+2.8**
MSFE	**Esma-Masafi**	**5.52**	**191**	P	**Pn**	**01 31 16.7**	**+2.2**
ISFB	**Sefidab**	**5.55**	**311**	Pn	**Pn**	**01 31 16.5**	**+1.4**
SBZV	**Sabzevar**	**5.57**	**2**	Pn	**Pn**	**01 31 17.3**	**+1.9**
SRVN	**Saravan**	**5.59**	**126**	Pn	**Pn**	**01 31 17.3**	**+1.7**
ZNGN	**Zangian**	**5.67**	**285**	Pn	**Pn**	**01 31 18.7**	**+1.8**
IPIR	**Pirpir**	**5.78**	**291**	Pn	**Pn**	**01 31 20.9**	**+2.5**
IPAY	**Payeh**	**5.80**	**14**	Pn	**Pn**	**01 31 21.0**	**+2.4**
QAMS	**Qamsar**	**5.80**	**302**	Pn	**Pn**	**01 31 20.8**	**+2.2**
ILAS	**Lasjerd**	**5.85**	**322**	Pn	**Pn**	**01 31 20.8**	**+1.6**
IAKL	**Akhelmad**	**5.90**	**11**	Pn	**Pn**	**01 31 21.0**	**+1.0**
UOSS	**Minazif**	**5.92**	**190**	Pn	**Pn**	**01 31 18.1**	**-1.9**
UOSS	**Minazif**	**5.92**	**190**	P	**Pn**	**01 31 22.0**	**+2.0**
UOSS	**Minazif**	**5.92**	**190**	P	**Pn**	**01 31 22.4**	**+2.4**
UOSS				S	**Sn**	**01 32 30.9**	**+2.9**
HATD	**Hatta, Dubai**	**6.05**	**190**	P	**Pn**	**01 31 22.0**	**+0.2**
HATD	**Hatta, Dubai**	**6.05**	**190**	P	**Pn**	**01 31 22.8**	**+1.0**
IFIR	**Firoozkooh**	**6.15**	**323**	Pn	**Pn**	**01 31 24.6**	**+1.2**
ASHO	**Ashiyiah**	**6.20**	**191**	P	**Pn**	**01 31 24.8**	**+1.0**
ASHO				S	**Sn**	**01 32 35.5**	**+0.6**
ASHO	**Ashiyiah**	**6.20**	**191**	P	**Pn**	**01 31 25.8**	**+1.9**
ASHO				S	**Sn**	**01 32 36.5**	**+1.6**
FAQ	**Al Faqa, Dubai**	**6.23**	**195**	P	**Pn**	**01 31 26.5**	**+2.3**
FAQ				S	**Sn**	**01 32 37.4**	**+1.9**
ISFR	**Sfrayin**	**6.26**	**5**	Pn	**Pn**	**01 31 26.4**	**+1.6**
IGLO	**Ghaloghah**	**6.38**	**334**	Pn	**Pn**	**01 31 28.2**	**+1.7**
NGCH	**Negor - Chabah**	**6.39**	**147**	P	**Pn**	**01 31 25.6**	**-0.8**
ASUD	**Al Ashush, Dub**	**6.40**	**196**	P	**Pn**	**01 31 28.8**	**+2.1**
ASUD				S	**Sn**	**01 32 43.3**	**+3.4**
IDMV	**Damavand**	**6.50**	**318**	Pn	**Pn**	**01 31 29.8**	**+1.6**
SOHO	**SOHO**	**6.68**	**186**	P	**Pn**	**01 31 31.9**	**+1.4**
GEYT	**Alibeck**	**7.14**	**5**	Pn	**Pn**	**01 31 38.3**	**+1.6**
	0.3nm,0.3s,baz=185,slow=16,SNR=2.5						
	0.6nm,0.3s						
GYA0B	**ALIBECK ARRAY**	**7.14**	**5**	Pn	**Pn**	**01 31 37.8**	**+1.1**
HOQ	**Hoqain**	**7.20**	**180**	P	**Pn**	**01 31 37.4**	**-0.1**
ARQ	**Araqi**	**7.47**	**186**	P	**Pn**	**01 31 42.9**	**+1.5**
ARQ				S	**Sn**	**01 33 10.8**	**+4.6**
WSAR	**Wadi Sarin**	**7.63**	**171**	P	**Pn**	**01 31 43.5**	**0.0**
	SNR=13						
WSAR				S	**Sn**	**01 33 13.3**	**+3.3**
WSAR	**Wadi Sarin**	**7.63**	**171**	Pn	**Pn**	**01 31 42.4**	**-1.1**
	2.1nm,0.3s,baz=359,slow=12,SNR=21						
WSAR				Sn	**Sn**	**01 33 06.8**	**-3.3**
	baz=300,slow=7.9						
	10nm,0.5s						
SMDO	**Samad**	**7.75**	**175**	P	**Pn**	**01 31 45.1**	**-0.1**
SMDO				S	**Sn**	**01 33 16.4**	**+3.3**
BSY	**Bisya**	**8.03**	**181**	P	**Pn**	**01 31 49.7**	**+0.7**
BSY				S	**Sn**	**01 33 24.6**	**+4.6**
TRNA	**Turayna**	**8.11**	**223**	P	**Pn**	**01 31 49.9**	**-0.2**
	SNR=12						
WBK	**Wadi Bani Khal**	**8.30**	**169**	P	**Pn**	**01 31 52.1**	**-0.5**
SMRA	**Abu-Samra**	**8.34**	**225**	P	**Pn**	**01 31 52.9**	**-0.3**
SMRA				S	**Sn**	**01 33 24.9**	**-2.4**
BTK	**Batken**	**14.35**	**46**	Pn	**Pn**	**01 33 16.7**	**+1.2**
KK31	**Karatay Array**	**16.16**	**37**		**P**	**01 33 42.6**	**0.0**
KKAR	**Karatay Array**	**16.16**	**37**		**P**	**01 33 42.7**	**+0.1**
AAK	**Ala-Archa**	**18.10**	**45**	P	**P**	**01 34 06.4**	**+2.1**
	0.1nm,0.3s,baz=213,slow=9.1,SNR=4.3						
	1.3nm,0.6s						
AKTO	**Aktyubinsk**	**19.61**	**1**	P	**P**	**01 34 21.5**	**+0.8**
	0.3nm,0.3s,baz=184,slow=11,SNR=9.7						
	2.5nm,0.7s						
BRTR	**Keskin Array B**	**21.23**	**301**	P	**P**	**01 34 38.6**	**+0.1**
	2.1nm,0.9s,baz=126,slow=12,SNR=7.4						
	2.1nm,0.9s						
BRVK	**Borovoye**	**24.16**	**19**	P	**P**	**01 35 09.9**	**+1.5**
BVAR	**Borovoye Array**	**24.16**	**19**	P	**P**	**01 35 09.1**	**+0.6**
	1.5nm,0.5s,baz=193,slow=7.1,SNR=12						
BVAR				PcP	**PcP**	**01 38 47.7**	**-1.3**
	0.6nm,0.5s,baz=202,slow=3.1,SNR=4.3						
	1.5nm,0.5s						
MAKZ	**Makanchi**	**24.84**	**43**	P	**P**	**01 35 15.6**	**+0.9**
MAKZ				IAmb	IAmb	01 35 19.6	
	comp=Z,3.8nm,1.1s						
MK31	**Makanchi Array**	**25.02**	**43**	P	**P**	**01 35 16.6**	**+0.3**
MKAR	**Makanchi Array**	**25.02**	**43**	P	**P**	**01 35 16.4**	**0.0**
MKAR	**Makanchi Array**	**25.02**	**43**	P	**P**	**01 35 16.9**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=228,slow=8.6,SNR=9.2						
	comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**25.34**	**33**	P	**P**	**01 35 19.7**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=231,slow=9.0,SNR=18						
	comp=Z,1.6nm,0.5s						
KURK	**Kurchatov**	**25.45**	**33**	P	**P**	**01 35 21.0**	**+0.9**
KURK				IAmb	IAmb	01 35 23.9	
	comp=Z,6.6nm,1.4s						
BURAR	**Bucovina Array**	**29.73**	**314**	P	**P**	**01 35 57.9**	**-0.8**
BURAR				IAmb	IAmb	01 36 03.8	
	comp=Z,3.0nm,1.4s						
ZAA0	**Zalesovo Array**	**30.44**	**33**	P	**P**	**01 36 04.7**	**0.0**
ZALV	**Zalesovo Beam**	**30.44**	**33**	P	**P**	**01 36 04.3**	**-0.4**
ZALV	**Zalesovo Beam**	**30.44**	**33**	P	**P**	**01 36 05.0**	**+0.3**
	comp=Z,3.6nm,0.5s,baz=238,slow=8.8,SNR=19						
	comp=Z,3.6nm,0.5s						
FINES	**FINESS Array B**	**36.83**	**335**	P	**P**	**01 37 00.6**	**+0.4**
FINES	**FINESS Array B**	**36.83**	**335**	P	**P**	**01 37 00.3**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=142,slow=9.6,SNR=5.7						
	comp=Z,2.4nm,0.7s						
GERES	**GERESS Array B**	**37.43**	**311**	P	**P**	**01 37 05.5**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=111,slow=7.3,SNR=3.9						
	comp=Z,1.5nm,0.7s						
CLL	**Collm**	**38.45**	**315**	*e*(sP)	**sP**	**01 37 18.0**	**-0.8**
CLL				AMS	AMS	03 49 00.0	
	comp=Z,100nm,21.5s						
TUE	**Stuetta**	**39.96**	**307**	P	**P**	**01 37 26.8**	**-0.2**
TUE				IAmb	IAmb	01 37 31.0	
	comp=Z,2.2nm,0.8s						
ARCES	**ARCESS Array B**	**42.76**	**344**	P	**P**	**01 37 48.9**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=106,slow=8.1,SNR=5.0						
	comp=Z,1.4nm,0.8s						
TOA0	**Torodi Ar. Sit**	**53.95**	**264**	P	**P**	**01 39 15.0**	**-1.5**
TOA0				IAmb	IAmb	01 39 19.4	
	comp=Z,2.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**53.95**	**264**	P	**P**	**01 39 14.8**	**-1.7**
TORD				IAmb	IAmb	01 39 19.4	
	comp=Z,2.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**53.95**	**264**	P	**P**	**01 39 14.8**	**-1.7**
	comp=Z,2.1nm,0.8s,baz=57,slow=7.6,SNR=11						
	comp=Z,2.1nm,0.8s						
A36M	**Sachs Harbour**	**77.47**	**1**	P	**P**	**01 41 46.8**	**-0.5**
TOLK	**Toolik Lake Re**	**78.87**	**10**	P	**P**	**01 41 55.5**	**+0.2**
BMAR	**Burnt Mountain**	**80.68**	**8**	P	**P**	**01 42 05.8**	**+0.7**
WRA	**Warramunga Arr**	**89.49**	**114**	P	**P**	**01 42 48.4**	**-1.5**
	comp=Z,0.2nm,0.7s,baz=317,slow=4.2,SNR=2.3						
	comp=Z,0.2nm,0.7s						

*KOLA **06** 01:31:50.9, 77°.73N×7°.93E, h40km, ML2.4, Greenland sea,Knipovich ridge, middle*
*BER **06** 01:31:50.1±3.9, 77°.73N×7°.67E, h10km, mb(Pn)3.5, ML3.2(NAO), Confirmed Earthquake*
*NAO **06** 01:31:50.8±6.3, 77°.79N×7°.31E, h21km±55km, ML3.2*
*DNK **06** 01:31:56.2±1.4, 77°.91N×6°.49E, h36km±51km, ML1.5*
ISC 06 01:31:49.1±1.6, **77°.74N**±0°.06×**7°.37E**±0°.04, **h31**km±16km, **n31**, σ**2s34**/51, **Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRBA	**Barentsburg A**	**1.48**	**74**	Pn	**Pn**	**01 32 14.5**	**+1.0**
BRBA				Sn	**Sn**	**01 32 30.7**	**-1.0**
BRBB	**Barentsburg B**	**1.48**	**73**	P	**Pn**	**01 32 14.0**	**+0.5**
BRBB				S	**Sn**	**01 32 30.3**	**-1.5**
BRBB	**Barentsburg B**	**1.48**	**73**	Pn	**Pb**	**01 32 14.8**	**-1.1**
BRBB				Sn	**Sn**	**01 32 30.6**	**-1.2**
KBS	**Kingsbay**	**1.51**	**36**	P	**Pn**	**01 32 14.5**	**+0.6**
KBS				S	**Sn**	**01 32 30.4**	**-2.1**
KBS	**Kingsbay**	**1.51**	**36**	*e*P	**Pb**	**01 32 15.3**	**-1.0**
KBS				*e*S	**Sn**	**01 32 30.8**	**-1.6**
KBS				IAML		01 32 33.6	
	comp=Z,73nm,0.3s						
KBS	**Kingsbay**	**1.51**	**36**	*i* P	**Pb**	**01 32 15.2**	**-1.1**
KBS				*e*S	**Sn**	**01 32 31.1**	**-1.4**
KBS	**Kingsbay**	**1.51**	**36**	Pn	**Pb**	**01 32 15.8**	**-0.6**
KBS				Sn	**Sn**	**01 32 30.9**	**-1.6**
SPA0	**Spitsbergen Ar**	**1.94**	**73**	P	**Pb**	**01 32 22.2**	**-1.5**
	baz=252,slow=16						
SPA0				Sn	**Sn**	**01 32 44.0**	**+1.0**
	baz=250,slow=22						
SPA0	**Spitsbergen Ar**	**1.94**	**73**	Pn	**Pb**	**01 32 22.2**	**-1.5**
	baz=252,slow=16						
SPA0				Sn	**Sn**	**01 32 44.0**	**+1.0**
	baz=250,slow=22						
SPITS	**Spitsbergen Ar**	**1.94**	**73**	P	**Pn**	**01 32 21.6**	**+1.8**
SPITS				S	**Sn**	**01 32 44.1**	**+1.0**
HSPB	**Hornsund (broa**	**1.94**	**109**	P	**Pn**	**01 32 20.1**	**+0.2**
HSPB				S	**Sn**	**01 32 38.9**	**-4.3**
HSPB	**Hornsund (broa**	**1.94**	**109**	*e*P	**Pn**	**01 32 20.9**	**+1.0**
HSPB				IAML		01 32 39.3	
	comp=Z,28nm,0.4s						
HSPB				*e*S	**Sn**	**01 32 39.5**	**-3.7**
HSPB	**Hornsund (broa**	**1.94**	**109**	Pn	**Pn**	**01 32 20.9**	**+1.0**
HSPB				Sn	**Sn**	**01 32 39.2**	**-4.0**
HOPEN	**Hopen**	**4.13**	**99**	Pn	**Pn**	**01 32 51.4**	**+1.6**
HOPEN				Sn	**Sn**	**01 33 34.9**	**-2.0**
NOR	**Nord**	**5.74**	**323**	P	**Pn**	**01 33 13.8**	**+1.9**
NOR				IAML		01 34 21.8	
	comp=Z,0.8nm,0.4s						
NOR	**Nord**	**5.74**	**323**	*i* P	**Pn**	**01 33 13.9**	**+1.9**
NOR				IAML		01 34 21.8	
	comp=Z,0.8nm,0.4s						
NOR	**Nord**	**5.74**	**323**	Pn	**Pn**	**01 33 13.8**	**+1.9**
DAG	**Danmarks Havn**	**5.81**	**273**	*e*	**Pn**	**01 33 15.1**	**+2.3**
	baz=68,slow=14						
DAG				*i* P	**Pn**	**01 33 16.0**	**+3.1**
DAG				*i* S	**Sn**	**01 34 14.6**	**-3.7**
DAG				IAML		01 34 26.6	
	comp=Z,2.6nm,0.3s						
DAG	**Danmarks Havn**	**5.81**	**273**	*e*	**Pn**	**01 33 15.1**	**+2.3**
	baz=68,slow=14						
DAG				*i* P	**Pn**	**01 33 16.0**	**+3.1**
DAG				*i* S	**Sn**	**01 34 14.6**	**-3.7**
DAG				IAML		01 34 26.6	
	comp=Z,2.6nm,0.3s						
DBG	**Daneborg**	**7.45**	**257**	P	**Pn**	**01 33 37.8**	**+2.5**
DBG				*i* S	**Sn**	**01 34 54.3**	**-4.3**
DBG				IAML		01 35 03.2	
	comp=Z,1.8nm,0.4s						
DBG	**Daneborg**	**7.45**	**257**	*i* P	**Pn**	**01 33 37.8**	**+2.5**
DBG				*i* S	**Sn**	**01 34 54.3**	**-4.3**
DBG				IAML		01 35 03.2	
	comp=Z,1.8nm,0.4s						
DBG	**Daneborg**	**7.45**	**257**	Pn	**Pn**	**01 33 37.8**	**+2.5**
JETT	**Jettan, Norway**	**8.97**	**149**	P	**Pn**	**01 33 58.9**	**+2.6**
JETT	**Jettan, Norway**	**8.97**	**149**	Pn	**Pn**	**01 33 58.9**	**+2.6**
ARA0	**ARCESS Array S**	**9.63**	**139**	P	**Pn**	**01 34 07.3**	**+2.0**
	baz=326,slow=12						
ARA0	**ARCESS Array S**	**9.63**	**139**	Pn	**Pn**	**01 34 07.3**	**+2.0**
	baz=326,slow=12						
NEEM	**North Greenlan**	**12.12**	**297**	*i* P	**Pn**	**01 34 39.2**	**-0.3**
NEEM				*i*		01 36 45.2	
NEEM				IAML		01 36 51.2	
	comp=Z,1.1nm,0.3s						
NEEM	**North Greenlan**	**12.12**	**297**	*i* P	**Pn**	**01 34 39.2**	**-0.3**
NEEM				*i*		01 36 45.2	
NEEM				IAML		01 36 51.2	
	comp=Z,1.1nm,0.3s						
SUMG	**Summit**	**12.48**	**270**	*i* P	**Pn**	**01 34 47.6**	**+3.1**
SUMG	**Summit**	**12.48**	**270**	*i* P	**Pn**	**01 34 47.6**	**+3.1**
SUMG	**Summit**	**12.48**	**270**	*i* P	**Pn**	**01 34 47.0**	**+2.5**

*SSNC **06** 01:59:51.6±2.1, 17°.97N×73°.75W, h5km±16km, MD3.0, ML2.7*
*SDD **06** 01:59:52.2±2.3, 17°.69N×73°.81W, h40km±999km, MD3.6, ML3.1, MW4.4*
*OSPL **06** 01:59:53.7±1.6, 18°.09N×73°.70W, h9km±19km, ML2.7*
ISC 06 01:59:52.7±2.8, **18°.0N**±0°.1×**73°.70W**±0°.05, **h28**km±21km, **n17**, σ**1s17**/33, **8C-4D**, **Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAPH	**Port-au-Prince**	**1.42**	**70**	⇑*e*Pg	**Pn**	**02 00 16.6**	**0.0**
PAPH				⇑*e*Sg	**Sb**	**02 00 36.2**	**0.0**
PAPH				IAML		02 00 38.9	
	comp=E,299nm,0.3s						
PAPH				IAML		02 00 40.9	
	comp=N,295nm,0.2s						
PAPH	**Port-au-Prince**	**1.42**	**70**	*i* P	**Pn**	**02 00 17.0**	**+0.4**
PAPH				*e*S	**Sn**	**02 00 35.5**	**+1.1**
PAPH				IAML		02 00 39.1	
	comp=Z,85nm,0.6s						
PAPH	**Port-au-Prince**	**1.42**	**70**	*e*P	**Pn**	**02 00 16.8**	**+0.1**
PAPH				*e*S	**Sb**	**02 00 36.0**	**-0.2**
PAPH				IAML		02 00 37.3	
	comp=E,143nm,0.3s						
PAPH				IAML		02 00 38.9	
	comp=N,88nm,0.3s						
LOPE2	**Hotel El Peder**	**1.86**	**90**	⇓*e*Pg	**Pn**	**02 00 21.2**	**-1.5**
LOPE2				⇑*e*Sg	**Sn**	**02 00 46.2**	**+0.8**
LOPE2				IAML		02 00 48.7	
	comp=E,43nm,0.2s						
LOPE2				IAML		02 00 49.3	
	comp=N,103nm,0.2s						
LOPE2	**Hotel El Peder**	**1.86**	**90**	*i* P	**Pn**	**02 00 23.2**	**+0.5**
LOPE2				*e*S	**Sn**	**02 00 46.1**	**+0.8**
LOPE2				IAML		02 00 50.0	
	comp=Z,71nm,0.4s						
MASC	**Masc**	**2.19**	**347**	*i* P	**Pn**	**02 00 27.5**	**+0.2**
MASC				*e*S	**Sn**	**02 00 52.0**	**-1.4**
MASC				IAML		02 00 53.0	
	comp=Z,47nm,2.6s						
MASC	**Masc**	**2.19**	**347**	*e*P	**Pn**	**02 00 26.6**	**-0.6**
MASC				*e*S	**Sn**	**02 00 53.3**	**-0.1**
GTBY	**Guantanamo Bay**	**2.31**	**325**	⇑*e*Pg	**Pn**	**02 00 29.5**	**+0.6**
GTBY				⇑*e*Sg	**Sn**	**02 00 58.2**	**+1.8**
GTBY				IAML		02 00 59.6	
	comp=E,55nm,1.6s						
GTBY				IAML		02 01 05.8	
	comp=N,32nm,0.7s						
GTBY	**Guantanamo Bay**	**2.31**	**325**	*i* P	**Pn**	**02 00 29.9**	**+1.0**
GTBY				*e*S	**Sn**	**02 00 56.4**	**-0.1**
GTBY				IAML		02 01 12.0	
	comp=Z,32nm,2.8s						
GTBY	**Guantanamo Bay**	**2.31**	**325**	*e*P	**Pn**	**02 00 29.2**	**+0.3**
GTBY				*e*S	**Sn**	**02 00 56.3**	**-0.1**
REDR	**Restauracion**	**2.46**	**62**	⇑*e*Pg	**Pn**	**02 00 29.9**	**-1.2**
REDR				⇓*e*Sg	**Sn**	**02 00 57.3**	**-2.9**
REDR				IAML		02 01 00.7	
	comp=E,84nm,0.3s						
REDR				IAML		02 01 00.8	
	comp=N,51nm,0.3s						
SDDR	**Presa de Saban**	**2.48**	**67**	⇓*e*Pg	**Pn**	**02 00 32.0**	**+0.7**
SDDR				⇑*e*Sg	**Sn**	**02 01 02.0**	**+1.3**
SDDR				IAML		02 01 05.9	
	comp=E,29nm,2.1s						
SDDR				IAML		02 01 10.2	
	comp=N,29nm,2.1s						
SDDR	**Presa de Saban**	**2.48**	**67**	*i* P	**Pn**	**02 00 33.4**	**+2.1**
SDDR				IAML		02 01 11.9	
	comp=Z,47nm,2.0s						
LOBA2	**Hotel Casa Bon**	**2.48**	**88**	⇑*e*Pg	**Pn**	**02 00 32.3**	**+1.0**
LOBA2				⇓*e*Sg	**Sn**	**02 00 58.7**	**-2.0**
LOBA2				IAML		02 01 09.3	
	comp=N,682nm,0.4s						
LOBA2				IAML		02 01 11.7	
	comp=E,576nm,0.6s						
RCC	**Rio Carpintero**	**2.71**	**316**	*e*P	**Pn**	**02 00 35.1**	**+0.6**
RCC				*e*S	**Sn**	**02 01 07.0**	**+0.6**
PINC	**Pinares de May**	**3.14**	**321**	*e*P	**Pn**	**02 00 40.3**	**0.0**
PINC				*e*S	**Sn**	**02 01 18.0**	**+1.1**
CHIV	**Chivirico**	**3.21**	**307**	*e*P	**Pn**	**02 00 40.2**	**-1.2**
CHIV				*e*S	**Sn**	**02 01 17.1**	**-1.6**

*DJA **06** 02:48:19.7±0.3, 12°N±3°×12°6E±°, h25km±2km, M5.1/34, mB5.5/13, mb5.0/34, MLv5.7/1, Mw(mB)4.9/13*
*MOS **06** 02:48:20.9±0.8, 11°.03N×125°.46E, h50km, mb5.0/36, Error ellipse: s-maj=14.3km s-min=5.9km az=115.0*
*BJI **06** 02:48:21.3, 11°.00N×125°.78E, h58km, mb4.7/61, mB5.1/28, Ms4.5/46, Ms7 4.2/48*
*GCMT **06** 02:48:21.9±0.3, 11°.18N±0°.02×125°.83E±0°.02, h34km±1km, MW5.0/94, Moment Tensor Solution. s42,c53; s94,c128; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.42±.17; $M_{\theta\theta}$3.72±.12; $M_{\phi\phi}$-4.14±.14; $M_{r\theta}$1.38±.15; $M_{\theta\phi}$-0.65±.12; $M_{\phi r}$1.03±.19; Best double couple: $M_0$4.35000×10^{16} NP1:ϕ_s49.00000°,δ86.00000°,λ156.00000°. NP2: ϕ_s140.00000°,δ66.00000°,λ4.00000°. Principal axes: T 4.2290, Plg19.0000°, Azm2.0000°; N 0.2410, Plg66.0000°, Azm220.0000°; P -4.4700, Plg14.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **06** 02:48:21.9±1.4, 11°.17N±0°.05×125°.72E±0°.08, h37km±6km, mb5.0/84 Error ellipse: s-maj=12.0km s-min=4.6km az=116.0*
*IDC **06** 02:48:24.1±1.6, 11°.08N×125°.53E, h60km±13km, mb4.1/31, mbtmp4.4/34, MS3.9/50, Error ellipse: s-maj=17.1km s-min=8.4km az=78.0*
ISC 06 02:48:22.0±0.3, **11°.07N**±0°.03×**125°.63E**±0°.06, **h42**km±2km, **h42**km**:pP-P**, **n377**, σ**1s53**/366, **mb4.8**/118, **MS4.0**/68, **7C-10D**, **Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.97**	**181**	Pn	**Pn**	**02 49 22.3**	**+1.9**
DAV	**Davao City (W)**	**3.97**	**181**	P	**Pn**	**02 49 22.6**	**+2.1**
	200nm,0.4s,baz=31,slow=7.6,SNR=2.2						
DAV				LR	LR	02 51 22.9	
	comp=Z,8µm,18.9s,baz=360,slow=45						
MYLDM	**Lahad Datu**	**9.16**	**231**	Pn	**Pn**	**02 50 33.5**	**+1.7**
I39PW	**PALAU INFRASON**	**9.47**	**111**	I	I	03 47 52.8	
	baz=293,slow=326,SNR=1.2						
TNTI	**Ternate**	**10.37**	**170**	Pn	**Pn**	**02 50 48.0**	**-0.3**
TNTI	**Ternate**	**10.37**	**170**	P	**Pn**	**02 50 50.7**	**+2.4**
	90nm,1.0s						
KKM	**Kota Kinabalu**	**10.56**	**243**	Pn	**Pn**	**02 50 52.1**	**+1.1**
TOLI2	**Tolitoli**	**11.00**	**206**	Pn	**Pn**	**02 50 58.3**	**+1.4**
MRSI	**Marisa**	**11.14**	**199**	P	Pn	02 51 05.0	+6.2
	62nm,1.5s						
LUWI	**Luwuk**	**12.36**	**193**	Pn	**P**	**02 51 23.0**	**-3.7**
LUWI	**Luwuk**	**12.36**	**193**	P	**P**	**02 51 23.8**	**-2.9**
	201nm,1.1s,6µm						
SANI	**Sanana**	**13.03**	**178**	P	**Pn**	**02 51 25.3**	**+0.6**
	51nm,0.8s,601nm						
YHNB	**Yeheng**	**14.12**	**344**	Pn	**Pn**	**02 51 37.9**	**-1.7**
TTSI	**Tana Toraja**	**15.16**	**203**	P	**P**	**02 52 01.7**	**+3.8**
	139nm,1.8s,2µm						
FAKI	**Fak Fak**	**15.38**	**154**	Pn	**Pn**	**02 51 56.3**	**+0.1**
FAKI	**Fak Fak**	**15.38**	**154**	P	**P**	**02 51 58.8**	**-1.5**
	61nm,1.0s,849nm						
SBUM	**Sibu**	**15.82**	**238**	P	**P**	**02 52 06.6**	**+1.4**
JOW	**Kunigami**	**15.88**	**9**	Pn	**Pn**	**02 52 00.4**	**-2.3**
JOW				IAmb	IAmb	02 52 05.2	
	comp=Z,151nm,1.5s						
JOW	**Kunigami**	**15.88**	**9**	P	**Pn**	**02 52 04.4**	**+1.7**
	comp=Z,29nm,1.0s,baz=250,slow=11,SNR=3.8						
JOW				LR	LR	02 57 36.7	
	comp=Z,376nm,20.3s,baz=135,slow=35						
SPSI	**Sidrap Palu**	**16.03**	**202**	P	**P**	**02 52 12.6**	**+5.1**
	comp=Z,60nm,1.2s,comp=Z,5µm						
KAPI	**Kappang**	**17.01**	**200**		**P**	**02 52 19.9**	**+1.5**
KAPI	**Kappang**	**17.01**	**200**	P	**P**	**02 52 19.9**	**+1.5**
KAPI				pmax	pmax		
	comp=Z,19nm,0.9s						
KAPI	**Kappang**	**17.01**	**200**	P	**P**	**02 52 19.1**	**+0.7**
	comp=Z,13nm,0.3s,baz=155,slow=18,SNR=5.6						
KAPI				S	**Sn**	**02 55 25.5**	**+0.3**
	comp=Z,2.4nm,0.2s,baz=162,slow=22,SNR=1.0						
KAPI				LR	LR	03 00 05.5	
	comp=Z,121nm,18.8s,baz=31,slow=41						
QIZ	**Qiongzhong**	**17.17**	**299**	P	**P**	**02 52 21.4**	**+1.2**
QIZ				S	**Sn**	**02 55 31.2**	**+2.2**
QIZ				pmax	pmax		
	comp=Z,57nm,2.1s						
QIZ				LR	LR		
	comp=Z,540nm,13.3s						
QIZ				LR	LR		
	comp=Z,550nm,15.3s						
QIZ				LR	LR		
	comp=Z,700nm,19.1s						
KSM	**Kuching**	**17.95**	**239**		**P**	**02 52 29.9**	**+1.1**
SMPI	**Sarmi**	**18.37**	**134**	P	**Pn**	**02 52 34.7**	**+0.9**
	comp=Z,85nm,1.1s						
GUMO	**Guam**	**18.96**	**80**	LR	LR	02 59 00.6	
	comp=Z,337nm,20.6s,baz=246,slow=33						
SOEI	**Soe**	**20.73**	**184**	P	Pn	02 53 00.6	-1.3
SOEI	**Soe**	**20.73**	**184**	P	Pn	02 53 03.6	+1.7
	comp=Z,63nm,1.0s,comp=Z,973nm						
CNSH	**ChangSha**	**20.78**	**327**	⇓P	**P**	**02 53 00.9**	**+1.3**
CNSH				LR	LR		
	comp=Z,430nm,13.5s						
CNSH				LR	LR		
	comp=Z,740nm,15.3s						
CNSH				LR	LR		
	comp=Z,460nm,14.9s						
BATI	**Baumata**	**21.22**	**185**	P	P	02 53 19.4	+15
BATI	**Baumata**	**21.22**	**185**	P	**P**	**02 53 05.9**	**+1.4**
	comp=Z,22nm,0.4s,baz=22,slow=5.4,SNR=2.1						
BATI				LR	LR	03 01 43.4	
	comp=Z,357nm,21.7s,baz=351,slow=38						
	comp=Z,22nm,0.4s						
PLAI	**Plampang**	**21.25**	**202**	P	P	02 53 11.1	+6.3
	comp=Z,30nm,0.9s,comp=Z,545nm						
KMMI	**Kalianget**	**21.41**	**213**	P	**P**	**02 53 11.6**	**+5.1**
	comp=Z,44nm,1.5s						
KMMI				pP	**sP**	**02 53 18.7**	**-3.5**
	comp=Z,44nm,1.5s						
TWSI	**Taliwang, Sumb**	**21.51**	**204**	P	P	02 53 15.4	+7.8
	comp=Z,52nm,1.5s						
SRBI	**Singaraja**	**21.66**	**209**	P	**P**	**02 53 11.8**	**+2.6**
	comp=Z,30nm,1.2s						
NJ2	**Nanjing**	**21.80**	**344**	⇓*i*P	**P**	**02 53 12.3**	**+1.7**
NJ2				pP	**pP**	**02 53 21.6**	**+0.6**
NJ2				sP	**sP**	**02 53 25.8**	**-0.4**
NJ2				S	**S**	**02 57 11.6**	**+2.2**

NJ2 sS Sn 02 57 20.7 +0.2
NJ2 pmax pmax
comp=Z,47nm,1.1s
NJ2 pmax pmax
comp=Z,320nm,3.6s
NJ2 LR LR
comp=Z,380nm,13.9s
NJ2 LR LR
comp=Z,420nm,12.0s
NJ2 LR LR
comp=Z,540nm,17.1s
WHN Wuhan 22.03 333 ⇓*i*P **P 02 53 14.6 +1.5**
WHN pmax pmax
comp=Z,260nm,1.5s
WHN LR LR
comp=Z,2µm,15.5s
JNU Nakatsue 22.48 12 LR LR 03 01 03.9
comp=Z,251nm,21.8s,baz=186,slow=34
JAGI Jajag, Banyuwa 22.52 211 P **P 02 53 20.0 +1.6**
JAGI Jajag, Banyuwa 22.52 211 P P 02 53 32.4 +14
SLVN Son La 23.19 299 P **P 02 53 24.5 -0.9**
SLVN IAmb IAmb 02 53 35.6
comp=Z,39nm,1.0s
MYKOM **Kota Tinggi 23.50 248** P **P 02 53 30.1 +1.7**
GYA Guiyang 23.55 313 ⇓P **P 02 53 31.4 +2.5**
GYA pP pP 02 53 39.9 +0.1
GYA S **S 02 57 37.0 -3.2**
GYA pmax pmax
comp=Z,19nm,0.6s
GYA pmax pmax
comp=Z,250nm,3.5s
GYA LR LR
comp=Z,310nm,9.0s
GYA LR LR
comp=Z,260nm,9.3s
GYA LR LR
comp=Z,210nm,12.7s
ENH Enshi 24.30 324 P **P 02 53 34.7 -1.0**
MTN Manton Dam 24.37 167 P **P 02 53 36.7 +0.2**
KPJI Karang Pucung 24.70 223 P P 02 53 46.3 +6.8
comp=Z,35nm,1.5s
LEM Lembang 25.24 226 LR LR 03 04 39.4
comp=Z,376nm,20.4s,baz=84,slow=39
TJN Taejon 25.25 3*ce*P **P 02 53 45.6 +1.4**
PHRA Phrae 25.62 290 P **P 02 53 47.3 -0.6**
KMI Kunming 25.80 306 ⇓P **P 02 53 52.8 +3.1**
KMI pP pP 02 54 00.0 -1.0
KMI pmax pmax
comp=Z,27nm,1.2s
KMI pmax pmax
comp=Z,200nm,5.1s
KMI LR LR
comp=Z,290nm,12.0s
KMI LR LR
comp=Z,490nm,13.9s
KMI LR LR
comp=Z,450nm,17.3s
CRAI Chiangrai 25.94 294 P **P 02 53 51.1 +0.4**
CRAI IAmb IAmb 02 54 02.7
comp=Z,48nm,1.2s
TIA Tai'an 26.19 344 ⇓P **P 02 53 53.0 +0.2**
TIA pmax pmax
comp=Z,19nm,1.2s
TIA LR LR
comp=Z,310nm,19.1s
TIA LR LR
comp=Z,190nm,12.7s
TIA LR LR
comp=Z,350nm,20.6s
LYN LuoYang 26.28 335 ⇑P **P 02 53 54.2 +0.6**
LYN pP sP 02 54 08.6 -1.4
LYN sP pP 02 54 16.8 +12
LYN PP **PnPn 02 54 40.9 +6.7**
LYN S **S 02 58 19.9 -3.6**
LYN sS sS 02 58 45.7 +3.3
LYN pmax pmax
comp=Z,30nm,0.5s
LYN pmax pmax
comp=Z,360nm,5.8s
LYN LR LR
comp=Z,310nm,10.6s
LYN LR LR
comp=Z,430nm,12.9s
LYN LR LR
comp=Z,540nm,19.5s
KSAR Wonju Array Be 26.34 4 P **P 02 53 54.2 +0.1**
KSAR Wonju Array Be 26.34 4 P **P 02 53 54.2 +0.1**
KSRS Korea Array 26.36 4 P **P 02 53 54.7 +0.5**
comp=Z,10nm,1.0s,baz=183,slow=9.9,SNR=17
KSRS LR LR 03 03 35.0
comp=Z,254nm,21.5s,baz=185,slow=35
comp=Z,10nm,1.0s
KS19 Wonju Array Si 26.40 4 P **P 02 53 53.2 -1.4**
KNRA Kununurra 26.75 173 P **P 02 53 58.7 +0.8**
KNRA IAmb IAmb 02 54 13.2
comp=Z,31nm,0.6s
CM31 Chiang Mai Arr 26.80 289 P **P 02 54 00.5 +1.9**
CM31 IAmb IAmb 02 54 10.9
comp=Z,52nm,1.4s
CMAR Chiang Mai Arr 26.80 289 P **P 02 53 58.6 +0.1**
CMAR Chiang Mai Arr 26.80 289 P **P 02 53 58.6 +0.1**
CMAR Chiang Mai Arr 26.80 289 P **P 02 53 59.0 +0.4**
comp=Z,1.6nm,0.4s,baz=109,slow=11,SNR=7.7
CMAR LR LR 03 04 57.8
comp=Z,108nm,18.1s,baz=115,slow=37
comp=Z,1.6nm,0.4s
CHTO Chiang Mai 26.88 290 P **P 02 53 59.4 +0.2**
CHTO Chiang Mai 26.88 290 P **P 02 53 59.4 +0.2**
CHTO pmax pmax
comp=Z,21nm,1.4s
PZH PanZhiHua 27.26 308 P P 02 54 12.3 +10
PZH S **S 02 58 40.0 +0.7**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,90nm,3.5s
PZH LR LR
comp=N,420nm,14.1s
PZH LR LR
comp=E,300nm,13.9s
PZH LR LR
comp=Z,340nm,13.1s
XAN Xi'an 27.50 329 ⇓P **P 02 54 04.6 -0.1**
XAN S **S 02 58 44.2 +1.3**
XAN pmax pmax
comp=Z,21nm,1.3s
XAN LR LR
comp=Z,510nm,17.7s
XAN LR LR
comp=Z,770nm,16.7s
XAN LR LR
comp=Z,710nm,22.0s
MJAR Matsushiro Arr 27.80 22 P **P 02 54 06.5 -0.8**
comp=Z,2.5nm,0.6s,baz=194,slow=8.3,SNR=5.9
comp=Z,2.5nm,0.6s
HNS HongShan 28.00 341 ⇑P **P 02 54 09.4 +0.4**
HNS S **S 02 58 52.4 +1.9**
HNS pmax pmax
comp=Z,27nm,1.4s
HNS LR LR
comp=Z,280nm,15.1s
HNS LR LR
comp=Z,290nm,15.7s
CD2 Chengdu 28.30 318 P **P 02 54 14.7 +2.8**
CD2 pP sP 02 54 29.7 +1.4
CD2 SS SS 03 00 20.3 -36
CD2 pmax pmax
comp=Z,40nm,0.8s
CD2 LR LR
comp=Z,390nm,12.0s
CD2 LR LR
comp=Z,360nm,14.7s
CD2 LR LR
comp=Z,460nm,14.7s
JMM Marumori 29.95 24 P **P 02 54 25.5 -0.9**
BJT Baijiatuan 30.03 345 P **P 02 54 26.1 -0.9**
BJT Baijiatuan 30.03 345 P **P 02 54 26.1 -0.9**
BJT pmax pmax
comp=Z,13nm,0.9s
BJI Beijing 30.05 345 P **P 02 54 27.9 +0.7**
BJI pmax pmax
comp=Z,8.0nm,1.1s
COEN Coen 30.35 145 P **P 02 54 29.7 -0.3**
COEN IAmb IAmb 02 54 43.7
comp=Z,47nm,1.6s
SNY Shenyang 30.70 357 ⇓P **P 02 54 33.6 +0.7**
SNY S **S 02 59 33.5 +0.8**
SNY pmax pmax
comp=Z,48nm,1.0s
LZH Lanzhou 31.77 325 *e*P **P 02 54 43.3 +0.7**
LZH pP pP 02 54 55.3 +1.2
LZH sP sP 02 55 00.0 +0.9
LZH pmax pmax
comp=Z,17nm,1.0s
LZH LR LR
comp=Z,650nm,18.2s
LZH LR LR
comp=Z,610nm,18.2s
LZH LR LR
comp=Z,640nm,19.2s
WB0 Warramunga Arr 31.83 164 P **P 02 54 42.0 -1.1**
WB0 IAmb IAmb 02 55 09.9
comp=Z,8.4nm,0.7s
WRAB Tennant Creek 31.98 164 P **P 02 54 44.1 -0.2**
WRAB Tennant Creek 31.98 164 P **P 02 54 44.2 -0.2**
WRAB pmax pmax
comp=Z,7.0nm,0.7s
WRA Warramunga Arr 31.98 164 P **P 02 54 44.7 +0.2**
WRA Warramunga Arr 31.98 164 *i*P **P 02 54 44.5 +0.1**
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRA Warramunga Arr 31.98 164 P **P 02 54 44.0 -0.5**
comp=Z,2.0nm,0.5s,baz=346,slow=9.1,SNR=35
WRA PcP **PcP 02 57 30.9 -3.0**
comp=Z,0.9nm,0.7s,baz=340,slow=2.5,SNR=2.5
WRA ScP **ScP 03 01 12.9 -1.3**
comp=Z,0.5nm,0.7s,baz=335,slow=3.6,SNR=2.1
comp=Z,2.0nm,0.5s
WB2 Warramunga Arr 31.99 164 P **P 02 54 44.6 +0.1**
WB2 IAmb IAmb 02 55 00.5
comp=Z,15nm,1.1s
WR0 Warramunga Arr 32.05 164 P **P 02 54 44.4 -0.7**
HHC Hu-ho-hao-te 32.16 340 *e*P **P 02 54 46.2 +0.3**
HHC *e*S **S 02 59 55.9 0.0**
HHC pmax pmax
comp=Z,31nm,0.8s
HHC pmax pmax
comp=Z,250nm,5.6s
HHC LR LR
comp=Z,320nm,14.7s
HHC LR LR
comp=Z,410nm,16.9s
HHC LR LR
comp=Z,520nm,18.8s
BTO Baotou 32.49 338 *e*P **P 02 54 52.2 +3.4**
BTO pP **sP 02 55 07.0 +1.7**
BTO sP pP 02 55 14.2 +14
BTO PP **PP 02 56 02.6 -0.2**
BTO S **S 03 00 05.9 +4.8**
BTO sS sS 03 00 28.4 +8.3
BTO SS **SnSn 03 02 03.2 +6.0**
BTO pmax pmax
comp=Z,21nm,0.9s
BTO pmax pmax
comp=Z,230nm,4.4s
BTO LR LR
comp=Z,480nm,16.3s
BTO LR LR
comp=Z,760nm,19.2s
BTO LR LR
comp=Z,690nm,17.3s
USA0B Ussuriysk Arra 33.47 8 P **P 02 54 55.0 -2.2**
USA0B IAmb IAmb 02 54 59.8
comp=Z,19nm,0.9s
USA0B Ussuriysk Arra 33.47 8 *i*P **P 02 54 57.5 +0.3**
USRK Ussuriysk Ar. 33.47 8 P **P 02 54 54.0 -3.2**
USRK Ussuriysk Ar. 33.47 8 P **P 02 54 54.0 -3.2**
USRK Ussuriysk Ar. 33.47 8 P **P 02 54 57.4 +0.2**
comp=Z,14nm,0.7s,baz=189,slow=7.7,SNR=27
USRK LR LR 03 07 47.7
comp=Z,172nm,21.5s,baz=187,slow=35
comp=Z,14nm,0.7s
MDJ Mudanjiang 33.61 5 IAmb IAmb 02 55 00.8
comp=Z,37nm,1.3s
MDJ Mudanjiang 33.61 5 P **P 02 54 59.0 +0.6**
MDJ pP pP 02 55 09.7 -0.1
MDJ sP sP 02 55 14.8 0.0
MDJ PP **PP 02 56 12.3 -2.7**
MDJ PcP **PcP 02 57 41.6 +3.6**
MDJ S **S 03 00 13.9 -4.1**
MDJ sS sS 03 00 45.3 +8.2
MDJ PcS **PcS 03 01 24.5 +0.8**
MDJ pmax pmax
comp=Z,15nm,1.5s
MDJ pmax pmax
comp=Z,220nm,4.8s
XLT XiLinHaoTe 33.74 348 *e*P **P 02 55 00.2 +0.5**
XLT pmax pmax
comp=Z,19nm,1.2s
XLT pmax pmax
comp=Z,93nm,4.3s
XLT LR LR
comp=Z,270nm,18.2s
BNX BinXian 34.59 2 ⇓P **P 02 55 07.5 +0.6**
BNX pmax pmax
comp=Z,15nm,1.2s
BNX pmax pmax
comp=Z,260nm,5.3s
SHL Shillong 35.01 299 P **P 02 55 10.4 -0.6**
SHL Shillong 35.01 299 P **P 02 55 10.4 -0.6**
SHL pmax pmax
comp=Z,42nm,0.9s
AS31 Alice Springs 35.45 167 P **P 02 55 13.8 -0.8**
ASAR Alice Springs 35.45 167 P **P 02 55 14.4 -0.2**
ASAR Alice Springs 35.45 167 P **P 02 55 14.4 -0.2**
ASAR Alice Springs 35.45 167 P **P 02 55 15.4 +0.8**
comp=Z,2.8nm,0.4s,baz=353,slow=6.7,SNR=40
ASAR PcP **PcP 02 57 44.1 +0.3**
comp=Z,0.7nm,0.6s,baz=347,slow=2.5,SNR=1.0
ASAR S **S 03 00 47.6 +0.6**
comp=Z,0.2nm,0.3s,baz=225,slow=40,SNR=4.3
ASAR ScP **ScP 03 01 23.3 -3.1**
comp=Z,0.3nm,0.5s,baz=330,slow=3.2,SNR=2.0
ASAR LR LR 03 10 46.0
comp=Z,127nm,18.1s,baz=330,slow=38
comp=Z,2.8nm,0.4s
GTA Gaotai 36.37 325 *e*P **P 02 55 23.2 +0.7**
GTA pP pP 02 55 33.2 -0.8
GTA S **S 03 01 02.0 +0.9**
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA LR LR
comp=Z,330nm,18.9s
GTA LR LR
comp=Z,280nm,21.1s
GTA LR LR
comp=Z,490nm,20.0s
CTA Charters Tower 37.02 147 LR LR 03 12 43.2
comp=Z,84nm,18.1s,baz=300,slow=39
LSA Lhasa 37.05 305 P **P 02 55 28.4 -0.4**
LSA Lhasa 37.05 305 P **P 02 55 28.4 -0.4**
LSA pmax pmax
comp=Z,47nm,1.3s
LSA Lhasa 37.05 305 P **P 02 55 29.0 +0.2**
LSA pP **pP 02 55 39.8 -0.6**
GOMU GeErMu 37.43 317 P **P 02 55 32.4 +0.6**
GOMU pmax pmax
comp=Z,2.0nm,0.4s
GOMU LR LR
comp=Z,170nm,19.1s
GOMU LR LR
comp=Z,210nm,18.1s
GOMU LR LR
comp=Z,380nm,18.4s
KLR Kul'dur 38.39 6*ce*P **P 02 55 39.5 +0.3**
KLR pmax pmax
comp=Z,21nm,1.7s
KLR Kul'dur 38.39 6 LR LR 03 10 34.3
comp=Z,138nm,20.8s,baz=208,slow=35
HIA Hailar 38.40 354 P **P 02 55 38.7 -0.6**
HIA Hailar 38.40 354 P **P 02 55 38.7 -0.6**
HIA pmax pmax
comp=Z,8.0nm,0.9s
HEH HeiHe 39.10 2 *e*P **P 02 55 46.2 +1.0**
HEH pmax pmax
comp=Z,17nm,1.4s
HEH pmax pmax
comp=Z,260nm,4.9s
TAPN Taplejung 39.11 300 *e*P **P 02 55 41.6 -4.4**
comp=Z,175nm,1.2s
ODAN Odare 39.24 299 *e*P **P 02 55 44.2 -2.8**
comp=Z,261nm,1.7s
HNR Honiara 39.75 120 LR LR 03 10 29.0
comp=Z,2µm,21.5s,baz=320,slow=33
ULN Ulaanbaatar 39.87 340 P **P 02 55 51.9 +0.1**
ULN IAmb IAmb 02 56 04.2
comp=Z,21nm,0.8s
ULN Ulaanbaatar 39.87 340 *i*P **P 02 55 51.8 0.0**
ULN pmax pmax
comp=Z,17nm,0.7s
ULN Ulaanbaatar 39.87 340 P **P 02 55 52.9 +1.1**
ULN pP **pP 02 56 03.5 +0.1**
RAMN Ramite 39.94 299 *e*P **P 02 55 50.3 -2.6**
comp=Z,181nm,1.1s
SONM Songino Array 40.06 340 P **P 02 55 53.4 0.0**
SONM IAmb IAmb 02 55 55.4
comp=Z,12nm,0.7s
SONM Songino Array 40.06 340 P **P 02 55 53.4 0.0**
SONM pmax pmax
comp=Z,12nm,0.7s
SONM Songino Array 40.06 340 P **P 02 55 54.1 +0.7**
comp=Z,6.8nm,0.6s,baz=157,slow=9.6,SNR=49
SONM ScP **ScP 03 01 42.2 -1.3**
comp=Z,0.3nm,0.2s,baz=113,slow=1.9,SNR=2.8
SONM LR LR 03 14 13.2
comp=Z,214nm,19.6s,baz=162,slow=39
comp=Z,6.8nm,0.6s
H11S3 WAKE ISLAND Hy 40.31 74 T T 03 38 59.4
baz=274,slow=74,SNR=410
H11S1 WAKE ISLAND Hy 40.32 74 T T 03 38 56.5
baz=274,slow=74
H11S2 WAKE ISLAND Hy 40.33 74 T T 03 38 55.9
baz=274,slow=74
JIRN Jiri 40.49 300 *e*P **P 02 55 54.8 -2.7**
comp=Z,41nm,0.4s
H11N1 WAKE ISLAND Hy 40.62 73 T T 03 39 16.7
baz=265,slow=74,SNR=529
H11N2 WAKE ISLAND Hy 40.62 73 T T 03 39 20.0
baz=265,slow=74,SNR=360
H11N3 WAKE ISLAND Hy 40.63 73 T T 03 39 17.5
baz=265,slow=74,SNR=676
GUN Gumba 40.82 300 *e*P **P 02 55 57.3 -3.0**
comp=Z,233nm,1.2s
PKI Pulchoki 41.13 299 *e*P **P 02 56 01.3 -1.5**
comp=Z,31nm,0.6s
PKIN Phulchoki 41.14 299 *e*P **P 02 56 01.0 -1.8**
comp=Z,31nm,0.4s
KKN Kakani 41.30 300 *e*P **P 02 56 01.6 -2.4**
comp=Z,193nm,1.5s
DMN Daman 41.40 299 *e*P **P 02 56 03.4 -1.5**
comp=Z,72nm,1.0s
FORT Forrest 41.67 177 P **P 02 56 07.5 +0.9**
ZEA Zeya 42.58 1 *e*P **P 02 56 14.5 +0.7**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
KOLN Koldanda 42.73 299 *e*P **P 02 56 14.7 -1.0**
comp=Z,187nm,2.2s
DANN Dangsing 42.74 300 *e*P **P 02 56 14.7 -1.2**
comp=Z,48nm,0.5s
PYUN Piuhan 43.34 299 *e*P **P 02 56 20.2 -0.4**
comp=Z,86nm,1.0s
NWAO Narrogin (SRO) 44.47 190 LR LR 03 16 38.2
comp=Z,60nm,21.1s,baz=213,slow=38
PALK Pallekele 44.48 269 LR LR 03 13 54.2
comp=Z,63nm,21.6s,baz=197,slow=34
BBOO Buckleboo 44.75 167 P **P 02 56 31.4 -0.1**
BBOO IAmb IAmb 02 56 46.0
comp=Z,22nm,0.7s
MOY Mondy 45.18 339 *e*P **P 02 56 33.6 -1.2**
MOY pmax pmax
comp=Z,51nm,2.7s
STKA Stephens Creek 45.35 161 **P 02 56 35.8 -0.5**
STKA Stephens Creek 45.35 161 *i*P **P 02 56 36.9 +0.6**
STKA Stephens Creek 45.35 161 P **P 02 56 37.2 +0.9**
comp=Z,6.6nm,0.6s,baz=338,slow=8.4,SNR=20
STKA LR LR 03 18 11.9
comp=Z,52nm,21.2s,baz=341,slow=39
comp=Z,6.6nm,0.6s
HYB Hyderabad 45.97 284 *e*P **P 02 56 42.2 +0.7**
WMQ Urumqi 46.21 322 *e*P **P 02 56 44.1 +1.0**
WMQ pP pP 02 56 54.2 -0.7
WMQ sP sP 02 56 59.7 -0.1
WMQ pmax pmax
comp=Z,58nm,0.7s
WMQ LR LR
comp=Z,620nm,21.5s
WMQ LR LR
comp=Z,510nm,15.7s
WMQ LR LR
comp=Z,280nm,21.5s
BOD Bodaibo 47.50 352 *e*P **P 02 56 52.5 -0.3**
BOD pmax pmax
comp=Z,22nm,1.8s
PETK Petropavlovsk- 49.18 25 P **P 02 57 06.5 +0.6**
comp=Z,3.9nm,0.7s,baz=197,slow=4.6,SNR=6.0
PETK LR LR 03 16 46.8
comp=Z,106nm,20.4s,baz=222,slow=35
comp=Z,3.9nm,0.7s
DGZ Jazzator, Alta 49.76 328 *i*P **P 02 57 09.7 -0.9**
DGZ pmax pmax
comp=Z,24nm,1.8s
YAK Yakutsk 50.96 2 P **P 02 57 18.7 -0.5**
YAK Yakutsk 50.96 2 *e*P **P 02 57 19.9 +0.7**
YAK *e**PP **pP 02 57 32.2 +1.1**
YAK *e* 02 59 16.4
YAK *e*PPP PPP 03 00 15.1
YAK *e*S **S 03 04 33.9 +1.0**
YAK *e**SS **sS 03 04 56.1 +3.3**
YAK *e* 03 07 05.7
YAK *e*SSS SSS 03 09 43.7
YAK pmax pmax
comp=Z,52nm,1.4s
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK pmax pmax
comp=Z,221nm,6.6s
YAK pmax pmax
comp=N,93nm,3.2s
YAK pmax pmax
comp=E,143nm,5.7s
YAK smax smax
comp=N,234nm,4.3s
YAK smax smax
comp=E,98nm,3.7s
YAK Yakutsk 50.96 2 LR LR 03 19 00.4
comp=E,6.1nm,21.4s,baz=116,slow=36
YAK Yakutsk 50.96 2 P **P 02 57 21.1 +2.0**
MK31 Makanchi Array 51.02 323 P **P 02 57 19.6 -0.3**
MK31 IAmb IAmb 02 57 31.3
comp=Z,12nm,1.0s
MK31 Makanchi Array 51.02 323 P **P 02 57 19.6 -0.3**
MK31 pmax pmax
comp=Z,12nm,1.0s
MKAR Makanchi Array 51.02 323 P **P 02 57 19.5 -0.5**
MKAR Makanchi Array 51.02 323 P **P 02 57 20.2 +0.2**
comp=Z,2.2nm,0.6s,baz=116,slow=7.3,SNR=18
MKAR ScP **ScP 03 02 26.1 -2.7**
comp=Z,0.7nm,0.7s,baz=129,slow=5.3,SNR=3.9
MKAR LR LR 03 18 05.7
comp=Z,254nm,20.2s,baz=135,slow=35
comp=Z,2.2nm,0.6s
MAKZ Makanchi 51.21 323 P **P 02 57 20.7 -0.7**
MAKZ IAmb IAmb 02 57 32.8
comp=Z,9.1nm,0.7s
MAKZ Makanchi 51.21 323 P **P 02 57 20.7 -0.7**
MAKZ pmax pmax
comp=Z,9.0nm,0.7s
MAKZ Makanchi 51.21 323 P **P 02 57 21.6 +0.2**
MAKZ pP **pP 02 57 31.7 -1.6**
MAKZ sP **sP 02 57 36.5 -1.7**
MAKZ PcP **PcP 02 58 37.1 +0.8**
DZM Mont Dzumac 51.84 130 P **P 02 57 26.1 -0.3**
DZM Mont Dzumac 51.84 130 *e*LR LR 03 12 19.8
comp=Z,211nm,28.8s
DZM Mont Dzumac 51.84 130 P **P 02 57 28.1 +1.7**
comp=Z,8.0nm,0.6s,baz=246,slow=12,SNR=13
DZM LR LR 03 18 27.6
comp=Z,53nm,21.6s,baz=38,slow=35
comp=Z,8.0nm,0.6s
DZM Mont Dzumac 51.84 130 P **P 02 57 28.6 +2.1**
DZM pP **sP 02 57 39.1 -4.1**
DZM sP **pP 02 57 43.6 +5.2**
DZM PcP **PcP 02 58 37.9 -1.2**
KSH Kashi 52.23 312 P **P 02 57 31.9 +2.6**
KSH pmax pmax
comp=Z,8.0nm,1.2s

NIL Nilore 52.77 304 P P 02 57 31.4 -1.8
NIL Nilore 52.77 304 P P 02 57 31.4 -1.8
NIL pmax pmax
comp=Z,58nm,1.3s
NIL Nilore 52.77 304 P P 02 57 33.3 +0.1
NIL pP pP 02 57 43.7 -1.5
NRN Naryn 52.85 314 P P 02 57 32.1 -2.0
NRN IAmb IAmb 02 57 45.9
comp=Z,18nm,1.4s
NRN Naryn 52.85 314 P P 02 57 32.1 -2.0
NRN pmax pmax
comp=Z,18nm,1.4s
ZAA0 Zalesovo Array 53.63 331 P P 02 57 38.1 -1.0
ZAA0 IAmb IAmb 02 57 55.1
comp=Z,9.2nm,0.8s
ZALV Zalesovo Beam 53.63 331 P P 02 57 37.7 -1.4
ZALV Zalesovo Beam 53.63 331 P P 02 57 38.8 -0.4
comp=Z,1.6nm,0.3s,baz=123,slow=6.4,SNR=10
ZALV LR LR 03 21 36.8
comp=Z,121nm,19.6s,baz=123,slow=37
comp=Z,1.6nm,0.3s
AAK Ala-Archa 54.32 315 P P 02 57 43.8 -0.8
AAK IAmb IAmb 02 58 01.2
comp=Z,15nm,1.6s
AAK Ala-Archa 54.32 315 P P 02 57 43.8 -0.8
AAK pmax pmax
comp=Z,15nm,1.6s
AAK Ala-Archa 54.32 315 LR LR 03 20 31.5
comp=Z,332nm,21.2s,baz=76,slow=36
KURK Kurchatov 55.06 325 P P 02 57 48.9 -0.7
KURK Kurchatov 55.06 325 P P 02 57 48.9 -0.7
KURK pmax pmax
comp=Z,42nm,1.1s
KURK Kurchatov 55.06 325 P P 02 57 49.7 +0.1
KURK pP pP 02 58 00.5 -1.1
KURBB Kurchatov Arra 55.06 325 P P 02 57 49.8 +0.1
comp=Z,4.5nm,0.6s,baz=125,slow=7.1,SNR=16
comp=Z,4.5nm,0.6s
SEY Seymchan 55.21 15 *i* P P 02 57 51.4 +0.9
SEY pmax pmax
comp=Z,2.0nm,0.8s
BTK Batken 56.19 311 IAmb IAmb 02 58 14.0
comp=Z,28nm,1.4s
KBL Kabul 56.37 304 P P 02 57 58.6 -0.9
KBL IAmb IAmb 02 58 10.7
comp=Z,16nm,1.2s
KBL Kabul 56.37 304 P P 02 57 58.6 -0.9
KBL pmax pmax
comp=Z,16nm,1.3s
KK31 Karatay Array 57.25 314 P P 02 58 05.1 -0.3
KK31 IAmb IAmb 02 58 16.2
comp=Z,19nm,1.0s
KK31 Karatay Array 57.25 314 P P 02 58 05.1 -0.3
KK31 pmax pmax
comp=Z,19nm,1.0s
KKAR Karatay Array 57.25 314 P P 02 58 04.9 -0.5
KKAR Karatay Array 57.25 314 P P 02 58 04.9 -0.5
TIXI Tiksi 60.57 1 P P 02 58 26.7 -1.2
TIXI IAmb IAmb 02 58 29.7
comp=Z,16nm,1.1s
TIXI Tiksi 60.57 1 *ce*P P **02 58 27.9 0.0**
TIXI Tiksi 60.57 1 LR LR 03 25 39.6
comp=Z,8.8nm,20.6s,baz=194,slow=37
TIXI Tiksi 60.57 1 P P **02 58 28.9 +1.0**
TIXI pP pP **02 58 39.3 -0.8**
BVAR Borovoye Array 60.66 325 P P **02 58 28.7 -0.1**
comp=Z,1.8nm,0.5s,baz=134,slow=6.4,SNR=8.2
BVAR LR LR 03 24 01.5
comp=Z,254nm,21.8s,baz=118,slow=35
comp=Z,1.8nm,0.5s
BRVK Borovoye 60.73 325 P P **02 58 28.2 -1.1**
BRVK IAmb IAmb 02 58 40.6
comp=Z,12nm,0.8s
BRVK Borovoye 60.73 325 *ce*P P **02 58 28.5 -0.8**
BRVK pmax pmax
comp=Z,10.0nm,1.6s
BRVK Borovoye 60.73 325 P P **02 58 29.0 -0.3**
BRVK pP pP **02 58 40.0 -1.5**
BILL Bilibino 62.82 16 *i* P P **02 58 43.7 +0.6**
BILL Bilibino 62.82 16 P P **02 58 45.0 +1.9**
GEYT Alibeck 65.56 307 P P **02 59 01.5 -0.2**
comp=Z,1.8nm,0.7s,baz=104,slow=3.7,SNR=4.8
GEYT LR LR 03 32 16.7
comp=Z,124nm,19.6s,baz=86,slow=40
comp=Z,1.8nm,0.7s
GYA0B ALIBECK ARRAY 65.56 307 P P **02 59 01.1 -0.7**
GYA0B IAmb IAmb 02 59 13.9
comp=Z,9.4nm,1.1s
AB31 Akbulak array 65.86 319 *i* P P **02 59 02.3 -1.1**
ABKAR Akbulak array 65.86 319 P P **02 59 02.4 -1.0**
SVE Sverdlovsk 67.20 327 *e*P P **02 59 12.0 +0.2**
SVE pmax pmax
comp=Z,21nm,0.9s
AKTO Aktyubinsk 67.31 320 P P **02 59 12.0 -0.6**
AKTO Aktyubinsk 67.31 320 LR LR 03 30 34.2
comp=Z,234nm,21.3s,baz=96,slow=38
ARU Arti 68.22 327 *ci* P P **02 59 17.4 -0.8**
ARU 02 59 41.4
ARU S S **03 08 17.3 +1.8**
ARU SS SS **03 12 38.8 0.0**
ARU pmax pmax
comp=Z,25nm,2.2s
ARU Arti 68.22 327 LR LR 03 29 30.9
comp=Z,77nm,20.4s,baz=110,slow=36
LBZ Lake Benmore 68.37 147 P P **02 59 19.4 0.0**
RPZ Rata Peaks 68.39 146 LR LR 03 29 05.7
comp=Z,59nm,21.4s,baz=294,slow=36
URZ Urewera 68.67 139 LR LR 03 29 35.2
comp=Z,81nm,20.5s,baz=41,slow=36
D17K Noatak River 72.76 22 P P **02 59 48.1 +2.5**
baz=257
CHGN Chignik 73.08 34 P P **02 59 47.8 0.0**
baz=264
E17K Hotham Inlet 73.10 23 P P **02 59 48.2 +0.5**
baz=258
G17K Kiwalik Mounta 73.26 25 P P **02 59 48.4 -0.3**
baz=260
N16K Nishlik Lake 73.35 30 P P **02 59 48.6 -0.8**
baz=263
KIRV Kirov 73.44 328 *i* P P **02 59 49.0 -0.9**
KIRV Kirov 73.44 328 LR LR 03 34 33.7
comp=Z,116nm,21.3s,baz=103,slow=38
H17K Granite Mounta 73.47 25 P P **02 59 49.6 -0.4**
baz=261
P16K Nushagak River 73.58 32 P P **02 59 50.8 +0.1**
baz=264
O16K Kokwok River B 73.58 31 P P **02 59 50.5 -0.2**
baz=264
E18K Tukpahlearik C 73.63 23 P P **02 59 50.8 0.0**
baz=259
K17K Iditarod 73.85 28 P P **02 59 52.9 +0.7**
baz=263
MAK Makhachkala 73.87 312 *e*P P **02 59 51.2 -1.5**
MAK *e* 03 02 35.6
MAK *e*S **SKiKP** **03 09 16.2 -2.3**
MAK *e*SS SS **03 14 01.3 -4.8**
MAK *e*SSS SSS 03 17 21.9
M17K Holitna River 74.10 29 P P **02 59 53.3 -0.5**
baz=264
N17K Nushagak Hills 74.13 30 P P **02 59 54.3 +0.3**
baz=264
C19K Lookout Ridge 74.31 21 P P **02 59 55.1 +0.2**
baz=260
P17K Kvichak River 74.39 32 P P **02 59 55.5 +0.1**
baz=265
L18K Granite Mounta 74.54 28 P P **02 59 54.5 -1.8**
baz=264
D19K Kuna River 74.74 22 P P **02 59 58.1 +0.7**
baz=261
N18K Kilae Creek 74.78 30 P P **02 59 58.3 +0.6**
baz=265
E19K Redstone River 74.92 23 IAmb IAmb 03 00 15.9
comp=Z,16nm,1.1s
E19K Redstone River 74.92 23 P P **02 59 58.6 +0.2**
baz=262
TTA Tatalina 74.92 28 P P **02 59 59.1 +0.6**
baz=265
H19K Roundabout Mou 75.00 25 P P **02 59 59.3 +0.5**
baz=264
O18K Koktuh Hills 75.06 31 P P **02 59 59.6 +0.3**
baz=266
B20K Meade River 75.30 20 P P **03 00 01.6 +1.1**
baz=262
D20K Etivluk River 75.31 22 P P **03 00 01.4 +0.7**
baz=263
E20K Nigu River 75.41 22 P P **03 00 02.5 +1.2**
baz=263
F20K Avaraart Lake 75.45 23 P P **03 00 01.6 +0.2**
baz=264
PRGR Permogore 75.58 331 *e*P P **03 00 00.4 -1.8**
PRGR pmax pmax
comp=Z,14nm,0.6s
H20K Anotleneega Mo 75.64 25 P P **03 00 02.7 +0.1**
baz=265
K20K Telida 75.83 27 P P **03 00 03.5 -0.2**
baz=266
GNI Garni 76.02 309 LR LR 03 39 02.0
comp=Z,67nm,20.7s,baz=87,slow=40
B21K Ikpikpuk River 76.13 21 IAmb IAmb 03 00 22.9
comp=Z,42nm,1.6s
B21K Ikpikpuk River 76.13 21 P P **03 00 04.7 -0.5**
baz=264
IMAR Indian Mountai 76.15 25 P P **03 00 05.2 -0.3**
A22K Sinclair Lake 76.15 19 P P **03 00 06.2 +0.9**
baz=264
G21K Allakaket 76.28 24 IAmb IAmb 03 00 23.6
comp=Z,9.7nm,0.9s
G21K Allakaket 76.28 24 P P **03 00 06.4 +0.2**
baz=266
KDAK Kodiak Island 76.34 33 P P **03 00 05.9 -0.7**
comp=Z,14nm,1.1s,baz=9.9,slow=7.5,SNR=2.1
comp=Z,14nm,1.1s
H21K Melozitna Rive 76.52 25 P P **03 00 06.0 -1.5**
baz=267
ZEI Tsey 76.52 311 *e*P P **03 00 06.8 -1.5**
ZEI pmax pmax
comp=Z,12nm,1.3s
B22K Teshekpuk Lake 76.61 20 P P **03 00 08.7 +0.8**
baz=265
CAST Castle Rocks 76.73 27 P P **03 00 08.5 -0.3**
CAST Castle Rocks 76.73 27 P P **03 00 08.9 +0.1**
baz=268
I21K Tanana 76.84 25 P P **03 00 10.1 +0.7**
I21K Tanana 76.84 25 P P **03 00 10.0 +0.7**
baz=268
F22K John River 76.86 23 P P **03 00 09.9 +0.4**
baz=267
E22K Anaktuvuk Pass 77.03 22 P P **03 00 11.1 +0.7**
baz=267
G22K Bettles 77.10 24 P P **03 00 11.5 +0.7**
baz=268
H22K Ishtalitna Cre 77.11 25 P P **03 00 11.0 +0.1**
baz=268
KBZ Khabaz 77.21 312 P P **03 00 11.0 -0.8**
comp=Z,3.2nm,1.1s,baz=158,slow=3.2,SNR=2.0
KBZ LR LR 03 39 13.8
comp=Z,112nm,18.3s,baz=84,slow=40
comp=Z,3.2nm,1.1s
KIV Kislovodsk 77.35 313 *e*P P **03 00 11.4 -1.4**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,82nm,18.0s
D23K Nanushuk River 77.48 22 P P **03 00 14.2 +1.3**
baz=268
C23K Itkillik River 77.53 21 IAmb IAmb 03 00 30.4
comp=Z,21nm,1.3s
C23K Itkillik River 77.53 21 P P **03 00 14.2 +1.1**
baz=268
COLD Coldfoot 77.62 23 P P **03 00 15.7 +2.1**
baz=269
VRH Novokhopyorsk 77.66 320 *e*P P **03 00 11.9 -2.3**
VRH pmax pmax
comp=Z,10.0nm,1.0s
G23K Bananza Creek 77.68 24 P P **03 00 15.3 +1.2**
baz=269
E23K Chandalar 77.85 23 P P **03 00 14.3 -0.8**
baz=269
TOLK Toolik Lake Re 77.88 22 P P **03 00 16.9 +1.7**
TOLK Toolik Lake Re 77.88 22 P P **03 00 15.0 -0.1**
baz=269
CASY Casey 77.93 186 P P **03 00 16.3 +1.0**
I23K Minto, Yukon-K 77.94 25 P P **03 00 16.8 +1.3**
I23K Minto, Yukon-K 77.94 25 P P **03 00 14.6 -0.9**
baz=270
MCK McKinley 78.14 27 P P **03 00 17.3 +0.6**
baz=271
D24K Happy Valley 78.15 21 P P **03 00 17.9 +1.3**
baz=270
C24K Franklin Bluff 78.20 21 P P **03 00 18.2 +1.3**
baz=270
E24K Your Creek 78.28 22 P P **03 00 18.9 +1.5**
baz=270
WAT1 Susitna Watana 78.33 28 P P **03 00 18.1 +0.3**
baz=271
F24K Squaw Lake 78.51 23 P P **03 00 18.8 +0.1**
baz=271
KLMR Klimovskoe 78.53 330 *e*P P **03 00 16.8 -2.1**
KLMR AMP 03 00 19.9
comp=Z,38nm,1.7s
KLMR LR LR 03 31 47.4
KLMR Klimovskoe 78.53 330 *e*P P **03 00 16.7 -2.1**
KLMR pmax pmax
comp=Z,38nm,1.7s
CCB Clear Creek Bu 78.61 26 P P **03 00 17.9 -1.4**
CCB IAmb IAmb 03 00 20.0
comp=Z,24nm,1.8s
G24K Hadweenzic Riv 78.69 24 P P **03 00 21.4 +1.7**
baz=272
WAT6 Susitna Watana 78.71 28 P P **03 00 21.0 +0.9**
baz=270
ILAR Eielson Array 79.00 26 P P **03 00 21.2 -0.2**
comp=Z,0.4nm,0.6s,baz=238,slow=5.1,SNR=13
ILAR LR LR 03 34 14.0
comp=Z,26nm,20.7s,baz=276,slow=35
comp=Z,0.4nm,0.6s
D25K Kavik River 79.02 21 IAmb IAmb 03 00 38.6
comp=Z,29nm,1.6s
VORR Voronezh 79.20 321 *e*P P **03 00 24.2 +1.5**
VORR pmax pmax
comp=Z,10.0nm,1.0s
G25K Bearman Lake 79.23 24 P P **03 00 23.8 +1.3**
baz=273
VSR Storozhevoye 79.26 320 *e*P P 03 00 30.9 +7.9
VSR pmax pmax
comp=Z,8.0nm,0.7s
LPSR Galich'ya Gora 79.31 322 *e*P P **03 00 26.7 +3.5**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
E25K Arctic Village 79.37 22 P P **03 00 23.8 +0.4**
baz=273
F25K Christian Rive 79.37 23 P P **03 00 24.6 +1.1**
baz=273
C26K Camden Bay 79.51 21 P P **03 00 24.8 +0.8**
baz=273
K24K Donnelly Dome 79.54 27 P P **03 00 25.2 +0.8**
baz=274
BMAR Burnt Mountain 79.79 23 P P **03 00 27.4 +1.7**
RAR Rarotonga 79.94 114 LR LR 03 29 19.1
comp=Z,115nm,20.1s,baz=340,slow=31
G26K Porupine Rive 80.14 24 P P **03 00 27.9 +0.4**
baz=275
OBN Obninsk 80.48 324 *e*P P **03 00 27.8 -1.7**
OBN *e**PP **PcP** **03 00 37.9 +1.5**
OBN *e**SP **sP** **03 00 45.1 -1.8**
OBN *e* 03 03 33.5
OBN *e*PPP PPP 03 05 22.0
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN Obninsk 80.48 324 LR LR 03 36 19.5
comp=Z,96nm,18.5s,baz=9.5,slow=36
APA Apatity 80.71 337 *j* P P 03 00 38.9 +8.4
APA pmax pmax
comp=Z,7.0nm,0.9s
E27K Coleen River 80.85 22 P P **03 00 32.0 +0.6**
baz=277
D27M Malcolm River 80.95 21 P P **03 00 32.8 +0.9**
baz=277
G27K Doyon Strip 80.99 24 P P **03 00 32.2 0.0**
baz=277
K27K Chicken 81.15 26 IAmb IAmb 03 01 00.9
comp=Z,20nm,1.4s
K27K Chicken 81.15 26 P P **03 00 33.0 0.0**
baz=277
I27K Kandik River 81.15 25 P P **03 00 32.5 -0.6**
baz=277
BCAR Beaver Creek A 81.40 27 P P **03 00 33.0 -1.4**
E28M Babbage River 81.55 22 IAmb IAmb 03 00 52.4
comp=Z,36nm,1.8s
E28M Babbage River 81.55 22 P P **03 00 35.9 +0.9**
baz=278
F28M Old Crow 81.57 23 P P **03 00 36.8 +1.6**
F28M Old Crow 81.57 23 P P **03 00 35.8 +0.6**
baz=278
I28M Miner Creek 81.86 25 IAmb IAmb 03 01 04.6
comp=Z,22nm,1.4s
I28M Miner Creek 81.86 25 P P **03 00 36.8 -0.1**
baz=279
E29M Blow River 82.18 22 P P **03 00 37.3 -1.0**
baz=280
G29M Pine Creek 82.39 23 P P **03 00 39.5 0.0**
baz=280
M29M Somme Creek 83.00 28 P P **03 00 43.8 +0.9**
baz=280
L29M L29M 83.03 27 P P **03 00 44.5 +1.5**
baz=280
F30M Barrier River 83.11 22 P P **03 00 44.1 +0.9**
baz=282
SPITS Spitsbergen Ar 83.12 349 P P **03 00 42.6 -0.5**
SPITS pmax pmax
comp=Z,131nm,1.7s
SPITS Spitsbergen Ar 83.12 349 P P **03 00 42.6 -0.5**
comp=Z,5.6nm,0.8s,baz=75,slow=1.6,SNR=1.5
SPITS LR LR 03 43 05.5
comp=Z,115nm,19.9s,baz=35,slow=40
comp=Z,5.6nm,0.8s
ARCES ARCESS Array B 83.23 340 P P **03 00 43.2 -0.5**
comp=Z,1.6nm,0.6s,baz=76,slow=5.7,SNR=27
ARCES LR LR 03 39 46.7
comp=Z,63nm,20.9s,baz=90,slow=37
comp=Z,1.6nm,0.6s
INK Inuvik 83.78 22 P P **03 00 47.0 +0.4**
INK IAmb IAmb 03 01 03.4
comp=Z,16nm,1.5s
INK Inuvik 83.78 22 P P **03 00 46.4 -0.2**
baz=284
INK Inuvik 83.78 22 P P **03 00 47.0 +0.4**
INK pmax pmax
comp=Z,16nm,1.5s
INK Inuvik 83.78 22 P P **03 00 47.1 +0.6**
comp=Z,0.9nm,0.5s,baz=302,slow=5.6,SNR=10
comp=Z,0.9nm,0.5s
G31M Satah River 83.84 23 P P **03 00 47.5 +0.6**
baz=284
F31M Tsiigehtchic 83.91 22 P P **03 00 46.1 -1.2**
F31M IAmb IAmb 03 00 49.9
comp=Z,25nm,1.5s
F31M Tsiigehtchic 83.91 22 P P **03 00 46.5 -0.7**
baz=284
MMAI Mount Meron Ar 84.25 302 LR LR 03 42 09.5
comp=Z,59nm,21.2s,baz=38,slow=38
BRTR Keskin Array B 84.54 309 P P **03 00 49.7 -1.6**
BRTR Keskin Array B 84.54 309 P P **03 00 49.7 -1.6**
BRTR Keskin Array B 84.54 309 P P **03 00 49.8 -1.5**
comp=Z,0.5nm,0.7s,baz=136,slow=5.0,SNR=2.5
BRTR LR LR 03 43 35.9
comp=Z,80nm,19.8s,baz=82,slow=39
comp=Z,0.5nm,0.7s
FINES FINESS Array B 84.90 332 *i* P P **03 00 52.2 -0.2**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 84.90 332 P P **03 00 51.8 -0.6**
comp=Z,2.3nm,0.6s,baz=65,slow=4.0,SNR=18
FINES LR LR 03 42 14.7
comp=Z,116nm,19.2s,baz=79,slow=38
comp=Z,2.3nm,0.6s
EIL Eiat 85.19 299 LR LR 03 45 49.4
comp=Z,44nm,18.6s,baz=82,slow=40
A36M Sachs Harbour 85.34 17 P P **03 00 54.3 -0.1**
A36M IAmb IAmb 03 01 14.4
comp=Z,8.1nm,0.8s
A36M Sachs Harbour 85.34 17 P P **03 00 54.8 +0.4**
baz=291
FARO Faro, Yukon 85.38 27 P P **03 00 54.5 -0.4**
baz=285
AKASG Malin Array Be 85.55 321 P P **03 00 54.5 -1.4**
AKASG IAmb IAmb 03 01 15.5
comp=Z,10.0nm,1.2s
AKASG Malin Array Be 85.55 321 *i* P P **03 00 55.5 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 85.55 321 P P **03 00 53.7 -2.1**
comp=Z,0.3nm,0.3s,baz=68,slow=3.8,SNR=9.1
AKASG LR LR 03 42 27.1
comp=Z,68nm,19.9s,baz=18,slow=38
comp=Z,0.3nm,0.3s
N32M Quiet Lake 85.78 28 P P **03 00 57.3 +0.4**
baz=285
NACGM Naroch 86.07 325 *e*P P 03 00 53.7 -4.6
comp=Z,16nm,1.0s,baz=77
C36M Paulatuk 86.71 19 P P **03 01 01.6 +0.4**
C36M IAmb IAmb 03 01 17.9
comp=Z,18nm,1.3s
C36M Paulatuk 86.71 19 P P **03 01 00.7 -0.5**
baz=293
PPT2 Papeete2 88.42 108 *e*S S 03 12 14.7 +21
comp=Z,76nm,26.8s
PPT2 Papeete2 88.42 108 *e*LR LR 03 29 08.0
comp=Z,104nm,29.2s
PPT2 *e*LR LR 03 29 22.8
comp=Z,68nm,22.2s
KMBO Kilima Mbogo 88.62 269 *i* P P **03 01 14.1 +2.3**
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 88.62 269 P P **03 01 10.1 -1.7**
comp=Z,0.5nm,0.4s,baz=58,slow=13,SNR=1.6
KMBO LR LR 03 39 16.6
comp=Z,41nm,19.6s,baz=82,slow=34
comp=Z,0.5nm,0.4s
MLR Muntele Rosu 88.89 316 LR LR 03 45 18.6
comp=Z,186nm,21.9s,baz=288,slow=38
TBI Tubuai 89.72 114 *e*SS SS 03 17 51.2 -12
comp=Z,428nm,34.2s
TBI Tubuai 89.72 114 *e*LR LR 03 29 33.5
comp=Z,686nm,30.8s
DAG Danmarks Havn 89.89 352 *e*P P **03 01 15.7 -0.4**
VNDA Vanda 90.79 173 P P **03 01 20.6 +0.4**
comp=Z,0.4nm,0.7s,baz=332,slow=4.0,SNR=1.8
VNDA LR LR 03 42 24.5
comp=Z,53nm,19.2s,baz=340,slow=36
comp=Z,0.4nm,0.7s
RES Resolute Bay 90.83 10 P P **03 01 20.8 +0.2**
RES IAmb IAmb 03 02 09.6
comp=Z,18nm,1.6s
RES Resolute Bay 90.83 10 P P **03 01 20.8 +0.2**
RES pmax pmax
comp=Z,18nm,1.7s
RES Resolute Bay 90.83 10 P P **03 01 20.7 +0.2**
comp=Z,1.6nm,0.8s,baz=273,slow=8.2,SNR=5.4
comp=Z,1.6nm,0.8s
HFS Hagfors 91.06 332 P P **03 01 21.5 -0.4**
comp=Z,1.9nm,0.8s,baz=73,slow=5.0,SNR=1.6
HFS LR LR 03 44 52.0
comp=Z,128nm,18.2s,baz=70,slow=37
comp=Z,1.9nm,0.8s
NEEM North Greenlan 91.62 359 *e*P P **03 01 25.7 +1.0**
NB2 NORSAR Subarra 91.77 334 P P 03 01 33.9 +8.6
comp=Z,2.0nm,0.9s,baz=65,slow=4.8
NOA NORSAR Array B 91.77 334 P P **03 01 25.0 -0.3**
comp=Z,1.9nm,1.2s,baz=65,slow=4.6,SNR=0.9
NOA LR LR 03 45 35.6
comp=Z,111nm,20.3s,baz=65,slow=37
comp=Z,1.9nm,1.2s
IDI Anoyia 92.29 306 LR LR 03 48 17.9
comp=Z,32nm,21.3s,baz=73,slow=39
YKA Yellowknife Ar 93.29 24 *i* P P **03 01 33.7 +1.5**
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 93.29 24 P P **03 01 33.2 +1.0**
comp=Z,0.8nm,0.9s,baz=298,slow=5.3,SNR=9.3
comp=Z,0.8nm,0.9s
VRAC Vranov 93.75 322 LR LR 03 46 14.1
comp=Z,40nm,21.4s,baz=88,slow=37
TAOE Nuku Hiva Isla 95.78 98 *e*LR LR 03 32 51.7
comp=Z,116nm,25.2s
DAVOX Davos/Dischmat 98.89 321 LR LR 03 49 26.3
comp=Z,116nm,21.9s,baz=71,slow=37
LSZ Lusaka 99.94 256 LR LR 03 45 26.8
comp=Z,51nm,18.7s,baz=88,slow=34
TXAR Lajitas Array 117.78 48 PKP **PKPdf** **03 07 04.3 -0.4**
comp=Z,0.3nm,0.7s,baz=218,slow=1.0,SNR=1.9
TORD Torodi Ar. Bea 119.39 292 PKP **PKPdf** **03 07 06.5 -1.5**
comp=Z,0.6nm,0.9s,baz=67,slow=2.9,SNR=2.2
DBIC Dimbokro 127.67 287 PKP **PKPdf** **03 07 23.5 -0.4**
comp=Z,2.2nm,1.0s,baz=218,slow=18,SNR=1.6
PLCA Paso Flores 147.18 157 PKPbc **PKPbc** **03 08 00.8 -0.3**
comp=Z,1.3nm,0.6s,baz=342,slow=3.0,SNR=5.4

CATAC 06 02:52:57.1±2.3, 12°62N×90°02W, h4km±15km, ML3.4, Off coast of central America

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEVE	Cerro Verde	1.26	18	*i* P	Pg	02 53 20.0	-1.3
CEVE				IAML		02 53 50.5	
	comp=Z,490nm,1.0s						
MAGS	Ministerio de	1.28	34	*i* P	Pn	02 53 28.2	+6.3
MAGS				*i* S	Sb	02 53 38.6	0.0
CEDA	San Andres	1.32	27	*i* P	Pn	02 53 15.3	-7.1
CEDA				*i* S	Sn	02 53 41.8	+1.2
IGN	Direccin Gen	1.37	37	*i* P	Pn	02 53 19.5	-3.6
IGN				*i* S	Sg	02 53 40.2	-0.9
UDBS	Universidad Do	1.38	38	*i* P	Pn	02 53 22.7	-0.5
UDBS				*i* S	Sg	02 53 40.4	-1.0
UDBS				IAML		02 53 41.1	
	comp=Z,700nm,1.0s						

*CATAC **06** 02:53:16.5±0.6, 13°.09N×89°.33W, h27km±3km, ML3.1*
*SNET **06** 02:53:17.1±0.9, 13°.20N×89°.29W, h48km±8km, ML3.1*
ISC 06 02:53:18.1±1.8**, 13°.15N**±0°.09×**89°.32W**±0°.05**, h48**km±12km**, n42,** σ**0.78**/78**, El Salvador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.34	359	*e*P	Pn	02 53 26.9	-0.5
LALI				*e*S	Sn	02 53 34.2	+0.2
LALI	Alcalda de L	0.34	359	*i* P	Pn	02 53 27.1	-0.3
LALI				IAML		02 53 34.2	
	comp=Z,280nm,1.0s						
LALI				*i* S	Sn	02 53 35.5	+1.5
PANCS	Alcalda de	0.48	16	*i* P	Pn	02 53 28.2	-0.8
PANCS				*i* S	Sn	02 53 37.5	+0.7
PANCS				IAML		02 53 38.1	
	comp=Z,4μm,1.0s						
LOMA	Loma Larga	0.51	16	*e*P	Pn	02 53 28.9	-0.6
LOMA				*e*S	Sn	02 53 38.3	+0.6
LOMA	Loma Larga	0.51	16	*i* P	Pn	02 53 28.9	-0.6
LOMA				*i* S	Sn	02 53 38.8	+1.1
LOMA				IAML		02 53 40.0	
	comp=Z,1μm,1.0s						
JAYA	Jayaque - finc	0.52	345	*e*P	Pn	02 53 28.8	-0.8
JAYA				*e*S	Sn	02 53 38.2	+0.4
JAYA				IAML		02 53 39.3	
	comp=Z,2μm,0.2s						
JAYA	Jayaque - finc	0.52	345	*i* P	Pn	02 53 28.9	-0.8
JAYA				*i* S	Sn	02 53 38.5	+0.7
JAYA				IAML		02 53 39.1	
	comp=Z,6μm,1.0s						
ITCA	Escuela Especi	0.52	4	*i* P	Sn	02 53 38.3	+0.5
LFRS	El Faro	0.53	28	*e*P	Pn	02 53 29.1	-0.6
SNET	Serv Nac Est T	0.54	9	*i* S	Sn	02 53 39.3	+1.1
SNET	Serv Nac Est T	0.54	9	*i* P	Pn	02 53 29.2	-0.6
SNET				IAML		02 53 29.3	
	comp=Z,2μm,1.0s						
SNET				*i* S	Sn	02 53 39.0	+0.8
SJTE	Alcalda de S	0.55	33	*i* P	Pn	02 53 29.0	-0.9
SJTE				*e*S	Sn	02 53 38.7	+0.3
SJTE	Alcalda de S	0.55	33	*i* P	Pn	02 53 29.0	-0.9
SJTE				*i* S	Sn	02 53 38.9	+0.5
SJTE				IAML		02 53 39.6	
	comp=Z,570nm,1.0s						
PMON	Piamonte	0.56	0	*i* P	Pn	02 53 29.5	-0.6
PMON				*i* S	Sn	02 53 39.7	+1.1
PMON				IAML		02 53 42.9	
	comp=Z,1μm,1.0s						
UEES	Universidad Ev	0.57	7	*e*P	Pn	02 53 29.6	-0.6
UEES				*e*S	Sn	02 53 39.7	+0.9
UEES	Universidad Ev	0.57	7	*i* P	Pn	02 53 29.6	-0.6
UEES				*i* S	Sn	02 53 39.7	+0.9
UEES				IAML		02 53 40.7	
	comp=Z,1μm,1.0s						
BOQS	Boqueron	0.58	3	*e*P	Pn	02 53 30.0	-0.5
BOQS				*e*S	Sn	02 53 40.4	+1.0
COEG	Centro de Oper	0.63	42	*e*P	Pn	02 53 30.0	-0.9
COEG				*e*S	Sn	02 53 40.2	+0.1
COEG	Centro de Oper	0.63	42	*i* P	Pn	02 53 30.0	-0.9
COEG				*i* S	Sn	02 53 40.3	+0.1
COEG				IAML		02 53 45.8	
	comp=Z,270nm,1.0s						
TECO	Alcaldia de Te	0.65	53	*e*P	Pn	02 53 29.9	-1.2
TECO				*e*S	Sn	02 53 40.5	0.0
TECO	Alcaldia de Te	0.65	53	*i* P	Pn	02 53 29.9	-1.2
TECO				*i* S	Sn	02 53 40.2	-0.3
TECO				IAML		02 53 40.8	
	comp=Z,350nm,1.0s						
PAVA	Las Pavas	0.67	33	*e*P	Pn	02 53 30.9	-0.6
PAVA				*e*S	Sn	02 53 41.9	+0.8
PAVA	Las Pavas	0.67	33	*i* P	Pn	02 53 30.8	-0.6
PAVA				*i* S	Sn	02 53 42.1	+1.0
PAVA				IAML		02 53 43.9	
	comp=Z,1μm,1.0s						
UESV	Universidad de	0.70	47	*i* P	Pn	02 53 30.9	-1.0
UESV				*i* S	Sn	02 53 42.0	+0.2
UESV				IAML		02 53 43.4	
	comp=Z,350nm,1.0s						
CEVE	Cerro Verde	0.74	336	*e*P	Pn	02 53 31.8	-0.7
CEVE				*e*S	Sn	02 53 43.9	+1.0
ALJI	Alcalda de J	0.75	76	*e*P	Pn	02 53 31.0	-1.3
ALJI				*e*S	Sn	02 53 42.4	-0.3
ALJI	Alcalda de J	0.75	76	*i* P	Pn	02 53 31.2	-1.1
ALJI				*i* S	Sn	02 53 42.4	-0.3
ALJI				IAML		02 53 44.8	
	comp=Z,610nm,1.0s						
SCLA	Alcaldia de Sa	0.79	46	*i* P	Pn	02 53 32.6	-0.4
SCLA				IAML		02 53 32.7	
	comp=Z,110nm,1.0s						
SCLA				*i* S	Sn	02 53 45.5	+1.6
COEB	Comit de Eme	0.84	66	*e*P	Pn	02 53 32.7	-1.0
COEB				*e*S	Sn	02 53 45.3	+0.2
UNIC	Universidad Ca	0.86	345	*i* P	Pn	02 53 35.0	+1.1
NUBE	Las Nubes	0.87	329	*e*P	Pn	02 53 33.2	-1.0
NUBE				*e*S	Sn	02 53 45.9	-0.1
NUBE	Las Nubes	0.87	329	*i* P	Pn	02 53 33.3	-0.9
NUBE				*i* S	Sn	02 53 46.1	+0.1
NUBE				IAML		02 53 46.6	
	comp=Z,460nm,1.0s						
PACA	Pacayal	1.02	72	*e*P	Pn	02 53 36.0	-0.1
PACA				*e*S	Sn	02 53 50.5	+1.1
PACA	Pacayal	1.02	72	*i* P	Pn	02 53 36.5	+0.4
PACA				*i* S	Sn	02 53 50.4	+1.1
JUCU	Jucuar¡n	1.04	84	*e*P	Pn	02 53 35.5	-0.9
JUCU				*e*S	Sn	02 53 50.2	+0.3
MTO3	Montecristo	1.24	358	*i* P	Pn	02 53 38.4	-0.9
MTO3	Montecristo	1.24	358	*i* P	Pn	02 53 38.3	-1.0
MTO3				IAML		02 53 38.9	
	comp=Z,49nm,1.0s						
MTO3				*i* S	Sn	02 53 54.9	-0.1
LCND	La Caada	1.40	83	*e*P	Pn	02 53 40.9	-0.3
LCND				*e*S	Sn	02 53 59.3	+0.8
LCND	La Caada	1.40	83	*i* P	Pn	02 53 40.9	-0.3
LCND				*i* S	Sn	02 53 58.6	+0.2
LCND				IAML		02 54 00.9	
	comp=Z,280nm,1.0s						
CNCH	Conchagua	1.45	85	*e*P	Pn	02 53 41.7	-0.2
CNCH				*e*S	Sn	02 54 00.3	+0.5
CNCH	Conchagua	1.45	85	*i* P	Pn	02 53 41.6	-0.4
CNCH				*i* S	Sn	02 54 00.6	+0.7
CNCH				IAML		02 54 04.6	
	comp=Z,610nm,1.0s						
CSGN	Cosiguina Volc	1.72	96	*i* P	Pn	02 53 46.6	+1.0

*IDC **06** 02:55:38.3±5.9, 23°.29S×179°.29W, h480km±40km, mb3.4/3, mbtmp4.3/3, Error ellipse: s-maj=131.1km s-min=53.6km az=152.0*
*NEIC **06** 02:55:44.4±1.0, 23°.5S±0°.1×179°.6W±0°.2, h521km±14km, mb4.1/17, Error ellipse: s-maj=30.9km s-min=13.5km az=58.0*
ISC 06 02:55:43.9±1.5**, 23°.5S**±0°.2×**179°.5W**±0°.2**, h536**km**, n27,** σ**1.43**/28**, mb4.1**/11**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.95	166	P	P	02 57 21.0	-0.3
KOUNC	Koumac, New Ca	15.28	278	P	P	02 58 53.7	-2.9
HIZ	Hauiti	15.76	196	P	P	02 59 01.4	+0.2
MRZ	Mangatainoka R	17.64	192	P	P	02 59 16.8	-2.2
MRZ				IAmb	IAmb	02 59 40.2	
	comp=Z,6.6nm,1.0s						
TCW	Tory Channel	18.45	195	P	P	02 59 27.4	+1.0
QRZ	Quartz Range	18.56	199	P	P	02 59 28.2	+0.8
WHZ	Wether Hill Ro	24.58	201	P	P	03 00 21.6	+0.1
WHZ				IAmb	IAmb	03 00 43.5	
	comp=Z,11nm,1.1s						
EIDS	Eidsvold	26.80	260	P	P	03 00 41.8	+0.5
EIDS				IAmb	IAmb	03 00 42.6	
	comp=Z,2.4nm,0.7s						
CTAO	Charters Tower	31.91	269	P	P	03 01 26.4	+0.7
STKA	Stephens Creek	35.29	248	P	P	03 01 53.8	-0.1
STKA	Stephens Creek	35.29	248	P	P	03 01 53.9	-0.1
	comp=Z,1.0nm,0.5s,baz=88,slow=11,SNR=3.7						
	comp=Z,1.0nm,0.5s						
BBOO	Buckleboo	40.01	246	P	P	03 02 32.1	-0.5
BBOO				IAmb	IAmb	03 02 33.3	
	comp=Z,5.4nm,0.9s						
AS31	Alice Springs	42.53	260	P	P	03 02 53.4	+0.7
ASAR	Alice Springs	42.53	260	P	P	03 02 51.2	-1.4
ASAR	Alice Springs	42.53	260	P	P	03 02 53.3	+0.6
	comp=Z,3.9nm,0.7s,baz=96,slow=7.7,SNR=34						
ASAR				ScP	ScP	03 07 38.2	+5.3
	comp=Z,0.7nm,0.8s,baz=110,slow=4.2,SNR=4.5						
	comp=Z,3.9nm,0.7s						
WR0	Warramunga Arr	42.68	266	P	P	03 02 53.6	-0.2
WB2	Warramunga Arr	42.85	266	P	P	03 02 55.3	0.0
WB2				IAmb	IAmb	03 03 10.2	
	comp=Z,9.0nm,1.1s						
WB0	Warramunga Arr	42.86	266	P	P	03 02 55.7	+0.4
WB0				IAmb	IAmb	03 02 56.0	
	comp=Z,6.7nm,0.6s						
WRAB	Tennant Creek	42.86	266	P	P	03 02 55.4	+0.1
WRAB				IAmb	IAmb	03 02 56.3	
	comp=Z,3.0nm,0.7s						
WRA	Warramunga Arr	42.87	266	P	P	03 02 55.2	-0.2
WRA	Warramunga Arr	42.87	266	P	P	03 02 55.1	-0.2
	comp=Z,4.1nm,0.5s,baz=103,slow=8.3,SNR=86						
	comp=Z,4.1nm,0.5s						
FORT	Forrest	46.87	249	P	P	03 03 26.0	+0.1
KNRA	Kununurra	49.12	269	P	P	03 03 43.3	+0.5
KNRA				IAmb	IAmb	03 03 57.9	
	comp=Z,6.2nm,0.9s						
MBWA	Marble Bar	55.87	260	P	P	03 04 31.6	+0.4
MBWA				IAmb	IAmb	03 04 46.4	
	comp=Z,12nm,1.1s						
LBTB	Lobatse	126.01	208	PKPdf	PKPdf	03 13 44.6	-1.3
FIA1	FINESS Array S	138.16	342	PKPdf	PKiKP	03 14 09.7	+0.1
HFS	Hagfors	142.19	349	PKP	PKPdf	03 14 14.1	-0.6
	comp=Z,2.6nm,0.9s,baz=47,slow=2.6,SNR=12						

*UPA **06** 03:05:18.5±0.7, 7°.75N×82°.97W, h9km±4km, MD4.1, MW3.8*
*CATAC **06** 03:05:19.7±2.4, 7°.71N×83°.09W, h2km±14km, ML3.1*
ISC 06 03:05:19.5±2.7**, 7°.8N**±0°.1×**82°.85W**±0°.06**, h12**km±11km**, n18,** σ**0.64**/27**, South of Panama**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTPM	Petroterminale	0.41	357	*e*P	Pg	03 05 27.4	-0.3
PTPM				*e*S	Sb	03 05 35.3	+0.3
PEDE3	Pedregal, Chir	0.73	36	*e*P	Pg	03 05 33.9	+0.2
LOCO3	Loma Colorada,	0.75	35	*e*P	Pg	03 05 34.8	+0.6
DVD	David	0.76	32	*e*P	Pg	03 05 34.6	+0.4
DVD				*e*S	Sn	03 05 46.8	-0.5
BCO2	Palmira	0.98	19	*e*P	Pb	03 05 38.4	-0.1
BCO2				*e*S	Sn	03 05 53.3	+0.2
MLIR3	Monte Lirio, C	1.00	2	*e*P	Pb	03 05 38.0	-0.8
BRU2	Volcan	1.01	9	*e*P	Pb	03 05 39.1	0.0
BRU2				*e*S	Sn	03 05 54.2	+0.3
BC3P	Paso Ancho	1.05	13	*e*P	Pb	03 05 39.5	-0.2
LNBQ3	Los Naranjos,	1.08	22	*e*P	Pb	03 05 39.6	-0.5
CHGR2	Aguacate	1.34	32	*e*P	Pn	03 05 44.2	+0.1
CHGR2				*e*S	Sg	03 06 02.9	+0.1
OCHAL	Ojochal	1.52	329	*i* P	Pn	03 05 46.0	-0.5
OCHAL				*i* S	Sb	03 06 06.9	+0.1
OCHAL				IAML		03 06 08.5	
	comp=Z,3.1nm,1.0s						
CNI2	El Empalme, Bo	1.67	13	*e*P	Pn	03 05 47.9	-0.7
CNI2				*e*S	Sn	03 06 09.3	-0.5
CDM	Cerro de Muert	1.97	333	*i* P	Pn	03 05 53.4	+0.3
CDM				*i* S	Sb	03 06 19.7	-0.6
CDM				IAML		03 06 20.6	
	comp=Z,85nm,1.0s						
LCR2	La Lucha 2	2.25	330	*i* P	Pn	03 05 57.4	+0.7
LCR2				*i* S	Sn	03 06 25.5	+1.0
LCR2				IAML		03 06 31.3	
	comp=Z,51nm,1.0s						
OCM	Ochomogo	2.36	332	*i* P	Pn	03 06 00.0	+1.7
OCM				IAML		03 06 30.6	
	comp=Z,57nm,1.0s						
JACO	JACO, Garabito	2.58	316	IAML		03 05 55.6	
	comp=Z,48nm,1.0s						
JACO				*i* P	Pn	03 06 00.1	-1.0
INDI	Punta indio, G	3.33	308	*i* P	Pn	03 06 11.2	-0.3
INDI				IAML		03 06 53.8	
	comp=Z,64nm,1.0s						
ORTG	Ortega, Santa	3.63	315	*i* P	Pn	03 06 16.3	+0.7
ORTG				IAML		03 07 12.1	
	comp=Z,56nm,1.0s						

*NEIC **06** 03:11:54.2±0.6, 19°.31N±0°.01×155°.24W±0°.01, h12km±1km, Error ellipse: s-maj=2.1km s-min=1.1km az=149.0*
HVO 06 03:11:53.9±1.2**, 19°.30N**±0°.01×**155°.23W**±0°.01**, h2**km±6km**, ML2.7**/33**, ML2.4**/44(NEIC)**, Error ellipse: s-maj=2.0km s-min=1.0km az=142.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PUH	Pauahi	0.07	10		Pg	03 11 56.4	+1.0
HLP	Hilina Pali	0.07	265		Pg	03 11 56.8	+1.4
HLP	Hilina Pali	0.07	265		Sg	03 11 59.1	+2.7
HLP	Hilina Pali	0.07	265	IAML		03 11 57.3	
	comp=E,2μm,0.2s						
HLP				IAML		03 11 57.7	
	comp=N,1μm,0.1s						
KNHH	Kane Nui o Ham	0.10	37		Pg	03 11 56.8	+1.0
KKO	Keanakako`i	0.10	340		Pg	03 11 57.0	+1.1
KKO	Keanakako`i	0.10	340		Sg	03 11 59.1	+1.9
KKO	Keanakako`i	0.10	340	IAML		03 11 59.1	
	comp=N,1μm,0.4s						
RIM	Rim	0.10	335		Pg	03 11 57.0	+1.1
RIM					Sg	03 11 59.1	+1.8
RIM	Rim	0.10	335	IAML		03 11 59.2	
	comp=N,2μm,0.5s						
RIM				IAML		03 11 59.3	
	comp=E,3μm,0.5s						
SDHHI	Sand Hill	0.10	325		Pg	03 11 57.0	+1.0
SDHHI	Sand Hill	0.10	325	IAML		03 11 58.7	
	comp=N,2μm,0.2s						
SDHHI				IAML		03 11 59.4	
	comp=E,2μm,0.2s						
BYL	Byron's Ledge	0.11	345		Pg	03 11 57.1	+1.0
BYL					Sg	03 11 59.4	+1.8
BYL	Byron's Ledge	0.11	345	IAML		03 11 59.6	
	comp=N,1μm,0.7s						
BYL				IAML		03 11 59.6	
	comp=E,3μm,0.5s						
NPH	North Pit	0.12	336		Pg	03 11 57.1	+0.9
NPH	North Pit	0.12	336		Sg	03 11 59.5	+1.7
NPH	North Pit	0.12	336	IAML		03 11 57.3	
	comp=E,323nm,0.3s						
HATHI	Halema'uma'u T	0.12	346		Pg	03 11 57.2	+0.9
HATHI					Sg	03 11 59.8	+1.8
HATHI	Halema'uma'u T	0.12	346	IAML		03 12 00.2	
	comp=N,2μm,0.2s						
HATHI				IAML		03 12 00.3	
	comp=E,2μm,0.5s						
WRMHI	West Rim	0.12	327		Pg	03 11 57.2	+0.9
WRMHI					Sg	03 11 59.9	+1.9
WRMHI	West Rim	0.12	327	IAML		03 11 59.9	
	comp=N,1μm,0.7s						
WRMHI				IAML		03 11 59.9	
	comp=E,3μm,0.4s						
OBL	Observatory Le	0.12	336		Pg	03 11 57.3	+0.9
OBL					Sg	03 12 00.2	+2.2
OBL	Observatory Le	0.12	336	IAML		03 12 00.4	
	comp=E,2μm,0.5s						
OBL				IAML		03 12 00.5	
	comp=N,2μm,0.5s						
SBLHI	Steaming Bluff	0.13	343		Pg	03 11 57.3	+0.8
SBLHI					Sg	03 11 60.0	+1.8
SBLHI	Steaming Bluff	0.13	343	IAML		03 12 00.1	
	comp=N,1μm,0.4s						
SBLHI				IAML		03 12 00.2	
	comp=E,1μm,0.4s						
STCH	Steam Cracks	0.13	50		Pg	03 11 57.4	+1.0
STCH					Sg	03 11 59.8	+1.7
STCH	Steam Cracks	0.13	50	IAML		03 12 00.0	
	comp=N,1μm,0.6s						
STCH				IAML		03 12 00.9	
	comp=E,788nm,0.2s						
UWB	Uwekahuna B	0.13	339		Pg	03 11 57.3	+0.8
UWB	Uwekahuna B	0.13	339		Sg	03 12 00.3	+2.1
UWB	Uwekahuna B	0.13	339	IAML		03 12 00.1	
	comp=N,832nm,0.9s						
UWE	Uwekahuna	0.13	333		Pg	03 11 57.4	+0.9
UWE					Sg	03 12 00.2	+1.9
UWE	Uwekahuna	0.13	333	IAML		03 12 00.2	
	comp=E,1μm,0.5s						
UWE				IAML		03 12 00.3	
	comp=N,1μm,0.5s						
NPOC	North of Pu'u	0.14	52	IAML		03 12 00.5	
	comp=N,998nm,0.4s						
NPOC	North of Pu'u	0.14	52		Pg	03 11 57.6	+0.9
NPOC					Sg	03 12 00.2	+1.6
RSD	Rainshed	0.17	344		Pg	03 11 57.9	+0.7
RSD	Rainshed	0.17	344	IAML		03 12 00.7	
	comp=N,494nm,0.7s						
RSD				IAML		03 12 00.9	
	comp=E,562nm,0.9s						
HTC	Hot Caves	0.17	248		Pg	03 11 58.5	+1.2
MLH	Mauna Loa	0.24	322		Pg	03 11 59.4	+0.8
MLH	Mauna Loa	0.24	322	IAML		03 12 05.0	
	comp=E,694nm,0.4s						
MLH				IAML		03 12 05.9	
	comp=N,890nm,0.6s						
JOKA	Jonika Flow	0.25	59		Pg	03 11 59.4	+0.7
JOKA					Sg	03 12 04.0	+2.1
KHU	Kahuku	0.37	261		Pg	03 12 01.4	+0.4
KHU					Sg	03 12 07.5	+1.6
KHU	Kahuku	0.37	261	IAML		03 12 07.8	
	comp=E,1μm,2.2s						
KHU				IAML		03 12 10.4	
	comp=N,698nm,0.4s						
HPO	Honuapo	0.37	235		Pg	03 12 01.5	+0.4
HPO					Sb	03 12 08.1	-1.5
HMH	Humu'ula Sheep	0.38	321		Pg	03 12 01.7	+0.4
HMH	Humu'ula Sheep	0.38	321	IAML		03 12 08.8	
	comp=E,1μm,0.3s						
HMH				IAML		03 12 08.9	
	comp=N,3μm,0.5s						
MWH	Moku'aweowe	0.39	298		Pg	03 12 02.0	+0.5
MWH	Moku'aweowe	0.39	298	IAML		03 12 09.2	
	comp=E,2μm,0.6s						
MWH				IAML		03 12 11.8	
	comp=N,1μm,0.3s						
MLOA	Mauna Loa Obse	0.40	305		Pg	03 12 02.0	+0.4
MLOA					Sg	03 12 08.8	+1.8
ALEP	Alea Permanent	0.46	301		Pg	03 12 02.8	0.0
ALEP					Sg	03 12 10.3	+1.6
POHA	Pohakuloa	0.54	328		Pg	03 12 04.2	0.0
POHA					Sg	03 12 12.2	+1.0
POHA	Pohakuloa	0.54	328	IAML		03 12 12.4	
	comp=N,2μm,0.5s						
POHA				IAML		03 12 13.6	
	comp=N,979nm,0.2s						
CPH	Captain Cook	0.68	286		Pg	03 12 06.7	-0.1
HUH	Hualalai	0.69	304		Pg	03 12 06.8	-0.3
HUH					Sg	03 12 16.1	+0.1
KHLU	Kahalu`u	0.69	295		Pg	03 12 06.0	-1.1
KHLU					Sg	03 12 17.4	+1.3
HPAH	Hawaii Prepara	0.85	329		Sg	03 12 21.4	+0.2

*SNET **06** 03:27:32.5±1.1, 13°.21N×89°.57W, h33km±27km, ML3.4*
*CATAC **06** 03:27:32.3±0.6, 13°.13N×89°.62W, h23km±4km, ML3.5*
*GCG **06** 03:27:35.4±0.6, 14°.54N×89°.46W, h129km±999km, MD3.8*
ISC 06 03:27:31.9±1.4**, 13°.12N**±0°.06×**89°.61W**±0°.04**, h22**km±6km**, n82,** σ**0.52**/120**, El Salvador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.46	38	*i* P	Pn	03 27 43.0	-0.2
LALI				IAML		03 27 43.2	
	comp=Z,680nm,1.0s						
LALI				*i* S	Sn	03 27 51.4	+0.6
LALI	Alcalda de L	0.46	38	*i* P	Pn	03 27 43.1	-0.2
LALI				IAML		03 27 43.2	
	comp=Z,680nm,1.0s						
LALI				*i* S	Sn	03 27 51.5	+0.6
JAYA	Jayaque - finc	0.56	17	*e*P	Pn	03 27 44.1	-0.5
JAYA				*e*S	Sn	03 27 53.2	-0.1
JAYA	Jayaque - finc	0.56	17	*i* P	Pn	03 27 44.2	-0.5
JAYA				*i* S	Sn	03 27 53.2	-0.1
JAYA				IAML		03 27 53.6	
	comp=Z,5μm,1.0s						
JAYA	Jayaque - finc	0.56	17	*i* P	Pn	03 27 44.2	-0.5
JAYA				*i* S	Sn	03 27 53.2	-0.1
JAYA				IAML		03 27 53.6	
	comp=Z,5μm,1.0s						
ITCA	Escuela Especi	0.64	31	*i* P	Pn	03 27 45.3	-0.5
ITCA				IAML		03 27 45.5	
	comp=Z,4μm,1.0s						
ITCA	Escuela Especi	0.64	31	*i* P	Pn	03 27 45.4	-0.4
ITCA				IAML		03 27 45.5	
	comp=Z,4μm,1.0s						
PANCS	Alcalda de	0.65	41	*i* P	Pn	03 27 45.2	-0.6
PANCS				IAML		03 27 45.7	
	comp=Z,3μm,1.0s						
PANCS				*i* S	Sn	03 27 54.9	-0.5
PANCS	Alcalda de	0.65	41	*i* P	Pn	03 27 45.3	-0.6
PANCS				IAML		03 27 45.7	
	comp=Z,3μm,1.0s						
PANCS				*i* SA		03 27 55.1	
PMON	Piamonte	0.66	26	*i* P	Pn	03 27 45.6	-0.5
PMON				IAML		03 28 03.1	
	comp=Z,2μm,1.0s						
PMON	Piamonte	0.66	26	*i* P	Pn	03 27 45.5	-0.5
PMON				IAML		03 28 03.1	
	comp=Z,2μm,1.0s						
LOMA	Loma Larga	0.68	39	*i* P	Pn	03 27 46.0	-0.3
LOMA				IAML		03 27 46.1	
	comp=Z,2μm,1.0s						
LOMA	Loma Larga	0.68	39	*i* P	Pn	03 27 45.9	-0.3
LOMA				IAML		03 27 46.1	
	comp=Z,2μm,1.0s						
SNET	Serv Nac Est T	0.68	33	*i* P	Pn	03 27 45.7	-0.5
SNET				IAML		03 27 46.0	
	comp=Z,2μm,1.0s						
SNET				*i* S	Sn	03 27 56.0	-0.2
SNET	Serv Nac Est T	0.68	33	*i* P	Pn	03 27 45.8	-0.5
SNET				IAML		03 27 46.0	
	comp=Z,2μm,1.0s						
SNET				*i* S	Sn	03 27 55.9	-0.2
BOQS	Boqueron	0.69	28	*e*P	Pn	03 27 46.3	-0.3
UEES	Universidad Ev	0.70	31	*i* P	Pn	03 27 46.1	-0.4
UEES				IAML		03 27 46.5	
	comp=Z,720nm,1.0s						
UEES	Universidad Ev	0.70	31	*i* P	Pn	03 27 46.2	-0.3
UEES				IAML		03 27 46.5	
	comp=Z,720nm,1.0s						
UTEC	Universidad Te	0.70	35	*i* P	Pn	03 27 46.1	-0.5
UTEC				IAML		03 27 46.2	
	comp=Z,1μm,1.0s						
UTEC				*i* S	Sn	03 27 56.7	-0.1
UTEC	Universidad Te	0.70	35	*i* P	Pn	03 27 46.2	-0.4
UTEC				IAML		03 27 46.2	
	comp=Z,1μm,1.0s						
CEVE	Cerro Verde	0.70	359	*e*P	Pn	03 27 46.4	-0.5
CEVE				*e*S	Sn	03 27 59.1	+2.0
CEVE	Cerro Verde	0.70	359	*i* P	Pn	03 27 46.5	-0.3
CEVE				*i* S	Sn	03 27 57.5	+0.4
CEVE				IAML		03 28 01.5	
	comp=Z,2μm,1.0s						
CEVE	Cerro Verde	0.70	359	*i* P	Pn	03 27 46.3	-0.5
CEVE				*i* S	Sn	03 27 57.3	+0.2
CEVE				IAML		03 28 01.5	
	comp=Z,2μm,1.0s						
CEDA	San Andres	0.71	17	*e*P	Pn	03 27 46.3	-0.4
CEDA				*e*S	Sn	03 27 57.0	0.0
CEDA	San Andres	0.71	17	*i* P	Pn	03 27 46.3	-0.4
CEDA				*i* S	Sn	03 27 57.0	0.0
CEDA				IAML		03 28 03.0	
	comp=Z,3μm,1.0s						
SBLS	San Blas	0.72	359	*e*P	Pn	03 27 46.5	-0.4
IGN	Direccin Gen	0.73	36	*i* P	Pn	03 27 46.7	-0.3
IGN				IAML		03 27 46.9	
	comp=Z,4μm,1.0s						
IGN	Direccin Gen	0.73	36	*i* P	Pn	03 27 46.7	-0.3
IGN				IAML		03 27 46.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,4µm,1.0s						
LFRS	**El Faro**	**0.73**	**47**	eP	**Pn**	**03 27 46.8**	**-0.3**
UDBS	**Universidad Do**	**0.74**	**37**	iP	**Pn**	**03 27 46.9**	**-0.2**
UDBS				iS	**Sb**	**03 27 56.1**	**+0.2**
UDBS				IAML		03 27 58.4	
	comp=Z,1µm,1.0s						
UDBS	**Universidad Do**	**0.74**	**37**	iP	**Pn**	**03 27 48.2**	**+1.1**
SNJE	**San Jose**	**0.74**	**1**	eP	**Pn**	**03 27 46.7**	**-0.6**
SJTE	**Alcalda de S**	**0.77**	**50**	iP	**Pn**	**03 27 47.2**	**-0.3**
SJTE				eS	**Sn**	**03 27 58.3**	**-0.1**
SJTE	**Alcalda de S**	**0.77**	**50**	iP	**Pn**	**03 27 47.2**	**-0.3**
SJTE				IAML		03 27 47.4	
	comp=Z,3µm,1.0s						
SJTE				iS	**Sn**	**03 27 58.7**	**+0.2**
RTR	**El Retiro**	**0.77**	**358**	eP	**Pn**	**03 27 47.3**	**-0.4**
QUEZ	**Alcaldia de Qu**	**0.79**	**25**	iP	**Pn**	**03 27 47.3**	**-0.4**
QUEZ				IAML		03 27 47.8	
	comp=Z,4µm,1.0s						
QUEZ				iS	**Sn**	**03 27 58.9**	**+0.1**
QUEZ	**Alcaldia de Qu**	**0.79**	**25**	iP	**Pn**	**03 27 47.3**	**-0.4**
QUEZ				IAML		03 27 47.8	
	comp=Z,4µm,1.0s						
QUEZ				iSA		03 27 58.9	
NUBE	**Las Nubes**	**0.80**	**348**	iP	**Pb**	**03 27 47.2**	**+0.1**
NUBE				eS	**Sb**	**03 27 58.2**	**+0.7**
NUBE	**Las Nubes**	**0.80**	**348**	iP	**Pb**	**03 27 47.2**	**+0.1**
NUBE				iS	**Sn**	**03 27 58.4**	**-0.8**
NUBE				IAML		03 27 59.4	
	comp=Z,3µm,1.0s						
NUBE	**Las Nubes**	**0.80**	**348**	iP	**Pb**	**03 27 47.2**	**+0.1**
NUBE				iSA		03 27 58.4	
NUBE				IAML		03 27 59.4	
	comp=Z,3µm,1.0s						
UNIC	**Universidad Ca**	**0.86**	**4**	iP	**Pn**	**03 27 48.6**	**-0.2**
UNIC				IAML		03 27 49.2	
	comp=Z,490nm,1.0s						
UNIC				iS	**Sn**	**03 28 02.0**	**+1.3**
UNIC	**Universidad Ca**	**0.86**	**4**	iP	**Pn**	**03 27 48.6**	**-0.2**
UNIC				IAML		03 27 49.2	
	comp=Z,490nm,1.0s						
COEG	**Centro de Oper**	**0.87**	**55**	eP	**Pb**	**03 27 48.6**	**+0.2**
COEG				eS	**Sn**	**03 28 00.8**	**-0.2**
COEG	**Centro de Oper**	**0.87**	**55**	iP	**Pn**	**03 27 48.7**	**-0.2**
COEG				IAML		03 27 49.2	
	comp=Z,1µm,1.0s						
PAVA	**Las Pavas**	**0.88**	**48**	iP	**Pn**	**03 27 49.2**	**+0.1**
PAVA				eS	**Sn**	**03 28 02.1**	**+0.8**
PAVA	**Las Pavas**	**0.88**	**48**	iP	**Pn**	**03 27 49.3**	**+0.1**
PAVA				iS	**Sn**	**03 28 02.3**	**+0.9**
PAVA				IAML		03 28 02.8	
	comp=Z,4µm,1.0s						
PAVA	**Las Pavas**	**0.88**	**48**	iP	**Pn**	**03 27 49.2**	**+0.1**
PAVA				iSA		03 28 02.2	
PAVA				IAML		03 28 02.8	
	comp=Z,4µm,1.0s						
LOAL	**Lomas de Alarc**	**0.89**	**349**	iP	**Pn**	**03 27 49.7**	**+0.5**
LOAL				iS	**Sn**	**03 28 02.3**	**+0.9**
LOAL				IAML		03 28 06.3	
	comp=Z,3µm,1.0s						
LOAL	**Lomas de Alarc**	**0.89**	**349**	iP	**Pn**	**03 27 49.1**	**-0.1**
LOAL				iS	**Sb**	**03 27 59.6**	**-0.5**
LOAL				IAML		03 28 06.3	
	comp=Z,3µm,1.0s						
TECO	**Alcaldia de Te**	**0.91**	**63**	eP	**Pb**	**03 27 48.9**	**-0.1**
TECO				eS	**Sn**	**03 28 01.4**	**-0.5**
TECO	**Alcaldia de Te**	**0.91**	**63**	iP	**Pb**	**03 27 48.9**	**-0.1**
TECO				iS	**Sn**	**03 28 01.4**	**-0.5**
TECO				IAML		03 28 02.9	
	comp=Z,600nm,1.0s						
TECO	**Alcaldia de Te**	**0.91**	**63**	iP	**Pb**	**03 27 48.8**	**-0.1**
TECO				iSA		03 28 01.4	
TECO				IAML		03 28 02.9	
	comp=Z,600nm,1.0s						
SLOZ	**Alcaldia de Sa**	**0.92**	**350**	eP	**Pn**	**03 27 49.3**	**-0.3**
SLOZ				eS	**Sn**	**03 28 02.3**	**+0.2**
UESV	**Universidad de**	**0.95**	**57**	iP	**Pb**	**03 27 49.6**	**-0.2**
UESV				IAML		03 27 49.9	
	comp=Z,910nm,1.0s						
UESV				iS	**Sn**	**03 28 02.9**	**-0.1**
UESV	**Universidad de**	**0.95**	**57**	iP	**Pb**	**03 27 49.7**	**-0.1**
UESV				IAML		03 27 49.9	
	comp=Z,910nm,1.0s						
UESV				iSA		03 28 02.9	
ALJI	**Alcalda de J**	**1.04**	**78**	eP	**Pb**	**03 27 50.3**	**-0.9**
ALJI				eS	**Sb**	**03 28 04.3**	**0.0**
SCLA	**Alcaldia de Sa**	**1.04**	**56**	iP	**Pn**	**03 27 51.3**	**+0.1**
SCLA				IAML		03 27 51.6	
	comp=Z,270nm,1.0s						
COEB	**Comit de Eme**	**1.12**	**70**	eP	**Pn**	**03 27 52.0**	**-0.3**
COEB				eS	**Sb**	**03 28 06.9**	**+0.1**
LLGN	**La Laguna**	**1.22**	**32**	iP	**Pb**	**03 27 54.3**	**-0.1**
LLGN	**La Laguna**	**1.22**	**32**	IAML		03 27 53.7	
	comp=Z,800nm,1.0s						
LLGN				iP	**Pn**	**03 27 53.8**	**0.0**
MTO3	**Montecristo**	**1.30**	**11**	eP	**Pn**	**03 27 54.8**	**-0.1**
MTO3	**Montecristo**	**1.30**	**11**	iP	**Pn**	**03 27 54.8**	**-0.1**
MTO3				IAML		03 27 55.5	
	comp=Z,350nm,1.0s						
PACA	**Pacayal**	**1.30**	**74**	eP	**Pb**	**03 27 55.5**	**-0.2**
PACA				eS	**Sb**	**03 28 12.3**	**+0.2**
PACA	**Pacayal**	**1.30**	**74**	iP	**Pb**	**03 27 55.9**	**+0.1**
PACA				IAML		03 28 16.5	
	comp=Z,7µm,1.0s						
JUCU	**Jucuar¡n**	**1.34**	**84**	eP	**Pn**	**03 27 54.9**	**-0.4**
JUCU				eS	**Sn**	**03 28 11.9**	**-0.5**
ESQI	**Esquipulas**	**1.46**	**10**	iP	**Pn**	**03 27 57.3**	**+0.3**
ESQI				IAML		03 28 24.7	
	comp=Z,210nm,1.0s						
NBG	**Las Nubes**	**1.62**	**334**	eP	**Pb**	**03 28 01.3**	**0.0**
LCND	**La Caada**	**1.69**	**83**	eP	**Pn**	**03 28 00.2**	**+0.1**
LCND				eS	**Sn**	**03 28 21.5**	**+0.4**
LCND	**La Caada**	**1.69**	**83**	iP	**Pn**	**03 28 00.7**	**+0.6**
LCND				IAML		03 28 26.8	
	comp=Z,450nm,1.0s						
CNCH	**Conchagua**	**1.74**	**85**	eP	**Pn**	**03 28 01.0**	**0.0**
CNCH				eS	**Sn**	**03 28 23.6**	**+1.1**
CNCH	**Conchagua**	**1.74**	**85**	iP	**Pn**	**03 28 01.3**	**+0.4**
CNCH				IAML		03 28 25.1	
	comp=Z,840nm,1.0s						
FUG	**Fuego 3**	**1.78**	**318**	eP	**Pn**	**03 28 02.2**	**+0.7**
FUG				eS	**Sn**	**03 28 23.7**	**+0.1**
SARH	**Santa Rosa de**	**1.84**	**27**	iP	**Pn**	**03 28 03.0**	**+0.7**
AMPH	**Amapala**	**1.91**	**85**	iP	**Pn**	**03 28 03.7**	**+0.6**
CSGN	**Cosiguina Volc**	**2.01**	**94**	iP	**Pn**	**03 28 05.6**	**+1.0**
CSGN				IAML		03 28 33.1	
	comp=Z,1µm,1.0s						
POTN	**Potosi Cosigui**	**2.06**	**93**	IAML		03 28 05.8	
	comp=Z,65nm,1.0s						
POTN				iP	**Pn**	**03 28 06.0**	**+0.9**
COMHN	**El Horno**	**2.39**	**56**	iP	**Pn**	**03 28 09.4**	**-0.6**
TGUH	**Tegucigalpa,Un**	**2.46**	**67**	iP	**Pn**	**03 28 10.9**	**+0.1**
TGUH				IAML		03 28 39.9	
	comp=Z,70nm,1.0s						
STG3	**Santiaguito 3,**	**2.47**	**310**	eP	**Pn**	**03 28 11.2**	**+0.1**
STG3				eS	**Sn**	**03 28 38.5**	**-2.2**
YUSH	**Yuscaran**	**2.82**	**73**	iP	**Pn**	**03 28 15.6**	**-0.2**
LIMN	**Finca el Limon**	**3.16**	**91**	iP	**Pn**	**03 28 20.2**	**-0.3**
LIMN				IAML		03 28 21.2	
	comp=Z,60nm,1.0s						
MATN	**Matagalpa**	**3.60**	**93**	iP	**Pn**	**03 28 26.2**	**-0.3**
MATN				IAML		03 28 28.5	
	comp=Z,32nm,1.0s						

*MDD **06** 04:05:41.7±0.8, 42.°47N×10.°31W, h17km±8km, mb_Lg3.1/12, Error ellipse: s-maj=10.5km s-min=3.4km az=125.0*
*IGIL **06** 04:05:43.0, 42.°47N×10.°31W, h24km, ML2.3*
*LDG **06** 04:05:43.4±0.2, 42.°57N×10.°29W, h28km, Ml3.1/18, Error ellipse: s-maj=5.0km s-min=2.4km az=94.0*
*INMG **06** 04:05:43.5±1.8, 42.°52N×10.°31W, h28km, ML2.6, Error ellipse: s-maj=6.3km s-min=3.5km az=107.0*
*CNRM **06** 04:06:05.5, 40.°73N×10.°81W, h175km, ml2.7*
ISC 06 04:05:39.4±1.3**, 42.°46N**±0.°05×**10.°25W**±0.°08**, h10**km**, n85, σ2.ˢ02**/135**, 4C-4D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**1.06**	**62**	Pg	**Pg**	**04 06 00.9**	**+1.1**
EMAZ				Sg	**Sg**	**04 06 13.3**	**-0.2**
EMAZ				iVmb_Lg		04 06 13.7	
PGAV	**Gavieira, Arco**	**1.55**	**108⇓**	iP	**Pn**	**04 06 08.1**	**+0.9**
PGAV				eS	**Sn**	**04 06 26.8**	**-0.6**
PGAV				A	A	04 06 28.0	
	54nm,0.2s						
EAGO	**Agolada(Pontev**	**1.63**	**77**	Pn	**Pn**	**04 06 09.1**	**+0.8**
EAGO				Sn	**Sn**	**04 06 27.5**	**-1.8**
EAGO				iVmb_Lg		04 06 29.9	
ELOB	**Lobios**	**1.73**	**109**	Pn	**Pn**	**04 06 11.1**	**+1.4**
ELOB				Sn	**Sn**	**04 06 32.4**	**+0.6**
ELOB				iVmb_Lg		04 06 34.9	
PTO	**Porto**	**1.80**	**136⇑**	iP	**Pn**	**04 06 12.1**	**+1.6**
PTO				eS	**Sn**	**04 06 34.0**	**+0.6**
PTO				A	A	04 06 35.3	
	56nm,0.1s						
POLO	**Lamas de Olo**	**2.13**	**120**	eP	**Pn**	**04 06 16.5**	**+1.4**
POLO				eS	**Sn**	**04 06 41.5**	**-0.1**
POLO				A	A	04 06 43.2	
	5.5nm,0.2s						
PVRL	**Vila Real**	**2.23**	**121**	eP	**Pn**	**04 06 17.8**	**+1.3**
PVRL				eS	**Sn**	**04 06 44.1**	**0.0**
PVRL				A	A	04 06 45.4	
	26nm,0.1s						
EPON	**Pontenova**	**2.44**	**68**	Pn	**Pn**	**04 06 19.9**	**+0.6**
EPON				Sn	**Sn**	**04 06 47.5**	**-1.7**
EPON				iVmb_Lg		04 06 49.2	
PVIS	**Viseu**	**2.48**	**134**	eP	**Pn**	**04 06 21.2**	**+1.3**
PVIS				eS	**Sn**	**04 06 50.1**	**-0.1**
PVIS				A	A	04 06 53.8	
	11nm,0.1s						
COI	**Coimbra**	**2.64**	**148**	eP	**Pn**	**04 06 23.5**	**+1.5**
ECAL	**Calabor**	**2.66**	**100**	Pn	**Pn**	**04 06 24.0**	**+1.5**
ECAL				Sn	**Sn**	**04 06 53.3**	**-1.4**
ECAL				iVmb_Lg		04 06 56.7	
ECAL	**Calabor**	**2.66**	**100**	Pn	**Pn**	**04 06 23.9**	**+1.5**
ECAL				Sn	**Sn**	**04 06 53.8**	**-0.9**
PBRG	**Braganca**	**2.69**	**103**	eP	**Pn**	**04 06 24.3**	**+1.5**
PBRG				eS	**Sn**	**04 06 54.7**	**-0.7**
PBRG				A	A	04 06 56.3	
	12nm,0.1s						
MVO	**Moncorvo**	**2.73**	**117**	eP	**Pn**	**04 06 24.8**	**+1.4**
MVO				eS	**Sn**	**04 06 55.4**	**-1.1**
MVO				A	A	04 06 58.1	
	11nm,0.4s						
PCAS	**Casmilo, Conde**	**2.74**	**151⇓**	eP	**Pn**	**04 06 24.7**	**+1.2**
PCAS				eS	**Sn**	**04 06 56.4**	**-0.2**
PCAS				A	A	04 07 05.0	
	6.0nm,0.6s						
MTE	**Manteigas**	**2.89**	**134**	eP	**Pn**	**04 06 26.6**	**+1.0**
MTE				eS	**Sn**	**04 06 59.4**	**-1.0**
MTE				A	A	04 07 28.0	
	8.7nm,0.4s						
PSBE	**So Bento**	**3.14**	**159⇓**	eP	**Pn**	**04 06 30.0**	**+1.0**
PSBE				eS	**Sn**	**04 07 05.6**	**-0.9**
PSBE				A	A	04 07 07.6	
	18nm,0.3s						
PCBR	**Castelo Branco**	**3.35**	**140**	eP	**Pn**	**04 06 33.1**	**+1.3**
PCBR				eS	**Sn**	**04 07 11.0**	**-0.6**
PCBR				A	A	04 07 29.4	
	2.2nm,0.5s						
PMAFR	**Mafra**	**3.57**	**168⇑**	eP	**Pn**	**04 06 35.6**	**+0.7**
PMAFR				eS	**Sn**	**04 07 15.4**	**-1.8**
PMAFR				A	A	04 07 16.7	
	17nm,0.2s						
PMAFR	**Mafra**	**3.57**	**168**	Sn	**Sn**	**04 07 14.5**	**-2.7**
PMAFR				Pn	**Pn**	**04 06 35.6**	**+0.7**
PMTG	**Montargil**	**3.72**	**155⇓**	eP	**Pn**	**04 06 37.7**	**+0.8**
PMTG				eS	**Sn**	**04 07 19.6**	**-1.1**
PMTG				A	A	04 07 21.1	
	6.9nm,0.1s						
PMRV	**Marv??o**	**3.72**	**144⇑**	eP	**Pn**	**04 06 38.0**	**+1.1**
PMRV				eS	**Sn**	**04 07 19.7**	**-1.1**
PMRV				A	A	04 07 26.3	
	2.9nm,0.3s						
EARI	**Arriondas**	**3.80**	**75**	Pn	**Pn**	**04 06 39.7**	**+1.6**
EARI				Sn	**Sn**	**04 07 21.0**	**-1.8**
EARI				iVmb_Lg		04 07 26.5	
PACT	**Alcochete**	**3.84**	**163**	eP	**Pn**	**04 06 39.4**	**+0.9**
PACT				eS	**Sn**	**04 07 22.3**	**-1.4**
PACT				A	A	04 07 27.7	
	18nm,0.8s						
EPLA	**Plasencia**	**3.95**	**126**	Pn	**Pn**	**04 06 41.6**	**+1.5**
EPLA				Sn	**Sn**	**04 07 24.0**	**-2.4**
EPLA				iVmb_Lg		04 07 27.9	
PESTR	**Estremoz**	**4.12**	**150⇑**	eP	**Pn**	**04 06 43.3**	**+0.9**
PESTR				eS	**Sn**	**04 07 29.0**	**-1.6**
PESTR				A	A	04 07 32.3	
	3.6nm,0.6s						
PESTR	**Estremoz**	**4.12**	**150**	Sn	**Sn**	**04 07 28.3**	**-2.3**
PESTR				Pn	**Pn**	**04 06 43.3**	**+0.9**
EVO	**Evora**	**4.27**	**156**	eP	**Pn**	**04 06 45.3**	**+0.7**
EVO				eS	**Sn**	**04 07 32.4**	**-2.1**
EVO				A	A	04 07 34.8	
	29nm,0.1s						
EVO	**Evora**	**4.27**	**156**	Sn	**Sn**	**04 07 32.1**	**-2.4**
EVO				Pn	**Pn**	**04 06 45.2**	**+0.7**
EBAD	**Badajoz**	**4.44**	**145**	Pn	**Pn**	**04 06 47.8**	**+1.0**
EBAD				Sn	**Sn**	**04 07 35.8**	**-2.8**
EBAD				iVmb_Lg		04 07 39.7	
EBAD	**Badajoz**	**4.44**	**145**	Sn	**Sn**	**04 07 36.2**	**-2.4**
EBAD				Pn	**Pn**	**04 06 47.8**	**+1.0**
PNCL	**Nicolau / Gran**	**4.54**	**163**	eP	**Pn**	**04 06 49.2**	**+1.0**
PNCL				eS	**Sn**	**04 07 38.1**	**-2.8**
PNCL				A	A	04 07 41.3	
	6.5nm,0.2s						
PNCL	**Nicolau / Gran**	**4.54**	**163**	Pn	**Pn**	**04 06 49.1**	**+1.0**
PBEJ	**Beja**	**4.79**	**157**	eP	**Pn**	**04 06 53.1**	**+1.5**
PBEJ				eS	**Sn**	**04 07 44.2**	**-2.9**
PBEJ				A	A	04 07 47.9	
	6.1nm,0.2s						
MESJ	**Messejana**	**4.87**	**161**	eP	**Pn**	**04 06 53.4**	**+0.7**
MESJ				eS	**Sn**	**04 07 45.1**	**-4.0**
MESJ				A	A	04 07 49.0	
	7.2nm,0.3s						
MESJ	**Messejana**	**4.87**	**161**	eP	**Pn**	**04 06 53.3**	**+0.7**
MESJ				eS	**Sn**	**04 07 44.8**	**-4.3**
MESJ				IAML		04 07 46.2	
	comp=E,4.3nm,0.1s						
PBAR	**Barrancos**	**4.93**	**149**	eP	**Pn**	**04 06 54.5**	**+0.9**
PBAR				eS	**Sn**	**04 07 47.9**	**-2.7**
PBAR				A	A	04 07 50.9	
	comp=E,2.1nm,0.1s						
PBAR	**Barrancos**	**4.93**	**149**	Pn	**Pn**	**04 06 54.5**	**+0.9**
PTEO	**Sao Teotonio**	**5.04**	**166**	eP	**Pn**	**04 06 56.6**	**+1.5**
PTEO				eS	**Sn**	**04 07 50.9**	**-2.5**
PTEO				A	A	04 07 53.4	
	comp=E,7.6nm,0.3s						
ELAN	**Lanestosa**	**5.07**	**79**	Pn	**Pn**	**04 06 57.4**	**+1.9**
ELAN				Sn	**Sn**	**04 07 52.2**	**-1.9**
PCVE	**Castro Verde**	**5.11**	**160**	eP	**Pn**	**04 06 56.9**	**+0.9**
PCVE				eS	**Sn**	**04 07 51.0**	**-4.0**
PCVE				A	A	04 07 54.0	
	comp=E,6.0nm,0.4s						
PCVE	**Castro Verde**	**5.11**	**160**	Pn	**Pn**	**04 06 56.3**	**+0.3**
MORF	**Marmelete**	**5.29**	**166**	eP	**Pn**	**04 07 00.0**	**+1.4**
MORF				eS	**Sn**	**04 07 56.7**	**-2.9**
MORF				A	A	04 07 59.3	
	comp=E,9.9nm,0.2s						
PAB	**San Pablo**	**5.33**	**121**	Pn	**Pn**	**04 07 00.6**	**+1.6**
PAB				Sn	**Sn**	**04 07 56.8**	**-3.7**
PAB				iVmb_Lg		04 07 59.9	
EGRO	**El Granado**	**5.36**	**156**	Pn	**Pn**	**04 07 00.5**	**+1.1**
EGRO				Sn	**Sn**	**04 07 57.8**	**-3.3**
EGRO				iVmb_Lg		04 08 01.4	
EGRO	**El Granado**	**5.36**	**156**	Pn	**Pn**	**04 07 00.5**	**+1.1**
EGRO				Sn	**Sn**	**04 07 57.7**	**-3.3**
PVAQ	**Vaqueiros**	**5.41**	**158**	eP	**Pn**	**04 07 01.2**	**+1.1**
PVAQ				eS	**Sn**	**04 07 57.8**	**-4.6**
PVAQ	**Vaqueiros**	**5.41**	**158**	P	Pn	04 07 08.4	+8.2
PVAQ				S	**Sn**	**04 07 56.8**	**-5.6**
PVAQ	**Vaqueiros**	**5.41**	**158**	Pn	**Pn**	**04 07 00.6**	**+0.5**
EMIN	**Mina Concepcio**	**5.43**	**149**	Pn	**Pn**	**04 07 01.5**	**+1.2**
EMIN				Sn	**Sn**	**04 07 59.3**	**-3.5**
EMIN				iVmb_Lg		04 08 02.6	
EMIN	**Mina Concepcio**	**5.43**	**149**	Pn	**Pn**	**04 07 01.6**	**+1.2**
PFVI	**Vila Bisbo**	**5.43**	**168**	eP	**Pn**	**04 07 02.1**	**+1.7**
PFVI				eS	**Sn**	**04 08 00.0**	**-2.9**
PFVI				A	A	04 08 03.1	
	comp=E,10nm,0.9s						
PFVI	**Vila Bisbo**	**5.43**	**168**	P	Pn	04 07 06.2	+5.8
PFVI				S	Sn	04 07 51.7	-11
PFVI	**Vila Bisbo**	**5.43**	**168**	Pn	**Pn**	**04 07 02.1**	**+1.7**
PBDV	**Barranco-do-Ve**	**5.50**	**160**	eP	**Pn**	**04 07 03.1**	**+1.6**
PBDV				eS	**Sn**	**04 08 01.1**	**-3.7**
PBDV				A	A	04 08 03.7	
	comp=E,8.5nm,0.9s						
UCM	**Universidad Co**	**5.69**	**110**	Pn	**Pn**	**04 07 06.7**	**+2.7**
UCM				Sn	**Sn**	**04 08 08.4**	**-0.9**
ECAB	**El Cabril**	**5.72**	**138**	Pn	**Pn**	**04 07 05.6**	**+1.1**
ECAB				Sn	**Sn**	**04 08 07.0**	**-3.3**
ECAB	**El Cabril**	**5.72**	**138**	Pn	**Pn**	**04 07 05.7**	**+1.1**
EADA	**Adamuz**	**6.09**	**133**	Pn	**Pn**	**04 07 10.8**	**+1.2**
EADA				Sn	**Sn**	**04 08 17.8**	**-1.6**
EADA				iVmb_Lg		04 08 27.7	
EADA	**Adamuz**	**6.09**	**133**	Pn	**Pn**	**04 07 10.8**	**+1.2**
SJPF	**Ste Jean**	**6.67**	**81**	ePn	**Pn**	**04 07 17.7**	**+0.2**
SJPF				eSn	**Sn**	**04 08 28.3**	**-5.2**
	comp=E,0.4nm,0.2s						
ETSF	**Etsaut**	**7.15**	**83**	ePn	**Pn**	**04 07 24.1**	**-0.1**
ETSF				eSn	**Sn**	**04 08 39.9**	**-5.6**
	comp=E,1.8nm,0.3s						
EQES	**Quesada**	**7.20**	**128**	Pn	**Pn**	**04 07 26.1**	**+1.3**
EQES				Sn	**Sn**	**04 08 44.0**	**-2.7**
QUIF	**Quistinic**	**7.40**	**40**	ePn	**Pn**	**04 07 26.4**	**-1.1**
QUIF				eSn	Sn	04 08 42.8	-8.6
	comp=E,2.4nm,0.3s						
ETOB	**Tobarra**	**7.64**	**117**	Pn	**Pn**	**04 07 32.7**	**+1.9**
ETOB				Sn	**Sn**	**04 08 54.6**	**-2.9**
ROSF	**Rostrenen**	**7.66**	**37**	ePn	**Pn**	**04 07 30.1**	**-0.8**
ROSF				eSn	Sn	04 08 48.9	-8.8
	comp=E,1.1nm,0.3s						
EPF	**Esparros**	**7.81**	**82**	ePn	**Pn**	**04 07 33.5**	**+0.3**
EPF				eSn	**Sn**	**04 08 56.2**	**-5.5**
	comp=E,0.5nm,0.3s						
SGMF	**Saint Gilles**	**7.93**	**40**	ePn	**Pn**	**04 07 33.2**	**-1.5**
SGMF				eSn	Sn	04 08 54.5	-10
	comp=E,0.5nm,0.1s						
MFF	**Saint Martin d**	**8.32**	**57**	ePn	**Pn**	**04 07 39.5**	**-0.6**
MFF				eSn	Sn	04 09 05.9	-8.1
	comp=E,2.4nm,0.3s						
GRR	**Gorron**	**8.87**	**45**	ePn	**Pn**	**04 07 47.0**	**-0.6**
RJF	**Les Rejaudoux**	**8.96**	**67**	eSn	Sn	04 09 21.7	-8.1
	comp=E,2.8nm,0.3s						
MTLF	**Montolieu**	**9.19**	**80**	ePn	**Pn**	**04 07 52.0**	**-0.1**
MTLF				eSn	Sn	04 09 28.8	-6.7
	comp=E,0.4nm,0.3s						
CAF	**Calviac**	**9.25**	**70**	ePn	**Pn**	**04 07 52.7**	**-0.2**
CAF				eSn	Sn	04 09 29.7	-7.4
	comp=E,0.7nm,0.2s						
FLN	**La Foliniere**	**9.30**	**44**	ePn	**Pn**	**04 07 53.2**	**-0.3**
FLN				eSn	Sn	04 09 29.1	-9.0
LDF	**La Druitiere**	**9.38**	**46**	ePn	**Pn**	**04 07 53.7**	**-0.9**
LDF				eSn	Sn	04 09 29.5	-11
	comp=E,0.5nm,0.2s						
TCF	**Toulx Ste Croi**	**9.71**	**63**	ePn	**Pn**	**04 07 58.7**	**-0.4**
BGF	**Bois d'Agland**	**10.21**	**62**	ePn	**Pn**	**04 08 05.7**	**-0.3**
BGF				eSn	Sn	04 09 51.3	-9.2
	comp=E,1.6nm,0.3s						
LASF	**Ste Croix**	**10.41**	**76**	eSn	Sn	04 09 57.5	-8.0
	comp=E,0.8nm,0.3s						
MD31	**MD31**	**10.51**	**154**	P	**Pn**	**04 08 14.3**	**+4.1**
MD31				S	Sn	04 09 59.2	-8.9
MDT	**Midelt**	**10.61**	**153**	P	Pn	04 08 16.7	+5.1
MDT				S	Sn	04 10 00.9	-10
AVF	**Avril sur Loir**	**10.62**	**61**	ePn	**Pn**	**04 08 11.2**	**-0.3**
AVF				eSn	Sn	04 10 00.0	-10
	comp=E,0.4nm,0.2s						
SSF	**Saint Saulge**	**10.80**	**60**	ePn	**Pn**	**04 08 13.1**	**-1.0**
SSF				eSn	Sn	04 10 04.1	-11
	comp=E,0.7nm,0.3s						
LOR	**Lormes**	**11.10**	**60**	ePn	**Pn**	**04 08 17.4**	**-0.8**
LOR				eSn	Sn	04 10 10.8	-12
OUZM	**OUZ**	**11.86**	**165**	P	**Pn**	**04 08 30.0**	**+1.3**
OUZM				S	Sn	04 10 27.7	-13
BAIF	**Baives**	**12.55**	**48**	eP	**Pn**	**04 08 42.1**	**+4.2**

*IDC **06** 04:07:52.4±0.6, 58.°78S×25.°40W, h0km, mb4.2/8, mbtmp4.2/9, ML4.4/1, MS3.6/17, Error ellipse: s-maj=26.5km s-min=21.3km az=86.0*
*NEIC **06** 04:08:05.8±1.7, 58.°74S±0.°10×25.°4W±0.°2, h109km±9km, mb4.5/18, Error ellipse: s-maj=17.4km s-min=13.1km az=60.0*
ISC 06 04:07:55.1±0.5**, 58.°80S**±0.°09×**25.°2W**±0.°1**, h18**km**, n59, σ1.ˢ92**/44**, mb4.5**/14**, MS3.6**/15**, 1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.69**	**301**		Pn	04 09 55.2	+9.2
VNA1	**Neumayer--Stat**	**13.84**	**156**	P	**Pn**	**04 11 11.2**	**+1.2**
	comp=Z,6.0nm,0.2s						
VNA1				S	Sn	04 13 33.9	-9.1
	comp=Z,0.2nm,0.1s						
VNA3	**Neumayer Olymp**	**14.04**	**159**	P	**Pn**	**04 11 13.8**	**+1.1**
	comp=Z,17nm,0.2s						
VNA3				S	Sn	04 13 38.1	-10
	comp=Z,1.4nm,0.3s						
VNA2	**Neumayer--Watz**	**14.24**	**156**	P	**Pn**	**04 11 16.7**	**+1.2**
	comp=Z,5.2nm,0.2s,baz=321,slow=14						
VNA2				⇓S	Sn	04 13 40.5	-12
	comp=Z,1.0nm,0.2s,baz=314,slow=17						
SNAA	**Sanae**	**15.79**	**154**	Pn	**Pn**	**04 11 37.4**	**+1.1**
SNAA				IAmb	IAmb	04 11 54.6	
	comp=Z,29nm,1.5s						
SNAA	**Sanae**	**15.79**	**154**	P	**Pn**	**04 11 37.5**	**+1.1**
	comp=Z,127nm,0.3s						
SNAA				S	**Sn**	**04 14 20.4**	**-10**
	comp=Z,15nm,0.2s						
SNAA	**Sanae**	**15.79**	**154**	Pn	**Pn**	**04 11 35.3**	**-0.9**
	comp=Z,1.6nm,0.3s,baz=314,slow=15,SNR=158						
SNAA				Sn	Sn	04 14 15.6	-15
	comp=Z,0.1nm,0.3s,baz=355,slow=21,SNR=2.1						
SNAA				LR	LR	04 16 20.5	
	comp=Z,192nm,18.6s,baz=346,slow=32						
	comp=Z,6.1nm,0.5s						
TROLL	**Troll, Antarti**	**17.31**	**151**	P	**P**	**04 11 57.4**	**+0.5**
	comp=Z,193nm,0.3s						
TROLL				S	Sn	04 14 54.8	-13
	comp=Z,25nm,0.2s						
PMSA	**Palmer Station**	**19.04**	**235**	LR	LR	04 18 31.9	
	comp=Z,167nm,21.2s,baz=62,slow=34						
SMAI	**San Martin Ant**	**20.46**	**226**	P	Pn	04 12 34.1	+0.6
SMAI				IAmb	IAmb	04 13 03.8	
	comp=Z,13nm,0.9s						
QSPA	**South Pole Qui**	**31.44**	**180**	P	**P**	**04 14 17.6**	**+2.5**
QSPA				IAmb	IAmb	04 14 17.8	
	comp=Z,4.7nm,0.8s						
PLCA	**Paso Flores**	**33.57**	**282**	P	**P**	**04 14 33.5**	**-0.3**
PLCA				IAmb	IAmb	04 14 51.2	
	comp=Z,7.4nm,1.2s						
PLCA	**Paso Flores**	**33.57**	**282**	P	**P**	**04 14 33.8**	**-0.1**
	comp=Z,2.4nm,1.0s,baz=132,slow=8.1,SNR=4.3						
	comp=Z,2.4nm,1.0s						
MAW	**Mawson**	**37.32**	**141**	P	**P**	**04 15 07.6**	**+2.0**
MAW	**Mawson**	**37.32**	**141**	LR	LR	04 29 08.0	
	comp=Z,72nm,18.3s,baz=258,slow=34						
MT09	**Talagante**	**39.19**	**289**	P	**P**	**04 15 22.0**	**+0.1**
MT01	**Popeta**	**39.25**	**289**	P	**P**	**04 15 21.7**	**-0.6**
MT01				IAmb	IAmb	04 15 35.0	
	comp=Z,20nm,1.4s						
CPUP	**Villa Florida**	**39.43**	**311**	P	**P**	**04 15 23.6**	**-0.2**
CPUP				IAmb	IAmb	04 15 42.0	
	comp=Z,11nm,1.5s						
CFA	**Coronel Fontan**	**39.64**	**294**	LR	LR	04 31 16.7	
	comp=Z,94nm,21.5s,baz=142,slow=36						
SUR	**Sutherland**	**40.47**	**70**	LR	LR	04 28 14.1	
	comp=Z,82nm,20.3s,baz=190,slow=30						
CO06	**Fray Jorge**	**42.04**	**291**	P	**P**	**04 15 44.7**	**-0.6**
AC05	**El Transito**	**42.91**	**294**	P	**P**	**04 15 53.0**	**+0.4**
VNDA	**Vanda**	**43.86**	**182**	P	**P**	**04 16 01.8**	**+2.2**
VNDA	**Vanda**	**43.86**	**182**	P	**P**	**04 16 00.1**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=191,slow=6.3,SNR=17						
VNDA				PcP	**PcP**	**04 17 46.5**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=229,slow=3.1,SNR=3.0						
VNDA				LR	LR	04 32 38.0	
	comp=Z,37nm,21.4s,baz=206,slow=34						
	comp=Z,3.1nm,0.7s						
H04S2	**CROZET ISLANDS**	**45.53**	**110**	T	T	05 05 43.6	
	baz=225,slow=75,SNR=33						
H04S3	**CROZET ISLANDS**	**45.54**	**110**	T	T	05 05 43.6	
	baz=225,slow=75,SNR=26						
H04S1	**CROZET ISLANDS**	**45.55**	**110**	T	T	05 05 43.6	
	baz=225,slow=75,SNR=24						
BOSA	**Boshof**	**45.74**	**71**	P	**P**	**04 16 16.4**	**+1.2**
BOSA				IAmb	IAmb	04 16 31.4	
	comp=Z,20nm,1.4s						
BOSA	**Boshof**	**45.74**	**71**	P	**P**	**04 16 15.6**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=232,slow=9.0,SNR=3.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOSA				LR	LR	04 31 07.5	
	comp=Z,48nm,18.1s,baz=198,slow=30						
	comp=Z,1.8nm,0.8s						
LBTB	**Lobatse**	**48.90**	**69**	P	**P**	**04 16 38.9**	**-1.0**
LBTB				IAmb	IAmb	04 17 14.2	
	comp=Z,12nm,1.4s						
LBTB	**Lobatse**	**48.90**	**69**	LR	LR	04 33 33.6	
	comp=Z,70nm,20.1s,baz=204,slow=32						
TSUM	**Tsumeb**	**50.21**	**57**	LR	LR	04 33 40.2	
	comp=Z,63nm,20.8s,baz=158,slow=31						
SIV	**San Ignacio**	**50.24**	**313**	P	**P**	**04 16 47.9**	**-2.1**
	comp=Z,0.9nm,0.8s,baz=106,slow=9.0,SNR=1.9						
	comp=Z,0.9nm,0.8s						
LPAZ	**La Paz**	**52.83**	**305**	P	**P**	**04 17 08.3**	**-1.7**
SAML	**Samuel**	**57.49**	**314**	P	**P**	**04 17 41.6**	**-1.3**
LSZ	**Lusaka**	**58.47**	**65**	LR	LR	04 39 53.7	
	comp=Z,92nm,18.8s,baz=168,slow=33						
NNA	**Nana**	**60.49**	**298**	LR	LR	04 43 42.7	
	comp=Z,38nm,20.5s,baz=142,slow=36						
BOAV	**Boa Vista**	**67.10**	**321**	P	**P**	**04 18 46.0**	**-1.3**
BOAV				IAmb	IAmb	04 19 26.6	
	comp=Z,13nm,1.4s						
DBIC	**Dimbokro**	**67.28**	**22**	P	**P**	**04 18 48.4**	**0.0**
DBIC	**Dimbokro**	**67.28**	**22**	P	**P**	**04 18 49.5**	**+1.0**
	comp=Z,3.8nm,0.8s,baz=149,slow=3.9,SNR=3.9						
DBIC				LR	LR	04 40 27.3	
	comp=Z,34nm,21.3s,baz=159,slow=29						
	comp=Z,3.8nm,0.8s						
MDP	**Montagnes des**	**67.36**	**330**	LR	LR	04 45 35.8	
	comp=Z,29nm,21.0s,baz=140,slow=34						
TOA0	**Torodi Ar. Sit**	**74.99**	**27**	P	**P**	**04 19 34.8**	**-0.2**
TOA0				IAmb	IAmb	04 19 37.1	
	comp=Z,3.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**74.99**	**27**	P	**P**	**04 19 35.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**74.99**	**27**	P	**P**	**04 19 36.1**	**+1.1**
	comp=Z,3.2nm,0.7s,baz=192,slow=5.2,SNR=23						
TORD				LR	LR	04 45 10.8	
	comp=Z,41nm,21.9s,baz=146,slow=30						
	comp=Z,3.2nm,0.7s						
KMBO	**Kilima Mbogo**	**75.10**	**67**	LR	LR	04 49 31.3	
	comp=Z,44nm,19.8s,baz=91,slow=33						
SDV	**Santo Domingo**	**76.69**	**314**	LR	LR	04 52 43.0	
	comp=Z,49nm,21.9s,baz=174,slow=35						
STKA	**Stephens Creek**	**89.00**	**169**	P	**P**	**04 20 49.3**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=168,slow=11,SNR=4.0						
	comp=Z,1.2nm,0.7s						
MDT	**Midelt**	**92.88**	**17**	LR	LR	04 56 31.9	
	comp=Z,25nm,18.4s,baz=198,slow=31						
ASAR	**Alice Springs**	**96.04**	**161**	P	**P**	**04 21 21.1**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=190,slow=4.0,SNR=9.0						
	comp=Z,0.9nm,0.7s						
PDAR	**Pinedale Array**	**122.67**	**299**	PKP	**PKPdf**	**04 26 48.1**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=140,slow=4.4,SNR=3.0						
CMAR	**Chiang Mai Arr**	**123.11**	**110**	PKP	**PKPdf**	**04 26 50.1**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=182,slow=3.2,SNR=2.5						
NVAR	**Mina Array Bea**	**123.39**	**290**	PKP	**PKPdf**	**04 26 50.6**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=183,slow=3.6,SNR=4.9						
FINES	**FINESS Array B**	**126.33**	**28**	PKP	**PKPdf**	**04 26 54.2**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=191,slow=3.9,SNR=6.1						
ARCES	**ARCESS Array B**	**133.12**	**22**	PKP	**PKPdf**	**04 27 07.5**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=272,slow=1.6,SNR=3.8						
BVAR	**Borovoye Array**	**135.34**	**59**	PKP	**PKPdf**	**04 27 11.5**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=224,slow=4.0,SNR=2.4						
MKAR	**Makanchi Array**	**136.73**	**73**	PKP	**PKPdf**	**04 27 14.2**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=270,slow=2.6,SNR=2.1						
YKA	**Yellowknife Ar**	**138.90**	**315**	PKP	**PKPdf**	**04 27 19.1**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=131,slow=2.2,SNR=29						
SONM	**Songino Array**	**149.76**	**90**	PKPbc	**PKPbc**	**04 27 42.8**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=232,slow=2.9,SNR=4.9						
ILAR	**Eielson Array**	**152.69**	**307**	PKPbc	**PKPbc**	**04 27 49.2**	**+0.2**
	comp=Z,7.6nm,0.9s,baz=145,slow=2.0,SNR=34						

*IDC **06** 04:11:43.4±1.5, 28.°70S×68.°75W, h86km±13km, mb3.6/2, mbtmp3.8/6, MS4.2/1, Error ellipse: s-maj=39.5km s-min=10.5km az=88.0*

*SJA **06** 04:11:43.8±1.2, 28.°75S×68.°76W, h115km±5km, ML3.4, MW3.5*

ISC 06 04:11:44.8±0.8**, 28.°73S**±0.°03×**68.°77W**±0.°03**, h114**km±6km**, n48,** σ**0.s89**/68**, 2C-1D, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.50**	**91**	*i* P	**Pn**	**04 12 02.7**	**+0.5**
VCA				*i* S	**Sn**	**04 12 15.0**	**-0.3**
VCA	**Vinchina**	**0.50**	**91**	⇓*i*P	**Pn**	**04 12 02.5**	**+0.3**
VCA				*i* S	**Sn**	**04 12 15.1**	**-0.3**
VCA				IAML		04 12 15.9	
	comp=N,17μm,0.3s						
AGUA	**GUANDACOL**	**0.80**	**162**	*i* P	**Pn**	**04 12 04.1**	**-0.4**
AGUA				*i* S	**Sn**	**04 12 18.8**	**-0.6**
AGUA				IAML		04 12 20.4	
	comp=Z,1μm,0.2s						
TINO	**Tinogasta**	**1.25**	**58**	*i* P	**Pn**	**04 12 10.4**	**+1.3**
AC05	**El Transito**	**1.32**	**265**	*i* P	**Pn**	**04 12 10.3**	**+0.5**
AC05				IAML		04 12 33.7	
	comp=Z,268nm,1.0s						
AC05	**El Transito**	**1.32**	**265**	⇑*i*P	**Pn**	**04 12 10.4**	**+0.5**
AC05				*i* S	**Sn**	**04 12 29.4**	**+0.4**
AC05				IAML		04 12 30.6	
	comp=N,2μm,0.3s						
ACDV	**Cuesta del Vie**	**1.47**	**192**	*i* P	**Pn**	**04 12 12.1**	**+0.4**
ACDV				*i* S	**Sn**	**04 12 32.9**	**+0.9**
ACDV				IAML		04 12 34.7	
	comp=Z,521nm,0.3s						
AROD	**Rodeo**	**1.56**	**203**	*i* P	**Pn**	**04 12 13.5**	**+0.6**
AROD				*i* S	**Sn**	**04 12 34.7**	**+0.5**
CO01	**Juntas del Tor**	**1.70**	**222**	*i* P	**Pn**	**04 12 15.5**	**+1.0**
CO01	**Juntas del Tor**	**1.70**	**222**	⇑*i*P	**Pn**	**04 12 15.4**	**+1.0**
CO01				*e*S	**Sn**	**04 12 37.9**	**+0.9**
CO01				IAML		04 12 39.4	
	comp=E,218nm,0.7s						
GO03	**Copiap**	**1.71**	**311**	*i* P	**Pn**	**04 12 14.6**	**+0.1**
GO03	**Copiap**	**1.71**	**311**	*i* P	**Pn**	**04 12 14.6**	**+0.1**
GO03				*e*S	**Sn**	**04 12 36.8**	**-0.3**
GO03				IAML		04 12 39.6	
	comp=N,362nm,0.1s						
LCO	**Las Campanas**	**1.72**	**260**	*e*P	**Pn**	**04 12 14.4**	**-0.3**
LCO				*e*S	**Sn**	**04 12 36.8**	**-0.6**
LCO				IAML		04 12 38.6	
	comp=N,5μm,0.3s						
ACLC	**CERRO LA CRUZ**	**1.74**	**114**	*i* P	**Pn**	**04 12 15.2**	**+0.3**
ACLC				*i* S	**Sn**	**04 12 37.2**	**-0.6**
ACLC				IAML		04 12 39.5	
	comp=Z,333nm,0.2s						
ACCO	**Cerro Coronel**	**1.87**	**188**	*i* P	**Pn**	**04 12 17.4**	**+0.7**
ACCO				*i* S	**Sn**	**04 12 41.9**	**+0.9**
ACCO				IAML		04 12 42.7	
	comp=Z,371nm,0.3s						
AC06	**Mina Casimiro**	**1.95**	**314**	*e*P	**Pn**	**04 12 17.3**	**-0.1**
AC06				*e*S	**Sn**	**04 12 41.0**	**-1.3**
AC06				IAML		04 12 45.0	
	comp=N,93nm,0.1s						
AC04	**Llanos de Chal**	**2.09**	**284**	*i* P	**Pn**	**04 12 18.8**	**-0.3**
AC04				IAML		04 12 50.8	
	comp=Z,123nm,0.3s						
DOCA	**Reserva Natura**	**2.23**	**187**	*i* P	**Pn**	**04 12 21.4**	**+0.1**
DOCA				*i* S	**Sn**	**04 12 48.7**	**-0.5**
AVFE	**Valle Fertil**	**2.24**	**150**	*i* P	**Pn**	**04 12 21.5**	**+0.4**
AVFE				*i* S	**Sn**	**04 12 48.5**	**-0.4**
AVFE				IAML		04 12 49.1	
	comp=Z,416nm,0.8s						
GO04	**Tololo Observa**	**2.28**	**230**	*i* P	**Pn**	**04 12 21.4**	**-0.4**
APLL	**PUNTA DE LOS L**	**2.57**	**131**	*i* P	**Pn**	**04 12 25.5**	**+0.2**
RTLL	**Cerro Villicun**	**2.61**	**174**	*i* P	**Pn**	**04 12 26.0**	**+0.2**
RTLL				*i* S	**Sn**	**04 12 56.3**	**-1.0**
RTLL				IAML		04 12 58.3	
	comp=Z,201nm,0.4s						
CO03	**El Pedregal**	**2.69**	**218**	*i* P	**Pn**	**04 12 26.6**	**-0.2**
CO03				IAML		04 13 04.1	
	comp=Z,109nm,0.3s						
ZON	**Zonda**	**2.81**	**178**	*i* P	**Pn**	**04 12 28.6**	**+0.1**
ZON				*i* S	**Sn**	**04 13 02.1**	**0.0**
ZON				IAML		04 13 07.9	
	comp=Z,53nm,0.5s						
CFA	**Coronel Fontan**	**2.91**	**171**	*i* P	**Pn**	**04 12 29.7**	**0.0**
CFA				*i* S	**Sn**	**04 13 03.9**	**-0.4**
CFA				IAML		04 13 05.3	
	comp=Z,136nm,0.7s						
CFA	**Coronel Fontan**	**2.91**	**171**	P	**Pn**	**04 12 29.8**	**0.0**
	comp=Z,56nm,0.3s,baz=350,slow=14,SNR=554						
CFA				S	**Sn**	**04 13 02.2**	**-2.1**
	comp=Z,99nm,0.3s,baz=344,slow=18,SNR=11						
AC01	**Pan de Azucar**	**3.04**	**327**	*i* P	**Pn**	**04 12 31.7**	**+0.3**
ACHE	**Chepes**	**3.04**	**144**	*i* P	**Pn**	**04 12 30.9**	**-0.7**
RTCV	**Cerro Valdivia**	**3.13**	**176**	*i* P	**Pn**	**04 12 33.1**	**+0.4**
RTCV				*i* S	**Sn**	**04 13 08.8**	**-0.9**
CO02	**Combarbal**	**3.14**	**218**	*i* P	**Pn**	**04 12 31.8**	**-1.0**
CO02				IAML		04 13 13.9	
	comp=Z,110nm,0.5s						
AHML	**Horco Molle**	**3.61**	**58**	*i* P	**Pn**	**04 12 39.3**	**+0.3**
AHML				IAML		04 13 25.0	
	comp=Z,31nm,0.5s						
GO02	**Mina Guanaco**	**3.62**	**348**	*i* P	**Pn**	**04 12 40.5**	**+1.0**
ASAL	**Salagasta**	**3.85**	**181**	*i* P	**Pn**	**04 12 42.4**	**+0.1**
ASAL				*i* S	**Sn**	**04 13 25.5**	**-1.3**
ASAL				IAML		04 13 28.0	
	comp=Z,30nm,0.9s						
AAGR	**Agrelo**	**4.35**	**181**	*i* P	**Pn**	**04 12 48.9**	**-0.1**
AAGR				IAML		04 13 41.3	
	comp=Z,33nm,0.3s						
TCA	**Tanti**	**4.46**	**127**	*i* P	**Pn**	**04 12 49.8**	**-0.6**
TCA				IAML		04 13 54.0	
	comp=Z,16nm,0.5s						
MRA	**San Martin**	**4.53**	**145**	*i* P	**Pn**	**04 12 51.1**	**-0.2**
MT05	**Renca**	**4.95**	**199**	*i* P	**Pn**	**04 12 55.7**	**-1.3**
MT05				IAML		04 14 01.3	
	comp=Z,29nm,0.9s						
MT03	**Universidad Ad**	**4.98**	**197**	*i* P	**Pn**	**04 12 56.4**	**-1.1**
MT03				IAML		04 14 00.1	
	comp=Z,47nm,0.6s						
LVC	**Limon Verde**	**6.09**	**359**	P	**Pn**	**04 13 12.6**	**-0.2**
	comp=Z,7.3nm,0.4s,baz=176,slow=9.8,SNR=34						
LVC				S	**Sn**	**04 14 17.8**	**-3.5**
	comp=Z,5.5nm,0.3s,baz=79,slow=20,SNR=7.3						
CPUP	**Villa Florida**	**10.43**	**79**	P	**Pn**	**04 14 09.1**	**-2.1**
	comp=Z,0.7nm,0.4s,baz=244,slow=11,SNR=4.5						
SIV	**San Ignacio**	**14.53**	**31**	P	**Pn**	**04 15 04.6**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=229,slow=18,SNR=3.8						
TEIG	**Tepich**	**52.18**	**337**	LR	LR	04 43 41.9	
	comp=Z,239nm,19.9s,baz=210,slow=37						
SNAA	**Sanae**	**55.47**	**159**	P	**P**	**04 21 08.4**	**+1.1**
	comp=Z,1.2nm,0.9s,baz=270,slow=11,SNR=2.9						
	comp=Z,1.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**79.75**	**69**	P	**P**	**04 23 42.4**	**+1.7**
	comp=Z,1.0nm,0.7s,baz=276,slow=3.9,SNR=6.2						
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**126.72**	**207**	PKP	**PKiKP**	**04 30 36.7**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=169,slow=1.6,SNR=4.7						
KURBB	**Kurchatov Arra**	**147.07**	**39**	PKPbc	**PKiKP**	**04 31 15.8**	**-0.7**
	comp=Z,0.4nm,0.2s,baz=297,slow=3.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**148.28**	**30**	PKPbc	**PKPab**	**04 31 19.4**	**-1.2**
	comp=Z,2.0nm,0.6s,baz=307,slow=2.7,SNR=7.2						
MKAR	**Makanchi Array**	**151.10**	**43**	PKPbc	**PKiKP**	**04 31 25.9**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=305,slow=2.0,SNR=12						

*UCR **06** 04:15:13.2±1.2, 10.°58N×84.°81W, h6km±1km, MW3.9*

*CATAC **06** 04:15:13.7±0.2, 10.°55N×84.°80W, h9km±2km, ML3.1*

ISC 06 04:15:14.0±0.8**, 10.°55N**±0.°02×**84.°81W**±0.°01**, h17**km±4km**, n103,** σ**0.s86**/154**, 12C-20D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TABAC	**Tabacon**	**0.07**	**144**	⇓*i*P	**Pg**	**04 15 16.2**	**-1.1**
TABAC				*i* S	**Sg**	**04 15 18.9**	**-0.7**
SGBR	**La Fortuna**	**0.09**	**149**	⇓*i*P	**Pg**	**04 15 16.7**	**-0.8**
COTE	**Lago Cote**	**0.11**	**282**	⇑*i*P	**Pg**	**04 15 16.8**	**-1.0**
COTE				*i* S	**Sg**	**04 15 19.8**	**-0.4**
CEDE	**Laguna Cedeo**	**0.12**	**123**	⇓*e*P	**Pg**	**04 15 17.3**	**-0.5**
CEDE				*e*S	**Sg**	**04 15 20.5**	**0.0**
ARE1	**Arenal 1**	**0.13**	**137**	⇓*i*P	**Pg**	**04 15 17.5**	**-0.4**
CASO	**Castillo**	**0.14**	**149**	⇓*i*P	**Pg**	**04 15 17.5**	**-0.6**
VACR	**Volcan Arenal**	**0.15**	**122**	⇓*i*P	**Pg**	**04 15 17.8**	**-0.3**
VACR				*e*S	**Sg**	**04 15 21.3**	**+0.3**
VACR	**Volcan Arenal**	**0.15**	**122**	*i* P	**Pg**	**04 15 18.0**	**-0.2**
VACR				*i* S	**Sg**	**04 15 20.9**	**-0.1**
VACR				IAML		04 15 23.4	
	comp=Z,15μm,1.0s						
FORC	**Fortuna**	**0.16**	**123**	*i* P	**Pg**	**04 15 18.0**	**-0.3**
TUNA	**La Fortuna**	**0.18**	**118**	⇑*i*P	**Pg**	**04 15 19.5**	**+0.9**
TUNA				*e*S	**Sg**	**04 15 22.9**	**+1.2**
ACAL	**Aguas Claras**	**0.24**	**290**	⇑*i*P	**Pg**	**04 15 18.9**	**-0.6**
PTEN	**Parque Tenorio**	**0.24**	**312**	⇓*i*P	**Pg**	**04 15 19.0**	**-0.6**
MONTE	**Monteverde**	**0.24**	**180**	⇓*i*P	**Pg**	**04 15 19.0**	**-0.7**
SOCE	**Pocosol**	**0.25**	**132**	*e*P	**Pg**	**04 15 19.1**	**-0.5**
SOCE				*e*S	**Sb**	**04 15 23.7**	**-0.5**
SOCE	**Pocosol**	**0.25**	**132**	*i* P	**Pg**	**04 15 19.3**	**-0.4**
SOCE				*i* S	**Sb**	**04 15 23.8**	**-0.5**
SOCE				IAML		04 15 29.7	
	comp=Z,7μm,1.0s						
MOTZ	**Rio Naranjo**	**0.29**	**297**	*i* P	**Pb**	**04 15 20.2**	**-0.6**
JTS	**Las Juntas de**	**0.30**	**209**	⇓*i*P	**Pg**	**04 15 19.6**	**-0.8**
JTS				*e*S	**Sg**	**04 15 24.2**	**-0.6**
VERA	**Finca Concepci**	**0.30**	**348**	⇓*i*P	**Pg**	**04 15 19.8**	**-0.7**
VERA				*e*S	**Sb**	**04 15 25.5**	**-0.3**
CUI	**Cuipilapa**	**0.37**	**287**	⇑*i*P	**Pg**	**04 15 21.3**	**-0.3**
CUI				*e*S	**Sb**	**04 15 27.2**	**-0.3**
CANAL	**Canalete**	**0.37**	**319**	⇓*i*P	**Pg**	**04 15 20.8**	**-0.9**
VMAR	**Armenia, Volca**	**0.40**	**311**	⇓*i*P	**Pg**	**04 15 21.6**	**-0.5**
HORNC	**Hornillas**	**0.40**	**293**	*e*P	**Pg**	**04 15 21.7**	**-0.5**
MESS	**Mesas**	**0.42**	**296**	⇓*i*P	**Pg**	**04 15 22.4**	**-0.3**
CLARA	**Aguas Claras**	**0.43**	**302**	⇑*i*P	**Pg**	**04 15 22.5**	**-0.3**
COVE	**Coope Vega, Sa**	**0.43**	**67**	⇑*e*P	**Pg**	**04 15 22.0**	**-0.8**
COVE				*e*S	**Sb**	**04 15 29.4**	**0.0**
COVE	**Coope Vega, Sa**	**0.43**	**67**	*i* P	**Pg**	**04 15 22.5**	**-0.3**
COVE				IAML		04 15 34.1	
	comp=Z,3μm,1.0s						
BAGA	**Bagaces**	**0.45**	**267**	*e*P	**Pg**	**04 15 21.6**	**-1.4**
LCHIL	**Los Chiles**	**0.49**	**11**	⇓*i*P	**Pb**	**04 15 23.9**	**-0.3**
CPMI	**Catarata Coope**	**0.50**	**123**	⇑*i*P	**Pg**	**04 15 23.9**	**-0.2**
CPMI				*e*S	**Sb**	**04 15 31.9**	**+0.4**
CPMI	**Catarata Coope**	**0.50**	**123**	*i* P	**Pg**	**04 15 23.9**	**-0.2**
CPMI				*i* S	**Sb**	**04 15 32.1**	**+0.6**
CPMI				IAML		04 15 32.5	
	comp=Z,2μm,1.0s						
ITAL	**Pital**	**0.54**	**101**	*e*P	**Pg**	**04 15 23.9**	**-0.8**
ITAL				*e*S	**Sb**	**04 15 32.1**	**-0.3**
ZARE	**Zarcero**	**0.55**	**132**	*e*P	**Pb**	**04 15 25.1**	**-0.3**
ZARE				*e*S	**Sb**	**04 15 33.8**	**+0.8**
SRA1	**San Ramn**	**0.56**	**145**	*e*P	**Pg**	**04 15 25.0**	**-0.3**
RAMO	**San Ramon**	**0.57**	**144**	*e*P	**Pg**	**04 15 25.3**	**-0.1**
PLVR	**Palo Verde**	**0.57**	**249**	*e*P	**Pg**	**04 15 25.0**	**-0.5**
ARZA	**Esparza**	**0.57**	**166**	⇑*e*P	**Pb**	**04 15 25.9**	**+0.3**
ARZA				*e*S	**Sb**	**04 15 34.2**	**+0.7**
GPS3	**Bodega del ICE**	**0.58**	**290**	*i* P	**Pg**	**04 15 25.2**	**-0.4**
GPS3				*e*S	**Sb**	**04 15 34.2**	**+0.3**
VRLE	**La Escondida,**	**0.60**	**293**	⇓*i*P	**Pg**	**04 15 25.5**	**-0.4**
VRLE	**La Escondida,**	**0.60**	**293**	*i* P	**Pb**	**04 15 26.3**	**+0.2**
VRLE				*i* S	**Sb**	**04 15 34.7**	**+0.4**
VRLE				IAML		04 15 36.7	
	comp=Z,390nm,1.0s						
BUEV	**Buena Vista**	**0.64**	**292**	*i* P	**Pb**	**04 15 26.4**	**-0.4**
LIBE	**Liberia**	**0.64**	**276**	*i* P	**Pg**	**04 15 25.9**	**-0.7**
LIBE				*i* S	**Sb**	**04 15 36.0**	**+0.7**
LIBE				IAML		04 15 49.1	
	comp=Z,2μm,1.0s						
GB1A	**Borinquen Arri**	**0.64**	**294**	*e*P	**Pb**	**04 15 26.4**	**-0.4**
LAPC	**Finca la Perla**	**0.65**	**289**	⇓*i*P	**Pg**	**04 15 26.2**	**-0.7**
POA5	**Crater Von Fra**	**0.67**	**121**	*e*P	**Pg**	**04 15 26.7**	**-0.5**
ORTG	**Ortega, Santa**	**0.67**	**254**	*e*P	**Pg**	**04 15 26.7**	**-0.5**
ORTG				*e*S	**Sb**	**04 15 36.3**	**0.0**
ORTG	**Ortega, Santa**	**0.67**	**254**	*i* P	**Pg**	**04 15 26.7**	**-0.5**
ORTG				*i* S	**Sg**	**04 15 36.0**	**-0.1**
ORTG				IAML		04 15 37.0	
	comp=Z,280nm,1.0s						
GBS3	**Finca Las Img**	**0.68**	**290**	*i* P	**Pg**	**04 15 26.7**	**-0.7**
NYURE	**Nandayure**	**0.71**	**218**	⇓*i*P	**Pg**	**04 15 27.1**	**-0.8**
NYURE				*e*S	**Sb**	**04 15 37.4**	**+0.1**
VPTE	**Poasito**	**0.71**	**122**	*i* P	**Pg**	**04 15 27.4**	**-0.6**
VPTE				*i* S	**Sb**	**04 15 37.8**	**+0.2**
VPTE				IAML		04 15 46.6	
	comp=Z,610nm,1.0s						
TRB2	**Turrubares**	**0.73**	**151**	*e*P	**Pg**	**04 15 27.6**	**-0.7**
TRB2				*e*S	**Sg**	**04 15 37.9**	**0.0**
ELI1	**Hacienda Flor**	**0.74**	**277**	*e*P	**Pg**	**04 15 27.8**	**-0.7**
ELI1				*e*S	**Sb**	**04 15 38.6**	**+0.4**
DELF	**Filadelfia**	**0.74**	**262**	*e*P	**Pg**	**04 15 28.0**	**-0.5**
NICO	**Nicoya**	**0.76**	**237**	*e*P	**Pg**	**04 15 28.1**	**-0.7**
HZTE	**Horizontes, Gu**	**0.79**	**282**	⇑*i*P	**Pg**	**04 15 28.9**	**-0.6**
HZTE				*e*S	**Sb**	**04 15 40.8**	**+1.0**
HZTE	**Horizontes, Gu**	**0.79**	**282**	*i* P	**Pb**	**04 15 29.2**	**-0.1**
HZTE				*i* S	**Sb**	**04 15 40.7**	**+1.0**
HZTE				IAML		04 15 49.8	
	comp=Z,440nm,1.0s						
CMARA	**Lajas Hojancha**	**0.81**	**229**	*e*P	**Pg**	**04 15 28.9**	**-0.8**
CMARA				*e*S	**Sb**	**04 15 41.0**	**+0.7**
JUD3	**Juan Diaz 3**	**0.82**	**242**	*e*P	**Pg**	**04 15 29.3**	**-0.7**
JUD3				*e*S	**Sb**	**04 15 41.2**	**+0.6**
BELE	**Belen**	**0.84**	**133**	⇓*e*P	**Pb**	**04 15 30.4**	**+0.3**
BELE				*e*S	**Sb**	**04 15 42.2**	**+1.1**
HDC	**Heredia**	**0.88**	**129**	*e*P	**Pg**	**04 15 30.1**	**-0.9**
HDC3	**Heredia 3**	**0.88**	**129**	*e*P	**Pg**	**04 15 30.7**	**-0.4**
JACO	**JACO, Garabito**	**0.90**	**171**	*e*P	**Pg**	**04 15 30.2**	**-1.3**
JACO				*e*S	**Sb**	**04 15 43.3**	**+0.5**
JACO	**JACO, Garabito**	**0.90**	**171**	*i* P	**Pg**	**04 15 30.7**	**-0.8**
JACO				*i* S	**Sb**	**04 15 43.9**	**+1.1**
JACO				IAML		04 15 46.6	
	comp=Z,280nm,1.0s						
RIFO	**Rio Frio, Sara**	**0.90**	**105**	*e*P	**Pg**	**04 15 30.0**	**-1.6**
RIFO	**Rio Frio, Sara**	**0.90**	**105**	*i* P	**Pg**	**04 15 30.5**	**-1.0**
RIFO				*i* S	**Sb**	**04 15 44.0**	**+1.1**
RIFO				IAML		04 15 46.7	
	comp=Z,1μm,1.0s						
HATIL	**Hatillo**	**0.91**	**254**	*e*P	**Pg**	**04 15 31.0**	**-0.8**
HATIL				*e*S	**Sb**	**04 15 43.6**	**+0.3**
NARJA	**Naranjal**	**0.93**	**232**	*e*P	**Pg**	**04 15 31.1**	**-0.9**
INDI	**Punta indio, G**	**0.97**	**225**	*e*P	**Pg**	**04 15 31.5**	**-1.3**
INDI				*e*S	**Sb**	**04 15 45.9**	**+1.1**
INDI	**Punta indio, G**	**0.97**	**225**	*i* P	**Pg**	**04 15 32.1**	**-0.7**
INDI				*i* S	**Sb**	**04 15 46.1**	**+1.3**
INDI				IAML		04 15 46.3	
	comp=Z,300nm,1.0s						
AMPA	**Desamparados**	**0.98**	**132**	*e*P	**Pg**	**04 15 29.5**	**-3.6**
ACOS	**Acosta**	**0.98**	**140**	*e*P	**Pg**	**04 15 32.0**	**-1.1**
ACOS				*e*S	**Sg**	**04 15 45.5**	**-0.6**
CBL1	**Cabuya**	**1.00**	**196**	*e*P	**Pg**	**04 15 32.6**	**-0.8**
CBL1				*e*S	**Sb**	**04 15 47.0**	**+1.3**
CVIMO	**Finca Echandi**	**1.00**	**122**	*e*P	**Pg**	**04 15 32.5**	**-0.9**
CVIMO				*e*S	**Sb**	**04 15 47.0**	**+1.0**
SAJU	**San Juanillo,**	**1.01**	**242**	*i* P	Pg	04 15 21.6	-12
TRIO	**Tres Rios**	**1.03**	**129**	*e*P	**Pn**	**04 15 34.9**	**+1.1**
OCM	**Ochomogo**	**1.06**	**128**	*e*P	**Pg**	**04 15 33.4**	**-1.2**
OCM				*e*S	**Sb**	**04 15 48.9**	**+1.2**
OCM	**Ochomogo**	**1.06**	**128**	*i* P	**Pg**	**04 15 33.6**	**-1.0**
OCM				IAML		04 15 52.7	
	comp=Z,200nm,1.0s						
CARI	**Cariari**	**1.07**	**100**	*e*P	**Pg**	**04 15 34.0**	**-0.8**
VICA	**Volcano Irazu**	**1.10**	**121**	⇑*e*P	**Pg**	**04 15 34.0**	**-1.4**
VICA				*e*S	**Sn**	**04 15 52.4**	**+2.3**
HAYA	**Volcan Irazu**	**1.11**	**121**	*i* P	**Pg**	**04 15 34.0**	**-1.5**
HAYA				IAML		04 15 56.1	
	comp=Z,500nm,1.0s						
ABE2	**San Pablo**	**1.12**	**139**	*e*P	**Pg**	**04 15 34.1**	**-1.7**
ABE2				*e*S	**Sg**	**04 15 49.3**	**-1.3**
LCR2	**La Lucha 2**	**1.13**	**136**	⇓*e*P	**Pg**	**04 15 34.2**	**-1.7**
LCR2				*e*S	**Sg**	**04 15 49.3**	**-1.4**
LCR2	**La Lucha 2**	**1.13**	**136**	*i* P	**Pg**	**04 15 34.3**	**-1.6**
LCR2				*i* S	**Sg**	**04 15 49.2**	**-1.5**
LCR2				IAML		04 15 55.5	
	comp=Z,300nm,1.0s						
CVTQ	**Turrialba Volc**	**1.16**	**118**	*e*P	**Pg**	**04 15 35.1**	**-1.4**
VTLO	**VTLO**	**1.18**	**115**	⇑*e*P	**Pg**	**04 15 35.1**	**-1.7**
RIMA	**Rio Macho**	**1.21**	**130**	*e*P	**Pg**	**04 15 35.7**	**-1.8**
RIMA				*e*S	**Sg**	**04 15 52.5**	**-0.9**
VINA	**Juan Vinas**	**1.23**	**122**	*e*P	**Pg**	**04 15 36.5**	**-1.3**
VERB	**Verbena**	**1.25**	**119**	*e*P	**Pn**	**04 15 36.6**	**-0.2**
RVSTA	**Santa Teresita**	**1.28**	**117**	*e*P	**Pn**	**04 15 37.1**	**-0.1**
LLNJ	**Naranjito**	**1.28**	**147**	*e*P	**Pn**	**04 15 37.3**	**+0.2**
CONN	**Concepcion**	**1.29**	**321**	*i* P	**Pg**	**04 15 38.8**	**-0.1**
CONN				IAML		04 15 58.8	
	comp=Z,4μm,1.0s						
LCOCO	**El Coco**	**1.31**	**111**	*e*P	**Pn**	**04 15 37.2**	**-0.4**
LCOCO				*e*S	**Sn**	**04 15 56.0**	**+1.2**
IRES	**Siquirres**	**1.36**	**109**	⇑*i*P	**Pn**	**04 15 38.7**	**+0.5**
IRES				*e*S	**Sg**	**04 15 57.8**	**-0.2**
CDM	**Cerro de Muert**	**1.43**	**134**	*e*P	**Pn**	**04 15 39.3**	**-0.3**
CDM				*e*S	**Sb**	**04 15 58.8**	**+0.2**
CDM	**Cerro de Muert**	**1.43**	**134**	*i* P	**Pn**	**04 15 39.0**	**-0.6**
CDM				IAML		04 15 41.1	
	comp=Z,180nm,1.0s						
BUS1	**Rivas**	**1.44**	**133**	*e*P	**Pn**	**04 15 39.3**	**-0.5**
BUS1				*e*S	**Sb**	**04 15 59.1**	**+0.2**
ACON	**Acoyapa**	**1.45**	**346**	⇓*i*P	**Pn**	**04 15 39.0**	**-0.5**
ACON				*e*S	**Sn**	**04 15 59.2**	**+1.0**
ACON	**Acoyapa**	**1.45**	**346**	*i* P	**Pn**	**04 15 39.2**	**-0.3**
ACON				*i* S	**Sn**	**04 15 58.9**	**+0.8**
ACON				IAML		04 16 08.3	
	comp=Z,420nm,1.0s						
ZELE	**Perez Zeledon**	**1.60**	**137**	*e*P	**Pb**	**04 15 43.5**	**+0.4**
ESPN	**Las Esperanzas**	**1.71**	**17**	*e*P	**Pn**	**04 15 43.3**	**+0.3**
ESPN	**Las Esperanzas**	**1.71**	**17**	*i* P	**Pn**	**04 15 43.3**	**+0.3**
ESPN				IAML		04 16 09.6	
	comp=Z,320nm,1.0s						
OCHAL	**Ojochal**	**1.84**	**142**	IAML		04 15 43.3	
	comp=Z,2.1nm,1.0s						
OCHAL				*i* P	**Pb**	**04 15 47.1**	**-0.2**
DRK0	**Durika**	**2.00**	**130**	*e*P	**Pb**	**04 15 49.8**	**-0.3**
MATN	**Matagalpa**	**2.60**	**335**	*e*P	**Pn**	**04 15 55.4**	**0.0**

*TEH **06** 04:53:57.7, 34.°56N×45.°84E, h10km±63km, ML2.5*

*ISN **06** 04:53:58.5±1.4, 34.°60N×45.°81E, h16km±9km, ML2.6*

ISC 06 04:53:58.2±1.1**, 34.°54N**±0.°04×**45.°83E**±0.°04**, h10**km**, n10,** σ**1.s20**/14**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.20**	**261**	Pg	**Pg**	**04 54 02.1**	**-0.3**
KGS1				Sg	**Sg**	**04 54 06.2**	**+0.9**
IDHR	**Dehrash**	**0.49**	**70**	Pg	**Pg**	**04 54 07.6**	**-0.1**
IGHG	**Ghaleghazi**	**0.65**	**108**	Pg	**Pg**	**04 54 10.1**	**-0.6**
ILBA	**Ilam Banvizeh**	**0.96**	**161**	Pg	**Pg**	**04 54 14.6**	**-2.1**
KCHF	**Cheshme Sefid,**	**1.03**	**104**	Pg	**Pg**	**04 54 17.3**	**-0.8**
IBDR	**Badra**	**1.43**	**177**	*e*Pg	**Pg**	**04 54 26.0**	**+0.5**
IBDR				*e*Sg	**Sg**	**04 54 45.0**	**+1.0**
IBDR				AML	AML	04 54 47.6	
	comp=E,60nm,0.8s						
IBDR				AML	AML	04 54 49.3	
	comp=N,75nm,0.5s						
IKOM	**Komasi**	**1.44**	**104**	Pg	**Pg**	**04 54 25.9**	**+0.1**
IKRK	**Kirkuk**	**1.50**	**306**	*e*Pn	**Pg**	**04 54 26.0**	**-0.9**
IKRK				*e*Sn	**Sg**	**04 54 46.0**	**-0.3**
IKRK				AML	AML	04 54 52.9	
	comp=E,146nm,0.4s						
IKRK				AML	AML	04 54 55.6	
	comp=N,104nm,0.6s						
IKFM	**Kafar-mosalman**	**1.96**	**120**	Pn	**Pb**	**04 54 33.6**	**-0.3**
RAFI	**Al-Rafai**	**2.82**	**175**	*e*Pn	**Pn**	**04 54 45.0**	**+1.8**
RAFI				*e*Sn	**Sb**	**04 55 21.0**	**-2.1**

IDC 06 05:00:00.9±7.2**, 27.°53S**×**23.°19E, h0**km**, mbtmp1.8**/1**, ML1.7**/1**, Error ellipse: s-maj=43.5km s-min=42.4km az=24.0, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I47ZA	**BOSHOF INFRASO**	**2.11**	**122**	I	I	05 13 50.0	
	baz=301,slow=331,SNR=0.9						
BOSA	**Boshof**	**2.12**	**121**	Pn	Pn	05 00 38.1	+0.4
	0.1nm,0.3s,baz=302,slow=17,SNR=1.4						
BOSA				Lg	Lg	05 01 08.1	
	0.9nm,0.3s,baz=27,slow=22,SNR=12						
BOSA				Rg	Rg	05 01 21.1	
	4.1nm,0.5s,baz=267,slow=4.4,SNR=4.7						
	1.1nm,0.7s						
I35NA	**TSUMEB INFRASO**	**9.77**	**327**	I	I	05 54 40.0	
	baz=152,slow=320,SNR=1.4						

*DJA **06** 05:29:41.1±0.6, 1°N±4°×12°2E±°, h10km, M4.3/6, mb4.6/1, MLv4.2/6*

*IDC **06** 05:30:00.0±9.6, 0.°21N×122.°51E, h136km±65km, mb3.5/4, mbtmp3.9/5, MS2.5/1, Error ellipse: s-maj=81.7km s-min=54.9km az=175.0*

ISC 06 05:29:40.2±1.8**, 1.°8N**±0.°1×**122.°50E**±0.°07**, h35**km**, n11,** σ**1.s98**/12**, mb3.9**/4**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.88**	**128**	P	**Pn**	**05 30 10.0**	**+0.1**
KMSI				S	**Sn**	**05 30 36.5**	**+4.1**
LUWI	**Luwuk**	**2.79**	**174**	P	**Pn**	**05 30 22.0**	**-0.3**
LUWI				S	**Sn**	**05 30 54.8**	**+0.1**
MPSI	**Mapaga**	**2.96**	**242**	P	**Pn**	**05 30 26.5**	**+1.8**
SANI	**Sanana**	**5.14**	**137**	P	**Pn**	**05 30 56.1**	**+1.5**
TTSI	**Tana Toraja**	**5.47**	**209**	P	**Pn**	**05 30 59.9**	**+0.7**
KAPI	**Kappang**	**7.26**	**202**	P	**Pn**	**05 31 25.2**	**+1.4**
	10nm,0.3s,baz=22,slow=16,SNR=2.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAPI				S	Sn	05 32 31.5	-14
	40nm,0.6s,baz=214,slow=8.0,SNR=12						
WRA	**Warramunga Arr**	**24.49**	**152**	P	**P**	**05 34 53.7**	**-2.6**
	2.3nm,0.7s,baz=327,slow=10,SNR=31						
	2.3nm,0.7s						
ASAR	**Alice Springs**	**27.59**	**157**	P	**P**	**05 35 22.6**	**-1.7**
	0.3nm,0.5s,baz=345,slow=14,SNR=6.6						
	0.3nm,0.5s						
KSRS	**Korea Array**	**35.88**	**7**	LR	LR	05 54 28.3	
	comp=Z,7.2nm,18.7s,baz=45,slow=39						
STKA	**Stephens Creek**	**38.03**	**153**	P	**P**	**05 36 54.3**	**-1.0**
	2.5nm,0.7s,baz=329,slow=10,SNR=5.7						
	2.5nm,0.7s						
VNDA	**Vanda**	**82.04**	**172**	P	**P**	**05 41 56.2**	**-0.1**
	1.4nm,0.9s,baz=320,slow=7.5,SNR=6.3						
	1.4nm,0.9s						

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*IDC **06** 05:31:22.2±0.8, 54.°12N×169.°23E, h0km, mb3.8/18, mbtmp3.9/20, ML4.0/2, MS2.9/6, Error ellipse: s-maj=24.0km s-min=14.8km az=2.0*
*KRSC **06** 05:31:25.5±1.4, 53.°91N×168.°95E, h41km±25km, Ml4.4*
*NEIC **06** 05:31:27.1±1.7, 54.°0N±0.°2×169.°4E±0.°1, h32km±7km, mb4.1/22, Error ellipse: s-maj=22.9km s-min=10.1km az=190.0*
ISC 06 05:31:26.7±0.6**, 53.°91N**±0.°07×**169.°26E**±0.°04**, h35km, n97,** σ**1.°24**/95**, mb3.9**/23**, MS2.8**/4**, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.31**	**305**	*e*P	**Pn**	**05 32 01.4**	**-0.8**
BKI				*e*S	**Sn**	**05 32 27.6**	**-1.9**
SHEM	**Shemya Is, Ala**	**3.13**	**110**	Pn	**Pn**	**05 32 13.2**	**-0.3**
	24nm,0.3s,baz=278,slow=3.4,SNR=35						
SHEM				Sn	**Sn**	**05 32 48.2**	**-1.5**
	16nm,0.3s,baz=294,slow=23,SNR=1.6						
	56nm,0.3s						
KBTR	**Krutoberegovo**	**4.36**	**304**	*e*P	**Pn**	**05 32 30.2**	**-0.2**
MKZ	**Mys Kozlova**	**4.47**	**281**	*e*P	**Pn**	**05 32 32.4**	**+0.6**
SMKR	**Semkarok**	**5.20**	**304**	*e*P	**Pn**	**05 32 43.0**	**+1.0**
TUMD	**Tumrok D**	**5.32**	**288**	*e*P	**Pn**	**05 32 44.0**	**+0.5**
TUMD				*e*S	**Sn**	**05 33 42.1**	**-1.5**
BDR	**Baidarnaya**	**5.32**	**303**	*e*P	**Pn**	**05 32 44.7**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**5.34**	**296**	*e*P	**Pn**	**05 32 45.3**	**+1.4**
BZP	**Bezymyannyi-Pe**	**5.42**	**295**	*e*P	**Pn**	**05 32 46.0**	**+0.9**
BZWR	**Bezymyannyi-We**	**5.46**	**296**	*e*P	**Pn**	**05 32 46.7**	**+1.1**
TUMR	**Tumrok**	**5.47**	**288**	*e*P	**Pn**	**05 32 46.8**	**+1.0**
KIRR	**Kirishev**	**5.53**	**295**	*e*P	**Pn**	**05 32 47.8**	**+1.1**
KMNR	**Kamenistaya**	**5.53**	**293**	*e*P	**Pn**	**05 32 47.8**	**+1.2**
SPN	**Mys Shipunski**	**5.57**	**265**	*e*P	**Pn**	**05 32 47.4**	**+0.4**
KPT	**Kopyto**	**5.60**	**295**	*e*P	**Pn**	**05 32 48.9**	**+1.4**
KPT				*e*S	**Sn**	**05 33 51.1**	**+0.4**
KII	**Karymskiy**	**5.79**	**275**	*e*P	**Pn**	**05 32 50.7**	**+0.5**
KOZ	**Kozyrevsk**	**5.82**	**295**	*e*P	**Pn**	**05 32 51.1**	**+0.6**
NLC	**Nalytchevo**	**5.96**	**267**	*e*P	**Pn**	**05 32 54.2**	**+1.9**
NLC				*e*S	**Sn**	**05 33 56.9**	**-2.3**
SRDR	**Sredinnyy**	**5.98**	**298**	*e*P	**Pn**	**05 32 54.3**	**+1.5**
SDLR	**Sedlovina**	**6.21**	**268**	*e*P	**Pn**	**05 32 56.9**	**+1.0**
UGLR	**Uglovaya**	**6.26**	**268**	*e*P	**Pn**	**05 32 57.8**	**+1.2**
SMAR	**Somma**	**6.26**	**268**	*e*P	**Pn**	**05 32 57.6**	**+0.9**
KRER	**Koryakskii**	**6.29**	**269**	*e*P	**Pn**	**05 32 58.3**	**+1.2**
AVH	**Avacha**	**6.30**	**268**	*e*P	**Pn**	**05 32 58.4**	**+1.3**
DALK	**Dalny**	**6.34**	**266**	*e*P	**Pn**	**05 32 58.8**	**+1.3**
KRX	**Arik**	**6.34**	**269**	*e*P	**Pn**	**05 32 58.7**	**+1.0**
KOK	**Koryaka**	**6.36**	**269**	*e*P	**Pn**	**05 32 58.9**	**+1.0**
PET	**Petropavlovsk**	**6.40**	**266**		**Pn**	**05 32 59.9**	**+1.6**
PET	**Petropavlovsk**	**6.40**	**266**	*e*P	**Pn**	**05 32 59.9**	**+1.6**
PET				*e*S	**Sn**	**05 34 08.8**	**-1.3**
ESO	**Esso**	**6.42**	**293**	*e*P	**Pn**	**05 33 01.0**	**+2.3**
AMKA	**Amchitka**	**6.62**	**108**	Pn	**Pn**	**05 33 01.5**	**+0.2**
KRMR	**Karymshinskiy**	**6.75**	**265**	*e*P	**Pn**	**05 33 04.0**	**+0.8**
MTVR	**Mutnovka**	**6.81**	**262**	*e*P	**Pn**	**05 33 05.2**	**+1.1**
GRL	**Gorelyy**	**6.85**	**263**	*e*P	**Pn**	**05 33 06.5**	**+1.8**
PEA0B	**Petropavlovsk-**	**6.94**	**268**		**Pn**	**05 33 07.7**	**+1.8**
PETK	**Petropavlovsk-**	**6.94**	**268**		**Pn**	**05 33 06.9**	**+1.0**
PETK	**Petropavlovsk-**	**6.94**	**268**	Pn	**Pn**	**05 33 06.5**	**+0.6**
	12nm,0.3s,baz=90,slow=19,SNR=129						
PETK				Sn	**Sn**	**05 34 20.1**	**-3.4**
	baz=272,slow=16						
PETK				LR	LR	05 35 50.7	
	comp=Z,34nm,18.0s,baz=122,slow=39						
	13nm,0.4s						
KDTR	**Khodutka, Kamc**	**7.09**	**257**	*e*P	**Pn**	**05 33 08.7**	**+0.8**
APC	**Apacha**	**7.30**	**267**	*e*P	**Pn**	**05 33 12.6**	**+1.9**
KIWB	**Kanaga Island**	**8.47**	**99**	Pn	**Pn**	**05 33 27.0**	**+0.1**
ADK	**Adak**	**8.74**	**98**	Pn	**Pn**	**05 33 29.4**	**-1.1**
GSTR	**Great Sitkin T**	**9.04**	**96**	Pn	**Pn**	**05 33 35.4**	**+0.7**
ATKA	**Atka Island**	**10.11**	**93**	Pn	**Pn**	**05 33 49.0**	**-0.2**
SEY	**Seymchan**	**12.61**	**323**	LR	LR	05 38 54.8	
	comp=Z,50nm,18.5s,baz=116,slow=36						
K13K	**Kusilvak Mount**	**15.92**	**49**	Pn	**Pn**	**05 35 07.2**	**-0.5**
K13K				IAmb	IAmb	05 35 21.6	
	comp=Z,16nm,1.2s						
L14K	**Kuka Creek**	**16.66**	**52**	Pn	**Pn**	**05 35 16.9**	**-0.2**
L14K				IAmb	IAmb	05 35 30.9	
	comp=Z,16nm,1.3s						
M14K	**Bethel**	**16.87**	**55**		**Pn**	**05 35 20.4**	**+0.6**
M14K				IAmb	IAmb	05 35 22.9	
	comp=Z,14nm,0.8s						
K15K	**Wolf Creek Mou**	**17.43**	**50**		**Pn**	**05 35 26.7**	**-0.1**
K15K				IAmb	IAmb	05 35 36.5	
	comp=Z,15nm,1.1s						
N15K	**Kwethluk River**	**17.70**	**57**		**Pn**	**05 35 29.8**	**-0.3**
N17K	**Nushagak Hills**	**19.17**	**56**	P	**P**	**05 35 46.6**	**-0.3**
G18K	**Tagagawik**	**19.79**	**40**	P	**P**	**05 35 54.4**	**+0.7**
G18K				IAmb	IAmb	05 36 17.3	
	comp=Z,15nm,1.5s						
J18K	**Innoko River**	**19.86**	**48**	P	**Pn**	**05 35 55.4**	**-0.8**
J18K				IAmb	IAmb	05 36 04.9	
	comp=Z,9.1nm,1.1s						
L19K	**White Mountain**	**20.47**	**52**	P	**P**	**05 36 01.7**	**+0.6**
L19K				IAmb	IAmb	05 36 12.7	
	comp=Z,23nm,1.1s						
D19K	**Kuna River**	**21.07**	**34**	P	**P**	**05 36 08.3**	**+0.8**
D19K				IAmb	IAmb	05 36 33.3	
	comp=Z,12nm,1.2s						
OHAK	**Old Harbor**	**21.25**	**66**	P	**P**	**05 36 07.0**	**-2.4**
KDAK	**Kodiak Island**	**21.57**	**64**	P	**P**	**05 36 12.2**	**-0.7**
	comp=Z,17nm,1.2s,baz=251,slow=8.4,SNR=2.2						
	comp=Z,17nm,1.2s						
IMAR	**Indian Mountai**	**21.72**	**42**	P	**P**	**05 36 14.6**	**+0.1**
CAST	**Castle Rocks**	**21.90**	**49**	P	**P**	**05 36 17.4**	**+1.1**
B20K	**Meade River**	**22.10**	**30**	P	**P**	**05 36 18.6**	**+0.2**
B20K				IAmb	IAmb	05 36 54.4	
	comp=Z,16nm,1.3s						
E22K	**Anaktuvuk Pass**	**23.09**	**37**	P	**P**	**05 36 28.5**	**-0.4**
E22K				IAmb	IAmb	05 36 40.2	
	comp=Z,6.2nm,1.3s						
B22K	**Teshekpuk Lake**	**23.38**	**31**	P	**P**	**05 36 30.4**	**-1.4**
B22K				IAmb	IAmb	05 36 49.3	
	comp=Z,7.9nm,1.1s						
SML	**Sawmill**	**23.52**	**53**	P	**P**	**05 36 33.2**	**-0.1**
KLR	**Kul'dur**	**23.59**	**274**	LR	LR	05 45 52.5	
	comp=Z,32nm,20.5s,baz=154,slow=37						
SCM	**Sheep Creek Mo**	**23.99**	**53**	P	**P**	**05 36 37.4**	**-0.4**
TOLK	**Toolik Lake Re**	**24.03**	**36**	P	**P**	**05 36 37.5**	**-0.6**
TOLK				IAmb	IAmb	05 36 49.4	
	comp=Z,8.6nm,1.3s						
C23K	**Itkillik River**	**24.07**	**33**	P	**P**	**05 36 37.0**	**-1.3**
IL31		**24.32**	**46**	P	**P**	**05 36 40.0**	**-0.6**
ILAR	**Eielson Array**	**24.32**	**46**	P	**P**	**05 36 40.2**	**-0.4**
ILAR	**Eielson Array**	**24.32**	**46**	P	**P**	**05 36 38.8**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=251,slow=7.3,SNR=11						
ILAR				LR	LR	05 46 29.3	
	comp=Z,22nm,18.1s,baz=200,slow=38						
	comp=Z,0.5nm,0.8s						
M24K	**Tolsona, Glenn**	**24.53**	**53**	P	**P**	**05 36 42.9**	**+0.2**
BMAR	**Burnt Mountain**	**25.59**	**40**	P	**P**	**05 36 51.4**	**-0.8**
BCAR	**Beaver Creek A**	**26.53**	**50**	P	**P**	**05 36 59.7**	**-1.1**
H11N2	**WAKE ISLAND Hy**	**34.17**	**184**	T	T	06 14 31.0	
	baz=2.2,slow=76,SNR=509						
H11N3	**WAKE ISLAND Hy**	**34.18**	**184**	T	T	06 14 30.5	
	baz=2.2,slow=76,SNR=358						
H11N1	**WAKE ISLAND Hy**	**34.18**	**184**	T	T	06 14 30.5	
	baz=2.2,slow=76,SNR=442						
H11S1	**WAKE ISLAND Hy**	**35.39**	**184**	T	T	06 16 03.8	
	baz=2.2,slow=76,SNR=251						
H11S3	**WAKE ISLAND Hy**	**35.40**	**184**	T	T	06 16 01.5	
	baz=2.2,slow=76,SNR=119						
H11S2	**WAKE ISLAND Hy**	**35.41**	**184**	T	T	06 16 01.3	
	baz=2.2,slow=76,SNR=247						
YKA	**Yellowknife Ar**	**38.75**	**46**	P	**P**	**05 38 46.8**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=293,slow=8.0,SNR=5.1						
	comp=Z,0.3nm,0.7s						
SONM	**Songino Array**	**38.96**	**288**	P	**P**	**05 38 48.6**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=65,slow=7.2,SNR=2.3						
SONM				LR	LR	05 56 21.7	
	comp=Z,45nm,18.6s,baz=307,slow=39						
	comp=Z,0.4nm,0.4s						
NEW	**Newport**	**44.66**	**66**	LR	LR	05 56 16.4	
	comp=Z,14nm,18.8s,baz=308,slow=34						
SPITS	**Spitsbergen Ar**	**47.13**	**353**	P	**P**	**05 39 55.0**	**+0.2**
	comp=Z,8.7nm,0.9s,baz=344,slow=4.8,SNR=1.9						
	comp=Z,8.7nm,0.9s						
NVAR	**Mina Array Bea**	**50.26**	**77**	P	**P**	**05 40 20.4**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=308,slow=8.7,SNR=3.5						
	comp=Z,0.6nm,0.7s						
RLMT	**Red Lodge**	**50.84**	**65**	P	**P**	**05 40 21.8**	**-2.0**
KURBB	**Kurchatov Arra**	**51.92**	**306**	P	**P**	**05 40 30.9**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=52,slow=7.6,SNR=5.1						
	comp=Z,0.7nm,0.8s						
PDAR	**Pinedale Array**	**52.25**	**67**	P	**P**	**05 40 34.7**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=328,slow=1.2,SNR=3.1						
	comp=Z,0.5nm,0.8s						
MKAR	**Makanchi Array**	**52.61**	**300**	P	**P**	**05 40 36.0**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=50,slow=5.7,SNR=2.9						
	comp=Z,0.4nm,0.7s						
BVAR	**Borovoye Array**	**54.03**	**312**	P	**P**	**05 40 45.5**	**-1.6**
	comp=Z,3.0nm,0.7s,baz=50,slow=8.1,SNR=13						
	comp=Z,3.0nm,0.7s						
ARCES	**ARCESS Array B**	**54.06**	**345**	P	**P**	**05 40 45.6**	**-1.5**
	comp=Z,3.5nm,1.0s,baz=43,slow=6.8,SNR=1.5						
	comp=Z,3.5nm,1.0s						
NB2	**NORSAR Subarra**	**64.07**	**348**	P	**P**	**05 42 00.2**	**+3.6**
	comp=Z,2.5nm,0.9s,baz=14,slow=6.5						
NOA	**NORSAR Array B**	**64.07**	**348**	P	**P**	**05 41 55.1**	**-1.5**
	comp=Z,0.9nm,0.9s,baz=16,slow=6.5,SNR=2.5						
	comp=Z,0.9nm,0.9s						
HFS	**Hagfors**	**64.64**	**347**	P	**P**	**05 42 00.9**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=333,slow=4.8,SNR=1.9						
	comp=Z,2.5nm,0.8s						
TXAR	**Lajitas Array**	**65.21**	**74**	P	**P**	**05 42 05.5**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=294,slow=4.8,SNR=6.6						
	comp=Z,0.7nm,0.6s						
AKASG	**Malin Array Be**	**70.50**	**334**	P	**P**	**05 42 36.9**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=21,slow=5.7,SNR=2.6						
	comp=Z,0.9nm,0.7s						
BRTR	**Keskin Array B**	**79.22**	**327**	P	**P**	**05 43 30.1**	**+2.0**
	comp=Z,0.8nm,0.9s,baz=11,slow=4.0,SNR=2.0						
	comp=Z,0.8nm,0.9s						
WRA	**Warramunga Arr**	**79.45**	**213**	P	**P**	**05 43 31.4**	**+2.1**
	comp=Z,0.6nm,1.1s,baz=28,slow=6.4,SNR=1.7						
	comp=Z,0.6nm,1.1s						
ASAR	**Alice Springs**	**83.07**	**212**	P	**P**	**05 43 49.9**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=14,slow=4.8,SNR=1.7						
	comp=Z,0.3nm,0.5s						

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*AZER **06** 05:53:30.9±0.7, 34.°02N×45.°22E, h10km, Error ellipse: s-maj=10.1km s-min=5.5km az=122.0*
*MOS **06** 05:53:40.0±1.2, 34.°93N×45.°70E, h7km, mb4.9/35, Error ellipse: s-maj=4.6km s-min=3.4km az=100.4*
*NEIC **06** 05:53:42.5±1.7, 34.°97N±0.°04×45.°79E±0.°07, h10km±1km, mb4.8/119, Error ellipse: s-maj=9.5km s-min=5.6km az=72.0*
*ISN **06** 05:53:42.3±1.2, 35.°17N×45.°82E, h13km±15km, ML4.8*
*TEH **06** 05:53:44.1, 35.°11N×45.°84E, h8km±36km, ML4.8*
*GII **06** 05:53:44.6±0.0, 34.°97N×45.°77E, h10km*
*IDC **06** 05:53:46.7±2.0, 35.°15N×45.°72E, h35km±14km, mb4.4/27, mbtmp4.5/38, ML4.4/9, MS3.7/46, Error ellipse: s-maj=13.9km s-min=9.6km az=160.0*
*SGS **06** 05:53:51.2, 34.°68N×45.°52E, h9km, Ml5.3*
*DSN **06** 05:53:55.8±2.5, 33.°48N×45.°61E, h15km, mb5.6/1, Error ellipse: s-maj=53.1km s-min=11.0km az=17.0*
ISC 06 05:53:43.2±0.5**, 34.°99N**±0.°02×**45.°77E**±0.°02**, h14**km±2km**, n643,** σ**2.°21**/669**, mb4.7**/160**, MS3.7**/44**, 28C-16D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSBB	**Baniby**	**0.07**	**313**	Pg	**Pg**	**05 53 47.9**	**+1.7**
KGS1	**Ghasr-e-Shirin**	**0.51**	**198**	Pg	**Pn**	**05 53 56.7**	**+0.8**
IDHR	**Dehrash**	**0.58**	**120**	Pg	**Pg**	**05 53 56.3**	**+1.6**
IDHR				Sg	**Sg**	**05 54 04.7**	**+2.3**
SLY	**Sulaymaniyah**	**0.65**	**340**	Pg	**Pg**	**05 53 55.5**	**-0.4**
IGHG	**Ghaleghazi**	**0.93**	**135**	Pg	**Pn**	**05 54 03.5**	**+1.5**
ILIN	**Lien**	**0.98**	**94**	Pg	**Pg**	**05 54 02.5**	**+0.4**
ILIN				Sg	**Sg**	**05 54 16.6**	**+1.6**
SDS1	**Sardasht. Az.**	**1.18**	**349**	Pg	**Pb**	**05 54 04.5**	**-0.9**
IKRK	**Kirkuk**	**1.24**	**290**	*e*Pn	**Pn**	**05 54 07.0**	**+0.9**
IKRK				*e*Sn	**Sn**	**05 54 25.0**	**+2.4**
IKRK				AML	AML	05 54 30.6	
	comp=E,18μm,0.6s						
IKRK				AML	AML	05 54 30.9	
	comp=N,18μm,0.3s						
KCHF	**Cheshme Sefid,**	**1.27**	**124**	Pg	**Pn**	**05 54 08.3**	**+1.8**
ILBA	**Ilam Banvizeh**	**1.41**	**165**	Pg	**Pg**	**05 54 12.2**	**+2.0**
IKOM	**Komasi**	**1.65**	**119**	Pg	**Pb**	**05 54 15.2**	**+1.9**
MAHB	**Mahabad**	**1.77**	**358**	Pg	**Pn**	**05 54 13.9**	**+0.4**
IBZA	**Bozab**	**1.79**	**106**	Pg	**Pb**	**05 54 17.1**	**+1.2**
IBDR	**Badra**	**1.88**	**176**	*e*Pn	**Pb**	**05 54 18.0**	**+0.8**
IBDR				*e*Sn	**Sg**	**05 54 44.0**	**+0.3**
BHD	**Baghdad**	**2.07**	**214**	*e*Pn	**Pb**	**05 54 21.0**	**+0.5**
BHD				*e*Sn	**Sg**	**05 54 49.0**	**-0.7**
BHD				AML	AML	05 54 55.0	
	comp=E,14μm,0.5s						
IKFM	**Kafar-mosalman**	**2.25**	**130**	Pn	**Pb**	**05 54 24.2**	**+0.6**
IHSH	**Hashtrud**	**2.60**	**27**	Pn	**Pn**	**05 54 27.3**	**+2.2**
IAZR	**Azarshahr**	**2.69**	**3**	Pn	**Pn**	**05 54 28.6**	**+2.4**
HAGD	**Aghdareh**	**2.77**	**93**	Pn	**Pn**	**05 54 31.3**	**+4.0**
CUKT	**Cukurca**	**2.85**	**323**	P	**Pn**	**05 54 30.6**	**+2.2**
QSDN	**Sirdan**	**3.15**	**60**	Pn	**Pn**	**05 54 34.9**	**+2.3**
ISRB	**Sarab**	**3.21**	**28**	Pn	**Pn**	**05 54 35.7**	**+2.3**
ITBZ	**Tabriz**	**3.25**	**5**	Pn	**Pn**	**05 54 34.5**	**+0.7**
RAFI	**Al-Rafai**	**3.27**	**175**	*e*Pn	**Pn**	**05 54 38.0**	**+4.1**
RAFI				*e*Sn	**Sb**	**05 55 19.0**	**-1.6**
ISHB	**Shabestar**	**3.29**	**358**	Pn	**Pn**	**05 54 34.9**	**+0.5**
IRAZ	**Razeghan**	**3.43**	**82**	Pn	**Pn**	**05 54 39.0**	**+2.7**
IHRS	**Heris**	**3.47**	**17**	Pn	**Pn**	**05 54 39.0**	**+2.0**
SIRT	**Sirnak**	**3.68**	**314**	P	**Pn**	**05 54 40.8**	**+1.1**
SIRT	**Sirnak**	**3.68**	**314**		**Pn**	**05 54 40.6**	**+0.9**
JIR1	**Jirandeh**	**3.69**	**61**	Pn	**Pn**	**05 54 42.0**	**+2.1**
CSN1	**Caspian**	**3.71**	**45**	Pn	**Pn**	**05 54 42.8**	**+2.8**
IMRD	**Marand**	**3.72**	**359**	Pn	**Pn**	**05 54 42.0**	**+1.8**
ORD	**Ordubad**	**3.93**	**2**	P	**Pn**	**05 54 46.1**	**+2.9**
	SNR=61						
ORD				S	**Sb**	**05 55 40.1**	**+0.3**
AKDM	**Akdamar-Van**	**4.02**	**327**	*e*P	**Pn**	**05 54 44.2**	**-0.2**
VANB	**Van**	**4.08**	**333**	*e*P	**Pn**	**05 54 43.6**	**-1.5**
LHJ2	**Lahijan - Gila**	**4.09**	**57**	Pn	**Pn**	**05 54 47.3**	**+2.0**
GRMI	**Germi**	**4.17**	**23**	Pn	**Pn**	**05 54 48.6**	**+2.1**
NAX	**Nakhchivan**	**4.18**	**357**	P	**Pn**	**05 54 48.5**	**+2.0**
	SNR=74						
NAX				S	**Sb**	**05 55 43.7**	**-3.2**
LRK	**Lerik**	**4.19**	**29**	P	**Pn**	**05 54 49.5**	**+2.8**
	SNR=233						
LRK				S	**Sb**	**05 55 47.4**	**+0.3**
GAS1	**Astara - Iran**	**4.19**	**35**	Pn	**Pn**	**05 54 49.4**	**+2.8**
ASTR	**Astara**	**4.31**	**33**	P	**Pn**	**05 54 51.0**	**+2.9**
	SNR=147						
ASTR				S	**Sb**	**05 55 53.9**	**+3.5**
IQOM	**Qom**	**4.35**	**90**	Pn	**Pn**	**05 54 52.0**	**+2.9**
YRD	**Yardimli**	**4.39**	**26**	P	**Pn**	**05 54 52.0**	**+2.5**
	SNR=151						
YRD				S	**Sb**	**05 55 57.1**	**+4.2**
SBZ	**Shahbuz**	**4.40**	**358**	P	**Pn**	**05 54 52.1**	**+2.5**
	SNR=11						
SBZ				S	**Sb**	**05 55 54.1**	**+0.8**
CLDR	**Caldiran**	**4.40**	**341**	*e*P	**Pn**	**05 54 49.6**	**-0.1**
LKRN	**Lenkeran, Azer**	**4.42**	**32**	P	**Pn**	**05 54 52.6**	**+2.8**
	SNR=43						
LKRN				S	**Sb**	**05 55 57.9**	**+4.1**
LKRN	**Lenkeran, Azer**	**4.42**	**32**	P	**Pn**	**05 54 52.6**	**+2.8**
AMIS	**Naft Sefid**	**4.43**	**137**	Pn	**Pn**	**05 54 53.3**	**+3.3**
MAKU	**Maku**	**4.44**	**349**	Pn	**Pn**	**05 54 52.5**	**+2.2**
QRD	**Qoradiz**	**4.63**	**15**	P	**Pn**	**05 54 54.5**	**+1.9**
	SNR=9.8						
QRD				S	**Sb**	**05 56 02.1**	**+2.4**
GURO	**Guroymak-BITLI**	**4.65**	**321**	*e*P	**Pn**	**05 54 53.0**	**-0.1**
GURO	**Guroymak-BITLI**	**4.65**	**321**	Pn	**Pn**	**05 54 53.8**	**+0.7**
MARD	**Mardin**	**4.66**	**301**	Pn	**Pn**	**05 54 54.2**	**+1.0**
GLBA	**Clilabad**	**4.73**	**25**	P	**Pn**	**05 54 57.0**	**+3.0**
	SNR=284						
GLBA				S	**Sb**	**05 56 05.3**	**+2.7**
HYR	**Heyderabad**	**4.78**	**351**	P	**Pn**	**05 54 55.9**	**+1.2**
HYR				S	**Sb**	**05 56 03.2**	**-0.8**
QAMS	**Qamsar**	**4.81**	**103**	Pn	**Pn**	**05 54 59.5**	**+4.0**
IPIR	**Pirpir**	**4.84**	**117**	Pn	**Pn**	**05 54 59.2**	**+3.4**
SVAN	**Silvan-Diyarba**	**4.85**	**312**	*e*P	**Pn**	**05 54 55.8**	**+0.1**
MLAZ	**Malazgirt-MUS**	**4.88**	**329**	*e*P	**Pn**	**05 54 55.3**	**-0.9**
IVRN	**Varamin**	**4.89**	**88**	Pn	**Pn**	**05 54 59.5**	**+3.3**
JHBN	**Jahan bin**	**4.92**	**123**	Pn	**Pn**	**05 55 00.1**	**+3.2**
BLQ	**Beylaqan**	**4.93**	**16**	P	**Pn**	**05 54 58.8**	**+2.0**
	SNR=10						
BLQ				S	**Sb**	**05 56 07.6**	**-0.7**
MZPU	**Pul - Mazandar**	**4.93**	**71**	Pn	**Pn**	**05 54 59.9**	**+2.9**
MAZI	**Mazidag**	**4.96**	**301**	*e*P	**Pn**	**05 54 58.2**	**+0.9**
IKLH	**Kolahrood**	**5.09**	**107**	Pn	**Pn**	**05 55 03.6**	**+4.4**
ZNGN	**Zangian**	**5.12**	**123**	Pn	**Pn**	**05 55 02.5**	**+2.8**
TASB	**TASBURUN-IGDIR**	**5.13**	**347**	*e*P	**Pn**	**05 54 58.7**	**-0.9**
IDMV	**Damavand**	**5.15**	**82**	Pn	**Pn**	**05 55 01.7**	**+1.6**
GNI	**Garni**	**5.21**	**351**	Pn	**Pn**	**05 55 02.0**	**+1.2**
GNI	**Garni**	**5.21**	**351**	P	**Pb**	**05 55 18.4**	**+4.3**
GNI				S	**Sg**	**05 56 26.0**	**-4.5**
GNI	**Garni**	**5.21**	**351**	*i* P	**Pn**	**05 55 01.7**	**+0.9**
GNI	**Garni**	**5.21**	**351**	Pn	**Pn**	**05 55 03.3**	**+2.5**
	comp=E,1.9nm,0.3s,baz=69,slow=3.0,SNR=4.3						
GNI				Pg	**Pb**	**05 55 17.2**	**+3.0**
	comp=E,5.5nm,0.3s,baz=14,slow=16,SNR=6.8						
GNI				Lg	Lg	05 56 24.1	
	baz=264,slow=21						
GNI				LR	LR	05 57 26.0	
	comp=E,717nm,21.3s,baz=172,slow=43						
	comp=E,17nm,0.6s						
AGDM	**Agdam**	**5.22**	**11**	P	**Pn**	**05 55 03.0**	**+2.3**
	SNR=4.9						
AGDM				S	**Sb**	**05 56 14.8**	**-1.8**
SAAT	**Saatly**	**5.30**	**23**	S	**Sb**	**05 56 19.0**	**+0.1**
ISFB	**Sefidab**	**5.37**	**95**	Pn	**Pn**	**05 55 04.9**	**+2.1**
BRDA	**Brd**	**5.38**	**12**	S	**Sb**	**05 56 19.1**	**-2.1**
VRTB	**Varto-Mus**	**5.41**	**322**	*e*P	**Pn**	**05 55 02.3**	**-1.2**
DYBB	**Diyarbakir**	**5.42**	**305**	*e*P	**Pn**	**05 55 03.8**	**+0.3**
ZRD	**Zardab**	**5.49**	**15**	S	**Sb**	**05 56 22.6**	**-1.9**
IBRJ	**Brojen**	**5.52**	**122**	Pn	**Pn**	**05 55 07.4**	**+2.2**
ALIB	**Äli-Bayra**	**5.58**	**26**	P	**Pn**	**05 55 09.5**	**+3.7**
	SNR=6.6						
ALIB				S	**Sb**	**05 56 25.1**	**-2.0**
GANJ	**Ganja**	**5.66**	**4**	P	**Pn**	**05 55 09.5**	**+2.6**
GANJ				S	**Sb**	**05 56 26.4**	**-3.0**
GANJ	**Ganja**	**5.66**	**4**	P	**Pn**	**05 55 09.4**	**+2.6**
KDMR	**Kurdemir**	**5.71**	**19**	P	**Pn**	**05 55 10.8**	**+3.5**
	SNR=4.9						
KDMR				S	**Sb**	**05 56 30.0**	**-0.6**
GDB	**GEDABAY**	**5.72**	**360**	P	**Pn**	**05 55 09.9**	**+2.2**
	SNR=7.9						
GDB				S	**Sb**	**05 56 28.2**	**-3.0**
IFIR	**Firoozkooh**	**5.74**	**82**	Pn	**Pn**	**05 55 10.4**	**+2.2**
IGAR	**Gharneh**	**5.83**	**115**	Pn	**Pn**	**05 55 12.6**	**+3.3**
IZEF	**Zefreh**	**5.83**	**109**	Pn	**Pn**	**05 55 12.6**	**+3.1**
IALA	**Alasht**	**5.84**	**77**	Pn	**Pn**	**05 55 13.4**	**+3.8**
MNGR	**Mingechevir, A**	**5.87**	**10**	S	**Sb**	**05 56 32.2**	**-3.0**
KOPR	**Koprukoy-ERZUR**	**5.88**	**329**	*e*P	**Pn**	**05 55 08.6**	**-1.4**
ILAS	**Lasjerd**	**5.90**	**84**	Pn	**Pn**	**05 55 12.7**	**+2.4**
KARS	**Kars**	**6.02**	**340**	Pn	**Pn**	**05 55 12.7**	**+0.8**
KARS	**Kars**	**6.02**	**340**	P	**Pn**	**05 55 12.7**	**+0.8**
QZX	**Qazax, Azerbai**	**6.07**	**357**	P	**Pn**	**05 55 14.0**	**+1.7**
QZX				S	**Sb**	**05 56 34.7**	**-6.3**
GBS	**Qobustan**	**6.08**	**23**	P	**Pn**	**05 55 15.8**	**+3.3**
	SNR=33						
GBS				S	**Sb**	**05 56 38.7**	**-2.7**
YEDI	**Yedisu-Bingol**	**6.09**	**318**	*e*P	**Pn**	**05 55 11.2**	**-1.7**
IML	**Ismayilli**	**6.10**	**17**	P	**Pn**	**05 55 15.6**	**+2.8**
	SNR=14						
IML				S	**Sb**	**05 56 39.3**	**-2.7**
URFA	**Urfa**	**6.13**	**296**	*e*P	**Pn**	**05 55 14.2**	**+0.9**
QBL	**Gabala**	**6.16**	**15**	P	**Pn**	**05 55 15.9**	**+2.1**
QBL				S	**Sb**	**05 56 40.6**	**-3.2**
SENK	**Senkaya-Erzuru**	**6.19**	**335**	*e*P	**Pn**	**05 55 12.2**	**-2.0**
PQL	**Pirkuli**	**6.20**	**20**	P	**Pn**	**05 55 17.1**	**+2.8**
	SNR=28						
PQL				P	**Pn**	**05 55 17.1**	**+2.8**
	SNR=28						
PQL				S	**Sb**	**05 56 41.6**	**-3.5**
PQL				S	**Sb**	**05 56 41.6**	**-3.5**
GOBA	**Gobu**	**6.25**	**29**	P	**Pn**	**05 55 19.1**	**+4.3**
	SNR=5.5						
GOBA				S	**Sb**	**05 56 42.5**	**-3.7**
KLNJ	**Kolanjah**	**6.30**	**127**	Pn	**Pn**	**05 55 17.4**	**+1.6**
SEKA	**Sheki**	**6.31**	**10**	P	**Pn**	**05 55 18.3**	**+2.5**
SEKA				S	**Sb**	**05 56 45.1**	**-2.9**
SEKA	**Sheki**	**6.31**	**10**	P	**Pn**	**05 55 18.2**	**+2.5**
ATGJ	**Altiaghaj**	**6.37**	**22**	P	**Pn**	**05 55 19.9**	**+3.3**
	SNR=7.1						
ATGJ				P	**Pn**	**05 55 19.9**	**+3.3**
	SNR=7.1						
ATGJ				S	**Sb**	**05 56 45.9**	**-3.9**
ATGJ				S	**Sb**	**05 56 45.9**	**-3.9**
IRAM	**Ramesheh**	**6.37**	**118**	Pn	**Pn**	**05 55 18.6**	**+1.8**
PTK	**Pertek**	**6.42**	**309**	*e*P	**Pn**	**05 55 15.9**	**-1.6**
GALA	**Gala**	**6.43**	**31**	S	**Sb**	**05 56 47.1**	**-4.3**
XNQ	**Khinaliq**	**6.45**	**16**	P	**Pn**	**05 55 19.2**	**+1.4**
	SNR=7.2						
XNQ				S	**Sb**	**05 56 48.7**	**-3.5**
NDR	**Nardaran**	**6.50**	**30**	P	**Pn**	**05 55 22.2**	**+3.9**
NDR				S	**Sb**	**05 56 49.0**	**-4.5**
TRAF	**Turaif**	**6.55**	**237**	P	**Pn**	**05 55 20.6**	**+1.5**
SIZA	**Siyzn**	**6.56**	**21**	P	**Pn**	**05 55 23.7**	**+4.6**
	SNR=25						
SIZA				P	**Pn**	**05 55 23.7**	**+4.6**
	SNR=25						
SIZA				S	**Sb**	**05 56 50.1**	**-5.0**
SIZA				S	**Sb**	**05 56 50.1**	**-5.0**
ERZN	**Erzincan**	**6.66**	**315**	*e*P	**Pn**	**05 55 19.3**	**-1.3**
AKT	**Akhty**	**6.66**	**13**	*i* P	**Pn**	**05 55 22.5**	**+1.9**
ZKTA	**Zakatala**	**6.67**	**5**	P	**Pn**	**05 55 25.0**	**+4.3**
	SNR=5.4						
ZKTA	**Zakatala**	**6.67**	**5**	P	**Pn**	**05 55 25.0**	**+4.3**
QUBA	**Quba, Azerbaij**	**6.70**	**18**	P	**Pn**	**05 55 25.0**	**+3.9**
QUBA				P	**Pn**	**05 55 25.0**	**+3.9**
QSAR	**Qusar**	**6.80**	**16**	P	**Pn**	**05 55 26.2**	**+3.8**
KFJS2	**Khafji**	**6.99**	**161**	P	**Pn**	**05 55 28.1**	**+3.0**
HANO	**Al Hamad**	**7.20**	**242**	P	**Pn**	**05 55 29.2**	**+1.2**
GAZ	**Gaziantep**	**7.27**	**290**	Pn	**Pn**	**05 55 28.4**	**-0.5**
ISAD	**Sadrabad**	**7.29**	**113**	Pn	**Pn**	**05 55 31.5**	**+2.1**
WSKAK	**WSKAK**	**7.30**	**232**	P	**Pn**	**05 55 30.5**	**+1.1**
ASYS		**7.56**	**190**	P	**Pn**	**05 55 35.4**	**+2.4**
HIL04	**Ash Shaalaniya**	**7.65**	**200**	P	**Pn**	**05 55 36.1**	**+1.8**
BTLR	**Botlikh**	**7.67**	**2**	*i* P	**Pn**	**05 55 38.1**	**+3.7**
ONI	**Oni**	**7.80**	**347**		**Pn**	**05 55 36.0**	**-0.2**
ONI	**Oni**	**7.80**	**347**	P	**Pn**	**05 55 36.0**	**-0.2**
ZEI	**Tsey**	**7.92**	**350**	*e*P	Pn	05 55 43.5	+5.5
ZEI				pmax	pmax		
	comp=Z,18nm,0.7s						
ASF	**Jabal al Asfar**	**7.92**	**252**	P	**Pn**	**05 55 40.1**	**+2.1**
ASF	**Jabal al Asfar**	**7.92**	**252**	Pn	**Pn**	**05 55 39.6**	**+1.7**
	comp=Z,13nm,0.3s,baz=69,slow=7.0,SNR=33						
ASF				Sn	**Sn**	**05 57 06.2**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=99,slow=16,SNR=1.1						
ASF				Lg	Lg	05 57 51.4	
	comp=Z,5.5nm,0.3s,baz=281,slow=21,SNR=3.6						
	comp=Z,29nm,0.3s						
MAK	**Makhachkala**	**8.07**	**9**	*e*P	Pn	05 55 35.9	-3.9
MAK				*e*S	**Sn**	**05 57 07.2**	**-3.6**
MAK				pmax	pmax		
	comp=Z,476nm,1.8s						
MAK				MLR	MLR		
	comp=Z,484nm,10.0s						
IMEH	**Mehriz**	**8.23**	**113**	Pn	**Pn**	**05 55 44.5**	**+2.2**
JOFS	**JOFS**	**8.23**	**229**	P	**Pn**	**05 55 43.0**	**+0.9**
HTM05	**HTM05**	**8.39**	**203**	P	**Pn**	**05 55 44.3**	**-0.1**
HTM03	**HTM03**	**8.42**	**201**	P	**Pn**	**05 55 45.4**	**+0.6**
HTM04	**HTM04**	**8.49**	**202**	P	**Pn**	**05 55 45.9**	**+0.1**
HTM02	**HTM02**	**8.53**	**200**	P	**Pn**	**05 55 46.9**	**+0.6**
GEM	**Giv'at Ha'Em**	**8.57**	**261**	Pn	**Pn**	**05 55 49.5**	**+2.7**
SHMJ	**Saham**	**8.63**	**258**	P	Pn	05 55 58.4	+11
QSMS	**Sumairaa**	**8.71**	**199**	P	**Pn**	**05 55 48.3**	**-0.4**
HTM01	**HTM01**	**8.72**	**200**	P	**Pn**	**05 55 49.6**	**+0.7**
HTM06	**HTM06**	**8.78**	**201**	P	**Pn**	**05 55 50.0**	**+0.3**
BNN	**Bunyan**	**8.83**	**299**	Pn	**Pn**	**05 55 49.4**	**-1.1**
MMAI	**Mount Meron Ar**	**8.83**	**260**	Pn	**Pn**	**05 55 51.8**	**+1.4**
	comp=Z,4.5nm,0.3s,baz=78,slow=16,SNR=8.4						
MMAI				Lg	Lg	05 58 19.8	
	comp=Z,7.3nm,0.3s,baz=104,slow=19,SNR=1.6						
MMAI				LR	LR	06 00 00.6	
	comp=Z,649nm,18.2s,baz=50,slow=42						
	comp=Z,2.2nm,0.3s						
MJMS	**Al Majmaah**	**8.92**	**181**	P	**Pn**	**05 55 53.3**	**+1.7**
KBZ	**Khabaz**	**9.01**	**347**	*ce*P	**Pn**	**05 55 56.1**	**+3.5**
KBZ	**Khabaz**	**9.01**	**347**	Pn	**Pn**	**05 55 55.2**	**+2.6**

comp=Z,8.9nm,0.7s,baz=155,slow=10.0,SNR=16
KBZ LR LR 05 59 57.4
comp=Z,324nm,20.6s,baz=160,slow=42
TNSJ Nastanj 9.01 93 Pn **Pn** **05 55 55.2 +2.4**
KVAR Kislovodsk Arr 9.26 346 Pn **Pn** **05 55 59.0 +2.7**
baz=243,slow=11
comp=Z,2.1nm,0.4s
KIV Kislovodsk 9.26 346 *eP* **Pn** **05 55 58.8 +2.5**
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,185nm,12.0s
TPRV Parvadeh(Tabas 9.27 99 Pn **Pn** **05 55 59.7 +3.2**
ARSS Ar Rass 9.34 194 P **Pn** **05 55 59.1 +1.7**
DSI Dead Sea 9.35 252 Pn **Pn** **05 55 59.6 +2.2**
ETH05 ETH05 9.41 212 P **Pn** **05 55 58.2 -0.2**
ETH04 ETH04 9.48 210 P **Pn** **05 56 00.1 +0.8**
TKDS Koohdasht(Taba 9.49 95 Pn **Pn** **05 56 02.3 +2.8**
ETH08 ETH08 9.61 212 P **Pn** **05 56 00.8 -0.4**
ETH06 ETH06 9.71 213 P **Pn** **05 56 02.0 -0.5**
SBZV Sabzevar 9.73 78 Pn **Pn** **05 56 05.9 +3.1**
SOC Sochi 9.78 333 *eP* **Pn** **05 56 01.6 -1.6**
SOC *e* 05 57 52.4
SOC MLR MLR
comp=Z,432nm,13.0s
ETH01 ETH01 9.83 211 P **Pn** **05 56 03.7 -0.5**
SAKB Bahrain 9.88 154 P **Pn** **05 56 05.9 +1.2**
SAKB S **Sn** **05 57 49.8 -5.5**
SHMA Al-Shehemyia 10.14 152 P **Pn** **05 56 09.1 +0.8**
SHMA S **Sn** **05 57 55.1 -6.7**
PRNI Paran 10.19 246 Pn **Pn** **05 56 10.8 +1.9**
HRFI Mount Harif 10.32 244 Pn **Pn** **05 56 12.5 +1.7**
GEYT Alibeck 10.36 70 Pn **Pn** **05 56 10.1 -1.2**
GEYT Alibeck 10.36 70 Pn **Pn** **05 56 14.2 +2.8**
comp=Z,1.0nm,0.3s,baz=267,slow=11,SNR=18
GEYT LR LR 06 01 03.8
comp=Z,371nm,20.5s,baz=254,slow=42
comp=Z,16nm,0.8s
GYA0B ALIBECK ARRAY 10.36 70 Pn **Pn** **05 56 10.4 -0.9**
DWDS Al Duwadimi 10.45 185 P **Pn** **05 56 13.7 +1.1**
AQBJ Aqaba 10.47 243 P **Pn** **05 56 16.0 +3.1**
KRMI Paran Flat 10.51 246 Pn **Pn** **05 56 15.1 +1.7**
MBRI Mt Berech 10.54 244 Pn **Pn** **05 56 15.4 +1.6**
MBRI Mt Berech 10.54 244 P **Pn** **05 56 16.7 +2.9**
EIL Elat 10.58 243 Pn **Pn** **05 56 15.9 +1.6**
EIL Elat 10.58 243 P Pn 05 56 20.6 +6.3
EIL Elat 10.58 243 Lg Lg 05 59 21.0
comp=Z,2.8nm,0.3s,baz=53,slow=21,SNR=2.0
NHRD Haradh 10.61 164 P **Pn** **05 56 16.2 +1.4**
IEMG Emamgholi 10.68 73 Pn **Pn** **05 56 18.9 +2.9**
BRTR Keskin Array B 10.75 300 Pn **Pn** **05 56 14.9 -1.9**
BRTR Keskin Array B 10.75 300 *i* P Pn 05 56 22.0 +5.3
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 10.75 300 Pn **Pn** **05 56 18.8 +2.0**
comp=Z,4.1nm,0.9s,baz=114,slow=11,SNR=13
BJDH Asilah 11.06 191 P **Pn** **05 56 20.7 -0.3**
SMRA Abu-Samra 11.11 155 P **Pn** **05 56 23.5 +1.9**
SMRA S **Sn** **05 58 20.6 -5.0**
TRNA Turayna 11.25 154 P **Pn** **05 56 24.8 +1.3**
SNR=11
TRNA S **Sn** **05 58 23.9 -5.2**
AFFS `Afif 11.29 193 P Pn 05 56 17.0 -7.2
ANN Anapa 11.70 329 *eP* **Pn** **05 56 27.5 -2.0**
ANN *eS* **Sn** **05 58 39.8 0.0**
ANN pmax pmax
comp=Z,22nm,0.8s
ANN MLR MLR
comp=Z,413nm,13.0s
ANN MLR MLR
comp=N,155nm,6.0s
ANN MLR MLR
comp=E,185nm,10.0s
JRN Qarnain Island 11.74 147 P **Pn** **05 56 31.1 +0.9**
JRN S **Sn** **05 58 34.1 -6.8**
SHME Shamm 12.61 132 P **Pn** **05 56 41.3 -0.8**
SHME Shamm 12.61 132 P **Pn** **05 56 42.3 +0.2**
SNR=9.0
SHME S Sn 05 58 54.7 -7.6
UMQ Umm Al-Quwin 12.72 135 P **Pn** **05 56 44.3 +0.7**
LYLS 12.97 174 P **Pn** **05 56 47.3 +0.2**
AJN Ajban 13.11 140 P **Pn** **05 56 49.0 +0.2**
AJN Ajban 13.11 140 P **Pn** **05 56 48.9 +0.1**
AJN S **Sn** **05 59 07.7 -6.8**
MASF Masafi 13.13 134 P **Pn** **05 56 49.5 +0.3**
SNR=23
MASF S Sn 05 59 07.6 -7.5
SNR=7.8
NAZ Nazwa, Dubai 13.14 137 *i* P **Pn** **05 56 50.7 +1.4**
SNR=15
NAZ Nazwa, Dubai 13.14 137 P **Pn** **05 56 49.4 +0.1**
SNR=15
NAZ S Sn 05 59 08.3 -6.9
MSFE Esma-Masafi 13.14 134 *i* P **Pn** **05 56 49.3 0.0**
SNR=23
MSFE S Sn 05 59 06.1 -9.2
ASUD Al Ashush, Dub 13.24 139 P **Pn** **05 56 51.3 +0.6**
ASUD Al Ashush, Dub 13.24 139 P **Pn** **05 56 50.7 0.0**
ASUD S Sn 05 59 10.7 -7.0
FAQ Al Faqa, Dubai 13.29 138 *i* P **Pn** **05 56 51.6 +0.3**
SNR=9.4
FAQ Al Faqa, Dubai 13.29 138 P **Pn** **05 56 51.6 +0.3**
SNR=9.4
FAQ S Sn 05 59 11.9 -7.1
UOSS Minazif 13.48 135 Pn **Pn** **05 56 52.9 -1.0**
UOSS Minazif 13.48 135 *i* P **Pn** **05 56 53.3 -0.7**
SNR=12
UOSS Minazif 13.48 135 P **Pn** **05 56 53.7 -0.3**
UOSS S Sn 05 59 15.8 -7.8
HATD Hatta, Dubai 13.53 136 *i* P **Pn** **05 56 54.3 -0.3**
SNR=26
HATD Hatta, Dubai 13.53 136 P **Pn** **05 56 54.3 -0.3**
SNR=13
HATD S Sn 05 59 17.4 -7.4
ASHO Ashiyiah 13.60 136 *i* P **Pn** **05 56 55.3 -0.4**
SNR=15
ASHO Ashiyiah 13.60 136 P **Pn** **05 56 55.2 -0.4**
SNR=14
ASHO S Sn 05 59 19.0 -7.5
MZR Muzera 13.71 149 P **Pn** **05 56 57.5 +0.4**
MZR S Sn 05 59 22.1 -7.1
ALNE Al Ain 13.92 139 *i* P **Pn** **05 57 00.3 +0.2**
SNR=6.5
ALNE Al Ain 13.92 139 P **Pn** **05 56 59.9 -0.2**
SNR=21
ALNE S **Sn** **05 59 27.8 -6.6**
SOHO SOHO 14.29 136 P **Pn** **05 57 04.1 -1.1**
SOHO SOHO 14.29 136 P **Pn** **05 57 04.5 -0.7**
SOHO P **Pn** **05 57 04.5 -0.7**
SOHO S Sn 05 59 36.1 -7.4
SOHO S Sn 05 59 36.1 -7.4
ARQ Araqi 14.92 138 P **Pn** **05 57 12.9 -0.8**
SNR=14
ARQ S Sn 05 59 51.0 -7.7
HOQ Hoqain 15.17 135 P **Pn** **05 57 16.3 -0.7**
HOQ P **Pn** **05 57 16.3 -0.7**
HOQ S **Sn** **05 59 56.8 -8.0**
HOQ S **Sn** **05 59 56.8 -8.0**
KARP Karpathos 15.22 277 Pn **Pn** **05 57 15.4 -2.2**
BIDO Bidbid 15.69 133 P **Pn** **05 57 23.3 -0.6**
BIDO S Sn 06 00 07.8 -10
BSY Bisya 15.76 138 P **Pn** **05 57 24.5 -0.3**
SNR=14
BSY S Sn 06 00 10.5 -8.9
SMDO Samad 16.00 135 P **Pn** **05 57 27.4 -0.5**
SNR=14
SMDO P **Pn** **05 57 27.4 -0.5**
SNR=14
SMDO S **Sn** **06 00 16.8 -8.4**
SMDO S **Sn** **06 00 16.8 -8.4**
WSAR Wadi Sarin 16.21 133 P **Pn** **05 57 30.0 -0.5**
SNR=12
WSAR S **Sn** **06 00 22.5 -7.6**
WSAR Wadi Sarin 16.21 133 Pn **Pn** **05 57 28.4 -2.1**
comp=E,5.1nm,0.3s,baz=306,slow=13,SNR=32
WSAR Sn **Sn** **06 00 22.5 -7.6**
comp=E,0.7nm,0.3s,baz=106,slow=12,SNR=2.1
WSAR LR LR 06 04 34.8
comp=E,343nm,21.0s,baz=288,slow=40
TIRR Tirgusor 16.34 311 **Pn** **05 57 30.0 -1.9**
TIRR Tirgusor 16.34 311 P **Pn** **05 57 30.0 -1.9**
TIRR pmax pmax
comp=Z,181nm,1.5s
VRH Novokhopyorsk 16.47 351 *eP* **Pn** **05 57 33.1 -0.5**
VRH pmax pmax
comp=Z,71nm,0.8s
JMDO Jabal Madar 16.57 136 P **Pn** **05 57 35.3 +0.2**
JMDO P **Pn** **05 57 35.3 +0.2**
JMDO S **Sn** **06 00 31.7 -7.2**
JMDO S **Sn** **06 00 31.7 -7.2**
ALN Alexandroupoli 16.63 297 Pn **Pn** **05 57 34.4 -1.3**
ALN Alexandroupoli 16.63 297 P **Pn** **05 57 34.4 -1.3**
ALN pmax pmax
comp=Z,28nm,1.3s
VORD Divnogorie 16.64 346 *eP* **Pn** **05 57 37.2 +1.4**
VORD pmax pmax
comp=Z,60nm,0.6s
CFR Carcaliu 16.87 312 ⇑P **Pn** **05 57 40.6 +1.9**
CFR Carcaliu 16.87 312 ⇑P **Pn** **05 57 40.6 +1.9**
WBK Wadi Bani Khal 16.89 133 P **Pn** **05 57 39.3 +0.2**
SNR=7.5
WBK P **Pn** **05 57 39.3 +0.2**
SNR=7.5
WBK P **Pn** **05 57 39.3 +0.2**
WBK P **Pn** **05 57 39.3 +0.2**
WBK S **Sn** **06 00 39.5 -7.1**
WBK S **Sn** **06 00 39.5 -7.1**
VSR Storozhevoye 16.91 346 *eP* **Pn** **05 57 39.4 +0.3**
VSR pmax pmax
comp=Z,70nm,0.9s
RDO Rodhopi 17.06 297 Pn **Pn** **05 57 40.4 -0.8**
IDI Anoyia 17.09 277 P **Pn** **05 57 42.3 +0.7**
comp=Z,4.3nm,0.3s,baz=86,slow=11,SNR=14
comp=Z,22nm,0.6s
VORR Voronezh 17.33 346 *eP* **Pn** **05 57 42.9 -1.5**
VORR pmax pmax
comp=Z,32nm,0.6s
JLN Jalan Bani Buh 17.50 133 P **Pn** **05 57 47.0 +0.3**
JLN P **Pn** **05 57 47.0 +0.3**
JLN S **Sn** **06 00 54.7 -6.7**
JLN S **Sn** **06 00 54.7 -6.7**
MHTO MHTO 17.60 139 P **Pn** **05 57 48.8 +0.8**
MHTO S **Sn** **06 00 57.4 -6.4**
AB31 Akbulak array 17.66 32 *eP* **Pn** **05 57 47.2 -1.4**
ABKAR Akbulak array 17.66 32 **Pn** **05 57 47.9 -0.8**
ABKAR Akbulak array 17.66 32 **Pn** **05 57 47.4 -1.2**
AKTO Aktyubinsk 17.83 26 P **Pn** **05 57 49.9 -0.7**
comp=Z,2.1nm,0.3s,baz=209,slow=9.1,SNR=21
comp=Z,11nm,0.5s
VRI Vrincioaia 18.07 313 ⇑P **P** **05 57 57.2 +3.1**
VRI Vrincioaia 18.07 313 ⇑P **P** **05 57 57.2 +3.1**
PLOR Plostina 18.11 313 ⇓P **P** **05 57 57.7 +3.2**
PLOR Plostina 18.11 313 ⇓P **P** **05 57 57.7 +3.2**
LPSR Galich'ya Gora 18.27 347 *eP* **Pn** **05 57 54.7 -1.3**
LPSR pmax pmax
comp=Z,250nm,0.9s
MLR Muntele Rosu 18.37 311 ⇑P **Pn** **05 57 58.2 +0.7**
MLR Muntele Rosu 18.37 311 ⇑P **Pn** **05 57 58.2 +0.7**
MLR Muntele Rosu 18.37 311 P **Pn** **05 57 56.9 -0.6**
comp=Z,0.3nm,0.3s,baz=93,slow=23,SNR=1.3
comp=Z,1.5nm,0.4s
WHFO Wadi Hawf 18.43 155 P **Pn** **05 58 00.1 +1.8**
SNR=21
WHFO S **Sn** **06 01 15.8 -8.4**
SNR=6.0
TESR Tescani 18.45 314 ⇑P **Pn** **05 58 03.4 +5.1**
SRS Serrai 18.49 296 P **P** **05 57 58.6 -0.1**
TURR Turia 18.60 312 ⇑P **Pn** **05 58 02.5 +2.4**
ABTO Aybut 18.80 157 P **Pn** **05 58 05.0 +2.1**
SNR=8.1
VOIR 18.91 310 ⇓P **P** **05 58 04.9 +1.6**
VOIR 18.91 310 ⇓P **P** **05 58 04.9 +1.6**
DOPR Dopca 18.94 312 ⇑P **Pn** **05 58 05.3 +1.0**
RBK Rabkut 18.97 155 P **Pn** **05 58 06.8 +2.0**
SHAO Shalim 19.04 150 *i* P **P** **05 58 04.3 -0.5**
SNR=23
SHAO Shalim 19.04 150 P **Pn** **05 58 07.3 +1.6**
SNR=24
DMTO DMTO 19.05 152 P **Pn** **05 58 07.7 +2.0**
SNR=53
CHGR Chuyangaron 19.06 72 P **P** **05 58 04.8 -0.3**
CHGR Chuyangaron 19.06 72 P **P** **05 58 04.8 -0.3**
CHGR pmax pmax
comp=Z,22nm,0.8s
KBL Kabul 19.12 85 P **P** **05 58 06.1 +0.2**
KBL Kabul 19.12 85 P **P** **05 58 06.1 +0.2**
KBL pmax pmax
comp=Z,14nm,1.1s
AGG Agios Georgios 19.14 289 **P** **05 58 04.2 -1.6**
AGG Agios Georgios 19.14 289 P **P** **05 58 04.2 -1.6**
AGG pmax pmax
comp=Z,20nm,0.9s
ARR Arges 19.14 309 ⇑P **P** **05 58 07.5 +1.7**
PEHC Pehcevo 19.14 298 *i* P **P** **05 58 07.1 +1.2**
GRG Griva 19.34 295 P **P** **05 58 07.6 -0.4**
AKASG Malin Array Be 19.77 328 P **P** **05 58 11.6 -1.0**
AKASG Malin Array Be 19.77 328 *i* P **P** **05 58 12.5 -0.1**
AKASG pmax pmax
comp=Z,9.0nm,0.6s
AKASG Malin Array Be 19.77 328 P **P** **05 58 11.6 -1.0**
comp=Z,4.7nm,0.3s,baz=136,slow=9.9,SNR=54
AKASG LR LR 06 07 11.4
comp=Z,176nm,18.9s,baz=34,slow=41
comp=Z,9.1nm,0.6s
AKBB Malin Array Si 19.77 328 **P** **05 58 12.4 -0.2**
AKBB IAmb IAmb 05 58 14.0
comp=Z,22nm,0.8s
AKBB Malin Array Si 19.77 328 *ceP* **P** **05 58 12.6 0.0**
AKBB pmax pmax
comp=Z,24nm,0.8s
KIEV Kiev 19.77 328 **P** **05 58 12.3 -0.3**
KIEV Kiev 19.77 328 P **P** **05 58 12.3 -0.3**
KIEV pmax pmax
comp=Z,20nm,0.8s
BURAR Bucovina Array 19.86 316 ⇓P **P** **05 58 15.3 +1.5**
BURAR Bucovina Array 19.86 316 **P** **05 58 14.3 +0.5**
BURAR Bucovina Array 19.86 316 ⇓P **P** **05 58 15.3 +1.5**
BUR08 Bucovina Ar. S 19.89 316 **P** **05 58 13.8 -0.3**
GAR Garm 19.99 71 P **P** **05 58 16.2 +1.0**
GAR IAmb IAmb 05 58 35.2
comp=Z,42nm,1.0s
FNA Florina 20.08 294 **P** **05 58 16.1 0.0**
FNA Florina 20.08 294 P **P** **05 58 16.1 0.0**
FNA pmax pmax
comp=Z,19nm,1.0s
DJES Djerdap 20.25 305 **P** **05 58 17.2 -0.7**
GZR Gura Zlata 20.34 308 ⇑P **P** **05 58 19.2 +0.2**
GZR Gura Zlata 20.34 308 ⇑P **P** **05 58 19.2 +0.2**
BOVS Bovan 20.47 302 ⇑P **P** **05 58 21.3 +1.0**
OHR Ohrid 20.56 295 *i* P Pn 05 58 26.6 +3.0
MARR Marisel-Cluj 20.66 311 ⇓P **P** **05 58 23.2 +0.8**
KK31 Karatay Array 20.80 60 **P** **05 58 24.2 +0.3**
KK31 Karatay Array 20.80 60 P **P** **05 58 24.2 +0.3**
KK31 pmax pmax
comp=Z,15nm,0.7s
KKAR Karatay Array 20.80 60 **P** **05 58 24.1 +0.2**
KKAR Karatay Array 20.80 60 P **P** **05 58 24.1 +0.2**
KKAR IAmb IAmb 05 58 29.7
comp=Z,15nm,0.7s
KKAR Karatay Array 20.80 60 P **P** **05 58 24.1 +0.2**
KKAR 05 58 24.1
KKAR pmax pmax
comp=Z,15nm,0.7s
MDVR Moldovita 20.83 305 ⇓P **P** **05 58 25.1 +0.9**
OBN Obninsk 21.11 345 P **P** **05 58 26.1 -0.9**
OBN Obninsk 21.11 345 *deP* **P** **05 58 26.3 -0.8**
OBN *e**PP **pP** **05 58 30.1 -1.3**
OBN *e*PPP PPP 05 58 54.3
OBN *e*S **S** **06 02 26.4 +5.0**
OBN *e*SS **SnSn** **06 02 49.9 +6.9**
OBN pmax pmax
comp=Z,68nm,0.8s
OBN MLR MLR
comp=Z,118nm,16.0s
OBN Obninsk 21.11 345 P **P** **05 58 26.2 -0.9**
comp=Z,35nm,0.3s,baz=174,slow=23,SNR=12
comp=Z,35nm,0.3s
KEK Kerkira 21.15 291 P **P** **05 58 27.2 -0.5**
BZS Buzias 21.18 307 ⇑P **P** **05 58 29.2 +1.2**
BZS Buzias 21.18 307 ⇑P **P** **05 58 29.2 +1.2**
TIR Tirane 21.29 295 P **P** **05 58 29.6 +0.4**
TIR IAmb IAmb 05 58 34.5
comp=Z,38nm,0.8s
TIR Tirane 21.29 295 P **P** **05 58 29.6 +0.4**
TIR pmax pmax
comp=Z,38nm,0.8s
SIRR Siria 21.40 309 ⇑P **P** **05 58 32.2 +1.8**
MOS Moscow 21.49 347 *eP* **P** **05 58 30.0 -1.2**
MOS *e* 05 58 49.8
MOS *eS* **S** **06 02 24.2 -4.8**
MOS pmax pmax
comp=Z,50nm,0.7s
LVV L'vov 21.74 320 *eP* **P** **05 58 33.0 -0.9**
DIVS Divibare 21.79 302 P **P** **05 58 34.4 -0.3**
CRVS Cervenica-Dubn 22.68 315 *eP* **P** **05 58 45.3 +1.3**
CRVS Cervenica-Dubn 22.68 315 *eP* **P** **05 58 45.3 +1.3**
NIL Nilore 22.71 85 P **P** **05 58 44.0 -0.5**
NIL Nilore 22.71 85 P **P** **05 58 44.0 -0.5**
NIL pmax pmax
comp=Z,12nm,0.7s
AML Almayashu 22.90 64 P **P** **05 58 48.3 +1.5**
ARU Arti 23.15 18 P **P** **05 58 48.1 -0.7**
ARU Arti 23.15 18 *d iP* **P** **05 58 48.3 -0.5**
ARU 05 59 13.4
ARU S **S** **06 03 03.8 +4.1**
ARU SS **SnSn** **06 03 38.1 +5.1**
ARU pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 23.15 18 LR LR 06 11 01.5
comp=Z,97nm,18.2s,baz=220,slow=45
MNK Minsk 23.16 333 *i* P **P** **05 58 49.6 +0.7**
comp=E,17nm,1.1s
MNK *i* P **P** **05 58 49.6 +0.7**
comp=N,27nm,1.1s
MNK *i* P **P** **05 58 49.6 +0.7**
comp=Z,18nm,0.7s,baz=138
MNK *i* PP **PnPn** **05 59 16.4 +2.2**
MNK *i* PPP PPP 05 59 24.2
MNK *i* S **S** **06 03 04.7 +4.9**
MNK *i* SS **SnSn** **06 03 42.0 +8.8**
MNK *i* SSS SSS 06 03 55.4
MNK *i* LQ LQ 06 06 06.9
MNK *i* LR LR 06 07 44.1
MNK *i* LRM MLR 06 09 03.1
comp=Z,110nm,13.0s
MNK *i* LRM MLR 06 09 46.8
comp=N,1μm,18.2s
MNK *i* LRM MLR 06 09 59.3
comp=E,369nm,16.1s
MNK Minsk 23.16 333 *i* P **P** **05 58 49.6 +0.7**
MNK *i* 05 59 16.4
MNK *i* PPP PPP 05 59 24.2
MNK *i* S **S** **06 03 04.7 +4.9**
MNK *i* SS **SnSn** **06 03 41.9 +8.8**
MNK *i* SSS SSS 06 03 55.3
MNK pmax pmax
comp=Z,18nm,0.7s
MNK pmax pmax
comp=E,17nm,1.1s
MNK pmax pmax
comp=N,27nm,1.1s
MNK MLR MLR
comp=Z,110nm,13.0s
MNK MLR MLR
comp=N,1μm,18.0s
MNK MLR MLR
comp=E,369nm,16.0s
MORH Mrgy, Hungar 23.34 307 ⇓P **P** **05 58 50.7 -0.1**
TIP Timpagrande 23.47 289 P **P** **05 58 51.1 -1.2**
ATD Arta Tunnel 23.51 187 LR LR 06 08 50.2
comp=E,9.2nm,18.3s,baz=34,slow=38
AAK Ala-Archa 23.57 62 P **P** **05 58 53.2 0.0**
AAK Ala-Archa 23.57 62 P **P** **05 58 53.3 0.0**
AAK pmax pmax
comp=Z,6.0nm,0.9s
AAK Ala-Archa 23.57 62 LR LR 06 10 14.8
comp=Z,165nm,19.0s,baz=270,slow=42
KIRV Kirov 23.73 5 *ceP* **P** **05 58 53.1 -1.4**
KIRV Kirov 23.73 5 LR LR 06 10 06.0
comp=Z,187nm,18.3s,baz=195,slow=42
OTUK Ortayu 23.73 48 P **P** **05 58 54.7 0.0**
BTLS Baital 23.76 56 ⇑*iP* **P** **05 58 56.3 +1.3**
comp=Z,16nm,0.8s,baz=56
BTLS Baital 23.76 56 *c iP* **P** **05 58 56.2 +1.3**
BTLS pmax pmax
comp=Z,16nm,0.8s
SGDS Sogindy 23.81 61 *eP* **P** **05 58 56.8 +1.2**
baz=60
SGDS Sogindy 23.81 61 *eP* **P** **05 58 56.7 +1.2**
NACGM Naroch 23.88 332 *eP* P 05 58 48.7 -7.3
comp=Z,14nm,0.7s,baz=140
SVE Sverdlovsk 24.06 20 *eP* P 05 59 06.1 +8.4
SVE pmax pmax
comp=Z,56nm,1.3s
CEL Celeste 24.15 287 P **P** **05 58 56.9 -1.9**
CUC Castrocucco 24.23 291 P **P** **05 58 58.6 -0.8**
CUC IAmb IAmb 05 59 01.3
comp=Z,20nm,0.9s
OJC Ojcow 24.27 317 P **P** **05 58 60.0 +0.3**
OJC IAmb IAmb 05 59 07.2
comp=Z,20nm,0.6s
OJC Ojcow 24.27 317 P **P** **05 59 00.0 +0.3**
OJC pmax pmax
comp=Z,20nm,0.6s
KSH Kashi 24.40 70 P **P** **05 59 00.8 -0.3**
KSH pmax pmax
comp=Z,11nm,0.9s
TKM2 Tokmak 2 24.41 62 P **P** **05 59 02.6 +1.3**
NRN Naryn 24.53 66 P **P** **05 59 01.9 -0.6**
NRN IAmb IAmb 05 59 06.4
comp=Z,17nm,0.8s
NRN Naryn 24.53 66 P **P** **05 59 01.9 -0.6**
NRN pmax pmax
comp=Z,17nm,0.8s
BRZS Berezniki 24.68 44 ⇑*iP* **P** **05 59 04.2 +0.7**
comp=Z,13nm,1.1s,baz=44
BRZS Berezniki 24.68 44 *c iP* **P** **05 59 04.2 +0.7**
BRZS pmax pmax
comp=Z,13nm,1.1s
SUW Suwalki 24.74 327 P **P** **05 59 03.6 -0.3**
SUW Suwalki 24.74 327 P **P** **05 59 03.6 -0.3**
SUW pmax pmax
comp=Z,57nm,0.8s
JAVC Velka Javorina 24.91 312 *eP* **P** **05 59 05.4 -0.2**
MODS Modra-Piesok 24.97 311 *eP* **P** **05 59 08.6 +2.5**
MODS Modra-Piesok 24.97 311 *eP* **P** **05 59 08.6 +2.5**
KOGS Kog 24.99 306 *i* P **P** **05 59 07.2 +1.0**
ZST Bratislava 25.01 311 *eP* **P** **05 59 08.1 +1.7**
ZST Bratislava 25.01 311 *eP* **P** **05 59 08.1 +1.7**
MAUC Maruska 25.02 314 *eP* **P** **05 59 07.3 +0.7**
BRVK Borovoye 25.03 36 P **P** **05 59 06.4 -0.2**
BRVK IAmb IAmb 05 59 15.8
comp=Z,24nm,0.9s
BRVK Borovoye 25.03 36 *ceP* **P** **05 59 07.1 +0.5**
BRVK pmax pmax
comp=Z,39nm,1.7s
OKC Ostrava-Krasne 25.04 315 *eP* **P** **05 59 07.2 +0.6**
OKC Ostrava-Krasne 25.04 315 *eP* **P** **05 59 07.2 +0.6**
BVA0 Borovoye Array 25.06 36 *i* P **P** **05 59 06.7 -0.2**
BVAR Borovoye Array 25.06 36 P **P** **05 59 07.4 +0.5**
comp=Z,11nm,0.5s,baz=240,slow=8.1,SNR=46
BVAR ScP **ScP** **06 06 16.8 -2.9**
comp=Z,1.5nm,0.7s,baz=241,slow=1.5,SNR=5.2
BVAR LR LR 06 11 09.2
comp=Z,280nm,18.6s,baz=230,slow=42
comp=Z,11nm,0.5s
KUU Kurty 25.11 60 *eP* **P** **05 59 08.4 +1.0**
comp=Z,19nm,1.0s,baz=60
KUU Kurty 25.11 60 *eP* **P** **05 59 08.4 +1.0**
KUU pmax pmax
comp=Z,19nm,1.0s
PAOL Paolisi 25.23 293 IAmb IAmb 05 59 12.8
comp=Z,21nm,1.1s
RONA Rosalia, Austr 25.34 309 *i* P **P** **05 59 10.9 +1.3**
comp=Z,7.9nm,0.6s
CRES Cresnjev 25.35 304 *i* P **P** **05 59 10.5 +0.9**
MORC Moravsky Berou 25.36 314 ⇓P **P** **05 59 10.7 +1.1**
MORC Moravsky Berou 25.36 314 P **P** **05 59 10.2 +0.5**
MORC IAmb IAmb 05 59 21.5
comp=Z,16nm,1.1s
MORC Moravsky Berou 25.36 314 *eP* **P** **05 59 10.3 +0.6**
MORC Moravsky Berou 25.36 314 P **P** **05 59 10.2 +0.5**
MORC pmax pmax
comp=Z,16nm,1.1s
TNSS Tian-Shan 25.41 62 *eP* **P** **05 59 12.1 +1.5**
baz=62
TNSS Tian-Shan 25.41 62 *eP* **P** **05 59 12.0 +1.5**
RAFF Raffo Rosso 25.42 284 P **P** **05 59 10.6 +0.3**
MDOK Medeo 25.50 62 *eP* **P** **05 59 11.4 +0.3**
baz=62
MDOK Medeo 25.50 62 *eP* **P** **05 59 11.4 +0.3**
CHKK Chushkaly 25.56 60 *eP* **P** **05 59 13.2 +1.7**
baz=60

CHKK **Chushkaly** 25.56 60 *e*P P 05 59 13.2 +1.7
CONA **Conrad Observa** 25.70 309 *i* P P 05 59 13.1 +0.3
comp=Z,9.9nm,1.1s
ARSA **Arzberg** 25.70 308 *i* P P 05 59 13.5 +0.8
comp=Z,9.2nm,0.9s
VRAC **Vranov** 25.74 313 *e*P P 05 59 13.4 +0.4
VRAC **Vranov** 25.74 313 LR LR 06 10 28.2
comp=Z,72nm,18.7s,baz=120,slow=39
KRUC **Moravsky** 25.77 312 *e*P P 05 59 13.7 +0.4
INTR **Introdacgua** 25.80 295 IAmb IAmb 05 59 15.3
comp=Z,14nm,0.9s
SOKA **Soboth** 25.86 306 *i* P P 05 59 14.8 +0.6
comp=Z,7.6nm,1.1s
LJU **Ljubljana** 26.03 305 *i* P P 05 59 16.9 +1.1
OBKA **Obir** 26.14 306 *i* pP P 05 59 18.9 +2.2
comp=Z,9.5nm,1.3s
KLMR **Klimovskoe** 26.19 353 *e*P P 05 59 15.9 -1.1
KLMR AMP 05 59 18.5
comp=Z,53nm,0.6s
KLMR **Klimovskoe** 26.19 353 *e*P P 05 59 15.9 -1.1
KLMR pmax pmax
comp=Z,53nm,0.6s
AQU **L'Aquila** 26.21 296 P P 05 59 17.2 -0.2
AQU IAmb IAmb 05 59 46.1
comp=Z,34nm,1.1s
AQU **L'Aquila** 26.21 296 P P 05 59 17.2 -0.2
AQU pmax pmax
comp=Z,33nm,1.1s
CAMP **Campotosto** 26.22 296 IAmb IAmb 05 59 24.0
comp=Z,16nm,0.7s
DPC **Dobruska-Polom** 26.32 315 *e*P P 05 59 18.9 +0.6
DPC **Dobruska-Polom** 26.32 315 *e*P P 05 59 18.9 +0.6
GUMA **Gualdo di Mace** 26.33 298 IAmb IAmb 05 59 29.0
comp=Z,21nm,0.7s
NRCA **Norcia** 26.47 297 IAmb IAmb 05 59 21.6
comp=Z,18nm,0.9s
FDMO **Fiordimonte** 26.51 297 IAmb IAmb 05 59 21.4
comp=Z,16nm,0.8s
CHVC **Chvalec** 26.57 315 *e*P P 05 59 20.8 +0.2
CHVC **Chvalec** 26.57 315 *e*P P 05 59 20.8 +0.2
PRGR **Permogore** 26.66 360 *e*P P 05 59 19.5 -1.7
PRGR *e*S S 06 03 52.0 -3.7
PRGR pmax pmax
comp=Z,31nm,0.7s
MOA **Molln** 26.69 308 *i* pP P 05 59 23.2 +1.5
comp=Z,7.8nm,1.0s
KPKS **Kokpek** 26.72 62 *e*P P 05 59 23.3 +1.1
baz=62
KPKS **Kokpek** 26.72 62 *e*P P 05 59 23.2 +1.1
TDK **Taldyqorghan** 26.76 58 *e*P P 05 59 23.0 +0.6
comp=Z,18nm,0.9s,baz=58
TDK **Taldyqorghan** 26.76 58 *e*P P 05 59 22.9 +0.6
TDK pmax pmax
comp=Z,18nm,0.9s
MYKA **Terra Mystica** 26.77 306 *e*P P 05 59 26.4 +3.9
comp=Z,2.1nm,0.4s
PRED **Cave del Predi** 26.78 305 IAmb IAmb 05 59 59.2
comp=Z,17nm,1.5s
CESX **Cesi** 26.84 296 IAmb IAmb 05 59 26.5
comp=Z,18nm,0.9s
UZB **Uzynbulak** 26.93 62 *e*P P 05 59 25.3 +1.2
baz=62
UZB **Uzynbulak** 26.93 62 *e*P P 05 59 25.2 +1.2
BIOA **Bad Ischl, Aus** 27.05 308 *i* P P 05 59 25.6 +0.6
comp=Z,5.5nm,0.4s
KBA **Koelnbreinsper** 27.08 306 *e*P P 05 59 26.1 +0.7
comp=Z,6.5nm,0.6s
SHLS **Shalkode** 27.25 62 *e*P P 05 59 31.0 +4.0
baz=62
SHLS **Shalkode** 27.25 62 *e*P P 05 59 30.9 +4.0
GERES **GERESS Array B** 27.36 310 P P 05 59 27.6 -0.2
comp=Z,0.9nm,0.4s,baz=122,slow=9.3,SNR=1.5
comp=Z,0.9nm,0.4s
CIMO **Cimolais** 27.51 304 P P 05 59 28.9 -0.2
CIMO IAmb IAmb 05 59 45.8
comp=Z,4.7nm,0.8s
KHC **Kasperske Hory** 27.52 311 *e*P P 05 59 31.2 +2.0
KHC **Kasperske Hory** 27.52 311 *e*P P 05 59 31.2 +2.0
ABTA **Abfaltersbach** 27.55 305 *i* P P 05 59 29.3 -0.2
comp=Z,7.8nm,1.7s
LESA **Schwarzleotal** 27.61 307 *e*P P 05 59 29.5 -0.5
comp=Z,2.5nm,0.4s
MTSE **Matsula** 27.83 335 *e*P P 05 59 31.9 +0.3
WTTA **Wattenberg** 28.26 306 *i* P P 05 59 35.7 -0.3
comp=Z,4.1nm,0.4s
WATA **Walderalm** 28.31 306 *i* P P 05 59 36.5 +0.1
comp=Z,5.8nm,0.4s
KURBB **Kurchatov Arra** 28.37 46 P P 05 59 37.8 +1.2
comp=Z,7.4nm,0.7s,baz=253,slow=9.1,SNR=38
KURBB ScP **ScP** 06 06 26.3 -3.3
comp=Z,0.6nm,0.7s,baz=248,slow=3.2,SNR=2.3
KURBB LR LR 06 13 21.2
comp=Z,155nm,18.1s,baz=160,slow=42
comp=Z,7.4nm,0.7s
KURK **Kurchatov** 28.46 46 P P 05 59 36.6 -0.8
KURK IAmb IAmb 05 59 45.6
comp=Z,11nm,0.9s
KURK **Kurchatov** 28.46 46*ce*P P 05 59 38.7 +1.3
KURK pmax pmax
comp=Z,11nm,1.3s
SQTA **Sankt Quirin** 28.53 306 *i* P P 05 59 37.9 -0.3
comp=Z,6.1nm,0.4s,SNR=7.5
MOTA **Moosalm** 28.63 306 *i* P P 05 59 38.6 -0.6
comp=Z,2.0nm,0.4s,SNR=6.4
CLL **Collm** 28.63 315 *e*(sP) **sP** 05 59 43.0 -2.5
CLL *e*PPP PPP 06 00 37.0
CLL **Collm** 28.63 315 *e*P sP 05 59 43.0 -2.5
MEF **Metsahovi** 28.80 338 *e*P P 05 59 40.1 -0.2
FETA **Feichten** 28.81 305 *i* P P 05 59 40.5 -0.3
comp=Z,3.1nm,0.4s
RETA **Reutte** 28.89 306 *i* P P 05 59 40.4 -1.0
comp=Z,1.7nm,0.3s,SNR=10
VSL **Villasalto** 29.19 290 IAmb IAmb 05 59 45.9
comp=Z,13nm,0.7s
BSD **Bornholm Skovb** 29.29 323 *e*P P 05 59 43.8 -0.9
FINES **FINESS Array B** 29.30 341 *i* P P 05 59 44.2 -0.6
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES **FINESS Array B** 29.30 341 P P 05 59 42.3 -2.4
comp=Z,2.9nm,0.4s,baz=147,slow=10,SNR=31
FINES LR LR 06 13 06.6
comp=Z,115nm,20.3s,baz=146,slow=40
comp=Z,2.9nm,0.4s
SEM **Semipalatinsk** 29.33 48 *e*P P 05 59 46.4 +0.9
baz=48
SEM **Semipalatinsk** 29.33 48 *e*P P 05 59 46.4 +0.9
DAVA **Damuels** 29.43 306 *i* P P 05 59 45.7 -0.6
comp=Z,5.7nm,0.3s,SNR=24
PGF **Pioggiola** 29.47 296 P P 05 59 46.6 -0.1
MAKZ **Makanchi** 29.55 55 P P 05 59 46.6 -0.6
MAKZ IAmb IAmb 05 59 50.4
comp=Z,15nm,0.6s
MAKZ **Makanchi** 29.55 55 P P 05 59 46.6 -0.6
MAKZ pmax pmax
comp=Z,15nm,0.6s
KEST **Kesra** 29.61 282 P P 05 59 49.7 +1.7
comp=Z,19nm,0.8s,baz=318,slow=1.6,SNR=24
KEST LR LR 06 14 41.3
comp=Z,74nm,19.1s,baz=272,slow=42
comp=Z,19nm,0.8s
MK31 **Makanchi Array** 29.75 55 P P 05 59 50.0 +0.9
MK31 **Makanchi Array** 29.75 55 P P 05 59 50.0 +0.9
MK31 pmax pmax
comp=Z,28nm,0.7s
MKAR **Makanchi Array** 29.75 55 *i* P P 05 59 50.5 +1.4
MKAR pmax pmax
comp=Z,36nm,0.6s
MKAR **Makanchi Array** 29.75 55 P P 05 59 50.5 +1.4
comp=Z,37nm,0.7s,baz=254,slow=7.2,SNR=293
MKAR LR LR 06 14 48.3
comp=Z,117nm,19.2s,baz=260,slow=42
comp=Z,37nm,0.7s
RAF **Rauma** 30.25 337 *e*P P 05 59 53.0 -0.2
VIKU **Vikbolandet** 30.39 330 *e*P P 05 59 54.0 -0.4
DEL **Delary** 30.49 325 *e*P P 05 59 55.5 +0.1
SBF **Sospel** 30.68 298 P P 05 59 57.4 +0.1
MBDF **Montbardon** 31.22 300 P P 06 00 02.2 0.0
LPG **La Plagne** 31.30 302 P P 06 00 04.0 +1.0
BNI **Bardonecchia** 31.31 301 P P 06 00 02.6 -0.3
BNI **Bardonecchia** 31.31 301 P P 06 00 02.6 -0.3
BNI pmax pmax
comp=Z,21nm,0.7s
LPL **La Plagne** 31.32 302 P P 06 00 02.3 -0.8
ZSN **Zaisan** 31.60 55 *e*P P 06 00 05.9 +0.6
baz=55
ZSN **Zaisan** 31.60 55 *e*P P 06 00 05.9 +0.6

ORIF **Oris-en-Rattie** 31.87 300 P P 06 00 07.0 -0.8
PYUN **Piuthan** 32.32 92 *e*P P 06 00 13.1 +1.1
comp=Z,19nm,0.7s
HFS **Hagfors** 32.60 330 P P 06 00 13.6 -0.4
comp=Z,6.9nm,0.3s,baz=125,slow=9.3,SNR=62
comp=Z,6.9nm,0.3s
VIVF **Saint-Julien-l** 32.72 300 P P 06 00 14.2 -1.0
DANN **Dangsing** 32.86 91 *e*P P 06 00 18.6 +1.7
comp=Z,36nm,0.7s
ZAA0 **Zalesovo Array** 33.13 43 P P 06 00 18.7 +0.1
ZAA0 IAmb IAmb 06 00 27.5
comp=Z,6.6nm,0.9s
ZALV **Zalesovo Beam** 33.13 43 P P 06 00 18.5 -0.2
ZALV **Zalesovo Beam** 33.13 43 *i* P P 06 00 19.0 +0.3
ZALV pmax pmax
comp=Z,5.0nm,0.7s
ZALV **Zalesovo Beam** 33.13 43 P P 06 00 19.0 +0.3
comp=Z,5.5nm,0.7s,baz=255,slow=8.7,SNR=18
ZALV LR LR 06 16 30.1
comp=Z,296nm,18.2s,baz=255,slow=41
comp=Z,5.5nm,0.7s
WMQ **Urumqi** 33.27 62 *e*P P 06 00 22.0 +1.9
WMQ pP sP 06 00 26.6 -0.1
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ LR LR
comp=Z,68nm,27.9s
SMF **Signal de Mont** 33.43 303 P P 06 00 21.4 +0.1
DGZ **Jazzator, Alta** 33.65 51 *i* P P 06 00 24.8 +1.4
DGZ pmax pmax
comp=Z,8.0nm,0.7s
SSF **Saint Saulge** 33.70 304 P P 06 00 23.1 -0.6
GKN **Gorkha** 33.70 91 *e*P P 06 00 25.2 +1.1
comp=Z,48nm,0.6s
OSL **Oslo** 33.73 329 *e*P P 06 00 23.4 -0.3
AVF **Avril sur Loir** 33.78 304 P P 06 00 23.5 -0.8
HOMB **Homborsund** 33.91 325 *e*P P 06 00 25.3 0.0
NB2 **NORSAR Subarra** 34.13 331 P P 06 00 25.9 -1.4
comp=Z,1.6nm,0.6s,baz=130,slow=7.9
NB2 **NORSAR Subarra** 34.13 331 P P 06 00 25.9 -1.4
baz=130,slow=7.9
NB2 **NORSAR Subarra** 34.13 331 P P 06 00 26.0 -1.4
NOA **NORSAR Array B** 34.13 331 P P 06 00 25.9 -1.4
comp=Z,0.8nm,0.5s,baz=124,slow=8.6,SNR=6.5
NOA LR LR 06 15 40.9
comp=Z,134nm,18.8s,baz=120,slow=39
comp=Z,0.8nm,0.5s
DMN **Daman** 34.24 91 *e*P P 06 00 30.0 +1.1
comp=Z,37nm,0.8s
PKIN **Phulchoki** 34.49 91 *e*P P 06 00 32.2 +1.2
comp=Z,26nm,0.6s
PKI **Pulchoki** 34.50 91 *e*P P 06 00 32.7 +1.5
comp=Z,23nm,0.6s
GUN **Gumba** 34.76 90 *e*P P 06 00 34.9 +1.4
comp=Z,81nm,0.9s
JIRN **Jiri** 35.11 91 *e*P P 06 00 38.0 +1.5
comp=Z,40nm,0.6s
LFF **La Frestale** 35.52 300 P P 06 00 38.8 -0.6
DOMB **Dombas** 35.54 331 *e*P P 06 00 39.8 +0.3
RAMN **Ramite** 35.72 92 *e*P P 06 00 43.1 +1.5
comp=Z,74nm,0.6s
MFF **Saint Martin d** 36.17 303 P P 06 00 43.9 -1.1
MOR8 **Moi Rana** 36.24 339 *e*P P 06 00 44.8 -0.6
KTK1 **Kautokeino** 36.32 347 *e*P P 06 00 45.4 -0.6
ARA0 **ARCESS Array S** 36.36 348 *e*P P 06 00 46.3 -0.1
ARCES **ARCESS Array B** 36.36 348 P P 06 00 45.7 -0.7
comp=Z,1.5nm,0.4s,baz=152,slow=9.0,SNR=21
comp=Z,1.5nm,0.4s
FLN **La Foliniere** 36.52 307 P P 06 00 47.3 -0.6
KMBO **Kilima Mbogo** 36.80 194 LR LR 06 15 55.8
comp=Z,124nm,19.8s,baz=92,slow=36
KONS **Konsmoi** 36.85 339 *e*P P 06 00 50.4 -0.1
FAUS **Fauske** 36.86 341 *e*P P 06 00 49.9 -0.7
TAM **Tamanrasset** 37.04 262 P P 06 00 52.7 -0.2
TAM IAmb IAmb 06 00 56.1
comp=Z,19nm,1.2s
TAM **Tamanrasset** 37.04 262 P P 06 00 52.7 -0.2
TAM pmax pmax
comp=Z,19nm,1.2s
STEI **Steigen** 37.27 342 *e*P P 06 00 53.5 -0.5
JETT **Jettan, Norway** 37.33 346 *e*P P 06 00 54.0 -0.6
TRO **Tromso** 37.70 345 *e*P P 06 00 57.1 -0.6
EKA **Eskdalemuir Ar** 39.04 317 P P 06 01 08.8 -0.3
comp=Z,6.5nm,0.4s,baz=106,slow=8.5,SNR=44
comp=Z,6.5nm,0.4s
EKB **Eskdalemuir** 39.06 317 P P 06 01 09.0 -0.4
EKB IAmb IAmb 06 01 22.9
comp=Z,26nm,1.1s
ESBB **Sonseca Array** 39.42 292 P P 06 01 12.3 -0.3
ESBB IAmb IAmb 06 01 13.4
comp=Z,9.4nm,0.7s
ESDC **Sonseca Array** 39.42 292 P P 06 01 12.5 -0.1
comp=Z,7.1nm,0.7s,baz=69,slow=8.3,SNR=93
ESDC PcP **PcP** 06 03 21.4 +0.8
comp=Z,0.6nm,0.8s,baz=52,slow=2.6,SNR=2.4
comp=Z,7.1nm,0.7s
GOMU **GeErMu** 39.55 74 P P 06 01 13.5 -0.7
GOMU pP pP 06 01 17.1 -1.8
GOMU sP sP 06 01 21.0 +0.2
GOMU pmax pmax
comp=Z,2.0nm,0.6s
PAB **San Pablo** 39.73 292 P P 06 01 14.3 -1.0
PAB **San Pablo** 39.73 292 P P 06 01 14.3 -1.0
PAB pmax pmax
comp=Z,6.0nm,0.8s
PBRG **Braganca** 41.18 296 *e*P P 06 01 27.0 -0.2
comp=Z,10nm,1.7s
MVO **Moncorvo** 41.49 295 *e*P P 06 01 29.5 -0.2
comp=Z,17nm,1.9s
PVRL **Vila Real** 41.98 295 *e*P P 06 01 33.4 -0.3
comp=Z,25nm,1.8s
MTE **Manteigas** 42.00 294 *e*P P 06 01 34.3 +0.3
comp=Z,14nm,1.3s
POLO **Lamas de Olo** 42.02 295 *e*P P 06 01 34.4 +0.2
comp=Z,11nm,1.6s
PCBR **Castelo Branco** 42.06 293 *e*P P 06 01 34.1 -0.2
comp=Z,26nm,0.8s
PBAR **Barrancos** 42.06 290 *e*P P 06 01 34.3 0.0
comp=Z,13nm,1.8s
PMRV **Marv??o** 42.07 292 *e*P P 06 01 34.5 +0.1
comp=Z,20nm,1.6s
PGAV **Gavieira, Arco** 42.28 296 *e*P P 06 01 35.8 -0.5
comp=Z,21nm,1.5s
PALK **Palekele** 42.30 122 LR LR 06 19 05.4
comp=Z,42nm,21.9s,baz=56,slow=36
PESTR **Estremoz** 42.33 292 *e*P P 06 01 36.4 -0.2
comp=Z,21nm,0.9s
PESTR **Estremoz** 42.33 292 P P 06 01 35.5 -1.1
PESTR IAmb IAmb 06 01 37.1
comp=Z,16nm,0.8s
PBEJ **Beja** 42.73 290 *e*P P 06 01 40.0 +0.2
comp=Z,19nm,1.3s
GTA **Gaotai** 42.74 68 *e*P P 06 01 41.8 +1.8
GTA pP sP 06 01 47.1 +0.4
GTA pmax pmax
comp=Z,6.0nm,1.0s
PMTG **Montargil** 42.78 292 *e*P P 06 01 40.2 0.0
comp=Z,17nm,1.5s
PCAS **Casmilo, Conde** 42.79 293 *e*P P 06 01 39.9 -0.4
comp=Z,19nm,1.7s
PCVE **Castro Verde** 42.95 290 *e*P P 06 01 41.5 -0.1
comp=Z,34nm,1.8s
PBDV **Barranco-do-Ve** 42.96 289 *e*P P 06 01 41.5 -0.2
comp=Z,94nm,1.6s
PSBE **So Bento** 43.12 293 *e*P P 06 01 43.5 +0.5
comp=Z,33nm,1.9s
ZAK **Zakamensk** 43.87 51 *e*P P 06 01 45.5 -3.5
ZAK pmax pmax
comp=Z,7.0nm,1.4s
SPA0 **Spitsbergen Ar** 45.08 352 *e*P P 06 01 58.4 +0.2
SPITS **Spitsbergen Ar** 45.08 352 P P 06 01 58.4 +0.2
comp=Z,7.1nm,0.3s,baz=142,slow=11,SNR=86
comp=Z,7.1nm,0.3s
TOA0 **Torodi Ar. Sit** 45.28 252 P P 06 01 59.5 -1.0
TOA0 IAmb IAmb 06 02 01.4
comp=Z,6.7nm,0.7s
TORD **Torodi Ar. Bea** 45.28 252 P P 06 01 59.8 -0.8
TORD IAmb IAmb 06 02 02.0
comp=Z,15nm,1.5s
TORD **Torodi Ar. Bea** 45.28 252 P P 06 02 00.9 +0.4
comp=Z,4.5nm,0.6s,baz=41,slow=8.6,SNR=43
TORD PcP **PcP** 06 03 40.9 +0.6
comp=Z,0.7nm,0.6s,baz=66,slow=2.4,SNR=2.2
TORD LR LR 06 23 29.1
comp=Z,87nm,19.2s,baz=12,slow=39
comp=Z,4.5nm,0.6s

SONM **Songino Array** 46.11 55 P P 06 02 07.8 +0.9
comp=Z,1.7nm,0.8s,baz=283,slow=10,SNR=9.1
SONM LR LR 06 24 34.7
comp=Z,69nm,18.3s,baz=278,slow=40
comp=Z,1.7nm,0.8s
ULN **Ulaanbaatar** 46.55 54 P P 06 02 11.2 +0.8
ULN IAmb IAmb 06 02 12.5
comp=Z,11nm,0.9s
ULN **Ulaanbaatar** 46.55 54*ce*P P 06 02 11.5 +1.1
ULN pmax pmax
comp=Z,12nm,0.9s
LZH **Lanzhou** 46.65 71 *e*P P 06 02 13.0 +1.7
LZH pP sP 06 02 18.9 +0.9
LZH pmax pmax
comp=Z,17nm,1.0s
CD2 **Chengdu** 48.25 78 P P 06 02 24.5 +0.8
CD2 pP pP 06 02 25.3 -3.2
CD2 sP sP 06 02 26.7 -3.7
CD2 pmax pmax
comp=Z,40nm,0.7s
PZH **PanZhiHua** 48.31 84 P P 06 02 25.3 +1.0
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,130nm,4.1s
BORG **Borgarnes** 49.25 329 LR LR 06 25 01.4
comp=Z,60nm,19.7s,baz=72,slow=38
CMAR **Chiang Mai Arr** 49.70 95 P P 06 02 35.4 +0.5
comp=Z,1.7nm,0.3s,baz=294,slow=8.6,SNR=9.3
CMAR LR LR 06 26 48.8
comp=Z,32nm,18.6s,baz=305,slow=40
comp=Z,1.7nm,0.3s
BOD **Bodaibo** 49.82 41 *e*P P 06 02 33.1 -2.2
BOD pmax pmax
comp=Z,8.0nm,1.5s
BTO **Baotou** 50.08 63 *e*P P 06 02 37.9 +0.2
BTO pP pP 06 02 42.4 -0.1
BTO sP sP 06 02 45.1 +0.7
BTO PP PP 06 04 33.8 +1.2
BTO pmax pmax
comp=Z,64nm,0.8s
BTO pmax pmax
comp=Z,140nm,3.8s
DAG **Danmarks Havn** 50.42 344 *i* P P 06 02 38.4 -1.2
DAG IAmb IAmb 06 02 39.6
comp=Z,4.0nm,0.6s
HHC **Hu-ho-hao-te** 51.14 63 *e*P P 06 02 45.8 +0.1
HHC pmax pmax
comp=Z,35nm,0.5s
HHC pmax pmax
comp=Z,120nm,4.9s
XAN **Xi'an** 51.24 72 ⇓P P 06 02 47.5 +1.1
XAN pP pP 06 02 52.0 +0.7
XAN pmax pmax
comp=Z,17µm,0.7s
NOR **Nord** 51.65 350 *i* P P 06 02 47.8 -0.9
NOR IAmb IAmb 06 02 49.7
comp=Z,3.5nm,0.9s
LSZ **Lusaka** 52.71 202 LR LR 06 25 30.0
comp=Z,79nm,18.1s,baz=130,slow=36
LYN **LuoYang** 53.81 70 ⇓P P 06 03 07.0 +1.6
LYN pmax pmax
comp=Z,25nm,0.8s
DBIC **Dimbokro** 54.33 251 P P 06 03 08.8 -0.5
DBIC IAmb IAmb 06 03 11.3
comp=Z,7.1nm,0.8s
DBIC **Dimbokro** 54.33 251 P P 06 03 08.9 -0.5
DBIC pmax pmax
comp=Z,7.0nm,0.8s
DBIC **Dimbokro** 54.33 251 P P 06 03 09.7 +0.4
comp=Z,4.5nm,0.3s,baz=42,slow=7.5,SNR=26
DBIC LR LR 06 31 12.7
comp=Z,104nm,18.3s,baz=34,slow=41
comp=Z,4.5nm,0.3s
KIC **Kosan Boka** 54.43 251 ⇓*i*P P 06 03 10.4 +0.3
comp=Z,22nm,0.7s
TIC **Toumodi** 54.47 251 *e*P P 06 03 13.0 +2.6
comp=Z,6.4nm,0.6s
LIC **Lamto** 54.73 251 ⇓*i*P P 06 03 12.6 +0.3
comp=Z,23nm,0.7s
TIXI **Tiksi** 55.06 23 P P 06 03 14.0 +0.1
TIXI **Tiksi** 55.06 23*ce*P P 06 03 13.7 -0.2
SUMG **Summit** 55.30 339 P P 06 03 16.0 -0.2
SUMG IAmb IAmb 06 03 17.4
comp=Z,12nm,0.9s
SUMG **Summit** 55.30 339 P P 06 03 16.0 -0.2
SUMG pmax pmax
comp=Z,12nm,0.9s
SUMG **Summit** 55.30 339 *i* P P 06 03 15.8 -0.4
SUMG IAmb IAmb 06 03 18.7
comp=Z,10nm,0.7s
ICESG **Greenland Ices** 56.20 334 *i* P P 06 03 21.9 -0.7
ICESG IAmb IAmb 06 03 23.8
comp=Z,14nm,0.9s
YAK **Yakutsk** 57.01 34 LR LR 06 31 46.7
comp=Z,9.9nm,19.1s,baz=274,slow=40
HEH **HeiHe** 59.05 48 *e*P P 06 03 42.8 +0.3
HEH pmax pmax
comp=Z,12nm,1.0s
HEH pmax pmax
comp=Z,180nm,4.5s
DY2G **Dye2** 59.26 332 *i* P P 06 03 43.2 -0.8
DY2G IAmb IAmb 06 03 44.8
comp=Z,12nm,0.8s
NJ2 **Nanjing** 59.71 70 *e*P P 06 03 45.3 -2.0
NJ2 pP pP 06 03 50.1 -2.2
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,120nm,4.3s
TSUM **Tsumeb** 60.18 211 LR LR 06 29 47.3
comp=Z,21nm,18.1s,baz=326,slow=36
SFJD **Kangerlussuaq** 60.73 333 LR LR 06 30 04.6
comp=Z,77nm,19.7s,baz=74,slow=36
KLR **Kul'dur** 62.04 48 P P 06 04 02.5 -0.4
comp=Z,2.9nm,0.6s,baz=299,slow=8.2,SNR=8.0
KLR LR LR 06 34 23.1
comp=Z,63nm,18.2s,baz=296,slow=39
comp=Z,2.9nm,0.6s
EUNU **Eureka** 62.21 352 P P 06 04 03.6 -0.1
EUNU IAmb IAmb 06 04 04.7
comp=Z,6.9nm,0.8s
MDJ **Mudanjiang** 62.44 53 P P 06 04 01.4 -4.3
MDJ pmax pmax
comp=Z,12nm,1.8s
MDJ pmax pmax
comp=Z,200nm,4.8s
LBTB **Lobatse** 62.67 201 LR LR 06 32 06.0
comp=Z,70nm,19.1s,baz=20,slow=37
USRK **Ussuriysk Ar.** 64.18 53 P P 06 04 15.2 -2.0
USRK **Ussuriysk Ar.** 64.18 53 P P 06 04 16.1 -1.0
comp=Z,9.7nm,0.8s,baz=271,slow=6.2,SNR=14
USRK LR LR 06 36 21.8
comp=Z,79nm,18.4s,baz=321,slow=40
comp=Z,9.7nm,0.8s
KSRS **Korea Array** 64.22 61 P P 06 04 17.5 -0.1
comp=Z,4.4nm,0.6s,baz=286,slow=7.3,SNR=13
KSRS LR LR 06 36 55.2
comp=Z,38nm,18.9s,baz=290,slow=40
comp=Z,4.4nm,0.6s
BOSA **Boshof** 66.17 200 P P 06 04 32.1 +1.8
comp=Z,5.8nm,0.6s,baz=12,slow=6.2,SNR=16
BOSA LR LR 06 34 09.3
comp=Z,68nm,19.1s,baz=14,slow=36
comp=Z,5.8nm,0.6s
SEY **Seymchan** 66.41 29 *i* P P 06 04 31.5 +0.2
SEY pmax pmax
comp=Z,16nm,1.6s
SEY **Seymchan** 66.41 29 LR LR 06 39 01.7
comp=Z,81nm,18.4s,baz=280,slow=41
MA2 **Magadan** 67.46 32*ce*P P 06 04 36.3 -1.8
MA2 pmax pmax
comp=Z,23nm,1.7s
MA2 **Magadan** 67.46 32 LR LR 06 38 03.7
comp=Z,106nm,18.7s,baz=296,slow=39
BILL **Bilibino** 68.15 20 P P 06 04 42.0 -0.3
BILL **Bilibino** 68.15 20 *e*P P 06 04 42.9 +0.6
JNU **Nakatsue** 68.33 64 LR LR 06 37 51.6
comp=Z,44nm,18.9s,baz=312,slow=39
FRB **Frobisher Bay** 68.84 334 LR LR 06 35 14.1
comp=Z,61nm,18.1s,baz=346,slow=36
JOW **Kunigami** 69.39 71 LR LR 06 40 58.5
comp=Z,44nm,18.5s,baz=212,slow=41
ASAJ **Asahikawa** 70.99 49 LR LR 06 37 56.7
comp=Z,42nm,18.5s,baz=152,slow=37
SUR **Sutherland** 71.00 202 LR LR 06 36 43.7
comp=Z,58nm,18.3s,baz=357,slow=36

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	71.92	58	P	P	06 05 05.6	-0.4
	comp=Z,0.9nm,0.4s,baz=259,slow=5.3,SNR=2.6						
	comp=Z,0.9nm,0.4s						
A36M	Sachs Harbour	73.13	357	P	P	06 05 12.0	-0.6
SCHQ	Schefferville	73.56	326	P	P	06 05 14.7	-0.7
	comp=Z,6.7nm,0.6s,baz=34,slow=5.0,SNR=9.9						
	comp=Z,6.7nm,0.6s						
B22K	Teshekpuk Lake	74.05	7	IAmb	IAmb	06 05 25.2	
	comp=Z,17nm,1.2s						
PETK	Petropavlovsk-	74.30	36	LR	LR	06 42 03.9	
	comp=Z,100nm,18.1s,baz=291,slow=39						
D25K	Kavik River	75.61	4	IAmb	IAmb	06 05 34.0	
	comp=Z,6.5nm,0.9s						
C36M	Paulatuk	75.70	356	IAmb	IAmb	06 05 27.3	
	comp=Z,5.9nm,0.8s						
TOLK	Toolik Lake Re	76.05	6	P	P	06 05 29.3	-0.4
TOLK				IAmb	IAmb	06 05 36.7	
	comp=Z,12nm,1.1s						
E22K	Anaktuvuk Pass	76.34	7	P	P	06 05 30.6	-0.7
E22K				IAmb	IAmb	06 05 32.1	
	comp=Z,5.3nm,0.8s						
E19K	Redstone River	76.39	9	IAmb	IAmb	06 05 52.0	
	comp=Z,11nm,1.0s						
E28M	Babbage River	76.64	2	IAmb	IAmb	06 06 11.2	
	comp=Z,10nm,1.4s						
E24K	Your Creek	76.69	5	IAmb	IAmb	06 05 40.3	
	comp=Z,9.5nm,1.2s						
E25K	Arctic Village	76.85	4	IAmb	IAmb	06 05 35.0	
	comp=Z,3.3nm,0.7s						
E29M	Blow River	76.90	1	IAmb	IAmb	06 05 35.3	
	comp=Z,6.9nm,0.7s						
F20K	Avaraart Lake	76.97	8	IAmb	IAmb	06 05 41.5	
	comp=Z,5.6nm,1.0s						
E27K	Coleen River	76.99	3	IAmb	IAmb	06 05 36.0	
	comp=Z,4.2nm,0.7s						
INK	Inuvik	77.01	360	P	P	06 05 34.1	-0.9
INK	Inuvik	77.01	360	P	P	06 05 34.1	-0.9
INK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
F24K	Squaw Lake	77.28	5	P	P	06 05 37.5	+0.9
BMAR	Burnt Mountain	77.59	4	P	P	06 05 39.6	+1.3
G19K	Purcell Mounta	77.66	9	IAmb	IAmb	06 05 45.5	
	comp=Z,11nm,0.9s						
G21K	Allakaket	77.73	8	IAmb	IAmb	06 05 45.9	
	comp=Z,7.8nm,1.0s						
BATG	Bathurst New B	77.87	320	P	P	06 05 40.2	0.0
F31M	Tsiigehtchic	77.89	360	P	P	06 05 39.7	-0.2
F31M				IAmb	IAmb	06 05 40.5	
	comp=Z,7.5nm,0.8s						
HAL	Halifax	78.15	317	P	P	06 05 42.2	+0.4
HAL	Halifax	78.15	317	P	P	06 05 42.2	+0.4
HAL				pmax	pmax		
	comp=Z,32nm,1.1s						
IMAR	Indian Mountai	78.22	8	P	P	06 05 41.8	0.0
G30M	tAoh Zraii Nji	78.34	1	IAmb	IAmb	06 05 42.8	
	comp=Z,5.9nm,0.7s						
G29M	Pine Creek	78.38	2	IAmb	IAmb	06 05 51.1	
	comp=Z,7.6nm,1.0s						
G31M	Satah River	78.41	0	P	P	06 05 42.3	-0.5
G31M				IAmb	IAmb	06 05 43.5	
	comp=Z,10nm,0.8s						
H21K	Melozitna Rive	78.64	8	IAmb	IAmb	06 05 45.6	
	comp=Z,6.9nm,0.8s						
EPYK	Eagle Plains	78.94	1	IAmb	IAmb	06 05 46.2	
	comp=Z,8.4nm,0.8s						
H29M	Whitestone	79.06	2	IAmb	IAmb	06 06 21.1	
	comp=Z,6.5nm,0.9s						
I21K	Tanana	79.19	8	IAmb	IAmb	06 05 55.1	
	comp=Z,9.3nm,1.0s						
MDM	Murphy Dome	79.78	6	IAmb	IAmb	06 05 58.1	
	comp=Z,20nm,1.4s						
J20K	Nowinta River	79.91	9	IAmb	IAmb	06 05 52.5	
	comp=Z,7.1nm,0.9s						
ILAR	Eielson Array	80.07	5	P	P	06 05 51.7	-0.3
	comp=Z,1.3nm,0.8s,baz=322,slow=4.0,SNR=17						
	comp=Z,1.3nm,0.8s						
I30M	Mount Dempster	80.10	1	IAmb	IAmb	06 05 52.7	
	comp=Z,5.3nm,0.7s						
CAST	Castle Rocks	80.89	8	P	P	06 05 56.7	+0.3
CAST				IAmb	IAmb	06 06 06.0	
	comp=Z,6.4nm,1.0s						
SCRK	Sand Creek	81.06	4	IAmb	IAmb	06 05 58.6	
	comp=Z,4.7nm,0.7s						
RIDG	Independent Ri	81.24	5	P	P	06 05 56.0	-2.3
RIDG				IAmb	IAmb	06 06 29.9	
	comp=Z,14nm,1.0s						
YKA	Yellowknife Ar	81.57	351	P	P	06 05 59.7	-0.3
YKA	Yellowknife Ar	81.57	351	i P	P	06 05 59.5	-0.5
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	81.57	351	P	P	06 05 59.5	-0.5
	comp=Z,3.1nm,0.7s,baz=329,slow=10,SNR=36						
	comp=Z,3.1nm,0.7s						
SHEM	Shemya Is, Ala	81.75	29	LR	LR	06 46 18.8	
	comp=Z,9.5nm,18.2s,baz=314,slow=39						
M17K	Holitna River	82.11	11	P	P	06 06 03.4	+0.5
SKT	Skwentna	82.36	8	P	P	06 06 04.2	0.0
SKT				IAmb	IAmb	06 06 06.7	
	comp=Z,7.5nm,0.9s						
SML	Sawmill	82.86	7	P	P	06 06 07.1	+0.2
SUA	Susitna One	82.95	8	P	P	06 06 07.4	0.0
N19K	Bonanza Creek	83.11	10	P	P	06 06 08.6	+0.4
SADO	Sadowa	86.22	324	LR	LR	06 45 30.6	
	comp=Z,29nm,18.1s,baz=82,slow=36						
DLBC	Dease Lake	86.86	358	LR	LR	06 51 26.2	
	comp=Z,32nm,18.3s,baz=308,slow=40						
MVL	Millersville	88.28	319	P	P	06 06 33.3	-0.8
ULM	Lac du Bonnet	88.61	337	P	P	06 06 33.7	-1.8
	comp=Z,1.1nm,0.5s,baz=39,slow=6.5,SNR=1.6						
	comp=Z,1.1nm,0.5s						
NEW	Newport	95.72	349	LR	LR	06 52 13.2	
	comp=Z,38nm,18.5s,baz=20,slow=37						
PDAR	Pinedale Array	99.39	342	LR	LR	06 52 34.9	
	comp=Z,43nm,19.4s,baz=38,slow=36						
QSPA	South Pole Qui	124.82	180	PKP	PKPdf	06 12 42.0	+0.5
	comp=Z,1.2nm,0.5s,baz=302,slow=3.5,SNR=5.4						

IDC 06 06:05:44.6±3.7**, 53.°62N**×**87.°41E, h0**km**, mbtmp2.7**/2**, ML2.2**/2**, Error ellipse: s-maj=36.0km s-min=18.1km az=53.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.57	283	I	I	06 17 33.7	
	baz=101,slow=338,SNR=3.3						
ZALV	Zalesovo Beam	1.57	283	Pg	Pn	06 06 12.8	-0.9
	0.4nm,0.3s,baz=103,slow=13,SNR=6.4						
ZALV				Lg	Lg	06 06 33.9	
	0.6nm,0.3s,baz=109,slow=16,SNR=6.5						
KURBB	Kurchatov Arra	6.24	245	Pn	Pn	06 07 19.0	+1.2
	baz=67,slow=15,SNR=4.5						
	0.7nm,0.5s						
MKAR	Makanchi Array	7.58	208	Pn	Pn	06 07 37.1	+0.8
	baz=28,slow=13,SNR=2.1						
	0.2nm,0.5s						

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*IDC **06** 06:26:53.5±1.1, 20.°65S×67.°73W, h146km±10km, mb3.8/8, mbtmp4.2/13, MS2.4/1, Error ellipse: s-maj=17.5km s-min=11.3km az=132.0*

*SJA **06** 06:26:54.5±1.3, 20.°78S×67.°93W, h162km±21km, ML3.8, MW3.8*

*NEIC **06** 06:26:54.6±2.9, 20.°78S±0.°04×67.°84W±0.°08, h166km±14km, mb4.3/7, Error ellipse: s-maj=12.5km s-min=3.3km az=117.0*

*VAO **06** 06:26:54.9±0.3, 20.°54S×67.°81W, h156km, mb4.4*

*GUC **06** 06:26:55.3±0.8, 20.°73S×68.°09W, h188km±5km, ML4.1*

*SCB **06** 06:26:55.6±1.3, 20.°79S×67.°92W, h152km±12km, ML4.1/5, MW4.5, Error ellipse: s-maj=3.5km s-min=2.7km az=2.0*

ISC 06 06:26:54.4±0.6**, 20.°69S**±0.°04×**67.°84W**±0.°04**, h159**km±6km**, n175, σ1^{s}43**/197**, mb4.0**/7**, 13C, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB08	IPOC Station P	1.35	293		Pn	06 27 25.3	+1.7
PB08	IPOC Station P	1.35	293	Pg	Pn	06 27 25.3	+1.7
PB08	IPOC Station P	1.35	293	i P	Pn	06 27 23.6	+0.1
PB08				IAML		06 27 50.3	
	comp=Z,651nm,0.2s						
PB08	IPOC Station P	1.35	293	⇑iP	Pn	06 27 25.2	+1.7
PB08				i S	Sn	06 27 47.7	+1.9
PB08				IAML		06 27 50.6	
	comp=E,1µm,0.2s						
PB01	IPOC Station P	1.58	257		Pn	06 27 26.1	+0.6
PB01	IPOC Station P	1.58	257	Pg	Pn	06 27 26.1	+0.6
PB01	IPOC Station P	1.58	257	⇑iP	Pn	06 27 26.0	+0.5
PB01				i S	Sn	06 27 49.7	+0.1
GO01	Chusmiza	1.62	308		Pn	06 27 28.1	+1.6
GO01	Chusmiza	1.62	308	Pg	Pn	06 27 28.1	+1.6
GO01	Chusmiza	1.62	308	i P	Pn	06 27 27.4	+0.9
GO01				IAML		06 28 02.0	
	comp=Z,320nm,0.3s						
GO01	Chusmiza	1.62	308	⇑iP	Pn	06 27 28.0	+1.6
GO01				i S	Sn	06 27 53.3	+2.2
GO01				IAML		06 27 59.3	
	comp=N,1µm,0.2s						
PB09	IPOC Station P	1.71	230		Pn	06 27 28.3	+1.2
PB09	IPOC Station P	1.71	230	Pg	Pn	06 27 28.1	+1.0
PB09	IPOC Station P	1.71	230	i P	Pn	06 27 27.5	+0.5
PB09				IAML		06 27 56.7	
	comp=Z,320nm,0.5s						
PB09	IPOC Station P	1.71	230	⇑iP	Pn	06 27 28.2	+1.2
PB09				i S	Sn	06 27 53.0	+0.8
PB11	IPOC Station P	1.94	298		Pn	06 27 30.5	+0.9
PB11	IPOC Station P	1.94	298	Pg	Pn	06 27 30.5	+0.9
PB11	IPOC Station P	1.94	298	i P	Pn	06 27 29.8	+0.3
PB11				IAML		06 27 60.0	
	comp=Z,738nm,0.2s						
PB11	IPOC Station P	1.94	298	⇑iP	Pn	06 27 30.5	+0.9
PB11				i S	Sn	06 27 56.8	+0.3
HMBC	Humberstone	1.96	282	Pg	Pn	06 27 30.0	+0.2
HMBC				Sg	Sn	06 27 56.4	-0.6
HMBC				IAML		06 27 58.6	
	comp=Z,1µm,0.3s						
HMBC	Humberstone	1.96	282	i P	Pn	06 27 29.4	-0.3
HMBC				IAML		06 27 58.4	
	comp=Z,1µm,0.4s						
HMBC	Humberstone	1.96	282	⇑iP	Pn	06 27 30.0	+0.2
HMBC				i S	Sn	06 27 56.2	-0.8
HMBC				IAML		06 27 59.5	
	comp=N,2µm,0.4s						
PB02	IPOC Station P	2.02	251		Pn	06 27 30.6	+0.2
PB02	IPOC Station P	2.02	251	Pg	Pn	06 27 30.6	+0.2
PB02				Sg	Sn	06 27 57.5	-0.6
PB02				IAML		06 27 58.3	
	comp=N,2µm,0.2s						
PB02	IPOC Station P	2.02	251	⇑iP	Pn	06 27 30.7	+0.2
PB02				i S	Sn	06 27 57.6	-0.6
PB02				IAML		06 27 59.0	
	comp=E,2µm,0.2s						
SOEO	Opoqueri	2.11	359	Pg	Pn	06 27 34.8	+2.9
MOCB	Mochara	2.13	106	Pg	Pn	06 27 34.3	+2.3
MOCB				Sg	Sn	06 28 03.1	+2.1
MOCB				IAML		06 28 07.6	
	comp=E,232nm,0.6s						
LVC	Limon Verde	2.16	207	Pg	Pn	06 27 33.0	+0.8
LVC	Limon Verde	2.16	207	i P	Pn	06 27 32.3	+0.1
LVC				IAML		06 28 06.3	
	comp=Z,150nm,0.4s						
LVC	Limon Verde	2.16	207	eP	Pn	06 27 33.3	+1.0
LVC	Limon Verde	2.16	207	P	Pn	06 27 33.0	+0.8
	comp=Z,278nm,0.6s,baz=21,slow=9.4,SNR=392						
LVC				S	Sn	06 28 01.1	-0.5
	comp=Z,107nm,0.3s,baz=196,slow=17,SNR=19						
LVC				LR	LR	06 28 44.0	
	comp=Z,77nm,19.2s,baz=194,slow=49						
PATCX	Punta Patache	2.17	266		Pn	06 27 32.2	+0.1
PATCX	Punta Patache	2.17	266	i P	Pn	06 27 31.9	-0.2
PATCX				IAML		06 28 01.7	
	comp=Z,622nm,0.8s						
PATCX	Punta Patache	2.17	266	⇑iP	Pn	06 27 32.2	+0.1
PATCX				i S	Sn	06 28 00.4	-0.8
PATCX				IAML		06 28 00.9	
	comp=N,1µm,0.4s						
PB07	IPOC Station P	2.17	241		Pn	06 27 32.4	+0.1
PB07	IPOC Station P	2.17	241	Pg	Pn	06 27 32.4	+0.1
PB07	IPOC Station P	2.17	241	i P	Pn	06 27 31.7	-0.5
PB07				IAML		06 28 02.4	
	comp=Z,665nm,0.3s						
PB07	IPOC Station P	2.17	241	⇑iP	Pn	06 27 32.3	+0.1
PB07				IAML		06 28 02.2	
	comp=N,705nm,0.3s						
TA02	Huaiquique	2.19	280		Pn	06 27 32.6	+0.4
TA02	Huaiquique	2.19	280	eP	Pn	06 27 32.6	+0.4
TA02				i S	Sn	06 28 00.6	-0.8
TA02				IAML		06 28 03.4	
	comp=N,2µm,0.1s						
AF01	San Pedro de A	2.28	188		Pn	06 27 35.6	+2.1
AF01	San Pedro de A	2.28	188	⇑iP	Pn	06 27 35.7	+2.1
AF01				i S	Sn	06 28 06.4	+2.5
AF01				IAML		06 28 27.2	
	comp=N,311nm,0.6s						
PB06	IPOC Station P	2.58	218		Pn	06 27 37.3	+0.3
PB06	IPOC Station P	2.58	218	Pg	Pn	06 27 37.3	+0.3
PB06	IPOC Station P	2.58	218	i P	Pn	06 27 36.7	-0.3
PB06				IAML		06 28 11.7	
	comp=Z,345nm,0.2s						
PB06	IPOC Station P	2.58	218	⇑iP	Pn	06 27 37.3	+0.3
PB06				i S	Sn	06 28 08.7	-1.3
PB06				IAML		06 28 10.2	
	comp=E,630nm,0.4s						
YJA	Yavi	2.63	125	Pg	Pn	06 27 39.7	+1.8
YJA	Yavi	2.63	125	i P	Pn	06 27 40.1	+2.2
YJA				IAML		06 28 16.6	
	comp=Z,44nm,0.5s						
PB04	IPOC Station P	2.71	232		Pn	06 27 38.4	-0.2
PB04	IPOC Station P	2.71	232	Pg	Pn	06 27 38.6	0.0
PB04				Sg	Sn	06 28 10.9	-2.0
PB04				IAML		06 28 14.6	
	comp=Z,409nm,0.2s						
PB04	IPOC Station P	2.71	232	i P	Pn	06 27 38.1	-0.5
PB04				IAML		06 28 13.9	
	comp=Z,441nm,0.1s						
PB04	IPOC Station P	2.71	232	eP	Pn	06 27 38.4	-0.2
PB04				i S	Sn	06 28 10.4	-2.4
PB04				IAML		06 28 13.6	
	comp=E,510nm,0.2s						
PX02	IPOC Station P	2.80	307	eP	Pn	06 27 39.4	-0.4
PX02				eS	Sn	06 28 13.1	-1.8
PB15	IPOC Station P	2.93	211		Pn	06 27 41.9	+0.4
PB15	IPOC Station P	2.93	211	Pg	Pn	06 27 41.9	+0.4
PB15				Sg	Sn	06 28 16.3	-1.7
PB15				IAML		06 28 21.9	
	comp=E,2µm,0.4s						
PB15	IPOC Station P	2.93	211	i P	Pn	06 27 41.4	-0.1
PB15				IAML		06 28 20.3	
	comp=Z,1µm,0.2s						
PB15	IPOC Station P	2.93	211	⇑iP	Pn	06 27 41.8	+0.3
PB15				i S	Sn	06 28 17.5	-0.5
AOVT	TarijaAcel	3.05	107	Pg	Pn	06 27 44.6	+1.7
PB05	IPOC Station P	3.08	225		Pn	06 27 42.9	-0.3
PB05	IPOC Station P	3.08	225	Pg	Pn	06 27 43.0	-0.2
PB05	IPOC Station P	3.08	225	i P	Pn	06 27 42.3	-0.9
PB05				IAML		06 28 24.9	
	comp=Z,187nm,0.4s						
PB05	IPOC Station P	3.08	225	⇑iP	Pn	06 27 42.7	-0.5
PB05				i S	Sn	06 28 18.4	-2.7
PB05				IAML		06 28 21.9	
	comp=E,233nm,0.3s						
SOET	ToroToro	3.19	37	Pg	Pn	06 27 47.2	+2.3
PB18	Visviri	3.45	333	Pn	Pn	06 27 52.0	+3.7
AOEA	Aiquile	3.50	45	Pg	Pn	06 27 51.2	+2.4
SOEJ	Jacaque	3.71	355	Pg	Pn	06 27 54.8	+3.2
BBOE	La Paz, Chanca	3.85	358	Pg	Pn	06 27 57.1	+3.5
BBOD	La Paz, Gloria	4.09	350	Pg	Pn	06 27 59.8	+3.2
AZAP	Zapla	4.36	144	i P	Pn	06 28 00.5	+0.7
AZAP				IAML		06 28 59.8	
	comp=Z,54nm,0.6s						
LPAZ	La Paz	4.38	356	Pn	Pn	06 28 03.0	+2.6
LPAZ	La Paz	4.38	356	Pg	Pn	06 28 03.1	+2.6
LPAZ	La Paz	4.38	356	i P	Pn	06 28 03.8	+3.4
LPAZ				IAML		06 29 06.0	
	comp=Z,7.4nm,0.8s						
PB14	IPOC Station P	4.58	211	Pn	Pn	06 28 02.1	-0.7
PB14	IPOC Station P	4.58	211	i P	Pn	06 28 02.7	0.0
PB14				IAML		06 28 57.0	
	comp=Z,85nm,0.6s						
ALOL	LOMAS DE OLMED	4.74	132	i P	Pn	06 28 04.7	+0.1
GO02	Mina Guanaco	4.74	200	Pn	Pn	06 28 03.9	-0.9
GO02	Mina Guanaco	4.74	200	Pg	Pn	06 28 04.3	-0.5
GO02	Mina Guanaco	4.74	200	i P	Pn	06 28 03.7	-1.1
GO02				IAML		06 29 03.5	
	comp=Z,230nm,0.6s						
GO02	Mina Guanaco	4.74	200	eP	Pn	06 28 03.9	-0.9
AC01	Pan de Azucar	6.00	204	Pn	Pn	06 28 18.7	-2.4
AC06	Mina Casimiro	7.03	199	Pn	Pn	06 28 31.7	-3.1
BBSD	Serra de San D	7.67	64	eP	Pn	06 28 41.5	-2.0
SIV	San Ignacio	7.94	55	P	Pn	06 28 45.4	-1.6
	comp=Z,35nm,0.4s,baz=239,slow=13,SNR=411						
SIV				S	Sn	06 30 10.7	-5.1
	comp=Z,6.6nm,0.8s,baz=326,slow=15,SNR=4.6						
AC04	Llanos de Chal	8.04	201	Pn	Pn	06 28 43.9	-4.4
LCO	Las Campanas	8.69	197	Pn	Pn	06 28 53.4	-3.7
PTLB	Pontes e Lacer	9.78	59		Pn	06 29 10.5	-0.9
PTLB	Pontes e Lacer	9.78	59	eP	Pn	06 29 09.8	-1.6
BDQN	Bodoquena, MS	10.39	91	eP	Pn	06 29 18.5	-0.9
VILB	Vilhena	10.61	45		Pn	06 29 21.9	-0.4
VILB	Vilhena	10.61	45	eP	Pn	06 29 22.1	-0.3
CFA	Coronel Fontan	10.88	182	P	Pn	06 29 24.8	-1.1
	comp=Z,1.6nm,0.7s,baz=350,slow=14,SNR=3.2						
CFA				S	Sn	06 31 15.1	-11
	comp=Z,1.3nm,0.4s,baz=231,slow=20,SNR=2.3						
ETMB	Extrema	10.92	8		Pn	06 29 25.4	-1.0
ETMB	Extrema	10.92	8	eP	Pn	06 29 25.1	-1.4
CPUP	Villa Florida	11.16	122	Pn	Pn	06 29 28.4	-1.1
CPUP	Villa Florida	11.16	122	eP	Pn	06 29 30.2	+0.7
CPUP	Villa Florida	11.16	122	P	Pn	06 29 29.3	-0.2
	comp=Z,1.6nm,0.6s,baz=286,slow=15,SNR=3.7						
CPUP				S	Sn	06 31 27.9	-5.1
	comp=Z,1.5nm,0.6s,baz=334,slow=16,SNR=1.9						
AQDB	Aquidauana	11.37	91		Pn	06 29 32.9	+0.5
AQDB	Aquidauana	11.37	91	eP	Pn	06 29 31.8	-0.6
AMBA	Amambai (Brazi	12.14	103	eP	Pn	06 29 43.3	+0.9
NNA	Nana	12.22	314	P	P	06 29 48.0	-1.2
	comp=Z,7.8nm,0.4s,baz=190,slow=13,SNR=6.0						
RVDE	Rio Verde (Bra	12.25	84	eP	Pn	06 29 42.0	-1.7
SALV	Santo Antonio	12.48	70	eP	Pn	06 29 45.9	-0.8
SAML	Samuel	12.50	22	Pn	Pn	06 29 46.5	-0.5
SAML	Samuel	12.50	22	eP	Pn	06 29 45.9	-1.1
PP1B	Ponte de Pedra	12.63	78	eP	Pn	06 29 47.6	-1.0
BO01	Tunca	13.95	191		Pn	06 30 05.6	+0.3
PDRB	Porto dos Gac	13.97	51	eP	Pn	06 30 03.8	-1.8
C2SB	Chapadao do Su	14.26	85	eP	P	06 30 13.4	+1.7
BO02	Sierra Bellavi	14.29	190		Pn	06 30 10.4	+0.8
CRSM	Crissiumal (Br	14.30	121	eP	P	06 30 13.7	+1.4
FRBT	Francisco Belt	14.56	114	eP	P	06 30 16.0	+0.9
RODS	Rosario do Sul	14.91	133	eP	P	06 30 18.7	-0.4
PTGB	Pitanga	15.10	108	eP	P	06 30 21.7	+0.5
ML02	Panimavida	15.35	191		Pn	06 30 22.1	-0.5
ML02				IAmb	IAmb	06 30 25.8	
	comp=Z,21nm,1.1s						
PCMB	Pacaembu	15.50	96	eP	P	06 30 25.6	0.0
ALGR	Alto Alegre (B	15.68	124	eP	P	06 30 28.4	+0.8
LDASE	Londrina, Braz	15.74	103	eP	P	06 30 29.0	+0.8
ITAB	Concordia	15.76	117	eP	P	06 30 29.6	+1.2
H03N1	Juan Fernandez	16.07	215	P	P	06 30 34.8	+3.4
	SNR=4.9						
H03N2	Juan Fernandez	16.08	216	P	P	06 30 34.8	+3.2
H03N3	Juan Fernandez	16.09	215	P	P	06 30 34.6	+2.9
CPSB	Cacapava Do Su	16.19	130	eP	P	06 30 34.0	+0.9
ITRB	Iturama	16.44	90	eP	P	06 30 35.9	-0.2
TBTG	Tabatinga, AM	16.52	353	eP	P	06 30 36.6	-0.3
FRTB	Fartura	17.15	102	eP	Pn	06 30 44.8	+0.1
TEFE	Tefe	17.36	11	eP	P	06 30 45.7	-0.4
CNLB	Canela	17.62	123	eP	P	06 30 48.8	-0.1
BB19B	Bebedouro	18.05	95	eP	P	06 30 54.1	+0.4
SNDB	Serra Nova Dou	18.07	64	eP	P	06 30 54.4	+0.5
NPGB	Novo Progresso	18.16	43	eP	P	06 30 54.3	-0.7
IPMB	Ipameri, GO	18.72	85	eP	P	06 31 01.8	+0.8
MACA	Manacapuru-AM	18.76	23	P	P	06 31 00.8	-0.7
MACA	Manacapuru-AM	18.76	23	eP	P	06 31 00.7	-0.7
RCLB	Rio Claro- Sao	18.97	99	eP	P	06 31 03.5	-0.2
GO06	Curarrehue	19.09	189	IAmb	IAmb	06 31 06.5	
	comp=Z,12nm,0.8s						
SPB	Sao Paulo	19.12	102	eP	P	06 31 05.8	+0.5
PET01	Itanhaem-SP	19.34	105	eP	P	06 31 08.9	+1.3
BDFB	Brasilia	19.49	78	P	P	06 31 09.9	+0.4
BDFB				IAmb	IAmb	06 31 13.3	
	comp=Z,9.6nm,0.6s						
BDFB	Brasilia	19.49	78	P	P	06 31 09.7	+0.3
	comp=Z,9.3nm,0.5s,baz=260,slow=10,SNR=16						
VAO	Valinhos	19.51	101	eP	P	06 31 09.2	-0.4
ITTB	Itaituba	20.04	38	eP	P	06 31 14.8	-0.5
MCRA	Macar, Loja	20.05	322	P	P	06 31 17.1	+1.8
PLCA	Paso Flores	20.12	186		P	06 31 16.3	+0.4
PLCA				IAmb	IAmb	06 31 20.0	
	comp=Z,6.6nm,0.8s						
PLCA	Paso Flores	20.12	186	eP	P	06 31 17.0	+1.1
PLCA	Paso Flores	20.12	186	P	P	06 31 16.7	+0.7
	comp=Z,8.2nm,1.0s,baz=18,slow=13,SNR=13						
	comp=Z,8.2nm,1.0s						
PMNB	Patos De Minas	20.27	88	eP	P	06 31 17.2	-0.7
BOSC	San Juan Bosco	20.29	328	P	P	06 31 19.5	+1.4
BOSC				IAmb	IAmb	06 31 24.3	
	comp=Z,2.4nm,0.6s						
SGCB	S£o Gabriel d	20.45	2	eP	P	06 31 18.9	-0.7
PARB	Paraibuna	20.77	101	eP	P	06 31 22.2	-0.8
BSCB	Bom Sucesso	21.56	95	eP	P	06 31 31.3	-0.2
PRPB	Parauapebas	22.66	53	eP	P	06 31 41.1	-1.3
DIAM	Diamantina, MG	22.90	88	eP	P	06 31 45.0	+0.3
MALB	Monte Alegre	22.93	37	eP	P	06 31 43.9	-0.9
JANB	Januaria	23.07	80	eP	P	06 31 45.6	-0.6
OTAV	Otavalo	23.24	332	eP	P	06 31 48.1	-0.1
SDBA	SAO DESIDERIO	23.45	73	eP	P	06 31 49.5	-0.2
DUB01	Friburgo-RJ	23.75	98	eP	P	06 31 53.6	+1.2
BOAV	Boa Vista	24.03	18	eP	P	06 31 55.0	+0.1
SJMB	Sao Joao De Ma	25.16	90	eP	P	06 32 05.9	+0.7
ALF01	Guarapari-ES	25.36	95	eP	P	06 32 07.6	+0.7
MCPB	Macapa, AP	25.42	39	eP	P	06 32 06.2	-1.3
RIB01	Linhares ES	25.82	92	eP	P	06 32 11.2	+0.1
GUA01	Guaratinga, BA	26.86	86	eP	P	06 32 20.2	-0.2
TXAR	Lajitas Array	60.55	324	P	P	06 36 48.5	+0.4
	comp=Z,0.4nm,0.6s,baz=153,slow=10,SNR=4.6						
	comp=Z,0.4nm,0.6s						
SNAA	Sanae	62.72	161	P	P	06 37 02.5	+0.4
	comp=Z,1.6nm,0.8s,baz=221,slow=9.3,SNR=7.4						
	comp=Z,1.6nm,0.8s						
DBIC	Dimbokro	67.55	73	P	P	06 37 33.4	-0.6
	comp=Z,4.9nm,0.7s,baz=223,slow=8.1,SNR=6.9						
	comp=Z,4.9nm,0.7s						
QSPA	South Pole Qui	69.50	180	P	P	06 37 46.6	+1.1
	comp=Z,1.6nm,0.6s,baz=198,slow=5.4,SNR=8.7						
	comp=Z,1.6nm,0.6s						
PDAR	Pinedale Array	73.91	329	P	P	06 38 13.2	+1.0
	comp=Z,0.5nm,0.5s,baz=124,slow=7.8,SNR=7.6						
	comp=Z,0.5nm,0.5s						
TORD	Torodi Ar. Bea	76.14	70	P	P	06 38 24.8	-0.5
	comp=Z,8.2nm,0.5s,baz=257,slow=5.2,SNR=125						
	comp=Z,8.2nm,0.5s						
YKA	Yellowknife Ar	90.76	340	P	P	06 39 39.6	+0.8
	comp=Z,0.8nm,0.6s,baz=132,slow=4.5,SNR=17						
	comp=Z,0.8nm,0.6s						
ASAR	Alice Springs	131.09	207	PKP	PKPdf	06 45 48.2	+0.1
	comp=Z,0.3nm,0.6s,baz=113,slow=2.4,SNR=3.1						
WRA	Warramunga Arr	134.16	210	PKP	PKiKP	06 45 54.7	-0.5
	comp=Z,0.4nm,0.6s,baz=162,slow=1.6,SNR=10						
ZALV	Zalesovo Beam	140.79	25	PKP	PKiKP	06 46 06.6	-1.1
	comp=Z,0.5nm,0.5s,baz=338,slow=6.2,SNR=2.2						
MKAR	Makanchi Array	144.39	36	PKP	PKPdf	06 46 11.7	0.0
	comp=Z,0.4nm,0.4s,baz=289,slow=2.3,SNR=4.9						
SONM	Songino Array	152.52	8	PKPbc	PKiKP	06 46 32.9	+0.8
	comp=Z,0.5nm,0.5s,baz=325,slow=2.3,SNR=2.6						

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*SJA **06** 06:33:19.5±0.7, 32.°00S×72.°06W, h8km±3km, ML4.2, MW3.9*

*GUC **06** 06:33:26.2±0.8, 32.°01S×71.°52W, h38km±2km, ML4.3*

*NEIC **06** 06:33:26.4±1.1, 32.°010S±0.°010×71.°8W±0.°1, h36km±15km, mb4.3/3, Error ellipse: s-maj=14.1km s-min=1.5km az=90.0*

*IDC **06** 06:33:29.5±3.3, 32.°09S×71.°27W, h61km±26km, mb4.1/5, mbtmp4.1/8, ML3.8/3, MS3.1/11, Error ellipse: s-maj=38.9km s-min=17.8km az=111.0*

ISC 06 06:33:26.3±1.0**, 32.°02S**±0.°02×**71.°74W**±0.°04**, h43**km±10km**, n131, σ1^{s}53**/152**, mb4.4**/8**, MS3.2**/6**, 10C-11D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VA01	Torpederas	1.00	176		Pn	06 33 44.2	+0.3
VA01	Torpederas	1.00	176	eP	Pn	06 33 38.5	-5.4
VA01				eS	Sn	06 33 58.4	+1.5
VA01				IAML		06 34 00.5	
	comp=Z,2µm,0.4s						
VA01	Torpederas	1.00	176	eP	Pn	06 33 44.2	+0.3
VA01				i S	Sn	06 33 57.9	+0.9
CO02	Combarbal	1.03	38		Pn	06 33 43.2	-1.2
CO02	Combarbal	1.03	38	⇓iP	Pn	06 33 43.2	-1.2
CO02				i S	Sn	06 33 55.6	-2.1
CO02				IAML		06 33 59.5	

comp=N,18μm,0.3s
ROCH El Roble 1.13 147 ⇓ *i*P **Pn** **06 33 45.2 -0.7**
ROCH *i* S **Sn** **06 33 59.5 -0.9**
ROCH IAML 06 34 04.0
comp=N,13μm,0.3s
ROC1 El Roble 1.13 148 **Pn** **06 33 45.2 -0.8**
MT02 Curacav 1.34 158 **Pn** **06 33 48.3 -0.2**
MT02 Curacav 1.34 158 *e*P Pn 06 33 42.5 -6.0
MT02 *e*P 06 33 47.5
MT02 *e*S **Sn** **06 34 05.9 +0.8**
MT02 IAML 06 34 09.3
comp=Z,2μm,0.4s
MT02 Curacav 1.34 158 ⇓ *i*P **Pn** **06 33 48.2 -0.3**
MT02 *i* S **Sn** **06 34 04.8 -0.3**
CO06 Fray Jorge 1.34 4 **Pn** **06 33 48.4 -0.3**
CO06 Fray Jorge 1.34 4 ⇓ *i*P **Pn** **06 33 48.3 -0.3**
CO06 *i* S **Sn** **06 34 06.5 +1.2**
PEL Peldehue 1.43 142 **Pn** **06 33 49.6 -0.2**
PEL Peldehue 1.43 142 *e*P **Pn** **06 33 48.7 -1.2**
PEL *i* S **Sn** **06 34 07.5 0.0**
PEL IAML 06 34 10.1
comp=N,11μm,0.3s
CO03 El Pedregal 1.48 38 **Pn** **06 33 50.2 -0.3**
CO03 El Pedregal 1.48 38 *e*P **Pn** **06 33 50.3 -0.3**
CO03 *e*S **Sn** **06 34 09.3 +0.6**
CO03 IAML 06 34 10.3
comp=Z,3μm,0.4s
CO03 El Pedregal 1.48 38 ⇓ *i*P **Pn** **06 33 50.2 -0.3**
CO03 *i* S **Sn** **06 34 08.5 -0.2**
CO03 IAML 06 34 10.5
comp=E,8μm,0.4s
MT05 Renca 1.61 149 **Pn** **06 33 52.6 +0.3**
MT05 Renca 1.61 149 *e*P **Pn** **06 33 52.6 +0.3**
MT05 *e*S **Sn** **06 34 13.8 +1.9**
MT05 IAML 06 34 21.9
comp=Z,2μm,0.5s
MT05 Renca 1.61 149 ⇓ *i*P **Pn** **06 33 52.4 +0.1**
MT05 *i* S **Sn** **06 34 12.2 +0.3**
MT05 IAML 06 34 15.0
comp=E,10μm,0.3s
MT10 Hacienda Santa 1.61 141 ⇓ *i*P **Pn** **06 33 52.5 +0.1**
MT10 *i* S **Sn** **06 34 12.6 +0.6**
MT10 IAML 06 34 14.7
comp=E,16μm,0.3s
MT14 Cerro Cal¡n 1.71 144 ⇓ *i*P **Pn** **06 33 54.1 +0.4**
MT14 *i* S **Sn** **06 34 14.9 +0.6**
MT14 IAML 06 34 18.1
comp=N,8μm,0.5s
FCH Farellones 1.79 137 ⇓ *i*P **Pn** **06 33 55.1 +0.1**
FCH *i* S **Sn** **06 34 17.4 +0.7**
FCH IAML 06 34 17.8
comp=E,4μm,0.3s
MT03 Universidad Ad 1.80 145 **Pn** **06 33 55.5 +0.6**
MT03 Universidad Ad 1.80 145 *e*P **Pn** **06 33 55.5 +0.6**
MT03 *e*S **Sn** **06 34 19.1 +2.5**
MT03 IAML 06 34 28.1
comp=Z,4μm,0.7s
MT03 Universidad Ad 1.80 145 ⇓ *i*P **Pn** **06 33 55.5 +0.6**
MT03 *i* S **Sn** **06 34 17.4 +0.8**
MT03 IAML 06 34 21.5
comp=N,7μm,0.2s
MT09 Talagante 1.86 160 **Pn** **06 33 56.8 +0.9**
MT09 Talagante 1.86 160 *e*P **Pn** **06 33 56.6 +0.7**
MT09 *i* S **Sn** **06 34 20.5 +2.2**
MT09 IAML 06 34 24.6
comp=N,3μm,0.4s
MT01 Popeta 1.89 168 **Pn** **06 33 56.3 +0.2**
MT01 Popeta 1.89 168 *e*P **Pn** **06 33 55.8 -0.2**
MT01 *e*S **Sn** **06 34 22.5 +3.9**
MT01 *e*S 06 34 25.5
MT01 IAML 06 34 30.2
comp=Z,2μm,0.3s
MT01 Popeta 1.89 168 ⇑ *i*P **Pn** **06 33 56.5 +0.4**
MT01 *i* S **Sn** **06 34 21.5 +2.9**
MT01 IAML 06 34 34.3
comp=E,2μm,0.2s
MT15 Las Vizcachas 1.89 147 *e*P **Pn** **06 33 56.1 0.0**
MT15 *i* S **Sn** **06 34 19.8 +1.1**
MT15 IAML 06 34 21.9
comp=E,6μm,0.2s
MT04 Ro Olivares 1.93 136 ⇓ *i*P **Pn** **06 33 57.4 +0.5**
MT04 *i* S **Sn** **06 34 19.7 -0.4**
MT04 IAML 06 34 24.2
comp=N,2μm,0.2s
MT12 Pirque 1.98 150 *e*P **Pn** **06 33 57.9 +0.5**
MT12 *i* S **Sn** **06 34 21.9 +0.9**
MT12 IAML 06 34 29.8
comp=N,5μm,0.4s
GO04 Tololo Observa 2.01 24 **Pn** **06 33 58.0 +0.1**
GO04 Tololo Observa 2.01 24 *e*P **Pn** **06 33 57.9 -0.1**
GO04 *e*S **Sn** **06 34 25.3 +3.4**
GO04 IAML 06 34 29.0
comp=Z,3μm,0.8s
GO04 Tololo Observa 2.01 24 ⇑ *i*P **Pn** **06 33 57.8 -0.2**
GO04 *i* S **Sn** **06 34 23.0 +1.1**
MT08 Bocatoma Ro 2.03 135 **Pn** **06 33 59.3 +1.0**
MT08 Bocatoma Ro 2.03 135 *e*P **Pn** **06 33 59.3 +1.0**
MT08 *i* S **Sn** **06 34 22.4 -0.2**
MT08 IAML 06 34 31.8
comp=N,3μm,0.5s
RTLS Leoncito 2.09 85 *e*P **Pn** **06 34 00.8 +1.7**
RTLS *e*S Sn 06 34 28.6 +4.6
RTLS IAML 06 34 31.7
comp=Z,3μm,0.5s
MT13 San Alfonso 2.11 145 **Pn** **06 34 00.1 +0.8**
MT13 San Alfonso 2.11 145 *e*P **Pn** **06 34 00.1 +0.8**
MT13 *i* S **Sn** **06 34 24.9 +0.5**
MT13 IAML 06 34 33.5
comp=E,4μm,0.3s
CO05 La Serena 2.14 12 **Pn** **06 33 59.7 +0.2**
CO05 La Serena 2.14 12 *e*P **Pn** **06 34 00.3 +0.8**
CO05 *e*S **Sn** **06 34 26.6 +1.8**
CO05 IAML 06 34 33.2
comp=E,2μm,0.3s
BO04 La Punta 2.18 155 **Pn** **06 34 01.2 +1.0**
BO04 La Punta 2.18 155 ⇑ *i*P **Pn** **06 34 00.9 +0.8**
BO04 *i* S **Sn** **06 34 27.5 +1.5**
BO04 IAML 06 34 35.0
comp=E,3μm,0.5s
LMEL Las Melosas 2.23 145 **Pn** **06 34 02.0 +1.0**
LMEL Las Melosas 2.23 145 ⇑ *i*P **Pn** **06 34 02.1 +1.1**
LMEL *i* S **Sn** **06 34 28.4 +1.0**
LMEL IAML 06 34 39.6
comp=N,4μm,0.2s
BO01 Tunca 2.43 167 **Pn** **06 34 04.1 +0.6**
BO01 Tunca 2.43 167 *e*P **Pn** **06 34 03.2 -0.3**
BO01 *e*S **Sn** **06 34 35.0 +3.0**
BO01 IAML 06 34 44.6
comp=Z,684nm,0.5s
BO01 Tunca 2.43 167 ⇑ *i*P **Pn** **06 34 03.9 +0.4**
BO01 *i* S **Sn** **06 34 32.7 +0.7**
CO01 Juntas del Tor 2.48 35 **Pn** **06 34 05.5 +1.1**
CO01 Juntas del Tor 2.48 35 *e*P **Pn** **06 34 05.5 +1.1**
CO01 *e*S **Sn** **06 34 37.2 +3.7**
CO01 IAML 06 34 38.9
comp=Z,1μm,0.6s
CO01 Juntas del Tor 2.48 35 ⇑ *i*P **Pn** **06 34 05.2 +0.9**
CO01 *i* S **Sn** **06 34 33.8 +0.2**
CO01 IAML 06 34 39.8
comp=E,1μm,0.3s
DOCA Reserva Natura 2.51 66 *e*P Pn 06 34 07.3 +2.4
DOCA *e*S Sn 06 34 42.3 +7.8
DOCA IAML 06 34 48.0
comp=Z,781nm,1.2s
ARCO CERRO ARCO 2.51 110 *e*P Pn 06 34 07.9 +3.2
ARCO *e*S **Sn** **06 34 36.5 +2.3**
ARCO *e*S 06 34 40.0
ARCO IAML 06 34 46.9
comp=Z,882nm,0.4s
ASAL Salagasta 2.52 104 *e*P Pn 06 34 08.1 +3.2
ASAL *e*S Sn 06 34 40.5 +6.1
ASAL IAML 06 34 51.2
comp=Z,634nm,1.1s
ZON Zonda 2.65 81 Pn 06 34 09.2 +2.7
ZON Zonda 2.65 81 *e*P Pn 06 34 08.7 +2.1
ZON *e*S Sn 06 34 45.4 +8.0
ZON IAML 06 34 58.0
comp=Z,613nm,0.7s
AAGR Agrelo 2.68 114 *e*P Pn 06 34 10.5 +3.5
AAGR *e*S Sn 06 34 49.0 +11
AAGR IAML 06 34 55.8
comp=Z,692nm,1.5s
AROD Rodeo 2.68 47 *e*P **Pn** **06 34 09.7 +2.5**
AROD *e*S **Sn** **06 34 38.5 -0.1**
AROD *e*S 06 34 42.5
ACCO Cerro Coronel 2.69 59 *e*P Pn 06 34 10.1 +2.6
ACCO *e*S Sn 06 34 46.9 +7.9
RTCV Cerro Valdivia 2.72 88 *e*P Pn 06 34 10.4 +2.8
RTCV *e*S Sn 06 34 47.7 +8.4
RTCV IAML 06 34 48.8
comp=Z,36nm,0.2s
RTLL Cerro Villicun 2.87 77 *e*P Pn 06 34 11.8 +2.3
RTLL *e*S Sn 06 34 50.5 +7.7
BO02 Sierra Bellavi 2.88 164 *e*P **Pn** **06 34 09.8 +0.1**
BO02 *e*S **Sn** **06 34 46.5 +3.3**
BO02 IAML 06 34 53.5
comp=Z,1μm,0.6s
ACDV Cuesta del Vie 2.90 51 *e*P Pn 06 34 13.8 +3.6
ACDV *e*S Sn 06 34 52.3 +8.4
ACDV IAML 06 35 00.1
comp=Z,569nm,0.4s
GO05 Huala 2.99 183 **Pn** **06 34 10.9 -0.3**
GO05 Huala 2.99 183 *e*P **Pn** **06 34 10.5 -0.7**
GO05 *e*S **Sn** **06 34 44.8 -1.0**
GO05 *e*S 06 34 55.5
GO05 IAML 06 35 04.9
comp=Z,337nm,0.6s
GO05 Huala 2.99 183 *i* P **Pn** **06 34 10.7 -0.5**
CFA Coronel Fontan 3.01 83 *e*P **Pn** **06 34 13.4 +1.9**
CFA *e*P **Pn** **06 34 13.4 +1.9**
CFA *e*S Sn 06 34 55.2 +8.9
CFA Coronel Fontan 3.01 83 P **Pn** **06 34 13.4 +1.9**
comp=Z,169nm,0.3s,baz=231,slow=9.5,SNR=287
CFA S **Sn** **06 34 49.2 +2.8**
comp=Z,318nm,0.7s,baz=287,slow=12,SNR=9.2
CFA LR LR 06 35 35.9
comp=Z,385nm,21.6s,baz=248,slow=48
LCO Las Campanas 3.13 17 **Pn** **06 34 13.3 0.0**
LCO Las Campanas 3.13 17 *e*P **Pn** **06 34 13.4 +0.1**
LCO *e*P **Pn** **06 34 13.4 +0.1**
LCO *e*S **Sn** **06 34 46.5 -3.1**
LCO *e*S 06 34 55.7
LCO IAML 06 35 03.7
comp=Z,4μm,0.7s
AC05 El Transito 3.41 22 *e*P **Pn** **06 34 17.8 +0.6**
AC05 *e*S **Sn** **06 35 02.7 +6.2**
AC05 IAML 06 35 11.9
comp=Z,529nm,0.7s
ML02 Panimavida 3.75 176 Pn **Pn** **06 34 21.9 +0.3**
AGUA GUANDACOL 3.76 49 *e*P Pn 06 34 24.8 +2.8
AGUA *e*S Sn 06 35 13.0 +7.9
AGUA IAML 06 35 25.6
comp=Z,589nm,0.4s
AC04 Llanos de Chal 3.84 9 **Pn** **06 34 23.1 +0.2**
AC04 Llanos de Chal 3.84 9 *e*P **Pn** **06 34 22.3 -0.7**
AC04 *e*S **Sn** **06 35 09.0 +2.1**
AC04 IAML 06 35 27.9
comp=Z,459nm,0.8s
RFA San Rafael 3.88 136 *e*P **Pn** **06 34 25.5 +2.1**
RFA *e*S Sn 06 35 28.4 +21
RFA IAML 06 35 31.4
comp=Z,111nm,0.6s
AVFE Valle Fertil 3.91 71 *e*P **Pn** **06 34 25.5 +1.6**
AVFE *e*S Sn 06 35 17.1 +8.6
AVFE IAML 06 35 20.4
comp=Z,731nm,0.4s
ACHE Chepes 4.41 80 *e*P Pn 06 34 33.2 +2.3
ACHE *e*S Sn 06 35 29.5 +8.4
VCA Vinchina 4.47 44 *e*P **Pn** **06 34 33.8 +2.0**
VCA *e*S Sn 06 35 29.0 +6.4
VCA IAML 06 35 49.9
comp=Z,692nm,0.7s
GO03 Copiap 4.60 17 **Pn** **06 34 33.1 -0.3**
GO03 Copiap 4.60 17 *e*P **Pn** **06 34 33.2 -0.2**
GO03 *e*P 06 34 33.7
GO03 *e*S **Sn** **06 35 29.5 +3.9**
GO03 IAML 06 35 51.9
comp=Z,291nm,0.7s
APLL PUNTA DE LOS L 4.75 71 *e*P **Pn** **06 34 36.5 +1.1**
APLL *e*S **Sn** **06 35 32.5 +3.3**
APLL IAML 06 35 40.4
comp=Z,68nm,1.0s
AC06 Mina Casimiro 4.80 15 Pn **Pn** **06 34 35.7 -0.4**
ACLC CERRO LA CRUZ 4.86 59 *e*P **Pn** **06 34 37.2 +0.1**
ACLC *e*P 06 34 38.5
ACLC *e*S **Sn** **06 35 35.0 +2.8**
ACLC *e*S 06 35 42.7
ACLC IAML 06 35 43.8
comp=Z,577nm,0.5s
MRA San Martin 5.12 96 *e*P Pn 06 34 35.0 -5.5
MRA *e*P 06 34 40.5
MRA *e*P 06 34 40.8
MRA *e*S **Sn** **06 35 40.5 +2.1**
MRA *e*S 06 35 44.0
MRA IAML 06 35 49.0
comp=Z,636nm,0.7s
H03N1 Juan Fernandez 6.21 255 P **Pn** **06 34 55.9 +0.7**
baz=259,slow=73,SNR=11
H03N1 T T 06 41 33.7
baz=84,slow=73,SNR=3852
H03N3 Juan Fernandez 6.22 255 P **Pn** **06 34 56.0 +0.7**
baz=259,slow=73,SNR=13
H03N3 T T 06 41 35.5
baz=84,slow=73,SNR=2612
H03N2 Juan Fernandez 6.23 255 P **Pn** **06 34 56.0 +0.6**
baz=259,slow=73,SNR=10
H03N2 T T 06 41 34.5
baz=84,slow=73,SNR=2555
H03S3 Juan Fernandez 6.29 251 T T 06 41 36.9
baz=83,slow=75,SNR=16
H03S1 Juan Fernandez 6.30 251 T T 06 41 35.5
baz=83,slow=75,SNR=20
H03S2 Juan Fernandez 6.31 251 T T 06 41 38.3
baz=83,slow=75,SNR=18
GO06 Curarrehue 7.55 178 Pn **Pn** **06 35 14.4 +0.5**
PLCA Paso Flores 8.75 174 P **Pn** **06 35 30.9 +0.6**
comp=Z,0.5nm,0.3s,baz=336,slow=10,SNR=19
PLCA LR LR 06 39 24.0
comp=Z,121nm,19.8s,baz=326,slow=41
comp=Z,1.2nm,0.4s
LVC Limon Verde 9.70 16 P **Pn** **06 35 46.7 +3.0**
comp=Z,0.3nm,0.3s,baz=135,slow=5.7,SNR=1.4
LVC S Sn 06 37 41.9 +10
comp=Z,12nm,1.0s,baz=237,slow=13,SNR=4.7
LVC LR LR 06 39 44.5
comp=Z,104nm,21.9s,baz=214,slow=39
comp=Z,1.3nm,0.4s
TRQA Tornquist 10.01 130 Pn **Pn** **06 35 47.8 +0.3**
ITQB Itaqui 13.20 84 Pn **Pn** **06 36 30.8 -0.3**
CPUP Villa Florida 13.80 69 Pn P 06 36 41.0 -5.8
CPUP Villa Florida 13.80 69 P **Pn** **06 36 38.7 -0.7**
comp=Z,0.1nm,0.3s,baz=233,slow=20,SNR=1.5
CPUP S **Sn** **06 39 04.5 -6.7**
comp=Z,2.8nm,0.7s,baz=137,slow=18,SNR=1.2
CPUP LR LR 06 42 18.7
comp=Z,71nm,20.7s,baz=241,slow=39
comp=Z,1.0nm,0.8s
SIV San Ignacio 18.67 34 P **P** **06 37 37.8 -3.0**
comp=Z,1.9nm,1.0s,baz=200,slow=12,SNR=4.0
SIV LR LR 06 46 00.6
comp=Z,51nm,21.5s,baz=126,slow=41
NNA Nana 20.48 346 LR LR 06 43 56.0
comp=Z,37nm,21.1s,baz=161,slow=30
ETMB Extrema 22.68 14 P **P** **06 38 24.3 +0.1**
ETMB IAmb IAmb 06 38 26.3
comp=Z,6.4nm,1.0s
BDFB Brasilia 27.05 58 P **P** **06 39 04.1 -0.8**
BDFB IAmb IAmb 06 39 04.8
comp=Z,8.2nm,0.9s
BDFB Brasilia 27.05 58 P **P** **06 39 03.4 -1.5**
comp=Z,8.3nm,0.9s,baz=228,slow=9.8,SNR=9.0
BDFB LR LR 06 51 28.3
comp=Z,58nm,18.2s,baz=226,slow=40
comp=Z,8.3nm,0.9s
SDV Santo Domingo 40.69 2 LR LR 06 58 55.5
comp=Z,31nm,19.1s,baz=168,slow=38
MDP Montagnes des 41.15 30 LR LR 07 00 00.2
comp=Z,35nm,20.6s,baz=100,slow=39
VNA3 Neumayer Olymp 51.10 158 ⇑ P **P** **06 42 24.9 +0.7**
comp=Z,3.0nm,0.7s
VNA2 Neumayer--Watz 51.74 158 ⇑ P **P** **06 42 30.0 +1.0**
comp=Z,2.7nm,0.4s,baz=281,slow=8.0
SNAA Sanae 53.33 158 P **P** **06 42 41.3 +0.6**
SNAA IAmb IAmb 06 42 42.6
comp=Z,6.0nm,1.1s
SNAA Sanae 53.33 158 ⇑ P **P** **06 42 41.7 +0.9**
comp=Z,60nm,0.6s
SNAA Sanae 53.33 158 P **P** **06 42 41.1 +0.3**
comp=Z,2.2nm,0.6s,baz=264,slow=8.0,SNR=21
comp=Z,2.2nm,0.6s
TROLL Troll, Antarti 55.03 159 ⇑ P **P** **06 42 54.3 +1.0**
comp=Z,100nm,0.6s
QSPA South Pole Qui 58.21 180 P **P** **06 43 17.5 +1.6**
comp=Z,2.1nm,0.9s,baz=134,slow=2.9,SNR=5.0
comp=Z,2.1nm,0.9s
DBIC Dimbokro 74.31 72 P **P** **06 44 59.1 -0.5**
comp=Z,3.5nm,0.8s,baz=208,slow=2.6,SNR=4.2
DBIC LR LR 07 14 15.0
comp=Z,20nm,20.8s,baz=70,slow=33
comp=Z,3.5nm,0.8s
SADO Sadowa 76.72 355 LR LR 07 21 05.2
comp=Z,18nm,21.4s,baz=63,slow=37
TORD Torodi Ar. Bea 83.30 70 P **P** **06 45 47.4 -1.5**
comp=Z,3.2nm,0.8s,baz=276,slow=3.3,SNR=21
comp=Z,3.2nm,0.8s
BRTR Keskin Array B 120.64 60 PKP **PKPdf** **06 52 12.8 -0.7**
comp=Z,0.7nm,0.6s,baz=318,slow=1.9,SNR=1.9
AKASG Malin Array Be 120.66 47 PKP **PKPdf** **06 52 12.5 -0.4**
comp=Z,0.2nm,0.4s,baz=286,slow=1.3,SNR=1.7
WRA Warramunga Arr 122.61 209 PKP **PKPdf** **06 52 17.2 -0.6**
comp=Z,0.4nm,1.1s,baz=159,slow=1.4,SNR=7.4
H11S2 WAKE ISLAND Hyd 26.03 270 T T 09 11 23.6
baz=117,slow=75,SNR=85
H11S1 WAKE ISLAND Hyd 26.04 270 T T 09 11 24.8
baz=117,slow=75,SNR=119
H11S3 WAKE ISLAND Hyd 26.05 270 T T 09 11 25.2
baz=117,slow=75,SNR=91
H11N3 WAKE ISLAND Hyd 26.39 272 T T 09 11 51.1
baz=117,slow=76,SNR=35
H11N1 WAKE ISLAND Hyd 26.41 272 T T 09 11 52.6
baz=117,slow=76,SNR=13
H11N2 WAKE ISLAND Hyd 26.41 272 T T 09 11 52.6
baz=117,slow=76,SNR=48
BVAR Borovoye Array 145.64 41 PKPbc **PKPab** **06 53 01.0 +0.9**
comp=Z,4.6nm,0.6s,baz=288,slow=3.7,SNR=26
KURBB Kurchatov Arra 151.24 41 PKPbc **PKiKP** **06 53 15.2 +0.2**
comp=Z,5.1nm,0.7s,baz=299,slow=3.0,SNR=31
ZALV Zalesovo Beam 152.41 31 PKPbc **PKiKP** **06 53 17.6 +0.2**
comp=Z,5.3nm,0.5s,baz=298,slow=2.9,SNR=23
ZALV PKPab **PKPab** **06 53 28.0 +0.6**
comp=Z,1.3nm,0.5s,baz=316,slow=4.0,SNR=3.7
MKAR Makanchi Array 155.24 46 PKPbc PKPdf 06 53 24.3 +10
comp=Z,0.7nm,0.7s,baz=330,slow=2.0,SNR=6.0
MKAR PKPab **PKPab** **06 53 39.8 +0.1**
comp=Z,1.0nm,0.9s,baz=273,slow=3.7,SNR=4.7

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*NOU **06** 06:39:09.1, 37.06S×179.69W, h0km, MLv4.4/10, East of North Island, N.Z.*
*WEL **06** 06:39:25.6±0.9, 37.5S±3.×17.9E±.°, h12km, M3.6/15, ML3.9/17, MLv3.6/15, Error ellipse: s-maj=0.0km s-min=0.0km az=87.7, confirmed*
*IDC **06** 06:39:30.2±4.5, 38.06S×179.15E, h94km±26km, mb4.0/3, mbtmp4.2/4, Error ellipse: s-maj=42.0km s-min=36.3km az=98.0*

ISC 06 06:39:22.8±1.6, 37.15S±0.07×179.1E±0.1, h20km±5km, n113, σ1°59/125, mb4.2/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.78**	**238**	P	**Pb**	**06 39 38.0**	**+0.3**
MXZ	**Matakaoa Point**	**0.78**	**238**	P	**Pb**	**06 39 37.6**	**-0.1**
MXZ				S	**Sb**	**06 39 45.4**	**-2.5**
TDHS	**Te Araroa Dist**	**0.78**	**232**	P	**Pb**	**06 39 37.6**	**-0.2**
WMGZ	**Waiomatatini S**	**0.88**	**220**	P	**Pn**	**06 39 41.6**	**+1.5**
WMGZ				S	**Sn**	**06 39 54.1**	**+1.8**
PKGZ	**Pakihiroa**	**1.12**	**228**	P	**Pb**	**06 39 44.8**	**+1.2**
PKGZ				S	**Sn**	**06 39 58.9**	**+0.5**
PUZ	**Puketiti**	**1.16**	**217**	P	**Pb**	**06 39 45.4**	**+1.2**
PUZ				S	**Sn**	**06 39 59.9**	**+0.7**
HAZ	**Te Kaha**	**1.24**	**240**	P	**Pn**	**06 39 44.5**	**-0.5**
HAZ				S	**Sn**	**06 40 02.5**	**+1.4**
TWGZ	**Tauwhareparae**	**1.38**	**221**	P	**Pb**	**06 39 48.6**	**+0.7**
TWGZ				S	**Sb**	**06 40 05.6**	**+0.5**
RUGZ	**Raukumara Rang**	**1.42**	**234**	P	**Pb**	**06 39 48.7**	**0.0**
RUGZ				S	**Sn**	**06 40 05.5**	**-0.3**
CNGZ	**Carnagh Statio**	**1.52**	**209**	P	**Pb**	**06 39 51.2**	**+0.8**
CNGZ				S	**Sb**	**06 40 11.4**	**+2.1**
WIZ	**White Island**	**1.60**	**256**	P	**Pn**	**06 39 50.0**	**0.0**
TKGZ	**Te Karaka**	**1.65**	**218**	P	**Pb**	**06 39 51.7**	**-0.8**
TKGZ				S	**Sb**	**06 40 11.8**	**-0.9**
MWZ	**Matawai**	**1.74**	**227**	P	**Pb**	**06 39 53.5**	**-0.6**
MWZ				S	**Sn**	**06 40 13.5**	**-0.1**
RIGZ	**Rimuhau**	**1.90**	**215**	P	**Pn**	**06 39 55.0**	**+0.9**
RAGZ	**Rawiri**	**1.92**	**225**	P	**Pb**	**06 39 56.0**	**-1.2**
URZ	**Urewera**	**1.95**	**235**	P	**Pb**	**06 39 56.3**	**-1.4**
URZ	**Urewera**	**1.95**	**235**	P	**Pb**	**06 39 56.4**	**-1.3**
	88nm,0.3s,baz=326,slow=1.3,SNR=92						
URZ				S	**Sn**	**06 40 18.8**	**0.0**
	229nm,0.5s,baz=270,slow=17,SNR=6.7						
URZ	**Urewera**	**1.95**	**235**	P	**Pb**	**06 39 56.2**	**-1.5**
PRGZ	**Paritu Road**	**2.03**	**209**	P	**Pn**	**06 39 56.9**	**+0.9**
EDRZ	**Edgecumbe**	**2.13**	**243**	P	**Pb**	**06 39 59.4**	**-1.4**
SNGZ	**Shannon Statio**	**2.16**	**221**	P	**Pn**	**06 39 58.9**	**+1.1**
OPRZ	**Ohinepanea**	**2.17**	**251**	P	**Pn**	**06 39 58.6**	**+0.8**
KNZ	**Kokohu**	**2.20**	**211**	P	**Pn**	**06 39 58.5**	**+0.3**
MHGZ	**Mahia Peninsul**	**2.23**	**205**	P	**Pn**	**06 39 59.6**	**+1.1**
RTZ	**Ruatahuna**	**2.25**	**229**	P	**Pn**	**06 40 00.6**	**+1.6**
MUGZ	**Murupara**	**2.30**	**234**	P	**Pb**	**06 40 01.6**	**-2.0**
MKRZ	**Makatiti**	**2.34**	**244**	P	**Pb**	**06 40 03.5**	**-0.9**
TARZ	**Mount Tarawera**	**2.35**	**242**	P	**Pn**	**06 40 02.4**	**+2.0**
TGRZ	**Tauranga**	**2.36**	**255**	P	**Pn**	**06 40 01.6**	**+1.1**
OMRZ	**Omania**	**2.40**	**246**	P	**Pb**	**06 40 03.6**	**-1.7**
RRRZ	**Republican Roa**	**2.40**	**239**	P	**Pb**	**06 40 03.2**	**-2.1**
RAHZ	**Arahi**	**2.40**	**222**	P	**Pn**	**06 40 02.0**	**+1.1**
WHHZ	**Waihua**	**2.44**	**217**	P	**Pn**	**06 40 02.3**	**+0.7**
KARZ	**Kaharoa**	**2.46**	**248**	P	**Pn**	**06 40 04.9**	**+2.1**
MTHZ	**Maungataniwha**	**2.49**	**226**	P	**Pn**	**06 40 03.7**	**+1.5**
PRRZ	**Plateau Road**	**2.56**	**237**	P	**Pn**	**06 40 04.2**	**+1.1**
ALRZ	**Allen Road**	**2.62**	**237**	P	**Pn**	**06 40 04.7**	**+0.7**
KMRZ	**Kaimai**	**2.64**	**254**	P	**Pn**	**06 40 06.0**	**+1.8**
NMHZ	**Naumai**	**2.68**	**223**	P	**Pn**	**06 40 06.1**	**+1.3**
ARHZ	**Aropaoanui**	**2.70**	**218**	P	**Pn**	**06 40 06.0**	**+0.8**
MRHZ	**Matea Rd**	**2.73**	**231**	P	**Pn**	**06 40 06.8**	**+1.3**
KUZ	**Kuaotunu**	**2.77**	**277**	P	**Pn**	**06 40 05.1**	**-0.9**
KUZ	**Kuaotunu**	**2.77**	**277**	P	**Pn**	**06 40 05.3**	**-0.7**
KUZ				S	**Sn**	**06 40 32.6**	**-6.2**
TOZ	**Tahuroa Road**	**2.95**	**258**	P	**Pn**	**06 40 09.0**	**+0.4**
CKHZ	**Cape Kidnapper**	**2.98**	**212**	P	**Pn**	**06 40 08.8**	**-0.2**
MCHZ	**McNeill Hill**	**2.99**	**219**	P	**Pn**	**06 40 09.6**	**+0.5**
GRZ	**Great Barrier**	**3.09**	**286**	P	**Pn**	**06 40 11.9**	**+1.4**
GRZ				S	**Sn**	**06 40 45.0**	**-1.7**
KWHZ	**Kaweka Forest**	**3.12**	**222**	P	**Pn**	**06 40 11.1**	**+0.2**
RITZ	**Rihia Road**	**3.17**	**234**	P	**Pn**	**06 40 13.1**	**+1.6**
MKAZ	**Moumakai**	**3.18**	**270**	P	**Pn**	**06 40 11.4**	**-0.2**
KAHZ	**Kahuranaki**	**3.18**	**213**	P	**Pn**	**06 40 11.4**	**-0.4**
WIAZ	**Waiheke Island**	**3.23**	**275**	P	**Pn**	**06 40 12.4**	**+0.1**
KATZ	**Kakaramea**	**3.27**	**235**	P	**Pn**	**06 40 15.0**	**+1.9**
KRHZ	**Kereru**	**3.31**	**220**	P	**Pn**	**06 40 13.0**	**-0.4**
TMVZ	**Te Maari**	**3.35**	**233**	P	**Pn**	**06 40 14.8**	**+0.7**
ETVZ	**East Tongariro**	**3.35**	**233**	P	**Pn**	**06 40 14.9**	**+0.7**
NTVZ	**North Tongarir**	**3.35**	**233**	P	**Pn**	**06 40 15.0**	**+0.8**
BHHZ	**Black Hill Sta**	**3.36**	**225**	P	**Pn**	**06 40 14.7**	**+0.4**
ETAZ	**East Tamaki Re**	**3.37**	**272**	P	**Pn**	**06 40 16.3**	**+2.0**
KRVZ	**Karewarewa**	**3.37**	**234**	P	**Pn**	**06 40 15.6**	**+1.1**
PXZ	**Pawanui**	**3.39**	**211**	P	**Pn**	**06 40 13.7**	**-0.8**
PXZ				S	**Sn**	**06 40 51.0**	**-3.0**
OTVZ	**Oturere**	**3.40**	**233**	P	**Pn**	**06 40 15.5**	**+0.7**
NNVZ	**North Ngauruho**	**3.41**	**233**	P	**Pn**	**06 40 16.4**	**+1.3**
MBAZ	**Motutapu North**	**3.42**	**275**	P	**Pn**	**06 40 15.5**	**+0.6**
WTVZ	**West Tongariro**	**3.42**	**234**	P	**Pn**	**06 40 16.6**	**+1.5**
SNVZ	**South Ngauruho**	**3.43**	**232**	P	**Pn**	**06 40 16.0**	**+0.7**
NGZ	**Ngauruhoe**	**3.45**	**233**	P	**Pn**	**06 40 16.2**	**+0.7**
TUVZ	**Tukino**	**3.47**	**231**	P	**Pn**	**06 40 16.8**	**+1.0**
MOVZ	**Moawhango**	**3.49**	**229**	P	**Pn**	**06 40 16.3**	**+0.3**
TWVZ	**Taurewa**	**3.49**	**236**	P	**Pn**	**06 40 17.8**	**+1.7**
ABAZ	**Army Bay**	**3.50**	**278**	P	**Pn**	**06 40 17.0**	**+1.0**
EPAZ	**Eden Park BICE**	**3.53**	**273**	P	**Pn**	**06 40 18.8**	**+2.3**
WNVZ	**Wahianoa**	**3.54**	**231**	P	**Pn**	**06 40 17.1**	**+0.4**
AWAZ	**Awhitu Peninsu**	**3.59**	**270**	P	**Pn**	**06 40 18.1**	**+0.7**
PNHZ	**Pukenui**	**3.60**	**219**	P	**Pn**	**06 40 17.2**	**-0.2**
MTVZ	**Mangateitei**	**3.65**	**231**	P	**Pn**	**06 40 19.0**	**+0.8**
HIZ	**Hauiti**	**3.66**	**247**	P	**Pn**	**06 40 20.8**	**+2.6**
HIZ	**Hauiti**	**3.66**	**247**	P	**Pn**	**06 40 20.5**	**+2.3**
WTAZ	**Waiatarua**	**3.66**	**272**	P	**Pn**	**06 40 19.1**	**+0.8**
RVAZ	**Riverhead Bore**	**3.67**	**275**	P	**Pn**	**06 40 19.2**	**+0.8**
PKVZ	**Pokaka**	**3.67**	**233**	P	**Pn**	**06 40 19.8**	**+1.3**
DVHZ	**Dannevirke**	**3.91**	**216**	P	**Pn**	**06 40 20.4**	**-1.4**
WCZ	**Waipu Caves**	**4.04**	**286**	P	**Pn**	**06 40 24.4**	**+0.8**
WAZ	**Wanganui**	**4.17**	**230**	P	**Pn**	**06 40 26.4**	**+1.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WAZ				S	**Sn**	**06 41 12.5**	**-1.0**
BFZ	**Birch Farm**	**4.19**	**212**	P	**Pn**	**06 40 23.4**	**-2.1**
BFZ	**Birch Farm**	**4.19**	**212**	P	**Pn**	**06 40 23.5**	**-2.1**
PRWZ	**Pori Road**	**4.21**	**215**	P	**Pn**	**06 40 24.9**	**-0.9**
MRZ	**Mangatainoka R**	**4.47**	**217**	P	**Pn**	**06 40 27.7**	**-1.8**
NEZ	**North Egmont**	**4.50**	**240**	P	**Pn**	**06 40 33.3**	**+3.4**
KHEZ	**Kahui Hut**	**4.57**	**240**	P	**Pn**	**06 40 31.6**	**+0.8**
HOWZ	**Holdsworth Sta**	**4.69**	**216**	P	**Pn**	**06 40 30.3**	**-2.1**
TMWZ	**Te Maipa**	**4.69**	**212**	P	**Pn**	**06 40 30.1**	**-2.4**
OGWZ	**Otaki Gorge**	**4.79**	**219**	P	**Pn**	**06 40 31.3**	**-2.5**
OUZ	**Omahuta**	**4.88**	**292**	P	**Pn**	**06 40 36.3**	**+1.3**
OUZ	**Omahuta**	**4.88**	**292**	P	**Pn**	**06 40 36.4**	**+1.4**
MTW	**Mount Morrison**	**4.90**	**214**	P	**Pn**	**06 40 33.0**	**-2.3**
KIW	**Kapiti Island**	**4.96**	**220**	P	**Pn**	**06 40 33.7**	**-2.4**
CAW	**Cannon Point**	**5.07**	**217**	P	**Pn**	**06 40 35.3**	**-2.2**
PAWZ	**Paruwai Farm**	**5.12**	**213**	P	**Pn**	**06 40 35.9**	**-2.5**
PLWZ	**Palliser**	**5.34**	**213**	P	**Pn**	**06 40 38.1**	**-3.3**
TUWZ	**Tuamarina**	**5.88**	**222**	P	**Pn**	**06 40 46.5**	**-2.2**
QRZ	**Quartz Range**	**6.32**	**232**	P	**Pn**	**06 40 54.7**	**-0.2**
KHZ	**Kahutara**	**6.80**	**218**	P	**Pn**	**06 40 58.7**	**-2.7**
CTZ	**Chatham Island**	**7.33**	**155**	P	**Pn**	**06 41 11.2**	**+2.5**
RPZ	**Rata Peaks**	**9.00**	**221**	P	**Pn**	**06 41 28.6**	**-3.0**
	4.8nm,0.7s,baz=144,slow=15,SNR=2.3						
RPZ				S	Sn	06 42 59.0	-13
	4.0nm,0.4s,baz=333,slow=3.1,SNR=13						
ODZ	**Otahua Downs**	**10.16**	**216**	P	**Pn**	**06 41 43.4**	**-4.1**
STKA	**Stephens Creek**	**31.24**	**268**	P	**P**	**06 45 42.2**	**+1.2**
	1.3nm,0.7s,baz=120,slow=14,SNR=4.5						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**40.89**	**276**	P	**P**	**06 47 03.7**	**-0.1**
	2.8nm,0.6s,baz=118,slow=8.1,SNR=41						
	2.8nm,0.6s						
WRA	**Warramunga Arr**	**42.50**	**281**	P	**P**	**06 47 16.7**	**-0.2**
	4.5nm,0.4s,baz=122,slow=7.9,SNR=134						
	4.5nm,0.4s						
H03N3	**Juan Fernandez**	**78.94**	**124**	T	T	08 18 15.5	
	baz=234,slow=72,SNR=18						
H03N2	**Juan Fernandez**	**78.95**	**124**	T	T	08 18 12.8	
	baz=234,slow=72,SNR=14						
H03N1	**Juan Fernandez**	**78.96**	**124**	T	T	08 18 15.9	
	baz=234,slow=72,SNR=14						
FINES	**FINESS Array B**	**150.41**	**334**	PKPbc	**PKiKP**	**06 59 12.6**	**0.0**
	3.3nm,1.0s,baz=76,slow=1.7,SNR=4.1						

*NNC **06** 07:07:50.7±7.2, 38°.38N×70°.78E, h0km, mb3.8, mpv3.3, Error ellipse: s-maj=70.8km s-min=38.4km az=154.0*
ISC 06 07:07:52.8±2.4**, 38°.7N**±0°.2×**70°.3E**±0°.1**, h10**km**, n13, σ0s.74**/16**, 2C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.36**	**36**	P	**Pn**	**07 08 59.4**	**0.0**
	SNR=8.2						
AML	**Almayashu**	**4.36**	**36**	⇓P	**Pn**	**07 08 59.0**	**-0.4**
	1.2nm,0.7s						
AML				S	**Sn**	**07 09 50.1**	**-0.3**
	3.1nm,0.7s						
KK31	**Karatay Array**	**4.45**	**2**	P	**Pn**	**07 09 01.4**	**+1.0**
	2.6nm,0.4s,baz=177,slow=12,SNR=21						
KK31				⇓S	**Sb**	**07 10 04.6**	**-0.1**
	9.4nm,0.5s,baz=180,slow=29,SNR=6.8						
UCH	**Uchtor**	**4.83**	**41**	P	**Pn**	**07 09 06.0**	**+0.1**
	SNR=16						
AAK	**Ala-Archa**	**5.12**	**38**	P	**Pn**	**07 09 10.1**	**+0.4**
	SNR=7.4						
KZA	**Kyzart**	**5.12**	**47**	P	**Pn**	**07 09 10.1**	**+0.1**
	SNR=5.8						
KBK	**Karagaybulak**	**5.36**	**40**	P	**Pn**	**07 09 13.8**	**+0.8**
	SNR=8.5						
CHMS	**Chumysh**	**5.52**	**37**	P	**Pn**	**07 09 15.6**	**+0.5**
	SNR=5.1						
USP	**Ospenovka**	**5.62**	**34**	P	**Pn**	**07 09 16.1**	**-0.3**
	SNR=9.7						
TKM2	**Tokmak 2**	**5.88**	**42**	P	**Pn**	**07 09 19.7**	**-0.5**
	SNR=10						
TKM2	**Tokmak 2**	**5.88**	**42**	⇓P	**Pn**	**07 09 21.0**	**+0.8**
	5.6nm,0.5s						
TKM2				⇓S	**Sn**	**07 10 28.3**	**+0.5**
	8.4nm,0.7s						
AB31	**Akbulak array**	**12.93**	**328**	⇑P	**Pn**	**07 10 55.0**	**-1.5**
	1.4nm,0.5s,baz=162,slow=11,SNR=4.8						
AKTO	**Aktyubinsk**	**14.63**	**328**	⇑P	**P**	**07 11 27.2**	**+1.0**

*NEIC **06** 07:16:33±1.3, 17°.8S±0°.2×178°.4W±0°.2, h510km±12km, mb4.2/42, Error ellipse: s-maj=39.3km s-min=16.3km az=152.0*
*IDC **06** 07:16:38.8±2.8, 18°.02S×178°.47W, h587km±32km, mb3.5/11, mbtmp4.4/11, Error ellipse: s-maj=24.2km s-min=11.0km az=150.0*
ISC 06 07:16:37.8±0.6**, 18°.0S**±0°.1×**178°.5W**±0°.1**, h579**km**, n60, σ0s.86**/53**, mb4.2**/34**, 3D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.65**	**59**	P	P	07 18 24.0	-9.3
NIUE	**Niue**	**8.21**	**99**	P	P	07 18 30.3	-8.2
PINNC	**Pines Island,**	**13.95**	**248**	P	P	07 19 31.8	-4.6
DZM	**Mont Dzumac**	**14.70**	**252**	P	**P**	**07 19 40.6**	**-3.3**
KOUNC	**Koumac, New Ca**	**16.44**	**258**	P	**P**	**07 19 58.4**	**-1.9**
CTAO	**Charters Tower**	**33.33**	**261**	P	**P**	**07 22 29.0**	**-0.2**
CTAO				IAmb	IAmb	07 22 31.2	
	comp=Z,9.4nm,1.4s						
COEN	**Coen**	**37.01**	**271**	P	**P**	**07 23 00.3**	**+0.5**
COEN				IAmb	IAmb	07 23 01.5	
	comp=Z,5.1nm,0.6s						
TOO	**Toolangi**	**37.03**	**231**	P	**P**	**07 23 01.0**	**+1.3**
TOO				IAmb	IAmb	07 23 01.3	
	comp=Z,8.4nm,1.0s						
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**07 23 12.6**	**+1.0**
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**07 23 12.6**	**+1.0**
	comp=Z,3.6nm,0.5s,baz=90,slow=8.9,SNR=15						
	comp=Z,3.6nm,0.5s						
BBOO	**Buckleboo**	**43.27**	**241**	P	**P**	**07 23 50.0**	**+0.6**
BBOO				IAmb	IAmb	07 23 50.7	
	comp=Z,8.9nm,0.8s						
WR0	**Warramunga Arr**	**44.33**	**260**	P	**P**	**07 23 58.2**	**+0.5**
WR0				IAmb	IAmb	07 24 35.3	
	comp=Z,9.3nm,1.4s						
WB0	**Warramunga Arr**	**44.48**	**260**	P	**P**	**07 23 58.9**	**-0.1**
WB2	**Warramunga Arr**	**44.51**	**260**	P	**P**	**07 23 59.3**	**+0.2**
WB2				IAmb	IAmb	07 24 04.6	
	comp=Z,12nm,1.1s						
WRAB	**Tennant Creek**	**44.51**	**260**	P	**P**	**07 23 59.4**	**+0.3**
WRAB				IAmb	IAmb	07 23 60.0	
	comp=Z,3.9nm,0.7s						
WRA	**Warramunga Arr**	**44.52**	**260**	P	**P**	**07 23 59.1**	**-0.1**
WRA	**Warramunga Arr**	**44.52**	**260**	P	**P**	**07 23 59.5**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=98,slow=6.7,SNR=63						
WRA				PcP	**PcP**	**07 25 30.3**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=90,slow=2.9,SNR=6.5						
WRA				S	**S**	**07 29 53.0**	**-0.4**
	comp=Z,0.3nm,0.9s,baz=333,slow=32,SNR=3.0						
	comp=Z,2.7nm,0.7s						
AS31	**Alice Springs**	**44.67**	**254**	P	**P**	**07 24 01.0**	**+0.7**
AS31				IAmb	IAmb	07 24 02.0	
	comp=Z,7.2nm,0.6s						
ASAR	**Alice Springs**	**44.67**	**254**	P	**P**	**07 24 01.2**	**+0.8**
ASAR	**Alice Springs**	**44.67**	**254**	P	**P**	**07 24 01.0**	**+0.6**
	comp=Z,26nm,0.6s,baz=88,slow=8.4,SNR=424						
ASAR				PcP	**PcP**	**07 25 30.9**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=103,slow=3.9,SNR=5.3						
ASAR				S	**S**	**07 29 57.0**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=91,slow=13,SNR=4.3						
	comp=Z,26nm,0.6s						
FORT	**Forrest**	**49.88**	**245**	P	**P**	**07 24 39.3**	**+0.1**
SOEI	**Soe**	**55.97**	**270**	P	**P**	**07 25 23.5**	**+0.6**
PSA00	**Pilbara Seismi**	**57.79**	**255**	P	**P**	**07 25 35.8**	**+0.8**
PSA00				IAmb	IAmb	07 25 41.7	
	comp=Z,18nm,1.4s						
MBWA	**Marble Bar**	**57.95**	**256**	P	**P**	**07 25 36.6**	**+0.5**
QSPA	**South Pole Qui**	**72.05**	**180**	P	**P**	**07 27 03.8**	**0.0**
	comp=Z,1.7nm,0.6s,baz=12,slow=2.2,SNR=6.4						
	comp=Z,1.7nm,0.6s						
PETK	**Petropavlovsk-**	**73.75**	**345**	P	**P**	**07 27 13.9**	**+0.4**
	comp=Z,4.1nm,0.8s,baz=94,slow=8.3,SNR=5.9						
	comp=Z,4.1nm,0.8s						
YERR	**Yerington**	**79.25**	**43**	P	**P**	**07 27 44.0**	**-0.2**
P18K	**Big Mountain,**	**79.44**	**12**	P	**P**	**07 27 44.1**	**-0.4**
NVAR	**Mina Array Bea**	**79.56**	**44**	P	**P**	**07 27 46.0**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=224,slow=8.8,SNR=15						
	comp=Z,2.0nm,0.7s						
NV11	**Mina Array Sit**	**79.66**	**44**	P	**P**	**07 27 45.8**	**-0.4**
J05D	**Fort Rock, OR**	**80.46**	**39**	P	**P**	**07 27 51.1**	**+0.8**
J05D				IAmb	IAmb	07 27 51.7	
	comp=Z,8.0nm,0.7s						
PINE	**Pine Mountain**	**80.93**	**38**	P	**P**	**07 27 53.1**	**+0.3**
PINE				IAmb	IAmb	07 27 54.3	
	comp=Z,7.4nm,0.9s						
PRN	**Pahroc Range**	**81.22**	**46**	P	**P**	**07 27 55.2**	**+0.9**
WVOR	**Wild Horse Val**	**81.55**	**40**	IAmb	IAmb	07 27 57.3	
	comp=Z,5.3nm,1.1s						
J08A	**Circle Bar Ran**	**82.16**	**40**	IAmb	IAmb	07 28 00.2	
	comp=Z,7.3nm,1.2s						
U15A	**North Rim**	**82.66**	**48**	IAmb	IAmb	07 28 03.4	
	comp=Z,4.9nm,0.7s						
G08A	**Pilot Rock**	**82.95**	**38**	P	**P**	**07 28 03.1**	**+0.2**
CAST	**Castle Rocks**	**83.74**	**12**	P	**P**	**07 28 04.6**	**-1.7**
CAST				IAmb	IAmb	07 28 06.0	
	comp=Z,6.6nm,0.8s						
TRF	**Thorofare Moun**	**84.13**	**12**	P	**P**	**07 28 07.5**	**-0.8**
F10A	**Beach Ranch, E**	**84.34**	**38**	IAmb	IAmb	07 28 10.8	
	comp=Z,5.9nm,0.9s						
IL31		**86.00**	**13**	P	**P**	**07 28 16.2**	**-0.9**
IL31				IAmb	IAmb	07 28 19.6	
	comp=Z,3.5nm,1.1s						
ILAR	**Eielson Array**	**86.00**	**13**	P	**P**	**07 28 16.7**	**-0.5**
ILAR	**Eielson Array**	**86.00**	**13**	P	**P**	**07 28 16.5**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=221,slow=5.1,SNR=48						
	comp=Z,1.2nm,0.4s						
TXAR	**Lajitas Array**	**86.13**	**58**	P	**P**	**07 28 19.7**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=219,slow=6.0,SNR=28						
	comp=Z,2.8nm,0.8s						
IMW	**Indian Meadow**	**87.12**	**42**	IAmb	IAmb	07 28 24.7	
	comp=Z,4.1nm,0.9s						
YHL	**Hebgen Lake**	**87.42**	**41**	IAmb	IAmb	07 28 26.7	
	comp=Z,5.2nm,0.9s						
YMR	**Madison River**	**87.47**	**41**	IAmb	IAmb	07 28 26.8	
	comp=Z,4.0nm,0.8s						
PD31	**Pinedale Array**	**87.49**	**43**	P	**P**	**07 28 24.6**	**-0.4**
PDAR	**Pinedale Array**	**87.49**	**43**	P	**P**	**07 28 24.9**	**0.0**
	comp=Z,1.4nm,0.7s,baz=213,slow=2.0,SNR=17						
	comp=Z,1.4nm,0.7s						
BRLDA	**Berland Lookou**	**88.71**	**31**	IAmb	IAmb	07 28 39.5	
	comp=Z,5.3nm,1.1s						
TROLL	**Troll, Antarti**	**90.21**	**180**	⇓P	**P**	**07 28 36.2**	**-0.8**
	comp=Z,56nm,0.5s						
SNAA	**Sanae**	**90.50**	**179**	P	**P**	**07 28 37.0**	**-1.3**
	comp=Z,1.0nm,1.0s,baz=6.2,slow=23,SNR=1.2						
	comp=Z,1.0nm,1.0s						
VNA3	**Neumayer Olymp**	**90.65**	**176**	⇓P	**P**	**07 28 38.4**	**-0.5**
	comp=Z,3.0nm,0.7s						
VNA2	**Neumayer--Watz**	**91.09**	**177**	⇓P	**P**	**07 28 40.8**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=177,slow=3.0						
YKA	**Yellowknife Ar**	**94.46**	**25**	P	**P**	**07 28 56.0**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=243,slow=4.6,SNR=8.1						
	comp=Z,0.8nm,0.8s						
BRTR	**Keskin Array B**	**144.78**	**315**	PKP	**PKPab**	**07 35 11.1**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=116,slow=3.4,SNR=4.9						
CLL	**Collm**	**145.54**	**347**	*i* PKPbc	**PKPab**	**07 35 13.0**	**-0.6**
	comp=Z,8.0nm,1.0s						
GERES	**GERESS Array B**	**147.68**	**345**	PKPbc	**PKPbc**	**07 35 18.5**	**+0.5**
	comp=Z,1.6nm,0.4s,baz=64,slow=3.1,SNR=2.7						
PRED	**Cave del Predi**	**149.93**	**343**		**PKPab**	**07 35 31.5**	**-0.3**
ESDC	**Sonseca Array**	**157.90**	**11**	PKPab	**PKPab**	**07 36 05.6**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=334,slow=4.5,SNR=2.5						

*NNC **06** 07:20:33.1±3.5, 54°.25N×87°.07E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=28.8km s-min=18.4km az=16.0, Suspected Mining explosion.*
*IDC **06** 07:20:37.5±2.4, 54°.16N×86°.62E, h0km, mbtmp3.3/3, ML2.9/3, Error ellipse: s-maj=19.9km s-min=11.7km az=61.0*
ISC 06 07:20:35.9±4.2**, 54°.2N**±0°.2×**86°.7E**±0°.2**, h0**km**, n9, σ2s.16**/15**, 6C-4D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.14**	**256**	I	I	07 27 40.5	
	baz=73,slow=342,SNR=3.8						
ZAA0	**Zalesovo Array**	**1.14**	**256**	⇓P	**Pg**	**07 20 57.2**	**-0.5**
	0.4nm,0.2s						
ZAA0				⇑S	**Sn**	**07 21 17.8**	**+2.5**
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**1.14**	**256**	Pg	**Pg**	**07 20 57.3**	**-0.4**
	5.7nm,0.3s,baz=75,slow=17,SNR=65						
ZALV				Lg	Lg	07 21 14.5	
	3.8nm,0.3s,baz=76,slow=34,SNR=10.0						
KURK	**Kurchatov**	**6.06**	**238**	⇓Pn	**Pn**	**07 22 07.6**	**+1.0**
	1.1nm,0.5s						
KURK				⇑Sn	**Sn**	**07 23 19.0**	**+2.4**
	0.6nm,0.5s						
KURK				⇑Lg	Lg	07 23 49.5	
	1.7nm,0.8s						
KURBB	**Kurchatov Arra**	**6.16**	**237**	Pn	**Pn**	**07 22 08.9**	**+0.9**
	0.2nm,0.3s,baz=53,slow=14,SNR=9.3						
KURBB				Sn	**Sn**	**07 23 16.1**	**-3.1**
	baz=31,slow=25						
	1.0nm,0.3s						
KURBB	**Kurchatov Arra**	**6.16**	**237**	⇑Pn	**Pn**	**07 22 08.3**	**+0.3**
	1.0nm,0.3s						
KURBB				⇓Sn	**Sn**	**07 23 21.3**	**+2.2**
	3.0nm,0.6s						
KURBB				⇓Lg	Lg	07 23 55.1	
	1.3nm,0.5s						
MK31	**Makanchi Array**	**7.96**	**202**	Pn	**Pn**	**07 22 34.8**	**+2.1**
	0.4nm,0.5s,baz=27,slow=14,SNR=18						
MK31				⇑Sn	**Sn**	**07 24 03.2**	**-0.2**
	0.1nm,0.3s						
MK31				⇑Lg	Lg	07 24 50.0	
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**7.96**	**202**	Pn	**Pn**	**07 22 34.1**	**+1.3**
	0.2nm,0.3s,baz=26,slow=13,SNR=9.4						
MKAR				Sn	**Sn**	**07 24 01.3**	**-2.0**
	baz=22,slow=24,SNR=1.2						
MKAR				Lg	Lg	07 24 47.9	
	baz=6.0,slow=29						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**9.76**	**270**	Pn	**Pn**	**07 22 58.7**	**+1.3**
	0.1nm,0.3s,baz=70,slow=16,SNR=9.4						
BVAR				Sn	**Sn**	**07 24 43.7**	**-4.0**
	baz=84,slow=26,SNR=1.7						
	0.9nm,0.3s						

*IDC **06** 07:24:48.3±2.8, 23°.81S×69°.36E, h0km, mb3.9/7, mbtmp3.9/7, MS3.6/11, Error ellipse: s-maj=87.6km s-min=27.4km az=47.0*
ISC 06 07:24:50.1±2.6**, 23°.8S**±0°.4×**69°.4E**±0°.4**, h10**km**, n26, σ0s.93**/7**, mb4.0**/7**, MS3.4**/11**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**16.36**	**11**	T	T	07 45 28.5	
	baz=191,slow=76,SNR=3.9						
H08S2	**Diego Garcia H**	**16.36**	**11**	T	T	07 45 27.4	
	baz=191,slow=76,SNR=18						
H08S3	**Diego Garcia H**	**16.38**	**11**	T	T	07 45 26.0	
	baz=191,slow=76,SNR=122						
H04N2	**CROZET ISLANDS**	**26.42**	**208**	T	T	07 58 02.8	
	baz=39,slow=75,SNR=384						
H04N1	**CROZET ISLANDS**	**26.43**	**208**	T	T	07 58 05.4	
	baz=39,slow=75,SNR=534						
H04N3	**CROZET ISLANDS**	**26.44**	**208**	T	T	07 58 16.4	
	baz=39,slow=75,SNR=384						
PALK	**Pallekele**	**32.83**	**21**	LR	LR	07 42 14.4	
	comp=Z,42nm,19.1s,baz=308,slow=32						
LSZ	**Lusaka**	**39.63**	**275**	LR	LR	07 46 25.4	
	comp=Z,38nm,18.1s,baz=118,slow=33						
BOSA	**Boshof**	**39.71**	**253**	LR	LR	07 46 40.5	
	comp=Z,63nm,18.3s,baz=166,slow=33						
LBTB	**Lobatse**	**39.76**	**259**	LR	LR	07 46 10.4	
	comp=Z,38nm,20.4s,baz=140,slow=32						
H01W2	**Cape Leeuwin H**	**40.23**	**116**	T	T	08 15 02.8	
	baz=274,slow=75,SNR=4.5						
H01W3	**Cape Leeuwin H**	**40.23**	**116**	T	T	08 15 01.1	
	baz=274,slow=75,SNR=4.9						
H01W1	**Cape Leeuwin H**	**40.25**	**116**	T	T	08 15 03.7	
	baz=274,slow=75,SNR=4.6						
SUR	**Sutherland**	**43.39**	**247**	LR	LR	07 48 03.5	
	comp=Z,42nm,18.6s,baz=118,slow=32						
TSUM	**Tsumeb**	**48.21**	**265**	LR	LR	07 50 49.3	
	comp=Z,40nm,20.6s,baz=150,slow=32						
CMAR	**Chiang Mai Arr**	**50.97**	**37**	P	**P**	**07 33 52.6**	**+0.4**
	1.0nm,0.3s,baz=232,slow=6.8,SNR=2.1						
CMAR				LR	LR	07 51 12.4	
	comp=Z,16nm,21.9s,baz=280,slow=31						
	1.0nm,0.3s						
ASAR	**Alice Springs**	**58.56**	**104**	P	**P**	**07 34 47.3**	**0.0**
	1.0nm,0.6s,baz=250,slow=6.6,SNR=21						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**59.94**	**100**	P	**P**	**07 34 56.7**	**-0.2**
	2.1nm,0.9s,baz=256,slow=6.8,SNR=12						
	2.1nm,0.9s						
DAV	**Davao City (W)**	**62.83**	**68**	LR	LR	08 01 35.9	
	comp=Z,17nm,18.5s,baz=189,slow=35						
GNI	**Garni**	**67.67**	**340**	LR	LR	08 01 51.4	
	comp=Z,319nm,21.9s,baz=166,slow=33						
MKAR	**Makanchi Array**	**71.25**	**9**	P	**P**	**07 36 07.6**	**-1.7**
	0.7nm,0.6s,baz=178,slow=5.0,SNR=7.4						
	0.7nm,0.6s						
BRTR	**Keskin Array B**	**71.49**	**332**	LR	LR	08 05 02.7	
	comp=Z,326nm,19.4s,baz=118,slow=34						
KURBB	**Kurchatov Arra**	**74.56**	**6**	P	**P**	**07 36 29.2**	**+0.4**
	0.8nm,0.9s,baz=199,slow=5.9,SNR=5.2						
	0.8nm,0.9s						
SONM	**Songino Array**	**78.70**	**24**	P	**P**	**07 36 52.9**	**+0.4**
	0.3nm,0.7s,baz=103,slow=5.0,SNR=1.3						
	0.3nm,0.7s						
AKASG	**Malin Array Be**	**82.24**	**336**	P	**P**	**07 37 11.5**	**+0.2**
	0.2nm,0.3s,baz=144,slow=4.4,SNR=4.5						
	0.2nm,0.3s						
VRAC	**Vranov**	**86.64**	**329**	LR	LR	08 15 28.2	
	comp=Z,72nm,20.3s,baz=130,slow=35						

*JMA **06** 07:40:12.1±0.1, 39°.2N±0°.3×142°.5E±0°.7, h28km±1km, MD4.2/40, MV4.1/40, E OFF IWATE PREF*
JMA Felt I J1 at E OFF IWATE PREF .
*NIED **06** 07:40:12.1, 39°.24N×142°.49E, h28km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.00; $M_{\theta\theta}$0.97; $M_{\phi\phi}$0.03; $M_{r\theta}$0.19; $M_{\theta\phi}$0.28; $M_{\phi r}$-0.16; Fault plane solution: $M_0$1.05000×10^{15} NP1: ϕ_s266.00000°, δ50.00000°, λ-75.00000°. NP2: ϕ_s63.00000°, δ42.00000°, λ-107.00000°.*
*NEIC **06** 07:40:14.9±1.3, 39°.16N±0°.07×142°.4E±0°.2, h45km±2km, mb4.7/11 Error ellipse: s-maj=18.3km s-min=8.6km az=111.0*
*IDC **06** 07:40:18.0±2.3, 39°.14N×142°.45E, h81km±21km, mb3.6/18, mbtmp4.0/22, MS2.8/6, Error ellipse: s-maj=16.1km s-min=13.3km az=99.0*
ISC 06 07:40:13.2±1.4**, 39°.21N**±0°.04×**142°.40E**±0°.06**, h32**km±9km**, n69, σ1s.87**/63**, mb4.2**/26**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.58**	**309**	*i* P	**Pb**	**07 40 24.0**	**-1.0**
MIYJ				S	**Sb**	**07 40 32.2**	**-0.9**
OFUJ	**Ofunato**	**0.59**	**257**	*i* P	**Pb**	**07 40 24.8**	**-0.3**
OFUJ				S	**Sb**	**07 40 33.4**	**+0.2**
JKMT	**Kesennumamotoy**	**0.83**	**241**	*i* P	**Pn**	**07 40 28.5**	**-0.1**
JKMT				S	**Sn**	**07 40 40.1**	**+0.4**
JTH	**Tanohata**	**0.84**	**330**	*i* P	**Pn**	**07 40 27.5**	**-1.3**
JOM	**Ohasama**	**0.90**	**287**	*i* P	**Pn**	**07 40 29.5**	**-0.1**
JOM				S	**Sn**	**07 40 41.9**	**+0.3**
JOM	**Ohasama**	**0.90**	**287**	A	A	07 40 29.5	
	comp=E,11nm,0.2s,comp=N,8.0nm,0.3s						
JMK	**Ichinoseki**	**0.96**	**255**	P	**Pn**	**07 40 30.7**	**+0.3**
JMK				S	**Sn**	**07 40 44.1**	**+1.2**
JIO	**Ouri**	**1.12**	**228**	P	**Pn**	**07 40 32.3**	**-0.3**
JIO				S	**Sn**	**07 40 46.6**	**-0.3**
JKEN	**Kujiedanarisaw**	**1.13**	**332**	A	A	07 40 32.2	
	comp=E,13nm,1.1s,comp=N,16nm,0.8s						
JKZ	**Kuzumaki**	**1.13**	**313**	*i* P	**Pn**	**07 40 32.8**	**-0.1**
JKZ				S	**Sn**	**07 40 47.8**	**+0.4**
JSZI	**Iwateshizukuis**	**1.24**	**296**	A	A	07 40 34.6	
	comp=E,11nm,1.3s,comp=N,14nm,1.0s						
JOFO	**Osakifurukawao**	**1.31**	**243**	A	A	07 40 36.1	
	comp=E,14nm,1.3s,comp=N,14nm,2.9s						
JANG	**Nango**	**1.35**	**330**	P	**Pn**	**07 40 35.2**	**-0.6**
JANG				S	**Sn**	**07 40 52.6**	**0.0**
JANG	**Nango**	**1.35**	**330**	A	A	07 40 35.2	
	comp=E,4.0nm,1.1s,comp=N,5.0nm,1.1s						
JRG	**Rokugo**	**1.39**	**278**	P	**Pn**	**07 40 37.5**	**+1.2**
JRG				S	**Sn**	**07 40 56.6**	**+3.0**
JRG	**Rokugo**	**1.39**	**278**	A	A	07 40 37.5	
	comp=E,6.0nm,0.5s,comp=N,5.0nm,0.8s						
JAH	**Hinai**	**1.68**	**306**	A	A	07 40 40.9	
	comp=E,11nm,0.5s,comp=N,11nm,0.7s						
JYW	**Yuwa**	**1.73**	**282**	A	A	07 40 42.1	
	comp=E,9.0nm,2.7s,comp=N,8.0nm,2.2s						
JMM	**Marumori**	**1.84**	**224**		**Pn**	**07 40 43.0**	**+0.4**
JTM	**Tenmabayashi**	**1.88**	**327**		**Pn**	**07 40 43.7**	**+0.6**
ERM	**Erimo**	**2.86**	**11**		**Pn**	**07 40 58.1**	**+1.6**
MAJO	**Matsushiro**	**4.26**	**233**		**Pn**	**07 41 18.8**	**+3.0**
MJAR	**Matsushiro Arr**	**4.26**	**233**	P	**Pn**	**07 41 19.6**	**+3.8**
	comp=N,19nm,0.7s,baz=39,slow=12,SNR=48						
MJAR				S	**Sn**	**07 42 09.9**	**+5.5**
	comp=N,6.0nm,0.7s,baz=212,slow=22,SNR=4.4						
MJAR				LR	LR	07 42 43.3	
	comp=N,36nm,22.0s,baz=18,slow=34						
MJB9	**Matsu-Tunnel**	**4.26**	**233**		Pn	07 41 19.8	+4.0
ASAJ	**Asahikawa**	**4.90**	**2**	P	**Pn**	**07 41 26.9**	**+2.3**
	comp=N,18nm,0.4s,baz=220,slow=8.6,SNR=18						
ASAJ				S	**Sn**	**07 42 28.6**	**+8.4**
	comp=N,26nm,0.5s,baz=320,slow=30,SNR=3.5						
ASAJ				LR	LR	07 43 56.2	
	comp=N,310nm,20.6s,baz=170,slow=44						
JKA	**Kamikawa-asahi**	**4.90**	**2**		**Pn**	**07 41 26.5**	**+1.9**
JHJ	**Hachijo jima 2**	**6.44**	**200**	P	**Pn**	**07 41 47.8**	**+2.1**
	comp=N,142nm,0.8s,baz=203,slow=18,SNR=2.2						
JHJ				S	**Sn**	**07 42 56.4**	**-1.7**
	comp=N,163nm,0.8s,baz=249,slow=19,SNR=1.8						
USRK	**Ussuriysk Ar.**	**9.24**	**306**	P	Pn	07 42 29.9	+5.7
	comp=N,5.3nm,0.7s,baz=95,slow=13,SNR=7.5						
KSRS	**Korea Array**	**11.51**	**266**	LR	LR	07 47 15.9	
	comp=N,44nm,18.2s,baz=80,slow=36						
KLR	**Kul'dur**	**12.58**	**326**	LR	LR	07 48 05.6	
	comp=N,84nm,18.5s,baz=174,slow=37						
PETK	**Petropavlovsk-**	**17.42**	**32**	P	**P**	**07 44 16.8**	**+2.1**
	comp=N,0.9nm,0.5s,baz=284,slow=6.7,SNR=1.7						
PETK				LR	LR	07 50 23.7	
	comp=N,33nm,21.6s,baz=248,slow=35						
MA2	**Magadan**	**21.07**	**12**	LR	LR	07 52 52.8	
	comp=N,22nm,21.0s,baz=233,slow=36						
SONM	**Songino Array**	**27.29**	**300**	P	**P**	**07 45 54.8**	**0.0**
	comp=N,0.6nm,0.8s,baz=81,slow=10,SNR=3.0						
	comp=N,0.6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.68**	**126**	T	T	08 16 28.7	
	baz=318,slow=75,SNR=327						
H11N1	**WAKE ISLAND Hy**	**28.69**	**126**	T	T	08 16 36.6	
	baz=318,slow=75,SNR=174						
H11N3	**WAKE ISLAND Hy**	**28.70**	**126**	T	T	08 16 37.3	
	baz=318,slow=75,SNR=211						
H11S1	**WAKE ISLAND Hy**	**29.47**	**127**	T	T	08 17 42.7	
	baz=318,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**29.48**	**128**	T	T	08 17 35.8	
	baz=318,slow=76,SNR=37						
H11S2	**WAKE ISLAND Hy**	**29.49**	**127**	T	T	08 17 36.9	
	baz=318,slow=76,SNR=28						
ZALV	**Zalesovo Beam**	**41.06**	**311**	P	**P**	**07 47 53.7**	**+0.2**
	comp=N,0.9nm,0.4s,baz=77,slow=8.1,SNR=4.6						
ZALV				PcP	**PcP**	**07 49 52.0**	**-0.7**
	comp=N,0.9nm,0.6s,baz=116,slow=3.4,SNR=4.1						
	comp=N,0.9nm,0.4s						
CMAR	**Chiang Mai Arr**	**42.83**	**254**	P	**P**	**07 48 08.0**	**-0.3**
	comp=N,1.1nm,0.3s,baz=12,slow=16,SNR=1.7						
	comp=N,1.1nm,0.3s						
MKAR	**Makanchi Array**	**43.66**	**300**	P	**P**	**07 48 14.5**	**-0.3**
	comp=N,0.6nm,0.5s,baz=76,slow=11,SNR=6.8						
	comp=N,0.6nm,0.5s						
KURK	**Kurchatov**	**45.23**	**307**	P	**P**	**07 48 27.2**	**0.0**
KURBB	**Kurchatov Arra**	**45.31**	**306**	P	**P**	**07 48 27.8**	**-0.1**
	comp=N,2.3nm,0.6s,baz=82,slow=8.3,SNR=20						
	comp=N,2.3nm,0.6s						
BWN	**Browne**	**46.15**	**34**	P	**P**	**07 48 38.0**	**+3.7**
D24K	**Happy Valley**	**46.48**	**27**	P	**P**	**07 48 37.6**	**+0.8**
D24K				IAmb	IAmb	07 48 54.6	
	comp=Z,7.3nm,1.2s						
ILAR	**Eielson Array**	**47.24**	**33**	P	**P**	**07 48 42.4**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=264,slow=5.8,SNR=17						
	comp=Z,0.7nm,0.6s						
BVAR	**Borovoye Array**	**49.71**	**311**	P	**P**	**07 49 02.2**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=85,slow=7.6,SNR=4.1						
	comp=Z,0.9nm,0.5s						
I30M	**Mount Dempster**	**51.61**	**32**	P	**P**	**07 49 17.2**	**+0.9**
I30M				IAmb	IAmb	07 49 54.0	
	comp=Z,6.0nm,1.0s						
ARU	**Arti**	**55.26**	**318**	P	**P**	**07 49 43.2**	**+0.1**
	comp=Z,8.1nm,0.2s,baz=277,slow=10,SNR=1.5						
CHGR	**Chuyangaron**	**55.46**	**294**	P	**P**	**07 49 45.5**	**+0.6**
CHGR				IAmb	IAmb	07 49 45.9	
	comp=Z,13nm,0.9s						
ABKAR	**Akbulak array**	**57.15**	**309**	P	**P**	**07 49 56.4**	**-0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABKAR				IAmb	IAmb	07 49 56.9	
	comp=Z,2.0nm,0.7s						
AKTO	Aktyubinsk	57.82	311	P	P	07 50 00.5	-0.8
	comp=Z,1.4nm,0.7s,baz=59,slow=11,SNR=4.4						
	comp=Z,1.4nm,0.7s						
WB0	Warramunga Arr	59.15	189	P	P	07 50 09.9	-0.8
WB0				IAmb	IAmb	07 50 10.6	
	comp=Z,5.8nm,0.6s						
WRAB	Tennant Creek	59.31	189	P	P	07 50 10.9	-1.1
WRAB				IAmb	IAmb	07 50 45.2	
	comp=Z,5.8nm,1.2s						
WB2	Warramunga Arr	59.32	189	P	P	07 50 11.3	-0.7
WB2				IAmb	IAmb	07 50 23.3	
	comp=Z,17nm,1.4s						
WRA	Warramunga Arr	59.33	189	P	P	07 50 10.8	-1.3
WRA	Warramunga Arr	59.33	189	P	P	07 50 11.2	-0.8
	comp=Z,3.9nm,0.6s,baz=6.5,slow=7.0,SNR=74						
	comp=Z,3.9nm,0.6s						
YKA	Yellowknife Ar	61.54	31	P	P	07 50 26.7	0.0
	comp=Z,0.2nm,0.5s,baz=301,slow=6.5,SNR=5.3						
	comp=Z,0.2nm,0.5s						
ASAR	Alice Springs	63.05	189	P	P	07 50 35.9	-1.4
	comp=Z,1.3nm,0.8s,baz=11,slow=7.6,SNR=17						
	comp=Z,1.3nm,0.8s						
FINES	FINESS Array B	67.26	332	P	P	07 51 04.4	+0.3
	comp=Z,2.0nm,0.8s,baz=39,slow=11,SNR=5.1						
	comp=Z,2.0nm,0.8s						
HFS	Hagfors	72.43	336	P	P	07 51 35.5	-0.4
	comp=Z,3.2nm,1.0s,baz=137,slow=7.1,SNR=1.8						
	comp=Z,3.2nm,1.0s						
NOA	NORSAR Array B	72.48	337	P	P	07 51 36.2	-0.1
	comp=Z,2.3nm,0.9s,baz=40,slow=5.7,SNR=3.4						
	comp=Z,2.3nm,0.9s						
AKASG	Malin Array Be	73.06	322	P	P	07 51 39.6	-0.2
	comp=Z,0.9nm,0.5s,baz=44,slow=6.5,SNR=7.6						
	comp=Z,0.9nm,0.5s						
NVAR	Mina Array Bea	73.07	54	P	P	07 51 39.9	-0.6
	comp=Z,0.6nm,0.8s,baz=328,slow=5.3,SNR=3.8						
	comp=Z,0.6nm,0.8s						
PDAR	Pinedale Array	75.59	46	P	P	07 51 55.0	0.0
PDAR	Pinedale Array	75.59	46	P	P	07 51 54.0	-1.1
	comp=Z,0.1nm,0.2s,baz=317,slow=3.8,SNR=5.9						
	comp=Z,0.1nm,0.2s						
BLOK	Blackwell	86.58	44	P	P	07 52 49.2	-4.1
TXAR	Lajitas Array	88.18	53	P	P	07 53 01.1	-0.2
	comp=Z,0.2nm,0.5s,baz=290,slow=3.9,SNR=2.6						
	comp=Z,0.2nm,0.5s						

IDC ***06*** *07:49:37.8±0.8, 38°.39N×144°.90E, h0km, mb3.6/9, mbtmp3.7/12, ML3.4/3, MS2.8/4, Error ellipse: s-maj=22.8km s-min=17.9km az=123.0*

NIED ***06*** *07:49:41.7, 38°.56N×144°.65E, h46km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-4.72; $M_{\theta\theta}$1.70; $M_{\phi\phi}$3.02; $M_{r\theta}$1.92; $M_{\theta\phi}$0.82; $M_{\phi r}$3.82; Fault plane solution: $M_0$5.90000×10^{14} NP1: ϕ_s206.00000°, δ68.00000°, λ-90.00000°. NP2: ϕ_s25.00000°, δ22.00000°, λ-91.00000°.*

JMA ***06*** *07:49:41.7±0.3, 38°.6N±0°.9×14°5E±°, h46km, MV3.9/30, FAR E OFF NORTH HONSHU*

ISC 06 07:49:42.8±0.8**, 38°.60N**±0°.05×**144°.77E**±0°.07**, h35km, n29, σ1s.81**/41**, mb3.6**/9**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.47	282	P	Pn	07 50 19.6	-0.9
OFUJ				eS	Sn	07 50 47.8	-1.8
MIYJ	Miyakonagasawa	2.50	294	P	Pn	07 50 19.9	-1.0
JKMT	Kesennumamotoy	2.59	276	P	Pn	07 50 21.4	-0.8
JKMT				eS	Sn	07 50 51.0	-1.4
JMK	Ichinoseki	2.80	278	P	Pn	07 50 24.4	-0.6
JMK				eS	Sn	07 50 55.8	-1.8
JOM	Ohasama	2.85	289	P	Pn	07 50 25.4	-0.4
JANG	Nango	3.08	306	P	Pn	07 50 28.2	-0.8
JANG				S	Sn	07 51 02.2	-2.4
JYK	Kaneyama	3.47	277	P	Pn	07 50 34.2	0.0
JOTO	OTAMA OYAMA	3.66	255	eP	Pn	07 50 36.8	-0.1
JOTO				S	Sn	07 51 17.3	-1.5
JOT	Ohata	3.99	315	eP	Pn	07 50 41.0	-0.4
JOT				eS	Sn	07 51 24.7	-2.2
JCH	Churui	4.15	345	P	Pn	07 50 42.9	-0.8
JCH				eS	Sn	07 51 27.6	-3.4
NEM2	Nemuro 2	4.81	8	P	Pn	07 50 50.5	-2.2
NEM2				S	Sn	07 51 42.7	-4.6
BSO1	Boso 1	4.98	219	eP	Pn	07 50 53.2	-1.4
BSO1				eS	Sn	07 51 49.1	-1.7
JRY	Ryogami san	5.34	243	P	Pn	07 50 58.7	-1.4
JRY				S	Sn	07 51 56.5	-3.9
JTKR	Abashiri--Toko	5.40	353	P	Pn	07 51 00.0	-0.8
JTKR				S	Sn	07 51 59.0	-2.8
MJAR	Matsushiro Arr	5.61	251	Pn	Pn	07 51 03.7	0.0
	0.3nm,0.3s,baz=52,slow=10,SNR=16						
MJAR				Sn	Sn	07 52 08.2	+1.3
	0.2nm,0.3s,baz=16,slow=14,SNR=1.7						
MJAR				LR	LR	07 53 28.9	
	comp=Z,46nm,20.2s,baz=52,slow=41						
	4.6nm,0.6s						
JHR	Hokuryu	5.63	337	eP	Pn	07 51 05.2	+1.2
JHR				eS	Sn	07 52 08.2	+0.9
ASAJ	Asahikawa	5.75	344	Pn	Pn	07 51 07.5	+1.9
	1.2nm,0.3s,baz=166,slow=19,SNR=5.1						
ASAJ				Sn	Sn	07 52 11.1	+0.8
	0.8nm,0.3s,baz=66,slow=32,SNR=1.6						
	10.0nm,0.7s						
USRK	Ussuriysk Ar.	11.11	304	Pn	Pn	07 52 21.1	+2.1
	0.4nm,0.3s,baz=103,slow=16,SNR=4.1						
USRK				LR	LR	07 56 14.6	
	comp=Z,35nm,21.0s,baz=8.8,slow=35						
	2.5nm,0.6s						
KSRS	Korea Array	13.34	270	LR	LR	07 56 38.0	
	comp=Z,14nm,20.6s,baz=75,slow=31						
ILAR	Eielson Array	46.74	33	P	P	07 58 08.4	+0.3
	0.3nm,0.7s,baz=255,slow=7.1,SNR=4.9						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	47.15	307	P	P	07 58 12.5	+1.0
	0.5nm,0.7s,baz=80,slow=8.1,SNR=5.1						
	0.5nm,0.7s						
BVAR	Borovoye Array	51.50	312	P	P	07 58 47.1	+2.4
	0.3nm,0.5s,baz=157,slow=7.8,SNR=1.7						
	0.3nm,0.5s						
WRA	Warramunga Arr	59.05	191	P	P	07 59 37.9	-1.4
	1.8nm,0.7s,baz=12,slow=7.2,SNR=16						
	1.8nm,0.7s						
YKA	Yellowknife Ar	61.10	31	P	P	07 59 52.7	-0.3
	0.1nm,0.6s,baz=252,slow=8.2,SNR=1.9						
	0.1nm,0.6s						
ASAR	Alice Springs	62.77	191	P	P	08 00 03.5	-1.1
	0.9nm,0.8s,baz=14,slow=7.0,SNR=11						
	0.9nm,0.8s						
NVAR	Mina Array Bea	71.92	55	P	P	08 01 05.0	+2.3
	0.9nm,0.8s,baz=257,slow=5.9,SNR=5.0						
	0.9nm,0.8s						
WSAR	Wadi Sarin	73.01	286	LR	LR	08 36 44.1	
	comp=Z,46nm,20.2s,baz=228,slow=39						
PDAR	Pinedale Array	74.66	47	P	P	08 01 19.4	+0.5
	0.6nm,1.0s,baz=277,slow=12,SNR=3.5						
	0.6nm,1.0s						
TXAR	Lajitas Array	87.05	54	P	P	08 02 26.4	+1.4
	0.6nm,0.9s,baz=242,slow=2.7,SNR=3.6						
	0.6nm,0.9s						

TEH ***06*** *07:57:24.6, 27°.81N×51°.93E, h18km±15km, ML4.3*

DSN ***06*** *07:57:27.7±1.1, 27°.93N×52°.27E, h15km, ML3.9/10, Error ellipse: s-maj=19.8km s-min=5.9km az=9.0*

OMAN ***06*** *07:57:29.1±1.1, 27°.71N×52°.33E, h11km±10km, mb5.0/9, ml4.2/11, ms4.2/1, Error ellipse: s-maj=9.7km s-min=3.9km az=168.0*

ISC 06 07:57:25.7±0.9**, 27°.83N**±0°.04×**52°.10E**±0°.04**, h10km, n70, σ1s.52**/102**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DSBU	Dashti - Bushe	0.92	306	Pg	Pg	07 57 40.1	-3.3
QIR1	Qir	1.06	52	Pg	Pn	07 57 47.1	+0.5
QIR1				Sg	Sn	07 58 04.2	+2.8
LMD1	Lamerd	1.06	117	Pg	Pn	07 57 47.1	+0.4
JHRM	Jahrom	1.47	62	Pg	Pg	07 57 54.8	+0.8
SHI	Shiraz	1.85	11	Pn	Pn	07 57 58.0	+0.4
LAR1	LAR	2.02	94	Pn	Pb	07 58 01.8	-0.8
SHMA	Al-Shehemyia	2.21	208	P	Pn	07 58 05.4	+3.0
	SNR=9.6						
SHMA				S	Sb	07 58 35.3	+2.2
SAKB	Bahrain	2.31	218	P	Pn	07 58 06.9	+3.1
SAKB				S	Sb	07 58 37.9	+1.9
TRNA	Turayna	3.18	195	P	Pn	07 58 18.1	+2.4
	SNR=6.1						
TRNA				S	Sn	07 58 57.4	+3.6
KLNJ	Kolanjah	3.20	352	Pn	Pn	07 58 15.9	-0.6
ESRB	Sir Abu	3.22	143	Pn	Pn	07 58 18.7	+2.3
SMRA	Abu-Samra	3.27	201	P	Pn	07 58 19.6	+2.5
	SNR=13						
SMRA				S	Sn	07 58 59.3	+3.2
SHME	Shamm	4.02	115	iP	Pn	07 58 27.7	+0.4
	SNR=6.9						
SHME				S	Sn	07 59 14.4	-0.1
SHME	Shamm	4.02	115	P	Pn	07 58 27.5	+0.1
	SNR=6.9						
SHME				S	Sn	07 59 12.1	-2.4
SHME	Shamm	4.02	115	Pn	Pn	07 58 28.3	+1.0
IBRJ	Brojen	4.13	350	Pn	Pn	07 58 27.7	-1.5
AJN	Ajban	4.16	141	P	Pn	07 58 29.8	+0.6
AJN				S	Sn	07 59 15.7	-2.2
AJN	Ajban	4.16	141	Pn	Pn	07 58 30.7	+1.5
IMEH	Mehriz	4.17	31	Pn	Pn	07 58 31.1	+1.4
NAZ	Nazwa, Dubai	4.26	131	iP	Pn	07 58 32.5	+1.7
	SNR=7.0						
NAZ	Nazwa, Dubai	4.26	131	P	Pn	07 58 31.3	+0.6
NAZ				S	Sn	07 59 20.2	-0.4
NAZ	Nazwa, Dubai	4.26	131	Pn	Pn	07 58 32.3	+1.5
ISAD	Sadrabad	4.30	18	Pn	Pn	07 58 32.3	+0.8
ASUD	Al Ashush, Dub	4.31	137	iP	Pn	07 58 32.7	+1.4
	SNR=12						
ASUD	Al Ashush, Dub	4.31	137	P	Pn	07 58 32.0	+0.7
	SNR=12						
ASUD				S	Sn	07 59 21.5	-0.2
ASUD	Al Ashush, Dub	4.31	137	Pn	Pn	07 58 33.1	+1.8
MASF	Masafi	4.38	123	P	Pn	07 58 32.6	+0.2
	SNR=8.9						
MASF				S	Sn	07 59 22.7	-0.8
FAQ	Al Faqa, Dubai	4.39	134	P	Pn	07 58 33.6	+1.2
FAQ	Al Faqa, Dubai	4.39	134	P	Pn	07 58 32.9	+0.5
FAQ				S	Sn	07 59 22.9	-0.7
MSFE	Esma-Masafi	4.39	123	iP	Pn	07 58 33.0	+0.6
	SNR=8.9						
MSFE	Esma-Masafi	4.39	123	Pn	Pn	07 58 33.7	+1.3
NGRK	Negar Kerman	4.45	65	Pn	Pn	07 58 34.9	+1.3
MDH	Madha	4.52	123	P	Pn	07 58 34.8	+0.5
MDH	Madha	4.52	123	P	Pn	07 58 34.8	+0.5
MDH				S	Sn	07 59 26.1	-0.9
AMIS	Naft Sefid	4.54	328	Pn	Pn	07 58 33.7	-0.9
JHBN	Jahan bin	4.56	345	Pn	Pn	07 58 35.1	0.0
KHGB	Koh Gabri	4.60	55	Pn	Pn	07 58 37.2	+1.7
TVBK	TV Kerman	4.62	61	Pn	Pn	07 58 37.7	+1.8
UOSS	Minazif	4.67	127	iP	Pn	07 58 36.8	+0.5
	SNR=7.3						
UOSS	Minazif	4.67	127	P	Pn	07 58 36.7	+0.4
UOSS				S	Sn	07 59 29.1	-1.4
HATD	Hatta, Dubai	4.69	129	iP	Pn	07 58 37.2	+0.6
	SNR=8.5						
HATD	Hatta, Dubai	4.69	129	P	Pn	07 58 37.4	+0.7
HATD				S	Sn	07 59 30.3	-0.9
ASHO	Ashiyiah	4.74	130	iP	Pn	07 58 37.8	+0.5
	SNR=30						
ASHO	Ashiyiah	4.74	130	P	Pn	07 58 38.0	+0.8
	SNR=31						
ASHO				S	Sn	07 59 32.0	-0.2
ASHO				S	Sn	07 59 32.1	-0.2
IBAF	Bafgh	4.81	38	Pn	Pn	07 58 40.0	+1.6
ZRDN	Zarand Kerman	4.98	50	Pn	Pn	07 58 42.1	+1.4
ALNE	Al Ain	4.99	138	iP	Pn	07 58 41.8	+1.1
	SNR=9.1						
ALNE	Al Ain	4.99	138	P	Pn	07 58 41.9	+1.1
	SNR=9.2						
ALNE				S	Sn	07 59 39.5	+1.0
CHMN	Cheshme madani	5.18	66	Pn	Pn	07 58 45.7	+2.0
SOHO	SOHO	5.42	132	iP	Pn	07 58 47.1	+0.5
	SNR=18						
SOHO	SOHO	5.42	132	P	Pn	07 58 47.3	+0.6
SOHO				S	Sn	07 59 49.1	0.0
SOHO				S	Sn	07 59 49.4	+0.2
IKLH	Kolahrood	5.49	355	Pn	Pn	07 58 47.5	-0.3
JASK	Jask - Hormozg	5.51	109	P	Pn	07 58 48.7	+0.8
	SNR=5.4						
JASK				S	Sn	07 59 52.6	+1.4
JASK	Jask - Hormozg	5.51	109	Pn	Pn	07 58 48.8	+1.0
ANAR	Anarak	5.53	14	Pn	Pn	07 58 47.8	-0.5
KBAM	BAM	5.74	75	Pn	Pn	07 58 53.2	+2.1
ARQ	Araqi	5.99	137	P	Pn	07 58 54.5	0.0
ARQ				P	Pn	07 58 54.5	0.0
	SNR=19						
ARQ				S	Sn	08 00 03.1	-0.2
HOQ	Hoqain	6.32	131	P	Pn	07 58 58.9	-0.1
HOQ				S	Sn	08 00 09.8	-1.5
TPRV	Parvadeh(Tabas	6.52	36	Pn	Pn	07 59 02.3	+0.5
BSY	Bisya	6.85	137	P	Pn	07 59 06.6	+0.4
BSY				S	Sn	08 00 21.3	-3.0
BIDO	Bidbid	6.92	127	P	Pn	07 59 07.7	+0.4
BIDO				S	Sn	08 00 25.3	-0.8
SMDO	Samad	7.17	130	P	Pn	07 59 11.2	+0.5
TKDS	Koohdasht(Taba	7.21	36	Pn	Pn	07 59 11.8	+0.6
TNSJ	Nastanj	7.24	31	Pn	Pn	07 59 12.1	+0.3
WSAR	Wadi Sarin	7.46	126	P	Pn	07 59 14.7	0.0
	SNR=14						
WSAR				S	Sn	08 00 37.4	-1.9
JMDO	Jabal Madar	7.69	134	P	Pn	07 59 17.5	-0.3
JMDO				S	Sn	08 00 41.8	-3.2
WBK	Wadi Bani Khal	8.10	128	P	Pn	07 59 23.4	-0.1
WBK				S	Sn	08 00 52.4	-2.8
NGCH	Negor - Chabah	8.45	105	P	Pn	07 59 29.1	+0.9
NGCH				S	Sn	08 01 01.8	-2.0
MHTO	MHTO	8.66	141	P	Pn	07 59 31.8	+0.7
MHTO				S	Sn	08 01 04.5	-4.3
JLN	Jalan Bani Buh	8.71	129	P	Pn	07 59 32.0	+0.2
JLN				S	Sn	08 01 06.9	-3.2

NAO ***06*** *07:57:31.8, 33°.41N×46°.24E, h33km, mb4.3*

AZER ***06*** *07:57:38.7±0.6, 34°.21N×45°.76E, h2km, Error ellipse: s-maj=4.9km s-min=4.1km az=97.0*

MOS ***06*** *07:57:38.3±1.1, 34°.50N×45°.63E, h11km, mb4.9/36, Error ellipse: s-maj=5.4km s-min=3.8km az=98.6*

IDC ***06*** *07:57:38.3±0.5, 34°.52N×45°.69E, h0km, mb4.5/29, mbtmp4.5/36, ML4.2/5, MS3.5/23, Error ellipse: s-maj=11.9km s-min=9.7km az=159.0*

GII ***06*** *07:57:39.1±0.0, 34°.57N×45°.78E, h10km*

NEIC ***06*** *07:57:40.4±2.3, 34°.54N±0°.07×45°.78E±0°.08, h10km±1km, mb4.8/68, Error ellipse: s-maj=11.9km s-min=11.1km az=156.0*

TEH ***06*** *07:57:41.1, 34°.50N×45°.66E, h14km±19km, ML4.7*

AFAD ***06*** *07:57:41.6±0.0, 34°.54N×45°.27E, h7km±5km, MW4.4*

THR ***06*** *07:57:41.5±0.7, 34°.53N×45°.69E, h15km±6km, ML4.5*

ISN ***06*** *07:57:42.8±1.4, 34°.55N×45°.69E, h23km±10km, ML4.6*

ISC 06 07:57:40.9±0.6**, 34°.66N**±0°.02×**45°.66E**±0°.03**, h13km**±3km**, n624, σ1s.69**/606**, mb4.7**/109**, MS3.6**/20**, 32C-21D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.16	201	Pg	Pg	07 57 43.9	-0.7
KSBB	Baniby	0.39	6	Pg	Pn	07 57 52.7	+0.5
IDHR	Dehrash	0.60	86	Pg	Pg	07 57 52.7	0.0
IDHR				Sg	Sb	07 58 02.3	+0.4
IGHG	Ghaleghazi	0.82	113	Pg	Pg	07 57 55.9	-0.9
IGHG				Sg	Sb	07 58 08.4	+0.2
SLY	Sulaymaniyah	0.95	352	Pg	Pn	07 58 02.3	+2.3
ILIN	Lien	1.11	76	Pg	Pb	07 58 02.0	0.0
ILBA	Ilam Banvizeh	1.12	156	ePg	Pb	07 57 59.9	-2.3
ILBA				eSg	Sb	07 58 14.5	-2.3
ILBA	Ilam Banvizeh	1.12	156	Pg	Pb	07 57 59.7	-2.5
KCHF	Cheshme Sefid,	1.21	108	Pg	Pn	07 58 02.9	-0.7
SNGE	Sanandaj	1.46	72	ePg	Pb	07 58 08.4	+0.4
SNGE				eSg	Sg	07 58 28.9	+1.1
SNGE				IAML		07 58 34.0	
	comp=N,16µm,0.8s						
SNGE				IAML		07 58 34.0	
	comp=E,8µm,0.5s						
SDS1	Sardasht. Az.	1.50	355	Pg	Pg	07 58 11.5	+1.9
IBDR	Badra	1.56	172	ePg	Pb	07 58 09.0	-0.6
IBDR				eSg	Sn	07 58 28.0	-0.3
IBDR				AML	AML	07 58 32.4	
	comp=E,12µm,0.5s						
IBDR				AML	AML	07 58 40.9	
	comp=N,8µm,0.7s						
IKOM	Komasi	1.61	107	Pg	Pb	07 58 09.9	-0.6
BHD	Baghdad	1.74	218	ePn	Pg	07 58 13.5	-0.8
BHD				eSn	Sb	07 58 34.0	-0.5
BHD				AML	AML	07 58 40.4	
	comp=E,15µm,0.4s						
IBZA	Bozab	1.83	95	Pn	Pb	07 58 14.4	+0.1
MAHB	Mahabad	2.11	1	Pn	Pb	07 58 19.8	+0.7
IKFM	Kafar-mosalman	2.14	121	Pn	Pn	07 58 17.4	+1.1
HAGD	Aghdareh	2.87	86	Pn	Pn	07 58 28.3	+1.7
IHSH	Hashtrud	2.95	26	Pn	Pb	07 58 31.6	-1.9
RAFI	Al-Rafai	2.95	172	ePn	Pn	07 58 28.0	+0.6
RAFI				eSn	Sn	07 59 03.0	+0.3
RAFI				AML	AML	07 59 30.2	
	comp=E,3µm,0.6s						
RAFI				AML	AML	07 59 30.5	
	comp=N,3µm,0.5s						
CUKT	Cukurca	3.07	328	P	Pb	07 58 33.3	-2.2
CUKT	Cukurca	3.07	328	P	Pb	07 58 34.6	-0.9
CUKT				S	Sn	07 59 07.3	+1.3
CUKT				i AML	AML	07 59 27.0	
	comp=N,3µm,0.5s						
CUKT				i AML	AML	07 59 28.0	
	comp=N,2µm,1.0s						
YOVA	Hakkari_Yksek	3.13	340	P	Pb	07 58 34.2	-2.2
YOVA				S	Sb	07 59 11.8	-2.8
YOVA				i AML	AML	07 59 33.0	
	comp=N,709nm,0.7s						
YOVA				i AML	AML	07 59 40.0	
	comp=N,722nm,0.7s						
ZNJK	Zanjan	3.18	50	ePn	Pn	07 58 34.0	+3.2
HAKT	HAKKARI	3.30	332	P	Pb	07 58 37.5	-1.9
HAKT				S	Sn	07 59 11.8	+0.2
HAKT				i AML	AML	07 59 44.0	
	comp=N,1µm,0.5s						
HAKT				i AML	AML	07 59 49.0	
	comp=N,1µm,1.2s						
ISRB	Sarab	3.56	27	Pn	Pn	07 58 39.9	+3.9
IRAZ	Razeghan	3.58	77	Pn	Pn	07 58 39.3	+3.0
ASAO	Ashtian	3.60	90	ePn	Pn	07 58 38.7	+2.0
ASAO				IAML		07 59 44.3	
	comp=N,460nm,0.6s						
ISHB	Shabestar	3.62	360	Pn	Pn	07 58 39.5	+2.7
KHMZ	Khomeyn	3.68	103	ePn	Pn	07 58 39.2	+1.5
KHMZ				IAML		07 59 56.6	
	comp=E,415nm,0.7s						
IHRS	Heris	3.82	17	Pn	Pn	07 58 43.8	+4.2
SIRT	Sirnak	3.85	318	P	Pn	07 58 42.7	+2.7
SIRT	Sirnak	3.85	318	Pn	Pn	07 58 42.7	+2.7
SIRT	Sirnak	3.85	318	Pn	Pn	07 58 42.7	+2.7
SIRN	Sırnak	3.87	318	P	Pn	07 58 43.0	+3.0
SIRN				S	Sn	07 59 28.4	+3.0
SIRN				i AML	AML	07 59 56.0	
	comp=E,2µm,0.6s						
SIRN				i AML	AML	08 00 10.0	
	comp=E,1µm,0.9s						
JIR1	Jirandeh	3.95	58	Pn	Pn	07 58 43.6	+2.4
IMRD	Marand	4.05	1	Pn	Pn	07 58 46.7	+4.0
GIDE	GILAN DEYLAMAN	4.13	56	ePn	Pn	07 58 47.4	+3.6
GIDE				IAML		08 00 07.4	
	comp=N,261nm,0.7s						
GIDE				IAML		08 00 10.3	
	comp=E,389nm,0.6s						
PERV	Siirt/Pervari-	4.14	323	P	Pn	07 58 47.9	+4.0
PERV				S	Sn	07 59 36.6	+4.4
PERV				i AML	AML	07 59 42.0	
	comp=E,1µm,0.5s						
PERV				i AML	AML	08 00 28.0	
	comp=E,1µm,0.9s						
GEVA	Gevas	4.21	331	Pn	Pn	07 58 48.9	+4.0
GEVA	Gevas	4.21	331	P	Pn	07 58 49.1	+4.2
GEVA				S	Sn	07 59 38.8	+4.8
GEVA				i AML	AML	07 59 44.0	
	comp=E,231nm,0.4s						
GEVA				i AML	AML	08 00 23.0	
	comp=E,154nm,1.4s						
GEVA	Gevas	4.21	331	Pn	Pn	07 58 48.9	+4.0
OZAP	Van, Ozalp-Mer	4.22	342	P	Pn	07 58 50.0	+5.0
OZAP				i AML	AML	08 00 23.0	
	comp=E,305nm,1.7s						
OZAP				i AML	AML	08 00 32.0	
	comp=E,296nm,1.6s						
AKDM	Akdamar-Van	4.25	330	P	Pn	07 58 50.0	+4.5
TVAN	Van	4.27	336	P	Pn	07 58 49.9	+4.2
TVAN				i AML	AML	08 00 29.0	
	comp=E,418nm,1.2s						
TVAN				i AML	AML	08 00 38.0	
	comp=E,293nm,1.0s						
ORD	Ordubad	4.27	4	P	Pn	07 58 50.0	+4.3
	SNR=24						
ORD				S	Sb	07 59 47.5	+0.1
VANB	Van	4.33	336	P	Pn	07 58 50.5	+3.9
MIDY	Mardin/Midyat-	4.41	310	P	Pn	07 58 50.6	+3.0
MIDY				S	Sn	07 59 42.8	+3.9
MIDY				i AML	AML	08 00 21.0	
	comp=E,765nm,0.7s						
MIDY				i AML	AML	08 00 21.0	
	comp=E,698nm,0.7s						
THKV	Tehran--Karaj	4.45	72	ePn	Pn	07 58 51.1	+2.8
NAX	Nakhchivan	4.51	358	P	Pb	07 58 55.1	-4.8
NAX				S	Sb	07 59 53.6	-0.7
NAX	Nakhchivan	4.51	358	P	Pb	07 58 55.1	-4.9
GRMI	Germi	4.52	23	ePn	Pn	07 58 52.9	+3.7
GRMI	Germi	4.52	23	Pn	Pn	07 58 52.8	+3.7
LRK	Lerik	4.53	28	P	Pn	07 58 52.7	+3.5
	SNR=12						
LRK				S	Sb	07 59 52.2	-2.6
VMUR	Van-Muradiye	4.64	339	P	Pn	07 58 55.6	+4.8
VMUR				i AML	AML	08 00 48.0	
	comp=E,222nm,1.1s						
VMUR				i AML	AML	08 00 53.0	
	comp=E,228nm,1.4s						
ASTR	Astara	4.64	32	P	Pn	07 58 54.4	+3.8
	SNR=18						
ASTR				S	Sb	07 59 53.6	-4.3
CHTH	Charan	4.64	73	ePn	Pn	07 58 54.0	+3.0
GHVR	GHOM	4.66	91	ePn	Pn	07 58 52.4	+1.4
GHVR				IAML		08 00 18.3	
	comp=N,257nm,0.5s						
GHVR				IAML		08 00 35.7	
	comp=E,282nm,0.8s						
CLDR	Caldiran	4.69	343	eP	Pn	07 58 56.5	+4.9
CLDR	Caldiran	4.69	343	P	Pn	07 58 56.1	+4.5
CLDR				i AML	AML	08 00 47.0	
	comp=E,252nm,2.0s						
CLDR				i AML	AML	08 00 51.0	
	comp=E,281nm,1.2s						
BLIS	Bitlis-Merkez	4.71	324	P	Pn	07 58 54.5	+2.7
BLIS				i AML	AML	08 00 50.0	
	comp=E,300nm,1.8s						
YRD	Yardimli	4.73	25	P	Pn	07 58 56.1	+4.0
	SNR=12						
YRD				S	Sb	07 59 57.0	-3.7
SBZ	Shahbuz	4.73	359	P	Pb	07 58 59.5	-4.3
MAKU	Maku	4.75	351	ePn	Pn	07 58 57.3	+4.9
MAKU	Maku	4.75	351	Pn	Pn	07 58 56.3	+3.9
LKRN	Lenkeran, Azer	4.76	31	P	Pn	07 58 55.5	+3.2
	SNR=13						
LKRN				S	Sb	07 59 57.2	-4.2
LKRN	Lenkeran, Azer	4.76	31	P	Pn	07 58 55.5	+3.2
MARD	Mardin	4.76	305	Pn	Pn	07 58 54.9	+2.5
MARD	Mardin	4.76	305	P	Pn	07 58 54.3	+1.8
MARD				S	Sn	07 59 46.5	-1.1
MARD				i AML	AML	08 00 36.0	
	comp=E,936nm,0.6s						
MARD				i AML	AML	08 00 37.0	
	comp=E,2µm,0.7s						
ADCV	BITLIS_Adilcev	4.77	331	P	Pn	07 58 56.8	+4.2
ADCV				i AML	AML	08 00 31.0	
	comp=E,129nm,0.8s						
ADCV				i AML	AML	08 00 48.0	
	comp=E,165nm,1.2s						
BTMN	Batman	4.79	314	P	Pn	07 58 55.8	+3.0
BTMN				i AML	AML	08 00 42.0	
	comp=E,952nm,1.6s						
BTMN				i AML	AML	08 00 45.0	
	comp=E,715nm,1.6s						
JHBN	Jahan bin	4.83	119	Pn	Pn	07 58 54.3	+0.6
QAMS	Qamsar	4.84	99	Pn	Pn	07 58 54.9	+1.2
QRD	Qoradiz	4.98	15	S	Sb	08 00 04.3	-3.3
IVRN	Varamin	5.00	84	Pn	Pn	07 58 58.3	+2.6
SVAN	Silvan-Diyarba	5.01	315	eP	Pn	07 58 57.4	+1.6
SVAN	Silvan-Diyarba	5.01	315	P	Pn	07 58 58.0	+2.2
SVAN				i AML	AML	08 00 40.0	
	comp=E,201nm,1.0s						
SVAN				i AML	AML	08 00 44.0	

comp=E,315nm,1.0s
MAZI Mazidag 5.06 305 *e*P **Pn** 07 58 55.9 **-0.7**
GLBA Clilabad 5.08 25 P Pn 07 59 01.9 +5.3
SNR=9.8
GLBA S **Sb** **08 00 05.6 -4.8**
HYR Heyderabad 5.09 353 S **Sb** **08 00 08.1 -3.0**
IKLH Kolahrood 5.10 104 Pn **Pn** **07 58 58.2 +1.0**
MLAZ Malazgirt-MUS 5.12 332 *e*P **Pn** **07 59 01.5 +4.1**
MZPU Pul - Mazandar 5.14 68 Pn **Pn** **07 59 01.1 +3.4**
MUSM Mu-Merkez 5.25 322 P **Pn** **07 59 01.1 +1.9**
MUSM *i* AML AML 08 00 03.0
comp=E,197nm,0.5s
MUSM *i* AML AML 08 00 43.0
comp=E,160nm,1.0s
DORK Agr/Tutak/Do 5.25 335 P **Pn** **07 59 02.4 +3.1**
DORK *i* AML AML 08 00 53.0
comp=E,142nm,1.1s
DORK *i* AML AML 08 01 21.0
comp=E,70nm,1.0s
DAMV Damavand 5.26 78 *e*Pn **Pn** **07 59 02.0 +2.5**
BLQ Beylaqan 5.28 16 S **Sb** **08 00 11.4 -4.9**
IDMV Damavand 5.31 78 Pn **Pn** **07 59 01.9 +1.8**
TASB TASBURUN-IGDIR 5.44 348 *e*P Pn 07 59 06.6 +4.9
GNI Garni 5.53 353 Pn **Pn** **07 59 05.2 +2.1**
GNI Garni 5.53 353 P **Pn** **07 59 05.2 +2.1**
GNI Garni 5.53 353 Pn Pn 07 59 08.0 +5.0
comp=E,2.2nm,0.3s,baz=60,slow=1.7,SNR=5.5
GNI Lg Lg 08 00 39.0
comp=E,3.2nm,0.3s,baz=249,slow=23,SNR=3.2
comp=E,18nm,0.7s
DYBB Diyarbakir 5.54 308 *e*P **Pn** **07 59 02.8 -0.3**
AGDM Agdam 5.56 12 P Pn 07 59 10.0 +6.6
SNR=5.7
AGDM S **Sb** **08 00 19.1 -5.4**
HANI Diyarbakir_Han 5.66 313 P **Pn** **07 59 06.5 +1.8**
HANI *i* AML AML 08 01 01.0
comp=E,268nm,1.1s
HANI *i* AML AML 08 01 15.0
comp=E,241nm,0.7s
IPRN Peran 5.68 72 Pn **Pn** **07 59 08.0 +3.0**
BRDA Brd 5.73 12 S **Sb** **08 00 22.7 -6.4**
ZRD Zardab 5.84 15 S **Sb** **08 00 25.7 -6.7**
IFIR Firoozkooh 5.90 78 Pn **Pn** **07 59 10.0 +1.8**
SANL SANLIURFA_Merk 5.96 297 P **Pn** **07 59 09.6 +0.7**
SANL *i* AML AML 08 01 19.0
comp=E,632nm,0.7s
SANL *i* AML AML 08 01 20.0
comp=E,600nm,0.8s
GANJ Ganja 6.00 5 P Pn 07 59 15.8 +6.3
SNR=6.8
GANJ Ganja 6.00 5 P Pn 07 59 15.7 +6.3
ILAS Lasjerd 6.04 81 Pn **Pn** **07 59 11.5 +1.4**
GDB GEDABAY 6.05 1 P Pn 07 59 15.6 +5.3
SNR=4.9
KOPR Koprukoy-ERZUR 6.13 331 *e*P **Pn** **07 59 15.0 +3.7**
SURC SANLIURFA_SURC 6.14 293 P **Pn** **07 59 13.1 +1.8**
SURC *i* AML AML 08 01 21.0
comp=E,532nm,0.7s
SURC *i* AML AML 08 01 21.0
comp=E,497nm,1.4s
KOVA Elazig, Kovanc 6.20 312 P **Pn** **07 59 14.9 +2.8**
KOVA *i* AML AML 08 01 34.0
comp=E,317nm,2.0s
KOVA *i* AML AML 08 01 41.0
comp=E,214nm,1.6s
URFA Urfa 6.20 299 *e*P **Pn** **07 59 09.3 -2.8**
HANM anlurfa/Hi 6.21 300 P **Pn** **07 59 14.3 +2.0**
HANM *i* AML AML 08 01 21.0
comp=E,279nm,1.2s
HANM *i* AML AML 08 01 32.0
comp=E,468nm,1.0s
YEDI Yedisu-Bingol 6.28 321 *e*P **Pn** **07 59 15.4 +2.0**
NARI Adyaman-Kaht 6.43 302 P **Pg** **07 59 40.9 -3.2**
SENK Senkaya-Erzuru 6.45 337 *e*P **Pn** **07 59 20.0 +4.3**
PTK Pertek 6.57 312 *e*P **Pn** **07 59 16.9 -0.4**
AZEY Adyaman-Merk 6.76 300 P **Pn** **07 59 22.5 +2.6**
AZEY *i* AML AML 08 01 50.0
comp=E,223nm,1.1s
AZEY *i* AML AML 08 01 57.0
comp=E,240nm,1.4s
XNQ Khinaliq 6.79 16 P **Pn** **07 59 25.1 +4.7**
ERZN Erzincan 6.83 318 *e*P Pn 07 59 14.1 -6.8
SIZA Siyzn 6.90 21 P **Pn** **07 59 26.5 +4.7**
NZIP Nizip/Gaziante 6.91 292 P **Pg** **07 59 50.7 -2.3**
IGLO Ghaloghah 6.91 72 Pn **Pn** **07 59 23.6 +1.6**
AKH Akhalkalaki 6.96 346 **Pn** **07 59 25.0 +2.4**
AKH Akhalkalaki 6.96 346 P **Pn** **07 59 25.0 +2.4**
AKCA Adyaman/G¶l 7.16 298 P Pb 07 59 35.8 -9.3
ARPR Arapgir-MALATY 7.35 309 **Pn** **07 59 30.0 +1.9**
HCB Kahramanmara 7.58 293 P **Pn** **07 59 33.0 +1.9**
HCB *i* AML AML 08 02 12.0
comp=E,190nm,1.8s
HCB *i* AML AML 08 02 12.0
comp=E,176nm,1.2s
ASF Jabal al Asfar 7.73 254 P **Pn** **07 59 33.5 +0.3**
ASF Jabal al Asfar 7.73 254 Pn **Pn** **07 59 34.0 +0.7**
comp=E,4.0nm,0.3s,baz=109,slow=6.0,SNR=14
ASF Sn **Sn** **08 01 00.9 +0.2**
comp=E,3.1nm,0.3s,baz=94,slow=17,SNR=1.3
ASF Lg Lg 08 01 41.6
comp=E,8.6nm,0.3s,baz=273,slow=23,SNR=3.7
ASF LR LR 08 03 25.3
comp=E,709nm,19.4s,baz=101,slow=45
comp=E,9.9nm,0.4s
ZEI Tsey 8.23 351 *e*P Pn 07 59 46.5 +6.3
ZEI pmax pmax
comp=Z,18nm,1.1s
HSUJ Al Zarqa 8.31 255 P Pg 08 00 24.8 +4.8
MAK Makhachkala 8.42 9 *e*P **Pn** **07 59 41.6 -0.9**
MAK *e*S **Sn** **08 01 17.0 -0.3**
MAK pmax pmax
comp=Z,793nm,2.0s
MAK MLR MLR
comp=Z,331nm,11.0s
GEM Giv'at Ha'Em 8.43 263 Pn **Pn** **07 59 43.1 +0.4**
GEM Giv'at Ha'Em 8.43 263 P Pg 08 00 30.1 +7.9
SHMJ Saham 8.47 260 P **Pb** **08 00 02.9 -4.4**
MMAI Mount Meron Ar 8.69 262 Pn **Pn** **07 59 49.2 +2.9**
comp=Z,2.7nm,0.3s,baz=84,slow=17,SNR=4.2
MMAI Lg Lg 08 02 14.3
comp=Z,8.8nm,0.3s,baz=65,slow=32,SNR=5.3
MMAI LR LR 08 03 55.5
comp=Z,470nm,18.9s,baz=50,slow=43
SWQJ Swaqa 8.75 250 P Pg 08 00 41.5 +13
NEUR Neytrino 8.90 346 *e*P **Pn** **07 59 50.8 +1.5**
UJAP Al Uja 8.95 255 P **Pg** **08 00 33.2 +1.1**
NCK Nalchik 8.97 350‖ *e*P **Pn** **07 59 51.3 +1.2**
KARJ KARJ 9.12 250 P Pn 08 00 38.9 +47
SALP Salfit 9.13 256 Pn **Pn** **07 59 51.9 -0.4**
DSI Dead Sea 9.15 253 Pn **Pn** **07 59 52.6 0.0**
KBZ Khabaz 9.31 348⇑ *e*P **Pn** **07 59 56.1 +1.4**
KBZ Khabaz 9.31 348 Pn Pn 08 00 00.5 +5.8
comp=Z,12nm,1.1s,baz=181,slow=11,SNR=6.5
YTIR Yattir 9.44 253 Pn **Pn** **07 59 56.9 +0.2**
YTIR Yattir 9.44 253 P Pg 08 00 47.2
KIV Kislovodsk 9.57 347 **Pn** **08 00 00.1 +1.8**
KIV Kislovodsk 9.57 347 *e*P **Pn** **07 59 58.1 -0.2**
KIV pmax pmax
comp=Z,22nm,0.9s
KIV MLR MLR
comp=Z,74nm,12.0s
PRNI Paran 9.96 247 Pn **Pn** **08 00 03.8 0.0**
PRNI Paran 9.96 247 P Pg 08 00 54.7
SOC Sochi 10.04 334 *e*P Pn 07 59 57.4 -7.3
SOC *e*SS Sn 08 02 07.8 +11
SOC MLR MLR
comp=Z,482nm,15.0s
HRFI Mount Harif 10.09 246 Pn **Pn** **08 00 05.4 -0.1**
HRFI Mount Harif 10.09 246 P **Pn** **08 00 08.6 +3.1**
AQBJ Aqaba 10.24 244 P Pn 08 00 14.3 +6.8
KRMI Paran Flat 10.29 247 Pn **Pn** **08 00 07.5 -0.7**
KRMI Paran Flat 10.29 247 P **Pn** **08 00 07.7 -0.5**
MBRI Mt Berech 10.31 245 Pn **Pn** **08 00 08.0 -0.5**
MBRI Mt Berech 10.31 245 P Pn 08 00 20.0 +11
EIL Elat 10.34 244 Pn **Pn** **08 00 08.7 -0.2**
EIL Elat 10.34 244 Pn **Pn** **08 00 07.9 -1.0**
comp=Z,4.5nm,0.3s,baz=90,slow=5.0,SNR=18
EIL Lg Lg 08 03 07.3
comp=Z,2.1nm,0.3s,baz=345,slow=20,SNR=3.8
EIL LR LR 08 05 07.9
comp=Z,512nm,18.6s,baz=62,slow=44
comp=Z,9.8nm,0.4s
GEYT Alibeck 10.57 68 **Pn** **08 00 09.6 -2.5**
GEYT Alibeck 10.57 68 P **Pn** **08 00 09.6 -2.5**
GEYT Alibeck 10.57 68 Pn **Pn** **08 00 09.0 -3.1**
comp=Z,0.5nm,0.3s,baz=161,slow=9.4,SNR=5.5
GEYT Lg Lg 08 03 16.1
comp=Z,0.7nm,0.3s,baz=274,slow=39,SNR=1.5
GEYT LR LR 08 05 14.3
comp=Z,176nm,21.1s,baz=296,slow=43
GYA0B ALIBECK ARRAY 10.57 68 Pn **Pn** **08 00 10.0 -2.1**
BR131 Keskin Array S 10.84 301‖ *e*P **Pn** **08 00 13.7 -2.1**
BRTR Keskin Array B 10.84 301 Pn **Pn** **08 00 19.8 +4.0**
comp=Z,3.1nm,1.0s,baz=119,slow=13,SNR=7.3
ANN Anapa 11.94 331 *e*P **Pn** **08 00 27.7 -3.0**
ANN pmax pmax
comp=Z,48nm,0.9s
WSAR Wadi Sarin 16.05 132 Pn **Pn** **08 01 22.7 -3.7**
comp=Z,2.7nm,0.3s,baz=293,slow=14,SNR=4.5
WSAR Sn Sn 08 04 11.5 -13
comp=Z,2.2nm,0.3s,baz=164,slow=20,SNR=6.8
WSAR LR LR 08 08 22.1
comp=Z,228nm,20.1s,baz=227,slow=40
comp=Z,23nm,0.6s
TLCR 16.63 314⇑P **P** **08 01 35.4 -0.6**
TLCR 16.63 314⇑P **P** **08 01 35.4 -0.6**
TPGR Topolog 16.68 313⇑P **P** **08 01 37.8 +1.1**
VRH Novokhopyorsk 16.78 351 *e*P **Pn** **08 01 36.0 +0.5**
VRH pmax pmax
comp=Z,47nm,0.6s
VRH pmax pmax
comp=Z,34nm,2.1s
VORD Divnogorie 16.95 346 *e*P **P** **08 01 40.1 +0.7**
VORD pmax pmax
comp=Z,80nm,1.0s
RDO Rodhopi 17.13 298 P **P** **08 01 41.2 -0.4**
VSR Storozhevoye 17.21 346 *e*P **P** **08 01 42.7 +0.4**
VSR pmax pmax
comp=Z,30nm,0.7s
VORR Voronezh 17.63 347 *e*P **Pn** **08 01 46.0 -0.1**
VORR pmax pmax
comp=Z,45nm,0.8s
VORR pmax pmax
comp=Z,76nm,1.9s
ABKAR Akbulak array 18.00 32 P **P** **08 01 51.9 +0.8**
ABKAR Akbulak array 18.00 32 P **P** **08 01 51.4 +0.2**
ABKAR IAmb IAmb 08 01 53.6
comp=Z,7.4nm,0.8s
AKTO Aktyubinsk 18.17 26 P **P** **08 01 53.4 +0.4**
comp=Z,0.4nm,0.3s,baz=212,slow=9.4,SNR=44
AKTO LR LR 08 10 13.1
comp=Z,114nm,20.5s,baz=282,slow=41
comp=Z,18nm,0.9s
VRI Vrincioaia 18.23 314⇓P **P** **08 01 55.3 +1.6**
VRI Vrincioaia 18.23 314⇓P **P** **08 01 55.3 +1.6**
PLOR Plostina 18.27 313⇑P **P** **08 01 56.5 +2.3**
PLOR Plostina 18.27 313⇑P **P** **08 01 56.5 +2.3**
MLR Muntele Rosu 18.52 312⇓P **Pn** **08 01 58.4 +1.3**
MLR Muntele Rosu 18.52 312 P **Pn** **08 01 57.7 +0.6**
MLR Muntele Rosu 18.52 312 P **Pn** **08 01 57.7 +0.6**
MLR pmax pmax
comp=Z,16nm,1.2s
MLR Muntele Rosu 18.52 312 P **Pn** **08 02 00.9 +3.7**
comp=Z,7.1nm,0.9s,baz=183,slow=20,SNR=4.0
COVR Voineasa-Covas 18.53 313⇑P **Pn** **08 01 59.0 +1.8**
LPSR Galich'ya Gora 18.57 347 *e*P **P** **08 01 57.2 -0.2**
LPSR pmax pmax
comp=Z,160nm,0.8s
TESR Tescani 18.62 315⇓P **Pn** **08 01 59.4 +1.1**
SORM Soroca 18.65 321⇓P **Pn** **08 01 59.8 +1.2**
SORM Soroca 18.65 321⇓P **Pn** **08 01 59.8 +1.2**
TURR Turia 18.75 313⇓P **P** **08 01 59.3 -0.2**
OZUR 18.91 313⇓P **Pn** **08 02 03.3 +1.4**
BOSR Bodos 18.98 313⇑P **Pn** **08 02 04.4 +1.8**
VOIR 19.05 311⇓P **Pn** **08 02 05.6 +2.1**
VOIR 19.05 311⇓P **Pn** **08 02 05.6 +2.1**
DOPR Dopca 19.09 312⇑P **Pn** **08 02 05.6 +1.6**
KBL Kabul 19.25 84 P **P** **08 02 05.5 +0.3**
KBL Kabul 19.25 84 P **P** **08 02 05.5 +0.3**
KBL pmax pmax
comp=Z,31nm,1.2s
CHGR Chuyangaron 19.26 71 P **P** **08 02 05.3 +0.1**
CHGR Chuyangaron 19.26 71 P **P** **08 02 05.3 +0.1**
CHGR pmax pmax
comp=Z,24nm,0.8s
ARR Arges 19.28 310⇑P **Pn** **08 02 08.4 +2.1**
LOT Lotru 19.86 309⇓P **Pn** **08 02 13.8 +0.5**
AK05 Malin Array Si 19.95 328 P **P** **08 02 12.5 0.0**
AK05 IAmb IAmb 08 02 14.6
comp=Z,42nm,1.0s
AKASG Malin Array Be 20.00 328 P **P** **08 02 12.7 -0.3**
AKASG Malin Array Be 20.00 328 *i* P **P** **08 02 13.3 +0.3**
AKASG pmax pmax
comp=Z,18nm,0.8s
AKASG Malin Array Be 20.00 328 P **P** **08 02 13.3 +0.3**
comp=Z,17nm,0.8s,baz=137,slow=9.8,SNR=60
comp=Z,17nm,0.8s
AKBB Malin Array Si 20.00 328 P **P** **08 02 12.8 -0.2**
AKBB IAmb IAmb 08 02 15.1
comp=Z,38nm,0.9s
AKBB Malin Array Si 20.00 328*c e*P **P** **08 02 13.3 +0.2**
AKBB pmax pmax
comp=Z,45nm,0.9s
KIEV Kiev 20.00 328⇑P **P** **08 02 13.9 +0.8**
KIEV Kiev 20.00 328 P **P** **08 02 13.2 +0.2**
KIEV IAmb IAmb 08 02 15.2
comp=Z,38nm,1.0s
KIEV Kiev 20.00 328 P **P** **08 02 13.3 +0.2**
KIEV pmax pmax
comp=Z,38nm,1.0s
BURAR Bucovina Array 20.04 316⇑P Pn 08 02 15.7 +0.3
BURAR Bucovina Array 20.04 316 P Pn 08 02 14.9 -0.5
BURAR IAmb IAmb 08 02 18.9
comp=Z,27nm,0.8s
BURAR Bucovina Array 20.04 316⇑P Pn 08 02 15.7 +0.3
BUR08 Bucovina Ar. S 20.06 316 P **P** **08 02 14.8 +0.8**
FNA Florina 20.13 295 P **P** **08 02 15.5 +0.9**
FNA Florina 20.13 295 P Pn 08 02 15.5 -0.9
FNA pmax pmax
comp=Z,7.0nm,1.0s
DJES Djerdap 20.36 306 Pn 08 02 18.9 -0.2
GZR Gura Zlata 20.47 308⇑P **P** **08 02 19.4 +1.1**
GZR Gura Zlata 20.47 308⇑P **P** **08 02 19.4 +1.1**
BOVS Bovan 20.57 303⇓P Pn 08 02 22.1 +0.5
MARR Marisel-Cluj 20.81 312⇑P Pn 08 02 23.7 -0.8
MDVR Moldovita 20.94 306⇓P **P** **08 02 24.3 +0.9**
OBN Obninsk 21.41 346*de*P **P** **08 02 28.3 +0.1**
OBN *e**SP **sP** **08 02 33.5 -0.3**
OBN *e*PPP PPP 08 02 57.8
OBN pmax pmax
comp=Z,55nm,1.3s
OBN MLR MLR
comp=Z,170nm,20.0s
OBN Obninsk 21.41 346 P **P** **08 02 28.4 +0.2**
comp=Z,23nm,0.5s,baz=133,slow=11,SNR=6.4
comp=Z,23nm,0.5s
DZA Taraz 21.58 60 *e*P **P** **08 02 32.0 +1.8**
baz=60
DZA Taraz 21.58 60 *e*P **P** **08 02 32.0 +1.8**
MOS Moscow 21.80 348 *e*P **P** **08 02 33.8 +1.4**
MOS *e* 08 02 54.5
MOS *e*S **S** **08 06 32.1 -0.9**
MOS pmax pmax
comp=Z,116nm,1.3s
DIVS Divibare 21.89 303 P **P** **08 02 34.5 +0.9**
LVV L'vov 21.93 320 *e*P **P** **08 02 32.4 -1.5**
NIL Nilore 22.84 85 P **P** **08 02 42.8 -0.9**
NIL IAmb IAmb 08 02 54.0
comp=Z,47nm,1.1s
NIL Nilore 22.84 85 P **P** **08 02 42.8 -0.9**
NIL pmax pmax
comp=Z,47nm,1.2s
CRVS Cervenica-Dubn 22.85 316 *e*P **P** **08 02 44.4 +0.6**
CRVS Cervenica-Dubn 22.85 316 *e*P **P** **08 02 44.4 +0.6**
CRVS pmax pmax
comp=Z,36nm,1.2s
KECS Kecovo 23.22 314 *e*P **P** **08 02 50.2 +2.7**
KECS Kecovo 23.22 314 *e*P **P** **08 02 50.3 +2.7**
KECS pmax pmax
comp=Z,31nm,1.2s
MNK Minsk 23.41 333 *i* P **P** **08 02 49.0 -0.4**
comp=E,27nm,1.2s
MNK *i* P **P** **08 02 49.0 -0.4**
comp=N,69nm,1.2s
MNK *i* P **P** **08 02 49.0 -0.4**
comp=Z,92nm,1.2s,baz=141
MNK *i* PP **PnPn** **08 03 15.1 -0.5**
MNK *i* PPP PPP 08 03 22.6
MNK *i* S **S** **08 07 03.6 +1.5**
MNK *i* SS **SnSn** **08 07 39.2 +1.8**
MNK *i* SSS SSS 08 07 53.2
MNK *i* LQ LQ 08 10 03.4
MNK *i* LR LR 08 11 42.8
MNK *i* LRM MLR 08 13 09.3
comp=Z,127nm,16.5s
MNK *i* LRM MLR 08 13 39.4
comp=E,90nm,18.2s
MNK *i* LRM MLR 08 13 42.0
comp=N,447nm,19.5s
MNK Minsk 23.41 333 *i* P **P** **08 02 48.9 -0.4**
MNK *i* PPP PPP 08 03 22.6
MNK *i* S **S** **08 07 03.6 +1.5**
MNK *i* SSS SSS 08 07 53.2
MNK pmax pmax
comp=N,69nm,1.2s
MNK pmax pmax
comp=E,27nm,1.2s
MNK pmax pmax
comp=Z,92nm,1.2s
MNK MLR MLR
comp=Z,127nm,17.0s
MNK MLR MLR
comp=E,90nm,18.0s
MNK MLR MLR
comp=N,447nm,20.0s
MORH Mrgy, Hungar 23.46 308⇓P **P** **08 02 50.9 +0.9**
ARU Arti 23.50 18*c i*P **P** **08 02 51.1 +0.9**
ARU 08 03 15.8
ARU S **S** **08 07 07.5 +4.0**
ARU pmax pmax
comp=Z,27nm,3.7s
ARU Arti 23.50 18 P **P** **08 02 50.2 0.0**
comp=Z,8.6nm,0.2s,baz=91,slow=10,SNR=3.2
comp=Z,8.6nm,0.2s
AAK Ala-Archa 23.81 62 P P 08 02 45.9 -7.7
comp=Z,1.8nm,0.5s,baz=215,slow=10.0,SNR=4.7
BTLS Baital 24.02 56 *e*P **P** **08 02 56.6 +1.2**
comp=Z,16nm,1.1s,baz=56
BTLS Baital 24.02 56 *e*P **P** **08 02 56.6 +1.2**
BTLS pmax pmax
comp=Z,16nm,1.1s
SGDS Sogindy 24.06 60 *e*P **P** **08 02 56.4 +0.5**
comp=Z,10nm,1.1s,baz=60
SGDS Sogindy 24.06 60 *e*P **P** **08 02 56.3 +0.5**
SGDS pmax pmax
comp=Z,11nm,1.1s
KIRV Kirov 24.07 5*c i*P **P** **08 02 55.9 +0.3**
KIRV Kirov 24.07 5 P **P** **08 02 56.2 +0.6**
comp=Z,23nm,0.6s,baz=106,slow=1.9,SNR=8.8
KIRV LR LR 08 14 11.5
comp=Z,120nm,21.0s,baz=192,slow=41
comp=Z,23nm,0.6s
LANS Liptovska Anna 24.12 315 *e*P **P** **08 02 56.8 +0.4**
LANS Liptovska Anna 24.12 315 *e*P **P** **08 02 56.8 +0.4**
LANS pmax pmax
comp=Z,5.0nm,0.8s
NACGM Naroch 24.13 333 *e*P **P** **08 02 56.5 +0.2**
comp=Z,33nm,0.8s,baz=140
VYHS Vyhne 24.21 313 *e*P **P** **08 02 59.6 +2.5**
VYHS Vyhne 24.21 313 *e*P **P** **08 02 59.6 +2.5**
VYHS pmax pmax
comp=Z,8.0nm,0.9s
SVE Sverdlovsk 24.41 20 *e*P **P** **08 03 00.7 +1.9**
SVE pmax pmax
comp=Z,24nm,1.1s
OJC Ojcow 24.45 317 P **P** **08 02 59.0 -0.3**
OJC IAmb IAmb 08 03 01.1
comp=Z,19nm,0.7s
OJC Ojcow 24.45 317 P **P** **08 02 59.0 -0.3**
OJC pmax pmax
comp=Z,19nm,0.7s
NRN Naryn 24.75 65 P **P** **08 03 01.8 -0.7**
NRN IAmb IAmb 08 03 06.0
comp=Z,19nm,0.8s
NRN Naryn 24.75 65 P **P** **08 03 01.8 -0.7**
NRN pmax pmax
comp=Z,19nm,0.8s
BOOM Boomskoye usch 24.84 63 IAmb IAmb 08 03 07.0
comp=Z,21nm,1.0s
ISAL Salakas 24.88 333 *e*P **P** **08 03 05.3 +2.2**
SUW Suwalki 24.97 328 P **P** **08 03 04.1 +0.2**
SUW Suwalki 24.97 328 *e*P **P** **08 03 05.3 +1.4**
SUW Suwalki 24.97 328 P **P** **08 03 04.1 +0.2**
SUW pmax pmax
comp=Z,225nm,1.0s
BRZS Berezniki 24.99 44 *e*P **P** **08 03 05.4 +1.2**
comp=Z,13nm,1.2s,baz=44
BRZS Berezniki 24.99 44 *e*P **P** **08 03 05.4 +1.2**
BRZS pmax pmax
comp=Z,13nm,1.2s
JAVC Velka Javorina 25.07 313 *e*P **P** **08 03 06.6 +1.7**
KOGS Kog 25.11 307 *i* P **P** **08 03 06.2 +0.9**
MODS Modra-Piesok 25.11 312 *e*P **P** **08 03 06.8 +1.5**
MODS Modra-Piesok 25.11 312 *e*P **P** **08 03 06.8 +1.5**
MODS pmax pmax
comp=Z,41nm,1.2s
ZST Bratislava 25.16 311 *e*P **P** **08 03 06.3 +0.6**
ZST Bratislava 25.16 311 *e*P **P** **08 03 06.3 +0.6**
MAUC Maruska 25.18 314 *e*P **P** **08 03 06.7 +0.7**
OKC Ostrava-Krasne 25.20 315 *e*P **P** **08 03 07.1 +1.0**
OKC Ostrava-Krasne 25.20 315 *e*P **P** **08 03 07.1 +1.0**
BRVK Borovoye 25.36 36 P **P** **08 03 08.3 +0.8**
BRVK Borovoye 25.36 36⇑ *e*P **P** **08 03 08.4 +0.9**
BRVK pmax pmax
comp=Z,16nm,2.5s
KUU Kurty 25.36 59 *e*P **P** **08 03 08.7 +1.0**
comp=Z,16nm,0.9s,baz=59
KUU Kurty 25.36 59 *e*P **P** **08 03 08.6 +1.0**
KUU pmax pmax
comp=Z,16nm,0.9s
BVAR Borovoye Array 25.39 36 P **P** **08 03 09.0 +1.2**
BVAR Borovoye Array 25.39 36 P **P** **08 03 09.0 +1.2**
comp=Z,4.9nm,0.6s,baz=239,slow=7.4,SNR=25
BVAR PcP **PcP** **08 06 39.7 -0.1**
comp=Z,3.7nm,0.7s,baz=242,slow=3.2,SNR=6.9
BVAR LR LR 08 15 22.3
comp=Z,121nm,18.7s,baz=213,slow=42
comp=Z,4.9nm,0.6s
RONA Rosalia, Austr 25.48 310 *i* P **P** **08 03 09.2 +0.5**
comp=Z,15nm,1.2s
BOJS Bojanci 25.52 304 *i* P **P** **08 03 09.6 +0.6**
MORC Moravsky Berou 25.53 315⇓P **P** **08 03 10.5 +1.4**
MORC Moravsky Berou 25.53 315 P **P** **08 03 09.0 -0.1**
MORC IAmb IAmb 08 03 13.1
comp=Z,23nm,1.2s
MORC Moravsky Berou 25.53 315 *e*P **P** **08 03 09.5 +0.4**
MORC Moravsky Berou 25.53 315 P **P** **08 03 09.0 -0.1**
MORC pmax pmax
comp=Z,23nm,1.2s
TNSS Tian-Shan 25.65 62 *e*P **P** **08 03 11.8 +1.1**
baz=62
TNSS Tian-Shan 25.65 62 *e*P **P** **08 03 11.8 +1.1**
AAA Alma-Ata 25.66 61 *e*P **P** **08 03 11.4 +1.0**
baz=61
AAA Alma-Ata 25.66 61 *e*P **P** **08 03 11.3 +1.0**
PABE Paberze 25.67 331 P **P** **08 03 10.4 +0.3**
PABE Paberze 25.67 331 *e*P **P** **08 03 11.3 +1.1**
MDOK Medeo 25.74 61 *e*P **P** **08 03 12.8 +1.5**
baz=61
MDOK Medeo 25.74 61 *e*P **P** **08 03 12.7 +1.5**
CHKK Chushkaly 25.81 60 *e*P **P** **08 03 13.2 +1.4**
baz=60
CHKK Chushkaly 25.81 60 *e*P **P** **08 03 13.1 +1.4**
ARSA Arzberg 25.83 308 *e*P **P** **08 03 12.7 +0.8**
comp=Z,6.1nm,0.9s
CONA Conrad Observa 25.84 310 *i* P **P** **08 03 12.7 +0.7**
comp=Z,8.4nm,0.9s
VRAC Vranov 25.90 313 *e*P **P** **08 03 12.7 +0.3**
VRAC Vranov 25.90 313 P **P** **08 03 13.0 +0.6**
comp=Z,8.4nm,0.7s,baz=107,slow=9.2,SNR=7.0
comp=Z,8.4nm,0.7s
KRUC Moravsky 25.92 313 *e*P **P** **08 03 13.0 +0.4**
SOKA Soboth 25.98 307 *e*P **P** **08 03 14.0 +0.7**
comp=Z,4.2nm,0.8s
LJU Ljubljana 26.15 305 *e*P **P** **08 03 15.6 +0.9**
OBKA Obir 26.25 306 *e*P **P** **08 03 16.2 +0.4**
comp=Z,6.9nm,1.0s
DPC Dobruska-Polom 26.49 315 *e*P **P** **08 03 18.2 +0.4**
DPC Dobruska-Polom 26.49 315 *e*P **P** **08 03 18.2 +0.4**
KLMR Klimovskoe 26.51 353 *e*P **P** **08 03 16.5 -1.3**
KLMR AMP 08 03 22.8
comp=Z,18nm,1.0s
KLMR Klimovskoe 26.51 353 *e*P **P** **08 03 16.5 -1.3**

KLMR pmax pmax
comp=Z,18nm,1.0s
KLNR Kaliningrad 26.69 326⇓ *e*P **P 08 03 18.2 -1.2**
CHVC Chvalec 26.74 316 *e*P **P 08 03 21.0 +0.9**
CHVC Chvalec 26.74 316 *e*P **P 08 03 21.0 +0.9**
ZHN Zhinishke 26.75 62 *e*P **P 08 03 21.3 +0.9**
baz=62
ZHN Zhinishke 26.75 62 *e*P **P 08 03 21.2 +0.9**
MOA Molln 26.83 309 *e*P **P 08 03 21.7 +0.8**
comp=Z,16nm,1.1s
MYKA Terra Mystica 26.89 306 *e*P **P 08 03 21.5 0.0**
comp=Z,2.1nm,0.5s
KPKS Kokpek 26.97 61 *e*P **P 08 03 23.2 +0.9**
baz=61
KPKS Kokpek 26.97 61 *e*P **P 08 03 23.1 +0.9**
PRGR Permogore 27.00 360 *e*P **P 08 03 18.5 -3.7**
PRGR pmax pmax
comp=Z,19nm,0.4s
MURB Monte Urbino 27.02 298 IAmb IAmb 08 03 26.9
comp=Z,41nm,1.5s
TDK Taldyqorghan 27.02 58 *e*P **P 08 03 23.1 +0.4**
baz=58
TDK Taldyqorghan 27.02 58 *e*P **P 08 03 23.1 +0.4**
UZB Uzynbulak 27.17 62 *e*P **P 08 03 25.4 +1.2**
baz=62
UZB Uzynbulak 27.17 62 *e*P **P 08 03 25.4 +1.2**
BIOA Bad Ischl, Aus 27.18 308 *i*P **P 08 03 24.9 +0.8**
comp=Z,9.7nm,0.7s
KBA Koelnbreinsper 27.20 307 *i*P **P 08 03 25.2 +0.8**
comp=Z,9.4nm,0.7s
GKP Gorka Klasztor 27.37 322 *e*P **P 08 03 27.1 +1.5**
SHLS Shalkode 27.49 62 *e*P **P 08 03 30.8 +3.8**
baz=62
SHLS Shalkode 27.49 62 *e*P **P 08 03 30.8 +3.8**
GERES GERESS Array B 27.50 311 P **P 08 03 27.0 +0.1**
comp=Z,2.1nm,0.8s,baz=346,slow=9.6,SNR=2.5
comp=Z,2.1nm,0.8s
KHC Kasperske Hory 27.67 311 *e*P **P 08 03 28.5 +0.1**
KHC Kasperske Hory 27.67 311⇑ *e*P **P 08 03 27.4 -1.0**
ABTA Abfaltersbach 27.67 306 *e*P **P 08 03 29.4 +0.9**
comp=Z,5.2nm,0.9s
LESA Schwarzleotal 27.73 307 *i*P **P 08 03 29.4 +0.3**
comp=Z,4.6nm,0.7s
WTTA Wattenberg 28.38 307 *e*P **P 08 03 35.1 +0.1**
comp=Z,6.9nm,0.8s
WATA Walderalm 28.43 307 *i*P **P 08 03 35.2 -0.2**
comp=Z,5.1nm,0.6s
SQTA Sankt Quirin 28.65 306 *i*P **P 08 03 37.1 -0.1**
comp=Z,7.9nm,0.7s
KURBB Kurchatov Arra 28.67 46 P **P 08 03 38.1 +0.8**
comp=Z,5.0nm,0.8s,baz=251,slow=8.8,SNR=23
KURBB PcP **PcP 08 06 45.5 -2.1**
comp=Z,3.7nm,0.7s,baz=244,slow=2.9,SNR=15
comp=Z,5.0nm,0.8s
MOTA Moosalm 28.75 307 *i*P **P 08 03 37.6 -0.6**
comp=Z,7.7nm,0.7s
KURK Kurchatov 28.76 46 P **P 08 03 40.2 +2.2**
KURK Kurchatov 28.76 46 *ce*P **P 08 03 39.8 +1.8**
KURK pmax pmax
comp=Z,13nm,1.3s
KURK Kurchatov 28.76 46 P **P 08 03 40.2 +2.2**
CLL Collm 28.80 315 *e*P **P 08 03 39.0 +0.6**
comp=Z,14nm,1.3s
CLL AMS AMS 08 17 00.0
comp=Z,100nm,20.8s
CLL Collm 28.80 315 *e*P **P 08 03 39.0 +0.6**
CLL pmax pmax
comp=Z,14nm,1.3s
FETA Feichten 28.93 306 *i*P **P 08 03 39.8 0.0**
comp=Z,3.9nm,0.6s
RETA Reute 29.01 307 *i*P **P 08 03 39.7 -0.7**
comp=Z,1.4nm,0.4s
VSL Villasalto 29.21 290 P **P 08 03 41.4 -0.9**
DAVA Damuels 29.55 306 *i*P **P 08 03 44.8 -0.5**
comp=Z,3.8nm,0.6s
FINES FINESS Array B 29.58 341 P **P 08 03 45.1 -0.1**
FINES FINESS Array B 29.58 341 *i*P **P 08 03 45.7 +0.5**
FINES pmax pmax
comp=Z,11nm,1.0s
FINES FINESS Array B 29.58 341 P **P 08 03 44.8 -0.4**
comp=Z,11nm,1.0s,baz=146,slow=9.2,SNR=15
comp=Z,11nm,1.0s
KEST Kesra 29.59 283 P **P 08 03 45.6 -0.1**
comp=Z,5.3nm,0.9s,baz=242,slow=5.2,SNR=4.2
comp=Z,5.3nm,0.9s
SEM Semipalatinsk 29.63 47 *e*P **P 08 03 47.7 +1.6**
baz=47
SEM Semipalatinsk 29.63 47 *e*P **P 08 03 47.6 +1.6**
MK31 Makanchi Array 30.02 55 *e*P **P 08 03 50.8 +1.4**
MKAR Makanchi Array 30.02 55 P **P 08 03 49.4 0.0**
comp=Z,2.6nm,0.6s,baz=248,slow=6.4,SNR=12
MKAR PcP **PcP 08 06 50.1 -1.1**
comp=Z,1.6nm,0.7s,baz=249,slow=3.4,SNR=3.8
comp=Z,2.6nm,0.6s
RAF Rauma 30.52 337 *e*P **P 08 03 52.7 -0.8**
VIKU Vikbolandet 30.63 330 *e*P **P 08 03 55.2 +0.7**
DEL Delary 30.71 325 *e*P **P 08 03 55.9 +0.6**
BNI Bardonecchia 31.40 301 P **P 08 04 01.4 -0.3**
BNI IAmb IAmb 08 04 19.8
comp=Z,18nm,0.9s
BNI Bardonecchia 31.40 301 P **P 08 04 01.4 -0.3**
BNI pmax pmax
comp=Z,18nm,0.9s
PYUN Piuthan 32.40 91 *e*P **P 08 04 10.1 -0.6**
comp=Z,19nm,0.5s
HFS Hagfors 32.85 331 P **P 08 04 14.3 +0.3**
comp=Z,16nm,0.7s,baz=140,slow=7.7,SNR=23
comp=Z,16nm,0.7s
DANN Dangsing 32.95 90 *e*P **P 08 04 15.9 +0.3**
KOLN Koldanda 33.03 91 *e*P **P 08 04 15.7 -0.5**
comp=Z,63nm,1.4s
ZAA0 Zalesovo Array 33.45 43 IAmb IAmb 08 04 27.9
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 33.45 43 *i*P **P 08 04 21.2 +1.9**
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV Zalesovo Beam 33.45 43 P **P 08 04 20.1 +0.8**
comp=Z,3.3nm,0.4s,baz=251,slow=9.2,SNR=11
ZALV LR LR 08 19 40.5
comp=Z,44nm,21.4s,baz=256,slow=39
comp=Z,3.3nm,0.4s
GKN Gorkha 33.80 90 *e*P **P 08 04 22.7 -0.1**
comp=Z,58nm,0.6s
DGZ Jazzator, Alta 33.93 51⇓ *i*P **P 08 04 25.8 +2.0**
DGZ pmax pmax
comp=Z,12nm,1.2s
NC405 NORSAR Array S 34.22 331 P **P 08 04 26.2 +0.3**
NB2 NORSAR Subarra 34.37 331 P **P 08 04 26.7 -0.6**
comp=Z,4.6nm,0.8s,baz=125,slow=8.6
NB2 NORSAR Subarra 34.37 331 P P 08 04 33.8 +6.5
NOA NORSAR Array B 34.37 331 P **P 08 04 27.1 -0.2**
comp=Z,2.6nm,0.7s,baz=125,slow=8.7,SNR=9.5
comp=Z,2.6nm,0.7s
PKIN Phulchoki 34.58 91 *e*P **P 08 04 29.7 -0.1**
comp=Z,38nm,0.6s
PKI Pulchoki 34.59 91 *e*P **P 08 04 29.7 -0.2**
comp=Z,40nm,0.7s
GUN Gumba 34.85 90 *e*P **P 08 04 32.1 -0.1**
comp=Z,142nm,0.9s
JIRN Jiri 35.20 90 *e*P **P 08 04 35.3 0.0**
comp=Z,65nm,0.6s
RAMN Ramite 35.80 91 *e*P **P 08 04 40.2 -0.1**
comp=Z,100nm,0.7s
KMBO Kilima Mbogo 36.46 194 LR LR 08 19 47.1
comp=Z,120nm,19.1s,baz=14,slow=37
ODAN Odare 36.49 91 *e*P **P 08 04 46.2 0.0**
comp=Z,46nm,0.8s
TAPN Taplejung 36.57 90 *e*P **P 08 04 47.0 +0.1**
comp=Z,82nm,0.8s
ARCES ARCESS Array B 36.67 348 P **P 08 04 47.4 +0.4**
comp=Z,9.5nm,0.9s,baz=165,slow=8.6,SNR=19
comp=Z,9.5nm,0.9s
LSA Lhasa 38.57 84 P **P 08 05 02.8 -1.2**
LSA IAmb IAmb 08 05 06.3
comp=Z,11nm,0.8s
LSA Lhasa 38.57 84 P **P 08 05 02.8 -1.2**
LSA pmax pmax
comp=Z,11nm,0.8s
EKA Eskdalemuir Ar 39.22 317 P **P 08 05 08.6 0.0**
comp=Z,3.0nm,0.5s,baz=101,slow=9.0,SNR=15
comp=Z,3.0nm,0.5s
ESDC Sonseca Array 39.45 292 P **P 08 05 10.8 0.0**
comp=Z,2.4nm,0.8s,baz=63,slow=8.4,SNR=20
ESDC PcP **PcP 08 07 18.8 +0.1**
comp=Z,2.0nm,0.8s,baz=47,slow=3.4,SNR=9.6
ESDC LR LR 08 22 24.8
comp=Z,48nm,18.5s,baz=96,slow=38
comp=Z,2.4nm,0.8s
TOA0 Torodi Ar. Sit 45.09 253 P **P 08 05 56.3 -0.7**
TOA0 IAmb IAmb 08 06 02.8
comp=Z,8.3nm,1.1s
TORD Torodi Ar. Bea 45.09 253 P **P 08 05 55.8 -1.2**
TORD Torodi Ar. Bea 45.09 253 P **P 08 05 56.3 -0.6**
comp=Z,2.2nm,0.6s,baz=52,slow=5.6,SNR=18
TORD PcP **PcP 08 07 37.1 -0.5**
comp=Z,1.7nm,0.7s,baz=39,slow=4.3,SNR=4.8
comp=Z,2.2nm,0.6s
SPITS Spitsbergen Ar 45.40 352 P **P 08 05 59.4 +0.8**
comp=Z,2.4nm,0.5s,baz=144,slow=11,SNR=28
comp=Z,2.4nm,0.5s
SONM Songino Array 46.39 54 P **P 08 06 07.8 +0.8**
comp=Z,0.5nm,0.5s,baz=263,slow=10,SNR=4.0
SONM PcP **PcP 08 07 41.4 -0.4**
comp=Z,3.3nm,0.9s,baz=251,slow=4.5,SNR=7.9
comp=Z,0.5nm,0.5s
ULN Ulaanbaatar 46.82 54 P **P 08 06 10.0 -0.4**
ULN IAmb IAmb 08 06 12.6
comp=Z,5.6nm,0.8s
ULN Ulaanbaatar 46.82 54 *ce*P **P 08 06 11.3 +0.8**
ULN pmax pmax
comp=Z,8.0nm,1.1s
CHTO Chiang Mai 49.59 94 P **P 08 06 30.2 -1.8**
CHTO IAmb IAmb 08 06 31.6
comp=Z,11nm,0.8s
CHTO Chiang Mai 49.59 94 P **P 08 06 30.2 -1.8**
CHTO pmax pmax
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 49.77 95 P **P 08 06 32.5 -0.9**
comp=Z,11nm,0.7s,baz=294,slow=8.6,SNR=15
CMAR LR LR 08 31 36.6
comp=Z,38nm,18.0s,baz=195,slow=41
comp=Z,11nm,0.7s
DBG Daneborg 50.48 341 *i*P **P 08 06 39.0 +1.1**
DBG IAmb IAmb 08 06 41.2
comp=Z,6.6nm,1.1s
DAG Danmarks Havn 50.72 344 *i*P **P 08 06 39.7 -0.1**
DAG IAmb IAmb 08 06 40.7
comp=Z,4.5nm,0.8s
NOR Nord 51.96 350 *i*P **P 08 06 48.1 -1.0**
NOR IAmb IAmb 08 06 50.6
comp=Z,5.4nm,1.0s
DBIC Dimbokro 54.12 251 P **P 08 07 05.0 -0.8**
comp=Z,4.6nm,0.5s,baz=39,slow=7.1,SNR=12
DBIC LR LR 08 33 09.5
comp=Z,65nm,19.6s,baz=34,slow=39
comp=Z,4.6nm,0.5s
KIC Kosan Boka 54.23 251⇑ *e*P **P 08 07 05.9 -0.7**
comp=Z,27nm,0.8s
TIC Toumodi 54.27 251⇑ *i*P **P 08 07 05.9 -1.0**
comp=Z,8.2nm,0.8s
LIC Lamto 54.53 251⇑ *i*P **P 08 07 08.1 -0.7**
comp=Z,14nm,0.5s
TIXI Tiksi 55.40 22 P **P 08 07 14.7 +0.4**
TIXI IAmb IAmb 08 07 15.6
comp=Z,5.3nm,0.8s
TIXI Tiksi 55.40 22 P **P 08 07 14.7 +0.4**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
SUMG Summit 55.58 339 *i*P **P 08 07 18.1 +2.0**
SUMG IAmb IAmb 08 07 20.1
comp=Z,7.4nm,1.0s
YAK Yakutsk 57.34 34 *e*P **P 08 07 30.2 +1.9**
YAK *e**PP **sP 08 07 36.9 +2.7**
YAK *e* 08 08 20.5
YAK *e* 08 09 36.0
YAK *e*PPP PPP 08 10 52.3
YAK *e*S **S 08 15 27.5 +3.4**
YAK *e**SS sS 08 15 47.1 +16
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,207nm,5.7s
YAK pmax pmax
comp=N,214nm,6.1s
YAK pmax pmax
comp=E,183nm,6.7s
YAK smax smax
comp=E,181nm,6.8s
YAK smax smax
comp=N,85nm,4.5s
YAK Yakutsk 57.34 34 LR LR 08 36 07.5
comp=N,4.7nm,18.1s,baz=284,slow=40
ZEA Zeya 58.20 44 *e*P **P 08 07 36.2 +1.7**
DY2G Dye2 59.51 332 *i*P **P 08 07 43.5 -0.2**
LBTB Lobatse 62.32 201 P **P 08 08 02.7 -0.3**
LBTB Lobatse 62.32 201 P **P 08 08 02.7 -0.3**
LBTB pmax pmax
comp=Z,10.0nm,0.9s
KLR Kul'dur 62.34 48⇑ *e*P **P 08 08 02.5 -0.4**
KLR pmax pmax
comp=Z,18nm,2.7s
KLR Kul'dur 62.34 48 LR LR 08 38 10.8
comp=Z,45nm,18.3s,baz=303,slow=39
KSAR Wonju Array Be 64.44 61 P **P 08 08 15.1 -1.9**
KSAR Wonju Array Be 64.44 61 P **P 08 08 15.1 -1.9**
USA0B Ussuriysk Arra 64.46 53⇑ *e*P **P 08 08 15.6 -1.4**
USRK Ussuriysk Ar. 64.46 53 P **P 08 08 16.3 -0.7**
comp=Z,5.7nm,0.7s,baz=266,slow=7.8,SNR=6.6
comp=Z,5.7nm,0.7s
KSRS Korea Array 64.47 61 P **P 08 08 16.6 -0.5**
comp=Z,4.4nm,0.7s,baz=284,slow=7.0,SNR=12
KSRS LR LR 08 41 10.7
comp=Z,36nm,18.9s,baz=185,slow=40
comp=Z,4.4nm,0.7s
BOSA Boshof 65.82 200 P **P 08 08 25.8 -0.2**
comp=Z,6.4nm,0.7s,baz=17,slow=5.7,SNR=9.6
comp=Z,6.4nm,0.7s
SEY Seymchan 66.75 28⇑ *i*P **P 08 08 32.7 +1.3**
SEY pmax pmax
comp=Z,6.0nm,0.6s
SEY Seymchan 66.75 28 LR LR 08 43 04.9
comp=Z,44nm,19.6s,baz=358,slow=41
MA2 Magadan 67.80 32⇑ *e*P **P 08 08 38.6 +0.4**
MA2 pmax pmax
comp=Z,28nm,1.3s
MA2 Magadan 67.80 32 LR LR 08 41 28.4
comp=Z,28nm,18.5s,baz=323,slow=39
BILL Bilibino 68.50 20 *e*P **P 08 08 43.4 +1.0**
FRB Frobisher Bay 69.10 334 LR LR 08 40 07.6
comp=Z,46nm,18.2s,baz=48,slow=37
SUR Sutherland 70.65 202 LR LR 08 40 34.9
comp=Z,90nm,19.2s,baz=6.5,slow=36
ASAJ Asahikawa 71.28 49 LR LR 08 45 06.7
comp=Z,61nm,18.0s,baz=100,slow=40
MAJO Matsushiro 72.18 58⇑ *e*P **P 08 09 03.3 -2.2**
MAJO pmax pmax
comp=Z,14nm,1.4s
MJAR Matsushiro Arr 72.18 58 P **P 08 09 05.2 -0.3**
comp=Z,3.4nm,1.0s,baz=305,slow=8.7,SNR=4.4
comp=Z,3.4nm,1.0s
A36M Sachs Harbour 73.46 357 P **P 08 09 12.5 0.0**
A36M Sachs Harbour 73.46 357 P **P 08 09 13.6 +1.1**
baz=7.7
A22K Sinclair Lake 73.61 7 P **P 08 09 13.6 +0.3**
baz=342
A19K Wainwright 73.66 9 P **P 08 09 14.3 +0.6**
baz=337
B20K Meade River 74.32 8 P **P 08 09 18.4 +0.9**
baz=340
B18K Kokolik River 74.34 10 P **P 08 09 19.0 +1.4**
baz=337
B22K Teshekpuk Lake 74.40 7 P **P 08 09 18.9 +1.0**
baz=344
PEA0B Petropavlovsk- 74.63 35⇓ *e*P **P 08 09 17.8 -1.8**
C16K Lisburne Hills 74.79 11 P **P 08 09 21.0 +0.7**
baz=334
C19K Lookout Ridge 74.88 9 P **P 08 09 21.5 +0.7**
baz=338
C17K DeLong Mountai 74.95 11 P **P 08 09 21.8 +0.5**
baz=336
B21K Ikpikpuk River 74.97 7 P **P 08 09 21.9 +0.6**
baz=343
C18K Utukok River 75.08 10 P **P 08 09 22.6 +0.5**
baz=337
C23K Itkillik River 75.14 6 P **P 08 09 23.1 +0.9**
baz=346
RDOG Red Dog Mine 75.38 11 P **P 08 09 24.6 +0.9**
baz=336
C21K Knifeblade Rid 75.40 7 P **P 08 09 24.3 +0.5**
baz=343
C24K Franklin Bluff 75.40 5 P **P 08 09 24.9 +1.1**
baz=348
C26K Camden Bay 75.44 4 P **P 08 09 25.4 +1.3**
baz=351
D20K Etivluk River 75.62 8 P **P 08 09 25.6 +0.5**
baz=341
D19K Kuna River 75.64 9 P **P 08 09 25.1 -0.2**
baz=340
D17K Noatak River 75.68 11 P **P 08 09 25.8 +0.4**
baz=336
D22K Ayikyak River 75.88 7 P **P 08 09 27.0 +0.4**
baz=344
D24K Happy Valley 75.95 5 P **P 08 09 27.4 +0.5**
baz=348
D25K Kavik River 75.95 4 P **P 08 09 27.4 +0.4**
baz=350
D23K Nanushuk River 75.98 6 P **P 08 09 27.5 +0.3**
baz=346
C36M Paulatuk 76.03 356 P **P 08 09 26.8 -0.6**
C36M Paulatuk 76.03 356 P **P 08 09 27.2 -0.2**
baz=8.6
E20K Nigu River 76.10 8 P **P 08 09 28.4 +0.5**
baz=342
E21K Killik River 76.17 7 P **P 08 09 27.8 -0.5**
baz=343
D28M Stokes Point 76.27 2 P **P 08 09 29.4 +0.7**
baz=356
D27M Malcolm River 76.29 2 P **P 08 09 29.6 +0.6**
baz=354
E18K Tukpahlearik C 76.31 10 P **P 08 09 29.3 +0.3**
baz=338
TOLK Toolik Lake Re 76.39 6 IAmb IAmb 08 09 31.1
comp=Z,5.9nm,0.8s
TOLK Toolik Lake Re 76.39 6 P **P 08 09 30.3 +0.7**
baz=347
E17K Hotham Inlet 76.44 11 P **P 08 09 29.7 0.0**
baz=337
E22K Anaktuvuk Pass 76.69 7 P **P 08 09 31.6 +0.4**
baz=345
E19K Redstone River 76.73 9 IAmb IAmb 08 09 38.3
comp=Z,17nm,1.4s
E19K Redstone River 76.73 9 P **P 08 09 32.3 +0.9**
baz=341
E23K Chandalar 76.96 6 P **P 08 09 33.7 +0.9**
baz=347
E28M Babbage River 76.98 2 P **P 08 09 33.7 +0.9**
baz=356
E24K Your Creek 77.03 5 IAmb IAmb 08 11 06.9
comp=Z,26nm,1.9s
E24K Your Creek 77.03 5 P **P 08 09 34.0 +0.8**
baz=348
F17K Baldwin Pennin 77.12 11 P **P 08 09 34.3 +0.7**
baz=337
F14K Arctic Creek 77.14 13 P **P 08 09 34.1 +0.4**
baz=333
E25K Arctic Village 77.19 4 IAmb IAmb 08 09 35.8
comp=Z,15nm,1.5s
E25K Arctic Village 77.19 4 P **P 08 09 34.2 +0.2**
baz=350
E29M Blow River 77.23 1 **P 08 09 33.7 -0.5**
E29M IAmb IAmb 08 09 36.1
comp=Z,10.0nm,0.9s
E29M Blow River 77.23 1 P **P 08 09 34.9 +0.7**
baz=357
F19K Shaleruckik Mo 77.25 9 P **P 08 09 34.4 +0.1**
baz=340
F22K John River 77.26 7 P **P 08 09 35.7 +1.3**
baz=345
F20K Avaraart Lake 77.31 8 P **P 08 09 35.3 +0.7**
baz=342
E27K Coleen River 77.33 3 P **P 08 09 35.5 +0.7**
baz=354
INK Inuvik 77.35 360 P **P 08 09 34.8 0.0**
baz=0.6
F21K Alatna River 77.40 8 IAmb IAmb 08 09 52.2
comp=Z,7.0nm,1.1s
F21K Alatna River 77.40 8 P **P 08 09 35.6 +0.4**
baz=344
F24K Squaw Lake 77.62 5 P **P 08 09 37.3 +0.8**
baz=348
F26K Sheenjek River 77.70 4 P **P 08 09 36.3 -0.6**
baz=352
F25K Christian Rive 77.71 4 P **P 08 09 37.3 +0.4**
baz=350
COLD Coldfoot 77.72 6 P **P 08 09 37.6 +0.7**
baz=347
G22K Bettles 77.89 7 P **P 08 09 38.6 +0.7**
baz=346
G16K Koyuk River 77.92 12 P **P 08 09 38.3 +0.3**
baz=337
F28M Old Crow 77.96 2 P **P 08 09 38.7 +0.3**
baz=355
G19K Purcell Mounta 78.00 9 IAmb IAmb 08 09 40.2
comp=Z,8.9nm,0.8s
G19K Purcell Mounta 78.00 9 P **P 08 09 39.0 +0.5**
baz=341
G18K Tagagawik 78.02 10 P **P 08 09 38.9 +0.2**
baz=340
F30M Barrier River 78.04 1 P **P 08 09 39.2 +0.5**
baz=359
G21K Allakaket 78.08 8 P **P 08 09 39.3 +0.3**
baz=344
G17K Kiwalik Mounta 78.09 11 P **P 08 09 39.3 +0.2**
baz=338
F31M Tsiigehtchic 78.22 360 IAmb IAmb 08 09 40.9
comp=Z,12nm,0.8s
F31M Tsiigehtchic 78.22 360 P **P 08 09 40.1 +0.4**
baz=0.4,SNR=8.3
G23K Bananza Creek 78.24 6 P **P 08 09 40.7 +0.8**
baz=347
G26K Porcupine Rive 78.46 4 P **P 08 09 42.5 +1.5**
baz=352
G24K Hadweenzic Riv 78.46 5 P **P 08 09 42.0 +0.9**
baz=349
G25K Bearman Lake 78.50 5 P **P 08 09 42.1 +0.8**
baz=350
H16K Elim 78.63 12 P **P 08 09 42.4 +0.4**
baz=337
H19K Roundabout Mou 78.67 9 P **P 08 09 42.3 +0.1**
baz=342
G30M tAoh Zraii Nji 78.67 1 P **P 08 09 42.4 +0.1**
baz=358,SNR=6.7
G27K Doyon Strip 78.70 3 IAmb IAmb 08 09 44.2
comp=Z,6.0nm,0.9s
G27K Doyon Strip 78.70 3 P **P 08 09 43.8 +1.3**
baz=354
G29M Pine Creek 78.71 1 IAmb IAmb 08 09 44.0
comp=Z,9.3nm,0.9s
G29M Pine Creek 78.71 1 P **P 08 09 43.4 +0.9**
baz=357
H17K Granite Mounta 78.73 11 P **P 08 09 43.2 +0.6**
baz=339
G31M Satah River 78.74 360 **P 08 09 42.8 +0.2**
G31M Satah River 78.74 360 P **P 08 09 42.9 +0.3**
baz=360,SNR=9.9
H20K Anotleneega Mo 78.90 9 P **P 08 09 44.5 +0.9**
baz=343
H22K Ilitlatina Cre 78.91 7 P **P 08 09 44.9 +1.3**
baz=346
H21K Melozitna Rive 78.99 8 IAmb IAmb 08 09 46.5
comp=Z,18nm,1.4s
H21K Melozitna Rive 78.99 8 P **P 08 09 45.1 +1.0**
baz=344
EPYK Eagle Plains 79.28 1 P **P 08 09 46.1 +0.5**
baz=358
H24K Noodor Dome 79.28 6 P **P 08 09 46.8 +1.1**
baz=349
H27K Steamboat Moun 79.28 3 P **P 08 09 46.8 +1.2**
baz=354
GCSA Galena City Sc 79.36 10 P **P 08 09 47.1 +1.1**
baz=341
H29M Whitestone 79.40 2 IAmb IAmb 08 09 47.8
comp=Z,6.6nm,0.8s
H29M Whitestone 79.40 2 P **P 08 09 47.4 +1.1**
baz=356
I21K Tanana 79.54 7 IAmb IAmb 08 09 48.8
comp=Z,12nm,1.1s
I21K Tanana 79.54 7 P **P 08 09 48.1 +1.1**
baz=345
I17K Unalakleet 79.59 12 P **P 08 09 47.3 0.0**
baz=338
I20K Naaghedeneel 79.62 9 P **P 08 09 47.6 +0.2**
baz=343
MLY Manley 79.81 7 P **P 08 09 49.5 +0.9**
baz=346
I23K Minto, Yukon-K 79.83 6 P **P 08 09 49.9 +1.3**
baz=347
H31M Peel River 79.86 360 IAmb IAmb 08 10 09.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,17nm,1.4s						
H31M	**Peel River**	**79.86**	**360**	P	**P**	**08 09 49.6**	**+0.7**
	baz=360						
I27K	**Kandik River**	**79.91**	**3**	P	**P**	**08 09 48.5**	**-0.6**
	baz=354						
POKR	**Poker Plat Res**	**80.03**	**6**	IAmb	IAmb	08 09 51.8	
	comp=Z,7.1nm,0.9s						
POKR	**Poker Plat Res**	**80.03**	**6**	P	**P**	**08 09 50.6**	**+0.9**
	baz=349						
MDM	**Murphy Dome**	**80.12**	**6**	P	**P**	**08 09 51.2**	**+1.0**
MDM				IAmb	IAmb	08 09 52.1	
	comp=Z,8.3nm,1.0s						
I28M	**Miner Creek**	**80.13**	**2**		**P**	**08 09 50.5**	**+0.2**
I28M	**Miner Creek**	**80.13**	**2**	P	**P**	**08 09 50.8**	**+0.5**
	baz=355						
J14K	**Nanvaranak Lak**	**80.14**	**13**	P	**P**	**08 09 51.2**	**+0.9**
	baz=336						
J16K	**Anvik River**	**80.17**	**12**	P	**P**	**08 09 51.9**	**+1.4**
	baz=338						
J19K	**Poorman**	**80.25**	**9**	P	**P**	**08 09 52.2**	**+1.3**
	baz=342						
J20K	**Nowinta River**	**80.26**	**9**	P	**P**	**08 09 52.0**	**+1.0**
	baz=343						
I29M	**Ogilvie Camp,**	**80.26**	**2**	P	**P**	**08 09 51.3**	**+0.4**
	baz=357						
NEA2	**Nenana**	**80.40**	**6**	P	**P**	**08 09 52.7**	**+1.0**
	baz=348						
ILAR	**Eielson Array**	**80.41**	**5**	P	**P**	**08 09 51.6**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=331,slow=4.2,SNR=21						
ILAR				PKKPbc	**PKKPbc**	**08 28 32.5**	**-1.2**
	comp=Z,0.7nm,0.9s,baz=234,slow=4.5,SNR=5.3						
	comp=Z,1.9nm,0.8s						
I30M	**Mount Dempster**	**80.44**	**1**	IAmb	IAmb	08 09 53.5	
	comp=Z,6.1nm,0.8s						
I30M	**Mount Dempster**	**80.44**	**1**	P	**P**	**08 09 52.1**	**0.0**
	baz=358						
J18K	**Innoko River**	**80.60**	**10**	P	**P**	**08 09 53.4**	**+0.6**
	baz=341						
K13K	**Kusilvak Mount**	**80.67**	**14**	P	**P**	**08 09 52.5**	**-0.6**
	baz=335						
J25K	**Salcha River,**	**80.68**	**5**	P	**P**	**08 09 53.0**	**-0.3**
	baz=351						
BPAW	**Bear Paw Mtn.**	**80.70**	**7**	P	**P**	**08 09 53.9**	**+0.5**
	baz=346						
EGAK	**Eagle**	**80.75**	**3**	P	**P**	**08 09 54.3**	**+0.7**
	baz=354						
CHUM	**Lake Minchumin**	**80.76**	**8**	P	**P**	**08 09 54.2**	**+0.6**
	baz=345						
HDA	**Harding Lake**	**80.77**	**6**	P	**P**	**08 09 53.7**	**0.0**
	baz=349						
HDA				P	**P**	**08 09 53.7**	**0.0**
	baz=349						
J26L	**Joseph Creek**	**80.91**	**4**	P	**P**	**08 09 55.0**	**+0.5**
	baz=352						
K15K	**Wolf Creek Mou**	**80.93**	**12**	P	**P**	**08 09 55.2**	**+0.6**
	baz=338						
K20K	**Telida**	**81.06**	**9**	P	**P**	**08 09 56.1**	**+0.9**
	baz=344						
K17K	**Iditarod**	**81.07**	**11**	P	**P**	**08 09 56.3**	**+1.0**
	baz=340						
PKME	**Peaks-Kenny Pk**	**81.07**	**320**	P	**P**	**08 09 57.0**	**+1.4**
	baz=49						
J30M	**Hart River**	**81.09**	**1**	P	**P**	**08 09 55.9**	**+0.3**
	baz=358						
TTA	**Tatalina**	**81.21**	**10**	P	**P**	**08 09 56.8**	**+0.7**
	baz=342						
CAST	**Castle Rocks**	**81.24**	**8**	P	**P**	**08 09 57.2**	**+1.0**
	baz=345						
MCK	**McKinley**	**81.26**	**7**	P	**P**	**08 09 57.1**	**+0.8**
	baz=348						
SCRK	**Sand Creek**	**81.40**	**4**	P	**P**	**08 09 58.0**	**+0.8**
	baz=352,SNR=5.1						
TRF	**Thorofare Moun**	**81.40**	**7**	P	**P**	**08 09 57.7**	**+0.4**
	baz=347						
K24K	**Donnelly Dome**	**81.45**	**5**	P	**P**	**08 09 57.9**	**+0.5**
	baz=350						
K27K	**Chicken**	**81.45**	**3**	P	**P**	**08 09 58.3**	**+0.9**
	baz=354						
L15K	**Ungalak Mounta**	**81.51**	**13**	P	**P**	**08 09 58.4**	**+0.7**
	baz=338						
DAWY	**Dawson**	**81.53**	**2**	P	**P**	**08 09 58.6**	**+0.8**
	baz=356						
RIDG	**Independent Ri**	**81.58**	**5**	P	**P**	**08 09 58.9**	**+0.8**
	baz=351						
L14K	**Kuka Creek**	**81.59**	**13**	P	**P**	**08 09 58.6**	**+0.5**
	baz=337						
L17K	**Donlin**	**81.62**	**11**	P	**P**	**08 09 59.7**	**+1.4**
	baz=340						
PPLA	**Purkeypile**	**81.73**	**8**	P	**P**	**08 09 59.6**	**+0.6**
	baz=345						
L18K	**Granite Mounta**	**81.79**	**10**	P	**P**	**08 09 60.0**	**+0.9**
	baz=341						
K29M	**Barlow Dome**	**81.80**	**1**	P	**P**	**08 09 59.9**	**+0.6**
	baz=357						
L16K	**Owhat River**	**81.83**	**12**	P	**P**	**08 09 59.7**	**+0.4**
	baz=339						
YKA	**Yellowknife Ar**	**81.89**	**351**	P	**P**	**08 09 59.6**	**0.0**
YKA	**Yellowknife Ar**	**81.89**	**351**	*i* P	**P**	**08 09 59.4**	**-0.2**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKA	**Yellowknife Ar**	**81.89**	**351**	P	**P**	**08 09 59.4**	**-0.2**
	comp=Z,3.5nm,0.9s,baz=13,slow=5.5,SNR=29						
	comp=Z,3.5nm,0.9s						
L20K	**Farewell, AK**	**81.93**	**9**	P	**P**	**08 10 00.5**	**+0.6**
	baz=344						
WRGLY	**Wrigley**	**82.06**	**355**	P	**P**	**08 10 01.7**	**+1.1**
	baz=8.9						
L19K	**White Mountain**	**82.09**	**10**	P	**P**	**08 10 01.6**	**+0.9**
	baz=343						
SHEM	**Shemya Is, Ala**	**82.09**	**29**	LR	LR	08 50 45.1	
	comp=Z,27nm,18.5s,baz=288,slow=39						
M14K	**Bethel**	**82.28**	**13**	P	**P**	**08 10 02.9**	**+1.2**
	baz=337						
L26K	**Log Cabin Wild**	**82.39**	**4**	P	**P**	**08 10 03.4**	**+1.1**
	baz=352						
L27K	**Beaver Creek,**	**82.43**	**3**	P	**P**	**08 10 03.4**	**+0.8**
	baz=354						
M17K	**Holitna River**	**82.45**	**11**	P	**P**	**08 10 03.4**	**+0.8**
	baz=341						
WAT6	**Susitna Watana**	**82.50**	**6**	P	**P**	**08 10 03.5**	**+0.4**
	baz=349						
L29M	**L29M**	**82.52**	**2**	P	**P**	**08 10 04.2**	**+1.2**
	baz=357						
M16K	**Timber Creek**	**82.56**	**12**	P	**P**	**08 10 04.3**	**+1.1**
	baz=340						
M15K	**Kasigluk River**	**82.57**	**13**	P	**P**	**08 10 03.7**	**+0.5**
	baz=338						
M20K	**Styx River**	**82.60**	**9**	P	**P**	**08 10 04.2**	**+0.7**
	baz=344						
M18K	**Stony River**	**82.61**	**10**	P	**P**	**08 10 03.6**	**+0.2**
	baz=342						
SKT	**Skwentna**	**82.70**	**8**	P	**P**	**08 10 04.3**	**+0.4**
	baz=346						
M30M	**Minto, Yukon**	**83.08**	**1**	P	**P**	**08 10 07.1**	**+1.2**
	baz=358						
M24K	**Tolsona, Glenn**	**83.10**	**6**	P	**P**	**08 10 06.7**	**+0.7**
	baz=350						
N16K	**Nishlik Lake**	**83.11**	**12**	P	**P**	**08 10 06.9**	**+0.8**
	baz=340						
M27K	**Edge Creek, AK**	**83.13**	**4**	P	**P**	**08 10 06.0**	**-0.3**
	baz=354						
M29M	**Somme Creek**	**83.18**	**2**	P	**P**	**08 10 06.9**	**+0.4**
	baz=356						
SML	**Sawmill**	**83.21**	**7**	P	**P**	**08 10 06.8**	**+0.2**
	baz=348						
SUA	**Susitna One**	**83.29**	**8**	P	**P**	**08 10 07.7**	**+0.6**
	baz=346						
PMR	**Palmer**	**83.34**	**7**	P	**P**	**08 10 08.0**	**+0.8**
	baz=348						
N18K	**Kilae Creek**	**83.38**	**10**	P	**P**	**08 10 08.1**	**+0.7**
	baz=342						
FARO	**Faro, Yukon**	**83.45**	**360**	P	**P**	**08 10 08.1**	**+0.3**
	baz=0.7						
N19K	**Bonanza Creek**	**83.45**	**10**	P	**P**	**08 10 08.1**	**+0.1**
	baz=343						
M31M	**Drury Creek, Y**	**83.48**	**0**	P	**P**	**08 10 08.1**	**+0.1**
	baz=360						
KNK	**Knik Glacier**	**83.58**	**7**	P	**P**	**08 10 08.0**	**-0.6**
	baz=348						
KLU	**Klutina**	**83.73**	**6**	P	**P**	**08 10 10.0**	**+0.6**
	baz=350						
RC01	**Rabbit Creek A**	**83.77**	**7**	P	**P**	**08 10 09.9**	**+0.5**
	baz=347						
YUK3	**Moose Creek**	**83.78**	**3**	P	**P**	**08 10 10.2**	**+0.5**
	baz=355						
TGTN	**Hyland Airport**	**84.03**	**357**	P	**P**	**08 10 12.0**	**+1.2**
	baz=4.9						
O15K	**Ungalikthiuk R**	**84.14**	**13**	P	**P**	**08 10 12.5**	**+1.1**
	baz=339						
N30M	**Aishikik Lake**	**84.20**	**1**	P	**P**	**08 10 11.4**	**-0.3**
	baz=358						
O18K	**Koktuh Hills**	**84.27**	**10**	P	**P**	**08 10 11.5**	**-0.5**
	baz=343						
LONY	**Lake Ozonia**	**84.28**	**322**	P	**P**	**08 10 11.7**	**-0.7**
	baz=46						
YUK6	**Outpost Mounta**	**84.69**	**2**	P	**P**	**08 10 13.4**	**-1.0**
	baz=357						
P33M	**Teslin, Yukon**	**85.47**	**359**	P	**P**	**08 10 19.0**	**+0.8**
	baz=1.2						
LIRD	**Liard River Hi**	**86.03**	**356**	P	**P**	**08 10 22.0**	**+1.1**
	baz=6.7						
R33M	**Jennings River**	**86.26**	**358**	P	**P**	**08 10 22.9**	**+0.8**
	baz=2.7						
KDAK	**Kodiak Island**	**86.64**	**10**	LR	LR	08 54 12.3	
	comp=Z,26nm,19.6s,baz=57,slow=39						
WRA	**Warramunga Arr**	**100.03**	**107**	P	**Pdif**	**08 11 23.4**	**-2.8**
	comp=Z,0.7nm,0.7s,baz=316,slow=3.9,SNR=1.9						
	comp=Z,0.7nm,0.7s						
KSCO	**Kaye Shedlock'**	**101.04**	**335**	P	**Pdif**	**08 11 30.1**	**-0.5**
	baz=26						
TUL3	**Leonard**	**101.12**	**329**	P	**Pdif**	**08 11 30.7**	**-0.1**
	baz=31						
QSPA	**South Pole Qui**	**124.49**	**180**	PKP	**PKPdf**	**08 16 38.2**	**-0.7**
	comp=Z,6.1nm,0.9s,baz=259,slow=0.9,SNR=11						

*IDC **06** 08:02:02.8±1.1, 34°.42N×45°.42E, h0^{km}, mb3.8/14, mbtmp3.9/15, ML3.3/1, MS3.6/2, Error ellipse: s-maj=27.0km s-min=17.1km az=168.0*
*TEH **06** 08:02:07.1, 34°.58N×45°.71E, h6^{km}±36^{km}, ML4.1*
*ISN **06** 08:02:08.7±1.9, 34°.59N×45°.61E, h23^{km}±13^{km}, ML4.0*
ISC 06 08:02:06.9±1.3**, 34°.59N**±0°.03×**45°.68E**±0°.04**, h16**^{km}±9^{km}**, n41, σ1^{s}77**/43**, mb3.8**/14**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.60**	**79**	Pg	**Pg**	**08 02 17.9**	**-0.9**
IDHR				Sg	**Sb**	**08 02 27.2**	**-0.2**
IGHG	**Ghaleghazi**	**0.78**	**109**	Pg	**Pg**	**08 02 21.3**	**-0.9**
IGHG				Sg	**Sb**	**08 02 33.9**	**+1.1**
ILBA	**Ilam Banvizeh**	**1.06**	**155**	Pg	**Pg**	**08 02 26.1**	**-1.3**
ILIN	**Lien**	**1.11**	**73**	Pg	**Pg**	**08 02 27.8**	**-0.6**
ILIN				Sg	**Sn**	**08 02 44.3**	**+1.1**
KCHF	**Cheshme Sefid,**	**1.17**	**105**	Pg	**Pg**	**08 02 28.6**	**-1.0**
IBDR	**Badra**	**1.49**	**172**	*e*Pg	**Pn**	**08 02 34.5**	**+1.4**
IBDR				*e*Sg	**Sg**	**08 02 56.0**	**+0.9**
IBDR				AML	AML	08 02 58.8	
	comp=E,2µm,0.7s						
IBDR				AML	AML	08 02 59.1	
	comp=N,3µm,0.4s						
SDS1	**Sardasht. Az.**	**1.56**	**354**	Pg	**Pb**	**08 02 36.4**	**+0.8**
IKOM	**Komasi**	**1.57**	**105**	Pg	**Pb**	**08 02 35.9**	**+0.1**
BHD	**Baghdad**	**1.70**	**220**	*e*Pn	**Pg**	**08 02 39.5**	**-0.2**
BHD				*e*Sn	**Sn**	**08 02 59.5**	**+2.1**
BHD				AML	AML	08 03 11.4	
	comp=E,3µm,0.4s						
IBZA	**Bozab**	**1.81**	**93**	Pg	**Pn**	**08 02 39.3**	**+1.6**
IKFM	**Kafar-mosalman**	**2.09**	**120**	Pn	**Pn**	**08 02 43.2**	**+1.9**
MAHB	**Mahabad**	**2.17**	**1**	Pn	**Pn**	**08 02 45.3**	**+2.7**
HAGD	**Aghdareh**	**2.86**	**84**	Pn	**Pn**	**08 02 54.6**	**+2.5**
RAFI	**Al-Rafai**	**2.88**	**173**	*e*Pn	**Pn**	**08 02 55.5**	**+3.3**
RAFI				*e*Sn	**Sn**	**08 03 29.5**	**+3.0**
RAFI				AML	AML	08 03 55.9	
	comp=N,516nm,0.6s						
RAFI				AML	AML	08 03 56.2	
	comp=E,530nm,0.7s						
IHSH	**Hashtrud**	**3.00**	**25**	Pn	**Pn**	**08 02 56.8**	**+2.7**
ISRB	**Sarab**	**3.61**	**26**	Pn	**Pn**	**08 03 05.5**	**+3.1**
ISHB	**Shabestar**	**3.69**	**359**	Pn	**Pn**	**08 03 04.9**	**+1.4**
AMIS	**Naft Sefid**	**4.21**	**133**	Pn	**Pn**	**08 03 11.1**	**+0.6**
GRMI	**Germi**	**4.57**	**22**	Pn	**Pn**	**08 03 18.0**	**+2.5**
IPIR	**Pirpir**	**4.75**	**112**	Pn	**Pn**	**08 03 19.5**	**+1.3**
QAMS	**Qamsar**	**4.82**	**99**	Pn	**Pn**	**08 03 20.9**	**+1.8**
IVRN	**Varamin**	**5.00**	**84**	Pn	**Pn**	**08 03 24.1**	**+2.8**
ISFB	**Sefidab**	**5.43**	**91**	Pn	**Pn**	**08 03 28.1**	**+0.8**
AKTO	**Aktyubinsk**	**18.22**	**26**	P	**Pn**	**08 06 19.7**	**+0.7**
	comp=E,0.1nm,0.3s,baz=224,slow=12,SNR=3.6						
	comp=E,2.8nm,0.9s						
AKASG	**Malin Array Be**	**20.07**	**328**	P	**P**	**08 06 38.8**	**-0.6**
	comp=E,0.5nm,0.4s,baz=139,slow=10.0,SNR=2.9						
	comp=E,0.5nm,0.4s						
BVAR	**Borovoye Array**	**25.43**	**36**	P	**P**	**08 07 35.0**	**+1.3**
	comp=E,0.5nm,0.5s,baz=242,slow=7.0,SNR=2.0						
	comp=E,0.5nm,0.5s						
VRAC	**Vranov**	**25.95**	**313**	P	**P**	**08 07 35.9**	**-2.6**
	comp=E,3.8nm,0.5s,baz=76,slow=6.2,SNR=3.7						
	comp=E,3.8nm,0.5s						
GERES	**GERESS Array B**	**27.55**	**311**	P	**P**	**08 07 50.1**	**-2.9**
	comp=E,0.8nm,0.3s,baz=283,slow=17,SNR=1.8						
	comp=E,0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**28.71**	**46**	P	**P**	**08 08 04.2**	**+1.0**
	comp=E,1.4nm,1.0s,baz=275,slow=8.7,SNR=2.4						
	comp=E,1.4nm,1.0s						
FINES	**FINESS Array B**	**29.65**	**341**	P	**P**	**08 08 10.3**	**-1.1**
	comp=E,3.1nm,1.0s,baz=141,slow=12,SNR=1.8						
	comp=E,3.1nm,1.0s						
MKAR	**Makanchi Array**	**30.05**	**55**	P	**P**	**08 08 15.4**	**+0.3**
	comp=E,0.3nm,0.4s,baz=156,slow=42,SNR=2.2						
	comp=E,0.3nm,0.4s						
HFS	**Hagfors**	**32.91**	**331**	P	**P**	**08 08 39.3**	**-0.9**
	comp=E,1.6nm,0.4s,baz=120,slow=10,SNR=8.5						
	comp=E,1.6nm,0.4s						
ZALV	**Zalesovo Beam**	**33.48**	**43**	P	**P**	**08 08 46.6**	**+1.4**
	comp=E,0.4nm,0.4s,baz=236,slow=9.8,SNR=2.3						
	comp=E,0.4nm,0.4s						
ESDC	**Sonseca Array**	**39.49**	**292**	P	P	08 09 32.8	-4.0
	comp=E,0.4nm,0.8s,baz=72,slow=8.2,SNR=2.2						
	comp=E,0.4nm,0.8s						
PALK	**Pallekele**	**42.16**	**122**	LR	LR	08 26 33.7	
	comp=E,118nm,21.5s,baz=287,slow=35						
TORD	**Torodi Ar. Bea**	**45.09**	**253**	P	P	08 10 18.3	-4.2
	comp=E,0.5nm,0.6s,baz=56,slow=5.6,SNR=4.6						
	comp=E,0.5nm,0.6s						
SPITS	**Spitsbergen Ar**	**45.47**	**352**	P	**P**	**08 10 24.4**	**-0.3**
	comp=E,21nm,1.1s,baz=102,slow=14,SNR=2.5						
CMAR	**Chiang Mai Arr**	**49.74**	**95**	P	**P**	**08 10 57.8**	**-1.0**
	comp=E,1.0nm,0.3s,baz=298,slow=8.2,SNR=6.3						
	comp=E,1.0nm,0.3s						
DBIC	**Dimbokro**	**54.12**	**251**	P	**P**	**08 11 29.8**	**-1.6**
	comp=E,1.3nm,0.5s,baz=46,slow=5.4,SNR=4.1						
	comp=E,1.3nm,0.5s						
DAV	**Davao City (W)**	**77.72**	**90**	LR	LR	08 51 54.8	
	comp=E,26nm,19.3s,baz=202,slow=38						
YKA	**Yellowknife Ar**	**81.95**	**351**	P	**P**	**08 14 24.2**	**-1.3**
	comp=E,0.4nm,0.8s,baz=18,slow=9.0,SNR=3.7						
	comp=E,0.4nm,0.8s						

*DJA **06** 08:05:53.3±0.6, 4°S±6°×13°4E±°, h10^{km}, M4.5/7, mb4.6/6, mB5.1/2, MLv4.5/7, Mw(mB)4.5/2, MwMwp5.0/1, Mwp5.3/1*
*IDC **06** 08:05:54.5±1.4, 4°.27S×134°.11E, h0^{km}, mb3.7/4, mbtmp3.8/7, ML3.8/3, MS3.4/6, Error ellipse: s-maj=90.2km s-min=20.8km az=69.0*
ISC 06 08:05:54.6±0.8**, 4°.12S**±0°.09×**134°.24E**±0°.09**, h10**^{km}**, n21, σ1^{s}48**/16**, mb3.8**/4**, MS3.6**/5**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**0.70**	**311**	P	**Pg**	**08 06 07.2**	**-1.0**
FAKI	**Fak Fak**	**2.31**	**301**	P	**Pn**	**08 06 31.4**	**-1.4**
FAKI	**Fak Fak**	**2.31**	**301**	P	**Pn**	**08 06 31.0**	**-1.8**
BNDI	**Bandanaira**	**4.34**	**265**	P	**Pn**	**08 07 01.1**	**+0.5**
TABU	**Tabubil**	**7.06**	**100**	P	**Pb**	**08 07 56.6**	**-0.8**
	2µm,0.5s						
NLAI	**Namlea**	**7.17**	**277**	P	**Pn**	**08 07 39.6**	**-0.1**
	13nm,0.5s,0.1nm						
KDU	**Kakadu**	**8.68**	**191**	P	**Pn**	**08 08 01.8**	**+1.4**
MTN	**Manton Dam**	**9.19**	**199**	P	**Pn**	**08 08 07.3**	**0.0**
KNRA	**Kununurra**	**12.68**	**205**	P	**Pn**	**08 08 53.5**	**-1.6**
WRA	**Warramunga Arr**	**15.72**	**180**	Pn	**Pn**	**08 09 34.2**	**-2.1**
	0.3nm,0.3s,baz=358,slow=13,SNR=16						
WRA				Sn	Sn	08 12 14.1	-17
	0.2nm,0.3s,baz=329,slow=22,SNR=1.5						
	1.4nm,0.9s						
MTSU	**Mount Surprise**	**17.07**	**145**	P	P	08 10 02.8	+7.5
	3.9nm,0.9s						
ASAR	**Alice Springs**	**19.43**	**181**	P	**P**	**08 10 21.4**	**+0.1**
	0.5nm,0.3s,baz=4.7,slow=11,SNR=34						
ASAR				S	Sn	08 13 50.5	-10
	0.2nm,0.3s,baz=4.0,slow=28,SNR=1.6						
	5.9nm,0.7s						
CTA	**Charters Tower**	**19.72**	**145**	P	**Pn**	**08 10 25.1**	**-0.8**
	0.2nm,0.3s,baz=310,slow=10,SNR=8.3						
CTA				LR	LR	08 18 41.3	
	comp=Z,71nm,18.2s,baz=313,slow=39						
	2.7nm,0.6s						
HNR	**Honiara**	**26.06**	**103**	LR	LR	08 22 51.6	
	comp=Z,590nm,18.4s,baz=316,slow=39						
STKA	**Stephens Creek**	**28.46**	**167**	P	**P**	**08 11 50.7**	**+0.8**
	1.6nm,0.9s,baz=349,slow=10,SNR=3.0						
	1.6nm,0.9s						
JOW	**Kunigami**	**31.31**	**350**	LR	LR	08 23 04.8	
	comp=Z,36nm,22.0s,baz=66,slow=33						
KSRS	**Korea Array**	**41.78**	**352**	LR	LR	08 28 57.9	
	comp=Z,14nm,21.4s,baz=300,slow=33						
MKAR	**Makanchi Array**	**68.25**	**324**	P	**P**	**08 16 58.2**	**+2.5**
	0.4nm,0.5s,baz=111,slow=6.9,SNR=3.6						
	0.4nm,0.5s						
AAK	**Ala-Archa**	**71.17**	**318**	LR	LR	08 51 18.7	
	comp=Z,34nm,18.0s,baz=192,slow=38						
KURBB	**Kurchatov Arra**	**72.37**	**326**	P	**P**	**08 17 22.1**	**+1.4**
	0.3nm,0.7s,baz=120,slow=5.9,SNR=2.0						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**77.96**	**326**	P	**P**	**08 17 54.6**	**+1.7**
	0.4nm,0.5s,baz=97,slow=12,SNR=2.0						
BVAR				LR	LR	08 55 02.6	
	comp=Z,27nm,19.7s,baz=197,slow=38						
	0.4nm,0.5s						

*DNK **06** 08:25:35.8±2.1, 51°.37N×16°.17E, h33^{km}±70^{km}, ML3.0*
*IPEC **06** 08:25:36.6±0.2, 51°.50N×16°.22E, h0^{km}, ML2.8/4, Error ellipse: s-maj=2.8km s-min=1.4km az=59.0*
*IDC **06** 08:25:36.5±0.8, 51°.53N×15°.78E, h0^{km}, mb3.1/1, mbtmp3.3/7, ML3.0/6, MS3.4/1, Error ellipse: s-maj=15.0km s-min=7.5km az=100.0*
*VIE **06** 08:25:36.0±1.2, 51°.49N×16°.32E, h0^{km}, mb2.7/13, ml3.0/15, Error ellipse: s-maj=9.9km s-min=6.9km az=44.0 65 km NW of Wroclaw Suspected Mining induced.*
*PRU **06** 08:25:37.2, 51°.48N×16°.10E, h0^{km}*
*BGR **06** 08:25:37.5±0.4, 51°.46N×16°.09E, h1^{km}, ML3.1/15, Error ellipse: s-maj=5.6km s-min=2.2km az=13.0*
ISC 06 08:25:35.0±0.6**, 51°.58N**±0°.03×**16°.17E**±0°.02**, h0**^{km}**, n77, σ1^{s}40**/155**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74**	**174**	*e*Pg	**Pg**	**08 25 49.5**	**+0.2**
KSP				*e*Sg	**Sg**	**08 25 58.4**	**-0.4**
KSP	**Ksiaz**	**0.74**	**174**	*e*Pg	**Pg**	**08 25 49.5**	**+0.2**
KSP				*e*Sg	**Sg**	**08 25 58.5**	**-0.4**
CHVC	**Chvalec**	**1.00**	**184**	*e*PG	**Pg**	**08 25 54.1**	**0.0**
CHVC				*e*SG	**Sg**	**08 26 06.3**	**-0.8**
	comp=Z,131nm,0.4s						
OSTC	**Ostas**	**1.03**	**178**	*e*PG	**Pg**	**08 25 54.7**	**0.0**
OSTC				*e*SG	**Sg**	**08 26 07.2**	**-0.8**
	comp=Z,133nm,0.3s						
UPC	**Upice**	**1.08**	**185**	*e*PG	**Pg**	**08 25 55.6**	**-0.1**
UPC				*e*SG	**Sg**	**08 26 08.3**	**-1.4**
	comp=Z,242nm,0.3s						
DPC	**Dobruska-Polom**	**1.24**	**175**	*e*PG	**Pg**	**08 25 58.5**	**-0.2**
DPC				*e*SG	**Sg**	**08 26 13.1**	**-1.6**
	comp=Z,75nm,0.5s						
DPC	**Dobruska-Polom**	**1.24**	**175**	*e*Pg	**Pg**	**08 25 58.4**	**-0.4**
DPC				*e*Sg	**Sg**	**08 26 13.6**	**-1.2**
PVCC	**Panska Ves**	**1.46**	**224**	*e*PG	**Pn**	**08 26 02.1**	**-0.5**
PVCC				*e*SG	**Sg**	**08 26 20.7**	**-1.2**
	comp=Z,299nm,0.7s						
KRLC	**Kraliky**	**1.56**	**165**	*e*PG	**Pn**	**08 26 03.1**	**-0.9**
KRLC				*e*SG	**Sg**	**08 26 23.5**	**-1.5**
	comp=Z,106nm,0.5s						
BRG	**Berggiesshubel**	**1.57**	**244**	Pn	**Pn**	**08 26 04.4**	**+0.2**
BRG				Pg	**Pg**	**08 26 06.1**	**+1.0**
BRG				Sg	**Sg**	**08 26 25.8**	**+0.4**
BRG				Amp		08 26 26.8	
	comp=Z,123nm,0.4s						
BRG	**Berggiesshubel**	**1.57**	**244**	*e*Pn	**Pn**	**08 26 04.9**	**+0.8**
BRG				*e*Pg	**Pg**	**08 26 05.7**	**+0.6**
BRG				*e*Sg	**Sg**	**08 26 25.8**	**+0.4**
RICC	**Richard**	**1.67**	**232**	*e*PG	**Pn**	**08 26 05.9**	**+0.4**
RICC				*e*SG	**Sn**	**08 26 27.3**	**-0.3**
	comp=Z,205nm,0.7s						
PRA	**Prague**	**1.87**	**217**	*e*PG	**Pn**	**08 26 07.9**	**-0.4**
PRA				*e*SG	**Sn**	**08 26 32.3**	**-0.3**
	comp=Z,42nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.89**	**208**	*e*PG	**Pn**	**08 26 08.9**	**+0.4**
GOPC				*e*SG	**Sn**	**08 26 32.4**	**-0.6**
FBE	**Freiberg**	**1.89**	**251**	*e*Pg	**Pb**	**08 26 10.7**	**+0.3**
FBE				*e*Sg	**Sb**	**08 26 34.3**	**-0.2**
PRU	**Pruhonice**	**1.90**	**214**	*e*PG	**Pn**	**08 26 09.1**	**+0.4**
PRU				*e*SG	**Sn**	**08 26 33.7**	**+0.4**
	comp=Z,45nm,0.6s						
HSKC	**Hora Svate Kat**	**1.98**	**242**	*e*PG	**Pn**	**08 26 10.3**	**+0.5**
HSKC				*e*SG	**Sn**	**08 26 36.6**	**+1.2**
	comp=Z,62nm,0.3s						
CLL	**Collm**	**2.00**	**263**	*e*Pn	**Pn**	**08 26 09.0**	**-1.0**
CLL				*e*Pg	**Pb**	**08 26 13.0**	**+0.8**
CLL				*i* Sg	**Sb**	**08 26 38.8**	**+1.1**
	comp=Z,59nm,0.4s						
CLL	**Collm**	**2.00**	**263**	*e*Pn	**Pn**	**08 26 09.7**	**-0.3**
CLL				*e*Pg	**Pb**	**08 26 12.7**	**+0.5**
CLL				*e*Sg	**Sg**	**08 26 39.3**	**0.0**
MORC	**Moravsky Berou**	**2.01**	**154**	*e*Pn	**Pn**	**08 26 10.1**	**-0.1**
	baz=334						
MORC				*e*Sg	**Sn**	**08 26 36.6**	**+0.6**
	comp=Z,56nm,0.4s,baz=334						
MORC	**Moravsky Berou**	**2.01**	**154**	*e*Pn	**Pn**	**08 26 10.2**	**-0.1**
MORC				*e*Sg	**Sb**	**08 26 37.7**	**-0.3**
OKC	**Ostrava-Krasne**	**2.15**	**144**	*e*PG	**Pb**	**08 26 15.3**	**+0.5**
OKC				*e*SG	**Sb**	**08 26 43.0**	**+0.9**
	comp=Z,68nm,0.8s						
VRAC	**Vranov**	**2.29**	**173**	Pn	**Pn**	**08 26 14.8**	**+0.7**
	comp=Z,2.6nm,0.3s,baz=345,slow=15,SNR=8.7						
VRAC				Sn	**Sn**	**08 26 43.7**	**+0.7**
	comp=Z,12nm,0.3s,baz=99,slow=20,SNR=12						
	comp=Z,5.9nm,0.3s						
VRAC	**Vranov**	**2.29**	**173**	*e*Pn	**Pn**	**08 26 14.4**	**+0.3**
	baz=354						
VRAC				*e*Sg	**Sb**	**08 26 45.5**	**-0.6**
	comp=Z,62nm,0.5s,baz=354						
TREC	**Trest**	**2.33**	**191**	*e*PG	**Pb**	**08 26 17.5**	**-0.4**
TREC				*e*SG	**Sb**	**08 26 47.9**	**+0.6**
	comp=Z,50nm,0.3s						
MAUC	**Maruska**	**2.46**	**154**	*e*PN	**Pn**	**08 26 16.9**	**+0.5**
MAUC				*e*SG	**Sg**	**08 26 53.2**	**-0.8**
	comp=Z,75nm,0.3s						
ZVC	**Zvikov**	**2.49**	**211**	*e*PN	**Pn**	**08 26 16.6**	**-0.2**
ZVC				*e*PG	**Pb**	**08 26 20.1**	**-0.5**
ZVC				*e*SG	**Sb**	**08 26 53.2**	**+1.4**
	comp=Z,77nm,1.2s						
KRUC	**Moravsky**	**2.53**	**177**	*e*PN	**Pn**	**08 26 18.0**	**+0.7**
KRUC				*e*SG	**Sb**	**08 26 52.9**	**0.0**
KRUC	**Moravsky**	**2.53**	**177**	*e*Pn	**Pn**	**08 26 17.9**	**+0.7**
	baz=357						
KRUC				*e*Sg	**Sb**	**08 26 52.8**	**-0.1**
	comp=Z,65nm,0.7s,baz=357						
TANN	**Tannenbergstha**	**2.62**	**245**	*e*Pn	**Pn**	**08 26 18.9**	**+0.3**
TANN				*e*Sg	**Sb**	**08 26 57.1**	**+1.6**
OJC	**Ojcow**	**2.67**	**119**	*e*Pg	**Pg**	**08 26 26.9**	**+0.7**
OJC				*e*Sg	**Sg**	**08 27 02.5**	**+1.7**
OJC	**Ojcow**	**2.67**	**119**	*e*Pg	**Pg**	**08 26 26.9**	**+0.7**
OJC				*e*Sn	**Sn**	**08 26 51.0**	**-1.3**
OJC				*e*Sg	**Sg**	**08 27 01.7**	**+0.9**
WERD	**Werda**	**2.69**	**247**	*e*Pn	**Pn**	**08 26 20.4**	**+0.8**
WERD				*e*Pg	**Pb**	**08 26 25.5**	**+1.5**
WERD				*e*Sg	**Sb**	**08 26 58.7**	**+1.0**
NKC	**Novy Kostel**	**2.72**	**242**	*e*PN	**Pn**	**08 26 20.2**	**+0.3**
NKC				*e*PG	**Pb**	**08 26 25.2**	**+0.7**
NKC				*e*SG	**Sg**	**08 27 00.7**	**-1.5**
	comp=Z,100nm,0.3s						
JAVC	**Velka Javorina**	**2.89**	**160**	*e*Pn	**Pn**	**08 26 22.7**	**+0.3**
	baz=341						
KHC	**Kasperske Hory**	**2.96**	**215**	*e*PN	**Pn**	**08 26 23.2**	**-0.1**
KHC				*e*PG	**Pb**	**08 26 27.7**	**-1.0**
KHC				*e*SN	**Sn**	**08 26 58.1**	**-1.5**
KHC				*e*SG	**Sb**	**08 27 07.3**	**+1.9**
	comp=Z,21nm,0.5s						
CKRC	**Cesky Krumlov**	**3.01**	**204**	*e*PN	**Pn**	**08 26 24.6**	**+0.6**
CKRC				*e*PG	**Pb**	**08 26 28.8**	**-0.7**
CKRC				*e*SN	**Sn**	**08 26 59.2**	**-1.6**
CKRC				*e*SG	**Sb**	**08 27 08.9**	**+2.0**
MOX	**Moxa**	**3.02**	**254**	*e*Pn	**Pn**	**08 26 25.0**	**+0.9**
MOX				*e*Pg	**Pg**	**08 26 31.9**	**-1.0**
MOX				*e*Sg	**Sg**	**08 27 11.9**	**-0.1**
MANZ	**Manzenberg**	**3.03**	**240**	*e*Pn	**Pn**	**08 26 24.5**	**+0.2**
MANZ				*e*Pg	**Pb**	**08 26 31.5**	**+1.6**
ROTZ	**Rotzenmuhle**	**3.11**	**236**	*e*Pn	**Pn**	**08 26 25.4**	**+0.1**

ROTZ				eSg	Sb	08 27 12.0	+2.5
GEC2	GERESS Array S	3.17	211	ePn	Pn	08 26 26.9	+0.8
GEC2				ePg	Pb	08 26 33.0	+0.8
GERES	GERESS Array B	3.17	211	Pn	Pn	08 26 25.6	-0.6
	comp=Z,2.0nm,0.3s,baz=29,slow=13,SNR=9.6						
GERES				Lg	Lg	08 27 12.0	
	comp=Z,8.3nm,0.3s,baz=28,slow=30,SNR=11						
	comp=Z,4.5nm,0.5s						
LANS	Liptovska Anna	3.22	138	ePG	Pg	08 26 38.9	+2.2
LANS				eSG	Sg	08 27 18.5	0.0
WET	Wettzell	3.23	222	ePn	Pn	08 26 26.8	-0.1
MODS	Modra-Piesok	3.29	167	ePG	Pg	08 26 38.2	+0.1
MODS				eSG	Sg	08 27 19.7	-1.0
NIE	Niedzica	3.41	128	eP	Pg	08 26 41.3	+0.9
NIE				eS	Sg	08 27 27.0	+2.5
VYHS	Vyhne	3.54	150	ePN	Pn	08 26 31.3	+0.1
VYHS				ePG	Pg	08 26 42.3	-0.5
VYHS				eSG	Sb	08 27 19.4	-2.5
CLZ	Clausthal	3.62	276	ePn	Pn	08 26 34.1	+1.8
BSD	Bornholm Skovb	3.62	348	i P	Pn	08 26 33.1	+0.9
BSD				i S	Sn	08 27 15.5	0.0
BSD				IAML		08 27 23.4	
	comp=Z,19nm,1.0s						
CONA	Conrad Observa	3.66	183	ePn	Pn	08 26 33.5	+0.5
	comp=Z,1.8nm,0.2s						
CONA				i Sn	Sn	08 27 18.0	+1.1
	comp=Z,12nm,0.4s						
GRF	Grafenberg Arr	3.67	241	eSg	Sg	08 27 31.1	-1.9
RONA	Rosalia, Austr	3.89	179	ePn	Pn	08 26 35.8	-0.3
	comp=Z,0.3nm,0.0s						
RONA				i Sn	Sn	08 27 22.0	-0.4
	comp=Z,11nm,0.3s						
MOA	Molln	3.94	199	ePn	Pn	08 26 36.1	-0.6
	comp=Z,3.3nm,0.3s						
MOA				i Sn	Sn	08 27 24.1	+0.6
	comp=Z,16nm,0.4s						
BIOA	Bad Ischl, Aus	4.23	204	ePn	Pn	08 26 40.8	+0.1
	comp=Z,5.5nm,0.3s						
BIOA				eSn	Sn	08 27 34.1	+3.4
	comp=Z,27nm,0.4s						
ARSA	Arzberg	4.36	186	i Pn	Pn	08 26 41.9	-0.5
	comp=Z,1.6nm,0.3s						
ARSA				i Sn	Sn	08 27 36.0	+2.0
	comp=Z,12nm,0.6s						
LUNU	Lund	4.37	339	eP	Pn	08 26 43.9	+1.3
LUNU				eS	Sn	08 27 32.0	-2.1
BLEU	Blekinge	4.74	358	eP	Pn	08 26 49.1	+1.5
BLEU				i S	Sn	08 27 41.7	-1.4
LESA	Schwarzleotal	4.74	210	ePn	Pn	08 26 48.0	+0.1
	comp=Z,1.1nm,0.1s						
LESA				i Sn	Sn	08 27 46.5	+3.0
	comp=Z,3.3nm,0.2s						
SOKA	Soboth	4.97	189	ePn	Pn	08 26 51.0	+0.2
	comp=Z,0.3nm,0.2s						
SOKA				i Sn	Sn	08 27 49.4	+0.4
	comp=Z,1.1nm,0.3s						
DEL	Delary	5.08	345	i P	Pn	08 26 52.0	-0.3
DEL				eS	Sn	08 27 48.1	-3.5
OBKA	Obir	5.19	192	ePg	Pg	08 27 13.1	-1.3
	comp=Z,1.5nm,0.4s						
OBKA				i Sn	Sn	08 27 56.4	+1.9
	comp=Z,2.5nm,0.2s						
WATA	Walderalm	5.20	217	ePn	Pn	08 26 56.0	+1.8
WATA				eSn	Sn	08 27 56.3	+1.4
	comp=Z,5.0nm,0.3s						
MYKA	Terra Mystica	5.23	199	i Sn	Sn	08 27 56.8	+1.4
	comp=Z,2.4nm,0.4s						
WTTA	Wattenberg	5.24	216	ePn	Pn	08 26 55.8	+1.1
	comp=Z,1.0nm,0.2s						
WTTA				i Sn	Sn	08 27 58.1	+2.3
	comp=Z,1.0nm,0.2s						
MOTA	Moosalm	5.38	220	ePn	Pn	08 26 57.4	+0.8
	comp=Z,0.4nm,0.1s						
MOTA				i Sn	Sn	08 27 55.3	-3.9
	comp=Z,1.0nm,0.2s						
ABTA	Abfaltersbach	5.40	208	i Pn	Pn	08 26 57.6	+0.7
	comp=Z,1.7nm,0.4s						
ABTA				i Sn	Sn	08 27 59.2	-0.5
	comp=Z,6.5nm,0.5s						
RETA	Reutte	5.40	223	i Pn	Pn	08 26 56.6	-0.3
	comp=Z,0.7nm,0.2s						
RETA				i Sn	Sn	08 27 55.8	-4.0
	comp=Z,2.3nm,0.5s						
SQTA	Sankt Quirin	5.43	218	ePn	Pn	08 26 58.6	+1.2
	comp=Z,1.5nm,0.2s						
SQTA				i Sn	Sn	08 28 05.5	+4.8
	comp=Z,5.6nm,0.3s						
FETA	Feichten	5.79	220	i Pn	Pn	08 27 04.9	+2.7
	comp=Z,0.8nm,0.3s						
FETA				i Sn	Sn	08 28 11.7	+2.4
	comp=Z,0.6nm,0.3s						
ONAU	Onsala	6.33	339	eS	Sn	08 28 18.9	-3.5
DAVOX	Davos/Dischmat	6.33	223	Pn	Pn	08 27 07.4	-2.4
	comp=Z,0.1nm,0.3s,baz=188,slow=20,SNR=1.1						
DAVOX				Lg	Lg	08 28 52.0	
	comp=Z,0.3nm,0.3s,baz=215,slow=21,SNR=2.0						
	comp=Z,0.6nm,0.2s						
AKASG	Malin Array Be	8.26	91	Pn	Pn	08 27 37.2	+1.2
	comp=Z,1.4nm,0.3s,baz=280,slow=12,SNR=4.7						
	comp=Z,0.5nm,0.3s						
HFS	Hagfors	8.68	352	Pn	Pn	08 27 39.1	-2.6
	comp=Z,0.1nm,0.3s,baz=153,slow=13,SNR=1.6						
HFS				Sn	Sn	08 29 16.7	-3.5
	comp=Z,0.2nm,0.3s,baz=171,slow=22,SNR=1.8						
	comp=Z,2.4nm,0.8s						
FINES	FINESS Array B	11.28	25	Pn	Pn	08 28 16.6	-0.7
	comp=Z,0.3nm,0.3s,baz=205,slow=12,SNR=10						
FINES				Sn	Sn	08 30 19.6	-4.3
	comp=Z,0.3nm,0.3s,baz=211,slow=21,SNR=5.3						
	comp=Z,3.3nm,0.9s						
ARCES	ARCESS Array B	18.54	10	P	P	08 29 52.1	-0.7
	comp=Z,0.8nm,0.6s,baz=191,slow=13,SNR=6.5						
MKAR	Makanchi Array	42.15	69	LR	LR	08 51 22.4	
	comp=Z,45nm,21.1s,baz=202,slow=36						
YKA	Yellowknife Ar	59.81	336	P	P	08 35 43.2	+1.8
	comp=Z,0.1nm,0.7s,baz=21,slow=7.9,SNR=2.4						
	comp=Z,0.1nm,0.7s						

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*GUC **06** 08:30:37.7±0.7, 37°.49S×74°.62W, h35^{km}±3^{km}, ML4.7*
*IDC **06** 08:30:41.5±0.9, 37°.58S×73°.65W, h0^{km}, mb4.2/6, mbtmp4.1/10, ML3.9/4, MS3.9/18, Error ellipse: s-maj=29.0km s-min=16.5km az=87.0*
*NEIC **06** 08:30:41.5±1.3, 37°.54S±0°.04×74°.06W±0°.10, h10^{km}±1^{km}, mb4.4/15, Error ellipse: s-maj=13.1km s-min=6.3km az=280.0*
ISC 06 08:30:40.1±1.6**, 37°.54S**±0°.03×**74°.05W**±0°.08**, h3**^{km}±9^{km}**, n85, σ1^{s}69**/84**, mb4.5**/14**, MS4.0**/15**, 7C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BI04	Isla Mocha	0.88	172⇑	eP	Pg	08 30 57.1	+0.1
BI04				eS	Sn	08 31 11.9	-0.8
BI04				IAML		08 31 18.4	
	comp=N,29μm,0.4s						
CCSP	San Pedro de C	1.02	47⇑	eP	Pn	08 31 01.3	-0.1
CCSP				eS	Sn	08 31 19.4	+3.1
CCSP				IAML		08 31 23.7	
	comp=N,19μm,0.5s						
BI05	Punta Hualpn	1.05	41		Pn	08 31 01.1	-0.6
BI05	Punta Hualpn	1.05	41	eP	Pn	08 31 01.1	-0.6
BI05				eS	Sn	08 31 19.9	+3.1
BI05				IAML		08 31 27.8	
	comp=E,17μm,0.5s						
LC02	Puerto Saavedr	1.35	157	Pn	Pg	08 31 06.4	+0.4
LC02	Puerto Saavedr	1.35	157	eP	Pn	08 31 04.7	-1.2
LC02				eS	Sg	08 31 26.0	+2.4
LC02				IAML		08 31 35.2	
	comp=N,31μm,0.5s						
LR04	Corral	2.39	168	eP	Pn	08 31 18.6	-1.5
LR04				eS	Sn	08 31 43.0	-6.9
LR04				IAML		08 31 48.6	
	comp=N,5μm,0.2s						
LR03	Panguipulli	2.48	148⇑	eP	Pn	08 31 21.3	-0.1
LR03				eS	Sg	08 31 59.4	-0.4
ML02	Panimavida	2.76	51	Pn	Pn	08 31 26.0	+0.8
ML02	Panimavida	2.76	51⇑	eP	Pn	08 31 25.7	+0.4
ML02				eS	Sg	08 32 07.8	-1.0
GO06	Curarrehue	2.87	136	Pn	Pn	08 31 27.4	+0.5
GO06	Curarrehue	2.87	136⇑	iP	Pn	08 31 27.4	+0.5
GO06				eS	Sg	08 32 11.6	-0.8
GO06				IAML		08 32 17.6	
	comp=E,818nm,0.5s						
GO05	Huala	3.05	35	Pn	Pn	08 31 29.8	+0.5
GO05	Huala	3.05	35⇑	eP	Pn	08 31 28.9	-0.4
GO05				eS	Sg	08 32 20.6	+2.5
GO05				IAML		08 32 32.0	
	comp=E,3μm,0.6s						
LR05	Currie	3.12	150	eP	Pn	08 31 30.5	+0.2
LR05				eS	Sg	08 32 18.9	-1.6
LR05				IAML		08 32 31.6	
	comp=E,2μm,0.5s						
BO03	Pichilemu	3.48	30	eP	Pn	08 31 34.2	-0.9
BO03				eS	Sg	08 32 28.7	-3.1
BO02	Sierra Bellavi	3.81	45		Pn	08 31 40.3	+0.5
BO02	Sierra Bellavi	3.81	45	eP	Pn	08 31 39.8	+0.1
BO02				eS	Sg	08 32 40.3	-2.2
LL03	Petrohue	3.81	161		Pn	08 31 40.2	+0.5
LL05	Los Muermos	3.88	174		Pn	08 31 40.0	-0.7
BO01	Tunca	3.96	38	Pn	Pn	08 31 42.1	+0.3
BO01	Tunca	3.96	38	eP	Pn	08 31 41.7	0.0
BO01				eS	Sg	08 32 43.4	-3.8
PLCA	Paso Flores	4.19	141	Pn	Pn	08 31 46.0	+1.0
PLCA	Paso Flores	4.19	141	Pn	Pn	08 31 45.0	0.0
	comp=E,1.0nm,0.3s,baz=319,slow=10,SNR=58						
PLCA				Lg	Lg	08 32 49.5	
	comp=E,6.0nm,0.3s,baz=29,slow=18,SNR=3.1						
	comp=E,4.0nm,0.3s						
MT01	Popeta	4.32	33		Pn	08 31 46.4	-0.3
MT09	Talagante	4.51	34		Pn	08 31 49.6	+0.2
BO04	La Punta	4.51	39		Pn	08 31 49.5	0.0
LL06	Loncomilla	4.68	176		Pn	08 31 50.6	-1.0
LMEL	Las Melosas	4.83	41		Pn	08 31 54.6	+0.6
MT13	San Alfonso	4.87	40		Pn	08 31 54.8	+0.4
MT02	Curacav	4.89	30		Pn	08 31 53.8	-0.8
VA01	Torpederas	4.92	24	Pn	Pn	08 31 54.1	-0.8
LL01	San Ignacio de	4.99	166		Pn	08 31 56.0	+0.1
H03S1	Juan Fernandez	5.41	312	Pn	Pn	08 32 03.5	+2.2
	baz=68,slow=72						
H03S1				T	T	08 37 42.9	
	baz=130,slow=74,SNR=1364						
H03S3	Juan Fernandez	5.42	312	Pn	Pn	08 32 01.2	-0.3
	baz=68,slow=72						
H03S3				T	T	08 37 47.7	
	baz=130,slow=74,SNR=874						
H03S2	Juan Fernandez	5.42	312	Pn	Pn	08 32 01.8	+0.2
	baz=68,slow=72						
H03S2				T	T	08 37 47.7	
	baz=130,slow=74,SNR=1147						
GO07	Milladeo Hill,	5.58	177		Pn	08 32 05.0	+1.0
CFA	Coronel Fontan	7.62	41	Pn	Pn	08 32 31.4	-0.6
	comp=E,6.2nm,0.3s,baz=218,slow=5.6,SNR=90						
CFA				Sn	Sn	08 33 57.0	-2.0
	comp=E,1.6nm,0.3s,baz=212,slow=21,SNR=1.7						
CFA				LR	LR	08 35 54.6	
	comp=E,986nm,21.9s,baz=226,slow=42						
	comp=E,15nm,0.3s						
LCO	Las Campanas	8.96	19	Pn	Pn	08 32 51.2	+0.6
TRQA	Tornquist	9.57	97	Pn	Pn	08 32 58.8	0.0
AC06	Mina Casimiro	10.62	18		Pn	08 33 12.6	-0.6
PB04	IPOC Station P	15.53	14	P	P	08 34 24.2	-0.5
LVC	Limon Verde	15.53	18	Pn	Pn	08 34 20.4	0.0
	comp=E,0.2nm,0.3s,baz=250,slow=8.4,SNR=1.9						
LVC				Sn	Sn	08 37 04.7	-8.4
	comp=E,0.3nm,0.3s,baz=239,slow=23,SNR=2.9						
LVC				LR	LR	08 40 11.6	
	comp=E,412nm,19.3s,baz=202,slow=37						
	comp=E,2.6nm,0.7s						
PB09	IPOC Station P	16.23	16	IAmb	IAmb	08 34 43.6	
	comp=Z,40nm,1.1s						
PB02	IPOC Station P	16.56	14	IAmb	IAmb	08 34 45.7	
	comp=Z,31nm,0.9s						
PB01	IPOC Station P	16.91	15	IAmb	IAmb	08 34 50.3	
	comp=Z,20nm,0.8s						
CPUP	Villa Florida	18.03	57	P	P	08 34 51.0	-1.3
	comp=Z,0.1nm,0.3s,baz=226,slow=12,SNR=4.2						
CPUP				LR	LR	08 42 49.4	
	comp=Z,707nm,18.2s,baz=232,slow=41						
	comp=Z,1.5nm,0.8s						
PB11	IPOC Station P	18.13	13	P	P	08 34 54.3	+0.8
PB18	Visviri	20.28	13	P	Pn	08 35 19.6	+0.2
AQDB	Aquidauana	23.31	48	P	P	08 35 49.1	-0.2
AQDB				IAmb	IAmb	08 35 57.2	
	comp=Z,9.5nm,0.8s						
SIV	San Ignacio	24.34	32	LR	LR	08 47 24.8	
	comp=Z,514nm,20.1s,baz=221,slow=41						
PTLB	Pontes e Lacer	25.67	35	P	P	08 36 12.4	+1.1
PTLB				IAmb	IAmb	08 36 20.8	
	comp=Z,8.8nm,0.8s						
ETMB	Extrema	28.49	16	P	P	08 36 37.7	+0.9
ETMB				IAmb	IAmb	08 36 46.9	
	comp=Z,5.4nm,0.8s						
RPN	Rapa Nui	31.41	279	LR	LR	08 47 12.0	
	comp=Z,136nm,18.1s,baz=87,slow=31						
BDFB	Brasilia	31.71	54	P	P	08 37 05.3	-0.1
	comp=Z,2.0nm,0.6s,baz=168,slow=3.1,SNR=3.4						
BDFB				LR	LR	08 51 07.2	
	comp=Z,370nm,18.4s,baz=252,slow=39						
	comp=Z,2.0nm,0.6s						
VNA3	Neumayer Olymp	46.74	156	P	P	08 39 11.6	+1.4
	comp=Z,2.7nm,0.7s						
MDP	Montagnes des	46.88	30	LR	LR	09 00 12.9	
	comp=Z,253nm,18.0s,baz=204,slow=38						
RCBR	Riachuelo	46.91	57	LR	LR	09 00 42.6	
	comp=Z,244nm,18.2s,baz=226,slow=39						
VNA2	Neumayer--Watz	47.42	156	P	P	08 39 16.9	+1.4
	comp=Z,4.2nm,0.6s,baz=273,slow=8.0						
SNAA	Sanae	48.96	157	P	P	08 39 27.2	-0.1
SNAA				IAmb	IAmb	08 39 36.4	
	comp=Z,5.8nm,1.0s						
SNAA	Sanae	48.96	157	P	P	08 39 27.8	+0.4
	comp=Z,65nm,0.8s						
SNAA	Sanae	48.96	157	P	P	08 39 27.3	-0.1
	comp=Z,2.8nm,0.8s,baz=310,slow=9.2,SNR=8.1						
SNAA				LR	LR	08 59 34.4	
	comp=Z,93nm,19.0s,baz=314,slow=36						
	comp=Z,2.8nm,0.8s						
TROLL	Troll, Antarti	50.65	157	P	P	08 39 40.3	0.0
	comp=Z,171nm,0.7s						
QSPA	South Pole Qui	52.70	180	P	P	08 39 57.5	+1.7
QSPA				IAmb	IAmb	08 40 04.9	
	comp=Z,5.5nm,0.8s						
QSPA	South Pole Qui	52.70	180	P	P	08 39 56.8	+1.0
	comp=Z,4.4nm,0.8s,baz=141,slow=2.2,SNR=13						
	comp=Z,4.4nm,0.8s						
LPIG	La Paz	70.16	325	LR	LR	09 05 51.8	
	comp=Z,53nm,19.0s,baz=60,slow=30						
TXAR	Lajitas Array	72.08	333	P	P	08 42 10.5	+4.8
	comp=Z,0.4nm,0.8s,baz=153,slow=8.4,SNR=2.5						
	comp=Z,0.4nm,0.8s						
SUR	Sutherland	74.55	119	LR	LR	09 12 22.3	
	comp=Z,52nm,18.8s,baz=262,slow=34						
LIC	Lamto	77.43	72⇓	iP	P	08 42 38.1	+1.1
	comp=Z,12nm,0.5s						
TIC	Toumodi	77.71	72⇑	iP	P	08 42 40.0	+1.4
	comp=Z,3.1nm,0.2s						
KIC	Kosan Boka	77.74	72⇓	iP	P	08 42 39.8	+1.0
	comp=Z,13nm,0.8s						
DBIC	Dimbokro	77.85	72	P	P	08 42 40.2	+0.8
	comp=Z,2.5nm,0.6s,baz=218,slow=7.0,SNR=4.6						
DBIC				LR	LR	09 14 46.2	
	comp=Z,80nm,18.6s,baz=216,slow=34						
	comp=Z,2.5nm,0.6s						
TSUM	Tsumeb	79.81	106	LR	LR	09 16 18.9	
	comp=Z,46nm,18.0s,baz=160,slow=34						
PFO	Pinyon Flats O	81.06	325	LR	LR	09 09 11.9	
	comp=Z,18nm,21.9s,baz=252,slow=28						
LBTB	Lobatse	82.28	115	LR	LR	09 18 48.0	
	comp=Z,55nm,18.0s,baz=210,slow=35						
TORD	Torodi Ar. Bea	86.93	71	P	P	08 43 26.8	0.0
TORD				IAmb	IAmb	08 43 28.4	
	comp=Z,3.5nm,1.3s						
TORD	Torodi Ar. Bea	86.93	71	P	P	08 43 26.8	0.0
	comp=Z,1.3nm,0.7s,baz=233,slow=3.3,SNR=9.0						
	comp=Z,1.3nm,0.7s						
LSZ	Lusaka	90.21	109	LR	LR	09 23 55.4	
	comp=Z,53nm,18.0s,baz=156,slow=36						
MDT	Midelt	95.29	52	LR	LR	09 26 47.2	
	comp=Z,103nm,19.9s,baz=238,slow=35						
ESDC	Sonseca Array	100.19	47	LR	LR	09 28 20.7	
	comp=Z,76nm,19.0s,baz=240,slow=35						
BRTR	Keskin Array B	124.92	64	PKP	PKiKP	08 49 42.1	+0.2
	comp=Z,0.7nm,0.8s,baz=54,slow=2.5,SNR=2.2						
BVAR	Borovoye Array	150.94	46	PKPbc	PKiKP	08 50 35.1	+0.9
	comp=Z,2.8nm,0.7s,baz=294,slow=3.8,SNR=12						
BVAR				PKPab	PKPab	08 50 40.3	-0.8
	comp=Z,1.6nm,0.7s,baz=325,slow=4.2,SNR=6.2						
KURBB	Kurchatov Arra	156.52	47	PKPab	PKPab	08 51 05.5	+0.7
	comp=Z,0.2nm,0.5s,baz=294,slow=4.7,SNR=4.2						
ZALV	Zalesovo Beam	158.07	35	PKPab	PKPab	08 51 12.2	+0.8
	comp=Z,2.6nm,0.7s,baz=299,slow=5.3,SNR=9.0						
MKAR	Makanchi Array	160.24	55	PKPab	PKPab	08 51 21.4	+0.3
	comp=Z,1.0nm,0.8s,baz=279,slow=3.9,SNR=7.4						

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*NIED **06** 08:30:50.3, 25°.54N×128°.26E, h68^{km}, MW3.7, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.30; $M_{\theta\theta}$1.15; $M_{\phi\phi}$2.16; $M_{r\theta}$0.07; $M_{\theta\phi}$2.16; $M_{\phi r}$1.96; Fault plane solution: $M_0$4.12000×10^{14} NP1: ϕ_s201.00000°, δ60.00000°, λ-110.00000°. NP2: ϕ_s57.00000°, δ36.00000°, λ-60.00000°.*
*JMA **06** 08:30:50.3±0.2, 26°N±1°×12°8E±°, h68^{km}±2^{km}, MV3.6/18, NEAR OKINAWAJIMA ISLAND*
*IDC **06** 08:30:56.0±6.4, 24°.10N×127°.16E, h0^{km}, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=351.2km s-min=29.9km az=62.0*
ISC 06 08:30:49.1±1.7**, 25°.45N**±0°.05×**128°.37E**±0°.04**, h26**^{km}±14^{km}**, n18, σ1^{s}15**/29**, mb3.5**/3**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJT3	Tamagusuku3	0.88	323	P	Pb	08 31 05.7	0.0
JJT3				S	Sb	08 31 17.2	+0.2
JNTH	Nagotoyohara	1.11	344	P	Pn	08 31 08.7	-0.4
JNTH				S	Sn	08 31 21.7	-1.9
JOW	Kunigami	1.39	356	P	Pn	08 31 12.9	+0.1
JOW				eS	Sn	08 31 29.2	-1.0
JAGN	Aguni-jima	1.53	318	P	Pn	08 31 14.5	-0.2
JAGN				eS	Sn	08 31 31.9	-1.8
JYRO	Yoronjima	1.57	2	P	Pn	08 31 15.3	-0.1
JYRO				S	Sn	08 31 33.7	-1.2
JIH	Iheya	1.62	347	P	Pn	08 31 16.4	+0.3
JIH				eS	Sn	08 31 35.0	-1.1
JKE	Kume jima 2	1.68	302	P	Pn	08 31 16.1	-0.6
JKE				eS	Sn	08 31 36.0	-1.4
JOKE	Okinoerabujima	1.92	5	P	Pn	08 31 20.5	+0.4
JOKE				eS	Sn	08 31 42.6	-0.8
JTK	Tokunoshima	2.39	12	P	Pn	08 31 27.1	+0.6
JTK				S	Sn	08 31 53.6	-1.3
JMZ	Minamidaito 2	2.60	81	eP	Pn	08 31 28.8	-0.7
JMZ				S	Sn	08 31 58.4	-1.7
JKDJ	Kitadaitoujima	2.69	79	P	Pn	08 31 30.0	-0.6
JKDJ				S	Sn	08 32 00.2	-2.1
JOGS	Gusukube	2.77	256	eP	Pn	08 31 31.7	-0.2
JOGS				eS	Sn	08 32 03.3	-1.2
JMJ2	Miyako jima3	2.85	256	P	Pn	08 31 32.6	-0.2
JAMN	Amaminishikomi	2.88	14	P	Pn	08 31 34.5	+1.2
JIKM	Ikemajima	2.88	260	P	Pn	08 31 32.9	-0.3
MKAR	Makanchi Array	42.16	312	P	P	08 38 51.0	+12
	0.4nm,0.6s,baz=116,slow=8.4,SNR=3.7						
	0.4nm,0.6s						
WRA	Warramunga Arr	45.49	172	P	P	08 39 07.6	+1.3
	0.5nm,0.7s,baz=352,slow=8.5,SNR=7.0						
	0.5nm,0.7s						
ASAR	Alice Springs	49.11	173	P	P	08 39 36.6	+2.1
	0.3nm,0.6s,baz=359,slow=7.7,SNR=7.4						
	0.3nm,0.6s						

IDC 06 08:39:11.6±2.0**, 7°.75S×120°.73E, h205**^{km}±21^{km}**, mb3.1**/2**, mbtmp3.6**/4**, Error ellipse: s-maj=95.6km s-min=20.3km az=54.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAPI	Kappang	2.89	340	P	Pn	08 39 59.9	-0.3
	17nm,0.5s,baz=190,slow=7.8,SNR=6.7						
WRA	Warramunga Arr	17.91	134	P	P	08 43 07.0	+0.7
	0.3nm,0.5s,baz=308,slow=12,SNR=14						
WRA				S	S	08 46 22.3	+1.0
	0.4nm,0.5s,baz=309,slow=23,SNR=1.9						
ASAR	Alice Springs	20.25	143	P	P	08 43 31.5	0.0
	0.9nm,0.5s,baz=322,slow=11,SNR=18						
ASAR				S	S	08 47 07.7	+0.3
	0.8nm,0.8s,baz=322,slow=22,SNR=9.3						
ASAR				ScP	ScP	08 50 53.2	-0.4
	0.3nm,0.7s,baz=337,slow=2.0,SNR=5.1						
	0.9nm,0.5s						
STKA	Stephens Creek	30.88	144	P	P	08 45 08.9	-0.1
	1.0nm,0.5s,baz=323,slow=10,SNR=4.5						
	1.0nm,0.5s						

CNRM 06 08:40:58.7, 33°.95N×5°.32W, h8^{km}**, ml2.4, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SICH	Sidi Chahed	0.15	0	P	Pg	08 41 02.0	0.0
SICH	Sidi Chahed	0.15	0	S	Sg	08 41 05.0	+0.8
LCRM	LCR	0.47	125	P	Pg	08 41 08.0	+0.2
LCRM				S	Sb	08 41 24.0	+7.6
LCRM	LCR	0.47	125	P	Pg	08 41 07.8	0.0
LCRM				S	Sb	08 41 15.5	-0.9
RSA	Sarsar	1.02	336	P	Pb	08 41 18.5	-0.1
RSA				S	Sb	08 41 33.0	+0.7
CHEFC	Chefchaouen	1.15	359	P	Pg	08 41 20.1	-0.8
CHEFC				S	Sn	08 41 37.1	-0.2
MD31	MD31	1.18	157	P	Pg	08 41 21.2	-0.2
MD31				S	Sn	08 41 39.1	+1.2
ZHG	ZHG	1.22	246	P	Pn	08 41 25.0	+2.9
ZHG	ZHG	1.22	246	P	Pn	08 41 23.3	+1.2
ZHG				S	Sn	08 41 43.0	+4.3
MDT	Midelt	1.28	152	P	Pn	08 41 23.0	-0.1
MDT				S	Sn	08 41 41.7	+1.3
SMIR	Smir Dam	1.73	358	P	Pn	08 41 10.2	-19
GOG	Mont Gurugu	2.29	56	P	Pn	08 41 13.0	-24
GOG	Mont Gurugu	2.29	56	P	Pn	08 41 36.4	-0.6
GOG				S	Sn	08 42 06.6	+1.1
JBK	JBK	2.31	80	P	Pn	08 41 35.4	-1.9
JBK				S	Sn	08 42 04.8	-1.3
TAF	Taforalt	2.55	69	P	Pn	08 41 40.8	+0.3
TAF				S	Sn	08 42 11.9	+0.2
PVAQ	Vaqueiros	3.96	331	eP	Pn	08 41 57.3	-2.5
PVAQ				eS	Sn	08 42 42.7	-3.7
PCVE	Castro Verde	4.29	330	eS	Sn	08 42 50.2	-4.3

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*TAP **06** 08:55:22.3, 24°.07N×122°.82E, h25^{km}, ML2.6, D*
*JMA **06** 08:55:22.4±0.1, 24°.0N±0°.5×122°.9E±0°.4, h13^{km}±2^{km}, MV2.3/12, NW OFF ISHIGAKIJIMA IS*
ISC 06 08:55:21.2±1.1**, 23°.96N**±0°.04×**122°.84E**±0°.02**, h16**^{km}±9^{km}**, n45, σ0^{s}53**/79**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.50	11	P	Pg	08 55 31.1	-0.1
JYNG				eS	Sg	08 55 37.4	-0.5
EOS4	EOS4	0.50	289	P	Pb	08 55 31.6	+0.1
	baz=277						
EOS4				S	Sb	08 55 38.7	+0.2
	baz=277						
YOJ	Yonaguni jima	0.52	17	P	Pg	08 55 31.7	+0.1
YOJ				S	Sg	08 55 38.0	-0.7
YOJ	Yonaguni jima	0.52	17	P	Pg	08 55 31.9	+0.3
	baz=22						
YOJ				S	Sg	08 55 38.0	-0.7
	baz=22						
EOS3	EOS3	0.58	304	P	Pb	08 55 33.0	+0.1
	baz=300						
EOS3				S	Sb	08 55 40.7	-0.1
	baz=300						
EOS2	EOS2	0.72	310	P	Pg	08 55 35.8	+0.5
	baz=299						
EOS2				eS	Sn	08 55 46.4	-0.8
	baz=299						
HATJ	Hateruma jima	0.89	84	eS	Sg	08 55 50.9	+0.7
IRIF	Iriomote-Funau	0.90	65	eP	Pb	08 55 38.3	0.0
IRIF				eS	Sg	08 55 50.6	+0.2
EWUT	Wuta	1.08	297	eP	Pb	08 55 41.2	-0.4
	baz=300						
EWUT				eS	Sb	08 55 55.7	+0.2
	baz=300						
JKRS	Kuro-shima	1.10	75	eP	Pg	08 55 42.8	+0.2
ENA	Nanau	1.11	295	eP	Pn	08 55 41.5	-0.5
	baz=298						
ENA				S	Sb	08 55 56.1	-0.1
	baz=298						
TWC	Suao	1.11	306	eP	Pn	08 55 41.1	-1.0
	baz=301						
NACB	Ninganchiao	1.16	281	eP	Pn	08 55 42.2	-0.5
	baz=260						
NACB				eS	Sn	08 55 58.5	+0.3
	baz=260						
ETM	Tongmen	1.23	271	eS	Sb	08 55 59.7	-0.1

	baz=265						
JIJ	Ishigaki jima	1.26	71	P	Pg	08 55 45.2	-0.2
JIJ				eS	Sn	08 56 00.9	+0.3
ETLH	Xiulin Townshi	1.27	282	eP	Pn	08 55 44.4	+0.1
	baz=277						
ETLH				eS	Sb	08 56 01.0	+0.2
	baz=277						
TWB1	Santiao Chiao	1.30	324	eP	Pb	08 55 45.9	+0.6
	baz=336						
TWB1				eS	Sn	08 56 01.4	-0.4
	baz=336						
LXIB	Xiulin Townshi	1.31	273	eP	Pn	08 55 45.0	+0.1
	baz=268						
TWE	Neicheng	1.31	306	eP	Pb	08 55 46.1	+0.6
	baz=301						
LATG	Datong	1.33	296	eP	Pb	08 55 45.8	-0.1
	baz=291						
ENTT	Nioudou	1.35	301	eP	Pb	08 55 46.3	+0.2
	baz=296						
WARBT	Fenglin Townsh	1.35	260	eP	Pn	08 55 45.5	0.0
	baz=243						
WARBT				eS	Sn	08 56 02.5	-0.6
	baz=243						
TIPB	Shuangxi	1.37	318	eP	Pn	08 55 46.1	+0.4
	baz=315						
TIPB				eS	Sn	08 56 03.1	-0.3
	baz=315						
HGSD	Ruisui	1.38	251	eP	Pn	08 55 45.8	0.0
	baz=246						
HGSD				eS	Sn	08 56 03.5	-0.2
	baz=246						
FUSB	Fushanzhiwuyua	1.39	305	eP	Pb	08 55 46.8	-0.1
	baz=313						
SXI1	Grass Mountain	1.43	322	eP	Pn	08 55 46.6	0.0
	baz=327						
SXI1				eS	Sb	08 56 05.3	-0.3
	baz=327						
WHF	Hehuan Shan	1.45	278	eP	Pn	08 55 47.7	+0.5
	baz=274						
WHF				eS	Sn	08 56 06.5	+0.3
	baz=274						
EHY	Hungye	1.46	252	eP	Pn	08 55 46.8	-0.1
	baz=248						
EHY				eS	Sn	08 56 05.9	+0.1
	baz=248						
NWLT	Wulai	1.47	304	eP	Pb	08 55 48.2	0.0
	baz=300						
NWLT				eS	Sb	08 56 06.8	+0.3
	baz=300						
NWF	Wu-fen Shan	1.47	319	eP	Pn	08 55 47.5	+0.4
	baz=317						
NWF				eS	Sn	08 56 05.8	-0.2
	baz=317						
WFSB	Wu-fen Shan	1.47	319	eP	Pn	08 55 47.6	+0.6
	baz=317						
WFSB				eS	Sn	08 56 05.6	-0.3
	baz=317						
JISG	Ishigakijimahi	1.48	65	P	Pb	08 55 48.0	-0.3
JISG				S	Sb	08 56 07.1	+0.2
FUSS	Fushou	1.49	281	eP	Pn	08 55 48.3	+0.8
	baz=277						
FUSS				eS	Sb	08 56 07.5	+0.2
	baz=277						
YHNB	Yeheng	1.51	298	eP	Pb	08 55 49.3	+0.4
	baz=304						
YHNB				eS	Sb	08 56 09.2	+1.3
	baz=304						
YULB	Yu-li	1.52	249	eP	Pn	08 55 47.5	-0.3
	baz=232						
YULB				eS	Sn	08 56 07.2	-0.1
	baz=232						
CHGB	Renai	1.53	274	eP	Pn	08 55 48.8	+0.7
	baz=270						
CHGB				eS	Sn	08 56 07.7	0.0
	baz=270						
NSK	Sanguang	1.53	298	eP	Pb	08 55 49.4	+0.1
	baz=304						
NSK				eS	Sb	08 56 08.4	0.0
	baz=304						
TWF1	Yuli	1.54	247	eP	Pn	08 55 47.8	-0.2
	baz=231						
TWF1				eS	Sn	08 56 06.1	-1.6
	baz=231						
VWDT	VWDT	1.57	263	eP	Pn	08 55 49.0	+0.6
	baz=259						
VWDT				eS	Sn	08 56 07.5	-0.9
	baz=259						
WUSB	Renai	1.58	272	eP	Pn	08 55 49.1	+0.5
	baz=268						
WUSB				eS	Sb	08 56 09.5	-0.3
	baz=268						
FULB	Fuli	1.61	242	eP	Pn	08 55 49.3	+0.4
	baz=226						
FULB				eS	Sn	08 56 08.6	-0.8
	baz=226						
WHP	Taichung City	1.76	281	eP	Pb	08 55 52.6	-0.6
	baz=265						
WHP				eS	Sb	08 56 14.6	-0.5
	baz=265						
WHYT	Xinyi Township	1.84	262	eP	Pn	08 55 53.5	+1.4
	baz=258						
ELDTW	Lidau	1.84	246	eP	Pn	08 55 51.5	-0.7
	baz=242						
ALS	Alishan	1.92	257	eP	Pn	08 55 54.5	+1.0
	baz=254						
ALS				eS	Sn	08 56 18.2	+0.8
	baz=254						

*IDC **06** 08:58:05.3±1.1, 38°.49N×144°.93E, h0^{km}, mb3.5/7, mbtmp3.6/10, ML3.3/3, MS3.1/3, Error ellipse: s-maj=25.0km s-min=24.1km az=126.0*
*JMA **06** 08:58:08.6±0.2, 38°.5N±0°.8×14°5E±°, h42^{km}, MV3.7/33, FAR E OFF NORTH HONSHU*
*NIED **06** 08:58:08.6, 38°.53N×144°.67E, h42^{km}, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-4.52; $M_{\theta\theta}$1.20; $M_{\phi\phi}$3.31; $M_{r\theta}$1.29; $M_{\theta\phi}$0.33; $M_{\phi r}$4.34; Fault plane solution: $M_0$6.00000×10^{14} NP1: ϕ_s194.00000°, δ70.00000°, λ-87.00000°. NP2: ϕ_s7.00000°, δ21.00000°, λ-97.00000°.*
ISC 06 08:58:10.3±1.0**, 38°.61N**±0°.06×**144°.76E**±0°.07**, h35^{km}, n32, σ2s.15**/41**, mb3.5**/7**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.46	282	iP	Pn	08 58 46.8	-1.0
OFUJ				eS	Sn	08 59 15.2	-1.4
MIYJ	Miyakonagasawa	2.48	294	P	Pn	08 58 47.1	-1.1
MIYJ				eS	Sn	08 59 15.8	-1.5
JKMT	Kesennumamotoy	2.58	275	P	Pn	08 58 48.4	-1.1
JKMT				eS	Sn	08 59 17.8	-1.7
JMK	Ichinoseki	2.79	278	P	Pn	08 58 51.8	-0.5
JMK				S	Sn	08 59 23.9	-0.8
JOM	Ohasama	2.83	289	P	Pn	08 58 52.4	-0.6
JANG	Nango	3.06	306	P	Pn	08 58 55.3	-0.9
JYK	Kaneyama	3.45	276	P	Pn	08 59 01.6	0.0
JYK				S	Sn	08 59 41.5	+0.3
JOTO	OTAMA OYAMA	3.64	255	P	Pn	08 59 03.7	-0.5
JOTO				S	Sn	08 59 44.4	-1.6
JOT	Ohata	3.97	315	eP	Pn	08 59 09.0	+0.4
JOT				S	Sn	08 59 52.1	-1.9
JCH	Churui	4.14	346	P	Pn	08 59 09.4	-1.6
JCH				S	Sn	08 59 55.6	-2.5
NEM2	Nemuro 2	4.81	9	eP	Pn	08 59 18.5	-1.7
NEM2				eS	Sn	09 00 09.0	-5.6
BSO1	Boso 1	4.98	219	eS	Sn	09 00 14.3	-3.8
JOSM	Okushiri--Mats	5.32	312	eP	Pn	08 59 28.3	+1.2
JRY	Ryogami san	5.34	243	P	Pn	08 59 26.0	-1.4
JRY				eS	Sn	09 00 23.2	-4.5
JTKR	Abashiri--Toko	5.39	353	P	Pn	08 59 27.1	-1.0
JTKR				eS	Sn	09 00 25.6	-3.4
MJAR	Matsushiro Arr	5.59	250	Pn	Pn	08 59 31.0	0.0
	0.3nm,0.3s,baz=52,slow=10,SNR=28						
MJAR				Sn	Sn	09 00 38.1	+4.0
	0.2nm,0.3s,baz=249,slow=31,SNR=4.3						
	6.0nm,0.6s						
JHR	Hokuryu	5.62	337	eP	Pn	08 59 32.6	+1.4
JHR				eS	Sn	09 00 34.6	+0.2
JOD2	Odawara 2	5.64	235	eS	Sn	09 00 29.5	-5.6
ASAJ	Asahikawa	5.74	344	Pn	Pn	08 59 32.4	-0.5
	0.7nm,0.3s,baz=175,slow=12,SNR=7.2						
ASAJ				Sn	Sn	09 00 37.4	-0.1
	0.7nm,0.3s,baz=250,slow=28,SNR=1.7						
	4.4nm,0.4s						
USRK	Ussuriysk Ar.	11.09	304	Pn	Pn	09 00 47.0	+0.7
	0.4nm,0.3s,baz=109,slow=14,SNR=6.1						
	3.2nm,0.6s						
KSRS	Korea Array	13.32	270	LR	LR	09 05 32.4	
	comp=Z,27nm,21.8s,baz=35,slow=33						
H11N2	WAKE ISLAND Hy	26.85	128	T	T	09 31 38.5	
	baz=319,slow=74,SNR=5.9						
H11N1	WAKE ISLAND Hy	26.86	128	T	T	09 31 43.1	
	baz=319,slow=74,SNR=6.6						
H11N3	WAKE ISLAND Hy	26.87	128	T	T	09 31 40.8	
	baz=319,slow=74,SNR=5.6						
ZALV	Zalesovo Beam	42.84	311	P	P	09 06 07.3	+2.6
	0.5nm,0.5s,baz=126,slow=7.3,SNR=1.9						
ZALV				LR	LR	09 25 31.4	
	comp=Z,13nm,18.2s,baz=274,slow=38						
	0.5nm,0.5s						
MKAR	Makanchi Array	45.54	301	P	P	09 06 28.0	+1.5
	0.4nm,0.7s,baz=93,slow=7.2,SNR=3.0						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	47.14	307	P	P	09 06 40.0	+1.1
	0.4nm,0.5s,baz=82,slow=8.0,SNR=5.0						
	0.4nm,0.5s						
BVAR	Borovoye Array	51.48	312	P	P	09 07 13.5	+1.5
	0.2nm,0.3s,baz=101,slow=7.5,SNR=2.0						
	0.2nm,0.3s						
YKA	Yellowknife Ar	61.10	31	P	P	09 08 21.0	+0.6
	0.2nm,0.8s,baz=233,slow=6.1,SNR=2.1						
	0.2nm,0.8s						
ASAR	Alice Springs	62.78	191	P	P	09 08 31.6	-0.6
	0.6nm,0.7s,baz=13,slow=7.6,SNR=8.5						
	0.6nm,0.7s						
FINES	FINESS Array B	68.63	333	LR	LR	09 44 15.0	
	comp=Z,55nm,19.1s,baz=248,slow=40						
PDAR	Pinedale Array	74.67	47	P	P	09 09 47.2	+0.8
	0.2nm,0.6s,baz=270,slow=3.6,SNR=1.4						
	0.2nm,0.6s						

*NEIC **06** 09:08:20.0±0.7, 39°.05N±0°.02×118°.81W±0°.01, h11^{km}±8^{km}, Error ellipse: s-maj=2.3km s-min=1.6km az=174.0*
REN 06 09:08:19.9±0.6**, 39°.05N**±0°.02×**118°.81W**±0°.02**, h12^{km}**±7^{km}**, ML2.7, ML2.6**/30(NEIC)**, Error ellipse: s-maj=2.6km s-min=1.8km az=199.0, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YERR	Yerington	0.34	260		Pg	09 08 27.1	+0.2
YERR				Sg	Sg	09 08 32.0	+0.4
RYN	Ryan	0.47	152	Pg	Pg	09 08 29.4	+0.2
RYN				Sg	Sb	09 08 36.3	-0.8
KVN	Kaiserville	0.55	89	Pg	Pg	09 08 30.9	+0.2
KVN				IAML		09 08 38.9	
	comp=N,363nm,0.4s						
PNTR	Pine Nut	0.62	274	Pg	Pg	09 08 32.1	+0.2
PNTR				IAML		09 08 41.1	
	comp=N,406nm,0.7s						
PNTR				IAML		09 08 42.0	
	comp=E,376nm,0.6s						
NV09	Mina Array Sit	0.71	148		Pg	09 08 33.9	+0.2
WAKR	Walker	0.73	222		Pg	09 08 34.1	0.0
WAKR				IAML		09 08 44.7	
	comp=E,232nm,0.5s						
NVAR	Mina Array Bea	0.73	147		Pg	09 08 34.2	+0.1
NV08	Mina Array Sit	0.75	149		Pg	09 08 34.5	+0.1
PAHR	Pah Rah Range	0.80	326		Pg	09 08 35.4	+0.1
PAHR				IAML		09 08 47.0	
	comp=N,272nm,0.3s						
NV11	Mina Array Sit	0.80	140		Pg	09 08 35.2	-0.1
NV11				IAML		09 08 50.6	
	comp=N,180nm,0.3s						
LHV	Little Huntoon	0.83	163		Pb	09 08 36.2	+0.1
LHV				IAML		09 08 49.2	
	comp=N,293nm,0.4s						
LHV				IAML		09 08 53.2	
	comp=E,262nm,0.6s						
MPK	Martis Peak	0.98	285		Pg	09 08 38.8	0.0
MPK				IAML		09 08 56.5	
	comp=N,183nm,0.8s						
MPK				IAML		09 08 59.2	
	comp=E,188nm,0.5s						
EMB	Emerald Bay	1.01	266		Pg	09 08 39.3	-0.1
PEAR	Peavine Mounta	1.05	303		Pg	09 08 40.3	+0.1
DONR	Donner Summit	1.21	285		Pb	09 08 42.9	0.0
LOY	Loyalton	1.27	299		Pb	09 08 43.9	+0.1
BENR	Benton	1.34	172		Pb	09 08 45.2	+0.1
MDYM	Dry Creek	1.39	187		Pg	09 08 46.5	-0.2
MCBM	Casa Benchmark	1.40	183		Pg	09 08 47.2	+0.5
MLAC	Mammoth, Mammo	1.41	181		Pg	09 08 46.8	-0.2
MDPB	Devils Postpil	1.43	189		Pb	09 08 46.7	+0.2
OMMB	Old Mammoth Mi	1.44	186		Pb	09 08 46.8	0.0
BEKR	Beckworth	1.45	305		Pb	09 08 46.9	0.0
BMRR	Black Mountain	1.56	313		Pb	09 08 48.8	-0.1
TPH	Tonopah	1.58	127	Pn	Pn	09 08 48.3	+0.5
CMB	Columbia Colle	1.60	231	Pn	Pb	09 08 48.8	-0.4
CMB				IAML		09 09 12.6	
	comp=E,63nm,0.6s						
CMB				IAML		09 09 13.4	
	comp=N,66nm,0.5s						
AFDM	Forest Hills D	1.69	267	Pn	Pb	09 08 50.4	-0.5
PLTX	Planet X, Gerl	1.74	343	Pn	Pn	09 08 50.5	+0.6
BMN	Battle Mountai	1.85	41	Pn	Pn	09 08 51.4	-0.1
ELK	Elko	3.23	57	Pn	Pn	09 09 11.4	+0.8

IDC 06 09:10:54.9±4.3**, 58°.36S**×**150°.18E, h0^{km}, mb3.4**/2**, mbtmp3.2**/3**, ML2.6**/1**, MS3.3**/3**, Error ellipse: s-maj=388.6km s-min=31.7km az=75.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	Vanda	19.66	172	P	P	09 15 24.8	+0.1
	baz=342,slow=13,SNR=2.4						
	0.5nm,1.0s						
URZ	Urewera	26.62	53	LR	LR	09 26 09.2	
	comp=Z,40nm,19.5s,baz=48,slow=34						
H01W1	Cape Leeuwin H	33.45	299	T	T	09 52 15.1	
	baz=145,slow=75,SNR=17						
H01W2	Cape Leeuwin H	33.46	299	T	T	09 52 14.0	
	baz=145,slow=75,SNR=15						
H01W3	Cape Leeuwin H	33.47	299	T	T	09 52 12.4	
	baz=145,slow=75,SNR=13						
ASAR	Alice Springs	36.57	334	P	P	09 18 02.5	+0.3
	0.2nm,0.5s,baz=164,slow=9.2,SNR=7.2						
	0.2nm,0.5s						
CTA	Charters Tower	38.33	354	LR	LR	09 32 21.4	
	comp=Z,58nm,18.8s,baz=202,slow=34						
WRA	Warramunga Arr	40.08	336	P	P	09 18 31.2	-0.6
	0.6nm,0.9s,baz=164,slow=7.3,SNR=3.2						
	0.6nm,0.9s						
H04S2	CROZET ISLANDS	55.53	235	T	T	10 20 49.2	
	baz=140,slow=75,SNR=6.6						
H04S1	CROZET ISLANDS	55.53	235	T	T	10 20 49.8	
	baz=140,slow=75,SNR=8.6						
H04S3	CROZET ISLANDS	55.55	235	T	T	10 20 48.6	
	baz=140,slow=75,SNR=9.2						
KAPI	Kappang	58.23	324	LR	LR	09 43 50.3	
	comp=Z,20nm,20.5s,baz=121,slow=34						

*IDC **06** 09:12:25.9±1.1, 51°.59N×75°.47E, h0^{km}, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=31.1km s-min=8.7km az=31.0*
*NNC **06** 09:12:25.0±1.1, 51°.65N×75°.42E, h0^{km}, mb3.6, mpv3.3, Error ellipse: s-maj=10.6km s-min=5.1km az=178.0, Suspected Mining explosion.*
ISC 06 09:12:25.8±1.1**, 51°.41N**±0°.07×**75°.43E**±0°.04**, h0^{km}, n19, σ2s.47**/18**, 4C-6D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.12	111	Pg	Pb	09 13 04.8	-0.1
	1.1nm,0.3s,baz=303,slow=18,SNR=68						
KURBB				Lg	Lg	09 13 33.2	
	1.0nm,0.3s,baz=297,slow=32,SNR=8.0						
KURBB	Kurchatov Arra	2.12	111	⇑Pg	Pb	09 13 05.7	+0.8
	6.4nm,0.4s						
KURBB				⇑Lg	Lg	09 13 35.8	
	63nm,0.6s						
KURK	Kurchatov	2.13	108	⇓Pg	Pb	09 13 05.6	+0.3
	4.4nm,0.4s						
KURK				⇓Lg	Lg	09 13 32.4	
	8.2nm,0.4s						
BRZS	Berezniki	2.26	232	Pg	Pb	09 13 08.0	+0.5
	7.9nm,0.5s						
BRZS				Lg	Lg	09 13 39.8	
	24nm,0.5s						
SEM	Semipalatinsk	3.22	106	Pg	Pn	09 13 17.7	0.0
	4.3nm,0.1s						
SEM				Lg	Lg	09 13 56.5	
	7.3nm,0.1s						
BVA0	Borovoye Array	3.49	299	⇓Pg	Pb	09 13 28.8	+0.4
	1.7nm,0.4s,baz=116,slow=15,SNR=8.2						
BVA0				⇓Lg	Lg	09 14 09.7	
	11nm,0.5s,baz=106,slow=28,SNR=9.9						
BVAR	Borovoye Array	3.49	299	Pn	Pn	09 13 20.3	-1.0
	0.1nm,0.3s,baz=112,slow=16,SNR=17						
BVAR				Lg	Lg	09 14 10.1	
	0.6nm,0.3s,baz=113,slow=25,SNR=10						
	1.8nm,0.6s						
OTUK	Ortayu	3.75	213	Pg	Pg	09 13 37.7	+0.1
	0.9nm,0.3s						
OTUK				Lg	Lg	09 14 31.5	
	4.0nm,0.6s						
OTUK	Ortayu	3.75	213	⇑Pg	Pg	09 13 37.9	+0.3
	1.1nm,0.4s						
OTUK				⇓Lg	Lg	09 14 32.7	
	7.7nm,0.6s						
I46RU	ZALESOVO INFRA	6.25	62	I	I	09 50 40.0	
	baz=248,slow=324,SNR=0.6						
ZALV	Zalesovo Beam	6.25	62	Pn	Pn	09 13 58.5	-0.6
	0.8nm,0.3s,baz=259,slow=14,SNR=5.8						
	2.9nm,0.4s						
MK31	Makanchi Array	6.46	133	⇑Sn	Sn	09 15 22.5	+6.1
	0.8nm,0.5s,baz=332,slow=20,SNR=4.8						
MK31				⇓Lg	Lg	09 15 55.1	
	3.1nm,0.5s,baz=318,slow=24,SNR=3.5						
MKAR	Makanchi Array	6.46	133	Pn	Pn	09 14 02.8	+0.8
	0.3nm,0.3s,baz=321,slow=13,SNR=6.4						
MKAR				Sn	Sn	09 15 18.6	+2.2
	0.6nm,0.3s,baz=327,slow=13,SNR=7.7						
MKAR				Lg	Lg	09 15 52.2	
	0.5nm,0.3s,baz=317,slow=25,SNR=4.7						
	0.3nm,0.4s						
KAPS	Kapalarasan	6.67	155	Pg	Pg	09 14 30.7	-2.8
	0.7nm,0.2s						
KAPS				Lg	Lg	09 16 01.0	
	4.7nm,0.5s						
ARXS	Arharly	7.38	166	Pg	Pg	09 14 45.2	-2.0
	0.8nm,0.3s						
ARXS				Lg	Lg	09 16 26.4	
	8.3nm,0.5s						
CHKK	Chushkaly	7.64	171	Pg	Pg	09 14 48.5	-3.5
	0.6nm,0.1s						
CHKK				Lg	Lg	09 16 31.8	
	4.8nm,0.4s						
DJR	Jarkent	7.67	156	Pg	Pg	09 14 50.6	-2.0
	0.2nm,0.1s						
DJR				Lg	Lg	09 16 35.2	
	2.6nm,0.5s						
MRKS	Merke	8.80	191	Pg	Pg	09 15 10.1	-4.2
	0.9nm,0.2s						
MRKS				Lg	Lg	09 17 08.4	
	3.4nm,0.7s						
AAK	Ala-Archa	8.80	184	Lg	Lg	09 17 09.3	
	0.2nm,0.3s,baz=197,slow=24,SNR=1.7						

IDC 06 09:26:13.9±2.4**, 54°.25N**×**86°.00E, h0^{km}, mbtmp3.0**/2**, ML2.9**/2**, Error ellipse: s-maj=18.1km s-min=10.7km az=55.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.76	247	I	I	09 31 09.1	
	baz=66,slow=340,SNR=9.2						
ZALV	Zalesovo Beam	0.76	247	Pg	Pg	09 26 26.9	-1.5
	1.5nm,0.3s,baz=64,slow=17,SNR=11						
ZALV				Lg	Lg	09 26 39.7	
	8.6nm,0.3s,baz=66,slow=28,SNR=9.8						
KURBB	Kurchatov Arra	5.84	235	Pn	Pn	09 27 42.9	+1.3
	0.1nm,0.3s,baz=51,slow=13,SNR=10						
KURBB				Lg	Lg	09 29 19.1	
	0.1nm,0.3s,baz=50,slow=32,SNR=2.0						
	0.5nm,0.3s						
MKAR	Makanchi Array	7.83	199	Pn	Pn	09 28 09.8	+0.8
	0.5nm,0.3s,baz=23,slow=13,SNR=10						
	0.4nm,0.3s						

*NEIC **06** 09:28:45.8±0.2, 18°.6N±0°.1×66°.80W±0°.03, h95^{km}±6^{km}, ML3.4/12, Md3.1/6(RSPR), Error ellipse: s-maj=14.9km s-min=4.6km az=181.0*
*SDD **06** 09:28:45.9±2.2, 18°.30N×66°.76W, h117^{km}±18^{km}, MD3.7, ML3.4, MW3.5*
*OSPL **06** 09:28:48.0±1.0, 18°.44N×66°.84W, h96^{km}±11^{km}, ML3.3*
ISC 06 09:28:44.9±1.4**, 18°.5N**±0°.1×**66°.81W**±0°.04**, h103^{km}**±11^{km}**, n24, σ0s.72**/40**, 7C-7D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AOPR	Arecibo Observ	0.20	166		Pn	09 28 59.5	0.0
AOPR					Sn	09 29 09.8	-0.7
LSP	Las Mesas	0.45	217		Pn	09 29 00.7	-0.1
LSP					Sn	09 29 12.2	-0.3
OBIP	Obispado Ponce	0.53	159		Pn	09 29 01.5	+0.3
OBIP					Sn	09 29 12.9	-0.5
OBIP				IAML		09 29 14.2	
	comp=E,928nm,0.2s						
GBPR	Guanica, Bosqu	0.56	187		Pn	09 29 01.9	+0.5
GBPR					Sn	09 29 13.8	-0.1
CRPR	Cabo Rojo, PR	0.60	209		Pn	09 29 02.1	+0.3
CRPR					Sn	09 29 14.0	-0.4
CRPR				IAML		09 29 14.2	
	comp=N,676nm,0.2s						
CRPR	Cabo Rojo, PR	0.60	209	⇑ePg	Pn	09 29 02.1	+0.3
CRPR				IAML	Sn	09 29 14.0	-0.4
	comp=E,886nm,0.2s						
CRPR				⇓eSg	Sn	09 29 14.1	-0.4
CRPR				IAML		09 29 14.1	
	comp=N,857nm,0.2s						
CRPR	Cabo Rojo, PR	0.60	209	iP	Pn	09 29 02.0	+0.3
CRPR				eS	Sn	09 29 13.6	-0.8
CRPR				IAML		09 29 14.1	
	comp=Z,807nm,0.5s						
IDE	Isla Desecheo	0.65	257		Pn	09 29 02.4	+0.2
IDE					Sn	09 29 14.8	-0.4
SJG	San Juan	0.75	124		Pn	09 29 03.6	+0.5
SJG				IAML		09 29 19.3	
	comp=Z,601nm,0.2s						
SJG	San Juan	0.75	124	⇓ePg	Pn	09 29 03.5	+0.5
SJG				⇓eSg	Sn	09 29 16.6	-0.1
PCDR	Punta Cana, DR	1.50	269	⇑ePg	Pn	09 29 11.0	-0.2
PCDR				IAML		09 29 32.0	
	comp=E,188nm,0.7s						
PCDR				⇓eSg	Sn	09 29 32.1	+0.8
PCDR				IAML		09 30 09.7	
	comp=N,417nm,0.8s						
PCDR	Punta Cana, DR	1.50	269	iP	Pn	09 29 12.2	+0.9
PCDR				eS	Sn	09 29 30.6	-0.6
PCDR				IAML		09 29 37.6	
	comp=Z,286nm,0.7s						
SADR	Isla Saona	1.91	260	⇑ePg	Pn	09 29 16.0	-0.3
SADR				⇑eSg	Sn	09 29 39.7	-0.7
SADR				IAML		09 29 42.2	
	comp=E,187nm,0.5s						
SADR				IAML		09 29 44.6	
	comp=N,301nm,0.8s						
HATOM	Hato Mayor del	2.46	276	⇑ePg	Pn	09 29 25.4	+1.9
HATOM				⇓eSg	Sn	09 29 53.0	-0.2
HATOM				IAML		09 29 58.4	
	comp=N,33nm,0.1s						
HATOM				IAML		09 30 01.0	
	comp=E,66nm,3.2s						
NADR	Nagua	3.00	286	⇓ePg	Pn	09 29 30.1	-0.6
NADR				⇑eSg	Sn	09 30 06.0	0.0
NADR				IAML		09 30 07.2	
	comp=N,478nm,0.2s						
NADR				IAML		09 30 17.4	
	comp=E,292nm,1.2s						
SMRT	St. Maarten	3.58	97	Pn	Pn	09 29 38.5	+0.1
SMRT				IAML		09 31 52.1	
	comp=N,78nm,2.1s						
ABDR	Alto Bandera	3.63	275	⇓ePg	Pn	09 29 41.0	+1.5
ABDR				⇑eSg	Sn	09 30 20.1	-1.6
ABDR				IAML		09 30 27.7	
	comp=E,40nm,0.9s						
ABDR				IAML		09 30 51.1	
	comp=N,45nm,1.1s						
SC01	Santiago de lo	3.82	284	iP	Pn	09 29 42.7	+1.1
SC01				IAML		09 30 29.3	
	comp=Z,50nm,4.9s						
SDDR	Presa de Saban	4.27	277	Pn	Pn	09 29 48.5	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SDDR				IAML		09 31 54.4	
	comp=Z,43nm,2.9s						
SDDR				IAML		09 32 11.0	
	comp=Z,30nm,3.1s						
SDDR	**Presa de Saban**	**4.27**	**277**	*i* P	**Pn**	**09 29 48.5**	**+0.7**
SDDR				IAML		09 30 45.2	
	comp=Z,16nm,2.1s						
LOPE2	**Hotel El Peder**	**4.72**	**265**	*i* P	**Pn**	**09 29 54.7**	**+0.9**
ANBD	**Bethesda, Anti**	**5.02**	**106**	*e*P	**Pn**	**09 29 58.7**	**+0.8**
ANBD	**Bethesda, Anti**	**5.02**	**106**	*e*S	**Sn**	**09 30 54.0**	**-0.8**
BIM	**Bigot**	**6.80**	**125**	Pn	**Pn**	**09 30 22.5**	**+0.4**

*KRNET **06** 09:35:10.7±0.1, 43°.47N×69°.41E, mb2.9*
*NNC **06** 09:35:12.3±2.5, 43°.64N×69°.72E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=18.5km s-min=9.1km az=78.0, Suspected Mining explosion.*
*SOME **06** 09:35:13.5, 43°.52N×69°.92E*
ISC 06 09:35:11.8±1.7**, 43°.44N**±0°.05×**69°.46E**±0°.08**, h0km, n19, σ1s.62**/31**, 18C-10D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.84**	**113**	⇑P	**Pg**	**09 35 27.2**	**-0.7**
	1.2nm,0.4s,baz=327,slow=17,SNR=18						
KK31				⇑S	**Sg**	**09 35 38.6**	**-0.2**
	23nm,0.6s,baz=305,slow=28,SNR=95						
KKAR	**Karatay Array**	**0.84**	**113**	⇑*i*P	**Pg**	**09 35 27.5**	**-0.4**
	baz=14						
KKAR				⇑*i*S	**Sb**	**09 35 40.0**	**-1.1**
	baz=14						
TRKS	**Terek-Say**	**2.28**	**146**	⇑*i*P	**Pb**	**09 35 53.0**	**-0.9**
	baz=46						
TRKS				⇑*i*S	**Sg**	**09 36 24.1**	**-0.9**
	baz=46						
ARK	**Arkit**	**2.47**	**131**	⇑*e*P	**Pb**	**09 35 55.2**	**-2.0**
	baz=31						
ARK				⇑*e*S	**Sb**	**09 36 26.8**	**-1.4**
	baz=31						
MRKS	**Merke**	**2.84**	**103**	Pg	**Pb**	**09 36 01.6**	**-1.9**
	3.7nm,0.4s						
MRKS				Lg	Lg	09 36 36.7	
	5.9nm,0.4s						
EKS2	**Erkin-Say**	**3.26**	**102**	⇑*e*P	**Pn**	**09 36 05.7**	**+1.4**
	baz=3.0						
EKS2				⇑*i*S	**Sn**	**09 36 46.1**	**+2.3**
	baz=3.0						
ARSB	**Arslanbob**	**3.36**	**128**	⇑*i*P	**Pn**	**09 36 07.0**	**+1.3**
	baz=28						
ARSB				⇑*i*S	**Sn**	**09 36 48.5**	**+2.1**
	baz=28						
AML	**Almayashu**	**3.38**	**111**	⇓*i*P	**Pn**	**09 36 07.6**	**+1.4**
	baz=12						
AML				⇓*i*S	**Sn**	**09 36 49.4**	**+2.2**
	baz=12						
AML	**Almayashu**	**3.38**	**111**	⇓Pg	**Pg**	**09 36 15.6**	**-1.0**
	0.2nm,0.6s						
AML				⇓Lg	Lg	09 36 57.7	
	0.6nm,0.6s						
BTK	**Batken**	**3.53**	**163**	⇓*e*P	**Pn**	**09 36 09.4**	**+1.4**
	baz=62						
BTK				⇓*e*S	**Sn**	**09 36 52.1**	**+1.6**
	baz=62						
BTLS	**Baital**	**3.66**	**63**	Pg	**Pb**	**09 36 15.9**	**-1.5**
	8.2nm,0.5s						
BTLS				Lg	Lg	09 37 01.0	
	3.4nm,0.6s						
USP	**Ospenovka**	**3.68**	**91**	⇑*e*P	**Pn**	**09 36 11.5**	**+1.5**
	baz=91						
USP				⇑*i*S	**Sn**	**09 36 56.0**	**+1.9**
	baz=91						
SGDS	**Sogindy**	**3.77**	**88**	Pg	**Pb**	**09 36 18.5**	**-0.6**
	2.0nm,0.3s						
SGDS				Lg	Lg	09 37 05.4	
	3.7nm,0.3s						
AAK	**Ala-Archa**	**3.78**	**101**	⇓*i*P	**Pn**	**09 36 13.0**	**+1.6**
	baz=1.0						
AAK				⇓*i*S	**Sn**	**09 36 58.5**	**+1.8**
	baz=1.0						
ARLS	**Aral**	**3.92**	**112**	⇑*e*P	**Pn**	**09 36 15.2**	**+1.8**
	baz=12						
ARLS				⇑*e*S	**Sn**	**09 37 01.8**	**+1.6**
	baz=12						
TKM2	**Tokmak 2**	**4.52**	**95**	⇑Pg	**Pb**	**09 36 29.4**	**-2.7**
	2.2nm,0.8s						
TKM2				⇑Lg	Lg	09 37 31.5	
	5.3nm,0.8s						
SFK	**Sufi-Kurgan**	**4.57**	**137**	⇓*i*P	**Pn**	**09 36 23.9**	**+1.5**
	baz=37						
SFK				⇓*i*S	**Sn**	**09 37 17.7**	**+1.4**
	baz=37						
KUU	**Kurty**	**5.01**	**82**	Pg	**Pb**	**09 36 39.9**	**-0.5**
	0.5nm,0.1s						
KUU				Lg	Lg	09 37 42.0	
	4.9nm,0.4s						
OTUK	**Ortayu**	**5.21**	**22**	Pg	**Pb**	**09 36 42.0**	**-1.7**
	0.2nm,0.3s						
OTUK				Lg	Lg	09 37 45.4	
	1.3nm,0.6s						

IDC 06 10:00:03.7±4.3**, 52°.29N×35°.66E, h0km, mbtmp3.8**/3**, ML2.8**/4**, Error ellipse: s-maj=53.8km s-min=14.5km az=123.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.33**	**251**	Pn	Pn	10 01 09.6	-1.1
	0.9nm,0.3s,baz=64,slow=14,SNR=3.6						
AKASG				Pg	Pb	10 01 19.2	-1.4
	2.3nm,0.3s,baz=60,slow=18,SNR=6.7						
AKASG				Sn	Sn	10 01 58.6	-3.2
	1.7nm,0.3s,baz=61,slow=20,SNR=2.8						
AKASG				Lg	Lg	10 02 12.6	
	2.0nm,0.3s,baz=70,slow=29,SNR=2.4						
I43RU	**DUBNA INFRASON**	**4.54**	**11**	I	I	10 27 20.0	
	0.1nm,0.9s,baz=182,slow=322,SNR=6.3						
FINES	**FINESS Array B**	**10.56**	**334**	Pn	Pn	10 02 31.5	-4.7
	0.3nm,0.3s,baz=151,slow=14,SNR=11						
FINES				Sn	Sn	10 04 21.3	-14
	0.1nm,0.3s,baz=153,slow=20,SNR=1.6						
	0.6nm,0.3s						
HFS	**Hagfors**	**14.47**	**311**	Pn	Pn	10 03 20.3	-9.4
	0.1nm,0.3s,baz=117,slow=15,SNR=1.9						
	2.4nm,0.7s						
ARCES	**ARCESS Array B**	**17.95**	**348**	Pn	Pn	10 04 08.9	-5.5
	baz=161,slow=11,SNR=2.0						
	2.9nm,1.0s						

*NOU **06** 10:00:05.6, 41°.66S×173°.12E, h7km, MLv3.5/9, South Island, New Zealand*
*WEL **06** 10:00:05.3±0.4, 42°S±2°×17°3E±°, h9km±4km, M3.2/36, ML3.2/10, MLv3.2/36, Error ellipse: s-maj=0.0km s-min=0.0km az=17.5, confirmed*
ISC 06 10:00:05.5±0.9**, 41°.67S**±0°.02×**173°.11E**±0°.02**, h11km**±8km**, n92, σ0s.98**/109**, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.18**	**238**	P	**Pg**	**10 00 09.7**	**+0.2**
THZ				S	**Sg**	**10 00 12.4**	**+0.1**
BTWS	**Nelson Brightw**	**0.28**	**3**	P	**Pg**	**10 00 10.5**	**-0.7**
BTWS				S	**Sg**	**10 00 15.5**	**+0.5**
MRNZ	**Matariki Terra**	**0.38**	**315**	P	**Pb**	**10 00 13.6**	**-0.6**
MRNZ				S	**Sb**	**10 00 19.4**	**-0.7**
MATW	**Matariki Wadsw**	**0.39**	**308**	P	**Pb**	**10 00 13.8**	**-0.6**
MATW				S	**Sb**	**10 00 19.6**	**-0.7**
NNZ	**Nelson**	**0.49**	**25**	P	**Pg**	**10 00 15.1**	**-0.1**
NNZ				S	**Sb**	**10 00 22.8**	**-0.7**
MOTS	**Motueka DOC wo**	**0.55**	**352**	P	**Pg**	**10 00 16.4**	**+0.2**
MOTS				S	**Sb**	**10 00 24.8**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.58**	**95**	P	**Pb**	**10 00 17.5**	**-0.2**
BSWZ				S	**Sb**	**10 00 25.6**	**-0.3**
BWRS	**Waikakaho Road**	**0.64**	**69**	P	**Pg**	**10 00 17.5**	**-0.5**
BWRS				S	**Sb**	**10 00 27.7**	**+0.1**
TKNZ	**Takaka Hill**	**0.64**	**350**	P	**Pg**	**10 00 17.5**	**-0.5**
TKNZ				S	**Sb**	**10 00 27.6**	**-0.2**
TUWZ	**Tuamarina**	**0.67**	**70**	P	**Pg**	**10 00 18.0**	**-0.5**
TUWZ				S	**Sb**	**10 00 27.9**	**-0.7**
KEKS	**Kekerengu Vall**	**0.71**	**114**	P	**Pb**	**10 00 20.5**	**+0.5**
KEKS				S	**Sb**	**10 00 30.8**	**+0.9**
KHZ	**Kahutara**	**0.81**	**157**	P	**Pb**	**10 00 21.9**	**+0.2**
KHZ	**Kahutara**	**0.81**	**157**	P	**Pb**	**10 00 22.2**	**+0.5**
KHZ				S	**Sb**	**10 00 33.0**	**+0.3**
KIKS	**Kaikoura**	**0.87**	**151**	P	**Pn**	**10 00 23.6**	**-0.1**
KIKS				S	**Sb**	**10 00 35.6**	**+1.3**
QRZ	**Quartz Range**	**0.95**	**332**	P	**Pg**	**10 00 23.1**	**-0.7**
QRZ	**Quartz Range**	**0.95**	**332**	P	**Pg**	**10 00 23.2**	**-0.7**
QRZ				S	**Sb**	**10 00 36.3**	**-0.2**
DSZ	**Denniston Nort**	**0.98**	**265**	P	**Pg**	**10 00 24.1**	**-0.3**
DSZ				S	**Sb**	**10 00 37.5**	**+0.1**
TCW	**Tory Channel**	**0.99**	**63**	P	**Pg**	**10 00 23.6**	**-1.0**
TCW				S	**Sb**	**10 00 37.9**	**+0.1**
DUWZ	**D'Urville Isla**	**1.06**	**36**	P	**Pg**	**10 00 24.8**	**-1.2**
SNZO	**South Karori**	**1.25**	**74**	P	**Pn**	**10 00 28.6**	**-0.3**
LTZ	**Lake Taylor**	**1.27**	**209**	P	**Pn**	**10 00 28.8**	**-0.5**
LTZ				S	**Sb**	**10 00 45.4**	**-0.6**
GVZ	**Greta Valley S**	**1.30**	**182**	P	**Pn**	**10 00 30.0**	**+0.4**
WEL	**Wellington**	**1.31**	**73**	P	**Pn**	**10 00 29.5**	**-0.2**
BHW	**Baring Head**	**1.35**	**80**	P	**Pn**	**10 00 30.4**	**+0.1**
AMCZ	**Amberley**	**1.54**	**192**	P	**Pn**	**10 00 33.4**	**+0.4**
CAW	**Cannon Point**	**1.58**	**70**	P	**Pn**	**10 00 34.0**	**+0.5**
KIW	**Kapiti Island**	**1.58**	**60**	P	**Pn**	**10 00 34.0**	**+0.5**
PLWZ	**Palliser**	**1.61**	**87**	P	**Pn**	**10 00 33.7**	**-0.3**
INZ	**Inchbonnie**	**1.63**	**229**	P	**Pn**	**10 00 34.8**	**+0.7**
PAWZ	**Paruwai Farm**	**1.77**	**81**	P	**Pn**	**10 00 35.6**	**-0.5**
OGWZ	**Otaki Gorge**	**1.77**	**62**	P	**Pn**	**10 00 37.1**	**+1.0**
OXZ	**Oxford**	**1.84**	**205**	P	**Pn**	**10 00 36.6**	**-0.4**
MTW	**Mount Morrison**	**1.87**	**75**	P	**Pn**	**10 00 37.1**	**-0.4**
HOWZ	**Holdsworth Sta**	**1.97**	**68**	P	**Pn**	**10 00 38.9**	**0.0**
OKCZ	**Okains Bay**	**2.06**	**181**	P	**Pn**	**10 00 39.6**	**-0.5**
MQZ	**McQueen's Vall**	**2.06**	**189**	P	**Pn**	**10 00 38.9**	**-1.3**
MRZ	**Mangatainoka R**	**2.12**	**62**	P	**Pn**	**10 00 41.4**	**+0.4**
TMWZ	**Te Maipa**	**2.17**	**76**	P	**Pn**	**10 00 40.9**	**-0.7**
RACZ	**Rakaia**	**2.18**	**199**	P	**Pn**	**10 00 40.9**	**-0.8**
MHCZ	**Mount Hutt**	**2.18**	**211**	P	**Pn**	**10 00 41.6**	**-0.3**
AKCZ	**Akaroa Harbour**	**2.21**	**184**	P	**Pn**	**10 00 41.5**	**-0.6**
OHWZ	**Ohakea**	**2.22**	**50**	P	**Pb**	**10 00 45.6**	**-0.1**
WVZ	**Waitaha Valley**	**2.25**	**231**	P	**Pn**	**10 00 44.5**	**+1.8**
TIWZ	**Tintock**	**2.28**	**68**	P	**Pn**	**10 00 42.7**	**-0.4**
POWZ	**Post Office Ro**	**2.38**	**59**	P	**Pb**	**10 00 48.9**	**+0.5**
WAZ	**Wanganui**	**2.38**	**37**	P	**Pb**	**10 00 47.7**	**-0.8**
LREZ	**Lake Rotokare**	**2.42**	**25**	P	**Pb**	**10 00 49.3**	**+0.3**
PRWZ	**Pori Road**	**2.43**	**64**	P	**Pn**	**10 00 45.2**	**0.0**
WACZ	**Wakanui South**	**2.46**	**202**	P	**Pn**	**10 00 44.8**	**-0.7**
NBEZ	**Newall Road No**	**2.47**	**14**	P	**Pb**	**10 00 47.9**	**-2.0**
KHEZ	**Kahui Hut**	**2.47**	**17**	P	**Pn**	**10 00 47.0**	**+1.2**
KHEZ	**Kahui Hut**	**2.47**	**17**	P	**Pb**	**10 00 49.8**	**-0.1**
RPZ	**Rata Peaks**	**2.54**	**216**	P	**Pn**	**10 00 47.4**	**+0.6**
RPZ	**Rata Peaks**	**2.54**	**216**	P	**Pn**	**10 00 47.3**	**+0.5**
PKE	**Pukeiti**	**2.56**	**15**	P	**Pb**	**10 00 49.5**	**-2.0**
BFZ	**Birch Farm**	**2.57**	**68**	P	**Pn**	**10 00 46.0**	**-1.0**
BFZ	**Birch Farm**	**2.57**	**68**	P	**Pn**	**10 00 46.1**	**-1.0**
GCSZ	**Gaunt Creek Bo**	**2.63**	**230**	P	**Pn**	**10 00 50.4**	**+2.4**
ARCZ	**Arundel**	**2.69**	**211**	P	**Pn**	**10 00 48.4**	**-0.3**
DVHZ	**Dannevirke**	**2.69**	**60**	P	**Pb**	**10 00 55.0**	**+1.3**
TSZ	**Takapari Road**	**2.70**	**54**	P	**Pn**	**10 00 49.4**	**+0.5**
ANWZ	**Angora Road**	**2.82**	**66**	P	**Pn**	**10 00 51.8**	**+1.3**
VRZ	**Vera Road**	**2.84**	**27**	P	**Pn**	**10 00 53.4**	**+2.7**
MTVZ	**Mangateitei**	**2.91**	**39**	P	**Pb**	**10 00 58.0**	**+0.6**
PKVZ	**Pokaka**	**2.93**	**36**	P	**Pb**	**10 00 56.7**	**-1.0**
PNHZ	**Pukenui**	**2.93**	**54**	P	**Pb**	**10 00 58.2**	**+0.4**
WNVZ	**Wahianoa**	**3.01**	**40**	P	**Pb**	**10 00 58.0**	**-1.2**
MOVZ	**Moawhango**	**3.03**	**43**	P	**Pb**	**10 00 59.3**	**-0.1**
FWVZ	**Far West T-bar**	**3.05**	**39**	P	**Pb**	**10 01 01.0**	**+1.1**
FOZ	**Fox Glacier**	**3.06**	**231**	P	**Pn**	**10 00 54.5**	**+0.6**
TUVZ	**Tukino**	**3.08**	**40**	P	**Pb**	**10 00 59.0**	**-1.6**
COVZ	**Chateau Observ**	**3.09**	**38**	P	**Pb**	**10 01 01.6**	**+1.1**
TMZ	**Timaru**	**3.12**	**209**	P	**Pn**	**10 00 54.1**	**-0.6**
BHHZ	**Black Hill Sta**	**3.13**	**47**	P	**Pb**	**10 01 00.8**	**-0.5**
NGZ	**Ngauruhoe**	**3.13**	**38**	P	**Pb**	**10 00 59.3**	**-2.1**
SNVZ	**South Ngauruho**	**3.14**	**39**	P	**Pb**	**10 01 01.9**	**+0.4**
OTVZ	**Oturere**	**3.17**	**39**	P	**Pn**	**10 00 58.7**	**+3.2**
NNVZ	**North Ngauruho**	**3.17**	**38**	P	**Pb**	**10 01 01.4**	**-0.7**
WTVZ	**West Tongariro**	**3.18**	**37**	P	**Pb**	**10 01 01.8**	**-0.2**
ETVZ	**East Tongariro**	**3.22**	**39**	P	**Pb**	**10 01 00.4**	**-2.3**
TMVZ	**Te Maari**	**3.23**	**39**	P	**Pb**	**10 01 02.5**	**-0.5**
NTVZ	**North Tongarir**	**3.23**	**38**	P	**Pb**	**10 01 01.9**	**-1.0**
HIZ	**Hauiti**	**3.42**	**24**	P	**Pn**	**10 00 59.9**	**+1.1**
HIZ	**Hauiti**	**3.42**	**24**	P	**Pn**	**10 01 00.2**	**+1.3**
TLZ	**Tolley Road**	**3.82**	**30**	P	**Pn**	**10 01 06.5**	**+2.1**
ODZ	**Otahua Downs**	**3.82**	**207**	P	**Pn**	**10 01 04.5**	**+0.2**
ODZ	**Otahua Downs**	**3.82**	**207**	P	**Pn**	**10 01 03.6**	**-0.7**
JCZ	**Jackson Bay**	**3.98**	**231**	P	**Pn**	**10 01 07.6**	**+1.0**
JCZ	**Jackson Bay**	**3.98**	**231**	P	**Pn**	**10 01 07.2**	**+0.6**
TOZ	**Tahuroa Road**	**4.34**	**26**	P	**Pn**	**10 01 13.0**	**+1.5**
MKAZ	**Moumakai**	**4.83**	**20**	P	**Pn**	**10 01 19.8**	**+1.7**
WIAZ	**Waiheke Island**	**5.12**	**19**	P	**Pn**	**10 01 23.9**	**+1.8**

*CATAC **06** 10:43:09.9±0.8, 12°.88N×90°.73W, h2km, ML3.5*
*SNET **06** 10:43:14.1±0.9, 13°.00N×90°.43W, h16km±6km, ML2.9*
*GCG **06** 10:43:18.0±0.8, 13°.21N×90°.98W, h14km±14km, MD3.7*
ISC 06 10:43:14.6±2.0**, 13°.00N**±0°.08×**90°.56W**±0°.05**, h33km**±9km**, n44, σ1s.48**/56**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**1.18**	**40**	*e*P	**Pn**	**10 43 34.0**	**-0.9**
NUBE				*e*S	**Sb**	**10 43 49.5**	**-2.0**
NUBE	**Las Nubes**	**1.18**	**40**	*i* P	**Pn**	**10 43 34.2**	**-0.7**
NUBE				*i* S	**Sn**	**10 43 53.3**	**+3.4**
NUBE				IAML		10 43 59.2	
	comp=Z,670nm,1.0s						
CEVE	**Cerro Verde**	**1.23**	**48**	*e*P	**Pn**	**10 43 35.3**	**-0.4**
CEVE	**Cerro Verde**	**1.23**	**48**	*i* P	**Pn**	**10 43 35.5**	**-0.2**
CEVE				*i* S	**Sn**	**10 43 54.9**	**+3.6**
CEVE				IAML		10 44 01.4	
	comp=Z,1µm,1.0s						
SBLS	**San Blas**	**1.24**	**47**	*e*P	**Pn**	**10 43 34.9**	**-0.9**
LOAL	**Lomas de Alarc**	**1.25**	**37**	*i* P	**Pb**	**10 43 37.1**	**-0.6**
LOAL				IAML		10 43 37.6	
	comp=Z,3µm,1.0s						
RTR	**El Retiro**	**1.26**	**45**	*e*P	**Pn**	**10 43 35.1**	**-1.0**
JAYA	**Jayaque - finc**	**1.26**	**59**	*e*P	**Pn**	**10 43 34.9**	**-1.3**
JAYA				*e*S	**Sn**	**10 43 50.1**	**-1.9**
JAYA	**Jayaque - finc**	**1.26**	**59**	*i* P	**Pn**	**10 43 35.5**	**-0.6**
JAYA				*i* S	**Sb**	**10 43 56.6**	**+2.6**
JAYA				IAML		10 43 59.8	
	comp=Z,2µm,1.0s						
SNJE	**San Jose**	**1.27**	**47**	*e*P	**Pn**	**10 43 35.7**	**-0.6**
SLOZ	**Alcaldia de Sa**	**1.27**	**36**	*e*P	**Pn**	**10 43 35.7**	**-0.4**
SLOZ				*e*S	**Sn**	**10 43 51.8**	**-0.3**
UNIC	**Universidad Ca**	**1.39**	**45**	*e*P	**Pn**	**10 43 37.6**	**-0.1**
UNIC				*e*S	**Sn**	**10 43 55.0**	**0.0**
UNIC	**Universidad Ca**	**1.39**	**45**	*i* P	**Pb**	**10 43 38.9**	**-1.1**
UNIC				IAML		10 44 04.3	
	comp=Z,250nm,1.0s						
ESSG	**Sabana Grande**	**1.40**	**349**	*i* P	**Sn**	**10 43 53.2**	**-2.1**
PMON	**Piamonte**	**1.41**	**60**	*e*P	**Pn**	**10 43 37.2**	**-0.8**
PMON	**Piamonte**	**1.41**	**60**	*i* P	**Pn**	**10 43 37.9**	**-0.1**
PMON				IAML		10 44 06.4	
	comp=Z,810nm,1.0s						
ITCA	**Escuela Especi**	**1.42**	**62**	*i* P	**Pn**	**10 43 36.6**	**-1.6**
FUG	**Fuego 3**	**1.46**	**349**	*e*P	**Pb**	**10 43 41.0**	**-0.4**
FUG				*e*S	**Sn**	**10 43 57.6**	**+0.5**
UEES	**Universidad Ev**	**1.47**	**61**	*i* P	**Pb**	**10 43 40.6**	**-0.8**
UEES				IAML		10 44 07.6	
	comp=Z,340nm,1.0s						
PANCS	**Alcalda de**	**1.48**	**66**	*i* P	**Pb**	**10 43 42.3**	**+0.8**
LFRS	**El Faro**	**1.58**	**67**	*e*P	**Pn**	**10 43 39.8**	**-0.8**
NBG	**Las Nubes**	**1.59**	**7**	*e*P	**Pb**	**10 43 42.0**	**-1.6**
NBG				*e*S	**Sb**	**10 44 06.2**	**+2.7**
GUNB	**GUNB**	**1.60**	**8**	*i* P	**Pn**	**10 43 40.4**	**-0.5**
GUNB				*i* S	**Sb**	**10 44 04.8**	**+1.1**
GUNB				IAML		10 44 10.6	
	comp=Z,540nm,1.0s						
SJTE	**Alcalda de S**	**1.63**	**68**	*e*P	**Pn**	**10 43 40.4**	**-0.8**
SJTE	**Alcalda de S**	**1.63**	**68**	*i* P	**Pb**	**10 43 42.9**	**-1.3**
SJTE				IAML		10 44 13.6	
	comp=Z,220nm,1.0s						
PAVA	**Las Pavas**	**1.73**	**66**	*i* P	**Pb**	**10 43 48.3**	**+2.4**
COEG	**Centro de Oper**	**1.75**	**69**	*e*P	**Pn**	**10 43 42.2**	**-0.5**
COEG				*e*S	**Sn**	**10 44 04.3**	**+0.4**
COEG				IAML		10 44 13.6	
	comp=Z,152nm,0.4s						
COEG	**Centro de Oper**	**1.75**	**69**	*i* P	**Pn**	**10 43 42.6**	**-0.1**
TECO	**Alcaldia de Te**	**1.81**	**73**	*i* P	**Pb**	**10 43 45.0**	**-2.2**
TECO				IAML		10 44 22.8	
	comp=Z,120nm,1.0s						
MTO3	**Montecristo**	**1.81**	**40**	*e*P	**Pn**	**10 43 43.9**	**+0.1**
MTO3	**Montecristo**	**1.81**	**40**	*i* P	**Pn**	**10 43 43.9**	**+0.1**
MTO3				IAML		10 44 19.0	
	comp=Z,220nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.92**	**68**	*i* P	**Pb**	**10 43 46.0**	**-2.9**
SCLA				IAML		10 44 29.4	
	comp=Z,110nm,1.0s						
ESQI	**Esquipulas**	**1.95**	**37**	*i* P	**Pb**	**10 43 48.6**	**-1.0**
STG3	**Santiaguito 3,**	**1.96**	**330**	*e*P	**Pn**	**10 43 45.8**	**+0.1**
STG3				*e*S	**Sn**	**10 44 08.3**	**-1.1**
SOKI	**Kika Raxquin**	**1.99**	**336**	*i* P	**Pb**	**10 43 51.0**	**+0.6**
PQSS	**Presa 15 de Se**	**2.04**	**72**	*i* P	**Pn**	**10 43 46.5**	**-0.2**
PACA	**Pacayal**	**2.23**	**78**	*e*P	**Pn**	**10 43 49.2**	**-0.2**
PACA	**Pacayal**	**2.23**	**78**	*i* P	**Pb**	**10 43 53.0**	**-1.3**
SARH	**Santa Rosa de**	**2.48**	**45**	*i* P	**Pb**	**10 43 56.4**	**-2.2**
LCND	**La Caada**	**2.62**	**83**	*i* P	**Pn**	**10 43 55.0**	**+0.3**
LCND				IAML		10 44 13.3	
	comp=Z,90nm,1.0s						
AMPH	**Amapala**	**2.84**	**84**	*i* P	**Pn**	**10 43 59.6**	**+1.9**
CSGN	**Cosiguina Volc**	**2.93**	**90**	*i* P	**Pb**	**10 44 03.4**	**-2.8**
POTN	**Potosi Cosigui**	**2.98**	**90**	*i* P	**Pb**	**10 44 07.3**	**+0.3**
YUSH	**Yuscaran**	**3.74**	**75**	*i* P	**Pn**	**10 44 11.9**	**+1.7**

ROM 06 11:00:11.6±0.1**, 42°.791N**±0°.003×**13°.110E**±0°.005**, h8km, ML2.8**/148**, 11C-9D, Error ellipse: s-maj=0.3km s-min=0.3km az=72.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.04**	**4**	⇓P	Pg	11 00 13.9	+0.6
NRCA				S	Sg	11 00 15.1	+0.5
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
MC2	**Monte Cornacci**	**0.14**	**26**	⇓P	Pg	11 00 15.3	+0.7
MC2				S	Sg	11 00 18.0	+1.2
FEMA	**Monte Fema**	**0.18**	**345**	⇑P	Pg	11 00 15.9	+0.6
FEMA				S	Sg	11 00 19.0	+1.1
FEMA				AML	AML		
	comp=N,8370µm,1.3s						
FEMA				AML	AML		
	comp=N,8370µm,0.7s						
FEMA				AML	AML		
	comp=E,14400µm,0.4s						
MMO1	**Montemonaco**	**0.19**	**56**	⇓P	Pg	11 00 16.1	+0.6
MMO1				S	Sg	11 00 19.4	+1.1
LNSS	**Leonessa**	**0.20**	**195**	⇑P	Pg	11 00 16.3	+0.8
LNSS				S	Sg	11 00 19.8	+1.5
LNSS				AML	AML		
	comp=E,11270µm,0.4s						
LNSS				AML	AML		
	comp=N,13500µm,0.2s						
T1221	**Campello sul C**	**0.21**	**290**	⇑P	Pg	11 00 16.5	+0.7
T1221				S	Sg	11 00 19.7	+1.1
T1221				AML	AML		
	comp=E,7600µm,0.6s						
T1221				AML	AML		
	comp=N,6255µm,0.4s						
T1221				AML	AML		
	comp=E,7345µm,0.7s						
T1221				AML	AML		
	comp=N,6585µm,0.4s						
T1221				AML	AML		
	comp=N,6255µm,1.6s						
T1221				AML	AML		
	comp=N,6585µm,1.6s						
T1221				AML	AML		
	comp=E,7600µm,1.4s						
T1221				AML	AML		
	comp=E,7345µm,1.3s						
MTRA	**Matera**	**0.21**	**99**	P	Pg	11 00 16.6	+0.7
MTRA				S	Sg	11 00 20.2	+1.4
MTRA				AML	AML		
	comp=E,16750µm,1.5s						
MTRA				AML	AML		
	comp=N,11850µm,0.7s						
MTRA				AML	AML		
	comp=N,11750µm,0.7s						
MTRA				AML	AML		
	comp=N,11850µm,1.3s						
MTRA				AML	AML		
	comp=E,16950µm,1.5s						
MTRA				AML	AML		
	comp=N,11750µm,1.3s						
SMA1	**SAN MARTINO**	**0.23**	**134**	⇑P	Pg	11 00 16.9	+0.7
SMA1				S	Sg	11 00 20.9	+1.5
SMA1				AML	AML		
	comp=N,5475µm,0.5s						
SMA1				AML	AML		
	comp=E,6215µm,0.2s						
FDMO	**Fiordimonte**	**0.25**	**356**	⇓P	Pg	11 00 17.1	+0.6
FDMO				S	Sg	11 00 20.9	+1.0
FDMO				AML	AML		
	comp=E,4050µm,0.8s						
FDMO				AML	AML		
	comp=N,4290µm,1.0s						
FDMO				AML	AML		
	comp=E,4050µm,1.2s						
CESI	**CESI - Serrava**	**0.26**	**325**	⇑P	Pg	11 00 17.4	+0.6
CESI				S	Sg	11 00 21.6	+1.2
CESI				AML	AML		
	comp=N,8330µm,0.3s						
CESI				AML	AML		
	comp=E,5270µm,0.1s						
RM33	**Pellescritta (**	**0.29**	**165**	P	Pg	11 00 17.9	+0.5
RM33				S	Sb	11 00 22.8	-1.4
RM33				AML	AML		
	comp=E,2545µm,0.3s						
RM33				AML	AML		
	comp=N,3520µm,0.9s						
RM33				AML	AML		
	comp=E,2565µm,0.3s						
RM33				AML	AML		
	comp=N,3530µm,0.4s						
RM33				AML	AML		
	comp=E,2545µm,0.3s						
RM33				AML	AML		
	comp=N,3520µm,1.1s						
CSP1	**Cessapalombo**	**0.31**	**13**	⇓P	Pg	11 00 18.2	+0.4
CSP1				S	Sg	11 00 23.1	+1.2
CSP1				AML	AML		
	comp=E,3705µm,0.5s						
CSP1				AML	AML		
	comp=E,3705µm,1.5s						
CSP1				AML	AML		
	comp=N,1485µm,0.2s						
GUMA	**Gualdo di Mace**	**0.32**	**31**	⇓P	Pg	11 00 18.7	+0.8
GUMA				S	Sb	11 00 24.0	-0.9
GUMA				AML	AML		
	comp=E,13400µm,0.4s						
GUMA				AML	AML		
	comp=E,13400µm,0.4s						
GUMA				AML	AML		
	comp=N,8540µm,0.6s						
GUMA				AML	AML		
	comp=N,12250µm,0.4s						
GUMA				AML	AML		
	comp=E,14750µm,0.3s						
GUMA				AML	AML		
	comp=N,12250µm,1.6s						
GUMA				AML	AML		
	comp=N,8540µm,1.4s						
MF5	**Montefalcone A**	**0.33**	**52**	⇓P	Pb	11 00 18.9	-0.8
MF5				S	Sb	11 00 24.5	-0.6
MF5				AML	AML		
	comp=N,4705µm,0.6s						
MF5				AML	AML		
	comp=E,5325µm,0.3s						
ARRO	**Arrone**	**0.33**	**230**	⇓P	Pg	11 00 18.7	+0.6
ARRO				S	Sg	11 00 23.8	+1.4
ARRO				AML	AML		
	comp=E,3415µm,0.2s						
ARRO				AML	AML		
	comp=N,3885µm,0.2s						
CAMP	**Campotosto**	**0.34**	**139**	⇑P	Pg	11 00 18.6	+0.4
CAMP				S	Sg	11 00 23.9	+1.2
CAMP				AML	AML		
	comp=N,1234µm,0.7s						
CAMP				AML	AML		
	comp=E,1810µm,0.2s						
PF6	**Pievefavera**	**0.36**	**10**	P	Pg	11 00 18.9	+0.2
PF6				S	Sg	11 00 24.4	+0.9
SEF1	**Sefro**	**0.38**	**342**	P	Pg	11 00 19.4	+0.4
MOMA	**Monte Martano**	**0.40**	**272**	⇑P	Pg	11 00 19.8	+0.5
MOMA				S	Sb	11 00 26.4	-0.8
MOMA				AML	AML		
	comp=N,3000µm,0.8s						
MOMA				AML	AML		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,4815μm,0.9s						
MOMA				AML	AML		
	comp=N,3040μm,0.2s						
MOMA				AML	AML		
	comp=E,4725μm,0.9s						
MOMA				AML	AML		
	comp=N,3000μm,1.2s						
TERO	**Teramo**	**0.40**	**115**	P	Pg	11 00 19.6	+0.2
TERO				S	Sg	11 00 25.7	+1.0
TERO				AML	AML		
	comp=E,1145μm,0.7s						
TERO				AML	AML		
	comp=N,1070μm,1.2s						
TERO				AML	AML		
	comp=N,2295μm,0.3s						
TERO				AML	AML		
	comp=E,1770μm,1.0s						
TERO				AML	AML		
	comp=N,1070μm,0.8s						
TERO				AML	AML		
	comp=E,1145μm,1.3s						
MDAR	**Monte D'Aria**	**0.40**	**3**	P	Pg	11 00 19.9	+0.4
CESX	**Cesi**	**0.43**	**245**	P	Pg	11 00 20.3	+0.3
CESX				S	Sb	11 00 27.3	-0.8
CESX				AML	AML		
	comp=N,2430μm,1.6s						
CESX				AML	AML		
	comp=E,2190μm,0.7s						
CESX				AML	AML		
	comp=E,2190μm,1.3s						
CESX				AML	AML		
	comp=N,2430μm,0.4s						
OFFI	**Offida**	**0.45**	**71**	P	Pb	11 00 21.5	-0.3
OFFI				S	Sb	11 00 30.1	+1.5
OFFI				AML	AML		
	comp=E,3625μm,0.4s						
OFFI				AML	AML		
	comp=N,3855μm,0.2s						
SNTG	**Esanatoglia**	**0.48**	**345**	P	Pg	11 00 21.1	+0.2
SNTG				S	Sb	11 00 28.8	-0.8
SNTG				AML	AML		
	comp=N,834μm,0.2s						
SNTG				AML	AML		
	comp=E,834μm,0.3s						
ATCC	**AVT- Casa Cast**	**0.52**	**319**	P	Pg	11 00 22.0	+0.2
ATCC				S	Sb	11 00 30.2	-0.6
ATCC				AML	AML		
	comp=E,1655μm,1.1s						
ATCC				AML	AML		
	comp=N,1525μm,0.7s						
ATCC				AML	AML		
	comp=E,1655μm,0.9s						
EL6	**Elcito**	**0.54**	**359**	⇓P	Pg	11 00 22.3	+0.2
EL6				S	Sb	11 00 30.6	-0.7
EL6				AML	AML		
	comp=E,1700μm,1.4s						
EL6				AML	AML		
	comp=N,1730μm,0.2s						
EL6				AML	AML		
	comp=E,1700μm,0.6s						
FOSV	**Fossato di Vic**	**0.56**	**333**	P	Pg	11 00 22.7	+0.2
FOSV				AML	AML		
	comp=E,593μm,0.6s						
FOSV				AML	AML		
	comp=N,708μm,1.3s						
CING	**Cingoli**	**0.59**	**6**	P	Pg	11 00 23.1	+0.2
CING				S	Sb	11 00 32.3	-0.4
CING				AML	AML		
	comp=N,732μm,0.4s						
CING				AML	AML		
	comp=N,732μm,1.6s						
CING				AML	AML		
	comp=E,788μm,1.2s						
TRTR	**Tortoreto Alta**	**0.59**	**88**	⇑P	Pb	11 00 24.4	+0.3
TRTR				S	Sn	11 00 35.3	-0.9
TRTR				AML	AML		
	comp=E,4575μm,0.7s						
TRTR				AML	AML		
	comp=N,3725μm,0.7s						
FAGN	**Fagnano**	**0.63**	**146**	P	Pb	11 00 24.5	-0.4
FAGN				AML	AML		
	comp=E,1325μm,0.9s						
FAGN				AML	AML		
	comp=N,1230μm,0.3s						
FAGN				AML	AML		
	comp=E,1325μm,1.1s						
MURB	**Monte Urbino**	**0.64**	**318**	⇑P	Pg	11 00 24.1	+0.2
MURB				S	Sb	11 00 35.0	+0.8
MURB				AML	AML		
	comp=N,2185μm,1.1s						
MURB				AML	AML		
	comp=N,2185μm,1.0s						
MURB				AML	AML		
	comp=E,2280μm,0.2s						
MURB				AML	AML		
	comp=E,2645μm,0.2s						
MURB				AML	AML		
	comp=N,2295μm,1.0s						
VCEL	**Villa Celiera**	**0.67**	**126**	⇑P	Pg	11 00 24.9	+0.4
VCEL				S	Sb	11 00 35.7	+0.7
VCEL				AML	AML		
	comp=E,1140μm,0.6s						
VCEL				AML	AML		
	comp=N,1205μm,0.6s						
ATTE	**AVT- Monte Tez**	**0.69**	**306**	P	Pg	11 00 25.3	+0.4
ATTE				AML	AML		
	comp=N,426μm,1.1s						
ATTE				AML	AML		
	comp=N,426μm,0.9s						
ATTE				AML	AML		
	comp=E,439μm,0.4s						
SSFR	**Montelago di S**	**0.69**	**340**	P	Pg	11 00 25.0	+0.1
SSFR				AML	AML		
	comp=N,1300μm,0.9s						
SSFR				AML	AML		
	comp=E,1305μm,0.2s						
SSFR				AML	AML		
	comp=N,1235μm,0.9s						
SSFR				AML	AML		
	comp=E,1355μm,0.2s						
PP3	**Marolino**	**0.69**	**32**	P	Pg	11 00 25.1	+0.2
PP3				AML	AML		
	comp=E,2390μm,1.2s						
PP3				AML	AML		
	comp=N,3675μm,0.3s						
PP3				AML	AML		
	comp=E,1925μm,1.2s						
PP3				AML	AML		
	comp=E,2390μm,1.2s						
PP3				AML	AML		
	comp=E,1925μm,0.8s						
PP3				AML	AML		
	comp=N,3675μm,0.3s						
PP3				AML	AML		
	comp=E,2390μm,0.8s						
PP3				AML	AML		
	comp=N,3930μm,0.3s						
ATFO	**Monte Foce - G**	**0.70**	**326**	P	Pg	11 00 25.3	+0.2
ATFO				AML	AML		
	comp=E,498μm,0.8s						
ATFO				AML	AML		
	comp=N,480μm,0.3s						
ATSC	**Scheggia e Pas**	**0.70**	**334**	P	Pg	11 00 25.2	0.0
SRES	**S.Oreste - Sor**	**0.71**	**219**	P	Pb	11 00 25.7	-0.5
SRES				AML	AML		
	comp=E,631μm,1.4s						
SRES				AML	AML		
	comp=N,597μm,0.3s						
SRES				AML	AML		
	comp=E,631μm,0.6s						
ARVD	**Arcevia**	**0.72**	**350**	⇑P	Pg	11 00 25.3	-0.1
ARVD				S	Sb	11 00 36.8	+0.4
ARVD				AML	AML		
	comp=N,324μm,0.6s						
ARVD				AML	AML		
	comp=E,332μm,0.1s						
ATLO	**AVT- Montelove**	**0.73**	**316**	P	Pg	11 00 25.7	0.0
ATLO				S	Sb	11 00 37.0	+0.1
MGAB	**Montegabbione**	**0.74**	**280**	P	Pg	11 00 26.4	+0.4
MGAB				AML	AML		
	comp=N,870μm,1.0s						
MGAB				AML	AML		
	comp=N,869μm,1.0s						
MGAB				AML	AML		
	comp=N,962μm,0.6s						
MGAB				AML	AML		
	comp=N,962μm,1.4s						
MGAB				AML	AML		
	comp=E,1110μm,0.6s						
MGAB				AML	AML		
	comp=E,1145μm,0.6s						
T0110	**Collepietro**	**0.75**	**139**	P	Pg	11 00 25.6	-0.4
T0110				AML	AML		
	comp=E,810μm,0.3s						
T0110				AML	AML		
	comp=N,938μm,0.4s						
T0110				AML	AML		
	comp=N,938μm,1.6s						
ATVA	**AVT- Monte Val**	**0.78**	**309**	P	Pg	11 00 26.9	+0.3
ATVO	**AVT- Monte Val**	**0.78**	**319**	P	Pg	11 00 26.5	-0.2
ATVO				AML	AML		
	comp=N,418μm,0.6s						
ATVO				AML	AML		
	comp=E,329μm,0.4s						
ATBU	**Serra di Buran**	**0.80**	**329**	P	Pg	11 00 27.3	+0.3
MTCE	**Montecelio**	**0.81**	**200**	P	Pg	11 00 27.0	-0.2
MTCE				AML	AML		
	comp=E,364μm,0.8s						
MTCE				AML	AML		
	comp=N,253μm,0.3s						
ATMI	**Monte Miggiano**	**0.82**	**312**	P	Pb	11 00 28.1	-0.1
ATMI				AML	AML		
	comp=E,970μm,1.4s						
ATMI				AML	AML		
	comp=N,1175μm,0.8s						
ATMI				AML	AML		
	comp=E,970μm,0.6s						
ATMI				AML	AML		
	comp=N,1175μm,1.2s						
ATPC	**Poggio Castell**	**0.84**	**325**	P	Pg	11 00 28.0	+0.2
ATPI	**Pietralunga -**	**0.84**	**322**	P	Pg	11 00 27.7	0.0
ATPI				AML	AML		
	comp=N,266μm,0.4s						
ATPI				AML	AML		
	comp=E,292μm,0.5s						
AOI	**Ancona**	**0.84**	**25**	P	Pb	11 00 28.2	-0.2
CERT	**Cerreto**	**0.85**	**186**	P	Pg	11 00 27.4	-0.4
CERT				AML	AML		
	comp=E,776μm,0.4s						
CERT				AML	AML		
	comp=N,580μm,0.9s						
PIEI	**Pieia**	**0.86**	**331**	P	Pg	11 00 27.8	-0.2
PIEI				AML	AML		
	comp=E,296μm,0.7s						
PIEI				AML	AML		
	comp=E,296μm,1.3s						
PIEI				AML	AML		
	comp=N,286μm,0.5s						
MPAG	**Monte Paganucc**	**0.88**	**343**	P	Pb	11 00 29.2	0.0
MPAG				AML	AML		
	comp=E,276μm,0.4s						
MPAG				AML	AML		
	comp=N,274μm,0.7s						
SACS	**San Casciano d**	**0.89**	**274**	P	Pb	11 00 29.0	-0.2
SACS				AML	AML		
	comp=E,359μm,0.3s						
SACS				AML	AML		
	comp=N,292μm,0.6s						
FSSB	**Fossombrone**	**0.93**	**345**	P	Pg	11 00 29.4	-0.2
FSSB				AML	AML		
	comp=E,966μm,1.4s						
FSSB				AML	AML		
	comp=N,908μm,1.3s						
FSSB				AML	AML		
	comp=N,908μm,0.7s						
RCAV	**Rocca di Cave**	**0.95**	**187**	P	Pb	11 00 30.3	-0.1
RCAV				AML	AML		
	comp=N,378μm,0.5s						
RCAV				AML	AML		
	comp=E,473μm,0.3s						
RCAV				AML	AML		
	comp=N,378μm,1.5s						
BADI	**Badiali**	**0.96**	**319**	P	Pb	11 00 30.3	-0.2
BADI				AML	AML		
	comp=E,226μm,0.5s						
BADI				AML	AML		
	comp=E,226μm,1.5s						
BADI				AML	AML		
	comp=N,418μm,0.5s						
INTR	**Introdacqua**	**0.98**	**143**	P	Pg	11 00 29.4	-0.9
INTR				AML	AML		
	comp=E,252nm,0.4s						
INTR				AML	AML		
	comp=N,366nm,1.2s						
INTR				AML	AML		
	comp=E,252μm,0.4s						
INTR				AML	AML		
	comp=N,408μm,1.5s						
INTR				AML	AML		
	comp=E,252μm,1.6s						
INTR				AML	AML		
	comp=N,408μm,0.5s						
INTR				AML	AML		
	comp=N,366nm,0.8s						
INTR				AML	AML		
	comp=E,252nm,1.6s						
CAFI	**Castiglion Fio**	**1.00**	**303**	P	Pg	11 00 30.9	+0.2
CAFI				AML	AML		
	comp=N,262μm,0.5s						
CAFI				AML	AML		
	comp=E,244μm,0.7s						
PARC	**Parchiule**	**1.07**	**324**	P	Pb	11 00 32.3	-0.1
PARC				AML	AML		
	comp=N,216μm,0.4s						
PARC				AML	AML		
	comp=E,306μm,1.4s						
SF04	**Casetta**	**1.07**	**273**	P	Pb	11 00 32.3	0.0
SF04				AML	AML		
	comp=N,236μm,0.8s						
SF04				AML	AML		
	comp=E,244μm,0.3s						
LPEL	**Lama dei Pelig**	**1.09**	**133**	P	Pg	11 00 32.0	-0.4
LPEL				AML	AML		
	comp=N,211μm,1.3s						
LPEL				AML	AML		
	comp=E,240μm,1.6s						
TOLF	**Tolfa**	**1.10**	**229**	P	Pg	11 00 32.2	-0.4
TOLF				AML	AML		
	comp=N,464μm,1.0s						
TOLF				AML	AML		
	comp=E,271μm,0.3s						
POFI	**Posta Fibreno**	**1.16**	**157**	P	Pn	11 00 34.2	-0.1
CRE	**Caprese Michel**	**1.19**	**315**	P	Pn	11 00 34.6	0.0
CRE				AML	AML		
	comp=E,116μm,0.5s						
CRE				AML	AML		
	comp=N,146μm,0.5s						
CIGN	**Sant'Elia a Pi**	**1.75**	**130**	P	Pb	11 00 44.0	+0.1
MYKA	**Terra Mystica**	**3.86**	**5**	*e*Pn	Pn	11 01 12.7	+1.4
	comp=N,0.5nm,0.2s						
OBKA	**Obir**	**3.86**	**15**	*i* Pn	Pn	11 01 13.9	+2.6
	comp=N,0.6nm,0.3s						
ABTA	**Abfaltersbach**	**3.98**	**354**	*i* Pn	Pn	11 01 15.1	+2.2
	comp=N,3.0nm,0.3s						
KBA	**Koelnbreinsper**	**4.29**	**2**	*i* Pn	Pn	11 01 19.0	+1.6
	comp=N,0.8nm,0.2s						
FETA	**Feichten**	**4.55**	**339**	*i* Pn	Pb	11 01 26.5	-5.4
	comp=N,1.0nm,0.4s						
WTTA	**Wattenberg**	**4.59**	**347**	*e*Pn	Pn	11 01 26.6	+5.1
	comp=N,1.2nm,0.2s						
SQTA	**Sankt Quirin**	**4.63**	**344**	*i* Pn	Pb	11 01 28.4	-4.7
	comp=N,1.6nm,0.3s						
WATA	**Walderalm**	**4.67**	**347**	*e*Pn	Pb	11 01 28.5	-5.4
	comp=N,1.9nm,0.2s						
MOTA	**Moosalm**	**4.77**	**343**	*e*Pn	Pb	11 01 31.8	-3.7
	comp=N,1.8nm,0.4s						

ROM 06 11:00:47.5±0.1**, 42°.797N**±0°.005×**13°.108E**±0°.007**,**
h11km, ML1.6/8**, 2C-3D, Error ellipse: s-maj=0.6km**
s-min=0.5km az=302.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.04**	**7**	⇓P	Pg	11 00 49.9	+0.1
NRCA				S	Sg	11 00 51.1	-0.2
NRCA				AML	AML		
	comp=E,10030μm,0.1s						
NRCA				AML	AML		
	comp=N,4820μm,0.1s						
NRCA				AML	AML		
	comp=E,10650μm,0.2s						
NRCA				AML	AML		
	comp=N,5060μm,0.1s						
NRCA				AML	AML		
	comp=E,10038μm,0.1s						
NRCA				AML	AML		
	comp=E,10632μm,0.2s						
NRCA				AML	AML		
	comp=N,5061μm,0.1s						
NRCA				AML	AML		
	comp=N,4819μm,0.1s						
MC2	**Monte Cornacci**	**0.13**	**28**	⇑P	Pg	11 00 51.4	+0.5
MC2				S	Sg	11 00 54.1	+0.8
FEMA	**Monte Fema**	**0.17**	**345**	P	Pg	11 00 52.0	+0.6
GAVE	**Gavelli**	**0.19**	**237**	P	Pb	11 00 52.9	-0.2
GAVE				S	Sg	11 00 55.5	+0.9
MMO1	**Montemonaco**	**0.19**	**57**	⇑P	Pg	11 00 52.2	+0.5
MMO1				S	Sg	11 00 55.4	+0.8
LNSS	**Leonessa**	**0.20**	**195**	P	Pg	11 00 51.7	-0.2
LNSS				S	Sg	11 00 56.0	+1.2
T1221	**Campello sul C**	**0.20**	**288**	P	Pg	11 00 52.4	+0.4
T1221				S	Sg	11 00 55.7	+0.8
MTRA	**Matera**	**0.22**	**101**	P	Pg	11 00 52.6	+0.5
MTRA				S	Sg	11 00 56.3	+1.0
MTRA				AML	AML		
	comp=E,766μm,0.2s						
MTRA				AML	AML		
	comp=N,706μm,0.2s						
MTRA				AML	AML		
	comp=N,688μm,0.2s						
MTRA				AML	AML		
	comp=E,813μm,0.2s						
FDMO	**Fiordimonte**	**0.24**	**356**	⇓P	Pg	11 00 53.2	+0.7
FDMO				S	Sg	11 00 56.9	+1.0
FDMO				AML	AML		
	comp=E,149μm,0.2s						
FDMO				AML	AML		
	comp=N,169μm,0.2s						
CESI	**CESI - Serrava**	**0.26**	**324**	⇓P	Pg	11 00 53.5	+0.7
CESI				S	Sg	11 00 57.5	+1.1
CESI				AML	AML		
	comp=E,327μm,0.1s						
CESI				AML	AML		
	comp=N,513μm,0.3s						

CATAC 06 11:02:59.2±0.4**, 9°.61N**×**84°.11W, h33km**±4km**, ML2.8,**
Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.17**	**38**	*i* P	Pb	11 03 06.8	+1.1
LCR2				*i* S	Sb	11 03 12.9	+2.7
LCR2				IAML		11 03 13.3	
	comp=Z,720nm,1.0s						
LCR2	**La Lucha 2**	**0.17**	**38**	*i* P	Pb	11 03 06.9	+1.2
LCR2				*i* S	Sb	11 03 13.1	+2.9
LCR2				IAML		11 03 13.3	
	comp=Z,720nm,1.0s						
RIMA	**Rio Macho**	**0.29**	**57**	*i* P	Pn	11 03 07.6	+0.4
RIMA				*i* S	Sb	11 03 14.6	+2.3
RIMA				IAML		11 03 14.7	
	comp=Z,650nm,1.0s						
OCM	**Ochomogo**	**0.32**	**27**	*i* P	Pn	11 03 10.4	+2.7
CDM	**Cerro de Muert**	**0.34**	**99**	*i* P	Pn	11 03 08.6	+0.3
CDM				*i* S	Sn	11 03 16.7	+2.8
CDM	**Cerro de Muert**	**0.34**	**99**	*i* P	Pn	11 03 08.7	+0.4
CDM				*i* S	Sn	11 03 16.7	+2.8
CDM				IAML		11 03 17.0	
	comp=Z,780nm,1.0s						
HAYA	**Volcan Irazu**	**0.45**	**35**	*i* P	Pn	11 03 18.6	+8.8
HAYA	**Volcan Irazu**	**0.45**	**35**	*i* P	Pn	11 03 18.6	+8.8
JACO	**JACO, Garabito**	**0.55**	**275**	*i* P	Pn	11 03 10.7	0.0
JACO				IAML		11 03 11.0	
	comp=Z,650nm,1.0s						
JACO				*i* S	Sn	11 03 20.8	+2.1
JACO	**JACO, Garabito**	**0.55**	**275**	*i* P	Pn	11 03 10.8	+0.1
JACO				IAML		11 03 11.0	
	comp=Z,650nm,1.0s						
JACO				*i* S	Sn	11 03 20.8	+2.1
VPTE	**Poasito**	**0.56**	**351**	*i* P	Pb	11 03 11.1	+0.1
VPTE				*i* S	Sn	11 03 20.7	+1.2
VPTE				IAML		11 03 22.1	
	comp=Z,1μm,1.0s						
VPTE	**Poasito**	**0.56**	**351**	*i* P	Pn	11 03 11.2	0.0
VPTE				*i* S	Sn	11 03 20.5	+1.0
VPTE				IAML		11 03 22.1	
	comp=Z,1μm,1.0s						
OCHAL	**Ojochal**	**0.68**	**138**	*i* P	Pb	11 03 13.0	+0.2
OCHAL				IAML		11 03 13.2	
	comp=Z,9.7nm,1.0s						
CPMI	**Catarata Coope**	**0.72**	**338**	*i* P	Pb	11 03 13.9	+0.4
CPMI				*i* S	Sn	11 03 23.8	+0.5
CPMI				IAML		11 03 25.6	
	comp=Z,190nm,1.0s						
CPMI	**Catarata Coope**	**0.72**	**338**	*i* P	Pb	11 03 13.7	+0.2
CPMI				IAML		11 03 25.6	
	comp=Z,190nm,1.0s						
RIFO	**Rio Frio, Sara**	**0.72**	**15**	*i* P	Pb	11 03 13.7	+0.2
RIFO				*i* S	Sb	11 03 23.6	+0.4
RIFO				IAML		11 03 24.8	
	comp=Z,460nm,1.0s						
RIFO	**Rio Frio, Sara**	**0.72**	**15**	*i* P	Pb	11 03 14.0	+0.5
RIFO				*i* S	Sb	11 03 23.6	+0.4
RIFO				IAML		11 03 24.8	
	comp=Z,460nm,1.0s						
SOCE	**Pocosol**	**0.92**	**327**	*i* P	Pn	11 03 15.6	-0.2
SOCE				*i* S	Sb	11 03 29.2	+0.5
SOCE				IAML		11 03 30.2	
	comp=Z,730nm,1.0s						
SOCE	**Pocosol**	**0.92**	**327**	*i* P	Pn	11 03 15.6	-0.2
SOCE				*i* S	Sb	11 03 29.2	+0.5
SOCE				IAML		11 03 30.2	
	comp=Z,730nm,1.0s						
TRT2	**Tortugero**	**1.01**	**21**	*i* P	Pb	11 03 19.1	+0.9
VACR	**Volcan Arenal**	**1.02**	**327**	*i* P	Pn	11 03 17.0	-0.3
VACR				IAML		11 03 17.9	
	comp=Z,330nm,1.0s						
VACR				*i* S	Sb	11 03 32.4	+0.7
VACR	**Volcan Arenal**	**1.02**	**327**	*i* P	Pn	11 03 17.0	-0.3
VACR				IAML		11 03 17.9	
	comp=Z,330nm,1.0s						
DUNO	**Dulce Nombre,**	**1.44**	**289**	*i* P	Pb	11 03 26.9	+1.4
ORTG	**Ortega, Santa**	**1.53**	**299**	*i* P	Pn	11 03 24.6	+0.3
ORTG				IAML		11 03 57.4	
	comp=Z,47nm,1.0s						
HZTE	**Horizontes, Gu**	**1.83**	**307**	*i* P	Pb	11 03 32.4	+0.3

*CATAC **06** 11:30:50.5±1.0, 9°.18N×85°.26W, h5km±5km, ML3.3*
*UCR **06** 11:30:51.9±1.0, 9°.21N×85°.27W, h23km±5km, MW4.1*
ISC 06 11:30:50.4±2.3**, 9°.14N**±0°.10×**85°.28W**±0°.05**, h18km**±10km**,**
n53, σ0s.59/59**, 5C-3D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBL1	**Cabuya**	**0.48**	**22**	⇑*i*P	**Pb**	**11 31 00.2**	**-0.2**
CBL1				*e*S	**Sg**	**11 31 06.3**	**-0.3**
INDI	**Punta indio, G**	**0.76**	**343**	⇑*i*P	**Pb**	**11 31 05.7**	**+0.6**
INDI	**Punta indio, G**	**0.76**	**343**	*i* P	**Pb**	**11 31 05.2**	**+0.1**
INDI				IAML		11 31 29.9	
	comp=Z,780nm,1.0s						
JACO	**JACO, Garabito**	**0.80**	**50**	⇓*i*P	**Pb**	**11 31 05.7**	**-0.1**
JACO				*e*S	**Sg**	**11 31 15.7**	**-0.9**
JACO	**JACO, Garabito**	**0.80**	**50**	*i* P	**Pb**	**11 31 05.8**	**-0.1**
JACO				IAML		11 31 10.8	
	comp=Z,800nm,1.0s						
JACO				*i* S	**Sg**	**11 31 16.1**	**-0.5**
NYURE	**Nandayure**	**0.85**	**2**	*e*P	**Pb**	**11 31 06.6**	**-0.1**
NARJA	**Naranjal**	**0.87**	**342**	*e*P	**Pb**	**11 31 06.9**	**-0.1**
CMARA	**Lajas Hojancha**	**0.89**	**351**	⇑*i*P	**Pg**	**11 31 07.6**	**-0.1**
DUNO	**Dulce Nombre,**	**0.96**	**347**	*e*P	**Pb**	**11 31 07.5**	**-0.9**
DUNO	**Dulce Nombre,**	**0.96**	**347**	*i* P	**Pb**	**11 31 07.6**	**-0.9**
DUNO				*i* S	**Sn**	**11 31 22.7**	**+0.5**
DUNO				IAML		11 31 29.8	
	comp=Z,1μm,1.0s						
NICO	**Nicoya**	**1.00**	**350**	*e*P	**Pb**	**11 31 09.3**	**0.0**
ARZA	**Esparza**	**1.04**	**35**	*e*P	**Pg**	**11 31 10.3**	**-0.2**
JUD3	**Juan Diaz 3**	**1.05**	**346**	*e*P	**Pb**	**11 31 09.4**	**-0.7**
TRB2	**Turrubares**	**1.12**	**47**	⇑*i*P	**Pb**	**11 31 10.7**	**-0.6**
JTS	**Las Juntas de**	**1.19**	**16**	*e*P	**Pn**	**11 31 11.6**	**-0.6**
PLVR	**Palo Verde**	**1.20**	**356**	*e*P	**Pn**	**11 31 11.7**	**-0.8**
HATIL	**Hatillo**	**1.22**	**340**	*e*P	**Pn**	**11 31 12.4**	**-0.3**
SRA1	**San Ramn**	**1.22**	**40**	*e*P	**Pb**	**11 31 13.4**	**+0.2**
ORTG	**Ortega, Santa**	**1.23**	**352**	*e*P	**Pn**	**11 31 12.2**	**-0.7**
ORTG	**Ortega, Santa**	**1.23**	**352**	*i* P	**Pn**	**11 31 12.1**	**-0.7**
ORTG				*i* S	**Sb**	**11 31 27.8**	**-0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ORTG				IAML		11 31 43.9	
	comp=Z,360nm,1.0s						
MONTE	Monteverde	1.25	22	eP	Pn	11 31 12.4	-0.8
ACOS	Acosta	1.28	59	⇑iP	Pn	11 31 13.1	-0.4
ABE2	San Pablo	1.33	65	eP	Pn	11 31 14.1	-0.2
BELE	Belen	1.36	52	eP	Pn	11 31 07.5	-7.1
LCR2	La Lucha 2	1.39	64	⇓iP	Pn	11 31 14.8	-0.4
LCR2	La Lucha 2	1.39	64	i P	Pn	11 31 14.9	-0.2
LCR2				IAML		11 31 49.9	
	comp=Z,170nm,1.0s						
CASO	Castillo	1.39	23	eP	Pn	11 31 15.4	+0.4
SOCE	Pocosol	1.40	28	eP	Pn	11 31 15.2	+0.2
SOCE	Pocosol	1.40	28	i P	Pn	11 31 15.3	+0.2
SOCE				i S	Sb	11 31 33.8	+0.3
SOCE				IAML		11 31 35.4	
	comp=Z,910nm,1.0s						
ARE1	Arenal 1	1.42	23	⇓eP	Pn	11 31 15.9	+0.5
HDC	Heredia	1.43	53	eP	Pb	11 31 16.4	-0.2
CPMI	Catarata Coope	1.44	38	eP	Pn	11 31 16.1	+0.2
CPMI	Catarata Coope	1.44	38	i P	Pn	11 31 16.0	+0.2
CPMI				IAML		11 31 41.2	
	comp=Z,440nm,1.0s						
TABAC	Tabacon	1.44	20	eP	Pn	11 31 16.2	+0.4
VACR	Volcan Arenal	1.45	24	eP	Pb	11 31 17.4	+0.4
VACR	Volcan Arenal	1.45	24	i P	Pb	11 31 16.6	-0.3
VACR				IAML		11 31 48.7	
	comp=Z,650nm,1.0s						
CEDE	Laguna Cedeo	1.45	23	eP	Pn	11 31 16.1	+0.2
COTE	Lago Cote	1.47	14	eP	Pg	11 31 19.9	+1.1
VPTE	Poasito	1.48	46	eP	Pn	11 31 16.6	+0.2
VPTE	Poasito	1.48	46	i P	Pn	11 31 16.7	+0.3
VPTE				IAML		11 31 49.4	
	comp=Z,610nm,1.0s						
OCM	Ochomogo	1.50	60	i P	Pn	11 31 16.6	0.0
OCM				IAML		11 31 23.4	
	comp=Z,170nm,1.0s						
ACAL	Aguas Claras	1.50	9	eP	Pn	11 31 16.2	-0.4
CUI	Cuipilapa	1.51	4	eP	Pn	11 31 16.5	-0.2
ELI1	Hacienda Flor	1.52	350	eP	Pb	11 31 17.8	-0.3
CDM	Cerro de Muert	1.55	75	eP	Pb	11 31 18.2	-0.6
CDM	Cerro de Muert	1.55	75	i P	Pn	11 31 17.8	+0.3
CDM				IAML		11 31 47.1	
	comp=Z,130nm,1.0s						
MOTZ	Rio Naranjo	1.55	7	eP	Pn	11 31 17.7	+0.5
BUS1	Rivas	1.56	75	eP	Pn	11 31 18.2	+0.5
HORNC	Hornillas	1.56	4	eP	Pb	11 31 18.3	-0.6
HZTE	Horizontes, Gu	1.59	349	i P	Pg	11 31 23.2	+2.1
VRLE	La Escondida,	1.64	357	i P	Pg	11 31 23.1	+1.1
RIFO	Rio Frio, Sara	1.77	49	i P	Pn	11 31 21.2	+0.9
RIFO				i S	Sb	11 31 44.3	-0.1
RIFO				IAML		11 31 53.7	
	comp=Z,400nm,1.0s						
CONN	Concepcion	2.43	352	i P	Pg	11 31 37.4	+0.3

GUC 06 12:02:13.3±0.7**, 37°.54S**×**74°.24W, h30**^{km}±6^{km}**, ML3.8, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BI04	Isla Mocha	0.91	162	eP	Pn	12 02 29.5	-0.6
BI04				i S	Sn	12 02 40.7	-1.5
BI04				IAML		12 02 50.7	
	comp=E,4µm,0.3s						
BI05	Punta Hualpn	1.15	47	eP	Pn	12 02 33.0	-0.4
BI05				i S	Sn	12 02 47.4	-0.7
BI05				IAML		12 02 56.4	
	comp=E,2µm,0.4s						
LC02	Puerto Saavedr	1.42	152	eP	Pn	12 02 36.9	-0.1
LC02				i S	Sn	12 02 55.2	+0.5
LC02				IAML		12 03 03.2	
	comp=E,5µm,0.5s						
LR04	Corral	2.42	165	eP	Pn	12 02 51.0	+0.2
LR04				IAML		12 03 19.1	
	comp=N,1µm,0.2s						
LR03	Panguipulli	2.56	145	eP	Pn	12 02 53.5	+0.8
LR03				IAML		12 03 48.0	
	comp=N,864nm,0.6s						
ML02	Panimavida	2.88	53	eP	Pn	12 02 58.4	+1.3
ML02				IAML		12 03 49.8	
	comp=N,677nm,0.8s						
GO06	Curarrehue	2.98	134	eP	Pn	12 02 59.6	+1.0
GO06				IAML		12 03 50.4	
	comp=E,102nm,0.8s						
GO05	Huala	3.14	37	eP	Pn	12 03 01.7	+0.9
GO05				IAML		12 04 03.6	
	comp=E,140nm,0.5s						
LR05	Currie	3.20	148	eP	Pn	12 03 02.9	+1.3
BO03	Pichilemu	3.56	32	eP	Pn	12 03 06.5	+0.1
BO02	Sierra Bellavi	3.92	47	eP	Pn	12 03 12.3	+0.8
BO01	Tunca	4.05	40	eP	Pn	12 03 14.3	+1.0
MT01	Popeta	4.40	34	eP	Pn	12 03 18.7	+0.6
MT09	Talagante	4.59	36	eP	Pn	12 03 21.7	+0.8
BO04	La Punta	4.61	41	eP	Pn	12 03 21.4	+0.4

IDC 06 12:18:02.6±1.8**, 0°.87N**×**126°.38E, h0**^{km}**, mb3.4**/4**, mbtmp3.5**/4**, Error ellipse: s-maj=180.5km s-min=22.4km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.11	160	P	P	12 22 58.8	-0.9
	0.9nm,0.6s,baz=338,slow=11,SNR=11						
	0.9nm,0.6s						
ASAR	Alice Springs	25.46	164	P	P	12 23 33.3	+0.7
	0.3nm,0.4s,baz=347,slow=11,SNR=7.6						
	0.3nm,0.4s						
MKAR	Makanchi Array	59.71	326	P	P	12 28 09.2	+0.1
	0.2nm,0.6s,baz=110,slow=8.3,SNR=1.8						
	0.2nm,0.6s						
KURBB	Kurchatov Arra	63.96	328	P	P	12 28 37.4	-0.2
	0.3nm,0.4s,baz=128,slow=5.9,SNR=5.6						
	0.3nm,0.4s						

*SJA **06** 12:28:57.7±0.7, 32°.13S×72°.38W, h24^{km}±4^{km}, ML4.4, MW4.5*
*NEIC **06** 12:29:02.9±1.6, 32°.13S±0°.03×71°.84W±0°.10, h22^{km}±5^{km}, mb4.3/6, Error ellipse: s-maj=12.4km s-min=3.7km az=79.0*
*GUC **06** 12:29:03.1±0.7, 32°.13S×71°.80W, h32^{km}±2^{km}, ML4.2*
*IDC **06** 12:29:06.2±3.5, 32°.13S×71°.68W, h52^{km}±27^{km}, mb4.0/4, mbtmp4.1/8, ML4.0/4, MS3.3/11, Error ellipse: s-maj=52.3km s-min=19.3km az=112.0*
ISC 06 12:29:00.6±1.8**, 32°.14S**±0°.02×**71°.92W**±0°.04**, h12**^{km}±12^{km}**, n112,** σ1^s**28**/149**, mb4.3**/6**, MS3.5**/6**, 7C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VA01	Torpederas	0.91	165		Pn	12 29 19.0	-0.1
VA01				Sg	Sn	12 29 31.9	-0.3
VA01	Torpederas	0.91	165	eP	Pb	12 29 18.6	+0.4
VA01	Torpederas	0.91	165	i P	Pn	12 29 19.2	+0.1
VA01				i S	Sn	12 29 31.9	-0.3
ROC1	El Roble	1.13	138		Pn	12 29 22.5	+0.1
ROC1				Sg	Sb	12 29 36.9	-0.1
ROCH	El Roble	1.13	138	⇑iP	Pn	12 29 22.3	0.0
ROCH				⇑iP	Pn	12 29 22.4	0.0
ROCH				i S	Sb	12 29 36.7	-0.2
ROCH				i S	Sb	12 29 36.7	-0.2
ROCH				IAML		12 29 39.1	
	comp=E,9µm,0.6s						
ROCH				IAML		12 29 39.2	
	comp=E,10µm,0.5s						
CO02	Combarbal	1.22	40		Pn	12 29 23.2	-0.2
CO02	Combarbal	1.22	40	⇓iP	Pn	12 29 23.2	-0.2
CO02				i S	Sb	12 29 38.5	-0.8
CO02				IAML		12 29 44.5	
	comp=E,21µm,0.2s						
MT02	Curacav	1.30	150		Pb	12 29 25.1	+0.2
MT02				Sn	Sb	12 29 41.9	+0.4
MT02	Curacav	1.30	150	eP	Pn	12 29 24.7	+0.2
MT02				eS	Sn	12 29 41.2	-0.6
MT02				IAML		12 29 43.6	
	comp=Z,2µm,0.8s						
MT02	Curacav	1.30	150	i P	Pb	12 29 25.1	+0.2
MT02				i S	Sn	12 29 40.8	-0.9
PEL	Peldehue	1.45	134		Pb	12 29 27.3	-0.1
PEL	Peldehue	1.45	134	⇑iP	Pn	12 29 27.1	+0.5
PEL				i S	Sn	12 29 44.9	-0.5
PEL				IAML		12 29 48.6	
	comp=E,4µm,0.4s						
CO06	Fray Jorge	1.48	10		Pn	12 29 26.9	0.0
CO06	Fray Jorge	1.48	10	⇓iP	Pn	12 29 27.1	+0.1
CO06				i S	Sg	12 29 49.0	+0.8
CO06				IAML		12 29 52.3	
	comp=N,3µm,0.4s						
MT05	Renca	1.60	142		Pb	12 29 29.8	-0.2
MT05	Renca	1.60	142	eP	Pb	12 29 30.0	0.0
MT05				eS	Sb	12 29 51.6	+1.4
MT05				IAML		12 29 54.3	
	comp=Z,3µm,0.4s						
MT05	Renca	1.60	142	eP	Pb	12 29 29.6	-0.4
MT05				i S	Sb	12 29 49.8	-0.4
MT05				IAML		12 29 55.9	
	comp=E,6µm,0.4s						
MT10	Hacienda Santa	1.62	135	⇑iP	Pn	12 29 29.9	+0.8
MT10				i S	Sb	12 29 50.5	-0.5
MT10				IAML		12 29 52.2	
	comp=E,10µm,0.5s						
CO03	El Pedregal	1.67	39	Pn	Pn	12 29 30.5	+0.9
CO03	El Pedregal	1.67	39	eP	Pn	12 29 30.6	+0.9
CO03				eS	Sb	12 29 53.4	+1.2
CO03				IAML		12 29 54.8	
	comp=Z,4µm,0.4s						
CO03	El Pedregal	1.67	39	i P	Pn	12 29 30.4	+0.7
CO03				i S	Sb	12 29 51.8	-0.5
CO03				IAML		12 29 58.0	
	comp=N,6µm,0.4s						
MT14	Cerro Cal¡n	1.71	137	⇑iP	Pn	12 29 31.3	+1.1
MT14				i S	Sb	12 29 52.8	-0.7
MT14				IAML		12 30 00.3	
	comp=E,7µm,0.6s						
MT03	Universidad Ad	1.80	139		Pb	12 29 32.9	-0.6
MT03	Universidad Ad	1.80	139	eP	Pb	12 29 33.0	-0.5
MT03				eS	Sb	12 29 57.1	+1.1
MT03				IAML		12 30 05.7	
	comp=Z,3µm,0.8s						
MT03	Universidad Ad	1.80	139	i P	Pb	12 29 32.8	-0.6
MT03				i S	Sb	12 29 55.7	-0.3
MT03				IAML		12 30 00.7	
	comp=E,5µm,0.2s						
MT01	Popeta	1.81	162		Pn	12 29 32.6	+1.0
MT01	Popeta	1.81	162	eP	Pn	12 29 32.1	+0.5
MT01				eS	Sb	12 29 57.2	+0.9
MT01				IAML		12 30 04.2	
	comp=Z,1µm,0.6s						
MT01	Popeta	1.81	162	⇓iP	Pn	12 29 32.6	+1.0
MT01				IAML		12 30 02.5	
	comp=E,3µm,0.5s						
MT09	Talagante	1.81	155		Pb	12 29 33.2	-0.5
MT09	Talagante	1.81	155	⇓iP	Pb	12 29 33.3	-0.4
MT09				i S	Sb	12 29 56.1	-0.3
FCH	Farellones	1.81	131	eP	Pn	12 29 32.5	+0.6
FCH				eS	Sn	12 29 54.8	-0.2
FCH				IAML		12 29 58.7	
	comp=E,2µm,0.4s						
MT15	Las Vizcachas	1.88	141	i P	Pb	12 29 34.2	-0.7
MT15				i S	Sb	12 29 57.9	-0.5
MT15				IAML		12 30 03.9	
	comp=N,4µm,0.3s						
MT04	Ro Olivares	1.96	131	⇑iP	Pn	12 29 35.1	+1.3
MT04				i S	Sn	12 29 59.2	+0.7
MT04				IAML		12 30 02.6	
	comp=E,2µm,0.2s						
MT12	Pirque	1.96	144	i P	Pn	12 29 35.2	+1.5
MT12				i S	Sb	12 29 59.3	-1.5
MT12				IAML		12 30 07.0	
	comp=N,5µm,0.5s						
MT08	Bocatoma Ro	2.06	130		Pn	12 29 36.9	+1.6
MT08	Bocatoma Ro	2.06	130	⇑iP	Pn	12 29 36.9	+1.6
MT08				i S	Sb	12 30 02.6	-1.2
MT08				IAML		12 30 06.7	
	comp=N,2µm,0.8s						
MT13	San Alfonso	2.11	140		Pn	12 29 37.3	+1.6
MT13	San Alfonso	2.11	140	i P	Pn	12 29 37.3	+1.6
MT13				i S	Sb	12 30 03.5	-1.5
MT13				IAML		12 30 07.5	
	comp=E,2µm,0.5s						
BO04	La Punta	2.15	150		Pn	12 29 37.6	+1.4
BO04	La Punta	2.15	150	eP	Pn	12 29 38.0	+1.7
BO04				eS	Sb	12 30 04.8	-1.3
BO04				IAML		12 30 10.9	
	comp=N,2µm,0.6s						
GO04	Tololo Observa	2.18	26		Pn	12 29 37.6	+0.8
GO04	Tololo Observa	2.18	26	eP	Pn	12 29 32.7	-4.2
GO04				eP	Pb	12 29 37.9	-2.2
GO04				eS	Sb	12 30 09.4	+2.2
GO04				IAML		12 30 14.1	
	comp=Z,7µm,0.3s						
GO04	Tololo Observa	2.18	26	eP	Pn	12 29 37.2	+0.3
GO04				eS	Sb	12 30 07.5	+0.3
LMEL	Las Melosas	2.23	140	eP	Pn	12 29 39.2	+1.7
LMEL				eS	Sb	12 30 06.6	-1.9
LMEL				IAML		12 30 14.2	
	comp=N,2µm,0.4s						
RTLS	Leoncito	2.25	82	eP	Pb	12 29 41.5	+0.1
RTLS				eS	Sb	12 30 10.9	+1.6
RTLS				IAML		12 30 14.7	
	comp=Z,5µm,0.4s						
CO05	La Serena	2.29	15	eP	Pb	12 29 40.9	-0.9
CO05				eS	Sb	12 30 10.3	+0.4
CO05				IAML		12 30 18.6	
	comp=E,3µm,0.5s						
BO03	Pichilemu	2.35	181	⇓iP	Pn	12 29 39.4	+0.5
BO03				IAML		12 30 26.5	
	comp=N,869nm,0.8s						
BO01	Tunca	2.35	163	Pn	Pn	12 29 40.3	+1.4
BO01	Tunca	2.35	163	eP	Pn	12 29 39.7	+0.7
BO01				eP	Pn	12 29 40.4	+1.4
BO01				eS	Sb	12 30 11.7	-0.2
BO01				IAML		12 30 15.7	
	comp=Z,807nm,1.7s						
BO01	Tunca	2.35	163	eP	Pn	12 29 40.2	+1.2
BO01				eS	Sb	12 30 12.2	+0.3
BO01				IAML		12 30 22.6	
	comp=E,1µm,0.9s						
ARCO	CERRO ARCO	2.62	106	eP	Pb	12 29 47.8	+0.2
ASAL	Salagasta	2.65	101	eP	Pb	12 29 48.0	+0.1
ASAL				eS	Sb	12 30 21.7	+1.2
ASAL				IAML		12 30 28.9	
	comp=Z,599nm,0.8s						
CO01	Juntas del Tor	2.66	36		Pn	12 29 45.5	+2.0
CO01	Juntas del Tor	2.66	36	eP	Pn	12 29 45.6	+2.0
CO01				eS	Sb	12 30 21.1	+0.1
CO01				IAML		12 30 26.1	
	comp=Z,1µm,0.3s						
CO01	Juntas del Tor	2.66	36	eP	Pn	12 29 45.4	+2.0
CO01				eS	Sb	12 30 19.4	-1.7
CO01				IAML		12 30 24.8	
	comp=N,1µm,0.3s						
DOCA	Reserva Natura	2.70	65	eP	Pb	12 29 47.0	-2.0
DOCA				eS	Sb	12 30 24.6	+2.5
DOCA				IAML		12 30 27.6	
	comp=Z,1µm,0.6s						
AAGR	Agrelo	2.77	111	eP	Pb	12 29 49.6	-0.6
AAGR				eS	Sb	12 30 24.2	+0.1
AAGR				IAML		12 30 35.1	
	comp=Z,947nm,1.3s						
BO02	Sierra Bellavi	2.81	161		Pn	12 29 46.8	+1.5
BO02	Sierra Bellavi	2.81	161	eP	Pn	12 29 46.9	+1.5
BO02				IAML		12 30 32.6	
	comp=N,2µm,0.4s						
ZON	Zonda	2.82	79	eP	Pb	12 29 49.3	-1.6
ZON				eS	Sb	12 30 27.7	+2.3
ZON				IAML		12 30 33.3	
	comp=Z,730nm,0.6s						
GO05	Huala	2.86	180	Pn	Pn	12 29 46.3	+0.3
GO05	Huala	2.86	180	eP	Pn	12 29 41.2	-4.9
GO05				eP	Pb	12 29 45.9	-5.7
GO05				eS	Sn	12 30 20.2	-0.3
GO05	Huala	2.86	180	eP	Pn	12 29 46.4	+0.3
GO05				IAML		12 30 42.1	
	comp=N,318nm,0.3s						
AROD	Rodeo	2.87	47	eP	Pb	12 29 50.2	-1.8
AROD				eS	Sb	12 30 30.6	+3.4
ACCO	Cerro Coronel	2.89	58	eP	Pb	12 29 50.7	-1.5
ACCO				eS	Sb	12 30 30.2	+2.5
RTLL	Cerro Villicun	3.04	76	eP	Pb	12 29 52.1	-2.6
ACDV	Cuesta del Vie	3.10	51	eP	Pb	12 29 53.2	-2.5
ACDV				eS	Sb	12 30 30.7	-2.9
ACDV				IAML		12 30 43.0	
	comp=Z,709nm,0.4s						
CFA	Coronel Fontan	3.18	81	eP	Pn	12 29 53.7	+3.3
CFA				eS	Sg	12 30 40.4	-2.2
CFA	Coronel Fontan	3.18	81	LR	LR	12 31 21.6	
	comp=Z,631nm,20.9s,baz=206,slow=46						
LCO	Las Campanas	3.29	19	Pn	Pn	12 29 52.8	+0.7
LCO	Las Campanas	3.29	19	eP	Pn	12 29 52.9	+0.7
LCO				eS	Sn	12 30 32.7	+1.4
LCO				eS	Sb	12 30 41.2	+2.1
LCO				IAML		12 30 45.6	
	comp=Z,3µm,0.3s						
AC05	El Transito	3.58	24	eP	Pn	12 29 57.3	+1.3
AC05				eS	Sn	12 30 38.7	+0.3
AC05				IAML		12 31 01.8	
	comp=Z,531nm,0.6s						
AC05	El Transito	3.58	24	eP	Pn	12 29 57.7	+1.7
ML02	Panimavida	3.64	174	Pn	Pn	12 29 57.8	+1.2
AC04	Llanos de Chal	3.99	11	eP	Pn	12 30 00.9	-0.6
AC04				IAML		12 31 10.3	
	comp=Z,564nm,0.5s						
BI05	Punta Hualpn	4.72	193		Pn	12 30 11.5	0.0
H03N1	Juan Fernandez	6.03	256	T	T	12 37 05.4	
	baz=84,slow=73,SNR=812						
H03N3	Juan Fernandez	6.04	256	T	T	12 37 12.1	
	baz=84,slow=73,SNR=1683						
H03N2	Juan Fernandez	6.05	256	T	T	12 37 08.4	
	baz=84,slow=73,SNR=744						
H03S3	Juan Fernandez	6.11	252	T	T	12 37 15.1	
	baz=83,slow=75,SNR=6.9						
H03S1	Juan Fernandez	6.11	252	T	T	12 37 12.9	
	baz=83,slow=75,SNR=6.1						
H03S2	Juan Fernandez	6.13	252	T	T	12 37 08.5	
	baz=83,slow=75,SNR=7.7						
PLCA	Paso Flores	8.65	173	Pn	Pn	12 31 07.0	+1.5
PLCA	Paso Flores	8.65	173	P	Pn	12 31 07.2	+1.7
	comp=Z,1.0nm,0.3s,baz=333,slow=11,SNR=30						
PLCA				LR	LR	12 35 05.4	
	comp=Z,123nm,18.5s,baz=338,slow=42						
	comp=Z,3.1nm,0.4s						
LVC	Limon Verde	9.86	16	P	Pn	12 31 25.8	+3.3
	comp=Z,0.5nm,0.3s,baz=251,slow=8.5,SNR=1.7						
LVC				LR	LR	12 35 05.5	
	comp=Z,156nm,20.3s,baz=213,slow=37						
	comp=Z,1.4nm,0.3s						
TRQA	Tornquist	10.05	129		Pn	12 31 24.4	-0.3
ITQB	Itaqui	13.36	83	Pn	Pn	12 32 09.8	-0.2
CPUP	Villa Florida	13.99	69	Pn	Pn	12 32 18.0	-0.5
CPUP	Villa Florida	13.99	69	P	Pn	12 32 19.4	+0.9
	comp=Z,0.3nm,0.3s,baz=218,slow=9.0,SNR=3.6						
CPUP				LR	LR	12 38 23.6	
	comp=Z,115nm,18.8s,baz=245,slow=40						
	comp=Z,1.3nm,0.5s						
PLTB	Pedras Altas	15.56	93	Pn	Pn	12 32 38.0	-1.7
PLTB				IAmb	IAmb	12 32 59.5	
	comp=Z,8.6nm,0.9s						
SIV	San Ignacio	18.86	34	P	P	12 33 20.4	-0.2
	baz=198,slow=12,SNR=4.0						
SIV				LR	LR	12 41 52.7	
	comp=Z,90nm,19.7s,baz=256,slow=41						
	comp=Z,2.8nm,0.8s						
PTLB	Pontes e Lacer	20.29	38	P	P	12 33 36.6	+0.4
NNA	Nana	20.56	346	LR	LR	12 40 05.2	
	comp=Z,49nm,18.3s,baz=158,slow=32						
VILB	Vilhena	21.92	32	P	P	12 33 53.0	-0.7
VILB				IAmb	IAmb	12 33 54.2	
	comp=Z,18nm,1.2s						
BDFB	Brasilia	27.24	59	P	P	12 34 43.4	-1.3
BDFB				IAmb	IAmb	12 34 44.9	
	comp=Z,13nm,1.2s						
BDFB	Brasilia	27.24	59	P	P	12 34 43.5	-1.2
	comp=Z,5.0nm,0.8s,baz=284,slow=4.1,SNR=4.7						
BDFB				LR	LR	12 47 04.7	
	comp=Z,101nm,19.0s,baz=242,slow=40						
	comp=Z,5.0nm,0.8s						
BOAV	Boa Vista	36.01	20	P	P	12 36 01.4	-0.1
MDP	Montagnes des	41.33	30	LR	LR	12 55 34.2	
	comp=Z,67nm,18.0s,baz=179,slow=38						
PCRV	Puerto La Cruz	42.65	11	LR	LR	12 56 23.1	
	comp=Z,70nm,18.8s,slow=38						
SNAA	Sanae	53.27	158	P	P	12 38 20.1	+1.4
SNAA				IAmb	IAmb	12 38 46.5	
	comp=Z,3.9nm,1.1s						
QSPA	South Pole Qui	58.09	180	P	P	12 38 54.9	+1.3
	comp=Z,1.5nm,0.9s,baz=141,slow=7.9,SNR=17						
	comp=Z,1.5nm,0.9s						
ANMO	Albuquerque	74.20	331	LR	LR	13 09 16.9	
	comp=Z,26nm,18.1s,baz=7.0,slow=32						
DBIC	Dimbokro	74.50	72	P	P	12 40 38.7	-0.5
	comp=Z,2.3nm,0.7s,baz=234,slow=9.5,SNR=3.6						
DBIC				LR	LR	13 12 32.4	
	comp=Z,12nm,19.3s,baz=180,slow=35						
	comp=Z,2.3nm,0.7s						
TORD	Torodi Ar. Bea	83.48	70	P	P	12 41 27.6	-0.9
	comp=Z,1.9nm,0.9s,baz=275,slow=3.6,SNR=10.0						
	comp=Z,1.9nm,0.9s						
WRA	Warramunga Arr	122.43	210	PKP	PKPdf	12 47 55.0	-1.3
	comp=Z,0.1nm,0.4s,baz=157,slow=1.8,SNR=6.2						
H11S2	WAKE ISLAND Hy	125.88	270	T	T	15 07 08.4	
	baz=118,slow=75,SNR=17						
H11S1	WAKE ISLAND Hy	125.89	270	T	T	15 07 07.4	
	baz=118,slow=75,SNR=25						
H11S3	WAKE ISLAND Hy	125.89	270	T	T	15 07 07.5	
	baz=118,slow=75,SNR=17						
BVAR	Borovoye Array	145.84	41	PKPbc	PKPdf	12 48 38.1	-0.5
	comp=Z,0.8nm,0.6s,baz=262,slow=2.7,SNR=2.8						
KURBB	Kurchatov Arra	151.43	41	PKPbc	PKPbc	12 48 52.4	-1.5
	comp=Z,0.5nm,0.7s,baz=290,slow=2.8,SNR=5.8						
ZALV	Zalesovo Beam	152.59	30	PKPbc	PKiKP	12 48 56.9	+0.3
	comp=Z,0.5nm,0.4s,baz=329,slow=5.0,SNR=2.5						
MKAR	Makanchi Array	155.44	46	PKPbc	PKPdf	12 49 04.9	+11
	comp=Z,0.3nm,0.8s,baz=297,slow=4.2,SNR=2.3						
MKAR				PKPab	PKPab	12 49 18.6	-0.7
	comp=Z,0.9nm,0.8s,baz=316,slow=3.3,SNR=6.8						

*IDC **06** 12:40:19.2±0.7, 51°.53N×175°.67W, h0^{km}, mb3.8/13, mbtmp3.8/17, ML3.6/3, MS3.3/29, Error ellipse: s-maj=26.3km s-min=12.5km az=173.0*
*AEIC **06** 12:40:24.8±4.1, 51°.66N±0°.09×175°.65W±0°.06, h51^{km}±7^{km}, Error ellipse: s-maj=12.8km s-min=4.9km az=173.0*
*NEIC **06** 12:40:26.3±2.1, 51°.56N±0°.06×175°.70W±0°.05, h39^{km}±11^{km}, mb4.1/70, ML4.2/6, ML4.0(AEIC), Error ellipse: s-maj=9.1km s-min=4.7km az=178.0*
ISC 06 12:40:25.9±0.5**, 51°.53N**±0°.07×**175°.69W**±0°.03**, h47**^{km}**, n176,** σ1^s**47**/136**, mb4.1**/34**, MS3.3**/27**, 1C-1D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSIG	Igitkin Island	0.48	342		Pn	12 40 36.1	-0.6
GSIG					Sn	12 40 44.1	-0.4
GSMY	Great Sitkin M	0.56	336		Pn	12 40 37.2	-0.5
GSCK	Great Sitkin C	0.57	329		Pn	12 40 37.2	-0.6
GSTR	Great Sitkin T	0.61	338		Pn	12 40 38.2	-0.2
GSSP	Great Sitkin S	0.64	332		Pn	12 40 38.5	-0.3
ADK	Adak	0.71	300		Pn	12 40 38.5	-1.2
ADK				Sn	Sn	12 40 48.4	-1.3
ADK				IAML		12 40 49.4	
	11µm,0.3s						
ADK				IAML		12 40 49.5	
	13µm,0.3s						
KIWB	Kanaga Island	0.97	290		Pn	12 40 42.1	-1.0
KIMD	Kanaga Island	0.99	284		Pn	12 40 42.1	-1.3
KICM	Kanaga Island	1.02	293		Pn	12 40 43.0	-0.7
ATKA	Atka Island	1.14	53	Pn	Pn	12 40 43.5	-1.9
ATKA				Sn	Sn	12 40 58.0	-2.0
ATKA				IAML		12 40 58.8	
	comp=E,3µm,0.7s						
KOKL	Mount Kliuchef	1.22	49		Pn	12 40 45.4	-1.2
KOFP	Korovin Flat P	1.24	52		Pn	12 40 45.5	-1.2
KOFP					Sn	12 41 02.0	-0.3
TAPA	Tanaga Point A	1.35	283		Pn	12 40 47.6	-0.8
TAFL	Tanaga Flats	1.40	280		Pn	12 40 48.1	-0.8
TANO	Tanaga North	1.56	285		Pn	12 40 51.1	-0.1
GAEA	Gareloi East	1.92	279		Pn	12 40 56.2	+0.1
GALAA	Gareloi Lava P	1.94	278		Pn	12 40 54.1	-2.1
GANO	Gareloi North	1.96	280		Pn	12 40 56.7	+0.1
GASW	Gareloi Southw	1.99	278		Pn	12 40 56.9	-0.1
CEPE	Semis' Perret	2.93	280		Pn	12 41 09.7	-0.2
CERB	Semis' Cerberu	2.94	280		Sn	12 41 44.3	+0.2
CESW	Semis' Southwe	2.98	279		Pn	12 41 10.7	+0.1
CEAP	Semis' Anvil P	2.98	281		Pn	12 41 10.6	0.0
AMKA	Amchitka	3.14	269	Pn	Pn	12 41 12.3	-0.5
AMKA	Amchitka	3.14	269		Sn	12 41 49.8	+0.8
LSPA	Little Sitkin	3.59	279		Pn	12 41 19.2	+0.2
LSSE	Little Sitkin	3.59	279		Pn	12 41 19.1	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSNW	Little Sitkin	3.63	279		Pn	12 41 19.7	+0.2
CLES	Cleveland East	3.79	68	Pn	Pn	12 41 23.9	+2.1
CLES				IAML		12 42 21.5	
	comp=E,441nm,1.3s						
CLES	Cleveland East	3.79	68		Sn	12 42 06.4	+1.4
CLCO	Concord Point,	3.88	69		Pn	12 41 23.5	+0.6
NIKH	Nikolski High	4.44	68		Pn	12 41 31.1	+0.5
NIKH					Sn	12 42 22.1	+1.2
OKTU	Okmok Mt. Tuli	5.03	65		Pn	12 41 39.8	+1.1
MAPS	Pakushin South	5.79	63		Pn	12 41 50.5	+1.3
MREP	Makushin Rep't	5.90	64		Pn	12 41 51.8	+1.1
UNV	Unalaska Valle	6.05	64		Pn	12 41 54.5	+1.9
UNV					Sn	12 43 03.1	+2.7
SHEM	Shemya Is, Ala	6.40	285	Pn	Pn	12 41 55.7	-1.9
	comp=E,1.8nm,0.3s,baz=89,slow=20,SNR=1.6						
SHEM				Sn	Sn	12 43 10.9	+1.7
	comp=E,1.4nm,0.3s,baz=42,slow=23,SNR=1.8						
SHEM				LR	LR	12 44 28.8	
	comp=E,288nm,20.4s,baz=115,slow=39						
	comp=E,27nm,0.9s						
SPIA	Saint Paul Isl	6.49	27		Pn	12 42 01.0	+2.3
SPIA					Sn	12 43 14.4	+3.1
AKUT	Akutan	6.55	63	Pn	Pn	12 42 02.2	+2.7
SDPT	Sand Point	9.85	61	Pn	Pn	12 42 44.9	+0.3
CNBA	Chernabura Isl	10.21	65	Pn	Pn	12 42 49.5	-0.1
CHGN	Chignik	11.24	58	Pn	Pn	12 43 03.6	0.0
L14K	Kuka Creek	12.16	31	Pn	Pn	12 43 16.6	+0.5
N15K	Kwethluk River	12.29	39	Pn	Pn	12 43 17.1	-0.8
J14K	Nanvaranak Lak	13.00	25	Pn	Pn	12 43 27.3	-0.4
L16K	Owhat River	13.51	35	Pn	Pn	12 43 33.5	-1.1
P18K	Big Mountain,	13.98	48	Pn	P	12 43 44.1	-3.7
ANM	Nome	14.13	18	Pn	P	12 43 46.7	-2.8
O18K	Koktuh Hills	14.19	46	Pn	P	12 43 47.0	-3.2
Q19K	Cape Douglas,	14.54	51	Pn	Pn	12 43 49.5	+0.9
K17K	Iditarod	14.59	33	Pn	P	12 43 51.7	-2.9
SVW2	Sparrevohn	14.64	41	Pn	Pn	12 43 50.1	+0.2
KDAK	Kodiak Island	14.72	56	Pn	Pn	12 43 50.4	-0.5
KDAK	Kodiak Island	14.72	56	Pn	Pn	12 43 47.8	-3.0
	comp=E,0.3nm,0.3s,baz=198,slow=3.0,SNR=16						
KDAK				Sn	Sn	12 46 27.5	-4.9
	comp=E,0.1nm,0.3s,baz=340,slow=15,SNR=1.8						
	comp=E,9.9nm,1.1s						
N19K	Bonanza Creek	14.96	43		P	12 43 55.9	-3.0
L19K	White Mountain	15.52	39	IAmb	IAmb	12 44 11.3	
	comp=Z,15nm,0.9s						
H17K	Granite Mounta	15.73	25	IAmb	IAmb	12 44 13.7	
	comp=Z,28nm,1.4s						
CNPM	China Poot	15.91	50	Pn	Pn	12 44 06.9	+0.6
BRLK	Bradley Lake	16.16	50	Pn	Pn	12 44 08.7	-0.8
PEA0B	Petropavlovsk-	16.32	286	Pn	Pn	12 44 11.5	0.0
PETK	Petropavlovsk-	16.32	286	Pn	Pn	12 44 11.4	-0.1
PETK	Petropavlovsk-	16.32	286	Pn	Pn	12 44 09.8	-1.7
	comp=Z,2.5nm,0.9s,baz=92,slow=13,SNR=2.0						
PETK				LR	LR	12 50 05.6	
	comp=Z,78nm,21.3s,baz=102,slow=36						
SUA	Susitna One	16.87	44		P	12 44 19.4	-0.6
SUA				IAmb	IAmb	12 44 50.7	
	comp=Z,12nm,1.2s						
RC01	Rabbit Creek A	17.17	46	P	P	12 44 23.3	+0.2
CAST	Castle Rocks	17.27	37	P	P	12 44 26.1	+1.8
PWL	Port Wells	17.73	48	P	Pn	12 44 27.5	-1.5
KTH	Kantishna Hill	17.78	38	P	P	12 44 30.7	+0.7
KTH				IAmb	IAmb	12 44 36.6	
	comp=Z,15nm,0.8s						
TRF	Thorofare Moun	17.98	39	P	P	12 44 33.1	+0.9
TRF				IAmb	IAmb	12 44 37.7	
	comp=Z,25nm,1.4s						
SML	Sawmill	18.07	45	P	P	12 44 33.0	-0.2
SML				IAmb	IAmb	12 44 59.1	
	comp=Z,16nm,1.2s						
IMAR	Indian Mountai	18.26	29	P	Pn	12 44 36.2	+0.8
I21K	Tanana	18.32	33	P	Pn	12 44 37.5	+1.4
H21K	Melozitna Rive	18.34	31	P	Pn	12 44 38.1	+1.7
SCM	Sheep Creek Mo	18.52	45	P	Pn	12 44 37.9	-0.7
SCM				IAmb	IAmb	12 44 53.9	
	comp=Z,25nm,1.4s						
RND	Reindeer	18.52	40	P	Pn	12 44 38.7	0.0
FID	Port Fidalgo	18.56	49	P	P	12 44 35.9	-2.6
MLY	Manley	18.66	34	P	Pn	12 44 41.1	+0.8
BWN	Browne	18.66	37	P	Pn	12 44 41.1	+0.9
G21K	Allakaket	18.69	28	IAmb	IAmb	12 44 46.6	
	comp=Z,23nm,1.4s						
BILL	Bilibino	18.75	339	P	Pn	12 44 41.2	-0.1
BILL				IAmb	IAmb	12 44 46.1	
	comp=Z,24nm,1.5s						
DHY	Denali Highway	18.98	42	P	Pn	12 44 43.7	-0.6
DHY				IAmb	IAmb	12 44 50.1	
	comp=Z,12nm,1.0s						
D19K	Kuna River	19.01	20	P	Pn	12 44 44.2	-0.3
D19K				IAmb	IAmb	12 44 46.7	
	comp=Z,6.9nm,0.7s						
I23K	Minto, Yukon-K	19.21	35	P	Pn	12 44 47.0	+0.3
I23K				IAmb	IAmb	12 45 07.5	
	comp=Z,20nm,1.4s						
MDM	Murphy Dome	19.52	36	P	Pn	12 44 49.9	-0.6
HDA	Harding Lake	19.73	38	IAmb	IAmb	12 44 58.7	
	comp=Z,7.7nm,0.6s						
IL31		19.92	37	IAmb	IAmb	12 45 06.0	
	comp=Z,14nm,1.5s						
ILAR	Eielson Array	19.92	37	P	P	12 44 51.4	-1.9
	comp=Z,0.1nm,0.3s,baz=244,slow=10,SNR=14						
ILAR				ScP	ScP	12 52 44.7	+4.5
	comp=Z,0.3nm,0.5s,baz=280,slow=3.6,SNR=6.8						
	comp=Z,0.7nm,0.6s						
E21K	Killik River	19.93	24	IAmb	IAmb	12 45 24.2	
	comp=Z,9.2nm,1.0s						
H24K	Noodor Dome	20.10	34	IAmb	IAmb	12 45 00.9	
	comp=Z,10nm,0.8s						
E22K	Anaktuvuk Pass	20.28	26	P	Pn	12 44 58.5	-1.0
E22K				IAmb	IAmb	12 45 05.7	
	comp=Z,9.7nm,1.1s						
RIDG	Independent Ri	20.29	41	P	P	12 44 57.3	-0.1
MA2	Magadan	20.42	306	LR	LR	12 52 10.7	
	comp=Z,67nm,20.9s,baz=107,slow=35						
J25K	Salcha River,	20.43	39	IAmb	IAmb	12 45 09.7	
	comp=Z,7.6nm,0.6s						
SEY	Seymchan	20.46	316	P	P	12 44 59.5	+0.4
	comp=Z,3.9nm,0.8s,baz=45,slow=20,SNR=2.4						
SEY				LR	LR	12 52 56.4	
	comp=Z,119nm,19.7s,baz=95,slow=37						
	comp=Z,3.9nm,0.8s						
D22K	Ayikyak River	20.58	24	P	Pn	12 45 01.9	-1.1
D22K				IAmb	IAmb	12 45 05.7	
	comp=Z,8.2nm,0.8s						
SCRK	Sand Creek	20.73	41	P	P	12 45 02.3	+0.1
F24K	Squaw Lake	21.04	30	IAmb	IAmb	12 45 08.5	
	comp=Z,7.7nm,0.9s						
J26L	Joseph Creek	21.10	40	IAmb	IAmb	12 45 22.2	
	comp=Z,7.8nm,0.9s						
E24K	Your Creek	21.19	28	IAmb	IAmb	12 45 09.2	
	comp=Z,8.1nm,1.2s						
TOLK	Toolik Lake Re	21.24	26	P	P	12 45 08.6	+1.1
TOLK				IAmb	IAmb	12 45 32.1	
	comp=Z,11nm,1.1s						
K27K	Chicken	21.54	42	IAmb	IAmb	12 45 19.4	
	comp=Z,9.1nm,0.8s						
BMAR	Burnt Mountain	22.05	32	P	P	12 45 16.8	+0.6
E25K	Arctic Village	22.11	30	P	P	12 45 17.7	+0.9
E25K				IAmb	IAmb	12 45 35.0	
	comp=Z,8.7nm,1.2s						
EGAK	Eagle	22.17	40	P	P	12 45 17.8	+0.3
DAWY	Dawson	22.67	42	P	P	12 45 24.9	+2.0
DAWY				IAmb	IAmb	12 45 28.0	
	comp=Z,5.5nm,0.9s						
I28M	Miner Creek	22.89	39	IAmb	IAmb	12 45 30.2	
	comp=Z,6.5nm,0.9s						
E27K	Coleen River	23.42	32	IAmb	IAmb	12 45 58.4	
	comp=Z,6.6nm,1.2s						
F28M	Old Crow	23.74	34	P	P	12 45 33.5	+0.1
H29M	Whitestone	23.76	38	IAmb	IAmb	12 45 37.4	
	comp=Z,7.4nm,0.9s						
D27M	Malcolm River	24.13	30	IAmb	IAmb	12 46 13.5	
	comp=Z,4.7nm,1.1s						
G29M	Pine Creek	24.13	36	IAmb	IAmb	12 45 40.6	
	comp=Z,7.9nm,1.1s						
I30M	Mount Dempster	24.24	41	IAmb	IAmb	12 45 42.8	
	comp=Z,5.8nm,1.1s						
E28M	Babbage River	24.29	32	IAmb	IAmb	12 45 42.8	
	comp=Z,7.7nm,1.3s						
EPYK	Eagle Plains	24.44	38	P	P	12 45 40.1	+0.3
EPYK				IAmb	IAmb	12 46 11.3	
	comp=Z,9.8nm,1.4s						
INK	Inuvik	26.23	34	P	P	12 45 55.3	-0.6
INK				IAmb	IAmb	12 46 17.2	
	comp=Z,4.9nm,1.2s						
ASAJ	Asahikawa	28.65	272	LR	LR	12 58 01.2	
	comp=Z,20nm,20.0s,baz=120,slow=37						
C36M	Paulatuk	29.81	34	P	P	12 46 26.7	-1.1
KLR	Kul'dur	33.01	287	P	P	12 46 55.8	-0.4
	comp=Z,1.4nm,0.4s,baz=62,slow=7.6,SNR=8.2						
KLR				LR	LR	13 00 15.7	
	comp=Z,50nm,21.1s,baz=68,slow=36						
	comp=Z,1.4nm,0.4s						
YKA	Yellowknife Ar	33.71	47	P	P	12 47 01.4	-0.7
	comp=Z,0.2nm,0.6s,baz=284,slow=8.1,SNR=5.6						
YKA				PcP	PcP	12 49 41.5	+0.9
	comp=Z,0.7nm,0.8s,baz=284,slow=2.7,SNR=6.7						
YKA				LR	LR	13 00 14.9	
	comp=Z,49nm,18.5s,baz=270,slow=35						
	comp=Z,0.2nm,0.6s						
H11N2	WAKE ISLAND Hy	34.56	210	T	T	13 23 47.7	
	baz=18,slow=76,SNR=115						
H11N3	WAKE ISLAND Hy	34.57	210	T	T	13 23 50.0	
	baz=18,slow=76,SNR=84						
H11N1	WAKE ISLAND Hy	34.58	210	T	T	13 23 48.3	
	baz=18,slow=76,SNR=102						
USRK	Ussuriysk Ar.	35.20	279	P	P	12 47 13.6	-1.6
	comp=Z,3.3nm,0.8s,baz=74,slow=8.1,SNR=4.9						
USRK				LR	LR	13 01 29.6	
	comp=Z,35nm,21.4s,baz=42,slow=36						
	comp=Z,3.3nm,0.8s						
MJAR	Matsushiro Arr	35.73	264	LR	LR	12 59 55.8	
	comp=Z,35nm,20.6s,baz=64,slow=33						
H11S1	WAKE ISLAND Hy	35.77	209	T	T	13 25 20.4	
	baz=18,slow=76,SNR=50						
H11S2	WAKE ISLAND Hy	35.79	209	T	T	13 25 21.5	
	baz=18,slow=76,SNR=40						
H11S3	WAKE ISLAND Hy	35.79	209	T	T	13 25 22.1	
	baz=18,slow=76,SNR=31						
YBH	Yreka Blue Hor	36.93	84	LR	LR	12 59 11.8	
	comp=Z,55nm,18.6s,baz=283,slow=31						
NEW	Newport	37.00	71	P	P	12 47 33.7	+3.1
NEW	Newport	37.00	71	LR	LR	13 01 36.4	
	comp=Z,21nm,21.1s,baz=288,slow=34						
EDM	Edmonton	37.03	62	P	P	12 47 31.8	+1.0
BPMT	Black Pine Rid	40.07	72	P	P	12 47 56.4	-0.3
LYMT	Lyon Mountain	40.48	71	P	P	12 48 02.0	+1.9
MCMT	McKenzie Canyo	41.27	74	P	P	12 48 08.1	+1.5
KSRS	Korea Array	41.58	273	P	P	12 48 08.0	-0.9
	comp=Z,0.9nm,0.5s,baz=54,slow=7.1,SNR=2.6						
KSRS				LR	LR	13 04 38.4	
	comp=Z,10.0nm,22.0s,baz=60,slow=35						
	comp=Z,0.9nm,0.5s						
BOZ	Bozeman (W)	41.59	72	P	P	12 48 12.2	+3.2
BOZ				IAmb	IAmb	12 48 25.3	
	comp=Z,4.4nm,0.8s						
NVAR	Mina Array Bea	41.60	85	P	P	12 48 08.7	-0.6
	comp=Z,0.1nm,0.3s,baz=289,slow=8.5,SNR=2.0						
	comp=Z,0.1nm,0.3s						
JNU	Nakatsue	42.53	266	LR	LR	13 04 32.8	
	comp=Z,34nm,20.8s,baz=157,slow=34						
BW06	Boulder Array	44.40	74	P	P	12 48 32.7	+0.8
PD31	Pinedale Array	44.40	74	P	P	12 48 32.1	+0.2
PDAR	Pinedale Array	44.40	74	P	P	12 48 32.8	+0.8
PDAR	Pinedale Array	44.40	74	P	P	12 48 32.5	+0.6
	comp=Z,1.4nm,0.7s,baz=302,slow=3.9,SNR=13						
	comp=Z,1.4nm,0.7s						
PFO	Pinyon Flats O	45.81	89	LR	LR	13 03 49.0	
	comp=Z,40nm,21.5s,baz=316,slow=31						
SONM	Songino Array	48.31	298	PcP	PcP	12 50 28.3	-0.2
	comp=Z,1.6nm,0.9s,baz=90,slow=2.3,SNR=5.0						
SONM				LR	LR	13 10 38.0	
	comp=Z,33nm,19.6s,baz=274,slow=38						
HHC	Hu-ho-hao-te	49.51	288	*e*P	P	12 49 06.2	-5.4
HHC	Hu-ho-hao-te	49.51	288	*e*P	P	12 49 14.2	+2.6
HHC				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC				pmax	pmax		
	comp=Z,140nm,5.2s						
HNS	HongShan	49.79	282	P	P	12 49 15.0	+1.4
HNS				pmax	pmax		
	comp=Z,20nm,0.9s						
LYN	LuoYang	53.02	281	P	P	12 49 38.0	+0.1
LYN				pmax	pmax		
	comp=Z,17nm,0.9s						
SFJD	Kangerlussuaq	54.76	23	LR	LR	13 16 10.6	
	comp=Z,30nm,19.5s,baz=184,slow=39						
ZALV	Zalesovo Beam	55.32	315	PcP	PcP	12 50 54.6	+0.3
	comp=Z,1.2nm,0.7s,baz=31,slow=4.4,SNR=4.1						
ZALV				LR	LR	13 15 25.8	
	comp=Z,34nm,19.6s,baz=56,slow=38						
TXAR	Lajitas Array	56.70	84	P	P	12 50 04.5	-0.2
	comp=Z,0.5nm,0.8s,baz=308,slow=6.2,SNR=4.7						
	comp=Z,0.5nm,0.8s						
LZH	Lanzhou	57.20	288	*e*P	P	12 50 05.8	-2.4
LZH				pP	pP	12 50 19.4	-1.7
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
ARCES	ARCESS Array B	58.25	351	LR	LR	13 16 12.8	
	comp=Z,16nm,20.2s,baz=25,slow=37						
KURBB	Kurchatov Arra	60.41	315	P	P	12 50 29.9	-0.1
	comp=Z,1.4nm,0.5s,baz=43,slow=6.6,SNR=20						
	comp=Z,1.4nm,0.5s						
WMQ	Urumqi	60.88	305	*e*P	P	12 50 37.1	+3.7
MKAR	Makanchi Array	61.45	310	LR	LR	13 19 30.4	
	comp=Z,36nm,18.3s,baz=58,slow=38						
BVAR	Borovoye Array	62.01	321	P	P	12 50 41.2	+0.4
	comp=Z,1.2nm,0.4s,baz=45,slow=6.0,SNR=5.2						
BVAR				LR	LR	13 19 55.8	
	comp=Z,72nm,19.5s,baz=37,slow=38						
	comp=Z,1.2nm,0.4s						
ARU	Arti	63.48	330	LR	LR	13 21 35.8	
	comp=Z,16nm,18.2s,baz=70,slow=39						
TKL	Tuckaleechee C	64.14	65	LR	LR	13 17 56.9	
	comp=Z,31nm,20.8s,baz=325,slow=35						
KIRV	Kirov	64.26	336	LR	LR	13 23 28.5	
	comp=Z,20nm,18.3s,baz=12,slow=40						
PZH	PanZhiHua	65.23	282	P	P	12 51 03.4	+0.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,80nm,5.3s						
FINES	FINESS Array B	66.04	349	LR	LR	13 21 32.4	
	comp=Z,17nm,20.1s,baz=306,slow=37						
NOA	NORSAR Array B	67.64	356	LR	LR	13 23 10.7	
	comp=Z,10.0nm,18.1s,baz=355,slow=38						
AAK	Ala-Archa	68.24	312	LR	LR	13 23 30.9	
	comp=Z,20nm,18.9s,baz=313,slow=38						
CMAR	Chiang Mai Arr	72.93	278	P	P	12 51 50.7	+0.5
	comp=Z,1.0nm,0.5s,baz=27,slow=7.1,SNR=8.7						
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	75.97	344	LR	LR	13 29 04.6	
	comp=Z,24nm,19.6s,baz=339,slow=38						
WRA	Warramunga Arr	83.50	226	P	P	12 52 46.9	-1.6
	comp=Z,0.3nm,0.9s,baz=35,slow=5.8,SNR=2.5						
	comp=Z,0.3nm,0.9s						
ASAR	Alice Springs	86.94	225	P	P	12 53 04.7	-0.9
	comp=Z,0.3nm,0.7s,baz=36,slow=5.5,SNR=2.3						
	comp=Z,0.3nm,0.7s						
IDI	Anoyia	91.68	343	LR	LR	13 37 12.0	
	comp=Z,15nm,21.6s,baz=92,slow=37						
PALK	Pallekele	92.73	285	LR	LR	13 36 27.8	
	comp=Z,45nm,21.5s,baz=253,slow=36						
TORD	Torodi Ar. Bea	115.56	3	PKP	PKiKP	12 59 02.2	-0.6
	comp=Z,0.3nm,0.5s,baz=352,slow=2.4,SNR=1.8						
H03N2	Juan Fernandez	119.32	108	T	T	15 09 53.5	
	baz=318,slow=78,SNR=9.7						
H03N1	Juan Fernandez	119.34	108	T	T	15 09 52.4	
	baz=318,slow=78,SNR=9.4						
H03N3	Juan Fernandez	119.34	108	T	T	15 09 53.0	
	baz=318,slow=78,SNR=8.7						
QSPA	South Pole Qui	141.29	180	PKhKP	PKPpre	12 59 45.3	
	comp=Z,0.5nm,0.8s,baz=39,slow=0.4,SNR=1.1						
MAW	Mawson	147.79	218	PKPbc	PKiKP	13 00 05.7	-0.1
	comp=Z,5.3nm,0.4s,baz=355,slow=18,SNR=19						
BOSA	Boshof	152.25	318	PKPbc	PKPbc	13 00 16.4	+0.2
	comp=Z,3.2nm,0.6s,baz=56,slow=3.6,SNR=0.4						

IDC ***06*** *12:45:49.6±2.0, 65°.55S×176°.80W, h0km, mb3.7/4, mbtmp3.7/5, ML3.7/1, MS3.8/28, Error ellipse: s-maj=73.6km s-min=26.1km az=69.0*

ISC 06 12:45:51.1±1.7**, 65°.6S**±0°.2×**176°.9W**±0°.4**, h10km, n47,** σ**0s.47**/6**, mb3.7**/4**, MS3.9**/27**, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	Vanda	13.61	200	Pn	Pn	12 49 03.8	0.0
	0.3nm,0.3s,baz=50,slow=17,SNR=19						
VNDA				LR	LR	12 52 50.5	
	comp=Z,285nm,21.2s,baz=54,slow=31						
	1.1nm,0.5s						
RPZ	Rata Peaks	22.91	337	LR	LR	12 57 38.7	
	comp=Z,452nm,21.4s,baz=176,slow=31						
QSPA	South Pole Qui	24.52	180	P	P	12 51 10.8	+0.3
	6.5nm,1.0s,baz=40,slow=5.4,SNR=12						
QSPA				LR	LR	12 59 29.5	
	comp=Z,417nm,21.1s,baz=44,slow=33						
	6.5nm,1.0s						
URZ	Urewera	27.57	350	LR	LR	13 00 55.3	
	comp=Z,464nm,19.3s,baz=216,slow=33						
RAO	Raoul Island	36.34	358	LR	LR	13 03 56.5	
	comp=Z,158nm,20.3s,baz=78,slow=30						
MAW	Mawson	40.57	211	LR	LR	13 09 57.5	
	comp=Z,149nm,19.4s,baz=166,slow=36						
PMSA	Palmer Station	41.18	143	LR	LR	13 08 01.8	
	comp=Z,173nm,18.8s,baz=226,slow=32						
STKA	Stephens Creek	42.04	303	LR	LR	13 07 51.2	
	comp=Z,61nm,21.0s,baz=193,slow=31						
SNAA	Sanae	42.96	177	P	P	12 53 49.5	-0.1
	3.1nm,1.1s,baz=185,slow=18,SNR=3.0						
SNAA				LR	LR	13 10 35.4	
	comp=Z,164nm,21.1s,baz=183,slow=35						
	3.1nm,1.1s						
DZM	Mont Dzumac	44.82	338	*e*LR	LR	13 07 07.5	
	378nm,24.2s						
DZM	Mont Dzumac	44.82	338	LR	LR	13 11 32.2	
	comp=Z,205nm,18.1s,baz=208,slow=34						
TBI	Tubuai	45.75	36	*e*T	T	13 42 49.0	
	9.3nm,0.3s						
H01W1	Cape Leeuwin H	50.18	272	T	T	13 49 21.1	
	baz=150,slow=76,SNR=9.6						
H01W2	Cape Leeuwin H	50.18	272	T	T	13 49 22.5	
	baz=150,slow=76,SNR=9.3						
H01W3	Cape Leeuwin H	50.19	272	T	T	13 49 22.6	
	baz=150,slow=76,SNR=6.6						
NWAO	Narrogin (SRO)	50.60	276	LR	LR	13 11 11.0	
	comp=Z,250nm,21.2s,baz=62,slow=30						
TVO	Taravao	51.15	35	*e*T	T	13 49 30.6	
	2.3nm,0.3s						
PAE	Paea	51.19	34	*e*T	T	13 49 34.1	
	3.9nm,0.3s						
PPT2	Papeete2	51.26	34	*e*LR	LR	13 09 07.3	
	65nm,23.8s						
PPT2				*e*LR	LR	13 09 16.2	
	122nm,26.5s						
PPT2	Papeete2	51.26	34	*e*T	T	13 49 35.5	
	7.0nm,0.3s						
PPT	Papeete	51.28	34	LR	LR	13 11 21.3	
	comp=Z,42nm,18.4s,baz=194,slow=30						
CTA	Charters Tower	51.45	314	LR	LR	13 13 01.8	
	comp=Z,72nm,20.2s,baz=123,slow=32						
ASAR	Alice Springs	52.27	299	P	P	12 55 01.9	-0.5
	0.2nm,0.5s,baz=156,slow=7.4,SNR=1.6						
ASAR				LR	LR	13 15 14.2	
	comp=Z,36nm,19.0s,baz=131,slow=34						
	0.2nm,0.5s						
PMOR	Pomariorio Ree	54.15	35	*e*T	T	13 53 12.1	
	6.4nm,0.3s						
WRA	Warramunga Arr	55.53	301	P	P	12 55 26.8	+0.6
	0.4nm,0.9s,baz=159,slow=6.4,SNR=2.3						
	0.4nm,0.9s						
PLCA	Paso Flores	59.84	122	LR	LR	13 15 34.8	
	comp=Z,48nm,19.5s,baz=216,slow=30						
PMG	Port Moresby	61.33	319	LR	LR	13 17 48.8	
	comp=Z,109nm,21.4s,baz=152,slow=31						
TAOE	Nuku Hiva Isla	62.05	42	*e*LR	LR	13 14 36.0	
	168nm,23.6s						
H03S2	Juan Fernandez	62.85	112	T	T	14 04 45.6	
	baz=206,slow=74,SNR=54						
H03S1	Juan Fernandez	62.85	112	T	T	14 04 47.1	
	baz=206,slow=74,SNR=61						
H03S3	Juan Fernandez	62.87	112	T	T	14 04 49.1	
	baz=206,slow=74,SNR=53						
H03N3	Juan Fernandez	63.19	112	T	T	14 05 02.7	
	baz=206,slow=71,SNR=27						
H03N2	Juan Fernandez	63.20	112	T	T	14 05 03.1	
	baz=206,slow=71,SNR=88						
H03N1	Juan Fernandez	63.20	112	T	T	14 05 01.8	
	baz=206,slow=71,SNR=16						
BATI	Baumata	68.41	294	LR	LR	13 23 57.8	
	comp=Z,77nm,19.3s,baz=218,slow=33						
KAPI	Kappang	74.66	293	LR	LR	13 27 30.6	
	comp=Z,54nm,20.0s,baz=160,slow=34						
CPUP	Villa Florida	77.45	127	LR	LR	13 27 13.9	
	comp=Z,50nm,19.0s,baz=214,slow=32						
LEM	Lembang	77.85	280	LR	LR	13 26 54.5	
	comp=Z,51nm,20.7s,baz=220,slow=32						
SUR	Sutherland	81.41	195	LR	LR	13 30 16.4	
	comp=Z,78nm,21.8s,baz=159,slow=33						
NNA	Nana	83.28	104	LR	LR	13 27 34.0	
	comp=Z,33nm,19.4s,baz=206,slow=30						
GUMO	Guam	83.96	323	LR	LR	13 30 17.6	
	comp=Z,28nm,19.5s,baz=155,slow=32						
ATAH	Atahualpa	87.05	101	LR	LR	13 28 24.9	
	comp=Z,72nm,18.8s,baz=238,slow=29						
LBTB	Lobatse	88.07	200	LR	LR	13 34 55.9	
	comp=Z,52nm,21.0s,baz=174,slow=33						
BDFB	Brasilia	90.44	131	LR	LR	13 37 15.3	
	comp=Z,24nm,19.7s,baz=169,slow=34						
TSUM	Tsumeb	94.78	194	LR	LR	13 40 47.6	
	comp=Z,78nm,18.0s,baz=150,slow=35						
LSZ	Lusaka	97.22	204	LR	LR	13 41 08.5	
	comp=Z,53nm,19.7s,baz=142,slow=34						
ILAR	Eielson Array	131.85	17	PKP	PKPdf	13 05 02.5	-0.1
	0.4nm,0.7s,baz=217,slow=0.9,SNR=4.9						

NEIC ***06*** *12:48:37.3±2.2, 0°.61N±0°.09×122°.32E±0°.06, h197km±8km, mb4.3/15, Error ellipse: s-maj=12.8km s-min=8.0km az=195.0*

IDC ***06*** *12:48:41.4±3.3, 0°.11N×121°.93E, h224km±29km, mb3.5/4, mbtmp4.0/5, Error ellipse: s-maj=67.9km s-min=18.3km az=58.0*

DJA ***06*** *12:48:41.0±0.4, 0°N±4°×12°2E±°, h169km±5km, M4.0/13, mb4.1/6, mB4.4/1, MLv3.9/13, Mw(mB)3.6/1*

ISC 06 12:48:38.1±0.7**, 0°.39N**±0°.07×**122°.16E**±0°.06**, h200km, n37,** σ**1s.17**/42**, mb4.2**/12**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.23	293	P	Pn	12 49 05.3	+0.8
MRSI				S	Sn	12 49 23.6	-1.2
GTOI	Gorontalo	0.89	74	P	Pn	12 49 07.8	+0.6
LUWI	Luwuk	1.54	157		Pn	12 49 13.6	+1.3
LUWI				Sn	Sn	12 49 38.7	-0.1
LUWI	Luwuk	1.54	157	P	Pn	12 49 10.9	-1.4
TOLI2	Tolitoli	1.55	298		Pn	12 49 13.3	+0.9
TOLI2				Sn	Sn	12 49 37.9	-0.9
KMSI	Cibinong	1.83	84	P	Pn	12 49 15.3	+0.3
MPSI	Mapaga	2.26	269	P	Pn	12 49 19.8	+0.4
TTSI	Tana Toraja	4.13	214	P	Pn	12 49 41.9	+0.3
SANI	Sanana	4.53	122	P	Pn	12 49 45.9	-0.7
TNTI	Ternate	5.22	86	Pn	Pn	12 49 50.6	-4.8
TNTI	Ternate	5.22	86	P	Pn	12 49 58.1	+2.7
	20nm,0.4s,0.1nm						
LBMI	Labuha	5.44	101	P	Pn	12 49 59.5	+1.3
	26nm,0.6s,0.3nm						
BKB	Balikpapan	5.51	253	P	Pn	12 50 00.1	+1.0
	69nm,0.8s,0.4nm						
KAPI	Kappang	5.88	204	P	Pn	12 50 03.3	-0.5
	5.2nm,0.3s,baz=12,slow=17,SNR=4.2						
MYLDM	Lahad Datu	6.00	323	Pn	Pn	12 50 03.1	-2.4
BKSI	Bulukumba	6.02	200	P	Pn	12 50 06.3	+0.6
	16nm,1.9s,564nm0.1nm						
MTN	Manton Dam	15.88	146	P	Pn	12 52 11.8	+0.7
KNRA	Kununurra	17.24	158	P	P	12 52 25.7	-0.1
KNRA				IAmb	IAmb	12 52 29.3	
	comp=Z,11nm,0.9s						
MNAI	Manna	19.76	256	P	P	12 52 53.9	+0.8
MBWA	Marble Bar	21.54	186	P	P	12 53 12.0	+0.1
MBWA				IAmb	IAmb	12 53 13.5	
	comp=Z,13nm,1.1s						
WB0	Warramunga Arr	23.34	150	P	P	12 53 27.3	-1.4
WB0				IAmb	IAmb	12 53 29.7	
	comp=Z,6.1nm,0.7s						
WRAB	Tennant Creek	23.46	150	P	P	12 53 29.9	0.0
WRAB				IAmb	IAmb	12 53 30.9	
	comp=Z,5.2nm,0.7s						
WRA	Warramunga Arr	23.47	150	P	P	12 53 29.6	-0.3
WRA	Warramunga Arr	23.47	150	P	P	12 53 29.6	-0.3
	comp=Z,3.0nm,0.7s,baz=323,slow=11,SNR=73						
WRA				PcP	PcP	12 57 09.1	-1.1
	comp=Z,0.2nm,0.4s,baz=324,slow=2.1,SNR=5.0						
	comp=Z,3.0nm,0.7s						
WB2	Warramunga Arr	23.47	150	P	P	12 53 30.2	+0.2
WB2				IAmb	IAmb	12 53 31.7	
	comp=Z,6.4nm,1.0s						
WR0	Warramunga Arr	23.58	150	P	P	12 53 30.8	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WR0				IAmb	IAmb	12 53 32.5	
	comp=Z,8.3nm,0.6s						
AS31	Alice Springs	26.49	155	P	P	12 53 57.5	+0.3
AS31				IAmb	IAmb	12 53 58.7	
	comp=Z,1.0nm,0.5s						
ASAR	Alice Springs	26.49	155	P	P	12 53 57.8	+0.6
ASAR	Alice Springs	26.49	155	P	P	12 53 57.1	-0.1
	comp=Z,2.0nm,0.8s,baz=343,slow=14,SNR=45						
ASAR				PcP	PcP	12 57 16.9	-0.1
	comp=Z,0.5nm,0.3s,baz=349,slow=2.1,SNR=12						
ASAR				ScP	ScP	13 00 35.5	-2.5
	comp=Z,0.3nm,0.9s,baz=337,slow=3.0,SNR=4.4						
	comp=Z,2.0nm,0.8s						
FORT	Forrest	31.50	170	P	P	12 54 41.0	-0.3
BBOO	Buckleboo	35.53	160	P	P	12 55 16.0	-0.1
STKA	Stephens Creek	36.99	152	P	P	12 55 29.1	+0.6
STKA	Stephens Creek	36.99	152	P	P	12 55 28.8	+0.3
	comp=Z,3.7nm,0.8s,baz=317,slow=7.8,SNR=8.0						
	comp=Z,3.7nm,0.8s						
CAN	Canberra	43.47	148	P	P	12 56 23.8	+2.1
KOUNC	Koumac, New Ca	46.16	119	P	P	12 56 42.0	-1.1
KOUNC				IAmb	IAmb	12 56 50.9	
	comp=Z,14nm,1.0s						
OUENC	Ouen Island, N	49.05	121	P	P	12 57 02.6	-2.8
OUENC				IAmb	IAmb	12 57 03.2	
	comp=Z,17nm,0.9s						
MKAR	Makanchi Array	57.85	329	P	P	12 58 10.8	+1.8
	comp=Z,0.4nm,0.5s,baz=127,slow=8.9,SNR=5.7						
	comp=Z,0.4nm,0.5s						

*UPA **06** 12:56:53.1±1.2, 7.°16N×82.°29W, h13km±17km, MW3.3*
*CATAC **06** 12:56:53.4±1.3, 7.°16N×82.°48W, h10km, ML3.6*
ISC 06 12:56:51.9±2.7**, 7.°2N**±0.°1×**82.°24W**±0.°06**, h8**km±14km**, n15,**
σ**0.s82**/26**, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTPM	Petroterminale	1.15	327	eP	Pb	12 57 13.4	-0.6
PTPM				eS	Sg	12 57 30.4	+1.4
DVD	David	1.21	350	eP	Pb	12 57 15.3	+0.2
DVD				eS	Sn	12 57 31.7	0.0
CACAO	El Cacao, Vera	1.38	85	eP	Pn	12 57 17.3	0.0
CACAO				eS	Sg	12 57 35.9	-0.3
BCO2	Palmira	1.50	349	eP	Pn	12 57 19.5	+0.2
BCO2				eS	Sg	12 57 39.8	-0.4
BRU2	Volcan	1.61	344	eP	Pb	12 57 22.1	0.0
BRU2				eS	Sg	12 57 43.8	0.0
CHIT3	Chitre	1.95	68	eP	Pn	12 57 26.4	+1.1
CHIT3				eS	Sb	12 57 51.0	-1.1
POTG	Potrero Grande	2.00	334	i P	Pn	12 57 26.8	+0.7
POTG				IAML		12 57 27.2	
	comp=Z,830nm,1.0s						
POTG				i S	Sb	12 57 53.1	-0.7
AZU	Azuero	2.03	74	eP	Pn	12 57 27.6	+1.3
AZU				eS	Sb	12 57 53.5	-0.9
SRBA	San Rafael, Bu	2.27	331	i P	Pn	12 57 29.7	-0.2
SRBA				i S	Sn	12 57 57.9	-0.2
CDM	Cerro de Muert	2.75	327	i P	Pn	12 57 36.9	+0.1
CDM				IAML		12 57 38.3	
	comp=Z,82nm,1.0s						
CDM				i S	Sn	12 58 11.0	+0.5
RIMA	Rio Macho	2.98	328	i P	Pn	12 57 40.2	+0.5
RIMA				i S	Sn	12 58 17.8	+2.0
RIMA				IAML		12 58 22.1	
	comp=Z,42nm,1.0s						
LCR2	La Lucha 2	3.04	325	i P	Pn	12 57 40.9	+0.4
LCR2				IAML		12 57 47.8	
	comp=Z,61nm,1.0s						
LCR2				i S	Sn	12 58 16.9	-0.4
JACO	JACO, Garabito	3.40	315	i P	Pn	12 57 45.9	+0.7
ESPN	Las Esperanzas	5.33	338	i P	Pn	12 58 16.8	+5.0
NADN	Granada	5.84	320	i P	Pn	12 58 17.7	-1.1

*IDC **06** 13:33:47.4±1.8, 39.°19N×54.°54E, h0km, mb3.5/4, mbtmp3.6/6, ML3.2/2, MS2.8/1, Error ellipse: s-maj=52.6km s-min=11.4km az=24.0*
*TEH **06** 13:33:47.5, 39.°17N×54.°70E, h10km±255km, ML3.5*
*AZER **06** 13:33:54.7±1.4, 38.°97N×54.°27E, h10km, Error ellipse: s-maj=12.5km s-min=9.4km az=26.0*
ISC 06 13:33:49.7±0.8**, 39.°14N**±0.°07×**54.°64E**±0.°05**, h10**km**, n67,**
σ**1.s85**/83**, mb3.7**/4**, Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRVT	Maraveh tapeh	1.86	142	Pn	Pn	13 34 22.8	+1.0
IMND	Minoodasht	1.98	162	Pn	Pn	13 34 24.7	+1.5
GEYT	Alibeck	2.98	113	Pn	Pn	13 34 36.1	-1.0
	2.0nm,0.3s,baz=296,slow=14,SNR=18						
GEYT				Pg	Pb	13 34 43.6	+0.7
	8.7nm,0.3s,baz=299,slow=18,SNR=18						
GEYT				Sn	Sn	13 35 10.1	-2.8
	5.3nm,0.3s,baz=297,slow=16,SNR=2.8						
GEYT				Lg	Lg	13 35 25.6	
	7.8nm,0.3s,baz=285,slow=34,SNR=2.9						
	5.3nm,0.3s						
IKIA	Kiasar	3.03	195	Pn	Pn	13 34 39.5	+1.6
ISFR	Sfrayin	3.37	127	Pn	Pn	13 34 43.1	+0.4
IALA	Alasht	3.38	206	Pn	Pn	13 34 44.7	+1.8
IPRN	Peran	3.42	213	Pn	Pn	13 34 44.4	+1.1
IEMG	Emamgholi	3.59	117	Pn	Pn	13 34 45.5	-0.2
MZPU	Pul - Mazandar	3.63	223	Pn	Pn	13 34 46.8	+0.6
GALA	Gala	3.68	292	S	Sn	13 35 34.1	+4.0
IFIR	Firoozkooh	3.80	204	Pn	Pn	13 34 51.4	+2.8
KLST	Kelardasht - M	3.86	228	Pn	Pn	13 34 49.9	+0.4
IDMV	Damavand	4.12	211	Pn	Pn	13 34 54.9	+1.9
IAKL	Akhelmad	4.12	127	Pn	Pn	13 34 53.9	+0.9
ALIB	Äli-Bayra	4.43	282	P	Pn	13 35 00.0	+3.0
ALIB				S	Sn	13 35 50.6	+2.0
ALIB	Äli-Bayra	4.43	282	Pn	Pn	13 35 00.0	+3.0
IKRD	Kardeh	4.52	120	Pn	Pn	13 34 58.0	-0.4
LKRN	Lenkeran, Azer	4.59	266	S	Sn	13 35 51.9	-0.7
GBS	Qobustan	4.60	289	P	Pn	13 35 01.5	+2.1
GBS				S	Sn	13 35 55.9	+2.9
GBS	Qobustan	4.60	289	Pn	Pn	13 35 01.5	+2.1
ASTR	Astara	4.61	265	S	Sn	13 35 52.5	-0.4
ATGJ	Altiaghaj	4.71	293	S	Sn	13 35 57.6	+2.1
SIZA	Siyzn	4.81	296	P	Pn	13 35 04.6	+2.3
SIZA				S	Sn	13 36 01.3	+3.3
SIZA	Siyzn	4.81	296	Pn	Pn	13 35 04.5	+2.3
GLBA	Clilabad	4.86	273	P	Pn	13 35 04.1	+1.2
GLBA				S	Sn	13 35 58.0	-1.1
GLBA	Clilabad	4.86	273	Pn	Pn	13 35 04.0	+1.2
PQL	Pirkuli	4.93	291	P	Pn	13 35 05.9	+1.9
PQL				S	Sn	13 36 03.3	+2.1
PQL	Pirkuli	4.93	291	Pn	Pn	13 35 05.9	+1.9
LRK	Lerik	4.94	266	P	Pn	13 35 05.6	+1.3
LRK				S	Sn	13 35 59.6	-1.9
LRK	Lerik	4.94	266	Pn	Pn	13 35 05.5	+1.3
YRD	Yardimli	4.99	269	P	Pn	13 35 05.8	+0.9
YRD				S	Sn	13 36 00.3	-2.4
YRD	Yardimli	4.99	269	Pn	Pn	13 35 05.7	+0.9
QSDN	Sirdan	5.07	240	Pn	Pn	13 35 07.0	+1.1
KDMR	Kurdemir	5.13	286	S	Sn	13 36 06.8	+1.1
IMYA	Miami	5.15	121	Pn	Pn	13 35 07.6	+0.5
ISFB	Sefidab	5.16	203	Pn	Pn	13 35 09.3	+2.2
QUBA	Quba, Azerbaij	5.20	297	P	Pn	13 35 10.0	+2.4
QUBA				S	Sn	13 36 08.7	+1.1
IML	Ismayilli	5.23	290	S	Sn	13 36 08.7	+0.2
GRMI	Germi	5.27	268	Pn	Pn	13 35 09.5	+0.8
XNQ	Khinaliq	5.38	294	P	Pn	13 35 11.0	+0.8
XNQ				S	Sn	13 36 12.1	-0.2
TNSJ	Nastanj	5.40	162	Pn	Pn	13 35 12.1	+1.6
QSAR	Qusar	5.42	298	P	Pn	13 35 13.5	+2.9
QSAR				S	Sn	13 36 15.6	+2.5
ZRD	Zardab	5.49	284	S	Sn	13 36 14.8	+0.2
BLQ	Beylaqan	5.52	278	S	Sn	13 36 13.1	-2.3
QBL	Gabala	5.53	291	S	Sn	13 36 15.7	0.0
QRD	Qoradiz	5.69	276	S	Sn	13 36 17.4	-2.2
BRDA	Brd	5.87	283	S	Sn	13 36 25.0	+1.1
TKDS	Koohdasht(Taba	5.87	159	Pn	Pn	13 35 19.0	+2.2
AGDM	Agdam	5.90	282	S	Sn	13 36 24.5	-0.4
TBJM	Torbat-e-JAM	5.96	129	Pn	Pn	13 35 18.7	+0.5
IHRS	Heris	6.00	265	Pn	Pn	13 35 19.9	+1.1
MNGR	Mingechevir, A	6.03	288	S	Sn	13 36 28.1	+0.1
SEKA	Sheki	6.07	292	S	Sn	13 36 28.3	-0.7
TPRV	Parvadeh(Tabas	6.32	164	Pn	Pn	13 35 25.2	+2.1
GANJ	Ganja	6.57	286	P	Pn	13 35 26.8	+0.4
GANJ				S	Sn	13 36 37.9	-3.6
ZKTA	Zakatala	6.61	295	S	Sn	13 36 43.9	+1.5
ORD	Ordubad	6.74	271	P	Pn	13 35 29.8	+1.0
ORD				S	Sn	13 36 44.0	-1.6
GDB	GEDABAY	7.01	286	P	Pn	13 35 33.3	+0.7
GDB				S	Sn	13 36 48.7	-3.7
SBZ	Shahbuz	7.06	275	S	Sn	13 36 53.1	-0.5
ITEG	Tejag	7.06	151	Pn	Pn	13 35 35.3	+1.9
QZX	Qazax, Azerbai	7.36	288	P	Pn	13 35 38.2	+0.9
QZX				S	Sn	13 36 59.1	-1.7
KBZ	Khabaz	9.94	301	Pn	Pn	13 36 10.8	-1.8
	0.3nm,0.3s,baz=106,slow=12,SNR=2.8						
KBZ				Sn	Sn	13 37 58.8	-5.2
	0.3nm,0.3s,baz=130,slow=23,SNR=1.5						
	2.8nm,0.9s						
KIRV	Kirov	19.75	352	LR	LR	13 47 48.3	
	comp=Z,23nm,18.2s,baz=295,slow=43						
AKASG	Malin Array Be	21.28	311	P	P	13 38 35.1	-0.9
	2.7nm,0.6s,baz=107,slow=9.3,SNR=14						
	2.7nm,0.6s						
MKAR	Makanchi Array	21.55	60	P	P	13 38 38.6	-0.5
	0.1nm,0.4s,baz=260,slow=10,SNR=2.7						
	0.1nm,0.4s						
ZALV	Zalesovo Beam	25.25	44	P	P	13 39 14.3	-1.4
	0.5nm,0.5s,baz=250,slow=8.4,SNR=2.2						
	0.5nm,0.5s						
FINES	FINESS Array B	28.41	331	P	P	13 39 44.4	+0.2
	3.6nm,1.0s,baz=126,slow=9.7,SNR=2.1						
	3.6nm,1.0s						

*IDC **06** 13:37:38.7±0.6, 30.°32S×177.°91W, h0km, mb4.2/9, mbtmp4.2/11, ML3.8/2, MS3.5/13, Error ellipse: s-maj=23.0km s-min=15.5km az=94.0*
*NEIC **06** 13:37:40.8±1.4, 30.°51S±0.°07×177.°9W±0.°2, h10km±1km, mb4.5/14, Error ellipse: s-maj=27.9km s-min=11.7km az=99.0*
ISC 06 13:37:46.1±0.6**, 30.°63S**±0.°07×**178.°3W**±0.°1**, h35**km**, n119,**
σ**2.s62**/112**, mb4.4**/17**, MS3.5**/12**, 4C, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.41	15	P	Pn	13 38 01.1	-8.3
GLKZ				S	Sn	13 38 16.3	-10
RAO	Raoul Island	1.42	15		Pn	13 38 03.4	-6.1
RAO	Raoul Island	1.42	15	Pn	Pn	13 38 02.3	-7.2
	408nm,0.3s,baz=217,slow=23,SNR=18						
RAO				Sn	Sn	13 38 16.8	-10
	2µm,0.3s,baz=146,slow=23,SNR=14						
RAO				LR	LR	13 38 27.1	
	comp=Z,90nm,18.5s,baz=129,slow=45						
RIZ	Raoul Island	1.43	14	P	Pn	13 38 03.6	-6.0
RIZ				S	Sn	13 38 16.2	-11
MXZ	Matakaoa Point	7.45	201	Pn	Pn	13 39 31.5	-0.8
MXZ	Matakaoa Point	7.45	201	S	Sn	13 40 57.9	+2.3
WMGZ	Waiomatatini S	7.66	200	P	Pn	13 39 36.1	+1.0
WMGZ	Waiomatatini S	7.66	200	P	Pn	13 39 36.5	+1.4
WMGZ				S	Sn	13 41 03.9	+3.3
HAZ	Te Kaha	7.80	203	P	Pn	13 39 37.6	+0.6
HAZ				S	Sn	13 41 12.7	+8.7
PKGZ	Pakihiroa	7.82	201	P	Pn	13 39 37.1	-0.4
PKGZ				S	Sn	13 41 05.6	+0.8
PUZ	Puketiti	7.94	200	P	Pn	13 39 38.8	-0.3
PUZ	Puketiti	7.94	200	P	Pn	13 39 38.7	-0.3
PUZ				S	Sn	13 41 12.7	+5.2
RUGZ	Raukumara Rang	8.02	203	P	Pn	13 39 40.9	+0.6
RUGZ				S	Sn	13 41 15.5	+5.7
TWGZ	Tauwhareparae	8.12	201	S	Sn	13 41 17.7	+5.7
TKGZ	Te Karaka	8.40	201	P	Pn	13 39 46.4	+1.1
MWZ	Matawai	8.41	203	P	Pn	13 39 45.5	0.0
URZ	Urewera	8.48	205	Pn	Pn	13 39 47.0	+0.6
	0.8nm,0.3s,baz=309,slow=2.8,SNR=17						
URZ				Sn	Sn	13 41 22.9	+1.9
	3.1nm,0.3s,baz=77,slow=13,SNR=3.8						
	5.5nm,0.8s						
URZ	Urewera	8.48	205	P	Pn	13 39 47.1	+0.6
RIGZ	Rimuhau	8.67	201	P	Pn	13 39 48.6	-0.5
MUGZ	Murupara	8.80	206	P	Pn	13 39 50.7	-0.2
RTZ	Ruatahuna	8.85	205	P	Pn	13 39 50.8	-0.7
RTZ				S	Sn	13 41 32.3	+2.3
SNGZ	Shannon Statio	8.87	202	P	Pn	13 39 52.0	+0.1
NMHZ	Naumai	9.34	204	P	Pn	13 39 58.2	0.0
NMHZ				S	Sn	13 41 47.0	+4.9
ARHZ	Aropaoanui	9.42	203	P	Pn	13 39 58.7	-0.6
ARHZ	Aropaoanui	9.42	203	P	Pn	13 39 58.9	-0.4
ARHZ				S	Sn	13 41 47.0	+3.0
KWHZ	Kaweka Forest	9.76	205	P	Pn	13 40 03.6	-0.5
KAHZ	Kahuranaki	9.94	202	P	Pn	13 40 05.4	-1.1
PRHZ	Porangahau	10.45	202	P	Pn	13 40 06.8	-6.6
PRHZ				S	Sn	13 42 04.4	-4.7
TSZ	Takapari Road	10.49	205	P	Pn	13 40 13.8	-0.3
DVHZ	Dannevirke	10.63	203	P	Pn	13 40 12.8	-3.2
DVHZ				S	Sn	13 42 11.0	-2.7
ANWZ	Angora Road	10.67	202	P	Pn	13 40 20.4	+3.9
ANWZ				S	Sn	13 42 08.3	-6.4
PRWZ	Pori Road	10.93	204	P	Pn	13 40 17.7	-2.3
PRWZ				P	Sn	13 42 18.6	-2.3
BFZ	Birch Farm	10.95	202	Pn	Pn	13 40 19.6	-0.7
BFZ	Birch Farm	10.95	202	P	Pn	13 40 13.9	-6.4
BFZ				P	Sn	13 42 20.3	-1.2
MRZ	Mangatainoka R	11.16	205	Pn	Pn	13 40 21.7	-1.4
MRZ	Mangatainoka R	11.16	205	P	Pn	13 40 19.3	-3.8
MRZ				S	Sn	13 42 21.3	-5.3
HOWZ	Holdsworth Sta	11.39	204	P	Pn	13 40 23.1	-3.2
HOWZ				P	Sn	13 42 30.2	-2.1
TMWZ	Te Maipa	11.45	203	P	Pn	13 40 23.1	-4.0
TMWZ				P	Sn	13 42 28.8	-4.9
KIW	Kapiti Island	11.58	206	P	Pn	13 40 24.8	-4.2
KIW				S	Sn	13 42 33.9	-3.1
MTW	Mount Morrison	11.63	204	P	Pn	13 40 24.2	-5.3
MTW				P	Sn	13 42 36.0	-2.0
CAW	Cannon Point	11.74	205	P	Pn	13 40 28.6	-2.5
CAW				P	Sn	13 42 38.4	-2.4
TCW	Tory Channel	12.13	208	P	P	13 41 11.2	+23
TUWZ	Tuamarina	12.45	208	Pn	Pn	13 40 39.0	-1.7
CMWZ	Cape Campbell	12.61	206	P	P	13 40 55.7	+1.7
CMWZ				S	P	13 40 59.3	+5.3
BSWZ	Blackbirch Sta	12.72	207	P	P	13 40 58.0	+2.9
BSWZ				S	P	13 41 01.7	+6.6
MRNZ	Matariki Terra	12.93	211	P	P	13 40 55.7	-1.8
MRNZ				S	Sn	13 43 08.1	-1.8
THZ	Tophouse	13.16	210	P	Pn	13 40 49.1	-1.4
THZ				S	P	13 41 04.0	+3.9
KHZ	Kahutara	13.44	207	P	Pn	13 40 52.6	-1.7
DSZ	Denniston Nort	13.64	213	P	P	13 41 04.8	-0.6
DSZ				S	Sn	13 43 22.6	-4.7
GVZ	Greta Valley S	14.11	207	Pn	Pn	13 41 03.1	-0.3
GVZ	Greta Valley S	14.11	207	P	Pn	13 41 04.5	+1.1
LTZ	Lake Taylor	14.26	209	P	Pn	13 41 02.2	-3.4
LTZ				S	Sn	13 43 34.5	-8.0
INZ	Inchbonnie	14.57	211	Pn	Pn	13 41 10.8	+1.0
OXZ	Oxford	14.81	209	P	Pn	13 41 12.6	-0.3
MHCZ	Mount Hutt	15.17	209	P	P	13 41 23.3	+0.8
MHCZ				S	Sn	13 43 55.7	-8.9
RPZ	Rata Peaks	15.54	210	Pn	Pn	13 41 23.9	+1.4
	0.5nm,0.3s,baz=28,slow=22,SNR=1.4						
RPZ				LR	LR	13 47 38.7	
	comp=Z,86nm,18.3s,baz=32,slow=38						
	3.2nm,0.6s						
ARCZ	Arundel	15.67	209	P	P	13 41 27.2	-0.8
DZM	Mont Dzumac	16.08	298	eP	P	13 41 54.6	+22
	26nm,22.1s						
DZM				eLR	LR	13 45 41.7	
	231nm,23.2s						
DZM	Mont Dzumac	16.08	298	LR	LR	13 46 36.0	
	comp=Z,152nm,19.6s,baz=60,slow=33						
TBI	Tubuai	26.68	81	eLR	LR	13 49 54.0	
	517nm,26.2s						
TBI	Tubuai	26.68	81	eT	T	14 10 44.1	
	27nm,0.3s						
PAE	Paea	29.15	70	eT	T	14 13 42.8	
	8.9nm,0.3s						
PPT2	Papeete2	29.19	70	eLR	LR	13 50 59.6	
	122nm,25.8s						
PPT2				eLR	LR	13 51 06.5	
	123nm,27.8s						
PPT2	Papeete2	29.19	70	eT	T	14 13 44.5	
	4.5nm,0.3s						
PPT	Papeete	29.20	70	LR	LR	13 53 51.7	
	comp=Z,21nm,18.1s,baz=217,slow=34						
HNR	Honiara	29.24	312	LR	LR	13 53 23.4	
	comp=Z,458nm,21.8s,baz=176,slow=32						
TVO	Taravao	29.35	71	eT	T	14 13 59.2	
	1.8nm,0.3s						
CTA	Charters Tower	33.55	280	LR	LR	13 56 22.1	
	comp=Z,83nm,20.1s,baz=82,slow=33						
CTAO	Charters Tower	33.55	280	P	P	13 44 24.1	+1.2
CTAO				IAmb	IAmb	13 44 26.7	
	comp=Z,8.2nm,0.6s						
STKA	Stephens Creek	34.15	257	P	P	13 44 30.4	+2.5
STKA	Stephens Creek	34.15	257	P	P	13 44 31.1	+3.2
	comp=Z,13nm,0.9s,baz=92,slow=8.8,SNR=24						
STKA				LR	LR	13 57 13.6	
	comp=Z,59nm,19.9s,baz=28,slow=34						
	comp=Z,13nm,0.9s						
PMG	Port Moresby	38.45	296	LR	LR	13 57 20.8	
	comp=Z,34nm,19.4s,baz=88,slow=31						
BBOO	Buckleboo	38.63	255	P	P	13 45 06.7	+0.6
BBOO				IAmb	IAmb	13 45 36.1	
	comp=Z,5.8nm,0.9s						
COEN	Coen	39.06	286	P	P	13 45 10.8	+0.8
COEN				IAmb	IAmb	13 45 20.0	
	comp=Z,9.5nm,1.3s						
AS31	Alice Springs	42.81	267	P	P	13 45 41.3	+0.5
ASAR	Alice Springs	42.81	267	P	P	13 45 41.5	+0.7
ASAR	Alice Springs	42.81	267	P	P	13 45 41.8	+0.9
	comp=Z,2.0nm,0.7s,baz=104,slow=7.1,SNR=32						
ASAR				PcP	PcP	13 47 29.8	-1.9
	comp=Z,0.3nm,0.4s,baz=107,slow=3.9,SNR=2.2						
ASAR				LR	LR	14 03 34.4	
	comp=Z,81nm,18.3s,baz=111,slow=36						
	comp=Z,2.0nm,0.7s						
WR0	Warramunga Arr	43.64	273	P	P	13 45 48.1	+0.6
WR0				IAmb	IAmb	13 45 50.7	
	comp=Z,6.1nm,0.9s						
WRAB	Tennant Creek	43.81	273	P	P	13 45 48.9	-0.1
WRAB				IAmb	IAmb	13 45 52.2	
	comp=Z,6.1nm,0.8s						
WRA	Warramunga Arr	43.82	273	P	P	13 45 49.2	+0.3
WRA	Warramunga Arr	43.82	273	P	P	13 45 49.7	+0.8
	comp=Z,3.7nm,0.5s,baz=111,slow=8.1,SNR=84						
	comp=Z,3.7nm,0.5s						
FORT	Forrest	45.71	255	P	P	13 46 04.8	+0.9
VNDA	Vanda	47.83	186	P	P	13 46 19.2	-0.6
VNDA				IAmb	IAmb	13 46 27.7	
	comp=Z,2.8nm,1.2s						
VNDA	Vanda	47.83	186	P	P	13 46 20.1	+0.2
	comp=Z,1.0nm,0.8s,baz=2.3,slow=4.8,SNR=2.9						
	comp=Z,1.0nm,0.8s						
KNRA	Kununurra	50.44	275	P	P	13 46 41.3	+0.7
KNRA				IAmb	IAmb	13 46 46.5	
	comp=Z,16nm,1.3s						
CASY	Casey	54.80	208	P	P	13 47 12.4	+0.2
BATI	Baumata	57.40	278	LR	LR	14 12 11.5	
	comp=Z,142nm,18.3s,baz=140,slow=36						
QSPA	South Pole Qui	59.48	180	P	P	13 47 46.8	+1.4
QSPA	South Pole Qui	59.48	180	P	P	13 47 47.1	+1.7
	comp=Z,3.7nm,0.8s,baz=46,slow=2.2,SNR=25						
	comp=Z,3.7nm,0.8s						
KAPI	Kappang	63.37	281	LR	LR	14 14 26.7	
	comp=Z,9.6nm,20.9s,baz=131,slow=35						
MAW	Mawson	71.99	201	P	P	13 49 05.6	-0.2
	comp=Z,3.0nm,0.8s,baz=84,slow=9.2,SNR=2.2						
	comp=Z,3.0nm,0.8s						
USHA	Ushuaia	75.89	146	LR	LR	14 16 43.8	
	comp=Z,445nm,19.4s,baz=64,slow=31						
TROLL	Troll, Antarti	77.64	180	⇑P	P	13 49 38.9	+0.3
	comp=Z,267nm,0.9s						
SNAA	Sanae	77.93	179	P	P	13 49 39.6	-0.5
SNAA				IAmb	IAmb	13 49 57.2	
	comp=Z,7.1nm,1.4s						
SNAA	Sanae	77.93	179	⇑P	P	13 49 39.7	-0.5
	comp=Z,15nm,0.3s						
SNAA	Sanae	77.93	179	P	P	13 49 40.0	-0.2
	comp=Z,0.7nm,0.3s,baz=212,slow=13,SNR=14						
	comp=Z,0.7nm,0.3s						
VNA3	Neumayer Olymp	78.09	176	⇑P	P	13 49 40.4	-0.6
	comp=Z,2.6nm,0.6s						
VNA2	Neumayer--Watz	78.52	177	⇑P	P	13 49 43.4	0.0
	comp=Z,1.8nm,0.5s,baz=183,slow=6.0						
H03S2	Juan Fernandez	80.58	124	T	T	15 19 04.0	
	baz=238,slow=74,SNR=36						
H03S1	Juan Fernandez	80.59	124	T	T	15 19 01.8	
	baz=238,slow=74,SNR=35						
H03S3	Juan Fernandez	80.59	124	T	T	15 19 02.9	
	baz=238,slow=74,SNR=32						
H03N3	Juan Fernandez	80.77	123	T	T	15 19 10.6	
	baz=250,slow=71,SNR=24						
H03N2	Juan Fernandez	80.77	123	T	T	15 19 10.0	
	baz=250,slow=71,SNR=36						
H03N1	Juan Fernandez	80.79	123	T	T	15 19 09.5	
	baz=250,slow=71						
PLCA	Paso Flores	82.56	133	P	P	13 50 04.5	-1.2
	comp=Z,2.7nm,1.1s,baz=231,slow=14,SNR=3.1						
	comp=Z,2.7nm,1.1s						
PFO	Pinyon Flats O	86.58	48	LR	LR	14 29 03.9	
	comp=Z,21nm,18.0s,baz=318,slow=36						
NVAR	Mina Array Bea	88.61	43	P	P	13 50 32.7	-3.0
	comp=Z,0.3nm,0.6s,baz=210,slow=5.1,SNR=4.4						
NVAR				LR	LR	14 21 06.8	
	comp=Z,21nm,19.9s,baz=246,slow=30						
	comp=Z,0.3nm,0.6s						
PDAR	Pinedale Array	96.50	44	LR	LR	14 34 39.3	
	comp=Z,15nm,18.0s,baz=278,slow=36						
MKAR	Makanchi Array	117.70	310	PKP	PKPdf	13 56 25.1	-3.2
	comp=Z,0.4nm,0.6s,baz=117,slow=2.7,SNR=6.6						
KURBB	Kurchatov Arra	121.04	314	PKP	PKPdf	13 56 31.5	-3.0
	comp=Z,1.0nm,0.5s,baz=106,slow=1.9,SNR=8.5						
BVAR	Borovoye Array	126.37	316	PKP	PKPdf	13 56 42.4	-2.4
	comp=Z,1.4nm,0.4s,baz=118,slow=1.7,SNR=13						
ARCES	ARCESS Array B	138.76	348	PKhKP	PKPpre	13 56 57.4	
	comp=Z,2.4nm,0.9s,baz=64,slow=4.1,SNR=1.4						
FINES	FINESS Array B	145.26	340	PKPbc	PKPbc	13 57 15.9	-3.2
	comp=Z,5.4nm,0.4s,baz=53,slow=3.9,SNR=64						
NB2	NORSAR Subarra	148.94	351	PKP	PKPdf	13 57 26.8	+1.2
	comp=Z,1.0nm,0.5s,baz=13,slow=2.7						
NOA	NORSAR Array B	148.94	351	PKPbc	PKPdf	13 57 26.7	+1.1
	comp=Z,1.2nm,0.6s,baz=15,slow=4.2,SNR=4.2						
HFS	Hagfors	149.41	348	PKPbc	PKPdf	13 57 27.6	+1.3
	comp=Z,4.3nm,0.7s,baz=43,slow=6.7,SNR=7.7						
AKASG	Malin Array Be	151.31	322	PKPbc	PKPdf	13 57 32.5	+3.0
	comp=Z,2.4nm,0.6s,baz=47,slow=2.6,SNR=10						
BRTR	Keskin Array B	152.46	298	PKPbc	PKPdf	13 57 36.3	+4.4
	comp=Z,0.9nm,0.5s,baz=121,slow=2.2,SNR=4.1						
TORD	Torodi Ar. Bea	162.60	180	PKPab	PKPab	13 58 31.8	-1.3
	comp=Z,1.0nm,0.5s,baz=198,slow=1.7,SNR=6.2						

KRSC 06 13:51:16.7±1.1**, 53.°92N×168.°83E, h64**km±31km**, Ml4.0,**
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	Bering	2.10	309	eP	Pn	13 51 51.6	+2.1
BKI				eS	Sn	13 52 17.9	+3.3
MKZ	Mys Kozlova	4.21	282	eP	Pn	13 52 20.6	+2.4
MKZ				eS	Sn	13 53 08.6	+2.5
TUMD	Tumrok D	5.07	288	eP	Pn	13 52 33.3	+3.2
TUMD				eS	Sn	13 53 30.4	+3.2
TUMR	Tumrok	5.23	289	eP	Pn	13 52 36.0	+3.7
TUMR				eS	Sn	13 53 35.3	+4.1
KMNR	Kamenistaya	5.30	294	eP	Pn	13 52 36.7	+3.5
SPN	Mys Shipunski	5.32	265	eP	Pn	13 52 36.4	+3.0
NLC	Nalytchevo	5.70	266	eP	Pn	13 52 43.0	+4.4
SDLR	Sedlovina	5.96	268	eP	Pn	13 52 45.6	+3.4
UGLR	Uglovaya	6.00	267	eP	Pn	13 52 46.6	+3.7
SMAR	Somma	6.01	268	eP	Pn	13 52 45.9	+2.9
KRER	Koryakskii	6.03	268	eP	Pn	13 52 47.1	+3.7
AVH	Avacha	6.04	268	eP	Pn	13 52 47.2	+3.8
KRX	Arik	6.08	269	eP	Pn	13 52 47.6	+3.6
KOK	Koryaka	6.10	268	eP	Pn	13 52 47.8	+3.6
PET	Petropavlovsk	6.14	266	eP	Pn	13 52 48.6	+3.9
KRMR	Karymshinskiy	6.49	265	eP	Pn	13 52 53.4	+3.9
KRMR				eS	Sn	13 54 05.1	+3.1
MTVR	Mutnovka	6.55	262	eP	Pn	13 52 54.3	+3.9
GRL	Gorelyy	6.60	262	eP	Pn	13 52 55.4	+4.3
ASAK	Asacha	6.75	261	eP	Pn	13 52 57.3	+4.2

*NEIC **06** 13:57:08.3±1.6, 52.°67N±0.°07×168.°32W±0.°08, h39km±21km, mb3.9/8, ML3.6/10, ML2.8(AEIC), Error ellipse: s-maj=11.4km s-min=4.6km az=151.0*
*AEIC **06** 13:57:08.1±2.2, 52.°76N±0.°04×168.°36W±0.°04, h46km±8km, Error ellipse: s-maj=5.4km s-min=3.8km az=191.0*
ISC 06 13:57:06.7±1.3**, 52.°6N**±0.°1×**168.°24W**±0.°05**, h35**km**, n55,**
σ**1.s48**/57**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.55	317		Pn	13 57 17.9	-0.2
NIKH					Sn	13 57 25.7	-0.3
NIKH	Nikolski High	0.55	317	P	Pn	13 57 17.8	-0.2

OKTU	**Okmok Mt. Tuli**	**0.82**	**8**		**Pn**	**13 57 22.0**	**+0.1**
OKCE	**Okmok Cone E**	**0.86**	**3**		**Pn**	**13 57 22.5**	**+0.1**
OKFG	**Magazine Ridge**	**0.86**	**13**		**Pn**	**13 57 22.5**	**+0.1**
OKFG					**Sn**	**13 57 34.0**	**+0.2**
OKNC	**Okmok New Cone**	**0.89**	**5**		**Pn**	**13 57 23.2**	**+0.5**
OKER	**Okmok East Rim**	**0.89**	**7**		**Pn**	**13 57 23.1**	**+0.3**
CLCO	**Concord Point,**	**0.93**	**284**		**Pn**	**13 57 23.4**	**+0.2**
CLES	**Cleveland East**	**1.04**	**285**		**Pn**	**13 57 25.0**	**+0.3**
CLES					**Sn**	**13 57 38.3**	**+0.3**
CLES	**Cleveland East**	**1.04**	**285**	IAML		13 57 41.4	
	comp=N,1μm,0.3s						
CLES				IAML		13 57 41.4	
	comp=E,1μm,0.2s						
MAPS	**Pakushin South**	**1.47**	**32**		**Pn**	**13 57 30.7**	**+0.1**
MGOD	**Makushin Gods**	**1.48**	**33**		**Pn**	**13 57 30.9**	**0.0**
MSW	**Makushin Switc**	**1.61**	**33**		**Pn**	**13 57 33.4**	**+0.8**
MNAT	**Makushin Natee**	**1.61**	**35**		**Pn**	**13 57 33.1**	**+0.4**
UNV	**Unalaska Valle**	**1.65**	**39**		**Pn**	**13 57 33.6**	**+0.4**
UNV					**Sn**	**13 57 53.2**	**+0.1**
UNV	**Unalaska Valle**	**1.65**	**39**	P	**Pn**	**13 57 33.5**	**+0.4**
MTBL	**Makushin Table**	**1.69**	**33**		**Pn**	**13 57 34.5**	**+0.8**
AKRB	**Akutan Reef Bi**	**2.03**	**39**		**Pn**	**13 57 39.9**	**+1.5**
ZRO	**Akutan Zero**	**2.04**	**41**		**Pn**	**13 57 40.2**	**+1.7**
AKLV	**Akutan Long Va**	**2.10**	**40**		**Pn**	**13 57 40.9**	**+1.5**
AHB	**Akutan Harbor**	**2.12**	**42**		**Pn**	**13 57 40.6**	**+0.9**
AKUT	**Akutan**	**2.15**	**42**	Pn	**Pn**	**13 57 40.9**	**+0.8**
AKUT	**Akutan**	**2.15**	**42**	P	**Pn**	**13 57 41.1**	**+1.0**
WEBT	**Westdahl Beart**	**2.90**	**44**		**Pn**	**13 57 51.9**	**+1.5**
ISLZ	**Isanotski Laza**	**3.45**	**50**		**Pn**	**13 57 59.2**	**+1.2**
ATKA	**Atka Island**	**3.67**	**267**		**Pn**	**13 58 02.4**	**+1.5**
ATKA	**Atka Island**	**3.67**	**267**	IAML		13 58 38.3	
	comp=N,50nm,3.2s						
ATKA				IAML		13 58 56.1	
	comp=E,72nm,4.0s						
FALS	**False Pass**	**3.67**	**49**	P	**Pn**	**13 58 04.1**	**+3.2**
PS1A	**Pavlof South-1**	**4.78**	**51**		**Pn**	**13 58 18.4**	**+2.2**
ADK	**Adak**	**5.24**	**266**		**Sn**	**13 59 22.4**	**+0.9**
ADK	**Adak**	**5.24**	**266**	Pn	**Pn**	**13 58 23.0**	**+0.6**
ADK				IAML		13 59 21.0	
	comp=E,53nm,3.0s						
ADK				IAML		14 01 53.2	
	comp=E,51nm,3.9s						
SDPT	**Sand Point**	**5.36**	**56**		**Pn**	**13 58 25.0**	**+0.9**
SDPT	**Sand Point**	**5.36**	**56**	P	**Pn**	**13 58 27.2**	**+3.1**
CHGN	**Chignik**	**6.84**	**53**	Pn	**Pn**	**13 58 46.2**	**+1.8**
O14K	**Tigyukauivet M**	**7.76**	**28**	Pn	**Pn**	**13 58 59.3**	**+2.3**
M13K	**Dall Lake**	**8.31**	**17**	Pn	**Pn**	**13 59 06.6**	**+2.0**
M14K	**Bethel**	**8.89**	**20**	Pn	**Pn**	**13 59 14.8**	**+2.2**
O16K	**Kokwok River B**	**9.03**	**35**	Pn	**Pn**	**13 59 16.1**	**+1.7**
OHAK	**Old Harbor**	**9.79**	**56**	Pn	**Pn**	**13 59 24.6**	**-0.2**
OHAK	**Old Harbor**	**9.79**	**56**	P	**Pn**	**13 59 25.5**	**+0.7**
O18K	**Koktuh Hills**	**10.28**	**40**	Pn	**Pn**	**13 59 34.9**	**+3.4**
L16K	**Owhat River**	**10.31**	**24**	Pn	**Pn**	**13 59 33.6**	**+1.6**
K15K	**Wolf Creek Mou**	**10.39**	**18**	Pn	**Pn**	**13 59 35.7**	**+2.7**
M17K	**Holitna River**	**10.62**	**29**	Pn	**Pn**	**13 59 38.9**	**+2.8**
K17K	**Iditarod**	**11.46**	**24**	Pn	**Pn**	**13 59 50.8**	**+3.1**
J26L	**Joseph Creek**	**17.42**	**37**	P	**P**	**14 01 06.1**	**-1.7**
EGAK	**Eagle**	**18.45**	**38**	P	**Pn**	**14 01 19.3**	**0.0**
EGAK				IAmb	IAmb	14 01 59.3	
	comp=Z,8.8nm,1.4s						
BMAR	**Burnt Mountain**	**18.82**	**29**	P	**Pn**	**14 01 22.9**	**-0.9**
N30M	**Aishikik Lake**	**18.98**	**50**	P	**Pn**	**14 01 25.2**	**-0.5**
N30M				IAmb	IAmb	14 02 01.3	
	comp=Z,16nm,1.4s						
I28M	**Miner Creek**	**19.23**	**37**	P	**Pn**	**14 01 27.0**	**-1.8**
O30N	**Mendenhall**	**19.30**	**52**	P	**Pn**	**14 01 29.8**	**+0.2**
O30N				IAmb	IAmb	14 01 51.7	
	comp=Z,16nm,1.4s						
N31M	**Braeburn, Yuko**	**19.59**	**50**	P	**Pn**	**14 01 33.5**	**+0.4**
H29M	**Whitestone**	**20.16**	**36**	P	**P**	**14 01 36.0**	**-1.7**
H29M				IAmb	IAmb	14 01 54.4	
	comp=Z,7.6nm,1.4s						
G29M	**Pine Creek**	**20.62**	**34**	P	**P**	**14 01 41.1**	**-1.6**
E29M	**Blow River**	**21.42**	**31**	P	**P**	**14 01 50.1**	**-1.1**

*SJA **06** 14:07:30.3±1.2, 32.°10S×72.°12W, h20km, ML3.7, MW3.9*
*GUC **06** 14:07:35.4±0.7, 32.°21S×71.°71W, h23km±9km, ML3.5*
ISC 06 14:07:29.9±1.7**, 32.°14S**±0.°02×**72.°16W**±0.°06**, h16**km±12km**,**
n36, σ2.ˢ23/69**, 1C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.98**	**154**	*e*P	**Pn**	**14 07 51.0**	**+2.0**
ROCH	**El Roble**	**1.27**	**131**	*i* P	**Pg**	**14 07 54.0**	**-0.5**
ROCH				*i* P	**Pg**	**14 07 54.0**	**-0.5**
ROCH				*e*S	**Sb**	**14 08 08.2**	**-1.7**
ROCH				*e*S	**Sb**	**14 08 08.2**	**-1.7**
ROCH				IAML		14 08 10.8	
	comp=N,2μm,0.3s						
ROCH				IAML		14 08 13.0	
	comp=E,2μm,0.4s						
CO02	**Combarbal**	**1.36**	**47**	*e*P	**Pb**	**14 07 55.3**	**+0.2**
CO02				*e*S	**Sb**	**14 08 11.2**	**-1.1**
CO02				IAML		14 08 15.4	
	comp=Z,2μm,0.6s						
MT02	**Curacav**	**1.41**	**143**	*e*P	**Pg**	**14 07 56.6**	**-0.4**
MT02				*e*S	**Sb**	**14 08 13.2**	**-0.3**
MT02				IAML		14 08 16.2	
	comp=Z,652nm,0.6s						
MT02	**Curacav**	**1.41**	**143**	*e*P	**Pg**	**14 07 56.7**	**-0.3**
MT02				*e*S	**Sb**	**14 08 12.8**	**-0.7**
PEL	**Peldehue**	**1.59**	**129**	*e*P	**Pb**	**14 07 58.7**	**-0.3**
PEL				*e*S	**Sb**	**14 08 17.6**	**-1.3**
PEL				IAML		14 08 20.0	
	comp=N,1μm,0.5s						
MT05	**Renca**	**1.73**	**137**	*e*P	**Pb**	**14 08 01.6**	**+0.4**
MT05				*e*S	**Sb**	**14 08 23.0**	**+0.2**
MT05				IAML		14 08 25.7	
	comp=Z,632nm,0.5s						
MT05	**Renca**	**1.73**	**137**	*e*P	**Pb**	**14 08 01.5**	**+0.2**
MT05				*e*S	**Sb**	**14 08 21.9**	**-0.8**
MT05				IAML		14 08 24.6	
	comp=E,1μm,0.3s						
MT10	**Hacienda Santa**	**1.77**	**130**	*e*P	**Pb**	**14 08 02.1**	**0.0**
MT10				*e*S	**Sn**	**14 08 21.9**	**-0.4**
CO03	**El Pedregal**	**1.81**	**44**	*e*P	**Pb**	**14 08 02.5**	**-0.1**
CO03				*e*S	**Sb**	**14 08 24.4**	**-0.7**
CO03				IAML		14 08 26.3	
	comp=Z,717nm,0.5s						
MT14	**Cerro Cal¡n**	**1.85**	**133**	*e*P	**Pb**	**14 08 03.5**	**+0.1**
MT14				*e*S	**Sb**	**14 08 24.8**	**-1.6**
MT14				IAML		14 08 31.8	
	comp=E,2μm,0.6s						
MT01	**Popeta**	**1.88**	**156**	*e*P	**Pb**	**14 08 03.8**	**-0.1**
MT01				*e*S	**Sb**	**14 08 26.6**	**-0.4**
MT01				IAML		14 08 35.9	
	comp=Z,305nm,0.5s						
MT01	**Popeta**	**1.88**	**156**	*e*P	**Pb**	**14 08 04.4**	**+0.6**
MT09	**Talagante**	**1.90**	**149**	*e*P	**Pb**	**14 08 05.2**	**+0.9**
MT09				*e*S	**Sb**	**14 08 28.8**	**+0.9**
MT09				IAML		14 08 34.4	
	comp=N,975nm,0.4s						
MT03	**Universidad Ad**	**1.93**	**135**	*e*P	**Pb**	**14 08 04.7**	**-0.2**
MT03				*e*S	**Sb**	**14 08 29.2**	**+0.4**
MT03				IAML		14 08 29.3	
	comp=Z,425nm,0.1s						
MT03	**Universidad Ad**	**1.93**	**135**	*e*P	**Pb**	**14 08 04.6**	**-0.2**
MT03				*e*S	**Sb**	**14 08 27.1**	**-1.7**
MT03				IAML		14 08 32.2	
	comp=E,2μm,0.7s						
FCH	**Farellones**	**1.97**	**127**	⇑*i*P	**Pb**	**14 08 04.6**	**-0.9**
FCH				*e*S	**Sn**	**14 08 26.8**	**-0.6**
FCH				IAML		14 08 28.9	
	comp=E,872nm,0.1s						
MT12	**Pirque**	**2.08**	**140**	*e*P	**Pb**	**14 08 07.1**	**-0.3**
MT12				*e*S	**Sb**	**14 08 32.6**	**-0.5**
MT12				IAML		14 08 38.5	
	comp=N,1μm,0.2s						
MT13	**San Alfonso**	**2.24**	**136**	*e*P	**Pb**	**14 08 09.6**	**-0.5**
MT13				*e*S	**Sb**	**14 08 35.1**	**-2.6**
MT13				IAML		14 08 42.9	
	comp=E,749nm,0.5s						
GO04	**Tololo Observa**	**2.28**	**31**	*e*P	**Pn**	**14 08 09.5**	**+2.3**
GO04				*e*S	**Sb**	**14 08 39.8**	**+0.8**
GO04				IAML		14 08 42.6	
	comp=Z,1μm,0.8s						
BO01	**Tunca**	**2.42**	**159**	*e*P	**Pn**	**14 08 11.4**	**+2.6**
BO01				*e*S	**Sn**	**14 08 29.5**	**-8.6**
RTLS	**Leoncito**	**2.45**	**83**	*e*P	**Pb**	**14 08 13.0**	**-0.8**
RTLS				*e*S	**Sb**	**14 08 43.2**	**-0.8**
RTLS				IAML		14 08 46.5	
	comp=Z,1μm,0.5s						
ASAL	**Salagasta**	**2.84**	**100**	*e*P	**Pb**	**14 08 19.6**	**-0.7**
ASAL				*e*S	**Sb**	**14 08 53.0**	**-2.1**
ASAL				IAML		14 09 00.4	
	comp=Z,149nm,0.8s						
DOCA	**Reserva Natura**	**2.88**	**66**	*e*P	**Pb**	**14 08 18.9**	**-2.2**
DOCA				*e*P	**Pn**	**14 08 19.6**	**+4.1**
DOCA				*e*S	**Sb**	**14 08 54.7**	**-1.6**
DOCA				IAML		14 08 59.3	
	comp=Z,237nm,0.7s						
BO02	**Sierra Bellavi**	**2.88**	**157**	*e*P	**Pn**	**14 08 18.5**	**+3.3**
BO02				*e*S	**Sb**	**14 08 54.0**	**-2.1**
BO02				IAML		14 09 01.9	
	comp=Z,254nm,0.5s						
AAGR	**Agrelo**	**2.96**	**109**	*e*P	**Pb**	**14 08 21.6**	**-0.8**
AAGR				*e*S	**Sn**	**14 08 52.0**	**+0.3**
AAGR				IAML		14 09 09.0	
	comp=Z,157nm,1.3s						
AROD	**Rodeo**	**3.03**	**50**	*e*P	Pn	14 08 09.9	-7.6
AROD				*e*S	**Sb**	**14 08 56.0**	**-4.5**
ACCO	**Cerro Coronel**	**3.06**	**60**	*e*P	**Pb**	**14 08 22.7**	**-1.6**
ACCO				*e*S	**Sb**	**14 09 01.4**	**-0.2**
LCO	**Las Campanas**	**3.36**	**22**	*e*P	**Pn**	**14 08 24.5**	**+2.4**
LCO				*e*P	Pb	14 08 24.6	-4.8
LCO				*e*S	**Sn**	**14 08 56.0**	**-5.8**
AC05	**El Transito**	**3.67**	**27**	*e*P	**Pn**	**14 08 24.5**	**-1.7**
AC05				*e*P	Pb	14 08 29.2	-5.3
AC05				*e*S	**Sn**	**14 09 12.5**	**+3.2**
AC05				IAML		14 09 27.9	
	comp=Z,184nm,0.8s						
AC04	**Llanos de Chal**	**4.04**	**14**	*e*P	**Pn**	**14 08 33.2**	**+2.2**
AC04				*e*S	**Sb**	**14 09 31.5**	**+2.3**
AC04				IAML		14 09 42.0	
	comp=Z,108nm,0.6s						
RFA	**San Rafael**	**4.05**	**131**	*e*P	**Pn**	**14 08 35.1**	**+3.8**
AVFE	**Valle Fertil**	**4.28**	**71**	*e*P	**Pn**	**14 08 38.2**	**+3.7**
AVFE				*e*S	**Sn**	**14 09 24.5**	**+0.3**
AVFE				IAML		14 09 37.5	
	comp=Z,96nm,0.5s						
ACHE	**Chepes**	**4.78**	**80**	*e*P	**Pn**	**14 08 44.4**	**+2.9**
ACHE				*e*S	**Sn**	**14 09 39.5**	**+2.8**
VCA	**Vinchina**	**4.81**	**46**	*e*P	Pn	14 08 47.2	+5.3
VCA				*e*S	**Sb**	**14 09 48.0**	**-3.7**
VCA				IAML		14 09 57.2	
	comp=Z,155nm,0.5s						
ACLC	**CERRO LA CRUZ**	**5.23**	**60**	*e*P	**Pn**	**14 08 51.5**	**+3.8**

*NEIC **06** 14:32:18.9±1.4, 6.°43S±0.°06×128.°03E±0.°09, h323km±5km, mb4.5/32, Error ellipse: s-maj=13.1km s-min=8.4km az=93.0*
*DJA **06** 14:32:19.0±0.2, 7.°S±2.°×12.°8E±.°, h321km±5km, M4.3/25, mB4.8/15, mb4.4/25, MLv4.7/19, Mw(mB)4.1/15*
*IDC **06** 14:32:20.5±1.5, 6.°51S×128.°02E, h346km±15km, mb3.8/16, mbtmp4.6/18, Error ellipse: s-maj=18.6km s-min=8.8km az=73.0*
ISC 06 14:32:20.3±0.3**, 6.°53S**±0.°04×**128.°09E**±0.°06**, h353**km**, n151, σ1.ˢ79**/159**, mb4.3**/44**, 1C-2D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.69**	**42**	P	**Pn**	**14 33 15.6**	**-1.7**
BNDI	**Bandanaira**	**2.69**	**42**	P	**Pn**	**14 33 14.2**	**-3.1**
NLAI	**Namlea**	**3.41**	**343**	P	**Pn**	**14 33 22.2**	**-1.6**
NLAI				S	**S**	**14 34 10.3**	**-4.5**
SAUI	**Saumlaki**	**3.50**	**115**		**Pn**	**14 33 22.3**	**-2.2**
SAUI	**Saumlaki**	**3.50**	**115**	P	**Pn**	**14 33 22.8**	**-1.8**
SAUI	**Saumlaki**	**3.50**	**115**	P	**Pn**	**14 33 22.4**	**-2.2**
SAUI				S	**S**	**14 34 09.4**	**-6.9**
SANI	**Sanana**	**4.92**	**335**	P	**Pn**	**14 33 36.6**	**-2.6**
SANI	**Sanana**	**4.92**	**335**	P	**Pn**	**14 33 36.4**	**-2.8**
SOEI	**Soe**	**4.96**	**229**		**Pn**	**14 33 36.6**	**-3.1**
SOEI	**Soe**	**4.96**	**229**	P	**Pn**	**14 33 37.4**	**-2.4**
SOEI	**Soe**	**4.96**	**229**	P	**Pn**	**14 33 36.9**	**-2.9**
FAKI	**Fak Fak**	**5.48**	**49**	Pn	**Pn**	**14 33 41.9**	**-3.6**
FAKI	**Fak Fak**	**5.48**	**49**	P	**Pn**	**14 33 41.5**	**-4.0**
	35nm,0.7s,1μm0.8nm						
BBSI	**Bau Bau**	**5.58**	**280**	P	**Pn**	**14 33 42.2**	**-4.4**
	35nm,1.2s,0.2nm						
BATI	**Baumata**	**5.70**	**230**	P	**Pn**	**14 33 45.6**	**-2.3**
	674nm,0.5s,12μm3.2nm						
BATI	**Baumata**	**5.70**	**230**	P	**Pn**	**14 33 45.8**	**-2.2**
	679nm,0.4s,baz=69,slow=3.4,SNR=334						
BATI				S	**S**	**14 34 52.7**	**-6.2**
	432nm,0.6s,baz=80,slow=23,SNR=17						
LBMI	**Labuha**	**5.88**	**354**	P	**Pn**	**14 33 48.1**	**-1.9**
	141nm,0.5s,0.6nm						
MMRI	**Maumere**	**6.16**	**250**		**Pn**	**14 33 51.9**	**-1.3**
MMRI	**Maumere**	**6.16**	**250**	P	**Pn**	**14 33 51.1**	**-2.1**
	41nm,1.0s,1μm0.3nm						
KMPI	**Kaimana, Papua**	**6.28**	**63**	P	**Pn**	**14 33 51.6**	**-2.9**
	77nm,0.7s,2μm2.0nm						
SWI	**Sorong**	**6.46**	**29**	P	**Pn**	**14 33 54.3**	**-2.2**
	23nm,0.7s,606nm0.2nm						
EDFI	**Ende, Flores**	**6.71**	**250**	P	**Pn**	**14 33 58.4**	**-1.2**
	22nm,0.5s,751nm0.1nm						
MTN	**Manton Dam**	**6.96**	**155**		**Pn**	**14 34 00.9**	**-1.4**
MTN	**Manton Dam**	**6.96**	**155**	P	**Pn**	**14 34 00.6**	**-1.7**
TNTI	**Ternate**	**7.29**	**354**	P	**Pn**	**14 34 04.2**	**-2.0**
	11nm,0.9s,0.1nm						
KDU	**Kakadu**	**7.49**	**145**	P	**Pn**	**14 34 07.0**	**-1.6**
BKSI	**Bulukumba**	**8.01**	**278**	P	**Pn**	**14 34 12.7**	**-2.0**
	23nm,1.4s						
KMSI	**Cibinong**	**8.16**	**330**	P	**Pn**	**14 34 14.5**	**-2.0**
	148nm,0.7s						
BASI	**Baing, Sumba**	**8.28**	**243**	P	**Pn**	**14 34 15.3**	**-2.6**
	158nm,1.4s,3μm						
GTOI	**Gorontalo**	**8.73**	**324**	P	**P**	**14 34 24.9**	**-0.7**
	39nm,0.9s,331nm						
TTSI	**Tana Toraja**	**8.93**	**292**	P	P	14 34 36.4	+8.6
KNRA	**Kununurra**	**9.12**	**176**		**Pn**	**14 34 26.3**	**-1.5**
KNRA	**Kununurra**	**9.12**	**176**	P	**Pn**	**14 34 26.6**	**-1.2**
MRSI	**Marisa**	**9.28**	**318**	P	**Pn**	**14 34 29.2**	**-0.5**
	99nm,0.8s,944nm						
PLAI	**Plampang**	**10.47**	**257**	P	**Pn**	**14 34 41.2**	**-2.7**
PLAI	**Plampang**	**10.47**	**257**	P	**Pn**	**14 34 41.7**	**-2.2**
	30nm,0.7s,750nm						
TOLI2	**Tolitoli**	**10.52**	**316**		**Pn**	**14 34 43.4**	**-1.2**
TOLI2	**Tolitoli**	**10.52**	**316**	P	**Pn**	**14 34 44.1**	**-0.5**
MPSI	**Mapaga**	**10.64**	**310**	P	**P**	**14 34 47.6**	**+0.7**
	43nm,0.8s,471nm						
TWSI	**Taliwang, Sumb**	**11.32**	**258**	P	**Pn**	**14 34 53.3**	**-0.8**
	12nm,0.6s						
SMPI	**Sarmi**	**11.51**	**67**	P	**Pn**	**14 34 55.4**	**-1.0**
	27nm,0.5s,5μm						
WB0	**Warramunga Arr**	**14.52**	**156**	P	**P**	**14 35 30.2**	**+0.6**
WRA	**Warramunga Arr**	**14.65**	**156**	P	**P**	**14 35 31.4**	**+0.3**
WRA	**Warramunga Arr**	**14.65**	**156**	P	**P**	**14 35 31.6**	**+0.5**
	24nm,0.4s,baz=331,slow=12,SNR=478						
WRA				S	**S**	**14 38 06.6**	**-2.7**
	9.3nm,0.7s,baz=340,slow=22,SNR=7.3						
WRA				ScP	**ScP**	**14 43 19.1**	**+0.2**
	0.7nm,1.0s,baz=348,slow=3.0,SNR=1.7						
COEN	**Coen**	**16.57**	**118**	P	**P**	**14 35 52.8**	**+0.8**
COEN	**Coen**	**16.57**	**118**	P	**P**	**14 35 53.2**	**+1.2**
MBWA	**Marble Bar**	**16.64**	**208**	P	**P**	**14 35 52.4**	**-0.3**
MBWA				IAmb	IAmb	14 35 56.9	
	comp=Z,26nm,1.4s						
MBWA	**Marble Bar**	**16.64**	**208**	P	**P**	**14 35 52.7**	**0.0**
PSA00	**Pilbara Seismi**	**16.95**	**207**	P	**P**	**14 35 55.8**	**-0.1**
PSA00				IAmb	IAmb	14 35 56.6	
	comp=Z,28nm,1.2s						
PSA00	**Pilbara Seismi**	**16.95**	**207**	P	**P**	**14 35 56.0**	**+0.1**
QIS	**Mount Isa**	**17.87**	**142**	P	**P**	**14 36 06.7**	**+0.8**
AS31	**Alice Springs**	**17.93**	**162**	P	**P**	**14 36 07.8**	**+1.3**
ASAR	**Alice Springs**	**17.94**	**162**	P	**P**	**14 36 07.5**	**+1.0**
ASAR	**Alice Springs**	**17.94**	**162**	P	**P**	**14 36 07.8**	**+1.2**
	comp=Z,78nm,0.7s,baz=346,slow=11,SNR=1369						
ASAR				S	**S**	**14 39 13.8**	**-0.2**
	comp=Z,6.0nm,1.0s,baz=346,slow=23,SNR=9.6						
ASAR				ScP	**ScP**	**14 43 26.0**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=347,slow=2.4,SNR=2.7						
AS01	**Alice Springs**	**17.95**	**162**	P	**P**	**14 36 07.0**	**+0.3**
	comp=Z,148nm,0.8s						
WRKA	**Warakurna**	**18.41**	**179**	P	**P**	**14 36 12.5**	**+1.0**
MEEK	**Meekatharra**	**21.94**	**203**	P	**P**	**14 36 45.9**	**0.0**
TV1H	**Townsville Har**	**22.17**	**127**	P	**P**	**14 36 50.3**	**+2.3**
	comp=Z,11nm,0.6s						
CTA	**Charters Tower**	**22.20**	**129**	P	**P**	**14 36 50.8**	**+2.5**
CTA	**Charters Tower**	**22.20**	**129**	P	**P**	**14 36 50.6**	**+2.3**
	comp=Z,12nm,0.7s,baz=307,slow=10.0,SNR=25						
	comp=Z,12nm,0.7s						
CTAO	**Charters Tower**	**22.20**	**129**	P	**P**	**14 36 50.3**	**+2.0**
CTAO				IAmb	IAmb	14 36 52.1	
	comp=Z,32nm,1.4s						
CTAO	**Charters Tower**	**22.20**	**129**	P	**P**	**14 36 50.8**	**+2.5**
OOD	**Oodnadatta**	**22.35**	**162**	P	**P**	**14 36 50.4**	**+0.9**
FORT	**Forrest**	**24.13**	**180**	P	**P**	**14 37 06.9**	**+1.3**
FORT	**Forrest**	**24.13**	**180**	P	**P**	**14 37 06.7**	**+1.1**
INKA	**Innaminka**	**24.28**	**152**	P	**P**	**14 37 08.8**	**+1.8**
MULG	**Mulgathing**	**24.29**	**167**	P	**P**	**14 37 08.2**	**+1.2**
MORW	**Morawa**	**25.14**	**205**	P	**P**	**14 37 15.2**	**+0.5**
MORW				IAmb	IAmb	14 37 56.5	
	comp=Z,31nm,1.4s						
MORW	**Morawa**	**25.14**	**205**	P	**P**	**14 37 15.5**	**+0.8**
QLP	**Quilpie**	**25.19**	**144**	P	**P**	**14 37 16.6**	**+1.4**
KMBL	**Kambalda**	**25.39**	**192**	P	**P**	**14 37 17.5**	**+0.6**
LCRK	**Leigh Creek**	**25.63**	**159**	P	**P**	**14 37 20.1**	**+1.1**
BLDU	**Ballidu**	**26.24**	**203**	P	**P**	**14 37 24.7**	**+0.3**
KLBR	**Kellerberrin**	**26.74**	**200**	P	**P**	**14 37 29.2**	**+0.3**
	comp=Z,23nm,1.1s						
BBOO	**Buckleboo**	**27.18**	**165**	P	**P**	**14 37 33.5**	**+0.7**
BBOO				IAmb	IAmb	14 37 34.2	
	comp=Z,12nm,0.5s						
BBOO	**Buckleboo**	**27.18**	**165**	P	**P**	**14 37 33.8**	**+1.0**
RK1H	**Rockhampton Ha**	**27.31**	**130**	P	**P**	**14 37 34.8**	**+0.8**
	comp=Z,7.9nm,0.6s						
MUN	**Mundaring**	**27.64**	**202**	P	**P**	**14 37 37.3**	**+0.4**
NWAO	**Narrogin (SRO)**	**28.14**	**200**	P	**P**	**14 37 41.5**	**+0.2**
NWAO	**Narrogin (SRO)**	**28.14**	**200**	P	**P**	**14 37 41.5**	**+0.2**
	comp=Z,6.2nm,0.8s,baz=58,slow=9.5,SNR=1.3						
	comp=Z,6.2nm,0.8s						
STKA	**Stephens Creek**	**28.20**	**155**	P	**P**	**14 37 42.6**	**+0.8**
STKA	**Stephens Creek**	**28.20**	**155**	P	**P**	**14 37 43.1**	**+1.3**
STKA	**Stephens Creek**	**28.20**	**155**	P	**P**	**14 37 43.1**	**+1.3**
	comp=Z,14nm,0.5s,baz=331,slow=9.0,SNR=94						
	comp=Z,14nm,0.5s						
HTT	**Hallett**	**28.60**	**161**	P	**P**	**14 37 46.7**	**+1.4**
CMSA	**Cobar Meteorol**	**29.84**	**149**	P	**P**	**14 37 58.0**	**+1.8**
ARMA	**Armidale**	**32.46**	**140**	P	**P**	**14 38 21.4**	**+2.3**
ARMA				IAmb	IAmb	14 38 35.9	
	comp=Z,22nm,1.5s						
ARPS	**Mount Arapiles**	**32.62**	**159**	P	**P**	**14 38 21.7**	**+1.4**
	comp=Z,38nm,0.8s						
JOW	**Kunigami**	**33.16**	**0**	P	**P**	**14 38 25.5**	**+0.5**
JOW				IAmb	IAmb	14 39 09.6	
	comp=Z,30nm,1.2s						
YNG	**Young**	**33.41**	**149**	P	**P**	**14 38 29.4**	**+2.3**
CAN	**Canberra**	**34.51**	**149**	P	**P**	**14 38 38.5**	**+1.9**
CAN				IAmb	IAmb	14 38 39.9	
	comp=Z,16nm,0.6s						
CAN	**Canberra**	**34.51**	**149**	P	**P**	**14 38 39.2**	**+2.6**
CNB	**Canberra Magne**	**34.70**	**149**	P	**P**	**14 38 40.6**	**+2.4**
TOO	**Toolangi**	**34.73**	**155**	P	**P**	**14 38 40.8**	**+2.5**
TOO	**Toolangi**	**34.73**	**155**	P	**P**	**14 38 41.1**	**+2.8**
CMAR	**Chiang Mai Arr**	**37.98**	**311**	P	**P**	**14 39 06.2**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=140,slow=6.8,SNR=6.0						
	comp=Z,0.5nm,0.5s						
NJ2	**Nanjing**	**39.36**	**348**	*e*P	**P**	**14 39 18.6**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,200nm,4.0s						
JNU	**Nakatsue**	**39.52**	**4**	P	**P**	**14 39 17.8**	**-0.5**
JNU				IAmb	IAmb	14 39 43.2	
	comp=Z,25nm,1.3s						
JMN	**Monobe**	**40.41**	**7**	P	**P**	**14 39 25.5**	**0.0**
JMN				IAmb	IAmb	14 40 08.0	
	comp=Z,42nm,1.3s						
PZH	**PanZhiHua**	**41.60**	**323**	P	**P**	**14 39 35.9**	**+0.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,4.5s						
KSAR	**Wonju Array Be**	**43.74**	**360**	P	**P**	**14 39 53.4**	**+1.3**
KSRS	**Korea Array**	**43.75**	**360**	P	**P**	**14 39 53.2**	**+1.1**
	comp=Z,7.7nm,0.5s,baz=178,slow=9.6,SNR=44						
	comp=Z,7.7nm,0.5s						
KS19	**Wonju Array Si**	**43.80**	**360**	P	**P**	**14 39 53.0**	**+0.5**
MJAR	**Matsushiro Arr**	**43.88**	**12**	P	**P**	**14 39 51.9**	**-1.3**
	comp=Z,4.9nm,0.9s,baz=190,slow=9.1,SNR=7.8						
	comp=Z,4.9nm,0.9s						
XAN	**Xi'an**	**44.24**	**337**	⇑P	**P**	**14 39 55.8**	**-0.3**
XAN				pmax	pmax		
	comp=Z,17nm,0.6s						
BJI	**Beijing**	**47.62**	**348**	P	**P**	**14 40 22.5**	**+0.5**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LZH	**Lanzhou**	**48.12**	**333**	*e*P	**P**	**14 40 27.1**	**+1.0**
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
HHC	**Hu-ho-hao-te**	**49.53**	**344**	*e*P	**P**	**14 40 37.8**	**+1.2**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,230nm,4.6s						
USRK	**Ussuriysk Ar.**	**50.61**	**4**	P	**P**	**14 40 45.0**	**+0.6**
USRK	**Ussuriysk Ar.**	**50.61**	**4**	P	**P**	**14 40 44.8**	**+0.4**
	comp=Z,5.2nm,0.7s,baz=191,slow=6.2,SNR=11						
	comp=Z,5.2nm,0.7s						
XLT	**XiLinHaoTe**	**51.35**	**349**	*e*P	**P**	**14 40 50.8**	**+0.8**
XLT				pmax	pmax		
	comp=Z,12nm,0.8s						
XLT				pmax	pmax		
	comp=Z,220nm,5.1s						
TAPN	**Taplejung**	**51.56**	**313**	*e*P	**P**	**14 40 52.1**	**0.0**
	comp=Z,5.4nm,0.4s						
FOZ	**Fox Glacier**	**51.92**	**142**	P	**P**	**14 40 55.7**	**+1.7**
RAMN	**Ramite**	**52.16**	**312**	*e*P	**P**	**14 40 57.1**	**+0.7**
	comp=Z,11nm,0.6s						
WHZ	**Wether Hill Ro**	**52.16**	**145**	P	**P**	**14 40 56.8**	**+1.0**
WHZ				IAmb	IAmb	14 41 18.0	
	comp=Z,19nm,1.4s						
QRZ	**Quartz Range**	**52.28**	**138**	P	**P**	**14 40 59.3**	**+2.5**
QRZ				IAmb	IAmb	14 41 23.0	
	comp=Z,29nm,1.4s						
GTA	**Gaotai**	**52.66**	**333**	⇓P	**P**	**14 41 00.6**	**+0.9**
GTA				pP	pP	14 42 13.8	+1.4
GTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
JIRN	**Jiri**	**52.85**	**312**	*e*P	**P**	**14 41 01.7**	**+0.1**
	comp=Z,3.0nm,0.3s						
GUN	**Gumba**	**53.22**	**312**	*e*P	**P**	**14 41 04.3**	**+0.1**
	comp=Z,7.9nm,0.5s						
PKI	**Pulchoki**	**53.38**	**311**	*e*P	**P**	**14 41 05.2**	**-0.2**
	comp=Z,3.2nm,0.4s						
DANN	**Dangsing**	**55.03**	**311**	*e*P	**P**	**14 41 16.9**	**-0.2**
	comp=Z,41nm,1.7s						
PYUN	**Piuthan**	**55.48**	**311**	*e*P	**P**	**14 41 20.5**	**+0.3**
	comp=Z,9.2nm,0.7s						
HEH	**HeiHe**	**56.55**	**359**	*e*P	**P**	**14 41 27.0**	**0.0**
HEH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HEH				pmax	pmax		
	comp=Z,540nm,4.7s						
ULN	**Ulaanbaatar**	**57.25**	**343**		**P**	**14 41 33.2**	**+1.1**
SONM	**Songino Array**	**57.41**	**343**	P	**P**	**14 41 34.6**	**+1.4**
SONM	**Songino Array**	**57.41**	**343**	P	**P**	**14 41 34.6**	**+1.4**
	comp=Z,5.5nm,0.6s,baz=168,slow=7.0,SNR=29						
	comp=Z,5.5nm,0.6s						
WMQ	**Urumqi**	**61.98**	**328**	*e*P	**P**	**14 42 05.6**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,15nm,0.9s						
PEA0B	**Petropavlovsk-**	**64.49**	**19**	P	**P**	**14 42 21.6**	**+1.5**
PETK	**Petropavlovsk-**	**64.49**	**19**	P	**P**	**14 42 20.3**	**+0.2**
PETK	**Petropavlovsk-**	**64.49**	**19**	P	**P**	**14 42 20.7**	**+0.6**
	comp=Z,3.1nm,0.6s,baz=187,slow=3.5,SNR=19						
PETK				PP	**PP**	**14 44 43.9**	**-3.5**
	comp=Z,5.3nm,1.0s,baz=122,slow=7.2,SNR=3.5						
	comp=Z,3.1nm,0.6s						
MK31	**Makanchi Array**	**66.80**	**328**	P	**P**	**14 42 35.5**	**+0.5**
MK31				IAmb	IAmb	14 42 36.7	
	comp=Z,4.4nm,0.6s						
MKAR	**Makanchi Array**	**66.80**	**328**	P	**P**	**14 42 35.6**	**+0.7**
MKAR	**Makanchi Array**	**66.80**	**328**	P	**P**	**14 42 36.0**	**+1.1**
	comp=Z,7.2nm,0.4s,baz=117,slow=8.3,SNR=198						
	comp=Z,7.2nm,0.4s						
MAKZ	**Makanchi**	**66.98**	**327**	P	**P**	**14 42 37.0**	**+0.9**
MAKZ				IAmb	IAmb	14 42 37.6	
	comp=Z,4.0nm,0.5s						
YAK	**Yakutsk**	**68.37**	**1**	P	**P**	**14 42 45.1**	**+0.8**
ZAA0	**Zalesovo Array**	**70.33**	**335**	P	**P**	**14 42 56.7**	**+0.4**
ZAA0				IAmb	IAmb	14 42 57.4	
	comp=Z,7.2nm,0.7s						
ZALV	**Zalesovo Beam**	**70.33**	**335**	P	**P**	**14 42 56.8**	**+0.5**
ZALV	**Zalesovo Beam**	**70.33**	**335**	P	**P**	**14 42 56.6**	**+0.3**
	comp=Z,6.8nm,0.6s,baz=132,slow=5.8,SNR=33						
	comp=Z,6.8nm,0.6s						
KURBB	**Kurchatov Arra**	**71.12**	**329**	P	**P**	**14 43 02.2**	**+1.1**
	comp=Z,9.2nm,0.6s,baz=131,slow=5.1,SNR=96						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,9.2nm,0.6s						
KURK	**Kurchatov**	**71.13**	**329**		**P**	**14 43 02.1**	**+0.9**
KURK				IAmb	IAmb	14 43 03.1	
	comp=Z,12nm,0.9s						
VNDA	**Vanda**	**73.15**	**173**	P	**P**	**14 43 13.4**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=310,slow=11,SNR=6.7						
	comp=Z,0.5nm,0.6s						
BVAR	**Borovoye Array**	**76.66**	**328**	P	**P**	**14 43 33.8**	**+0.8**
	comp=Z,1.7nm,0.5s,baz=119,slow=8.5,SNR=9.9						
	comp=Z,1.7nm,0.5s						
TIXI	**Tiksi**	**78.02**	**0**	P	**P**	**14 43 40.9**	**+0.8**
ABKAR	**Akbulak array**	**80.96**	**322**	P	**P**	**14 43 56.8**	**+0.6**
QSPA	**South Pole Qui**	**83.45**	**180**	P	**P**	**14 44 09.4**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=175,slow=1.1,SNR=19						
	comp=Z,1.0nm,0.5s						
ELIB	**Princess Elisa**	**88.37**	**198**	*d*P	**P**	**14 44 32.2**	**-0.4**
	comp=Z,2.1nm,1.4s						
SML	**Sawmill**	**92.67**	**28**	P	**P**	**14 44 52.5**	**-0.2**
RND	**Reindeer**	**92.68**	**27**	P	**P**	**14 44 52.0**	**-0.6**
ILAR	**Eielson Array**	**93.73**	**25**	P	**P**	**14 44 56.6**	**-0.7**
	comp=Z,0.1nm,0.6s,baz=253,slow=5.5,SNR=1.3						
ILAR				PP	**PP**	**14 48 42.4**	**-5.6**
	comp=Z,0.9nm,1.1s,baz=220,slow=12,SNR=4.0						
	comp=Z,0.1nm,0.6s						
BMAR	**Burnt Mountain**	**94.95**	**23**	P	**P**	**14 45 03.8**	**+0.9**
BCAR	**Beaver Creek A**	**95.83**	**27**	P	**P**	**14 45 07.8**	**+0.8**
TORD	**Torodi Ar. Bea**	**126.85**	**281**	PKP	**PKiKP**	**14 50 44.1**	**0.0**
	comp=Z,0.4nm,0.8s,baz=103,slow=2.6,SNR=2.1						

*IDC **06** 14:43:21.5±6.1, 5.°02S×153.°09E, h66km±49km, mb3.3/5, mbtmp3.7/6, ML1.9/1, MS3.9/1, Error ellipse: s-maj=42.2km s-min=28.7km az=22.0*

ISC 06 14:43:18.8±1.3**, 4.°9S**±0.°2×**153.°2E**±0.°1**, h43km, n8,** σ**1.s24**/8**, mb3.5**/5**, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.45**	**233**	P	**Pn**	**14 45 06.4**	**+1.3**
	1.1nm,0.3s,baz=47,slow=13,SNR=6.0						
PMG				S	**Sn**	**14 46 27.3**	**-1.0**
	4.8nm,0.5s,baz=112,slow=7.8,SNR=1.8						
	7.0nm,0.7s						
HNR	**Honiara**	**8.09**	**124**	LR	LR	14 48 14.6	
	comp=Z,824nm,19.0s,baz=62,slow=36						
DZM	**Mont Dzumac**	**21.37**	**144**	P	**P**	**14 48 03.0**	**+0.2**
	3.1nm,0.5s,baz=228,slow=9.2,SNR=6.3						
	3.1nm,0.5s						
WRA	**Warramunga Arr**	**23.65**	**229**	P	**P**	**14 48 26.1**	**-0.4**
	1.2nm,0.6s,baz=56,slow=9.2,SNR=18						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**26.32**	**223**	P	**P**	**14 48 50.4**	**-0.4**
	0.3nm,0.5s,baz=57,slow=9.4,SNR=2.8						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**80.64**	**319**	P	**P**	**14 55 27.9**	**+0.7**
	0.3nm,0.8s,baz=100,slow=5.6,SNR=1.9						
	0.3nm,0.8s						
QSPA	**South Pole Qui**	**85.06**	**180**	P	**P**	**14 55 49.9**	**0.0**
	0.5nm,0.5s,baz=118,slow=2.5,SNR=9.1						
	0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**150.69**	**288**	PKPbc	**PKPbc**	**15 03 05.4**	**-2.0**
	0.3nm,0.4s,baz=81,slow=2.5,SNR=3.1						

*IDC **06** 15:16:33.5±61.0, 14.°83S×166.°18E, h0km, mb3.6/3, mbtmp3.6/3, MS3.4/1, Error ellipse: s-maj=1032.0km s-min=109.7km az=65.0*

*NOU **06** 15:16:43.8, 15.°45S×167.°11E, h0km, MLv4.5/13, Vanuatu Islands*

ISC 06 15:16:27.8±3.3**, 14.°0S**±0.°3×**167.°2E**±0.°2**, h35km, n13,** σ**1.s27**/12**, mb3.5**/3**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**3.82**	**166**	P	**Pn**	**15 17 24.7**	**+0.6**
RTV	**Rentapao**	**3.94**	**163**	P	**Pn**	**15 17 28.0**	**+2.1**
LIFNC	**LIFOU**	**6.73**	**180**	P	**Pn**	**15 18 02.3**	**-1.9**
KOUNC	**Koumac, New Ca**	**7.08**	**203**	P	**Pn**	**15 18 11.1**	**+2.1**
DZM	**Mont Dzumac**	**8.05**	**185**	P	**Pn**	**15 18 22.1**	**-0.4**
NOUC	**Port Laguerre**	**8.10**	**186**	P	**Pn**	**15 18 23.1**	**+0.1**
ONTNC	**Ouen Toro**	**8.29**	**185**	P	**Pn**	**15 18 25.9**	**+0.3**
OUENC	**Ouen Island, N**	**8.38**	**182**	P	**Pn**	**15 18 27.1**	**+0.3**
PINNC	**Pines Island,**	**8.56**	**179**	P	**Pn**	**15 18 29.1**	**-0.3**
STKA	**Stephens Creek**	**29.42**	**228**	P	**P**	**15 22 27.1**	**-1.1**
	1.0nm,0.5s,baz=45,slow=11,SNR=8.1						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**31.95**	**255**	P	**P**	**15 22 50.9**	**+0.2**
	0.3nm,0.9s,baz=86,slow=9.2,SNR=2.6						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**32.88**	**248**	P	**P**	**15 22 59.0**	**+0.2**
	0.3nm,0.5s,baz=78,slow=9.4,SNR=16						
	0.3nm,0.5s						
JCJ	**Chichijima**	**47.53**	**329**	LR	LR	15 42 24.7	
	comp=Z,47nm,21.3s,baz=103,slow=32						

*NDI **06** 15:19:49.6±4.3, 30.°56N×79.°22E, h5km±8km, ML4.8, mb5.1(NEIC)*

*NEIC **06** 15:19:50.0±1.5, 30.°63N±0.°08×79.°16E±0.°08, h10km±1km, mb5.1/199, Error ellipse: s-maj=14.2km s-min=10.6km az=201.0*

*MOS **06** 15:19:49.1±1.1, 30.°70N×79.°14E, h17km, mb5.3/48, MS4.2/7, Error ellipse: s-maj=5.5km s-min=2.7km az=109.8*

*DMN **06** 15:19:50.9±0.3, 30.°62N×78.°96E, h10km, Ml5.7/6, Error ellipse: s-maj=17.1km s-min=4.7km az=28.0*

*BJI **06** 15:19:50.6, 30.°81N×79.°44E, h10km, mb5.0/73, mB5.0/44, Ms4.5/58, Ms7 4.3/56*

*IDC **06** 15:19:50.3±2.5, 30.°54N×79.°13E, h19km±15km, mb4.7/32, mbtmp4.8/36, ML4.6/4, MS4.0/54, Error ellipse: s-maj=11.6km s-min=9.7km az=29.0*

*BGR **06** 15:19:50.8, 29.°33N×78.°54E, h33km, mb5.0, Ms3.9*

ISC 06 15:19:49.8±0.4**, 30.°60N**±0.°02×**79.°10E**±0.°02**, h13km**±2km**, h13km:pP-P, n977,** σ**1.s49**/975**, mb5.1**/266**, MS4.1**/75**, 48C-31D, Western Xizang-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**0.94**	**253**	*e*P	**Pn**	**15 20 09.4**	**+0.7**
DDI				*e*S	**Sn**	**15 20 22.4**	**+0.3**
DDI				*e*S	**Sg**	**15 20 22.5**	**+2.3**
DDI				IAML		15 20 24.7	
	comp=N,80μm,0.3s						
PTH	**Pithoragarh**	**1.42**	**137**	*e*P	**Pb**	**15 20 16.7**	**+0.4**
PTH				*e*P	**Pg**	**15 20 16.9**	**-0.2**
PTH				*e*S	**Sn**	**15 20 33.9**	**-0.3**
PTH				*e*S	**Sn**	**15 20 34.0**	**-0.3**
PTH				*e*S	**Sg**	**15 20 34.5**	**-1.2**
LGTI	**Lohaghat**	**1.52**	**139**	*e*P	**Pb**	**15 20 18.2**	**+0.4**
LGTI				*e*S	**Sn**	**15 20 35.5**	**-0.7**
LGTI				*e*S	**Sb**	**15 20 36.9**	**0.0**
SMLA	**Simla**	**1.74**	**288**	*e*P	**Pg**	**15 20 23.3**	**+0.1**
SMLA				*e*S	**Sb**	**15 20 45.2**	**+1.8**
SMLA				IAML		15 20 51.6	
	comp=E,17μm,0.4s						
SMLA				IAML		15 20 53.5	
	comp=N,15μm,0.4s						
MERT	**Meerut**	**2.00**	**217**	*e*P	**Pb**	**15 20 27.1**	**+1.0**
MERT				*e*P	**Pg**	**15 20 27.9**	**-0.4**
MERT				*e*S	**Sg**	**15 20 54.3**	**+0.1**
KKR	**Kurukshetra**	**2.07**	**253**	*e*P	**Pb**	**15 20 28.3**	**+1.1**
KKR				*e*S	**Sg**	**15 20 55.9**	**-0.3**
BHK	**Bhakra**	**2.44**	**290**	*e*P	**Pb**	**15 20 33.4**	**-0.2**
BHK				*e*S	**Sb**	**15 21 05.1**	**+1.5**
BHK				*e*S	**Sg**	**15 21 08.7**	**+0.5**
BISR	**Bishrakh**	**2.48**	**216**	*e*P	**Pb**	**15 20 33.1**	**-1.0**
BISR				*e*S	**Sb**	**15 21 05.2**	**+0.6**
BISR				*e*S	**Sg**	**15 21 07.7**	**-1.8**
NDI	**New Delhi**	**2.51**	**221**	*e*P	**Pn**	**15 20 32.5**	**+2.2**
NDI				*e*S	**Sb**	**15 21 03.9**	**-1.6**
LDR	**Lodi Road**	**2.59**	**220**	*e*P	**Pb**	**15 20 36.0**	**0.0**
LDR				*e*S	**Sb**	**15 21 07.5**	**-0.2**
LDR				*e*S	**Sg**	**15 21 09.7**	**-3.2**
AYAN	**Aya Nagar**	**2.72**	**220**	*e*P	**Pb**	**15 20 36.6**	**-1.6**
DHRM	**DHARAMSHALA**	**2.90**	**305**	*e*P	**Pb**	**15 20 39.9**	**-1.6**
DHRM				*e*S	**Sn**	**15 21 14.1**	**+3.3**
DHRM				IAML		15 21 24.7	
	comp=E,6μm,0.5s						
SONA	**Sohna**	**2.92**	**217**	*e*P	**Pn**	**15 20 38.6**	**+2.7**
SONA				*e*S	**Sn**	**15 21 13.8**	**+2.8**
KUDL	**Kundal**	**3.34**	**224**	*e*P	**Pn**	**15 20 43.6**	**+2.0**
THN	**Thein Dam**	**3.42**	**303**	*e*S	**Sb**	**15 21 28.1**	**-3.6**
THN				*e*S	**Sn**	**15 21 29.9**	**+6.8**
BRCI	**Bahraich**	**3.72**	**144**	*e*P	**Pn**	**15 20 48.6**	**+1.6**
KHET	**Khetri**	**3.81**	**230**	*e*P	**Pn**	**15 20 49.6**	**+1.3**
KHET				*e*S	**Sn**	**15 21 33.5**	**+0.4**
JMU	**Jammu**	**4.16**	**302**	*e*P	Pb	15 20 58.4	-4.4
JMU				*e*S	**Sn**	**15 21 47.0**	**+5.7**
PYUN	**Piuthan**	**4.21**	**125**	*e*Pn	**Pn**	**15 20 54.6**	**+0.7**
PYUN				*e*Sn	**Sn**	**15 21 42.0**	**-1.1**
	comp=E,4μm,0.3s						
DANN	**Dangsing**	**4.64**	**118**	*e*Pn	**Pn**	**15 21 01.2**	**+1.3**
DANN				*e*Sn	**Sn**	**15 21 52.2**	**-1.6**
	comp=E,2μm,0.4s						
KOLN	**Koldanda**	**4.84**	**124**	*e*Pn	**Pn**	**15 21 03.8**	**+1.3**
KOLN				*e*Sn	**Sn**	**15 21 58.4**	**-0.2**
GKN	**Gorkha**	**5.49**	**117**	*e*Pn	**Pn**	**15 21 12.4**	**+1.0**
GKN				*e*Sn	**Sn**	**15 22 13.1**	**-1.3**
	comp=E,2μm,0.3s						
AJM	**Ajmer**	**5.67**	**225**	*e*P	**Pn**	**15 21 16.0**	**+2.2**
AJM				*e*S	**Sn**	**15 22 20.7**	**+1.9**
NIL	**Nilore**	**5.82**	**303**		**Pn**	**15 21 18.0**	**+2.2**
NIL	**Nilore**	**5.82**	**303**	P	**Pn**	**15 21 19.0**	**+3.2**
NIL	**Nilore**	**5.82**	**303**	P	**Pn**	**15 21 18.0**	**+2.2**
DMN	**Daman**	**6.04**	**118**	*e*Pn	**Pn**	**15 21 20.7**	**+1.6**
DMN				*e*Sn	**Sn**	**15 22 26.1**	**-2.2**
	comp=E,992nm,0.4s						
KKN	**Kakani**	**6.09**	**116**	*e*Pn	**Pn**	**15 21 20.5**	**+0.8**
KKN				*e*Sn	**Sn**	**15 22 27.7**	**-1.6**
PKIN	**Phulchoki**	**6.28**	**117**	*e*Pn	**Pn**	**15 21 22.7**	**+0.3**
PKI	**Pulchoki**	**6.29**	**117**	*e*Pn	**Pn**	**15 21 22.8**	**+0.2**
PKI				*e*Sn	**Sn**	**15 22 32.6**	**-2.0**
	comp=E,2μm,0.5s						
GUN	**Gumba**	**6.50**	**113**	*e*Pn	**Pn**	**15 21 26.6**	**+1.1**
JIRN	**Jiri**	**6.86**	**113**	*e*Pn	**Pn**	**15 21 31.4**	**+1.0**
JIRN				*e*Sn	**Sn**	**15 22 46.2**	**-2.4**
BHPL	**Bhopal**	**7.47**	**192**	*e*P	**Pn**	**15 21 37.6**	**-1.0**
BHPL				*e*S	**Sn**	**15 22 57.8**	**-5.5**
BHPL				IAML		15 23 03.2	
	comp=N,772nm,0.3s						
RAMN	**Ramite**	**7.52**	**117**	*e*Pn	**Pn**	**15 21 39.7**	**+0.3**
RAMN				*e*Sn	**Sn**	**15 23 01.0**	**-3.7**
	comp=N,2μm,0.4s						
JASL	**Jaisalmer**	**8.07**	**245**	*e*P	**Pn**	**15 21 46.7**	**+0.1**
ODAN	**Odare**	**8.18**	**115**	*e*Pn	**Pn**	**15 21 49.3**	**+0.9**
ODAN				*e*Sn	**Sn**	**15 23 17.8**	**-3.0**
TAPN	**Taplejung**	**8.21**	**111**	*e*Pn	**Pn**	**15 21 49.3**	**+0.4**
TAPN				*e*Sn	**Sn**	**15 23 18.1**	**-3.6**
BLSP	**Bilaspur**	**8.86**	**161**	*e*P	**Pn**	**15 21 57.1**	**-0.5**
BLSP				*e*S	**Sn**	**15 23 31.8**	**-5.6**
BLSP				*e*S		15 23 32.5	
BOK	**Bokaro**	**9.08**	**137**	*e*P	**Pn**	**15 21 59.6**	**-0.9**
BOK				*e*S	**Sn**	**15 23 35.6**	**-7.0**
BOK				IAML		15 23 42.0	
	comp=E,279nm,0.2s						
KSH	**Kashi**	**9.26**	**345**	P	**Pn**	**15 22 02.1**	**-1.0**
KSH				pP		15 22 04.7	
KSH				S	**Sn**	**15 23 38.7**	**-8.6**
KSH				pmax	pmax		
	comp=E,290nm,0.5s						
KSH				LR	LR		
	comp=E,2μm,9.3s						
KSH				LR	LR		
	comp=E,1μm,10.3s						
KSH				LR	LR		
	comp=E,3μm,9.5s						
SHBG	**Sahibganj**	**9.28**	**123**	*e*P	**Pn**	**15 22 02.9**	**-0.4**
SHBG				*e*S	Sn	15 23 38.1	-10
SHBG				*e*S		15 23 40.2	
KBL	**Kabul**	**9.35**	**298**		**Pn**	**15 22 05.2**	**+0.8**
KBL	**Kabul**	**9.35**	**298**	P	**Pn**	**15 22 05.8**	**+1.4**
	SNR=13						
KBL	**Kabul**	**9.35**	**298**	P	**Pn**	**15 22 05.2**	**+0.8**
JHSG	**JHARSUGUGA**	**9.75**	**153**	*e*P	**Pn**	**15 22 08.5**	**-1.2**
AKL	**Akola**	**10.03**	**191**	*e*P	**Pn**	**15 22 12.6**	**-1.0**
AKL				*e*S	**Sn**	**15 24 02.1**	**-3.9**
LSA	**Lhasa**	**10.47**	**92**	Pn	**Pn**	**15 22 20.1**	**0.0**
LSA	**Lhasa**	**10.47**	**92**	P	**Pn**	**15 22 20.1**	**0.0**
LSA	**Lhasa**	**10.47**	**92**	P	**Pn**	**15 22 20.8**	**+0.7**
LSA				LR	LR		
	comp=E,2μm,10.7s						
LSA				LR	LR		
	comp=E,2μm,10.3s						
LSA				LR	LR		
	comp=E,3μm,10.7s						
NRN	**Naryn**	**11.10**	**348**		**Pn**	**15 22 28.9**	**+0.4**
NRN	**Naryn**	**11.10**	**348**	P	**Pn**	**15 22 28.9**	**+0.4**
OHH	**Osh**	**11.16**	**334**	P	**Pn**	**15 22 30.5**	**+1.5**
TARG	**Taragay, Kyrgy**	**11.16**	**355**	Pn	**Pn**	**15 22 29.6**	**+0.2**
TARG	**Taragay, Kyrgy**	**11.16**	**355**	P	**Pn**	**15 22 29.6**	**+0.2**
BTK	**Batken**	**11.61**	**327**		**Pn**	**15 22 35.1**	**-0.1**
BTK	**Batken**	**11.61**	**327**	P	**Pn**	**15 22 35.1**	**-0.1**
ARSB	**Arslanbob**	**11.79**	**337**		**Pn**	**15 22 36.3**	**-1.5**
ARSB	**Arslanbob**	**11.79**	**337**	P	**Pn**	**15 22 36.3**	**-1.5**
ULHL	**Ulahol**	**11.85**	**350**	P	**Pn**	**15 22 42.7**	**+4.0**
	SNR=12						
KZA	**Kyzart**	**11.87**	**346**	P	**Pn**	**15 22 39.7**	**+0.6**
	SNR=77						
PRZ	**Przheval'sk**	**11.88**	**357**		**Pn**	**15 22 40.6**	**+1.6**
PRZ	**Przheval'sk**	**11.88**	**357**	P	**Pn**	**15 22 40.6**	**+1.6**
BWNR	**Bhubaneshwar**	**11.91**	**148**	*e*P	**Pn**	**15 22 37.6**	**-1.7**
UCH	**Uchtor**	**12.18**	**344**	P	**Pn**	**15 22 43.2**	**-0.2**
	SNR=105						
AML	**Almayashu**	**12.30**	**341**	P	**Pn**	**15 22 45.9**	**+0.9**
	SNR=32						
AML	**Almayashu**	**12.30**	**341**	P	**Pn**	**15 22 44.1**	**-0.9**
SHL	**Shillong**	**12.35**	**111**	Pn	**Pn**	**15 22 42.5**	**-3.0**
SHL	**Shillong**	**12.35**	**111**	P	**Pn**	**15 22 42.9**	**-2.6**
	SNR=24						
SHL	**Shillong**	**12.35**	**111**	P	**Pn**	**15 22 42.5**	**-3.0**
SHL	**Shillong**	**12.35**	**111**	*e*P	**Pn**	**15 22 42.4**	**-3.2**
SHL				*e*P	P	15 22 42.5	-15
SHL				*e*P	P	15 22 42.7	-15
SATY	**Saty**	**12.45**	**358**	*e*P	**Pn**	**15 22 46.9**	**0.0**
	comp=E,9.5nm,0.7s,baz=357						
SATY	**Saty**	**12.45**	**358**	*e*P	**Pn**	**15 22 46.8**	**0.0**
SATY				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KBK	**Karagaybulak**	**12.49**	**346**	P	**Pn**	**15 22 48.2**	**+0.9**
	SNR=92						
UZB	**Uzynbulak**	**12.53**	**360**	*e*P	**Pn**	**15 22 47.5**	**-0.4**
	baz=360						
UZB	**Uzynbulak**	**12.53**	**360**	*e*P	**Pn**	**15 22 47.5**	**-0.4**
TNSS	**Tian-Shan**	**12.54**	**353**	*e*P	**Pn**	**15 22 48.2**	**0.0**
	baz=352						
TNSS	**Tian-Shan**	**12.54**	**353**	*e*P	**Pn**	**15 22 48.2**	**0.0**
SHLS	**Shalkode**	**12.54**	**1**	*e*P	**Pn**	**15 22 48.2**	**+0.1**
	baz=2.4						
SHLS	**Shalkode**	**12.54**	**1**	*e*P	**Pn**	**15 22 48.1**	**+0.1**
ZHN	**Zhinishke**	**12.56**	**358**	*e*P	**Pn**	**15 22 47.9**	**-0.4**
	baz=358						
ZHN	**Zhinishke**	**12.56**	**358**	*e*P	**Pn**	**15 22 47.8**	**-0.4**
AAK	**Ala-Archa**	**12.57**	**344**	P	**Pn**	**15 22 49.0**	**+0.5**
	SNR=61						
AAK	**Ala-Archa**	**12.57**	**344**	Pn	**Pn**	**15 22 48.6**	**+0.1**
AAK	**Ala-Archa**	**12.57**	**344**	P	**Pn**	**15 22 49.5**	**+1.0**
AAK				P	**Pn**	**15 22 49.5**	**+1.0**
AAK	**Ala-Archa**	**12.57**	**344**	Pn	**Pn**	**15 22 48.7**	**+0.3**
	comp=Z,14nm,0.3s,baz=170,slow=9.8,SNR=68						
AAK				Sn	**Sn**	**15 25 04.8**	**-3.6**
	comp=Z,2.5nm,0.3s,baz=133,slow=19,SNR=2.2						
AAK				LR	LR	15 28 30.6	
	comp=Z,1μm,21.4s,baz=164,slow=41						
	comp=Z,38nm,0.3s						
TKM2	**Tokmak 2**	**12.62**	**348**	P	**Pn**	**15 22 50.5**	**+1.4**
	SNR=42						
TKM2	**Tokmak 2**	**12.62**	**348**	P	**Pn**	**15 22 50.0**	**+0.9**
MDOK	**Medeo**	**12.65**	**353**	*e*P	**Pn**	**15 22 49.1**	**-0.5**
	baz=353						
MDOK	**Medeo**	**12.65**	**353**	*e*P	**Pn**	**15 22 49.0**	**-0.5**
TEZP	**TEZPUR**	**12.67**	**105**	*e*P	**Pn**	**15 22 46.8**	**-3.0**
TEZP				*e*S	Sn	15 25 01.6	-9.2
FRU1	**Bishkek**	**12.70**	**345**		**Pn**	**15 22 50.6**	**+0.4**
FRU1	**Bishkek**	**12.70**	**345**	P	**Pn**	**15 22 50.6**	**+0.4**
AAA	**Alma-Ata**	**12.71**	**353**	*e*P	**Pn**	**15 22 50.6**	**+0.3**
	baz=352						
AAA	**Alma-Ata**	**12.71**	**353**	*e*P	**Pn**	**15 22 50.5**	**+0.3**
PDGK	**Podgornoye**	**12.71**	**1**	P	**Pn**	**15 22 50.3**	**-0.1**
EKS2	**Erkin-Say**	**12.77**	**342**	P	**Pn**	**15 22 51.9**	**+0.7**
	SNR=32						
KPKS	**Kokpek**	**12.85**	**359**	*e*P	**Pn**	**15 22 51.9**	**-0.3**
	baz=358						
KPKS	**Kokpek**	**12.85**	**359**	*e*P	**Pn**	**15 22 51.9**	**-0.3**
CHMS	**Chumysh**	**12.86**	**346**	P	**Pn**	**15 22 52.8**	**+0.5**
	SNR=29						
POO	**Poona**	**12.92**	**203**	*e*P	**Pn**	**15 22 49.8**	**-3.4**
HYB	**Hyderabad**	**13.13**	**182**	*e*P	**Pn**	**15 22 53.5**	**-2.6**
HYB				*e*S	**Sn**	**15 25 25.7**	**+3.6**
USP	**Ospenovka**	**13.17**	**345**	P	**Pn**	**15 22 56.8**	**+0.3**
	SNR=36						
ZIRO	**ZIRO**	**13.26**	**100**	*e*P	**Pn**	**15 22 56.3**	**-1.7**
ZIRO				*e*S	Sn	15 25 15.5	-10
ITAN	**ITANAGAR**	**13.27**	**101**	*e*P	**Pn**	**15 22 55.7**	**-2.3**
ITAN				*e*S	Sn	15 25 13.2	-12
SGDS	**Sogindy**	**13.32**	**346**	*e*P	**Pn**	**15 22 58.9**	**+0.3**
	comp=Z,12nm,0.9s,baz=345						
SGDS	**Sogindy**	**13.32**	**346**	*e*P	**Pn**	**15 22 58.8**	**+0.3**
SGDS				pmax	pmax		
	comp=Z,12nm,0.9s						
CHKK	**Chushkaly**	**13.34**	**353**	*e*P	**Pn**	**15 22 58.3**	**-0.6**
	baz=353						
CHKK	**Chushkaly**	**13.34**	**353**	*e*P	**Pn**	**15 22 58.2**	**-0.6**
KUU	**Kurty**	**13.45**	**351**	*e*P	**Pn**	**15 23 00.0**	**-0.3**
	comp=Z,18nm,0.8s,baz=351						
KUU	**Kurty**	**13.45**	**351**	*e*P	**Pn**	**15 23 00.0**	**-0.3**
KUU				pmax	pmax		
	comp=Z,18nm,0.8s						
ARXS	**Arharly**	**13.63**	**356**	*e*P	**Pn**	**15 23 02.5**	**-0.3**
DZA	**Taraz**	**13.75**	**335**	*e*P	**Pn**	**15 23 04.3**	**-0.1**
	baz=335						
DZA	**Taraz**	**13.75**	**335**	*e*P	**Pn**	**15 23 04.3**	**-0.1**
CHM	**Chimkent**	**13.96**	**330**	*e*P	**Pn**	**15 23 07.0**	**-0.3**
	baz=329						
CHM	**Chimkent**	**13.96**	**330**	*e*P	**Pn**	**15 23 07.0**	**-0.3**
VJD	**Vijayawada**	**14.09**	**174**	*e*P	**Pn**	**15 23 05.8**	**-3.3**
KOHI	**KOHIMA**	**14.10**	**106**	*e*P	**Pn**	**15 23 06.1**	**-3.4**
KOHI				*e*S	Sn	15 25 34.9	-11
MOKO	**MOKOCHONG**	**14.21**	**104**	*e*P	**Pn**	**15 23 08.1**	**-2.9**
MOKO				*e*S	Sn	15 25 36.9	-12
KK31	**Karatay Array**	**14.24**	**334**	Pn	**Pn**	**15 23 09.0**	**-2.1**
KK31	**Karatay Array**	**14.24**	**334**	P	**Pn**	**15 23 09.0**	**-2.1**
KKAR	**Karatay Array**	**14.24**	**334**	Pn	**Pn**	**15 23 08.9**	**-2.2**
KKAR	**Karatay Array**	**14.24**	**334**		**Pn**	**15 23 09.1**	**-2.0**
KKAR	**Karatay Array**	**14.24**	**334**	P	**Pn**	**15 23 08.9**	**-2.2**
GOMU	**GeErMu**	**14.27**	**63**	P	**Pn**	**15 23 12.0**	**+0.2**
GOMU				pP	P	15 23 15.3	-3.9
GOMU				sP		15 23 19.8	
GOMU				S	**Sn**	**15 25 52.2**	**+2.0**
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.6s						
GOMU				LR	LR		
	comp=Z,390nm,10.4s						
GOMU				LR	LR		
	comp=Z,890nm,10.8s						
GOMU				LR	LR		
	comp=Z,1μm,10.9s						
IMP	**Imphal**	**14.35**	**110**	*e*P	**Pn**	**15 23 10.5**	**-2.3**
TDK	**Taldyqorghan**	**14.39**	**358**	*e*P	**Pn**	**15 23 12.5**	**-0.8**
	baz=358						
TDK	**Taldyqorghan**	**14.39**	**358**	*e*P	**Pn**	**15 23 12.4**	**-0.8**
HRA	**Herat**	**14.71**	**289**	Pn	**Pn**	**15 23 21.1**	**+3.2**
SAIH	**SAIHA**	**14.81**	**120**	*e*P	**Pn**	**15 23 17.7**	**-1.5**
WMQ	**Urumqi**	**14.86**	**25**	*e*P	**Pn**	**15 23 19.1**	**-0.5**
WMQ				sP	P	15 23 26.7	+1.3
WMQ				PP	**PnPn**	**15 23 32.0**	**+4.3**
WMQ				pmax	pmax		
	comp=Z,23nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,280nm,3.7s						
WMQ				LR	LR		
	comp=Z,3μm,16.5s						
WMQ				LR	LR		
	comp=Z,1μm,14.9s						
WMQ				LR	LR		
	comp=Z,1μm,19.9s						
BTLS	**Baital**	**14.96**	**346**	*e*P	**Pn**	**15 23 20.2**	**-0.7**
	baz=346						
BTLS	**Baital**	**14.96**	**346**	*e*P	**Pn**	**15 23 20.1**	**-0.8**
MAKZ	**Makanchi**	**16.34**	**7**		**Pn**	**15 23 36.0**	**-2.9**
MAKZ	**Makanchi**	**16.34**	**7**	P	**Pn**	**15 23 36.0**	**-2.9**
MAKZ				pmax	pmax		
	comp=Z,45nm,0.8s						
MK31	**Makanchi Array**	**16.36**	**8**	Pn	**Pn**	**15 23 37.2**	**-2.0**
MK31	**Makanchi Array**	**16.36**	**8**	*de*P	**Pn**	**15 23 36.7**	**-2.5**
MKAR	**Makanchi Array**	**16.36**	**8**		**Pn**	**15 23 36.6**	**-2.6**
MKAR	**Makanchi Array**	**16.36**	**8**	Pn	**Pn**	**15 23 36.8**	**-2.4**
	comp=Z,3.2nm,0.3s,baz=189,slow=13,SNR=49						
MKAR				Sn	**Sn**	**15 26 33.1**	**-7.5**
	comp=Z,1.7nm,0.3s,baz=189,slow=23,SNR=5.2						
MKAR				LR	LR	15 30 53.6	
	comp=Z,1μm,19.2s,baz=201,slow=40						
	comp=Z,6.9nm,0.4s						
NGCH	**Negor - Chabah**	**16.70**	**256**	P	**Pn**	**15 23 44.7**	**+1.3**
ZSN	**Zaisan**	**17.41**	**13**	*e*P	**Pn**	**15 23 52.4**	**+0.1**
	baz=13						
ZSN	**Zaisan**	**17.41**	**13**	*e*P	**Pn**	**15 23 52.4**	**+0.1**
MND	**Mandalay**	**17.47**	**115**	P	**P**	**15 23 54.3**	**-0.1**
MDRS	**Chennai**	**17.48**	**176**	*e*P	**Pn**	**15 23 51.7**	**-1.6**
TNCH	**TengChong**	**18.05**	**103**	P	**Pn**	**15 23 59.6**	**-0.9**
TNCH				PP	**PnPn**	**15 24 15.8**	**+4.3**
TNCH				S	**Sn**	**15 27 18.9**	**-3.0**
TNCH				sS	S	15 27 24.9	-3.0
TNCH				SS	**SnSn**	**15 27 43.2**	**+7.7**
TNCH				pmax	pmax		
	comp=Z,37nm,0.4s						
TNCH				pmax	pmax		
	comp=Z,85nm,3.3s						
TNCH				LR	LR		
	comp=Z,200nm,4.5s						
TNCH				LR	LR		
	comp=Z,220nm,3.7s						
TNCH				LR	LR		
	comp=Z,330nm,10.2s						
OTUK	**Ortayu**	**18.37**	**346**	P	**P**	**15 24 03.4**	**-0.8**
GEYT	**Alibeck**	**18.80**	**299**	P	**P**	**15 24 09.0**	**0.0**
GEYT	**Alibeck**	**18.80**	**299**	P	**P**	**15 24 07.7**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=122,slow=14,SNR=14						
GEYT				LR	LR	15 32 26.7	
	comp=Z,242nm,20.1s,baz=126,slow=40						
	comp=Z,10nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**18.80**	**299**	P	**P**	**15 24 09.4**	**+0.5**
SALM	**Salem**	**18.87**	**183**	*e*P	**P**	**15 24 10.3**	**+0.4**
GTA	**Gaotai**	**19.08**	**57**	⇑P	**P**	**15 24 11.7**	**-0.5**
GTA				pP	Pn	15 24 14.7	+1.7
GTA				pmax	pmax		
	comp=Z,16nm,1.2s						
GTA				LR	LR		
	comp=Z,300nm,10.9s						
GTA				LR	LR		
	comp=Z,1μm,12.0s						
GTA				LR	LR		
	comp=Z,1μm,13.5s						
JASK	**Jask - Hormozg**	**19.28**	**261**	P	**Pn**	**15 24 18.2**	**+2.8**
JLN	**Jalan Bani Buh**	**19.52**	**249**	P	**Pn**	**15 24 19.5**	**+1.3**
JLN				P	**Pn**	**15 24 19.5**	**+1.3**
WSAR	**Wadi Sarin**	**19.65**	**253**	P	**Pn**	**15 24 21.0**	**+1.3**
WSAR	**Wadi Sarin**	**19.65**	**253**	P	**P**	**15 24 18.3**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=111,slow=11,SNR=11						
WSAR				S	S	15 27 46.4	-13
	comp=Z,4.5nm,0.6s,baz=167,slow=13,SNR=2.3						
WSAR				LR	LR	15 34 32.1	
	comp=Z,382nm,18.1s,baz=53,slow=45						
	comp=Z,14nm,0.7s						
WBK	**Wadi Bani Khal**	**19.66**	**251**	P	**Pn**	**15 24 19.5**	**-0.4**
WBK				P	**Pn**	**15 24 19.5**	**-0.4**
BIDO	**Bidbid**	**19.94**	**254**	P	**Pn**	**15 24 25.0**	**+1.7**
BRZS	**Berezniki**	**19.96**	**348**	*e*P	**P**	**15 24 21.8**	**+0.2**
	comp=Z,55nm,0.9s,baz=348						
BRZS	**Berezniki**	**19.96**	**348**	*e*P	**P**	**15 24 21.8**	**+0.2**
BRZS				pmax	pmax		
	comp=Z,55nm,0.9s						
KURBB	**Kurchatov Arra**	**20.01**	**359**	P	**P**	**15 24 22.0**	**-0.1**
	comp=Z,34nm,0.7s,baz=186,slow=10.0,SNR=92						
	comp=Z,34nm,0.7s						
DGZ	**Jazzator, Alta**	**20.09**	**16***c*	*i*P	Pn	15 24 24.3	-0.7
DGZ				pmax	pmax		
	comp=Z,64nm,0.7s						
KURK	**Kurchatov**	**20.10**	**359**	P	**P**	**15 24 22.8**	**-0.2**
KURK	**Kurchatov**	**20.10**	**359***c*	*i*P	**P**	**15 24 23.0**	**-0.1**
KURK				pmax	pmax		
	comp=Z,63nm,0.7s						
SMDO	**Samad**	**20.21**	**253**	P	Pn	15 24 27.4	+0.9
SMDO				P	Pn	15 24 27.4	+0.9
PZH	**PanZhiHua**	**20.30**	**96**	P	**P**	**15 24 25.8**	**+0.2**
PZH				pP	**pP**	**15 24 31.8**	**+1.5**
PZH				S	**S**	**15 28 10.2**	**-2.9**
PZH				ScS	**ScS**	**15 35 55.6**	**-2.6**
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						

PZH pmax pmax
comp=Z,120nm,3.9s
PZH LR LR
comp=Z,170nm,12.0s
PZH LR LR
comp=Z,240nm,13.3s
PZH LR LR
comp=Z,250nm,12.0s
JMDO Jabal Madar 20.48 251 P Pn 15 24 30.3 +0.8
JMDO P Pn 15 24 30.3 +0.8
HOQ Hoqain 20.60 255 P Pn 15 24 32.0 +1.0
HOQ P Pn 15 24 32.0 +1.0
MDH Madha 20.81 261 P Pn 15 24 35.3 +2.0
MDH P Pn 15 24 35.3 +2.0
UOSS Minazif 21.01 260 P **P** **15 24 36.8 +3.6**
UOSS P **P** **15 24 36.8 +3.6**
SOHO SOHO 21.03 258 P **P** **15 24 35.8 +2.4**
SOHO P **P** **15 24 35.8 +2.4**
BSY Bisya 21.05 253 P **P** **15 24 36.8 +3.2**
BSY P **P** **15 24 36.8 +3.2**
CD2 Chengdu 21.19 83 P **P** **15 24 35.3 +0.2**
CD2 pP pP 15 24 37.9 -1.9
CD2 sP sP 15 24 39.3 -2.4
CD2 S **S** **15 28 27.0 -3.6**
CD2 sS Sn 15 28 36.3 -1.2
CD2 pmax pmax
comp=Z,120nm,0.7s
CD2 pmax pmax
comp=Z,60nm,5.1s
CD2 LR LR
comp=Z,500nm,10.4s
CD2 LR LR
comp=Z,450nm,10.6s
CD2 LR LR
comp=Z,380nm,8.8s
ASHO Ashiyiah 21.23 260 P **P** **15 24 38.3 +2.8**
SNR=8.5
MHTO MHTO 21.26 248 P **P** **15 24 39.1 +3.2**
ARQ Araqi 21.36 256 P **P** **15 24 40.6 +3.7**
ARQ P **P** **15 24 40.6 +3.7**
LZH Lanzhou 21.36 69 ⇑P **P** **15 24 37.7 +0.6**
LZH sP sP 15 24 46.5 +2.9
LZH S **S** **15 28 32.3 -1.8**
LZH SS **SnSn** **15 28 59.3 +2.6**
LZH pmax pmax
comp=Z,180nm,1.1s
LZH pmax pmax
comp=Z,560nm,4.0s
LZH LR LR
comp=Z,680nm,12.5s
LZH LR LR
comp=Z,640nm,12.4s
LZH LR LR
comp=Z,640nm,13.1s
NAZ Nazwa, Dubai 21.45 261 P **P** **15 24 41.3 +3.4**
CHTO Chiang Mai 21.47 119 P **P** **15 24 37.6 -0.5**
CHTO Chiang Mai 21.47 119 P **P** **15 24 38.5 +0.3**
CHTO Chiang Mai 21.47 119 P **P** **15 24 38.2 +0.1**
CHTO Chiang Mai 21.47 119 P **P** **15 24 37.7 -0.5**
CHTO pmax pmax
comp=Z,20nm,0.8s
KMI Kunming 21.59 99 ⇓P **P** **15 24 39.6 0.0**
KMI pP pP 15 24 42.8 -1.2
KMI S **S** **15 28 39.2 +0.4**
KMI pmax pmax
comp=Z,47nm,0.8s
KMI pmax pmax
comp=Z,220nm,5.1s
KMI LR LR
comp=Z,380nm,13.9s
KMI LR LR
comp=Z,220nm,14.8s
KMI LR LR
comp=Z,210nm,12.2s
FAQ Al Faqa, Dubai 21.60 260 P **P** **15 24 43.2 +3.8**
CM31 Chiang Mai Arr 21.69 119 P **P** **15 24 41.1 +0.7**
SNR=11
CMAR Chiang Mai Arr 21.69 119 *i* P **P** **15 24 41.0 +0.5**
CMAR pmax pmax
comp=Z,14nm,0.7s
CMAR Chiang Mai Arr 21.69 119 P **P** **15 24 39.1 -1.4**
comp=Z,6.0nm,0.5s,baz=321,slow=10.0,SNR=58
CMAR PcP **PcP** **15 28 42.3 +0.7**
comp=Z,1.6nm,0.8s,baz=278,slow=2.9,SNR=3.5
CMAR ScP **ScP** **15 32 16.5 -1.9**
comp=Z,2.4nm,0.8s,baz=285,slow=3.7,SNR=11
CMAR LR LR 15 35 26.2
comp=Z,126nm,20.4s,baz=300,slow=43
comp=Z,6.0nm,0.5s
ALNE Al Ain 21.72 258 P **P** **15 24 44.0 +3.2**
SNR=7.0
CRAI Chiangrai 21.78 113 P **P** **15 24 40.9 -0.6**
ASUD Al Ashush, Dub 21.86 260 P **P** **15 24 46.2 +3.9**
DQM DQM 22.16 246 P **P** **15 24 47.8 +2.2**
DQM P **P** **15 24 47.8 +2.2**
PALK Pallekele 23.25 176 P **P** **15 24 57.4 +0.3**
PALK IAmb IAmb 15 25 00.2
comp=Z,57nm,1.1s
PALK Pallekele 23.25 176 P **P** **15 24 57.8 +0.8**
PALK Pallekele 23.25 176 P **P** **15 24 57.4 +0.3**
PALK pmax pmax
comp=Z,57nm,1.1s
PALK Pallekele 23.25 176 LR LR 15 34 16.4
comp=Z,1000nm,21.2s,baz=82,slow=37
BVA0 Borovoye Array 23.30 347 P **P** **15 24 57.5 +0.3**
BVAR Borovoye Array 23.30 347 P **P** **15 24 57.2 0.0**
comp=Z,28nm,0.3s,baz=147,slow=12,SNR=195
BVAR S **S** **15 29 11.1 +1.8**
comp=Z,0.8nm,0.6s,baz=156,slow=7.3,SNR=3.4
BVAR ScP **ScP** **15 32 18.4 -3.6**
comp=Z,1.8nm,0.8s,baz=106,slow=9.4,SNR=3.9
BVAR LR LR 15 34 49.8
comp=Z,2μm,18.1s,baz=159,slow=38
comp=Z,28nm,0.3s
BRVK Borovoye 23.35 347 P **P** **15 24 57.7 -0.1**
BRVK IAmb IAmb 15 25 00.5
comp=Z,31nm,0.7s
BRVK Borovoye 23.35 347 P **P** **15 24 58.2 +0.5**
BRVK P **P** **15 24 58.2 +0.5**
BRVK Borovoye 23.35 347 *c i* P **P** **15 24 57.9 +0.2**
BRVK pmax pmax
comp=Z,64nm,1.3s
AB31 Akbulak array 23.61 328 *e* P **P** **15 25 01.0 +0.7**
ABKAR Akbulak array 23.61 328 P **P** **15 25 00.5 +0.2**
ABKAR Akbulak array 23.61 328 P **P** **15 25 00.6 +0.2**
ZAA0 Zalesovo Array 23.70 8 P **P** **15 25 00.6 -0.5**
ZAA0 IAmb IAmb 15 25 02.7
comp=Z,112nm,1.4s
ZALV Zalesovo Beam 23.70 8 P **P** **15 25 00.3 -0.8**
ZALV Zalesovo Beam 23.70 8 *i* P **P** **15 25 00.9 -0.3**
ZALV pmax pmax
comp=Z,22nm,0.4s
ZALV Zalesovo Beam 23.70 8 P **P** **15 25 00.5 -0.7**
comp=Z,22nm,0.4s,baz=200,slow=9.0,SNR=101
ZALV LR LR 15 35 28.0
comp=Z,742nm,19.1s,baz=210,slow=40
comp=Z,22nm,0.4s
SLVN Son La 24.09 107 P **P** **15 25 04.9 -0.4**
SRDT SRDT 24.51 127 P **P** **15 25 11.4 +2.4**
GYA Guiyang 24.54 93 ⇓P **P** **15 25 09.7 +0.3**
GYA S **S** **15 29 30.9 +0.9**
GYA pmax pmax
comp=Z,15nm,1.1s
GYA pmax pmax
comp=Z,160nm,6.2s
GYA LR LR
comp=Z,250nm,19.0s
GYA LR LR
comp=Z,260nm,15.3s
GYA LR LR
comp=Z,200nm,11.6s
NONG Nongkai 25.15 114 P **P** **15 25 16.1 +1.3**
SHMA Al-Shehemyia 25.20 266 P **P** **15 25 17.0 +1.8**
AKTO Aktyubinsk 25.33 327 P **P** **15 25 16.9 +0.7**
AKTO Aktyubinsk 25.33 327 LR LR 15 36 15.5
comp=Z,304nm,19.1s,baz=57,slow=39
TRNA Turayna 25.34 264 P **P** **15 25 18.3 +1.8**
XAN Xi'an 25.40 74 ⇑P **P** **15 25 17.1 +0.1**
XAN pP pP 15 25 21.4 -0.3
XAN pmax pmax
comp=Z,180nm,0.8s
XAN LR LR
comp=Z,220nm,16.5s
XAN LR LR
comp=Z,660nm,13.8s
XAN LR LR
comp=Z,870nm,19.6s
DMTO DMTO 25.43 245 P **P** **15 25 21.4 +4.0**
SAKB Bahrain 25.53 267 P **P** **15 25 20.4 +2.2**
SMRA Abu-Samra 25.67 264 P **P** **15 25 21.0 +1.5**
NAYO Nakonayok 26.08 123 P **P** **15 25 26.1 +2.8**
LKRN Lenkeran, Azer 26.13 296 P **P** **15 25 26.2 +2.6**
ENH Enshi 26.17 83 IAmb IAmb 15 25 44.9
comp=Z,41nm,1.1s
ENH Enshi 26.17 83 P **P** **15 25 25.3 +1.2**
WHFO Wadi Hawf 26.24 247 P **P** **15 25 26.8 +2.0**
WHFO P **P** **15 25 26.8 +2.0**
MOY Mondy 26.55 31 *e* P **P** **15 25 28.8 +1.4**
MOY pmax pmax
comp=Z,39nm,2.3s
ZAK Zakamensk 26.80 36 *e* P **P** **15 25 29.2 -0.4**
ZAK pmax pmax
comp=Z,11nm,1.2s
ABTO Aybut 26.93 247 P **P** **15 25 32.8 +1.8**
BTO Baotou 26.94 60 *e* P **P** **15 25 31.6 +0.7**
BTO pP **pP** **15 25 35.9 +0.3**
BTO sP **sP** **15 25 38.7 +0.9**
BTO PP **PnPn** **15 26 15.7 +2.7**
BTO S **S** **15 30 09.8 +2.0**
BTO sS **pS** **15 30 12.2 -1.5**
BTO SS **SnSn** **15 31 15.5 +2.5**
BTO pmax pmax
comp=Z,66nm,1.1s
BTO pmax pmax
comp=Z,230nm,5.4s
BTO LR LR
comp=Z,970nm,14.4s
BTO LR LR
comp=Z,1μm,16.3s
BTO LR LR
comp=Z,2μm,21.1s
SONM Songino Array 27.07 43 P **P** **15 25 32.7 +0.6**
SONM Songino Array 27.07 43 P **P** **15 25 32.7 +0.6**
SONM pmax pmax
comp=Z,25nm,0.9s
SONM Songino Array 27.07 43 P **P** **15 25 32.5 +0.5**
comp=Z,19nm,0.8s,baz=235,slow=9.8,SNR=75
SONM PcP **PcP** **15 28 53.5 +0.6**
comp=Z,0.8nm,0.5s,baz=212,slow=2.8,SNR=1.7
SONM LR LR 15 37 18.1
comp=Z,403nm,19.6s,baz=236,slow=39
comp=Z,19nm,0.8s
ULN Ulaanbaatar 27.47 43 P **P** **15 25 35.4 -0.3**
ULN Ulaanbaatar 27.47 43 *c i* P **P** **15 25 37.1 +1.4**
ULN pmax pmax
comp=Z,25nm,1.0s
MNGR Mingechevir, A 27.78 300 P **P** **15 25 40.3 +1.9**
SEKA Sheki 27.78 301 P **P** **15 25 40.0 +1.5**
MAK Makhachkala 27.98 305 *e* P **P** **15 25 37.4 -2.7**
MAK *e* S **S** **15 30 19.5 -4.4**
MAK pmax pmax
comp=Z,405nm,1.6s
MAK MLR MLR
comp=Z,318nm,12.0s
HHC Hu-ho-hao-te 28.13 60 *e* P **P** **15 25 43.2 +1.5**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,220nm,4.0s
HHC LR LR
comp=Z,510nm,10.6s
HHC LR LR
comp=Z,1μm,12.5s
HHC LR LR
comp=Z,2μm,17.3s
ZKTA Zakatala 28.30 302 P **P** **15 25 44.6 +1.6**
GANJ Ganja 28.32 300 P **P** **15 25 45.2 +1.9**
LYN LuoYang 28.32 73 ⇑P **P** **15 25 44.4 +1.1**
LYN pmax pmax
comp=Z,41nm,0.8s
TIY Taiyuan 28.38 66 ⇑P **P** **15 25 45.6 +1.7**
TIY S **S** **15 30 35.0 +4.5**
TIY pmax pmax
comp=Z,30nm,0.5s
TIY pmax pmax
comp=Z,260nm,4.4s
TIY LR LR
comp=Z,270nm,11.8s
TIY LR LR
comp=Z,380nm,12.4s
TIY LR LR
comp=Z,330nm,13.5s
NAX Nakhchivan 28.73 297 P **P** **15 25 49.4 +2.4**
SVE Sverdlovsk 29.23 339 *e* P **P** **15 25 52.8 +1.7**
SVE pmax pmax
comp=Z,27nm,1.2s
GNI Garni 29.44 298 *de* P **P** **15 25 55.0 +1.7**
GNI pmax pmax
comp=Z,22nm,1.1s
GNI Garni 29.44 298 LR LR 15 41 11.4
comp=Z,55nm,19.1s,baz=106,slow=43
CNSH ChangSha 29.52 86 ⇑P **P** **15 25 51.5 -2.5**
CNSH pmax pmax
comp=Z,22nm,1.0s
ARU Arti 29.58 337 P **P** **15 25 55.0 +0.9**
ARU IAmb IAmb 15 25 56.5
comp=Z,28nm,1.1s
ARU Arti 29.58 337 *c i* P **P** **15 25 55.4 +1.2**
ARU 15 26 44.6
ARU S **S** **15 30 51.0 +2.3**
ARU SS **SnSn** **15 32 14.2 -2.7**
ARU pmax pmax
comp=Z,29nm,1.1s
ARU Arti 29.58 337 LR LR 15 38 37.6
comp=Z,419nm,19.0s,baz=138,slow=38
HNS HongShan 30.17 67 ⇑P **P** **15 26 00.7 +1.1**
HNS pmax pmax
comp=Z,12nm,0.6s
HNS LR LR
comp=Z,220nm,13.5s
HNS LR LR
comp=Z,450nm,13.3s
HNS LR LR
comp=Z,420nm,14.1s
WHN Wuhan 30.28 81 P **P** **15 26 01.7 +1.0**
WHN pP **pP** **15 26 06.0 +0.5**
WHN pmax pmax
comp=Z,140nm,0.8s
WHN LR LR
comp=Z,960nm,13.5s
ZEI Tsey 30.52 303 *e* P **P** **15 26 03.3 +0.4**
ZEI pmax pmax
comp=Z,24nm,1.4s
SIRT Sirnak 31.00 293 P **P** **15 26 08.0 +0.8**
KBZ Khabaz 31.43 305 ⇓ *i* P **P** **15 26 11.7 +1.0**
KBZ pmax pmax
comp=Z,31nm,3.2s
KBZ Khabaz 31.43 305 P **P** **15 26 10.3 -0.3**
comp=Z,4.2nm,0.7s,baz=114,slow=9.4,SNR=9.9
KBZ LR LR 15 41 27.1
comp=Z,77nm,20.9s,baz=110,slow=41
comp=Z,4.2nm,0.7s
NEUR Neytrino 31.47 304 *e* P **P** **15 26 14.2 +2.9**
BJT Baijiatuau 31.49 62 P **P** **15 26 13.0 +1.7**
BJI Beijing 31.50 62 P **P** **15 26 12.8 +1.5**
BJI pmax pmax
comp=Z,6.0nm,1.1s
BJI LR LR
comp=Z,130nm,13.4s
BJI LR LR
comp=Z,140nm,14.3s
BJI LR LR
comp=Z,270nm,19.2s
KIV Kislovodsk 31.63 305 *e* P **P** **15 26 12.6 0.0**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,86nm,15.0s
XLT XiLinHaoTe 32.02 55 *e* P **P** **15 26 17.3 +1.3**
XLT pmax pmax
comp=Z,28nm,1.0s
XLT pmax pmax
comp=Z,140nm,3.5s
XLT LR LR
comp=Z,460nm,8.0s
XLT LR LR
comp=Z,450nm,15.4s
SOC Sochi 33.67 304 *e* P **P** **15 26 28.1 -2.2**
SOC *e* 15 27 37.2
SOC *e* S **S** **15 31 51.0 -1.9**
SOC *e* SS **SnSn** **15 33 49.2 -7.4**
SOC MLR MLR
comp=Z,58nm,15.0s
NJ2 Nanjing 33.87 77 *e* P **P** **15 26 31.5 -0.6**
NJ2 pP **pP** **15 26 34.2 -2.8**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
NJ2 pmax pmax
comp=Z,130nm,6.2s
GSI Gunungsitoli 34.00 145 P **P** **15 26 33.7 +0.3**
GSI Gunungsitoli 34.00 145 P **P** **15 26 34.2 +0.8**
GSI Gunungsitoli 34.00 145 P **P** **15 26 33.2 -0.2**
comp=Z,85nm,0.8s
VRH Novokhopyorsk 34.44 318 *e* P **P** **15 26 37.8 +0.9**
VRH pmax pmax
comp=Z,33nm,0.6s
KIRV Kirov 34.53 333 *c e* P **P** **15 26 39.0 +1.4**
KIRV Kirov 34.53 333 LR LR 15 41 55.4
comp=Z,798nm,19.1s,baz=135,slow=38
ANN Anapa 35.49 305 *e* P **P** **15 26 41.9 -4.1**
ANN *e* *PP **pP** **15 26 45.0 -5.7**
ANN *e* 15 29 09.8
ANN *e* S **S** **15 32 15.9 -5.0**
ANN *e* SS **SnSn** **15 34 37.5 -3.1**
ANN pmax pmax
comp=Z,28nm,0.8s
PBSI Pulau Batu 35.52 146 P **P** **15 26 48.2 +1.6**
comp=Z,102nm,1.6s
HIA Hailar 35.78 47 P **P** **15 26 50.2 +1.6**
HIA IAmb IAmb 15 26 51.2
comp=Z,23nm,1.0s
HIA Hailar 35.78 47 P **P** **15 26 50.2 +1.6**
HIA Hailar 35.78 47 P **P** **15 26 50.2 +1.6**
HIA pmax pmax
comp=Z,23nm,1.0s
VSR Storozhevoye 35.94 317 *e* P **P** **15 26 47.4 -2.5**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORR Voronezh 36.07 317 *e* P **P** **15 26 49.7 -1.3**
VORR pmax pmax
comp=Z,20nm,1.0s
BOD Bodaibo 36.27 31 *e* P **P** **15 26 53.0 +0.4**
BOD pmax pmax
comp=Z,12nm,1.7s
LPSR Galich'ya Gora 36.56 319 *e* P **P** **15 26 53.3 -1.8**
LPSR pmax pmax
comp=Z,20nm,1.0s
MMAI Mount Meron Ar 37.02 285 P **P** **15 26 59.2 -0.1**
comp=Z,5.1nm,0.9s,baz=69,slow=15,SNR=1.8
MMAI PcP **PcP** **15 29 21.0 +0.8**
comp=Z,4.1nm,0.6s,baz=76,slow=6.1,SNR=2.1
comp=Z,5.1nm,0.9s
PDSI Padang 37.35 143 P **P** **15 27 01.5 -0.8**
comp=Z,24nm,0.7s,comp=Z,1μm
BR131 Keskin Array S 37.92 297 P **P** **15 27 07.9 +0.8**
BR131 Keskin Array S 37.92 297 *d i* P **P** **15 27 08.0 +1.0**
BRTR Keskin Array B 37.92 297 P **P** **15 27 06.9 -0.2**
BRTR Keskin Array B 37.92 297 *i* P **P** **15 27 08.1 +1.0**
BRTR pmax pmax
comp=Z,9.0nm,0.7s
BRTR Keskin Array B 37.92 297 P **P** **15 27 07.5 +0.4**
comp=Z,7.5nm,0.7s,baz=123,slow=10,SNR=32
comp=Z,7.5nm,0.7s
PRGR Permogore 37.96 335 *e* P **P** **15 27 05.6 -1.2**
PRGR pmax pmax
comp=Z,39nm,1.0s
EIL Elat 38.01 280 LR LR 15 46 32.0
comp=Z,136nm,18.8s,baz=126,slow=42
YULB Yu-li 38.11 90 IAmb IAmb 15 27 11.7
comp=Z,45nm,1.1s
YULB Yu-li 38.11 90 P **P** **15 27 11.3 +2.6**
TPRI Tanjung Pinang 38.12 136 P **P** **15 27 09.1 +0.4**
comp=Z,19nm,0.4s
MOS Moscow 38.46 323 *e* P **P** **15 27 11.0 -0.1**
MOS *e* 15 28 38.9
MOS *e* S **S** **15 33 02.3 -3.6**
MOS pmax pmax
comp=Z,53nm,1.1s
OBN Obninsk 38.78 322 ⇑P **P** **15 27 14.9 +1.1**
OBN Obninsk 38.78 322 P **P** **15 27 14.6 +0.8**
OBN Obninsk 38.78 322 ⇓ *i* P **P** **15 27 14.1 +0.3**
OBN *e* *PP **pP** **15 27 17.2 -1.3**
OBN *e* *SP **sP** **15 27 21.1 +0.6**
OBN *e* S **S** **15 33 11.4 +0.7**
OBN pmax pmax
comp=Z,84nm,1.3s
OBN MLR MLR
comp=Z,127nm,15.0s
KRJI Kerinci 38.87 143 P **P** **15 27 16.1 +0.9**
DSRI Dabo 39.27 137 P **P** **15 27 19.8 +1.4**
comp=Z,8.9nm,0.8s
KLMR Klimovskoe 39.92 331 *e* P **P** **15 27 20.5 -2.8**
KLMR AMP 15 27 25.2
comp=Z,76nm,1.2s
KLMR *e* PP **PP** **15 28 51.7 -3.2**
KLMR Klimovskoe 39.92 331 *e* P **P** **15 27 20.5 -2.8**
KLMR pmax pmax
comp=Z,76nm,1.2s
KS19 Wonju Array Si 40.63 67 P **P** **15 27 28.6 -0.9**
KS19 IAmb IAmb 15 27 37.9
comp=Z,80nm,1.6s
KSRS Korea Array 40.67 67 P **P** **15 27 29.2 -0.6**
comp=Z,8.8nm,0.8s,baz=274,slow=8.8,SNR=21
KSRS LR LR 15 46 35.4
comp=Z,351nm,18.6s,baz=260,slow=40
comp=Z,8.8nm,0.8s
HEH HeiHe 40.85 47 *e* P **P** **15 27 32.2 +1.0**
HEH pmax pmax
comp=Z,13nm,0.6s
HEH pmax pmax
comp=Z,500nm,5.5s
HEH LR LR
comp=Z,300nm,14.1s
HEH LR LR
comp=Z,320nm,14.1s
HEH LR LR
comp=Z,500nm,12.4s
ZEA Zeya 41.49 42 *e* P **P** **15 27 38.0 +1.7**
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.7s
ZEA MLR MLR
comp=Z,300nm,14.0s
TLCR 41.60 305 ⇑P **P** **15 27 38.0 +0.6**
TLCR 41.60 305 P **P** **15 27 38.0 +0.6**
MILM Milestii Mici 41.72 308 ⇑ *i* P **P** **15 27 38.6 +0.3**
comp=Z,36nm,0.5s
MILM Milestii Mici 41.72 308 ⇓P **P** **15 27 38.8 +0.5**
MILM Milestii Mici 41.72 308 *c i* P **P** **15 27 38.6 +0.3**
MILM *e* 15 27 45.0
MILM pmax pmax
comp=Z,36nm,0.5s
MDJ Mudanjiang 41.73 56 IAmb IAmb 15 27 40.2
comp=Z,98nm,1.8s
MDJ Mudanjiang 41.73 56 P **P** **15 27 39.2 +0.7**
MDJ Mudanjiang 41.73 56 P **P** **15 27 39.2 +0.7**
MDJ pP pP 15 27 42.3 -1.0
MDJ sP sP 15 27 43.5 -2.0
MDJ PP **PP** **15 29 16.6 +1.7**
MDJ ScP **ScP** **15 33 21.6 -3.2**
MDJ S **S** **15 34 00.8 +5.5**
MDJ pmax pmax
comp=Z,24nm,1.3s
MDJ pmax pmax
comp=Z,230nm,5.4s
TPGR Topolog 41.87 304 ⇑P **P** **15 27 40.4 +0.8**
AKASG Malin Array Be 41.91 313 P **P** **15 27 39.6 -0.2**
comp=Z,11nm,0.7s,baz=107,slow=9.5,SNR=44
AKASG PcP **PcP** **15 29 34.7 -0.5**
comp=Z,1.9nm,0.5s,baz=72,slow=3.9,SNR=2.3
AKASG LR LR 15 46 37.4
comp=Z,78nm,21.6s,baz=40,slow=38
comp=Z,11nm,0.7s
KIEV Kiev 41.91 313 ⇓P **P** **15 27 40.3 +0.4**
KIEV Kiev 41.91 313 P **P** **15 27 39.2 -0.6**
KIEV Kiev 41.91 313 P **P** **15 27 39.2 -0.6**
KIEV pmax pmax
comp=Z,16nm,0.7s
SBUM Sibu 42.01 125 P **P** **15 27 40.9 -0.2**
CFR Carcaliu 42.09 305 ⇑P **P** **15 27 41.8 +0.5**
CFR Carcaliu 42.09 305 P **P** **15 27 41.8 +0.5**
SORM Soroca 42.14 309 ⇑P **P** **15 27 42.1 +0.4**

SORM Soroca 42.14 309 P **P** **15 27 42.3 +0.6**
VLDR Vladesti 42.15 306 ⇑P **P** **15 27 43.3 +1.4**
HARR Harsova 42.21 304 ⇑P **P** **15 27 43.2 +0.7**
HARR Harsova 42.21 304 P **P** **15 27 43.1 +0.7**
MSHR Mys Shultsa 42.86 59 ⇓*i*P **P** **15 27 47.7 0.0**
MSHR pmax pmax
comp=Z,23nm,0.8s
JOW Kunigami 43.03 82 LR LR 15 48 03.0
comp=Z,129nm,18.8s,baz=288,slow=39
VRI Vrincioaia 43.10 306 ⇑P **P** **15 27 51.0 +1.3**
VRI Vrincioaia 43.10 306 P **P** **15 27 50.9 +1.3**
PLOR Plostina 43.15 306 ⇓P **P** **15 27 52.0 +1.9**
PLOR Plostina 43.15 306 P **P** **15 27 51.8 +1.7**
TESR Tescani 43.18 307 ⇓P **P** **15 27 51.3 +1.1**
RAZG Razgrad 43.23 303 ⇑P **P** **15 27 52.0 +1.3**
NEHR Nehoiu 43.39 305 ⇑P **P** **15 27 53.8 +1.8**
MNK Minsk 43.41 319 *i* P **P** **15 27 51.3 -0.7**
comp=E,19nm,1.0s
MNK *i* P **P** **15 27 51.3 -0.7**
comp=N,17nm,1.2s
MNK *i* P **P** **15 27 51.3 -0.7**
comp=Z,37nm,0.8s,baz=102
MNK *i* PP **PP** **15 29 31.6 -1.2**
MNK *i* PPP PPP 15 30 03.2
MNK *i* S **S** **15 34 20.0 +0.3**
MNK *i* SS **SS** **15 37 35.3 +1.9**
MNK *i* SSS SSS 15 38 12.8
MNK *i* LQ LQ 15 42 39.9
MNK *i* LR LR 15 45 38.7
MNK *i* LRM MLR 15 48 27.9
comp=N,186nm,16.4s
MNK *i* LRM MLR 15 48 53.7
comp=E,112nm,18.3s
MNK *i* LRM MLR 15 48 57.4
comp=Z,243nm,15.5s
MNK Minsk 43.41 319 *i* P **P** **15 27 51.3 -0.7**
MNK *i* 15 29 31.5
MNK *i* PPP PPP 15 30 03.2
MNK *i* S **S** **15 34 20.0 +0.3**
MNK *i* SSS SSS 15 38 12.8
MNK pmax pmax
comp=N,17nm,1.2s
MNK pmax pmax
comp=Z,37nm,0.8s
MNK pmax pmax
comp=E,19nm,1.0s
MNK MLR MLR
comp=N,186nm,16.0s
MNK MLR MLR
comp=E,112nm,18.0s
MNK MLR MLR
comp=Z,243nm,16.0s
USA0B Ussuriysk Arra 43.45 57 P **P** **15 27 52.8 +0.4**
USA0B Ussuriysk Arra 43.45 57*c* *i*P **P** **15 27 53.0 +0.6**
USRK Ussuriysk Ar. 43.45 57 P **P** **15 27 52.5 0.0**
USRK Ussuriysk Ar. 43.45 57 P **P** **15 27 52.8 +0.4**
comp=Z,11nm,0.4s,baz=262,slow=8.3,SNR=34
USRK PcP **PcP** **15 29 38.3 -2.2**
comp=Z,2.5nm,0.8s,baz=273,slow=3.9,SNR=2.2
USRK LR LR 15 47 32.4
comp=Z,377nm,18.3s,baz=260,slow=38
comp=Z,11nm,0.4s
COVR Voineasa-Covas 43.46 306 ⇓P **P** **15 27 54.5 +1.9**
KLR Kul'dur 43.50 49*c* *i*P **P** **15 27 53.3 +0.5**
KLR pmax pmax
comp=Z,13nm,0.6s
KLR Kul'dur 43.50 49 LR LR 15 47 26.8
comp=Z,538nm,19.2s,baz=268,slow=38
TURR Turia 43.60 306 ⇑P **P** **15 27 55.2 +1.5**
MLR Muntele Rosu 43.64 305 ⇓P **P** **15 27 55.0 +0.9**
MLR Muntele Rosu 43.64 305 P **P** **15 27 55.7 +1.6**
MLR Muntele Rosu 43.64 305 P **P** **15 27 55.7 +1.6**
MLR pmax pmax
comp=Z,37nm,0.7s
JNU Nakatsue 43.69 73 LR LR 15 47 51.8
comp=Z,256nm,18.5s,baz=310,slow=38
VALR Valaam 43.89 329*ce*P **P** **15 27 56.8 +1.1**
VALR pmax pmax
comp=Z,55nm,0.9s
DOPR Dopca 44.04 306 ⇑P **P** **15 27 58.3 +1.2**
NACGM Naroch 44.12 319 *e*P **P** **15 27 58.3 +0.6**
comp=Z,51nm,0.8s,baz=101
COPA Copaceanca 44.16 303 ⇑P **P** **15 27 59.7 +1.6**
BURAR Bucovina Array 44.21 308 ⇑P **P** **15 27 59.5 +0.9**
BURAR Bucovina Array 44.21 308 P **P** **15 27 59.1 +0.5**
BURAR Bucovina Array 44.21 308 P **P** **15 27 59.5 +0.9**
IDID Didziasalis 44.23 320 *e*P **P** **15 27 59.7 +1.2**
VOIR 44.27 305 ⇓P **P** **15 28 00.2 +1.0**
VOIR 44.27 305 P **P** **15 28 00.1 +1.0**
ARR Arges 44.56 305 ⇑P **P** **15 28 02.8 +1.4**
ARCR ARCALIA 44.77 308 ⇑P **P** **15 28 04.5 +1.4**
LOT Lotru 45.17 305 ⇑P **P** **15 28 07.6 +1.3**
YAK Yakutsk 45.19 31 P **P** **15 28 05.6 -0.5**
YAK Yakutsk 45.19 31 *e*P **P** **15 28 06.4 +0.3**
YAK *e**PP **pP** **15 28 09.2 -1.7**
YAK *e* 15 29 51.4
YAK *e*PPP PPP 15 30 31.4
YAK *e*S **S** **15 34 45.4 +0.1**
YAK *e*SS **ScS** **15 37 53.3 -9.2**
YAK pmax pmax
comp=Z,37nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,12nm,1.3s
YAK pmax pmax
comp=Z,288nm,6.4s
YAK pmax pmax
comp=N,247nm,5.5s
YAK pmax pmax
comp=E,270nm,6.4s
YAK smax smax
comp=E,360nm,8.4s
YAK smax smax
comp=N,206nm,10.6s
YAK MLR MLR
comp=N,100nm,23.0s
YAK MLR MLR
comp=E,93nm,20.0s
YAK Yakutsk 45.19 31 LR LR 15 48 34.5
comp=E,10nm,20.6s,baz=266,slow=38
LVZ Lovozero 45.43 338 P **P** **15 28 08.6 +0.6**
LVZ Lovozero 45.43 338*c* *i*P **P** **15 28 08.3 +0.3**
LVZ pmax pmax
comp=Z,62nm,1.3s
MARR Marisel-Cluj 45.62 307 ⇑P **P** **15 28 11.2 +1.3**
APA Apatity 45.67 337 ⇓*i*P **P** **15 28 08.3 -1.5**
APA pmax pmax
comp=Z,9.0nm,0.8s
APA MLR MLR
comp=Z,1μm,14.0s
PABE Paberze 45.82 319 *e*P **P** **15 28 12.2 +1.1**
GZR Gura Zlata 45.87 305 ⇓P **P** **15 28 12.4 +0.5**
GZR Gura Zlata 45.87 305 P **P** **15 28 12.3 +0.5**
VSVD Vaisvydziai 45.92 320 *e*P **P** **15 28 13.0 +1.0**
SUW Suwalki 46.05 317 *e*P **P** **15 28 14.1 +1.1**
FINES FINESS Array B 46.10 328 *i* P **P** **15 28 14.3 +1.0**
FINES pmax pmax
comp=Z,21nm,0.4s
FINES FINESS Array B 46.10 328 P **P** **15 28 14.1 +0.8**
comp=Z,21nm,0.4s,baz=114,slow=9.2,SNR=241
FINES LR LR 15 49 20.4
comp=Z,284nm,19.4s,baz=102,slow=38
comp=Z,21nm,0.4s
LEM Lembang 46.17 139 LR LR 15 52 19.0
comp=Z,140nm,18.4s,baz=338,slow=42
SURR Surduc 46.32 306 ⇓P **P** **15 28 16.3 +1.0**
MTSE Matsula 46.51 324 *e*P **P** **15 28 17.8 +1.3**
MEF Metsahovi 46.56 326 *e*P **P** **15 28 18.1 +1.1**
GRNR Gornyy 46.62 47 ⇑*i*P **P** **15 28 18.6 +1.0**
GRNR MLR MLR
comp=Z,440nm,14.0s
GRNR pmax pmax
comp=E,7.0nm,0.9s
GRNR pmax pmax
comp=Z,20nm,1.1s
SIRR Siria 46.63 306 ⇑P **P** **15 28 19.2 +1.5**
BZS Buzias 46.68 306 ⇑P **P** **15 28 18.8 +0.7**
BZS Buzias 46.68 306 P **P** **15 28 19.0 +0.9**
CRVS Cervenica-Dubn 46.76 310 *e*P **P** **15 28 20.8 +2.1**
CRVS Cervenica-Dubn 46.76 310 *e*P **P** **15 28 20.8 +2.1**
DIVS Divibare 47.92 304 P **P** **15 28 28.2 +0.3**
VADS Vadso 48.20 340 *e*P **P** **15 28 31.2 +1.6**
VYHS Vyhne 48.50 310 *e*P **P** **15 28 34.0 +1.8**
VYHS Vyhne 48.50 310 *e*P **P** **15 28 34.0 +1.8**
PDG Podgorica 48.61 301 ⇑P **P** **15 28 33.5 +0.3**
PDG Podgorica 48.61 301 IAmb IAmb 15 28 33.8
comp=Z,13nm,1.0s
MORH Mrgy, Hungar 48.72 307 ⇑P **P** **15 28 34.3 +0.4**
KEV Kevo 48.76 339 P **P** **15 28 34.5 +0.6**
KEV Kevo 48.76 339 P **P** **15 28 34.5 +0.6**
KEV pmax pmax
comp=Z,48nm,0.8s
TIXI Tiksi 48.95 19 P **P** **15 28 35.4 +0.1**
TIXI IAmb IAmb 15 28 37.3
comp=Z,16nm,1.0s
TIXI Tiksi 48.95 19 ⇓*i*P **P** **15 28 35.4 +0.1**
TIXI Tiksi 48.95 19 LR LR 15 51 23.8
comp=Z,43nm,18.7s,baz=221,slow=39
MAJO Matsushiro 48.95 66 ⇓*e*P **P** **15 28 35.6 -0.3**
MAJO pmax pmax
comp=Z,68nm,3.0s
MJAR Matsushiro Arr 48.95 66 P **P** **15 28 35.4 -0.5**
comp=Z,4.6nm,0.6s,baz=280,slow=9.9,SNR=12
MJAR LR LR 15 51 03.0
comp=Z,132nm,20.2s,baz=288,slow=38
comp=Z,4.6nm,0.6s
MPSI Mapaga 49.03 120 P **P** **15 28 37.1 +0.4**
comp=Z,13nm,1.0s,comp=Z,662nm
MAUC Maruska 49.14 311 *e*P **P** **15 28 38.6 +1.4**
ARA0 ARCESS Array S 49.15 338 *e*P **P** **15 28 38.6 +1.7**
ARCES ARCESS Array B 49.15 338 P **P** **15 28 37.9 +1.0**
ARCES ARCESS Array B 49.15 338 P **P** **15 28 37.9 +1.0**
ARCES pmax pmax
comp=Z,61nm,0.8s
ARCES ARCESS Array B 49.15 338 P **P** **15 28 38.1 +1.2**
comp=Z,46nm,0.6s,baz=112,slow=8.1,SNR=158
ARCES LR LR 15 50 24.0
comp=Z,324nm,18.6s,baz=98,slow=37
comp=Z,46nm,0.6s
JAVC Velka Javorina 49.26 310 *e*P **P** **15 28 39.7 +1.6**
MORC Moravsky Berou 49.32 311 ⇑P **P** **15 28 39.4 +0.8**
MORC Moravsky Berou 49.32 311 *e*P **P** **15 28 39.5 +1.0**
MORC Moravsky Berou 49.32 311 P **P** **15 28 39.3 +0.8**
DAV Davao City (W) 49.37 108 LR LR 15 51 31.9
comp=Z,67nm,18.8s,baz=307,slow=39
KTK1 Kautokeino 49.70 337 *e*P **P** **15 28 42.4 +1.3**
UPP Uppsala 49.83 325 *e*P **P** **15 28 43.0 +0.8**
VRAC Vranov 49.95 311 ⇓P **P** **15 28 44.6 +1.2**
VRAC Vranov 49.95 311 *e*P **P** **15 28 44.3 +1.0**
VRAC Vranov 49.95 311 P **P** **15 28 44.5 +1.2**
VRAC Vranov 49.95 311 LR LR 15 55 18.3
comp=Z,53nm,18.3s,baz=74,slow=43
DPC Dobruska-Polom 50.09 312 *e*P **P** **15 28 45.9 +1.5**
DPC Dobruska-Polom 50.09 312 *e*P **P** **15 28 45.9 +1.5**
KRUC Moravsky 50.09 310 *e*P **P** **15 28 45.0 +0.6**
VIKU Vikbolandet 50.15 323 *e*P **P** **15 28 45.3 +0.6**
OSTC Ostas 50.15 312 *e*P **P** **15 28 45.7 +0.8**
OSTC Ostas 50.15 312 *e*P **P** **15 28 45.7 +0.8**
HAMF Hammerfest 50.16 339 *e*P **P** **15 28 46.4 +1.9**
RONA Rosalia, Austr 50.23 309 *e*P **P** **15 28 45.7 +0.2**
comp=Z,2.2nm,1.0s
CHVC Chvalec 50.25 312 *e*P **P** **15 28 47.1 +1.5**
CHVC Chvalec 50.25 312 *e*P **P** **15 28 47.1 +1.5**
UPC Upice 50.28 312 *e*P **P** **15 28 46.6 +0.8**
UPC Upice 50.28 312 *e*P **P** **15 28 46.6 +0.8**
BLEU Blekinge 50.46 320 *i* P **P** **15 28 47.2 +0.2**
MRSI Marisa 50.48 118 P **P** **15 28 48.7 +1.0**
comp=Z,25nm,0.6s
CONA Conrad Observa 50.51 309 *i* P **P** **15 28 48.7 +1.0**
comp=Z,12nm,0.8s,SNR=8.3
KMBO Kilima Mbogo 50.78 239 P **P** **15 28 51.2 +1.0**
KMBO Kilima Mbogo 50.78 239 *i* P **P** **15 28 51.9 +1.6**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KMBO Kilima Mbogo 50.78 239 P **P** **15 28 50.5 +0.2**
comp=Z,1.4nm,0.4s,baz=49,slow=13,SNR=5.4
KMBO LR LR 15 50 27.7
comp=Z,217nm,18.3s,baz=94,slow=36
comp=Z,1.4nm,0.4s
ARSA Arzberg 50.79 308 *i* P **P** **15 28 50.4 +0.7**
comp=Z,7.4nm,1.1s
JETT Jettan, Norway 50.83 337 *e*P **P** **15 28 51.1 +1.3**
ABJI Asem Bagus 50.92 133 P **P** **15 28 52.5 +1.6**
comp=Z,43nm,1.1s
BSD Bornholm Skovb 50.93 318 *i* P **P** **15 28 52.5 +1.9**
BSD IAmb IAmb 15 28 54.0
comp=Z,29nm,0.7s
JHJ Hachijo jima 2 50.97 70 LR LR 15 52 19.4
comp=Z,185nm,19.3s,baz=263,slow=38
ASAJ Asahikawa 51.07 56 LR LR 15 52 23.8
comp=Z,302nm,18.9s,baz=332,slow=38
BOJS Bojanci 51.14 306 *i* P **P** **15 28 53.0 +0.6**
SOKA Soboth 51.17 307 *i* P **P** **15 28 53.7 +1.0**
comp=Z,15nm,0.9s,SNR=9.9
PVCC Panska Ves 51.20 312 *e*P **P** **15 28 54.2 +1.5**
PVCC Panska Ves 51.20 312 *e*P **P** **15 28 54.2 +1.5**
PRU Pruhonice 51.25 312 *e*P **P** **15 28 53.4 +0.3**
PRU Pruhonice 51.25 312 *e*P **P** **15 28 53.4 +0.3**
SGRT San Giovanni R 51.29 301 IAmb IAmb 15 28 54.6
comp=Z,24nm,0.8s
TRO Tromso 51.35 337 *e*P **P** **15 28 54.8 +1.3**
CKRC Cesky Krumlov 51.48 310 *e*P **P** **15 28 54.0 -0.9**
CKRC Cesky Krumlov 51.48 310 *e*P **P** **15 28 54.0 -0.9**
ZVC Zvikov 51.51 311 *e*P **P** **15 28 56.1 +1.0**
OBKA Obir 51.52 307 *e*P **P** **15 28 56.4 +1.1**
comp=Z,13nm,1.0s
CUC Castrocucco 51.53 299 IAmb IAmb 15 28 57.3
comp=Z,14nm,0.7s
DEL Delary 51.55 320 *i* P **P** **15 28 54.9 -0.3**
BRG Berggiesshubel 51.58 313 *e*P **P** **15 28 56.5 +0.9**
BRG Amp 15 28 58.5
comp=Z,11nm,0.8s
BRG Amp 15 53 21.0
comp=Z,0.3nm,16.6s
BRG Berggiesshubel 51.58 313 *e*P **P** **15 28 56.4 +0.9**
BRG pmax pmax
comp=Z,11nm,0.8s
BRG MLR MLR
comp=Z,270nm,16.6s
MOA Molln 51.59 309 *i* P **P** **15 28 56.3 +0.6**
comp=Z,11nm,0.8s
LUNU Lund 51.77 319 *i* P **P** **15 28 56.3 -0.6**
HFS Hagfors 51.82 325 P **P** **15 28 57.6 +0.4**
comp=Z,40nm,0.6s,baz=105,slow=9.3,SNR=101
HFS LR LR 15 52 27.9
comp=Z,106nm,19.4s,baz=83,slow=38
comp=Z,40nm,0.6s
GEC2 GERESS Array S 51.88 310 *e*P **P** **15 28 58.6 +0.7**
comp=Z,3.8nm,0.7s,baz=86,slow=7.3
GERES GERESS Array B 51.88 310 P **P** **15 28 57.0 -0.9**
comp=Z,3.1nm,0.6s,baz=65,slow=10,SNR=6.6
GERES PcP **PcP** **15 30 10.1 -0.6**
comp=Z,1.2nm,0.5s,baz=54,slow=5.0,SNR=1.7
comp=Z,3.1nm,0.6s
HSKC Hora Svate Kat 51.92 312 *e*P **P** **15 28 59.0 +0.8**
JAVS Javornik 51.93 306 *i* P **P** **15 28 59.0 +0.6**
KHC Kasperske Hory 51.93 311 *e*P **P** **15 28 59.6 +1.3**
KHC Kasperske Hory 51.93 311 ⇓*e*P **P** **15 28 57.5 -0.8**
BIOA Bad Ischl, Aus 52.02 309 *i* P **P** **15 28 59.7 +0.7**
comp=Z,6.0nm,0.9s
FAUS Fauske 52.10 334 *e*P **P** **15 29 00.2 +1.0**
CADS Cadrg 52.11 307 *i* P **P** **15 28 60.0 +0.3**
MYKA Terra Mystica 52.13 307 *i* P **P** **15 29 00.8 +0.9**
comp=Z,4.1nm,0.9s
CLL Collm 52.15 313 *i* P **P** **15 29 00.7 +0.9**
CLL AMS AMS 15 54 00.0
comp=Z,100nm,19.1s
CLL Collm 52.15 313 *i* P **P** **15 29 00.7 +0.9**
BORU Boraas 52.18 321 *i* P **P** **15 28 59.6 -0.3**
FABU Falkenberg 52.20 321 *i* P **P** **15 29 00.3 +0.2**
PRED Cave del Predi 52.21 307 IAmb IAmb 15 29 02.0
comp=Z,15nm,0.9s
MOR8 Moi Rana 52.21 332 *e*P **P** **15 29 00.4 +0.3**
STEI Steigen 52.23 335 *e*P **P** **15 29 01.1 +1.0**
SABO M.te Sabotino 52.24 307 P **P** **15 29 00.7 +0.1**
SABO IAmb IAmb 15 29 02.1
comp=Z,31nm,1.1s
KBA Koelnbreinsper 52.28 308 *i* P **P** **15 29 01.8 +0.7**
comp=Z,7.3nm,0.6s
TANN Tannenbergstha 52.55 312 *e*P **P** **15 29 03.6 +0.7**
comp=Z,28nm,1.5s,baz=86,slow=7.3
NKC Novy Kostel 52.58 312 *e*P **P** **15 28 59.3 -3.7**
INTR Introdacqua 52.60 302 IAmb IAmb 15 29 34.2
comp=Z,15nm,0.9s
WERD Werda 52.65 312 *e*P **P** **15 29 04.7 +1.2**
comp=Z,26nm,1.4s,baz=86,slow=7.3
LESA Schwarzleotal 52.70 309 *i* P **P** **15 29 04.5 +0.5**
comp=Z,10nm,0.6s
PLN Plauen 52.74 312 *e*P **P** **15 29 05.2 +1.0**
comp=Z,18nm,1.3s,baz=86,slow=7.3
ROTZ Rotzenmuhle 52.77 311 *e*P **P** **15 29 05.5 +1.0**
comp=Z,8.3nm,1.5s,baz=86,slow=7.3
KONS Konsvik 52.79 333 *e*P **P** **15 29 05.4 +1.1**
STOK Stokkvaagen 52.81 332 *e*P **P** **15 29 05.4 +1.0**
MANZ Manzenberg 52.81 312 *e*P **P** **15 29 06.3 +1.5**
comp=Z,2.9nm,0.9s,baz=86,slow=7.3
STAL STALIGIAL 52.82 307 IAmb IAmb 15 29 06.0
comp=Z,27nm,0.9s
NC405 NORSAR Array S 52.86 326 P **P** **15 29 05.3 +0.4**
CAMP Campotosto 52.88 302 IAmb IAmb 15 29 06.9
comp=Z,25nm,1.0s
ABTA Abfaltersbach 52.89 308 *i* P **P** **15 29 05.5 0.0**
comp=Z,6.0nm,0.8s
NC602 NORSAR Array S 52.93 325 *e*P **P** **15 29 05.9 +0.5**
NEUB Neuenburg 52.93 313 *e*P **P** **15 29 06.6 +1.0**
comp=Z,26nm,0.7s,baz=86,slow=7.3
CIMO Cimolais 53.00 307 IAmb IAmb 15 29 07.4
comp=Z,23nm,0.9s
FDMO Fiordimonte 53.03 303 P **P** **15 29 06.8 +0.3**
FDMO IAmb IAmb 15 29 10.6
comp=Z,18nm,0.7s
NRCA Norcia 53.04 303 IAmb IAmb 15 29 08.2
comp=Z,21nm,0.8s
STRU Stroemstad 53.05 323 *i* P **P** **15 29 05.7 -0.6**
MOX Moxa 53.07 313 *e*P **P** **15 29 07.6 +0.9**
comp=Z,24nm,1.4s,baz=86,slow=7.3
MOX *e*L L 15 54 46.6
comp=Z,108nm,20.0s
NB2 NORSAR Subarra 53.10 326 P **P** **15 29 06.9 +0.2**
comp=Z,22nm,0.8s,baz=94,slow=7.4
NB2 NORSAR Subarra 53.10 326 P **P** **15 29 06.9 +0.2**
baz=94,slow=7.4
NOA NORSAR Array B 53.10 326 P **P** **15 29 06.3 -0.4**
comp=Z,15nm,0.7s,baz=94,slow=7.2,SNR=55
NOA PcP **PcP** **15 30 15.2 +0.3**
comp=Z,0.3nm,0.4s,baz=90,slow=4.0,SNR=0.9
NOA LR LR 15 53 29.4
comp=Z,88nm,18.8s,baz=90,slow=38
comp=Z,15nm,0.7s
NC204 NORSAR Array S 53.33 326 IAmb IAmb 15 29 10.3
comp=Z,26nm,0.8s
GRF Grafenberg Arr 53.41 311 *e*L L 15 54 52.8
comp=Z,122nm,20.8s
WTTA Wattenberg 53.42 308 *e*P **P** **15 29 09.6 +0.1**
comp=Z,7.6nm,0.6s,SNR=5.7
WATA Walderalm 53.45 309 *i* P **P** **15 29 09.4 -0.3**
comp=Z,7.6nm,0.6s
CESX Cesi 53.47 303 IAmb IAmb 15 29 10.8
comp=Z,23nm,0.9s
CTI Castel Tesino 53.58 307 IAmb IAmb 15 29 11.8
comp=Z,11nm,0.7s
BSEG Bad Segeberg 53.63 317 *e*P **P** **15 29 11.9 +1.2**
comp=Z,33nm,0.8s,baz=86,slow=7.3
TEOL Teolo 53.66 306 P **P** **15 29 10.0 -1.1**
TEOL IAmb IAmb 15 29 12.9
comp=Z,27nm,0.9s
SQTA Sankt Quirin 53.72 308 *i* P **P** **15 29 11.4 -0.2**
comp=Z,11nm,0.6s,SNR=5.1
CLZ Clausthal 53.75 314 *e*P **P** **15 29 12.8 +1.1**
comp=Z,42nm,0.8s,baz=86,slow=7.3
MOTA Moosalm 53.77 309 *i* P **P** **15 29 11.9 -0.1**
comp=Z,15nm,0.7s,SNR=6.8
NRDL Niedersach Rie 53.86 315 *e*P **P** **15 29 13.5 +1.2**
comp=Z,36nm,0.8s,baz=86,slow=7.3
KONO Kongsberg 53.87 324 *e*P **P** **15 29 13.2 +0.9**
RETA Reutte 53.98 309 *i* P **P** **15 29 13.8 +0.3**
comp=Z,13nm,0.8s,SNR=5.6
GTTG Gottingen 54.03 314 *e*P **P** **15 29 14.8 +1.1**
comp=Z,30nm,0.8s,baz=86,slow=7.3
FETA Feichten 54.07 308 *i* P **P** **15 29 14.5 +0.3**
comp=Z,11nm,0.6s,SNR=6.7
DOMB Dombas 54.17 327 *e*P **P** **15 29 14.7 +0.2**
OSSC Osservatorio P 54.27 304 IAmb IAmb 15 29 16.4
comp=Z,16nm,0.8s
UBR Ueberruh 54.39 309 *e*P **P** **15 29 16.8 +0.3**
comp=Z,9.6nm,0.6s,baz=86,slow=7.3
SKAR Skarslia 54.52 325 *e*P **P** **15 29 18.4 +1.3**
DAVA Damuels 54.60 309 *i* P **P** **15 29 18.4 +0.3**
comp=Z,40nm,0.7s,SNR=14
DAVOX Davos/Dischmat 54.68 308 LR LR 15 56 14.2
comp=Z,45nm,19.0s,baz=76,slow=40
SPA0 Spitsbergen Ar 54.76 347 *e*P **P** **15 29 20.3 +1.7**
SPITS Spitsbergen Ar 54.76 347 P **P** **15 29 16.9 -1.7**
comp=Z,16nm,0.8s,baz=112,slow=11,SNR=10
SPITS PcP **PcP** **15 30 21.6 +0.6**
comp=Z,3.1nm,0.5s,baz=117,slow=8.7,SNR=1.5
SPITS LR LR 15 56 55.2
comp=Z,401nm,18.7s,baz=82,slow=41
comp=Z,16nm,0.8s
MOL Molde 54.88 328 *e*P **P** **15 29 21.2 +1.6**
MA2 Magadan 54.98 36 P **P** **15 29 20.8 +0.5**
MA2 Magadan 54.98 36 P **P** **15 29 21.3 +0.9**
MA2 Magadan 54.98 36*c* *i*P **P** **15 29 20.9 +0.5**
MA2 pmax pmax
comp=Z,72nm,0.9s
MA2 Magadan 54.98 36 LR LR 15 54 17.1
comp=Z,205nm,20.7s,baz=274,slow=38
SNART Snartemo 55.13 322 *e*P **P** **15 29 23.3 +1.8**
SNART Snartemo 55.13 322 *i* P **P** **15 29 22.0 +0.5**
AKN Aaknes 55.14 327 *e*P **P** **15 29 22.1 +0.6**
SANI Sanana 55.19 117 P **P** **15 29 21.9 -0.6**
SANI Sanana 55.19 117 P **P** **15 29 22.7 +0.2**
comp=Z,22nm,1.2s
IBBN Ibbenburen 55.31 315 *e*P **P** **15 29 24.1 +1.2**
comp=Z,32nm,0.8s,baz=86,slow=7.3
LBMI Labuha 55.47 115 P **P** **15 29 26.0 +1.4**
comp=Z,62nm,1.0s
SEY Seymchan 55.68 32 ⇓*i*P **P** **15 29 26.3 +0.9**
SEY pmax pmax
comp=Z,19nm,1.1s
SEY Seymchan 55.68 32 LR LR 15 55 33.4
comp=Z,148nm,20.2s,baz=320,slow=38
KBS Kingsbay 55.83 348 *e*P **P** **15 29 27.5 +1.2**
PGF Pioggiola 56.07 303 P **P** **15 29 27.7 -1.0**
BTNL Ternell 56.55 313 *d*P **P** **15 29 32.8 +0.9**
MEM Membach 56.62 313 *d*P **P** **15 29 32.4 +0.1**
comp=Z,9.3nm,0.6s
NLAI Namlea 56.80 118 P P 15 29 42.5 +8.5
SBF Sospel 56.91 305 P **P** **15 29 34.5 -0.1**
LPG La Plagne 57.05 307 P **P** **15 29 36.2 +0.4**
LPL La Plagne 57.06 307 P **P** **15 29 36.2 +0.4**
BCLA Clavier 57.10 313 *d*P **P** **15 29 36.5 +0.8**
BNI Bardonecchia 57.19 306 IAmb IAmb 15 29 38.6
comp=Z,25nm,1.1s
RCHB Rochefort 57.19 313 *d*P **P** **15 29 37.2 +0.8**
comp=Z,19nm,0.8s
MBDF Montbardon 57.19 306 P **P** **15 29 36.3 -0.4**
BGES Gesves 57.24 313 *d*P **P** **15 29 37.8 +1.1**
comp=Z,12nm,0.9s
GIVF Givet 57.45 313 P **P** **15 29 38.8 +0.5**
BMRD Maredsous 57.45 313 *d*P **P** **15 29 39.5 +1.2**
comp=Z,23nm,0.9s
KEST Kesra 57.50 295 P **P** **15 29 38.7 -0.2**
comp=Z,11nm,0.9s,baz=252,slow=1.9,SNR=8.4
comp=Z,11nm,0.9s
DOU Dourbes 57.60 313 *d*P **P** **15 29 40.5 +1.2**
comp=Z,18nm,0.9s
OPO Ambohidratompo 57.72 216 LR LR 15 50 10.1
comp=Z,148nm,21.5s,baz=201,slow=32
ORIF Oris-en-Rattie 57.77 306 P **P** **15 29 42.5 +1.8**
BAIF Baives 57.85 313 P **P** **15 29 41.5 +0.4**
SWI Sorong 58.58 112 P **P** **15 29 47.4 +0.8**
comp=Z,29nm,1.1s
LOR Lormes 58.63 310 P **P** **15 29 46.1 -0.5**
SMF Signal de Mont 58.78 309 P **P** **15 29 48.3 +0.6**
SSF Saint Saulge 58.91 309 P **P** **15 29 48.3 -0.3**
AVF Avril sur Loir 59.08 309 P **P** **15 29 49.4 -0.3**
BGF Bois d'Agland 59.47 309 P **P** **15 29 52.1 -0.3**
WACR West Acre 59.55 316 *e*P **P** **15 29 53.3 +0.5**
PETK Petropavlovsk- 59.55 43 P **P** **15 29 51.4 -1.4**
PETK Petropavlovsk- 59.55 43 P **P** **15 29 51.5 -1.3**
comp=Z,9.0nm,0.9s,baz=268,slow=2.7,SNR=21
PETK LR LR 15 56 53.7
comp=Z,90nm,18.2s,baz=267,slow=37
comp=Z,9.0nm,0.9s
DRUM Mains of Drumt 60.48 321 *e*P **P** **15 29 59.7 +0.6**
JMIC Jan Mayen 60.64 338 LR LR 15 55 25.0
comp=Z,78nm,20.0s,baz=50,slow=35
MCD Coleburn Disti 60.76 322 *e*P **P** **15 30 01.5 +0.5**
MCD IAmb IAmb 15 30 02.5
comp=Z,58nm,0.7s
NOR Nord 60.78 350 *i* P **P** **15 30 01.1 +0.2**
NOR IAmb IAmb 15 30 03.2
comp=Z,22nm,0.7s

LBWR Ladybower, Pea 60.79 317 *e*P P 15 30 01.8 +0.5
LBWR IAmb IAmb 15 30 03.1
comp=Z,74nm,1.2s
LDF La Druitiere 60.93 312 P P 15 30 02.0 -0.4
BILL Bilibino 60.97 25 P P 15 30 02.8 +0.5
BILL IAmb IAmb 15 30 10.4
comp=Z,12nm,1.0s
BILL Bilibino 60.97 25 *e*P P 15 30 02.9 +0.5
EKA Eskdalemuir Ar 61.18 320 P P 15 30 03.5 -0.5
comp=Z,9.2nm,0.6s,baz=99,slow=7.2,SNR=34
comp=Z,9.2nm,0.6s
ESK Eskdalemuir 61.21 320 *e*P P 15 30 04.2 0.0
MFF Saint Martin d 61.46 310 P P 15 30 05.6 -0.4
HLM1 Long Mynd 61.68 317 *e*P P 15 30 08.0 +0.6
FOEL Foel Wylfa 61.78 317 *e*P P 15 30 08.3 +0.2
FOEL IAmb IAmb 15 30 09.8
comp=Z,36nm,0.7s
NEWG New Galloway 61.83 320 *e*P P 15 30 08.3 0.0
NEWG IAmb IAmb 15 30 09.8
comp=Z,30nm,0.8s
MCH1 Michaelchurch 61.88 316 *e*P P 15 30 08.2 -0.5
MCH1 IAmb IAmb 15 30 09.1
comp=Z,38nm,0.8s
KPL Plockton 62.08 322 *e*P P 15 30 10.3 +0.4
EPF Esparros 62.12 306 P P 15 30 09.7 -0.9
LAWE Loch Awe, Argy 62.20 321 *e*P P 15 30 11.3 +0.5
LAWE IAmb IAmb 15 30 12.2
comp=Z,22nm,0.8s
DAG Danmarks Havn 62.22 345 *i*P P 15 30 10.9 +0.3
DAG IAmb IAmb 15 30 12.4
comp=Z,14nm,0.8s
SAUI Saumlaki 63.03 119 P P 15 30 19.3 +2.4
SAUI Saumlaki 63.03 119 P P 15 30 17.3 +0.4
comp=Z,75nm,1.1s
DBG Daneborg 63.30 343 *i*P P 15 30 18.0 +0.2
DBG IAmb IAmb 15 30 20.2
comp=Z,13nm,0.7s
CART Cartagena 64.82 300 P P 15 30 26.9 -1.5
SCO Scoresbysund 65.07 339 *i*P P 15 30 30.7 +1.2
SCO IAmb IAmb 15 30 32.2
comp=Z,7.7nm,0.6s
ESBB Sonseca Array 66.27 303 P P 15 30 38.1 +0.3
ESBB IAmb IAmb 15 30 39.4
comp=Z,15nm,0.9s
ESDC Sonseca Array 66.27 303 IAmb IAmb 15 30 39.3
comp=Z,11nm,1.0s
ESDC Sonseca Array 66.27 303 P P 15 30 37.6 -0.3
comp=Z,11nm,0.8s,baz=60,slow=7.0,SNR=88
comp=Z,11nm,0.8s
PAB San Pablo 66.59 303 P P 15 30 40.4 +0.4
PAB San Pablo 66.59 303 P P 15 30 40.4 +0.4
PAB pmax pmax
comp=Z,19nm,0.9s
LSZ Lusaka 66.91 235 LR LR 15 58 09.0
comp=Z,77nm,21.1s,baz=62,slow=34
BORG Borgarnes 67.01 333 LR LR 16 00 18.3
comp=Z,195nm,19.1s,baz=42,slow=36
MVO Moncorvo 67.91 306 *e*P P 15 30 49.5 +1.2
comp=Z,28nm,1.1s
NEEM North Greenlan 68.13 350 *i*P P 15 30 49.5 +0.1
NEEM IAmb IAmb 15 30 51.3
comp=Z,33nm,0.7s
MTE Manteigas 68.56 305 *e*P P 15 30 53.5 +1.1
comp=Z,28nm,1.3s
MTE Manteigas 68.56 305 P P 15 30 53.3 +0.9
PVIS Viseu 68.69 305 *e*P P 15 30 54.3 +1.2
PCBR Castelo Branco 68.72 304 *e*P P 15 30 54.5 +1.2
comp=Z,18nm,1.6s
SUMG Summit 68.73 343 P P 15 30 54.0 +0.7
SUMG Summit 68.73 343 P P 15 30 54.0 +0.7
SUMG pmax pmax
comp=Z,47nm,1.2s
SUMG Summit 68.73 343 *i*P P 15 30 54.0 +0.7
SUMG IAmb IAmb 15 30 55.3
comp=Z,15nm,0.6s
PMRV Marv??o 68.82 304 *e*P P 15 30 54.9 +0.9
comp=Z,14nm,1.6s
PBAR Barrancos 69.05 303 *e*P P 15 30 56.4 +1.0
comp=Z,37nm,0.8s
SOEG Soedalen 69.07 338 *i*P P 15 30 56.6 +1.7
SOEG IAmb IAmb 15 30 58.2
comp=Z,11nm,0.7s
SHEM Shemya Is, Ala 69.13 40 LR LR 16 03 38.0
comp=Z,79nm,20.4s,baz=290,slow=38
PESTR Estremoz 69.18 304 *e*P P 15 30 56.7 +0.5
comp=Z,15nm,1.1s
TABU Tabudil 69.19 110 P P 15 30 58.6 +2.0
PMTG Montargil 69.56 304 *e*P P 15 30 58.9 +0.4
comp=Z,16nm,1.6s
EVO Evora 69.62 303 *e*P P 15 31 00.0 +1.1
comp=Z,18nm,2.3s
PBEJ Beja 69.71 303 *e*P P 15 31 00.4 +0.9
comp=Z,18nm,1.6s
PSBE So Bento 69.79 305 *e*P P 15 31 01.1 +1.1
comp=Z,27nm,1.9s
PCVE Castro Verde 69.99 302 *e*P P 15 31 02.1 +0.9
comp=Z,24nm,1.9s
MESJ Messejana 70.04 303 *e*P P 15 31 02.5 +1.0
comp=Z,46nm,1.3s
MESJ Messejana 70.04 303 IAmb IAmb 15 31 03.3
comp=Z,20nm,0.7s
MESJ Messejana 70.04 303 *e*P P 15 31 02.6 +1.0
MESJ IAmb IAmb 15 31 03.4
comp=Z,22nm,0.5s
MESJ Messejana 70.04 303 *e*P P 15 31 02.5 +1.0
PBDV Barranco-do-Ve 70.07 302 *e*P P 15 31 02.8 +1.1
comp=Z,54nm,2.0s
PNCL Nicolau / Gran 70.16 303 *e*P P 15 31 03.3 +1.1
comp=Z,22nm,1.5s
PTEO Sao Teotonio 70.53 303 *e*P P 15 31 05.5 +1.0
comp=Z,56nm,1.4s
C16K Lisburne Hills 70.64 21 P P 15 31 03.4 -1.2
baz=304
A19K Wainwright 70.73 18 P P 15 31 03.7 -1.4
baz=308
PFVI Vila Bisbo 70.77 302 *e*P P 15 31 07.0 +1.0
comp=Z,115nm,1.5s
GAMB Gambell 70.87 26 P P 15 31 04.7 -1.3
baz=300
B18K Kokolik River 71.04 19 P P 15 31 07.2 +0.2
baz=307
ICESG Greenland Ices 71.11 341 *i*P P 15 31 08.3 +0.4
ICESG IAmb IAmb 15 31 10.2
comp=Z,30nm,0.8s
C17K DeLong Mountai 71.18 20 P P 15 31 07.8 -0.1
baz=306
RDOG Red Dog Mine 71.51 20 P P 15 31 09.8 -0.1
baz=307
C18K Utukok River 71.65 20 P P 15 31 11.3 +0.4
baz=308
D17K Noatak River 71.67 21 P P 15 31 11.0 +0.2
baz=306
A22K Sinclair Lake 71.77 16 P P 15 31 11.9 +0.5
baz=313
C19K Lookout Ridge 71.82 19 P P 15 31 12.1 +0.2
baz=309
B20K Meade River 71.89 18 P P 15 31 12.3 +0.2
baz=311
F15K North Star Dit 72.35 23 P P 15 31 16.0 +1.1
baz=306
E17K Hotham Inlet 72.43 21 P P 15 31 16.1 +0.6
baz=308
E18K Tukpahlearik C 72.59 20 IAmb IAmb 15 31 17.9
comp=Z,21nm,1.0s
E18K Tukpahlearik C 72.59 20 P P 15 31 16.6 +0.3
baz=309
B22K Teshekpuk Lake 72.61 16 P P 15 31 16.8 +0.4
baz=314
D19K Kuna River 72.63 19 P P 15 31 17.1 +0.4
baz=311,SNR=7.9
TOA0 Torodi Ar. Sit 72.68 275 P P 15 31 17.5 -0.3
TOA0 IAmb IAmb 15 31 18.6
comp=Z,10nm,0.7s
TORD Torodi Ar. Bea 72.68 275 P P 15 31 17.5 -0.3
TORD Torodi Ar. Bea 72.68 275 P P 15 31 17.3 -0.5
comp=Z,9.9nm,0.5s,baz=50,slow=5.9,SNR=83
TORD LR LR 16 08 03.1
comp=Z,87nm,18.6s,baz=130,slow=40
comp=Z,9.9nm,0.5s
ANM Nome 72.77 24 P P 15 31 18.8 +1.4
baz=305
B21K Ikpikpuk River 72.81 17 P P 15 31 18.2 +0.5
baz=313
D20K Etivluk River 72.90 18 P P 15 31 18.6 +0.3
baz=312,SNR=7.6
G15K Niukluk 72.97 23 P P 15 31 19.4 +0.7
baz=306

F17K Baldwin Pennin 73.01 21 IAmb IAmb 15 31 20.9
comp=Z,25nm,1.0s
F17K Baldwin Pennin 73.01 21 P P 15 31 19.9 +1.0
baz=308,SNR=7.1
WB0 Warramunga Arr 73.02 126 IAmb IAmb 15 31 30.2
comp=Z,13nm,0.8s
C21K Knifeblade Rid 73.08 18 P P 15 31 19.7 +0.4
baz=313
WRA Warramunga Arr 73.10 126 P P 15 31 19.7 -0.4
comp=Z,240nm,1.2s,baz=320,slow=5.7,SNR=7.7
WRAB Tennant Creek 73.10 126 P P 15 31 19.4 -0.7
WRAB IAmb IAmb 15 31 28.0
comp=Z,12nm,0.7s
WRAB Tennant Creek 73.10 126 P P 15 31 19.4 -0.7
WRAB pmax pmax
comp=Z,12nm,0.7s
WB2 Warramunga Arr 73.11 126 IAmb IAmb 15 31 27.9
comp=Z,14nm,0.7s
G16K Koyuk River 73.30 23 P P 15 31 21.2 +0.6
baz=308
E20K Nigu River 73.32 19 P P 15 31 21.1 +0.3
baz=312
E19K Redstone River 73.56 20 P P 15 31 22.2 0.0
baz=312
C23K Itkillik River 73.64 16 P P 15 31 23.0 +0.4
baz=317
G17K Kiwalik Mounta 73.79 22 P P 15 31 24.1 +0.6
baz=309
E21K Killik River 73.79 18 P P 15 31 23.5 0.0
baz=314
H16K Elim 73.81 23 P P 15 31 24.6 +1.0
baz=308
D22K Ayikyak River 73.82 17 IAmb IAmb 15 31 25.0
comp=Z,12nm,0.8s
D22K Ayikyak River 73.82 17 P P 15 31 23.9 +0.2
baz=315
F19K Shaleruckik Mo 73.82 20 IAmb IAmb 15 31 24.6
comp=Z,25nm,1.4s
F19K Shaleruckik Mo 73.82 20 P P 15 31 23.4 -0.2
baz=311
G18K Tagagawik 74.17 21 P P 15 31 26.2 +0.4
baz=311
C24K Franklin Bluff 74.17 16 P P 15 31 25.9 +0.2
baz=318
D23K Nanushuk River 74.26 17 P P 15 31 26.3 +0.1
baz=317
F20K Avaraart Lake 74.27 19 P P 15 31 26.5 +0.3
baz=313
H17K Granite Mounta 74.39 22 IAmb IAmb 15 31 28.9
comp=Z,16nm,0.9s
H17K Granite Mounta 74.39 22 P P 15 31 27.6 +0.5
baz=310
G19K Purcell Mounta 74.49 21 P P 15 31 27.8 +0.2
baz=312
J14K Nanuyaranak Lak 74.50 25 P P 15 31 28.6 +1.0
baz=307
D24K Happy Valley 74.57 16 P P 15 31 27.8 -0.2
baz=318
E22K Anaktuvuk Pass 74.58 18 P P 15 31 28.0 -0.1
baz=316,SNR=8.6
K13K Kusilvak Mount 74.58 26 P P 15 31 28.7 +0.5
baz=307
DY2G Dye2 74.72 340 *i*P P 15 31 29.5 +0.3
DY2G IAmb IAmb 15 31 30.8
comp=Z,18nm,0.5s
H18K Honhosa River 74.75 22 P P 15 31 29.5 +0.4
baz=311
TOLK Toolik Lake Re 74.78 17 P P 15 31 29.6 +0.3
baz=318,SNR=19
F21K Alatna River 74.78 19 IAmb IAmb 15 31 30.6
comp=Z,25nm,1.4s
F21K Alatna River 74.78 19 P P 15 31 29.7 +0.4
baz=315
I17K Unalakleet 74.80 23 IAmb IAmb 15 31 31.7
comp=Z,22nm,1.1s
I17K Unalakleet 74.80 23 P P 15 31 30.7 +1.3
baz=309
C26K Camden Bay 74.87 14 P P 15 31 30.4 +0.7
baz=322
M11K Mekoryuk 74.90 28 P P 15 31 30.5 +0.5
baz=306
RES Resolute Bay 74.91 358 LR LR 16 08 10.0
comp=Z,120nm,19.5s,baz=356,slow=39
F22K Jon River 74.94 18 P P 15 31 30.6 +0.4
baz=316
D25K Kavik River 75.01 15 IAmb IAmb 15 31 32.6
comp=Z,17nm,1.2s
D25K Kavik River 75.01 15 P P 15 31 30.9 +0.3
baz=320
H19K Roundabout Mou 75.10 21 P P 15 31 30.5 -0.5
H19K Roundabout Mou 75.10 21 P P 15 31 31.8 +0.7
baz=313
E23K Chandalar 75.20 17 P P 15 31 32.0 +0.2
baz=318
J16K Anvik River 75.22 24 P P 15 31 33.2 +1.4
baz=310,SNR=12
G21K Allakaket 75.28 19 P P 15 31 32.1 0.0
baz=315,SNR=5.7
ASAR Alice Springs 75.32 129 P P 15 31 32.4 -0.6
ASAR Alice Springs 75.32 129 P P 15 31 32.4 -0.6
ASAR Alice Springs 75.32 129 P P 15 31 32.2 -0.8
comp=Z,2.5nm,0.4s,baz=316,slow=6.3,SNR=103
comp=Z,2.5nm,0.4s
LBTB Lobatse 75.38 229 P P 15 31 33.3 -0.1
LBTB Lobatse 75.38 229 P P 15 31 33.3 -0.1
LBTB pmax pmax
comp=Z,55nm,1.9s
E24K Your Creek 75.47 17 IAmb IAmb 15 31 34.7
comp=Z,14nm,1.1s
E24K Your Creek 75.47 17 P P 15 31 33.6 +0.3
baz=319
GCSA Galena City Sc 75.49 22 P P 15 31 33.9 +0.5
baz=312
K15K Wolf Creek Mou 75.52 25 P P 15 31 34.9 +1.3
baz=309
G22K Bettles 75.54 18 P P 15 31 33.8 +0.1
baz=316
SFJD Kangerlussuaq 75.57 342 P P 15 31 33.7 -0.1
SFJD Kangerlussuaq 75.57 342 P P 15 31 33.7 -0.1
SFJD pmax pmax
comp=Z,53nm,1.1s
SFJD Kangerlussuaq 75.57 342 *i*P P 15 31 33.2 -0.6
SFJD Kangerlussuaq 75.57 342 LR LR 16 09 14.4
comp=Z,76nm,18.8s,baz=31,slow=39
H20K Anotleneega Mo 75.60 20 P P 15 31 34.2 +0.2
baz=314
COLD Coldfoot 75.67 18 P P 15 31 34.8 +0.4
baz=318,SNR=11
L14K Kuka Creek 75.69 26 P P 15 31 35.3 +0.8
baz=308
L15K Ungalak Mounta 75.93 25 P P 15 31 36.9 +1.0
baz=309
M13K Dall Lake 76.01 27 P P 15 31 37.5 +1.1
baz=308
F24K Squaw Lake 76.04 17 IAmb IAmb 15 31 38.1
comp=Z,24nm,1.6s
F24K Squaw Lake 76.04 17 P P 15 31 36.6 +0.1
baz=320
H21K Melozitna Rive 76.09 20 IAmb IAmb 15 31 38.4
comp=Z,20nm,1.0s
H21K Melozitna Rive 76.09 20 P P 15 31 37.2 +0.4
baz=316,SNR=15
G23K Bananza Creek 76.10 18 P P 15 31 37.2 +0.3
baz=318
E25K Arctic Village 76.13 16 P P 15 31 37.2 +0.1
baz=321,SNR=7.7
I20K Naaghedeneel 76.21 21 P P 15 31 37.9 +0.5
baz=314
D27M Malcolm River 76.24 14 P P 15 31 38.0 +0.4
baz=325,SNR=7.4
A36M Sachs Harbour 76.30 8 IAmb IAmb 15 31 38.7
comp=Z,16nm,0.7s
A36M Sachs Harbour 76.30 8 P P 15 31 37.9 0.0
baz=338,SNR=14
H22K Ishtalitna Cre 76.33 19 P P 15 31 38.4 +0.2
baz=317
M14K Bethel 76.34 26 P P 15 31 39.3 +1.1
baz=309,SNR=6.2
PMG Port Moresby 76.37 110 P P 15 31 38.9 -0.2
PMG IAmb IAmb 15 31 42.5
comp=Z,18nm,0.8s
PMG Port Moresby 76.37 110 P P 15 31 40.0 +0.8
PMG Port Moresby 76.37 110 P P 15 31 39.8 +0.6
PMG Port Moresby 76.37 110 *e*P P 15 31 40.0 +0.8
PMG pmax pmax
comp=Z,19nm,0.8s
K17K Iditarod 76.39 24 P P 15 31 39.6 +1.1
baz=312,SNR=19

J19K Poorman 76.41 22 IAmb IAmb 15 31 40.5
comp=Z,17nm,1.1s
J19K Poorman 76.41 22 P P 15 31 39.5 +0.9
baz=314
J18K Innoko River 76.42 22 IAmb IAmb 15 31 40.4
comp=Z,13nm,1.0s
J18K Innoko River 76.42 22 P P 15 31 39.4 +0.7
baz=313
F25K Christian Rive 76.53 16 P P 15 31 39.9 +0.5
baz=321,SNR=6.8
D28M Stokes Point 76.61 13 P P 15 31 40.0 +0.4
baz=327,SNR=15
L16K Owhat River 76.64 25 IAmb IAmb 15 31 42.4
comp=Z,14nm,0.9s
L16K Owhat River 76.64 25 P P 15 31 41.2 +1.2
baz=311
I21K Tanana 76.68 20 IAmb IAmb 15 31 41.7
comp=Z,14nm,1.1s
I21K Tanana 76.68 20 P P 15 31 40.8 +0.6
baz=316,SNR=8.4
J20K Nowinta River 76.75 21 IAmb IAmb 15 31 42.3
comp=Z,16nm,1.1s
J20K Nowinta River 76.75 21 P P 15 31 41.3 +0.8
baz=315,SNR=6.1
G24K Hadweenzic Riv 76.77 17 IAmb IAmb 15 31 42.4
comp=Z,19nm,1.2s
G24K Hadweenzic Riv 76.77 17 P P 15 31 41.2 +0.5
baz=320
L17K Donlin 76.78 24 P P 15 31 42.0 +1.3
baz=312
F26K Sheenjek River 76.80 16 P P 15 31 41.0 +0.2
baz=323
M15K Kasigluk River 76.86 26 P P 15 31 42.0 +0.8
baz=310
BMAR Burnt Mountain 76.91 16 P P 15 31 42.0 +0.5
N14K Kuskokwak Cree 76.97 27 P P 15 31 42.7 +0.9
baz=309
E27K Coleen River 76.97 14 P P 15 31 42.1 +0.2
baz=325,SNR=9.3
TTA Tatalina 77.02 23 P P 15 31 42.1 -0.1
baz=314
E28M Babbage River 77.06 14 P P 15 31 42.1 -0.1
baz=326
G25K Bearman Lake 77.07 17 P P 15 31 43.0 +0.7
baz=321
TSUM Tsumeb 77.11 238 LR LR 16 06 50.9
comp=Z,150nm,18.7s,baz=329,slow=37
MLY Manley 77.14 19 IAmb IAmb 15 31 44.1
comp=Z,18nm,1.2s
MLY Manley 77.14 19 P P 15 31 43.1 +0.3
baz=318,SNR=10
QIS Mount Isa 77.23 123 P P 15 31 44.0 +0.1
L18K Granite Mounta 77.28 23 IAmb IAmb 15 31 45.7
comp=Z,17nm,1.1s
L18K Granite Mounta 77.28 23 P P 15 31 44.4 +0.8
baz=313,SNR=8.3
M16K Timber Creek 77.28 25 IAmb IAmb 15 31 46.0
comp=Z,14nm,0.8s
M16K Timber Creek 77.28 25 P P 15 31 44.9 +1.3
baz=311
H24K Noodor Dome 77.33 18 IAmb IAmb 15 31 45.5
comp=Z,24nm,1.4s
H24K Noodor Dome 77.33 18 P P 15 31 44.6 +0.7
baz=320
K20K Telida 77.35 22 IAmb IAmb 15 31 45.9
comp=Z,18nm,1.1s
K20K Telida 77.35 22 P P 15 31 44.7 +0.7
baz=315
N15K Kwethluk River 77.42 26 P P 15 31 45.3 +0.9
baz=311
I23K Minto, Yukon-K 77.45 19 IAmb IAmb 15 31 45.9
comp=Z,24nm,1.6s
I23K Minto, Yukon-K 77.45 19 P P 15 31 44.7 +0.3
baz=319,SNR=5.5
G26K Porcupine Rive 77.48 16 P P 15 31 44.9 +0.3
baz=323
CHUM Lake Minchumin 77.52 21 P P 15 31 44.8 0.0
baz=316
O14K Tigyukauivet M 77.56 27 P P 15 31 46.1 +1.0
baz=310
E29M Blow River 77.57 13 IAmb IAmb 15 31 46.5
comp=Z,14nm,0.8s
E29M Blow River 77.57 13 P P 15 31 45.8 +0.7
baz=328
M17K Holitna River 77.58 24 P P 15 31 45.7 +0.4
M17K Holitna River 77.58 24 P P 15 31 47.0 +1.7
baz=313
N16K Nishlik Lake 77.72 25 P P 15 31 47.0 +0.9
baz=312
BPAW Bear Paw Mtn. 77.76 20 IAmb IAmb 15 32 14.9
comp=Z,15nm,1.2s
BPAW Bear Paw Mtn. 77.76 20 P P 15 31 46.1 -0.2
baz=317
F28M Old Crow 77.82 14 P P 15 31 46.8 +0.3
baz=326,SNR=7.1
MDM Murphy Dome 77.91 19 IAmb IAmb 15 31 48.1
comp=Z,13nm,1.0s
L19K White Mountain 77.92 23 P P 15 31 47.8 +0.6
L19K IAmb IAmb 15 31 49.5
comp=Z,14nm,1.1s
L19K White Mountain 77.92 23 P P 15 31 47.8 +0.6
baz=314
CAST Castle Rocks 77.93 21 P P 15 31 47.7 +0.5
baz=317,SNR=11
NEA2 Nenana 77.95 19 IAmb IAmb 15 31 48.1
comp=Z,19nm,0.8s
NEA2 Nenana 77.95 19 P P 15 31 47.3 +0.1
baz=319,SNR=18
POKR Poker Plat Res 78.00 18 IAmb IAmb 15 31 48.9
comp=Z,16nm,0.8s
POKR Poker Plat Res 78.00 18 P P 15 31 47.8 +0.2
baz=320,SNR=8.9
NIKH Nikolski High 78.02 35 P P 15 31 47.8 0.0
baz=305
L20K Farewell, AK 78.04 22 P P 15 31 48.4 +0.5
baz=315
COLA College 78.08 19 P P 15 31 47.7 -0.2
COLA IAmb IAmb 15 31 48.9
comp=Z,18nm,0.9s
COLA College 78.08 19 P P 15 31 47.8 -0.2
COLA College 78.08 19 P P 15 31 47.9 0.0
baz=320
COLA College 78.08 19 P P 15 31 47.7 -0.2
COLA pmax pmax
comp=Z,18nm,0.9s
M18K Stony River 78.08 24 P P 15 31 49.0 +1.0
baz=314
G27K Doyon Strip 78.09 15 P P 15 31 48.5 +0.4
baz=325
BOSA Boshof 78.11 227 P P 15 31 47.9 -0.9
BOSA IAmb IAmb 15 31 48.6
comp=Z,25nm,1.4s
BOSA Boshof 78.11 227 P P 15 31 47.9 -0.9
BOSA pmax pmax
comp=Z,25nm,1.4s
BOSA Boshof 78.11 227 P P 15 31 47.2 -1.5
comp=Z,2.8nm,0.5s,baz=37,slow=4.1,SNR=14
BOSA LR LR 16 02 21.6
comp=Z,97nm,21.8s,baz=32,slow=33
comp=Z,2.8nm,0.5s
BWN Browne 78.15 20 IAmb IAmb 15 31 50.7
comp=Z,18nm,0.9s
O15K Ungalikthiuk R 78.17 27 P P 15 31 49.4 +0.8
baz=311
PRP Porcupine Dome 78.19 17 P P 15 31 49.1 +0.3
baz=322
N17K Nushagak Hills 78.26 25 P P 15 31 49.6 +0.6
baz=313
CCB Clear Creek Bu 78.26 19 IAmb IAmb 15 32 08.2
comp=Z,29nm,1.9s
PPLA Purkeypile 78.28 21 P P 15 31 49.1 -0.2
baz=317
ILAR Eielson Array 78.42 18 P P 15 31 49.1 -0.7
comp=Z,6.5nm,0.8s,baz=308,slow=5.3,SNR=66
ILAR PP PP 15 34 45.4 -1.1
comp=Z,3.0nm,0.8s,baz=311,slow=8.4,SNR=12
ILAR LR LR 16 11 12.9
comp=Z,268nm,19.1s,baz=308,slow=39
comp=Z,6.5nm,0.8s
TRF Thorofare Moun 78.45 20 P P 15 31 50.4 +0.1
baz=318
INK Inuvik 78.46 12 P P 15 31 49.8 -0.1
baz=332,SNR=7.2
INK Inuvik 78.46 12 LR LR 16 13 09.8
comp=Z,39nm,19.5s,baz=6.0,slow=41
O16K Kokwok River B 78.56 26 P P 15 31 51.6 +0.9
baz=312
H27K Steamboat Moun 78.60 16 P P 15 31 50.8 -0.1

baz=325
N18K Kilae Creek 78.62 24 P P 15 31 51.9 +0.8
baz=314
MCK McKinley 78.64 20 P P 15 31 50.7 -0.5
baz=319
UNV Unalaska Valle 78.65 33 P P 15 31 50.5 -0.8
baz=307
F30M Barrier River 78.65 13 P P 15 31 51.7 +0.6
baz=330
HDA Harding Lake 78.68 19 IAmb IAmb 15 32 11.8
comp=Z,38nm,2.0s
HDA Harding Lake 78.68 19 P P 15 31 50.0 -1.4
baz=321
HDA P P 15 31 50.0 -1.4
baz=321
G29M Pine Creek 78.80 14 IAmb IAmb 15 32 06.9
comp=Z,41nm,1.7s
G29M Pine Creek 78.80 14 P P 15 31 51.9 0.0
baz=328
O17K Koliganek Bris 78.81 25 P P 15 31 52.2 +0.2
baz=313
RND Reindeer 78.91 20 IAmb IAmb 15 32 37.2
comp=Z,51nm,1.8s
C36M Paulatuk 78.92 8 IAmb IAmb 15 31 52.6
comp=Z,22nm,0.9s
C36M Paulatuk 78.92 8 P P 15 31 51.7 -0.8
baz=340,SNR=12
J25K Salcha River, 78.95 18 P P 15 31 51.4 -1.5
J25K Salcha River, 78.95 18 P P 15 31 52.2 -0.7
baz=322
I26K Coal Creek Min 78.96 17 P P 15 31 52.9 +0.1
baz=324
N19K Bonanza Creek 79.02 24 IAmb IAmb 15 31 56.7
comp=Z,12nm,0.8s
N19K Bonanza Creek 79.02 24 P P 15 31 54.1 +0.7
baz=315
I27K Kandik River 79.09 16 P P 15 31 53.8 +0.1
baz=325
G30M tAoh Zraii Nji 79.11 13 IAmb IAmb 15 31 54.9
comp=Z,20nm,0.9s
G30M tAoh Zraii Nji 79.11 13 P P 15 31 53.9 +0.2
baz=330
SKT Skwentna 79.16 22 IAmb IAmb 15 31 55.1
comp=Z,20nm,1.0s
SKT Skwentna 79.16 22 P P 15 31 53.8 -0.2
baz=317,SNR=7.3
F31M Tsiigehtchic 79.18 12 IAmb IAmb 15 31 54.6
comp=Z,13nm,0.7s
F31M Tsiigehtchic 79.18 12 P P 15 31 53.6 -0.4
baz=332,SNR=9.6
OOD Oodnadatta 79.30 131 P P 15 31 55.1 -0.1
H29M Whitestone 79.32 15 IAmb IAmb 15 31 55.8
comp=Z,16nm,0.9s
H29M Whitestone 79.32 15 P P 15 31 54.6 -0.2
baz=328,SNR=8.3
O18K Koktuh Hills 79.44 25 P P 15 31 56.7 +1.1
baz=315,SNR=10
WAT1 Susitna Watana 79.44 20 P P 15 31 54.6 -1.0
baz=320
K24K Donnelly Dome 79.48 19 P P 15 31 55.3 -0.5
baz=322,SNR=16
J26L Joseph Creek 79.51 17 IAmb IAmb 15 31 56.8
comp=Z,17nm,0.7s
J26L Joseph Creek 79.51 17 P P 15 31 56.2 +0.2
baz=324
O19K Port Alsworth 79.52 24 P P 15 31 56.8 +0.9
baz=315
EPYK Eagle Plains 79.54 14 IAmb IAmb 15 31 56.4
comp=Z,14nm,0.7s
EPYK Eagle Plains 79.54 14 P P 15 31 55.5 -0.5
baz=329,SNR=6.0
G31M Satah River 79.54 13 IAmb IAmb 15 31 56.4
comp=Z,22nm,1.1s
G31M Satah River 79.54 13 P P 15 31 55.5 -0.5
baz=331,SNR=9.5
DHY Denali Highway 79.60 20 IAmb IAmb 15 32 00.8
comp=Z,55nm,1.9s
DHY Denali Highway 79.60 20 P P 15 31 56.5 0.0
baz=320
I28M Miner Creek 79.62 16 P P 15 31 56.3 -0.3
baz=326
Q16K King Salmon 79.73 26 P P 15 31 57.9 +0.8
baz=314
P18K Big Mountain, 79.76 25 P P 15 31 57.1 -0.2
P18K IAmb IAmb 15 31 59.0
comp=Z,16nm,0.8s
P18K Big Mountain, 79.76 25 P P 15 31 58.0 +0.6
baz=315,SNR=6.2
M22K Willow 79.78 21 P P 15 31 57.6 +0.3
baz=318
RIDG Independent Ri 79.78 18 IAmb IAmb 15 31 57.7
comp=Z,14nm,0.8s
RIDG Independent Ri 79.78 18 P P 15 31 56.8 -0.7
baz=323,SNR=6.3
SUA Susitna One 79.79 22 IAmb IAmb 15 31 59.7
comp=Z,18nm,1.1s
SUA Susitna One 79.79 22 P P 15 31 57.3 -0.3
baz=318
SCRK Sand Creek 79.82 18 IAmb IAmb 15 31 58.7
comp=Z,23nm,1.4s
SCRK Sand Creek 79.82 18 P P 15 31 57.8 +0.1
baz=323,SNR=6.5
WAT6 Susitna Watana 79.87 20 P P 15 31 57.8 -0.3
baz=320
EGAK Eagle 79.89 16 P P 15 31 58.5 +0.6
baz=326
S14K Fog Glacier 80.20 29 P P 15 31 58.8 -1.1
baz=312
PMR Palmer 80.21 21 P P 15 31 59.4 -0.2
baz=319
PAX Paxson 80.22 19 P P 15 31 59.5 -0.4
baz=322
K27K Chicken 80.28 17 P P 15 31 59.5 -0.5
baz=325
P19K Oil Pt 80.29 24 P P 15 31 59.8 -0.4
baz=316
SML Sawmill 80.29 21 IAmb IAmb 15 32 01.2
comp=Z,32nm,1.0s
SML Sawmill 80.29 21 P P 15 32 00.3 +0.1
baz=320
Q17K Contact Creek 80.31 26 P P 15 32 00.9 +0.5
baz=314
Q18K Katmai Hardscr 80.36 25 P P 15 32 00.8 +0.1
baz=315
RC01 Rabbit Creek A 80.40 22 P P 15 32 00.9 +0.2
baz=319
SDPT Sand Point 80.43 30 P P 15 32 00.3 -0.7
baz=311
M23K Glacier View 80.49 21 P P 15 32 01.2 0.0
baz=320
H31M Peel River 80.51 13 IAmb IAmb 15 32 01.7
comp=Z,14nm,0.6s
H31M Peel River 80.51 13 P P 15 32 01.1 -0.2
baz=331
R17K Ugashik Creek 80.55 27 P P 15 32 01.1 -0.5
baz=314
KNK Knik Glacier 80.55 21 IAmb IAmb 15 32 02.7
comp=Z,23nm,1.0s
KNK Knik Glacier 80.55 21 P P 15 32 01.6 0.0
baz=320
SCM Sheep Creek Mo 80.58 20 P P 15 32 01.7 0.0
baz=321
I30M Mount Dempster 80.60 14 IAmb IAmb 15 32 02.5
comp=Z,17nm,0.9s
I30M Mount Dempster 80.60 14 P P 15 32 01.3 -0.6
baz=330,SNR=16
CHGN Chignik 80.66 28 P P 15 32 02.4 +0.2
baz=312
Q19K Cape Douglas, 80.66 25 P P 15 32 00.7 -1.5
baz=316
M24K Tolsona, Glenn 80.70 20 P P 15 32 03.0 +0.5
baz=322
L26K Log Cabin Wild 80.76 18 P P 15 32 03.0 +0.3
baz=324
HARP HAARP 80.77 19 P P 15 32 03.4 +0.7
baz=322,SNR=5.3
HOM Homer 80.83 23 P P 15 32 03.9 +0.8
baz=317
DAWY Dawson 80.91 16 IAmb IAmb 15 32 04.2
comp=Z,16nm,1.1s
DAWY Dawson 80.91 16 P P 15 32 03.3 -0.2
baz=327,SNR=6.5
PWL Port Wells 81.02 21 P P 15 32 04.5 +0.5
baz=320
L27K Beaver Creek, 81.13 18 IAmb IAmb 15 32 58.5
comp=Z,36nm,2.0s
L27K Beaver Creek, 81.13 18 P P 15 32 04.9 +0.2
baz=325

BCAR Beaver Creek A 81.14 18 P P 15 32 04.6 -0.1
CHNA Chernabura Isl 81.16 30 P P 15 32 04.9 +0.1
baz=312
J30M Hart River 81.17 15 IAmb IAmb 15 32 05.9
comp=Z,12nm,0.8s
J30M Hart River 81.17 15 P P 15 32 04.9 -0.1
baz=330
KLU Klutina 81.26 20 P P 15 32 05.7 +0.3
baz=322
R18K Karluk 81.34 26 P P 15 32 05.9 +0.1
baz=316
M26K Nabesna, AK 81.36 18 IAmb IAmb 15 32 07.9
comp=Z,24nm,1.3s
M26K Nabesna, AK 81.36 18 P P 15 32 06.0 +0.1
baz=324
GLI Glacier Island 81.39 21 P P 15 32 05.9 -0.1
baz=321
DBIC Dimbokro 81.45 273 P P 15 32 06.6 -0.5
DBIC IAmb IAmb 15 32 13.7
comp=Z,18nm,1.0s
DBIC Dimbokro 81.45 273 P P 15 32 06.6 -0.5
DBIC pmax pmax
comp=Z,18nm,1.0s
DBIC Dimbokro 81.45 273 P P 15 32 07.2 +0.1
comp=Z,8.7nm,0.7s,baz=57,slow=6.8,SNR=14
comp=Z,8.7nm,0.7s
KIC Kosan Boka 81.50 272⇑eP P 15 32 07.9 +0.5
comp=Z,23nm,0.7s
K29M Barlow Dome 81.53 16 IAmb IAmb 15 32 08.0
comp=Z,16nm,0.8s
K29M Barlow Dome 81.53 16 P P 15 32 06.7 -0.2
baz=329
N25K Chitina, Valde 81.56 20 P P 15 32 07.4 +0.3
baz=323
TIC Toumodi 81.60 273⇑eP P 15 32 08.4 +0.4
comp=Z,19nm,0.8s
LIC Lato 81.82 272⇑eP P 15 32 09.5 +0.4
comp=Z,24nm,0.7s
CTA Charters Tower 81.85 119 P P 15 32 09.7 +0.6
CTAO Charters Tower 81.85 119 P P 15 32 09.0 -0.1
CTAO IAmb IAmb 15 32 11.7
comp=Z,24nm,1.0s
CTAO Charters Tower 81.85 119 P P 15 32 09.5 +0.4
CTAO Charters Tower 81.85 119 P P 15 32 09.0 -0.1
CTAO pmax pmax
comp=Z,24nm,1.0s
KDAK Kodiak Island 81.88 25 P P 15 32 08.7 0.0
KDAK Kodiak Island 81.88 25 P P 15 32 09.2 +0.6
baz=317
KDAK Kodiak Island 81.88 25 P P 15 32 08.7 0.0
KDAK pmax pmax
comp=Z,41nm,0.9s
BVCY Beaver Creek 81.92 18 P P 15 32 09.0 +0.2
baz=326
P23K Montague Islan 81.98 22 P P 15 32 10.9 +1.7
baz=321
L29M L29M 82.02 16 IAmb IAmb 15 32 10.7
comp=Z,14nm,1.1s
L29M L29M 82.02 16 P P 15 32 09.7 +0.3
baz=328
OHAK Old Harbor 82.03 26 P P 15 32 09.9 +0.5
baz=316
EYAK Cordova Ski Ar 82.06 21 P P 15 32 10.2 +0.7
baz=322
BMRM Bremner River 82.07 20 P P 15 32 09.8 +0.2
baz=323
MAYO Mayo, Yukon 82.12 15 P P 15 32 10.0 +0.2
baz=330
SII Sitkinak Islan 82.17 27 P P 15 32 10.8 +0.5
baz=316
MCARA McCarthy VSAT 82.19 19 P P 15 32 10.4 +0.2
baz=324
M29M Somme Creek 82.50 17 IAmb IAmb 15 32 13.6
comp=Z,9.0nm,0.8s
M29M Somme Creek 82.50 17 P P 15 32 12.2 +0.2
baz=328
FRB Frobisher Bay 82.55 346 LR LR 16 13 56.9
comp=Z,97nm,18.3s,baz=18,slow=39
YUK3 Moose Creek 82.56 18 P P 15 32 11.3 -1.2
baz=326
INKA Innaminka 82.62 128 P P 15 32 13.5 +0.6
M30M Minto, Yukon 82.79 16 P P 15 32 13.5 0.0
baz=329
YUK4 Talbot Arm 83.39 17 P P 15 32 16.6 -0.2
baz=328
SUR Sutherland 83.47 226 LR LR 16 07 50.2
comp=Z,109nm,18.5s,baz=10.0,slow=34
M31M Drury Creek, Y 83.67 15 IAmb IAmb 15 32 18.7
comp=Z,8.6nm,0.9s
M31M Drury Creek, Y 83.67 15 P P 15 32 17.9 0.0
baz=331
N30M Aishikik Lake 83.69 17 P P 15 32 18.0 -0.1
baz=329
YUK6 Outpost Mounta 83.81 17 P P 15 32 19.1 +0.1
baz=328
FARO Faro, Yukon 83.88 15 P P 15 32 18.6 -0.4
baz=332
N31M Braeburn, Yuko 83.98 16 P P 15 32 19.6 0.0
baz=330
HYT Haines Junctio 84.13 17 P P 15 32 21.0 +0.5
baz=329
O29M Mount Kennedy 84.30 18 P P 15 32 20.0 -1.3
baz=328
QLP Quilpie 84.31 125 P P 15 32 22.5 +0.9
O30N Mendenhall 84.53 17 P P 15 32 22.7 +0.4
baz=330
WRGLY Wrigley 84.78 10 P P 15 32 23.2 -0.3
baz=341
N32M Quiet Lake 84.90 15 P P 15 32 23.1 -1.1
baz=332
WHY Whitehorse 84.92 16 P P 15 32 23.8 -0.6
baz=331
P29M Windy Craggy 85.09 18 P P 15 32 25.4 +0.2
baz=329
TGTN Hyland Airport 85.55 13 P P 15 32 27.7 +0.2
baz=337
P33M Teslin, Yukon 85.80 15 P P 15 32 28.4 -0.4
baz=333
STKA Stephens Creek 85.84 131 P P 15 32 28.4 -0.8
STKA Stephens Creek 85.84 131⇑iP P 15 32 28.4 -0.8
STKA Stephens Creek 85.84 131 P P 15 32 28.1 -1.1
comp=Z,3.3nm,0.4s,baz=330,slow=2.9,SNR=21
comp=Z,3.3nm,0.4s
YKA Yellowknife Ar 86.58 6 iP P 15 32 32.0 -0.5
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 86.58 6 P P 15 32 32.0 -0.5
comp=Z,2.5nm,0.8s,baz=340,slow=5.0,SNR=23
comp=Z,2.5nm,0.8s
R33M Jennings River 86.95 15 P P 15 32 34.4 -0.1
baz=334
Q32M Nakina River 87.04 16 P P 15 32 34.5 -0.5
baz=333
DLBC Dease Lake 88.02 15 P P 15 32 39.2 -0.4
baz=335
S34M Telegraph Cree 88.25 16 P P 15 32 40.8 +0.2
baz=334
CMSA Cobar Meteorol 88.35 128 P P 15 32 41.6 +0.2
SCHQ Schefferville 90.01 341 P P 15 32 48.6 -0.3
comp=Z,5.8nm,0.5s,baz=353,slow=2.6,SNR=14
SCHQ LR LR 16 13 41.1
comp=Z,115nm,21.1s,baz=81,slow=36
comp=Z,5.8nm,0.5s
ULM Lac du Bonnet 99.39 357 P Pdif 15 33 31.8 -0.1
comp=Z,3.2nm,0.8s,baz=84,slow=6.6,SNR=3.7
ULM PP PP 15 37 35.5 +1.6
comp=Z,2.0nm,0.7s,baz=284,slow=12,SNR=2.9
ULM LR LR 16 23 11.5
comp=Z,109nm,18.9s,baz=313,slow=38
comp=Z,3.2nm,0.8s
PDAR Pinedale Array 106.57 7 PKiKP PKiKP 15 38 13.0 -2.0
comp=Z,0.1nm,0.4s,baz=56,slow=11,SNR=2.4
TXAR Lajitas Array 120.34 3 PKP PKPdf 15 38 39.1 -2.3
comp=Z,0.3nm,0.5s,baz=22,slow=1.0,SNR=4.9
QSPA South Pole Qui 120.40 180 PKP PKPdf 15 38 38.2 -1.9
comp=Z,1.7nm,1.0s,baz=307,slow=4.9,SNR=3.2
CPUP Villa Florida 141.63 265 PKIKP PKPdf 15 39 20.0 -1.3
CPUP Villa Florida 141.63 265 PKP PKPdf 15 39 19.9 -1.3
comp=Z,2.0nm,0.8s,baz=125,slow=5.0,SNR=2.1
TRQA Tornquist 147.19 246 PKPbc 15 39 33.5 +0.7
TRQA Tornquist 147.19 246 PKP2 PKPbc 15 39 33.6 +0.7
GO01 Chusmiza 149.40 283 PKPbc 15 39 38.9 -0.8
PB11 IPOC Station P 149.83 284 PKPbc 15 39 38.9 -1.4
PB11 sPKPdf 15 39 45.0 +1.9
GO02 Mina Guanaco 151.85 273 PKPbc 15 39 44.9 -0.3
PLCA Paso Flores 153.46 239 PKPbc PKPbc 15 39 47.9 -0.2
comp=Z,2.2nm,0.6s,baz=162,slow=4.1,SNR=3.8

*IDC **06** 15:35:57.1±1.6,4.°75N×92.°26E,h0km,mb3.5/6, mbtmp3.5/8,ML3.5/2,MS3.1/1,Error ellipse: s-maj=48.1km s-min=24.0km az=55.0*

ISC 06 15:36:01.8±1.2,4.°7N±0.°2×92.°10E±0.°10,h35km,n12, σ1s50/9,mb3.4/6,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.61**	**283**	Pn		**15 38 47.0**	**+1.9**
	0.2nm,0.3s,baz=310,slow=4.9,SNR=1.7						
PALK				Sn		**15 40 51.2**	**-2.5**
	0.5nm,0.3s,baz=152,slow=11,SNR=2.4						
	4.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**15.20**	**26**	Pn		**15 39 33.2**	**-0.8**
	0.1nm,0.3s,baz=220,slow=14,SNR=5.8						
	0.6nm,0.8s						
AAK	**Ala-Archa**	**40.87**	**340**	LR	LR	16 01 27.8	
	comp=Z,25nm,19.1s,baz=212,slow=37						
MKAR	**Makanchi Array**	**42.76**	**350**	P		**15 43 57.1**	**+1.3**
	0.3nm,0.7s,baz=177,slow=8.0,SNR=2.9						
	0.3nm,0.7s						
SONM	**Songino Array**	**44.67**	**14**	P		**15 44 11.6**	**+0.3**
	0.2nm,0.5s,baz=201,slow=7.7,SNR=2.3						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**47.14**	**348**	P		**15 44 30.1**	**-0.5**
	0.6nm,0.2s,baz=158,slow=7.4,SNR=1.3						
	0.6nm,0.2s						
WRA	**Warramunga Arr**	**48.21**	**122**	P		**15 44 38.3**	**-1.1**
	0.2nm,0.7s,baz=301,slow=8.9,SNR=2.3						
	0.2nm,0.7s						
ZALV	**Zalesovo Beam**	**49.43**	**354**	P		**15 44 48.0**	**-0.2**
	0.4nm,0.4s,baz=164,slow=7.5,SNR=2.1						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**49.57**	**127**	P		**15 44 49.9**	**+0.1**
	0.6nm,1.1s,baz=302,slow=7.6,SNR=1.7						
	0.6nm,1.1s						
H04N2	**CROZET ISLANDS**	**62.00**	**211**	T	T	16 54 10.3	
	baz=49,slow=75,SNR=5.9						
H04N1	**CROZET ISLANDS**	**62.01**	**211**	T	T	16 54 07.4	
	baz=49,slow=75,SNR=5.9						
H04N3	**CROZET ISLANDS**	**62.02**	**211**	T	T	16 54 08.4	
	baz=49,slow=75,SNR=6.8						

*SJA **06** 15:41:07.6±0.7,31.°64S×70.°09W,h116km±4km,ML3.5, MW3.6*

*GUC **06** 15:41:08.1±0.8,31.°68S×70.°40W,h139km±5km,ML3.7*

ISC 06 15:41:08.4±1.4,31.°67S±0.°02×70.°13W±0.°03, h117km±10km,n53,σ0s94/93,3C-15D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.72**	**101**	eP		**Pn**	**15 41 27.1**	**-0.8**
RTLS				eS		**Sn**	**15 41 41.5**	**-1.2**
CO02	**Combarbal**	**0.87**	**302**	eP		**Pn**	**15 41 28.7**	**-0.3**
CO02				eS		**Sn**	**15 41 44.9**	**+0.3**
CO02				IAML			15 41 48.6	
	comp=Z,1μm,0.3s							
CO02	**Combarbal**	**0.87**	**302**	⇑iP		**Pn**	**15 41 28.9**	**-0.1**
CO02				i S		**Sn**	**15 41 44.8**	**+0.1**
CO02				IAML			15 41 48.8	
	comp=E,8μm,0.3s							
CO03	**El Pedregal**	**0.95**	**330**	eP		**Pn**	**15 41 29.9**	**+0.1**
CO03				eS		**Sn**	**15 41 46.5**	**+0.6**
CO03				IAML			15 41 48.0	
	comp=Z,824nm,0.2s							
CO03	**El Pedregal**	**0.95**	**330**	⇑iP		**Pn**	**15 41 29.9**	**+0.1**
CO03				i S		**Sn**	**15 41 46.1**	**+0.2**
CO03				IAML			15 41 47.0	
	comp=E,3μm,0.2s							
DOCA	**Reserva Natura**	**1.15**	**52**	eP		**Pn**	**15 41 31.5**	**-0.6**
DOCA				eS		**Sn**	**15 41 49.3**	**-0.7**
SJA	**San Juan**	**1.35**	**85**	eP		**Pn**	**15 41 33.7**	**-0.2**
SJA				eS		**Sn**	**15 41 52.6**	**-0.7**
SJA				IAML			15 41 53.6	
	comp=Z,638nm,0.3s							
RTCV	**Cerro Valdivia**	**1.37**	**99**	eP		**Pn**	**15 41 33.7**	**-0.5**
RTCV				eS		**Sn**	**15 41 53.3**	**-0.4**
ACCO	**Cerro Coronel**	**1.41**	**41**	eP		**Pn**	**15 41 34.9**	**0.0**
ACCO				eS		**Sn**	**15 41 54.9**	**-0.2**
ACCO				IAML			15 41 56.6	
	comp=Z,502nm,0.4s							
ASAL	**Salagasta**	**1.44**	**130**	eP		**Pn**	**15 41 34.9**	**0.0**
ASAL				eS		**Sn**	**15 41 56.2**	**+1.0**
ROCH	**El Roble**	**1.50**	**209**	⇓iP		**Pn**	**15 41 35.3**	**-0.5**
ROCH				i S		**Sn**	**15 41 56.0**	**-0.7**
ROCH				IAML			15 41 58.1	
	comp=N,1μm,0.4s							
ROC1	**El Roble**	**1.50**	**210**	eP		**Pn**	**15 41 35.3**	**-0.6**
ROC1				eS		**Sn**	**15 41 56.5**	**-0.3**
PEL	**Peldehue**	**1.55**	**197**	eP		**Pn**	**15 41 35.8**	**-0.4**
PEL				eS		**Sn**	**15 41 58.1**	**+0.8**
PEL	**Peldehue**	**1.55**	**197**	⇓iP		**Pn**	**15 41 35.7**	**-0.4**
PEL				i S		**Sn**	**15 41 56.7**	**-0.7**
PEL				IAML			15 41 59.5	
	comp=E,424nm,0.5s							
ARCO	**CERRO ARCO**	**1.55**	**139**	eP		**Pn**	**15 41 36.8**	**+0.5**
ARCO				eS		**Sn**	**15 41 58.6**	**+0.9**
ARCO				IAML			15 41 59.8	
	comp=Z,412nm,0.3s							
GO04	**Tololo Observa**	**1.59**	**339**	eP		**Pn**	**15 41 37.1**	**+0.1**
GO04				eS		**Sn**	**15 41 59.2**	**+0.5**
GO04	**Tololo Observa**	**1.59**	**339**	⇑iP		**Pn**	**15 41 37.0**	**+0.1**
GO04				i S		**Sn**	**15 41 58.8**	**+0.1**
AROD	**Rodeo**	**1.60**	**21**	eP		**Pn**	**15 41 38.3**	**+1.2**
MT10	**Hacienda Santa**	**1.64**	**192**	⇓iP		**Pn**	**15 41 37.4**	**+0.1**
MT10				i S		**Sn**	**15 41 59.6**	**+0.1**
MT10				IAML			15 42 01.2	
	comp=E,2μm,0.5s							
FCH	**Farellones**	**1.66**	**185**	⇓iP		**Pn**	**15 41 38.3**	**+0.5**
FCH				IAML			15 42 06.3	
	comp=E,483nm,0.3s							
CO01	**Juntas del Tor**	**1.68**	**1**	eP		**Pn**	**15 41 39.4**	**+1.3**
CO01				eS		**Sn**	**15 42 02.6**	**+2.0**
CO01				IAML			15 42 02.8	
	comp=Z,269nm,0.3s							
CO01	**Juntas del Tor**	**1.68**	**1**	⇓iP		**Pn**	**15 41 39.3**	**+1.3**
CO01				IAML			15 42 03.5	
	comp=E,638nm,0.2s							
ACDV	**Cuesta del Vie**	**1.73**	**31**	eP		**Pn**	**15 41 39.5**	**+1.0**
MT04	**Ro Olivares**	**1.73**	**180**	eP		**Pn**	**15 41 39.0**	**+0.4**
MT04				IAML			15 42 05.0	
	comp=E,272nm,0.8s							
MT14	**Cerro Cal¡n**	**1.76**	**191**	⇓iP		**Pn**	**15 41 38.8**	**+0.1**
MT14				i S		**Sn**	**15 42 01.7**	**-0.2**
MT14				IAML			15 42 07.5	
	comp=E,876nm,0.4s							
MT08	**Bocatoma Ro**	**1.78**	**177**	⇓iP		**Pn**	**15 41 40.0**	**+0.9**
MT08				i S		**Sn**	**15 42 05.0**	**+2.4**
MT08				IAML			15 42 07.2	
	comp=N,177nm,0.3s							
AAGR	**Agrelo**	**1.79**	**142**	eP		**Pn**	**15 41 40.0**	**+0.8**
AAGR				eS		**Sn**	**15 42 03.9**	**+1.1**
MT05	**Renca**	**1.79**	**196**	eP		**Pn**	**15 41 39.2**	**0.0**
MT05				eS		**Sn**	**15 42 04.8**	**+2.1**
MT05				IAML			15 42 05.5	
	comp=Z,333nm,0.2s							
MT05	**Renca**	**1.79**	**196**	⇓iP		**Pn**	**15 41 38.9**	**-0.3**
MT05				i S		**Sn**	**15 42 02.7**	**0.0**
MT05				IAML			15 42 06.0	
	comp=E,2μm,0.5s							
MT02	**Curacav**	**1.80**	**208**	eP		**Pn**	**15 41 37.7**	**-1.5**
MT02				eS		**Sn**	**15 42 02.2**	**-0.6**
MT02	**Curacav**	**1.80**	**208**	⇓iP		**Pn**	**15 41 38.3**	**-0.9**
MT02				IAML			15 42 07.0	
	comp=N,256nm,0.6s							
MT03	**Universidad Ad**	**1.85**	**190**	eP		**Pn**	**15 41 40.2**	**+0.3**
MT03	**Universidad Ad**	**1.85**	**190**	eP		**Pn**	**15 41 40.0**	**+0.1**
MT03				i S		**Sn**	**15 42 04.3**	**+0.3**
MT03				IAML			15 42 08.6	
	comp=E,978nm,0.2s							
VA01	**Torpederas**	**1.86**	**223**	eP		**Pn**	**15 41 39.0**	**-0.9**
VA01				IAML			15 42 06.0	
	comp=E,489nm,0.3s							
MT15	**Las Vizcachas**	**1.95**	**189**	⇓iP		**Pn**	**15 41 41.3**	**+0.1**
MT15				i S		**Sn**	**15 42 05.8**	**-0.4**
MT15				IAML			15 42 12.1	
	comp=N,1μm,0.2s							
CO05	**La Serena**	**1.98**	**331**	⇓iP		**Pn**	**15 41 41.2**	**-0.3**
CO05				i S		**Sn**	**15 42 05.7**	**-1.1**
CO05				IAML			15 42 07.8	
	comp=N,932nm,0.3s							

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MT13	**San Alfonso**	**2.08**	**183**	eP	**Pn**	**15 41 43.1**	**+0.3**
MT13				eS	**Sn**	**15 42 09.6**	**+0.5**
MT13				IAML		15 42 15.2	
	comp=E,372nm,0.2s						
MT12	**Pirque**	**2.09**	**190**⇓	iP	**Pn**	**15 41 42.8**	**-0.1**
MT12				iS	**Sn**	**15 42 09.2**	**-0.1**
MT12				IAML		15 42 17.0	
	comp=E,593nm,0.4s						
LMEL	**Las Melosas**	**2.18**	**182**⇓	iP	**Pn**	**15 41 44.5**	**+0.5**
LMEL				iS	**Sn**	**15 42 12.1**	**+0.7**
LMEL				IAML		15 42 19.1	
	comp=N,341nm,0.2s						
MT09	**Talagante**	**2.22**	**199**	eP	**Pn**	**15 41 43.6**	**-1.0**
MT09				IAML		15 42 21.0	
	comp=N,304nm,0.3s						
AVIZ	**Vizcacheras**	**2.26**	**143**	eP	**Pn**	**15 41 45.5**	**+0.5**
AVIZ				eS	**Sn**	**15 42 15.1**	**+1.9**
BO04	**La Punta**	**2.35**	**190**⇓	iP	**Pn**	**15 41 45.7**	**-0.4**
BO04				IAML		15 42 19.3	
	comp=E,255nm,0.6s						
MT01	**Popeta**	**2.39**	**203**	eP	**Pn**	**15 41 45.6**	**-0.9**
MT01				eS	**Sn**	**15 42 19.8**	**+3.9**
MT01	**Popeta**	**2.39**	**203**	eP	**Pn**	**15 41 45.2**	**-1.3**
MT01				IAML		15 42 23.6	
	comp=E,311nm,0.2s						
AVFE	**Valle Fertil**	**2.50**	**67**	eP	**Pn**	**15 41 47.9**	**-0.3**
AVFE				eS	**Sn**	**15 42 17.9**	**-0.8**
AVFE				IAML		15 42 19.7	
	comp=Z,210nm,0.8s						
LCO	**Las Campanas**	**2.69**	**349**	eP	**Pn**	**15 41 50.0**	**-0.8**
LCO				eS	**Sn**	**15 42 23.1**	**-0.2**
LCO	**Las Campanas**	**2.69**	**349**⇓	iP	**Pn**	**15 41 51.0**	**+0.1**
LCO				iS	**Sn**	**15 42 22.4**	**-1.0**
AC05	**El Transito**	**2.82**	**358**	eP	**Pn**	**15 41 53.1**	**+0.7**
AC05				eS	**Sn**	**15 42 27.8**	**+1.5**
AC05				IAML		15 42 28.1	
	comp=Z,129nm,0.3s						
BO01	**Tunca**	**2.83**	**196**	eP	**Pn**	**15 41 51.4**	**-1.0**
BO01				eS	**Sn**	**15 42 26.8**	**+0.5**
ACHE	**Chepes**	**3.01**	**81**	eP	**Pn**	**15 41 54.4**	**-0.5**
ACHE				eS	**Sn**	**15 42 28.6**	**-2.0**
BO02	**Sierra Bellavi**	**3.17**	**190**	eP	**Pn**	**15 41 56.3**	**-0.5**
BO02				eS	**Sn**	**15 42 34.9**	**+0.8**
BO02				IAML		15 42 40.3	
	comp=Z,76nm,0.6s						
RFA	**San Rafael**	**3.40**	**156**	eS	**Sn**	**15 42 38.4**	**-1.3**
GO05	**Huala**	**3.66**	**204**	eP	**Pn**	**15 42 01.6**	**-1.7**

*IDC **06** 15:46:56.2±2.1, 14°.57N×93°.83W, h0km, mb3.5/3, mbtmp3.3/5, ML2.9/2, Error ellipse: s-maj=37.7km s-min=35.8km az=82.0*

ISC 06 15:47:01.5±1.5**, 14°.6N**±0°.1×**93°.84W**±0°.10**, h35**km**, n8, σ0s.96**/10**, mb3.6**/3**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**2.65**	**338**	Pn	**Pn**	**15 47 40.7**	**-1.2**
	4.3nm,0.3s,baz=178,slow=12,SNR=31						
CMIG				Sn	**Sn**	**15 48 13.8**	**+1.0**
	10nm,0.3s,baz=108,slow=20,SNR=17						
	7.6nm,0.3s						
TEIG	**Tepich**	**7.70**	**43**	Pn	**Pn**	**15 48 50.8**	**-0.4**
	20nm,0.3s,baz=230,slow=2.3,SNR=12						
TEIG				Sn	**Sn**	**15 50 17.1**	**-0.1**
	9.0nm,0.3s,baz=314,slow=23,SNR=1.4						
TXAR	**Lajitas Array**	**17.23**	**330**	P	**Pn**	**15 50 58.2**	**-1.3**
	baz=141,slow=13,SNR=2.0						
	0.2nm,0.7s						
NVAR	**Mina Array Bea**	**32.08**	**322**	P	**P**	**15 53 26.1**	**+0.6**
	0.7nm,0.7s,baz=132,slow=8.8,SNR=4.5						
	0.7nm,0.7s						
YKA	**Yellowknife Ar**	**50.03**	**348**	P	**P**	**15 55 53.0**	**+0.7**
	0.3nm,0.7s,baz=145,slow=7.9,SNR=5.1						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**61.57**	**337**	P	**P**	**15 57 15.7**	**+0.7**
	0.5nm,1.0s,baz=183,slow=3.6,SNR=4.4						
	0.5nm,1.0s						
WRA	**Warramunga Arr**	**133.81**	**256**	PKP	**PKPdf**	**16 06 14.8**	**-0.8**
	0.6nm,1.0s,baz=100,slow=1.9,SNR=2.5						
CMAR	**Chiang Mai Arr**	**144.80**	**339**	PKP	**PKPab**	**16 06 34.8**	**+0.2**
	0.7nm,0.8s,baz=356,slow=3.0,SNR=6.2						

IDC 06 15:47:21.4±3.3**, 15°.23S**×**171°.91W, h0**km**, mb3.4**/3**, mbtmp3.4**/3**, Error ellipse: s-maj=94.0km s-min=51.4km az=22.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**51.28**	**257**	P	P	15 56 27.5	-0.2
	0.2nm,0.7s,baz=93,slow=6.7,SNR=6.1						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**51.53**	**252**	P	P	15 56 29.4	-0.1
	0.8nm,0.4s,baz=89,slow=7.7,SNR=44						
	0.8nm,0.4s						
VNDA	**Vanda**	**63.69**	**186**	P	P	15 57 54.3	0.0
	0.2nm,0.6s,baz=13,slow=7.9,SNR=1.0						
	0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**173.46**	**108**	PKP	PKPdf	16 07 33.4	-0.4
	0.4nm,0.5s,baz=258,slow=4.3,SNR=2.2						

IDC 06 15:54:37.2±3.9**, 22°.51N**×**12°.18W, h0**km**, mb3.4**/2**, mbtmp3.6**/4**, ML3.7**/2**, Error ellipse: s-maj=104.8km s-min=40.8km az=79.0, Mauritania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**16.15**	**123**	Pn	Pn	15 58 24.9	-0.8
	0.1nm,0.3s,baz=309,slow=13,SNR=2.6						
TORD				Sn	Sn	16 01 18.7	-6.9
	0.1nm,0.3s,baz=315,slow=22,SNR=3.6						
	0.5nm,0.5s						
DBIC	**Dimbokro**	**17.26**	**155**	P	Pn	15 58 40.5	+0.7
	0.7nm,0.3s,baz=333,slow=9.9,SNR=6.6						
	2.5nm,0.5s						
I48TN	**KESRA INFRASON**	**22.92**	**50**	I	I	18 15 50.0	
	baz=238,slow=316,SNR=1.8						
KURBB	**Kurchatov Arra**	**73.38**	**42**	P	P	16 06 10.7	-0.3
	0.4nm,0.7s,baz=278,slow=5.5,SNR=2.5						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**76.88**	**45**	P	P	16 06 31.7	+0.4
	0.1nm,0.5s,baz=289,slow=5.8,SNR=1.8						
	0.1nm,0.5s						

*IDC **06** 15:54:56.1±1.6, 32°.28S×177°.44W, h0km, mb3.8/4, mbtmp3.9/5, ML4.0/1, MS3.4/2, Error ellipse: s-maj=52.8km s-min=25.2km az=132.0*

ISC 06 15:54:59.3±1.9**, 32°.2S**±0°.2×**177°.5W**±0°.3**, h18**km**, n13, σ1s.20**/10**, mb3.9**/4**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.92**	**352**	LR	LR	15 56 55.8	
	comp=Z,348nm,18.8s,baz=140,slow=39						
URZ	**Urewera**	**7.53**	**215**	Sn	**Sn**	**15 58 13.6**	**+0.4**
	0.5nm,0.3s,baz=0.0,slow=5.1,SNR=1.8						
	5.3nm,0.3s						
DZM	**Mont Dzumac**	**17.47**	**301**	LR	LR	16 04 19.7	
	comp=Z,151nm,18.0s,baz=48,slow=32						
RAR	**Rarotonga**	**19.18**	**60**	LR	LR	16 04 31.0	
	comp=Z,17nm,19.9s,baz=231,slow=30						
STKA	**Stephens Creek**	**34.56**	**259**	P	**P**	**16 01 46.8**	**-0.2**
	0.4nm,0.2s,baz=95,slow=11,SNR=1.5						
	0.4nm,0.2s						
ASAR	**Alice Springs**	**43.49**	**269**	P	**P**	**16 03 01.1**	**-0.7**
	0.5nm,0.6s,baz=106,slow=7.2,SNR=13						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**44.63**	**274**	P	**P**	**16 03 10.3**	**-0.7**
	0.7nm,0.5s,baz=112,slow=8.0,SNR=13						
	0.7nm,0.5s						
KSRS	**Korea Array**	**85.97**	**319**	P	**P**	**16 07 40.1**	**+1.8**
	0.9nm,0.6s,baz=129,slow=5.4,SNR=3.4						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**122.61**	**313**	PKP	**PKiKP**	**16 13 53.5**	**-0.1**
	0.4nm,0.7s,baz=119,slow=1.7,SNR=5.0						
FINES	**FINESS Array B**	**146.94**	**339**	PKPbc	**PKPbc**	**16 14 40.2**	**+0.2**
	2.6nm,0.7s,baz=31,slow=4.4,SNR=11						
NOA	**NORSAR Array B**	**150.55**	**351**	PKPbc	**PKPbc**	**16 14 47.1**	**-2.2**
	0.5nm,0.8s,baz=14,slow=3.3,SNR=1.8						
HFS	**Hagfors**	**151.05**	**348**	PKPbc	**PKPbc**	**16 14 49.7**	**-0.8**
	2.8nm,0.9s,baz=11,slow=2.1,SNR=2.1						
MMAI	**Mount Meron Ar**	**152.34**	**281**	PKPbc	**PKiKP**	**16 14 55.2**	**+0.5**
	2.4nm,0.6s,baz=66,slow=2.8,SNR=1.8						

WEL 06 15:56:16.2±0.7**, 38°S**±6°×**17°6E**±°**, h214**km±6km**, M2.5**/16**, ML2.5**/6**, MLv2.5**/16**, Error ellipse: s-maj=0.0km s-min=0.0km az=95.3, confirmed, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLZ	**Tolley Road**	**0.45**	**224**	P	Pn	15 56 45.0	+0.3
RRRZ	**Republican Roa**	**0.56**	**126**	P	Pn	15 56 45.6	+0.5
EDRZ	**Edgecumbe**	**0.64**	**99**	P	Pn	15 56 45.0	-0.5
MUGZ	**Murupara**	**0.81**	**126**	P	Pn	15 56 46.5	+0.3
MUGZ				S	S	15 57 10.1	+0.6
URZ	**Urewera**	**0.96**	**105**	P	Pn	15 56 46.8	-0.2
URZ				S	S	15 57 10.4	-0.5
URZ	**Urewera**	**0.96**	**105**	Pn	Pn	15 56 46.8	-0.2
	2.3nm,0.3s,baz=336,slow=5.0,SNR=40						
URZ	**Urewera**	**0.96**	**105**	Pg	S	15 57 10.2	-0.8
	2.1nm,0.3s,baz=353,slow=16,SNR=8.9						
HIZ	**Hauiti**	**0.99**	**239**	P	Pn	15 56 48.5	+1.3
RTZ	**Ruatahuna**	**1.02**	**127**	P	Pn	15 56 47.8	+0.3
RTZ				S	S	15 57 12.0	+0.1
MTHZ	**Maungataniwha**	**1.10**	**140**	P	Pn	15 56 48.6	+0.6
MTHZ				S	S	15 57 12.8	0.0
RAHZ	**Arahi**	**1.28**	**135**	P	Pn	15 56 50.3	+1.0
RAHZ				S	S	15 57 15.9	+0.9
NMHZ	**Naumai**	**1.28**	**148**	P	Pn	15 56 50.9	+1.5
NMHZ				S	S	15 57 17.0	+1.8
SNGZ	**Shannon Statio**	**1.35**	**125**	P	Pn	15 56 50.3	+0.5
RUGZ	**Raukumara Rang**	**1.38**	**89**	P	Pn	15 56 48.6	-1.6
RUGZ				S	S	15 57 13.8	-2.6
KWHZ	**Kaweka Forest**	**1.46**	**165**	P	Pn	15 56 51.9	+1.2
KWHZ				S	S	15 57 18.7	+1.0
MCHZ	**McNeill Hill**	**1.55**	**158**	P	Pn	15 56 52.9	+1.4
MCHZ				S	S	15 57 20.5	+1.5
TWGZ	**Tauwhareparae**	**1.62**	**97**	P	Pn	15 56 52.2	0.0
KRHZ	**Kereru**	**1.67**	**168**	P	Pn	15 56 53.5	+1.0
KRHZ				S	S	15 57 21.0	+0.3
KNZ	**Kokohu**	**1.70**	**127**	P	Pn	15 56 53.0	+0.3
KNZ				S	S	15 57 20.0	-1.0
PRGZ	**Paritu Road**	**1.78**	**121**	P	Pn	15 56 53.7	+0.2
CNGZ	**Carnagh Statio**	**1.85**	**106**	P	Pn	15 56 54.6	+0.5
MHGZ	**Mahia Peninsul**	**1.92**	**127**	P	Pn	15 56 55.3	+0.4
KAHZ	**Kahuranaki**	**1.93**	**158**	P	Pn	15 56 55.8	+0.9
PXZ	**Pawanui**	**2.14**	**161**	P	Pn	15 56 57.4	+0.4
WCZ	**Waipu Caves**	**2.43**	**328**	P	Pn	15 57 00.9	+0.7
MRZ	**Mangatainoka R**	**2.66**	**186**	P	Pn	15 57 02.3	-0.3
BFZ	**Birch Farm**	**2.68**	**175**	P	Pn	15 57 02.6	-0.2
TIWZ	**Tintock**	**2.76**	**181**	P	Pn	15 57 03.5	-0.3
OGWZ	**Otaki Gorge**	**2.87**	**192**	P	Pn	15 57 04.7	-0.2
HOWZ	**Holdsworth Sta**	**2.90**	**186**	P	Pn	15 57 04.7	-0.7
CPWZ	**Castlepoint**	**2.90**	**176**	P	Pn	15 57 04.3	-1.1
MTW	**Mount Morrison**	**3.16**	**186**	P	Pn	15 57 07.2	-1.1
CAW	**Cannon Point**	**3.17**	**192**	P	Pn	15 57 07.7	-0.6
DUWZ	**D'Urville Isla**	**3.20**	**209**	P	Pn	15 57 08.1	-0.7
TRWZ	**Traveller**	**3.39**	**183**	P	Pn	15 57 10.0	-1.0
WEL	**Wellington**	**3.39**	**195**	P	Pn	15 57 10.2	-0.8
TCW	**Tory Channel**	**3.44**	**201**	P	Pn	15 57 10.9	-0.7
PLWZ	**Palliser**	**3.59**	**188**	P	Pn	15 57 12.0	-1.5
TUWZ	**Tuamarina**	**3.75**	**204**	P	Pn	15 57 14.2	-1.1
QRZ	**Quartz Range**	**3.86**	**222**	P	Pn	15 57 15.0	-1.6
BSWZ	**Blackbirch Sta**	**4.03**	**203**	P	Pn	15 57 17.7	-1.0
MRNZ	**Matariki Terra**	**4.18**	**215**	P	Pn	15 57 20.4	-0.2
THZ	**Tophouse**	**4.41**	**211**	P	Pn	15 57 22.4	-1.1
KHZ	**Kahutara**	**4.77**	**202**	P	Pn	15 57 26.5	-1.3
DSZ	**Denniston Nort**	**4.90**	**219**	P	Pn	15 57 27.0	-2.6
GVZ	**Greta Valley S**	**5.42**	**203**	P	Pn	15 57 34.4	-1.8
LTZ	**Lake Taylor**	**5.53**	**209**	P	Pn	15 57 35.2	-2.3
MQZ	**McQueen's Vall**	**6.21**	**203**	P	Pn	15 57 43.1	-3.1
MHCZ	**Mount Hutt**	**6.43**	**210**	P	Pn	15 57 46.6	-2.5

*CNRM **06** 16:00:57.7, 36°.53N×3°.71W, h18km, ml2.2*
*MDD **06** 16:01:01.6±0.3, 36°.43N×2°.58W, h12km, mb_Lg2.7/28, Error ellipse: s-maj=2.6km s-min=2.2km az=105.0*
*SFS **06** 16:01:01.8, 36°.49N×2°.55W, h22km, ML2.8/13, ML2.9/13, MLv2.7/13*

ISC 06 16:01:00.7±1.1**, 36°.46N**±0°.02×**2°.59W**±0°.02**, h18**km±3km**, n43, σ1s.70**/77**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EBER	**Berja**	**0.51**	**331**	Pg	**Pb**	**16 01 11.1**	**0.0**
EBER				Sg	**Sb**	**16 01 17.8**	**-0.4**
EBER				i Vmb_Lg		16 01 20.2	
ENIJ	**Nijar**	**0.60**	**30**	Pg	**Pb**	**16 01 12.4**	**-0.1**
ENIJ				Sg	**Sg**	**16 01 19.5**	**-1.1**
ENIJ				i Vmb_Lg		16 01 20.8	
EALB	**Alboran**	**0.63**	**215**	Pg	**Pb**	**16 01 13.4**	**+0.4**
EALB				Sg	**Sg**	**16 01 21.3**	**-0.2**
EALB				i Vmb_Lg		16 01 24.8	
EALB	**Alboran**	**0.63**	**215**	Pg	**Pb**	**16 01 14.1**	**+1.1**
EALB				Sg	**Sb**	**16 01 23.6**	**+2.2**
ELGU	**Los Guajares,**	**0.93**	**297**	Pg	**Pb**	**16 01 19.0**	**+0.7**
ELGU				Sg	**Sg**	**16 01 30.3**	**-0.9**
ELGU				i Vmb_Lg		16 01 32.1	
EQUE	**Quentar**	**1.01**	**318**	Pg	**Pn**	**16 01 20.6**	**+0.5**
EQUE				Sg	**Sg**	**16 01 32.2**	**-1.5**
EQUE				i Vmb_Lg		16 01 37.1	
EQTA	**Presa de Quent**	**1.02**	**318**	Sg	**Sb**	**16 01 32.4**	**-0.4**
EQTA				Pn	**Pn**	**16 01 20.5**	**+0.4**
EQTA				Sn	**Sg**	**16 01 31.7**	**-2.1**
EMEL	**Melilla**	**1.19**	**195**	Pg	**Pn**	**16 01 22.4**	**+0.1**
EMEL				Sg	**Sb**	**16 01 38.3**	**+0.6**
EMEL				i Vmb_Lg		16 01 41.6	
CHAS	**Isla Isabel II**	**1.27**	**174**	Pn	**Pn**	**16 01 23.7**	**+0.2**
CHAS				Sn	**Sb**	**16 01 39.1**	**-1.0**
GOG	**Mont Gurugu**	**1.27**	**195**	P	**Pn**	**16 01 23.7**	**+0.1**
GOG				S	**Sb**	**16 01 41.2**	**+1.0**
EGOR	**Sierra Gorda,**	**1.39**	**299**	Pg	**Pg**	**16 01 27.1**	**-0.4**
EGOR				Sg	**Sb**	**16 01 44.8**	**+1.3**
EGOR				i Vmb_Lg		16 01 52.4	
EGOR	**Sierra Gorda,**	**1.39**	**299**	Pn	**Pb**	**16 01 26.6**	**+0.5**
EQES	**Quesada**	**1.40**	**344**	Pg	**Pg**	**16 01 27.7**	**0.0**
EQES				Sg	**Sg**	**16 01 45.0**	**-1.0**
EQES				i Vmb_Lg		16 01 50.6	
EMAL	**Malaga-Limoner**	**1.52**	**282**	Pn	**Pn**	**16 01 26.1**	**-0.7**
EZAR	**Zarzadilla de**	**1.59**	**26**	Pn	**Pn**	**16 01 27.7**	**-0.2**
EZAR				Sn	**Sn**	**16 01 47.3**	**-0.7**
EZAR				i Vmb_Lg		16 01 59.0	
TAF	**Taforalt**	**1.64**	**175**	P	**Pb**	**16 01 30.7**	**+0.3**
TAF				S	**Sg**	**16 01 57.6**	**+3.9**
CART	**Cartagena**	**1.70**	**48**	P	**Pg**	**16 01 36.0**	**+2.6**
CART	**Cartagena**	**1.70**	**48**	Sn	**Sn**	**16 01 47.0**	**-3.6**
CART				Pn	**Pn**	**16 01 27.5**	**-1.8**
EMUR	**La Murta**	**1.75**	**37**	Pn	**Pn**	**16 01 29.7**	**-0.4**
EMUR				Sn	**Sn**	**16 01 50.9**	**-1.1**
EMUR				i Vmb_Lg		16 01 59.3	
EMUR	**La Murta**	**1.75**	**37**	Pn	**Pn**	**16 01 29.1**	**-1.1**
EMUR				Sn	**Sn**	**16 01 49.5**	**-2.5**
EMIJ	**Mijas**	**1.77**	**274**	Pn	**Pn**	**16 01 29.2**	**-1.1**
EMIJ				Sn	**Sn**	**16 01 49.3**	**-3.1**
EMIJ				i Vmb_Lg		16 01 51.9	
EMIJ	**Mijas**	**1.77**	**274**	Pn	**Pn**	**16 01 29.0**	**-1.3**
JBK	**JBK**	**2.12**	**180**	P	**Pn**	**16 01 36.3**	**+1.0**
JBK				S	**Sb**	**16 02 04.5**	**0.0**
EADA	**Adamuz**	**2.33**	**318**	Pn	**Pn**	**16 01 39.5**	**+1.4**
EADA				Sn	**Sn**	**16 02 08.1**	**+1.7**
EADA				i Vmb_Lg		16 02 19.4	
EADA	**Adamuz**	**2.33**	**318**	Pn	**Pn**	**16 01 39.3**	**+1.2**
EADA				Sg	**Sb**	**16 02 12.3**	**+1.7**
ETOB	**Tobarra**	**2.34**	**20**	Pn	**Pn**	**16 01 39.1**	**+0.9**
ETOB				Sn	**Sn**	**16 02 08.1**	**+1.6**
ETOB				i Vmb_Lg		16 02 20.9	
ETOB	**Tobarra**	**2.34**	**20**	Pn	**Pn**	**16 01 39.1**	**+0.9**
PSIM	**Granatula de C**	**2.54**	**339**	Pg	**Pb**	**16 01 47.0**	**+1.3**
PSIM				Sn	**Sn**	**16 02 12.6**	**+1.1**
PSIM				Sg	**Sg**	**16 02 19.3**	**-3.0**
ECAB	**El Cabril**	**2.78**	**306**	Pn	**Pn**	**16 01 45.0**	**+0.8**
ECAB				Pg	**Pb**	**16 01 51.5**	**+1.7**
ECAB				Sn	**Sn**	**16 02 18.9**	**+1.6**
ECAB				Sg	**Sb**	**16 02 26.7**	**+3.2**
ECAB				i Vmb_Lg		16 02 30.5	
ECAB	**El Cabril**	**2.78**	**306**	Pn	**Pn**	**16 01 45.4**	**+1.1**
EVIV	**Cofrentes, Val**	**3.04**	**22**	Pg	**Pb**	**16 01 55.4**	**+1.2**
EVIV				Sn	**Sn**	**16 02 25.5**	**+1.8**
EVIV				i Vmb_Lg		16 02 56.1	
PAB	**San Pablo**	**3.38**	**336**	Pn	**Pn**	**16 01 54.5**	**+1.9**
PAB				Sn	**Sn**	**16 02 32.6**	**+0.3**
PAB				Sg	**Sg**	**16 02 46.8**	**-2.6**
PAB				i Vmb_Lg		16 02 52.6	
ARNO	**Arenosillo**	**3.39**	**282**	Pn	**Pn**	**16 01 52.0**	**-0.6**
ESDC	**Sonseca Array**	**3.39**	**342**	Pg	**Pb**	**16 02 01.4**	**+1.1**
ESDC				Sg	**Sg**	**16 02 46.4**	**-3.3**
ESDC				i Vmb_Lg		16 02 51.7	
PBAR	**Barrancos**	**3.94**	**297**	eP	**Pn**	**16 02 02.0**	**+1.8**
PBAR				eS	**Sn**	**16 02 45.9**	**-0.1**
PBAR				A	A	16 03 16.3	
	2.7nm,0.7s						
MDT	**Midelt**	**4.00**	**205**	P	Pn	16 01 55.0	-6.0
MDT				S	**Sn**	**16 02 41.0**	**-6.5**
MD31	**MD31**	**4.00**	**207**	P	Pn	16 01 54.2	-6.9
MD31				S	Sn	16 02 39.7	-7.9
EGRO	**El Granado**	**4.07**	**287**	Pn	**Pn**	**16 02 03.0**	**+1.1**
EBAD	**Badajoz**	**4.20**	**304**	Pn	**Pn**	**16 02 04.5**	**+0.8**
ETOR	**Torete**	**4.38**	**5**	Pn	**Pn**	**16 02 07.6**	**+1.3**
ETOR				Sn	**Sn**	**16 02 54.9**	**-2.0**
ETOR				i Vmb_Lg		16 03 27.8	
MESJ	**Messejana**	**4.71**	**289**	eP	**Pn**	**16 02 11.9**	**+1.2**
PNCL	**Nicolau / Gran**	**5.02**	**291**	eP	**Pn**	**16 02 16.1**	**+1.1**
PMTG	**Montargil**	**5.17**	**302**	eP	**Pn**	**16 02 17.9**	**+0.8**
PMTG				eS	**Sn**	**16 03 15.3**	**-1.0**

*BER **06** 16:03:14.8±0.9, 78°.34N×8°.10E, h12km±7km, mb(Pn)2.8, Confirmed Earthquake*
*DNK **06** 16:03:16.5±0.3, 78°.83N×5°.66E, h44km±17km, ML1.6*

ISC 06 16:03:09.4±1.7**, 78°.3N**±0°.1×**6°.81E**±0°.05**, h28**km±18km**, n7, σ2s.04**/14**, Svalbard region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.20**	**56**	eP	**Pb**	**16 03 31.2**	**-0.3**
KBS				eS	**Sn**	**16 03 44.0**	**-1.5**
KBS				IAML		16 03 46.1	
	comp=Z,45nm,0.5s						
KBS	**Kingsbay**	**1.20**	**56**	iP	**Pb**	**16 03 31.2**	**-0.3**
KBS				iS	**Sn**	**16 03 43.7**	**-1.8**
BRBB	**Barentsburg B**	**1.54**	**94**	eP	**Pb**	**16 03 36.2**	**-0.9**
BRBB				eS	**Sn**	**16 03 52.5**	**-1.3**
BRBA	**Barentsburg A**	**1.54**	**95**	eP	**Pb**	**16 03 36.8**	**-0.5**
BRBA				eS	**Sn**	**16 03 53.1**	**-0.8**
BRBA				IAML		16 03 57.3	
	comp=Z,16nm,0.4s						
SPA0	**Spitsbergen Ar**	**1.96**	**89**	eP	**Pb**	**16 03 43.2**	**-1.2**
SPA0				eSg	**Sn**	**16 04 05.8**	**+1.4**
SPA0				IAML		16 04 06.9	
	comp=Z,6.4nm,0.2s						
DAG	**Danmarks Havn**	**5.69**	**267**	e	**Pn**	**16 04 33.5**	**+1.7**
	baz=56,slow=14						
DAG				iP	**Pn**	**16 04 35.0**	**+3.2**
DAG				eS	**Sn**	**16 05 33.1**	**-2.9**
DAG				IAML		16 05 40.7	
	comp=Z,2.5nm,0.4s						
DBG	**Daneborg**	**7.48**	**252**	eS	**Sn**	**16 06 17.4**	**-2.7**

*MOS **06** 16:06:53.0±1.0, 0°.53S×123°.48E, h25km, mb5.6/47, MS4.8/19, Error ellipse: s-maj=9.7km s-min=4.7km az=116.3*
*IDC **06** 16:06:54.4±1.6, 0°.52S×123°.51E, h25km±10km, mb4.6/32, mbtmp4.8/34, ML4.6/3, MS4.7/48, Error ellipse: s-maj=15.5km s-min=8.9km az=80.0*
*NEIC **06** 16:06:55.6, 0°.61S×123°.67E, h26km, Moment Tensor Solution. Duration: 2s.9 Moment tensor: Scale 10^17Nm; Mrr1.10; Mθθ1.30; Mφφ-2.40; Mrθ1.35; Mθφ0.33; Mφr0.61; Fault plane solution: M0 2.57000×10^17 NP1:φs31.67000°, δ68.12000°, λ140.26000°. NP2:φs138.88000°, δ53.62000°, λ27.58000°. Principal axes: T 2.6373, Plg43.0000°, Azm350.0000°; N -0.1332, Plg46.0000°, Azm188.0000°; P -2.5041, Plg9.0000°, Azm88.0000°;*
*NEIC **06** 16:06:55.6, 0°.61S×123°.67E, h18km*
*NEIC **06** 16:06:55.6, 0°.61S×123°.67E, h26km*
*NEIC **06** 16:06:57.0±2.0, 0°.63S±0°.06×123°.67E±0°.05, h28km±1km, mb5.6/252, Ms_20 5.0/112, Mwb5.4/56, Mww5.5/27, Error ellipse: s-maj=10.3km s-min=8.5km az=162.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.82; Mθθ0.42; Mφφ-1.24; Mrθ0.59; Mθφ0.38; Mφr0.92; Fault plane solution: M0 1.59000×10^17 NP1: φs135.98000°, δ36.84000°, λ32.66000°. NP2:φs18.81000°, δ71.12000°, λ122.24000°. Principal axes: T 1.5799, Plg53.0000°, Azm327.0000°; N 0.0223, Plg30.0000°, Azm187.0000°; P -1.6022, Plg20.0000°, Azm85.0000°;*
*IPGP **06** 16:06:58.0, 0°.69S×123°.71E, h36km, Mw5.5, Fault plane solution: NP1:φs19.00000°, δ70.00000°, λ113.00000°. NP2:φs147.00000°, δ30.00000°, λ43.00000°.*
*DJA **06** 16:06:58.4±0.1, 1°S±1°×12°4E±°, h41km±2km, M5.4/116, mb5.5/116, mB5.9/79, MLv5.9/31, Mw5.5/42, Mw(mB)5.5/79, MwMwp5.3/59, Mwp5.5/59*
*GCMT **06** 16:06:58.0±0.1, 0°.60S±0°.01×123°.78E±0°.01, h30km, MW5.6/135, Moment Tensor Solution. s126,c218; s135,c260; Duration: 1s.5 Moment tensor: Scale 10^17 Nm; Mrr1.06±.03; Mθθ1.29±.02; Mφφ-2.35±.03; Mrθ1.30±.06; Mθφ0.13±.02; Mφr1.61±.06; Best double couple: M0 2.90000×10^17 NP1:φs33.00000°, δ77.00000°, λ126.00000°. NP2:φs140.00000°, δ38.00000°, λ22.00000°. Principal axes: T 2.7780, Plg46.0000°, Azm340.0000°; N 0.2430, Plg35.0000°, Azm203.0000°; P -3.0220, Plg23.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*KLM **06** 16:07:01, 0°.67S×123°.89E, h64km, mb5.6*

ISC 06 16:06:58.5±0.3**, 0°.70S**±0°.03×**123°.66E**±0°.03**, h49**km±2km**, h49**km**:pP-P, n1079, σ1s.98**/1030**, mb5.5**/235**, MS4.9**/143**, 18C-18D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.95**	**249**		**Pn**	**16 07 15.2**	**-0.3**
LUWI	**Luwuk**	**0.95**	**249**	P	**Pn**	**16 07 15.7**	**+0.1**
LUWI	**Luwuk**	**0.95**	**249**	P	**Pn**	**16 07 15.2**	**-0.3**
LUWI				S	**Sn**	**16 07 30.2**	**+2.1**
KMSI	**Cibinong**	**1.30**	**14**	P	**Pn**	**16 07 18.0**	**-2.4**
KMSI				S	**Sn**	**16 07 33.5**	**-3.2**
GTOI	**Gorontalo**	**1.48**	**334**	P	**Pn**	**16 07 23.4**	**+0.7**
GTOI				S	**Sn**	**16 07 42.7**	**+1.9**
MRSI	**Marisa**	**2.08**	**304**	P	**Pn**	**16 07 29.3**	**-1.6**
MRSI				S	**Sn**	**16 07 54.3**	**-1.3**
SANI	**Sanana**	**2.69**	**120**	P	**Pn**	**16 07 37.3**	**-2.0**
TOLI2	**Tolitoli**	**3.39**	**302**	Pn	**Pn**	**16 07 48.8**	**-0.2**
TOLI2	**Tolitoli**	**3.39**	**302**	P	**Pn**	**16 07 51.7**	**+2.7**
LBMI	**Labuha**	**3.84**	**89**	P	**Pn**	**16 07 53.9**	**-1.2**
LBMI				S	**Sn**	**16 08 37.1**	**-2.0**
MPSI	**Mapaga**	**3.90**	**285**	P	**Pn**	**16 07 57.3**	**+1.4**
TNTI	**Ternate**	**3.98**	**69**	Pn	**Pn**	**16 07 56.6**	**-0.5**
TNTI	**Ternate**	**3.98**	**69**	P	**Pn**	**16 07 58.4**	**+1.3**
TNTI	**Ternate**	**3.98**	**69**	P	**Pn**	**16 07 57.1**	**0.0**
TNTI				S	**Sn**	**16 08 43.1**	**+0.5**
NLAI	**Namlea**	**4.26**	**126**	P	**Pn**	**16 08 00.8**	**-0.1**
NLAI				S	**Sn**	**16 08 47.9**	**-1.6**
TTSI	**Tana Toraja**	**4.49**	**239**	P	**Pn**	**16 08 04.7**	**+0.6**
SGSI	**Sangihe**	**4.74**	**23**	P	**Pn**	**16 08 07.6**	**+0.1**
BBSI	**Bau Bau**	**4.88**	**193**	P	**Pn**	**16 08 09.9**	**+0.5**
SPSI	**Sidrap Palu**	**5.06**	**230**	P	**Pn**	**16 08 13.1**	**+1.2**
	4μm,1.0s,41μm22μm15nm						
BKSI	**Bulukumba**	**5.79**	**217**	P	**Pn**	**16 08 22.7**	**+0.7**
	1μm,0.6s,12μm8μm4.8nm						
KAPI	**Kappang**	**5.80**	**222**	Pn	**Pn**	**16 08 23.2**	**+1.2**
KAPI	**Kappang**	**5.80**	**222**	P	**Pn**	**16 08 24.1**	**+2.1**
KAPI	**Kappang**	**5.80**	**222**d	iP	**Pn**	**16 08 23.3**	**+1.3**
KAPI	**Kappang**	**5.80**	**222**	Pn	**Pn**	**16 08 20.8**	**-1.2**
	134nm,0.3s,baz=43,slow=7.1,SNR=147						
KAPI				Sn	**Sn**	**16 09 25.0**	**-2.2**
	34nm,0.3s,baz=127,slow=10,SNR=1.3						
KAPI				LR	LR	16 11 03.8	
	comp=Z,30μm,18.1s,baz=69,slow=43						
BKB	**Balikpapan**	**6.79**	**265**		**Pn**	**16 08 37.5**	**+1.9**
BKB	**Balikpapan**	**6.79**	**265**	P	**Pn**	**16 08 38.4**	**+2.8**
BKB	**Balikpapan**	**6.79**	**265**	P	**Pn**	**16 08 37.6**	**+2.0**
	1μm,0.8s,19μm41μm5.8nm						
BNDI	**Bandanaira**	**7.30**	**121**	P	**Pn**	**16 08 44.5**	**+1.8**
BNDI	**Bandanaira**	**7.30**	**121**	P	**Pn**	**16 08 44.1**	**+1.4**
	1μm,0.9s,22μm12μm5.3nm						
SWI	**Sorong**	**7.60**	**91**	P	**Pn**	**16 08 46.6**	**-0.1**
	341nm,0.7s,4μm14μm1.1nm						
MYLDM	**Lahad Datu**	**7.79**	**319**	Pn	**Pn**	**16 08 52.1**	**+2.8**
KBKI	**Kotabaru**	**7.92**	**251**	P	**Pn**	**16 08 51.2**	**+0.1**

19nm,0.7s,769nm
DAV Davao City (W) 7.95 14 Pn 16 08 55.0 +3.4
DAV Davao City (W) 7.95 14 P Pn 16 08 56.5 +4.9
DAV Davao City (W) 7.95 14 Pn **Pn 16 08 55.3 +3.8**
40nm,0.3s,baz=180,slow=3.4,SNR=18
DAV Sn Sn 16 10 30.6 +10
25nm,0.3s,baz=261,slow=19,SNR=1.6
DAV LR LR 16 12 41.0
comp=Z,13µm,18.2s,baz=223,slow=44
MMRI Maumere 8.01 190 Pn **Pn 16 08 52.4 0.0**
MMRI Maumere 8.01 190 P **Pn 16 08 53.6 +1.2**
MMRI Maumere 8.01 190 P **Pn 16 08 52.9 +0.5**
649nm,0.9s,12µm4µm4.1nm
EDFI Ende, Flores 8.24 194 P **Pn 16 08 55.7 +0.1**
466nm,0.8s,4µm4µm1.5nm
MTKI Muara Teweh, K 8.77 268 P **Pn 16 09 03.8 +1.1**
414nm,1.0s,6µm20µm
FAKI Fak Fak 8.86 105 Pn **Pn 16 09 01.7 -2.4**
FAKI Fak Fak 8.86 105 P **Pn 16 09 02.1 -2.0**
304nm,0.9s,3µm9µm1.1nm
SPMM Sapulut 8.97 307 P **Pn 16 09 09.0 +3.4**
SOEI Soe 9.02 176 Pn **Pn 16 09 07.9 +1.6**
SOEI Soe 9.02 176 P **Pn 16 09 09.8 +3.5**
SOEI Soe 9.02 176 P **Pn 16 09 08.1 +1.8**
2µm,1.3s,18µm8µm
BBKI Banjar Baru 9.23 253 P **Pn 16 09 09.8 +0.7**
397nm,1.1s,6µm
BATI Baumata 9.45 180 P **Pn 16 09 13.4 +1.3**
797nm,0.9s,7µm5µm
BATI Baumata 9.45 180 Pn **Pn 16 09 12.1 +0.1**
0.8nm,0.3s,baz=310,slow=18,SNR=2.4
BATI LR LR 16 12 56.6
comp=Z,15µm,21.6s,baz=334,slow=38
40nm,0.5s
BASI Baing, Sumba 9.94 198 P **Pn 16 09 18.5 -0.3**
759nm,1.6s,13µm5µm
PLAI Plampang 9.98 216 P **Pn 16 09 21.8 +2.5**
PLAI Plampang 9.98 216 P **Pn 16 09 21.5 +2.2**
213nm,1.0s,2µm4µm
KKM Kota Kinabalu 10.01 312 Pn **Pn 16 09 22.6 +2.8**
KKM Kota Kinabalu 10.01 312 P **Pn 16 09 24.4 +4.6**
TWSI Taliwang, Sumb 10.46 220 P **Pn 16 09 27.0 +1.1**
149nm,1.1s,2µm6µm
KMPI Kaimana, Papua 10.46 106 P **Pn 16 09 24.4 -1.5**
723nm,0.8s,6µm7µm
SAUI Saumlaki 10.50 134 Pn **Pn 16 09 28.3 +1.8**
SAUI Saumlaki 10.50 134 P **Pn 16 09 30.6 +4.1**
SAUI Saumlaki 10.50 134 P **Pn 16 09 28.7 +2.2**
691nm,1.0s,12µm9µm
SRBI Singaraja 11.17 229 P **Pn 16 09 37.2 +1.6**
208nm,0.7s,1µm7µm
KMMI Kalianget 11.54 237 P **Pn 16 09 41.3 +0.6**
151nm,1.3s,3µm11µm
SBUM Sibu 11.86 285 Pn 16 09 47.9 +2.8
SBUM Sibu 11.86 285 P **Pn 16 09 49.0 +4.0**
STKI Sintang 12.21 274 P **Pn 16 09 50.9 +1.1**
84nm,1.3s,5µm
JAGI Jajag, Banyuwa 12.22 231 Pn **Pn 16 09 51.1 +1.1**
JAGI Jajag, Banyuwa 12.22 231 P **Pn 16 09 51.9 +1.9**
JAGI Jajag, Banyuwa 12.22 231 P **Pn 16 09 51.9 +1.9**
219nm,1.0s,2µm8µm
BLJI Banyuglugur 12.23 235 P **Pn 16 09 50.9 +0.7**
113nm,0.9s,2µm8µm
KSM Kuching 13.52 279 P **P 16 10 12.2 -3.4**
NGJI Ngawi 13.85 241 P **Pn 16 10 14.3 +2.0**
194nm,1.1s,5µm15µm
MTN Manton Dam 14.16 149 P **Pn 16 10 17.9 +1.4**
baz=14,SNR=6.9
MTN Manton Dam 14.16 149 Pn 16 10 16.2 -0.2
MTN Manton Dam 14.16 149 P **Pn 16 10 17.8 +1.4**
SMRI Semarang 14.62 244 Pn **Pn 16 10 24.9 +2.4**
SMRI Semarang 14.62 244 P **P 16 10 25.9 -1.9**
SMRI Semarang 14.62 244 P **Pn 16 10 24.7 +2.2**
251nm,1.0s,6µm9µm
KDU Kakadu 14.77 144 P **Pn 16 10 24.2 -0.3**
baz=15,SNR=43
KDU Kakadu 14.77 144 P **Pn 16 10 24.4 -0.1**
UGM Wanagama 14.93 241 P **P 16 10 29.5 -1.8**
UGM Wanagama 14.93 241 P **P 16 10 28.9 -2.4**
237nm,1.2s,6µm8µm
YOGI Yogyakarta 15.08 242 P **P 16 10 39.4 +6.4**
SMPI Sarmi 15.10 95 P **Pn 16 10 26.9 -1.9**
220nm,1.5s,4µm9µm
KNRA Kununurra 15.71 162 P **Pn 16 10 36.3 -0.4**
baz=16,SNR=24
KNRA Kununurra 15.71 162 Pn Pn 16 10 34.6 -2.1
KNRA Kununurra 15.71 162 P **Pn 16 10 36.5 -0.2**
KPJI Karang Pucung 16.10 245 P **P 16 10 44.0 -0.2**
362nm,1.1s,6µm
GENI Genyem 16.61 97 P **P 16 10 50.8 +0.9**
GENI Genyem 16.61 97 P **Pn 16 10 45.7 -2.4**
299nm,1.2s,7µm8µm
CMJI Cimerak 16.71 245 P **P 16 10 51.1 0.0**
223nm,1.2s,5µm10µm
LEM Lembang 17.12 249 P **P 16 10 56.8 +1.0**
215nm,1.3s,5µm13µm
LEM Lembang 17.12 249 P **Pn 16 10 50.5 -4.1**
1.9nm,0.3s,baz=3.8,slow=18,SNR=1.4
4.9nm,0.3s
JAY Jayapura 17.13 96 P **Pn 16 10 52.5 -2.2**
105nm,1.6s,2µm
BBJI Bungbulang 17.32 247 P **P 16 11 00.2 +2.4**
FITZ Fitzroy Crossi 17.40 174 P **Pn 16 10 57.5 -0.4**
baz=18,SNR=33
PPBI Pangkal Pinang 17.58 265 P **P 16 11 02.6 +1.9**
87nm,1.1s,3µm11µm
CBJI Citeko 17.71 251 P **P 16 11 05.0 +2.9**
587nm,1.0s,10µm14µm
CNJI Cibinong 17.74 248 P **P 16 11 03.8 +1.4**
116nm,1.0s,3µm5µm
DBJI Dramaga 17.84 251 P **P 16 11 06.0 +2.4**
324nm,2.1s,17µm15µm
TABU Tabubil 18.11 105 P **Pn 16 11 07.1 +0.3**
SKJI Sukabumi 18.17 249 P **Pn 16 11 10.0 +2.6**
380nm,1.8s,9µm7µm
SBJI Serang 18.30 253 P **Pn 16 11 08.8 -0.2**
132nm,1.3s,4µm
MMPI Merauke 18.36 115 P **Pn 16 11 09.6 -0.1**
700nm,1.2s,12µm
CGJI Cibinong 18.86 251 P **Pn 16 11 17.9 +2.1**
497nm,1.3s,8µm
PMBI Palembang 19.01 263 P **Pn 16 11 21.0 +3.5**
PMBI Palembang 19.01 263 P **Pn 16 11 19.9 +2.4**
538nm,1.0s,9µm11µm
DSRI Dabo 19.08 271 P **Pn 16 11 18.5 +0.1**
152nm,0.9s,5µm8µm
TPRI Tanjung Pinang 19.20 275 P **Pn 16 11 21.1 +1.3**
167nm,1.2s,5µm10µm
KLI Kotabumi 19.23 257 P Pn 16 11 35.8 +16
DLV T Lat 19.62 310 P **Pn 16 11 25.1 +0.2**
DLV IAmb IAmb 16 11 30.1
comp=Z,314nm,1.3s
DLV T Lat 19.62 310 P **Pn 16 11 25.8 +0.9**
KASI Kota Agung 19.72 256 P **P 16 11 24.4 +0.2**
comp=Z,256nm,1.0s,comp=Z,5µmcomp=Z,12µm
MYKOM Kota Tinggi 19.96 277 P **P 16 11 27.0 +0.2**
MYKOM IAmb IAmb 16 11 39.8
comp=Z,222nm,1.2s
JMBI JAMBI 20.04 267 P Pn 16 11 29.7 0.0
comp=Z,389nm,1.1s,comp=Z,5µm
LWLI Liwa 20.04 257 P Pn 16 11 29.4 -0.5
comp=Z,408nm,0.9s,comp=Z,4µmcomp=Z,10µm
XMI Christmas Isla 20.32 241 P Pn 16 11 32.0 -1.1
XMIS Christmas Isla 20.37 241 P **P 16 11 31.7 +0.4**
XMIS IAmb IAmb 16 11 35.1
comp=Z,171nm,0.9s
XMIS Christmas Isla 20.37 241 P Pn 16 11 32.5 -1.2
MBWA Marble Bar 20.70 190 P **P 16 11 35.4 +0.7**
MBWA IAmb IAmb 16 11 37.3
comp=Z,234nm,1.2s
MBWA Marble Bar 20.70 190 P **P 16 11 36.0 +1.3**
MNAI Manna 21.00 260 IAMs_20 IAMs_20 16 19 54.1
comp=Z,6µm,21.0s
MNAI Manna 21.00 260 P Pn 16 11 39.6 -1.6
comp=Z,542nm,1.6s
PSA00 Pilbara Seismi 21.08 190 P **P 16 11 39.6 +0.8**
PSA00 IAmb IAmb 16 11 41.3
comp=Z,229nm,1.1s
PSA00 Pilbara Seismi 21.08 190 IAmb IAmb 16 11 41.3
comp=Z,133nm,1.2s
PSA00 Pilbara Seismi 21.08 190 P **P 16 11 40.0 +1.2**
WB0 Warramunga Arr 21.67 152 P **P 16 11 44.5 -0.7**
WRAB Tennant Creek 21.79 152 P **P 16 11 45.6 -0.9**
WRAB IAmb IAmb 16 11 52.2
comp=Z,337nm,1.2s
WRAB Tennant Creek 21.79 152 P **P 16 11 45.6 -0.9**
WRAB pmax pmax
comp=Z,337nm,1.3s
WRA Warramunga Arr 21.80 152 P **P 16 11 45.5 -1.0**
WRA Warramunga Arr 21.80 152 *i* P **P 16 11 46.0 -0.6**
WRA pmax pmax
comp=Z,70nm,0.9s
WRA Warramunga Arr 21.80 152 P **P 16 11 46.0 -0.6**
comp=Z,69nm,0.9s,baz=330,slow=11,SNR=213
WRA ScP **ScP 16 19 20.2 +1.3**
comp=Z,4.8nm,0.8s,baz=335,slow=3.1,SNR=7.1
comp=Z,69nm,0.9s
WB2 Warramunga Arr 21.80 152 IAmb IAmb 16 11 52.2
comp=Z,319nm,1.2s
WR0 Warramunga Arr 21.91 152 IAmb IAmb 16 12 09.1
comp=Z,233nm,0.9s
KRJI Kerinci 22.23 266 P **P 16 11 54.2 +2.8**
comp=Z,845nm,1.9s,comp=Z,19µmcomp=Z,8µm
BKNI Bangkinang 22.64 273 P **P 16 11 57.0 +1.3**
BKNI IAmb IAmb 16 12 18.7
comp=Z,202nm,0.9s
BKNI IAMs_20 IAMs_20 16 21 48.8
comp=Z,6µm,20.0s
BKNI Bangkinang 22.64 273 P **P 16 11 58.3 +2.6**
BKNI Bangkinang 22.64 273 P **P 16 11 57.2 +1.5**
comp=Z,272nm,1.1s,comp=Z,4µmcomp=Z,7µm
PDSI Padang 23.20 269 P **P 16 12 01.1 -0.3**
comp=Z,128nm,0.8s,comp=Z,3µmcomp=Z,6µm
PDSI pP **pP 16 12 09.3 -4.0**
comp=Z,128nm,0.8s,comp=Z,3µmcomp=Z,6µm
COEN Coen 23.38 125 P **P 16 12 03.0 -0.1**
COEN IAmb IAmb 16 12 06.5
comp=Z,222nm,1.2s
COEN Coen 23.38 125 P **P 16 12 05.2 +2.1**
TWGBT Beinan 23.51 354 P **P 16 12 10.4 +6.2**
GIRL Giralia 23.66 202 P **P 16 12 07.8 +2.2**
baz=24,SNR=4.4
PPSI Pulau Pagai 23.73 265 P **P 16 12 07.0 +0.6**
comp=Z,429nm,1.1s,comp=Z,5µm
MANU Manus Island 23.74 93 P **P 16 12 08.6 +2.1**
MANU IAmb IAmb 16 12 25.7
comp=Z,205nm,1.4s
MANU Manus Island 23.74 93 P **P 16 12 09.8 +3.3**
KULM Kulim 23.74 285 P **P 16 12 06.3 -0.2**
KULM IAmb IAmb 16 12 33.6
comp=Z,164nm,1.3s
QIZ Qiongzhong 23.84 326 IAmb IAmb 16 12 14.1
comp=Z,460nm,1.7s
QIZ Qiongzhong 23.84 326 P **P 16 12 10.4 +3.0**
QIZ Qiongzhong 23.84 326 P **P 16 12 08.2 +0.8**
QIZ PcP **PcP 16 15 49.6 -0.1**
QIZ S **S 16 16 23.3 +3.2**
QIZ pmax pmax
comp=Z,74nm,1.7s
QIZ pmax pmax
comp=Z,1µm,3.3s
QIZ LR LR
comp=Z,2µm,16.9s
QIZ LR LR
comp=Z,1µm,12.8s
QIZ LR LR
comp=Z,2µm,19.6s
TPUB Ta-pu 24.04 353 P **P 16 12 09.5 +0.4**
TPUB IAmb IAmb 16 12 28.0
comp=Z,208nm,0.9s
TPUB Ta-pu 24.04 353 P **P 16 12 10.9 +1.8**
YULB Yu-li 24.06 355 P **P 16 12 15.2 +5.9**
SSLB Suanglung 24.48 354 P **P 16 12 13.3 +0.1**
SSLB Suanglung 24.48 354 P **P 16 12 17.8 +4.6**
SISI Saibi 24.57 268 P **P 16 12 17.0 +2.9**
comp=Z,242nm,0.9s,comp=Z,3µm
WRKA Warakurna 24.61 170 P **P 16 12 15.1 +0.8**
baz=25,SNR=86
WRKA Warakurna 24.61 170 P **P 16 12 15.4 +1.0**
HKPS Hong Kong Po S 24.65 338 P **P 16 12 19.3 +4.6**
AS31 Alice Springs 24.90 157 P **P 16 12 17.8 +0.7**
ASAR Alice Springs 24.90 157 P **P 16 12 17.0 0.0**
ASAR Alice Springs 24.90 157 P **P 16 12 17.4 +0.4**
comp=Z,26nm,0.6s,baz=329,slow=8.0,SNR=246
ASAR PcP **PcP 16 15 53.5 +1.5**
comp=Z,9.0nm,0.7s,baz=355,slow=2.3,SNR=5.8
ASAR ScP **ScP 16 19 29.5 +2.4**
comp=Z,2.8nm,0.8s,baz=343,slow=2.4,SNR=6.0
ASAR LR LR 16 22 11.8
comp=Z,3µm,22.0s,baz=342,slow=36
comp=Z,26nm,0.6s
PMG Port Moresby 24.93 111 P **P 16 12 17.3 -0.1**
PMG IAmb IAmb 16 12 35.6
comp=Z,240nm,1.2s
PMG Port Moresby 24.93 111 P **P 16 12 18.3 +0.9**
PMG Port Moresby 24.93 111 P **P 16 12 18.5 +1.1**
PMG Port Moresby 24.93 111 *d* P **P 16 12 17.5 +0.1**
PMG pmax pmax
comp=Z,364nm,2.5s
PMG Port Moresby 24.93 111 LR LR 16 24 47.4
comp=Z,2µm,20.9s,baz=286,slow=43
PSI Prapat 24.97 278 P **P 16 12 20.6 +2.7**
QIS Mount Isa 25.15 143 P **P 16 12 20.0 +0.7**
baz=25,SNR=112
QIS Mount Isa 25.15 143 P **P 16 12 20.2 +0.9**
YHNB Yeheng 25.32 355 P **P 16 12 21.6 +0.8**
YHNB IAmb IAmb 16 12 48.2
comp=Z,115nm,1.1s
YHNB IAMs_20 IAMs_20 16 23 06.0
comp=Z,3µm,21.0s
PBSI Pulau Batu 25.39 271 P **P 16 12 23.4 +1.9**
comp=Z,225nm,1.3s
GZH Guangzhou 25.69 338 P **P 16 12 30.5 +6.4**
GZH S S 16 17 00.9 +12
GZH pmax pmax
comp=Z,120nm,1.4s
GZH LR LR
comp=Z,980nm,8.0s
GZH LR LR
comp=Z,540nm,5.3s
SRIT Nakonsritamara 25.69 292 P **P 16 12 27.4 +3.1**
SURA Surathani 25.86 293 P **P 16 12 28.9 +3.1**
QZH Quanzhou 25.96 349 P **P 16 12 29.9 +3.4**
QZH S **S 16 16 59.3 +5.6**
QZH LR LR
comp=Z,3µm,18.7s
QZH LR LR
comp=Z,3µm,15.4s
QZH LR LR
comp=Z,3µm,16.5s
GSI Gunungsitoli 26.16 274 IAMs_20 IAMs_20 16 24 13.0
comp=Z,6µm,20.0s
GSI Gunungsitoli 26.16 274 P **P 16 12 31.5 +3.0**
GSI Gunungsitoli 26.16 274 P **P 16 12 29.9 +1.4**
comp=Z,110nm,1.2s,comp=Z,3µmcomp=Z,4µm
MEEK Meekatharra 26.24 190 P **P 16 12 29.6 +0.5**
baz=26,SNR=38
MEEK Meekatharra 26.24 190 P **P 16 12 29.5 +0.3**
NAYO Nakonayok 26.68 305 P **P 16 12 35.6 +2.5**
MTSU Mount Surprise 26.68 132 P **P 16 12 34.4 +1.1**
baz=27,SNR=16
KAVG Kaviengg 27.20 94 P **P 16 12 42.2 +4.3**
NONG Nongkai 27.48 314 P **P 16 12 41.6 +1.3**
MLSI Meulaboh, Aceh 27.68 280 P P 16 12 52.1 +10
JOW Kunigami 27.73 9 P **P 16 12 40.0 -2.5**
comp=Z,9.3nm,0.8s,baz=125,slow=17,SNR=1.3
comp=Z,9.3nm,0.8s
SRDT SRDT 28.52 303 P **P 16 12 53.4 +3.7**
COCO West Island 28.95 246 P **P 16 12 54.1 +0.6**
COCO West Island 28.95 246 P **P 16 12 54.1 +0.6**
COCO pmax pmax
comp=Z,290nm,1.4s
MORW Morawa 29.13 194 P **P 16 12 55.6 +0.6**
baz=29,SNR=7.4
MORW Morawa 29.13 194 P **P 16 12 55.3 +0.3**
OOD Oodnadatta 29.31 158 P **P 16 12 57.3 +0.8**
CTA Charters Tower 29.33 133 P **P 16 12 57.0 +0.2**
CTA Charters Tower 29.33 133 LR LR 16 27 49.4
comp=Z,1µm,18.4s,baz=318,slow=42
CTAO Charters Tower 29.33 133 P **P 16 12 57.2 +0.4**
CTAO Charters Tower 29.33 133 P **P 16 12 57.6 +0.8**
CTAO Charters Tower 29.33 133 P **P 16 12 57.2 +0.4**
CTAO pmax pmax
comp=Z,94nm,1.6s
CTAO MLR MLR
comp=Z,1µm,20.0s
AUAYR Ayr State High 29.89 130 P **P 16 13 04.2 +2.5**
FORT Forrest 30.21 172 P **P 16 13 05.4 +1.0**
baz=30,SNR=8.4
FORT Forrest 30.21 172 P **P 16 13 04.7 +0.3**
FORT IAmb IAmb 16 13 19.3
comp=Z,94nm,1.1s
FORT Forrest 30.21 172 P **P 16 13 05.4 +1.0**
BLDU Ballidu 30.48 192 P **P 16 13 07.2 +0.4**
baz=31,SNR=8.5
BLDU Ballidu 30.48 192 P **P 16 13 06.6 -0.2**
CNSH ChangSha 30.50 341 ⇓P **P 16 13 10.0 +2.9**
CNSH S **S 16 18 10.5 +5.3**
CNSH pmax pmax
comp=Z,430nm,5.9s
CNSH LR LR
comp=Z,1µm,21.4s
CNSH LR LR
comp=Z,2µm,17.6s
CNSH LR LR
comp=Z,2µm,16.4s
KMBL Kambalda 30.55 183 P **P 16 13 08.0 +0.5**
baz=31,SNR=7.9
KMBL Kambalda 30.55 183 P **P 16 13 07.9 +0.5**
CM31 Chiang Mai Arr 30.87 309 IAmb IAmb 16 13 16.0
comp=Z,109nm,1.4s
CMAR Chiang Mai Arr 30.87 309 P **P 16 13 10.4 0.0**
CMAR PcP **PcP 16 16 06.2 -0.3**
CMAR Chiang Mai Arr 30.87 309 P **P 16 13 06.7 -3.8**
comp=Z,2.8nm,1.0s,baz=77,slow=8.4,SNR=2.1
CMAR PcP **PcP 16 16 06.0 -0.6**
comp=Z,7.5nm,0.9s,baz=162,slow=2.1,SNR=6.5
CMAR ScP **ScP 16 19 45.8 +0.3**
comp=Z,3.5nm,0.8s,baz=158,slow=2.3,SNR=10.0
CMAR LR LR 16 26 12.0
comp=Z,4µm,21.7s,baz=115,slow=38
comp=Z,2.8nm,1.0s
CRAI Chiangrai 30.87 314 P **P 16 13 09.7 -0.8**
MULG Mulgathing 31.04 162 P **P 16 13 13.0 +1.2**
CHTO Chiang Mai 31.07 310 P **P 16 13 12.3 0.0**
CHTO IAmb IAmb 16 13 17.6
comp=Z,160nm,1.3s
CHTO Chiang Mai 31.07 310 IAMs_20 IAMs_20 16 25 55.8
comp=Z,5µm,22.0s
CHTO Chiang Mai 31.07 310 P **P 16 13 13.3 +1.0**
CHTO Chiang Mai 31.07 310 P **P 16 13 12.3 0.0**
CHTO pmax pmax
comp=Z,160nm,1.3s
CHTO MLR MLR
comp=Z,4µm,22.0s
CHTO Chiang Mai 31.07 310 P **P 16 13 13.3 +1.0**
CHTO pP **pP 16 13 23.9 -1.0**
CHTO PcP **PcP 16 16 07.6 +0.5**
CHTO ScP **ScP 16 19 49.1 +2.9**
KLBR Kellerberrin 31.23 190 P **P 16 13 13.9 +0.4**
baz=31,SNR=14
INKA Innaminka 31.49 150 P **P 16 13 18.7 +3.0**
GYA Guiyang 31.59 330 ⇓ *i* P **P 16 13 18.2 +1.4**
GYA pP pwP 16 13 31.0 -0.8
GYA S **S 16 18 20.4 -2.0**
GYA pmax pmax
comp=Z,33nm,1.0s
GYA LR LR
comp=Z,1µm,12.5s
GYA LR LR
comp=Z,990nm,14.4s
GYA LR LR
comp=Z,2µm,23.2s
SSE Sheshan 31.71 356 P **P 16 13 20.1 +2.5**
SSE S **S 16 18 28.8 +4.9**
SSE pmax pmax
comp=Z,19nm,0.8s
SSE pmax pmax
comp=Z,120nm,5.3s
SSE LR LR
comp=Z,350nm,17.4s
SSE LR LR
comp=Z,630nm,17.6s
WHN Wuhan 32.31 345 P **P 16 13 24.4 +1.5**
WHN pmax pmax
comp=Z,280nm,1.8s
WHN LR LR
comp=Z,5µm,18.2s
WHN LR LR
comp=Z,3µm,18.7s
WHN LR LR
comp=Z,7µm,19.7s
QLP Quilpie 32.47 144 P **P 16 13 25.1 +0.7**
baz=33,SNR=4.4
QLP Quilpie 32.47 144 P **P 16 13 27.1 +2.7**
NWAO Narrogin (SRO) 32.62 190 P **P 16 13 26.5 +0.8**
baz=33,SNR=8.0
NWAO P **P 16 13 26.5 +0.8**
baz=33,SNR=8.0
LCRK Leigh Creek 32.66 156 P **P 16 13 27.5 +1.5**
KMI Kunming 32.70 323 ⇑P **P 16 13 27.3 +0.6**
KMI pP pP 16 13 40.1 +0.9
KMI PP **PP 16 14 40.5 -0.8**
KMI S **S 16 18 46.1 +6.1**
KMI pmax pmax
comp=Z,26nm,2.0s
KMI pmax pmax
comp=Z,430nm,6.6s
KMI LR LR
comp=Z,1µm,15.0s
KMI LR LR
comp=Z,1µm,15.5s
KMI LR LR
comp=Z,2µm,20.6s
JCJ Chichijima 32.89 31 P **P 16 13 25.1 -3.0**
comp=Z,96nm,0.4s,baz=295,slow=9.2,SNR=7.8
JCJ LR LR 16 24 44.8
comp=Z,1µm,21.6s,baz=290,slow=33
NJ2 Nanjing 32.89 352 ⇓P **P 16 13 30.2 +2.2**
NJ2 pP **pwP 16 13 42.2 -1.4**
NJ2 sP **sP 16 13 47.7 +2.2**
NJ2 S **S 16 18 47.9 +5.6**
NJ2 sS **sS 16 19 04.9 +1.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
NJ2 pmax pmax
comp=Z,200nm,3.5s
NJ2 LR LR
comp=Z,1µm,17.1s
NJ2 LR LR
comp=Z,620nm,17.1s
NJ2 LR LR
comp=Z,1µm,16.1s
PBA Port Blair 33.08 293 IAMs_20 IAMs_20 16 27 43.3
comp=Z,5µm,21.0s
ENH Enshi 33.63 338 P **P 16 13 34.1 -0.4**
ENH IAmb IAmb 16 14 07.2
comp=Z,87nm,1.0s
ENH Enshi 33.63 338 P **P 16 13 35.2 +0.7**
BBOO Buckleboo 34.01 161 P **P 16 13 38.6 +0.9**
baz=34,SNR=22
BBOO Buckleboo 34.01 161 IAmb IAmb 16 13 55.8
comp=Z,76nm,1.2s
BBOO Buckleboo 34.01 161 P **P 16 13 38.9 +1.1**
PZH PanZhiHua 34.32 324 P **P 16 13 41.3 +0.6**
PZH pP **pP 16 13 55.6 +2.3**
PZH S **S 16 19 04.6 -0.4**
PZH pmax pmax
comp=Z,30nm,0.8s
PZH pmax pmax
comp=Z,420nm,5.5s
PZH LR LR
comp=Z,990nm,21.6s
PZH LR LR
comp=Z,910nm,22.1s
PZH LR LR
comp=Z,1µm,25.0s
JNU Nakatsue 34.32 11 LR LR 16 29 52.8
comp=Z,395nm,19.6s,baz=186,slow=40
MND Mandalay 35.10 312 P **P 16 13 48.7 +1.4**
RMQ Roma 35.22 139 P **P 16 13 48.3 -0.1**
baz=35,SNR=5.1
TNCH TengChong 35.30 318 P **P 16 13 51.4 +2.1**
TNCH pP pP 16 14 03.2 +1.4
TNCH sP sP 16 14 08.6 +1.1
TNCH PP **PP 16 15 13.1 +2.9**
TNCH S **S 16 19 23.0 +2.7**
TNCH sS sS 16 19 37.3 -4.3
TNCH SS SS 16 21 38.4 -17
TNCH pmax pmax
comp=Z,53nm,0.4s
TNCH pmax pmax
comp=Z,380nm,3.9s
TNCH LR LR
comp=Z,940nm,17.4s
TNCH LR LR
comp=Z,850nm,19.1s
TNCH LR LR

comp=Z,3μm,24.2s
STKA Stephens Creek 35.34 153 P P 16 13 50.2 +0.9
baz=36,SNR=10
STKA Stephens Creek 35.34 153 P P 16 13 49.3 0.0
STKA Stephens Creek 35.34 153 P P 16 13 50.7 +1.4
STKA Stephens Creek 35.34 153 *d* **iP P 16 13 50.9 +1.6**
STKA Stephens Creek 35.34 153 P P 16 13 48.6 -0.6
comp=Z,34nm,0.6s,baz=326,slow=8.9,SNR=66
STKA LR LR 16 31 59.3
comp=Z,1μm,18.0s,baz=314,slow=42
comp=Z,34nm,0.6s
JMN Monobe 35.57 15 P P 16 13 50.7 -0.6
JMN IAmb IAmb 16 13 57.5
comp=Z,78nm,0.9s
HTT Hallett 35.58 158 P P 16 13 52.9 +1.5
baz=36,SNR=35
HTT Hallett 35.58 158 P P 16 13 53.1 +1.7
EIDS Eidsvold 36.09 135 P P 16 13 56.4 +0.6
LYN LuoYang 36.60 344 *eP* **P 16 14 00.5 +0.5**
LYN pP pP 16 14 12.2 +0.2
LYN sP pwP 16 14 16.4 +0.3
LYN S **S 16 19 46.7 +7.2**
LYN pmax pmax
comp=Z,25nm,0.8s
LYN pmax pmax
comp=Z,490nm,7.1s
LYN LR LR
comp=Z,2μm,17.6s
LYN LR LR
comp=Z,1μm,23.1s
LYN LR LR
comp=Z,2μm,23.1s
CD2 Chengdu 36.69 331 P P 16 14 00.6 -0.3
CD2 pP pwP 16 14 14.8 -1.2
CD2 sP sP 16 14 19.9 +1.2
CD2 PP **PP 16 15 25.2 0.0**
CD2 S **S 16 19 38.7 -2.3**
CD2 pmax pmax
comp=Z,110nm,1.2s
CD2 pmax pmax
comp=Z,390nm,5.5s
CD2 LR LR
comp=Z,2μm,17.6s
CD2 LR LR
comp=Z,2μm,18.6s
CD2 LR LR
comp=Z,2μm,19.4s
AULRC Lightning Ridg 36.79 143 P P 16 14 03.9 +2.2
JHJ Hachijo jima 2 36.91 23 LR LR 16 28 38.6
comp=Z,784nm,21.4s,baz=224,slow=35
CMSA Cobar Meteorol 37.08 148 P P 16 14 05.6 +1.5
baz=37,SNR=34
CMSA Cobar Meteorol 37.08 148 P P 16 14 05.8 +1.6
HNR Honiara 37.13 105 P P 16 14 04.6 -0.2
HNR IAmb IAmb 16 14 25.4
comp=Z,111nm,0.9s
HNR Honiara 37.13 105 P P 16 14 08.6 +3.7
HNR Honiara 37.13 105 P P 16 14 04.6 -0.2
HNR pmax pmax
comp=Z,111nm,1.0s
TIA Tai'an 37.22 351 *eP* **P 16 14 01.6 -3.7**
TIA PP **PP 16 15 29.5 -1.5**
TIA S S 16 19 32.2 -17
TIA SS **SnSn 16 22 28.7 +0.7**
TIA pmax pmax
comp=Z,10.0nm,1.8s
TIA LR LR
comp=N,590nm,17.3s
TIA LR LR
comp=E,630nm,16.5s
TIA LR LR
comp=Z,930nm,23.5s
XAN Xi'an 37.23 340 ⇓P **P 16 14 04.8 -0.6**
XAN pP pP 16 14 17.4 -0.5
XAN PP **PP 16 15 31.3 +0.2**
XAN S **S 16 19 48.9 -0.2**
XAN pmax pmax
comp=Z,37nm,1.6s
XAN pmax pmax
comp=Z,680nm,6.3s
XAN LR LR
comp=Z,2μm,17.7s
XAN LR LR
comp=Z,2μm,17.2s
XAN LR LR
comp=Z,4μm,18.2s
KSAR Wonju Array Be 38.15 5 P P 16 14 11.5 -1.6
KSAR Wonju Array Be 38.15 5 P P 16 14 11.5 -1.6
KSRS Korea Array 38.17 5 P P 16 14 10.7 -2.5
comp=Z,1.6nm,0.7s,baz=84,slow=4.9,SNR=3.8
KSRS PcP **PcP 16 16 25.7 -1.4**
comp=Z,3.0nm,0.8s,baz=186,slow=2.2,SNR=5.2
KSRS ScP **ScP 16 20 11.1 +0.1**
comp=Z,6.1nm,0.9s,baz=188,slow=3.5,SNR=11
KSRS LR LR 16 31 42.9
comp=Z,434nm,18.9s,baz=185,slow=39
comp=Z,1.6nm,0.7s
AUBSH Beerwah State 38.33 135 P P 16 14 16.4 +1.7
HNS HongShan 38.80 349 ⇑P **P 16 14 18.1 -0.4**
HNS PP **PP 16 15 48.0 -0.2**
HNS S **S 16 20 12.1 -0.6**
HNS pmax pmax
comp=Z,20nm,1.1s
HNS LR LR
comp=Z,620nm,15.9s
HNS LR LR
comp=Z,990nm,17.7s
HNS LR LR
comp=Z,2μm,19.6s
AUDCS Dubbo College 39.23 146 P P 16 14 23.9 +1.7
MJAR Matsushiro Arr 39.44 19 P P 16 14 20.9 -3.1
comp=Z,14nm,0.8s,baz=191,slow=8.3,SNR=32
MJAR ScP **ScP 16 20 16.5 +0.4**
comp=Z,7.6nm,0.9s,baz=190,slow=3.9,SNR=9.6
MJAR LR LR 16 29 50.1
comp=Z,1μm,21.7s,baz=209,slow=35
comp=Z,14nm,0.8s
MAJO Matsushiro 39.44 19 P P 16 14 21.2 -2.8
MAJO IAmb IAmb 16 14 28.4
comp=Z,80nm,0.9s
MAJO Matsushiro 39.44 19 P P 16 14 26.1 +2.1
MAJO Matsushiro 39.44 19⇓ *eP* **P 16 14 22.0 -1.9**
MAJO pmax pmax
comp=Z,93nm,1.0s
MAJO Matsushiro 39.44 19 P P 16 14 22.1 -1.9
MAJO ScP **ScP 16 20 18.8 +2.8**
MJB9 Matsu-Tunnel 39.44 19 P P 16 14 22.1 -1.8
MJB9 IAmb IAmb 16 14 29.4
comp=Z,76nm,0.9s
DL2 Dalian 39.46 358 P P 16 14 26.7 +2.7
DL2 S S 16 20 32.3 +10
DL2 LR LR
comp=Z,1μm,16.9s
DL2 LR LR
comp=Z,930nm,19.2s
TIY Taiyuan 39.60 346 ⇑P P 16 14 30.9 +5.5
TIY PP **PnPn 16 16 00.3 -0.2**
TIY S **S 16 20 28.9 +3.9**
TIY pmax pmax
comp=Z,29nm,0.7s
TIY pmax pmax
comp=Z,210nm,4.3s
TIY LR LR
comp=Z,930nm,17.2s
TIY LR LR
comp=Z,980nm,17.6s
TIY LR LR
comp=Z,1μm,16.7s
ARPS Mount Arapiles 39.64 157 P P 16 14 27.3 +1.7
baz=40,SNR=21
ARMA Armidale 39.74 141 P P 16 14 28.6 +2.0
baz=40,SNR=50
ARMA Armidale 39.74 141 IAmb IAmb 16 14 31.8
comp=Z,72nm,1.0s
ARMA Armidale 39.74 141 P P 16 14 29.3 +2.6
AUPHS Peel High Scho 39.74 142 P P 16 14 28.9 +2.3
SHL Shillong 40.31 313 P P 16 14 30.1 -1.5
SHL Shillong 40.31 313 P P 16 14 30.1 -1.5
SHL pmax pmax
comp=Z,65nm,1.0s
YNG Young 40.66 148 P P 16 14 36.4 +2.3
LZH Lanzhou 40.98 335 ⇓P **P 16 14 37.4 +0.5**
LZH pP pP 16 14 49.5 0.0
LZH PP **PnPn 16 16 15.4 -1.5**
LZH PcP **PcP 16 16 39.3 +2.9**
LZH ScP **ScP 16 20 25.4 +3.1**
LZH S **S 16 20 42.8 -3.0**
LZH sS sS 16 21 09.8 +2.4
LZH pmax pmax
comp=Z,54nm,1.9s
LZH pmax pmax
comp=Z,600nm,6.0s
LZH LR LR
comp=Z,2μm,16.6s
LZH LR LR
comp=Z,1μm,17.9s
LZH LR LR
comp=Z,2μm,19.3s
BJT Baijiatuau 41.10 351 P P 16 14 40.9 +3.3
BJI Beijing 41.12 351 P P 16 14 40.4 +2.7
BJI PP **PnPn 16 16 18.1 0.0**
BJI S **S 16 20 49.8 +2.5**
BJI sS **sS 16 21 12.8 +3.9**
BJI pmax pmax
comp=Z,8.0nm,1.3s
BJI pmax pmax
comp=Z,81nm,4.9s
BJI LR LR
comp=Z,270nm,19.1s
BJI LR LR
comp=Z,340nm,17.2s
BJI LR LR
comp=Z,500nm,28.0s
MGCD Mangrove Creek 41.37 144 P P 16 14 40.8 +0.9
baz=42,SNR=5.7
JMM Marumori 41.51 21 IAmb IAmb 16 14 47.7
comp=Z,90nm,0.8s
JMM Marumori 41.51 21 P P 16 14 44.2 +3.2
CAN Canberra 41.76 148 P P 16 14 44.0 +0.9
CAN IAmb IAmb 16 14 47.5
comp=Z,119nm,1.3s
CAN Canberra 41.76 148 P P 16 14 45.3 +2.2
CAN Canberra 41.76 148 P P 16 14 44.0 +0.9
CAN pmax pmax
comp=Z,119nm,1.3s
CAN Canberra 41.76 148 P P 16 14 45.6 +2.5
CAN pP **pwP 16 14 56.9 -1.0**
TOO Toolangi 41.85 154 P P 16 14 46.2 +2.3
baz=42,SNR=4.8
TOO Toolangi 41.85 154 P P 16 14 44.8 +0.9
TOO Toolangi 41.85 154 P P 16 14 45.7 +1.8
TOO Toolangi 41.85 154 P P 16 14 44.8 +0.9
TOO pmax pmax
comp=Z,60nm,1.1s
CNB Canberra Magne 41.94 148 P P 16 14 45.9 +1.2
baz=42,SNR=13
CNB Canberra Magne 41.94 148 P P 16 14 48.3 +3.6
SNY Shenyang 42.33 360 ⇓P **P 16 14 50.3 +2.7**
SNY S **S 16 21 10.4 +5.2**
SNY pmax pmax
comp=Z,11nm,1.2s
SNY pmax pmax
comp=Z,320nm,5.1s
SNY LR LR
comp=Z,870nm,16.8s
SNY LR LR
comp=Z,360nm,12.3s
SNY LR LR
comp=Z,1μm,18.1s
HHC Hu-ho-hao-te 42.79 346 *eP* **P 16 14 53.6 +2.0**
HHC pP pP 16 15 02.5 -1.3
HHC PP **PP 16 16 36.7 +5.1**
HHC S **S 16 21 17.2 +4.9**
HHC SS **SS 16 24 23.3 -1.6**
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,430nm,4.5s
HHC LR LR
comp=Z,1μm,19.6s
HHC LR LR
comp=Z,950nm,14.2s
HHC LR LR
comp=Z,2μm,18.2s
BTO Baotou 42.95 345 *eP* P 16 14 57.7 +4.9
BTO pP sP 16 15 10.0 -0.4
BTO sP pwP 16 15 15.4 +6.3
BTO PP **PcP 16 16 40.8 -1.9**
BTO S S 16 21 23.9 +9.3
BTO sS sS 16 21 40.0 +3.7
BTO pmax pmax
comp=Z,34nm,0.4s
BTO pmax pmax
comp=Z,420nm,6.7s
BTO LR LR
comp=Z,2μm,18.0s
BTO LR LR
comp=Z,3μm,16.9s
BTO LR LR
comp=Z,4μm,21.1s
LSA Lhasa 43.31 317 P P 16 14 56.4 +0.1
LSA Lhasa 43.31 317 P P 16 14 56.4 +0.1
LSA pmax pmax
comp=Z,59nm,1.1s
LSA MLR MLR
comp=Z,400nm,21.0s
LSA Lhasa 43.31 317 P P 16 14 56.9 +0.6
LSA pmax pmax
comp=Z,25nm,1.1s
LSA Lhasa 43.31 317 P P 16 14 57.5 +1.1
PALK Pallekele 43.58 281 IAMs_20 IAMs_20 16 34 04.6
comp=Z,3μm,20.0s
PALK Pallekele 43.58 281 LR LR 16 34 26.0
comp=Z,3μm,20.2s,baz=206,slow=38
JTM Tenmabayashi 44.23 19 P P 16 15 03.1 +0.1
JTM IAmb IAmb 16 15 09.0
comp=Z,114nm,0.9s
JTM Tenmabayashi 44.23 19 P P 16 15 08.2 +5.3
ODAN Odare 44.38 311 *eP* **P 16 15 05.0 +0.3**
comp=Z,581nm,2.0s
TAPN Taplejung 44.40 312 *eP* **P 16 15 05.2 +0.2**
comp=Z,64nm,0.6s
XLT XiLinHaoTe 44.92 352 *eP* **P 16 15 11.3 +2.8**
XLT sP sP 16 15 32.8 +6.5
XLT S **S 16 21 45.8 +2.7**
XLT sS sS 16 22 10.8 +5.9
XLT pmax pmax
comp=Z,21nm,1.5s
XLT pmax pmax
comp=Z,280nm,5.4s
XLT LR LR
comp=Z,530nm,14.5s
XLT LR LR
comp=Z,530nm,19.9s
RAMN Ramite 45.02 310 *eP* **P 16 15 10.3 +0.4**
comp=Z,501nm,1.1s
RAMN Ramite 45.02 310 *eP* **ScP 16 20 39.1 +0.2**
comp=Z,60nm,1.5s
USRK Ussuriysk Ar. 45.31 8 P **P 16 15 09.7 -1.9**
comp=Z,6.0nm,0.6s,baz=190,slow=6.2,SNR=19
USRK ScP **ScP 16 20 39.8 +0.4**
comp=Z,12nm,1.1s,baz=198,slow=1.8,SNR=7.9
USRK LR LR 16 35 10.2
comp=Z,628nm,20.1s,baz=189,slow=38
comp=Z,6.0nm,0.6s
USA0B Ussuriysk Arra 45.32 8 P **P 16 15 10.8 -0.8**
USA0B Ussuriysk Arra 45.32 8⇑ *eP* **P 16 15 10.8 -0.8**
MDJ Mudanjiang 45.43 6 P **P 16 15 14.7 +2.3**
MDJ Mudanjiang 45.43 6 P **P 16 15 15.4 +3.0**
MDJ PP **PP 16 16 59.0 -0.5**
MDJ ScP **ScP 16 20 45.7 +5.9**
MDJ PcS **PcS 16 20 47.5 +2.6**
MDJ S **S 16 21 53.8 +3.5**
MDJ ScS **ScS 16 25 08.4 +3.7**
MDJ pmax pmax
comp=Z,14nm,1.1s
MDJ pmax pmax
comp=Z,250nm,5.1s
MDJ LR LR
comp=Z,650nm,19.8s
MDJ LR LR
comp=Z,520nm,16.2s
MDJ LR LR
comp=Z,230nm,15.9s
MDJ Mudanjiang 45.43 6 P **P 16 15 13.0 +0.5**
GOMU GeErMu 45.47 327 P **P 16 15 14.8 +1.4**
GOMU S **S 16 21 49.0 -2.9**
GOMU pmax pmax
comp=Z,10.0nm,1.1s
GOMU LR LR
comp=Z,670nm,17.1s
GOMU LR LR
comp=Z,540nm,17.6s
GOMU LR LR
comp=Z,1μm,17.6s
GTA Gaotai 45.50 334 ⇑P **P 16 15 12.6 -0.7**
GTA sP sP 16 15 30.3 -1.2
GTA PcP **PcP 16 16 52.6 +1.0**
GTA PP **PP 16 17 05.7 +5.1**
GTA ScP **ScP 16 20 43.9 +3.4**
GTA S **S 16 21 52.0 +0.1**
GTA sS sS 16 22 10.1 -3.6
GTA ScS **ScS 16 25 02.7 -3.0**
GTA pmax pmax
comp=Z,44nm,1.2s
GTA pmax pmax
comp=Z,330nm,5.2s
GTA LR LR
comp=Z,800nm,18.9s
GTA LR LR
comp=Z,780nm,16.7s
GTA LR LR
comp=Z,1μm,19.6s
JIRN Jiri 45.71 311 *eP* **P 16 15 15.7 +0.3**
comp=Z,352nm,1.1s
JIRN Jiri 45.71 311 *eP* **ScP 16 20 41.1 -0.8**
comp=Z,49nm,1.4s
GUN Gumba 46.07 311 *eP* **P 16 15 18.7 +0.4**
comp=Z,294nm,0.8s
GUN Gumba 46.07 311 *eP* **ScP 16 20 41.8 -1.6**
comp=Z,33nm,1.2s
PKI Pulchoki 46.25 310 *eP* **P 16 15 19.6 -0.1**
comp=Z,306nm,1.4s
PKI Pulchoki 46.25 310 *eP* **ScP 16 20 44.8 +0.7**
comp=Z,51nm,1.4s
PKIN Phulchoki 46.26 310 *eP* **P 16 15 19.5 -0.2**
comp=Z,210nm,1.2s
BNX BinXian 46.36 4 ⇑P **P 16 15 22.1 +2.3**
BNX pP **pwP 16 15 34.5 -2.2**
BNX sP **sP 16 15 39.0 +1.8**
BNX PP **PP 16 17 10.5 +1.1**
BNX S **S 16 22 08.5 +4.8**
BNX sS **sS 16 22 27.4 +1.9**
BNX pmax pmax
comp=Z,8.0nm,0.9s
BNX pmax pmax
comp=Z,370nm,4.2s
BNX LR LR
comp=Z,660nm,20.6s
BNX LR LR
comp=Z,560nm,17.0s
BNX LR LR
comp=Z,810nm,22.4s
KKN Kakani 46.46 311 *eP* **P 16 15 21.5 +0.3**
comp=Z,594nm,1.9s
DMN Daman 46.50 310 *eP* **P 16 15 21.9 +0.4**
comp=Z,240nm,1.1s
NOUC Port Laguerre 46.63 120 P P 16 15 25.4 +3.1
DZM Mont Dzumac 46.74 120 P P 16 15 26.3 +3.0
DZM Mont Dzumac 46.74 120 *eP* P 16 15 17.7 -5.6
comp=Z,74nm,1.2s
DZM *e*S **S 16 22 01.5 -8.6**
comp=Z,671nm,30.8s
DZM *e*SS **SS 16 25 47.9 +11**
comp=Z,870nm,24.6s
DZM *e*LR LR 16 28 39.4
comp=Z,1μm,23.7s
DZM Mont Dzumac 46.74 120 P P 16 15 23.3 0.0
comp=Z,9.7nm,1.0s,baz=247,slow=11,SNR=5.7
comp=Z,9.7nm,1.0s
GKN Gorkha 47.06 310 *eP* **P 16 15 26.0 +0.2**
comp=Z,143nm,0.9s
ASAJ Asahikawa 47.71 18 P P 16 15 30.4 0.0
ASAJ pmax pmax
comp=Z,78nm,0.9s
ASAJ Asahikawa 47.71 18 P P 16 15 26.9 -3.5
comp=Z,11nm,0.9s,baz=278,slow=7.1,SNR=2.3
ASAJ LR LR 16 34 19.0
comp=Z,951nm,21.5s,baz=214,slow=35
comp=Z,11nm,0.9s
JKA Kamikawa-asahi 47.72 18 P P 16 15 30.4 0.0
JKA IAmb IAmb 16 15 36.4
comp=Z,78nm,0.9s
KOLN Koldanda 47.74 310 *eP* **P 16 15 31.0 -0.1**
comp=Z,893nm,1.8s
DANN Dangsing 47.90 310 *eP* **P 16 15 32.7 +0.2**
comp=Z,630nm,1.2s
PYUN Piuthan 48.37 310 *eP* **P 16 15 36.6 +0.6**
comp=Z,688nm,1.3s
PYUN Piuthan 48.37 310 *eP* **ScP 16 20 55.0 +2.1**
HIA Hailar 49.88 357 P P 16 15 50.5 +3.5
KLR Kul'dur 50.22 7⇓ *iP* **P 16 15 49.5 0.0**
KLR pmax pmax
comp=Z,32nm,1.9s
KLR Kul'dur 50.22 7 P P 16 15 46.0 -3.5
comp=Z,3.2nm,0.6s,baz=218,slow=3.4,SNR=11
KLR ScP **ScP 16 21 00.2 +0.2**
comp=Z,3.2nm,1.0s,baz=225,slow=2.3,SNR=3.9
KLR LR LR 16 41 25.1
comp=Z,365nm,18.0s,baz=186,slow=41
comp=Z,3.2nm,0.6s
YSS Yuzh-Sakhalins 50.32 17 P P 16 15 50.0 -0.3
YSS IAmb IAmb 16 15 53.9
comp=Z,100nm,1.2s
YSS Yuzh-Sakhalins 50.32 17⇑ *eP* **P 16 15 46.0 -4.3**
YSS *e**PP **pP 16 15 56.3 -6.4**
YSS *e* 16 17 10.8
YSS *e* 16 17 41.8
YSS *e*PPP PPP 16 18 39.5
YSS *e*S **S 16 22 52.4 -7.1**
YSS pmax pmax
comp=Z,1μm,4.4s
YSS pmax pmax
comp=Z,60nm,1.2s
YSS MLR MLR
comp=Z,2μm,12.0s
YSS Yuzh-Sakhalins 50.32 17 P P 16 15 52.9 +2.6
ULN Ulaanbaatar 50.49 346 P P 16 15 49.9 -1.8
ULN Ulaanbaatar 50.49 346 IAMs_20 IAMs_20 16 37 26.5
comp=Z,1μm,21.0s
ULN Ulaanbaatar 50.49 346 *c iP* **P 16 15 49.6 -2.1**
ULN pmax pmax
comp=Z,12nm,1.0s
ULN Ulaanbaatar 50.49 346 P P 16 15 50.8 -0.9
ULN ScP **ScP 16 21 04.1 +2.7**
SONM Songino Array 50.62 345 P P 16 15 50.6 -2.1
SONM Songino Array 50.62 345 P P 16 15 50.6 -2.1
SONM pmax pmax
comp=Z,13nm,0.9s
SONM Songino Array 50.62 345 P P 16 15 50.6 -2.1
comp=Z,7.4nm,0.8s,baz=158,slow=8.3,SNR=39
SONM PcP **PcP 16 17 07.6 -2.1**
comp=Z,5.4nm,0.7s,baz=172,slow=4.2,SNR=1.5
SONM ScP **ScP 16 21 02.1 +0.1**
comp=Z,2.6nm,0.8s,baz=163,slow=5.2,SNR=4.7
SONM LR LR 16 38 54.3
comp=Z,1μm,20.3s,baz=158,slow=38
comp=Z,7.4nm,0.8s
HEH HeiHe 50.86 3 *eP* **P 16 15 52.2 -2.1**
HEH ScP **ScP 16 21 01.8 -0.9**
HEH S **S 16 23 06.2 -0.7**
HEH pmax pmax
comp=Z,32nm,1.2s
HEH pmax pmax
comp=Z,490nm,6.3s
HEH LR LR
comp=Z,590nm,17.6s
HEH LR LR
comp=Z,830nm,17.3s
HEH LR LR
comp=Z,920nm,20.3s
GRNR Gornyy 52.42 10⇓ *iP* **P 16 16 05.4 -0.5**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR MLR MLR
comp=N,470nm,15.0s
CIT Chita 53.22 352 *eP* **P 16 16 10.1 -1.8**
CIT *e* 16 16 25.1
CIT *e* 16 17 16.0
CIT *e* 16 18 13.2
CIT *e* 16 19 14.6
ZAK Zakamensk 53.79 344 *eP* **P 16 16 13.7 -2.4**
ZAK pmax pmax
comp=Z,16nm,1.5s
ZEA Zeya 54.33 3 *eP* **P 16 16 21.5 +1.6**
ZEA *e* 16 16 35.4

ZEA eS S 16 24 00.4 +6.2
ZEA pmax pmax
comp=Z,10.0nm,1.6s
WMQ Urumqi 54.73 329 eP P 16 16 22.1 -1.0
WMQ pP pP 16 16 34.1 -2.3
WMQ PcP PcP 16 17 25.4 +0.2
WMQ ScP ScP 16 21 22.5 +2.7
WMQ pmax pmax
comp=Z,18nm,0.9s
WMQ LR LR
comp=Z,970nm,18.3s
WMQ LR LR
comp=Z,570nm,21.5s
WMQ LR LR
comp=Z,1μm,27.7s
MOY Mondy 55.59 343 eP P 16 16 27.6 -1.6
MOY pmax pmax
comp=Z,32nm,2.2s
NIL Nilore 58.34 311 P P 16 16 48.5 -0.4
NIL Nilore 58.34 311 IAMs_20 IAMs_20 16 44 42.6
comp=Z,853nm,21.0s
NIL Nilore 58.34 311 P P 16 16 48.5 -0.4
NIL pmax pmax
comp=Z,181nm,1.4s
NIL MLR MLR
comp=Z,900nm,21.0s
NIL Nilore 58.34 311 P P 16 16 48.9 0.0
NIL pP pP 16 16 59.7 -2.3
ZSN Zaisan 58.66 330 eP P 16 16 49.1 -1.8
baz=330
ZSN eS S 16 24 51.7 -0.2
baz=330
ZSN Zaisan 58.66 330 eP P 16 16 49.1 -1.8
ZSN eS S 16 24 51.7 -0.2
BOD Bodaibo 58.85 354 eP P 16 16 50.1 -1.8
BOD pmax pmax
comp=Z,33nm,1.7s
JCZ Jackson Bay 58.88 143 P P 16 16 55.8 +3.3
SHLS Shalkode 58.91 323 eP P 16 16 48.6 -4.3
baz=324
SHLS eS S 16 24 50.5 -5.0
baz=324
SHLS Shalkode 58.91 323 eP P 16 16 48.5 -4.3
SHLS eS S 16 24 50.4 -5.0
PDGK Podgornoye 59.00 324 P P 16 16 51.5 -1.9
DGZ Jazzator, Ålta 59.03 333c iP P 16 16 52.0 -1.6
DGZ pmax pmax
comp=Z,20nm,0.8s
TARG Taragay, Kyrgy 59.12 321 P P 16 16 53.2 -1.5
TARG Taragay, Kyrgy 59.12 321 P P 16 16 53.2 -1.5
TARG pmax pmax
comp=Z,20nm,1.0s
KSH Kashi 59.13 318 P P 16 16 54.4 -0.1
KSH S S 16 25 04.8 +6.3
KSH pmax pmax
comp=Z,15nm,1.0s
KSH pmax pmax
comp=Z,330nm,5.5s
KSH LR LR
comp=Z,1μm,21.0s
KSH LR LR
comp=Z,740nm,21.3s
KSH LR LR
comp=Z,1μm,18.9s
PRZ Przheval'sk 59.17 322 IAmb IAmb 16 16 59.2
comp=Z,26nm,0.8s
UZB Uzynbulak 59.17 323 eP P 16 16 52.8 -1.8
comp=Z,26nm,1.6s,baz=323
UZB Uzynbulak 59.17 323 eP P 16 16 52.8 -1.8
UZB pmax pmax
comp=Z,26nm,1.6s
MLZ Mavora Lakes 59.22 145 P P 16 16 54.4 -0.4
MLZ IAMs_20 IAMs_20 16 38 50.2
comp=Z,2μm,21.0s
WHZ Wether Hill Ro 59.43 146 IAmb IAmb 16 17 00.4
comp=Z,61nm,1.2s
WHZ IAMs_20 IAMs_20 16 37 17.7
comp=Z,1μm,21.0s
SATY Saty 59.49 323 eP P 16 16 55.2 -1.7
comp=Z,27nm,1.4s,baz=323
SATY Saty 59.49 323 eP P 16 16 55.1 -1.7
SATY pmax pmax
comp=Z,27nm,1.4s
ZHN Zhinishke 59.53 323 eP P 16 16 55.5 -1.6
baz=323
ZHN Zhinishke 59.53 323 eP P 16 16 55.5 -1.6
MK31 Makanchi Array 59.55 328 P P 16 16 55.4 -1.6
MKAR Makanchi Array 59.55 328 P P 16 16 55.3 -1.7
MKAR Makanchi Array 59.55 328 iP P 16 16 55.5 -1.5
MKAR pmax pmax
comp=Z,6.0nm,0.4s
MKAR Makanchi Array 59.55 328 P P 16 16 54.1 -2.9
comp=Z,6.1nm,0.4s,baz=126,slow=8.8,SNR=80
MKAR PcP PcP 16 17 41.1 -2.9
comp=Z,9.7nm,0.6s,baz=126,slow=6.2,SNR=5.2
MKAR ScP ScP 16 21 40.7 -0.3
comp=Z,3.6nm,0.7s,baz=121,slow=4.7,SNR=6.4
MKAR LR LR 16 44 11.1
comp=Z,989nm,20.0s,baz=126,slow=38
comp=Z,6.1nm,0.4s
KPKS Kokpek 59.55 323 eP P 16 16 55.7 -1.6
comp=Z,22nm,1.1s,baz=323
KPKS Kokpek 59.55 323 eP P 16 16 55.6 -1.6
KPKS pmax pmax
comp=Z,22nm,1.1s
MAKZ Makanchi 59.73 328 P P 16 16 56.0 -2.3
MAKZ Makanchi 59.73 328 P P 16 16 56.0 -2.3
MAKZ pmax pmax
comp=Z,23nm,1.0s
MAKZ MLR MLR
comp=Z,700nm,20.0s
MAKZ Makanchi 59.73 328 P P 16 16 56.8 -1.5
MAKZ ScP ScP 16 21 43.3 +1.5
LBZ Lake Benmore 59.89 143 P P 16 16 59.8 +0.4
LBZ IAmb IAmb 16 17 15.1
comp=Z,38nm,1.2s
RPZ Rata Peaks 60.05 142 P P 16 17 02.0 +1.4
RPZ Rata Peaks 60.05 142 LR LR 16 44 02.2
comp=Z,1μm,19.6s,baz=302,slow=37
NNZ Nelson 60.29 138 IAMs_20 IAMs_20 16 45 22.3
comp=Z,1μm,22.0s
NNZ Nelson 60.29 138 P P 16 17 23.0 +21
TNSS Tian-Shan 60.37 322 eP P 16 17 00.3 -2.9
baz=322
TNSS Tian-Shan 60.37 322 eP P 16 17 00.3 -2.9
MDOK Medeo 60.37 322 eP P 16 17 00.8 -2.2
baz=322
MDOK Medeo 60.37 322 eP P 16 17 00.7 -2.2
ARXS Arharly 60.49 324 eP P 16 17 01.6 -2.0
TDK Taldyqorghan 60.60 325 eP P 16 17 02.9 -1.5
comp=Z,37nm,1.2s,baz=325
TDK Taldyqorghan 60.60 325 eP P 16 17 02.8 -1.5
TDK pmax pmax
comp=Z,37nm,1.2s
PEA0B Petropavlovsk- 60.67 23 P 16 17 09.0 +4.5
PETK Petropavlovsk- 60.67 23 P P 16 17 02.9 -1.6
comp=Z,14nm,1.0s,baz=205,slow=2.9,SNR=16
comp=Z,14nm,1.0s
TUWZ Tuamarina 60.76 138 P P 16 17 06.3 +1.0
CHKK Chushkaly 60.79 323 eP P 16 17 03.2 -2.4
baz=323
CHKK Chushkaly 60.79 323 eP P 16 17 03.2 -2.4
OTVZ Oturere 60.91 135 P P 16 17 10.8 +4.1
PET Petropavlovsk 60.98 23 P P 16 17 07.3 +0.7
PET Petropavlovsk 60.98 23 P P 16 17 10.4 +3.8
PET Petropavlovsk 60.98 23 eP P 16 17 09.1 +2.5
PET eS S 16 25 25.9 +4.6
PET e 16 26 57.1
PET eSS SS 16 29 15.8 -5.7
PET pmax pmax
comp=Z,134nm,1.2s
PET pmax pmax
comp=Z,100nm,12.0s
PET MLR MLR
comp=Z,400nm,15.0s
MOVZ Moawhango 61.08 136 P P 16 17 10.1 +2.4
TKM2 Tokmak 2 61.14 321 P P 16 17 06.2 -2.0
KUU Kurty 61.20 323 eP P 16 17 07.1 -1.4
baz=323
KUU Kurty 61.20 323 eP P 16 17 07.0 -1.4
OGWZ Otaki Gorge 61.30 137 P P 16 17 10.9 +1.8
BHHZ Black Hill Sta 61.33 136 P P 16 17 11.1 +1.7
BHW Baring Head 61.37 138 P P 16 17 10.8 +1.3
MRZ Mangatainoka R 61.51 137 P P 16 17 11.4 +0.9
MRZ Mangatainoka R 61.51 137 P P 16 17 12.2 +1.7

URZ Urewera 61.56 134 P P 16 17 11.0 +0.1
comp=Z,5.5nm,0.4s,baz=30,slow=8.1,SNR=12
comp=Z,5.5nm,0.4s
HOWZ Holdsworth Sta 61.57 137 P P 16 17 12.9 +2.0
RTZ Ruatahuna 61.61 134 P P 16 17 12.6 +1.3
RTZ IAmb IAmb 16 17 39.2
comp=Z,39nm,0.9s
AAK Ala-Archa 61.69 321 P P 16 17 10.6 -1.3
AAK Ala-Archa 61.69 321 P P 16 17 10.6 -1.3
AAK pmax pmax
comp=Z,24nm,1.2s
AAK MLR MLR
comp=Z,600nm,20.0s
AAK Ala-Archa 61.69 321 P P 16 17 11.1 -0.8
AAK ScP ScP 16 21 53.4 +2.6
PAWZ Paruwai Farm 61.73 138 P P 16 17 14.9 +2.9
PRWZ Pori Road 61.73 137 P P 16 17 13.7 +1.7
KBL Kabul 61.89 310 P P 16 17 12.3 -1.2
KBL Kabul 61.89 310 P P 16 17 12.3 -1.2
KBL pmax pmax
comp=Z,81nm,0.6s
TRWZ Traveller 61.91 138 P P 16 17 15.6 +2.4
AML Almayashu 61.94 320 P P 16 17 12.3 -1.6
BFZ Birch Farm 61.97 137 P P 16 17 15.0 +1.3
SGDS Sogindy 62.02 321 eP P 16 17 12.3 -1.7
baz=322
SGDS Sogindy 62.02 321 eP P 16 17 12.3 -1.7
KAHZ Kahuranaki 62.03 136 P P 16 17 16.5 +2.4
PXZ Pawanui 62.12 136 P P 16 17 16.2 +1.6
YAK Yakutsk 62.73 3 P P 16 17 16.4 -1.9
YAK Yakutsk 62.73 3 IAMs_20 IAMs_20 16 47 07.2
comp=Z,757nm,20.0s
YAK Yakutsk 62.73 3 eP P 16 17 17.2 -1.0
YAK e*PP pP 16 17 29.0 -1.9
YAK e 16 17 55.1
YAK e 16 19 35.9
YAK ePPP PPP 16 21 03.6
YAK eS S 16 25 43.8 +0.6
YAK e*SS sS 16 26 08.4 +4.0
YAK e 16 27 04.2
YAK eSSS SSS 16 32 36.7
YAK pmax pmax
comp=Z,74nm,2.0s
YAK pmax pmax
comp=N,32nm,1.8s
YAK pmax pmax
comp=E,13nm,1.9s
YAK pmax pmax
comp=Z,190nm,3.8s
YAK pmax pmax
comp=N,107nm,3.2s
YAK pmax pmax
comp=E,170nm,8.8s
YAK smax smax
comp=E,387nm,9.9s
YAK smax smax
comp=N,132nm,4.1s
YAK Yakutsk 62.73 3 P P 16 17 16.0 -2.2
comp=N,1.6nm,0.6s,baz=148,slow=9.5,SNR=21
YAK LR LR 16 47 16.0
comp=N,22nm,19.1s,baz=188,slow=39
YAK Yakutsk 62.73 3 P P 16 17 16.7 -1.5
YAK pP pP 16 17 27.6 -3.3
YAK sP pwP 16 17 31.7 -4.0
SEM Semipalatinsk 62.90 330 eP P 16 17 17.0 -3.0
baz=330
SEM Semipalatinsk 62.90 330 eP P 16 17 16.9 -3.0
BTLS Baital 63.20 323 eP P 16 17 19.7 -2.0
baz=323
BTLS Baital 63.20 323 eP P 16 17 19.7 -2.0
ZAA0 Zalesovo Array 63.22 335 P P 16 17 18.2 -3.4
ZALV Zalesovo Beam 63.22 335 iP P 16 17 18.7 -2.9
ZALV pmax pmax
comp=Z,12nm,0.6s
ZALV Zalesovo Beam 63.22 335 P P 16 17 18.7 -2.9
comp=Z,8.6nm,0.4s,baz=120,slow=6.8,SNR=28
ZALV LR LR 16 45 10.7
comp=Z,651nm,20.7s,baz=140,slow=36
ZALV PKP2bc 16 46 27.5
comp=Z,0.4nm,0.4s,baz=167,slow=2.5,SNR=3.3
comp=Z,8.6nm,0.4s
MA2 Magadan 63.73 15 P P 16 17 25.0 0.0
MA2 Magadan 63.73 15 P P 16 17 29.3 +4.4
MA2 Magadan 63.73 15c iP P 16 17 24.4 -0.5
MA2 pmax pmax
comp=Z,38nm,1.2s
MA2 Magadan 63.73 15 P P 16 17 23.4 -1.5
comp=Z,16nm,0.9s,baz=248,slow=16,SNR=4.7
comp=Z,16nm,0.9s
MA2 Magadan 63.73 15 P P 16 17 25.1 +0.2
KURBB Kurchatov Arra 63.90 330 P P 16 17 23.7 -2.4
comp=Z,10nm,0.8s,baz=130,slow=6.3,SNR=110
KURBB LR LR 16 46 06.8
comp=Z,423nm,21.9s,baz=161,slow=37
comp=Z,10nm,0.8s
KURK Kurchatov 63.91 330 P P 16 17 24.2 -2.0
KURK IAmb IAmb 16 17 32.2
comp=Z,37nm,0.9s
KURK Kurchatov 63.91 330c iP P 16 17 24.2 -2.0
KURK pmax pmax
comp=Z,32nm,1.0s
KURK Kurchatov 63.91 330 P P 16 17 24.2 -2.0
OTUK Ortayu 65.88 325 P P 16 17 36.9 -2.3
CASY Casey 66.11 186 P P 16 17 41.0 +0.8
CASY Casey 66.11 186 IAMs_20 IAMs_20 16 45 28.1
comp=Z,658nm,20.0s
CASY Casey 66.11 186 P P 16 17 41.3 +1.1
CASY sP pP 16 17 55.5 +1.8
BRZS Berezniki 66.60 327 eP P 16 17 41.8 -2.0
baz=327
BRZS Berezniki 66.60 327 eP P 16 17 41.7 -2.0
DRV Dumont d'Urvil 66.84 173 P P 16 17 44.1 -0.7
DRV pP pP 16 17 55.5 -2.9
SEY Seymchan 67.02 14⇓ iP P 16 17 46.3 +0.2
SEY pmax pmax
comp=Z,90nm,1.7s
SEY Seymchan 67.02 14 P P 16 17 45.3 -0.8
comp=Z,11nm,1.1s,baz=206,slow=5.6,SNR=20
comp=Z,11nm,1.1s
HRA Herat 67.12 308 P P 16 17 46.5 -1.1
HRA IAmb IAmb 16 17 50.0
comp=Z,82nm,1.6s
WSAR Wadi Sarin 67.45 295 LR LR 16 47 02.7
comp=Z,400nm,22.0s,baz=107,slow=36
SHEM Shemya Is, Ala 67.81 30 LR LR 16 47 47.2
comp=Z,157nm,18.5s,baz=268,slow=36
BVA0 Borovoye Array 69.42 329 iP P 16 17 58.9 -2.5
BVAR Borovoye Array 69.42 329 P P 16 17 59.1 -2.2
comp=Z,7.4nm,0.6s,baz=132,slow=7.2,SNR=29
comp=Z,7.4nm,0.6s
BRVK Borovoye 69.49 329 P P 16 17 59.1 -2.7
BRVK Borovoye 69.49 329c iP P 16 17 59.6 -2.2
BRVK pmax pmax
comp=Z,21nm,1.2s
BRVK Borovoye 69.49 329 P P 16 17 59.7 -2.0
GEYT Alibeck 71.34 311 P P 16 18 11.5 -2.0
comp=Z,6.1nm,1.1s,baz=128,slow=9.6,SNR=7.2
GEYT LR LR 16 56 43.4
comp=Z,251nm,18.3s,baz=120,slow=42
comp=Z,6.1nm,1.1s
TIXI Tiksi 72.31 2⇑ eP P 16 18 15.3 -3.2
TIXI Tiksi 72.31 2 LR LR 16 53 41.1
comp=Z,18nm,18.5s,baz=198,slow=39
ADK Adak 72.33 34 P P 16 18 19.2 +0.3
ADK IAmb IAmb 16 18 21.9
comp=Z,82nm,1.1s
ADK Adak 72.33 34 P P 16 18 23.5 +4.5
ADK Adak 72.33 34 P P 16 18 19.3 +0.3
ADK pmax pmax
comp=Z,82nm,1.2s
ATKA Atka Island 73.86 35 P P 16 18 29.2 +1.2
BILL Bilibino 74.60 15 P P 16 18 30.8 -1.3
BILL Bilibino 74.60 15 iP P 16 18 31.4 -0.7
AKTO Aktyubinsk 75.26 323 P P 16 18 33.7 -2.6
SVE Sverdlovsk 76.16 330ceP P 16 18 39.2 -2.0
SVE pmax pmax
comp=Z,40nm,1.0s
ARU Arti 77.07 329d iP P 16 18 43.3 -3.1
ARU S S 16 28 31.6 +0.2
ARU pmax pmax
comp=Z,27nm,0.9s
ARU MLR MLR
comp=Z,634nm,20.0s
NIKH Nikolski High 77.18 35 P P 16 18 48.3 +1.2
baz=251

RAR Rarotonga 77.23 111 LR LR 16 52 17.4
comp=Z,88nm,21.7s,baz=282,slow=35
VOI Vohitsoka 77.56 248 P P 16 18 49.4 -0.6
VOI IAmb IAmb 16 19 06.0
comp=Z,50nm,1.0s
VOI Vohitsoka 77.56 248 P P 16 18 52.0 +2.0
SPIA Saint Paul Isl 77.84 31 P P 16 18 51.8 +1.1
baz=249
MAW Mawson 78.57 200 P P 16 18 54.6 +0.1
comp=Z,7.6nm,0.8s,baz=96,slow=2.7,SNR=6.4
MAW LR LR 16 53 32.1
comp=Z,409nm,18.1s,baz=46,slow=36
comp=Z,7.6nm,0.8s
LKRN Lenkeran, Azer 78.67 310 P P 16 18 57.5 +1.9
UNV Unalaska Valle 78.78 35 P P 16 18 59.0 +3.1
UNV Unalaska Valle 78.78 35 P P 16 18 57.2 +1.2
baz=253
AKUT Akutan 79.28 34 P P 16 19 01.3 +2.7
VNDA Vanda 79.47 172 P P 16 19 00.5 +1.2
VNDA Vanda 79.47 172 P P 16 19 00.5 +1.2
VNDA pmax pmax
comp=Z,20nm,1.1s
VNDA Vanda 79.47 172 P P 16 18 59.3 0.0
comp=Z,9.3nm,0.7s,baz=313,slow=7.2,SNR=38
VNDA LR LR 16 54 19.6
comp=Z,783nm,19.1s,baz=336,slow=36
comp=Z,9.3nm,0.7s
GAMB Gambell 79.66 24 P P 16 19 01.9 +1.4
baz=247
SEKA Sheki 80.29 312 P P 16 19 05.9 +1.4
MNGR Mingechevir, A 80.30 311 P P 16 19 06.4 +1.9
MAK Makhachkala 80.36 314 eP P 16 19 02.1 -2.7
MAK e*PP pP 16 19 16.6 -2.3
MAK e 16 22 02.1
MAK ePPP PPP 16 23 54.5
MAK eS S 16 29 03.6 -3.5
MAK eSS SS 16 34 17.6 -1.9
MAK eSSS SSS 16 37 44.3
MAK pmax pmax
comp=Z,337nm,1.2s
MAK MLR MLR
comp=Z,421nm,19.0s
SBA Scott Base 80.42 172 P P 16 19 05.9 +1.5
SBA Scott Base 80.42 172 P P 16 19 05.9 +1.5
SBA pmax pmax
comp=Z,20nm,1.1s
ZKTA Zakatala 80.79 312 P P 16 19 08.9 +1.8
FALS False Pass 80.80 34 P P 16 19 09.4 +2.6
FALS False Pass 80.80 34 P P 16 19 07.3 +0.5
baz=256,SNR=7.3
GANJ Ganja 80.86 311 P P 16 19 09.3 +1.8
M11K Mekoryuk 80.90 28 P P 16 19 08.4 +1.2
baz=252
ATD Arta Tunnel 81.14 282 IAMs_20 IAMs_20 16 53 00.4
comp=Z,536nm,21.0s
ATD Arta Tunnel 81.14 282 LR LR 16 53 11.6
comp=Z,24nm,21.8s,baz=66,slow=34
NAX Nakhchivan 81.27 310 P P 16 19 11.5 +1.7
TNA Tin City 81.83 23 P P 16 19 13.3 +1.2
baz=250
GNI Garni 81.98 311 LR LR 17 03 10.1
comp=Z,152nm,19.9s,baz=84,slow=41
K13K Kusilvak Mount 82.07 27 IAmb IAmb 16 19 17.3
comp=Z,77nm,1.2s
K13K Kusilvak Mount 82.07 27 P P 16 19 14.5 +1.1
baz=253
M13K Dall Lake 82.26 29 P P 16 19 16.0 +1.6
baz=255
KIRV Kirov 82.42 329c iP P 16 19 12.6 -2.7
KIRV Kirov 82.42 329 LR LR 16 58 04.8
comp=Z,486nm,21.2s,baz=112,slow=37
F14K Arctic Creek 82.43 23 P P 16 19 16.6 +1.3
baz=251
ANM Nome 82.54 24 P P 16 19 17.3 +1.4
baz=252
SDPT Sand Point 82.56 34 P P 16 19 17.1 +1.0
SDPT Sand Point 82.56 34 P P 16 19 16.4 +0.3
baz=258,SNR=8.9
J14K Nanvaranak Lak 82.79 26 P P 16 19 18.9 +1.7
baz=254
L14K Kuka Creek 82.82 28 P P 16 19 19.2 +1.9
baz=255
N14K Kuskokwak Cree 82.94 29 P P 16 19 19.0 +1.1
baz=256
CHNA Chernabura Isl 82.95 35 P P 16 19 18.2 +0.1
baz=259
ZEI Tsey 82.95 313 eP P 16 19 16.5 -2.2
ZEI pmax pmax
comp=Z,22nm,1.5s
O14K Tigyukauivet M 83.00 30 IAmb IAmb 16 19 40.0
comp=Z,84nm,1.6s
O14K Tigyukauivet M 83.00 30 P P 16 19 19.2 +0.9
baz=257
M14K Bethel 83.01 28 P P 16 19 19.4 +1.1
baz=256,SNR=20
F15K North Star Dit 83.17 23 P P 16 19 20.1 +1.0
baz=253
G15K Niukluk 83.21 24 P P 16 19 20.2 +0.9
baz=254
S14K Fog Glacier 83.26 33 P P 16 19 20.2 +0.3
baz=259
L15K Ungalak Mounta 83.46 28 P P 16 19 21.4 +0.8
baz=256
K15K Wolf Creek Mou 83.58 27 P P 16 19 22.5 +1.2
baz=256,SNR=32
M15K Kasigluk River 83.61 29 P P 16 19 22.7 +1.3
baz=257
C16K Lisburne Hills 83.69 21 P P 16 19 22.8 +1.1
baz=252
O15K Ungalikthiuk R 83.70 30 P P 16 19 22.6 +0.6
baz=258
N15K Kwethluk River 83.78 29 P P 16 19 22.5 +0.2
baz=258
KBZ Khabaz 83.80 314⇑ eP P 16 19 20.7 -2.1
KBZ pmax pmax
comp=Z,10.0nm,1.3s
KBZ Khabaz 83.80 314 P P 16 19 19.8 -3.0
comp=Z,2.8nm,0.9s,baz=54,slow=14,SNR=2.5
KBZ LR LR 17 04 50.1
comp=Z,137nm,18.2s,baz=84,slow=42
comp=Z,2.8nm,0.9s
H16K Elim 83.86 25 P P 16 19 23.4 +0.7
baz=255,SNR=19
CHGN Chignik 83.88 33 IAmb IAmb 16 19 27.9
comp=Z,75nm,1.4s
CHGN Chignik 83.88 33 P P 16 19 23.6 +0.7
baz=260
KVAR Kislovodsk Arr 83.97 314 LR LR 17 02 27.3
comp=Z,317nm,21.1s,baz=278,slow=40
KIV Kislovodsk 83.98 314 eP P 16 19 20.0 -3.8
KIV eS SKSac 16 29 38.5 -4.7
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,289nm,19.0s
G16K Koyuk River 84.00 24 P P 16 19 24.1 +0.7
G16K Koyuk River 84.00 24 P P 16 19 24.0 +0.7
baz=255
J16K Anvik River 84.23 26 P P 16 19 25.8 +1.2
baz=257,SNR=14
I17K Unalakleet 84.33 26 P P 16 19 26.1 +1.1
baz=257,SNR=14
D17K Noatak River 84.33 22 P P 16 19 25.7 +0.7
baz=254
L16K Owhat River 84.40 28 P P 16 19 26.6 +1.1
baz=258,SNR=28
N16K Nishlik Lake 84.49 29 P P 16 19 26.9 +0.9
baz=259
RDOG Red Dog Mine 84.49 21 P P 16 19 26.8 +1.0
baz=254,SNR=12
M16K Timber Creek 84.50 29 P P 16 19 26.8 +0.9
baz=259
C17K DeLong Mountai 84.51 21 P P 16 19 26.8 +0.9
baz=254
R16K Pilot Point 84.56 32 P P 16 19 26.9 +0.6
baz=260
P16K Nushagak River 84.60 31 P P 16 19 27.0 +0.5
baz=260,SNR=6.6
E17K Hotham Inlet 84.64 22 P P 16 19 27.4 +0.9
baz=255,SNR=19
O16K Kokwok River B 84.65 30 P P 16 19 27.2 +0.5
baz=260,SNR=29
F17K Baldwin Pennin 84.70 23 IAmb IAmb 16 19 30.5
comp=Z,61nm,1.3s
F17K Baldwin Pennin 84.70 23 P P 16 19 27.8 +0.9
baz=256
G17K Kiwalik Mounta 84.72 24 P P 16 19 27.8 +0.9

baz=257,SNR=16
H17K **Granite Mounta** 84.89 25 P P 16 19 28.8 +0.9
baz=257,SNR=14
PRGR **Permogore** 84.93 332 eP P 16 19 24.6 -3.5
PRGR eS SKSac 16 29 43.3 -5.0
PRGR pmax pmax
comp=Z,40nm,0.8s
L17K **Donlin** 85.03 27 P P 16 19 29.3 +0.7
baz=259,SNR=9.7
K17K **Iditarod** 85.14 27 IAmb IAmb 16 19 52.3
comp=Z,40nm,1.1s
K17K **Iditarod** 85.14 27 P P 16 19 29.7 +0.5
baz=259
FURI **Furi** 85.15 279 IAMs_20 IAMs_20 17 00 55.7
comp=Z,684nm,19.0s
E18K **Tukpahlearik C** 85.18 22 IAmb IAmb 16 19 36.1
comp=Z,47nm,0.9s
E18K **Tukpahlearik C** 85.18 22 P P 16 19 30.1 +0.8
baz=257,SNR=24
O17K **Koliganek Bris** 85.18 30 P P 16 19 30.0 +0.6
baz=260,SNR=14
R17K **Ugashik Creek** 85.20 32 P P 16 19 29.9 +0.3
baz=261
Q16K **King Salmon** 85.23 31 P P 16 19 30.0 +0.4
baz=261
B18K **Kokolik River** 85.23 20 P P 16 19 29.9 +0.5
baz=255,SNR=7.1
C18K **Utukok River** 85.26 21 P P 16 19 29.3 -0.4
baz=256
N17K **Nushagak Hills** 85.27 29 IAmb IAmb 16 19 33.7
comp=Z,98nm,1.7s
N17K **Nushagak Hills** 85.27 29 P P 16 19 29.4 -0.4
baz=260
M17K **Holitna River** 85.30 28 P P 16 19 30.1 +0.2
baz=260
CHIR **Chirikof Islan** 85.35 34 P P 16 19 30.4 0.0
baz=262
P17K **Kvichak River** 85.42 31 P P 16 19 30.8 +0.3
baz=261
VRH **Novokhopyorsk** 85.48 321 eP P 16 19 28.3 -2.8
VRH pmax pmax
comp=Z,22nm,0.6s
Q17K **Contact Creek** 85.56 32 P P 16 19 31.1 -0.4
baz=262,SNR=32
H18K **Honhosa River** 85.58 24 IAmb IAmb 16 19 34.3
comp=Z,37nm,1.3s
H18K **Honhosa River** 85.58 24 P P 16 19 32.0 +0.7
baz=259
KIBK **Kibwezi** 85.59 268 IAMs_20 IAMs_20 16 54 10.6
comp=Z,776nm,22.0s
G18K **Tagagawik** 85.61 24 IAmb IAmb 16 19 34.4
comp=Z,37nm,1.4s
G18K **Tagagawik** 85.61 24 P P 16 19 31.9 +0.5
baz=258
A19K **Wainwright** 85.69 19 P P 16 19 32.5 +0.9
baz=256
L18K **Granite Mounta** 85.79 28 P P 16 19 32.7 +0.3
baz=260
N18K **Kilae Creek** 85.92 29 IAmb IAmb 16 20 30.3
comp=Z,60nm,1.8s
N18K **Kilae Creek** 85.92 29 P P 16 19 33.6 +0.5
baz=261
C19K **Lookout Ridge** 85.93 20 P P 16 19 33.3 +0.2
C19K IAmb IAmb 16 19 36.3
comp=Z,29nm,0.8s
C19K **Lookout Ridge** 85.93 20 P P 16 19 33.8 +0.7
baz=257,SNR=9.9
J18K **Innoko River** 85.98 26 P P 16 19 33.8 +0.4
baz=260,SNR=7.8
P18K **Big Mountain,** 86.06 30 IAmb IAmb 16 19 36.2
comp=Z,47nm,1.6s
P18K **Big Mountain,** 86.06 30 P P 16 19 34.1 +0.3
baz=262
Q18K **Katmai Hardscr** 86.07 31 P P 16 19 33.6 -0.5
baz=262,SNR=9.0
M18K **Stony River** 86.08 28 P P 16 19 34.3 +0.5
baz=261,SNR=6.1
SOC **Sochi** 86.08 314 eP P 16 19 25.9 -8.3
SOC e 16 22 48.2
SOC ePPP PPP 16 24 43.6
SOC eS SKSac 16 29 47.4 -9.0
SOC eSS SS 16 35 39.8 -4.4
SOC eSSS SSS 16 39 13.7
SOC MLR MLR
comp=Z,322nm,21.0s
GCSA **Galena City Sc** 86.13 25 P P 16 19 34.6 +0.7
baz=260,SNR=8.2
SVW2 **Sparrevohn** 86.13 29 P P 16 19 35.7 +1.5
O18K **Koktuh Hills** 86.14 30 IAmb IAmb 16 20 31.5
comp=Z,77nm,1.8s
O18K **Koktuh Hills** 86.14 30 P P 16 19 34.6 +0.4
baz=262
F19K **Shaleruckik Mo** 86.14 23 P P 16 19 34.3 +0.3
baz=259
TTA **Tatalina** 86.21 27 P P 16 19 35.6 +1.0
TTA **Tatalina** 86.21 27 P P 16 19 35.2 +0.6
baz=261,SNR=6.9
R18K **Karluk** 86.22 32 P P 16 19 34.5 -0.2
baz=263
SII **Sitkinak Islan** 86.25 33 P P 16 19 36.3 +1.5
SII **Sitkinak Islan** 86.25 33 P P 16 19 35.2 +0.4
baz=263
G19K **Purcell Mounta** 86.29 24 IAmb IAmb 16 19 37.9
comp=Z,30nm,0.7s
G19K **Purcell Mounta** 86.29 24 P P 16 19 34.8 0.0
baz=260
D19K **Kuna River** 86.33 21 IAmb IAmb 16 19 49.4
comp=Z,24nm,1.1s
D19K **Kuna River** 86.33 21 P P 16 19 35.6 +0.6
baz=259
KMBO **Kilima Mbogo** 86.39 269 IAMs_20 IAMs_20 16 54 29.8
comp=Z,822nm,20.0s
KMBO **Kilima Mbogo** 86.39 269 P P 16 19 33.4 -3.4
comp=Z,3.1nm,0.8s,baz=76,slow=2.8,SNR=1.6
KMBO LR LR 16 55 03.1
comp=Z,780nm,21.1s,baz=93,slow=34
comp=Z,3.1nm,0.8s
H19K **Roundabout Mou** 86.44 24 P P 16 19 36.0 +0.5
baz=260
E19K **Redstone River** 86.46 22 IAmb IAmb 16 19 50.1
comp=Z,28nm,0.9s
E19K **Redstone River** 86.46 22 P P 16 19 35.3 -0.3
baz=260
J19K **Poorman** 86.55 26 IAmb IAmb 16 19 39.8
comp=Z,61nm,1.8s
J19K **Poorman** 86.55 26 P P 16 19 36.2 +0.1
baz=261
N19K **Bonanza Creek** 86.62 29 IAmb IAmb 16 19 39.7
comp=Z,31nm,0.9s
N19K **Bonanza Creek** 86.62 29 P P 16 19 37.0 +0.3
baz=263
O19K **Port Alsworth** 86.62 30 IAmb IAmb 16 20 04.9
comp=Z,94nm,1.9s
O19K **Port Alsworth** 86.62 30 P P 16 19 36.9 +0.3
baz=263
L19K **White Mountain** 86.63 28 IAmb IAmb 16 19 41.5
comp=Z,35nm,1.4s
L19K **White Mountain** 86.63 28 P P 16 19 36.3 -0.3
baz=262
PPT **Papeete** 86.70 107 LR LR 16 56 35.8
comp=Z,183nm,20.4s,baz=292,slow=34
PPT2 **Papeete2** 86.70 107 eP P 16 19 28.8 -9.1
comp=Z,90nm,25.2s
PPT2 **Papeete2** 86.70 107 eS S 16 30 09.7 -2.5
comp=Z,630nm,26.0s
PPT2 eSS SS 16 35 52.1 -2.5
comp=Z,524nm,26.5s
PPT2 **Papeete2** 86.70 107 eLR LR 16 47 08.8
comp=Z,499nm,25.0s
PPT2 eLR LR 16 47 16.7
comp=Z,407nm,35.8s
OHAK **Old Harbor** 86.81 33 IAmb IAmb 16 19 40.6
comp=Z,45nm,1.1s
OHAK **Old Harbor** 86.81 33 P P 16 19 39.0 +1.5
OHAK **Old Harbor** 86.81 33 P P 16 19 37.8 +0.3
baz=264
Q19K **Cape Douglas,** 86.81 31 P P 16 19 37.7 +0.1
baz=263
TBI **Tubuai** 86.86 113 eS S 16 30 15.1 +1.8
comp=Z,3µm,31.2s
TBI **Tubuai** 86.86 113 eLR LR 16 47 02.7
comp=Z,3µm,28.0s
D20K **Etivluk River** 86.91 21 P P 16 19 37.7 -0.1
baz=260
B20K **Meade River** 86.95 20 IAmb IAmb 16 19 42.5
comp=Z,42nm,1.1s
B20K **Meade River** 86.95 20 P P 16 19 38.3 +0.3
baz=260
F20K **Avaraart Lake** 86.97 23 P P 16 19 38.2 +0.2
baz=261
VORD **Divnogorie** 86.98 321 eP P 16 19 34.8 -3.7
VORD pmax pmax
comp=Z,30nm,0.7s
E20K **Nigu River** 86.99 22 P P 16 19 38.7 +0.4
baz=261
H20K **Anotleneega Mo** 87.08 24 P P 16 19 39.0 +0.3
baz=262,SNR=10
VSR **Storozhevoye** 87.08 321 eP P 16 19 34.0 -5.0
VSR pmax pmax
comp=Z,30nm,0.9s
VORR **Voronezh** 87.09 322 eP P 16 19 35.9 -3.1
VORR pmax pmax
comp=Z,60nm,0.5s
P19K **Oil Pt** 87.11 30 P P 16 19 39.3 +0.3
baz=264
L20K **Farewell, AK** 87.12 27 P P 16 19 39.4 +0.4
baz=263
K20K **Telida** 87.14 27 IAmb IAmb 16 19 43.8
comp=Z,56nm,1.6s
K20K **Telida** 87.14 27 P P 16 19 38.8 -0.2
baz=263
I20K **Naaghedeneel** 87.15 25 P P 16 19 39.1 +0.1
baz=262
J20K **Nowinta River** 87.21 26 IAmb IAmb 16 19 42.4
comp=Z,61nm,1.5s
J20K **Nowinta River** 87.21 26 P P 16 19 40.0 +0.6
baz=263
KDAK **Kodiak Island** 87.25 32 P P 16 19 39.6 0.0
KDAK IAmb IAmb 16 19 56.8
comp=Z,27nm,0.9s
KDAK **Kodiak Island** 87.25 32 P P 16 19 39.9 +0.3
baz=264
KDAK **Kodiak Island** 87.25 32 P P 16 19 39.6 0.0
KDAK pmax pmax
comp=Z,27nm,1.0s
KDAK **Kodiak Island** 87.25 32 LR LR 16 54 46.3
comp=Z,413nm,21.1s,baz=271,slow=33
LPSR **Galich'ya Gora** 87.34 323 eP P 16 19 36.1 -4.1
LPSR pmax pmax
comp=Z,40nm,1.1s
A21K **Barrow** 87.36 19 P P 16 19 40.7 +0.8
baz=260
M20K **Styx River** 87.40 28 IAmb IAmb 16 20 02.4
comp=Z,28nm,1.1s
M20K **Styx River** 87.40 28 P P 16 19 40.4 0.0
baz=264
Q20K **Shuyak Island** 87.43 31 P P 16 19 40.4 -0.1
baz=264
O20K **Slope Mountain** 87.46 30 P P 16 19 41.2 +0.5
baz=264
GAZ **Gaziantep** 87.58 307 IAmb IAmb 16 19 45.8
comp=Z,62nm,1.4s
ASF **Jabal al Asfar** 87.62 302 LR LR 17 05 57.4
comp=Z,298nm,18.0s,baz=131,slow=40
C21K **Kniteblade Rid** 87.64 21 P P 16 19 41.9 +0.6
baz=262
KLMR **Klimovskoe** 87.74 331 eP P 16 19 38.2 -3.7
KLMR AMP 16 19 42.0
comp=Z,37nm,0.8s
KLMR ePP PP 16 23 03.0 -4.9
KLMR LQ LQ 16 51 09.6
KLMR LQ LQ 16 51 09.6
KLMR LR LR 16 57 26.8
KLMR AMP 17 06 01.3
comp=Z,1µm,24.0s
KLMR **Klimovskoe** 87.74 331 eP P 16 19 38.2 -3.7
KLMR e 16 23 02.9
KLMR pmax pmax
comp=Z,37nm,0.8s
KLMR MLR MLR
comp=Z,1µm,24.0s
B21K **Ikpikpuk River** 87.76 20 IAmb IAmb 16 19 55.7
comp=Z,20nm,0.8s
B21K **Ikpikpuk River** 87.76 20 P P 16 19 42.0 +0.2
baz=262
N20K **Mount Spurr** 87.77 29 P P 16 19 42.0 -0.2
comp=Z,29nm,1.1s
G21K **Allakaket** 87.77 23 IAmb IAmb 16 20 01.7
G21K **Allakaket** 87.77 23 P P 16 19 42.5 +0.5
baz=263
ANN **Anapa** 87.80 315 eP P 16 19 37.0 -5.6
ANN e*PP PcP 16 19 46.6 +2.2
ANN e 16 23 02.3
ANN eS SKSac 16 30 01.0 -5.8
ANN eSS SS 16 36 02.1 -7.2
ANN pmax pmax
comp=Z,33nm,0.9s
E21K **Killik River** 87.83 22 P P 16 19 42.0 -0.3
baz=263
A22K **Sinclair Lake** 87.84 19 P P 16 19 42.5 +0.4
baz=262,SNR=10.0
F21K **Alatna River** 87.86 23 IAmb IAmb 16 20 57.0
comp=Z,46nm,2.0s
F21K **Alatna River** 87.86 23 P P 16 19 43.0 +0.6
baz=263
HOM **Homer** 87.91 30 P P 16 19 43.0 +0.2
baz=265
PPLA **Purkeypile** 87.94 27 P P 16 19 43.4 +0.4
baz=264
H21K **Melozitna Rive** 87.96 24 IAmb IAmb 16 19 46.5
comp=Z,31nm,1.2s
H21K **Melozitna Rive** 87.96 24 P P 16 19 42.8 -0.1
baz=264
CHUM **Lake Minchumin** 87.98 26 P P 16 19 43.4 +0.4
baz=264
CAST **Castle Rocks** 88.04 27 P P 16 19 43.2 -0.2
baz=265
CNPM **China Poot** 88.10 31 P P 16 19 42.8 -0.9
SKT **Skwentna** 88.16 28 IAmb IAmb 16 19 45.7
comp=Z,48nm,1.5s
SKT **Skwentna** 88.16 28 P P 16 19 43.0 -1.0
baz=265,SNR=5.9
I21K **Tanana** 88.25 25 IAmb IAmb 16 19 47.2
comp=Z,18nm,0.8s
I21K **Tanana** 88.25 25 P P 16 19 44.5 +0.2
baz=265,SNR=17
B22K **Teshekpuk Lake** 88.26 20 IAmb IAmb 16 19 49.0
comp=Z,41nm,1.0s
B22K **Teshekpuk Lake** 88.26 20 P P 16 19 44.6 +0.4
baz=263,SNR=12
MOS **Moscow** 88.33 326 eP P 16 19 41.3 -3.5
MOS eS SKSac 16 30 06.6 -3.0
MOS pmax pmax
comp=Z,39nm,0.8s
LODK **Lodwar** 88.34 273 P P 16 19 45.5 -0.5
LODK IAMs_20 IAMs_20 16 55 11.5
comp=Z,568nm,21.0s
D22K **Ayikyak River** 88.35 21 P P 16 19 45.1 +0.4
baz=264
BRSE **Bradley Lake S** 88.37 30 P P 16 19 44.7 -0.3
baz=266
F22K **John River** 88.40 23 P P 16 19 45.0 0.0
baz=264
SUA **Susitna One** 88.49 29 IAmb IAmb 16 19 47.2
comp=Z,21nm,0.9s
SUA **Susitna One** 88.49 29 P P 16 19 45.2 -0.5
baz=266
H22K **Ishtalitna Cre** 88.57 24 P P 16 19 45.6 -0.2
baz=265
KTH **Kantishna Hill** 88.57 27 IAmb IAmb 16 19 47.8
comp=Z,41nm,1.5s
BPAW **Bear Paw Mtn.** 88.58 26 P P 16 19 45.9 0.0
baz=266
E22K **Anaktuvuk Pass** 88.60 22 IAmb IAmb 16 19 49.6
comp=Z,26nm,1.0s
E22K **Anaktuvuk Pass** 88.60 22 P P 16 19 45.8 -0.2
baz=265,SNR=16
G22K **Bettles** 88.60 23 P P 16 19 45.6 -0.3
baz=265
MLY **Manley** 88.76 25 IAmb IAmb 16 19 49.2
comp=Z,17nm,0.8s
MLY **Manley** 88.76 25 P P 16 19 46.5 -0.2
baz=266,SNR=16
M22K **Willow** 88.81 28 IAmb IAmb 16 19 49.0
comp=Z,43nm,1.0s
M22K **Willow** 88.81 28 P P 16 19 46.7 -0.2
baz=266
TRF **Thorofare Moun** 88.85 27 IAmb IAmb 16 19 49.7
comp=Z,51nm,1.5s
TRF **Thorofare Moun** 88.85 27 P P 16 19 46.9 -0.4
baz=266
OBN **Obninsk** 88.90 325 P P 16 19 45.7 -1.8
OBN **Obninsk** 88.90 325 deP P 16 19 46.0 -1.5
OBN e 16 23 15.0
OBN eS SKSac 16 30 11.6 -1.3
OBN eSS SS 16 36 23.1 -1.5
OBN pmax pmax
comp=Z,90nm,1.7s
OBN MLR MLR
comp=Z,486nm,22.0s
MMAI **Mount Meron Ar** 88.91 303 P P 16 19 44.4 -3.9
comp=Z,17nm,1.1s,baz=23,slow=7.8,SNR=1.5
MMAI LR LR 17 07 04.1
comp=Z,477nm,18.2s,baz=80,slow=41
comp=Z,17nm,1.1s
O22K **Cooper Landing** 88.93 30 P P 16 19 47.4 -0.1
baz=267
RC01 **Rabbit Creek A** 88.96 29 IAmb IAmb 16 19 49.4
comp=Z,22nm,1.0s
RC01 **Rabbit Creek A** 88.96 29 P P 16 19 47.6 -0.1
baz=267
SEW **Seward** 89.04 30 P P 16 19 47.7 -0.4
baz=267
D23K **Nanushuk River** 89.08 21 P P 16 19 48.2 +0.1
baz=266
COLD **Coldfoot** 89.14 23 P P 16 19 48.5 +0.1
baz=266,SNR=17
C23K **Itkillik River** 89.17 20 IAmb IAmb 16 19 51.9
comp=Z,33nm,1.0s
C23K **Itkillik River** 89.17 20 P P 16 19 49.0 +0.5
baz=266
G23K **Bananza Creek** 89.17 23 IAmb IAmb 16 19 52.5
comp=Z,36nm,1.1s
G23K **Bananza Creek** 89.17 23 P P 16 19 49.1 +0.4
baz=266
EIL **Elat** 89.22 300 LR LR 17 04 39.5
comp=Z,537nm,18.9s,baz=70,slow=39
QSPA **South Pole Qui** 89.24 180 P P 16 19 50.6 +1.5
QSPA **South Pole Qui** 89.24 180 IAMs_20 IAMs_20 16 58 52.2
comp=Z,691nm,20.0s
QSPA **South Pole Qui** 89.24 180 P P 16 19 49.7 +0.6
comp=Z,12nm,0.9s,baz=349,slow=0.7,SNR=23
comp=Z,12nm,0.9s
PMR **Palmer** 89.28 29 P P 16 19 49.8 +0.7
PMR **Palmer** 89.28 29 P P 16 19 49.1 -0.1
baz=267
I23K **Minto, Yukon-K** 89.35 25 IAmb IAmb 16 19 52.0
comp=Z,37nm,0.9s
I23K **Minto, Yukon-K** 89.35 25 P P 16 19 49.4 0.0
baz=267,SNR=24
E23K **Chandalar** 89.41 22 P P 16 19 50.1 +0.3
baz=267
NEA2 **Nenana** 89.45 26 IAmb IAmb 16 19 52.7
comp=Z,45nm,1.6s
NEA2 **Nenana** 89.45 26 P P 16 19 49.6 -0.3
baz=267,SNR=8.5
TOLK **Toolik Lake Re** 89.46 21 IAmb IAmb 16 19 52.3
comp=Z,69nm,1.9s
TOLK **Toolik Lake Re** 89.46 21 P P 16 19 50.1 +0.1
baz=267,SNR=7.1
MCK **McKinley** 89.47 26 P P 16 19 49.4 -0.7
baz=267,SNR=10
RND **Reindeer** 89.49 27 IAmb IAmb 16 19 51.6
comp=Z,19nm,0.7s
KNK **Knik Glacier** 89.59 29 P P 16 19 50.3 -0.4
baz=268
WAT1 **Susitna Watana** 89.60 27 P P 16 19 50.2 -0.5
baz=268
PWL **Port Wells** 89.63 29 IAmb IAmb 16 19 53.6
comp=Z,41nm,1.2s
PWL **Port Wells** 89.63 29 P P 16 19 50.3 -0.5
baz=268
SML **Sawmill** 89.67 28 IAmb IAmb 16 20 41.0
comp=Z,43nm,1.2s
SML **Sawmill** 89.67 28 P P 16 19 50.4 -0.7
baz=268
D24K **Happy Valley** 89.76 21 IAmb IAmb 16 19 54.3
comp=Z,24nm,1.0s
D24K **Happy Valley** 89.76 21 P P 16 19 51.5 +0.2
baz=267
C24K **Franklin Bluff** 89.83 20 P P 16 19 51.3 -0.2
baz=268
E24K **Your Creek** 89.84 22 IAmb IAmb 16 19 55.3
comp=Z,35nm,1.6s
E24K **Your Creek** 89.84 22 P P 16 19 51.6 -0.2
baz=268
M23K **Glacier View** 89.95 28 P P 16 19 51.8 -0.6
baz=268
WAT6 **Susitna Watana** 89.97 28 P P 16 19 52.1 -0.5
baz=268,SNR=7.7
CCB **Clear Creek Bu** 90.00 25 IAmb IAmb 16 19 53.8
comp=Z,16nm,0.7s
H24K **Noodor Dome** 90.00 24 P P 16 19 52.2 -0.4
H24K IAmb IAmb 16 19 55.6
comp=Z,62nm,1.5s
H24K **Noodor Dome** 90.00 24 P P 16 19 52.5 -0.1
baz=268,SNR=17
F24K **Squaw Lake** 90.05 23 IAmb IAmb 16 19 55.9
comp=Z,40nm,1.4s
F24K **Squaw Lake** 90.05 23 P P 16 19 52.9 +0.2
baz=268
P23K **Montague Islan** 90.06 30 P P 16 19 52.5 -0.4
baz=269
SCM **Sheep Creek Mo** 90.14 28 P P 16 19 52.9 -0.4
baz=269
DHY **Denali Highway** 90.15 27 P P 16 19 53.0 -0.5
baz=269,SNR=7.5
POKR **Poker Plat Res** 90.17 25 P P 16 19 53.2 -0.1
baz=269
G24K **Hadweenzic Riv** 90.19 23 IAmb IAmb 16 19 56.3
comp=Z,44nm,1.2s
G24K **Hadweenzic Riv** 90.19 23 P P 16 19 53.3 0.0
baz=269
GLI **Glacier Island** 90.23 29 P P 16 19 53.4 -0.3
baz=269
LVZ **Lovozero** 90.27 338⇑ eP P 16 19 55.0 +1.3
LVZ pmax pmax
comp=Z,31nm,1.3s
HDA **Harding Lake** 90.36 26 P P 16 19 53.3 -0.9
baz=269,SNR=9.2
HDA P P 16 19 53.3 -0.9
baz=269,SNR=9.2
ILAR **Eielson Array** 90.39 25 P P 16 19 51.7 -2.6
comp=Z,3.3nm,0.5s,baz=250,slow=4.6,SNR=81
ILAR LR LR 16 57 26.8
comp=Z,93nm,20.7s,baz=262,slow=34
comp=Z,3.3nm,0.5s
BR131 **Keskin Array S** 90.46 310⇑ eP P 16 19 55.2 -0.2
BRTR **Keskin Array B** 90.46 310 i P P 16 19 56.5 +1.1
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR **Keskin Array B** 90.46 310 P P 16 19 52.7 -2.7
comp=Z,2.9nm,0.8s,baz=126,slow=4.5,SNR=10.0
BRTR LR LR 17 08 20.3
comp=Z,406nm,19.8s,baz=106,slow=41
comp=Z,2.9nm,0.8s
D25K **Kavik River** 90.64 21 P P 16 19 55.2 -0.2
baz=270,SNR=9.5
M24K **Tolsona, Glenn** 90.69 28 P P 16 19 55.6 -0.3
baz=270
G25K **Bearman Lake** 90.73 23 P P 16 19 56.0 +0.1
baz=270
APA **Apatity** 90.74 337⇓ iP P 16 19 53.7 -2.2
APA pmax pmax
comp=Z,10.0nm,1.0s
KLU **Klutina** 90.81 29 P P 16 19 55.9 -0.5
baz=270
K24K **Donnelly Dome** 90.87 26 P P 16 19 56.6 -0.1
baz=270,SNR=6.0
F25K **Christian Rive** 90.91 23 P P 16 19 56.8 +0.1
baz=270
E25K **Arctic Village** 90.93 22 P P 16 19 57.1 +0.3
baz=270,SNR=22
PRP **Porcupine Dome** 90.97 25 IAmb IAmb 16 20 13.4
comp=Z,33nm,1.8s
PRP **Porcupine Dome** 90.97 25 P P 16 19 57.0 -0.2
baz=270
PAX **Paxson** 91.01 27 P P 16 19 57.0 -0.4
baz=270
J25K **Salcha River,** 91.04 26 P P 16 19 57.2 -0.3
baz=271,SNR=6.9
C26K **Camden Bay** 91.14 20 P P 16 19 57.9 +0.2
baz=271
HARP **HAARP** 91.17 28 P P 16 19 57.8 -0.2
baz=271
RIDG **Independent Ri** 91.29 26 IAmb IAmb 16 20 00.6
comp=Z,22nm,0.8s
RIDG **Independent Ri** 91.29 26 P P 16 19 58.4 -0.2
baz=271,SNR=7.6
N25K **Chitina, Valde** 91.44 29 P P 16 19 59.0 -0.4
baz=271
BMRM **Bremner River** 91.45 29 P P 16 19 59.0 -0.4

baz=271
F26K **Sheenjek River** 91.48 22 P P 16 19 59.7 +0.3
baz=272,SNR=6.7
KAIM **Kayak Island** 91.57 30 P P 16 19 59.7 -0.2
baz=271
G26K **Porcupine Rive** 91.64 23 P P 16 20 00.0 0.0
baz=272
SCRK **Sand Creek** 91.66 26 IAmb IAmb 16 20 02.6
comp=Z,52nm,1.8s
SCRK **Sand Creek** 91.66 26 P P 16 20 00.1 -0.3
baz=272
MENT **Mentasta** 91.81 27 IAmb IAmb 16 20 03.6
comp=Z,15nm,0.6s
GLB **Gilahina Butte** 91.82 29 IAmb IAmb 16 20 03.7
comp=Z,42nm,1.3s
J26L **Joseph Creek** 91.83 26 P P 16 20 00.6 -0.5
baz=272,SNR=12
VALR **Valaam** 91.94 331 *e*P P 16 20 01.6 0.0
VALR pmax pmax
comp=Z,49nm,1.0s
I26K **Coal Creek Min** 91.97 25 IAmb IAmb 16 20 04.7
comp=Z,58nm,1.5s
I26K **Coal Creek Min** 91.97 25 P P 16 20 01.5 -0.1
baz=273
L26K **Log Cabin Wild** 91.98 27 IAmb IAmb 16 20 04.5
comp=Z,64nm,1.8s
L26K **Log Cabin Wild** 91.98 27 P P 16 20 01.7 -0.1
baz=272
M26K **Nabesna, AK** 92.17 28 IAmb IAmb 16 20 39.0
comp=Z,59nm,1.7s
M26K **Nabesna, AK** 92.17 28 P P 16 20 02.6 -0.1
baz=273
CRQE **Cirque** 92.20 29 P P 16 20 02.7 -0.3
baz=272
MCARA **McCarthy VSAT** 92.20 29 P P 16 20 02.8 0.0
baz=273
E27K **Coleen River** 92.42 22 IAmb IAmb 16 20 06.6
comp=Z,25nm,1.1s
E27K **Coleen River** 92.42 22 P P 16 20 04.0 +0.3
baz=274
G27K **Doyon Strip** 92.49 23 IAmb IAmb 16 20 07.3
comp=Z,18nm,1.0s
G27K **Doyon Strip** 92.49 23 P P 16 20 04.5 +0.4
baz=274
K27K **Chicken** 92.50 26 P P 16 20 04.8 +0.6
baz=274
ELIB **Princess Elisa** 92.54 198 *d*P P 16 20 05.2 +0.8
comp=Z,25nm,1.2s
D27M **Malcolm River** 92.56 21 P P 16 20 04.7 +0.3
baz=275
H27K **Steamboat Moun** 92.58 24 P P 16 20 05.1 +0.6
baz=274
I27K **Kandik River** 92.59 24 P P 16 20 05.1 +0.5
baz=274
L27K **Beaver Creek,** 92.67 27 P P 16 20 05.1 +0.1
baz=274,SNR=10
BCAR **Beaver Creek A** 92.69 27 P P 16 20 04.2 -0.9
M27K **Edge Creek, AK** 92.69 28 P P 16 20 05.1 -0.1
baz=274
EGAK **Eagle** 92.84 25 IAmb IAmb 16 20 24.5
comp=Z,35nm,1.4s
EGAK **Eagle** 92.84 25 P P 16 20 05.5 -0.2
baz=274
ISP **Isparta** 92.91 308 IAMs_20 IAMs_20 17 08 04.5
comp=Z,474nm,21.0s
CTG **Chitna Glacier** 93.04 29 P P 16 20 06.8 -0.1
baz=274
F28M **Old Crow** 93.11 22 IAmb IAmb 16 20 09.6
comp=Z,29nm,1.1s
F28M **Old Crow** 93.11 22 P P 16 20 07.0 +0.1
baz=276,SNR=19
E28M **Babbage River** 93.14 21 IAmb IAmb 16 20 09.8
comp=Z,41nm,1.4s
E28M **Babbage River** 93.14 21 P P 16 20 07.0 0.0
baz=276
I28M **Miner Creek** 93.30 25 P P 16 20 08.0 +0.1
baz=276,SNR=37
D28M **Stokes Point** 93.34 21 P P 16 20 07.9 +0.1
baz=277
AKASG **Malin Array Be** 93.36 321 P P 16 20 04.3 -4.1
comp=Z,1.3nm,0.6s,baz=74,slow=4.4,SNR=9.6
AKASG LR LR 17 07 24.9
comp=Z,288nm,20.8s,baz=58,slow=39
comp=Z,1.3nm,0.6s
KIEV **Kiev** 93.36 321 IAMs_20 IAMs_20 17 10 38.1
comp=Z,476nm,19.0s
YUK3 **Moose Creek** 93.40 28 P P 16 20 08.5 -0.1
baz=275
ARA0 **ARCESS Array S** 93.51 340 *e*P P 16 20 06.0 -2.7
ARCES **ARCESS Array B** 93.51 340 P P 16 20 05.9 -2.8
comp=Z,4.5nm,0.7s,baz=84,slow=5.0,SNR=14
ARCES LR LR 17 04 49.5
comp=Z,398nm,20.9s,baz=104,slow=37
comp=Z,4.5nm,0.7s
DAWY **Dawson** 93.67 26 P P 16 20 09.1 -0.5
DAWY IAmb IAmb 16 20 12.4
comp=Z,22nm,1.1s
DAWY **Dawson** 93.67 26 P P 16 20 09.5 -0.1
baz=276,SNR=10
E29M **Blow River** 93.76 22 IAmb IAmb 16 20 12.2
comp=Z,41nm,1.6s
E29M **Blow River** 93.76 22 P P 16 20 09.7 -0.2
baz=278,SNR=11
YUK8 **Steele Glacier** 93.78 29 P P 16 20 09.9 -0.5
baz=276
H29M **Whitestone** 93.86 24 P P 16 20 10.3 -0.1
baz=277
G29M **Pine Creek** 93.91 23 P P 16 20 10.4 -0.2
baz=277
MNK **Minsk** 93.93 324 *i* P P 16 20 08.0 -2.9
MNK comp=E,6.0nm,1.5s *i* P P 16 20 08.0 -2.9
comp=N,6.0nm,1.0s
MNK *i* P P 16 20 08.0 -2.9
comp=Z,13nm,0.9s,baz=86
MNK *i* PP PP 16 23 53.0 -4.0
MNK *i* PPP PPP 16 25 53.8
MNK *i* S SKSac 16 30 39.7 -2.0
MNK *i* SS SS 16 37 34.4 -2.7
MNK *i* SSS SSS 16 41 16.1
MNK *i* LQ LQ 16 56 34.6
MNK *i* LR LR 17 01 31.5
MNK *i* LRM MLR 17 04 21.3
comp=N,432nm,25.6s
MNK *i* LRM MLR 17 04 53.5
comp=Z,223nm,19.7s
MNK *i* LRM MLR 17 05 20.4
comp=E,95nm,19.7s
MNK **Minsk** 93.93 324 *i* P P 16 20 07.9 -2.9
MNK *i* 16 23 53.0
MNK *i* PPP PPP 16 25 53.7
MNK *i* S SKSac 16 30 39.6 -2.0
MNK *i* SS SS 16 37 34.4 -2.7
MNK *i* SSS SSS 16 41 16.1
MNK pmax pmax
comp=E,6.0nm,1.5s
MNK pmax pmax
comp=Z,13nm,0.9s
MNK pmax pmax
comp=N,6.0nm,1.0s
MNK MLR MLR
comp=N,432nm,26.0s
MNK MLR MLR
comp=Z,223nm,20.0s
MNK MLR MLR
comp=E,95nm,20.0s
HAMF **Hammerfest** 93.97 341 *e*P P 16 20 09.2 -1.5
I29M **Ogilvie Camp,** 93.99 25 P P 16 20 11.0 0.0
baz=277,SNR=7.1
PNL **Peninsula** 94.12 30 P P 16 20 11.8 +0.1
baz=276
SPA0 **Spitsbergen Ar** 94.19 349 *e*P P 16 20 10.2 -1.5
SPITS **Spitsbergen Ar** 94.19 349 P P 16 20 08.9 -2.8
comp=E,23nm,0.6s,baz=95,slow=7.6,SNR=28
SPITS LR LR 17 07 07.9
comp=E,286nm,20.9s,baz=36,slow=38
FINES **FINESS Array B** 94.25 331 *i* P P 16 20 09.6 -2.6
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES **FINESS Array B** 94.25 331 P P 16 20 09.2 -2.9
comp=Z,1.1nm,0.5s,baz=139,slow=9.1,SNR=12
comp=Z,1.1nm,0.5s
M29M **Somme Creek** 94.27 28 IAmb IAmb 16 20 15.9
comp=Z,33nm,1.1s
M29M **Somme Creek** 94.27 28 P P 16 20 12.5 0.0
baz=277
YUK4 **Talbot Arm** 94.31 29 P P 16 20 13.1 +0.3
baz=277
L29M **L29M** 94.34 27 P P 16 20 13.4 +0.7
baz=277,SNR=17
KTK1 **Kautokeino** 94.39 339 *e*P P 16 20 12.9 +0.2
YUK6 **Outpost Mounta** 94.49 29 P P 16 20 13.5 -0.2
baz=277
EPYK **Eagle Plains** 94.50 23 P P 16 20 12.9 -0.4
baz=279,SNR=18
K29M **Barlow Dome** 94.52 26 IAmb IAmb 16 20 16.6
comp=Z,18nm,0.8s
K29M **Barlow Dome** 94.52 26 P P 16 20 13.2 -0.4
baz=278,SNR=10.0
NACGM **Naroch** 94.53 325 *e*P P 16 20 13.6 -0.1
comp=E,2μm,0.9s
G30M **tAoh Zraii Nji** 94.60 23 P P 16 20 12.2 -1.6
G30M IAmb IAmb 16 20 16.3
comp=Z,45nm,1.4s
G30M **tAoh Zraii Nji** 94.60 23 P P 16 20 13.5 -0.3
baz=279,SNR=13
F30M **Barrier River** 94.67 22 P P 16 20 13.8 -0.2
baz=280
I30M **Mount Dempster** 94.81 25 IAmb IAmb 16 20 41.6
comp=Z,18nm,0.9s
I30M **Mount Dempster** 94.81 25 P P 16 20 14.7 -0.2
baz=279
HYT **Haines Junctio** 94.92 29 P P 16 20 14.8 -0.7
baz=277
J30M **Hart River** 94.93 25 P P 16 20 15.4 -0.1
baz=279
P29M **Windy Craggy** 94.96 30 P P 16 20 15.6 0.0
baz=277
M30M **Minto, Yukon** 95.02 27 IAmb IAmb 16 20 19.2
comp=Z,38nm,1.2s
M30M **Minto, Yukon** 95.02 27 P P 16 20 16.4 +0.6
baz=278,SNR=8.8
N30M **Aishikik Lake** 95.04 28 IAmb IAmb 16 20 19.4
comp=Z,25nm,1.0s
N30M **Aishikik Lake** 95.04 28 P P 16 20 16.4 +0.4
baz=278
LSZ **Lusaka** 95.10 255 P P 16 20 16.3 -1.0
LSZ IAMs_20 IAMs_20 16 58 14.6
comp=Z,674nm,21.0s
LSZ **Lusaka** 95.10 255 P P 16 20 16.3 -1.0
LSZ pmax pmax
comp=Z,55nm,1.2s
LSZ MLR MLR
comp=Z,700nm,21.0s
LSZ **Lusaka** 95.10 255 LR LR 17 00 50.8
comp=Z,391nm,20.1s,baz=92,slow=34
JETT **Jettan, Norway** 95.27 340 *e*P P 16 20 14.3 -2.5
P30M **Million Dollar** 95.28 30 P P 16 20 16.7 -0.4
baz=278
G31M **Satah River** 95.37 23 IAmb IAmb 16 20 19.1
comp=Z,31nm,0.9s
G31M **Satah River** 95.37 23 P P 16 20 16.5 -0.7
baz=281,SNR=15
INK **Inuvik** 95.38 21 IAmb IAmb 16 20 19.1
comp=Z,36nm,1.4s
INK **Inuvik** 95.38 21 P P 16 20 16.7 -0.5
baz=282,SNR=10
INK **Inuvik** 95.38 21 LR LR 17 04 28.7
comp=Z,205nm,21.7s,baz=350,slow=36
F31M **Tsiigehtchic** 95.47 22 IAmb IAmb 16 20 19.4
comp=Z,22nm,0.8s
F31M **Tsiigehtchic** 95.47 22 P P 16 20 17.0 -0.7
baz=281,SNR=12
H31M **Peel River** 95.55 24 P P 16 20 18.0 -0.2
baz=281,SNR=9.7
O30N **Mendenhall** 95.62 29 IAmb IAmb 16 20 21.8
comp=Z,32nm,1.2s
O30N **Mendenhall** 95.62 29 P P 16 20 19.2 +0.6
baz=279
N31M **Braeburn, Yuko** 95.66 28 IAmb IAmb 16 20 25.2
comp=Z,36nm,1.0s
N31M **Braeburn, Yuko** 95.66 28 P P 16 20 18.9 +0.2
baz=279
S31K **Pelican** 95.96 32 P P 16 20 20.2 +0.1
baz=278
TAOE **Nuku Hiva Isla** 96.01 99 *e*LR LR 16 51 30.0
comp=Z,761nm,23.8s
M31M **Drury Creek, Y** 96.19 27 IAmb IAmb 16 20 23.8
comp=Z,39nm,1.4s
M31M **Drury Creek, Y** 96.19 27 P P 16 20 21.7 +0.6
baz=280
SKAG **Skagway** 96.20 30 P P 16 20 21.1 0.0
baz=279
BURAR **Bucovina Array** 96.21 318 P P 16 20 19.4 -2.3
WHY **Whitehorse** 96.22 29 IAmb IAmb 16 20 24.7
comp=Z,32nm,1.0s
WHY **Whitehorse** 96.22 29 P P 16 20 22.3 +0.9
baz=280,SNR=9.4
SIT **Sitka** 96.58 33 P P 16 20 23.3 +0.4
baz=279
FARO **Faro, Yukon** 96.66 27 P P 16 20 23.7 +0.5
baz=281,SNR=19
R32K **Eaglecrest** 96.81 31 P P 16 20 24.0 0.0
baz=280
P32M **Atlin** 96.98 30 P P 16 20 24.5 -0.3
baz=281
N32M **Quiet Lake** 97.00 28 P P 16 20 25.2 +0.4
baz=281
BOSA **Boshof** 97.05 241 LR LR 16 59 40.0
comp=Z,763nm,20.3s,baz=105,slow=33
A36M **Sachs Harbour** 97.09 17 P Pdif 16 20 25.3 +0.3
baz=290
NOR **Nord** 97.19 355 *i* P P 16 20 22.6 -2.7
NOR IAmb IAmb 16 20 25.8
comp=Z,3.7nm,0.7s
P33M **Teslin, Yukon** 97.31 29 IAmb IAmb 16 20 29.8
comp=Z,19nm,1.2s
P33M **Teslin, Yukon** 97.31 29 P Pdif 16 20 26.9 +0.5
baz=282
STEI **Steigen** 97.50 339 *e*P P 16 20 23.7 -3.1
IDI **Anovia** 97.57 305 LR LR 17 11 33.4
comp=Z,348nm,21.4s,baz=89,slow=40
U33K **Whale Pass** 97.94 33 P P 16 20 29.0 0.0
baz=281
CRAG **Craig** 98.06 34 P Pdif 16 20 30.3 +0.6
baz=281
WRAK **Wrangell Islan** 98.30 33 P Pdif 16 20 31.0 +0.3
baz=281
MOR8 **Moi Rana** 98.33 337 *e*P P 16 20 30.4 -0.3
C36M **Paulatuk** 98.38 19 IAmb IAmb 16 20 33.2
comp=Z,30nm,1.3s
C36M **Paulatuk** 98.38 19 P Pdif 16 20 30.8 0.0
baz=291
R33M **Jennings River** 98.40 30 IAmb IAmb 16 20 35.5
comp=Z,49nm,1.8s
R33M **Jennings River** 98.40 30 P Pdif 16 20 31.7 +0.4
baz=283
CRVS **Cervenica-Dubn** 98.54 319 *e*PDIFF P 16 20 31.4 -0.6
CRVS **Cervenica-Dubn** 98.54 319 *e*P P 16 20 31.4 -0.6
S34M **Telegraph Cree** 98.64 31 P Pdif 16 20 32.9 +0.6
baz=283
STOK **Stokkvaagen** 98.82 338 *e*P P 16 20 31.9 -0.8
V35K **Ketchikan** 98.93 34 P Pdif 16 20 34.0 +0.4
baz=282
DLBC **Dease Lake** 99.09 31 P Pdif 16 20 35.0 +0.6
baz=284
DLBC **Dease Lake** 99.09 31 LR LR 16 59 20.3
comp=Z,531nm,20.9s,baz=288,slow=32
TGTN **Hyland Airport** 99.16 27 P Pdif 16 20 35.3 +0.7
baz=286
T35M **Bob Quinn** 99.31 32 P Pdif 16 20 36.0 +0.7
baz=283
NSS **Namsos** 99.83 336 *e*P Pdif 16 20 32.9 -4.5
SNAA **Sanae** 100.18 195 IAMs_20 IAMs_20 17 01 19.6
comp=Z,860nm,22.0s
VYHS **Vyhne** 100.32 319 *e*PDIFF Pdif 16 20 40.3 +0.3
VYHS **Vyhne** 100.32 319 *e*P Pdif 16 20 40.3 +0.3
HFS **Hagfors** 100.45 331 P Pdif 16 20 37.1 -3.1
comp=Z,1.4nm,0.4s,baz=86,slow=4.6,SNR=12
TIR **Tirane** 100.81 312 IAMs_20 IAMs_20 17 15 50.0
comp=Z,392nm,21.0s
DAG **Danmarks Havn** 101.19 352 *i* P Pdif 16 20 40.6 -2.6
DAG IAmb IAmb 16 20 44.6
comp=Z,8.4nm,0.8s
KRLC **Kraliky** 101.32 321 AMS AMS 17 09 30.0
comp=Z,400nm,20.7s
DPC **Dobruska-Polom** 101.55 321 AMS AMS 17 07 50.0
comp=Z,700nm,28.0s
OSTC **Ostas** 101.57 322 AMS AMS 17 07 40.0
comp=Z,700nm,25.2s
UPC **Upice** 101.70 322 AMS AMS 17 07 50.0
comp=Z,800nm,24.9s
DOMB **Dombas** 101.94 334 *e*P Pdif 16 20 45.2 -1.7
PVCC **Panska Ves** 102.59 322 AMS AMS 17 08 20.0
comp=Z,800nm,25.4s
GOPC **GO Pecny, Ondr** 102.61 321 AMS AMS 17 10 50.0
comp=Z,800nm,25.8s
PRU **Pruhonice** 102.75 321 AMS AMS 17 08 50.0
comp=Z,700nm,26.3s
PRA **Prague** 102.79 321 AMS AMS 17 08 40.0
comp=Z,600nm,16.2s
RICC **Richard** 102.88 322 AMS AMS 17 14 40.0
comp=Z,1μm,38.6s
BRG **Berggiesshubel** 102.89 322 *e*P PKiKP 16 25 17.2 +5.8
BRG Amp 16 25 19.1
comp=Z,2.3nm,0.7s
ZVC **Zvikov** 103.10 321 AMS AMS 17 10 50.0
comp=Z,500nm,27.1s
HSKC **Hora Svate Kat** 103.28 322 AMS AMS 17 08 20.0
comp=Z,1μm,28.1s
CLL **Collm** 103.35 323 *e*Pdif Pdif 16 20 54.0 +0.7
CLL *e*PP PP 16 25 09.0 0.0
CLL *e*(PPP) 16 27 30.0
CLL *e*x x 16 29 24.0
CLL *e*SKSac SKSac 16 31 36.0 +6.9
CLL *e*Sdif Sdif 16 32 36.0 -1.2
CLL *e*PS PS 16 34 23.0 +3.7
CLL *e*PPS PPS 16 35 10.0
CLL *e*SS SS 16 39 48.0 -1.1
CLL *e*SSS SSS 16 43 48.0
CLL *e*(SSSS) 16 47 48.0
CLL AMS AMS 17 14 00.0
comp=Z,500nm,20.3s
CLL **Collm** 103.35 323 *e*P Pdif 16 20 54.0 +0.7
CLL *e* 16 25 09.0
CLL MLR MLR
comp=Z,500nm,20.3s
DBG **Daneborg** 103.38 351 *i* P Pdif 16 20 49.6 -3.4
GERES **GERESS Array B** 103.57 320 Pdiff Pdif 16 20 51.8 -2.7
comp=Z,0.4nm,0.5s,baz=95,slow=11,SNR=1.4
KHC **Kasperske Hory** 103.57 321 AMS AMS 17 11 10.0
comp=Z,500nm,18.6s
CUC **Castrococco** 104.07 311 IAMs_20 IAMs_20 17 12 40.5
comp=Z,397nm,22.0s
YKA **Yellowknife Ar** 104.77 24 Pdiff Pdif 16 20 58.9 -0.4
comp=Z,0.6nm,0.6s,baz=296,slow=4.8,SNR=8.1
YKA PKiKP P PKiKP 16 25 12.9 -1.6
comp=Z,0.1nm,0.5s,baz=292,slow=7.2,SNR=2.5
YKA PKKPbc PKKPbc 16 36 45.1 -0.4
comp=Z,0.6nm,0.8s,baz=111,slow=2.6,SNR=5.2
WIN **Windhoek** 105.00 247 IAMs_20 IAMs_20 17 06 48.6
comp=Z,656nm,19.0s
AQU **L'Aquila** 105.35 314 IAMs_20 IAMs_20 17 11 12.0
comp=Z,414nm,22.0s
TUE **Stuetta** 107.05 319 IAMs_20 IAMs_20 17 15 11.6
comp=Z,781nm,22.0s
G06A **Carlson Farm,** 108.36 42 IAMs_20 IAMs_20 17 08 31.0
comp=Z,618nm,22.0s
NVAR **Mina Array Bea** 112.12 48 PKiKP PKiKP 16 25 28.2 -1.1
comp=Z,0.2nm,0.3s,baz=283,slow=8.2,SNR=2.0
SNCC **San Nicolas Is** 112.62 54 P PKiKP 16 25 30.5 +0.4
baz=285
ISA **Isabella, Lake** 112.81 51 IAMs_20 IAMs_20 17 07 38.3
comp=Z,337nm,18.0s
CWC **Cottonwood Cre** 112.89 50 P PKiKP 16 25 31.5 +0.7
baz=287
EDW2 **Edwards Air Fo** 113.40 52 P PKiKP 16 25 32.2 +0.5
baz=287
MPMC **Manual Prospec** 113.46 51 P PKiKP 16 25 32.2 +0.3
baz=287
QSM **Queen of Sheba** 113.97 51 IAMs_20 IAMs_20 17 08 10.3
comp=Z,468nm,21.0s
GWY **Greenwater Val** 114.05 50 IAMs_20 IAMs_20 17 19 09.5
comp=Z,380nm,20.0s
BBRC **Big Bear Solar** 114.43 52 P PKPdf 16 25 33.5 -0.4
baz=287
PFO **Pinyon Flats O** 114.98 53 P PKPdf 16 25 35.4 +0.6
baz=287
TPFO **Pinon Flats** 114.99 53 P PKPdf 16 25 35.2 +0.4
baz=287
MONP2 **Monument Peak** 115.22 54 P PKPdf 16 25 35.6 +0.2
baz=287
H17A **Grant Village** 115.30 40 P PKiKP 16 25 35.1 -0.2
baz=296
DUG **Dugway, Tooele** 115.52 45 P PKPdf 16 25 36.5 +0.8
baz=293
IKP **In-Ko-Pah, Jac** 115.55 54 P PKPdf 16 25 36.4 +0.5
baz=287
IRM **Iron Mountain** 115.86 52 P PKiKP 16 25 36.5 +0.1
baz=288
CTU **Camp Tracy** 116.07 44 IAMs_20 IAMs_20 17 06 46.5
comp=Z,411nm,22.0s
TAM **Tamanrasset** 116.09 295 IAMs_20 IAMs_20 17 15 22.2
comp=Z,616nm,22.0s
PDMCI **Parker Dam,Lak** 116.61 52 P PKiKP 16 25 38.5 +0.8
baz=289
MSU **Marysvale** 116.62 47 PKPdf PKiKP 16 25 38.2 +0.2
MSU **Marysvale** 116.62 47 PKiKP PKiKP 16 25 38.2 +0.2
BW06 **Boulder Array** 116.69 41 P PKiKP 16 25 39.3 +1.3
baz=296
PDAR **Pinedale Array** 116.69 41 PKP PKPdf 16 25 35.9 -2.1
comp=Z,0.1nm,0.4s,baz=258,slow=7.3,SNR=1.6
PDAR PKKPbc PKKPbc 16 36 05.0 -1.4
comp=Z,0.3nm,0.7s,baz=338,slow=2.1,SNR=2.3
PDAR PKiKP PKKPdf 16 36 30.7 -1.9
comp=Z,0.9nm,0.8s,baz=122,slow=5.7,SNR=3.7
SFX **San Felipe** 117.03 55 IAMs_20 IAMs_20 17 11 29.4
comp=Z,369nm,20.0s
PIX **Pinacate** 118.02 54 IAMs_20 IAMs_20 17 12 13.5
comp=Z,404nm,22.0s
WUAZ **Wupatki** 118.33 49 P PKiKP 16 25 42.0 +0.7
baz=292
ESDC **Sonsen Array** 118.61 316 PKP PKPdf 16 25 40.5 -1.0
comp=Z,0.7nm,0.5s,baz=14,slow=4.4,SNR=6.3
K22A **Casper** 118.72 40 P PKiKP 16 25 43.1 +1.3
baz=299
O20A **White River Ci** 118.74 43 P PKiKP 16 25 43.2 +1.2
baz=296
RSSD **Black Hills** 119.55 38 P PKiKP 16 25 44.3 +0.8
baz=302
MVCO **Mesa Verde** 119.80 47 PKPdf PKiKP 16 25 44.6 +0.4
MVCO **Mesa Verde** 119.80 47 P PKiKP 16 25 45.1 +0.8
baz=295
N23A **Red Feather La** 119.94 42 P PKiKP 16 25 45.0 +0.6
baz=299
ULM **Lac du Bonnet** 120.29 28 PKP PKPdf 16 25 43.6 -0.7
comp=Z,2.6nm,0.6s,baz=249,slow=3.2,SNR=4.3
POLO **Lamas de Olo** 120.41 319 *e*PKPdf PKPdf 16 25 43.9 -1.1
PGAV **Gavieira, Arco** 120.42 320 *e*PKPdf PKiKP 16 25 46.3 +1.2
ISCO **Idaho Springs** 120.69 43 P PKiKP 16 25 46.9 +1.0
baz=298
S22A **4UR Ranch, Cre** 120.78 45 P PKiKP 16 25 46.4 +0.2
baz=296
PVIS **Viseu** 120.80 319 *e*PKPdf PKiKP 16 25 47.4 +1.6
PCBR **Castelo Branco** 120.94 317 *e*PKPdf PKiKP 16 25 46.4 +0.4
PMRV **Marv??o** 121.08 317 *e*PKPdf PKiKP 16 25 48.4 +2.0
TOA0 **Torodi Ar. Sit** 121.22 285 PKPdf PKPdf 16 25 46.4 -0.8
TORD **Torodi Ar. Bea** 121.22 285 PKPdf PKPdf 16 25 45.9 -1.2
TORD **Torodi Ar. Bea** 121.22 285 PKP PKPdf 16 25 46.9 -0.3
comp=Z,6.0nm,0.7s,baz=38,slow=2.8,SNR=27
TORD PKKPbc PKKPbc 16 35 46.0 -2.7
comp=Z,0.2nm,0.4s,baz=243,slow=2.9,SNR=2.5
PBAR **Barrancos** 121.42 316 *e*PKPdf PKPdf 16 25 46.9 0.0
PESTR **Estremoz** 121.48 317 *e*PKPdf PKiKP 16 25 49.3 +2.1
SFS **San Fernando** 121.59 313 IAMs_20 IAMs_20 17 23 20.9
comp=Z,461nm,19.0s
SDCO **Great Sand Dun** 121.72 45 P PKiKP 16 25 48.5 +0.4
baz=297
PMTG **Montargil** 121.82 317 *e*PKPdf PKPdf 16 25 46.9 -0.7
121A **Cookes Peak, D** 122.20 51 P PKiKP 16 25 49.2 +0.2
baz=293
ANMO **Albuquerque** 122.25 48 P PKiKP 16 25 49.1 +0.1
baz=295
PCVE **Castro Verde** 122.38 315 *e*PKPdf PKiKP 16 25 50.0 +1.1
PNCL **Nicolau / Gran** 122.49 316 *e*PKPdf PKiKP 16 25 51.3 +2.2
T25A **Trinidad** 122.77 45 P PKiKP 16 25 50.5 +0.5
baz=298
PTEO **Sao Teotonio** 122.89 316 *e*PKPdf PKiKP 16 25 52.0 +2.1
MORF **Marmelete** 122.96 315 *e*PKPdf PKiKP 16 25 52.6 +2.4
EYMN **Ely** 123.96 28 P PKiKP 16 25 52.0 +0.3
baz=316
ECSD **EROS Data Cent** 124.15 34 PKPdf PKPdf 16 25 51.7 -0.3
ECSD **EROS Data Cent** 124.15 34 P PKiKP 16 25 52.5 +0.2
baz=309
MNTX **Cornudas Mount** 124.41 51 P PKiKP 16 25 53.8 +0.7
baz=294
BGNE **Belgrade** 124.65 38 P PKiKP 16 25 54.5 +1.1
baz=306
SCHQ **Schefferville** 125.36 7 PKP PKPdf 16 25 53.4 -0.6
comp=Z,5.3nm,0.8s,baz=327,slow=6.0,SNR=4.1
MSTX **Muleshoe** 125.41 48 P PKiKP 16 25 56.1 +0.9
baz=297

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	126.71	53	PKP	PKPdf	16 25 57.4	-0.1
	comp=Z,1.5nm,0.9s,baz=225,slow=1.2,SNR=11						
OK035	E0210 Rd and N	126.93	43	IAMs_20	IAMs_20	17 13 20.6	
	comp=Z,510nm,20.0s						
KSU1	Kansas State U	126.96	39	P	PKiKP	16 25 58.7	+0.7
	baz=306						
WMOK	Wichita Mounta	127.92	45	P	PKiKP	16 26 00.2	+0.2
	baz=301						
JFWS	Jewell Farm	128.16	31	P	PKiKP	16 26 00.8	+0.5
	baz=315						
OK051	E0350 and S346	128.30	42	IAMs_20	IAMs_20	17 32 59.6	
	comp=Z,475nm,20.0s						
DBIC	Dimbokro	128.31	278	IAMs_20	IAMs_20	17 22 06.3	
	comp=Z,425nm,21.0s						
DBIC	Dimbokro	128.31	278	PKhKP	PKPpre	16 25 53.8	
	comp=Z,1.8nm,0.7s,baz=175,slow=11,SNR=2.3						
ABTX	Abilene, Hawle	128.36	48	P	PKiKP	16 26 01.7	+0.7
	baz=299						
JCT	Junction City	129.25	50	P	PKiKP	16 26 03.4	+0.5
	baz=298						
TUL3	Leonard	129.34	42	P	PKiKP	16 26 03.4	+0.6
	baz=305						
S39A	Bolivar	129.87	38	PKPdf	PKPdf	16 26 02.4	-0.7
U38A	Gravette	129.95	40	PKPdf	PKPdf	16 26 03.5	+0.2
HDIL	Hopedale	130.32	33	P	PKiKP	16 26 05.1	+0.4
	baz=315						
CCM	Cathedral Cave	130.90	37	P	PKiKP	16 26 05.9	0.0
	baz=311						
MIAR	Mount Ida	131.60	42	P	PKiKP	16 26 07.7	+0.3
	baz=306						
SFIN	Lafayette	131.62	32	P	PKiKP	16 26 07.4	+0.1
	baz=317						
LCAR	Lake Charles	132.24	39	PKPdf	PKiKP	16 26 08.5	-0.2
P49A	Miami Univ. Ec	133.47	30	P	PKiKP	16 26 10.8	-0.3
	baz=319						
ERPA	Erie	133.59	24	P	PKiKP	16 26 11.1	-0.2
	baz=326						
ACSO	Alum Creek Sta	133.79	28	P	PKiKP	16 26 11.6	-0.1
	baz=322						
M53A	WI Miller and	133.87	25	P	PKiKP	16 26 11.8	-0.1
	baz=325						
PKME	Peaks-Kenny Pk	134.17	13	P	PKiKP	16 26 12.6	+0.3
	baz=342						
WVT	Waverly	134.22	36	P	PKiKP	16 26 12.8	+0.1
	baz=313						
OXF	Oxford	134.33	39	P	PKiKP	16 26 12.8	-0.2
	baz=310						
LBNH	Lisbon	134.48	16	P	PKiKP	16 26 12.6	-0.4
	baz=338						
O53A	New Philadelph	134.60	27	P	PKiKP	16 26 13.1	-0.3
	baz=324						
P52A	Corning	134.66	28	P	PKiKP	16 26 13.2	-0.3
	baz=322						
BINY	Binghamton	135.06	21	P	PKiKP	16 26 13.9	-0.3
	baz=332						
CLTN	Cedars of Leba	135.12	35	IAMs_20	IAMs_20	17 23 14.1	
	comp=Z,487nm,22.0s						
SSPA	Standing Stone	135.69	24	P	PKiKP	16 26 15.0	-0.5
	baz=328						
L61B	Northampton	135.91	17	P	PKiKP	16 26 15.6	-0.4
	baz=336						
PLCA	Paso Flores	136.78	164	PKP	PKPdf	16 26 13.8	-2.3
	comp=Z,1.8nm,0.9s,baz=200,slow=3.6,SNR=1.6						
LRAL	Lakeview Retre	136.81	39	P	PKiKP	16 26 17.6	-0.5
	baz=312						
BLA	Blacksburg	137.40	29	P	PKiKP	16 26 18.4	-0.8
	baz=323						
BRAL	Brewton	138.00	41	P	PKiKP	16 26 20.5	0.0
	baz=310						
KMSC	Kings Mountain	138.56	32	P	PKiKP	16 26 21.6	+0.1
	baz=320						
GOGA	Godfrey	138.68	35	P	PKiKP	16 26 22.0	+0.1
	baz=316						
BO02	Sierra Bellavi	142.19	160	PKPdf	PKPdf	16 26 25.0	-1.1
BO01	Tunca	142.45	160	PKPdf	PKPdf	16 26 24.4	-2.1
BO04	La Punta	142.98	160	PKPdf	PKPdf	16 26 26.8	-0.7
MT13	San Alfonso	143.31	160	PKPdf	PKPdf	16 26 27.6	-0.7
MT02	Curacav	143.46	159	PKPdf	PKPbc	16 26 26.4	+0.9
LCO	Las Campanas	147.42	156	PKPdf	PKPdf	16 26 36.1	+0.5
LCO	Las Campanas	147.42	156	PKP2	PKPdf	16 26 36.1	+0.5
HZTE	Horizontes, Gu	149.27	70		PKPab	16 26 46.2	-1.4
ORTG	Ortega, Santa	149.50	71	PKPdf	PKPdf	16 26 38.9	-0.2
JTS	Las Juntas de	150.00	70	PKPdf	PKPdf	16 26 39.3	-0.5
JTS	Las Juntas de	150.00	70	PKIKP	PKPdf	16 26 39.3	-0.5
LCR2	La Lucha 2	151.05	71	IAMs_20	IAMs_20	17 22 18.0	
	comp=Z,316nm,20.0s						
PB11	IPOC Station P	155.84	148	PKPdf	PKPdf	16 26 46.7	-1.6
ARNL	Arenillas	155.91	100	IAMs_20	IAMs_20	17 53 25.0	
	comp=Z,309nm,20.0s						
TULM	Tulcn-Chalpat	158.56	90	PKPdf	PKPdf	16 26 50.7	-1.7
SIV	San Ignacio	162.77	164	PKP	PKPdf	16 26 54.7	-1.6
	comp=Z,5.9nm,1.1s,baz=226,slow=2.6,SNR=8.7						
SIV				PKPab	PKPab	16 27 45.8	+0.9
	comp=Z,1.5nm,0.6s,baz=219,slow=4.4,SNR=4.6						

IDC ***06*** *16:25:56.8±3.9, 25°.43N×95°.98E, h110^{km}±40^{km}, mb3.1/7, mbtmp3.4/8, Error ellipse: s-maj=50.9km s-min=17.3km az=58.0*

ISC 06 16:25:55.8±1.0**, 25°.5N**±0°.2×**96°.0E**±0°.3**, h100**^{km}**, n8, σ0^s.61**/8**, mb3.3**/7**, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.49	158	P	Pn	16 27 42.9	+0.4
	0.5nm,0.4s,baz=326,slow=12,SNR=5.7						
MKAR	Makanchi Array	23.92	336	P	P	16 31 01.1	+0.7
	0.3nm,0.5s,baz=162,slow=8.9,SNR=4.0						
	0.3nm,0.5s						
ZALV	Zalesovo Beam	29.64	347	P	P	16 31 52.5	+0.9
	0.2nm,0.3s,baz=159,slow=12,SNR=1.6						
	0.2nm,0.3s						
BVAR	Borovoye Array	33.57	332	P	P	16 32 26.0	-0.1
	0.2nm,0.3s,baz=140,slow=7.5,SNR=2.1						
	0.2nm,0.3s						
PETK	Petropavlovsk-	53.16	42	P	P	16 35 03.1	-0.3
	1.6nm,0.9s,baz=319,slow=5.9,SNR=1.3						
	1.6nm,0.9s						
AKASG	Malin Array Be	56.17	315	P	P	16 35 24.7	-0.3
	0.1nm,0.3s,baz=92,slow=16,SNR=4.8						
	0.1nm,0.3s						
WRA	Warramunga Arr	58.54	137	P	P	16 35 41.6	-0.5
	0.3nm,0.7s,baz=325,slow=7.1,SNR=1.7						
	0.3nm,0.7s						
ASAR	Alice Springs	61.10	140	P	P	16 35 59.6	-0.1
	0.2nm,0.6s,baz=319,slow=6.6,SNR=5.7						
	0.2nm,0.6s						

IDC ***06*** *16:42:46.4±0.9, 0°.56S×120°.03E, h0^{km}, mb3.7/9, mbtmp3.7/10, ML3.6/1, Error ellipse: s-maj=58.0km s-min=15.2km az=65.0*

DJA ***06*** *16:42:47.9±0.7, 1°S±3°×12°0E±°, h10^{km}±6^{km}, M4.0/13, mb4.1/2, MLv3.9/13*

ISC 06 16:42:48.0±0.7**, 0°.53S**±0°.05×**119°.90E**±0°.08**, h10**^{km}**, n20, σ1^s.14**/22**, mb3.8**/9**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPSI	Mapaga	0.86	360	P	Pg	16 43 04.3	-0.3
MPSI				S	Sb	16 43 16.8	+0.2
MRSI	Marisa	2.27	64	P	Pn	16 43 24.2	-1.4
TTSI	Tana Toraja	2.50	182	P	Pn	16 43 29.4	+0.6
LUWI	Luwuk	2.92	100	P	Pn	16 43 35.6	+1.1
BKB	Balikpapan	3.09	256	P	Pn	16 43 35.1	-1.8
GTOI	Gorontalo	3.32	70	P	Pn	16 43 40.1	+0.1
SPSI	Sidrap Palu	3.42	182	P	Pn	16 43 42.0	+0.6
KMSI	Cibinong	4.23	75	P	Pn	16 43 54.1	+1.6
KAPI	Kappang	4.46	182	Pn	Pn	16 43 56.9	+1.2
	2.8nm,0.3s,baz=345,slow=3.9,SNR=4.7						
KAPI				Sn	Sn	16 44 46.9	-0.8
	2.3nm,0.3s,baz=271,slow=12,SNR=1.3						
	7.8nm,0.3s						
BKSI	Bulukumba	4.77	177	P	Pn	16 44 00.8	+0.9
SANI	Sanana	6.27	104	P	Pn	16 44 21.5	+0.8
WRA	Warramunga Arr	23.92	145	P	P	16 48 01.0	-1.4
	1.4nm,0.9s,baz=322,slow=11,SNR=9.4						
	1.4nm,0.9s						
ASAR	Alice Springs	26.71	150	P	P	16 48 27.5	-0.3
	0.6nm,0.8s,baz=321,slow=8.1,SNR=6.9						
	0.6nm,0.8s						
CMAR	Chiang Mai Arr	27.93	314	P	P	16 48 39.4	+0.6
	0.3nm,0.4s,baz=144,slow=6.7,SNR=1.4						
	0.3nm,0.4s						
STKA	Stephens Creek	37.32	149	P	P	16 49 58.5	-2.1
	2.2nm,0.9s,baz=296,slow=7.6,SNR=2.9						
	2.2nm,0.9s						
SONM	Songino Array	49.59	348	P	P	16 51 41.5	+2.0
	0.2nm,0.3s,baz=147,slow=2.9,SNR=2.3						
	0.2nm,0.3s						
MKAR	Makanchi Array	57.48	330	P	P	16 52 37.8	+0.5
	0.8nm,0.9s,baz=134,slow=6.9,SNR=4.9						
	0.8nm,0.9s						
ZALV	Zalesovo Beam	61.55	337	P	P	16 53 05.2	-0.1
	0.3nm,0.3s,baz=108,slow=12,SNR=2.1						
	0.3nm,0.3s						
KURBB	Kurchatov Arra	61.91	331	P	P	16 53 08.4	+0.7
	0.3nm,0.2s,baz=144,slow=6.2,SNR=1.8						
	0.3nm,0.2s						
BVAR	Borovoye Array	67.36	330	P	P	16 53 43.1	-0.2
	0.8nm,0.8s,baz=134,slow=6.2,SNR=1.8						
	0.8nm,0.8s						

TRN ***06*** *16:57:15.0, 16°.65N×62°.18W, h183^{km}, MD4.3*

IDC ***06*** *16:57:16.7±0.8, 16°.44N×62°.42W, h170^{km}±8^{km}, mb3.4/9, mbtmp4.0/12, Error ellipse: s-maj=19.7km s-min=10.0km az=35.0*

NEIC ***06*** *16:57:16.8±1.3, 16°.44N±0°.07×62°.43W±0°.09, h168^{km}±7^{km}, mb4.1/23, Error ellipse: s-maj=13.3km s-min=8.0km az=58.0*

ISC 06 16:57:16.6±0.6**, 16°.47N**±0°.04×**62°.37W**±0°.05**, h174**^{km}±5^{km}**, n97, σ0^s.87**/113**, mb4.0**/19**, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLYT	Lee's Yard	0.30	34	eP	Pn	16 57 40.8	+0.7
MLYT				eS	Sn	16 57 59.5	+1.4
MBFL	Flemmings, Mon	0.32	28	eP	Pn	16 57 40.2	+0.1
MBFL				eS	Sn	16 57 59.2	+1.1
ANBD	Bethesda, Anti	0.82	45	eP	Pn	16 57 42.0	-0.4
ANBD				eS	Sn	16 57 60.0	-2.3
CBE	Ff, Capester	0.83	118	Pn	Pn	16 57 42.9	+0.3
CBE				Sn	Sn	16 58 03.0	+0.5
CBE	Ff, Capester	0.83	118	eP	Pn	16 57 42.8	+0.2
CBE				eS	Sn	16 58 02.9	+0.4
ABD	La Joyeuse, An	0.85	89	Pn	Pn	16 57 42.5	0.0
ABD				Sn	Sn	16 58 01.5	-1.0
ABD	La Joyeuse, An	0.85	89	eP	Pn	16 57 42.6	0.0
ABD				eS	Sn	16 58 01.8	-0.7
TDBA	Terre de Bas,	0.94	131	eP	Pn	16 57 43.1	-0.1
TDBA				eS	Sn	16 58 03.8	+0.1
MAGL	Barre de l'ile	1.17	116	Pn	Pn	16 57 45.3	+0.3
MAGL				Sn	Sn	16 58 06.4	-0.5
MAGL	Barre de l'ile	1.17	116	eP	Pn	16 57 45.3	+0.3
MAGL				eS	Sn	16 58 06.6	-0.3
GDSD	La Dsirade Is	1.26	97	Pn	Pn	16 57 45.4	-0.5
H05N1	Guadeloupe/Mar	1.27	97	P	Pn	16 57 45.6	-0.3
H05N1				S	Sn	16 58 06.8	-1.7
SMRT	St. Maarten	1.71	337	Pn	Pn	16 57 49.3	-0.8
SMRT	St. Maarten	1.71	337	eP	Pn	16 57 49.7	-0.5
PCM	Pelee Case Pet	1.99	146	eP	Pn	16 57 53.6	+0.4
SVN	Savane Anatole	1.99	144	Pn	Pn	16 57 53.4	+0.2
SVN	Savane Anatole	1.99	144	eP	Pn	16 57 53.7	+0.5
CXM	Morne La Croix	2.01	145	eP	Pn	16 57 54.3	+0.7
BAMF	Morne Balai	2.02	144	eP	Pn	16 57 54.1	+0.5
GBMF	Grand Be	2.03	145	eP	Pn	16 57 53.9	+0.3
PML	Morne Lenard	2.03	146	eP	Pn	16 57 53.8	+0.2
FDF	Fort de France	2.09	146	Pn	Pn	16 57 54.2	0.0
FDF	Fort de France	2.09	146	eP	Pn	16 57 54.4	+0.1
ILAM	Ilet Lapin Mar	2.22	139	Pn	Pn	16 57 55.8	+0.1
ILAM	Ilet Lapin Mar	2.22	139	eP	Pn	16 57 56.0	+0.3
ILAM				eS	Sn	16 58 26.0	+0.1
ZAM	Aeronautique	2.29	145	eP	Pn	16 57 57.1	+0.6
TRMF	Trois Ilets	2.30	146	eP	Pn	16 57 57.0	+0.4
BIM	Bigot	2.31	147	Pn	Pn	16 57 57.2	+0.5
BIM	Bigot	2.31	147	eP	Pn	16 57 57.3	+0.5
BIM				eS	Sn	16 58 28.5	+0.5
LPMF	Morne Lapointe	2.32	144	eP	Pn	16 57 57.2	+0.3
MVM	Montagne Vaucl	2.38	143	eP	Pn	16 57 58.1	+0.5
MPOM	Morne Pois Mar	2.48	144	Pn	Pn	16 57 59.3	+0.5
MPOM	Morne Pois Mar	2.48	144	eP	Pn	16 57 59.4	+0.6
MPOM				eS	Sn	16 58 32.0	+0.5
H05S1	Guadeloupe/Mar	2.51	144	P	Pn	16 57 59.7	+0.6
H05S1				S	Sn	16 58 32.8	+0.7
SLBI	Saint Lucia, B	2.78	151	eP	Pn	16 58 02.6	+0.4
SLBI				eS	Sn	16 58 37.9	0.0
SLB	Belfond	2.92	154	eP	Pn	16 58 05.4	+1.3
SVB	Belmont	3.36	161	eP	Pn	16 58 10.4	+1.0
SVB				eS	Sn	16 58 50.3	-0.3
SJG	San Juan	3.96	295	Pn	Pn	16 58 16.3	-0.7
SJG	San Juan	3.96	295	eP	Pn	16 58 16.4	-0.6
SJG	San Juan	3.96	295	eS	Sn	16 59 04.7	+0.4
SJG	San Juan	3.96	295	P	Pn	16 58 17.2	+0.1
	44nm,0.3s,baz=84,slow=15,SNR=13						
SJG				S	Sn	16 59 03.8	-0.5
	74nm,0.5s,baz=108,slow=20,SNR=16						
GCMP	Grenada, Carri	4.06	167	eP	Pn	16 58 18.8	+0.4
GCMP	Grenada, Carri	4.06	167	eS	Sn	16 59 07.8	+1.1
BCHC	Barbados, Cave	4.24	141	eP	Pn	16 58 19.9	-0.8
BCHC	Barbados, Cave	4.24	141	eS	Sn	16 59 09.7	-1.1
BBGH	Gun Hill	4.28	140	Pn	Pn	16 58 21.6	+0.5
BBGH	Gun Hill	4.28	140	eP	Pn	16 58 22.2	+1.1
BBGH	Gun Hill	4.28	140	eS	Sn	16 59 10.2	-1.5
GRGR	Grenville	4.37	171	Pn	Pn	16 58 21.8	-0.5
GRGR	Grenville	4.37	171	eP	Pn	16 58 23.2	+1.0
TRN	Trinidad (W)	5.86	171	eS	Sn	16 59 48.4	-0.3
PCRV	Puerto La Cruz	6.63	200	P	Pn	16 58 52.1	+0.1
	5.5nm,0.7s,baz=20,slow=6.6,SNR=2.0						
SDDR	Presa de Saban	8.86	288	Pn	Pn	16 59 20.2	-1.1
BAUV	El Baul	9.30	217	Pn	Pn	16 59 26.1	-1.0
BOAV	Boa Vista	14.10	172	Pn	Pn	17 00 27.8	-1.2
MDP	Montagnes des	14.79	139	P	Pn	17 00 37.2	-0.2
	12nm,0.7s,baz=316,slow=16,SNR=6.9						
SAML	Samuel	25.27	182	P	P	17 02 26.9	0.0
SAML				IAmb	IAmb	17 02 27.8	
	comp=Z,5.5nm,1.2s						
R58B	Mineral	25.40	330	P	P	17 02 29.3	+1.4
ETMB	Extrema	26.39	189	P	P	17 02 37.1	+0.1
PLAL	Pickwick Lake	29.46	314	P	P	17 03 04.7	+0.5
PLAL				IAmb	IAmb	17 03 06.2	
	comp=Z,4.3nm,0.7s						
L42A	Oliver, Polo	34.58	323	P	P	17 03 49.6	+0.9
I42A	Draeger Farm,	35.39	326	P	P	17 03 56.4	+0.7
WMOK	Wichita Mounta	37.27	306	P	P	17 04 11.8	0.0
WMOK				IAmb	IAmb	17 04 14.0	
	comp=Z,7.6nm,1.4s						
PB07	IPOC Station P	38.67	191	P	P	17 04 21.6	-2.0
ECSD	EROS Data Cent	39.73	320	P	P	17 04 32.2	0.0
ECSD				IAmb	IAmb	17 04 33.6	
	comp=Z,3.6nm,0.8s						
TXAR	Lajitas Array	39.94	296	P	P	17 04 34.2	+0.1
	comp=Z,0.3nm,0.6s,baz=122,slow=7.5,SNR=3.4						
	comp=Z,0.3nm,0.6s						
CPUP	Villa Florida	42.82	173	P	P	17 04 56.0	-1.4
CPUP				IAmb	IAmb	17 04 57.5	
	comp=Z,7.3nm,1.1s						
CPUP	Villa Florida	42.82	173	P	P	17 04 56.9	-0.5
	comp=Z,2.4nm,0.5s,baz=0.0,slow=20,SNR=5.4						
	comp=Z,2.4nm,0.5s						
ULM	Lac du Bonnet	43.14	329	P	P	17 04 59.7	0.0
ULM				IAmb	IAmb	17 05 00.3	
	comp=Z,3.7nm,0.5s						
ULM	Lac du Bonnet	43.14	329	P	P	17 04 59.1	-0.7
	comp=Z,2.2nm,0.3s,baz=135,slow=8.4,SNR=6.9						
	comp=Z,2.2nm,0.3s						
CO03	El Pedregal	47.71	190	P	P	17 05 34.7	-1.2
CO03				IAmb	IAmb	17 05 36.2	
	comp=Z,9.7nm,1.2s						
PD31	Pinedale Array	47.87	313	P	P	17 05 37.9	+0.6
PD31				IAmb	IAmb	17 05 38.9	
	comp=Z,7.1nm,1.5s						
PDAR	Pinedale Array	47.87	313	P	P	17 05 37.9	+0.6
	comp=Z,1.4nm,0.4s,baz=108,slow=9.5,SNR=5.4						
	comp=Z,1.4nm,0.4s						
FCC	Fort Churchill	48.26	338	P	P	17 05 39.9	+0.2
FCC				IAmb	IAmb	17 06 05.3	
	comp=Z,5.9nm,1.3s						
BO02	Sierra Bellavi	51.60	189	P	P	17 06 05.2	0.0
H10N3	ASCENSION HYDR	53.16	113	T	T	18 03 54.0	
	baz=299,slow=75,SNR=4.0						
H10N2	ASCENSION HYDR	53.17	113	T	T	18 03 54.4	
	baz=299,slow=75,SNR=2.9						
H10N1	ASCENSION HYDR	53.18	113	T	T	18 03 55.7	
	baz=299,slow=75,SNR=3.8						
NVAR	Mina Array Bea	53.38	306	P	P	17 06 19.8	+1.2
	comp=Z,0.3nm,0.5s,baz=91,slow=9.4,SNR=1.9						
	comp=Z,0.3nm,0.5s						
I07A	Izee	55.21	313	P	P	17 06 32.8	+1.2
I07A				IAmb	IAmb	17 06 45.1	
	comp=Z,5.2nm,1.5s						
KRMB	Red Mountain	58.03	309	P	P	17 06 51.5	-0.1
YKA	Yellowknife Ar	58.51	335	P	P	17 06 54.5	+0.2
YKA	Yellowknife Ar	58.51	335	P	P	17 06 54.7	+0.4
	comp=Z,0.8nm,0.6s,baz=110,slow=7.1,SNR=11						
	comp=Z,0.8nm,0.6s						
TORD	Torodi Ar. Bea	61.81	84	P	P	17 07 19.3	+1.8
	comp=Z,0.5nm,0.6s,baz=316,slow=5.9,SNR=3.6						
	comp=Z,0.5nm,0.6s						
G31M	Satah River	67.89	336	P	P	17 07 55.8	-0.1
G31M				IAmb	IAmb	17 08 01.3	
	comp=Z,4.1nm,1.3s						
H29M	Whitestone	69.41	335	P	P	17 08 06.0	+0.7
H29M				IAmb	IAmb	17 08 25.1	
	comp=Z,6.8nm,1.5s						
E29M	Blow River	69.48	337	P	P	17 08 06.3	+0.6
E28M	Babbage River	70.11	338	P	P	17 08 09.6	0.0
BCAR	Beaver Creek A	70.67	332	P	P	17 08 14.5	+1.3
ILAR	Eielson Array	72.91	333	P	P	17 08 27.1	+0.6
	comp=Z,0.2nm,0.4s,baz=84,slow=5.5,SNR=7.9						
	comp=Z,0.2nm,0.4s						
MDM	Murphy Dome	73.48	334	P	P	17 08 30.6	+0.9
MDM				IAmb	IAmb	17 08 31.6	
	comp=Z,3.5nm,1.5s						
C23K	Itkillik River	74.07	339	P	P	17 08 34.7	+1.6
FINES	FINESS Array B	74.95	30	P	P	17 08 39.4	+1.1
	comp=Z,2.0nm,0.9s,baz=212,slow=6.8,SNR=1.6						
	comp=Z,2.0nm,0.9s						
H21K	Melozitna Rive	75.32	335	P	P	17 08 41.3	+0.9
IMAR	Indian Mountai	75.66	335	P	P	17 08 42.7	+0.4
LZH	Lanzhou	126.13	14	ePKP	PKPdf	17 15 54.6	-4.3
ASAR	Alice Springs	163.13	242	PKP	PKPdf	17 16 59.0	0.0
	comp=Z,0.2nm,0.8s,baz=96,slow=0.9,SNR=1.9						
ASAR				PKPab	PKPab	17 17 50.2	+0.2
	comp=Z,0.2nm,0.6s,baz=115,slow=4.1,SNR=7.2						

IDC ***06*** *16:58:35.0±2.4, 10°.61S×162°.42E, h55^{km}±18^{km}, mb3.8/8, mbtmp4.1/10, ML3.2/2, MS4.0/1, Error ellipse: s-maj=18.7km s-min=16.8km az=174.0*

NEIC ***06*** *16:58:36.3±1.1, 10°.48S±0°.10×162°.2E±0°.1, h51^{km}±8^{km}, mb4.2/15, Error ellipse: s-maj=14.7km s-min=13.6km az=69.0*

ISC 06 16:58:34.0±0.6**, 10°.55S**±0°.09×**162°.35E**±0°.08**, h39**^{km}**, n36, σ1^s.26**/32**, mb4.1**/13**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	2.62	295	Pn	Pn	16 59 13.4	-0.3
HNR	Honiara	2.62	295	P	Pn	16 59 14.1	+0.4
	7μm,0.5s,baz=136,slow=4.3,SNR=57						
HNR				S	Sn	16 59 48.2	+4.0
	10μm,0.4s,baz=53,slow=5.1,SNR=9.6						
HNR				LR	LR	17 00 30.9	
	comp=Z,3μm,19.7s,baz=30,slow=43						
DZM	Mont Dzumac	12.11	162		Pn	17 01 26.4	+2.3
DZM	Mont Dzumac	12.11	162	P	Pn	17 01 25.4	+1.2
	0.1nm,0.3s,baz=344,slow=15,SNR=1.8						
	3.6nm,1.0s						
FUNA	Funafuti	16.73	85	Pn	P	17 02 28.4	+0.9
FUNA				IAmb	IAmb	17 02 35.5	
	comp=Z,75nm,1.5s						
MANU	Manus Island	17.11	299		Pn	17 02 30.6	+0.2
CTA	Charters Tower	18.18	237	P	P	17 02 43.9	+0.4
	comp=Z,0.1nm,0.3s,baz=84,slow=8.8,SNR=1.5						
	comp=Z,3.4nm,0.7s						
CTAO	Charters Tower	18.18	237	P	Pn	17 02 43.1	-0.4
CTAO				IAmb	IAmb	17 03 03.2	
	comp=Z,14nm,1.5s						
CAN	Canberra	27.50	204	P	P	17 04 17.5	+0.7
CAN				IAmb	IAmb	17 04 18.2	
	comp=Z,15nm,1.1s						
WR0	Warramunga Arr	28.38	247	P	P	17 04 24.0	-0.9
WR0				IAmb	IAmb	17 04 26.9	
	comp=Z,2.8nm,0.8s						
WB0	Warramunga Arr	28.46	248	P	P	17 04 25.1	-0.5
WB0				IAmb	IAmb	17 04 26.4	
	comp=Z,5.7nm,0.6s						
WRAB	Tennant Creek	28.54	248	P	P	17 04 26.0	-0.3
WRAB				IAmb	IAmb	17 04 27.0	
	comp=Z,3.1nm,0.8s						
WRA	Warramunga Arr	28.56	248	P	P	17 04 25.6	-0.8
WRA	Warramunga Arr	28.56	248	P	P	17 04 26.5	0.0
	comp=Z,3.7nm,0.8s,baz=78,slow=9.2,SNR=35						
	comp=Z,3.7nm,0.8s						
STKA	Stephens Creek	28.62	219	P	P	17 04 26.0	-0.8
	comp=Z,1.9nm,0.9s,baz=122,slow=17,SNR=2.5						
	comp=Z,1.9nm,0.9s						
H11S2	WAKE ISLAND Hy	29.17	8	T	T	17 35 31.6	
	baz=188,slow=76,SNR=104						
H11S3	WAKE ISLAND Hy	29.17	8	T	T	17 35 32.1	
	baz=188,slow=76,SNR=81						
H11S1	WAKE ISLAND Hy	29.19	8	T	T	17 35 27.4	
	baz=188,slow=76,SNR=93						
AS31	Alice Springs	30.08	241	P	P	17 04 39.1	-0.8
ASAR	Alice Springs	30.08	241	P	P	17 04 38.5	-1.5
ASAR	Alice Springs	30.08	241	P	P	17 04 39.6	-0.3
	comp=Z,1.2nm,0.6s,baz=65,slow=10,SNR=36						
ASAR				S	S	17 09 35.0	-1.1
	comp=Z,0.3nm,1.1s,baz=66,slow=10,SNR=1.6						
	comp=Z,1.2nm,0.6s						
H11N1	WAKE ISLAND Hy	30.40	8	T	T	17 37 06.4	
	baz=188,slow=76,SNR=37						
H11N3	WAKE ISLAND Hy	30.41	9	T	T	17 37 05.1	
	baz=188,slow=76,SNR=35						
H11N2	WAKE ISLAND Hy	30.42	8	T	T	17 37 06.7	
	baz=188,slow=76,SNR=34						
BATI	Baumata	38.04	267	P	P	17 05 48.1	-0.9
	comp=Z,11nm,0.6s,baz=101,slow=5.2,SNR=4.3						
	comp=Z,11nm,0.6s						
MBWA	Marble Bar	42.21	250	P	P	17 06 22.5	-1.0
SSLB	Suanglung	52.93	311	P	P	17 07 44.9	-1.8
JKA	Kamikawa-asahi	57.28	343	P	P	17 08 18.2	+0.5
SONM	Songino Array	76.32	325	P	P	17 10 20.1	+1.0
SONM				IAmb	IAmb	17 10 20.8	
	comp=Z,1.7nm,0.8s						
SONM	Songino Array	76.32	325	P	P	17 10 19.7	+0.7
	comp=Z,1.5nm,0.7s,baz=137,slow=6.8,SNR=8.8						
	comp=Z,1.5nm,0.7s						
QSPA	South Pole Qui	79.45	180	P	P	17 10 37.2	+1.0
CAST	Castle Rocks	81.53	19	P	P	17 10 46.8	-0.3
CAST				IAmb	IAmb	17 10 48.2	
	comp=Z,9.2nm,1.5s						
IMAR	Indian Mountai	82.87	17	P	P	17 10 55.3	+1.2
ILAR	Eielson Array	84.13	19	P	P	17 10 58.9	-1.6
	comp=Z,0.4nm,0.8s,baz=238,slow=5.2,SNR=4.8						
	comp=Z,0.4nm,0.8s						
NVAR	Mina Array Bea	88.27	51	P	P	17 11 20.2	-1.6
	comp=Z,0.2nm,0.3s,baz=252,slow=5.5,SNR=1.7						
	comp=Z,0.2nm,0.3s						
MKAR	Makanchi Array	90.89	317	P	P	17 11 33.9	+0.2
	comp=Z,0.5nm,0.7s,baz=106,slow=7.7,SNR=5.0						
	comp=Z,0.5nm,0.7s						

IDC ***06*** *17:18:21.5±1.1, 26°.77N×105°.52E, h0^{km}, mb3.4/6, mbtmp3.5/6, Error ellipse: s-maj=87.7km s-min=19.2km az=62.0*

ISC 06 17:18:26.6±1.4**, 26°.8N**±0°.3×**105°.6E**±0°.5**, h35**^{km}**, n6, σ1^s.27**/6**, mb3.5**/5**, Southeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	Songino Array	20.98	2	P	P	17 23 07.4	+0.5
	0.5nm,0.4s,baz=178,slow=10,SNR=3.4						
	0.5nm,0.4s						
MKAR	Makanchi Array	27.12	323	P	P	17 24 08.0	+1.7
	0.5nm,0.7s,baz=129,slow=8.4,SNR=3.0						
	0.5nm,0.7s						
ZALV	Zalesovo Beam	31.14	336	P	P	17 24 41.2	-0.6
	0.7nm,0.7s,baz=157,slow=8.0,SNR=4.0						
	0.7nm,0.7s						
KURBB	Kurchatov Arra	31.47	326	P	P	17 24 43.8	-1.0
	0.4nm,0.6s,baz=131,slow=10,SNR=7.4						
	0.4nm,0.6s						
WRA	Warramunga Arr	54.20	146	P	P	17 27 48.7	-0.2
	0.4nm,0.8s,baz=334,slow=8.7,SNR=7.1						
	0.4nm,0.8s						
ASAR	Alice Springs	57.17	149	P	P	17 28 10.4	+0.3
	0.3nm,0.6s,baz=324,slow=6.9,SNR=6.9						
	0.3nm,0.6s						

IDC ***06*** *17:26:00.7±0.8, 30°.50N×57°.30E, h0^{km}, mb3.9/14, mbtmp3.8/18, ML3.2/4, MS3.2/1, Error ellipse:*

s-maj=18.5km s-min=15.7km az=82.0
*TEH **06** 17:26:02.1,30.74N×57.29E,h6km±59km,ML4.1*
*OMAN **06** 17:26:03.5±0.3,31.05N×57.05E,h10km,mb4.5/16, ml3.9/1,ms2.3/1,Error ellipse: s-maj=6.2km s-min=5.3km az=248.0*
ISC 06 17:26:04.1±0.5**,30.71N**±0.02×**57.30E**±0.03**,h15km,n83, σ2.89**/81**,mb3.9**/15**,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.70	292	Pg	Pb	17 26 16.8	-1.4
ZRDN				Sg	Sb	17 26 27.4	-0.5
KHGB	Koh Gabri	0.78	245	Pg	Pb	17 26 18.5	-1.1
KHGB				Sg	Sb	17 26 29.6	-0.5
TVBK	TV Kerman	0.86	213	Pg	Pn	17 26 21.0	-0.9
CHMN	Cheshme madani	0.87	166	Pg	Pb	17 26 20.7	-0.5
CHMN				Sg	Sn	17 26 33.9	-0.9
NGRK	Negar Kerman	1.17	205	Pg	Pg	17 26 26.7	0.0
NGRK				Sg	Sg	17 26 43.7	+1.7
IBAF	Bafgh	1.72	301	Pg	Pg	17 26 35.7	-1.5
KBAM	BAM	1.86	147	Pn	Pb	17 26 37.8	-0.1
BSRN	Basiran	2.00	51	Pn	Pb	17 26 38.6	-1.8
IKOO	Kooshah	2.25	40	Pn	Pb	17 26 42.5	-2.1
TPRV	Parvadeh(Tabas	2.37	347	Pn	Pb	17 26 44.1	-2.5
IMEH	Mehriz	2.40	287	Pn	Pb	17 26 45.0	-2.2
NHDN	Nehbandan	2.46	73	Pn	Pb	17 26 45.6	-2.5
ITEG	Tejag	2.51	29	Pn	Pb	17 26 45.4	-3.5
KHNJ	Kahnooj	2.77	173	Pn	Pb	17 26 51.7	-1.7
TKDS	Koohdasht(Taba	2.90	357	Pn	Pb	17 26 51.8	-3.9
ICHK	Chekchek	2.91	303	Pn	Pb	17 26 52.2	-3.5
IDAH	Dahanechah	2.98	47	Pn	Pn	17 26 52.5	+1.4
AFRZ	Afriz	3.08	28	Pn	Pn	17 26 53.8	+1.5
TNSJ	Nastanj	3.30	350	Pn	Pn	17 26 57.1	+1.8
ZHDN	Zahedan	3.31	112	Pn	Pb	17 26 58.4	-4.3
ISAD	Sadrabad	3.32	292	Pn	Pb	17 26 58.5	-4.3
GENO	Geno	3.44	197	Pn	Pb	17 27 01.1	-3.8
SHRT	Shahrakht	3.88	40	Pn	Pn	17 27 05.1	+1.8
ANAR	Anarak	3.91	310	Pn	Pn	17 27 05.8	+2.0
IRAM	Ramesheh	4.35	286	Pn	Pn	17 27 11.5	+1.6
SHME	Shamm	4.75	193	P	Pn	17 27 20.4	+5.2
SHME				S	Sb	17 28 20.4	-3.8
IZEF	Zefreh	4.76	299	Pn	Pn	17 27 17.7	+2.1
JASK	Jask - Hormozg	4.85	174	P	Pn	17 27 20.8	+4.2
JASK	Jask - Hormozg	4.85	174	Pn	Pn	17 27 20.1	+3.5
KLNJ	Kolanjah	4.91	275	Pn	Pn	17 27 20.8	+3.1
TBJM	Torbat-e-JAM	5.21	28	Pn	Pn	17 27 23.5	+1.8
MASF	Masafi	5.41	191	P	Pn	17 27 29.5	+5.1
MASF				S	Sb	17 28 36.2	-7.0
IKLH	Kolahrood	5.51	300	Pn	Pn	17 27 28.9	+3.0
SRVN	Saravan	5.55	125	Pn	Pn	17 27 29.8	+3.5
SBZV	Sabzevar	5.67	3	Pn	Pn	17 27 30.0	+2.0
UOSS	Minazif	5.82	190	P	Pn	17 27 35.8	+5.8
UOSS				S	Sn	17 28 45.1	+8.6
HATD	Hatta, Dubai	5.95	190	P	Pn	17 27 37.6	+5.9
HATD				S	Sn	17 28 47.5	+7.8
ASHO	Ashiyiah	6.10	191	P	Pn	17 27 37.9	+4.0
	SNR=9.5						
ASHO				S	Sn	17 28 52.2	+8.8
FAQ	Al Faqa, Dubai	6.13	195	P	Pn	17 27 39.3	+5.1
FAQ				S	Sb	17 28 55.1	-8.7
IFIR	Firoozkooh	6.22	323	Pn	Pn	17 27 37.9	+2.2
ASUD	Al Ashush, Dub	6.30	197	P	Pn	17 27 42.1	+5.5
ASUD				S	Sb	17 28 59.6	-9.3
IKRD	Kardeh	6.33	16	Pn	Pn	17 27 38.9	+1.9
IDMV	Damavand	6.56	319	Pn	Pn	17 27 42.1	+1.8
SOHO	SOHO	6.58	186	P	Pn	17 27 44.9	+4.5
HOQ	Hoqain	7.10	180	P	Pn	17 27 52.0	+4.5
HOQ				P	Pn	17 27 52.0	+4.5
GEYT	Alibeck	7.24	5	Pn	Pn	17 27 51.0	+1.6
	0.3nm,0.3s,baz=199,slow=22,SNR=2.3						
GEYT				Sn	Sn	17 29 14.8	+3.5
	baz=240,slow=24						
GEYT				Lg	Lg	17 29 55.1	
	0.3nm,0.3s,baz=234,slow=25,SNR=1.6						
GEYT				LR	LR	17 31 05.8	
	comp=Z,175nm,18.4s,baz=188,slow=41						
	0.5nm,0.3s						
ARQ	Araqi	7.38	186	P	Pn	17 27 56.3	+5.0
	SNR=5.5						
SHMA	Al-Shehemyia	7.38	231	P	Pn	17 27 51.5	+0.1
SHMA				S	Sn	17 29 16.0	+1.1
WSAR	Wadi Sarin	7.54	171	Pn	Pn	17 27 49.7	-3.8
	0.1nm,0.3s,baz=332,slow=3.8,SNR=2.1						
WSAR				Sn	Sn	17 29 15.8	-2.9
	baz=66,slow=20						
	2.6nm,0.8s						
SMDO	Samad	7.65	175	P	Pn	17 27 59.3	+4.2
SMDO				S	Sn	17 29 30.7	+9.1
BSY	Bisya	7.93	181	P	Pn	17 28 05.5	+6.6
BSY				S	Sn	17 29 35.7	+7.3
TRNA	Turayna	8.03	224	P	Pn	17 28 01.7	+1.5
	SNR=14						
TRNA				S	Sn	17 29 31.7	+1.0
WBK	Wadi Bani Khal	8.20	169	P	Pn	17 28 07.2	+4.5
WBK	Wadi Bani Khal	8.20	169	Pn	Pn	17 28 07.1	+4.5
SMRA	Abu-Samra	8.26	226	P	Pn	17 28 05.0	+1.6
	SNR=12						
SMRA				S	Sn	17 29 38.7	+2.4
JMDO	Jabal Madar	8.34	175	P	Pn	17 28 08.2	+3.7
JLN	Jalan Bani Buh	8.73	167	P	Pn	17 28 14.1	+4.3
MHTO	MHTO	9.70	176	P	Pn	17 28 27.8	+4.7
AAK	Ala-Archa	18.18	44	P	P	17 30 16.3	0.0
	0.1nm,0.3s,baz=233,slow=11,SNR=2.5						
	0.4nm,0.3s						
AKTO	Aktyubinsk	19.71	1	P	Pn	17 30 32.5	-1.8
	0.4nm,0.3s,baz=182,slow=9.5,SNR=14						
	3.9nm,0.6s						
BRTR	Keskin Array B	21.27	301	P	P	17 30 48.1	-2.0
	0.9nm,0.6s,baz=128,slow=12,SNR=6.0						
	0.9nm,0.6s						
PYUN	Piuthan	22.52	90	eP	P	17 31 07.3	+3.7
	14nm,1.0s						
DANN	Dangsing	23.13	89	eP	P	17 31 13.6	+3.5
	33nm,0.9s						
GKN	Gorkha	23.96	90	eP	P	17 31 20.6	+2.5
	10.0nm,0.7s						
BVAR	Borovoye Array	24.26	19	P	P	17 31 21.5	+1.0
	1.4nm,0.5s,baz=200,slow=7.1,SNR=11						
	1.4nm,0.5s						
PKIN	Phulchoki	24.71	90	eP	P	17 31 27.3	+2.1
PKI	Pulchoki	24.73	90	eP	P	17 31 27.5	+2.2
	12nm,1.0s						
GUN	Gumba	25.05	89	eP	P	17 31 31.2	+2.9
	21nm,1.0s						
MKAR	Makanchi Array	25.10	43	P	P	17 31 29.1	+0.9
	1.7nm,0.9s,baz=224,slow=9.3,SNR=10						
	1.7nm,0.9s						
JIRN	Jiri	25.38	90	eP	P	17 31 33.5	+2.2
	11nm,0.6s						
KURBB	Kurchatov Arra	25.43	32	P	P	17 31 32.5	+1.4
	2.5nm,0.8s,baz=232,slow=9.1,SNR=24						
	2.5nm,0.8s						
RAMN	Ramite	25.91	91	eP	P	17 31 38.4	+2.4
	18nm,0.7s						
AKASG	Malin Array Be	28.91	322	P	P	17 32 02.8	+0.5
	0.3nm,0.2s,baz=152,slow=16,SNR=2.3						
	0.3nm,0.2s						
ZALV	Zalesovo Beam	30.53	33	P	P	17 32 18.0	+1.4
	3.4nm,0.6s,baz=236,slow=8.8,SNR=20						
	3.4nm,0.6s						
GTA	Gaotai	35.60	64	eP	P	17 33 04.6	+3.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	FINESS Array B	36.91	336	P	P	17 33 11.5	-0.5
	comp=Z,3.0nm,1.0s,baz=158,slow=12,SNR=4.2						
	comp=Z,3.0nm,1.0s						
CMAR	Chiang Mai Arr	39.57	98	P	P	17 33 32.7	-2.3
	comp=Z,0.4nm,0.8s,baz=290,slow=9.5,SNR=4.1						
	comp=Z,0.4nm,0.8s						
SPITS	Spitsbergen Ar	50.85	350	P	P	17 35 03.7	0.0
	comp=Z,15nm,0.9s,baz=133,slow=13,SNR=2.7						
	comp=Z,15nm,0.9s						
TORD	Torodi Ar. Bea	53.93	264	P	P	17 35 27.6	+0.2
	comp=Z,2.1nm,0.9s,baz=48,slow=7.8,SNR=9.4						
	comp=Z,2.1nm,0.9s						
KSRS	Korea Array	57.65	63	P	P	17 35 53.4	-0.4
	comp=Z,1.5nm,0.8s,baz=286,slow=9.2,SNR=3.4						
	comp=Z,1.5nm,0.8s						
YKA	Yellowknife Ar	86.90	356	P	P	17 38 48.3	+0.4
	comp=Z,0.2nm,0.7s,baz=355,slow=5.1,SNR=4.0						
	comp=Z,0.2nm,0.7s						
WRA	Warramunga Arr	89.46	114	P	P	17 38 58.4	-2.5
	comp=Z,0.6nm,0.8s,baz=306,slow=8.0,SNR=12						
	comp=Z,0.6nm,0.8s						
ASAR	Alice Springs	91.14	117	P	P	17 39 05.6	-3.1
	comp=Z,0.4nm,1.0s,baz=326,slow=4.8,SNR=2.5						
	comp=Z,0.4nm,1.0s						

*SCB **06** 17:32:36.0±1.1,21.58S×66.88W,h213km±7km,ML3.5/4, MW3.7,Error ellipse: s-maj=4.1km s-min=2.8km az=0.0*
ISC 06 17:32:35.7±2.2**,21.58S**±0.06×**66.88W**±0.06**, h219km**±17km**,n32,σ0.93**/48**,1D,Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	Mochara	1.20	75	Pg	Pn	17 33 09.9	+0.5
MOCB				Sg	S	17 33 34.1	-1.3
MOCB				IAML		17 33 35.5	
	96nm,0.5s						
YJA	Yavi	1.40	115	Pg	Pn	17 33 11.3	+0.5
LVC	Limon Verde	2.14	241	Pg	Pn	17 33 18.2	+0.7
PB09	IPOC Station P	2.21	264	Pg	Pn	17 33 18.6	+0.7
PB09	IPOC Station P	2.21	264	eP	Pn	17 33 19.0	+1.1
PB09				eS	S	17 33 52.8	+2.1
PB09				IAML		17 33 54.0	
	comp=N,46nm,0.4s						
PB01	IPOC Station P	2.49	282	Pg	Pn	17 33 21.3	+0.5
PB01				Sg	S	17 33 55.2	-0.5
PB01				IAML		17 33 56.2	
	comp=N,216nm,0.3s						
PB01	IPOC Station P	2.49	282	eP	Pn	17 33 21.1	+0.4
PB01				eS	S	17 33 55.6	-0.2
PB08	IPOC Station P	2.56	303	Pg	Pn	17 33 22.8	+0.9
PB08				Sg	S	17 33 58.0	+0.3
PB08				IAML		17 34 00.1	
	comp=N,42nm,0.3s						
PB08	IPOC Station P	2.56	303	eP	Pn	17 33 23.0	+1.1
PB08				eS	S	17 33 58.0	+0.3
PB08				IAML		17 34 00.1	
	comp=E,59nm,0.2s						
PB06	IPOC Station P	2.74	245	Pg	Pn	17 33 23.9	+0.4
PB06	IPOC Station P	2.74	245	eP	Pn	17 33 24.1	+0.6
PB06				eS	S	17 34 00.8	+0.1
PB06				IAML		17 34 02.0	
	comp=E,59nm,0.3s						
PB07	IPOC Station P	2.80	266	Pg	Pn	17 33 24.7	+0.4
PB07	IPOC Station P	2.80	266	eP	Pn	17 33 24.7	+0.4
PB07				eS	S	17 34 00.7	-1.3
PB07				IAML		17 34 01.8	
	comp=E,120nm,0.3s						
PB02	IPOC Station P	2.82	275	Pg	Pn	17 33 24.8	+0.3
PB02				Sg	S	17 34 00.8	-1.5
PB02				IAML		17 34 01.4	
	comp=E,492nm,0.2s						
PB02	IPOC Station P	2.82	275	eP	Pn	17 33 24.8	+0.3
PB02				eS	S	17 34 01.0	-1.3
GO01	Chusmiza	2.88	311	Pg	Pn	17 33 26.2	+0.7
PB15	IPOC Station P	2.90	235	Pg	Pn	17 33 26.0	+0.6
PB15				Sg	S	17 34 03.4	-0.7
PB15	IPOC Station P	2.90	235	eP	Pn	17 33 26.2	+0.8
PB15				eS	S	17 34 04.6	+0.6
PB04	IPOC Station P	3.13	255	Pg	Pn	17 33 28.4	+0.4
PB04	IPOC Station P	3.13	255	⇓iP	Pn	17 33 28.4	+0.4
PB04				eS	S	17 34 07.3	-1.4
SOEO	Opoqueri	3.14	342	Pg	Pn	17 33 29.1	+0.5
PATCX	Punta Patache	3.14	283	eP	Pn	17 33 28.7	+0.6
PATCX				eS	S	17 34 07.1	-1.8
PB11	IPOC Station P	3.16	304	Pg	Pn	17 33 28.5	0.0
PB11	IPOC Station P	3.16	304	i P	Pn	17 33 28.3	-0.2
PB11				eS	S	17 34 08.0	-1.6
PB05	IPOC Station P	3.33	247	Pg	Pn	17 33 30.8	+0.5
PB05	IPOC Station P	3.33	247	eP	Pn	17 33 30.8	+0.5
PB05				eS	S	17 34 10.8	-2.1
SOET	ToroToro	3.59	16	Pg	Pn	17 33 34.1	+0.4
AOEA	Aiquile	3.72	25	Pg	Pn	17 33 35.0	-0.2
SOEJ	Jacaque	4.74	345	Pg	Pn	17 33 48.7	+0.8
BBOE	La Paz, Chanca	4.85	347	Pg	Pn	17 33 50.4	+1.0
BBOD	La Paz, Gloria	5.17	341	Pg	Pn	17 33 54.5	+1.1
LPAZ	La Paz	5.39	347	Pg	Pn	17 33 57.0	+0.8

*NEIC **06** 17:45:59.8±0.3,36.15N±0.01×97.487W±0.008,h4km±3km, Error ellipse: s-maj=1.8km s-min=0.7km az=205.0*
*TUL **06** 17:46:00.1±0.3,36.154N±0.007×97.48W±0.01,h8km±5km, ML3.2,mb_Lg2.9/74(NEIC),ML3.2/66(NEIC),Error ellipse: s-maj=1.4km s-min=1.0km az=94.0*
*ANF **06** 17:46:00.2±1.9,36.16N×97.47W,h10km±12km,ML3.8/9, Error ellipse: s-maj=6.3km s-min=4.5km az=175.0*
ISC 06 17:45:59.9±1.1**,36.16N**±0.02×**97.50W**±0.02**,h6km**±9km**, n107,σ0.74**/88**,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.36	175	Pg	Pg	17 46 07.2	+0.4
OK033	Mehan	0.47	104	Pg	Pg	17 46 09.2	+0.4
OK033				Sg	Sg	17 46 15.4	+0.5
OK033				IAML		17 46 15.7	
	1µm,0.3s						
OK033				IAML		17 46 15.9	
	2µm,0.3s						
ADOK	Arcadia Dam	0.51	168	Pg	Pg	17 46 10.0	+0.3
OK048	Pawnee Station	0.52	60	Pg	Pg	17 46 10.1	+0.3
OK048				Sg	Sg	17 46 17.0	+0.4
CROK	Carrier	0.53	312	Pg	Pg	17 46 10.5	+0.5
CROK				Sg	Sg	17 46 18.1	+1.2
OK052	Battle Ridge R	0.58	106	Pg	Pg	17 46 11.3	+0.2
OK052				Sg	Sg	17 46 19.2	+0.5
OK052				IAML		17 46 19.6	
	1µm,0.3s						
OK052				IAML		17 46 19.6	
	1µm,0.2s						
OK030	Cody Creek RV	0.62	111		Pg	17 46 11.9	+0.1
OK030				Sg	Sg	17 46 20.4	+0.5
OK030				IAML		17 46 33.4	
	1µm,0.0s						
OK030				IAML		17 46 33.9	
	1µm,0.1s						
OK051	E0350 and S346	0.64	57		Pg	17 46 12.3	+0.2
OK051				IAML		17 46 22.7	
	1µm,0.1s						
OK051				IAML		17 46 24.6	
	1µm,0.2s						
QUOK	Quay	0.64	88	Pg	Pg	17 46 12.3	+0.2
QUOK				IAML		17 46 21.0	
	comp=E,829nm,0.3s						
BLOK	Blackwell	0.65	20	Pg	Pg	17 46 12.6	+0.3
BLOK				IAML		17 46 26.2	
	comp=N,1µm,0.2s						
OKCSW	OKLAHOMA CITY	0.75	176	Pg	Pg	17 46 14.3	+0.1
OKCSW				IAML		17 46 27.2	
	comp=N,876nm,0.3s						
OKCSW				IAML		17 46 27.7	
	comp=E,776nm,0.2s						
GC02	Grant County #	0.75	337	Pg	Pg	17 46 14.5	+0.2
KAN13	South Haven SW	0.86	1	Pg	Pg	17 46 16.4	+0.1
KAN13				IAML		17 46 31.3	
	comp=N,1µm,0.3s						
OK032	Salt Plains WL	0.87	319	Pg	Pg	17 46 16.5	0.0
DEOK	Depew	0.87	111	Pg	Pg	17 46 16.4	-0.1
DEOK				IAML		17 46 29.5	
	comp=E,551nm,0.1s						
DEOK				IAML		17 46 30.9	
	comp=N,901nm,0.4s						
KAN14	Manchester OK	0.88	335		Pg	17 46 16.9	0.0
KAN14				IAML		17 46 31.3	
	comp=N,708nm,0.1s						
FNO	Franklin	0.90	175	Pg	Pg	17 46 16.9	-0.2
KAN17	Caldwell West	0.91	346	Pg	Pg	17 46 17.5	+0.1
KAN17				IAML		17 46 35.9	
	comp=E,921nm,0.3s						
KAN17				IAML		17 46 40.7	
	comp=N,825nm,0.3s						
KAN09	Caldwell North	0.98	354		Pg	17 46 18.6	-0.2
KAN05	Bluff City Nor	1.00	342	Pg	Pg	17 46 18.9	-0.1
KAN05				IAML		17 46 36.0	
	comp=N,889nm,0.2s						
KAN01	Argonia South	1.02	348	Pg	Pg	17 46 19.2	-0.2
KAN01				IAML		17 46 35.2	
	comp=N,433nm,0.3s						
KAN01				IAML		17 46 35.3	
	comp=E,444nm,0.1s						
OK038	West end E0370	1.06	288	Pg	Pg	17 46 19.8	-0.4
KAN10	Anthony SW Sta	1.08	334		Pg	17 46 20.3	-0.3
KAN10				IAML		17 46 37.5	
	comp=E,568nm,0.1s						
KAN10				IAML		17 46 38.5	
	comp=N,482nm,0.1s						
CSTR	Hydro, Custer	1.09	243	Pg	Pg	17 46 20.6	-0.3
T35A	Sooner Cattle	1.10	46	Pg	Pg	17 46 20.8	-0.1
T35A				IAML		17 46 36.4	
	comp=E,617nm,0.2s						
T35A				IAML		17 46 40.1	
	comp=N,629nm,0.5s						
T35B	Sooner Cattle	1.10	46	P	Pg	17 46 20.7	-0.2
	baz=226						
T35B				S	Sg	17 46 35.0	-0.2
	baz=226						
W35A	Tecumseh	1.12	153	Pg	Pg	17 46 20.5	-0.8
W35A				IAML		17 46 41.6	
	comp=E,702nm,0.3s						
W35A				IAML		17 46 42.3	
	comp=N,360nm,0.3s						
OK035	E0210 Rd and N	1.12	300	Pg	Pg	17 46 21.0	-0.4
KAN06	Argonia West S	1.13	345		Pg	17 46 21.3	-0.2
KAN06				IAML		17 46 37.2	
	comp=E,383nm,0.1s						
KAN06				IAML		17 46 37.4	
	comp=N,516nm,0.1s						
KAN08	Anthony NE Sta	1.14	341	Pg	Pg	17 46 21.4	-0.3
KAN08				IAML		17 46 39.3	
	comp=E,412nm,0.2s						
KS21	Milan North St	1.14	353	Pg	Pg	17 46 21.4	-0.2
KAN12	Harper NE Stat	1.21	341		Pb	17 46 22.8	-0.4
U32A	Winter Ranch,	1.24	281	Pg	Pn	17 46 23.0	-0.7
U32A				IAML		17 46 45.9	
	comp=E,311nm,0.2s						
U32A				IAML		17 46 48.3	
	comp=N,427nm,0.7s						
U32A	Winter Ranch,	1.24	281	P	Pn	17 46 23.1	-0.6
	baz=100						
U32A				S	Sn	17 46 40.8	+0.1
	baz=100						
TUL3	Leonard	1.40	100		Pn	17 46 25.2	-0.7
TUL3	Leonard	1.40	100	P	Pn	17 46 25.2	-0.7
	baz=281						
TUL3				S	Sb	17 46 44.3	-0.3
	baz=281						
TUL3	Leonard	1.40	100	P	Pn	17 46 25.2	-0.7
	baz=281						
TUL3				S	Sb	17 46 44.3	-0.3
	baz=281						
ELIS	Ellis County	1.56	267		Pn	17 46 28.1	0.0
WMOK	Wichita Mounta	1.76	217	Pn	Pn	17 46 31.4	+0.5
WMOK	Wichita Mounta	1.76	217	P	Pn	17 46 31.3	+0.5
	baz=36						
WMOK				S	Sb	17 46 54.6	-0.3
	baz=36						
WMOK	Wichita Mounta	1.76	217	P	Pn	17 46 31.4	+0.5
	baz=36						
WMOK				S	Sb	17 46 55.1	+0.2
	baz=36						
RLO	Rose Lookout	2.00	89	Pn	Pn	17 46 34.8	+0.6
LOOK	Love County	2.17	173		Pn	17 46 37.8	+1.3
X37A	Clayton	2.34	131	Pn	Pn	17 46 39.8	+1.0
X37A				IAmb_Lg		17 47 16.0	
	comp=Z,68nm,0.7s						
X37A	Clayton	2.34	131	P	Pn	17 46 39.6	+0.9
	baz=313						
R32A	Long Quarter,	2.46	337		Pb	17 46 42.8	-1.7
R32A	Long Quarter,	2.46	337	S	Sn	17 47 12.5	+1.5
	baz=156						
SMWD	Samnorwood	2.47	246		Pn	17 46 41.6	+0.9
SMWD				IAmb_Lg		17 47 18.1	
	comp=Z,24nm,0.7s						
WTFS	Witchita Falls	2.51	199		Pn	17 46 42.4	+1.2
U38A	Gravette	2.53	83	Pn	Pb	17 46 43.6	-2.0
HHAR	Hobbs	2.88	86	Pn	Pn	17 46 48.0	+1.7
KSU1	Kansas State U	3.02	13		Pn	17 46 49.1	+0.8
KSU1	Kansas State U	3.02	13	P	Pn	17 46 48.7	+0.4
	baz=194						
KSU1				S	Sn	17 47 25.8	+1.1
	baz=194						
FW03	Perrin-Whitt E	3.14	189		Pn	17 46 49.2	-0.7
FW03				IAmb_Lg		17 47 42.7	
	comp=Z,16nm,0.7s						
FW06	Azle	3.17	181		Pn	17 46 50.1	-0.2
FW06				IAmb_Lg		17 47 44.8	
	comp=Z,12nm,0.8s						
CBKS	Cedar Bluff	3.20	327		Pn	17 46 49.7	-1.0
CBKS	Cedar Bluff	3.20	327	P	Pn	17 46 50.6	-0.1
	baz=145						
CBKS				S	Sn	17 47 29.9	+0.7
	baz=145						
PLPT	Palo Pinto	3.40	192		Pb	17 46 58.5	-2.0
PLPT				IAmb_Lg		17 47 52.7	
	comp=Z,14nm,0.8s						
FW07	Weatherford	3.45	184	IAmb_Lg		17 47 57.3	
	comp=Z,18nm,0.8s						
Z38A	Mt. Pleasant	3.55	144		Pn	17 46 54.4	-1.1
APMT	Aspermont	3.56	218	IAmb_Lg		17 48 02.3	
	comp=Z,13nm,0.8s						
MIAR	Mount Ida	3.58	115	Pn	Pn	17 46 57.1	+1.1
MIAR				IAmb_Lg		17 47 59.9	
	comp=Z,22nm,0.7s						
MIAR	Mount Ida	3.58	115	P	Pn	17 46 56.0	0.0
	baz=298						
MIAR				S	Sn	17 47 39.3	+0.7
	baz=298						
MIAR	Mount Ida	3.58	115	P	Pn	17 46 57.1	+1.1
	baz=298						
AMTX	Amarillo	3.64	251	P	Pn	17 46 56.9	+0.1
	baz=68						
AMTX				S	Sn	17 47 41.4	+1.2
	baz=68						
DKNS	Dickens	3.75	230		Pb	17 47 07.2	+0.6
DKNS				IAmb_Lg		17 48 03.5	
	comp=Z,24nm,0.8s						
ABTX	Abilene, Hawle	3.94	207	P	Pn	17 47 00.7	-0.3
	baz=26						
ABTX				S	Sn	17 47 48.3	+0.7
	baz=26						
WHTX	Lake Whitney,	4.15	180	P	Pn	17 47 04.4	+0.6
	baz=360						
X40A	Basin Creek Fa	4.16	112	IAmb_Lg		17 48 23.3	
	comp=Z,25nm,0.7s						
RTBA	Rita Blanca	4.24	275		Pn	17 47 05.8	+0.6
RTBA				IAmb_Lg		17 48 26.9	
	comp=Z,27nm,0.9s						
SN01	Snyder 1	4.32	221		Pn	17 47 05.7	-0.4
SN01				IAmb_Lg		17 48 28.9	
	comp=Z,30nm,0.8s						
MGMO	Mountain Grove	4.32	75	IAmb_Lg		17 48 15.0	
	comp=Z,29nm,0.8s						
WHAR	Wooly Hollow	4.32	100		Pn	17 47 06.9	+0.8
WHAR				IAmb_Lg		17 48 25.9	
	comp=Z,30nm,0.9s						
FCAR	Ozark Folk Cen	4.36	92		Pn	17 47 06.2	-0.4
FCAR				IAmb_Lg		17 48 19.9	
	comp=Z,27nm,0.8s						
WLAR	White Oak Lake	4.36	123	IAmb_Lg		17 48 25.7	
	comp=Z,26nm,0.8s						
UALR	University of	4.43	107	IAmb_Lg		17 48 30.3	
	comp=Z,35nm,0.8s						
P38A	Dawn	4.67	41	IAmb_Lg		17 48 40.9	
	comp=Z,29nm,0.8s						
R40A	Maddies Statio	4.69	61	Pn	Pn	17 47 12.0	+0.9
R40A				IAmb_Lg		17 48 30.1	
	comp=Z,28nm,0.8s						
Z41A	Richland Creek	4.83	125	IAmb_Lg		17 48 46.5	
	comp=Z,28nm,1.1s						
MSTX	Muleshoe	4.84	245	IAmb_Lg		17 48 46.6	
	comp=Z,17nm,1.1s						
MSTX	Muleshoe	4.84	245	P	Pn	17 47 12.2	-1.2
	baz=62						
KSCO	Kaye Shedlock'	4.97	307	IAmb_Lg		17 48 49.5	
	comp=Z,32nm,0.8s						
BRDY	Brady	5.01	195	IAmb_Lg		17 48 39.2	
	comp=Z,14nm,0.8s						
LCAR	Lake Charles	5.13	89	IAmb_Lg		17 48 41.3	
	comp=Z,14nm,0.7s						
SGCY	Sterling City	5.19	217	IAmb_Lg		17 48 54.3	
	comp=Z,37nm,0.8s						
CCM	Cathedral Cave	5.34	67	IAmb_Lg		17 48 57.3	
	comp=Z,32nm,1.1s						
435B	Jarrell	5.36	181	IAmb_Lg		17 48 55.5	
	comp=Z,19nm,0.7s						
P40A	Paris	5.47	50	IAmb_Lg		17 48 59.4	
	comp=Z,28nm,0.8s						
T25A	Trinidad	5.64	282	IAmb_Lg		17 49 08.1	
	comp=Z,22nm,0.8s						
PBMO	Poplar Bluff	5.73	82	IAmb_Lg		17 49 02.1	
	comp=Z,26nm,0.8s						
ODSA	Odessa	5.81	228	IAmb_Lg		17 49 16.2	
	comp=Z,12nm,1.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FVM	French Village	5.94	70	IAmb_Lg		17 49 10.0	
	comp=Z,15nm,0.8s						
JCT	Junction City	5.98	199	IAmb_Lg		17 49 21.0	
	comp=Z,26nm,0.7s						
OZNA	Ozona	6.04	211	IAmb_Lg		17 49 18.6	
	comp=Z,20nm,0.9s						
CGM3	Cape Girardeau	6.40	77	IAmb_Lg		17 49 19.4	
	comp=Z,17nm,0.7s						
MNHN	Monahans	6.50	224	IAmb_Lg		17 49 31.2	
	comp=Z,10nm,0.8s						
SDCO	Great Sand Dun	6.60	286	IAmb_Lg		17 49 31.5	
	comp=Z,12nm,1.2s						
Q24A	Divide	6.69	297	IAmb_Lg		17 49 44.8	
	comp=Z,14nm,0.7s						
HNDO	Hondo	6.78	193	IAmb_Lg		17 49 39.4	
	comp=Z,28nm,1.1s						
PECS	Pecos	7.13	230	IAmb_Lg		17 50 02.6	
	comp=Z,9.6nm,0.9s						
DRIO	Del Rio	7.21	202	IAmb_Lg		17 49 57.7	
	comp=Z,12nm,0.8s						
SAND	Sanderson	7.30	213	IAmb_Lg		17 49 59.6	
	comp=Z,17nm,0.9s						
ISCO	Idaho Springs	7.37	302	IAmb_Lg		17 50 01.9	
	comp=Z,12nm,0.8s						
L40A	Anamosa	7.65	38	IAmb_Lg		17 50 20.1	
	comp=Z,18nm,0.8s						
ALPN	Alpine	7.72	223	IAmb_Lg		17 50 12.6	
	comp=Z,8.4nm,0.8s						
833A	Chaparral WMA,	7.97	192	IAmb_Lg		17 50 27.7	
	comp=Z,10nm,0.9s						
N23A	Red Feather La	8.14	308	IAmb_Lg		17 50 28.0	
	comp=Z,15nm,0.8s						

*DJA **06** 18:02:12.1±0.2, 1˚S±3˚×12˚3E±˚, h10km, M4.1/14, mb4.3/7, mB5.3/1, MLv4.0/14, Mw(mB)4.7/1*
*IDC **06** 18:02:24.7±8.1, 0˚94S×122˚86E, h146km±82km, mb2.9/3, mbtmp3.4/4, MS2.7/1, Error ellipse: s-maj=76.6km s-min=21.3km az=52.0*
ISC 06 18:02:14.1±0.9, **0˚62S**±0˚06×**123˚33E**±0˚06, **h35**km, **n19**, σ**1ˢ18**/22, **mb3.3**/3, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
LUWI	Luwuk	0.70	233	P	Pn	18 02 25.5	-1.9
LUWI				S	Sn	18 02 35.2	-1.8
KMSI	Cibinong	1.35	29	P	Pn	18 02 36.0	-0.5
KMSI				S	Sn	18 02 53.6	+0.4
MRSI	Marisa	1.77	308	P	Pn	18 02 41.4	-0.8
SANI	Sanana	3.01	118	P	Pn	18 02 58.1	-1.2
MPSI	Mapaga	3.56	285	P	Pn	18 03 08.2	+1.3
LBMI	Labuha	4.17	90	P	Pn	18 03 15.1	-0.1
TTSI	Tana Toraja	4.26	236	P	Pn	18 03 17.5	+1.1
TTSI				S	Sn	18 04 05.1	+0.2
TNTI	Ternate	4.27	71	P	Pn	18 03 17.4	+0.8
NLAI	Namlea	4.58	125	P	Pn	18 03 22.0	+1.2
SPSI	Sidrap Palu	4.87	227	P	Pn	18 03 26.4	+1.6
KAPI	Kappang	5.64	219	P	Pn	18 03 37.9	+2.5
	7.8nm,0.3s,baz=34,slow=12,SNR=3.9						
KAPI				S	Sn	18 04 38.5	-0.6
	6.6nm,0.4s,baz=105,slow=20,SNR=1.6						
BKSI	Bulukumba	5.66	214	P	Pn	18 03 37.3	+1.5
	15nm,1.1s,0.1nm						
BKB	Balikpapan	6.46	264	P	Pn	18 03 47.3	+0.5
	103nm,1.4s,2µm0.5nm						
EDFI	Ende, Flores	8.24	191	P	Pn	18 04 10.9	-0.4
	6.2nm,0.9s						
FAKI	Fak Fak	9.20	104	P	Pn	18 04 24.4	0.0
WRA	Warramunga Arr	22.02	151	P	P	18 07 05.3	-0.3
	0.4nm,0.5s,baz=334,slow=9.9,SNR=18						
	0.4nm,0.5s						
ASAR	Alice Springs	25.10	157	P	P	18 07 36.1	+0.4
	0.5nm,0.5s,baz=344,slow=14,SNR=22						
	0.5nm,0.5s						
CMAR	Chiang Mai Arr	30.56	310	LR	LR	18 22 59.8	
	comp=Z,13nm,18.7s,baz=145,slow=41						
MKAR	Makanchi Array	59.31	328	P	P	18 12 12.2	-0.3
	0.2nm,0.5s,baz=130,slow=8.8,SNR=4.3						
	0.2nm,0.5s						

*CATAC **06** 18:10:59.7±0.7, 9˚58N×84˚58W, h5km±3km, ML3.2*
*UCR **06** 18:11:00.1±1.2, 9˚60N×84˚59W, h9km±3km, MW3.5*
ISC 06 18:10:59.6±1.0, **9˚58N**±0˚04×**84˚60W**±0˚02, **h15**km±6km, **n46**, σ**0ˢ78**/63, **Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
JACO	JACO, Garabito	0.10	324	eP	Pg	18 11 02.5	-0.4
JACO				eS	Sg	18 11 05.1	0.0
JACO	JACO, Garabito	0.10	324	i P	Pg	18 11 02.5	-0.4
JACO				IAML		18 11 02.6	
	comp=Z,9µm,1.0s						
JACO				i S	Sg	18 11 05.0	0.0
CBL1	Cabuya	0.49	271	eP	Pg	18 11 09.6	+0.3
CBL1				eS	Sb	18 11 17.9	+1.0
ABE2	San Pablo	0.55	77	eP	Pg	18 11 10.5	-0.1
ABE2				eS	Sg	18 11 18.5	+0.5
BELE	Belen	0.56	46	eP	Pb	18 11 11.7	+0.4
LCR2	La Lucha 2	0.61	74	eP	Pg	18 11 11.2	-0.5
LCR2	La Lucha 2	0.61	74	i P	Pg	18 11 11.1	-0.5
LCR2				i S	Sg	18 11 19.8	+0.1
LCR2				IAML		18 11 24.1	
	comp=Z,480nm,1.0s						
HDC	Heredia	0.64	49	eP	Pg	18 11 12.1	0.0
HDC3	Heredia 3	0.64	49	eP	Pg	18 11 12.1	0.0
HDC3	Heredia 3	0.64	49	i P	Pg	18 11 12.2	0.0
HDC3				i S	Sg	18 11 20.9	+0.2
HDC3				IAML		18 11 23.7	
	comp=Z,840nm,1.0s						
TBLN	Tablon, Guarco	0.64	68	i P	Pg	18 11 11.7	-0.5
TBLN				i S	Sg	18 11 20.2	-0.5
TBLN				IAML		18 11 22.0	
	comp=Z,1µm,1.0s						
VPTE	Poasito	0.71	34	i P	Pg	18 11 13.6	+0.1
VPTE				i S	Sb	18 11 24.1	+0.5
VPTE				IAML		18 11 24.6	
	comp=Z,2µm,1.0s						
JTS	Las Juntas de	0.79	334	eP	Pg	18 11 14.2	-0.7
SOCE	Pocosol	0.80	359	eP	Pg	18 11 15.1	-0.1
SOCE	Pocosol	0.80	359	i P	Pg	18 11 15.3	+0.1
SOCE				i S	Sb	18 11 26.5	+0.5
SOCE				IAML		18 11 33.2	
	comp=Z,1µm,1.0s						
CDM	Cerro de Muert	0.82	92	eP	Pg	18 11 15.3	-0.4
CDM	Cerro de Muert	0.82	92	i P	Pg	18 11 15.2	-0.5
CDM				IAML		18 11 15.8	
	comp=Z,380nm,1.0s						
CDM				i S	Sb	18 11 27.4	+0.4
BUS1	Rivas	0.84	92	eP	Pg	18 11 15.4	-0.6
HAYA	Volcan Irazu	0.84	62	i P	Pg	18 11 15.7	-0.4
HAYA				i S	Sg	18 11 26.4	-0.9
HAYA				IAML		18 11 29.6	
	comp=Z,930nm,1.0s						
VICA	Volcano Irazu	0.84	61	eP	Pg	18 11 15.6	-0.5
ARE1	Arenal 1	0.89	352	eP	Pg	18 11 17.0	+0.2
FORC	Fortuna	0.89	355	eP	Pg	18 11 16.5	-0.3
CEDE	Laguna Cedeo	0.91	353	eP	Pg	18 11 17.4	+0.2
CMARA	Lajas Hojancha	0.92	298	eP	Pg	18 11 16.8	-0.8
TABAC	Tabacon	0.93	350	eP	Pb	18 11 18.2	+0.6
TABAC				eS	Sb	18 11 31.7	+1.9
INDI	Punta indio, G	0.94	288	eP	Pg	18 11 17.2	-0.6
VERB	Verbena	0.96	68	eP	Pg	18 11 17.8	-0.5
RVSTA	Santa Teresita	1.02	67	eP	Pg	18 11 17.2	-2.1
COTE	Lago Cote	1.04	342	eP	Pg	18 11 19.2	-0.5
COTE				eS	Sb	18 11 34.2	+1.3
PLVR	Palo Verde	1.06	316	eP	Pg	18 11 19.3	-1.0
JUD3	Juan Diaz 3	1.10	302	eP	Pg	18 11 19.8	-1.0
ACAL	Aguas Claras	1.13	338	eP	Pg	18 11 20.0	-1.6
ORTG	Ortega, Santa	1.15	313	eP	Pg	18 11 20.8	-1.1
MOTZ	Rio Naranjo	1.20	337	eP	Pg	18 11 21.8	-0.9
MOTZ				eS	Sg	18 11 38.3	0.0
CUI	Cuipilapa	1.21	333	eP	Pg	18 11 21.7	-1.3
HORNC	Hornillas	1.26	333	eP	Pn	18 11 22.5	-0.4
HORNC				eS	Sg	18 11 38.5	-2.0
SRBA	San Rafael, Bu	1.27	106	eP	Pn	18 11 22.6	-0.4
MESS	Mesas	1.29	333	eP	Pn	18 11 23.1	-0.3
MESS				eS	Sb	18 11 40.5	+0.2
HATIL	Hatillo	1.30	303	eP	Pn	18 11 23.4	0.0
CANAL	Canalete	1.32	340	eP	Pn	18 11 21.7	-1.9
CLARA	Aguas Claras	1.33	335	eP	Pn	18 11 23.8	0.0
VMAR	Armenia, Volca	1.33	338	eP	Pn	18 11 23.2	-0.6
VMAR				eS	Sb	18 11 42.1	+0.9
GPS2	Hotel Rincn d	1.38	328	eP	Pn	18 11 24.7	+0.2
LAPC	Finca la Perla	1.44	325	eP	Pn	18 11 25.5	+0.2
BUEV	Buena Vista	1.45	327	eP	Pn	18 11 25.6	+0.2
HZTE	Horizontes, Gu	1.50	319	eP	Pn	18 11 26.7	+0.7

*IDC **06** 18:12:06.1±1.1, 34˚61N×26˚97E, h0km, mb3.6/8, mbtmp3.6/11, ML3.3/3, MS3.1/1, Error ellipse: s-maj=27.2km s-min=15.2km az=176.0*
*AFAD **06** 18:12:12.2±0.0, 34˚84N×27˚51E, h7km±1km, ML2.8*
*ISK **06** 18:12:15.5, 34˚68N×28˚00E, h86km, ML2.9/11*
ISC 06 18:12:10.5±2.4, **34˚67N**±0˚07×**27˚53E**±0˚09, **h10**km±13km, **n31**, σ**1ˢ77**/38, **mb3.5**/8, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
ARG	Arkhangelos	1.62	17	Pn	Pg	18 12 42.5	+1.0
ARG				Sn	Sg	18 13 02.2	-0.3
DAT	Datca	2.05	1	Pn	Pg	18 12 49.9	0.0
TURN	Turunc	2.18	15	Pn	Pb	18 12 49.8	-0.2
TURN				Sn	Sb	18 13 15.5	-1.6
TURN	Turunc	2.18	15	P	Pb	18 12 49.6	-0.4
TURN				S	Sb	18 13 17.0	0.0
TURN				i AML	AML	18 13 21.0	
	comp=E,62nm,0.6s						
IZZE	Mula-Seydike	2.24	38	P	Pb	18 12 51.0	-0.1
IZZE				S	Sb	18 13 19.5	+0.6
IZZE				i AML	AML	18 13 30.0	
	comp=N,65nm,0.5s						
IDI	Anoyia	2.25	287	Pn	Pn	18 12 41.2	-6.7
	1.3nm,0.3s,baz=74,slow=16,SNR=1.9						
IDI				Sn	Sn	18 13 03.7	-12
	3.6nm,0.3s,baz=104,slow=12,SNR=5.8						
DALY	Dalyan (Mula)	2.33	23	Pn	Pb	18 12 51.7	-0.9
RFTAA	Mazikoy-Bodrum	2.33	4	Pn	Pb	18 12 53.2	+0.6
YER	Yerkesik	2.53	14	Pn	Pb	18 12 55.1	-1.0
CAME	Cameli-Denizli	2.69	32	Pn	Pn	18 12 55.9	+1.9
AKUM	Antalya-Kumluc	2.83	54	P	Pb	18 12 59.1	-2.0
AKUM				S	Sb	18 13 35.1	-0.6
AKUM				i AML	AML	18 13 58.0	
	comp=N,39nm,1.5s						
ELL	Elmali	2.84	42	Pn	Pn	18 12 56.7	+0.7
CAEL	Denizli, Camel	2.85	30	P	Pb	18 12 59.3	-2.2
CAEL				S	Sb	18 13 36.1	-0.3
TAVA	DENIZLI_Tavas	3.00	22	P	Pn	18 13 00.5	+2.2
TAVA				S	Sb	18 13 37.6	-3.4
GOLH	Golhisar	3.04	32	P	Pb	18 13 03.0	-1.9
GOLH				S	Sb	18 13 41.2	-0.9
GOLH				i AML	AML	18 13 51.0	
	comp=E,35nm,1.0s						
DNIZ	Denizli-Tavas-	3.19	22	P	Pn	18 13 02.9	+2.1
KORT	Korkueli	3.26	44	Pn	Pn	18 13 02.4	+0.5
GAZI	Gazipasa	4.21	67	Pn	Pn	18 13 13.7	-1.0
SEYD	Seydisehir-KON	4.43	51	Pn	Pn	18 13 17.6	-0.3
MMAI	Mount Meron Ar	6.76	102	Pn	Pn	18 13 51.1	+1.2
	1.5nm,0.3s,baz=270,slow=9.2,SNR=7.5						
MMAI				Sn	Sn	18 15 09.8	+2.9
	1.5nm,0.3s,baz=286,slow=28,SNR=1.5						
	7.9nm,0.9s						
BRTR	Keskin Array B	7.01	42	Pn	Pn	18 13 57.9	+4.5
	0.1nm,0.3s,baz=210,slow=14,SNR=4.6						
BRTR				LR	LR	18 17 46.7	
	comp=Z,138nm,19.5s,baz=240,slow=46						
	0.9nm,0.8s						
EIL	Elat	8.03	126	Pn	Pn	18 14 08.0	+0.8
	0.8nm,0.3s,baz=335,slow=19,SNR=11						
EIL				Sn	Sn	18 15 35.8	-2.3
	1.0nm,0.3s,baz=16,slow=18,SNR=1.7						
	5.0nm,0.6s						
AKASG	Malin Array Be	16.07	4	Pn	Pn	18 15 56.8	+0.4
	0.5nm,0.3s,baz=193,slow=10,SNR=4.6						
GEYT	Alibeck	24.81	74	P	P	18 17 35.6	+2.8
	0.8nm,0.4s,baz=251,slow=9.0,SNR=2.4						
	0.8nm,0.4s						
ESDC	Sonseca Array	25.51	291	P	P	18 17 31.6	-7.5
	0.3nm,0.5s,baz=77,slow=9.5,SNR=6.4						
	0.3nm,0.5s						
FINES	FINESS Array B	26.81	358	P	P	18 17 46.7	-3.9
	3.1nm,1.0s,baz=184,slow=13,SNR=1.5						
	3.1nm,1.0s						
TORD	Torodi Ar. Bea	31.72	234	P	P	18 18 28.3	-6.3
	0.5nm,0.4s,baz=38,slow=8.6,SNR=6.2						
	0.5nm,0.4s						
BVAR	Borovoye Array	35.29	45	P	P	18 19 05.0	-0.5
	0.4nm,0.7s,baz=269,slow=12,SNR=2.0						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	39.92	50	P	P	18 19 45.3	+0.7
	1.0nm,0.8s,baz=277,slow=8.9,SNR=8.1						
	1.0nm,0.8s						
MKAR	Makanchi Array	42.42	56	P	P	18 20 06.2	+0.8
	0.6nm,0.6s,baz=268,slow=7.2,SNR=11						
	0.6nm,0.6s						
ZALV	Zalesovo Beam	43.94	46	P	P	18 20 17.0	-0.5
	0.2nm,0.4s,baz=268,slow=8.2,SNR=1.9						
	0.2nm,0.4s						

*IDC **06** 18:17:34.2±3.5, 14˚46N×91˚66W, h58km±29km, mb3.8/10, mbtmp4.1/13, ML3.9/3, MS3.3/14, Error ellipse: s-maj=34.5km s-min=18.1km az=40.0*
*CATAC **06** 18:17:35.6±0.5, 14˚30N×92˚11W, h24km±4km, ML4.9*
*SNET **06** 18:17:35.1±1.1, 14˚70N×92˚05W, h34km±999km, ML4.3*
*MEX **06** 18:17:36.0±1.7, 14˚25N×92˚27W, h43km±29km, MD4.7*
*NEIC **06** 18:17:36.7±2.2, 14˚48N±0˚07×91˚93W±0˚07, h66km±5km, mb4.6/159, Error ellipse: s-maj=11.2km s-min=7.9km az=215.0*
*GCG **06** 18:17:37.2±9.8, 14˚31N×92˚22W, h28km, MD4.2*
ISC 06 18:17:34.4±0.7, **14˚32N**±0˚05×**92˚17W**±0˚03, **h63**km±6km, **n303**, σ**1ˢ80**/350, **mb4.6**/86, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
RTAL	Retalhuleu	0.50	66	Pn	Pn	18 17 46.5	-0.2
RTAL				Sn	Sn	18 17 53.3	-2.2
RTAL	Retalhuleu	0.50	66	i P	Pn	18 17 46.4	-0.2
RTAL				i S	Sn	18 17 55.5	-0.1
RTAL	Retalhuleu	0.50	66	i P	Pn	18 17 46.5	-0.2
RTAL				i S	Sn	18 17 54.6	-1.0
RTAL				IAML		18 18 00.8	
	comp=Z,27µm,1.0s						
SMCA	Catarina	0.54	10	i P	Pn	18 17 46.6	-0.4
SMCA				i S	Sn	18 17 55.1	-1.2
SMCA				IAML		18 17 55.3	
	comp=Z,53µm,1.0s						
SULM	Suchitepequez,	0.59	92	eP	Pn	18 17 49.2	+1.7
SULM				eS	Sn	18 18 10.4	+13
THIG		0.59	351	i P	Pn	18 17 47.6	0.0
THIG				i S	Sn	18 17 57.4	+0.2
STG3	Santiaguito 3,	0.70	56	eP	Pn	18 17 49.3	+0.3
SMSP	San Marcos	0.75	30	i P	Pn	18 17 50.0	+0.3
SMSP				i S	Sn	18 18 00.8	-0.1
SMSP	San Marcos	0.75	30	i P	Pn	18 17 49.8	+0.1
SMSP				i S	Sn	18 18 00.9	0.0
SMSP				IAML		18 18 08.0	
	comp=Z,110µm,1.0s						
CHUJ	Union Juarez	0.77	4	i P	Pn	18 17 49.5	-0.4
CHUJ				eS	Sn	18 18 00.1	-1.2
PATR	El Naranjo	0.79	356	i P	Pn	18 17 49.7	-0.5
PATR				eS	Sn	18 18 00.3	-1.4
QUEO	Labor Ovalle	0.84	49	i P	Pn	18 17 51.3	+0.5
QUEO				i S	Sn	18 18 03.4	+0.5
QUEO				IAML		18 18 06.0	
	comp=Z,100µm,1.0s						
PAVE	Pavencul	0.87	360	i P	Pn	18 17 50.8	-0.3
PAVE				eS	Sn	18 18 02.3	-1.1
SOKI	Kika Raxquin	0.89	56	i P	Pn	18 17 51.7	+0.1
SOKI				i S	Sn	18 18 03.8	-0.4
SOKI				IAML		18 18 09.0	
	comp=Z,16µm,1.0s						
HUEH	Huehuetenango	1.18	33		Pn	18 17 56.6	+1.4
HUEH	Huehuetenango	1.18	33	i P	Pn	18 17 56.6	+1.4
HUEH				i S	Sn	18 18 12.7	+2.1
HUEH	Huehuetenango	1.18	33	i P	Pn	18 17 56.6	+1.4
HUEH				IAML		18 17 57.0	
	comp=Z,46µm,1.0s						
HUEH				i S	Sn	18 18 12.2	+1.6
CHTG	Tecpan	1.23	69	i P	Pn	18 17 56.7	+0.9
CHTG				i S	Sn	18 18 13.3	+1.5
CHTG				IAML		18 18 15.9	
	comp=Z,26µm,1.0s						
FUG	Fuego 3	1.29	84	eP	Pn	18 17 57.5	+1.0
FUG				eS	Sn	18 18 20.0	+6.9
PCG	Pacaya	1.52	87	eP	Pn	18 18 01.1	+1.5
GUMI	Mixco	1.54	78	i P	Pn	18 18 01.0	+1.1
GUMI				i S	Sn	18 18 20.9	+1.8
GUMI				IAML		18 18 23.1	
	comp=Z,17µm,1.0s						
GCG4	OSOP	1.61	80	i P	Pn	18 18 02.3	+1.5
GCG4				IAML		18 18 02.9	
	comp=Z,9µm,1.0s						
GCG4				i S	Sn	18 18 22.9	+2.2
PCIG		1.71	324	eP	Pn	18 18 02.5	+0.6
PCIG				eS	Sn	18 18 21.7	-1.1
NBG	Las Nubes	1.79	81	eP	Pn	18 18 05.8	+2.6
NBG				eS	Sn	18 18 25.3	+0.2
GUNB	GUNB	1.79	81	i P	Pn	18 18 05.1	+1.8
GUNB				IAML		18 18 31.5	
	comp=Z,5µm,1.0s						
CCIG	Comitan	1.95	1		Pn	18 18 07.1	+1.7
CCIG	Comitan	1.95	1	eP	Pn	18 18 07.6	+2.2
CCIG				eS	Sn	18 18 32.1	+3.2
CCIG	Comitan	1.95	1	i P	Pn	18 18 07.8	+2.4
CCIG				i S	Sn	18 18 32.7	+3.8
CCIG				IAML		18 18 40.1	
	comp=Z,11µm,1.0s						
SLOZ	Alcaldia de Sa	2.33	97	eP	Pn	18 18 11.2	+0.7
LOAL	Lomas de Alarc	2.34	98	i P	Pn	18 18 12.0	+1.4
LOAL				IAML		18 18 44.9	
	comp=Z,6µm,1.0s						
NUBE	Las Nubes	2.36	100	i P	Pn	18 18 12.1	+1.2
NUBE				i S	Sn	18 18 37.5	-1.3
NUBE				IAML		18 18 46.8	
	comp=Z,3µm,1.0s						
RTR	El Retiro	2.49	99	eP	Pn	18 18 13.3	+0.6
SBLS	San Blas	2.52	101	eP	Pn	18 18 14.2	+1.0
CEVE	Cerro Verde	2.52	101	eP	Pn	18 18 15.0	+1.8
CEVE				eS	Sn	18 18 44.9	+1.9
CEVE	Cerro Verde	2.52	101	i P	Pn	18 18 15.1	+1.9
CEVE				i S	Sn	18 18 44.3	+1.4
CEVE				IAML		18 18 53.2	
	comp=Z,8µm,1.0s						
SNJE	San Jose	2.53	100	eP	Pn	18 18 14.8	+1.5
UNIC	Universidad Ca	2.57	97	i P	Pn	18 18 14.6	+0.9
UNIC				IAML		18 18 50.8	
	comp=Z,760nm,1.0s						
TGIG		2.61	340	eP	Pn	18 18 14.8	+0.6
TGIG				eS	Sn	18 18 44.2	-0.7
JAYA	Jayaque - finc	2.72	104	eP	Pn	18 18 16.2	+0.2
JAYA				IAML		18 18 58.8	
	comp=Z,5µm,0.2s						
JAYA	Jayaque - finc	2.72	104	i P	Pn	18 18 17.4	+1.5
JAYA				i S	Sn	18 18 47.7	-0.1
JAYA				IAML		18 18 58.7	
	comp=Z,12µm,1.0s						
MTO3	Montecristo	2.72	88		Pn	18 18 16.3	+0.3
MTO3	Montecristo	2.72	88	eP	Pn	18 18 15.5	-0.5
MTO3				IAML		18 18 44.6	
	comp=Z,161nm,0.5s						
MTO3	Montecristo	2.72	88	i P	Pn	18 18 16.7	+0.7
MTO3				IAML		18 18 44.3	
	comp=Z,700nm,1.0s						
CEDA	San Andres	2.74	101	eS	Sn	18 18 50.0	+1.9
CEDA				IAML		18 19 05.3	
	comp=Z,3µm,0.4s						
CEDA	San Andres	2.74	101	i P	Pn	18 18 15.3	-0.8
CEDA				i S	Sn	18 18 49.2	+1.1
CEDA				IAML		18 19 02.3	
	comp=Z,8µm,1.0s						
ESQI	Esquipulas	2.75	85		Pn	18 18 16.3	0.0
PMON	Piamonte	2.84	102	i P	Pn	18 18 19.4	+2.0
PMON				IAML		18 18 57.6	
	comp=Z,7µm,1.0s						
QUEZ	Alcaldia de Qu	2.85	99	i P	Pn	18 18 19.2	+1.6
QUEZ				IAML		18 19 03.0	
	comp=Z,9µm,1.0s						
QUEZ	Alcaldia de Qu	2.85	99	i P	Pn	18 18 16.9	-0.7
QUEZ				IAML		18 19 03.1	
	comp=Z,9µm,1.0s						
BOQS	Boqueron	2.87	101	eP	Pn	18 18 20.0	+2.1
MAGS	Ministerio de	2.87	102	i P	Pn	18 18 20.4	+2.5
MAGS				i S	Sn	18 18 50.8	-0.5
MAGS				IAML		18 19 04.3	
	comp=Z,3µm,1.0s						
ITCA	Escuela Especi	2.88	103	i P	Pn	18 18 19.2	+1.2
ITCA				i S	Sn	18 18 52.2	+0.6
ITCA				IAML		18 19 05.1	
	comp=Z,8µm,1.0s						
LALI	Alcalda de L	2.89	106	eP	Pn	18 18 18.8	+0.8
LALI				eS	Sn	18 18 53.3	+1.7
LALI	Alcalda de L	2.89	106	i P	Pn	18 18 19.0	+1.0
LALI				i S	Sn	18 18 51.1	-0.5
LALI				IAML		18 19 00.0	
	comp=Z,860nm,1.0s						
UEES	Universidad Ev	2.91	102	i P	Pn	18 18 21.2	+2.8
UEES				i S	Sn	18 18 52.4	+0.2
UEES				IAML		18 18 58.1	
	comp=Z,2µm,1.0s						
SNET	Serv Nac Est T	2.92	102		Pn	18 18 19.2	+0.6
SNET	Serv Nac Est T	2.92	102	i P	Pn	18 18 20.3	+1.7
SNET				i S	Sn	18 18 53.1	+0.5
SNET				IAML		18 18 59.4	
	comp=Z,8µm,1.0s						
SNET	Serv Nac Est T	2.92	102	i P	Pn	18 18 19.7	+1.1
SNET				i S	Sn	18 18 52.2	-0.4
SNET				IAML		18 18 59.4	
	comp=Z,8µm,1.0s						
SEMO	Seminario San	2.92	102	i P	Pn	18 18 21.7	+3.1
SEMO				i S	Sn	18 18 52.7	+0.1
SEMO				IAML		18 19 41.8	
	comp=Z,12µm,1.0s						
IGN	Direccin Gen	2.98	101	i P	Pn	18 18 21.2	+1.9
IGN				i S	Sn	18 18 55.4	+1.6
IGN				IAML		18 19 11.0	
	comp=Z,9µm,1.0s						
PANCS	Alcalda de	2.99	103	i P	Pn	18 18 20.8	+1.4
PANCS				IAML		18 19 05.3	
	comp=Z,6µm,1.0s						
SJTE	Alcalda de S	3.15	103	eP	Pn	18 18 23.1	+1.5
SJTE				IAML		18 19 09.2	
	comp=Z,573nm,0.4s						
PAVA	Las Pavas	3.20	101	i P	Pn	18 18 23.5	+1.2
PAVA				IAML		18 19 18.0	
	comp=Z,2µm,1.0s						
COEG	Centro de Oper	3.27	102	eP	Pn	18 18 24.7	+1.4
TECO	Alcaldia de Te	3.38	103	i P	Pn	18 18 26.7	+1.9
TECO				i S	Sn	18 19 05.6	+1.8
TECO				IAML		18 19 16.1	
	comp=Z,810nm,1.0s						
PETF	Flores	3.40	40		Pn	18 18 25.9	+0.8
PETF	Flores	3.40	40	eP	Pn	18 18 26.6	+1.5
PETF				eS	Sn	18 19 18.0	+14
COEB	Comit de Eme	3.63	103	eP	Pn	18 18 29.0	+0.8
COEB				IAML		18 19 25.6	
	comp=Z,767nm,0.3s						
CMIG	Matias Romero	3.80	317	P	Pn	18 18 31.9	+1.5
	comp=Z,8.8nm,0.3s,baz=169,slow=14,SNR=43						
CMIG				S	Sn	18 19 14.0	+0.2
	comp=Z,119nm,0.4s,baz=167,slow=14,SNR=6.4						
CMIG				LR	LR	18 19 57.9	
	comp=Z,132nm,21.0s,baz=134,slow=35						
	comp=Z,38nm,0.3s						
CMIG	Matias Romero	3.80	317	eP	Pn	18 18 32.5	+2.0
CMIG				eS	Sn	18 19 14.4	+0.5
HUIG	Huatulco	4.07	291	eP	Pn	18 18 34.1	0.0
HUIG				eS	Sn	18 19 16.5	-4.0
TUIG	Tuzandepetl	4.28	330	eP	Pn	18 18 33.9	-3.1
TUIG				eS	Sn	18 19 24.5	-1.2
SCIG	Sabancuy	4.71	11	eP	Pn	18 18 42.8	-0.2
SCIG				eS	Sn	18 19 35.1	-1.3
TGUH	Tegucigalpa,Un	4.76	93	Pn	Pn	18 18 42.7	-1.0
PMUV	Sontecomapan	5.07	326	eP	Pn	18 18 49.6	+1.7
PMUV				eS	Sn	18 19 45.5	+0.3
PEIG	Puerto Escondi	5.09	290	eP	Pn	18 18 46.8	-1.4
PEIG				eS	Sn	18 19 43.4	-2.2
VHO	Vista Hermosa	5.17	302	eP	Pn	18 18 53.4	+3.8
VHO				eS	Sn	18 19 47.8	-0.2
CRIN	San Cristobal	5.24	107	Pn	Pn	18 18 51.0	+0.8
YOIG	Yosondua	5.76	297	eP	Pn	18 18 58.3	+0.8
YOIG				eS	Sn	18 20 02.5	0.0
PNIG	Pinotepa	6.10	290	eP	Pn	18 19 03.0	+1.0
PNIG				eS	Sn	18 20 06.4	-4.1
TXIG	Tlaxiaco	6.12	299	eP	Pn	18 19 04.8	+2.2
TXIG				eS	Sn	18 20 10.7	-0.7
MATN	Matagalpa	6.23	102		Pn	18 19 04.1	+0.3
TPIG	Tehuac#an	6.44	310	eP	Pn	18 19 12.6	+5.8
TPIG				eS	Sn	18 20 17.4	-1.5

HLIG Huajuapan de L 6.44 304 *e*P **Pn** **18 19 09.7 +2.8**
HLIG *e*S **Sn** **18 20 15.5 -3.6**
LVIG Laguna Verde 6.73 323 *e*P **Pn** **18 19 11.7 +1.0**
LVIG *e*S **Sn** **18 20 21.9 -4.1**
FTIG Fresnillo de T 6.75 303 *e*P **Pn** **18 19 13.7 +2.7**
FTIG *e*S **Sn** **18 20 25.6 -0.9**
MGIG Malinaltepec 6.86 296 *e*P **Pn** **18 19 14.9 +2.4**
MGIG *e*S **Sn** **18 20 20.7 -8.7**
TLIG Tlapa 6.94 298 Pn **Pn** **18 19 17.8 +4.1**
TLIG Tlapa 6.94 298 *i* P Pn 18 19 23.7 +10
TLIG IAmb IAmb 18 19 24.8
comp=Z,32nm,0.6s
TLIG *i* S Sn 18 20 40.9 +10
TLIG IAML 18 21 07.1
comp=Z,180nm,1.0s
TEIG Tepich 6.95 32 Pn **Pn** **18 19 13.5 -0.2**
TEIG Tepich 6.95 32 P **Pn** **18 19 13.6 0.0**
comp=Z,860nm,0.3s,baz=188,slow=4.4,SNR=119
TEIG S **Sn** **18 20 24.7 -6.6**
comp=Z,360nm,0.4s,baz=191,slow=19,SNR=0.7
TEIG LR LR 18 22 23.1
comp=Z,2µm,20.9s,baz=1.5,slow=44
MYIG Mrida 6.99 19 *e*P **Pn** **18 19 14.2 0.0**
MYIG *e*S **Sn** **18 20 39.3 +7.0**
CRIG Cruz Grande 7.12 291 *e*P **Pn** **18 19 16.5 +0.5**
CRIG *e*S **Sn** **18 20 31.6 -4.0**
HZTE Horizontes, Gu 7.35 118 **Pn** **18 19 21.8 +2.6**
ORTG Ortega, Santa 7.65 120 Pn **Pn** **18 19 26.2 +2.9**
DAIG Los Arroyos 7.69 291 *e*P **Pn** **18 19 24.9 +1.2**
DAIG *e*S **Sn** **18 20 48.9 -0.6**
PPM Popocatepetl 7.78 308 *e*P **Pn** **18 19 27.6 +2.2**
PPM *e*S **Sn** **18 20 52.6 +0.3**
ESPN Las Esperanzas 7.95 105 **Pn** **18 19 28.0 +0.7**
MEIG Mezcala 8.01 298 *e*P **Pn** **18 19 31.2 +3.1**
MEIG *e*S **Sn** **18 20 53.6 -3.7**
YAIG Yautepec 8.01 305 *e*P **Pn** **18 19 31.2 +3.0**
YAIG *e*S **Sn** **18 20 56.9 -0.5**
JTS Las Juntas de 8.11 119 Pn **Pn** **18 19 30.4 +0.8**
JTS Las Juntas de 8.11 119 P **Pn** **18 19 32.5 +3.0**
comp=Z,11nm,0.3s,baz=300,slow=20,SNR=10
JTS S Sn 18 20 50.4 -10
comp=Z,5.5nm,0.7s,baz=6.0,slow=22,SNR=0.8
PLIG Platanillo 8.12 301 *e*P **Pn** **18 19 31.2 +1.5**
PLIG *e*S **Sn** **18 20 59.1 -0.9**
ARE1 Arenal 1 8.23 117 Pn **Pn** **18 19 32.6 +1.4**
CAIG El Cayaco 8.26 290 *e*P **Pn** **18 19 31.7 +0.2**
CAIG *e*S **Sn** **18 21 06.7 +3.4**
ARIG Puente Sto Nin 8.78 298 *e*P **Pn** **18 19 42.8 +4.1**
ARIG *e*S **Sn** **18 21 15.6 -0.6**
LCR2 La Lucha 2 9.19 119 **Pn** **18 19 47.2 +2.7**
RIMA Rio Macho 9.30 118 **Pn** **18 19 45.9 -0.1**
SRBA San Rafael, Bu 10.00 119 **Pn** **18 19 58.4 +2.9**
GTIG Gomez Farias 10.93 324 *e*P **Pn** **18 20 11.5 +3.4**
GTIG *e*S **Sn** **18 22 06.6 -2.3**
SOR Soroa 12.10 45 Pn **Pn** **18 20 20.9 -3.1**
HBVL Hebbronville 14.06 335 P **P** **18 20 58.5 +2.2**
MTDJ Mount Denham 14.58 73 P **P** **18 21 01.0 -1.3**
HNDO Hondo 16.50 338 **P** **18 21 24.4 +0.9**
HNDO IAmb IAmb 18 22 09.0
comp=Z,5.2nm,0.8s
DRIO Del Rio 16.94 334 P **P** **18 21 30.1 +1.8**
DRIO IAmb IAmb 18 21 31.5
comp=Z,7.1nm,1.1s
DWPF Disney Wildern 16.97 34 **Pn** **18 21 27.5 -0.1**
TXAR Lajitas Array 18.34 326 P **Pn** **18 21 45.7 +1.2**
TXAR Lajitas Array 18.34 326 P **Pn** **18 21 46.7 +2.2**
comp=Z,0.3nm,0.3s,baz=153,slow=11,SNR=23
TXAR PcP **PcP** **18 26 13.2 -0.1**
comp=Z,0.2nm,0.5s,baz=134,slow=3.9,SNR=2.6
comp=Z,4.2nm,1.0s
TX31 Lajitas Ar. Si 18.34 326 P **Pn** **18 21 45.5 +1.0**
OZNA Ozona 18.46 335 P **Pn** **18 21 46.4 +0.5**
OZNA IAmb IAmb 18 22 29.1
comp=Z,7.3nm,0.9s
ALPN Alpine 19.15 328 P **Pn** **18 21 56.4 +2.1**
ALPN IAmb IAmb 18 21 58.0
comp=Z,5.1nm,0.6s
Z47A Carrollton 19.16 11 **Pn** **18 21 54.0 -0.1**
Z47A IAmb IAmb 18 21 55.8
comp=Z,24nm,0.7s
PLPT Palo Pinto 19.24 344 P **Pn** **18 21 55.5 +0.3**
PLPT IAmb IAmb 18 22 17.6
comp=Z,10nm,1.1s
FW03 Perrin-Whitt E 19.39 345 P **P** **18 21 53.7 -1.5**
FW03 IAmb IAmb 18 22 15.7
comp=Z,10nm,0.6s
ABTX Abilene, Hawle 19.45 341 P **Pn** **18 21 57.2 -0.5**
152A Waverly Hall 19.49 19 P **P** **18 21 56.7 +0.4**
MNHN Monahans 19.53 332 P **Pn** **18 21 59.9 +1.3**
MNHN IAmb IAmb 18 22 05.5
comp=Z,11nm,0.7s
LPIG La Paz 19.68 302 LR LR 18 29 56.4
comp=Z,22nm,21.8s,baz=169,slow=37
ROSC El Rosal 19.95 116 P **P** **18 21 59.6 -2.3**
comp=Z,2.4nm,0.3s,baz=319,slow=19,SNR=2.0
comp=Z,6.6nm,0.4s
PECS Pecos 20.07 330 P Pn 18 22 05.1 0.0
PECS IAmb IAmb 18 22 10.2
comp=Z,8.9nm,0.5s
SN01 Snyder 1 20.09 338 P **P** **18 22 03.9 +0.9**
SN01 IAmb IAmb 18 22 10.6
comp=Z,13nm,0.5s
ODSA Odessa 20.10 334 P Pn 18 22 04.9 -0.5
ODSA IAmb IAmb 18 22 06.7
comp=Z,13nm,0.8s
425A Indio Mountain 20.18 326 P Pn 18 22 07.3 +0.8
APMT Aspermont 20.25 340 P Pn 18 22 06.8 -0.3
APMT IAmb IAmb 18 22 07.7
comp=Z,9.8nm,0.7s
X48A Hartselle 20.57 12 **P** **18 22 09.6 +1.5**
X48A IAmb IAmb 18 22 15.0
comp=Z,14nm,0.8s
DKNS Dickens 20.83 339 P **P** **18 22 10.9 -0.1**
DKNS IAmb IAmb 18 22 18.6
comp=Z,7.7nm,0.6s
FPAL Fort Paine 20.98 15 **P** **18 22 12.0 -0.6**
FPAL IAmb IAmb 18 22 38.5
comp=Z,30nm,1.2s
W35A Tecumseh 21.17 349 P **P** **18 22 14.2 -0.3**
W35A IAmb IAmb 18 22 16.5
comp=Z,15nm,0.8s
WMOK Wichita Mounta 21.19 345 P **P** **18 22 15.1 +0.4**
SWET Sewanee 21.55 14 P **P** **18 22 18.1 -0.5**
V48A Smith Brothers 21.86 12 P **P** **18 22 21.6 -0.3**
SMWD Samnorwood 21.93 342 P **P** **18 22 23.5 +0.8**
SMWD IAmb IAmb 18 22 25.5
comp=Z,20nm,0.8s
CPCT Cooper Cave 22.14 17 P **P** **18 22 25.2 +0.4**
AMTX Amarillo 22.20 339 P **P** **18 22 26.6 +1.0**
AMTX IAmb IAmb 18 22 27.8
comp=Z,15nm,0.5s
TKL Tuckaleechee C 22.55 18 P **P** **18 22 28.0 -1.3**
comp=Z,1.6nm,0.3s,baz=175,slow=12,SNR=4.2
TKL LR LR 18 32 22.1
comp=Z,93nm,19.6s,baz=197,slow=40
comp=Z,1.6nm,0.3s
U49A Red Boiling Sp 22.83 13 P **P** **18 22 31.2 -1.0**
U49A IAmb IAmb 18 22 32.5
comp=Z,16nm,0.9s
V53A Saluda 22.86 20 P **P** **18 22 31.9 -0.7**
T47A Sharon Grove 23.02 10 P **P** **18 22 33.2 -0.9**
T47A IAmb IAmb 18 22 34.3
comp=Z,16nm,0.8s
121A Cookes Peak, D 23.05 325 P **P** **18 22 37.2 +2.5**
121A IAmb IAmb 18 22 39.3
comp=Z,13nm,0.8s
KAN09 Caldwell North 23.23 349 P **P** **18 22 36.0 -0.2**
S39A Bolivar 23.30 358 P **P** **18 22 35.6 -1.2**
S44A Carbondale 23.42 6 P **P** **18 22 37.1 -0.8**
S44A IAmb IAmb 18 22 38.3
comp=Z,21nm,0.7s
SIUC Southern Illin 23.45 6 P **P** **18 22 37.0 -1.2**
SIUC IAmb IAmb 18 22 38.4
comp=Z,20nm,0.8s
DUN6 Lazy B Ranch 23.82 323 P **P** **18 22 45.7 +3.8**
RTBA Rita Blanca 23.97 339 P **P** **18 22 44.3 +1.2**
RTBA IAmb IAmb 18 23 26.0
comp=Z,10nm,1.0s
ANMO Albuquerque 24.24 330 P **P** **18 22 47.8 +2.1**
WCI Wyandotte Cave 24.38 11 P **P** **18 22 46.0 -0.7**
WCI IAmb IAmb 18 22 47.5
comp=Z,24nm,0.8s
OLIL Olney 24.58 8 P **P** **18 22 47.7 -0.8**
OLIL IAmb IAmb 18 22 49.3
comp=Z,18nm,0.6s
SJG San Juan 25.26 78 LR LR 18 32 54.2
comp=Z,48nm,21.2s,baz=138,slow=37
SSFO Shawnee State 25.54 16 P **P** **18 22 56.4 -0.9**
P46A Rosedale 25.57 9 P **P** **18 22 56.4 -1.1**
P46A IAmb IAmb 18 22 57.5
comp=Z,19nm,0.7s
Q51A Peebles 25.81 16 P **P** **18 22 58.9 -0.8**
Q51A IAmb IAmb 18 23 24.1
comp=Z,12nm,0.7s
MVCO Mesa Verde 27.04 330 P **P** **18 23 13.6 +2.5**
HMU Henry Mountain 28.72 328 P **P** **18 23 28.7 +2.6**
V12A Nelson 29.47 320 P **P** **18 23 35.7 +3.1**
SZCU Shurtz Canyon 29.71 325 P **P** **18 23 34.9 +0.1**
CCUT Cedar City 29.83 325 P **P** **18 23 38.3 +2.4**
MSU Marysvale 29.89 327 P **P** **18 23 39.4 +3.0**
P17A Butcher Ranch, 29.91 330 P **P** **18 23 39.1 +2.6**
PSUT Pine Spring 30.80 326 P **P** **18 23 47.0 +2.5**
PDAR Pinedale Array 32.06 336 P **P** **18 23 57.5 +2.0**
comp=Z,0.4nm,0.6s,baz=127,slow=13,SNR=2.6
PDAR PcP **PcP** **18 26 44.1 +0.3**
comp=Z,0.7nm,0.5s,baz=131,slow=4.3,SNR=4.0
comp=Z,0.4nm,0.6s
BGU Big Grassy Mou 32.14 330 P **P** **18 23 59.0 +2.9**
BGU IAmb IAmb 18 23 59.6
comp=Z,4.1nm,0.6s
SPUT South Promonto 32.15 331 P **P** **18 23 59.0 +2.8**
SADO Sadowa 32.31 17 LR LR 18 37 54.1
comp=Z,81nm,20.5s,baz=106,slow=38
HVU Hansel Valley 32.67 331 P **P** **18 24 03.0 +2.2**
REDW Red Top Meadow 33.08 335 P **P** **18 24 06.6 +2.1**
ELK Elko 33.13 327 P **P** **18 24 07.7 +2.8**
LOHW Long Hollow 33.19 335 P **P** **18 24 07.5 +2.2**
NV11 Mina Array Sit 33.23 321 P **P** **18 24 07.9 +2.2**
NV11 IAmb IAmb 18 24 10.3
comp=Z,5.1nm,1.0s
NVAR Mina Array Bea 33.32 321 P **P** **18 24 09.6 +3.1**
comp=Z,4.8nm,0.7s,baz=134,slow=8.9,SNR=29
NVAR PcP **PcP** **18 26 49.2 +1.8**
comp=Z,1.1nm,0.7s,baz=139,slow=3.6,SNR=6.2
comp=Z,4.8nm,0.7s
KVN Kaiserville 33.59 322 P **P** **18 24 10.6 +1.8**
KVN IAmb IAmb 18 24 13.2
comp=Z,5.1nm,1.0s
BMN Battle Mountai 33.99 325 P **P** **18 24 14.8 +2.4**
HLID Hailey 34.81 331 P **P** **18 24 21.3 +1.9**
HLID IAmb IAmb 18 24 24.5
comp=Z,4.1nm,0.8s
ETMB Extrema 35.18 132 P **P** **18 24 23.5 +0.9**
ETMB IAmb IAmb 18 24 24.3
comp=Z,7.8nm,0.6s
MFID Camas Ranch 35.38 330 P **P** **18 24 26.9 +2.7**
MFID IAmb IAmb 18 24 28.8
comp=Z,3.8nm,0.6s
J08A Circle Bar Ran 36.68 327 P **P** **18 24 37.7 +2.4**
PLID Pearl Lake 36.71 331 P **P** **18 24 37.1 +1.4**
PLID IAmb IAmb 18 24 38.3
comp=Z,4.4nm,0.7s
SAML Samuel 36.90 127 P **P** **18 24 37.0 -0.3**
SAML IAmb IAmb 18 24 38.0
comp=Z,7.6nm,0.9s
BMO Blue Mountains 37.16 330 P **P** **18 24 40.7 +1.4**
I07A Izee 37.72 327 P **P** **18 24 45.8 +1.7**
F10A Beach Ranch, E 37.95 331 P **P** **18 24 47.6 +1.6**
YBH Yreka Blue Hor 38.01 322 LR LR 18 42 51.5
comp=Z,52nm,21.0s,baz=139,slow=40
E09A Wood Farm, Sta 38.78 331 P **P** **18 24 55.0 +2.2**
E09A IAmb IAmb 18 24 55.6
comp=Z,4.7nm,0.8s
I04A Tendick Farm, 39.11 325 P **P** **18 24 59.0 +3.3**
C09A Chrisman Ranch 39.79 332 P **P** **18 25 02.9 +1.7**
C09A IAmb IAmb 18 25 04.0
comp=Z,5.3nm,0.6s
LON Longmire 40.73 329 P **P** **18 25 10.7 +1.6**
LON IAmb IAmb 18 25 14.8
comp=Z,5.1nm,0.8s
SCHQ Schefferville 44.98 21 LR LR 18 45 18.6
comp=Z,68nm,18.9s,baz=228,slow=37
YKA Yellowknife Ar 50.68 347 P **P** **18 26 26.4 -0.8**
comp=Z,1.7nm,0.6s,baz=151,slow=7.0,SNR=29
YKA PcP **PcP** **18 27 43.0 -0.7**
comp=Z,0.4nm,0.6s,baz=142,slow=3.6,SNR=3.6
comp=Z,1.7nm,0.6s
BDFB Brasilia 52.83 123 P **P** **18 26 41.4 -2.7**
comp=Z,1.6nm,0.4s,baz=252,slow=1.4,SNR=3.4
comp=Z,1.6nm,0.4s
P29M Windy Craggy 56.19 334 P **P** **18 27 09.2 +1.6**
M29M Somme Creek 58.05 337 P **P** **18 27 22.8 +1.8**
I30M Mount Dempster 58.95 340 P **P** **18 27 28.1 +0.9**
I30M IAmb IAmb 18 27 36.6
comp=Z,3.0nm,0.9s
SFJD Kangerlussuaq 59.26 18 LR LR 18 53 47.8
comp=Z,32nm,19.4s,baz=152,slow=37
DAWY Dawson 59.32 338 P **P** **18 27 30.2 +0.6**
DAWY IAmb IAmb 18 27 39.5
comp=Z,4.6nm,1.0s
M27K Edge Creek, AK 59.35 336 P **P** **18 27 32.3 +2.4**
G31M Satah River 59.37 342 P **P** **18 27 29.8 0.0**
G31M IAmb IAmb 18 27 37.6
comp=Z,6.5nm,1.2s
BCAR Beaver Creek A 59.68 336 P **P** **18 27 33.5 +1.4**
GLB Gilahina Butte 59.69 334 P **P** **18 27 34.2 +2.0**
L27K Beaver Creek, 59.69 336 P **P** **18 27 33.6 +1.4**
L27K IAmb IAmb 18 27 35.2
comp=Z,6.5nm,0.8s
M26K Nabesna, AK 59.82 335 P **P** **18 27 34.5 +1.4**
G30M tAoh Zraii Nji 60.00 342 P **P** **18 27 34.4 +0.2**
G30M IAmb IAmb 18 28 09.6
comp=Z,9.7nm,1.5s
INK Inuvik 60.09 344 P **P** **18 27 34.9 +0.2**
INK IAmb IAmb 18 27 36.4
comp=Z,3.3nm,0.7s
N25K Chitina, Valde 60.10 334 P **P** **18 27 35.6 +0.5**
H29M Whitestone 60.21 340 P **P** **18 27 35.5 -0.2**
H29M IAmb IAmb 18 27 48.5
comp=Z,5.2nm,1.2s
K27K Chicken 60.29 337 P **P** **18 27 37.5 +1.3**
K27K IAmb IAmb 18 27 55.5
comp=Z,6.8nm,1.2s
I28M Miner Creek 60.29 339 P **P** **18 27 36.2 -0.1**
I28M IAmb IAmb 18 28 12.5
comp=Z,3.6nm,1.3s
EGAK Eagle 60.35 338 P **P** **18 27 37.5 +0.9**
EGAK IAmb IAmb 18 28 16.2
comp=Z,9.1nm,1.4s
RES Resolute Bay 60.38 359 P **P** **18 27 34.9 -1.7**
RES IAmb IAmb 18 27 37.7
comp=Z,3.6nm,1.1s
RES Resolute Bay 60.38 359 LR LR 18 55 30.5
comp=Z,41nm,19.6s,baz=274,slow=38
HIN Hinchinbrook I 60.40 332 P **P** **18 27 39.3 +2.3**
G29M Pine Creek 60.52 341 P **P** **18 27 38.6 +0.9**
G29M IAmb IAmb 18 28 17.2
comp=Z,10nm,1.4s
FID Port Fidalgo 60.54 333 P **P** **18 27 37.9 0.0**
KLU Klutina 60.62 334 P **P** **18 27 40.9 +2.3**
A36M Sachs Harbour 60.90 349 P **P** **18 27 39.5 -0.7**
A36M IAmb IAmb 18 28 13.9
comp=Z,7.2nm,1.1s
SCRK Sand Creek 60.99 337 P **P** **18 27 41.2 0.0**
SCRK IAmb IAmb 18 28 22.2
comp=Z,9.1nm,1.4s
M24K Tolsona, Glenn 61.00 334 P **P** **18 27 41.3 +0.1**
J26L Joseph Creek 61.09 337 P **P** **18 27 43.2 +1.4**
J26L IAmb IAmb 18 27 44.5
comp=Z,5.1nm,0.7s
RIDG Independent Ri 61.21 336 P **P** **18 27 44.2 +1.6**
RIDG IAmb IAmb 18 27 44.6
comp=Z,5.3nm,0.9s
I26K Coal Creek Min 61.35 338 P **P** **18 27 44.1 +0.7**
I26K IAmb IAmb 18 27 46.0
comp=Z,3.5nm,0.6s
SCM Sheep Creek Mo 61.37 334 P **P** **18 27 45.2 +1.5**
E29M Blow River 61.38 342 P **P** **18 27 44.9 +1.3**
E29M IAmb IAmb 18 28 10.7
comp=Z,4.5nm,1.1s
F28M Old Crow 61.51 341 P **P** **18 27 45.5 +1.0**
G27K Doyon Strip 61.63 340 P **P** **18 27 45.8 +0.5**
J25K Salcha River, 61.83 337 P **P** **18 27 48.6 +1.9**
J25K IAmb IAmb 18 27 49.1
comp=Z,6.3nm,1.1s
E28M Babbage River 61.99 342 P **P** **18 27 48.1 +0.5**
E28M IAmb IAmb 18 27 49.5
comp=Z,3.1nm,0.8s
GHO Glory Hole Cre 62.04 333 P **P** **18 27 49.4 +1.2**
RC01 Rabbit Creek A 62.13 332 P **P** **18 27 49.5 +0.8**
BRLK Bradley Lake 62.18 331 P **P** **18 27 50.6 +1.5**
CNPM China Poot 62.26 330 P **P** **18 27 49.6 0.0**
PRP Porcupine Dome 62.32 338 P **P** **18 27 51.0 +1.0**
PRP IAmb IAmb 18 27 52.5
comp=Z,5.8nm,0.7s
HDA Harding Lake 62.34 336 P **P** **18 27 50.2 +0.2**
KDAK Kodiak Island 62.36 328 P **P** **18 27 51.1 +0.9**
FIS Fire Island 62.37 332 P **P** **18 27 52.6 +2.4**
E27K Coleen River 62.38 341 P **P** **18 27 50.5 +0.2**
E27K IAmb IAmb 18 27 52.2
comp=Z,3.7nm,0.8s
IL31 62.48 337 P **P** **18 27 51.6 +0.7**
IL31 IAmb IAmb 18 27 53.4
comp=Z,4.2nm,0.8s
ILAR Eielson Array 62.48 337 P **P** **18 27 50.9 -0.1**
ILAR Eielson Array 62.48 337 P **P** **18 27 51.3 +0.3**
comp=Z,3.7nm,0.8s,baz=124,slow=5.5,SNR=31
ILAR PcP **PcP** **18 28 30.5 +0.8**
comp=Z,1.0nm,0.7s,baz=150,slow=2.8,SNR=6.4
comp=Z,3.7nm,0.8s
OHAK Old Harbor 62.55 328 P **P** **18 27 52.7 +1.2**
RND Reindeer 62.67 335 P **P** **18 27 54.3 +1.9**
SUA Susitna One 62.72 333 P **P** **18 27 54.1 +1.3**
SUA IAmb IAmb 18 27 55.3
comp=Z,4.2nm,0.5s
CCB Clear Creek Bu 62.78 336 P **P** **18 27 53.4 +0.5**
CCB IAmb IAmb 18 27 55.1
comp=Z,2.4nm,0.8s
D27M Malcolm River 62.79 342 P **P** **18 27 53.7 +0.7**
D27M IAmb IAmb 18 27 55.2
comp=Z,3.2nm,0.6s
BMAR Burnt Mountain 62.93 340 P **P** **18 27 55.0 +1.0**
MDM Murphy Dome 63.08 337 P **P** **18 27 55.1 +0.1**
MDM IAmb IAmb 18 27 56.8
comp=Z,2.4nm,0.7s
BWN Browne 63.23 336 P **P** **18 27 55.6 -0.4**
Q19K Cape Douglas, 63.24 329 P **P** **18 27 57.5 +1.3**
SKT Skwentna 63.26 333 P **P** **18 27 56.6 +0.4**
P19K Oil Pt 63.26 330 P **P** **18 27 57.5 +1.2**
TRF Thorofare Moun 63.28 335 P **P** **18 27 57.4 +0.9**
TRF IAmb IAmb 18 27 59.0
comp=Z,5.9nm,0.8s
RSO Redoubt South 63.29 331 P **P** **18 27 58.4 +1.7**
ILSW Iliamna Southw 63.32 331 P **P** **18 27 57.4 +0.6**
H24K Noodor Dome 63.33 338 P **P** **18 27 57.6 +0.9**
H24K IAmb IAmb 18 27 59.2
comp=Z,5.9nm,1.0s
KTH Kantishna Hill 63.58 335 P **P** **18 27 58.8 +0.4**
KTH IAmb IAmb 18 28 35.0
comp=Z,10nm,1.2s
I23K Minto, Yukon-K 63.59 337 P **P** **18 27 59.6 +1.3**
I23K IAmb IAmb 18 28 01.0
comp=Z,8.9nm,0.8s
BPAW Bear Paw Mtn. 63.81 335 P **P** **18 28 00.5 +0.6**
BPAW IAmb IAmb 18 28 02.0
comp=Z,3.4nm,0.7s
PPLA Purkeypile 63.87 334 P **P** **18 28 00.8 +0.4**
PPLA IAmb IAmb 18 28 28.3
comp=Z,9.0nm,1.2s
M20K Styx River 63.94 333 P **P** **18 28 01.7 +0.9**
M20K IAmb IAmb 18 28 03.7
comp=Z,3.5nm,0.8s
CAST Castle Rocks 64.02 334 P **P** **18 28 00.8 -0.3**
CAST IAmb IAmb 18 28 03.6
comp=Z,8.5nm,1.3s
MLY Manley 64.08 336 P **P** **18 28 02.3 +0.7**
F24K Squaw Lake 64.09 339 P **P** **18 28 03.2 +1.6**
F24K IAmb IAmb 18 28 07.5
comp=Z,6.9nm,1.5s
N19K Bonanza Creek 64.21 331 P **P** **18 28 03.3 +0.7**
N19K IAmb IAmb 18 28 04.7
comp=Z,5.4nm,0.6s
O18K Koktuh Hills 64.28 330 P **P** **18 28 04.0 +1.1**
O18K IAmb IAmb 18 28 39.9
comp=Z,15nm,1.5s
R17K Ugashik Creek 64.28 327 P **P** **18 28 04.4 +1.5**
D25K Kavik River 64.46 341 P **P** **18 28 04.6 +0.5**
D25K IAmb IAmb 18 28 06.5
comp=Z,6.0nm,0.8s
M19K Big River Lodg 64.51 332 P **P** **18 28 05.3 +0.9**
M19K IAmb IAmb 18 28 06.6
comp=Z,4.5nm,0.7s
E24K Your Creek 64.55 340 P **P** **18 28 05.7 +1.0**
I21K Tanana 64.62 336 P **P** **18 28 05.2 +0.1**
I21K IAmb IAmb 18 28 12.8
comp=Z,5.7nm,1.1s
SVW2 Sparrevohn 64.81 331 P **P** **18 28 06.6 +0.2**
SVW2 IAmb IAmb 18 28 33.5
comp=Z,13nm,1.4s
K20K Telida 64.83 334 P **P** **18 28 06.8 +0.2**
K20K IAmb IAmb 18 28 08.2
comp=Z,6.3nm,0.6s
N18K Kilae Creek 64.83 331 P **P** **18 28 06.9 +0.3**
N18K IAmb IAmb 18 28 29.6
comp=Z,19nm,1.5s
TOLK Toolik Lake Re 65.16 340 P **P** **18 28 09.8 +1.2**
TOLK IAmb IAmb 18 28 10.8
comp=Z,6.4nm,0.6s
J19K Poorman 65.69 334 IAmb IAmb 18 28 13.5
comp=Z,5.5nm,0.8s
G21K Allakaket 65.70 337 IAmb IAmb 18 28 14.1
comp=Z,6.6nm,0.7s
E22K Anaktuvuk Pass 65.70 339 IAmb IAmb 18 28 14.8
comp=Z,8.0nm,1.1s
C23K Itkillik River 66.02 341 IAmb IAmb 18 28 16.6
comp=Z,10nm,0.9s
D22K Ayikyak River 66.29 340 IAmb IAmb 18 28 18.5
comp=Z,6.3nm,0.7s
H19K Roundabout Mou 66.50 336 IAmb IAmb 18 28 19.3
comp=Z,7.3nm,0.8s
G19K Purcell Mounta 66.94 336 IAmb IAmb 18 28 21.9
comp=Z,6.2nm,0.8s
F19K Shaleruckik Mo 67.41 337 IAmb IAmb 18 28 25.0
comp=Z,6.2nm,0.8s
EKA Eskdalemuir Ar 77.80 36 P **P** **18 29 22.5 -2.3**
comp=Z,0.4nm,0.3s,baz=283,slow=6.5,SNR=6.1
comp=Z,0.4nm,0.3s
ESDC Sonseca Array 79.65 52 P **P** **18 29 31.9 -3.5**
comp=Z,0.5nm,0.8s,baz=296,slow=13,SNR=2.3
comp=Z,0.5nm,0.8s
NOA NORSAR Array B 83.94 28 LR LR 19 04 15.3
comp=Z,8.0nm,21.9s,baz=240,slow=34
DBIC Dimbokro 85.79 84 LR LR 19 07 40.8
comp=Z,16nm,18.1s,baz=26,slow=35
ARCES ARCESS Array B 85.88 18 P **P** **18 30 06.2 -0.8**
comp=Z,1.5nm,0.7s,baz=312,slow=6.8,SNR=1.6
ARCES LR LR 19 07 49.4
comp=Z,22nm,21.5s,baz=280,slow=35
comp=Z,1.5nm,0.7s
TORD Torodi Ar. Bea 90.46 76 P **P** **18 30 28.1 -1.8**
comp=Z,0.8nm,1.0s,baz=303,slow=7.3,SNR=2.6
TORD LR LR 19 11 57.9
comp=Z,13nm,18.0s,baz=344,slow=36
comp=Z,0.8nm,1.0s
MDJ Mudanjiang 110.14 330 Pdif **Pdif** **18 31 54.5 -3.5**
MDJ PP **PP** **18 36 35.7 +2.8**
MDJ Mudanjiang 110.14 330 SS SS 18 51 56.4 +2.5
MDJ AMB AMB
comp=Z,140nm,4.6s
MDJ LR LR
comp=N,350nm,13.6s
MDJ LR LR
comp=E,560nm,13.6s
MDJ LR LR
comp=Z,540nm,14.6s
MKAR Makanchi Array 118.96 4 PKP **PKPdf** **18 36 15.5 -0.6**
comp=Z,0.6nm,0.8s,baz=343,slow=2.5,SNR=3.9
BOSA Boshof 120.64 115 PKP **PKPdf** **18 36 20.0 +0.1**
comp=Z,2.1nm,0.7s,baz=316,slow=1.3,SNR=3.1
WMQ Urumqi 122.14 0 *e*P **PKiKP** **18 36 24.1 +1.6**
WRA Warramunga Arr 135.31 256 PKP **PKiKP** **18 36 49.0 -0.5**
comp=Z,0.4nm,0.6s,baz=89,slow=2.5,SNR=5.1
ASAR Alice Springs 135.62 251 PKP **PKPdf** **18 36 47.7 -0.7**
comp=Z,0.4nm,0.5s,baz=90,slow=7.5,SNR=16
CMAR Chiang Mai Arr 145.63 341 PKPbc **PKPab** **18 37 07.8 +0.6**
comp=Z,7.2nm,0.7s,baz=334,slow=3.2,SNR=42

ROM 06 18:20:51.1±0.0, 41°.748N±0°.002×14°.266E±0°.002, h11km, ML2.3/41, 11C-1D, Error ellipse: s-maj=0.3km s-min=0.1km az=44.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MIDA	**Miranda**	**0.11**	**185**	↑P		Pb	18 20 54.7	-0.6

MIDA S Sg 18 20 56.7 +0.7
MIDA AML AML
comp=E,6165µm,0.6s
MIDA AML AML
comp=N,4610µm,0.5s
MIDA AML AML
comp=E,6170µm,0.6s
MIDA AML AML
comp=E,6380µm,0.6s
MIDA AML AML
comp=N,4740µm,0.5s
MIDA AML AML
comp=N,4615µm,0.5s
MIDA AML AML
comp=N,4740µm,1.5s
MIDA AML AML
comp=E,4430µm,0.0s
TRIV Trivento 0.21 85 ⇑P Pb 18 20 56.4 -0.6
TRIV S Sg 18 20 59.6 +0.9
TRIV AML AML
comp=E,718µm,0.3s
TRIV AML AML
comp=N,779µm,1.2s
TRIV AML AML
comp=E,746µm,0.4s
TRIV AML AML
comp=N,776µm,1.3s
TRIV AML AML
comp=E,718µm,0.3s
TRIV AML AML
comp=N,778µm,1.2s
TRIV AML AML
comp=N,776µm,0.7s
TRIV AML AML
comp=E,746µm,1.6s
TRIV AML AML
comp=N,778µm,0.8s
CERA Filignano 0.24 231 ⇑P Pg 18 20 56.5 +0.4
CERA S Sg 18 21 00.6 +1.1
CERA AML AML
comp=N,678µm,0.5s
CERA AML AML
comp=N,658µm,0.5s
CERA AML AML
comp=E,766µm,0.3s
CERA AML AML
comp=E,742µm,0.7s
LPEL Lama dei Pelig 0.30 348 P Pg 18 20 57.8 +0.5
LPEL S Sb 18 21 02.8 -0.9
LPEL AML AML
comp=E,2570µm,1.0s
LPEL AML AML
comp=N,2580µm,0.2s
LPEL AML AML
comp=E,2570µm,1.0s
BSSO Busso 0.32 129 ⇑P Pb 18 20 58.3 -0.5
BSSO S Sg 18 21 02.7 +0.8
BSSO AML AML
comp=N,252µm,1.5s
BSSO AML AML
comp=N,103µm,1.5s
BSSO AML AML
comp=E,117µm,1.5s
BSSO AML AML
comp=E,291µm,1.5s
BSSO AML AML
comp=N,252µm,0.5s
BSSO AML AML
comp=N,171µm,0.5s
BSSO AML AML
comp=N,37µm,1.1s
BSSO AML AML
comp=E,183µm,1.2s
BSSO AML AML
comp=N,37µm,0.9s
BSSO AML AML
comp=N,171µm,1.5s
BSSO AML AML
comp=E,78µm,1.1s
BSSO AML AML
comp=N,103µm,0.5s
VAGA Valle Agricola 0.33 184 ⇑P Pg 18 20 58.0 +0.2
VAGA S Sb 18 21 03.4 -1.0
VAGA AML AML
comp=E,519µm,0.8s
VAGA AML AML
comp=N,991µm,1.0s
VAGA AML AML
comp=E,526µm,0.7s
VAGA AML AML
comp=E,526µm,1.3s
VAGA AML AML
comp=N,1034µm,1.0s
VAGA AML AML
comp=E,519µm,1.2s
SGG Gregorio Mates 0.37 167 ⇑P Pg 18 20 58.6 +0.1
SGG S Sb 18 21 04.7 -0.9
SGG AML AML
comp=E,338µm,1.3s
SGG AML AML
comp=N,394µm,0.4s
INTR Introdacqua 0.38 314 ⇓P Pg 18 20 59.0 +0.3
INTR S Sb 18 21 05.0 -0.7
INTR AML AML
comp=E,1µm,0.1s
INTR AML AML
comp=N,914nm,1.0s
INTR AML AML
comp=N,1430µm,0.1s
INTR AML AML
comp=E,1µm,0.1s
INTR AML AML
comp=E,1040µm,0.1s
INTR AML AML
comp=N,914nm,1.0s
POFI Posta Fibreno 0.42 266 ⇑P Pg 18 20 59.4 +0.1
POFI S Sb 18 21 05.9 -0.9
POFI AML AML
comp=E,450µm,0.6s
POFI AML AML
comp=N,424µm,0.6s
POFI AML AML
comp=E,466µm,0.6s
POFI AML AML
comp=N,376µm,0.6s
MCI Monte Cassino 0.43 232 ⇑P Pg 18 20 59.8 +0.2
MCI S Sb 18 21 06.5 -0.7
MCI AML AML
comp=E,1064µm,0.2s
MCI AML AML
comp=N,756µm,0.2s
SACR S. Croce Del S 0.48 137 P Pg 18 21 00.4 -0.2
CIGN Sant'Elia a Pi 0.49 101 ⇑P Pg 18 21 00.9 +0.3
CIGN S Sg 18 21 07.7 +0.6
CIGN AML AML
comp=E,92µm,1.4s
CIGN AML AML
comp=N,106µm,0.4s
LRP Arpino 0.52 259 ⇑P Pg 18 21 01.1 -0.1
LRP S Sb 18 21 09.1 -0.7
GATE Gambatesa 0.54 116 P Pg 18 21 01.8 +0.2
PIGN Pignataro Magg 0.55 187 P Pg 18 21 01.8 0.0
T0110 Collepietro 0.60 323 P Pg 18 21 02.6 -0.2
T0110 S Sb 18 21 11.6 -0.5
T0110 AML AML
comp=E,475µm,1.0s
T0110 AML AML
comp=N,370µm,1.0s
MELA Melanico ??? S 0.65 93 ⇑P Pg 18 21 03.0 -0.6
MELA S Sb 18 21 12.9 -0.5
MELA AML AML
comp=E,208µm,1.6s
MELA AML AML
comp=N,298µm,0.2s
MODR Mondragone 0.67 206 AML AML
comp=N,270µm,0.7s
MODR AML AML
comp=E,164µm,0.8s
PTQR Pietraquaria 0.70 293 P Pg 18 21 04.2 -0.4
PTQR AML AML
comp=E,76µm,0.3s
PTQR AML AML
comp=N,65µm,1.4s
GUAR Guarcino 0.71 274 P Pg 18 21 04.6 -0.4
VCEL Villa Celiera 0.72 334 P Pg 18 21 05.0 -0.1
FAGN Fagnano 0.72 316 P Pg 18 21 05.2 0.0

FAGN S Sg 18 21 15.1 +0.5
FAGN AML AML
comp=E,394µm,0.6s
FAGN AML AML
comp=N,349µm,0.2s
FAGN AML AML
comp=N,349µm,1.8s
GIUL Giuliano Di Ro 0.78 256 P Pg 18 21 05.5 -0.7
GIUL AML AML
comp=E,69µm,1.3s
GIUL AML AML
comp=E,69µm,0.7s
GIUL AML AML
comp=N,86µm,0.3s
APRC Apricena 0.96 89 P Pg 18 21 08.5 -1.0
APRC AML AML
comp=E,126µm,0.6s
APRC AML AML
comp=N,208µm,0.4s
TERO Teramo 1.00 331 P Pg 18 21 10.0 -0.4
SGRT San Giovanni R 1.11 89 P Pb 18 21 11.2 -1.0
SGRT AML AML
comp=E,113µm,0.4s
SGRT AML AML
comp=E,113µm,1.6s
SGRT AML AML
comp=N,108µm,0.3s
MSAG Monte S. Angel 1.23 91 AML AML
comp=E,51µm,0.9s
MSAG AML AML
comp=E,128µm,0.6s
MSAG AML AML
comp=N,253µm,0.4s
MSAG AML AML
comp=N,106µm,0.4s
MSAG AML AML
comp=E,128µm,1.4s

ROM 06 18:21:22.3±0.1, 41°.748N±0°.004×14°.251E±0°.006, h11km, ML1.9/12, 1C, Error ellipse: s-maj=0.4km s-min=0.3km az=237.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MIDA	**Miranda**	**0.11**	**179**	⇑P		Pg	18 21 25.7	+0.6
MIDA				S		Sg	18 21 27.8	+0.6
MIDA				AML		AML		
	comp=E,993µm,0.2s							
MIDA				AML		AML		
	comp=E,1092µm,0.2s							
MIDA				AML		AML		
	comp=N,730µm,0.1s							
MIDA				AML		AML		
	comp=N,657µm,0.1s							
TRIV	**Trivento**	**0.23**	**85**	P		Pg	18 21 27.8	+0.7
TRIV				S		Sg	18 21 31.8	+1.5
CERA	**Filignano**	**0.23**	**229**	P		Pg	18 21 27.6	+0.4
CERA				S		Sg	18 21 31.8	+1.4
LPEL	**Lama dei Pelig**	**0.30**	**350**	P		Pg	18 21 28.7	+0.2
LPEL				S		Sg	18 21 33.7	+1.1
LPEL				AML		AML		
	comp=N,606µm,0.2s							
LPEL				AML		AML		
	comp=E,467µm,0.1s							
VAGA	**Valle Agricola**	**0.33**	**182**	P		Pg	18 21 29.2	+0.2
VAGA				S		Sg	18 21 34.5	+1.1
VAGA				AML		AML		
	comp=N,263µm,0.3s							
VAGA				AML		AML		
	comp=E,85µm,0.5s							
VAGA				AML		AML		
	comp=E,137µm,0.1s							
VAGA				AML		AML		
	comp=N,260µm,0.3s							
INTR	**Introdacqua**	**0.37**	**316**	P		Pg	18 21 30.1	+0.4
INTR				S		Sb	18 21 36.0	-0.7
INTR				AML		AML		
	comp=N,276µm,0.1s							
INTR				AML		AML		
	comp=E,220µm,0.1s							
INTR				AML		AML		
	comp=E,214nm,0.1s							
INTR				AML		AML		
	comp=N,250nm,0.7s							
SGG	**Gregorio Mates**	**0.37**	**165**	P		Pg	18 21 30.1	+0.4
SGG				S		Sb	18 21 36.0	-0.8
POFI	**Posta Fibreno**	**0.40**	**266**	P		Pg	18 21 30.5	+0.2
LRP	**Arpino**	**0.51**	**259**	P		Pg	18 21 32.3	+0.1
LRP				S		Sb	18 21 40.2	-0.5

*IDC **06** 18:22:24.8±0.9, 37°.505S×74°.04W, h0km, mb4.0/7, mbtmp3.9/10, ML3.3/3, MS3.4/4, Error ellipse: s-maj=33.2km s-min=21.2km az=91.0*
*NEIC **06** 18:22:24.9±1.4, 37°.525S±0°.05×74°.2W±0°.1, h10km±2km, mb4.2/6, Error ellipse: s-maj=14.7km s-min=9.3km az=266.0*
*GUC **06** 18:22:27.1±0.6, 37°.575S×74°.12W, h44km±3km, ML4.2*
ISC 06 18:22:28.6±0.6, 37°.52S±0°.04×74°.18W±0°.05, h35km, n72, σ1s67/81, mb4.4/9, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BI04	**Isla Mocha**	**0.92**	**165**	⇑*i*P		**Pn**	**18 22 42.2**	**-2.9**
BI04				*i* S		**Sn**	**18 22 54.5**	**-2.6**
BI04				IAML			18 23 01.6	
	comp=E,17µm,0.7s							
CCSP	**San Pedro de C**	**1.09**	**52**	*e*P		**Pn**	**18 22 46.0**	**-1.3**
CCSP				*i* S		**Sn**	**18 23 00.1**	**-1.0**
CCSP				IAML			18 23 08.6	
	comp=E,6µm,0.4s							
BI05	**Punta Hualpn**	**1.10**	**46**			**Pn**	**18 22 45.8**	**-1.7**
BI05	**Punta Hualpn**	**1.10**	**46**	*e*P		**Pn**	**18 22 46.0**	**-1.5**
BI05				*i* S		**Sn**	**18 23 00.3**	**-1.1**
BI05				IAML			18 23 11.3	
	comp=E,6µm,0.3s							
LC02	**Puerto Saavedr**	**1.42**	**154**	Pn		**Pn**	**18 22 49.4**	**-2.5**
LC02	**Puerto Saavedr**	**1.42**	**154**	⇑*i*P		**Pn**	**18 22 49.5**	**-2.3**
LC02				*i* S		**Sn**	**18 23 06.3**	**-3.0**
LC02				IAML			18 23 20.0	
	comp=N,12µm,0.4s							
LR04	**Corral**	**2.43**	**166**	*e*P		**Pn**	**18 23 03.6**	**-2.2**
LR04				IAML			18 23 32.2	
	comp=E,2µm,0.3s							
LR03	**Panguipulli**	**2.56**	**146**	*e*P		**Pn**	**18 23 05.2**	**-2.3**
ML02	**Panimavida**	**2.83**	**53**	Pn		**Pn**	**18 23 09.5**	**-1.8**
GO06	**Curarrehue**	**2.96**	**135**	Pn		**Pn**	**18 23 12.2**	**-1.0**
GO05	**Huala**	**3.09**	**37**	Pn		**Pn**	**18 23 14.7**	**-0.3**
GO05	**Huala**	**3.09**	**37**	*e*P		**Pn**	**18 23 14.2**	**-0.7**
LR05	**Currie**	**3.20**	**149**	Pn		**Pn**	**18 23 15.2**	**-1.2**
LR05	**Currie**	**3.20**	**149**	*e*P		**Pn**	**18 23 14.9**	**-1.5**
BO03	**Pichilemu**	**3.51**	**31**	*e*P		**Pn**	**18 23 19.6**	**-1.0**
BO02	**Sierra Bellavi**	**3.87**	**46**			**Pn**	**18 23 25.0**	**-0.6**
BO02	**Sierra Bellavi**	**3.87**	**46**	*e*P		**Pn**	**18 23 24.8**	**-0.8**
LL05	**Los Muermos**	**3.92**	**172**			**Pn**	**18 23 23.4**	**-2.9**
BO01	**Tunca**	**4.00**	**40**	Pn		**Pn**	**18 23 26.6**	**-0.8**
BO01	**Tunca**	**4.00**	**40**	*e*P		**Pn**	**18 23 26.7**	**-0.8**
PLCA	**Paso Flores**	**4.28**	**140**	Pn		**Pn**	**18 23 30.2**	**-1.1**
PLCA	**Paso Flores**	**4.28**	**140**	Pn		**Pn**	**18 23 30.3**	**-0.9**
	comp=E,0.1nm,0.3s,baz=264,slow=8.7,SNR=3.0							
PLCA				Sn		**Sn**	**18 24 20.5**	**+0.6**
	comp=E,3.8nm,0.3s,baz=331,slow=6.3,SNR=5.1							
PLCA				LR		LR	18 25 24.1	
	comp=E,348nm,18.2s,baz=317,slow=42 comp=E,3.6nm,0.5s							
MT01	**Popeta**	**4.36**	**34**			**Pn**	**18 23 30.6**	**-1.6**
VA05	**Santo Domingo**	**4.38**	**29**			**Pn**	**18 23 30.8**	**-1.8**
MT09	**Talagante**	**4.55**	**36**			**Pn**	**18 23 34.4**	**-0.6**
BO04	**La Punta**	**4.56**	**41**			**Pn**	**18 23 34.3**	**-0.9**
LMEL	**Las Melosas**	**4.89**	**43**			**Pn**	**18 23 39.3**	**-0.5**
MT02	**Curacav**	**4.92**	**31**			**Pn**	**18 23 38.6**	**-1.5**
MT13	**San Alfonso**	**4.92**	**41**			**Pn**	**18 23 39.5**	**-0.7**
VA01	**Torpederas**	**4.94**	**26**			**Pn**	**18 23 38.6**	**-1.7**
MT03	**Universidad Ad**	**5.01**	**38**			**Pn**	**18 23 40.1**	**-1.2**
LL01	**San Ignacio de**	**5.04**	**165**			**Pn**	**18 23 40.5**	**-1.1**
PEL	**Peldehue**	**5.21**	**34**	Pn		**Pn**	**18 23 42.9**	**-1.3**
ROC1	**El Roble**	**5.22**	**31**			**Pn**	**18 23 43.5**	**-0.8**
MT08	**Bocatoma Ro**	**5.29**	**41**			**Pn**	**18 23 44.9**	**-0.6**
H03S1	**Juan Fernandez**	**5.31**	**312**	Pn		**Pn**	**18 23 46.0**	**+0.8**
	baz=303,slow=74							
H03S1				Sn		**Sn**	**18 24 41.8**	**-3.1**
H03S1				T		T	18 29 29.9	
	baz=131,slow=74,SNR=513							

H03S3	**Juan Fernandez**	**5.33**	**312**	Pn		**Pn**	**18 23 46.2**	**+0.8**
H03S3				Sn		**Sn**	**18 24 42.0**	**-3.3**
H03S3				T		T	18 29 25.0	
	baz=131,slow=74,SNR=326							
H03S2	**Juan Fernandez**	**5.33**	**312**	Pn		**Pn**	**18 23 45.9**	**+0.5**
	baz=117,slow=74							
H03S2				Sn		**Sn**	**18 24 41.8**	**-3.6**
H03S2				T		T	18 29 27.2	
	baz=131,slow=74,SNR=208							
VA04	**Juan Fernndez**	**5.41**	**314**	Pn		**Pn**	**18 23 45.5**	**-1.3**
VA03	**San Esteban**	**5.60**	**33**			**Pn**	**18 23 48.3**	**-1.2**
H03N3	**Juan Fernandez**	**5.60**	**315**	Pn		**Pn**	**18 23 52.0**	**+2.8**
	baz=151,slow=24							
H03N3				Sn		**Sn**	**18 24 50.6**	**-1.6**
GO07	**Milladeo Hill,**	**5.61**	**176**			**Pn**	**18 23 49.3**	**-0.1**
H03N1	**Juan Fernandez**	**5.61**	**315**	Pn		**Pn**	**18 23 50.6**	**+1.4**
	baz=151,slow=24							
H03N1				Sn		**Sn**	**18 24 50.5**	**-1.7**
H03N2	**Juan Fernandez**	**5.62**	**315**	Pn		**Pn**	**18 23 51.7**	**+2.3**
	baz=151,slow=24							
H03N2				Sn		**Sn**	**18 24 50.7**	**-1.8**
LL02	**Futaleuf**	**5.94**	**163**	Pn		**Pn**	**18 23 52.8**	**-1.2**
CO02	**Combarbal**	**6.82**	**24**			**Pn**	**18 24 04.1**	**-2.2**
CO03	**El Pedregal**	**7.26**	**24**	Pn		**Pn**	**18 24 10.7**	**-1.6**
CO01	**Juntas del Tor**	**8.25**	**26**			**Pn**	**18 24 24.8**	**-1.2**
LCO	**Las Campanas**	**8.97**	**20**	Pn		**Pn**	**18 24 32.6**	**-3.3**
LVC	**Limon Verde**	**15.54**	**18**	Pn		**Pn**	**18 26 05.2**	**-0.2**
	comp=E,0.1nm,0.3s,baz=199,slow=15,SNR=1.4 comp=E,1.1nm,0.5s							
PB09	**IPOC Station P**	**16.24**	**17**	IAmb		IAmb	18 26 21.4	
	comp=Z,21nm,1.1s							
PB02	**IPOC Station P**	**16.56**	**14**	IAmb		IAmb	18 26 31.1	
	comp=Z,29nm,1.2s							
PB01	**IPOC Station P**	**16.91**	**15**	P		**Pn**	**18 26 22.3**	**-0.3**
PB01				IAmb		IAmb	18 26 35.1	
	comp=Z,16nm,1.0s							
CPUP	**Villa Florida**	**18.11**	**57**	P		**P**	**18 26 37.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=222,slow=14,SNR=2.2							
CPUP				LR		LR	18 33 24.0	
	comp=Z,93nm,19.5s,baz=236,slow=37 comp=Z,0.9nm,0.4s							
PB11	**IPOC Station P**	**18.13**	**14**	P		**P**	**18 26 37.9**	**+0.1**
PB11				IAmb		IAmb	18 26 42.9	
	comp=Z,21nm,0.9s							
PB16	**IPOC Station P**	**19.55**	**13**	P		**P**	**18 26 52.0**	**-1.8**
ETMB	**Extrema**	**28.50**	**17**	P		**P**	**18 28 19.9**	**-0.7**
BDFB	**Brasilia**	**31.78**	**54**	P		**P**	**18 28 49.9**	**0.0**
	comp=Z,1.3nm,0.3s,baz=177,slow=14,SNR=2.1							
BDFB				LR		LR	18 43 16.1	
	comp=Z,94nm,18.0s,baz=244,slow=40 comp=Z,1.3nm,0.3s							
VNA3	**Neumayer Olymp**	**46.80**	**156**	P		**P**	**18 30 54.7**	**+0.4**
	comp=Z,3.8nm,0.8s							
MDP	**Montagnes des**	**46.91**	**30**	LR		LR	18 53 00.8	
	comp=Z,53nm,20.5s,baz=248,slow=39							
VNA2	**Neumayer--Watz**	**47.49**	**156**	P		**P**	**18 30 56.1**	**-3.6**
	comp=Z,2.7nm,0.7s,baz=282,slow=6.0							
SNAA	**Sanae**	**49.02**	**157**	P		**P**	**18 31 12.5**	**+1.0**
	comp=Z,75nm,1.0s							
SNAA	**Sanae**	**49.02**	**157**	P		**P**	**18 31 12.4**	**+0.8**
	comp=Z,3.5nm,0.9s,baz=270,slow=7.4,SNR=5.3 comp=Z,3.5nm,0.9s							
TROLL	**Troll, Antarti**	**50.71**	**157**	P		**P**	**18 31 26.0**	**+1.6**
	comp=Z,97nm,0.7s							
QSPA	**South Pole Qui**	**52.73**	**180**	P		**P**	**18 31 41.5**	**+1.9**
	comp=Z,4.5nm,1.0s,baz=148,slow=1.2,SNR=15 comp=Z,4.5nm,1.0s							
TXAR	**Lajitas Array**	**72.01**	**333**	P		**P**	**18 33 51.1**	**+2.2**
	comp=Z,1.0nm,0.7s,baz=159,slow=7.7,SNR=1.5 comp=Z,0.1nm,0.7s							
DBIC	**Dimbokro**	**77.94**	**72**	P		**P**	**18 34 23.6**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=204,slow=3.5,SNR=4.2 comp=Z,3.1nm,0.7s							
NVAR	**Mina Array Bea**	**85.82**	**327**	P		**P**	**18 35 04.9**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=225,slow=2.1,SNR=1.9 comp=Z,0.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**87.02**	**71**	P		**P**	**18 35 11.0**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=225,slow=3.1,SNR=4.4 comp=Z,1.0nm,0.8s							
BVAR	**Borovoye Array**	**151.00**	**46**	PKPbc		**PKiKP**	**18 42 19.2**	**+1.5**
	comp=Z,1.8nm,0.7s,baz=299,slow=3.4,SNR=8.4							
BVAR				PKPab		**sPKPdf**	**18 42 25.6**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=333,slow=5.0,SNR=4.4							
ZALV	**Zalesovo Beam**	**158.11**	**35**	PKPab		**PKPab**	**18 42 56.9**	**+2.0**
	comp=Z,1.7nm,0.6s,baz=306,slow=4.9,SNR=8.6							
MKAR	**Makanchi Array**	**160.31**	**54**	PKPab		**PKPab**	**18 43 05.9**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=305,slow=4.3,SNR=4.2							

*IDC **06** 18:25:04.3±6.4, 43°.72N×147°.49E, h0km, mb3.6/6, mbtmp3.6/7, ML2.3/1, Error ellipse: s-maj=157.4km s-min=32.1km az=164.0*
*JMA **06** 18:25:08.1±0.4, 44°.N±2°×14°.8E±°, h13km, MV3.5/24, E OFF HOKKAIDO*
*SKHL **06** 18:25:08.3±0.2, 43°.90N×147°.90E, h46km±4km, mb4.4/3*
ISC 06 18:25:09.2±2.1, 43°.87N±0°.09×147°.72E±0°.08, h28km±13km, n28, σ1s47/30, mb3.5/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.64**	**270**	*e*P		**Pb**	**18 25 21.9**	**0.0**
SHO				AMB		AMB	18 25 22.6	
	230nm,0.3s							
SHO				*e*S		**Sn**	**18 25 32.2**	**+0.6**
SHO				A		A	18 25 34.1	
	830nm,0.3s							
SHO				A		A	18 25 34.1	
	1µm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.35**	**278**	*e*P		**Pn**	**18 25 32.1**	**-0.1**
YUK				AMB		AMB	18 25 34.0	
	200nm,0.3s							
YUK				*e*S		**Sb**	**18 25 49.8**	**-0.9**
YUK				A		A	18 25 51.4	
	740nm,0.6s							
YUK				A		A	18 25 51.4	
	1µm,0.6s							
KUR	**Kuril'sk**	**1.37**	**4**	*e*P		**Pn**	**18 25 30.1**	**-2.3**
KUR				AMB		AMB	18 25 32.5	
	100nm,0.4s							
KUR				*e*S		**Sn**	**18 25 46.4**	**-3.2**
KUR				A		A	18 26 00.5	
	130nm,0.3s							
KUR				A		A	18 26 00.5	
	220nm,0.3s							
NEM2	**Nemuro 2**	**1.52**	**251**	*e*P		**Pn**	**18 25 32.8**	**-1.7**
NEM2				*e*S		**Sn**	**18 25 50.4**	**-2.9**
JRA	**Rausu**	**1.88**	**273**	*e*P		**Pn**	**18 25 39.5**	**+0.1**
JRA				*e*S		**Sn**	**18 26 02.7**	**+0.6**
JNSB	**Nemuroshibetsu**	**1.96**	**268**	*e*P		**Pn**	**18 25 40.9**	**+0.3**
JNSB				*e*S		**Sn**	**18 26 04.9**	**+0.6**
JKHN	**Kushirohamanak**	**2.02**	**248**	*e*S		**Sn**	**18 26 03.9**	**-1.8**
JNK	**Nakash**	**2.19**	**264**	*e*P		**Pn**	**18 25 43.1**	**-0.6**
JAK	**Akkeshi**	**2.37**	**249**	*e*P		**Pn**	**18 25 44.5**	**-1.7**
JTKR	**Abashiri--Toko**	**2.75**	**273**	*e*P		**Pn**	**18 25 52.9**	**+1.4**
JAR	**Ashorobuto**	**2.92**	**260**	*e*P		**Pn**	**18 25 53.4**	**-0.4**
JAR				*e*S		**Sn**	**18 26 26.7**	**-1.3**
JOB	**Onbets**	**2.99**	**252**	*e*P		**Pn**	**18 25 53.9**	**-0.8**
JOB				*e*S		**Sn**	**18 26 28.0**	**-1.6**
JCH	**Churui**	**3.42**	**250**	*e*P		**Pn**	**18 25 59.2**	**-1.4**
JEM	**Erimo**	**3.83**	**243**	*e*P		**Pn**	**18 26 06.4**	**+0.2**
JNBK	**Urakawa-nobuka**	**3.97**	**248**	*e*P		**Pn**	**18 26 07.5**	**-0.7**
PETK	**Petropavlovsk-**	**11.36**	**32**	Pn		**Pn**	**18 27 52.2**	**+2.7**
	0.1nm,0.3s,baz=193,slow=9.7,SNR=4.6 2.2nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**28.93**	**140**	T		T	19 01 52.7	
	baz=331,slow=76,SNR=11							
H11N1	**WAKE ISLAND Hy**	**28.94**	**140**	T		T	19 01 50.1	
	baz=331,slow=76,SNR=10.0							
H11N3	**WAKE ISLAND Hy**	**28.94**	**140**	T		T	19 01 53.0	
	baz=331,slow=76,SNR=12							
H11S1	**WAKE ISLAND Hy**	**29.90**	**142**	T		T	19 03 01.1	
	baz=332,slow=76,SNR=16							
H11S3	**WAKE ISLAND Hy**	**29.91**	**142**	T		T	19 03 03.3	
	baz=332,slow=76,SNR=16							
H11S2	**WAKE ISLAND Hy**	**29.92**	**142**	T		T	19 02 55.2	
	baz=332,slow=76,SNR=17							
ILAR	**Eielson Array**	**41.15**	**36**	P		**P**	**18 32 51.9**	**+1.3**
	0.2nm,0.8s,baz=261,slow=6.5,SNR=1.4 0.2nm,0.8s							
MKAR	**Makanchi Array**	**44.89**	**298**	P		**P**	**18 33 21.3**	**+0.2**
	0.2nm,0.5s,baz=79,slow=9.0,SNR=4.7 0.2nm,0.5s							
YKA	**Yellowknife Ar**	**55.47**	**34**	P		**P**	**18 34 41.8**	**+0.9**
	0.2nm,0.6s,baz=299,slow=7.3,SNR=3.4 0.2nm,0.6s							
FINES	**FINESS Array B**	**64.95**	**333**	P		**P**	**18 35 45.0**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2.1nm,0.9s,baz=64,slow=8.7,SNR=7.0						
	2.1nm,0.9s						
HFS	**Hagfors**	**69.74**	**337**	P	**P**	**18 36 15.7**	**-0.4**
	3.3nm,0.9s,baz=44,slow=8.5,SNR=5.2						
	3.3nm,0.9s						
AKASG	**Malin Array Be**	**71.72**	**324**	P	**P**	**18 36 27.5**	**-0.9**
	0.3nm,0.5s,baz=41,slow=7.4,SNR=2.4						
	0.3nm,0.5s						

*IDC **06** 18:46:02.3±1.2, 25°.76S×69°.26E, h0km, mb3.8/9, mbtmp3.8/9, MS3.3/1, Error ellipse: s-maj=42.2km s-min=22.6km az=85.0*

ISC 06 18:46:04.0±1.3**, 25°.8S**±0°.2×**69°.3E**±0°.4**, h10**km**, n20, σ0^{s}47**/9**, mb3.9**/9**, Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.27**	**10**	T	T	19 08 53.9	
	baz=191,slow=75,SNR=16						
H08S2	**Diego Garcia H**	**18.27**	**10**	T	T	19 08 56.3	
	baz=191,slow=75,SNR=19						
H08S3	**Diego Garcia H**	**18.29**	**10**	T	T	19 09 01.1	
	baz=191,slow=75,SNR=35						
H04N2	**CROZET ISLANDS**	**24.69**	**210**	T	T	19 17 00.6	
	baz=41,slow=75,SNR=565						
H04N1	**CROZET ISLANDS**	**24.70**	**210**	T	T	19 17 01.8	
	baz=41,slow=75,SNR=604						
H04N3	**CROZET ISLANDS**	**24.71**	**210**	T	T	19 17 01.6	
	baz=41,slow=75,SNR=548						
PALK	**Pallekele**	**34.66**	**20**	LR	LR	19 03 58.5	
	comp=Z,42nm,18.2s,baz=341,slow=31						
H01W2	**Cape Leeuwin H**	**39.50**	**114**	T	T	19 35 31.3	
	baz=272,slow=75,SNR=7.9						
H01W3	**Cape Leeuwin H**	**39.50**	**114**	T	T	19 35 34.5	
	baz=272,slow=75,SNR=7.1						
H01W1	**Cape Leeuwin H**	**39.52**	**114**	T	T	19 35 32.6	
	baz=272,slow=75,SNR=8.2						
CMAR	**Chiang Mai Arr**	**52.57**	**36**	P	**P**	**18 55 18.4**	**+0.4**
	0.6nm,0.7s,baz=234,slow=7.4,SNR=4.1						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**58.21**	**103**	P	**P**	**18 55 58.8**	**-0.1**
	1.1nm,0.7s,baz=251,slow=6.4,SNR=19						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**59.72**	**99**	P	**P**	**18 56 09.4**	**+0.1**
	1.4nm,0.8s,baz=254,slow=7.4,SNR=7.8						
	1.4nm,0.8s						
QSPA	**South Pole Qui**	**64.38**	**180**	P	**P**	**18 56 40.1**	**+0.1**
	1.4nm,0.7s,baz=197,slow=2.1,SNR=4.5						
	1.4nm,0.7s						
VNDA	**Vanda**	**65.61**	**166**	P	**P**	**18 56 47.6**	**0.0**
	1.2nm,0.9s,baz=277,slow=9.0,SNR=5.2						
	1.2nm,0.9s						
H09W1	**TRISTAN DA CUN**	**68.61**	**238**	T	T	20 12 25.6	
	SNR=10						
MKAR	**Makanchi Array**	**73.16**	**9**	P	**P**	**18 57 34.2**	**-0.5**
	0.4nm,0.6s,baz=186,slow=6.1,SNR=3.9						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**76.48**	**6**	P	**P**	**18 57 54.6**	**+0.8**
	0.2nm,0.4s,baz=206,slow=6.2,SNR=2.7						
	0.2nm,0.4s						
SONM	**Songino Array**	**80.50**	**24**	P	**P**	**18 58 15.7**	**-0.5**
	0.6nm,0.7s,baz=208,slow=7.9,SNR=2.9						
	0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**80.50**	**9**	P	**P**	**18 58 15.7**	**-0.2**
	0.6nm,0.5s,baz=193,slow=5.8,SNR=3.8						
	0.6nm,0.5s						

*IDC **06** 18:52:19.8±4.0, 15°.56S×173°.48W, h0km, mb4.1/5, mbtmp4.1/5, Error ellipse: s-maj=177.4km s-min=32.2km az=136.0*

*NEIC **06** 18:52:29.7±0.7, 15°.4S±0°.1×173°.81W±0°.08, h52km±18km, mb4.5/8, Error ellipse: s-maj=16.6km s-min=11.2km az=161.0*

*NOU **06** 18:52:50.4, 14°.08S×172°.29W, h100km, MLv3.6/5, Samoa Islands*

ISC 06 18:52:31.6±0.7**, 15°.44S**±0°.07×**173°.42W**±0°.09**, h100**km**, n24, σ1^{s}31**/21**, mb4.5**/9**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.20**	**47**		**Pn**	**18 53 07.3**	**+0.5**
AFI				Sn	**Sn**	**18 53 31.6**	**-2.2**
AFI	**Afiamalu**	**2.20**	**47**	P	**Pn**	**18 53 07.6**	**+0.7**
NIUE	**Niue**	**4.92**	**138**		**Pn**	**18 53 45.0**	**+1.7**
NIUE				Sn	**Sn**	**18 54 36.6**	**-2.4**
MXZ	**Matakaoa Point**	**23.23**	**197**	P	**P**	**18 57 30.2**	**+0.2**
H11S2	**WAKE ISLAND Hy**	**38.98**	**329**	T	T	19 40 49.4	
	baz=147,slow=75,SNR=8.0						
H11S3	**WAKE ISLAND Hy**	**39.00**	**329**	T	T	19 40 52.6	
	baz=147,slow=75,SNR=7.1						
H11S1	**WAKE ISLAND Hy**	**39.00**	**329**	T	T	19 40 49.3	
	baz=147,slow=75,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**39.93**	**330**	T	T	19 42 02.7	
	baz=146						
H11N1	**WAKE ISLAND Hy**	**39.94**	**330**	T	T	19 42 03.6	
	baz=146						
H11N2	**WAKE ISLAND Hy**	**39.95**	**330**	T	T	19 41 57.6	
	baz=146						
COEN	**Coen**	**41.96**	**266**	P	**P**	**19 00 11.9**	**-1.1**
COEN				IAmb	IAmb	19 00 45.3	
	comp=Z,12nm,1.4s						
STKA	**Stephens Creek**	**44.00**	**240**	P	**P**	**19 00 27.9**	**-1.4**
	comp=Z,2.1nm,0.8s,baz=101,slow=13,SNR=4.1						
	comp=Z,2.1nm,0.8s						
WB0	**Warramunga Arr**	**49.78**	**257**		**P**	**19 01 13.9**	**-0.6**
WB0				IAmb	IAmb	19 01 14.7	
	comp=Z,3.0nm,0.6s						
WB2	**Warramunga Arr**	**49.80**	**257**	P	**P**	**19 01 14.0**	**-0.7**
WB2				IAmb	IAmb	19 01 15.0	
	comp=Z,4.5nm,0.7s						
WRAB	**Tennant Creek**	**49.81**	**257**	P	**P**	**19 01 13.9**	**-0.8**
WRAB				IAmb	IAmb	19 01 14.9	
	comp=Z,2.8nm,0.6s						
WRA	**Warramunga Arr**	**49.82**	**257**	P	**P**	**19 01 13.8**	**-1.0**
WRA	**Warramunga Arr**	**49.82**	**257**	P	**P**	**19 01 13.8**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=92,slow=6.8,SNR=78						
WRA				PcP	**PcP**	**19 02 35.5**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=97,slow=3.7,SNR=1.9						
	comp=Z,1.8nm,0.5s						
AS31	**Alice Springs**	**50.08**	**252**	P	**P**	**19 01 16.0**	**-0.8**
ASAR	**Alice Springs**	**50.08**	**252**	P	**P**	**19 01 15.6**	**-1.2**
ASAR	**Alice Springs**	**50.08**	**252**	P	**P**	**19 01 16.1**	**-0.6**
	comp=Z,7.5nm,0.9s,baz=88,slow=8.0,SNR=110						
	comp=Z,7.5nm,0.9s						
MTN	**Manton Dam**	**53.71**	**265**	P	**P**	**19 01 43.3**	**-0.4**
ILAR	**Eielson Array**	**82.49**	**11**	P	**P**	**19 04 44.2**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=204,slow=3.6,SNR=5.0						
	comp=Z,0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**92.61**	**288**	P	**P**	**19 05 34.2**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=157,slow=2.2,SNR=4.7						
	comp=Z,0.3nm,0.6s						
BRTR	**Keskin Array B**	**146.17**	**321**	PKPbc	**PKPab**	**19 12 02.0**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=82,slow=2.2,SNR=3.9						

IDC 06 19:12:18.5±40.0**, 21°.63S**×**66°.16E, h0**km**, mb3.2**/2**, mbtmp3.2**/2**, Error ellipse: s-maj=1050.0km s-min=43.5km az=137.0, Mauritius-Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**15.19**	**25**	T	T	19 30 44.9	
	baz=194,slow=76,SNR=9.8						
H08S2	**Diego Garcia H**	**15.19**	**25**	T	T	19 30 40.1	
	baz=194,slow=76,SNR=18						
H08S3	**Diego Garcia H**	**15.21**	**25**	T	T	19 30 48.3	
	baz=194,slow=76,SNR=46						
H04N2	**CROZET ISLANDS**	**27.13**	**202**	T	T	19 47 25.8	
	baz=38						
H04N1	**CROZET ISLANDS**	**27.13**	**202**	T	T	19 47 25.8	
	baz=38,slow=74						
H04N3	**CROZET ISLANDS**	**27.14**	**202**	T	T	19 47 25.8	
	baz=38,slow=74						
MAW	**Mawson**	**46.01**	**182**	P	P	19 20 43.2	-0.1
	14nm,0.8s,baz=343,slow=19,SNR=19						
ASAR	**Alice Springs**	**62.01**	**106**	P	P	19 22 41.0	0.0
	0.2nm,0.6s,baz=261,slow=6.2,SNR=4.6						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**63.28**	**102**	P	P	19 22 49.6	0.0
	0.2nm,0.7s,baz=255,slow=6.7,SNR=1.4						
	0.2nm,0.7s						

*IDC **06** 19:19:09.0±0.8, 22°.39S×171°.45E, h0km, mb4.2/9, mbtmp4.2/11, ML3.8/1, MS3.3/5, Error ellipse: s-maj=27.1km s-min=21.3km az=173.0*

*NEIC **06** 19:19:17.8±2.0, 22°.5S±0°.1×171°.19E±0°.10, h35km±2km, mb4.5/10, Error ellipse: s-maj=21.7km s-min=15.3km az=170.0*

ISC 06 19:19:14.6±0.6**, 22°.4S**±0°.1×**171°.42E**±0°.07**, h35**km**, n44, σ1^{s}04**/45**, mb4.3**/14**, MS3.2**/4**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.29**	**286**	Pn	**Pn**	**19 20 04.9**	**+1.3**
PINNC	**Pines Island,**	**3.68**	**267**		**Pn**	**19 20 10.3**	**+1.3**
PINNC				Sn	**Sn**	**19 20 50.4**	**-0.8**
LIFNC	**LIFOU**	**4.23**	**292**	Pn	**Pn**	**19 20 16.9**	**+0.4**
OUENC	**Ouen Island, N**	**4.24**	**269**	Pn	**Pn**	**19 20 16.6**	**-0.1**
OUENC				Sn	**Sn**	**19 21 03.4**	**-1.5**
ONTNC	**Ouen Toro**	**4.60**	**271**		**Pn**	**19 20 20.3**	**-1.4**
ONTNC				Sn	**Sn**	**19 21 13.2**	**-0.7**
DZM	**Mont Dzumac**	**4.62**	**274**	Pn	**Pn**	**19 20 22.2**	**+0.1**
	4.6nm,0.3s,baz=126,slow=12,SNR=66						
DZM				Sn	**Sn**	**19 21 15.5**	**+0.8**
	5.3nm,0.3s,baz=111,slow=23,SNR=8.3						
	14nm,0.4s						
KOUNC	**Koumac, New Ca**	**6.90**	**284**	Pn	**Pn**	**19 20 53.5**	**+0.2**
URZ	**Urewera**	**16.51**	**164**	Pn	**Pn**	**19 23 02.7**	**-0.8**
	11nm,1.0s,baz=58,slow=6.1,SNR=4.5						
URZ				LR	LR	19 28 00.3	
	comp=Z,153nm,18.1s,baz=62,slow=32						
THZ	**Tophouse**	**19.31**	**177**	P	**Pn**	**19 23 39.5**	**+1.7**
ARMA	**Armidale**	**19.41**	**242**		**Pn**	**19 23 38.8**	**-0.4**
ARMA				IAmb	IAmb	19 23 59.4	
	comp=Z,18nm,1.5s						
RPZ	**Rata Peaks**	**21.22**	**181**	LR	LR	19 30 59.3	
	comp=Z,99nm,20.4s,baz=10.0,slow=33						
CTA	**Charters Tower**	**23.56**	**271**	LR	LR	19 32 56.1	
	comp=Z,105nm,18.6s,baz=86,slow=35						
RAR	**Rarotonga**	**26.75**	**93**	LR	LR	19 35 11.5	
	comp=Z,28nm,18.7s,baz=164,slow=36						
STKA	**Stephens Creek**	**28.08**	**244**	LR	LR	19 34 50.0	
	comp=Z,83nm,21.8s,baz=41,slow=34						
COEN	**Coen**	**28.09**	**283**	P	**P**	**19 25 04.4**	**+1.2**
COEN				IAmb	IAmb	19 25 10.0	
	comp=Z,11nm,1.2s						
ASAR	**Alice Springs**	**34.48**	**261**	P	**P**	**19 25 58.5**	**-0.9**
ASAR	**Alice Springs**	**34.48**	**261**	P	**P**	**19 25 59.1**	**-0.3**
	comp=Z,2.6nm,0.9s,baz=94,slow=9.1,SNR=17						
	comp=Z,2.6nm,0.9s						
WB0	**Warramunga Arr**	**34.59**	**267**	P	**P**	**19 25 59.9**	**-0.5**
WB0				IAmb	IAmb	19 26 09.8	
	comp=Z,4.8nm,1.2s						
WRA	**Warramunga Arr**	**34.61**	**267**	P	**P**	**19 25 59.9**	**-0.7**
WRA	**Warramunga Arr**	**34.61**	**267**	P	**P**	**19 25 59.8**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=98,slow=7.9,SNR=6.8						
	comp=Z,0.8nm,0.7s						
MBWA	**Marble Bar**	**47.82**	**261**	P	**P**	**19 27 49.3**	**+0.3**
QSPA	**South Pole Qui**	**67.63**	**180**	P	**P**	**19 30 08.1**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=343,slow=4.8,SNR=5.1						
	comp=Z,1.0nm,0.5s						
CRAI	**Chiangrai**	**81.27**	**296**	P	**P**	**19 31 29.5**	**+1.9**
CRAI				IAmb	IAmb	19 31 40.6	
	comp=Z,9.8nm,1.4s						
CM31	**Chiang Mai Arr**	**81.66**	**294**	P	**P**	**19 31 30.2**	**+0.5**
CM31				IAmb	IAmb	19 31 33.0	
	comp=Z,5.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**81.66**	**294**	P	**P**	**19 31 31.8**	**+2.1**
CMAR	**Chiang Mai Arr**	**81.66**	**294**	P	**P**	**19 31 30.2**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=138,slow=4.0,SNR=12						
	comp=Z,2.4nm,0.9s						
CHTO	**Chiang Mai**	**81.82**	**294**	P	**P**	**19 31 31.7**	**+1.2**
CHTO				IAmb	IAmb	19 31 33.6	
	comp=Z,9.8nm,1.2s						
SNAA	**Sanae**	**86.06**	**182**	P	**P**	**19 31 52.4**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=198,slow=9.6,SNR=2.6						
	comp=Z,1.6nm,0.8s						
YBH	**Yreka Blue Hor**	**88.20**	**43**	P	**P**	**19 32 01.5**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=196,slow=4.6,SNR=3.3						
	comp=Z,1.6nm,0.7s						
NVAR	**Mina Array Bea**	**89.41**	**48**	P	**P**	**19 32 08.3**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=228,slow=8.6,SNR=11						
	comp=Z,1.8nm,0.8s						
SONM	**Songino Array**	**90.99**	**322**	P	**P**	**19 32 14.6**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=164,slow=3.1,SNR=6.0						
	comp=Z,0.9nm,0.7s						
ILAR	**Eielson Array**	**92.68**	**17**	P	**P**	**19 32 21.3**	**-1.0**
	comp=Z,0.6nm,1.0s,baz=226,slow=7.0,SNR=4.7						
	comp=Z,0.6nm,1.0s						
RONA	**Rosalia, Austr**	**147.87**	**328**	*e*PKP	**PKPbc**	**19 38 56.2**	**+0.2**
	comp=Z,3.8nm,0.8s						
GERES	**GERESS Array B**	**148.26**	**332**	PKPbc	**PKPbc**	**19 38 57.3**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=339,slow=3.0,SNR=3.9						
SOKA	**Soboth**	**149.19**	**327**	*i* PKP	**PKPbc**	**19 38 58.8**	**-0.6**
	comp=Z,2.8nm,1.3s						
LESA	**Schwarzleotal**	**149.78**	**331**	*e*PKP	**PKPdf**	**19 38 58.0**	**+1.9**
	comp=Z,6.1nm,1.8s						
MYKA	**Terra Mystica**	**149.91**	**329**	*e*PKP	**PKPbc**	**19 38 59.4**	**-1.8**
	comp=Z,1.4nm,0.5s						
WATA	**Walderalm**	**150.34**	**332**	*e*PKP	**PKPbc**	**19 39 02.1**	**-0.2**
	comp=Z,1.5nm,0.5s						
ABTA	**Abfaltersbach**	**150.36**	**330**	*e*PKP	**PKPbc**	**19 39 01.4**	**-0.9**
	comp=Z,2.1nm,0.7s						
WTTA	**Wattenberg**	**150.36**	**332**	*i* PKP	**PKPbc**	**19 39 02.3**	**-0.1**
	comp=Z,6.2nm,1.1s						
MOTA	**Moosalm**	**150.53**	**332**	*e*PKP	**PKPbc**	**19 39 02.1**	**-0.7**
	comp=Z,2.5nm,0.6s						
SQTA	**Sankt Quirin**	**150.58**	**332**	*e*PKP	**PKPbc**	**19 39 02.4**	**-0.5**
	comp=Z,3.1nm,0.9s						
FETA	**Feichten**	**150.94**	**332**	*e*PKP	**PKPdf**	**19 38 56.7**	**-1.3**
	comp=Z,5.1nm,1.6s						
TORD	**Torodi Ar. Bea**	**166.55**	**228**	PKP	**PKPdf**	**19 39 16.0**	**-1.1**
	comp=Z,1.5nm,0.9s,baz=148,slow=4.8,SNR=5.5						
TORD				PKPab	**PKPab**	**19 40 17.4**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=91,slow=8.9,SNR=2.0						

LDG 06 19:24:29.4±0.1**, 45°.44N**×**6°.30E, h2**km**, Md1.2**/2**, Error ellipse: s-maj=2.8km s-min=1.1km az=123.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPL	**La Plagne**	**0.32**	**76**	*e*Pg	Pg	19 24 36.1	+0.6
LPL				*e*Sg	Sg	19 24 39.7	+0.1
	0.7nm,0.3s						
LPG	**La Plagne**	**0.32**	**80**	*e*Pg	Pg	19 24 36.4	+0.7
LPG				*e*Sg	Sg	19 24 40.2	+0.3
	0.6nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.60**	**210**	*e*Pg	Pg	19 24 40.8	-0.1
ORIF				*e*Sg	Sg	19 24 48.8	+0.1
	0.9nm,0.2s						
MBDF	**Montbardon**	**0.79**	**155**	*e*Pg	Pg	19 24 44.2	-0.3
MBDF				*e*Sg	Sg	19 24 54.6	-0.1
	0.3nm,0.2s						

*NEIC **06** 19:24:50.4±1.8, 25°.5S±0°.1×179°.57W±0°.09, h458km±10km, mb4.2/22, Error ellipse: s-maj=20.4km s-min=11.3km az=195.0*

*IDC **06** 19:24:51.5±2.4, 25°.66S×179°.78W, h451km±21km, mb3.1/5, mbtmp4.3/8, Error ellipse: s-maj=38.0km s-min=18.4km az=45.0*

ISC 06 19:24:49.7±0.7**, 25°.47S**±0°.07×**179°.61W**±0°.09**, h450**km**, n89, σ1^{s}76**/103**, mb4.1**/15**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.04**	**159**	P	**P**	**19 26 05.9**	**+0.7**
RAO	**Raoul Island**	**4.05**	**159**	P	**P**	**19 26 06.0**	**+0.7**
RAO	**Raoul Island**	**4.05**	**159**	P	**P**	**19 26 06.1**	**+0.9**
	500nm,0.3s,baz=311,slow=0.8,SNR=6.0						
GLKZ	**Green Lake**	**4.06**	**159**	P	**P**	**19 26 05.3**	**0.0**
GLKZ				S	**S**	**19 27 08.6**	**+1.7**
NIUE	**Niue**	**10.99**	**57**	P	**P**	**19 27 17.8**	**0.0**
OUZ	**Omahuta**	**11.35**	**209**	P	**P**	**19 27 23.8**	**+2.4**
KUZ	**Kuaotunu**	**11.93**	**198**	P	P	19 27 19.2	-8.4
MARNC	**Mare, Loyalty**	**12.02**	**287**	P	**P**	**19 27 30.9**	**+2.0**
WIAZ	**Waiheke Island**	**12.15**	**200**	P	**P**	**19 27 31.6**	**+1.5**
PINNC	**Pines Island,**	**12.16**	**281**	P	**P**	**19 27 30.4**	**-0.1**
MXZ	**Matakaoa Point**	**12.18**	**188**	P	**P**	**19 27 27.3**	**-3.1**
MXZ	**Matakaoa Point**	**12.18**	**188**	P	**P**	**19 27 31.2**	**+0.8**
WMGZ	**Waiomatatini S**	**12.42**	**187**	P	**P**	**19 27 32.5**	**-0.5**
WMGZ				S	**S**	**19 29 45.8**	**-2.0**
MKAZ	**Moumakai**	**12.42**	**200**	P	**P**	**19 27 34.4**	**+1.4**
HAZ	**Te Kaha**	**12.45**	**190**	P	**P**	**19 27 33.2**	**0.0**
HAZ				S	**S**	**19 29 47.0**	**-1.2**
HAZ	**Te Kaha**	**12.45**	**190**	P	**S**	**19 29 48.9**	**+0.7**
PKGZ	**Pakihiroa**	**12.53**	**188**	P	**P**	**19 27 30.7**	**-3.6**
RUGZ	**Raukumara Rang**	**12.67**	**190**	P	**P**	**19 27 31.8**	**-4.0**
RUGZ				S	**S**	**19 29 52.6**	**-0.2**
RUGZ	**Raukumara Rang**	**12.67**	**190**	P	**S**	**19 29 51.0**	**-1.9**
TWGZ	**Tauwhareparae**	**12.83**	**189**	P	**P**	**19 27 37.3**	**-0.2**
TWGZ				S	**S**	**19 29 52.3**	**-3.7**
KMRZ	**Kaimai**	**12.90**	**196**	P	**P**	**19 27 39.8**	**+1.5**
TOZ	**Tahuroa Road**	**12.91**	**198**	P	**P**	**19 27 39.0**	**+0.8**
TOZ	**Tahuroa Road**	**12.91**	**198**	P	**P**	**19 27 39.2**	**+1.0**
LIFNC	**LIFOU**	**12.97**	**288**	P	**P**	**19 27 40.0**	**+0.8**
URZ	**Urewera**	**13.05**	**192**	P	**P**	**19 27 38.0**	**-1.7**
	28nm,0.4s,baz=354,slow=3.7,SNR=24						
URZ				S	**S**	**19 29 57.5**	**-2.6**
	6.8nm,0.6s,baz=324,slow=20,SNR=2.5						
URZ	**Urewera**	**13.05**	**192**	P	**S**	**19 30 02.1**	**+1.9**
MWZ	**Matawai**	**13.05**	**190**	P	**P**	**19 27 39.2**	**-0.6**
MWZ				S	**S**	**19 30 00.7**	**+0.3**
MWZ	**Matawai**	**13.05**	**190**	P	**S**	**19 29 59.2**	**-1.1**
CNGZ	**Carnagh Statio**	**13.10**	**188**	P	**P**	**19 27 40.2**	**-0.1**
CNGZ				S	**S**	**19 30 02.8**	**+1.5**
CNGZ	**Carnagh Statio**	**13.10**	**188**	P	**S**	**19 30 04.6**	**+3.3**
TKGZ	**Te Karaka**	**13.11**	**189**	P	**P**	**19 27 39.8**	**-0.6**
TKGZ				S	**S**	**19 30 00.9**	**-0.4**
DZM	**Mont Dzumac**	**13.21**	**282**	P	**P**	**19 27 44.3**	**+2.5**
	24nm,0.9s,baz=75,slow=17,SNR=18						
RAGZ	**Rawiri**	**13.23**	**190**	P	**P**	**19 27 41.1**	**-0.7**
RAGZ				S	**S**	**19 30 05.0**	**+1.2**
RIGZ	**Rimuhau**	**13.38**	**189**	P	**P**	**19 27 42.4**	**-1.0**
RIGZ				S	**S**	**19 30 09.4**	**+2.6**
RIGZ	**Rimuhau**	**13.38**	**189**	P	**S**	**19 30 03.8**	**-3.1**
RTZ	**Ruatahuna**	**13.42**	**192**	P	**S**	**19 30 08.5**	**+0.8**
SNGZ	**Shannon Statio**	**13.52**	**190**	P	**P**	**19 27 45.3**	**+0.4**
SNGZ				S	**S**	**19 30 10.7**	**+1.1**
SNGZ	**Shannon Statio**	**13.52**	**190**	P	**S**	**19 30 10.2**	**+0.7**
PRGZ	**Paritu Road**	**13.58**	**188**	P	**P**	**19 27 46.7**	**+1.2**
PRGZ				S	**S**	**19 30 11.5**	**+0.8**
AFI	**Afiamalu**	**13.66**	**34**	P	P	19 27 41.0	-5.7
MTHZ	**Maungataniwha**	**13.67**	**192**	P	**P**	**19 27 45.5**	**-1.1**
MTHZ				S	**S**	**19 30 13.9**	**+1.3**
MTHZ	**Maungataniwha**	**13.67**	**192**	P	**S**	**19 30 13.2**	**+0.5**
RAHZ	**Arahi**	**13.69**	**191**	P	**P**	**19 27 47.7**	**+0.9**
KNZ	**Kokohu**	**13.70**	**189**	P	**P**	**19 27 45.1**	**-1.7**
KNZ				S	**S**	**19 30 13.8**	**+0.7**
MHGZ	**Mahia Peninsul**	**13.80**	**188**	P	**P**	**19 27 48.3**	**+0.4**
NMHZ	**Naumai**	**13.92**	**192**	P	**P**	**19 27 47.8**	**-1.5**
NMHZ				S	**S**	**19 30 19.9**	**+2.4**
TMVZ	**Te Maari**	**14.16**	**195**	P	**P**	**19 27 50.7**	**-1.2**
ETVZ	**East Tongariro**	**14.18**	**195**	P	**P**	**19 27 50.5**	**-1.6**
OTVZ	**Oturere**	**14.22**	**195**	P	**P**	**19 27 50.1**	**-2.5**
SNVZ	**South Ngauruho**	**14.25**	**195**	P	**P**	**19 27 51.8**	**-1.1**
KWHZ	**Kaweka Forest**	**14.31**	**193**	P	**P**	**19 27 51.3**	**-2.1**
WNVZ	**Wahianoa**	**14.39**	**195**	P	**P**	**19 27 52.6**	**-1.8**
MOVZ	**Moawhango**	**14.43**	**195**	P	**P**	**19 27 52.4**	**-2.3**
BHHZ	**Black Hill Sta**	**14.44**	**194**	P	**P**	**19 27 52.3**	**-2.5**
KAHZ	**Kahuranaki**	**14.58**	**191**	P	**P**	**19 27 54.7**	**-1.6**
BFZ	**Birch Farm**	**15.56**	**192**	P	**P**	**19 28 01.0**	**-5.6**
BFZ	**Birch Farm**	**15.56**	**192**	P	**P**	**19 28 03.6**	**-3.0**
MRZ	**Mangatainoka R**	**15.67**	**194**	P	**P**	**19 28 03.8**	**-4.0**
MRZ				IAmb	IAmb	19 28 29.5	
	comp=Z,15nm,1.3s						
MRZ	**Mangatainoka R**	**15.67**	**194**	P	**P**	**19 28 05.1**	**-2.7**
TCW	**Tory Channel**	**16.50**	**196**	P	**P**	**19 28 12.3**	**-4.2**
QRZ	**Quartz Range**	**16.65**	**201**	P	**P**	**19 28 16.4**	**-1.8**
INZ	**Inchbonnie**	**18.71**	**201**	P	**P**	**19 28 37.1**	**-2.0**
RPZ	**Rata Peaks**	**19.73**	**200**	P	**P**	**19 28 47.6**	**-0.9**
	comp=Z,8.8nm,0.4s,baz=320,slow=1.9,SNR=16						
ARMA	**Armidale**	**25.84**	**252**	P	**P**	**19 29 44.3**	**+0.5**
ARMA				IAmb	IAmb	19 30 00.8	
	comp=Z,28nm,1.5s						
EIDS	**Eidsvold**	**26.45**	**264**	P	**P**	**19 29 46.8**	**-2.3**
EIDS				IAmb	IAmb	19 29 50.9	
	comp=Z,4.0nm,0.7s						
CAN	**Canberra**	**28.70**	**243**	P	**P**	**19 30 06.7**	**-2.2**
CAN				IAmb	IAmb	19 30 24.9	
	comp=Z,13nm,1.2s						
CTAO	**Charters Tower**	**31.87**	**273**	P	**P**	**19 30 37.4**	**+0.9**
CTAO				IAmb	IAmb	19 30 38.2	
	comp=Z,5.9nm,0.7s						
STKA	**Stephens Creek**	**34.50**	**250**	P	**P**	**19 30 58.9**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=100,slow=12,SNR=3.1						
	comp=Z,0.5nm,0.5s						
PMG	**Port Moresby**	**35.36**	**291**	P	**P**	**19 31 05.5**	**-0.7**
PMG				IAmb	IAmb	19 31 36.7	
	comp=Z,8.8nm,1.1s						
COEN	**Coen**	**36.74**	**281**	P	**P**	**19 31 16.7**	**-1.0**
COEN				IAmb	IAmb	19 31 55.0	
	comp=Z,12nm,1.4s						
BBOO	**Buckleboo**	**39.18**	**249**	P	**P**	**19 31 37.1**	**-0.4**
BBOO				IAmb	IAmb	19 32 16.4	
	comp=Z,9.6nm,1.1s						
AS31	**Alice Springs**	**42.15**	**262**	P	**P**	**19 32 01.7**	**+0.2**
ASAR	**Alice Springs**	**42.15**	**262**	P	**P**	**19 32 01.7**	**+0.2**
ASAR	**Alice Springs**	**42.15**	**262**	P	**P**	**19 32 01.9**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=93,slow=7.5,SNR=43						
	comp=Z,1.1nm,0.4s						
WR0	**Warramunga Arr**	**42.49**	**268**	P	**P**	**19 32 02.9**	**-1.3**
WB2	**Warramunga Arr**	**42.66**	**268**	P	**P**	**19 32 04.3**	**-1.3**
WB2				IAmb	IAmb	19 32 10.3	
	comp=Z,8.3nm,0.8s						
WRAB	**Tennant Creek**	**42.67**	**268**	P	**P**	**19 32 05.0**	**-0.7**
WB0	**Warramunga Arr**	**42.68**	**268**	P	**P**	**19 32 04.1**	**-1.6**
WRA	**Warramunga Arr**	**42.68**	**268**	P	**P**	**19 32 04.2**	**-1.4**
WRA	**Warramunga Arr**	**42.68**	**268**	P	**P**	**19 32 05.3**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=104,slow=7.7,SNR=34						
	comp=Z,1.3nm,0.4s						
KNRA	**Kununurra**	**49.05**	**271**	P	**P**	**19 32 54.3**	**-0.3**
KNRA				IAmb	IAmb	19 33 01.6	
	comp=Z,18nm,1.2s						
VNDA	**Vanda**	**52.85**	**185**	P	**P**	**19 33 22.3**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=36,slow=8.5,SNR=3.0						
	comp=Z,0.5nm,0.6s						
QSPA	**South Pole Qui**	**64.62**	**180**	P	**P**	**19 34 42.1**	**+0.6**
QSPA				IAmb	IAmb	19 34 45.0	
	comp=Z,4.2nm,1.1s						
QSPA	**South Pole Qui**	**64.62**	**180**	P	**P**	**19 34 42.2**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=339,slow=1.0,SNR=6.5						
	comp=Z,1.9nm,0.6s						
BELA	**Belgrano 2**	**74.84**	**173**	P	**P**	**19 35 41.8**	**-0.6**
BELA				IAmb	IAmb	19 36 09.9	
	comp=Z,11nm,1.4s						
PMSA	**Palmer Station**	**77.33**	**157**	P	**P**	**19 35 56.8**	**+0.3**
Q19K	**Cape Douglas,**	**86.80**	**13**	P	**P**	**19 36 45.0**	**+0.3**
HFS	**Hagfors**	**144.15**	**349**	PKP	**PKPdf**	**19 43 33.6**	**+0.8**
	comp=Z,1.0nm,0.9s,baz=29,slow=3.3,SNR=5.2						
CLL	**Collm**	**152.46**	**343**	*e*PKPbc	**PKPbc**	**19 43 54.0**	**+0.3**

ZUR 06 19:24:56.8, 46°.30N×**7°.98E, h7**km**, MLh0.4**/6**, 4C-2D, Error ellipse: s-maj=1672.5km s-min=926.2km az=294.0, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNTZ	**Naters, Zentru**	**0.02**	**16**	⇑Pg	Pg	19 24 58.4	+0.2
SNTZ				Sg	Sg	19 24 59.3	+0.1
BIBA	**Brigerbad**	**0.04**	**268**	⇑Pg	Pg	19 24 58.6	+0.3
BIBA				Sg	Sg	19 24 59.5	+0.1
SIMPL	**Simplonpass**	**0.07**	**158**	⇑Pg	Pg	19 24 59.1	+0.3
SVIO	**Visp Obere Sta**	**0.07**	**260**	Pg	Pg	19 24 59.0	+0.3
SVIO				Sg	Sg	19 25 00.3	+0.2
EMBD	**Embd, Matterta**	**0.14**	**230**	Pg	Pg	19 25 00.1	+0.4
FIESA	**Fiescheralp**	**0.16**	**34**	⇓Pg	Pg	19 25 00.5	+0.3
FIESA				Sg	Sg	19 25 02.8	+0.2
LKBD2	**Leukerbad 2**	**0.24**	**287**	⇓Pg	Pg	19 25 02.1	+0.4
LKBD2				Sg	Sg	19 25 05.3	+0.3
MMK	**Mattmark**	**0.25**	**183**	Sg	Sg	19 25 05.4	+0.2
DIX	**Grande Dixence**	**0.46**	**241**	⇑Pg	Pg	19 25 05.7	0.0

GCMT 06 19:29:57.0±0.4**, 23°.60N**±0°.03×**123°.77E**±0°.04**, h22**km±1km**, MW4.9**/64**, Moment Tensor Solution. s16,c23; s64,c82; Duration: 0 Moment tensor: Scale** 10^{16}**Nm;** M_{rr}1.61±.19; $M_{\theta\theta}$-1.12±.11; $M_{\phi\phi}$-0.49±.12; $M_{r\theta}$0.61±.15; $M_{\theta\phi}$-0.88±.07; $M_{\phi r}$2.31±.28; **Best double couple:** $M_0$2.89800×10^{16} **NP1:**ϕ_s25.00000°**,**δ74.00000°**,** λ72.00000°. **NP2:**ϕ_s254.00000°**,**δ24.00000°**,**λ137.00000°. **Principal axes:** T 3.0960**,** Plg57.0000°**,** Azm271.0000°**;** N -0.4030**,** Plg17.0000°**,** Azm30.0000°**;** P -2.6990**,** Plg27.0000°**,** Azm129.0000°**; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southwestern Ryukyu Islands**

*IDC **06** 19:31:41.9±1.6, 65°.59S×176°.66W, h0km, mb3.8/4, mbtmp3.8/5, ML3.5/1, MS4.0/16 Error ellipse: s-maj=65.0km s-min=25.8km az=67.0*

*GCMT **06** 19:31:50.0±0.4, 65°.51S±0°.02×176°.34W±0°.06, h28km±1km, MW4.9/71, Moment Tensor Solution. s18,c18; s71,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.97±.22; $M_{\theta\theta}$1.85±.14; $M_{\phi\phi}$-2.81±.16; $M_{r\theta}$-0.77±.23; $M_{\theta\phi}$1.63±.12; $M_{\phi r}$0.39±.24; Best double couple: $M_0$3.00600×10^{16} NP1:ϕ_s300.00000°,δ81.00000°,λ21.00000°. NP2: ϕ_s206.00000°,δ69.00000°,λ170.00000°. Principal axes: T 2.6050, Plg21.0000°, Azm165.0000°; N 0.8090, Plg67.0000°, Azm322.0000°; P -3.4070, Plg8.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 06 19:31:43.9±1.2, 65°.8S±0°.1×177°.2W±0°.3, h10km, n39, σ1s73/10, mb3.8/4, MS3.9/15, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	Vanda	13.40	200	Pn	Pn	19 34 55.7	+2.0
	0.2nm,0.3s,baz=49,slow=17,SNR=7.7						
VNDA				Sn	Sn	19 37 19.5	-2.9
	baz=330,slow=20,SNR=1.9						
VNDA				LR	LR	19 39 17.5	
	comp=Z,369nm,19.2s,baz=52,slow=34						
	1.7nm,1.0s						
RPZ	Rata Peaks	23.03	338	LR	LR	19 43 32.6	
	comp=Z,468nm,21.7s,baz=184,slow=31						
QSPA	South Pole Qui	24.34	180	P	P	19 37 03.1	+1.5
	7.6nm,1.0s,baz=40,slow=6.2,SNR=11						
QSPA				LR	LR	19 45 32.5	
	comp=Z,314nm,20.4s,baz=45,slow=34						
	7.6nm,1.0s						
URZ	Urewera	27.73	350	LR	LR	19 46 48.8	
	comp=Z,464nm,19.1s,baz=190,slow=33						
PMSA	Palmer Station	41.11	143	LR	LR	19 53 36.4	
	comp=Z,152nm,18.0s,baz=260,slow=32						
SNAA	Sanae	42.79	177	P	P	19 39 41.2	+0.2
	1.9nm,1.0s,baz=180,slow=19,SNR=2.9						
	1.9nm,1.0s						
DZM	Mont Dzumac	44.95	338	eLR	LR	19 53 02.9	
	394nm,24.5s						
DZM	Mont Dzumac	44.95	338	LR	LR	19 58 01.1	
	comp=Z,191nm,19.0s,baz=209,slow=35						
RAR	Rarotonga	45.94	23	LR	LR	19 53 51.7	
	comp=Z,119nm,19.6s,baz=181,slow=29						
TBI	Tubuai	45.97	36	eT	T	20 28 40.4	
	3.7nm,0.2s						
H01W1	Cape Leeuwin H	50.06	273	T	T	20 35 20.2	
	baz=149,slow=76,SNR=9.0						
H01W2	Cape Leeuwin H	50.07	273	T	T	20 35 23.8	
	baz=149,slow=76,SNR=8.8						
H01W3	Cape Leeuwin H	50.08	273	T	T	20 35 19.5	
	baz=149,slow=76,SNR=9.3						
NWAO	Narrogin (SRO)	50.50	277	LR	LR	19 57 03.5	
	comp=Z,314nm,20.9s,baz=164,slow=30						
TVO	Taravao	51.37	35	eT	T	20 35 26.2	
	3.5nm,0.3s						
PAE	Paea	51.41	34	eT	T	20 35 24.5	
	3.3nm,0.3s						
PPT2	Papeete2	51.48	34	eLR	LR	19 55 25.3	
	71nm,25.0s						
MEH	Mehetia	51.57	36	eT	T	20 35 38.7	
	10nm,0.2s						
ASAR	Alice Springs	52.25	299	P	P	19 40 56.2	+1.2
	0.7nm,1.1s,baz=156,slow=7.5,SNR=3.1						
	0.7nm,1.1s						
PMOR	Pomariorio Ree	54.37	36	eT	T	20 39 07.5	
	6.3nm,0.4s						
WRA	Warramunga Arr	55.52	301	P	P	19 41 18.2	-0.7
	0.8nm,0.9s,baz=157,slow=6.7,SNR=4.2						
	0.8nm,0.9s						
RPN	Rapa Nui	56.49	82	LR	LR	20 00 26.4	
	comp=Z,203nm,18.1s,baz=192,slow=31						
H03S2	Juan Fernandez	62.90	112	T	T	20 50 38.1	
	baz=206,slow=74,SNR=39						
H03S1	Juan Fernandez	62.90	112	T	T	20 50 35.3	
	baz=206,slow=74,SNR=38						
H03S3	Juan Fernandez	62.91	112	T	T	20 50 37.4	
	baz=206,slow=74,SNR=18						
H03N3	Juan Fernandez	63.23	112	T	T	20 51 01.8	
	baz=214						
H03N2	Juan Fernandez	63.25	112	T	T	20 50 57.8	
	baz=214,slow=74						
H03N1	Juan Fernandez	63.25	112	T	T	20 51 01.1	
	baz=214,slow=74						
KAPI	Kappang	74.62	293	LR	LR	20 13 33.5	
	comp=Z,60nm,19.5s,baz=162,slow=34						
CPUP	Villa Florida	77.44	127	LR	LR	20 14 15.7	
	comp=Z,46nm,19.1s,baz=204,slow=33						
SUR	Sutherland	81.20	195	LR	LR	20 18 55.2	
	comp=Z,48nm,18.1s,baz=174,slow=35						
BOSA	Boshof	84.37	200	LR	LR	20 21 56.6	
	comp=Z,43nm,18.1s,baz=184,slow=36						
ATAH	Atahualpa	87.13	101	LR	LR	20 15 17.2	
	comp=Z,36nm,18.3s,baz=214,slow=30						
TSUM	Tsumeb	94.58	194	LR	LR	20 26 31.0	
	comp=Z,78nm,18.2s,baz=155,slow=35						
JTS	Las Juntas de	100.21	88	LR	LR	20 20 26.2	
	comp=Z,102nm,21.9s,baz=214,slow=29						
TORD	Torodi Ar. Bea	127.45	179	PKP	PKPdf	19 50 47.0	-1.6
	0.5nm,0.7s,baz=232,slow=3.5,SNR=2.2						
ILAR	Eielson Array	132.06	17	PKP	PKiKP	19 50 55.6	-1.2
	0.4nm,0.8s,baz=212,slow=3.2,SNR=3.1						
BRTR	Keskin Array B	148.58	229	PKPbc	PKPbc	19 51 30.1	-0.1
	0.7nm,0.8s,baz=182,slow=6.5,SNR=2.5						
ESDC	Sonseca Array	153.59	168	PKP	PKPdf	19 51 33.5	-0.5
	0.4nm,0.9s,baz=175,slow=1.0,SNR=1.8						

*BYKL **06** 19:38:16.1±0.1, 54°.88N×111°.73E, h7km±3km*

*IDC **06** 19:38:17.2±1.0, 54°.72N×111°.88E, h0km, mb3.3/6, mbtmp3.5/9, ML3.4/4, Error ellipse: s-maj=22.0km s-min=15.4km az=151.0*

ISC 06 19:38:17.1±0.5, 54°.92N±0°.03×111°.85E±0°.02, h10km, n44, σ2s37/104, mb3.4/4, 4C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YLYR	Ulyunkhan	0.40	264	⇓iPg	Pg	19 38 22.2	-2.8
	985nm,0.3s						
YLYR				⇓iPg	Pg	19 38 22.2	-2.8
	4µm,0.3s						
YLYR				⇑iPg	Pg	19 38 22.2	-2.8
	4µm,0.3s						
YLYR				eSg	Sg	19 38 26.8	-3.4
YLYR				Pmax			
	3µm,0.2s						
YLYR				Smax			
	6µm,0.4s						
KMO	Kumora	1.04	339	⇑iPg	Pg	19 38 34.6	-2.4
KMO				e		19 38 38.1	
KMO				eSg	Sg	19 38 48.6	-1.9
KMO				e		19 38 57.1	
KMO				max			
	311nm,0.3s						
KMO				Smax			
	1µm,1.2s						
UKT	Uakit	1.17	60	⇑iPg	Pb	19 38 38.1	-1.4
UKT				eSg	Sb	19 38 54.9	+0.2
UKT				e		19 38 59.1	
UKT				Pmax			
	168nm,0.2s						
UKT				max			
	3µm,0.4s						
YOA	Uoyan	1.22	357	ePg	Pn	19 38 38.9	-1.3
YOA				e		19 38 41.2	
YOA				eSg	Sg	19 38 55.9	-0.4
YOA				e		19 39 01.8	
YOA				max			
	1µm,0.2s						
YOA				max			
	4µm,0.5s						
SVKR	Severomuysk	1.54	38	ePg	Pb	19 38 46.0	+0.1
SVKR				eSg	Sg	19 39 08.1	+1.3
SVKR				Pmax			
	452nm,0.3s						
SVKR				Smax			
	3µm,0.3s						
NIZB	Nizh Angarsk	1.57	304	ePg	Pn	19 38 43.7	-1.3
NIZB				eSg	Sn	19 39 03.6	-1.8
NIZB				e		19 39 07.4	
NIZB				Pmax			
	127nm,0.3s						
NIZB				max			
	1µm,0.2s						
SYVR	Suvo	1.67	221	⇑iPg	Pn	19 38 45.0	-1.3
SYVR				eSg	Sn	19 39 06.8	-1.0
SYVR				Pmax			
	169nm,0.5s						
SYVR				Smax			
	728nm,0.5s						
MXMB	Maximikha	2.47	229	ePg	Pn	19 38 58.8	+1.4
MXMB				eSg	Sb	19 39 30.7	-1.3
NLYR	Nelyaty	2.69	53	⇓iPn	Pn	19 39 01.3	+0.8
NLYR				ePg	Pb	19 39 05.2	-0.2
NLYR				eSg	Sg	19 39 42.2	-1.3
NLYR				eSgSg	SnSn	19 39 49.2	+5.3
NLYR				Pmax			
	73nm,0.6s						
NLYR				max			
	760nm,1.0s						
OGRR	Ongureny	2.80	245	ePn	Pn	19 39 00.8	-1.2
OGRR				ePg	Pb	19 39 04.8	-2.4
OGRR				eSn	Sn	19 39 33.3	-2.5
OGRR				eSg	Sb	19 39 40.3	-1.3
OGRR				Pmax			
	62nm,0.5s						
OGRR				Smax			
	226nm,0.4s						
CIT	Chita	3.08	160	ePn	Pn	19 39 04.6	-1.2
CIT				ePg	Pb	19 39 10.5	-1.5
CIT				ePgPg	PnPn	19 39 13.0	0.0
CIT				e		19 39 14.3	
CIT				eSg	Sb	19 39 51.3	+1.7
CIT				max			
	79nm,0.3s						
CIT				Smax			
	601nm,0.2s						
KELR	Kotokel	3.11	227	ePn	Pn	19 39 05.2	-1.0
KELR				ePg	Pb	19 39 10.5	-1.9
KELR				eSg	Sb	19 39 49.6	-0.8
BOD	Bodaibo	3.14	22	ePn	Pn	19 39 06.7	+0.1
BOD				ePg	Pb	19 39 13.8	+0.8
BOD				ePgPg	Pg	19 39 16.1	-1.2
BOD				eSn	Sn	19 39 44.7	+0.5
BOD				e		19 39 53.4	
BOD				eSg	Sg	19 39 55.0	-3.0
BOD				max			
	49nm,0.8s						
BOD				Smax			
	331nm,0.3s						
TRG	Tyrgan	3.91	239	ePn	Pn	19 39 15.8	-1.4
TRG				ePg	Pb	19 39 24.4	-1.7
TRG				eSg	Sb	19 40 14.2	+0.7
TRG				Pmax			
	38nm,1.3s						
TRG				Smax			
	141nm,0.4s						
UUDB	Ulan-Yde	3.95	221	ePn	Pn	19 39 16.9	-0.9
UUDB				e		19 39 18.9	
UUDB				ePg	Pb	19 39 25.7	-1.1
UUDB				eSg	Sb	19 40 16.3	+1.6
UUDB				Pmax			
	29nm,0.6s						
UUDB				Smax			
	226nm,0.8s						
CRS	Chara	4.12	59	ePn	Pn	19 39 21.3	+1.2
CRS				e		19 39 24.9	
CRS				ePg	Pb	19 39 30.7	+1.0
CRS				eSg	Sg	19 40 26.1	-3.3
CRS				Pmax			
	62nm,1.1s						
CRS				Smax			
	227nm,1.4s						
FFNB	Fofonovo	4.18	229	ePn	Pn	19 39 20.6	-0.4
FFNB				eSg	Sb	19 40 23.8	+2.5
KAB	Kabansk	4.23	229	eSg	Sb	19 40 24.4	+1.8
KAB				Smax			
	563nm,1.4s						
HRMR	Khuramsha	4.42	224	ePn	Pn	19 39 23.6	-0.5
HRMR				ePg	Pb	19 39 34.1	-0.6
HRMR				eSg	Sb	19 40 31.4	+3.4
HRMR				Pmax			
	56nm,0.7s						
HRMR				Smax			
	396nm,0.6s						
VTMR	Vitim	4.55	5	ePn	Pn	19 39 24.9	-1.0
VTMR				ePg	Pb	19 39 37.9	+1.0
VTMR				eSg	Sg	19 40 38.9	-4.1
VTMR				e		19 40 39.6	
TUP	Tupik	4.73	93	ePn	Pn	19 39 28.7	+0.2
TUP				e		19 39 32.4	
TUP				ePg	Pb	19 39 41.9	+1.8
TUP				eSn	Sn	19 40 22.5	-0.9
TUP				eSg	Sg	19 40 45.4	-3.5
TUP				Pmax			
	31nm,0.3s						
TUP				Smax			
	265nm,0.8s						
BGT	Bolshoye Golou	4.80	236	ePn	Pn	19 39 27.2	-2.3
BGT				ePg	Pb	19 39 41.1	-0.2
BGT				eSg	Sb	19 40 42.0	+2.9
BGT				Pmax			
	31nm,1.9s						
BGT				Smax			
	82nm,0.9s						
KHNR	Khani	4.99	63	ePn	Pn	19 39 33.8	+1.7
KHNR				e		19 39 36.8	
KHNR				ePg	Pb	19 39 46.9	+2.3
KHNR				eSn	Sn	19 40 29.6	-0.3
KHNR				e		19 40 34.1	
KHNR				eSg	Sg	19 40 52.7	-4.6
LSTR	Listvyanka	5.19	237	ePn	Pn	19 39 33.9	-0.9
LSTR				ePg	Pb	19 39 48.4	+0.5
LSTR				e		19 40 50.4	
LSTR				eSg	Sb	19 40 54.6	+4.3
LSTR				Pmax			
	21nm,1.6s						
LSTR				Smax			
	55nm,1.4s						
KPC	Khapcheranga	5.24	176	ePn	Pn	19 39 34.8	-0.7
KPC				e		19 39 39.9	
KPC				ePg	Pb	19 39 49.4	+0.7
KPC				e		19 39 55.3	
KPC				eSg	Sb	19 40 56.5	+4.9
KPC				max			
	39nm,1.5s						
KPC				Smax			
	148nm,1.6s						
IRK	Irkutsk	5.25	242	eSg	Sb	19 40 56.8	+4.9
IRK				Smax			
	208nm,0.5s						
IVK	Ivanovka	5.44	238	ePn	Pn	19 39 37.4	-0.8
IVK				ePg	Pb	19 39 53.1	+1.0
IVK				e	Sb	19 40 59.9	+2.6
IVK				eSg	Sb	19 40 59.9	+2.6
IVK				Pmax			
	24nm,1.0s						
IVK				Smax			
	67nm,0.6s						
YKLR	Yuktali	5.79	69	ePn	Pn	19 39 43.0	+0.1
YKLR				eSg	Sg	19 41 17.3	-5.4
TLY	Talaya	5.89	240	ePn	Pn	19 39 43.7	-0.7
TLY				ePg	Pb	19 39 59.8	0.0
TLY				eSg	Sb	19 41 14.3	+3.9
TLY				Pmax			
	15nm,1.5s						
TLY				Smax			
	50nm,1.0s						
ARS	Arshan	6.38	246	ePn	Pn	19 39 50.8	-0.4
ARS				ePg	Pb	19 40 09.1	+0.8
ARS				e		19 41 21.2	
ARS				eSg	Sb	19 41 31.1	+6.5
ARS				Pmax			
	22nm,0.6s						
ARS				Smax			
	276nm,0.8s						
ZAK	Zakamensk	6.91	232	ePn	Pn	19 39 56.2	-2.3
ZAK				ePg	Pb	19 40 18.3	+1.0
ZAK				eSg	Sb	19 41 47.1	+7.3
ZAK				Pmax			
	9.0nm,1.2s						
ZAK				Smax			
	36nm,0.8s						
MOY	Mondy	7.27	248	ePn	Pn	19 40 03.1	-0.4
MOY				ePg	Pb	19 40 25.7	+2.3
MOY				e		19 41 28.0	
MOY				e		19 41 55.8	
MOY				eSg	Sb	19 41 59.0	+8.8
MOY				e		19 42 09.7	
MOY				Pmax			
	35nm,1.4s						
MOY				max			
	85nm,1.3s						
ORL	Orlik	7.53	256	ePn	Pn	19 40 06.8	-0.2
ORL				ePg	Pb	19 40 30.2	+2.4
ORL				e		19 41 30.1	
ORL				eSg	Sb	19 42 06.9	+9.4
ORL				Pmax			
	16nm,1.5s						
ORL				Smax			
	83nm,1.2s						
CLNS	Chul'man	7.59	70	ePn	Pn	19 40 09.8	+2.1
CLNS				eSg	Sg	19 42 13.1	-7.3
SONM	Songino Array	7.87	208	Pn	Pn	19 40 11.1	-0.5
	1.1nm,0.3s,baz=24,slow=12,SNR=20						
SONM				Sn	Sn	19 41 40.2	-0.6
	0.4nm,0.3s,baz=38,slow=22,SNR=1.3						
SONM				Lg	Lg	19 42 20.3	
	1.5nm,0.3s,baz=23,slow=26,SNR=9.6						
	1.6nm,0.3s						
YAK	Yakutsk	11.71	45	Pn	Pn	19 41 03.3	-0.7
	baz=214,slow=5.0,SNR=1.7						
YAK				Lg	Lg	19 44 18.7	
	0.1nm,0.3s,baz=204,slow=21,SNR=2.0						
KLR	Kul'dur	13.48	107	Pn	Pn	19 41 27.9	-0.3
	0.1nm,0.3s,baz=316,slow=18,SNR=2.0						
KLR				Lg	Lg	19 45 20.8	
	0.1nm,0.3s,baz=353,slow=17,SNR=3.6						
	0.6nm,0.5s						
ZALV	Zalesovo Beam	15.72	278	Pn	Pn	19 41 58.8	+0.3
	0.1nm,0.3s,baz=81,slow=11,SNR=6.8						
	2.2nm,0.9s						
MKAR	Makanchi Array	20.23	259	P	Pn	19 42 53.4	-0.6
	0.4nm,0.7s,baz=57,slow=7.3,SNR=3.8						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	20.49	272	P	Pn	19 42 57.7	+0.7
	0.7nm,0.3s,baz=65,slow=11,SNR=1.4						
	0.7nm,0.3s						
BVAR	Borovoye Array	24.21	283	P	P	19 43 36.3	+2.7
	0.7nm,0.7s,baz=77,slow=9.4,SNR=3.6						
	0.7nm,0.7s						
MJAR	Matsushiro Arr	25.76	125	P	P	19 43 49.6	+1.8
	0.7nm,0.6s,baz=309,slow=9.6,SNR=1.8						
	0.7nm,0.6s						
ILAR	Eielson Array	46.42	35	P	P	19 46 44.2	+0.9
	0.4nm,0.8s,baz=302,slow=9.6,SNR=4.2						
	0.4nm,0.8s						
WRA	Warramunga Arr	77.00	158	P	P	19 50 10.4	+0.6
	0.2nm,0.9s,baz=354,slow=6.6,SNR=1.4						
	0.2nm,0.9s						

*NEIC **06** 19:39:50.6±1.0, 36°.20N±0°.01×98°.78W±0°.01, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.1km az=275.0*

TUL 06 19:39:51.3±1.1, 36°.21N±0°.01×98°.77W±0°.02, h7km±4km, ML2.5, mb_Lg2.2/11(NEIC), ML2.4/16(NEIC), Error ellipse: s-maj=1.9km s-min=1.7km az=63.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.25	312	Pg	Pg	19 39 56.4	+0.2
U32A				Sg	Sg	19 39 59.0	-0.6
U32A				IAML		19 40 01.6	
	comp=N,310nm,0.1s						
U32A				IAML		19 40 01.9	
	comp=E,400nm,0.1s						
OK038	West end E0370	0.27	6	Pg	Pg	19 39 56.9	+0.3
OK038				Sg	Sg	19 40 01.4	+1.2
OK035	E0210 Rd and N	0.50	6	Pg	Pg	19 40 00.8	-0.1
OK035				IAML		19 40 12.0	
	comp=E,292nm,0.3s						
ELIS	Ellis County	0.54	254		Pg	19 40 02.0	+0.2
ELIS				IAML		19 40 14.3	
	comp=E,249nm,0.3s						
ELIS				IAML		19 40 18.9	
	comp=N,247nm,0.2s						
CSTR	Hydro, Custer	0.57	173	Pg	Pg	19 40 01.7	-0.6
CROK	Carrier	0.70	65		Pg	19 40 04.5	-0.3
CROK				IAML		19 40 26.2	
	comp=N,208nm,0.3s						
CROK				IAML		19 40 26.8	
	comp=E,205nm,0.2s						
OK032	Salt Plains WL	0.74	37		Pg	19 40 05.2	-0.5
OK032				Sg	Sg	19 40 14.8	-0.5
OK032				IAML		19 40 19.0	
	comp=E,218nm,0.1s						
GC02	Grant County #	0.97	49	Pg	Pg	19 40 09.5	-0.5
KAN14	Manchester OK	0.99	41	Pg	Pg	19 40 09.7	-0.6
KAN08	Anthony NE Sta	1.20	32	Pg	Pg	19 40 13.7	-0.6
KAN01	Argonia South	1.24	41	Pg	Pb	19 40 14.3	-0.9
KAN09	Caldwell North	1.31	45		Pn	19 40 15.5	-0.6
KAN13	South Haven SW	1.31	52		Pn	19 40 15.5	-0.6
KAN13				IAmb_Lg		19 40 34.0	
	comp=Z,36nm,0.9s						
BLOK	Blackwell	1.37	66		Pn	19 40 15.9	-1.0
KS21	Milan North St	1.40	39		Pn	19 40 17.0	-0.3
FNO	Franklin	1.47	130		Pn	19 40 17.9	-0.4
WMOK	Wichita Mounta	1.47	180		Pn	19 40 17.1	-1.2
OK048	Pawnee Station	1.49	82		Pn	19 40 17.3	-1.3
OK033	Mehan	1.50	96		Pn	19 40 17.9	-0.7
SMWD	Samnorwood	1.63	228		Pn	19 40 20.2	-0.3
OK030	Cody Creek RV	1.64	99		Pn	19 40 19.8	-0.8
QUOK	Quay	1.67	91		Pn	19 40 20.5	-0.6
W35A	Tecumseh	1.87	124	Pn	Pn	19 40 23.2	-0.6
T35A	Sooner Cattle	1.95	68	Pn	Pn	19 40 24.4	-0.5
T35A				IAmb_Lg		19 40 57.3	
	comp=Z,10nm,0.7s						
R32A	Long Quarter,	2.21	1	Pn	Pn	19 40 27.6	-0.8
R32A				IAmb_Lg		19 41 01.0	
	comp=Z,11nm,0.8s						
TUL3	Leonard	2.44	96	IAmb_Lg		19 41 08.2	
	comp=Z,8.2nm,0.8s						
WTFS	Witchita Falls	2.45	174	Pn	Pn	19 40 31.0	-0.8
WTFS				IAmb_Lg		19 41 14.8	
	comp=Z,6.3nm,0.9s						
DKNS	Dickens	3.09	215		Pn	19 40 40.4	-0.3
DKNS				IAmb_Lg		19 41 31.6	
	comp=Z,8.4nm,0.8s						
POST	Post	3.86	216	IAmb_Lg		19 41 59.8	
	comp=Z,5.1nm,0.8s						

*IDC **06** 19:48:15.9±0.8, 22°.59S×171°.51E, h0km, mb4.0/10, mbtmp4.0/12, ML3.7/2, Error ellipse: s-maj=23.9km s-min=21.9km az=178.0*

*NEIC **06** 19:48:22.0±2.1, 22°.7S±0°.2×171°.5E±0°.1, h35km±2km, mb4.2/7, Error ellipse: s-maj=28.4km s-min=17.7km az=11.0*

ISC 06 19:48:21.1±0.7, 22°.6S±0°.1×171°.53E±0°.08, h35km, n32, σ1s05/37, mb4.2/14, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	3.44	289	Pn	Pn	19 49 12.4	+0.2
PINNC	Pines Island,	3.77	269	Pn	Pn	19 49 16.9	+0.2
PINNC				Sn	Sn	19 50 00.1	+0.1
OUENC	Ouen Island, N	4.34	272		Pn	19 49 25.0	+0.4
LIFNC	LIFOU	4.39	294	Pn	Pn	19 49 26.9	+1.6
ONTNC	Ouen Toro	4.70	273	Pn	Pn	19 49 30.7	+1.0
ONTNC					Sn	19 50 21.8	-1.2
DZM	Mont Dzumac	4.74	276		Pn	19 49 30.4	+0.2
DZM				Sn	Sn	19 50 25.4	+1.4
DZM	Mont Dzumac	4.74	276	Pn	Pn	19 49 30.4	+0.2
	6.3nm,0.3s,baz=127,slow=23,SNR=35						
DZM				Sn	Sn	19 50 24.6	+0.6
	8.0nm,0.3s,baz=60,slow=20,SNR=3.7						
	15nm,0.3s						
KOUNC	Koumac, New Ca	7.05	286	Pn	Pn	19 50 03.5	+1.6
URZ	Urewera	16.30	164	Pn	Pn	19 52 08.4	+1.1
	0.1nm,0.3s,baz=270,slow=20,SNR=3.6						
	8.7nm,0.9s						
STKA	Stephens Creek	28.08	244	P	P	19 54 09.0	-0.6
	0.6nm,0.4s,baz=35,slow=0.8,SNR=1.9						
	0.6nm,0.4s						
WR0	Warramunga Arr	34.51	267	P	P	19 55 05.2	-1.0
WR0				IAmb	IAmb	19 55 15.0	
	comp=Z,6.7nm,1.4s						
AS31	Alice Springs	34.54	261	P	P	19 55 07.2	+0.6
AS31				IAmb	IAmb	19 55 12.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,1.2nm,0.8s						
ASAR	Alice Springs	34.55	261	P	P	19 55 06.6	0.0
ASAR	Alice Springs	34.55	261	P	P	19 55 06.4	-0.2
	comp=Z,1.3nm,0.7s,baz=99,slow=9.8,SNR=17						
	comp=Z,1.3nm,0.7s						
WB0	Warramunga Arr	34.68	268	P	P	19 55 06.3	-1.5
WB0				IAmb	IAmb	19 55 38.9	
	comp=Z,5.5nm,1.1s						
WB2	Warramunga Arr	34.69	267	P	P	19 55 05.9	-1.9
WRAB	Tennant Creek	34.69	267	P	P	19 55 05.7	-2.1
WRAB				IAmb	IAmb	19 55 36.7	
	comp=Z,3.7nm,1.1s						
WRA	Warramunga Arr	34.70	267	P	P	19 55 06.0	-1.9
WRA	Warramunga Arr	34.70	267	P	P	19 55 06.6	-1.3
	comp=Z,0.5nm,0.4s,baz=96,slow=8.5,SNR=15						
	comp=Z,0.5nm,0.4s						
VNDA	Vanda	55.14	183	P	P	19 57 49.4	-0.1
VNDA				IAmb	IAmb	19 58 01.0	
	comp=Z,2.4nm,1.2s						
VNDA	Vanda	55.14	183	P	P	19 57 49.7	+0.1
	comp=Z,0.6nm,0.9s,baz=295,slow=12,SNR=2.1						
	comp=Z,0.6nm,0.9s						
MJAR	Matsushiro Arr	66.74	331	P	P	19 59 08.5	-0.4
	comp=Z,1.3nm,0.7s,baz=161,slow=6.0,SNR=2.5						
	comp=Z,1.3nm,0.7s						
QSPA	South Pole Qui	67.44	180	P	P	19 59 13.7	+0.6
	comp=Z,2.1nm,0.9s,baz=20,slow=5.2,SNR=4.3						
	comp=Z,2.1nm,0.9s						
CMAR	Chiang Mai Arr	81.83	294	P	P	20 00 38.8	+1.7
	comp=Z,1.2nm,0.3s,baz=132,slow=4.1,SNR=10						
	comp=Z,1.2nm,0.3s						
NVAR	Mina Array Bea	89.47	48	P	P	20 01 15.8	+0.8
	comp=Z,1.1nm,0.7s,baz=231,slow=6.6,SNR=7.9						
	comp=Z,1.1nm,0.7s						
SONM	Songino Array	91.20	322	P	P	20 01 21.8	-0.9
	comp=Z,1.4nm,1.0s,baz=147,slow=5.5,SNR=6.8						
	comp=Z,1.4nm,1.0s						
ILAR	Eielson Array	92.84	17	P	P	20 01 29.3	-0.3
	comp=Z,0.4nm,0.8s,baz=217,slow=5.2,SNR=2.6						
	comp=Z,0.4nm,0.8s						
EKA	Eskdalemuir Ar	147.10	354	PKPbc	PKPbc	20 07 59.4	-0.7
	comp=Z,1.2nm,0.4s,baz=23,slow=18,SNR=3.3						
ZVC	Zvikov	147.82	332	ePKP	PKPbc	20 08 02.8	+0.5
CKRC	Cesky Krumlov	148.22	331	ePKP	PKPbc	20 08 02.0	-1.4
KHC	Kasperske Hory	148.32	332	ePKP	PKPbc	20 08 03.3	-0.3
TORD	Torodi Ar. Bea	166.49	227	PKP	PKPdf	20 08 22.8	-0.9
	comp=Z,0.9nm,0.9s,baz=58,slow=3.7,SNR=4.2						
TORD				PKPab	PKPab	20 09 25.0	-0.6
	comp=Z,0.3nm,0.5s,baz=111,slow=6.3,SNR=1.7						

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*FUNV **06** 20:00:08.6, 10°.39N×72°.87W, h3km, MW3.0*
*RSNC **06** 20:00:09.3±1.3, 10°.25N×72°.92W, h3km±5km, ML2.2*
ISC 06 20:00:08.1±1.3**, 10°.25N**±0°.03×**72°.92W**±0°.03**, h12**km±11km**, n11,** σ**1s.24**/22**, 1D, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQV	Machiques	0.43	118⇓	eP	Pb	20 00 17.6	0.0
MCQV				eS	Sb	20 00 24.5	+0.5
LL6C	La Loma 6 Bece	0.62	214	eP	Pg	20 00 20.1	-0.1
LL6C				eS	Sg	20 00 28.7	+0.3
LL6C				i		20 00 29.5	
	comp=Z,81nm,0.3s						
CRJC	Cerrejon, Guaj	0.76	3	eP	Pg	20 00 22.8	-0.1
CRJC				eS	Sb	20 00 33.2	-0.5
CRJC				i		20 00 35.0	
	comp=Z,164nm,0.4s						
ARGC	Ariguani, Magd	1.36	253	eP	Pn	20 00 32.7	-0.3
ARGC				eS	Sn	20 00 51.1	0.0
ARGC				i		20 00 55.6	
	comp=Z,12nm,0.3s						
URIC	Uribia, Colomb	1.70	32	eP	Pb	20 00 39.2	-0.1
URIC				eS	Sb	20 01 01.5	+0.8
URIC				i		20 01 04.8	
	comp=Z,21nm,0.2s						
OCAC	Ocana	2.04	191	eP	Pb	20 00 44.4	-0.9
OCAC				eS	Sn	20 01 09.2	+1.2
OCAC				i		20 01 13.6	
	comp=Z,86nm,0.3s						
SJCC	San Jacinto, C	2.25	261	eP	Pn	20 00 46.9	+1.5
SJCC				eS	Sb	20 01 16.3	-0.5
SJCC				i		20 01 19.2	
	comp=Z,3.4nm,0.3s						
CAPV	Capacho	2.45	166	eP	Pb	20 00 51.0	-1.3
CAPV				eS	Sb	20 01 21.8	-0.7
SOCV	Socops	2.83	134	eP	Pn	20 00 55.2	+2.1
SOCV				eS	Sn	20 01 28.7	+1.6
CURV	Curarigua	2.92	94	eP	Pn	20 00 55.3	+0.8
CURV				eS	Sn	20 01 28.6	-1.0
BAUV	El Baul	4.98	105	eP	Pn	20 01 22.9	+0.1
BAUV				eS	Sn	20 02 17.1	-3.3

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*IDC **06** 20:17:28.3±1.6, 2°.32N×127°.84E, h0km, mb3.6/5, mbtmp3.6/5, MS3.2/2, Error ellipse: s-maj=143.0km s-min=20.1km az=68.0*
*DJA **06** 20:17:30.1±0.4, 2°N±2°×12°8E±°, h10km, M4.1/11, mb4.3/2, MLv4.0/11*
ISC 06 20:17:34.1±1.2**, 2°.43N**±0°.07×**128°.18E**±0°.09**, h51**km**, n19,** σ**1s.00**/14**, mb3.7**/5**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.84	206	P	Pn	20 18 01.8	-1.5
TNTI				S	Sn	20 18 26.3	+0.9
SGSI	Sangihe	2.93	295	P	Pn	20 18 16.8	-1.3
SGSI				S	Sn	20 18 52.5	+0.4
LBMI	Labuha	3.13	193	P	Pn	20 18 19.7	-1.2
LBMI				S	Sn	20 18 57.8	+0.8
SWI	Sorong	4.50	137	P	Pn	20 18 38.7	-1.0
KMSI	Cibinong	4.59	246	P	Pn	20 18 40.1	-0.8
SANI	Sanana	4.96	206	P	Pn	20 18 45.5	-0.6
DAV	Davao City (W)	5.29	331	LR	LR	20 21 06.6	
	comp=Z,117nm,18.0s,baz=116,slow=42						
WRA	Warramunga Arr	23.05	165	P	P	20 22 34.9	-0.3
	0.6nm,0.5s,baz=343,slow=10,SNR=12						
	0.6nm,0.5s						
ASAR	Alice Springs	26.54	168	P	P	20 23 07.6	+0.4
	0.4nm,0.5s,baz=353,slow=7.8,SNR=4.4						
	0.4nm,0.5s						
H11S3	WAKE ISLAND Hy	40.95	64	T	T	21 08 53.7	
	baz=251,slow=75,SNR=17						
H11S2	WAKE ISLAND Hy	40.97	64	T	T	21 08 46.9	
	baz=251,slow=75,SNR=8.6						
H11S1	WAKE ISLAND Hy	40.97	64	T	T	21 08 48.1	
	baz=251,slow=75,SNR=9.8						
H11N1	WAKE ISLAND Hy	41.53	63	T	T	21 09 01.6	
	baz=250,slow=75,SNR=25						
H11N2	WAKE ISLAND Hy	41.54	63	T	T	21 09 02.9	
	baz=250,slow=75,SNR=8.7						
H11N3	WAKE ISLAND Hy	41.55	63	T	T	21 09 27.3	
	baz=250,slow=75,SNR=19						
MKAR	Makanchi Array	59.44	325	P	P	20 27 32.7	+1.0
	0.8nm,0.5s,baz=119,slow=8.4,SNR=23						
	0.8nm,0.5s						
ZALV	Zalesovo Beam	62.39	333	P	P	20 27 51.8	+0.3
	0.3nm,0.4s,baz=122,slow=7.0,SNR=1.5						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	63.60	327	P	P	20 28 00.5	+0.8
	0.8nm,0.6s,baz=128,slow=6.0,SNR=12						
	0.8nm,0.6s						
OPO	Ambohidratompo	82.24	251	LR	LR	21 02 41.1	
	comp=Z,33nm,21.8s,baz=355,slow=33						

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*IDC **06** 20:23:36.9±1.6, 44°.15N×105°.78W, h0km, mbtmp3.4/5, ML3.3/5, Error ellipse: s-maj=59.4km s-min=9.2km az=146.0*
*NEIC **06** 20:23:37.1±1.4, 43°.75N±0°.05×105°.27W±0°.03, h0km±2km, ML3.1/59, Error ellipse: s-maj=8.7km s-min=3.1km az=22.0*
ISC 06 20:23:35.9±1.1**, 43°.74N**±0°.06×**105°.24W**±0°.05**, h0**km**, n33,** σ**1s.20**/32**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.95	66	Pg	Pb	20 23 55.2	-0.2
K22A	Casper	1.44	221		Pn	20 24 02.2	-1.2
PHWY	Pilot Hill	2.44	184		Pn	20 24 17.9	+0.6
PHWY				IAML		20 24 58.0	
	70nm,0.3s						
PHWY				IAML		20 25 00.9	
	64nm,0.3s						
RWWY	Rawlins	2.51	216		Pn	20 24 19.6	+1.4
RWWY				IAML		20 24 55.7	
	112nm,0.5s						
RWWY				IAML		20 24 58.1	
	121nm,0.6s						
N23A	Red Feather La	2.89	191	Pn	Pn	20 24 24.8	+1.4
N23A				IAML		20 25 09.9	
	comp=N,75nm,0.4s						
N23A				IAML		20 25 13.3	
	comp=E,51nm,0.4s						
LAO	LASA Array	3.03	347		Pn	20 24 26.9	+1.8
RLMT	Red Lodge	3.20	297	Pn	Pn	20 24 27.7	+0.1
RLMT				IAML		20 25 19.1	
	comp=E,55nm,0.3s						
RLMT				IAML		20 25 24.4	
	comp=E,51nm,0.3s						
PD31	Pinedale Array	3.30	254		Pn	20 24 29.1	+0.1
PDAR	Pinedale Array	3.30	254	Pn	Pn	20 24 29.1	+0.1
	comp=E,3.6nm,0.3s,baz=70,slow=16,SNR=72						
PDAR				Pg	Pb	20 24 35.0	-0.5
	comp=E,16nm,0.3s,baz=67,slow=19,SNR=63						
PDAR				Lg	Lg	20 25 14.1	
	comp=E,2.7nm,0.3s,baz=75,slow=28,SNR=1.9						
	comp=E,3.1nm,0.3s						
BW06	Boulder Array	3.30	254		Pn	20 24 29.1	0.0
BW06				IAML		20 25 18.3	
	comp=E,44nm,0.3s						
BW06				IAML		20 25 23.8	
	comp=E,40nm,0.4s						
OGNE	Ogallala	3.67	139		Pn	20 24 35.0	+1.1
YMP	Mirror Lake Pl	3.67	287		Pn	20 24 34.4	+0.2
LOHW	Long Hollow	3.89	270		Pn	20 24 37.8	+0.6
H17A	Grant Village	3.90	281	Pn	Pn	20 24 39.6	+2.3
H17A				IAML		20 25 40.1	
	comp=E,21nm,0.3s						
H17A				IAML		20 25 40.5	
	comp=N,24nm,0.4s						
ISCO	Idaho Springs	3.95	184		Pn	20 24 38.9	+0.9
FLWY	Flagg Ranch	3.96	277	Pn	Pn	20 24 38.6	+0.6
FLWY				IAML		20 25 19.6	
	comp=N,18nm,5.0s						
FLWY				IAML		20 25 44.9	
	comp=N,20nm,2.5s						
MOOW	Moose Ponds	3.99	272		Pn	20 24 40.2	+1.7
REDW	Red Top Meadow	4.10	267	Pn	Pn	20 24 40.6	+0.6
IMW	Indian Meadow	4.13	274		Pn	20 24 41.8	+1.4
IMW				IAML		20 25 48.8	
	comp=N,22nm,0.4s						
TPAW	Teton Pass	4.16	269		Pn	20 24 41.6	+0.8
TPAW				IAML		20 26 15.2	
	comp=N,18nm,1.1s						
YHH	Holmes Hill	4.16	287		Pn	20 24 43.0	+2.0
O20A	White River Ci	4.24	213	Pn	Pn	20 24 43.0	+1.1
O20A				IAML		20 26 29.3	
	comp=N,23nm,4.1s						
AHID	Auburn Hatcher	4.39	259	IAML		20 25 56.4	
	comp=N,23nm,0.6s						
YHL	Hebgen Lake	4.41	287	IAML		20 26 03.8	
	comp=E,21nm,0.8s						
YHL				IAML		20 26 12.4	
	comp=N,13nm,1.2s						
DGMT	Dagmar	4.79	8	Pn	Pn	20 24 50.9	+1.6
BOZ	Bozeman (W)	4.92	294		Pn	20 24 51.0	-0.3
BOZ				IAML		20 26 02.9	
	comp=N,11nm,4.8s						
BOZ				IAML		20 26 07.0	
	comp=N,14nm,4.5s						
HWUT	Hardware Ranch	5.13	248	Pn	Pn	20 24 54.3	+0.2
BSUT	Blindstream Ca	5.21	234	Pn	Pn	20 24 56.3	+1.0
BSUT				IAML		20 26 31.0	
	comp=N,9.1nm,3.0s						
BSUT				IAML		20 26 48.1	
	comp=E,9.8nm,4.7s						
HMU	Henry Mountain	7.14	218		Pn	20 25 21.9	+0.1
ELK	Elko	8.00	251	Pn	Pn	20 25 34.7	+1.2
	comp=E,0.6nm,0.3s,baz=81,slow=11,SNR=11						
	comp=E,1.0nm,0.3s						
ULM	Lac du Bonnet	9.12	41	Pn	Pn	20 25 47.5	-1.2
	comp=E,0.6nm,0.3s,baz=238,slow=13,SNR=5.0						
ULM				Lg	Lg	20 28 17.0	
	comp=E,0.6nm,0.3s,baz=31,slow=18,SNR=2.0						
	comp=E,1.5nm,0.3s						
NVAR	Mina Array Bea	11.19	246	Pn	Pn	20 26 20.0	+2.7
	comp=E,0.1nm,0.3s,baz=45,slow=12,SNR=2.3						
	comp=E,0.4nm,0.6s						
YBH	Yreka Blue Hor	13.00	267	Pn	Pn	20 26 41.7	-0.2
	comp=E,0.2nm,0.3s,baz=56,slow=11,SNR=1.7						
	comp=E,0.5nm,0.3s						

IDC 06 20:28:13.5±2.3**, 4°.45S**×**152°.55E, h0**km**, mb3.3**/3**, mbtmp3.3**/3**, Error ellipse: s-maj=164.9km s-min=31.4km az=127.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.50	228	P	P	20 33 23.8	-1.4
	0.3nm,0.3s,baz=53,slow=9.7,SNR=13						
	0.3nm,0.3s						
ASAR	Alice Springs	26.25	222	P	P	20 33 52.0	+1.4
	0.2nm,0.3s,baz=56,slow=9.3,SNR=5.3						
	0.2nm,0.3s						
ILAR	Eielson Array	81.93	22	P	P	20 40 34.9	+0.1
	0.3nm,0.9s,baz=240,slow=7.2,SNR=2.1						
	0.3nm,0.9s						

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*IDC **06** 20:29:19.7±3.6, 12°.31S×167°.62E, h0km, mb3.8/4, mbtmp3.7/4, Error ellipse: s-maj=165.5km s-min=29.8km az=140.0*
ISC 06 20:29:24.9±3.4**, 12°.4S**±0°.8×**167°.6E**±0°.7**, h35**km**, n6,** σ**0s.80**/6**, mb3.7**/4**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.79	252	P	P	20 35 55.9	+0.8
	0.2nm,0.3s,baz=83,slow=9.2,SNR=5.0						
	0.2nm,0.3s						
ASAR	Alice Springs	33.88	246	P	P	20 36 04.4	-0.2
	0.2nm,0.4s,baz=68,slow=9.7,SNR=4.9						
	0.2nm,0.4s						
ILAR	Eielson Array	84.18	18	P	P	20 41 52.9	+0.7
	1.4nm,0.6s,baz=240,slow=5.5,SNR=27						
	1.4nm,0.6s						
MKAR	Makanchi Array	95.72	317	P	P	20 42 46.5	-0.7
	0.3nm,0.5s,baz=100,slow=6.6,SNR=5.5						
	0.3nm,0.5s						
ARCES	ARCESS Array B	118.04	346	PKP	PKPdf	20 48 07.0	-0.5
	1.6nm,0.9s,baz=46,slow=2.6,SNR=6.3						
ESDC	Sonseca Array	151.78	346	PKPab	PKPab	20 49 25.2	0.0
	0.4nm,0.7s,baz=9.2,slow=4.7,SNR=4.9						

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*NEIC **06** 20:29:24.2±0.3, 18°.92N±0°.06×68°.74W±0°.07, h10km±2km, ML2.6/10, Md3.2/5(RSPR), Error ellipse: s-maj=14.6km s-min=3.2km az=228.0*
*RSPR **06** 20:29:28.4, 18°.77N×68°.71W, h9km±2km, MD3.2/5*
ISC 06 20:29:24.3±1.4**, 18°.8N**±0°.2×**68°.75W**±0°.07**, h10**km**, n15,** σ**0s.51**/17**, 2C-2D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.46	131⇓	eP	Pb	20 29 35.1	+0.6
PCDR	Punta Cana, DR	0.46	131	eS	Sb	20 29 41.5	0.0
PCDR	Punta Cana, DR	0.46	131		Pb	20 29 35.1	+0.6
PCDR					Sb	20 29 41.5	0.0
PCDR	Punta Cana, DR	0.46	131	IAML		20 29 45.8	
	comp=N,315nm,1.1s						
CRPR	Cabo Rojo, PR	1.75	117⇑	eP	Pn	20 29 54.4	-0.4
CRPR				eS	Sn	20 30 16.2	-1.0
MLPR	Magueyes Islan	1.83	117⇓	eP	Pn	20 29 56.0	+0.2
MLPR	Magueyes Islan	1.83	117	eS	Sn	20 30 18.3	-0.7
MLPR	Magueyes Islan	1.83	117		Pn	20 29 56.0	+0.2
MLPR					Sn	20 30 18.3	-0.7
MLPR	Magueyes Islan	1.83	117	IAML		20 30 24.1	
	comp=N,48nm,3.1s						
MLPR				IAML		20 30 25.2	
	comp=E,47nm,2.8s						
AOPR	Arecibo Observ	1.95	104⇑	eP	Pn	20 29 57.6	+0.1
AOPR	Arecibo Observ	1.95	104	eS	Sn	20 30 21.6	-0.5
AOPR	Arecibo Observ	1.95	104		Pn	20 29 57.6	+0.1
AOPR					Sn	20 30 21.6	-0.5
AOPR	Arecibo Observ	1.95	104	IAML		20 30 30.8	
	comp=N,61nm,0.3s						
SDDR	Presa de Saban	2.41	274	Pn	Pn	20 30 03.6	-0.3
SDDR				Pg	Pg	20 30 10.7	+0.2
SDDR				IAML		20 30 27.8	
	comp=N,24nm,2.8s						
SJG	San Juan	2.57	106	Pn	Pn	20 30 06.1	+0.1
SJG				IAML		20 30 47.9	
	comp=N,28nm,2.1s						

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*DJA **06** 20:30:28.3±0.9, 3°N±3°×12°8E±°, h10km±6km, M4.1/8, mb4.3/1, MLv3.9/8*
*IDC **06** 20:30:30.3±2.9, 2°.41N×127°.91E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=265.8km s-min=23.8km az=68.0*
ISC 06 20:30:30.9±2.0**, 2°.8N**±0°.1×**127°.99E**±0°.09**, h35**km**, n10,** σ**0s.58**/9**, mb3.4**/4**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.11	197	P	Pn	20 31 03.5	-0.3
TNTI				S	Sn	20 31 29.4	+0.6
SGSI	Sangihe	2.61	290	P	Pn	20 31 10.5	-0.1
LBMI	Labuha	3.45	188	P	Pn	20 31 21.3	-0.9
KMSI	Cibinong	4.58	241	P	Pn	20 31 37.3	-0.4
SWI	Sorong	4.90	138	P	Pn	20 31 41.8	-0.3
FAKI	Fak Fak	7.10	143	P	Pn	20 32 12.2	-0.2
WRA	Warramunga Arr	23.45	165	P	P	20 35 37.4	+0.1
	0.6nm,0.9s,baz=343,slow=9.7,SNR=3.6						
	0.6nm,0.9s						
ASAR	Alice Springs	26.93	168	P	P	20 36 09.8	+0.6
	0.1nm,0.5s,baz=340,slow=7.9,SNR=2.8						
	0.1nm,0.5s						
MKAR	Makanchi Array	59.03	325	P	P	20 40 33.9	+6.5
	0.2nm,0.4s,baz=112,slow=8.4,SNR=6.6						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	63.19	327	P	P	20 41 02.9	+7.4
	0.8nm,0.2s,baz=125,slow=5.7,SNR=1.7						
	0.8nm,0.2s						

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*SJA **06** 20:46:27.8±2.2, 32°.10S×71°.70W, h67km±13km, ML4.7, MW4.4*
*VAO **06** 20:46:29.9±0.4, 31°.79S×71°.18W, h10km, mb4.7*
*IDC **06** 20:46:30.6±0.6, 32°.13S×71°.22W, h48km±4km, mb4.3/12, mbtmp4.5/16, MS3.6/28, Error ellipse: s-maj=18.4km s-min=14.9km az=83.0*
*NEIC **06** 20:46:30.9±1.5, 32°.17S±0°.02×71°.45W±0°.08, h54km±5km, mb4.8/118, Mwr4.6/49, Error ellipse: s-maj=10.0km s-min=2.2km az=98.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr9.71; Mθθ-2.56; Mφφ-7.15; Mrθ1.90; Mθφ3.93; Mφr-0.43; Fault plane solution: M0 9.76000×10^15 NP1:φs142.22000°, δ49.48000°, λ79.68000°. NP2:φs337.88000°, δ41.60000°, λ101.84000°. Principal axes: T 10.0034, Plg81.0000°, Azm356.0000°; N -0.5006, Plg8.0000°, Azm149.0000°; P -9.5029, Plg4.0000°, Azm240.0000°;*
*NEIC **06** 20:46:31, 32°.17S×71°.44W, h58km*
*GUC **06** 20:46:31.7±0.7, 32°.28S×71°.36W, h45km±6km, ML4.5*
ISC 06 20:46:29.9±0.5**, 32°.13S**±0°.03×**71°.49W**±0°.04**, h46**km±5km**, n265,** σ**1s.64**/217**, mb4.8**/72**, MS3.6**/23**, 6C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	Torpederas	0.91	188		Pn	20 46 47.1	+0.9
VA01				Sn	Sn	20 46 57.8	-0.4
VA01	Torpederas	0.91	188	i P	Pn	20 46 46.8	+0.6
VA01				eS	Sn	20 47 00.1	+1.9
VA01				IAML		20 47 01.1	
	comp=Z,15μm,0.9s						
VA01	Torpederas	0.91	188	i P	Pn	20 46 47.2	+0.9
VA01				eS	Sn	20 47 00.7	+2.4
VA01				IAML		20 47 01.7	
	comp=E,24μm,0.1s						
ROCH	El Roble	0.94	155⇑	iP	Pn	20 46 47.3	+0.4
ROCH			⇑	iP	Pn	20 46 47.3	+0.4
ROCH				eS	Sn	20 46 59.4	+0.1
ROCH				eS		20 46 59.8	
ROCH				IAML		20 47 00.6	
	comp=N,39μm,0.3s						
ROCH				IAML		20 47 01.0	
	comp=N,37μm,0.2s						
ROC1	El Roble	0.94	155		Pn	20 46 46.6	-0.4
ROC1				Sn	Sn	20 46 57.6	-1.8
CO02	Combarbal	1.01	25		Pn	20 46 48.7	+0.9
CO02				Sn	Sn	20 47 01.4	+0.4
CO02	Combarbal	1.01	25	i P	Pn	20 46 48.0	+0.2
CO02				eS	Sn	20 47 02.4	+1.5
CO02				IAML		20 47 03.0	
	comp=Z,31μm,0.8s						
VA03	San Esteban	1.02	129		Pn	20 46 47.9	0.0
MT02	Curacav	1.17	165		Pn	20 46 50.1	+0.3
MT02				Sn	Sn	20 47 01.8	-2.9
MT02	Curacav	1.17	165	i P	Pn	20 46 48.0	-1.9
MT02				IAML		20 47 14.7	
	comp=Z,4μm,0.5s						
MT02	Curacav	1.17	165	eP	Pn	20 46 50.2	+0.3
MT02				eS	Sn	20 47 04.5	-0.1
PEL	Peldehue	1.22	146		Pn	20 46 51.0	+0.4
PEL	Peldehue	1.22	146	i P	Pn	20 46 51.1	+0.5
PEL				eS	Sn	20 47 06.1	+0.1
PEL				IAML		20 47 07.9	
	comp=E,10μm,0.3s						
MT10	Hacienda Santa	1.40	145	eP	Pn	20 46 54.0	+0.8
MT10				eS	Sn	20 47 10.9	+0.4
MT10				IAML		20 47 13.5	
	comp=N,26μm,0.4s						
MT05	Renca	1.41	154		Pn	20 46 53.9	+0.6
MT05	Renca	1.41	154	i P	Pn	20 46 53.4	+0.1
MT05				IAML		20 47 15.1	
	comp=Z,5μm,0.7s						
MT05	Renca	1.41	154	eP	Pn	20 46 54.1	+0.9
MT05				eS	Sn	20 47 11.8	+1.1
MT05				IAML		20 47 13.2	
	comp=E,31μm,0.4s						
CO03	El Pedregal	1.45	28		Pn	20 46 54.9	+1.1
CO03	El Pedregal	1.45	28	i P	Pn	20 46 54.3	+0.4
CO03				eS	Sn	20 47 12.9	+1.1
CO03				IAML		20 47 15.3	
	comp=Z,14μm,0.4s						
MT14	Cerro Cal¡n	1.50	148	eP	Pn	20 46 55.5	+1.1
MT14				eS	Sn	20 47 13.3	+0.4
MT14				IAML		20 47 15.5	
	comp=E,26μm,0.7s						
VA05	Santo Domingo	1.53	184		Pn	20 46 55.5	+0.6
VA05	Santo Domingo	1.53	184	eP	Pn	20 46 55.7	+0.9
VA05				eS	Sn	20 47 17.2	+3.7
MT03	Universidad Ad	1.59	149		Pn	20 46 56.4	+0.7
MT03	Universidad Ad	1.59	149	i P	Pn	20 46 56.2	+0.4
MT03				IAML		20 47 23.2	
	comp=Z,7μm,0.2s						
MT15	Las Vizcachas	1.69	151	eP	Pn	20 46 58.0	+1.0
MT15				eS	Sn	20 47 18.2	+0.8
MT15				IAML		20 47 23.2	
	comp=N,14μm,0.1s						
MT09	Talagante	1.70	166		Pn	20 46 57.9	+0.7
MT04	Ro Olivares	1.71	139	eP	Pn	20 46 58.4	+0.9
MT04				eS	Sn	20 47 19.2	+0.9
MT04				IAML		20 47 25.1	
	comp=E,5μm,0.2s						
MT01	Popeta	1.75	173		Pn	20 46 58.6	+0.8
MT01	Popeta	1.75	173	i P	Pn	20 46 58.1	+0.4
MT01				eS	Sn	20 47 23.4	+4.6
MT01				IAML		20 47 25.8	
	comp=Z,6μm,0.8s						
MT01	Popeta	1.75	173	eP	Pn	20 46 58.9	+1.1
MT01				eS	Sn	20 47 22.8	+4.0
MT01				IAML		20 47 26.7	
	comp=E,13μm,0.6s						
MT08	Bocatoma Ro	1.81	137		Pn	20 47 00.2	+1.4
MT08	Bocatoma Ro	1.81	137⇑	iP	Pn	20 47 00.3	+1.4
MT08				eS	Sn	20 47 22.8	+2.2
MT08				IAML		20 47 25.9	
	comp=E,5μm,0.4s						
RTLS	Leoncito	1.89	81	i P	Pn	20 47 02.3	+2.3
RTLS				IAML		20 47 30.9	
	comp=Z,5μm,0.8s						
MT13	San Alfonso	1.91	148		Pn	20 47 01.0	+0.9
MT13	San Alfonso	1.91	148	eP	Pn	20 47 01.6	+1.6
MT13				eS	Sn	20 47 24.5	+1.6
BO04	La Punta	2.00	159		Pn	20 47 02.3	+1.0
LMEL	Las Melosas	2.03	148		Pn	20 47 02.7	+0.9
GO04	Tololo Observa	2.03	17		Pn	20 47 03.1	+1.2
GO04	Tololo Observa	2.03	17	i P	Pn	20 47 02.7	+0.8

GO04 IAML 20 47 38.7
comp=Z,17μm,0.4s
CO05 La Serena 2.21 6 Pn 20 47 05.3 +1.2
ARCO CERRO ARCO 2.28 109 *i* P Pn 20 47 08.8 +3.6
ARCO IAML 20 47 44.0
comp=Z,5μm,0.6s
BO01 Tunca 2.29 172 Pn Pn 20 47 05.8 +0.7
BO01 Tunca 2.29 172 *i* P Pn 20 47 05.5 +0.3
BO01 IAML 20 47 40.0
comp=Z,1μm,0.6s
ASAL Salagasta 2.29 102 *i* P Pn 20 47 09.0 +3.6
ASAL IAML 20 47 43.5
comp=Z,1μm,1.0s
DOCA Reserva Natura 2.37 61 *i* P Pn 20 47 08.9 +2.3
DOCA IAML 20 47 43.5
comp=Z,1μm,0.5s
AAGR Agrelo 2.44 114 *i* P Pn 20 47 11.0 +3.6
AAGR IAML 20 47 57.2
comp=Z,1μm,1.7s
CO01 Juntas del Tor 2.45 30 Pn 20 47 10.0 +2.3
CO01 Juntas del Tor 2.45 30 *i* P Pn 20 47 09.2 +1.6
CO01 IAML 20 47 45.0
comp=Z,3μm,0.6s
ZON Zonda 2.46 77 Pn Pn 20 47 10.3 +2.7
ZON Zonda 2.46 77 *i* P Pn 20 47 09.8 +2.2
ZON IAML 20 48 06.6
comp=Z,2μm,0.6s
RTCV Cerro Valdivia 2.52 85 *i* P Pn 20 47 11.8 +3.4
RTCV IAML 20 47 47.3
comp=Z,207nm,1.6s
ACCO Cerro Coronel 2.58 54 *i* P Pn 20 47 13.1 +3.6
AROD Rodeo 2.61 42 *i* P Pn 20 47 13.6 +3.8
BO02 Sierra Bellavi 2.73 168 Pn 20 47 12.9 +1.6
BO02 Sierra Bellavi 2.73 168 *i* P Pn 20 47 12.2 +0.9
BO02 IAML 20 47 54.5
comp=Z,3μm,0.6s
ACDV Cuesta del Vie 2.81 47 *i* P Pn 20 47 17.0 +4.4
ACDV IAML 20 48 08.5
comp=Z,1μm,1.1s
CFA Coronel Fontan 2.81 80 *i* P Pn 20 47 13.9 +1.5
CFA Coronel Fontan 2.81 80 P Pn 20 47 14.7 +2.2
baz=246,slow=15
CFA S Sn 20 47 47.0 +1.9
comp=Z,759nm,0.5s,baz=219,slow=21,SNR=3.4
CFA LR LR 20 48 33.6
comp=Z,2μm,21.4s,baz=272,slow=47
AVIZ Vizcacheras 2.84 119 *i* P Pn 20 47 16.6 +3.8
GO05 Huala 2.90 187 Pn Pn 20 47 13.7 +0.1
GO05 Huala 2.90 187 *i* P Pn 20 47 13.2 -0.4
GO05 IAML 20 48 10.0
comp=Z,1μm,1.1s
LCO Las Campanas 3.18 13 Pn Pn 20 47 18.5 +0.9
LCO Las Campanas 3.18 13 *i* P Pn 20 47 18.3 +0.6
LCO IAML 20 48 15.7
comp=Z,11μm,0.8s
AC05 El Transito 3.44 18 Pn 20 47 22.7 +1.5
AC05 El Transito 3.44 18 *i* P Pn 20 47 22.2 +1.1
AC05 IAML 20 48 22.1
comp=Z,3μm,1.4s
ML02 Panimavida 3.63 179 Pn Pn 20 47 24.3 +0.7
RFA San Rafael 3.65 137 *i* P Pn 20 47 25.5 +1.5
RFA IAML 20 48 34.2
comp=Z,462nm,0.7s
AVFE Valle Fertil 3.75 68 *i* P Pn 20 47 27.2 +2.0
AVFE IAML 20 48 18.9
comp=Z,2μm,0.9s
AC04 Llanos de Chal 3.92 5 Pn 20 47 28.3 +0.6
AC04 Llanos de Chal 3.92 5 *i* P Pn 20 47 27.6 -0.1
AC04 IAML 20 48 28.9
comp=Z,2μm,0.7s
ACHE Chepes 4.23 78 *i* P Pn 20 47 33.3 +1.3
VCA Vinchina 4.41 41 *i* P Pn 20 47 37.3 +2.8
VCA IAML 20 48 38.9
comp=Z,3μm,0.6s
APLL PUNTA DE LOS L 4.58 69 *i* P Pn 20 47 38.2 +1.4
APLL IAML 20 48 37.2
comp=Z,367nm,0.8s
GO03 Copiap 4.65 14 Pn 20 47 38.5 +0.8
GO03 Copiap 4.65 14 *i* P Pn 20 47 37.8 +0.2
GO03 IAML 20 48 58.8
comp=Z,2μm,0.6s
GO03 Copiap 4.65 14 *e*P Pn 20 47 38.5 +0.8
ACLC CERRO LA CRUZ 4.74 57 *i* P Pn 20 47 40.9 +1.8
ACLC IAML 20 48 43.8
comp=Z,2μm,0.5s
BI05 Punta Hualpn 4.82 196 Pn Pn 20 47 39.4 -0.6
AC06 Mina Casimiro 4.85 12 Pn Pn 20 47 40.6 +0.1
MRA San Martin 4.90 95 *i* P Pn 20 47 41.7 +0.6
MRA IAML 20 49 01.2
comp=Z,2μm,0.6s
H03N1 Juan Fernandez 6.39 256 P Pn 20 48 03.4 +2.2
baz=110,slow=74,SNR=126
H03N1 T T 20 54 40.5
baz=83,slow=73,SNR=1641
H03N3 Juan Fernandez 6.40 256 P Pn 20 48 03.4 +2.0
baz=279,slow=74,SNR=163
H03N3 T T 20 54 40.9
baz=83,slow=73,SNR=2313
H03N2 Juan Fernandez 6.40 256 P Pn 20 48 04.1 +2.7
H03N2 T T 20 54 42.2
baz=83,slow=73,SNR=2648
H03S3 Juan Fernandez 6.46 253 P Pn 20 48 03.2 +0.9
H03S3 T T 20 54 41.1
baz=84,slow=75,SNR=53
H03S1 Juan Fernandez 6.46 253 P Pn 20 48 03.3 +1.0
baz=314,slow=74,SNR=7.5
H03S1 T T 20 54 39.7
baz=84,slow=75,SNR=38
H03S2 Juan Fernandez 6.48 253 P Pn 20 48 03.6 +1.1
baz=106,slow=74,SNR=13
H03S2 T T 20 54 37.7
baz=84,slow=75,SNR=56
PLCA Paso Flores 8.62 175 P Pn 20 48 33.6 +1.5
comp=Z,0.6nm,0.3s,baz=342,slow=15,SNR=8.1
PLCA S Sn 20 50 15.3 +7.2
comp=Z,7.3nm,0.9s,baz=308,slow=16,SNR=1.7
PLCA LR LR 20 51 55.1
comp=Z,440nm,20.1s,baz=354,slow=38
LVC Limon Verde 9.75 14 Pn 20 48 46.1 -1.8
LVC Limon Verde 9.75 14 P Pn 20 48 45.7 -2.2
comp=Z,3.0nm,0.3s,baz=200,slow=15,SNR=2.4
LVC S Sn 20 50 39.2 +2.9
comp=Z,35nm,0.6s,baz=200,slow=15,SNR=3.9
LVC LR LR 20 52 51.8
comp=Z,344nm,21.4s,baz=201,slow=39
TRQA Tornquist 9.78 130 Pn Pn 20 48 47.7 -0.3
MECA Mercedes 11.80 80 *e*P Pn 20 49 13.5 -2.1
SCCA San Cayetano, 12.04 71 *e*P Pn 20 49 18.8 -0.1
PB11 IPOC Station P 12.42 8 Pn 20 49 25.7 +1.4
ITQB Itaqui 13.00 83 Pn Pn 20 49 29.6 -2.3
ITQB Itaqui 13.00 83 *e*P Pn 20 49 30.1 -1.9
CPUP Villa Florida 13.64 69 Pn Pn 20 49 38.0 -2.8
CPUP Villa Florida 13.64 69 *e*P Pn 20 49 39.3 -1.4
CPUP Villa Florida 13.64 69 P Pn 20 49 37.7 -3.0
comp=Z,6.1nm,0.9s,baz=241,slow=14,SNR=8.2
CPUP S Sn 20 52 05.0 -5.8
comp=Z,14nm,0.9s,baz=66,slow=20,SNR=1.7
CPUP LR LR 20 55 18.2
comp=Z,412nm,20.1s,baz=247,slow=39
PB16 IPOC Station P 13.85 8 P Pn 20 49 47.6 +3.4
RODS Rosario do Sul 14.05 87 *e*P Pn 20 49 44.2 -2.1
UNIS Unistalda (Bra 14.46 82 *e*P Pn 20 49 52.0 +0.1
ALGR Alto Alegre (B 16.26 83 *e*P Pn 20 50 15.3 +0.1
BBRB Robore, Bolivi 17.35 40 *e*P Pn 20 50 26.6 -2.3
BDQN Bodoquena, MS 17.58 52 *e*P Pn 20 50 30.7 -0.9
BBSD Serra de San D 17.84 36 *e*P Pn 20 50 34.4 -0.5
AQDB Aquidauana 18.28 54 *e*P Pn 20 50 40.2 0.0
PTGB Pitanga 18.60 72 *e*P Pn 20 50 43.6 -0.5
SIV San Ignacio 18.65 33 P P 20 50 42.8 -1.2
comp=Z,4.7nm,0.6s,baz=213,slow=9.2,SNR=19
SIV LR LR 20 59 14.8
comp=Z,314nm,18.8s,baz=286,slow=41
RVDE Rio Verde (Bra 19.79 53 *e*P Pn 20 50 57.0 -1.3
LDASE Londrina, Braz 19.99 69 *e*P P 20 50 57.8 -0.9
PTLB Pontes e Lacer 20.05 37 P P 20 50 59.5 +0.2
PTLB Pontes e Lacer 20.05 37 *e*P P 20 50 59.2 -0.1
NNA Nana 20.64 345 P P 20 51 06.4 +0.6
comp=Z,7.1nm,0.3s,baz=212,slow=13,SNR=2.0
NNA LR LR 20 57 22.2
comp=Z,158nm,21.6s,baz=176,slow=32
comp=Z,7.1nm,0.3s
PP1B Ponte de Pedra 20.84 50 *e*P P 20 51 07.5 -0.4
FRTB Fartura 21.26 71 *e*P P 20 51 11.7 -0.7
C2SB Chapadao do Su 21.41 56 *e*P P 20 51 14.0 0.0
VILB Vilhena 21.71 31 P P 20 51 16.6 -0.6
VILB IAmb IAmb 20 51 40.1
comp=Z,30nm,0.8s
VILB Vilhena 21.71 31 *e*P P 20 51 16.5 -0.8
ITRB Iturama 22.63 62 *e*P P 20 51 26.6 -0.4
ETMB Extrema 22.73 14 P 20 51 28.3 +0.2
ETMB IAmb IAmb 20 51 49.2
comp=Z,66nm,1.3s
ETMB Extrema 22.73 14 *e*P P 20 51 28.1 0.0
SPB Sao Paulo 22.87 74 *e*P P 20 51 30.1 +0.6
BB19B Bebedouro 23.25 67 *e*P P 20 51 32.5 -0.9
VAO Valinhos 23.52 73 *e*P P 20 51 35.4 -0.7
CZSB Cruzeiro do Su 24.30 357 P P 20 51 43.9 +0.8
CZSB IAmb IAmb 20 51 45.5
comp=Z,25nm,0.7s
SAML Samuel 24.32 20 P 20 51 42.7 -0.6
PARB Paraibuna 24.46 76 *e*P P 20 51 46.0 +1.2
IPMB Ipameri, GO 25.28 62 *e*P P 20 51 54.9 +2.7
ATAH Atahualpa 25.68 344 LR LR 21 00 19.2
comp=Z,68nm,21.7s,baz=216,slow=32
PMNB Patos De Minas 26.30 65 *e*P P 20 52 00.8 -0.6
BDFB Brasilia 26.92 58 P P 20 52 05.4 -1.7
BDFB IAmb IAmb 20 52 21.6
comp=Z,24nm,1.1s
BDFB Brasilia 26.92 58 P P 20 52 05.9 -1.2
comp=Z,11nm,0.9s,baz=237,slow=9.4,SNR=10
BDFB LR LR 21 03 53.1
comp=Z,410nm,20.5s,baz=177,slow=39
comp=Z,11nm,0.9s
TBTG Tabatinga, AM 27.83 3 P P 20 52 14.5 -0.5
TBTG Tabatinga, AM 27.83 3 *e*P P 20 52 16.2 +1.1
MCRA Macar, Loja 28.73 342 P P 20 52 23.9 +0.7
BOSC San Juan Bosco 29.57 346 P P 20 52 30.9 +0.2
JANB Januaria 30.02 62 *e*P P 20 52 34.0 -0.6
COHC Cochancay 30.39 345 P P 20 52 40.0 +2.2
MACA Manacapuru-AM 30.55 22 *e*P P 20 52 41.7 +2.5
RIB01 Linhares ES 30.66 73 *e*P P 20 52 42.6 +2.3
SMTB Santa Maria do 32.05 49 *e*P P 20 52 52.2 -0.3
OTAV Otavalo 32.85 347 *e*P P 20 53 03.0 +3.0
PMSA Palmer Station 33.00 174 *e*P P 20 53 08.2 +8.1
RPN Rapa Nui 33.16 269 LR LR 21 02 09.6
comp=Z,56nm,18.7s,baz=102,slow=28
MALB Monte Alegre 34.21 32 *e*P P 20 53 10.9 -0.4
BOAV Boa Vista 35.87 19 P P 20 53 24.6 -1.0
BOAV IAmb IAmb 20 53 25.9
comp=Z,10nm,0.7s
BOAV Boa Vista 35.87 19 *e*P P 20 53 25.0 -0.6
BOAV Boa Vista 35.87 19 *e*P P 20 53 25.2 -0.4
ORTC Ortega, Tolima 36.01 354 *e*P P 20 53 29.5 +2.7
MCPB Macapa, AP 36.54 34 *e*P P 20 53 30.8 -0.5
CHIC Chingaza 36.61 356 *e*P P 20 53 33.4 +1.1
ROSC El Rosal 36.86 355 P P 20 53 36.1 +1.7
comp=Z,10nm,0.4s,baz=310,slow=24,SNR=1.7
comp=Z,10nm,0.4s
GUY2C Guyana, Caldas 37.33 354 *e*P P 20 53 40.5 +2.0
CBOC Ciudad Bolivar 38.02 353 *e*P P 20 53 45.9 +1.9
PTBC PUERTO BERRIO, 38.55 355 *e*P P 20 53 46.5 -1.8
ZARC Zaragoza, Cauc 39.53 355 *e*P P 20 53 56.6 +0.2
APAC Apartado, Choc 40.10 352 *e*P P 20 54 12.1 +11
SDV Santo Domingo 40.79 1 LR LR 21 13 05.6
comp=Z,57nm,18.9s,baz=156,slow=39
BAUV El Baul 40.97 5 P P 20 54 07.5 -0.8
MDP Montagnes des 41.14 29 LR LR 21 12 49.0
comp=Z,175nm,19.0s,baz=180,slow=38
RCBR Riachuelo 42.28 59 LR LR 21 12 54.8
comp=Z,167nm,20.5s,baz=248,slow=38
PCRV Puerto La Cruz 42.57 10 LR LR 21 14 01.5
comp=Z,87nm,21.2s,slow=39
VNA3 Neumayer Olymp 50.92 158 ⇓P P 20 55 26.8 +0.6
comp=Z,6.0nm,0.6s
VNA2 Neumayer--Watz 51.56 158 ⇓P P 20 55 31.6 +0.7
comp=Z,7.9nm,0.7s,baz=282,slow=9.0
SNAA Sanae 53.15 158 P P 20 55 42.7 -0.1
SNAA IAmb IAmb 20 55 44.2
comp=Z,12nm,0.9s
SNAA Sanae 53.15 158 ⇓P P 20 55 43.4 +0.6
comp=Z,189nm,0.7s
SNAA Sanae 53.15 158 P P 20 55 42.7 -0.1
comp=Z,9.1nm,0.9s,baz=276,slow=5.8,SNR=19
SNAA LR LR 21 16 27.9
comp=Z,47nm,21.9s,baz=355,slow=34
comp=Z,9.1nm,0.9s
CMIG Matias Romero 53.83 332 LR LR 21 13 36.6
comp=Z,41nm,21.3s,baz=196,slow=30
TROLL Troll, Antarti 54.86 159 ⇓P P 20 55 56.0 +0.7
comp=Z,411nm,0.7s
VNDA Vanda 66.03 191 P 20 57 11.6 +0.3
VNDA Vanda 66.03 191 P P 20 57 12.2 +1.0
comp=Z,0.7nm,0.8s,baz=90,slow=5.1,SNR=3.1
comp=Z,0.7nm,0.8s
HNDO Hondo 66.75 334 IAmb IAmb 20 57 19.0
comp=Z,12nm,0.6s
TBI Tubuai 68.22 255 *e*LR LR 21 17 49.7
comp=Z,690nm,26.8s
W50A Signal Mountai 68.22 348 IAmb IAmb 20 57 26.6
comp=Z,14nm,0.9s
BRDY Brady 68.23 335 IAmb IAmb 20 57 27.7
comp=Z,5.3nm,0.7s
SAND Sanderson 68.24 332 IAmb IAmb 20 57 28.4
comp=Z,19nm,1.2s
TXAR Lajitas Array 68.34 330 P P 20 57 27.8 +1.2
comp=Z,2.8nm,0.7s,baz=153,slow=8.7,SNR=20
TXAR LR LR 21 22 04.3
comp=Z,35nm,21.9s,baz=144,slow=31
comp=Z,2.8nm,0.7s
TX31 Lajitas Ar. Si 68.34 330 IAmb IAmb 20 57 28.3
comp=Z,6.8nm,0.8s
OZNA Ozona 68.70 333 P P 20 57 29.3 +0.5
OZNA IAmb IAmb 20 57 30.7
comp=Z,29nm,1.5s
V48A Smith Brothers 69.03 347 IAmb IAmb 20 57 32.1
comp=Z,15nm,0.9s
WVT Waverly 69.61 346 P P 20 57 34.2 +0.1
ABTX Abilene, Hawle 69.67 335 IAmb IAmb 20 57 36.7
comp=Z,12nm,0.8s
MNHN Monahans 69.72 332 IAmb IAmb 20 57 37.1
comp=Z,9.9nm,0.8s
LCAR Lake Charles 70.30 343 IAmb IAmb 20 57 39.6
comp=Z,11nm,0.7s
ODSA Odessa 70.32 332 IAmb IAmb 20 57 40.6
comp=Z,26nm,0.8s
APMT Aspermont 70.48 335 IAmb IAmb 20 57 41.5
comp=Z,16nm,1.0s
PPT2 Papeete2 70.97 261 *e*LR LR 21 19 25.5
comp=Z,46nm,24.2s
DKNS Dickens 71.08 334 IAmb IAmb 20 57 44.8
comp=Z,7.1nm,0.8s
HHAR Hobbs 71.23 341 IAmb IAmb 20 57 45.5
comp=Z,9.4nm,0.9s
MGMO Mountain Grove 71.61 343 IAmb IAmb 20 57 48.4
comp=Z,20nm,1.4s
FVM French Village 71.95 344 IAmb IAmb 20 57 49.9
comp=Z,19nm,1.1s
MSTX Muleshoe 72.04 333 IAmb IAmb 20 57 50.9
comp=Z,17nm,1.1s
CCM Cathedral Cave 72.21 344 P P 20 57 50.0 +0.1
CCM IAmb IAmb 20 57 51.4
comp=Z,17nm,1.0s
S39A Bolivar 72.39 342 IAmb IAmb 20 57 52.6
comp=Z,9.4nm,0.9s
121A Cookes Peak, D 72.88 328 IAmb IAmb 20 57 57.4
comp=Z,10.0nm,1.1s
LIC Lamto 73.75 72⇑*i*P P 20 57 58.7 -0.9
comp=Z,8.7nm,0.4s
TIC Toumodi 74.00 71⇑*i*P P 20 57 57.4 -3.7
comp=Z,12nm,0.4s
KIC Kosan Boka 74.06 72⇑*i*P P 20 58 00.7 -0.7
comp=Z,7.6nm,0.5s
DBIC Dimbokro 74.14 71 P P 20 58 01.2 -0.7
comp=Z,5.4nm,0.6s,baz=224,slow=5.4,SNR=9.3
DBIC pP pP 20 58 14.1 -1.5
comp=Z,5.7nm,0.8s,baz=204,slow=5.3,SNR=4.5
DBIC LR LR 21 30 59.8
comp=Z,26nm,18.1s,baz=179,slow=36
comp=Z,5.4nm,0.6s
ANMO Albuquerque 74.37 331 LR LR 21 26 14.3
comp=Z,33nm,20.8s,baz=232,slow=32
214A Organ Pipe Nat 74.76 324 IAmb IAmb 20 58 08.3
comp=Z,15nm,1.1s
MAW Mawson 74.84 164 LR LR 21 31 30.3
comp=Z,46nm,19.7s,baz=200,slow=36
SUR Sutherland 75.33 119 LR LR 21 28 01.9
comp=Z,30nm,18.9s,baz=248,slow=33
T25A Trinidad 75.46 333 IAmb IAmb 20 58 12.3
comp=Z,15nm,1.1s
W18A Petrified Fore 75.92 328 IAmb IAmb 20 58 14.9
comp=Z,22nm,1.4s
X16A Lo Mia Camp, P 76.12 327 IAmb IAmb 20 58 16.2
comp=Z,15nm,1.1s
SADO Sadowa 76.85 354 LR LR 21 35 11.3
comp=Z,24nm,19.4s,baz=351,slow=38
YUH Yuha Desert 76.88 323 IAmb IAmb 20 58 20.6
comp=Z,16nm,1.4s
WUAZ Wupatki 76.99 328 IAmb IAmb 20 58 21.1
comp=Z,12nm,1.0s
W13A Hualapai Mount 77.83 326 IAmb IAmb 20 58 25.7
comp=Z,6.8nm,0.8s
PMD Palm Desert 77.90 323 IAmb IAmb 20 58 26.0
comp=Z,16nm,1.4s
PFO Pinyon Flats O 77.92 323 P P 20 58 21.7 -1.4
PFO IAmb IAmb 20 58 26.4
comp=Z,11nm,0.9s
PFO Pinyon Flats O 77.92 323 LR LR 21 26 52.1
comp=Z,46nm,19.2s,baz=126,slow=31
U15A North Rim 78.16 327 IAmb IAmb 20 58 27.8
comp=Z,8.6nm,1.0s
V12A Nelson 78.80 325 IAmb IAmb 20 58 30.6
comp=Z,7.9nm,0.8s
KNB Kanab 78.89 327 IAmb IAmb 20 58 31.7
comp=Z,18nm,1.3s
TSUM Tsumeb 79.28 106 LR LR 21 28 28.1
comp=Z,71nm,21.7s,baz=192,slow=32
CCUT Cedar City 79.57 327 IAmb IAmb 20 58 36.3
comp=Z,13nm,1.2s
SRU San Rafael Swe 79.61 330 IAmb IAmb 20 58 34.6
comp=Z,10nm,0.8s
Q16A Castle Valley 79.73 330 IAmb IAmb 20 58 35.8
comp=Z,9.6nm,0.8s
P17A Butcher Ranch, 80.01 330 IAmb IAmb 20 58 36.8
comp=Z,12nm,1.1s
PRN Pahroc Range 80.24 326 IAmb IAmb 20 58 39.1
comp=Z,18nm,1.0s
TPNV Topopah Spring 80.45 325 IAmb IAmb 20 58 40.1
comp=Z,12nm,1.2s
BOSA Boshof 80.53 118 P P 20 58 36.8 -0.9
comp=Z,3.1nm,0.9s,baz=236,slow=3.1,SNR=4.9
comp=Z,3.1nm,0.9s
ISA Isabella, Lake 80.55 323 IAmb IAmb 20 58 40.6
comp=Z,11nm,0.9s
GRAC Grapevine Rang 81.03 324 IAmb IAmb 20 58 43.1
comp=Z,18nm,1.4s
SPR3 Spring Creek 3 81.19 328 IAmb IAmb 20 58 43.5
comp=Z,15nm,1.3s
CASY Casey 81.90 181 P P 20 58 42.3 -1.7
CASY IAmb IAmb 20 58 59.8
comp=Z,9.2nm,1.0s
HWUT Hardware Ranch 82.14 331 IAmb IAmb 20 58 47.6
comp=Z,9.0nm,0.7s
PDAR Pinedale Array 82.31 333 P P 20 58 47.1 +0.4
comp=Z,1.5nm,0.6s,baz=138,slow=7.2,SNR=5.1
PDAR LR LR 21 32 34.6
comp=Z,16nm,18.1s,baz=96,slow=34
comp=Z,1.5nm,0.6s
OMMB Old Mammoth Mi 82.33 324 IAmb IAmb 20 58 49.7
comp=Z,7.8nm,0.9s
LHV Little Huntoon 82.58 324 IAmb IAmb 20 58 50.7
comp=Z,8.9nm,0.8s
NVAR Mina Array Bea 82.62 325 P P 20 58 50.0 +1.6
comp=Z,5.5nm,0.8s,baz=150,slow=6.2,SNR=19
comp=Z,5.5nm,0.8s
RYN Ryan 82.88 325 IAmb IAmb 20 58 52.5
comp=Z,9.7nm,1.1s
KVN Kaiserville 83.00 325 IAmb IAmb 20 58 52.8
comp=Z,12nm,1.1s
ELK Elko 83.02 328 IAmb IAmb 20 58 52.6
comp=Z,7.1nm,0.8s
ELK Elko 83.02 328 LR LR 21 31 02.8
comp=Z,24nm,19.7s,baz=114,slow=32
TOA0 Torodi Ar. Sit 83.14 70 P 20 58 50.5 -0.8
TOA0 IAmb IAmb 20 58 51.7
comp=Z,7.4nm,0.8s
TORD Torodi Ar. Bea 83.14 70 P 20 58 50.5 -0.8
TORD IAmb IAmb 20 58 51.7
comp=Z,6.3nm,0.8s
TORD Torodi Ar. Bea 83.14 70 P P 20 58 50.8 -0.5
comp=Z,6.6nm,0.8s,baz=225,slow=3.9,SNR=38
TORD pP pP 20 59 05.0 -0.2
comp=Z,2.8nm,0.6s,baz=267,slow=3.9,SNR=7.0
TORD LR LR 21 32 38.3
comp=Z,61nm,21.8s,baz=198,slow=33
comp=Z,6.6nm,0.8s
WAKR Walker 83.24 324 IAmb IAmb 20 58 55.1
comp=Z,10nm,1.3s
YERR Yerington 83.51 325 IAmb IAmb 20 58 55.9
comp=Z,16nm,1.2s
PAHR Pah Rah Range 84.14 325 IAmb IAmb 20 58 59.0
comp=Z,14nm,1.3s
ULM Lac du Bonnet 84.82 345 P P 20 58 59.0 -0.1
comp=Z,7.0nm,1.0s,baz=170,slow=6.1,SNR=6.0
comp=Z,7.0nm,1.0s
HLID Hailey 84.94 330 IAmb IAmb 20 59 02.7
comp=Z,12nm,1.4s
URZ Urewera 85.26 227 LR LR 21 28 13.1
comp=Z,33nm,21.3s,baz=343,slow=29
WVOR Wild Horse Val 85.90 327 IAmb IAmb 20 59 07.4
comp=Z,12nm,1.4s
J05D Fort Rock, OR 87.78 326 IAmb IAmb 20 59 16.6
comp=Z,7.4nm,1.0s
G08A Pilot Rock 88.28 329 IAmb IAmb 20 59 18.5
comp=Z,8.9nm,1.5s
MDT Midelt 90.28 51 LR LR 21 38 36.3
comp=Z,37nm,21.2s,baz=254,slow=35
YKA Yellowknife Ar 100.44 341 P Pdif 21 00 11.4 +0.1
comp=Z,0.4nm,0.7s,baz=145,slow=4.5,SNR=3.9
DZM Mont Dzumac 102.72 234 *e*LR LR 21 33 49.2
comp=Z,74nm,30.3s
ASAR Alice Springs 119.44 207 PKP PKPdf 21 05 14.1 -0.9
comp=Z,0.9nm,1.1s,baz=125,slow=2.7,SNR=4.7
ASAR pPKP pPKPdf 21 05 28.2 -0.8
comp=Z,0.6nm,0.9s,baz=136,slow=1.6,SNR=3.3
WRA Warramunga Arr 122.62 209 PKP PKPdf 21 05 20.4 -0.7
comp=Z,0.9nm,0.7s,baz=167,slow=1.6,SNR=13
WRA pPKP pPKPdf 21 05 34.8 -0.4
comp=Z,1.0nm,0.6s,baz=160,slow=1.6,SNR=6.3
H11S2 WAKE ISLAND Hyl126.24 270 T T 23 24 37.5
baz=118,slow=75,SNR=320
H11S1 WAKE ISLAND Hyl126.26 270 T T 23 24 40.2
baz=118,slow=75,SNR=373
H11S3 WAKE ISLAND Hyl126.26 270 T T 23 24 40.5
baz=118,slow=75,SNR=296
H11N3 WAKE ISLAND Hyl126.61 272 T T 23 25 01.1
baz=116,slow=75,SNR=69
H11N1 WAKE ISLAND Hyl126.62 272 T T 23 25 01.0
baz=116,slow=75,SNR=29
H11N2 WAKE ISLAND Hyl126.63 272 T T 23 25 02.4
baz=116,slow=75,SNR=100
BVAR Borovoye Array 145.58 41 PKPbc PKPab 21 06 03.4 +0.2
comp=Z,11nm,0.6s,baz=293,slow=3.0,SNR=75
BVAR pPKPbc pPKPab 21 06 17.9 +0.7
comp=Z,3.2nm,0.5s,baz=316,slow=4.1,SNR=7.0
KURBB Kurchatov Arra 151.18 41 PKPbc PKPbc 21 06 18.1 +0.4
comp=Z,8.2nm,0.6s,baz=301,slow=3.0,SNR=44
KURBB pPKPbc sPKPdf 21 06 32.4 +1.3
comp=Z,3.9nm,0.6s,baz=301,slow=3.0,SNR=4.9
ZALV Zalesovo Beam 152.39 31 PKPbc PKPbc 21 06 20.6 +0.2
comp=Z,16nm,0.5s,baz=312,slow=3.1,SNR=77
ZALV pPKPbc pPKPbc 21 06 34.9 +0.3
comp=Z,7.3nm,0.6s,baz=304,slow=3.3,SNR=8.7
KSH Kashi 152.71 65 PKPbc PKPbc 21 06 21.5 -0.2
KSH pPKP PKPab 21 06 31.7 -1.0
MKAR Makanchi Array 155.16 46 PKPbc PKPdf 21 06 26.2 +8.5
comp=Z,2.0nm,0.8s,baz=287,slow=1.7,SNR=10
MKAR PKPab pPKPbc 21 06 41.1 +0.3
comp=Z,2.0nm,0.6s,baz=273,slow=3.7,SNR=13
MKAR pPKPab pPKPab 21 06 57.1 +0.5
comp=Z,0.8nm,0.5s,baz=280,slow=2.6,SNR=3.8

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*IDC **06** 20:47:17.2±2.3, 38.̊37N×142.̊19E, h56km±19km, mb3.9/7, mbtmp4.1/12, ML3.5/5, MS2.8/2, Error ellipse: s-maj=22.7km s-min=12.0km az=100.0*
*NEIC **06** 20:47:18.4±1.2, 38.̊29N±0.̊06×142.̊0E±0.̊1, h58km±10km, mb4.4/8, Error ellipse: s-maj=11.6km s-min=8.6km az=84.0*
*NIED **06** 20:47:19.4, 38.̊33N×141.̊89E, h63km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}4.50; $M_{\theta\theta}$0.40; $M_{\phi\phi}$-4.90; $M_{r\theta}$-2.67; $M_{\theta\phi}$-1.18; $M_{\phi r}$-0.68; Fault plane solution: $M_0$5.57000×10^{14} NP1: ϕ_s216.00000°, δ57.00000°, λ120.00000°. NP2: ϕ_s349.00000°, δ43.00000°, λ52.00000°.*
*JMA **06** 20:47:19.4±0.1, 38.̊3N±0.̊3×141.̊9E±0.̊6, h63km, MD3.9/40, MV4.2/40, E OFF MIYAGI PREF*

JMA Felt II J1 at E OFF MIYAGI PREF .

ISC 06 20:47:18.4±1.2**, 38°.30N**±0°.05×**141°.99E**±0°.09**, h60**km±8km**, n63,** σ**1s.11**/64**, mb4.2**/11**, 8D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.41**	**272**	*i* P	**Pn**	**20 47 30.2**	**+0.7**
JIKH				S	**Sn**	**20 47 37.9**	**+0.5**
JIKH	**Ishinomakikobu**	**0.41**	**272**	A	A	20 47 30.2	
	comp=E,14nm,0.5s,comp=N,18nm,0.3s						
JIO	**Ouri**	**0.52**	**287**	*i* P	**Pn**	**20 47 31.1**	**+0.6**
JIO				S	**Sn**	**20 47 39.4**	**-0.1**
JKMT	**Kesennumamotoy**	**0.65**	**322**	*i* P	**Pn**	**20 47 32.6**	**+0.6**
JKMT				S	**Sn**	**20 47 42.1**	**+0.1**
OFUJ	**Ofunato**	**0.82**	**342**	*i* P	**Pn**	**20 47 34.7**	**+0.6**
OFUJ				S	**Sn**	**20 47 45.8**	**+0.2**
OFUJ	**Ofunato**	**0.82**	**342**	A	A	20 47 34.7	
	comp=E,7.0nm,1.3s,comp=N,6.0nm,0.6s						
JMK	**Ichinoseki**	**0.89**	**318**	*i* P	**Pn**	**20 47 35.5**	**+0.6**
JMK				S	**Sn**	**20 47 47.0**	**-0.1**
JMK	**Ichinoseki**	**0.89**	**318**	A	A	20 47 35.5	
	comp=E,19nm,0.8s,comp=N,8.0nm,0.3s						
JOFO	**Osakifurukawao**	**0.90**	**290**	A	A	20 47 35.3	
	comp=E,32nm,0.4s,comp=N,13nm,0.2s						
JMM	**Marumori**	**1.04**	**246**		**Pn**	**20 47 36.9**	**+0.1**
JMM	**Marumori**	**1.04**	**246**	⇓*i*P	**Pn**	**20 47 37.0**	**+0.1**
JMM				⇓S	**Sn**	**20 47 50.0**	**-0.6**
JMM	**Marumori**	**1.04**	**246**	A	A	20 47 37.0	
	comp=E,4.0nm,0.9s,comp=N,6.0nm,0.3s						
JMST	**Minamisoumatoc**	**1.04**	**237**	A	A	20 47 37.7	
	comp=E,6.0nm,0.7s,comp=N,4.0nm,0.3s						
JOU	**Okura**	**1.04**	**274**	⇓*i*P	**Pn**	**20 47 37.2**	**+0.2**
JOU				⇓S	**Sn**	**20 47 50.4**	**-0.4**
JOU	**Okura**	**1.04**	**274**	A	A	20 47 37.2	
	comp=E,12nm,0.5s,comp=N,7.0nm,0.3s						
JFK	**Kawauchi**	**1.28**	**224**	*i* P	**Pn**	**20 47 40.6**	**+0.5**
JFK				S	**Sn**	**20 47 56.8**	**+0.3**
JOM	**Ohasama**	**1.29**	**335**	*i* P	**Pn**	**20 47 40.8**	**+0.5**
JOM				S	**Sn**	**20 47 56.7**	**+0.1**
JOM	**Ohasama**	**1.29**	**335**	A	A	20 47 40.8	
	comp=E,8.0nm,0.3s,comp=N,9.0nm,0.3s						
JYK	**Kaneyama**	**1.42**	**296**	⇓*i*P	**Pn**	**20 47 42.2**	**+0.3**
JYK				⇓S	**Sn**	**20 47 59.4**	**-0.2**
JOTO	**OTAMA OYAMA**	**1.50**	**241**	*i* P	**Pn**	**20 47 43.7**	**+0.6**
JOTO				S	**Sn**	**20 48 01.7**	**0.0**
JYS	**Shirataka**	**1.51**	**268**	*i* P	**Pn**	**20 47 43.7**	**+0.5**
JYS				S	**Sn**	**20 48 02.1**	**+0.1**
JRG	**Rokugo**	**1.52**	**316**	*i* P	**Pn**	**20 47 43.8**	**+0.5**
JRG				S	**Sn**	**20 48 03.3**	**+1.2**
JRG	**Rokugo**	**1.52**	**316**	A	A	20 47 43.8	
	comp=E,3.0nm,1.4s,comp=N,3.0nm,1.4s						
JYA	**Atsumi**	**1.81**	**280**	⇓*i*P	**Pn**	**20 47 47.5**	**+0.3**
JYA				⇓*e*S	**Sn**	**20 48 10.5**	**+1.4**
JTM	**Tenmabayashi**	**2.58**	**344**		**Pn**	**20 47 58.3**	**+0.5**
MJAR	**Matsushiro Arr**	**3.48**	**241**	P	**Pn**	**20 48 11.7**	**+1.6**
	comp=N,0.7nm,0.3s,baz=32,slow=13,SNR=46						
MJAR				S	**Sn**	**20 48 53.5**	**+3.5**
	comp=N,4.0nm,0.4s,baz=69,slow=15,SNR=2.0						
MJAR				LR	LR	20 49 41.0	
	comp=N,48nm,21.0s,baz=77,slow=39						
	comp=N,7.6nm,0.5s						
MAJO	**Matsushiro**	**3.48**	**241**		**Pn**	**20 48 12.1**	**+2.0**
MJB9	**Matsu-Tunnel**	**3.48**	**241**		**Pn**	**20 48 13.1**	**+3.0**
ERM	**Erimo**	**3.82**	**13**	Pn	**Pn**	**20 48 14.4**	**-0.2**
JHJ	**Hachijo jima 2**	**5.47**	**200**	P	**Pn**	**20 48 36.5**	**-0.9**
	comp=N,11nm,0.3s,baz=49,slow=19,SNR=7.1						
JHJ				S	**Sn**	**20 49 34.9**	**-4.0**
	comp=N,122nm,0.5s,baz=305,slow=20,SNR=7.2						
	comp=N,119nm,0.9s						
ASAJ	**Asahikawa**	**5.83**	**4**	P	**Pn**	**20 48 39.9**	**-2.3**
	comp=N,0.8nm,0.3s,baz=162,slow=3.2,SNR=1.5						
ASAJ				S	**Sn**	**20 49 45.4**	**-2.2**
	comp=N,5.4nm,0.4s,baz=125,slow=27,SNR=1.9						
	comp=N,3.3nm,0.3s						
JKA	**Kamikawa-asahi**	**5.83**	**4**	Pn	**Pn**	**20 48 41.6**	**-0.6**
USA0B	**Ussuriysk Arra**	**9.56**	**311**	Pn	**Pn**	**20 49 33.2**	**+0.1**
USRK	**Ussuriysk Ar.**	**9.56**	**311**	Pn	**Pn**	**20 49 32.4**	**-0.8**
USRK	**Ussuriysk Ar.**	**9.56**	**311**	P	**Pn**	**20 49 34.0**	**+0.8**
	comp=N,0.8nm,0.3s,baz=129,slow=14,SNR=14						
	comp=N,1.9nm,0.3s						
KSRS	**Korea Array**	**11.15**	**270**	P	**Pn**	**20 49 54.5**	**-0.4**
	comp=N,0.9nm,0.3s,baz=72,slow=16,SNR=2.8						
	comp=N,1.2nm,0.4s						
KSAR	**Wonju Array Be**	**11.18**	**270**	Pn	**Pn**	**20 49 54.1**	**-1.3**
KS19	**Wonju Array Si**	**11.19**	**270**		**Pn**	**20 49 54.4**	**-1.1**
SONM	**Songino Array**	**27.48**	**302**	P	**P**	**20 52 58.9**	**-0.1**
	comp=N,1.0nm,0.6s,baz=110,slow=9.9,SNR=4.9						
	comp=N,1.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.44**	**124**	T	T	21 23 22.6	
	baz=316,slow=76,SNR=210						
H11N1	**WAKE ISLAND Hy**	**28.45**	**124**	T	T	21 23 27.7	
	baz=316,slow=76,SNR=269						
H11N3	**WAKE ISLAND Hy**	**28.45**	**124**	T	T	21 23 28.4	
	baz=316,slow=76,SNR=190						
H11S1	**WAKE ISLAND Hy**	**29.20**	**126**	T	T	21 24 28.1	
	baz=318,slow=76,SNR=70						
H11S3	**WAKE ISLAND Hy**	**29.20**	**126**	T	T	21 24 25.6	
	baz=318,slow=76,SNR=99						
H11S2	**WAKE ISLAND Hy**	**29.21**	**126**	T	T	21 24 29.4	
	baz=318,slow=76,SNR=84						
CRAI	**Chiangrai**	**40.13**	**255**	P	**P**	**20 54 49.3**	**+0.7**
CRAI				IAmb	IAmb	20 55 11.0	
	comp=Z,4.9nm,1.3s						
ZAA0	**Zalesovo Array**	**41.41**	**311**	P	**P**	**20 54 57.5**	**-1.1**
ZAA0				IAmb	IAmb	20 55 00.1	
	comp=Z,2.1nm,0.5s						
ZALV	**Zalesovo Beam**	**41.41**	**311**	P	**P**	**20 54 58.2**	**-0.4**
ZALV	**Zalesovo Beam**	**41.41**	**311**	P	**P**	**20 54 57.8**	**-0.8**
	comp=Z,1.9nm,0.4s,baz=84,slow=7.8,SNR=15						
	comp=Z,1.9nm,0.4s						
MK31	**Makanchi Array**	**43.84**	**301**	P	**P**	**20 55 18.6**	**+0.1**
MKAR	**Makanchi Array**	**43.84**	**301**	P	**P**	**20 55 18.4**	**-0.1**
MKAR	**Makanchi Array**	**43.84**	**301**	P	**P**	**20 55 18.9**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=83,slow=10,SNR=17						
	comp=Z,2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**45.59**	**307**	P	**P**	**20 55 31.7**	**-0.6**
	comp=Z,2.7nm,0.2s,baz=82,slow=8.4,SNR=8.3						
	comp=Z,2.7nm,0.2s						
BVAR	**Borovoye Array**	**50.06**	**312**	P	**P**	**20 56 06.2**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=74,slow=7.4,SNR=5.9						
	comp=Z,0.5nm,0.4s						
AAK	**Ala-Archa**	**50.30**	**298**	LR	LR	21 18 10.5	
	comp=Z,28nm,19.0s,baz=244,slow=37						
WB0	**Warramunga Arr**	**58.20**	**188**	P	**P**	**20 57 06.0**	**-0.3**
WB0				IAmb	IAmb	20 57 06.6	
	comp=Z,3.1nm,0.7s						
WRAB	**Tennant Creek**	**58.37**	**188**	P	**P**	**20 57 07.0**	**-0.5**
WR0	**Warramunga Arr**	**58.37**	**188**	P	**P**	**20 57 07.0**	**-0.5**
WR0				IAmb	IAmb	20 57 07.8	
	comp=Z,4.2nm,0.9s						
WB2	**Warramunga Arr**	**58.38**	**188**	P	**P**	**20 57 07.3**	**-0.2**
WRA	**Warramunga Arr**	**58.38**	**188**	P	**P**	**20 57 06.3**	**-1.2**
WRA	**Warramunga Arr**	**58.38**	**188**	P	**P**	**20 57 07.3**	**-0.3**
	comp=Z,1.8nm,0.4s,baz=5.5,slow=7.1,SNR=49						
	comp=Z,1.8nm,0.4s						
ASAR	**Alice Springs**	**62.10**	**188**	P	**P**	**20 57 33.0**	**-0.1**
ASAR	**Alice Springs**	**62.10**	**188**	P	**P**	**20 57 33.2**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=8.7,slow=4.1,SNR=14						
	comp=Z,0.9nm,0.7s						

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*IDC **06** 21:19:27.9±1.6, 3°.31S×101°.98E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=75.2km s-min=19.5km az=52.0*

*DJA **06** 21:19:33.1±0.2, 3°S±2°×10°2E±°, h10km, M4.4/15, mb4.6/1, MLv4.3/15*

ISC 06 21:19:31.3±0.7**, 3°.11S**±0°.04×**102°.26E**±0°.04**, h10**km**, n26,** σ**1s.83**/27**, mb3.9**/7**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**1.29**	**322**	P	**Pg**	**21 19 56.9**	**+0.8**
KRJI				S	**Sg**	**21 20 14.5**	**+1.6**
MNAI	**Manna**	**1.42**	**151**	P	**Pg**	**21 19 59.1**	**+0.5**
MNAI				S	**Sg**	**21 20 19.1**	**+2.1**
LHSI	**Lahat**	**1.45**	**119**	P	**Pg**	**21 19 59.3**	**+0.2**
LHSI				S	**Sg**	**21 20 19.8**	**+1.9**
JMBI	**JAMBI**	**2.02**	**43**	P	**Pg**	**21 20 09.6**	**-0.4**
PPSI	**Pulau Pagai**	**2.27**	**279**	P	**Pn**	**21 20 10.5**	**+1.6**
PMBI	**Palembang**	**2.52**	**86**	P	**Pn**	**21 20 14.1**	**+1.8**
PMBI				S	**Sb**	**21 20 46.3**	**-1.3**
LWLI	**Liwa**	**2.61**	**137**	P	**Pb**	**21 20 16.7**	**-1.5**
PDSI	**Padang**	**2.83**	**321**	P	**Pn**	**21 20 19.4**	**+2.8**
KLI	**Kotabumi**	**3.12**	**124**	P	**Pn**	**21 20 22.6**	**+2.0**
KASI	**Kota Agung**	**3.27**	**137**	P	**Pn**	**21 20 25.4**	**+2.7**
DSRI	**Dabo**	**3.50**	**42**	P	**Pn**	**21 20 28.0**	**+2.3**
BKNI	**Bangkinang**	**3.63**	**340**	P	**Pn**	**21 20 28.9**	**+1.3**
PPBI	**Pangkal Pinang**	**3.99**	**76**	P	**Pn**	**21 20 35.5**	**+3.0**
TPRI	**Tanjung Pinang**	**4.60**	**30**	P	**Pn**	**21 20 43.8**	**+2.8**
CGJI	**Cibinong**	**4.88**	**136**	P	**Pn**	**21 20 46.2**	**+1.5**
WRA	**Warramunga Arr**	**35.49**	**121**	P	**P**	**21 26 27.4**	**-1.1**
	0.2nm,0.4s,baz=301,slow=8.8,SNR=7.2						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**36.78**	**127**	P	**P**	**21 26 38.8**	**-0.7**
	1.0nm,0.7s,baz=302,slow=8.1,SNR=12						
	1.0nm,0.7s						
SONM	**Songino Array**	**50.87**	**4**	P	**P**	**21 28 33.4**	**+0.9**
	1.9nm,0.7s,baz=184,slow=9.1,SNR=15						
	1.9nm,0.7s						
MKAR	**Makanchi Array**	**52.73**	**343**	P	**P**	**21 28 45.0**	**-1.2**
	0.7nm,0.8s,baz=157,slow=7.8,SNR=5.6						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**57.27**	**342**	P	**P**	**21 29 17.6**	**-1.4**
	0.7nm,0.4s,baz=155,slow=7.0,SNR=4.8						
	0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**58.70**	**348**	P	**P**	**21 29 26.6**	**-2.3**
	0.9nm,0.4s,baz=178,slow=8.0,SNR=7.3						
	0.9nm,0.4s						
H04N2	**CROZET ISLANDS**	**61.27**	**218**	T	T	22 35 00.3	
	baz=61						
H04N1	**CROZET ISLANDS**	**61.29**	**218**	T	T	22 35 03.7	
	baz=61						
H04N3	**CROZET ISLANDS**	**61.29**	**218**	T	T	22 35 01.9	
	baz=61						
BRTR	**Keskin Array B**	**75.74**	**312**	P	**P**	**21 31 16.3**	**-1.3**
	0.9nm,0.8s,baz=113,slow=7.1,SNR=3.8						
	0.9nm,0.8s						
TXAR	**Lajitas Array**	**144.14**	**41**	PKP	**PKPab**	**21 39 05.9**	**0.0**
	0.3nm,0.8s,baz=333,slow=1.0,SNR=2.9						

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*IDC **06** 21:37:26.7±1.6, 21°.83S×69°.01E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=59.1km s-min=27.3km az=34.0*

ISC 06 21:37:29.8±1.6**, 21°.8S**±0°.4×**69°.0E**±0°.3**, h19**km**, n7,** σ**0s.43**/7**, mb3.7**/7**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**59.39**	**105**	P	**P**	**21 47 31.3**	**-0.1**
	0.4nm,0.6s,baz=264,slow=6.4,SNR=7.3						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**60.64**	**101**	P	**P**	**21 47 40.0**	**0.0**
	0.7nm,0.8s,baz=247,slow=7.0,SNR=4.0						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**69.36**	**10**	P	**P**	**21 48 35.5**	**-0.6**
	0.4nm,0.5s,baz=210,slow=4.8,SNR=3.1						
	0.4nm,0.5s						
BRTR	**Keskin Array B**	**69.59**	**332**	P	**P**	**21 48 37.6**	**-0.2**
	0.6nm,0.6s,baz=129,slow=4.6,SNR=3.0						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**72.63**	**6**	P	**P**	**21 48 56.1**	**+0.3**
	0.4nm,0.8s,baz=201,slow=6.4,SNR=3.9						
	0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**74.61**	**291**	P	**P**	**21 49 08.4**	**+0.1**
	0.3nm,0.7s,baz=103,slow=6.8,SNR=2.3						
	0.3nm,0.7s						
SONM	**Songino Array**	**77.05**	**25**	P	**P**	**21 49 22.1**	**+0.4**
	0.2nm,0.5s,baz=198,slow=5.7,SNR=1.6						
	0.2nm,0.5s						

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*IDC **06** 21:37:50.1±1.3, 22°.08S×68°.72E, h0km, mb3.8/11, mbtmp3.8/11, Error ellipse: s-maj=41.5km s-min=21.6km az=25.0*

*GCMT **06** 21:37:55.0±0.4, 21°.40S±0°.05×68°.86E±0°.03, h23km±1km, MW4.8/75, Moment Tensor Solution. s18,c19; s75,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.25±.17; $M_{\theta\theta}$0.49±.11; $M_{\phi\phi}$1.75±.11; $M_{r\theta}$0.82±.19; $M_{\theta\phi}$-0.65±.07; $M_{\phi r}$0.61±.16; Best double couple: $M_0$2.32700×10^{16} NP1:ϕ_s176.00000°,δ52.00000°,λ-65.00000°. NP2: ϕ_s320.00000°,δ45.00000°,λ-118.00000°. Principal axes: T 2.0410, Plg4.0000°, Azm249.0000°; N 0.5660, Plg19.0000°, Azm340.0000°; P -2.6130, Plg70.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 06 21:37:51.7±1.4**, 22°.1S**±0°.3×**68°.7E**±0°.2**, h10**km**, n20,** σ**1s.08**/11**, mb3.8**/11**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**14.81**	**15**	T	T	21 55 59.5	
	baz=194,slow=76,SNR=64						
H08S2	**Diego Garcia H**	**14.82**	**15**	T	T	21 55 58.5	
	baz=194,slow=76,SNR=110						
H08S3	**Diego Garcia H**	**14.83**	**15**	T	T	21 56 01.0	
	baz=194,slow=76,SNR=325						
H04N2	**CROZET ISLANDS**	**27.68**	**206**	T	T	22 13 17.0	
	baz=37,slow=75,SNR=781						
H04N1	**CROZET ISLANDS**	**27.69**	**206**	T	T	22 13 17.8	
	baz=37,slow=75,SNR=547						
H04N3	**CROZET ISLANDS**	**27.70**	**206**	T	T	22 13 19.8	
	baz=37,slow=75,SNR=764						
KMBO	**Kilima Mbogo**	**37.05**	**300**	P	**P**	**21 45 03.3**	**+0.8**
	1.4nm,0.6s,baz=63,slow=18,SNR=4.7						
	1.4nm,0.6s						
H01W2	**Cape Leeuwin H**	**41.57**	**118**	T	T	22 29 58.2	
	baz=275						
H01W3	**Cape Leeuwin H**	**41.57**	**118**	T	T	22 29 54.2	
	baz=275						
H01W1	**Cape Leeuwin H**	**41.58**	**118**	T	T	22 29 59.0	
	baz=275						
CMAR	**Chiang Mai Arr**	**49.98**	**39**	P	**P**	**21 46 45.2**	**-1.2**
	0.6nm,0.3s,baz=232,slow=11,SNR=6.1						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**59.59**	**105**	P	**P**	**21 47 56.1**	**0.0**
	1.3nm,0.7s,baz=259,slow=6.6,SNR=9.7						
	1.3nm,0.7s						
WRA	**Warramunga Arr**	**60.85**	**101**	P	**P**	**21 48 04.8**	**0.0**
	1.7nm,0.8s,baz=258,slow=6.5,SNR=7.8						
	1.7nm,0.8s						
MKAR	**Makanchi Array**	**69.65**	**10**	P	**P**	**21 49 00.7**	**-0.6**
	0.6nm,0.9s,baz=224,slow=5.8,SNR=2.5						
	0.6nm,0.9s						
BRTR	**Keskin Array B**	**69.68**	**332**	P	**P**	**21 49 01.1**	**-0.7**
	1.0nm,0.7s,baz=145,slow=3.5,SNR=4.3						
	1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**72.91**	**7**	P	**P**	**21 49 20.6**	**-0.2**
	0.5nm,0.9s,baz=204,slow=6.3,SNR=3.5						
	0.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**74.45**	**291**	P	**P**	**21 49 29.9**	**-0.9**
	0.6nm,0.9s,baz=104,slow=6.5,SNR=4.2						
	0.6nm,0.9s						
BVAR	**Borovoye Array**	**74.81**	**1**	P	**P**	**21 49 31.2**	**-0.8**
	0.6nm,0.7s,baz=163,slow=5.3,SNR=3.7						
	0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**76.99**	**10**	P	**P**	**21 49 45.6**	**+1.2**
	0.3nm,0.3s,baz=224,slow=8.1,SNR=2.4						
	0.3nm,0.3s						
SONM	**Songino Array**	**77.39**	**25**	P	**P**	**21 49 48.8**	**+1.9**
	0.2nm,0.5s,baz=188,slow=5.0,SNR=1.9						
	0.2nm,0.5s						

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*DJA **06** 21:44:26.7±1.5, 1°S±3°×12°4E±°, h25km±15km, M4.2/13, mb4.2/6, mB4.7/1, MLv4.2/13, Mw(mB)3.9/1*

*NEIC **06** 21:44:26.1±1.6, 0°.63S±0°.07×123°.68E±0°.08, h46km±5km, mb4.2/7, Error ellipse: s-maj=11.2km s-min=10.2km az=101.0*

*IDC **06** 21:44:30.9±6.8, 0°.74S×123°.48E, h100km±68km, mb3.2/6, mbtmp3.6/7, ML3.8/1, MS2.5/1, Error ellipse: s-maj=53.7km s-min=19.4km az=52.0*

ISC 06 21:44:26.2±0.6**, 0°.65S**±0°.06×**123°.70E**±0°.05**, h54**km**, n32,** σ**1s.19**/37**, mb3.8**/11**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.01**	**247**	Pn	**Pn**	**21 44 42.8**	**-1.3**
LUWI					**Sn**	**21 44 55.9**	**-1.5**
LUWI	**Luwuk**	**1.01**	**247**	P	**Pn**	**21 44 42.8**	**-1.3**
KMSI	**Cibinong**	**1.25**	**13**	P	**Pn**	**21 44 48.4**	**+1.0**
MRSI	**Marisa**	**2.08**	**302**	P	**Pn**	**21 44 59.4**	**+0.6**
SANI	**Sanana**	**2.68**	**121**	P	**Pn**	**21 45 05.4**	**-1.5**
SANI				S	**Sn**	**21 45 36.0**	**-2.1**
TOLI2	**Tolitoli**	**3.40**	**301**		**Pn**	**21 45 16.8**	**0.0**
LBMI	**Labuha**	**3.80**	**90**	P	**Pn**	**21 45 22.8**	**+0.5**
LBMI				S	**Sn**	**21 46 07.4**	**+1.7**
MPSI	**Mapaga**	**3.93**	**284**	P	**Pn**	**21 45 26.4**	**+2.4**
NLAI	**Namlea**	**4.26**	**127**	P	**Pn**	**21 45 29.1**	**+0.5**
TTSI	**Tana Toraja**	**4.55**	**238**	P	**Pn**	**21 45 33.0**	**+0.4**
SPSI	**Sidrap Palu**	**5.13**	**230**	P	**Pn**	**21 45 41.9**	**+1.4**
	34nm,0.7s,747nm0.2nm						
BKSI	**Bulukumba**	**5.86**	**218**	P	**Pn**	**21 45 51.7**	**+1.2**
	11nm,0.8s,0.1nm						
KAPI	**Kappang**	**5.86**	**222**	Pn	**Pn**	**21 45 51.8**	**+1.2**
KAPI	**Kappang**	**5.86**	**222**	P	**Pn**	**21 45 53.5**	**+3.0**
	2.6nm,0.3s,baz=68,slow=5.4,SNR=6.5						
KAPI				S	**Sn**	**21 46 55.8**	**-0.7**
	6.2nm,0.4s,baz=123,slow=21,SNR=1.8						
KAPI				LR	LR	21 48 29.2	
	comp=Z,47nm,19.0s,baz=78,slow=42						
	9.1nm,0.4s						
EDFI	**Ende, Flores**	**8.29**	**194**	P	**Pn**	**21 46 24.6**	**+0.6**
FAKI	**Fak Fak**	**8.84**	**105**	Pn	**Pn**	**21 46 31.2**	**-0.1**
KKM	**Kota Kinabalu**	**10.00**	**312**	Pn	**Pn**	**21 46 47.2**	**-0.2**
WB0	**Warramunga Arr**	**21.70**	**152**	P	**P**	**21 49 11.6**	**-1.2**
WB0				IAmb	IAmb	21 49 35.1	
	comp=Z,4.4nm,1.1s						
WRA	**Warramunga Arr**	**21.82**	**152**	P	**P**	**21 49 14.2**	**0.0**
	comp=Z,1.2nm,0.9s,baz=329,slow=10,SNR=6.6						
	comp=Z,1.2nm,0.9s						
AS31	**Alice Springs**	**24.93**	**157**	P	**P**	**21 49 45.2**	**+0.6**
ASAR	**Alice Springs**	**24.93**	**157**	P	**P**	**21 49 44.9**	**+0.3**
ASAR	**Alice Springs**	**24.93**	**157**	P	**P**	**21 49 45.6**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=331,slow=7.0,SNR=8.4						
	comp=Z,0.6nm,0.6s						
SONM	**Songino Array**	**50.59**	**345**	P	**P**	**21 53 19.5**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=157,slow=7.8,SNR=2.0						
	comp=Z,0.3nm,0.8s						
MK31	**Makanchi Array**	**59.53**	**328**	P	**P**	**21 54 23.7**	**-0.3**
MK31				IAmb	IAmb	21 54 37.7	
	comp=Z,3.0nm,1.3s						
MKAR	**Makanchi Array**	**59.53**	**328**	P	**P**	**21 54 23.6**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=127,slow=8.6,SNR=12						
MKAR				PcP	**PcP**	**21 55 11.6**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=147,slow=3.2,SNR=2.9						
	comp=Z,0.6nm,0.4s						
MAKZ	**Makanchi**	**59.70**	**328**	P	**P**	**21 54 24.4**	**-0.9**
MAKZ				IAmb	IAmb	21 54 31.9	
	comp=Z,3.6nm,1.4s						
ZALV	**Zalesovo Beam**	**63.19**	**335**	P	**P**	**21 54 47.2**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=128,slow=6.5,SNR=2.4						
	comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.87**	**330**	P	**P**	**21 54 52.5**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=117,slow=5.7,SNR=4.4						
	comp=Z,0.4nm,0.5s						
TIXI	**Tiksi**	**72.25**	**2**	P	**P**	**21 55 44.5**	**-0.9**
TIXI				IAmb	IAmb	21 56 00.4	
	comp=Z,2.6nm,1.1s						
G19K	**Purcell Mounta**	**86.22**	**24**	P	**P**	**21 57 02.7**	**+1.1**
G19K				IAmb	IAmb	21 57 16.0	
	comp=Z,4.1nm,1.2s						
H19K	**Roundabout Mou**	**86.38**	**24**	P	**P**	**21 57 03.4**	**+1.1**
IMAR	**Indian Mountai**	**87.55**	**24**	P	**P**	**21 57 08.6**	**+0.6**

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*IDC **06** 21:50:21.6±0.8, 21°.72S×69°.06E, h0km, mb3.9/12, mbtmp3.9/12, MS3.7/14, Error ellipse: s-maj=28.8km s-min=19.8km az=43.0*

*NEIC **06** 21:50:23.0±1.2, 21°.7S±0°.1×68°.79E±0°.09, h10km±1km, mb4.4/8, Error ellipse: s-maj=25.4km s-min=12.8km az=199.0*

ISC 06 21:50:22.6±0.8**, 21°.8S**±0°.1×**68°.9E**±0°.1**, h10**km**, n41,** σ**0s.97**/24**, mb4.0**/15**, MS3.7**/14**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**5.51**	**290**	Pn	**Pn**	**21 51 43.1**	**-1.7**
RER	**Riviere de l'E**	**12.22**	**270**	Pn	**Pn**	**21 53 16.1**	**-0.8**
H08S1	**Diego Carcia H**	**14.47**	**15**	T	T	22 08 29.4	
	baz=194,slow=76,SNR=28						
H08S2	**Diego Garcia H**	**14.48**	**15**	T	T	22 08 28.4	
	baz=194,slow=76,SNR=43						
H08S3	**Diego Garcia H**	**14.49**	**15**	T	T	22 08 30.5	
	baz=194,slow=76,SNR=80						
H04N2	**CROZET ISLANDS**	**28.02**	**206**	T	T	22 25 42.3	
	baz=37,slow=75,SNR=77						
H04N1	**CROZET ISLANDS**	**28.03**	**206**	T	T	22 25 41.3	
	baz=37,slow=75,SNR=83						
H04N3	**CROZET ISLANDS**	**28.04**	**206**	T	T	22 25 40.0	
	baz=37,slow=75,SNR=75						
PALK	**Pallekele**	**31.12**	**23**	LR	LR	22 05 59.0	
	comp=Z,164nm,19.8s,baz=314,slow=30						
KMBO	**Kilima Mbogo**	**36.99**	**299**	P	**P**	**21 57 35.2**	**+2.4**
	1.0nm,0.5s,baz=130,slow=7.9,SNR=5.5						
KMBO				LR	LR	22 09 41.7	
	comp=Z,60nm,18.8s,baz=88,slow=31						
	1.0nm,0.5s						
LSZ	**Lusaka**	**39.01**	**272**	LR	LR	22 11 55.3	
	comp=Z,186nm,19.3s,baz=132,slow=33						
LBTB	**Lobatse**	**39.71**	**257**	LR	LR	22 11 25.7	
	comp=Z,113nm,21.3s,baz=100,slow=32						
BOSA	**Boshof**	**39.87**	**251**	P	**P**	**21 57 56.0**	**-0.8**
BOSA				IAmb	IAmb	21 58 11.9	
	comp=Z,10nm,1.2s						
BOSA	**Boshof**	**39.87**	**251**	LR	LR	22 11 39.6	
	comp=Z,121nm,18.8s,baz=41,slow=32						
LEM	**Lembang**	**40.25**	**74**	LR	LR	22 10 35.9	
	comp=Z,117nm,21.4s,baz=210,slow=30						
SUR	**Sutherland**	**43.75**	**245**	LR	LR	22 13 20.5	
	comp=Z,92nm,21.0s,baz=118,slow=31						
NWAO	**Narrogin (SRO)**	**44.05**	**115**	LR	LR	22 12 28.9	
	comp=Z,80nm,21.6s,baz=316,slow=30						
TSUM	**Tsumeb**	**47.92**	**263**	LR	LR	22 17 09.9	
	comp=Z,176nm,18.3s,baz=151,slow=33						
CMAR	**Chiang Mai Arr**	**49.66**	**39**	P	**P**	**21 59 13.8**	**-0.9**
CMAR	**Chiang Mai Arr**	**49.66**	**39**	P	**P**	**21 59 14.3**	**-0.5**
	comp=Z,1.5nm,0.3s,baz=234,slow=7.7,SNR=5.1						
CMAR				LR	LR	22 17 14.0	
	comp=Z,43nm,20.8s,baz=235,slow=33						
	comp=Z,1.5nm,0.3s						
KAPI	**Kappang**	**51.97**	**79**	LR	LR	22 17 51.5	
	comp=Z,52nm,21.7s,baz=267,slow=32						
BATI	**Baumata**	**53.68**	**87**	LR	LR	22 18 02.5	
	comp=Z,84nm,21.8s,baz=233,slow=31						
KBL	**Kabul**	**56.00**	**0**	P	**P**	**22 00 01.1**	**-0.5**
KBL				IAmb	IAmb	22 00 04.0	
	comp=Z,3.6nm,0.9s						
ASAR	**Alice Springs**	**59.56**	**105**	P	**P**	**22 00 26.3**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=258,slow=6.4,SNR=11						
ASAR				LR	LR	22 23 03.2	
	comp=Z,124nm,20.1s,baz=297,slow=33						
	comp=Z,1.2nm,0.7s						
EIL	**Elat**	**60.67**	**326**	LR	LR	22 21 39.6	
	comp=Z,28nm,21.9s,baz=102,slow=31						
WRA	**Warramunga Arr**	**60.80**	**101**	P	**P**	**22 00 34.6**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=258,slow=6.7,SNR=8.1						
	comp=Z,2.0nm,0.8s						
NRN	**Naryn**	**63.23**	**6**	P	**P**	**22 00 50.4**	**-1.1**
KKAR	**Karatay Array**	**64.57**	**1**	P	**P**	**22 00 59.7**	**-0.3**
MK31	**Makanchi Array**	**69.32**	**10**	P	**P**	**22 01 30.1**	**0.0**
MKAR	**Makanchi Array**	**69.32**	**10**	P	**P**	**22 01 28.9**	**-1.2**
MKAR	**Makanchi Array**	**69.32**	**10**	P	**P**	**22 01 30.1**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=193,slow=5.9,SNR=4.9						
	comp=Z,0.8nm,0.8s						
BRTR	**Keskin Array B**	**69.46**	**332**	P	**P**	**22 01 32.5**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=152,slow=6.5,SNR=5.0						
	comp=Z,0.8nm,0.7s						
VNDA	**Vanda**	**69.55**	**167**	P	**P**	**22 01 32.0**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=287,slow=6.6,SNR=6.8						
	comp=Z,0.4nm,0.4s						
ABKAR	**Akbulak array**	**71.15**	**354**		**P**	**22 01 41.2**	**0.0**
ABKAR				IAmb	IAmb	22 01 42.5	
	comp=Z,2.3nm,0.8s						
ABKAR	**Akbulak array**	**71.15**	**354**	P	**P**	**22 01 41.4**	**+0.1**
KURBB	**Kurchatov Arra**	**72.58**	**6**	P	**P**	**22 01 49.6**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=202,slow=7.0,SNR=3.6						
	comp=Z,0.6nm,0.3s						
TORD	**Torodi Ar. Bea**	**74.45**	**291**	P	**P**	**22 02 00.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**74.45**	**291**	P	**P**	**22 02 02.4**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=140,slow=5.0,SNR=4.4						
	comp=Z,0.5nm,0.7s						
BVAR	**Borovoye Array**	**74.49**	**1**	P	**P**	**22 02 01.1**	**0.0**
	comp=Z,0.8nm,0.7s,baz=165,slow=8.2,SNR=5.3						
	comp=Z,0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**76.66**	**10**	P	**P**	**22 02 13.0**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=157,slow=4.1,SNR=3.7						
	comp=Z,0.4nm,0.3s						
SONM	**Songino Array**	**77.05**	**25**	P	**P**	**22 02 16.9**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=228,slow=3.7,SNR=2.5						
	comp=Z,0.4nm,0.8s						

IDC 06 21:54:12.6±2.6**, 7°.02S**×**128°.23E, h0**km**, mb3.3**/1**,**

mbtmp3.3/3,ML3.3/2,Error ellipse: s-maj=284.8km s-min=32.2km az=66.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.15**	**156**	Pn	Pn	21 57 33.9	-0.5
	0.1nm,0.3s,baz=333,slow=14,SNR=6.6						
WRA				Sn	Sn	21 59 55.8	-16
	0.3nm,0.3s,baz=336,slow=22,SNR=8.1						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**17.43**	**162**	P	Pn	21 58 17.6	+0.3
	0.2nm,0.3s,baz=342,slow=11,SNR=9.9						
ASAR				S	Sn	22 01 17.0	-15
	0.4nm,0.8s,baz=354,slow=24,SNR=1.8						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**67.29**	**328**	P	P	22 05 09.3	0.0
	0.2nm,0.5s,baz=136,slow=4.6,SNR=4.6						
	0.2nm,0.5s						

IDC 06 22:20:35.8±2.0**,6°.93S×128°.91E,h0**km**,mb3.7**/2**, mbtmp3.6**/4**,ML3.6**/2**,Error ellipse: s-maj=180.5km s-min=28.8km az=65.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.97**	**158**	Pn	Pn	22 23 55.9	+0.8
	0.3nm,0.3s,baz=336,slow=12,SNR=16						
WRA				Sn	Sn	22 26 18.8	-12
	1.4nm,0.3s,baz=338,slow=22,SNR=12						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**17.32**	**164**	P	P	22 24 41.0	+0.4
	0.2nm,0.3s,baz=340,slow=11,SNR=14						
ASAR				S	Sn	22 27 40.2	-12
	0.7nm,0.4s,baz=341,slow=26,SNR=5.3						
	1.4nm,0.7s						
STKA	**Stephens Creek**	**27.50**	**156**	P	P	22 26 22.8	-1.2
	0.6nm,0.3s,baz=330,slow=20,SNR=1.9						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**67.58**	**327**	P	P	22 31 34.5	+0.2
	0.2nm,0.5s,baz=116,slow=7.6,SNR=1.8						
	0.2nm,0.5s						

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*IDC **06** 22:37:27.8±0.6,5°.67S×153°.53E,h0km,mb4.3/15, mbtmp4.3/17,ML3.3/2,MS4.0/34,Error ellipse: s-maj=22.6km s-min=14.3km az=94.0*

*NEIC **06** 22:37:28.6±1.5,5°.89S±0°.07×153°.62E±0°.05,h10km±1km, mb4.8/39,Error ellipse: s-maj=13.8km s-min=6.5km az=212.0*

*GCMT **06** 22:37:34.6±0.3,5°.99S±0°.02×153°.39E±0°.03,h24km, MW4.9/82,Moment Tensor Solution. s43,c48; s82,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.77±.16; $M_{\theta\theta}$-1.81±.10; $M_{\phi\phi}$-0.95±.10; $M_{r\theta}$1.20±.13; $M_{\theta\phi}$0.71±.07; $M_{\phi r}$-1.06±.16; Best double couple: $M_0$2.95700×10^{16} NP1:ϕ_s125.00000°,δ61.00000°,λ94.00000°. NP2: ϕ_s296.00000°,δ29.00000°,λ82.00000°. Principal axes: T 3.2480, Plg73.0000°, Azm46.0000°; N -0.5800, Plg4.0000°, Azm303.0000°; P -2.6660, Plg16.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **06** 22:37:40.5±0.8,6°S±4°×15°3E±°,h89km±7km,M4.8/12, mB5.2/4,mb4.5/12,MLv4.9/2,Mw(mB)4.5/4*

ISC 06 22:37:30.9±0.4**,5°.84S**±0°.06×**153°.57E**±0°.07**,h32**km**,n115, σ1ˢ85**/82**,mb4.6**/32**,MS4.0**/32**,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.15**	**319**		**Pb**	**22 38 04.8**	**-4.5**
HNR	**Honiara**	**7.26**	**120**	Pn	**Pn**	**22 39 12.9**	**-1.9**
PMG	**Port Moresby**	**7.28**	**240**		**Pn**	**22 39 13.1**	**-2.0**
PMG	**Port Moresby**	**7.28**	**240**	Pn	Pn	22 39 16.8	+1.8
	8.3nm,0.3s,baz=59,slow=5.2,SNR=9.4						
PMG				Sn	**Sn**	**22 40 39.7**	**+3.1**
	19nm,0.3s,baz=162,slow=15,SNR=7.9						
PMG				LR	LR	22 42 31.1	
	comp=Z,1μm,18.1s,baz=42,slow=41						
	21nm,0.4s						
COEN	**Coen**	**13.03**	**231**		**Pn**	**22 40 31.9**	**-2.0**
PATS	**Pohnpei**	**13.45**	**21**	Pn	**Pn**	**22 40 38.0**	**-1.7**
CTA	**Charters Tower**	**15.85**	**206**	Pn	**P**	**22 41 14.7**	**-0.5**
	0.2nm,0.3s,baz=38,slow=12,SNR=4.5						
CTA				LR	LR	22 47 25.0	
	comp=Z,745nm,18.0s,baz=52,slow=37						
	4.0nm,0.8s						
CTAO	**Charters Tower**	**15.85**	**206**		**P**	**22 41 14.4**	**-0.8**
EIDS	**Eidsvold**	**19.57**	**187**	P	**Pn**	**22 41 55.4**	**-2.2**
DZM	**Mont Dzumac**	**20.38**	**144**		**P**	**22 42 04.0**	**-1.2**
DZM				IAmb	IAmb	22 42 16.7	
	comp=Z,40nm,1.2s						
DZM	**Mont Dzumac**	**20.38**	**144**	*e*P	Pn	22 42 08.6	+1.2
	comp=Z,72nm,1.2s						
DZM				*e*S	Sn	22 46 07.2	+11
	comp=Z,272nm,23.9s						
DZM				*e*LR	LR	22 47 14.8	
	comp=Z,844nm,21.6s						
DZM	**Mont Dzumac**	**20.38**	**144**	P	Pn	22 42 08.4	+1.0
	comp=Z,17nm,1.0s,baz=320,slow=18,SNR=7.7						
	comp=Z,17nm,1.0s						
GUMO	**Guam**	**21.15**	**336**	LR	LR	22 51 22.9	
	comp=Z,241nm,18.1s,baz=138,slow=40						
WR0	**Warramunga Arr**	**23.22**	**231**	P	**P**	**22 42 35.3**	**-0.1**
WRA	**Warramunga Arr**	**23.37**	**231**	P	**P**	**22 42 37.5**	**+0.6**
WRA	**Warramunga Arr**	**23.37**	**231**	P	**P**	**22 42 37.6**	**+0.7**
	comp=Z,5.5nm,1.0s,baz=55,slow=9.5,SNR=16						
WRA				PcP	**PcP**	**22 46 27.4**	**+4.1**
	comp=Z,1.1nm,0.8s,baz=55,slow=2.9,SNR=4.7						
WRA				ScP	**ScP**	**22 50 04.9**	**+5.6**
	comp=Z,0.6nm,0.9s,baz=59,slow=3.2,SNR=2.8						
	comp=Z,5.5nm,1.0s						
ARMA	**Armidale**	**24.52**	**184**	P	**P**	**22 42 47.0**	**-0.7**
ARMA				IAmb	IAmb	22 42 55.7	
	comp=Z,25nm,1.1s						
AS31	**Alice Springs**	**25.93**	**225**	P	**P**	**22 43 00.2**	**-0.3**
ASAR	**Alice Springs**	**25.93**	**225**	P	**P**	**22 43 01.1**	**+0.5**
ASAR	**Alice Springs**	**25.93**	**225**	P	**P**	**22 43 02.0**	**+1.4**
	comp=Z,6.8nm,0.8s,baz=57,slow=8.9,SNR=58						
ASAR				PcP	**PcP**	**22 46 32.6**	**+3.7**
	comp=Z,1.0nm,0.7s,baz=40,slow=2.1,SNR=4.3						
ASAR				ScP	**ScP**	**22 50 13.4**	**+7.0**
	comp=Z,0.5nm,0.7s,baz=45,slow=4.2,SNR=3.3						
ASAR				LR	LR	22 53 34.2	
	comp=Z,447nm,19.3s,baz=63,slow=37						
	comp=Z,6.8nm,0.8s						
KNRA	**Kununurra**	**26.23**	**246**	P	**P**	**22 43 04.3**	**+1.1**
KNRA				IAmb	IAmb	22 43 19.2	
	comp=Z,40nm,1.3s						
H11S3	**WAKE ISLAND Hy**	**27.42**	**28**	T	T	23 11 38.1	
	baz=207,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hy**	**27.43**	**28**	T	T	23 11 50.7	
	baz=207,slow=74,SNR=6.0						
H11S1	**WAKE ISLAND Hy**	**27.44**	**28**	T	T	23 11 35.1	
	baz=207,slow=74,SNR=5.3						
STKA	**Stephens Creek**	**28.23**	**202**	P	**P**	**22 43 21.4**	**+0.4**
STKA	**Stephens Creek**	**28.23**	**202**	P	P	22 43 24.1	+3.2
	comp=Z,1.9nm,0.7s,baz=31,slow=12,SNR=4.1						
STKA				LR	LR	22 55 15.1	
	comp=Z,434nm,18.6s,baz=29,slow=38						
	comp=Z,1.9nm,0.7s						
BATI	**Baumata**	**29.92**	**260**	LR	LR	22 56 24.4	
	comp=Z,310nm,21.2s,baz=101,slow=38						
EDFI	**Ende, Flores**	**31.75**	**263**	P	**P**	**22 43 50.7**	**-1.8**
	comp=Z,9.1nm,1.2s						
BASI	**Baing, Sumba**	**32.95**	**260**	P	**P**	**22 44 01.1**	**-1.8**
	comp=Z,54nm,1.3s						
KAPI	**Kappang**	**33.67**	**270**	LR	LR	23 00 07.5	
	comp=Z,72nm,19.4s,baz=92,slow=40						
FORT	**Forrest**	**34.49**	**221**	P	**P**	**22 44 16.6**	**+0.4**
MBWA	**Marble Bar**	**36.14**	**242**	P	**P**	**22 44 30.5**	**0.0**
MBWA				IAmb	IAmb	22 44 32.8	
	comp=Z,24nm,1.3s						
RTZ	**Ruatahuna**	**38.92**	**150**	P	**P**	**22 44 53.1**	**-0.8**
RTZ				IAmb	IAmb	22 45 01.3	
	comp=Z,25nm,1.3s						
MRNZ	**Matariki Terra**	**39.33**	**157**	P	**P**	**22 44 57.3**	**+0.1**
TCW	**Tory Channel**	**39.78**	**155**	P	**P**	**22 45 01.4**	**+0.5**
JOW	**Kunigami**	**40.68**	**324**	LR	LR	22 59 31.3	
	comp=Z,142nm,20.2s,baz=145,slow=33						
UGM	**Wanagama**	**42.77**	**265**	P	**P**	**22 45 22.8**	**-3.1**
NWAO	**Narrogin (SRO)**	**43.22**	**227**	LR	LR	23 04 13.0	
	comp=Z,515nm,18.4s,baz=48,slow=37						
JNU	**Nakatsue**	**44.33**	**332**	P	**P**	**22 45 39.1**	**+0.9**
JNU	**Nakatsue**	**44.33**	**332**	LR	LR	23 01 09.4	
	comp=Z,48nm,20.4s,baz=134,slow=32						
MJAR	**Matsushiro Arr**	**44.55**	**342**	LR	LR	23 04 15.3	
	comp=Z,138nm,18.9s,baz=171,slow=36						
LEM	**Lembang**	**45.67**	**266**	LR	LR	23 09 48.4	
	comp=Z,44nm,19.1s,baz=40,slow=42						
KSRS	**Korea Array**	**49.27**	**333**	P	**P**	**22 46 17.6**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=161,slow=8.8,SNR=8.4						
KSRS				LR	LR	23 05 36.8	
	comp=Z,62nm,18.4s,baz=155,slow=34						
	comp=Z,2.3nm,0.7s						
ASAJ	**Asahikawa**	**50.70**	**350**	LR	LR	23 06 48.0	
	comp=Z,104nm,19.8s,baz=170,slow=35						
USRK	**Ussuriysk Ar.**	**53.47**	**341**	P	**P**	**22 46 48.3**	**+0.3**
USRK	**Ussuriysk Ar.**	**53.47**	**341**	P	**P**	**22 46 48.7**	**+0.7**
	comp=Z,3.7nm,0.9s,baz=134,slow=7.5,SNR=6.0						
USRK				LR	LR	23 05 21.7	
	comp=Z,74nm,21.8s,baz=172,slow=31						
	comp=Z,3.7nm,0.9s						
ENH	**Enshi**	**55.42**	**313**	P	**P**	**22 47 03.1**	**+0.5**
ENH				IAmb	IAmb	22 47 05.3	
	comp=Z,18nm,1.1s						
PPT	**Papeete**	**56.68**	**107**	LR	LR	23 08 47.7	
	comp=Z,74nm,19.7s,baz=262,slow=33						
PPT2	**Papeete2**	**56.69**	**107**	*e*S	S	22 55 15.2	+12
	comp=Z,51nm,23.2s						
PPT2				*e*LR	LR	23 04 16.0	
	comp=Z,90nm,21.8s						
TBI	**Tubuai**	**57.44**	**114**	*e*LR	LR	23 04 39.3	
	comp=Z,752nm,23.8s						
PHRA	**Phrae**	**57.87**	**296**	P	**P**	**22 47 20.8**	**+0.6**
KLR	**Kul'dur**	**58.05**	**343**	LR	LR	23 11 23.3	
	comp=Z,67nm,20.3s,baz=154,slow=35						
CRAI	**Chiangrai**	**58.34**	**298**	P	**P**	**22 47 24.2**	**+0.8**
CRAI				IAmb	IAmb	22 47 27.2	
	comp=Z,15nm,1.4s						
PETK	**Petropavlovsk-**	**58.83**	**3**	P	**P**	**22 47 27.0**	**+0.8**
	comp=Z,3.6nm,0.8s,baz=134,slow=8.3,SNR=3.3						
PETK				LR	LR	23 08 29.7	
	comp=Z,70nm,21.5s,baz=185,slow=32						
	comp=Z,3.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**59.01**	**295**	P	**P**	**22 47 29.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**59.01**	**295**	P	P	22 47 29.8	+1.7
	comp=Z,1.4nm,0.3s,baz=117,slow=5.7,SNR=7.2						
	comp=Z,1.4nm,0.3s						
CHTO	**Chiang Mai**	**59.13**	**296**	P	**P**	**22 47 30.1**	**+1.2**
CHTO				IAmb	IAmb	22 47 48.5	
	comp=Z,7.0nm,1.2s						
SHEM	**Shemya Is, Ala**	**60.90**	**14**	LR	LR	23 12 50.0	
	comp=Z,129nm,18.8s,baz=138,slow=35						
HIA	**Hailar**	**62.29**	**336**	P	**P**	**22 47 50.7**	**+0.8**
MA2	**Magadan**	**65.25**	**358**	LR	LR	23 16 52.3	
	comp=Z,48nm,19.0s,baz=155,slow=36						
ULN	**Ulaanbaatar**	**67.28**	**328**	P	**P**	**22 48 24.3**	**+1.7**
ULN				IAmb	IAmb	22 48 26.4	
	comp=Z,12nm,1.4s						
SHL	**Shillong**	**67.49**	**301**	P	**P**	**22 48 25.1**	**+0.6**
SONM	**Songino Array**	**67.61**	**328**	P	**P**	**22 48 25.9**	**+1.3**
SONM				IAmb	IAmb	22 48 29.0	
	comp=Z,6.7nm,1.3s						
SONM	**Songino Array**	**67.61**	**328**	P	P	22 48 26.5	+1.9
	comp=Z,1.2nm,0.4s,baz=143,slow=5.8,SNR=15						
	comp=Z,1.2nm,0.4s						
SEY	**Seymchan**	**68.58**	**359**	LR	LR	23 21 24.8	
	comp=Z,41nm,18.0s,baz=196,slow=38						
LSA	**Lhasa**	**69.45**	**305**	P	**P**	**22 48 37.5**	**+0.5**
LSA				IAmb	IAmb	22 48 40.1	
	comp=Z,4.5nm,0.7s						
YAK	**Yakutsk**	**70.14**	**348**	P	**P**	**22 48 41.5**	**+1.6**
VNDA	**Vanda**	**71.77**	**178**	P	**P**	**22 48 50.5**	**+0.8**
VNDA				IAmb	IAmb	22 48 58.2	
	comp=Z,6.8nm,1.3s						
VNDA	**Vanda**	**71.77**	**178**	P	P	22 48 53.0	+3.3
	comp=Z,2.3nm,1.0s,baz=329,slow=7.0,SNR=6.6						
	comp=Z,2.3nm,1.0s						
RAMN	**Ramite**	**72.43**	**300**	*e*P	P	22 49 00.8	+5.9
	comp=Z,5.2nm,0.7s						
JIRN	**Jiri**	**72.98**	**301**	*e*P	**P**	**22 48 56.2**	**-2.1**
	comp=Z,36nm,1.4s						
GUN	**Gumba**	**73.31**	**301**	*e*P	**P**	**22 48 56.3**	**-3.9**
	comp=Z,62nm,1.4s						
PKI	**Pulchoki**	**73.62**	**301**	*e*P	**P**	**22 49 02.9**	**+0.9**
	comp=Z,29nm,1.4s						
PKIN	**Phulchoki**	**73.63**	**301**	*e*P	**P**	**22 49 03.2**	**+1.2**
	comp=Z,9.0nm,0.9s						
KKN	**Kakani**	**73.79**	**301**	*e*P	**P**	**22 49 01.3**	**-1.6**
	comp=Z,57nm,2.6s						
DMN	**Daman**	**73.89**	**301**	*e*P	**P**	**22 49 04.6**	**+1.1**
	comp=Z,29nm,1.1s						
GKN	**Gorkha**	**74.39**	**301**	*e*P	**P**	**22 49 04.5**	**-1.8**
	comp=Z,4.2nm,0.3s						
KOLN	**Koldanda**	**75.22**	**301**	*e*P	P	22 49 14.1	+2.9
	comp=Z,61nm,2.2s						
DANN	**Dangsing**	**75.23**	**301**	*e*P	**P**	**22 49 08.5**	**-2.8**
	comp=Z,57nm,1.7s						
PYUN	**Piuthan**	**75.83**	**301**	*e*P	**P**	**22 49 15.8**	**+1.2**
	comp=Z,17nm,0.9s						
K15K	**Wolf Creek Mou**	**76.11**	**20**	P	**P**	**22 49 15.9**	**+0.7**
K15K				IAmb	IAmb	22 49 40.4	
	comp=Z,14nm,1.2s						
KDAK	**Kodiak Island**	**76.76**	**26**	LR	LR	23 16 54.6	
	comp=Z,150nm,20.2s,baz=254,slow=31						
M19K	**Big River Lodg**	**78.42**	**22**	P	**P**	**22 49 29.4**	**+1.1**
M19K				IAmb	IAmb	22 49 30.2	
	comp=Z,9.3nm,1.2s						
J18K	**Innoko River**	**78.54**	**20**	P	**P**	**22 49 29.4**	**+0.6**
J18K				IAmb	IAmb	22 49 37.5	
	comp=Z,6.9nm,1.5s						
CAST	**Castle Rocks**	**80.17**	**22**	P	**P**	**22 49 37.6**	**-0.2**
IMAR	**Indian Mountai**	**81.10**	**19**	P	**P**	**22 49 43.1**	**+0.5**
MK31	**Makanchi Array**	**81.61**	**319**	P	**P**	**22 49 47.2**	**+1.4**
MKAR	**Makanchi Array**	**81.61**	**319**	P	**P**	**22 49 47.1**	**+1.3**
	comp=Z,3.7nm,0.7s,baz=99,slow=6.2,SNR=28						
	comp=Z,3.7nm,0.7s						
MAKZ	**Makanchi**	**81.82**	**319**	P	**P**	**22 49 48.4**	**+1.4**
MAKZ				IAmb	IAmb	22 49 49.5	
	comp=Z,5.8nm,0.9s						
ZAA0	**Zalesovo Array**	**82.44**	**326**		**P**	**22 49 49.4**	**-0.6**
ZAA0				IAmb	IAmb	22 49 51.5	
	comp=Z,7.0nm,1.1s						
ZALV	**Zalesovo Beam**	**82.44**	**326**		**P**	**22 49 49.2**	**-0.7**
ZALV	**Zalesovo Beam**	**82.44**	**326**	P	**P**	**22 49 50.6**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=100,slow=5.3,SNR=15						
	comp=Z,1.2nm,0.4s						
ILAR	**Eielson Array**	**82.83**	**22**	P	**P**	**22 49 51.7**	**0.0**
ILAR	**Eielson Array**	**82.83**	**22**	P	**P**	**22 49 51.1**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=251,slow=5.6,SNR=9.6						
ILAR				LR	LR	23 27 58.8	
	comp=Z,160nm,18.0s,baz=235,slow=37						
	comp=Z,0.9nm,0.8s						
QSPA	**South Pole Qui**	**84.13**	**180**	P	**P**	**22 49 59.9**	**+1.3**
KURK	**Kurchatov**	**85.05**	**322**		**P**	**22 50 03.9**	**+0.5**
KURBB	**Kurchatov Arra**	**85.08**	**322**	P	**P**	**22 50 04.3**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=108,slow=3.9,SNR=15						
	comp=Z,2.1nm,0.8s						
ARSB	**Arslanbob**	**86.79**	**312**	P	**P**	**22 50 13.9**	**+1.5**
ARSB				IAmb	IAmb	22 50 16.2	
	comp=Z,5.4nm,1.4s						
BBB	**Bella Bella**	**87.45**	**37**	LR	LR	23 26 04.4	
	comp=Z,141nm,18.2s,baz=262,slow=33						
DLBC	**Dease Lake**	**87.88**	**31**	LR	LR	23 23 55.8	
	comp=Z,108nm,19.6s,baz=289,slow=32						
KK31	**Karatay Array**	**88.90**	**313**	P	**P**	**22 50 23.3**	**+1.0**
KKAR	**Karatay Array**	**88.90**	**313**		**P**	**22 50 23.1**	**+0.8**
INK	**Inuvik**	**89.14**	**21**	LR	LR	23 25 44.8	
	comp=Z,135nm,21.4s,baz=183,slow=33						
YBH	**Yreka Blue Hor**	**89.17**	**48**	LR	LR	23 23 12.4	
	comp=Z,230nm,21.0s,baz=246,slow=31						
BVAR	**Borovoye Array**	**90.53**	**323**	P	**P**	**22 50 30.5**	**+0.8**
	comp=Z,6.0nm,0.9s,baz=101,slow=6.2,SNR=22						
	comp=Z,6.0nm,0.9s						
BRVK	**Borovoye**	**90.59**	**323**		**P**	**22 50 30.0**	**0.0**
BRVK				IAmb	IAmb	22 50 32.1	
	comp=Z,10nm,1.3s						
NVAR	**Mina Array Bea**	**92.12**	**52**	LR	LR	23 29 49.4	
	comp=Z,132nm,18.1s,baz=274,slow=34						
PFO	**Pinyon Flats O**	**93.17**	**57**	LR	LR	23 28 53.3	
	comp=Z,116nm,18.1s,baz=4.0,slow=33						
RPN	**Rapa Nui**	**93.65**	**118**	LR	LR	23 27 00.1	
	comp=Z,63nm,19.2s,baz=0.0,slow=32						
NEW	**Newport**	**93.85**	**42**	LR	LR	23 30 60.0	
	comp=Z,245nm,18.0s,baz=266,slow=34						
ELK	**Elko**	**94.67**	**50**	LR	LR	23 27 01.4	
	comp=Z,93nm,20.2s,baz=275,slow=31						
LPIG	**La Paz**	**97.93**	**67**	LR	LR	23 26 49.4	
	comp=Z,68nm,21.1s,baz=270,slow=30						
PDAR	**Pinedale Array**	**98.98**	**48**	LR	LR	23 33 13.0	
	comp=Z,168nm,18.2s,baz=280,slow=34						
BDFB	**Brasilia**	**149.79**	**135**	PKPbc	**PKPab**	**22 57 20.8**	**-3.4**
	comp=Z,4.4nm,0.8s,baz=253,slow=8.7,SNR=3.2						
BDFB				PKPab	**pPKPbc**	**22 57 26.5**	**-0.8**
	comp=Z,4.4nm,0.8s,baz=207,slow=2.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**151.35**	**287**	PKPbc	**PKiKP**	**22 57 22.7**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=57,slow=1.9,SNR=26						
TORD				PKPab	**sPKPbc**	**22 57 32.3**	**-2.0**
	comp=Z,1.9nm,0.7s,baz=55,slow=3.2,SNR=4.5						

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*TAP **06** 23:15:35.1,22°.05N×120°.18E,h42km,ML3.7,C*

ISC 06 23:15:35.5±1.3**,22°.03N**±0°.03×**120°.17E**±0°.03**,h51**km±8km**, n137,σ0ˢ92**/259**,5C-6D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWP	**Hsiaoliuchiu**	**0.36**	**30**	⇑P	**Pn**	**23 15 44.6**	**-0.7**
	baz=27						
TWP				S	**Sn**	**23 15 52.1**	**-0.2**
	baz=27						
HEN	**Hengchun**	**0.53**	**93**	P	**Pn**	**23 15 47.1**	**0.0**
	baz=96						
HEN				*e*S	**Sn**	**23 15 57.3**	**+1.8**
	baz=96						
SCZT	**Fangliau**	**0.54**	**51**	P	**Pn**	**23 15 46.5**	**-0.8**
	baz=53						
SCZT				S	**Sn**	**23 15 55.1**	**-0.7**
	baz=53						
KAU	**Kaohsiung**	**0.55**	**14**	P	**Pn**	**23 15 47.3**	**-0.1**
	baz=17						
KAU				*e*S	**Sn**	**23 15 57.8**	**+1.8**
	baz=17						
TWK1	**Hengchun**	**0.60**	**98**	*i* P	**Pn**	**23 15 47.8**	**-0.2**
	baz=101						
TWK1				*e*S	**Sn**	**23 15 57.2**	**+0.2**
	baz=101						
TWKBT	**Hengchun**	**0.60**	**98**	⇓*i*P	**Pn**	**23 15 47.8**	**-0.3**
	baz=101						
TWKBT				S	**Sn**	**23 15 57.4**	**+0.2**
	baz=101						
SLIU	**Shizi**	**0.61**	**72**	⇓P	**Pn**	**23 15 47.5**	**-0.7**
	baz=66						
SLIU				S	**Sn**	**23 15 56.9**	**-0.5**
	baz=66						
WSSB	**Gushan**	**0.61**	**8**	⇓P	**Pn**	**23 15 47.9**	**-0.4**
	baz=356						
WSSB				S	**Sn**	**23 15 58.1**	**+0.7**
	baz=356						
SMST	**Manzhou Townsh**	**0.62**	**91**	⇓*i*P	**Pn**	**23 15 47.9**	**-0.3**
	baz=93						
SMST				S	**Sn**	**23 15 57.7**	**+0.2**
	baz=93						
TSEB	**Hengchuen, Pin**	**0.69**	**101**	P	**Pn**	**23 15 48.4**	**-0.7**
	baz=104						
TSEB				S	**Sn**	**23 15 58.1**	**-1.0**
	baz=104						
TSPT	**Pingtung City**	**0.71**	**25**	P	**Pn**	**23 15 49.9**	**+0.5**
	baz=38						
TSPT				*e*S	**Sn**	**23 16 01.9**	**+2.4**
	baz=38						
EAST	**Anshuo**	**0.72**	**61**	*i* P	**Pn**	**23 15 49.2**	**-0.4**
	baz=62						
EAST				*e*S	**Sn**	**23 15 59.4**	**-0.4**
	baz=62						
MASBT	**Mashibuluo**	**0.72**	**37**	⇓P	**Pn**	**23 15 48.8**	**-0.7**
	baz=37						
MASBT				*e*S	**Sn**	**23 15 58.5**	**-1.3**
	baz=37						
TAWH	**Dawu Township**	**0.73**	**65**	P	**Pn**	**23 15 49.1**	**-0.6**
	baz=66						
TAWH				S	**Sn**	**23 16 00.1**	**0.0**
	baz=66						
SNJT	**Kaohsiung City**	**0.73**	**12**	⇑P	**Pn**	**23 15 49.8**	**+0.1**
	baz=1.0						
SNJT				S	**Sn**	**23 16 00.7**	**+0.6**
	baz=1.0						
TAW	**Tawu**	**0.75**	**64**	⇑P	**Pn**	**23 15 49.4**	**-0.5**
	baz=66						
TAW				S	**Sn**	**23 15 59.9**	**-0.5**
	baz=66						
SGLT	**Jiouru**	**0.75**	**23**	*e*P	**Pn**	**23 15 50.9**	**+0.9**
	baz=37						
SGLT				*e*S	**Sn**	**23 16 02.8**	**+2.3**
	baz=37						
TSMG	**Majia**	**0.80**	**33**	P	**Pn**	**23 15 50.0**	**-0.6**
	baz=33						
TSMG				S	**Sn**	**23 16 00.9**	**-0.8**
	baz=33						
TWM1	**Shoushan**	**0.82**	**17**	P	**Pn**	**23 15 51.5**	**+0.6**
	baz=6.0						
TWM1				*e*S	**Sn**	**23 16 01.1**	**-1.1**
	baz=6.0						
SSD	**Sandimen**	**0.83**	**31**	*e*P	**Pn**	**23 15 50.5**	**-0.6**
	baz=32						
SSD				*e*S	**Sn**	**23 16 01.7**	**-0.7**
	baz=32						
SCST	**Cishan**	**0.90**	**19**	P	**Pn**	**23 15 52.3**	**+0.3**
	baz=19						
SCST				S	**Sn**	**23 16 04.5**	**+0.5**
	baz=19						
ECL	**Taimali**	**0.92**	**52**	P	**Pn**	**23 15 51.6**	**-0.6**
	baz=53						
ECL				*e*S	**Sn**	**23 16 02.7**	**-1.7**
	baz=53						
TAI	**Tainan**	**0.96**	**2**	*i* P	**Pn**	**23 15 52.6**	**-0.1**
	baz=2.0						
TAI				S	**Sn**	**23 16 06.1**	**+0.8**
	baz=2.0						
SHHT	**Tainan City**	**1.00**	**10**	P	**Pn**	**23 15 53.3**	**+0.1**
	baz=9.0						
SHHT				S	**Sn**	**23 16 07.1**	**+0.7**
	baz=9.0						
SLGT	**Liugui**	**1.05**	**25**	⇑P	**Pn**	**23 15 53.8**	**-0.2**
	baz=25						
SLGT				S	**Sn**	**23 16 07.4**	**-0.3**
	baz=25						
CHN3	**Shinhua**	**1.06**	**10**	P	**Pn**	**23 15 54.0**	**0.0**
	baz=10.0						
CHN3				S	**Sn**	**23 16 07.2**	**-0.5**
	baz=10.0						
SSHA	**Shanhua**	**1.10**	**6**	P	**Pn**	**23 15 55.0**	**+0.3**
	baz=5.0						
SSHA				S	**Sn**	**23 16 10.0**	**+1.2**
	baz=5.0						
TSCK	**Chigu Township**	**1.11**	**356**	P	**Pn**	**23 15 54.4**	**-0.3**
	baz=356						
TSCK				S	**Sn**	**23 16 08.7**	**-0.3**
	baz=356						
SGST	**Jiashian**	**1.11**	**20**	P	**Pn**	**23 15 54.1**	**-0.7**
	baz=20						
SGST				*i* S	**Sn**	**23 16 09.0**	**-0.1**
	baz=20						
SCLT	**Jiali**	**1.14**	**1**	*e*P	**Pn**	**23 15 54.1**	**-1.0**
	baz=1.0						
SCLT				*i* S	**Sn**	**23 16 09.7**	**+0.1**
	baz=1.0						
TWG	**Pinlang**	**1.15**	**47**	*e*P	**Pn**	**23 15 55.8**	**+0.5**
	baz=36						
TWG				*i* S	**Sn**	**23 16 09.6**	**-0.3**
	baz=36						
TWGBT	**Beinan**	**1.15**	**47**	P	**Pn**	**23 15 55.7**	**+0.4**
TWGBT	**Beinan**	**1.15**	**47**	*e*P	**Pn**	**23 15 56.2**	**+0.9**
	baz=36						
TWGBT				S	**Sn**	**23 16 09.9**	**-0.1**
	baz=36						
TTN	**Taitung**	**1.16**	**51**	P	**Pn**	**23 15 54.8**	**-0.5**
	baz=52						
TTN				S	**Sn**	**23 16 09.7**	**-0.4**
	baz=52						
CHN1	**Nanshi**	**1.20**	**16**	P	**Pn**	**23 15 55.9**	**0.0**
	baz=16						
CHN1				S	**Sn**	**23 16 10.7**	**-0.5**
	baz=16						
SNST	**Tainan City**	**1.22**	**14**	P	**Pn**	**23 15 56.5**	**+0.2**
	baz=14						
SNST				S	**Sn**	**23 16 11.8**	**+0.1**
	baz=14						
LONT	**Longtian**	**1.25**	**45**	P	**Pn**	**23 15 57.1**	**+0.5**
	baz=36						
LONT				S	**Sn**	**23 16 11.8**	**-0.4**
	baz=36						
STYT	**Tauyuan**	**1.25**	**26**	P	**Pn**	**23 15 55.9**	**-0.8**
	baz=26						
STYT				*e*S	**Sn**	**23 16 12.0**	**-0.5**
	baz=26						
STYH	**Taoyuan**	**1.27**	**26**	P	**Pn**	**23 15 57.0**	**+0.2**
	baz=26						
STYH				S	**Sn**	**23 16 12.5**	**-0.2**
	baz=26						

TWK	**Hsinying**	**1.27**	**13**	P	**Pn**	**23 15 56.8**	**-0.1**
	baz=26							
TWK				S	**Sn**	**23 16 12.9**	**+0.1**
	baz=26							
WTP	**Ta-pu**	**1.28**	**19**	*i* P	**Pn**	**23 15 56.8**	**-0.3**
	baz=19							
WTP				*e*S	**Sn**	**23 16 12.8**	**-0.4**
	baz=19							
LAY	**Lan-yu**	**1.28**	**89**	P	**Pn**	**23 15 56.4**	**-0.7**
	baz=91							
LAY				S	**Sn**	**23 16 11.2**	**-2.0**
	baz=91							
CHN8	**Yiju**	**1.31**	**2**	P	**Pn**	**23 15 57.2**	**-0.2**
	baz=2.0							
CHN8				S	**Sn**	**23 16 14.0**	**+0.2**
	baz=2.0							
WDGT	**Dungji**	**1.31**	**339**	P	**Pn**	**23 15 57.0**	**-0.4**
	baz=350							
WDGT				S	**Sn**	**23 16 13.3**	**-0.5**
	baz=350							
LYUB	**Lan-yu**	**1.31**	**91**	*e*P	**Pn**	**23 15 55.4**	**-2.1**
	baz=92							
LYUB				*e*S	**Sn**	**23 16 12.3**	**-1.6**
	baz=92							
ICHU	**Yijhu**	**1.33**	**4**	P	**Pn**	**23 15 57.3**	**-0.4**
	baz=353							
ICHU				*e*S	**Sn**	**23 16 13.1**	**-1.1**
	baz=353							
TPUB	**Ta-pu**	**1.33**	**19**	P	**Pn**	**23 15 57.2**	**-0.6**
TPUB	**Ta-pu**	**1.33**	**19**	P	**Pn**	**23 15 57.4**	**-0.4**
	baz=18							
TPUB				S	**Sn**	**23 16 14.0**	**-0.5**
	baz=18							
VCHM	**Qimei**	**1.36**	**330**	*e*P	**Pn**	**23 15 57.2**	**-0.9**
	baz=341							
VCHM				*e*S	**Sn**	**23 16 14.2**	**-0.8**
	baz=341							
LDUT	**Ludao**	**1.36**	**62**	P	**Pn**	**23 15 58.2**	**+0.1**
	baz=63							
LDUT				S	**Sn**	**23 16 15.3**	**+0.2**
	baz=63							
CHN4	**Tsaushan**	**1.37**	**17**	P	**Pn**	**23 15 58.0**	**-0.3**
	baz=16							
CHN4				*i* S	**Sn**	**23 16 15.2**	**-0.1**
	baz=16							
ELDTW	**Lidau**	**1.39**	**34**	P	**Pn**	**23 15 58.8**	**+0.1**
	baz=21							
ELDTW				S	**Sn**	**23 16 15.8**	**-0.2**
	baz=21							
WCKO	**Fanlu**	**1.46**	**16**	P	**Pn**	**23 15 58.7**	**-0.8**
	baz=3.0							
WCKO				S	**Sn**	**23 16 16.7**	**-0.7**
	baz=3.0							
WSL	**Shuilin Townsh**	**1.49**	**2**	P	**Pn**	**23 15 59.6**	**-0.2**
	baz=2.0							
WSL				S	**Sn**	**23 16 18.2**	**+0.1**
	baz=2.0							
FULB	**Fuli**	**1.56**	**42**	*e*P	**Pn**	**23 16 02.2**	**+1.3**
	baz=54							
PHUB	**P'eng-hu**	**1.57**	**340**	P	**Pn**	**23 16 00.7**	**-0.3**
	baz=349							
PHUB				S	**Sn**	**23 16 20.3**	**+0.1**
	baz=349							
ALS	**Alishan**	**1.58**	**22**	P	**Pn**	**23 16 01.4**	**0.0**
	baz=22							
ALS				*e*S	**Sn**	**23 16 21.1**	**+0.2**
	baz=22							
WSF	**Szhu**	**1.60**	**2**	P	**Pn**	**23 16 01.5**	**+0.2**
	baz=2.0							
WSF				S	**Sn**	**23 16 20.6**	**-0.3**
	baz=2.0							
CHN5	**Tsauling**	**1.63**	**17**	P	**Pn**	**23 16 01.5**	**-0.3**
	baz=17							
CHN5				*e*S	**Sn**	**23 16 21.2**	**-0.6**
	baz=17							
PNG	**Penghu**	**1.63**	**340**	*e*P	**Pn**	**23 16 01.5**	**-0.3**
	baz=350							
PNG				*e*S	**Sn**	**23 16 21.1**	**-0.6**
	baz=350							
WTK	**Tuku**	**1.66**	**7**	*e*P	**Pn**	**23 16 01.4**	**-0.8**
	baz=356							
WTK				*e*S	**Sn**	**23 16 21.4**	**-1.0**
	baz=356							
TWF1	**Yuli**	**1.68**	**38**	*e*P	**Pn**	**23 16 03.4**	**+0.9**
	baz=31							
TWF1				*e*S	**Sn**	**23 16 23.0**	**+0.1**
	baz=31							
WDLH	**Douliu**	**1.69**	**12**	P	**Pn**	**23 16 02.0**	**-0.5**
	baz=12							
WDLH				S	**Sn**	**23 16 22.7**	**-0.2**
	baz=12							
WGK	**Gukeng**	**1.69**	**12**	*e*P	**Pn**	**23 16 02.5**	**-0.1**
	baz=13							
WGK				*e*S	**Sn**	**23 16 23.3**	**+0.3**
	baz=13							
YULB	**Yu-li**	**1.71**	**37**	P	**Pn**	**23 16 03.4**	**+0.5**
YULB	**Yu-li**	**1.71**	**37**	*e*P	**Pn**	**23 16 03.7**	**+0.9**
	baz=30							
YULB				S	**Sn**	**23 16 23.6**	**-0.1**
	baz=30							
WHYT	**Xinyi Township**	**1.77**	**21**	⇑*i*P	**Pn**	**23 16 03.7**	**-0.1**
	baz=21							
WHYT				*e*S	**Sn**	**23 16 24.7**	**-0.6**
	baz=21							
EHY	**Hungye**	**1.81**	**36**	P	**Pn**	**23 16 05.2**	**+0.9**
	baz=36							
EHY				S	**Sn**	**23 16 27.4**	**+1.3**
	baz=36							
WJS	**Zhushan**	**1.86**	**16**	*e*P	**Pn**	**23 16 04.2**	**-0.7**
	baz=16							
WJS				S	**Sn**	**23 16 27.2**	**+0.1**
	baz=16							
HGSD	**Ruisui**	**1.86**	**38**	*e*P	**Pn**	**23 16 06.5**	**+1.6**
	baz=26							
HGSD				*e*S	**Sn**	**23 16 30.0**	**+2.8**
	baz=26							
RLNB	**Erlin**	**1.86**	**5**	*e*P	**Pn**	**23 16 04.6**	**-0.3**
	baz=16							
RLNB				*e*S	**Sn**	**23 16 27.5**	**+0.3**
	baz=16							
WRL	**Guolierlin Hig**	**1.87**	**6**	*e*P	**Pn**	**23 16 04.7**	**-0.4**
	baz=16							
WRL				*e*S	**Sn**	**23 16 26.8**	**-0.8**
	baz=16							
SSLB	**Suanglung**	**1.89**	**22**	P	**Pn**	**23 16 05.3**	**-0.1**
SSLB	**Suanglung**	**1.89**	**22**	*e*P	**Pn**	**23 16 05.1**	**-0.3**
	baz=22							
SSLB				*e*S	**Sn**	**23 16 28.3**	**+0.1**
	baz=22							
WNT	**Mingjian**	**1.90**	**14**	*i* P	**Pn**	**23 16 05.5**	**0.0**
	baz=25							
WNT				*e*S	**Sn**	**23 16 28.0**	**-0.2**
	baz=25							
WNT1	**Nantou City**	**1.93**	**14**	*e*P	**Pn**	**23 16 06.1**	**+0.3**
	baz=25							
WNT1				*e*S	**Sn**	**23 16 28.1**	**-0.8**
	baz=25							
VWDT	**VWDT**	**1.94**	**27**	*e*P	**Pn**	**23 16 06.4**	**+0.5**
	baz=28							
VWDT				*e*S	**Sn**	**23 16 27.1**	**-2.0**
	baz=28							
SMLT	**Sun Moon Lake**	**1.96**	**20**	*e*P	**Pn**	**23 16 06.7**	**+0.2**
	baz=20							
SMLT				*e*S	**Sn**	**23 16 29.6**	**-0.4**
	baz=20							
TYC	**Yuchr**	**1.97**	**19**	*e*P	**Pn**	**23 16 06.3**	**-0.1**
	baz=19							
TYC				*e*S	**Sn**	**23 16 30.5**	**+0.6**
	baz=19							
EGFH	**Guangfu**	**2.00**	**35**	*e*P	**Pn**	**23 16 08.3**	**+1.5**
	baz=35							
EGFH				*e*S	**Sn**	**23 16 31.8**	**+1.0**
	baz=35							
WARBT	**Fenglin Townsh**	**2.02**	**34**	*e*P	**Pn**	**23 16 08.1**	**+0.9**
	baz=23							
WARBT				S	**Sn**	**23 16 31.8**	**+0.5**
	baz=23							
WWF	**Wufeng**	**2.06**	**14**	*e*P	**Pn**	**23 16 07.6**	**-0.1**
	baz=24							
WWF				*e*S	**Sn**	**23 16 32.7**	**+0.5**
	baz=24							
WCHH	**Zhanghua**	**2.07**	**10**	P	**Pn**	**23 16 07.9**	**+0.1**
	baz=10.0							
WCHH				*e*S	**Sn**	**23 16 32.7**	**+0.3**
	baz=10.0							
WPL	**Puli Township**	**2.10**	**20**	*e*S	**Sn**	**23 16 32.2**	**-1.0**
	baz=20							
ESL	**Shilin**	**2.12**	**33**	*e*P	**Pn**	**23 16 09.6**	**+1.0**
	baz=23							
ESL				*e*S	**Sn**	**23 16 32.2**	**-1.5**
	baz=23							
OWD	**Renai**	**2.13**	**26**	*e*P	**Pn**	**23 16 09.2**	**+0.5**
	baz=26							
OWD				*e*S	**Sn**	**23 16 33.5**	**-0.5**
	baz=26							
WCS	**Beigang Elemen**	**2.13**	**19**	*i* P	**Pn**	**23 16 08.9**	**+0.3**
	baz=19							
WCS				*e*S	**Sn**	**23 16 33.2**	**-0.6**
	baz=19							
WUSB	**Renai**	**2.14**	**24**	*e*P	**Pn**	**23 16 09.1**	**+0.2**
	baz=24							
WUSB				*e*S	**Sn**	**23 16 33.7**	**-0.6**
	baz=24							
TCU	**Taichung**	**2.16**	**12**	*e*P	**Pn**	**23 16 09.6**	**+0.6**
	baz=22							
TCU				*i* S	**Sn**	**23 16 34.5**	**0.0**
	baz=22							
CHGB	**Renai**	**2.22**	**24**	⇓P	**Pn**	**23 16 10.3**	**+0.2**
	baz=25							
CHGB				S	**Sn**	**23 16 36.4**	**-0.1**
	baz=25							
ETM	**Tongmen**	**2.28**	**32**	*e*P	**Pn**	**23 16 12.2**	**+1.5**
	baz=22							
ETM				*e*S	**Sn**	**23 16 37.1**	**-0.5**
	baz=22							
LXIB	**Xiulin Townshi**	**2.29**	**30**	*e*P	**Pn**	**23 16 12.0**	**+1.1**
	baz=21							
LXIB				*e*S	**Sn**	**23 16 38.8**	**+0.8**
	baz=21							
WHF	**Hehuan Shan**	**2.33**	**25**	*e*P	**Pn**	**23 16 13.0**	**+1.2**
	baz=16							
WHF				*e*S	**Sn**	**23 16 37.2**	**-2.3**
	baz=16							
WHP	**Taichung City**	**2.35**	**18**	P	**Pn**	**23 16 12.0**	**+0.3**
	baz=27							
WHP				S	**Sn**	**23 16 39.8**	**+0.4**
	baz=27							
TWQ1	**Liyutan**	**2.37**	**13**	P	**Pn**	**23 16 12.7**	**+0.7**
	baz=14							
TWQ1				S	**Sn**	**23 16 39.5**	**-0.4**
	baz=14							
TDCB	**Techi**	**2.39**	**22**	P	**Pn**	**23 16 12.7**	**+0.3**
	baz=22							
TDCB				S	**Sn**	**23 16 40.4**	**-0.1**
	baz=22							
TWT	**Tachien**	**2.40**	**23**	P	**Pn**	**23 16 13.3**	**+0.9**
	baz=22							
TWT				S	**Sn**	**23 16 40.0**	**-0.8**
	baz=22							
FUSS	**Fushou**	**2.42**	**24**	*e*P	**Pn**	**23 16 14.0**	**+1.2**
	baz=24							
FUSS				*e*S	**Sn**	**23 16 40.8**	**-0.5**
	baz=24							
TWD	**Chiawan**	**2.43**	**33**	*e*P	**Pn**	**23 16 13.4**	**+0.8**
	baz=24							
TWD				*e*S	**Sn**	**23 16 41.5**	**+0.3**
	baz=24							
NSY	**Sanyi**	**2.44**	**13**	*e*P	**Pn**	**23 16 13.1**	**+0.2**
	baz=13							
NSY				*e*S	**Sn**	**23 16 40.9**	**-0.5**
	baz=13							
ETLH	**Xiulin Townshi**	**2.48**	**29**	*e*P	**Pn**	**23 16 15.2**	**+1.7**
	baz=20							
ETLH				*e*S	**Sn**	**23 16 41.3**	**-1.4**
	baz=20							
NACB	**Ninganchiao**	**2.50**	**31**	P	**Pn**	**23 16 15.0**	**+1.2**
NACB	**Ninganchiao**	**2.50**	**31**	*e*P	**Pn**	**23 16 14.5**	**+0.8**
	baz=31							
NACB				*i* S	**Sn**	**23 16 42.9**	**-0.2**
	baz=31							
NNSB	**Datong**	**2.63**	**25**	*e*P	**Pn**	**23 16 16.7**	**+1.1**
	baz=17							
NNSB				*e*S	**Sn**	**23 16 47.2**	**+0.7**
	baz=17							
NNS	**Nan Shan**	**2.64**	**25**	*e*P	**Pn**	**23 16 17.3**	**+1.5**
	baz=17							
NNS				*e*S	**Sn**	**23 16 47.1**	**+0.4**
	baz=17							
NSTT	**Nanjuang**	**2.70**	**16**	*e*P	**Pn**	**23 16 16.7**	**+0.3**
	baz=17							
NSTT				*i* S	**Sn**	**23 16 47.9**	**0.0**
	baz=17							
NFF	**Wufeng Townshi**	**2.73**	**18**	*e*P	**Pn**	**23 16 16.9**	**0.0**
	baz=19							
NFF				*e*S	**Sn**	**23 16 47.4**	**-1.3**
	baz=19							
LATG	**Datong**	**2.79**	**26**	*e*P	**Pn**	**23 16 19.1**	**+1.4**
	baz=26							
LATG				*e*S	**Sn**	**23 16 52.0**	**+1.7**
	baz=26							
ENA	**Nanau**	**2.79**	**31**	*e*P	**Pn**	**23 16 18.2**	**+0.6**
	baz=42							
ENA				*e*S	**Sn**	**23 16 50.0**	**-0.1**
	baz=42							
EWUT	**Wuta**	**2.82**	**31**	*e*P	**Pn**	**23 16 19.4**	**+1.3**
	baz=31							
EWUT				*e*S	**Sn**	**23 16 49.8**	**-1.1**
	baz=31							
NDT	**Datong Townshi**	**2.84**	**26**	*i* P	**Pn**	**23 16 19.1**	**+0.7**
	baz=17							
NSK	**Sanguang**	**2.85**	**22**	*e*P	**Pn**	**23 16 18.6**	**0.0**
	baz=23							
NSK				*e*S	**Sn**	**23 16 51.9**	**+0.2**
	baz=23							
YHNB	**Yeheng**	**2.85**	**23**	P	**Pn**	**23 16 20.1**	**+1.5**
YHNB	**Yeheng**	**2.85**	**23**	*e*P	**Pn**	**23 16 19.8**	**+1.2**
	baz=23							
YHNB				*e*S	**Sn**	**23 16 51.2**	**-0.5**
	baz=23							
KNM	**Kinmen**	**2.86**	**326**	*e*P	**Pn**	**23 16 19.8**	**+1.2**
	baz=324							
KNM				*e*S	**Sn**	**23 16 53.1**	**+1.2**
	baz=324							
EOS4	**EOS4**	**2.87**	**43**	*e*P	**Pn**	**23 16 20.4**	**+2.0**
	baz=43							
EOS4				*e*S	**Sn**	**23 16 52.0**	**+0.4**
	baz=43							
ENTT	**Nioudou**	**2.90**	**26**	*e*P	**Pn**	**23 16 21.0**	**+1.8**
	baz=26							
ENTT				*e*S	**Sn**	**23 16 51.1**	**-1.6**
	baz=26							
ZPLA	**Ao Xicun**	**2.92**	**311**	*e*P	**Pn**	**23 16 19.2**	**-0.2**
	baz=310							
ZPLA				*e*S	**Sn**	**23 16 52.7**	**-0.6**
	baz=310							
KNMB	**Chin-men Tao**	**2.92**	**326**	*e*P	**Pn**	**23 16 20.0**	**+0.5**
	baz=326							
KNMB				*e*S	**Sn**	**23 16 52.2**	**-1.1**
	baz=326							
NWLT	**Wulai**	**3.00**	**24**	*e*P	**Pn**	**23 16 22.0**	**+1.5**
	baz=24							
NWLT				*e*S	**Sn**	**23 16 54.4**	**-0.9**
	baz=24							
FUSB	**Fushanzhiwuyua**	**3.01**	**25**	*e*P	**Pn**	**23 16 23.4**	**+2.6**
	baz=13							
FUSB				*e*S	**Sn**	**23 16 58.6**	**+2.9**
	baz=13							
VWUC	**VWUC**	**3.02**	**348**	*e*P	**Pn**	**23 16 20.9**	**+0.1**
	baz=348							
VWUC				*e*S	**Sn**	**23 16 54.0**	**-1.7**
	baz=348							
DSXP	**Dongshan**	**3.03**	**304**	*e*P	**Pn**	**23 16 21.3**	**+0.3**
	baz=303							
DSXP				*e*S	**Sn**	**23 16 55.1**	**-0.9**
	baz=303							
TIPB	**Shuangxi**	**3.30**	**27**	*e*P	**Pn**	**23 16 26.1**	**+1.4**
	baz=38							
YM01	**YM01**	**3.36**	**22**	*e*P	**Pn**	**23 16 26.2**	**+0.8**
	baz=22							
YM01				*e*S	**Sn**	**23 17 04.1**	**0.0**
	baz=22							
ANP	**Anpu**	**3.38**	**21**	*e*P	**Pn**	**23 16 26.5**	**+0.7**
	baz=22							
ANP				*e*S	**Sn**	**23 17 05.8**	**+1.1**
	baz=22							
SXI1	**Grass Mountain**	**3.43**	**27**	*e*P	**Pn**	**23 16 25.4**	**-1.1**
	baz=15							
SXI1				*e*S	**Sn**	**23 17 03.2**	**-2.7**
	baz=15							
VDOS	**Pratas Island**	**3.47**	**248**	*e*P	**Pn**	**23 16 28.2**	**+1.2**
	baz=247							
VDOS				*e*S	**Sn**	**23 17 07.4**	**+0.6**
	baz=247							
YOJ	**Yonaguni jima**	**3.56**	**47**	P	**Pn**	**23 16 30.2**	**+2.0**
YOJ	**Yonaguni jima**	**3.56**	**47**	*e*P	**Pn**	**23 16 30.3**	**+2.0**
	baz=37							
MATB	**Ma-tsu**	**4.11**	**357**	*e*P	**Pn**	**23 16 35.7**	**0.0**
	baz=358							
MATB				*e*S	**Sn**	**23 17 20.4**	**-2.1**
	baz=358							
MSUT	**Lienchiang**	**4.13**	**357**	*e*P	**Pn**	**23 16 36.2**	**+0.2**
	baz=358							
MSUT				*e*S	**Sn**	**23 17 21.1**	**-1.9**
	baz=358							
MHZQ	**Yeshan**	**4.18**	**346**	*e*P	**Pn**	**23 16 37.0**	**+0.3**
	baz=347							
MHZQ				*e*S	**Sn**	**23 17 22.3**	**-2.0**
	baz=347							
LYJJ	**Jianjiangzhen**	**4.51**	**355**	*e*P	**Pn**	**23 16 41.0**	**-0.3**
	baz=356							
LYJJ				*e*S	**Sn**	**23 17 30.0**	**-2.5**
	baz=356							
XPSS	**Dashiqiu**	**4.88**	**0**	*e*P	**Pn**	**23 16 45.7**	**-0.6**
	baz=1.0							
SXFK	**Yanhouchang**	**4.92**	**333**	*e*P	**Pn**	**23 16 47.3**	**+0.3**
	baz=333							
HKPS	**Hong Kong Po S**	**5.59**	**274**	*e*P	**Pn**	**23 16 57.0**	**+0.9**
	baz=272							

NEIC ***06*** *23:16:01.7±1.2, 44.00N±0.03×124.85W±0.04, h21km±4km, ML2.8/60, ML3.0/10(SEA), Error ellipse: s-maj=5.2km s-min=3.3km az=53.0*

SEA 06 23:16:01.4±1.3, 43.96N±0.03×124.89W±0.05, h33km±7km, Error ellipse: s-maj=6.1km s-min=3.3km az=61.0, Near coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID Op	Time h m s	Res ISC
TAKO	**Tahkenitch**	**0.62**	**110**		Pb	23 16 14.4	+0.5
TAKO					Sn	23 16 23.9	+1.4
I02E	**Swisshome, OR**	**0.76**	**79**		Pb	23 16 16.0	-0.2
RNO	**Roman Nose**	**0.83**	**93**		Pb	23 16 17.6	+0.2
RNO					Sb	23 16 30.1	+1.8
J01E	**Myrtle Point**	**1.06**	**139**		Pb	23 16 21.1	-0.1
J01E					Sb	23 16 35.3	+0.6
MPOR	**Mary's Peak**	**1.10**	**60**		Pn	23 16 21.1	+0.5
I03D	**Drain, OR**	**1.14**	**103**	Pn	Pb	23 16 21.8	-0.8
I03D					Sn	23 16 37.2	+0.1
I03D					IAML	23 16 49.6	
	comp=N,222nm,0.8s						
I03D					IAML	23 16 51.2	
	comp=E,153nm,0.6s						
KEBM	**Edson Butte**	**1.16**	**160**		Pb	23 16 22.7	-0.2
KEBM					IAML	23 16 53.4	
	comp=N,228nm,0.5s						
COR	**Corvallis**	**1.30**	**61**		Pn	23 16 24.1	+1.0
HSO	**Harness Mounta**	**1.37**	**108**		Pb	23 16 26.0	-0.5
BUCK	**Buck Mountain**	**1.39**	**80**		Pb	23 16 25.9	-0.9
BUCK					Sb	23 16 43.7	-0.5
BUCK					IAML	23 16 44.5	
	comp=E,177nm,0.5s						
BUCK					IAML	23 16 57.4	
	comp=N,182nm,0.8s						
DBO	**Dodson Butte**	**1.46**	**125**		Pb	23 16 27.1	-0.9
HEBO	**Mount Hebo**	**1.49**	**32**	Pn	Pn	23 16 26.1	+0.2
HEBO					IAML	23 17 00.9	
	comp=N,155nm,1.0s						
HEBO					IAML	23 17 02.5	
	comp=E,142nm,1.3s						
K02D	**Willamette Mer**	**1.55**	**144**	Pn	Pb	23 16 28.3	-1.2
K02D					Sb	23 16 48.0	-0.7
K02D					IAML	23 16 48.4	
	comp=E,94nm,0.6s						
H04D	**Lebanon**	**1.64**	**69**		Pn	23 16 29.2	+1.3
H04D					IAML	23 17 08.8	
	comp=N,97nm,0.7s						
G03D	**McMinnville, O**	**1.70**	**42**		Pn	23 16 29.0	+0.3
G03D					IAML	23 17 12.5	
	comp=N,114nm,0.9s						
G03D					IAML	23 17 13.6	
	comp=E,84nm,0.7s						
BROR	**Big Rock Looko**	**1.78**	**79**		Pb	23 16 31.6	-1.7
I04A	**Tendick Farm,**	**1.80**	**94**	Pn	Pn	23 16 31.5	+1.4
KBO	**Bosley Butte**	**1.81**	**164**	Pn	Pn	23 16 31.3	+1.0
HBO	**Huckleberry Mo**	**1.86**	**93**		Pb	23 16 34.0	-0.8
H04A	**Detroit Lake**	**2.07**	**69**	Pn	Pn	23 16 34.5	+0.8
H04A					IAML	23 17 21.4	
	comp=N,78nm,0.5s						
H04A					IAML	23 17 22.0	
	comp=E,65nm,0.5s						
G04A	**Mulino**	**2.12**	**53**		Pb	23 16 37.0	-2.2
KSXB	**Camp Six Broad**	**2.25**	**160**	Pn	Pn	23 16 38.4	+2.0
KRMB	**Red Mountain**	**2.54**	**163**	Pn	Pn	23 16 42.1	+1.7
L04D	**Klamath Falls**	**2.57**	**132**		Pn	23 16 42.4	+1.6
L04D					IAML	23 17 34.6	
	comp=E,43nm,1.2s						
L04D					IAML	23 17 45.4	
	comp=N,39nm,3.6s						
I05D	**Terrebonne, OR**	**2.58**	**80**		Pn	23 16 41.9	+1.1
I05D					IAML	23 17 27.4	
	comp=N,40nm,3.4s						
F04A	**Amboy**	**2.64**	**41**		Pn	23 16 42.3	+0.8
F04A					IAML	23 17 25.4	
	comp=E,33nm,1.5s						
K04D	**Chiloquin, OR**	**2.65**	**119**	Pn	Pn	23 16 42.4	+0.5
HOOD	**Mount Hood Mea**	**2.68**	**58**		Pn	23 16 42.7	+0.5
HOOD					IAML	23 17 40.9	
	comp=N,40nm,0.9s						
J05D	**Fort Rock, OR**	**2.73**	**103**	Pn	Pn	23 16 44.6	+1.5
J05D					IAML	23 17 50.0	
	comp=N,35nm,4.6s						
J05D					IAML	23 17 59.5	
	comp=E,26nm,4.7s						
E03A	**Lebam**	**2.75**	**19**	Pn	Pn	23 16 43.8	+0.8
E03A					IAML	23 17 42.4	
	comp=N,30nm,2.0s						
E03A					IAML	23 18 25.1	
	comp=E,45nm,1.9s						
PINE	**Pine Mountain**	**2.86**	**92**	Pn	Pn	23 16 46.7	+1.9
PINE					IAML	23 17 47.6	
	comp=E,24nm,1.1s						
PINE					IAML	23 17 51.2	
	comp=N,29nm,4.0s						
K05A	**Summer Lake**	**3.16**	**112**	Pn	Pn	23 16 49.9	+0.9
K05A					IAML	23 17 54.9	
	comp=E,23nm,4.3s						
K05A					IAML	23 18 13.8	
	comp=N,18nm,3.5s						
G06A	**Carlson Farm,**	**3.29**	**66**	Pn	Pn	23 16 51.8	+1.2
LON	**Longmire**	**3.53**	**37**		Pn	23 16 54.5	+0.6
I07A	**Izee**	**3.88**	**86**		Pn	23 16 59.8	+1.1
I07A					IAML	23 18 12.2	
	comp=E,12nm,4.8s						
I07A					IAML	23 19 20.0	
	comp=N,13nm,4.2s						
G08A	**Pilot Rock**	**4.43**	**71**		Pn	23 17 07.1	+0.7
G08A					IAML	23 18 24.0	
	comp=E,10nm,4.8s						
BMO	**Blue Mountains**	**5.50**	**78**	Pn	Pn	23 17 21.6	+0.6

BGR ***06*** *23:28:51.1, 34.59N×78.46E, h33km, mb5.3, Ms4.8*

BJI ***06*** *23:29:01.7, 35.70N×77.50E, h87km, mb5.0/80, mB5.1/51, Ms4.5/54, Ms7 4.2/53*

MOS ***06*** *23:29:02.2±1.0, 35.69N×77.57E, h79km, mb5.7/90, Error ellipse: s-maj=4.4km s-min=2.6km az=115.9*

NEIC ***06*** *23:29:03.8±1.6, 35.72N±0.06×77.56E±0.08, h74km±4km, mb5.5/210, Mww5.2/13, Error ellipse: s-maj=9.5km s-min=8.9km az=146.0*

NEIC ***06*** *23:29:03.1, 35.72N×77.59E, h80km*

NEIC ***06*** *23:29:03.1, 35.42N×77.59E, h80km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10^16 Nm; Mrr8.52; Mθθ-6.43; Mφφ-2.09; Mrθ 0.29; Mθφ-0.82; Mφr-1.35; Fault plane solution: M0 7.64000×10^16 NP1:θ 87.05000°, δ 45.63000°, λ 100.39000°. NP2:θ 252.36000°, δ 45.32000°, λ 79.55000°. Principal axes: T 8.7050, Plg 83.0000°, Azm 79.0000°; N -2.1224, Plg 7.0000°, Azm 260.0000°; P -6.5826, Plg 0.0000°, Azm 170.0000°;*

IDC ***06*** *23:29:06.3±0.5, 35.69N×77.57E, h106km±4km, mb4.8/33, mbtmp5.2/36, MS4.0/5 Error ellipse: s-maj=9.6km s-min=7.0km az=27.0*

GCMT ***06*** *23:29:07.8±0.2, 35.74N±0.01×77.45E±0.02, h118km±1km, MW5.2/119, Moment Tensor Solution. s97, c128; s119, c185; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr 6.32±.15; Mθθ-2.93±.21; Mφφ-3.39±.18; Mrθ 4.94±.14; Mθφ 2.91±.17; Mφr-1.12±.14; Best double*

couple: $M_0$7.96100×10^16 NP1:ϕ_s118.00000°,δ65.00000°, λ74.00000°. NP2:ϕ_s332.00000°,δ30.00000°,λ120.00000°. Principal axes: T 8.4640, Plg66.0000°, Azm358.0000°; N -1.0050, Plg15.0000°, Azm125.0000°; P -7.4580, Plg18.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*NNC **06** 23:29:09.8±4.9, 36.14N×77.42E, h122km±37km, mb5.0, mpv5.5 Error ellipse: s-maj=42.6km s-min=23.4km az=165.0*

ISC 06 23:29:04.5±0.2**, 35.67N**±0.03×**77.54E**±0.02**, h88km**±1km**, h88km:pP-P, n1467,** σ**1.58**/1685**, mb5.4**/321**, 115C-82D, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**3.56**	**197**	eP	**Pn**	**23 30 00.1**	**+2.4**
DHRM				eS	**Sn**	**23 30 37.8**	**-1.1**
DHRM				IAML		23 30 46.3	
	comp=N,7μm,0.5s						
KSH	**Kashi**	**4.04**	**343**	P	**Pn**	**23 30 01.8**	**-2.3**
KSH				sP		23 30 16.7	
KSH				S	**Sn**	**23 30 43.7**	**-6.7**
KSH				smax	smax		
	comp=N,14μm,0.8s						
KSH				smax	smax		
	comp=N,10μm,0.6s						
NIL	**Nilore**	**4.06**	**242**	Pn	**Pn**	**23 30 05.0**	**+0.6**
NIL				Sn	**Sn**	**23 30 49.4**	**-1.4**
NIL	**Nilore**	**4.06**	**242**	P	**Pn**	**23 29 59.9**	**-4.5**
NIL	**Nilore**	**4.06**	**242**	P	**Pn**	**23 30 05.0**	**+0.6**
NIL						23 30 49.4	
SMLA	**Simla**	**4.54**	**184**	eP	**Pn**	**23 30 11.9**	**+1.1**
SMLA				eS	**Sn**	**23 31 01.0**	**-1.3**
SMLA				IAML		23 31 02.6	
	comp=N,5μm,0.4s						
SMLA				IAML		23 31 03.2	
	comp=E,7μm,0.4s						
DDI	**Dehra Dun**	**5.35**	**175**	eP	**Pn**	**23 30 23.5**	**+1.6**
DDI				eS	**Sn**	**23 31 19.2**	**-2.9**
DDI				IAML		23 31 23.5	
	comp=N,8μm,0.2s						
KKR	**Kurukshetra**	**5.72**	**186**	eP	**Pn**	**23 30 28.0**	**+1.1**
NRN	**Naryn**	**5.88**	**349**	Pn	**Pn**	**23 30 29.5**	**+0.1**
NRN	**Naryn**	**5.88**	**349**	P	**Pn**	**23 30 29.5**	**+0.1**
TARG	**Taragay, Kyrgy**	**6.06**	**2**		**Pn**	**23 30 33.2**	**+1.4**
TARG	**Taragay, Kyrgy**	**6.06**	**2**	P	**Pn**	**23 30 33.2**	**+1.4**
OHH	**Osh**	**6.13**	**324**	P	**Pn**	**23 30 31.8**	**-0.7**
PTH	**Pithoragarh**	**6.50**	**159**	eP	**Pn**	**23 30 35.7**	**-2.0**
PTH				eS	**Sn**	**23 31 44.9**	**-5.6**
LGTI	**Lohaghat**	**6.61**	**159**	eP	**Pn**	**23 30 38.3**	**-0.7**
LGTI				eS	**Sn**	**23 31 47.6**	**-5.2**
KZA	**Kyzart**	**6.65**	**345**	P	**Pn**	**23 30 40.0**	**+0.2**
	SNR=47						
ULHL	**Ulahol**	**6.65**	**352**	P	**Pn**	**23 30 40.4**	**+0.7**
	SNR=32						
ARSB	**Arslanbob**	**6.68**	**329**		**Pn**	**23 30 38.5**	**-1.5**
ARSB	**Arslanbob**	**6.68**	**329**	P	**Pn**	**23 30 38.6**	**-1.5**
PRZ	**Przheval'sk**	**6.84**	**5**	Pn	**Pn**	**23 30 43.2**	**+0.9**
PRZ	**Przheval'sk**	**6.84**	**5**	P	**Pn**	**23 30 43.2**	**+0.9**
BTK	**Batken**	**6.89**	**312**	Pn	**Pn**	**23 30 40.8**	**-2.0**
BTK	**Batken**	**6.89**	**312**	P	**Pn**	**23 30 40.8**	**-2.0**
UCH	**Uchtor**	**6.96**	**341**	P	**Pn**	**23 30 44.2**	**0.0**
	SNR=120						
NDI	**New Delhi**	**6.97**	**182**	eP	**Pn**	**23 30 43.9**	**0.0**
KBL	**Kabul**	**7.05**	**263**		**Pn**	**23 30 43.2**	**-2.0**
KBL	**Kabul**	**7.05**	**263**	P	Pn	23 30 40.3	-4.9
	SNR=149						
KBL				S	**Sn**	**23 32 01.8**	**-2.1**
KBL	**Kabul**	**7.05**	**263**	P	**Pn**	**23 30 43.2**	**-2.0**
AML	**Almayashu**	**7.12**	**336**	P	**Pn**	**23 30 46.8**	**+0.5**
	SNR=180						
AML	**Almayashu**	**7.12**	**336**	i P	**Pn**	**23 30 46.4**	**+0.2**
AML	**Almayashu**	**7.12**	**336**	⇑Pn	**Pn**	**23 30 46.5**	**+0.2**
AYAN	**Aya Nagar**	**7.17**	**183**	eP	**Pn**	**23 30 46.9**	**+0.3**
KBK	**Karagaybulak**	**7.26**	**345**	P	**Pn**	**23 30 48.8**	**+0.7**
	SNR=123						
AAK	**Ala-Archa**	**7.35**	**342**	P	**Pn**	**23 30 49.7**	**+0.5**
	SNR=79						
AAK	**Ala-Archa**	**7.35**	**342**	Pn	**Pn**	**23 30 49.2**	**-0.1**
AAK	**Ala-Archa**	**7.35**	**342**	i P	**Pn**	**23 30 50.4**	**+1.1**
	SNR=27						
AAK	**Ala-Archa**	**7.35**	**342**	P	**Pn**	**23 30 45.5**	**-3.7**
AAK				P	**Pn**	**23 30 45.5**	**-3.7**
AAK				S	**Sn**	**23 32 09.8**	**-1.4**
AAK				S	**Sn**	**23 32 09.8**	**-1.4**
AAK	**Ala-Archa**	**7.35**	**342**	P	**Pn**	**23 30 49.9**	**+0.6**
	comp=N,37nm,0.4s,baz=155,slow=8.2,SNR=202						
AAK				S	**Sn**	**23 32 11.4**	**+0.2**
	comp=N,318nm,0.7s,baz=345,slow=22,SNR=4.5						
TNSS	**Tian-Shan**	**7.38**	**357**	⇑iP	**Pn**	**23 30 50.1**	**+0.3**
	baz=356						
TNSS	**Tian-Shan**	**7.38**	**357**	⇑iP	**Pn**	**23 30 50.1**	**+0.3**
TKM2	**Tokmak 2**	**7.40**	**349**	P	**Pn**	**23 30 50.0**	**+0.1**
	SNR=53						
TKM2	**Tokmak 2**	**7.40**	**349**	i P	**Pn**	**23 30 49.8**	**-0.1**
TKM2	**Tokmak 2**	**7.40**	**349**	⇑Pn	**Pn**	**23 30 49.9**	**-0.1**
TKM2				⇓Lg	Lg	23 32 51.5	
	comp=N,757nm,1.1s						
SATY	**Saty**	**7.42**	**5**	eP	**Pn**	**23 30 50.6**	**+0.6**
	comp=N,46nm,0.5s,baz=4.6						
SATY	**Saty**	**7.42**	**5**	eP	**Pn**	**23 30 50.6**	**+0.6**
SATY				pmax	pmax		
	comp=Z,46nm,0.5s						
FRU1	**Bishkek**	**7.48**	**343**		**Pn**	**23 30 51.2**	**+0.3**
FRU1	**Bishkek**	**7.48**	**343**	P	**Pn**	**23 30 51.2**	**+0.3**
MDOK	**Medeo**	**7.50**	**357**	i P	**Pn**	**23 30 51.3**	**+0.1**
	baz=357						
MDOK	**Medeo**	**7.50**	**357**	i P	**Pn**	**23 30 51.3**	**+0.1**
ZHN	**Zhinishke**	**7.53**	**5**	eP	**Pn**	**23 30 51.7**	**+0.2**
	comp=Z,28nm,0.3s,baz=4.7						
ZHN	**Zhinishke**	**7.53**	**5**	eP	**Pn**	**23 30 51.7**	**+0.2**
ZHN				pmax	pmax		
	comp=Z,28nm,0.3s						
AAA	**Alma-Ata**	**7.55**	**357**	eP	**Pn**	**23 30 51.5**	**-0.4**
	baz=356						
AAA	**Alma-Ata**	**7.55**	**357**	eP	**Pn**	**23 30 51.4**	**-0.4**
KUDL	**Kundal**	**7.55**	**187**	eP	**Pn**	**23 30 51.4**	**-0.4**
KUDL				eS	**Sn**	**23 32 08.8**	**-7.1**
UZB	**Uzynbulak**	**7.56**	**8**	eP	**Pn**	**23 30 51.8**	**-0.3**
	comp=Z,54nm,0.7s,baz=8.0						
UZB				eS	**Sn**	**23 32 14.5**	**-1.8**
	baz=8.0						
UZB	**Uzynbulak**	**7.56**	**8**	eP	**Pn**	**23 30 51.7**	**-0.3**
UZB				eS	**Sn**	**23 32 14.4**	**-1.8**
UZB				pmax	pmax		
	comp=Z,54nm,0.7s						
EKS2	**Erkin-Say**	**7.57**	**338**	P	**Pn**	**23 30 53.3**	**+1.2**
	SNR=32						
SHLS	**Shalkode**	**7.63**	**11**	i P	**Pn**	**23 30 53.9**	**+0.9**
	comp=Z,37nm,0.7s,baz=13						
SHLS				eS	**Sn**	**23 32 16.8**	**-1.1**
	baz=13						
SHLS	**Shalkode**	**7.63**	**11**	i P	**Pn**	**23 30 53.8**	**+0.8**
SHLS				eS	**Sn**	**23 32 16.7**	**-1.1**
SHLS				pmax	pmax		
	comp=Z,37nm,0.7s						
CHMS	**Chumysh**	**7.63**	**344**	P	**Pn**	**23 30 53.1**	**+0.1**
	SNR=76						
KHET	**Khetri**	**7.71**	**191**	eP	**Pn**	**23 30 53.6**	**-0.4**
KHET				eS	Sn	23 32 10.4	-9.4
PDGK	**Podgornoye**	**7.80**	**11**	⇓Pn	**Pn**	**23 30 54.8**	**-0.5**
	comp=Z,210nm,0.5s						
PDGK				Sn	**Sn**	**23 32 20.2**	**-1.9**
KPKS	**Kokpek**	**7.84**	**6**	i P	**Pn**	**23 30 55.6**	**-0.3**
	baz=5.8						
KPKS	**Kokpek**	**7.84**	**6**	i P	**Pn**	**23 30 55.5**	**-0.3**
SGDS	**Sogindy**	**8.09**	**345**	i P	**Pn**	**23 30 58.7**	**-0.6**
	baz=344						
SGDS	**Sogindy**	**8.09**	**345**	i P	**Pn**	**23 30 58.6**	**-0.6**
CHKK	**Chushkaly**	**8.19**	**357**	eP	**Pn**	**23 30 59.2**	**-1.4**
	baz=357						
CHKK	**Chushkaly**	**8.19**	**357**	eP	**Pn**	**23 30 59.1**	**-1.4**
KUU	**Kurty**	**8.27**	**354**	eP	**Pn**	**23 31 00.2**	**-1.4**
	comp=Z,59nm,1.1s,baz=354						
KUU	**Kurty**	**8.27**	**354**	eP	**Pn**	**23 31 00.2**	**-1.4**
KUU				pmax	pmax		
	comp=Z,59nm,1.1s						
DZA	**Taraz**	**8.67**	**328**	eP	**Pn**	**23 31 06.3**	**-0.8**
	baz=328						
DZA	**Taraz**	**8.67**	**328**	eP	**Pn**	**23 31 06.3**	**-0.8**
BRCI	**Bahraich**	**8.78**	**156**	eP	**Pn**	**23 31 08.3**	**-0.3**
PYUN	**Piuthan**	**8.85**	**147**	ePn	**Pn**	**23 31 06.9**	**-2.9**
PYUN				eSn	**Sn**	**23 32 40.2**	**-7.7**
	comp=Z,2μm,0.4s						
DANN	**Dangsing**	**9.00**	**142**	ePn	**Pn**	**23 31 08.9**	**-3.0**
CHM	**Chimkent**	**9.07**	**319**	eP	**Pn**	**23 31 13.9**	**+1.4**
	baz=319						
CHM	**Chimkent**	**9.07**	**319**	eP	**Pn**	**23 31 13.9**	**+1.4**
KK31	**Karatay Array**	**9.20**	**326**	Pn	**Pn**	**23 31 12.2**	**-2.1**
KK31	**Karatay Array**	**9.20**	**326**	P	**Pn**	**23 31 12.2**	**-2.1**
KK31	**Karatay Array**	**9.20**	**326**	⇓Pn	**Pn**	**23 31 12.3**	**-2.0**
	comp=Z,35nm,0.3s,baz=137,slow=12,SNR=1654						
KK31				⇓Sn	**Sn**	**23 32 49.1**	**-6.9**
	comp=Z,324nm,0.6s,baz=137,slow=21,SNR=8.1						
KKAR	**Karatay Array**	**9.20**	**326**	Pn	**Pn**	**23 31 12.1**	**-2.2**
KKAR	**Karatay Array**	**9.20**	**326**		**Pn**	**23 31 12.1**	**-2.2**
KKAR	**Karatay Array**	**9.20**	**326**	P	**Pn**	**23 31 12.1**	**-2.2**
TDK	**Taldyqorghan**	**9.35**	**4**	eP	**Pn**	**23 31 15.3**	**-1.0**
	comp=Z,51nm,0.8s,baz=3.5						
TDK	**Taldyqorghan**	**9.35**	**4**	eP	**Pn**	**23 31 15.3**	**-1.0**
TDK				pmax	pmax		
	comp=Z,51nm,0.8s						
KOLN	**Koldanda**	**9.41**	**145**	ePn	**Pn**	**23 31 14.9**	**-2.5**
KOLN				eSn	**Sn**	**23 32 53.5**	**-8.1**
	comp=Z,1μm,0.5s						
AJM	**Ajmer**	**9.49**	**196**	eP	**Pn**	**23 31 17.7**	**-0.6**
BTLS	**Baital**	**9.73**	**345**	eP	**Pn**	**23 31 20.7**	**-0.9**
	baz=345						
BTLS	**Baital**	**9.73**	**345**	eP	**Pn**	**23 31 20.6**	**-0.9**
GKN	**Gorkha**	**9.73**	**140**	ePn	**Pn**	**23 31 18.1**	**-3.7**
GKN				eSn	Sn	23 32 59.8	-10
	comp=Z,1μm,0.3s						
KKN	**Kakani**	**10.25**	**138**	ePn	**Pn**	**23 31 24.8**	**-4.0**
KKN				eSn	Sn	23 33 12.4	-10
DMN	**Daman**	**10.30**	**139**	ePn	**Pn**	**23 31 25.5**	**-4.0**
DMN				eSn	Sn	23 33 13.0	-10
	comp=Z,839nm,0.5s						
JASL	**Jaisalmer**	**10.39**	**215**	eP	**Pn**	**23 31 28.6**	**-2.1**
PKIN	**Phulchoki**	**10.48**	**138**	ePn	**Pn**	**23 31 27.8**	**-4.2**
PKIN				eSn	Sn	23 33 17.5	-10
	comp=Z,912nm,0.6s						
GUN	**Gumba**	**10.49**	**135**	ePn	**Pn**	**23 31 28.1**	**-4.2**
GUN				eSn	Sn	23 33 17.3	-11
PKI	**Pulchoki**	**10.49**	**138**	ePn	**Pn**	**23 31 27.9**	**-4.3**
PKI				eSn	Sn	23 33 17.6	-10
	comp=Z,432nm,0.4s						
JIRN	**Jiri**	**10.86**	**135**	ePn	**Pn**	**23 31 34.2**	**-3.1**
JIRN				eSn	Sn	23 33 25.8	-11
	comp=Z,774nm,0.4s						
WMQ	**Urumqi**	**11.28**	**41**	eP	**Pn**	**23 31 40.1**	**-2.6**
WMQ				S	**Sn**	**23 33 38.8**	**-8.0**
WMQ				pmax	pmax		
	comp=Z,36nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,600nm,3.8s						
WMQ				LR	LR		
	comp=Z,1μm,28.9s						
MAKZ	**Makanchi**	**11.62**	**15**		**Pn**	**23 31 44.4**	**-2.8**
MAKZ	**Makanchi**	**11.62**	**15**	P	**Pn**	**23 31 44.4**	**-2.8**
MAKZ	**Makanchi**	**11.62**	**15**	⇓P	**Pn**	**23 31 44.5**	**-2.6**
	comp=Z,220nm,0.5s						
RAMN	**Ramite**	**11.64**	**136**	ePn	**Pn**	**23 31 43.7**	**-4.0**
RAMN				eSn	Sn	23 33 44.9	-11
	comp=Z,1μm,0.6s						
MK31	**Makanchi Array**	**11.68**	**16**	Pn	**Pn**	**23 31 44.8**	**-3.1**
MK31	**Makanchi Array**	**11.68**	**16**	deP	**Pn**	**23 31 45.0**	**-2.9**
MK31	**Makanchi Array**	**11.68**	**16**	P	**Pn**	**23 31 45.4**	**-2.5**
	comp=Z,75nm,0.6s,baz=198,slow=13,SNR=1758						
MK31				⇑S	Sn	23 33 47.4	-8.9
	comp=Z,325nm,0.8s,baz=190,slow=25,SNR=7.0						
MKAR	**Makanchi Array**	**11.68**	**16**	Pn	**Pn**	**23 31 44.9**	**-3.0**
MKAR	**Makanchi Array**	**11.68**	**16**	i P	**Pn**	**23 31 45.0**	**-2.9**
MKAR				pmax	pmax		
	comp=Z,30nm,0.3s						
MKAR	**Makanchi Array**	**11.68**	**16**	P	**Pn**	**23 31 45.6**	**-2.4**
	comp=Z,30nm,0.3s,baz=201,slow=13,SNR=148						
MKAR				S	**Sn**	**23 33 49.8**	**-6.4**
	comp=Z,151nm,0.8s,baz=199,slow=22,SNR=8.2						
MKAR				PKiKP	**PKiKP**	**23 45 26.5**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=265,slow=1.4,SNR=6.3						
TAPN	**Taplejung**	**12.00**	**131**	ePn	**Pn**	**23 31 48.0**	**-4.6**
TAPN				eSn	Sn	23 33 52.0	-13
	comp=Z,567nm,0.7s						
ODAN	**Odare**	**12.16**	**133**	eSn	Sn	23 33 56.8	-12
BHPL	**Bhopal**	**12.38**	**180**	eP	**Pn**	**23 31 54.1**	**-3.5**
BHPL				eS	Sn	23 33 59.0	-15
BHPL				IAML		23 34 05.1	
	comp=N,459nm,0.4s						
BHPL				IAML		23 34 06.1	
	comp=E,514nm,0.4s						
GTK	**Tadong**	**12.58**	**128**	IAML		23 34 09.6	
	comp=N,281nm,0.8s						
HRA	**Herat**	**12.60**	**269**	Pn	**Pn**	**23 31 57.9**	**-2.7**
LSA	**Lhasa**	**12.91**	**114**	Pn	**Pn**	**23 32 02.6**	**-2.4**
LSA	**Lhasa**	**12.91**	**114**	P	**Pn**	**23 32 02.6**	**-2.4**
LSA	**Lhasa**	**12.91**	**114**	P	**Pn**	**23 32 03.3**	**-1.7**
LSA				S	**Sn**	**23 34 19.6**	**-7.5**
LSA				LR	LR		
	comp=N,13μm,21.0s						
LSA				LR	LR		
	comp=N,3μm,16.0s						
LSA				LR	LR		
	comp=N,5μm,14.6s						
OTUK	**Ortayu**	**13.15**	**345**	⇓P	**Pn**	**23 32 04.7**	**-2.8**
	comp=N,267nm,0.8s						
BOK	**Bokaro**	**13.87**	**146**	eP	Pn	23 32 11.8	-5.3
BOK				IAML		23 34 39.6	
	comp=E,222nm,0.7s						
GOMU	**GeErMu**	**14.02**	**83**	P	**Pn**	**23 32 19.4**	**+0.1**
GOMU				S	**Sn**	**23 34 56.0**	**+2.3**
GOMU				pmax	pmax		
	comp=E,5.0nm,0.6s						
GOMU				LR	LR		
	comp=E,310nm,10.1s						
GOMU				LR	LR		
	comp=E,290nm,10.3s						
GOMU				LR	LR		
	comp=E,390nm,10.7s						
BHUJ	**Bhuj**	**14.14**	**211**	eP	**Pn**	**23 32 18.3**	**-2.3**
DHUB	**DHUBRI**	**14.37**	**129**	eP	**P**	**23 32 26.6**	**-1.5**
DHUB				eS	**Sn**	**23 34 56.0**	**-5.9**
BRZS	**Berezniki**	**14.74**	**348**	eP	**Pn**	**23 32 26.1**	**-2.1**
	baz=347						
BRZS	**Berezniki**	**14.74**	**348**	eP	**Pn**	**23 32 26.1**	**-2.1**
SEM	**Semipalatinsk**	**14.87**	**7**	eP	**Pn**	**23 32 30.8**	**+0.7**
	baz=6.6						
SEM	**Semipalatinsk**	**14.87**	**7**	eP	**Pn**	**23 32 30.7**	**+0.7**
JHSG	**JHARSUGUGA**	**14.89**	**157**	eP	**Pn**	**23 32 25.7**	**-4.6**
AKL	**Akola**	**14.91**	**182**	eP	**Pn**	**23 32 26.9**	**-3.7**
AKL				IAmb	IAmb	23 32 33.6	
	comp=Z,391nm,0.8s						
KURBB	**Kurchatov Arra**	**14.97**	**2**	P	**Pn**	**23 32 27.8**	**-3.3**
	comp=Z,30nm,0.8s,baz=188,slow=12,SNR=229						
KURBB				S	**S**	**23 35 23.2**	**-4.8**
	comp=Z,52nm,1.1s,baz=188,slow=20,SNR=8.2						
KURBB				PKiKP	**PKiKP**	**23 45 28.2**	**-0.7**
	comp=Z,5.4nm,0.2s,baz=219,slow=0.8,SNR=5.6						
KURK	**Kurchatov**	**15.06**	**3**		**Pn**	**23 32 28.6**	**-3.8**
KURK	**Kurchatov**	**15.06**	**3**	P	**Pn**	**23 32 31.9**	**-0.4**
KURK				P	**Pn**	**23 32 31.9**	**-0.4**
KURK				S	**Sn**	**23 35 17.0**	**-1.2**
KURK				S	**Sn**	**23 35 17.0**	**-1.2**
KURK	**Kurchatov**	**15.06**	**3**	c iP	**Pn**	**23 32 28.7**	**-3.6**
KURK				pmax	pmax		
	comp=Z,66nm,0.8s						
KURK	**Kurchatov**	**15.06**	**3**	⇑P	**Pn**	**23 32 28.0**	**-4.4**
	comp=Z,223nm,0.8s						
GEYT	**Alibeck**	**15.72**	**284**	P	**Pn**	**23 32 35.1**	**-5.7**
	comp=Z,38nm,0.4s,baz=110,slow=12,SNR=103						
GEYT				S	Sn	23 35 23.7	-11
	comp=Z,54nm,0.6s,baz=111,slow=11,SNR=9.2						
DGZ	**Jazzator, Alta**	**15.78**	**24**	d iP	**Pn**	**23 32 39.2**	**-2.4**
TEZP	**TEZPUR**	**15.86**	**120**	eP	**P**	**23 32 44.9**	**+0.3**
TEZP				IAmb	IAmb	23 33 06.9	
	comp=Z,138nm,1.4s						
SHL	**Shillong**	**15.91**	**125**	P	**P**	**23 32 46.8**	**+1.4**
	SNR=19						
SHL	**Shillong**	**15.91**	**125**	eP	**Pn**	**23 32 39.6**	**-3.9**
ZIRO	**ZIRO**	**16.08**	**116**	eP	**Pn**	**23 32 42.3**	**-3.2**
ZIRO				IAmb	IAmb	23 33 03.9	
	comp=Z,79nm,0.8s						
ITAN	**ITANAGAR**	**16.20**	**117**	eP	**Pn**	**23 32 44.5**	**-2.4**
MOKO	**MOKOCHONG**	**17.26**	**118**	eP	**Pn**	**23 32 56.2**	**-3.9**
MOKO				IAmb	IAmb	23 33 07.9	
	comp=Z,62nm,0.6s						
KOHI	**KOHIMA**	**17.34**	**120**	eP	**Pn**	**23 32 56.4**	**-4.6**
KOHI				IAmb	IAmb	23 33 06.1	
	comp=Z,103nm,0.6s						
POO	**Poona**	**17.38**	**192**	eP	**Pn**	**23 32 59.9**	**-1.5**
NGCH	**Negor - Chabah**	**17.45**	**238**	P	**P**	**23 33 01.9**	**-0.2**
	SNR=11						
IMP	**Imphal**	**17.80**	**123**	eP	**P**	**23 33 05.1**	**-0.9**
IMP				IAmb	IAmb	23 33 10.2	
	comp=Z,90nm,0.8s						
GTA	**Gaotai**	**18.05**	**71**	P	**Pn**	**23 33 10.0**	**+0.5**
GTA				sP	pP	23 33 32.1	+4.8
GTA				S	**Sn**	**23 36 31.4**	**+0.7**
GTA				ScS	**ScS**	**23 44 46.5**	**-0.8**
GTA				pmax	pmax		
	comp=Z,28nm,1.0s						
GTA				pmax	pmax		
	comp=Z,230nm,5.1s						
BVAR	**Borovoye Array**	**18.08**	**346**	P	**P**	**23 33 09.1**	**+0.3**
	comp=Z,775nm,0.8s,baz=155,slow=11,SNR=1963						
BVAR				S	**S**	**23 36 28.9**	**-1.8**
	comp=Z,3.4nm,0.6s,baz=354,slow=28,SNR=4.4						
BVAR				PKiKP	**PKiKP**	**23 45 29.9**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=282,slow=2.9,SNR=7.6						
BRVK	**Borovoye**	**18.13**	**346**		**P**	**23 33 09.2**	**-0.2**
BRVK	**Borovoye**	**18.13**	**346**	P	**Pn**	**23 33 10.2**	**0.0**
BRVK				S	**S**	**23 36 30.4**	**-1.3**
BRVK	**Borovoye**	**18.13**	**346**	⇑iP	**P**	**23 33 08.6**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,774nm,0.8s						
KAD	**Karad**	**18.53**	**190**	eP	**P**	**23 33 12.5**	**-1.6**
KAD				IAmb	IAmb	23 33 18.6	
	comp=Z,263nm,1.1s						
VIS	**Vishakhapatnam**	**18.60**	**162**	eP	**P**	**23 33 13.5**	**-1.2**
AB31	**Akbulak array**	**18.72**	**322**	⇑P	**P**	**23 33 14.4**	**-1.5**
	comp=Z,48nm,0.6s,baz=128,slow=12,SNR=570						
ABKAR	**Akbulak array**	**18.72**	**322**	P	**P**	**23 33 14.6**	**-1.3**
ABKAR	**Akbulak array**	**18.72**	**322**	P	**P**	**23 33 14.6**	**-1.3**
SAIH	**SAIHA**	**18.80**	**130**	eP	**P**	**23 33 17.5**	**+0.3**
SAIH				IAmb	IAmb	23 33 23.2	
	comp=Z,71nm,1.0s						
ZAA0	**Zalesovo Array**	**18.98**	**13**	P	**P**	**23 33 17.3**	**-1.4**
ZAA0	**Zalesovo Array**	**18.98**	**13**	⇓P	**P**	**23 33 16.8**	**-1.9**
	comp=Z,30nm,0.8s						
ZALV	**Zalesovo Beam**	**18.98**	**13**	P	**P**	**23 33 17.1**	**-1.6**
ZALV	**Zalesovo Beam**	**18.98**	**13**	i P	**P**	**23 33 17.3**	**-1.3**
ZALV				pmax	pmax		
	comp=Z,87nm,0.4s						
ZALV	**Zalesovo Beam**	**18.98**	**13**	P	**P**	**23 33 17.4**	**-1.3**
	comp=Z,86nm,0.4s,baz=198,slow=10,SNR=236						
ZALV				S	**S**	**23 36 45.1**	**-4.2**
	comp=Z,20nm,0.9s,baz=208,slow=18,SNR=3.0						
ZALV				PKiKP	**PKiKP**	**23 45 29.1**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=134,slow=0.8,SNR=4.8						
JASK	**Jask - Hormozg**	**19.49**	**245**	P	**Pn**	**23 33 26.4**	**-0.2**
	SNR=24						
JASK				S	**Sn**	**23 37 03.8**	**-1.5**
AKTO	**Aktyubinsk**	**20.44**	**322**	P	**P**	**23 33 33.8**	**-0.7**
	comp=Z,101nm,0.6s,baz=114,slow=8.8,SNR=240						
AKTO				S	**S**	**23 37 14.2**	**-4.2**
	comp=Z,32nm,1.0s,baz=260,slow=20,SNR=3.8						
AKTO				LR	LR	23 42 14.1	
	comp=Z,597nm,19.1s,baz=353,slow=39						
	comp=Z,101nm,0.6s						
AKTO	**Aktyubinsk**	**20.44**	**322**	⇓P	**P**	**23 33 33.6**	**-1.0**
	comp=Z,123nm,0.8s						
WSAR	**Wadi Sarin**	**20.55**	**238**	P	Pn	23 33 37.8	-1.2
	comp=Z,154nm,0.8s,baz=45,slow=8.6,SNR=131						
WSAR				S	**S**	**23 37 14.9**	**-6.2**
	comp=Z,6.0nm,0.5s,baz=346,slow=16,SNR=2.6						
	comp=Z,154nm,0.8s						
SHME	**Shamm**	**20.68**	**248**	i P	**P**	**23 33 38.6**	**+1.3**
	SNR=17						
SHME	**Shamm**	**20.68**	**248**	P	**P**	**23 33 38.9**	**+1.6**
	SNR=9.9						
SHME				P	**P**	**23 33 38.9**	**+1.6**
	SNR=9.9						
SHME				S	**S**	**23 37 27.0**	**+3.6**
SHME				S	**S**	**23 37 27.0**	**+3.6**
BIDO	**Bidbid**	**20.72**	**240**	P	Pn	23 33 39.6	-1.4
	SNR=12						
BIDO				P	Pn	23 33 39.6	-1.4
	SNR=12						
BIDO				S	**S**	**23 37 28.1**	**+3.7**
BIDO				S	**S**	**23 37 28.1**	**+3.7**
WBK	**Wadi Bani Khal**	**20.74**	**236**	P	Pn	23 33 39.7	-1.6
	SNR=12						
WBK				S	Sn	23 37 30.3	-5.1
JLN	**Jalan Bani Buh**	**20.76**	**234**	P	Pn	23 33 40.2	-1.3
	SNR=12						
JLN				P	Pn	23 33 40.2	-1.3
	SNR=12						
JLN				S	Sn	23 37 31.2	-4.6
JLN				S	Sn	23 37 31.2	-4.6
TNCH	**TengChong**	**20.94**	**115**	⇓P	**P**	**23 33 41.0**	**+0.6**
TNCH				pP	pP	23 33 54.6	-4.8
TNCH				PP	**PnPn**	**23 34 04.6**	**+1.2**
TNCH				S	**S**	**23 37 28.1**	**-0.9**
TNCH				SS	**SnSn**	**23 38 01.5**	**+4.6**
TNCH				pmax	pmax		
	comp=Z,71nm,0.6s						
TNCH				LR	LR		
	comp=Z,340nm,10.4s						
TNCH				LR	LR		
	comp=Z,280nm,7.9s						
TNCH				LR	LR		
	comp=Z,240nm,10.5s						
MASF	**Masafi**	**21.04**	**247**	P	**P**	**23 33 42.4**	**+1.2**
	SNR=15						
MASF				P	**P**	**23 33 42.4**	**+1.2**
	SNR=15						
MASF				S	**S**	**23 37 34.4**	**+3.7**
MASF				S	**S**	**23 37 34.4**	**+3.7**
MSFE	**Esma-Masafi**	**21.05**	**247**	i P	**P**	**23 33 41.8**	**+0.5**
	SNR=33						
SMDO	**Samad**	**21.08**	**239**	P	**P**	**23 33 43.1**	**+1.3**
	SNR=18						
SMDO				P	**P**	**23 33 43.1**	**+1.3**
	SNR=18						
SMDO				S	**S**	**23 37 35.5**	**+4.0**
SMDO				S	**S**	**23 37 35.5**	**+4.0**
MND	**Mandalay**	**21.16**	**125**	P	**P**	**23 33 41.9**	**-0.6**
UOSS	**Minazif**	**21.25**	**246**	P	**P**	**23 33 42.6**	**-0.9**
UOSS	**Minazif**	**21.25**	**246**	i P	**P**	**23 33 42.5**	**-0.9**
	SNR=18						
UOSS	**Minazif**	**21.25**	**246**	P	**P**	**23 33 44.6**	**+1.1**
UOSS				P	**P**	**23 33 44.6**	**+1.1**
UOSS				S	**S**	**23 37 38.3**	**+3.6**
UOSS				S	**S**	**23 37 38.3**	**+3.6**
HOQ	**Hoqain**	**21.26**	**241**	P	**P**	**23 33 45.4**	**+1.8**
	SNR=17						
HOQ				P	**P**	**23 33 45.4**	**+1.8**
	SNR=17						
HOQ				S	**S**	**23 37 38.8**	**+3.8**
HOQ				S	**S**	**23 37 38.8**	**+3.8**
LZH	**Lanzhou**	**21.31**	**81**	⇑P	**P**	**23 33 44.5**	**+0.3**
LZH				S	**S**	**23 37 34.6**	**-1.4**
LZH				PcP	**PcP**	**23 37 46.8**	**+1.5**
LZH				SS	**SnSn**	**23 38 10.5**	**+4.8**
LZH				pmax	pmax		
	comp=Z,72nm,1.0s						
LZH				pmax	pmax		
	comp=Z,250nm,6.2s						
LZH				LR	LR		
	comp=Z,500nm,13.7s						
LZH				LR	LR		
	comp=Z,350nm,12.7s						
LZH				LR	LR		
	comp=Z,450nm,17.2s						
HATD	**Hatta, Dubai**	**21.37**	**246**	i P	**P**	**23 33 43.9**	**-0.9**
	SNR=16						
HATD	**Hatta, Dubai**	**21.37**	**246**	P	**P**	**23 33 45.5**	**+0.7**
	SNR=9.1						
HATD				P	**P**	**23 33 45.5**	**+0.7**
	SNR=9.1						
HATD				S	**S**	**23 37 42.0**	**+4.9**
HATD				S	**S**	**23 37 42.0**	**+4.9**
SOHO	**SOHO**	**21.48**	**243**	i P	**P**	**23 33 45.9**	**0.0**
	SNR=6.5						
SOHO	**SOHO**	**21.48**	**243**	P	**P**	**23 33 46.9**	**+1.0**
SOHO				S	**S**	**23 37 44.3**	**+5.0**
JMDO	**Jabal Madar**	**21.50**	**237**	P	**P**	**23 33 47.9**	**+1.8**
	SNR=13						
JMDO				P	**P**	**23 33 47.9**	**+1.8**
	SNR=13						
JMDO				S	**S**	**23 37 45.5**	**+5.9**
JMDO				S	**S**	**23 37 45.5**	**+5.9**
ASHO	**Ashiyiah**	**21.51**	**245**	i P	**P**	**23 33 47.3**	**+1.1**
	SNR=73						

ASHO Ashiyiah 21.51 245 P P 23 33 47.5 +1.2
SNR=45
ASHO S S 23 37 44.5 +4.6
NAZ Nazwa, Dubai 21.63 247 *i* P P 23 33 48.8 +1.3
SNR=11
NAZ Nazwa, Dubai 21.63 247 P P 23 33 49.0 +1.5
SNR=15
NAZ P P 23 33 49.0 +1.5
SNR=15
FAQ Al Faqa, Dubai 21.82 246 *i* P P 23 33 50.7 +1.2
SNR=8.6
FAQ Al Faqa, Dubai 21.82 246 P P 23 33 51.1 +1.5
SNR=12
FAQ S S 23 37 51.1 +5.3
BSY Bisya 21.87 239 P P 23 33 53.5 +3.4
SNR=16
BSY S S 23 37 51.2 +4.3
ARQ Araqi 21.98 242 P P 23 33 54.7 +3.5
SNR=14
ARQ P P 23 33 54.7 +3.5
SNR=14
ARQ S S 23 37 53.3 +4.5
ARQ S S 23 37 53.3 +4.5
ASUD Al Ashush, Dub 22.08 246 *i* P P 23 33 53.9 +1.5
SNR=21
ASUD Al Ashush, Dub 22.08 246 P P 23 33 54.4 +2.1
SNR=13
ASUD P P 23 33 54.4 +2.1
SNR=13
ALNE Al Ain 22.10 244 *i* P P 23 33 54.1 +1.5
SNR=53
ALNE Al Ain 22.10 244 P P 23 33 54.8 +2.2
SNR=21
ALNE P P 23 33 54.8 +2.2
SNR=21
ALNE S S 23 37 55.5 +4.6
ALNE S S 23 37 55.5 +4.6
AJN Ajban 22.37 247 *i* P P 23 33 56.7 +1.2
SNR=9.9
AJN Ajban 22.37 247 P P 23 33 57.5 +2.1
SNR=6.9
AJN P P 23 33 57.5 +2.1
SNR=6.9
CD2 Chengdu 22.40 95 P P 23 33 55.7 0.0
CD2 pP pP 23 34 11.4 -3.5
CD2 sP sP 23 34 25.1 -1.4
CD2 S S 23 37 57.4 +1.5
CD2 pmax pmax
comp=Z,50nm,0.6s
CD2 pmax pmax
comp=Z,90nm,4.3s
MHTO MHTO 22.53 235 P P 23 33 59.1 +2.0
SNR=12
MHTO P P 23 33 59.1 +2.0
SNR=12
MHTO S S 23 38 02.7 +4.7
MHTO S S 23 38 02.7 +4.7
PZH PanZhiHua 22.61 107 P P 23 33 59.6 +1.6
PZH sP pP 23 34 21.2 +3.9
PZH PcP PcP 23 37 49.0 +1.0
PZH S S 23 37 56.7 -2.8
PZH SS SnSn 23 38 41.9 +4.4
PZH ScS ScS 23 45 02.9 -0.5
PZH pmax pmax
comp=Z,50nm,1.0s
PZH pmax pmax
comp=Z,280nm,4.2s
PZH LR LR
comp=Z,250nm,12.0s
PZH LR LR
comp=Z,220nm,12.1s
PZH LR LR
comp=Z,230nm,13.2s
LKRN Lenkeran, Azer 23.07 286 P P 23 34 02.9 +0.5
MOY Mondy 23.17 39 *e*P P 23 34 04.2 +0.8
MOY pmax pmax
comp=Z,133nm,2.4s
ZAK Zakamensk 23.73 44 *e*P P 23 34 08.7 +0.3
ZAK pmax pmax
comp=Z,681nm,0.8s
SVE Sverdlovsk 24.05 337 *de*P P 23 34 11.3 +0.2
SVE *e*S S 23 38 25.6 +3.7
SVE pmax pmax
comp=Z,179nm,1.0s
KMI Kunming 24.08 109 ⇑P P 23 34 11.7 -0.3
KMI S S 23 38 22.0 -1.4
KMI pmax pmax
comp=Z,44nm,0.8s
KMI LR LR
comp=Z,350nm,12.2s
KMI LR LR
comp=Z,240nm,10.5s
KMI LR LR
comp=Z,180nm,20.3s
MAK Makhachkala 24.26 297 *e*P P 23 34 12.4 -0.8
MAK *e**PP pP 23 34 26.3 -8.1
MAK *e*S S 23 38 27.4 +1.9
MAK *e**SS sS 23 38 54.2 -8.5
MAK pmax pmax
comp=Z,190nm,1.4s
MAK MLR MLR
comp=Z,225nm,15.0s
SEKA Sheki 24.33 292 P P 23 34 14.3 +0.4
MNGR Mingechevir, A 24.39 291 P P 23 34 15.4 +1.0
MZR Muzera 24.40 245 *i* P P 23 34 15.6 +0.9
SNR=9.0
MZR Muzera 24.40 245 P P 23 34 16.1 +1.5
SNR=5.5
ARU Arti 24.43 334 P P 23 34 14.5 -0.1
ARU Arti 24.43 334 *c i*P P 23 34 14.6 0.0
ARU 23 34 47.2
ARU S S 23 38 31.2 +3.2
ARU SS SnSn 23 39 22.2 +0.7
ARU pmax pmax
comp=Z,329nm,0.8s
SONM Songino Array 24.57 51 P P 23 34 17.0 +0.8
SONM IAmb IAmb 23 34 19.8
comp=Z,156nm,0.8s
SONM Songino Array 24.57 51 P P 23 34 17.0 +0.8
SONM pmax pmax
comp=Z,156nm,0.8s
SONM Songino Array 24.57 51 P P 23 34 16.9 +0.8
comp=Z,145nm,0.8s,baz=246,slow=9.6,SNR=340
SONM PcP PcP 23 37 51.4 -0.4
comp=Z,6.7nm,0.7s,baz=224,slow=3.6,SNR=4.3
SONM LR LR 23 45 33.7
comp=Z,440nm,21.1s,baz=240,slow=40
comp=Z,145nm,0.8s
SHMA Al-Shehemyia 24.77 254 P P 23 34 19.0 +1.0
SNR=25
ZKTA Zakatala 24.79 293 P P 23 34 19.1 +1.1
GANJ Ganja 24.97 291 P P 23 34 20.4 +0.7
ULN Ulaanbaatar 25.00 52 P P 23 34 20.8 +0.7
ULN IAmb IAmb 23 34 23.8
comp=Z,105nm,0.9s
ULN Ulaanbaatar 25.00 52 P P 23 34 21.1 +1.0
ULN P P 23 34 21.1 +1.0
ULN Ulaanbaatar 25.00 52 *de*P P 23 34 20.9 +0.8
ULN pmax pmax
comp=Z,112nm,0.8s
SAKB Bahrain 25.05 255 P P 23 34 21.0 +0.5
TRNA Turayna 25.15 252 P P 23 34 21.5 +0.1
SNR=10
IRK Irkutsk 25.19 41 *e*P P 23 34 22.5 +1.0
IRK *e* 23 34 58.9
IRK pmax pmax
comp=Z,87nm,1.0s
CRAI Chiangrai 25.28 121 P P 23 34 23.0 +0.3
CHTO Chiang Mai 25.29 126 P P 23 34 22.3 -0.4
CHTO Chiang Mai 25.29 126 P P 23 34 22.7 0.0
CHTO Chiang Mai 25.29 126 P P 23 34 27.2 +4.5
CHTO Chiang Mai 25.29 126 P P 23 34 22.3 -0.4
CHTO pmax pmax
comp=Z,30nm,0.8s
SMRA Abu-Samra 25.45 252 P P 23 34 24.2 +0.1
SNR=6.9
CM31 Chiang Mai Arr 25.54 127 P P 23 34 24.3 -0.7
CMAR Chiang Mai Arr 25.54 127 P P 23 34 24.6 -0.4
CMAR Chiang Mai Arr 25.54 127 *i* P P 23 34 24.8 -0.3
CMAR pmax pmax
comp=Z,19nm,0.6s
CMAR Chiang Mai Arr 25.54 127 P P 23 34 24.8 -0.3
comp=Z,17nm,0.7s,baz=312,slow=10.0,SNR=35
CMAR PcP PcP 23 37 54.4 +0.1
comp=Z,5.9nm,0.7s,baz=298,slow=4.0,SNR=5.7
CMAR S S 23 38 49.1 +2.8
comp=Z,1.2nm,0.3s,baz=322,slow=46,SNR=1.7
CMAR ScP ScP 23 41 26.3 +0.7
comp=Z,4.2nm,0.8s,baz=302,slow=4.2,SNR=11
CMAR LR LR 23 46 35.5
comp=Z,167nm,21.2s,baz=315,slow=41
comp=Z,17nm,0.7s
NAX Nakhchivan 25.61 287 P P 23 34 26.8 +1.2
XAN Xi'an 25.75 84 ⇑P P 23 34 26.9 0.0
XAN pP pP 23 34 40.7 -7.8
XAN S S 23 38 55.9 +6.3
XAN SS SnSn 23 40 00.6 +6.6
XAN pmax pmax
comp=Z,54nm,1.2s
XAN pmax pmax
comp=Z,420nm,8.3s
BTO Baotou 25.93 69 *e*P P 23 34 28.9 +0.3
BTO pP pP 23 34 45.9 -4.1
BTO sP sP 23 34 56.1 -4.9
BTO PP PnPn 23 35 12.7 +1.5
BTO S S 23 38 54.5 +2.1
BTO sS sS 23 39 20.2 -10
BTO SS SnSn 23 39 58.5 +0.1
BTO pmax pmax
comp=Z,100nm,1.1s
BTO pmax pmax
comp=Z,240nm,4.4s
BTO LR LR
comp=Z,650nm,8.1s
BTO LR LR
comp=Z,430nm,7.7s
BTO LR LR
comp=Z,470nm,9.9s
GNI Garni 26.17 290 P P 23 34 32.1 +1.4
GNI IAmb IAmb 23 35 08.8
comp=Z,87nm,0.8s
GNI Garni 26.17 290 P P 23 34 32.2 +1.5
GNI Garni 26.17 290 P P 23 34 32.7 +1.9
GNI P P 23 34 32.7 +1.9
GNI Garni 26.17 290 *c i*P P 23 34 32.9 +2.1
GNI pmax pmax
comp=Z,53nm,0.8s
SHAO Shalim 26.19 234 P P 23 34 32.6 +1.7
SNR=5.6
PHRA Phrae 26.37 124 P P 23 34 32.0 -0.5
PHRA IAmb IAmb 23 34 33.1
comp=Z,164nm,0.6s
GYA Guiyang 26.51 102 ⇓P P 23 34 34.7 +0.9
GYA S S 23 39 02.5 +0.8
GYA pmax pmax
comp=Z,44nm,0.9s
GYA pmax pmax
comp=Z,140nm,3.5s
GYA LR LR
comp=Z,200nm,7.4s
GYA LR LR
comp=Z,320nm,9.5s
GYA LR LR
comp=Z,190nm,11.3s
DMTO DMTO 26.85 234 P P 23 34 37.5 +0.6
SNR=21
DMTO P P 23 34 37.5 +0.6
SNR=21
ZEI Tsey 26.88 296 *e*P P 23 34 39.1 +1.9
ZEI pmax pmax
comp=Z,19nm,0.8s
HHC Hu-ho-hao-te 27.11 69 *e*P P 23 34 40.5 +1.4
HHC sP pP 23 35 06.3 +5.7
HHC S S 23 39 12.2 +1.3
HHC sS sS 23 39 39.7 -8.8
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,280nm,5.1s
SLVN Son La 27.11 115 P P 23 34 40.2 +1.0
AKH Akhalkalaki 27.12 293 P P 23 34 41.3 +2.0
AKH IAmb IAmb 23 35 20.2
comp=Z,250nm,1.0s
AKH Akhalkalaki 27.12 293 P P 23 34 41.3 +2.0
AKH pmax pmax
comp=Z,250nm,1.0s
NCK Nalchik 27.16 297 *de*P P 23 34 40.3 +0.9
NCK pmax pmax
comp=Z,46nm,0.6s
ONI Oni 27.20 295 P P 23 34 41.6 +1.8
ONI Oni 27.20 295 P P 23 34 41.6 +1.8
ONI pmax pmax
comp=Z,44nm,0.9s
ENH Enshi 27.27 92 P P 23 34 41.0 +0.5
ENH Enshi 27.27 92 P P 23 34 41.2 +0.7
KARS Kars 27.44 291 P P 23 34 44.5 +2.4
KARS Kars 27.44 291 P P 23 34 44.5 +2.4
KARS pmax pmax
comp=Z,231nm,0.9s
WHFO Wadi Hawf 27.50 236 P P 23 34 42.7 +0.1
SNR=47
WHFO P P 23 34 42.7 +0.1
SNR=47
KBZ Khabaz 27.68 298 *c i*P P 23 34 44.1 +0.1
KBZ pmax pmax
comp=Z,20nm,0.9s
KBZ Khabaz 27.68 298 P P 23 34 44.4 +0.4
comp=Z,15nm,0.8s,baz=96,slow=18,SNR=18
comp=Z,15nm,0.8s
GOF Gofitskoye 27.73 300 *ce*P P 23 34 45.5 +1.0
NEUR Neytrino 27.79 296 *e*P P 23 34 48.0 +2.7
NEUR pmax pmax
comp=Z,21nm,1.2s
KIV Kislovodsk 27.86 298 P P 23 34 46.1 +0.3
KIV IAmb IAmb 23 35 19.4
comp=Z,54nm,0.7s
KIV Kislovodsk 27.86 298 P P 23 34 45.5 -0.2
KIV Kislovodsk 27.86 298 P P 23 34 46.6 +0.9
KIV Kislovodsk 27.86 298 *e*P P 23 34 45.9 +0.2
KIV *e*S S 23 39 25.2 +2.6
KIV pmax pmax
comp=Z,27nm,1.0s
KIV MLR MLR
comp=Z,127nm,15.0s
TIY Taiyuan 27.97 75 *e*P P 23 34 47.9 +1.2
TIY sP pP 23 35 13.6 +5.2
TIY PP PP 23 35 44.5 -6.8
TIY S S 23 39 23.7 -0.7
SIRT Sirnak 28.15 284 P P 23 34 48.9 +0.5
SIRT IAmb IAmb 23 35 34.0
comp=Z,64nm,0.9s
ABTO Aybut 28.21 236 P P 23 34 49.0 -0.1
SNR=20
ABTO P P 23 34 49.0 -0.1
SNR=20
GURO Guroymak-BITLI 28.35 286 P P 23 34 51.5 +1.2
PALK Pallekele 28.41 173 P P 23 34 52.5 +1.7
PALK Pallekele 28.41 173 P P 23 34 52.5 +1.7
PALK pmax pmax
comp=Z,29nm,0.8s
LYN LuoYang 28.51 82 ⇓P P 23 34 52.7 +1.2
LYN pP pP 23 35 10.8 -2.5
LYN sP sP 23 35 19.3 -5.0
LYN S S 23 39 35.0 +2.1
LYN sS sS 23 40 01.9 -8.6
LYN pmax pmax
comp=Z,59nm,0.8s
LYN pmax pmax
comp=Z,100nm,4.4s
LYN LR LR
comp=Z,370nm,8.6s
LYN LR LR
comp=Z,300nm,5.4s
LYN LR LR
comp=Z,460nm,17.0s
SRDT SRDT 28.74 132 P P 23 34 54.5 +0.8
KIRV Kirov 29.47 330 *c i*P P 23 34 59.7 0.0
KIRV Kirov 29.47 330 LR LR 23 46 47.3
comp=Z,350nm,20.0s,baz=138,slow=36
HNS HongShan 29.80 76 ⇑P P 23 35 04.0 +1.1
HNS S S 23 39 52.2 -0.8
HNS pmax pmax
comp=Z,12nm,0.7s
HNS LR LR
comp=Z,380nm,15.0s
HNS LR LR
comp=Z,300nm,13.9s
VRH Novokhopyorsk 29.93 312 *e*P P 23 35 03.9 0.0
VRH pmax pmax
comp=Z,106nm,0.6s
SOC Sochi 29.98 297 *e*P P 23 35 02.5 -1.9
SOC *e* 23 36 01.8
SOC *e*S S 23 39 56.2 +0.4
SOC *e*SS ScP 23 41 35.4 -3.4
SOC MLR MLR
comp=Z,106nm,15.0s
GULI GuiLin 30.00 101 ⇓P P 23 35 06.2 +1.4
GULI S S 23 39 50.2 -6.2
GULI pmax pmax
comp=Z,30nm,0.8s
GULI LR LR
comp=Z,250nm,6.5s
GULI LR LR
comp=Z,540nm,7.6s
GULI LR LR
comp=Z,420nm,11.4s
NAYO Nakonayok 30.13 129 P P 23 35 06.9 +0.9
XLT XiLinHaoTe 30.52 63 *e*P P 23 35 11.2 +1.9
XLT sP sP 23 35 44.8 +2.8
XLT S S 23 40 05.5 +1.1
XLT ScP ScP 23 41 43.5 +2.8
XLT pmax pmax
comp=Z,21nm,1.2s
XLT pmax pmax
comp=Z,99nm,5.5s
BJT Baijiatuau 30.65 70 P P 23 35 11.7 +1.3
BJT Baijiatuau 30.65 70 P P 23 35 11.9 +1.5
BJT Baijiatuau 30.65 70 P P 23 35 11.7 +1.3
BJT pmax pmax
comp=Z,15nm,0.6s
BJT Baijiatuau 30.65 70 P P 23 35 12.2 +1.8
BJT sP sP 23 35 46.8 +3.7
BJT PcP PcP 23 38 07.2 +0.7
BJI Beijing 30.66 70 P P 23 35 12.1 +1.7
BJI PcP PcP 23 38 08.4 +1.9
BJI S S 23 40 05.3 -1.1
BJI sS sS 23 40 39.6 -4.5
BJI pmax pmax
comp=Z,10.0nm,0.7s
BJI pmax pmax
comp=Z,81nm,4.3s
CNSH ChangSha 30.83 94 ⇓P P 23 35 12.6 +0.5
CNSH S S 23 40 07.2 -2.2
CNSH pmax pmax
comp=Z,18nm,0.9s
CNSH LR LR
comp=Z,360nm,12.5s
CNSH LR LR
comp=Z,160nm,7.1s
WHN Wuhan 31.14 89 P P 23 35 15.7 +0.9
WHN S S 23 40 14.5 +0.4
WHN pmax pmax
comp=Z,48nm,0.7s
WHN LR LR
comp=Z,2μm,24.0s
ARPR Arapgir-MALATY 31.17 288 P P 23 35 17.2 +2.0
ARPR IAmb IAmb 23 36 00.6
comp=Z,61nm,1.1s
VORD Divnogorie 31.34 311 *e*P P 23 35 14.7 -1.6
VORD pmax pmax
comp=Z,70nm,0.8s
VSR Storozhevoye 31.48 312 *e*P P 23 35 16.6 -1.0
VSR pmax pmax
comp=Z,100nm,0.8s
VORR Voronezh 31.57 312 *e*P P 23 35 18.3 -0.1
VORR pmax pmax
comp=Z,61nm,0.6s
ANN Anapa 31.67 299 *e*P P 23 35 17.2 -2.1
ANN *e**PP pP 23 35 35.4 -5.8
ANN *e* 23 36 24.5
ANN *e* 23 38 06.5
ANN *e*S S 23 40 21.9 -0.3
ANN pmax pmax
comp=Z,70nm,1.0s
TIA Tai'an 31.91 77 ⇑P P 23 35 22.2 +0.7
TIA S S 23 40 22.8 -3.3
TIA pmax pmax
comp=Z,12nm,1.3s
TIA LR LR
comp=Z,280nm,15.7s
LPSR Galich'ya Gora 31.99 314 *e*P P 23 35 21.5 -0.5
LPSR pmax pmax
comp=Z,210nm,0.9s
GAZ Gaziantep 32.32 285 P P 23 35 27.6 +2.5
BOD Bodaibo 32.78 36 *e*P P 23 35 28.9 +0.1
BOD pmax pmax
comp=Z,50nm,0.7s
PRGR Permogore 32.85 332 ⇑*i*P P 23 35 29.3 -0.1
PRGR pmax pmax
comp=Z,238nm,0.6s
QIZ Qiongzhong 32.94 112 P P 23 35 31.6 +0.9
QIZ IAmb IAmb 23 36 34.3
comp=Z,122nm,1.6s
QIZ Qiongzhong 32.94 112 P P 23 35 32.0 +1.3
QIZ S S 23 40 46.5 +4.1
QIZ pmax pmax
comp=Z,22nm,1.6s
QIZ LR LR
comp=Z,310nm,4.3s
BNN Bunyan 33.13 288 P P 23 35 33.1 +0.8
BNN IAmb IAmb 23 36 30.2
comp=Z,39nm,0.9s
DIKM Dikmen 33.30 293 ⇓P P 23 35 35.5 +1.9
HIA Hailar 33.52 53 P P 23 35 36.5 +1.0
HIA IAmb IAmb 23 35 37.6
comp=Z,82nm,1.8s
HIA Hailar 33.52 53 P P 23 35 36.9 +1.4
HIA Hailar 33.52 53 P P 23 35 36.5 +1.0
HIA pmax pmax
comp=Z,83nm,1.8s
MOS Moscow 33.70 319 *e*P P 23 35 34.3 -2.6
MOS *e*PPP PPP 23 37 06.9
MOS *e*S S 23 40 50.7 -2.7
MOS pmax pmax
comp=Z,200nm,0.7s
MOS pmax pmax
comp=Z,143nm,0.7s
MOS pmax pmax
comp=E,131nm,0.9s
MOS pmax pmax
comp=N,47nm,0.7s
MOS smax smax
comp=N,100nm,1.0s
MOS smax smax
comp=E,200nm,1.7s
SIM Simferopol' 34.03 299 *e*P P 23 35 40.7 +0.8
SIM pmax pmax
comp=Z,137nm,0.8s
OBN Obninsk 34.07 318 ⇓P P 23 35 40.3 +0.3
OBN Obninsk 34.07 318 P P 23 35 40.2 +0.1
OBN Obninsk 34.07 318 *ce*P P 23 35 39.9 -0.2
OBN *i* *SP pP 23 36 04.7 +2.6
OBN *i* 23 36 54.3
OBN pmax pmax
comp=Z,171nm,1.3s
OBN MLR MLR
comp=Z,191nm,17.0s
OBN Obninsk 34.07 318 P P 23 35 40.2 +0.1
OBN PcP PcP 23 38 15.5 -0.1
NJ2 Nanjing 34.32 84 ⇑*i*P P 23 35 43.4 +0.9
NJ2 pP pP 23 35 59.9 -4.7
NJ2 PP PP 23 37 02.1 +0.3
NJ2 S S 23 41 07.2 +3.7
NJ2 pmax pmax
comp=Z,30nm,0.5s
NJ2 pmax pmax
comp=Z,210nm,5.2s
NJ2 LR LR
comp=Z,200nm,17.1s
NJ2 LR LR
comp=Z,270nm,17.0s
NJ2 LR LR
comp=Z,980nm,22.7s
MMAI Mount Meron Ar 34.70 278 P P 23 35 47.1 +1.2
comp=Z,2.9nm,0.7s,baz=78,slow=7.8,SNR=5.5
MMAI PcP PcP 23 38 18.1 +0.2
comp=Z,2.5nm,0.6s,baz=88,slow=7.4,SNR=1.9
comp=Z,2.9nm,0.7s
BR131 Keskin Array S 34.71 290 *c i*P P 23 35 46.6 +0.6
BRTR Keskin Array B 34.71 290 P P 23 35 46.9 +0.8
BRTR Keskin Array B 34.71 290 *i* P P 23 35 46.7 +0.7
BRTR pmax pmax
comp=Z,23nm,0.7s
BRTR Keskin Array B 34.71 290 P P 23 35 47.0 +1.0
comp=Z,23nm,0.7s,baz=100,slow=7.5,SNR=127

BRTR PcP **PcP** **23 38 17.8 -0.1**
comp=Z,4.0nm,0.6s,baz=124,slow=3.5,SNR=4.2
comp=Z,23nm,0.7s
KLMR Klimovskoe 34.90 328 ⇑ *i*P **P** **23 35 46.9 -0.2**
KLMR ⇑ *i*P **P** **23 35 46.9 -0.2**
KLMR ⇑ *i*P **P** **23 35 46.9 -0.2**
KLMR AMP 23 35 48.0
comp=Z,101nm,0.6s
KLMR *e*PcP **PcP** **23 38 18.5 +0.6**
KLMR Klimovskoe 34.90 328 *ce*P **P** **23 35 46.8 -0.3**
KLMR *e* 23 38 18.5
KLMR pmax pmax
comp=Z,100nm,0.6s
KLMR pmax pmax
comp=Z,101nm,0.6s
DL2 Dalian 34.98 71 P **P** **23 35 49.6 +1.5**
DL2 S **S** **23 41 14.8 +1.4**
DL2 pmax pmax
comp=Z,52nm,1.2s
LHMI Lhok Sumawe 35.17 145 P **P** **23 35 51.1 +1.1**
LHMI IAmb IAmb 23 36 18.5
comp=Z,92nm,0.9s
ANTO Ankara 35.34 291 ⇓ P **P** **23 35 52.9 +1.5**
ANTO Ankara 35.34 291 P **P** **23 35 52.0 +0.7**
ANTO IAmb IAmb 23 35 56.1
comp=Z,32nm,0.8s
ANTO Ankara 35.34 291 P **P** **23 35 52.0 +0.7**
ANTO pmax pmax
comp=Z,32nm,0.8s
ANTO Ankara 35.34 291 P **P** **23 35 52.9 +1.5**
ANTO PcP **PcP** **23 38 20.6 +0.8**
BR231 Keskin MP Arra 35.35 290 P **P** **23 35 53.0 +1.5**
MLSI Meulaboh, Aceh 35.77 147 P **P** **23 35 53.6 -1.5**
comp=Z,111nm,0.6s,comp=Z,3µm
CSS Mathiatis 35.85 282 P **P** **23 35 56.2 +0.5**
CSS IAmb IAmb 23 35 58.4
comp=Z,92nm,1.6s
SNY Shenyang 36.09 66 ⇓ P **P** **23 35 58.2 +0.6**
SNY S **S** **23 41 36.5 +6.1**
SNY pmax pmax
comp=Z,31nm,0.7s
SNY pmax pmax
comp=Z,150nm,4.4s
SNY LR LR
comp=Z,130nm,6.3s
SNY LR LR
comp=Z,130nm,4.7s
SNY LR LR
comp=Z,170nm,5.7s
MDUB Mudurnu 36.47 292 P **P** **23 36 02.2 +1.1**
SSE Sheshan 36.51 84 P **P** **23 36 02.8 +1.5**
SSE pmax pmax
comp=Z,49nm,0.8s
SSE pmax pmax
comp=Z,120nm,4.9s
DLV T Lat 36.60 122 P **P** **23 36 03.1 +0.7**
DLV IAmb IAmb 23 36 29.8
comp=Z,51nm,0.9s
KULM Kulim 36.97 139 P **P** **23 36 05.7 +0.3**
KULM IAmb IAmb 23 36 38.6
comp=Z,59nm,1.3s
PURM Purcari 37.01 302 ⇓ P **P** **23 36 06.6 +1.2**
CN2 Changchun 37.29 62 ⇑ P **P** **23 36 08.4 +0.6**
CN2 *es*P sP 23 36 40.1 -0.6
CN2 *eS* **S** **23 41 47.5 -1.2**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,300nm,12.0s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,200nm,13.0s
ISP Isparta 37.43 288 ⇓ *i*P **P** **23 36 11.8 +2.6**
ISP pmax pmax
comp=Z,16nm,0.6s
AKASG Malin Array Be 37.59 309 P **P** **23 36 10.0 -0.2**
AKASG Malin Array Be 37.59 309 *i*P **P** **23 36 10.0 -0.2**
AKASG pmax pmax
comp=Z,18nm,0.4s
AKASG Malin Array Be 37.59 309 P **P** **23 36 10.0 -0.2**
comp=Z,9.9nm,0.4s,baz=80,slow=7.6,SNR=99
AKASG PcP **PcP** **23 38 25.6 -0.6**
comp=Z,2.5nm,0.6s,baz=95,slow=11,SNR=1.5
AKASG S **S** **23 41 51.8 -1.2**
comp=Z,6.0nm,0.9s,baz=92,slow=14,SNR=7.0
comp=Z,9.9nm,0.4s
AKBB Malin Array Si 37.59 309 P **P** **23 36 10.0 -0.2**
AKBB Malin Array Si 37.59 309 *ce*P **P** **23 36 09.8 -0.4**
AKBB pmax pmax
comp=Z,71nm,0.6s
KIEV Kiev 37.60 309 P **P** **23 36 10.0 -0.3**
KIEV Kiev 37.60 309 P **P** **23 36 10.0 -0.3**
KIEV pmax pmax
comp=Z,76nm,0.6s
KIEV Kiev 37.60 309 P **P** **23 36 10.1 -0.3**
KIEV ScP **ScP** **23 42 02.7 -2.9**
KIS Kishinev 37.73 303 *e*P **P** **23 36 11.0 -0.4**
comp=Z,100nm,0.8s
KIS *e*L L 23 57 22.0
KIS LRM MLR 23 58 28.0
comp=Z,200nm,18.0s
KIS Kishinev 37.73 303 ⇓ P **P** **23 36 12.1 +0.7**
KIS Kishinev 37.73 303 *e*P **P** **23 36 11.0 -0.4**
KIS pmax pmax
comp=Z,100nm,0.8s
MILM Milestii Mici 37.73 303 ⇑ *i*P **P** **23 36 11.0 -0.5**
comp=Z,190nm,0.7s
MILM Milestii Mici 37.73 303 ⇑ P **P** **23 36 12.2 +0.8**
MILM Milestii Mici 37.73 303 *i*P **P** **23 36 11.0 -0.5**
MILM pmax pmax
comp=Z,190nm,0.7s
JURR Jurilovca 37.76 299 ⇑ P **P** **23 36 12.6 +0.9**
TLCR 37.78 300 ⇑ P **P** **23 36 13.0 +1.1**
TLCR 37.78 300 P **P** **23 36 13.0 +1.1**
MANR Mangalia 38.04 298 ⇑ P **P** **23 36 15.1 +1.1**
TPGR Topolog 38.08 299 ⇓ P **P** **23 36 15.6 +1.1**
TIRR Tirgusor 38.12 299 ⇓ P **P** **23 36 15.7 +1.0**
TIRR Tirgusor 38.12 299 P **P** **23 36 15.1 +0.4**
TIRR IAmb IAmb 23 36 19.7
comp=Z,59nm,1.1s
TIRR Tirgusor 38.12 299 P **P** **23 36 15.1 +0.4**
TIRR pmax pmax
comp=Z,59nm,1.1s
MFTR Murfatlar 38.13 298 ⇑ P **P** **23 36 16.5 +1.7**
LEOM Leova 38.13 302 ⇑ P **P** **23 36 16.2 +1.3**
LEOM Leova 38.13 302 P **P** **23 36 16.1 +1.3**
ELL Elmali 38.13 286 P **P** **23 36 15.4 +0.2**
ELL Elmali 38.13 286 P **P** **23 36 15.4 +0.2**
ELL pmax pmax
comp=Z,182nm,0.8s
GIUM Giurgiulesti 38.20 300 ⇑ P **P** **23 36 16.7 +1.3**
PSI Prapat 38.23 144 P **P** **23 36 15.7 -0.4**
PSI pmax pmax
comp=Z,10.0nm,0.7s
CFR Carcaliu 38.27 300 ⇑ P **P** **23 36 16.9 +0.9**
CFR Carcaliu 38.27 300 P **P** **23 36 16.8 +0.9**
VLDR Vladesti 38.27 301 ⇑ P **P** **23 36 17.5 +1.5**
TATR Tatarca 38.30 301 ⇑ P **P** **23 36 17.5 +1.2**
GISR Galati 38.31 300 ⇓ P **P** **23 36 17.7 +1.4**
RPSI Rantau Prapat 38.33 144 P **P** **23 36 15.7 -1.1**
SCTR Scanteiesti 38.34 301 ⇑ P **P** **23 36 18.1 +1.5**
TLBR Topalu 38.37 299 ⇑ P **P** **23 36 18.2 +1.4**
NEGRR Negrea 38.43 300 ⇑ P **P** **23 36 18.6 +1.2**
VARL Varlezi 38.43 301 ⇑ P **P** **23 36 19.2 +1.9**
HARR Harsova 38.44 299 ⇑ P **P** **23 36 19.1 +1.6**
HARR Harsova 38.44 299 P **P** **23 36 19.0 +1.6**
VASR Vaslui 38.44 302 ⇓ P **P** **23 36 18.2 +0.8**
SCHL Schela 38.46 300 ⇑ P **P** **23 36 19.3 +1.7**
SCHLR Schela 38.46 300 ⇓ P **P** **23 36 18.9 +1.3**
SLCR Slobozia Conac 38.50 301 ⇓ P **P** **23 36 19.4 +1.5**
IZVR Izvoarele 38.50 300 ⇓ P **P** **23 36 19.4 +1.4**
HEH HeiHe 38.56 52 *e*P **P** **23 36 18.0 -0.4**
HEH pP **pP** **23 36 34.1 -6.5**
HEH S **S** **23 42 08.0 +0.3**
HEH pmax pmax
comp=Z,30nm,1.0s
HEH pmax pmax
comp=Z,260nm,6.1s
HEH LR LR
comp=Z,330nm,15.6s
HEH LR LR
comp=Z,650nm,14.8s
HEH LR LR
comp=Z,520nm,17.1s
BNX BinXian 38.56 59 ⇑ P **P** **23 36 19.4 +0.9**
BNX pmax pmax
comp=Z,33nm,0.7s
BNX pmax pmax
comp=Z,260nm,5.0s
BIR Birlad 38.57 302 ⇑ P **P** **23 36 20.6 +2.0**
BIR Birlad 38.57 302 P **P** **23 36 20.5 +2.0**
TUDR 38.57 301 ⇓ P **P** **23 36 20.5 +2.0**
ICOR Ion Corvin 38.58 298 ⇓ P **P** **23 36 20.9 +2.3**
PUL Pulkovo 38.69 324 *c* iP **P** **23 36 20.1 +0.8**
PUL pmax pmax
comp=Z,204nm,0.7s
GHRR 38.73 301 ⇓ P **P** **23 36 21.8 +1.9**
ZEA Zeya 38.77 46 *e*P **P** **23 36 21.9 +1.9**
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.8s
MNK Minsk 38.83 315 *i* P **P** **23 36 20.7 +0.1**
comp=E,43nm,0.9s
MNK *i* P **P** **23 36 20.7 +0.1**
comp=N,23nm,0.9s
MNK *i* P **P** **23 36 20.7 +0.1**
comp=Z,166nm,0.9s,baz=98
MNK *i* pP **pP** **23 36 38.0 -5.0**
MNK *i* PP **PP** **23 37 50.6 -0.4**
MNK *i* S **S** **23 42 14.8 +3.1**
MNK *i* sS **sS** **23 42 43.7 -6.4**
MNK *i* SS **SnSn** **23 45 09.4 -0.5**
MNK *i* SSS SSS 23 45 29.3
MNK *i* LQ LQ 23 49 36.4
MNK *i* LR LR 23 52 00.6
MNK *i* LRM MLR 23 53 03.9
comp=N,151nm,12.9s
MNK *i* LRM MLR 23 53 22.0
comp=E,78nm,14.6s
MNK *i* LRM MLR 23 53 26.7
comp=Z,183nm,12.1s
MNK Minsk 38.83 315 *i* P **P** **23 36 20.7 +0.1**
MNK *i* *PP **pP** **23 36 38.0 -5.0**
MNK *i* 23 37 50.5
MNK *i* S **S** **23 42 14.8 +3.1**
MNK *i* *sS **sS** **23 42 43.6 -6.4**
MNK *i* SSS SSS 23 45 29.3
MNK pmax pmax
comp=Z,166nm,0.9s
MNK pmax pmax
comp=N,23nm,0.9s
MNK pmax pmax
comp=E,43nm,0.9s
MNK MLR MLR
comp=N,151nm,13.0s
MNK MLR MLR
comp=E,78nm,15.0s
MNK MLR MLR
comp=Z,183nm,12.0s
AMRR Amara 38.87 299 ⇑ P **P** **23 36 22.8 +1.7**
AMRR Amara 38.87 299 P **P** **23 36 22.7 +1.7**
PANC Panciu 38.92 301 ⇓ P **P** **23 36 23.4 +1.9**
VALR Valaam 38.93 326 *c* iP **P** **23 36 21.7 +0.4**
VALR pmax pmax
comp=Z,193nm,0.9s
GSI Gunungsitoli 38.93 147 P **P** **23 36 22.6 +0.9**
GSI IAmb IAmb 23 37 14.8
comp=Z,56nm,0.9s
GSI Gunungsitoli 38.93 147 P **P** **23 36 22.7 +0.9**
GSI Gunungsitoli 38.93 147 P **P** **23 36 21.2 -0.6**
comp=Z,68nm,0.7s,comp=Z,2µm
GRER 39.07 300 ⇑ P **P** **23 36 24.6 +1.9**
PGOR Pogoanele 39.10 300 ⇓ P **P** **23 36 25.3 +2.4**
BALB Balikesir 39.11 291 P **P** **23 36 23.5 +0.4**
BALB IAmb IAmb 23 36 26.0
comp=Z,76nm,0.8s
INCN Inchon 39.12 72 P **P** **23 36 24.0 +0.8**
YHNB Yeheng 39.17 94 P **P** **23 36 24.7 +0.8**
YHNB IAmb IAmb 23 36 44.4
comp=Z,198nm,1.9s
VRI Vrincioaia 39.21 301 ⇑ P **P** **23 36 25.8 +1.9**
VRI Vrincioaia 39.21 301 P **P** **23 36 25.8 +1.9**
TESR Tescani 39.23 302 ⇑ P **P** **23 36 25.1 +1.0**
LEHL Lehliu 39.25 299 ⇑ P **P** **23 36 26.0 +1.8**
PLOR Plostina 39.27 301 ⇑ P **P** **23 36 26.2 +1.7**
PLOR Plostina 39.27 301 P **P** **23 36 26.1 +1.7**
ISR Istrita 39.39 300 ⇑ P **P** **23 36 27.2 +1.7**
ISR Istrita 39.39 300 P **P** **23 36 27.2 +1.7**
NACGM Naroch 39.52 315 *e*P **P** **23 36 27.0 +0.7**
comp=E,8µm,1.4s
LOZB Loznitsa 39.52 297 ⇓ P **P** **23 36 27.5 +1.0**
NEHR Nehoiu 39.55 300 ⇑ P **P** **23 36 29.1 +2.4**
RAZG Razgrad 39.56 297 ⇑ P **P** **23 36 28.9 +2.0**
COVR Voineasa-Covas 39.58 301 ⇓ P **P** **23 36 28.9 +1.9**
IDID Didziasalis 39.60 316 *e*P **P** **23 36 27.6 +0.7**
SULR 39.63 299 ⇑ P **P** **23 36 29.9 +2.5**
ARG Arkhangelos 39.65 286 P **P** **23 36 28.3 +0.6**
ARG IAmb IAmb 23 37 13.6
comp=Z,92nm,1.0s
ARG Arkhangelos 39.65 286 P **P** **23 36 28.3 +0.6**
ARG pmax pmax
comp=Z,92nm,1.0s
YULB Yu-li 39.69 96 P **P** **23 36 30.2 +2.0**
YULB IAmb IAmb 23 37 16.6
comp=Z,85nm,1.6s
TURR Turia 39.70 301 ⇓ P **P** **23 36 29.9 +1.9**
PLAR PLOIESTI 39.77 300 ⇓ P **P** **23 36 31.2 +2.6**
TWG Pinlang 39.78 97 P **P** **23 36 31.1 +2.2**
MLR Muntele Rosu 39.79 301 ⇓ P **P** **23 36 31.4 +2.5**
MLR Muntele Rosu 39.79 301 P **P** **23 36 31.1 +2.3**
MLR Muntele Rosu 39.79 301 P **P** **23 36 31.1 +2.3**
MLR pmax pmax
comp=Z,261nm,0.8s
TWGBT Beinan 39.79 97 P **P** **23 36 29.9 +1.0**
OZUR 39.85 301 ⇑ P **P** **23 36 31.1 +1.8**
SGRR Singureni 39.88 299 ⇑ P **P** **23 36 31.4 +2.0**
IZAR Zarasai 39.94 317 *e*P **P** **23 36 32.1 +2.3**
BOSR Bodos 39.94 301 ⇓ P **P** **23 36 31.9 +1.9**
TJN Taejon 39.94 74 P **P** **23 36 30.0 -0.1**
TJN Taejon 39.94 74 P **P** **23 36 30.0 -0.1**
TJN pmax pmax
comp=Z,759nm,1.9s
ISAL Salakas 39.98 316 *e*P **P** **23 36 32.0 +1.8**
KS19 Wonju Array Si 40.07 72 P **P** **23 36 30.9 -0.3**
KS19 IAmb IAmb 23 37 47.5
comp=Z,72nm,1.6s
KSAR Wonju Array Be 40.09 72 P **P** **23 36 32.1 +0.8**
KSAR Wonju Array Be 40.09 72 P **P** **23 36 32.1 +0.8**
ELND Elena 40.10 297 ⇑ P **P** **23 36 32.1 +0.8**
KSRS Korea Array 40.12 72 P **P** **23 36 31.6 +0.1**
comp=Z,8.2nm,0.6s,baz=281,slow=8.0,SNR=19
KSRS pP **pP** **23 36 56.8 +2.8**
comp=Z,7.3nm,0.8s,baz=274,slow=8.3,SNR=5.6
KSRS PcP **PcP** **23 38 33.9 -0.5**
comp=Z,5.3nm,0.8s,baz=275,slow=2.1,SNR=8.1
comp=Z,8.2nm,0.6s
DOPR Dopca 40.14 301 ⇑ P **P** **23 36 33.8 +2.1**
BURAR Bucovina Array 40.16 304 ⇑ P **P** **23 36 33.4 +1.5**
BURAR Bucovina Array 40.16 304 P **P** **23 36 32.5 +0.6**
BURAR IAmb IAmb 23 36 34.4
comp=Z,48nm,0.7s
BURAR Bucovina Array 40.16 304 P **P** **23 36 33.4 +1.5**
BUR08 Bucovina Ar. S 40.17 304 P **P** **23 36 32.6 +0.6**
BUR08 IAmb IAmb 23 36 34.3
comp=Z,28nm,0.8s
MDJ Mudanjiang 40.19 61 P **P** **23 36 32.9 +0.9**
MDJ IAmb IAmb 23 37 09.7
comp=Z,85nm,1.1s
MDJ Mudanjiang 40.19 61 P **P** **23 36 32.9 +0.9**
MDJ Mudanjiang 40.19 61 P **P** **23 36 32.9 +0.9**
MDJ pmax pmax
comp=Z,14nm,0.7s
MDJ pmax pmax
comp=Z,250nm,4.9s
MDJ Mudanjiang 40.19 61 P **P** **23 36 33.2 +1.1**
MDJ pP **pP** **23 36 57.6 +3.2**
MDJ sP **sP** **23 37 08.6 +3.5**
LVZ Lovozero 40.26 337 P **P** **23 36 32.2 -0.1**
LVZ Lovozero 40.26 337 *c* iP **P** **23 36 32.6 +0.2**
LVZ pmax pmax
comp=Z,264nm,1.3s
LVZ Lovozero 40.26 337 P **P** **23 36 32.3 -0.1**
LVZ sP **sP** **23 37 07.7 +2.0**
LVZ PcP **PcP** **23 38 34.9 +0.5**
ALN Alexandroupoli 40.28 293 P **P** **23 36 33.5 +0.7**
ALN IAmb IAmb 23 36 58.9
comp=Z,37nm,1.1s
ALN Alexandroupoli 40.28 293 P **P** **23 36 33.5 +0.7**
ALN pmax pmax
comp=Z,37nm,1.1s
VOIR 40.42 301 ⇓ P **P** **23 36 35.5 +1.4**
VOIR 40.42 301 P **P** **23 36 35.4 +1.4**
MTUR Matau 40.43 300 ⇓ P **P** **23 36 36.9 +2.8**
MTUR Matau 40.43 300 P **P** **23 36 36.8 +2.8**
COPA Copaceanca 40.43 299 ⇓ P **P** **23 36 35.8 +1.8**
APA Apatity 40.51 336 ⇓ *i*P **P** **23 36 32.9 -1.4**
APA *i* 23 38 07.2
APA pmax pmax
comp=Z,19nm,0.9s
APA MLR MLR
comp=Z,700nm,15.0s
STFAR Stefanesti-Arg 40.53 300 ⇑ P **P** **23 36 37.1 +2.2**
HUMR Humele 40.56 299 ⇓ P **P** **23 36 36.5 +1.4**
TGMR Targu Mures 40.70 302 ⇑ P **P** **23 36 38.8 +2.6**
ARR Arges 40.72 300 ⇑ P **P** **23 36 38.3 +1.9**
ARCR ARCALIA 40.78 303 ⇓ P **P** **23 36 39.0 +2.2**
MDB Medias 40.83 302 ⇑ P **P** **23 36 39.6 +2.3**
MDB Medias 40.83 302 P **P** **23 36 39.5 +2.3**
LVV L'vov 40.89 307 *e*P **P** **23 36 37.6 -0.1**
PLVB Pleven 40.95 297 ⇑ P **P** **23 36 39.8 +1.6**
VLAD Vladila 41.03 298 ⇑ P **P** **23 36 39.6 +0.7**
FINES FINESS Array B 41.16 325 P **P** **23 36 39.9 +0.1**
FINES FINESS Array B 41.16 325 *i*P **P** **23 36 39.7 -0.1**
FINES pmax pmax
comp=Z,75nm,0.6s
FINES FINESS Array B 41.16 325 P **P** **23 36 39.6 -0.1**
comp=Z,76nm,0.6s,baz=111,slow=9.6,SNR=439
FINES S **S** **23 42 44.7 -1.6**
comp=Z,9.3nm,0.8s,baz=102,slow=18,SNR=6.7
comp=Z,76nm,0.6s
PABE Paberze 41.19 316 P **P** **23 36 40.4 +0.3**
PABE Paberze 41.19 316 *e*P **P** **23 36 40.6 +0.6**
VSVD Vaisvydziai 41.27 317 *e*P **P** **23 36 41.0 +0.3**
LOT Lotru 41.31 301 ⇓ P **P** **23 36 43.4 +2.0**
CJR Cluj-Napoca 41.32 303 ⇑ P **P** **23 36 43.6 +2.2**
CJR Cluj-Napoca 41.32 303 P **P** **23 36 43.5 +2.2**
BMR Baia Mare 41.32 304 ⇓ P **P** **23 36 43.1 +1.7**
BMR Baia Mare 41.32 304 P **P** **23 36 43.0 +1.7**
KLR Kul'dur 41.37 54 *c* iP **P** **23 36 42.3 +0.7**
KLR pmax pmax
comp=Z,32nm,0.8s
BKNI Bangkinang 41.41 143 P **P** **23 36 42.0 -0.3**
APE Apeiranthos 41.47 288 ⇓ P **P** **23 36 43.7 +1.0**
APE Apeiranthos 41.47 288 P **P** **23 36 43.7 +1.0**
SUW Suwalki 41.53 314 P **P** **23 36 42.5 -0.3**
SUW Suwalki 41.53 314 *e*P **P** **23 36 42.7 -0.1**
SUW Suwalki 41.53 314 P **P** **23 36 42.5 -0.3**
SUW pmax pmax
comp=Z,127nm,0.7s
YAK Yakutsk 41.63 34 P **P** **23 36 43.5 0.0**
YAK Yakutsk 41.63 34 *c* iP **P** **23 36 43.7 +0.2**
YAK *e* 23 38 19.9
YAK *es* **S** **23 42 55.5 +2.4**
YAK *e*SSS SSS 23 46 36.6
YAK pmax pmax
comp=Z,192nm,1.1s
YAK pmax pmax
comp=N,33nm,1.4s
YAK pmax pmax
comp=E,42nm,1.2s
YAK pmax pmax
comp=Z,158nm,3.5s
YAK pmax pmax
comp=N,58nm,2.5s
YAK pmax pmax
comp=E,78nm,2.8s
YAK smax smax
comp=N,228nm,4.9s
YAK smax smax
comp=E,79nm,4.2s
YAK Yakutsk 41.63 34 P **P** **23 36 43.5 0.0**
MARR Marisel-Cluj 41.65 303 ⇑ P **P** **23 36 45.6 +1.4**
MEF Metsahovi 41.69 323 *e*P **P** **23 36 44.5 +0.4**
SANT Santorini 41.70 287 P **P** **23 36 44.0 -0.6**
SANT IAmb IAmb 23 36 46.5
comp=Z,149nm,1.5s
MTSE Matsula 41.70 321 *e*P **P** **23 36 44.6 +0.4**
MESR Mesesteni 41.73 303 ⇑ P **P** **23 36 46.2 +1.6**
KWP Kalwaria Pacla 41.76 307 P **P** **23 36 46.1 +1.3**
KWP IAmb IAmb 23 36 47.2
comp=Z,65nm,0.6s
KWP Kalwaria Pacla 41.76 307 P **P** **23 36 46.1 +1.3**
KWP pmax pmax
comp=Z,65nm,0.6s
BAIL Bailesti 41.78 299 ⇓ P **P** **23 36 47.1 +2.0**
DEV Deva 41.88 301 ⇓ P **P** **23 36 47.6 +1.8**
DEV Deva 41.88 301 P **P** **23 36 47.6 +1.8**
USA0B Ussuriysk Arra 41.95 61 P **P** **23 36 46.6 +0.2**
USA0B Ussuriysk Arra 41.95 61 P **P** **23 36 46.6 +0.2**
USA0B pmax pmax
comp=Z,19nm,1.2s
USRK Ussuriysk Ar. 41.95 61 P **P** **23 36 47.0 +0.6**
USRK Ussuriysk Ar. 41.95 61 P **P** **23 36 47.0 +0.6**
USRK Ussuriysk Ar. 41.95 61 P **P** **23 36 46.7 +0.3**
comp=Z,5.4nm,0.5s,baz=279,slow=6.8,SNR=18
USRK sP **sP** **23 37 21.3 +1.7**
comp=Z,9.9nm,0.9s,baz=270,slow=7.6,SNR=3.9
USRK LR LR 23 55 37.8
comp=Z,161nm,18.4s,baz=278,slow=38
comp=Z,5.4nm,0.5s
GZR Gura Zlata 42.02 301 ⇑ P **P** **23 36 48.3 +1.2**
GZR Gura Zlata 42.02 301 P **P** **23 36 48.2 +1.2**
JTU Tsushima 42.04 76 P **P** **23 36 47.3 0.0**
PUNG Punghina 42.04 299 ⇑ P **P** **23 36 48.6 +1.4**
PDSI Padang 42.21 145 P **P** **23 36 48.2 -0.6**
comp=Z,84nm,0.5s
BLKB Belogradchik 42.32 298 ⇓ P **P** **23 36 51.2 +1.7**
SLIT Slitere, Latvi 42.35 319 *e*P **P** **23 36 49.6 +0.2**
PBUR Paburge 42.39 317 *e*P **P** **23 36 50.1 +0.3**
LTVH Ltavrtes, Hu 42.42 304 ⇓ P **P** **23 36 52.2 +2.0**
SURR Surduc 42.43 301 ⇓ P **P** **23 36 52.2 +1.9**
PEHC Pehcevo 42.46 295 *i*P **P** **23 36 51.5 +0.8**
CRVS Cervenica-Dubn 42.60 306 *e*P **P** **23 36 51.9 +0.2**
CRVS Cervenica-Dubn 42.60 306 *e*P **P** **23 36 51.9 +0.2**
CRVS pmax pmax
comp=Z,21nm,0.8s
SIRR Siria 42.70 302 ⇑ P **P** **23 36 54.3 +1.8**
VAY Valandovo 42.78 295 *i*P **P** **23 36 53.7 +0.4**
BZS Buzias 42.80 301 ⇓ P **P** **23 36 54.9 +1.5**
BZS Buzias 42.80 301 P **P** **23 36 54.8 +1.5**
MDVR Moldovita 42.84 300 ⇓ P **P** **23 36 55.1 +1.4**
BOVS Bovan 43.01 298 ⇓ P **P** **23 36 55.7 +0.7**
VADS Vadso 43.01 338 *e*P **P** **23 36 55.4 +0.7**
RAF Rauma 43.11 324 *e*P **P** **23 36 55.7 +0.1**
BANR Banloc 43.16 301 ⇓ P **P** **23 36 58.4 +2.2**
KECS Kecovo 43.28 305 *e*P **P** **23 36 58.4 +1.2**
KECS Kecovo 43.28 305 *e*P **P** **23 36 58.4 +1.2**
KECS pmax pmax
comp=Z,30nm,0.6s
KLNR Kaliningrad 43.29 314 *d* iP **P** **23 36 57.2 +0.1**
KLNR pmax pmax
comp=Z,242nm,0.6s
AGG Agios Georgios 43.45 292 P **P** **23 36 58.6 -0.1**
AGG Agios Georgios 43.45 292 P **P** **23 36 58.6 -0.1**
AGG pmax pmax
comp=Z,23nm,0.7s
SKO Skopje 43.49 296 *i*P **P** **23 37 00.3 +1.4**
BSZH Besenyszg 43.54 304 ⇓ P **P** **23 37 01.5 +2.3**
KEV Kevo 43.59 337 P **P** **23 36 59.5 +0.2**
KEV IAmb IAmb 23 37 01.5
comp=Z,112nm,1.3s
KEV Kevo 43.59 337 P **P** **23 36 59.5 +0.2**
KEV pmax pmax
comp=Z,112nm,1.3s
KEV Kevo 43.59 337 P **P** **23 36 59.8 +0.5**
KEV pP **pP** **23 37 24.0 +2.0**
OJC Ojcow 43.61 308 P **P** **23 37 00.2 +0.4**
OJC IAmb IAmb 23 37 01.7
comp=Z,60nm,0.6s
OJC Ojcow 43.61 308 P **P** **23 37 00.2 +0.4**
OJC pmax pmax
comp=Z,60nm,0.6s
JNU Nakatsue 43.64 77 P **P** **23 37 00.7 +0.4**
JNU IAmb IAmb 23 37 02.1
comp=Z,55nm,0.8s

JNU Nakatsue 43.64 77 P **P** **23 37 01.2 +0.9**
KRJI Kerinci 43.72 144 P **P** **23 37 02.3 +1.2**
comp=Z,318nm,0.7s,comp=Z,7µm
PSZ Piszkesteto 43.72 305 ⇓P **P** **23 37 02.3 +1.5**
PSZ Piszkesteto 43.72 305 P **P** **23 37 02.0 +1.2**
PSZ Piszkesteto 43.72 305 P **P** **23 37 02.0 +1.2**
PSZ pmax pmax
comp=Z,27nm,0.9s
FNA Florina 43.78 294 P **P** **23 37 01.3 0.0**
FNA Florina 43.78 294 P **P** **23 37 01.3 0.0**
FNA pmax pmax
comp=Z,14nm,0.8s
JOW Kunigami 43.86 87 P **P** **23 37 02.0 -0.1**
JOW IAmb IAmb 23 37 02.6
comp=Z,30nm,0.5s
LANS Liptovska Anna 43.90 307 *e*P **P** **23 37 03.4 +1.2**
LANS Liptovska Anna 43.90 307 *e*P **P** **23 37 03.4 +1.2**
LANS pmax pmax
comp=Z,6.0nm,0.7s
ARA0 ARCESS Array S 43.98 336 *e*P **P** **23 37 02.9 +0.4**
ARCES ARCESS Array B 43.98 336 P **P** **23 37 02.9 +0.4**
ARCES IAmb IAmb 23 37 04.4
comp=Z,103nm,0.9s
ARCES ARCESS Array B 43.98 336 P **P** **23 37 02.9 +0.4**
ARCES pmax pmax
comp=Z,103nm,0.9s
ARCES ARCESS Array B 43.98 336 P **P** **23 37 02.8 +0.4**
comp=Z,85nm,0.7s,baz=109,slow=9.4,SNR=209
ARCES PcP **PcP** **23 38 46.8 +0.1**
comp=Z,15nm,0.8s,baz=91,slow=3.8,SNR=2.0
ARCES ScP **ScP** **23 42 27.3 -3.1**
comp=Z,1.6nm,0.7s,baz=108,slow=8.6,SNR=1.4
comp=Z,85nm,0.7s
FRGS Fruska Gora 44.12 301 ⇓P **P** **23 37 05.5 +1.5**
FRGS Fruska Gora 44.12 301 ⇑*i*P **P** **23 37 04.8 +0.8**
DIVS Divibare 44.16 299 P **P** **23 37 05.2 +0.8**
DIVS IAmb IAmb 23 37 06.9
comp=Z,56nm,0.8s
DIVS Divibare 44.16 299 ⇑*i*P **P** **23 37 04.9 +0.5**
KBN Korca 44.25 294 P **P** **23 37 05.2 +0.1**
KBN Korca 44.25 294 P **P** **23 37 05.2 +0.1**
KBN pmax pmax
comp=Z,20nm,0.7s
GRNR Gornyy 44.31 51 ⇑*i*P **P** **23 37 06.0 +0.6**
GRNR pmax pmax
comp=E,20nm,0.8s
GRNR pmax pmax
comp=Z,40nm,0.9s
SJES Sjenica 44.32 298 ⇑*i*P **P** **23 37 06.6 +0.9**
TEKS Tekeris 44.42 300 ⇑*i*P **P** **23 37 06.7 +0.4**
KTK1 Kautokeino 44.55 335 *e*P **P** **23 37 07.0 0.0**
TIXI Tiksi 44.62 21 P **P** **23 37 07.4 -0.2**
TIXI IAmb IAmb 23 37 10.3
comp=Z,51nm,0.8s
TIXI Tiksi 44.62 21 *c*P **P** **23 37 06.4 -1.2**
TIXI Tiksi 44.62 21 P **P** **23 37 07.4 -0.2**
TIXI PcP **PcP** **23 38 48.7 0.0**
TIXI PP **PP** **23 38 56.2 +3.2**
RUDO Rudo 44.69 299 ⇑*i*P **P** **23 37 08.5 0.0**
OKC Ostrava-Krasne 44.70 308 *e*P **P** **23 37 08.8 +0.3**
OKC Ostrava-Krasne 44.70 308 *e*P **P** **23 37 08.8 +0.3**
TIR Tirane 44.77 295 ⇑P **P** **23 37 11.4 +2.1**
TIR Tirane 44.77 295 P **P** **23 37 11.3 +2.1**
MORH Mrgy, Hungar 44.78 302 ⇑P **P** **23 37 10.1 +0.9**
SRO Srobarova 44.79 305 *e*P **P** **23 37 10.8 +1.6**
SRO Srobarova 44.79 305 *e*P **P** **23 37 10.8 +1.6**
SRO pmax pmax
comp=Z,44nm,0.9s
MAUC Maruska 44.95 307 *e*P **P** **23 37 11.2 +0.7**
HAMF Hammerfest 44.98 338 *e*P **P** **23 37 11.7 +1.3**
PDG Podgorica 45.00 297 ⇑P **P** **23 37 11.7 +0.7**
PDG Podgorica 45.00 297 P **P** **23 37 11.2 +0.3**
PDG Podgorica 45.00 297 ⇑*i*P **P** **23 37 10.9 0.0**
UPP Uppsala 45.00 322 *e*P **P** **23 37 11.0 +0.4**
GKP Gorka Klasztor 45.05 313 *e*P **P** **23 37 11.5 +0.3**
MORC Moravsky Berou 45.09 308 ⇑P **P** **23 37 12.6 +1.0**
MORC Moravsky Berou 45.09 308 P **P** **23 37 12.3 +0.6**
MORC IAmb IAmb 23 37 14.0
comp=Z,68nm,1.3s
MORC Moravsky Berou 45.09 308 *e*P **P** **23 37 12.2 +0.5**
MORC Moravsky Berou 45.09 308 P **P** **23 37 12.3 +0.6**
MORC pmax pmax
comp=Z,68nm,1.3s
DRME Dracevica, Mon 45.10 297 *e*P **P** **23 37 11.5 -0.3**
UPM Unac-Piva 45.10 298 ⇑*i*P **P** **23 37 12.6 +0.6**
JAVC Velka Javorina 45.10 306 *e*P **P** **23 37 13.5 +1.7**
VLO Vlora 45.24 294 P **P** **23 37 12.6 -0.3**
VLO Vlora 45.24 294 P **P** **23 37 12.6 -0.3**
VLO pmax pmax
comp=Z,131nm,0.8s
SMOL Smolenice 45.30 306 *e*P **P** **23 37 14.5 +1.2**
SMOL pmax pmax
comp=Z,11nm,0.9s
VIKU Vikbolandet 45.38 320 *e*P **P** **23 37 14.0 +0.3**
MODS Modra-Piesok 45.42 306 *e*P **P** **23 37 15.6 +1.4**
MODS Modra-Piesok 45.42 306 *e*P **P** **23 37 15.6 +1.4**
MODS pmax pmax
comp=Z,38nm,1.0s
BRY Bratogost 45.42 298 ⇑*i*P **P** **23 37 14.8 +0.3**
HCY Herceg Novi 45.54 297 ⇑*i*P **P** **23 37 14.9 -0.4**
KRLC Kraliky 45.55 308 *e*P **P** **23 37 15.6 +0.3**
KRLC Kraliky 45.55 308 *e*P **P** **23 37 15.6 +0.3**
TREB Trebinje 45.59 298 ⇑*i*P **P** **23 37 14.9 -0.8**
NEVS Nevesinje 45.65 298 *e*P **P** **23 37 14.8 -1.4**
JETT Jettan, Norway 45.67 336 *e*P **P** **23 37 16.9 +0.9**
VRAC Vranov 45.76 307 ⇓P **P** **23 37 18.4 +1.4**
VRAC Vranov 45.76 307 *e*P **P** **23 37 17.7 +0.8**
VRAC Vranov 45.76 307 P **P** **23 37 18.3 +1.4**
BLEU Blekinge 45.82 317 *i*P **P** **23 37 16.2 -1.0**
DPC Dobruska-Polom 45.82 308 *e*P **P** **23 37 18.3 +0.9**
DPC Dobruska-Polom 45.82 308 *e*P **P** **23 37 18.3 +0.9**
JMN Monobe 45.82 75 P **P** **23 37 18.0 +0.4**
JMN IAmb IAmb 23 37 20.5
comp=Z,58nm,0.7s
JMN Monobe 45.82 75 P **P** **23 37 18.7 +1.1**
OSTC Ostas 45.87 309 *e*P **P** **23 37 18.6 +0.8**
OSTC Ostas 45.87 309 *e*P **P** **23 37 18.6 +0.8**
KRUC Moravsky 45.91 307 *e*P **P** **23 37 18.9 +0.8**
CHVC Chvalec 45.97 309 *e*P **P** **23 37 19.3 +0.8**
CHVC Chvalec 45.97 309 *e*P **P** **23 37 19.3 +0.8**
UPC Upice 46.00 309 *e*P **P** **23 37 19.4 +0.6**
UPC Upice 46.00 309 *e*P **P** **23 37 19.4 +0.6**
BLY Banja Luka 46.03 301 ⇑*i*P **P** **23 37 18.8 -0.3**
SBUM Sibu 46.08 128 P **P** **23 37 20.0 +0.2**
KKM Kota Kinabalu 46.14 120 P **P** **23 37 21.1 +0.8**
KKM Kota Kinabalu 46.14 120 P **P** **23 37 21.4 +1.0**
PPBI Pangkal Pinang 46.16 138 P **P** **23 37 20.0 -0.3**
RONA Rosalia, Austr 46.16 305 *i*P **P** **23 37 20.8 +0.7**
comp=Z,21nm,0.7s,SNR=16
MGRS Mrkonjic Grad 46.16 300 *e*P **P** **23 37 21.0 +0.8**
TRO Tromso 46.19 336 *e*P **P** **23 37 20.7 +0.7**
BSD Bornholm Skovb 46.35 315 *i*P **P** **23 37 20.2 -1.2**
BSD IAmb IAmb 23 37 22.1
comp=Z,65nm,0.8s
KOGS Kog 46.38 303 *e*P **P** **23 37 22.2 +0.4**
KOGS *i* pP **pP** **23 37 47.2 +2.4**
MNAI Manna 46.41 144 P **P** **23 37 20.9 -1.4**
CONA Conrad Observa 46.41 305 *i*P **P** **23 37 22.8 +0.7**
comp=Z,38nm,0.7s,SNR=35
TREC Trest 46.48 307 *e*P **P** **23 37 23.7 +1.2**
TREC Trest 46.48 307 *e*P **P** **23 37 23.7 +1.2**
A050A Klekovaca 46.54 300 *e*P **P** **23 37 24.0 +0.8**
ARSA Arzberg 46.74 304 *i*P **P** **23 37 25.3 +0.6**
comp=Z,21nm,0.8s,SNR=12
GOPC GO Pecny, Ondr 46.85 308 *e*P **P** **23 37 24.8 -0.7**
GOPC GO Pecny, Ondr 46.85 308 *e*P **P** **23 37 24.8 -0.7**
DEL Delary 46.90 317 *e*P **P** **23 37 26.5 +0.9**
DEL Delary 46.90 317 *i*P **P** **23 37 24.9 -0.8**
PVCC Panska Ves 46.92 309 *e*P **P** **23 37 26.4 +0.5**
PVCC Panska Ves 46.92 309 *e*P **P** **23 37 26.4 +0.5**
HFS Hagfors 46.98 322 P **P** **23 37 26.0 -0.3**
HFS S **S** **23 44 11.0 +0.1**
HFS Hagfors 46.98 322 P **P** **23 37 26.0 -0.3**
comp=Z,41nm,0.7s,baz=105,slow=9.3,SNR=133
HFS ScP **ScP** **23 42 41.6 -1.3**
comp=Z,4.3nm,0.8s,baz=114,slow=6.5,SNR=2.4
HFS S **S** **23 44 11.0 +0.1**
comp=Z,2.1nm,0.7s,baz=182,slow=35,SNR=1.7
comp=Z,41nm,0.7s
PRU Pruhonice 47.00 308 *e*P **P** **23 37 27.0 +0.4**
PRU Pruhonice 47.00 308 *e*P **P** **23 37 27.0 +0.4**
FAUS Fauske 47.00 332 *e*P **P** **23 37 26.9 +0.6**
CRES Cresnjev 47.03 302 ⇑*i*P **P** **23 37 27.4 +0.5**
PRA Prague 47.06 308 *e*P **P** **23 37 27.4 +0.4**
PRA Prague 47.06 308 *e*P **P** **23 37 27.4 +0.4**
STEI Steigen 47.12 333 *e*P **P** **23 37 27.6 +0.4**
MOR8 Moi Rana 47.15 330 *e*P **P** **23 37 27.4 -0.1**
LUNU Lund 47.16 316 *i*P **P** **23 37 27.3 -0.5**
SOKA Soboth 47.17 304 *i*P **P** **23 37 28.8 +0.8**
comp=Z,60nm,0.6s,SNR=46
RUE Ruedersdorf 47.20 312 *e*P **P** **23 37 29.2 +1.2**
RICC Richard 47.21 309 *e*P **P** **23 37 29.0 +0.8**
BOJS Bojanci 47.23 302 ⇑*i*P **P** **23 37 29.0 +0.5**
MATE Matera 47.26 295 ⇑P **P** **23 37 29.6 +0.9**
BRG Berggiesshubel 47.27 309 ⇑*i*P **P** **23 37 29.4 +0.7**
BRG Amp 23 37 30.6
comp=Z,51nm,0.6s
BRG pP **pP** **23 37 46.8 -5.0**
BRG Amp 23 37 48.1
comp=Z,19nm,0.7s
BRG sP sP 23 37 54.5 -8.0
BRG Amp 23 37 55.8
comp=Z,12nm,0.7s
BRG Berggiesshubel 47.27 309 ⇑*i*P **P** **23 37 29.4 +0.7**
BRG 23 37 46.8
BRG SP 23 37 54.4
BRG 23 39 00.1
BRG S **S** **23 44 15.0 -0.2**
BRG pmax pmax
comp=Z,51nm,0.6s
BRG Berggiesshubel 47.27 309 *e*P **P** **23 37 29.2 +0.5**
comp=Z,51nm,0.6s,baz=81,slow=7.6
ZVC Zvikov 47.30 307 *e*P **P** **23 37 29.6 +0.7**
RGN Rugen 47.30 314 P **P** **23 37 29.9 +1.1**
CKRC Cesky Krumlov 47.31 307 *e*P **P** **23 37 29.2 +0.2**
CKRC Cesky Krumlov 47.31 307 *e*P **P** **23 37 29.2 +0.2**
BJUU Bjuv 47.38 317 *i*P **P** **23 37 28.9 -0.6**
BORU Boraas 47.46 319 *i*P **P** **23 37 29.5 -0.5**
MOA Molln 47.49 305 *i*P **P** **23 37 30.9 +0.4**
SNR=12
FABU Falkenberg 47.51 318 *i*P **P** **23 37 30.1 -0.3**
LWLI Liwa 47.52 143 P **P** **23 37 28.0 -3.0**
comp=Z,135nm,0.6s
OBKA Obir 47.53 303 *i*P **P** **23 37 31.8 +1.0**
comp=Z,12nm,0.5s
OBKA Obir 47.53 303 *e*P **P** **23 37 31.4 +0.5**
TIP Timpagrande 47.61 293 ⇑P **P** **23 37 32.6 +1.0**
TIP Timpagrande 47.61 293 P **P** **23 37 32.0 +0.5**
TIP IAmb IAmb 23 37 35.1
comp=Z,65nm,0.9s
HSKC Hora Svate Kat 47.63 309 *e*P **P** **23 37 31.8 +0.3**
LJU Ljubljana 47.63 303 *i*P **P** **23 37 32.5 +0.9**
LJU *e* 23 37 51.5
LJU *i* pP **pP** **23 37 57.6 +2.9**
FBE Freiberg 47.63 310 *e*P **P** **23 37 32.3 +0.9**
comp=Z,64nm,0.7s,baz=81,slow=7.6
BJO1 Bjornoya 47.67 342 *e*P **P** **23 37 32.1 +0.7**
SGRT San Giovanni R 47.69 297 P **P** **23 37 32.5 +0.3**
SGRT IAmb IAmb 23 37 33.7
comp=Z,37nm,0.9s
GEC2 GERESS Array S 47.70 307 P **P** **23 37 33.1 +1.0**
GEC2 GERESS Array S 47.70 307 *e*P **P** **23 37 32.6 +0.4**
comp=Z,28nm,1.1s,baz=81,slow=7.6
GERES GERESS Array B 47.70 307 P **P** **23 37 32.6 +0.4**
comp=Z,11nm,0.7s,baz=79,slow=6.2,SNR=37
comp=Z,11nm,0.7s
KONS Konsvik 47.72 331 *e*P **P** **23 37 32.8 +1.0**
COP Copenhagen 47.74 316 *i*P **P** **23 37 32.3 +0.2**
COP *i*P **P** **23 37 32.5 +0.3**
COP IAmb IAmb 23 37 34.0
comp=Z,181nm,0.8s
COP IAmb IAmb 23 37 34.5
comp=Z,139nm,0.8s
KHC Kasperske Hory 47.74 307 P **P** **23 37 32.9 +0.5**
KHC IAmb IAmb 23 37 34.7
comp=Z,34nm,0.7s
KHC Kasperske Hory 47.74 307 *e*P **P** **23 37 32.9 +0.5**
KHC Kasperske Hory 47.74 307 *de*P **P** **23 37 33.4 +1.0**
KHC pmax pmax
comp=Z,77nm,0.7s
STOK Stokkvaagen 47.74 331 *e*P **P** **23 37 32.3 +0.3**
CEY Cerknica 47.76 302 ⇑*i*P **P** **23 37 33.0 +0.4**
LOF Lofoten 47.78 333 *e*P **P** **23 37 32.2 -0.1**
CLL Collm 47.81 310 P **P** **23 37 33.2 +0.4**
CLL IAmb IAmb 23 37 34.5
comp=Z,28nm,0.7s
CLL Collm 47.81 310 *i*P **P** **23 37 32.7 -0.1**
comp=Z,41nm,1.1s
CLL *i*x x 23 37 48.8
CLL *e*PP **PP** **23 39 20.0 -5.1**
CLL *e*S **S** **23 44 24.0 +1.3**
CLL *e*SS **SS** **23 47 57.0 +5.2**
CLL Collm 47.81 310 P **P** **23 37 33.2 +0.4**
CLL pmax pmax
comp=Z,28nm,0.7s
CLL Collm 47.81 310 *e*P **P** **23 37 32.9 +0.1**
comp=Z,28nm,0.8s,baz=81,slow=7.6
JSD Sado 47.89 68 P **P** **23 37 34.4 +0.8**
comp=Z,4.4nm,1.1s
ONAU Onsala 47.93 318 *i*P **P** **23 37 32.6 -1.0**
BIOA Bad Ischl, Aus 47.93 305 *i*P **P** **23 37 34.0 +0.1**
comp=Z,8.2nm,0.3s,SNR=11
NC405 NORSAR Array S 47.98 323 P **P** **23 37 34.1 0.0**
NSS Namsos 48.01 328 *e*P **P** **23 37 34.1 0.0**
NC602 NORSAR Array S 48.06 323 *e*P **P** **23 37 34.3 -0.3**
SKDS Skadanscina 48.08 302 ⇑*i*P **P** **23 37 34.9 -0.1**
MYKA Terra Mystica 48.12 304 *i*P **P** **23 37 36.0 +0.6**
comp=Z,7.0nm,0.5s
WET Wettzell 48.19 307 *e*P **P** **23 37 36.5 +0.6**
comp=Z,18nm,0.7s,baz=81,slow=7.6
PRED Cave del Predi 48.21 304 P **P** **23 37 36.0 -0.1**
NB2 NORSAR Subarra 48.22 323 P **P** **23 37 35.4 -0.5**
comp=Z,39nm,0.7s,baz=90,slow=7.9
NB2 NORSAR Subarra 48.22 323 P **P** **23 37 35.4 -0.5**
baz=90,slow=7.9
NB2 NORSAR Subarra 48.22 323 P **P** **23 37 32.0 -3.9**
NOA NORSAR Array B 48.22 323 P **P** **23 37 35.3 -0.6**
comp=Z,20nm,0.5s,baz=91,slow=7.5,SNR=100
comp=Z,20nm,0.5s
KBA Koelnbreinsper 48.24 304 *i*P **P** **23 37 36.7 +0.3**
comp=Z,10nm,0.4s
STRU Stroemstad 48.26 321 *i*P **P** **23 37 35.2 -0.9**
TANN Tannenbergstha 48.27 309 *e*P **P** **23 37 36.9 +0.5**
comp=Z,18nm,0.8s,baz=81,slow=7.6
ROBS Robic 48.29 303 *i*P **P** **23 37 36.5 0.0**
ROBS *i* pP **pP** **23 38 01.7 +2.0**
MAJO Matsushiro 48.29 70 P **P** **23 37 36.6 -0.1**
MAJO IAmb IAmb 23 37 37.5
comp=Z,38nm,0.8s
MAJO Matsushiro 48.29 70 P **P** **23 37 36.7 -0.1**
MAJO Matsushiro 48.29 70 *c*P **P** **23 37 36.4 -0.4**
MAJO pmax pmax
comp=Z,36nm,0.7s
MAJO Matsushiro 48.29 70 P **P** **23 37 36.7 -0.1**
MAJO pP **pP** **23 38 01.9 +2.0**
MAJO sP **sP** **23 38 12.7 +2.2**
MJAR Matsushiro Arr 48.30 70 P **P** **23 37 36.9 +0.1**
comp=Z,20nm,0.8s,baz=289,slow=9.7,SNR=38
MJAR pP **pP** **23 38 02.5 +2.6**
comp=Z,7.8nm,0.7s,baz=293,slow=9.1,SNR=3.4
MJAR PcP **PcP** **23 39 02.5 +0.1**
comp=Z,5.6nm,0.6s,baz=280,slow=5.1,SNR=2.6
comp=Z,20nm,0.8s
NKC Novy Kostel 48.30 309 *e*P **P** **23 37 37.1 +0.4**
NKC Novy Kostel 48.30 309 *e*P **P** **23 37 37.1 +0.4**
WERN Wernitzgruen 48.34 309 *e*P **P** **23 37 37.7 +0.7**
comp=Z,8.4nm,0.7s,baz=81,slow=7.6
GUNZ Gunzen 48.35 309 *e*P **P** **23 37 37.8 +0.7**
comp=Z,33nm,1.0s,baz=81,slow=7.6
WERD Werda 48.36 309 *e*P **P** **23 37 37.7 +0.6**
comp=Z,25nm,0.9s,baz=81,slow=7.6
PLN Plauen 48.45 309 *e*P **P** **23 37 38.3 +0.5**
comp=Z,16nm,0.7s,baz=81,slow=7.6
OSL Oslo 48.48 322 *e*P **P** **23 37 38.0 +0.3**
RJOB Jochberg 48.48 305 *e*P **P** **23 37 38.5 +0.3**
comp=Z,16nm,0.7s,baz=81,slow=7.6
ROTZ Rotzenmuhle 48.52 308 *e*P **P** **23 37 39.5 +1.1**
comp=Z,8.3nm,1.0s,baz=81,slow=7.6
MANZ Manzenberg 48.55 308 *e*P **P** **23 37 39.5 +0.9**
comp=Z,5.0nm,0.7s,baz=81,slow=7.6
NEUB Neuenburg 48.58 310 *e*P **P** **23 37 39.1 +0.4**
comp=Z,58nm,0.7s,baz=81,slow=7.6
LESA Schwarzleotal 48.62 305 *i*P **P** **23 37 39.4 +0.2**
comp=Z,31nm,0.6s
CLUD Cludinico 48.67 304 P **P** **23 37 38.9 -0.6**
TBLU Trondheim 48.70 326 *e*P **P** **23 37 39.2 -0.3**
FLTG Flechtingen 48.76 312 *e*P **P** **23 37 40.1 0.0**
comp=Z,90nm,0.8s,baz=81,slow=7.6
MOX Moxa 48.77 309 *e*P **P** **23 37 40.7 +0.5**
comp=Z,60nm,1.2s,baz=81,slow=7.6
MOX *e*L L 00 15 24.3
comp=Z,738nm,18.6s
STAL STALIGIAL 48.83 303 P **P** **23 37 40.4 -0.4**
STAL IAmb IAmb 23 37 42.0
comp=Z,40nm,0.9s
ABTA Abfaltersbach 48.86 304 *i*P **P** **23 37 40.6 -0.5**
comp=Z,9.3nm,0.8s,SNR=11
YSS Yuzh-Sakhalins 48.95 56 *e*P **P** **23 37 42.1 +0.5**
YSS *e*S **S** **23 44 40.7 +1.7**
YSS pmax pmax
comp=Z,40nm,1.1s
KONO Kongsberg 49.05 321 P **P** **23 37 42.1 -0.1**
KONO IAmb IAmb 23 37 43.6
comp=Z,86nm,1.1s
KONO Kongsberg 49.05 321 *e*P **P** **23 37 42.4 +0.2**
KONO Kongsberg 49.05 321 *ce*P **P** **23 37 42.4 +0.2**
KONO pmax pmax
comp=Z,65nm,1.3s
KONO Kongsberg 49.05 321 P **P** **23 37 42.0 -0.2**
KONO PP **PP** **23 39 38.0 +1.8**
BSEG Bad Segeberg 49.11 314 *e*P **P** **23 37 43.5 +0.7**
comp=Z,95nm,0.8s,baz=81,slow=7.6
GRA1 Grafenberg Arr 49.17 308 P **P** **23 37 44.1 +0.8**
GRA1 IAmb IAmb 23 37 46.3
comp=Z,43nm,0.9s
GRF Grafenberg Arr 49.17 308 P **P** **23 37 44.1 +0.8**
GRF pmax pmax
comp=Z,43nm,0.9s
GRF Grafenberg Arr 49.17 308 *e*L L 00 15 22.5
comp=Z,922nm,19.7s
GRFO Grafenberg 49.17 308 P **P** **23 37 44.4 +1.1**
GRFO IAmb IAmb 23 37 46.2
comp=Z,43nm,0.9s
GRFO Grafenberg 49.17 308 P **P** **23 37 44.4 +1.1**
GRFO pmax pmax
comp=Z,43nm,0.9s
JTM Tenmabayashi 49.21 64 P **P** **23 37 43.3 -0.4**
JTM Tenmabayashi 49.21 64 P **P** **23 37 43.9 +0.2**
DOMB Dombas 49.25 325 *e*P **P** **23 37 44.1 +0.3**
FDMO Fiordimonte 49.29 299 P **P** **23 37 45.0 +0.6**
FDMO IAmb IAmb 23 37 46.6
comp=Z,36nm,0.8s
WTTA Wattenberg 49.35 305 *i*P **P** **23 37 44.4 -0.5**
comp=Z,3.5nm,0.2s,SNR=12
CLZ Clausthal 49.36 311 *e*P **P** **23 37 45.2 +0.4**
comp=Z,49nm,1.1s,baz=81,slow=7.6
WATA Walderalm 49.37 305 *i*P **P** **23 37 44.8 -0.3**
comp=Z,6.4nm,0.5s,SNR=7.5
FUR Furstenfeldbru 49.41 306 *e*P **P** **23 37 46.1 +0.9**
comp=Z,101nm,0.8s,baz=81,slow=7.6
NRDL Niedersach Rie 49.43 312 *e*P **P** **23 37 45.9 +0.8**
comp=Z,86nm,1.0s,baz=81,slow=7.6
ASAJ Asahikawa 49.46 59 P **P** **23 37 45.6 0.0**
ASAJ pmax pmax
comp=Z,231nm,1.8s
JKA Kamikawa-asahi 49.46 59 P **P** **23 37 45.6 0.0**
MUD Monsted U'grnd 49.50 317 *i*P **P** **23 37 45.9 +0.3**
SPB2 Spitsbergen Ar 49.53 346 P **P** **23 37 46.5 +0.8**
SPA0 Spitsbergen Ar 49.54 346 *e*P **P** **23 37 46.5 +0.8**
SPITS Spitsbergen Ar 49.54 346 P **P** **23 37 46.4 +0.7**
SPITS pmax pmax
comp=Z,116nm,0.8s
SPITS Spitsbergen Ar 49.54 346 P **P** **23 37 46.9 +1.2**
comp=Z,98nm,0.7s,baz=98,slow=12,SNR=51
comp=Z,98nm,0.7s
SQTA Sankt Quirin 49.64 305 *i*P **P** **23 37 46.8 -0.2**
comp=Z,29nm,0.6s,SNR=11
SKAR Skarslia 49.65 323 *e*P **P** **23 37 48.6 +1.7**
GTTG Gottingen 49.66 311 *e*P **P** **23 37 47.6 +0.7**
comp=Z,81nm,0.8s,baz=81,slow=7.6
MOTA Moosalm 49.69 305 *i*P **P** **23 37 46.9 -0.6**
comp=Z,20nm,0.6s,SNR=12
HOMB Homborsund 49.70 320 *e*P **P** **23 37 47.5 +0.4**
HOMB Homborsund 49.70 320 *i*P **P** **23 37 46.0 -1.2**
UBBA Unterbreizbach 49.75 310 *e*P **P** **23 37 47.9 +0.3**
comp=Z,14nm,0.7s,baz=81,slow=7.6
CESX Cesi 49.76 299 P **P** **23 37 48.3 +0.4**
CESX IAmb IAmb 23 37 49.7
comp=Z,36nm,0.8s
JMM Marumori 49.85 68 P **P** **23 37 48.7 0.0**
JMM Marumori 49.85 68 P **P** **23 37 49.0 +0.4**
RETA Reutte 49.88 305 *i*P **P** **23 37 48.5 -0.4**
comp=Z,5.9nm,0.3s,SNR=8.1
MOL Molde 49.95 325 *e*P **P** **23 37 49.9 +1.0**
FETA Feichten 50.00 305 *i*P **P** **23 37 49.4 -0.5**
comp=Z,9.8nm,0.4s,SNR=13
UBR Ueberruh 50.28 306 *e*P **P** **23 37 51.9 +0.1**
comp=Z,45nm,0.9s,baz=81,slow=7.6
OSSC Osservatorio P 50.47 300 P **P** **23 37 53.6 +0.3**
OSSC IAmb IAmb 23 38 32.9
comp=Z,42nm,1.1s
DAVA Damuels 50.51 305 *i*P **P** **23 37 53.5 -0.1**
comp=Z,86nm,0.7s,SNR=29
KBS Kingsbay 50.61 347 P **P** **23 37 54.2 +0.4**
KBS Kingsbay 50.61 347 *e*P **P** **23 37 54.4 +0.6**
KBS Kingsbay 50.61 347 *c*P **P** **23 37 54.4 +0.6**
KBS pmax pmax
comp=Z,65nm,0.7s
KBS Kingsbay 50.61 347 *i*P **P** **23 37 53.6 -0.2**
KBS Kingsbay 50.61 347 P **P** **23 37 54.6 +0.8**
KBS pP **pP** **23 38 19.2 +2.1**
STU Stuttgart 50.65 307 P **P** **23 37 55.0 +0.5**
STU IAmb IAmb 23 37 57.3
comp=Z,52nm,0.8s
STU Stuttgart 50.65 307 P **P** **23 37 55.0 +0.5**
STU pmax pmax
comp=Z,52nm,0.8s
STU Stuttgart 50.65 307 *e*P **P** **23 37 55.7 +1.2**
comp=Z,120nm,0.8s,baz=81,slow=7.6
TNS Taunus Mts 50.83 309 *e*P **P** **23 37 56.1 +0.2**
comp=Z,22nm,1.0s,baz=81,slow=7.6
IBBN Ibbenburen 50.88 312 *e*P **P** **23 37 56.5 +0.4**
comp=Z,93nm,1.2s,baz=81,slow=7.6
BER Bergen 51.14 323 *e*P **P** **23 37 58.4 +0.4**
ASK Askoy 51.20 323 *e*P **P** **23 38 00.5 +2.1**
BFO Black Forest 51.30 307 P **P** **23 37 59.0 -0.4**
BFO Black Forest 51.30 307 P **P** **23 37 59.0 -0.4**
BFO pmax pmax
comp=Z,15nm,1.0s
BFO Black Forest 51.30 307 *e*P **P** **23 37 59.4 0.0**
comp=Z,20nm,1.1s,baz=81,slow=7.6
BFO Black Forest 51.30 307 P **P** **23 37 59.5 +0.1**
BFO pP **pP** **23 38 25.0 +2.1**
BUG Bochum--Univer 51.33 311 *e*P **P** **23 37 59.9 +0.4**
comp=Z,75nm,1.2s,baz=81,slow=7.6
MA2 Magadan 51.74 38 P **P** **23 38 03.3 +0.8**
MA2 IAmb IAmb 23 38 04.5
comp=Z,74nm,0.9s
MA2 Magadan 51.74 38 P **P** **23 38 02.8 +0.3**
MA2 Magadan 51.74 38 *c*P **P** **23 38 03.1 +0.6**
MA2 pmax pmax
comp=Z,30nm,0.6s
MA2 Magadan 51.74 38 P **P** **23 38 03.3 +0.8**
MA2 pP **pP** **23 38 27.2 +1.5**
MA2 sP **sP** **23 38 38.5 +2.3**
MA2 PcP **PcP** **23 39 15.0 +0.4**
ECH Echery 52.09 307 P **P** **23 38 05.3 0.0**
ECH Echery 52.09 307 P **P** **23 38 05.3 0.0**
ECH pmax pmax
comp=Z,13nm,1.1s
ECH Echery 52.09 307 P **P** **23 38 04.9 -0.4**
ECH sP **sP** **23 38 40.2 +0.8**
SEY Seymchan 52.15 34 ⇓*i*P **P** **23 38 06.9 +1.4**
SEY pmax pmax
comp=Z,79nm,1.3s
BTNL Ternell 52.21 310 *d*P **P** **23 38 06.5 +0.4**
comp=Z,24nm,0.9s
MEM Membach 52.28 310 *d*P **P** **23 38 06.8 +0.2**

comp=Z,24nm,0.9s
PGF Pioggiola 52.32 300 P P 23 38 06.4 -0.8
BHOU Houvegnez 52.34 310 dP P 23 38 08.7 +1.6
comp=Z,14nm,1.0s
HINF Hinteralfeld 52.38 307 P P 23 38 07.0 -0.5
WLF Walferdange 52.40 309 P P 23 38 08.1 +0.6
WLF IAmb IAmb 23 38 10.0
comp=Z,47nm,0.9s
WLF Walferdange 52.40 309 dP P 23 38 08.0 +0.4
comp=Z,32nm,0.9s
WLF Walferdange 52.40 309 P P 23 38 08.1 +0.6
WLF pmax pmax
comp=Z,47nm,0.9s
WLF Walferdange 52.40 309 eP P 23 38 08.3 +0.7
comp=Z,51nm,0.9s,baz=81,slow=7.6
KMBO Kilima Mbogo 52.43 235 P P 23 38 08.9 +0.5
KMBO Kilima Mbogo 52.43 235 i P P 23 38 09.5 +1.1
SNR=6.7
KMBO Kilima Mbogo 52.43 235 eP P 23 38 07.9 -0.5
KMBO eS pP 23 38 32.1 +0.1
KMBO Kilima Mbogo 52.43 235 i P P 23 38 09.0 +0.5
KMBO Kilima Mbogo 52.43 235 P P 23 38 09.0 +0.5
comp=Z,2.4nm,0.6s,baz=36,slow=11,SNR=8.3
KMBO pP pP 23 38 34.4 +2.4
comp=Z,14nm,0.9s,baz=38,slow=12,SNR=9.2
comp=Z,2.4nm,0.6s
KMBO Kilima Mbogo 52.43 235 eP P 23 38 07.9 -0.5
KMBO eS pP 23 38 32.1 +0.1
KMBO Kilima Mbogo 52.43 235 P P 23 38 09.6 +1.1
KMBO pP pP 23 38 34.4 +2.4
SENIN Lac Senin/Sane 52.45 305 P P 23 38 08.2 -0.1
BCLA Clavier 52.76 310 dP P 23 38 10.7 +0.5
comp=Z,16nm,1.0s
KIBK Kibwezi 52.82 233 P P 23 38 11.6 +0.5
TOLI2 Tolitoli 52.83 121 P P 23 38 11.4 +0.3
TOLI2 IAmb IAmb 23 38 38.0
comp=Z,44nm,1.0s
TOLI2 Tolitoli 52.83 121 P P 23 38 12.2 +1.1
RCHB Rochefort 52.87 310 dP P 23 38 11.8 +0.8
comp=Z,22nm,1.1s
BGES Gesves 52.91 310 dP P 23 38 11.3 +0.1
comp=Z,17nm,0.0s
SBF Sospel 53.04 302 P P 23 38 12.2 -0.2
LPG La Plagne 53.05 304 P P 23 38 12.0 -0.8
LPL La Plagne 53.06 304 P P 23 38 12.7 0.0
BMRD Maredsous 53.12 310 dP P 23 38 12.4 -0.4
comp=Z,39nm,0.9s
GIVF Givet 53.14 310 P P 23 38 13.0 0.0
BNI Bardonecchia 53.22 303 P P 23 38 13.9 0.0
BNI IAmb IAmb 23 38 20.6
comp=Z,30nm,0.8s
BNI Bardonecchia 53.22 303 P P 23 38 13.9 0.0
BNI pmax pmax
comp=Z,30nm,0.8s
MBDF Montbardon 53.25 303 P P 23 38 13.9 -0.2
DOU Dourbes 53.28 310 dP P 23 38 13.9 -0.1
comp=Z,31nm,0.8s
BAIF Baives 53.53 310 P P 23 38 16.1 +0.3
ORIF Oris-en-Rattie 53.80 303 P P 23 38 17.8 -0.2
MRSI Marisa 54.09 120 P P 23 38 19.0 -1.3
comp=Z,126nm,0.8s,comp=Z,1µm
KEST Kesra 54.29 292 P P 23 38 22.4 +0.6
KEST IAmb IAmb 23 38 48.5
comp=Z,29nm,0.9s
KEST Kesra 54.29 292 P P 23 38 22.2 +0.6
comp=Z,9.9nm,0.7s,baz=104,slow=0.9,SNR=28
KEST pP pP 23 38 47.4 +2.1
comp=Z,21nm,0.8s,baz=286,slow=1.7,SNR=7.9
comp=Z,9.9nm,0.7s
SSB Saint Sauveur 54.60 304 P P 23 38 23.6 -0.1
SSB IAmb IAmb 23 38 25.4
comp=Z,30nm,0.7s
SSB Saint Sauveur 54.60 304 P P 23 38 23.7 -0.1
SSB pmax pmax
comp=Z,30nm,0.7s
SSB Saint Sauveur 54.60 304 P P 23 38 24.1 +0.3
SSB pP pP 23 38 49.3 +2.0
SMF Signal de Mont 54.67 306 P P 23 38 23.5 -0.7
SSF Saint Saulge 54.77 306 P P 23 38 24.2 -0.7
BLJI Banyuglugur 54.93 135 P P 23 38 25.6 -0.7
comp=Z,114nm,0.5s
AVF Avril sur Loir 54.95 306 P P 23 38 25.5 -0.7
CLF Chambon-Foret 55.31 308 P P 23 38 28.7 -0.1
CLF Chambon-Foret 55.31 308 P P 23 38 28.7 -0.1
NOR Nord 55.57 350 i P P 23 38 29.4 -0.8
NOR IAmb IAmb 23 38 32.5
comp=Z,36nm,0.9s
JAGI Jajag, Banyuwa 55.83 135 P P 23 38 30.2 -2.7
JAGI IAmb IAmb 23 38 31.0
comp=Z,20nm,0.7s
EKA Eskdalemuir Ar 56.52 317 P P 23 38 37.3 0.0
comp=Z,30nm,0.7s,baz=92,slow=6.8,SNR=48
comp=Z,30nm,0.7s
ESK Eskdalemuir 56.55 317 P P 23 38 37.4 -0.1
ESK IAmb IAmb 23 38 39.4
comp=Z,57nm,1.1s
ESK Eskdalemuir 56.55 317 P P 23 38 37.4 -0.1
ESK pmax pmax
comp=Z,57nm,1.1s
ESK Eskdalemuir 56.55 317 P P 23 38 37.5 0.0
ESK pP pP 23 39 02.7 +1.5
ESK sP sP 23 39 15.8 +4.0
ESK PcP PcP 23 39 34.6 +1.5
PEA0B Petropavlovsk- 56.84 45 P P 23 38 39.6 0.0
PEA0B Petropavlovsk- 56.84 45 c i P P 23 38 40.7 +1.1
PETK Petropavlovsk- 56.84 45 P P 23 38 39.2 -0.4
PETK Petropavlovsk- 56.84 45 P P 23 38 39.5 0.0
comp=Z,9.9nm,0.6s,baz=288,slow=0.5,SNR=16
comp=Z,9.9nm,0.6s
DAG Danmarks Havn 57.00 344 i P P 23 38 40.0 -0.3
DAG IAmb IAmb 23 38 41.8
comp=Z,28nm,0.7s
BILL Bilibino 57.00 27 P P 23 38 41.2 +0.7
BILL IAmb IAmb 23 38 42.7
comp=Z,58nm,1.0s
BILL Bilibino 57.00 27 P P 23 38 40.7 +0.2
BILL Bilibino 57.00 27 P P 23 38 41.4 +0.9
BILL PcP PcP 23 39 36.0 +1.4
PET Petropavlovsk 57.42 45 i eP P 23 38 42.7 -0.9
PET pmax pmax
comp=Z,36nm,0.9s
DBG Daneborg 58.09 341 i P P 23 38 48.2 +0.2
DBG IAmb IAmb 23 38 50.4
comp=Z,20nm,0.8s
EPF Esparros 58.20 303 P P 23 38 47.9 -1.4
SCO Scoresbysund 59.89 337 P P 23 39 01.5 +1.0
SCO IAmb IAmb 23 39 02.9
comp=Z,18nm,0.7s
SCO Scoresbysund 59.89 337 P P 23 39 01.5 +1.0
SCO pmax pmax
comp=Z,18nm,0.7s
SCO Scoresbysund 59.89 337 i P P 23 39 01.3 +0.8
SCO IAmb IAmb 23 39 03.3
comp=Z,15nm,0.5s
ALE Alert 60.42 354 P P 23 39 04.4 +0.4
ALE pP pP 23 39 30.7 +2.9
ALE sP sP 23 39 41.6 +3.4
ALE PcP PcP 23 39 48.7 +0.7
ALE ScP ScP 23 43 36.1 -5.0
CART Cartagena 61.24 297 P P 23 39 10.2 0.0
CART Cartagena 61.24 297 P P 23 39 10.6 +0.3
ABPO Ambohimpanom 61.51 213 P P 23 39 13.8 +1.5
ABPO IAmb IAmb 23 39 39.3
comp=Z,35nm,0.9s
ABPO Ambohimpanom 61.51 213 P P 23 39 13.8 +1.5
ABPO pmax pmax
comp=Z,35nm,0.9s
ABPO Ambohimpanom 61.51 213 P P 23 39 14.4 +2.1
ABPO pP pP 23 39 38.1 +1.9
BORG Borgarnes 61.93 331 P P 23 39 16.6 +2.2
BORG Borgarnes 61.93 331 P P 23 39 16.6 +2.2
BORG pmax pmax
comp=Z,205nm,1.6s
ESBB Sonseca Array 62.48 301 P P 23 39 18.4 -0.3
ESDC Sonseca Array 62.48 301 P P 23 39 18.4 -0.3
ESDC Sonseca Array 62.48 301 P P 23 39 18.3 -0.3
comp=Z,4.8nm,0.6s,baz=54,slow=7.0,SNR=86
comp=Z,4.8nm,0.6s
PAB San Pablo 62.81 301 P P 23 39 20.3 -0.5
PAB San Pablo 62.81 301 P P 23 39 20.3 -0.5
PAB pmax pmax
comp=Z,21nm,1.4s
PAB San Pablo 62.81 301 P P 23 39 20.5 -0.3
PAB pP pP 23 39 46.2 +1.3
TAM Tamanrasset 62.89 280 P P 23 39 21.1 -0.6
TAM Tamanrasset 62.89 280 P P 23 39 21.1 -0.6
TAM pmax pmax
comp=Z,6.0nm,0.8s
TAM Tamanrasset 62.89 280 P P 23 39 21.6 -0.1
NEEM North Greenlan 62.92 349 i P P 23 39 21.6 +0.4
NEEM IAmb IAmb 23 39 23.1
comp=Z,145nm,0.6s
BATI Baumata 63.04 127 P P 23 39 19.0 -3.5
comp=Z,30nm,0.7s
BATI Baumata 63.04 127 P P 23 39 20.8 -1.7
comp=Z,15nm,0.4s,baz=331,slow=19,SNR=4.2
comp=Z,15nm,0.4s
SOEI Soe 63.10 126 P P 23 39 21.7 -1.3
SOEI Soe 63.10 126 P P 23 39 21.8 -1.2
SOEI Soe 63.10 126 P P 23 39 19.9 -3.1
comp=Z,101nm,0.9s,comp=Z,1µm
TAF Taforalt 63.46 295 P P 23 39 26.0 +0.8
SUMG Summit 63.51 342 P P 23 39 25.8 +0.5
SUMG Summit 63.51 342 P P 23 39 25.8 +0.5
SUMG pmax pmax
comp=Z,124nm,1.0s
SUMG Summit 63.51 342 i P P 23 39 25.0 -0.3
SUMG IAmb IAmb 23 39 28.9
comp=Z,61nm,0.9s
JBK JBK 63.79 295 P P 23 39 28.2 +0.7
FIGM Figuig 63.80 292 P P 23 39 29.0 +1.4
SOEG Soedalen 63.90 337 i P P 23 39 28.1 +0.7
SOEG IAmb IAmb 23 39 30.5
comp=Z,31nm,0.6s
MVO Moncorvo 63.97 303 eP P 23 39 29.3 +0.9
comp=Z,34nm,2.2s
VOI Vohitsoka 64.24 212 P P 23 39 31.0 +0.7
VOI Vohitsoka 64.24 212 P P 23 39 33.4 +3.1
PVRL Vila Real 64.39 304 eP P 23 39 31.5 +0.4
comp=Z,25nm,1.4s
POLO Lamas de Olo 64.40 304 eP P 23 39 32.0 +0.7
comp=Z,13nm,1.5s
PGAV Gavieira, Arco 64.46 304 eP P 23 39 31.7 0.0
comp=Z,63nm,1.5s
MTE Manteigas 64.65 303 eP P 23 39 33.5 +0.6
comp=Z,36nm,2.1s
MTE Manteigas 64.65 303 P P 23 39 33.3 +0.4
PVIS Viseu 64.75 303 eP P 23 39 34.0 +0.5
PCBR Castelo Branco 64.86 302 eP P 23 39 34.7 +0.6
comp=Z,20nm,1.8s
PMRV Marv??o 64.98 302 eP P 23 39 35.5 +0.5
comp=Z,20nm,1.7s
SMIR Smir Dam 65.24 297 P P 23 39 37.0 +0.3
PBAR Barrancos 65.30 300 eP P 23 39 37.3 +0.3
comp=Z,37nm,1.6s
COI Coimbra 65.33 303 eP P 23 39 38.2 +1.0
comp=Z,33nm,1.8s
COI Coimbra 65.33 303 P P 23 39 37.4 +0.2
COI IAmb IAmb 23 39 38.6
comp=Z,24nm,0.5s
COI Coimbra 65.33 303 P P 23 39 37.4 +0.2
COI pmax pmax
comp=Z,24nm,0.5s
PCAS Casmilo, Conde 65.46 303 eP P 23 39 39.0 +0.9
comp=Z,19nm,1.9s
PMTG Montargil 65.72 302 eP P 23 39 39.4 -0.3
comp=Z,16nm,1.4s
LCRM LCR 65.78 295 P P 23 39 42.2 +1.8
EVO Evora 65.81 301 eP P 23 39 40.9 +0.5
comp=Z,9.0nm,1.5s
ICESG Greenland Ices 65.91 340 i P P 23 39 40.9 +0.1
ICESG IAmb IAmb 23 39 43.0
comp=Z,139nm,0.6s
PSBE So Bento 65.91 302 eP P 23 39 42.0 +1.0
comp=Z,30nm,1.2s
PBEJ Beja 65.94 300 eP P 23 39 42.1 +0.9
comp=Z,13nm,1.5s
MDT Mirdlt 66.00 294 P P 23 39 42.2 +0.4
KULLO Kullorsuaq 66.05 348 i P P 23 39 41.5 +0.3
KULLO IAmb IAmb 23 39 43.8
comp=Z,52nm,0.8s
TULEG Thule 66.08 352 P P 23 39 41.2 -0.2
TULEG IAmb IAmb 23 39 42.6
comp=Z,64nm,0.7s
TULEG Thule 66.08 352 i P P 23 39 41.5 +0.1
TULEG IAmb IAmb 23 39 42.5
comp=Z,53nm,0.8s
PVAQ Vaqueiros 66.12 300 eP P 23 39 43.2 +0.8
comp=Z,6.3nm,1.4s
PVAQ Vaqueiros 66.12 300 P P 23 39 42.7 +0.4
PCVE Castro Verde 66.25 300 eP P 23 39 43.9 +0.8
comp=Z,19nm,1.9s
MESJ Messejana 66.28 300 eP P 23 39 44.3 +1.0
comp=Z,18nm,1.5s
MESJ Messejana 66.28 300 P P 23 39 43.5 +0.2
MESJ Messejana 66.28 300 P P 23 39 43.5 +0.2
MESJ pmax pmax
comp=Z,16nm,0.9s
PACT Alcochete 66.28 302 eP P 23 39 44.3 +1.0
comp=Z,62nm,1.4s
A19K Wainwright 66.34 19 P P 23 39 44.1 +0.9
baz=311,SNR=8.0
PBDV Barranco-do-Ve 66.35 300 eP P 23 39 44.8 +1.0
comp=Z,56nm,1.3s
C16K Lisburne Hills 66.39 21 P P 23 39 43.9 +0.4
C16K Lisburne Hills 66.39 21 P P 23 39 43.9 +0.4
baz=308,SNR=23
SAUI Saumlaki 66.63 120 P P 23 39 46.0 +0.2
SAUI Saumlaki 66.63 120 P P 23 39 47.0 +1.2
SAUI Saumlaki 66.63 120 P P 23 39 46.3 +0.5
comp=Z,206nm,0.7s,comp=Z,14µm
A21K Barrow 66.68 17 P P 23 39 45.5 +0.2
baz=314
B18K Kokolik River 66.70 19 P P 23 39 46.5 +1.0
baz=310
PTEO Sao Teotonio 66.77 300 eP P 23 39 47.9 +1.5
comp=Z,42nm,1.5s
FOMA Nahampoana Res 66.88 210 P P 23 39 48.4 +1.3
C17K DeLong Mountai 66.89 20 P P 23 39 47.4 +0.6
baz=310,SNR=31
GAMB Gambell 66.93 27 P P 23 39 48.1 +1.0
GAMB IAmb IAmb 23 41 08.7
comp=Z,184nm,1.8s
GAMB Gambell 66.93 27 P P 23 39 48.0 +1.0
baz=304
PFVI Vila Bisbo 67.03 300 eP P 23 39 49.3 +1.2
comp=Z,51nm,1.7s
PFVI Vila Bisbo 67.03 300 P P 23 39 48.8 +0.7
PFVI IAmb IAmb 23 41 52.4
comp=Z,183nm,1.9s
TNA Tin City 67.22 24 P P 23 39 49.7 +0.9
TNA IAmb IAmb 23 39 51.2
comp=Z,40nm,0.9s
TNA Tin City 67.22 24 P P 23 39 49.7 +0.9
baz=307
RDOG Red Dog Mine 67.24 21 P P 23 39 49.1 +0.2
RDOG Red Dog Mine 67.24 21 P P 23 39 48.9 -0.1
baz=310,SNR=6.7
UPNV Upernavik 67.25 346 i P P 23 39 49.3 +0.4
UPNV IAmb IAmb 23 39 53.6
comp=Z,52nm,0.8s
A22K Sinclair Lake 67.28 16 P P 23 39 49.4 +0.3
baz=316
C18K Utukok River 67.33 20 P P 23 39 49.9 +0.3
baz=311
C19K Lookout Ridge 67.47 19 P P 23 39 51.1 +0.7
baz=312,SNR=50
B20K Meade River 67.47 18 P P 23 39 50.8 +0.5
B20K IAmb IAmb 23 39 52.2
comp=Z,90nm,0.8s
B20K Meade River 67.47 18 P P 23 39 50.8 +0.5
baz=314
ISOG Isortoq, Green 67.88 336 i P P 23 39 52.9 -0.1
ISOG IAmb IAmb 23 39 54.5
comp=Z,22nm,0.8s
ZGR Zagora 68.04 292 P P 23 39 56.0 +1.2
B22K Teshekpuk Lake 68.12 16 P P 23 39 54.5 +0.1
baz=317
E17K Hotham Inlet 68.19 21 P P 23 39 55.4 +0.5
baz=311,SNR=34
F15K North Star Dit 68.21 23 P P 23 39 56.0 +1.0
baz=309
D19K Kuna River 68.28 19 P P 23 39 55.9 +0.4
baz=314,SNR=93
E18K Tukpahlearik C 68.32 21 P P 23 39 56.3 +0.6
baz=312
B21K Ikpikpuk River 68.37 17 P P 23 39 56.4 +0.5
baz=316
OUZM OUZ 68.52 293 P P 23 39 58.0 +0.2
D20K Etivluk River 68.52 19 P P 23 39 57.3 +0.3
baz=315
SRHM Skhour des Reh 68.60 295 P P 23 39 59.0 +0.8
C21K Knifeblade Rid 68.66 18 P P 23 39 58.4 +0.6
baz=316
ANM Nome 68.69 24 P P 23 39 59.3 +1.2
ANM IAmb IAmb 23 40 00.8
comp=Z,62nm,0.9s
ANM Nome 68.69 24 P P 23 39 59.2 +1.1
baz=309,SNR=10
ANM Nome 68.69 24 P P 23 39 59.3 +1.2
ANM pmax pmax
comp=Z,62nm,0.9s
F17K Baldwin Pennin 68.78 22 P P 23 39 59.6 +1.1
baz=312
ILULI Ilulissat 68.86 343 P P 23 39 59.3 +0.3
ILULI Ilulissat 68.86 343 P P 23 39 59.3 +0.3
ILULI pmax pmax
comp=Z,87nm,0.6s
ILULI Ilulissat 68.86 343 i P P 23 39 59.1 +0.1
ILULI IAmb IAmb 23 40 00.6
comp=Z,68nm,0.7s
G15K Niukluk 68.86 24 P P 23 39 59.9 +0.8
baz=310
LSZ Lusaka 68.90 232 P P 23 40 00.1 0.0
LSZ Lusaka 68.90 232 P P 23 40 00.1 0.0
LSZ pmax pmax
comp=Z,10.0nm,0.9s
E20K Nigu River 68.95 19 P P 23 39 60.0 +0.2
baz=315
G16K Koyuk River 69.14 23 P P 23 40 01.9 +1.1
baz=311
C23K Itkillik River 69.14 16 P P 23 40 01.2 +0.5
baz=320
OUK Oukaimeden 69.19 294 P P 23 40 03.0 +0.8
MBWA Marble Bar 69.22 138 P P 23 40 00.8 -1.0
E19K Redstone River 69.24 20 P P 23 40 01.6 +0.1
baz=315,SNR=72
D22K Ayikyak River 69.38 17 P P 23 40 02.6 +0.3
baz=318
E21K Killik River 69.39 18 P P 23 40 02.4 +0.1
baz=317
DY2G Dye2 69.53 339 i P P 23 40 03.6 +0.1
DY2G IAmb IAmb 23 40 05.0
comp=Z,70nm,0.5s
F19K Shaleruckik Mo 69.53 20 P P 23 40 02.8 -0.4
baz=314
G17K Kiwalik Mounta 69.60 22 P P 23 40 04.4 +0.7
baz=312
PSA00 Pilbara Seismi 69.62 138 P P 23 40 03.3 -1.0
AMKA Amchitka 69.62 41 P P 23 40 03.8 -0.2
C24K Franklin Bluff 69.66 16 P P 23 40 04.1 +0.2
baz=321
H16K Elim 69.68 23 P P 23 40 05.0 +0.9
baz=311,SNR=20
D23K Nanushuk River 69.79 17 P P 23 40 05.1 +0.3
baz=320,SNR=27
RES Resolute Bay 69.81 358 P P 23 40 04.9 +0.1
RES Resolute Bay 69.81 358 P P 23 40 04.9 +0.1
RES pmax pmax
comp=Z,19nm,0.7s
G18K Tagagawik 69.93 21 P P 23 40 05.7 0.0
baz=314
F20K Avaraart Lake 69.94 20 P P 23 40 05.7 0.0
baz=316,SNR=44
D24K Happy Valley 70.07 16 P P 23 40 06.5 0.0
baz=321
E22K Anaktuvuk Pass 70.15 18 P P 23 40 07.0 -0.1
baz=319,SNR=48
H17K Granite Mounta 70.21 22 P P 23 40 08.1 +0.6
baz=313
G19K Purcell Mounta 70.21 21 P P 23 40 07.8 +0.3
baz=315
C26K Camden Bay 70.29 14 P P 23 40 08.4 +0.6
baz=324
TOLK Toolik Lake Re 70.30 17 P P 23 40 08.1 +0.1
TOLK Toolik Lake Re 70.30 17 P P 23 40 08.2 +0.2
baz=321,SNR=202
SFJD Kangerlussuaq 70.36 341 P P 23 40 08.5 +0.2
SFJD IAmb IAmb 23 40 09.7
comp=Z,70nm,0.8s
SFJD Kangerlussuaq 70.36 341 P P 23 40 08.5 +0.2
SFJD pmax pmax
comp=Z,69nm,0.8s
SFJD Kangerlussuaq 70.36 341 i P P 23 40 07.8 -0.5
SFJD IAmb IAmb 23 40 10.0
comp=Z,48nm,0.8s
SFJD Kangerlussuaq 70.36 341 P P 23 40 08.2 -0.1
KNRA Kununurra 70.41 127 P P 23 40 08.8 -0.4
KNRA IAmb IAmb 23 40 12.2
comp=Z,30nm,0.8s
KNRA Kununurra 70.41 127 P P 23 40 09.8 +0.6
F21K Alatna River 70.42 19 P P 23 40 08.8 +0.1
baz=318
D25K Kavik River 70.47 15 P P 23 40 09.7 +0.6
baz=323,SNR=43
J14K Nanvaranak Lak 70.48 25 P P 23 40 10.2 +1.1
baz=311,SNR=21
F22K John River 70.54 18 P P 23 40 10.0 +0.6
baz=319
H18K Honhosa River 70.54 22 P P 23 40 10.0 +0.5
baz=314,SNR=25
K13K Kusilvak Mount 70.62 26 P P 23 40 10.7 +0.8
baz=310
I17K Unalakleet 70.68 23 P P 23 40 11.4 +1.1
baz=313,SNR=18
E23K Chandalar 70.74 17 P P 23 40 10.9 +0.2
baz=321,SNR=53
H19K Roundabout Mou 70.84 21 P P 23 40 11.8 +0.6
baz=316
G21K Allakaet 70.94 19 P P 23 40 11.7 -0.2
baz=318,SNR=75
E24K Your Creek 71.00 17 P P 23 40 12.5 +0.3
baz=322
TOA0 Torodi Ar. Sit 71.02 273 P P 23 40 12.6 -0.5
TOA0 IAmb IAmb 23 40 14.5
comp=Z,22nm,0.7s
TORD Torodi Ar. Bea 71.02 273 P P 23 40 12.5 -0.6
TORD Torodi Ar. Bea 71.02 273 P P 23 40 12.8 -0.3
comp=Z,22nm,0.7s,baz=40,slow=7.0,SNR=116
comp=Z,22nm,0.7s
M11K Mekoryuk 71.04 28 P P 23 40 13.6 +1.1
baz=310
J16K Anvik River 71.12 24 P P 23 40 14.1 +1.1
baz=313
G22K Bettles 71.15 18 P P 23 40 13.0 -0.1
baz=320
COLD Coldfoot 71.25 18 P P 23 40 13.9 +0.2
baz=320,SNR=78
IMAR Indian Mountai 71.27 20 P P 23 40 13.7 -0.1
GCSA Galena City Sc 71.27 22 P P 23 40 14.5 +0.7
baz=316,SNR=21
H20K Anotleneega Mo 71.31 20 P P 23 40 14.5 +0.4
baz=317
ADK Adak 71.44 39 P P 23 40 16.2 +1.1
ADK IAmb IAmb 23 42 45.5
comp=Z,88nm,1.4s
ADK Adak 71.44 39 P P 23 40 16.2 +1.1
ADK pmax pmax
comp=Z,89nm,1.4s
A36M Sachs Harbour 71.45 7 P P 23 40 14.9 +0.1
A36M IAmb IAmb 23 40 16.8
comp=Z,105nm,1.0s
A36M Sachs Harbour 71.45 7 P P 23 40 14.7 -0.1
baz=341,SNR=65
K15K Wolf Creek Mou 71.49 25 P P 23 40 16.7 +1.5
baz=313
F24K Squaw Lake 71.58 17 P P 23 40 15.8 +0.1
baz=322
E25K Arctic Village 71.62 16 P P 23 40 15.8 -0.1
baz=324,SNR=36
D27M Malcolm River 71.63 14 P P 23 40 16.4 +0.3
baz=328,SNR=24
G23K Bananza Creek 71.69 18 P P 23 40 16.8 +0.4
baz=321,SNR=38
L14K Kuka Creek 71.72 26 P P 23 40 17.8 +1.2
baz=312
H21K Melozitna Rive 71.77 20 P P 23 40 17.2 +0.3
baz=319,SNR=63
L15K Ungalak Mounta 71.92 25 P P 23 40 18.9 +1.1
baz=313,SNR=15
I20K Naaghedeneel 71.94 21 P P 23 40 18.5 +0.7
baz=318,SNR=25
D28M Stokes Point 71.97 13 P P 23 40 18.4 +0.5
baz=330,SNR=23
H22K Ishtalitna Cre 71.97 19 P P 23 40 18.3 +0.2
baz=320
F25K Christian Rive 72.03 16 P P 23 40 19.1 +0.6

baz=324
M13K Dall Lake 72.10 27 P P 23 40 20.5 +1.6
baz=312
TABU Tabubil 72.15 110 P P 23 40 21.4 +1.4
J19K Poorman 72.20 22 P P 23 40 20.3 +0.9
baz=317
J18K Innoko River 72.25 23 P P 23 40 20.3 +0.6
baz=316
K17K Iditarod 72.28 24 P P 23 40 20.9 +1.0
baz=315,SNR=55
F26K Sheenjek River 72.28 15 P P 23 40 20.1 +0.1
baz=325
G24K Hadweenzic Riv 72.33 17 P P 23 40 20.6 +0.5
baz=323,SNR=46
I21K Tanana 72.36 20 P P 23 40 20.7 +0.4
baz=320
M14K Bethel 72.38 26 P P 23 40 21.7 +1.2
baz=313,SNR=28
E27K Coleen River 72.40 14 P P 23 40 20.9 +0.2
baz=327,SNR=41
BMAR Burnt Mountain 72.41 16 P P 23 40 21.3 +0.7
E28M Babbage River 72.45 13 P P 23 40 21.3 +0.4
baz=329
J20K Nowinta River 72.50 21 P P 23 40 22.1 +0.8
baz=318
L16K Owhat River 72.59 25 P P 23 40 23.2 +1.4
baz=314,SNR=64
G25K Bearman Lake 72.60 17 P P 23 40 22.7 +0.9
baz=324
L17K Donlin 72.69 24 P P 23 40 23.6 +1.2
baz=315,SNR=39
NUUK Nuuk 72.77 339 *i* P P 23 40 22.9 +0.2
NUUK IAmb IAmb 23 40 24.0
comp=Z,44nm,0.7s
MLY Manley 72.81 19 P P 23 40 23.6 +0.5
MLY IAmb IAmb 23 40 26.5
comp=Z,47nm,0.7s
MLY Manley 72.81 19 P P 23 40 23.4 +0.3
baz=320,SNR=43
TTA Tatalina 72.85 23 P P 23 40 24.2 +0.8
baz=317,SNR=19
M15K Kasigluk River 72.88 26 P P 23 40 24.6 +1.1
baz=314
H24K Noodor Dome 72.92 18 P P 23 40 24.2 +0.5
baz=323
E29M Blow River 72.94 13 P P 23 40 24.1 +0.4
baz=330
NRS Narsarsuaq 72.97 335 P P 23 40 24.3 +0.3
NRS IAmb IAmb 23 40 25.4
comp=Z,55nm,0.8s
NRS Narsarsuaq 72.97 335 P P 23 40 24.3 +0.3
NRS pmax pmax
comp=Z,55nm,0.8s
NRS Narsarsuaq 72.97 335 *i* P P 23 40 23.5 -0.5
NRS IAmb IAmb 23 40 25.4
comp=Z,35nm,0.7s
G26K Porcupine Rive 72.98 16 P P 23 40 24.4 +0.5
baz=326
N14K Kuskokwak Cree 73.05 27 P P 23 40 25.3 +0.8
baz=313,SNR=12
I23K Minto, Yukon-K 73.09 19 P P 23 40 25.1 +0.5
baz=322,SNR=27
K20K Telida 73.14 22 P P 23 40 25.8 +0.8
baz=318
L18K Granite Mounta 73.16 23 P P 23 40 26.1 +1.0
baz=316
F28M Old Crow 73.24 14 P P 23 40 25.9 +0.4
baz=329,SNR=19
CHUM Lake Minchumin 73.25 21 P P 23 40 26.3 +0.6
baz=320,SNR=21
M16K Timber Creek 73.26 25 P P 23 40 27.2 +1.4
baz=315,SNR=19
N15K Kwethluk River 73.46 26 P P 23 40 28.2 +1.2
baz=314
BPAW Bear Paw Mtn. 73.46 20 P P 23 40 27.1 +0.2
BPAW IAmb IAmb 23 40 28.4
comp=Z,79nm,0.8s
BPAW Bear Paw Mtn. 73.46 20 P P 23 40 26.9 0.0
baz=320,SNR=56
M17K Holitna River 73.50 24 P P 23 40 28.9 +1.7
baz=316
MDM Murphy Dome 73.53 19 P P 23 40 27.6 +0.3
MDM IAmb IAmb 23 40 28.5
comp=Z,39nm,0.6s
G27K Doyon Strip 73.56 15 P P 23 40 28.0 +0.5
baz=328,SNR=35
NEA2 Nenana 73.60 19 P P 23 40 27.7 0.0
baz=322,SNR=54
POKR Poker Plat Res 73.61 18 P P 23 40 28.4 +0.6
POKR Poker Plat Res 73.61 18 P P 23 40 28.2 +0.4
baz=323,SNR=64
O14K Tigyukauivet M 73.67 27 P P 23 40 29.3 +1.1
baz=314
CAST Castle Rocks 73.67 21 P P 23 40 28.7 +0.6
baz=320,SNR=114
COLA College 73.70 18 P P 23 40 28.8 +0.6
COLA College 73.70 18 P P 23 40 28.2 0.0
COLA College 73.70 18 P P 23 40 28.5 +0.3
baz=323
COLA College 73.70 18 P P 23 40 28.8 +0.6
COLA pmax pmax
comp=Z,118nm,0.8s
N16K Nishlik Lake 73.71 25 P P 23 40 30.1 +1.7
baz=315
PRP Porcupine Dome 73.76 17 P P 23 40 29.4 +0.7
PRP IAmb IAmb 23 40 31.0
comp=Z,72nm,1.4s
PRP Porcupine Dome 73.76 17 P P 23 40 29.3 +0.5
baz=325,SNR=32
INK Inuvik 73.77 12 P P 23 40 28.6 0.0
INK IAmb IAmb 23 40 30.1
comp=Z,83nm,1.3s
INK Inuvik 73.77 12 P P 23 40 28.4 -0.2
baz=334,SNR=39
INK Inuvik 73.77 12 P P 23 40 28.6 0.0
INK pmax pmax
comp=Z,83nm,1.3s
L20K Farewell, AK 73.85 22 P P 23 40 29.7 +0.5
baz=318
MORW Morawa 73.90 145 P P 23 40 29.6 -0.3
MORW IAmb IAmb 23 41 58.1
comp=Z,51nm,1.3s
M18K Stony River 73.97 24 P P 23 40 31.0 +1.1
baz=317
F30M Barrier River 74.01 13 P P 23 40 29.9 -0.1
baz=332,SNR=26
ILAR Eielson Array 74.03 18 P P 23 40 29.7 -0.5
ILAR Eielson Array 74.03 18 P P 23 40 29.7 -0.5
ILAR Eielson Array 74.03 18 P P 23 40 29.4 -0.7
comp=Z,43nm,0.7s,baz=325,slow=4.6,SNR=567
comp=Z,43nm,0.7s
PPLA Purkeypile 74.05 21 P P 23 40 30.6 +0.1
baz=320,SNR=20
H27K Steamboat Moun 74.08 15 P P 23 40 30.9 +0.4
baz=328
C36M Paulatuk 74.09 8 P P 23 40 29.8 -0.7
baz=342,SNR=51
M19K Big River Lodg 74.12 23 P P 23 40 31.9 +1.0
baz=318
TRF Thorofare Moun 74.17 20 P P 23 40 31.0 -0.2
baz=321,SNR=10
G29M Pine Creek 74.21 14 P P 23 40 31.4 +0.1
baz=330,SNR=22
N17K Nushagak Hills 74.22 25 P P 23 40 33.0 +1.7
baz=316
O15K Ungalikthiuk R 74.25 27 P P 23 40 32.6 +1.1
baz=315
HDA Harding Lake 74.30 18 P P 23 40 31.0 -0.8
baz=324,SNR=30
HDA P P 23 40 31.0 -0.8
baz=324,SNR=30
MCK McKinley 74.32 20 P P 23 40 31.9 0.0
baz=322,SNR=34
SVW2 Sparrevohn 74.34 24 P P 23 40 33.8 +1.7
G30M tAoh Zraii Nji 74.49 13 P P 23 40 32.9 0.0
baz=332
I26K Coal Creek Min 74.49 17 P P 23 40 33.2 +0.4
baz=327
F31M Tsiigehtchic 74.52 12 P P 23 40 32.6 -0.3
baz=334,SNR=26
M20K Styx River 74.53 22 P P 23 40 34.1 +0.8
baz=319
J25K Salcha River, 74.54 18 P P 23 40 32.4 -0.8
baz=325
N18K Kilae Creek 74.55 24 P P 23 40 34.7 +1.4
baz=317
O16K Kokwok River B 74.58 26 P P 23 40 34.7 +1.3
baz=316
I27K Kandik River 74.59 16 P P 23 40 33.7 +0.1
baz=328,SNR=20
RND Reindeer 74.60 20 P P 23 40 33.1 -0.5
RND IAmb IAmb 23 40 34.3
comp=Z,54nm,0.6s
RND Reindeer 74.60 20 P P 23 40 33.1 -0.5
RND pmax pmax
comp=Z,54nm,0.6s
NIKH Nikolski High 74.63 35 P P 23 40 32.5 -1.4
baz=309
H29M Whitestone 74.74 14 P P 23 40 34.2 -0.1
baz=330,SNR=50
O17K Koliganek Bris 74.80 25 P P 23 40 35.8 +1.1
baz=317,SNR=12
G31M Satah River 74.89 12 P P 23 40 34.7 -0.4
baz=334,SNR=26
N19K Bonanza Creek 74.91 24 P P 23 40 36.6 +1.1
baz=318
EPYK Eagle Plains 74.94 14 P P 23 40 34.9 -0.6
baz=332,SNR=21
SKT Skwentna 74.95 22 P P 23 40 35.4 -0.2
SKT Skwentna 74.95 22 P P 23 40 35.0 -0.6
baz=320,SNR=54
CUT Chulitna 74.99 21 P P 23 40 35.6 -0.2
CUT Chulitna 74.99 21 P P 23 40 35.1 -0.7
baz=321,SNR=10
P16K Nushagak River 75.02 26 P P 23 40 37.1 +1.1
baz=316,SNR=5.3
J26L Joseph Creek 75.07 17 P P 23 40 36.3 -0.1
baz=326
I28M Miner Creek 75.09 15 P P 23 40 36.1 -0.4
baz=329
K24K Donnelly Dome 75.10 18 P P 23 40 35.9 -0.6
baz=325,SNR=60
WAT1 Susitna Watana 75.14 20 P P 23 40 35.7 -1.1
baz=323
UNV Unalaska Valle 75.15 33 P P 23 40 35.7 -1.1
baz=311
DHY Denali Highway 75.27 19 P P 23 40 37.5 -0.1
DHY Denali Highway 75.27 19 P P 23 40 37.3 -0.2
baz=324,SNR=70
N20K Mount Spurr 75.34 22 P P 23 40 38.1 +0.2
baz=320
RIDG Independent Ri 75.39 18 P P 23 40 37.5 -0.7
baz=326,SNR=32
O18K Koktuh Hills 75.39 25 P P 23 40 39.8 +1.7
baz=318,SNR=100
EGAK Eagle 75.39 16 P P 23 40 38.0 -0.1
EGAK IAmb IAmb 23 40 39.6
comp=Z,64nm,1.4s
EGAK Eagle 75.39 16 P P 23 40 38.3 +0.3
baz=328,SNR=19
SCRK Sand Creek 75.40 18 P P 23 40 38.1 -0.1
SCRK IAmb IAmb 23 40 39.7
comp=Z,61nm,0.7s
SCRK Sand Creek 75.40 18 P P 23 40 38.2 -0.1
baz=326,SNR=59
O19K Port Alsworth 75.43 24 P P 23 40 39.3 +1.0
baz=319,SNR=21
P17K Kvichak River 75.45 25 P P 23 40 39.6 +1.2
baz=317
I29M Ogilvie Camp, 75.51 15 P P 23 40 38.2 -0.5
baz=330
M22K Willow 75.55 21 P P 23 40 38.6 -0.4
baz=322,SNR=8.8
WAT6 Susitna Watana 75.57 20 P P 23 40 38.4 -0.9
baz=323,SNR=26
SUA Susitna One 75.58 22 P P 23 40 39.2 -0.2
SUA IAmb IAmb 23 40 40.7
comp=Z,69nm,1.0s
SUA Susitna One 75.58 22 P P 23 40 38.9 -0.5
baz=321
P18K Big Mountain, 75.72 25 P P 23 40 41.1 +1.0
baz=318,SNR=40
Q16K King Salmon 75.75 26 P P 23 40 41.3 +1.2
baz=317,SNR=12
K27K Chicken 75.82 17 P P 23 40 40.9 +0.4
baz=328
PAX Paxson 75.86 19 P P 23 40 40.7 -0.2
baz=325,SNR=59
GHO Glory Hole Cre 75.88 21 P P 23 40 40.9 -0.1
GHO IAmb IAmb 23 40 42.5
comp=Z,51nm,0.8s
H31M Peel River 75.88 13 P P 23 40 40.5 -0.4
baz=334
PMR Palmer 75.96 21 P P 23 40 41.1 -0.2
PMR IAmb IAmb 23 40 42.5
comp=Z,44nm,0.6s
PMR Palmer 75.96 21 P P 23 40 41.3 0.0
PMR Palmer 75.96 21 P P 23 40 40.8 -0.5
baz=322,SNR=15
PMR Palmer 75.96 21 P P 23 40 41.1 -0.2
PMR pmax pmax
comp=Z,44nm,0.6s
I30M Mount Dempster 76.02 14 P P 23 40 41.3 -0.4
baz=332,SNR=37
SML Sawmill 76.02 21 P P 23 40 41.6 -0.2
baz=323,SNR=36
O20K Slope Mountain 76.07 23 P P 23 40 42.4 +0.3
baz=320
RC01 Rabbit Creek A 76.18 22 P P 23 40 42.3 -0.3
baz=322,SNR=24
P19K Oil Pt 76.20 24 P P 23 40 43.0 +0.2
baz=320,SNR=10
M23K Glacier View 76.21 20 P P 23 40 42.5 -0.3
baz=324,SNR=33
R16K Pilot Point 76.23 27 P P 23 40 42.2 -0.7
baz=317
SCM Sheep Creek Mo 76.28 20 P P 23 40 43.4 +0.1
SCM Sheep Creek Mo 76.28 20 P P 23 40 43.1 -0.2
baz=324,SNR=17
SCM Sheep Creek Mo 76.28 20 P P 23 40 43.4 +0.1
SCM pmax pmax
comp=Z,92nm,0.8s
KNK Knik Glacier 76.30 21 P P 23 40 43.3 0.0
baz=323,SNR=12
Q17K Contact Creek 76.33 26 P P 23 40 43.8 +0.1
baz=318,SNR=13
MENT Mentasta 76.34 18 P P 23 40 44.1 +0.6
Q18K Katmai Hardscr 76.36 25 P P 23 40 43.6 -0.2
baz=318,SNR=18
L26K Log Cabin Wild 76.36 18 P P 23 40 44.5 +0.9
baz=327,SNR=7.3
M24K Toona, Glenn 76.38 20 P P 23 40 44.4 +0.6
baz=325,SNR=14
S14K Fog Glacier 76.40 29 P P 23 40 43.8 -0.3
baz=315
DAWY Dawson 76.40 16 P P 23 40 43.6 -0.3
DAWY IAmb IAmb 23 40 45.1
comp=Z,52nm,0.7s
DAWY Dawson 76.40 16 P P 23 40 43.5 -0.4
baz=330,SNR=36
HARP HAARP 76.42 19 P P 23 40 44.7 +0.8
baz=325,SNR=50
J30M Hart River 76.60 14 P P 23 40 45.2 0.0
baz=332
Q19K Cape Douglas, 76.61 25 P P 23 40 44.2 -0.9
baz=319,SNR=8.2
R17K Ugashik Creek 76.62 27 P P 23 40 45.0 -0.1
baz=318
O22K Cooper Landing 76.67 22 P P 23 40 45.1 -0.2
baz=322
SDPT Sand Point 76.70 30 P P 23 40 45.2 -0.4
baz=315
L27K Beaver Creek, 76.70 17 P P 23 40 46.2 +0.6
baz=328,SNR=18
BCAR Beaver Creek A 76.71 17 P P 23 40 46.2 +0.6
PWL Port Wells 76.78 21 P P 23 40 45.7 -0.4
baz=323,SNR=7.4
CHGN Chignik 76.83 28 P P 23 40 46.6 +0.3
baz=316
BRSE Bradley Lake S 76.93 23 P P 23 40 46.7 -0.3
baz=321,SNR=6.3
CNPM China Poot 76.95 23 P P 23 40 47.0 0.0
CNPM IAmb IAmb 23 40 50.2
comp=Z,49nm,0.8s
KLU Klutina 76.95 20 P P 23 40 47.5 +0.4
baz=325,SNR=9.2
M26K Nabesna, AK 76.97 18 P P 23 40 47.4 +0.3
baz=327
K29M Barlow Dome 77.00 15 P P 23 40 47.3 0.0
baz=331
WB0 Warramunga Arr 77.05 126 P P 23 40 47.8 -0.3
SEW Seward 77.05 22 P P 23 40 47.4 -0.1
baz=322,SNR=5.2
WRKA Warakurna 77.12 134 P P 23 40 49.1 +0.7
GLI Glacier Island 77.12 21 P P 23 40 48.0 +0.1
baz=324,SNR=6.6
WRA Warramunga Arr 77.14 126 P P 23 40 48.2 -0.4
WRA Warramunga Arr 77.14 126 *i* P P 23 40 48.5 -0.1
WRA pmax pmax
comp=Z,12nm,0.6s
WRA Warramunga Arr 77.14 126 P P 23 40 48.0 -0.6
comp=Z,12nm,0.7s,baz=313,slow=4.3,SNR=130
WRA PKKPbc PKKPbc 23 59 55.1 +0.4
comp=Z,1.4nm,0.4s,baz=126,slow=2.2,SNR=63
comp=Z,12nm,0.7s
N25K Chitina, Valde 77.22 19 P P 23 40 49.3 +0.7
baz=326,SNR=11
Q20K Shuyak Island 77.28 24 P P 23 40 49.0 +0.2
baz=320
WR0 Warramunga Arr 77.28 126 P P 23 40 48.8 -0.5
M27K Edge Creek, AK 77.29 18 P P 23 40 49.4 +0.4
baz=328
R18K Karluk 77.36 26 P P 23 40 49.0 -0.3
baz=319
FID Port Fidalgo 77.41 20 P P 23 40 49.8 +0.3
CHNA Chernabura Isl 77.43 30 P P 23 40 49.5 -0.2
baz=316
BVCY Beaver Creek 77.49 17 P P 23 40 50.7 +0.7
baz=329,SNR=9.5
L29M L29M 77.52 16 P P 23 40 50.5 +0.4
baz=331
MAYO Mayo, Yukon 77.56 15 P P 23 40 50.8 +0.5
baz=333,SNR=6.6
GLB Gilahina Butte 77.57 19 P P 23 40 50.5 0.0
NWAO Narrogin (SRO) 77.71 147 P P 23 40 50.8 -0.6
NWAO Narrogin (SRO) 77.71 147 P P 23 40 50.8 -0.6
BMRM Bremner River 77.75 20 P P 23 40 51.9 +0.4
baz=326
P23K Montague Islan 77.75 21 P P 23 40 52.3 +0.9
baz=324
EYAK Cordova Ski Ar 77.78 20 P P 23 40 52.4 +0.9
baz=325
LBTB Lobatse 77.80 227 P P 23 40 53.0 +0.8
LBTB IAmb IAmb 23 41 20.0
comp=Z,35nm,1.1s
LBTB Lobatse 77.80 227 P P 23 40 53.0 +0.8
LBTB pmax pmax
comp=Z,35nm,1.1s
MCARA McCarthy VSAT 77.82 19 P P 23 40 52.4 +0.5
baz=327,SNR=6.1
KDAK Kodiak Island 77.85 25 P P 23 40 52.5 +0.5
KDAK Kodiak Island 77.85 25 P P 23 40 52.5 +0.5
baz=320
M29M Somme Creek 78.03 16 P P 23 40 53.7 +0.6
baz=331
OHAK Old Harbor 78.04 26 P P 23 40 54.1 +1.1
OHAK Old Harbor 78.04 26 P P 23 40 53.7 +0.6
baz=320,SNR=12
YUK3 Moose Creek 78.14 17 P P 23 40 54.2 +0.3
baz=329,SNR=6.2
SII Sitkinak Islan 78.22 26 P P 23 40 54.9 +0.7
baz=319
CHIR Chirikof Islan 78.25 27 P P 23 40 54.8 +0.6
baz=318
M30M Minto, Yukon 78.28 15 P P 23 40 54.9 +0.5
baz=332,SNR=7.1
CRQM Cirque 78.32 19 P P 23 40 55.3 +0.5
CRQM IAmb IAmb 23 40 56.8
comp=Z,114nm,1.3s
CRQE Cirque 78.34 19 P P 23 40 55.3 +0.5
baz=327
CTG Chitna Glacier 78.61 18 P P 23 40 57.0 +0.6
baz=329,SNR=7.7
CTGM Chitina Glacie 78.61 18 P P 23 40 57.1 +0.7
CTGM IAmb IAmb 23 40 58.4
comp=Z,50nm,0.7s
TSUM Tsumeb 78.72 237 P P 23 40 58.1 +0.6
YUK8 Steele Glacier 78.73 17 P P 23 40 57.6 +0.5
baz=330
YUK4 Talbot Arm 78.94 17 P P 23 40 58.5 +0.2
baz=331,SNR=6.8
M31M Drury Creek, Y 79.12 15 P P 23 40 59.1 +0.2
baz=334,SNR=13
MESA MESA 79.13 19 P P 23 40 59.7 +0.4
baz=328
N30M Aishikik Lake 79.20 16 P P 23 41 00.0 +0.5
baz=332
COEN Coen 79.22 116 P P 23 40 60.0 -0.2
COEN Coen 79.22 116 P P 23 41 00.5 +0.3
FARO Faro, Yukon 79.31 14 P P 23 41 00.2 +0.2
baz=335,SNR=8.8
PMG Port Moresby 79.31 110 P P 23 41 01.1 +0.4
PMG IAmb IAmb 23 41 02.3
comp=Z,50nm,0.8s
PMG Port Moresby 79.31 110 P P 23 41 01.7 +1.0
PMG Port Moresby 79.31 110 *c i* P P 23 41 01.4 +0.7
PMG pmax pmax
comp=Z,55nm,0.8s
YUK6 Outpost Mounta 79.36 17 P P 23 41 00.9 +0.3
baz=331
N31M Braeburn, Yuko 79.47 16 P P 23 41 01.2 +0.3
baz=333,SNR=14
AS31 Alice Springs 79.52 129 P P 23 41 01.6 -0.1
ASAR Alice Springs 79.52 129 P P 23 41 01.2 -0.5
ASAR Alice Springs 79.52 129 P P 23 41 01.1 -0.6
comp=Z,12nm,0.6s,baz=316,slow=5.8,SNR=102
ASAR PKKPbc PKKPbc 23 59 50.0 +0.3
comp=Z,1.7nm,0.6s,baz=122,slow=2.3,SNR=16
comp=Z,12nm,0.6s
AS01 Alice Springs 79.55 129 P P 23 41 01.9 +0.1
comp=Z,24nm,0.8s
PINM Pinnacle 79.64 18 P P 23 41 02.3 +0.5
baz=330
HYT Haines Junctio 79.67 17 P P 23 41 02.6 +0.5
baz=332,SNR=23
O29M Mount Kennedy 79.87 17 P P 23 41 03.3 +0.1
baz=331
DBIC Dimbokro 79.98 271 P P 23 41 04.1 -0.3
DBIC Dimbokro 79.98 271 P P 23 41 04.1 -0.3
DBIC pmax pmax
comp=Z,34nm,1.2s
DBIC Dimbokro 79.98 271 P P 23 41 04.4 0.0
comp=Z,7.6nm,0.6s,baz=36,slow=5.9,SNR=14
comp=Z,7.6nm,0.6s
WRGLY Wrigley 80.02 9 P P 23 41 04.1 +0.4
baz=343,SNR=23
O30N Mendenhall 80.04 16 P P 23 41 04.4 +0.3
baz=333,SNR=11
KIC Kosan Boka 80.06 271⇑ *eP* P 23 41 04.3 -0.5
comp=Z,16nm,0.6s
TIC Toumodi 80.12 271⇑ *eP* P 23 41 05.4 +0.2
comp=Z,24nm,0.5s
PNL Peninsula 80.22 18 P P 23 41 05.9 +0.9
baz=330
N32M Quiet Lake 80.34 15 P P 23 41 05.3 -0.3
baz=335
LIC Lamto 80.37 271⇑ *eP* P 23 41 06.0 -0.5
comp=Z,29nm,0.7s
WHY Whitehorse 80.41 16 P P 23 41 05.8 -0.3
baz=334,SNR=5.9
P29M Windy Craggy 80.67 17 P P 23 41 07.4 +0.1
baz=332
BOSA Boshof 80.71 225 P P 23 41 08.2 +0.2
BOSA Boshof 80.71 225 P P 23 41 08.2 +0.2
BOSA pmax pmax
comp=Z,31nm,1.2s
BOSA Boshof 80.71 225 P P 23 41 07.8 -0.2
comp=Z,11nm,0.7s,baz=32,slow=7.4,SNR=39
comp=Z,11nm,0.7s
TGTN Hyland Airport 80.90 12 P P 23 41 09.1 +0.5
baz=339,SNR=10
QIS Mount Isa 81.10 123 P P 23 41 09.9 -0.3
P33M Teslin, Yukon 81.25 15 P P 23 41 10.4 -0.2
baz=335,SNR=20
FORT Forrest 81.37 138 P P 23 41 11.5 +0.1
FORT IAmb IAmb 23 41 38.5
comp=Z,52nm,0.7s
WIN Windhoek 81.38 234 P P 23 41 12.5 +0.7
WIN Windhoek 81.38 234 P P 23 41 12.5 +0.7
WIN pmax pmax
comp=Z,12nm,1.0s
SKAG Skagway 81.39 16 P P 23 41 12.9 +1.8
SKAG Skagway 81.39 16 P P 23 41 12.0 +0.9
baz=334,SNR=7.5
P32M Atlin 81.63 15 P P 23 41 13.1 +0.6
baz=335
YKA Yellowknife Ar 81.69 6 P P 23 41 12.3 -0.3
YKA Yellowknife Ar 81.69 6 *i* P P 23 41 12.1 -0.6
YKA pmax pmax
comp=Z,34nm,0.8s
YKA Yellowknife Ar 81.69 6 P P 23 41 12.2 -0.5

comp=Z,33nm,0.8s,baz=344,slow=5.2,SNR=246
comp=Z,33nm,0.8s
WTLY Watson Lake, Y 82.13 13 P P 23 41 15.2 +0.1
baz=339
R33M Jennings River 82.38 14 P P 23 41 16.6 +0.1
baz=337,SNR=17
Q32M Nakina River 82.51 15 P P 23 41 17.5 +0.2
baz=336
R32K Eaglecrest 82.64 16 P P 23 41 18.9 +1.1
baz=334
JIS Juneau Island 82.67 16 P P 23 41 19.9 +2.1
MTSU Mount Surprise 82.78 118 P P 23 41 19.6 +0.6
comp=Z,29nm,0.8s
FLDN Fort Liard 82.89 10 P P 23 41 19.8 +0.8
baz=343
LIRD Liard River Hi 83.27 12 P P 23 41 21.7 +0.7
baz=341
S32K Killisnoo 83.35 17 P P 23 41 22.0 +0.7
baz=334
DLBC Dease Lake 83.45 14 P P 23 41 22.7 +0.6
DLBC IAmb IAmb 23 41 24.1
comp=Z,39nm,0.8s
DLBC Dease Lake 83.45 14 P P 23 41 22.5 +0.4
baz=338,SNR=15
SIT Sitka 83.54 17 P P 23 41 23.5 +1.1
baz=334
OOD Oodnadatta 83.60 131 P P 23 41 22.5 -0.5
S34M Telegraph Cree 83.71 15 P P 23 41 24.4 +1.2
baz=337,SNR=18
MULG Mulgathing 84.42 134 P P 23 41 27.0 -0.1
T35M Bob Quinn 84.76 15 P P 23 41 29.6 +1.0
baz=338,SNR=5.2
SCHQ Schefferville 84.81 340 P P 23 41 28.0 -0.9
comp=Z,12nm,0.7s,baz=22,slow=4.6,SNR=27
comp=Z,12nm,0.7s
WRAK Wrangell Islan 84.82 16 P P 23 41 29.5 +0.7
baz=336
CTA Charters Tower 85.44 119 P P 23 41 32.9 +0.4
CTAO Charters Tower 85.44 119 P P 23 41 32.5 0.0
CTAO IAmb IAmb 23 41 33.8
comp=Z,44nm,0.8s
CTAO Charters Tower 85.44 119 P P 23 41 32.8 +0.3
CTAO Charters Tower 85.44 119 P P 23 41 32.5 0.0
CTAO pmax pmax
comp=Z,45nm,0.8s
SUR Sutherland 86.06 225 P P 23 41 36.7 +1.2
INKA Innaminka 86.76 128 P P 23 41 39.0 +0.2
LCRK Leigh Creek 87.04 131 P P 23 41 40.4 +0.3
BBOO Buckleboo 87.42 134 P P 23 41 41.5 -0.4
BBOO IAmb IAmb 23 41 42.0
comp=Z,91nm,1.8s
QLP Quilpie 88.28 125 P P 23 41 46.8 +0.7
HTT Hallett 89.55 133 P P 23 41 52.7 +0.7
FFC Flin Flon 89.97 360 P P 23 41 53.7 0.0
FFC IAmb IAmb 23 41 55.0
comp=Z,28nm,0.9s
FFC Flin Flon 89.97 360 P P 23 41 53.7 0.0
FFC pmax pmax
comp=Z,28nm,0.9s
STKA Stephens Creek 90.11 130⇓eP P 23 41 53.8 -0.8
STKA Stephens Creek 90.11 130 P P 23 41 53.5 -1.1
comp=Z,3.6nm,0.7s,baz=310,slow=2.7,SNR=7.3
STKA pP pP 23 42 20.6 +0.6
comp=Z,4.8nm,0.8s,baz=314,slow=3.5,SNR=3.7
comp=Z,3.6nm,0.7s
RK1H Rockhampton Ha 90.56 119 P P 23 41 57.3 +0.5
comp=Z,23nm,0.8s
EDM Edmonton 90.97 7 P P 23 41 58.6 +0.1
EDM Edmonton 90.97 7 P P 23 41 58.6 +0.1
EDM pmax pmax
comp=Z,62nm,1.1s
EIDS Eidsvold 92.22 120 P P 23 42 04.3 -0.1
EIDS IAmb IAmb 23 42 05.4
comp=Z,13nm,0.8s
EIDS Eidsvold 92.22 120 P P 23 42 04.7 +0.2
PKME Peaks-Kenny Pk 94.04 337 P P 23 42 13.3 +0.7
baz=26
ULM Lac du Bonnet 94.26 356 P P 23 42 12.7 -0.9
comp=Z,12nm,0.7s,baz=2.1,slow=5.4,SNR=18
comp=Z,12nm,0.7s
NEW Newport 95.42 10 P P 23 42 19.2 +0.2
NEW IAmb IAmb 23 42 20.4
comp=Z,10nm,0.8s
NEW Newport 95.42 10 P P 23 42 19.4 +0.3
baz=348
NEW Newport 95.42 10 P P 23 42 19.2 +0.2
NEW pmax pmax
comp=Z,10.0nm,0.8s
C09A Chrisman Ranch 95.71 11 P P 23 42 20.3 0.0
C09A IAmb IAmb 23 42 21.9
comp=Z,15nm,0.9s
LBNH Lisbon 95.77 338 P P 23 42 21.3 +0.7
baz=24
LONY Lake Ozonia 96.18 340 P P 23 42 22.9 +0.4
baz=22
EYMN Ely 96.19 353 P P 23 42 22.1 -0.4
baz=8.9
AGMN Agassiz Nation 96.20 356 P P 23 42 22.4 -0.1
baz=5.4
DGMT Dagmar 96.22 1 P P 23 42 23.0 +0.3
baz=359
EGMT Eagleton 96.43 5 P P 23 42 23.3 -0.4
baz=354
OVMT Ovando 97.10 7 P P 23 42 26.4 -0.5
MSO Missoula 97.23 8 P P 23 42 26.8 -0.5
baz=351
LAO LASA Array 97.95 3 P Pdif 23 42 30.8 +0.2
baz=357
BOZ Bozeman (W) 98.69 6 Pdiff P 23 42 33.7 -0.3
baz=352
BINY Binghamton 98.81 340 Pdiff P 23 42 33.1 -1.3
baz=22
PAL Palisades 99.32 338 Pdiff Pdif 23 42 35.8 -0.9
baz=23
RLMT Red Lodge 99.35 5 Pdiff Pdif 23 42 35.6 -1.4
baz=354
ERPA Erie 99.90 343 Pdiff Pdif 23 42 38.4 -0.9
baz=18
RSSD Black Hills 100.58 1 Pdiff Pdif 23 42 41.5 -1.0
baz=359
ECSD EROS Data Cent 100.80 356 Pdiff Pdif 23 42 42.4 -0.8
baz=4.8
JFWS Jewell Farm 101.00 351 Pdiff Pdif 23 42 43.5 -0.7
baz=10
BW06 Boulder Array 101.67 5 Pdiff Pdif 23 42 46.5 -0.9
baz=354
PDAR Pinedale Array 101.67 5 P Pdif 23 42 46.5 -1.0
comp=Z,0.8nm,0.7s,baz=49,slow=3.2,SNR=5.2
PDAR PKiKP PKiKP 23 47 10.0 -0.5
comp=Z,1.4nm,0.6s,baz=83,slow=2.1,SNR=10
K22A Casper 101.97 3 Pdiff Pdif 23 42 47.4 -1.2
baz=357
ACSO Alum Creek Sta 102.37 345 Pdiff Pdif 23 42 49.5 -0.8
baz=16
O48B Farmland 102.79 346 Pdiff Pdif 23 42 51.2 -0.9
baz=14
NVAR Mina Array Bea 104.83 13 Pdiff Pdif 23 43 02.2 +0.7
comp=Z,0.7nm,0.7s,baz=345,slow=3.7,SNR=3.9
NVAR PKiKP PKiKP 23 47 15.0 -1.3
comp=Z,1.0nm,0.6s,baz=348,slow=3.8,SNR=2.8
TPNV Topopah Spring 106.63 11 Pdiff Pdif 23 43 09.9 +0.4
baz=348
MIAR Mount Ida 109.66 352 PKiKP PKiKP 23 47 25.1 0.0
baz=7.6
WMOK Wichita Mounta 109.88 357 PKiKP PKiKP 23 47 25.6 0.0
baz=3.1
MONP2 Monument Peak 110.56 13 PKiKP PKiKP 23 47 26.7 -0.5
baz=348
TIGA Tifton 110.94 343 PKiKP PKiKP 23 47 27.2 -0.4
baz=16
BRAL Brewton 111.96 346 PKiKP PKiKP 23 47 28.9 -0.6
baz=13
121A Cookes Peak, D 111.98 5 PKiKP PKiKP 23 47 28.8 -1.0
baz=355
ABTX Abilene, Hawle 112.02 357 PKiKP PKiKP 23 47 28.6 -1.1
baz=2.4
214A Organ Pipe Nat 112.04 9 PKiKP PKiKP 23 47 28.3 -1.5
baz=351
WHTX Lake Whitney, 112.53 355 PKiKP PKiKP 23 47 29.5 -1.1
baz=4.4
MNTX Cornudas Mount 112.93 3 PKiKP PKiKP 23 47 31.1 -0.3
baz=357
JCT Junction City 114.16 357 PKiKP PKiKP 23 47 33.6 -0.2
baz=2.3
TXAR Lajitas Array 115.34 1 Pdiff Pdif 23 43 48.7 +0.4
comp=Z,0.5nm,0.9s,baz=41,slow=2.9,SNR=2.5
TXAR PKP PKiKP 23 47 35.6 -0.6

comp=Z,0.9nm,0.6s,baz=297,slow=0.2,SNR=6.4
833A Chaparral WMA, 116.29 357 PKiKP PKPdf 23 47 37.5 -0.5
baz=2.8
TROLL Troll, Antarti 119.09 200 ⇓P PKiKP 23 47 42.9 +0.8
comp=Z,309nm,0.7s
SNAA Sanae 120.50 201 P PKPdf 23 47 44.3 -0.3
SNAA Sanae 120.50 201 PKP PKPdf 23 47 44.5 -0.1
comp=Z,1.8nm,0.7s,baz=34,slow=3.6,SNR=6.6
ABR01 Abrolhos, BA 121.37 270 eP PKiKP 23 47 48.5 +0.6
MCPB Macapa, AP 121.50 295 eP PKiKP 23 47 48.9 +0.5
GUA01 Guaratinga, BA 121.55 272 eP PKiKP 23 47 49.3 +1.0
VNA2 Neumayer--Watz 121.64 203 ⇓P PKiKP 23 47 47.2 +0.3
baz=39,slow=2.0
VNA3 Neumayer Olymp 122.44 203 ⇓P PKiKP 23 47 48.5 0.0
TEIG Tepich 122.81 344 PKiKP 23 47 51.0 +0.2
TEIG Tepich 122.81 344 eP PKPdf 23 47 50.5 -0.1
VNDA Vanda 123.30 165 PKiKP 23 47 50.0 0.0
VNDA Vanda 123.30 165 PKP PKPdf 23 47 49.3 -0.5
comp=Z,1.5nm,0.6s,baz=300,slow=4.5,SNR=12
VNDA PKKPbc PKKPbc 23 57 42.7 +1.1
comp=Z,0.8nm,0.8s,baz=22,slow=1.7,SNR=4.5
SJMB Sao Joao De Ma 123.77 270 eP PKiKP 23 47 53.2 +0.6
MALB Monte Alegre 124.13 296 eP PKiKP 23 47 53.6 +0.1
JANB Januaria 124.40 276 eP PKPdf 23 47 53.6 -0.1
BAUV El Baul 125.03 317 PKPdf PKPdf 23 47 55.0 -0.1
QSPA South Pole Qui 125.45 180 PKiKP 23 47 54.5 -0.2
BOAV Boa Vista 125.53 305 PKPdf PKiKP 23 47 56.2 -0.1
BOAV Boa Vista 125.53 305 eP PKiKP 23 47 56.2 -0.1
BOAV Boa Vista 125.53 305 eP PKiKP 23 47 56.3 -0.1
DIAM Diamantina, MG 125.59 272 eP PKiKP 23 47 56.7 +0.3
DUB01 Friburgo-RJ 126.41 267 eP PKPdf 23 47 57.6 +0.1
SDV Santo Domingo 126.48 320 PKPdf PKPdf 23 47 57.4 -0.7
SDV Santo Domingo 126.48 320 eP PKPdf 23 47 57.7 -0.4
SDV Santo Domingo 126.48 320 eP PKiKP 23 47 58.4 -0.1
SDV Santo Domingo 126.48 320 PKP PKPdf 23 47 57.5 -0.5
comp=Z,20nm,0.8s,baz=34,slow=3.4,SNR=24
ITTB Itaituba 126.90 295 eP PKiKP 23 47 59.2 +0.1
BDFB Brasilia 127.71 278 PKP PKPdf 23 47 59.3 -0.8
comp=Z,2.1nm,0.5s,baz=100,slow=6.1,SNR=3.1
BSCB Bom Sucesso 127.84 270 eP PKPdf 23 48 00.4 +0.2
SNDB Serra Nova Dou 128.26 284 eP PKPdf 23 48 01.3 +0.1
TGUH Tegucigalpa,Un 128.50 341 eP PKiKP 23 48 03.4 +1.0
PAMC Pamplona, Colo 128.86 321 eP PKPdf 23 48 02.9 -0.1
MACA Manacapuru-AM 129.65 300 PKPdf 23 48 04.0 +0.2
ZARC Zaragoza, Cauc 129.81 323 eP PKiKP 23 48 05.5 +0.5
UREC San Jos de Ur 129.91 324 eP PKiKP 23 48 05.6 +0.4
PTBC PUERTO BERRIO,130.44 322 eP PKPdf 23 48 05.8 +0.4
RCLB Rio Claro- Sao 130.77 270 eP PKiKP 23 48 06.4 -0.2
DBBC Dabeiba 130.88 324 eP PKiKP 23 48 08.5 +1.3
BB19B Bebedouro 130.93 272 eP PKPdf 23 48 06.4 +0.3
SPBC San Pablo de B 131.00 321 eP PKiKP 23 48 07.7 +0.3
CLDB Colider 131.12 288 eP PKPdf 23 48 07.0 +0.4
HDC Heredia 131.39 336 eP PKPdf 23 48 07.2 -0.1
PET01 Itanhaem-SP 131.42 268 eP PKiKP 23 48 07.4 -0.4
RIMA Rio Macho 131.52 335 PKiKP 23 48 08.3 -0.3
CHIC Chingaza 131.70 320 eP PKPdf 23 48 08.4 +0.2
ROSC El Rosal 131.82 321 PKP PKPdf 23 48 07.1 -1.4
comp=Z,17nm,0.6s,baz=30,slow=19,SNR=2.7
ORTC Ortega, Tolima 133.09 321 eP PKPdf 23 48 10.6 +0.2
LDASE Londrina, Braz 134.14 271 eP PKiKP 23 48 12.8 -0.7
POPC Popayan, Colom 134.99 322 eP PKPdf 23 48 13.9 -0.3
FLOC Florencia 135.28 320 eP PKiKP 23 48 15.8 -0.3
SAML Samuel 135.43 297 eP PKPdf 23 48 14.7 0.0
SAML Samuel 135.43 297 eP PKiKP 23 48 15.7 -0.6
PTLB Pontes e Lacer 136.46 286 eP PKPdf 23 48 17.1 +0.6
TBTG Tabatinga, AM 136.60 309 eP PKPdf 23 48 17.1 +0.2
ANTJ Antonio Joao (137.46 276 eP PKPdf 23 48 18.7 +0.5
OTAV Otavalo 137.85 323 eP PKPdf 23 48 20.8 +1.0
OTAV Otavalo 137.85 323 eP PKPdf 23 48 19.8 -0.1
ALGR Alto Alegre (B 137.98 265 eP PKPdf 23 48 18.9 -0.2
CRSM Crissiumal (Br 138.30 267 eP PKPdf 23 48 19.6 -0.1
BBRB Robore, Bolivi 138.59 283 eP PKPdf 23 48 20.8 +0.4
CPSB Cacapava Do Su 138.91 263 eP PKPdf 23 48 20.6 -0.1
CPUP Villa Florida 140.50 271 PKhKP PKPpre 23 48 15.7
comp=Z,1.8nm,0.7s,baz=300,slow=1.2,SNR=3.5
ITQB Itaqui 141.22 266 eP PKPdf 23 48 24.7 -0.1
MECA Mercedes 142.35 267 eP PKPdf 23 48 27.0 +0.1
MCRA Macar, Loja 142.56 321 eP PKPdf 23 48 23.5 -4.3
ATAH Atahualpa 144.04 316 PKP PKPdf 23 48 31.2 +0.4
comp=Z,17nm,0.8s,baz=50,slow=6.3,SNR=8.9
PB16 IPOC Station P 146.15 292 PKPbc 23 48 35.9 +0.3
GO01 Chusmiza 146.70 290 PKPbc 23 48 36.9 -0.2
PB08 IPOC Station P 146.94 289 PKPbc 23 48 37.3 -0.3
NNA Nana 146.95 309 PKPbc 23 48 36.9 -0.4
NNA Nana 146.95 309 eP PKPbc 23 48 36.7 -0.7
NNA Nana 146.95 309 PKPbc PKPdf 23 48 36.3 +1.0
comp=Z,32nm,0.6s,baz=324,slow=4.2,SNR=15
TRQA Tornquist 147.70 254 PKPdf 23 48 36.7 +0.8
TRQA Tornquist 147.70 254 PKIKP PKPdf 23 48 36.7 +0.8
PB09 IPOC Station P 147.93 286 PKPbc 23 48 39.1 -0.9
LVC Limon Verde 148.10 285 PKPdf 23 48 39.0 +1.7
LVC Limon Verde 148.10 285 PKP2 PKPdf 23 48 39.1 +1.7
PB02 IPOC Station P 148.17 288 PKPdf 23 48 37.2 -0.1
PB07 IPOC Station P 148.39 287 PKPdf 23 48 37.6 0.0
GO03 Copiap 151.50 277 PKPbc 23 48 48.7 +0.2

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*DJA **06** 23:40:03.8±0.2, 1°S±2°×12°5E±°, h45km±9km, M5.0/25, mb5.1/21, mB5.4/13, MLv5.1/25, Mw(mB)4.9/13, MwMwp5.4/1, Mwp5.6/1*
*NEIC **06** 23:40:03.8±2.4, 0.°79S±0.°07×125.°16E±0.°06, h54km±8km, mb4.8/30, Error ellipse: s-maj=10.7km s-min=8.9km az=175.0*
*IDC **06** 23:40:06.1±2.8, 0.°80S×125.°08E, h89km±28km, mb4.1/18, mbtmp4.4/20, MS3.0/2, Error ellipse: s-maj=24.8km s-min=16.8km az=83.0*
ISC 06 23:40:01.4±0.4**, 0.°83S**±0.°05×**125.°15E**±0.°04**, h35km, n99, σ1.°97**/106**, mb4.7**/39**, 1C, Southern Molucca Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SANI Sanana 1.47 145 P Pn 23 40 26.6 +1.2
SANI S Sn 23 40 42.6 -0.8
KMSI Cibinong 1.82 320 P Pn 23 40 32.8 +2.6
KMSI S Sn 23 40 55.0 +2.9
LBMI Labuha 2.36 85 P Pn 23 40 39.7 +2.1
LBMI S Sn 23 41 06.7 +1.4
LUWI Luwuk 2.39 265 Pn 23 40 40.3 +2.3
LUWI Sn Sn 23 41 05.8 -0.2
LUWI Luwuk 2.39 265 P Pn 23 40 40.3 +2.3
TNTI Ternate 2.73 54 Pn 23 40 45.0 +2.3
TNTI Ternate 2.73 54 P Pn 23 40 45.2 +2.5
NLAI Namlea 3.08 141 P Pn 23 40 49.9 +2.3
NLAI S Sn 23 41 23.3 0.0
MRSI Marisa 3.46 292 P Pn 23 40 55.5 +2.7
MRSI S Sn 23 41 33.2 +0.6
SGSI Sangihe 4.50 5 P Pn 23 41 10.4 +3.3
TOLI2 Tolitoli 4.78 294 Pn Pn 23 41 13.7 +2.8
BBSI Bau Bau 5.29 209 P Pn 23 41 20.9 +2.9
99nm,0.8s,0.4nm
MPSI Mapaga 5.38 282 P Pn 23 41 23.0 +3.8
77nm,0.8s,1μm0.7nm
TTSI Tana Toraja 5.76 248 P Pn 23 41 27.7 +3.2
600nm,0.6s,6μm2.2nm
BNDI Bandanaira 6.00 128 P Pn 23 41 29.9 +2.2
221nm,1.0s,10μm1.8nm
SWI Sorong 6.11 90 P Pn 23 41 31.8 +2.6
151nm,0.7s,2μm0.6nm
SPSI Sidrap Palu 6.21 240 P Pn 23 41 34.3 +3.7
1μm,0.4s,18μm5.9nm
BKSI Bulukumba 6.71 228 P Pn 23 41 40.8 +3.3
231nm,0.5s,3μm1.5nm
KAPI Kappang 6.81 232 Pn Pn 23 41 42.2 +3.5
KAPI Kappang 6.81 232 P Pn 23 41 42.4 +3.7
181nm,0.5s,baz=39,slow=4.2,SNR=123
KAPI S Sn 23 42 55.1 0.0
128nm,0.4s,baz=115,slow=22,SNR=18
KAPI LR LR 23 44 52.1
comp=Z,80nm,21.5s,baz=39,slow=42
FAKI Fak Fak 7.39 106 Pn Pn 23 41 47.8 +1.0
FAKI Fak Fak 7.39 106 P Pn 23 41 47.3 +0.5
80nm,0.9s,0.7nm
DAV Davao City (W) 7.86 3 LR LR 23 45 51.2
comp=Z,198nm,18.1s,baz=300,slow=44
BKB Balikpapan 8.26 267 Pn 23 42 01.0 +2.2
BKB Balikpapan 8.26 267 P Pn 23 42 03.3 +4.5
134nm,0.8s
EDFI Ende, Flores 8.59 204 P Pn 23 42 05.6 +2.3
16nm,0.7s,1μm
SOEI Soe 8.91 186 Pn Pn 23 42 11.5 +3.7
MYLDM Lahad Datu 8.93 312 Pn 23 42 10.5 +2.5
BATI Baumata 9.43 189 P Pn 23 42 18.6 +3.8

78nm,0.9s
BATI Baumata 9.43 189 P Pn 23 42 21.5 +6.6
69nm,0.8s,baz=13,slow=3.1,SNR=7.6
BATI S Sn 23 43 59.5 -0.2
7.4nm,0.3s,baz=84,slow=14,SNR=1.4
KKM Kota Kinabalu 11.24 308 Pn 23 42 42.4 +2.7
MTN Manton Dam 13.32 154 Pn Pn 23 43 09.2 +1.0
KSM Kuching 15.02 279 P 23 43 34.3 -1.9
KSM IAmb IAmb 23 43 38.2
comp=Z,24nm,0.5s
KNRA Kununurra 15.18 167 Pn Pn 23 43 34.9 +1.7
CGJI Cibinong 20.24 253 P Pn 23 44 36.0 +0.1
comp=Z,22nm,0.7s,comp=Z,3μm
WB0 Warramunga Arr 20.88 155 P P 23 44 40.0 -0.6
MBWA Marble Bar 20.88 194 P P 23 44 40.7 +0.1
WRA Warramunga Arr 21.01 155 P P 23 44 41.2 -1.0
WRA Warramunga Arr 21.01 155 P P 23 44 41.7 -0.4
comp=Z,4.3nm,0.7s,baz=335,slow=11,SNR=9.2
comp=Z,4.3nm,0.7s
COEN Coen 22.09 127 P P 23 44 54.4 +0.6
COEN IAmb IAmb 23 45 11.5
comp=Z,18nm,0.7s
AS31 Alice Springs 24.23 160 P P 23 45 16.1 +0.9
ASAR Alice Springs 24.23 160 P P 23 45 15.9 +0.7
comp=Z,1.7nm,0.9s,baz=345,slow=9.9,SNR=4.5
comp=Z,1.7nm,0.9s
YULB Yu-li 24.37 351 P P 23 45 15.0 -1.4
YULB IAmb IAmb 23 45 20.0
comp=Z,22nm,0.9s
TPUB Ta-pu 24.39 350 P P 23 45 15.7 -0.8
SSLB Suanglung 24.81 351 P P 23 45 19.4 -1.0
SSLB IAmb IAmb 23 45 24.6
comp=Z,27nm,0.9s
PHRA Phrae 31.13 309 P P 23 46 16.8 -0.2
CMAR Chiang Mai Arr 32.12 308 P P 23 46 24.4 -1.2
comp=Z,0.6nm,0.3s,baz=137,slow=8.2,SNR=5.6
comp=Z,0.6nm,0.3s
NJ2 Nanjing 33.24 350 eP P 23 46 36.7 +1.4
NJ2 pP pwP 23 46 50.3 +1.8
NJ2 sP sP 23 46 55.1 +6.8
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
NJ2 pmax pmax
comp=Z,120nm,4.3s
ENH Enshi 34.34 336 P P 23 46 44.8 -0.2
ENH Enshi 34.34 336 P P 23 46 46.1 +1.1
PZH PanZhiHua 35.33 322 P P 23 46 56.1 +2.5
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.1s
JMN Monobe 35.34 13 P P 23 46 53.4 -0.2
JMN IAmb IAmb 23 47 09.3
comp=Z,29nm,1.2s
TNCH TengChong 36.41 317 eP P 23 47 03.6 +0.6
TNCH pmax pmax
comp=Z,120nm,4.1s
LYN LuoYang 37.15 343 ⇑P P 23 47 07.6 -1.4
LYN pmax pmax
comp=Z,20nm,0.9s
CD2 Chengdu 37.55 329 P P 23 47 12.8 +0.3
XAN Xi'an 37.89 338 P P 23 47 15.8 +0.5
XAN sP sP 23 47 38.6 +10
XAN pmax pmax
comp=Z,12nm,1.2s
XAN Xi'an 37.89 338 P P 23 47 13.7 -1.6
KSRS Korea Array 38.18 4 P P 23 47 17.7 +0.1
comp=Z,4.0nm,0.7s,baz=190,slow=9.4,SNR=15
comp=Z,4.0nm,0.7s
MJAR Matsushiro Arr 39.12 17 P P 23 47 24.4 -1.1
comp=Z,2.8nm,0.6s,baz=190,slow=8.5,SNR=9.8
comp=Z,2.8nm,0.6s
LZH Lanzhou 41.75 334 eP P 23 47 48.4 +0.9
LZH pP pwP 23 48 01.9 +1.2
LZH pmax pmax
comp=Z,13nm,1.0s
USA0B Ussuriysk Arra 45.25 7 P P 23 48 14.9 -0.4
USRK Ussuriysk Ar. 45.25 7 P P 23 48 14.9 -0.4
USRK Ussuriysk Ar. 45.25 7 P P 23 48 14.6 -0.7
comp=Z,4.6nm,0.6s,baz=196,slow=5.4,SNR=8.4
comp=Z,4.6nm,0.6s
MDJ Mudanjiang 45.42 4 P P 23 48 17.3 +0.6
MDJ pmax pmax
comp=Z,12nm,0.8s
MDJ pmax pmax
comp=Z,450nm,6.0s
HIA Hailar 50.12 355 P P 23 48 52.8 -0.4
HIA IAmb IAmb 23 48 53.9
comp=Z,14nm,0.9s
HIA Hailar 50.12 355 P P 23 48 53.2 +0.1
HEH HeiHe 50.93 2 eP P 23 48 59.1 0.0
HEH pmax pmax
comp=Z,13nm,0.8s
HEH pmax pmax
comp=Z,240nm,5.2s
ULN Ulaanbaatar 51.00 344 P P 23 48 59.0 -0.9
ULN Ulaanbaatar 51.00 344 P P 23 48 59.2 -0.8
SONM Songino Array 51.15 344 P P 23 48 59.9 -1.1
SONM IAmb IAmb 23 49 17.1
comp=Z,22nm,1.2s
SONM Songino Array 51.15 344 P P 23 48 59.6 -1.4
comp=Z,3.6nm,0.7s,baz=158,slow=8.9,SNR=17
comp=Z,3.6nm,0.7s
WMQ Urumqi 55.63 328 eP P 23 49 35.4 +1.5
PRZ Przheval'sk 60.19 322 P P 23 50 05.4 -0.7
MK31 Makanchi Array 60.46 328 P P 23 50 06.1 -1.6
MK31 IAmb IAmb 23 50 06.8
comp=Z,9.4nm,1.1s
MKAR Makanchi Array 60.46 328 P P 23 50 05.8 -1.9
comp=Z,3.3nm,0.5s,baz=121,slow=8.4,SNR=21
comp=Z,3.3nm,0.5s
ARSB Arslanbob 63.10 318 P P 23 50 24.2 -1.5
ARSB IAmb IAmb 23 50 29.9
comp=Z,8.5nm,1.3s
ZAA0 Zalesovo Array 63.97 335 P P 23 50 31.7 +0.7
ZAA0 IAmb IAmb 23 50 34.5
comp=Z,9.3nm,0.9s
ZALV Zalesovo Beam 63.97 335 P P 23 50 28.7 -2.2
comp=Z,2.8nm,0.8s,baz=157,slow=8.5,SNR=1.3
comp=Z,2.8nm,0.8s
KURBB Kurchatov Arra 64.77 329 P P 23 50 34.3 -1.9
comp=Z,2.3nm,0.2s,baz=130,slow=6.2,SNR=5.5
comp=Z,2.3nm,0.2s
KURK Kurchatov 64.78 329 P P 23 50 34.7 -1.6
KURK IAmb IAmb 23 50 38.7
comp=Z,15nm,1.0s
KKAR Karatay Array 65.54 319 P P 23 50 40.3 -1.2
BVAR Borovoye Array 70.31 328 P P 23 51 07.7 -3.5
comp=Z,1.7nm,0.5s,baz=133,slow=8.1,SNR=2.3
comp=Z,1.7nm,0.5s
TIXI Tiksi 72.40 1 P P 23 51 22.7 -0.8
TIXI IAmb IAmb 23 51 51.5
comp=Z,16nm,1.2s
GEYT Alibeck 72.56 310 P P 23 51 23.3 -1.9
comp=Z,1.5nm,0.6s,baz=90,slow=7.2,SNR=1.0
comp=Z,1.5nm,0.6s
ABKAR Akbulak array 74.70 322 P P 23 51 36.0 -1.5
ABKAR Akbulak array 74.70 322 P P 23 51 36.0 -1.5
ABKAR IAmb IAmb 23 51 40.9
comp=Z,13nm,1.4s
VNDA Vanda 79.14 172 P P 23 52 03.6 +1.6
M16K Timber Creek 83.91 28 P P 23 52 28.2 +0.7
M16K IAmb IAmb 23 52 38.9
comp=Z,23nm,1.5s
K17K Iditarod 84.58 27 P P 23 52 31.7 +0.8
K17K IAmb IAmb 23 52 35.8
comp=Z,8.3nm,1.2s
SIRT Sirnak 84.71 308 P P 23 52 32.6 +0.4
KBZ Khabaz 84.97 314 P P 23 52 32.3 -0.9
comp=Z,6.6nm,1.0s,baz=257,slow=2.1,SNR=4.5
comp=Z,6.6nm,1.0s
GURO Guroymak-BITLI 85.12 309 P P 23 52 33.9 -0.4
GURO IAmb IAmb 23 52 35.9
comp=Z,15nm,0.9s
KMBO Kilima Mbogo 87.88 269 P P 23 52 46.9 -1.6
comp=Z,1.1nm,0.8s,baz=83,slow=14,SNR=2.7
comp=Z,1.1nm,0.8s
MMAI Mount Meron Ar 90.24 303 P P 23 52 57.7 -1.2
comp=Z,2.2nm,0.6s,baz=90,slow=8.8,SNR=5.7
comp=Z,2.2nm,0.6s
BRTR Keskin Array B 91.69 310 P P 23 53 04.3 -1.3
comp=Z,2.3nm,0.9s,baz=129,slow=4.4,SNR=5.3
comp=Z,2.3nm,0.9s
AKASG Malin Array Be 94.40 321 P P 23 53 15.8 -1.9
comp=Z,2.0nm,0.8s,baz=73,slow=3.8,SNR=4.3
comp=Z,2.0nm,0.8s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FINES	**FINESS Array B**	**95.07**	**332**	P	**P**	**23 53 17.9**	**-2.6**
	comp=Z,2.5nm,0.9s,baz=96,slow=8.5,SNR=1.8						
	comp=Z,2.5nm,0.9s						
BUR08	**Bucovina Ar. S**	**97.32**	**318**	P	**P**	**23 53 31.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**122.70**	**285**	PKP	**PKPdf**	**23 58 53.1**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=72,slow=4.7,SNR=3.7						

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*IDC **06** 23:41:56.2±1.5, 48°.41S×105°.17E, h0km, mb4.0/4, mbtmp4.0/4, MS3.9/8, Error ellipse: s-maj=72.9km s-min=23.4km az=119.0*

*NEIC **06** 23:41:57.1±1.2, 48°.5S±0°.1×105°.5E±0°.2, h10km±2km, mb4.2/9, Error ellipse: s-maj=27.2km s-min=9.8km az=324.0*

ISC 06 23:41:57.3±1.1**, 48°.6S**±0°.1×**105°.5E**±0°.2**, h10**km**, n30,** σ**0ˢ86**/20**, mb4.2**/7**, MS4.0**/7**, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.06**	**28**	T	T	00 00 58.0	
	baz=202,slow=73,SNR=157						
H01W1	**Cape Leeuwin H**	**15.07**	**28**	T	T	00 00 58.3	
	baz=202,slow=73,SNR=199						
H01W3	**Cape Leeuwin H**	**15.07**	**28**	T	T	00 00 58.5	
	baz=202,slow=73,SNR=156						
NWAO	**Narrogin (SRO)**	**17.91**	**34**	LR	LR	23 51 04.6	
	comp=Z,238nm,20.3s,baz=198,slow=31						
CASY	**Casey**	**17.97**	**173**	Pn	**Pn**	**23 46 05.7**	**-1.3**
MAW	**Mawson**	**28.66**	**213**	LR	LR	23 56 40.1	
	comp=Z,168nm,18.6s,baz=84,slow=31						
STKA	**Stephens Creek**	**31.82**	**72**	LR	LR	23 58 44.1	
	comp=Z,420nm,21.9s,baz=211,slow=32						
MCQ	**Macquarie Isla**	**33.08**	**121**	P	**P**	**23 48 32.8**	**-0.1**
ASAR	**Alice Springs**	**33.45**	**52**	P	**P**	**23 48 35.2**	**-1.3**
ASAR	**Alice Springs**	**33.45**	**52**	P	**P**	**23 48 37.2**	**+0.8**
	2.2nm,0.8s,baz=210,slow=7.9,SNR=11						
ASAR				PcP	**PcP**	**23 51 18.6**	**+1.1**
	0.3nm,0.3s,baz=212,slow=2.8,SNR=2.5						
ASAR				LR	LR	00 00 22.7	
	comp=Z,274nm,20.6s,baz=217,slow=33						
	2.2nm,0.8s						
AS31	**Alice Springs**	**33.45**	**52**	P	**P**	**23 48 35.5**	**-0.9**
AS31				IAmb	IAmb	23 48 38.0	
	comp=Z,2.4nm,1.2s						
VNDA	**Vanda**	**35.95**	**162**	P	**P**	**23 48 57.9**	**+0.4**
VNDA				IAmb	IAmb	23 49 00.0	
	comp=Z,3.8nm,1.1s						
VNDA	**Vanda**	**35.95**	**162**	P	**P**	**23 48 59.3**	**+1.8**
	comp=Z,1.4nm,0.8s,baz=290,slow=8.5,SNR=4.2						
VNDA				LR	LR	00 02 37.4	
	comp=Z,343nm,19.4s,baz=316,slow=34						
	comp=Z,1.4nm,0.8s						
WRA	**Warramunga Arr**	**36.76**	**49**	P	**P**	**23 49 04.7**	**-0.3**
WRA	**Warramunga Arr**	**36.76**	**49**	P	**P**	**23 49 06.1**	**+1.1**
	comp=Z,2.1nm,0.7s,baz=211,slow=8.1,SNR=7.5						
WRA				PcP	**PcP**	**23 51 27.4**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=227,slow=2.9,SNR=1.9						
	comp=Z,2.1nm,0.7s						
WR0	**Warramunga Arr**	**36.85**	**50**	P	**P**	**23 49 05.4**	**-0.3**
WR0				IAmb	IAmb	23 49 07.3	
	comp=Z,4.4nm,1.1s						
QSPA	**South Pole Qui**	**41.59**	**180**	P	**P**	**23 49 45.2**	**+0.1**
QSPA				IAmb	IAmb	23 49 55.1	
	comp=Z,5.8nm,0.9s						
CTA	**Charters Tower**	**43.24**	**64**	LR	LR	00 07 17.9	
	comp=Z,274nm,18.6s,baz=213,slow=35						
H08S2	**Diego Garcia H**	**49.39**	**315**	T	T	00 43 23.3	
	baz=152,slow=76						
H08S1	**Diego Carcia H**	**49.39**	**315**	T	T	00 43 18.4	
	baz=152						
H08S3	**Diego Garcia H**	**49.41**	**315**	T	T	00 43 24.3	
	baz=152,slow=76						
SNAA	**Sanae**	**50.01**	**203**	P	**P**	**23 50 51.6**	**+0.3**
SNAA				IAmb	IAmb	23 50 58.4	
	comp=Z,5.3nm,0.9s						
SNAA	**Sanae**	**50.01**	**203**	P	**P**	**23 50 51.7**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=120,slow=13,SNR=6.9						
	comp=Z,1.6nm,0.7s						
URZ	**Urewera**	**51.24**	**107**	LR	LR	00 09 29.8	
	comp=Z,94nm,19.6s,baz=341,slow=32						
BELA	**Belgrano 2**	**51.50**	**190**	P	**P**	**23 51 01.7**	**-0.7**
DZM	**Mont Dzumac**	**54.63**	**84**	LR	LR	00 10 46.4	
	comp=Z,77nm,20.4s,baz=226,slow=32						
ILAR	**Eielson Array**	**139.57**	**39**	PKP	**PKiKP**	**00 01 25.1**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=249,slow=3.8,SNR=2.9						
NVAR	**Mina Array Bea**	**147.04**	**91**	PKPbc	**PKPab**	**00 01 41.8**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=232,slow=4.2,SNR=5.9						
TXAR	**Lajitas Array**	**150.55**	**120**	PKPbc	**PKiKP**	**00 01 50.2**	**+0.2**
	comp=Z,0.9nm,1.0s,baz=190,slow=4.6,SNR=2.0						
YKA	**Yellowknife Ar**	**153.86**	**43**	PKPbc	**PKPbc**	**00 01 55.4**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=284,slow=2.5,SNR=4.1						

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*IDC **06** 23:41:55.4±0.5, 27°.31N×65°.72E, h0km, mb4.8/31, mbtmp4.8/34, ML4.1/3, MS4.9/70, Error ellipse: s-maj=12.8km s-min=10.7km az=178.0*

*MOS **06** 23:41:56.2±1.1, 27°.43N×65°.77E, h11km, mb5.5/93, MS4.9/23, Error ellipse: s-maj=4.3km s-min=2.9km az=102.6*

*GCMT **06** 23:41:57.5±0.2, 27°.23N±0°.01×65°.63E±0°.01, h12km, MW5.4/129, Moment Tensor Solution. s75,c107; s129,c207; Duration: 1ˢ2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.13±.02; $M_{\theta\theta}$0.33±.02; $M_{\phi\phi}$-0.20±.02; $M_{r\theta}$-0.48±.06; $M_{\theta\phi}$-1.20±.02; $M_{\phi r}$-0.53±.06; Best double couple: $M_0$1.41300×10^{17} NP1:ϕ_s87.00000°, δ73.00000°, λ-159.00000°. NP2:ϕ_s350.00000°, δ70.00000°, λ-19.00000°. Principal axes: T 1.2980, Plg2.0000°, Azm218.0000°; N 0.2300, Plg63.0000°, Azm124.0000°; P -1.5280, Plg27.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **06** 23:41:58.5, 27°.32N×65°.84E, h14km, Moment Tensor Solution. Duration: 2ˢ2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.34; $M_{\theta\theta}$0.46; $M_{\phi\phi}$-0.12; $M_{r\theta}$-0.36; $M_{\theta\phi}$-0.78; $M_{\phi r}$-0.31; Fault plane solution: $M_0$1.01000×10^{17} NP1: ϕ_s85.67000°, δ69.93000°, λ-149.47000°. NP2: ϕ_s344.22000°, δ61.50000°, λ-22.99000°. Principal axes: T 1.0176, Plg5.0000°, Azm213.0000°; N -0.0217, Plg54.0000°, Azm116.0000°; P -0.9959, Plg35.0000°, Azm307.0000°;*

*NEIC **06** 23:41:58.5±1.1, 27°.45N±0°.06×65°.71E±0°.08, h12km±4km, mb5.3/157, Ms_20 5.0/127, Mww5.3/17 Error ellipse: s-maj=11.1km s-min=8.6km az=111.0*

*NEIC **06** 23:41:58.5, 27°.42N×65°.73E, h14km*

*BJI **06** 23:42:00.9, 27°.62N×66°.21E, h10km, mb5.1/76, mB5.3/57, Ms5.4/78, Ms7 5.1/73*

*OMAN **06** 23:42:07.4±1.4, 27°.12N×64°.84E, h10km, mb5.6/29, ms4.7/18, Mwp5.5/5, Error ellipse: s-maj=8.7km s-min=7.2km az=62.0*

*BGR **06** 23:42:10.7, 26°.86N×63°.57E, h33km, mb5.3, Ms4.7*

ISC 06 23:41:57.8±0.4**, 27°.34N**±0°.04×**65°.62E**±0°.03**, h10**km±2km**, h11**km**:pP-P, n1025,** σ**2ˢ08**/1041**, mb5.3**/257**, MS5.0**/166**, 62C-47D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**4.48**	**245**	P	**Pn**	**23 43 05.7**	**0.0**
	SNR=147						
NGCH				S	**Sn**	**23 43 51.6**	**-6.3**
JASK	**Jask - Hormozg**	**7.10**	**260**	P	**Pn**	**23 43 41.1**	**-0.6**
	SNR=30						
JASK				S	**Sn**	**23 44 54.8**	**-7.5**
WSAR	**Wadi Sarin**	**7.53**	**239**	Pn	**Pn**	**23 43 45.6**	**-2.0**
	10nm,0.3s,baz=85,slow=13,SNR=80						
WSAR				Sn	**Sn**	**23 45 06.5**	**-6.6**
	31nm,0.3s,baz=7.7,slow=23,SNR=9.2						
WSAR				LR	LR	23 47 26.4	
	comp=Z,7μm,20.1s,baz=82,slow=44						
	50nm,0.3s						
HRA	**Herat**	**7.60**	**338**	Pn	**Pn**	**23 43 48.3**	**-0.5**
JLN	**Jalan Bani Buh**	**7.65**	**229**	P	**Pn**	**23 43 48.3**	**-1.1**
	SNR=68						
JLN				P	**Pn**	**23 43 48.3**	**-1.1**
	SNR=68						
JLN				S	**Sn**	**23 45 11.5**	**-4.5**
JLN				S	**Sn**	**23 45 11.5**	**-4.5**
WBK	**Wadi Bani Khal**	**7.66**	**233**	P	**Pn**	**23 43 48.0**	**-1.4**
	SNR=128						
WBK				P	**Pn**	**23 43 48.0**	**-1.4**
	SNR=128						
WBK				S	**Sn**	**23 45 10.3**	**-5.9**
WBK				S	**Sn**	**23 45 10.3**	**-5.9**
KBL	**Kabul**	**7.75**	**21**	Pn	**Pn**	**23 43 49.0**	**-1.9**
KBL	**Kabul**	**7.75**	**21**	P	**Pn**	**23 43 49.0**	**-1.9**
BIDO	**Bidbid**	**7.77**	**242**	P	**Pn**	**23 43 50.2**	**-0.7**
	SNR=23						
BIDO				S	**Sn**	**23 45 12.4**	**-6.6**
	SNR=7.9						
SMDO	**Samad**	**8.07**	**240**	P	**Pn**	**23 43 54.1**	**-1.0**
	SNR=18						
SMDO				P	**Pn**	**23 43 54.1**	**-1.0**
	SNR=18						
SMDO				S	**Sn**	**23 45 20.0**	**-6.6**
SMDO				S	**Sn**	**23 45 20.0**	**-6.6**
AJM	**Ajmer**	**8.10**	**94**	*e*P	**Pn**	**23 43 54.2**	**-1.2**
HOQ	**Hoqain**	**8.39**	**245**	P	**Pn**	**23 43 58.2**	**-1.3**
	SNR=20						
HOQ				P	**Pn**	**23 43 58.2**	**-1.3**
	SNR=20						
HOQ				S	Sn	23 45 25.1	-9.2
HOQ				S	Sn	23 45 25.1	-9.2
JMDO	**Jabal Madar**	**8.43**	**236**	P	**Pn**	**23 43 59.8**	**-0.2**
	SNR=135						
JMDO				S	**Sn**	**23 45 29.6**	**-5.7**
SHME	**Shamm**	**8.58**	**264**	*i* P	**Pn**	**23 44 01.8**	**-0.2**
	SNR=35						
SHME	**Shamm**	**8.58**	**264**	P	**Pn**	**23 44 01.6**	**-0.4**
	SNR=35						
SHME				P	**Pn**	**23 44 01.6**	**-0.4**
	SNR=35						
MASF	**Masafi**	**8.71**	**259**	P	**Pn**	**23 44 02.4**	**-1.5**
	SNR=34						
MASF				P	**Pn**	**23 44 02.4**	**-1.5**
	SNR=34						
MASF				S	Sn	23 45 33.0	-9.2
MASF				S	Sn	23 45 33.0	-9.2
MSFE	**Esma-Masafi**	**8.71**	**259**	*i* P	**Pn**	**23 44 02.0**	**-1.9**
	SNR=33						
UOSS	**Minazif**	**8.79**	**256**	Pn	**Pn**	**23 44 02.2**	**-2.8**
UOSS	**Minazif**	**8.79**	**256**	*i* P	**Pn**	**23 44 02.2**	**-2.8**
	SNR=16						
UOSS	**Minazif**	**8.79**	**256**	P	**Pn**	**23 44 03.9**	**-1.1**
UOSS				P	**Pn**	**23 44 03.9**	**-1.1**
UOSS				S	**Sn**	**23 45 35.4**	**-8.8**
UOSS				S	**Sn**	**23 45 35.4**	**-8.8**
SOHO	**SOHO**	**8.79**	**251**	*i* P	**Pn**	**23 44 02.9**	**-2.1**
	SNR=40						
SOHO	**SOHO**	**8.79**	**251**	P	**Pn**	**23 44 04.1**	**-0.9**
SOHO				S	**Sn**	**23 45 36.0**	**-8.2**
HATD	**Hatta, Dubai**	**8.89**	**256**	*i* P	**Pn**	**23 44 04.0**	**-2.3**
	SNR=32						
HATD	**Hatta, Dubai**	**8.89**	**256**	P	**Pn**	**23 44 05.0**	**-1.3**
	SNR=32						
HATD				P	**Pn**	**23 44 05.0**	**-1.3**
	SNR=32						
HATD				S	**Sn**	**23 45 38.1**	**-8.5**
HATD				S	**Sn**	**23 45 38.1**	**-8.5**
BSY	**Bisya**	**8.90**	**241**	P	**Pn**	**23 44 05.8**	**-0.7**
	SNR=32						
BSY				S	**Sn**	**23 45 39.3**	**-7.6**
ASHO	**Ashiyiah**	**9.00**	**255**	*i* P	**Pn**	**23 44 07.6**	**-0.3**
	SNR=29						
ASHO	**Ashiyiah**	**9.00**	**255**	P	**Pn**	**23 44 07.5**	**-0.3**
	SNR=28						
ASHO				S	**Sn**	**23 45 41.5**	**-7.8**
KHET	**Khetri**	**9.06**	**83**	*e*P	**Pn**	**23 44 07.8**	**-0.8**
NIL	**Nilore**	**9.10**	**44**	Pn	**Pn**	**23 44 07.0**	**-2.1**
NIL	**Nilore**	**9.10**	**44**	P	**Pn**	**23 44 07.1**	**-2.1**
UMQ	**Umm Al-Quwin**	**9.11**	**261**	P	**Pn**	**23 44 08.7**	**-0.6**
ARQ	**Araqi**	**9.15**	**246**	P	**Pn**	**23 44 09.9**	**+0.1**
	SNR=49						
ARQ				P	**Pn**	**23 44 09.9**	**+0.1**
	SNR=49						
ARQ				S	**Sn**	**23 45 46.3**	**-6.6**
ARQ				S	**Sn**	**23 45 46.3**	**-6.6**
NAZ	**Nazwa, Dubai**	**9.25**	**258**	*i* P	**Pn**	**23 44 12.1**	**+0.9**
	SNR=52						
NAZ	**Nazwa, Dubai**	**9.25**	**258**	P	**Pn**	**23 44 11.2**	**0.0**
	SNR=52						
NAZ				P	**Pn**	**23 44 11.2**	**0.0**
	SNR=52						
NAZ				S	**Sn**	**23 45 49.5**	**-5.9**
NAZ				S	**Sn**	**23 45 49.5**	**-5.9**
FAQ	**Al Faqa, Dubai**	**9.38**	**256**	*i* P	**Pn**	**23 44 10.7**	**-2.3**
	SNR=16						
FAQ	**Al Faqa, Dubai**	**9.38**	**256**	P	**Pn**	**23 44 13.2**	**+0.2**
	SNR=16						
FAQ				P	**Pn**	**23 44 13.2**	**+0.2**
	SNR=16						
FAQ				P	**Pn**	**23 44 13.2**	**+0.2**
	SNR=16						
FAQ				S	**Sn**	**23 45 52.4**	**-6.2**
FAQ				S	**Sn**	**23 45 52.4**	**-6.2**
FAQ				S	**Sn**	**23 45 52.4**	**-6.2**
MHTO	**MHTO**	**9.42**	**229**	P	**Pn**	**23 44 15.0**	**+1.4**
	SNR=17						
MHTO				P	**Pn**	**23 44 15.0**	**+1.4**
	SNR=17						
MHTO				P	**Pn**	**23 44 15.0**	**+1.4**
	SNR=17						
MHTO				S	**Sn**	**23 45 54.8**	**-4.9**
MHTO				S	**Sn**	**23 45 54.8**	**-4.9**
MHTO				S	**Sn**	**23 45 54.8**	**-4.9**
ALNE	**Al Ain**	**9.48**	**252**	*i* P	**Pn**	**23 44 12.4**	**-2.1**
	SNR=31						
ALNE	**Al Ain**	**9.48**	**252**	P	**Pn**	**23 44 14.9**	**+0.5**
	SNR=80						
ALNE				P	**Pn**	**23 44 14.9**	**+0.5**
	SNR=80						
ASUD	**Al Ashush, Dub**	**9.65**	**256**	*i* P	**Pn**	**23 44 16.4**	**-0.2**
	SNR=17						
ASUD	**Al Ashush, Dub**	**9.65**	**256**	P	**Pn**	**23 44 17.5**	**+0.9**
	SNR=15						
ASUD				P	**Pn**	**23 44 17.5**	**+0.9**
	SNR=15						
AJN	**Ajban**	**9.96**	**256**	P	**Pn**	**23 44 21.1**	**+0.1**
THN	**Thein Dam**	**10.12**	**57**	*e*P	**Pn**	**23 44 22.6**	**-0.6**
THN				*e*S	Sn	23 46 04.7	-12
THN				IAML		23 46 18.3	
	comp=N,574nm,1.1s						
THN				IAML		23 46 18.5	
	comp=E,644nm,0.9s						
NDI	**New Delhi**	**10.33**	**80**	*e*P	**Pn**	**23 44 24.1**	**-1.9**
NDI				IAML		23 46 23.5	
	comp=E,140nm,0.7s						
NDI				IAML		23 46 23.7	
	comp=N,171nm,0.8s						
DHRM	**DHARAMSHALA**	**10.48**	**60**	*e*P	**Pn**	**23 44 27.5**	**-0.8**
DHRM				*e*P	**Pn**	**23 44 27.7**	**-0.6**
DHRM				IAmb	IAmb	23 44 31.6	
	comp=Z,932nm,0.8s						
DHRM				IAML		23 46 30.4	
	comp=E,2μm,0.7s						
DHRM				IAML		23 46 31.5	
	comp=N,1μm,0.8s						
SMLA	**Simla**	**10.77**	**67**	*e*P	**Pn**	**23 44 30.0**	**-1.9**
SMLA				*e*P	**Pn**	**23 44 30.5**	**-1.4**
SMLA				*e*S	Sn	23 46 21.8	-11
SMLA				IAML		23 46 36.6	
	comp=E,546nm,0.7s						
SMLA				IAML		23 46 37.4	
	comp=N,649nm,0.6s						
DDI	**Dehra Dun**	**11.30**	**72**	*e*P	**Pn**	**23 44 36.5**	**-2.8**
DDI				*e*P	**Pn**	**23 44 36.6**	**-2.7**
BHPL	**Bhopal**	**11.43**	**108**	*e*P	**Pn**	**23 44 38.7**	**-2.5**
BHPL				*e*P	**Pn**	**23 44 39.5**	**-1.6**
BHPL				IAmb	IAmb	23 44 43.0	
	comp=Z,118nm,0.9s						
BHPL				IAML		23 47 13.8	
	comp=N,113nm,1.8s						
POO	**Poona**	**11.59**	**137**	*e*P	**Pn**	**23 44 43.7**	**+0.4**
JRN	**Qarnain Island**	**11.72**	**261**	P	**Pn**	**23 44 44.7**	**-0.3**
GEYT	**Alibeck**	**12.30**	**331**	Pn	**Pn**	**23 44 52.4**	**-0.6**
GEYT	**Alibeck**	**12.30**	**331**	Pn	**Pn**	**23 44 53.7**	**+0.7**
	comp=N,0.1nm,0.3s,baz=140,slow=12,SNR=13						
GEYT				Lg	Lg	23 48 29.8	
	comp=N,0.2nm,0.3s,baz=233,slow=0.7,SNR=2.1						
GEYT				LR	LR	23 50 13.8	
	comp=N,6μm,19.7s,baz=154,slow=40						
	comp=N,20nm,1.1s						
GYA0B	**ALIBECK ARRAY**	**12.30**	**331**		**Pn**	**23 44 52.0**	**-1.0**
AKL	**Akola**	**12.33**	**120**	*e*P	**Pn**	**23 44 52.2**	**-1.1**
LGTI	**Lohaghat**	**13.04**	**77**	*e*P	Pn	23 44 57.2	-5.9
SHAO	**Shalim**	**13.07**	**227**	P	**Pn**	**23 45 03.7**	**0.0**
SHAO				P	**Pn**	**23 45 03.7**	**0.0**
SHMA	**Al-Shehemyia**	**13.20**	**267**	P	**Pn**	**23 45 05.0**	**-0.2**
	SNR=5.0						
SHMA				S	**Sn**	**23 47 26.5**	**-5.7**
TRNA	**Turayna**	**13.21**	**262**	P	**Pn**	**23 45 04.4**	**-1.0**
BTK	**Batken**	**13.40**	**17**	Pn	**Pn**	**23 45 06.2**	**-1.8**
BTK	**Batken**	**13.40**	**17**	P	**Pn**	**23 45 06.2**	**-1.8**
SMRA	**Abu-Samra**	**13.55**	**262**	P	**Pn**	**23 45 08.8**	**-1.3**
SMRA				S	**Sn**	**23 47 34.6**	**-6.2**
SAKB	**Bahrain**	**13.56**	**268**	P	**Pn**	**23 45 09.2**	**-1.0**
DMTO	**DMTO**	**13.74**	**228**	P	**Pn**	**23 45 11.8**	**-0.8**
	SNR=19						
DMTO				P	**Pn**	**23 45 11.8**	**-0.8**
	SNR=19						
DMTO				P	**Pn**	**23 45 11.8**	**-0.8**
	SNR=19						
RBK	**Rabkut**	**14.39**	**229**	P	**Pn**	**23 45 20.7**	**-0.9**
	SNR=11						
RBK				P	**Pn**	**23 45 20.7**	**-0.9**
	SNR=11						
WHFO	**Wadi Hawf**	**14.40**	**232**	P	**Pn**	**23 45 20.5**	**-1.3**
	SNR=25						
WHFO				P	**Pn**	**23 45 20.5**	**-1.3**
	SNR=25						
KSH	**Kashi**	**14.89**	**33**	P	Pn	23 45 20.9	-7.5
KSH				pP	P	23 45 25.9	-8.3
KSH				S	Sn	23 47 49.2	-24
KSH				pmax	pmax		
	comp=N,48nm,1.0s						
ABTO	**Aybut**	**15.11**	**231**	P	**Pn**	**23 45 30.5**	**-0.9**
	SNR=12						
ABTO				P	**Pn**	**23 45 30.5**	**-0.9**
	SNR=12						
ARSB	**Arslanbob**	**15.21**	**22**		**Pn**	**23 45 29.0**	**-3.7**
ARSB	**Arslanbob**	**15.21**	**22**	P	**Pn**	**23 45 29.0**	**-3.7**
ARSB				pmax	pmax		
	comp=Z,24nm,1.0s						
CHM	**Chimkent**	**15.29**	**11**	*e*P	**Pn**	**23 45 33.1**	**-0.6**
	baz=11						
CHM				LR	LR	23 51 33.5	
	baz=11						
CHM	**Chimkent**	**15.29**	**11**	*e*P	**Pn**	**23 45 33.1**	**-0.6**
PYUN	**Piuthan**	**15.40**	**83**	*e*P	**Pn**	**23 45 30.8**	**-4.6**
	comp=Z,735nm,1.2s						
PYUN				*e*S	**Sn**	**23 48 15.8**	**-10**
HYB	**Hyderabad**	**15.50**	**127**	*i*		16 14 26.6	
HYB	**Hyderabad**	**15.50**	**127**	*e*P	**Pn**	**23 45 38.1**	**+1.6**
HYB				IAmb	IAmb	23 45 45.6	
	comp=Z,63nm,1.1s						
KOLN	**Koldanda**	**15.95**	**84**	*e*P	**Pn**	**23 45 37.7**	**-4.8**
DANN	**Dangsing**	**16.08**	**82**	*e*P	**Pn**	**23 45 39.4**	**-4.8**
	comp=Z,614nm,1.0s						
AML	**Almayashu**	**16.16**	**22**	P	**Pn**	**23 45 43.7**	**-1.7**
	SNR=5.8						
AML	**Almayashu**	**16.16**	**22**	*i* P	**Pn**	**23 45 41.3**	**-4.1**
AML				pmax	pmax		
	comp=Z,21nm,1.0s						
DZA	**Taraz**	**16.20**	**15**	*e*P	**Pn**	**23 45 44.3**	**-1.2**
	baz=15						
DZA	**Taraz**	**16.20**	**15**	*e*P	**Pn**	**23 45 44.2**	**-1.2**
KK31	**Karatay Array**	**16.22**	**13**	Pn	**Pn**	**23 45 44.1**	**-1.6**
KK31	**Karatay Array**	**16.22**	**13**	P	**Pn**	**23 45 44.1**	**-1.6**
KK31				pmax	pmax		
	comp=Z,154nm,1.6s						
KKAR	**Karatay Array**	**16.22**	**13**		**Pn**	**23 45 42.0**	**-3.6**
KKAR	**Karatay Array**	**16.22**	**13**	P	**Pn**	**23 45 42.1**	**-3.6**
NRN	**Naryn**	**16.44**	**29**	Pn	**Pn**	**23 45 45.2**	**-3.6**
NRN	**Naryn**	**16.44**	**29**	P	**Pn**	**23 45 45.2**	**-3.6**
NRN				pmax	pmax		
	comp=Z,82nm,1.0s						
UCH	**Uchtor**	**16.53**	**24**	P	**Pn**	**23 45 46.6**	**-3.5**
	SNR=38						
EKS2	**Erkin-Say**	**16.67**	**21**	P	**Pn**	**23 45 52.0**	**+0.5**
	SNR=27						
KZA	**Kyzart**	**16.68**	**26**	P	**P**	**23 45 53.3**	**-1.1**
	SNR=43						
GKN	**Gorkha**	**16.86**	**83**	*e*P	**Pn**	**23 45 49.1**	**-5.0**
	comp=Z,618nm,1.4s						
AAK	**Ala-Archa**	**16.89**	**23**	P	**Pn**	**23 45 51.5**	**-2.9**
	SNR=28						
AAK	**Ala-Archa**	**16.89**	**23**	Pn	**Pn**	**23 45 51.5**	**-2.9**
AAK	**Ala-Archa**	**16.89**	**23**	*i* P	**Pn**	**23 45 51.4**	**-2.9**
	SNR=9.9						
AAK	**Ala-Archa**	**16.89**	**23**	P	**Pn**	**23 45 51.6**	**-2.7**
AAK				pmax	pmax		
	comp=Z,60nm,1.1s						
AAK	**Ala-Archa**	**16.89**	**23**	Pn	**Pn**	**23 45 52.1**	**-2.2**
	comp=Z,1.5nm,0.3s,baz=199,slow=5.5,SNR=22						
AAK				Sn	**Sn**	**23 48 54.3**	**-7.7**
	comp=Z,0.2nm,0.3s,baz=3.7,slow=23,SNR=1.9						
AAK				LR	LR	23 54 15.4	
	comp=Z,6μm,21.8s,baz=214,slow=44						
	comp=Z,16nm,0.6s						
KBK	**Karagaybulak**	**17.07**	**24**	P	**Pn**	**23 45 53.0**	**-3.5**
	SNR=19						
FRU1	**Bishkek**	**17.09**	**23**	Pn	**Pn**	**23 45 54.4**	**-2.3**
FRU1	**Bishkek**	**17.09**	**23**	P	**Pn**	**23 45 54.4**	**-2.3**
FRU1				pmax	pmax		
	comp=Z,76nm,1.1s						
DMN	**Daman**	**17.29**	**85**	*e*P	**Pn**	**23 45 55.3**	**-4.3**
	comp=Z,450nm,1.0s						
CHMS	**Chumysh**	**17.30**	**23**	P	**Pn**	**23 45 57.0**	**-2.2**
	SNR=18						
KKN	**Kakani**	**17.44**	**84**	*e*P	**Pn**	**23 45 56.8**	**-4.6**
TARG	**Taragay, Kyrgy**	**17.49**	**32**		**Pn**	**23 46 00.0**	**-2.1**
TARG	**Taragay, Kyrgy**	**17.49**	**32**	P	**Pn**	**23 46 00.0**	**-2.1**
TARG				pmax	pmax		
	comp=Z,141nm,1.6s						
TKM2	**Tokmak 2**	**17.53**	**25**	P	**Pn**	**23 45 55.8**	**-6.7**
	SNR=18						
TKM2	**Tokmak 2**	**17.53**	**25**	*i* P	**Pn**	**23 45 59.0**	**-3.4**
TKM2				pmax	pmax		
	comp=Z,229nm,1.3s						
PKIN	**Phulchoki**	**17.55**	**85**	*e*P	**Pn**	**23 45 58.5**	**-4.4**
	comp=Z,1μm,1.7s						
PKI	**Pulchoki**	**17.57**	**85**	*e*P	**Pn**	**23 45 59.1**	**-4.0**
	comp=Z,104nm,0.8s						
PKI				*e*S	Sn	23 49 05.4	-14
SGDS	**Sogindy**	**17.65**	**22**	⇓*i*P	**Pn**	**23 46 02.3**	**-1.5**
	baz=22						
SGDS	**Sogindy**	**17.65**	**22**	*d* *i*P	**Pn**	**23 46 02.3**	**-1.5**
GUN	**Gumba**	**17.96**	**83**	*e*P	**Pn**	**23 46 03.3**	**-4.7**
	comp=Z,848nm,1.1s						
LKRN	**Lenkeran, Azer**	**18.08**	**313**	P	**P**	**23 46 10.6**	**+1.2**
TNSS	**Tian-Shan**	**18.16**	**28**	*e*P	**Pn**	**23 46 08.1**	**-2.4**
	baz=27						
TNSS	**Tian-Shan**	**18.16**	**28**	*e*P	**Pn**	**23 46 08.0**	**-2.4**
JIRN	**Jiri**	**18.25**	**84**	*e*P	**Pn**	**23 46 07.3**	**-4.3**
	comp=Z,978nm,1.1s						
AAA	**Alma-Ata**	**18.29**	**27**	*e*P	**Pn**	**23 46 10.2**	**-1.5**
	comp=Z,394nm,1.3s,baz=27						
AAA				LR	LR	23 52 55.5	
	comp=Z,6μm,14.3s,baz=27						
AAA	**Alma-Ata**	**18.29**	**27**	*e*P	**Pn**	**23 46 10.1**	**-1.5**
AAA				pmax	pmax		
	comp=Z,394nm,1.3s						
AAA				MLR	MLR		
	comp=Z,6μm,14.0s						
MDOK	**Medeo**	**18.31**	**27**	*e*P	**Pn**	**23 46 10.9**	**-1.1**
	baz=27						
MDOK				LR	LR	23 52 56.1	
	comp=Z,3μm,15.3s,baz=27						
MDOK	**Medeo**	**18.31**	**27**	*e*P	**Pn**	**23 46 10.8**	**-1.1**
MDOK				MLR	MLR		
	comp=Z,3μm,15.0s						
PRZ	**Przheval'sk**	**18.35**	**31**	P	**Pn**	**23 46 11.0**	**-1.5**
PRZ				IAmb	IAmb	23 46 16.8	
	comp=Z,200nm,1.1s						
PRZ	**Przheval'sk**	**18.35**	**31**	P	**Pn**	**23 46 11.0**	**-1.5**
PRZ				pmax	pmax		
	comp=Z,200nm,1.1s						
BOK	**Bokaro**	**18.62**	**96**	*e*P	**Pn**	**23 46 16.0**	**+0.4**
BOK				*e*P	**Pn**	**23 46 16.1**	**+0.4**
BOK				IAmb	IAmb	23 46 20.5	
	comp=Z,81nm,0.9s						
KUU	**Kurty**	**18.64**	**25**	*e*P	**P**	**23 46 13.8**	**-1.8**
	comp=Z,307nm,1.6s,baz=24						
KUU				LR	LR	23 53 15.0	
	comp=Z,3μm,11.4s,baz=24						
KUU	**Kurty**	**18.64**	**25**	*e*P	**P**	**23 46 13.8**	**-1.8**
KUU				pmax	pmax		
	comp=Z,307nm,1.6s						
KUU				MLR	MLR		
	comp=Z,3μm,11.0s						
RAMN	**Ramite**	**18.68**	**86**	*e*P	**P**	**23 46 12.7**	**-3.6**
	comp=Z,200nm,0.7s						
SATY	**Saty**	**18.81**	**30**	*e*P	**P**	**23 46 16.7**	**-0.9**

baz=30
SATY Saty 18.81 30 eP P 23 46 16.6 -0.9
CHKK Chushkaly 18.86 26 eP P 23 46 17.0 -1.0
baz=26
CHKK Chushkaly 18.86 26 eP P 23 46 17.0 -1.0
ZHN Zhinishke 18.91 30 eP P 23 46 17.0 -1.6
baz=30
ZHN Zhinishke 18.91 30 eP P 23 46 17.0 -1.6
BTLS Baital 18.91 19 eP P 23 46 16.4 -2.0
baz=18
BTLS Baital 18.91 19 eP P 23 46 16.3 -2.1
UZB Uzynbulak 19.16 31 eP P 23 46 20.1 -1.3
baz=31
UZB Uzynbulak 19.16 31 eP P 23 46 20.0 -1.3
KPKS Kokpek 19.25 30 eP P 23 46 20.8 -1.6
baz=30
KPKS Kokpek 19.25 30 eP P 23 46 20.7 -1.6
SHLS Shalkode 19.37 32 eP Pn 23 46 24.8 0.0
baz=32
SHLS Shalkode 19.37 32 eP Pn 23 46 24.7 0.0
ODAN Odare 19.39 86 eP P 23 46 20.5 -3.6
PDGK Podgornoye 19.51 32 i P P 23 46 23.9 -1.4
PDGK pmax pmax
comp=Z,318nm,1.6s
TAPN Taplejung 19.62 85 eP P 23 46 23.8 -2.9
MNGR Mingechevir, A 20.33 316 P Pn 23 46 35.7 -0.3
TDK Taldyqorghan 20.38 27 eP P 23 46 32.5 -2.0
comp=Z,157nm,1.8s,baz=26
TDK LR LR 23 54 07.8
baz=26
TDK Taldyqorghan 20.38 27 eP P 23 46 32.5 -2.0
TDK pmax pmax
comp=Z,157nm,1.8s
GTK Tadong 20.41 85 eP P 23 46 35.8 +0.6
NAX Nakhchivan 20.51 310 P Pn 23 46 38.1 -0.1
SEKA Sheki 20.52 317 P P 23 46 37.0 +0.9
GANJ Ganja 20.73 315 P P 23 46 39.6 +1.2
ZKTA Zakatala 21.12 317 P P 23 46 44.5 +1.9
MAK Makhachkala 21.43 321 eP P 23 46 42.9 -3.0
MAK eS S 23 50 39.6 -4.0
MAK pmax pmax
comp=Z,287nm,1.3s
MAK MLR MLR
comp=Z,2µm,12.0s
GNI Garni 21.49 312 P P 23 46 47.3 +0.5
GNI Garni 21.49 312 P P 23 46 45.9 -0.9
GNI Garni 21.49 312 ceP P 23 46 48.3 +1.5
GNI pmax pmax
comp=Z,260nm,1.1s
GNI Garni 21.49 312 P P 23 46 48.6 +1.8
comp=Z,126nm,1.0s,baz=127,slow=2.1,SNR=43
comp=Z,126nm,1.0s
OTUK Ortayu 21.52 12 i P P 23 46 45.4 -1.4
OTUK pmax pmax
comp=Z,90nm,1.0s
SIRT Sirnak 21.99 303 P P 23 46 51.9 -0.2
AB31 Akbulak array 22.32 350 i P P 23 46 54.8 -0.5
AB31 pmax pmax
comp=Z,67nm,0.7s
ABKAR Akbulak array 22.32 350 P P 23 46 54.1 -1.2
ABKAR Akbulak array 22.32 350 P P 23 46 54.4 -1.0
ABKAR IAmb IAmb 23 46 59.8
comp=Z,287nm,1.4s
LSA Lhasa 22.54 78 P P 23 46 57.1 -1.3
LSA IAmb IAmb 23 47 16.8
comp=Z,266nm,1.6s
LSA Lhasa 22.54 78 P P 23 46 57.1 -1.3
LSA pmax pmax
comp=Z,266nm,1.6s
LSA MLR MLR
comp=Z,2µm,22.0s
GURO Guroymak-BITLI 22.67 306 P P 23 46 59.8 +0.4
GURO IAmb IAmb 23 47 04.6
comp=Z,186nm,1.3s
KARS Kars 22.84 311 P P 23 47 01.4 +0.3
KARS Kars 22.84 311 P P 23 47 01.4 +0.3
KARS pmax pmax
comp=Z,657nm,1.4s
AKH Akhalkalaki 22.95 313 P P 23 47 02.4 +0.1
AKH Akhalkalaki 22.95 313 P P 23 47 02.4 +0.1
AKH pmax pmax
comp=Z,812nm,1.4s
BRZS Berezniki 23.25 12 eP P 23 47 03.6 -1.6
baz=11
BRZS Berezniki 23.25 12 eP P 23 47 03.5 -1.6
MAKZ Makanchi 23.32 29 P P 23 47 04.3 -1.6
MAKZ IAMs_20 IAMs_20 23 56 36.3
comp=Z,4µm,19.0s
MAKZ Makanchi 23.32 29 P P 23 47 04.3 -1.6
MAKZ pmax pmax
comp=Z,207nm,1.1s
MAKZ MLR MLR
comp=Z,4µm,19.0s
ZEI Tsey 23.43 317 eP P 23 47 06.9 -0.4
ZEI pmax pmax
comp=Z,50nm,1.2s
MK31 Makanchi Array 23.45 30 P P 23 47 05.8 -1.4
MK31 IAmb IAmb 23 47 10.7
comp=Z,85nm,0.9s
MK31 Makanchi Array 23.45 30 c i P P 23 47 06.5 -0.7
MKAR Makanchi Array 23.45 30 i P P 23 47 05.0 -2.2
MKAR pmax pmax
comp=Z,60nm,1.0s
MKAR Makanchi Array 23.45 30 P P 23 47 05.3 -1.9
comp=Z,107nm,0.9s,baz=211,slow=10,SNR=67
MKAR LR LR 23 58 17.0
comp=Z,10µm,20.1s,baz=228,slow=42
comp=Z,107nm,0.9s
SHL Shillong 23.57 88 P P 23 47 07.5 -1.1
SHL Shillong 23.57 88 P P 23 47 07.6 -1.1
SHL pmax pmax
comp=Z,472nm,1.8s
SHL Shillong 23.57 88 IAmb IAmb 23 47 11.8
comp=Z,330nm,1.7s
ONI Oni 23.60 316 P P 23 47 09.7 +0.9
ONI IAmb IAmb 23 47 19.6
comp=Z,152nm,1.2s
ONI Oni 23.60 316 P P 23 47 09.7 +0.9
ONI pmax pmax
comp=Z,152nm,1.2s
AKTO Aktyubinsk 23.78 348 LR LR 23 57 22.0
comp=Z,2µm,19.7s,baz=154,slow=39
NCK Nalchik 24.02 318 d i P P 23 47 16.0 +3.3
NCK pmax pmax
comp=Z,272nm,1.4s
TEZP TEZPUR 24.21 85 eP P 23 47 16.2 +1.5
WMQ Urumqi 24.23 42 eP P 23 47 15.5 +0.7
WMQ pP pP 23 47 17.7 -0.8
WMQ PP PnPn 23 47 50.2 +5.9
WMQ S S 23 51 31.4 -1.8
WMQ pmax pmax
comp=Z,48nm,0.7s
WMQ LR LR
comp=Z,9µm,17.7s
WMQ LR LR
comp=Z,6µm,19.7s
WMQ LR LR
comp=Z,5µm,16.7s
NEUR Neytrino 24.43 317 i P P 23 47 19.9 +3.2
NEUR pmax pmax
comp=Z,122nm,1.5s
PALK Pallekele 24.56 142 P P 23 47 18.0 +0.1
PALK Pallekele 24.56 142 IAMs_20 IAMs_20 23 58 12.2
comp=Z,5µm,19.0s
PALK Pallekele 24.56 142 P P 23 47 18.0 +0.1
PALK pmax pmax
comp=Z,43nm,1.2s
PALK MLR MLR
comp=Z,5µm,19.0s
PALK Pallekele 24.56 142 LR LR 23 58 33.6
comp=Z,3µm,19.5s,baz=61,slow=41
KBZ Khabaz 24.57 318 deP P 23 47 19.2 +1.5
KBZ pmax pmax
comp=Z,110nm,1.1s
KBZ Khabaz 24.57 318 P P 23 47 19.1 +1.4
comp=Z,60nm,0.9s,baz=107,slow=7.5,SNR=33
comp=Z,60nm,0.9s
KIV Kislovodsk 24.82 318 P P 23 47 20.6 +0.5
KIV Kislovodsk 24.82 318 i P P 23 47 19.5 -0.6
SNR=53
KIV Kislovodsk 24.82 318 eP P 23 47 22.4 +2.3
KIV eS S 23 51 46.7 +3.9
KIV pmax pmax
comp=Z,175nm,3.3s
KIV pmax pmax
comp=Z,185nm,1.1s
ZIRO ZIRO 25.04 83 eP P 23 47 22.9 +0.6
ZSN Zaisan 25.11 32 eP P 23 47 22.8 +0.1
comp=Z,100nm,1.6s,baz=32
ZSN Zaisan 25.11 32 eP P 23 47 22.7 +0.1
ZSN pmax pmax
comp=Z,100nm,1.6s
KURBB Kurchatov Arra 25.25 19 P P 23 47 23.0 -0.7
comp=Z,74nm,0.9s,baz=211,slow=9.2,SNR=55
KURBB LR LR 23 59 27.2
comp=Z,3µm,18.2s,baz=198,slow=42
comp=Z,74nm,0.9s
GOF Gofitskoye 25.25 320 ceP P 23 47 25.7 +1.8
SAIH SAIHA 25.26 95 eP P 23 47 25.5 +1.2
KURK Kurchatov 25.36 20 P P 23 47 23.6 -1.2
KURK IAmb IAmb 23 47 29.3
comp=Z,100nm,0.9s
KURK Kurchatov 25.36 20 IAMs_20 IAMs_20 23 59 09.2
comp=Z,3µm,19.0s
KURK Kurchatov 25.36 20 c i P P 23 47 23.8 -1.0
KURK pmax pmax
comp=Z,106nm,1.0s
ASF Jabal al Asfar 25.36 288 LR LR 00 00 51.6
comp=Z,5µm,19.3s,baz=105,slow=45
KOHI KOHIMA 25.52 87 eP P 23 47 26.4 -0.3
ARPR Arapgir-MALATY 25.56 304 P P 23 47 28.0 +1.0
MOKO MOKOCHONG 25.78 86 eP P 23 47 31.6 +2.6
GAZ Gaziantep 25.87 299 P P 23 47 30.5 +0.8
BVAR Borovoye Array 25.90 7 P P 23 47 29.3 -0.4
comp=Z,83nm,0.7s,baz=172,slow=9.0,SNR=54
BVAR PcP PcP 23 50 57.7 -0.7
comp=Z,1.8nm,0.7s,baz=145,slow=5.3,SNR=1.8
BVAR LR LR 23 59 26.0
comp=Z,2µm,18.1s,baz=184,slow=40
comp=Z,83nm,0.7s
BRVK Borovoye 25.92 6 P P 23 47 28.6 -1.3
BRVK Borovoye 25.92 6 IAMs_20 IAMs_20 23 59 24.5
comp=Z,3µm,18.0s
BRVK Borovoye 25.92 6 ⇑eP P 23 47 29.4 -0.5
BRVK pmax pmax
comp=Z,213nm,1.0s
GOMU GeErMu 26.27 63 P P 23 47 32.7 -0.9
GOMU pP pP 23 47 36.5 -0.7
GOMU sP sP 23 47 40.4 +1.7
GOMU S S 23 52 07.2 +0.8
GOMU pmax pmax
comp=Z,7.0nm,0.5s
GOMU LR LR
comp=Z,8µm,17.2s
GOMU LR LR
comp=Z,1µm,17.3s
GOMU LR LR
comp=Z,2µm,17.2s
SOC Sochi 26.45 315 eP P 23 47 35.0 +0.2
SOC ePPP PPP 23 48 22.3
SOC eS S 23 52 10.3 +1.8
SOC eSSS SSS 23 53 27.6
SOC pmax pmax
comp=Z,60nm,0.8s
SOC MLR MLR
comp=Z,696nm,14.0s
GHAJ Ghor Haditha 26.46 286 P P 23 47 35.9 +0.9
GHAJ IAmb IAmb 23 47 45.2
comp=Z,93nm,1.2s
ATD Arta Tunnel 26.55 238 P P 23 47 36.5 +0.6
ATD Arta Tunnel 26.55 238 LR LR 23 59 51.8
comp=Z,78nm,18.2s,baz=52,slow=40
MMAI Mount Meron Ar 26.68 290 P P 23 47 38.3 +1.3
comp=Z,18nm,0.8s,baz=94,slow=10,SNR=9.6
MMAI LR LR 00 01 38.2
comp=Z,6µm,19.6s,baz=71,slow=44
comp=Z,18nm,0.8s
EIL Elat 27.02 282 LR LR 00 01 09.9
comp=Z,7µm,18.1s,baz=101,slow=43
BNN Bunyan 27.34 302 P P 23 47 43.0 -0.1
DGZ Jazzator, Alta 27.91 31 deP P 23 47 48.3 +0.3
DGZ pmax pmax
comp=Z,89nm,1.6s
MND Mandalay 28.17 94 P P 23 47 52.4 +2.0
ANN Anapa 28.48 315 eP P 23 47 51.6 -1.3
ANN e*PP pP 23 47 54.3 -2.3
ANN eS S 23 52 40.2 -0.1
ANN pmax pmax
comp=Z,53nm,0.9s
CSS Mathiatis 28.57 293 IAMs_20 IAMs_20 00 00 05.9
comp=Z,2µm,20.0s
BR131 Keskin Array S 29.23 303 ceP P 23 48 00.6 +0.7
BRTR Keskin Array B 29.23 303 P P 23 47 59.6 -0.2
BRTR Keskin Array B 29.23 303 i P P 23 48 00.9 +1.0
BRTR Keskin Array B 29.23 303 P P 23 48 00.4 +0.6
comp=Z,2.7nm,0.7s,baz=106,slow=9.3,SNR=13
BRTR PcP PcP 23 51 06.4 -0.5
comp=Z,1.1nm,0.9s,baz=97,slow=3.3,SNR=1.6
comp=Z,2.7nm,0.7s
ARU Arti 29.51 352 P P 23 48 01.9 0.0
ARU IAMs_20 IAMs_20 00 00 58.9
comp=Z,5µm,18.0s
ARU Arti 29.51 352 d i P P 23 48 04.2 +2.2
ARU 23 48 56.5
ARU 23 51 07.3
ARU S S 23 53 01.2 +4.9
ARU SS SnSn 23 54 22.9 -0.8
ARU pmax pmax
comp=Z,31nm,1.1s
ARU MLR MLR
comp=Z,4µm,17.0s
ARU Arti 29.51 352 LR LR 00 01 02.4
comp=Z,3µm,20.2s,baz=162,slow=39
TNCH TengChong 29.57 87 P P 23 48 04.9 +1.8
TNCH PP PP 23 48 55.5 -14
TNCH S S 23 52 57.1 -1.1
TNCH pmax pmax
comp=Z,24nm,1.0s
TNCH pmax pmax
comp=Z,150nm,2.9s
TNCH LR LR
comp=Z,2µm,14.0s
TNCH LR LR
comp=Z,1µm,15.9s
TNCH LR LR
comp=Z,2µm,16.8s
SVE Sverdlovsk 29.68 354 eP P 23 48 04.9 +1.4
SVE pmax pmax
comp=Z,31nm,1.3s
SVE MLR MLR
comp=Z,4µm,17.0s
ANTO Ankara 29.89 303 P P 23 48 05.1 -0.6
ANTO IAmb IAmb 23 48 09.2
comp=Z,45nm,1.2s
ANTO Ankara 29.89 303 P P 23 48 05.1 -0.6
ANTO pmax pmax
comp=Z,45nm,1.3s
VRH Novokhopyorsk 29.92 329 eP P 23 48 06.6 +1.0
VRH pmax pmax
comp=Z,80nm,1.6s
ZAA0 Zalesovo Array 30.11 23 P P 23 48 05.8 -1.5
ZALV Zalesovo Beam 30.11 23 P P 23 48 05.4 -1.9
ZALV Zalesovo Beam 30.11 23 i P P 23 48 06.0 -1.3
ZALV pmax pmax
comp=Z,14nm,0.6s
ZALV Zalesovo Beam 30.11 23 P P 23 48 05.9 -1.4
comp=Z,13nm,0.6s,baz=229,slow=10,SNR=32
ZALV LR LR 00 02 26.6
comp=Z,3µm,18.6s,baz=216,slow=41
comp=Z,13nm,0.6s
SIM Simferopol' 30.66 313 eP P 23 48 13.7 +1.4
SIM eS S 23 53 18.3 +3.6
SIM pmax pmax
comp=Z,84µm,1.3s
GTA Gaotai 30.81 58 ⇑P P 23 48 14.7 +0.9
GTA sP sP 23 48 21.1 +2.0
GTA S S 23 53 18.0 +0.6
GTA pmax pmax
comp=Z,14nm,0.8s
GTA pmax pmax
comp=Z,450nm,4.1s
GTA LR LR
comp=Z,3µm,13.8s
GTA LR LR
comp=Z,2µm,14.9s
GTA LR LR
comp=Z,3µm,16.7s
VORD Divnogorie 30.90 327 eP P 23 48 13.9 -0.4
VORD pmax pmax
comp=Z,30nm,1.2s
VSR Storozhevoye 31.12 327 eP P 23 48 14.7 -1.6
VSR pmax pmax
comp=Z,50nm,1.2s
ISP Isparta 31.21 298 P P 23 48 17.4 0.0
ISP IAMs_20 IAMs_20 00 03 16.7
comp=Z,2µm,18.0s
ISP Isparta 31.21 298 P P 23 48 17.4 0.0
ISP pmax pmax
comp=Z,82nm,1.0s
ISP MLR MLR
comp=Z,2µm,18.0s
VORR Voronezh 31.40 328 eP P 23 48 19.2 +0.5
VORR pmax pmax
comp=Z,30nm,1.2s
ELL Elmali 31.54 296 P P 23 48 20.0 -0.3
ELL Elmali 31.54 296 P P 23 48 20.0 -0.3
ELL pmax pmax
comp=Z,350nm,1.5s
CHTO Chiang Mai 31.73 98 P P 23 48 21.1 -0.9
CHTO Chiang Mai 31.73 98 IAMs_20 IAMs_20 00 02 05.4
comp=Z,2µm,20.0s
CHTO Chiang Mai 31.73 98 P P 23 48 24.4 +2.4
CHTO Chiang Mai 31.73 98 P P 23 48 21.1 -0.9
CHTO pmax pmax
comp=Z,174nm,1.8s
CHTO MLR MLR
comp=Z,2µm,20.0s
CMAR Chiang Mai Arr 31.86 99 P P 23 48 22.0 -1.1
CMAR Chiang Mai Arr 31.86 99 P P 23 48 22.6 -0.6
comp=Z,2.1nm,0.3s,baz=291,slow=9.1,SNR=18
CMAR LR LR 00 03 04.1
comp=Z,2µm,18.5s,baz=270,slow=40
comp=Z,2.1nm,0.3s
LPSR Galich'ya Gora 32.14 329 eP P 23 48 25.2 0.0
LPSR pmax pmax
comp=Z,110nm,1.1s
PZH PanZhiHua 32.15 83 P P 23 48 27.7 +1.9
PZH S S 23 53 35.8 -2.8
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,190nm,3.6s
PZH LR LR
comp=Z,6µm,18.6s
PZH LR LR
comp=Z,3µm,18.1s
PZH LR LR
comp=Z,2µm,15.7s
CRAI Chiangrai 32.50 95 P P 23 48 28.5 -0.3
CRAI IAmb IAmb 23 48 33.8
comp=Z,34nm,0.9s
PHRA Phrae 32.98 98 P P 23 48 32.3 -0.7
KIRV Kirov 33.22 345 ⇑eP P 23 48 37.0 +2.4
KIRV Kirov 33.22 345 LR LR 00 03 49.3
comp=Z,5µm,19.4s,baz=151,slow=40
KMI Kunming 33.29 85 ⇑P P 23 48 35.6 -0.3
KMI pP pP 23 48 38.2 -1.3
KMI S S 23 53 54.9 -1.7
KMI pmax pmax
comp=Z,16nm,0.5s
KMI pmax pmax
comp=Z,220nm,4.7s
KMI LR LR
comp=Z,3µm,17.5s
KMI LR LR
comp=Z,2µm,16.8s
KMI LR LR
comp=Z,3µm,17.1s
MSEY Mahe Island 33.30 199 IAMs_20 IAMs_20 00 01 22.5
comp=Z,3µm,18.0s
CD2 Chengdu 33.40 75 P P 23 48 35.9 -0.7
CD2 pP pP 23 48 38.3 -1.9
CD2 S S 23 53 57.2 -0.6
CD2 sS pS 23 54 01.5 -0.4
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 pmax pmax
comp=Z,150nm,4.7s
CD2 LR LR
comp=Z,3µm,11.6s
CD2 LR LR
comp=Z,2µm,12.6s
CD2 LR LR
comp=Z,3µm,12.0s
LZH Lanzhou 33.49 65 eP P 23 48 38.2 +0.7
LZH sP sP 23 48 46.3 +3.6
LZH S S 23 53 57.2 -2.2
LZH pmax pmax
comp=Z,66nm,1.0s
LZH pmax pmax
comp=Z,370nm,6.0s
LZH LR LR
comp=Z,11µm,17.5s
LZH LR LR
comp=Z,4µm,15.8s
LZH LR LR
comp=Z,4µm,15.5s
BALB Balikesir 33.55 301 P P 23 48 37.7 0.0
BALB IAmb IAmb 23 48 40.9
comp=Z,52nm,1.2s
SRDT SRDT 33.75 106 P P 23 48 41.1 +1.4
PURM Purcari 34.01 314 ⇑P P 23 48 44.0 +2.3
JURR Jurilovca 34.07 310 ⇓P P 23 48 44.6 +2.4
TLCR 34.24 311 ⇓P P 23 48 45.3 +1.6
TLCR 34.24 311 P P 23 48 45.2 +1.6
TIRR Tirgusor 34.29 310 ⇑P P 23 48 45.9 +1.8
TIRR Tirgusor 34.29 310 P P 23 48 43.1 -1.0
TIRR Tirgusor 34.29 310 P P 23 48 43.1 -1.0
TIRR pmax pmax
comp=Z,137nm,1.1s
TPGR Topolog 34.41 310 ⇓P P 23 48 47.5 +2.3
TLBR Topalu 34.56 310 ⇓P P 23 48 49.1 +2.6
ICOR Ion Corvin 34.61 309 ⇑P P 23 48 48.0 +1.1
HARR Harsova 34.69 310 ⇑P P 23 48 49.3 +1.7
HARR Harsova 34.69 310 P P 23 48 49.2 +1.7
CFR Carcaliu 34.70 311 ⇓P P 23 48 50.1 +2.4
CFR Carcaliu 34.70 311 P P 23 48 50.0 +2.4
MOS Moscow 34.82 332 eP P 23 48 49.0 +0.5
MOS e 23 50 05.8
MOS ePPP PPP 23 50 21.3
MOS pmax pmax
comp=Z,400nm,1.9s
MOS pmax pmax
comp=Z,197nm,1.8s
MOS MLR MLR
comp=N,2µm,17.0s
MOS MLR MLR
comp=Z,1µm,17.0s
MILM Milestii Mici 34.83 314 ⇑i P P 23 48 48.0 -0.8
comp=Z,290nm,1.9s
MILM eL L 00 05 42.0
MILM LQM 00 08 09.0
comp=Z,1µm,15.0s
MILM LRM MLR 00 09 05.0
comp=Z,900nm,17.5s
MILM Milestii Mici 34.83 314 ⇑P P 23 48 49.4 +0.7
MILM Milestii Mici 34.83 314 c i P P 23 48 48.0 -0.8
MILM e 23 48 55.0
MILM pmax pmax
comp=Z,290nm,1.9s
OBN Obninsk 34.85 331 ⇑P P 23 48 49.5 +0.7
OBN Obninsk 34.85 331 P P 23 48 48.6 -0.1
OBN Obninsk 34.85 331 ⇑eP P 23 48 49.6 +0.9
OBN e 23 54 24.6
OBN eSS SS 23 56 34.8 -16
OBN pmax pmax
comp=Z,193nm,1.8s
OBN MLR MLR
comp=Z,1µm,22.0s
OBN Obninsk 34.85 331 LR LR 00 05 55.0
comp=Z,1µm,18.8s,baz=109,slow=41
KIS Kishinev 34.86 314 eP P 23 48 50.0 +1.0
KIS eL L 00 05 51.0
KIS LRM MLR 00 09 35.0
comp=Z,300nm,16.5s
KIS Kishinev 34.86 314 eP P 23 48 50.0 +1.0
TATR Tatarca 34.88 312 ⇑P P 23 48 51.4 +2.2
VLDR Vladesti 34.94 312 ⇑P P 23 48 50.6 +0.8
LEOM Leova 35.04 313 ⇓P P 23 48 52.1 +1.5
LEOM Leova 35.04 313 P P 23 48 52.0 +1.5
ALN Alexandroupoli 35.15 303 P P 23 48 51.3 -0.2
ALN IAmb IAmb 23 48 55.0
comp=Z,54nm,1.4s
ALN Alexandroupoli 35.15 303 P P 23 48 51.3 -0.2
ALN pmax pmax
comp=Z,54nm,1.4s

LOZB	Loznitsa	35.26	307	⇓P	P	23 48 55.1	+2.6
SLVN	Son La	35.29	91	P	P	23 48 51.9	-1.2
RAZG	Razgrad	35.37	308	⇑P	P	23 48 55.4	+1.9
VASR	Vaslui	35.40	313	⇑P	P	23 48 54.9	+1.3
GHRR		35.46	312	⇑P	P	23 48 55.1	+0.9
IDI	Anoyia	35.49	293	LR	LR	00 08 35.3	
	comp=Z,1µm,21.1s,baz=100,slow=45						
SORM	Soroca	35.57	316	⇓P	P	23 48 56.9	+1.8
SORM	Soroca	35.57	316	P	P	23 48 56.9	+1.8
ODBI	Odobesti	35.60	311	⇓P	P	23 48 59.7	+4.3
NAYO	Nakonayok	35.66	104	P	P	23 48 57.2	+1.0
ELND	Elena	35.67	306	⇓P	P	23 48 59.2	+3.1
VRI	Vrincioaia	35.85	311	⇑P	P	23 49 00.5	+2.9
VRI	Vrincioaia	35.85	311	P	P	23 49 00.5	+2.9
PLOR	Plostina	35.90	311	⇑P	P	23 48 59.6	+1.6
PLOR	Plostina	35.90	311	P	P	23 48 59.6	+1.6
MOY	Mondy	35.98	38	eP	P	23 49 01.3	+2.5
MOY				pmax	pmax		
	comp=Z,61nm,2.3s						
NEHR	Nehoiu	36.01	311	⇑P	P	23 49 01.0	+2.1
TESR	Tescani	36.10	312	⇑P	P	23 49 02.0	+2.3
AKASG	Malin Array Be	36.11	320	P	P	23 48 59.7	0.0
AKASG				IAmb	IAmb	23 49 02.6	
	comp=Z,84nm,2.0s						
AKASG	Malin Array Be	36.11	320	iP	P	23 49 00.4	+0.7
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.5s						
AKASG	Malin Array Be	36.11	320	P	P	23 48 58.1	-1.6
	comp=Z,6.9nm,0.5s,baz=116,slow=7.2,SNR=66						
AKASG				PcP	PcP	23 51 24.4	-1.0
	comp=Z,1.6nm,0.6s,baz=94,slow=2.2,SNR=3.1						
AKASG				LR	LR	00 07 43.9	
	comp=Z,997nm,18.8s,baz=126,slow=43						
	comp=Z,6.9nm,0.5s						
AKBB	Malin Array Si	36.11	320	P	P	23 48 59.6	-0.1
AKBB				IAmb	IAmb	23 49 03.5	
	comp=Z,78nm,1.1s						
AKBB	Malin Array Si	36.11	320c	iP	P	23 49 00.5	+0.8
AKBB				pmax	pmax		
	comp=Z,93nm,1.3s						
KIEV	Kiev	36.12	320	P	P	23 48 59.1	-0.6
KIEV				IAmb	IAmb	23 49 03.5	
	comp=Z,68nm,1.1s						
KIEV	Kiev	36.12	320	P	P	23 48 59.1	-0.6
KIEV				pmax	pmax		
	comp=Z,68nm,1.1s						
KIEV				MLR	MLR		
	comp=Z,900nm,21.0s						
COVR	Voineasa-Covas	36.19	311	⇓P	P	23 49 01.2	+0.6
MLR	Muntele Rosu	36.27	311	⇑P	P	23 49 03.7	+2.4
MLR	Muntele Rosu	36.27	311	P	P	23 49 02.0	+0.7
MLR	Muntele Rosu	36.27	311	P	P	23 49 02.0	+0.7
MLR				pmax	pmax		
	comp=Z,177nm,1.3s						
TURR	Turia	36.38	312	⇑P	P	23 49 03.4	+1.2
COPA	Copaceanca	36.41	308	⇓P	P	23 49 04.4	+2.1
GYA	Guiyang	36.49	82	⇑P	P	23 49 05.0	+1.5
GYA				S	S	23 54 42.9	-2.8
GYA				pmax	pmax		
	comp=Z,27nm,1.4s						
GYA				pmax	pmax		
	comp=Z,220nm,6.8s						
GYA				LR	LR		
	comp=Z,5µm,15.4s						
GYA				LR	LR		
	comp=Z,1µm,18.4s						
GYA				LR	LR		
	comp=Z,2µm,31.2s						
PLVB	Pleven	36.67	307	⇓P	P	23 49 06.4	+1.8
ZAK	Zakamensk	36.70	41	eP	P	23 49 02.7	-2.2
ZAK				pmax	pmax		
	comp=Z,16nm,1.7s						
DOPR	Dopca	36.77	311	⇑P	P	23 49 07.9	+2.4
PRGR	Permogore	36.81	344	eP	P	23 49 04.7	-0.8
PRGR				pmax	pmax		
	comp=Z,43nm,0.9s						
SURA	Surathani	36.83	113	P	P	23 49 11.2	+5.0
VOIR		36.86	310	⇓P	P	23 49 09.0	+2.7
VOIR		36.86	310	P	P	23 49 08.9	+2.7
LHMI	Lhok Sumawe	37.05	121	P	P	23 49 07.1	-1.0
ARR	Arges	37.12	310	⇓P	P	23 49 10.9	+2.4
SRIT	Nakonsritamara	37.13	114	P	P	23 49 08.1	-0.7
SRIT	Nakonsritamara	37.13	114	P	P	23 49 13.0	+4.2
BURAR	Bucovina Array	37.37	314	⇑P	P	23 49 11.2	+0.6
BURAR	Bucovina Array	37.37	314	P	P	23 49 10.5	-0.1
BURAR	Bucovina Array	37.37	314	P	P	23 49 11.2	+0.6
BUR08	Bucovina Ar. S	37.39	314	P	P	23 49 10.3	-0.5
LODK	Lodwar	37.43	236	P	P	23 49 12.4	+0.9
XAN	Xi'an	37.61	69	⇑P	P	23 49 12.3	-0.5
XAN				pP	pP	23 49 16.9	+0.5
XAN				pmax	pmax		
	comp=Z,79nm,1.1s						
XAN				LR	LR		
	comp=Z,4µm,13.9s						
XAN				LR	LR		
	comp=Z,4µm,15.7s						
XAN				LR	LR		
	comp=Z,5µm,16.6s						
SONM	Songino Array	37.68	46	P	P	23 49 13.1	-0.2
SONM	Songino Array	37.68	46	P	P	23 49 13.1	-0.2
SONM				pmax	pmax		
	comp=Z,22nm,1.2s						
SONM	Songino Array	37.68	46	P	P	23 49 13.2	0.0
	comp=Z,18nm,1.1s,baz=249,slow=8.4,SNR=18						
SONM				LR	LR	00 05 46.4	
	comp=Z,2µm,20.7s,baz=240,slow=38						
	comp=Z,18nm,1.1s						
LOT	Lotru	37.73	310	⇓P	P	23 49 15.7	+1.9
ARCR	ARCALIA	37.77	313	⇓P	P	23 49 15.7	+1.8
VAY	Valandovo	37.80	303	iP	P	23 49 16.9	+2.6
KLMR	Klimovskoe	37.87	339	eP	P	23 49 13.7	-0.8
KLMR				AMP		23 49 23.2	
	comp=Z,50nm,1.4s						
KLMR				ePP	PP	23 50 39.7	-1.2
KLMR				LQ	LQ	00 02 19.5	
KLMR				LQ	LQ	00 02 19.5	
KLMR				LR	LR	00 03 49.3	
KLMR				AMP		00 06 59.5	
	comp=Z,4µm,14.8s						
KLMR	Klimovskoe	37.87	339	eP	P	23 49 13.6	-0.9
KLMR				e		23 50 39.6	
KLMR				pmax	pmax		
	comp=Z,50nm,1.4s						
KLMR				MLR	MLR		
	comp=Z,4µm,15.0s						
IRK	Irkutsk	38.05	39	eP	P	23 49 18.7	+2.5
IRK				e		23 50 51.8	
IRK				pmax	pmax		
	comp=Z,73nm,2.2s						
BLKB	Belogradchik	38.10	307	⇑P	P	23 49 17.8	+1.0
ULN	Ulaanbaatar	38.11	46	P	P	23 49 15.7	-1.2
ULN	Ulaanbaatar	38.11	46	IAMs_20	IAMs_20	00 07 15.7	
	comp=Z,2µm,19.0s						
ULN	Ulaanbaatar	38.11	46d	eP	P	23 49 17.4	+0.5
ULN				pmax	pmax		
	comp=Z,23nm,1.1s						
ENH	Enshi	38.37	75	P	P	23 49 18.3	-0.9
ENH				IAmb	IAmb	23 49 45.0	
	comp=Z,54nm,1.2s						
ENH				IAMs_20	IAMs_20	00 05 40.1	
	comp=Z,2µm,21.0s						
ENH	Enshi	38.37	75	P	P	23 49 21.3	+2.1
GZR	Gura Zlata	38.40	310	⇑P	P	23 49 22.3	+2.9
GZR	Gura Zlata	38.40	310	P	P	23 49 22.2	+2.9
DEV	Deva	38.42	310	⇓P	P	23 49 21.7	+2.2
DEV	Deva	38.42	310	P	P	23 49 21.6	+2.2
MARR	Marisel-Cluj	38.48	312	⇓P	P	23 49 20.4	+0.4
MNK	Minsk	38.61	325	iP	P	23 49 22.9	+2.0
	comp=E,21nm,1.3s						
MNK				iLQ	LQ	00 02 27.6	
MNK				iLR	LR	00 04 51.2	
MNK				iLRM	MLR	00 06 59.5	
	comp=E,75nm,9.0s						
MNK				iLRM	MLR	00 07 04.2	
	comp=N,2µm,14.2s						
MNK				iLRM	MLR	00 07 04.2	
	comp=Z,362nm,12.9s						
MNK				iP	P	23 49 22.9	+2.0
	comp=N,21nm,1.3s						
MNK				iP	P	23 49 22.9	+2.0
	comp=Z,29nm,0.9s,baz=119						
MNK				iPP	PnPn	23 50 52.0	+0.9
MNK				iPPP	PPP	23 51 12.2	
MNK				eS	S	23 55 21.5	+4.5

MNK				iSS	SS	23 58 10.0	+3.2
MNK				iSSS	SSS	23 58 26.7	
MNK	Minsk	38.61	325	iP	P	23 49 21.0	+0.1
MNK				i		23 50 52.0	
MNK				iPPP	PPP	23 51 12.2	
MNK				eS	S	23 55 21.4	+4.5
MNK				iSSS	SSS	23 58 26.6	
MNK				pmax	pmax		
	comp=Z,21nm,1.3s						
MNK				MLR	MLR		
	comp=E,75nm,9.0s						
MNK				MLR	MLR		
	comp=Z,362nm,13.0s						
MNK				MLR	MLR		
	comp=N,2µm,14.0s						
FNA	Florina	38.64	302	P	P	23 49 21.4	+0.1
FNA	Florina	38.64	302	P	P	23 49 21.4	+0.1
FNA				pmax	pmax		
	comp=Z,11nm,1.1s						
BTO	Baotou	38.73	58	eP	P	23 49 21.9	-0.3
BTO				pP	pP	23 49 26.5	+0.5
BTO				sP	sP	23 49 29.1	+1.6
BTO				PP	PnPn	23 50 53.5	+0.6
BTO				S	S	23 55 19.9	+0.5
BTO				sS	ScP	23 55 22.4	+0.3
BTO				SS	SnSn	23 57 56.6	-11
BTO				pmax	pmax		
	comp=Z,74nm,0.7s						
BTO				pmax	pmax		
	comp=Z,930nm,3.2s						
BTO				LR	LR		
	comp=Z,6µm,20.9s						
BTO				LR	LR		
	comp=Z,4µm,20.6s						
BTO				LR	LR		
	comp=Z,7µm,19.3s						
SKO	Skopje	38.73	304	iP	P	23 49 23.1	+1.1
LVV	L'vov	38.83	317	eP	P	23 49 24.9	+2.1
SURR	Surduc	38.92	310	⇑P	P	23 49 24.7	+1.0
MDVR	Moldovita	39.00	308	⇑P	P	23 49 25.3	+0.9
KBN	Korca	39.06	302	P	P	23 49 24.7	-0.3
KBN				IAmb	IAmb	23 49 28.1	
	comp=Z,88nm,1.3s						
KBN	Korca	39.06	302	P	P	23 49 24.7	-0.3
KBN				pmax	pmax		
	comp=Z,88nm,1.3s						
OHR	Ohrid	39.11	302	iP	P	23 49 26.7	+1.4
BZS	Buzias	39.24	310	⇑P	P	23 49 26.8	+0.4
BZS	Buzias	39.24	310	P	P	23 49 26.7	+0.4
KMBO	Kilima Mbogo	39.32	229	P	P	23 49 28.0	+0.5
KMBO	Kilima Mbogo	39.32	229	iP	P	23 49 28.6	+1.1
KMBO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KMBO	Kilima Mbogo	39.32	229	P	P	23 49 28.2	+0.7
	comp=Z,6.0nm,0.8s,baz=39,slow=12,SNR=14						
KMBO				LR	LR	00 07 11.1	
	comp=Z,698nm,20.3s,baz=73,slow=38						
	comp=Z,6.0nm,0.8s						
SIRR	Siria	39.36	311	⇑P	P	23 49 27.6	+0.4
NACGM	Naroch	39.37	325	LQ	LQ	00 02 50.1	
KWP	Kalwaria Pacla	39.59	316	P	P	23 49 29.1	0.0
KWP				IAmb	IAmb	23 49 36.1	
	comp=Z,109nm,1.0s						
KWP	Kalwaria Pacla	39.59	316	P	P	23 49 29.1	0.0
KWP				pmax	pmax		
	comp=Z,109nm,1.0s						
IDID	Didziasalis	39.59	326	eP	P	23 49 30.4	+1.4
KIBK	Kibwezi	39.71	226	P	P	23 49 30.9	+0.4
KIBK				IAMs_20	IAMs_20	00 07 04.7	
	comp=Z,2µm,20.0s						
TIR	Tirane	39.83	303	⇑P	P	23 49 33.1	+1.9
TIR	Tirane	39.83	303	P	P	23 49 33.1	+1.9
KULM	Kulim	39.90	117	P	P	23 49 31.8	-0.2
KULM				IAmb	IAmb	23 49 40.5	
	comp=Z,77nm,1.4s						
KULM				IAMs_20	IAMs_20	00 09 12.0	
	comp=Z,1µm,18.0s						
HHC	Hu-ho-hao-te	39.92	58	⇑iP	P	23 49 36.1	+3.9
HHC				pP	sP	23 49 40.4	+3.0
HHC				S	S	23 55 41.5	+4.2
HHC				sS	sS	23 55 47.3	+4.0
HHC				pmax	pmax		
	comp=Z,76nm,1.1s						
HHC				pmax	pmax		
	comp=Z,470nm,6.3s						
HHC				LR	LR		
	comp=Z,3µm,17.3s						
HHC				LR	LR		
	comp=Z,3µm,21.0s						
HHC				LR	LR		
	comp=Z,4µm,19.8s						
DIVS	Divibare	40.10	307	P	P	23 49 32.9	-0.6
GSI	Gunungsitoli	40.10	125	P	P	23 49 33.4	-0.4
GSI				IAmb	IAmb	23 49 40.3	
	comp=Z,66nm,0.8s						
GSI	Gunungsitoli	40.10	125	P	P	23 49 35.7	+1.9
GSI	Gunungsitoli	40.10	125	P	P	23 49 34.8	+1.0
	comp=Z,111nm,1.0s,comp=Z,3µm						
PSI	Prapat	40.11	122	P	P	23 49 37.8	+3.8
PSI	Prapat	40.11	122	P	P	23 49 33.0	-1.0
PSI				pmax	pmax		
	comp=Z,28nm,0.8s						
PSI				MLR	MLR		
	comp=Z,300nm,20.0s						
CRVS	Cervenica-Dubn	40.15	315	eP	P	23 49 35.3	+1.5
CRVS	Cervenica-Dubn	40.15	315	eP	P	23 49 35.3	+1.5
CRVS				pmax	pmax		
	comp=Z,109nm,1.5s						
RPSI	Rantau Prapat	40.18	122	P	P	23 49 33.0	-1.4
PDG	Podgorica	40.40	304	⇓P	P	23 49 38.1	+2.1
FRGS	Fruska Gora	40.40	308	⇑P	P	23 49 37.2	+1.3
PUL	Pulkovo	40.41	333	⇓eP	P	23 49 37.8	+2.0
PUL				pmax	pmax		
	comp=Z,61nm,0.5s						
TIY	Taiyuan	40.44	63	eP	P	23 49 37.5	+1.1
TIY				S	S	23 55 45.1	+0.1
TIY				pmax	pmax		
	comp=Z,39nm,0.7s						
TIY				pmax	pmax		
	comp=Z,280nm,6.3s						
TIY				LR	LR		
	comp=Z,4µm,16.7s						
TIY				LR	LR		
	comp=Z,930nm,14.7s						
TIY				LR	LR		
	comp=Z,1µm,15.7s						
LYN	LuoYang	40.53	68	⇑P	P	23 49 37.7	+0.6
LYN				pP	sP	23 49 42.4	0.0
LYN				sP	pP	23 49 45.7	+5.0
LYN				S	S	23 55 50.3	+4.1
LYN				pmax	pmax		
	comp=Z,62nm,1.2s						
LYN				pmax	pmax		
	comp=Z,370nm,4.9s						
LYN				LR	LR		
	comp=Z,8µm,22.3s						
LYN				LR	LR		
	comp=Z,2µm,17.8s						
LYN				LR	LR		
	comp=Z,3µm,20.7s						
KECS	Kecovo	40.66	314	eP	P	23 49 40.0	+1.9
KECS	Kecovo	40.66	314	eP	P	23 49 40.0	+1.9
KECS				pmax	pmax		
	comp=Z,18nm,1.1s						
SUW	Suwalki	40.87	323	P	P	23 49 39.3	-0.4
SUW	Suwalki	40.87	323	eP	P	23 49 41.0	+1.4
SUW	Suwalki	40.87	323	P	P	23 49 39.3	-0.4
SUW				pmax	pmax		
	comp=Z,40nm,0.9s						
PSZ	Piszkesteto	40.91	313	⇑P	P	23 49 41.3	+1.1
PSZ	Piszkesteto	40.91	313	P	P	23 49 40.1	-0.1
PSZ	Piszkesteto	40.91	313	P	P	23 49 40.1	-0.1
PSZ				pmax	pmax		
	comp=Z,64nm,1.5s						
PABE	Paberze	41.08	325	P	P	23 49 41.1	-0.2
PABE				IAmb	IAmb	23 49 45.6	
	comp=Z,137nm,1.7s						
PABE	Paberze	41.08	325	eP	P	23 49 42.8	+1.5
VSVD	Vaisvydziai	41.31	326	eP	P	23 49 43.3	+0.1
QIZ	Qiongzhong	41.31	92	P	P	23 49 42.6	-1.1
QIZ				S	S	23 55 56.5	-1.7
QIZ				LR	LR		
	comp=Z,2µm,21.4s						
QIZ				LR	LR		

	comp=Z,1µm,16.5s						
QIZ				LR	LR		
	comp=Z,1µm,14.1s						
MORH	Mrgy, Hungar	41.40	310	⇓P	P	23 49 45.2	+1.1
LANS	Liptovska Anna	41.48	314	eP	P	23 49 45.8	+0.9
LANS	Liptovska Anna	41.48	314	eP	P	23 49 45.8	+0.9
LANS				pmax	pmax		
	comp=Z,9.0nm,1.3s						
OJC	Ojcow	41.55	316	P	P	23 49 45.1	-0.3
OJC				IAmb	IAmb	23 49 49.6	
	comp=Z,148nm,2.0s						
OJC	Ojcow	41.55	316	P	P	23 49 45.1	-0.3
OJC				pmax	pmax		
	comp=Z,149nm,2.0s						
CNSH	ChangSha	41.66	77	⇑P	P	23 49 45.2	-1.3
CNSH				S	S	23 56 01.8	-1.4
CNSH				pmax	pmax		
	comp=Z,42nm,1.2s						
CNSH				LR	LR		
	comp=Z,2µm,17.2s						
CNSH				LR	LR		
	comp=Z,2µm,16.7s						
CNSH				LR	LR		
	comp=Z,1µm,16.7s						
SRO	Srobarova	41.93	312	eP	P	23 49 51.0	+2.6
SRO	Srobarova	41.93	312	eP	P	23 49 51.0	+2.6
SRO				pmax	pmax		
	comp=Z,31nm,1.6s						
TIP	Timpagrande	42.08	299	⇑P	P	23 49 51.6	+1.7
TIP	Timpagrande	42.08	299	P	P	23 49 49.6	-0.3
TIP				IAmb	IAmb	23 49 53.6	
	comp=Z,75nm,1.4s						
MATE	Matera	42.16	301	⇑P	P	23 49 52.3	+1.9
HNS	HongShan	42.24	64	⇓P	P	23 49 52.1	+0.9
HNS				S	S	23 56 14.7	+3.1
HNS				pmax	pmax		
	comp=Z,25nm,1.3s						
HNS				LR	LR		
	comp=Z,3µm,18.7s						
HNS				LR	LR		
	comp=Z,920nm,19.7s						
HNS				LR	LR		
	comp=Z,3µm,18.4s						
PBUR	Paburge	42.34	325	eP	P	23 49 53.1	+1.5
OKC	Ostrava-Krasne	42.49	315	eP	P	23 49 53.0	0.0
OKC	Ostrava-Krasne	42.49	315	eP	P	23 49 53.0	0.0
WHN	Wuhan	42.50	74	⇑iP	P	23 49 53.5	+0.1
WHN				pP	pP	23 49 56.2	-0.8
WHN				S	S	23 56 16.8	+1.2
WHN				pmax	pmax		
	comp=Z,120nm,0.6s						
WHN				pmax	pmax		
	comp=Z,1µm,2.7s						
WHN				LR	LR		
	comp=Z,12µm,15.4s						
WHN				LR	LR		
	comp=Z,4µm,13.7s						
WHN				LR	LR		
	comp=Z,6µm,18.8s						
JAVC	Velka Javorina	42.57	314	eP	P	23 49 55.6	+1.9
MAUC	Maruska	42.58	314	eP	P	23 49 54.3	+0.5
MTSE	Matsula	42.63	329	eP	P	23 49 55.0	+1.0
SMOL	Smolenice	42.65	313	eP	P	23 49 56.3	+1.9
SMOL				pmax	pmax		
	comp=Z,61nm,2.1s						
MODS	Modra-Piesok	42.72	313	eP	P	23 49 57.1	+2.2
MODS	Modra-Piesok	42.72	313	eP	P	23 49 57.1	+2.2
MODS				pmax	pmax		
	comp=Z,90nm,1.4s						
CUC	Castrocucco	42.82	300	P	P	23 49 56.2	+0.3
MORC	Moravsky Berou	42.85	315	⇑P	P	23 49 56.7	+0.7
MORC	Moravsky Berou	42.85	315	P	P	23 49 55.9	-0.1
MORC				IAmb	IAmb	23 49 58.9	
	comp=Z,131nm,2.0s						
MORC	Moravsky Berou	42.85	315	eP	P	23 49 55.7	-0.3
MORC	Moravsky Berou	42.85	315	P	P	23 49 55.9	-0.1
MORC				pmax	pmax		
	comp=Z,131nm,2.0s						
SGRT	San Giovanni R	42.95	303	P	P	23 49 56.5	-0.5
FINES	FINESS Array B	43.09	333	iP	P	23 49 58.5	+0.8
FINES				pmax	pmax		
	comp=Z,8.0nm,0.8s						
FINES	FINESS Array B	43.09	333	P	P	23 49 56.8	-0.9
	comp=Z,8.2nm,0.8s,baz=115,slow=8.6,SNR=17						
FINES				LR	LR	00 10 33.5	
	comp=Z,2µm,18.7s,baz=116,slow=40						
	comp=Z,8.2nm,0.8s						
MEF	Metsahovi	43.13	331	eP	P	23 49 59.3	+1.3
RONA	Rosalia, Austr	43.24	312	i pP	pP	23 50 01.2	-1.8
	comp=Z,29nm,1.2s,SNR=8.5						
BKNI	Bangkinang	43.32	122	P	P	23 49 59.8	-0.3
BKNI				IAmb	IAmb	23 50 04.4	
	comp=Z,104nm,1.2s						
CIT	Chita	43.32	42	eP	P	23 50 02.4	+2.6
CIT				e		23 51 45.0	
CIT				pmax	pmax		
	comp=Z,103nm,2.2s						
VRAC	Vranov	43.35	314	⇑P	P	23 50 00.3	+0.3
VRAC	Vranov	43.35	314	eP	P	23 50 00.7	+0.7
VRAC	Vranov	43.35	314	P	P	23 50 00.3	+0.3
VRAC	Vranov	43.35	314	LR	LR	00 12 46.5	
	comp=Z,750nm,18.2s,baz=106,slow=43						
BJT	Baijiatuau	43.39	60	P	P	23 49 59.7	-0.7
BJT	Baijiatuau	43.39	60	IAMs_20	IAMs_20	00 10 42.9	
	comp=Z,2µm,22.0s						
BJT	Baijiatuau	43.39	60	P	P	23 50 01.8	+1.4
BJT	Baijiatuau	43.39	60	P	P	23 49 59.7	-0.7
BJT				pmax	pmax		
	comp=Z,29nm,1.1s						
BJT				MLR	MLR		
	comp=Z,2µm,22.0s						
BJI	Beijing	43.39	60	P	P	23 50 01.1	+0.7
BJI				S	S	23 56 29.7	+1.3
BJI				pmax	pmax		
	comp=Z,14nm,1.0s						
BJI				LR	LR		
	comp=Z,600nm,18.2s						
BJI				LR	LR		
	comp=Z,710nm,13.6s						
BJI				LR	LR		
	comp=Z,1µm,17.2s						
KRUC	Moravsky	43.43	314	eP	P	23 50 00.1	-0.6
XLT	XiLinHaoTe	43.53	54	eP	P	23 50 05.2	+3.6
XLT				pP	sP	23 50 10.5	+3.6
XLT				S	S	23 56 34.7	+4.2
XLT				pmax	pmax		
	comp=Z,46nm,1.0s						
XLT				pmax	pmax		
	comp=Z,420nm,5.1s						
XLT				LR	LR		
	comp=Z,160nm,15.5s						
XLT				LR	LR		
	comp=Z,720nm,13.9s						
XLT				LR	LR		
	comp=Z,970nm,22.6s						
CRES	Cresnjev	43.53	309	eP	P	23 50 02.7	+1.2
CONA	Conrad Observa	43.57	312	i pP	P	23 50 03.7	+1.8
	comp=Z,19nm,1.5s,SNR=5.7						
ARSA	Arzberg	43.69	311	iP	P	23 50 04.5	+1.7
	comp=Z,35nm,1.1s,SNR=15						
PDSI	Padang	43.71	124	P	P	23 50 02.5	-0.8
	comp=Z,52nm,1.2s						
DPC	Dobruska-Polom	43.75	315	eP	P	23 50 04.9	+1.6
DPC	Dobruska-Polom	43.75	315	eP	P	23 50 04.9	+1.6
OSTC	Ostas	43.86	316	eP	P	23 50 04.7	+0.6
OSTC	Ostas	43.86	316	eP	P	23 50 04.7	+0.6
SOKA	Soboth	43.93	310	eP	P	23 50 04.8	0.0
	comp=Z,43nm,1.7s,SNR=17						
VAE	Valguarnera	43.94	297	LR	LR	00 11 36.5	
	comp=Z,433nm,18.1s,baz=78,slow=40						
CHVC	Chvalec	43.97	316	eP	P	23 50 05.2	+0.2
CHVC	Chvalec	43.97	316	eP	P	23 50 05.2	+0.2
UPC	Upice	43.98	316	eP	P	23 50 07.5	+2.5
UPC	Upice	43.98	316	eP	P	23 50 07.5	+2.5
TREC	Trest	44.06	314	eP	P	23 50 03.8	-1.9
TREC	Trest	44.06	314	eP	P	23 50 03.8	-1.9
HKPS	Hong Kong Po S	44.11	85	IAMs_20	IAMs_20	00 08 44.7	
	comp=Z,1µm,21.0s						
LJU	Ljubljana	44.20	309	eP	P	23 50 08.2	+1.3
TIA	Tai'an	44.23	65	⇑P	P	23 50 07.1	-0.2
TIA				PP	PcP	23 51 51.6	-0.2
TIA				S	S	23 56 39.0	-1.8
TIA				pmax	pmax		
	comp=Z,42nm,1.2s						
TIA				pmax	pmax		

comp=Z,250nm,3.8s
TIA LR LR
comp=Z,6µm,20.6s
TIA LR LR
comp=Z,1µm,17.7s
TIA LR LR
comp=Z,2µm,16.7s
OBKA Obir 44.24 310 *i* pP pP 23 50 09.8 -1.3
comp=Z,41nm,1.6s
MYKOM Kota Tinggi 44.55 118 P **P** **23 50 10.2 +0.2**
MOA Molln 44.62 311 *i* P **P** **23 50 11.4 +1.2**
comp=Z,31nm,1.4s,SNR=6.6
LVZ Lovozero 44.64 344 P **P** **23 50 09.9 -0.2**
LVZ IAmb IAmb 23 50 16.4
comp=Z,46nm,0.9s
LVZ Lovozero 44.64 344 P **P** **23 50 10.0 -0.2**
LVZ pmax pmax
comp=Z,46nm,0.9s
LVZ MLR MLR
comp=Z,4µm,19.0s
RAF Rauma 44.66 331 *e*P **P** **23 50 11.4 +1.1**
APA Apatity 44.71 343↓ *i*P **P** **23 50 08.8 -1.8**
APA *i* 23 51 51.5
APA *i* 23 52 02.3
APA *i* S **S** **23 56 42.0 -4.9**
APA *i* 00 00 02.0
APA *i* SS **ScS** **00 00 08.0 0.0**
APA pmax pmax
comp=Z,27nm,0.8s
CKRC Cesky Krumlov 44.74 313 *e*P **P** **23 50 10.7 -0.5**
CKRC Cesky Krumlov 44.74 313 *e*P **P** **23 50 10.7 -0.5**
PRU Pruhonice 44.80 315 *e*P **P** **23 50 11.2 -0.4**
PRU Pruhonice 44.80 315 *e*P **P** **23 50 11.2 -0.4**
SABO M.te Sabotino 44.84 309 P **P** **23 50 12.0 0.0**
SABO IAmb IAmb 23 50 24.9
comp=Z,34nm,1.2s
MYKA Terra Mystica 44.88 310 *i* pP pP 23 50 15.0 -1.2
comp=Z,2.4nm,0.4s
PRA Prague 44.88 315 *e*P **P** **23 50 13.8 +1.6**
PRA Prague 44.88 315 *e*P **P** **23 50 13.8 +1.6**
PVCC Panska Ves 44.88 315 *e*P **P** **23 50 11.2 -1.1**
PVCC Panska Ves 44.88 315 *e*P **P** **23 50 11.2 -1.1**
CLTB Caltabellotta 44.88 297 IAMs_20 IAMs_20 00 11 20.4
comp=Z,2µm,22.0s
ZVC Zvikov 44.92 314 *e*P **P** **23 50 12.1 -0.5**
NRCA Norcia 44.95 304 P **P** **23 50 13.7 +0.7**
NRCA IAmb IAmb 23 50 18.1
comp=Z,101nm,2.0s
BIOA Bad Ischl, Aus 45.01 311 *i* P **P** **23 50 13.5 +0.1**
comp=Z,14nm,0.5s,SNR=15
KBA Koelnbreinsper 45.13 310 *i* P **P** **23 50 15.2 +0.6**
comp=Z,32nm,1.0s
GEC2 GERESS Array S 45.14 313 P **P** **23 50 13.6 -0.9**
GEC2 IAmb IAmb 23 50 18.0
comp=Z,85nm,1.5s
GEC2 GERESS Array S 45.14 313 *e*P **P** **23 50 15.9 +1.4**
comp=Z,188nm,2.0s,baz=100,slow=7.9
GERES GERESS Array B 45.14 313 P **P** **23 50 14.1 -0.4**
GERES GERESS Array B 45.14 313 P **P** **23 50 14.1 -0.4**
GERES GERESS Array B 45.14 313 P **P** **23 50 14.0 -0.5**
comp=Z,5.8nm,0.6s,baz=100,slow=6.9,SNR=20
comp=Z,5.8nm,0.6s
RICC Richard 45.18 315 *e*P **P** **23 50 19.0 +4.4**
KHC Kasperske Hory 45.26 313 P **P** **23 50 14.3 -1.1**
KHC IAmb IAmb 23 50 18.0
comp=Z,74nm,1.9s
KHC Kasperske Hory 45.26 313 *e*P **P** **23 50 14.5 -0.9**
KHC Kasperske Hory 45.26 313↓ *e*P **P** **23 50 15.4 0.0**
KHC pmax pmax
comp=Z,74nm,1.9s
BRG Berggiesshubel 45.34 316 *e*P **P** **23 50 16.9 +1.0**
BRG Amp 23 50 20.2
comp=Z,29nm,0.9s
BRG Berggiesshubel 45.34 316 *e*P **P** **23 50 16.9 +1.0**
BRG pmax pmax
comp=Z,29nm,0.9s
BRG Berggiesshubel 45.34 316 *e*P **P** **23 50 18.2 +2.3**
baz=100,slow=7.9
STAL STALIGIAL 45.48 309 P **P** **23 50 17.1 -0.1**
HSKC Hora Svate Kat 45.61 315 *e*P **P** **23 50 17.7 -0.4**
LESA Schwarzleotal 45.63 311 *i* P **P** **23 50 17.7 -0.6**
comp=Z,58nm,0.6s
ABTA Abfaltersbach 45.66 310 *i* P **P** **23 50 19.9 +1.3**
comp=Z,58nm,1.3s,SNR=17
FBE Freiberg 45.71 316 *e*P **P** **23 50 21.3 +2.5**
comp=Z,48nm,1.1s,baz=100,slow=7.9
WET Wettzell 45.72 313 *e*P **P** **23 50 20.2 +1.2**
comp=Z,122nm,2.3s,baz=100,slow=7.9
VIKU Vikbolandet 45.92 327 *e*P **P** **23 50 21.8 +1.5**
UPP Uppsala 45.99 329 *e*P **P** **23 50 21.9 +1.1**
CLL Collm 46.00 316 P **P** **23 50 21.8 +0.7**
CLL Collm 46.00 316 *i* P **P** **23 50 23.3 +2.2**
comp=Z,203nm,2.3s
CLL *ex* x 23 50 40.0
CLL *e*PcP **PcP** **23 51 57.0 -0.6**
CLL *e*PP **PP** **23 52 04.0 -4.8**
CLL *e*SS SS 00 00 39.0 +8.3
CLL AMS AMS 00 12 00.0
comp=N,2µm,19.2s
CLL AMS AMS 00 12 00.0
comp=E,900nm,20.2s
CLL Collm 46.00 316 P **P** **23 50 21.8 +0.7**
CLL pmax pmax
comp=Z,29nm,1.2s
CLL Collm 46.00 316 *e*P **P** **23 50 23.4 +2.3**
comp=Z,37nm,1.1s,baz=100,slow=7.9
NJ2 Nanjing 46.10 71↓ P **P** **23 50 21.5 -0.6**
NJ2 pP **pP** **23 50 24.1 -1.7**
NJ2 sP **sP** **23 50 26.5 -0.9**
NJ2 S **S** **23 57 07.3 -0.6**
NJ2 sS **pS** **23 57 11.6 -0.7**
NJ2 pmax pmax
comp=Z,21nm,1.0s
NJ2 pmax pmax
comp=Z,220nm,3.6s
NJ2 LR LR
comp=Z,5µm,21.8s
NJ2 LR LR
comp=Z,840nm,18.9s
NJ2 LR LR
comp=Z,1µm,15.6s
TEOL Teolo 46.13 308 P **P** **23 50 22.1 -0.1**
TEOL IAmb IAmb 23 50 27.9
comp=Z,42nm,1.2s
NKC Novy Kostel 46.16 315 *e*P **P** **23 50 25.6 +3.1**
NKC Novy Kostel 46.16 315 *e*P **P** **23 50 25.6 +3.1**
WERN Wernitzgruen 46.22 315 *e*P **P** **23 50 24.7 +1.8**
comp=Z,68nm,1.8s,baz=100,slow=7.9
ROTZ Rotzenmuhle 46.25 314 *e*P **P** **23 50 25.1 +2.0**
comp=Z,28nm,2.1s,baz=100,slow=7.9
WERD Werda 46.29 315 *e*P **P** **23 50 25.3 +1.8**
comp=Z,39nm,1.7s,baz=100,slow=7.9
WTTA Wattenberg 46.31 310 *i* P **P** **23 50 22.1 -1.8**
comp=Z,2.1nm,0.4s,SNR=16
MANZ Manzenberg 46.34 314 *e*P **P** **23 50 26.4 +2.5**
comp=Z,27nm,2.0s,baz=100,slow=7.9
WATA Walderalm 46.36 310 *i* P **P** **23 50 24.9 +0.7**
comp=Z,22nm,1.1s,SNR=13
PLN Plauen 46.39 315 *e*P **P** **23 50 26.3 +2.1**
comp=Z,38nm,1.7s,baz=100,slow=7.9
ZCCA Zocca 46.57 306 P **P** **23 50 26.4 +0.6**
ZCCA IAmb IAmb 23 50 40.7
comp=Z,46nm,1.0s
SQTA Sankt Quirin 46.60 310 *i* P **P** **23 50 25.8 -0.3**
comp=Z,11nm,0.5s,SNR=15
HIA Hailar 46.63 47 P **P** **23 50 25.8 -0.3**
HIA IAmb IAmb 23 50 30.5
comp=Z,27nm,1.1s
HIA Hailar 46.63 47 P **P** **23 50 27.8 +1.7**
HIA Hailar 46.63 47‖ *e*P **P** **23 50 27.5 +1.4**
HIA pmax pmax
comp=Z,28nm,1.1s
MOTA Moosalm 46.68 310 *i* P **P** **23 50 26.8 0.0**
comp=Z,44nm,1.1s,SNR=12
GRA1 Grafenberg Arr 46.87 314 P **P** **23 50 28.8 +0.8**
GRA1 IAmb IAmb 23 50 31.5
comp=Z,35nm,1.1s
GRF Grafenberg Arr 46.87 314 P **P** **23 50 28.8 +0.8**
GRF pmax pmax
comp=Z,35nm,1.1s
GRFO Grafenberg 46.87 314 P **P** **23 50 28.6 +0.6**
GRFO IAmb IAmb 23 50 31.5
comp=Z,38nm,1.2s
GRFO Grafenberg 46.87 314 P **P** **23 50 28.6 +0.6**
GRFO pmax pmax
comp=Z,38nm,1.2s
FETA Feichten 46.91 310 *i* P **P** **23 50 28.6 +0.1**
comp=Z,30nm,0.8s,SNR=11
RETA Reutte 46.92 311 *i* P **P** **23 50 27.0 -1.5**
comp=Z,19nm,0.6s,SNR=7.0
FUORN Ofenpass-Fuorn 47.20 309 P **P** **23 50 30.3 -0.6**
FUORN IAmb IAmb 23 50 33.2
comp=Z,76nm,1.9s
KNMB Chin-men Tao 47.26 81 IAMs_20 IAMs_20 00 10 38.8
comp=Z,1µm,18.0s
UBR Ueberruh 47.38 311 *e*P **P** **23 50 32.9 +0.8**
comp=Z,119nm,1.7s,baz=100,slow=7.9
DAVA Damuels 47.51 310 *i* P **P** **23 50 31.9 -1.3**
comp=Z,60nm,0.8s,SNR=13
VADS Vadso 47.57 344 *e*P **P** **23 50 34.0 +0.9**
CLZ Clausthal 47.71 316 *e*P **P** **23 50 36.5 +2.0**
comp=Z,95nm,1.8s,baz=100,slow=7.9
UBBA Unterbreizbach 47.80 315 *e*P **P** **23 50 37.3 +2.3**
comp=Z,117nm,2.0s,baz=100,slow=7.9
TUE Stuetta 47.82 309 P **P** **23 50 35.5 -0.1**
TUE IAmb IAmb 23 50 39.5
comp=Z,23nm,0.7s
KEV Kevo 47.92 343 P **P** **23 50 36.0 +0.2**
KEV IAmb IAmb 23 50 42.3
comp=Z,34nm,0.9s
KEV Kevo 47.92 343 P **P** **23 50 36.0 +0.2**
KEV pmax pmax
comp=Z,34nm,0.9s
KEV MLR MLR
comp=Z,4µm,19.0s
HFS Hagfors 47.93 328 P **P** **23 50 35.1 -0.9**
comp=Z,7.0nm,0.6s,baz=112,slow=10,SNR=16
HFS LR LR 00 12 20.3
comp=Z,1µm,21.4s,baz=102,slow=38
comp=Z,7.0nm,0.6s
STU Stuttgart 48.09 312 P **P** **23 50 37.4 0.0**
STU IAmb IAmb 23 50 40.2
comp=Z,36nm,1.0s
STU Stuttgart 48.09 312 P **P** **23 50 37.4 0.0**
STU pmax pmax
comp=Z,36nm,1.0s
KEST Kesra 48.13 295 P **P** **23 50 38.6 +0.5**
KEST IAmb IAmb 23 50 58.1
comp=Z,27nm,0.9s
KEST Kesra 48.13 295 P **P** **23 50 38.3 +0.2**
comp=Z,11nm,0.9s,baz=32,slow=3.2,SNR=12
KEST LR LR 00 16 56.3
comp=Z,1µm,19.0s,baz=8.0,slow=44
comp=Z,11nm,0.9s
ARA0 ARCESS Array S 48.17 342 *e*P **P** **23 50 38.0 +0.2**
ARCES ARCESS Array B 48.17 342 P **P** **23 50 37.0 -0.8**
ARCES ARCESS Array B 48.17 342 P **P** **23 50 37.0 -0.8**
ARCES pmax pmax
comp=Z,47nm,1.0s
ARCES ARCESS Array B 48.17 342 P **P** **23 50 36.7 -1.1**
comp=Z,24nm,0.9s,baz=131,slow=6.6,SNR=21
ARCES LR LR 00 13 01.8
comp=Z,3µm,18.0s,baz=124,slow=39
comp=Z,24nm,0.9s
SSE Sheshan 48.22 72 P **P** **23 50 37.2 -1.5**
SSE S **S** **23 57 35.0 -3.2**
SSE pmax pmax
comp=Z,14nm,0.8s
SSE pmax pmax
comp=Z,47nm,4.9s
SSE LR LR
comp=Z,1µm,17.8s
SSE LR LR
comp=Z,760nm,17.7s
RETH Rethem/Aller, 48.46 318 *e*P **P** **23 50 42.7 +2.4**
comp=Z,27nm,1.4s,baz=100,slow=7.9
KTK1 Kautokeino 48.48 341 *e*P **P** **23 50 39.6 -0.6**
BFO Black Forest 48.62 312 P **P** **23 50 42.0 +0.3**
BFO IAmb IAmb 23 50 46.1
comp=Z,50nm,1.9s
BFO Black Forest 48.62 312 P **P** **23 50 42.0 +0.3**
BFO pmax pmax
comp=Z,49nm,1.9s
TNS Taunus Mts 48.71 314 *e*P **P** **23 50 44.8 +2.5**
comp=Z,72nm,1.5s,baz=100,slow=7.9
SNY Shenyang 48.98 57⇑ P P 23 50 30.5 -14
SNY S S 23 57 23.1 -26
SNY pmax pmax
comp=Z,6.0nm,0.9s
SNY pmax pmax
comp=Z,150nm,4.6s
SNY LR LR
comp=N,630nm,15.7s
SNY LR LR
comp=E,1µm,20.1s
SNY LR LR
comp=Z,1µm,20.4s
OPO Ambohidratompo 49.01 203 LR LR 00 10 20.2
comp=Z,664nm,18.1s,baz=174,slow=35
SBF Sospel 49.11 306 P **P** **23 50 46.1 +0.6**
NC602 NORSAR Array S 49.13 328 *e*P **P** **23 50 46.1 +0.8**
SENIN Lac Senin/Sane 49.23 309 P **P** **23 50 46.1 -0.5**
HAMF Hammerfest 49.36 343 *e*P **P** **23 50 46.9 +0.1**
NB2 NORSAR Subarra 49.38 329 P **P** **23 50 45.9 -1.3**
comp=Z,12nm,0.9s,baz=108,slow=7.9
NB2 NORSAR Subarra 49.38 329 P **P** **23 50 45.9 -1.3**
baz=108,slow=7.9
NOA NORSAR Array B 49.38 329 P **P** **23 50 47.6 +0.3**
comp=Z,7.8nm,0.9s,baz=108,slow=7.5,SNR=11
NOA LR LR 00 15 31.7
comp=Z,694nm,18.8s,baz=115,slow=41
comp=Z,7.8nm,0.9s
ECH Echery 49.40 311 P **P** **23 50 46.8 -0.8**
ECH IAmb IAmb 23 50 50.4
comp=Z,22nm,0.9s
ECH Echery 49.40 311 P **P** **23 50 46.8 -0.8**
ECH pmax pmax
comp=Z,22nm,0.9s
ABPO Ambohimpanom 49.41 203 IAMs_20 IAMs_20 00 10 17.5
comp=Z,1µm,18.0s
LPG La Plagne 49.59 308 P **P** **23 50 49.6 +0.1**
LPL La Plagne 49.61 308 P **P** **23 50 48.7 -0.8**
JETT Jettan, Norway 49.62 341 *e*P **P** **23 50 48.7 -0.3**
BNI Bardonecchia 49.65 307 P **P** **23 50 49.0 -0.7**
BNI IAmb IAmb 23 50 55.6
comp=Z,44nm,1.2s
BNI Bardonecchia 49.65 307 P **P** **23 50 49.0 -0.7**
BNI pmax pmax
comp=Z,44nm,1.2s
SSLB Suanglung 49.70 81 IAMs_20 IAMs_20 00 14 44.4
comp=Z,2µm,21.0s
KASI Kota Agung 49.78 125 P **P** **23 50 49.6 -1.2**
comp=Z,37nm,1.0s
YHNB Yeheng 49.83 80 P **P** **23 50 51.2 0.0**
YHNB IAMs_20 IAMs_20 00 13 47.7
comp=Z,1µm,19.0s
MOR8 Moi Rana 49.91 336 *e*P **P** **23 50 51.6 +0.4**
KSM Kuching 49.92 113 P **P** **23 50 50.8 -1.1**
KSM IAmb IAmb 23 50 59.2
comp=Z,44nm,0.8s
KSM Kuching 49.92 113 P **P** **23 50 55.9 +4.0**
TWG Pinlang 50.09 82 P **P** **23 50 52.5 -0.6**
TWG IAMs_20 IAMs_20 00 15 39.8
comp=Z,2µm,21.0s
TWGBT Beinan 50.09 82 P **P** **23 50 57.2 +4.0**
TRO Tromso 50.09 341 *e*P **P** **23 50 52.9 +0.4**
YULB Yu-li 50.12 81 IAMs_20 IAMs_20 00 15 09.4
comp=Z,2µm,20.0s
FAUS Fauske 50.14 337 *e*P **P** **23 50 54.5 +1.6**
WLF Walferdange 50.14 313 *d*P **P** **23 50 56.8 +3.6**
NACB Ninganchiao 50.16 80 IAMs_20 IAMs_20 00 13 58.4
comp=Z,2µm,19.0s
ORIF Oris-en-Rattie 50.21 307 P **P** **23 50 54.2 +0.3**
NSS Namsos 50.22 333 *e*P **P** **23 50 55.5 +2.0**
BTNL Ternell 50.22 314 *d*P **P** **23 50 55.8 +2.0**
BHOU Houvegnez 50.28 314 *d*P **P** **23 50 57.3 +3.0**
CN2 Changchun 50.29 54⇑ P **P** **23 50 56.7 +2.3**
CN2 *es*P sP 23 51 03.0 +3.3
CN2 *eS* **S** **23 58 02.0 -5.0**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,400nm,4.0s
CN2 LR LR
comp=Z,2µm,17.0s
CN2 LR LR
comp=Z,2µm,17.0s
CN2 LR LR
comp=Z,3µm,16.0s
MEM Membach 50.30 314 *d*P **P** **23 50 57.8 +3.4**
BCLA Clavier 50.74 314 *d*P **P** **23 51 01.1 +3.4**
comp=Z,10nm,1.6s
RCHB Rochefort 50.77 314 *d*P **P** **23 51 00.3 +2.4**
BGES Gesves 50.87 314 *d*P **P** **23 51 00.8 +2.1**
BMRD Maredsous 51.07 314 *d*P **P** **23 51 02.0 +1.9**
VIVF Saint-Julien-l 51.07 307 P **P** **23 51 01.6 +1.3**
SSB Saint Sauveur 51.15 307 P **P** **23 51 00.8 -0.2**
SSB IAmb IAmb 23 51 03.9
comp=Z,48nm,1.3s
SSB Saint Sauveur 51.15 307 P **P** **23 51 00.8 -0.2**
SSB pmax pmax
comp=Z,48nm,1.3s
DOU Dourbes 51.17 314 *d*P **P** **23 51 04.5 +3.5**
comp=Z,16nm,1.0s
CGJI Cibinong 51.39 125 P **P** **23 51 03.9 +0.9**
comp=Z,38nm,1.3s,comp=Z,2µm
SMF Signal de Mont 51.62 309 P **P** **23 51 03.7 -0.7**
BNX BinXian 51.63 52⇑ P **P** **23 51 05.8 +1.3**
BNX pP **sP** **23 51 10.2 +0.4**
BNX sP **pP** **23 51 12.6 +4.3**
BNX PP **PP** **23 53 02.9 +1.1**
BNX S **S** **23 58 29.8 +4.3**
BNX sS **sS** **23 58 31.3 -0.4**
BNX pmax pmax
comp=Z,14nm,1.0s
BNX pmax pmax
comp=Z,200nm,3.5s
BNX LR LR
comp=Z,1µm,14.3s
BNX LR LR
comp=Z,2µm,15.3s
BNX LR LR
comp=Z,3µm,15.9s
HEH HeiHe 51.67 46 *e*P **P** **23 51 05.3 +0.7**
HEH pP **sP** **23 51 09.9 -0.1**
HEH S **S** **23 58 25.2 -0.6**
HEH pmax pmax
comp=Z,32nm,1.1s
HEH pmax pmax
comp=Z,440nm,5.8s
HEH LR LR
comp=Z,2µm,15.0s
HEH LR LR
comp=Z,2µm,16.3s
HEH LR LR
comp=Z,3µm,16.1s
INCN Inchon 51.70 62 P **P** **23 51 04.2 -0.9**
INCN Inchon 51.70 62 P **P** **23 51 07.8 +2.7**
INCN Inchon 51.70 62 P **P** **23 51 04.2 -0.9**
INCN pmax pmax
comp=Z,158nm,1.4s
ZEA Zeya 51.78 42 *e*P **P** **23 51 08.6 +3.1**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA MLR MLR
comp=N,500nm,13.0s
SSF Saint Saulge 51.84 310 P **P** **23 51 05.4 -0.6**
VOI Vohitsoka 52.24 202 P **P** **23 51 09.5 +0.3**
VOI IAmb IAmb 23 52 16.8
comp=Z,83nm,1.9s
TJN Taejon 52.44 64 P **P** **23 51 12.4 +1.8**
TJN Taejon 52.44 64‖ *e*P **P** **23 51 10.6 0.0**
KKM Kota Kinabalu 52.45 104 P **P** **23 51 10.2 -0.9**
KKM IAmb IAmb 23 51 21.5
comp=Z,109nm,1.7s
KKM IAMs_20 IAMs_20 00 15 02.0
comp=Z,1µm,21.0s
KKM Kota Kinabalu 52.45 104 P **P** **23 51 14.6 +3.5**
KS19 Wonju Array Si 52.67 62 P **P** **23 51 11.1 -1.2**
KS19 IAmb IAmb 23 51 18.0
comp=Z,36nm,0.8s
KSAR Wonju Array Be 52.69 62 P **P** **23 51 11.3 -1.2**
KSAR Wonju Array Be 52.69 62 P **P** **23 51 11.3 -1.2**
KSRS Korea Array 52.72 62 P **P** **23 51 12.0 -0.7**
comp=Z,19nm,0.9s,baz=272,slow=6.7,SNR=24
KSRS LR LR 00 15 52.0
comp=Z,1µm,20.6s,baz=270,slow=39
comp=Z,19nm,0.9s
LEM Lembang 52.95 124 LR LR 00 16 22.3
comp=Z,580nm,19.0s,baz=286,slow=39
MDJ Mudanjiang 53.23 53 IAMs_20 IAMs_20 00 17 06.1
comp=Z,2µm,20.0s
MDJ Mudanjiang 53.23 53 P **P** **23 51 20.6 +4.2**
MDJ Mudanjiang 53.23 53 P **P** **23 51 19.6 +3.2**
MDJ pP sP 23 51 22.7 +1.0
MDJ sP pP 23 51 24.9 +4.7
MDJ PcP **PcP** **23 52 24.3 +0.1**
MDJ PP **PP** **23 53 15.6 -0.7**
MDJ PcS **PcS** **23 56 23.8 +0.9**
MDJ ScP **ScP** **23 56 26.1 +4.2**
MDJ S **S** **23 58 50.2 +2.8**
MDJ pmax pmax
comp=Z,14nm,1.5s
MDJ pmax pmax
comp=Z,370nm,4.4s
MDJ LR LR
comp=Z,1µm,22.6s
MDJ LR LR
comp=Z,1µm,19.9s
MDJ LR LR
comp=Z,2µm,18.7s
YAK Yakutsk 54.10 32 P **P** **23 51 21.5 -0.9**
YAK IAmb IAmb 23 51 42.6
comp=Z,34nm,0.9s
YAK Yakutsk 54.10 32*c* *i*P **P** **23 51 23.6 +1.2**
YAK pmax pmax
comp=Z,33nm,0.9s
TAM Tamanrasset 54.18 279 P **P** **23 51 23.3 -0.5**
TAM IAMs_20 IAMs_20 00 17 23.2
comp=Z,1µm,20.0s
TAM Tamanrasset 54.18 279 P **P** **23 51 23.3 -0.5**
TAM pmax pmax
comp=Z,22nm,1.1s
TAM MLR MLR
comp=Z,1µm,20.0s
MFF Saint Martin d 54.37 309 P **P** **23 51 25.7 +1.1**
KLR Kul'dur 54.48 47*de*P **P** **23 51 25.4 0.0**
KLR pmax pmax
comp=Z,50nm,1.5s
KLR Kul'dur 54.48 47 LR LR 00 19 01.8
comp=Z,786nm,18.8s,baz=268,slow=41
MSHR Mys Shultsa 54.54 56↓ *e*P **P** **23 51 25.0 -1.0**
MSHR pmax pmax
comp=Z,40nm,1.2s
MYLDM Lahad Datu 54.85 104 P **P** **23 51 28.1 -0.5**
MYLDM IAMs_20 IAMs_20 00 16 58.5
comp=Z,2µm,21.0s
USRK Ussuriysk Ar. 54.98 54 P **P** **23 51 27.9 -1.2**
USRK Ussuriysk Ar. 54.98 54 P **P** **23 51 29.2 +0.1**
comp=Z,3.5nm,0.9s,baz=255,slow=4.3,SNR=1.8
USRK LR LR 00 18 12.9
comp=Z,2µm,18.4s,baz=263,slow=40
comp=Z,3.5nm,0.9s
JOW Kunigami 55.23 75 P **P** **23 51 30.5 -0.7**
JOW Kunigami 55.23 75 P **P** **23 51 35.1 +3.9**
JOW Kunigami 55.23 75 LR LR 00 15 56.8
comp=Z,1µm,20.3s,baz=234,slow=37
SPITS Spitsbergen Ar 55.48 349 P **P** **23 51 31.9 -0.3**
SPITS pmax pmax
comp=Z,197nm,1.6s
SPITS Spitsbergen Ar 55.48 349 P **P** **23 51 32.2 -0.1**
comp=Z,8.9nm,0.8s,baz=120,slow=12,SNR=6.9
SPITS LR LR 00 19 12.7
comp=Z,748nm,18.9s,baz=102,slow=40
comp=Z,8.9nm,0.8s
LSZ Lusaka 55.80 225 IAMs_20 IAMs_20 00 16 30.8
comp=Z,2µm,20.0s
LSZ Lusaka 55.80 225 LR LR 00 16 33.0
comp=Z,1µm,19.6s,baz=43,slow=37
JNU Nakatsue 55.88 67 P **P** **23 51 35.2 -0.7**
JNU Nakatsue 55.88 67 P **P** **23 51 39.4 +3.6**
JNU Nakatsue 55.88 67 LR LR 00 19 07.0
comp=Z,1µm,19.8s,baz=284,slow=40
TIXI Tiksi 55.93 20 P **P** **23 51 36.1 +0.6**
TIXI IAmb IAmb 23 51 58.0
comp=Z,88nm,2.0s
TIXI Tiksi 55.93 20 IAMs_20 IAMs_20 00 19 18.4
comp=Z,2µm,18.0s
TIXI Tiksi 55.93 20 P **P** **23 51 36.1 +0.6**
TIXI pmax pmax
comp=Z,88nm,2.0s
TIXI MLR MLR
comp=Z,2µm,18.0s
TIXI Tiksi 55.93 20 LR LR 00 19 28.1
comp=Z,75nm,18.9s,baz=269,slow=40
EKA Eskdalemuir Ar 56.02 320 P **P** **23 51 35.0 -1.4**
comp=Z,1.9nm,0.3s,baz=106,slow=7.4,SNR=9.8

comp=Z,1.9nm,0.3s
KBS Kingsbay 56.63 349 P P 23 51 40.2 -0.2
KBS Kingsbay 56.63 349 *eP* **P 23 51 41.0 +0.6**
KBS Kingsbay 56.63 349 P P 23 51 40.2 -0.2
KBS pmax pmax
comp=Z,99nm,1.3s
KBS Kingsbay 56.63 349 *i P* **P 23 51 41.3 +0.9**
GRNR Gornyy 57.41 45 *i P* **P 23 51 48.5 +2.1**
GRNR pmax pmax
comp=Z,9.0nm,1.1s
ESBB Sonseca Array 58.00 301 P P 23 51 50.4 -0.3
ESBB IAmb IAmb 23 51 53.1
comp=Z,58nm,2.0s
ESDC Sonseca Array 58.00 301 P P 23 51 50.6 -0.2
ESDC IAmb IAmb 23 51 54.1
comp=Z,72nm,2.0s
ESDC Sonseca Array 58.00 301 P P 23 51 50.3 -0.5
comp=Z,2.6nm,0.8s,baz=68,slow=4.7,SNR=16
comp=Z,2.6nm,0.8s
JMN Monobe 58.19 66 P P 23 51 51.5 -0.7
JMN Monobe 58.19 66 P P 23 51 54.9 +2.7
PAB San Pablo 58.31 301 P P 23 51 52.9 -0.1
PAB IAmb IAmb 23 51 56.3
comp=Z,81nm,1.9s
PAB San Pablo 58.31 301 P P 23 51 52.9 -0.1
PAB pmax pmax
comp=Z,81nm,1.9s
MPSI Mapaga 58.53 108 P P 23 51 53.9 -0.8
comp=Z,30nm,1.7s,comp=Z,880nm
TOLI2 Tolitoli 58.88 107 P P 23 51 56.8 -0.3
JMIC Jan Mayen 59.25 338 LR LR 00 19 17.6
comp=Z,944nm,18.2s,baz=70,slow=38
PBRG Braganca 59.68 304 *eP* **P 23 52 04.0 +1.6**
comp=Z,39nm,1.5s
MVO Moncorvo 60.01 304 *eP* **P 23 52 06.7 +1.9**
comp=Z,51nm,1.5s
MDT Midelt 60.02 294 LR LR 00 24 24.2
comp=Z,1µm,18.3s,baz=94,slow=42
DAV Davao City (W) 60.14 98 LR LR 00 22 19.9
comp=Z,555nm,18.0s,baz=296,slow=40
PVRL Vila Real 60.50 304 *eP* **P 23 52 09.2 +1.2**
comp=Z,68nm,1.6s
POLO Lamas de Olo 60.54 304 *eP* **P 23 52 10.8 +2.4**
comp=Z,16nm,1.5s
MTE Manteigas 60.55 303 *eP* **P 23 52 11.0 +2.5**
comp=Z,50nm,1.8s
MTE Manteigas 60.55 303 P P 23 52 08.0 -0.5
MTE IAmb IAmb 23 52 17.3
comp=Z,36nm,1.3s
PCBR Castelo Branco 60.62 302 *eP* **P 23 52 10.4 +1.6**
comp=Z,72nm,1.5s
PMRV Marv??o 60.64 302 *eP* **P 23 52 11.6 +2.6**
comp=Z,37nm,1.6s
PBAR Barrancos 60.65 300 *eP* **P 23 52 09.9 +0.8**
comp=Z,96nm,1.6s
PVIS Viseu 60.75 303 *eP* **P 23 52 11.4 +1.6**
PGAV Gavieira, Arco 60.77 305 *eP* **P 23 52 11.7 +1.8**
PESTR Estremoz 60.92 301 P P 23 52 11.1 +0.2
PESTR IAmb IAmb 23 52 13.3
comp=Z,40nm,1.6s
MAJO Matsushiro 60.97 61 P P 23 52 12.8 +1.5
MAJO Matsushiro 60.97 61 *eP* **P 23 52 11.9 +0.6**
MAJO pmax pmax
comp=Z,34nm,1.3s
MJAR Matsushiro Arr 60.97 61 P P 23 52 11.1 -0.2
comp=Z,3.2nm,0.7s,baz=289,slow=9.8,SNR=8.7
MJAR LR LR 00 19 07.8
comp=Z,458nm,21.7s,baz=283,slow=37
comp=Z,3.2nm,0.7s
TOA0 Torodi Ar. Sit 61.05 270 P P 23 52 11.3 -0.8
TOA0 IAmb IAmb 23 52 16.2
comp=Z,24nm,0.8s
TORD Torodi Ar. Bea 61.05 270 P P 23 52 11.3 -0.7
TORD IAmb IAmb 23 52 16.2
comp=Z,18nm,0.9s
TORD Torodi Ar. Bea 61.05 270 P P 23 52 11.1 -1.0
comp=Z,18nm,0.7s,baz=54,slow=7.7,SNR=45
TORD LR LR 00 21 55.3
comp=Z,2µm,18.3s,baz=65,slow=39
comp=Z,18nm,0.7s
COI Coimbra 61.24 303 *eP* **P 23 52 14.0 +1.0**
comp=Z,59nm,1.8s
EVO Evora 61.32 301 *eP* **P 23 52 14.8 +1.2**
comp=Z,45nm,1.5s
PBEJ Beja 61.32 300 *eP* **P 23 52 14.8 +1.2**
comp=Z,45nm,1.7s
KAPI Kappang 61.34 113 LR LR 00 21 29.0
comp=Z,411nm,20.7s,baz=294,slow=39
PMTG Montargil 61.35 302 *eP* **P 23 52 14.8 +1.0**
comp=Z,40nm,1.7s
PVAQ Vaqueiros 61.35 300 *eP* **P 23 52 15.6 +1.7**
MESJ Messejana 61.64 300 *eP* **P 23 52 17.3 +1.5**
comp=Z,35nm,1.6s
PSBE So Bento 61.68 302 *eP* **P 23 52 18.1 +2.0**
comp=Z,88nm,2.0s
PNCL Nicolau / Gran 61.81 301 *eP* **P 23 52 18.2 +1.3**
comp=Z,65nm,1.6s
PACT Alcochete 61.89 301 *eP* **P 23 52 19.1 +1.7**
comp=Z,128nm,1.8s
NOR Nord 62.01 351 *i P* **P 23 52 18.3 +0.7**
NOR IAmb IAmb 23 52 21.8
comp=Z,8.9nm,0.8s
YSS Yuzh-Sakhalins 62.06 49 *eP* P 23 52 11.4 -7.0
PTEO Sao Teotonio 62.10 300 *eP* **P 23 52 20.4 +1.5**
comp=Z,41nm,2.0s
LIS Lisbon 62.14 301 *eP* **P 23 52 21.4 +2.3**
comp=Z,65nm,1.1s
PFVI Vila Bisbo 62.28 300 *eP* **P 23 52 20.9 +0.8**
comp=Z,117nm,1.6s
DAG Danmarks Havn 62.29 345 *i P* **P 23 52 19.0 -0.5**
DAG IAmb IAmb 23 52 28.9
comp=Z,18nm,0.9s
ASAJ Asahikawa 62.53 52 LR LR 00 21 04.0
comp=Z,2µm,20.7s,baz=294,slow=38
JHJ Hachijo jima 2 63.12 65 LR LR 00 21 22.3
comp=Z,881nm,20.6s,baz=273,slow=38
BORG Borgarnes 64.34 332 LR LR 00 23 08.0
comp=Z,2µm,18.2s,baz=71,slow=38
MA2 Magadan 64.43 34 *i P* **P 23 52 35.5 +1.5**
MA2 pmax pmax
comp=Z,42nm,1.4s
MA2 Magadan 64.43 34 LR LR 00 22 41.4
comp=Z,2µm,19.8s,baz=274,slow=38
SEY Seymchan 64.58 30 *eP* **P 23 52 35.7 +0.8**
SEY pmax pmax
comp=Z,30nm,1.5s
SEY Seymchan 64.58 30 LR LR 00 23 33.0
comp=Z,2µm,21.8s,baz=278,slow=39
LBTB Lobatse 64.79 220 P P 23 52 37.0 +0.2
LBTB IAmb IAmb 23 52 53.9
comp=Z,23nm,1.2s
LBTB Lobatse 64.79 220 P P 23 52 37.1 +0.2
LBTB pmax pmax
comp=Z,23nm,1.3s
LBTB Lobatse 64.79 220 LR LR 00 20 45.5
comp=Z,915nm,18.8s,baz=36,slow=36
EDFI Ende, Flores 65.05 115 P P 23 52 37.9 -0.9
comp=Z,20nm,0.9s
MMRI Maumere 65.43 115 P P 23 52 40.1 -1.0
MMRI IAmb IAmb 23 52 48.2
comp=Z,32nm,0.9s
LBMI Labuha 65.53 104 P P 23 52 43.5 +1.7
comp=Z,59nm,1.7s
TSUM Tsumeb 65.62 230 P P 23 52 42.5 +0.1
TSUM Tsumeb 65.62 230 IAMs_20 IAMs_20 00 22 26.0
comp=Z,1µm,20.0s
JCJ Chichijima 66.97 70 LR LR 00 25 57.3
comp=Z,471nm,18.6s,baz=74,slow=40
BATI Baumata 67.47 115 LR LR 00 24 19.2
comp=Z,652nm,21.8s,baz=321,slow=38
ALE Alert 67.60 354 IAMs_20 IAMs_20 00 25 22.5
comp=Z,1µm,19.0s
SOEI Soe 67.70 115 P P 23 52 54.9 -0.9
SOEI Soe 67.70 115 P P 23 52 59.8 +4.0
SOEI Soe 67.70 115 P P 23 52 58.8 +3.0
comp=Z,62nm,1.0s
BOSA Boshof 67.78 218 P P 23 52 55.2 -0.7
BOSA Boshof 67.78 218 P P 23 52 55.2 -0.7
BOSA pmax pmax
comp=Z,76nm,1.9s
BOSA Boshof 67.78 218 P P 23 52 55.4 -0.6
comp=Z,7.2nm,0.6s,baz=41,slow=6.4,SNR=19
BOSA LR LR 00 20 24.9
comp=Z,740nm,21.2s,baz=36,slow=34
comp=Z,7.2nm,0.6s
SUMG Summit 68.26 342 P P 23 52 58.0 -0.8
SUMG IAmb IAmb 23 53 08.5
comp=Z,22nm,0.9s
SUMG Summit 68.26 342 P P 23 52 58.0 -0.8
SUMG pmax pmax
comp=Z,22nm,0.9s
SUMG Summit 68.26 342 *i P* **P 23 52 58.7 -0.1**
SUMG IAmb IAmb 23 53 03.5
comp=Z,6.7nm,0.6s
WIN Windhoek 68.27 228 IAMs_20 IAMs_20 00 24 47.3
comp=Z,1µm,19.0s
BILL Bilibino 68.81 23 P P 23 53 02.1 +0.3
BILL Bilibino 68.81 23 *i P* **P 23 53 03.3 +1.5**
NEEM North Greenlan 69.00 348 *i P* **P 23 53 04.5 +1.3**
NEEM IAmb IAmb 23 53 13.2
comp=Z,19nm,0.9s
DBIC Dimbokro 69.64 267 P P 23 53 08.5 +0.7
DBIC IAmb IAmb 23 53 29.0
comp=Z,37nm,1.5s
DBIC Dimbokro 69.64 267 P P 23 53 08.5 +0.7
DBIC pmax pmax
comp=Z,37nm,1.5s
DBIC Dimbokro 69.64 267 P P 23 53 08.5 +0.7
comp=Z,3.1nm,0.6s,baz=62,slow=5.9,SNR=5.0
DBIC LR LR 00 26 47.1
comp=Z,1µm,18.2s,baz=47,slow=39
comp=Z,3.1nm,0.6s
KIC Kosan Boka 69.67 267 *eP* **P 23 53 09.8 +1.8**
comp=Z,7.0nm,0.6s
TIC Toumodi 69.79 267 *eP* **P 23 53 11.0 +2.2**
comp=Z,11nm,0.8s
PETK Petropavlovsk- 69.81 40 LR LR 00 27 43.2
comp=Z,1µm,18.6s,baz=287,slow=39
PMAR Madeira 69.93 297 *eP* **P 23 53 11.8 +2.2**
comp=Z,167nm,1.7s
ICESG Greenland Ices 69.98 338 *i P* **P 23 53 10.3 +0.8**
ICESG IAmb IAmb 23 53 19.3
comp=Z,11nm,0.8s
LIC Lamto 69.99 267 *i P* **P 23 53 13.5 +3.5**
comp=Z,19nm,0.8s
PET Petropavlovsk 70.39 40 IAMs_20 IAMs_20 00 27 42.1
comp=Z,1µm,21.0s
PET Petropavlovsk 70.39 40 *eP* **P 23 53 11.1 -0.6**
PET *eS* **S 00 02 19.9 -4.3**
PET MLR MLR
comp=Z,2µm,17.0s
EUNU Eureka 71.74 355 P P 23 53 19.6 -0.1
EUNU IAmb IAmb 23 53 24.4
comp=Z,69nm,1.8s
SAUI Saumlaki 72.55 109 P P 23 53 25.9 +0.5
SAUI Saumlaki 72.55 109 P P 23 53 29.6 +4.2
SUR Sutherland 73.11 219 LR LR 00 23 43.9
comp=Z,645nm,21.1s,baz=34,slow=34
DY2G Dye2 73.42 337 *i P* **P 23 53 30.4 +0.3**
DY2G IAmb IAmb 23 53 34.3
comp=Z,15nm,0.7s
GUMO Guam 74.45 83 LR LR 00 27 50.9
comp=Z,351nm,20.7s,baz=280,slow=37
SFJD Kangerlussuaq 74.61 339 LR LR 00 27 37.1
comp=Z,646nm,20.1s,baz=48,slow=37
KDU Kakadu 76.02 112 P P 23 53 50.7 +5.1
RES Resolute Bay 77.44 355 LR LR 00 31 17.8
comp=Z,723nm,21.4s,baz=23,slow=38
NWAO Narrogin (SRO) 77.44 138 LR LR 00 24 35.2
comp=Z,235nm,21.9s,baz=302,slow=33
C16K Lisburne Hills 77.56 17 IAMs_20 IAMs_20 00 34 11.0
comp=Z,941nm,18.0s
C16K Lisburne Hills 77.56 17 P P 23 53 51.9 -1.5
baz=315
B18K Kokolik River 77.65 16 P P 23 53 52.6 -1.4
baz=318
A22K Sinclair Lake 77.85 13 P P 23 53 54.0 -1.0
baz=324
C17K DeLong Mountai 77.97 16 P P 23 53 55.0 -0.8
baz=317
B20K Meade River 78.20 14 P P 23 53 56.3 -0.7
baz=322
C18K Utukok River 78.34 16 P P 23 53 57.0 -0.9
C18K IAmb IAmb 23 54 02.1
comp=Z,29nm,1.4s
C18K IAMs_20 IAMs_20 00 34 45.5
comp=Z,971nm,19.0s
C18K Utukok River 78.34 16 P P 23 53 56.8 -1.1
baz=318
RDOG Red Dog Mine 78.35 17 IAMs_20 IAMs_20 00 32 34.9
comp=Z,909nm,20.0s
C19K Lookout Ridge 78.37 15 IAMs_20 IAMs_20 00 35 14.4
comp=Z,1µm,22.0s
C19K Lookout Ridge 78.37 15 P P 23 53 57.4 -0.7
baz=320
B22K Teshekpuk Lake 78.69 13 P P 23 53 59.4 -0.3
baz=325
SHEM Shemya Is, Ala 78.98 36 LR LR 00 32 51.2
comp=Z,383nm,18.2s,baz=288,slow=39
B21K Ikpikpuk River 79.05 13 P P 23 54 00.4 -1.3
baz=324
D19K Kuna River 79.18 15 P P 23 54 01.3 -1.2
D19K IAmb IAmb 23 54 06.6
comp=Z,38nm,1.1s
D19K Kuna River 79.18 15 P P 23 54 01.4 -1.2
baz=321
D20K Etivluk River 79.35 14 P P 23 54 02.7 -0.7
baz=322,SNR=8.6
E17K Hotham Inlet 79.35 17 P P 23 54 03.0 -0.4
baz=318
C21K Knifeblade Rid 79.39 14 P P 23 54 03.4 -0.2
baz=324,SNR=6.5
E18K Tukpahlearik C 79.41 16 IAMs_20 IAMs_20 00 34 30.9
comp=Z,833nm,19.0s
E18K Tukpahlearik C 79.41 16 P P 23 54 03.3 -0.4
baz=319
F15K North Star Dit 79.59 19 P P 23 54 03.8 -0.9
F15K IAmb IAmb 23 54 09.2
comp=Z,33nm,1.2s
F15K North Star Dit 79.59 19 P P 23 54 04.5 -0.2
baz=316
C23K Itkillik River 79.65 12 P P 23 54 04.7 -0.2
C23K IAmb IAmb 23 54 09.8
comp=Z,50nm,1.1s
C23K Itkillik River 79.65 12 P P 23 54 05.0 +0.1
baz=328
E20K Nigu River 79.81 15 P P 23 54 05.5 -0.5
baz=323,SNR=5.8
F17K Baldwin Pennin 79.99 17 P P 23 54 06.6 -0.2
baz=319,SNR=6.2
D22K Ayikyak River 80.05 13 P P 23 54 06.7 -0.5
D22K IAmb IAmb 23 54 11.8
comp=Z,42nm,1.4s
D22K Ayikyak River 80.05 13 P P 23 54 06.8 -0.4
baz=326
C24K Franklin Bluff 80.09 12 P P 23 54 07.7 +0.3
baz=329
E21K Killik River 80.14 14 IAMs_20 IAMs_20 00 36 28.3
comp=Z,1µm,20.0s
E21K Killik River 80.14 14 P P 23 54 07.6 -0.1
baz=325
E19K Redstone River 80.21 15 IAMs_20 IAMs_20 00 36 37.9
comp=Z,831nm,20.0s
E19K Redstone River 80.21 15 P P 23 54 07.4 -0.7
baz=322
G15K Niukluk 80.28 19 P P 23 54 08.7 +0.2
baz=316
D23K Nanushuk River 80.37 13 P P 23 54 08.6 -0.3
baz=328
G16K Koyuk River 80.47 18 IAMs_20 IAMs_20 00 33 13.0
comp=Z,593nm,18.0s
G16K Koyuk River 80.47 18 P P 23 54 09.1 -0.3
baz=318
C26K Camden Bay 80.56 10 P P 23 54 09.6 -0.2
baz=333
D24K Happy Valley 80.56 12 P P 23 54 09.4 -0.5
D24K Happy Valley 80.56 12 P P 23 54 09.5 -0.4
baz=329
F19K Shaleruckik Mo 80.57 16 IAMs_20 IAMs_20 00 34 43.6
comp=Z,1µm,20.0s
F19K Shaleruckik Mo 80.57 16 P P 23 54 08.8 -1.2
baz=322,SNR=7.6
A36M Sachs Harbour 80.66 3 IAMs_20 IAMs_20 00 34 48.9
comp=Z,779nm,20.0s
A36M Sachs Harbour 80.66 3 P P 23 54 09.6 -0.7
baz=350
D25K Kavik River 80.85 11 P P 23 54 11.3 -0.2
baz=331
E22K Anaktuvuk Pass 80.85 13 P P 23 54 11.6 +0.1
baz=327,SNR=11
G17K Kiwalik Mounta 80.86 18 P P 23 54 10.9 -0.7
baz=319
TOLK Toolik Lake Re 80.86 12 P P 23 54 10.6 -1.0
TOLK IAmb IAmb 23 54 16.1
comp=Z,55nm,1.2s
TOLK Toolik Lake Re 80.86 12 P P 23 54 11.1 -0.5
baz=329,SNR=17
F20K Avaraart Lake 80.89 15 IAMs_20 IAMs_20 00 35 08.9
comp=Z,963nm,20.0s
F20K Avaraart Lake 80.89 15 P P 23 54 10.7 -1.0
baz=323
H16K Elim 81.07 19 P P 23 54 11.8 -0.9
baz=318
G18K Tagagawik 81.09 17 P P 23 54 10.7 -2.1
baz=321
F21K Alatna River 81.26 14 IAMs_20 IAMs_20 00 32 02.7
comp=Z,885nm,21.0s
F21K Alatna River 81.26 14 P P 23 54 12.3 -1.4
baz=325
G19K Purcell Mounta 81.29 16 IAMs_20 IAMs_20 00 35 56.5
comp=Z,887nm,21.0s
G19K Purcell Mounta 81.29 16 P P 23 54 12.7 -1.1
baz=322,SNR=8.2
F22K John River 81.30 14 P P 23 54 13.6 -0.4
baz=326
E23K Chandalar 81.36 13 P P 23 54 13.6 -0.7
baz=329
WB0 Warramunga Arr 81.39 117 P P 23 54 12.9 -2.1
WRA Warramunga Arr 81.44 118 P P 23 54 13.4 -1.9
WRA Warramunga Arr 81.44 118 *i P* **P 23 54 14.6 -0.8**
WRA pmax pmax
comp=Z,7.0nm,1.0s
WRA Warramunga Arr 81.44 118 P P 23 54 13.5 -1.9
comp=Z,1.8nm,0.9s,baz=319,slow=4.7,SNR=14
comp=Z,1.8nm,0.9s
H17K Granite Mounta 81.49 18 IAMs_20 IAMs_20 00 36 36.0
comp=Z,958nm,19.0s
H17K Granite Mounta 81.49 18 P P 23 54 13.9 -1.1
baz=320
E24K Your Creek 81.56 12 IAMs_20 IAMs_20 00 35 33.6
comp=Z,801nm,20.0s
E24K Your Creek 81.56 12 P P 23 54 13.9 -1.4
baz=330
WR0 Warramunga Arr 81.61 117 P P 23 54 14.3 -2.0
H18K Honhosa River 81.74 17 P P 23 54 14.9 -1.4
baz=321
D27M Malcolm River 81.77 9 P P 23 54 15.3 -1.1
baz=336,SNR=6.6
G21K Allakaket 81.84 15 IAMs_20 IAMs_20 00 36 25.0
comp=Z,725nm,20.0s
G21K Allakaket 81.84 15 P P 23 54 16.3 -0.5
baz=325
G22K Bettles 81.94 14 P P 23 54 16.1 -1.1
baz=327
H19K Roundabout Mou 81.94 16 IAMs_20 IAMs_20 00 37 20.7
comp=Z,938nm,18.0s
H19K Roundabout Mou 81.94 16 P P 23 54 16.1 -1.1
baz=323
COLD Coldfoot 81.95 13 P P 23 54 15.6 -1.7
baz=328,SNR=18
D28M Stokes Point 81.99 9 P P 23 54 15.4 -2.0
baz=338
E25K Arctic Village 82.05 11 P P 23 54 17.6 -0.2
baz=332,SNR=14
J14K Nanvaranak Lak 82.08 21 IAMs_20 IAMs_20 00 32 23.4
comp=Z,801nm,21.0s
J14K Nanvaranak Lak 82.08 21 P P 23 54 17.8 -0.2
baz=317
I17K Unalakleet 82.08 19 P P 23 54 16.3 -1.7
baz=320
F24K Squaw Lake 82.16 12 P P 23 54 17.2 -1.3
baz=330,SNR=7.0
IMAR Indian Mountai 82.22 15 P P 23 54 17.8 -1.0
FRB Frobisher Bay 82.33 341 LR LR 00 32 04.9
comp=Z,439nm,21.2s,baz=38,slow=36
H20K Anotleneega Mo 82.35 16 P P 23 54 18.1 -1.4
baz=324
G23K Bananza Creek 82.43 14 P P 23 54 19.5 -0.4
G23K IAmb IAmb 23 54 24.4
comp=Z,23nm,1.1s
G23K Bananza Creek 82.43 14 P P 23 54 18.1 -1.8
baz=328
F25K Christian Rive 82.50 12 P P 23 54 18.8 -1.5
baz=332
E28M Babbage River 82.56 9 P P 23 54 20.3 -0.2
baz=338
J16K Anvik River 82.57 19 P P 23 54 20.0 -0.6
baz=320
E27K Coleen River 82.64 10 P P 23 54 20.0 -0.9
baz=336
F26K Sheenjek River 82.68 11 P P 23 54 20.3 -0.8
baz=334
H21K Melozitna Rive 82.71 15 P P 23 54 20.8 -0.5
baz=326
H22K Ishtalitna Cre 82.83 14 P P 23 54 20.6 -1.4
baz=327,SNR=11
BMAR Burnt Mountain 82.84 11 P P 23 54 22.0 0.0
G24K Hadweenzic Riv 82.95 13 P P 23 54 21.5 -1.0
baz=331
E29M Blow River 82.98 9 P P 23 54 21.7 -1.0
baz=339
I20K Naaghedeneel 83.02 16 IAMs_20 IAMs_20 00 35 23.3
comp=Z,941nm,20.0s
I20K Naaghedeneel 83.02 16 P P 23 54 21.9 -1.0
baz=325
K15K Wolf Creek Mou 83.04 20 P P 23 54 21.7 -1.4
baz=319
ASAR Alice Springs 83.14 121 P P 23 54 23.0 -1.2
ASAR Alice Springs 83.14 121 P P 23 54 23.0 -1.2
ASAR Alice Springs 83.14 121 P P 23 54 22.2 -2.1
comp=Z,1.3nm,0.5s,baz=309,slow=5.4,SNR=18
ASAR LR LR 00 34 50.5
comp=Z,205nm,19.4s,baz=298,slow=38
comp=Z,1.3nm,0.5s
G25K Bearman Lake 83.16 12 P P 23 54 21.8 -1.8
baz=332,SNR=7.2
AS01 Alice Springs 83.17 121 P P 23 54 29.1 +4.7
I21K Tanana 83.30 15 P P 23 54 23.6 -0.8
baz=327
C36M Paulatuk 83.34 3 P P 23 54 23.1 -1.3
baz=351,SNR=6.0
J19K Poorman 83.39 17 IAMs_20 IAMs_20 00 36 45.0
comp=Z,912nm,18.0s
J19K Poorman 83.39 17 P P 23 54 23.9 -1.0
baz=324
L14K Kuka Creek 83.39 21 P P 23 54 23.9 -0.9
baz=318
G26K Porcupine Rive 83.41 11 P P 23 54 24.1 -0.8
baz=334
F28M Old Crow 83.43 10 P P 23 54 24.1 -0.9
baz=337,SNR=9.3
J18K Innoko River 83.52 18 P P 23 54 23.1 -2.5
baz=323
L15K Ungalak Mounta 83.52 21 P P 23 54 24.7 -0.9
baz=319
INK Inuvik 83.59 7 P P 23 54 24.8 -1.0
INK IAmb IAmb 23 54 29.9
comp=Z,39nm,1.4s
INK Inuvik 83.59 7 P P 23 54 25.4 -0.4
baz=343,SNR=11
INK Inuvik 83.59 7 P P 23 54 24.8 -1.0
INK pmax pmax
comp=Z,39nm,1.5s
J20K Nowinta River 83.61 16 P P 23 54 25.5 -0.5
baz=325
H24K Noodor Dome 83.63 13 P P 23 54 26.0 -0.1
baz=330
K17K Iditarod 83.67 19 P P 23 54 25.3 -1.1
baz=322
MLY Manley 83.71 15 P P 23 54 25.8 -0.8
MLY Manley 83.71 15 P P 23 54 24.5 -2.0
baz=328,SNR=5.3
G27K Doyon Strip 83.89 11 P P 23 54 27.0 -0.5
baz=336
I23K Minto, Yukon-K 83.91 14 P P 23 54 26.6 -0.9
baz=329,SNR=7.2
F30M Barrier River 83.99 8 P P 23 54 26.2 -1.7
baz=341
M14K Bethel 84.07 21 P P 23 54 26.5 -1.9
baz=319
L16K Owhat River 84.12 20 P P 23 54 27.6 -1.0
L16K IAmb IAmb 23 54 33.5
comp=Z,40nm,1.4s
L16K Owhat River 84.12 20 P P 23 54 27.4 -1.2
baz=321
L17K Donlin 84.13 19 P P 23 54 27.6 -1.1
baz=322
TTA Tatalina 84.14 18 P P 23 54 27.1 -1.8
baz=324
K20K Telida 84.31 17 P P 23 54 26.9 -2.7
baz=325
MDM Murphy Dome 84.32 14 P P 23 54 28.7 -1.0

MDM				IAmb	IAmb	23 54 33.8	
	comp=Z,32nm,1.2s						
POKR	Poker Plat Res	84.35	13	P	P	23 54 27.4	-2.3
	baz=331,SNR=9.2						
G29M	Pine Creek	84.35	9	P	P	23 54 27.1	-2.6
	baz=339						
PRP	Porcupine Dome	84.38	13	P	P	23 54 28.7	-1.4
	baz=332						
F31M	Tsiigehtchic	84.40	7	P	P	23 54 29.1	-0.8
	baz=343,SNR=10.0						
BPAW	Bear Paw Mtn.	84.44	15	P	P	23 54 29.4	-0.9
	baz=328						
H27K	Steamboat Moun	84.44	11	P	P	23 54 29.8	-0.5
	baz=336						
NEA2	Nenana	84.46	14	P	P	23 54 30.4	+0.1
	baz=329,SNR=9.6						
COLA	College	84.47	14	P	P	23 54 29.9	-0.4
COLA				IAmb	IAmb	23 55 02.6	
	comp=Z,18nm,1.0s						
COLA	College	84.47	14	P	P	23 54 30.7	+0.3
	baz=330						
COLA	College	84.47	14	P	P	23 54 29.9	-0.4
COLA				pmax	pmax		
	comp=Z,19nm,1.0s						
M15K	Kasigluk River	84.52	21	P	P	23 54 29.7	-1.0
	baz=320						
L18K	Granite Mounta	84.53	18	P	P	23 54 29.5	-1.2
	baz=323						
G30M	tAoh Zraii Nji	84.53	8	P	P	23 54 30.3	-0.4
	baz=340						
CAST	Castle Rocks	84.76	16	P	P	23 54 30.9	-1.0
CAST				IAmb	IAmb	23 54 35.9	
	comp=Z,26nm,1.2s						
CAST	Castle Rocks	84.76	16	P	P	23 54 30.4	-1.5
	baz=327						
IL31		84.76	13	P	P	23 54 30.5	-1.3
IL31				IAmb	IAmb	23 54 58.7	
	comp=Z,26nm,1.6s						
ILAR	Eielson Array	84.76	13	P	P	23 54 30.1	-1.8
ILAR	Eielson Array	84.76	13	P	P	23 54 30.1	-1.8
ILAR	Eielson Array	84.76	13	P	P	23 54 29.5	-2.3
	comp=Z,1.9nm,0.7s,baz=325,slow=4.0,SNR=18						
ILAR				LR	LR	00 39 35.2	
	comp=Z,783nm,18.5s,baz=308,slow=41						
	comp=Z,1.9nm,0.7s						
M16K	Timber Creek	84.81	20	P	P	23 54 30.5	-1.7
	baz=321						
G31M	Satah River	84.83	8	P	P	23 54 31.6	-0.5
	baz=342,SNR=6.6						
H29M	Whitestone	84.95	10	P	P	23 54 31.6	-1.2
	baz=339						
M17K	Holitna River	84.97	19	P	P	23 54 31.7	-1.2
	baz=322						
I27K	Kandik River	85.00	11	P	P	23 54 32.7	-0.4
	baz=336						
I26K	Coal Creek Min	85.01	12	P	P	23 54 32.2	-0.8
	baz=334						
EPYK	Eagle Plains	85.04	9	P	P	23 54 32.4	-0.9
	baz=340						
L19K	White Mountain	85.07	18	P	P	23 54 32.7	-0.8
	baz=325						
HDA	Harding Lake	85.07	14	P	P	23 54 33.1	-0.3
	baz=331						
HDA				P	P	23 54 33.1	-0.3
	baz=331						
L20K	Farewell, AK	85.08	17	P	P	23 54 33.2	-0.4
	baz=325						
N15K	Kwethluk River	85.12	21	P	P	23 54 31.8	-1.9
	baz=320						
TRF	Thorofare Moun	85.16	15	P	P	23 54 31.1	-3.0
	baz=328						
PPLA	Purkeypile	85.17	16	P	P	23 54 33.1	-1.1
	baz=327						
J25K	Salcha River,	85.21	13	IAMs_20	IAMs_20	00 39 43.2	
	comp=Z,903nm,19.0s						
J25K	Salcha River,	85.21	13	P	P	23 54 33.4	-0.8
	baz=333						
MCK	McKinley	85.23	15	P	P	23 54 34.2	-0.1
	baz=330						
N16K	Nishlik Lake	85.30	20	P	P	23 54 34.4	-0.3
	baz=321						
M18K	Stony River	85.36	19	P	P	23 54 33.1	-1.8
	baz=324						
I28M	Miner Creek	85.43	10	P	P	23 54 34.1	-1.2
	baz=337						
J26L	Joseph Creek	85.66	12	P	P	23 54 35.2	-1.3
	baz=334						
N17K	Nushagak Hills	85.74	20	P	P	23 54 35.2	-1.6
	baz=323						
SVW2	Sparrevohn	85.75	19	P	P	23 54 41.5	+4.6
EGAK	Eagle	85.84	11	P	P	23 54 36.8	-0.5
	baz=336						
H31M	Peel River	85.89	8	P	P	23 54 35.9	-1.7
	baz=342						
QIS	Mount Isa	85.95	115	P	P	23 54 42.2	+3.7
O15K	Ungalikthiuk R	85.97	22	P	P	23 54 37.2	-0.8
	baz=321						
N18K	Kilae Creek	86.00	19	P	P	23 54 36.9	-1.2
	baz=324						
SCRK	Sand Creek	86.05	13	P	P	23 54 37.4	-1.1
SCRK				IAmb	IAmb	23 54 42.8	
	comp=Z,36nm,1.4s						
SCRK	Sand Creek	86.05	13	P	P	23 54 37.3	-1.1
	baz=334,SNR=8.5						
WAT1	Susitna Watana	86.10	15	P	P	23 54 37.2	-1.4
	baz=330						
SKT	Skwentna	86.11	17	P	P	23 54 37.4	-1.3
	baz=327						
DHY	Denali Highway	86.15	14	P	P	23 54 36.9	-2.1
	baz=331						
I30M	Mount Dempster	86.17	9	P	P	23 54 37.5	-1.6
	baz=340						
O16K	Kokwok River B	86.20	21	P	P	23 54 38.0	-1.1
	baz=322						
N19K	Bonanza Creek	86.29	18	P	P	23 54 38.5	-1.2
	baz=325						
K27K	Chicken	86.36	12	P	P	23 54 39.1	-0.7
	baz=336						
O17K	Koliganek Bris	86.37	20	P	P	23 54 38.0	-1.9
	baz=323						
WAT6	Susitna Watana	86.50	15	P	P	23 54 39.5	-1.2
	baz=331						
N20K	Mount Spurr	86.59	17	P	P	23 54 39.3	-1.8
	baz=327						
M22K	Willow	86.66	16	P	P	23 54 40.8	-0.5
	baz=329						
PAX	Paxson	86.66	14	P	P	23 54 39.2	-2.3
	baz=333						
OOD	Oodnadatta	86.74	123	P	P	23 54 46.0	+3.8
SUA	Susitna One	86.75	17	P	P	23 54 39.8	-2.1
	baz=328						
J30M	Hart River	86.79	9	P	P	23 54 38.9	-3.2
	baz=340						
DAWY	Dawson	86.80	11	P	P	23 54 41.5	-0.5
DAWY				IAmb	IAmb	23 54 46.2	
	comp=Z,25nm,1.2s						
DAWY	Dawson	86.80	11	P	P	23 54 39.2	-2.9
	baz=338,SNR=6.7						
O18K	Koktuh Hills	86.87	19	P	P	23 54 39.3	-3.1
	baz=324						
P17K	Kvichak River	87.03	20	P	P	23 54 40.5	-2.6
	baz=323						
PMR	Palmer	87.04	16	P	P	23 54 41.2	-1.9
	baz=330						
L26K	Log Cabin Wild	87.04	13	P	P	23 54 42.3	-0.9
	baz=334						
SML	Sawmill	87.04	15	P	P	23 54 41.0	-2.2
	baz=330						
MENT	Mentasta	87.04	13	P	P	23 54 46.7	+3.5
SCM	Sheep Creek Mo	87.25	15	P	P	23 54 42.5	-1.8
	baz=331						
M24K	Tolsona, Glenn	87.27	14	P	P	23 54 41.3	-3.1
	baz=332						
L27K	Beaver Creek,	87.30	12	P	P	23 54 42.7	-1.7
	baz=336						
BCAR	Beaver Creek A	87.30	12	P	P	23 54 44.4	-0.1
K29M	Barlow Dome	87.31	10	P	P	23 54 40.5	-4.1
	baz=340						
L29M	L29M	87.90	11	P	P	23 54 46.8	-0.6
	baz=339						
M27K	Edge Creek, AK	87.93	12	P	P	23 54 46.0	-1.7
	baz=336						
M29M	Somme Creek	88.47	11	P	P	23 54 48.3	-1.8
	baz=339						
SCHQ	Schefferville	88.56	335	LR	LR	00 35 52.0	
	comp=Z,984nm,20.5s,baz=44,slow=36						
MTSU	Mount Surprise	88.59	111	P	P	23 54 56.6	+5.2
	comp=Z,5.1nm,0.9s						
BMRM	Bremner River	88.63	14	P	P	23 54 47.5	-3.4
	baz=333						
YUK3	Moose Creek	88.73	12	P	P	23 54 47.6	-4.0
	baz=337						
M31M	Drury Creek, Y	89.33	9	P	P	23 54 52.6	-1.5
	baz=342						
KDAK	Kodiak Island	89.35	19	LR	LR	00 40 52.7	
	comp=Z,618nm,19.0s,baz=347,slow=40						
YKA	Yellowknife Ar	90.48	0	*i* P	P	23 54 59.9	+0.5
YKA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
YKA	Yellowknife Ar	90.48	0	P	P	23 54 59.6	+0.2
	comp=Z,4.7nm,1.0s,baz=348,slow=4.8,SNR=28						
YKA				LR	LR	00 39 22.4	
	comp=Z,571nm,19.9s,baz=1.5,slow=38						
	comp=Z,4.7nm,1.0s						
INKA	Innaminka	90.52	121	P	P	23 55 04.4	+4.3
STKA	Stephens Creek	93.25	124	LR	LR	00 41 55.7	
	comp=Z,288nm,18.4s,baz=278,slow=39						
DLBC	Dease Lake	93.56	8	LR	LR	00 43 36.3	
	comp=Z,297nm,19.1s,baz=336,slow=40						
MAW	Mawson	94.67	181	LR	LR	00 31 03.9	
	comp=Z,343nm,20.0s,baz=7.5,slow=31						
HNR	Honiara	98.08	96	LR	LR	00 41 37.7	
	comp=Z,1μm,20.3s,baz=308,slow=37						
CASY	Casey	99.38	163	IAMs_20	IAMs_20	00 34 12.3	
	comp=Z,486nm,20.0s						
BBB	Bella Bella	99.91	9	LR	LR	00 48 03.3	
	comp=Z,188nm,18.4s,baz=349,slow=40						
RCBR	Riachuelo	102.88	270	IAMs_20	IAMs_20	00 50 56.6	
	comp=Z,602nm,19.0s						
NLWA	Neilton Lookou	105.12	7	IAMs_20	IAMs_20	00 52 43.8	
	comp=Z,598nm,19.0s						
FLWY	Flagg Ranch	108.85	357	IAMs_20	IAMs_20	00 48 33.5	
	comp=Z,600nm,21.0s						
DZM	Mont Dzumac	109.00	106	*e*LR	LR	00 32 35.1	
	comp=Z,303nm,22.2s						
MOD	Modoc Plateau	110.89	5	IAMs_20	IAMs_20	00 38 20.3	
	comp=Z,479nm,22.0s						
SMCO	Snowmass	113.47	354	IAMs_20	IAMs_20	00 51 15.0	
	comp=Z,618nm,22.0s						
OK035	E0210 Rd and N	114.61	346	IAMs_20	IAMs_20	00 46 51.8	
	comp=Z,574nm,21.0s						
BB19B	Bebedouro	120.21	260	*e*P	PKiKP	00 00 51.5	+1.8
BOAV	Boa Vista	120.35	291	*e*P	PKiKP	00 00 52.4	+2.2
TXAR	Lajitas Array	122.72	349	PKP	PKPdf	00 00 54.2	-0.3
	comp=Z,0.8nm,0.7s,baz=103,slow=1.9,SNR=8.9						
SDV	Santo Domingo	124.40	304	*e*P	PKiKP	00 00 60.0	+1.6
PTGB	Pitanga	124.46	258	*e*P	PKiKP	00 00 59.1	+1.1
PP1B	Ponte de Pedra	124.61	267	*e*P	PKiKP	00 00 59.8	+1.3
SALV	Santo Antonio	124.70	269	*e*P	PKiKP	00 01 00.2	+1.6
ITAB	Concordia	125.23	255	*e*P	PKiKP	00 01 00.8	+1.4
FRBT	Francisco Belt	125.69	256	*e*P	PKiKP	00 01 01.4	+1.0
MCR1	Marechal Candi	126.10	259	*e*P	PKiKP	00 01 02.2	+1.0
CRSM	Crissiumal (Br	126.93	255	*e*P	PKiKP	00 01 04.1	+1.3
TEFE	Tefe	126.98	288	*e*P	PKiKP	00 01 04.5	+1.2
BBRB	Robore, Bolivi	129.23	268	*e*P	PKiKP	00 01 08.8	+1.1
CPUP	Villa Florida	129.48	257	*e*P	PKiKP	00 01 08.7	+0.8
BBSD	Serra de San D	129.55	270	*e*P	PKiKP	00 01 09.4	+1.1
ITQB	Itaqui	129.65	253	*e*P	PKiKP	00 01 09.0	+0.9
PPT2	Papeete2	146.16	81	*e*LR	LR	00 49 46.7	
	comp=Z,426nm,24.0s						
PPT2				*e*LR	LR	00 49 54.3	
	comp=Z,361nm,24.8s						
TBI	Tubuai	148.11	91	*e*LR	LR	00 50 25.3	
	comp=Z,1μm,24.5s						
TAOE	Nuku Hiva Isla	149.49	58	*e*LR	LR	00 51 00.8	
	comp=Z,587nm,25.5s						

TEH 06 23:42:29.4, 30°.75N×57°.28E, h19km±31km, ML3.3, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.68	289	Pg	Pg	23 42 42.8	-0.1
KHGB	Koh Gabri	0.79	242	Pg	Pb	23 42 44.5	-0.1
TVBK	TV Kerman	0.88	211	Pg	Pg	23 42 46.9	+0.1
CHMN	Cheshme madani	0.91	166	Pg	Pb	23 42 46.8	-0.1
NGRK	Negar Kerman	1.20	204	Pg	Pg	23 42 52.6	-0.2
IBAF	Bafgh	1.69	300	Pg	Pg	23 43 01.1	-0.9
KBAM	BAM	1.90	147	Pn	Pb	23 43 02.6	-1.0
BSRN	Basiran	1.99	52	Pn	Pb	23 43 04.5	-0.6
IKOO	Kooshah	2.23	41	Pn	Pb	23 43 07.5	-1.7
TPRV	Parvadeh(Tabas	2.33	348	Pn	Pn	23 43 08.6	+1.9
NHDN	Nehbandan	2.46	74	Pn	Pb	23 43 10.9	-2.2
ITEG	Tejag	2.48	30	Pn	Pn	23 43 10.3	+1.4
TKDS	Koohdasht(Taba	2.86	357	Pn	Pn	23 43 15.8	+1.7
AFRZ	Afriz	3.05	28	Pn	Pn	23 43 18.6	+1.9
TNSJ	Nastanj	3.25	350	Pn	Pn	23 43 21.3	+1.8

IDC 06 23:58:34.7±3.5, 1°.56N×126°.94E, h121km±29km, mb3.5/9, mbtmp3.9/10, Error ellipse: s-maj=37.3km s-min=10.7km az=77.0

DJA 06 23:58:34.9±0.4, 2°N±3°×12°7E±°, h79km±10km, M4.6/12, mb4.7/7, mB5.2/2, MLv4.6/12, Mw(mB)4.6/2

NEIC 06 23:58:35.3±1.1, 1°.48N±0°.08×126°.85E±0°.08, h118km±6km, mb4.3/23, Error ellipse: s-maj=11.9km s-min=11.5km az=57.0

ISC 06 23:58:33.3±0.6, 1°.62N±0°.05×126°.90E±0°.06, h103km, n57, σ1s.44/65, mb4.2/22, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.96	151	Pn	Pn	23 58 55.8	+2.3
TNTI				Sn	Sn	23 59 11.8	+3.1
TNTI	Ternate	0.96	151	P	Pn	23 58 55.5	+2.0
LBMI	Labuha	2.32	165	P	Pn	23 59 11.8	+1.6
LBMI				S	Sn	23 59 40.5	+2.1
SGSI	Sangihe	2.47	326	P	Pn	23 59 12.7	+0.6
SGSI				S	Sn	23 59 40.4	-1.4
KMSI	Cibinong	3.10	250	P	Pn	23 59 22.1	+1.7
KMSI				S	Sn	23 59 57.6	+0.9
SANI	Sanana	3.75	194	P	Pn	23 59 29.0	-0.2
GTOI	Gorontalo	4.01	256	P	Pn	23 59 35.3	+2.7
NLAI	Namlea	4.83	178	P	Pn	23 59 44.8	+1.1
LUWI	Luwuk	4.90	237	Pn	Pn	23 59 45.3	+0.6
LUWI	Luwuk	4.90	237	P	Pn	23 59 47.0	+2.3
MRSI	Marisa	5.08	257	P	Pn	23 59 49.9	+2.7
	54nm,0.5s,926nm0.4nm						
TOLI2	Tolitoli	6.13	265	Pn	Pn	00 00 02.2	+0.7
FAKI	Fak Fak	7.00	130	Pn	Pn	00 00 13.5	+0.4
TTSI	Tana Toraja	8.46	237	P	Pn	00 00 33.6	+0.6
	54nm,0.5s						
SPSI	Sidrap Palu	9.03	232	P	Pn	00 00 41.4	+0.6
	52nm,0.6s,4μm						
MYLDM	Lahad Datu	9.10	293	Pn	Pn	00 00 43.4	+1.7
BKSI	Bulukumba	9.66	224	P	Pn	00 00 51.0	+1.6
	19nm,0.6s						
KAPI	Kappang	9.71	227	Pn	Pn	00 00 51.0	+0.8
KAPI	Kappang	9.71	227	P	Pn	00 00 52.4	+2.2
	9.8nm,0.3s,baz=21,slow=10,SNR=5.4						
KAPI				S	Sn	00 02 36.5	-0.9
	14nm,0.3s,baz=282,slow=22,SNR=5.3						
EDFI	Ende, Flores	11.53	207	P	Pn	00 01 15.9	+1.0
	13nm,0.8s						
PLAI	Plampang	13.79	221	P	P	00 01 47.6	-1.9
	53nm,1.2s						
TWSI	Taliwang, Sumb	14.34	224	P	P	00 01 56.5	+1.0
JAGI	Jajag, Banyuwa	16.18	232		Pn	00 02 14.5	-0.3
JAGI				IAmb	IAmb	00 02 32.6	
	comp=Z,30nm,1.2s						
KNRA	Kununurra	17.28	174		P	00 02 27.5	-0.6
WB0	Warramunga Arr	22.49	161	P	P	00 03 23.3	-1.1
WB0				IAmb	IAmb	00 03 30.3	
	comp=Z,9.6nm,0.8s						
WRA	Warramunga Arr	22.64	162	P	P	00 03 23.5	-2.3
WRA	Warramunga Arr	22.64	162	P	P	00 03 24.8	-1.1
	comp=Z,1.9nm,0.5s,baz=339,slow=11,SNR=32						
WRA				PcP	PcP	00 07 15.1	-0.3
	comp=Z,0.5nm,0.7s,baz=334,slow=2.4,SNR=3.0						
WRA				S	S	00 07 23.9	-2.5
	comp=Z,1.6nm,0.7s,baz=339,slow=19,SNR=10						
	comp=Z,1.9nm,0.5s						
WR0	Warramunga Arr	22.72	161	P	P	00 03 25.3	-1.4
MBWA	Marble Bar	23.70	197	P	P	00 03 33.8	-2.1
MBWA				IAmb	IAmb	00 03 37.4	
	comp=Z,8.5nm,0.9s						
PSA00	Pilbara Seismi	24.06	196	P	P	00 03 37.4	-1.7
PSA00				IAmb	IAmb	00 03 41.0	
	comp=Z,12nm,1.2s						
AS31	Alice Springs	26.04	165	P	P	00 03 56.7	-0.4
ASAR	Alice Springs	26.04	165	P	P	00 03 57.0	0.0
ASAR	Alice Springs	26.04	165	P	P	00 03 56.3	-0.8
	comp=Z,0.4nm,0.5s,baz=345,slow=11,SNR=4.0						
ASAR				S	S	00 08 19.5	-1.2
	comp=Z,0.4nm,0.8s,baz=346,slow=19,SNR=2.6						
	comp=Z,0.4nm,0.5s						
PZH	PanZhiHua	34.59	318	P	P	00 05 15.9	+3.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TOO	Toolangi	42.63	158	P	P	00 06 17.7	-1.8
TOO				IAmb	IAmb	00 06 27.8	
	comp=Z,6.7nm,1.1s						
SONM	Songino Array	49.34	342	P	P	00 07 13.7	+1.4
SONM	Songino Array	49.34	342	P	P	00 07 12.1	-0.1
	comp=Z,0.3nm,0.4s,baz=152,slow=6.5,SNR=2.9						
	comp=Z,0.3nm,0.4s						
WMQ	Urumqi	54.55	326	*e*P	P	00 07 49.9	-1.0
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
MK31	Makanchi Array	59.38	326	P	P	00 08 24.6	-0.2
MK31				IAmb	IAmb	00 08 26.6	
	comp=Z,3.1nm,0.9s						
MKAR	Makanchi Array	59.38	326	P	P	00 08 25.2	+0.3
	comp=Z,0.9nm,0.3s,baz=119,slow=7.7,SNR=32						
	comp=Z,0.9nm,0.3s						
ZALV	Zalesovo Beam	62.54	333	P	P	00 08 45.1	-0.9
	comp=Z,0.3nm,0.3s,baz=145,slow=5.3,SNR=2.2						
	comp=Z,0.3nm,0.3s						
KURBB	Kurchatov Arra	63.60	328	P	P	00 08 53.0	-0.1
	comp=Z,1.1nm,0.3s,baz=128,slow=6.3,SNR=16						
	comp=Z,1.1nm,0.3s						
KURK	Kurchatov	63.60	328	P	P	00 08 53.6	+0.4
KK31	Karatay Array	64.89	318	P	P	00 09 01.9	+0.1
KK31				IAmb	IAmb	00 09 03.7	
	comp=Z,3.3nm,1.1s						
KKAR	Karatay Array	64.89	318	P	P	00 09 01.7	-0.1
BVAR	Borovoye Array	69.17	327	P	P	00 09 28.1	-0.6
	comp=Z,2.1nm,1.0s,baz=134,slow=8.4,SNR=6.3						
	comp=Z,2.1nm,1.0s						
J16K	Anvik River	80.74	26	P	P	00 10 36.0	+1.1
VNDA	Vanda	81.32	173	P	P	00 10 37.5	-0.3
VNDA	Vanda	81.32	173	P	P	00 10 37.9	+0.1
	comp=Z,0.6nm,0.7s,baz=326,slow=3.2,SNR=3.7						
	comp=Z,0.6nm,0.7s						
C18K	Utukok River	81.97	21	P	P	00 10 42.1	+0.6
L18K	Granite Mounta	82.25	27	P	P	00 10 44.1	+1.1
L18K				IAmb	IAmb	00 10 45.6	
	comp=Z,7.4nm,1.1s						
J18K	Innoko River	82.49	26	P	P	00 10 45.1	+0.9
J18K				IAmb	IAmb	00 11 09.6	
	comp=Z,6.0nm,1.4s						
G19K	Purcell Mounta	82.88	23	P	P	00 10 47.5	+1.3
CAST	Castle Rocks	84.53	27	P	P	00 10 56.1	+1.4
CAST				IAmb	IAmb	00 11 23.1	
	comp=Z,4.0nm,1.3s						
SKT	Skwentna	84.61	28	P	P	00 10 54.9	-0.2
SKT				IAmb	IAmb	00 10 56.1	
	comp=Z,6.2nm,1.2s						
D22K	Ayikyak River	85.04	21	P	P	00 10 57.9	+0.8
D22K				IAmb	IAmb	00 11 02.8	
	comp=Z,6.7nm,1.4s						
ILAR	Eielson Array	86.93	25	P	P	00 11 04.8	-1.7
	comp=Z,0.2nm,0.7s,baz=251,slow=4.5,SNR=2.0						
	comp=Z,0.2nm,0.7s						

CATAC 06 23:59:29.7±0.4, 13°.31N×89°.77W, h28km±2km, ML3.9

SNET 06 23:59:29.6±1.2, 13°.31N×89°.80W, h45km, ML4.0

ISC 06 23:59:29.8±5.2, 13°.26N±0°.07×89°.80W±0°.05, h37km±5km, n57, σ0s.50/92, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.52	64	*e*P	Pn	23 59 40.6	-0.1
LALI				*e*S	Sn	23 59 48.4	+0.2
LALI	Alcalda de L	0.52	64	*i* P	Pn	23 59 40.6	-0.1
LALI				*i* S	Sn	23 59 47.5	-0.7
LALI				IAML		23 59 48.2	
	comp=Z,2μm,1.0s						
JAYA	Jayaque - finc	0.52	41⇓	*e*P	Pn	23 59 40.9	0.0
JAYA				*e*S	Sn	23 59 49.2	+0.6
JAYA	Jayaque - finc	0.52	41	*i* P	Pn	23 59 40.9	0.0
JAYA				*i* S	Sn	23 59 48.4	-0.2
JAYA				IAML		23 59 51.8	
	comp=Z,45μm,1.0s						
CEVE	Cerro Verde	0.59	16	*e*P	Pn	23 59 42.1	0.0
CEVE				*e*S	Sn	23 59 51.3	+0.8
CEVE	Cerro Verde	0.59	16	*i* P	Pn	23 59 42.1	0.0
CEVE				*i* S	Sn	23 59 50.8	+0.3
CEVE				IAML		23 59 55.2	
	comp=Z,13μm,1.0s						
SBLS	San Blas	0.60	16	*e*P	Pn	23 59 42.2	0.0
SNJE	San Jose	0.63	17	*e*P	Pn	23 59 42.5	-0.1
NUBE	Las Nubes	0.64	1	*e*P	Pn	23 59 42.6	-0.1
NUBE	Las Nubes	0.64	1	*i* P	Pn	23 59 42.5	-0.1
NUBE				*i* S	Sn	23 59 51.9	+0.3
NUBE				IAML		23 59 54.3	
	comp=Z,6μm,1.0s						
PMON	Piamonte	0.65	46	*i* P	Pn	23 59 42.7	0.0
PMON				*i* S	Sn	23 59 52.6	+0.8
PMON				IAML		00 00 00.9	
	comp=Z,5μm,1.0s						
ITCA	Escuela Especi	0.65	51	*i* P	Pn	23 59 43.0	+0.3
ITCA				*i* S	Sn	23 59 51.2	-0.6
ITCA				IAML		23 59 55.0	
	comp=Z,7μm,1.0s						
MAGS	Ministerio de	0.65	49	*i* P	Pn	23 59 42.5	-0.2
MAGS				*i* S	Sn	23 59 52.0	+0.2
MAGS				IAML		23 59 55.9	
	comp=Z,2μm,1.0s						
RTR	El Retiro	0.65	13	*e*P	Pn	23 59 43.0	+0.2
CEDA	San Andres	0.67	36	*e*P	Pn	23 59 42.8	-0.1
CEDA				*e*S	Sn	23 59 52.5	+0.4
CEDA	San Andres	0.67	36	*i* P	Pn	23 59 42.6	-0.3
CEDA				*i* S	Sn	23 59 51.5	-0.6
CEDA				IAML		23 59 56.2	
	comp=Z,9μm,1.0s						
PANCS	Alcalda de	0.70	60	*i* P	Pn	23 59 42.7	-0.5
PANCS				*i* S	Sn	23 59 51.5	-1.3
PANCS				IAML		23 59 53.2	
	comp=Z,15μm,1.0s						
SNET	Serv Nac Est T	0.70	52	*e*P	Pn	23 59 42.6	-0.6
SNET	Serv Nac Est T	0.70	52	*i* P	Pn	23 59 42.8	-0.4
SNET				*i* S	Sn	23 59 52.9	+0.1
SNET				IAML		23 59 54.6	
	comp=Z,7μm,1.0s						
UEES	Universidad Ev	0.71	50	*e*P	Pn	23 59 42.9	-0.5
UEES	Universidad Ev	0.71	50	*i* P	Pn	23 59 43.1	-0.3
UEES				*i* S	Sn	23 59 53.2	+0.1
UEES				IAML		00 00 01.9	
	comp=Z,2μm,1.0s						
LOMA	Loma Larga	0.72	58	*e*P	Pn	23 59 43.2	-0.3
LOMA	Loma Larga	0.72	58	*i* P	Pn	23 59 43.2	-0.3
LOMA				*i* S	Sn	23 59 53.3	-0.1
LOMA				IAML		23 59 55.1	
	comp=Z,5μm,1.0s						
LOAL	Lomas de Alarc	0.74	1	*i* P	Pn	23 59 44.1	+0.4
LOAL				*i* S	Sn	23 59 55.2	+1.5
LOAL				IAML		23 59 58.4	
	comp=Z,6μm,1.0s						
IGN	Direccin Gen	0.76	53	*i* P	Pn	23 59 44.3	+0.3
IGN				*i* S	Sn	23 59 54.0	-0.3
IGN				IAML		00 00 00.6	
	comp=Z,15μm,1.0s						
UNIC	Universidad Ca	0.76	18	*i* P	Pn	23 59 43.9	-0.1
UNIC				*i* S	Sn	23 59 54.7	+0.4
UNIC				IAML		23 59 57.8	
	comp=Z,1μm,1.0s						
SLOZ	Alcaldia de Sa	0.76	1	*e*P	Pn	23 59 44.3	+0.3
QUEZ	Alcaldia de Qu	0.77	42	*i* P	Pn	23 59 44.1	0.0
QUEZ				*i* S	Sn	23 59 55.0	+0.5
QUEZ				IAML		00 00 00.8	
	comp=Z,12μm,1.0s						
UDBS	Universidad Do	0.77	54	*i* P	Pn	23 59 44.1	-0.1
UDBS				*i* S	Sn	23 59 55.0	+0.4
UDBS				IAML		23 59 55.8	
	comp=Z,4μm,1.0s						
LFRS	El Faro	0.80	63	*e*P	Pn	23 59 44.4	-0.3
LFRS				*e*S	Sn	23 59 54.9	-0.6
LFU	La Fuente	0.82	54	*e*P	Pn	23 59 44.9	0.0
SJTE	Alcalda de S	0.85	65	*e*P	Pn	23 59 45.0	-0.2
SJTE	Alcalda de S	0.85	65	*i* P	Pn	23 59 44.8	-0.4
SJTE				*i* S	Sn	23 59 56.2	-0.3
SJTE				IAML		23 59 56.9	
	comp=Z,3μm,1.0s						

PAVA	Las Pavas	0.95	61	eP	Pn	23 59 46.9	+0.1
PAVA	Las Pavas	0.95	61	i P	Pn	23 59 46.8	+0.1
PAVA				i S	Sn	23 59 59.5	+0.4
PAVA				IAML		00 00 04.2	
	comp=Z,4µm,1.0s						
COEG	Centro de Oper	0.96	68	eP	Pn	23 59 46.7	-0.2
COEG	Centro de Oper	0.96	68	i P	Pn	23 59 46.6	-0.2
COEG				i S	Sn	23 59 59.2	-0.1
COEG				IAML		00 00 03.0	
	comp=Z,2µm,1.0s						
SNVI	San Vicente	1.00	69	eP	Pn	23 59 47.4	+0.1
TECO	Alcaldia de Te	1.03	74	eP	Pn	23 59 46.8	-0.9
TECO	Alcaldia de Te	1.03	74	i P	Pn	23 59 47.5	-0.1
TECO				i S	Sn	00 00 00.2	-0.6
TECO				IAML		00 00 03.4	
	comp=Z,1µm,1.0s						
UESV	Universidad de	1.05	69	i P	Pn	23 59 48.0	0.0
UESV				i S	Sn	00 00 02.1	+0.7
UESV				IAML		00 00 03.7	
	comp=Z,1µm,1.0s						
SCLA	Alcaldia de Sa	1.13	67	eP	Pn	23 59 49.0	-0.1
SCLA	Alcaldia de Sa	1.13	67	i P	Pn	23 59 48.9	-0.2
SCLA				i S	Sn	00 00 04.1	+0.7
SCLA				IAML		00 00 09.6	
	comp=Z,510nm,1.0s						
MTO3	Montecristo	1.21	20	eP	Pn	23 59 50.1	-0.3
MTO3	Montecristo	1.21	20	i P	Pn	23 59 50.0	-0.3
MTO3				IAML		23 59 50.2	
	comp=Z,540nm,1.0s						
LLGN	La Laguna	1.22	43	i P	Pn	23 59 49.7	-0.7
LLGN				i S	Sn	00 00 05.1	-0.7
LLGN				IAML		00 00 43.9	
	comp=Z,1µm,1.0s						
COEB	Comit de Eme	1.25	79	eP	Pn	23 59 50.5	-0.4
TECA	Tecapa	1.28	79	eP	Pn	23 59 50.9	-0.4
ESQI	Esquipulas	1.37	19	i P	Pn	23 59 52.5	+0.1
ESQI				i S	Sn	00 00 09.9	+0.5
ESQI				IAML		00 00 14.3	
	comp=Z,780nm,1.0s						
GUNB	GUNB	1.43	338	i P	Pn	23 59 53.1	-0.4
GUNB				i S	Sn	00 00 11.0	-0.2
GUNB				IAML		00 00 12.2	
	comp=Z,710nm,1.0s						
PACA	Pacayal	1.45	82	eP	Pn	23 59 53.9	+0.3
PACA	Pacayal	1.45	82	i P	Pn	23 59 54.0	+0.4
PACA				i S	Sn	00 00 11.5	+0.1
PACA				IAML		00 00 23.6	
	comp=Z,4µm,1.0s						
ESSG	Sabana Grande	1.50	318	i P	Pn	23 59 54.9	+0.6
ESSG				i S	Sn	00 00 11.0	-1.7
ESSG				IAML		00 00 15.8	
	comp=Z,2µm,1.0s						
SARH	Santa Rosa de	1.81	34	i P	Pn	23 59 58.5	0.0
CNCH	Conchagua	1.91	89	eP	Pn	23 59 59.8	-0.1
CNCH	Conchagua	1.91	89	i P	Pn	00 00 00.0	+0.1
CNCH				i S	Sn	00 00 24.1	+1.3
CNCH				IAML		00 00 29.7	
	comp=Z,1µm,1.0s						
AMPH	Amapala	2.08	89	i P	Pn	00 00 02.2	+0.1
AMPH				i S	Sn	00 00 28.2	+1.4

IDC ***07*** *00:33:13.7±1.6, 33.13N×116.33W, h0km, mb3.1/2, mbtmp3.2/7, ML3.4/5, Error ellipse: s-maj=21.4km s-min=10.1km az=54.0*

NEIC ***07*** *00:33:14.9±1.1, 33.150N±0.010×116.49W±0.02, h16km±4km, Error ellipse: s-maj=3.0km s-min=1.5km az=94.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.22; $M_{\theta\theta}$-7.26; $M_{\phi\phi}$7.49; $M_{r\theta}$-0.64; $M_{\theta\phi}$1.97; $M_{\phi r}$2.66; Fault plane solution: $M_0$8.11000×10^{14} NP1: ϕ_s321.74000°, δ84.13000°, λ162.55000°. NP2: ϕ_s53.58000°, δ72.65000°, λ6.15000°. Principal axes: T 8.5008, Plg16.0000°, Azm276.0000°; N -0.8421, Plg72.0000°, Azm124.0000°; P -7.6586, Plg8.0000°, Azm9.0000°;*

NEIC ***07*** *00:33:14.7, 33.15N×116.46W, h10km*

ANF ***07*** *00:33:14.3±0.1, 33.15N×116.48W, h15km±1km, ML4.3/39, ML4.2/39, Error ellipse: s-maj=1.4km s-min=1.0km az=12.0*

NEIC ***07*** *00:33:15, 33.15N×116.48W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.26; $M_{\theta\theta}$-0.92; $M_{\phi\phi}$0.66; $M_{r\theta}$-0.01; $M_{\theta\phi}$0.55; $M_{\phi r}$0.44; Fault plane solution: $M_0$1.08000×10^{15} NP1:ϕ_s66.00000°, δ66.00000°, λ16.00000°. NP2:ϕ_s329.00000°, δ75.00000°, λ155.00000°. Principal axes: T 1.0586, Plg28.0000°, Azm285.0000°; N 0.0515, Plg61.0000°, Azm121.0000°; P -1.1101, Plg6.0000°, Azm19.0000°;*

ECX ***07*** *00:33:15.8±0.7, 33.13N×116.47W, h3km±2km, MD3.9, ML4.1*

PAS ***07*** *00:33:15.3±1.3, 33.15N±0.01×116.48W±0.02, h11km, Mwr4.0/5, ML4.0/66(NEIC), Mwr3.9/24(NEIC), Error ellipse: s-maj=2.4km s-min=1.6km az=68.0*

ISC 07 00:33:14.9±0.7**, 33.15N**±0.01×**116.48W**±0.01**, h17**km±4km**, n195, σ0.85**/266**, 14C-20D, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUEM	Julian Eagle M	0.12	237		Pg	00 33 18.7	-0.1
JUEM					Sb	00 33 21.1	-0.3
BORC	Borrego Spring	0.13	22		Pg	00 33 18.1	-0.6
BORC					Sg	00 33 20.1	-1.2
MATG	Mataguay Scout	0.15	290		Pg	00 33 19.0	-0.2
MATG					Sg	00 33 21.6	-0.4
MATG	Mataguay Scout	0.15	290	⇑iP	Pg	00 33 19.0	-0.2
MATG				eS	Sg	00 33 21.6	-0.4
SLH	Sleepy Hollow	0.19	76		Pg	00 33 19.4	-0.1
SLH					Sg	00 33 22.6	-0.1
SLH	Sleepy Hollow	0.19	76	⇑iP	Pg	00 33 19.4	-0.1
SLH				eS	Sg	00 33 22.4	-0.3
MONP2	Monument Peak	0.26	170		Pg	00 33 20.6	-0.1
MONP2					Sg	00 33 24.7	-0.1
MONP2	Monument Peak	0.26	170	⇓iP	Pg	00 33 20.7	-0.1
MONP2				eS	Sg	00 33 24.4	-0.4
MONP2				IAML		00 33 25.5	
	comp=E,21µm,0.4s						
MONP2				e		00 33 25.5	
MONP2				⇓e		00 33 25.6	
MONP2				IAML		00 33 25.6	
	comp=N,13µm,0.3s						
MONP2	Monument Peak	0.26	170	P	Pg	00 33 20.7	-0.1
	baz=349,SNR=861						
MONP2				S	Sg	00 33 24.3	-0.4
	baz=349						
FRD	Ford Ranch, An	0.36	343		Sg	00 33 27.3	-0.4
FRD	Ford Ranch, An	0.36	343		Pg	00 33 22.3	-0.2
BZNA	Buzz No.'s Pla	0.38	335		Pg	00 33 22.6	-0.1
BZNA					Sg	00 33 27.7	-0.5
PLM	Palomar	0.38	303		Sg	00 33 28.5	+0.1
EML	El Monte Cty P	0.40	231		Sg	00 33 28.6	-0.1
EML	El Monte Cty P	0.40	231	eP	Pg	00 33 23.1	0.0
EML				eS	Sg	00 33 28.6	-0.1
EML				IAML		00 33 28.9	
	comp=E,45µm,0.4s						
EML				⇑e		00 33 28.9	
DPP	Dos Picos Cty	0.42	249		Sg	00 33 29.1	-0.1
SNDA	J Saunders Pla	0.42	344		Sg	00 33 29.4	0.0
DNR	Dunn Ranch,Anz	0.44	343		Sg	00 33 30.1	+0.2
XPFO	Pion Flat	0.46	2		Sg	00 33 29.9	-0.7
PFO	Pinyon Flats O	0.46	2	Pg	Pg	00 33 23.9	-0.4
PFO				Sg	Sg	00 33 29.6	-1.1
PFO	Pinyon Flats O	0.46	2		Pg	00 33 23.9	-0.4
PFO					Sg	00 33 30.1	-0.5
PFO	Pinyon Flats O	0.46	2	P	Pg	00 33 23.9	-0.4
	baz=182,SNR=320						
PFO				S	Sg	00 33 29.9	-0.7
	baz=182						
PFO	Pinyon Flats O	0.46	2	Pg	Pg	00 33 23.9	-0.4
	comp=E,771nm,0.3s,baz=171,slow=16,SNR=1047						
PFO				Lg	Lg	00 33 29.7	
	comp=E,2µm,0.3s,baz=41,slow=11,SNR=33						
CRY	Cary Ranch	0.47	332		Pg	00 33 24.3	-0.1
CRY					Sg	00 33 30.6	-0.3
BAR	Barrett	0.49	200	Pg	Pg	00 33 24.6	-0.2
BAR				Sg	Sg	00 33 31.1	-0.3
BAR				IAML		00 33 31.6	
	comp=E,16µm,0.5s						
BAR				IAML		00 33 31.7	
	comp=N,16µm,0.2s						
BAR	Barrett	0.49	200	⇓iP	Pg	00 33 24.6	-0.2
BAR				eS	Sg	00 33 30.8	-0.7
BAR				IAML		00 33 31.6	
	comp=E,15µm,0.3s						
BAR				e		00 33 31.6	
BAR				IAML		00 33 31.6	
	comp=N,17µm,0.3s						
BAR				⇓e		00 33 31.6	
CRR	Carrizo Plain	0.50	121		Pg	00 33 25.0	+0.1
CRR					Sg	00 33 31.6	+0.1
PMD	Palm Desert	0.51	9	Pg	Pg	00 33 24.5	-0.5
PMD				Sg	Sg	00 33 30.8	-1.0
PMD				IAML		00 33 31.4	
	comp=E,9µm,0.5s						
GVDA	Garner Valley	0.55	342		Pg	00 33 25.6	-0.3
ERRC	Elmore Ranch	0.55	93		Pb	00 33 26.3	+0.3
ERRC					Sb	00 33 34.5	+0.9
SDRC	San Diego Road	0.57	224	⇓iP	Pg	00 33 25.8	-0.3
SDRC				i S	Sg	00 33 33.4	-0.3
SDRC				⇓e		00 33 33.7	
SDRC				IAML		00 33 33.7	
	comp=N,21µm,0.2s						
SUP	Superstition M	0.58	109		Pg	00 33 26.4	0.0
SUP					Sb	00 33 34.6	0.0
IKP	In-Ko-Pah, Jac	0.58	148	⇓iP	Pg	00 33 26.4	-0.1
IKP				eS	Sg	00 33 33.9	-0.4
IKP	In-Ko-Pah, Jac	0.58	148	P	Pg	00 33 26.4	-0.1
	baz=328,SNR=106						
IKP				S	Sg	00 33 34.1	-0.2
	baz=328						
MTRP	Mission Trails	0.59	236		Pg	00 33 26.1	-0.4
MTRP					Sg	00 33 34.0	-0.4
TKX	Tecate	0.59	191		Pg	00 33 26.0	-0.5
TKX				Sg	Sg	00 33 33.9	-0.5
TKX				IAML		00 33 35.0	
	comp=N,11µm,0.1s						
TKX	Tecate	0.59	191	⇓iP	Pg	00 33 26.1	-0.5
TKX				eS	Sg	00 33 33.9	-0.5
109C	Camp Elliot, M	0.59	244	Pg	Pg	00 33 26.1	-0.4
109C	Camp Elliot, M	0.59	244	P	Pg	00 33 26.2	-0.3
	baz=64,SNR=257						
109C				S	Sg	00 33 34.0	-0.4
	baz=64						
CPE	Camp Elliot	0.59	244		Sg	00 33 34.1	-0.3
DUZA	Dulzura	0.59	205		Pg	00 33 26.2	-0.4
DUZA					Sg	00 33 34.2	-0.4
SWSC	Sam W. Stewart	0.60	109		Pg	00 33 26.7	0.0
SWSC					Sg	00 33 34.9	+0.1
SWSC	Sam W. Stewart	0.60	109	⇑iP	Pg	00 33 26.7	0.0
SWSC				eS	Sb	00 33 35.2	+0.1
SWSC				⇑e		00 33 35.9	
SWSC				IAML		00 33 35.9	
	comp=E,10µm,0.5s						
SWSC				IAML		00 33 36.2	
	comp=N,11µm,0.7s						
SWSC				⇑e		00 33 36.2	
SWSC	Sam W. Stewart	0.60	109	P	Pg	00 33 26.8	0.0
	baz=290,SNR=340						
SWSC				S	Sg	00 33 34.9	+0.1
	baz=290						
GORC	Green Oak Ranc	0.63	271		Pg	00 33 26.8	-0.5
GORC					Sg	00 33 35.2	-0.6
RMX	La Rumorosa	0.64	148		Pb	00 33 28.4	+0.7
RMX				IAML		00 33 38.4	
	comp=N,5µm,0.5s						
RMX				IAML		00 33 40.4	
	comp=E,7µm,0.3s						
RMX	La Rumorosa	0.64	148		Sb	00 33 37.6	+1.3
RMX	La Rumorosa	0.64	148	⇓eP	Pb	00 33 28.4	+0.7
RMX				eS	Sb	00 33 37.4	+1.1
RMX				IAML		00 33 38.6	
	comp=N,5µm,0.5s						
RMX				⇑e		00 33 38.6	
RMX				IAML		00 33 40.4	
	comp=E,7µm,0.2s						
RMX				⇑e		00 33 40.4	
CTCC	Cactus City	0.65	39		Pg	00 33 27.6	-0.1
CTCC					Sg	00 33 36.5	+0.1
POB	Polly Butte	0.66	325		Pg	00 33 27.5	-0.4
POB					Sg	00 33 35.6	-0.9
OLP	Otay Lakes Par	0.66	216	⇓iP	Pg	00 33 27.4	-0.5
OLP				eS	Sg	00 33 36.0	-0.7
OLP				e		00 33 36.3	
OLP				IAML		00 33 36.3	
	comp=E,18µm,0.1s						
OLP				⇓e		00 33 36.5	
OLP				IAML		00 33 36.5	
	comp=N,17µm,0.2s						
SDMC	San Diego Miss	0.66	237		Sg	00 33 36.5	-0.2
DGR	Domenigoni Val	0.67	318		Pg	00 33 27.6	-0.5
DGR					Sg	00 33 36.3	-0.7
YUH	Yuha Desert	0.68	137	Pg	Pg	00 33 28.1	-0.1
YUH				Sg	Sg	00 33 36.7	-0.6
YUH				IAML		00 33 37.8	
	comp=E,8µm,0.3s						
YUH				IAML		00 33 37.8	
	comp=N,8µm,0.2s						
YUH2	Yuha Desert	0.68	137	⇑eP	Pg	00 33 28.2	0.0
YUH2				eS	Sg	00 33 37.0	-0.4
COK2	Cook Ranch 2	0.69	115		Sb	00 33 38.7	+0.9
HMTC	Hemet	0.71	322		Sg	00 33 37.4	-1.0
TJIG	Tijuana	0.73	193	⇓iP	Pb	00 33 28.5	-0.7
TJIG				eS	Sb	00 33 38.1	-0.8
TJIG				IAML		00 33 38.5	
	comp=E,6µm,0.2s						
TJIG				⇑e		00 33 38.5	
TJIG				⇑e		00 33 39.9	
TJIG				IAML		00 33 39.9	
	comp=N,5µm,0.1s						
WESC	Westside Schoo	0.73	122		Sg	00 33 40.0	+1.0
WESC	Westside Schoo	0.73	122	⇑iP	Pb	00 33 29.2	0.0
CLI2	Calipatria 2	0.75	92		Pn	00 33 30.2	-0.4
MURC	Murrieta	0.75	307		Sb	00 33 38.9	-0.6
MURC	Murrieta	0.75	307	P	Pb	00 33 29.0	-0.6
	baz=127,SNR=107						
MURC				S	Sb	00 33 39.1	-0.5
	baz=127						
WEMD	Westmorland, C	0.76	98	eP	Pb	00 33 29.4	-0.2
DEVC	Devers	0.79	354		Sb	00 33 40.5	-0.1
TJX	Tijuana	0.80	218		Pb	00 33 30.2	-0.2
TJX	Tijuana	0.80	218	⇓eP	Pb	00 33 30.2	-0.2
TJX				eS	Sb	00 33 41.1	+0.2
TJX	Tijuana	0.80	218	⇓iP	Pb	00 33 30.2	-0.2
TJX				i S	Sb	00 33 41.1	+0.2
IMPE	Imperial	0.81	107		Pb	00 33 30.2	-0.2
IMPE					Sn	00 33 43.2	+0.2
PLATJ	Playas de Tiju	0.84	221	eP	Pb	00 33 30.8	-0.2
PLATJ				eS	Sg	00 33 42.4	+0.1
CBX	Cerro Bola	0.85	191	Pg	Pb	00 33 30.7	-0.5
CBX				IAML		00 33 47.0	
	comp=N,4µm,0.5s						
CBX				IAML		00 33 51.5	
	comp=E,4µm,0.6s						
CBX	Cerro Bola	0.85	191		Sb	00 33 42.4	0.0
CBX	Cerro Bola	0.85	191	⇓iP	Pb	00 33 30.7	-0.5
CBX				eS	Sb	00 33 41.9	-0.4
BBSC	Beaumont Base	0.88	331		Pb	00 33 31.7	-0.1
BBSC					Sb	00 33 43.1	-0.2
BLAC	Blackrock camp	0.92	4		Sb	00 33 44.4	-0.2
DREC	Desert Rsrch C	0.93	111	eP	Pb	00 33 32.0	-0.5
PEC	Perris	0.94	323		Sb	00 33 44.0	-0.9
ELS	Elsinore Mount	0.94	302		Pb	00 33 31.9	-0.9
ELS					Sb	00 33 44.1	-0.9
ELS	Elsinore Mount	0.94	302	Pg	Pb	00 33 31.8	-0.9
ELS				IAML		00 33 45.1	
	comp=N,2µm,0.2s						
ELS				IAML		00 33 45.4	
	comp=E,2µm,0.4s						
5053	Calexico	0.95	120		Pb	00 33 32.5	-0.5
JARAX	Ej. Heriberto	0.97	129	eP	Pb	00 33 33.1	-0.1
BC3	Big Chuckawall	0.99	59	P	Pb	00 33 32.6	-1.1
	baz=240						
BC3				S	Sb	00 33 46.9	+0.3
	baz=240						
UABX	UABC, Campus M	1.01	120		Pb	00 33 34.0	+0.1
CFT	Crafton Hills	1.03	329		Pb	00 33 34.3	0.0
RSBC	Riverside Bore	1.09	319		Pb	00 33 35.0	-0.3
SVD	Seven Oaks Dam	1.09	332		Sb	00 33 49.4	+0.1
RVR	Riverside	1.13	319		Pn	00 33 35.4	-0.6
BBRC	Big Bear Solar	1.17	342		Sb	00 33 52.0	+0.2
BBRC	Big Bear Solar	1.17	342	P	Pn	00 33 36.8	0.0
	baz=162,SNR=64						
BBRC				S	Sb	00 33 52.1	+0.2
	baz=162						
ESJX	Sierra Juarez	1.22	158		Sn	00 33 53.6	0.0
ESJX	Sierra Juarez	1.22	158	Pn	Pn	00 33 37.6	+0.2
ESJX				IAML		00 33 54.0	
	comp=N,3µm,0.3s						
ESJX				IAML		00 33 54.0	
	comp=E,4µm,0.2s						
CPBX	Cerro Prieto	1.22	126		Pn	00 33 37.3	0.0
CPBX	Cerro Prieto	1.22	126	⇑eP	Pn	00 33 36.1	-1.1
CPBX				IAML		00 34 01.3	
	comp=E,14µm,0.4s						
CPBX				⇓e		00 34 01.3	
CCX	Cicese	1.28	187		Pn	00 33 38.0	0.0
CCX				IAML		00 33 58.4	
	comp=N,3µm,0.4s						
CCX				IAML		00 34 00.8	
	comp=E,2µm,0.6s						
CCX	Cicese	1.28	187	⇓eP	Pn	00 33 38.1	0.0
SANC	Santa Ana	1.30	296		Pn	00 33 38.4	+0.1
ALAMX	Rancho Alamar	1.31	150	eP	Pb	00 33 39.1	+0.1
ALAMX				eS	Sb	00 33 55.9	+0.4
ALAMX				IAML		00 33 57.4	
	comp=E,5µm,0.4s						
ALAMX				IAML		00 33 59.9	
	comp=N,5µm,0.3s						
ALAMX				⇑e		00 33 59.9	
CHNC	Chino	1.32	311		Pn	00 33 38.8	+0.3
CHNC					Sb	00 33 56.4	+0.7
SS2	San Sevaine	1.36	321		Pn	00 33 39.5	+0.4
GLA	Glamis	1.39	93	P	Pn	00 33 38.2	-1.3
	baz=274						
PBX	Punta Banda	1.42	189	⇓eP	Pn	00 33 40.4	+0.5
SJX	San Joaquin	1.45	162	⇓iP	Pn	00 33 37.6	-2.7
SJX				eS	Sn	00 33 53.4	-5.5
SJX				⇓e		00 33 54.0	
SJX				IAML		00 33 54.0	
	comp=E,5µm,0.2s						
SJX				IAML		00 33 54.1	
	comp=N,4µm,0.2s						
PSRC	Puddingstone R	1.46	311		Sb	00 33 59.7	-0.1
SSK	Sunset Peak	1.47	317		Pb	00 33 41.4	-0.4
BFSC	Mount Baldy Ra	1.47	318		Pn	00 33 40.7	0.0
BFSC	Mount Baldy Ra	1.47	318	P	Pn	00 33 40.8	0.0
	baz=138,SNR=152						
BFSC				S	Sb	00 34 00.1	-0.2
	baz=138						
IRM	Iron Mountain	1.50	47	P	Pn	00 33 40.2	-0.9
	baz=228,SNR=44						
IRM				Sb	Sb	00 34 01.7	+0.6
	baz=228						
FMP	Fort Macarthur	1.62	291	P	Pn	00 33 42.3	-0.4
	baz=110,SNR=34						
FMP				Sb	Sb	00 34 05.3	+0.8
	baz=110						
CIS	Catalina Islan	1.65	279	P	Pn	00 33 42.5	-0.5
	baz=98,SNR=265						
CIS				S	Sn	00 34 03.8	0.0
	baz=98						
HEC	Hector,Ludlow	1.68	4	P	Pn	00 33 43.3	-0.3
	baz=184,SNR=570						
BLYC	Blythe	1.74	69	Pn	Pn	00 33 43.5	-0.8
BLYC				IAML		00 34 14.4	
	comp=N,1µm,0.7s						
BLYC				IAML		00 34 15.1	
	comp=E,1µm,0.6s						
PASC	Pasadena Art C	1.75	306	Pn	Pn	00 33 45.2	+0.6
PASC				IAML		00 34 09.7	
	comp=N,2µm,0.7s						
PASC				IAML		00 34 13.4	
	comp=E,1µm,0.5s						
GMRC	Granite Mounta	1.77	22	P	Pn	00 33 44.3	-0.6
	baz=203,SNR=430						
GMRC				Sb	Sb	00 34 10.2	+1.2
	baz=203						
RRX	Edison Barstow	1.78	346	Pb	Pb	00 33 47.1	+0.1
	baz=166						
RRX				Sb	Sb	00 34 10.6	+1.5
	baz=166						
VTX	Valle De La Tr	1.85	161		Pn	00 33 47.0	+1.2
VTX				IAML		00 34 13.6	
	comp=E,2µm,0.3s						
VTX				IAML		00 34 14.9	
	comp=N,1µm,0.8s						
DECC	Green Verdugo	1.90	306	Pb	Pb	00 33 48.5	-0.6
	baz=125,SNR=25						
DECC				Sb	Sb	00 34 13.9	+1.3
	baz=125						
ECBX	El Chinero	2.06	144	eP	Pb	00 33 50.6	-1.2
EDW2	Edwards Air Fo	2.14	324	P	Pn	00 33 50.3	+0.4
	baz=144,SNR=164						
EDW2				Sb	Sb	00 34 20.7	+1.1
	baz=144						
GSC	Goldstone, Bar	2.17	353	Pn	Pn	00 33 50.3	0.0
GSC				IAML		00 34 29.5	
	comp=E,1µm,0.7s						
GSC				IAML		00 34 31.9	
	comp=N,647nm,1.4s						
GSC	Goldstone, Bar	2.17	353	P	Pn	00 33 50.3	0.0
	baz=173,SNR=257						
GSC				Sb	Sg	00 34 22.9	-1.7
	baz=173						
NEE2	Needles Airpor	2.23	43	P	Pn	00 33 50.9	-0.3
	baz=224						
NEE2				Sb	Sg	00 34 24.9	-1.8
	baz=224						
PDMCI	Parker Dam,Lak	2.26	59	P	Pn	00 33 51.0	-0.5
	baz=240						
PDMCI				Sb	Sg	00 34 25.5	-2.1
	baz=240						
113A	Mohawk Valley,	2.31	99	Pn	Pn	00 33 51.3	-0.8
TUQ	Turquoise Moun	2.33	11	P	Pn	00 33 52.3	-0.3
	baz=192,SNR=68						
TUQ				Sb	Sb	00 34 27.0	+1.9
	baz=192						
CCAC	Calif City Air	2.37	328		Pn	00 33 53.7	+0.6
OSI	Osito Audit: C	2.38	309	P	Pn	00 33 53.0	-0.1
	baz=128,SNR=14						
OSI				Sb	Sb	00 34 27.8	+1.5
	baz=128						
LRMC	Laurel Mtn Rad	2.53	337	P	Pn	00 33 55.2	-0.2
	baz=157						
LRMC				Sb	Sb	00 34 32.8	+1.9
	baz=157						
SNCC	San Nicolas Is	2.56	273		Pn	00 33 55.4	-0.2
SNCC	San Nicolas Is	2.56	273	P	Pn	00 33 55.0	-0.6
	baz=91,SNR=14						
SNCC				S	Sn	00 34 26.8	+0.5
	baz=91						
SCZ2	Santa Cruz Isl	2.77	289	P	Pn	00 33 58.1	-0.4
	baz=107,SNR=12						
QSM	Queen of Sheba	2.83	354		Pn	00 33 59.3	0.0
QSM				IAML		00 34 45.0	
	comp=E,486nm,0.8s						
QSM				IAML		00 34 48.8	
	comp=N,434nm,0.6s						
W13A	Hualapai Mount	2.90	47		Pn	00 34 00.6	+0.1
V12A	Nelson	2.90	27	Pn	Pn	00 34 00.3	-0.1
SBC	Santa Barbara	2.99	296	Pg	Pg	00 34 11.2	-0.9
	baz=115						
SBC				Sb	Sb	00 34 46.1	+2.2
	baz=115						
PIX	Pinacate	3.00	121		Pn	00 34 00.2	-1.5
Y14A	Wickenburg	3.00	74	Pn	Pn	00 34 01.7	0.0
ISA	Isabella, Lake	3.00	327	Pn	Pn	00 34 02.2	+0.4
ISA				IAML		00 34 52.7	
	comp=N,316nm,0.7s						
ISA				IAML		00 34 54.5	
	comp=E,354nm,1.0s						
ISA	Isabella, Lake	3.00	327	P	Pn	00 34 02.0	+0.2
	baz=146						
ISA				Sb	Sb	00 34 46.7	+2.3
	baz=146						
MPMC	Manual Prospec	3.02	344	P	Pn	00 34 02.1	0.0
	baz=164,SNR=19						
BCW	Bitter Crk WRg	3.02	307		Pn	00 34 02.1	0.0
BCW				IAML		00 34 58.0	
	comp=N,635nm,0.9s						
GWY	Greenwater Val	3.04	357	Pn	Pn	00 34 02.3	0.0
WTNK	Soaring Height	3.27	21		Pn	00 34 05.5	+0.1
PKM	Mcpherson Peak	3.27	303	P	Pn	00 34 06.0	+0.4
	baz=121,SNR=17						
214A	Organ Pipe Nat	3.31	110		Pn	00 34 04.5	-1.6
214A	Organ Pipe Nat	3.31	110	P	Pn	00 34 04.8	-1.2
	baz=292						
FURC	Furnace Creek,	3.33	355	P	Pn	00 34 06.4	+0.3
	baz=174						
VES	Vestal, Richgr	3.44	322	P	Pn	00 34 08.3	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=141						
SHPR	Sheep Range	3.52	18		Pn	00 34 09.2	+0.2
CWC	Cottonwood Cre	3.54	339	P	Pn	00 34 09.8	+0.5
	baz=158						
WCT	Wildcat Mounta	3.64	358		Pn	00 34 10.8	+0.3
TPNV	Topopah Spring	3.80	3		Pn	00 34 13.3	+0.5
TPNV				IAML		00 35 20.7	
	comp=N,170nm,0.7s						
TPNV				IAML		00 35 26.0	
	comp=N,166nm,0.8s						
TPNV	Topopah Spring	3.80	3	P	Pn	00 34 13.6	+0.8
	baz=183,SNR=46						
GRAC	Grapevine Rang	3.91	349		Pn	00 34 15.3	+1.2
GRAC	Grapevine Rang	3.91	349	P	Pn	00 34 15.5	+1.3
	baz=169,SNR=36						
GMN	Gold Mountain	4.19	351		Pn	00 34 19.3	+1.0
X16A	Lo Mia Camp, P	4.38	72		Pn	00 34 21.2	+0.4
S11A	Rachel	4.53	7		Pn	00 34 24.5	+1.7
MZP	Montezuma Peak	4.60	351		Pn	00 34 24.8	+0.8
PMPB	Monarch Peak	4.70	312		Pn	00 34 24.6	-0.5
U15A	North Rim	4.75	45	Pn	Pn	00 34 26.8	+0.8
WUAZ	Wupatki	4.84	59	Pn	Pn	00 34 27.8	+0.8
WUAZ				IAML		00 35 53.7	
	comp=N,121nm,1.1s						
WUAZ				IAML		00 35 57.8	
	comp=N,106nm,0.8s						
WUAZ	Wupatki	4.84	59	P	Pn	00 34 28.2	+1.2
	baz=242,SNR=13						
TUC	Tucson	4.87	98		Pn	00 34 26.6	-0.8
TUC	Tucson	4.87	98	P	Pn	00 34 27.0	-0.4
	baz=281						
MLAC	Mammoth, Mammo	4.87	337	P	Pn	00 34 28.5	+0.9
	baz=156						
MDPB	Devils Postpil	4.96	335		Pn	00 34 29.4	+0.7
TPH	Tonopah	4.96	353		Pn	00 34 29.5	+0.8
CCUT	Cedar City	5.08	29		Pn	00 34 30.8	+0.4
BBGB	Big Mountain B	5.08	314		Pn	00 34 30.4	0.0
SZCU	Shurtz Canyon	5.23	31		Pn	00 34 33.4	+0.9
R11B	Troy Canyon, C	5.24	8		Pn	00 34 34.0	+1.4
R11B	Troy Canyon, C	5.24	8	P	Pn	00 34 33.5	+0.9
	baz=188						
NV11	Mina Array Sit	5.45	346		Pn	00 34 36.5	+1.0
SAO	San Andreas Ge	5.45	313		Pn	00 34 36.2	+0.9
NVAR	Mina Array Bea	5.48	345	Pn	Pn	00 34 37.3	+1.4
	comp=N,1.3nm,0.3s,baz=168,slow=15,SNR=12						
NVAR				Pg	Pb	00 34 49.0	-1.2
	comp=N,1.5nm,0.3s,baz=156,slow=18,SNR=10.0						
NVAR				Lg	Lg	00 36 07.7	
	baz=265,slow=27						
	comp=N,0.7nm,0.4s						
X18A	Snowflake	5.60	74		Pn	00 34 38.2	+0.6
W18A	Petrified Fore	5.92	69	Pn	Pn	00 34 41.2	-0.8
W18A	Petrified Fore	5.92	69	Pg	Pg	00 35 06.0	-2.3
	baz=252						
Q12A	Willow Creek R	6.03	12		Pn	00 34 44.4	+1.0
SPR3	Spring Creek 3	6.09	16	Pn	Pn	00 34 44.4	0.0
DUN6	Lazy B Ranch	6.24	93	Pn	Pn	00 34 45.5	-0.9
319A	Douglas	6.34	104	Pn	Pn	00 34 47.3	-0.4
BMN	Battle Mountai	7.29	356		Pn	00 35 02.1	+1.3
121A	Cookes Peak, D	7.34	92		Pn	00 35 02.2	+0.7
121A	Cookes Peak, D	7.34	92	P	Pn	00 35 02.1	+0.7
	baz=277,SNR=10						
ELK	Elko	7.65	7	Pn	Pn	00 35 06.2	+0.5
	comp=N,0.4nm,0.3s,baz=190,slow=11,SNR=6.3						
ELK				Lg	Lg	00 37 14.3	
	comp=N,0.2nm,0.3s,baz=146,slow=3.6,SNR=2.4						
	comp=N,0.8nm,0.3s						
ANMO	Albuquerque	8.51	75	Pn	Pn	00 35 17.3	-0.1
	comp=N,0.1nm,0.3s,baz=319,slow=11,SNR=1.7						
ANMO				Lg	Lg	00 37 39.3	
	comp=N,0.2nm,0.3s,baz=75,slow=20,SNR=2.6						
	comp=N,0.9nm,0.8s						
YBH	Yreka Blue Hor	9.90	332	Lg	Lg	00 38 28.0	
	comp=N,0.1nm,0.3s,baz=272,slow=13,SNR=2.3						
BW06	Boulder Array	11.04	28		Pn	00 35 52.9	+0.7
PD31	Pinedale Array	11.04	28		Pn	00 35 54.4	+2.1
PDAR	Pinedale Array	11.04	28	Pn	Pn	00 35 55.9	+3.7
	comp=N,0.1nm,0.3s,baz=224,slow=7.6,SNR=10						
PDAR				Lg	Lg	00 39 00.4	
	baz=190,slow=25,SNR=2.0						
	comp=N,1.8nm,0.9s						
TXAR	Lajitas Array	11.60	106	Pn	Pn	00 36 00.2	+0.4
TXAR	Lajitas Array	11.60	106	Pn	Pn	00 36 01.5	+1.7
	comp=N,0.1nm,0.3s,baz=290,slow=12,SNR=2.2						
	comp=N,0.1nm,0.3s						
YKA	Yellowknife Ar	29.39	2	P	P	00 39 16.7	-0.2
	comp=N,0.1nm,0.4s,baz=188,slow=8.1,SNR=1.3						
	comp=N,0.1nm,0.4s						
ILAR	Eielson Array	36.70	339	P	P	00 40 22.7	+2.1
	comp=N,0.4nm,0.9s,baz=150,slow=8.4,SNR=2.2						
	comp=N,0.4nm,0.9s						

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*NEIC **07** 00:38:02.6±0.9, 33°.148N±0°.007×116°.50W±0°.02, h18^{km}±1^{km}, Error ellipse: s-maj=2.5km s-min=1.0km az=86.0*
*ANF **07** 00:38:02.2±0.1, 33°.16N×116°.48W, h15^{km}±2^{km}, ML2.8/19, Error ellipse: s-maj=1.7km s-min=1.1km az=34.0*
*PAS **07** 00:38:03.3±1.2, 33°.150N±0°.009×116°.48W±0°.01, h11^{km}±1^{km}, ML3.0/177, ML2.8/34(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=100.0*
*ECX **07** 00:38:03.9±0.5, 33°.13N×116°.48W, h5^{km}±39^{km}, MD2.8, ML3.0*
ISC 07 00:38:02.9±0.8**, 33°.15N**±0°.01×**116°.49W**±0°.01**, h17**^{km}±4^{km}**, n104, σ0^{s}.64**/152**, 11C-10D, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUEM	Julian Eagle M	0.12	235		Pg	00 38 06.7	0.0
JUEM					Sg	00 38 09.1	-0.1
BORC	Borrego Spring	0.13	25		Pg	00 38 06.3	-0.4
MATG	Mataguay Scout	0.15	291		Pg	00 38 06.9	-0.1
MATG					Sg	00 38 09.5	-0.2
MATG	Mataguay Scout	0.15	291	⇑iP	Pg	00 38 06.9	-0.1
SLH	Sleepy Hollow	0.20	77		Pg	00 38 07.4	-0.3
SLH					Sg	00 38 10.4	-0.4
SLH	Sleepy Hollow	0.20	77	⇑iP	Pg	00 38 07.4	-0.3
MONP2	Monument Peak	0.26	168		Pg	00 38 08.6	-0.1
MONP2	Monument Peak	0.26	168	⇓iP	Pg	00 38 08.6	-0.1
MONP2				eS	Sg	00 38 12.3	-0.4
MONP2	Monument Peak	0.26	168	P	Pg	00 38 08.7	-0.1
	baz=349,SNR=232						
MONP2				S	Sg	00 38 12.2	-0.6
	baz=349						
FRD	Ford Ranch, An	0.36	344		Pg	00 38 10.2	-0.2
FRD					Sg	00 38 15.0	-0.6
FRD	Ford Ranch, An	0.36	344		Pg	00 38 10.2	-0.2
FRD					Sg	00 38 15.0	-0.6
BZNA	Buzz No.'s Pla	0.38	336		Pg	00 38 10.6	-0.1
BZNA					Sg	00 38 15.5	-0.5
PLM	Palomar	0.38	303		Pg	00 38 10.9	+0.1
PLM					Sg	00 38 16.3	+0.2
EML	El Monte Cty P	0.40	230		Sg	00 38 16.6	+0.1
EML	El Monte Cty P	0.40	230	⇑eP	Pg	00 38 11.0	0.0
EML				eS	Sg	00 38 16.6	+0.1
EML				⇑e		00 38 16.8	
EML				IAML		00 38 16.8	
	comp=E,2μm,0.3s						
EML				⇓e		00 38 16.8	
EML				IAML		00 38 16.8	
	comp=N,2μm,0.1s						
DPP	Dos Picos Cty	0.41	249		Pg	00 38 11.2	0.0
DPP					Sg	00 38 17.0	+0.1
SNDA	J Saunders Pla	0.42	345		Pg	00 38 11.4	-0.1
DNR	Dunn Ranch,Anz	0.44	344		Pg	00 38 11.7	-0.1
DNR					Sg	00 38 17.8	+0.1
SALN	Salton City	0.44	72		Pg	00 38 11.7	0.0
SALN					Sg	00 38 18.1	+0.3
XPFO	Pion Flat	0.46	3		Pg	00 38 11.8	-0.5
XPFO					Sg	00 38 17.6	-1.0
PFO	Pinyon Flats O	0.46	3	Pg	Pg	00 38 11.8	-0.4
PFO				Sg	Sg	00 38 17.7	-0.9
PFO	Pinyon Flats O	0.46	3		Pg	00 38 11.8	-0.4
PFO					Sg	00 38 17.8	-0.9
PFO	Pinyon Flats O	0.46	3	P	Pg	00 38 11.9	-0.4
	baz=182,SNR=36						
PFO				S	Sg	00 38 17.7	-0.9
	baz=182						
CRY	Cary Ranch	0.47	333		Sg	00 38 18.4	-0.3
BAR	Barrett	0.49	199		Pg	00 38 12.5	-0.2
BAR				Sg	Sg	00 38 19.0	-0.4
BAR				IAML		00 38 19.7	
	comp=E,843nm,0.3s						
BAR	Barrett	0.49	199	⇓iP	Pg	00 38 12.5	-0.2
BAR				⇓e		00 38 19.9	
BAR				IAML		00 38 19.9	
	comp=N,1μm,0.2s						
BAR				⇑e		00 38 20.1	
BAR				IAML		00 38 20.1	
	comp=E,897nm,0.2s						
CRR	Carrizo Plain	0.51	121		Sg	00 38 19.5	-0.2
PMD	Palm Desert	0.51	10	Pg	Pg	00 38 12.4	-0.6
PMD				Sg	Sg	00 38 18.8	-1.1
PMD				IAML		00 38 19.3	
	comp=E,416nm,0.2s						
GVDA	Garner Valley	0.54	343		Pg	00 38 13.4	-0.3
GVDA	Garner Valley	0.54	343		Sg	00 38 20.3	-0.8
SDRC	San Diego Road	0.56	223		Sg	00 38 21.2	-0.3
SDRC	San Diego Road	0.56	223	eP	Pg	00 38 13.7	-0.3
SDRC				i S	Sg	00 38 21.3	-0.3
SDRC				⇑e		00 38 21.6	
SDRC				IAML		00 38 21.6	
	comp=E,1μm,0.3s						
109C	Camp Elliot, M	0.58	244	Pg	Pg	00 38 14.1	-0.3
109C				Sg	Sg	00 38 21.8	-0.3
109C	Camp Elliot, M	0.58	244	P	Pg	00 38 14.1	-0.3
	baz=63,SNR=33						
109C				S	Sg	00 38 22.0	-0.2
	baz=63						
CPE	Camp Elliot	0.58	244		Pg	00 38 14.1	-0.2
CPE					Sg	00 38 22.0	-0.1
TKX	Tecate	0.59	190		Pg	00 38 14.0	-0.5
TKX					Sg	00 38 21.8	-0.5
TKX				IAML		00 38 22.9	
	comp=N,572nm,0.1s						
TKX	Tecate	0.59	190	eP	Pg	00 38 14.0	-0.5
TKX				eS	Sg	00 38 21.8	-0.5
IKP	In-Ko-Pah, Jac	0.59	147		Sg	00 38 22.1	-0.3
IKP	In-Ko-Pah, Jac	0.59	147	⇓iP	Pg	00 38 14.3	-0.2
IKP				eS	Sg	00 38 21.9	-0.5
IKP	In-Ko-Pah, Jac	0.59	147	P	Pg	00 38 14.3	-0.2
	baz=328,SNR=13						
IKP				S	Sg	00 38 21.9	-0.5
	baz=328						
DUZA	Dulzura	0.59	204		Sg	00 38 22.1	-0.4
SWSC	Sam W. Stewart	0.61	109		Pg	00 38 14.7	-0.2
SWSC					Sg	00 38 22.9	-0.1
SWSC	Sam W. Stewart	0.61	109	⇑iP	Pg	00 38 14.7	-0.2
SWSC				eS	Sg	00 38 22.8	-0.3
SWSC	Sam W. Stewart	0.61	109	P	Pg	00 38 14.7	-0.2
	baz=290,SNR=17						
SWSC				S	Sg	00 38 22.9	-0.1
	baz=290						
GORC	Green Oak Ranc	0.62	271		Pg	00 38 14.8	-0.4
RMX	La Rumorosa	0.64	148		Pb	00 38 16.4	+0.7
RMX					Sb	00 38 25.4	+1.0
RMX				IAML		00 38 26.3	
	comp=N,329nm,0.2s						
RMX				IAML		00 38 26.5	
	comp=E,454nm,0.2s						
RMX	La Rumorosa	0.64	148	eP	Pb	00 38 16.2	+0.5
RMX				eS	Sb	00 38 25.5	+1.0
POB	Polly Butte	0.65	326		Sg	00 38 23.8	-0.6
CTCC	Cactus City	0.65	39		Pg	00 38 15.5	-0.2
CTCC					Sg	00 38 24.3	-0.2
OLP	Otay Lakes Par	0.66	215		Sg	00 38 24.0	-0.5
OLP	Otay Lakes Par	0.66	215	eP	Pg	00 38 15.0	-0.8
OLP				eS	Sg	00 38 23.9	-0.5
OLP				⇑e		00 38 24.2	
OLP				IAML		00 38 24.2	
	comp=E,803nm,0.2s						
OLP				IAML		00 38 24.5	
	comp=N,822nm,0.2s						
OLP				⇑e		00 38 24.5	
BACC	Bachelor Mtn.	0.66	315		Sg	00 38 23.9	-0.7
SDMC	San Diego Miss	0.66	237		Pg	00 38 15.7	-0.1
DGR	Domenigoni Val	0.67	319		Sg	00 38 24.2	-0.7
YUH	Yuha Desert	0.69	136		Pg	00 38 16.1	-0.2
YUH				Sg	Sg	00 38 24.7	-0.8
YUH				IAML		00 38 25.6	
	comp=N,665nm,0.1s						
COK2	Cook Ranch 2	0.70	115		Pg	00 38 16.4	-0.2
HMTC	Hemet	0.71	322		Sg	00 38 25.3	-0.9
TJIG	Tijuana	0.73	193	eP	Pg	00 38 16.3	-0.8
TJIG				eS	Sg	00 38 25.6	-1.2
WESC	Westside Schoo	0.74	121		Pg	00 38 17.3	-0.1
WESC	Westside Schoo	0.74	121	eP	Pg	00 38 17.2	-0.1
MURC	Murrieta	0.75	307		Pg	00 38 16.9	-0.6
MURC	Murrieta	0.75	307	P	Pg	00 38 16.9	-0.6
	baz=127,SNR=22						
MURC				S	Sg	00 38 27.1	-0.3
	baz=127						
CLI2	Calipatria 2	0.76	92		Pg	00 38 17.3	-0.4
DEVC	Devers	0.79	354		Pg	00 38 18.0	-0.3
DEVC					Sg	00 38 28.3	-0.4
EW2	E Wide Canyon	0.79	5		Pg	00 38 17.9	-0.5
TJX	Tijuana	0.80	217		Pg	00 38 18.3	-0.1
TJX	Tijuana	0.80	217	Sg	Sg	00 38 28.8	-0.1
TJX	Tijuana	0.80	217	Pg	Pg	00 38 18.0	-0.4
TJX	Tijuana	0.80	217	eP	Pg	00 38 18.1	-0.3
IMPE	Imperial	0.81	107		Pg	00 38 18.5	-0.2
IMPE					Sn	00 38 31.2	0.0
CBX	Cerro Bola	0.84	190		Pg	00 38 18.6	-0.7
CBX					Sg	00 38 30.2	-0.3
CBX				IAML		00 38 34.9	
	comp=N,175nm,0.4s						
CBX	Cerro Bola	0.84	190	⇓eP	Pg	00 38 18.6	-0.7
BLAC	Blackrock camp	0.92	5		Sb	00 38 32.2	-0.4
ELS	Elsinore Mount	0.93	303		Pb	00 38 19.8	-0.9
ELS				Sg	Sb	00 38 31.8	-1.0
PEC	Perris	0.93	323		Pb	00 38 20.2	-0.5
BC3	Big Chuckawall	1.00	59	P	Pb	00 38 21.3	-0.5
	baz=240						
BBRC	Big Bear Solar	1.17	342	Pg	Pn	00 38 24.7	0.0
	baz=162						
BBRC				S	Sb	00 38 39.8	0.0
	baz=162						
COA	Coachella	1.18	104		Pn	00 38 23.1	-1.5
ESJX	Sierra Juarez	1.23	158		Pn	00 38 25.6	+0.1
ESJX				IAML		00 38 42.0	
	comp=N,204nm,0.3s						
CPBX	Cerro Prieto	1.23	126	IAML		00 38 48.7	
	comp=N,667nm,0.2s						
CPBX				⇑e		00 38 48.7	
CPBX				IAML		00 38 49.2	
	comp=E,704nm,0.2s						
CPBX				⇓e		00 38 49.2	
CCX	Cicese	1.28	187		Pn	00 38 26.1	0.0
CCX				IAML		00 38 46.1	
	comp=E,113nm,0.4s						
CCX				IAML		00 38 46.8	
	comp=N,143nm,0.4s						
ALAMX	Rancho Alamar	1.31	150	eP	Pn	00 38 26.0	-0.4
ALAMX				eS	Sb	00 38 43.8	+0.1
ALAMX				IAML		00 38 47.0	
	comp=E,352nm,0.3s						
ALAMX				⇓e		00 38 47.0	
ALAMX				⇑e		00 38 47.8	
ALAMX				IAML		00 38 47.8	
	comp=N,298nm,0.3s						
SJX	San Joaquin	1.45	162	eP	Pn	00 38 25.0	-3.3
SJX				IAML		00 38 42.0	
	comp=N,273nm,0.3s						
SJX				⇓e		00 38 42.0	
SJX				IAML		00 38 42.0	
	comp=E,428nm,0.2s						
SJX				⇓e		00 38 42.0	
BFSC	Mount Baldy Ra	1.46	318	Pb	Pn	00 38 29.3	+0.6
	baz=138,SNR=8.2						
IRM	Iron Mountain	1.50	48	P	Pn	00 38 28.2	-1.0
	baz=228						
IRM				Sb	Sb	00 38 49.6	+0.3
	baz=228						
FMP	Fort Macarthur	1.61	291	Sb	Sb	00 38 53.4	+1.1
	baz=110						
CIS	Catalina Islan	1.64	279	P	Pn	00 38 30.5	-0.4
	baz=98,SNR=8.6						
CIS				S	Sn	00 38 52.0	+0.4
	baz=98						
HEC	Hector,Ludlow	1.68	4	Pg	Pb	00 38 34.0	+0.5
	baz=184						
GMRC	Granite Mounta	1.77	23	Pg	Pb	00 38 35.4	+0.4
	baz=203						
GMRC				Sb	Sb	00 38 57.9	+0.9
	baz=203						
RRX	Edison Barstow	1.77	346	Pg	Pb	00 38 35.8	+0.8
	baz=166						
RRX				Sb	Sb	00 38 58.6	+1.6
	baz=166						
VTX	Valle De La Tr	1.85	161	Pn	Pn	00 38 34.9	+1.0
DECC	Green Verdugo	1.90	306	Sb	Sb	00 39 01.8	+1.3
	baz=125						
EDW2	Edwards Air Fo	2.14	324	Pb	Pb	00 38 41.1	-0.1
	baz=144						
EDW2				Sb	Sb	00 39 08.7	+1.3
	baz=144						
GSC	Goldstone, Bar	2.17	353		Pn	00 38 38.1	-0.2
GSC				IAML		00 39 14.9	
	comp=E,50nm,0.4s						
GSC	Goldstone, Bar	2.17	353	Pb	Pb	00 38 41.7	0.0
	baz=173						
GSC				Sb	Sb	00 39 09.7	+1.4
	baz=173						
NEE2	Needles Airpor	2.24	43	Sb	Sb	00 39 12.2	+1.9
	baz=224						
113A	Mohawk Valley,	2.32	99	Pn	Pn	00 38 41.5	+1.2
CCAC	Calif City Air	2.37	328		Pn	00 38 40.8	-0.2
CCAC				IAML		00 39 17.5	
	comp=E,68nm,0.3s						
CCAC				IAML		00 39 19.5	
	comp=N,61nm,0.5s						
QSM	Queen of Sheba	2.83	354		Pn	00 38 47.5	+0.2
W13A	Hualapai Mount	2.91	47	Pn	Pn	00 38 47.8	-0.8
V12A	Nelson	2.91	27	Pn	Pn	00 38 48.6	+0.1
BCW	Bitter Crk WRg	3.02	307	Pn	Pn	00 38 49.6	-0.4
BCW				IAML		00 39 47.5	
	comp=N,33nm,3.6s						
BCW				IAML		00 40 37.0	
	comp=E,35nm,4.7s						
GWY	Greenwater Val	3.04	357		Pn	00 38 50.2	-0.1
TPNV	Topopah Spring	3.80	3	Pn	Pn	00 39 02.1	+1.4
TPNV				IAML		00 39 43.9	
	comp=E,14nm,4.8s						
TPNV				IAML		00 39 53.3	
	comp=E,9.8nm,4.2s						

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*NIC **07** 00:57:59.3, 36°.29N×31°.40E, h8^{km}±1^{km}, Ml2.7/3*
*AFAD **07** 00:58:01.1±0.0, 36°.33N×31°.28E, h7^{km}±2^{km}, ML2.1*
ISC 07 00:57:59.6±1.3**, 36°.21N**±0°.04×**31°.33E**±0°.04**, h8**^{km}±11^{km}**, n16, σ0^{s}.97**/27**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEPZ	Antalya-Kepez	0.72	18	P	Pn	00 58 16.2	+0.1
KEPZ				S	Sn	00 58 27.4	0.0
GAZI	Gazipasa	0.80	88	P	Pn	00 58 17.5	+0.4
GAZI				S	Sn	00 58 28.9	-0.3
GAZI				i AML	AML	00 58 30.0	
	comp=N,128nm,0.6s						
GAZI				i AML	AML	00 58 31.0	
	comp=E,94nm,0.8s						
KORT	Korkueli	1.11	315	P	Pg	00 58 20.3	-0.7
KORT				S	Sn	00 58 40.2	+3.0
KORT				i AML	AML	00 58 44.0	
	comp=N,42nm,0.9s						
KORT				i AML	AML	00 58 46.0	
	comp=E,70nm,0.8s						
ELL	Elmali	1.27	295	P	Pn	00 58 23.1	-0.6
ELL				S	Sn	00 58 42.2	+1.3
SEDI	Konya, Seydise	1.28	15	P	Pg	00 58 24.9	+0.6
SEDI				S	Sn	00 58 40.8	-0.6
SEDI				i AML	AML	00 58 46.0	
	comp=N,29nm,0.6s						
SEDI				i AML	AML	00 58 47.0	
	comp=E,29nm,0.7s						
AKMS	Akamas	1.45	145	P	Pn	00 58 25.2	-0.8
AKMS				S	Sg	00 58 46.4	+0.3
AKMS				AML	AML	00 58 52.0	
	0.4nm,0.4s						
AKMS				AML	AML	00 58 52.7	
	0.4nm,0.4s						
ALFC	Alefka	1.48	135	P	Pn	00 58 26.2	-0.3
ALFC				S	Sg	00 58 47.5	+0.5
ALFC				AML	AML	00 58 52.1	
	0.3nm,0.5s						
ALFC				AML	AML	00 58 55.6	
	0.4nm,0.5s						
KKBE	Karaman, Kazim	1.64	52	P	Pg	00 58 31.4	+0.4
KKBE				S	Sg	00 58 53.5	+1.3
KKBE				i AML	AML	00 58 54.0	
	comp=E,53nm,1.4s						
KKBE				i AML	AML	00 59 03.0	
	comp=N,35nm,0.6s						
NATA	Nata	1.75	144	P	Pn	00 58 30.7	+0.4
TROD	Troodos	1.78	135	P	Pn	00 58 30.5	-0.3
TROD				S	Sn	00 58 54.2	+0.5
TROD				AML	AML	00 59 03.8	
	0.2nm,0.7s						
TROD				AML	AML	00 59 12.4	
	0.3nm,1.4s						
DOGA	KONYA_Doganhis	1.91	8	P	Pb	00 58 34.5	-0.3
DOGA				S	Sb	00 58 57.3	-1.5
KONT	Konya--Tatoy	1.92	25	P	Pg	00 58 35.6	-0.7
ATHAL	Athalassa	1.99	122	S	Sn	00 58 59.1	+0.4
CSS	Mathiatis	2.05	127	P	Pn	00 58 34.0	-0.4
CSS				S	Sn	00 59 01.4	+1.2
ASGA	Asgata	2.12	132	S	Sb	00 59 04.0	-0.6
MVOU	Mavrovouni	2.22	122	P	Pn	00 58 36.2	-0.5

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*IDC **07** 01:04:36.9±1.9, 3°.89S×152°.17E, h0^{km}, mb3.8/3, mbtmp3.9/3, Error ellipse: s-maj=125.2km s-min=26.4km az=126.0*
*NEIC **07** 01:04:39.5±1.2, 3°.44S±0°.06×151°.9E±0°.1, h10^{km}±2^{km}, mb4.5/18, Error ellipse: s-maj=22.1km s-min=7.1km az=250.0*
ISC 07 01:04:39.0±0.7**, 3°.60S**±0°.08×**151°.81E**±0°.09**, h10**^{km}**, n32, σ1^{s}.06**/27**, mb4.4**/13**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	0.69	149	Pg	Pn	01 04 55.3	+0.5
RABL					Sn	01 05 05.6	0.0
PMG	Port Moresby	7.39	218	Sn	Sn	01 07 48.9	-2.1
	baz=327,slow=24						
PATS	Pohnpei	12.23	32	Pn	Pn	01 07 34.4	+1.0
WB0	Warramunga Arr	23.39	225	P	P	01 09 49.5	+1.4
WB0				IAmb	IAmb	01 09 51.4	
	comp=Z,11nm,0.9s						
WR0	Warramunga Arr	23.41	225	P	P	01 09 49.6	+1.2
WR0				IAmb	IAmb	01 09 51.4	
	comp=Z,14nm,1.2s						
WB2	Warramunga Arr	23.53	225	P	P	01 09 50.8	+1.2
WB2				IAmb	IAmb	01 09 52.2	
	comp=Z,8.1nm,0.7s						
WRA	Warramunga Arr	23.54	225	P	P	01 09 49.9	+0.2
WRA	Warramunga Arr	23.54	225	P	P	01 09 50.3	+0.6
	comp=Z,7.0nm,0.7s,baz=53,slow=10,SNR=57						
	comp=Z,7.0nm,0.7s						
KNRA	Kununurra	25.66	241	P	P	01 10 10.3	+1.1
KNRA				IAmb	IAmb	01 10 41.6	
	comp=Z,26nm,1.1s						
H11S3	WAKE ISLAND Hy	26.40	33	T	T	01 37 45.9	
	baz=210						
H11S2	WAKE ISLAND Hy	26.40	33	T	T	01 37 45.6	
	baz=210						
ASAR	Alice Springs	26.41	219	P	P	01 10 15.7	-0.4
	comp=Z,0.8nm,0.5s,baz=53,slow=8.6,SNR=8.2						
	comp=Z,0.8nm,0.5s						
H11S1	WAKE ISLAND Hy	26.41	33	T	T	01 37 52.7	
	baz=210						
H11N1	WAKE ISLAND Hy	27.50	32	T	T	01 39 21.1	
	baz=218						
H11N3	WAKE ISLAND Hy	27.52	32	T	T	01 39 20.3	
	baz=218						
H11N2	WAKE ISLAND Hy	27.52	32	T	T	01 39 23.1	
	baz=218						
FUNA	Funafuti	27.66	101	P	P	01 10 25.9	-1.4
MBWA	Marble Bar	35.73	238	P	P	01 11 39.6	+1.3
MBWA				IAmb	IAmb	01 11 59.9	
	comp=Z,20nm,1.4s						
ATKA	Atka Island	62.60	23	P	P	01 15 02.7	-0.6
KDAK	Kodiak Island	75.56	27	P	P	01 16 23.3	-0.4
TTA	Tatalina	77.02	22	P	P	01 16 31.4	-0.7
TTA				IAmb	IAmb	01 16 38.6	
	comp=Z,4.7nm,1.4s						
J19K	Poorman	77.79	21	P	P	01 16 35.1	-1.1
J19K				IAmb	IAmb	01 16 47.2	
	comp=Z,4.5nm,1.4s						
MID	Middleton Isla	79.22	27	P	P	01 16 43.4	-0.7

B21K	Ikpikpuk River	81.42	17	P	P	01 16 55.1	-0.7
B21K				IAmb	IAmb	01 17 18.1	
	comp=Z,7.9nm,1.5s						
ILAR	Eielson Array	81.43	22	P	P	01 16 55.0	-0.9
	comp=Z,0.3nm,0.6s,baz=252,slow=4.9,SNR=5.4						
	comp=Z,0.3nm,0.6s						
D22K	Ayikyak River	81.56	18	P	P	01 16 57.0	+0.3
D22K				IAmb	IAmb	01 17 36.8	
	comp=Z,4.3nm,1.3s						
J25K	Salcha River,	81.94	23	P	P	01 16 57.6	-1.1
J25K				IAmb	IAmb	01 17 14.9	
	comp=Z,5.7nm,1.5s						
BCAR	Beaver Creek A	82.74	25	P	P	01 17 01.8	-1.1
D27M	Malcolm River	85.44	19	P	P	01 17 16.1	-0.5
E28M	Babbage River	85.68	20	P	P	01 17 16.6	-1.1
E29M	Blow River	86.17	20	P	P	01 17 18.6	-1.5
TORD	Torodi Ar. Bea	148.98	290	PKPbc	PKPbc	01 24 29.2	+0.8
	comp=Z,1.1nm,0.3s,baz=67,slow=2.9,SNR=36						

IDC 07 01:06:31.7±2.8, 14°.07S×170°.61E, h0km, mb3.9/6, mbtmp3.9/6, MS3.7/6, Error ellipse: s-maj=105.6km s-min=27.7km az=134.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.88	206	LR	LR	01 11 44.0	
	comp=Z,179nm,20.8s,baz=342,slow=35						
CTA	Charters Tower	24.02	252	P	P	01 11 49.7	+1.2
	1.1nm,0.4s,baz=88,slow=9.2,SNR=2.4						
	1.1nm,0.4s						
STKA	Stephens Creek	31.90	231	P	P	01 12 59.2	+0.2
	5.2nm,0.8s,baz=76,slow=7.4,SNR=5.7						
	5.2nm,0.8s						
H11S2	WAKE ISLAND Hy	32.59	353	T	T	01 47 14.3	
	baz=173,slow=76,SNR=14						
H11S3	WAKE ISLAND Hy	32.59	353	T	T	01 47 13.1	
	baz=173,slow=76,SNR=11						
H11S1	WAKE ISLAND Hy	32.60	353	T	T	01 47 17.5	
	baz=173,slow=76,SNR=9.4						
H11N1	WAKE ISLAND Hy	33.77	354	T	T	01 48 45.5	
	baz=172,slow=76,SNR=5.0						
H11N3	WAKE ISLAND Hy	33.77	354	T	T	01 48 42.6	
	baz=172,slow=76,SNR=3.6						
H11N2	WAKE ISLAND Hy	33.79	354	T	T	01 48 43.1	
	baz=172,slow=76,SNR=4.4						
WRA	Warramunga Arr	35.12	255	P	P	01 13 26.8	-0.4
	1.0nm,1.0s,baz=86,slow=8.9,SNR=3.1						
	1.0nm,1.0s						
ASAR	Alice Springs	35.93	249	P	P	01 13 33.2	-0.9
	1.4nm,0.6s,baz=77,slow=9.0,SNR=12						
	1.4nm,0.6s						
NWAO	Narrogin (SRO)	51.86	239	LR	LR	01 37 17.5	
	comp=Z,38nm,18.2s,baz=180,slow=36						
YBH	Yreka Blue Hor	82.69	44	LR	LR	01 50 56.4	
	comp=Z,85nm,18.5s,baz=193,slow=32						
SONM	Songino Array	83.92	322	P	P	01 19 04.3	+0.6
	0.5nm,0.9s,baz=134,slow=6.2,SNR=4.1						
	0.5nm,0.9s						
ILAR	Eielson Array	84.94	17	P	P	01 19 08.1	-0.2
	0.4nm,0.7s,baz=236,slow=5.0,SNR=7.1						
	0.4nm,0.7s						
ELK	Elko	87.47	47	LR	LR	01 53 17.1	
	comp=Z,65nm,18.5s,baz=198,slow=32						
NEW	Newport	88.99	40	LR	LR	01 54 35.6	
	comp=Z,69nm,18.7s,baz=210,slow=32						
MKAR	Makanchi Array	98.97	316	LR	LR	02 03 34.9	
	comp=Z,25nm,21.2s,baz=33,slow=35						

KRSC 07 01:18:17.8±2.2, 48°.74N×156°.22E, h31km±27km, Ml4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.95	358	eP	Pn	01 18 49.3	+0.6
SKR				eS	Sn	01 19 12.3	+0.1
PAU	Pauzhetka	2.76	8	eP	Pb	01 19 04.6	-1.9
PAU				eS	Sb	01 19 37.6	-2.2
KDTR	Khodutka, Kamc	3.30	21	eP	Pn	01 19 10.6	+3.3
KDTR				eS	Sb	01 19 51.7	-3.6
ASAK	Asacha	3.81	16	eP	Pn	01 19 18.5	+4.1
MTVR	Mutnovka	3.96	18	eP	Pn	01 19 20.3	+3.8
MTVR				eS	Sb	01 20 08.5	-5.8
GRL	Gorelyy	4.00	16	eP	Pn	01 19 21.3	+4.2
GRL				eS	Sb	01 20 09.3	-6.3
UGLR	Uglovaya	4.77	19	eP	Pn	01 19 32.6	+5.0
AVH	Avacha	4.81	18	eP	Pn	01 19 33.3	+5.2
KOK	Koryaka	4.81	18	eP	Pn	01 19 33.7	+5.5
SMAR	Somma	4.82	19	eP	Pn	01 19 33.6	+5.2
SDLR	Sedlovina	4.85	19	eP	Pn	01 19 32.5	+3.8
KRX	Arik	4.88	17	eP	Pn	01 19 34.0	+4.8
SPN	Mys Shipunski	4.99	27	eP	Pn	01 19 34.4	+3.9
SPN				eS	Sn	01 20 32.6	+5.6

IDC 07 01:26:27.7±1.1, 21°.12S×67°.73W, h152km±12km, mb3.6/7, mbtmp4.0/11, Error ellipse: s-maj=21.0km s-min=15.9km az=147.0
SCB 07 01:26:28.9±1.5, 21°.29S×67°.88W, h156km±12km, ML4.0/5, MW4.0, Error ellipse: s-maj=4.3km s-min=3.1km az=2.0
VAO 07 01:26:28.2±0.3, 21°.07S×67°.77W, h151km, mb4.1
NEIC 07 01:26:28.0±1.6, 21°.28S±0°.05×68°.00W±0°.09, h190km±8km, mb4.2/4, Error ellipse: s-maj=13.5km s-min=4.8km az=65.0
SJA 07 01:26:28.0±1.0, 21°.22S×67°.77W, h150km, ML4.0, MW3.9
GUC 07 01:26:29.8±0.6, 21°.24S×68°.00W, h179km±5km, ML4.2
ISC 07 01:26:28.0±0.6, 21°.26S±0°.04×67°.83W±0°.04, h170km±6km, n140, σ1s.56/186, mb4.1/8, 9C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	1.42	248		Pn	01 26 59.6	+1.1
PB09				Sn	Sn	01 27 22.1	0.0
PB09	IPOC Station P	1.42	248	Pg	Pn	01 26 59.2	+0.6
PB09	IPOC Station P	1.42	248	eP	Pn	01 26 59.1	+0.6
PB09				eS	Sn	01 27 22.8	+0.7
PB09				IAML		01 27 24.7	
	comp=Z,977nm,0.5s						
PB09	IPOC Station P	1.42	248	⇑iP	Pn	01 26 59.7	+1.1
PB09				eS	Sn	01 27 22.6	+0.5
PB09				IAML		01 27 23.6	
	comp=N,1µm,0.3s						
PB01	IPOC Station P	1.56	278		Pn	01 26 59.8	0.0
PB01	IPOC Station P	1.56	278	Pg	Pn	01 26 59.8	0.0
PB01				Sg	Sn	01 27 23.5	-0.9
PB01				IAML		01 27 24.8	
	comp=N,1µm,0.3s						
PB01	IPOC Station P	1.56	278	eP	Pn	01 27 00.1	+0.2
PB01				eS	Sn	01 27 24.5	+0.1
PB01				IAML		01 27 25.5	
	comp=Z,607nm,0.2s						
PB01	IPOC Station P	1.56	278	eP	Pn	01 27 00.1	+0.2
PB01				eS	Sn	01 27 23.5	-0.9
PB01				IAML		01 27 24.6	
	comp=N,2µm,0.3s						
PB08	IPOC Station P	1.67	312		Pn	01 27 02.1	+0.8
PB08	IPOC Station P	1.67	312	Pg	Pn	01 27 01.9	+0.7
PB08	IPOC Station P	1.67	312	eP	Pn	01 27 01.5	+0.2
PB08				eS	Sn	01 27 27.3	+0.5
PB08				IAML		01 27 30.4	
	comp=Z,443nm,0.6s						
PB08	IPOC Station P	1.67	312	⇓iP	Pn	01 27 02.1	+0.8
PB08				eS	Sn	01 27 26.8	-0.1
PB08				IAML		01 27 27.6	
	comp=N,1µm,0.5s						
LVC	Limon Verde	1.68	217	Pn	Pn	01 27 01.9	+0.6
LVC	Limon Verde	1.68	217	Pg	Pn	01 27 01.9	+0.6
LVC	Limon Verde	1.68	217	eP	Pn	01 27 02.0	+0.6
LVC				eS	Sn	01 27 28.3	+1.2
LVC	Limon Verde	1.68	217	eP	Pn	01 27 01.9	+0.6
LVC				eS	Sn	01 27 27.5	+0.4
LVC	Limon Verde	1.68	217	P	Pn	01 27 02.1	+0.8
	comp=N,207nm,0.3s,baz=16,slow=8.5,SNR=353						
LVC				S	Sn	01 27 27.5	+0.4
	comp=N,257nm,0.5s,baz=189,slow=19,SNR=56						
LVC	Limon Verde	1.68	217	⇑iP	Pn	01 27 02.1	+0.8
LVC				eS	Sn	01 27 26.7	-0.4
LVC				IAML		01 27 29.4	
	comp=N,2µm,0.4s						
AF01	San Pedro de A	1.72	191		Pn	01 27 02.9	+1.2
PB02	IPOC Station P	1.93	268		Pn	01 27 03.9	+0.2
PB02	IPOC Station P	1.93	268	Pg	Pn	01 27 03.9	+0.2
PB02				Sg	Sn	01 27 29.8	-1.5
PB02				IAML		01 27 30.8	
	comp=N,2µm,0.4s						
PB02	IPOC Station P	1.93	268	eP	Pn	01 27 03.8	+0.2
PB02				eS	Sn	01 27 30.8	-0.5
PB02				IAML		01 27 32.3	
	comp=Z,3µm,0.3s						
PB02	IPOC Station P	1.93	268	eP	Pn	01 27 03.8	+0.2
PB02				eS	Sn	01 27 29.8	-1.5
PB02				IAML		01 27 31.6	
	comp=E,3µm,0.3s						
PB07	IPOC Station P	1.97	256		Pn	01 27 04.2	-0.1
PB07	IPOC Station P	1.97	256	Pg	Pn	01 27 04.6	+0.4
PB07	IPOC Station P	1.97	256	eP	Pn	01 27 04.5	+0.4
PB07				eS	Sn	01 27 31.9	-0.4
PB07				IAML		01 27 33.4	
	comp=Z,2µm,0.4s						
PB07	IPOC Station P	1.97	256	⇑iP	Pn	01 27 04.7	+0.4
PB07				eS	Sn	01 27 30.8	-1.4
PB07				IAML		01 27 32.7	
	comp=N,3µm,0.4s						
GO01	Chusmiza	2.04	321		Pn	01 27 06.0	+0.6
GO01	Chusmiza	2.04	321	Pg	Pn	01 27 05.9	+0.6
GO01	Chusmiza	2.04	321	eP	Pn	01 27 05.3	0.0
GO01				eS	Sn	01 27 36.0	+1.9
GO01				IAML		01 27 38.2	
	comp=Z,346nm,0.5s						
GO01	Chusmiza	2.04	321	⇑iP	Pn	01 27 05.9	+0.6
GO01				eS	Sn	01 27 33.5	-0.6
GO01				IAML		01 27 38.8	
	comp=N,1µm,0.1s						
MOCB	Mochara	2.04	90	Pg	Pn	01 27 07.0	+1.7
MOCB				Sg	Sn	01 27 34.7	+0.5
MOCB				IAML		01 27 35.7	
	comp=N,174nm,0.4s						
HMBC	Humberstone	2.16	296	Pg	Pn	01 27 06.1	-0.2
HMBC				Sg	Sn	01 27 34.6	-1.4
HMBC				IAML		01 27 35.4	
	comp=N,1µm,0.9s						
HMBC	Humberstone	2.16	296	eP	Pn	01 27 06.1	-0.2
HMBC				eS	Sn	01 27 34.9	-1.1
HMBC				IAML		01 27 36.8	
	comp=Z,862nm,0.2s						
HMBC	Humberstone	2.16	296	eP	Pn	01 27 06.0	-0.4
HMBC				eS	Sn	01 27 33.7	-2.3
HMBC				IAML		01 27 35.9	
	comp=N,1µm,0.3s						
PB06	IPOC Station P	2.17	228	Pn	Pn	01 27 07.0	+0.6
PB06	IPOC Station P	2.17	228	Pg	Pn	01 27 07.2	+0.8
PB06	IPOC Station P	2.17	228	eP	Pn	01 27 06.6	+0.2
PB06				eS	Sn	01 27 36.5	+0.3
PB06				IAML		01 27 40.3	
	comp=Z,551nm,0.5s						
PB06	IPOC Station P	2.17	228	⇑iP	Pn	01 27 07.0	+0.6
PB06				eS	Sn	01 27 35.5	-0.7
PB06				IAML		01 27 36.6	
	comp=E,2µm,0.5s						
PATCX	Punta Patache	2.21	281	Pn	Pn	01 27 06.7	-0.2
PATCX	Punta Patache	2.21	281	eP	Pn	01 27 06.5	-0.4
PATCX				eS	Sn	01 27 36.4	-0.6
PATCX				IAML		01 27 38.2	
	comp=Z,621nm,0.3s						
PATCX	Punta Patache	2.21	281	eP	Pn	01 27 06.9	0.0
PATCX				eS	Sn	01 27 34.8	-2.2
PATCX				IAML		01 27 37.8	
	comp=E,1µm,0.3s						
PB11	IPOC Station P	2.27	311	Pn	Pn	01 27 07.5	-0.1
PB11	IPOC Station P	2.27	311	Pg	Pn	01 27 07.5	-0.1
PB11	IPOC Station P	2.27	311	⇑iP	Pn	01 27 07.7	0.0
PB11				eS	Sn	01 27 36.5	-1.8
PB11				IAML		01 27 38.0	
	comp=N,2µm,0.4s						
TA01	Diego Aracena	2.30	287	Pn	Pn	01 27 07.3	-0.6
TA01	Diego Aracena	2.30	287	Pg	Pn	01 27 07.4	-0.4
TA01	Diego Aracena	2.30	287	eP	Pn	01 27 07.6	-0.3
TA01				eS	Sn	01 27 37.7	-1.0
TA01	Diego Aracena	2.30	287	eP	Pn	01 27 07.4	-0.4
TA01				eS	Sn	01 27 36.1	-2.6
TA01				IAML		01 27 37.9	
	comp=E,684nm,0.2s						
YJA	Yavi	2.34	113	eP	Pn	01 27 10.6	+1.9
YJA				eS	Sn	01 27 43.3	+3.1
TA02	Huaiquique	2.37	294		Pn	01 27 08.2	-0.3
TA02	Huaiquique	2.37	294	eP	Pn	01 27 08.0	-0.6
TA02				eS	Sn	01 27 37.7	-2.3
TA02				IAML		01 27 39.5	
	comp=N,1µm,0.1s						
PB04	IPOC Station P	2.41	243		Pn	01 27 09.0	-0.2
PB04	IPOC Station P	2.41	243	Pg	Pn	01 27 09.3	+0.1
PB04	IPOC Station P	2.41	243	eP	Pn	01 27 09.3	+0.1
PB04				eS	Sn	01 27 40.6	-0.5
PB04				IAML		01 27 44.1	
	comp=Z,613nm,0.5s						
PB04	IPOC Station P	2.41	243	⇑iP	Pn	01 27 09.4	+0.2
PB04				eS	Sn	01 27 39.1	-2.0
PB04				IAML		01 27 42.5	
	comp=E,765nm,0.2s						
PB15	IPOC Station P	2.46	218		Pn	01 27 10.2	+0.3
PB15	IPOC Station P	2.46	218	Pg	Pn	01 27 10.8	+0.9
PB15	IPOC Station P	2.46	218	eP	Pn	01 27 10.5	+0.5
PB15				eS	Sn	01 27 43.0	+0.5
PB15				eS		01 27 43.3	
PB15				IAML		01 27 45.9	
	comp=Z,2µm,0.4s						
PB15	IPOC Station P	2.46	218	eP	Pn	01 27 11.0	+1.0
PB15				eS	Sn	01 27 42.6	+0.1
SOEO	Opoqueri	2.68	359	Pg	Pn	01 27 14.6	+1.7
PB05	IPOC Station P	2.71	234		Pn	01 27 12.4	-0.4
PB05	IPOC Station P	2.71	234	Pg	Pn	01 27 13.2	+0.3
PB05				Sg	Sn	01 27 45.6	-2.1
PB05				IAML		01 27 47.9	
	comp=Z,470nm,0.4s						
PB05	IPOC Station P	2.71	234	eP	Pn	01 27 13.1	+0.3
PB05				eS	Sn	01 27 47.4	-0.2
PB05				IAML		01 27 53.7	
	comp=Z,313nm,0.4s						
PB05	IPOC Station P	2.71	234	⇑iP	Pn	01 27 12.9	+0.1
PB05				eS	Sn	01 27 45.5	-2.1
PB05				IAML		01 27 47.7	
	comp=N,606nm,0.4s						
PB16	IPOC Station P	3.31	331		Pn	01 27 20.7	+0.1
PB16	IPOC Station P	3.31	331	Pg	Pn	01 27 21.7	+1.0
PB16	IPOC Station P	3.31	331	eP	Pn	01 27 21.1	+0.5
PB16				eS	Sn	01 28 02.2	+0.7
PB16				IAML		01 28 04.9	
	comp=Z,129nm,0.4s						
PB16	IPOC Station P	3.31	331	⇑iP	Pn	01 27 21.5	+0.9
PB16				eS	Sn	01 28 01.0	-0.6
PB16				IAML		01 28 03.6	
	comp=N,292nm,0.5s						
PB12	IPOC Station P	3.53	318	Pn	Pn	01 27 21.5	-1.4
PB12	IPOC Station P	3.53	318	eP	Pn	01 27 21.4	-1.4
PB12				eS	Sn	01 28 03.4	-2.3
PB12				IAML		01 28 05.5	
	comp=Z,136nm,0.2s						
SOET	ToroToro	3.66	32	Pg	Pn	01 27 25.9	+1.1
AOEA	Aiquile	3.92	39	Pg	Pn	01 27 29.0	+0.9
PB18	Visviri	3.97	337	Pn	Pn	01 27 29.3	+0.3
PB14	IPOC Station P	4.11	215	Pn	Pn	01 27 29.9	-0.5
PB14	IPOC Station P	4.11	215	eP	Pn	01 27 30.7	+0.3
PB14				eS	Sn	01 28 15.7	-3.5
PB14				IAML		01 28 19.3	
	comp=Z,129nm,0.3s						
SOTI	Planta Incahua	4.16	71	Pg	Pn	01 27 31.8	+0.8
GO02	Mina Guanaco	4.21	202	Pn	Pn	01 27 31.7	-0.1
GO02	Mina Guanaco	4.21	202	Pg	Pn	01 27 31.9	+0.1
GO02	Mina Guanaco	4.21	202	eS	Sn	01 28 18.9	-2.8
GO02				IAML		01 28 21.6	
	comp=Z,158nm,0.3s						
SOEJ	Jacaque	4.28	355	Pg	Pn	01 27 34.9	+2.0
ALOL	LOMAS DE OLMED	4.37	126	eP	Pn	01 27 34.1	+0.5
ALOL				eS	Sn	01 28 21.6	-3.4
BBOE	La Paz, Chanca	4.42	358	Pg	Pn	01 27 36.9	+2.0
BBOD	La Paz, Gloria	4.65	351	Pg	Pn	01 27 39.7	+1.9
LPAZ	La Paz	4.95	357		Pn	01 27 42.9	+1.1
LPAZ	La Paz	4.95	357	Pg	Pn	01 27 43.1	+1.3
LPAZ	La Paz	4.95	357	eP	Pn	01 27 43.1	+1.3
AC01	Pan de Azucar	5.49	207	Pn	Pn	01 27 46.8	-1.3
AC01	Pan de Azucar	5.49	207	eP	Pn	01 27 46.9	-1.3
AC01				eS	Sn	01 28 46.6	-4.5
AC01				IAML		01 28 48.0	
	comp=Z,43nm,0.6s						
AC06	Mina Casimiro	6.49	200	Pn	Pn	01 27 59.2	-2.2
GO03	Copiap	6.68	199		Pn	01 28 01.7	-2.2
AC05	El Transito	7.86	196		Pn	01 28 17.4	-2.2
BBSD	Serra de San D	7.93	61	eP	Pn	01 28 18.1	-2.4
BBRB	Robore, Bolivi	8.11	70	eP	Pn	01 28 20.1	-2.8
LCO	Las Campanas	8.14	198		Pn	01 28 20.6	-2.9
SIV	San Ignacio	8.27	52	P	Pn	01 28 22.9	-2.2
	comp=Z,27nm,0.5s,baz=243,slow=12,SNR=182						
SIV				S	Sn	01 29 49.6	-8.0
	comp=Z,2.8nm,0.5s,baz=319,slow=19,SNR=2.0						
CO01	Juntas del Tor	8.92	193		Pn	01 28 32.0	-1.7
GO04	Tololo Observa	9.27	196		Pn	01 28 34.7	-3.6
MURT	Porto Murtinho	9.53	94	eP	Pn	01 28 40.0	-1.5
CO03	El Pedregal	9.88	194	Pn	Pn	01 28 43.2	-3.0
PTLB	Pontes e Lacer	10.07	56	Pn	Pn	01 28 47.1	-1.7
PTLB	Pontes e Lacer	10.07	56	eP	Pn	01 28 47.2	-1.5
CFA	Coronel Fontan	10.31	182	P	Pn	01 28 50.0	-1.7
	comp=Z,3.3nm,0.3s,baz=14,slow=16,SNR=20						
CFA				S	Sn	01 30 38.7	-7.5
	comp=Z,1.3nm,0.3s,baz=156,slow=18,SNR=2.2						
BDQN	Bodoquena, MS	10.39	88	eP	Pn	01 28 51.4	-1.4
CPUP	Villa Florida	10.86	120	eP	Pn	01 29 01.6	+2.7
CPUP	Villa Florida	10.86	120	P	Pn	01 28 59.3	+0.4
	comp=Z,0.9nm,0.4s,baz=335,slow=18,SNR=2.2						
VILB	Vilhena	11.02	43	Pn	Pn	01 28 59.6	-1.4
VILB	Vilhena	11.02	43	eP	Pn	01 28 59.7	-1.4
ANTJ	Antonio Joao (	11.02	96	eP	Pn	01 29 01.0	-0.2
ETMB	Extrema	11.48	8		Pn	01 29 04.9	-2.2
ETMB	Extrema	11.48	8	eP	Pn	01 29 04.9	-2.2
SAML	Samuel	13.03	21		Pn	01 29 24.3	-2.7
SAML	Samuel	13.03	21	eP	Pn	01 29 25.3	-1.7
FRTB	Fartura	17.03	100	eP	Pn	01 30 17.5	+1.2
TEFE	Tefe	17.91	10	eP	P	01 30 24.5	-0.5
SNDB	Serra Nova Dou	18.32	62	eP	Pn	01 30 29.9	-1.6
NPGB	Novo Progresso	18.58	42	eP	P	01 30 32.1	-0.1
MACA	Manacapuru-AM	19.29	22	P	P	01 30 38.5	-1.4
MACA	Manacapuru-AM	19.29	22	eP	P	01 30 39.3	-0.6
PLCA	Paso Flores	19.55	186	P	Pn	01 30 46.0	+0.2
	comp=Z,1.8nm,0.9s,baz=328,slow=12,SNR=4.8						
BDFB	Brasilia	19.60	77	P	P	01 30 43.7	+0.2
	comp=Z,1.7nm,0.5s,baz=188,slow=7.9,SNR=4.6						
ITTB	Itaituba	20.49	37	eP	P	01 30 52.7	-0.1
SGCB	S£o Gabriel d	21.02	2	eP	P	01 30 57.9	-0.6
PRPB	Parauapebas	23.00	52	eP	P	01 31 17.9	-0.3
SMTB	Santa Maria do	23.07	61	eP	P	01 31 19.4	+0.6
JANB	Januaria	23.17	78	eP	P	01 31 19.7	0.0
MALB	Monte Alegre	23.39	36	eP	P	01 31 22.2	+0.6
BOAV	Boa Vista	24.57	18	P	P	01 31 33.0	+0.6
BOAV	Boa Vista	24.57	18	eP	P	01 31 34.1	+1.7
TXAR	Lajitas Array	61.02	324	P	P	01 36 24.7	+0.9
	comp=Z,0.2nm,0.7s,baz=153,slow=7.0,SNR=1.6						
	comp=Z,0.2nm,0.7s						
SNAA	Sanae	62.18	161	P	P	01 36 32.5	+1.5
SNAA				IAmb	IAmb	01 37 12.0	
	comp=Z,6.3nm,1.4s						
SNAA	Sanae	62.18	161	P	P	01 36 33.1	+2.1
	comp=Z,1.9nm,0.8s,baz=291,slow=8.1,SNR=2.8						
	comp=Z,1.9nm,0.8s						
DBIC	Dimbokro	67.70	73	P	P	01 37 07.6	+0.2
	comp=Z,4.5nm,0.9s,baz=96,slow=5.9,SNR=3.6						
	comp=Z,4.5nm,0.9s						
QSPA	South Pole Qui	68.93	180	P	P	01 37 08.9	-5.5
QSPA				IAmb	IAmb	01 37 45.0	
	comp=Z,4.3nm,1.1s						
PDAR	Pinedale Array	74.41	329	P	P	01 37 49.3	+1.8
	comp=Z,0.2nm,0.5s,baz=125,slow=7.8,SNR=2.4						
	comp=Z,0.2nm,0.5s						
TORD	Torodi Ar. Bea	76.33	70	P	P	01 37 59.3	+0.6
	comp=Z,2.5nm,0.6s,baz=256,slow=5.0,SNR=16						
	comp=Z,2.5nm,0.6s						
BOSA	Boshof	82.67	118	P	P	01 38 34.8	+1.8
	comp=Z,3.6nm,0.9s,baz=248,slow=2.9,SNR=3.7						
	comp=Z,3.6nm,0.9s						
YKA	Yellowknife Ar	91.30	340	P	P	01 39 15.2	+1.5
	comp=Z,0.8nm,0.5s,baz=135,slow=4.2,SNR=3.6						
	comp=Z,0.8nm,0.5s						
WRA	Warramunga Arr	133.66	209	PKP	PKiKP	01 45 27.1	+0.5
	comp=Z,0.6nm,0.7s,baz=156,slow=2.1,SNR=5.2						
MKAR	Makanchi Array	144.84	36	PKP	PKPdf	01 45 46.2	+1.5
	comp=Z,2.4nm,0.7s,baz=308,slow=3.3,SNR=20						

IDC 07 01:30:53.6±3.1, 3°.86S×151°.82E, h0km, mb3.6/2, mbtmp3.6/2, MS4.0/1, Error ellipse: s-maj=139.9km s-min=41.6km az=120.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	9.78	125	LR	LR	01 37 28.4	
	comp=Z,757nm,19.3s,baz=26,slow=40						
WRA	Warramunga Arr	23.37	225	P	P	01 36 05.1	+1.1
	2.5nm,0.7s,baz=53,slow=10,SNR=22						
	2.5nm,0.7s						
ASAR	Alice Springs	26.21	220	P	P	01 36 30.4	+0.1
	0.3nm,0.5s,baz=50,slow=8.8,SNR=5.2						
	0.3nm,0.5s						
TORD	Torodi Ar. Bea	149.08	289	PKPbc	PKPbc	01 50 43.6	-1.4
	0.4nm,0.3s,baz=68,slow=2.7,SNR=11						

BUT 07 01:49:23.2±1.4, 46°.54N±0°.04×112°.52W±0°.06, h21km±7km, Error ellipse: s-maj=7.2km s-min=4.6km az=46.0
NEIC 07 01:49:22.3±1.0, 46°.50N±0°.03×112°.53W±0°.07, h20km±7km, ML3.2/62, ML3.6/24(BUT), Error ellipse: s-maj=7.1km s-min=4.0km az=66.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELMT	Elliston	0.03	53	Pg	Pb	01 49 26.6	+0.4
BEMT	Mount Belmont	0.28	29		Pb	01 49 28.7	-0.2
LYMT	Lyon Mountain	0.49	19		Pb	01 49 32.4	0.0
BPMT	Black Pine Rid	0.64	264		Pb	01 49 35.5	+0.6
CHMT	Chamberlain Mo	0.65	310		Pb	01 49 35.3	+0.2
OVMT	Ovando	0.65	330		Pb	01 49 35.1	0.0
MSO	Missoula	1.02	289		Pn	01 49 42.0	+0.4
MSO	Missoula	1.02	289	IAML		01 49 57.8	
	477nm,0.5s						
BOZ	Bozeman (W)	1.10	145		Pb	01 49 43.5	+0.7
BOZ	Bozeman (W)	1.10	145	IAML		01 49 59.7	
	769nm,0.5s						
YHL	Hebgen Lake	1.90	150		Pn	01 49 55.0	+1.1
YHL	Hebgen Lake	1.90	150	IAML		01 50 25.7	
	comp=E,344nm,0.5s						
YPDC	Denny Creek	2.01	153		Pb	01 49 57.1	-1.1
YMC	Maple Creek	2.05	148		Pb	01 49 57.4	-1.5
CMI	Centennial Mou	2.08	162		Pn	01 49 57.8	+1.5
YHH	Holmes Hill	2.08	145		Pn	01 49 57.8	+1.4
YMR	Madison River	2.14	149		Pn	01 49 58.7	+1.7
YMR	Madison River	2.14	149	IAML		01 50 32.0	
	comp=N,320nm,0.5s						
YMR				IAML		01 50 35.8	
	comp=E,248nm,0.7s						
YPWB	West Boundary	2.15	152		Pb	01 49 59.0	-1.7
YNM	Yellowstone No	2.19	144	Pn	Pn	01 49 59.1	+1.3
YNM				IAML		01 50 31.9	
	comp=E,163nm,0.4s						
YNM				IAML		01 50 33.1	
	comp=N,120nm,0.2s						
ICI	Italian Canyon	2.19	188		Pn	01 49 58.9	+1.1
YNR	Norris Junctio	2.21	143		Pb	01 50 00.1	-1.6
YNR	Norris Junctio	2.21	143	IAML		01 50 34.2	
	comp=N,119nm,0.3s						
YNR				IAML		01 50 35.8	
	comp=E,95nm,0.4s						
YFT	Old Faithful	2.37	149		Pn	01 50 01.2	+0.9
EGMT	Eagleton	2.42	50		Pn	01 50 01.4	+0.6
YMP	Mirror Lake Pl	2.43	136		Pn	01 50 02.2	+1.1
YMP				IAML		01 50 42.5	
	comp=N,186nm,0.4s						
YMP				IAML		01 50 43.6	
	comp=E,241nm,0.4s						
MCID	Moose Creek	2.50	157		Pn	01 50 04.1	+2.0
H17A	Grant Village	2.52	146		Pn	01 50 02.7	+0.4
RLMT	Red Lodge	2.67	120	Pn	Pn	01 50 05.2	+0.9
RLMT				IAML		01 50 47.0	
	comp=E,174nm,0.5s						
RLMT				IAML		01 50 47.7	
	comp=E,176nm,0.2s						
FLWY	Flagg Ranch	2.74	151	Pn	Pn	01 50 06.2	+0.8
FLWY				IAML		01 50 52.2	
	comp=E,60nm,0.6s						
PLID	Pearl Lake	2.81	241	Pn	Pn	01 50 06.7	+0.4
PLID				IAML		01 50 54.1	
	comp=E,75nm,0.5s						
IMW	Indian Meadow	2.84	156		Pn	01 50 08.6	+1.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MOOW	Moose Ponds	3.03	155	Pn	Pn	01 50 10.7	+1.4
FXWY	Fox Creek	3.06	159		Pn	01 50 11.4	+1.7
LOHW	Long Hollow	3.20	154		Pn	01 50 14.0	+2.4
LOHW				IAML		01 51 05.9	
	comp=E,52nm,0.6s						
TPAW	Teton Pass	3.21	159		Pn	01 50 12.7	+0.8
TPAW				IAML		01 51 07.8	
	comp=E,43nm,0.4s						
TPAW				IAML		01 51 12.8	
	comp=E,70nm,0.6s						
HLID	Hailey	3.23	205	Pn	Pn	01 50 12.6	+0.6
HLID				IAML		01 51 06.6	
	comp=E,117nm,0.3s						
SNOW	Snow King Moun	3.29	157	Pn	Pn	01 50 13.6	+0.7
SNOW				IAML		01 51 08.9	
	comp=E,35nm,1.1s						
SNOW				IAML		01 51 09.0	
	comp=E,41nm,0.5s						
F10A	Beach Ranch, E	3.30	262		Pn	01 50 14.0	+1.1
REDW	Red Top Meadow	3.36	159	Pn	Pn	01 50 14.3	+0.5
NEW	Newport	3.58	301	Pn	Pn	01 50 17.1	+0.3
NEW				IAML		01 51 16.7	
	comp=E,38nm,1.0s						
NEW				IAML		01 51 21.0	
	comp=E,42nm,0.7s						
BMO	Blue Mountains	3.73	245	Pn	Pn	01 50 18.9	+0.1
MFID	Camas Ranch	3.88	218	Pn	Pn	01 50 21.2	+0.4
E09A	Wood Farm, Sta	3.88	272	Pn	Pn	01 50 20.8	+0.1
E09A				IAML		01 51 28.8	
	comp=E,27nm,1.1s						
E09A				IAML		01 51 33.6	
	comp=N,38nm,0.6s						
C09A	Chrisman Ranch	4.13	290	Pn	Pn	01 50 24.6	+0.3
PD31	Pinedale Array	4.30	149	Pn	Pn	01 50 27.6	+0.9
LAO	LASA Array	4.35	85	Pn	Pn	01 50 28.9	+1.6
D08A	Wollman Farm,	4.43	279	Pn	Pn	01 50 28.8	+0.5
D08A				IAML		01 51 19.4	
	comp=E,17nm,4.4s						
D08A				IAML		01 51 45.1	
	comp=N,23nm,0.8s						
E08A	Dider Farm, El	4.51	272	Pn	Pn	01 50 30.0	+0.6
E08A				IAML		01 51 52.0	
	comp=E,19nm,1.0s						
E08A				IAML		01 51 52.2	
	comp=N,37nm,0.9s						
G08A	Pilot Rock	4.65	257		Pn	01 50 32.4	+0.9
G08A				IAML		01 51 30.3	
	comp=E,13nm,4.7s						
HVU	Hansel Valley	4.73	182	Pn	Pn	01 50 32.8	+0.2
HAWA	Hanford	4.84	271	Pn	Pn	01 50 34.6	+0.6
HAWA				IAML		01 52 06.0	
	comp=E,30nm,0.6s						
HAWA				IAML		01 52 21.6	
	comp=E,15nm,4.5s						
E07A	Sunnyside	5.06	273		Pn	01 50 37.9	+0.9
I07A	Izee	5.49	246	Pn	Pn	01 50 41.6	-1.4
K22A	Casper	5.76	130	Pn	Pn	01 50 47.0	+0.2
DGMT	Dagmar	5.98	68	Pn	Pn	01 50 50.4	+0.7

*IDC **07** 02:20:56.7±4.5, 41.29N×143.98E, h0km, mb3.6/4, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=145.3km s-min=26.4km az=58.0*
*JMA **07** 02:21:18.9±0.1, 40.5N±0.4×141.6E±0.8, h112km±1km, MV3.4/39, E OFF AOMORI PREF*
JMA Felt I J1 at E OFF AOMORI PREF .
ISC 07 02:21:18.3±1.0**, 40.51N**±0.04×**141.61E**±0.08**, h115**km±7km**, n25,** σ**0.66**/30**, mb3.5**/4**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JANG	Nango	0.16	208	iP	Pn	02 21 34.5	+0.3
JANG				S	Sn	02 21 45.5	-0.5
JKEN	Kujiedanarisaw	0.32	166	iP	Pn	02 21 35.1	+0.5
JKEN				S	Sn	02 21 46.9	0.0
JTM	Tenmabayashi	0.49	304	iP	Pn	02 21 35.7	+0.2
JTM				S	Sn	02 21 48.4	-0.2
JAH	Hinai	0.81	247	iP	Pn	02 21 38.6	+0.6
JAH				S	Sn	02 21 53.3	+0.3
JOT	Ohata	0.97	334	iP	Pn	02 21 39.6	+0.2
JOT				S	Sn	02 21 55.3	-0.2
JOM	Ohasama	1.07	193	iP	Pn	02 21 41.0	+0.4
JOM				S	Sn	02 21 57.0	-0.4
JIW	Iwasaki	1.23	274	iP	Pn	02 21 43.0	+0.8
JRG	Rokugo	1.35	214	iP	Pn	02 21 44.5	+0.9
JRG				S	Sn	02 22 03.8	+1.1
JSR	Shiriuchi	1.36	319	P	Pn	02 21 44.0	+0.3
JSR				eS	Sn	02 22 02.6	-0.3
JKB	Kayabe	1.44	343	iP	Pn	02 21 44.9	+0.3
JKB				S	Sn	02 22 04.2	-0.4
JOMM	Oshimamatsumae	1.58	310	P	Pn	02 21 46.4	+0.2
JOMM				S	Sn	02 22 06.5	-1.0
JMK	Ichinoseki	1.59	191	iP	Pn	02 21 46.7	+0.3
JMK				S	Sn	02 22 06.9	-0.9
JYK	Kaneyama	1.86	212	iP	Pn	02 21 50.3	+0.5
JYK				eS	Sn	02 22 13.8	0.0
JNBK	Urakawa-nobuka	1.96	26	P	Pn	02 21 52.2	+1.3
JNBK				S	Sn	02 22 17.5	+1.6
USRK	Ussuriysk Ar.	8.02	300	Pn	Pn	02 23 12.9	+1.0
	0.4nm,0.3s,baz=107,slow=14,SNR=5.3						
	1.4nm,0.5s						
H11N2	WAKE ISLAND Hy	29.94	126	T	T	02 58 16.7	
	baz=318,slow=75						
H11N1	WAKE ISLAND Hy	29.95	126	T	T	02 58 21.1	
	baz=318,slow=75						
H11N3	WAKE ISLAND Hy	29.96	126	T	T	02 58 23.8	
	baz=318,slow=75						
H11S1	WAKE ISLAND Hy	30.75	128	T	T	02 59 26.6	
	baz=318						
H11S3	WAKE ISLAND Hy	30.76	128	T	T	02 59 15.3	
	baz=318						
H11S2	WAKE ISLAND Hy	30.77	128	T	T	02 59 18.2	
	baz=318						
MKAR	Makanchi Array	42.48	299	P	P	02 29 02.0	0.0
	0.5nm,0.8s,baz=90,slow=7.2,SNR=3.4						
	0.5nm,0.8s						
KURBB	Kurchatov Arra	44.05	305	P	P	02 29 14.5	+0.1
	0.6nm,0.7s,baz=80,slow=8.1,SNR=3.3						
	0.6nm,0.7s						
WRA	Warramunga Arr	60.52	188	P	P	02 31 15.4	-0.9
	0.4nm,0.4s,baz=7.8,slow=7.7,SNR=19						
	0.4nm,0.4s						
ASAR	Alice Springs	64.25	188	P	P	02 31 41.3	+0.2
	0.3nm,0.6s,baz=26,slow=7.2,SNR=2.6						
	0.3nm,0.6s						

*IDC **07** 02:22:43.1±1.0, 52.37N×170.59W, h0km, mb4.0/15, mbtmp3.9/18, ML3.3/3, MS3.1/13, Error ellipse: s-maj=29.9km s-min=16.2km az=175.0*
*AEIC **07** 02:22:48.3±2.6, 52.27N±0.07×170.48W±0.08, h34km±5km, Error ellipse: s-maj=12.3km s-min=3.8km az=148.0*
*NEIC **07** 02:22:49.0±1.8, 52.16N±0.07×170.46W±0.09, h40km±8km, mb4.3/47, ML3.8/8, ML3.5(AEIC), Error ellipse: s-maj=12.3km s-min=5.5km az=147.0*
ISC 07 02:22:49.0±1.3**, 52.2N**±0.1×**170.49W**±0.05**, h43**km±11km**, n121,** σ**0.91**/108**, mb4.1**/32**, MS3.2**/12**, Fox Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CLES	Cleveland East	0.70	31		Pn	02 23 02.0	-0.5
CLES					Sn	02 23 12.4	+0.1
CLCO	Concord Point,	0.73	39		Pn	02 23 02.2	-0.8
CLCO					Sn	02 23 13.4	+0.4
NIKH	Nikolski High	1.25	52		Pn	02 23 08.7	-1.3
NIKH					Sn	02 23 24.0	-1.6
OKWR	Okmok West Rim	1.84	48		Sn	02 23 44.0	+3.7
OKWE	Okmok W'ng Wal	1.85	47		Pn	02 23 17.8	-0.4
OKCE	Okmok Cone E	1.86	49		Pn	02 23 19.1	+0.8
OKCE					Sn	02 23 42.0	+1.5
OKNC	Okmok New Cone	1.90	48		Pn	02 23 19.6	+0.8
OKER	Okmok East Rim	1.93	49		Pn	02 23 20.0	+0.7
OKFG	Magazine Ridge	1.97	52		Pn	02 23 20.2	+0.4
OKFG					Sn	02 23 43.8	+0.6
KOFP	Korovin Flat P	2.22	273		Pn	02 23 23.4	+0.1
ATKA	Atka Island	2.28	271		Pn	02 23 23.4	-0.7
ATKA					Sn	02 23 51.9	+1.0
ATKA	Atka Island	2.28	271	IAML		02 24 02.2	
	comp=E,273nm,0.7s						
KOKL	Mount Kliuchef	2.28	274		Pn	02 23 24.4	+0.2
MAPS	Pakushin South	2.67	52		Pn	02 23 29.9	+0.5
MGOD	Makushin Gods	2.69	53		Pn	02 23 30.3	+0.5
MGOD					Sn	02 24 02.2	+1.0
MSW	Makushin Switc	2.81	51		Pn	02 23 31.9	+0.6
MNAT	Makushin Natee	2.84	53		Pn	02 23 32.2	+0.4
MTBL	Makushin Table	2.89	51		Pn	02 23 33.1	+0.6
UNV	Unalaska Valle	2.90	54		Pn	02 23 33.1	+0.5
ZRO	Akutan Zero	3.30	54		Pn	02 23 39.2	+1.1
LVA	Lava Point	3.31	52		Pn	02 23 38.7	+0.5
AKUT	Akutan	3.42	54	Pn	Pn	02 23 41.4	+1.6
AKUT				IAML		02 24 35.2	
	comp=E,152nm,2.1s						
GSTR	Great Sitkin T	3.43	270	Pn	Pn	02 23 41.1	+1.1
GSMY	Great Sitkin M	3.44	269		Pn	02 23 40.9	+0.9
GSCK	Great Sitkin C	3.50	269		Pn	02 23 41.8	+0.9
ADAG	Mount Adagdak	3.78	269		Pn	02 23 44.7	0.0
ADK	Adak	3.84	267	Pn	Pn	02 23 46.4	+0.9
ADK				IAML		02 24 44.9	
	comp=E,163nm,1.4s						
ADK				IAML		02 24 48.7	
	comp=E,210nm,1.1s						
KIWB	Kanaga Island	4.13	267	Pn	Pn	02 23 49.5	0.0
SPIA	Saint Paul Isl	4.97	2		Pn	02 24 02.3	+1.3
KDAK	Kodiak Island	11.68	54	Pn	Pn	02 25 32.1	-0.6
	comp=E,0.2nm,0.3s,baz=252,slow=6.4,SNR=1.4						
	comp=E,5.4nm,1.1s						
GHO	Glory Hole Cre	15.07	42	Pn	P	02 26 21.3	-2.1
GHO				IAmb	IAmb	02 26 59.2	
	comp=Z,23nm,1.4s						
ILAR	Eielson Array	17.46	35	P	Pn	02 26 48.1	-0.9
	comp=Z,0.1nm,0.3s,baz=219,slow=11,SNR=7.1						
ILAR				LR	LR	02 33 30.2	
	comp=Z,48nm,20.9s,baz=347,slow=37						
	comp=Z,0.2nm,0.5s						
PETK	Petropavlovsk-	19.24	285	P	P	02 27 08.7	-0.7
	comp=Z,0.9nm,0.3s,baz=78,slow=14,SNR=9.7						
	comp=Z,2.8nm,0.5s						
EGAK	Eagle	19.58	39	P	P	02 27 13.3	+0.2
BMAR	Burnt Mountain	19.80	30	P	Pn	02 27 16.2	-1.0
M29M	Somme Creek	19.86	47	P	P	02 27 16.0	-0.2
M29M				IAmb	IAmb	02 27 23.4	
	comp=Z,17nm,1.4s						
HYT	Haines Junctio	19.93	51	P	Pn	02 27 19.1	+0.2
HYT				IAmb	IAmb	02 27 21.1	
	comp=Z,14nm,1.1s						
C23K	Itkillik River	19.93	20	P	Pn	02 27 17.5	-1.2
N30M	Aishikik Lake	20.25	50	P	P	02 27 20.5	+0.1
N30M				IAmb	IAmb	02 27 55.6	
	comp=Z,12nm,1.2s						
I28M	Miner Creek	20.34	38	P	P	02 27 20.2	-1.1
WHY	Whitehorse	21.18	53	P	P	02 27 30.8	+0.4
WHY				IAmb	IAmb	02 28 07.8	
	comp=Z,10nm,1.2s						
H29M	Whitestone	21.26	36	P	P	02 27 29.9	-1.3
H29M				IAmb	IAmb	02 27 35.5	
	comp=Z,11nm,1.3s						
F28M	Old Crow	21.40	32	P	P	02 27 32.8	+0.1
G29M	Pine Creek	21.69	35	P	P	02 27 34.9	-0.9
D27M	Malcolm River	21.96	28	P	P	02 27 39.1	+0.4
E28M	Babbage River	22.03	30	P	P	02 27 41.0	+1.6
G30M	tAoh Zraii Nji	22.36	36	P	P	02 27 42.2	-0.8
Q32M	Nakina River	22.37	57	P	P	02 27 41.4	-1.9
Q32M				IAmb	IAmb	02 27 53.5	
	comp=Z,24nm,1.5s						
MA2	Magadan	22.65	304	LR	LR	02 37 23.2	
	comp=Z,24nm,19.8s,baz=78,slow=39						
G31M	Satah River	23.05	37	P	P	02 27 49.1	-1.0
G31M				IAmb	IAmb	02 27 54.3	
	comp=Z,7.7nm,1.4s						
F31M	Tsiigehtchic	23.43	35	P	P	02 27 54.3	+0.4
F31M				IAmb	IAmb	02 28 24.1	
	comp=Z,6.5nm,1.2s						
INK	Inuvik	23.85	34	P	P	02 27 56.7	-1.0
A36M	Sachs Harbour	27.87	28	P	P	02 28 34.5	+0.4
A36M				IAmb	IAmb	02 28 36.9	
	comp=Z,4.7nm,0.9s						
YKA	Yellowknife Ar	30.86	49	P	P	02 29 01.2	+0.6
	comp=Z,0.3nm,0.8s,baz=246,slow=9.3,SNR=5.6						
	comp=Z,0.3nm,0.8s						
COR	Corvallis	31.76	85	P	P	02 29 08.6	-0.1
ASAJ	Asahikawa	31.83	274	LR	LR	02 42 31.9	
	comp=Z,23nm,20.0s,baz=14,slow=37						
ERM	Erimo	32.63	271	P	P	02 29 16.6	+0.2
YBH	Yreka Blue Hor	33.67	89	LR	LR	02 39 26.1	
	comp=Z,45nm,19.2s,baz=20,slow=30						
KLR	Kul'dur	35.86	289	LR	LR	02 45 07.9	
	comp=Z,23nm,18.9s,baz=54,slow=38						
CHMT	Chamberlain Mo	36.66	75	P	P	02 29 51.7	+0.3
RES	Resolute Bay	36.80	25	LR	LR	02 47 11.0	
	comp=Z,31nm,19.3s,baz=18,slow=40						
H11N2	WAKE ISLAND Hy	36.91	217	T	T	03 09 27.8	
	baz=23,slow=76,SNR=16						
H11N3	WAKE ISLAND Hy	36.92	217	T	T	03 09 24.4	
	baz=23,slow=76,SNR=14						
H11N1	WAKE ISLAND Hy	36.93	217	T	T	03 09 27.6	
	baz=23,slow=76,SNR=14						
LYMT	Lyon Mountain	37.20	74	P	P	02 29 57.5	+1.4
ELMT	Elliston	37.31	75	P	P	02 29 58.5	+1.6
H11S1	WAKE ISLAND Hy	38.11	217	T	T	03 10 51.4	
	baz=22,slow=76,SNR=112						
H11S2	WAKE ISLAND Hy	38.12	217	T	T	03 10 43.8	
	baz=22,slow=76,SNR=124						
H11S3	WAKE ISLAND Hy	38.12	217	T	T	03 10 52.7	
	baz=22,slow=76,SNR=87						
BOZ	Bozeman (W)	38.30	76	P	P	02 30 06.4	+1.2
ELK	Elko	38.83	85	LR	LR	02 44 24.7	
	comp=Z,45nm,21.2s,baz=278,slow=34						
R11B	Troy Canyon, C	40.07	88	P	P	02 30 19.6	-0.5
BW06	Boulder Array	41.11	78	P	P	02 30 30.1	+1.5
BW06				IAmb	IAmb	02 30 31.8	
	comp=Z,3.5nm,1.1s						
PD31	Pinedale Array	41.11	78	P	P	02 30 29.9	+1.3
PD31				IAmb	IAmb	02 30 31.7	
	comp=Z,3.6nm,1.2s						
PDAR	Pinedale Array	41.11	78	P	P	02 30 30.0	+1.3
PDAR	Pinedale Array	41.11	78	P	P	02 30 29.7	+1.0
	comp=Z,0.8nm,0.5s,baz=301,slow=2.5,SNR=18						
	comp=Z,0.8nm,0.5s						
FCC	Fort Churchill	41.56	50	P	P	02 30 32.5	+0.6
FCC				IAmb	IAmb	02 30 34.2	
	comp=Z,14nm,1.4s						
JHS	Saijyo	43.14	269	P	P	02 30 44.9	-0.2
O20A	White River Ci	43.46	81	P	P	02 30 48.8	+0.9
O20A				IAmb	IAmb	02 30 50.3	
	comp=Z,2.9nm,0.8s						
BLYC	Blythe	43.71	92	P	P	02 30 49.5	-0.1
BLYC				IAmb	IAmb	02 31 10.0	
	comp=Z,8.4nm,1.2s						
KSRS	Korea Array	44.74	276	LR	LR	02 47 28.1	
	comp=Z,8.4nm,21.9s,baz=70,slow=33						
ECSD	EROS Data Cent	48.17	69	P	P	02 31 24.7	0.0
ECSD				IAmb	IAmb	02 31 25.3	
	comp=Z,5.5nm,1.1s						
ULN	Ulaanbaatar	50.41	300	P	P	02 31 41.6	-0.4
ULN				IAmb	IAmb	02 31 42.0	
	comp=Z,1.8nm,0.6s						
SONM	Songino Array	50.78	300	P	P	02 31 44.8	+0.1
SONM				IAmb	IAmb	02 31 46.7	
	comp=Z,3.2nm,1.5s						
SONM	Songino Array	50.78	300	P	P	02 31 44.3	-0.3
	comp=Z,0.8nm,0.5s,baz=60,slow=6.6,SNR=8.4						
SONM				LR	LR	02 54 33.7	
	comp=Z,28nm,19.4s,baz=162,slow=38						
	comp=Z,0.8nm,0.5s						
E46A	Sault Ste Mari	53.34	59	P	P	02 32 03.0	-0.4
TXAR	Lajitas Array	53.44	88	P	P	02 32 04.7	0.0
TXAR	Lajitas Array	53.44	88	P	P	02 32 04.8	+0.2
	comp=Z,1.2nm,0.9s,baz=311,slow=5.9,SNR=4.9						
	comp=Z,1.2nm,0.9s						
R40A	Maddies Statio	54.17	72	P	P	02 32 08.8	-0.9
R40A				IAmb	IAmb	02 32 27.9	
	comp=Z,5.4nm,1.1s						
SCO	Scoresbysund	55.52	12	P	P	02 32 19.6	+0.6
SCO				IAmb	IAmb	02 32 45.6	
	comp=Z,20nm,1.3s						
P46A	Rosedale	56.20	67	P	P	02 32 24.6	+0.3
SADO	Sadowa	57.11	58	P	P	02 32 31.0	+0.3
ARCES	ARCESS Array B	57.99	353	P	P	02 32 35.7	-0.9
ARCES				IAmb	IAmb	02 32 46.8	
	comp=Z,15nm,1.3s						
ARCES	ARCESS Array B	57.99	353	P	P	02 32 35.9	-0.6
	comp=Z,1.8nm,0.7s,baz=16,slow=7.7,SNR=1.7						
ARCES				LR	LR	02 57 55.5	
	comp=Z,20nm,20.6s,baz=355,slow=36						
	comp=Z,1.8nm,0.7s						
LVZ	Lovozero	58.73	349	P	P	02 32 41.3	-0.5
146A	Union	59.97	75	P	P	02 32 50.7	0.0
PKME	Peaks-Kenny Pk	61.72	52	P	P	02 33 03.0	+0.6
KURK	Kurchatov	62.02	318	P	P	02 33 04.5	+0.1
KURK				IAmb	IAmb	02 33 05.0	
	comp=Z,2.3nm,0.8s						
KURBB	Kurchatov Arra	62.13	318	P	P	02 33 04.4	-0.7
	comp=Z,0.7nm,0.6s,baz=46,slow=7.0,SNR=5.9						
	comp=Z,0.7nm,0.6s						
MKAR	Makanchi Array	63.40	313	P	P	02 33 13.3	-0.4
MKAR	Makanchi Array	63.40	313	P	P	02 33 12.3	-1.4
	comp=Z,0.4nm,0.6s,baz=36,slow=6.3,SNR=3.6						
	comp=Z,0.4nm,0.6s						
BVAR	Borovoye Array	63.42	324	P	P	02 33 13.1	-0.6
	comp=Z,1.5nm,0.5s,baz=48,slow=7.0,SNR=11						
	comp=Z,1.5nm,0.5s						
FINES	FINESS Array B	65.92	351	P	P	02 33 29.3	-0.5
FINES	FINESS Array B	65.92	351	P	P	02 33 28.6	-1.1
	comp=Z,0.8nm,0.5s,baz=4.3,slow=7.4,SNR=1.6						
	comp=Z,0.8nm,0.5s						
NC303	NORSAR Array S	66.89	359	P	P	02 33 36.1	+0.1
NOA	NORSAR Array B	67.08	359	P	P	02 33 36.3	-1.0
	comp=Z,0.7nm,0.6s,baz=0.9,slow=6.5,SNR=1.6						
	comp=Z,0.7nm,0.6s						
NAO01	NORSAR Array S	67.28	359	P	P	02 33 40.4	+1.8
HFS	Hagfors	67.95	358	P	P	02 33 42.0	-0.8
	comp=Z,2.3nm,0.4s,baz=5.4,slow=3.1,SNR=28						
	comp=Z,2.3nm,0.4s						
BOOM	Boomskoye usch	69.60	314	P	P	02 33 53.5	0.0
BOOM				IAmb	IAmb	02 34 09.7	
	comp=Z,7.8nm,1.2s						
ABKAR	Akbulak array	70.19	328	P	P	02 33 56.4	-0.5
NRN	Naryn	70.41	313	P	P	02 33 58.7	-0.1
NRN				IAmb	IAmb	02 34 03.2	
	comp=Z,4.5nm,1.2s						
CMAR	Chiang Mai Arr	75.98	282	P	P	02 34 31.8	+0.3
	comp=Z,1.6nm,0.3s,baz=30,slow=6.1,SNR=6.0						
	comp=Z,1.6nm,0.3s						
GERES	GERESS Array B	79.25	357	P	P	02 34 49.5	+0.1
	comp=Z,0.9nm,0.6s,baz=353,slow=6.9,SNR=3.7						
	comp=Z,0.9nm,0.6s						
KAPI	Kappang	81.75	251	LR	LR	03 06 18.1	
	comp=Z,10nm,21.8s,baz=186,slow=32						
BRTR	Keskin Array B	86.05	342	LR	LR	03 18 58.2	
	comp=Z,24nm,18.0s,baz=140,slow=39						
ESDC	Sonseca Array	87.73	10	P	P	02 35 32.8	-0.3
	comp=Z,0.8nm,0.7s,baz=356,slow=4.7,SNR=9.0						
	comp=Z,0.8nm,0.7s						
ASAR	Alice Springs	89.78	229	P	P	02 35 42.8	+0.2
	comp=Z,1.7nm,1.1s,baz=29,slow=2.7,SNR=8.0						
	comp=Z,1.7nm,1.1s						
IDI	Anoyia	91.82	347	LR	LR	03 24 53.9	
	comp=Z,10nm,18.1s,baz=102,slow=41						
H03N2	Juan Fernandez	116.51	111	T	T	04 48 55.3	
	baz=318,slow=78						
H03N1	Juan Fernandez	116.53	111	T	T	04 48 56.5	
	baz=318,slow=78						
H03N3	Juan Fernandez	116.53	111	T	T	04 48 56.7	
	baz=318,slow=78						

*RSNC **07** 02:25:11.5±1.3, 11.23N×71.83W, h100km±9km, ML2.6*
*FUNV **07** 02:25:12.0, 11.30N×71.78W, h27km, MW3.3*
ISC 07 02:25:08.9±1.6**, 11.30N**±0.07×**71.80W**±0.03**, h118**km±12km**, n22,** σ**1.30**/41**, 4C, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URIC	Uribia, Colomb	0.44	335	eP	Pn	02 25 27.0	+0.7
URIC				eS	Sn	02 25 38.3	-1.1
URIC				i		02 25 38.8	
	comp=Z,163nm,0.2s						
CRJC	Cerrejon, Guaj	1.10	255	iP	Pn	02 25 32.8	+0.9
CRJC				eS	Sn	02 25 48.8	-0.4
CRJC				i		02 25 52.3	
	comp=Z,227nm,0.2s						
MCQV	Machiques	1.44	210⇑	eP	Pn	02 25 37.0	+1.4
MCQV				eS	Sn	02 25 54.5	-1.3
SIQV	Siquisique	2.06	108	eP	Pn	02 25 44.4	+1.3
SIQV				eS	Sn	02 26 07.9	-1.4
LL6C	La Loma 6 Bece	2.12	223	eP	Pn	02 25 45.2	+1.3
LL6C				eS	Sn	02 26 10.3	-0.4
LL6C				i		02 26 11.8	
	comp=Z,35nm,0.4s						
CURV	Curarigua	2.22	125	eP	Pn	02 25 46.4	+1.2
CURV				eS	Sn	02 26 11.7	-1.2
SMRC	Santa Marta, M	2.38	267	eP	Pn	02 25 47.4	+0.3
SMRC				eS	Sn	02 26 15.1	-1.3
SMRC				i		02 26 17.0	
	comp=Z,21nm,0.2s						
LL1C	La Loma 1 Cana	2.46	225	eS	Sn	02 26 17.8	-0.4
SDV	Santo Domingo	2.67	154	eP	Pn	02 25 52.1	+1.1
SDV				eS	Sn	02 26 22.4	-1.0
SDV				i		02 26 23.7	
	comp=Z,25nm,0.5s						
ARGC	Ariguani, Magd	2.80	239	eP	Pn	02 25 53.5	+1.0
ARGC				eS	Sn	02 26 26.1	-0.1
SANV	Sanarito	2.86	129	eP	Pn	02 25 55.1	+1.7
SANV				eS	Sn	02 26 26.6	-1.2
SOCV	Socops	3.14	163	eP	Pn	02 25 58.8	+1.7
SOCV				eS	Sn	02 26 33.0	-1.3
OCAC	Ocana	3.39	206	eP	Pn	02 26 01.3	+0.7
OCAC				eS	Sn	02 26 39.5	-0.9
CAPV	Capacho	3.46	188⇑	eP	Pn	02 26 02.4	+1.0
CAPV				eS	Sn	02 26 40.6	-1.3
SJCC	San Jacinto, C	3.60	247	eP	Pn	02 26 04.8	+1.6
SJCC				eS	Sn	02 26 44.9	-0.3
TURV	Turiamo	3.98	102	eP	Pn	02 26 08.7	+0.4
TURV				eS	Sn	02 26 52.6	-1.6
PAMC	Pamplona, Colo	4.04	193	eP	Pn	02 26 11.1	+1.6
PAMC				eS	Sn	02 26 55.9	-0.3
BENV	Beln	4.34	107⇑	eP	Pn	02 26 15.7	+2.5
BENV				eS	Sn	02 27 01.4	-1.6
BAUV	El Baul	4.38	122⇑	eP	Pn	02 26 15.0	+1.4
BAUV				eS	Sn	02 27 01.9	-1.9
TAMC	Tame, Arauca	4.84	180	eP	Pn	02 26 20.4	+0.6
ZARC	Zaragoza, Cauc	4.84	219	eP	Pn	02 26 20.3	+0.6
ZARC				eS	Sn	02 27 12.4	-2.5
ZARC				i		02 27 20.2	
	comp=Z,3.8nm,0.4s						
PTBC	PUERTO BERRIO,	5.41	209	eP	Pn	02 26 26.7	-0.8

*VAO **07** 02:37:42.2±0.8, 4.37S×79.75W, h10km, mb4.6*
*IGQ **07** 02:37:45±0.6, 4°S±3°×8°0W±°, h41km*
*NEIC **07** 02:37:45.4±1.4, 4.09S±0.05×80.18W±0.07, h69km±5km, mb4.4/62, Error ellipse: s-maj=10.4km s-min=6.5km az=82.0*
*IDC **07** 02:37:47.1±2.0, 4.12S×80.08W, h94km±19km, mb3.8/10, mbtmp4.2/14, MS3.3/7, Error ellipse: s-maj=31.1km s-min=13.5km az=63.0*
ISC 07 02:37:44.1±0.6**, 4.14S**±0.04×**80.22W**±0.05**, h65**km±6km**, n233,** σ**1.33**/244**, mb4.4**/36**, 4C, Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMCR	Ecuador-Macara	0.35	131	P	Pn	02 37 56.0	+0.7
AMCR				S	Sn	02 38 04.0	+0.6
MCRA	Macar, Loja	0.35	131		Pn	02 37 56.3	+1.0
MCRA				Sn	Sn	02 38 04.7	+1.2
MCRA	Macar, Loja	0.35	131	P	Pn	02 37 56.0	+0.7
MCRA				S	Sn	02 38 04.0	+0.6
MCRA	Macar, Loja	0.35	131	iP	Pn	02 37 56.3	+1.0
ARNL	Arenillas	0.60	15		Pn	02 37 58.4	+0.7
ARNL				Sn	Sn	02 38 08.5	+1.0
ARNL	Arenillas	0.60	15	P	Pn	02 37 58.0	+0.4
ARNL				S	Sn	02 38 08.0	+0.5
ACH1	Ecuador-Univer	0.90	20	P	Pn	02 38 01.0	-0.1
ACH1				S	Sn	02 38 15.0	+1.3
ACH2	Ecuador-Machal	0.96	25	P	Pn	02 38 02.0	+0.1
ACH2				S	Sn	02 38 16.0	+1.0
ISPG	Isla Puna-Puer	1.16	3	P	Pn	02 38 07.0	+2.5
ZUMB	Zumba	1.30	124	P	Pn	02 38 08.0	+1.6
ZUMB				S	Sn	02 38 25.0	+1.9
MORR	Playas El Morr	1.49	356	P	Pn	02 38 10.0	+1.2
MORR				S	Sn	02 38 27.0	-0.4
APLA	Playas - Guaya	1.50	354	P	Pn	02 38 10.0	+1.0
APLA				S	Sn	02 38 28.0	+0.4
ACUE	Ecuador-Cuenca	1.75	46	P	Pn	02 38 14.0	+1.3
ACUE				S	Sn	02 38 36.0	+1.8
COHC	Cochancay	1.92	30	Pn	Pn	02 38 15.5	+0.9
COHC	Cochancay	1.92	30	P	Pn	02 38 15.0	+0.4
COHC				S	Sn	02 38 38.0	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
COHC	Cochancay	1.92	30	*e*P	Pn	02 38 15.5	+0.9
AZOG	Ecuador-Azogue	1.94	45	P	Pn	02 38 16.0	+0.8
MILO	Milagro-Astudi	1.96	20	P	Pn	02 38 16.0	+0.8
MILO				S	Sn	02 38 41.0	+2.2
BOSC	San Juan Bosco	1.98	61		Pn	02 38 16.8	+1.2
BOSC	San Juan Bosco	1.98	61	P	Pn	02 38 16.0	+0.4
BOSC				S	Sn	02 38 41.0	+1.4
GYE3	Ecuador-Guayaq	1.99	9	P	Pn	02 38 15.0	-0.6
GYE3				S	Sn	02 38 38.0	-1.6
SALI	Salinas	2.08	338		Pn	02 38 17.7	+0.9
SALI	Salinas	2.08	338	P	Pn	02 38 17.0	+0.2
SALI				S	Sn	02 38 36.0	-5.7
AMIL	Milagro (Trans	2.08	18	P	Pn	02 38 17.0	+0.2
AGUAY	Guayaquil	2.08	7	P	Pn	02 38 16.0	-0.9
PPLP	Puerto Lpez	2.63	348	P	Pn	02 38 25.0	+0.7
PPLP				S	Sn	02 38 53.0	-2.2
PPLP	Puerto Lpez	2.63	348	*e*P	Pn	02 38 24.7	+0.4
TAMH	Tambohuasha Ch	2.95	29	P	Pn	02 38 29.0	-0.1
CHSH	Refugio Sur-Vo	2.95	27	Pn	Pn	02 38 29.3	+0.1
CHSH	Refugio Sur-Vo	2.95	27	P	Pn	02 38 29.0	-0.2
ISPT	Isla de la Pla	2.98	343	P	Pn	02 38 29.0	0.0
ISPT				S	Sn	02 39 00.0	-3.6
PORT	Chimborazo Vol	3.02	29	P	Pn	02 38 30.0	-0.2
IGUA	Igualata	3.07	31	P	Pn	02 38 32.0	+1.2
BMAS	Trigal station	3.14	34	P	Pn	02 38 32.0	+0.4
AQUE	Quevedo	3.15	13	P	Pn	02 38 31.0	-0.4
ARRY	Arrayan	3.15	34	P	Pn	02 38 32.0	+0.3
TUYU	Q. Yuibug Volc	3.16	34	P	Pn	02 38 33.0	+1.1
BIL2	Estacion Bilba	3.17	33	P	Pn	02 38 34.0	+2.1
BBIL	Ulba Tungurahu	3.18	33	P	Pn	02 38 33.0	+0.9
RETU	Refugio	3.20	34	P	Pn	02 38 34.0	+1.4
JUI6	Juive	3.21	33	P	Pn	02 38 34.0	+1.5
POND	Pondoa	3.22	33	P	Pn	02 38 34.0	+1.3
TAIS	Taisha	3.23	57	P	Pn	02 38 32.0	-0.5
BULB	Ulba Tungurahu	3.23	34	P	Pn	02 38 34.0	+1.1
BRUN	Tungurahua Vol	3.24	34	P	Pn	02 38 33.0	+0.1
PUYO	Puyo, Santa Ro	3.42	40	P	Pn	02 38 35.0	-0.2
ATAH	Atahualpa	3.49	149	P	Pn	02 38 39.3	+2.9
	50nm,0.3s,baz=355,slow=7.8,SNR=348						
ATAH				S	Sn	02 39 19.2	+2.4
	563nm,0.5s,baz=27,slow=9.7,SNR=12						
ATAH				LR	LR	02 39 36.0	
	comp=Z,111nm,21.7s,baz=327,slow=32						
PIS1	Pisayambo	3.56	31	P	Pn	02 38 38.0	+0.5
ILLI	Illinizas Sur	3.71	24	P	Pn	02 38 41.0	+1.5
SRAM	San Ramn-Vol	3.75	26	P	Pn	02 38 41.0	+1.1
BRRN	Barrancas-Volc	3.76	28	P	Pn	02 38 41.0	+0.9
PAST	Pastocalle	3.77	25	P	Pn	02 38 41.0	+0.8
VCES	Cotopaxi	3.78	29	P	Pn	02 38 41.0	+0.5
SLOR	San Lorenzo -	3.80	27		Pn	02 38 41.1	+0.5
SLOR	San Lorenzo -	3.80	27	P	Pn	02 38 41.0	+0.4
BMOR	Cotopaxi Volca	3.81	28	P	Pn	02 38 42.0	+1.0
CAMI	Rancho Maria	3.84	27	P	Pn	02 38 42.0	+0.8
BNAS	Cotopaxi Volca	3.86	27	P	Pn	02 38 42.0	+0.5
BREF	Cotopaxi Volca	3.88	27	P	Pn	02 38 43.0	+1.1
SUCR	Mariscal Sucre	3.88	26	P	Pn	02 38 43.0	+1.3
TAMB	Tambo	3.89	29	P	Pn	02 38 43.0	+1.0
BTAM	Cotopaxi Volca	3.89	28	P	Pn	02 38 43.0	+1.0
BVC2	Cotopaxi Volca	3.90	28	P	Pn	02 38 43.0	+0.9
VC1	Cotopaxi 1	3.92	28	P	Pn	02 38 44.0	+1.7
PITA	Cotopaxi Volc	3.98	27	P	Pn	02 38 44.0	+0.9
ASDO	Santo Domingo	4.00	16	P	Pn	02 38 40.0	-3.1
TOMA	Boca Toma-Volc	4.03	26	P	Pn	02 38 45.0	+1.2
MAG1	Magdalena	4.06	6	P	Pn	02 38 44.0	+0.1
ANTG	Antisana-Guama	4.11	29	P	Pn	02 38 45.0	0.0
ANTS	Antisana-Sarah	4.16	30	P	Pn	02 38 46.0	+0.3
HPAL	Hacienda Las P	4.20	22	P	Pn	02 38 47.0	+1.0
GGPT	Toaza - Volcan	4.20	22	P	Pn	02 38 47.0	+0.9
JUA2	San Juan 2	4.22	23	P	Pn	02 38 43.0	-3.4
GGPC	Guagua Pichinc	4.25	23	P	Pn	02 38 48.0	+1.0
TERV	Terraza Guagua	4.25	22	P	Pn	02 38 48.0	+1.0
PINO	Pino	4.27	22	P	Pn	02 38 48.0	+0.8
PULU	Pululahua	4.47	23		Pn	02 38 50.2	+0.4
PULU	Pululahua	4.47	23	P	Pn	02 38 50.0	+0.2
PAC1	Pacto, Paraso	4.60	18	P	Pn	02 38 51.0	-0.3
PAC1	Pacto, Paraso	4.60	18	*e*P	Pn	02 38 51.5	+0.2
CAYR	Refugio Cayamb	4.68	28	P	Pn	02 38 54.0	+1.1
OTAV	Otavalo	4.69	22	Pn	Pn	02 38 53.6	+0.8
OTAV	Otavalo	4.69	22	P	Pn	02 38 53.0	+0.1
OTAV	Otavalo	4.69	22	*i* P	Pn	02 38 53.8	+0.9
OTAV	Otavalo	4.69	22	*e*P	Pn	02 38 53.5	+0.6
ANGU	Angureal	4.71	28	P	Pn	02 38 54.0	+0.8
CUSE	Cuicocha Este	4.77	22	P	Pn	02 38 55.0	+1.0
CUSE	Cuicocha Este	4.77	22	*e*P	Pn	02 38 55.8	+1.8
CUIC	Cuicocha-Domo	4.79	23	P	Pn	02 38 55.0	+0.9
IMBA	Imbabura, San	4.83	25		Pn	02 38 55.2	+0.5
IMBA	Imbabura, San	4.83	25	P	Pn	02 38 57.0	+2.3
PTGL	Punta Galera	4.89	2	P	Pn	02 38 56.0	+0.8
URCU	Urcuqui	4.95	23	P	Pn	02 38 58.0	+1.6
RVRD	Rio Verde	5.24	9	P	Pn	02 39 00.0	+0.1
LITE1	Lita	5.24	21	P	Pn	02 39 01.0	+0.9
BONI	La Bonita	5.29	31	P	Pn	02 39 01.0	+0.1
BONI	La Bonita	5.29	31	*e*P	Pn	02 38 59.2	-1.7
CHL1	Volc¡n Chiles	5.40	25	P	Pn	02 39 03.0	+0.4
TULM	Tulcn-Chalpat	5.40	27		Pn	02 39 02.8	+0.2
TULM	Tulcn-Chalpat	5.40	27	*e*P	Pn	02 39 04.2	+1.6
CHMA	Chilma	5.41	24	P	Pn	02 39 03.0	+0.4
ECEN	Cerro Negro	5.42	25	P	Pn	02 39 03.0	+0.1
CMBC	Cumbal	5.58	25	*e*P	Pn	02 39 05.3	+0.3
GCUF	Volcan Galeras	6.05	28	*e*P	Pn	02 39 13.9	+2.4
CRUC	La Cruz	6.54	30	*e*P	Pn	02 39 16.1	-2.0
BBAC	Balboa, Cauca	6.80	26	P	Pn	02 39 20.0	-1.5
BBAC	Balboa, Cauca	6.80	26	*e*P	Pn	02 39 20.6	-0.9
PTLC	Puerto Leguiza	6.91	52	*e*P	Pn	02 39 17.1	-5.7
FLOC	Florencia	7.29	39	*e*P	Pn	02 39 23.7	-4.4
POPC	Popayan, Colom	7.52	28	*e*P	Pn	02 39 31.3	-0.1
GARC	Garzon, Huila	7.86	37	*e*P	Pn	02 39 37.5	+1.4
JAMC	Jamundi, Valle	8.12	26	*e*P	Pn	02 39 37.7	-1.9
CZSB	Cruzeiro do Su	8.29	116	Pn	Pn	02 39 40.3	-1.4
CZSB	Cruzeiro do Su	8.29	116	*e*P	Pn	02 39 40.9	-0.8
NNA	Nana	8.49	157	Pn	Pn	02 39 45.0	+0.5
NNA	Nana	8.49	157	*e*P	Pn	02 39 45.0	+0.5
NNA	Nana	8.49	157	P	Pn	02 39 45.2	+0.7
	15nm,0.3s,baz=335,slow=8.7,SNR=12						
NNA				S	Sn	02 41 11.1	-7.7
	22nm,0.3s,baz=224,slow=18,SNR=2.7						
ORTC	Ortega, Tolima	9.41	32	*e*P	Pn	02 39 54.0	-3.1
TBTG	Tabatinga, AM	10.29	91		Pn	02 40 06.8	-2.3
TBTG	Tabatinga, AM	10.29	91	*e*P	Pn	02 40 04.2	-4.9
PAYG	Puerto Ayora	10.62	289	Pn	Pn	02 40 14.4	+0.7
ROSC	El Rosal	10.69	34	LR	LR	02 44 42.5	
	comp=Z,136nm,20.1s,baz=236,slow=39						
CBOC	Ciudad Bolivar	10.79	23	*e*P	Pn	02 40 12.9	-3.1
BCIP	Isla Barro Col	13.22	2	Pn	Pn	02 40 48.9	-0.1
ETMB	Extrema	15.00	113	Pn	Pn	02 41 06.1	-6.4
ETMB	Extrema	15.00	113	*e*P	Pn	02 41 07.0	-5.6
JTS	Las Juntas de	15.09	342	P	Pn	02 41 16.3	+2.7
	7.2nm,0.8s,baz=172,slow=16,SNR=4.2						
SDV	Santo Domingo	16.09	36		Pn	02 41 27.1	+0.6
SDV	Santo Domingo	16.09	36	*e*P	Pn	02 41 27.1	+0.6
SDV	Santo Domingo	16.09	36	*e*P	P	02 41 29.5	+0.7
SDV	Santo Domingo	16.09	36	P	P	02 41 28.2	-0.5
	5.0nm,0.4s,baz=166,slow=12,SNR=14						
LPAZ	La Paz	16.94	136	Pn	Pn	02 41 37.3	-0.3
PB18	Visviri	17.02	143		P	02 41 39.9	+0.5
PB18				IAmb	IAmb	02 42 06.1	
	comp=Z,60nm,1.5s						
PB12	IPOC Station P	17.34	147		P	02 41 42.9	+0.4
PB12				IAmb	IAmb	02 42 07.1	
	comp=Z,16nm,0.8s						
PB16	IPOC Station P	17.58	144	P	Pn	02 41 45.5	+0.1
SAML	Samuel	17.59	107	P	Pn	02 41 43.4	-1.6
SAML	Samuel	17.59	107	*e*P	Pn	02 41 43.7	-1.3
SAML	Samuel	17.59	107	*e*P	Pn	02 41 40.7	-4.3
PB11	IPOC Station P	18.64	147	P	P	02 41 57.5	+0.6
GO01	Chusmiza	18.82	146	P	P	02 41 59.3	+0.1
TA01	Diego Aracena	19.03	150	P	P	02 42 01.9	+0.9
PB08	IPOC Station P	19.22	147	P	P	02 42 03.6	+0.2
PATCX	Punta Patache	19.26	150	P	P	02 42 04.1	+0.5
MACA	Manacapuru-AM	19.52	88	P	P	02 42 05.4	-1.1
MACA	Manacapuru-AM	19.52	88	*e*P	P	02 42 05.7	-0.8
PB02	IPOC Station P	19.81	150	P	P	02 42 10.9	+1.3
PB02				IAmb	IAmb	02 42 15.3	
	comp=Z,15nm,0.8s						
PB07	IPOC Station P	20.16	151	P	P	02 42 13.7	+0.2
PB07				IAmb	IAmb	02 42 15.7	
	comp=Z,12nm,0.8s						
PB09	IPOC Station P	20.54	150	P	P	02 42 18.3	+0.7
BOAV	Boa Vista	20.73	72	P	P	02 42 17.3	-2.2
BOAV	Boa Vista	20.73	72	*e*P	P	02 42 18.2	-1.3
LVC	Limon Verde	21.39	150	P	P	02 42 27.4	+0.5
LVC	Limon Verde	21.39	150	P	P	02 42 28.1	+1.3
	comp=Z,7.4nm,0.7s,baz=316,slow=6.7,SNR=8.0						
	comp=Z,7.4nm,0.7s						
VILB	Vilhena	21.64	115	P	P	02 42 28.8	-0.4
VILB				IAmb	IAmb	02 42 29.5	
	comp=Z,14nm,0.7s						
VILB	Vilhena	21.64	115	*e*P	P	02 42 28.8	-0.4
SIV	San Ignacio	22.20	123	P	P	02 42 35.3	0.0
	comp=Z,3.0nm,0.5s,baz=295,slow=9.6,SNR=25						
	comp=Z,3.0nm,0.5s						
BBSD	Serra de San D	23.20	125	*e*P	P	02 42 44.6	-1.0
PTLB	Pontes e Lacer	23.59	120	P	P	02 42 48.5	-0.8
PTLB	Pontes e Lacer	23.59	120	*e*P	P	02 42 48.5	-0.8
PDRB	Porto dos Gac	24.41	109	*e*P	P	02 42 56.2	-0.6
BBRB	Robore, Bolivi	24.42	127	*e*P	P	02 42 56.6	-0.2
ITTB	Itaituba	24.42	91	*e*P	P	02 42 55.9	-1.0
NPGB	Novo Progresso	24.91	98	*e*P	P	02 42 59.9	-1.5
CLDB	Colider	25.11	107	*e*P	P	02 43 02.9	-0.3
TEIG	Tepich	25.47	342	P	P	02 43 07.2	+1.0
TEIG				IAmb	IAmb	02 43 07.9	
	comp=Z,14nm,1.1s						
TEIG	Tepich	25.47	342	LR	LR	02 52 21.8	
	comp=Z,397nm,18.6s,baz=228,slow=34						
CMIG	Matias Romero	25.58	326	LR	LR	02 51 09.4	
	comp=Z,37nm,20.7s,baz=135,slow=31						
MALB	Monte Alegre	26.02	86	*e*P	P	02 43 11.0	-0.4
SALV	Santo Antonio	26.80	118	*e*P	P	02 43 18.7	+0.3
CO03	El Pedregal	28.04	162	P	P	02 43 29.6	+0.2
CO03				IAmb	IAmb	02 43 41.6	
	comp=Z,15nm,1.4s						
ROC1	El Roble	29.96	164	P	P	02 43 46.2	-0.4
ROC1				IAmb	IAmb	02 43 51.2	
	comp=Z,7.5nm,0.7s						
MT02	Curacav	30.19	165	P	P	02 43 49.0	+0.6
MT09	Talagante	30.72	165	P	P	02 43 53.5	+0.3
MT09				IAmb	IAmb	02 43 54.5	
	comp=Z,7.8nm,0.8s						
BO01	Tunca	31.28	165	P	P	02 43 58.3	+0.4
BO01				IAmb	IAmb	02 44 23.7	
	comp=Z,9.9nm,1.4s						
BO02	Sierra Bellavi	31.74	165	P	P	02 44 03.0	+1.0
BO02				IAmb	IAmb	02 44 04.9	
	comp=Z,6.9nm,0.8s						
BDFB	Brasilia	33.67	112	LR	LR	03 00 04.5	
	comp=Z,36nm,18.3s,baz=12,slow=40						
ITQB	Itaqui	33.83	141	P	P	02 44 20.9	+0.6
ITQB	Itaqui	33.83	141	*e*P	P	02 44 20.8	+0.6
RODS	Rosario do Sul	35.19	141	*e*P	P	02 44 31.9	-0.2
ITAB	Concordia	35.31	133	P	P	02 44 32.0	-1.1
SDBA	SAO DESIDERIO	35.87	105	*e*P	P	02 44 36.8	-1.3
PLTB	Pedras Altas	37.15	141	P	P	02 44 48.3	-0.5
PLTB	Pedras Altas	37.15	141	*e*P	P	02 44 48.8	0.0
PLCA	Paso Flores	37.46	168	P	P	02 44 51.8	+0.4
PLCA				IAmb	IAmb	02 45 07.0	
	comp=Z,9.0nm,1.4s						
PLCA	Paso Flores	37.46	168	P	P	02 44 51.9	+0.4
	comp=Z,1.6nm,0.8s,baz=340,slow=9.8,SNR=3.5						
PLCA				LR	LR	02 58 56.5	
	comp=Z,59nm,19.0s,baz=212,slow=34						
	comp=Z,1.6nm,0.8s						
LRAL	Lakeview Retre	37.52	351	P	P	02 44 51.8	0.0
TRQA	Tornquist	37.65	156	P	P	02 44 53.1	+0.2
TKL	Tuckaleechee C	39.72	355	LR	LR	03 00 32.0	
	comp=Z,26nm,20.1s,baz=172,slow=34						
PLPT	Palo Pinto	40.56	336	P	P	02 45 18.5	+1.2
PLPT				IAmb	IAmb	02 45 19.1	
	comp=Z,7.9nm,1.0s						
WHAR	Wooly Hollow	40.82	345	P	P	02 45 19.5	+0.1
WHAR				IAmb	IAmb	02 45 59.4	
	comp=Z,12nm,1.3s						
SGCY	Sterling City	41.00	332	P	P	02 45 21.8	+0.9
SGCY				IAmb	IAmb	02 45 22.1	
	comp=Z,5.3nm,1.0s						
MNHN	Monahans	41.31	330	P	P	02 45 23.5	0.0
MNHN				IAmb	IAmb	02 45 25.4	
	comp=Z,3.5nm,0.6s						
RIB01	Linhares ES	41.67	115	*e*P	P	02 45 25.4	-1.3
SMWD	Samnorwood	43.33	336	P	P	02 45 40.8	+0.8
SMWD				IAmb	IAmb	02 45 41.6	
	comp=Z,10nm,0.9s						
MSTX	Muleshoe	43.47	332	P	P	02 45 42.4	+1.2
MSTX				IAmb	IAmb	02 45 43.5	
	comp=Z,14nm,1.4s						
ANMO	Albuquerque	46.04	330	P	P	02 46 03.1	+1.4
ANMO				IAmb	IAmb	02 46 03.8	
	comp=Z,3.2nm,0.8s						
WUAZ	Wupatki	49.09	326	P	P	02 46 26.5	+1.3
ECSD	EROS Data Cent	49.89	344	P	P	02 46 30.4	-0.6
ECSD				IAmb	IAmb	02 46 57.6	
	comp=Z,7.5nm,1.4s						
PDAR	Pinedale Array	53.71	333	P	P	02 46 59.2	-0.6
	comp=Z,0.5nm,0.7s,baz=120,slow=8.9,SNR=4.5						
	comp=Z,0.5nm,0.7s						
HWUT	Hardware Ranch	53.74	331	P	P	02 47 00.8	+0.8
HWUT				IAmb	IAmb	02 47 09.4	
	comp=Z,9.2nm,1.4s						
NVAR	Mina Array Bea	55.09	324	P	P	02 47 10.4	+0.5
NVAR	Mina Array Bea	55.09	324	P	P	02 47 11.2	+1.4
	comp=Z,1.7nm,0.6s,baz=132,slow=7.1,SNR=14						
	comp=Z,1.7nm,0.6s						
LHV	Little Huntoon	55.09	324	P	P	02 47 11.4	+1.8
ULM	Lac du Bonnet	55.83	348	P	P	02 47 14.1	-0.6
ULM	Lac du Bonnet	55.83	348	P	P	02 47 13.8	-0.8
	comp=Z,4.1nm,0.6s,baz=168,slow=6.6,SNR=8.2						
	comp=Z,4.1nm,0.6s						
K05A	Summer Lake	59.40	326	P	P	02 47 41.6	+1.4
K05A				IAmb	IAmb	02 47 42.0	
	comp=Z,2.9nm,0.8s						
KSXB	Camp Six Broad	60.55	324	P	P	02 47 48.9	+1.0
FCC	Fort Churchill	63.67	352	P	P	02 48 08.0	-0.4
FCC				IAmb	IAmb	02 48 36.8	
	comp=Z,6.6nm,1.4s						
NLWA	Neilton Lookou	64.03	329	P	P	02 48 12.6	+1.6
U35K	Hyder	72.35	333	P	P	02 49 04.7	+1.9
DLBC	Dease Lake	73.88	335	P	P	02 49 12.3	+0.4
DLBC				IAmb	IAmb	02 49 50.4	
	comp=Z,12nm,1.4s						
DBIC	Dimbokro	75.99	82	P	P	02 49 24.6	-0.3
DBIC				IAmb	IAmb	02 49 42.9	
	comp=Z,6.6nm,1.1s						
DBIC	Dimbokro	75.99	82	P	P	02 49 24.4	-0.6
	comp=Z,4.2nm,0.9s,baz=254,slow=8.8,SNR=3.4						
	comp=Z,4.2nm,0.9s						
HLK	Haleakala	78.45	292	P	P	02 49 40.0	+1.0
VNA3	Neumayer Olymp	79.91	162	⇑P	P	02 49 45.3	-0.3
	comp=Z,4.8nm,0.9s						
G31M	Satah River	80.50	341	P	P	02 49 49.0	+0.3
G31M				IAmb	IAmb	02 50 08.8	
	comp=Z,5.6nm,1.4s						
VNA2	Neumayer--Watz	80.53	161	⇑P	P	02 49 48.7	-0.2
	comp=Z,3.4nm,0.7s,baz=313,slow=5.0						
INK	Inuvik	81.08	342	P	P	02 49 51.8	0.0
	comp=Z,0.5nm,0.5s,baz=96,slow=0.9,SNR=4.1						
	comp=Z,0.5nm,0.5s						
H29M	Whitestone	81.49	340	P	P	02 49 54.6	+0.6
H29M				IAmb	IAmb	02 50 32.4	
	comp=Z,8.5nm,1.4s						
I28M	Miner Creek	81.66	339	P	P	02 49 55.2	+0.2
I28M				IAmb	IAmb	02 50 13.6	
	comp=Z,6.5nm,1.5s						
G29M	Pine Creek	81.73	340	P	P	02 49 55.5	+0.2
G29M				IAmb	IAmb	02 50 32.5	
	comp=Z,7.3nm,1.4s						
EGAK	Eagle	81.78	338	P	P	02 49 56.1	+0.5
EGAK				IAmb	IAmb	02 50 15.9	
	comp=Z,9.1nm,1.3s						
K27K	Chicken	81.79	337	P	P	02 49 56.9	+1.2
K27K				IAmb	IAmb	02 50 24.7	
	comp=Z,7.6nm,1.4s						
SNAA	Sanae	82.13	162	P	P	02 49 57.3	-0.3
SNAA				IAmb	IAmb	02 49 57.9	
	comp=Z,4.9nm,0.7s						
SNAA	Sanae	82.13	162	⇑P	P	02 49 57.2	-0.3
	comp=Z,100nm,0.6s						
SNAA	Sanae	82.13	162	P	P	02 49 56.8	-0.6
	comp=Z,4.1nm,0.6s,baz=260,slow=7.1,SNR=25						
	comp=Z,4.1nm,0.6s						
TOA0	Torodi Ar. Sit	83.08	76	P	P	02 50 02.3	-1.2
TORD	Torodi Ar. Bea	83.08	76	P	P	02 50 02.3	-1.1
TORD	Torodi Ar. Bea	83.08	76	P	P	02 50 01.9	-1.5
	comp=Z,0.6nm,0.4s,baz=280,slow=6.0,SNR=17						
	comp=Z,0.6nm,0.4s						
J25K	Salcha River,	83.33	337	P	P	02 50 04.2	+0.4
TROLL	Troll, Antarti	83.85	162	⇑P	P	02 50 06.4	-0.1
	comp=Z,185nm,0.7s						
BMAR	Burnt Mountain	84.23	340	P	P	02 50 08.8	+0.5
KURBB	Kurchatov Arra	130.34	18	PKP	PKPdf	02 56 45.9	-1.3
	comp=Z,0.7nm,0.7s,baz=323,slow=2.6,SNR=6.2						
MKAR	Makanchi Array	134.88	17	PKP	PKPdf	02 56 54.5	-1.4
	comp=Z,0.2nm,0.5s,baz=358,slow=5.4,SNR=2.0						

NEIC ***07*** *02:50:44.6±1.0, 5.53S±0.08×148.6E±0.1, h180km±6km, mb4.9/147, Error ellipse: s-maj=15.3km s-min=10.1km az=114.0*

IDC ***07*** *02:50:45.6±0.9, 5.64S×148.55E, h197km±7km, mb4.2/16, mbtmp4.7/19, Error ellipse: s-maj=15.1km s-min=7.7km az=103.0*

DJA ***07*** *02:50:45.5±0.4, 6°S±4°×14°9E±°, h192km±5km, M4.6/13, mB4.8/6, mb4.7/13, MLv5.0/3, Mw(mB)4.0/6*

ISC 07 02:50:45.1±0.5**, 5.58S**±0.04×**148.61E**±0.06**, h187**km±4km**, h187km:pP-P, n502,** σ**0.81**/470**, mb4.8**/104**, 1C-2D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVG	Kavieng	3.70	36	P	Pn	02 51 42.0	-0.7
MANU	Manus Island	3.73	341	P	Pn	02 51 43.8	+0.8
RABL	Rabaul	3.80	69	Pn	Pn	02 51 42.3	-1.7
RABL	Rabaul	3.80	69	P	Pn	02 51 43.0	-1.0
PMG	Port Moresby	4.06	201	Pn	Pn	02 51 45.9	-1.2
PMG	Port Moresby	4.06	201	P	Pn	02 51 46.2	-1.0
PMG	Port Moresby	4.06	201	P	Pn	02 51 46.0	-1.2
PMG	Port Moresby	4.06	201	P	Pn	02 51 46.1	-1.1
PMG	Port Moresby	4.06	201	P	Pn	02 51 46.7	-0.5
	320nm,0.7s,baz=22,slow=9.5,SNR=56						
PMG				S	Sn	02 52 34.0	-1.9
	300nm,0.5s,baz=121,slow=23,SNR=12						
COEN	Coen	9.89	212	Pn	Pn	02 53 03.6	+0.4
COEN	Coen	9.89	212	P	Pn	02 53 03.9	+0.7
COEN	Coen	9.89	212	P	Pn	02 53 04.6	+1.4
MTSU	Mount Surprise	13.16	198	P	Pn	02 53 45.9	+0.9
	baz=13,SNR=56						
MTSU	Mount Surprise	13.16	198	P	Pn	02 53 45.8	+0.7
	52nm,0.9s						
CTA	Charters Tower	14.60	189	P	Pn	02 54 03.7	+0.7
CTA	Charters Tower	14.60	189	P	Pn	02 54 04.0	+1.0
CTA	Charters Tower	14.60	189	P	Pn	02 54 03.0	+0.1
	25nm,0.9s,baz=8.0,slow=13,SNR=28						
CTAO	Charters Tower	14.60	189	Pn	Pn	02 54 02.9	0.0
CTAO	Charters Tower	14.60	189	P	Pn	02 54 03.9	+1.0
CTAO	Charters Tower	14.60	189	P	Pn	02 54 04.0	+1.0
QIS	Mount Isa	17.26	210	P	P	02 54 34.4	+0.6
	baz=17,SNR=80						
QIS	Mount Isa	17.26	210	P	P	02 54 34.7	+0.9
KDU	Kakadu	17.41	245	P	P	02 54 35.3	-0.2
	baz=17,SNR=58						
KDU	Kakadu	17.41	245	P	P	02 54 35.8	+0.3
KDU	Kakadu	17.41	245	P	P	02 54 35.9	+0.4
RK1H	Rockhampton Ha	17.79	174	P	P	02 54 40.4	+0.8
	43nm,0.6s						
GD1S	Gladstone Soft	18.32	173	P	P	02 54 46.7	+1.4
MTN	Manton Dam	18.69	246	P	P	02 54 49.4	0.0
	baz=19,SNR=21						
MTN	Manton Dam	18.69	246	P	P	02 54 49.0	-0.4
MTN	Manton Dam	18.69	246	P	P	02 54 49.7	+0.4
MTN	Manton Dam	18.69	246	P	P	02 54 49.8	+0.4
WB0	Warramunga Arr	19.75	223	P	P	02 55 00.5	-0.3
WR0	Warramunga Arr	19.78	222	P	P	02 55 01.0	-0.2
EIDS	Eidsvold	19.82	173	P	P	02 55 01.9	+0.5
	baz=20,SNR=13						
EIDS	Eidsvold	19.82	173	P	P	02 55 01.9	+0.5
EIDS	Eidsvold	19.82	173	P	P	02 55 01.7	+0.3
EIDS	Eidsvold	19.82	173	P	P	02 55 02.1	+0.7
WRAB	Tennant Creek	19.89	223	P	P	02 55 02.2	-0.1
WB2	Warramunga Arr	19.90	223	P	P	02 55 02.6	+0.2
WRA	Warramunga Arr	19.91	223	P	P	02 55 01.4	-1.1
WRA	Warramunga Arr	19.91	223	P	P	02 55 01.2	-1.3
	28nm,0.4s,baz=48,slow=10,SNR=362						
WRA				S	S	02 58 34.1	-2.2
	9.5nm,1.0s,baz=44,slow=20,SNR=15						
WRA				ScP	ScP	03 02 28.8	-1.5
	1.7nm,0.6s,baz=44,slow=2.6,SNR=7.6						
RMQ	Roma	20.79	180	P	P	02 55 12.6	+0.8
	baz=21,SNR=5.3						
RMQ	Roma	20.79	180	P	P	02 55 12.8	+1.0
	33nm,0.8s						
RMQ	Roma	20.79	180	P	P	02 55 13.1	+1.3
	33nm,0.8s						
QLP	Quilpie	21.30	191	P	P	02 55 17.3	+0.1
	baz=21,SNR=24						
QLP	Quilpie	21.30	191	P	P	02 55 17.8	+0.6
QLP	Quilpie	21.30	191	P	P	02 55 17.7	+0.6
KNRA	Kununurra	21.91	241	P	P	02 55 22.4	-1.2
	baz=22,SNR=17						
KNRA	Kununurra	21.91	241	P	P	02 55 22.0	-1.6
KNRA	Kununurra	21.91	241	P	P	02 55 23.8	+0.2
KNRA	Kununurra	21.91	241	P	P	02 55 23.4	-0.2
AS01	Alice Springs	22.86	217	P	P	02 55 32.8	+0.4
	32nm,0.9s						
AS01	Alice Springs	22.86	217	P	P	02 55 32.2	-0.2
	32nm,0.9s						
AS31	Alice Springs	22.88	217	P	P	02 55 32.7	0.0
ASAR	Alice Springs	22.89	217	P	P	02 55 32.7	0.0
ASAR	Alice Springs	22.89	217	P	P	02 55 33.0	+0.3
	28nm,0.7s,baz=54,slow=8.8,SNR=452						
ASAR				pP	pP	02 56 07.7	+1.3
	7.2nm,0.5s,baz=46,slow=12,SNR=2.8						
ASAR				S	S	02 59 26.5	-1.8
	1.0nm,0.6s,baz=34,slow=19,SNR=3.5						
ASAR				ScP	ScP	03 02 36.4	-1.3
	2.5nm,0.8s,baz=38,slow=4.7,SNR=7.7						
	28nm,0.7s						
INKA	Innaminka	23.27	198	P	P	02 55 36.8	+0.8
INKA	Innaminka	23.27	198	P	P	02 55 37.0	+1.0
AULRC	Lightning Ridg	23.73	181	P	P	02 55 40.9	+0.7
DZM	Mont Dzumac	23.80	135	P	P	02 55 40.7	-0.3
DZM				IAmb	IAmb	02 55 42.2	
	comp=Z,20nm,0.6s						
DZM	Mont Dzumac	23.80	135	P	P	02 55 41.2	+0.2
DZM	Mont Dzumac	23.80	135	P	P	02 55 41.0	0.0
DZM	Mont Dzumac	23.80	135	P	P	02 55 40.5	-0.5
	comp=Z,17nm,0.6s,baz=258,slow=10,SNR=24						
DZM				pP	pP	02 56 15.3	+0.7
	comp=Z,8.2nm,0.6s,baz=122,slow=18,SNR=2.8						
	comp=Z,17nm,0.6s						
ARMA	Armidale	24.87	174	P	P	02 55 51.1	+0.4
	baz=25,SNR=21						
ARMA	Armidale	24.87	174	P	P	02 55 51.1	+0.4
ARMA	Armidale	24.87	174	P	P	02 55 51.5	+0.9
ARMA	Armidale	24.87	174	P	P	02 55 51.6	+0.9
BATI	Baumata	25.12	258	P	P	02 55 52.9	-0.2
	comp=Z,44nm,0.5s,baz=112,slow=5.4,SNR=3.1						
	comp=Z,44nm,0.5s						
OOD	Oodnadatta	25.27	208	P	P	02 55 55.3	+1.0
OOD	Oodnadatta	25.27	208	P	P	02 55 55.2	+1.0
AUPHS	Peel High Scho	25.47	175	P	P	02 55 57.3	+1.3
	comp=Z,33nm,2.1s						
FITZ	Fitzroy Crossi	25.65	239	P	P	02 55 57.5	-0.3
	baz=26,SNR=79						
CMSA	Cobar Meteorol	25.96	186	P	P	02 55 59.6	-0.8
	baz=26,SNR=9.0						
CMSA	Cobar Meteorol	25.96	186	P	P	02 56 00.3	-0.1
LCRK	Leigh Creek	26.60	200	P	P	02 56 05.9	-0.2
LCRK	Leigh Creek	26.60	200	P	P	02 56 05.8	-0.3
STKA	Stephens Creek	26.97	193	P	P	02 56 08.6	-0.8
	baz=27,SNR=4.5						
STKA	Stephens Creek	26.97	193	P	P	02 56 08.9	-0.5
STKA	Stephens Creek	26.97	193	P	P	02 56 10.5	+1.1
STKA	Stephens Creek	26.97	193	P	P	02 56 08.5	-0.8
	comp=Z,4.2nm,0.5s,baz=2.1,slow=8.6,SNR=7.5						
STKA				pP	pP	02 56 48.8	+2.1
	comp=Z,7.7nm,0.6s,baz=355,slow=8.7,SNR=4.2						
	comp=Z,4.2nm,0.5s						
WRKA	Warakurna	27.45	223	P	P	02 56 13.0	-0.8
	baz=28,SNR=20						
WRKA	Warakurna	27.45	223	P	P	02 56 13.5	-0.3
WRKA	Warakurna	27.45	223	P	P	02 56 13.6	-0.3
MULG	Mulgathing	28.13	207	P	P	02 56 19.6	-0.2
MULG	Mulgathing	28.13	207	P	P	02 56 19.5	-0.2
HTT	Hallett	29.14	197	P	P	02 56 28.5	-0.2
	baz=29,SNR=4.6						
HTT	Hallett	29.14	197	P	P	02 56 29.7	+1.0
BBOO	Buckleboo	29.51	202	P	P	02 56 31.3	-0.7
	baz=30,SNR=6.3						
BBOO	Buckleboo	29.51	202	P	P	02 56 31.2	-0.7
BBOO	Buckleboo	29.51	202	P	P	02 56 31.3	-0.7
CAN	Canberra	29.59	179	P	P	02 56 32.7	0.0

CAN	Canberra	29.59	179	P	P	02 56 33.4	+0.7
CNB	Canberra Magne	29.59	179	P	P	02 56 33.2	+0.5
FORT	Forrest	31.64	215	P	P	02 56 50.6	-0.1
	baz=32,SNR=11						
FORT	Forrest	31.64	215	P	P	02 56 50.5	-0.1
FORT	Forrest	31.64	215	P	P	02 56 50.7	-0.1
TOO	Toolangi	31.97	185	P	P	02 56 53.6	+0.1
TOO				IAmb	IAmb	02 56 54.8	
	comp=Z,22nm,1.2s						
TOO	Toolangi	31.97	185	P	P	02 56 53.9	+0.4
MBWA	Marble Bar	31.98	238	P	P	02 56 53.1	-0.7
MBWA				IAmb	IAmb	02 56 54.2	
	comp=Z,13nm,0.7s						
MBWA	Marble Bar	31.98	238	P	P	02 56 53.5	-0.3
MBWA	Marble Bar	31.98	238	P	P	02 56 53.1	-0.7
PSA00	Pilbara Seismi	32.06	238	P	P	02 56 54.1	-0.4
PSA00				IAmb	IAmb	02 56 54.9	
	comp=Z,13nm,0.7s						
PSA00	Pilbara Seismi	32.06	238	P	P	02 56 53.9	-0.6
	comp=Z,20nm,0.9s						
DGTI	Dogotuki	32.31	112	P	P	02 56 57.6	+0.8
LKBA	Tubou, Lakemba	34.19	114	P	P	02 57 14.0	+1.0
	comp=Z,32nm,1.9s						
MEEK	Meekatharra	35.45	230	P	P	02 57 23.1	-0.6
	baz=36,SNR=29						
MEEK	Meekatharra	35.45	230	P	P	02 57 23.9	+0.2
MEEK	Meekatharra	35.45	230	P	P	02 57 23.8	+0.1
KMBL	Kambalda	35.85	221	P	P	02 57 26.6	-0.4
	baz=36,SNR=5.5						
KMBL	Kambalda	35.85	221	P	P	02 57 26.4	-0.7
	comp=Z,22nm,1.2s						
MOO	Moorlands	36.73	182	P	P	02 57 34.6	+0.3
	baz=37,SNR=3.2						
MOO	Moorlands	36.73	182	P	P	02 57 35.3	+1.0
GIRL	Giralia	37.26	239	P	P	02 57 39.8	+0.8
MORW	Morawa	38.65	229	P	P	02 57 50.4	-0.2
	baz=39,SNR=8.5						
MORW	Morawa	38.65	229	P	P	02 57 50.3	-0.2
MORW				IAmb	IAmb	02 57 51.1	
	comp=Z,64nm,1.6s						
MORW	Morawa	38.65	229	P	P	02 57 50.4	-0.2
KLBR	Kellerberrin	38.78	224	P	P	02 57 50.9	-0.8
	baz=39,SNR=14						
KLBR	Kellerberrin	38.78	224	P	P	02 57 51.1	-0.6
	comp=Z,76nm,0.7s						
KLBR	Kellerberrin	38.78	224	P	P	02 57 50.3	-1.4
	comp=Z,76nm,0.7s						
BLDU	Ballidu	38.97	226	P	P	02 57 52.9	-0.3
	baz=39,SNR=7.7						
BLDU	Ballidu	38.97	226	P	P	02 57 53.0	-0.3
YULB	Yu-li	39.25	318	P	P	02 57 54.7	-0.9
NWAO	Narrogin (SRO)	39.92	223	P	P	02 58 00.4	-0.6
NWAO				IAmb	IAmb	02 59 19.6	
	comp=Z,60nm,1.6s						
NWAO	Narrogin (SRO)	39.92	223	P	P	02 58 00.5	-0.6
NWAO				IAmb	IAmb	02 59 19.6	
	comp=Z,202nm,1.6s						
QRZ	Quartz Range	41.12	152	P	P	02 58 10.8	0.0
QRZ				IAmb	IAmb	02 58 17.2	
	comp=Z,36nm,1.4s						
JCZ	Jackson Bay	42.24	158	P	P	02 58 21.9	+2.0
JGF	Kuroka	42.31	346	P	P	02 58 17.2	-3.3
BFZ	Birch Farm	42.83	149	P	P	02 58 25.4	+0.7
MJAR	Matsushiro Arr	43.02	348	P	P	02 58 26.1	-0.1
	comp=Z,6.6nm,1.0s,baz=167,slow=7.9,SNR=6.8						
	comp=Z,6.6nm,1.0s						
NJ2	Nanjing	46.94	325	*e*P	P	02 58 58.6	+1.4
NJ2				pP	pP	02 59 35.7	-2.0
NJ2				sP	sP	02 59 55.8	-2.5
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,76nm,4.5s						
KSRS	Korea Array	46.96	337	P	P	02 58 57.5	+0.3
	comp=Z,4.5nm,0.7s,baz=154,slow=8.3,SNR=13						
	comp=Z,4.5nm,0.7s						
USRK	Ussuriysk Ar.	51.77	345	P	P	02 59 34.0	+0.6
	comp=Z,3.4nm,0.6s,baz=158,slow=8.2,SNR=7.1						
	comp=Z,3.4nm,0.6s						
MDJ	Mudanjiang	52.81	343	P	P	02 59 42.2	+1.0
MDJ				pmax	pmax		
	comp=Z,11nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,190nm,6.6s						
HNS	HongShan	53.17	326	⇓P	P	02 59 44.4	+0.5
HNS				pmax	pmax		
	comp=Z,15nm,0.9s						
XAN	Xi'an	54.40	319	P	P	02 59 53.3	+0.4
XAN				pP	pP	03 00 30.2	-4.5
XAN				pmax	pmax		
	comp=Z,13nm,1.0s						
BNX	BinXian	54.49	342	⇑P	P	02 59 54.1	+0.8
BNX				pmax	pmax		
	comp=Z,16nm,1.1s						
BNX				pmax	pmax		
	comp=Z,150nm,4.1s						
PZH	PanZhiHua	55.47	307	P	P	03 00 03.1	+2.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.5s						
HHC	Hu-ho-hao-te	57.34	327	*e*P	P	03 00 16.0	+2.2
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,4.5s						
TNCH	TengChong	57.41	304	*e*P	P	03 00 17.1	+2.4
TNCH				PP	PP	03 02 22.2	-2.1
TNCH				pmax	pmax		
	comp=Z,210nm,3.3s						
HEH	HeiHe	58.56	344	*e*P	P	03 00 22.6	+0.7
HEH				pmax	pmax		
	comp=Z,17nm,0.7s						
HEH				pmax	pmax		
	comp=Z,290nm,5.0s						
LZH	Lanzhou	58.95	318	*e*P	P	03 00 30.1	+4.9
LZH				pP	pP	03 01 09.8	+2.2
LZH				sP	sP	03 01 30.4	+2.6
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
PETK	Petropavlovsk-	58.98	6	P	P	03 00 25.1	+0.3
PETK	Petropavlovsk-	58.98	6	P	P	03 00 25.3	+0.6
	comp=Z,15nm,0.5s,baz=159,slow=6.3,SNR=36						
	comp=Z,15nm,0.5s						
HIA	Hailar	60.14	339	P	P	03 00 32.1	-0.7
HIA				IAmb	IAmb	03 00 34.5	
	comp=Z,18nm,0.8s						
HIA	Hailar	60.14	339	P	P	03 00 34.3	+1.5
	comp=Z,28nm,0.8s						
HIA	Hailar	60.14	339	P	P	03 00 33.6	+0.8
DRV	Dumont d'Urvil	61.27	184	P	P	03 00 40.1	0.0
DRV				pP	PcP	03 01 19.8	-0.9
ULN	Ulaanbaatar	64.53	330	P	P	03 01 01.8	-0.4
SONM	Songino Array	64.83	330	P	P	03 01 04.2	+0.1
	comp=Z,2.3nm,0.7s,baz=144,slow=6.6,SNR=13						
SONM				pP	pP	03 01 49.0	+1.8
	comp=Z,0.7nm,0.6s,baz=148,slow=3.7,SNR=1.7						
	comp=Z,2.3nm,0.7s						
MA2	Magadan	64.98	1	P	P	03 01 05.4	+0.8
UNV	Unalaska Valle	70.12	26	P	P	03 01 37.4	+0.5
	baz=228						
VNDA	Vanda	72.24	177	P	P	03 01 49.7	+0.4
VNDA	Vanda	72.24	177	P	P	03 01 48.6	-0.7
	comp=Z,2.2nm,0.8s,baz=333,slow=7.7,SNR=10						
	comp=Z,2.2nm,0.8s						
WMQ	Urumqi	73.53	319	*e*P	P	03 01 58.7	+1.1
CHNA	Chernabura Isl	73.90	28	P	P	03 01 59.9	+0.5
	baz=234						
BILL	Bilibino	74.50	7	P	P	03 02 02.4	-0.2
BILL				IAmb	IAmb	03 02 04.4	
	comp=Z,26nm,1.5s						
M11K	Mekoryuk	74.66	21	P	P	03 02 04.1	+0.5
	baz=227						
M13K	Dall Lake	75.74	22	P	P	03 02 10.3	+0.6
M13K	Dall Lake	75.74	22	P	P	03 02 10.9	+1.2
	baz=230						
O14K	Tigyukauivet M	75.82	24	P	P	03 02 11.5	+1.2
	baz=232						
N14K	Kuskokwak Cree	76.07	23	P	P	03 02 12.8	+1.1
	baz=231						
K13K	Kusilvak Mount	76.26	21	P	P	03 02 14.1	+1.4
	baz=228						
CHIR	Chirikof Islan	76.34	29	P	P	03 02 13.5	+0.3
	baz=238						
O15K	Ungalikthiuk R	76.37	25	P	P	03 02 14.3	+0.9
	baz=233						

M14K	Bethel	76.48	23	P	P	03 02 14.4	+0.4
M14K				IAmb	IAmb	03 02 16.2	
	comp=Z,23nm,0.7s						
M14K	Bethel	76.48	23	P	P	03 02 15.0	+1.0
	baz=231,SNR=6.1						
L14K	Kuka Creek	76.59	22	P	P	03 02 15.2	+0.7
L14K	Kuka Creek	76.59	22	P	P	03 02 15.8	+1.3
	baz=230						
N15K	Kwethluk River	76.85	24	P	P	03 02 16.5	+0.4
N15K				IAmb	IAmb	03 02 18.8	
	comp=Z,22nm,0.9s						
N15K	Kwethluk River	76.85	24	P	P	03 02 17.0	+0.9
	baz=233						
M15K	Kasigluk River	76.94	23	P	P	03 02 17.5	+0.9
	baz=232						
R17K	Ugashik Creek	76.97	27	P	P	03 02 17.4	+0.6
	baz=237						
P16K	Nushagak River	77.05	25	P	P	03 02 18.2	+1.0
	baz=235						
J14K	Nanvaranak Lak	77.19	20	P	P	03 02 19.3	+1.4
J14K				IAmb	IAmb	03 02 21.0	
	comp=Z,12nm,0.7s						
J14K	Nanvaranak Lak	77.19	20	P	P	03 02 19.4	+1.5
	baz=229						
L15K	Ungalak Mounta	77.25	22	P	P	03 02 18.9	+0.7
	baz=231						
O16K	Kokwok River B	77.33	25	P	P	03 02 18.8	0.0
O16K				IAmb	IAmb	03 02 20.1	
	comp=Z,13nm,0.6s						
O16K	Kokwok River B	77.33	25	P	P	03 02 19.5	+0.8
	baz=235						
SII	Sitkinak Islan	77.41	28	P	P	03 02 20.1	+0.8
	baz=239						
Q17K	Contact Creek	77.53	26	P	P	03 02 20.6	+0.6
	baz=237,SNR=5.2						
N16K	Nishlik Lake	77.57	24	P	P	03 02 21.2	+1.1
	baz=234						
K15K	Wolf Creek Mou	77.62	21	P	P	03 02 20.1	-0.2
K15K	Wolf Creek Mou	77.62	21	P	P	03 02 21.8	+1.5
	baz=231						
ANM	Nome	77.80	19	P	P	03 02 22.5	+1.2
	baz=227						
M16K	Timber Creek	77.81	23	P	P	03 02 21.8	+0.4
M16K				IAmb	IAmb	03 02 23.6	
	comp=Z,16nm,0.8s						
M16K	Timber Creek	77.81	23	P	P	03 02 22.7	+1.2
	baz=234						
O17K	Koliganek Bris	77.85	25	P	P	03 02 22.5	+0.9
	baz=236						
L16K	Owhat River	78.03	23	P	P	03 02 23.0	+0.4
L16K				IAmb	IAmb	03 02 24.3	
	comp=Z,15nm,0.7s						
L16K	Owhat River	78.03	23	P	P	03 02 23.5	+1.0
	baz=233,SNR=6.8						
Q18K	Katmai Hardscr	78.13	26	P	P	03 02 23.4	0.0
	baz=238,SNR=9.4						
F14K	Arctic Creek	78.13	18	P	P	03 02 24.2	+1.1
	baz=226						
OHAK	Old Harbor	78.17	28	P	P	03 02 24.3	+0.8
	baz=240						
MKAR	Makanchi Array	78.20	320	P	P	03 02 23.3	-0.6
	comp=Z,1.3nm,0.6s,baz=98,slow=8.8,SNR=16						
	comp=Z,1.3nm,0.6s						
N17K	Nushagak Hills	78.24	24	P	P	03 02 24.5	+0.8
N17K	Nushagak Hills	78.24	24	P	P	03 02 24.6	+0.9
	baz=236						
P18K	Big Mountain,	78.43	26	P	P	03 02 25.8	+0.9
	baz=238						
G15K	Niukluk	78.51	19	P	P	03 02 25.9	+0.7
	baz=228						
J16K	Anvik River	78.57	21	P	P	03 02 25.9	+0.4
J16K				IAmb	IAmb	03 02 27.6	
	comp=Z,12nm,0.6s						
J16K	Anvik River	78.57	21	P	P	03 02 26.9	+1.3
	baz=232						
M17K	Holitna River	78.63	23	P	P	03 02 26.8	+0.9
	baz=235						
O18K	Koktuh Hills	78.69	25	P	P	03 02 27.0	+0.7
	baz=238						
L17K	Donlin	78.73	23	P	P	03 02 27.1	+0.7
	baz=234						
KDAK	Kodiak Island	78.78	28	P	P	03 02 27.5	+0.7
	baz=240						
F15K	North Star Dit	78.80	18	P	P	03 02 27.6	+0.8
	baz=228						
N18K	Kilae Creek	78.85	24	P	P	03 02 28.0	+0.8
	baz=237						
H16K	Elim	78.86	19	P	P	03 02 27.9	+0.8
	baz=230						
Q19K	Cape Douglas,	78.88	27	P	P	03 02 27.4	+0.1
	baz=239						
I17K	Unalakleet	78.91	20	P	P	03 02 28.5	+1.2
	baz=232						
K17K	Iditarod	79.07	22	P	P	03 02 29.0	+0.8
K17K				IAmb	IAmb	03 02 30.5	
	comp=Z,17nm,0.8s						
K17K	Iditarod	79.07	22	P	P	03 02 29.2	+1.0
	baz=234						
SVW2	Sparrevohn	79.21	24	P	P	03 02 29.8	+0.7
SVW2	Sparrevohn	79.21	24	P	P	03 02 31.2	+2.1
G16K	Koyuk River	79.31	19	P	P	03 02 30.6	+1.1
	baz=230						
M18K	Stony River	79.33	24	P	P	03 02 30.7	+1.0
	baz=237						
L18K	Granite Mounta	79.39	23	P	P	03 02 30.6	+0.6
L18K				IAmb	IAmb	03 02 32.3	
	comp=Z,15nm,0.7s						
L18K	Granite Mounta	79.39	23	P	P	03 02 30.8	+0.8
	baz=236						
P19K	Oil Pt	79.44	26	P	P	03 02 30.2	-0.1
P19K	Oil Pt	79.44	26	P	P	03 02 30.5	+0.2
	baz=239,SNR=5.4						
N19K	Bonanza Creek	79.51	25	P	P	03 02 31.4	+0.6
	baz=238						
ZAA0	Zalesovo Array	79.52	327	P	P	03 02 29.7	-1.2
ZALV	Zalesovo Beam	79.52	327	P	P	03 02 29.9	-1.0
	comp=Z,4.1nm,0.5s,baz=111,slow=5.3,SNR=22						
	comp=Z,4.1nm,0.5s						
H17K	Granite Mounta	79.83	20	P	P	03 02 32.8	+0.5
H17K	Granite Mounta	79.83	20	P	P	03 02 33.3	+0.9
	baz=232						
G17K	Kiwalik Mounta	79.93	19	P	P	03 02 33.9	+1.1
	baz=232						
TTA	Tatalina	80.05	22	P	P	03 02 33.7	+0.1
TTA	Tatalina	80.05	22	P	P	03 02 34.6	+0.9
TTA	Tatalina	80.05	22	P	P	03 02 34.5	+0.8
	baz=236,SNR=5.4						
J18K	Innoko River	80.09	22	P	P	03 02 33.7	-0.1
J18K	Innoko River	80.09	22	P	P	03 02 34.8	+1.1
	baz=236						
L19K	White Mountain	80.09	23	P	P	03 02 34.7	+0.9
L19K				IAmb	IAmb	03 02 35.7	
	comp=Z,21nm,0.8s						
L19K	White Mountain	80.09	23	P	P	03 02 34.7	+0.9
	baz=237						
M19K	Big River Lodg	80.12	24	P	P	03 02 33.9	-0.1
M19K				IAmb	IAmb	03 02 36.0	
	comp=Z,11nm,0.7s						
M19K	Big River Lodg	80.12	24	P	P	03 02 34.9	+0.9
	baz=238						
HOM	Homer	80.14	26	P	P	03 02 34.6	+0.5
	baz=241						
CNPM	China Poot	80.25	27	P	P	03 02 34.8	+0.1
F17K	Baldwin Pennin	80.33	18	P	P	03 02 35.2	+0.2
F17K				IAmb	IAmb	03 02 37.0	
	comp=Z,11nm,0.7s						
F17K	Baldwin Pennin	80.33	18	P	P	03 02 35.9	+1.0
	baz=231						
C16K	Lisburne Hills	80.36	16	P	P	03 02 35.7	+0.6
	baz=227						
H18K	Honhosa River	80.48	20	P	P	03 02 36.5	+0.7
	baz=234						
E17K	Hotham Inlet	80.57	18	P	P	03 02 37.3	+1.1
	baz=230,SNR=12						
BRSE	Bradley Lake S	80.58	27	P	P	03 02 36.5	+0.1
	baz=242						
D17K	Noatak River	80.60	17	P	P	03 02 38.0	+1.6
	baz=229						
M20K	Styx River	80.62	24	P	P	03 02 37.0	+0.2
M20K				IAmb	IAmb	03 02 38.3	
	comp=Z,14nm,0.7s						
M20K	Styx River	80.62	24	P	P	03 02 37.5	+0.8
	baz=239						
L20K	Farewell, AK	80.63	23	P	P	03 02 37.5	+0.8
	baz=238						
N20K	Mount Spurr	80.66	25	P	P	03 02 37.2	+0.2
	baz=240						

GCSA	Galena City Sc	80.76	21	P	P	03 02 37.8	+0.6
	baz=235						
J19K	Poorman	80.79	22	P	P	03 02 37.5	+0.1
J19K	Poorman	80.79	22	P	P	03 02 38.3	+0.8
	baz=236						
G18K	Tagagawik	80.83	19	P	P	03 02 37.8	+0.2
G18K	Tagagawik	80.83	19	P	P	03 02 38.7	+1.0
	baz=233,SNR=9.4						
RDOG	Red Dog Mine	80.89	17	P	P	03 02 39.0	+1.1
RDOG				IAmb	IAmb	03 02 40.3	
	comp=Z,17nm,0.8s						
RDOG	Red Dog Mine	80.89	17	P	P	03 02 39.0	+1.1
	baz=229,SNR=5.3						
K20K	Telida	81.03	23	P	P	03 02 39.2	+0.5
K20K	Telida	81.03	23	P	P	03 02 39.3	+0.5
	baz=238						
C17K	DeLong Mountai	81.09	16	P	P	03 02 39.8	+0.8
	baz=229,SNR=7.0						
E18K	Tukpahlearik C	81.15	18	P	P	03 02 40.1	+0.8
E18K	Tukpahlearik C	81.15	18	P	P	03 02 40.3	+1.0
	baz=231						
SEW	Seward	81.32	27	P	P	03 02 40.4	+0.1
	baz=243						
SKT	Skwentna	81.33	24	P	P	03 02 40.2	-0.2
	baz=240						
H19K	Roundabout Mou	81.36	20	P	P	03 02 40.8	+0.4
H19K	Roundabout Mou	81.36	20	P	P	03 02 40.8	+0.4
	baz=236						
O22K	Cooper Landing	81.38	26	P	P	03 02 40.3	-0.3
O22K	Cooper Landing	81.38	26	P	P	03 02 40.4	-0.2
	baz=242						
SUA	Susitna One	81.40	25	P	P	03 02 40.7	-0.2
	baz=241						
J20K	Nowinta River	81.43	22	P	P	03 02 41.0	+0.1
J20K	Nowinta River	81.43	22	P	P	03 02 41.8	+0.9
	baz=238						
G19K	Purcell Mounta	81.50	20	P	P	03 02 41.6	+0.5
G19K	Purcell Mounta	81.50	20	P	P	03 02 42.0	+0.8
	baz=235,SNR=8.2						
PPLA	Purkeypile	81.52	23	P	P	03 02 41.6	+0.1
	baz=240						
I20K	Naaghedeneel	81.64	21	P	P	03 02 42.8	+0.9
	baz=237						
RC01	Rabbit Creek A	81.65	26	P	P	03 02 42.0	-0.1
RC01	Rabbit Creek A	81.65	26	P	P	03 02 42.2	+0.1
	baz=242,SNR=7.0						
F19K	Shaleruckik Mo	81.67	19	P	P	03 02 41.9	-0.1
F19K	Shaleruckik Mo	81.67	19	P	P	03 02 42.4	+0.3
	baz=234						
C18K	Utukok River	81.76	17	P	P	03 02 42.2	-0.4
C18K				IAmb	IAmb	03 03 24.3	
	comp=Z,51nm,2.0s						
C18K	Utukok River	81.76	17	P	P	03 02 43.1	+0.6
	baz=231						
M22K	Willow	81.80	25	P	P	03 02 42.9	+0.1
	baz=242						
CAST	Castle Rocks	81.82	23	P	P	03 02 42.9	-0.1
CAST				IAmb	IAmb	03 02 44.5	
	comp=Z,16nm,0.7s						
CAST	Castle Rocks	81.82	23	P	P	03 02 42.9	-0.1
	baz=240,SNR=18						
KURBB	Kurchatov Arra	81.86	323	P	P	03 02 42.4	-1.0
	comp=Z,0.9nm,0.5s,baz=106,slow=4.0,SNR=14						
	comp=Z,0.9nm,0.5s						
H20K	Anotleneega Mo	81.88	21	P	P	03 02 43.7	+0.5
	baz=237						
CHUM	Lake Minchumin	81.97	23	P	P	03 02 44.1	+0.5
	baz=240,SNR=11						
B18K	Kokolik River	82.05	16	P	P	03 02 44.7	+0.8
	baz=230						
CUT	Chulitna	82.05	24	P	P	03 02 43.9	-0.2
CUT	Chulitna	82.05	24	P	P	03 02 44.2	+0.1
	baz=242						
PMR	Palmer	82.15	25	P	P	03 02 44.1	-0.5
PMR				IAmb	IAmb	03 02 45.1	
	comp=Z,15nm,0.9s						
PMR	Palmer	82.15	25	P	P	03 02 45.0	+0.4
	comp=Z,21nm,0.9s						
PMR	Palmer	82.15	25	P	P	03 02 44.3	-0.3
	baz=243						
PWL	Port Wells	82.16	26	P	P	03 02 44.5	-0.2
PWL	Port Wells	82.16	26	P	P	03 02 44.8	+0.1
	baz=244,SNR=12						
E19K	Redstone River	82.21	18	P	P	03 02 44.9	+0.1
E19K				IAmb	IAmb	03 02 46.8	
	comp=Z,22nm,0.7s						
E19K	Redstone River	82.21	18	P	P	03 02 45.9	+1.0
	baz=234						
GHO	Glory Hole Cre	82.32	25	P	P	03 02 45.3	-0.4
GHO				IAmb	IAmb	03 02 46.7	
	comp=Z,17nm,0.7s						
KTH	Kantishna Hill	82.34	23	P	P	03 02 44.9	-0.8
KTH				IAmb	IAmb	03 02 45.9	
	comp=Z,18nm,0.8s						
KNK	Knik Glacier	82.35	26	P	P	03 02 46.6	+0.8
	baz=243						
F20K	Avaraart Lake	82.46	19	P	P	03 02 46.4	+0.2
F20K	Avaraart Lake	82.46	19	P	P	03 02 47.1	+1.0
	baz=236						
C19K	Lookout Ridge	82.50	17	P	P	03 02 46.6	+0.2
C19K	Lookout Ridge	82.50	17	P	P	03 02 47.4	+1.0
	baz=232						
IMAR	Indian Mountai	82.54	20	P	P	03 02 46.3	-0.3
TRF	Thorofare Moun	82.54	23	P	P	03 02 46.1	-0.8
TRF	Thorofare Moun	82.54	23	P	P	03 02 46.1	-0.8
	baz=242,SNR=8.3						
D19K	Kuna River	82.55	17	P	P	03 02 46.3	-0.4
D19K				IAmb	IAmb	03 02 48.2	
	comp=Z,14nm,0.6s						
D19K	Kuna River	82.55	17	P	P	03 02 47.1	+0.4
	baz=234						
SML	Sawmill	82.58	25	P	P	03 02 46.7	-0.3
SML	Sawmill	82.58	25	P	P	03 02 47.1	+0.1
	baz=244,SNR=9.9						
BPAW	Bear Paw Mtn.	82.58	23	P	P	03 02 46.7	-0.2
BPAW	Bear Paw Mtn.	82.58	23	P	P	03 02 46.6	-0.3
	baz=241,SNR=5.8						
H21K	Melozitna Rive	82.70	21	P	P	03 02 47.8	+0.4
	baz=239						
GLI	Glacier Island	82.71	26	P	P	03 02 48.1	+0.5
	baz=245,SNR=5.0						
I21K	Tanana	82.75	21	P	P	03 02 48.2	+0.5
	baz=240						
A19K	Wainwright	82.78	15	P	P	03 02 48.7	+0.9
	baz=231						
M23K	Glacier View	82.83	25	P	P	03 02 48.7	+0.5
	baz=244						
G21K	Allakaket	82.91	20	P	P	03 02 49.3	+0.8
	baz=238						
WAT1	Susitna Watana	82.95	24	P	P	03 02 48.6	-0.2
	baz=243						
E20K	Nigu River	83.00	18	P	P	03 02 49.5	+0.5
	baz=235						
SCM	Sheep Creek Mo	83.02	25	P	P	03 02 49.4	+0.2
	baz=244						
D20K	Etivluk River	83.13	17	P	P	03 02 50.1	+0.5
	baz=235						
MLY	Manley	83.13	22	IAmb	IAmb	03 02 50.9	
	comp=Z,13nm,0.8s						
MLY	Manley	83.13	22	P	P	03 02 50.1	+0.4
	baz=241,SNR=14						
WAT6	Susitna Watana	83.18	25	P	P	03 02 50.1	-0.1
	baz=244						
MCK	McKinley	83.21	23	P	P	03 02 49.9	-0.2
	baz=243,SNR=17						
F21K	Alatna River	83.29	19	P	P	03 02 50.8	+0.3
	baz=238						
H22K	Ishtalitna Cre	83.33	21	P	P	03 02 51.3	+0.6
	baz=240						
KLU	Klutina	83.49	26	IAmb	IAmb	03 02 53.5	
	comp=Z,26nm,1.0s						
KLU	Klutina	83.49	26	P	P	03 02 52.0	+0.4
	baz=246,SNR=6.9						
DHY	Denali Highway	83.54	24	IAmb	IAmb	03 02 53.4	
	comp=Z,20nm,0.8s						
DHY	Denali Highway	83.54	24	P	P	03 02 51.9	-0.1
	baz=244,SNR=17						
NEA2	Nenana	83.56	23	IAmb	IAmb	03 02 52.0	
	comp=Z,13nm,0.9s						
NEA2	Nenana	83.56	23	P	P	03 02 51.8	-0.1
	baz=242,SNR=8.2						
M24K	Tolsona, Glenn	83.63	25	P	P	03 02 52.8	+0.5
	baz=245,SNR=5.4						
I23K	Minto, Yukon-K	83.70	22	IAmb	IAmb	03 03 02.5	
	comp=Z,29nm,1.8s						
I23K	Minto, Yukon-K	83.70	22	P	P	03 02 52.9	+0.3
	baz=242						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
B20K	Meade River	83.72	16	IAmb	IAmb	03 02 54.2	
	comp=Z,13nm,0.7s						
B20K	Meade River	83.72	16	P	P	03 02 53.3	+0.8
	baz=234						
E21K	Killik River	83.78	18	IAmb	IAmb	03 02 54.5	
	comp=Z,16nm,0.7s						
E21K	Killik River	83.78	18	P	P	03 02 53.3	+0.3
	baz=238						
G22K	Bettles	83.80	20	P	P	03 02 53.6	+0.7
	baz=240,SNR=12						
BMRM	Bremner River	83.86	27	P	P	03 02 54.0	+0.5
	baz=247						
F22K	John River	83.87	19	P	P	03 02 54.2	+0.8
	baz=239						
C21K	Knifeblade Rid	83.93	17	P	P	03 02 54.3	+0.7
	baz=237						
CCB	Clear Creek Bu	84.06	23	IAmb	IAmb	03 02 54.3	
	comp=Z,16nm,0.8s						
N25K	Chitina, Valde	84.11	26	P	P	03 02 54.9	+0.1
	baz=247						
COLA	College	84.15	23	P	P	03 02 54.2	-0.6
COLA	College	84.15	23	P	P	03 02 55.0	+0.2
COLA	College	84.15	23	P	P	03 02 54.3	-0.5
	baz=244						
HARP	HAARP	84.19	25	P	P	03 02 55.4	+0.3
	baz=246						
G23K	Bananza Creek	84.21	21	IAmb	IAmb	03 02 56.7	
	comp=Z,19nm,0.7s						
G23K	Bananza Creek	84.21	21	P	P	03 02 55.9	+0.8
	baz=241,SNR=20						
B21K	Ikpikpuk River	84.23	17	IAmb	IAmb	03 02 56.8	
	comp=Z,16nm,0.8s						
B21K	Ikpikpuk River	84.23	17	P	P	03 02 56.0	+0.9
	baz=237						
PAX	Paxson	84.29	25	P	P	03 02 55.7	0.0
	baz=246						
HDA	Harding Lake	84.29	23	IAmb	IAmb	03 02 56.6	
	comp=Z,19nm,1.3s						
HDA	Harding Lake	84.29	23	P	P	03 02 55.1	-0.5
	baz=244,SNR=9.8						
HDA				P	P	03 02 55.1	-0.5
	baz=244,SNR=9.8						
E22K	Anaktuvuk Pass	84.31	19	P	P	03 02 56.5	+0.9
	baz=240,SNR=14						
QSPA	South Pole Qui	84.38	180	P	P	03 02 55.6	-0.6
COLD	Coldfoot	84.39	20	P	P	03 02 56.8	+0.8
	baz=241,SNR=18						
POKR	Poker Plat Res	84.42	22	IAmb	IAmb	03 02 56.1	
	comp=Z,7.2nm,0.5s						
POKR	Poker Plat Res	84.42	22	P	P	03 02 55.4	-0.8
	baz=244,SNR=7.8						
D22K	Ayikyak River	84.42	18	IAmb	IAmb	03 02 58.2	
	comp=Z,20nm,0.8s						
D22K	Ayikyak River	84.42	18	P	P	03 02 57.3	+1.1
	baz=239						
CRQE	Cirque	84.46	27	P	P	03 02 57.0	+0.4
	baz=248						
IL31		84.47	23	IAmb	IAmb	03 02 56.1	
	comp=Z,20nm,0.7s						
ILAR	Eielson Array	84.47	23	P	P	03 02 55.0	-1.4
	comp=Z,16nm,0.6s,baz=252,slow=4.9,SNR=360						
	comp=Z,16nm,0.6s						
K24K	Donnelly Dome	84.50	24	P	P	03 02 56.6	0.0
	baz=246						
H24K	Noodor Dome	84.57	22	P	P	03 02 57.4	+0.4
	baz=244						
MCARA	McCarthy VSAT	84.73	27	P	P	03 02 58.2	+0.4
	baz=248						
RIDG	Independent Ri	84.86	24	IAmb	IAmb	03 02 59.3	
	comp=Z,29nm,1.3s						
RIDG	Independent Ri	84.86	24	P	P	03 02 58.4	-0.1
	baz=246,SNR=6.7						
A22K	Sinclair Lake	84.90	16	P	P	03 02 58.8	+0.4
	baz=236						
B22K	Teshekpuk Lake	84.97	17	IAmb	IAmb	03 02 59.8	
	comp=Z,8.9nm,0.6s						
B22K	Teshekpuk Lake	84.97	17	P	P	03 02 59.4	+0.6
	baz=238						
E23K	Chandalar	84.99	19	P	P	03 03 00.0	+0.9
	baz=242						
J25K	Salcha River,	85.00	23	P	P	03 02 58.9	-0.3
	baz=246						
MENT	Mentasta	85.01	25	IAmb	IAmb	03 03 00.4	
	comp=Z,13nm,0.7s						
MENT	Mentasta	85.01	25	P	P	03 03 00.0	+0.8
D23K	Nanushuk River	85.09	18	P	P	03 03 00.8	+1.4
	baz=241						
G24K	Hadweenzic Riv	85.10	21	IAmb	IAmb	03 03 01.1	
	comp=Z,11nm,0.8s						
G24K	Hadweenzic Riv	85.10	21	P	P	03 03 00.3	+0.8
	baz=244,SNR=9.2						
M26K	Nabesna, AK	85.12	26	P	P	03 03 00.5	+0.7
	baz=248						
KK31	Karatay Array	85.15	314	P	P	03 02 59.8	-0.6
KKAR	Karatay Array	85.15	314	P	P	03 02 59.3	-1.1
KKAR	Karatay Array	85.15	314	P	P	03 02 59.8	-0.6
KKAR				IAmb	IAmb	03 03 00.5	
	comp=Z,3.1nm,0.9s						
L26K	Log Cabin Wild	85.20	25	IAmb	IAmb	03 03 01.3	
	comp=Z,16nm,0.6s						
L26K	Log Cabin Wild	85.20	25	P	P	03 03 00.8	+0.7
	baz=248,SNR=10						
TOLK	Toolik Lake Re	85.28	19	IAmb	IAmb	03 03 02.2	
	comp=Z,12nm,0.8s						
TOLK	Toolik Lake Re	85.28	19	P	P	03 03 01.1	+0.6
	baz=242,SNR=15						
SCRK	Sand Creek	85.30	24	IAmb	IAmb	03 03 01.2	
	comp=Z,53nm,1.9s						
SCRK	Sand Creek	85.30	24	P	P	03 03 00.7	-0.1
	baz=247,SNR=6.7						
PRP	Porcupine Dome	85.31	22	P	P	03 03 00.7	-0.2
	baz=246						
F24K	Squaw Lake	85.32	20	P	P	03 03 01.7	+1.0
	baz=243						
CTG	Chitna Glacier	85.34	27	P	P	03 03 01.1	0.0
	baz=250						
E24K	Your Creek	85.37	20	P	P	03 03 01.7	+0.7
	baz=243						
C23K	Itkillik River	85.54	18	P	P	03 03 02.7	+1.0
	baz=241						
M27K	Edge Creek, AK	85.59	26	P	P	03 03 03.0	+0.7
	baz=249						
G25K	Bearman Lake	85.62	21	P	P	03 03 03.0	+0.9
	baz=245						
J26L	Joseph Creek	85.67	24	IAmb	IAmb	03 03 03.8	
	comp=Z,9.3nm,0.7s						
J26L	Joseph Creek	85.67	24	P	P	03 03 03.2	+0.7
	baz=248						
D24K	Happy Valley	85.76	19	P	P	03 03 03.8	+1.1
	baz=242						
FYU	Fort Yukon	85.85	22	IAmb	IAmb	03 03 04.8	
	comp=Z,20nm,0.8s						
L27K	Beaver Creek,	85.86	25	IAmb	IAmb	03 03 05.5	
	comp=Z,11nm,0.8s						
L27K	Beaver Creek,	85.86	25	P	P	03 03 03.9	+0.4
	baz=249						
YUK3	Moose Creek	86.01	27	P	P	03 03 04.9	+0.4
	baz=251						
BVCY	Beaver Creek	86.05	26	P	P	03 03 05.1	+0.7
	baz=250,SNR=6.1						
C24K	Franklin Bluff	86.06	18	P	P	03 03 05.2	+1.0
	baz=242						
K27K	Chicken	86.10	24	IAmb	IAmb	03 03 06.6	
	comp=Z,18nm,0.8s						
K27K	Chicken	86.10	24	P	P	03 03 05.6	+1.1
	baz=249						
F25K	Christian Rive	86.13	21	P	P	03 03 05.8	+1.1
	baz=246						
I26K	Coal Creek Min	86.14	23	P	P	03 03 05.1	+0.3
	baz=248						
YUK8	Steele Glacier	86.17	27	P	P	03 03 05.7	+0.5
	baz=251						
E25K	Arctic Village	86.38	20	P	P	03 03 06.8	+0.9
	baz=246						
O29M	Mount Kennedy	86.41	28	P	P	03 03 07.2	+0.9
	baz=252						
G26K	Porcupine Rive	86.53	21	P	P	03 03 07.6	+1.1
	baz=247						
P29M	Windy Craggy	86.61	29	P	P	03 03 08.0	+0.8
	baz=253						
D25K	Kavik River	86.62	19	IAmb	IAmb	03 03 08.4	
	comp=Z,15nm,0.8s						
D25K	Kavik River	86.62	19	P	P	03 03 07.3	+0.3
	baz=245						
F26K	Sheenjek River	86.70	21	P	P	03 03 08.2	+0.8
	baz=247						
YUK4	Talbot Arm	86.70	27	P	P	03 03 09.0	+1.2
	baz=252,SNR=6.8						
YUK6	Outpost Mounta	86.71	28	P	P	03 03 08.4	+0.5
	baz=252						
EGAK	Eagle	86.74	24	IAmb	IAmb	03 03 08.9	
	comp=Z,17nm,0.8s						
EGAK	Eagle	86.74	24	P	P	03 03 08.0	+0.4
	baz=250,SNR=11						
I27K	Kandik River	86.85	23	P	P	03 03 09.1	+0.9
	baz=249,SNR=16						
HYT	Haines Junctio	87.07	28	P	P	03 03 10.4	+0.9
	baz=253,SNR=10.0						
H27K	Steamboat Moun	87.11	22	P	P	03 03 10.5	+1.0
	baz=249,SNR=14						
M29M	Somme Creek	87.12	26	P	P	03 03 10.4	+0.7
	baz=252,SNR=9.7						
DAWY	Dawson	87.22	25	IAmb	IAmb	03 03 11.7	
	comp=Z,16nm,0.7s						
DAWY	Dawson	87.22	25	P	P	03 03 10.8	+0.8
	baz=251,SNR=12						
G27K	Doyon Strip	87.26	22	P	P	03 03 11.2	+1.1
	baz=249						
C26K	Camden Bay	87.33	18	P	P	03 03 11.8	+1.4
	baz=246						
BVAR	Borovoye Array	87.38	324	P	P	03 03 08.8	-2.1
	comp=Z,1.8nm,0.5s,baz=111,slow=7.0,SNR=11						
	comp=Z,1.8nm,0.5s						
N30M	Aishikik Lake	87.45	28	P	P	03 03 11.8	+0.6
	baz=254						
I28M	Miner Creek	87.45	23	IAmb	IAmb	03 03 12.5	
	comp=Z,11nm,0.8s						
I28M	Miner Creek	87.45	23	P	P	03 03 12.1	+0.9
	baz=251						
L29M	L29M	87.46	26	P	P	03 03 12.2	+1.0
	baz=253						
O30N	Mendenhall	87.72	28	IAmb	IAmb	03 03 14.1	
	comp=Z,19nm,0.8s						
O30N	Mendenhall	87.72	28	P	P	03 03 13.2	+0.7
	baz=254,SNR=5.3						
E27K	Coleen River	87.78	21	IAmb	IAmb	03 03 14.5	
	comp=Z,16nm,0.8s						
E27K	Coleen River	87.78	21	P	P	03 03 13.3	+0.8
	baz=249						
M30M	Minto, Yukon	87.90	27	IAmb	IAmb	03 03 14.8	
	comp=Z,31nm,1.6s						
M30M	Minto, Yukon	87.90	27	P	P	03 03 13.9	+0.6
	baz=254						
K29M	Barlow Dome	87.94	25	P	P	03 03 14.3	+0.7
	baz=253						
CRAG	Craig	87.95	34	P	P	03 03 14.3	+0.8
	baz=257						
N31M	Braeburn, Yuko	88.06	28	IAmb	IAmb	03 03 15.8	
	comp=Z,17nm,0.9s						
N31M	Braeburn, Yuko	88.06	28	P	P	03 03 14.9	+0.9
	baz=255						
I29M	Ogilvie Camp,	88.07	24	IAmb	IAmb	03 03 15.7	
	comp=Z,24nm,1.6s						
I29M	Ogilvie Camp,	88.07	24	P	P	03 03 14.3	+0.3
	baz=252,SNR=7.0						
F28M	Old Crow	88.19	21	IAmb	IAmb	03 03 16.1	
	comp=Z,8.9nm,0.8s						
F28M	Old Crow	88.19	21	P	P	03 03 15.1	+0.5
	baz=251,SNR=9.9						
WHY	Whitehorse	88.27	29	P	P	03 03 15.4	+0.2
	baz=256						
H29M	Whitestone	88.31	23	P	P	03 03 15.9	+0.8
	baz=252						
D27M	Malcolm River	88.36	20	P	P	03 03 15.9	+0.6
	baz=250						
WRAK	Wrangell Islan	88.58	33	P	P	03 03 17.0	+0.5
	baz=258						
E28M	Babbage River	88.64	20	IAmb	IAmb	03 03 18.9	
	comp=Z,6.3nm,0.7s						
E28M	Babbage River	88.64	20	P	P	03 03 17.1	+0.5
	baz=251						
J30M	Hart River	88.65	25	IAmb	IAmb	03 03 18.4	
	comp=Z,13nm,0.7s						
J30M	Hart River	88.65	25	P	P	03 03 17.3	+0.4
	baz=254						
G29M	Pine Creek	88.65	22	IAmb	IAmb	03 03 18.0	
	comp=Z,17nm,1.1s						
G29M	Pine Creek	88.65	22	P	P	03 03 17.0	+0.3
	baz=253,SNR=7.6						
V35K	Ketchikan	88.76	34	P	P	03 03 17.6	+0.2
	baz=258						
I30M	Mount Dempster	88.81	24	IAmb	IAmb	03 03 43.1	
	comp=Z,8.1nm,0.7s						
I30M	Mount Dempster	88.81	24	P	P	03 03 17.6	0.0
	baz=254						
M31M	Drury Creek, Y	88.88	27	P	P	03 03 18.5	+0.6
	baz=256						
EPYK	Eagle Plains	88.99	23	P	P	03 03 18.6	+0.3
	baz=254,SNR=9.9						
D28M	Stokes Point	89.14	20	P	P	03 03 19.2	+0.3
	baz=252						
E29M	Blow River	89.14	21	IAmb	IAmb	03 06 26.6	
	comp=Z,22nm,2.0s						
E29M	Blow River	89.14	21	P	P	03 03 19.2	+0.3
	baz=253						
Q32M	Nakina River	89.16	31	P	P	03 03 19.2	-0.3
	baz=258						
N32M	Quiet Lake	89.24	28	P	P	03 03 19.7	+0.1
	baz=257						
G30M	tAoh Zraii Nji	89.35	22	IAmb	IAmb	03 03 21.3	
	comp=Z,15nm,1.1s						
G30M	tAoh Zraii Nji	89.35	22	P	P	03 03 20.3	+0.3
	baz=254						
FARO	Faro, Yukon	89.36	27	P	P	03 03 20.4	+0.3
	baz=257						
S34M	Telegraph Cree	89.53	32	P	P	03 03 21.4	+0.5
	baz=259						
F30M	Barrier River	89.68	22	P	P	03 03 21.8	+0.3
	baz=255,SNR=10.0						
H31M	Peel River	89.78	24	IAmb	IAmb	03 03 22.7	
	comp=Z,7.9nm,0.6s						
H31M	Peel River	89.78	24	P	P	03 03 22.1	+0.1
	baz=256						
T35M	Bob Quinn	89.83	33	P	P	03 03 22.8	+0.4
	baz=260						
R33M	Jennings River	89.90	30	P	P	03 03 23.0	+0.2
	baz=259						
G31M	Satah River	90.08	23	P	P	03 03 23.4	+0.2
	baz=256,SNR=14						
F31M	Tsiigehtchic	90.40	22	IAmb	IAmb	03 03 25.3	
	comp=Z,9.3nm,0.8s						
F31M	Tsiigehtchic	90.40	22	P	P	03 03 24.8	0.0
	baz=256,SNR=6.6						
INK	Inuvik	90.68	21	IAmb	IAmb	03 03 27.6	
	comp=Z,15nm,1.1s						
INK	Inuvik	90.68	21	P	P	03 03 25.9	-0.1
	baz=257,SNR=9.4						
WTLY	Watson Lake, Y	91.11	30	P	P	03 03 28.6	+0.2
	baz=261						
TGTN	Hyland Airport	91.59	28	P	P	03 03 31.1	+0.6
	baz=261						
LIRD	Liard River Hi	92.37	31	P	P	03 03 34.4	+0.3
	baz=263						
WRGLY	Wrigley	94.01	27	P	P	03 03 41.8	+0.3
	baz=266						
A36M	Sachs Harbour	94.07	18	IAmb	IAmb	03 03 42.1	
	comp=Z,9.1nm,0.8s						
A36M	Sachs Harbour	94.07	18	P	P	03 03 41.5	-0.1
	baz=265,SNR=8.9						
C36M	Paulatuk	94.24	21	P	P	03 03 42.6	+0.2
	baz=266						
SBC	Santa Barbara	94.50	56	P	P	03 03 43.8	-0.6
	baz=266						
LTY	Liberty	94.55	43	P	P	03 03 44.0	-0.6
ELIB	Princess Elisa	95.01	195	*d*P	P	03 03 45.8	-0.4
CWC	Cottonwood Cre	95.94	54	P	P	03 03 50.6	-0.6
	baz=268						
YKA	Yellowknife Ar	98.06	28	P	P	03 03 59.6	-0.3
	comp=Z,2.5nm,1.0s,baz=274,slow=4.9,SNR=13						
	comp=Z,2.5nm,1.0s						
ZVC	Zvikov	121.87	327	*e*PKP	PKPdf	03 09 16.4	-0.7
CKRC	Cesky Krumlov	122.14	326	*e*PKP	PKPdf	03 09 16.9	-0.7
GERES	GERESS Array B	122.46	326	PKP	PKPdf	03 09 17.2	-1.1
	comp=Z,1.0nm,0.6s,baz=354,slow=2.7,SNR=4.0						
EKA	Eskdalemuir Ar	125.48	341	PKP	PKPdf	03 09 22.6	-1.1
	comp=Z,0.7nm,0.4s,baz=22,slow=3.1,SNR=4.4						
DAVOX	Davos/Dischmat	125.75	326	PKP	PKPdf	03 09 23.7	-1.2
	comp=Z,2.2nm,0.7s,baz=322,slow=12,SNR=4.3						
TORD	Torodi Ar. Bea	146.53	285	PKPbc	PKPdf	03 10 04.3	+0.6
	comp=Z,5.8nm,0.5s,baz=66,slow=3.1,SNR=77						
BDFB	Brasilia	153.25	142	PKPbc	PKPbc	03 10 21.1	-0.9
	comp=Z,1.9nm,0.4s,baz=260,slow=1.6,SNR=3.7						

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*DJA **07** 03:18:53.9±1.2, 6°S±2°×13°1E±°, h28km±12km, M4.8/12, mb5.0/7, mB5.3/7, MLv4.8/12, Mw(mB)4.8/7*

*IDC **07** 03:18:54.6±7.0, 6.°13S×130.°71E, h131km±69km, mb3.8/3, mbtmp4.4/5, Error ellipse: s-maj=56.3km s-min=19.2km az=43.0*

ISC 07 03:18:53.8±0.6, **6.°03S**±0.°05×**130.°89E**±0.°06, **h150km, n42, σ2.s41**/44, **mb4.4**/6, **1C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.79	327	P	Pn	03 19 25.7	-0.9
BNDI	Bandanaira	1.79	327	P	Pn	03 19 25.5	-1.1
SAUI	Saumlaki	1.98	168	P	Pn	03 19 28.4	-0.4
SAUI				S	Sn	03 19 52.1	-3.5
FAKI	Fak Fak	3.38	24	P	Pn	03 19 44.1	-2.0
FAKI	Fak Fak	3.38	24	P	Pn	03 19 44.1	-2.0
KMPI	Kaimana, Papua	3.66	50	P	Pn	03 19 48.6	-1.1
KMPI				S	Sn	03 20 29.1	-4.0
NLAI	Namlea	4.69	306	P	Pn	03 20 07.6	+4.5
SWI	Sorong	5.15	4	P	Pn	03 20 07.2	-2.1
RKPI	Ransiki, Papua	5.56	36	P	Pn	03 20 14.7	-0.1
	311nm,0.6s,2.3nm						
RKPI				S	Sn	03 21 15.1	-2.9
	311nm,0.6s,2.3nm						
SANI	Sanana	6.29	309	P	Pn	03 20 24.1	-0.3
SANI	Sanana	6.29	309	P	Pn	03 20 23.8	-0.6
	45nm,0.6s,1µm0.2nm						
LBMI	Labuha	6.34	328	P	Pn	03 20 25.0	-0.1
MTN	Manton Dam	6.77	178	P	Pn	03 20 30.2	-0.7
KDU	Kakadu	6.79	167	P	Pn	03 20 29.3	-1.9
SOEI	Soe	7.53	240	P	Pn	03 20 41.4	+0.3
SOEI	Soe	7.53	240	P	Pn	03 20 40.8	-0.3
BATI	Baumata	8.27	239	P	Pn	03 20 49.8	-1.1
	71nm,0.4s,baz=107,slow=1.6,SNR=8.9						
BATI				S	Sn	03 22 18.4	-4.6
	30nm,0.4s,baz=274,slow=19,SNR=1.8						
EDFI	Ende, Flores	9.51	253	P	Pn	03 21 01.3	-6.3
KNRA	Kununurra	9.81	192	P	Pn	03 21 09.5	-1.9
GENI	Genyem	9.86	70	P	Pn	03 21 14.2	+2.1
PLAI	Plampang	13.29	257	P	Pn	03 21 57.5	+0.6
WRA	Warramunga Arr	14.23	167	P	Pn	03 22 04.6	-4.1
	2.1nm,0.3s,baz=350,slow=11,SNR=53						
WRA				S	Sn	03 24 34.3	-12
	5.8nm,0.5s,baz=334,slow=25,SNR=8.9						
COEN	Coen	14.43	124	P	Pn	03 22 12.0	+0.7
	11nm,0.7s						
QIS	Mount Isa	16.73	150	P	P	03 22 39.6	+0.3
ASAR	Alice Springs	17.77	171	P	Pn	03 22 51.9	-0.2
	5.0nm,0.7s,baz=344,slow=8.0,SNR=47						
ASAR				S	S	03 26 00.7	-6.9
	2.5nm,0.7s,baz=350,slow=26,SNR=6.7						
AS01	Alice Springs	17.78	171	P	Pn	03 22 52.5	+0.4
	11nm,0.8s						
PSA00	Pilbara Seismi	18.79	214	P	Pn	03 23 03.4	-0.6
	25nm,0.7s						
WRKA	Warakurna	19.06	187	P	Pn	03 23 07.5	+0.3
CTA	Charters Tower	20.45	135	P	P	03 23 21.7	+2.0
	8.1nm,1.2s,baz=309,slow=12,SNR=5.2						
	8.1nm,1.2s						
OOD	Oodnadatta	22.12	169	P	P	03 23 39.3	+2.0
MEEK	Meekatharra	23.60	208	P	P	03 23 53.8	+2.6
QLP	Quilpie	24.07	150	P	P	03 23 59.5	+4.0
	14nm,2.5s						
MULG	Mulgathing	24.31	173	P	P	03 23 59.8	+2.3
LCRK	Leigh Creek	25.25	165	P	P	03 24 08.9	+2.9
KMBL	Kambalda	26.58	197	P	P	03 24 20.0	+1.9
	24nm,1.9s						
STKA	Stephens Creek	27.59	160	P	P	03 24 29.8	+2.6
STKA	Stephens Creek	27.59	160	P	P	03 24 29.7	+2.6
	2.1nm,0.3s,baz=350,slow=6.7,SNR=8.9						
	2.1nm,0.3s						
BLDU	Ballidu	27.85	207	P	P	03 24 31.7	+2.3
LYN	LuoYang	43.95	338	⇑P	P	03 26 48.5	+2.4
LYN				pP	pP	03 27 17.2	-0.7
LYN				sP	sP	03 27 33.2	-1.0
LYN				PP	PcP	03 28 27.4	-1.9
LYN				pmax	pmax		
	comp=Z,10.0nm,0.3s						
LYN				pmax	pmax		
	comp=Z,150nm,4.4s						
LZH	Lanzhou	48.98	331	*e*P	P	03 27 40.0	+15
LZH	Lanzhou	48.98	331	*e*P	P	03 27 41.2	+16
LZH				pP	pP	03 27 50.8	-7.6
LZH				pP	pwP	03 27 51.2	-12
LZH				sP	sP	03 27 57.2	-17
LZH				sP	sP	03 27 57.2	-17
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
LZH				pmax	pmax		
	comp=Z,13nm,1.1s						
MKAR	Makanchi Array	67.91	326	P	P	03 29 39.0	+2.7
	comp=Z,0.7nm,0.4s,baz=115,slow=7.9,SNR=18						
	comp=Z,0.7nm,0.4s						

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*IDC **07** 03:37:51.8±0.9, 48.°51S×105.°62E, h0km, mb4.3/5, mbtmp4.3/5, MS4.0/34, Error ellipse: s-maj=41.6km s-min=20.8km az=112.0*

*NEIC **07** 03:37:52.1±1.1, 48.°4S±0.°1×105.°0E±0.°2, h10km±1km, mb4.7/25, Error ellipse: s-maj=26.0km s-min=17.0km az=282.0*

*GCMT **07** 03:37:56.1±0.2, 48.°39S±0.°01×105.°04E±0.°03, h14km±1km, MW4.9/92, Moment Tensor Solution. s25,c31; s92,c126; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.41±.11; $M_{\theta\theta}$-2.63±.13; $M_{\phi\phi}$2.22±.12; $M_{r\theta}$0.48±.24; $M_{\theta\phi}$-1.83±.10; $M_{\phi r}$1.11±.27; Best double couple: $M_0$3.28100×10^{16} NP1:ϕ_s28.00000°,δ86.00000°,λ22.00000°. NP2: ϕ_s296.00000°,δ68.00000°,λ175.00000°. Principal axes: T 3.1410, Plg19.0000°, Azm254.0000°; N 0.2840, Plg67.0000°, Azm38.0000°; P -3.4210, Plg12.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 03:37:52.5±0.8, **48.°45S**±0.°08×**105.°2E**±0.°1, **h10km**±5km, **h10km:pP-P, n86, σ1.s13**/55, **mb4.7**/22, **MS4.1**/35, **4C-6D, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	15.10	30	T	T	03 56 43.9	
	baz=202,slow=74,SNR=182						
H01W1	Cape Leeuwin H	15.11	30	T	T	03 56 49.1	
	baz=202,slow=74,SNR=165						
H01W3	Cape Leeuwin H	15.11	30	T	T	03 56 45.6	
	baz=202,slow=74,SNR=138						
NWAO	Narrogin (SRO)	17.98	35	LR	LR	03 46 45.6	
	comp=Z,301nm,19.7s,baz=266,slow=30						
CASY	Casey	18.10	173	P	Pn	03 42 03.3	-0.4
MORW	Morawa	21.10	27	P	P	03 42 35.8	-1.3
FORT	Forrest	24.81	53	P	P	03 43 13.8	-0.8
FORT				IAmb	IAmb	03 43 31.6	
	comp=Z,26nm,0.8s						
MAW	Mawson	28.60	213	P	P	03 43 47.2	-1.2
MAW	Mawson	28.60	213	LR	LR	03 52 54.5	
	comp=Z,271nm,18.1s,baz=67,slow=31						
PSA00	Pilbara Seismi	29.29	29	P	P	03 43 54.6	-0.4
PSA00				IAmb	IAmb	03 44 30.1	
	comp=Z,11nm,1.4s						
STKA	Stephens Creek	32.03	72	P	P	03 44 19.1	-0.1
STKA	Stephens Creek	32.03	72	LR	LR	03 54 49.1	
	comp=Z,721nm,21.1s,baz=211,slow=32						
ASAR	Alice Springs	33.59	53	P	P	03 44 32.3	-0.6
ASAR	Alice Springs	33.59	53	P	P	03 44 31.6	-1.3
	comp=Z,3.3nm,0.8s,baz=211,slow=8.2,SNR=38						
ASAR				PcP	PcP	03 47 13.3	+0.2
	comp=Z,0.5nm,0.5s,baz=205,slow=2.0,SNR=4.2						
ASAR				LR	LR	03 56 17.6	
	comp=Z,468nm,20.9s,baz=214,slow=33						
	comp=Z,3.3nm,0.8s						
AS31	Alice Springs	33.59	53	P	P	03 44 31.8	-1.2
VNDA	Vanda	36.12	162	P	P	03 44 54.6	+0.5
VNDA				IAmb	IAmb	03 44 55.5	
	comp=Z,9.7nm,1.1s						
VNDA	Vanda	36.12	162	P	P	03 44 54.4	+0.2
	comp=Z,4.3nm,0.9s,baz=285,slow=9.1,SNR=13						
VNDA				LR	LR	03 58 42.5	
	comp=Z,672nm,18.5s,baz=299,slow=35						
	comp=Z,4.3nm,0.9s						
WRA	Warramunga Arr	36.89	50	P	P	03 45 00.1	-1.2
WRA	Warramunga Arr	36.89	50	P	P	03 44 59.9	-1.4
	comp=Z,2.7nm,0.8s,baz=212,slow=8.6,SNR=16						
WRA				PcP	PcP	03 47 22.7	-0.1
	comp=Z,1.0nm,0.7s,baz=225,slow=3.0,SNR=2.9						
	comp=Z,2.7nm,0.8s						
WB2	Warramunga Arr	36.90	50	P	P	03 45 00.4	-1.0

WB2 IAmb IAmb 03 45 34.8
comp=Z,17nm,1.3s
WRAB Tennant Creek 36.91 50 P P 03 45 00.2 -1.3
WRAB IAmb IAmb 03 45 10.0
comp=Z,11nm,0.6s
WR0 Warramunga Arr 36.98 50 P P 03 45 01.4 -0.7
WR0 IAmb IAmb 03 45 22.1
comp=Z,13nm,1.4s
WB0 Warramunga Arr 37.07 50 P P 03 45 01.8 -1.0
WB0 IAmb IAmb 03 45 08.3
comp=Z,8.7nm,0.9s
BATI Baumata 41.17 28 LR LR 04 01 30.7
comp=Z,160nm,18.9s,baz=327,slow=34
LEM Lembang 41.53 4 LR LR 04 01 39.2
comp=Z,119nm,18.6s,baz=276,slow=34
QSPA South Pole Qui 41.68 180 P P 03 45 41.5 +0.5
QSPA IAmb IAmb 03 45 42.7
comp=Z,31nm,1.4s
ELIB Princess Elisa 42.39 207 *dP* **P 03 45 47.3 +0.6**
ELIB *dx* x 03 45 53.0
ELIB *dPP* **PP 03 47 23.1 -1.4**
CTA Charters Tower 43.42 64 LR LR 04 03 03.3
comp=Z,460nm,19.1s,baz=245,slow=35
RPZ Rata Peaks 44.69 110 LR LR 04 01 38.5
comp=Z,240nm,18.3s,baz=260,slow=32
KAPI Kappang 45.04 21 LR LR 04 05 21.7
comp=Z,49nm,18.6s,baz=193,slow=37
LTZ Lake Taylor 45.93 109 P P 03 46 16.6 +1.3
COEN Coen 46.53 55 P P 03 46 20.2 0.0
COEN IAmb IAmb 03 46 31.6
comp=Z,5.2nm,1.0s
TROLL Troll, Antarti 48.39 204 ⇓*P* **P 03 46 34.6 +0.4**
comp=Z,54nm,0.5s
TROLL ⇑*pP* **pwP 03 46 40.8 +0.2**
comp=Z,191nm,0.6s
SNAA Sanae 50.00 203 P P 03 46 47.4 +0.9
SNAA Sanae 50.00 203 ⇓*P* **P 03 46 47.1 +0.7**
comp=Z,14nm,0.4s
SNAA ⇑*pP* **pwP 03 46 53.0 +0.2**
comp=Z,229nm,0.7s
SNAA Sanae 50.00 203 P P 03 46 46.6 +0.1
comp=Z,3.1nm,0.8s,baz=127,slow=12,SNR=10
SNAA LR LR 04 06 59.0
comp=Z,224nm,18.4s,baz=142,slow=35
comp=Z,3.1nm,0.8s
TOZ Tahuroa Road 50.79 105 P P 03 46 52.8 0.0
TOZ IAmb IAmb 03 47 14.0
comp=Z,15nm,1.5s
RTZ Ruatahuna 51.22 107 P P 03 46 56.1 0.0
URZ Urewera 51.51 107 LR LR 04 05 14.7
comp=Z,186nm,19.9s,baz=348,slow=32
BELA Belgrano 2 51.55 190 P P 03 46 57.6 -0.3
VNA2 Neumayer--Watz 51.63 203 ⇓*P* **P 03 46 59.4 +0.8**
comp=Z,0.2nm,0.2s,baz=124,slow=7.0
VNA2 ⇑*pP* **pwP 03 47 05.2 +0.3**
comp=Z,10nm,0.7s,baz=138,slow=7.0
VNA3 Neumayer Olymp 52.00 202 P P 03 47 01.9 +0.4
comp=Z,0.0nm,0.1s
VNA3 ⇑*pP* **pwP 03 47 07.6 -0.1**
comp=Z,6.0nm,0.9s
PMG Port Moresby 52.46 56 LR LR 04 08 43.0
comp=Z,165nm,18.0s,baz=232,slow=35
DZM Mont Dzumac 54.87 84 *eLR* LR 04 03 27.2
comp=Z,497nm,29.6s
DZM Mont Dzumac 54.87 84 LR LR 04 06 32.4
comp=Z,160nm,21.4s,baz=242,slow=32
OPO Ambohidratompo 55.17 282 LR LR 04 05 11.4
comp=Z,123nm,21.7s,baz=356,slow=30
PALK Palleke 59.51 332 LR LR 04 07 47.4
comp=Z,310nm,20.6s,baz=267,slow=30
HNR Honiara 59.99 69 LR LR 04 11 07.5
comp=Z,3μm,22.0s,baz=192,slow=33
BOSA Boshof 62.73 257 LR LR 04 09 12.5
comp=Z,185nm,20.1s,baz=198,slow=30
SUR Sutherland 63.05 251 LR LR 04 09 40.8
comp=Z,63nm,21.1s,baz=140,slow=30
LBTB Lobatse 64.96 260 LR LR 04 10 56.2
comp=Z,176nm,21.2s,baz=156,slow=30
PMSA Palmer Station 66.80 185 LR LR 04 17 49.0
comp=Z,293nm,19.0s,baz=229,slow=36
CMAR Chiang Mai Arr 66.83 354 P P 03 48 46.1 +1.8
comp=Z,2.2nm,0.4s,baz=203,slow=5.7,SNR=4.2
CMAR LR LR 04 16 47.4
comp=Z,54nm,18.5s,baz=195,slow=35
comp=Z,2.2nm,0.4s
CHTO Chiang Mai 67.19 354 P P 03 48 45.5 -1.1
CHTO IAmb IAmb 03 49 29.6
comp=Z,5.3nm,1.1s
LSZ Lusaka 70.10 269 LR LR 04 14 44.0
comp=Z,153nm,19.9s,baz=140,slow=31
GUMO Guam 71.11 41 LR LR 04 19 41.6
comp=Z,29nm,18.8s,baz=116,slow=35
TSUM Tsumeb 74.30 259 LR LR 04 17 25.5
comp=Z,210nm,18.8s,baz=164,slow=32
KMBO Kilima Mbogo 74.63 286 LR LR 04 15 28.7
comp=Z,83nm,19.8s,baz=94,slow=30
PZH PanZhiHua 74.67 357 P P 03 49 31.8 -0.3
PZH pmax pmax
comp=Z,20nm,0.6s
PZH pmax pmax
comp=Z,110nm,4.8s
NJ2 Nanjing 81.07 12 *eP* **P 03 50 10.0 +2.6**
NJ2 pP **PcP 03 50 12.5 -1.3**
NJ2 sP **pwP 03 50 13.9 +0.1**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
NJ2 pmax pmax
comp=Z,160nm,4.5s
XAN Xi'an 82.19 3 *eP* **P 03 50 16.3 +2.9**
TBI Tubuai 82.43 117 *eLR* LR 04 16 16.1
comp=Z,1μm,29.5s
WSAR Wadi Sarin 82.61 318 LR LR 04 20 59.4
comp=Z,100nm,18.3s,baz=226,slow=31
JNU Nakatsue 84.41 21 LR LR 04 29 32.6
comp=Z,8.9nm,19.0s,baz=314,slow=37
PPT2 Papeete2 86.74 113 *eLR* LR 04 18 12.8
comp=Z,90nm,32.2s
PPT2 *eLR* LR 04 18 19.0
comp=Z,101nm,26.8s
JHS Saijyo 86.75 23 P P 03 50 37.0 +0.5
KSRS Korea Array 87.90 18 LR LR 04 32 50.6
comp=Z,4.8nm,19.1s,baz=175,slow=38
HHC Hu-ho-hao-te 89.10 5 *eP* **P 03 50 48.7 +1.1**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,170nm,5.2s
MJAR Matsushiro Arr 89.60 26 LR LR 04 36 51.0
comp=Z,11nm,18.4s,baz=220,slow=40
PLCA Paso Flores 91.11 183 LR LR 04 31 06.7
comp=Z,155nm,18.0s,baz=179,slow=35
WMQ Urumqi 93.16 347 *eP* **P 03 51 06.9 +0.5**
AAK Ala-Archa 94.64 338 LR LR 04 30 19.4
comp=Z,118nm,18.9s,baz=178,slow=33
MDJ Mudanjiang 95.13 17 P P 03 51 16.2 +0.9
MDJ pmax pmax
comp=Z,10.0nm,2.2s
MDJ pmax pmax
comp=Z,320nm,6.6s
GEYT Alibeck 95.62 324 LR LR 04 30 49.8
comp=Z,56nm,18.1s,baz=156,slow=33
SONM Songino Array 95.91 1 LR LR 04 37 11.8
comp=Z,27nm,18.2s,baz=180,slow=37
KK31 Karatay Array 96.14 335 P P 03 51 17.2 -2.8
KK31 IAmb IAmb 03 51 33.6
comp=Z,4.7nm,1.4s
KKAR Karatay Array 96.14 335 P P 03 51 17.2 -2.8
KKAR IAmb IAmb 03 51 33.6
comp=Z,4.7nm,1.4s
MKAR Makanchi Array 96.93 344 LR LR 04 35 12.2
comp=Z,41nm,18.3s,baz=195,slow=35
RPN Rapa Nui 98.67 149 LR LR 04 27 19.5
comp=Z,65nm,21.2s,baz=231,slow=30
TAOE Nuku Hiva Isla 99.25 115 *eLR* LR 04 23 50.8
comp=Z,183nm,26.4s
CLL Collm 126.62 309 *ePKPdf* **PKiKP 03 56 56.0 +0.5**
ESDC Sonseca Array 130.00 288 PKP **PKiKP 03 57 04.5 +1.7**
comp=Z,0.3nm,0.7s,baz=120,slow=2.9,SNR=2.0
ILAR Eielson Array 139.66 39 PKhKP PKPpre 03 57 16.2
comp=Z,0.1nm,0.6s,baz=95,slow=9.5,SNR=1.5
ILAR PKP pPKPdf 03 57 21.1 -0.3
comp=Z,0.6nm,0.8s,baz=265,slow=3.1,SNR=9.3
NVAR Mina Array Bea 147.29 91 PKPbc **PKPbc 03 57 35.8 -0.3**
comp=Z,1.7nm,0.7s,baz=243,slow=4.0,SNR=11
TXAR Lajitas Array 150.81 120 PKPbc **PKPbc 03 57 44.9 -0.2**
comp=Z,1.7nm,0.8s,baz=207,slow=5.2,SNR=6.1
YKA Yellowknife Ar 153.96 43 PKPbc **PKiKP 03 57 51.2 +0.2**
comp=Z,1.0nm,0.7s,baz=288,slow=2.5,SNR=6.4

*JMA **07** 03:43:02.6±0.1, 40°.2N±0°.1×142°.0E±0°.3, h15km, MV3.4/40, NE OFF IWATE PREF*
JMA Felt I J1 at NE OFF IWATE PREF .
*IDC **07** 03:43:08.7±2.5, 40°.23N×142°.18E, h71km±24km, mb3.6/7, mbtmp3.7/9, Error ellipse: s-maj=39.4km s-min=16.5km az=91.0*
ISC 07 03:43:03.2±1.2, 40°.15N±0°.03×141°.99E±0°.07, h17km±7km, n24, σ0991/27, mb3.8/7, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.22**	**285**	⇓*iP*		**Pg**	**03 43 08.2**	**-0.2**
JKEN				*eS*	⇓	**Sg**	**03 43 12.0**	**+0.2**
JTH	**Tanohata**	**0.23**	**204**	*iP*		**Pg**	**03 43 08.5**	**-0.1**
JTH				*eS*		**Sg**	**03 43 12.4**	**+0.2**
JANG	**Nango**	**0.42**	**302**	⇓*iP*		**Pg**	**03 43 11.4**	**-0.5**
JANG				S	⇓	**Sg**	**03 43 17.7**	**0.0**
JKZ	**Kuzumaki**	**0.53**	**252**	⇓*iP*		**Pg**	**03 43 13.7**	**-0.1**
JKZ				S	⇓	**Sg**	**03 43 21.4**	**+0.5**
JOM	**Ohasama**	**0.86**	**219**	*iP*		**Pb**	**03 43 19.3**	**-0.5**
JOM				*eS*		**Sb**	**03 43 30.9**	**-0.1**
JTM	**Tenmabayashi**	**0.95**	**313**	⇓*iP*		**Pb**	**03 43 20.6**	**-0.6**
JTM				S	⇓	**Sb**	**03 43 33.3**	**-0.1**
JARK	**Aomorirokkasho**	**0.98**	**331**	P		**Pb**	**03 43 20.2**	**-1.5**
JARK				S		**Sb**	**03 43 33.0**	**-1.4**
JAH	**Hinai**	**1.04**	**273**	⇓*iP*		**Pb**	**03 43 22.5**	**-0.2**
JAH				S	⇓	**Sb**	**03 43 36.7**	**+0.7**
OFUJ	**Ofunato**	**1.10**	**193**	*iP*		**Pb**	**03 43 22.6**	**-1.1**
OFUJ				*eS*		**Sb**	**03 43 37.6**	**-0.1**
ASAJ	**Asahikawa**	**3.99**	**6**	P		**Pn**	**03 44 06.5**	**+3.0**
	4.2nm,0.4s,baz=218,slow=13,SNR=1.8							
ASAJ				S		**Sn**	**03 44 50.9**	**+1.0**
	7.0nm,0.6s,baz=266,slow=19,SNR=1.5							
MJAR	**Matsushiro Arr**	**4.67**	**221**	P		Pn	03 44 19.0	+6.0
	1.6nm,0.7s,baz=39,slow=12,SNR=3.2							
H11N2	**WAKE ISLAND Hy**	**29.50**	**126**	T		T	04 20 00.7	
	baz=319,slow=75,SNR=226							
H11N1	**WAKE ISLAND Hy**	**29.50**	**126**	T		T	04 19 57.8	
	baz=319,slow=75,SNR=218							
H11N3	**WAKE ISLAND Hy**	**29.51**	**126**	T		T	04 20 00.3	
	baz=319,slow=75,SNR=169							
H11S1	**WAKE ISLAND Hy**	**30.30**	**128**	T		T	04 21 06.3	
	baz=321,slow=76,SNR=109							
H11S3	**WAKE ISLAND Hy**	**30.31**	**128**	T		T	04 21 02.6	
	baz=321,slow=76,SNR=88							
H11S2	**WAKE ISLAND Hy**	**30.32**	**128**	T		T	04 21 03.7	
	baz=321,slow=76,SNR=100							
ZALV	**Zalesovo Beam**	**40.21**	**310**	P		**P**	**03 50 38.2**	**-0.3**
	1.2nm,0.5s,baz=92,slow=8.9,SNR=5.0							
	1.2nm,0.5s							
MKAR	**Makanchi Array**	**42.91**	**299**	P		**P**	**03 51 00.6**	**-0.2**
	0.7nm,0.7s,baz=83,slow=9.9,SNR=5.5							
	0.7nm,0.7s							
KURBB	**Kurchatov Arra**	**44.50**	**306**	P		**P**	**03 51 13.3**	**-0.2**
	3.0nm,0.6s,baz=81,slow=8.3,SNR=21							
	3.0nm,0.6s							
BVAR	**Borovoye Array**	**48.85**	**310**	P		**P**	**03 51 46.9**	**-0.7**
	1.0nm,0.5s,baz=69,slow=7.9,SNR=4.3							
	1.0nm,0.5s							
WRA	**Warramunga Arr**	**60.20**	**188**	P		**P**	**03 53 09.2**	**-1.1**
	0.3nm,0.6s,baz=6.3,slow=6.9,SNR=2.9							
	0.3nm,0.6s							
ASAR	**Alice Springs**	**63.93**	**188**	P		**P**	**03 53 35.3**	**0.0**
	0.5nm,0.7s,baz=9.2,slow=4.9,SNR=2.4							
	0.5nm,0.7s							
FINES	**FINESS Array B**	**66.28**	**332**	P		**P**	**03 53 49.5**	**-0.6**
	0.9nm,0.7s,baz=32,slow=5.4,SNR=3.7							
	0.9nm,0.7s							

*ISN **07** 03:54:09.2±5.6, 34°.74N×45°.46E, h41km±34km, ML3.2*
*TEH **07** 03:54:10.0, 34°.57N×45°.56E, h11km±51km, ML3.0*
ISC 07 03:54:11.1±1.2, 34°.60N±0°.04×45°.49E±0°.06, h15km±8km, n10, σ1995/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.12**	**138**	Pg		**Pg**	**03 54 13.6**	**-1.1**
IDHR	**Dehrash**	**0.75**	**82**	Pg		**Pg**	**03 54 24.5**	**-1.3**
IDHR				Sg		**Sg**	**03 54 35.3**	**-0.3**
IGHG	**Ghaleghazi**	**0.93**	**106**	Pg		**Pg**	**03 54 28.2**	**-1.1**
ILBA	**Ilam Banvizeh**	**1.14**	**148**	Pg		**Pb**	**03 54 30.8**	**-1.7**
IBDR	**Badra**	**1.53**	**166**	*ePg*		**Pn**	**03 54 38.0**	**+0.1**
IBDR				*eSg*		**Sn**	**03 54 58.0**	**+0.5**
IBDR				AML	AML		03 55 02.5	
	comp=E,176nm,0.6s							
IBDR				*eSG*		**Sg**	**03 55 05.7**	**+5.3**
IBDR				AML	AML		03 55 11.3	
	comp=N,134nm,0.6s							
SDS1	**Sardasht. Az.**	**1.55**	**360**	Pg		**Pb**	**03 54 40.4**	**+0.8**
BHD	**Baghdad**	**1.61**	**215**	*ePn*		**Pn**	**03 54 38.0**	**-1.0**
BHD				*eSn*		**Sn**	**03 54 59.0**	**-0.6**
BHD				AML	AML		03 55 05.7	
	comp=E,427nm,0.7s							
IKOM	**Komasi**	**1.73**	**104**	Pg		**Pn**	**03 54 42.2**	**+1.5**
MAHB	**Mahabad**	**2.17**	**5**	Pn		**Pb**	**03 54 50.0**	**-0.2**
RAFI	**Al-Rafai**	**2.92**	**169**	*ePn*		**Pn**	**03 54 58.0**	**+1.1**
RAFI				*eSn*		**Sn**	**03 55 30.5**	**-1.2**
RAFI				AML	AML		03 55 42.8	
	comp=E,178nm,0.4s							
RAFI				AML	AML		03 55 49.1	
	comp=N,236nm,0.3s							

*ANF **07** 03:57:37.2±0.1, 33°.16N×116°.48W, h14km±1km, ML3.7/31, Error ellipse: s-maj=1.5km s-min=1.2km az=28.0*
*NEIC **07** 03:57:37.6±0.8, 33°.151N±0°.003×116°.49W±0°.01, h17km±1km, Error ellipse: s-maj=1.4km s-min=0.3km az=79.0*
*PAS **07** 03:57:38.2±1.0, 33°.150N±0°.008×116°.48W±0°.01, h11km±3km, Mwr3.6/4, ML3.6/56(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=89.0*
*ECX **07** 03:57:38.8±0.4, 33°.14N×116°.48W, h6km±1km, ML3.7*
*NEIC **07** 03:57:38, 33°.15N×116°.48W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.16; $M_{\theta\theta}$-2.53; $M_{\phi\phi}$2.37; $M_{r\theta}$0.48; $M_{\theta\phi}$1.14; $M_{\phi r}$0.55; Fault plane solution: M_o2.80000×10^{14} NP1:φ327.00000°, δ75.00000°, λ175.00000°. NP2:φ58.00000°, δ85.00000°, λ15.00000°. Principal axes: T 2.7794, Plg14.0000°, Azm283.0000°; N 0.0450, Plg74.0000°, Azm76.0000°; P -2.8245, Plg7.0000°, Azm192.0000°;*
ISC 07 03:57:37.9±0.8, 33°.15N±0°.01×116°.48W±0°.01, h16km±4km, n186, σ0975/265, 12C-21D, Southern California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JUEM	**Julian Eagle M**	**0.12**	**236**			**Pg**	**03 57 41.6**	**0.0**
JUEM						**Sg**	**03 57 44.0**	**-0.1**
BORC	**Borrego Spring**	**0.13**	**23**			**Pg**	**03 57 41.0**	**-0.6**
BORC						**Sg**	**03 57 43.1**	**-1.1**
MATG	**Mataguay Scout**	**0.15**	**290**			**Pg**	**03 57 41.9**	**-0.1**
MATG						**Sg**	**03 57 44.5**	**-0.2**
MATG	**Mataguay Scout**	**0.15**	**290**	⇑*iP*		**Pg**	**03 57 41.9**	**-0.1**
MATG				S		**Sg**	**03 57 44.5**	**-0.2**
MATG				IAML			03 57 44.7	
	comp=E,37μm,0.2s							
MATG				IAML			03 57 44.9	
	comp=N,37μm,0.1s							
SLH	**Sleepy Hollow**	**0.19**	**77**			**Pg**	**03 57 42.3**	**-0.2**
SLH						**Sg**	**03 57 45.5**	**-0.2**
SLH	**Sleepy Hollow**	**0.19**	**77**	⇑*iP*		**Pg**	**03 57 42.3**	**-0.2**
SLH				*eS*		**Sg**	**03 57 45.4**	**-0.2**
MONP2	**Monument Peak**	**0.26**	**169**			**Pg**	**03 57 43.6**	**-0.1**
MONP2						**Sg**	**03 57 47.2**	**-0.4**
MONP2	**Monument Peak**	**0.26**	**169**	⇓*iP*		**Pg**	**03 57 43.6**	**-0.1**
MONP2				*eS*		**Sg**	**03 57 47.3**	**-0.4**
MONP2				IAML			03 57 48.3	
	comp=E,12μm,0.3s							
MONP2				IAML			03 57 48.7	
	comp=N,7μm,0.4s							
MONP2	**Monument Peak**	**0.26**	**169**	P		**Pg**	**03 57 43.6**	**-0.1**
	baz=350,SNR=1000							
MONP2				S		**Sg**	**03 57 47.3**	**-0.4**
	baz=350							
FRD	**Ford Ranch, An**	**0.36**	**343**			**Pg**	**03 57 45.2**	**-0.2**
FRD						**Sg**	**03 57 49.9**	**-0.6**
FRD	**Ford Ranch, An**	**0.36**	**343**			**Pg**	**03 57 45.2**	**-0.2**
FRD						**Sg**	**03 57 50.0**	**-0.6**

BZNA Buzz No.'s Pla 0.38 335 Pg 03 57 45.5 -0.2
BZNA Sg 03 57 50.5 -0.5
PLM Palomar 0.38 303 Pg 03 57 45.8 0.0
PLM Sg 03 57 51.3 +0.2
EML El Monte City P 0.40 230 Pg 03 57 45.9 0.0
EML Sg 03 57 51.6 +0.1
EML El Monte City P 0.40 230 ⇓*iP* **Pg 03 57 46.0 0.0**
EML *eS* **Sg 03 57 51.5 0.0**
EML IAML 03 57 51.8
comp=E,8μm,0.2s
EML IAML 03 57 52.0
comp=N,8μm,0.3s
DPP Dos Picos Cty 0.42 249 Pg 03 57 46.1 -0.1
DPP Sg 03 57 51.9 -0.1
SNDA J Saunders Pla 0.42 345 Pg 03 57 46.3 -0.1
SNDA Sg 03 57 52.1 -0.1
SALN Salton City 0.43 72 Pg 03 57 46.6 0.0
SALN Sg 03 57 53.0 +0.5
DNR Dunn Ranch,Anz 0.44 343 Pg 03 57 46.6 -0.1
DNR Sg 03 57 53.2 +0.5
XPFO Pion Flat 0.46 2 Pg 03 57 46.7 -0.5
XPFO Sg 03 57 52.7 -0.8
PFO Pinyon Flats O 0.46 2 Pg **Pg 03 57 46.4 -0.8**
PFO IAML 03 57 53.1
comp=N,3μm,0.4s
PFO Pinyon Flats O 0.46 2 Pg 03 57 46.8 -0.5
PFO Sg 03 57 52.8 -0.8
PFO Pinyon Flats O 0.46 2 P **Pg 03 57 46.7 -0.5**
baz=182,SNR=194
PFO S **Sg 03 57 52.7 -0.8**
baz=182
CRY Cary Ranch 0.47 333 Pg 03 57 47.1 -0.2
CRY Sg 03 57 53.4 -0.3
BAR Barrett 0.49 199 Pg 03 57 47.5 -0.3
BAR Sg 03 57 54.2 -0.2
BAR Barrett 0.49 199 IAML 03 57 54.4
comp=N,4μm,0.3s
BAR IAML 03 57 54.9
comp=E,5μm,0.1s
BAR Barrett 0.49 199 ⇓*iP* **Pg 03 57 47.5 -0.3**
BAR *eS* **Sg 03 57 54.2 -0.2**
BAR IAML 03 57 54.4
comp=N,4μm,0.2s
BAR IAML 03 57 54.9
comp=E,5μm,0.1s
CRR Carrizo Plain 0.50 121 Pg 03 57 47.8 0.0
CRR Sg 03 57 54.9 +0.4
PMD Palm Desert 0.51 10 Pg **Pg 03 57 47.1 -0.9**
PMD IAML 03 57 54.2
comp=E,4μm,0.4s
PMD Palm Desert 0.51 10 Sg 03 57 53.7 -1.0
GVDA Garner Valley 0.55 343 Pg 03 57 48.3 -0.4
GVDA Sg 03 57 55.5 -0.6
ERRC Elmore Ranch 0.55 93 Pb 03 57 49.2 +0.1
ERRC Sb 03 57 57.3 +0.5
SDRC San Diego Road 0.57 224 Pg 03 57 48.6 -0.4
SDRC Sg 03 57 56.1 -0.4
SDRC San Diego Road 0.57 224 ⇓*iP* **Pg 03 57 48.7 -0.4**
SDRC *eS* **Sg 03 57 56.2 -0.4**
SDRC IAML 03 57 56.5
comp=E,4μm,0.1s
SDRC IAML 03 57 56.6
comp=N,6μm,0.3s
MTRP Mission Trails 0.58 236 Pg 03 57 49.0 -0.4
MTRP Sg 03 57 56.9 -0.3
109C Camp Elliot, M 0.59 244 Pg **Pg 03 57 48.9 -0.5**
109C Camp Elliot, M 0.59 244 P **Pg 03 57 49.0 -0.4**
baz=63,SNR=314
109C S **Sg 03 57 56.9 -0.3**
baz=63
CPE Camp Elliot 0.59 244 Pg 03 57 49.1 -0.4
CPE Sg 03 57 56.7 -0.5
IKP In-Ko-Pah, Jac 0.59 148 Pg 03 57 49.2 -0.2
IKP Sg 03 57 56.9 -0.4
IKP In-Ko-Pah, Jac 0.59 148 ⇓*iP* **Pg 03 57 49.3 -0.2**
IKP *eS* **Sg 03 57 56.8 -0.4**
IKP IAML 03 57 58.1
comp=E,4μm,0.4s
IKP IAML 03 57 58.9
comp=N,3μm,0.5s
IKP In-Ko-Pah, Jac 0.59 148 P **Pg 03 57 49.2 -0.2**
baz=328,SNR=237
IKP S **Sg 03 57 56.9 -0.4**
baz=328
TKX Tecate 0.59 191 Pg 03 57 48.9 -0.5
TKX Sg 03 57 57.0 -0.3
TKX Tecate 0.59 191 IAML 03 57 58.1
comp=E,4μm,0.2s
TKX IAML 03 57 58.2
comp=N,3μm,0.2s
TKX Tecate 0.59 191 ⇓*iP* **Pg 03 57 48.9 -0.5**
DUZA Dulzura 0.59 205 Pg 03 57 49.1 -0.5
DUZA Sg 03 57 57.1 -0.4
SWSC Sam W. Stewart 0.60 109 Pg 03 57 49.6 -0.2
SWSC Sg 03 57 58.0 +0.2
SWSC Sam W. Stewart 0.60 109 ⇑*iP* **Pg 03 57 49.6 -0.2**
SWSC *eS* **Sg 03 57 57.9 +0.1**
SWSC Sam W. Stewart 0.60 109 P **Pg 03 57 49.6 -0.2**
baz=290,SNR=468
SWSC S **Sg 03 57 57.9 +0.1**
baz=290
GORC Green Oak Ranc 0.63 271 Pg 03 57 49.7 -0.6
GORC Sg 03 57 58.1 -0.5
RMX La Rumorosa 0.64 148 Pb 03 57 51.3 +0.5
RMX Sb 03 58 00.4 +0.9
RMX La Rumorosa 0.64 148 IAML 03 58 01.0
comp=N,4μm,0.3s
RMX La Rumorosa 0.64 148 ⇓*eP* **Pb 03 57 51.3 +0.5**
CTCC Cactus City 0.65 39 Pg 03 57 50.4 -0.2
CTCC Sg 03 57 59.5 +0.2
POB Polly Butte 0.65 325 Pg 03 57 50.3 -0.5
POB Sg 03 57 58.8 -0.6
OLP Otay Lakes Par 0.66 215 Pg 03 57 50.2 -0.5
OLP Sg 03 57 58.9 -0.6
OLP Otay Lakes Par 0.66 215 ⇓*iP* **Pg 03 57 50.2 -0.5**
OLP *eS* **Sg 03 57 58.9 -0.6**
OLP IAML 03 57 59.1
comp=E,3μm,0.3s
OLP IAML 03 57 59.3
comp=N,3μm,0.1s
BACC Bachelor Mtn. 0.66 315 Pg 03 57 50.3 -0.5
BACC Sg 03 57 59.2 -0.4
SDMC San Diego Miss 0.66 237 Pg 03 57 50.3 -0.5
SDMC Sg 03 57 59.2 -0.4
DGR Domenigoni Val 0.67 319 Pg 03 57 50.5 -0.6
DGR Sg 03 57 59.1 -0.8
YUH Yuha Desert 0.68 137 Pg 03 57 51.0 -0.2
YUH Sg 03 57 59.9 -0.5
YUH Yuha Desert 0.68 137 IAML 03 58 00.5
comp=E,4μm,0.2s
YUH IAML 03 58 00.7
comp=N,5μm,0.2s
YUH2 Yuha Desert 0.68 137 ⇑*iP* **Pg 03 57 51.1 -0.2**
YUH2 *eS* **Sg 03 57 59.9 -0.5**
COK2 Cook Ranch 2 0.70 115 Pg 03 57 51.3 -0.2
COK2 Sb 03 58 01.8 +0.8
HMTC Hemet 0.71 322 Pg 03 57 51.1 -0.7
HMTC Sg 03 58 00.3 -0.9
TJIG Tijuana 0.73 193 ⇓*iP* **Pg 03 57 51.3 -0.8**
WESC Westside Schoo 0.74 121 Pg 03 57 52.1 -0.2
WESC Sb 03 58 03.2 +1.0
WESC Westside Schoo 0.74 121 ⇑*iP* **Pg 03 57 52.1 -0.2**
WESC *eS* **Sb 03 58 03.2 +1.0**
MURC Murrieta 0.75 307 Pg 03 57 51.8 -0.7
MURC Sg 03 58 02.0 -0.5
MURC Murrieta 0.75 307 P **Pg 03 57 51.8 -0.7**
baz=127,SNR=255
MURC S **Sg 03 58 02.1 -0.4**
baz=127
CLI2 Calipatria 2 0.76 92 Pg 03 57 52.2 -0.4
CLI2 Sb 03 58 03.7 +1.0
WEMD Westmorland, C 0.76 98 Pg 03 57 52.2 -0.5
WEMD Sn 03 58 04.1 -1.0
WEMD Westmorland, C 0.76 98 ⇑*eP* **Pg 03 57 52.3 -0.5**
DEVC Devers 0.79 354 Pg 03 57 52.9 -0.4
DEVC Sg 03 58 03.1 -0.6
EW2 E Wide Canyon 0.79 4 Pg 03 57 52.8 -0.5
EW2 Sg 03 58 03.3 -0.6
TJX Tijuana 0.80 217 Pg 03 57 53.1 -0.3
TJX Sg 03 58 03.6 -0.4
TJX Tijuana 0.80 217 ⇓*iP* **Pg 03 57 53.1 -0.3**
IMPE Imperial 0.81 107 Pb 03 57 53.0 -0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMPE					Sn	03 58 06.1	-0.2
CBX	Cerro Bola	0.85	191		Pb	03 57 53.5	-0.8
CBX					Sg	03 58 05.0	-0.5
CBX	Cerro Bola	0.85	191	IAML		03 58 09.8	
	comp=N,2μm,0.4s						
CBX				IAML		03 58 10.8	
	comp=E,1μm,0.7s						
CBX	Cerro Bola	0.85	191	⇓iP	Pb	03 57 53.5	-0.8
BBSC	Beaumont Base	0.88	332		Pb	03 57 54.1	-0.7
BBSC					Sb	03 58 06.0	-0.3
BLAC	Blackrock camp	0.92	5		Pb	03 57 55.1	-0.5
BLAC					Sb	03 58 07.0	-0.7
DREC	Desert Rsrch C	0.93	111		Pb	03 57 55.0	-0.7
DREC					Sn	03 58 10.2	+0.9
DREC	Desert Rsrch C	0.93	111	⇑iP	Pb	03 57 55.0	-0.7
DREC				eS	Sg	03 58 08.7	+0.5
DREC				IAML		03 58 18.2	
	comp=N,5μm,0.3s						
DREC				IAML		03 58 30.6	
	comp=E,4μm,0.4s						
PEC	Perris	0.94	323		Pb	03 57 55.1	-0.7
ELS	Elsinore Mount	0.94	302		Pb	03 57 54.6	-1.2
5053	Calexico	0.96	120		Pb	03 57 55.4	-0.7
JARAX	Ej. Heriberto	0.97	129	⇑eP	Pb	03 57 56.4	0.0
BC3	Big Chuckawall	1.00	59	P	Pb	03 57 55.5	-1.4
	baz=240						
TPC	Twentynine Pal	1.02	20		Pb	03 57 56.4	-0.9
CFT	Crafton Hills	1.03	329		Pn	03 57 57.9	+0.1
RVR	Riverside	1.13	319		Pb	03 57 58.4	-0.7
BBRC	Big Bear Solar	1.17	342	P	Pn	03 57 59.6	-0.2
	baz=162,SNR=29						
BBRC				S	Sb	03 58 14.7	-0.2
	baz=162						
COA	Coachella	1.17	104		Pn	03 57 58.1	-1.6
CPBX	Cerro Prieto	1.23	126		Pn	03 57 59.8	-0.6
YUCAX	Ej. Yucat¡n	1.28	115	⇓iP	Pn	03 58 00.0	-1.2
CCX	Cicese	1.29	187	⇓iP	Pn	03 58 00.9	-0.3
CCX				eS	Sn	03 58 18.2	+0.1
ALAMX	Rancho Alamar	1.31	150	⇓eP	Pn	03 58 00.8	-0.8
EMSC	East Mesa	1.32	108	⇓iP	Pn	03 58 00.2	-1.5
AGSX	Ej. Aguas Cali	1.42	128	⇑eP	Pn	03 58 01.6	-1.4
PBX	Punta Banda	1.42	189	⇓iP	Pn	03 58 03.3	+0.3
RHX	Rio Hardy	1.43	135	⇑eP	Pn	03 58 01.7	-1.4
SJX	San Joaquin	1.45	162	⇓iP	Pn	03 58 00.5	-2.9
GUVIX	Guadalupe Vict	1.45	125		Pn	03 58 03.9	+0.4
BFSC	Mount Baldy Ra	1.47	318	P	Pn	03 58 03.2	-0.6
	baz=138,SNR=63						
BFSC				S	Sn	03 58 23.0	+0.2
	baz=138						
IRM	Iron Mountain	1.50	47	P	Pn	03 58 03.0	-1.2
	baz=228,SNR=83						
IRM				S	Sn	03 58 23.8	+0.3
	baz=228						
FMP	Fort Macarthur	1.62	291	P	Pn	03 58 05.3	-0.4
	baz=110,SNR=13						
FMP				Sb	Sb	03 58 28.2	+0.6
	baz=110						
CIS	Catalina Islan	1.64	279	P	Pn	03 58 05.4	-0.8
	baz=98,SNR=97						
CIS				S	Sn	03 58 26.6	-0.3
	baz=98						
HEC	Hector,Ludlow	1.68	4	P	Pn	03 58 05.9	-0.8
	baz=184						
BLYC	Blythe	1.74	69		Pn	03 58 06.1	-1.4
BLYC				IAML		03 58 33.6	
	comp=N,734nm,0.3s						
BLYC				IAML		03 58 37.9	
	comp=E,552nm,0.6s						
PASC	Pasadena Art C	1.75	306	Pn	Pn	03 58 06.9	-0.7
PASC				IAML		03 58 32.5	
	comp=N,544nm,0.7s						
PASC				IAML		03 58 36.0	
	comp=E,340nm,0.3s						
GMRC	Granite Mounta	1.77	22	P	Pn	03 58 07.1	-0.8
	baz=203,SNR=164						
GMRC				Sb	Sb	03 58 33.0	+0.9
	baz=203						
RRX	Edison Barstow	1.78	346	Pb	Pb	03 58 10.1	0.0
	baz=166						
RRX				Sb	Sb	03 58 33.3	+1.2
	baz=166						
SV2X	San Vicente	1.81	173	⇓iP	Pn	03 58 09.6	+1.2
VTX	Valle De La Tr	1.85	161		Pb	03 58 10.4	-0.9
VTX				IAML		03 58 37.3	
	comp=N,789nm,0.6s						
VTX	Valle De La Tr	1.85	161	⇓eP	Pb	03 58 11.1	-0.3
DECC	Green Verdugo	1.90	306	Pb	Pb	03 58 11.5	-0.7
	baz=125						
DECC				Sb	Sb	03 58 36.8	+1.1
	baz=125						
ECBX	El Chinero	2.06	144	⇑iP	Pb	03 58 15.9	+1.0
EDW2	Edwards Air Fo	2.14	324	P	Pn	03 58 13.1	+0.1
	baz=144,SNR=35						
EDW2				Sb	Sb	03 58 43.8	+1.2
	baz=144						
GSC	Goldstone, Bar	2.17	353	Pn	Pn	03 58 13.2	-0.2
GSC				IAML		03 58 49.8	
	comp=E,531nm,0.4s						
GSC				IAML		03 58 54.7	
	comp=N,315nm,0.9s						
GSC	Goldstone, Bar	2.17	353	P	Pn	03 58 13.3	-0.1
	baz=173,SNR=40						
GSC				Sb	Sb	03 58 45.4	+2.0
	baz=173						
NEE2	Needles Airpor	2.24	43	P	Pn	03 58 13.7	-0.6
	baz=224,SNR=24						
NEE2				Sb	Sb	03 58 47.3	+1.9
	baz=224						
PDMCI	Parker Dam,Lak	2.26	59	Sb	Sg	03 58 48.6	-2.0
	baz=240						
SPIG	San Pedro Mart	2.27	157	eP	Pb	03 58 18.5	-0.1
113A	Mohawk Valley,	2.31	99	Pn	Pn	03 58 14.0	-1.3
TUQ	Turquoise Moun	2.33	11	P	Pn	03 58 15.2	-0.5
	baz=192						
TUQ				Sb	Sb	03 58 49.7	+1.5
	baz=192						
CCAC	Calif City Air	2.37	328		Pn	03 58 16.1	-0.1
CCAC				IAML		03 58 53.2	
	comp=E,513nm,0.4s						
OSI	Osito Audit: C	2.37	309	Sb	Sb	03 58 50.9	+1.6
	baz=128						
SFX	San Felipe	2.52	146	Pn	Pn	03 58 18.3	+0.2
LRMC	Laurel Mtn Rad	2.53	337	Sb	Sb	03 58 56.2	+2.2
	baz=157						
SNCC	San Nicolas Is	2.56	273		Pn	03 58 18.3	-0.4
SNCC	San Nicolas Is	2.56	273	P	Pn	03 58 18.3	-0.4
	baz=91,SNR=6.1						
SNCC				S	Sn	03 58 49.8	+0.3
	baz=91						
SQX	San Quintin	2.62	169	⇓eP	Pn	03 58 21.2	+1.7
QSM	Queen of Sheba	2.83	354		Pn	03 58 22.4	-0.1
W13A	Hualapai Mount	2.90	47		Pn	03 58 23.2	-0.5
V12A	Nelson	2.90	27		Pn	03 58 23.1	-0.4
ISA	Isabella, Lake	3.00	327	Pn	Pn	03 58 25.0	+0.1
ISA				IAML		03 59 17.3	
	comp=E,117nm,0.9s						
ISA	Isabella, Lake	3.00	327	P	Pn	03 58 25.0	+0.1
	baz=146						
ISA				Sb	Sb	03 59 09.7	+2.2
	baz=146						
PIX	Pinacate	3.01	121	Pn	Pn	03 58 24.0	-0.8
PIX	Pinacate	3.01	121	⇑eP	Pn	03 58 24.0	-0.8
Y14A	Wickenburg	3.01	74	Pn	Pn	03 58 24.6	-0.4
BCW	Bitter Crk WRg	3.02	307		Pn	03 58 25.7	+0.5
BCW				IAML		03 59 20.4	
	comp=N,189nm,1.0s						
BCW				IAML		03 59 23.3	
	comp=E,231nm,1.0s						
GWY	Greenwater Val	3.04	357	Pn	Pn	03 58 25.1	-0.3
WTNK	Soaring Height	3.27	21		Pn	03 58 28.5	-0.1
214A	Organ Pipe Nat	3.32	110	Pn	Pn	03 58 27.8	-1.4
214A	Organ Pipe Nat	3.32	110	⇓eP	Pn	03 58 28.1	-1.1
214A	Organ Pipe Nat	3.32	110	P	Pn	03 58 27.8	-1.4
	baz=292						
SHPR	Sheep Range	3.52	18	Pn	Pn	03 58 32.2	+0.1
SMMC	Simmler	3.63	308	P	Pn	03 58 33.8	+0.4
	baz=126						
WCT	Wildcat Mounta	3.64	358	Pn	Pn	03 58 34.0	+0.4
TPNV	Topopah Spring	3.80	3		Pn	03 58 36.4	+0.5
TPNV				IAML		03 59 37.6	
	comp=E,63nm,0.6s						
TPNV				IAML		03 59 39.8	
	comp=E,60nm,0.8s						
TPNV	Topopah Spring	3.80	3	P	Pn	03 58 36.4	+0.5
	baz=183,SNR=11						
GRAC	Grapevine Rang	3.91	350		Pn	03 58 37.8	+0.5
GRAC	Grapevine Rang	3.91	350	P	Pn	03 58 38.1	+0.8
	baz=169						
GMN	Gold Mountain	4.19	351		Pn	03 58 42.0	+0.6
X16A	Lo Mia Camp, P	4.38	72	Pn	Pn	03 58 44.0	0.0
PRN	Pahroc Range	4.41	15	Pn	Pn	03 58 45.2	+0.9
S11A	Rachel	4.53	7	Pn	Pn	03 58 46.5	+0.5
MZP	Montezuma Peak	4.60	351		Pn	03 58 47.9	+0.9
PMPB	Monarch Peak	4.70	312	Pn	Pn	03 58 49.2	+1.0
U15A	North Rim	4.75	45	Pn	Pn	03 58 49.5	+0.3
WUAZ	Wupatki	4.84	59		Pn	03 58 50.7	+0.5
WUAZ				IAML		04 00 16.4	
	comp=E,38nm,0.9s						
WUAZ				IAML		04 00 19.4	
	comp=E,39nm,0.8s						
WUAZ	Wupatki	4.84	59	P	Pn	03 58 50.8	+0.5
	baz=242,SNR=7.7						
TUC	Tucson	4.87	98	Pn	Pn	03 58 49.9	-0.7
TUC	Tucson	4.87	98	P	Pn	03 58 49.9	-0.7
	baz=282						
KNB	Kanab	4.89	37		Pn	03 58 51.7	+0.8
OMMB	Old Mammoth Mi	4.91	336	Pn	Pn	03 58 53.0	+1.7
TPH	Tonopah	4.95	353	Pn	Pn	03 58 53.4	+1.6
SZCU	Shurtz Canyon	5.23	31		Pn	03 58 55.6	0.0
R11B	Troy Canyon, C	5.24	8	Pn	Pn	03 58 57.2	+1.4
NV11	Mina Array Sit	5.45	346	Pn	Pn	03 58 59.2	+0.7
NVAR	Mina Array Bea	5.47	345	Pn	Pn	03 58 59.5	+0.5
PKCU	Pink Cliffs	5.48	37	Pn	Pn	03 58 58.7	-0.5
RYN	Ryan	5.71	344	Pn	Pn	03 59 03.6	+1.3
PSUT	Pine Spring	5.78	21		Pn	03 59 04.2	+1.0
CMB	Columbia Colle	5.82	328	Pn	Pn	03 59 05.3	+1.7
WAKR	Walker	5.86	337	Pn	Pn	03 59 04.2	-0.1
MTPU	Mount Pierson	6.01	34		Pn	03 59 08.1	+1.6
Q12A	Willow Creek R	6.03	12	Pn	Pn	03 59 07.4	+0.8
KVN	Kaiserville	6.04	348	Pn	Pn	03 59 07.9	+1.2
SPR3	Spring Creek 3	6.09	16	Pn	Pn	03 59 07.7	+0.2
YERR	Yerington	6.24	340	Pn	Pn	03 59 10.8	+1.3
PAHR	Pah Rah Range	6.95	341	Pn	Pn	03 59 19.4	+0.2
121A	Cookes Peak, D	7.34	92	P	Pn	03 59 24.8	+0.2
	baz=277						
DUG	Dugway, Tooele	7.62	22	Pn	Pn	03 59 29.8	+1.4
ELK	Elko	7.65	7	Pn	Pn	03 59 30.1	+1.2

*BEO **07** 04:07:51.4±0.4, 43.°79N×17.°62E, h2km±2km, ML2.5/12*
*RHSSO **07** 04:07:51.9±0.2, 43.°80N×17.°66E, h3km±1km, ML2.7/19*
*PRU **07** 04:07:54.5, 43.°96N×17.°57E, h1km*
ISC 07 04:07:50.3±1.1**, 43.°78N**±0.°02×**17.°63E**±0.°02**, h3km**±10km**, n79, σ1.s29**/125**, 8C-8D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RICI	Ricice	0.46	232	ePg	Pg	04 07 58.9	-0.2
RICI				Sg	Sg	04 08 05.0	0.0
NEVS	Nevesinje	0.59	144	ePg	Pg	04 08 02.2	+0.6
NEVS				eSg	Sb	04 08 11.4	-0.8
MAKA	Makarska	0.66	222	ePg	Pg	04 08 02.3	-0.6
MAKA				Sg	Sg	04 08 11.9	+0.5
MGRS	Mrkonjic Grad	0.75	329	⇑iPg	Pg	04 08 05.1	+0.4
MGRS				eSg	Sg	04 08 15.2	+0.8
KIJV	Kijevo	0.91	285	ePg	Pg	04 08 07.6	-0.2
DOB	Doboj	1.01	19	ePg	Pg	04 08 09.8	0.0
DOB				eSg	Sb	04 08 23.2	-1.1
BLY	Banja Luka	1.02	342	ePg	Pg	04 08 10.1	+0.2
BLY				eSg	Sb	04 08 24.3	-0.2
BLY	Banja Luka	1.02	342	⇑iPg	Pb	04 08 10.2	-0.5
BLY				eSg	Sb	04 08 24.3	-0.2
HVAR	Hvar	1.04	235	ePg	Pg	04 08 09.1	-1.2
HVAR				Sg	Sg	04 08 24.0	+0.2
A050A	Klekovaca	1.06	312	⇓iPg	Pg	04 08 10.3	-0.3
A050A				eSg	Sn	04 08 26.2	-1.2
UPM	Unac-Piva	1.09	121	⇑iPg	Pg	04 08 10.9	-0.4
UPM				eSg	Sg	04 08 26.1	+0.6
BRY	Bratogost	1.10	142	ePg	Pg	04 08 11.3	-0.1
BRY				eSg	Sn	04 08 27.3	-1.3
LSTV	Lastovo	1.14	208	ePg	Pb	04 08 10.5	-2.2
DBRK	Dubrovnik	1.17	161	ePg	Pb	04 08 12.4	-0.8
TREB	Trebinje	1.18	153	ePg	Pb	04 08 12.0	-1.4
TREB				eSg	Sn	04 08 30.4	-0.1
TREB	Trebinje	1.18	153	ePg	Pb	04 08 13.1	-0.3
TREB				eSg	Sn	04 08 30.3	-0.2
RUDO	Rudo	1.28	97	⇓iPg	Pn	04 08 13.8	-1.3
RUDO				eSg	Sb	04 08 31.1	-0.7
PRIJ	Prijedor	1.36	332	ePg	Pn	04 08 15.8	-0.5
PRIJ				eSg	Sg	04 08 34.8	+0.6
MORI	Morici	1.39	274	ePg	Pb	04 08 16.7	-0.3
KNYS	Krupa na Uni	1.46	320	⇑iPg	Pb	04 08 18.0	-0.1
KNYS				eSg	Sg	04 08 38.4	+1.3
HCY	Herceg Novi	1.47	154	ePg	Pb	04 08 18.5	+0.1
HCY				eSg	Sg	04 08 38.9	+1.3
UDBI	Udbina	1.54	300	ePg	Pn	04 08 18.5	-0.2
TEKS	Tekeris	1.57	60	ePg	Pb	04 08 20.0	-0.1
TEKS				eSg	Sg	04 08 41.9	+1.1
TEKS	Tekeris	1.57	60	ePn	Pg	04 08 20.2	-0.3
TEKS				eSn	Sg	04 08 41.2	+0.4
A251A	Rujevac	1.67	325	ePn	Pb	04 08 21.3	-0.4
A251A				Sg	Sg	04 08 43.5	-0.3
A252A	Venje	1.67	5	ePn	Pb	04 08 21.3	-0.3
A252A				Sg	Sg	04 08 43.1	-0.8
DIVS	Divibare	1.74	79	ePg	Pg	04 08 23.4	-0.3
DIVS				eSg	Sg	04 08 46.1	-0.1
DIVS	Divibare	1.74	79	ePn	Pb	04 08 22.4	-0.6
DIVS				eSn	Sb	04 08 44.9	-0.4
SJES	Sjenica	1.79	106	ePg	Pb	04 08 23.3	-0.4
SJES				eSg	Sg	04 08 48.3	+0.7
SJES	Sjenica	1.79	106	⇓iPn	Pb	04 08 23.4	-0.3
SJES				eSn	Sb	04 08 46.4	-0.2
PDG	Podgorica	1.80	138	⇓P	Pb	04 08 22.9	-1.0
PDG				⇑S	Sg	04 08 48.4	+0.3
PDG	Podgorica	1.80	138	ePn	Pb	04 08 23.5	-0.4
PDG				eSn	Sb	04 08 47.2	+0.3
PLIT	Plitvice	1.81	308	ePn	Pb	04 08 23.4	-0.8
IVAS	Ivanjica	1.84	95	ePg	Pb	04 08 24.1	-0.6
IVAS				eSg	Sg	04 08 49.4	-0.2
DUGI	Dugi Otok	1.87	277	ePn	Pb	04 08 24.9	-0.2
MOSL	Moslavina	1.94	342	ePn	Pb	04 08 25.1	-1.3
MOSL				Sn	Sb	04 08 49.1	-1.8
DRME	Dracevica, Mon	1.96	144	ePn	Pb	04 08 26.4	-0.2
DRME				eSn	Sb	04 08 50.9	-0.6
A254A	Petrova Gora	2.01	320	ePn	Pb	04 08 26.5	-1.2
TRUS	Trudelj	2.06	76	ePn	Pn	04 08 26.4	+0.6
FRGS	Fruska Gora	2.09	48	⇓P	Pb	04 08 27.1	-1.7
FRGS				⇑S	Sb	04 08 55.8	+0.6
FRGS	Fruska Gora	2.09	48	ePn	Pn	04 08 26.6	+0.3
FRGS				eSn	Sb	04 08 53.3	-1.9
FRGS	Fruska Gora	2.09	48	ePn	Pb	04 08 27.8	-1.0
FRGS				eSn	Sb	04 08 53.0	-2.2
FRGS				eSn	Sb	04 08 53.2	-1.9
NVLJ	Novalja	2.13	293	Sn	Sb	04 08 54.5	-2.0
GRUS	Gruza	2.24	86	ePn	Pb	04 08 29.7	-1.7
GRUS				eSn	Sb	04 08 58.2	-1.3
BOJS	Bojanci	2.42	316	ePn	Pn	04 08 31.9	+1.1
BOJS				eSn	Sb	04 09 02.6	-2.1
MORH	Mrgy, Hungar	2.54	16	⇑P	Pn	04 08 31.8	-0.7
MORH	Mrgy, Hungar	2.54	16	ePn	Pn	04 08 33.8	+1.3
MORH				eSn	Sn	04 09 04.4	+0.4
CRES	Cresnjev	2.56	324	ePn	Pn	04 08 34.2	+1.4
CRES				eSn	Sn	04 09 05.6	+1.0
SELS	Selova	2.60	101	ePn	Pn	04 08 34.5	+1.1
SELS				eSn	Sn	04 09 05.7	+0.2
BEHE	Becsehely	2.76	348	ePn	Pn	04 08 37.1	+1.6
BEHE				eSn	Sn	04 09 10.1	+0.8
CEY	Cerknica	3.01	312	⇓iPn	Pn	04 08 41.0	+2.1
CEY				eSn	Sn	04 09 16.4	+0.9
MDVR	Moldovita	3.10	70	⇓P	Pn	04 08 42.4	+2.1
SKDS	Skadanscina	3.12	306	ePn	Pn	04 08 42.0	+1.5
SKDS				eSn	Sn	04 09 19.1	+0.7
BARS	Barje	3.21	106	ePn	Pn	04 08 43.4	+1.8
BARS				eSn	Sn	04 09 21.5	+1.1
ZAGS	Zajecar	3.34	88	ePn	Pn	04 08 44.4	+1.0
BZS	Buzias	3.39	56	⇑P	Pn	04 08 45.2	+1.1
SOKA	Soboth	3.43	329	i Pn	Pn	04 08 45.9	+1.1
	0.5nm,0.2s						
OBKA	Obir	3.49	323	ePn	Pn	04 08 48.5	+2.8
	0.1nm,0.1s						
OBKA	Obir	3.49	323	ePn	Pn	04 08 47.5	+1.9
OBKA				eSn	Sn	04 09 28.2	+0.6
PRVS	Prvonek	3.50	110	ePn	Pn	04 08 47.0	+1.4
ZAPS	Zavoj	3.68	96	ePn	Pn	04 08 48.3	+0.2
ZAPS				eSn	Sn	04 09 32.8	+0.8
ARSA	Arzberg	3.77	338	i Pn	Pn	04 08 50.8	+1.3
	6.2nm,0.3s						
ARSA	Arzberg	3.77	338	ePn	Pn	04 08 50.6	+1.1
ARSA				eSn	Sn	04 09 34.2	-0.2
GZR	Gura Zlata	4.02	65	⇓P	Pn	04 08 53.7	+0.8
RONA	Rosalia, Austr	4.03	347	i Pn	Pn	04 08 53.5	+0.5
	1.0nm,0.2s						
CONA	Conrad Observa	4.33	344	ePn	Pn	04 08 58.8	+1.6
	0.9nm,0.4s						
KBA	Koelnbreinsper	4.47	319	i Pn	Pn	04 09 03.1	+3.9
	0.5nm,0.4s						
ABTA	Abfaltersbach	4.67	311	i Pn	Pn	04 09 05.5	+3.6
	0.1nm,0.1s						
MOA	Molln	4.70	331	i Pn	Pn	04 09 04.6	+2.4
	1.8nm,0.4s						
LESA	Schwarzleotal	5.04	318	ePn	Pn	04 09 10.5	+3.7
	0.4nm,0.2s						
KRUC	Moravsky	5.36	351	eSN	Sn	04 10 13.0	-0.3
WTTA	Wattenberg	5.46	312	ePn	Pn	04 09 15.6	+2.8
	1.0nm,0.3s						
WATA	Walderalm	5.54	312	ePn	Pn	04 09 13.9	0.0
	1.1nm,0.3s						
CKRC	Cesky Krumlov	5.54	337	eSN	Sn	04 10 15.8	-2.1
SQTA	Sankt Quirin	5.67	310	ePn	Pn	04 09 16.5	+0.9
	1.4nm,0.3s						
MOTA	Moosalm	5.80	310	ePn	Pn	04 09 18.6	+1.2
	0.9nm,0.4s						
FETA	Feichten	5.84	306	ePn	Pn	04 09 21.4	+3.4
	0.1nm,0.3s						
MORC	Moravsky Berou	6.00	359	eSN	Sn	04 10 30.8	+1.5
KHC	Kasperske Hory	6.04	334	eSN	Sn	04 10 27.8	-2.4

IDC 07 04:21:09.3±2.8**, 54.°21N×86.°50E, h0km, mbtmp3.1**/2**, ML2.4**/2**, Error ellipse: s-maj=22.4km s-min=14.3km az=51.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.02	256	I	I	04 28 20.0	
	baz=75,slow=343,SNR=6.0						
ZALV	Zalesovo Beam	1.02	256	Pg	Pg	04 21 28.8	-0.2
	0.7nm,0.3s,baz=73,slow=16,SNR=17						
ZALV				Lg	Lg	04 21 42.2	
	0.4nm,0.3s,baz=75,slow=28,SNR=16						
KURBB	Kurchatov Arra	6.06	237	Pn	Pn	04 22 41.4	+1.4
	0.1nm,0.3s,baz=54,slow=14,SNR=5.4						
KURBB				Lg	Lg	04 24 25.3	
	0.1nm,0.3s,baz=49,slow=30,SNR=2.4						
	1.6nm,0.2s						
MKAR	Makanchi Array	7.89	202	Pn	Pn	04 23 05.8	+0.5
	baz=25,slow=14,SNR=6.5						
	0.1nm,0.4s						

TEH 07 04:23:59.4, 31.°64N×59.°91E, h5km, ML3.9, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NHDN	Nehbandan	0.27	154	Pg	Pg	04 24 04.7	0.0
BSRN	Basiran	0.74	296	Pg	Pb	04 24 14.6	-0.3
IKOO	Kooshah	1.10	316	Pg	Pb	04 24 21.3	+0.2
IDAH	Dahanechah	1.10	358	Pg	Pb	04 24 20.9	-0.2
IDAH				Sg	Sn	04 24 38.6	+1.2
ITEG	Tejag	1.59	322	Pg	Pg	04 24 30.2	+0.2
AFRZ	Afriz	1.94	337	Pn	Pb	04 24 35.6	+0.3
SHRT	Shahrakht	2.03	9	Pn	Pb	04 24 37.0	+0.2
ZHDN	Zahedan	2.36	161	Pn	Pn	04 24 39.9	+0.9
CHMN	Cheshme madani	2.70	230	Pn	Pn	04 24 45.3	+1.5
KBAM	BAM	2.79	207	Pn	Pn	04 24 46.5	+1.6
ZRDN	Zarand Kerman	2.96	258	Pn	Pn	04 24 50.1	+2.7
TPRV	Parvadeh(Tabas	3.06	298	Pn	Pn	04 24 50.9	+2.3
TKDS	Koohdasht(Taba	3.07	311	Pn	Pn	04 24 51.4	+2.7
TVBK	TV Kerman	3.17	240	Pn	Pn	04 24 53.0	+2.8
KHGB	Koh Gabri	3.20	248	Pn	Pn	04 24 52.9	+2.3
NGRK	Negar Kerman	3.38	235	Pn	Pn	04 24 55.9	+2.7
TNSJ	Nastanj	3.62	311	Pn	Pn	04 24 58.6	+2.3
TBJM	Torbat-e-JAM	3.64	5	Pn	Pn	04 24 59.5	+2.9
IBAF	Bafgh	3.70	270	Pn	Pn	04 24 59.9	+2.5
SRVN	Saravan	4.74	152	Pn	Pn	04 25 14.7	+3.0
ANAR	Anarak	5.45	288	Pn	Pn	04 25 23.8	+2.4
IZEF	Zefreh	6.54	283	Pn	Pn	04 25 39.2	+2.7

*IDC **07** 04:32:25.3±0.8, 22.°81S×171.°57E, h0km, mb4.4/8, mbtmp4.4/9, ML4.2/1, MS3.7/19, Error ellipse: s-maj=34.0km s-min=22.2km az=163.0*
*NEIC **07** 04:32:26.9±1.6, 23.°0S±0.°1×171.°8E±0.°1, h10km±1km, mb4.7/22, Error ellipse: s-maj=23.6km s-min=18.5km az=6.0*
*NOU **07** 04:33:16.1, 21.°92S×167.°82E, h0km, MLv2.8/5, Loyalty Islands*
ISC 07 04:32:31.9±0.5**, 22.°9S**±0.°1×**171.°52E**±0.°07**, h49km, n136, σ0.s81**/121**, mb4.6**/25**, MS3.5**/16**, 18C-14D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	3.53	293		Pn	04 33 24.5	+0.3
MARNC	Mare, Loyalty	3.53	293	P	Pn	04 33 25.5	+1.3
PINNC	Pines Island,	3.77	273		Pn	04 33 27.4	-0.2
OUENC	Ouen Island, N	4.35	275		Pn	04 33 34.7	-0.8
OUENC	Ouen Island, N	4.35	275	P	Pn	04 33 35.2	-0.3
LIFNC	LIFOU	4.50	297	Pn	Pn	04 33 37.6	0.0
LIFNC	LIFOU	4.50	297	P	Pn	04 33 39.0	+1.5
ONTNC	Ouen Toro	4.72	276		Pn	04 33 40.6	0.0
DZM	Mont Dzumac	4.77	279		Pn	04 33 40.6	-0.7
DZM	Mont Dzumac	4.77	279	P	Pn	04 33 40.6	-0.7
DZM	Mont Dzumac	4.77	279	ePn	Pn	04 33 41.5	+0.2
	77nm,0.8s						
DZM				eSn	Sn	04 34 34.5	-0.9
	259nm,1.1s						
DZM				eLR	LR	04 34 56.5	
	857nm,22.2s						
DZM	Mont Dzumac	4.77	279	Pn	Pn	04 33 40.4	-0.9
	11nm,0.3s,baz=319,slow=22,SNR=44						
DZM				Sn	Sn	04 34 32.2	-3.2
	1.8nm,0.3s,baz=78,slow=22,SNR=1.2						
DZM				LR	LR	04 35 29.9	
	comp=Z,1μm,18.9s,baz=138,slow=38						
	35nm,0.3s						
NOUC	Port Laguerre	4.89	278	P	Pn	04 33 42.3	-0.6
KOUNC	Koumac, New Ca	7.12	288		Pn	04 34 13.0	-0.5
URZ	Urewera	16.05	164	LR	LR	04 41 27.6	
	comp=Z,308nm,18.3s,baz=46,slow=34						
HNR	Honiara	17.38	318	LR	LR	04 42 13.3	
	comp=Z,1μm,18.9s,baz=116,slow=34						
EIDS	Eidsvold	18.82	258	P	Pn	04 36 48.9	+0.3
RPZ	Rata Peaks	20.77	181	LR	LR	04 43 54.2	
	comp=Z,211nm,21.9s,baz=35,slow=33						
CTA	Charters Tower	23.67	272	LR	LR	04 46 34.0	
	comp=Z,168nm,19.0s,baz=90,slow=36						
CTAO	Charters Tower	23.67	272	P	P	04 37 41.1	+2.0
CTAO				IAmb	IAmb	04 37 42.1	
	comp=Z,12nm,1.1s						
RAR	Rarotonga	26.64	92	LR	LR	04 48 26.0	
	comp=Z,54nm,18.3s,baz=173,slow=36						
TOO	Toolangi	26.72	231	P	P	04 38 06.0	-0.8
TOO				IAmb	IAmb	04 38 22.3	
	comp=Z,5.6nm,0.8s						
STKA	Stephens Creek	27.97	245	LR	LR	04 48 18.2	
	comp=Z,161nm,21.2s,baz=55,slow=34						
COEN	Coen	28.28	283	P	P	04 38 22.4	+1.5
COEN				IAmb	IAmb	04 38 38.7	
	comp=Z,8.3nm,0.9s						
BBOO	Buckleboo	32.74	245	P	P	04 38 59.6	-0.6
WR0	Warramunga Arr	34.49	268	P	P	04 39 15.8	+0.2
AS31	Alice Springs	34.50	261	P	P	04 39 16.1	+0.5
ASAR	Alice Springs	34.50	261	P	P	04 39 16.3	+0.7
ASAR	Alice Springs	34.50	261	P	P	04 39 15.8	+0.2
	comp=Z,3.8nm,0.9s,baz=88,slow=8.4,SNR=24						
ASAR				PcP	PcP	04 41 50.5	+0.5
	comp=Z,0.6nm,0.8s,baz=114,slow=3.6,SNR=1.6						
	comp=Z,3.8nm,0.9s						
WB0	Warramunga Arr	34.67	268	P	P	04 39 17.2	+0.1
WRAB	Tennant Creek	34.67	268	P	P	04 39 17.5	+0.4
WRAB				IAmb	IAmb	04 39 49.9	
	comp=Z,6.3nm,0.5s						
WRA	Warramunga Arr	34.68	268	P	P	04 39 17.8	+0.6
WRA	Warramunga Arr	34.68	268	P	P	04 39 16.6	-0.6
	comp=Z,1.4nm,0.6s,baz=96,slow=8.5,SNR=26						
WRA				PcP	PcP	04 41 51.8	+1.3
	comp=Z,0.6nm,1.2s,baz=104,slow=3.1,SNR=1.5						

	comp=Z,1.4nm,0.6s						
PPT2	**Papeete2**	**36.80**	**89**	*e*LR	LR	04 49 08.5	
	comp=Z,84nm,23.5s						
PPT2				*e*LR	LR	04 49 15.4	
	comp=Z,102nm,25.8s						
GUMO	**Guam**	**44.67**	**322**	LR	LR	04 58 03.9	
	comp=Z,63nm,19.8s,baz=106,slow=34						
BATI	**Baumata**	**47.38**	**277**	LR	LR	05 03 17.1	
	comp=Z,249nm,18.1s,baz=131,slow=39						
PSA00	**Pilbara Seismi**	**47.65**	**261**	P	**P**	**04 41 04.4**	**+0.7**
PSA00				IAmb	IAmb	04 41 39.2	
	comp=Z,10nm,1.5s						
MBWA	**Marble Bar**	**47.84**	**262**	P	**P**	**04 41 06.0**	**+0.9**
TAOE	**Nuku Hiva Isla**	**48.31**	**81**	*e*LR	LR	04 54 45.9	
	comp=Z,143nm,23.7s						
MORW	**Morawa**	**49.88**	**251**	P	**P**	**04 41 22.0**	**+1.4**
KAPI	**Kappang**	**52.98**	**281**	LR	LR	05 04 32.0	
	comp=Z,41nm,20.0s,baz=106,slow=36						
VNDA	**Vanda**	**54.88**	**183**	LR	LR	05 01 48.0	
	comp=Z,47nm,21.3s,baz=3.0,slow=32						
LEM	**Lembang**	**63.35**	**274**	LR	LR	05 10 53.2	
	comp=Z,36nm,18.7s,baz=260,slow=36						
JOW	**Kunigami**	**64.75**	**317**	LR	LR	05 10 58.1	
	comp=Z,31nm,18.5s,baz=60,slow=36						
MJAR	**Matsushiro Arr**	**66.96**	**331**	P	**P**	**04 43 18.0**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=175,slow=5.7,SNR=4.7						
MJAR				LR	LR	05 12 58.3	
	comp=Z,27nm,18.8s,baz=130,slow=36						
	comp=Z,0.9nm,0.3s						
QSPA	**South Pole Qui**	**67.18**	**180**	P	**P**	**04 43 19.9**	**-0.8**
QSPA				IAmb	IAmb	04 43 29.8	
	comp=Z,4.6nm,0.8s						
ASAJ	**Asahikawa**	**71.75**	**338**	LR	LR	05 09 11.2	
	comp=Z,52nm,21.2s,baz=108,slow=31						
MAW	**Mawson**	**75.87**	**202**	LR	LR	05 15 16.6	
	comp=Z,57nm,18.2s,baz=166,slow=34						
BELA	**Belgrano 2**	**78.29**	**175**	P	**P**	**04 44 25.7**	**-0.6**
KLR	**Kul'dur**	**80.06**	**335**	LR	LR	05 18 38.2	
	comp=Z,14nm,18.4s,baz=318,slow=35						
CMAR	**Chiang Mai Arr**	**81.93**	**294**	P	**P**	**04 44 48.4**	**+1.5**
CMAR	**Chiang Mai Arr**	**81.93**	**294**	P	**P**	**04 44 49.0**	**+2.2**
	comp=Z,4.0nm,0.8s,baz=138,slow=4.2,SNR=19						
	comp=Z,4.0nm,0.8s						
KMI	**Kunming**	**82.00**	**301**	⇓P	**P**	**04 44 48.7**	**+1.4**
KMI				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ELIB	**Princess Elisa**	**82.93**	**190**	*d*P	**P**	**04 44 51.8**	**+0.5**
	comp=Z,5.0nm,0.9s						
PZH	**PanZhiHua**	**83.46**	**302**	P	**P**	**04 44 55.3**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,5.0s						
HHC	**Hu-ho-hao-te**	**84.36**	**319**	*e*P	**P**	**04 45 00.1**	**+1.1**
HHC				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC				pmax	pmax		
	comp=Z,220nm,4.7s						
TROLL	**Troll, Antarti**	**85.05**	**183**	⇓P	**P**	**04 45 03.0**	**+0.8**
	comp=Z,278nm,0.8s						
SNAA	**Sanae**	**85.61**	**182**	P	**P**	**04 45 05.1**	**+0.2**
SNAA				IAmb	IAmb	04 45 37.4	
	comp=Z,7.9nm,1.4s						
SNAA	**Sanae**	**85.61**	**182**	⇓P	**P**	**04 45 05.1**	**+0.2**
	comp=Z,41nm,0.8s						
SNAA	**Sanae**	**85.61**	**182**	P	**P**	**04 45 05.0**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=207,slow=9.0,SNR=7.4						
SNAA				LR	LR	05 21 47.1	
	comp=Z,76nm,18.4s,baz=178,slow=35						
	comp=Z,1.0nm,0.6s						
VNA3	**Neumayer Olymp**	**86.12**	**180**	⇓P	**P**	**04 45 07.5**	**+0.2**
	comp=Z,3.7nm,0.6s						
VNA2	**Neumayer--Watz**	**86.44**	**180**	⇓P	**P**	**04 45 09.5**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=185,slow=6.0						
YBH	**Yreka Blue Hor**	**88.46**	**43**	P	**P**	**04 45 18.4**	**-0.6**
YBH				IAmb	IAmb	04 45 23.6	
	comp=Z,4.3nm,1.1s						
YBH	**Yreka Blue Hor**	**88.46**	**43**	P	**P**	**04 45 19.9**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=221,slow=2.8,SNR=9.9						
	comp=Z,2.0nm,0.7s						
NVAR	**Mina Array Bea**	**89.64**	**48**	P	**P**	**04 45 25.6**	**+0.8**
	comp=Z,3.0nm,0.7s,baz=226,slow=8.2,SNR=14						
	comp=Z,3.0nm,0.7s						
KVN	**Kaiserville**	**90.09**	**47**	P	**P**	**04 45 26.6**	**-0.2**
KVN				IAmb	IAmb	04 45 28.2	
	comp=Z,6.1nm,0.9s						
J05D	**Fort Rock, OR**	**90.21**	**42**	P	**P**	**04 45 27.2**	**-0.1**
ULN	**Ulaanbaatar**	**91.05**	**323**	P	**P**	**04 45 31.4**	**+0.3**
ULN				IAmb	IAmb	04 45 41.1	
	comp=Z,5.9nm,1.2s						
BMN	**Battle Mountai**	**91.35**	**46**	P	**P**	**04 45 32.7**	**0.0**
BMN				IAmb	IAmb	04 45 34.2	
	comp=Z,4.7nm,1.1s						
SONM	**Songino Array**	**91.40**	**322**	P	**P**	**04 45 32.4**	**-0.3**
	comp=Z,3.7nm,1.0s,baz=138,slow=4.4,SNR=13						
	comp=Z,3.7nm,1.0s						
G08A	**Pilot Rock**	**92.64**	**41**	P	**P**	**04 45 37.1**	**-1.4**
G08A				IAmb	IAmb	04 45 39.5	
	comp=Z,2.8nm,0.7s						
ILAR	**Eielson Array**	**93.08**	**17**	P	**P**	**04 45 37.6**	**-2.3**
	comp=Z,0.9nm,0.9s,baz=226,slow=7.1,SNR=7.3						
INK	**Inuvik**	**99.33**	**18**	LR	LR	05 31 34.7	
	comp=Z,48nm,18.1s,baz=188,slow=36						
BVAR	**Borovoye Array**	**114.57**	**319**	PKP	PKPdf	04 51 06.2	-0.1
	comp=Z,0.5nm,0.3s,baz=139,slow=3.6,SNR=3.9						
GEYT	**Alibeck**	**121.76**	**301**	PKP	**PKiKP**	**04 51 21.9**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=46,slow=4.2,SNR=1.9						
ARCES	**ARCESS Array B**	**129.12**	**345**	PKP	**PKiKP**	**04 51 34.2**	**-0.3**
	comp=Z,4.3nm,1.1s,baz=46,slow=6.4,SNR=1.8						
BRTR	**Keskin Array B**	**140.69**	**305**	PKP	**PKiKP**	**04 51 58.2**	**-0.9**
	comp=Z,0.9nm,1.0s,baz=92,slow=4.3,SNR=1.8						
VRI	**Vrincioaia**	**143.43**	**317**	⇑P	PKPbc	04 51 58.3	-0.1
BURAR	**Bucovina Array**	**143.50**	**321**	⇑P	**PKPdf**	**04 52 00.6**	**-0.5**
TURR	**Turia**	**143.79**	**318**	⇑P	**PKPdf**	**04 52 01.9**	**+0.2**
MLR	**Muntele Rosu**	**144.09**	**317**	⇑P	**PKPdf**	**04 52 01.5**	**-0.9**
DOPR	**Dopca**	**144.22**	**318**	⇓P	**PKPdf**	**04 52 01.9**	**-0.5**
ARCR	**ARCALIA**	**144.28**	**321**	⇓P	**PKPdf**	**04 52 02.5**	**+0.1**
BMR	**Baia Mare**	**144.46**	**322**	⇓P	**PKPdf**	**04 52 02.5**	**-0.2**
VOIR		**144.68**	**318**	⇑P	**PKPdf**	**04 52 03.2**	**0.0**
CRVS	**Cervenica-Dubn**	**144.87**	**325**	*e*PKP	**PKPdf**	**04 52 03.6**	**+0.2**
CJR	**Cluj-Napoca**	**144.91**	**321**	⇓P	**PKPdf**	**04 52 04.2**	**+0.6**
ARR	**Arges**	**144.97**	**318**	⇑P	**PKPdf**	**04 52 04.4**	**+0.7**
HUMR	**Humele**	**145.14**	**316**	⇑P	**PKPdf**	**04 52 04.2**	**+0.2**
MARR	**Marisel-Cluj**	**145.22**	**321**	⇓P	**PKPdf**	**04 52 04.7**	**+0.5**
ELND	**Elena**	**145.25**	**313**	⇑P	**PKPdf**	**04 52 05.1**	**+0.8**
DRGR		**145.39**	**321**	⇓P	**PKiKP**	**04 52 07.1**	**-1.3**
LOT	**Lotru**	**145.46**	**319**	⇑P	**PKPab**	**04 52 05.5**	**+0.5**
KECS	**Kecovo**	**145.64**	**325**	*e*PKP	**PKPab**	**04 52 06.2**	**+0.8**
LANS	**Liptovska Anna**	**145.75**	**327**	*e*PKP	**PKPab**	**04 52 07.1**	**+1.2**
GZR	**Gura Zlata**	**146.09**	**319**	⇑P	**PKPdf**	**04 52 06.1**	**+0.4**
RDO	**Rodhopi**	**146.18**	**311**	PKPdf	**PKPdf**	**04 52 05.7**	**-0.1**
MORC	**Moravsky Berou**	**146.27**	**329**	⇑P	**PKPab**	**04 52 07.4**	**-0.4**
MORC	**Moravsky Berou**	**146.27**	**329**	PKPdf	**PKPdf**	**04 52 05.8**	**0.0**
MORC	**Moravsky Berou**	**146.27**	**329**	*e*PKP	**PKPbc**	**04 52 07.3**	**+0.3**
SIRR	**Siria**	**146.28**	**321**	⇑P	**PKPab**	**04 52 07.8**	**-0.1**
SURR	**Surduc**	**146.29**	**320**	⇑P	**PKPab**	**04 52 07.9**	**0.0**
BSZH	**Besenyszg**	**146.47**	**324**	⇓P	**PKPdf**	**04 52 06.0**	**-0.2**
VYHS	**Vyhne**	**146.49**	**326**	*e*PKP	**PKPbc**	**04 52 07.9**	**+0.2**
BZS	**Buzias**	**146.66**	**320**	⇓P	**PKPbc**	**04 52 08.6**	**+0.4**
JAVC	**Velka Javorina**	**146.83**	**328**	*e*PKP	**PKPab**	**04 52 10.2**	**+0.2**
BLKB	**Belogradchik**	**147.03**	**316**	⇑P	**PKPbc**	**04 52 09.9**	**+0.5**
VRAC	**Vranov**	**147.04**	**329**	*e*PKP	**PKPbc**	**04 52 09.1**	**-0.1**
MDVR	**Moldovita**	**147.05**	**319**	⇑P	**PKPbc**	**04 52 09.3**	**-0.1**
CLL	**Collm**	**147.11**	**335**	*i* PKPbc	**PKPbc**	**04 52 09.2**	**-0.1**
	comp=Z,12nm,1.3s						
KRUC	**Moravsky**	**147.31**	**329**	*e*PKP	**PKPbc**	**04 52 10.0**	**+0.1**
MODS	**Modra-Piesok**	**147.35**	**328**	*e*PKP	**PKPab**	**04 52 11.6**	**-0.4**
EKA	**Eskdalemuir Ar**	**147.36**	**354**	PKPbc	**PKPbc**	**04 52 08.7**	**-1.1**
	comp=Z,1.9nm,0.7s,baz=360,slow=3.0,SNR=3.6						
FRGS	**Fruska Gora**	**147.98**	**321**	⇑P	**PKPbc**	**04 52 10.5**	**-1.4**
MORH	**Mrgy, Hungar**	**148.02**	**323**	⇑P	**PKPbc**	**04 52 11.3**	**-0.6**
RONA	**Rosalia, Austr**	**148.29**	**327**	*e*PKiKP	**PKiKP**	**04 52 13.7**	**-0.6**
	comp=Z,4.0nm,0.5s						
CONA	**Conrad Observa**	**148.35**	**328**	*i* PKiKP	**PKPbc**	**04 52 13.6**	**+0.7**
	comp=Z,3.0nm,0.6s,SNR=4.7						
DIVS	**Divibare**	**148.46**	**319**	PKPdf	**PKPdf**	**04 52 10.2**	**+0.5**
IDI	**Anoyia**	**148.48**	**301**	⇑P	**PKiKP**	**04 52 14.5**	**-0.7**
KHC	**Kasperske Hory**	**148.54**	**332**	PKPdf	**PKPdf**	**04 52 09.7**	**+0.1**
GEC2	**GERESS Array S**	**148.70**	**331**	PKPdf	**PKPdf**	**04 52 09.8**	**-0.1**
GERES	**GERESS Array B**	**148.70**	**331**	PKPbc	**PKPbc**	**04 52 13.2**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=46,slow=3.9,SNR=7.6						
FNA	**Florina**	**149.20**	**312**	PKPdf	**PKPdf**	**04 52 10.5**	**-0.4**
BIOA	**Bad Ischl, Aus**	**149.58**	**330**	*e*PKP	**PKPbc**	**04 52 14.6**	**-1.3**
	comp=Z,7.4nm,1.4s						
SOKA	**Soboth**	**149.62**	**327**	*i* PKiKP	**PKPbc**	**04 52 16.2**	**+0.1**
	comp=Z,7.5nm,1.3s						
OBKA	**Obir**	**149.98**	**327**	*i* PKP	**PKPbc**	**04 52 16.3**	**-0.7**
	comp=Z,7.2nm,1.2s						
KBA	**Koelnbreinsper**	**150.16**	**329**	*i* PKiKP	**PKPbc**	**04 52 17.4**	**-0.1**
	comp=Z,6.3nm,0.9s						
LESA	**Schwarzleotal**	**150.22**	**330**	*i* PKiKP	**PKPbc**	**04 52 17.4**	**-0.2**
	comp=Z,4.5nm,0.6s						
MYKA	**Terra Mystica**	**150.34**	**328**	*i* PKP	**PKPbc**	**04 52 17.5**	**-0.3**
	comp=Z,3.8nm,0.5s						
WATA	**Walderalm**	**150.77**	**331**	*i* PKP	**PKPbc**	**04 52 18.1**	**-0.8**
	comp=Z,5.1nm,0.9s						
ABTA	**Abfaltersbach**	**150.79**	**330**	*i* PKiKP	**PKPbc**	**04 52 18.6**	**-0.3**
	comp=Z,3.9nm,0.6s						
WTTA	**Wattenberg**	**150.80**	**331**	*i* PKiKP	**PKPbc**	**04 52 18.9**	**-0.2**
	comp=Z,6.9nm,0.9s						
MOTA	**Moosalm**	**150.97**	**332**	*i* PKiKP	**PKPbc**	**04 52 19.4**	**0.0**
	comp=Z,3.8nm,0.6s						
SQTA	**Sankt Quirin**	**151.02**	**332**	*i* PKiKP	**PKiKP**	**04 52 20.0**	**0.0**
	comp=Z,3.4nm,0.5s						
FETA	**Feichten**	**151.39**	**332**	*i* PKiKP	**PKPbc**	**04 52 20.3**	**-0.1**
	comp=Z,3.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**166.32**	**227**	PKP	**PKPdf**	**04 52 33.4**	**+0.8**
	comp=Z,2.3nm,0.9s,baz=20,slow=3.0,SNR=11						
TORD				PKPab	**PKPab**	**04 53 34.7**	**+0.8**
	comp=Z,0.9nm,0.9s,baz=86,slow=3.5,SNR=3.6						

*IDC **07** 04:41:35.4±4.7, 1.°57S×137.°54E, h0km, mb3.7/2, mbtmp3.9/3, ML3.9/1, Error ellipse: s-maj=203.5km s-min=28.2km az=83.0*
*DJA **07** 04:41:40.1±1.0, 1°S±20°×13°8E±°, h10km, M4.0/4, MLv4.0/4*
ISC 07 04:41:37.0±1.2**, 1.°5S**±0.°2×**137.°97E**±0.°07**, h24**km**, n7, σ1.s07**/9**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.89**	**123**	P	**Pb**	**04 41 53.5**	**-0.3**
SMPI				S	**Sn**	**04 42 06.9**	**+0.7**
GENI	**Genyem**	**2.46**	**116**	P	**Pb**	**04 42 18.5**	**-2.0**
JAY	**Jayapura**	**2.92**	**110**	P	**Pn**	**04 42 22.5**	**+0.5**
JAY				S	**Sn**	**04 42 56.3**	**-0.1**
RKPI	**Ransiki, Papua**	**3.79**	**270**	P	**Pb**	**04 42 42.1**	**-1.1**
WRA	**Warramunga Arr**	**18.67**	**191**	P	**P**	**04 45 53.4**	**-0.1**
	0.4nm,0.3s,baz=13,slow=12,SNR=17						
WRA				S	Sn	04 49 07.1	-15
	0.5nm,0.8s,baz=14,slow=22,SNR=2.2						
	4.0nm,0.7s						
ASAR	**Alice Springs**	**22.39**	**190**	P	**P**	**04 46 34.5**	**+0.7**
	3.6nm,0.8s,baz=19,slow=11,SNR=23						
	3.6nm,0.8s						
MKAR	**Makanchi Array**	**68.38**	**322**	P	**P**	**04 52 37.4**	**+0.7**
	0.4nm,0.7s,baz=111,slow=7.6,SNR=4.9						
	0.4nm,0.7s						

*TEH **07** 04:54:18.1, 32.°42N×47.°58E, h14km±29km, ML3.5*
*ISN **07** 04:54:18.4±1.2, 32.°38N×47.°58E, h25km±59km, ML3.5*
ISC 07 04:54:20.4±1.1**, 32.°40N**±0.°05×**47.°56E**±0.°04**, h23**km**, n26, σ0.s53**/29**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.15**	**12**	Pg	**Pn**	**04 54 39.4**	**-1.6**
RAFI	**Al-Rafai**	**1.40**	**242**	*e*Pg	**Pn**	**04 54 44.5**	**0.0**
RAFI				*e*Sg	**Sn**	**04 55 02.0**	**-0.2**
RAFI				AML	AML	04 55 16.9	
	comp=N,1µm,0.5s						
RAFI				AML	AML	04 55 17.2	
	comp=E,1µm,0.4s						
AHWZ	**Ahwaz**	**1.41**	**139**	Pg	**Pb**	**04 54 45.2**	**-0.7**
IBDR	**Badra**	**1.55**	**298**	*e*Pn	**Pn**	**04 54 46.5**	**0.0**
IBDR				*e*Sn	**Sn**	**04 55 07.0**	**+1.1**
IBDR				AML	AML	04 55 11.5	
	comp=E,387nm,0.6s						
IBDR				AML	AML	04 55 12.4	
	comp=N,442nm,0.4s						
AMIS	**Naft Sefid**	**1.64**	**116**	Pg	**Pn**	**04 54 48.2**	**+0.4**
ILBA	**Ilam Banvizeh**	**1.67**	**317**	Pg	**Pn**	**04 54 48.0**	**-0.3**
IKOM	**Komasi**	**1.77**	**359**	Pg	**Pn**	**04 54 50.1**	**+0.3**
IGHG	**Ghaleghazi**	**2.10**	**337**	Pn	**Pn**	**04 54 55.0**	**+0.6**
IDHR	**Dehrash**	**2.50**	**337**	Pn	**Pn**	**04 54 59.6**	**-0.2**
JHBN	**Jahan bin**	**2.63**	**93**	Pn	**Pn**	**04 55 01.8**	**+0.1**
KGS1	**Ghasr-e-Shirin**	**2.67**	**322**	Pn	**Pn**	**04 55 02.2**	**+0.2**
ZNGN	**Zangian**	**2.80**	**95**	Pn	**Pn**	**04 55 04.2**	**+0.2**
BHD	**Baghdad**	**2.82**	**289**	*e*Pn	**Pn**	**04 55 03.5**	**-0.5**
BHD				*e*Sn	**Sn**	**04 55 38.0**	**+0.8**
BHD				AML	AML	04 55 45.5	
	comp=E,371nm,0.4s						
IPIR	**Pirpir**	**2.83**	**83**	Pn	**Pn**	**04 55 04.6**	**+0.2**
IBRJ	**Brojen**	**3.17**	**98**	Pn	**Pn**	**04 55 09.2**	**+0.1**
QAMS	**Qamsar**	**3.49**	**66**	Pn	**Pn**	**04 55 13.8**	**+0.3**
IKLH	**Kolahrood**	**3.50**	**74**	Pn	**Pn**	**04 55 14.0**	**+0.3**
IRAZ	**Razeghan**	**3.59**	**33**	Pn	**Pn**	**04 55 14.8**	**0.0**
KLNJ	**Kolanjah**	**3.70**	**111**	Pn	**Pn**	**04 55 16.5**	**0.0**
IZEF	**Zefreh**	**4.05**	**82**	Pn	**Pn**	**04 55 21.6**	**+0.4**
IRAM	**Ramesheh**	**4.13**	**97**	Pn	**Pn**	**04 55 22.4**	**+0.1**
QSDN	**Sirdan**	**4.31**	**18**	Pn	**Pn**	**04 55 25.3**	**+0.6**
IVRN	**Varamin**	**4.33**	**52**	Pn	**Pn**	**04 55 25.0**	**+0.1**
ISFB	**Sefidab**	**4.37**	**62**	Pn	**Pn**	**04 55 24.8**	**-0.6**
IDMV	**Damavand**	**4.88**	**48**	Pn	**Pn**	**04 55 32.4**	**-0.2**
IFIR	**Firoozkooh**	**5.39**	**52**	Pn	**Pn**	**04 55 40.1**	**+0.4**

*UCR **07** 05:04:23.7±0.7, 9.°32N×84.°60W, h0km±3km, MW4.0*
*CATAC **07** 05:04:25.6±0.5, 9.°40N×84.°61W, h8km±4km, ML3.2*
ISC 07 05:04:24.3±1.5**, 9.°35N**±0.°04×**84.°61W**±0.°03**, h7**km±13km**, n65, σ0.s53**/70**, 5C-2D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.32**	**351**	*e*P	**Pb**	**05 04 31.6**	**-0.8**
JACO				*e*S	**Sb**	**05 04 37.6**	**-0.2**
JACO	**JACO, Garabito**	**0.32**	**351**	*i* P	**Pb**	**05 04 31.6**	**-0.8**
JACO				*i* S	**Sb**	**05 04 36.8**	**-0.9**
JACO				IAML		05 04 38.2	
	comp=Z,4µm,1.0s						
LLNJ	**Naranjito**	**0.52**	**76**	*e*P	**Pg**	**05 04 35.1**	**+0.7**
CBL1	**Cabuya**	**0.53**	**297**	*e*P	**Pg**	**05 04 35.0**	**+0.4**
ARZA	**Esparza**	**0.64**	**355**	*e*P	**Pb**	**05 04 38.3**	**+0.4**
ABE2	**San Pablo**	**0.65**	**57**	*e*P	**Pb**	**05 04 38.0**	**-0.3**
LCR2	**La Lucha 2**	**0.71**	**57**	*e*P	**Pg**	**05 04 38.0**	**-0.1**
LCR2	**La Lucha 2**	**0.71**	**57**	*i* P	**Pg**	**05 04 38.0**	**-0.1**
LCR2				*i* S	**Sb**	**05 04 48.8**	**-0.6**
LCR2				IAML		05 04 56.0	
	comp=Z,590nm,1.0s						
SRA1	**San Ramn**	**0.74**	**10**	*e*P	**Pg**	**05 04 39.0**	**+0.3**
AMPA	**Desamparados**	**0.77**	**45**	*e*P	**Pb**	**05 04 40.5**	**+0.3**
OCM	**Ochomogo**	**0.84**	**50**	*i* P	**Pg**	**05 04 41.0**	**+0.5**
OCM				IAML		05 04 59.2	
	comp=Z,390nm,1.0s						
RIMA	**Rio Macho**	**0.85**	**61**	*e*P	**Pg**	**05 04 40.3**	**-0.4**
CDM	**Cerro de Muert**	**0.86**	**76**	*i* P	**Pg**	**05 04 40.5**	**-0.4**
CDM				*i* S	**Sb**	**05 04 54.8**	**+0.9**
BUS1	**Rivas**	**0.88**	**76**	*e*P	**Pg**	**05 04 40.7**	**-0.5**
VPTE	**Poasito**	**0.91**	**26**	*i* P	**Pg**	**05 04 42.2**	**+0.3**
VPTE				IAML		05 05 03.5	
	comp=Z,730nm,1.0s						
CPMI	**Catarata Coope**	**0.95**	**14**	*i* P	**Pg**	**05 04 42.7**	**0.0**
CPMI				IAML		05 05 04.8	
	comp=Z,530nm,1.0s						
MONTE	**Monteverde**	**0.97**	**348**	*e*P	**Pg**	**05 04 43.0**	**-0.1**
HAYA	**Volcan Irazu**	**0.98**	**50**	*i* P	**Pn**	**05 04 45.3**	**+0.3**
OCHAL	**Ojochal**	**0.98**	**105**	*i* P	**Pg**	**05 04 43.1**	**-0.2**
OCHAL				*i* S	**Sn**	**05 04 59.2**	**+0.3**
JTS	**Las Juntas de**	**0.99**	**340**	*e*P	**Pg**	**05 04 43.0**	**-0.5**
INDI	**Punta indio, G**	**1.02**	**300**	*e*P	**Pg**	**05 04 44.4**	**+0.5**
INDI	**Punta indio, G**	**1.02**	**300**	*i* P	**Pb**	**05 04 44.5**	**+0.1**
INDI				IAML		05 05 12.3	
	comp=Z,360nm,1.0s						
SOCE	**Pocosol**	**1.03**	**360**	*e*P	**Pg**	**05 04 44.3**	**+0.2**
SOCE	**Pocosol**	**1.03**	**360**	*i* P	**Pb**	**05 04 44.5**	**-0.1**
SOCE				IAML		05 05 05.7	
	comp=Z,670nm,1.0s						
VERB	**Verbena**	**1.08**	**57**	*e*P	**Pg**	**05 04 45.0**	**-0.1**
CASO	**Castillo**	**1.08**	**354**	*e*P	**Pg**	**05 04 45.4**	**+0.2**
FORC	**Fortuna**	**1.11**	**357**	*e*P	**Pb**	**05 04 46.1**	**+0.1**
VACR	**Volcan Arenal**	**1.12**	**357**	*i* P	**Pb**	**05 04 46.3**	**+0.2**
VACR				IAML		05 05 15.2	
	comp=Z,480nm,1.0s						
CEDE	**Laguna Cedeo**	**1.14**	**355**	⇓*i*P	**Pb**	**05 04 46.8**	**+0.4**
RVSTA	**Santa Teresita**	**1.14**	**57**	*e*P	**Pg**	**05 04 45.6**	**-0.6**
ITAL	**Pital**	**1.15**	**17**	*e*P	**Pg**	**05 04 46.2**	**-0.1**
TABAC	**Tabacon**	**1.15**	**352**	*e*P	**Pb**	**05 04 46.8**	**+0.1**
RIFO	**Rio Frio, Sara**	**1.18**	**35**	*i* P	**Pg**	**05 04 46.3**	**-0.7**
RIFO				IAML		05 05 09.6	
	comp=Z,890nm,1.0s						
EDPN	**Palmar Norte**	**1.20**	**109**	*e*P	**Pg**	**05 04 45.5**	**-2.0**
ORTG	**Ortega, Santa**	**1.31**	**320**	*e*P	**Pg**	**05 04 48.2**	**-1.2**
ORTG	**Ortega, Santa**	**1.31**	**320**	*i* P	**Pg**	**05 04 48.8**	**-0.7**
ORTG				IAML		05 05 21.1	
	comp=Z,300nm,1.0s						
CARI	**Cariari**	**1.33**	**40**	*e*P	**Pb**	**05 04 50.4**	**+0.8**
ACAL	**Aguas Claras**	**1.34**	**342**	⇓*i*P	**Pn**	**05 04 49.5**	**-0.2**
COVE	**Coope Vega, Sa**	**1.38**	**9**	*e*P	**Pn**	**05 04 49.6**	**-0.4**
COVE	**Coope Vega, Sa**	**1.38**	**9**	*i* P	**Pn**	**05 04 49.7**	**-0.4**
COVE				IAML		05 05 19.8	
	comp=Z,470nm,1.0s						
MOTZ	**Rio Naranjo**	**1.41**	**341**	⇑*i*P	**Pn**	**05 04 50.8**	**+0.3**
PTEN	**Parque Tenorio**	**1.41**	**345**	*e*P	**Pn**	**05 04 50.5**	**0.0**
CUI	**Cuipilapa**	**1.41**	**337**	⇑*i*P	**Pn**	**05 04 50.6**	**+0.1**
HATIL	**Hatillo**	**1.43**	**311**	*e*P	**Pn**	**05 04 50.6**	**-0.1**
COLC	**Colonia**	**1.43**	**336**	*e*P	**Pb**	**05 04 51.6**	**+0.1**
HORNC	**Hornillas**	**1.47**	**338**	⇑*i*P	**Pn**	**05 04 51.4**	**+0.1**
TRT2	**Tortugero**	**1.48**	**36**	*i* P	**Pn**	**05 04 51.1**	**-0.3**
TRT2				IAML		05 05 26.6	
	comp=Z,270nm,1.0s						
MESS	**Mesas**	**1.50**	**337**	⇑*i*P	**Pn**	**05 04 52.1**	**+0.3**
POTG	**Potrero Grande**	**1.50**	**101**	*i* P	**Pn**	**05 04 52.3**	**+0.5**
POTG				IAML		05 05 16.1	
	comp=Z,380nm,1.0s						
JIME	**Puerto Jimenez**	**1.50**	**122**	*e*P	**Pb**	**05 04 53.3**	**+0.6**
VERA	**Finca Concepci**	**1.52**	**350**	*e*P	**Pn**	**05 04 52.3**	**+0.4**
CLARA	**Aguas Claras**	**1.53**	**339**	*e*P	**Pn**	**05 04 52.6**	**+0.4**
VMAR	**Armenia, Volca**	**1.54**	**341**	⇑*i*P	**Pn**	**05 04 52.8**	**+0.5**
CANAL	**Canalete**	**1.54**	**344**	*e*P	**Pn**	**05 04 52.9**	**+0.6**
GP77	**Hacienda Santa**	**1.57**	**333**	*e*P	**Pn**	**05 04 53.2**	**+0.4**
GPS2	**Hotel Rincn d**	**1.57**	**332**	*e*P	**Pn**	**05 04 53.3**	**+0.5**
GPS3	**Bodega del ICE**	**1.58**	**332**	*e*P	**Pb**	**05 04 54.2**	**+0.2**
GPS1	**Guardaparques**	**1.59**	**333**	*e*P	**Pn**	**05 04 53.5**	**+0.4**
VRLE	**La Escondida,**	**1.61**	**333**	*i* P	**Pn**	**05 04 53.8**	**+0.4**
VRLE				IAML		05 05 27.3	
	comp=Z,190nm,1.0s						
LAPC	**Finca la Perla**	**1.63**	**330**	*e*P	**Pn**	**05 04 54.3**	**+0.8**
BUEV	**Buena Vista**	**1.64**	**332**	*e*P	**Pn**	**05 04 54.5**	**+0.8**
GBS3	**Finca Las Img**	**1.65**	**330**	*e*P	**Pn**	**05 04 54.3**	**+0.4**
GB1A	**Borinquen Arri**	**1.65**	**332**	*e*P	**Pn**	**05 04 54.7**	**+0.7**
HZTE	**Horizontes, Gu**	**1.67**	**325**	*i* P	**Pb**	**05 04 55.3**	**-0.1**
HZTE				IAML		05 05 42.0	
	comp=Z,420nm,1.0s						
CTCR	**Cotoan**	**1.88**	**104**	*i* P	**Pb**	**05 04 59.1**	**-0.1**
CTCR				IAML		05 05 38.7	
	comp=Z,530nm,1.0s						

*SKHL **07** 05:05:16.7±0.1, 44.°10N×147.°50E, h60km±5km, mb4.4/3*
*JMA **07** 05:05:17.1±0.2, 43.°9N±0.°9×14°7E±°, h62km, MV3.5/16, E OFF HOKKAIDO*
ISC 07 05:05:15.5±2.3**, 44.°1N**±0.°1×**147.°5E**±0.°1**, h63**km±17km**, n11, σ1.s05**/20**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.54**	**250**	*e*P	**Pn**	**05 05 28.7**	**+0.6**
SHO				AMB	AMB	05 05 29.1	
	360nm,0.5s						
SHO				*e*S	**Sn**	**05 05 37.6**	**+0.3**
SHO				A	A	05 05 40.0	
	290nm,0.2s						
SHO				A	A	05 05 40.0	
	610nm,0.2s						
KUR	**Kuril'sk**	**1.20**	**11**	*e*P	**Pn**	**05 05 36.3**	**+0.1**
KUR				AMB	AMB	05 05 37.1	
	80nm,0.3s						
KUR				*i* S	**Sn**	**05 05 51.1**	**-0.5**
KUR				A	A	05 05 51.7	
	270nm,0.2s						
KUR				A	A	05 05 51.7	
	270nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.21**	**269**	*e*P	**Pn**	**05 05 35.9**	**-0.4**
YUK				AMB	AMB	05 05 37.6	
	150nm,0.3s						
YUK				*e*S	**Sn**	**05 05 50.3**	**-1.5**
YUK				A	A	05 05 52.9	
	450nm,0.3s						
YUK				A	A	05 05 52.9	
	450nm,0.3s						
NEM2	**Nemuro 2**	**1.47**	**242**	*e*P	**Pn**	**05 05 40.0**	**+0.2**
NEM2				*e*S	**Sn**	**05 05 56.9**	**-1.3**
JRA	**Rausu**	**1.74**	**267**	*e*P	**Pn**	**05 05 44.3**	**+0.9**
JRA				*e*S	**Sn**	**05 06 05.1**	**+0.4**
JNSB	**Nemuroshibetsu**	**1.85**	**262**	*e*P	**Pn**	**05 05 46.1**	**+1.2**
JNSB				*e*S	**Sn**	**05 06 07.3**	**+0.1**
JKHN	**Kushirohamanak**	**1.98**	**241**	*e*P	**Pn**	**05 05 47.3**	**+0.6**
JKHN				*e*S	**Sn**	**05 06 09.3**	**-1.1**
JNK	**Nakash**	**2.09**	**258**	*e*P	**Pn**	**05 05 49.1**	**+0.9**
JNK				*e*S	**Sn**	**05 06 12.4**	**-0.7**
JAK	**Akkeshi**	**2.32**	**244**	*e*P	**Pn**	**05 05 51.6**	**+0.4**
JAK				*e*S	**Sn**	**05 06 16.4**	**-2.3**
JOB	**Onbets**	**2.93**	**248**	*e*S	**Sn**	**05 06 33.1**	**-0.5**
JCH	**Churui**	**3.37**	**246**	*e*P	**Pn**	**05 06 07.0**	**+1.4**

*IDC **07** 05:05:32.6±3.2, 30.°00N×68.°46E, h0km, mb3.7/7, mbtmp3.8/9, ML4.1/2, MS3.0/4, Error ellipse: s-maj=55.2km s-min=51.6km az=0.0*
ISC 07 05:05:33.8±2.3**, 29.°7N**±0.°2×**68.°7E**±0.°2**, h20**km**, n18, σ1.s80**/16**, mb3.7**/7**, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**12.05**	**316**	LR	LR	05 13 33.9	
	comp=Z,44nm,21.1s,baz=224,slow=41						
PYUN	**Piuthan**	**12.59**	**94**	*e*P	**Pn**	**05 08 33.2**	**+1.3**
	7.3nm,0.4s						
DANN	**Dangsing**	**13.21**	**92**	*e*P	**Pn**	**05 08 41.1**	**+0.5**
	18nm,0.5s						
AAK	**Ala-Archa**	**13.72**	**18**	Pn	**Pn**	**05 08 47.2**	**-0.1**
	0.7nm,0.3s,baz=214,slow=7.6,SNR=5.2						
AAK				LR	LR	05 15 07.4	
	comp=Z,33nm,20.3s,baz=234,slow=42						
	2.6nm,0.5s						
PKIN	**Phulchoki**	**14.78**	**94**	*e*P	**Pn**	**05 09 00.4**	**-1.5**
	6.0nm,0.5s						
PKI	**Pulchoki**	**14.79**	**94**	*e*P	**Pn**	**05 09 00.8**	**-1.4**
	5.8nm,0.6s						
GUN	**Gumba**	**15.13**	**93**	*e*P	**Pn**	**05 09 04.6**	**-2.2**
	19nm,0.5s						
JIRN	**Jiri**	**15.45**	**93**	*e*P	**Pn**	**05 09 07.9**	**-3.1**
	6.6nm,0.3s						
RAMN	**Ramite**	**15.96**	**96**	*e*P	**Pn**	**05 09 14.6**	**-2.9**
	8.4nm,0.5s						
MKAR	**Makanchi Array**	**20.06**	**28**	P	**P**	**05 10 05.5**	**-0.2**
	0.6nm,0.3s,baz=208,slow=12,SNR=17						
	2.4nm,0.5s						
KURBB	**Kurchatov Arra**	**22.16**	**17**	P	**P**	**05 10 27.1**	**-1.2**
	4.3nm,0.7s,baz=208,slow=9.8,SNR=19						
	4.3nm,0.7s						
AKTO	**Aktyubinsk**	**22.24**	**342**	P	**P**	**05 10 27.6**	**-1.5**
	0.8nm,0.5s,baz=143,slow=8.4,SNR=2.1						
	0.8nm,0.5s						
BVAR	**Borovoye Array**	**23.34**	**3**	P	**P**	**05 10 38.8**	**-1.9**
	1.7nm,0.7s,baz=175,slow=8.8,SNR=7.1						
BVAR				LR	LR	05 21 57.6	
	comp=Z,24nm,18.0s,baz=220,slow=43						
	1.7nm,0.7s						
ZALV	**Zalesovo Beam**	**26.90**	**21**	P	**P**	**05 11 14.0**	**+0.7**
	1.8nm,0.5s,baz=218,slow=9.1,SNR=9.0						
	1.8nm,0.5s						
SONM	**Songino Array**	**34.07**	**47**	P	**P**	**05 12 19.1**	**+2.3**
	0.4nm,0.5s,baz=234,slow=9.3,SNR=4.7						
	0.4nm,0.5s						
DBIC	**Dimbokro**	**72.49**	**268**	LR	LR	05 51 05.1	
	comp=Z,36nm,20.2s,baz=5.5,slow=38						
ILAR	**Eielson Array**	**81.82**	**15**	P	**P**	**05 17 51.4**	**+0.3**
	0.2nm,0.5s,baz=313,slow=4.8,SNR=4.6						
	0.2nm,0.5s						
YKA	**Yellowknife Ar**	**88.09**	**2**	P	**P**	**05 18 23.4**	**+0.8**
	0.5nm,0.8s,baz=346,slow=5.0,SNR=5.3						
	0.5nm,0.8s						

*IDC **07** 05:10:26.4±0.5, 22.°70S×171.°71E, h0km, mb4.6/19, mbtmp4.6/21, ML4.2/2, MS3.7/21, Error ellipse: s-maj=17.2km s-min=16.5km az=36.0*
*NEIC **07** 05:10:28.9±1.1, 22.°7S±0.°1×171.°61E±0.°06, h10km±1km, mb4.9/84, Error ellipse: s-maj=17.7km s-min=9.0km az=354.0*

GCMT **07** *05:10:34.9±0.3, 22°.81S±0°.02×171°.49E±0°.04, h22km±1km, MW4.9/61, Moment Tensor Solution. s30,c31; s61,c73; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.56±.20; $M_{\theta\theta}$-2.24±.12; $M_{\phi\phi}$-0.32±.12; $M_{r\theta}$1.82±.19; $M_{\theta\phi}$0.36±.10; $M_{\phi r}$-0.06±.22; Best double couple: $M_0$3.03800×10^{16} NP1: ϕ_s96.00000°, δ63.00000°, λ86.00000°. NP2: ϕ_s284.00000°, δ27.00000°, λ98.00000°. Principal axes: T 3.1730, Plg71.0000°, Azm357.0000°; N -0.2780, Plg3.0000°, Azm97.0000°; P -2.9030, Plg18.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NOU **07** *05:10:40.2, 22°.64S×170°.92E, h28km, MLv4.9/10, Southeast of Loyalty Islands*

ISC 07 05:10:34.2±0.4**, 22°.80S**±0°.06×**171°.43E**±0°.06**, h49km, n215, σ0s.99**/189**, mb4.9**/61**, MS3.7**/18**, 18C-11D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	3.42	292		Pn	05 11 23.9	-1.2
MARNC				Sn	Sn	05 12 04.2	0.0
MARNC	Mare, Loyalty	3.42	292	P	Pn	05 11 24.7	-0.3
PINNC	Pines Island,	3.69	272		Pn	05 11 28.9	+0.2
PINNC				Sn	Sn	05 12 11.3	+0.5
OUENC	Ouen Island, N	4.26	274		Pn	05 11 36.2	-0.3
OUENC	Ouen Island, N	4.26	274	P	Pn	05 11 36.3	-0.3
LIFNC	LIFOU	4.39	297		Pn	05 11 37.3	-1.0
LIFNC	LIFOU	4.39	297	P	Pn	05 11 38.0	-0.3
ONTNC	Ouen Toro	4.63	275	Pn	Pn	05 11 41.3	-0.3
ONTNC	Ouen Toro	4.63	275	P	Pn	05 11 42.0	+0.4
DZM	Mont Dzumac	4.67	278	P	Pn	05 11 42.1	-0.2
DZM	Mont Dzumac	4.67	278	*e*Pn	Pn	05 11 41.5	-0.8
	198nm,0.8s						
DZM				*e*Sn	Sn	05 12 33.3	-2.0
	572nm,0.8s						
DZM	Mont Dzumac	4.67	278	Pn	Pn	05 11 42.1	-0.2
	26nm,0.3s,baz=124,slow=14,SNR=253						
DZM				Sn	Sn	05 12 34.7	-0.6
	25nm,0.3s,baz=357,slow=24,SNR=4.3						
DZM				LR	LR	05 13 31.9	
	comp=Z,1μm,18.4s,baz=116,slow=38						
	84nm,0.4s						
NOUC	Port Laguerre	4.80	277	P	Pn	05 11 43.6	-0.3
RTV	Rentapao	5.73	330	P	Pn	05 11 59.0	+2.3
DVP	Devils Point	5.90	328	P	Pn	05 12 01.1	+2.0
KOUNC	Koumac, New Ca	7.01	287	Pn	Pn	05 12 14.2	-0.2
RAO	Raoul Island	11.53	126	LR	LR	05 16 47.9	
	comp=Z,666nm,18.7s,baz=126,slow=34						
TOZ	Tahuroa Road	15.29	168	P	P	05 14 12.5	+1.8
HIZ	Hauiti	15.93	170	P	P	05 14 20.5	+2.5
HIZ				IAmb	IAmb	05 14 21.1	
	comp=Z,85nm,1.1s						
URZ	Urewera	16.16	164	Pn	Pn	05 14 17.2	-0.7
	comp=Z,0.4nm,0.3s,baz=124,slow=7.6,SNR=9.3						
URZ				LR	LR	05 19 18.5	
	comp=Z,348nm,20.2s,baz=46,slow=33						
	comp=Z,18nm,0.8s						
RTZ	Ruatahuna	16.46	164		P	05 14 25.8	+1.8
BKZ	Black Stump Fm	16.87	166		P	05 14 30.7	+2.3
HNR	Honiara	17.26	319	P	Pn	05 14 31.7	-0.1
	comp=Z,634nm,0.3s,baz=124,slow=7.3,SNR=2.0						
MRZ	Mangatainoka R	18.15	170	P	P	05 14 42.5	0.0
TCW	Tory Channel	18.51	173	P	P	05 14 46.2	-0.2
MRNZ	Matariki Terra	18.58	177	P	Pn	05 14 49.1	+1.3
EIDS	Eidsvold	18.76	258	P	P	05 14 49.4	+0.2
ARMA	Armidale	19.25	243		P	05 14 55.4	+0.7
INZ	Inchbonnie	19.87	180		Pn	05 15 03.2	0.0
LTZ	Lake Taylor	19.94	178	P	Pn	05 15 03.5	-0.5
FOZ	Fox Glacier	20.72	183		Pn	05 15 12.5	-0.7
FOZ				IAmb	IAmb	05 15 15.3	
	comp=Z,47nm,1.1s						
RPZ	Rata Peaks	20.86	181	P	P	05 15 13.3	+1.3
RPZ				IAmb	IAmb	05 15 27.6	
	comp=Z,38nm,1.1s						
RPZ	Rata Peaks	20.86	181	P	P	05 15 11.3	-0.7
	comp=Z,7.8nm,0.5s,baz=153,slow=0.6,SNR=4.5						
RPZ				LR	LR	05 22 06.0	
	comp=Z,282nm,21.8s,baz=323,slow=33						
	comp=Z,7.8nm,0.5s						
CAN	Canberra	23.18	232	P	P	05 15 38.2	+1.5
CAN				IAmb	IAmb	05 16 05.0	
	comp=Z,50nm,1.3s						
CTA	Charters Tower	23.58	272	P	P	05 15 41.4	+0.7
	comp=Z,10nm,1.0s,baz=90,slow=11,SNR=14						
CTA				LR	LR	05 24 15.6	
	comp=Z,213nm,19.4s,baz=87,slow=35						
	comp=Z,10nm,1.0s						
CTAO	Charters Tower	23.58	272	P	P	05 15 42.0	+1.3
TOO	Toolangi	26.71	231	P	P	05 16 09.5	+0.5
TOO				IAmb	IAmb	05 16 18.2	
	comp=Z,33nm,1.5s						
RAR	Rarotonga	26.73	92	LR	LR	05 26 17.5	
	comp=Z,57nm,19.0s,baz=309,slow=36						
PMG	Port Moresby	26.80	296	P	P	05 16 09.0	-0.9
PMG				IAmb	IAmb	05 16 11.2	
	comp=Z,19nm,0.7s						
PMG	Port Moresby	26.80	296	P	P	05 16 09.7	-0.2
	comp=Z,22nm,0.7s,baz=107,slow=11,SNR=5.2						
PMG				LR	LR	05 25 25.8	
	comp=Z,154nm,19.1s,baz=156,slow=33						
	comp=Z,22nm,0.7s						
STKA	Stephens Creek	27.93	245	P	P	05 16 20.1	+0.2
STKA	Stephens Creek	27.93	245	P	P	05 16 22.0	+2.0
	comp=Z,4.8nm,0.9s,baz=96,slow=15,SNR=4.3						
STKA				LR	LR	05 26 29.8	
	comp=Z,237nm,20.4s,baz=64,slow=34						
	comp=Z,4.8nm,0.9s						
COEN	Coen	28.18	283	P	P	05 16 21.4	-0.9
COEN				IAmb	IAmb	05 16 25.3	
	comp=Z,13nm,0.8s						
BBOO	Buckleboo	32.71	244	P	P	05 17 00.9	-1.3
WR0	Warramunga Arr	34.41	268	P	P	05 17 17.2	0.0
AS31	Alice Springs	34.43	261	P	P	05 17 17.6	+0.3
ASAR	Alice Springs	34.43	261	P	P	05 17 17.3	0.0
ASAR	Alice Springs	34.43	261	P	P	05 17 17.9	+0.6
	comp=Z,6.4nm,0.8s,baz=88,slow=9.3,SNR=51						
ASAR				PcP	PcP	05 19 52.4	+0.3
	comp=Z,0.6nm,0.7s,baz=119,slow=3.3,SNR=4.2						
ASAR				LR	LR	05 31 37.1	
	comp=Z,164nm,18.2s,baz=102,slow=37						
	comp=Z,6.4nm,0.8s						
WB0	Warramunga Arr	34.59	268	P	P	05 17 18.4	-0.3
WB2	Warramunga Arr	34.59	268	P	P	05 17 18.3	-0.4
WRA	Warramunga Arr	34.60	268	P	P	05 17 18.3	-0.5
WRA	Warramunga Arr	34.60	268	P	P	05 17 18.1	-0.7
	comp=Z,2.4nm,0.4s,baz=97,slow=8.2,SNR=92						
WRA				PcP	PcP	05 19 52.6	0.0
	comp=Z,0.8nm,0.7s,baz=94,slow=2.5,SNR=2.6						
	comp=Z,2.4nm,0.4s						
TBI	Tubuai	35.91	99	*e*LR	LR	05 27 00.6	
	comp=Z,1μm,26.2s						
TBI				*e*LR	LR	05 27 14.9	
	comp=Z,952nm,33.8s						
PPT2	Papeete2	36.88	89	*e*LQ	LQ	05 26 03.2	
	comp=Z,429nm,39.5s						
PPT2				*e*LR	LR	05 27 17.1	
	comp=Z,131nm,28.5s						
PPT2				*e*LR	LR	05 27 42.4	
	comp=Z,113nm,23.5s						
FORT	Forrest	39.33	249	P	P	05 18 00.1	+1.3
FORT				IAmb	IAmb	05 18 21.6	
	comp=Z,34nm,0.9s						
MTN	Manton Dam	39.51	277	P	P	05 18 00.2	-0.3
MTN				IAmb	IAmb	05 18 01.3	
	comp=Z,16nm,0.7s						
KNRA	Kununurra	40.80	272	P	P	05 18 10.6	-0.5
KNRA				IAmb	IAmb	05 18 22.0	
	comp=Z,45nm,1.4s						
H11S2	WAKE ISLAND Hy	41.30	353	T	T	06 01 58.8	
	baz=176,slow=79						
H11S3	WAKE ISLAND Hy	41.30	353	T	T	06 02 04.4	
	baz=176,slow=79						
H11S1	WAKE ISLAND Hy	41.32	353	T	T	06 02 08.1	
	baz=176,slow=79						
GUMO	Guam	44.55	322	LR	LR	05 36 42.9	
	comp=Z,115nm,18.1s,baz=131,slow=35						
SWI	Sorong	44.70	294	P	P	05 18 43.1	+0.3
BATI	Baumata	47.28	277	LR	LR	05 39 16.5	
	comp=Z,296nm,19.1s,baz=100,slow=36						
PSA00	Pilbara Seismi	47.58	261	P	P	05 19 05.5	+0.1
MBWA	Marble Bar	47.77	262	P	P	05 19 07.8	+0.9
NWAO	Narrogin (SRO)	48.51	246	P	P	05 19 12.9	+0.4
NWAO	Narrogin (SRO)	48.51	246	LR	LR	05 38 45.5	
	comp=Z,200nm,19.8s,baz=38,slow=35						
SANI	Sanana	48.65	288	P	P	05 19 14.1	+0.4
	comp=Z,35nm,1.0s						
EDFI	Ende, Flores	49.63	278	P	P	05 19 23.2	+1.8
	comp=Z,12nm,0.9s,comp=Z,1μm						
MORW	Morawa	49.83	251	P	P	05 19 22.9	+0.3
MORW				IAmb	IAmb	05 19 23.6	
	comp=Z,13nm,0.7s						
GIRL	Giralia	52.46	258	P	P	05 19 42.0	-0.4
KAPI	Kappang	52.88	281	P	P	05 19 46.4	+0.8
KAPI				IAmb	IAmb	05 20 00.2	
	comp=Z,22nm,1.1s						
KAPI	Kappang	52.88	281	P	P	05 19 45.8	+0.2
	comp=Z,3.8nm,0.3s,baz=129,slow=6.5,SNR=3.1						
	comp=Z,3.8nm,0.3s						
DAV	Davao City (W)	53.79	298	LR	LR	05 41 58.4	
	comp=Z,16nm,19.6s,baz=271,slow=35						
TOLI2	Tolitoli	54.72	289	P	P	05 19 59.3	+0.3
TOLI2				IAmb	IAmb	05 20 02.5	
	comp=Z,19nm,1.1s						
VNDA	Vanda	54.97	183	P	P	05 20 00.7	+0.8
VNDA	Vanda	54.97	183	P	P	05 19 59.3	-0.6
	comp=Z,0.7nm,0.9s,baz=352,slow=7.2,SNR=2.1						
VNDA				LR	LR	05 39 57.3	
	comp=Z,79nm,20.8s,baz=335,slow=32						
	comp=Z,0.7nm,0.9s						
CASY	Casey	57.73	205	P	P	05 20 20.5	+0.9
CASY				IAmb	IAmb	05 20 34.9	
	comp=Z,14nm,1.5s						
KPJI	Karang Pucung	61.87	274	P	P	05 20 50.4	+1.4
	comp=Z,15nm,1.4s						
LEM	Lembang	63.27	274	P	P	05 20 59.8	+1.3
	comp=Z,14nm,0.4s,baz=111,slow=18,SNR=3.5						
LEM				LR	LR	05 49 04.5	
	comp=Z,69nm,19.4s,baz=218,slow=36						
	comp=Z,14nm,0.4s						
JHJ	Hachijo jima 2	63.28	330	LR	LR	05 48 46.1	
	comp=Z,29nm,18.8s,baz=158,slow=36						
KSM	Kuching	64.17	283	P	P	05 21 04.1	-0.2
MJAR	Matsushiro Arr	66.84	331	P	P	05 21 19.7	-1.4
	comp=Z,2.7nm,0.7s,baz=160,slow=6.6,SNR=4.6						
MJAR				LR	LR	05 50 41.7	
	comp=Z,35nm,19.0s,baz=71,slow=36						
	comp=Z,2.7nm,0.7s						
JNU	Nakatsue	67.74	324	LR	LR	05 46 55.0	
	comp=Z,27nm,21.7s,baz=121,slow=32						
ASAJ	Asahikawa	71.64	339	LR	LR	05 47 02.3	
	comp=Z,74nm,21.9s,baz=264,slow=31						
KSRS	Korea Array	72.59	325	LR	LR	05 51 52.3	
	comp=Z,37nm,20.1s,baz=90,slow=34						
NJ2	Nanjing	74.18	315	*e*P	P	05 22 06.7	+0.9
NJ2				pP	pP	05 22 16.9	-2.0
NJ2				sP	PcP	05 22 21.4	+0.8
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,140nm,5.0s						
MAW	Mawson	75.92	202	P	P	05 22 15.4	+0.1
MAW	Mawson	75.92	202	P	P	05 22 15.6	+0.3
	comp=Z,4.3nm,0.7s,baz=130,slow=10,SNR=2.2						
MAW				LR	LR	05 53 08.6	
	comp=Z,41nm,18.2s,baz=160,slow=34						
	comp=Z,4.3nm,0.7s						
PEA0B	Petropavlovsk-	76.53	352	P	P	05 22 18.2	-0.6
PETK	Petropavlovsk-	76.53	352	P	P	05 22 18.1	-0.8
PETK	Petropavlovsk-	76.53	352	P	P	05 22 17.7	-1.2
	comp=Z,4.0nm,0.9s,baz=142,slow=7.3,SNR=3.3						
	comp=Z,4.0nm,0.9s						
MDJ	Mudanjiang	77.22	331	P	P	05 22 25.1	+2.2
MDJ				pmax	pmax		
	comp=Z,18nm,2.2s						
MDJ				pmax	pmax		
	comp=Z,300nm,5.0s						
BNX	BinXian	79.07	330	⇓P	P	05 22 32.2	-1.0
BNX				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BNX				pmax	pmax		
	comp=Z,220nm,4.3s						
GYA	Guiyang	79.52	304	*e*P	P	05 22 37.9	+1.7
GYA				pmax	pmax		
	comp=Z,14nm,0.6s						
LYN	LuoYang	79.91	314	⇑P	P	05 22 38.3	+0.3
LYN				pP	pP	05 22 48.5	-2.7
LYN				sP	pwP	05 22 54.2	-1.1
LYN				pmax	pmax		
	comp=Z,17nm,0.8s						
LYN				pmax	pmax		
	comp=Z,150nm,5.1s						
HNS	HongShan	80.20	317	⇑P	P	05 22 40.8	+1.3
BJT	Baijiatuau	80.97	320	P	P	05 22 43.0	-0.6
BJT				IAmb	IAmb	05 22 44.6	
	comp=Z,7.0nm,0.9s						
CRAI	Chiangrai	81.44	296	P	P	05 22 46.4	-0.2
CMAR	Chiang Mai Arr	81.82	294	P	P	05 22 50.6	+2.1
	comp=Z,5.4nm,0.6s,baz=137,slow=3.9,SNR=33						
	comp=Z,5.4nm,0.6s						
CHTO	Chiang Mai	81.98	294	P	P	05 22 48.6	-0.8
CHTO				IAmb	IAmb	05 22 52.2	
	comp=Z,14nm,1.0s						
XAN	Xi'an	82.01	312	P	P	05 22 49.8	+0.5
XAN				pP	pP	05 23 01.4	-1.1
XAN				pmax	pmax		
	comp=Z,14nm,0.7s						
ELIB	Princess Elisa	83.00	190	*d*P	P	05 22 53.0	-1.0
	comp=Z,5.7nm,1.1s						
PZH	PanZhiHua	83.34	302	P	P	05 22 56.9	+0.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,180nm,4.6s						
TROLL	Troll, Antarti	85.13	183	⇑P	P	05 23 04.1	-0.7
	comp=Z,323nm,0.6s						
SNAA	Sanae	85.70	182	⇑P	P	05 23 06.4	-1.1
	comp=Z,47nm,0.5s						
SNAA	Sanae	85.70	182	P	P	05 23 06.4	-1.1
	comp=Z,2.7nm,0.6s,baz=209,slow=12,SNR=21						
	comp=Z,2.7nm,0.6s						
VNA3	Neumayer Olymp	86.21	180	⇑P	P	05 23 08.7	-1.4
	comp=Z,7.6nm,0.7s						
VNA2	Neumayer--Watz	86.53	180	P	P	05 23 10.6	-1.0
	comp=Z,3.6nm,0.5s,baz=178,slow=5.0						
CMB	Columbia Colle	88.03	47	IAmb	IAmb	05 23 22.1	
	comp=Z,7.1nm,1.1s						
ISA	Isabella, Lake	88.16	50	IAmb	IAmb	05 23 20.7	
	comp=Z,7.0nm,0.8s						
YBH	Yreka Blue Hor	88.45	43	P	P	05 23 20.8	-0.5
YBH				IAmb	IAmb	05 23 22.3	
	comp=Z,4.7nm,0.7s						
WAKR	Walker	88.91	47	IAmb	IAmb	05 23 24.7	
	comp=Z,8.5nm,1.0s						
YERR	Yerington	89.29	47	IAmb	IAmb	05 23 26.5	
	comp=Z,8.1nm,1.2s						
LHV	Little Huntoon	89.42	48	IAmb	IAmb	05 23 26.8	
	comp=Z,7.0nm,0.9s						
GRAC	Grapevine Rang	89.59	49	IAmb	IAmb	05 23 46.4	
	comp=Z,13nm,1.3s						
NVAR	Mina Array Bea	89.64	48	P	P	05 23 26.6	-0.6
	comp=Z,5.5nm,0.8s,baz=224,slow=8.6,SNR=34						
	comp=Z,5.5nm,0.8s						
NV11	Mina Array Sit	89.75	48	IAmb	IAmb	05 23 28.1	
	comp=Z,7.3nm,0.8s						
KVN	Kaiserville	90.09	47	IAmb	IAmb	05 23 29.6	
	comp=Z,8.9nm,0.8s						
K05A	Summer Lake	90.13	43	P	P	05 23 28.5	-0.8
K05A				IAmb	IAmb	05 23 32.8	
	comp=Z,11nm,1.1s						
J05D	Fort Rock, OR	90.20	42	P	P	05 23 28.0	-1.6
TPH	Tonopah	90.21	48	P	P	05 23 28.2	-1.6
TPNV	Topopah Spring	90.35	50	P	P	05 23 29.0	-1.5
TPNV				IAmb	IAmb	05 23 30.6	
	comp=Z,4.9nm,0.8s						
SHL	Shillong	90.81	297	P	P	05 23 32.8	-0.1
ULN	Ulaanbaatar	90.93	323	P	P	05 23 32.5	-0.3
SONM	Songino Array	91.28	322	P	P	05 23 34.4	-0.1
SONM				IAmb	IAmb	05 23 35.4	
	comp=Z,5.9nm,0.9s						
SONM	Songino Array	91.28	322	P	P	05 23 34.0	-0.4
	comp=Z,5.9nm,1.0s,baz=138,slow=4.0,SNR=23						
	comp=Z,5.9nm,1.0s						
BMN	Battle Mountai	91.35	46	P	P	05 23 34.5	-0.5
BMN				IAmb	IAmb	05 23 35.6	
	comp=Z,8.2nm,1.1s						
PRN	Pahroc Range	91.41	50	IAmb	IAmb	05 23 36.2	
	comp=Z,5.5nm,0.9s						
I07A	Izee	91.69	42	P	P	05 23 35.9	-0.5
I07A				IAmb	IAmb	05 23 36.9	
	comp=Z,5.1nm,0.9s						
J08A	Circle Bar Ran	91.97	43	IAmb	IAmb	05 23 38.6	
	comp=Z,8.4nm,1.3s						
G08A	Pilot Rock	92.64	41	P	P	05 23 40.6	-0.2
G08A				IAmb	IAmb	05 23 41.0	
	comp=Z,4.5nm,0.8s						
U15A	North Rim	92.94	52	P	P	05 23 42.0	-0.6
ILAR	Eielson Array	93.03	17	P	P	05 23 39.0	-2.9
	comp=Z,1.3nm,0.8s,baz=228,slow=5.1,SNR=14						
	comp=Z,1.3nm,0.8s						
E08A	Dider Farm, El	93.18	40	P	P	05 23 42.6	-0.4
E08A				IAmb	IAmb	05 23 43.3	
	comp=Z,4.5nm,1.0s						
F10A	Beach Ranch, E	94.03	41	IAmb	IAmb	05 23 48.9	
	comp=Z,3.2nm,0.8s						
PLCA	Paso Flores	94.53	138	P	P	05 23 48.2	-1.5
	comp=Z,0.9nm,0.5s,baz=248,slow=5.4,SNR=2.2						
	comp=Z,0.9nm,0.5s						
F24K	Squaw Lake	94.97	15	P	P	05 23 50.1	-0.7
F24K				IAmb	IAmb	05 23 53.2	
	comp=Z,2.9nm,0.8s						
PDAR	Pinedale Array	97.54	47	P	P	05 24 01.6	-1.8
	comp=Z,0.2nm,0.5s,baz=225,slow=6.2,SNR=2.4						
	comp=Z,0.2nm,0.5s						
BOSA	Boshof	119.37	214	PKP	PKiKP	05 29 19.6	+0.6
	comp=Z,2.9nm,0.8s,baz=171,slow=1.9,SNR=6.7						
BDFB	Brasilia	125.68	131	PKP	PKPdf	05 29 30.5	-0.8
	comp=Z,5.7nm,0.7s,baz=292,slow=1.6,SNR=8.9						
ARCES	ARCESS Array B	129.02	345	PKP	PKPdf	05 29 34.9	-1.1
	comp=Z,2.1nm,0.8s,baz=66,slow=3.1,SNR=6.5						
BRTR	Keskin Array B	140.57	305	PKhKP	PKPpre	05 29 54.1	
	comp=Z,0.8nm,0.5s,baz=101,slow=6.4,SNR=3.6						
BURAR	Bucovina Array	143.38	321	⇑P	PKPbc	05 30 01.3	+0.8
COVR	Voineasa-Covas	143.65	318	⇑P	PKPab	05 30 00.1	-0.4
MLR	Muntele Rosu	143.97	317	⇓P	PKPbc	05 30 02.7	+0.3
MLR	Muntele Rosu	143.97	317	PKP	PKPbc	05 30 02.6	+0.2
	comp=Z,10nm,0.5s,baz=335,slow=4.5,SNR=20						
DOPR	Dopca	144.09	318	⇑P	PKPbc	05 30 03.0	+0.4
BMR	Baia Mare	144.34	322	⇑P	PKPbc	05 30 03.8	+0.5
VOIR		144.56	318	⇑P	PKPbc	05 30 04.0	-0.1
CRVS	Cervenica-Dubn	144.76	325	*e*PKP	PKPdf	05 30 05.3	-0.2
CJR	Cluj-Napoca	144.80	321	⇓P	PKPdf	05 30 05.6	-0.1
ARR	Arges	144.85	318	⇑P	PKPdf	05 30 05.8	-0.1
HUMR	Humele	145.02	316	⇓P	PKPab	05 30 05.6	0.0
MARR	Marisel-Cluj	145.10	321	⇓P	PKPdf	05 30 06.2	0.0
ELND	Elena	145.13	313	⇑P	PKPdf	05 30 06.4	+0.1
KECS	Kecovo	145.53	325	*e*PKP	PKPab	05 30 07.8	+0.5
LANS	Liptovska Anna	145.63	327	*e*PKP	PKPab	05 30 08.6	+0.9
GZR	Gura Zlata	145.97	319	⇓P	PKPdf	05 30 07.9	+0.2
MORC	Moravsky Berou	146.16	329	⇓P	PKPdf	05 30 07.0	-1.0
MORC	Moravsky Berou	146.16	329	*e*PKP	PKPdf	05 30 08.2	+0.3
SIRR	Siria	146.16	321	⇑P	PKPbc	05 30 09.2	+0.1
SURR	Surduc	146.17	320	⇓P	PKPdf	05 30 08.4	+0.4
MAUC	Maruska	146.30	328	*e*PKP	PKPbc	05 30 08.9	-0.5
DPC	Dobruska-Polom	146.32	331	*e*PKP	PKPbc	05 30 09.5	+0.1
UPC	Upice	146.34	331	*e*PKP	PKPdf	05 30 08.8	+0.6
VYHS	Vyhne	146.37	326	*e*PKP	PKPab	05 30 10.4	-0.1
BZS	Buzias	146.54	320	⇑P	PKPdf	05 30 08.5	-0.2
JAVC	Velka Javorina	146.72	328	*e*PKP	PKPab	05 30 11.5	-0.4
BLKB	Belogradchik	146.91	316	⇑P	PKPbc	05 30 11.5	+0.2
VRAC	Vranov	146.93	329	⇑P	PKPbc	05 30 11.7	+0.5
VRAC	Vranov	146.93	329	*e*PKP	PKPbc	05 30 10.7	-0.5
VRAC	Vranov	146.93	329	PKPbc	PKPdf	05 30 09.9	+0.7
	comp=Z,5.1nm,0.6s,baz=349,slow=5.2,SNR=5.5						
MDVR	Moldovita	146.93	319	⇓P	PKPbc	05 30 11.5	+0.1
BRG	Berggiesshubel	146.96	334	*e*PKP	PKPbc	05 30 10.8	-0.3
BRG				Amp		05 30 12.6	
	comp=Z,6.5nm,0.8s						
BRG	Berggiesshubel	146.96	334	P	PKiKP	05 30 19.7	+6.0
BRG				Amp		05 30 21.3	
	comp=Z,6.1nm,1.0s						
BRG	Berggiesshubel	146.96	334	P	PKiKP	05 30 27.8	+14
BRG				Amp		05 30 28.5	
	comp=Z,9.5nm,1.0s						
CLL	Collm	147.00	335	*i* PKPbc	PKPbc	05 30 11.3	0.0
	comp=Z,8.0nm,1.0s						
CLL				*i* PKPab	PKPab	05 30 12.9	+0.1
	comp=Z,7.0nm,0.5s						
KRUC	Moravsky	147.19	329	*e*PKP	PKPbc	05 30 11.5	-0.4
MODS	Modra-Piesok	147.24	328	*e*PKP	PKPbc	05 30 12.0	-0.1
EKA	Eskdalemuir Ar	147.26	354	PKPbc	PKPdf	05 30 10.2	+0.7
	comp=Z,0.9nm,0.4s,baz=4.7,slow=3.3,SNR=7.3						
GOPC	GO Pecny, Ondr	147.32	332	*e*PKP	PKPbc	05 30 12.0	-0.3
PRU	Pruhonice	147.37	332	*e*PKP	PKPbc	05 30 12.2	-0.2
ZST	Bratislava	147.44	327	*e*PKP	PKPbc	05 30 12.1	-0.5
TREC	Trest	147.45	330	*e*PKP	PKPbc	05 30 12.6	-0.1
FRGS	Fruska Gora	147.86	321	⇓P	PKPbc	05 30 13.5	-0.4
MORH	Mrgy, Hungar	147.90	323	⇑P	PKPbc	05 30 13.6	-0.3
ZVC	Zvikov	147.93	332	*e*PKP	PKPbc	05 30 14.1	+0.2
RONA	Rosalia, Austr	148.18	327	*e*PKP	PKPbc	05 30 14.5	-0.2
	comp=Z,11nm,0.5s						
CONA	Conrad Observa	148.24	328	*i* PKP	PKPbc	05 30 15.3	+0.4
	comp=Z,5.9nm,0.6s						
CKRC	Cesky Krumlov	148.33	331	*e*PKP	PKPbc	05 30 14.7	-0.3
IDI	Anoyia	148.37	301	⇑P	PKPbc	05 30 15.3	-0.3
IDI	Anoyia	148.37	301	PKPbc	PKPbc	05 30 15.6	0.0
	comp=Z,21nm,0.6s,baz=326,slow=7.5,SNR=15						
KHC	Kasperske Hory	148.43	332	*e*PKP	PKPbc	05 30 14.6	-0.7
GERES	GERESS Array B	148.58	331	PKPbc	PKPbc	05 30 15.2	-0.6
	comp=Z,3.0nm,0.5s,baz=60,slow=3.2,SNR=8.0						
ARSA	Arzberg	148.87	327	*i* PKP	PKPbc	05 30 16.8	+0.3
	comp=Z,2.9nm,0.6s						
MOA	Molln	149.05	329	*i* PKP	PKPbc	05 30 16.2	-0.8
	comp=Z,3.8nm,0.5s,SNR=5.7						
BIOA	Bad Ischl, Aus	149.46	330	*i* PKP	PKPbc	05 30 16.9	-1.1
	comp=Z,5.2nm,0.9s						
SOKA	Soboth	149.50	327	*i* PKP	PKPbc	05 30 17.5	-0.6
	comp=Z,5.9nm,0.6s,SNR=6.0						
OBKA	Obir	149.86	327	*i* PKP	PKPbc	05 30 18.5	-0.6
	comp=Z,9.4nm,1.2s						
KBA	Koelnbreinsper	150.04	329	*i* PKP	PKPbc	05 30 18.6	-1.0
	comp=Z,6.0nm,0.5s						
VNDS	Vrh nad Dolski	150.07	327	*i* PKPbc	PKPbc	05 30 18.9	-0.6
LESA	Schwarzleotal	150.10	330	*i* PKP	PKPbc	05 30 18.8	-0.8
	comp=Z,9.4nm,0.5s						
MYKA	Terra Mystica	150.22	328	*i* PKP	PKPbc	05 30 19.0	-0.8
	comp=Z,6.2nm,0.4s,SNR=4.1						
CRNS	Crni Vrh	150.30	327	*i* PKPbc	PKPbc	05 30 19.1	-1.0
WATA	Walderalm	150.66	331	*i* PKP	PKPbc	05 30 20.2	-0.8
	comp=Z,7.7nm,0.6s						
ABTA	Abfaltersbach	150.68	330	*i* PKP	PKPbc	05 30 20.1	-0.9
	comp=Z,7.9nm,0.6s,SNR=7.8						
WTTA	Wattenberg	150.69	331	*i* PKP	PKPbc	05 30 20.9	-0.2
	comp=Z,6.9nm,0.5s						
MOTA	Moosalm	150.86	332	*i* PKP	PKPbc	05 30 21.1	-0.4
	comp=Z,5.6nm,0.5s,SNR=5.5						
RETA	Reutte	150.90	333	*i* PKP	PKPbc	05 30 21.0	-0.4
	comp=Z,1.8nm,0.5s						
SQTA	Sankt Quirin	150.91	332	*i* PKP	PKPbc	05 30 21.3	-0.2
	comp=Z,7.4nm,0.5s,SNR=5.1						
FETA	Feichten	151.27	332	*i* PKP	PKPbc	05 30 22.2	-0.3
	comp=Z,5.4nm,0.7s,SNR=5.3						
DAVA	Damuels	151.42	333	*e*PKP	PKPbc	05 30 22.3	-0.5
	comp=Z,2.3nm,0.5s						
ESDC	Sonseca Array	162.73	348	PKPab	PKPab	05 31 17.9	-1.8
	comp=Z,0.6nm,1.1s,baz=0.9,slow=3.1,SNR=4.3						
TORD	Torodi Ar. Bea	166.31	227	PKP	PKPdf	05 30 34.8	0.0
	comp=Z,4.0nm,0.9s,baz=30,slow=3.0,SNR=16						
TORD				PKPab	PKPab	05 31 36.6	+0.4
	comp=Z,1.3nm,0.7s,baz=106,slow=4.1,SNR=5.2						

IDC **07** *05:23:35.7±0.6, 41°.88N×47°.86E, h0km, mb4.1/19, mbtmp4.1/29, ML3.7/10, MS3.2/20, Error ellipse: s-maj=11.5km s-min=7.1km az=164.0*

AZER **07** *05:23:37.5±0.0, 41°.83N×47°.94E, h21km, Error ellipse: s-maj=0.5km s-min=0.2km az=5.0*

MOS **07** *05:23:38.4, 41°.84N×47°.87E, h10km, MPVA5.0*

NEIC **07** *05:23:38.3±1.4, 42°.03N±0°.08×48°.05E±0°.09, h10km±2km, mb4.1/28, Error ellipse: s-maj=13.4km s-min=10.9km az=183.0*

NORS **07** *05:23:39.7, 41°.96N×47°.88E, h9km, MPVA5.0*

DRS **07** *05:23:39.8, 41°.85N×47°.93E, h14km, FELT I=V-VI MSK at Lyakhlya; I=V MSK at Yuhari-Yarak, Ashaga-Yarak, Kushtil, Khuchni, Chuvek, Nichras, Kondik, Zildik, Pilig, Mezhgul FELT Khiv, Chere; I=IV-V MSK at Madzhalis, Tpig, Kasumkent, Kurakh; I=IV MSK at Rukel, Kubachi, Urkarakh, Akhty; I=III-IV MSK at Rutul FELT I=III MSK at Derbent, Beligi, Magaramkent, Vachi; I=II-III MSK at Kumukh, I=II MSK at Sergokala, Izberbash*

TIF **07** *05:23:39.2, 41°.81N×47°.88E, h11km±1km*

NNC **07** *05:23:48.7±2.6, 42°.28N×49°.23E, h0km, mb4.1, Error ellipse: s-maj=32.2km s-min=17.9km az=128.0*

ISC 07 05:23:39.2±0.7, 41.86N±0.01×47.97E±0.02, h28km±5km, n314, σ2.27/419, mb4.2/31, MS3.1/9, 23C-20D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMR	**Kasumkent**	**0.28**	**156**	⇑*i*PG	**Pb**	**05 23 45.8**	**-0.5**
KSMR				*e*S	**Sb**	**05 23 50.5**	**-0.6**
KSMR				smax	smax		
	comp=N,105µm,0.4s						
KSMR	**Kasumkent**	**0.28**	**156**	*i* Pg	**Pb**	**05 23 45.8**	**-0.5**
KSMR				*e*Sg	**Sb**	**05 23 50.6**	**-0.6**
DRN	**Derbent**	**0.32**	**57**	*i* PG	**Pn**	**05 23 47.6**	**-0.3**
DRN				pmax	pmax		
	comp=Z,10µm,0.2s						
DRN	**Derbent**	**0.32**	**57**	*i* Pg	**Pn**	**05 23 47.6**	**-0.3**
	comp=Z,12µm,0.5s						
DRN				*e*Sg	**Sn**	**05 23 54.0**	**+0.5**
	comp=Z,27µm,0.2s						
URKR	**Urkarakh**	**0.40**	**320**	*e*PG	**Pb**	**05 23 48.0**	**0.0**
URKR				*i* S	**Sb**	**05 23 54.7**	**+0.7**
URKR				pmax	pmax		
	comp=Z,3µm,0.3s						
URKR				smax	smax		
	comp=N,29µm,0.3s						
URKR	**Urkarakh**	**0.40**	**320**	*e*Pg	**Pb**	**05 23 48.1**	**0.0**
URKR				*e*Sg	**Sb**	**05 23 54.5**	**+0.5**
QSAR	**Qusar**	**0.41**	**148**	P	**Pb**	**05 23 48.0**	**-0.1**
	SNR=2329						
QSAR				S	**Sb**	**05 23 54.4**	**+0.3**
AKT	**Akhty**	**0.42**	**206**	*d i*PG	**Pb**	**05 23 47.2**	**-1.1**
AKT	**Akhty**	**0.42**	**206**	*i* Pg	**Pb**	**05 23 47.2**	**-1.1**
AKT				*e*Sg	**Sb**	**05 23 52.6**	**-2.0**
QUBA	**Quba, Azerbaij**	**0.64**	**142**	P	**Pb**	**05 23 52.0**	**+0.2**
	SNR=155						
QUBA				S	**Sn**	**05 24 01.1**	**-0.5**
SGKR	**Sergokala**	**0.64**	**339**	*e*PG	**Pn**	**05 23 52.6**	**+0.2**
SGKR				*e*S	**Sn**	**05 24 02.5**	**+0.8**
SGKR				pmax	pmax		
	comp=Z,2µm,0.4s						
SGKR				smax	smax		
	comp=N,24µm,0.3s						
SGKR				smax	smax		
	comp=N,19µm,0.3s						
SGKR	**Sergokala**	**0.64**	**339**	*e*Pg	**Pn**	**05 23 52.6**	**+0.2**
SGKR				*e*Sg	**Sn**	**05 24 02.5**	**+0.8**
XNQ	**Khinaliq**	**0.70**	**170**	P	**Pb**	**05 23 52.3**	**-0.6**
	SNR=3574						
XNQ				S	**Sb**	**05 24 01.9**	**-0.4**
KMKR	**Kumukh**	**0.70**	**293**	⇑*i*PG	**Pb**	**05 23 52.9**	**-0.1**
KMKR				*i* S	**Sb**	**05 24 03.0**	**+0.5**
KMKR				pmax	pmax		
	comp=Z,507nm,0.1s						
KMKR	**Kumukh**	**0.70**	**293**	*e*Pg	**Pb**	**05 23 53.0**	**-0.1**
	comp=Z,507nm,0.1s						
KMKR				*e*Sg	**Sb**	**05 24 02.8**	**+0.3**
	comp=Z,853nm,0.6s						
SEKA	**Sheki**	**0.87**	**222**	P	**Pn**	**05 23 54.4**	**-1.3**
	SNR=89						
SEKA				S	**Sb**	**05 24 06.6**	**-0.5**
SEKA	**Sheki**	**0.87**	**222**	PG	**Pn**	**05 23 54.3**	**-1.3**
GNBR	**Gunib**	**0.92**	**305**	*e*PG	**Pb**	**05 23 57.0**	**+0.5**
GNBR				*i* S	**Sn**	**05 24 09.8**	**+1.2**
GNBR				pmax	pmax		
	comp=Z,793nm,0.7s						
GNBR				smax	smax		
	comp=E,7µm,0.2s						
GNBR	**Gunib**	**0.92**	**305**	*e*Pg	**Pb**	**05 23 57.0**	**+0.5**
	comp=E,792nm,0.7s						
GNBR				*e*Sg	**Sn**	**05 24 09.4**	**+0.9**
	comp=E,7µm,0.6s						
QBL	**Gabala**	**0.92**	**186**	P	**Pn**	**05 23 55.4**	**-0.9**
	SNR=56						
QBL				S	**Sn**	**05 24 08.7**	**+0.1**
ZKTA	**Zakatala**	**1.03**	**258**	P	**Pn**	**05 23 57.4**	**-0.4**
	SNR=252						
ZKTA				S	**Sn**	**05 24 11.6**	**+0.2**
ZKTA	**Zakatala**	**1.03**	**258**	PG	**Pn**	**05 23 57.4**	**-0.4**
ARKR	**Arakani**	**1.04**	**316**	*e*PG	**Pb**	**05 23 59.3**	**+0.8**
ARKR				*i* S	**Sb**	**05 24 14.0**	**+2.2**
ARKR				pmax	pmax		
	comp=Z,649nm,0.5s						
ARKR				smax	smax		
	comp=E,6µm,0.3s						
ARKR	**Arakani**	**1.04**	**316**	*e*Pg	**Pb**	**05 23 59.3**	**+0.8**
	comp=E,648nm,0.5s						
ARKR				*e*Sg	**Sb**	**05 24 13.8**	**+2.0**
	comp=E,4µm,0.6s						
SIZA	**Siyzn**	**1.05**	**138**	P	**Pb**	**05 23 58.8**	**+0.1**
	SNR=52						
SIZA				S	**Sb**	**05 24 14.7**	**+2.5**
IML	**Ismayilli**	**1.08**	**172**	P	**Pn**	**05 23 58.8**	**+0.4**
	SNR=36						
IML				S	**Sb**	**05 24 14.0**	**+1.1**
MAK	**Makhachkala**	**1.15**	**343**	*e*PG	**Pb**	**05 24 01.4**	**+1.0**
MAK				*e*S	**Sb**	**05 24 18.3**	**+3.3**
MAK				pmax	pmax		
	comp=Z,1µm,0.3s						
MAK				smax	smax		
	comp=N,11µm,0.3s						
MAK	**Makhachkala**	**1.15**	**343**	*e*Pg	**Pb**	**05 24 01.6**	**+1.2**
MAK				*e*Sg	**Sb**	**05 24 17.6**	**+2.6**
BUJR	**Buynaksk**	**1.16**	**327**	*e*PG	**Pb**	**05 24 01.7**	**+1.2**
BUJR				*e*S	**Sb**	**05 24 18.9**	**+3.7**
BUJR				pmax	pmax		
	comp=Z,945nm,0.4s						
BUJR				smax	smax		
	comp=N,10µm,0.4s						
BUJR				smax	smax		
	comp=E,8µm,0.4s						
BUJR	**Buynaksk**	**1.16**	**327**	*e*Pg	**Pb**	**05 24 01.8**	**+1.2**
	comp=E,944nm,0.4s						
BUJR				*e*Sg	**Sb**	**05 24 18.9**	**+3.7**
	comp=E,5µm,0.5s						
XNZR	**Khunzakh**	**1.16**	**306**	*e*Pg	**Pb**	**05 24 00.8**	**+0.1**
	comp=E,1µm,0.4s						
XNZR				*e*Sg	**Sb**	**05 24 16.6**	**+1.1**
	comp=E,3µm,0.5s						
HNZR	**Khunzah**	**1.17**	**307**	*e*PG	**Pb**	**05 24 00.8**	**0.0**
HNZR				*i* S	**Sb**	**05 24 16.9**	**+1.3**
HNZR				pmax	pmax		
	comp=Z,1µm,0.4s						
HNZR				smax	smax		
	comp=N,4µm,0.6s						
PQL	**Pirkuli**	**1.17**	**156**	P	**Pb**	**05 24 01.0**	**+0.2**
	SNR=26						
PQL				S	**Sb**	**05 24 19.2**	**+3.6**
UNCR	**Uncukul**	**1.22**	**315**	*e*PG	**Pb**	**05 24 01.8**	**+0.2**
UNCR				*i* S	**Sb**	**05 24 19.6**	**+2.6**
UNCR				pmax	pmax		
	comp=Z,795nm,0.5s						
UNCR				smax	smax		
	comp=N,4µm,0.9s						
UNCR	**Uncukul**	**1.22**	**315**	*e*Pg	**Pb**	**05 24 01.8**	**+0.2**
	comp=N,795nm,0.5s						
UNCR				*e*Sg	**Sb**	**05 24 19.3**	**+2.3**
	comp=N,3µm,0.3s						
ATGJ	**Altiaghaj**	**1.23**	**144**	P	**Pb**	**05 24 02.8**	**+0.9**
	SNR=19						
ATGJ				S	**Sb**	**05 24 20.7**	**+3.2**
KRNR	**Karanay**	**1.25**	**321**	*e*PG	**Pb**	**05 24 02.6**	**+0.5**
KRNR				*i* S	**Sb**	**05 24 21.0**	**+3.1**
KRNR				pmax	pmax		
	comp=Z,397nm,0.4s						
KRNR				smax	smax		
	comp=N,2µm,0.3s						
KRNR	**Karanay**	**1.25**	**321**	*e*Pg	**Pb**	**05 24 02.6**	**+0.5**
	comp=N,397nm,0.4s						
KRNR				*e*Sg	**Sb**	**05 24 20.7**	**+2.8**
	comp=N,2µm,0.7s						
MNGR	**Mingechevir, A**	**1.28**	**212**	P	**Pb**	**05 24 02.9**	**+0.3**
	SNR=36						
MNGR				S	**Sb**	**05 24 22.4**	**+3.9**
MNGR	**Mingechevir, A**	**1.28**	**212**	PG	**Pb**	**05 24 02.8**	**+0.3**
VSHL	**Vashlovani**	**1.34**	**242**	P	**Pb**	**05 24 04.3**	**+0.7**
KANR	**Karaman**	**1.38**	**345**	*e*PG	**Pb**	**05 24 06.2**	**+1.9**
KANR				*e*S	**Sb**	**05 24 25.9**	**+4.4**
KANR				pmax	pmax		
	comp=Z,575nm,0.4s						
KANR				smax	smax		
	comp=N,4µm,0.4s						
KANR				smax	smax		
	comp=E,4µm,0.4s						
KANR				smax	smax		
	comp=N,5µm,0.5s						
DBC	**Dubki**	**1.43**	**324**	*e*PG	**Pb**	**05 24 05.4**	**+0.1**
DBC				*i* S	**Sb**	**05 24 25.5**	**+2.3**
DBC				pmax	pmax		
	comp=Z,853nm,0.6s						
DBC				smax	smax		
	comp=E,5µm,0.4s						
DBC	**Dubki**	**1.43**	**324**	*e*Pg	**Pb**	**05 24 05.4**	**+0.1**
	comp=E,853nm,0.6s						
DBC				*e*Sg	**Sb**	**05 24 25.1**	**+1.9**
	comp=E,4µm,0.4s						
KDMR	**Kurdemir**	**1.49**	**174**	Pn	**Pb**	**05 24 07.0**	**+0.8**
	SNR=29						
KDMR				Sn	**Sb**	**05 24 28.0**	**+3.3**
GBS	**Qobustan**	**1.51**	**151**	Pn	**Pb**	**05 24 08.1**	**+1.4**
	SNR=5.7						
GBS				Sn	**Sb**	**05 24 29.8**	**+4.4**
BTLR	**Botlikh**	**1.53**	**302**	*e*PN	**Pb**	**05 24 06.6**	**-0.3**
BTLR				*i* S	**Sb**	**05 24 27.6**	**+1.8**
BTLR				pmax	pmax		
	comp=Z,267nm,0.4s						
BTLR				smax	smax		
	comp=E,2µm,0.5s						
BTLR	**Botlikh**	**1.53**	**302**	*e*Pg	**Pb**	**05 24 06.4**	**-0.4**
BTLR				*e*Sg	**Sb**	**05 24 27.2**	**+1.4**
DLMR	**Dylym**	**1.56**	**321**	*e*PN	**Pb**	**05 24 08.3**	**+0.8**
DLMR				*i* S	**Sb**	**05 24 30.1**	**+3.3**
DLMR				pmax	pmax		
	comp=Z,699nm,0.5s						
DLMR				smax	smax		
	comp=E,12µm,0.4s						
DLMR	**Dylym**	**1.56**	**321**	*e*Pg	**Pb**	**05 24 08.3**	**+0.8**
DLMR				*e*Sg	**Sb**	**05 24 29.8**	**+2.9**
ZRD	**Zardab**	**1.59**	**188**	Pn	**Pb**	**05 24 08.4**	**+0.5**
	SNR=23						
ZRD				Sn	**Sb**	**05 24 31.7**	**+4.1**
BRDA	**Brd**	**1.71**	**201**	Pn	**Pb**	**05 24 10.6**	**+0.8**
	SNR=67						
BRDA				Sn	**Sb**	**05 24 34.1**	**+3.3**
GANJ	**Ganja**	**1.74**	**226**	Pn	**Pn**	**05 24 09.0**	**+1.5**
	SNR=249						
GANJ				Sn	**Sb**	**05 24 32.3**	**+0.5**
GANJ	**Ganja**	**1.74**	**226**	PN	**Pn**	**05 24 09.0**	**+1.5**
DVE	**Vedeno**	**1.75**	**309**	*e*PN	**Pb**	**05 24 11.8**	**+1.1**
DVE				pmax	pmax		
	comp=Z,76nm,0.1s						
DVE	**Vedeno**	**1.75**	**309**	*e*Pg	**Pb**	**05 24 11.9**	**+1.2**
DVE				*e*Sg	**Sb**	**05 24 35.7**	**+3.4**
AGDM	**Agdam**	**1.87**	**201**	Pn	**Pb**	**05 24 11.6**	**-1.1**
	SNR=39						
AGDM				Sn	**Sb**	**05 24 36.9**	**+1.3**
GOBA	**Gobu**	**1.97**	**137**	Sn	**Sb**	**05 24 40.9**	**+2.4**
NDR	**Nardaran**	**1.99**	**129**	Pn	**Pb**	**05 24 14.2**	**-0.4**
NDR				Sn	**Sb**	**05 24 41.4**	**+2.5**
GDB	**GEDABAY**	**2.02**	**236**	Pn	**Pn**	**05 24 13.2**	**+1.6**
	SNR=344						
GDB				Sn	**Sb**	**05 24 38.7**	**-1.4**
SAAT	**Saatly**	**2.03**	**170**	Pn	**Pb**	**05 24 13.6**	**-1.7**
SAAT				Sn	**Sb**	**05 24 40.0**	**-0.1**
ALIB	**Äli-Bayra**	**2.06**	**157**	Pn	**Pb**	**05 24 16.0**	**+0.2**
	SNR=7.0						
QZX	**Qazax, Azerbai**	**2.11**	**249**	Pn	**Pn**	**05 24 14.6**	**+1.9**
	SNR=292						
QZX				Sn	**Sb**	**05 24 41.8**	**-0.8**
BLQ	**Beylaqan**	**2.16**	**188**	Pn	**Pb**	**05 24 16.0**	**-1.6**
	SNR=22						
BLQ				Sn	**Sb**	**05 24 42.9**	**-1.0**
CHRG	**Chargali**	**2.31**	**283**	P	**Pb**	**05 24 18.9**	**-1.4**
CHRG	**Chargali**	**2.31**	**283**	*e*Pn	**Pb**	**05 24 18.9**	**-1.4**
SEAG	**Tbilisi Sea**	**2.37**	**269**	P	**Pb**	**05 24 20.8**	**-0.5**
SEAG				S	**Sb**	**05 24 49.2**	**-0.9**
SEAG	**Tbilisi Sea**	**2.37**	**269**	PN	**Pb**	**05 24 20.7**	**-0.5**
SEAG				S	**Sb**	**05 24 49.1**	**-0.9**
SEAG	**Tbilisi Sea**	**2.37**	**269**	*e*Pn	**Pb**	**05 24 20.8**	**-0.5**
SEAG				*e*Sn	**Sb**	**05 24 49.2**	**-0.9**
QRD	**Qoradiz**	**2.45**	**192**	Pn	**Pn**	**05 24 18.5**	**+1.3**
	SNR=7.6						
QRD				Sn	**Sn**	**05 24 49.1**	**+2.9**
KMGR	**Komgaron**	**2.59**	**299**	*e*Pn	**Pb**	**05 24 24.0**	**-1.0**
KMGR				*e*Sn	**Sb**	**05 24 56.4**	**+0.1**
GLBA	**Clilabad**	**2.63**	**173**	Pn	**Pn**	**05 24 21.6**	**+1.8**
	SNR=22						
GLBA				Sn	**Sb**	**05 24 55.5**	**-2.1**
GUDG	**Gudauri**	**2.67**	**284**	P	**Pb**	**05 24 25.2**	**-1.2**
GUDG				S	**Sb**	**05 25 03.8**	**+5.1**
GUDG	**Gudauri**	**2.67**	**284**	PN	**Pb**	**05 24 25.1**	**-1.2**
GUDG				S	**Sb**	**05 25 03.8**	**+5.1**
GUDG	**Gudauri**	**2.67**	**284**	*e*Pn	**Pb**	**05 24 24.4**	**-2.0**
GUDG				*e*Sn	**Sb**	**05 24 56.6**	**-2.1**
MTEO	**Meteo**	**2.68**	**289**	P	**Pb**	**05 24 24.4**	**-2.3**
MTEO	**Meteo**	**2.68**	**289**	PN	**Pb**	**05 24 24.4**	**-2.3**
VLKR	**Vladikavkaz**	**2.71**	**297**	*e*Pn	**Pb**	**05 24 27.1**	**+0.1**
VLKR				*e*Sn	**Sb**	**05 25 00.8**	**+1.0**
DMNI	**Dmanisi**	**2.89**	**261**	P	**Pn**	**05 24 24.9**	**+1.5**
DMNI				S	**Sn**	**05 25 00.0**	**+2.8**
DMNI	**Dmanisi**	**2.89**	**261**	PN	**Pn**	**05 24 24.8**	**+1.5**
DMNI				S	**Sn**	**05 25 00.0**	**+2.8**
LACR	**Lac**	**2.89**	**291**	*e*PN	**Pb**	**05 24 28.7**	**-1.4**
LACR	**Lac**	**2.89**	**291**	*e*Pn	**Pb**	**05 24 27.8**	**-2.3**
LACR				*e*Sn	**Sb**	**05 25 02.4**	**-2.6**
TRLG	**Trialeti**	**2.92**	**265**	P	**Pn**	**05 24 26.1**	**+2.3**
TRLG				S	**Sn**	**05 25 01.5**	**+3.5**
TRLG	**Trialeti**	**2.92**	**265**	PN	**Pn**	**05 24 26.1**	**+2.3**
TRLG				S	**Sn**	**05 25 01.5**	**+3.5**
TRLG	**Trialeti**	**2.92**	**265**	*e*Pn	**Pn**	**05 24 26.1**	**+2.3**
TRLG				*e*Sn	**Sn**	**05 25 01.5**	**+3.5**
BTKR	**Batakoyurt**	**2.95**	**302**	*e*Pn	**Pb**	**05 24 28.6**	**-2.5**
BTKR				*e*Sn	**Sb**	**05 25 05.8**	**-0.8**
YRD	**Yardimli**	**2.95**	**176**	Pn	**Pn**	**05 24 26.1**	**+1.8**
	SNR=25						
YRD				Sn	**Sn**	**05 24 58.9**	**0.0**
GNI	**Garni**	**2.98**	**236**		**Pn**	**05 24 27.6**	**+2.9**
GNI	**Garni**	**2.98**	**236**	*d i*PN	**Pn**	**05 24 27.4**	**+2.7**
GNI				pmax	pmax		
	comp=Z,287nm,1.0s						
GNI	**Garni**	**2.98**	**236**	*e*Pn	**Pn**	**05 24 27.4**	**+2.7**
GNI				*e*Sn	**Sb**	**05 25 05.7**	**-2.1**
GNI	**Garni**	**2.98**	**236**	Pn	**Pn**	**05 24 26.7**	**+2.0**
	comp=Z,28nm,0.3s,baz=6.5,slow=6.6,SNR=23						
GNI				Lg	Lg	05 25 10.0	
	comp=Z,37nm,0.3s,baz=6.7,slow=22,SNR=4.6						
GNI				LR	LR	05 25 50.2	
	comp=Z,598nm,18.5s,baz=8.0,slow=46						
	comp=Z,105nm,0.4s						
TRKR	**Terskaya**	**3.02**	**309**	*e*Pn	**Pb**	**05 24 29.2**	**-3.1**
TRKR				*e*Sn	**Sb**	**05 25 06.8**	**-2.0**
SBZ	**Shahbuz**	**3.07**	**218**	Pn	**Pn**	**05 24 28.1**	**+2.2**
KORR	**Kora**	**3.14**	**294**	*e*Pn	**Pn**	**05 24 30.2**	**+3.5**
KORR				*e*Sn	**Sn**	**05 25 07.0**	**+3.8**
HYR	**Heyderabad**	**3.19**	**229**	Pn	**Pn**	**05 24 31.2**	**+3.7**
HYR				Sn	**Sn**	**05 25 07.2**	**+2.5**
LKRN	**Lenkeran, Azer**	**3.21**	**169**	Sn	**Sn**	**05 25 06.7**	**+1.8**
LRK	**Lerik**	**3.23**	**175**	Pn	**Pn**	**05 24 29.9**	**+1.8**
	SNR=13						
ALIG	**Mtskhetisjvari**	**3.23**	**276**	P	**Pn**	**05 24 31.0**	**+2.9**
ALIG	**Mtskhetisjvari**	**3.23**	**276**	PN	**Pn**	**05 24 31.0**	**+2.9**
STDR	**Stavd-Durt**	**3.25**	**299**	*e*Pn	**Pb**	**05 24 32.7**	**-3.6**
STDR				*e*Sn	**Sb**	**05 25 11.4**	**-4.0**
NAX	**Nakhchivan**	**3.28**	**216**	Pn	**Pn**	**05 24 32.0**	**+3.2**
	SNR=10						
NAX	**Nakhchivan**	**3.28**	**216**	PN	**Pn**	**05 24 32.0**	**+3.2**
ORD	**Ordubad**	**3.30**	**208**	Pn	**Pn**	**05 24 32.0**	**+3.0**
	SNR=70						
ORD				Sn	**Sn**	**05 25 11.1**	**+3.8**
BGD	**Bogdanovka**	**3.33**	**261**	P	**Pn**	**05 24 32.2**	**+2.6**
BGD	**Bogdanovka**	**3.33**	**261**	PN	**Pn**	**05 24 32.2**	**+2.6**
ASTR	**Astara**	**3.36**	**169**	Pn	**Pn**	**05 24 33.8**	**+4.1**
ASTR				Sn	**Sb**	**05 25 13.8**	**-4.5**
AKH	**Akhalkalaki**	**3.39**	**264**	*i* P	**Pn**	**05 24 33.4**	**+3.1**
AKH	**Akhalkalaki**	**3.39**	**264**		**Pn**	**05 24 32.9**	**+2.6**
AKH	**Akhalkalaki**	**3.39**	**264**	P	**Pn**	**05 24 33.5**	**+3.1**
AKH	**Akhalkalaki**	**3.39**	**264**	*e*PN	**Pn**	**05 24 33.5**	**+3.1**
TASB	**TASBURUN-IGDIR**	**3.39**	**238**	*e*P	**Pn**	**05 24 30.4**	**+0.1**
DIGR	**Digorskoe uzhe**	**3.42**	**289**	*e*Pn	**Pn**	**05 24 34.0**	**+3.3**
DIGR				*e*Sn	**Sb**	**05 25 16.5**	**-3.7**
ONI	**Oni**	**3.44**	**284**	*e*P	**Pb**	**05 24 35.9**	**-3.4**
ONI	**Oni**	**3.44**	**284**		**Pn**	**05 24 32.8**	**+1.9**
ONI	**Oni**	**3.44**	**284**	P	**Pn**	**05 24 35.2**	**+4.3**
ONI	**Oni**	**3.44**	**284**	*e*PN	**Pn**	**05 24 35.2**	**+4.3**
ONI	**Oni**	**3.44**	**284**	*e*Pn	**Pn**	**05 24 35.2**	**+4.3**
NCK	**Nalchik**	**3.62**	**298**	⇑*e*PN	**Pn**	**05 24 36.9**	**+3.6**
TKB	**Tkibuli**	**3.74**	**279**	P	**Pb**	**05 24 40.8**	**-3.6**
TKB	**Tkibuli**	**3.74**	**279**	PN	**Pb**	**05 24 40.8**	**-3.6**
ABS	**Abastumani**	**3.86**	**270**	P	**Pn**	**05 24 39.6**	**+2.8**
ABS	**Abastumani**	**3.86**	**270**	PN	**Pn**	**05 24 39.6**	**+2.8**
KBTC	**Kuba-Taba**	**3.88**	**302**	*e*Pn	**Pn**	**05 24 40.4**	**+3.4**
KBTC				*e*Sn	**Sn**	**05 25 24.6**	**+2.9**
KARS	**Kars**	**3.89**	**253**	*e*P	**Pb**	**05 24 44.2**	**-2.9**
KARS	**Kars**	**3.89**	**253**		**Pn**	**05 24 39.8**	**+2.6**
KARS	**Kars**	**3.89**	**253**	PN	**Pn**	**05 24 39.8**	**+2.6**
CLDR	**Caldiran**	**4.11**	**230**	*e*P	**Pn**	**05 24 41.9**	**+1.5**
NEUR	**Neytrino**	**4.14**	**292**	*e*PN	Pn	05 24 45.5	+4.9
NEUR	**Neytrino**	**4.14**	**292**	*e*Pn	**Pn**	**05 24 44.7**	**+4.1**
NEUR				*e*Sn	**Sn**	**05 25 33.7**	**+5.5**
KBZ	**Khabaz**	**4.17**	**298**	*e*Pn	**Pn**	**05 24 42.7**	**+1.8**
KBZ				*e*Sn	**Sn**	**05 25 30.8**	**+2.1**
KBZ	**Khabaz**	**4.17**	**298**	Pn	**Pn**	**05 24 42.8**	**+1.8**
	comp=Z,1.7nm,0.3s,baz=114,slow=3.9,SNR=30						
KBZ				Sn	**Sn**	**05 25 27.9**	**-0.9**
	comp=Z,3.9nm,0.3s,baz=18,slow=22,SNR=4.7						
KBZ				LR	LR	05 26 42.0	
	comp=Z,125nm,21.7s,baz=126,slow=46						
	comp=Z,13nm,0.6s						
PYA1	**Pyatigorsk**	**4.20**	**303**	*c i*PN	**Pn**	**05 24 43.7**	**+2.4**
PYA1	**Pyatigorsk**	**4.20**	**303**	*e*Pn	**Pn**	**05 24 43.7**	**+2.4**
PYA1				*e*Sn	**Sn**	**05 25 29.4**	**-0.1**
SHA1	**Shidzhatmaz**	**4.34**	**297**	⇓*i*PN	**Pn**	**05 24 45.8**	**+2.4**
SHA1	**Shidzhatmaz**	**4.34**	**297**	*e*Pn	**Pn**	**05 24 45.6**	**+2.2**
SHA1				*e*Sn	**Sn**	**05 25 34.5**	**+1.3**
BEYR	**Belyy Ugol+**	**4.35**	**301**	*e*Pn	**Pn**	**05 24 45.7**	**+2.3**
BEYR				*e*Sn	**Sn**	**05 25 34.8**	**+1.5**
KVAR	**Kislovodsk Arr**	**4.41**	**300**	Pn	**Pn**	**05 24 46.9**	**+2.7**
	baz=90,slow=20						
KVAR				Sn	**Sn**	**05 25 34.3**	**-0.3**
	baz=256,slow=23						
	comp=Z,9.4nm,0.4s						
KIV	**Kislovodsk**	**4.41**	**300**	Pn	**Pn**	**05 24 45.6**	**+1.3**
KIV	**Kislovodsk**	**4.41**	**300**	*e*PN	**Pn**	**05 24 46.3**	**+2.0**
KIV				*e*S	**Sn**	**05 25 39.4**	**+4.6**
KIV				pmax	pmax		
	comp=Z,34nm,1.0s						
KIV				MLR	MLR		
	comp=Z,33nm,8.0s						
KIV	**Kislovodsk**	**4.41**	**300**	*e*Pn	**Pn**	**05 24 46.6**	**+2.3**
KIV				*e*Sn	**Sn**	**05 25 36.0**	**+1.2**
AGRB	**Hanur-Agry**	**4.42**	**241**	*e*P	**Pn**	**05 24 46.3**	**+1.8**
SENK	**Senkaya-Erzuru**	**4.43**	**255**	*e*P	**Pb**	**05 24 56.5**	**+0.1**
ALER	**Alexandrovskoy**	**4.69**	**310**	*e*Pn	**Pn**	**05 24 51.3**	**+3.1**
ALER				*e*Sn	**Sn**	**05 25 44.3**	**+2.7**
BATM	**Batumi**	**4.71**	**269**	*e*P	**Pn**	**05 24 53.0**	**+4.7**
BCA	**Borcka**	**4.78**	**267**	*e*P	Pb	05 24 57.2	-4.9
VANB	**Van**	**4.79**	**229**	*e*P	**Pb**	**05 25 03.6**	**+1.2**
GOF	**Gofitskoye**	**4.80**	**313**	*c e*PN	**Pn**	**05 24 52.8**	**+3.2**
GOF				*e*S	**Sn**	**05 25 47.6**	**+3.3**
GOF	**Gofitskoye**	**4.80**	**313**	*e*Pn	**Pn**	**05 24 53.1**	**+3.5**
GOF				*e*Sn	**Sn**	**05 25 48.4**	**+4.1**
KOPR	**Koprukoy-ERZUR**	**5.00**	**250**	*e*P	**Pb**	**05 25 04.9**	**-1.1**
ARXR	**Arkhyz**	**5.22**	**291**	*e*Pn	**Pn**	**05 24 58.5**	**+3.0**
ARXR				*e*Sn	**Sn**	**05 25 56.0**	**+1.2**
SIRT	**Sirnak**	**6.10**	**226**	Pn	**Pn**	**05 25 11.5**	**+4.0**
GUZR	**Guzeripl'**	**6.15**	**293**	*e*Pn	**Pn**	**05 25 12.2**	**+4.1**
GUZR				*e*Sn	**Sn**	**05 26 17.0**	**-0.5**
GEYT	**Alibeck**	**8.73**	**113**	Pn	**Pn**	**05 25 45.6**	**+2.1**
GEYT	**Alibeck**	**8.73**	**113**	P	**Pn**	**05 25 45.6**	**+2.1**
GEYT	**Alibeck**	**8.73**	**113**	Pn	**Pn**	**05 25 45.0**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=300,slow=18,SNR=2.0						
GEYT				LR	LR	05 30 05.7	
	comp=Z,65nm,20.6s,baz=140,slow=44						
	comp=Z,3.0nm,0.4s						
GYA0B	**ALIBECK ARRAY**	**8.73**	**113**	Pn	**Pn**	**05 25 45.3**	**+1.8**
AKTO	**Aktyubinsk**	**11.04**	**36**	Pn	**Pn**	**05 26 15.6**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=218,slow=12,SNR=14						
AKTO				Sn	**Sn**	**05 28 12.7**	**-4.8**
	comp=Z,2.3nm,0.3s,baz=17,slow=20,SNR=7.4						
	comp=Z,7.0nm,0.6s						
AKTO	**Aktyubinsk**	**11.04**	**36**	⇓P	**Pn**	**05 26 15.5**	**+0.4**
	comp=Z,2.3nm,0.5s						
AKTO				⇑S	**Sn**	**05 28 13.7**	**-3.8**
	comp=Z,27nm,0.7s						
BRTR	**Keskin Array B**	**11.08**	**264**	Pn	**Pn**	**05 26 18.1**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=81,slow=11,SNR=5.4						
BRTR				LR	LR	05 30 49.4	
	comp=Z,123nm,21.2s,baz=74,slow=40						
	comp=Z,1.3nm,0.9s						
VSR	**Storozhevoye**	**11.14**	**330**	*e*P	**Pn**	**05 26 19.4**	**+2.9**
VSR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AB31	**Akbulak array**	**11.18**	**45**	P	**Pn**	**05 26 17.3**	**+0.4**
AB31				*e*S	**Sn**	**05 28 18.1**	**-2.7**
AB31	**Akbulak array**	**11.18**	**45**	⇑P	**Pn**	**05 26 17.3**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=234,slow=12,SNR=70						
AB31				⇓S	**Sn**	**05 28 14.1**	**-6.7**
	comp=Z,24nm,0.6s,baz=232,slow=21,SNR=7.3						
ABKAR	**Akbulak array**	**11.18**	**45**	Pn	**Pn**	**05 26 15.3**	**-1.6**
VORR	**Voronezh**	**11.50**	**332**	*e*P	**Pn**	**05 26 17.6**	**-3.7**
VORR				pmax	pmax		
	comp=Z,70nm,0.4s						
LPSR	**Galich'ya Gora**	**12.37**	**333**	*e*P	**Pn**	**05 26 32.7**	**-0.5**
LPSR				pmax	pmax		
	comp=Z,20nm,0.6s						
ASF	**Jabal al Asfar**	**13.10**	**226**	LR	LR	05 32 57.4	
	comp=Z,205nm,18.3s,baz=83,slow=43						
MMAI	**Mount Meron Ar**	**13.32**	**233**	LR	LR	05 32 23.6	
	comp=Z,164nm,21.4s,baz=12,slow=40						
SORM	**Soroca**	**15.21**	**301**	⇑P	**P**	**05 27 16.7**	**+0.1**
SORM	**Soroca**	**15.21**	**301**	⇑P	**P**	**05 27 16.7**	**+0.1**
OBN	**Obninsk**	**15.24**	**334**	Pn	**Pn**	**05 27 10.7**	**-1.4**
OBN	**Obninsk**	**15.24**	**334**	⇑*e*P	**Pn**	**05 27 10.8**	**-1.3**
OBN				*e*S	**Sn**	**05 29 58.4**	**-1.4**
OBN				pmax	pmax		
	comp=Z,32nm,1.1s						
OBN				MLR	MLR		
	comp=Z,55nm,6.0s						
MOS	**Moscow**	**15.44**	**338**	*e*P	**Pn**	**05 27 10.1**	**-4.7**
MOS				*e*S	**Sn**	**05 30 01.5**	**-3.4**
MOS				pmax	pmax		
	comp=Z,44nm,0.7s						
AKASG	**Malin Array Be**	**15.65**	**311**	Pn	**Pn**	**05 27 17.9**	**+0.3**
AKASG	**Malin Array Be**	**15.65**	**311**	P	**Pn**	**05 27 17.9**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,4.0nm,1.2s						
AKASG	**Malin Array Be**	**15.65**	**311**	Pn	**Pn**	**05 27 16.2**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=86,slow=8.9,SNR=3.2						
AKASG				LR	LR	05 34 47.8	
	comp=Z,77nm,19.5s,baz=161,slow=43						
AKBB	**Malin Array Si**	**15.65**	**311**		**Pn**	**05 27 17.8**	**+0.2**
AKBB				IAmb	IAmb	05 27 22.3	
	comp=Z,17nm,1.1s						
AKBB	**Malin Array Si**	**15.65**	**311**	⇓*i*P	**P**	**05 27 21.5**	**0.0**
AKBB				pmax	pmax		
	comp=Z,18nm,1.0s						
KIEV	**Kiev**	**15.66**	**311**		**Pn**	**05 27 17.8**	**+0.1**
KIEV				IAmb	IAmb	05 27 22.3	
	comp=Z,14nm,1.0s						
KIEV	**Kiev**	**15.66**	**311**	P	**Pn**	**05 27 17.8**	**+0.1**
KIEV				pmax	pmax		
	comp=Z,14nm,1.0s						
VRI	**Vrincioaia**	**15.83**	**292**	⇓P	**Pn**	**05 27 14.7**	**-5.2**
VRI	**Vrincioaia**	**15.83**	**292**	⇓P	**Pn**	**05 27 14.7**	**-5.2**
TESR	**Tescani**	**15.97**	**294**	⇑P	**P**	**05 27 26.4**	**+1.3**
EIL	**Elat**	**16.09**	**225**	LR	LR	05 34 18.8	
	comp=Z,185nm,21.3s,baz=62,slow=40						
ARU	**Arti**	**16.11**	**22**		**Pn**	**05 27 20.8**	**-2.7**
ARU				IAmb	IAmb	05 27 28.7	
	comp=Z,15nm,0.7s						
ARU	**Arti**	**16.11**	**22**	*c i*P	**Pn**	**05 27 20.9**	**-2.6**
ARU				S	**Sn**	**05 30 18.4**	**-2.7**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.7s						
COVR	**Voineasa-Covas**	**16.19**	**292**	⇓P	**P**	**05 27 30.3**	**+2.8**
MLR	**Muntele Rosu**	**16.33**	**290**	Pn	**Pn**	**05 27 27.2**	**+0.7**
MLR	**Muntele Rosu**	**16.33**	**290**	P	**Pn**	**05 27 27.2**	**+0.7**
MLR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MLR	**Muntele Rosu**	**16.33**	**290**	Pn	**Pn**	**05 27 24.3**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=145,slow=12,SNR=2.1						
MLR				LR	LR	05 34 20.0	
	comp=Z,50nm,18.7s,baz=356,slow=40						
	comp=Z,1.5nm,0.5s						
TURR	**Turia**	**16.34**	**292**	⇓P	**P**	**05 27 31.8**	**+2.5**
KK31	**Karatay Array**	**16.67**	**78**		**Pn**	**05 27 30.3**	**-0.4**
KK31				IAmb	IAmb	05 27 32.4	
	comp=Z,11nm,0.8s						
KK31	**Karatay Array**	**16.67**	**78**	P	**Pn**	**05 27 30.3**	**-0.4**
KK31				pmax	pmax		
	comp=Z,11nm,0.8s						
KK31	**Karatay Array**	**16.67**	**78**	⇓P	**Pn**	**05 27 29.6**	**-1.1**
	comp=Z,5.5nm,0.6s,baz=276,slow=14,SNR=45						

KK31 ⇑S **Sn** **05 30 29.0 -5.9**
comp=Z,9.0nm,0.8s,baz=285,slow=18,SNR=14
KKAR Karatay Array 16.67 78 Pn **Pn** **05 27 30.4 -0.2**
KKAR Karatay Array 16.67 78 **Pn** **05 27 30.4 -0.2**
KKAR IAmb IAmb 05 27 32.4
comp=Z,11nm,0.8s
KKAR Karatay Array 16.67 78 P **Pn** **05 27 30.4 -0.2**
KIRV Kirov 16.77 3 ⇑*i* P **Pn** **05 27 29.9 -1.8**
KIRV Kirov 16.77 3 Pn **Pn** **05 27 29.1 -2.6**
comp=Z,1.1nm,0.3s,baz=166,slow=8.3,SNR=4.9
KIRV Sn **Sn** **05 30 30.1 -6.9**
comp=Z,1.3nm,0.3s,baz=310,slow=22,SNR=1.0
RDO Rodhopi 16.82 275 **P** **05 27 34.3 -0.1**
VOIR 16.96 290 ⇑P **P** **05 27 38.4 +2.3**
VOIR 16.96 290 ⇑P **P** **05 27 38.4 +2.3**
SVE Sverdlovsk 17.06 24 *e*P **Pn** **05 27 34.2 -1.2**
SVE *e*S **Sn** **05 30 35.6 -8.4**
SVE pmax pmax
comp=Z,30nm,1.1s
BURAR Bucovina Array 17.13 297 ⇓P **P** **05 27 38.7 +0.7**
BURAR Bucovina Array 17.13 297 P **Pn** **05 27 36.4 -0.1**
BURAR IAmb IAmb 05 27 40.0
comp=Z,8.8nm,0.7s
BURAR Bucovina Array 17.13 297 ⇓P **P** **05 27 38.7 +0.7**
BUR08 Bucovina Ar. S 17.15 297 P **Pn** **05 27 37.4 +0.6**
BUR08 IAmb IAmb 05 27 40.4
comp=Z,14nm,1.1s
BTK Batken 17.34 88 P **P** **05 27 40.1 -0.2**
BTK Batken 17.34 88 P **P** **05 27 40.2 -0.2**
BTK pmax pmax
comp=Z,9.0nm,0.8s
MNK Minsk 18.34 320 *i* P **Pn** **05 27 51.7 +0.5**
comp=E,12nm,1.0s
MNK *i* P **Pn** **05 27 51.7 +0.5**
comp=N,14nm,0.7s
MNK *i* P **Pn** **05 27 51.7 +0.5**
comp=Z,27nm,0.7s,baz=125
MNK *i* PP **PnPn** **05 28 03.3 +0.5**
MNK *i* S **S** **05 31 17.8 -1.3**
MNK *i* SS **SnSn** **05 31 32.9 +4.2**
MNK *i* LQ LQ 05 33 24.4
MNK *i* LR LR 05 34 44.0
MNK *i* LRM MLR 05 35 46.6
comp=N,59nm,18.1s
MNK *i* LRM MLR 05 35 52.2
comp=Z,27nm,15.9s
MNK *i* LRM MLR 05 35 56.5
comp=E,25nm,17.2s
MNK Minsk 18.34 320 *i* P **Pn** **05 27 51.7 +0.5**
MNK *i* S **S** **05 31 17.8 -1.3**
MNK pmax pmax
comp=Z,27nm,0.7s
MNK pmax pmax
comp=N,14nm,0.7s
MNK pmax pmax
comp=E,12nm,1.0s
MNK MLR MLR
comp=N,59nm,18.0s
MNK MLR MLR
comp=Z,27nm,16.0s
MNK MLR MLR
comp=E,25nm,17.0s
GZR Gura Zlata 18.55 289 ⇓P **Pn** **05 27 54.9 +0.9**
ARSB Arslanbob 18.70 83 P **Pn** **05 27 56.7 +0.8**
ARSB Arslanbob 18.70 83 P **Pn** **05 27 56.7 +0.8**
ARSB pmax pmax
comp=Z,2.0nm,0.7s
BRVK Borovoye 18.70 46 P **P** **05 27 55.0 -0.1**
BRVK IAmb IAmb 05 28 10.4
comp=Z,9.8nm,0.7s
BRVK Borovoye 18.70 46 ⇓*e*P **Pn** **05 27 56.1 +0.4**
BRVK pmax pmax
comp=Z,9.0nm,0.7s
BRVK Borovoye 18.70 46 ⇑P **P** **05 27 55.2 0.0**
comp=Z,4.1nm,0.5s
BRVK ⇓S **Sn** **05 31 16.1 -7.8**
comp=Z,24nm,1.1s
BVA0 Borovoye Array 18.75 46 *e*P **Pn** **05 27 59.3 +3.1**
BVA0 Borovoye Array 18.75 46 ⇓P **Pn** **05 27 59.4 +3.2**
comp=Z,1.4nm,0.5s,baz=237,slow=10.0,SNR=20
BVA0 ⇓S **Sn** **05 31 16.6 -8.3**
comp=Z,22nm,0.9s,baz=240,slow=23,SNR=19
BVAR Borovoye Array 18.75 46 P **P** **05 27 55.7 +0.1**
comp=Z,0.1nm,0.3s,baz=232,slow=12,SNR=18
BVAR S **Sn** **05 31 18.6 -6.3**
comp=Z,20nm,0.8s,baz=238,slow=22,SNR=16
BVAR LR LR 05 36 16.8
comp=Z,100nm,19.0s,baz=221,slow=40
comp=Z,2.7nm,0.6s
NACGM Naroch 19.09 320 *e*P **Pn** **05 28 01.4 +1.1**
comp=Z,13nm,0.8s,baz=124
IDI Anoyia 19.17 258 P **P** **05 28 01.2 +0.6**
comp=Z,0.9nm,0.3s,baz=44,slow=17,SNR=6.9
comp=Z,4.7nm,0.6s
MDVR Moldovita 19.30 288 ⇑P **P** **05 28 02.0 +0.2**
IDID Didziasalis 19.35 321 *e*P **Pn** **05 28 03.5 +0.2**
AAK Ala-Archa 19.63 79 **Pn** **05 28 07.7 +0.7**
AAK IAmb IAmb 05 28 18.3
comp=Z,7.7nm,0.8s
AAK Ala-Archa 19.63 79 P **Pn** **05 28 07.7 +0.7**
AAK pmax pmax
comp=Z,8.0nm,0.8s
AAK Ala-Archa 19.63 79 P **Pn** **05 28 07.4 +0.4**
comp=Z,0.6nm,0.3s,baz=241,slow=13,SNR=4.9
AAK LR LR 05 36 53.8
comp=Z,110nm,20.8s,baz=292,slow=40
comp=Z,5.2nm,0.7s
AGG Agios Georgios 19.70 270 P **Pn** **05 28 08.5 +0.7**
AGG Agios Georgios 19.70 270 P **Pn** **05 28 08.5 +0.7**
AGG pmax pmax
comp=Z,10.0nm,1.1s
KLMR Klimovskoe 19.71 348 *e*Pn **P** **05 28 04.2 -1.8**
KLMR *e*Pn **P** **05 28 04.2 -1.8**
KLMR *e*Pn **P** **05 28 04.2 -1.8**
KLMR AMP 05 28 09.1
comp=Z,29nm,1.1s
KLMR Sn **S** **05 31 41.1 -5.4**
KLMR Sn **S** **05 31 41.1 -5.4**
KLMR Klimovskoe 19.71 348 *e*P **P** **05 28 04.2 -1.8**
KLMR 05 31 41.1
KLMR pmax pmax
comp=Z,29nm,1.1s
PRGR Permogore 19.86 357 *e*P **P** **05 28 06.8 -0.8**
PRGR *e* 05 31 45.6
PRGR pmax pmax
comp=Z,65nm,0.6s
KECS Kecovo 20.41 298 *e*P Pn 05 28 15.6 -0.4
KECS Kecovo 20.41 298 *e*P Pn 05 28 15.6 -0.4
DIVS Divibare 20.56 286 Pn 05 28 17.8 -0.1
DIVS IAmb IAmb 05 28 20.9
comp=Z,6.7nm,0.6s
WSAR Wadi Sarin 20.60 151 LR LR 05 38 03.3
comp=Z,34nm,20.3s,baz=48,slow=42
FRGS Fruska Gora 20.65 289 ⇓P Pn 05 28 18.1 -0.8
PSZ Piszkesteto 20.73 297 **P** **05 28 18.7 +1.4**
PSZ IAmb IAmb 05 28 32.9
comp=Z,7.8nm,0.7s
PSZ Piszkesteto 20.73 297 P **P** **05 28 18.7 +1.4**
PSZ pmax pmax
comp=Z,8.0nm,0.7s
PABE Paberze 20.78 319 P **P** **05 28 17.7 0.0**
PABE Paberze 20.78 319 *e*P Pn 05 28 19.4 -0.8
NRN Naryn 20.92 82 **P** **05 28 19.4 -0.3**
NRN Naryn 20.92 82 P **P** **05 28 19.4 -0.3**
OJC Ojcow 21.17 303 P **P** **05 28 23.1 +1.1**
OJC IAmb IAmb 05 28 34.0
comp=Z,12nm,1.1s
OJC Ojcow 21.17 303 P **P** **05 28 23.1 +1.1**
OJC pmax pmax
comp=Z,12nm,1.1s
LANS Liptovska Anna 21.18 300 *e*P **P** **05 28 23.9 +1.7**
LANS Liptovska Anna 21.18 300 *e*P **P** **05 28 23.9 +1.7**
KSH Kashi 21.33 87 P **P** **05 28 25.2 +1.3**
KSH pmax pmax
comp=Z,6.0nm,0.7s
VYHS Vyhne 21.50 298 *e*P **P** **05 28 27.4 +1.8**
VYHS Vyhne 21.50 298 *e*P **P** **05 28 27.4 +1.8**
VYHS pmax pmax
comp=Z,18nm,1.4s
NIL Nilore 21.55 104 P **P** **05 28 27.4 +1.2**
NIL Nilore 21.55 104 P **P** **05 28 27.4 +1.2**
NIL pmax pmax
comp=Z,13nm,0.9s
PBUR Paburge 22.03 319 *e*P **P** **05 28 31.0 -0.1**
VALR Valaam 22.09 338 *d i*P **P** **05 28 32.1 +0.4**
VALR pmax pmax
comp=Z,48nm,0.9s
MAUC Maruska 22.27 300 *e*P **P** **05 28 35.6 +1.7**
JAVC Velka Javorina 22.31 299 *e*P **P** **05 28 36.1 +1.8**
MODS Modra-Piesok 22.52 297 *e*P **P** **05 28 38.2 +1.7**
MODS Modra-Piesok 22.52 297 *e*P **P** **05 28 38.2 +1.7**
MODS pmax pmax
comp=Z,25nm,1.3s
MORC Moravsky Berou 22.52 301 P **P** **05 28 37.2 +0.7**
MORC IAmb IAmb 05 28 45.0
comp=Z,13nm,1.3s
MORC Moravsky Berou 22.52 301 *e*P **P** **05 28 37.2 +0.7**
MORC Moravsky Berou 22.52 301 P **P** **05 28 37.2 +0.7**
MORC pmax pmax
comp=Z,13nm,1.3s
MTSE Matsula 22.66 326 *e*P **P** **05 28 38.8 +1.0**
KURBB Kurchatov Arra 22.74 57 P **P** **05 28 39.7 +0.9**
comp=Z,6.7nm,0.9s,baz=264,slow=9.9,SNR=33
KURBB LR LR 05 38 49.3
comp=Z,118nm,19.1s,baz=161,slow=40
comp=Z,6.7nm,0.9s
KURK Kurchatov 22.82 57 P **P** **05 28 39.5 -0.2**
KURK Kurchatov 22.82 57 *c i*P **P** **05 28 42.0 +2.4**
KURK pmax pmax
comp=Z,11nm,0.8s
VRAC Vranov 23.07 300 LR LR 05 38 42.7
comp=Z,59nm,18.3s,baz=81,slow=40
DPC Dobruska-Polom 23.39 302 *e*P **P** **05 28 44.9 -0.5**
DPC Dobruska-Polom 23.39 302 *e*P **P** **05 28 44.9 -0.5**
MEF Metsahovi 23.39 330 *e*P **P** **05 28 46.5 +1.3**
FIA1 FINESS Array S 23.64 333 P **P** **05 28 47.6 -0.1**
FINES FINESS Array B 23.64 333 P **P** **05 28 48.0 +0.3**
FINES FINESS Array B 23.64 333 *i* P **P** **05 28 48.0 +0.3**
FINES pmax pmax
comp=Z,10.0nm,0.5s
FINES FINESS Array B 23.64 333 P **P** **05 28 47.8 +0.1**
comp=Z,10nm,0.5s,baz=136,slow=10,SNR=82
comp=Z,10nm,0.5s
CKRC Cesky Krumlov 24.52 298 *e*P **P** **05 28 56.6 +0.6**
CKRC *e*x x 05 29 05.2
CKRC Cesky Krumlov 24.52 298 *e*P **P** **05 28 56.6 +0.6**
CKRC *e* 05 29 05.2
ZVC Zvikov 24.64 299 *e*P **P** **05 28 59.1 +2.0**
ZVC *e*x x 05 29 06.7
RAF Rauma 24.90 329 *e*P **P** **05 28 59.5 +0.2**
MK31 Makanchi Array 24.91 67 P **P** **05 29 01.1 +1.5**
MK31 IAmb IAmb 05 29 14.9
comp=Z,5.1nm,1.1s
MK31 Makanchi Array 24.91 67 *c e*P **P** **05 29 01.1 +1.5**
MKAR Makanchi Array 24.91 67 P **P** **05 29 01.0 +1.3**
MKAR Makanchi Array 24.91 67 *i* P **P** **05 29 01.3 +1.6**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 24.91 67 P **P** **05 29 00.3 +0.6**
comp=Z,4.0nm,0.7s,baz=274,slow=7.2,SNR=30
MKAR LR LR 05 40 13.3
comp=Z,85nm,18.6s,baz=268,slow=40
comp=Z,4.0nm,0.7s
GERES GERESS Array B 24.92 298 P **P** **05 28 58.6 -1.1**
comp=Z,1.8nm,0.3s,baz=98,slow=7.0,SNR=0.9
comp=Z,1.8nm,0.3s
KHC Kasperske Hory 25.02 299 *e*P **P** **05 28 58.1 -2.5**
KHC *e*pP **pP** **05 29 09.5 +0.3**
KHC Kasperske Hory 25.02 299 *e*P **P** **05 28 58.1 -2.5**
HSKC Hora Svate Kat 25.25 302 *e*P **P** **05 29 03.0 +0.3**
HSKC *e*x x 05 29 12.7
FDMO Fiordimonte 25.66 284 P **P** **05 29 07.1 +1.2**
VIKU Vikbolandet 25.71 321 *e*P **P** **05 29 06.8 +0.2**
ZALV Zalesovo Beam 27.18 51 *i* P **P** **05 29 20.7 +0.7**
ZALV Zalesovo Beam 27.18 51 P **P** **05 29 20.0 0.0**
comp=Z,0.6nm,0.3s,baz=270,slow=7.4,SNR=4.9
ZALV LR LR 05 41 58.5
comp=Z,57nm,20.3s,baz=240,slow=40
comp=Z,0.6nm,0.3s
DAVOX Davos/Dischmat 27.50 293 LR LR 05 41 19.1
comp=Z,42nm,21.1s,baz=76,slow=39
HFS Hagfors 27.81 323 P **P** **05 29 24.8 -0.8**
comp=Z,4.7nm,0.5s,baz=118,slow=9.1,SNR=23
comp=Z,4.7nm,0.5s
DGZ Jazzator, Alta 28.34 60 ⇑*e*P **P** **05 29 32.2 +1.5**
WMQ Urumqi 29.00 73 *e*P **P** **05 29 39.2 +2.7**
NB2 NORSAR Subarra 29.30 323 P **P** **05 29 38.7 -0.2**
comp=Z,5.8nm,0.7s,baz=113,slow=8.6
NOA NORSAR Array B 29.30 323 P **P** **05 29 38.4 -0.6**
comp=Z,1.0nm,0.7s,baz=125,slow=8.9,SNR=12
NOA LR LR 05 42 07.6
comp=Z,32nm,21.8s,baz=260,slow=38
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 30.10 344 P **P** **05 29 46.6 +0.8**
comp=Z,1.8nm,0.7s,baz=139,slow=8.4,SNR=6.8
ARCES LR LR 05 42 05.3
comp=Z,28nm,18.5s,baz=90,slow=37
comp=Z,1.8nm,0.7s
EKA Eskdalemuir Ar 35.56 310 P **P** **05 30 32.5 -1.2**
comp=Z,1.7nm,0.6s,baz=99,slow=8.7,SNR=4.8
comp=Z,1.7nm,0.6s
SPITS Spitsbergen Ar 38.58 350 P **P** **05 31 00.3 +1.2**
comp=Z,3.8nm,0.6s,baz=139,slow=12,SNR=8.6
comp=Z,3.8nm,0.6s
ESDC Sonseca Array 38.90 285 P **P** **05 31 01.6 -0.7**
comp=Z,0.7nm,1.0s,baz=63,slow=7.3,SNR=3.4
comp=Z,0.7nm,1.0s
SONM Songino Array 40.99 61 P **P** **05 31 20.4 +0.8**
comp=Z,0.2nm,0.4s,baz=272,slow=11,SNR=1.7
comp=Z,0.2nm,0.4s
ULN Ulaanbaatar 41.41 61 ⇑*i*P **P** **05 31 24.7 +1.6**
ULN pmax pmax
comp=Z,14nm,3.5s
KMBO Kilima Mbogo 43.88 196 LR LR 05 51 20.0
comp=Z,42nm,19.1s,baz=102,slow=38
PZH PanZhiHua 46.31 92 P **P** **05 32 05.9 +3.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.1s
HHC Hu-ho-hao-te 46.75 69 *e*P **P** **05 32 03.5 -2.4**
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,220nm,5.0s
CMAR Chiang Mai Arr 49.03 102 P **P** **05 32 24.6 +1.0**
comp=Z,0.8nm,0.3s,baz=302,slow=10,SNR=1.2
comp=Z,0.8nm,0.3s
TORD Torodi Ar. Bea 49.22 248 P **P** **05 32 25.1 0.0**
comp=Z,0.3nm,0.5s,baz=33,slow=9.0,SNR=1.6
comp=Z,0.3nm,0.5s
HEH HeiHe 53.30 52 *e*P **P** **05 32 57.2 +1.9**
HEH pmax pmax
comp=Z,6.0nm,0.9s
KLR Kul'dur 56.28 52 ⇑*e*P **P** **05 33 18.2 +1.3**
KLR pmax pmax
comp=Z,6.0nm,2.8s
KLR Kul'dur 56.28 52 P **P** **05 33 17.3 +0.3**
comp=Z,2.2nm,1.1s,baz=308,slow=17,SNR=3.1
comp=Z,2.2nm,1.1s
SCHQ Schefferville 68.84 326 P **P** **05 34 41.6 +0.9**
comp=Z,5.5nm,0.8s,baz=47,slow=4.7,SNR=5.9
comp=Z,5.5nm,0.8s
ILAR Eielson Array 73.07 7 P **P** **05 35 07.1 +0.9**
comp=Z,0.4nm,1.0s,baz=328,slow=3.7,SNR=5.8
comp=Z,0.4nm,1.0s
BOSA Boshof 73.20 201 P **P** **05 35 08.0 +0.6**
BOSA Boshof 73.20 201 P **P** **05 35 08.0 +0.6**
comp=Z,3.2nm,0.9s,baz=21,slow=14,SNR=2.4
comp=Z,3.2nm,0.9s
YKA Yellowknife Ar 75.05 352 P **P** **05 35 18.4 +0.6**
comp=Z,1.3nm,0.7s,baz=8.4,slow=5.6,SNR=22
comp=Z,1.3nm,0.7s

ROM 07 05:26:30.7±0.1,**43°.218N**±0°.005×**11°.255E**±0°.010,
h11km,ML1.0/10,**Error ellipse: s-maj=0.7km**
s-min=0.6km az=261.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FROS	**Frosini**	**0.07**	**263**	P	P	Pg	05 26 33.4	+0.3
FROS				S	S	Sg	05 26 35.1	+0.3
CSNT	**Castellina Chi**	**0.26**	**6**	P	P	Pg	05 26 36.3	+0.3
CSNT				S	S	Sg	05 26 40.6	+1.1
CSNT				AML	AML			
	comp=N,41μm,0.3s							
CSNT				AML	AML			
	comp=E,34μm,0.2s							
TRIF	**Trifonti**	**0.28**	**248**	P	P	Pb	05 26 37.3	-0.4
TRIF				S	S	Sb	05 26 41.3	-1.1
TRIF				AML	AML			
	comp=E,166μm,1.1s							
TRIF				AML	AML			
	comp=N,144μm,1.0s							
TRIF				AML	AML			
	comp=E,166μm,0.9s							
TRIF				AML	AML			
	comp=E,134μm,0.1s							
TRIF				AML	AML			
	comp=N,129μm,0.1s							
OSSC	**Osservatorio P**	**0.30**	**359**	P	P	Pg	05 26 37.4	+0.5
OSSC				S	S	Sb	05 26 42.5	-0.8
OSSC				AML	AML			
	comp=E,28μm,0.2s							
OSSC				AML	AML			
	comp=N,24μm,0.4s							
OSSC				AML	AML			
	comp=N,160μm,0.9s							
OSSC				AML	AML			
	comp=N,20μm,0.2s							
RIBO	**Ribolla Roccas**	**0.31**	**210**	P	P	Pg	05 26 36.9	0.0
ARCI	**Arcidosso**	**0.40**	**156**	P	P	Pb	05 26 39.2	-0.6
ARCI				S	S	Sg	05 26 44.3	+0.4
ARCI				AML	AML			
	comp=N,25μm,0.2s							
ARCI				AML	AML			
	comp=E,26μm,0.2s							
SF11	**Podere del Sol**	**0.47**	**138**	P	P	Pg	05 26 40.4	+0.6
SF04	**Casetta**	**0.48**	**142**	P	P	Pb	05 26 40.9	-0.3
SF04				S	S	Sb	05 26 47.7	-0.7
SF04				AML	AML			
	comp=E,93μm,0.4s							
CAFI	**Castiglion Fio**	**0.53**	**78**	P	P	Pg	05 26 41.5	+0.5
CAFI				S	S	Sg	05 26 48.4	+0.4

*NOU **07** 05:45:45.8,23°.195S×171°.91E,h0km,MLv4.9/10,*
Southeast of Loyalty Islands
*IDC **07** 05:45:48.0±0.8,22°.695S×171°.61E,h0km,mb4.3/10,*
mbtmp4.3/12,ML4.5/1,MS4.0/38,Error ellipse:
s-maj=22.7km s-min=21.2km az=178.0
*NEIC **07** 05:45:49.8±0.8,22°.85S±0°.1×171°.67E±0°.10,h10km±1km,*
mb4.7/42,Error ellipse: s-maj=21.0km s-min=13.5km
az=22.0
*GCMT **07** 05:45:56.8±0.3,22°.82S±0°.01×171°.47E±0°.03,h21km,*
MW5.0/69,Moment Tensor Solution. s50,c63; s69,c92;
Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.16±.17;
Mθθ-3.33±.12; Mφφ0.16±.12; Mrθ0.69±.18; Mrφ0.15±.09;
Mθφ-0.12±.22; Best double couple: Mo3.32200×10^16
NP1:φs94.00000°,δ51.00000°,λ92.00000°. NP2:
φs271.00000°,δ39.00000°,λ87.00000°. Principal axes: T
3.2350, Plg84.0000°, Azm18.0000°; N 0.1720, Plg2.0000°,
Azm273.0000°; P -3.4090, Plg6.0000°, Azm183.0000°;
nsta1 refers to body waves, cutoff=40s. nsta2 refers to
surface waves, cutoff=50s. Triangular moment-rate
function
ISC 07 05:45:55.7±0.5,**22°.87S**±0°.07×**171°.48E**±0°.07,**h49**km,**n137,**
σ1§17/104,mb4.6/31,MS4.1/36,4C-1D,Southeast of
Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.48**	**293**			**Pn**	**05 46 45.7**	**-1.7**
MARNC	**Mare, Loyalty**	**3.48**	**293**	P		**Pn**	**05 46 47.5**	**+0.1**
PINNC	**Pines Island,**	**3.73**	**273**			**Pn**	**05 46 50.3**	**-0.5**
OUENC	**Ouen Island, N**	**4.31**	**275**			**Pn**	**05 46 58.5**	**-0.3**
OUENC	**Ouen Island, N**	**4.31**	**275**	P		**Pn**	**05 46 58.3**	**-0.4**
LIFNC	**LIFOU**	**4.46**	**297**	Pn		**Pn**	**05 46 59.8**	**-0.9**
LIFNC	**LIFOU**	**4.46**	**297**	P		**Pn**	**05 47 01.1**	**+0.4**
ONTNC	**Ouen Toro**	**4.68**	**276**	Pn		**Pn**	**05 47 03.0**	**-0.8**
ONTNC	**Ouen Toro**	**4.68**	**276**	P		**Pn**	**05 47 04.2**	**+0.4**
DZM	**Mont Dzumac**	**4.73**	**279**	Pn		**Pn**	**05 47 03.2**	**-1.3**
DZM	**Mont Dzumac**	**4.73**	**279**	P		**Pn**	**05 47 03.4**	**-1.1**
DZM	**Mont Dzumac**	**4.73**	**279**	*e*Pn		**Pn**	**05 47 03.5**	**-1.1**
DZM	123nm,0.8s			*e*Sn		**Sn**	**05 48 02.1**	**+3.9**
	291nm,0.7s							
DZM	**Mont Dzumac**	**4.73**	**279**	Pn		**Pn**	**05 47 03.1**	**-1.5**
	18nm,0.3s,baz=109,slow=18,SNR=125							
DZM				Sn		**Sn**	**05 47 57.1**	**-1.0**
	15nm,0.3s,baz=31,slow=23,SNR=8.2							
DZM				LR	LR		05 48 52.2	
	comp=Z,2μm,19.8s,baz=106,slow=38							
	48nm,0.3s							
NOUC	**Port Laguerre**	**4.85**	**278**	P		**Pn**	**05 47 05.9**	**-0.3**
RTV	**Rentapao**	**5.81**	**330**	P		**Pn**	**05 47 20.3**	**+1.0**
DVP	**Devils Point**	**5.98**	**328**	P		**Pn**	**05 47 22.7**	**+1.1**
KOUNC	**Koumac, New Ca**	**7.08**	**288**	Pn		**Pn**	**05 47 35.8**	**-0.9**
KOUNC	**Koumac, New Ca**	**7.08**	**288**	P		**Pn**	**05 47 38.3**	**+1.6**
HIZ	**Hauiti**	**15.86**	**170**	P		**P**	**05 49 41.8**	**+3.1**
HIZ				IAmb	IAmb		05 49 42.6	
	comp=Z,89nm,1.2s							
URZ	**Urewera**	**16.08**	**164**	Pn		**Pn**	**05 49 39.0**	**+0.6**
	comp=Z,10nm,0.8s,baz=306,slow=17,SNR=3.2							
URZ				LR	LR		05 54 59.3	
	comp=Z,491nm,18.0s,baz=70,slow=34							
RTZ	**Ruatahuna**	**16.39**	**165**			**P**	**05 49 47.9**	**+3.3**
RTZ				IAmb	IAmb		05 49 48.1	
	comp=Z,55nm,1.4s							
BKZ	**Black Stump Fm**	**16.80**	**166**	P		**P**	**05 49 51.3**	**+2.2**
MRZ	**Mangatainoka R**	**18.07**	**170**			**P**	**05 50 02.7**	**-0.4**
MRZ				IAmb	IAmb		05 50 15.1	
	comp=Z,67nm,1.4s							
EIDS	**Eidsvold**	**18.79**	**258**	P		**P**	**05 50 10.6**	**-0.4**
THZ	**Tophouse**	**18.88**	**177**	P		**P**	**05 50 11.0**	**-1.0**
THZ				IAmb	IAmb		05 50 20.7	
	comp=Z,52nm,1.4s							
ARMA	**Armidale**	**19.26**	**243**			**P**	**05 50 16.0**	**-0.3**
INZ	**Inchbonnie**	**19.80**	**180**	P		**Pn**	**05 50 24.8**	**+0.9**
INZ				IAmb	IAmb		05 50 26.5	
	comp=Z,29nm,1.0s							
LTZ	**Lake Taylor**	**19.87**	**178**	P		**Pn**	**05 50 25.5**	**+0.8**
FOZ	**Fox Glacier**	**20.66**	**183**	P		**P**	**05 50 31.9**	**+0.7**
FOZ				IAmb	IAmb		05 50 39.5	
	comp=Z,54nm,1.2s							
RPZ	**Rata Peaks**	**20.80**	**181**	P		**P**	**05 50 34.0**	**+1.2**
RPZ				IAmb	IAmb		05 50 40.1	
	comp=Z,66nm,1.5s							
RPZ	**Rata Peaks**	**20.80**	**181**	P		**P**	**05 50 34.4**	**+1.6**
	comp=Z,19nm,1.0s,baz=23,slow=7.9,SNR=3.7							
RPZ				LR	LR		05 57 27.9	
	comp=Z,454nm,21.7s,baz=344,slow=33							
	comp=Z,19nm,1.0s							
CTA	**Charters Tower**	**23.63**	**272**	LR	LR		06 00 04.2	
	comp=Z,355nm,18.1s,baz=92,slow=36							
CTAO	**Charters Tower**	**23.63**	**272**	P		**P**	**05 51 02.0**	**-0.6**
CTAO				IAmb	IAmb		05 51 05.1	
	comp=Z,22nm,1.4s							
RAR	**Rarotonga**	**26.68**	**92**	LR	LR		06 01 49.2	
	comp=Z,100nm,18.2s,baz=172,slow=36							
TOO	**Toolangi**	**26.70**	**231**	P		**P**	**05 51 30.3**	**-0.1**
TOO				IAmb	IAmb		05 51 40.6	
	comp=Z,16nm,1.4s							
PMG	**Port Moresby**	**26.87**	**296**	P		**P**	**05 51 31.1**	**-0.9**
PMG				IAmb	IAmb		05 51 41.4	
	comp=Z,17nm,0.9s							
PMG	**Port Moresby**	**26.87**	**296**	LR	LR		06 00 56.3	
	comp=Z,217nm,19.5s,baz=144,slow=34							
STKA	**Stephens Creek**	**27.95**	**245**	P		**P**	**05 51 41.4**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=87,slow=14,SNR=1.1							
STKA				LR	LR		06 01 50.8	
	comp=Z,415nm,21.2s,baz=71,slow=34							
	comp=Z,1.1nm,0.6s							
COEN	**Coen**	**28.24**	**283**	P		**P**	**05 51 44.4**	**0.0**
COEN				IAmb	IAmb		05 51 58.3	
	comp=Z,13nm,0.9s							
WR0	**Warramunga Arr**	**34.46**	**268**	P		**P**	**05 52 38.5**	**-0.5**
AS31	**Alice Springs**	**34.47**	**261**	P		**P**	**05 52 39.5**	**+0.4**
ASAR	**Alice Springs**	**34.47**	**261**	P		**P**	**05 52 39.7**	**+0.6**
ASAR	**Alice Springs**	**34.47**	**261**	P		**P**	**05 52 39.2**	**+0.1**
	comp=Z,5.4nm,0.7s,baz=86,slow=8.9,SNR=27							
ASAR				LR	LR		06 06 48.7	
	comp=Z,327nm,19.2s,baz=103,slow=36							
	comp=Z,5.4nm,0.7s							
WB0	**Warramunga Arr**	**34.63**	**268**	P		**P**	**05 52 39.9**	**-0.6**
WB0				IAmb	IAmb		05 52 46.5	
	comp=Z,9.1nm,1.4s							
WB2	**Warramunga Arr**	**34.64**	**268**	P		**P**	**05 52 40.2**	**-0.4**
WB2				IAmb	IAmb		05 52 51.3	
	comp=Z,7.9nm,0.9s							
WRAB	**Tennant Creek**	**34.64**	**268**	P		**P**	**05 52 39.9**	**-0.7**
WRA	**Warramunga Arr**	**34.65**	**268**	P		**P**	**05 52 40.0**	**-0.6**
WRA	**Warramunga Arr**	**34.65**	**268**	P		**P**	**05 52 39.9**	**-0.8**

comp=Z,1.4nm,0.4s,baz=98,slow=8.3,SNR=38
comp=Z,1.4nm,0.4s
TBI Tubuai 35.85 99 eLR LR 06 02 08.5
comp=Z,777nm,27.2s
PPT2 Papeete2 36.84 89 eLR LR 06 02 44.4
comp=Z,182nm,27.0s
PPT2 eLR LR 06 03 07.0
comp=Z,242nm,25.0s
PPT Papeete 36.84 89 LR LR 06 04 29.3
comp=Z,163nm,21.1s,baz=222,slow=30
GUMO Guam 44.63 322 LR LR 06 12 57.6
comp=Z,159nm,18.6s,baz=135,slow=37
BATI Baumata 47.34 277 LR LR 06 16 21.2
comp=Z,545nm,18.1s,baz=142,slow=39
MBWA Marble Bar 47.81 262 P **P 05 54 28.3 -0.3**
TAOE Nuku Hiva Isla 48.35 81 eLR LR 06 08 25.2
comp=Z,210nm,23.0s
NWAO Narrogin (SRO) 48.53 246 LR LR 06 14 06.9
comp=Z,386nm,20.4s,baz=79,slow=35
KAPI Kappang 52.94 281 LR LR 06 18 03.7
comp=Z,93nm,19.6s,baz=120,slow=36
VNDA Vanda 54.91 183 P **P 05 55 20.8 -0.1**
VNDA Vanda 54.91 183 P **P 05 55 19.9 -1.0**
comp=Z,0.4nm,0.6s,baz=27,slow=7.0,SNR=2.3
VNDA LR LR 06 15 29.7
comp=Z,106nm,20.9s,baz=14,slow=32
comp=Z,0.4nm,0.6s
CASY Casey 57.69 205 P **P 05 55 41.0 +0.1**
CASY IAmb IAmb 05 56 03.0
comp=Z,4.4nm,1.1s
LEM Lembang 63.32 274 LR LR 06 24 25.5
comp=Z,103nm,19.5s,baz=153,slow=36
JHJ Hachijo jima 2 63.36 330 LR LR 06 22 10.0
comp=Z,40nm,20.1s,baz=104,slow=34
JOW Kunigami 64.71 317 LR LR 06 24 30.5
comp=Z,68nm,18.4s,baz=166,slow=36
MJAR Matsushiro Arr 66.92 331 LR LR 06 26 12.0
comp=Z,54nm,18.8s,baz=114,slow=36
QSPA South Pole Qui 67.21 180 P **P 05 56 44.9 +0.2**
JNU Nakatsue 67.82 324 LR LR 06 22 04.4
comp=Z,51nm,21.9s,baz=128,slow=32
NJ2 Nanjing 74.26 315 eP **P 05 57 29.3 +1.6**
NJ2 pP **pP 05 57 39.2 -1.7**
NJ2 sP **PcP 05 57 42.6 +0.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,86nm,3.5s
MAW Mawson 75.87 202 LR LR 06 28 38.1
comp=Z,85nm,18.2s,baz=140,slow=34
PETK Petropavlovsk- 76.60 352 LR LR 06 26 00.4
comp=Z,154nm,20.1s,baz=171,slow=32
MDJ Mudanjiang 77.30 331 P **P 05 57 47.0 +2.2**
MDJ pmax pmax
comp=Z,7.0nm,1.9s
MDJ pmax pmax
comp=Z,300nm,6.5s
BELA Belgrano 2 78.31 175 P **P 05 57 50.0 -0.2**
BELA IAmb IAmb 05 58 07.5
comp=Z,14nm,1.5s
LYN LuoYang 79.99 314 eP P 05 58 10.3 +10
LYN pP sP 05 58 19.6 +1.7
LYN sP pwP 05 58 24.0 +6.2
LYN PP PP 06 01 21.4 +19
LYN pmax pmax
comp=Z,11nm,0.7s
LYN AMB AMB
comp=Z,380nm,5.0s
CMAR Chiang Mai Arr 81.89 294 P **P 05 58 09.6 -0.8**
CMAR Chiang Mai Arr 81.89 294 P **P 05 58 10.8 +0.4**
comp=Z,2.3nm,0.3s,baz=129,slow=4.0,SNR=15
comp=Z,2.3nm,0.3s
CHTO Chiang Mai 82.05 294 P **P 05 58 10.0 -1.2**
XAN Xi'an 82.09 312 eP **P 05 58 12.2 +1.1**
XAN pP pP 05 58 22.5 -1.7
XAN pmax pmax
comp=Z,11nm,1.5s
ELIB Princess Elisa 82.94 190 dP **P 05 58 15.2 0.0**
comp=Z,4.3nm,1.0s
PZH PanZhiHua 83.41 302 P **P 05 58 21.5 +3.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,5.7s
MA2 Magadan 83.89 350 LR LR 06 31 08.4
comp=Z,146nm,19.8s,baz=161,slow=32
HHC Hu-ho-hao-te 84.32 319 eP **P 05 58 25.4 +2.8**
HHC pmax pmax
comp=Z,21nm,0.5s
HHC pmax pmax
comp=Z,240nm,5.1s
TROLL Troll, Antarti 85.07 183 ⇑P **P 05 58 26.2 +0.2**
comp=Z,341nm,0.7s
SNAA Sanae 85.63 182 ⇑P **P 05 58 28.5 -0.2**
comp=Z,32nm,0.6s
SNAA Sanae 85.63 182 P **P 05 58 28.1 -0.7**
comp=Z,1.4nm,0.9s,baz=167,slow=19,SNR=7.0
SNAA LR LR 06 34 20.6
comp=Z,133nm,19.8s,baz=180,slow=34
comp=Z,1.4nm,0.9s
KDAK Kodiak Island 85.77 18 LR LR 06 32 13.0
comp=Z,129nm,18.4s,baz=222,slow=32
VNA3 Neumayer Olymp 86.14 180 ⇑P **P 05 58 30.8 -0.4**
comp=Z,6.1nm,0.8s
VNA2 Neumayer--Watz 86.46 180 ⇑P **P 05 58 32.7 -0.1**
comp=Z,3.6nm,0.6s,baz=184,slow=6.0
YBH Yreka Blue Hor 88.47 43 LR LR 06 30 42.3
comp=Z,52nm,21.6s,baz=226,slow=30
PFO Pinyon Flats O 88.61 53 LR LR 06 30 26.0
comp=Z,104nm,19.1s,baz=244,slow=30
LHV Little Huntoon 89.43 48 IAmb IAmb 05 58 52.4
comp=Z,6.0nm,1.0s
PAHR Pah Rah Range 89.56 46 IAmb IAmb 05 58 49.5
comp=Z,4.9nm,0.9s
NVAR Mina Array Bea 89.65 48 P **P 05 58 47.9 -0.8**
comp=Z,2.6nm,0.8s,baz=223,slow=8.5,SNR=12
NVAR LR LR 06 30 29.7
comp=Z,140nm,21.3s,baz=249,slow=30
comp=Z,2.6nm,0.8s
NV11 Mina Array Sit 89.75 48 IAmb IAmb 05 58 52.7
comp=Z,4.6nm,1.0s
KVN Kaiserville 90.10 47 P **P 05 58 50.3 -0.4**
KVN IAmb IAmb 05 58 51.9
comp=Z,6.3nm,1.1s
J05D Fort Rock, OR 90.22 42 P **P 05 58 50.1 -1.0**
PINE Pine Mountain 90.67 42 P **P 05 58 52.0 -1.2**
ULN Ulaanbaatar 91.01 323 P **P 05 58 53.9 -0.8**
SONM Songino Array 91.36 322 P **P 05 58 55.5 -0.8**
comp=Z,1.2nm,0.6s,baz=134,slow=4.6,SNR=10
comp=Z,1.2nm,0.6s
BBB Bella Bella 91.38 32 LR LR 06 37 06.1
comp=Z,68nm,18.1s,baz=246,slow=34
WVOR Wild Horse Val 91.42 44 IAmb IAmb 05 59 14.8
comp=Z,4.4nm,1.1s
ELK Elko 92.84 47 LR LR 06 34 44.6
comp=Z,135nm,18.7s,baz=246,slow=32
ILAR Eielson Array 93.07 17 P **P 05 59 00.8 -2.8**
comp=Z,0.7nm,0.8s,baz=230,slow=5.1,SNR=5.9
ILAR LR LR 06 34 59.0
comp=Z,134nm,19.2s,baz=218,slow=32
comp=Z,0.7nm,0.8s
DLBC Dease Lake 94.30 27 LR LR 06 36 50.0
comp=Z,92nm,18.2s,baz=270,slow=32
PLCA Paso Flores 94.45 138 LR LR 06 31 13.9
comp=Z,32nm,20.9s,baz=210,slow=29
NEW Newport 95.21 39 LR LR 06 33 06.0
comp=Z,67nm,21.8s,baz=254,slow=30
ANMO Albuquerque 96.64 55 LR LR 06 36 18.0
comp=Z,86nm,19.2s,baz=348,slow=31
TXAR Lajitas Array 96.66 61 LR LR 06 34 06.6
comp=Z,82nm,21.4s,baz=260,slow=30
PDAR Pinedale Array 97.55 47 LR LR 06 39 08.5
comp=Z,80nm,18.3s,baz=254,slow=33
INK Inuvik 99.32 18 LR LR 06 37 54.5
comp=Z,108nm,19.9s,baz=358,slow=32
CMIG Matias Romero 99.72 76 LR LR 06 34 30.6
comp=Z,39nm,18.9s,baz=108,slow=29
WMQ Urumqi 101.21 313 eP **Pdif 05 59 42.7 +1.7**
AKASG Malin Array Be 139.64 323 PKhKP PKPpre 06 05 13.2
comp=Z,0.2nm,0.3s,baz=66,slow=2.3,SNR=1.9
MORC Moravsky Berou 146.24 329 ePKP **PKPab 06 05 30.6 -0.8**
JAVC Velka Javorina 146.80 328 ePKP **PKPab 06 05 33.4 -0.3**
VRAC Vranov 147.01 329 ePKP **PKPbc 06 05 32.8 -0.1**
CLL Collm 147.07 335 ePKPbc **PKiKP 06 05 35.0 -0.4**
KRUC Moravsky 147.27 329 ePKP **PKPbc 06 05 33.1 -0.5**
EKA Eskdalemuir Ar 147.33 354 PKPbc **PKPdf 06 05 31.1 0.0**
comp=Z,0.8nm,0.5s,baz=15,slow=2.9,SNR=3.6
RONA Rosalia, Austr 148.26 327 *i* PKP **PKPbc 06 05 36.3 0.0**
comp=Z,3.0nm,0.5s
CONA Conrad Observa 148.31 328 *i* PKP **PKiKP 06 05 37.0 -1.2**
comp=Z,10nm,1.3s
GERES GERESS Array B 148.66 331 PKPbc **PKPbc 06 05 37.0 -0.5**
comp=Z,1.0nm,0.4s,baz=7.1,slow=3.2,SNR=6.6
ARSA Arzberg 148.95 327 *i* PKiKP **PKiKP 06 05 39.8 +0.3**
comp=Z,2.1nm,0.8s
MOA Molln 149.13 329 *i* PKP **PKPbc 06 05 38.3 -0.2**
comp=Z,2.1nm,0.5s
BIOA Bad Ischl, Aus 149.54 330 *i* PKP **PKPbc 06 05 39.3 -0.2**
comp=Z,1.4nm,0.4s
SOKA Soboth 149.58 327 *e*PKP **PKPbc 06 05 39.0 -0.8**
comp=Z,10nm,1.3s
OBKA Obir 149.94 327 *i* PKP **PKPab 06 05 45.6 -0.8**
comp=Z,5.6nm,1.1s
KBA Koelnbreinsper 150.12 329 *i* PKP **PKPbc 06 05 40.1 -1.1**
comp=Z,2.9nm,0.5s
LESA Schwarzleotal 150.18 330 *i* PKP **PKPbc 06 05 40.2 -1.0**
comp=Z,3.7nm,0.4s
MYKA Terra Mystica 150.30 328 *e*PKP **PKPbc 06 05 40.4 -1.1**
comp=Z,2.1nm,0.4s
WATA Walderalm 150.74 331 *e*PKiKP **PKiKP 06 05 43.6 +0.3**
comp=Z,10nm,1.2s
ABTA Abfaltersbach 150.75 330 *e*PKP **PKPbc 06 05 41.2 -1.4**
comp=Z,5.5nm,1.3s
WTTA Wattenberg 150.77 331 *i* PKP **PKPbc 06 05 42.1 -0.7**
comp=Z,14nm,1.4s
MOTA Moosalm 150.94 332 *e*PKP **PKPbc 06 05 40.7 -2.4**
comp=Z,14nm,2.0s
RETA Reutte 150.97 333 *i* PKP **PKPbc 06 05 42.1 -1.0**
comp=Z,8.4nm,1.3s
SQTA Sankt Quirin 150.99 332 *e*PKP **PKPbc 06 05 42.5 -0.7**
comp=Z,6.1nm,0.7s
FETA Feichten 151.35 332 *e*PKP **PKPbc 06 05 43.5 -0.6**
comp=Z,3.9nm,1.0s
DAVA Damuels 151.50 333 *e*PKiKP **PKiKP 06 05 44.6 -0.3**
comp=Z,3.2nm,1.1s
TORD Torodi Ar. Bea 166.31 227 PKP **PKPdf 06 05 56.2 -0.1**
comp=Z,1.7nm,1.0s,baz=20,slow=2.3,SNR=7.3
TORD PKPab **PKPab 06 06 58.2 +0.6**
comp=Z,1.1nm,0.9s,baz=100,slow=4.5,SNR=3.9

IDC 07 05:48:44.8±3.1, 53.56N×87.97E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=27.7km s-min=18.3km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**283**	I	I		05 59 28.3	
	baz=97,slow=343,SNR=8.0							
ZALV	**Zalesovo Beam**	**1.91**	**283**	Pn	Pn		05 49 18.4	-0.3
	1.2nm,0.3s,baz=104,slow=11,SNR=22							
ZALV				Lg	Lg		05 49 45.0	
	1.1nm,0.3s,baz=104,slow=25,SNR=12							
KURBB	**Kurchatov Arra**	**6.52**	**247**	Pn	Pn		05 50 22.9	+1.0
	0.1nm,0.3s,baz=62,slow=14,SNR=5.7							
KURBB				Lg	Lg		05 52 11.8	
	baz=63,slow=31,SNR=4.1							
	0.5nm,0.4s							
MKAR	**Makanchi Array**	**7.69**	**211**	Pn	Pn		05 50 38.8	+0.8
	0.1nm,0.3s,baz=32,slow=17,SNR=2.8							
MKAR				Lg	Lg		05 52 47.7	
	0.1nm,0.3s,baz=32,slow=27,SNR=2.4							
	0.3nm,0.6s							

IDC 07 06:10:04.9±2.7, 54.15N×86.38E, h0km, mbtmp2.6/2, ML2.5/2, Error ellipse: s-maj=21.9km s-min=13.4km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**258**	I	I		06 15 40.0	
	baz=80,slow=343,SNR=14							
ZALV	**Zalesovo Beam**	**0.94**	**258**	Pg	Pg		06 10 21.6	-1.3
	0.4nm,0.3s,baz=80,slow=16,SNR=2.7							
ZALV				Lg	Lg		06 10 37.4	
	1.6nm,0.3s,baz=74,slow=27,SNR=8.2							
KURBB	**Kurchatov Arra**	**5.96**	**237**	Pn	Pn		06 11 33.4	-1.0
	baz=54,slow=13,SNR=6.3							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**7.81**	**201**	Pn	Pn		06 12 02.0	+2.3
	0.2nm,0.3s,baz=20,slow=14,SNR=5.3							
	0.2nm,0.3s							

IDC 07 06:13:50.2±3.6, 54.41N×86.98E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=32.7km s-min=19.7km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**251**	I	I		06 21 20.0	
	baz=71,slow=342,SNR=17							
ZALV	**Zalesovo Beam**	**1.35**	**251**	Pg	Pg		06 14 14.8	-1.3
	0.7nm,0.3s,baz=66,slow=16,SNR=3.7							
ZALV				Lg	Lg		06 14 33.7	
	0.5nm,0.3s,baz=68,slow=28,SNR=1.6							
KURBB	**Kurchatov Arra**	**6.40**	**237**	Pn	Pn		06 15 26.4	+0.7
	0.1nm,0.3s,baz=54,slow=14,SNR=5.1							
	0.7nm,0.5s							
MKAR	**Makanchi Array**	**8.19**	**203**	Pn	Pn		06 15 51.4	+1.1
	0.1nm,0.3s,baz=25,slow=13,SNR=1.5							
	0.2nm,0.5s							

*IDC **07** 06:18:09.6±1.6, 56.88N×153.37W, h0km, mb3.8/6, mbtmp3.8/8, ML3.4/2, MS3.3/2, Error ellipse: s-maj=35.1km s-min=13.7km az=132.0*
*NEIC **07** 06:18:13.0±1.2, 56.89N±0.03×153.07W±0.07, h18km±9km, Error ellipse: s-maj=6.3km s-min=4.3km az=124.0*
*AEIC **07** 06:18:14.3±1.2, 56.91N±0.05×153.13W±0.10, h14km±5km, ML3.3, ML3.5/74(NEIC), Error ellipse: s-maj=7.7km s-min=6.9km az=93.0*

ISC 07 06:18:12.0±1.6, 56.88N±0.05×153.01W±0.04, h16km±10km, n204, σ1$00/214, mb4.0/6, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**0.37**	**336**			**Pb**	**06 18 20.8**	**+0.5**
OHAK						**Sb**	**06 18 25.8**	**0.0**
OHAK				IAML			06 18 26.4	
	comp=E,5μm,0.7s							
OHAK	**Old Harbor**	**0.37**	**336**	P		**Pb**	**06 18 20.9**	**+0.7**
	baz=163							
OHAK				S		**Sb**	**06 18 26.0**	**+0.2**
	baz=163							
SII	**Sitkinak Islan**	**0.73**	**244**			**Pn**	**06 18 27.1**	**-0.5**
SII						**Sb**	**06 18 36.7**	**+0.8**
SII	**Sitkinak Islan**	**0.73**	**244**	P		**Pn**	**06 18 27.1**	**-0.5**
	baz=60							
SII				S		**Sb**	**06 18 36.8**	**+0.8**
	baz=60							
KDAK	**Kodiak Island**	**0.93**	**14**	Sg		**Sb**	**06 18 43.4**	**+1.5**
KDAK	**Kodiak Island**	**0.93**	**14**	Pg		**Pb**	**06 18 30.9**	**+1.2**
KDAK				IAML			06 18 45.6	
	comp=E,898nm,0.7s							
KDAK	**Kodiak Island**	**0.93**	**14**	Pg		**Pb**	**06 18 30.8**	**+1.0**
	comp=E,85nm,0.3s,baz=203,slow=5.0,SNR=6650							
KDAK				Lg	Lg		06 18 42.9	
	comp=E,128nm,0.3s,baz=317,slow=21,SNR=24							
KDAK				LR	LR		06 19 01.9	
	comp=E,187nm,18.2s,baz=288,slow=52							
R18K	**Karluk**	**1.04**	**312**			**Pg**	**06 18 31.3**	**-0.9**
R18K						**Sg**	**06 18 44.5**	**-1.3**
R18K	**Karluk**	**1.04**	**312**	P		**Pg**	**06 18 31.3**	**-0.9**
	baz=132							
Q20K	**Shuyak Island**	**1.76**	**10**	P		**Pn**	**06 18 42.7**	**+0.8**
	baz=193							
SYI	**Shuyak Island**	**1.76**	**11**			**Pn**	**06 18 42.7**	**+0.8**
SYI				IAML			06 19 11.8	
	comp=N,378nm,0.6s							
KAKN	**Katmai Knife C**	**1.80**	**323**			**Pn**	**06 18 42.2**	**-0.2**
KAKN						**Sb**	**06 19 08.3**	**+1.4**
KAHG	**Katmai Hook Gl**	**1.81**	**334**			**Pn**	**06 18 43.1**	**+0.5**
KAHG						**Sb**	**06 19 08.0**	**+0.6**
ACHA	**Angle Creek He**	**1.83**	**318**			**Pn**	**06 18 42.9**	**+0.1**
ACHA						**Sn**	**06 19 06.2**	**+0.6**
KABU	**Katmai Buttres**	**1.85**	**320**			**Pn**	**06 18 43.5**	**+0.3**
KABU						**Sn**	**06 19 07.2**	**+0.9**
KABU						**Sb**	**06 19 10.1**	**+1.5**
KAPH	**Katmai Pasha**	**1.86**	**338**			**Pn**	**06 18 43.9**	**+0.6**
ANCK	**Angle Creek**	**1.88**	**316**			**Pn**	**06 18 43.8**	**+0.2**
KVTA Katmai Vly 10 1.94 322 **Pn 06 18 44.3 0.0**
PLK3 Peulik 3 1.94 296 **Pn 06 18 44.2 -0.2**
R17K Ugashik Creek 1.99 294 **Pn 06 18 44.6 -0.4**
R17K IAML 06 19 17.2
comp=E,536nm,0.7s
R17K IAML 06 19 17.9
comp=N,507nm,0.6s
R17K Ugashik Creek 1.99 294 P **Pn 06 18 44.5 -0.4**
baz=111
R17K S **Sn 06 19 10.1 +0.6**
baz=111
KAHC Katmai Hardscr 2.07 330 **Pn 06 18 46.2 +0.1**
KAHC Katmai Hardscr 2.07 330 **Pn 06 18 46.2 +0.1**
KAHC Katmai Hardscr 2.07 330 P **Pn 06 18 46.4 +0.2**
baz=149
Q18K Katmai Hardscr 2.07 330 P **Pn 06 18 46.2 0.0**
baz=149
CNTC Contact Creek 2.08 313 **Pn 06 18 45.8 -0.5**
Q17K Contact Creek 2.08 313 P **Pn 06 18 46.3 0.0**
baz=131
Q19K Cape Douglas, 2.08 351 **Pn 06 18 47.5 +1.3**
Q19K Cape Douglas, 2.08 351 P **Pn 06 18 47.7 +1.4**
baz=172
PLK1 Peulik 1 2.16 297 **Pn 06 18 47.1 -0.1**
Q16K King Salmon 2.66 314 **Pn 06 18 54.9 +0.8**
Q16K King Salmon 2.66 314 P **Pn 06 18 54.9 +0.8**
baz=132
ANNE Aniakchak Nort 2.77 273 **Pn 06 18 55.2 -0.5**
P18K Big Mountain, 2.78 336 **Pn 06 18 55.9 +0.1**
P18K Big Mountain, 2.78 336 P **Pn 06 18 55.9 +0.1**
baz=155
P19K Oil Pt 2.78 358 **Pn 06 18 57.3 +1.4**
P19K IAML 06 19 42.9
comp=N,283nm,0.6s
P19K Oil Pt 2.78 358 P **Pn 06 18 56.8 +1.0**
baz=178
CNPM China Poot 2.81 19 **Pn 06 18 57.5 +1.2**
CNPM IAML 06 19 49.8
comp=N,121nm,0.6s
CNPM IAML 06 19 53.1
comp=E,153nm,0.7s
HOM Homer 2.88 14 **Pn 06 18 58.6 +1.5**
HOM Homer 2.88 14 P **Pn 06 18 58.3 +1.2**
baz=196
ANPB Aniakchak Plen 2.90 271 **Pn 06 18 57.1 -0.4**
P17K Kvichak River 2.95 323 **Pn 06 18 58.5 +0.3**
P17K Kvichak River 2.95 323 P **Pn 06 18 58.4 +0.3**
baz=141
BRLK Bradley Lake 3.10 20 **Pn 06 19 00.8 +0.6**
BRLK IAML 06 19 59.7
comp=E,102nm,1.0s
BRSE Bradley Lake S 3.11 22 **Pn 06 19 00.9 +0.6**
BRSE Bradley Lake S 3.11 22 P **Pn 06 19 01.0 +0.7**
baz=204
ILSW Iliamna Southw 3.11 359 **Pn 06 19 01.3 +0.8**
ILSW IAML 06 19 54.3
comp=E,119nm,0.8s
IVE Iliamna Volcan 3.14 360 **Pn 06 19 01.6 +0.7**
ILW Iliamna West 3.19 359 **Pn 06 19 02.2 +0.6**
O18K Koktuh Hills 3.20 340 **Pn 06 19 01.8 +0.2**
O18K Koktuh Hills 3.20 340 P **Pn 06 19 02.0 +0.4**
baz=159
O20K Slope Mountain 3.21 3 **Pn 06 19 03.2 +1.4**
O20K Slope Mountain 3.21 3 P **Pn 06 19 03.2 +1.4**
baz=185
O19K Port Alsworth 3.39 349 **Pn 06 19 04.9 +0.7**
O19K IAML 06 19 55.5
comp=N,138nm,0.5s
O19K Port Alsworth 3.39 349 P **Pn 06 19 04.9 +0.7**
baz=169
P16K Nushagak River 3.42 311 **Pn 06 19 04.0 -0.5**
P16K Nushagak River 3.42 311 P **Pn 06 19 04.0 -0.5**
baz=127
VNSG Veniaminof 6 3.45 260 **Pn 06 19 04.8 -0.4**
RED Redoubt Volcan 3.55 2 **Pn 06 19 07.2 +0.8**
RDSO Redoubt South 3.58 2 **Pn 06 19 07.5 +0.5**
O17K Koliganek Bris 3.61 325 **Pn 06 19 07.0 -0.2**
O17K Koliganek Bris 3.61 325 P **Pn 06 19 07.0 -0.2**
baz=142
RDWB Redoubt West 3.62 1 **Pn 06 19 07.9 +0.5**
S14K Fog Glacier 3.67 263 P **Pn 06 19 08.3 +0.2**
baz=78
VNFG Fog Glacier, M 3.67 263 **Pn 06 19 07.9 -0.2**
NCT North Crescent 3.69 1 **Pn 06 19 09.2 +0.7**
RDT Redoubt 3.71 5 **Pn 06 19 09.0 +0.3**
RDJH Redoubt Jeurge 3.72 2 **Pn 06 19 10.9 +2.0**
DFR Drift River 3.72 2 **Pn 06 19 09.2 +0.3**
SEW Seward 3.73 29 **Pn 06 19 08.8 -0.1**
SEW Seward 3.73 29 P **Pn 06 19 08.7 -0.1**
baz=212
O16K Kokwok River B 3.82 317 P **Pn 06 19 10.0 -0.1**
baz=134
SLKM Skilak Lake 3.92 21 **Pn 06 19 11.9 +0.4**
O22K Cooper Landing 4.00 24 **Pn 06 19 13.5 +1.0**
O22K Cooper Landing 4.00 24 P **Pn 06 19 13.3 +0.9**
baz=208
N19K Bonanza Creek 4.02 350 Pn **Pn 06 19 13.7 +0.8**
N19K Bonanza Creek 4.02 350 P **Pn 06 19 13.4 +0.5**
baz=169
N18K Kilae Creek 4.09 340 **Pn 06 19 14.6 +0.7**
N18K IAML 06 20 33.3
comp=N,38nm,1.9s
N18K Kilae Creek 4.09 340 P **Pn 06 19 14.2 +0.3**
baz=158
CHNA Chernabura Isl 4.24 244 P **Pn 06 19 15.1 -0.8**
baz=58
N17K Nushagak Hills 4.25 331 **Pn 06 19 16.2 +0.1**
N17K IAML 06 20 37.7
comp=N,36nm,1.0s
O15K Ungalikthiuk R 4.29 305 **Pn 06 19 15.9 -0.6**
O15K Ungalikthiuk R 4.29 305 P **Pn 06 19 16.0 -0.6**
baz=120
P23K Montague Islan 4.29 41 **Pn 06 19 16.9 +0.3**
P23K Montague Islan 4.29 41 P **Pn 06 19 17.3 +0.7**
baz=226
N20K Mount Spurr 4.35 5 P **Pn 06 19 18.2 +0.7**
baz=186
SPCR Spurr Chakacha 4.35 5 **Pn 06 19 18.0 +0.5**
SVW2 Sparrevohn 4.43 344 **Pn 06 19 19.2 +0.7**
SPCG Spurr Capps Gl 4.45 6 **Pn 06 19 19.0 +0.1**
RC01 Rabbit Creek A 4.54 20 **Pn 06 19 20.8 +0.7**
RC01 IAML 06 20 41.0
comp=E,38nm,1.2s
RC01 IAML 06 20 50.5
comp=N,33nm,1.5s
RC01 Rabbit Creek A 4.54 20 P **Pn 06 19 20.6 +0.5**
baz=204
PWL Port Wells 4.67 29 **Pn 06 19 22.0 +0.2**
PWL IAML 06 20 50.0
comp=N,44nm,1.6s
PWL IAML 06 20 57.4
comp=E,42nm,1.4s
PWL Port Wells 4.67 29 P **Pn 06 19 21.9 +0.1**
baz=214
STLK Strandline Lak 4.67 7 **Pn 06 19 22.6 +0.8**
N16K Nishlik Lake 4.69 323 **Pn 06 19 22.1 +0.1**
N16K Nishlik Lake 4.69 323 P **Pn 06 19 22.2 +0.1**
baz=138
M18K Stony River 4.84 344 **Pn 06 19 24.8 +0.7**
M18K Stony River 4.84 344 P **Pn 06 19 24.8 +0.7**
baz=162
HIN Hinchinbrook I 4.89 41 Pn **Pn 06 19 25.0 +0.1**
N15K Kwethluk River 4.96 315 **Pn 06 19 26.2 +0.4**
N15K LR 06 20 50.5
N15K IAML 06 20 52.2
comp=N,30nm,1.0s
N15K IAML 06 21 10.5
comp=E,30nm,1.2s
O14K Tigyukauivet M 4.99 302 Pn **Pn 06 19 25.8 -0.3**
O14K IAML 06 20 52.5
comp=E,29nm,1.4s
O14K IAML 06 21 01.2
comp=N,32nm,1.1s
M20K Styx River 5.01 359 **Pn 06 19 27.4 +0.8**
M20K IAML 06 21 02.4
comp=N,21nm,1.9s
M20K Styx River 5.01 359 P **Pn 06 19 26.5 -0.1**
baz=180
GLI Glacier Island 5.04 35 **Pn 06 19 26.6 -0.3**
GLI IAML 06 21 16.3
comp=E,30nm,1.4s
GLI IAML 06 21 55.0
comp=N,26nm,1.7s
GLI Glacier Island 5.04 35 P **Pn 06 19 26.6 -0.3**
baz=220

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
M17K	Holitna River	5.07	335		Pn	06 19 28.0	+0.7
M17K					IAML	06 20 52.0	
	comp=N,43nm,1.0s						
M19K	Big River Lodg	5.09	353		Pn	06 19 28.1	+0.6
M19K					IAML	06 21 06.5	
	comp=E,27nm,1.9s						
M19K	Big River Lodg	5.09	353	P	Pn	06 19 27.7	+0.2
	baz=172						
PS1A	Pavlof South-1	5.10	257		Pn	06 19 27.2	-0.5
KNK	Knik Glacier	5.11	25		Pn	06 19 28.3	+0.5
KNK					IAML	06 21 06.8	
	comp=E,41nm,1.9s						
KNK					IAML	06 21 15.0	
	comp=N,26nm,1.9s						
KNK	Knik Glacier	5.11	25	P	Pn	06 19 28.8	+1.0
	baz=210						
PMR	Palmer	5.12	21	Pn	Pn	06 19 27.9	-0.1
PMR					IAML	06 21 07.5	
	comp=E,20nm,1.8s						
FID	Port Fidalgo	5.15	38		Pn	06 19 27.8	-0.6
FID					IAML	06 20 49.5	
	comp=N,27nm,1.3s						
FID					IAML	06 20 58.5	
	comp=E,29nm,1.8s						
M16K	Timber Creek	5.17	326		Pn	06 19 29.1	+0.5
M16K					IAML	06 21 02.8	
	comp=N,29nm,1.9s						
M16K					IAML	06 21 08.1	
	comp=E,20nm,1.2s						
SKT	Skwentna	5.17	8		Pn	06 19 28.8	+0.2
SKT					IAML	06 20 58.4	
	comp=E,23nm,1.4s						
SKT					IAML	06 21 03.0	
	comp=N,18nm,1.9s						
SKT	Skwentna	5.17	8	P	Pn	06 19 28.6	0.0
	baz=190						
PS4A	Pavlof South-4	5.19	256		Pn	06 19 28.2	-0.6
PN7A	Pavlof North-7	5.23	258		Pn	06 19 29.2	-0.3
EYAK	Cordova Ski Ar	5.27	43		Pn	06 19 30.7	+0.7
EYAK	Cordova Ski Ar	5.27	43	P	Pn	06 19 30.4	+0.4
	baz=229						
GHO	Glory Hole Cre	5.33	21		Pn	06 19 31.1	+0.2
GHO					IAML	06 20 57.7	
	comp=E,40nm,1.3s						
L19K	White Mountain	5.40	351		Pn	06 19 32.9	+1.1
L19K					IAML	06 21 22.3	
	comp=E,19nm,1.9s						
L19K					IAML	06 21 26.6	
	comp=N,18nm,1.5s						
L19K	White Mountain	5.40	351	P	Pn	06 19 32.3	+0.6
	baz=170						
SML	Sawmill	5.49	24		Pn	06 19 33.9	+0.8
M15K	Kasigluk River	5.53	317		Pn	06 19 33.6	+0.1
M15K	Kasigluk River	5.53	317	P	Pn	06 19 33.6	+0.1
	baz=131						
RAGM	Ragged Mountai	5.59	48		Pn	06 19 37.1	+2.6
M23K	Glacier View	5.62	27		Pn	06 19 34.7	0.0
M23K	Glacier View	5.62	27	P	Pn	06 19 35.2	+0.4
	baz=212						
L20K	Farewell, AK	5.63	356		Pn	06 19 35.3	+0.3
L20K	Farewell, AK	5.63	356	P	Pn	06 19 35.3	+0.3
	baz=176						
L18K	Granite Mounta	5.67	342		Pn	06 19 36.8	+1.3
L18K	Granite Mounta	5.67	342	P	Pn	06 19 35.8	+0.3
	baz=160						
GOAT	Goat Mountain	5.69	46		Pn	06 19 36.2	+0.4
SCM	Sheep Creek Mo	5.75	28		Pn	06 19 37.4	+0.7
SCM	Sheep Creek Mo	5.75	28	P	Pn	06 19 37.3	+0.7
	baz=213						
L16K	Owhat River	5.86	328		Pn	06 19 38.9	+0.8
L16K	Owhat River	5.86	328	P	Pn	06 19 38.0	-0.2
	baz=143						
KLU	Klutina	5.88	35		Pn	06 19 39.4	+0.9
KLU	Klutina	5.88	35	P	Pn	06 19 38.9	+0.4
	baz=222						
BMRM	Bremner River	5.97	43		Pn	06 19 40.5	+0.8
BMRM	Bremner River	5.97	43	P	Pn	06 19 39.9	+0.2
	baz=231						
PPLA	Purkeypile	6.05	4	Pn	Pn	06 19 41.5	+0.7
M14K	Bethel	6.05	314	P	Pn	06 19 40.5	-0.3
	baz=126						
TTA	Tatalina	6.25	347	Pn	Pn	06 19 44.3	+0.8
M24K	Tolsona, Glenn	6.29	31	Pn	Pn	06 19 45.4	+1.4
WAT6	Susitna Watana	6.30	23		Pn	06 19 44.3	0.0
WAT6	Susitna Watana	6.30	23	P	Pn	06 19 44.3	0.0
	baz=208						
N25K	Chitina, Valde	6.40	39		Pn	06 19 46.6	+0.9
N25K	Chitina, Valde	6.40	39	P	Pn	06 19 45.8	+0.2
	baz=226						
ISNN	Isanotski Nort	6.40	256		Pn	06 19 44.5	-1.1
ISLZ	Isanotski Laza	6.41	255		Pn	06 19 45.0	-0.7
K17K	Iditarod	6.43	338		Pn	06 19 46.9	+1.0
K17K	Iditarod	6.43	338	P	Pn	06 19 46.4	+0.5
	baz=154						
L15K	Ungalak Mounta	6.48	321		Pn	06 19 46.6	0.0
L15K	Ungalak Mounta	6.48	321	P	Pn	06 19 46.6	0.0
	baz=134						
K20K	Telida	6.52	356		Pn	06 19 48.9	+1.8
CAST	Castle Rocks	6.57	4	Pn	Pn	06 19 49.0	+1.1
GLB	Gilahina Butte	6.57	42	Pn	Pn	06 19 48.4	+0.5
VRDI	Verde Repeater	6.57	45	Pn	Pn	06 19 48.7	+0.7
TRF	Thorofare Moun	6.73	10	Pn	Pn	06 19 50.5	+0.4
KTH	Kantishna Hill	6.77	8	Pn	Pn	06 19 51.4	+0.7
DHY	Denali Highway	6.82	22	Pn	Pn	06 19 52.0	+0.6
J18K	Innoko River	6.86	346		Pn	06 19 52.6	+0.8
K15K	Wolf Creek Mou	6.94	325		Pn	06 19 53.6	+0.7
K15K	Wolf Creek Mou	6.94	325	P	Pn	06 19 53.3	+0.5
	baz=138						
MCK	McKinley	7.16	15	Pn	Pn	06 19 56.7	+0.7
J19K	Poorman	7.25	351	Pn	Pn	06 19 57.8	+0.7
CTGM	Chitina Glacie	7.29	51	Pn	Pn	06 19 58.5	+0.6
J20K	Nowinta River	7.34	356		Pn	06 19 59.1	+0.7
J16K	Anvik River	7.45	333	Pn	Pn	06 20 00.1	+0.1
K13K	Kusilvak Mount	7.80	315	Pn	Pn	06 20 05.6	+0.9
J14K	Nanvaranak Lak	7.92	322	Pn	Pn	06 20 06.7	+0.3
MLY	Manley	8.25	7	Pn	Pn	06 20 11.1	+0.2
O29M	Mount Kennedy	8.28	60	Pn	Pn	06 20 13.7	+2.3
BCAR	Beaver Creek A	8.36	38	Pn	Pn	06 20 14.6	+2.1
IL31		8.46	18		Pn	06 20 14.9	+1.3
ILAR	Eielson Array	8.46	18	Pn	Pn	06 20 14.7	+1.0
	comp=N,0.3nm,0.3s,baz=212,slow=14,SNR=12						
ILAR				Sn	Sn	06 21 42.0	-6.7
	comp=N,0.1nm,0.3s,baz=205,slow=21,SNR=2.0						
IL03	Eielson Array	8.46	18	Pn	Pn	06 20 15.4	+1.7
I23K	Minto, Yukon-K	8.48	11	Pn	Pn	06 20 13.8	-0.2
P29M	Windy Craggy	8.51	65	Pn	Pn	06 20 16.1	+1.7
H17K	Granite Mounta	8.75	340	Pn	Pn	06 20 18.6	+0.9
H19K	Roundabout Mou	8.83	351	Pn	Pn	06 20 21.0	+2.2
IMAR	Indian Mountai	9.14	358	Pn	Pn	06 20 23.3	+0.3
G19K	Purcell Mounta	9.49	350	Pn	Pn	06 20 29.1	+1.2
L29M	L29M	9.70	44	Pn	Pn	06 20 31.8	+1.0
DAWY	Dawson	9.83	37	Pn	Pn	06 20 33.8	+1.3
G23K	Bananza Creek	9.96	7	Pn	Pn	06 20 34.2	-0.2
F20K	Avaraart Lake	10.28	354	Pn	Pn	06 20 40.9	+2.3
E18K	Tukpahlearik C	11.14	345	Pn	Pn	06 20 51.3	+0.9
TOLK	Toolik Lake Re	11.90	6	Pn	Pn	06 21 02.5	+1.6
D22K	Ayikyak River	12.04	1	Pn	Pn	06 21 03.6	+0.9
DLBC	Dease Lake	12.39	73	Pn	Pn	06 21 11.3	+3.7
	comp=N,0.3nm,0.3s,baz=358,slow=15,SNR=2.0						
	comp=N,1.6nm,0.4s						
INK	Inuvik	14.45	30	Pn	Pn	06 21 38.5	+2.9
INK	Inuvik	14.45	30	Pn	Pn	06 21 38.4	+2.8
	baz=233,slow=11,SNR=1.3						
	comp=N,1.4nm,1.0s						
YKA	Yellowknife Ar	19.94	58	P	Pn	06 22 45.2	+0.6
	comp=N,0.3nm,0.9s,baz=268,slow=9.7,SNR=2.6						
ARCES	ARCESS Array B	53.88	1	P	P	06 27 33.8	+0.1
	comp=N,1.4nm,0.8s,baz=354,slow=7.5,SNR=1.0						
	comp=N,1.4nm,0.8s						
KSRS	Korea Array	53.91	285	LR	LR	06 49 13.0	
	comp=N,43nm,21.5s,baz=70,slow=35						
SONM	Songino Array	56.66	308	P	P	06 27 53.6	-0.6
	comp=N,0.7nm,0.6s,baz=36,slow=6.9,SNR=4.1						
	comp=N,0.7nm,0.6s						
ZALV	Zalesovo Beam	59.91	325	P	P	06 28 16.3	-0.3
	comp=N,0.6nm,0.5s,baz=46,slow=4.2,SNR=2.8						
	comp=N,0.6nm,0.5s						
JOW	Kunigami	61.88	277	LR	LR	06 55 23.5	
	comp=N,18nm,21.0s,baz=118,slow=36						
KURBB	Kurchatov Arra	64.73	327	P	P	06 28 48.7	-0.3
	comp=N,0.5nm,0.5s,baz=32,slow=5.7,SNR=1.5						
	comp=N,0.5nm,0.5s						
MKAR	Makanchi Array	66.88	322	P	P	06 29 02.5	-0.4
	comp=N,0.4nm,0.3s,baz=34,slow=6.5,SNR=6.6						
	comp=N,0.4nm,0.3s						
AKASG	Malin Array Be	72.77	359	P	P	06 29 37.4	-1.6
	comp=N,0.4nm,0.5s,baz=3.9,slow=6.9,SNR=1.8						
	comp=N,0.4nm,0.5s						

IDC 07 06:27:14.3±2.5, 13°.72N×92°.29W, h0km, mb3.7/3, mbtmp3.5/5, ML2.8/2, MS3.8/3, Error ellipse: s-maj=45.2km s-min=39.7km az=173.0
NEIC 07 06:27:16.1±1.7, 13°.77N±0°.05×92°.48W±0°.03, h9km±7km, mb4.0/6, Md4.2/27(MEX), Error ellipse: s-maj=8.7km s-min=2.0km az=153.0
GCG 07 06:27:18.3±0.5, 14°.15N×92°.60W, h73km±18km, MD3.8
MEX 07 06:27:18.2±1.0, 13°.66N×92°.53W, h16km±47km, MD4.2
CATAC 07 06:27:19.7±0.7, 13°.90N×92°.16W, h5km±6km, ML3.6
ISC 07 06:27:16.1±1.7, 13°.75N±0°.05×92°.46W±0°.04, h16km±9km, n66, σ1s90/92, mb3.8/3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	Suchitepequez,	1.03	57	eP	Pg	06 27 37.1	+1.1
RTAL	Retalhuleu	1.07	44		Pb	06 27 36.3	-0.1
RTAL				Sg	Sg	06 27 50.1	-0.7
RTAL	Retalhuleu	1.07	44	eP	Pb	06 27 36.2	-0.1
RTAL				eS	Sb	06 27 49.2	-0.8
RTAL	Retalhuleu	1.07	44	iP	Pb	06 27 36.2	-0.1
RTAL				iS	Sb	06 27 45.1	-5.0
RTAL				IAML		06 27 49.8	
	comp=Z,2μm,1.0s						
SMCA	Catarina	1.16	19	iP	Pb	06 27 37.0	-0.9
SMCA				IAML		06 28 22.4	
	comp=Z,1μm,1.0s						
THIG		1.17	9		Pb	06 27 37.8	-0.2
THIG					Sg	06 27 52.9	-1.0
THIG		1.17	9	eP	Pb	06 27 37.8	-0.2
THIG				eS	Sg	06 27 52.9	-1.0
STG3	Santiaguito 3,	1.28	42	eP	Pn	06 27 39.7	0.0
STG3				eS	Sb	06 27 55.8	-0.7
PATR	El Naranjo	1.38	9	eP	Pn	06 27 40.3	-0.7
PATR				eS	Sn	06 27 58.0	-1.0
CHUJ	Union Juarez	1.38	14	eP	Pn	06 27 40.1	-0.9
CHUJ				eS	Sb	06 27 58.5	-0.7
SMSP	San Marcos	1.38	28	eP	Pn	06 27 40.8	-0.3
SMSP				eS	Sn	06 27 58.1	-1.1
SMSP	San Marcos	1.38	28	iP	Pn	06 27 40.6	-0.5
SMSP				IAML		06 28 02.3	
	comp=Z,3μm,1.0s						
PAVE	Pavencul	1.46	11	eP	Pn	06 27 41.7	-0.5
PAVE				eS	Sb	06 28 00.9	-0.7
SOKI	Kika Raxquin	1.47	44	iP	Pn	06 27 42.1	-0.4
SOKI				iS	Sn	06 27 57.0	-4.7
SOKI				IAML		06 28 08.3	
	comp=Z,650nm,1.0s						
ESSG	Sabana Grande	1.70	68	iP	Pn	06 27 44.1	-1.2
ESSG				iS	Sn	06 28 03.6	-3.2
ESSG				IAML		06 28 52.8	
	comp=Z,770nm,1.0s						
FUG	Fuego 3	1.71	66	eP	Pn	06 27 45.5	-0.1
HUEH	Huehuetenango	1.81	31		Pb	06 27 48.1	-1.1
HUEH	Huehuetenango	1.81	31	iP	Pn	06 27 47.9	+0.9
HUEH				iS	Sb	06 28 12.0	+0.2
HUEH	Huehuetenango	1.81	31	iP	Pb	06 27 48.1	-1.1
HUEH				IAML		06 27 48.4	
	comp=Z,2μm,1.0s						
GUMI	Mixco	1.99	64	iP	Pn	06 27 49.5	+0.1
GUMI				IAML		06 28 18.0	
	comp=Z,2μm,1.0s						
PCIG		2.08	339		Pn	06 27 50.4	-0.1
PCIG					Sn	06 28 14.5	-1.6
PCIG		2.08	339	eP	Pn	06 27 50.4	-0.1
PCIG				eS	Sn	06 28 14.5	-1.6
NBG	Las Nubes	2.21	68	eP	Pn	06 27 54.0	+1.5
NBG				eS	Sb	06 28 22.3	-0.9
GUNB	GUNB	2.21	67	iP	Pn	06 27 53.3	+0.7
GUNB				iS	Sn	06 28 19.2	-0.6
GUNB				IAML		06 28 34.6	
	comp=Z,300nm,1.0s						
CCIG	Comitan	2.54	7		Pb	06 27 59.0	-2.5
CCIG	Comitan	2.54	7	eP	Pb	06 27 59.9	-1.6
CCIG				eS	Sb	06 28 30.2	-2.4
NUBE	Las Nubes	2.60	86	iP	Pn	06 27 57.3	-0.5
NUBE				iS	Sn	06 28 27.3	-2.0
NUBE				IAML		06 28 28.6	
	comp=Z,160nm,1.0s						
JAYA	Jayaque - finc	2.92	92	iP	Pn	06 28 03.8	+1.6
JAYA				iS	Sn	06 28 32.6	-4.6
JAYA				IAML		06 28 41.9	
	comp=Z,420nm,1.0s						
PMON	Piamonte	3.05	90	iP	Pn	06 28 06.6	+2.6
PMON				IAML		06 29 01.2	
	comp=Z,310nm,1.0s						
MTO3	Montecristo	3.07	78		Pn	06 28 03.5	-0.8
MTO3	Montecristo	3.07	78	iP	Pn	06 28 03.6	-0.8
MTO3				IAML		06 28 32.1	
	comp=Z,61nm,1.0s						
TGIG		3.08	348		Pn	06 28 04.9	+0.7
TGIG					Sn	06 28 39.9	-0.9
TGIG		3.08	348	eP	Pn	06 28 04.9	+0.7
TGIG				eS	Sn	06 28 39.9	-0.9
ESQI	Esquipulas	3.13	75	Pn	Pn	06 28 04.1	-0.8
SJTE	Alcalda de S	3.35	92	iP	Pn	06 28 08.8	+0.7
SJTE				IAML		06 28 57.8	
	comp=Z,87nm,1.0s						
PAVA	Las Pavas	3.42	90	iP	Pn	06 28 09.3	+0.3
PAVA				IAML		06 29 26.5	
	comp=Z,160nm,1.0s						
COEG	Centro de Oper	3.48	92	iP	Pn	06 28 11.9	+2.1
COEG				IAML		06 29 00.5	
	comp=Z,80nm,1.0s						
SCLA	Alcaldia de Sa	3.62	90	iP	Pn	06 28 12.0	+0.3
SCLA				IAML		06 28 21.2	
	comp=Z,39nm,1.0s						
SARH	Santa Rosa de	3.73	74	iP	Pn	06 28 17.6	+4.4
UXUV	UXUV	3.90	336	eP	Pn	06 28 18.1	+2.6
UXUV				eS	Sn	06 29 04.4	+3.3
PETF	Flores	4.02	38		Pn	06 28 17.7	+0.6
PETF	Flores	4.02	38	eP	Pn	06 28 17.9	+0.8
PETF				eS	Sn	06 29 05.2	+1.3
HUIG	Huatulco	4.06	300		Pn	06 28 17.9	+0.2
HUIG					Sn	06 28 58.2	-6.9
HUIG	Huatulco	4.06	300	eP	Pn	06 28 17.9	+0.2
HUIG				eS	Sn	06 28 58.2	-6.9
CMIG	Matias Romero	4.06	325		Pn	06 28 18.5	+0.7
CMIG	Matias Romero	4.06	325	Pn	Pn	06 28 19.1	+1.4
	comp=Z,0.7nm,0.3s,baz=149,slow=8.8,SNR=3.0						
CMIG				Sn	Sn	06 29 08.8	+3.7
	comp=Z,5.1nm,0.3s,baz=116,slow=16,SNR=4.8						
	comp=Z,2.9nm,0.3s						
CMIG	Matias Romero	4.06	325	eP	Pn	06 28 18.5	+0.7
CNGN	Cerro Negro	5.75	102	Pn	Pn	06 28 42.2	+1.3
TLIG	Tlapa	7.00	304		Pn	06 28 57.6	-0.6
HZTE	Horizontes, Gu	7.35	113	Pn	Pn	06 29 04.5	+1.5
TEIG	Tepich	7.58	31		Pn	06 29 07.4	+1.3
TEIG	Tepich	7.58	31	Pn	Pn	06 29 06.5	+0.4
	comp=Z,26nm,0.3s,baz=12,slow=3.1,SNR=24						
TEIG				Sn	Sn	06 30 32.8	+1.0
	baz=168,slow=20						
TEIG				LR	LR	06 32 23.3	
	comp=Z,2μm,18.6s,baz=327,slow=41						
ORTG	Ortega, Santa	7.63	115	Pn	Pn	06 29 08.4	+1.6
LCR2	La Lucha 2	9.18	115	Pn	Pn	06 29 28.4	+0.1
BRDY	Brady	18.46	342	P	Pn	06 31 31.9	+0.4
BRDY				IAmb	IAmb	06 31 43.6	
	comp=Z,1.4nm,0.8s						
TXAR	Lajitas Array	18.67	328	P	Pn	06 31 36.9	+2.8
	baz=152,slow=12,SNR=3.1						
	comp=Z,0.7nm,0.9s						
SGCY	Sterling City	19.75	338	P	P	06 31 44.7	-0.8
SGCY				IAmb	IAmb	06 31 55.2	
	comp=Z,4.7nm,0.6s						
MNHN	Monahans	19.90	333	P	P	06 31 47.5	+0.3
MNHN				IAmb	IAmb	06 31 51.7	
	comp=Z,8.2nm,0.7s						
425A	Indio Mountain	20.51	328	P	P	06 31 53.1	-0.8
425A				IAmb	IAmb	06 32 09.3	
	comp=Z,1.8nm,0.9s						
SMWD	Samnorwood	22.39	343	P	P	06 32 13.7	-0.3
SMWD				IAmb	IAmb	06 32 17.7	
	comp=Z,13nm,0.8s						
SADO	Sadowa	32.93	18	LR	LR	06 47 55.8	
	comp=Z,70nm,19.3s,baz=68,slow=38						
NVAR	Mina Array Bea	33.59	322	P	P	06 33 58.5	+2.5
	comp=Z,0.6nm,0.7s,baz=137,slow=9.8,SNR=4.2						
	comp=Z,0.6nm,0.7s						
YKA	Yellowknife Ar	51.17	347	P	P	06 36 18.3	0.0
	comp=Z,1.0nm,0.7s,baz=151,slow=7.2,SNR=17						
	comp=Z,1.0nm,0.7s						
ILAR	Eielson Array	62.89	337	P	P	06 37 42.1	+0.8
	comp=Z,0.5nm,0.8s,baz=142,slow=4.1,SNR=6.4						
	comp=Z,0.5nm,0.8s						
TORD	Torodi Ar. Bea	90.87	76	LR	LR	07 17 33.6	
	comp=Z,48nm,19.8s,baz=130,slow=33						
CMAR	Chiang Mai Arr	146.08	340	PKPbc	PKPab	06 46 57.1	+0.2
	comp=Z,1.3nm,0.5s,baz=337,slow=4.2,SNR=8.3						

IDC 07 06:29:55.9±1.7, 48°.28S×106°.74E, h0km, mb3.9/3, mbtmp3.9/3, MS3.6/19, Error ellipse: s-maj=58.1km s-min=45.9km az=136.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	14.46	25	T	T	06 48 45.7	
	baz=202,slow=74,SNR=40						
H01W1	Cape Leeuwin H	14.47	25	T	T	06 48 58.6	
	baz=202,slow=74,SNR=54						
H01W3	Cape Leeuwin H	14.47	25	T	T	06 48 44.5	
	baz=202,slow=74,SNR=40						
NWAO	Narrogin (SRO)	17.25	31	LR	LR	06 38 44.5	
	comp=Z,87nm,19.3s,baz=120,slow=31						
STKA	Stephens Creek	30.97	71	LR	LR	06 46 47.7	
	comp=Z,207nm,21.1s,baz=207,slow=33						
ASAR	Alice Springs	32.65	51	P	P	06 36 29.6	0.0
	0.7nm,0.6s,baz=210,slow=7.4,SNR=14						
ASAR				PcP	PcP	06 39 16.6	+0.9
	0.3nm,0.6s,baz=199,slow=1.9,SNR=5.2						
ASAR				LR	LR	06 48 26.3	
	comp=Z,110nm,20.3s,baz=254,slow=34						
	0.7nm,0.6s						
VNDA	Vanda	35.95	162	LR	LR	06 50 21.8	
	comp=Z,233nm,20.6s,baz=300,slow=34						
WRA	Warramunga Arr	35.98	48	P	P	06 36 58.1	-0.3
	1.1nm,0.9s,baz=210,slow=8.1,SNR=8.0						
WRA				PcP	PcP	06 39 25.7	+0.5
	0.4nm,0.8s,baz=220,slow=2.5,SNR=2.7						
	1.1nm,0.9s						
LEM	Lembang	41.31	1	LR	LR	06 50 29.8	
	comp=Z,91nm,21.0s,baz=256,slow=30						
CTA	Charters Tower	42.40	62	LR	LR	06 55 20.3	
	comp=Z,128nm,18.4s,baz=260,slow=36						
RPZ	Rata Peaks	43.74	109	LR	LR	06 50 18.9	
	comp=Z,53nm,20.2s,baz=260,slow=28						
KAPI	Kappang	44.52	19	LR	LR	06 55 46.0	
	comp=Z,21nm,18.6s,baz=184,slow=35						
URZ	Urewera	50.54	106	LR	LR	06 56 42.6	
	comp=Z,51nm,18.6s,baz=147,slow=32						
DZM	Mont Dzumac	53.80	83	LR	LR	06 58 09.3	
	comp=Z,44nm,21.0s,baz=228,slow=32						
HNR	Honiara	58.94	67	LR	LR	07 03 47.5	
	comp=Z,676nm,19.8s,baz=230,slow=34						
PALK	Pallekele	59.88	330	LR	LR	06 59 35.1	
	comp=Z,100nm,20.9s,baz=249,slow=30						
BOSA	Boshof	63.80	256	LR	LR	07 03 27.6	
	comp=Z,53nm,18.2s,baz=198,slow=32						
LBTB	Lobatse	66.03	259	LR	LR	07 02 43.4	
	comp=Z,49nm,21.4s,baz=164,slow=30						
CMAR	Chiang Mai Arr	66.80	352	P	P	06 40 48.8	-0.4
	1.2nm,0.3s,baz=178,slow=6.2,SNR=4.8						
	1.2nm,0.3s						
LSZ	Lusaka	71.17	268	LR	LR	07 06 32.0	
	comp=Z,86nm,21.0s,baz=184,slow=31						
RAR	Rarotonga	76.71	107	LR	LR	07 06 26.7	
	comp=Z,41nm,22.0s,baz=168,slow=29						
PLCA	Paso Flores	91.33	182	LR	LR	07 23 24.8	
	comp=Z,54nm,18.4s,baz=209,slow=35						
AAK	Ala-Archa	94.90	337	LR	LR	07 22 54.4	
	comp=Z,45nm,18.1s,baz=161,slow=34						
GEYT	Alibeck	96.11	323	LR	LR	07 20 05.5	
	comp=Z,51nm,21.5s,baz=80,slow=31						
KLR	Kul'dur	99.51	16	LR	LR	07 31 02.2	
	comp=Z,9.0nm,18.4s,baz=352,slow=37						
TXAR	Lajitas Array	149.97	118	PKPbc	PKPbc	06 49 46.7	-1.5
	0.9nm,0.8s,baz=181,slow=3.6,SNR=4.7						
YKA	Yellowknife Ar	153.12	43	PKPbc	PKiKP	06 49 54.3	0.0
	0.7nm,0.9s,baz=282,slow=2.0,SNR=3.9						

IDC 07 06:34:39.8±3.7, 53°.51N×87°.42E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=35.6km s-min=17.5km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.61	287	I	I	06 43 41.9	
	baz=104,slow=344,SNR=2.7						
ZALV	Zalesovo Beam	1.61	287	Pg	Pn	06 35 09.1	-0.3
	0.5nm,0.3s,baz=108,slow=16,SNR=4.6						
ZALV				Lg	Lg	06 35 31.2	
	1.9nm,0.3s,baz=112,slow=26,SNR=7.4						
KURBB	Kurchatov Arra	6.20	246	Pn	Pn	06 36 11.9	-0.6
	0.1nm,0.3s,baz=61,slow=14,SNR=3.6						
	0.2nm,0.3s						
MKAR	Makanchi Array	7.49	208	Pn	Pn	06 36 32.2	+2.0
	0.1nm,0.3s,baz=28,slow=16,SNR=1.9						
	0.2nm,0.4s						

NIED 07 06:38:45.2, 43°.60N×147°.68E, h9km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.99; $M_{\theta\theta}$1.07; $M_{\phi\phi}$-2.06; $M_{r\theta}$3.58; $M_{\theta\phi}$-0.53; $M_{\phi r}$1.54; Fault plane solution: $M_0$4.25000×10^{15} NP1:ϕ_s57.00000°, δ84.00000°, λ114.00000°. NP2:ϕ_s160.00000°, δ24.00000°, λ14.00000°.
JMA 07 06:38:45.2±0.2, 43°.6N±0°.9×14°8E±°, h9km, MD4.3/38, MV5.0/38, E OFF HOKKAIDO
JMA Felt I J1 at E OFF HOKKAIDO .
MOS 07 06:38:45.4±0.9, 43°.93N×147°.79E, h53km, mb5.1/38, MS3.4/7, Error ellipse: s-maj=7.1km s-min=4.9km az=107.4
SKHL 07 06:38:45.6±0.2, 43°.80N×148°.00E, h66km±3km, mb5.7/6
SKHL Felt (II) at Yushno-Kuril'sk.
IDC 07 06:38:46.1±2.0, 43°.87N×147°.88E, h52km±17km, mb4.4/32, mbtmp4.6/39, ML3.8/6, MS3.4/24, Error ellipse: s-maj=14.8km s-min=10.5km az=158.0
NEIC 07 06:38:47.3±1.4, 43°.93N±0°.08×147°.7E±0°.1, h52km±7km, mb4.8/145, Error ellipse: s-maj=12.9km s-min=10.0km az=138.0
ISC 07 06:38:46.0±0.5, 43°.84N±0°.05×147°.86E±0°.04, h53km±3km, h52km:pP-P, n705, σ1s23/703, mb4.8/158, MS3.6/22, 26C-20D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.74	272	iP	Pn	06 39 00.5	+0.1
SHO				AMB	AMB	06 39 01.2	
	9μm,0.5s						
SHO				iS	Sn	06 39 11.7	+0.8
SHO				A	A	06 39 12.9	
	14μm,0.3s						
SHO				A	A	06 39 12.9	
	13μm,0.3s						
SHO	Shikotan	0.74	272	d iPN	Pn	06 39 00.4	+0.1
SHO				iS	Sn	06 39 11.7	+0.8
SHO				pmax	pmax		
	comp=E,3μm,0.2s						
SHO				pmax	pmax		
	comp=Z,7μm,0.2s						
SHO				pmax	pmax		
	comp=N,799nm,0.3s						
SHO				smax	smax		
	comp=N,20μm,0.2s						
SHO				smax	smax		
	comp=E,15μm,0.2s						
KUR	Kuril'sk	1.39	0	iP	Pn	06 39 09.7	+0.7
KUR				AMB	AMB	06 39 15.6	
	comp=E,1μm,0.2s						
KUR				iS	Sn	06 39 27.5	+1.2
KUR				A	A	06 39 29.5	
	comp=E,6μm,0.5s						
KUR				A	A	06 39 29.5	
	comp=E,13μm,0.5s						
KUR	Kuril'sk	1.39	0	c iPN	Pn	06 39 09.9	+0.9
KUR				iS	Sn	06 39 27.7	+1.4
KUR				pmax	pmax		
	comp=N,68nm,0.3s						
KUR				pmax	pmax		
	comp=Z,1μm,0.3s						
KUR				smax	smax		

KUR smax smax
comp=N,6µm,0.5s
YUK Yuzh-Kuril'sk 1.46 278 *i* P **Pn 06 39 10.2 +0.3**
YUK AMB AMB 06 39 10.8
comp=N,5µm,0.3s
YUK *e*S **Sn 06 39 28.5 +0.7**
YUK A A 06 39 32.7
comp=N,24µm,0.5s
YUK A A 06 39 32.7
comp=N,17µm,0.5s
YUK Yuzh-Kuril'sk 1.46 278 *d i* PN **Pn 06 39 10.2 +0.3**
YUK *e*S **Sn 06 39 28.2 +0.4**
YUK pmax pmax
comp=N,2µm,0.2s
YUK pmax pmax
comp=Z,6µm,0.2s
YUK smax smax
comp=E,31µm,0.5s
YUK smax smax
comp=N,17µm,0.2s
NEM2 Nemuro 2 1.61 253 *e*P **Pn 06 39 11.5 -0.5**
NEM2 *e*S **Sn 06 39 30.0 -1.6**
JRA Rausu 1.98 274 *e*P **Pn 06 39 18.0 +1.0**
JRA *e*S **Sn 06 39 42.0 +1.4**
JRA Rausu 1.98 274 A A 06 39 18.0
comp=E,6.0nm,1.8s,comp=N,10.0nm,0.8s
JNSB Nemuroshibetsu 2.07 269 *e*P **Pn 06 39 19.3 +1.0**
JNSB *e*S **Sn 06 39 43.5 +0.7**
JNSB Nemuroshibetsu 2.07 269 A A 06 39 19.3
comp=E,7.0nm,2.6s,comp=N,6.0nm,2.0s
JKHN Kushirohamanak 2.10 250 P **Pn 06 39 18.6 -0.1**
JKHN *e*S **Sn 06 39 42.9 -0.8**
JNK Nakash 2.29 265 *e*P **Pn 06 39 21.7 +0.3**
JNK *e*S **Sn 06 39 48.4 +0.1**
JAK Akkeshi 2.45 251 *e*P **Pn 06 39 23.2 -0.4**
JAK *e*S **Sn 06 39 50.7 -1.6**
JAK Akkeshi 2.45 251 A A 06 39 23.2
comp=E,3.0nm,1.1s,comp=N,3.0nm,1.9s
JTKR Abashiri--Toko 2.86 274 *e*P **Pn 06 39 30.7 +1.7**
JTKR *e*S **Sn 06 40 06.3 +4.1**
JAR Ashorobuto 3.02 261 *e*P **Pn 06 39 32.2 +0.9**
JAR *e*S **Sn 06 40 07.0 +0.8**
JOB Onbets 3.08 254 *e*P **Pn 06 39 32.2 +0.1**
JMP Maruseppu 3.25 274 *e*P **Pn 06 39 36.4 +1.8**
JCH Churui 3.51 251 *e*P **Pn 06 39 38.0 0.0**
JKK2 Kamakawa 2 3.70 272 P **Pn 06 39 42.9 +2.3**
JKA Kamikawa-asahi 3.81 276 **Pn 06 39 44.8 +2.7**
JKA Kamikawa-asahi 3.81 276 *e*P **Pn 06 39 42.7 +0.6**
ASAJ Asahikawa 3.81 276 P **Pn 06 39 42.7 +0.6**
comp=N,7.6nm,0.3s,baz=81,slow=14,SNR=22
ASAJ S **Sn 06 40 27.2 +1.6**
comp=N,40nm,0.4s,baz=50,slow=25,SNR=1.3
ASAJ LR LR 06 41 23.9
comp=N,482nm,20.3s,baz=78,slow=41
comp=N,30nm,0.5s
JEM Erimo 3.90 244 *e*P **Pn 06 39 44.7 +1.3**
ERM Erimo 3.91 244 **Pn 06 39 45.0 +1.6**
ERM Sn **Sn 06 40 25.6 -2.4**
ERM Erimo 3.91 244 *ce*PN **Pn 06 39 44.9 +1.5**
ERM pmax pmax
comp=Z,109nm,0.7s
JSE Soyaes 3.94 288 *e*P **Pn 06 39 46.4 +2.5**
JNBK Urakawa-nobuka 4.05 249 *e*P **Pn 06 39 45.4 0.0**
JNBK Urakawa-nobuka 4.05 249 A A 06 39 45.4
comp=E,2.0nm,0.5s,comp=N,1.0nm,0.5s
JHR Hokuryu 4.44 271 *e*P **Pn 06 39 53.8 +3.0**
JWK2 Keihoku 4.51 291 *e*P **Pn 06 39 55.2 +3.6**
YSS Yuzh-Sakhalins 4.75 313 **Pn 06 39 57.4 +2.4**
YSS Yuzh-Sakhalins 4.75 313 *e*P **Pn 06 39 56.5 +1.5**
YSS AMB AMB 06 39 59.4
comp=N,60nm,0.4s
YSS *e*S **Sn 06 40 49.6 +0.8**
YSS A A 06 40 50.6
comp=N,80nm,0.4s
YSS A A 06 40 50.6
comp=N,160nm,0.4s
YSS AMS AMS 06 41 41.0
comp=N,400nm,14.0s
YSS AMS AMS 06 41 41.0
comp=N,500nm,14.0s
YSS Yuzh-Sakhalins 4.75 313 *e*PN **Pn 06 39 56.5 +1.5**
YSS *e*S **Sn 06 40 49.6 +0.8**
YSS pmax pmax
comp=Z,60nm,0.4s
YSS smax smax
comp=N,80nm,0.4s
YSS smax smax
comp=E,160nm,0.4s
YSS MLR MLR
comp=N,400nm,14.0s
YSS MLR MLR
comp=E,500nm,14.0s
JTM Tenmabayashi 5.89 241 Pn **Pn 06 40 11.0 +0.4**
TYV Tymovskoe 7.86 335 *e*P **Pn 06 40 40.3 +2.7**
TYV AMB AMB 06 40 42.4
comp=E,10.0nm,0.5s
JMM Marumori 8.02 224 Pn **Pn 06 40 38.4 -1.4**
SKR Severo-Kuril's 8.85 36 *e*P **Pn 06 40 51.1 0.0**
SKR AMB AMB 06 40 51.7
comp=E,160nm,0.5s
SKR *e*S **Sn 06 42 25.3 -3.9**
SKR A A 06 42 31.7
comp=E,170nm,0.6s
SKR A A 06 42 31.7
comp=E,220nm,0.6s
SKR AMS AMS 06 44 35.5
comp=E,1µm,16.0s
SKR AMS AMS 06 44 35.5
comp=E,3µm,16.0s
SKR AMS AMS 06 44 35.5
comp=E,1µm,16.0s
SKR Severo-Kuril's 8.85 36 *e*PN **Pn 06 40 50.9 -0.2**
SKR pmax pmax
comp=Z,162nm,0.5s
SKR MLR MLR
comp=N,1µm,16.0s
SKR MLR MLR
comp=E,3µm,16.0s
SKR MLR MLR
comp=Z,1µm,16.0s
PAU Pauzhetka 9.72 35 *e*P **Pn 06 41 03.9 +0.8**
PAU AMB AMB 06 41 05.7
comp=Z,40nm,0.5s
PAU *e*S **Sn 06 42 47.4 -3.3**
PAU A A 06 42 53.6
comp=Z,70nm,0.3s
PAU A A 06 42 53.6
comp=Z,120nm,0.3s
OKH Okha 10.24 343 *e*P **Pn 06 41 12.7 +2.6**
OKH AMB AMB 06 41 13.3
comp=Z,90nm,0.5s
MJAR Matsushiro Arr 10.37 229 P **Pn 06 41 10.9 -1.1**
comp=Z,0.2nm,0.3s,baz=29,slow=14,SNR=1.8
MJAR S **Sn 06 43 08.9 +2.1**
comp=Z,1.7nm,0.3s,baz=101,slow=6.5,SNR=4.4
comp=Z,1.5nm,0.3s
NKL Nikolayevsk 10.46 335 *e*P **Pn 06 41 14.0 +1.0**
PEA0B Petropavlovsk- 11.33 32 Pn **Pn 06 41 25.3 +0.3**
PEA0B Petropavlovsk- 11.33 32 PN **Pn 06 41 25.3 +0.3**
PETK Petropavlovsk- 11.33 32 Pn **Pn 06 41 25.5 +0.5**
PETK Petropavlovsk- 11.33 32 P **Pn 06 41 25.1 +0.1**
comp=Z,1.8nm,0.3s,baz=206,slow=10,SNR=26
PETK LR LR 06 45 31.1
comp=Z,159nm,21.9s,baz=225,slow=36
comp=Z,7.7nm,0.5s
USA0B Ussuriysk Arra 11.44 277 Pn **Pn 06 41 23.6 -2.9**
USA0B Ussuriysk Arra 11.44 277 PN **Pn 06 41 23.6 -2.9**
USRK Ussuriysk Ar. 11.44 277 PN **Pn 06 41 28.0 +1.5**
USRK Ussuriysk Ar. 11.44 277 P **Pn 06 41 28.0 +1.5**
comp=Z,0.2nm,0.3s,baz=86,slow=15,SNR=2.0
comp=Z,2.0nm,0.7s
MSHR Mys Shultsa 12.25 270 *i* PN **Pn 06 41 37.9 +0.2**
MSHR pmax pmax
comp=Z,16nm,0.8s
MSHR MLR MLR
comp=Z,56nm,16.0s
KLR Kul'dur 12.32 302 LR LR 06 46 44.6
comp=Z,151nm,21.2s,baz=72,slow=39
JHJ Hachijo jima 2 12.43 213 LR LR 06 47 12.8
comp=Z,26nm,18.5s,baz=47,slow=41
MDJ Mudanjiang 13.13 280 P **Pn 06 41 47.6 -2.0**
MDJ pmax pmax
comp=Z,8.0nm,2.3s
MDJ pmax pmax
comp=Z,210nm,5.8s
HEH HeiHe 15.32 302 *e*P **Pn 06 42 16.7 -1.9**
MA2 Magadan 15.86 5 **Pn 06 42 25.3 -0.2**
MA2 IAmb IAmb 06 42 28.9
comp=Z,45nm,0.7s
MA2 Magadan 15.86 5 *i* P **Pn 06 42 25.3 -0.2**
MA2 Magadan 15.86 5 *i* P **Pn 06 42 25.3 -0.2**
MA2 pmax pmax
comp=Z,43nm,0.7s
MA2 MLR MLR
comp=Z,93nm,16.0s
MA2 Magadan 15.86 5 P **Pn 06 42 25.5 0.0**
comp=Z,35nm,0.6s,baz=179,slow=11,SNR=14
MA2 LR LR 06 48 25.4
comp=Z,100nm,19.0s,baz=175,slow=37
KSRS Korea Array 16.40 254 P **Pn 06 42 32.0 -0.5**
comp=Z,0.2nm,0.3s,baz=56,slow=12,SNR=4.7
comp=Z,2.2nm,0.8s
ZEA Zeya 16.75 313 *e*P **P 06 42 39.2 +0.9**
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
INCN Inchon 17.29 256 P **Pn 06 42 43.0 -0.6**
INCN Inchon 17.29 256 P **Pn 06 42 43.0 -0.6**
INCN pmax pmax
comp=Z,47nm,1.3s
SEY Seymchan 19.31 6 *i* P **P 06 43 07.4 +1.1**
SEY Seymchan 19.31 6 *i* P **P 06 43 07.4 +1.1**
SEY pmax pmax
comp=Z,19nm,0.9s
SEY MLR MLR
comp=Z,82nm,17.0s
SEY Seymchan 19.31 6 P **P 06 43 04.8 -1.5**
comp=Z,2.0nm,0.3s,baz=185,slow=8.6,SNR=36
SEY LR LR 06 50 37.2
comp=Z,112nm,21.4s,baz=184,slow=37
comp=Z,22nm,0.7s
HIA Hailar 20.02 296 P **P 06 43 12.7 -1.5**
HIA Hailar 20.02 296 P **P 06 43 12.7 -1.5**
HIA pmax pmax
comp=Z,9.0nm,0.4s
YAK Yakutsk 21.12 336 **P 06 43 23.2 -2.7**
YAK Yakutsk 21.12 336 *ce*P **P 06 43 23.4 -2.6**
YAK pmax pmax
comp=Z,102nm,0.7s
YAK MLR MLR
comp=Z,98nm,18.0s
YAK Yakutsk 21.12 336 LR LR 06 51 58.5
comp=Z,5.6nm,20.0s,baz=128,slow=38
XLT XiLinHaoTe 22.84 281 *e*P **P 06 43 44.1 -0.5**
XLT pP pP 06 43 55.7 -1.0
XLT pmax pmax
comp=Z,15nm,0.8s
XLT pmax pmax
comp=Z,62nm,5.2s
BJI Beijing 23.79 272 P **P 06 43 53.6 -0.1**
BJI pmax pmax
comp=Z,5.0nm,1.2s
BJT Baijiatuan 23.80 272 P **P 06 43 52.6 -1.3**
BJT Baijiatuan 23.80 272 P **P 06 43 52.6 -1.3**
BJT pmax pmax
comp=Z,9.0nm,0.9s
NJ2 Nanjing 25.59 252 *e*P **P 06 44 12.2 +2.1**
NJ2 pP **pP 06 44 20.6 -2.5**
NJ2 sP **sP 06 44 24.4 -4.9**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 pmax pmax
comp=Z,150nm,4.0s
HNS HongShan 25.85 267 *e*P P 06 44 21.9 +9.4
BILL Bilibino 26.13 16 P **P 06 44 14.6 -0.1**
BILL IAmb IAmb 06 44 16.4
comp=Z,12nm,0.6s
BILL Bilibino 26.13 16 *i* P **P 06 44 15.8 +1.1**
BILL Bilibino 26.13 16 *e*P **P 06 44 15.8 +1.1**
HHC Hu-ho-hao-te 26.86 276 *e*P **P 06 44 20.2 -1.5**
HHC pmax pmax
comp=Z,22nm,0.5s
HHC pmax pmax
comp=Z,190nm,5.6s
BTO Baotou 28.04 277 *e*P **P 06 44 35.0 +2.7**
BTO pP **pP 06 44 46.8 +1.2**
BTO sP **sP 06 44 52.4 +0.6**
BTO PP **PnPn 06 45 25.3 +3.6**
BTO pmax pmax
comp=Z,21nm,0.5s
BTO pmax pmax
comp=Z,210nm,5.4s
ULN Ulaanbaatar 28.46 293 P **P 06 44 35.0 -1.0**
ULN Ulaanbaatar 28.46 293 *i* P **P 06 44 37.1 +1.1**
ULN Ulaanbaatar 28.46 293 *ce*P **P 06 44 37.1 +1.1**
ULN pmax pmax
comp=Z,10.0nm,0.8s
H11N2 WAKE ISLAND Hy 28.84 140 T T 07 15 22.2
baz=331,slow=75
H11N1 WAKE ISLAND Hy 28.85 140 T T 07 15 23.6
baz=331,slow=75
H11N3 WAKE ISLAND Hy 28.86 140 T T 07 15 24.0
baz=331,slow=75
SONM Songino Array 28.91 293 P **P 06 44 39.7 -0.2**
SONM Songino Array 28.91 293 P **P 06 44 39.7 -0.2**
SONM pmax pmax
comp=Z,7.0nm,1.0s
SONM Songino Array 28.91 293 P **P 06 44 40.2 +0.3**
comp=Z,5.7nm,0.7s,baz=83,slow=8.7,SNR=28
SONM LR LR 06 57 00.6
comp=Z,96nm,19.4s,baz=38,slow=38
comp=Z,5.7nm,0.7s
TIXI Tiksi 29.38 348 P **P 06 44 40.3 -3.3**
TIXI Tiksi 29.38 348 *ce*P **P 06 44 40.6 -3.0**
H11S1 WAKE ISLAND Hy 29.82 142 T T 07 16 36.9
baz=332,slow=76
H11S3 WAKE ISLAND Hy 29.82 142 T T 07 16 35.2
baz=332,slow=76
H11S2 WAKE ISLAND Hy 29.84 142 T T 07 16 38.2
baz=332,slow=76
GUMO Guam 30.26 186 LR LR 06 55 03.5
comp=Z,20nm,21.3s,baz=34,slow=32
GAMB Gambell 30.34 35 P **P 06 44 52.6 +0.5**
baz=248
TNA Tin City 32.50 33 P **P 06 45 11.8 +0.7**
baz=250
K13K Kusilvak Mount 32.92 40 P **P 06 45 15.6 +0.7**
baz=259
FALS False Pass 32.95 53 P **P 06 45 16.4 +1.2**
baz=271
F14K Arctic Creek 33.10 33 P **P 06 45 17.5 +1.1**
baz=252
ANM Nome 33.22 35 P **P 06 45 18.5 +1.0**
baz=254
M13K Dall Lake 33.30 43 P **P 06 45 18.9 +0.7**
baz=263
J14K Nanvaranak Lak 33.58 39 P **P 06 45 21.5 +0.9**
baz=259
L14K Kuka Creek 33.75 41 P **P 06 45 23.7 +1.6**
L14K Kuka Creek 33.75 41 P **P 06 45 22.9 +0.8**
baz=262
F15K North Star Dit 33.83 33 P **P 06 45 22.9 +0.1**
baz=254
G15K Niukluk 33.88 35 P **P 06 45 24.1 +0.8**
baz=255
M14K Bethel 34.02 42 P **P 06 45 25.8 +1.4**
M14K IAmb IAmb 06 45 37.5
comp=Z,11nm,0.9s
M14K Bethel 34.02 42 P **P 06 45 25.6 +1.1**
baz=264
O14K Tigyukauivet M 34.23 45 P **P 06 45 27.2 +0.8**
LZH Lanzhou 34.28 272 *e*P **P 06 45 27.8 +0.5**
LZH pP pP 06 45 37.9 -2.8
LZH pmax pmax
comp=Z,16nm,1.1s
C16K Lisburne Hills 34.41 29 P **P 06 45 28.2 +0.5**
C16K IAmb IAmb 06 45 28.9
comp=Z,12nm,1.1s
C16K Lisburne Hills 34.41 29 P **P 06 45 28.0 +0.3**
baz=249
H16K Elim 34.55 36 P **P 06 45 30.0 +1.1**
baz=258
M15K Kasigluk River 34.64 43 P **P 06 45 30.7 +0.9**
baz=265
G16K Koyuk River 34.67 34 P **P 06 45 30.6 +0.6**
baz=256
N15K Kwethluk River 34.89 44 P **P 06 45 32.4 +0.4**
baz=266
O15K Ungalikthiuk R 34.97 45 P **P 06 45 33.4 +0.7**
baz=268
J16K Anvik River 35.00 38 P **P 06 45 33.7 +0.7**
baz=261
D17K Noatak River 35.02 30 P **P 06 45 34.0 +0.9**
baz=252
I17K Unalakleet 35.06 37 P **P 06 45 33.8 +0.4**
baz=260
S14K Fog Glacier 35.10 50 P **P 06 45 33.8 -0.3**
baz=272
RDOG Red Dog Mine 35.19 30 P **P 06 45 35.7 +1.2**
baz=252
C17K DeLong Mountai 35.23 29 P **P 06 45 35.5 +0.6**
baz=251,SNR=6.2
E17K Hotham Inlet 35.31 31 P **P 06 45 36.5 +1.0**
baz=255,SNR=6.4
L16K Owhat River 35.32 41 P **P 06 45 37.0 +1.3**
L16K IAmb IAmb 06 45 37.3
comp=Z,8.3nm,1.1s
L16K Owhat River 35.32 41 P **P 06 45 36.5 +0.8**
baz=265
F17K Baldwin Pennin 35.36 33 P **P 06 45 37.4 +1.4**
F17K Baldwin Pennin 35.36 33 P **P 06 45 37.1 +1.1**
baz=256,SNR=10
G17K Kiwalik Mounta 35.39 34 P **P 06 45 37.4 +1.1**
baz=258
M16K Timber Creek 35.51 42 P **P 06 45 37.9 +0.6**
baz=266
N16K Nishlik Lake 35.57 43 P **P 06 45 38.9 +1.0**
baz=267
H17K Granite Mounta 35.58 35 P **P 06 45 38.9 +0.9**
baz=260
GTA Gaotai 35.78 280 *e*P **P 06 45 41.2 +1.1**
GTA sP pP 06 45 54.5 +0.9
GTA pmax pmax
comp=Z,5.0nm,1.1s
E18K Tukpahlearik C 35.85 31 P **P 06 45 41.4 +1.2**
baz=256
L17K Donlin 35.91 40 P **P 06 45 41.7 +0.9**
baz=265
K17K Iditarod 35.97 39 P **P 06 45 42.4 +1.1**
baz=264
C18K Utukok River 35.98 29 P **P 06 45 42.0 +0.6**
C18K IAmb IAmb 06 45 42.8
comp=Z,26nm,1.4s
C18K Utukok River 35.98 29 P **P 06 45 41.5 +0.1**
baz=253
B18K Kokolik River 35.99 28 P **P 06 45 42.0 +0.7**
baz=252
H18K Honhosa River 36.27 35 P **P 06 45 45.2 +1.4**
baz=261
M17K Holitna River 36.27 42 P **P 06 45 45.2 +1.4**
baz=267,SNR=5.2
G18K Tagagawik 36.28 34 P **P 06 45 45.2 +1.4**
G18K Tagagawik 36.28 34 P **P 06 45 45.3 +1.4**
baz=260,SNR=19
O17K Koliganek Bris 36.38 44 P **P 06 45 45.7 +1.0**
baz=269
C19K Lookout Ridge 36.67 28 P **P 06 45 48.2 +1.0**
baz=254
L18K Granite Mounta 36.67 40 P **P 06 45 48.4 +1.1**
baz=266
J18K Innoko River 36.76 38 P **P 06 45 49.1 +1.1**
baz=265
F19K Shaleruckik Mo 36.80 32 P **P 06 45 49.4 +1.1**
F19K Shaleruckik Mo 36.80 32 P **P 06 45 49.4 +1.1**
baz=259
GCSA Galena City Sc 36.83 36 P **P 06 45 49.1 +0.6**
baz=263
G19K Purcell Mounta 36.95 34 P **P 06 45 50.5 +0.9**
G19K IAmb IAmb 06 45 51.4
comp=Z,8.9nm,0.7s
G19K Purcell Mounta 36.95 34 P **P 06 45 50.9 +1.3**
baz=261
N18K Kilae Creek 36.99 43 P **P 06 45 51.4 +1.4**
baz=269
Q17K Contact Creek 37.02 47 P **P 06 45 51.4 +0.9**
baz=272
D19K Kuna River 37.03 30 P **P 06 45 51.0 +0.7**
baz=257
TTA Tatalina 37.03 39 P **P 06 45 52.0 +1.6**
TTA Tatalina 37.03 39 P **P 06 45 51.3 +0.9**
baz=266
TTA Tatalina 37.03 39 P **P 06 45 52.0 +1.6**
TTA pmax pmax
comp=Z,5.0nm,0.8s
M18K Stony River 37.05 42 P **P 06 45 51.3 +0.9**
baz=268
H19K Roundabout Mou 37.12 35 P **P 06 45 52.5 +1.5**
baz=262
E19K Redstone River 37.13 32 P **P 06 45 52.7 +1.6**
baz=259
SVW2 Sparrevohn 37.15 42 P **P 06 45 52.8 +1.4**
SVW2 IAmb IAmb 06 46 03.9
comp=Z,16nm,1.4s
J19K Poorman 37.30 37 P **P 06 45 54.1 +1.5**
baz=265
P18K Big Mountain, 37.33 45 P **P 06 45 53.9 +0.9**
baz=272
O18K Koktuh Hills 37.33 44 P **P 06 45 54.0 +1.1**
baz=271
CHIR Chirikof Islan 37.34 51 P **P 06 45 53.3 +0.3**
baz=276
GYA Guiyang 37.44 256 *e*P **P 06 45 56.1 +1.8**
GYA pmax pmax
comp=Z,10.0nm,0.9s
D20K Etivluk River 37.62 30 P **P 06 45 55.6 +0.3**
baz=258
F20K Avaraart Lake 37.63 32 P **P 06 45 55.8 +0.4**
baz=261
E20K Nigu River 37.67 30 P **P 06 45 56.6 +0.8**
baz=259
N19K Bonanza Creek 37.69 43 P **P 06 45 57.7 +1.8**
baz=270
B20K Meade River 37.73 27 P **P 06 45 56.9 +0.8**
baz=256,SNR=12
H20K Anotleneega Mo 37.76 35 P **P 06 45 57.4 +0.9**
baz=264
K20K Telida 37.94 38 P **P 06 45 59.5 +1.5**
baz=267
J20K Nowinta River 37.96 37 P **P 06 45 59.4 +1.3**
baz=266
L20K Farewell, AK 37.99 40 P **P 06 45 59.8 +1.3**
baz=269
A21K Barrow 38.24 25 P **P 06 46 00.7 +0.3**
baz=255
IMAR Indian Mountai 38.28 34 P **P 06 46 02.1 +1.3**
M20K Styx River 38.34 41 P **P 06 46 02.6 +1.2**
baz=270
C21K Knifeblade Rid 38.35 29 P **P 06 46 02.6 +1.2**
baz=259
G21K Allakaket 38.43 33 P **P 06 46 03.6 +1.5**
baz=264
B21K Ikpikpuk River 38.50 28 P **P 06 46 04.0 +1.5**
baz=259
E21K Killik River 38.52 30 IAmb IAmb 06 46 05.4
comp=Z,8.6nm,0.8s
E21K Killik River 38.52 30 P **P 06 46 03.8 +1.0**
baz=261
F21K Alatna River 38.53 32 P **P 06 46 03.9 +1.0**
baz=263
H21K Melozitna Rive 38.64 35 P **P 06 46 05.0 +1.2**
H21K IAmb IAmb 06 46 06.2
comp=Z,14nm,1.1s
H21K Melozitna Rive 38.64 35 P **P 06 46 04.6 +0.8**
baz=266,SNR=8.2
A22K Sinclair Lake 38.68 26 P **P 06 46 04.8 +0.8**
baz=257
PPLA Purkeypile 38.78 39 P **P 06 46 06.3 +1.1**
baz=270
N20K Mount Spurr 38.79 42 P **P 06 46 06.8 +1.5**
baz=272
KDAK Kodiak Island 38.81 47 P **P 06 46 06.2 +0.9**
KDAK IAmb IAmb 06 46 18.1
comp=Z,32nm,1.4s
KDAK Kodiak Island 38.81 47 P **P 06 46 06.2 +0.9**
KDAK pmax pmax
comp=Z,32nm,1.5s
KDAK Kodiak Island 38.81 47 LR LR 07 05 33.0
comp=Z,22nm,18.1s,baz=279,slow=41
CAST Castle Rocks 38.84 38 P **P 06 46 07.2 +1.7**
CAST IAmb IAmb 06 46 08.9
comp=Z,12nm,1.2s
CAST Castle Rocks 38.84 38 P **P 06 46 06.9 +1.3**
baz=269,SNR=5.8
B22K Teshekpuk Lake 39.04 27 P **P 06 46 07.8 +0.6**
B22K Teshekpuk Lake 39.04 27 P **P 06 46 07.7 +0.6**
baz=259

D22K	Ayikyak River	39.05	30	P	P	06 46 08.4	+1.2
	baz=262						
F22K	John River	39.06	32	P	P	06 46 09.4	+2.0
	baz=264						
H22K	Ishtalitna Cre	39.24	35	P	P	06 46 10.5	+1.6
	baz=267						
G22K	Bettles	39.27	33	P	P	06 46 10.0	+1.0
	baz=265						
E22K	Anaktuvuk Pass	39.27	31	P	P	06 46 10.3	+1.2
E22K	Anaktuvuk Pass	39.27	31	P	P	06 46 10.4	+1.2
	baz=264,SNR=32						
CAPN	Captain Cook N	39.32	43	P	P	06 46 10.9	+1.3
	baz=273						
BPAW	Bear Paw Mtn.	39.34	37	P	P	06 46 11.1	+1.4
BPAW	Bear Paw Mtn.	39.34	37	P	P	06 46 10.5	+0.7
	baz=269						
KTH	Kantishna Hill	39.36	38	P	P	06 46 11.5	+1.5
KTH				IAmb	IAmb	06 46 13.8	
	comp=Z,16nm,1.0s						
MLY	Manley	39.47	36	P	P	06 46 12.3	+1.5
MLY	Manley	39.47	36	P	P	06 46 12.1	+1.2
	baz=268,SNR=5.7						
SUA	Susitna One	39.48	42	P	P	06 46 10.8	-0.3
SUA				IAmb	IAmb	06 46 15.9	
	comp=Z,8.1nm,0.9s						
SUA	Susitna One	39.48	42	P	P	06 46 12.0	+0.9
	baz=273						
BRSE	Bradley Lake S	39.59	44	P	P	06 46 12.9	+1.1
	baz=275						
TRF	Thorofare Moun	39.64	38	P	P	06 46 13.4	+1.0
TRF				IAmb	IAmb	06 46 35.5	
	comp=Z,12nm,1.2s						
TRF	Thorofare Moun	39.64	38	P	P	06 46 13.7	+1.3
	baz=271						
CUT	Chulitna	39.67	40	P	P	06 46 14.2	+1.8
	baz=272						
D23K	Nanushuk River	39.78	30	P	P	06 46 15.0	+1.7
	baz=264						
COLD	Coldfoot	39.80	32	P	P	06 46 14.9	+1.4
	baz=266,SNR=15						
G23K	Bananza Creek	39.84	33	IAmb	IAmb	06 46 16.0	
	comp=Z,13nm,0.9s						
G23K	Bananza Creek	39.84	33	P	P	06 46 15.1	+1.2
	baz=267,SNR=10						
C23K	Itkillik River	39.91	28	P	P	06 46 15.1	+0.8
	baz=263						
RC01	Rabbit Creek A	39.99	42	P	P	06 46 15.6	+0.4
RC01				IAmb	IAmb	06 46 20.9	
	comp=Z,28nm,1.3s						
RC01	Rabbit Creek A	39.99	42	P	P	06 46 15.8	+0.7
	baz=274						
O22K	Cooper Landing	40.04	43	P	P	06 46 16.2	+0.6
	baz=275						
I23K	Minto, Yukon-K	40.05	36	P	P	06 46 16.8	+1.2
I23K	Minto, Yukon-K	40.05	36	P	P	06 46 16.9	+1.4
	baz=270						
E23K	Chandalar	40.08	31	P	P	06 46 16.9	+0.9
	baz=266,SNR=12						
TOLK	Toolik Lake Re	40.15	30	P	P	06 46 17.6	+1.2
TOLK				IAmb	IAmb	06 46 18.9	
	comp=Z,9.9nm,0.7s						
TOLK	Toolik Lake Re	40.15	30	P	P	06 46 17.4	+1.0
	baz=265,SNR=15						
NEA2	Nenana	40.17	37	IAmb	IAmb	06 46 19.8	
	comp=Z,8.9nm,0.8s						
NEA2	Nenana	40.17	37	P	P	06 46 18.0	+1.4
	baz=270,SNR=8.8						
MCK	McKinley	40.24	38	P	P	06 46 18.0	+0.8
	baz=272						
PMR	Palmer	40.25	41	P	P	06 46 18.1	+0.9
	baz=274						
WAT1	Susitna Watana	40.45	39	P	P	06 46 19.2	+0.3
	baz=273						
D24K	Happy Valley	40.46	30	P	P	06 46 20.0	+1.0
	baz=265						
E24K	Your Creek	40.51	31	P	P	06 46 21.1	+1.7
	baz=267						
MDM	Murphy Dome	40.53	36	P	P	06 46 20.8	+1.1
MDM				IAmb	IAmb	06 46 21.4	
	comp=Z,7.1nm,0.7s						
C24K	Franklin Bluff	40.56	29	P	P	06 46 21.0	+1.3
	baz=265						
KNK	Knik Glacier	40.58	42	P	P	06 46 20.6	+0.5
KNK				IAmb	IAmb	06 46 43.1	
	comp=Z,36nm,1.4s						
KNK	Knik Glacier	40.58	42	P	P	06 46 20.5	+0.4
	baz=275						
SML	Sawmill	40.62	41	P	P	06 46 21.1	+0.7
	baz=274						
H24K	Noodor Dome	40.68	35	P	P	06 46 21.7	+0.9
	baz=270						
PWL	Port Wells	40.69	42	P	P	06 46 21.1	+0.2
	baz=275						
COLA	College	40.70	36	P	P	06 46 22.3	+1.5
	baz=271						
COLA	College	40.70	36	P	P	06 46 22.4	+1.5
COLA				pP	pP	06 46 36.3	+2.2
F24K	Squaw Lake	40.71	32	IAmb	IAmb	06 46 25.0	
	comp=Z,10nm,0.6s						
F24K	Squaw Lake	40.71	32	P	P	06 46 22.3	+1.2
	baz=268						
DGZ	Jazzator, Alta	40.81	300	i P	P	06 46 23.1	+0.8
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DGZ				MLR	MLR		
	comp=Z,80nm,17.0s						
WAT6	Susitna Watana	40.84	40	P	P	06 46 23.2	+0.9
	baz=274						
G24K	Hadweenzic Riv	40.85	33	IAmb	IAmb	06 46 25.0	
	comp=Z,18nm,0.7s						
G24K	Hadweenzic Riv	40.85	33	P	P	06 46 23.9	+1.7
	baz=269,SNR=8.3						
POKR	Poker Plat Res	40.87	36	IAmb	IAmb	06 46 24.9	
	comp=Z,13nm,0.7s						
POKR	Poker Plat Res	40.87	36	P	P	06 46 24.4	+2.0
	baz=271,SNR=11						
PZH	PanZhiHua	40.90	261	P	P	06 46 23.8	+0.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,90nm,4.9s						
M23K	Glacier View	40.90	41	P	P	06 46 23.9	+1.2
	baz=275						
DHY	Denali Highway	40.97	39	P	P	06 46 23.8	+0.4
	baz=274						
SCM	Sheep Creek Mo	41.09	41	P	P	06 46 23.7	-0.6
	baz=275						
HDA	Harding Lake	41.10	37	IAmb	IAmb	06 46 31.2	
	comp=Z,8.9nm,0.5s						
HDA	Harding Lake	41.10	37	P	P	06 46 23.9	-0.3
	baz=272						
HDA				P	P	06 46 23.9	-0.3
	baz=272						
IL31		41.11	36	IAmb	IAmb	06 46 31.3	
	comp=Z,7.0nm,0.5s						
ILAR	Eielson Array	41.11	36	P	P	06 46 24.5	+0.2
	comp=Z,2.4nm,0.5s,baz=269,slow=8.6,SNR=50						
	comp=Z,2.4nm,0.5s						
D25K	Kavik River	41.35	29	P	P	06 46 27.3	+1.0
	baz=267,SNR=48						
ZALV	Zalesovo Beam	41.35	307	P	P	06 46 26.1	-0.3
	comp=Z,1.6nm,0.4s,baz=89,slow=5.9,SNR=4.2						
ZALV				PcP	PcP	06 48 24.3	+0.5
	comp=Z,2.9nm,0.6s,baz=96,slow=2.7,SNR=8.2						
ZALV				LR	LR	07 04 24.6	
	comp=Z,64nm,18.6s,baz=68,slow=37						
	comp=Z,1.6nm,0.4s						
G25K	Bearman Lake	41.39	33	P	P	06 46 27.8	+1.2
	baz=271						
F25K	Christian Rive	41.57	32	P	P	06 46 29.4	+1.3
	baz=270						
E25K	Arctic Village	41.60	31	IAmb	IAmb	06 46 30.6	
	comp=Z,8.1nm,0.7s						
E25K	Arctic Village	41.60	31	P	P	06 46 30.1	+1.7
	baz=270,SNR=13						
M24K	Tolsona, Glenn	41.60	40	P	P	06 46 29.7	+1.2
	baz=276						
K24K	Donnelly Dome	41.64	38	P	P	06 46 29.5	+0.7
	baz=274						
PRP	Porcupine Dome	41.66	35	P	P	06 46 29.3	+0.3
PRP				IAmb	IAmb	06 46 33.9	
	comp=Z,7.9nm,0.7s						
PRP	Porcupine Dome	41.66	35	P	P	06 46 30.0	+1.0
	baz=272						
FYU	Fort Yukon	41.74	34	IAmb	IAmb	06 46 32.5	
	comp=Z,34nm,1.1s						
J25K	Salcha River,	41.77	36	P	P	06 46 30.1	+0.2
	baz=274						
KLU	Klutina	41.79	41	P	P	06 46 31.0	+1.0
	baz=277						
PAX	Paxson	41.85	39	P	P	06 46 31.4	+0.9
	baz=275						
C26K	Camden Bay	41.88	28	P	P	06 46 31.9	+1.3
	baz=268,SNR=11						
HARP	HAARP	42.05	40	P	P	06 46 32.8	+0.7
	baz=276						
RIDG	Independent Ri	42.06	38	P	P	06 46 33.7	+1.6
	baz=275						
F26K	Sheenjek River	42.14	32	P	P	06 46 34.4	+1.6
	baz=271						
G26K	Porcupine Rive	42.30	33	P	P	06 46 36.1	+2.0
	baz=272						
SCRK	Sand Creek	42.42	37	P	P	06 46 36.1	+0.9
	baz=276						
BMRM	Bremner River	42.49	42	P	P	06 46 36.6	+1.0
	baz=278						
WMQ	Urumqi	42.54	292	eP	P	06 46 38.8	+2.5
J26L	Joseph Creek	42.55	37	P	P	06 46 36.9	+0.6
	baz=275						
I26K	Coal Creek Min	42.66	35	P	P	06 46 36.7	-0.3
I26K	Coal Creek Min	42.66	35	P	P	06 46 37.7	+0.7
	baz=275						
L26K	Log Cabin Wild	42.81	39	P	P	06 46 39.3	+1.1
	baz=277						
VRDI	Verde Repeater	43.00	41	P	P	06 46 40.9	+0.9
VRDI				IAmb	IAmb	06 46 54.3	
	comp=Z,22nm,1.4s						
M26K	Nabesna, AK	43.05	40	P	P	06 46 41.5	+1.3
	baz=278						
E27K	Coleen River	43.09	31	P	P	06 46 42.0	+1.6
	baz=273						
G27K	Doyon Strip	43.15	33	P	P	06 46 42.5	+1.5
	baz=274						
K27K	Chicken	43.25	37	P	P	06 46 43.1	+1.4
	baz=277						
H27K	Steamboat Moun	43.25	34	P	P	06 46 43.2	+1.4
	baz=275						
CRQE	Cirque	43.25	42	P	P	06 46 43.3	+1.4
	baz=280						
D27M	Malcolm River	43.27	29	P	P	06 46 43.2	+1.3
	baz=272						
L27K	Beaver Creek,	43.49	39	IAmb	IAmb	06 46 48.2	
	comp=Z,8.8nm,0.7s						
L27K	Beaver Creek,	43.49	39	P	P	06 46 45.1	+1.3
	baz=278						
EGAK	Eagle	43.56	36	P	P	06 46 45.2	+1.0
	baz=277						
M27K	Edge Creek, AK	43.57	40	P	P	06 46 46.4	+1.9
	baz=279						
F28M	Old Crow	43.78	32	IAmb	IAmb	06 46 48.9	
	comp=Z,14nm,0.8s						
F28M	Old Crow	43.78	32	P	P	06 46 47.7	+1.7
	baz=275,SNR=12						
E28M	Babbage River	43.82	30	P	P	06 46 47.9	+1.6
	baz=274						
I28M	Miner Creek	43.99	35	P	P	06 46 49.6	+1.9
	baz=277						
BVCY	Beaver Creek	44.03	39	P	P	06 46 49.2	+1.1
	baz=280						
D28M	Stokes Point	44.06	29	P	P	06 46 49.9	+1.8
	baz=274						
CTG	Chitna Glacier	44.06	41	P	P	06 46 49.6	+1.1
	baz=281						
YUK3	Moose Creek	44.33	40	P	P	06 46 51.2	+0.5
	baz=281						
DAWY	Dawson	44.42	37	P	P	06 46 52.7	+1.5
	baz=279						
E29M	Blow River	44.45	31	P	P	06 46 53.2	+1.9
	baz=276						
H29M	Whitestone	44.52	34	P	P	06 46 53.9	+1.9
	baz=278						
G29M	Pine Creek	44.57	33	IAmb	IAmb	06 46 55.1	
	comp=Z,20nm,1.1s						
G29M	Pine Creek	44.57	33	P	P	06 46 54.2	+1.8
	baz=278,SNR=6.6						
I29M	Ogilvie Camp,	44.67	35	IAmb	IAmb	06 47 00.6	
	comp=Z,12nm,0.8s						
I29M	Ogilvie Camp,	44.67	35	P	P	06 46 54.6	+1.4
	baz=279,SNR=11						
YUK8	Steele Glacier	44.75	41	P	P	06 46 55.5	+1.4
	baz=282						
MK31	Makanchi Array	44.99	298	P	P	06 46 56.7	+0.7
MK31				IAmb	IAmb	06 46 57.5	
	comp=Z,18nm,1.0s						
MK31	Makanchi Array	44.99	298	ceP	P	06 46 56.8	+0.8
MKAR	Makanchi Array	44.99	298	ceP	P	06 46 56.7	+0.7
MKAR				pmax	pmax		
	comp=Z,11nm,0.6s						
MKAR	Makanchi Array	44.99	298	P	P	06 46 56.7	+0.7
	comp=Z,10nm,0.6s,baz=78,slow=8.6,SNR=41						
MKAR				PcP	PcP	06 48 36.3	+0.1
	comp=Z,0.6nm,0.5s,baz=125,slow=1.7,SNR=1.6						
MKAR				LR	LR	07 07 21.0	
	comp=Z,73nm,19.8s,baz=71,slow=38						
	comp=Z,10nm,0.6s						
M29M	Somme Creek	45.12	39	P	P	06 46 58.2	+1.3
	baz=282						
L29M	L29M	45.14	38	P	P	06 46 59.0	+2.1
	baz=281						
EPYK	Eagle Plains	45.16	33	P	P	06 46 58.5	+1.4
EPYK				IAmb	IAmb	06 47 01.6	
	comp=Z,22nm,1.3s						
EPYK	Eagle Plains	45.16	33	P	P	06 46 58.5	+1.4
	baz=279						
MAKZ	Makanchi	45.19	298	P	P	06 46 58.1	+0.6
MAKZ				IAmb	IAmb	06 46 59.2	
	comp=Z,14nm,0.8s						
MAKZ	Makanchi	45.19	298	P	P	06 46 58.1	+0.6
MAKZ				pmax	pmax		
	comp=Z,14nm,0.9s						
MAKZ	Makanchi	45.19	298	P	P	06 46 58.1	+0.6
G30M	tAoh Zraii Nji	45.26	32	P	P	06 46 59.2	+1.3
	baz=279						
YUK4	Talbot Arm	45.26	41	P	P	06 46 59.5	+1.3
	baz=283						
K29M	Barlow Dome	45.27	37	P	P	06 46 59.4	+1.4
	baz=281						
F30M	Barrier River	45.33	32	P	P	06 47 00.5	+2.2
	baz=279,SNR=25						
YUK6	Outpost Mounta	45.49	41	P	P	06 47 01.7	+1.7
	baz=283						
I30M	Mount Dempster	45.50	35	P	P	06 47 01.6	+1.8
	baz=281						
J30M	Hart River	45.64	36	P	P	06 47 02.7	+1.7
	baz=281						
M30M	Minto, Yukon	45.85	39	P	P	06 47 04.4	+1.9
M30M	Minto, Yukon	45.85	39	P	P	06 47 04.7	+2.1
	baz=283						
KURK	Kurchatov	45.90	304	P	P	06 47 03.5	+0.5
KURK	Kurchatov	45.90	304	i P	P	06 47 03.5	+0.5
KURK	Kurchatov	45.90	304	ceP	P	06 47 03.5	+0.5
KURK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KURK	Kurchatov	45.90	304	P	P	06 47 03.5	+0.5
HYT	Haines Junctio	45.92	41	P	P	06 47 04.9	+1.7
HYT				IAmb	IAmb	06 47 06.6	
	comp=Z,18nm,0.9s						
HYT	Haines Junctio	45.92	41	P	P	06 47 05.3	+2.1
	baz=284						
N30M	Aishikik Lake	45.97	40	P	P	06 47 05.0	+1.5
	baz=284						
KURBB	Kurchatov Arra	45.99	304	P	P	06 47 04.2	+0.5
	comp=Z,11nm,0.6s,baz=74,slow=8.6,SNR=45						
KURBB				PcP	PcP	06 48 40.0	+0.4
	comp=Z,2.5nm,0.8s,baz=72,slow=3.3,SNR=8.3						
	comp=Z,11nm,0.6s						
MAYO	Mayo, Yukon	46.03	37	P	P	06 47 06.1	+2.2
	baz=283						
G31M	Satah River	46.03	32	P	P	06 47 05.2	+1.4
G31M	Satah River	46.03	32	P	P	06 47 06.1	+2.3
	baz=281,SNR=10						
INK	Inuvik	46.06	30	P	P	06 47 05.5	+1.5
INK	Inuvik	46.06	30	P	P	06 47 05.5	+1.5
	baz=280,SNR=21						
INK	Inuvik	46.06	30	P	P	06 47 05.6	+1.5
INK				pmax	pmax		
	comp=Z,19nm,0.4s						
INK	Inuvik	46.06	30	LR	LR	07 09 54.6	
	comp=Z,37nm,19.5s,baz=190,slow=41						
P29M	Windy Craggy	46.10	43	P	P	06 47 06.1	+1.6
	baz=285						
F31M	Tsiigehtchic	46.14	32	IAmb	IAmb	06 47 07.0	
	comp=Z,22nm,1.1s						
F31M	Tsiigehtchic	46.14	32	P	P	06 47 06.0	+1.4
	baz=281,SNR=11						
H31M	Peel River	46.22	34	P	P	06 47 06.8	+1.5
	baz=282						
N31M	Braeburn, Yuko	46.57	40	P	P	06 47 09.9	+1.7
	baz=285						
O30N	Mendenhall	46.61	41	P	P	06 47 10.0	+1.5
	baz=285						
M31M	Drury Creek, Y	47.03	39	P	P	06 47 12.2	+0.5
	baz=285						
WHY	Whitehorse	47.21	41	P	P	06 47 14.7	+1.4
WHY				IAmb	IAmb	06 47 35.6	
	comp=Z,14nm,1.5s						
SKAG	Skagway	47.33	43	P	P	06 47 14.9	+0.9
	baz=287						
FARO	Faro, Yukon	47.49	39	P	P	06 47 16.7	+1.4
FARO	Faro, Yukon	47.49	39	P	P	06 47 16.2	+0.8
	baz=286						
CMAR	Chiang Mai Arr	48.04	254	ceP	P	06 47 22.6	+2.5
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	48.04	254	P	P	06 47 21.3	+1.2
	comp=Z,1.6nm,0.3s,baz=45,slow=7.2,SNR=5.7						
	comp=Z,1.6nm,0.3s						
A36M	Sachs Harbour	48.07	25	P	P	06 47 21.0	+1.3
	baz=284,SNR=13						
P33M	Teslin, Yukon	48.32	41	P	P	06 47 22.7	+0.9
	baz=288						
C36M	Paulatuk	49.16	28	P	P	06 47 29.0	+1.0
WUS	Wushi	49.32	292	P	P	06 47 31.1	+1.2
BVAR	Borovoye Array	49.84	310	P	P	06 47 33.5	+0.1
	comp=Z,7.1nm,0.5s,baz=75,slow=9.3,SNR=32						
BVAR				PcP	PcP	06 48 53.2	-0.1
	comp=Z,2.5nm,0.6s,baz=93,slow=3.0,SNR=4.2						
BVAR				LR	LR	07 08 33.1	
	comp=Z,49nm,21.2s,baz=69,slow=36						
	comp=Z,7.1nm,0.5s						
BRVK	Borovoye	49.89	310	P	P	06 47 33.7	-0.1
BRVK				IAmb	IAmb	06 47 35.8	
	comp=Z,8.5nm,0.7s						
BRVK	Borovoye	49.89	310	i P	P	06 47 34.9	+1.1
BRVK	Borovoye	49.89	310	ceP	P	06 47 34.9	+1.1
BRVK				pmax	pmax		
	comp=Z,14nm,1.3s						
TGTN	Hyland Airport	49.99	38	P	P	06 47 36.2	+1.6
	baz=290						
ULHL	Ulahol	50.82	295	P	P	06 47 42.6	+1.3
	SNR=7.4						
BOOM	Boomskoye usch	50.90	295	P	P	06 47 42.5	+0.6
BOOM	Boomskoye usch	50.90	295	P	P	06 47 42.5	+0.6
BOOM				pmax	pmax		
	comp=Z,17nm,1.0s						
TKM2	Tokmak 2	50.93	296	P	P	06 47 43.8	+1.7
	SNR=8.6						
ODAN	Odare	51.04	272	eP	P	06 47 43.5	+0.4
	comp=Z,65nm,1.8s						
JIRN	Jiri	51.44	273	eP	P	06 47 46.8	+0.5
	comp=Z,21nm,0.7s						
WRGLY	Wrigley	51.47	35	P	P	06 47 47.0	+1.5
	baz=293						
KBK	Karagaybulak	51.47	296	P	P	06 47 47.5	+1.3
	SNR=7.6						
USP	Ospenovka	51.48	297	P	P	06 47 47.3	+1.3
	SNR=8.4						
GUN	Gumba	51.52	274	eP	P	06 47 47.9	+1.0
	comp=Z,33nm,0.6s						
KZA	Kyzart	51.55	295	P	P	06 47 46.5	-0.5
	SNR=6.8						
RAMN	Ramite	51.56	272	eP	P	06 47 47.7	+0.7
	comp=Z,68nm,0.8s						
AAK	Ala-Archa	51.78	296	P	P	06 47 49.5	+1.1
	SNR=5.5						
AAK	Ala-Archa	51.78	296	P	P	06 47 49.3	+0.9
AAK				IAmb	IAmb	06 47 50.4	
	comp=Z,15nm,1.4s						
AAK	Ala-Archa	51.78	296	i P	P	06 47 49.3	+0.9
AAK	Ala-Archa	51.78	296	P	P	06 47 49.3	+0.9
AAK				pmax	pmax		
	comp=Z,15nm,1.4s						
AAK	Ala-Archa	51.78	296	P	P	06 47 48.9	+0.5
	comp=Z,2.6nm,0.4s,baz=138,slow=6.1,SNR=9.2						
	comp=Z,2.6nm,0.4s						
KKN	Kakani	52.02	274	eP	P	06 47 51.3	+0.8
	comp=Z,32nm,0.9s						
PKI	Pulchoki	52.05	274	eP	P	06 47 51.3	+0.4
	comp=Z,7.0nm,0.5s						
PKIN	Phulchoki	52.06	274	eP	P	06 47 51.1	+0.3
	comp=Z,19nm,0.8s						
EKS2	Erkin-Say	52.23	296	P	P	06 47 52.9	+1.2
	SNR=5.0						
DMN	Daman	52.25	274	eP	P	06 47 52.8	+0.6
	comp=Z,30nm,0.8s						
DANN	Dangsing	52.80	275	eP	P	06 47 57.3	+1.0
	comp=Z,56nm,0.6s						
KOLN	Koldanda	53.24	275	eP	P	06 48 00.5	+1.0
	comp=Z,48nm,1.0s						
ARSB	Arslanbob	53.40	295	P	P	06 48 01.1	+0.8
ARSB	Arslanbob	53.40	295	P	P	06 48 01.2	+0.8
ARSB				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PYUN	Piuthan	53.49	276	eP	P	06 48 02.1	+0.8
	comp=Z,46nm,0.9s						
KK31	Karatay Array	54.12	298	P	P	06 48 05.4	-0.1
KK31				IAmb	IAmb	06 48 06.6	
	comp=Z,4.4nm,0.6s						
KK31	Karatay Array	54.12	298	P	P	06 48 05.4	-0.1
KK31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KKAR	Karatay Array	54.12	298	P	P	06 48 05.4	-0.1
KKAR				IAmb	IAmb	06 48 06.6	
	comp=Z,4.4nm,0.6s						
KKAR	Karatay Array	54.12	298	P	P	06 48 05.6	+0.1
KKAR	Karatay Array	54.12	298	P	P	06 48 05.6	+0.1
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NOR	Nord	54.53	357	i P	P	06 48 05.3	-2.6
NOR				IAmb	IAmb	06 48 08.1	
	comp=Z,1.3nm,0.6s						
ARU	Arti	54.63	317	P	P	06 48 08.2	-0.7
ARU	Arti	54.63	317	i P	P	06 48 09.0	+0.1
ARU	Arti	54.63	317	d iP	P	06 48 08.2	-0.7
ARU						06 50 08.0	
ARU				S	S	06 55 43.5	-1.0
ARU				SS	SS	06 59 25.6	-1.6
ARU				pmax	pmax		
	comp=Z,12nm,0.5s						
ARU	Arti	54.63	317	P	P	06 48 08.4	-0.5
	comp=Z,16nm,0.5s,baz=76,slow=4.4,SNR=27						
	comp=Z,16nm,0.5s						
ARU	Arti	54.63	317	P	P	06 48 08.8	-0.1
ARU				pP	pP	06 48 22.8	-0.4
RES	Resolute Bay	54.73	17	P	P	06 48 09.7	+0.3
RES	Resolute Bay	54.73	17	P	P	06 48 09.7	+0.3
RES				pmax	pmax		
	comp=Z,18nm,0.7s						
RES	Resolute Bay	54.73	17	LR	LR	07 15 17.5	
	comp=Z,34nm,18.2s,baz=8.5,slow=40						
SPITS	Spitsbergen Ar	54.79	349	P	P	06 48 08.1	-1.7
	comp=Z,4.4nm,0.7s,baz=51,slow=7.6,SNR=6.0						
	comp=Z,4.4nm,0.7s						
KAPI	Kappang	54.84	215	LR	LR	07 12 27.3	
	comp=Z,10nm,19.9s,baz=34,slow=37						
YKA	Yellowknife Ar	55.44	34	P	P	06 48 15.3	+0.7
	comp=Z,2.3nm,0.7s,baz=300,slow=7.3,SNR=34						
	comp=Z,2.3nm,0.7s						
NIL	Nilore	57.25	287	P	P	06 48 28.4	+0.3
NIL	Nilore	57.25	287	P	P	06 48 28.4	+0.3
NIL				pmax	pmax		
	comp=Z,18nm,0.8s						
CHGR	Chuyangaron	57.29	294	P	P	06 48 28.8	+0.5
CHGR	Chuyangaron	57.29	294	P	P	06 48 28.8	+0.5
CHGR				pmax	pmax		
	comp=Z,23nm,0.6s						
ABKAR	Akbulak array	57.40	309	P	P	06 48 29.1	+0.2
PRGR	Permogore	57.77	327	eP	P	06 48 29.6	-1.6
PRGR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KIRV	Kirov	57.84	322	P	P	06 48 32.2	+0.5
	comp=Z,16nm,0.7s,baz=74,slow=2.6,SNR=4.8						
KIRV				LR	LR	07 15 14.9	
	comp=Z,64nm,21.2s,baz=76,slow=38						
	comp=Z,16nm,0.7s						
AKTO	Aktyubinsk	57.86	311	P	P	06 48 32.1	+0.1
	comp=Z,9.5nm,0.6s,baz=55,slow=6.3,SNR=26						
AKTO				LR	LR	07 15 52.4	
	comp=Z,76nm,18.1s,baz=115,slow=38						
	comp=Z,9.5nm,0.6s						
NEEM	North Greenlan	58.41	5	i P	P	06 48 34.2	-1.7
NEEM				IAmb	IAmb	06 48 36.6	

comp=Z,13nm,0.8s
KEV Kevo 58.81 340 P **P** **06 48 37.5 -0.8**
KEV Kevo 58.81 340 P **P** **06 48 37.5 -0.8**
KEV pmax pmax
comp=Z,39nm,1.5s
ARA0 ARCESS Array S 59.34 340 *e*P **P** **06 48 41.3 -0.7**
ARCES ARCESS Array B 59.34 340 P **P** **06 48 41.4 -0.6**
ARCES IAmb IAmb 06 49 07.8
comp=Z,5.9nm,1.1s
ARCES ARCESS Array B 59.34 340 P **P** **06 48 41.4 -0.6**
ARCES pmax pmax
comp=Z,6.0nm,1.1s
ARCES ARCESS Array B 59.34 340 P **P** **06 48 41.3 -0.6**
comp=Z,2.5nm,0.3s,baz=51,slow=7.5,SNR=73
comp=Z,2.5nm,0.3s
DAG Danmarks Havn 59.36 356 *i* P **P** **06 48 40.0 -2.0**
DAG IAmb IAmb 06 48 43.4
comp=Z,1.9nm,0.7s
KBL Kabul 59.64 290 P **P** **06 48 44.2 -0.6**
KBL Kabul 59.64 290 P **P** **06 48 44.3 -0.6**
KBL pmax pmax
comp=Z,11nm,0.7s
LTY Liberty 60.48 51 P **P** **06 48 50.9 +0.6**
LTY IAmb IAmb 06 49 03.7
comp=Z,9.5nm,1.4s
JETT Jettan, Norway 60.55 341 *e*P **P** **06 48 49.9 -0.5**
KLMR Klimovskoe 60.63 328 *e*P **P** **06 48 48.3 -2.7**
KLMR AMP 06 48 52.7
comp=Z,17nm,1.5s
KLMR Klimovskoe 60.63 328 *e*P **P** **06 48 48.3 -2.7**
KLMR pmax pmax
comp=Z,17nm,1.5s
I03D Drain, OR 60.91 56 P **P** **06 48 54.2 +1.1**
I03D IAmb IAmb 06 49 12.6
comp=Z,17nm,1.4s
NEW Newport 61.88 49 P **P** **06 49 00.1 +0.3**
baz=305
PINE Pine Mountain 62.29 55 IAmb IAmb 06 49 05.2
comp=Z,4.7nm,0.8s
J05D Fort Rock, OR 62.41 55 P **P** **06 49 04.6 +1.1**
J05D IAmb IAmb 06 49 05.8
comp=Z,4.9nm,1.0s
YBH Yreka Blue Hor 62.41 58 P **P** **06 49 05.1 +1.7**
YBH Yreka Blue Hor 62.41 58 P **P** **06 49 05.1 +1.7**
F10A Beach Ranch, E 63.16 51 P **P** **06 49 08.8 +0.4**
FAUS Fauske 63.44 341 *e*P **P** **06 49 09.2 -0.4**
SUMG Summit 63.80 2 P **P** **06 49 12.8 +0.4**
SUMG Summit 63.80 2 P **P** **06 49 12.9 +0.4**
SUMG pmax pmax
comp=Z,20nm,0.9s
SUMG Summit 63.80 2 *i* P **P** **06 49 11.2 -1.3**
SUMG IAmb IAmb 06 49 14.2
comp=Z,12nm,0.7s
J08A Circle Bar Ran 63.99 54 P **P** **06 49 14.8 +0.9**
PLID Pearl Lake 64.38 51 P **P** **06 49 17.4 +0.8**
MSO Missoula 64.47 49 P **P** **06 49 17.2 +0.2**
baz=308
MOR8 Moi Rana 64.62 341 *e*P **P** **06 49 16.1 -1.3**
WR0 Warramunga Arr 64.65 194 P **P** **06 49 19.5 +1.4**
WRA Warramunga Arr 64.67 194 *i* P **P** **06 49 21.0 +2.7**
WRA Warramunga Arr 64.67 194 P **P** **06 49 17.5 -0.8**
comp=Z,0.8nm,0.9s,baz=12,slow=6.7,SNR=5.5
comp=Z,0.8nm,0.9s
STOK Stokkvaagen 64.81 342 *e*P **P** **06 49 16.7 -2.0**
GEYT Alibeck 64.84 299 P **P** **06 49 20.2 +0.8**
GEYT IAmb IAmb 06 49 21.1
comp=Z,8.6nm,0.9s
GEYT Alibeck 64.84 299 P **P** **06 49 20.2 +0.8**
GEYT pmax pmax
comp=Z,9.0nm,1.0s
GEYT Alibeck 64.84 299 P **P** **06 49 20.3 +0.8**
comp=Z,5.3nm,0.5s,baz=64,slow=6.9,SNR=9.2
comp=Z,5.3nm,0.5s
FINES FINESS Array B 65.02 333 P **P** **06 49 19.6 -0.5**
comp=Z,24nm,0.6s,baz=43,slow=7.0,SNR=116
comp=Z,24nm,0.6s
FFC Flin Flon 65.32 37 P **P** **06 49 23.2 +1.0**
FFC IAmb IAmb 06 49 23.8
comp=Z,9.1nm,1.1s
FFC Flin Flon 65.32 37 P **P** **06 49 23.2 +1.0**
FFC pmax pmax
comp=Z,9.0nm,1.1s
FFC Flin Flon 65.32 37 P **P** **06 49 23.1 +0.9**
FFC pP **pP** **06 49 38.3 +1.7**
OBN Obninsk 65.54 324 *i* P **P** **06 49 23.2 -0.4**
OBN Obninsk 65.54 324 *e*P **P** **06 49 23.2 -0.4**
OBN *e* 06 51 52.9
OBN *e*PPP PPP 06 53 23.9
OBN *e*SS SS 07 02 13.9 -4.0
OBN pmax pmax
comp=Z,5.0nm,0.4s
FCC Fort Churchill 65.69 30 P **P** **06 49 24.9 +0.5**
FCC IAmb IAmb 06 49 45.6
comp=Z,8.8nm,1.2s
FCC Fort Churchill 65.69 30 P **P** **06 49 24.9 +0.5**
FCC pmax pmax
comp=Z,9.0nm,1.2s
PNTR Pine Nut 65.89 58 P **P** **06 49 27.9 +1.4**
PNTR IAmb IAmb 06 49 33.7
comp=Z,4.5nm,0.7s
EGMT Eagleton 65.96 46 P **P** **06 49 27.0 +0.4**
baz=310
YERR Yerington 66.17 58 IAmb IAmb 06 49 30.1
comp=Z,6.9nm,1.0s
HLID Hailey 66.22 52 P **P** **06 49 29.0 +0.6**
baz=309
BOZ Bozeman (W) 66.50 49 IAmb IAmb 06 49 31.7
comp=Z,3.8nm,0.7s
BOZ Bozeman (W) 66.50 49 P **P** **06 49 30.5 +0.4**
baz=309
KVN Kaiserville 66.83 58 P **P** **06 49 33.5 +1.1**
KVN IAmb IAmb 06 49 34.3
comp=Z,5.3nm,0.9s
KVN Kaiserville 66.83 58 P **P** **06 49 33.6 +1.1**
KVN pmax pmax
comp=Z,5.0nm,0.9s
LHV Little Huntoon 67.08 59 IAmb IAmb 06 49 36.3
comp=Z,5.9nm,0.8s
NVAR Mina Array Bea 67.09 58 P **P** **06 49 34.6 +0.5**
comp=Z,2.5nm,0.6s,baz=298,slow=7.6,SNR=22
comp=Z,2.5nm,0.6s
ICESG Greenland Ices 67.25 3 *i* P **P** **06 49 32.2 -2.5**
ICESG IAmb IAmb 06 49 36.7
comp=Z,18nm,0.7s
H17A Grant Village 67.84 49 P **P** **06 49 40.1 +1.3**
baz=310
ASAR Alice Springs 68.39 194 P **P** **06 49 42.5 +0.5**
comp=Z,0.4nm,0.7s,baz=15,slow=5.6,SNR=7.0
ASAR LR LR 07 20 57.0
comp=Z,12nm,18.9s,baz=34,slow=37
CWC Cottonwood Cre 68.48 60 P **P** **06 49 43.1 +0.3**
baz=309
DGMT Dagmar 68.48 43 P **P** **06 49 43.1 +0.6**
baz=312
GRAC Grapevine Rang 68.57 59 P **P** **06 49 44.0 +0.8**
baz=310
AHID Auburn Hatcher 68.60 51 IAmb IAmb 06 49 50.9
comp=Z,13nm,1.2s
R11B Troy Canyon, C 68.81 57 P **P** **06 49 45.5 +0.7**
baz=310
FRB Frobisher Bay 68.95 16 LR LR 07 22 22.9
comp=Z,45nm,18.3s,baz=11,slow=38
MPMC Manual Prospec 69.09 60 P **P** **06 49 47.2 +0.6**
baz=310
FURC Furnace Creek, 69.22 59 P **P** **06 49 48.5 +1.3**
baz=310
DUG Dugway, Tooele 69.28 54 P **P** **06 49 48.2 +0.5**
baz=310
TPNV Topopah Spring 69.29 58 P **P** **06 49 48.4 +0.5**
baz=310
LRMC Laurel Mtn Rad 69.33 60 P **P** **06 49 48.6 +0.5**
baz=310
BW06 Boulder Array 69.46 50 P **P** **06 49 49.0 +0.1**
baz=311
PDAR Pinedale Array 69.46 50 P **P** **06 49 49.2 +0.3**
comp=Z,2.2nm,0.8s,baz=284,slow=1.3,SNR=16
comp=Z,2.2nm,0.8s
DY2G Dye2 69.48 6 *i* P **P** **06 49 47.2 -1.4**
DY2G IAmb IAmb 06 49 51.1
comp=Z,9.6nm,0.7s
GWY Greenwater Val 69.52 59 P **P** **06 49 50.1 +0.8**
MNK Minsk 69.52 327 *i* P **P** **06 49 47.3 -1.4**
comp=E,8.0nm,0.8s
MNK *i* P **P** **06 49 47.3 -1.4**
comp=N,26nm,0.7s
MNK *i* P **P** **06 49 47.3 -1.4**
comp=Z,25nm,0.9s,baz=222
MNK *i* pP **pP** **06 50 03.7 +0.3**
MNK *i* PcP **sP** **06 50 10.2 +0.9**
MNK *i* PP **PP** **06 52 21.1 -1.2**
MNK *i* PPP PPP 06 54 02.4
MNK *i* S **S** **06 58 50.3 -2.0**
MNK *i* sS **sS** **06 59 18.5 +1.6**
MNK *i* ScS **SKSac** **06 59 43.0 -1.4**
MNK *i* SS SS 07 03 07.7 -12
MNK *i* SSS SSS 07 06 37.0
MNK *i* LQ LQ 07 15 30.3
MNK *i* LR LR 07 20 47.5
MNK *i* LRM MLR 07 23 12.6
comp=N,102nm,17.8s
MNK *i* LRM MLR 07 23 18.5
comp=E,69nm,21.2s
MNK *i* LRM MLR 07 23 27.8
comp=Z,75nm,18.6s
MNK Minsk 69.52 327 *i* P **P** **06 49 47.3 -1.4**
MNK *i* *PP **pP** **06 50 03.7 +0.3**
MNK *i* 06 50 10.1
MNK *i* 06 52 21.0
MNK *i* PPP PPP 06 54 02.3
MNK *i* S **S** **06 58 50.2 -2.0**
MNK *i* *SS **sS** **06 59 18.5 +1.6**
MNK *i* 06 59 42.9
MNK pmax pmax
comp=E,8.0nm,0.8s
MNK pmax pmax
comp=N,26nm,0.7s
MNK pmax pmax
comp=Z,25nm,0.9s
MNK MLR MLR
comp=N,102nm,18.0s
MNK MLR MLR
comp=E,69nm,21.0s
MNK MLR MLR
comp=Z,75nm,19.0s
NC204 NORSAR Array S 69.61 339 P **P** **06 49 49.6 +0.4**
NC204 IAmb IAmb 06 50 12.2
comp=Z,14nm,1.1s
NACGM Naroch 69.65 328 *e*P **P** **06 49 49.8 +0.3**
comp=Z,32nm,0.9s,baz=41
NB201 NORSAR Array S 69.67 339 P **P** **06 49 50.0 +0.4**
NB2 NORSAR Subarra 69.70 339 P **P** **06 49 49.8 0.0**
comp=Z,11nm,0.6s,baz=32,slow=6.5
NB2 NORSAR Subarra 69.70 339 P **P** **06 49 49.8 0.0**
baz=32,slow=6.5
NB2 NORSAR Subarra 69.70 339 P **P** **06 49 46.7 -3.1**
NOA NORSAR Array B 69.70 339 P **P** **06 49 49.9 0.0**
comp=Z,8.5nm,0.6s,baz=40,slow=6.9,SNR=50
comp=Z,8.5nm,0.6s
HFS Hagfors 69.80 338 P **P** **06 49 50.3 -0.1**
comp=Z,16nm,0.5s,baz=36,slow=4.9,SNR=91
HFS LR LR 07 24 34.1
comp=Z,40nm,19.6s,baz=52,slow=39
comp=Z,16nm,0.5s
KIV Kislovodsk 70.08 312 P **P** **06 49 53.4 +0.9**
KIV Kislovodsk 70.08 312 *i* P **P** **06 49 53.8 +1.3**
KIV Kislovodsk 70.08 312 *e*P **P** **06 49 53.8 +1.3**
KIV pmax pmax
comp=Z,26nm,1.0s
KIV MLR MLR
comp=Z,42nm,17.0s
KBZ Khabaz 70.12 312 *i* P **P** **06 49 54.0 +1.4**
KBZ Khabaz 70.12 312 *ce*P **P** **06 49 54.0 +1.4**
KBZ pmax pmax
comp=Z,17nm,0.9s
KBZ Khabaz 70.12 312 P **P** **06 49 53.6 +1.1**
comp=Z,16nm,0.8s,baz=66,slow=5.1,SNR=24
KBZ LR LR 07 23 14.6
comp=Z,64nm,19.3s,baz=90,slow=38
comp=Z,16nm,0.8s
ZEI Tsey 70.20 311 *e*P **P** **06 49 52.8 -0.6**
ZEI pmax pmax
comp=Z,8.0nm,0.8s
SHA1 Shidzhatmaz 70.24 312 *i* P **P** **06 49 55.0 +1.3**
TUQ Turquoise Moun 70.46 59 P **P** **06 49 55.9 +0.9**
baz=310
NEUR Neytrino 70.54 312 *i* P **P** **06 49 56.8 +1.4**
ONI Oni 70.58 311 P **P** **06 49 56.5 +1.0**
ONI IAmb IAmb 06 49 58.3
comp=Z,15nm,0.9s
ONI Oni 70.58 311 P **P** **06 49 56.5 +1.0**
ONI pmax pmax
comp=Z,15nm,0.9s
HEC Hector,Ludlow 70.60 60 P **P** **06 49 56.6 +0.8**
baz=310
MURC Murrieta 70.84 62 P **P** **06 49 57.5 +0.2**
baz=310
RDMU Red Mountain 70.90 52 IAmb IAmb 06 49 59.4
comp=Z,8.5nm,0.7s
GMRC Granite Mounta 71.05 60 P **P** **06 49 58.9 +0.3**
baz=311
ULM Lac du Bonnet 71.12 37 P **P** **06 49 58.1 -0.4**
comp=Z,2.0nm,0.5s,baz=309,slow=8.2,SNR=7.0
comp=Z,2.0nm,0.5s
MDND Maddock 71.13 41 P **P** **06 49 58.9 +0.1**
baz=315
K22A Casper 71.20 49 P **P** **06 49 59.4 0.0**
baz=313
PFO Pinyon Flats O 71.31 61 P **P** **06 50 00.4 +0.2**
baz=311
GNI Garni 71.49 308 LR LR 07 24 32.1
comp=Z,41nm,18.5s,baz=94,slow=38
RSSD Black Hills 71.52 46 P **P** **06 50 01.6 +0.2**
baz=314
AKASG Malin Array Be 71.81 324 IAmb IAmb 06 50 04.1
comp=Z,11nm,1.2s
AKASG Malin Array Be 71.81 324 P **P** **06 50 02.9 +0.2**
comp=Z,2.5nm,0.3s,baz=37,slow=5.9,SNR=38
comp=Z,2.5nm,0.3s
AKBB Malin Array Si 71.81 324 *ce*P **P** **06 50 03.0 +0.3**
AKBB pmax pmax
comp=Z,20nm,0.9s
KIEV Kiev 71.82 324 ⇓P **P** **06 50 02.7 -0.1**
KIEV Kiev 71.82 324 P **P** **06 50 02.0 -0.7**
KIEV IAmb IAmb 06 50 03.8
comp=Z,15nm,0.8s
KIEV Kiev 71.82 324 P **P** **06 50 02.1 -0.7**
KIEV pmax pmax
comp=Z,15nm,0.8s
KIEV Kiev 71.82 324 P **P** **06 50 02.9 +0.1**
KIEV pP **pP** **06 50 17.6 +0.2**
KIEV sP **sP** **06 50 23.7 +0.4**
AK05 Malin Array Si 71.88 324 P **P** **06 50 02.7 -0.4**
AK05 IAmb IAmb 06 50 04.2
comp=Z,23nm,1.2s
SOC Sochi 71.91 313 *e*P **P** **06 50 01.6 -1.9**
SOC *e* 06 52 41.3
SOC *e*PPP PPP 06 54 23.3
SOC *e*S **S** **06 59 17.1 -3.2**
O20A White River Ci 71.95 52 P **P** **06 50 04.6 +0.6**
baz=313
KLNR Kaliningrad 72.29 331 *i* P **P** **06 50 08.2 +2.7**
N23A Red Feather La 72.71 50 P **P** **06 50 08.4 -0.3**
baz=314
WUAZ Wupatki 73.21 57 P **P** **06 50 12.3 +0.7**
baz=312
ISCO Idaho Springs 73.65 50 P **P** **06 50 14.2 -0.1**
baz=314
SORM Soroca 74.11 323 ⇑P **P** **06 50 16.8 +0.4**
SORM Soroca 74.11 323 P **P** **06 50 16.7 +0.4**
S22A 4UR Ranch, Cre 74.38 53 P **P** **06 50 19.3 +0.8**
baz=314
Q24A Divide 74.49 51 P **P** **06 50 19.6 +0.4**
baz=314
ECSD EROS Data Cent 75.55 42 P **P** **06 50 24.4 -0.4**
baz=318
BURAR Bucovina Array 75.86 324 ⇑P **P** **06 50 26.4 -0.3**
BURAR Bucovina Array 75.86 324 P **P** **06 50 27.1 +0.4**
BURAR IAmb IAmb 06 50 29.3
comp=Z,11nm,0.7s
BURAR Bucovina Array 75.86 324 P **P** **06 50 26.3 -0.3**
OJC Ojcow 75.97 329 IAmb IAmb 06 50 29.2
comp=Z,7.2nm,0.6s
STHS Stebnicka Huta 76.06 327 *e*P **P** **06 50 27.9 +0.3**
STHS Stebnicka Huta 76.06 327 *e*P **P** **06 50 27.9 +0.3**
TESR Tescani 76.10 323 ⇑P **P** **06 50 28.7 +0.8**
TLCR 76.14 320 ⇑P **P** **06 50 28.1 +0.1**
TLCR 76.14 320 P **P** **06 50 28.1 +0.1**
T25A Trinidad 76.18 52 P **P** **06 50 29.4 +0.6**
baz=315
CRVS Cervenica-Dubn 76.39 327 *e*P **P** **06 50 29.5 0.0**
CRVS Cervenica-Dubn 76.39 327 *e*P **P** **06 50 29.5 0.0**
ANMO Albuquerque 76.53 54 P **P** **06 50 31.0 +0.2**
baz=314
TPGR Topolog 76.57 320 ⇑P **P** **06 50 30.5 -0.1**
PLOR Plostina 76.61 322 ⇑P **P** **06 50 30.7 -0.2**
PLOR Plostina 76.61 322 P **P** **06 50 30.6 -0.2**
TURR Turia 76.73 323 ⇑P **P** **06 50 32.4 +0.9**
OZUR 76.80 323 ⇑P **P** **06 50 33.6 +1.7**
COVR Voineasa-Covas 76.81 322 ⇑P **P** **06 50 32.3 +0.4**
LANS Liptovska Anna 76.96 328 *e*P **P** **06 50 34.3 +1.5**
LANS Liptovska Anna 76.96 328 *e*P **P** **06 50 34.3 +1.5**
LANS pmax pmax
comp=Z,5.0nm,1.0s
UPC Upice 77.11 331 *e*P **P** **06 50 34.6 +1.1**
UPC Upice 77.11 331 *e*P **P** **06 50 34.6 +1.1**
DPC Dobruska-Polom 77.14 331 *e*P **P** **06 50 34.8 +1.1**
DPC Dobruska-Polom 77.14 331 *e*P **P** **06 50 34.8 +1.1**
MORC Moravsky Berou 77.17 330 ⇓P **P** **06 50 34.9 +1.0**
MORC Moravsky Berou 77.17 330 P **P** **06 50 34.9 +1.0**
MORC IAmb IAmb 06 50 37.0
comp=Z,8.1nm,0.6s
MORC Moravsky Berou 77.17 330 *e*P **P** **06 50 34.7 +0.8**
MORC Moravsky Berou 77.17 330 P **P** **06 50 34.9 +1.0**
MORC pmax pmax
comp=Z,8.0nm,0.6s
KRLC Kraliky 77.20 330 *e*P **P** **06 50 34.9 +0.8**
KRLC Kraliky 77.20 330 *e*P **P** **06 50 34.9 +0.8**
MLR Muntele Rosu 77.20 322 ⇓P **P** **06 50 35.1 +0.9**
MLR Muntele Rosu 77.20 322 P **P** **06 50 35.1 +0.9**
MLR Muntele Rosu 77.20 322 P **P** **06 50 34.9 +0.6**
comp=Z,5.5nm,0.7s,baz=202,slow=8.9,SNR=5.9
comp=Z,5.5nm,0.7s
SCHQ Schefferville 77.36 20 P **P** **06 50 35.4 +0.5**
comp=Z,4.9nm,0.7s,baz=236,slow=14,SNR=3.1
comp=Z,4.9nm,0.7s
121A Cookes Peak, D 77.42 57 P **P** **06 50 36.5 +0.8**
baz=314
CLL Collm 77.47 333 *i* P **P** **06 50 35.5 0.0**
comp=Z,13nm,0.6s
CLL *e*PcP **PcP** **06 50 47.0 +1.3**
CLL *e*pP **PcP** **06 50 48.0 +2.3**
CLL Collm 77.47 333 *i* P **P** **06 50 35.5 0.0**
CLL *e**PP **PcP** **06 50 48.0 +2.3**
CLL pmax pmax
comp=Z,13nm,0.6s
VOIR 77.64 323 ⇓P **P** **06 50 37.8 +1.2**
VOIR 77.64 323 P **P** **06 50 37.8 +1.2**
VYHS Vyhne 77.74 328 *e*P **P** **06 50 37.8 +0.7**
VYHS Vyhne 77.74 328 *e*P **P** **06 50 37.8 +0.7**
VYHS pmax pmax
comp=Z,6.0nm,0.7s
PSZ Piszkesteto 77.80 327 ⇑P **P** **06 50 38.2 +0.7**
PSZ Piszkesteto 77.80 327 P **P** **06 50 38.2 +0.7**
BRTR Keskin Array B 77.85 314 *ce*P **P** **06 50 39.0 +1.0**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 77.85 314 P **P** **06 50 38.5 +0.5**
comp=Z,2.1nm,0.6s,baz=89,slow=3.0,SNR=7.8
comp=Z,2.1nm,0.6s
ARR Arges 77.87 323 ⇓P **P** **06 50 39.3 +1.3**
JAVC Velka Javorina 77.88 329 *e*P **P** **06 50 39.0 +1.1**
VRAC Vranov 77.91 330 ⇓P **P** **06 50 38.9 +0.8**
VRAC Vranov 77.91 330 *e*P **P** **06 50 38.8 +0.8**
VRAC Vranov 77.91 330 P **P** **06 50 38.8 +0.8**
HSKC Hora Svate Kat 77.92 332 *e*P **P** **06 50 38.6 +0.5**
GOPC GO Pecny, Ondr 78.04 331 *e*P **P** **06 50 39.5 +0.8**
PRU Pruhonice 78.06 331 *e*P **P** **06 50 39.6 +0.8**
PRU Pruhonice 78.06 331 *e*P **P** **06 50 39.6 +0.8**
EKA Eskdalemuir Ar 78.18 344 P **P** **06 50 39.5 +0.2**
comp=Z,6.6nm,0.7s,baz=24,slow=5.3,SNR=11
comp=Z,6.6nm,0.7s
KRUC Moravsky 78.18 330 *e*P **P** **06 50 40.1 +0.6**
TREC Trest 78.31 330 *e*P **P** **06 50 37.8 -2.5**
TREC Trest 78.31 330 *e*P **P** **06 50 37.8 -2.5**
MODS Modra-Piesok 78.43 329 *e*P **P** **06 50 40.0 -0.9**
MODS Modra-Piesok 78.43 329 *e*P **P** **06 50 40.0 -0.9**
SURR Surduc 78.64 325 ⇓P **P** **06 50 42.4 +0.4**
ZVC Zvikov 78.65 331 *e*P **P** **06 50 42.8 +0.7**
GZR Gura Zlata 78.65 324 ⇓P **P** **06 50 42.7 +0.4**
GZR Gura Zlata 78.65 324 P **P** **06 50 42.6 +0.4**
BZS Buzias 78.96 325 ⇑P **P** **06 50 43.5 -0.3**
BZS Buzias 78.96 325 P **P** **06 50 43.5 -0.3**
KSU1 Kansas State U 79.00 46 P **P** **06 50 43.4 -0.7**
baz=319
KHC Kasperske Hory 79.13 331 *e*P **P** **06 50 45.5 +0.8**
KHC Kasperske Hory 79.13 331 *ce*P **P** **06 50 46.0 +1.3**
KHC pmax pmax
comp=Z,34nm,0.6s
CKRC Cesky Krumlov 79.13 331 *e*P **P** **06 50 45.3 +0.5**
CKRC Cesky Krumlov 79.13 331 *e*P **P** **06 50 45.3 +0.5**
CONA Conrad Observa 79.33 329 *i* P **P** **06 50 47.3 +1.4**
comp=Z,6.0nm,0.6s
GEC2 GERESS Array S 79.33 331 P **P** **06 50 46.5 +0.5**
GEC2 IAmb IAmb 06 50 48.1
comp=Z,5.8nm,0.5s
GERES GERESS Array B 79.33 331 P **P** **06 50 46.4 +0.5**
GERES GERESS Array B 79.33 331 P **P** **06 50 46.4 +0.5**
GERES GERESS Array B 79.33 331 P **P** **06 50 45.8 -0.1**
comp=Z,3.9nm,0.4s,baz=37,slow=5.7,SNR=12
comp=Z,3.9nm,0.4s
RONA Rosalia, Austr 79.36 329 *i* P **P** **06 50 47.5 +1.4**
comp=Z,4.2nm,0.6s
MNTX Cornudas Mount 79.45 56 P **P** **06 50 47.3 +0.5**
baz=315
MOA Molln 79.97 330 *e*P **P** **06 50 48.8 -0.5**
comp=Z,1.5nm,0.2s
BTNL Ternell 80.23 336 *d*P **P** **06 50 50.8 +0.2**
comp=Z,8.6nm,0.7s
MEM Membach 80.24 336 *d*P **P** **06 50 51.4 +0.7**
comp=Z,11nm,1.0s
BSTI Sart Tilman 80.39 337 *d*P **P** **06 50 53.0 +1.5**
BCLA Clavier 80.61 337 *d*P **P** **06 50 53.0 +0.3**
BCLA *dp*P **PcP** **06 51 03.9 +4.5**
SOKA Soboth 80.68 329 *i* P **P** **06 50 53.8 +0.6**
comp=Z,5.4nm,0.7s
GROS Grobnik 80.69 329 *i* P **P** **06 50 53.5 +0.2**
BGES Gesves 80.71 337 *d*P **P** **06 50 53.7 +0.5**
BMRD Maredsous 80.87 337 *d*P **P** **06 50 55.4 +1.3**
comp=Z,13nm,1.0s
LESA Schwarzleotal 80.90 331 *e*P **P** **06 50 55.2 +0.8**
comp=Z,3.2nm,0.4s
KBA Koelnbreinsper 80.96 330 *e*P **P** **06 50 56.1 +1.3**
comp=Z,4.2nm,0.5s
OBKA Obir 81.00 329 *e*P **P** **06 50 55.4 +0.4**
comp=Z,1.5nm,0.4s
GOLS Golise 81.02 329 *i* P **P** **06 50 55.1 +0.1**
DOU Dourbes 81.11 337 *d*P **P** **06 50 55.3 0.0**
DOU *dp*P **pP** **06 51 06.7 -3.5**
MYKA Terra Mystica 81.23 330 *i* P **P** **06 50 56.4 +0.2**
comp=Z,5.1nm,0.9s
WATA Walderalm 81.36 332 *i* P **P** **06 50 57.7 +0.8**
comp=Z,6.2nm,0.5s
WTTA Wattenberg 81.40 332 *i* P **P** **06 50 58.2 +1.0**
comp=Z,6.7nm,0.5s
PRED Cave del Predi 81.42 330 IAmb IAmb 06 50 58.9
comp=Z,4.6nm,0.7s
RETA Reutte 81.50 332 *i* P **P** **06 50 59.3 +1.7**
comp=Z,9.6nm,1.0s
MOTA Moosalm 81.51 332 *i* P **P** **06 50 58.4 +0.7**
comp=Z,10nm,0.7s
ABTA Abfaltersbach 81.53 331 *i* P **P** **06 50 56.5 -1.3**
comp=Z,1.6nm,0.6s
SQTA Sankt Quirin 81.58 332 *e*P **P** **06 50 59.1 +1.0**
comp=Z,6.7nm,0.6s
TUL3 Leonard 81.82 47 P **P** **06 50 59.1 -0.2**
baz=319
CDF Champ du Feu 81.82 335 *e*P **P** **06 50 59.7 +0.4**
MMAI Mount Meron Ar 81.83 308 P **P** **06 51 00.5 +0.9**
comp=Z,6.1nm,0.5s,baz=36,slow=6.2,SNR=4.3
comp=Z,6.1nm,0.5s
FETA Feichten 81.92 332 *i* P **P** **06 51 00.6 +0.7**
comp=Z,4.0nm,0.7s
DAVA Damuels 81.97 333 *i* PcP **P** **06 51 02.4 +2.3**
comp=Z,7.1nm,0.6s
TX31 Lajitas Ar. Si 82.17 57 IAmb IAmb 06 51 02.9
comp=Z,6.8nm,0.8s
TXAR Lajitas Array 82.17 57 P **P** **06 51 02.2 +0.8**
comp=Z,2.6nm,0.7s,baz=293,slow=3.9,SNR=16
comp=Z,2.6nm,0.7s
HINF Hinteralfeld 82.48 335 *e*P **P** **06 51 03.4 +0.7**
CCM Cathedral Cave 82.51 43 P **P** **06 51 02.7 -0.2**
baz=322
TUE Stuetta 82.86 333 P **P** **06 51 05.2 +0.3**
TUE IAmb IAmb 06 51 08.8
comp=Z,5.5nm,0.7s
TAOE Nuku Hiva Isla 83.37 109 *e*LR LR 07 17 18.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,125nm,26.6s						
JCT	Junction City	83.63	53	P	P	06 51 08.6	-0.4
	baz=318						
PPT	Papeete	83.63	122	LR	LR	07 18 44.0	
	comp=Z,38nm,21.6s,baz=294,slow=29						
PPT2	Papeete2	83.65	122	eLR	LR	07 17 26.2	
	comp=Z,54nm,23.5s						
PPT2	Papeete2	83.65	122	eT	T	08 23 38.3	
	comp=Z,1.9nm,0.3s						
FLN	La Foliniere	83.68	340	P	P	06 51 10.4	+1.6
WHTX	Lake Whitney,	83.85	51	P	P	06 51 09.9	0.0
	baz=319						
LOR	Lormes	83.87	336	eP	P	06 51 11.3	+1.5
DRIO	Del Rio	83.93	55	IAmb	IAmb	06 51 11.6	
	comp=Z,6.5nm,0.9s						
MIAR	Mount Ida	84.03	47	P	P	06 51 11.0	+0.2
	baz=320						
GRR	Gorron	84.12	340	P	P	06 51 13.1	+2.1
SSF	Saint Saulge	84.16	336	eP	P	06 51 13.0	+1.7
SMF	Signal de Mont	84.44	336	eP	P	06 51 13.4	+0.7
AVF	Avril sur Loir	84.45	336	eP	P	06 51 12.8	+0.1
LPL	La Plagne	84.56	334	eP	P	06 51 13.9	+0.3
LPG	La Plagne	84.57	334	P	P	06 51 14.1	+0.3
ACSO	Alum Creek Sta	84.59	37	P	P	06 51 13.8	+0.2
	baz=326						
SGMF	Saint Gilles	84.67	341	eP	P	06 51 14.1	+0.3
NRCA	Norcia	84.67	328	IAmb	IAmb	06 51 15.6	
	comp=Z,7.1nm,0.8s						
ROSF	Rostrenen	84.76	341	eP	P	06 51 14.9	+0.6
MEH	Mehetia	84.80	121	eT	T	08 25 10.1	
	comp=Z,9.0nm,0.2s						
QUIF	Quistinic	85.13	341	eP	P	06 51 16.5	+0.4
TCF	Toulx Ste Croi	85.23	337	eP	P	06 51 16.5	-0.2
MBDF	Montbardon	85.25	333	eP	P	06 51 18.0	+1.0
O53A	New Philadelph	85.33	35	P	P	06 51 16.8	-0.5
	baz=327						
PKME	Peaks-Kenny Pk	85.33	25	P	P	06 51 16.9	-0.3
	baz=334						
ORIF	Oris-en-Rattie	85.37	334	eP	P	06 51 19.3	+1.8
MFF	Saint Martin d	85.59	339	eP	P	06 51 19.0	+0.5
URZ	Urewera	85.91	157	LR	LR	07 23 27.5	
	comp=Z,41nm,21.4s,baz=322,slow=31						
SSPA	Standing Stone	86.36	33	P	P	06 51 22.9	+0.5
	baz=329						
MCWV	Mont Chateau	86.40	35	P	P	06 51 23.2	+0.7
	baz=328						
CAF	Calviac	86.52	336	eP	P	06 51 24.1	+1.0
LMR	La Mourre	86.58	333	eP	P	06 51 23.7	+0.3
LFF	La Frestale	86.88	337	eP	P	06 51 28.0	+3.2
LRAL	Lakeview Retre	88.59	43	P	P	06 51 33.0	-0.2
	baz=324						
ETSF	Etsaut	89.13	337	eP	P	06 51 38.3	+2.6
GOGA	Godfrey	89.99	41	P	P	06 51 39.3	-0.5
	baz=326						
TIGA	Tifton	91.56	42	P	P	06 51 47.2	+0.1
	baz=326						
ESDC	Sonseca Array	93.06	339	P	P	06 51 53.4	-0.5
	comp=Z,0.3nm,0.3s,baz=19,slow=4.7,SNR=3.5						
	comp=Z,0.3nm,0.3s						
TORD	Torodi Ar. Bea	115.43	323	PKP	PKiKP	06 57 21.2	-1.0
	comp=Z,0.4nm,0.4s,baz=16,slow=2.6,SNR=7.7						
H03N2	Juan Fernandez	142.45	90	T	T	09 37 23.5	
	baz=304,slow=77,SNR=38						
H03N3	Juan Fernandez	142.47	90	T	T	09 37 24.4	
	baz=304,slow=77,SNR=36						
H03N1	Juan Fernandez	142.47	90	T	T	09 37 24.9	
	baz=304,slow=77,SNR=38						

NNC 07 06:45:12.1±4.1**,49°.85N**×**84°.10E,h0**km**,mb3.0,mpv2.6, 5C-2D,Error ellipse: s-maj=44.0km s-min=20.8km az=59.0,Suspected Mining explosion.,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	3.29	202	⇑Pn	Pn	06 46 06.1	+1.2
	0.8nm,0.5s,baz=21,slow=26,SNR=5.3						
MAKZ	Makanchi	3.36	206	⇑Pn	Pn	06 46 05.4	-0.4
	1.1nm,0.5s						
MAKZ				⇑Lg	Lg	06 46 57.5	
	4.1nm,0.6s						
KURK	Kurchatov	3.62	286	⇑Pn	Pn	06 46 09.6	+0.2
	0.5nm,0.4s						
KURK				⇓Lg	Lg	06 47 02.7	
	3.7nm,0.6s						
KURBB	Kurchatov Arra	3.66	284	⇑Pn	Pn	06 46 10.1	+0.3
	1.2nm,0.4s						
KURBB				⇓Lg	Lg	06 47 05.5	
	4.5nm,0.6s						

*NEIC **07** 06:56:47.3±0.3, 37°.26N±0°.01×97°.88W±0°.01, h3km±2km, mb_Lg2.2/10, ML2.6/40, ML2.4/19, Error ellipse: s-maj=1.9km s-min=0.9km az=145.0*

NEIC 07 06:56:47.2±0.4**,37°.25N**±0°.01×**97°.88W**±0°.02**,h5**km±1km**, Error ellipse: s-maj=2.9km s-min=2.4km az=271.0, Kansas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAN06	Argonia West S	0.02	103	Pg	Pg	06 56 48.1	-0.1
KAN08	Anthony NE Sta	0.08	251	Pg	Pg	06 56 49.3	+0.3
KAN08				Sg	Sg	06 56 50.8	+0.6
KAN08				IAML		06 56 50.8	
	comp=E,3µm,0.3s						
KAN12	Harper NE Stat	0.10	296	Pg	Pg	06 56 49.6	+0.2
KAN12				Sg	Sg	06 56 51.4	+0.4
KAN12				IAML		06 56 51.6	
	comp=N,3µm,0.2s						
KAN01	Argonia South	0.14	136	Pg	Pg	06 56 50.4	+0.4
KAN01				IAML		06 56 52.8	
	comp=N,3µm,0.3s						
KAN05	Bluff City Nor	0.14	178		Pg	06 56 50.6	+0.5
KAN05				IAML		06 56 54.6	
	comp=E,3µm,0.2s						
KS21	Milan North St	0.18	79	Pg	Pg	06 56 51.0	+0.2
KS21	Milan North St	0.18	79	IAML		06 56 53.7	
	comp=E,2µm,0.2s						
KS21				IAML		06 56 53.8	
	comp=E,1µm,0.2s						
KAN10	Anthony SW Sta	0.21	233		Sg	06 56 55.1	+0.9
KAN17	Caldwell West	0.23	156	Pg	Pg	06 56 52.1	+0.4
KAN17				IAML		06 56 57.4	
	comp=E,1µm,0.3s						
KAN09	Caldwell North	0.24	119		Pg	06 56 52.3	+0.4
KAN14	Manchester OK	0.30	193	Pg	Pg	06 56 53.5	+0.4
KAN14				IAML		06 56 58.2	
	comp=E,651nm,0.1s						
KAN14				IAML		06 56 59.9	
	comp=N,707nm,0.3s						
GC02	Grant County #	0.40	178		Pg	06 56 55.3	+0.4
KAN13	South Haven SW	0.40	127	Pg	Pg	06 56 55.2	+0.2
KAN13				IAML		06 57 01.0	
	comp=N,674nm,0.3s						
KAN13				IAML		06 57 06.4	
	comp=E,870nm,0.3s						
OK032	Salt Plains WL	0.52	211	Pg	Pg	06 56 57.5	+0.3
OK032					Sg	06 57 04.8	+0.8
BLOK	Blackwell	0.72	132	Pg	Pg	06 57 01.4	+0.3
BLOK				IAML		06 57 11.5	
	comp=N,374nm,0.3s						
CROK	Carrier	0.75	186	Pg	Pg	06 57 01.7	+0.1
CROK				IAML		06 57 25.9	
	comp=E,309nm,0.3s						
OK051	E0350 and S346	1.12	131	Pg	Pg	06 57 08.5	-0.2
OK048	Pawnee Station	1.12	138	Pg	Pg	06 57 08.4	-0.4
OK048				IAML		06 57 24.9	
	comp=E,110nm,0.3s						
OK048				IAML		06 57 28.3	
	comp=E,109nm,0.2s						
T35A	Sooner Cattle	1.14	107	Pg	Pg	06 57 08.8	-0.4
T35A				IAmb_Lg		06 57 22.8	
	comp=Z,12nm,1.3s						
T35A				IAML		06 57 28.7	
	comp=N,114nm,0.5s						
T35A				IAML		06 57 28.8	
	comp=E,99nm,0.2s						
U32A	Winter Ranch,	1.25	226	Pg	Pg	06 57 10.7	-0.6
U32A				IAML		06 57 32.0	
	comp=N,115nm,0.2s						
U32A				IAML		06 57 34.9	
	comp=E,112nm,0.2s						
R32A	Long Quarter,	1.34	331		Pn	06 57 12.2	-0.4
R32A				IAML		06 57 33.4	
	comp=E,110nm,0.3s						
OK033	Mehan	1.42	148		Pn	06 57 13.9	+0.1
QUOK	Quay	1.43	139		Pn	06 57 14.0	+0.1
OK029	Liberty Lake	1.49	167		Pn	06 57 14.8	+0.1
OK029				IAmb_Lg		06 57 36.5	
	comp=Z,11nm,0.8s						
OK052	Battle Ridge R	1.52	145		Pn	06 57 15.3	+0.2
OK030	Cody Creek RV	1.59	146		Pn	06 57 16.4	+0.4
DEOK	Depew	1.79	141		Pn	06 57 19.2	+0.4
OKCSW	OKLAHOMA CITY	1.88	169		Pn	06 57 19.7	-0.3
FNO	Franklin	2.03	169	Pn	Pn	06 57 22.3	+0.2
KSU1	Kansas State U	2.10	28	IAmb_Lg		06 57 56.2	
	comp=Z,14nm,1.0s						
CBKS	Cedar Bluff	2.14	317	Pn	Pn	06 57 24.1	+0.4
W35A	Tecumseh	2.25	158	Pn	Pn	06 57 25.3	+0.2
WMOK	Wichita Mounta	2.61	197	Pn	Pn	06 57 30.5	+0.3
SMWD	Samnorwood	2.87	222	IAmb_Lg		06 58 24.0	
	comp=Z,3.8nm,0.9s						
X37A	Clayton	3.35	142	IAmb_Lg		06 58 38.1	
	comp=Z,8.0nm,0.7s						
AMTX	Amarillo	3.88	234	IAmb_Lg		06 58 58.9	
	comp=Z,6.9nm,0.8s						
MIAR	Mount Ida	4.42	126	IAmb_Lg		06 59 14.4	
	comp=Z,7.8nm,1.2s						

IDC 07 06:58:35.4±2.6**,54°.16N**×**86°.54E,h0**km**,mbtmp3.0**/2**, ML2.6**/2**,Error ellipse: s-maj=21.7km s-min=13.5km az=54.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.03	259	I	I	07 04 18.1	
	baz=79,slow=343,SNR=11						
ZALV	Zalesovo Beam	1.03	259	Pg	Pg	06 58 53.9	-1.4
	1.7nm,0.3s,baz=79,slow=16,SNR=13						
ZALV				Lg	Lg	06 59 10.2	
	1.4nm,0.3s,baz=78,slow=28,SNR=9.3						
KURBB	Kurchatov Arra	6.04	237	Pn	Pn	07 00 06.2	+0.2
	0.1nm,0.3s,baz=55,slow=13,SNR=7.9						
KURBB				Lg	Lg	07 01 50.7	
	baz=49,slow=27,SNR=3.1						
	0.3nm,0.4s						
MKAR	Makanchi Array	7.85	202	Pn	Pn	07 00 32.3	+1.5
	0.2nm,0.3s,baz=25,slow=14,SNR=13						
	0.4nm,0.2s						

IDC 07 07:03:01.1±3.4**,53°.72N**×**88°.28E,h0**km**,mbtmp2.6**/3**, ML2.1**/3**,Error ellipse: s-maj=32.8km s-min=20.9km az=45.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	2.06	278	I	I	07 18 40.0	
	baz=92,slow=339,SNR=4.9						
ZALV	Zalesovo Beam	2.06	278	Pn	Pn	07 03 37.4	+0.4
	1.2nm,0.3s,baz=98,slow=10,SNR=11						
ZALV				Lg	Lg	07 04 05.8	
	2.0nm,0.3s,baz=99,slow=26,SNR=14						
	3.2nm,0.5s						
KURBB	Kurchatov Arra	6.75	247	Pn	Pn	07 04 42.2	+0.8
	0.1nm,0.3s,baz=62,slow=14,SNR=6.2						
KURBB				Lg	Lg	07 06 35.3	
	baz=62,slow=33,SNR=4.0						
	0.6nm,0.5s						
MKAR	Makanchi Array	7.92	211	Pn	Pn	07 04 58.1	+0.6
	baz=27,slow=13,SNR=1.3						
	0.1nm,0.4s						

IDC 07 07:19:59.5±2.5**,53°.66N**×**87°.00E,h0**km**,mbtmp2.8**/2**, ML2.5**/2**,Error ellipse: s-maj=23.6km s-min=15.0km az=69.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.33	284	I	I	07 27 10.0	
	0.1nm,0.9s,baz=104,slow=343,SNR=24						
ZALV	Zalesovo Beam	1.33	284	Pg	Pg	07 20 23.4	-1.6
	1.3nm,0.3s,baz=103,slow=17,SNR=15						
ZALV				Lg	Lg	07 20 41.9	
	1.9nm,0.3s,baz=104,slow=30,SNR=11						
KURBB	Kurchatov Arra	6.04	243	Pn	Pn	07 21 31.1	+1.1
	0.1nm,0.3s,baz=59,slow=14,SNR=1.7						
KURBB				Lg	Lg	07 23 14.2	
	baz=59,slow=32,SNR=1.8						
	0.2nm,0.3s						
MKAR	Makanchi Array	7.50	206	Pn	Pn	07 21 51.5	+1.3
	0.2nm,0.3s,baz=27,slow=14,SNR=8.8						
	0.2nm,0.3s						

*BEO **07** 07:51:53.2±0.6, 42°.05N×19°.34E, h7km±2km, ML2.1/8*
*PDG **07** 07:51:53.5±0.1, 42°.09N×19°.24E, h13km, MD2.6/2, ML2.4/12, Error ellipse: s-maj=0.1km s-min=0.3km az=0.0*
*RHSSO **07** 07:51:53.1±0.7, 42°.09N×19°.27E, h9km±1km, ML2.4/8*
*TIR **07** 07:51:55.6, 41°.96N×19°.65E, h0km±4km, Md2.9, Ml1.3*

ISC 07 07:51:53.2±0.9**,42°.07N**±0°.03×**19°.26E**±0°.03**,h18**km±4km**, n40,**σ**1s12**/77**,2C-8D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ULC	Ulcinj	0.10	186	ePg	Pg	07 51 56.5	-0.4
ULC				i Sg	Sg	07 52 00.0	+0.6
DRME	Dracevica, Mon	0.13	335	⇓iPg	Pg	07 51 56.8	-0.4
DRME				eSg	Sg	07 52 00.0	+0.1
DRME	Dracevica, Mon	0.13	335	ePg	Pg	07 51 56.9	-0.3
DRME				i Sg	Sg	07 51 59.9	+0.1
PDG	Podgorica	0.36	359	ePg	Pg	07 52 00.2	-0.5
PDG				eSg	Sb	07 52 06.6	+0.1
PDG	Podgorica	0.36	359	⇓iPg	Pg	07 51 59.9	-0.9
PDG				eSg	Sg	07 52 05.8	-0.1
PDG	Podgorica	0.36	359	⇓iPg	Pg	07 52 00.3	-0.5
PDG				i Sg	Sg	07 52 06.3	+0.4
CEME	Cevo	0.54	332	⇓iPg	Pg	07 52 03.3	-0.7
CEME				i Sg	Sg	07 52 11.5	+0.1
BCI	Bajram Curri	0.67	63	P	Pb	07 52 06.1	-0.3
	baz=37						
BCI				S	Sb	07 52 15.6	+0.2
	baz=37						
BCI				AMP			
	comp=N,0.1nm,0.3s,baz=37						
HCY	Herceg Novi	0.68	304	ePg	Pg	07 52 04.9	-1.7
HCY				eSg	Sg	07 52 15.0	-0.7
HCY	Herceg Novi	0.68	304	⇓iPg	Pg	07 52 05.8	-0.8
HCY				i Sg	Sg	07 52 16.4	+0.7
NKME	Niksic	0.73	342	⇑iPg	Pg	07 52 06.8	-0.8
NKME				i Sg	Sb	07 52 18.2	+0.9
PVY	Plav	0.74	44	⇑iPg	Pg	07 52 07.2	-0.5
PVY				i Sg	Sb	07 52 18.9	+1.5
KOME	Kolasin	0.81	13	⇓iPg	Pg	07 52 08.1	-0.8
KOME				i Sg	Sb	07 52 20.8	+1.5
TIR	Tirane	0.85	148	P	Pg	07 52 08.7	-1.0
	baz=165						
TIR				S	Sg	07 52 19.4	-1.6
	baz=165						
TIR				AMP			
	comp=N,0.1nm,0.2s,baz=165						
IVA	Berane	0.93	30	⇓iPg	Pg	07 52 10.5	-0.8
IVA				i Sg	Sn	07 52 24.6	+0.2
TREB	Trebinje	0.94	314	ePg	Pg	07 52 10.1	-1.3
TREB				eSg	Sg	07 52 23.0	-0.7
TREB	Trebinje	0.94	314	ePg	Pg	07 52 09.2	-2.2
TREB				eSg	Sg	07 52 22.2	-1.5
BRY	Bratogost	0.99	328	ePg	Pg	07 52 11.3	-1.1
BRY				eSg	Sg	07 52 24.5	-1.0
BRY	Bratogost	0.99	328	ePg	Pg	07 52 11.4	-1.0
BRY				i Sg	Sb	07 52 26.8	+2.1
DBRK	Dubrovnik	1.02	306	ePg	Pg	07 52 11.4	-1.6
DBRK				Sg	Sg	07 52 25.0	-1.3
UPM	Unac-Piva	1.17	347	ePg	Pg	07 52 13.2	-2.5
UPM				eSg	Sg	07 52 29.1	-1.9
UPM	Unac-Piva	1.17	347	ePg	Pg	07 52 14.6	-1.1
UPM				i Sg	Sn	07 52 32.8	+2.4
PLE	Pljevlja	1.27	4	ePg	Pn	07 52 16.4	+0.3
PLE				i Sg	Sn	07 52 35.7	+3.0
SJES	Sjenica	1.30	24	ePg	Pn	07 52 17.5	+0.9
SJES				eSg	Sg	07 52 34.5	-0.9
SJES	Sjenica	1.30	24	⇓iPg	Pn	07 52 15.7	-0.9
SJES				eSg	Sb	07 52 33.5	-0.2
NEVS	Nevesinje	1.50	326	ePg	Pn	07 52 19.6	+0.3
NEVS				eSg	Sn	07 52 39.9	+1.5
RUDO	Rudo	1.55	3	ePn	Pn	07 52 20.7	+0.8
RUDO				eSn	Sn	07 52 41.1	+1.5
IVAS	Ivanjica	1.65	23	ePg	Pn	07 52 21.7	+0.4
IVAS				eSg	Sb	07 52 43.7	+0.2
SELS	Selova	1.79	49	ePg	Pn	07 52 23.4	+0.2
SELS				eSg	Sb	07 52 47.5	-0.1
BARS	Barje	2.03	68	ePn	Pn	07 52 26.9	+0.3
BARS				eSn	Sb	07 52 53.7	-0.9
FNA	Florina	2.04	128	P	Pb	07 52 30.0	+0.2
	baz=131						
FNA				S	Sb	07 52 55.2	+0.3
	baz=131						
DIVS	Divibare	2.10	15	ePn	Pn	07 52 28.0	+0.5
DIVS				eSn	Sn	07 52 55.0	+1.7
DIVS	Divibare	2.10	15	ePn	Pn	07 52 28.0	+0.5
DIVS				eSn	Sn	07 52 54.2	+0.9
GRUS	Gruza	2.11	30	ePn	Pn	07 52 27.5	-0.1
GRUS				eSn	Sb	07 52 56.0	-0.8
RICI	Ricice	2.12	313	ePn	Pn	07 52 27.5	-0.3
RICI				Sn	Sn	07 52 55.1	+1.5
PRVS	Prvonek	2.13	77	ePn	Pn	07 52 28.0	0.0
PRVS				eSn	Sn	07 52 55.2	+1.1
TRUS	Trudelj	2.31	21	ePn	Pb	07 52 33.4	-1.0
TEKS	Tekeris	2.49	4	eSn	Sn	07 53 04.1	+1.3
ZAPS	Zavoj	2.77	63	ePn	Pn	07 52 38.3	+1.7
ZAPS				eSn	Sn	07 53 09.5	-0.1
A050A	Klekovaca	3.13	321	eSn	Sn	07 53 20.2	+1.6

*IDC **07** 08:17:32.4±1.7, 6°.41S×129°.35E, h0km, mb4.0/3, mbtmp3.8/5, ML3.6/2, MS2.3/1, Error ellipse: s-maj=144.2km s-min=28.3km az=69.0*
*DJA **07** 08:17:47.3±0.4, 7°S±4°×13°0E±°, h202km±10km, M4.3/7, mb3.8/4, mB4.7/3, MLv4.6/7, Mw(mB)3.9/3*
*NEIC **07** 08:17:50.3±1.5, 6°.94S±0°.02×129°.72E±0°.09, h183km±9km, mb4.1/7, Error ellipse: s-maj=13.5km s-min=2.1km az=80.0*

ISC 07 08:17:52.1±0.8**,7°.12S**±0°.08×**129°.69E**±0°.05**,h200**km**,n34,** σ**2s06**/39**,mb3.9**/8**,Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.81	118		Pn	08 18 26.2	-2.5
SAUI	Saumlaki	1.81	118	P	Pn	08 18 26.8	-1.9
SAUI				S	Sn	08 18 55.1	-2.1
KMPI	Kaimana, Papua	5.27	49	P	Pn	08 19 00.3	-10
KMPI				S	Sn	08 19 57.9	-14
MTN	Manton Dam	5.86	166		Pn	08 19 18.8	+1.2
MTN				Sn	Sn	08 20 24.3	-0.9
MTN	Manton Dam	5.86	166	P	Pn	08 19 18.8	+1.2
SOEI	Soe	5.97	244	Pn	Pn	08 19 18.8	-0.4
SOEI				Sn	Sn	08 20 25.8	-2.2
SOEI	Soe	5.97	244	P	Pn	08 19 16.5	-2.7
	17nm,0.9s,0.2nm						
SOEI				S	Sn	08 20 27.3	-0.7
	17nm,0.9s,0.2nm						
KDU	Kakadu	6.17	154	P	Pn	08 19 21.8	+0.2
KNRA	Kununurra	8.55	186		Pn	08 19 53.4	+0.9
KNRA				Sn	Sn	08 21 27.1	-1.6
KNRA	Kununurra	8.55	186	P	Pn	08 19 53.3	+0.7
KAPI	Kappang	10.10	281	LR	LR	08 24 33.0	
	comp=Z,17nm,18.2s,baz=50,slow=44						
WB0	Warramunga Arr	13.37	161	Pn	Pn	08 20 53.8	-0.5
WRA	Warramunga Arr	13.52	161	Pn	Pn	08 20 56.4	+0.2
WRA	Warramunga Arr	13.52	161	Pn	Pn	08 20 55.8	-0.3
	0.2nm,0.3s,baz=342,slow=13,SNR=19						
WRA				Sn	S	08 23 21.1	-5.8
	1.2nm,0.3s,baz=335,slow=22,SNR=13						
	0.2nm,0.3s						
WR0	Warramunga Arr	13.60	160	Pn	Pn	08 20 57.2	0.0
COEN	Coen	14.89	118		Pn	08 21 13.1	0.0
COEN	Coen	14.89	118	P	P	08 21 14.9	+1.0
QIS	Mount Isa	16.45	145	P	Pn	08 21 37.6	+5.6
AS31	Alice Springs	16.94	167	P	Pn	08 21 39.4	+1.6
ASAR	Alice Springs	16.94	167	P	Pn	08 21 38.7	+0.9
ASAR	Alice Springs	16.94	167	P	Pn	08 21 41.0	+3.2
	0.3nm,0.3s,baz=342,slow=9.2,SNR=33						
ASAR				S	S	08 24 45.4	+2.5
	0.3nm,0.3s,baz=139,slow=13,SNR=5.4						
	1.2nm,0.6s						
AS01	Alice Springs	16.95	166	P	Pn	08 21 41.0	+3.1
	3.9nm,0.8s						
WRKA	Warakurna	17.86	184	P	Pn	08 21 50.8	+2.1
STKA	Stephens Creek	27.02	157	P	P	08 23 17.5	+1.7
STKA				IAmb	IAmb	08 23 34.4	
	comp=Z,0.9nm,1.1s						
NWAO	Narrogin (SRO)	28.16	203	P	P	08 23 26.6	+0.7
WKZ	Wanaka	50.74	144	P	P	08 26 33.5	+1.8
WKZ				IAmb	IAmb	08 26 34.4	
	comp=Z,56nm,1.3s						
MK31	Makanchi Array	68.16	327	P	P	08 28 29.8	-1.0
MK31				IAmb	IAmb	08 28 46.3	
	comp=Z,4.7nm,1.5s						
MKAR	Makanchi Array	68.16	327	P	P	08 28 29.5	-1.3
MKAR	Makanchi Array	68.16	327	P	P	08 28 30.3	-0.5
	comp=Z,0.8nm,0.4s,baz=123,slow=7.4,SNR=12						
	comp=Z,0.8nm,0.4s						
ZALV	Zalesovo Beam	71.56	334	P	P	08 28 49.5	-1.8
	comp=Z,0.6nm,0.4s,baz=141,slow=6.0,SNR=3.0						
	comp=Z,0.6nm,0.4s						
KURBB	Kurchatov Arra	72.45	329	P	P	08 28 55.9	-0.8
	comp=Z,0.8nm,0.5s,baz=125,slow=5.1,SNR=8.4						
	comp=Z,0.8nm,0.5s						
KURK	Kurchatov	72.46	329	P	P	08 28 55.5	-1.2
KURK				IAmb	IAmb	08 29 14.8	
	comp=Z,5.0nm,1.4s						
SBA	Scott Base	73.25	172	P	P	08 29 01.8	+0.9
SBA				IAmb	IAmb	08 29 37.8	
	comp=Z,8.9nm,1.4s						
ABKAR	Akbulak array	82.42	322	P	P	08 29 50.6	-1.2

NOU 07 08:20:59.3,22°.02S×**169°.53E,h0**km**,MLv3.6**/7**, Southeast of Loyalty Islands,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.49	291	P	Pn	08 21 26.3	-1.1
PINNC	Pines Island,	2.02	253	P	Pn	08 21 34.4	-0.2
LIFNC	LIFOU	2.47	300	P	Pn	08 21 40.4	-0.4
DZM	Mont Dzumac	2.86	268	P	Pn	08 21 46.4	+0.1
ONTNC	Ouen Toro	2.87	264	P	Pn	08 21 46.2	-0.1
NOUC	Port Laguerre	3.00	268	P	Pn	08 21 47.8	-0.3
KOUNC	Koumac, New Ca	5.10	286	P	Pn	08 22 17.7	+0.6

NNC 07 08:26:10.2±6.1**,36°.80N**×**70°.33E,h0**km**,mb3.7,mpv3.3, 3C-2D,Error ellipse: s-maj=49.0km s-min=43.2km az=151.0,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.93	25	P	Pn	08 27 40.8	+1.2
	SNR=24						
AML	Almayashu	5.93	25	⇓P	Pn	08 27 39.7	+0.2
	0.5nm,0.3s						
AML				⇓S	Sn	08 28 50.1	+1.8
	4.5nm,0.7s						
KK31	Karatay Array	6.30	1	P	Pn	08 27 44.9	+0.6
	1.1nm,0.3s,baz=174,slow=13,SNR=23						
KK31				⇑S	Sn	08 28 57.7	+0.7
	1.4nm,0.5s,baz=183,slow=23,SNR=4.8						
UCH	Uchtor	6.31	30	P	Pn	08 27 45.8	+0.9
	SNR=9.0						
EKS2	Erkin-Say	6.43	23	P	Pn	08 27 47.4	+1.2
	SNR=13						
KZA	Kyzart	6.50	34	P	Pn	08 27 48.0	+0.6
	SNR=5.5						
TKM2	Tokmak 2	7.33	32	P	Pn	08 27 58.1	-0.5
	SNR=5.5						
TKM2	Tokmak 2	7.33	32	⇑P	Pn	08 27 57.8	-0.8
	1.6nm,0.3s						
TKM2				⇑S	Sn	08 29 23.8	+1.1
	2.1nm,0.8s						

*DJA **07** 08:28:59.0±0.4, 8°S±5°×12°8E±°, h10km, M4.2/7, mb4.0/2, mB4.8/3, MLv4.2/7, Mw(mB)4.1/3*
*IDC **07** 08:29:06.5±1.9, 8°.99S×127°.78E, h0km, mb3.5/1, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=146.2km s-min=26.0km az=63.0*

ISC 07 08:29:03.0±1.5**,8°.6S**±0°.1×**127°.85E**±0°.05**,h10**km**,n8,** σ**1s16**/10**,Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.47**	**80**	P	**Pn**	**08 29 56.0**	**-1.1**
SAUI				S	**Sn**	**08 30 39.7**	**+1.5**
SOEI	**Soe**	**3.72**	**252**	P	**Pn**	**08 30 00.2**	**-0.5**
SOEI				S	**Sn**	**08 30 45.9**	**+1.2**
BATI	**Baumata**	**4.43**	**249**	P	**Pn**	**08 30 09.5**	**-0.9**
BATI				S	**Sn**	**08 31 02.7**	**+0.6**
EDFI	**Ende, Flores**	**6.09**	**268**	P	Pn	08 30 26.1	-7.2
	9.8nm,0.8s,447nm0.1nm						
TNTI	**Ternate**	**9.32**	**357**	P	Pn	08 30 59.7	-18
WRA	**Warramunga Arr**	**12.91**	**152**	Pn	**Pn**	**08 32 06.8**	**+0.1**
	0.3nm,0.3s,baz=326,slow=14,SNR=20						
WRA				Sn	**Sn**	**08 34 31.4**	**+0.8**
	1.3nm,0.3s,baz=330,slow=23,SNR=13						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**16.07**	**160**	Pn	**Pn**	**08 32 49.7**	**+0.5**
	0.2nm,0.3s,baz=339,slow=11,SNR=14						
ASAR				Sn	**Sn**	**08 35 46.0**	**-1.5**
	0.1nm,0.3s,baz=318,slow=19,SNR=2.0						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**68.42**	**328**	P	P	08 40 12.1	+7.0
	0.2nm,0.3s,baz=128,slow=8.4,SNR=5.1						
	0.2nm,0.3s						

*IDC **07** 08:30:12.2±1.2, 41°.35S×173°.35E, h69^{km}±11^{km}, mb4.1/6, mbtmp4.4/8, MS3.2/6, Error ellipse: s-maj=21.2km s-min=8.5km az=127.0*

*NOU **07** 08:30:13.4, 41°.52S×173°.53E, h121^{km}, MLv5.0/16, South Island, New Zealand*

*NEIC **07** 08:30:14.5, 41°.41S×173°.38E, h97^{km}*

*NEIC **07** 08:30:15.5±1.8, 41°.43S±0°.04×173°.39E±0°.04, h88^{km}±3^{km}, mb4.6/11, Mwr4.3/40, Error ellipse: s-maj=6.3km s-min=4.5km az=183.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.72; $M_{\theta\theta}$1.12; $M_{\phi\phi}$-2.84; $M_{r\theta}$2.33; $M_{\theta\phi}$2.29; $M_{\phi r}$-0.45; Fault plane solution: $M_0$4.13000×10^{15} NP1:ϕ_s12.80000°, δ48.86000°, λ155.92000°. NP2:ϕ_s119.18000°, δ72.11000°, λ43.73000°. Principal axes: T 3.9983, Plg43.0000°, Azm345.0000°; N 0.2446, Plg43.0000°, Azm137.0000°; P -4.2429, Plg14.0000°, Azm241.0000°;*

*WEL **07** 08:30:16.3, 41°.42S×173°.41E, h86^{km}, ML5.0, Mw4.4, Moment Tensor Solution. s5 Moment tensor: M_{rr}155.96; $M_{\theta\theta}$103.40; $M_{\phi\phi}$-259.36; $M_{r\theta}$264.34; $M_{\theta\phi}$-260.49; $M_{\phi r}$80.81; Fault plane solution: NP1: ϕ_s12.00000°, δ46.00000°, λ160.00000°. NP2: ϕ_s116.00000°, δ76.00000°, λ46.00000°. Principal axes: T -462.2500, Plg41.0000°, Azm345.0000°; N 418.6000, Plg43.0000°, Azm129.0000°; P 43.6600, Plg19.0000°, Azm237.0000°; SOUTH ISLAND*

*WEL **07** 08:30:16.0±0.4, 41°S±3°×17°3E±°, h74^{km}±3^{km}, M5.0/127, ML5.3/25, MLv5.0/127 Error ellipse: s-maj=0.0km s-min=0.0km az=164.8, confirmed*

ISC 07 08:30:15.6±0.6**, 41°.45S**±0°.03×**173°.42E**±0°.03**, h96**^{km}±4^{km}**, n267, σ1s.63**/302**, mb4.5**/15**, 3C-1D, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVFS	**Wairau Valley**	**0.17**	**197**	P	**Pn**	**08 30 27.8**	**-1.5**
WVFS				S	**Sn**	**08 30 37.2**	**-2.3**
NELH	**Nelson Hospita**	**0.20**	**327**	P	**Pn**	**08 30 27.7**	**-1.6**
NELH				S	**Sn**	**08 30 37.6**	**-1.9**
NCBS	**Nelson Council**	**0.21**	**331**	P	**Pn**	**08 30 27.5**	**-1.8**
NCBS				S	**Sn**	**08 30 37.2**	**-2.4**
BTWS	**Nelson Brightw**	**0.23**	**286**	P	**Pn**	**08 30 27.8**	**-1.6**
BTWS				S	**Sn**	**08 30 37.2**	**-2.5**
NNZ	**Nelson**	**0.24**	**353**		**Pn**	**08 30 28.8**	**-0.7**
NNZ				Sn	**Sn**	**08 30 38.2**	**-1.6**
NNZ	**Nelson**	**0.24**	**353**	P	**Pn**	**08 30 29.0**	**-0.5**
NNZ				S	**Sn**	**08 30 38.5**	**-1.3**
BWRS	**Waikakaho Road**	**0.36**	**88**	P	**Pn**	**08 30 30.2**	**+0.1**
BWRS				S	**Sn**	**08 30 40.1**	**-0.8**
TUWZ	**Tuamarina**	**0.39**	**87**		**Pn**	**08 30 29.9**	**-0.4**
TUWZ				Sn	**Sn**	**08 30 40.1**	**-1.1**
TUWZ	**Tuamarina**	**0.39**	**87**	P	**Pn**	**08 30 30.3**	**0.0**
TUWZ				S	**Sn**	**08 30 40.3**	**-0.9**
MGCS	**Blenheim Marlb**	**0.40**	**98**	P	**Pn**	**08 30 29.1**	**-1.1**
MGCS				S	**Sn**	**08 30 40.0**	**-1.2**
BSWZ	**Blackbirch Sta**	**0.43**	**127**		**Pn**	**08 30 30.3**	**-0.2**
BSWZ				Sn	**Sn**	**08 30 41.3**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.43**	**127**	P	**Pn**	**08 30 30.5**	**0.0**
BSWZ				S	**Sn**	**08 30 41.4**	**-0.2**
QCCS	**Picton Queen C**	**0.49**	**69**	P	**Pn**	**08 30 29.7**	**-1.1**
QCCS				S	**Sn**	**08 30 40.3**	**-1.9**
THZ	**Tophouse**	**0.49**	**231**	Pn	**Pn**	**08 30 30.9**	**-0.1**
THZ				Sn	**Sn**	**08 30 41.6**	**-1.0**
THZ	**Tophouse**	**0.49**	**231**	P	**Pn**	**08 30 31.0**	**0.0**
THZ				S	**Sn**	**08 30 42.0**	**-0.6**
MRNZ	**Matariki Terra**	**0.50**	**276**		**Pn**	**08 30 30.6**	**-0.4**
MRNZ				Sn	**Sn**	**08 30 41.0**	**-1.5**
MRNZ	**Matariki Terra**	**0.50**	**276**	P	**Pn**	**08 30 30.8**	**-0.2**
MRNZ				S	**Sn**	**08 30 41.4**	**-1.1**
MATW	**Matariki Wadsw**	**0.54**	**272**	P	**Pn**	**08 30 31.1**	**-0.2**
MATW				S	**Sn**	**08 30 41.6**	**-1.4**
TKNZ	**Takaka Hill**	**0.54**	**320**		**Pn**	**08 30 30.6**	**-0.8**
TKNZ				Sn	**Sn**	**08 30 41.5**	**-1.6**
TKNZ	**Takaka Hill**	**0.54**	**320**	P	**Pn**	**08 30 30.9**	**-0.5**
TKNZ				S	**Sn**	**08 30 41.7**	**-1.5**
MOLW	**Molesworth Sta**	**0.65**	**191**	P	**Pn**	**08 30 32.8**	**+0.5**
MOLW				S	**Sn**	**08 30 44.4**	**-0.3**
KEKS	**Kekerengu Vall**	**0.65**	**140**	P	**Pn**	**08 30 32.4**	**+0.1**
KEKS				S	**Sn**	**08 30 45.0**	**+0.2**
CMWZ	**Cape Campbell**	**0.67**	**117**		**Pn**	**08 30 32.5**	**+0.1**
CMWZ	**Cape Campbell**	**0.67**	**117**	P	**Pn**	**08 30 32.8**	**+0.4**
CMWZ				S	**Sn**	**08 30 45.8**	**+0.9**
TCW	**Tory Channel**	**0.69**	**70**		**Pn**	**08 30 32.4**	**-0.1**
TCW				Sn	**Sn**	**08 30 44.3**	**-0.9**
TCW	**Tory Channel**	**0.69**	**70**	P	**Pn**	**08 30 32.6**	**0.0**
TCW				S	**Sn**	**08 30 44.6**	**-0.7**
DUWZ	**D'Urville Isla**	**0.75**	**30**	P	**Pn**	**08 30 33.1**	**-0.1**
DUWZ				S	**Sn**	**08 30 45.8**	**-0.6**
QRZ	**Quartz Range**	**0.92**	**313**	Pn	**Pn**	**08 30 33.6**	**-1.3**
QRZ	**Quartz Range**	**0.92**	**313**	P	**Pn**	**08 30 34.4**	**-0.5**
QRZ	**Quartz Range**	**0.92**	**313**	P	**Pn**	**08 30 34.0**	**-0.9**
QRZ				S	**Sn**	**08 30 47.3**	**-2.0**
KHZ	**Kahutara**	**0.96**	**175**	Pn	**Pn**	**08 30 35.5**	**+0.2**
KHZ	**Kahutara**	**0.96**	**175**	P	**Pn**	**08 30 35.6**	**+0.3**
KHZ	**Kahutara**	**0.96**	**175**	P	**Pn**	**08 30 35.7**	**+0.4**
KHZ				S	**Sn**	**08 30 49.7**	**-0.5**
SNZO	**South Karori**	**0.98**	**82**		**Pn**	**08 30 34.7**	**-0.8**
SNZO	**South Karori**	**0.98**	**82**	P	**Pn**	**08 30 35.0**	**-0.5**
KIKS	**Kaikoura**	**0.99**	**169**	P	**Pn**	**08 30 36.1**	**+0.5**
KIKS				S	**Sn**	**08 30 50.7**	**0.0**
WEL	**Wellington**	**1.03**	**81**	P	**Pn**	**08 30 35.6**	**-0.4**
WEL				S	**Sn**	**08 30 50.8**	**-0.7**
BHW	**Baring Head**	**1.09**	**88**	Pn	**Pn**	**08 30 35.7**	**-1.1**
BHW	**Baring Head**	**1.09**	**88**	P	**Pn**	**08 30 36.2**	**-0.6**
BHW				S	**Sn**	**08 30 51.5**	**-1.2**
DSZ	**Denniston Nort**	**1.25**	**256**	Pn	**Pn**	**08 30 37.8**	**-0.8**
DSZ	**Denniston Nort**	**1.25**	**256**	P	**Pn**	**08 30 38.0**	**-0.6**
DSZ				S	**Sn**	**08 30 54.5**	**-1.4**
KIW	**Kapiti Island**	**1.27**	**63**	P	**Pn**	**08 30 38.5**	**-0.3**
KIW				S	**Sn**	**08 30 55.9**	**-0.6**
CAW	**Cannon Point**	**1.29**	**75**	P	**Pn**	**08 30 38.4**	**-0.6**
CAW				S	**Sn**	**08 30 56.0**	**-0.8**
MSWZ	**Moikau Station**	**1.38**	**89**		**Pn**	**08 30 39.1**	**-1.0**
MSWZ	**Moikau Station**	**1.38**	**89**	P	**Pn**	**08 30 39.4**	**-0.7**
MSWZ				S	**Sn**	**08 30 57.4**	**-1.3**
PLWZ	**Palliser**	**1.38**	**95**		**Pn**	**08 30 39.1**	**-1.1**
PLWZ	**Palliser**	**1.38**	**95**	P	**Pn**	**08 30 39.5**	**-0.8**
PLWZ				S	**Sn**	**08 30 57.3**	**-1.6**
OGWZ	**Otaki Gorge**	**1.47**	**65**	P	**Pn**	**08 30 40.6**	**-0.6**
OGWZ				S	**Sn**	**08 30 59.5**	**-1.1**
PAWZ	**Paruwai Farm**	**1.51**	**88**	P	**Pn**	**08 30 40.8**	**-1.0**
PAWZ				S	**Sn**	**08 31 00.2**	**-1.5**
GVZ	**Greta Valley S**	**1.54**	**191**	Pn	**Pn**	**08 30 41.4**	**-0.7**
GVZ	**Greta Valley S**	**1.54**	**191**	P	**Pn**	**08 30 42.1**	**-0.1**
GVZ				S	**Sn**	**08 31 00.9**	**-1.3**
LTZ	**Lake Taylor**	**1.58**	**212**	Pn	**Pn**	**08 30 42.2**	**-0.5**
LTZ	**Lake Taylor**	**1.58**	**212**	P	**Pn**	**08 30 42.4**	**-0.3**
MTW	**Mount Morrison**	**1.60**	**80**	P	**Pn**	**08 30 41.7**	**-1.1**
HOWZ	**Holdsworth Sta**	**1.68**	**71**	P	**Pn**	**08 30 42.8**	**-1.1**
TRWZ	**Traveller**	**1.71**	**89**	P	**Pn**	**08 30 43.2**	**-1.1**
AMCZ	**Amberley**	**1.81**	**198**		**Pn**	**08 30 44.5**	**-1.1**
AMCZ	**Amberley**	**1.81**	**198**	P	**Pn**	**08 30 45.2**	**-0.4**
MRZ	**Mangatainoka R**	**1.81**	**65**	Pn	**Pn**	**08 30 44.2**	**-1.5**
MRZ	**Mangatainoka R**	**1.81**	**65**	P	**Pn**	**08 30 44.4**	**-1.2**
TMWZ	**Te Maipa**	**1.89**	**80**	P	**Pn**	**08 30 45.4**	**-1.3**
OHWZ	**Ohakea**	**1.90**	**50**	P	**Pn**	**08 30 46.4**	**-0.3**
INZ	**Inchbonnie**	**1.94**	**229**	Pn	**Pn**	**08 30 46.3**	**-1.0**
INZ	**Inchbonnie**	**1.94**	**229**	P	**Pn**	**08 30 46.8**	**-0.4**
TIWZ	**Tintock**	**1.98**	**71**	P	**Pn**	**08 30 46.5**	**-1.4**
NMEZ	**Namu Road**	**2.07**	**10**	P	**Pn**	**08 30 49.5**	**+0.6**
POWZ	**Post Office Ro**	**2.07**	**60**	P	**Pn**	**08 30 47.5**	**-1.5**
WAZ	**Wanganui**	**2.07**	**36**	P	**Pn**	**08 30 49.4**	**+0.4**
LREZ	**Lake Rotokare**	**2.13**	**21**	P	**Pn**	**08 30 50.7**	**+1.0**
PRWZ	**Pori Road**	**2.13**	**66**	P	**Pn**	**08 30 48.4**	**-1.3**
OXZ	**Oxford**	**2.13**	**208**		**Pn**	**08 30 48.2**	**-1.6**
OXZ	**Oxford**	**2.13**	**208**	P	**Pn**	**08 30 48.5**	**-1.2**
CPWZ	**Castlepoint**	**2.17**	**76**	P	**Pn**	**08 30 49.0**	**-1.2**
PREZ	**Palmer Road**	**2.18**	**15**	P	**Pn**	**08 30 51.2**	**+0.7**
KHEZ	**Kahui Hut**	**2.21**	**12**	P	**Pn**	**08 30 51.3**	**+0.5**
KHEZ	**Kahui Hut**	**2.21**	**12**	P	**Pn**	**08 30 51.3**	**+0.5**
NBEZ	**Newall Road No**	**2.21**	**9**	P	**Pn**	**08 30 51.4**	**+0.6**
NEZ	**North Egmont**	**2.24**	**14**	P	**Pn**	**08 30 51.5**	**+0.2**
BFZ	**Birch Farm**	**2.27**	**71**		**Pn**	**08 30 49.4**	**-2.1**
BFZ	**Birch Farm**	**2.27**	**71**	P	**Pn**	**08 30 49.8**	**-1.8**
BFZ	**Birch Farm**	**2.27**	**71**	P	**Pn**	**08 30 49.8**	**-1.8**
OKCZ	**Okains Bay**	**2.28**	**187**	P	**Pn**	**08 30 51.0**	**-0.8**
PKE	**Pukeiti**	**2.30**	**11**	P	**Pn**	**08 30 52.5**	**+0.6**
MQZ	**McQueen's Vall**	**2.32**	**194**	Pn	**Pn**	**08 30 50.2**	**-2.0**
MQZ	**McQueen's Vall**	**2.32**	**194**	P	**Pn**	**08 30 50.6**	**-1.6**
DREZ	**Durham Road**	**2.34**	**15**	P	**Pn**	**08 30 53.0**	**+0.5**
DVHZ	**Dannevirke**	**2.38**	**62**	P	**Pn**	**08 30 51.1**	**-1.9**
TSZ	**Takapari Road**	**2.38**	**55**	P	**Pn**	**08 30 51.5**	**-1.6**
AKCZ	**Akaroa Harbour**	**2.45**	**189**	P	**Pn**	**08 30 52.7**	**-1.2**
RACZ	**Rakaia**	**2.46**	**202**	P	**Pn**	**08 30 52.8**	**-1.2**
MHEZ	**Mangahewa**	**2.47**	**17**	P	**Pn**	**08 30 55.1**	**+0.8**
MHCZ	**Mount Hutt**	**2.49**	**213**	P	**Pn**	**08 30 53.1**	**-1.3**
ANWZ	**Angora Road**	**2.52**	**68**	P	**Pn**	**08 30 52.8**	**-2.0**
VRZ	**Vera Road**	**2.54**	**24**	P	**Pn**	**08 30 55.6**	**+0.4**
WVZ	**Waitaha Valley**	**2.57**	**230**	P	**Pn**	**08 30 54.4**	**-1.1**
MTVZ	**Mangateitei**	**2.59**	**38**	P	**Pn**	**08 30 55.3**	**-0.6**
PNHZ	**Pukenui**	**2.62**	**55**	P	**Pn**	**08 30 54.3**	**-1.9**
PKVZ	**Pokaka**	**2.62**	**35**	P	**Pn**	**08 30 55.6**	**-0.6**
WPHZ	**Waipukurau**	**2.68**	**60**	P	**Pn**	**08 30 55.0**	**-2.0**
TRVZ	**Turoa**	**2.70**	**38**	P	**Pn**	**08 30 56.8**	**-0.6**
WNVZ	**Wahianoa**	**2.70**	**39**	P	**Pn**	**08 30 56.7**	**-0.7**
MOVZ	**Moawhango**	**2.71**	**42**	P	**Pn**	**08 30 56.3**	**-1.2**
PRHZ	**Porangahau**	**2.71**	**65**	P	**Pn**	**08 30 55.2**	**-2.2**
MAVZ	**Matarangi**	**2.73**	**38**	P	**Pn**	**08 30 57.7**	**-0.2**
WHVZ	**Whangaehu Hut**	**2.73**	**38**	P	**Pn**	**08 30 57.3**	**-0.5**
FWVZ	**Far West T-bar**	**2.73**	**37**	P	**Pn**	**08 30 57.3**	**-0.7**
WACZ	**Wakanui South**	**2.75**	**205**	P	**Pn**	**08 30 56.4**	**-1.4**
TUVZ	**Tukino**	**2.77**	**39**	P	**Pn**	**08 30 57.9**	**-0.4**
COVZ	**Chateau Observ**	**2.77**	**36**	P	**Pn**	**08 30 57.6**	**-0.7**
BHHZ	**Black Hill Sta**	**2.81**	**47**	P	**Pn**	**08 30 57.5**	**-1.3**
NGZ	**Ngauruhoe**	**2.82**	**37**	P	**Pn**	**08 30 58.3**	**-0.7**
SNVZ	**South Ngauruho**	**2.83**	**38**	P	**Pn**	**08 30 58.6**	**-0.6**
TWVZ	**Taurewa**	**2.84**	**34**	P	**Pn**	**08 30 58.2**	**-0.9**
RPZ	**Rata Peaks**	**2.86**	**217**		**Pn**	**08 30 57.1**	**-2.2**
RPZ	**Rata Peaks**	**2.86**	**217**	P	**Pn**	**08 30 57.8**	**-1.5**
RPZ	**Rata Peaks**	**2.86**	**217**	P	**Pn**	**08 30 57.9**	**-1.5**
	268nm,0.4s,baz=268,slow=2.4,SNR=90						
RPZ				S	**Sn**	**08 31 29.6**	**-3.4**
	2μm,0.7s,baz=178,slow=23,SNR=52						
RPZ				LR	LR	08 31 46.4	
	comp=Z,328nm,18.2s,baz=359,slow=32						
RPZ	**Rata Peaks**	**2.86**	**217**	P	**Pn**	**08 30 57.7**	**-1.6**
OTVZ	**Oturere**	**2.86**	**38**	P	**Pn**	**08 30 58.9**	**-0.7**
NNVZ	**North Ngauruho**	**2.86**	**37**	P	**Pn**	**08 30 58.8**	**-0.8**
WTVZ	**West Tongariro**	**2.87**	**36**	P	**Pn**	**08 30 58.6**	**-1.0**
KRHZ	**Kereru**	**2.88**	**52**	P	**Pn**	**08 30 57.7**	**-2.1**
ETVZ	**East Tongariro**	**2.90**	**38**	P	**Pn**	**08 30 59.4**	**-0.7**
KRVZ	**Karewarewa**	**2.91**	**37**	P	**Pn**	**08 30 59.2**	**-0.9**
TMVZ	**Te Maari**	**2.92**	**38**	P	**Pn**	**08 30 59.5**	**-0.7**
NTVZ	**North Tongarir**	**2.92**	**37**	P	**Pn**	**08 30 59.5**	**-0.8**
GCSZ	**Gaunt Creek Bo**	**2.95**	**230**	P	**Pn**	**08 30 59.5**	**-1.1**
PXZ	**Pawanui**	**2.98**	**63**	P	**Pn**	**08 30 58.5**	**-2.4**
ARCZ	**Arundel**	**2.99**	**213**	P	**Pn**	**08 30 59.6**	**-1.6**
KATZ	**Kakaramea**	**3.03**	**36**	P	**Pn**	**08 31 00.8**	**-1.0**
KWHZ	**Kaweka Forest**	**3.06**	**49**	P	**Pn**	**08 31 00.2**	**-1.9**
RITZ	**Rihia Road**	**3.10**	**38**	P	**Pn**	**08 31 01.8**	**-0.8**
KAHZ	**Kahuranaki**	**3.11**	**59**	P	**Pn**	**08 31 00.4**	**-2.4**
HIZ	**Hauiti**	**3.14**	**21**		**Pn**	**08 31 02.6**	**-0.5**
HIZ	**Hauiti**	**3.14**	**21**	P	**Pn**	**08 31 02.8**	**-0.3**
HIZ	**Hauiti**	**3.14**	**21**	P	**Pn**	**08 31 02.8**	**-0.3**
RATZ	**Rangitukua**	**3.15**	**36**	P	**Pn**	**08 31 02.5**	**-0.9**
MCHZ	**McNeill Hill**	**3.21**	**52**	P	**Pn**	**08 31 02.1**	**-2.0**
WATZ	**Wairara**	**3.27**	**34**	P	**Pn**	**08 31 04.6**	**-0.3**
BKZ	**Black Stump Fm**	**3.28**	**47**		**Pn**	**08 31 02.9**	**-2.2**
BKZ	**Black Stump Fm**	**3.28**	**47**	P	**Pn**	**08 31 03.1**	**-1.9**
BKZ	**Black Stump Fm**	**3.28**	**47**	P	**Pn**	**08 31 03.0**	**-2.0**
HATZ	**Hinemaiaia**	**3.28**	**40**	P	**Pn**	**08 31 03.2**	**-1.9**
CKHZ	**Cape Kidnapper**	**3.31**	**58**	P	**Pn**	**08 31 02.8**	**-2.7**
FOZ	**Fox Glacier**	**3.38**	**231**		**Pn**	**08 31 04.7**	**-1.6**
FOZ	**Fox Glacier**	**3.38**	**231**	P	**Pn**	**08 31 04.6**	**-1.7**
WHTZ	**Whakaora**	**3.40**	**36**	P	Pn	08 31 12.0	+5.3
TMZ	**Timaru**	**3.42**	**210**	P	**Pn**	**08 31 05.5**	**-1.4**
MRHZ	**Matea Rd**	**3.48**	**42**	P	**Pn**	**08 31 05.5**	**-2.3**
KUTZ	**Kaahu Road**	**3.49**	**33**	P	**Pn**	**08 31 07.1**	**-0.8**
THQ2	**Tauhara North**	**3.49**	**38**	P	**Pn**	**08 31 06.5**	**-1.4**
NMHZ	**Naumai**	**3.50**	**49**	P	**Pn**	**08 31 06.0**	**-2.1**
ARHZ	**Aropaoanui**	**3.50**	**52**	P	**Pn**	**08 31 05.5**	**-2.5**
TLZ	**Tolley Road**	**3.52**	**28**	P	**Pn**	**08 31 07.4**	**-0.9**
WPRZ	**Whakapapatarin**	**3.61**	**37**	P	**Pn**	**08 31 07.7**	**-1.8**
ALRZ	**Allen Road**	**3.66**	**39**	P	**Pn**	**08 31 08.1**	**-2.0**
MTHZ	**Maungataniwha**	**3.69**	**46**	P	**Pn**	**08 31 08.2**	**-2.4**
GRRZ	**Galatos Road**	**3.73**	**35**	P	**Pn**	**08 31 09.9**	**-1.1**
PRRZ	**Plateau Road**	**3.73**	**39**	P	**Pn**	**08 31 09.0**	**-2.1**
WHHZ	**Waihua**	**3.76**	**52**	P	**Pn**	**08 31 08.9**	**-2.6**
HRRZ	**Handcock Road**	**3.77**	**37**	P	**Pn**	**08 31 10.3**	**-1.4**
LBZ	**Lake Benmore**	**3.77**	**218**		**Pn**	**08 31 09.8**	**-1.8**
LBZ	**Lake Benmore**	**3.77**	**218**	P	**Pn**	**08 31 09.5**	**-2.1**
RAHZ	**Arahi**	**3.78**	**49**	P	**Pn**	**08 31 09.0**	**-2.8**
HSRZ	**Hossack Road**	**3.82**	**36**	P	**Pn**	**08 31 11.1**	**-1.2**
UTU	**Utuhina**	**3.91**	**34**	P	**Pn**	**08 31 14.9**	**+1.4**
HLRZ	**Highlands Stat**	**3.91**	**36**	P	**Pn**	**08 31 12.4**	**-1.2**
RRRZ	**Republican Roa**	**3.92**	**38**	P	**Pn**	**08 31 11.5**	**-2.1**
RTZ	**Ruatahuna**	**3.94**	**45**		**Pn**	**08 31 10.6**	**-3.3**
RTZ	**Ruatahuna**	**3.94**	**45**	P	**Pn**	**08 31 10.9**	**-3.1**
NGRZ	**Ngongotaha**	**3.97**	**33**	P	**Pn**	**08 31 13.1**	**-1.2**
TARZ	**Mount Tarawera**	**4.00**	**37**	P	**Pn**	**08 31 13.4**	**-1.4**
SNGZ	**Shannon Statio**	**4.02**	**50**	P	**Pn**	**08 31 11.8**	**-3.2**
OMRZ	**Omania**	**4.04**	**35**	P	**Pn**	**08 31 13.6**	**-1.8**
TOZ	**Tahuroa Road**	**4.05**	**24**		**Pn**	**08 31 14.3**	**-1.0**
TOZ	**Tahuroa Road**	**4.05**	**24**	P	**Pn**	**08 31 14.4**	**-1.0**
MKRZ	**Makatiti**	**4.06**	**36**	P	**Pn**	**08 31 18.5**	**+2.9**
KARZ	**Kaharoa**	**4.06**	**33**	P	**Pn**	**08 31 14.2**	**-1.4**
KNZ	**Kokohu**	**4.06**	**55**	P	**Pn**	**08 31 11.8**	**-3.8**
KMRZ	**Kaimai**	**4.10**	**29**	P	**Pn**	**08 31 16.1**	**+0.1**
ODZ	**Otahua Downs**	**4.12**	**209**		**Pn**	**08 31 14.7**	**-1.6**
ODZ	**Otahua Downs**	**4.12**	**209**	P	**Pn**	**08 31 15.0**	**-1.3**
ODZ	**Otahua Downs**	**4.12**	**209**	P	**Pn**	**08 31 15.0**	**-1.3**
MHGZ	**Mahia Peninsul**	**4.13**	**58**	P	**Pn**	**08 31 13.2**	**-3.3**
PRGZ	**Paritu Road**	**4.25**	**55**	P	**Pn**	**08 31 14.3**	**-3.8**
RAGZ	**Rawiri**	**4.26**	**47**	P	**Pn**	**08 31 14.9**	**-3.4**
URZ	**Urewera**	**4.27**	**43**	P	**Pn**	**08 31 14.9**	**-3.5**
URZ	**Urewera**	**4.27**	**43**	P	**Pn**	**08 31 15.0**	**-3.5**
	89nm,0.3s,baz=312,slow=6.8,SNR=411						
URZ				S	**Sn**	**08 32 02.7**	**-4.4**
	598nm,0.3s,baz=161,slow=15,SNR=37						
URZ	**Urewera**	**4.27**	**43**	P	**Pn**	**08 31 14.8**	**-3.5**
MARZ	**Manawahe**	**4.28**	**37**	P	**Pn**	**08 31 16.4**	**-2.1**
JCZ	**Jackson Bay**	**4.30**	**231**	P	**Pn**	**08 31 16.4**	**-2.4**
JCZ	**Jackson Bay**	**4.30**	**231**	P	**Pn**	**08 31 16.1**	**-2.8**
RIGZ	**Rimuhau**	**4.32**	**52**	P	**Pn**	**08 31 15.4**	**-3.7**
TGRZ	**Tauranga**	**4.32**	**31**	P	**Pn**	**08 31 17.8**	**-1.2**
OPRZ	**Ohinepanea**	**4.34**	**35**	P	**Pn**	**08 31 21.3**	**+2.0**
MWZ	**Matawai**	**4.44**	**47**	P	**Pn**	**08 31 17.0**	**-3.7**
AWAZ	**Awhitu Peninsu**	**4.49**	**13**	P	**Pn**	**08 31 21.3**	**0.0**
TKGZ	**Te Karaka**	**4.54**	**50**	P	**Pn**	**08 31 18.3**	**-3.7**
MKAZ	**Moumakai**	**4.55**	**18**	P	**Pn**	**08 31 21.6**	**-0.5**
WTAZ	**Waiatarua**	**4.60**	**12**	P	**Pn**	**08 31 23.2**	**+0.3**
ETAZ	**East Tamaki Re**	**4.64**	**15**	P	**Pn**	**08 31 23.5**	**0.0**
WKZ	**Wanaka**	**4.66**	**222**	P	**Pn**	**08 31 20.0**	**-3.7**
EPAZ	**Eden Park BICE**	**4.69**	**13**	P	**Pn**	**08 31 24.5**	**+0.5**
HBAZ	**Herne Bay Bore**	**4.71**	**13**	P	**Pn**	**08 31 24.7**	**+0.4**
CNGZ	**Carnagh Statio**	**4.72**	**53**	P	**Pn**	**08 31 20.6**	**-3.9**
RVAZ	**Riverhead Bore**	**4.76**	**11**	P	**Pn**	**08 31 25.2**	**+0.1**
TWGZ	**Tauwhareparae**	**4.80**	**48**	P	**Pn**	**08 31 22.2**	**-3.4**
MBAZ	**Motutapu North**	**4.82**	**14**	P	**Pn**	**08 31 25.8**	**0.0**
EAZ	**Earnscleugh**	**4.82**	**217**	P	**Pn**	**08 31 22.9**	**-2.9**
WIAZ	**Waiheke Island**	**4.84**	**17**	P	**Pn**	**08 31 26.3**	**+0.2**
HHSZ	**Highcliff Hill**	**4.88**	**204**	P	**Pn**	**08 31 25.5**	**-1.1**
ABAZ	**Army Bay**	**4.97**	**13**	P	**Pn**	**08 31 28.2**	**+0.3**
KUZ	**Kuaotunu**	**5.03**	**22**	P	**Pn**	**08 31 28.4**	**-0.3**
KUZ	**Kuaotunu**	**5.03**	**22**	P	**Pn**	**08 31 27.7**	**-1.0**
PKGZ	**Pakihiroa**	**5.06**	**47**	P	**Pn**	**08 31 25.6**	**-3.5**
MSZ	**Milford Sound**	**5.15**	**230**	P	**Pn**	**08 31 28.6**	**-1.7**
TUZ	**Tuapeka**	**5.27**	**210**	P	**Pn**	**08 31 30.0**	**-1.9**
MXZ	**Matakaoa Point**	**5.42**	**46**	P	**Pn**	**08 31 30.3**	**-3.7**
MXZ	**Matakaoa Point**	**5.42**	**46**	P	**Pn**	**08 31 30.3**	**-3.7**
GRZ	**Great Barrier**	**5.43**	**18**	P	**Pn**	**08 31 34.1**	**-0.1**
MLZ	**Mavora Lakes**	**5.50**	**223**	P	**Pn**	**08 31 31.4**	**-3.6**
WCZ	**Waipu Caves**	**5.55**	**8**	P	**Pn**	**08 31 35.9**	**+0.1**
SYZ	**Scrubby Hill**	**5.95**	**210**	P	**Pn**	**08 31 39.1**	**-1.9**
SYZ	**Scrubby Hill**	**5.95**	**210**	P	**Pn**	**08 31 38.9**	**-2.2**
WHZ	**Wether Hill Ro**	**5.95**	**220**	P	**Pn**	**08 31 37.2**	**-3.9**
DCZ	**Deep Cove**	**6.07**	**227**	P	**Pn**	**08 31 41.5**	**-1.2**
OUZ	**Omahuta**	**6.23**	**1**	P	**Pn**	**08 31 44.2**	**-0.7**
OUZ	**Omahuta**	**6.23**	**1**	P	**Pn**	**08 31 44.2**	**-0.7**
APZ	**The Paps**	**6.64**	**214**	P	**Pn**	**08 31 47.3**	**-3.3**
PYZ	**Puysegur Point**	**6.78**	**224**	P	**Pn**	**08 31 50.1**	**-2.3**
PYZ	**Puysegur Point**	**6.78**	**224**	P	**Pn**	**08 31 50.1**	**-2.3**
CTZ	**Chatham Island**	**7.70**	**111**	P	**Pn**	**08 32 03.7**	**-1.1**
RAO	**Raoul Island**	**14.07**	**33**	LR	LR	08 38 19.1	
	comp=Z,858nm,21.4s,baz=116,slow=35						
DZM	**Mont Dzumac**	**20.20**	**341**	P	**P**	**08 34 44.0**	**+1.2**
DZM	**Mont Dzumac**	**20.20**	**341**	P	Pn	08 34 44.3	-1.3
	12nm,0.8s,baz=130,slow=18,SNR=6.8						
DZM				LR	LR	08 40 43.7	
	comp=Z,45nm,21.1s,baz=210,slow=31						
KOUNC	**Koumac, New Ca**	**22.23**	**337**	P	**P**	**08 35 06.5**	**+2.1**
KOUNC				IAmb	IAmb	08 35 07.8	
	comp=Z,39nm,0.9s						
RAR	**Rarotonga**	**30.32**	**56**	LR	LR	08 50 23.7	
	comp=Z,12nm,18.2s,baz=160,slow=40						
CTA	**Charters Tower**	**31.38**	**304**	LR	LR	08 48 05.3	
	comp=Z,23nm,18.9s,baz=94,slow=34						
VNDA	**Vanda**	**36.49**	**184**	LR	LR	08 51 02.9	
	comp=Z,29nm,18.9s,baz=167,slow=34						
ASAR	**Alice Springs**	**37.35**	**286**	P	**P**	**08 37 18.6**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=129,slow=7.5,SNR=14						
ASAR				PcP	**PcP**	**08 39 34.5**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=125,slow=4.1,SNR=2.9						
	comp=Z,1.6nm,0.5s						
WRAB	**Tennant Creek**	**39.41**	**291**	P	**P**	**08 37 35.4**	**-0.8**
WRAB				IAmb	IAmb	08 37 36.4	
	comp=Z,5.1nm,0.7s						
WRA	**Warramunga Arr**	**39.42**	**291**	P	**P**	**08 37 35.2**	**-1.0**
WRA	**Warramunga Arr**	**39.42**	**291**	P	**P**	**08 37 35.8**	**-0.4**
	comp=Z,3.0nm,0.5s,baz=127,slow=8.2,SNR=14						
WRA				PcP	**PcP**	**08 39 40.8**	**-1.8**
	comp=Z,0.8nm,0.8s,baz=148,slow=3.0,SNR=4.5						
	comp=Z,3.0nm,0.5s						
WB0	**Warramunga Arr**	**39.49**	**291**	P	**P**	**08 37 35.9**	**-1.0**
WB0				IAmb	IAmb	08 37 37.0	
	comp=Z,4.8nm,0.6s						
CASY	**Casey**	**42.12**	**212**	P	**P**	**08 37 58.7**	**+0.9**
MTN	**Manton Dam**	**46.53**	**295**	P	**P**	**08 38 34.2**	**+0.6**
MTN				IAmb	IAmb	08 39 18.0	
	comp=Z,22nm,1.4s						
QSPA	**South Pole Qui**	**48.67**	**180**	P	**P**	**08 38 51.3**	**+1.6**
	comp=Z,3.4nm,0.6s,baz=23,slow=1.6,SNR=10						
	comp=Z,3.4nm,0.6s						
MBWA	**Marble Bar**	**49.30**	**277**	P	**P**	**08 38 54.2**	**-0.6**
MBWA				IAmb	IAmb	08 39 25.9	
	comp=Z,9.3nm,1.1s						
MAW	**Mawson**	**59.47**	**205**	P	**P**	**08 40 08.7**	**+0.9**
MAW				IAmb	IAmb	08 40 15.4	
	comp=Z,4.1nm,1.4s						
MAW	**Mawson**	**59.47**	**205**	P	**P**	**08 40 08.5**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=141,slow=6.5,SNR=2.1						
	comp=Z,1.8nm,0.5s						
BELA	**Belgrano 2**	**59.71**	**173**	P	**P**	**08 40 11.1**	**+1.7**
TROLL	**Troll, Antarti**	**66.66**	**183**	⇑P	**P**	**08 40 57.2**	**+1.6**
	comp=Z,38nm,0.2s						
SNAA	**Sanae**	**67.15**	**181**	P	**P**	**08 40 59.7**	**+1.2**
SNAA				IAmb	IAmb	08 41 01.3	
	comp=Z,7.0nm,1.3s						
SNAA	**Sanae**	**67.15**	**181**	⇑P	**P**	**08 41 00.1**	**+1.5**
	comp=Z,7.8nm,0.3s						
SNAA	**Sanae**	**67.15**	**181**	P	**P**	**08 40 59.8**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=246,slow=11,SNR=7.8						
	comp=Z,1.3nm,0.6s						
VNA3	**Neumayer Olymp**	**67.59**	**179**	⇓P	**P**	**08 41 02.8**	**+1.5**
	comp=Z,0.2nm,0.2s						
VNA2	**Neumayer--Watz**	**67.93**	**180**	⇑P	**P**	**08 41 05.2**	**+1.7**
	comp=Z,0.3nm,0.2s,baz=165,slow=6.0						
CMAR	**Chiang Mai Arr**	**90.95**	**294**	P	**P**	**08 43 08.4**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=144,slow=3.2,SNR=4.4						
	comp=Z,1.4nm,0.3s						
PZH	**PanZhiHua**	**94.64**	**301**	P	**P**	**08 43 27.5**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,4.1s						
HHC	**Hu-ho-hao-te**	**99.25**	**317**	*e*P	**Pdif**	**08 43 46.5**	**+0.2**
HHC				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC				pmax	pmax		
	comp=Z,290nm,5.0s						
WMQ	**Urumqi**	**114.49**	**308**	*e*P	PKPdf	08 48 44.3	+0.4
KURBB	**Kurchatov Arra**	**123.31**	**311**	PKP	**PKPdf**	**08 48 58.3**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=80,slow=1.9,SNR=1.5						
KBZ	**Khabaz**	**143.94**	**291**	PKP	PKPab	08 49 36.5	-0.2
	comp=Z,3.0nm,0.8s,baz=90,slow=4.0,SNR=4.9						
SUMG	**Summit**	**145.20**	**16**	*i* P	**PKPbc**	**08 49 39.0**	**-1.9**
ARCES	**ARCESS Array B**	**147.28**	**340**	PKPbc	**PKPdf**	**08 49 45.2**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=350,slow=1.1,SNR=11						
BRTR	**Keskin Array B**	**149.60**	**280**	PKPbc	**PKPdf**	**08 49 52.1**	**+3.1**
	comp=Z,1.4nm,0.9s,baz=114,slow=3.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**150.89**	**197**	PKPbc	**PKPbc**	**08 49 57.0**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=149,slow=2.0,SNR=13						
FINES	**FINESS Array B**	**151.94**	**327**	PKPbc	**PKPbc**	**08 49 56.1**	**-2.2**
	comp=Z,2.0nm,0.6s,baz=62,slow=4.5,SNR=7.5						

*JMA **07** 08:40:27.2±0.2, 25°N±1°×122°.5E±0°.4, h118^{km}±2^{km}, MV2.3/13, NW OFF ISHIGAKIJIMA IS*

*TAP **07** 08:40:27.1, 24°.88N×122°.45E, h120^{km}±1^{km}, ML3.2, C*

ISC 07 08:40:27.3±1.7**, 24°.87N**±0°.05×**122°.46E**±0°.03**, h119**^{km}±9^{km}**, n63, σ0s.76**/110**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.45**	**288**	*i* P	**Pn**	**08 40 44.9**	**0.0**
	baz=286						
TWB1				*i* S	**Sn**	**08 40 57.7**	**-0.3**
	baz=286						
EOS2	**EOS2**	**0.50**	**204**	*i* P	**Pn**	**08 40 45.2**	**+0.2**
	baz=202						
EOS2				S	**Sn**	**08 40 59.5**	**+1.2**
	baz=202						
SXI1	**Grass Mountain**	**0.57**	**293**	*i* P	**Pn**	**08 40 45.6**	**-0.1**
	baz=292						
SXI1				*i* S	**Sn**	**08 40 59.5**	**-0.1**
	baz=292						
TIPB	**Shuangxi**	**0.58**	**280**	*i* P	**Pn**	**08 40 45.7**	**-0.1**
	baz=278						
TIPB				*i* S	**Sn**	**08 40 59.1**	**-0.5**
	baz=278						
EOS3	**EOS3**	**0.60**	**192**	*i* P	**Pn**	**08 40 46.1**	**+0.4**
	baz=191						
EOS3				*i* S	**Sn**	**08 41 00.9**	**+1.4**
	baz=191						
JYNG	**Yonagunijimaku**	**0.61**	**133**	P	**Pn**	**08 40 45.7**	**-0.2**
JYNG				S	**Sn**	**08 40 59.9**	**0.0**
TWC	**Suao**	**0.61**	**245**	P	**Pn**	**08 40 47.7**	**+1.8**
	baz=242						
TWC				S	**Sn**	**08 40 57.9**	**-2.1**
	baz=242						
NWF	**Wu-fen Shan**	**0.65**	**288**	*i* P	**Pn**	**08 40 46.3**	**0.0**
	baz=287						
NWF				S	**Sn**	**08 40 59.9**	**-0.6**
	baz=287						
WFSB	**Wu-fen Shan**	**0.65**	**288**	P	**Pn**	**08 40 45.9**	**-0.3**
	baz=287						
WFSB				S	**Sn**	**08 41 00.4**	**0.0**
	baz=287						
YOJ	**Yonaguni jima**	**0.65**	**129**	P	**Pn**	**08 40 45.9**	**-0.3**
YOJ	**Yonaguni jima**	**0.65**	**129**	P	**Pn**	**08 40 45.9**	**-0.3**
	baz=129						
YOJ				S	**Sn**	**08 41 00.3**	**-0.1**
	baz=129						
NDS	**Dongshan**	**0.71**	**251**	P	**Pn**	**08 40 47.4**	**+0.7**
	baz=249						
TWE	**Neicheng**	**0.73**	**258**	*i* P	**Pn**	**08 40 47.1**	**+0.2**
	baz=256						
TWE				S	**Sn**	**08 41 01.0**	**-0.6**
	baz=256						
EWUT	**Wuta**	**0.75**	**236**	*e*P	**Pn**	**08 40 47.2**	**+0.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=234						
EWUT				S	Sn	08 41 01.9	+0.1
	baz=234						
EOS4	**EOS4**	**0.76**	**190**	P	**Pn**	**08 40 46.6**	**0.0**
	baz=188						
EOS4				S	**Sn**	**08 41 02.0**	**+0.7**
	baz=188						
ENA	**Nanau**	**0.79**	**236**	*i* S	**Sn**	**08 41 02.5**	**+0.1**
	baz=234						
FUSB	**Fushanzhiwuyua**	**0.80**	**262**	*i* P	**Pn**	**08 40 47.2**	**-0.2**
	baz=261						
FUSB				S	**Sn**	**08 41 01.3**	**-1.4**
	baz=261						
PCYT	**Pengchaiyu**	**0.83**	**335**	*e*P	**Pn**	**08 40 48.4**	**+0.7**
	baz=335						
ENTT	**Nioudou**	**0.84**	**254**	*i* P	**Pn**	**08 40 47.9**	**+0.1**
	baz=252						
ENTT				S	**Sn**	**08 41 03.4**	**+0.2**
	baz=252						
YM08	**YM08**	**0.85**	**292**	*e*P	**Pn**	**08 40 48.5**	**+0.7**
	baz=291						
YM08				S	**Sn**	**08 41 02.8**	**-0.6**
	baz=291						
YM01	**YM01**	**0.85**	**289**	P	**Pn**	**08 40 48.2**	**+0.3**
	baz=288						
YM01				S	**Sn**	**08 41 03.6**	**+0.1**
	baz=288						
NWLT	**Wulai**	**0.87**	**264**	*e*P	**Pn**	**08 40 47.7**	**-0.3**
	baz=262						
NWLT				*e*S	**Sn**	**08 41 03.8**	**0.0**
	baz=262						
NDT	**Datong Townshi**	**0.90**	**253**	P	**Pn**	**08 40 49.2**	**+0.9**
	baz=251						
NDT				S	**Sn**	**08 41 05.1**	**+0.9**
	baz=251						
LATG	**Datong**	**0.91**	**249**	P	**Pn**	**08 40 48.9**	**+0.4**
	baz=247						
LATG				S	**Sn**	**08 41 04.8**	**+0.3**
	baz=247						
NTST	**Danshui**	**0.96**	**288**	*e*P	**Pn**	**08 40 49.0**	**+0.2**
	baz=287						
TWS1	**Kuangyinshan**	**0.97**	**284**	P	**Pn**	**08 40 49.0**	**+0.1**
	baz=283						
YHNB	**Yeheng**	**1.00**	**259**	P	**Pn**	**08 40 49.3**	**-0.1**
	baz=257						
YHNB				S	**Sn**	**08 41 05.7**	**-0.4**
	baz=257						
NSK	**Sanguang**	**1.02**	**259**	*i* P	**Pn**	**08 40 49.6**	**+0.1**
	baz=258						
NSK				S	**Sn**	**08 41 05.7**	**-0.6**
	baz=258						
NACB	**Ninganchiao**	**1.05**	**229**	P	**Pn**	**08 40 49.4**	**-0.4**
	baz=227						
NACB				S	**Sn**	**08 41 05.9**	**-0.9**
	baz=227						
NNSB	**Datong**	**1.07**	**246**	*e*P	**Pn**	**08 40 50.7**	**+0.6**
	baz=244						
NNSB				*e*S	**Sn**	**08 41 07.1**	**-0.3**
	baz=244						
NNS	**Nan Shan**	**1.08**	**247**	P	**Pn**	**08 40 50.5**	**+0.3**
	baz=245						
NNS				S	**Sn**	**08 41 06.9**	**-0.6**
	baz=245						
ETLH	**Xiulin Townshi**	**1.11**	**233**	*e*P	**Pn**	**08 40 50.6**	**+0.2**
	baz=232						
ETLH				*e*S	**Sn**	**08 41 07.6**	**-0.4**
	baz=232						
TWD	**Chiawan**	**1.11**	**225**	*e*P	**Pn**	**08 40 49.4**	**-1.0**
	baz=223						
TWD				S	**Sn**	**08 41 07.0**	**-0.9**
	baz=223						
NCUH	**Zhongli**	**1.16**	**275**	*e*P	**Pn**	**08 40 50.4**	**-0.5**
	baz=274						
NCUH				*e*S	**Sn**	**08 41 08.8**	**0.0**
	baz=274						
HWA	**Hwalien**	**1.18**	**221**	*e*P	**Pn**	**08 40 52.5**	**+1.4**
	baz=220						
HWA				*e*S	**Sn**	**08 41 10.0**	**+0.9**
	baz=220						
NFF	**Wufeng Townshi**	**1.24**	**259**	*e*P	**Pn**	**08 40 51.9**	**+0.1**
	baz=258						
NFF				*e*S	**Sn**	**08 41 10.0**	**-0.4**
	baz=258						
LXIB	**Xiulin Townshi**	**1.27**	**229**	*e*P	**Pn**	**08 40 51.6**	**-0.7**
	baz=227						
LXIB				*e*S	**Sn**	**08 41 09.7**	**-1.5**
	baz=227						
WHF	**Hehuan Shan**	**1.31**	**237**	*e*P	**Pn**	**08 40 54.0**	**+1.1**
	baz=235						
WHF				S	**Sn**	**08 41 11.3**	**-1.0**
	baz=235						
TWT	**Tachien**	**1.32**	**242**	*e*S	**Sn**	**08 41 12.8**	**+0.6**
	baz=241						
LIOB	**Emei**	**1.33**	**261**	*e*P	**Pn**	**08 40 52.5**	**-0.2**
	baz=259						
TDCB	**Techi**	**1.33**	**243**	*e*P	**Pn**	**08 40 53.2**	**+0.2**
	baz=241						
TDCB				*e*S	**Sn**	**08 41 11.8**	**-0.6**
	baz=241						
NSTT	**Nanjuang**	**1.35**	**260**	P	**Pn**	**08 40 52.8**	**-0.2**
	baz=259						
NSTT				S	**Sn**	**08 41 12.0**	**-0.4**
	baz=259						
ESL	**Shilin**	**1.41**	**222**	*e*S	**Sn**	**08 41 12.2**	**-1.4**
	baz=220						
CHGB	**Renai**	**1.42**	**236**	*e*P	**Pn**	**08 40 53.9**	**-0.2**
	baz=234						
CHGB				*e*S	**Sn**	**08 41 13.3**	**-0.9**
	baz=234						
HATJ	**Hateruma jima**	**1.47**	**123**	P	**Pn**	**08 40 54.8**	**+0.4**
HATJ				S	**Sn**	**08 41 15.2**	**+0.3**
OWD	**Renai**	**1.48**	**232**	*e*P	**Pn**	**08 40 56.8**	**+2.1**
	baz=231						
OWD				*e*S	**Sn**	**08 41 14.5**	**-0.9**
	baz=231						
WHP	**Taichung City**	**1.50**	**247**	P	**Pn**	**08 40 55.2**	**+0.5**
	baz=246						
WHP				S	**Sn**	**08 41 15.6**	**0.0**
	baz=246						
WUSB	**Renai**	**1.50**	**235**	*e*P	**Pn**	**08 40 55.1**	**+0.3**
	baz=233						
WUSB				*e*S	**Sn**	**08 41 14.9**	**-0.9**
	baz=233						
WARBT	**Fenglin Townsh**	**1.51**	**221**	*e*P	**Pn**	**08 40 53.6**	**-1.2**
	baz=219						
EGFH	**Guangfu**	**1.52**	**218**	*e*S	**Sn**	**08 41 14.8**	**-1.2**
	baz=217						
JKRS	**Kuro-shima**	**1.55**	**114**	P	**Pn**	**08 40 55.5**	**+0.3**
JKRS				S	**Sn**	**08 41 16.3**	**-0.2**
JIJ	**Ishigaki jima**	**1.61**	**108**	P	**Pn**	**08 40 55.9**	**-0.1**
JIJ				*e*S	**Sn**	**08 41 16.9**	**-1.0**
VWDT	**VWDT**	**1.64**	**227**	*e*P	**Pn**	**08 40 56.8**	**+0.5**
	baz=226						
HGSD	**Ruisui**	**1.67**	**215**	*e*P	**Pn**	**08 40 56.7**	**0.0**
	baz=214						
HGSD				*e*S	**Sn**	**08 41 17.9**	**-1.2**
	baz=214						
JISG	**Ishigakijimahi**	**1.71**	**99**	P	**Pn**	**08 40 57.3**	**+0.2**
JISG				S	**Sn**	**08 41 19.9**	**0.0**
EHY	**Hungye**	**1.71**	**218**	*e*P	**Pn**	**08 40 58.6**	**+1.4**
	baz=216						
SMLT	**Sun Moon Lake**	**1.73**	**236**	P	**Pn**	**08 40 58.5**	**+1.0**
	baz=234						
SMLT				S	**Sn**	**08 41 21.9**	**+1.4**
	baz=234						
SSLB	**Suanglung**	**1.75**	**232**	*e*P	**Pn**	**08 40 58.7**	**+1.1**
	baz=231						
TYC	**Yuchr**	**1.75**	**237**	*e*P	**Pn**	**08 40 58.6**	**+1.0**
	baz=235						
TYC				*e*S	**Sn**	**08 41 22.4**	**+1.6**
	baz=235						
YULB	**Yu-li**	**1.81**	**216**	*e*P	**Pn**	**08 40 57.3**	**-1.2**
	baz=215						
WHYT	**Xinyi Township**	**1.88**	**232**	*e*P	**Pn**	**08 41 00.3**	**+1.1**
	baz=230						
JTJ	**Tarama**	**2.05**	**96**	P	**Pn**	**08 41 01.9**	**+0.5**
JTJ				S	**Sn**	**08 41 26.6**	**-0.8**
CHN5	**Tsauling**	**2.06**	**232**	*e*P	**Pn**	**08 41 01.9**	**+0.3**
	baz=231						
CHN5				*e*S	**Sn**	**08 41 27.3**	**-0.5**
	baz=231						

IDC 07 08:44:39.6±3.5**, 54°.51N×86°.97E, h0**km**, mbtmp3.1**/2**, ML2.6**/2**, Error ellipse: s-maj=31.9km s-min=22.0km az=44.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**247**	I	I	08 51 50.0	
	baz=67,slow=342,SNR=9.2						
ZALV	**Zalesovo Beam**	**1.38**	**247**	Pg	Pg	08 45 04.0	-2.0
	0.3nm,0.3s,baz=63,slow=18,SNR=5.7						
ZALV				Lg	Lg	08 45 24.2	
	0.9nm,0.3s,baz=73,slow=30,SNR=7.7						
KURBB	**Kurchatov Arra**	**6.45**	**236**	Pn	Pn	08 46 16.1	+0.4
	0.2nm,0.3s,baz=51,slow=14,SNR=6.0						
	1.6nm,0.2s						
MKAR	**Makanchi Array**	**8.27**	**203**	Pn	Pn	08 46 42.5	+1.7
	0.1nm,0.3s,baz=24,slow=9.9,SNR=1.8						
	0.2nm,0.4s						

IDC ***07*** *09:00:13.9±1.1, 48°.50S×105°.75E, h0km, mb3.9/6, mbtmp3.9/7, ML2.0/1, MS3.7/29, Error ellipse: s-maj=48.7km s-min=19.2km az=109.0*
GCMT ***07*** *09:00:18.0±0.4, 48°.38S±0°.02×104°.95E±0°.04, h15km±2km, MW4.8/62, Moment Tensor Solution. s24,c28; s62,c88; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.04±.09; Mθθ-0.94±.08; Mϕϕ0.97±.09; Mrθ0.65±.31; Mθϕ-1.04±.07; Mϕr0.63±.29; Best double couple: M0 1.65600×10^16 NP1:ϕs200.00000°,δ82.00000°,λ-29.00000°. NP2: ϕs294.00000°,δ62.00000°,λ-171.00000°. Principal axes: T 1.5050, Plg14.0000°, Azm250.0000°; N 0.3010, Plg60.0000°, Azm5.0000°; P -1.8070, Plg26.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 07 09:00:15.2±1.0**, 48°.5S**±0°.1×**105°.8E**±0°.3**, h10**km**, n36, σ0.77**/12**, mb3.9**/6**, MS3.8**/28**, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**14.92**	**27**	T	T	09 19 12.0	
	baz=202,slow=74,SNR=49						
H01W1	**Cape Leeuwin H**	**14.93**	**27**	T	T	09 19 11.4	
	baz=202,slow=74,SNR=47						
H01W3	**Cape Leeuwin H**	**14.94**	**27**	T	T	09 19 12.4	
	baz=202,slow=74,SNR=48						
NWAO	**Narrogin (SRO)**	**17.76**	**33**	P	**P**	**09 04 22.5**	**-0.8**
	0.2nm,0.3s,baz=170,slow=12,SNR=1.1						
NWAO				LR	LR	09 09 08.5	
	comp=Z,88nm,21.2s,baz=311,slow=30						
	2.8nm,0.6s						
MAW	**Mawson**	**28.81**	**213**	LR	LR	09 15 24.6	
	comp=Z,82nm,19.3s,baz=110,slow=32						
STKA	**Stephens Creek**	**31.61**	**72**	LR	LR	09 17 00.3	
	comp=Z,288nm,21.8s,baz=206,slow=32						
ASAR	**Alice Springs**	**33.26**	**52**	P	**P**	**09 06 53.2**	**+0.5**
	0.8nm,0.7s,baz=213,slow=8.2,SNR=9.3						
ASAR				PcP	**PcP**	**09 09 36.1**	**+1.2**
	0.6nm,0.8s,baz=205,slow=3.6,SNR=2.6						
ASAR				LR	LR	09 18 49.6	
	comp=Z,144nm,19.7s,baz=215,slow=34						
	0.8nm,0.7s						
VNDA	**Vanda**	**35.93**	**162**	P	**P**	**09 07 15.2**	**0.0**
	1.4nm,0.9s,baz=275,slow=8.6,SNR=6.9						
VNDA				LR	LR	09 21 04.7	
	comp=Z,269nm,18.4s,baz=302,slow=35						
	1.4nm,0.9s						
WRA	**Warramunga Arr**	**36.58**	**49**	P	**P**	**09 07 21.9**	**+0.5**
	0.6nm,0.8s,baz=211,slow=9.3,SNR=4.2						
WRA				PcP	**PcP**	**09 09 45.4**	**+0.8**
	0.6nm,0.9s,baz=226,slow=2.9,SNR=2.7						
	0.6nm,0.8s						
LEM	**Lembang**	**41.55**	**3**	LR	LR	09 21 16.2	
	comp=Z,99nm,21.7s,baz=166,slow=30						
QSPA	**South Pole Qui**	**41.64**	**180**	P	**P**	**09 08 03.1**	**-0.3**
	2.3nm,0.8s,baz=316,slow=6.3,SNR=4.5						
QSPA				LR	LR	09 24 17.4	
	comp=Z,207nm,19.4s,baz=320,slow=35						
	2.3nm,0.8s						
CTA	**Charters Tower**	**43.04**	**63**	LR	LR	09 25 43.9	
	comp=Z,166nm,18.4s,baz=256,slow=36						
RPZ	**Rata Peaks**	**44.24**	**109**	LR	LR	09 23 50.7	
	comp=Z,102nm,18.3s,baz=272,slow=32						
KAPI	**Kappang**	**44.93**	**20**	LR	LR	09 26 38.3	
	comp=Z,27nm,18.4s,baz=194,slow=35						
SNAA	**Sanae**	**50.13**	**203**	P	**P**	**09 09 10.4**	**+0.2**
	3.0nm,0.8s,baz=148,slow=12,SNR=5.7						
SNAA				LR	LR	09 27 59.5	
	comp=Z,86nm,20.4s,baz=102,slow=33						
	3.0nm,0.8s						
URZ	**Urewera**	**51.05**	**107**	LR	LR	09 27 35.8	
	comp=Z,61nm,19.4s,baz=314,slow=32						
PMG	**Port Moresby**	**52.11**	**56**	LR	LR	09 30 56.6	
	comp=Z,68nm,18.4s,baz=188,slow=35						
DZM	**Mont Dzumac**	**54.42**	**84**	LR	LR	09 31 10.7	
	comp=Z,50nm,18.7s,baz=210,slow=34						
DAV	**Davao City (W)**	**57.99**	**23**	LR	LR	09 37 15.5	
	comp=Z,19nm,18.2s,baz=193,slow=38						
PALK	**Pallekele**	**59.77**	**331**	LR	LR	09 30 19.2	
	comp=Z,116nm,19.6s,baz=255,slow=30						
BOSA	**Boshof**	**63.16**	**256**	LR	LR	09 31 34.2	
	comp=Z,76nm,19.9s,baz=198,slow=30						
SUR	**Sutherland**	**63.46**	**250**	LR	LR	09 32 40.8	
	comp=Z,16nm,21.2s,baz=180,slow=31						
LBTB	**Lobatse**	**65.40**	**260**	LR	LR	09 33 17.9	
	comp=Z,71nm,20.4s,baz=164,slow=30						
PMSA	**Palmer Station**	**66.79**	**185**	LR	LR	09 42 39.6	
	comp=Z,111nm,18.5s,baz=252,slow=38						
CMAR	**Chiang Mai Arr**	**66.94**	**353**	P	**P**	**09 11 07.4**	**-0.3**
	0.6nm,0.3s,baz=191,slow=4.3,SNR=1.7						
CMAR				LR	LR	09 39 00.4	
	comp=Z,23nm,18.5s,baz=175,slow=35						
	0.6nm,0.3s						
LSZ	**Lusaka**	**70.56**	**269**	LR	LR	09 36 44.2	
	comp=Z,62nm,19.9s,baz=182,slow=31						
TSUM	**Tsumeb**	**74.73**	**258**	LR	LR	09 39 56.3	
	comp=Z,78nm,18.3s,baz=152,slow=32						
KMBO	**Kilima Mbogo**	**75.08**	**286**	LR	LR	09 37 51.3	
	comp=Z,36nm,20.0s,baz=88,slow=30						
JNU	**Nakatsue**	**84.28**	**21**	LR	LR	09 48 37.4	
	comp=Z,16nm,21.0s,baz=323,slow=34						
PLCA	**Paso Flores**	**91.09**	**183**	LR	LR	09 53 20.4	
	comp=Z,82nm,18.2s,baz=196,slow=35						
AAK	**Ala-Archa**	**94.86**	**337**	LR	LR	09 52 21.2	
	comp=Z,50nm,18.4s,baz=232,slow=33						
MKAR	**Makanchi Array**	**97.10**	**344**	LR	LR	09 57 45.0	
	comp=Z,26nm,18.2s,baz=150,slow=36						
KLR	**Kul'dur**	**99.89**	**17**	LR	LR	10 00 31.9	
	comp=Z,9.9nm,19.8s,baz=183,slow=36						
NVAR	**Mina Array Bea**	**146.84**	**91**	PKPbc	**PKPab**	**09 19 57.6**	**-1.2**
	0.6nm,0.8s,baz=235,slow=3.2,SNR=2.8						
TXAR	**Lajitas Array**	**150.39**	**120**	PKPbc	**PKiKP**	**09 20 07.0**	**-0.6**
	0.5nm,0.8s,baz=207,slow=1.0,SNR=3.5						
YKA	**Yellowknife Ar**	**153.69**	**43**	PKPbc	**PKiKP**	**09 20 13.5**	**+0.4**
	0.4nm,0.8s,baz=291,slow=2.2,SNR=1.6						

IDC 07 09:20:48.3±3.2**, 54°.19N×87°.27E, h0**km**, mbtmp3.0**/2**, ML2.5**/2**, Error ellipse: s-maj=26.9km s-min=18.5km az=56.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**261**	I	I	09 28 40.0	
	0.1nm,0.9s,baz=80,slow=343,SNR=33						
ZALV	**Zalesovo Beam**	**1.46**	**261**	Pg	Pn	09 21 14.1	-1.8
	1.4nm,0.3s,baz=82,slow=16,SNR=17						
ZALV				Lg	Lg	09 21 35.1	
	2.9nm,0.3s,baz=78,slow=28,SNR=18						
KURBB	**Kurchatov Arra**	**6.43**	**240**	Pn	Pn	09 22 25.0	+0.9
	0.1nm,0.3s,baz=57,slow=14,SNR=2.9						
KURBB				Lg	Lg	09 24 12.3	
	0.1nm,0.3s,baz=58,slow=30,SNR=3.5						
	0.8nm,0.2s						
MKAR	**Makanchi Array**	**8.06**	**205**	Pn	Pn	09 22 47.9	+1.4
	0.1nm,0.3s,baz=28,slow=18,SNR=2.0						
	0.1nm,0.3s						

IDC 07 09:25:20.4±2.6**, 54°.28N×86°.08E, h0**km**, mbtmp3.2**/2**, ML2.9**/2**, Error ellipse: s-maj=19.3km s-min=11.8km az=52.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.81**	**247**	I	I	09 30 10.0	
	baz=66,slow=341,SNR=9.7						
ZALV	**Zalesovo Beam**	**0.81**	**247**	Pg	Pg	09 25 34.9	-1.1
	1.3nm,0.3s,baz=66,slow=16,SNR=12						
ZALV				Lg	Lg	09 25 48.2	
	4.4nm,0.3s,baz=65,slow=28,SNR=9.5						
KURBB	**Kurchatov Arra**	**5.89**	**235**	Pn	Pn	09 26 49.5	+0.6
	0.2nm,0.3s,baz=53,slow=14,SNR=4.3						
KURBB				Lg	Lg	09 28 26.7	
	0.1nm,0.3s,baz=50,slow=33,SNR=2.1						
	0.8nm,0.2s						
MKAR	**Makanchi Array**	**7.87**	**199**	Pn	Pn	09 27 17.3	+1.2
	0.3nm,0.3s,baz=18,slow=11,SNR=8.4						
	0.5nm,0.3s						

ISC 07 09:29:39.1±1.1**, 49°.14N**±0°.06×**18°.84E**±0°.03**, h10**km**, n5, σ0.58**/9**, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.41**	**88**	*e*PG	**Pg**	**09 29 46.5**	**-0.7**
LANS				*e*SG	**Sg**	**09 29 52.4**	**-0.2**
VYHS	**Vyhne**	**0.64**	**180**	*e*PG	**Pg**	**09 29 51.2**	**-0.4**
JAVC	**Velka Javorina**	**0.82**	**251**	*e*PG	**Pb**	**09 29 55.8**	**+0.3**
JAVC				*e*SG	**Sn**	**09 30 09.1**	**+0.1**
MORC	**Moravsky Berou**	**1.06**	**308**	*e*PG	**Pg**	**09 29 59.3**	**-0.3**
MORC				*e*SG	**Sg**	**09 30 13.2**	**-0.2**
STHS	**Stebnicka Huta**	**1.60**	**79**	*e*PN	**Pb**	**09 30 08.9**	**+0.2**
STHS				*e*SN	**Sg**	**09 30 31.5**	**+1.1**

IDC 07 09:46:44.9±3.2**, 53°.52N×87°.66E, h0**km**, mbtmp3.4**/2**, ML2.8**/2**, Error ellipse: s-maj=29.9km s-min=15.5km az=58.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.74**	**285**	I	I	09 56 30.0	
	0.1nm,0.9s,baz=102,slow=343,SNR=19						
ZALV	**Zalesovo Beam**	**1.74**	**285**	Pg	Pn	09 47 15.7	-0.6
	1.4nm,0.3s,baz=102,slow=17,SNR=15						
ZALV				Lg	Lg	09 47 40.6	
	2.8nm,0.3s,baz=106,slow=28,SNR=13						
KURBB	**Kurchatov Arra**	**6.33**	**246**	Pn	Pn	09 48 20.1	+0.7
	0.2nm,0.3s,baz=64,slow=13,SNR=2.4						
KURBB				Lg	Lg	09 50 02.8	
	0.2nm,0.3s,baz=63,slow=32,SNR=9.7						
	1.8nm,0.2s						
MKAR	**Makanchi Array**	**7.56**	**209**	Pn	Pn	09 48 37.6	+1.3
	0.2nm,0.3s,baz=26,slow=12,SNR=7.7						
MKAR				Lg	Lg	09 50 43.4	
	0.1nm,0.3s,baz=27,slow=39,SNR=7.8						
	0.6nm,0.5s						

IDC ***07*** *09:50:30.5±0.7, 70°.83N×7°.53W, h0km, mb3.9/12, mbtmp3.9/15, ML3.1/2, MS3.3/13, Error ellipse: s-maj=24.0km s-min=8.4km az=20.0*
NAO ***07*** *09:50:32.8±2.9, 70°.88N×7°.00W, h23km±42km, ML3.9*
NEIC ***07*** *09:50:33.6±0.9, 70°.9N±0°.1×6°.8W±0°.2, h10km±2km, mb4.1/11, Error ellipse: s-maj=18.3km s-min=13.6km az=185.0*
BER ***07*** *09:50:34.5±3.7, 71°.01N×7°.01W, h10km, mb(Pn)4.1, ML3.9, ML3.9(NAO), Confirmed Earthquake*
REY ***07*** *09:50:37.7, 70°.68N×8°.39W, h10km*
DNK ***07*** *09:50:37.6±2.6, 71°.29N×7°.68W, h0km±69km, ML1.8*
ISC 07 09:50:31.6±0.5**, 71°.00N**±0°.05×**6°.71W**±0°.04**, h9**km**, n103, σ3.08**/118**, mb4.0**/19**, MS3.2**/11**, 1C, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.52**	**269**	⇑*i*P	**Pg**	**09 50 42.2**	**+0.5**
JNE				*e*S	**Sg**	**09 50 47.2**	**-1.3**
JNE				IAML		09 50 50.0	
	comp=Z,4μm,0.5s						
JMIC	**Jan Mayen**	**0.59**	**269**	*i* P	**Pg**	**09 50 43.0**	**+0.1**
JMIC				*e*S	**Sg**	**09 50 50.3**	**-0.4**
JMIC				IAML		09 50 50.7	
	comp=Z,13μm,0.5s						
JMIC	**Jan Mayen**	**0.59**	**269**	LR	LR	09 50 20.9	
	comp=Z,201nm,21.1s,baz=52,slow=27						
JMIC				Pn	**Pg**	**09 50 43.1**	**+0.1**
	comp=Z,479nm,0.3s,baz=164,slow=18,SNR=162						
JMIC				Sn	**Sg**	**09 50 49.8**	**-0.9**
	comp=Z,5μm,0.3s,baz=187,slow=20,SNR=78						
JMIC	**Jan Mayen**	**0.59**	**269**	Pg	**Pg**	**09 50 43.1**	**+0.1**
JMIC				Lg	Lg	09 50 50.3	
JMI	**Jan Mayen**	**0.67**	**265**	*i* P	**Pg**	**09 50 44.6**	**+0.1**
JMI				*e*S	**Sg**	**09 50 52.6**	**-0.6**
JMI				IAML		09 50 55.3	
	comp=Z,12μm,0.5s						
JMI	**Jan Mayen**	**0.67**	**265**	Pg	**Pg**	**09 50 44.5**	**+0.1**
JMI				Lg	Lg	09 50 52.3	
SCO	**Scoresbysund**	**5.07**	**271**	Pn	**Pn**	**09 51 49.9**	**+2.2**
SCO	**Scoresbysund**	**5.07**	**271**	*e*P	**Pn**	**09 51 50.3**	**+2.6**
SCO				IAML		09 53 05.0	
	comp=Z,1.6nm,0.3s						
SCO	**Scoresbysund**	**5.07**	**271**	*e*P	**Pn**	**09 51 50.3**	**+2.6**
SCO				IAML		09 53 05.0	
	comp=Z,1.6nm,0.3s						
DBG	**Daneborg**	**5.22**	**316**	*e*P	**Pn**	**09 51 48.6**	**-1.1**
DBG				*e*S	**Sn**	**09 52 42.3**	**-7.6**
DBG	**Daneborg**	**5.22**	**316**	*i* P	**Pn**	**09 51 48.5**	**-1.3**
DBG				*i* S	**Sn**	**09 52 43.8**	**-6.1**
DBG				IAML		09 52 44.5	
	comp=Z,12nm,0.3s						
DBG	**Daneborg**	**5.22**	**316**	Pn	**Pn**	**09 51 48.5**	**-1.3**
DBG				Sn	**Sn**	**09 52 42.3**	**-7.6**
ILEI	**Leirhofn**	**5.83**	**222**	P	**Pn**	**09 51 57.1**	**-0.9**
	baz=219						
ILEI				S	**Sn**	**09 52 59.1**	**-5.7**
	baz=219						
IGIL	**Gilhagi**	**6.08**	**220**	P	**Pn**	**09 52 00.4**	**-1.0**
	baz=216						
IGIL				S	**Sn**	**09 53 07.0**	**-4.0**
	baz=216						
IHED	**Heoinshofoi**	**6.28**	**223**	S	**Sn**	**09 53 10.8**	**-5.3**
	baz=220						
IDIM	**Dimmadalss**	**6.30**	**222**	P	**Pn**	**09 52 04.7**	**+0.2**
	baz=218						
IDIM				S	**Sn**	**09 53 12.5**	**-4.0**
	baz=218						
IGHA	**Grjothals**	**6.34**	**220**	P	**Pn**	**09 52 04.6**	**-0.5**
	baz=216						
IGHA				S	**Sn**	**09 53 14.3**	**-3.2**
	baz=216						
IGRS	**Grimsstaoir**	**6.41**	**217**	P	**Pn**	**09 52 05.8**	**-0.3**
	baz=213						
IGRS				S	**Sn**	**09 53 16.6**	**-2.7**
	baz=213						
IGRA	**Granastaoir**	**6.48**	**223**	S	**Sn**	**09 53 16.1**	**-4.8**
	baz=220						
ISIG	**Siglufjorour**	**6.62**	**228**	S	**Sn**	**09 53 18.4**	**-5.8**
	baz=225						
IHLA	**Hella**	**6.64**	**226**	S	**Sn**	**09 53 19.6**	**-5.3**
	baz=223						
DAG	**Danmarks Havn**	**6.66**	**336**	*e*	**Pn**	**09 52 05.9**	**-3.6**
	baz=147,slow=16						
DAG				*i* P	**Pn**	**09 52 09.0**	**-0.5**
DAG				*i* S	**Sn**	**09 53 18.8**	**-6.6**
DAG				IAML		09 53 23.9	
	comp=Z,7.1nm,0.3s						
IADA	**Aoalbol**	**6.86**	**213**	P	**Pn**	**09 52 12.0**	**-0.3**
	baz=209						
IADA				S	**Sn**	**09 53 28.6**	**-1.8**
	baz=209						
STEI	**Steigen**	**8.28**	**101**	*e*P	**Pn**	**09 52 32.2**	**+0.6**
STEI				*e*S	**Sn**	**09 53 56.8**	**-8.4**
STEI				IAML		09 54 04.2	
	comp=Z,8.4nm,0.5s						
KONS	**Konsvik**	**8.47**	**113**	Pn	**Pn**	**09 52 34.6**	**+0.3**
KONS				Sn	**Sn**	**09 54 03.6**	**-6.1**
HSPB	**Hornsund (broa**	**8.53**	**35**	*e*P	**Pn**	**09 52 37.2**	**+2.2**
HSPB				*e*		09 52 56.4	
HSPB	**Hornsund (broa**	**8.53**	**35**	Pn	**Pn**	**09 52 37.4**	**+2.4**
FAUS	**Fauske**	**8.60**	**104**	*e*P	**Pn**	**09 52 36.2**	**+0.2**
FAUS				*e*S	**Sn**	**09 54 05.7**	**-7.2**
FAUS				IAML		09 54 14.1	
	comp=Z,11nm,0.5s						
BRBA	**Barentsburg A**	**8.94**	**29**	Pn	**Pn**	**09 52 43.1**	**+2.4**
MOR8	**Moi Rana**	**9.09**	**112**	*e*P	**Pn**	**09 52 44.0**	**+1.3**
MOR8				*e*		09 54 19.9	
JETT	**Jettan, Norway**	**9.24**	**86**	Pn	**Pn**	**09 52 45.5**	**+0.6**
JETT				Sn	**Sn**	**09 54 23.1**	**-5.7**
JETT	**Jettan, Norway**	**9.24**	**86**	Pn	**Pn**	**09 52 45.5**	**+0.6**
JETT				Sn	**Sn**	**09 54 23.1**	**-5.7**
KBS	**Kingsbay**	**9.24**	**23**	Pn	**Pn**	**09 52 47.2**	**+2.4**
KBS	**Kingsbay**	**9.24**	**23**	*e*P	**Pn**	**09 52 46.5**	**+1.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	Kingsbay	9.24	23	iP	Pn	09 52 46.6	+1.8
KBS	Kingsbay	9.24	23	Pn	Pn	09 52 46.9	+2.1
SPB3	Spitsbergen Ar	9.36	30	Pn	Pn	09 52 49.7	+3.2
SPB4	Spitsbergen Ar	9.36	30	Pn	Pn	09 52 49.3	+2.8
SPA0	Spitsbergen Ar	9.36	30	Pn	Pn	09 52 49.7	+3.2
	baz=213,slow=16						
SPA0	Spitsbergen Ar	9.36	30	Pn	Pn	09 52 49.7	+3.2
	baz=213,slow=16						
SPB2	Spitsbergen Ar	9.36	30		Pn	09 52 50.1	+3.6
SPITS	Spitsbergen Ar	9.36	30	Pn	Pn	09 52 49.7	+3.2
	comp=Z,11nm,0.4s,baz=218,slow=15,SNR=68						
NSS	Namsos	9.56	124	eP	Pn	09 52 50.0	+0.8
NSS				eS	Sn	09 54 29.2	-7.3
NSS				IAML		09 54 35.3	
	comp=Z,18nm,0.6s						
HAMF	Hammerfest	9.95	78	eP	Pn	09 52 54.3	-0.1
HAMF	Hammerfest	9.95	78	Pn	Pn	09 52 54.1	-0.4
SUMG	Summit	9.98	294	Pn	Pn	09 52 56.9	+1.5
SUMG	Summit	9.98	294	iP	Pn	09 52 57.3	+2.0
SUMG				IAML		09 54 43.4	
	comp=Z,1.1nm,0.4s						
SUMG	Summit	9.98	294	iP	Pn	09 52 57.3	+2.0
SUMG				IAML		09 54 43.4	
	comp=Z,1.1nm,0.4s						
KTK1	Kautokeino	10.38	87	eP	Pn	09 53 01.3	+0.9
HEF	Hetta	10.79	89	eP	Pn	09 53 06.9	+0.9
NOR	Nord	10.88	352	Pn	Pn	09 53 08.1	+0.8
NOR				Sn	Sn	09 55 03.7	-5.2
NOR	Nord	10.88	352	iP	Pn	09 53 08.2	+0.9
NOR				e		09 55 03.1	
NOR				IAML		09 55 12.0	
	comp=Z,2.9nm,0.4s						
NOR	Nord	10.88	352	Pn	Pn	09 53 08.1	+0.8
NOR				Sn	Sn	09 55 03.7	-5.2
ARA0	ARCESS Array S	10.91	82	Pn	Pn	09 53 08.7	+1.1
	baz=282,slow=12						
ARA0	ARCESS Array S	10.91	82	Pn	Pn	09 53 08.7	+1.1
	baz=282,slow=12						
ARCES	ARCESS Array B	10.91	82	Pn	Pn	09 53 07.4	-0.2
ARCES	ARCESS Array B	10.91	82	Pn	Pn	09 53 08.5	+0.9
	comp=Z,0.2nm,0.3s,baz=292,slow=11,SNR=12						
ARCES				Sn	Sn	09 55 01.6	-8.0
	baz=230,slow=28,SNR=2.0						
ARCES				LR	LR	09 56 41.0	
	comp=Z,77nm,21.7s,baz=281,slow=33						
NOA	NORSAR Array B	12.30	135	LR	LR	09 57 50.7	
	comp=Z,103nm,18.2s,baz=265,slow=36						
HFS	Hagfors	13.68	132	Pn	Pn	09 53 47.2	+1.7
	baz=338,slow=9.3						
HFS	Hagfors	13.68	132	Pn	Pn	09 53 47.1	+1.6
	comp=Z,0.3nm,0.3s,baz=331,slow=8.5,SNR=6.2						
HFS				Sn	Sn	09 56 05.0	-12
	comp=Z,0.1nm,0.3s,baz=163,slow=37,SNR=1.3						
	comp=Z,3.0nm,0.8s						
HFS	Hagfors	13.68	132	Pn	Pn	09 53 47.2	+1.7
	baz=338,slow=9.3						
APA0	Apatity Array	14.24	84	P	Pn	09 53 52.4	-0.6
APA0	Apatity Array	14.24	84	P	Pn	09 53 52.4	-0.6
FIA0	FINESS Array S	16.07	110	P	Pn	09 54 17.6	+0.2
	baz=315,slow=14						
FIA0	FINESS Array S	16.07	110	P	Pn	09 54 17.6	+0.2
	baz=315,slow=14						
FINES	FINESS Array B	16.07	110	Pn	Pn	09 54 19.1	+1.7
FINES	FINESS Array B	16.07	110	Pn	Pn	09 54 18.8	+1.4
	comp=Z,0.3nm,0.3s,baz=318,slow=11,SNR=7.8						
FINES				Sn	Sn	09 57 03.9	-12
	comp=Z,0.1nm,0.3s,baz=269,slow=36,SNR=1.5						
	comp=Z,1.6nm,0.7s						
FRB	Frobisher Bay	23.79	284	LR	LR	10 04 47.3	
	comp=Z,143nm,21.4s,baz=132,slow=36						
RES	Resolute Bay	23.99	319	LR	LR	10 04 28.0	
	comp=Z,75nm,19.2s,baz=85,slow=35						
VRAC	Vranov	24.32	141	LR	LR	10 04 49.1	
	comp=Z,35nm,20.0s,baz=326,slow=35						
AKASG	Malin Array Be	26.13	122	P	P	09 56 06.8	+1.3
	comp=Z,0.5nm,0.5s,baz=328,slow=9.5,SNR=5.0						
	comp=Z,0.5nm,0.5s						
MLR	Muntele Rosu	30.06	131	LR	LR	10 09 21.9	
	comp=Z,225nm,18.2s,baz=314,slow=38						
ARU	Arti	30.49	84	P	P	09 56 47.0	+2.6
	comp=Z,2.7nm,0.3s,baz=313,slow=9.4,SNR=5.6						
ARU				LR	LR	10 08 28.8	
	comp=Z,69nm,18.3s,baz=98,slow=35						
	comp=Z,2.7nm,0.3s						
AKTO	Aktyubinsk	35.33	91	P	P	09 57 27.8	+1.1
	comp=Z,1.5nm,0.5s,baz=275,slow=8.8,SNR=4.1						
	comp=Z,1.5nm,0.5s						
ABKAR	Akbulak array	36.98	90	P	P	09 57 42.8	+2.0
ABKAR				IAmb	IAmb	09 57 43.9	
	comp=Z,3.2nm,1.1s						
E29M	Blow River	37.09	332	P	P	09 57 43.6	+2.1
E29M				IAmb	IAmb	09 57 50.9	
	comp=Z,5.7nm,1.4s						
BVAR	Borovoye Array	37.14	77	P	P	09 57 44.9	+2.8
	comp=Z,1.0nm,0.6s,baz=317,slow=10,SNR=5.5						
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	37.80	314	P	P	09 57 48.7	+1.1
	comp=Z,0.3nm,0.6s,baz=24,slow=8.6,SNR=9.4						
	comp=Z,0.3nm,0.6s						
G31M	Satah River	37.85	329	P	P	09 57 50.0	+2.1
BMAR	Burnt Mountain	38.94	336	P	P	09 58 00.1	+2.9
H29M	Whitestone	39.16	331	P	P	09 58 01.1	+2.1
I30M	Mount Dempster	39.76	330	P	P	09 58 05.6	+1.4
I30M				IAmb	IAmb	09 58 08.6	
	comp=Z,3.2nm,0.9s						
I28M	Miner Creek	40.12	332	P	P	09 58 09.3	+2.2
GNI	Garni	40.25	112	LR	LR	10 14 30.1	
	comp=Z,17nm,20.0s,baz=249,slow=36						
J30M	Hart River	40.35	329	P	P	09 58 11.3	+2.3
J30M				IAmb	IAmb	09 58 53.1	
	comp=Z,6.6nm,1.4s						
ZALV	Zalesovo Beam	40.80	65	P	P	09 58 15.6	+2.9
	comp=Z,0.4nm,0.4s,baz=334,slow=9.6,SNR=3.6						
ZALV				LR	LR	10 20 03.8	
	comp=Z,27nm,18.1s,baz=4.5,slow=43						
	comp=Z,0.4nm,0.4s						
K29M	Barlow Dome	41.23	329	P	P	09 58 18.0	+1.8
K29M				IAmb	IAmb	09 58 51.3	
	comp=Z,3.6nm,1.2s						
J25K	Salcha River,	41.71	335	P	P	09 58 22.5	+2.4
J25K				IAmb	IAmb	09 59 01.4	
	comp=Z,4.3nm,1.5s						
ILAR	Eielson Array	41.76	336	P	P	09 58 22.8	+2.2
	comp=Z,1.2nm,1.0s,baz=8.4,slow=6.6,SNR=9.9						
	comp=Z,1.2nm,1.0s						
K27K	Chicken	41.78	332	P	P	09 58 23.4	+2.7
KURBB	Kurchatov Arra	41.78	72	P	P	09 58 23.7	+2.9
	comp=Z,1.2nm,0.2s,baz=337,slow=7.7,SNR=4.6						
	comp=Z,1.2nm,0.2s						
M30M	Minto, Yukon	42.28	328	P	P	09 58 27.3	+2.5
M30M				IAmb	IAmb	09 58 41.4	
	comp=Z,8.8nm,1.4s						
BCAR	Beaver Creek A	42.64	332	P	P	09 58 30.4	+2.6
L27K	Beaver Creek,	42.65	332	P	P	09 58 30.4	+2.5
MMAI	Mount Meron Ar	44.23	126	LR	LR	10 18 10.2	
	comp=Z,53nm,18.9s,baz=293,slow=37						
MKAR	Makanchi Array	46.33	72	P	P	09 58 59.3	+1.9
	comp=Z,1.5nm,1.0s,baz=347,slow=5.9,SNR=4.9						
MKAR				LR	LR	10 20 29.8	
	comp=Z,25nm,20.1s,baz=322,slow=39						
	comp=Z,1.5nm,1.0s						
CHMT	Chamberlain Mo	51.39	303	P	P	09 59 37.4	+0.9
PDAR	Pinedale Array	54.15	298	P	P	09 59 57.8	+0.9
PDAR	Pinedale Array	54.15	298	P	P	09 59 54.2	-2.7
	comp=Z,0.6nm,0.6s,baz=66,slow=7.0,SNR=5.4						
	comp=Z,0.6nm,0.6s						
TORD	Torodi Ar. Bea	58.05	170	P	P	10 00 24.5	-0.3
	comp=Z,1.1nm,0.8s,baz=350,slow=8.1,SNR=6.1						
	comp=Z,1.1nm,0.8s						
NVAR	Mina Array Bea	60.65	303	LR	LR	10 27 19.2	
	comp=Z,62nm,19.8s,baz=340,slow=36						
TXAR	Lajitas Array	64.79	287	P	P	10 01 10.4	0.0
	comp=Z,0.9nm,0.7s,baz=72,slow=4.1,SNR=6.3						
	comp=Z,0.9nm,0.7s						
KSRS	Korea Array	67.10	38	LR	LR	10 34 47.7	
	comp=Z,11nm,18.5s,baz=325,slow=39						

SJA 07 09:51:17.6±0.8, 32.22S×68.49W, h124km±3km, ML3.5, MW3.5, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTCV	Cerro Valdivia	0.36	353	eP	Pn	09 51 36.2	+0.8
RTCV				eS	Sn	09 51 49.0	+0.3
ASAL	Salagasta	0.47	218	eP	Pn	09 51 36.1	+0.2
ASAL				eS	Sn	09 51 50.9	+1.2
ASAL				IAML		09 51 50.9	
	comp=Z,623nm,0.4s						
CFA	Coronel Fontan	0.65	19	eP	Pn	09 51 25.1	-12
CFA				eS	Sn	09 51 52.6	+0.9
CFA				IAML		09 51 53.1	
	comp=Z,980nm,0.2s						
ZON	Zonda	0.69	347	eP	Pn	09 51 25.2	-12
ZON				eS	Sn	09 51 53.0	+0.7
ZON				IAML		09 51 53.4	
	comp=Z,607nm,0.2s						
ARCO	CERRO ARCO	0.72	211	eP	Pn	09 51 38.6	+1.0
ARCO				eS	Sn	09 51 53.9	+1.0
ARCO				IAML		09 51 54.0	
	comp=Z,1μm,0.2s						
AUSP	Uspallata	0.76	270	eP	Pn	09 51 35.0	-3.1
AUSP				eS	Sn	09 51 38.9	-15
RTLS	Leoncito	0.81	301	eP	Pn	09 51 30.9	-7.7
RTLS				eS	Sn	09 51 39.5	-15
RTLL	Cerro Villicun	0.89	1	eP	Pn	09 51 23.8	-15
RTLL				eS	Sn	09 51 40.0	-15
RTLL				IAML		09 51 40.3	
	comp=Z,736nm,0.4s						
AAGR	Agrelo	0.91	198	eP	Pn	09 51 40.4	+1.2
AAGR				eS	Sn	09 51 56.1	+0.5
AAGR				IAML		09 51 59.8	
	comp=Z,558nm,0.2s						
AVFE	Valle Fertil	1.79	30	eS	Sn	09 52 14.6	+2.0
ACHE	Chepes	1.88	56	eP	Pn	09 51 50.9	+0.9
ACHE				eS	Sn	09 52 16.1	+1.4
PEL	Peldehue	2.07	243	eP	Pn	09 51 54.3	+2.2
PEL				eS	Sn	09 52 21.8	+3.3
ACDV	Cuesta del Vie	2.12	345	eP	Pn	09 51 54.8	+1.9
ACDV				eS	Sn	09 52 22.1	+2.3
ACDV				IAML		09 52 22.8	
	comp=Z,118nm,0.4s						
AROD	Rodeo	2.22	337	eS	Sn	09 52 24.0	+1.7
ROC1	El Roble	2.26	250	eP	Pn	09 51 55.2	+0.5
ROC1				eS	Sn	09 52 23.4	+0.3
CO03	El Pedregal	2.33	306	eP	Pn	09 51 57.1	+1.7
CO03				eS	Sn	09 52 26.8	+2.3
CO02	Combarbal	2.37	295	eP	Pn	09 51 57.0	+1.0
CO02				eS	Sn	09 52 26.6	+1.2
GO04	Tololo Observa	2.84	315	eP	Pn	09 52 03.3	+1.0
GO04				eS	Sn	09 52 37.2	+0.7
ACLC	CERRO LA CRUZ	3.09	26	eP	Pn	09 52 06.3	+1.0
ACLC				eS	Sn	09 52 37.9	-4.2
ACLC				IAML		09 52 38.1	
	comp=Z,172nm,0.5s						
VCA	Vinchina	3.48	4	eP	Pn	09 52 12.3	+1.8
VCA				eS	Sn	09 52 54.1	+2.6
VCA				IAML		09 52 56.2	
	comp=Z,111nm,0.3s						
TINO	Tinogasta	4.22	11	eP	Pn	09 52 22.5	+2.2
GO03	Copiap	4.86	341	eP	Pn	09 52 29.7	+0.9
GO03				eS	Sn	09 53 22.7	-1.4
AHML	Horco Molle	6.08	28	eP	Pn	09 52 44.7	-0.5
AHML				IAML		09 54 37.1	
	comp=Z,6.6nm,2.5s						
FSA	Cafayete	6.47	20	eP	Pn	09 52 51.6	+0.9

SJA 07 10:06:41.6±0.7, 33.54S×72.25W, h16km±4km, ML3.9, MW4.0
IDC 07 10:06:42.1±1.1, 33.53S×71.82W, h0km, mb3.9/5, mbtmp3.8/6, ML3.7/1, MS3.2/4, Error ellipse: s-maj=48.1km s-min=24.1km az=96.0
NEIC 07 10:06:43.3±1.8, 33.51S±0.04×72.20W±0.06, h11km±9km, mb4.1/3, Error ellipse: s-maj=8.4km s-min=4.6km az=116.0
GUC 07 10:06:45.4±0.7, 33.53S×72.08W, h18km±5km, ML3.6
ISC 07 10:06:44.0±1.2, 33.51S±0.02×72.07W±0.04, h17km±8km, n86, σ1.60/101, mb4.1/10, 6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VA05	Santo Domingo	0.40	111		Pn	10 06 54.0	-1.1
VA05	Santo Domingo	0.40	111	⇓iP	Pn	10 06 54.1	-1.0
VA05				eS	Sn	10 07 00.2	-2.0
VA05				IAML		10 07 06.2	
	comp=E,10μm,0.5s						
VA01	Torpederas	0.60	36		Pn	10 06 57.0	-0.7
VA01	Torpederas	0.60	36	eP	Pb	10 06 56.3	+0.2
VA01				IAML		10 07 08.3	
	comp=Z,3μm,0.3s						
VA01	Torpederas	0.60	36	eP	Pn	10 06 57.1	-0.7
VA01				eS	Sn	10 07 06.2	-0.9
VA01				IAML		10 07 08.1	
	comp=E,8μm,0.1s						
MT01	Popeta	0.77	118		Pn	10 06 59.7	-0.3
MT01	Popeta	0.77	118	eP	Pg	10 06 58.8	-0.2
MT01				eS	Sn	10 07 11.9	+0.7
MT01				IAML		10 07 12.4	
	comp=Z,3μm,0.7s						
MT01	Popeta	0.77	118	⇓iP	Pn	10 06 59.8	-0.3
MT01				eS	Sn	10 07 10.5	-0.7
MT01				IAML		10 07 12.2	
	comp=N,4μm,0.1s						
MT02	Curacav	0.82	72		Pn	10 07 00.8	+0.1
MT02	Curacav	0.82	72	eP	Pn	10 07 00.0	-0.8
MT02				IAML		10 07 12.7	
	comp=Z,2μm,0.7s						
MT02				eS	Sn	10 07 12.9	+0.4
MT02	Curacav	0.82	72	⇓iP	Pn	10 07 00.9	+0.1
MT02				eS	Sn	10 07 11.8	-0.7
MT02				IAML		10 07 14.1	
	comp=E,2μm,0.4s						
MT09	Talagante	0.94	107		Pn	10 07 02.5	0.0
MT09	Talagante	0.94	107	⇓iP	Pn	10 07 02.5	0.0
MT09				eS	Sn	10 07 16.0	+0.4
MT09				IAML		10 07 18.6	
	comp=N,4μm,0.4s						
BO03	Pichilemu	0.98	175	eP	Pn	10 07 02.8	-0.2
BO03				eS	Sn	10 07 16.4	-0.2
BO03				IAML		10 07 18.9	
	comp=N,3μm,0.4s						
ROC1	El Roble	1.03	59		Pg	10 07 04.5	+0.4
ROCH	El Roble	1.04	59	eP	Pg	10 07 04.3	+0.1
ROCH				eP	Pg	10 07 04.3	+0.1
ROCH				eS	Sn	10 07 19.3	+1.1
ROCH				eS	Sg	10 07 19.5	+1.7
ROCH				IAML		10 07 21.4	
	comp=E,3μm,0.6s						
ROCH				IAML		10 07 24.6	
	comp=N,4μm,0.4s						
MT05	Renca	1.12	84	Pn	Pg	10 07 05.9	+0.2
MT05	Renca	1.12	84	eP	Pg	10 07 05.9	+0.2
MT05				IAML		10 07 30.3	
	comp=Z,947nm,0.8s						
MT05	Renca	1.12	84	⇓iP	Pg	10 07 05.9	+0.2
MT05				eS	Sg	10 07 20.7	+0.4
MT05				IAML		10 07 26.4	
	comp=E,3μm,0.4s						
BO01	Tunca	1.20	137	Pn	Pg	10 07 06.2	-1.0
BO01	Tunca	1.20	137	eP	Pg	10 07 06.2	-1.0
BO01				eS	Sg	10 07 23.4	+0.5
BO01				IAML		10 07 23.5	
	comp=Z,996nm,0.5s						
BO01	Tunca	1.20	137	eP	Pg	10 07 06.2	-1.0
BO01				eS	Sg	10 07 22.8	-0.1
BO01				IAML		10 07 31.4	
	comp=N,1μm,0.3s						
PEL	Peldehue	1.21	73	Pn	Pg	10 07 07.6	+0.1
PEL	Peldehue	1.21	73	⇓iP	Pg	10 07 07.5	+0.1
PEL				eS	Sg	10 07 23.8	+0.5
PEL				IAML		10 07 30.9	
	comp=E,3μm,0.4s						
MT12	Pirque	1.28	100	eP	Pg	10 07 08.2	-0.7
MT12				eS	Sg	10 07 25.4	-0.3
MT12				IAML		10 07 27.8	
	comp=N,5μm,0.4s						
MT14	Cerro Cal¡n	1.28	85	eP	Pg	10 07 08.7	-0.2
MT14				eS	Sg	10 07 25.9	+0.3
MT14				IAML		10 07 31.4	
	comp=N,2μm,0.5s						
MT03	Universidad Ad	1.30	90		Pg	10 07 08.8	-0.4
MT03	Universidad Ad	1.30	90	eP	Pg	10 07 08.8	-0.4
MT03				eS	Sg	10 07 30.6	+4.4
MT03				IAML		10 07 34.8	
	comp=Z,1μm,0.2s						
BO04	La Punta	1.30	112		Pg	10 07 08.3	-1.0
BO04	La Punta	1.30	112	eP	Pg	10 07 08.2	-1.0
BO04				eS	Sg	10 07 26.0	-0.3
BO04				IAML		10 07 28.7	
	comp=N,2μm,0.3s						
GO05	Huala	1.50	176		Pb	10 07 10.3	-1.1
GO05	Huala	1.50	176	eP	Pn	10 07 09.6	-0.6
GO05				eS	Sg	10 07 35.5	+3.1
GO05				IAML		10 07 37.2	
	comp=Z,1μm,1.0s						
MT13	San Alfonso	1.50	99		Pb	10 07 11.8	+0.2
LMEL	Las Melosas	1.59	103		Pb	10 07 13.0	-0.1
BO02	Sierra Bellavi	1.66	141		Pb	10 07 13.9	-0.4
BO02	Sierra Bellavi	1.66	141	eP	Pb	10 07 13.6	-0.7
BO02				eS	Sg	10 07 40.9	+3.2
BO02				IAML		10 07 41.8	
	comp=Z,2μm,0.5s						
MT08	Bocatoma Ro	1.71	88		Pg	10 07 15.8	-1.2
ML02	Panimavida	2.31	167		Pb	10 07 24.1	-1.1
CO02	Combarbal	2.47	22		Pn	10 07 24.3	+0.6
CO02	Combarbal	2.47	22	eP	Pn	10 07 23.6	-0.1
CO02				eS	Sb	10 07 57.4	-0.9
CO02				IAML		10 08 07.7	
	comp=Z,918nm,0.5s						
RTLS	Leoncito	2.89	55	eP	Pb	10 07 33.5	-1.9
RTLS				IAML		10 08 19.0	
	comp=Z,539nm,1.0s						
CO03	El Pedregal	2.91	24		Pn	10 07 30.3	+0.6
CO03	El Pedregal	2.91	24	eP	Pn	10 07 30.4	+0.8
CO03				eS	Sn	10 08 07.4	+3.1
CO03				IAML		10 08 20.3	
	comp=Z,390nm,0.5s						
RFA	San Rafael	3.24	114	eP	Pb	10 07 37.9	-3.3
RFA				IAML		10 08 34.5	
	comp=Z,112nm,0.8s						
ZON	Zonda	3.47	56		Pn	10 07 40.3	+3.0
GO04	Tololo Observa	3.50	18	eP	Pn	10 07 38.1	+0.2
GO04				eS	Sb	10 08 27.9	-0.1
GO04				IAML		10 08 40.9	
	comp=Z,605nm,0.5s						
DOCA	Reserva Natura	3.59	45	eP	Pn	10 07 42.0	+2.6
DOCA				IAML		10 08 41.7	
	comp=Z,256nm,0.8s						
CFA	Coronel Fontan	3.75	61	eP	Pn	10 07 43.7	+2.5
CFA				eS	Sb	10 08 36.9	+1.9
CFA	Coronel Fontan	3.75	61	LR	LR	10 09 24.9	
	comp=Z,384nm,18.2s,baz=280,slow=45						
CO01	Juntas del Tor	3.90	26	eP	Pn	10 07 39.4	-4.1
CO01				eP	Pb	10 07 44.8	-7.8
CO01				eS	Sb	10 08 39.4	-0.2
CO01				IAML		10 08 54.1	
	comp=Z,81nm,1.8s						
AROD	Rodeo	4.00	34	eP	Pn	10 07 48.3	+3.5
AROD				eS	Sg	10 08 47.9	-4.6
LCO	Las Campanas	4.64	15	Pn	Pn	10 07 53.0	-0.6
LCO	Las Campanas	4.64	15	eP	Pn	10 07 55.6	+2.0
LCO				eS	Sb	10 09 03.9	+3.2
LCO				IAML		10 09 15.5	
	comp=Z,210nm,0.8s						
AVFE	Valle Fertil	4.84	55	eP	Pn	10 07 59.8	+3.6
AVFE				eS	Sb	10 09 01.4	-4.9
AVFE				IAML		10 09 30.1	
	comp=Z,53nm,0.8s						
AC05	El Transito	4.91	19	eP	Pn	10 07 57.2	+0.1
AC05				eS	Sb	10 09 09.9	+1.5
AC05				IAML		10 09 36.0	
	comp=Z,69nm,0.9s						
H03S1	Juan Fernandez	5.71	265	T	T	10 14 05.6	
	baz=86,slow=74,SNR=692						
H03S3	Juan Fernandez	5.71	265	T	T	10 14 06.9	
	baz=86,slow=74,SNR=604						
H03N1	Juan Fernandez	5.72	269	T	T	10 14 12.5	
	baz=98,slow=75,SNR=40						
H03S2	Juan Fernandez	5.73	265	T	T	10 14 09.4	
	baz=86,slow=74,SNR=782						
H03N3	Juan Fernandez	5.73	269	T	T	10 14 12.6	
	baz=98,slow=75,SNR=38						
H03N2	Juan Fernandez	5.74	269	T	T	10 14 13.2	
	baz=98,slow=75,SNR=38						
PLCA	Paso Flores	7.31	171		Pn	10 08 32.1	+2.1
PLCA	Paso Flores	7.31	171	Pn	Pn	10 08 30.9	+0.9
	comp=Z,0.3nm,0.3s,baz=337,slow=14,SNR=12						
PLCA				Lg	Lg	10 10 25.1	
	baz=64,slow=21						
PLCA				LR	LR	10 11 24.9	
	comp=Z,141nm,19.1s,baz=312,slow=39						
	comp=Z,1.2nm,0.5s						
AC01	Pan de Azucar	7.45	10	Pn	Pn	10 08 32.4	+0.4
LVC	Limon Verde	11.21	15	LR	LR	10 14 10.1	
	comp=Z,103nm,18.6s,baz=208,slow=40						
CPUP	Villa Florida	14.64	65	LR	LR	10 15 50.6	
	comp=Z,84nm,20.2s,baz=227,slow=38						
LPAZ	La Paz	17.52	13	P	Pn	10 10 46.6	-1.5
PTLB	Pontes e Lacer	21.45	36	P	P	10 11 31.8	+0.3
PTLB				IAmb	IAmb	10 11 32.9	
	comp=Z,4.4nm,0.9s						
ETMB	Extrema	24.19	14	P	P	10 12 02.2	+2.5
ETMB				IAmb	IAmb	10 12 10.8	
	comp=Z,6.5nm,1.1s						
SAML	Samuel	25.78	21	P	P	10 12 16.6	+2.5
SAML				IAmb	IAmb	10 12 17.2	
	comp=Z,4.6nm,0.9s						
BDFB	Brasilia	28.08	57	P	P	10 12 34.1	-0.9
	comp=Z,1.8nm,0.5s,baz=210,slow=15,SNR=1.9						
	comp=Z,1.8nm,0.5s						
VNA3	Neumayer Olymp	49.82	158	P	P	10 15 25.8	-10
	comp=Z,0.6nm,0.1s						
VNA1	Neumayer--Stat	50.13	157	P	P	10 15 24.2	-14
	comp=Z,1.4nm,0.2s						
SNAA	Sanae	52.04	158	P	P	10 15 51.2	-1.1
	comp=Z,7.5nm,0.2s						
SNAA	Sanae	52.04	158	P	P	10 15 51.3	-1.1
	comp=Z,0.8nm,0.5s,baz=11,slow=1.1,SNR=9.3						
	comp=Z,0.8nm,0.5s						
TROLL	Troll, Antarti	53.75	158	P	P	10 16 10.2	+5.2
	comp=Z,42nm,0.7s						
QSPA	South Pole Qui	56.72	180	P	P	10 16 27.8	+1.2
	comp=Z,0.8nm,0.6s,baz=144,slow=1.1,SNR=4.0						
	comp=Z,0.8nm,0.6s						
NVAR	Mina Array Bea	83.47	325	P	P	10 19 11.5	+0.7
	comp=Z,0.2nm,0.6s,baz=153,slow=5.0,SNR=2.2						
	comp=Z,0.2nm,0.6s						
TORD	Torodi Ar. Bea	84.07	70	P	P	10 19 13.3	-0.8
	comp=Z,0.9nm,0.8s,baz=272,slow=5.1,SNR=4.5						
	comp=Z,0.9nm,0.8s						
H11S2	WAKE ISLAND Hy	125.75	270	T	T	12 44 37.2	
	baz=118,slow=74,SNR=3.8						
H11S1	WAKE ISLAND Hy	125.77	270	T	T	12 44 36.6	
	baz=118,slow=74,SNR=4.6						
H11S3	WAKE ISLAND Hy	125.77	270	T	T	12 44 36.7	
	baz=118,slow=74,SNR=2.7						
BVAR	Borovoye Array	146.94	42	PKPbc	PKPab	10 26 26.3	-0.2
	comp=Z,1.2nm,0.6s,baz=310,slow=3.5,SNR=5.7						
KURBB	Kurchatov Arra	152.53	43	PKPbc	PKiKP	10 26 39.9	+0.7
	comp=Z,0.5nm,0.3s,baz=316,slow=2.6,SNR=1.5						
ZALV	Zalesovo Beam	153.83	32	PKPbc	PKiKP	10 26 42.2	+0.5
	comp=Z,1.2nm,0.5s,baz=298,slow=3.2,SNR=4.8						
MKAR	Makanchi Array	156.46	48	PKPab	PKPab	10 27 07.0	+0.7
	comp=Z,0.7nm,0.6s,baz=289,slow=3.7,SNR=4.0						

IDC 07 10:10:37.8±3.9, 3.95S×152.34E, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=157.1km s-min=51.9km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.68	226	P	P	10 15 52.1	+0.7
	0.7nm,0.3s,baz=51,slow=9.7,SNR=16						
	0.7nm,0.3s						
ASAR	Alice Springs	26.48	221	P	P	10 16 16.6	-0.4
	0.2nm,0.5s,baz=55,slow=8.4,SNR=4.1						
	0.2nm,0.5s						
TORD	Torodi Ar. Bea	149.60	289	PKPbc	PKPbc	10 30 29.5	-0.9
	0.2nm,0.4s,baz=66,slow=2.6,SNR=1.8						

ISK 07 10:19:30.6, 39.54N×26.01E, h6km, ML2.7/29
AFAD 07 10:19:30.9±0.0, 39.54N×26.08E, h12km±1km, ML2.4
THE 07 10:19:31.1, 39.53N×26.04E, h6km±2km, ML2.3/5, Error ellipse: s-maj=2.1km s-min=0.7km az=141.0
ISC 07 10:19:31.1±0.8, 39.54N±0.02×26.04E±0.02, h11km±6km, n46, σ0.50/70, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOCA	Canakkale, Ayv	0.08	114	P	Pg	10 19 33.4	-0.3
GPNR	Gulpinar-Canak	0.11	138	Pg	Pg	10 19 33.8	-0.1
GPNR				Sg	Sg	10 19 36.2	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
RFT1	Sazli	0.31	90	Pg	Pg	10 19 37.7	+0.3
RFT1				Sg	Sb	10 19 42.8	-0.9
PRK	Paraskevi	0.34	148	P	Pg	10 19 37.9	0.0
PRK				S	Sg	10 19 42.9	+0.4
	1μm,0.5s						
SIGR	SIGRI	0.35	204	Pg	Pg	10 19 37.9	-0.3
SIGR				Sg	Sg	10 19 43.2	+0.3
SIGR	SIGRI	0.35	204	P	Pg	10 19 37.9	-0.3
SIGR				S	Sg	10 19 42.8	-0.1
	650nm,0.3s						
EZN	Ezine	0.36	37	Pg	Pg	10 19 38.3	-0.2
EZN				Sg	Sg	10 19 43.5	+0.2
EZN	Ezine	0.36	37	P	Pg	10 19 38.2	-0.2
EZN				S	Sg	10 19 43.4	+0.2
BAYC	CANAKKALE_Bayr	0.44	62	P	Pg	10 19 39.6	-0.3
BAYC				S	Sg	10 19 45.6	-0.2
BAYC				*i* AML	AML	10 19 46.0	
	comp=E,289nm,0.3s						
BAYC				*i* AML	AML	10 19 46.0	
	comp=N,343nm,0.1s						
ECEA	Canakkale, Ece	0.52	11	P	Pg	10 19 40.9	-0.4
ECEA				S	Sg	10 19 48.3	+0.2
ECEA				*i* AML	AML	10 19 49.0	
	comp=N,149nm,0.8s						
ECEA				*i* AML	AML	10 19 51.0	
	comp=E,241nm,0.4s						
CNKL	anakkale-Mer	0.59	27	P	Pg	10 19 42.1	-0.6
CNKL				S	Sg	10 19 49.8	-0.7
CNKL				*i* AML	AML	10 19 51.0	
	comp=N,124nm,0.5s						
CNKL				*i* AML	AML	10 19 57.0	
	comp=E,110nm,0.3s						
COMU	Canakkale	0.65	30	Pg	Pg	10 19 43.9	0.0
COMU				Sg	Sb	10 19 53.6	-0.1
GADA	Gvkgeada	0.66	351	Pg	Pg	10 19 43.8	-0.2
GADA				Sg	Sg	10 19 53.1	+0.3
LIA	Limnos Island	0.75	299	P	Pg	10 19 45.4	-0.3
LIA				S	Sb	10 19 56.9	+0.4
	248nm,0.3s						
BUHA	Balikesir, Bur	0.80	92	P	Pg	10 19 46.3	-0.3
BUHA				S	Sg	10 19 56.3	-0.8
BUHA				*i* AML	AML	10 20 00.0	
	comp=E,137nm,0.3s						
BUHA				*i* AML	AML	10 20 01.0	
	comp=N,104nm,0.4s						
DKL	Dikili	0.81	124	Pg	Pb	10 19 47.2	-0.1
CAND	Candarli	0.83	134	Pg	Pg	10 19 47.4	+0.3
CAND				Sg	Sb	10 19 59.6	+1.0
RFT7	Candarli	0.89	130	Pg	Pb	10 19 48.7	+0.1
RFT7				Sg	Sn	10 20 01.7	-0.8
CANM	Can-anakkale	0.91	58	Pg	Pb	10 19 48.9	-0.1
KARB	zmir-Karabur	0.92	162	P	Pg	10 19 48.9	+0.1
KARB				S	Sb	10 20 01.4	+0.2
KARB				*i* AML	AML	10 20 03.0	
	comp=N,150nm,0.3s						
KARB				*i* AML	AML	10 20 03.0	
	comp=E,247nm,0.2s						
GELI	Tayfur-Gelibol	0.92	21	Pg	Pg	10 19 48.5	-0.5
GELI				Sg	Sb	10 20 01.9	+0.5
FOCM	Foa	0.98	147	Pg	Pb	10 19 50.5	+0.4
LPK	Lapseki	1.00	33	Pg	Pg	10 19 50.2	-0.2
CHOS	Chios island	1.15	179	Pn	Pb	10 19 53.0	0.0
CHOS	Chios island	1.15	179	P	Pb	10 19 52.5	-0.5
CHOS				S	Sg	10 20 08.2	+0.1
	198nm,0.3s						
ERIK	Erikli-Kesan	1.19	18	Pn	Pb	10 19 52.5	-1.2
ENEZ	Enez	1.20	4	Pn	Pb	10 19 54.1	+0.2
URLA	Izmir	1.25	160	Pn	Pn	10 19 54.3	-0.2
KRBG	Karabiga-Canak	1.29	48	Pn	Pn	10 19 54.9	-0.2
STEP	BALIKESIR_Sava	1.31	96	P	Pn	10 19 55.4	0.0
STEP				S	Sb	10 20 11.7	-0.8
STEP				*i* AML	AML	10 20 18.0	
	comp=N,39nm,0.4s						
STEP				*i* AML	AML	10 20 21.0	
	comp=E,38nm,0.4s						
ALN	Alexandroupoli	1.36	0	Pn	Pb	10 19 56.7	+0.1
ALN	Alexandroupoli	1.36	0	P	Pn	10 19 55.9	-0.1
ALN				S	Sn	10 20 14.3	+0.3
	52nm,0.3s						
GONE	Gonen-Balikesi	1.37	68	Pn	Pb	10 19 57.0	+0.3
BLCB	Balcova	1.39	145	Pn	Pg	10 19 57.8	0.0
RKY	Sarkoy-Tekirda	1.44	37	Pn	Pb	10 19 58.2	+0.1
BKES	Balkesir-Mer	1.47	82	P	Pb	10 19 58.3	-0.2
BKES				S	Sn	10 20 16.7	-0.1
BKES				*i* AML	AML	10 20 20.0	
	comp=E,39nm,0.5s						
BKES				*i* AML	AML	10 20 26.0	
	comp=N,29nm,0.9s						
THAS	Thassos island	1.47	317	P	Pn	10 19 58.1	+0.5
THAS				S	Sn	10 20 16.6	-0.2
EDC	Edincik	1.62	59	Pn	Pb	10 20 00.7	-0.3
DGB	zmir	1.62	156	P	Pn	10 19 58.8	-0.7
DGB				S	Sb	10 20 21.6	+0.1
RDO	Rodhopi	1.65	347	Pn	Pn	10 20 00.3	+0.2
RDO	Rodhopi	1.65	347	P	Pn	10 20 00.4	+0.3
UKOP	Uzunkopru-Edir	1.66	16	Pn	Pn	10 20 00.5	+0.4
KDZ	Kurdzhali	2.16	346	Pn	Pn	10 20 06.9	-0.1
EDRB	Edirne	2.37	13	Pn	Pn	10 20 11.2	+1.3
ARMT	Armutlu	2.40	64	Pn	Pn	10 20 12.1	+1.8
CTKS	Kestanelik-??a	2.54	47	Pn	Pn	10 20 13.4	+1.2

*IDC **07** 10:30:30.5±3.5, 64°.66N×31°.49E, h0km, mbtmp3.2/4, ML2.1/4, Error ellipse: s-maj=50.7km s-min=11.2km az=100.0*

*HEL **07** 10:30:31.5±0.1, 64°.68N×30°.64E, h0km, ML1.8, Suspected explosion*

*KOLA **07** 10:30:32.9, 64°.66N×30°.65E, h0km, ML2.2, Error ellipse: s-maj=23.9km s-min=19.1km az=170.0, Kostomuksha, Karelia*

ISC 07 10:30:31.0±0.9**, 64°.70N**±0°.03×**30°.49E**±0°.05**, h0km, n30, σ1s.58**/45**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RMF	Romuvaara	0.54	207	PG	Pg	10 30 41.6	+0.2
	baz=30						
RMF				MSG		10 30 49.4	
	comp=Z,23nm,0.2s						
KU6	Riekki	1.35	350	PG	Pg	10 30 56.1	-0.7
	baz=162						
KU6				MSG		10 31 13.2	
	comp=Z,6.6nm,0.2s						
KU6				SG	Sg	10 31 14.3	0.0
MSF	Maaselka	1.36	334	PG	Pg	10 30 56.5	-0.4
	baz=151						
MSF				SG	Sn	10 31 15.2	-0.6
OLKF	Oulanka, Finla	1.69	345	PG	Pb	10 31 02.2	-0.7
OLKF				MSG		10 31 22.8	
	comp=Z,7.7nm,0.2s						
OLKF				SN	Sg	10 31 26.1	+1.0
NIF	Nilsia	1.77	223	PB	Pn	10 31 00.4	-2.4
JOF	Joensuu	1.83	168	PG	Pn	10 31 03.7	+0.1
JOF				SG	Sn	10 31 26.2	-1.2
OUL	Oulu	2.00	283	PG	Pg	10 31 08.5	-0.7
	baz=97						
OUL				SG	Sg	10 31 35.6	+0.7
OBF4	Vikkela, Lumij	2.31	275	PG	Pb	10 31 13.7	+0.2
	baz=92						
OBF4				MSG		10 31 41.7	
	comp=Z,5.0nm,0.2s						
OUF	Merijarvi	2.51	265	PG	Pb	10 31 16.1	-0.7
OUF				MSG		10 31 47.4	
	comp=Z,5.8nm,0.2s						
OUF				SG	Sg	10 31 50.4	-1.1
RNF	Rovaniemi	2.66	318	PG	Pb	10 31 19.3	-0.2
RNF				SG	Sg	10 31 54.6	-1.9
OBF0	Syolatti, Pyha	2.70	268	PG	Pb	10 31 20.5	+0.4
	baz=82						
OBF0				MSG		10 31 52.9	
	comp=Z,5.4nm,0.2s						
TOF	Tornio	2.93	301	PB	Pb	10 31 22.6	-1.3
TOF				MSG		10 31 59.3	
	comp=Z,1.8nm,0.2s						
TOF				SG	Sb	10 32 02.0	+1.8
VRF	Varrio	3.08	354	PN	Pn	10 31 22.4	+1.6
VRF				MSG		10 32 02.7	
	comp=Z,2.1nm,0.2s						
APA0	Apatity Array	3.09	18	P	Pn	10 31 23.6	+2.7
APA0				S	Sn	10 31 59.2	+0.7
SGF	Sodankyl	3.19	331	PB	Pb	10 31 27.0	-1.4
KALU	Kalix	3.21	294	PN	Pn	10 31 23.3	+0.7
KALU				SG	Sg	10 32 12.2	-1.9
RUF	Ruokolahti	3.36	193	PG	Pb	10 31 30.6	-0.8
	baz=10.0						
KEF	Keuruu	3.58	227	PB	Pn	10 31 31.3	+3.6
LVZ	Lovozero	3.62	26	SN	Sn	10 32 12.2	+0.4
FIA0	FINESS Array S	3.84	214	PG	Pb	10 31 38.1	-1.3
FINES	FINESS Array B	3.84	214	Pn	Pn	10 31 32.2	+1.1
	comp=Z,0.1nm,0.3s,baz=37,slow=14,SNR=2.1						
FINES				Pg	Pb	10 31 40.8	+1.4
	comp=Z,0.2nm,0.3s,baz=32,slow=14,SNR=5.7						
FINES				Lg	Lg	10 32 29.4	
	comp=Z,0.4nm,0.3s,baz=37,slow=27,SNR=2.9						
	comp=Z,4.4nm,1.1s						
VAF	Ylistaro	3.84	248	PN	Pn	10 31 33.9	+2.7
VAF				SG	Sg	10 32 32.7	-1.4
ERTU	Ertsjaerv	3.91	302	PB	Pb	10 31 40.3	-0.4
BURU	Burvik	3.92	272	PN	Pn	10 31 35.4	+3.1
UMAU	Umeaa	4.35	264	PN	Pn	10 31 40.5	+2.3
	baz=80						
HEF	Hetta	4.61	327	PN	Pn	10 31 44.1	+2.3
HEF				SG	Sg	10 32 55.5	-3.4
ARCES	ARCESS Array B	5.23	340	P	Pn	10 31 50.9	+0.6
ARCES				S	Sn	10 32 51.8	+0.6
ARCES	ARCESS Array B	5.23	340	Pn	Pn	10 31 50.5	+0.3
	comp=Z,0.1nm,0.3s,baz=154,slow=13,SNR=22						
ARCES				Sn	Sn	10 32 49.0	-2.1
	comp=Z,0.1nm,0.3s,baz=150,slow=25,SNR=1.5						
ARCES				Lg	Lg	10 33 11.5	
	comp=Z,0.1nm,0.3s,baz=151,slow=30,SNR=2.2						
	comp=Z,0.3nm,0.3s						
HFS	Hagfors	9.02	247	Pn	Pn	10 32 42.3	0.0
	comp=Z,0.1nm,0.3s,baz=46,slow=10,SNR=1.7						
	comp=Z,7.9nm,1.1s						
NOA	NORSAR Array B	9.52	256	Pn	Pn	10 32 50.7	+1.5
	baz=56,slow=19,SNR=1.5						
	comp=Z,0.5nm,0.7s						

HEL 07 10:32:10.6±0.7**, 60°.27N×25°.46E, h0km, ML0.9, Suspected explosion, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVF	Pernaja	0.34	36	PG	Pg	10 32 16.0	-1.0
	baz=220						
PVF				SG	Sg	10 32 20.3	-1.1
NUR	Nurmijrvi	0.47	301	PG	Pg	10 32 18.6	-1.0
NUR				MSG		10 32 25.9	
	comp=Z,1.7nm,0.2s						
MEF	Metsahovi	0.54	264	PG	Pg	10 32 20.0	-0.8
MEF				SG	Sg	10 32 27.5	-0.3
MEF				MSG		10 32 28.0	
	comp=Z,2.3nm,0.2s						
VJF	Virojoki	1.07	75	SG	Sg	10 32 44.4	-0.5
VJF	Virojoki	1.07	75	MSG		10 32 43.3	
	comp=Z,3.7nm,0.2s						
VJF				SB	Sg	10 32 44.4	-0.5
FIA0	FINESS Array S	1.21	14	PN	Pn	10 32 35.3	+0.5
FIA0				MSG		10 32 47.4	
	comp=Z,2.1nm,0.2s						
FIA0				SN	Sn	10 32 52.7	+0.8

*NEIC **07** 10:32:46.5±1.0, 33°.138N±0°.006×116°.47W±0°.01, h18km±2km, Error ellipse: s-maj=2.0km s-min=0.7km az=108.0*

*ANF **07** 10:32:46.1±0.1, 33°.17N×116°.49W, h11km±1km, ML3.6/32, ML3.6/32, Error ellipse: s-maj=1.3km s-min=1.1km az=6.0*

*ECX **07** 10:32:47.6±0.5, 33°.13N×116°.48W, h3km±1km, MD3.4, ML3.6*

*PAS **07** 10:32:47.2±1.1, 33°.147N±0°.010×116°.48W±0°.01, h11km±4km, Mwr3.5/4, ML3.6/44(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=123.0*

*NEIC **07** 10:32:47, 33°.15N×116°.48W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.58; $M_{\theta\theta}$-2.39; $M_{\phi\phi}$1.81; $M_{r\theta}$-0.18; $M_{\theta\phi}$0.20; $M_{\phi r}$1.17; Fault plane solution: $M_0$2.47000×10^{14} NP1:ϕ_s52.00000°, δ65.00000°, λ20.00000°. NP2:ϕ_s313.00000°, δ72.00000°, λ153.00000°. Principal axes: T 2.5196, Plg31.0000°, Azm271.0000°; N -0.0970, Plg58.0000°, Azm102.0000°; P -2.4227, Plg5.0000°, Azm4.0000°;*

ISC 07 10:32:46.6±0.8**, 33°.14N**±0°.01×**116°.48W**±0°.01**, h17**km±4km**, n128, σ0s.75**/184**, 10C-15D, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JUEM	Julian Eagle M	0.12	240		Pg	10 32 50.6	+0.1
JUEM					Sg	10 32 53.0	-0.1
BORC	Borrego Spring	0.14	21		Pb	10 32 52.0	+1.3
MATG	Mataguay Scout	0.15	292		Pg	10 32 50.9	0.0
MATG					Sg	10 32 53.4	-0.3
MATG	Mataguay Scout	0.15	292	⇑*i*P	Pg	10 32 50.9	0.0
SLH	Sleepy Hollow	0.19	74		Pg	10 32 51.2	-0.1
SLH					Sg	10 32 54.4	-0.1
SLH	Sleepy Hollow	0.19	74	⇑*i*P	Pg	10 32 51.2	-0.1
SLH				*e*S	Sg	10 32 54.2	-0.3
MONP2	Monument Peak	0.25	170		Sg	10 32 56.3	-0.1
MONP2	Monument Peak	0.25	170	⇓*i*P	Pg	10 32 52.5	+0.1
MONP2				*e*S	Sg	10 32 56.3	-0.1
MONP2				*e*		10 32 57.2	
MONP2				IAML		10 32 57.2	
	comp=E,7μm,0.3s						
MONP2				IAML		10 32 57.4	
	comp=N,5μm,0.3s						
MONP2				⇓*e*		10 32 57.4	
MONP2	Monument Peak	0.25	170	P	Pg	10 32 52.5	+0.1
	baz=350,SNR=1000						
MONP2				S	Sg	10 32 56.2	-0.1
	baz=350						
FRD	Ford Ranch, An	0.37	343		Pg	10 32 54.2	-0.1
FRD					Pn	10 32 59.0	+1.7
FRD	Ford Ranch, An	0.37	343		Pn	10 32 59.0	+1.7
BZNA	Buzz No.'s Pla	0.39	336		Sg	10 32 59.6	-0.4
PLM	Palomar	0.39	303		Pg	10 32 54.8	+0.2
PLM					Sg	10 33 00.3	+0.2
EML	El Monte Cty P	0.40	231		Sg	10 33 00.5	+0.3
EML	El Monte Cty P	0.40	231	⇑*e*P	Pg	10 32 54.9	+0.2
EML				*e*S	Sg	10 33 00.5	+0.3
EML				IAML		10 33 00.9	
	comp=N,10μm,0.1s						
EML				⇑*e*		10 33 00.9	
DPP	Dos Picos Cty	0.41	250		Pg	10 32 55.1	+0.1
DPP					Sg	10 33 00.9	+0.2
SNDA	J Saunders Pla	0.43	344		Sg	10 33 01.2	0.0
DNR	Dunn Ranch,Anz	0.44	343		Sg	10 33 01.9	+0.1
XPFO	Pion Flat	0.47	2		Pg	10 32 55.7	-0.4
XPFO					Sg	10 33 01.8	-0.8
PFO	Pinyon Flats O	0.47	2	Pg	Pg	10 32 55.6	-0.4
PFO	Pinyon Flats O	0.47	2		Sg	10 33 02.2	-0.3
PFO	Pinyon Flats O	0.47	2	P	Pg	10 32 55.7	-0.4
	baz=182,SNR=652						
PFO				S	Sg	10 33 01.5	-1.0
	baz=182						
CRY	Cary Ranch	0.48	333		Sg	10 33 02.4	-0.3
BAR	Barrett	0.49	200		Sg	10 33 03.0	+0.1
BAR	Barrett	0.49	200	IAML		10 33 03.6	
	comp=E,9μm,0.2s						
BAR				IAML		10 33 03.7	
	comp=N,14μm,0.2s						
BAR	Barrett	0.49	200	⇓*e*P	Pg	10 32 56.4	+0.1
BAR				*e*S	Sg	10 33 03.0	+0.1
CRR	Carrizo Plain	0.50	121		Pg	10 32 56.8	+0.3
CRR					Sb	10 33 03.7	-0.1
PMD	Palm Desert	0.51	9	Pg	Pg	10 32 56.2	-0.6
PMD				IAML		10 33 03.2	
	comp=E,3μm,0.5s						
PMD	Palm Desert	0.51	9		Sg	10 33 03.0	-0.8
ERRC	Elmore Ranch	0.55	92		Sb	10 33 06.3	+1.0
GVDA	Garner Valley	0.55	343		Pg	10 32 57.4	-0.3
GVDA					Sg	10 33 04.7	-0.4
SDRC	San Diego Road	0.56	224		Sg	10 33 05.2	-0.1
SDRC	San Diego Road	0.56	224	⇓*e*P	Pg	10 32 57.6	-0.1
SDRC				*e*S	Sg	10 33 05.2	-0.1
SDRC				*e*		10 33 05.4	
SDRC				IAML		10 33 05.4	
	comp=E,7μm,0.1s						
IKP	In-Ko-Pah, Jac	0.58	148		Pg	10 32 58.2	+0.1
IKP					Sg	10 33 05.9	+0.1
IKP	In-Ko-Pah, Jac	0.58	148	⇓*i*P	Pg	10 32 58.2	+0.1
IKP				*e*S	Sg	10 33 05.9	+0.1
IKP	In-Ko-Pah, Jac	0.58	148	P	Pg	10 32 58.2	+0.1
	baz=328,SNR=354						
IKP				S	Sg	10 33 05.9	+0.1
	baz=328						
TKX	Tecate	0.58	191		Pg	10 32 57.9	-0.2
TKX					Sg	10 33 05.8	-0.1
TKX	Tecate	0.58	191	IAML		10 33 06.3	
	comp=E,9μm,0.1s						
TKX				IAML		10 33 06.9	
	comp=N,7μm,0.2s						
TKX	Tecate	0.58	191	⇓*i*P	Pg	10 32 57.9	-0.2
TKX				*e*S	Sg	10 33 05.8	-0.1
MTRP	Mission Trails	0.58	237		Pg	10 32 58.0	-0.1
109C	Camp Elliot, M	0.58	245	Pg	Pg	10 32 58.0	-0.2
109C	Camp Elliot, M	0.58	245	P	Pg	10 32 58.0	-0.2
	baz=64,SNR=374						
109C				S	Sg	10 33 05.8	-0.2
	baz=64						
CPE	Camp Elliot	0.58	245		Sg	10 33 05.9	-0.1
DUZA	Dulzura	0.59	205		Pg	10 32 58.0	-0.2
DUZA					Sg	10 33 06.0	-0.1
SWSC	Sam W. Stewart	0.60	109		Pg	10 32 58.5	+0.1
SWSC					Sg	10 33 06.8	+0.3
SWSC	Sam W. Stewart	0.60	109	⇑*i*P	Pg	10 32 58.5	+0.1
SWSC				*e*S	Sg	10 33 06.7	+0.3
SWSC				⇓*e*		10 33 07.3	
SWSC				IAML		10 33 07.3	
	comp=E,3μm,0.5s						
SWSC				⇑*e*		10 33 07.9	
SWSC				IAML		10 33 07.9	
	comp=N,4μm,0.7s						
SWSC	Sam W. Stewart	0.60	109	P	Pg	10 32 58.5	+0.1
	baz=290,SNR=468						
SWSC				S	Sg	10 33 06.8	+0.3
	baz=290						
GORC	Green Oak Ranc	0.63	271		Pg	10 32 58.7	-0.4
GORC					Sg	10 33 07.2	-0.2
RMX	La Rumorosa	0.63	148		Pb	10 33 00.2	+0.9
RMX	La Rumorosa	0.63	148	⇓*e*P	Pb	10 33 00.2	+0.9
RMX				*e*S	Sb	10 33 09.3	+1.5
RMX				⇓*e*		10 33 10.5	
RMX				IAML		10 33 10.5	
	comp=N,2μm,0.2s						
RMX				⇓*e*		10 33 12.1	
RMX				IAML		10 33 12.1	
	comp=E,3μm,0.2s						
OLP	Otay Lakes Par	0.65	216		Pg	10 32 59.2	-0.3
OLP	Otay Lakes Par	0.65	216	⇓*e*P	Pg	10 32 59.2	-0.3
OLP				*e*S	Sg	10 33 07.9	-0.2
CTCC	Cactus City	0.66	38		Pg	10 32 59.4	-0.1
CTCC					Sg	10 33 08.3	0.0
SDMC	San Diego Miss	0.66	238		Sg	10 33 08.3	-0.1
POB	Polly Butte	0.66	326		Pg	10 32 59.3	-0.3
BACC	Bachelor Mtn.	0.67	315		Pg	10 32 59.4	-0.4
DGR	Domenigoni Val	0.68	319		Sg	10 33 08.1	-0.8
YUH	Yuha Desert	0.68	136		Pg	10 32 60.0	+0.1
YUH	Yuha Desert	0.68	136	IAML		10 33 09.4	
	comp=E,4μm,0.1s						
YUH				IAML		10 33 09.6	
	comp=N,4μm,0.2s						
YUH2	Yuha Desert	0.68	136	⇓*e*P	Pg	10 32 60.0	+0.1
YUH2				*e*S	Sg	10 33 08.8	-0.1
COK2	Cook Ranch 2	0.69	115		Pg	10 33 00.3	+0.1
COK2					Sb	10 33 10.5	+1.1
HMTC	Hemet	0.72	322		Pg	10 33 00.1	-0.5
TJIG	Tijuana	0.72	193	⇓*i*P	Pb	10 33 00.3	-0.5
TJIG				*e*S	Sg	10 33 09.9	-0.4
TJIG				⇑*e*		10 33 10.3	
TJIG				IAML		10 33 10.3	
	comp=E,3μm,0.1s						
TJIG				IAML		10 33 11.7	
	comp=N,3μm,0.2s						
TJIG				⇑*e*		10 33 11.7	
WESC	Westside Schoo	0.73	121		Sg	10 33 11.8	+1.2
WESC	Westside Schoo	0.73	121	⇑*i*P	Pb	10 33 01.0	+0.2
CLI2	Calipatria 2	0.75	91		Pb	10 33 01.1	-0.1
CLI2					Sn	10 33 12.8	-0.6
MURC	Murrieta	0.76	307		Sb	10 33 10.8	-0.6
MURC	Murrieta	0.76	307	P	Pb	10 33 00.8	-0.5
	baz=127						
MURC				S	Sb	10 33 10.9	-0.6
	baz=127						
TJX	Tijuana	0.80	218		Pb	10 33 02.0	+0.1
TJX					Sg	10 33 12.9	+0.3
TJX	Tijuana	0.80	218	⇓*i*P	Pb	10 33 02.0	+0.1
TJX				*e*S	Sg	10 33 13.0	+0.4
DEVC	Devers	0.80	354		Pb	10 33 01.9	-0.1
DEVC					Sb	10 33 12.5	-0.1
EW2	E Wide Canyon	0.80	4		Sb	10 33 12.0	-0.7
IMPE	Imperial	0.81	107		Pb	10 33 02.1	0.0
IMPE					Sn	10 33 15.0	+0.3
CBX	Cerro Bola	0.84	191		Pb	10 33 02.5	-0.3
CBX					Sb	10 33 13.7	-0.2
CBX	Cerro Bola	0.84	191	IAML		10 33 18.1	
	comp=E,2μm,0.6s						
CBX				IAML		10 33 18.6	
	comp=N,2μm,0.4s						
CBX	Cerro Bola	0.84	191	⇓*i*P	Pb	10 33 02.5	-0.3
CBX				*e*S	Sb	10 33 13.5	-0.3
BBSC	Beaumont Base	0.89	332		Pb	10 33 03.5	-0.1
BBSC					Sb	10 33 15.2	+0.1
DREC	Desert Rsrch C	0.93	111		Pb	10 33 03.9	-0.3
DREC	Desert Rsrch C	0.93	111	*e*P	Pb	10 33 03.9	-0.3
DREC				*e*S	Sg	10 33 16.9	+0.1
BELC	Belle Mtn. Jos	0.95	25	P	Pb	10 33 04.3	-0.4
	baz=205,SNR=455						
BELC				S	Sb	10 33 16.6	-0.4
	baz=205						
BC3	Big Chuckawall	1.00	59	P	Pb	10 33 05.3	-0.2
	baz=240						
UABX	UABC, Campus M	1.01	120		Pn	10 33 06.1	+0.2
BBRC	Big Bear Solar	1.18	342	P	Pn	10 33 08.6	0.0
	baz=162,SNR=31						
BBRC				S	Sb	10 33 24.0	+0.3
	baz=162						
CCX	Cicese	1.28	187		Pn	10 33 09.8	+0.2
CCX				IAML		10 33 29.9	
	comp=E,1μm,0.6s						
CCX				IAML		10 33 30.1	
	comp=N,1μm,0.4s						
ALAMX	Rancho Alamar	1.30	150	*e*P	Pn	10 33 09.9	-0.1
ALAMX				*e*S	Sb	10 33 27.6	+0.6
SJX	San Joaquin	1.44	162	*e*P	Pn	10 33 09.2	-2.7
SJX				IAML		10 33 25.9	
	comp=N,2μm,0.2s						
SJX				⇑*e*		10 33 25.9	
GUVIX	Guadalupe Vict	1.45	125		Pb	10 33 13.1	0.0
GUVIX				IAML		10 34 00.1	
	comp=E,1μm,0.8s						
BFSC	Mount Baldy Ra	1.47	318	P	Pn	10 33 12.5	0.0
	baz=138,SNR=61						
BFSC				S	Sb	10 33 32.0	-0.1
	baz=138						
IRM	Iron Mountain	1.50	47	P	Pn	10 33 12.1	-0.7
	baz=228						
IRM				S	Sb	10 33 33.3	+0.3
	baz=228						
FMP	Fort Macarthur	1.62	291	P	Pn	10 33 14.4	0.0
	baz=110,SNR=15						
FMP				Sb	Sb	10 33 37.0	+0.7
	baz=110						
CIS	Catalina Islan	1.65	280	P	Pn	10 33 14.4	-0.3
	baz=98,SNR=31						
CIS				S	Sn	10 33 36.0	+0.5
	baz=98						
HEC	Hector,Ludlow	1.69	4	Pg	Pb	10 33 17.7	+0.5
	baz=184						
HEC				S	Sb	10 33 37.8	-0.5
	baz=184						
BLYC	Blythe	1.74	69	Pn	Pn	10 33 15.3	-0.8
BLYC				IAML		10 33 42.0	
	comp=N,420nm,0.4s						
BLYC				IAML		10 33 47.2	
	comp=E,358nm,0.6s						
PASC	Pasadena Art C	1.76	306	Pn	Pb	10 33 18.0	-0.4
PASC				IAML		10 33 41.3	
	comp=N,480nm,0.5s						
PASC				IAML		10 33 45.3	
	comp=E,340nm,0.5s						
GMRC	Granite Mounta	1.77	22	P	Pn	10 33 16.2	-0.5
	baz=203,SNR=94						
GMRC				Sb	Sb	10 33 42.1	+1.3
	baz=203						
RRX	Edison Barstow	1.78	346	Pg	Pb	10 33 19.5	+0.7
	baz=166						
RRX				Sb	Sb	10 33 42.5	+1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=166						
VTX	**Valle De La Tr**	**1.84**	**161**		**Pb**	**10 33 19.3**	**-0.5**
DECC	**Green Verdugo**	**1.91**	**306**	P	**Pn**	**10 33 18.4**	**+0.1**
	baz=125,SNR=10						
DECC				Sb	**Sb**	**10 33 45.5**	**+1.0**
	baz=125						
EDW2	**Edwards Air Fo**	**2.15**	**324**	P	**Pn**	**10 33 22.1**	**+0.5**
	baz=144,SNR=47						
EDW2				Sb	**Sb**	**10 33 53.0**	**+1.6**
	baz=144						
GSC	**Goldstone, Bar**	**2.17**	**353**	Pn	**Pn**	**10 33 22.3**	**+0.2**
GSC				IAML		10 33 59.9	
	comp=E,256nm,0.7s						
GSC	**Goldstone, Bar**	**2.17**	**353**	P	**Pn**	**10 33 22.2**	**+0.1**
	baz=173,SNR=89						
GSC				Sb	**Sb**	**10 33 54.3**	**+2.1**
	baz=173						
NEE2	**Needles Airpor**	**2.24**	**43**	Pb	**Pb**	**10 33 27.4**	**+0.8**
	baz=224						
NEE2				Sb	**Sb**	**10 33 56.5**	**+2.4**
	baz=224						
PDMCI	**Parker Dam,Lak**	**2.27**	**59**	Sb	**Sg**	**10 33 57.4**	**-2.1**
	baz=240						
113A	**Mohawk Valley,**	**2.31**	**99**	Pn	**Pn**	**10 33 23.4**	**-0.5**
TUQ	**Turquoise Moun**	**2.33**	**11**	Pg	**Pb**	**10 33 29.7**	**+1.4**
	baz=192						
TUQ				Sb	**Sb**	**10 33 58.6**	**+1.7**
	baz=192						
OSI	**Osito Audit: C**	**2.38**	**309**	Pb	**Pb**	**10 33 28.7**	**-0.3**
	baz=128						
OSI				Sb	**Sb**	**10 33 59.4**	**+1.3**
	baz=128						
CCAC	**Calif City Air**	**2.38**	**328**		**Pn**	**10 33 25.3**	**+0.4**
CCAC				IAML		10 34 01.6	
	comp=E,468nm,0.6s						
CCAC				IAML		10 34 09.0	
	comp=N,495nm,1.2s						
LRMC	**Laurel Mtn Rad**	**2.54**	**337**	Sb	**Sb**	**10 34 04.4**	**+1.6**
	baz=157						
SNCC	**San Nicolas Is**	**2.56**	**273**	P	**Pn**	**10 33 27.4**	**+0.2**
	baz=91						
SNCC				S	**Sn**	**10 33 58.8**	**+0.7**
	baz=91						
QSM	**Queen of Sheba**	**2.84**	**354**		**Pn**	**10 33 30.9**	**-0.2**
V12A	**Nelson**	**2.91**	**27**	Pn	**Pn**	**10 33 33.5**	**+1.3**
Y14A	**Wickenburg**	**3.01**	**74**	Pn	**Pn**	**10 33 34.0**	**+0.5**
ISA	**Isabella, Lake**	**3.01**	**327**	Pn	**Pn**	**10 33 34.0**	**+0.4**
ISA				IAML		10 34 26.4	
	comp=E,87nm,1.0s						
ISA	**Isabella, Lake**	**3.01**	**327**	P	**Pn**	**10 33 33.9**	**+0.3**
	baz=146						
ISA				Sb	**Sb**	**10 34 18.4**	**+2.1**
	baz=146						
BCW	**Bitter Crk WRg**	**3.03**	**307**		**Pn**	**10 33 35.2**	**+1.4**
BCW				IAML		10 34 29.9	
	comp=N,215nm,1.0s						
BCW				IAML		10 34 30.5	
	comp=E,182nm,0.7s						
MPMC	**Manual Prospec**	**3.03**	**344**	P	**Pn**	**10 33 34.2**	**+0.3**
	baz=164						
GWY	**Greenwater Val**	**3.04**	**357**	Pn	**Pn**	**10 33 34.3**	**+0.2**
214A	**Organ Pipe Nat**	**3.31**	**110**		**Pb**	**10 33 42.4**	**-2.5**
214A	**Organ Pipe Nat**	**3.31**	**110**	P	**Pn**	**10 33 37.0**	**-0.7**
	baz=292						
FURC	**Furnace Creek,**	**3.33**	**355**	Pg	**Pg**	**10 33 48.2**	**-2.2**
	baz=174						
SHPR	**Sheep Range**	**3.53**	**18**	Pn	**Pn**	**10 33 41.0**	**+0.2**
TPNV	**Topopah Spring**	**3.80**	**3**		**Pn**	**10 33 45.2**	**+0.7**
TPNV	**Topopah Spring**	**3.80**	**3**	P	**Pn**	**10 33 45.5**	**+0.9**
	baz=183,SNR=16						
GRAC	**Grapevine Rang**	**3.92**	**350**	IAML		10 34 53.5	
	comp=N,124nm,0.8s						
GRAC				IAML		10 34 54.9	
	comp=E,91nm,0.5s						
GRAC	**Grapevine Rang**	**3.92**	**350**	Pg	**Pg**	**10 33 59.0**	**-2.6**
	baz=169						
U15A	**North Rim**	**4.75**	**45**	Pn	**Pn**	**10 33 58.6**	**+0.8**
WUAZ	**Wupatki**	**4.84**	**59**	Pn	**Pn**	**10 33 59.9**	**+1.1**
TUC	**Tucson**	**4.87**	**98**	P	**Pn**	**10 33 58.8**	**-0.3**
	baz=281						

DJA 07 10:40:50.8±0.3**, 1˚S**±3˚×**12˚4E**±˚**, h10**^{km}**, M3.9**/12**, mb4.5**/4**, mB5.6**/1**, MLv3.6**/12**, Mw(mB)5.1**/1**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.00**	**247**	P	Pb	10 41 10.2	-0.1
LUWI				S	Sb	10 41 23.6	+0.1
GTOI	**Gorontalo**	**1.44**	**332**	P	Pg	10 41 18.4	0.0
MRSI	**Marisa**	**2.07**	**302**	P	Pn	10 41 25.7	0.0
SANI	**Sanana**	**2.69**	**121**	P	Pn	10 41 34.1	-0.1
LBMI	**Labuha**	**3.81**	**90**	P	Pn	10 41 49.2	-0.4
TTSI	**Tana Toraja**	**4.55**	**238**	P	Pn	10 41 59.2	-0.5
BBSI	**Bau Bau**	**4.94**	**193**	P	Pn	10 42 05.3	+0.1
SPSI	**Sidrap Palu**	**5.12**	**230**	P	Pn	10 42 07.6	-0.1
	24nm,0.4s,5µm0.2nm						

*IDC **07** 10:46:52.5±2.7, 14.˚88N×93.˚61W, h0^{km}, mb3.4/4, mbtmp3.5/7, ML3.6/3, MS3.2/2, Error ellipse: s-maj=61.7km s-min=29.3km az=31.0*
*CATAC **07** 10:46:59.3±0.8, 14.˚69N×93.˚48W, h12^{km}±8^{km}, ML4.2*
*GCG **07** 10:47:01.0±3.4, 14.˚60N×93.˚56W, h50^{km}±666^{km}, MD4.0*
ISC 07 10:46:56.9±2.2**, 14.˚95N**±0.˚08×**93.˚66W**±0.˚07**, h25**^{km}±15^{km}**, n25,** σ**1.s63**/39**, mb3.6**/4**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**1.53**	**93**	*i* P	**Pn**	**10 47 22.4**	**-0.2**
SMCA				*i* S	**Sn**	**10 47 41.5**	**-0.2**
SMCA				IAML		10 47 45.7	
	comp=Z,3µm,1.0s						
SMSP	**San Marcos**	**1.81**	**89**	*i* P	**Pn**	**10 47 28.6**	**+1.9**
SMSP				*i* S	**Sb**	**10 47 51.3**	**-0.6**
SMSP				IAML		10 48 06.5	
	comp=Z,3µm,1.0s						
RTAL	**Retalhuleu**	**1.94**	**102**	*i* P	**Pn**	**10 47 28.1**	**-0.2**
RTAL				*i* S	**Sn**	**10 47 52.3**	**+0.4**
RTAL				IAML		10 47 56.9	
	comp=Z,1µm,1.0s						
CCIG	**Comitan**	**1.98**	**48**	*i* P	**Pb**	**10 47 32.6**	**+0.3**
CCIG				*i* S	**Sb**	**10 47 59.1**	**+2.6**
CCIG				IAML		10 48 03.8	
	comp=Z,1µm,1.0s						
STG3	**Santiaguito 3,**	**2.03**	**96**	*e*P	**Pn**	**10 47 30.5**	**+0.9**
STG3				*e*S	**Sn**	**10 47 55.9**	**+1.6**
QUEO	**Labor Ovalle**	**2.07**	**92**	*i* P	**Pn**	**10 47 31.2**	**+0.9**
QUEO				*i* S	**Sb**	**10 47 57.2**	**-2.2**
QUEO				IAML		10 47 59.2	
	comp=Z,3µm,1.0s						
HUEH	**Huehuetenango**	**2.11**	**80**	*i* P	**Pb**	**10 47 33.4**	**-1.2**
HUEH				*i* S	**Sb**	**10 47 59.7**	**-0.8**
HUEH				IAML		10 48 09.1	
	comp=Z,4µm,1.0s						
SULM	**Suchitepequez,**	**2.12**	**107**	*e*P	**Pn**	**10 47 31.7**	**+1.0**
SOKI	**Kika Raxquin**	**2.18**	**93**	*i* P	**Pn**	**10 47 33.9**	**+2.0**
SOKI				*i* S	**Sn**	**10 47 59.1**	**+0.8**
SOKI				IAML		10 48 13.3	
	comp=Z,720nm,1.0s						
CMIG	**Matias Romero**	**2.44**	**331**	Pn	**Pn**	**10 47 34.6**	**-0.5**
	comp=Z,14nm,0.3s,baz=155,slow=11,SNR=98						
CMIG				Sn	**Sn**	**10 48 01.5**	**-2.6**
	comp=Z,53nm,0.3s,baz=119,slow=11,SNR=14						
	comp=Z,33nm,0.4s						
FUG	**Fuego 3**	**2.77**	**100**	*e*P	**Pn**	**10 47 41.6**	**+1.8**
FUG				*e*S	**Sn**	**10 48 13.2**	**+0.7**
ESSG	**Sabana Grande**	**2.79**	**101**	*i* P	**Pn**	**10 47 40.7**	**+0.7**
ESSG				*i* S	**Sn**	**10 48 11.2**	**-1.7**
ESSG				IAML		10 48 30.2	
	comp=Z,700nm,1.0s						
NUBE	**Las Nubes**	**3.90**	**105**	*i* P	**Pn**	**10 47 55.9**	**+0.6**
NUBE				*i* S	**Sn**	**10 48 39.1**	**-1.2**
NUBE				IAML		10 49 05.9	
	comp=Z,200nm,1.0s						
MTO3	**Montecristo**	**4.19**	**97**	*i* P	**Pn**	**10 48 00.8**	**+1.4**
MTO3				IAML		10 48 57.1	
	comp=Z,81nm,1.0s						
JAYA	**Jayaque - finc**	**4.28**	**107**	*i* P	**Pn**	**10 48 02.3**	**+1.8**
JAYA				*i* S	**Sn**	**10 48 49.0**	**-0.7**
JAYA				IAML		10 49 08.9	
	comp=Z,360nm,1.0s						
SARH	**Santa Rosa de**	**4.74**	**91**	*i* P	**Pn**	**10 48 08.7**	**+1.9**
COEG	**Centro de Oper**	**4.81**	**105**	*i* P	**Pn**	**10 48 08.1**	**+0.3**
COEG				IAML		10 49 28.6	
	comp=Z,130nm,1.0s						
NISHN	**Nisperales Com**	**5.63**	**81**	*i* P	**Pn**	**10 48 21.9**	**+2.9**
TEIG	**Tepich**	**7.34**	**44**	Pn	**Pn**	**10 48 42.1**	**-0.3**
	comp=Z,27nm,0.3s,baz=208,slow=14,SNR=29						
TEIG				Sn	**Sn**	**10 50 00.5**	**-4.5**
	comp=Z,37nm,0.3s,baz=177,slow=10,SNR=1.6						
TEIG				LR	LR	10 52 12.3	
	comp=Z,1µm,19.0s,baz=34,slow=44						
JTS	**Las Juntas de**	**9.67**	**118**	Pn	**Pn**	**10 49 12.5**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=332,slow=20,SNR=1.5						
JTS				LR	LR	10 52 21.2	
	comp=Z,24nm,18.1s,baz=306,slow=34						
	comp=Z,1.1nm,0.4s						
TXAR	**Lajitas Array**	**17.04**	**329**	P	**Pn**	**10 50 54.8**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=129,slow=9.5,SNR=1.5						
	comp=Z,1.2nm,0.9s						
PDAR	**Pinedale Array**	**30.91**	**337**	P	**P**	**10 53 10.7**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=159,slow=10,SNR=2.7						
	comp=Z,0.2nm,0.4s						
NVAR	**Mina Array Bea**	**31.93**	**322**	P	**P**	**10 53 23.0**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=145,slow=11,SNR=4.4						
	comp=Z,0.6nm,0.7s						
YKA	**Yellowknife Ar**	**49.75**	**347**	P	**P**	**10 55 46.6**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=154,slow=7.0,SNR=4.8						
	comp=Z,0.5nm,0.8s						
ILAR	**Eielson Array**	**61.34**	**337**	P	**P**	**10 57 09.5**	**-0.7**
	comp=Z,0.4nm,0.9s,baz=129,slow=4.6,SNR=4.4						
	comp=Z,0.4nm,0.9s						

*BER **07** 11:02:32.0±2.7, 71.˚00N×7.˚19W, h10^{km}, mb(Pn)3.6, ML3.1, Confirmed Earthquake*
*DNK **07** 11:02:33.5±0.8, 70.˚92N×8.˚04W, h41^{km}±53^{km}, ML1.6*
ISC 07 11:02:28.6±1.0**, 71.˚11N**±0.˚07×**7.˚39W**±0.˚07**, h20**^{km}**, n20,** σ**2.s28**/27**, 2C, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.32**	**249**	⇑*i*P	**Pn**	**11 02 38.7**	**+0.7**
JNE				*e*S	**Sn**	**11 02 43.4**	**-0.7**
JNE				IAML		11 02 46.0	
	comp=Z,1µm,0.4s						
JMIC	**Jan Mayen**	**0.38**	**252**	⇑*i*P	**Pn**	**11 02 39.5**	**+0.6**
JMIC				*e*S	**Sn**	**11 02 46.4**	**+0.7**
JMIC				IAML		11 02 47.2	
	comp=Z,3µm,0.5s						
JMI	**Jan Mayen**	**0.47**	**248**	*e*P	**Pn**	**11 02 41.1**	**+0.9**
JMI				*e*S	**Sn**	**11 02 49.0**	**+1.1**
JMI				IAML		11 02 50.8	
	comp=Z,2µm,0.3s						
DBG	**Daneborg**	**4.99**	**316**	*e*P	**Pn**	**11 03 45.1**	**+3.0**
DBG	**Daneborg**	**4.99**	**316**	*i* P	**Pn**	**11 03 44.7**	**+2.5**
DBG				IAML		11 04 40.7	
	comp=Z,2.5nm,0.3s						
DAG	**Danmarks Havn**	**6.48**	**337**	*e*	**Pn**	**11 04 02.9**	**+0.4**
	baz=148,slow=18						
DAG				*e*P	**Pn**	**11 04 05.5**	**+3.0**
DAG				*i* S	**Sn**	**11 05 14.2**	**-1.5**
DAG				IAML		11 05 18.2	
	comp=Z,2.8nm,0.4s						
DAG	**Danmarks Havn**	**6.48**	**337**	*e*	**Pn**	**11 04 02.9**	**+0.4**
	baz=148,slow=18						
DAG				*i* P	**Pn**	**11 04 05.6**	**+3.1**
DAG				*i* S	**Sn**	**11 05 14.2**	**-1.5**
DAG				IAML		11 05 18.2	
	comp=Z,2.8nm,0.4s						
STEI	**Steigen**	**8.52**	**101**	*e*P	**Pn**	**11 04 28.6**	**-1.9**
HSPB	**Hornsund (broa**	**8.57**	**36**	*e*P	**Pn**	**11 04 34.1**	**+2.8**
FAUS	**Fauske**	**8.84**	**104**	*e*P	**Pn**	**11 04 33.0**	**-1.9**
KBS	**Kingsbay**	**9.23**	**24**	*e*P	**Pn**	**11 04 43.1**	**+2.8**
KBS	**Kingsbay**	**9.23**	**24**	*i* P	**Pn**	**11 04 43.6**	**+3.3**
SPA0	**Spitsbergen Ar**	**9.39**	**31**	*e*P	**Pn**	**11 04 46.1**	**+3.7**
SUMG	**Summit**	**9.74**	**293**	*e*P	**Pn**	**11 04 44.2**	**-3.3**
SUMG	**Summit**	**9.74**	**293**	*e*P	**Pn**	**11 04 44.2**	**-3.3**
NSS	**Namsos**	**9.80**	**123**	*e*P	**Pn**	**11 04 46.8**	**-1.3**
SALU	**Saltoluokta**	**9.87**	**100**	*e*P	**Pn**	**11 04 48.3**	**-0.8**
NOR	**Nord**	**10.75**	**353**	*e*P	**Pn**	**11 05 03.2**	**+2.2**
NOR				IAML		11 07 06.6	
	comp=Z,0.8nm,0.4s						
NOR	**Nord**	**10.75**	**353**	*e*P	**Pn**	**11 05 03.2**	**+2.2**
NOR				IAML		11 07 06.6	
	comp=Z,0.8nm,0.4s						
HEF	**Hetta**	**11.01**	**89**	*e*P	**Pn**	**11 05 04.2**	**-0.4**

*SOME **07** 11:34:52.4, 44.˚75N×81.˚87E, h5^{km}*
*NNC **07** 11:34:54.8±0.9, 44.˚73N×81.˚85E, h0^{km}, mb3.8, mpv3.5, Error ellipse: s-maj=11.5km s-min=3.8km az=121.0*
ISC 07 11:34:53.2±1.9**, 44.˚70N**±0.˚05×**81.˚99E**±0.˚07**, h9**^{km}±14^{km}**, n22,** σ**0.s72**/30**, 3C-3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.62**	**258**	*e*P	**Pn**	**11 35 21.8**	**-0.2**
	15nm,0.2s						
DJR				*e*S	**Sn**	**11 35 42.8**	**-0.2**
	16nm,0.2s						
DJR	**Jarkent**	**1.62**	**258**	P	**Pg**	**11 35 23.5**	**-0.7**
	15nm,0.2s						
DJR				S	**Sg**	**11 35 46.1**	**+0.9**
	16nm,0.2s						
KTMS	**Ketmen**	**1.72**	**224**	*e*P	**Pn**	**11 35 24.3**	**+0.8**
	5.4nm,0.2s						
KTMS				*e*S	**Sb**	**11 35 47.1**	**+0.3**
	20nm,0.4s						
KTMS	**Ketmen**	**1.72**	**224**	P	**Pb**	**11 35 25.5**	**+0.5**
	5.4nm,0.2s						
KTMS				S	**Sg**	**11 35 49.5**	**+1.0**
	20nm,0.4s						
KAPS	**Kapalarasan**	**1.96**	**288**	*e*P	**Pn**	**11 35 27.3**	**+0.6**
	5.4nm,0.2s						
KAPS				*e*S	**Sb**	**11 35 52.4**	**-1.2**
	12nm,0.3s						
KAPS	**Kapalarasan**	**1.96**	**288**	Pg	**Pb**	**11 35 29.1**	**+0.1**
	5.4nm,0.2s						
KAPS				Lg	Lg	11 35 55.8	
	12nm,0.3s						
MK31	**Makanchi Array**	**2.10**	**6**	⇓Pn	**Pb**	**11 35 31.0**	**-0.6**
	5.6nm,0.3s,baz=190,slow=15,SNR=342						
MK31				⇓Sn	**Sb**	**11 35 58.5**	**+0.7**
	13nm,0.6s,baz=191,slow=28,SNR=15						
MAKZ	**Makanchi**	**2.11**	**360**	⇑Pn	**Pb**	**11 35 30.9**	**-0.7**
	4.5nm,0.3s						
MAKZ				⇓Sn	**Sb**	**11 35 58.7**	**+0.8**
	7.2nm,0.6s						
PDGK	**Podgornoye**	**2.27**	**234**	Pg	**Pb**	**11 35 33.5**	**-0.8**
	5.8nm,0.3s						
PDGK				Lg	Lg	11 36 03.7	
	10nm,0.7s						
PDGK	**Podgornoye**	**2.27**	**234**	⇑Pn	**Pb**	**11 35 33.4**	**-0.9**
	3.4nm,0.3s						
PDGK				⇑Sn	**Sb**	**11 36 02.9**	**+0.4**
	21nm,0.8s						
SHLS	**Shalkode**	**2.39**	**231**	*e*Pg	**Pn**	**11 35 32.0**	**-0.7**
	24nm,0.2s						
SHLS				*e*Lg	Lg	11 36 00.5	
	30nm,0.4s						
SHLS	**Shalkode**	**2.39**	**231**	Pg	**Pn**	**11 35 32.9**	**+0.2**
	24nm,0.2s						
SHLS				Lg	Lg	11 36 02.1	
	30nm,0.4s						
BLB	**Baldybastay**	**2.59**	**258**	Pg	**Pb**	**11 35 39.8**	**-0.1**
	11nm,0.2s						
BLB				Lg	Lg	11 36 14.4	
	8.4nm,0.2s						
UZB	**Uzynbulak**	**2.65**	**235**	*e*Pg	**Pb**	**11 35 40.2**	**-0.7**
	8.1nm,0.1s						
UZB				*e*Lg	Lg	11 36 14.6	
	5.0nm,0.6s						
UZB	**Uzynbulak**	**2.65**	**235**	Pg	**Pb**	**11 35 39.1**	**-1.8**
	8.2nm,0.3s						
UZB				Lg	Lg	11 36 12.9	
	5.0nm,0.6s						
KPKS	**Kokpek**	**2.68**	**244**	*e*Pg	**Pb**	**11 35 41.1**	**-0.3**
	18nm,0.2s						
KPKS				*e*Lg	Lg	11 36 16.4	
	26nm,0.2s						
KPKS	**Kokpek**	**2.68**	**244**	Pg	**Pb**	**11 35 41.1**	**-0.3**
	18nm,0.2s						
KPKS				Lg	Lg	11 36 16.6	
	26nm,0.2s						
ZHN	**Zhinishke**	**2.99**	**240**	Pg	**Pb**	**11 35 46.9**	**+0.2**
	6.0nm,0.1s						
ZHN				Lg	Lg	11 36 26.3	
	30nm,0.2s						
ARXS	**Arharly**	**3.02**	**262**	*e*Pg	**Pb**	**11 35 47.0**	**-0.1**
	6.5nm,0.4s						
ARXS				*e*Lg	Lg	11 36 26.3	
	13nm,0.5s						
ARXS	**Arharly**	**3.02**	**262**	Pg	**Pb**	**11 35 47.3**	**+0.1**
	6.5nm,0.4s						
ARXS				Lg	Lg	11 36 27.1	
	13nm,0.5s						
SATY	**Saty**	**3.07**	**239**	*e*Pg	**Pb**	**11 35 47.6**	**-0.4**
	5.1nm,0.3s						
SATY				*e*Lg	Lg	11 36 27.4	
	21nm,0.3s						
SATY	**Saty**	**3.07**	**239**	Pg	**Pb**	**11 35 47.6**	**-0.4**
	5.1nm,0.3s						
SATY				Lg	Lg	11 36 27.8	
	21nm,0.3s						

*IDC **07** 11:38:53.0±2.3, 4.˚11S×129.˚63E, h0^{km}, mb3.7/2, mbtmp3.4/4, ML2.9/2, Error ellipse: s-maj=182.9km s-min=27.7km az=70.0*
*DJA **07** 11:38:59.0±0.7, 4˚S±2˚×12˚9E±˚, h13^{km}±5^{km}, M4.0/13, mb4.4/4, mB5.3/1, MLv3.9/13, Mw(mB)4.8/1*
ISC 07 11:38:58.9±1.1**, 4.˚52S**±0.˚09×**128.˚67E**±0.˚06**, h35**^{km}**, n12,** σ**0.s91**/12**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.23**	**90**	P	**Pn**	**11 39 20.9**	**+1.2**
NLAI	**Namlea**	**2.01**	**309**	P	**Pn**	**11 39 30.8**	**+0.4**
SANI	**Sanana**	**3.63**	**312**	P	**Pn**	**11 39 52.8**	**+0.2**
SANI				S	**Sn**	**11 40 33.9**	**-0.3**
LBMI	**Labuha**	**4.02**	**343**	P	**Pn**	**11 39 58.7**	**+0.6**
SAUI	**Saumlaki**	**4.33**	**143**	P	Pn	11 40 06.9	+4.6
SWI	**Sorong**	**4.46**	**36**	P	**Pn**	**11 40 03.6**	**-0.4**
SWI				S	**Sn**	**11 40 54.1**	**-0.6**
SOEI	**Soe**	**6.79**	**220**	P	Pn	11 40 42.0	+5.7
LUWI	**Luwuk**	**6.82**	**300**	P	**Pn**	**11 40 36.9**	**+0.3**
WRA	**Warramunga Arr**	**16.30**	**161**	Pn	**Pn**	**11 42 43.4**	**-1.9**
	baz=347,slow=13,SNR=2.4						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**19.70**	**166**	P	**Pn**	**11 43 26.7**	**-0.3**
	0.1nm,0.3s,baz=346,slow=11,SNR=9.0						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**65.43**	**327**	P	**P**	**11 49 38.9**	**+0.6**
	0.4nm,0.5s,baz=126,slow=9.1,SNR=4.9						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**69.71**	**329**	P	**P**	**11 50 05.8**	**+0.7**
	0.3nm,0.3s,baz=120,slow=6.4,SNR=2.6						
	0.3nm,0.3s						

*GUC **07** 11:40:25.2±0.8, 32.˚31S×71.˚83W, h28^{km}±5^{km}, ML3.7*
*NEIC **07** 11:40:26.6±2.8, 32.˚30S±0.˚03×71.˚54W±0.˚09, h10^{km}±2^{km}, mb4.0/2, Error ellipse: s-maj=12.5km s-min=4.6km az=274.0*
ISC 07 11:40:24.8±1.6**, 32.˚32S**±0.˚03×**71.˚78W**±0.˚06**, h14**^{km}±11^{km}**, n60,** σ**1.s04**/84**, 3C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.71**	**171**	Pg	**Pb**	**11 40 38.8**	**-0.1**
VA01	**Torpederas**	**0.71**	**171**	*e*P	**Pb**	**11 40 38.6**	**-0.3**
VA01				*i* S	**Sb**	**11 40 48.5**	**+0.1**
VA01				IAML		11 40 54.0	
	comp=N,3µm,0.1s						
ROC1	**El Roble**	**0.92**	**135**	Pg	**Pg**	**11 40 43.1**	**+0.6**
ROCH	**El Roble**	**0.92**	**135**	*e*P	**Pb**	**11 40 42.5**	**-0.1**
ROCH				⇓*i*P	**Pb**	**11 40 42.5**	**-0.1**
ROCH				*e*S	**Sn**	**11 40 55.2**	**-1.4**
ROCH				*e*S	**Sn**	**11 40 55.2**	**-1.4**
ROCH				IAML		11 40 59.1	
	comp=N,4µm,0.6s						
ROCH				IAML		11 40 59.2	
	comp=N,4µm,0.4s						
MT02	**Curacav**	**1.08**	**150**		**Pb**	**11 40 44.9**	**-0.4**
MT02	**Curacav**	**1.08**	**150**	*e*P	**Pb**	**11 40 44.8**	**-0.4**
MT02				*e*S	**Sb**	**11 40 59.4**	**+0.2**
MT02				IAML		11 41 04.1	
	comp=E,931nm,0.5s						
PEL	**Peldehue**	**1.23**	**132**		**Pn**	**11 40 47.6**	**-0.1**
PEL	**Peldehue**	**1.23**	**132**	⇓*i*P	**Pn**	**11 40 47.4**	**-0.2**
PEL				*i* S	**Sg**	**11 41 04.4**	**-0.2**
PEL				IAML		11 41 05.2	
	comp=E,3µm,0.3s						
CO02	**Combarbal**	**1.30**	**31**	Pn	**Pn**	**11 40 47.8**	**-0.8**
CO02	**Combarbal**	**1.30**	**31**	⇓*i*P	**Pn**	**11 40 47.5**	**-1.2**
CO02				*i* S	**Sb**	**11 41 03.9**	**-1.8**
CO02				IAML		11 41 10.8	
	comp=E,6µm,0.3s						
VA05	**Santo Domingo**	**1.34**	**174**		**Pn**	**11 40 48.7**	**-0.3**
VA05	**Santo Domingo**	**1.34**	**174**	*e*P	**Pn**	**11 40 48.5**	**-0.5**
VA05				*i* S	**Sn**	**11 41 06.0**	**-0.6**
VA05				IAML		11 41 12.1	
	comp=E,5µm,0.4s						
MT05	**Renca**	**1.38**	**141**		**Pn**	**11 40 49.7**	**0.0**
MT05	**Renca**	**1.38**	**141**	*e*P	**Pn**	**11 40 49.6**	**-0.1**
MT05				*i* S	**Sb**	**11 41 08.3**	**+0.3**
MT05				IAML		11 41 13.1	
	comp=E,4µm,0.3s						
MT10	**Hacienda Santa**	**1.41**	**132**	⇓*i*P	**Pn**	**11 40 50.2**	**0.0**
MT10				*i* S	**Sg**	**11 41 09.4**	**-0.9**
MT10				IAML		11 41 10.9	
	comp=E,4µm,0.4s						
MT14	**Cerro Cal¡n**	**1.50**	**136**	*e*P	**Pn**	**11 40 51.7**	**+0.4**
MT14				*i* S	**Sb**	**11 41 11.7**	**+0.3**
MT14				IAML		11 41 20.4	
	comp=N,3µm,0.3s						
MT03	**Universidad Ad**	**1.58**	**138**		**Pn**	**11 40 53.2**	**+0.6**
MT03	**Universidad Ad**	**1.58**	**138**	*e*P	**Pn**	**11 40 52.9**	**+0.4**
MT03				*i* S	**Sb**	**11 41 14.3**	**+0.5**
MT09	**Talagante**	**1.59**	**155**		**Pn**	**11 40 53.4**	**+0.7**
MT09	**Talagante**	**1.59**	**155**	*e*P	**Pn**	**11 40 53.4**	**+0.7**
MT09				IAML		11 41 23.8	
	comp=N,1µm,0.5s						
MT01	**Popeta**	**1.60**	**164**		**Pb**	**11 40 55.0**	**+0.9**
MT01	**Popeta**	**1.60**	**164**	*e*P	**Pn**	**11 40 52.4**	**-0.2**
MT01				*i* S	**Sn**	**11 41 13.2**	**+0.1**
MT01				IAML		11 41 22.0	
	comp=E,2µm,0.6s						
FCH	**Farellones**	**1.61**	**129**	⇑*e*P	**Pn**	**11 40 53.0**	**0.0**
FCH				*i* S	**Sb**	**11 41 14.4**	**-0.3**
FCH				IAML		11 41 18.2	
	comp=E,741nm,0.3s						
MT15	**Las Vizcachas**	**1.66**	**140**	*e*P	**Pb**	**11 40 55.3**	**+0.1**
MT15				IAML		11 41 25.8	
	comp=N,2µm,0.3s						
MT12	**Pirque**	**1.75**	**144**	*e*P	**Pn**	**11 40 55.2**	**+0.5**
MT12				*i* S	**Sb**	**11 41 18.5**	**+0.1**
MT12				IAML		11 41 25.9	
	comp=N,3µm,0.6s						
CO03	**El Pedregal**	**1.75**	**33**	Pn	**Pn**	**11 40 54.4**	**-0.4**
CO03	**El Pedregal**	**1.75**	**33**	*e*P	**Pn**	**11 40 54.8**	**0.0**
CO03				*i* S	**Sb**	**11 41 17.9**	**-0.7**
CO03				IAML		11 41 21.4	
	comp=E,1µm,0.3s						
MT04	**Ro Olivares**	**1.75**	**128**	*e*P	**Pn**	**11 40 55.6**	**+0.6**
MT04				*i* S	**Sb**	**11 41 18.6**	**-0.3**
MT04				IAML		11 41 21.6	
	comp=E,845nm,0.2s						
MT08	**Bocatoma Ro**	**1.86**	**127**		**Pn**	**11 40 57.1**	**+0.7**
MT08	**Bocatoma Ro**	**1.86**	**127**	⇑*e*P	**Pn**	**11 40 57.2**	**+0.8**
MT08				*i* S	**Sb**	**11 41 21.4**	**-0.5**
MT08				IAML		11 41 33.1	
	comp=N,686nm,0.7s						
MT13	**San Alfonso**	**1.89**	**139**		**Pn**	**11 40 57.5**	**+0.7**
MT13	**San Alfonso**	**1.89**	**139**	*e*P	**Pn**	**11 40 57.7**	**+0.9**
MT13				*i* S	**Sb**	**11 41 21.9**	**-0.9**
MT13				IAML		11 41 29.6	
	comp=E,1µm,0.4s						
BO04	**La Punta**	**1.93**	**150**		**Pn**	**11 40 58.3**	**+1.0**
BO04	**La Punta**	**1.93**	**150**	*e*P	**Pn**	**11 40 58.2**	**+1.0**
BO04				*i* S	**Sb**	**11 41 23.4**	**-0.4**
BO04				IAML		11 41 31.1	
	comp=N,1µm,0.3s						
LMEL	**Las Melosas**	**2.02**	**139**		**Pn**	**11 40 59.6**	**+1.1**
LMEL	**Las Melosas**	**2.02**	**139**	*e*P	**Pn**	**11 40 59.5**	**+0.9**
LMEL				*i* S	**Sb**	**11 41 26.2**	**-0.1**
LMEL				IAML		11 41 31.2	
BO01	**Tunca**	**2.14**	**164**	Pn	**Pb**	**11 41 02.4**	**-1.0**
BO03	**Pichilemu**	**2.17**	**184**	⇑*e*P	**Pn**	**11 40 59.3**	**-1.1**
GO04	**Tololo Observa**	**2.31**	**22**		**Pn**	**11 41 03.0**	**+0.4**
GO04	**Tololo Observa**	**2.31**	**22**	*e*P	**Pn**	**11 41 01.5**	**-1.0**
GO04				*i* S	**Sb**	**11 41 33.8**	**-0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**2.44**	**11**		**Pn**	**11 41 04.8**	**+0.6**
BO02	**Sierra Bellavi**	**2.60**	**161**		**Pb**	**11 41 09.7**	**-1.6**
BO02	**Sierra Bellavi**	**2.60**	**161**	*e*P	**Pn**	**11 41 07.2**	**+0.7**
GO05	**Huala**	**2.68**	**183**	Pn	**Pb**	**11 41 13.1**	**+0.5**
GO05	**Huala**	**2.68**	**183**	*e*P	**Pn**	**11 41 06.5**	**-1.0**
CO01	**Juntas del Tor**	**2.75**	**32**	*e*P	**Pn**	**11 41 09.0**	**+0.3**
CO01				*i* S	**Sn**	**11 41 42.3**	**+0.5**
CO01				IAML		11 41 48.8	
	comp=E,327nm,0.7s						
ZON	**Zonda**	**2.75**	**74**	Pn	**Pb**	**11 41 12.6**	**-1.2**
LCO	**Las Campanas**	**3.43**	**16**	Pn	**Pn**	**11 41 16.7**	**-1.4**
LCO	**Las Campanas**	**3.43**	**16**	*e*P	**Pn**	**11 41 16.6**	**-1.5**
LCO				*i* S	**Sn**	**11 41 59.6**	**+0.9**
ML02	**Panimavida**	**3.44**	**175**	Pn	**Pb**	**11 41 23.1**	**-2.5**
AC05	**El Transito**	**3.71**	**21**	*e*P	**Pn**	**11 41 21.4**	**-0.5**
AC04	**Llanos de Chal**	**4.15**	**9**	Pn	**Pn**	**11 41 30.6**	**+2.9**
AC06	**Mina Casimiro**	**5.10**	**14**	Pn	**Pn**	**11 41 44.4**	**+3.6**
GO02	**Mina Guanaco**	**7.39**	**16**	Pn	**Pn**	**11 42 13.5**	**+1.0**
PB14	**IPOC Station P**	**7.77**	**9**	Pn	**Pn**	**11 42 21.2**	**+3.5**
TRQA	**Tornquist**	**9.85**	**128**	Pn	**Pn**	**11 42 47.7**	**+1.7**
LVC	**Limon Verde**	**10.01**	**15**	Pn	**Pn**	**11 42 49.5**	**+1.0**
LPAZ	**La Paz**	**16.31**	**13**	Pn	**Pn**	**11 44 12.8**	**-1.2**
PTLB	**Pontes e Lacer**	**20.36**	**37**	P	**P**	**11 45 01.6**	**+0.6**
PTLB				IAmb	IAmb	11 45 04.0	
	comp=Z,9.0nm,1.5s						
ETMB	**Extrema**	**22.98**	**14**	P	**P**	**11 45 28.9**	**-0.2**
ETMB				IAmb	IAmb	11 45 29.8	
	comp=Z,6.3nm,1.1s						

IDC 07 11:44:56.0±5.5**, 5°.32S**×**151°.29E, h107**km±45km**, mb3.4**/3**, mbtmp3.7**/4**, Error ellipse: s-maj=111.9km s-min=32.3km az=126.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.77**	**225**	P	Pn	11 46 18.1	-1.1
	3.5nm,0.3s,baz=28,slow=12,SNR=4.0						
PMG				S	Sn	11 47 26.5	+2.4
	3.6nm,0.4s,baz=328,slow=21,SNR=2.1						
WRA	**Warramunga Arr**	**21.98**	**227**	P	P	11 49 41.1	-0.5
	1.4nm,0.6s,baz=52,slow=10,SNR=16						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**24.77**	**221**	P	P	11 50 07.7	-0.3
	3.1nm,0.7s,baz=56,slow=9.0,SNR=52						
	3.1nm,0.7s						
ILAR	**Eielson Array**	**83.20**	**22**	P	P	11 57 10.4	+0.3
	0.2nm,0.6s,baz=244,slow=5.7,SNR=5.6						
	0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.03**	**287**	PKPbc	PKPbc	12 04 32.4	-0.3
	0.3nm,0.4s,baz=76,slow=1.8,SNR=2.5						

*NOU **07** 11:46:44.3, 42°.01S×175°.15E, h6km, MLv3.8/12, Off E. Coast of S. Island, N.Z.*
*WEL **07** 11:46:46.8±0.5, 42°S±4°×17°5E±°, h26km±3km, M3.3/59, ML3.4/24, MLv3.3/59, Error ellipse: s-maj=0.0km s-min=0.0km az=149.6, confirmed*
ISC 07 11:46:45.3±1.3**, 41°.93S**±0°.04×**175°.12E**±0°.03**, h29**km±13km**, n126,** σ**1§45**/146**, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NWFS	**Ngawi Fire Sta**	**0.35**	**14**	P	**Pn**	**11 46 55.1**	**+0.7**
NWFS				S	**Sn**	**11 47 00.9**	**+0.6**
PLWZ	**Palliser**	**0.37**	**15**	P	**Pn**	**11 46 55.4**	**+0.7**
BHW	**Baring Head**	**0.55**	**340**	P	**Pn**	**11 46 57.4**	**+0.2**
BHW				S	**Sn**	**11 47 04.3**	**-1.1**
PAWZ	**Paruwai Farm**	**0.59**	**23**	P	**Pn**	**11 46 58.5**	**+0.8**
PAWZ				S	**Sn**	**11 47 06.6**	**+0.2**
TRWZ	**Traveller**	**0.68**	**39**	P	**Pn**	**11 47 00.1**	**+1.1**
TRWZ				S	**Sn**	**11 47 10.0**	**+1.5**
SNZO	**South Karori**	**0.69**	**333**	P	**Pn**	**11 46 59.4**	**+0.3**
WEL	**Wellington**	**0.69**	**337**	P	**Pn**	**11 46 59.5**	**+0.4**
WEL				S	**Sn**	**11 47 08.0**	**-1.0**
CMWZ	**Cape Campbell**	**0.70**	**284**	P	**Pn**	**11 47 00.5**	**+1.2**
CMWZ				S	**Sn**	**11 47 10.0**	**+0.8**
MAVS	**Martinborough**	**0.76**	**20**	P	**Pn**	**11 47 00.9**	**+0.9**
MAVS				S	**Sn**	**11 47 10.4**	**-0.1**
MTW	**Mount Morrison**	**0.82**	**20**	P	**Pn**	**11 47 01.6**	**+0.8**
MTW				S	**Sn**	**11 47 12.0**	**0.0**
CAW	**Cannon Point**	**0.82**	**357**	P	**Pn**	**11 47 01.7**	**+0.8**
CAW				S	**Sn**	**11 47 11.5**	**-0.6**
KEKS	**Kekerengu Vall**	**0.85**	**268**	P	**Pb**	**11 47 02.1**	**+0.6**
KEKS				S	**Sb**	**11 47 13.1**	**+0.5**
BSWZ	**Blackbirch Sta**	**0.96**	**282**	P	**Pb**	**11 47 03.4**	**+0.2**
BSWZ				S	**Sb**	**11 47 15.1**	**-0.5**
TCW	**Tory Channel**	**0.96**	**318**	P	**Pn**	**11 47 03.1**	**+0.3**
TMWZ	**Te Maipa**	**1.00**	**35**	P	**Pn**	**11 47 04.2**	**+0.8**
TMWZ				S	**Sn**	**11 47 17.3**	**+0.7**
PAPS	**Paraparaumu Pr**	**1.01**	**355**	P	**Pb**	**11 47 04.5**	**+0.3**
PAPS				S	**Sn**	**11 47 16.4**	**-0.5**
TUWZ	**Tuamarina**	**1.01**	**299**	P	**Pn**	**11 47 03.9**	**+0.3**
BWRS	**Waikakaho Road**	**1.03**	**298**	P	**Pn**	**11 47 04.3**	**+0.4**
BWRS				S	**Sn**	**11 47 16.5**	**-0.8**
HOWZ	**Holdsworth Sta**	**1.07**	**16**	P	**Pb**	**11 47 05.2**	**+0.1**
HOWZ				S	**Sb**	**11 47 17.9**	**-0.9**
KIW	**Kapiti Island**	**1.08**	**351**	P	**Pb**	**11 47 05.3**	**0.0**
KIW				S	**Sn**	**11 47 17.8**	**-0.6**
OGWZ	**Otaki Gorge**	**1.11**	**2**	P	**Pb**	**11 47 05.8**	**0.0**
OGWZ				S	**Sn**	**11 47 18.8**	**-0.4**
KHZ	**Kahutara**	**1.28**	**247**	P	**Pn**	**11 47 08.0**	**+0.8**
KHZ	**Kahutara**	**1.28**	**247**	P	**Pn**	**11 47 08.0**	**+0.8**
KHZ				S	**Sn**	**11 47 23.0**	**-0.3**
TIWZ	**Tintock**	**1.28**	**27**	P	**Pn**	**11 47 08.3**	**+1.0**
TIWZ				S	**Sn**	**11 47 23.7**	**+0.1**
CPWZ	**Castlepoint**	**1.30**	**39**	P	**Pn**	**11 47 08.7**	**+1.2**
MRZ	**Mangatainoka R**	**1.31**	**15**	P	**Pn**	**11 47 08.6**	**+1.0**
MRZ				S	**Sn**	**11 47 23.8**	**-0.4**
DUWZ	**D'Urville Isla**	**1.44**	**321**	P	**Pb**	**11 47 10.7**	**-0.8**
NNZ	**Nelson**	**1.49**	**298**	P	**Pn**	**11 47 10.8**	**+0.8**
BFZ	**Birch Farm**	**1.50**	**35**	P	**Pn**	**11 47 11.1**	**+0.8**
BFZ	**Birch Farm**	**1.50**	**35**	P	**Pn**	**11 47 10.8**	**+0.5**
PRWZ	**Pori Road**	**1.51**	**25**	P	**Pn**	**11 47 11.5**	**+1.1**
POWZ	**Post Office Ro**	**1.61**	**18**	P	**Pn**	**11 47 13.1**	**+1.4**
THZ	**Tophouse**	**1.67**	**275**	P	**Pn**	**11 47 13.2**	**+0.6**
OHWZ	**Ohakea**	**1.72**	**5**	P	**Pb**	**11 47 15.7**	**-0.5**
ANWZ	**Angora Road**	**1.78**	**35**	P	**Pn**	**11 47 15.0**	**+0.9**
DVHZ	**Dannevirke**	**1.81**	**26**	P	**Pn**	**11 47 15.2**	**+0.7**
MRNZ	**Matariki Terra**	**1.85**	**286**	P	**Pn**	**11 47 16.1**	**+1.0**
TKNZ	**Takaka Hill**	**1.85**	**298**	P	**Pn**	**11 47 15.6**	**+0.4**
GVZ	**Greta Valley S**	**1.86**	**235**	P	**Pn**	**11 47 16.4**	**+1.1**
TSZ	**Takapari Road**	**1.97**	**19**	P	**Pn**	**11 47 17.8**	**+1.0**
WPHZ	**Waipukurau**	**2.11**	**29**	P	**Pn**	**11 47 19.7**	**+1.1**
PNHZ	**Pukenui**	**2.17**	**22**	P	**Pn**	**11 47 20.4**	**+0.9**
WAZ	**Wanganui**	**2.17**	**357**	P	**Pb**	**11 47 22.7**	**-1.2**
AMCZ	**Amberley**	**2.21**	**235**	P	**Pn**	**11 47 20.9**	**+0.8**
QRZ	**Quartz Range**	**2.24**	**299**	P	**Pn**	**11 47 22.5**	**+2.1**
QRZ	**Quartz Range**	**2.24**	**299**	P	**Pn**	**11 47 22.3**	**+1.9**
LTZ	**Lake Taylor**	**2.28**	**247**	P	**Pn**	**11 47 21.7**	**+0.6**
PXZ	**Pawanui**	**2.31**	**35**	P	**Pn**	**11 47 21.2**	**-0.1**
OKCZ	**Okains Bay**	**2.35**	**220**	P	**Pn**	**11 47 22.6**	**+0.6**
KRHZ	**Kereru**	**2.47**	**23**	P	**Pn**	**11 47 24.4**	**+0.8**
DSZ	**Denniston Nort**	**2.49**	**273**	P	**Pn**	**11 47 25.2**	**+1.3**
KAHZ	**Kahuranaki**	**2.51**	**33**	P	**Pn**	**11 47 24.4**	**+0.2**
LREZ	**Lake Rotokare**	**2.52**	**347**	P	**Pb**	**11 47 27.7**	**-2.1**
AKCZ	**Akaroa Harbour**	**2.54**	**219**	P	**Pn**	**11 47 25.0**	**+0.4**
BHHZ	**Black Hill Sta**	**2.54**	**17**	P	**Pn**	**11 47 25.9**	**+1.3**
MQZ	**McQueen's Vall**	**2.54**	**225**	P	**Pn**	**11 47 24.6**	**0.0**
MTVZ	**Mangateitei**	**2.55**	**6**	P	**Pn**	**11 47 27.1**	**+2.3**
MOVZ	**Moawhango**	**2.56**	**11**	P	**Pn**	**11 47 26.5**	**+1.6**
WNVZ	**Wahianoa**	**2.62**	**8**	P	**Pn**	**11 47 28.2**	**+2.4**
PKVZ	**Pokaka**	**2.64**	**4**	P	**Pn**	**11 47 28.3**	**+2.3**
TRVZ	**Turoa**	**2.64**	**7**	P	**Pn**	**11 47 28.7**	**+2.5**
WHVZ	**Whangaehu Hut**	**2.66**	**8**	P	**Pn**	**11 47 28.8**	**+2.4**
OXZ	**Oxford**	**2.67**	**237**	P	**Pn**	**11 47 26.5**	**+0.1**
PREZ	**Palmer Road**	**2.68**	**344**	P	**Pb**	**11 47 30.6**	**-2.0**
TUVZ	**Tukino**	**2.69**	**9**	P	**Pn**	**11 47 29.1**	**+2.4**
KWHZ	**Kaweka Forest**	**2.69**	**22**	P	**Pn**	**11 47 27.5**	**+0.9**
COVZ	**Chateau Observ**	**2.74**	**7**	P	**Pn**	**11 47 30.4**	**+3.0**
KHEZ	**Kahui Hut**	**2.76**	**342**	P	**Pb**	**11 47 31.7**	**-2.3**
KHEZ	**Kahui Hut**	**2.76**	**342**	P	**Pb**	**11 47 31.3**	**-2.6**
SNVZ	**South Ngauruho**	**2.77**	**8**	P	**Pn**	**11 47 30.0**	**+2.2**
NEZ	**North Egmont**	**2.77**	**343**	P	**Pb**	**11 47 32.2**	**-1.9**
NGZ	**Ngauruhoe**	**2.77**	**8**	P	**Pn**	**11 47 30.4**	**+2.5**
OTVZ	**Oturere**	**2.79**	**9**	P	**Pn**	**11 47 30.3**	**+2.2**
VRZ	**Vera Road**	**2.81**	**354**	P	**Pn**	**11 47 30.9**	**+2.6**
NNVZ	**North Ngauruho**	**2.82**	**8**	P	**Pn**	**11 47 30.8**	**+2.3**
ETVZ	**East Tongariro**	**2.82**	**9**	P	**Pn**	**11 47 30.8**	**+2.2**
DREZ	**Durham Road**	**2.82**	**345**	P	**Pb**	**11 47 32.2**	**-2.8**
WTVZ	**West Tongariro**	**2.83**	**7**	P	**Pn**	**11 47 31.2**	**+2.5**
RACZ	**Rakaia**	**2.84**	**230**	P	**Pn**	**11 47 29.1**	**+0.4**
TMVZ	**Te Maari**	**2.84**	**9**	P	**Pn**	**11 47 30.9**	**+2.1**
INZ	**Inchbonnie**	**2.84**	**252**	P	**Pn**	**11 47 30.1**	**+1.4**
KRVZ	**Karewarewa**	**2.85**	**8**	P	**Pn**	**11 47 31.4**	**+2.4**
NTVZ	**North Tongarir**	**2.85**	**9**	P	**Pn**	**11 47 31.1**	**+2.0**
TWVZ	**Taurewa**	**2.86**	**5**	P	**Pn**	**11 47 31.2**	**+2.1**
MHEZ	**Mangahewa**	**2.91**	**348**	P	**Pb**	**11 47 33.7**	**-2.8**
BKZ	**Black Stump Fm**	**2.95**	**21**	P	**Pn**	**11 47 32.6**	**+2.4**
BKZ	**Black Stump Fm**	**2.95**	**21**	P	**Pn**	**11 47 32.1**	**+1.9**
KATZ	**Kakaramea**	**2.98**	**9**	P	**Pn**	**11 47 33.4**	**+2.6**
ARHZ	**Aropaoanui**	**3.02**	**29**	P	**Pn**	**11 47 32.1**	**+1.0**
MHCZ	**Mount Hutt**	**3.07**	**237**	P	**Pn**	**11 47 31.9**	**0.0**
NMHZ	**Naumai**	**3.10**	**25**	P	**Pn**	**11 47 34.1**	**+1.8**
WACZ	**Wakanui South**	**3.14**	**229**	P	**Pn**	**11 47 33.3**	**+0.4**
MRHZ	**Matea Rd**	**3.24**	**18**	P	**Pn**	**11 47 35.8**	**+1.6**
MTHZ	**Maungataniwha**	**3.34**	**24**	P	**Pn**	**11 47 37.3**	**+1.8**
RAHZ	**Arahi**	**3.36**	**27**	P	**Pn**	**11 47 37.0**	**+1.2**
HIZ	**Hauiti**	**3.42**	**356**	P	**Pn**	**11 47 39.3**	**+2.7**
HIZ	**Hauiti**	**3.42**	**356**	P	**Pn**	**11 47 39.2**	**+2.7**
WVZ	**Waitaha Valley**	**3.44**	**249**	P	**Pn**	**11 47 38.1**	**+1.2**
RPZ	**Rata Peaks**	**3.49**	**238**	P	**Pn**	**11 47 38.1**	**+0.5**
RPZ	**Rata Peaks**	**3.49**	**238**	P	**Pn**	**11 47 38.2**	**+0.5**
ARCZ	**Arundel**	**3.53**	**234**	P	**Pn**	**11 47 38.6**	**+0.4**
SNGZ	**Shannon Statio**	**3.57**	**29**	P	**Pn**	**11 47 39.2**	**+0.5**
TLZ	**Tolley Road**	**3.61**	**5**	P	**Pn**	**11 47 41.1**	**+1.8**
GCSZ	**Gaunt Creek Bo**	**3.80**	**247**	P	**Pn**	**11 47 43.7**	**+1.8**
RAGZ	**Rawiri**	**3.85**	**28**	P	**Pn**	**11 47 42.6**	**0.0**
TMZ	**Timaru**	**3.89**	**229**	P	**Pn**	**11 47 43.7**	**+0.6**
MWZ	**Matawai**	**4.03**	**28**	P	**Pn**	**11 47 44.0**	**-1.1**
TOZ	**Tahuroa Road**	**4.20**	**4**	P	**Pn**	**11 47 49.0**	**+1.7**
FOZ	**Fox Glacier**	**4.23**	**246**	P	**Pn**	**11 47 49.1**	**+1.4**
LBZ	**Lake Benmore**	**4.37**	**234**	P	**Pn**	**11 47 50.9**	**+1.2**
RUGZ	**Raukumara Rang**	**4.42**	**27**	P	**Pn**	**11 47 50.4**	**0.0**
ODZ	**Otahua Downs**	**4.51**	**225**	P	**Pn**	**11 47 52.3**	**+0.7**
ODZ	**Otahua Downs**	**4.51**	**225**	P	**Pn**	**11 47 52.2**	**+0.6**
HAZ	**Te Kaha**	**4.64**	**27**	P	**Pn**	**11 47 53.2**	**-0.2**
MKAZ	**Moumakai**	**4.81**	**0**	P	**Pn**	**11 47 57.6**	**+1.8**
AWAZ	**Awhitu Peninsu**	**4.87**	**355**	P	**Pn**	**11 47 59.0**	**+2.4**
ETAZ	**East Tamaki Re**	**4.97**	**358**	P	**Pn**	**11 48 00.2**	**+2.3**
WTAZ	**Waiatarua**	**5.00**	**355**	P	**Pn**	**11 48 01.1**	**+2.6**
WIAZ	**Waiheke Island**	**5.13**	**0**	P	**Pn**	**11 48 02.2**	**+2.1**
RVAZ	**Riverhead Bore**	**5.17**	**355**	P	**Pn**	**11 48 03.0**	**+2.4**
KUZ	**Kuaotunu**	**5.19**	**5**	P	**Pn**	**11 48 03.1**	**+2.1**
EAZ	**Earnscleugh**	**5.36**	**230**	P	**Pn**	**11 48 03.8**	**+0.4**
TUZ	**Tuapeka**	**5.65**	**223**	P	**Pn**	**11 48 08.1**	**+0.8**
SYZ	**Scrubby Hill**	**6.30**	**221**	P	**Pn**	**11 48 17.0**	**+0.8**
CTZ	**Chatham Island**	**6.34**	**109**	P	**Pn**	**11 48 18.4**	**+1.7**
CTZ	**Chatham Island**	**6.34**	**109**	P	**Pn**	**11 48 18.4**	**+1.7**

*IDC **07** 12:01:21.7±4.6, 36°.34N×70°.87E, h188km±40km, mb3.2/7, mbtmp3.7/10, Error ellipse: s-maj=36.5km s-min=20.0km az=41.0*
*NNC **07** 12:01:29.8±3.4, 37°.04N×71°.01E, h236km±117km, mb2.3, mpv3.5, Error ellipse: s-maj=54.2km s-min=24.5km az=179.0*
ISC 07 12:01:22.6±0.9**, 36°.55N**±0°.07×**70°.9E**±0°.1**, h188**km**, n29,** σ**1§45**/34**, mb3.4**/6**, 2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.99**	**21**	P	**Pn**	**12 02 51.5**	**+1.7**
	SNR=66						
AML	**Almayashu**	**5.99**	**21**	P	**Pn**	**12 02 51.4**	**+1.5**
	0.9nm,0.4s						
AML				S	**Sn**	**12 03 57.1**	**-1.5**
	15nm,0.6s						
UCH	**Uchtor**	**6.33**	**25**	P	**Pn**	**12 02 56.0**	**+1.6**
	SNR=20						
KZA	**Kyzart**	**6.48**	**30**	P	**Pn**	**12 02 57.4**	**+1.1**
	SNR=6.3						
EKS2	**Erkin-Say**	**6.50**	**19**	P	**Pn**	**12 02 58.5**	**+2.2**
	SNR=6.5						
KK31	**Karatay Array**	**6.55**	**358**	P	**Pn**	**12 02 59.9**	**+3.0**
	1.0nm,0.3s,baz=177,slow=12,SNR=9.0						
KK31				S	**Sn**	**12 04 08.9**	**-2.5**
	6.0nm,0.8s,baz=185,slow=16,SNR=11						
AAK	**Ala-Archa**	**6.69**	**24**	P	**Pn**	**12 03 00.9**	**+2.1**
	SNR=6.6						
AAK	**Ala-Archa**	**6.69**	**24**	P	**Pn**	**12 03 00.7**	**+1.9**
	6.3nm,0.3s,baz=203,slow=12,SNR=20						
AAK				S	**Sn**	**12 04 13.5**	**-1.4**
	6.2nm,0.6s,baz=26,slow=21,SNR=4.0						
CHMS	**Chumysh**	**7.10**	**24**	P	**Pn**	**12 03 04.8**	**+0.8**
	1.8nm,0.5s						
CHMS				⇓S	**Sn**	**12 04 22.5**	**-1.8**
	5.2nm,0.8s						
TKM2	**Tokmak 2**	**7.33**	**28**	P	**Pn**	**12 03 09.0**	**+1.8**
	SNR=12						
TKM2	**Tokmak 2**	**7.33**	**28**	P	**Pn**	**12 03 07.5**	**+0.3**
	4.5nm,0.5s						
TKM2				⇓S	**Sn**	**12 04 28.2**	**-1.9**
	5.1nm,0.7s						
PYUN	**Piuthan**	**13.25**	**126**	*e*P	**Pn**	**12 04 24.0**	**+0.1**
	12nm,0.4s						
MKAR	**Makanchi Array**	**13.31**	**36**	P	**Pn**	**12 04 25.6**	**+1.3**
	0.3nm,0.5s,baz=205,slow=13,SNR=4.6						
DANN	**Dangsing**	**13.60**	**123**	*e*P	**Pn**	**12 04 28.7**	**+0.4**
	5.5nm,0.2s						
GKN	**Gorkha**	**14.41**	**122**	*e*P	**Pn**	**12 04 39.3**	**+1.0**
	14nm,0.2s						
DMN	**Daman**	**14.98**	**122**	*e*P	**Pn**	**12 04 46.0**	**+0.6**
	8.9nm,0.2s						
PKIN	**Phulchoki**	**15.20**	**122**	*e*P	**Pn**	**12 04 48.5**	**+0.4**
	15nm,0.4s						
PKI	**Pulchoki**	**15.21**	**122**	*e*P	**Pn**	**12 04 48.5**	**+0.2**
	11nm,0.4s						
GUN	**Gumba**	**15.33**	**120**	*e*P	**P**	**12 04 50.8**	**+0.5**
	14nm,0.4s						
JIRN	**Jiri**	**15.70**	**120**	*e*P	**Pn**	**12 04 54.3**	**+0.1**
	21nm,0.4s						
RAMN	**Ramite**	**16.42**	**121**	*e*P	**Pn**	**12 05 03.3**	**+0.4**
	6.0nm,0.2s						
BVAR	**Borovoye Array**	**16.48**	**359**	P	**P**	**12 05 03.6**	**+1.2**
	0.7nm,0.4s,baz=164,slow=11,SNR=5.4						
ZALV	**Zalesovo Beam**	**19.91**	**25**	P	**P**	**12 05 39.8**	**+0.2**
	0.5nm,0.3s,baz=212,slow=12,SNR=4.1						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**37.39**	**326**	P	**P**	**12 08 17.9**	**+1.0**
	2.2nm,0.9s,baz=187,slow=14,SNR=3.5						
	2.2nm,0.9s						
ARCES	**ARCESS Array B**	**41.06**	**338**	P	**P**	**12 08 47.9**	**+0.6**
	0.7nm,0.5s,baz=111,slow=9.4,SNR=5.6						
	0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**65.62**	**269**	P	**P**	**12 11 45.2**	**-1.6**
	0.3nm,0.5s,baz=48,slow=6.3,SNR=2.9						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**81.20**	**3**	P	**P**	**12 13 17.1**	**+0.2**
	0.2nm,0.5s,baz=348,slow=5.9,SNR=9.2						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**82.10**	**122**	P	**P**	**12 13 20.7**	**-1.6**
	0.5nm,0.7s,baz=323,slow=4.9,SNR=14						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**84.36**	**125**	P	**P**	**12 13 32.8**	**-1.1**
	0.5nm,0.7s,baz=311,slow=4.7,SNR=7.9						
	0.5nm,0.7s						

SJA 07 12:04:29.1±0.7**, 21°.08S**×**69°.03W, h123**km±3km**, ML4.3, MW4.3, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.43**	**275**	*e*P	Pn	12 04 46.8	-0.3
PB01				*e*P	S	12 05 00.8	+0.1
PB01				*e*S	S	12 05 00.8	+0.1
PB01				IAML		12 05 01.4	
	comp=Z,134nm,0.1s						
PB09	**IPOC Station P**	**0.74**	**195**	*e*P	Pn	12 04 49.6	+0.3
PB09				*e*S	Sn	12 05 05.7	+1.1
PB09				IAML		12 05 07.8	
	comp=Z,50nm,0.2s						
PB02	**IPOC Station P**	**0.84**	**253**	*e*P	Pn	12 04 50.4	+0.3
PB02				*e*P		12 04 52.6	
PB02				*e*S	Sn	12 05 06.9	+1.0
PB08	**IPOC Station P**	**0.94**	**353**	*e*P	Pn	12 04 52.6	+1.3
PB08				IAML		12 05 08.9	
	comp=Z,28nm,0.3s						
PB08				*e*S	Sn	12 05 09.1	+1.1
PB07	**IPOC Station P**	**1.02**	**231**	*e*P	Pn	12 04 52.6	+0.8
PB07				*e*P		12 04 52.8	
PB07				*e*S	Sn	12 05 10.1	+1.0
PB07				IAML		12 05 12.0	
	comp=Z,60nm,0.2s						
PATCX	**Punta Patache**	**1.08**	**284**	*e*P	Pn	12 04 53.3	+1.1
PATCX				*e*S	Sn	12 05 11.7	+1.9
PATCX				IAML		12 05 12.1	
	comp=Z,55nm,0.4s						
HMBC	**Humberstone**	**1.13**	**315**	*e*P	Pn	12 04 53.5	+0.6
HMBC				*e*S	Sn	12 05 11.9	+1.1
HMBC				IAML		12 05 12.1	
	comp=Z,88nm,0.4s						
TA01	**Diego Aracena**	**1.19**	**295**	*e*P	Pn	12 04 53.7	+0.4
TA01				*e*S	Sn	12 05 12.7	+1.1
TA01				IAML		12 05 14.1	
	comp=Z,26nm,0.5s						
GO01	**Chusmiza**	**1.41**	**354**	*e*P	Pn	12 04 57.1	+0.9
GO01				*e*S	Sn	12 05 17.9	+1.1
GO01				IAML		12 05 22.1	
	comp=Z,21nm,0.3s						
PB11	**IPOC Station P**	**1.44**	**336**	*e*P	Pn	12 04 57.1	+0.9
PB11				*e*S	Sn	12 05 17.8	+1.0
PB11				IAML		12 05 19.2	
	comp=Z,19nm,0.2s						
LVC	**Limon Verde**	**1.53**	**176**	*e*P	Pn	12 04 58.5	+1.0
LVC				*e*S	Sn	12 05 20.2	+1.2
LVC				IAML		12 05 23.7	
	comp=Z,13nm,0.6s						
PB06	**IPOC Station P**	**1.70**	**197**	*e*P	Pn	12 05 00.1	+0.9
PB06				*e*S	Sn	12 05 23.0	+0.8
PB06				IAML		12 05 25.7	
	comp=Z,23nm,0.1s						
PB05	**IPOC Station P**	**2.07**	**211**	*e*P	Pn	12 05 04.5	+0.8
PB05				*e*S	Sn	12 05 30.3	0.0
PB05				IAML		12 05 35.4	
	comp=Z,14nm,2.9s						
PB15	**IPOC Station P**	**2.16**	**191**	*e*P	Pn	12 05 06.0	+1.1
PB15				*e*S	Sn	12 05 34.3	+2.0
PB15				IAML		12 05 42.4	
	comp=Z,59nm,0.1s						
GO02	**Mina Guanaco**	**4.10**	**187**	*e*P	Pn	12 05 31.5	+1.2
GO02				*e*S	Sn	12 06 18.4	+0.6

*IDC **07** 12:17:53.4±0.8, 48°.42S×105°.24E, h0km, mb4.5/7, mbtmp4.5/8, ML2.0/1, MS4.0/27, Error ellipse: s-maj=35.1km s-min=16.6km az=111.0*
*NEIC **07** 12:17:55.3±1.1, 48°.4S±0°.1×105°.2E±0°.2, h10km±1km, mb4.7/21, Error ellipse: s-maj=24.4km s-min=18.2km az=128.0*
*GCMT **07** 12:17:57.3±0.3, 48°.45S±0°.01×105°.00E±0°.03, h21km±1km, MW5.0/98, Moment Tensor Solution. s31,c35; s98,c126; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.35±.14; Mθθ-2.28±.12; Mϕϕ2.63±.14; Mrθ0.63±.23; Mθϕ-2.29±.11; Mϕr1.14±.23; Best double couple: M0 3.61000×10^16 NP1:ϕs202.00000°, δ86.00000°, λ-22.00000°. NP2: ϕs294.00000°, δ68.00000°, λ-175.00000°. Principal axes: T 3.7080, Plg12.0000°, Azm250.0000°; N -0.2010, Plg68.0000°, Azm12.0000°; P -3.5120, Plg18.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 12:17:55.6±0.7**, 48°.5S**±0°.1×**105°.4E**±0°.2**, h10**km**, n72,** σ**0§97**/41**, mb4.7**/20**, MS4.2**/27**, 3C, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.05**	**29**	T	T	12 36 51.0	
	baz=202,slow=74,SNR=328						
H01W1	**Cape Leeuwin H**	**15.06**	**29**	T	T	12 36 51.7	
	baz=202,slow=74,SNR=441						
H01W3	**Cape Leeuwin H**	**15.07**	**29**	T	T	12 36 53.1	
	baz=202,slow=74,SNR=394						
NWAO	**Narrogin (SRO)**	**17.92**	**34**	P	**P**	**12 22 05.2**	**-0.1**
	0.2nm,0.3s,baz=207,slow=19,SNR=1.8						
NWAO				LR	LR	12 26 48.6	
	comp=Z,301nm,20.8s,baz=198,slow=30						
	5.2nm,0.8s						
CASY	**Casey**	**18.04**	**173**		**P**	**12 22 06.5**	**0.0**
CASY				IAmb	IAmb	12 22 16.8	
	comp=Z,44nm,1.3s						
FORT	**Forrest**	**24.70**	**53**	P	**P**	**12 23 18.1**	**+1.4**
FORT				IAmb	IAmb	12 23 33.8	
	comp=Z,30nm,0.9s						
BBOO	**Buckleboo**	**27.81**	**67**	P	**P**	**12 23 44.7**	**-0.1**
BBOO				IAmb	IAmb	12 23 45.9	
	comp=Z,17nm,0.9s						
MAW	**Mawson**	**28.66**	**213**	P	**P**	**12 23 53.9**	**+1.9**
MAW	**Mawson**	**28.66**	**213**	LR	LR	12 32 47.9	
	comp=Z,303nm,18.9s,baz=70,slow=31						
STKA	**Stephens Creek**	**31.89**	**72**	P	**P**	**12 24 21.0**	**+0.1**
STKA	**Stephens Creek**	**31.89**	**72**	P	**P**	**12 24 20.2**	**-0.7**
	comp=Z,5.2nm,0.9s,baz=216,slow=6.9,SNR=7.7						
STKA				LR	LR	12 34 51.6	
	comp=Z,620nm,21.0s,baz=209,slow=32						
	comp=Z,5.2nm,0.9s						
ASAR	**Alice Springs**	**33.49**	**52**	P	**P**	**12 24 35.1**	**0.0**
ASAR	**Alice Springs**	**33.49**	**52**	P	**P**	**12 24 34.5**	**-0.5**
	comp=Z,11nm,0.8s,baz=211,slow=8.4,SNR=72						
ASAR				PcP	**PcP**	**12 27 14.4**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=190,slow=2.7,SNR=4.3						
ASAR				LR	LR	12 36 20.3	
	comp=Z,422nm,20.9s,baz=216,slow=33						
	comp=Z,11nm,0.8s						
AS31	**Alice Springs**	**33.49**	**52**	P	**P**	**12 24 34.8**	**-0.2**
VNDA	**Vanda**	**36.03**	**162**	P	**P**	**12 24 56.5**	**+0.1**
VNDA				IAmb	IAmb	12 25 09.0	
	comp=Z,7.2nm,1.0s						
VNDA	**Vanda**	**36.03**	**162**	P	**P**	**12 24 56.5**	**+0.1**
	comp=Z,4.0nm,1.0s,baz=293,slow=9.2,SNR=15						
VNDA				LR	LR	12 38 35.6	
	comp=Z,428nm,19.6s,baz=300,slow=34						
	comp=Z,4.0nm,1.0s						
WRA	**Warramunga Arr**	**36.79**	**49**	P	**P**	**12 25 02.9**	**-0.6**
WRA	**Warramunga Arr**	**36.79**	**49**	P	**P**	**12 25 03.0**	**-0.4**
	comp=Z,9.2nm,0.7s,baz=211,slow=8.5,SNR=61						
WRA				PcP	**PcP**	**12 27 23.5**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=226,slow=2.6,SNR=6.0						
	comp=Z,9.2nm,0.7s						
WB2	**Warramunga Arr**	**36.80**	**50**	P	**P**	**12 25 03.2**	**-0.3**
WB2				IAmb	IAmb	12 25 04.3	
	comp=Z,13nm,0.9s						
WRAB	**Tennant Creek**	**36.81**	**49**	P	**P**	**12 25 03.1**	**-0.5**
WRAB				IAmb	IAmb	12 25 03.8	
	comp=Z,11nm,0.8s						
WR0	**Warramunga Arr**	**36.88**	**50**	P	**P**	**12 25 03.4**	**-0.8**
WR0				IAmb	IAmb	12 25 04.9	
	comp=Z,9.7nm,0.9s						
WB0	**Warramunga Arr**	**36.97**	**49**	P	**P**	**12 25 03.6**	**-1.4**
WB0				IAmb	IAmb	12 25 05.1	
	comp=Z,9.6nm,0.9s						
KNRA	**Kununurra**	**37.93**	**38**	P	**P**	**12 25 13.3**	**+0.2**
ARMA	**Armidale**	**39.32**	**80**	P	**P**	**12 25 25.6**	**+0.8**
BATI	**Baumata**	**41.12**	**28**	LR	LR	12 41 23.8	
	comp=Z,56nm,19.0s,baz=9.0,slow=34						
LEM	**Lembang**	**41.56**	**3**	P	P	12 25 49.3	+5.8
	comp=Z,20nm,0.6s						
LEM	**Lembang**	**41.56**	**3**	LR	LR	12 38 56.0	
	comp=Z,135nm,21.0s,baz=174,slow=30						
QSPA	**South Pole Qui**	**41.65**	**180**	P	**P**	**12 25 43.5**	**-0.3**
QSPA	**South Pole Qui**	**41.65**	**180**	P	**P**	**12 25 43.6**	**-0.2**
	comp=Z,5.8nm,0.8s,baz=310,slow=1.0,SNR=54						
QSPA				LR	LR	12 41 48.3	
	comp=Z,313nm,19.9s,baz=320,slow=34						
	comp=Z,5.8nm,0.8s						
MMRI	**Maumere**	**42.19**	**25**	P	**P**	**12 25 51.4**	**+2.9**
	comp=Z,32nm,1.5s						
CTA	**Charters Tower**	**43.30**	**64**	LR	LR	12 43 15.4	
	comp=Z,394nm,18.8s,baz=232,slow=35						
CTAO	**Charters Tower**	**43.30**	**64**	P	**P**	**12 25 57.7**	**+0.2**
CTAO				IAmb	IAmb	12 25 58.6	
	comp=Z,13nm,0.9s						
RPZ	**Rata Peaks**	**44.53**	**110**	LR	LR	12 40 52.4	
	comp=Z,272nm,21.6s,baz=256,slow=31						
KAPI	**Kappang**	**45.02**	**20**	LR	LR	12 45 24.3	
	comp=Z,33nm,18.9s,baz=182,slow=37						
TROLL	**Troll, Antarti**	**48.42**	**204**	⇑P	**P**	**12 26 37.2**	**-0.3**
	comp=Z,131nm,0.8s						
H08S2	**Diego Garcia H**	**49.28**	**315**	T	T	13 19 20.7	
	baz=153,slow=76						
H08S1	**Diego Carcia H**	**49.29**	**315**	T	T	13 19 17.8	
	baz=153						
H08S3	**Diego Garcia H**	**49.30**	**315**	T	T	13 19 21.3	
	baz=153,slow=76						
SNAA	**Sanae**	**50.03**	**203**	P	**P**	**12 26 49.4**	**-0.3**
SNAA	**Sanae**	**50.03**	**203**	⇑P	**P**	**12 26 49.2**	**-0.5**
	comp=Z,122nm,0.8s						

SNAA	Sanae	50.03	203	P	P	12 26 49.0	-0.7
	comp=Z,8.4nm,1.1s,baz=152,slow=13,SNR=11						
SNAA				LR	LR	12 46 32.3	
	comp=Z,215nm,19.0s,baz=79,slow=34						
	comp=Z,8.4nm,1.1s						
URZ	Urewera	51.34	107	LR	LR	12 45 36.9	
	comp=Z,159nm,18.9s,baz=352,slow=32						
BELA	Belgrano 2	51.54	190	P	P	12 26 60.0	-0.9
VNA2	Neumayer--Watz	51.65	203	P	P	12 27 02.2	+0.3
	comp=Z,8.6nm,1.0s,baz=132,slow=7.0						
VNA1	Neumayer--Stat	52.05	203	⇑P	P	12 27 05.9	+1.1
	comp=Z,14nm,1.0s						
PMG	Port Moresby	52.35	56	P	P	12 27 07.2	-0.5
PMG				IAmb	IAmb	12 27 09.5	
	comp=Z,15nm,0.9s						
PMG	Port Moresby	52.35	56	LR	LR	12 48 03.2	
	comp=Z,87nm,18.2s,baz=232,slow=34						
DZM	Mont Dzumac	54.72	84	eS	S	12 35 18.9	+13
	comp=Z,159nm,23.8s						
DZM				eLR	LR	12 44 07.0	
	comp=Z,461nm,29.8s						
DZM	Mont Dzumac	54.72	84	LR	LR	12 46 34.9	
	comp=Z,137nm,21.1s,baz=230,slow=31						
PALK	Pallekele	59.62	331	LR	LR	12 47 39.2	
	comp=Z,217nm,20.7s,baz=269,slow=30						
HNR	Honiara	59.85	68	LR	LR	12 51 10.2	
	comp=Z,2μm,21.8s,baz=174,slow=33						
BOSA	Boshof	62.88	257	LR	LR	12 49 04.0	
	comp=Z,197nm,21.3s,baz=194,slow=30						
LBTB	Lobatse	65.11	260	LR	LR	12 50 58.2	
	comp=Z,155nm,21.1s,baz=158,slow=30						
PMSA	Palmer Station	66.78	185	LR	LR	12 57 49.0	
	comp=Z,221nm,18.9s,baz=232,slow=36						
CMAR	Chiang Mai Arr	66.89	353	P	P	12 28 45.7	-2.1
CMAR	Chiang Mai Arr	66.89	353	P	P	12 28 46.6	-1.2
	comp=Z,2.3nm,0.8s,baz=191,slow=6.1,SNR=13						
CMAR				LR	LR	12 56 58.4	
	comp=Z,34nm,18.5s,baz=195,slow=35						
	comp=Z,2.3nm,0.8s						
CRAI	Chiangrai	68.55	355	P	P	12 28 57.6	-0.6
CRAI				IAmb	IAmb	12 29 04.8	
	comp=Z,12nm,1.2s						
LSZ	Lusaka	70.26	269	LR	LR	12 55 05.5	
	comp=Z,136nm,19.3s,baz=148,slow=32						
TSUM	Tsumeb	74.45	259	LR	LR	12 57 27.4	
	comp=Z,186nm,18.8s,baz=152,slow=32						
KMBO	Kilima Mbogo	74.80	286	LR	LR	12 56 37.8	
	comp=Z,72nm,19.4s,baz=88,slow=31						
WSAR	Wadi Sarin	82.75	318	LR	LR	13 01 27.7	
	comp=Z,72nm,18.2s,baz=226,slow=32						
PPT2	Papeete2	86.58	113	eLR	LR	12 58 46.7	
	comp=Z,102nm,27.2s						
PLCA	Paso Flores	91.09	183	LR	LR	13 11 25.9	
	comp=Z,77nm,18.4s,baz=186,slow=35						
AAK	Ala-Archa	94.74	338	LR	LR	13 08 28.1	
	comp=Z,87nm,19.0s,baz=176,slow=32						
MKAR	Makanchi Array	97.01	344	LR	LR	13 10 57.2	
	comp=Z,32nm,19.9s,baz=217,slow=33						
TAOE	Nuku Hiva Isla	99.09	114	eLR	LR	13 04 08.8	
	comp=Z,288nm,28.7s						
H10S2	ASCENSION HYDR	102.33	241	T	T	14 26 34.5	
	baz=141,slow=74,SNR=5.1						
H10S3	ASCENSION HYDR	102.34	241	T	T	14 26 35.1	
	baz=79,slow=74,SNR=5.2						
ILAR	Eielson Array	139.58	39	PKP	PKPdf	12 37 22.1	+0.1
	comp=Z,0.6nm,0.8s,baz=274,slow=4.6,SNR=5.2						
NVAR	Mina Array Bea	147.13	91	PKPbc	PKPbc	12 37 38.9	+0.3
	comp=Z,1.7nm,0.7s,baz=210,slow=3.2,SNR=11						
TXAR	Lajitas Array	150.65	120	PKPbc	PKiKP	12 37 47.8	-0.6
	comp=Z,1.9nm,0.9s,baz=224,slow=3.5,SNR=8.6						
YKA	Yellowknife Ar	153.88	43	PKPbc	PKiKP	12 37 53.5	-0.3
	comp=Z,1.1nm,0.9s,baz=283,slow=2.3,SNR=10						

HEL 07 12:29:52.9±0.3, 60°.31N×25°.48E, h0km, ML1.0, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVF	Pernaja	0.30	39	PG	Pg	12 29 58.5	-0.3
	baz=217						
PVF				SG	Sg	12 30 03.8	+1.2
HEL1	Helsinki	0.32	246	PG	Pg	12 29 58.7	-0.4
	baz=67						
NUR	Nurmijrvi	0.46	297	PG	Pg	12 30 01.0	-0.7
NUR				MSG		12 30 08.0	
	comp=Z,1.2nm,0.2s						
MEF	Metsahovi	0.55	261	PG	Pg	12 30 02.7	-0.7
	baz=75						
MEF				MSG		12 30 10.6	
	comp=Z,1.4nm,0.2s						
MEF				SG	Sg	12 30 11.6	+1.2
VJF	Virojoki	1.06	76	PG	Pg	12 30 12.3	-0.8
VJF				MSG		12 30 25.1	
	comp=Z,1.2nm,0.2s						
FIA0	FINESS Array S	1.18	14	PB	Pg	12 30 14.1	-1.3
	baz=195						
FIA0				MSG		12 30 28.7	
	comp=Z,1.0nm,0.2s						
KAF	Kangasniemi	1.85	12	MSG		12 30 48.1	
	comp=Z,2.6nm,0.2s						
RAF	Rauma	1.96	293	PG	Pn	12 30 28.4	+1.0
RAF				MSG		12 30 51.2	
	comp=Z,0.4nm,0.2s						
RUF	Ruokolahti	2.04	55	MSG		12 30 53.3	
	comp=Z,1.6nm,0.2s						
VAF	Ylistaro	3.05	335	PG	Pb	12 30 46.3	-1.7
VAF				MSG		12 31 22.8	
	comp=Z,1.1nm,0.2s						

NNC 07 12:34:18.0±1.3, 52°.52N×62°.77E, h0km, mb2.6, mpv2.2, 6C-4D, Error ellipse: s-maj=27.0km s-min=5.5km az=152.0, Suspected Mining explosion., Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKTO	Aktyubinsk	3.63	237	⇓Pn	Pn	12 35 15.3	-0.1
AKTO				⇑Lg	Lg	12 36 13.3	
	2.1nm,0.8s						
AB31	Akbulak array	3.72	210	⇓Pn	Pn	12 35 15.9	-0.7
	0.1nm,0.3s,baz=25,slow=14,SNR=6.5						
AB31				⇑Pg	Pg	12 35 28.0	-1.3
	0.4nm,0.4s,baz=24,slow=16,SNR=10						
AB31				⇑Lg	Lg	12 36 13.6	
	3.8nm,0.7s,baz=19,slow=13,SNR=8.4						
BRVK	Borovoye	4.59	80	⇑Pn	Pn	12 35 29.2	+0.6
BRVK				⇓Lg	Lg	12 36 43.9	
	4.6nm,0.7s						
BVA0	Borovoye Array	4.65	81	⇓Pn	Pn	12 35 29.1	-0.3
	0.3nm,0.4s,baz=270,slow=11,SNR=8.8						
BVA0				⇑Sn	Sn	12 36 25.3	+1.1
	1.5nm,0.5s,baz=273,slow=11,SNR=10.0						
BVA0				⇑Lg	Lg	12 36 43.6	
	4.1nm,0.8s,baz=266,slow=22,SNR=5.5						

IDC 07 12:34:22.6±2.3, 15°.03N×93°.83W, h0km, mb3.9/4, mbtmp3.9/6, ML3.8/3, MS3.5/5, Error ellipse: s-maj=56.9km s-min=26.5km az=38.0
CATAC 07 12:34:26.0±0.6, 14°.59N×93°.70W, h71km±22km, mb4.1, ML4.6
MEX 07 12:34:26.3±0.6, 14°.77N×93°.80W, h30km±43km, MD4.2
GCG 07 12:34:27.2±3.1, 15°.05N×93°.67W, h33km±999km, MD4.1
ISC 07 12:34:25.3±3.8, 14°.77N±0°.05×93°.83W±0°.03, h30km±19km, n47, σ2s17/74, mb3.9/4, MS3.5/3, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.10	32	eP	Pn	12 34 43.1	-1.5
PCIG				iS	Sn	12 34 56.5	-2.4
CARR	Arriaga	1.47	357	eP	Pn	12 34 48.4	-1.3
CARR				eS	Sn	12 35 03.2	-4.8
THIG		1.52	85	eP	Pn	12 34 49.4	-1.1
THIG				eS	Sn	12 35 06.3	-2.9
PATR	El Naranjo	1.58	77	eP	Pn	12 34 49.6	-1.9
PATR				iS	Sn	12 35 08.5	-2.6
PAVE	Pavencul	1.66	75	eP	Pn	12 34 51.0	-1.5
PAVE				eS	Sn	12 35 09.8	-3.1
CHUJ	Union Juarez	1.70	79	eP	Pn	12 34 51.8	-1.3
CHUJ				eS	Sn	12 35 11.0	-2.9
NILT	Santiago Nilte	1.94	337	eP	Pn	12 34 55.9	-0.3
NILT				eS	Sn	12 35 17.6	-2.0
SMSP	San Marcos	1.99	84	iP	Pn	12 34 55.0	-2.2
SMSP				iS	Sn	12 35 19.7	-1.6
SMSP				IAML		12 35 27.9	
	comp=Z,5μm,1.0s						
RTAL	Retalhuleu	2.08	96	iP	Pn	12 34 55.9	-2.3
RTAL				iS	Sn	12 35 20.2	-2.9
RTAL				IAML		12 35 28.5	
	comp=Z,2μm,1.0s						
TGIG		2.11	19	eP	Pn	12 34 59.2	+0.6
TGIG				eS	Sn	12 35 22.6	-1.4
TGBT	Tuxtla Gutierr	2.12	20	eP	Pn	12 34 59.4	+0.7
TGBT				eS	Sn	12 35 24.9	+0.9
STG3	Santiaguito 3,	2.19	91	eP	Pn	12 34 59.7	-0.1
STG3				⇑eS	Sn	12 35 25.4	-0.6
CCIG	Comitan	2.22	47	eP	Pn	12 35 01.5	+1.2
CCIG				eS	Sn	12 35 26.7	-0.1
CCIG	Comitan	2.22	47	iP	Pn	12 35 01.1	+0.9
CCIG				iS	Sn	12 35 27.7	+0.9
CCIG				IAML		12 35 31.2	
	comp=Z,2μm,1.0s						
QUEO	Labor Ovalle	2.24	87	iP	Pn	12 34 59.7	-1.0
QUEO				iS	Sn	12 35 26.6	-0.9
QUEO				IAML		12 35 42.2	
	comp=Z,6μm,1.0s						
SULM	Suchitepequez,	2.24	102	eP	Pn	12 35 00.9	+0.5
SULM				eS	Sn	12 35 27.3	+0.2
HUEH	Huehuetenango	2.32	76	iP	Pn	12 35 03.2	+1.6
HUEH				iS	Sn	12 35 30.9	+1.7
HUEH				IAML		12 35 40.3	
	comp=Z,7μm,1.0s						
SOKI	Kika Raxquin	2.35	88	iP	Pn	12 35 00.4	-1.8
SOKI				IAML		12 35 45.7	
	comp=Z,1μm,1.0s						
HUIG	Huatulco	2.41	295	eP	Pn	12 35 02.1	-0.6
HUIG				eS	Sn	12 35 29.0	-2.2
CMIG	Matias Romero	2.52	336	Pn	Pn	12 35 02.6	-1.6
	comp=Z,15nm,0.3s,baz=158,slow=15,SNR=20						
CMIG				LR	LR	12 35 20.2	
	comp=Z,33nm,21.1s,baz=150,slow=25						
CMIG				Sn	Sn	12 35 31.5	-2.5
	comp=Z,46nm,0.3s,baz=148,slow=19,SNR=11						
	comp=Z,34nm,0.3s						
CMIG	Matias Romero	2.52	336	eP	Pn	12 35 03.6	-0.7
CMIG				eS	Sn	12 35 31.5	-2.5
FUG	Fuego 3	2.91	96	eP	Pn	12 35 10.6	+0.8
FUG				eS	Sn	12 35 40.6	-3.2
ESSG	Sabana Grande	2.93	97	iP	Pn	12 35 08.9	-1.0
ESSG				IAML		12 35 20.1	
	comp=Z,2μm,1.0s						
ESSG				iS	Sn	12 35 41.1	-3.1
PEIG	Puerto Escondi	3.42	291	eP	Pn	12 35 16.5	-0.2
PEIG				eS	Sn	12 35 51.7	-4.5
NEUV	Arroyo Zacate	3.49	327	eP	Pn	12 35 16.2	-1.3
NEUV				eS	Sn	12 35 56.2	-1.6
PMUV	Sontecomapan	3.95	342	eP	Pn	12 35 19.2	-4.8
PMUV				eS	Sn	12 36 05.3	-4.1
NUBE	Las Nubes	4.02	102	iP	Pn	12 35 16.1	-8.9
NUBE				iS	Sn	12 36 07.5	-3.7
YOIG	Yosondua	4.13	301	eP	Pn	12 35 29.2	+2.6
YOIG				eS	Sn	12 36 12.1	-2.1
PETF	Flores	4.37	60	iP	Pn	12 35 30.8	+1.1
PETF				iS	Sn	12 36 18.5	-1.2
PETF				IAML		12 36 25.4	
	comp=Z,540nm,1.0s						
JAYA	Jayaque - finc	4.39	104	iS	Sn	12 36 16.7	-3.7
PNIG	Pinotepa	4.44	292	eP	Pn	12 35 31.3	+0.6
PNIG				eS	Sn	12 36 19.6	-1.8
PMON	Piamonte	4.50	103	iS	Sn	12 36 20.0	-3.1
HLIG	Huajuapan de L	4.88	309	eP	Pn	12 35 40.6	+3.7
HLIG				iS	Sn	12 36 33.1	+0.6
SCIG	Sabancuy	4.88	31	iP	Pn	12 35 35.6	-1.1
SCIG				iS	Sn	12 36 28.2	-4.0
FTIG	Fresnillo de T	5.18	308	eP	Pn	12 35 43.8	+3.0
FTIG				eS	Sn	12 36 38.8	-0.8
TLIG	Tlapa	5.33	302	iP	Pn	12 35 45.7	+2.7
TLIG				IAmb	IAmb	12 35 55.1	
	comp=Z,13nm,0.6s						
TLIG				IAML		12 37 28.6	
	comp=Z,78nm,1.0s						
JAUV	Jalcomulco	5.38	329	eP	Pn	12 35 42.0	-1.6
JAUV				eS	Sn	12 36 43.4	-1.3
TEIG	Tepich	7.59	44	Pn	Pn	12 36 11.4	-2.4
	comp=Z,2.6nm,0.3s,baz=143,slow=22,SNR=1.3						
TEIG				Sn	Sn	12 37 30.6	-8.2
	comp=Z,28nm,0.3s,baz=347,slow=20,SNR=1.1						
TEIG				LR	LR	12 39 15.1	
	comp=Z,853nm,18.9s,baz=352,slow=40						
JTS	Las Juntas de	9.74	116	Pn	Pn	12 36 47.0	+3.5
	comp=Z,0.7nm,0.3s,baz=274,slow=21,SNR=2.0						
	comp=Z,1.8nm,0.3s						
TXAR	Lajitas Array	17.11	330	LR	LR	12 46 03.5	
	comp=Z,36nm,20.2s,baz=61,slow=42						
PDAR	Pinedale Array	31.01	337	LR	LR	12 55 52.5	
	comp=Z,48nm,20.2s,baz=40,slow=42						
NVAR	Mina Array Bea	31.97	322	P	P	12 40 49.5	+0.6
	comp=Z,1.0nm,0.8s,baz=138,slow=9.6,SNR=5.4						
	comp=Z,1.0nm,0.8s						
SCHQ	Schefferville	45.15	22	LR	LR	13 01 39.4	
	comp=Z,51nm,18.4s,baz=190,slow=36						
YKA	Yellowknife Ar	49.89	348	P	P	12 43 15.9	+0.3
	comp=Z,0.9nm,0.9s,baz=153,slow=7.1,SNR=8.4						
	comp=Z,0.9nm,0.9s						
ILAR	Eielson Array	61.44	337	P	P	12 44 37.5	-1.1
	comp=Z,1.0nm,1.0s,baz=147,slow=4.1,SNR=6.9						
	comp=Z,1.0nm,1.0s						
ARCES	ARCESS Array B	85.96	18	P	P	12 47 03.1	+0.8
	comp=Z,3.1nm,1.1s,baz=297,slow=6.7,SNR=3.7						
	comp=Z,3.1nm,1.1s						
FINES	FINESS Array B	90.55	25	LR	LR	13 27 56.9	
	comp=Z,85nm,18.3s,baz=210,slow=36						

IDC 07 12:35:09.3±1.0, 52°.24N×62°.81E, h0km, mb3.5/1, mbtmp3.2/4, ML2.1/3, Error ellipse: s-maj=17.2km s-min=9.9km az=156.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKTO	Aktyubinsk	3.51	241	Pn	Pn	12 36 05.9	+0.9
	0.3nm,0.3s,baz=68,slow=15,SNR=2.4						
AKTO				Pg	Pb	12 36 12.1	-0.1
	0.4nm,0.3s,baz=208,slow=12,SNR=8.8						
AKTO				Lg	Lg	12 37 03.7	
	0.7nm,0.3s,baz=353,slow=10,SNR=2.1						
	0.6nm,0.3s						
BVAR	Borovoye Array	4.69	77	Pn	Pn	12 36 22.3	+1.1
	0.1nm,0.3s,baz=270,slow=12,SNR=9.6						
BVAR				Lg	Lg	12 37 34.4	
	0.1nm,0.3s,baz=288,slow=34,SNR=1.7						
	1.6nm,0.3s						
ARU	Arti	4.88	331	Pn	Pn	12 36 23.7	-0.1
	0.7nm,0.3s,baz=106,slow=23,SNR=2.2						
ARU				Pg	Pb	12 36 38.7	+3.2
	0.7nm,0.3s,baz=135,slow=24,SNR=4.4						
ARU				Lg	Lg	12 37 34.9	
	1.0nm,0.3s,baz=325,slow=22,SNR=9.5						
	1.4nm,0.3s						
I46RU	ZALESOVO INFRA	13.33	74	I	I	13 45 50.0	
	0.1nm,1.0s,baz=272,slow=302,SNR=1.1						
FINES	FINESS Array B	21.81	309	P	P	12 40 03.2	+0.6
	1.5nm,0.7s,baz=124,slow=9.5,SNR=7.0						
	1.5nm,0.7s						
I34MN	SONGINO INFRAS	28.04	82	I	I	15 23 50.0	
	baz=296,slow=327,SNR=0.4						

JMA 07 12:37:41.2±0.2, 38°.1N±0°.8×14°4E±°, h44km, MV3.7/30, FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.07	278	P	Pn	12 38 14.5	+1.0
JIKH				S	Sn	12 38 39.1	+1.1
OFUJ	Ofunato	2.15	299	P	Pn	12 38 15.7	+1.1
JKMT	Kesennumamotoy	2.18	291	P	Pn	12 38 16.1	+1.1
JKMT				S	Sn	12 38 42.3	+1.6
JIO	Ouri	2.18	281	P	Pn	12 38 16.2	+1.2
JIO				S	Sn	12 38 41.7	+0.9
JMK	Ichinoseki	2.41	293	P	Pn	12 38 19.9	+1.8
JMK				eS	Sn	12 38 48.5	+2.1
JOM	Ohasama	2.59	304	P	Pn	12 38 22.3	+1.6
JOM				eS	Sn	12 38 53.4	+2.4
JOTO	OTAMA OYAMA	3.00	262	eP	Pn	12 38 28.2	+1.8
JOTO				S	Sn	12 39 03.2	+2.1
JYK	Kaneyama	3.04	288	P	Pn	12 38 29.2	+2.4
JYK				eS	Sn	12 39 05.1	+3.2
JANG	Nango	3.05	320	eP	Pn	12 38 28.0	+1.0
JANG				eS	Sn	12 39 03.6	+1.3
JOT	Ohata	4.06	326	P	Pn	12 38 43.0	+2.2
JCH	Churui	4.59	353	P	Pn	12 38 48.1	+0.1
JCH				eS	Sn	12 39 39.0	-1.0
JRY	Ryogami san	4.61	245	P	Pn	12 38 49.2	+0.8
JRY				eS	Sn	12 39 40.5	-0.3
NEM2	Nemuro 2	5.45	13	P	Pn	12 38 57.6	-2.3
NEM2				eS	Sn	12 39 55.9	-5.4
JTKR	Abashiri--Toko	5.91	359	eP	Pn	12 39 05.8	-0.4
JTKR				eS	Sn	12 40 09.9	-2.6
JHR	Hokuryu	5.95	343	eP	Pn	12 39 09.4	+2.6

UCR 07 12:39:55.6±1.6, 6°.89N×82°.28W, h36km±999km, MW3.7
UPA 07 12:39:58.2±1.4, 7°.14N×82°.32W, h26km±28km, MW3.6
CATAC 07 12:39:58.0±0.7, 7°.15N×82°.52W, h15km, ML3.7
ISC 07 12:39:55.2±1.9, 7°.15N±0°.09×82°.30W±0°.04, h10km±10km, n48, σ1s15/69, 7C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTPM	Petroterminale	1.20	331	eP	Pb	12 40 18.2	+0.1
PTPM				eS	Sb	12 40 32.6	-1.1
GMAL	Guarumal, Vera	1.22	60	eP	Pg	12 40 19.2	+0.5
GMAL				eS	Sg	12 40 35.1	+0.5
PEDE3	Pedregal, Chir	1.24	354	eP	Pg	12 40 19.1	+0.1
LOCO3	Loma Colorada,	1.26	355	eP	Pg	12 40 19.6	+0.2
DVD	David	1.29	353	eP	Pb	12 40 19.9	+0.2
DVD				eS	Sb	12 40 35.8	-0.5
MARI3	Mariato, Verag	1.39	69	eP	Pg	12 40 21.6	-0.3
MARI3				eS	Sn	12 40 38.5	-0.6
CACAO	El Cacao, Vera	1.44	82	eP	Pg	12 40 22.8	0.0
CACAO				eS	Sn	12 40 40.0	-0.4
CDITO	Canoas	1.53	338	⇑iP	Pn	12 40 22.8	+0.1
CDITO	Canoas	1.53	338	iP	Pn	12 40 22.0	-0.6
CDITO				IAML		12 41 31.8	
	comp=Z,500nm,1.0s						
BCO2	Palmira	1.58	352	⇑iP	Pb	12 40 24.1	-0.6
BCO2				eS	Sn	12 40 43.4	-0.7
PIRO	Carate, Puerto	1.62	321	⇑iP	Pn	12 40 23.3	-0.6
PIRO				eS	Sg	12 40 47.2	-0.2
PIRO	Carate, Puerto	1.62	321	iP	Pn	12 40 22.8	-1.1
PIRO				IAML		12 40 25.3	
	comp=Z,700nm,1.0s						
LNBQ3	Los Naranjos,	1.64	355	eP	Pn	12 40 24.9	+0.6
LNBQ3				eS	Sb	12 40 47.1	+0.6
BRU2	Volcan	1.68	347	eP	Pn	12 40 25.5	+0.6
BRU2				eS	Sb	12 40 47.6	-0.2
BRU2	Volcan	1.68	347	eP	Pn	12 40 25.4	+0.5
BRU2	Volcan	1.68	347	iP	Pn	12 40 25.5	+0.6
BRU2				iS	Sb	12 40 47.4	-0.4
BRU2				IAML		12 40 57.3	
	comp=Z,600nm,1.0s						
MLIR3	Monte Lirio, C	1.72	342	eP	Pb	12 40 26.4	-0.6
MLIR3				eS	Sn	12 40 47.4	-0.1
CTCR	Cotoan	1.80	345	eP	Pn	12 40 26.9	+0.3
CTCR	Cotoan	1.80	345	iP	Pn	12 40 26.8	+0.3
CTCR				IAML		12 40 52.5	
	comp=Z,3μm,1.0s						
CHIT3	Chitre	2.03	67	eP	Pb	12 40 31.6	-0.6
CHIT3				eS	Sn	12 40 55.9	+0.8
POTG	Potrero Grande	2.06	337	⇑eP	Pn	12 40 31.2	+1.1
POTG	Potrero Grande	2.06	337	iP	Pb	12 40 31.3	-1.5
POTG				IAML		12 40 31.8	
	comp=Z,3μm,1.0s						
POTG				iS	Sn	12 40 56.0	+0.1
AZU	Azuero	2.11	72	eP	Pb	12 40 32.9	-0.6
AZU				eS	Sn	12 40 56.6	-0.3
EDPN	Palmar Norte	2.14	328	eP	Pn	12 40 31.4	+0.4
SRBA	San Rafael, Bu	2.32	333	⇑iP	Pn	12 40 34.5	+0.8
SRBA	San Rafael, Bu	2.32	333	iP	Pn	12 40 34.5	+0.8
SRBA				IAML		12 40 35.1	
	comp=Z,370nm,1.0s						
SRBA				iS	Sn	12 41 02.4	0.0
OCHAL	Ojochal	2.35	326	iP	Pn	12 40 34.6	+0.6
OCHAL				iS	Sn	12 41 02.9	-0.1
OCHAL				IAML		12 42 02.9	
	comp=Z,11nm,1.0s						
BUS1	Rivas	2.79	329	⇑iP	Pn	12 40 41.4	+1.0
CDM	Cerro de Muert	2.80	329	⇑eP	Pn	12 40 41.5	+0.9
CDM	Cerro de Muert	2.80	329	iP	Pn	12 40 41.1	+0.6
CDM				IAML		12 40 43.1	
	comp=Z,240nm,1.0s						
CDM				iS	Sn	12 41 15.3	+0.7
RIMA	Rio Macho	3.03	329	eP	Pn	12 40 44.6	+1.1
RIMA	Rio Macho	3.03	329	iP	Pn	12 40 44.4	+0.9
RIMA				IAML		12 40 46.5	
	comp=Z,110nm,1.0s						
RIMA				iS	Sn	12 41 20.3	+0.3
LCR2	La Lucha 2	3.08	327	⇓iP	Pn	12 40 45.7	+1.5
LCR2	La Lucha 2	3.08	327	iP	Pn	12 40 45.4	+1.2
LCR2				IAML		12 40 45.7	
	comp=Z,210nm,1.0s						
LCR2				iS	Sn	12 41 21.1	-0.2
VERB	Verbena	3.10	334	eP	Pn	12 40 46.4	+1.9
VTCV	VTCV, Calle Va	3.15	333	eP	Pn	12 40 47.2	+2.0
BCIP	Isla Barro Col	3.16	50	iP	Pb	12 40 49.5	-2.0
BCIP				IAML		12 41 19.0	
	comp=Z,86nm,1.0s						
BCIP				iS	Sb	12 41 30.3	+0.2
LCOCO	El Coco	3.17	337	eP	Pg	12 40 55.7	-0.4
CVTQ	Turrialba Volc	3.19	333	eP	Pn	12 40 48.4	+2.5
VTLA	Turrialba Volc	3.19	333	eP	Pn	12 40 48.0	+2.2
ICR3	Volcano Irazu	3.20	332	eP	Pn	12 40 48.2	+2.2
CVTR	Volcan Turrial	3.20	333	eP	Pn	12 40 48.0	+1.9
HAYA	Volcan Irazu	3.20	332	iP	Pn	12 40 48.4	+2.3
JACO	JACO, Garabito	3.42	317	iP	Pn	12 40 48.7	0.0
JACO				IAML		12 41 05.9	
	comp=Z,69nm,1.0s						
JACO				iS	Sn	12 41 27.2	-2.2
TRT2	Tortugero	3.67	337	iP	Pn	12 40 53.2	+1.0
TRT2				IAML		12 40 59.1	
	comp=Z,94nm,1.0s						
CPMI	Catarata Coope	3.73	327	iP	Pn	12 40 54.6	+1.4
CPMI				IAML		12 41 32.7	
	comp=Z,59nm,1.0s						
SOCE	Pocosol	3.95	325	iP	Pn	12 40 58.5	+2.5
DUNO	Dulce Nombre,	4.30	313	iP	Pn	12 41 04.3	+3.5

IDC 07 12:41:11.7±0.7, 1°.12N×128°.09E, h0km, mb3.9/14, mbtmp3.9/14, MS3.4/2, Error ellipse: s-maj=38.0km s-min=14.4km az=74.0
DJA 07 12:41:13.8±0.2, 1°N±2°×12°8E±°, h10km, M4.8/16, mB5.7/7, mb4.7/13, MLv4.5/16, Mw(mB)5.2/7, MwMwp5.5/1, Mwp5.7/1
NEIC 07 12:41:15.1±1.6, 1°.03N±0°.09×128°.11E±0°.04, h10km±1km, mb4.4/17, Error ellipse: s-maj=14.7km s-min=7.3km az=178.0
ISC 07 12:41:15.4±0.5, 1°.08N±0°.05×128°.13E±0°.06, h23km, n67, σ1s15/66, mb4.2/22, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	0.82	248		Pb	12 41 30.0	-1.1
TNTI	Ternate	0.82	248	P	Pb	12 41 29.8	-1.2
LBMI	Labuha	1.81	200	P	Pn	12 41 45.0	-0.3
LBMI				S	Sb	12 42 10.6	+0.3
SGSI	Sangihe	3.67	315	P	Pn	12 42 10.8	-0.1
SWI	Sorong	3.67	122	P	Pn	12 42 09.9	-1.0
SANI	Sanana	3.77	215	P	Pn	12 42 11.7	-0.5
KMSI	Cibinong	4.18	263	P	Pn	12 42 18.8	+1.0
NLAI	Namlea	4.41	194	P	Pn	12 42 21.8	+0.8
LUWI	Luwuk	5.76	249	Pn	Pn	12 42 40.8	+1.3
LUWI	Luwuk	5.76	249	P	Pn	12 42 41.4	+1.9
	102nm,0.4s,4μm1.0nm						
BNDI	Bandanaira	5.84	162	P	Pn	12 42 40.5	-0.1
	157nm,0.8s,0.9nm						
MRSI	Marisa	6.22	265	P	Pn	12 42 46.4	+0.5
KMPI	Kaimana, Papua	7.29	130	P	Pn	12 43 00.3	-0.3
	132nm,0.9s,0.6nm						
MPSI	Mapaga	8.26	265	P	Pn	12 43 14.0	0.0
	18nm,1.5s						
TTSI	Tana Toraja	9.26	244	P	Pn	12 43 28.7	+1.0
	46nm,0.7s,1μm						
SPSI	Sidrap Palu	9.74	239	P	Pn	12 43 36.0	+1.7
	69nm,0.4s,995nm						
BKSI	Bulukumba	10.21	231	P	Pn	12 43 42.1	+1.3
	19nm,0.8s						
KAPI	Kappang	10.33	234	Pn	Pn	12 43 45.0	+2.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	3.2nm,0.3s,baz=90,slow=6.7,SNR=4.1						
KAPI				Sn	Sn	12 45 36.0	-1.4
	1.0nm,0.3s,baz=187,slow=23,SNR=1.3						
MYLDM	Lahad Datu	10.44	293		Pn	12 43 43.9	+0.1
SMPI	Sarmi	11.01	106	P	Pn	12 43 50.2	-1.4
EDFI	Ende, Flores	11.68	213	P	Pn	12 44 01.8	+0.9
	17nm,0.6s						
MTN	Manton Dam	14.14	168	Pn	Pn	12 44 32.8	-1.7
TWSI	Taliwang, Sumb	14.86	229	P	Pn	12 44 45.1	+0.9
KNRA	Kununurra	16.66	178	Pn	Pn	12 45 05.7	-1.9
KNRA				IAmb	IAmb	12 45 13.5	
	comp=Z,21nm,1.1s						
UGM	Wanagama	19.70	243	P	Pn	12 45 44.1	-0.8
KPJI	Karang Pucung	20.89	246	P	Pn	12 45 58.2	-0.8
	comp=Z,74nm,0.8s						
COEN	Coen	21.10	136	P	P	12 46 00.1	+1.4
WB0	Warramunga Arr	21.60	164	P	P	12 46 04.9	+0.9
WB0				IAmb	IAmb	12 46 14.6	
	comp=Z,9.0nm,0.7s						
WRAB	Tennant Creek	21.75	164	P	P	12 46 05.3	-0.3
WRAB				IAmb	IAmb	12 46 13.3	
	comp=Z,11nm,1.1s						
WRA	Warramunga Arr	21.76	164	P	P	12 46 05.8	+0.3
WRA	Warramunga Arr	21.76	164	P	P	12 46 05.9	+0.3
	comp=Z,5.3nm,0.6s,baz=343,slow=11,SNR=57						
	comp=Z,5.3nm,0.6s						
WB2	Warramunga Arr	21.76	164	P	P	12 46 05.9	+0.2
WB2				IAmb	IAmb	12 46 21.0	
	comp=Z,21nm,1.2s						
WR0	Warramunga Arr	21.83	164	P	P	12 46 06.9	+0.5
WR0				IAmb	IAmb	12 46 14.1	
	comp=Z,10nm,0.9s						
YULB	Yu-li	23.16	344	P	P	12 46 23.2	+2.8
YULB				IAmb	IAmb	12 46 25.6	
	comp=Z,32nm,1.3s						
TPUB	Ta-pu	23.26	342	P	P	12 46 22.7	+1.2
PSA00	Pilbara Seismi	23.92	199	P	P	12 46 30.2	+2.4
PSA00				IAmb	IAmb	12 46 35.7	
	comp=Z,20nm,1.3s						
ASAR	Alice Springs	25.23	168		P	12 46 41.9	+2.0
ASAR	Alice Springs	25.23	168	P	P	12 46 40.6	+0.8
	comp=Z,3.6nm,0.8s,baz=345,slow=10,SNR=22						
	comp=Z,3.6nm,0.8s						
FORT	Forrest	31.68	180	P	P	12 47 37.1	-0.2
JNU	Nakatsue	31.98	4	LR	LR	13 01 27.2	
	comp=Z,21nm,19.1s,baz=94,slow=38						
CMAR	Chiang Mai Arr	33.45	303	P	P	12 47 52.0	-1.0
	comp=Z,0.3nm,0.3s,baz=124,slow=7.7,SNR=2.1						
	comp=Z,0.3nm,0.3s						
BBOO	Buckleboo	34.52	168	P	P	12 48 02.8	+0.6
STKA	Stephens Creek	35.17	160	P	P	12 48 07.8	+0.1
STKA	Stephens Creek	35.17	160	P	P	12 48 06.8	-1.0
	comp=Z,1.8nm,0.7s,baz=316,slow=6.8,SNR=4.2						
	comp=Z,1.8nm,0.7s						
KSRS	Korea Array	36.20	360	P	P	12 48 15.6	-0.9
	comp=Z,0.9nm,0.7s,baz=174,slow=10.0,SNR=2.1						
	comp=Z,0.9nm,0.7s						
MJAR	Matsushiro Arr	36.51	14	P	P	12 48 17.6	-1.5
	comp=Z,1.7nm,0.8s,baz=182,slow=9.8,SNR=5.4						
	comp=Z,1.7nm,0.8s						
RAMN	Ramite	47.43	307	eP	P	12 49 49.5	+0.7
	comp=Z,19nm,0.8s						
JIRN	Jiri	48.07	307	eP	P	12 49 52.7	-1.2
	comp=Z,16nm,0.6s						
GUN	Gumba	48.42	307	eP	P	12 49 54.9	-1.7
	comp=Z,31nm,0.7s						
PKI	Pulchoki	48.65	307	eP	P	12 49 57.9	-0.5
	comp=Z,7.0nm,0.7s						
PKIN	Phulchoki	48.66	307	eP	P	12 49 58.2	-0.2
	comp=Z,8.1nm,0.7s						
KOLN	Koldanda	50.19	306	eP	P	12 50 11.1	+1.1
	comp=Z,54nm,0.8s						
SONM	Songino Array	50.24	341	P	P	12 50 11.6	+1.6
SONM	Songino Array	50.24	341	P	P	12 50 10.6	+0.7
	comp=Z,0.9nm,0.5s,baz=154,slow=7.6,SNR=6.1						
	comp=Z,0.9nm,0.5s						
DANN	Dangsing	50.30	307	eP	P	12 50 10.6	-0.3
	comp=Z,43nm,0.7s						
PYUN	Piuthan	50.82	306	eP	P	12 50 15.4	+0.7
	comp=Z,35nm,0.5s						
PETK	Petropavlovsk-	57.38	21	P	P	12 51 02.6	+0.7
	comp=Z,3.2nm,1.1s,baz=213,slow=5.0,SNR=1.6						
	comp=Z,3.2nm,1.1s						
MK31	Makanchi Array	60.52	326	P	P	12 51 23.7	-0.2
MK31				IAmb	IAmb	12 51 32.3	
	comp=Z,2.0nm,0.8s						
MKAR	Makanchi Array	60.52	326	P	P	12 51 23.5	-0.4
MKAR	Makanchi Array	60.52	326	P	P	12 51 23.4	-0.5
	comp=Z,1.8nm,0.6s,baz=110,slow=7.7,SNR=16						
	comp=Z,1.8nm,0.6s						
ZALV	Zalesovo Beam	63.57	333	P	P	12 51 44.3	+0.2
	comp=Z,0.3nm,0.4s,baz=133,slow=6.3,SNR=2.3						
	comp=Z,0.3nm,0.4s						
KURBB	Kurchatov Arra	64.72	328	P	P	12 51 50.1	-1.7
	comp=Z,1.1nm,0.4s,baz=129,slow=5.9,SNR=8.2						
	comp=Z,1.1nm,0.4s						
KURK	Kurchatov	64.72	328	P	P	12 51 53.3	+1.6
KURK				IAmb	IAmb	12 51 59.4	
	comp=Z,5.6nm,1.0s						
BVAR	Borovoye Array	70.29	327	P	P	12 52 26.4	-0.6
	comp=Z,0.7nm,0.6s,baz=132,slow=6.4,SNR=2.5						
	comp=Z,0.7nm,0.6s						
VNDA	Vanda	80.64	173	P	P	12 53 26.6	+0.7
	comp=Z,0.9nm,1.1s,baz=305,slow=6.9,SNR=3.4						
	comp=Z,0.9nm,1.1s						
ILAR	Eielson Array	86.89	25	P	P	12 53 57.3	-0.8
	comp=Z,0.2nm,0.5s,baz=254,slow=6.5,SNR=1.3						
	comp=Z,0.2nm,0.5s						
SPITS	Spitsbergen Ar	93.34	349	LR	LR	13 44 18.9	
	comp=Z,49nm,18.2s,baz=162,slow=41						

*NEIC **07** 12:47:39.5±0.9, 36.20N±0.02×98.68W±0.02, h11km±8km, Error ellipse: s-maj=3.1km s-min=2.7km az=122.0*

TUL 07 12:47:38.9±0.5**, 36.20N**±0.02×**98.67W**±0.01**, h3**km±4km**, ML2.7, mb_Lg2.2**/5(NEIC)**, ML2.5**/10(NEIC)**, Error ellipse: s-maj=2.9km s-min=1.3km az=162.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
U32A	Winter Ranch,	0.32	304	Pg	Pg	12 47 45.4	+0.3
U32A					Sg	12 47 48.3	-0.9
U32A				IAML		12 47 50.2	
	comp=E,424nm,0.3s						
U32A				IAML		12 47 50.6	
	comp=N,398nm,0.1s						
ELIS	Ellis County	0.62	257		Pg	12 47 50.8	0.0
ELIS				IAML		12 48 07.2	
	comp=N,256nm,0.1s						
ELIS				IAML		12 48 08.6	
	comp=E,225nm,0.3s						
CROK	Carrier	0.63	61	Pg	Pg	12 47 51.2	+0.1
CROK				Sg	Sg	12 47 59.8	+0.5
CROK				IAML		12 48 06.0	
	comp=E,308nm,0.3s						
OK032	Salt Plains WL	0.71	32	Pg	Pg	12 47 52.5	+0.1
OK032				IAML		12 48 07.7	
	comp=E,320nm,0.2s						
GC02	Grant County #	0.92	45		Pg	12 47 56.2	-0.3
KAN17	Caldwell West	1.11	41	Pg	Pg	12 47 59.5	-0.8
KAN01	Argonia South	1.20	38		Pg	12 48 01.4	-0.5
KAN13	South Haven SW	1.26	50		Pg	12 48 02.6	-0.4
KAN09	Caldwell North	1.26	42		Pg	12 48 02.3	-0.8
KAN09					Sb	12 48 20.0	+0.1
BLOK	Blackwell	1.30	64		Pg	12 48 03.0	-0.8
FNO	Franklin	1.40	132		Pn	12 48 04.6	-0.8
OK048	Pawnee Station	1.41	81		Pn	12 48 05.0	-0.4
OK033	Mehan	1.41	96		Pn	12 48 04.9	-0.6
WMOK	Wichita Mounta	1.46	183		Pn	12 48 04.7	-1.5
WMOK				IAmb_Lg		12 48 27.1	
	comp=Z,4.5nm,0.8s						
OK051	E0350 and S346	1.51	78		Pn	12 48 06.7	-0.1
OK052	Battle Ridge R	1.53	97		Pn	12 48 06.8	-0.3
OK030	Cody Creek RV	1.56	100		Pn	12 48 07.3	-0.1
SMWD	Samnorwood	1.68	230	Pn	Pn	12 48 09.4	+0.1
DEOK	Depew	1.80	101	Pn	Pn	12 48 10.8	0.0
W35A	Tecumseh	1.80	125	Pn	Pn	12 48 10.9	+0.1
T35A	Sooner Cattle	1.88	67		Pn	12 48 12.5	+0.6
AMTX	Amarillo	2.78	243		Pn	12 48 24.8	+0.4
POST	Post	3.90	217	IAmb_Lg		12 49 49.5	
	comp=Z,9.0nm,0.8s						
KSCO	Kaye Shedlock'	4.21	313	IAmb_Lg		12 49 54.4	
	comp=Z,8.3nm,0.8s						

*MDD **07** 12:53:45.5±0.2, 41.18N×7.96W, h12km, mb_Lg3.9/46, Error ellipse: s-maj=1.6km s-min=1.2km az=116.0*

*LDG **07** 12:53:45.6±0.1, 41.21N×7.97W, h10km, Ml3.2/9, Error ellipse: s-maj=2.0km s-min=1.2km az=102.0*

*CNRM **07** 12:53:46.1, 41.30N×7.91W, h126km, ml3.8*

*IGIL **07** 12:53:46.4, 41.21N×7.92W, h19km, ML3.2*

*INMG **07** 12:53:46.1±2.0, 41.22N×7.92W, h21km±2km, ML3.7, Error ellipse: s-maj=2.7km s-min=1.4km az=97.0*

*SFS **07** 12:53:46.7, 41.16N×7.97W, h22km, ML4.0/12, ML4.3/9, MLv4.1/12*

ISC 07 12:53:44.9±0.9**, 41.21N**±0.01×**7.89W**±0.02**, h19**km±2km**, n129, σ2§22**/272**, 6C-7D, Portugal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
PVRL	Vila Real	0.15	65	⇑iPg	Pg	12 53 50.3	+1.0
PVRL				iSg	Sg	12 53 53.3	+1.0
POLO	Lamas de Olo	0.18	25	⇑iPg	Pg	12 53 50.7	+1.0
POLO				eSg	Sg	12 53 54.1	+1.1
POLO				A	A	12 53 54.4	
	3µm,0.4s						
PVIS	Viseu	0.50	180	⇓iPg	Pb	12 53 55.2	+0.1
PVIS				eSg	Sg	12 54 01.8	0.0
PVIS				A	A	12 54 02.1	
	3µm,0.1s						
PCAB	Cabril	0.51	349	⇓iPg	Pb	12 53 55.7	+0.5
PCAB				eSg	Sb	12 54 02.9	+0.6
PCAB				A	A	12 54 03.5	
	5µm,0.3s						
PTO	Porto	0.54	262	⇑iPg	Pb	12 53 55.5	-0.2
PTO				eSg	Sb	12 54 01.9	-1.2
MVO	Moncorvo	0.65	94	⇑iPg	Pg	12 53 58.9	+1.0
MVO				eSg	Sg	12 54 07.5	+0.8
MVO				A	A	12 54 09.1	
	2µm,0.4s						
ELOB	Lobios	0.67	349	⇓Pg	Pg	12 53 58.5	+0.4
ELOB				Sg	Sg	12 54 07.5	+0.4
PGAV	Gavieira, Arco	0.80	340	⇓iP	Pb	12 54 00.1	-0.2
PGAV				eS	Sg	12 54 11.0	-0.3
PGAV				A	A	12 54 11.7	
	3µm,0.1s						
MTE	Manteigas	0.85	162	⇓iP	Pb	12 54 01.8	+0.6
MTE				eS	Sb	12 54 13.1	+0.8
MTE				A	A	12 54 13.3	
	2µm,0.2s						
PBRG	Braganca	1.05	55	eP	Pn	12 54 05.0	+0.3
PBRG				eS	Sn	12 54 18.9	+0.1
PBRG				A	A	12 54 22.6	
	308nm,0.7s						
COI	Coimbra	1.08	202	⇑iP	Pn	12 54 05.2	+0.2
COI				eS	Sb	12 54 19.3	+0.6
COI				A	A	12 54 21.8	
	2µm,0.2s						
ECAL	Calabor	1.13	50	⇑Pg	Pn	12 54 06.1	+0.3
ECAL				Sg	Sg	12 54 22.5	+0.8
ECAL				iVmb_Lg		12 54 26.2	
ECAL	Calabor	1.13	50	Sn	Sg	12 54 23.1	+1.4
ECAL				Pn	Pn	12 54 06.1	+0.3
PCAS	Casmilo, Conde	1.25	202	ePn	Pn	12 54 07.0	-0.4
PCAS	Casmilo, Conde	1.25	202	ePg	Pn	12 54 08.1	+0.7
PCAS				eSg	Sn	12 54 24.6	+0.9
PCAS				A	A	12 54 26.1	
	1µm,0.5s						
PCBR	Castelo Branco	1.41	167	ePn	Pn	12 54 09.5	-0.1
PCBR	Castelo Branco	1.41	167	ePg	Pb	12 54 11.1	+0.5
PCBR				eSg	Sb	12 54 29.6	+1.4
PCBR				A	A	12 54 35.0	
	416nm,0.4s						
EJUZ	Juzbado, Salam	1.52	94	Pn	Pn	12 54 11.3	+0.2
EJUZ				Pg	Pb	12 54 12.8	+0.3
EJUZ				Sg	Sb	12 54 33.3	+1.8
EAGO	Agolada(Pontev	1.59	355	Pn	Pn	12 54 12.5	+0.3
EAGO				Pg	Pb	12 54 14.3	+0.5
EAGO				Sn	Sn	12 54 31.1	-1.2
EAGO				Sg	Sg	12 54 35.5	-0.9
EAGO				iVmb_Lg		12 54 36.7	
EPLA	Plasencia	1.79	129	⇓Pn	Pn	12 54 15.4	+0.5
EPLA				Pg	Pb	12 54 18.6	+1.4
EPLA				Sn	Sn	12 54 38.1	+0.9
EPLA				Sg	Sb	12 54 41.1	+1.8
EPLA				iVmb_Lg		12 54 46.0	
PMRV	Marv??o	1.82	168	ePn	Pn	12 54 15.1	-0.2
PMRV	Marv??o	1.82	168	ePg	Pb	12 54 19.2	+1.5
PMRV				eSg	Sb	12 54 41.6	+1.4
PMRV				A	A	12 54 47.0	
	289nm,0.5s						
PSBE	So Bento	1.83	202	ePn	Pn	12 54 15.4	0.0
PSBE	So Bento	1.83	202	ePg	Pb	12 54 18.3	+0.5
PSBE				eSn	Sn	12 54 38.6	+0.5
PSBE				eSg	Sb	12 54 43.0	+2.6
PSBE				A	A	12 54 49.9	
	428nm,0.7s						
EMAZ	Mazaricos	1.91	335	Pn	Pn	12 54 16.5	-0.1
EMAZ				Pg	Pb	12 54 19.5	+0.3
EMAZ				Sn	Sn	12 54 38.9	-1.2
EMAZ				Sg	Sg	12 54 44.7	-1.8
EMAZ				iVmb_Lg		12 54 49.0	
PCDRA	Caldas da Rain	2.04	208	eSg	Sg	12 54 50.3	-0.2
PCDRA				A	A	12 54 52.2	
	1µm,0.5s						
PSANT	Santarm	2.06	198	ePg	Pg	12 54 24.8	+0.3
PSANT				eSg	Sg	12 54 50.6	-0.7
PSANT				A	A	12 54 54.4	
	778nm,0.2s						
PMTG	Montargil	2.16	187	ePn	Pn	12 54 19.7	-0.2
PMTG	Montargil	2.16	187	ePg	Pb	12 54 23.6	+0.2
PMTG				eSg	Sb	12 54 52.5	+2.8
PMTG				A	A	12 54 55.8	
	372nm,0.5s						
EPON	Pontenova	2.18	14	Pn	Pn	12 54 20.4	+0.2
EPON				Pg	Pb	12 54 25.0	+1.2
EPON				Sn	Sn	12 54 48.4	+1.7
EPON				Sg	Sg	12 54 54.1	-1.1
EPON				iVmb_Lg		12 54 57.8	
PESTR	Estremoz	2.35	174	ePn	Pn	12 54 22.3	-0.3
PESTR	Estremoz	2.35	174	ePg	Pg	12 54 30.0	-0.1
PESTR				eSn	Sb	12 54 56.4	+0.9
PESTR				eSg	Sg	12 54 59.1	-1.6
PESTR				A	A	12 55 01.4	
	518nm,0.5s						
PESTR	Estremoz	2.35	174	P	Pb	12 54 25.7	-1.0
PESTR				S	Sb	12 54 55.5	+0.1
PESTR	Estremoz	2.35	174	Sg	Sb	12 54 56.6	+1.1
PESTR				Pn	Pn	12 54 22.3	-0.3
PESTR				Sn	Sn	12 54 49.2	-1.8
PVFX	Vila Franca de	2.41	201	eSg	Sg	12 55 01.8	-0.6
PVFX				A	A	12 55 06.8	
	2µm,0.3s						
PMAFR	Mafra	2.50	206	ePn	Pn	12 54 24.1	-0.4
PMAFR	Mafra	2.50	206	ePg	Pg	12 54 33.3	+0.5
PMAFR				eSn	Sn	12 54 53.4	-1.0
PMAFR				eSg	Sb	12 55 02.9	+3.4
PMAFR				A	A	12 55 06.8	
	300nm,0.6s						
PMAFR	Mafra	2.50	206	Pn	Pn	12 54 24.1	-0.4
EBAD	Badajoz	2.55	164	Pn	Pn	12 54 25.0	-0.2
EBAD				Pg	Pb	12 54 30.1	+0.1
EBAD				Sn	Sn	12 54 55.4	-0.3
EBAD				Sg	Sb	12 55 02.9	+1.9
EBAD				iVmb_Lg		12 55 06.7	
EBAD	Badajoz	2.55	164	Sg	Sb	12 55 01.6	+0.6
EBAD				Pn	Pn	12 54 25.1	-0.1
PACT	Alcochete	2.55	197	ePn	Pn	12 54 25.3	+0.1
PACT	Alcochete	2.55	197	ePg	Pb	12 54 32.5	+2.5
PACT				eSg	Sg	12 55 05.3	-1.5
PACT				A	A	12 55 12.2	
	306nm,0.6s						
INMG	Instituto de M	2.61	202	eSg	Sb	12 55 07.1	+4.2
LIS	Lisbon	2.67	202	ePg	Pg	12 54 36.7	+0.5
LIS				eSg	Sb	12 55 08.0	+3.4
LIS				A	A	12 55 15.3	
	161nm,0.9s						
EVO	Evora	2.68	182	ePn	Pn	12 54 27.2	+0.1
EVO	Evora	2.68	182	ePg	Pg	12 54 35.6	-0.7
EVO				eSg	Sb	12 55 08.8	+4.0
EVO				A	A	12 55 09.5	
	327nm,0.3s						
EVO	Evora	2.68	182	Pn	Pn	12 54 27.1	+0.1
EVO				Sn	Sn	12 54 55.9	-3.1
EVO				Sg	Sb	12 55 06.5	+1.8
GUD	Guadarrama	2.89	100	Pn	Pn	12 54 30.3	+0.2
GUD				Pg	Pb	12 54 37.1	+1.2
GUD				Sn	Sn	12 55 04.5	+0.1
GUD				Sg	Sb	12 55 14.8	+3.9
GUD				iVmb_Lg		12 55 19.2	
PBAR	Barrancos	3.11	167	⇓ePn	Pn	12 54 32.9	0.0
PBAR				eSn	Sn	12 55 07.2	-2.3
PBAR				eSg	Sg	12 55 22.4	-2.3
PBAR				A	A	12 55 28.3	
	125nm,0.5s						
PBAR	Barrancos	3.11	167	Pn	Pn	12 54 32.9	0.0
PNCL	Nicolau / Gran	3.14	189	ePn	Pn	12 54 33.3	0.0
PNCL				eSn	Sn	12 55 08.3	-1.9
PNCL				eSg	Sb	12 55 22.8	+4.9
PNCL				A	A	12 55 25.9	
	89nm,0.3s						
PNCL	Nicolau / Gran	3.14	189	Pn	Pn	12 54 33.2	-0.1
PAB	San Pablo	3.18	120	Pn	Pn	12 54 34.6	+0.6
PAB				Sn	Sn	12 55 10.6	-0.9
PAB				Sg	Sb	12 55 22.9	+3.6
PAB				iVmb_Lg		12 55 27.1	
PBEJ	Beja	3.18	180	ePn	Pn	12 54 32.0	-2.0
PBEJ				eSn	Sn	12 55 09.4	-2.0
PBEJ				eSg	Sg	12 55 24.7	-2.5
PBEJ				A	A	12 55 28.3	
	162nm,0.5s						
ESDC	Sonseca Array	3.37	116	Pn	Pn	12 54 37.0	+0.4
ESDC				Pg	Pb	12 54 45.8	+1.7
ESDC				Sn	Sn	12 55 14.5	-1.7
ESDC				Sg	Sb	12 55 28.9	+4.2
ESDC				iVmb_Lg		12 55 36.2	
MESJ	Messejana	3.38	184	ePn	Pn	12 54 36.9	+0.2
MESJ	Messejana	3.38	184	ePg	Pg	12 54 53.0	+3.3
MESJ				eSn	Sn	12 55 14.1	-2.1
MESJ				eSg	Sb	12 55 29.9	+5.0
MESJ				A	A	12 55 37.2	
	132nm,0.5s						
MESJ	Messejana	3.38	184	eP	Pn	12 54 36.6	-0.1
MESJ				eS	Sn	12 55 13.2	-3.0
MESJ				IAML		12 55 37.1	
	comp=E,81nm,0.1s						
EMIN	Mina Concepcio	3.57	164	Pn	Pn	12 54 39.7	+0.4
EMIN				Pg	Pb	12 54 48.5	+1.1
EMIN				Sn	Sn	12 55 20.6	-0.3
EMIN				Sg	Sb	12 55 33.8	+3.4
EMIN				iVmb_Lg		12 55 42.1	
EMIN	Mina Concepcio	3.57	164	Pn	Pn	12 54 39.4	+0.1
PCVE	Castro Verde	3.58	182	ePn	Pn	12 54 39.2	-0.2
PCVE				eSn	Sn	12 55 18.7	-2.5
PCVE				eSg	Sg	12 55 36.9	-3.0
PCVE				A	A	12 55 43.3	
	comp=E,116nm,0.4s						
PCVE	Castro Verde	3.58	182	Pn	Pn	12 54 39.2	-0.2
UCM	Universidad Co	3.65	103	Pn	Pn	12 54 41.2	+0.9
UCM				Sn	Sn	12 55 22.3	-0.5
UCM				Sg	Sb	12 55 36.8	+4.2
ECAB	El Cabril	3.67	148	Pn	Pn	12 54 40.8	+0.1
ECAB				Pg	Pb	12 54 50.4	+1.2
ECAB				Sn	Sn	12 55 22.1	-1.4
ECAB				Sg	Sb	12 55 37.4	+4.1
ECAB				iVmb_Lg		12 55 42.6	
ECAB	El Cabril	3.67	148	Pn	Pn	12 54 40.8	+0.1
ECAB				Sn	Sn	12 55 20.3	-3.2
EGRO	El Granado	3.69	175	Pn	Pn	12 54 40.8	-0.1
EGRO				Sn	Sn	12 55 22.0	-1.9
EGRO				Sg	Sb	12 55 37.9	+4.1
EGRO				iVmb_Lg		12 55 47.2	
EGRO	El Granado	3.69	175	Pn	Pn	12 54 40.8	-0.1
EGRO				Sg	Sb	12 55 36.2	+2.4
PTEO	Sao Teotonio	3.72	190	ePn	Pn	12 54 41.5	+0.2
PTEO	Sao Teotonio	3.72	190	ePg	Pg	12 54 54.7	-1.5
PTEO				eSn	Sn	12 55 23.8	-0.8
PTEO				eSg	Sb	12 55 40.7	+6.0
PTEO				A	A	12 55 46.5	
	comp=E,186nm,0.5s						
PVAQ	Vaqueiros	3.81	178	ePn	Pn	12 54 42.6	+0.1
PVAQ				eSn	Sn	12 55 24.1	-2.7
PVAQ				eSg	Sg	12 55 45.5	-1.7
PVAQ	Vaqueiros	3.81	178	P	Pn	12 54 45.6	+3.1
PVAQ				S	Sn	12 55 31.4	+4.5
PVAQ	Vaqueiros	3.81	178	Pn	Pn	12 54 42.6	+0.1
ELAN	Lanestosa	3.88	57	Pn	Pn	12 54 44.3	+0.7
ELAN				Pg	Pb	12 54 53.4	+0.7
ELAN				Sn	Sn	12 55 28.4	-0.2
ELAN				iVmb_Lg		12 55 54.1	
MORF	Marmelete	3.95	189	ePn	Pn	12 54 44.3	-0.2
MORF				eSn	Sn	12 55 27.2	-3.1
MORF				eSg	Sg	12 55 48.5	-3.2
MORF				A	A	12 55 54.7	
	comp=E,72nm,0.4s						
MORF	Marmelete	3.95	189	eP	Pn	12 54 44.3	-0.2
MORF				eS	Sn	12 55 26.7	-3.6
MORF				IAML		12 55 29.1	
	comp=E,42nm,0.2s						
PBDV	Barranco-do-Ve	3.96	180	ePn	Pn	12 54 45.0	+0.2
PBDV				eSn	Sn	12 55 28.9	-1.9
PBDV				eSg	Sg	12 55 50.5	-1.7
PBDV				A	A	12 55 55.9	
	comp=E,96nm,0.4s						
EADA	Adamuz	3.98	139	Pn	Pn	12 54 45.2	+0.3
EADA				Pg	Pb	12 54 55.1	+0.7
EADA				Sn	Sn	12 55 29.7	-1.3
EADA				Sg	Sb	12 55 48.2	+6.1
EADA				iVmb_Lg		12 55 55.2	
EADA	Adamuz	3.98	139	Pn	Pn	12 54 45.1	+0.2
EADA				Sn	Sn	12 55 29.4	-1.6
PSIM	Granatula de C	3.98	126	Pn	Pn	12 54 45.4	+0.5
PSIM				Pg	Pb	12 54 55.2	+0.8
PSIM				Sn	Sn	12 55 29.4	-1.7
PSIM				Sg	Sb	12 55 47.0	+4.8
PFVI	Vila Bisbo	4.14	190	ePn	Pn	12 54 47.0	-0.1
PFVI				eSn	Sn	12 55 33.2	-1.8
PFVI				eSg	Sg	12 55 55.5	-2.3
PFVI				A	A	12 56 04.0	
	comp=E,66nm,0.5s						
PFVI	Vila Bisbo	4.14	190	P	Pn	12 54 48.0	+0.9
PFVI				S	Sn	12 55 37.5	+2.5
PFVI	Vila Bisbo	4.14	190	Pn	Pn	12 54 46.7	-0.4
ETOR	Torete	4.43	93	Pn	Pn	12 54 52.2	+0.9
ETOR				Pg	Pb	12 55 02.8	+0.5
ETOR				Sn	Sn	12 55 43.6	+1.2
ETOR				Sg	Sg	12 56 02.6	-4.7
ETOR				iVmb_Lg		12 56 15.3	
ESPR	Espera	4.62	159	Sn	Sn	12 55 46.6	-0.2
ESPR				Sg	Sg	12 56 10.1	-3.1
ESPR				iVmb_Lg		12 56 29.2	
EARA	Aranguren	4.96	70	Pn	Pn	12 54 59.2	+0.9
EARA				Sg	Sg	12 56 17.9	-6.0
EARA				iVmb_Lg		12 56 33.8	
EGOR	Sierra Gorda,	5.04	143	Pn	Pn	12 55 01.2	+1.5
EQES	Quesada	5.05	131	Pn	Pn	12 54 59.7	0.0
EQES				Sn	Sn	12 55 56.1	-1.6
EQES				Sg	Sg	12 56 23.6	-3.4
EQES				iVmb_Lg		12 56 33.6	
EALK	Alkurruntz	5.15	65	Pn	Pn	12 55 01.8	+0.7
EALK				Sn	Sn	12 56 00.3	+0.3
EALK				Sg	Sg	12 56 25.0	-5.2
EALK				iVmb_Lg		12 56 38.8	
EORO	Oroz-Betelu	5.18	69	Pn	Pn	12 55 02.8	+1.3
EORO				Sn	Sn	12 56 00.1	-0.7
EORO				Sg	Sg	12 56 27.5	-3.7
EORO				iVmb_Lg		12 56 35.7	
EMIJ	Mijas	5.24	151	Pn	Pn	12 55 03.3	+1.0
EMIJ				Sn	Sn	12 56 02.6	+0.4
EMIJ				Sg	Sg	12 56 32.1	-1.0
EMIJ				iVmb_Lg		12 56 39.4	
SJPF	Ste Jean	5.31	67	ePn	Pn	12 55 03.9	+0.7
SJPF				eSn	Sn	12 56 00.4	-3.4
	comp=E,9.1nm,0.4s						
ELGU	Los Guajares,	5.46	141	Pn	Pn	12 55 07.6	+2.2
ELGU				Sg	Sg	12 56 36.9	-3.4
ELGU				iVmb_Lg		12 56 51.3	
ETOB	Tobarra	5.51	116	Pn	Pn	12 55 06.4	+0.4
ETOB				Sg	Sb	12 56 32.6	+6.3
ETOB				iVmb_Lg		12 56 47.1	
EVIV	Cofrentes, Val	5.54	108	Pn	Pn	12 55 06.5	+0.1
EVIV				Pg	Pb	12 55 20.8	-0.2
EVIV				Sn	Sn	12 56 06.3	-3.2
EVIV				Sg	Sg	12 56 37.8	-4.8
EVIV				iVmb_Lg		12 56 54.2	
ESAC	San Caprasio	5.60	82	Pn	Pn	12 55 07.7	+0.5
ESAC				Sn	Sn	12 56 08.0	-3.1

ESAC				Sg	**Sb**	**12 56 36.9**	**+8.0**		
EMOS	**Mosqueruela**	**5.70**	**96**	Pn	**Pn**	**12 55 10.0**	**+1.3**		
EMOS				Sn	**Sn**	**12 56 10.5**	**-3.1**		
EMOS				Sg	**Sg**	**12 56 46.6**	**-1.1**		
EMOS				*i* Vmb_Lg		12 56 53.7			
ETSF	**Etsaut**	**5.71**	**70**	*e*Pn	**Pn**	**12 55 09.3**	**+0.5**		
ETSF				*e*Sn	**Sn**	**12 56 11.0**	**-2.9**		
	comp=E,12nm,0.4s								
EBER	**Berja**	**5.81**	**136**	Pn	**Pn**	**12 55 12.7**	**+2.5**		
EBER				Sn	**Sn**	**12 56 17.8**	**+1.4**		
EBER				Sg	**Sg**	**12 56 48.2**	**-3.1**		
EBER				*i* Vmb_Lg		12 57 00.5			
EZAR	**Zarzadilla de**	**5.84**	**123**	Pn	**Pn**	**12 55 10.6**	**+0.1**		
EZAR				Sn	**Sn**	**12 56 13.2**	**-3.8**		
EZAR				Sg	**Sg**	**12 56 50.1**	**-2.1**		
EZAR				*i* Vmb_Lg		12 57 00.8			
SMIR	**Smir Dam**	**5.86**	**160**	P	**Pn**	**12 55 12.6**	**+1.8**		
ENIJ	**Nijar**	**6.12**	**132**	Pn	**Pn**	**12 55 15.8**	**+1.4**		
ENIJ				Sg	**Sg**	**12 56 59.0**	**-2.4**		
ENIJ				*i* Vmb_Lg		12 57 10.4			
EMUR	**La Murta**	**6.15**	**121**	Pn	**Pn**	**12 55 15.7**	**+1.0**		
EMUR				Sn	**Sn**	**12 56 19.9**	**-4.6**		
EMUR				Sg	**Sg**	**12 56 59.1**	**-3.0**		
EMUR				*i* Vmb_Lg		12 57 10.8			
ERTA	**Horta de San J**	**6.22**	**90**	Pn	**Pn**	**12 55 16.6**	**+0.8**		
ERTA				Sn	**Sn**	**12 56 23.7**	**-2.7**		
ERTA				Sg	Sb	12 56 56.0	+9.3		
ERTA				*i* Vmb_Lg		12 57 17.5			
EPF	**Esparros**	**6.39**	**71**	*e*Pn	**Pn**	**12 55 19.3**	**+1.3**		
EPOB	**Poblet**	**6.76**	**86**	Pn	**Pn**	**12 55 23.2**	**0.0**		
EPOB				Sn	**Sn**	**12 56 36.1**	**-3.6**		
EPOB				Sg	**Sg**	**12 57 13.5**	**-8.2**		
EPOB				*i* Vmb_Lg		12 57 27.7			
GOG	**Mont Gurugu**	**7.12**	**146**	P	**Pn**	**12 55 28.9**	**+0.8**		
LFF	**La Frestale**	**7.33**	**57**	*e*Pn	**Pn**	**12 55 30.9**	**-0.1**		
QUIF	**Quistinic**	**7.50**	**25**	*e*Pn	**Pn**	**12 55 32.5**	**-0.7**		
QUIF				*e*Sn	**Sn**	**12 56 52.1**	**-5.6**		
	comp=E,4.7nm,0.3s								
MFF	**Saint Martin d**	**7.76**	**43**	*e*Pn	**Pn**	**12 55 36.5**	**-0.3**		
MFF				*e*Sn	**Sn**	**12 56 58.9**	**-5.3**		
	comp=E,1.8nm,0.2s								
MTLF	**Montolieu**	**7.79**	**71**	*e*Pn	**Pn**	**12 55 37.2**	**-0.1**		
MTLF				*e*Sn	**Sn**	**12 57 00.0**	**-5.0**		
	comp=E,0.5nm,0.2s								
ZHG	**ZHG**	**7.82**	**172**	P	**Pn**	**12 55 41.0**	**+3.3**		
ROSF	**Rostrenen**	**7.84**	**23**	*e*Pn	**Pn**	**12 55 37.4**	**-0.5**		
ROSF				*e*Sn	**Sn**	**12 57 00.5**	**-5.6**		
	comp=E,0.9nm,0.1s								
RJF	**Les Rejaudoux**	**7.99**	**56**	*e*Pn	**Pn**	**12 55 39.4**	**-0.6**		
RJF				*e*Sn	**Sn**	**12 57 04.8**	**-5.0**		
	comp=E,3.9nm,0.3s								
SGMF	**Saint Gilles**	**8.00**	**27**	*e*Pn	**Pn**	**12 55 39.7**	**-0.3**		
JBK	**JBK**	**8.06**	**147**	P	**Pn**	**12 55 41.1**	**0.0**		
CAF	**Calviac**	**8.18**	**60**	*e*Pn	**Pn**	**12 55 41.6**	**-1.0**		
CAF				*e*Sn	**Sn**	**12 57 08.0**	**-6.5**		
	comp=E,1.1nm,0.3s								
MD31	**MD31**	**8.70**	**162**	P	**Pn**	**12 55 49.9**	**+0.1**		
MDT	**Midelt**	**8.79**	**162**	P	**Pn**	**12 55 51.1**	**+0.1**		
TCF	**Toulx Ste Croi**	**8.90**	**52**	*e*Pn	**Pn**	**12 55 51.9**	**-0.5**		
LASF	**Ste Croix**	**9.12**	**68**	*e*Pn	**Pn**	**12 55 55.3**	**-0.2**		
FLN	**La Foliniere**	**9.19**	**32**	*e*Pn	**Pn**	**12 55 55.9**	**-0.5**		
BGF	**Bois d'Agland**	**9.41**	**52**	*e*Pn	**Pn**	**12 55 59.2**	**-0.3**		
AVF	**Avril sur Loir**	**9.83**	**52**	*e*Pn	**Pn**	**12 56 04.6**	**-0.6**		
VIVF	**Saint-Julien-l**	**9.89**	**64**	*e*Pn	**Pn**	**12 56 05.8**	**-0.3**		
SMF	**Signal de Mont**	**10.05**	**53**	*e*Pn	**Pn**	**12 56 07.4**	**-0.8**		
SSF	**Saint Saulge**	**10.06**	**51**	*e*Pn	**Pn**	**12 56 07.8**	**-0.5**		
ORIF	**Oris-en-Rattie**	**10.73**	**65**	*e*Pn	**Pn**	**12 56 17.3**	**-0.4**		
CABF	**La Chapelle**	**11.43**	**57**	*e*Pn	**Pn**	**12 56 26.9**	**-0.3**		
BAIF	**Baives**	**12.23**	**40**	*e*Pn	**Pn**	**12 56 37.2**	**-0.8**		

*IDC **07** 13:01:07.4±1.1,15°.17S×174°.36W,h0km,mb4.1/6, mbtmp4.1/6,MS3.7/36,Error ellipse: s-maj=43.5km s-min=26.7km az=146.0*
*NEIC **07** 13:01:07.8±0.2,15°.1S±0°.1×174°.0W±0°.1,h10km±1km, mb4.2/4,Error ellipse: s-maj=19.1km s-min=16.7km az=162.0*
ISC 07 13:01:08.8±0.9,15°.4S±0°.2×174°.2W±0°.1,h10km,n51, σ0s83/12,mb4.2/8,MS3.9/35,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.73**	**59**		Pn	13 01 48.0	-4.8
NIUE	**Niue**	**5.50**	**133**		**Pn**	**13 02 29.9**	**-0.9**
RAR	**Rarotonga**	**14.86**	**115**	LR	LR	13 09 06.1	
	comp=Z,189nm,18.2s,baz=324,slow=32						
DZM	**Mont Dzumac**	**19.53**	**247**	*e*LR	LR	13 10 32.4	
	262nm,31.1s						
PAE	**Paea**	**23.69**	**99**	*e*T	T	13 30 51.9	
	5.0nm,0.2s						
PPT	**Papeete**	**23.69**	**99**	LR	LR	13 13 37.7	
	comp=Z,59nm,19.6s,baz=330,slow=31						
PPT2	**Papeete2**	**23.69**	**99**	*e*LR	LR	13 11 43.1	
	314nm,26.8s						
PPT2				*e*LR	LR	13 11 49.8	
	216nm,29.2s						
TVO	**Taravao**	**24.01**	**99**	*e*T	T	13 31 12.3	
	3.2nm,0.3s						
TBI	**Tubuai**	**24.61**	**113**	*e*LR	LR	13 12 12.1	
	2μm,30.5s						
TBI	**Tubuai**	**24.61**	**113**	*e*T	T	13 31 47.2	
	14nm,0.3s						
RPZ	**Rata Peaks**	**30.95**	**201**	LR	LR	13 19 40.9	
	comp=Z,262nm,18.8s,baz=36,slow=36						
CTA	**Charters Tower**	**37.93**	**257**	LR	LR	13 21 12.9	
	comp=Z,70nm,20.0s,baz=84,slow=32						
STKA	**Stephens Creek**	**43.42**	**240**	P	**P**	**13 09 12.1**	**+0.1**
	1.6nm,0.7s,baz=86,slow=7.9,SNR=1.9						
STKA				LR	LR	13 27 55.5	
	comp=Z,90nm,19.0s,baz=42,slow=37						
	1.6nm,0.7s						
WRA	**Warramunga Arr**	**49.13**	**257**	P	**P**	**13 09 56.7**	**-0.4**
WRA	**Warramunga Arr**	**49.13**	**257**	P	**P**	**13 09 56.2**	**-1.0**
	3.1nm,1.1s,baz=91,slow=7.3,SNR=13						
	3.1nm,1.1s						
AS31	**Alice Springs**	**49.41**	**252**	P	**P**	**13 09 59.5**	**+0.1**
AS31				IAmb	IAmb	13 10 00.5	
	comp=Z,1.9nm,0.8s						
ASAR	**Alice Springs**	**49.42**	**252**	P	**P**	**13 09 58.8**	**-0.6**
ASAR	**Alice Springs**	**49.42**	**252**	P	**P**	**13 09 58.4**	**-0.9**
	comp=Z,7.0nm,0.7s,baz=86,slow=8.5,SNR=72						
ASAR				LR	LR	13 29 15.0	
	comp=Z,102nm,20.5s,baz=97,slow=34						
	comp=Z,7.0nm,0.7s						
GUMO	**Guam**	**49.68**	**303**	LR	LR	13 28 51.8	
	comp=Z,43nm,18.6s,baz=140,slow=34						
BATI	**Baumata**	**60.67**	**267**	LR	LR	13 35 42.5	
	comp=Z,87nm,20.8s,baz=128,slow=34						
VNDA	**Vanda**	**63.35**	**186**	P	**P**	**13 11 38.4**	**+0.6**
VNDA				IAmb	IAmb	13 12 04.0	
	comp=Z,1.9nm,1.1s						
VNDA	**Vanda**	**63.35**	**186**	LR	LR	13 35 33.0	
	comp=Z,21nm,20.0s,baz=60,slow=32						
DAV	**Davao City (W)**	**63.70**	**286**	LR	LR	13 38 12.3	
	comp=Z,58nm,18.0s,baz=143,slow=35						
NWAO	**Narrogin (SRO)**	**63.99**	**241**	LR	LR	13 39 05.2	
	comp=Z,85nm,18.1s,baz=261,slow=36						
JHJ	**Hachijo jima 2**	**65.23**	**318**	LR	LR	13 35 02.6	
	comp=Z,15nm,20.2s,baz=72,slow=31						
MJAR	**Matsushiro Arr**	**68.42**	**320**	LR	LR	13 35 59.9	
	comp=Z,44nm,21.4s,baz=138,slow=31						
SHEM	**Shemya Is, Ala**	**68.55**	**352**	LR	LR	13 34 36.5	
	comp=Z,37nm,21.9s,baz=127,slow=29						
JOW	**Kunigami**	**69.85**	**307**	LR	LR	13 36 53.4	
	comp=Z,65nm,21.4s,baz=187,slow=31						
JNU	**Nakatsue**	**71.22**	**313**	LR	LR	13 37 58.1	
	comp=Z,37nm,20.4s,baz=181,slow=31						
PFO	**Pinyon Flats O**	**73.44**	**47**	LR	LR	13 37 27.9	
	comp=Z,143nm,19.8s,baz=260,slow=30						
LPIG	**La Paz**	**73.65**	**59**	LR	LR	13 37 02.2	
	comp=Z,70nm,19.2s,baz=250,slow=29						
YBH	**Yreka Blue Hor**	**74.01**	**38**	LR	LR	13 36 45.2	
	comp=Z,96nm,21.6s,baz=233,slow=29						
QSPA	**South Pole Qui**	**74.69**	**180**	P	**P**	**13 12 49.0**	**+0.4**
QSPA	**South Pole Qui**	**74.69**	**180**	P	**P**	**13 12 49.7**	**+1.1**
	comp=Z,3.2nm,0.9s,baz=62,slow=4.0,SNR=11						
QSPA				LR	LR	13 40 28.6	
	comp=Z,50nm,21.8s,baz=88,slow=32						
	comp=Z,3.2nm,0.9s						
NVAR	**Mina Array Bea**	**74.79**	**42**	LR	LR	13 37 12.9	
	comp=Z,80nm,21.1s,baz=278,slow=29						
KDAK	**Kodiak Island**	**75.02**	**12**	LR	LR	13 39 40.0	
	comp=Z,69nm,18.8s,baz=218,slow=31						
KSRS	**Korea Array**	**75.60**	**316**	LR	LR	13 40 58.0	
	comp=Z,23nm,21.4s,baz=0.0,slow=32						
USRK	**Ussuriysk Ar.**	**76.90**	**323**	LR	LR	13 41 04.0	
	comp=Z,37nm,21.1s,baz=93,slow=31						
BBB	**Bella Bella**	**78.18**	**27**	LR	LR	13 39 43.3	
	comp=Z,79nm,19.0s,baz=240,slow=30						
KLR	**Kul'dur**	**80.07**	**327**	LR	LR	13 44 05.7	
	comp=Z,22nm,20.5s,baz=102,slow=32						
NEW	**Newport**	**81.09**	**35**	LR	LR	13 39 34.7	
	comp=Z,59nm,21.4s,baz=256,slow=28						
TXAR	**Lajitas Array**	**81.21**	**56**	P	**P**	**13 13 26.3**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=212,slow=4.9,SNR=2.4						
	comp=Z,0.3nm,0.8s						
ANMO	**Albuquerque**	**81.34**	**50**	LR	LR	13 42 46.8	
	comp=Z,91nm,19.2s,baz=334,slow=31						
DLBC	**Dease Lake**	**81.93**	**22**	LR	LR	13 46 21.2	
	comp=Z,70nm,19.0s,baz=275,slow=33						
ILAR	**Eielson Array**	**82.54**	**11**	P	**P**	**13 13 30.8**	**-0.7**
	comp=Z,0.9nm,1.0s,baz=222,slow=7.4,SNR=4.9						
ILAR				LR	LR	13 42 00.3	
	comp=Z,68nm,20.1s,baz=204,slow=30						
	comp=Z,0.9nm,1.0s						
MAW	**Mawson**	**87.60**	**199**	LR	LR	13 51 25.6	
	comp=Z,58nm,18.3s,baz=147,slow=34						
PLCA	**Paso Flores**	**90.10**	**132**	LR	LR	13 45 07.3	
	comp=Z,62nm,19.0s,baz=224,slow=29						
YKA	**Yellowknife Ar**	**90.35**	**24**	LR	LR	13 50 13.6	
	comp=Z,81nm,18.4s,baz=41,slow=33						
CMAR	**Chiang Mai Arr**	**91.89**	**289**	LR	LR	13 50 56.1	
	comp=Z,19nm,21.1s,baz=100,slow=33						
ATAH	**Atahualpa**	**93.67**	**98**	LR	LR	13 47 45.2	
	comp=Z,60nm,19.7s,baz=290,slow=30						
LVC	**Limon Verde**	**97.71**	**116**	LR	LR	13 47 58.4	
	comp=Z,41nm,21.1s,baz=215,slow=29						

*SOME **07** 13:16:41.4,41°.68N×78°.85E,h0km*
*KRNET **07** 13:16:41.6±0.1,41°.65N×79°.05E,mb3.3*
*NNC **07** 13:16:43.5±1.2,41°.65N×78°.99E,h0km,mb4.2,mpv3.9, Error ellipse: s-maj=8.6km s-min=5.0km az=159.0*
ISC 07 13:16:45.3±1.8,41°.73N±0°.06×78°.90E±0°.04,h7km±11km, n77,σ1s29/109,35C-18D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.84**	**334**	⇓*i*P	**Pb**	**13 17 00.0**	**-2.4**
	baz=30						
PRZ				⇓*i*S	**Sb**	**13 17 13.5**	**-0.4**
	baz=30						
SATY	**Saty**	**1.38**	**345**	*e*P	**Pn**	**13 17 09.8**	**-1.3**
	140nm,0.2s						
SATY				*e*S	**Sg**	**13 17 30.4**	**+0.7**
	261nm,0.1s						
SATY	**Saty**	**1.38**	**345**	P	**Pn**	**13 17 09.8**	**-1.3**
	134nm,0.4s						
SATY				S	**Sg**	**13 17 30.0**	**+0.4**
	261nm,0.1s						
ANVS	**Anan'yevo**	**1.40**	**319**	⇑*i*P	**Pn**	**13 17 09.9**	**-1.5**
	baz=18						
ANVS				⇑*i*S	**Sg**	**13 17 30.4**	**+0.2**
	baz=18						
UZB	**Uzynbulak**	**1.42**	**4**	*e*P	**Pb**	**13 17 10.4**	**-1.8**
	96nm,0.1s						
UZB				*e*S	**Sg**	**13 17 31.2**	**+0.2**
	84nm,0.2s						
UZB	**Uzynbulak**	**1.42**	**4**	P	**Pb**	**13 17 10.4**	**-1.8**
	96nm,0.1s						
UZB				S	**Sg**	**13 17 31.7**	**+0.7**
	84nm,0.2s						
ZHN	**Zhinishke**	**1.48**	**347**	*e*P	**Pb**	**13 17 11.7**	**-1.5**
	408nm,0.2s						
ZHN				*e*S	**Sg**	**13 17 33.3**	**+0.5**
	342nm,0.2s						
ZHN	**Zhinishke**	**1.48**	**347**	P	**Pb**	**13 17 11.7**	**-1.5**
	408nm,0.2s						
ZHN				S	**Sg**	**13 17 33.3**	**+0.5**
	342nm,0.2s						
SHLS	**Shalkode**	**1.49**	**16**	*e*P	**Pg**	**13 17 14.0**	**+0.1**
	68nm,0.2s						
SHLS				*e*S	**Sg**	**13 17 37.6**	**+4.5**
	508nm,0.5s						
SHLS	**Shalkode**	**1.49**	**16**	P	**Pg**	**13 17 13.6**	**-0.2**
	68nm,0.2s						
SHLS				S	**Sg**	**13 17 37.6**	**+4.5**
	508nm,0.5s						
PDGK	**Podgornoye**	**1.66**	**15**	P	**Pb**	**13 17 14.4**	**-1.9**
	35nm,0.3s						
PDGK				S	**Sg**	**13 17 37.9**	**-0.8**
	83nm,0.4s						
PDGK	**Podgornoye**	**1.66**	**15**	⇑Pn	**Pb**	**13 17 14.5**	**-1.8**
	28nm,0.4s						
PDGK				⇑Sn	**Sg**	**13 17 39.1**	**+0.5**
	70nm,0.5s						
KPKS	**Kokpek**	**1.74**	**355**	*e*P	**Pb**	**13 17 16.6**	**-1.0**
	212nm,0.2s						
KPKS				*e*S	**Sg**	**13 17 41.9**	**+0.5**
	243nm,0.3s						
KPKS	**Kokpek**	**1.74**	**355**	P	**Pb**	**13 17 16.6**	**-1.0**
	212nm,0.2s						
KPKS				S	**Sg**	**13 17 41.9**	**+0.5**
	243nm,0.3s						
KURS	**Kuram**	**1.84**	**343**	*e*P	**Pb**	**13 17 18.2**	**-1.1**
	132nm,0.5s						
KURS				*e*S	**Sg**	**13 17 44.4**	**0.0**
	37nm,0.5s						
KURS	**Kuram**	**1.84**	**343**	Pg	**Pb**	**13 17 18.2**	**-1.1**
	132nm,0.5s						
KURS				Lg	Lg	13 17 44.4	
	37nm,0.5s						
TNSS	**Tian-Shan**	**1.95**	**313**	*e*P	**Pn**	**13 17 19.1**	**-0.1**
	104nm,0.2s						
TNSS				*e*S	**Sb**	**13 17 46.3**	**+0.2**
	114nm,0.5s						
TNSS	**Tian-Shan**	**1.95**	**313**	Pg	**Pn**	**13 17 19.1**	**-0.1**
	104nm,0.2s						
TNSS				Lg	Lg	13 17 47.2	
	114nm,0.5s						
MDOK	**Medeo**	**1.98**	**317**	*e*Pg	**Pn**	**13 17 19.6**	**+0.2**
	48nm,0.1s						
MDOK				*e*Lg	Lg	13 17 47.0	
	102nm,0.5s						
MDOK	**Medeo**	**1.98**	**317**	⇑Pn	**Pn**	**13 17 19.6**	**+0.2**
	44nm,0.5s						
MDOK				Pg	**Pn**	**13 17 19.6**	**+0.2**
	83nm,0.4s						
MDOK				Lg	Lg	13 17 47.7	
	102nm,0.5s						
MDOK				⇑Sn	**Sg**	**13 17 48.3**	**-0.7**
	75nm,0.5s						
KOTS	**Kotyrbulak**	**2.00**	**319**	*e*Pg	**Pb**	**13 17 20.3**	**-1.9**
	110nm,0.1s						
KOTS				*e*Lg	Lg	13 17 48.0	
	288nm,0.4s						
KOTS	**Kotyrbulak**	**2.00**	**319**	Pg	**Pb**	**13 17 21.0**	**-1.1**
	105nm,0.2s						
KOTS				Lg	Lg	13 17 49.5	
	288nm,0.4s						
KTMS	**Ketmen**	**2.02**	**32**	*e*Pg	**Pb**	**13 17 20.1**	**-2.4**
	18nm,0.4s						
KTMS				*e*Lg	Lg	13 17 47.9	
	56nm,0.4s						
KTMS	**Ketmen**	**2.02**	**32**	Pg	**Pb**	**13 17 20.1**	**-2.4**
	18nm,0.4s						
KTMS				Lg	Lg	13 17 48.1	
	56nm,0.4s						
ULHL	**Ulahol**	**2.05**	**285**	⇓*i*P	**Pn**	**13 17 19.7**	**-0.6**
	baz=87						
ULHL				⇓*i*S	**Sb**	**13 17 48.2**	**-0.5**
	baz=87						
KNDC	**Almaty**	**2.06**	**317**	⇓Pn	**Pb**	**13 17 21.3**	**-1.8**
	57nm,0.4s						
KNDC				⇑Sn	**Sg**	**13 17 51.9**	**+0.3**
	49nm,0.6s						
AAA	**Alma-Ata**	**2.08**	**316**	*e*Pg	**Pb**	**13 17 21.9**	**-1.5**
	338nm,0.2s						
AAA				*e*Lg	Lg	13 17 50.8	
	576nm,0.4s						
AAA	**Alma-Ata**	**2.08**	**316**	Pg	**Pb**	**13 17 22.4**	**-1.1**
	338nm,0.2s						
AAA				Lg	Lg	13 17 52.3	
	576nm,0.4s						
NRN	**Naryn**	**2.20**	**263**	⇑*i*P	**Pn**	**13 17 22.0**	**-0.5**
	baz=65						
NRN				⇑*i*S	**Sb**	**13 17 51.5**	**-1.5**
	baz=65						
KASK	**Kaskelen**	**2.24**	**312**	⇑Pn	**Pb**	**13 17 23.8**	**-2.3**
KASK				⇑Sn	**Sg**	**13 17 56.8**	**-0.4**
MTBS	**Maitube**	**2.30**	**308**	*e*Pg	**Pb**	**13 17 25.7**	**-1.5**
MTBS				*e*Lg	Lg	13 17 57.5	
	32nm,0.3s						
MTBS	**Maitube**	**2.30**	**308**	Pg	**Pb**	**13 17 25.7**	**-1.5**
	189nm,0.3s						
MTBS	32nm,0.3s			Lg	Lg	13 17 57.5	
BOOM	**Boomskoye usch**	**2.33**	**290**	⇓*e*P	**Pn**	**13 17 24.0**	**-0.2**
	baz=91						
BOOM				⇓*i*S	**Sb**	**13 17 54.7**	**-2.1**
	baz=91						
BLB	**Baldybastay**	**2.39**	**353**	Pg	**Pb**	**13 17 27.9**	**-0.8**
	100nm,0.2s						
BLB				Lg	Lg	13 18 01.5	
	69nm,0.4s						
KST	**Kastek**	**2.54**	**302**	*e*Pg	**Pb**	**13 17 29.7**	**-1.6**
	21nm,0.3s						
KST				*e*Lg	Lg	13 18 04.3	
	332nm,0.6s						
KST	**Kastek**	**2.54**	**302**	Pg	**Pb**	**13 17 29.7**	**-1.6**
	21nm,0.3s						
KST				Lg	Lg	13 18 04.3	
	332nm,0.6s						
CHKK	**Chushkaly**	**2.55**	**327**	*e*Pg	**Pb**	**13 17 30.8**	**-0.5**
	28nm,0.3s						
CHKK				*e*Lg	Lg	13 18 06.4	
	171nm,0.2s						
CHKK	**Chushkaly**	**2.55**	**327**	Pg	**Pb**	**13 17 30.8**	**-0.5**
	28nm,0.3s						
CHKK				Lg	Lg	13 18 06.4	
	184nm,0.5s						
KTBS	**Karatobe**	**2.57**	**321**	*e*Pg	**Pb**	**13 17 30.8**	**-1.0**
	22nm,0.2s						
KTBS				*e*Lg	Lg	13 18 06.0	
	256nm,0.4s						
KTBS	**Karatobe**	**2.57**	**321**	Pg	**Pb**	**13 17 30.8**	**-1.0**
	22nm,0.2s						
KTBS				Lg	Lg	13 18 06.0	
	256nm,0.4s						
ARXS	**Arharly**	**2.60**	**343**	*e*Pg	**Pb**	**13 17 31.5**	**-0.9**
	42nm,0.5s						
ARXS				*e*Lg	Lg	13 18 07.9	
	92nm,0.3s						
ARXS	**Arharly**	**2.60**	**343**	Pg	**Pb**	**13 17 31.5**	**-0.9**
	42nm,0.5s						
ARXS				Lg	Lg	13 18 07.9	
	92nm,0.3s						
DJR	**Jarkent**	**2.68**	**14**	*e*Pg	**Pb**	**13 17 33.0**	**-0.7**
	21nm,0.2s						
DJR				*e*Lg	Lg	13 18 09.9	
	97nm,0.3s						
DJR	**Jarkent**	**2.68**	**14**	Pg	**Pb**	**13 17 33.0**	**-0.7**
	21nm,0.2s						
DJR				Lg	Lg	13 18 09.9	
	97nm,0.3s						
TKM2	**Tokmak 2**	**2.72**	**297**	⇑*i*P	**Pn**	**13 17 29.5**	**-0.1**
	baz=98						
TKM2				⇑*i*S	**Sn**	**13 18 04.6**	**+1.7**
	baz=98						
TKM2	**Tokmak 2**	**2.72**	**297**	⇓Pn	**Pn**	**13 17 29.4**	**-0.3**
	9.0nm,0.3s						
TKM2				⇓Lg	Lg	13 18 12.1	
	67nm,0.8s						
KZA	**Kyzart**	**2.75**	**279**	⇑*i*P	**Pn**	**13 17 29.9**	**-0.2**
	baz=80						
KZA				⇑*i*S	**Sn**	**13 18 05.0**	**+1.2**
	baz=80						
DGS	**Degeres**	**2.76**	**304**	*e*Pg	**Pb**	**13 17 32.9**	**-2.1**
	22nm,0.3s						
DGS				*e*Lg	Lg	13 18 09.9	
	122nm,0.5s						
DGS	**Degeres**	**2.76**	**304**	Pg	**Pb**	**13 17 32.9**	**-2.1**
	22nm,0.3s						
DGS				Lg	Lg	13 18 09.9	
	122nm,0.5s						
KUU	**Kurty**	**2.87**	**320**	*e*Pg	**Pb**	**13 17 35.6**	**-1.2**
	22nm,0.6s						
KUU				*e*Lg	Lg	13 18 14.6	
	54nm,0.5s						
KUU	**Kurty**	**2.87**	**320**	Pg	**Pb**	**13 17 35.6**	**-1.2**
	22nm,0.6s						
KUU				Lg	Lg	13 18 14.6	
	54nm,0.5s						
KBK	**Karagaybulak**	**3.08**	**289**	⇑*i*P	**Pn**	**13 17 34.4**	**-0.1**
	baz=90						
KBK				⇑*i*S	**Sn**	**13 18 12.8**	**+1.2**
	baz=90						
KRBS	**Karabastau**	**3.08**	**311**	*e*Pg	**Pb**	**13 17 39.5**	**-1.0**
	22nm,0.2s						
KRBS				*e*Lg	Lg	13 18 21.1	
	49nm,0.6s						
KRBS	**Karabastau**	**3.08**	**311**	Pg	**Pb**	**13 17 39.5**	**-1.0**
	22nm,0.2s						
KRBS				Lg	Lg	13 18 21.0	
	49nm,0.6s						
TDK	**Taldyqorghan**	**3.29**	**354**	*e*Pg	**Pb**	**13 17 44.1**	**+0.1**
	56nm,0.5s						
TDK				*e*Lg	Lg	13 18 29.5	
	114nm,0.5s						
TDK	**Taldyqorghan**	**3.29**	**354**	Pg	**Pb**	**13 17 44.2**	**+0.1**
	56nm,0.5s						
TDK				Lg	Lg	13 18 29.5	
	114nm,0.5s						
UCH	**Uchtor**	**3.31**	**280**	⇑*i*P	**Pn**	**13 17 37.4**	**-0.5**
	baz=81						
UCH				⇑*i*S	**Sn**	**13 18 18.6**	**+0.9**
	baz=81						
CHMS	**Chumysh**	**3.33**	**294**	⇑*i*P	**Pn**	**13 17 37.9**	**+0.2**
	baz=94						
CHMS				⇑*i*S	**Sn**	**13 18 18.7**	**+1.2**
	baz=94						
CHMS	**Chumysh**	**3.33**	**294**	⇑Pn	**Pb**	**13 17 43.7**	**-0.9**
	1.3nm,0.3s						
CHMS				⇑Lg	Lg	13 18 30.6	
	36nm,1.1s						
AAK	**Ala-Archa**	**3.40**	**287**	⇓*i*P	**Pn**	**13 17 38.8**	**-0.1**
	baz=88						
AAK				⇓*i*S	**Sn**	**13

MK31	**Makanchi Array**	**5.62**	**25**	⇑Pn		**Pn**	**13 18 09.2**	**0.0**
	0.3nm,0.4s,baz=208,slow=13,SNR=32							
MK31				Sn		**Sn**	**13 19 14.8**	**+0.9**
	5.0nm,0.7s,baz=208,slow=24,SNR=5.2							
MK31				⇑Lg		Lg	13 19 43.5	
	1.8nm,0.6s							
KK31	**Karatay Array**	**6.36**	**285**	⇓Pg		**Pb**	**13 18 39.8**	**+3.5**
	0.5nm,0.4s,baz=88,slow=16,SNR=6.0							
KK31				⇑Lg		Lg	13 20 08.1	
	4.3nm,0.8s,baz=102,slow=27,SNR=9.3							
OTUK	**Ortayu**	**8.00**	**327**	Pg		Pb	13 19 09.5	+5.3
	1.0nm,0.5s							
OTUK				Lg		Lg	13 20 55.2	
	2.0nm,0.8s							
KURBB	**Kurchatov Arra**	**8.90**	**358**	⇓Lg		Lg	13 21 27.0	
	14nm,0.8s							
KURK	**Kurchatov**	**8.99**	**359**	⇑Lg		Lg	13 21 30.1	
	4.7nm,0.9s							

*AZER **07** 13:22:27.7±0.1,39°.55N×44°.79E,h18km,Error ellipse: s-maj=2.0km s-min=0.9km az=240.0*
*AFAD **07** 13:22:27.7±0.0,39°.65N×44°.75E,h7km±6km,ML2.6*
*ISK **07** 13:22:28.9,39°.68N×44°.78E,h21km,ML2.5/9*
*TEH **07** 13:22:31.0,39°.32N×44°.82E,h10km±100km,ML2.9*

ISC 07 13:22:28.6±0.8,39°.59N±0°.02×44°.78E±0°.02,h15km±6km, n46,σ1§54/80,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
HYR	**Heyderabad**	**0.14**	**25**	P		**Pg**		**13 22 33.0**	**+0.5**
	SNR=328								
HYR				S		**Sg**		**13 22 36.3**	**+1.3**
MAKU	**Maku**	**0.25**	**197**	Pg		**Pg**		**13 22 33.3**	**-0.8**
MAKU				Sg		**Sg**		**13 22 36.8**	**-1.0**
TASB	**TASBURUN-IGDIR**	**0.57**	**314**	Pg		**Pb**		**13 22 39.8**	**-0.6**
TASB				Sg		**Sb**		**13 22 47.6**	**-0.8**
IGDI	**IGDIR**	**0.60**	**297**	P		**Pg**		**13 22 39.3**	**-1.2**
IGDI				S		**Sg**		**13 22 46.7**	**-1.9**
IGDI				*i*	AML	AML		13 22 48.0	
	comp=N,293nm,0.2s								
IGDI				*i*	AML	AML		13 22 48.0	
	comp=E,426nm,0.3s								
SBZ	**Shahbuz**	**0.63**	**108**	P		**Pb**		**13 22 41.3**	**-0.1**
	SNR=73								
SBZ				S		**Sb**		**13 22 50.9**	**+0.7**
NAX	**Nakhchivan**	**0.69**	**126**	P		**Pb**		**13 22 42.3**	**-0.2**
	SNR=133								
NAX				S		**Sb**		**13 22 52.7**	**+0.7**
CLDR	**Caldiran**	**0.80**	**236**	Pg		**Pn**		**13 22 46.1**	**+0.5**
CLDR				Sg		**Sn**		**13 22 58.3**	**+0.8**
CLDR	**Caldiran**	**0.80**	**236**	P		**Pg**		**13 22 43.4**	**-0.9**
CLDR				S		**Sg**		**13 22 53.9**	**-0.9**
CLDR				*i*	AML	AML		13 23 06.0	
	comp=E,258nm,0.6s								
OZAP	**Van, Ozalp-Mer**	**1.11**	**214**	P		**Pg**		**13 22 48.8**	**-1.3**
OZAP				S		**Sn**		**13 23 07.4**	**+2.4**
OZAP				*i*	AML	AML		13 23 12.0	
	comp=N,95nm,1.0s								
ORD	**Ordubad**	**1.15**	**125**	P		**Pb**		**13 22 49.9**	**-0.4**
	SNR=22								
ORD				S		**Sn**		**13 23 06.2**	**+0.3**
KOTA	**Agri, Merkez-K**	**1.23**	**280**	P		**Pg**		**13 22 51.5**	**-0.9**
KOTA				S		**Sb**		**13 23 08.7**	**+1.2**
GDB	**GEDABAY**	**1.36**	**33**	Pn		**Pb**		**13 22 54.4**	**+0.6**
	SNR=48								
GDB				Sg		**Sn**		**13 23 12.7**	**+1.7**
AGRB	**Hanur-Agry**	**1.38**	**270**	Pn		**Pn**		**13 22 53.7**	**+0.1**
AGRB				Sn		**Sg**		**13 23 11.9**	**-1.2**
AGRB	**Hanur-Agry**	**1.38**	**270**	P		**Pb**		**13 22 55.2**	**+1.0**
AGRB				S		**Sn**		**13 23 16.6**	**+4.9**
EAK	**Akyaka**	**1.42**	**321**	P		**Pb**		**13 22 54.5**	**-0.3**
EAK				S		**Sn**		**13 23 13.5**	**+0.9**
EAK				*i*	AML	AML		13 23 21.0	
	comp=E,170nm,0.5s								
EAK				*i*	AML	AML		13 23 24.0	
	comp=N,267nm,0.6s								
ISHB	**Shabestar**	**1.46**	**153**	Pg		**Pn**		**13 22 53.7**	**-1.1**
VANB	**Van**	**1.47**	**228**	Pn		**Pg**		**13 22 56.6**	**-0.2**
VANB				Sn		**Sg**		**13 23 16.6**	**+0.7**
QZX	**Qazax, Azerbai**	**1.54**	**17**	Pn		**Pg**		**13 22 58.2**	**+0.1**
	SNR=8.2								
QZX				Sn		**Sg**		**13 23 19.3**	**+1.2**
DORK	**Agr/Tutak/Do**	**1.56**	**263**	P		**Pg**		**13 22 58.3**	**-0.3**
DORK				S		**Sg**		**13 23 19.7**	**+0.9**
DORK				*i*	AML	AML		13 23 25.0	
	comp=N,91nm,0.8s								
DORK				*i*	AML	AML		13 23 31.0	
	comp=E,57nm,0.9s								
GANJ	**Ganja**	**1.59**	**48**	Pn		**Pg**		**13 22 58.5**	**-0.6**
	SNR=16								
GANJ				Sn		**Sg**		**13 23 20.2**	**+0.5**
KARS	**Kars**	**1.66**	**309**	Pn		**Pn**		**13 22 56.7**	**-0.7**
KARS				Sn		**Sn**		**13 23 16.6**	**-2.0**
ITBZ	**Tabriz**	**1.73**	**141**	Pg		**Pn**		**13 22 58.6**	**+0.3**
DMNI	**Dmanisi**	**1.79**	**346**	P		**Pg**		**13 23 01.6**	**-1.5**
DMNI				S		**Sg**		**13 23 24.9**	**-1.5**
AGDM	**Agdam**	**1.87**	**73**	Pn		**Pg**		**13 23 03.7**	**-0.8**
AGDM				Sg		**Sg**		**13 23 30.2**	**+1.4**
AKDM	**Akdamar-Van**	**1.88**	**229**	Pn		**Pn**		**13 23 01.5**	**+1.0**
QRD	**Qoradiz**	**1.97**	**93**	Pg		**Pb**		**13 23 03.5**	**-0.7**
	SNR=4.8								
QRD				Sg		**Sg**		**13 23 31.9**	**-0.1**
TRLG	**Trialeti**	**2.01**	**345**	P		**Pg**		**13 23 05.6**	**-1.7**
TRLG				S		**Sg**		**13 23 31.4**	**-2.0**
VSHL	**Vashlovani**	**2.05**	**37**	P		**Pg**		**13 23 06.7**	**-1.4**
VSHL				S		**Sg**		**13 23 38.6**	**+3.9**
AKH	**Akhalkalaki**	**2.06**	**332**	Pn		**Pn**		**13 23 02.1**	**-0.9**
SENK	**Senkaya-Erzuru**	**2.10**	**298**	Pn		**Pn**		**13 23 03.6**	**+0.1**
MNGR	**Mingechevir, A**	**2.13**	**56**	Sg		**Sg**		**13 23 36.9**	**-0.1**
IAZR	**Azarshahr**	**2.13**	**153**	Pn		**Pb**		**13 23 06.3**	**-0.8**
KOPR	**Koprukoy-ERZUR**	**2.29**	**281**	Pn		**Pn**		**13 23 06.3**	**+0.3**
GRMI	**Germi**	**2.54**	**107**	Pn		**Pb**		**13 23 13.2**	**-0.9**
ALIG	**Mtskhetisjvari**	**2.65**	**342**	P		**Pg**		**13 23 18.6**	**-0.9**
ALIG				S		**Sg**		**13 23 52.2**	**-1.7**
QBL	**Gabala**	**2.71**	**59**	Sg		**Sg**		**13 23 55.3**	**-0.3**
CHRG	**Chargali**	**2.74**	**2**	P		**Pg**		**13 23 19.0**	**-2.1**
CHRG				S		**Sg**		**13 23 54.4**	**-2.2**
YRD	**Yardimli**	**2.77**	**103**	Pg		**Pb**		**13 23 16.8**	**-1.2**
	SNR=9.7								
YRD				Sg		**Sg**		**13 23 54.0**	**-3.7**
GLBA	**Clilabad**	**2.82**	**96**	Sg		**Sg**		**13 23 58.1**	**-1.2**
ISRB	**Sarab**	**2.87**	**127**	Pn		**Pn**		**13 23 16.6**	**+2.6**
LRK	**Lerik**	**2.93**	**108**	Pg		**Pb**		**13 23 20.0**	**-0.6**
LRK				Sg		**Sg**		**13 24 00.9**	**-1.9**
XNQ	**Khinaliq**	**3.02**	**57**	Pn		**Pg**		**13 23 18.5**	**+2.4**
XNQ				Sg		**Sg**		**13 24 03.7**	**-1.8**
MTEO	**Meteo**	**3.09**	**357**	P		**Pg**		**13 23 25.8**	**-2.1**
MTEO				S		**Sg**		**13 24 10.5**	**+2.5**
PQL	**Pirkuli**	**3.16**	**67**	Pg		**Pb**		**13 23 24.9**	**+0.3**
PQL				Sg		**Sg**		**13 24 07.6**	**-2.6**
LKRN	**Lenkeran, Azer**	**3.23**	**105**	Pg		**Pb**		**13 23 25.9**	**+0.1**
LKRN				Sg		**Sg**		**13 24 09.4**	**-3.1**
ASTR	**Astara**	**3.29**	**107**	Pg		**Pb**		**13 23 27.1**	**+0.4**
ASTR				Sg		**Sg**		**13 24 11.9**	**-2.4**

*IDC **07** 13:23:41.9±2.2,16°.47S×178°.44W,h0km,mb4.1/6, mbtmp4.1/6,MS3.1/1,Error ellipse: s-maj=120.8km s-min=24.6km az=146.0*

ISC 07 13:23:46.7±2.2,16°.7S±0°.7×178°.3W±0°.5,h35km,n7, σ1§31/6,mb4.1/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
DZM	**Mont Dzumac**	**15.34**	**247**	LR		LR	LR	13 32 29.9	
	comp=Z,71nm,18.4s,baz=222,slow=34								
CTA	**Charters Tower**	**33.76**	**259**	P		**P**		**13 30 26.8**	**+1.4**
	2.5nm,0.9s,baz=93,slow=11,SNR=1.9								
	2.5nm,0.9s								
STKA	**Stephens Creek**	**39.30**	**240**	P		**P**		**13 31 11.9**	**-0.6**
	1.6nm,0.5s,baz=80,slow=11,SNR=7.2								
	1.6nm,0.5s								
WRA	**Warramunga Arr**	**44.96**	**258**	P		**P**		**13 31 58.4**	**-0.4**
	1.6nm,0.6s,baz=91,slow=7.8,SNR=36								
	1.6nm,0.6s								
ASAR	**Alice Springs**	**45.22**	**253**	P		**P**		**13 32 00.3**	**-0.6**
	8.8nm,0.6s,baz=88,slow=8.5,SNR=204								
	8.8nm,0.6s								
NVAR	**Mina Array Bea**	**78.50**	**44**	P		**P**		**13 35 45.7**	**+1.0**
	0.3nm,0.6s,baz=215,slow=7.7,SNR=2.2								
	0.3nm,0.6s								
ILAR	**Eielson Array**	**84.70**	**13**	P		**P**		**13 36 15.4**	**-1.1**
	0.8nm,1.1s,baz=222,slow=5.1,SNR=4.8								
	0.8nm,1.1s								

*IDC **07** 13:39:16.6±0.9,5°.26N×61°.35E,h0km,mb4.0/12, mbtmp4.0/12,MS3.6/21,Error ellipse: s-maj=26.5km s-min=18.4km az=17.0*

ISC 07 13:39:19.1±1.0,5°.3N±0°.2×61°.3E±0°.1,h14km,n29, σ1§73/12,mb4.0/12,MS3.6/20,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ATD	**Arta Tunnel**	**19.30**	**290**	LR		LR	LR	13 50 16.2	
	comp=Z,9.5nm,18.1s,baz=57,slow=34								
PALK	**Pallekele**	**19.35**	**83**	LR		LR	LR	13 49 24.8	
	comp=Z,185nm,20.5s,baz=359,slow=31								
KMBO	**Kilima Mbogo**	**24.89**	**256**	P		**P**		**13 44 42.8**	**+0.7**
	1.7nm,0.4s,baz=49,slow=10.0,SNR=3.8								
KMBO					LR	LR		13 53 52.2	
	comp=Z,91nm,19.9s,baz=84,slow=35								
	1.7nm,0.4s								
OPO	**Ambohidratompo**	**27.51**	**210**	LR		LR		13 52 17.6	
	comp=Z,54nm,21.9s,baz=334,slow=28								
EIL	**Elat**	**34.76**	**317**	LR		LR		13 59 28.5	
	comp=Z,129nm,19.1s,baz=88,slow=35								
MMAI	**Mount Meron Ar**	**36.66**	**322**	LR		LR		14 01 05.1	
	comp=Z,183nm,18.8s,baz=116,slow=36								
GNI	**Garni**	**37.78**	**339**	LR		LR		14 04 03.2	
	comp=Z,49nm,18.4s,baz=92,slow=39								
CMAR	**Chiang Mai Arr**	**38.95**	**67**	P		**P**		**13 46 46.4**	**+1.3**
	0.6nm,0.4s,baz=255,slow=9.3,SNR=7.7								
CMAR					LR	LR		14 01 39.6	
	comp=Z,23nm,20.7s,baz=235,slow=34								
	0.6nm,0.4s								
BRTR	**Keskin Array B**	**42.41**	**328**	P		**P**		**13 47 13.6**	**0.0**
	2.2nm,1.0s,baz=148,slow=9.6,SNR=5.5								
BRTR					LR	LR		14 05 07.6	
	comp=Z,129nm,19.5s,baz=154,slow=36								
	2.2nm,1.0s								
KURBB	**Kurchatov Arra**	**47.42**	**15**	P		**P**		**13 47 53.1**	**+0.1**
	2.5nm,0.2s,baz=210,slow=8.3,SNR=4.5								
	2.5nm,0.2s								
LEM	**Lembang**	**47.73**	**104**	LR		LR		14 06 14.8	
	comp=Z,68nm,18.2s,baz=280,slow=34								
TSUM	**Tsumeb**	**49.48**	**239**	LR		LR		14 07 55.4	
	comp=Z,38nm,18.3s,baz=140,slow=35								
MLR	**Muntele Rosu**	**50.49**	**328**	LR		LR		14 09 39.7	
	comp=Z,114nm,21.9s,baz=94,slow=36								
ZALV	**Zalesovo Beam**	**52.13**	**17**	P		**P**		**13 48 27.8**	**-1.1**
	0.7nm,0.6s,baz=226,slow=8.1,SNR=4.5								
	0.7nm,0.6s								
AKASG	**Malin Array Be**	**52.62**	**335**	P		**P**		**13 48 32.4**	**-0.1**
	0.2nm,0.2s,baz=140,slow=6.2,SNR=8.9								
	0.2nm,0.2s								
SUR	**Sutherland**	**53.73**	**223**	LR		LR		14 09 38.4	
	comp=Z,39nm,18.5s,baz=154,slow=34								
SONM	**Songino Array**	**57.20**	**35**	P		**P**		**13 49 06.1**	**+0.1**
	0.8nm,0.8s,baz=243,slow=6.2,SNR=4.8								
	0.8nm,0.8s								
KAPI	**Kappang**	**59.23**	**99**	LR		LR		14 11 51.1	
	comp=Z,25nm,22.0s,baz=286,slow=33								
TORD	**Torodi Ar. Bea**	**59.27**	**282**	P		**P**		**13 49 20.7**	**-0.2**
	1.4nm,1.1s,baz=85,slow=7.1,SNR=4.9								
TORD					LR	LR		14 14 37.0	
	comp=Z,67nm,18.2s,baz=138,slow=36								
	1.4nm,1.1s								
DAVOX	**Davos/Dischmat**	**60.46**	**322**	LR		LR		14 19 53.5	
	comp=Z,79nm,18.1s,baz=16,slow=40								
DAV	**Davao City (W)**	**63.85**	**85**	LR		LR		14 18 50.9	
	comp=Z,23nm,18.4s,baz=220,slow=37								
NWAO	**Narrogin (SRO)**	**65.17**	**130**	LR		LR		14 14 12.9	
	comp=Z,46nm,18.7s,baz=25,slow=32								
HFS	**Hagfors**	**65.47**	**336**	P		**P**		**13 50 01.2**	**-0.4**
	11nm,1.0s,baz=163,slow=5.6,SNR=4.4								
	11nm,1.0s								
DBIC	**Dimbokro**	**65.80**	**275**	LR		LR		14 17 46.6	
	comp=Z,52nm,19.8s,baz=245,slow=35								
MDT	**Midelt**	**66.97**	**303**	LR		LR		14 17 39.7	
	comp=Z,34nm,19.4s,baz=5.5,slow=34								
ESDC	**Sonseca Array**	**67.70**	**311**	P		**P**		**13 50 16.6**	**+0.3**
	1.4nm,0.9s,baz=84,slow=5.4,SNR=7.4								
ESDC					LR	LR		14 19 46.0	
	comp=Z,76nm,18.5s,baz=323,slow=36								
	1.4nm,0.9s								
KSRS	**Korea Array**	**68.26**	**52**	LR		LR		14 19 57.6	
	comp=Z,17nm,21.1s,baz=25,slow=36								
WRA	**Warramunga Arr**	**75.95**	**112**	P		**P**		**13 51 05.4**	**-0.7**
	2.5nm,1.0s,baz=290,slow=4.9,SNR=9.5								
	2.5nm,1.0s								
ASAR	**Alice Springs**	**76.30**	**116**	P		**P**		**13 51 07.4**	**-0.7**
	0.9nm,0.8s,baz=289,slow=5.3,SNR=9.0								
	0.9nm,0.8s								

*IDC **07** 13:46:32.8±1.0,0°.49N×126°.19E,h0km,mb3.9/7, mbtmp3.9/7,Error ellipse: s-maj=59.1km s-min=18.8km az=77.0*
*DJA **07** 13:46:35.9±1.2,1°.N±4°×12°6E±°,h12km±10km,M4.0/12, mb4.2/7,MLv3.9/12*

ISC 07 13:46:39.0±0.8,0°.61N±0°.08×126°.24E±0°.07,h44km,n19, σ1§31/20,mb4.0/7,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
TNTI	**Ternate**	**1.14**	**82**	P		**Pn**		**13 46 57.1**	**-1.4**
LBMI	**Labuha**	**1.77**	**135**	P		**Pn**		**13 47 07.0**	**-0.2**
LBMI				S		**Sn**		**13 47 31.5**	**+2.9**
KMSI	**Cibinong**	**2.26**	**269**	P		**Pn**		**13 47 13.9**	**0.0**
SANI	**Sanana**	**2.66**	**185**	P		**Pn**		**13 47 19.1**	**-0.3**
SGSI	**Sangihe**	**3.13**	**347**	P		**Pn**		**13 47 23.7**	**-2.2**
LUWI	**Luwuk**	**3.84**	**245**	P		**Pn**		**13 47 35.9**	**+0.3**
MRSI	**Marisa**	**4.30**	**268**	P		**Pn**		**13 47 41.8**	**-0.2**
SWI	**Sorong**	**5.23**	**106**	P		**Pn**		**13 47 53.8**	**-0.9**
	21nm,0.7s,0.1nm								
TTSI	**Tana Toraja**	**7.38**	**240**	P		**Pn**		**13 48 23.9**	**-0.3**
	16nm,0.9s,0.1nm								
SPSI	**Sidrap Palu**	**7.90**	**235**	P		**Pn**		**13 48 31.0**	**-0.5**
	21nm,0.9s,0.1nm								
BKSI	**Bulukumba**	**8.49**	**226**	P		**Pn**		**13 48 39.0**	**-0.5**
	10nm,1.3s								
SOEI	**Soe**	**10.49**	**191**	P		**Pn**		**13 49 07.9**	**+0.9**
WRA	**Warramunga Arr**	**21.92**	**159**	P		**P**		**13 51 26.7**	**-2.0**
	2.2nm,0.6s,baz=335,slow=12,SNR=18								
	2.2nm,0.6s								
ASAR	**Alice Springs**	**25.26**	**163**	P		**P**		**13 52 00.5**	**-0.8**
	1.4nm,0.5s,baz=346,slow=12,SNR=24								
	1.4nm,0.5s								
STKA	**Stephens Creek**	**35.44**	**157**	P		**P**		**13 53 29.9**	**-1.3**
	1.3nm,0.6s,baz=321,slow=16,SNR=4.5								
	1.3nm,0.6s								
PETK	**Petropavlovsk-**	**58.48**	**22**	P		**P**		**13 56 32.5**	**+2.0**
	4.1nm,1.0s,baz=204,slow=5.7,SNR=5.3								
	4.1nm,1.0s								
MKAR	**Makanchi Array**	**59.84**	**327**	P		**P**		**13 56 40.9**	**+0.8**
	0.6nm,0.5s,baz=122,slow=7.4,SNR=12								
	0.6nm,0.5s								
ILAR	**Eielson Array**	**88.11**	**25**	P		**P**		**13 59 24.4**	**-0.4**
	0.1nm,0.5s,baz=261,slow=4.8,SNR=5.2								
	0.1nm,0.5s								
QSPA	**South Pole Qui**	**90.54**	**180**	P		**P**		**13 59 35.9**	**-0.4**
	2.0nm,1.2s,baz=328,slow=2.9,SNR=8.6								
	2.0nm,1.2s								

IDC 07 13:56:11.7±2.1,2°.51N×125°.53E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=190.9km s-min=27.2km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**23.94**	**159**	P		P	P	14 01 26.5	-1.1
	0.6nm,0.6s,baz=338,slow=11,SNR=10								
	0.6nm,0.6s								
ASAR	**Alice Springs**	**27.27**	**163**	P		P	P	14 01 59.9	+1.9
	0.2nm,0.6s,baz=340,slow=11,SNR=1.6								
	0.2nm,0.6s								
MKAR	**Makanchi Array**	**57.88**	**326**	P		P	P	14 06 05.0	-0.5
	0.3nm,0.5s,baz=128,slow=6.1,SNR=4.1								
	0.3nm,0.5s								

*NOU **07** 14:06:43.2,10°.18S×161°.60E,h0km,mb5.0/9,Solomon Islands*
*IDC **07** 14:06:45.3±0.9,10°.43S×161°.34E,h96km±6km,mb3.9/10, mbtmp4.3/11,MS3.1/4,Error ellipse: s-maj=17.2km s-min=11.2km az=39.0*
*NEIC **07** 14:06:46.7±2.6,10°.4S±0°.1×161°.3E±0°.1,h106km±11km, mb4.5/18,Error ellipse: s-maj=24.2km s-min=13.2km az=48.0*

ISC 07 14:06:45.2±0.6,10°.40S±0°.07×161°.30E±0°.08,h100km,n48, σ1§58/47,mb4.3/17,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
HNR	**Honiara**	**1.65**	**306**			**Pn**		**14 07 12.9**	**-0.4**
HNR	**Honiara**	**1.65**	**306**	P		**Pn**		**14 07 13.3**	**0.0**
HNR	**Honiara**	**1.65**	**306**	P		**Pn**		**14 07 13.0**	**-0.3**
	49μm,0.5s,baz=144,slow=5.5,SNR=285								
HNR				S		**Sn**		**14 07 35.9**	**+1.3**
	23μm,0.3s,baz=158,slow=23,SNR=9.9								
DVP	**Devils Point**	**9.88**	**138**	P		**Pn**		**14 09 06.2**	**+1.9**
KOUNC	**Koumac, New Ca**	**10.49**	**164**	Pn		**Pn**		**14 09 15.4**	**+2.7**
KOUNC	**Koumac, New Ca**	**10.49**	**164**	P		Pn		14 09 17.5	+4.8
LIFNC	**LIFOU**	**11.79**	**152**	Pn		**Pn**		**14 09 32.5**	**+2.3**
LIFNC	**LIFOU**	**11.79**	**152**	P		**Pn**		**14 09 32.1**	**+1.9**
	92nm,1.1s								
DZM	**Mont Dzumac**	**12.61**	**158**	Pn		P		14 09 43.5	-5.0
DZM	**Mont Dzumac**	**12.61**	**158**	P		**P**		**14 09 46.3**	**-2.2**
DZM	**Mont Dzumac**	**12.61**	**158**	P		**P**		**14 09 44.5**	**-4.0**
	4.1nm,0.5s,baz=23,slow=7.6,SNR=19								
DZM				S		**Sn**		**14 11 59.5**	**-0.4**
	4.9nm,0.4s,baz=316,slow=22,SNR=9.1								
OUENC	**Ouen Island, N**	**13.07**	**157**	Pn		**Pn**		**14 09 46.4**	**-0.8**
PMG	**Port Moresby**	**13.97**	**273**	P		P		14 10 06.2	+2.6
PMG	**Port Moresby**	**13.97**	**273**	P		**P**		**14 10 02.9**	**-0.7**
	5.9nm,0.4s,baz=84,slow=7.2,SNR=8.7								
MANU	**Manus Island**	**16.14**	**300**	P		P		14 10 35.3	+7.6
PATS	**Pohnpei**	**17.38**	**350**			Pn		14 10 45.9	+4.3
CTA	**Charters Tower**	**17.41**	**235**	P		**Pn**		**14 10 44.1**	**+2.2**
	17nm,0.7s,baz=55,slow=12,SNR=26								
CTA					LR	LR		14 16 41.0	
	comp=Z,32nm,19.7s,baz=92,slow=34								
CTAO	**Charters Tower**	**17.41**	**235**	P		**Pn**		**14 10 44.3**	**+2.4**
CTAO					IAmb	IAmb		14 10 46.4	
	comp=Z,21nm,0.8s								
EIDS	**Eidsvold**	**17.77**	**212**	P		**Pn**		**14 10 48.4**	**+2.3**
EIDS					IAmb	IAmb		14 10 51.1	
	comp=Z,6.8nm,0.8s								
COEN	**Coen**	**18.07**	**257**	P		**Pn**		**14 10 51.0**	**+1.1**
COEN					IAmb	IAmb		14 10 55.8	
	comp=Z,42nm,1.1s								
ARMA	**Armidale**	**21.86**	**203**	P		**P**		**14 11 30.5**	**+0.5**
RAO	**Raoul Island**	**27.00**	**137**	LR		LR		14 20 36.8	
	comp=Z,185nm,19.3s,baz=119,slow=31								
WR0	**Warramunga Arr**	**27.48**	**247**	P		**P**		**14 12 22.8**	**+0.5**
WR0					IAmb	IAmb		14 12 23.2	
	comp=Z,7.3nm,0.5s								
WB0	**Warramunga Arr**	**27.56**	**247**	P		**P**		**14 12 23.4**	**+0.4**
WRAB	**Tennant Creek**	**27.64**	**247**	P		**P**		**14 12 23.7**	**-0.1**
WRAB					IAmb	IAmb		14 12 24.6	
	comp=Z,7.8nm,0.6s								
WB2	**Warramunga Arr**	**27.65**	**247**	P		**P**		**14 12 24.4**	**+0.6**
WB2					IAmb	IAmb		14 12 24.8	
	comp=Z,9.0nm,0.6s								
WRA	**Warramunga Arr**	**27.66**	**247**	P		**P**		**14 12 23.2**	**-0.7**
WRA	**Warramunga Arr**	**27.66**	**247**	P		**P**		**14 12 24.4**	**+0.5**
	comp=Z,6.4nm,0.4s,baz=74,slow=9.1,SNR=42								
	comp=Z,6.4nm,0.4s								
STKA	**Stephens Creek**	**28.09**	**218**	P		**P**		**14 12 27.3**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=333,slow=20,SNR=1.2								
	comp=Z,1.0nm,0.4s								
GUMO	**Guam**	**28.88**	**325**	LR		LR		14 25 07.9	
	comp=Z,14nm,18.6s,baz=42,slow=38								
AS31	**Alice Springs**	**29.25**	**240**	P		**P**		**14 12 38.2**	**+0.1**
ASAR	**Alice Springs**	**29.26**	**240**	P		**P**		**14 12 37.0**	**-1.1**
ASAR	**Alice Springs**	**29.26**	**240**	P		**P**		**14 12 37.8**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=61,slow=10,SNR=47								
ASAR				pP		**pwP**		**14 13 00.8**	**-5.0**
	comp=Z,1.3nm,0.5s,baz=60,slow=11,SNR=3.7								
	comp=Z,2.0nm,0.5s								
TOO	**Toolangi**	**30.57**	**205**	P		**P**		**14 12 50.3**	**+0.8**
TOO					IAmb	IAmb		14 13 09.8	
	comp=Z,7.3nm,1.1s								
KNRA	**Kununurra**	**32.10**	**257**	P		**P**

ERIA	**Liberia**	**0.83**	**66**	*eP*	**Pn**	**14 56 48.7**	**-0.2**
PLVR	**Palo Verde**	**0.85**	**86**	*eP*	**Pn**	**14 56 48.5**	**-0.8**
BAGA	**Bagaces**	**0.96**	**76**⇑	*iP*	**Pn**	**14 56 50.5**	**-0.2**
BAGA				*eS*	**Sn**	**14 57 07.0**	**+3.1**
VRLE	**La Escondida,**	**0.97**	**59**⇑	*iP*	**Pg**	**14 56 50.2**	**-1.0**
VRLE	**La Escondida,**	**0.97**	**59**	*i P*	**Pn**	**14 56 50.4**	**-0.5**
VRLE				*i S*	**Sn**	**14 57 03.6**	**-0.5**
VRLE				IAML		14 57 10.1	
	comp=Z,3μm,1.0s						
LCRUZ	**La Cruz**	**0.97**	**36**	*eP*	**Pn**	**14 56 51.3**	**+0.4**
LCRUZ				*eS*	**Sn**	**14 57 06.7**	**+2.7**
NYURE	**Nandayure**	**0.99**	**107**	*eP*	**Pn**	**14 56 53.5**	**+2.5**
COLC	**Colonia**	**1.06**	**69**	*eP*	**Pb**	**14 56 51.4**	**-0.5**
CAMAV	**Centro de Prod**	**1.08**	**68**	*eP*	**Pb**	**14 56 51.8**	**-0.6**
CUI	**Cuipilapa**	**1.09**	**70**⇑	*iP*	**Pn**	**14 56 52.2**	**-0.3**
CUI				*eS*	**Sn**	**14 57 09.4**	**+2.3**
VMAR	**Armenia, Volca**	**1.20**	**64**	*eP*	**Pb**	**14 56 53.9**	**-0.4**
VMAR				*eS*	**Sg**	**14 57 13.0**	**+1.8**
VMAR	**Armenia, Volca**	**1.20**	**64**	*i P*	**Pg**	**14 56 54.4**	**-1.1**
VMAR				*i S*	**Sg**	**14 57 11.4**	**+0.2**
VMAR				IAML		14 57 14.2	
	comp=Z,5μm,1.0s						
JTS	**Las Juntas de**	**1.24**	**90**	Pg	**Pn**	**14 56 54.2**	**-0.3**
	comp=Z,27nm,0.3s,baz=331,slow=13,SNR=91						
JTS				Lg	Lg	14 57 17.5	
	comp=Z,157nm,0.3s,baz=285,slow=20,SNR=5.6						
JTS				LR	LR	14 57 26.5	
	comp=Z,9.0nm,22.0s,baz=122,slow=48						
JTS	**Las Juntas de**	**1.24**	**90**	*eP*	**Pn**	**14 56 54.2**	**-0.3**
CBL1	**Cabuya**	**1.30**	**122**	*eP*	**Pg**	**14 56 57.0**	**-0.5**
OMEN	**Al SSO del Vol**	**1.34**	**25**	*i P*	**Pn**	**14 56 55.8**	**-0.1**
OMEN				IAML		14 57 06.3	
	comp=Z,3μm,1.0s						
CONN	**Concepcion**	**1.39**	**24**	*i P*	**Pn**	**14 56 56.5**	**-0.1**
CONN				IAML		14 57 03.0	
	comp=Z,17μm,1.0s						
VERA	**Finca Concepci**	**1.43**	**67**	*eP*	**Pb**	**14 56 57.4**	**-0.9**
ARE1	**Arenal 1**	**1.48**	**83**⇑	*iP*	**Pb**	**14 56 58.7**	**-0.4**
CEDE	**Laguna Cedeo**	**1.50**	**82**⇑	*eP*	**Pb**	**14 56 59.0**	**-0.4**
MSHP	**Masachapa**	**1.56**	**348**	*i P*	**Pn**	**14 56 59.3**	**+0.3**
MSHP				IAML		14 57 11.7	
	comp=Z,170nm,1.0s						
SOCE	**Pocosol**	**1.57**	**86**	*eP*	**Pb**	**14 56 59.9**	**-0.8**
SOCE	**Pocosol**	**1.57**	**86**	*i P*	**Pb**	**14 57 00.2**	**-0.5**
SOCE				IAML		14 57 36.3	
	comp=Z,1μm,1.0s						
LCHIL	**Los Chiles**	**1.65**	**63**	*eP*	**Pb**	**14 57 01.3**	**-0.6**
JACO	**JACO, Garabito**	**1.65**	**112**	*eP*	**Pg**	**14 57 03.4**	**-0.7**
JACO	**JACO, Garabito**	**1.65**	**112**	*i P*	**Pg**	**14 57 04.4**	**+0.3**
JACO				IAML		14 57 43.7	
	comp=Z,970nm,1.0s						
ZARE	**Zarcero**	**1.79**	**93**	*eP*	**Pg**	**14 57 08.2**	**+1.3**
CPMI	**Catarata Coope**	**1.80**	**90**⇑	*iP*	**Pb**	**14 57 03.3**	**-1.4**
CPMI	**Catarata Coope**	**1.80**	**90**	*i P*	**Pb**	**14 57 03.9**	**-0.8**
CPMI				IAML		14 57 45.8	
	comp=Z,2μm,1.0s						
COVE	**Coope Vega, Sa**	**1.83**	**76**	*eP*	**Pn**	**14 57 02.8**	**+0.2**
TISN	**Laguna Tiscapa**	**1.84**	**358**	*i P*	**Pn**	**14 57 01.9**	**-0.9**
TISN				IAML		14 57 11.7	
	comp=Z,71nm,1.0s						
VPS6	**Volcano Poas**	**1.95**	**93**	*eP*	**Pb**	**14 57 05.8**	**-1.5**
POA5	**Crater Von Fra**	**1.95**	**92**	*eP*	**Pn**	**14 57 04.9**	**+0.3**
ACON	**Acoyapa**	**1.95**	**31**⇑	*iP*	**Pn**	**14 57 04.0**	**-0.4**
ACON	**Acoyapa**	**1.95**	**31**	*i P*	**Pn**	**14 57 04.3**	**-0.1**
ACON				IAML		14 57 43.8	
	comp=Z,880nm,1.0s						
VPTE	**Poasito**	**1.98**	**93**⇑	*eP*	**Pn**	**14 57 05.8**	**+0.8**
VPTE	**Poasito**	**1.98**	**93**	*i P*	**Pb**	**14 57 07.8**	**-0.1**
MOMN	**Momotombo**	**2.13**	**351**	*i P*	**Pn**	**14 57 06.7**	**-0.1**
MOMN				IAML		14 57 25.7	
	comp=Z,31nm,1.0s						
MOM2	**El Cardon**	**2.15**	**353**	*i P*	**Pn**	**14 57 06.8**	**-0.3**
MOM2				IAML		14 57 24.2	
	comp=Z,710nm,1.0s						
ABE2	**San Pablo**	**2.20**	**105**	*eP*	**Pn**	**14 57 09.0**	**+1.0**
TBLN	**Tablon, Guarco**	**2.23**	**102**	*i P*	**Pb**	**14 57 12.2**	**+0.2**
TBLN				IAML		14 57 56.3	
	comp=Z,700nm,1.0s						
LCR2	**La Lucha 2**	**2.24**	**104**	*i P*	**Pb**	**14 57 11.2**	**-1.0**
LCR2				IAML		14 57 59.5	
	comp=Z,480nm,1.0s						
CNGA	**Al SSO del Vol**	**2.24**	**348**	*i P*	**Pn**	**14 57 09.9**	**+1.5**
CNGA				IAML		14 57 41.4	
	comp=Z,390nm,1.0s						
CNGN	**Cerro Negro**	**2.25**	**348**	*eP*	**Pn**	**14 57 07.7**	**-0.8**
CNGN	**Cerro Negro**	**2.25**	**348**	*i P*	**Pg**	**14 57 16.0**	**+0.5**
OCM	**Ochomogo**	**2.25**	**100**	*i P*	**Pb**	**14 57 12.1**	**-0.3**
OCM				IAML		14 58 02.4	
	comp=Z,370nm,1.0s						
RIFO	**Rio Frio, Sara**	**2.25**	**89**	*i P*	**Pg**	**14 57 16.0**	**+0.5**
ILCN	**San Idelfonso**	**2.33**	**348**	*i P*	**Pg**	**14 57 16.4**	**-0.5**
HAYA	**Volcan Irazu**	**2.35**	**97**	*i P*	**Pg**	**14 57 19.7**	**+2.2**
TRT2	**Tortugero**	**2.45**	**84**	*i P*	**Pn**	**14 57 12.7**	**+1.5**
PKGN	**Cerro Pekin**	**2.48**	**342**	*i P*	**Pn**	**14 57 12.2**	**+0.6**
PKGN				IAML		14 57 47.2	
	comp=Z,960nm,1.0s						
CDM	**Cerro de Muert**	**2.52**	**107**	*i P*	**Pn**	**14 57 13.7**	**+1.2**
CDM				IAML		14 58 10.6	
	comp=Z,330nm,1.0s						
CRIN	**San Cristobal**	**2.53**	**341**	*i P*	**Pn**	**14 57 13.9**	**+1.5**
CRIN				IAML		14 57 41.9	
	comp=Z,900nm,1.0s						
LIMN	**Finca el Limon**	**2.76**	**357**	*i P*	**Pn**	**14 57 17.7**	**+2.1**
LIMN				IAML		14 57 28.6	
	comp=Z,370nm,1.0s						
CSGN	**Cosiguina Volc**	**2.98**	**334**	*i P*	**Pn**	**14 57 19.1**	**+0.6**
CSGN				IAML		14 57 52.7	
	comp=Z,2μm,1.0s						
SRBA	**San Rafael, Bu**	**3.00**	**110**	*i P*	**Pn**	**14 57 21.4**	**+2.6**
SRBA				IAML		14 57 54.4	
	comp=Z,340nm,1.0s						
CMIG	**Matias Romero**	**10.80**	**310**	Pn	**Pn**	**14 59 07.8**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=101,slow=12,SNR=3.1						
	comp=Z,3.5nm,0.8s						
ATAH	**Atahualpa**	**18.98**	**155**	LR	LR	15 06 53.9	
	comp=Z,86nm,19.4s,baz=343,slow=32						
TXAR	**Lajitas Array**	**25.01**	**322**	P	**P**	**15 01 56.1**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=138,slow=10,SNR=12						
	comp=Z,1.6nm,0.7s						
TKL	**Tuckaleechee C**	**25.35**	**5**	LR	LR	15 11 42.0	
	comp=Z,40nm,20.3s,baz=254,slow=38						
LPIG	**La Paz**	**26.75**	**304**	LR	LR	15 14 01.5	
	comp=Z,38nm,21.7s,baz=30,slow=39						
SADO	**Sadowa**	**34.89**	**9**	LR	LR	15 16 31.7	
	comp=Z,78nm,18.9s,baz=54,slow=36						
PDAR	**Pinedale Array**	**38.24**	**332**	P	**P**	**15 03 50.8**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=129,slow=8.6,SNR=2.7						
	comp=Z,0.3nm,0.7s						
NVAR	**Mina Array Bea**	**40.12**	**320**	P	**P**	**15 04 08.2**	**+1.1**
	comp=Z,2.7nm,0.9s,baz=134,slow=7.8,SNR=8.7						
	comp=Z,2.7nm,0.9s						
YKA	**Yellowknife Ar**	**56.01**	**345**	P	**P**	**15 06 06.9**	**-2.4**
	comp=Z,0.4nm,0.8s,baz=142,slow=6.5,SNR=6.2						
	comp=Z,0.4nm,0.8s						
SFJD	**Kangerlussuaq**	**61.46**	**15**	LR	LR	15 36 03.3	
	comp=Z,87nm,19.4s,baz=184,slow=39						
ILAR	**Eielson Array**	**68.48**	**336**	P	**P**	**15 07 31.4**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=116,slow=4.1,SNR=2.4						
	comp=Z,0.3nm,0.8s						
MDT	**Midelt**	**77.48**	**59**	LR	LR	15 39 39.4	
	comp=Z,26nm,18.5s,baz=328,slow=34						
ASAR	**Alice Springs**	**139.54**	**246**	PKhKP	PKPpre	15 15 59.1	
	comp=Z,0.5nm,1.1s,baz=83,slow=2.9,SNR=2.6						
CMAR	**Chiang Mai Arr**	**150.99**	**350**	PKPbc	**PKPbc**	**15 16 24.9**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=332,slow=3.1,SNR=7.2						

*FUNV **07** 15:04:37.2,8.°83N∓.°70.°76W,h2km,MW3.5*
ISC 07 15:04:37.2±1.0,8.°83N±0.°04×70.°70W±0.°03,h10km±8km,
n29,σ1°38/45,6C,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDV	**Santo Domingo**	**0.09**	**49**	*iP*	**Pg**	**15 04 40.2**	**+0.3**
SOCV	**Socops**	**0.56**	**196**⇑	*iP*	**Pg**	**15 04 47.4**	**-0.7**
SOCV				*eS*	**Sg**	**15 04 55.2**	**-0.3**
SANV	**Sanarito**	**1.33**	**60**⇑	*eP*	**Pn**	**15 05 02.9**	**+0.9**
SANV				*eS*	**Sb**	**15 05 21.9**	**+2.4**
CURV	**Curarigua**	**1.39**	**32**⇑	*eP*	**Pn**	**15 05 02.5**	**-0.2**
CURV				*eS*	**Sg**	**15 05 21.0**	**-0.9**
CAPV	**Capacho**	**1.86**	**239**	*eP*	**Pn**	**15 05 09.3**	**0.0**
CAPV				*eS*	**Sn**	**15 05 33.1**	**+0.1**
TEPV	**Terepaima**	**1.87**	**53**	*eP*	**Pn**	**15 05 10.9**	**+1.6**
TEPV				*eS*	**Sn**	**15 05 35.1**	**+2.1**
SIQV	**Siquisique**	**2.01**	**26**	*eP*	**Pn**	**15 05 12.4**	**+1.1**
SIQV				*eS*	**Sn**	**15 05 38.2**	**+1.6**
MCQV	**Machiques**	**2.18**	**304**	*eP*	**Pn**	**15 05 13.2**	**-0.3**
MCQV				*eS*	**Sn**	**15 05 39.9**	**-0.8**
PAMC	**Pamplona, Colo**	**2.47**	**233**	*eP*	**Pb**	**15 05 21.8**	**-0.2**
TAMC	**Tame, Arauca**	**2.61**	**205**	*eP*	**Pn**	**15 05 21.1**	**+1.5**
BAUV	**El Baul**	**2.63**	**87**⇑	*eP*	**Pn**	**15 05 20.8**	**+1.0**
BAUV				*eS*	**Sn**	**15 05 52.6**	**+0.9**
OCAC	**Ocana**	**2.66**	**257**	*eP*	**Pn**	**15 05 20.7**	**+0.4**
JACV	**Jacura**	**2.91**	**39**	*eP*	**Pn**	**15 05 24.5**	**+0.9**
JACV				*eS*	**Sn**	**15 05 58.8**	**+0.2**
CRJC	**Cerrejon, Guaj**	**3.06**	**316**	*eP*	**Pn**	**15 05 24.1**	**-1.7**
URIC	**Uribia, Colomb**	**3.13**	**336**	*eP*	**Pn**	**15 05 25.7**	**-0.9**
TURV	**Turiamo**	**3.25**	**60**	*eP*	**Pn**	**15 05 29.1**	**+0.9**
TURV				*eS*	**Sn**	**15 06 06.9**	**-0.2**
BENV	**Beln**	**3.26**	**70**⇑	*eP*	**Pn**	**15 05 30.8**	**+2.3**
BENV				*eS*	**Sn**	**15 06 07.8**	**+0.4**
BARC	**Barichara**	**3.31**	**228**	*eP*	**Pb**	**15 05 37.1**	**+0.9**
TACV	**Tcata**	**3.85**	**70**	*eP*	**Pn**	**15 05 37.4**	**+0.8**
TACV				*eS*	**Sn**	**15 06 21.3**	**-0.7**
CACV	**CAICARA DEL OR**	**4.31**	**107**	*eP*	**Pb**	**15 05 50.9**	**-2.2**
CACV				*eS*	**Sb**	**15 06 44.4**	**-0.7**
ZARC	**Zaragoza, Cauc**	**4.32**	**252**	*eP*	**Pn**	**15 05 43.1**	**0.0**
MERV	**Las Mercedes**	**4.37**	**84**	*eP*	**Pn**	**15 05 44.2**	**+0.5**
MERV				*eS*	**Sn**	**15 06 33.6**	**-1.2**
SJCC	**San Jacinto, C**	**4.54**	**284**	*eP*	**Pn**	**15 05 46.6**	**+0.4**
CHIC	**Chingaza**	**5.14**	**216**	*eP*	**Pn**	**15 05 56.0**	**+1.3**
GUY2C	**Guyana, Caldas**	**5.85**	**233**	*eP*	**Pn**	**15 06 06.9**	**+2.4**
PRGV	**PARIAGUAN**	**5.99**	**90**	*eP*	**Pn**	**15 06 05.8**	**-0.1**
PRGV				*eS*	**Sn**	**15 07 11.2**	**-3.4**
PCRV	**Puerto La Cruz**	**6.13**	**77**	*eP*	**Pn**	**15 06 08.7**	**+0.7**
PCRV				*eS*	**Sn**	**15 07 15.6**	**-2.6**
PRAC	**Prado**	**6.56**	**220**	*eP*	**Pn**	**15 06 16.0**	**+2.1**
ORTC	**Ortega, Tolima**	**6.65**	**223**	*eP*	**Pn**	**15 06 17.0**	**+1.9**

*SJA **07** 15:11:38.5±0.9,20.°09S×70.°47W,h22km±4km,ML3.4,*
MW3.5
*GUC **07** 15:11:41.7±0.8,20.°07S×70.°38W,h35km±3km,ML3.3*
ISC 07 15:11:38.5±1.3,20.°08S±0.°02×70.°48W±0.°05,h12km±10km,
n36,σ1°29/66,2C-4D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TA02	**Huaiquique**	**0.38**	**120**	*eP*	**Pb**	**15 11 48.4**	**+1.1**
TA02				IAML		15 11 56.0	
	comp=Z,6μm,0.1s						
TA02	**Huaiquique**	**0.38**	**120**	*eP*	**Pn**	**15 11 48.9**	**-1.0**
TA02				*eS*	**Sb**	**15 11 54.5**	**+1.4**
TA01	**Diego Aracena**	**0.56**	**150**	*eP*	**Pb**	**15 11 50.9**	**+0.6**
TA01				IAML		15 12 01.1	
	comp=Z,1μm,0.3s						
TA01	**Diego Aracena**	**0.56**	**150**⇑	*iP*	**Pn**	**15 11 51.6**	**-0.7**
TA01				*eS*	**Sb**	**15 11 59.0**	**+0.7**
TA01				IAML		15 11 59.8	
	comp=N,4μm,0.3s						
HMBC	**Humberstone**	**0.59**	**110**	*eP*	**Pb**	**15 11 51.0**	**+0.1**
HMBC				*eS*	**Sb**	**15 12 00.1**	**+0.8**
HMBC				IAML		15 12 01.4	
	comp=Z,4μm,0.4s						
HMBC	**Humberstone**	**0.59**	**110**	*i P*	**Pb**	**15 11 51.8**	**+0.9**
HMBC				*eS*	**Sb**	**15 11 59.4**	**+0.1**
HMBC				IAML		15 12 00.5	
	comp=N,6μm,0.2s						
PATCX	**Punta Patache**	**0.80**	**157**	*eP*	**Pb**	**15 11 54.5**	**+0.1**
PATCX				*eS*	**Sb**	**15 12 05.6**	**+0.3**
PATCX				IAML		15 12 06.4	
	comp=Z,757nm,0.4s						
PATCX	**Punta Patache**	**0.80**	**157**⇑	*iP*	**Pn**	**15 11 55.3**	**-0.4**
PATCX				*eS*	**Sb**	**15 12 05.2**	**-0.1**
PATCX				IAML		15 12 06.3	
	comp=E,1μm,0.7s						
PB11	**IPOC Station P**	**0.84**	**68**	*eP*	**Pg**	**15 11 54.6**	**-0.1**
PB11				*eS*	**Sb**	**15 12 06.7**	**+0.3**
PB11				IAML		15 12 07.6	
	comp=Z,1μm,0.2s						
PB11	**IPOC Station P**	**0.84**	**68**⇓	*iP*	**Pb**	**15 11 55.4**	**+0.3**
PB11				*eS*	**Sb**	**15 12 05.8**	**-0.6**
PB11				IAML		15 12 09.0	
	comp=N,2μm,0.2s						
PX03	**IPOC Station P**	**0.86**	**112**	*eP*	**Pg**	**15 11 55.0**	**-0.2**
PX03				*eS*	**Sg**	**15 12 05.7**	**-0.8**
PX03				IAML		15 12 10.1	
	comp=N,2μm,0.2s						
PB08	**IPOC Station P**	**1.25**	**93**	*eP*	**Pn**	**15 12 01.8**	**-0.4**
PB08				*eS*	**Sg**	**15 12 18.5**	**-0.4**
PB08	**IPOC Station P**	**1.25**	**93**	*i P*	**Pn**	**15 12 01.8**	**-0.4**
GO01	**Chusmiza**	**1.28**	**72**⇓	*iP*	**Pn**	**15 12 02.5**	**-0.1**
GO01				*eS*	**Sb**	**15 12 18.8**	**-0.6**
GO01				IAML		15 12 19.4	
	comp=N,2μm,0.1s						
PB01	**IPOC Station P**	**1.34**	**136**	*eP*	Pn	15 11 57.7	-5.4
PB01				*eP*	**Pb**	**15 12 03.0**	**-0.6**
PB01				*eS*	**Sb**	**15 12 20.1**	**-0.7**
PB01				IAML		15 12 23.1	
	comp=Z,684nm,0.2s						
PB01	**IPOC Station P**	**1.34**	**136**⇓	*iP*	**Pn**	**15 12 03.2**	**+0.1**
PB01				*eS*	**Sb**	**15 12 19.8**	**-1.0**
PB01				IAML		15 12 23.3	
	comp=N,1μm,0.3s						
PB02	**IPOC Station P**	**1.35**	**156**	*eP*	**Pn**	**15 12 03.7**	**+0.4**
PB02				*eS*	**Sg**	**15 12 22.7**	**+0.6**
PB02				IAML		15 12 28.4	
	comp=Z,804nm,0.3s						
PB02	**IPOC Station P**	**1.35**	**156**	*eP*	**Pn**	**15 12 03.7**	**+0.4**
PB02				*eS*	**Sb**	**15 12 20.7**	**-0.5**
PB02				IAML		15 12 25.1	
	comp=E,1μm,0.4s						
PB12	**IPOC Station P**	**1.46**	**6**	*eP*	**Pn**	**15 12 04.9**	**+0.1**
PB12				*eS*	**Sg**	**15 12 26.0**	**+0.4**
PB12				IAML		15 12 26.1	
	comp=Z,408nm,0.2s						
PB12	**IPOC Station P**	**1.46**	**6**⇓	*iP*	**Pn**	**15 12 05.5**	**+0.6**
PB12				*eS*	**Sn**	**15 12 24.3**	**+0.3**
PB12				IAML		15 12 26.5	
	comp=E,1μm,0.2s						
AP01	**Chacalluta**	**1.70**	**4**	*eP*	**Pn**	**15 12 09.6**	**+1.6**
AP01				*eS*	**Sn**	**15 12 23.3**	**-6.4**
AP01				*eS*	**Sg**	**15 12 33.6**	**+0.3**
AP01				IAML		15 12 39.9	
	comp=Z,517nm,0.4s						
AP01	**Chacalluta**	**1.70**	**4**	*eP*	**Pb**	**15 12 10.2**	**+0.4**
PB07	**IPOC Station P**	**1.73**	**161**	*eP*	**Pn**	**15 12 09.1**	**+0.4**
PB07				*eS*	**Sg**	**15 12 33.7**	**-0.6**
PB07				IAML		15 12 38.4	
	comp=Z,422nm,0.3s						
PB07	**IPOC Station P**	**1.73**	**161**	*eP*	**Pn**	**15 12 09.7**	**+1.1**
PB07				*eS*	**Sb**	**15 12 31.6**	**-0.6**
PB07				IAML		15 12 41.7	
	comp=E,478nm,0.4s						
PB16	**IPOC Station P**	**1.96**	**28**	*eP*	**Pn**	**15 12 13.1**	**+1.0**
PB16				*eS*	**Sb**	**15 12 39.6**	**+0.5**
PB16				IAML		15 12 42.0	
	comp=Z,160nm,0.4s						
PB16	**IPOC Station P**	**1.96**	**28**	*eP*	**Pn**	**15 12 13.2**	**+1.0**
PB16				*eS*	**Sn**	**15 12 38.0**	**+1.0**
PB16				IAML		15 12 39.8	
	comp=N,204nm,0.2s						
PB09	**IPOC Station P**	**2.07**	**146**	*eP*	**Pb**	**15 12 14.8**	**-1.3**
PB09				*eS*	**Sb**	**15 12 42.6**	**+0.8**
PB09				IAML		15 12 47.3	
	comp=Z,329nm,0.3s						
PB09	**IPOC Station P**	**2.07**	**146**	*eP*	**Pb**	**15 12 15.5**	**-0.6**
PB04	**IPOC Station P**	**2.27**	**172**	*eP*	**Pn**	**15 12 16.6**	**+0.7**
PB04				*eS*	**Sn**	**15 12 44.2**	**+0.3**
PB04				IAML		15 13 04.0	
	comp=Z,223nm,0.6s						
PB06	**IPOC Station P**	**2.75**	**162**	*eP*	**Pn**	**15 12 23.3**	**+0.7**
PB06				*eS*	**Sn**	**15 12 57.7**	**+1.9**
PB06				IAML		15 13 08.6	
	comp=Z,116nm,0.7s						
PB06	**IPOC Station P**	**2.75**	**162**	*eP*	**Pn**	**15 12 23.1**	**+0.5**
PB05	**IPOC Station P**	**2.77**	**175**	*eP*	**Pn**	**15 12 23.1**	**+0.2**
PB05				*eS*	**Sb**	**15 13 01.2**	**-0.9**
PB05				IAML		15 13 15.4	
	comp=Z,104nm,0.5s						
LVC	**Limon Verde**	**2.92**	**150**	*eP*	**Pn**	**15 12 26.6**	**+1.6**
LVC				*eS*	**Sb**	**15 13 07.2**	**+0.8**
PB15	**IPOC Station P**	**3.25**	**163**	*eP*	**Pn**	**15 12 30.9**	**+1.4**
PB15				*eS*	**Sn**	**15 13 11.7**	**+3.3**
PB15				IAML		15 13 32.5	
	comp=Z,270nm,0.2s						
PB14	**IPOC Station P**	**4.53**	**179**	*eP*	**Pn**	**15 12 46.7**	**-0.5**
PB14				*eS*	**Sn**	**15 13 36.1**	**-3.8**
GO02	**Mina Guanaco**	**5.13**	**171**	*eP*	**Pn**	**15 12 56.6**	**+1.2**

*BJI **07** 15:16:27.2,5.°86S×102.°99E,h60km,mb5.2/70,mB5.1/39,*
Ms4.6/35,Ms7 4.4/39
*MOS **07** 15:16:32.3±0.9,4.°82S×103.°15E,h38km,mb5.6/85,Error*
ellipse: s-maj=8.0km s-min=4.0km az=115.2
*KLM **07** 15:16:33,5.°43S×102.°79E,h41km,mb5.1*
*DJA **07** 15:16:34.3±0.2,5.°52S×10.°3E±.°,h65km±2km,M5.0/85,*
mb5.3/85,mB5.5/45,MLv5.5/28,Mw(mB)5.0/45,
MwMwp4.8/7,Mwp5.1/7
*NEIC **07** 15:16:35.3±1.8,5.°03S±0.°04×102.°95E±0.°06,h53km±1km,*
mb5.3/191,Error ellipse: s-maj=8.9km s-min=6.3km
az=74.0
*IDC **07** 15:16:36.1±1.3,4.°88S×103.°09E,h54km±10km,mb4.9/40,*
mbtmp5.1/42,MS3.9/54,Error ellipse: s-maj=13.9km
s-min=7.5km az=43.0
*GCMT **07** 15:16:38.3±0.2,5.°31S±0.°02×102.°89E±0.°02,h54km±1km,*
MW5.0/90,Moment Tensor Solution. s64,c81; s90,c135;
Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.38±.15;
$M_{\theta\theta}$-2.68±.11; $M_{\phi\phi}$-0.69±.13; $M_{r\theta}$2.00±.10; $M_{r\phi}$2.52±.09;
$M_{\theta\phi}$-0.86±.10; Best double couple: M_o4.46500×10^{16}
NP1:ϕ_s117.00000°,δ60.00000°,λ82.00000°. NP2:
ϕ_s314.00000°,δ31.00000°,λ104.00000°. Principal axes:
T 3.9830, Plg74.0000°, Azm5.0000°; N 0.9506,
Plg7.0000°, Azm121.0000°; P -4.9460, Plg14.0000°,
Azm213.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function
ISC 07 15:16:35.3±0.3,5.°07S±0.°03×103.°01E±0.°03,h59km±2km,
h59km:pP-P,n993,σ1°33/1045,mb5.3/211,MS4.1/72,
80C-8D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.70**	**355**		**Pn**	**15 16 49.1**	**-0.5**
MNAI				*eS*	**Sn**	**15 17 00.5**	**+0.5**
MNAI	**Manna**	**0.70**	**355**	P	**Pn**	**15 16 50.1**	**+0.5**
MNAI	**Manna**	**0.70**	**355**	P	**Pn**	**15 16 49.7**	**+0.1**
LWLI	**Liwa**	**1.04**	**87**	P	**Pn**	**15 16 54.6**	**+0.6**
LHSI	**Lahat**	**1.33**	**22**	P	**Pn**	**15 16 59.4**	**+1.6**
KASI	**Kota Agung**	**1.54**	**107**	P	**Pn**	**15 17 01.3**	**+0.7**
KASI				S	**Sn**	**15 17 20.0**	**+0.3**
KLI	**Kotabumi**	**1.85**	**84**	P	**Pn**	**15 17 06.2**	**+1.5**
BLSI	**Bandar Lampung**	**2.24**	**98**	P	**Pn**	**15 17 11.4**	**+1.3**
PMBI	**Palembang**	**2.75**	**40**		**Pn**	**15 17 17.4**	**+0.3**
PMBI				*eS*	**Sn**	**15 17 47.0**	**-2.2**
PMBI	**Palembang**	**2.75**	**40**	P	**Pn**	**15 17 20.7**	**+3.6**
PMBI	**Palembang**	**2.75**	**40**	P	**Pn**	**15 17 18.1**	**+1.0**
CGJI	**Cibinong**	**3.08**	**120**	P	**Pn**	**15 17 22.3**	**+0.8**
CGJI				S	**Sn**	**15 17 56.1**	**-1.0**
SBJI	**Serang**	**3.27**	**109**	P	**Pn**	**15 17 26.8**	**+2.6**
KRJI	**Kerinci**	**3.34**	**332**	P	**Pn**	**15 17 27.0**	**+1.8**
JMBI	**JAMBI**	**3.47**	**10**	P	**Pn**	**15 17 28.9**	**+2.0**
PPSI	**Pulau Pagai**	**3.77**	**307**	P	**Pn**	**15 17 31.6**	**+0.6**
DBJI	**Dramaga**	**4.00**	**112**	P	**Pn**	**15 17 35.7**	**+1.5**
SKJI	**Sukabumi**	**4.01**	**119**	P	**Pn**	**15 17 35.2**	**+0.8**
CBJI	**Citeko**	**4.05**	**110**	P	Pn	15 17 39.9	+5.1
PPBI	**Pangkal Pinang**	**4.25**	**47**	P	**Pn**	**15 17 39.3**	**+1.7**
CNJI	**Cibinong**	**4.66**	**119**	P	**Pn**	**15 17 43.5**	**+0.3**
DSRI	**Dabo**	**4.82**	**19**	P	**Pn**	**15 17 47.6**	**+2.2**
	1μm,0.7s,9μm4.0nm						
PDSI	**Padang**	**4.85**	**328**	P	**Pn**	**15 17 46.0**	**+0.1**
LEM	**Lembang**	**4.90**	**111**	P	**Pn**	**15 17

137nm,1.0s
TTSI Tana Toraja 16.88 84 P **P** **15 20 30.3 +1.2**
103nm,0.9s,1µm
BKSI Bulukumba 17.04 92 P **P** **15 20 30.8 0.0**
152nm,1.1s,1µm
KKM Kota Kinabalu 17.19 50 Pn **Pn** **15 20 31.1 -0.6**
KKM Kota Kinabalu 17.19 50 P **P** **15 20 35.0 +2.4**
MPSI Mapaga 17.70 73 P **P** **15 20 39.2 +1.1**
95nm,0.8s,1µm
DLV T Lat 17.75 18 P **P** **15 20 40.0 +1.2**
DLV T Lat 17.75 18 P **P** **15 20 40.7 +1.8**
BASI Baing, Sumba 18.14 107 P **P** **15 20 42.8 -0.2**
577nm,1.6s,7µm
MYLDM **Lahad Datu 18.51 57** P **Pn** **15 20 48.2 +0.4**
TOLI2 Tolitoli 18.78 71 P **Pn** **15 20 50.8 -0.2**
TOLI2 IAmb IAmb 15 20 54.6
comp=Z,163nm,0.9s
TOLI2 Tolitoli 18.78 71 P **Pn** **15 20 53.6 +2.6**
EDFI Ende, Flores 18.90 102 P **P** **15 20 50.5 -0.9**
comp=Z,70nm,0.8s,comp=Z,942nm
NAYO Nakonayok 19.33 355 P **Pn** **15 20 57.1 -0.4**
MMRI Maumere 19.41 102 P **P** **15 20 56.0 -0.9**
MMRI IAmb IAmb 15 21 01.6
comp=Z,96nm,0.8s
MMRI Maumere 19.41 102 P **Pn** **15 21 00.8 +2.2**
MMRI Maumere 19.41 102 P **P** **15 20 56.1 -0.9**
comp=Z,147nm,1.2s,comp=Z,2µm
MRSI Marisa 19.69 74 P **P** **15 21 00.9 +0.9**
comp=Z,150nm,0.8s,comp=Z,1µm
LUWI Luwuk 20.13 79 P **P** **15 21 05.5 +0.8**
LUWI Luwuk 20.13 79 P Pn 15 21 07.0 0.0
LUWI Luwuk 20.13 79 P Pn 15 21 06.7 -0.3
comp=Z,289nm,1.0s
BATI Baumata 21.09 105 P **P** **15 21 15.4 +0.3**
comp=Z,309nm,0.9s,comp=Z,3µm
BATI Baumata 21.09 105 P **P** **15 21 15.9 +0.8**
comp=Z,117nm,0.5s,baz=304,slow=1.8,SNR=46
BATI S **S** **15 25 00.1 -6.8**
comp=Z,35nm,0.7s,baz=246,slow=18,SNR=2.9
comp=Z,117nm,0.5s
SOEI Soe 21.58 104 **P** **15 21 18.4 -2.1**
SOEI IAmb IAmb 15 21 42.5
comp=Z,114nm,0.8s
SOEI Soe 21.58 104 P **P** **15 21 20.9 +0.4**
SOEI Soe 21.58 104 P **P** **15 21 19.3 -1.2**
comp=Z,147nm,0.9s,comp=Z,2µm
KMSI Cibinong 21.68 76 P **P** **15 21 22.0 +0.6**
comp=Z,153nm,0.9s,comp=Z,3µm
MBWA Marble Bar 22.78 136 P **P** **15 21 32.3 -0.9**
NONG Nongkai 22.98 0 P **P** **15 21 36.0 +0.8**
SANI Sanana 23.12 83 P **P** **15 21 37.2 +0.5**
SANI Sanana 23.12 83 P **P** **15 21 35.9 -0.8**
comp=Z,84nm,1.0s,comp=Z,1µm
PSA00 Pilbara Seismi 23.14 137 P **P** **15 21 35.2 -1.6**
PSA00 Pilbara Seismi 23.14 137 P **P** **15 21 36.0 -0.8**
PSA00 IAmb IAmb 15 21 58.4
comp=Z,44nm,1.2s
CM31 Chiang Mai Arr 23.72 350 P **P** **15 21 40.7 -1.5**
CM31 IAmb IAmb 15 21 42.6
comp=Z,85nm,1.0s
CM31 Chiang Mai Arr 23.72 350 P **P** **15 21 41.7 -0.5**
SNR=30
CMAR Chiang Mai Arr 23.72 350 P **P** **15 21 40.9 -1.3**
CMAR Chiang Mai Arr 23.72 350 *i*P **P** **15 21 41.2 -1.0**
CMAR pmax pmax
comp=Z,36nm,0.5s
CMAR Chiang Mai Arr 23.72 350 P **P** **15 21 41.2 -1.0**
comp=Z,38nm,0.8s,baz=181,slow=8.8,SNR=324
CMAR PcP **PcP** **15 25 26.9 +1.8**
comp=Z,3.8nm,0.7s,baz=204,slow=3.4,SNR=7.3
CMAR ScP **ScP** **15 29 00.0 +1.4**
comp=Z,0.5nm,0.4s,baz=211,slow=2.1,SNR=6.7
CMAR LR LR 15 31 11.0
comp=Z,362nm,20.5s,baz=175,slow=37
comp=Z,38nm,0.8s
CHTO Chiang Mai 24.07 351 P **P** **15 21 44.2 -1.1**
CHTO Chiang Mai 24.07 351 P **P** **15 21 44.7 -0.7**
CHTO Chiang Mai 24.07 351 P **P** **15 21 44.6 -0.7**
CHTO Chiang Mai 24.07 351 P **P** **15 21 44.2 -1.1**
CHTO pmax pmax
comp=Z,51nm,0.8s
NLAI Namlea 24.09 87 P **P** **15 21 45.0 -0.7**
comp=Z,28nm,0.7s
LBMI Labuha 24.84 81 P **P** **15 21 53.3 +0.8**
comp=Z,365nm,0.9s,comp=Z,3µm
QIZ Qiongzhong 24.87 16 P **P** **15 21 52.1 -0.5**
QIZ IAmb IAmb 15 22 12.6
comp=Z,102nm,1.4s
QIZ Qiongzhong 24.87 16 P **P** **15 21 54.1 +1.4**
QIZ S **S** **15 26 17.6 +5.9**
QIZ pmax pmax
comp=Z,27nm,1.2s
QIZ LR LR
comp=Z,490nm,12.8s
TNTI Ternate 25.01 77 P **P** **15 21 53.6 -0.5**
TNTI IAmb IAmb 15 21 55.7
comp=Z,122nm,1.5s
TNTI Ternate 25.01 77 P **P** **15 21 56.0 +2.0**
TNTI Ternate 25.01 77 P **P** **15 21 52.5 -1.5**
comp=Z,44nm,1.1s,comp=Z,710nm
CRAI Chiangrai 25.27 354 P **P** **15 21 55.5 -0.8**
PALK Pallekele 25.42 299 P **P** **15 22 01.6 +3.8**
PALK Pallekele 25.42 299 *i*P **P** **15 21 59.6 +1.8**
PALK pmax pmax
comp=Z,20nm,1.0s
PALK Pallekele 25.42 299 LR LR 15 31 06.9
comp=Z,317nm,20.7s,baz=225,slow=34
DAV Davao City (W) 25.54 62 P **P** **15 22 00.4 +1.5**
DAV Davao City (W) 25.54 62 P **P** **15 22 00.2 +1.3**
comp=Z,125nm,0.4s,baz=310,slow=3.8,SNR=5.2
comp=Z,125nm,0.4s
FITZ Fitzroy Crossi 25.63 122 P **P** **15 22 00.8 +1.3**
baz=26,SNR=56
MEEK Meekatharra 26.12 147 P **P** **15 22 05.7 +1.7**
baz=26,SNR=4.3
SLVN Son La 26.25 2 P **P** **15 22 05.3 0.0**
MORW Morawa 26.87 154 P **P** **15 22 11.7 +1.0**
KNRA Kununurra 27.40 115 P **P** **15 22 16.0 +0.5**
baz=28,SNR=22
KNRA Kununurra 27.40 115 P **P** **15 22 15.6 0.0**
KNRA IAmb IAmb 15 22 16.9
comp=Z,81nm,0.8s
KNRA Kununurra 27.40 115 P **P** **15 22 16.3 +0.7**
MND Mandalay 27.75 346 P **P** **15 22 19.1 +0.5**
SAUI Saumlaki 28.25 97 P **P** **15 22 21.6 -1.6**
SAUI IAmb IAmb 15 22 26.9
comp=Z,42nm,0.5s
SAUI Saumlaki 28.25 97 P **P** **15 22 22.1 -1.1**
comp=Z,58nm,0.6s
SWI Sorong 28.51 82 P **P** **15 22 25.9 +0.4**
comp=Z,36nm,0.9s
MTN Manton Dam 28.81 107 P **P** **15 22 26.2 -2.0**
baz=29,SNR=11
MTN Manton Dam 28.81 107 P **P** **15 22 26.5 -1.7**
HKPS Hong Kong Po S 29.28 21 P **P** **15 22 31.3 -0.9**
HKPS IAmb IAmb 15 23 32.3
comp=Z,160nm,1.6s
MUN Mundaring 29.49 157 P **P** **15 22 35.8 +1.8**
baz=30,SNR=5.3
KMI Kunming 30.01 360 ⇑P **P** **15 22 40.0 +1.1**
KMI S **S** **15 27 34.8 +1.7**
KMI pmax pmax
comp=Z,42nm,0.9s
KMI LR LR
comp=Z,650nm,16.1s
KMI LR LR
comp=Z,220nm,11.1s
KMI LR LR
comp=Z,660nm,16.8s
KDU Kakadu 30.05 107 P **P** **15 22 38.1 -1.1**
baz=30,SNR=23
KDU Kakadu 30.05 107 P **P** **15 22 38.9 -0.3**
TNCH TengChong 30.23 352 *e*P **P** **15 22 41.0 +0.2**
TNCH pP pP 15 22 55.4 +0.2
TNCH PP **PnPn** **15 23 43.5 +2.8**
TNCH S **S** **15 27 39.1 +2.6**
TNCH pmax pmax
comp=Z,25nm,0.9s
TNCH pmax pmax
comp=Z,97nm,4.4s
TNCH LR LR
comp=Z,410nm,13.4s
TNCH LR LR
comp=Z,160nm,15.3s
TNCH LR LR
comp=Z,620nm,15.7s

H08S2 Diego Garcia H 30.44 264 T T 15 53 55.5
baz=88,slow=76,SNR=7.6
H08S3 Diego Garcia H 30.45 264 T T 15 54 06.4
baz=88,slow=76,SNR=388
H08S1 Diego Garcia H 30.45 264 T T 15 54 01.6
baz=88,slow=76,SNR=7.7
NWAO Narrogin (SRO) 30.73 156 P **P** **15 22 43.3 -1.7**
NWAO Narrogin (SRO) 30.73 156 P **P** **15 22 43.5 -1.5**
NWAO IAmb IAmb 15 23 03.2
comp=Z,102nm,0.9s
NWAO Narrogin (SRO) 30.73 156 P **P** **15 22 43.5 -1.5**
NWAO pmax pmax
comp=Z,102nm,0.9s
NWAO Narrogin (SRO) 30.73 156 LR LR 15 33 47.7
comp=Z,543nm,21.2s,baz=316,slow=33
WRKA Warakurna 31.35 132 P **P** **15 22 51.5 +0.9**
baz=32,SNR=12
WRKA Warakurna 31.35 132 P **P** **15 22 51.5 +0.9**
H01W3 Cape Leeuwin H 31.41 162 T T 15 56 14.0
baz=340,slow=76,SNR=66
PZH PanZhiHua 31.41 358 P **P** **15 22 50.7 -0.4**
PZH sP **sP** **15 23 12.3 -0.2**
PZH S **S** **15 27 52.6 -2.2**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,120nm,5.8s
PZH LR LR
comp=Z,420nm,17.7s
PZH LR LR
comp=Z,430nm,19.8s
PZH LR LR
comp=Z,450nm,18.4s
H01W2 Cape Leeuwin H 31.42 162 T T 15 56 27.2
baz=340,slow=76,SNR=87
H01W1 Cape Leeuwin H 31.42 162 T T 15 56 24.6
baz=340,slow=76,SNR=57
GYA Guiyang 31.54 6 ⇓P **P** **15 22 56.8 +4.5**
GYA pP pP 15 23 10.1 +3.4
GYA S **S** **15 28 01.6 +4.8**
GYA pmax pmax
comp=Z,10.0nm,0.6s
GYA pmax pmax
comp=Z,100nm,4.4s
GYA LR LR
comp=Z,430nm,13.0s
KMBL Kambalda 31.60 148 P **P** **15 22 54.5 +1.8**
baz=32,SNR=4.2
KMBL Kambalda 31.60 148 P **P** **15 22 53.9 +1.2**
SHL Shillong 32.31 341 P **P** **15 22 57.7 -1.5**
SHL IAmb IAmb 15 22 59.7
comp=Z,62nm,1.2s
SHL Shillong 32.31 341 P **P** **15 22 58.0 -1.1**
SNR=5.9
SHL Shillong 32.31 341 P **P** **15 22 57.7 -1.5**
SHL pmax pmax
comp=Z,63nm,1.2s
HYB Hyderabad 32.90 313 *e*P **P** **15 23 03.7 -0.6**
HYB *e*sP **sP** **15 23 24.1 -1.4**
HYB *e*PcP **PcP** **15 25 50.0 +2.2**
HYB *e*S **S** **15 28 19.6 +1.4**
TPUB Ta-pu 33.03 31 P **P** **15 23 03.5 -1.8**
TPUB IAmb IAmb 15 23 07.1
comp=Z,56nm,1.0s
YULB Yu-li 33.45 32 P **P** **15 23 07.7 -1.2**
SSLB Suanglung 33.59 31 P **P** **15 23 09.2 -1.0**
SSLB IAmb IAmb 15 24 01.7
comp=Z,109nm,1.8s
WB0 Warramunga Arr 33.86 118 P **P** **15 23 13.3 +0.7**
WB0 IAmb IAmb 15 23 14.4
comp=Z,43nm,0.7s
WRA Warramunga Arr 33.87 119 P **P** **15 23 12.8 +0.1**
WRA Warramunga Arr 33.87 119 P **P** **15 23 12.8 +0.1**
WRA Warramunga Arr 33.87 119 P **P** **15 23 13.7 +0.9**
comp=Z,40nm,0.7s,baz=295,slow=9.5,SNR=364
WRA PcP **PcP** **15 25 51.9 +1.3**
comp=Z,7.1nm,0.8s,baz=298,slow=2.4,SNR=5.5
WRA S **S** **15 28 31.6 -1.6**
comp=Z,0.9nm,0.8s,baz=193,slow=18,SNR=6.1
comp=Z,40nm,0.7s
WRAB Tennant Creek 33.88 119 P **P** **15 23 13.5 +0.7**
WRAB Tennant Creek 33.88 119 P **P** **15 23 13.5 +0.7**
WRAB pmax pmax
comp=Z,64nm,0.7s
WB2 Warramunga Arr 33.88 119 P **P** **15 23 13.6 +0.8**
WB1 Warramunga Ar. 33.88 119 P **P** **15 23 13.9 +1.1**
WR0 Warramunga Arr 34.06 119 P **P** **15 23 15.0 +0.7**
NACB Ninganchiao 34.24 31 P **P** **15 23 15.4 -0.3**
NACB IAmb IAmb 15 23 35.6
comp=Z,43nm,1.1s
YHNB Yeheng 34.54 30 P **P** **15 23 17.9 -0.6**
YHNB IAmb IAmb 15 23 52.2
comp=Z,62nm,1.2s
FORT Forrest 34.78 140 P **P** **15 23 21.7 +1.3**
FORT IAmb IAmb 15 23 38.9
comp=Z,34nm,0.6s
ASAR Alice Springs 35.03 125 P **P** **15 23 24.0 +1.2**
ASAR Alice Springs 35.03 125 P **P** **15 23 24.2 +1.5**
comp=Z,40nm,0.8s,baz=297,slow=7.8,SNR=314
ASAR PcP **PcP** **15 25 55.5 +1.6**
comp=Z,8.5nm,0.8s,baz=297,slow=3.0,SNR=7.9
ASAR S **S** **15 28 50.4 -0.8**
comp=Z,3.3nm,0.9s,baz=290,slow=14,SNR=7.2
ASAR ScP **ScP** **15 29 36.5 +1.9**
comp=Z,3.0nm,0.8s,baz=304,slow=3.4,SNR=5.7
ASAR LR LR 15 39 00.1
comp=Z,208nm,20.6s,baz=300,slow=38
comp=Z,40nm,0.8s
AS31 Alice Springs 35.03 125 P **P** **15 23 23.8 +1.0**
AS01 Alice Springs 35.07 125 P **P** **15 23 24.7 +1.6**
comp=Z,64nm,0.9s
ODAN Odare 35.16 335 *e*P **P** **15 23 24.0 +0.1**
comp=Z,81nm,0.5s
TAPN Taplejung 35.46 336 *e*P **P** **15 23 27.0 +0.4**
comp=Z,172nm,0.9s
RAMN Ramite 35.57 334 *e*P **P** **15 23 28.3 +0.8**
comp=Z,74nm,0.7s
ENH Enshi 35.68 10 P **P** **15 23 27.5 -0.7**
ENH IAmb IAmb 15 23 28.5
comp=Z,36nm,1.3s
ENH Enshi 35.68 10 P **P** **15 23 28.5 +0.4**
SMPI Sarmi 35.75 86 P **P** **15 23 28.1 -0.9**
comp=Z,33nm,1.1s
JIRN Jiri 36.37 334 *e*P **P** **15 23 34.8 +0.4**
comp=Z,184nm,0.7s
LSA Lhasa 36.39 342 P **P** **15 23 34.1 -0.6**
LSA IAmb IAmb 15 23 36.0
comp=Z,26nm,0.9s
LSA Lhasa 36.39 342 P **P** **15 23 34.5 -0.3**
LSA Lhasa 36.39 342 P **P** **15 23 34.1 -0.6**
LSA pmax pmax
comp=Z,26nm,0.9s
LSA Lhasa 36.39 342 P **P** **15 23 34.2 -0.6**
LSA pmax pmax
comp=Z,38nm,1.0s
LSA Lhasa 36.39 342 P **P** **15 23 35.0 +0.3**
PKI Pulchoki 36.63 333 *e*P **P** **15 23 36.9 +0.2**
comp=Z,58nm,0.8s
PKIN Phulchoki 36.64 333 *e*P **P** **15 23 37.1 +0.4**
comp=Z,56nm,0.7s
GUN Gumba 36.72 334 *e*P **P** **15 23 37.5 +0.1**
comp=Z,262nm,0.7s
DMN Daman 36.80 333 *e*P **P** **15 23 38.0 0.0**
comp=Z,113nm,0.9s
KKN Kakani 36.88 333 *e*P **P** **15 23 39.0 +0.4**
comp=Z,104nm,0.7s
WHN Wuhan 37.03 16 P **P** **15 23 39.9 +0.3**
WHN pmax pmax
comp=Z,40nm,1.3s
WHN LR LR
comp=Z,870nm,23.2s
GENI Genyem 37.15 88 P **P** **15 23 39.6 -1.3**
comp=Z,38nm,0.9s
GKN Gorkha 37.35 333 *e*P **P** **15 23 42.8 +0.2**
comp=Z,171nm,0.8s
KOLN Koldanda 37.64 331 *e*P **P** **15 23 45.8 +0.7**
comp=Z,197nm,0.8s
TABU Tabubil 38.05 92 P **P** **15 23 50.0 +1.4**
DANN Dangsing 38.05 332 *e*P **P** **15 23 49.0 +0.3**
comp=Z,303nm,0.7s
PYUN Piuthan 38.21 331 *e*P **P** **15 23 50.4 +0.5**
comp=Z,87nm,0.5s
OOD Oodnadatta 38.41 130 P **P** **15 23 53.5 +2.1**
MULG Mulgathing 38.53 134 P **P** **15 23 53.9 +1.6**
QIS Mount Isa 38.73 117 P **P** **15 23 55.0 +0.8**
baz=39,SNR=31

QIS Mount Isa 38.73 117 P **P** **15 23 55.5 +1.3**
XAN Xi'an 39.29 8 P **P** **15 23 57.6 -1.1**
XAN pP pP 15 24 10.7 -2.8
XAN pmax pmax
comp=Z,79nm,0.8s
XAN LR LR
comp=Z,370nm,16.5s
XAN LR LR
comp=Z,430nm,16.5s
XAN LR LR
comp=Z,480nm,19.4s
XAN Xi'an 39.29 8 P **P** **15 23 58.2 -0.5**
NJ2 Nanjing 39.87 21 *e*P **P** **15 24 04.4 +0.9**
NJ2 pP **pP** **15 24 17.4 -0.8**
NJ2 sP **sP** **15 24 22.2 -2.8**
NJ2 pmax pmax
comp=Z,18nm,0.7s
NJ2 pmax pmax
comp=Z,230nm,4.3s
JOW Kunigami 40.04 36 P **P** **15 24 04.8 -0.2**
JOW IAmb IAmb 15 24 06.9
comp=Z,39nm,1.0s
JOW Kunigami 40.04 36 LR LR 15 40 37.1
comp=Z,90nm,22.0s,baz=252,slow=36
LYN LuoYang 40.40 12 ⇑P **P** **15 24 08.0 +0.2**
LYN pP pP 15 24 25.5 +2.9
LYN sP sP 15 24 29.9 +0.5
LYN pmax pmax
comp=Z,140nm,0.8s
LYN pmax pmax
comp=Z,210nm,6.3s
LYN LR LR
comp=Z,650nm,23.7s
LYN LR LR
comp=Z,360nm,22.7s
LYN LR LR
comp=Z,1µm,17.9s
COEN Coen 40.52 106 P **P** **15 24 08.2 -0.9**
COEN Coen 40.52 106 P **P** **15 24 09.2 0.0**
LZH Lanzhou 40.94 1 ⇑P **P** **15 24 12.8 +0.4**
LZH sP pP 15 24 30.6 +3.2
LZH S **S** **15 30 24.2 +3.9**
LZH SS **SnSn** **15 33 31.2 -3.1**
LZH pmax pmax
comp=Z,61nm,1.0s
LZH LR LR
comp=Z,410nm,15.3s
LZH LR LR
comp=Z,390nm,14.4s
LZH LR LR
comp=Z,570nm,16.7s
JMZ Minamidaito 2 41.13 40 P **P** **15 24 13.7 -0.3**
ROCAM **Rodrigues Isla 41.24 246** P **P** **15 24 12.1 -2.9**
BBOO Buckleboo 41.37 136 P **P** **15 24 17.3 +1.4**
baz=42,SNR=6.7
BBOO Buckleboo 41.37 136 **P** **15 24 15.2 -0.7**
BBOO PcP **PcP** **15 26 14.9 +1.6**
LCRK Leigh Creek 41.66 131 P **P** **15 24 20.5 +2.3**
comp=Z,121nm,1.0s
GOMU GeErMu 41.76 350 P **P** **15 24 19.5 +0.1**
GOMU pmax pmax
comp=Z,11nm,0.5s
GOMU LR LR
comp=Z,190nm,15.0s
GOMU LR LR
comp=Z,280nm,14.7s
GOMU LR LR
comp=Z,310nm,15.0s
INKA Innaminka 42.36 126 P **P** **15 24 26.6 +2.6**
MTSU Mount Surprise 42.37 111 P **P** **15 24 25.8 +1.5**
baz=42,SNR=153
TIY Taiyuan 43.45 11 ⇓P **P** **15 24 33.3 +0.6**
TIY LR LR
comp=Z,470nm,16.1s
TIY LR LR
comp=Z,170nm,6.3s
TIY LR LR
comp=Z,470nm,17.7s
HNS HongShan 43.63 14 ⇑P **P** **15 24 34.2 +0.2**
HNS sP **pP** **15 24 52.2 +3.2**
HNS PcP **PcP** **15 26 21.3 +0.7**
HNS *e*S **S** **15 30 56.6 -2.9**
HNS pmax pmax
comp=Z,25nm,0.8s
HNS LR LR
comp=Z,300nm,17.7s
HNS LR LR
comp=Z,200nm,16.8s
HNS LR LR
comp=Z,440nm,22.7s
HTT Hallett 43.71 135 P **P** **15 24 37.0 +2.0**
baz=44,SNR=10
HTT Hallett 43.71 135 P **P** **15 24 37.4 +2.4**
PMG Port Moresby 43.98 98 P **P** **15 24 37.1 -0.2**
PMG IAmb IAmb 15 24 42.7
comp=Z,32nm,0.8s
PMG Port Moresby 43.98 98 P **P** **15 24 37.7 +0.4**
PMG Port Moresby 43.98 98 P **P** **15 24 37.9 +0.6**
PMG Port Moresby 43.98 98 *i*P **P** **15 24 36.7 -0.6**
PMG pmax pmax
comp=Z,21nm,0.9s
PMG Port Moresby 43.98 98 P **P** **15 24 37.3 0.0**
comp=Z,27nm,0.6s,baz=149,slow=3.1,SNR=33
PMG LR LR 15 47 09.1
comp=Z,68nm,19.2s,baz=264,slow=42
comp=Z,27nm,0.6s
PMG Port Moresby 43.98 98 P **P** **15 24 37.1 -0.2**
GTA Gaotai 44.35 356 ⇑P **P** **15 24 40.2 +0.2**
GTA pP pP 15 24 52.1 -2.7
GTA sP sP 15 24 57.0 -4.5
GTA PP **PcP** **15 26 23.3 +0.1**
GTA pmax pmax
comp=Z,27nm,0.9s
GTA LR LR
comp=Z,520nm,16.7s
GTA LR LR
comp=Z,350nm,17.8s
GTA LR LR
comp=Z,730nm,17.5s
MANU Manus Island 44.36 88 P **P** **15 24 39.4 -0.9**
CTA Charters Tower 44.60 114 P **P** **15 24 43.7 +1.5**
comp=Z,44nm,1.0s,baz=282,slow=8.8,SNR=31
CTA LR LR 15 45 28.1
comp=Z,145nm,19.4s,baz=286,slow=39
comp=Z,44nm,1.0s
CTAO Charters Tower 44.60 114 P **P** **15 24 42.4 +0.2**
CTAO IAmb IAmb 15 25 02.4
comp=Z,119nm,1.4s
CTAO Charters Tower 44.60 114 P **P** **15 24 43.8 +1.5**
CTAO Charters Tower 44.60 114 P **P** **15 24 42.4 +0.2**
CTAO pmax pmax
comp=Z,119nm,1.4s
CTAO Charters Tower 44.60 114 P **P** **15 24 43.8 +1.5**
CTAO pP **pwP** **15 25 00.2 +1.1**
QLP Quilpie 44.76 123 P **P** **15 24 44.0 +0.6**
baz=45,SNR=4.6
QLP Quilpie 44.76 123 P **P** **15 24 45.6 +2.2**
STKA Stephens Creek 44.88 131 P **P** **15 24 45.6 +1.3**
baz=45,SNR=54
STKA Stephens Creek 44.88 131 P **P** **15 24 45.8 +1.6**
STKA PcP **PcP** **15 26 26.2 +1.1**
STKA Stephens Creek 44.88 131 P **P** **15 24 46.3 +2.0**
STKA Stephens Creek 44.88 131 *i*P **P** **15 24 44.3 +0.1**
STKA Stephens Creek 44.88 131 P **P** **15 24 46.2 +2.0**
comp=Z,38nm,0.7s,baz=299,slow=8.1,SNR=94
STKA S **S** **15 31 19.0 +1.0**
comp=Z,1.8nm,0.9s,baz=60,slow=23,SNR=1.5
STKA LR LR 15 45 33.4
comp=Z,112nm,20.7s,baz=320,slow=39
comp=Z,38nm,0.7s
TV1H Townsville Har 44.91 112 P **P** **15 24 46.9 +2.3**
comp=Z,22nm,0.9s
GUMO Guam 45.49 65 P **P** **15 24 47.2 -2.1**
GUMO Guam 45.49 65 P **P** **15 24 47.2 -2.1**
GUMO pmax pmax
comp=Z,570nm,1.6s
GUMO Guam 45.49 65 LR LR 15 46 30.7
comp=Z,20nm,19.2s,baz=234,slow=40
AUAYR **Ayr State High 45.55 112** P **P** **15 24 51.0 +1.3**
comp=Z,42nm,1.1s
BTO Baotou 45.90 7 *e*P **P** **15 24 53.7 +1.5**
BTO pP **pP** **15 25 09.4 +2.2**
BTO sP **sP** **15 25 17.5 +3.6**
BTO PP **PP** **15 26 42.9 +2.0**
BTO S **S** **15 31 36.4 +3.9**

BTO sS **sS** **15 32 02.6 +5.0**
BTO SS **SS** **15 34 55.8 -2.4**
BTO pmax pmax
comp=Z,32nm,0.9s
BTO pmax pmax
comp=Z,220nm,4.5s
BTO LR LR
comp=Z,500nm,21.2s
BTO LR LR
comp=Z,500nm,14.7s
BTO LR LR
comp=Z,490nm,15.9s
JNU Nakatsue 46.27 33 P **P** **15 24 54.2 -0.9**
JNU IAmb IAmb 15 24 57.8
comp=Z,42nm,1.0s
JNU Nakatsue 46.27 33 P **P** **15 24 56.5 +1.3**
JNU Nakatsue 46.27 33 LR LR 15 45 26.6
comp=Z,63nm,19.4s,baz=214,slow=38
HHC Hu-ho-hao-te 46.36 9⇑*iP* **P** **15 24 56.6 +0.8**
HHC pP pP 15 25 08.0 -2.8
HHC S **S** **15 31 36.7 -2.4**
HHC pmax pmax
comp=Z,72nm,0.8s
HHC pmax pmax
comp=Z,310nm,4.9s
HHC LR LR
comp=Z,620nm,16.5s
HHC LR LR
comp=Z,320nm,16.9s
HHC LR LR
comp=Z,950nm,18.6s
BJT Baijiatuao 46.47 14 P **P** **15 24 55.9 -0.7**
BJT IAmb IAmb 15 24 57.8
comp=Z,27nm,0.8s
BJT Baijiatuao 46.47 14 P **P** **15 24 56.8 +0.2**
comp=Z,39nm,0.9s
BJT Baijiatuao 46.47 14 P **P** **15 24 55.9 -0.7**
BJT pmax pmax
comp=Z,27nm,0.8s
BJT Baijiatuao 46.47 14 P **P** **15 24 57.0 +0.5**
BJT PcP **PcP** **15 26 31.7 +1.3**
BJI Beijing 46.49 14 P **P** **15 24 56.9 +0.2**
BJI pP **pP** **15 25 08.3 -3.5**
BJI sP **sP** **15 25 14.9 -3.6**
BJI PcP **PcP** **15 26 31.8 +1.4**
BJI pmax pmax
comp=Z,18nm,0.8s
BJI LR LR
comp=Z,150nm,24.5s
BJI LR LR
comp=Z,120nm,18.4s
BJI LR LR
comp=Z,220nm,22.9s
JTU Tsushima 46.58 30 P **P** **15 24 56.1 -1.4**
TJN Taejon 47.11 27*ceP* **P** **15 25 00.2 -1.4**
NIL Nilore 47.70 326 P **P** **15 25 06.2 -0.2**
NIL Nilore 47.70 326 P **P** **15 25 06.4 0.0**
NIL Nilore 47.70 326 P **P** **15 25 06.2 -0.2**
NIL pmax pmax
comp=Z,85nm,0.6s
NIL Nilore 47.70 326 P **P** **15 25 06.3 0.0**
NIL pP **pP** **15 25 22.2 +0.8**
NIL sP **sP** **15 25 29.0 +0.9**
CMSA Cobar Meteorol 47.86 129 P **P** **15 25 08.5 +0.9**
baz=48,SNR=30
CMSA Cobar Meteorol 47.86 129 P **P** **15 25 10.0 +2.4**
KSAR Wonju Array Be 48.22 27 P **P** **15 25 10.0 -0.2**
KSAR PcP **PcP** **15 26 35.5 -1.2**
KSAR Wonju Array Be 48.22 27 P **P** **15 25 10.0 -0.2**
KSAR 15 26 35.5
KSRS Korea Array 48.25 27 P **P** **15 25 10.6 +0.2**
comp=Z,8.1nm,0.5s,baz=222,slow=7.5,SNR=50
KSRS PcP **PcP** **15 26 37.3 +0.5**
comp=Z,2.8nm,0.8s,baz=207,slow=4.1,SNR=5.3
comp=Z,8.1nm,0.5s
KS19 Wonju Array Si 48.26 27 P **P** **15 25 10.1 -0.5**
KS19 IAmb IAmb 15 25 51.8
comp=Z,67nm,1.6s
JMN Monobe 48.38 35 P **P** **15 25 11.6 -0.1**
JMN Monobe 48.38 35 P **P** **15 25 12.6 +1.0**
RMQ Roma 48.55 121 P **P** **15 25 13.4 +0.3**
baz=49,SNR=3.8
AULRC Lightning Ridg 48.87 125 P **P** **15 25 18.0 +2.5**
JCJ Chichijima 49.55 48 P **P** **15 25 18.6 -2.0**
JCJ Chichijima 49.55 48 LR LR 15 48 16.3
comp=Z,24nm,18.7s,baz=298,slow=38
XLT XiLinHaoTe 50.15 12 *eP* **P** **15 25 25.3 +0.3**
XLT pP pP 15 25 42.2 +2.1
XLT pmax pmax
comp=Z,34nm,0.8s
XLT pmax pmax
comp=Z,150nm,4.3s
EIDS Eidsvold 50.24 119 P **P** **15 25 27.5 +1.6**
baz=50,SNR=4.0
EIDS Eidsvold 50.24 119 P **P** **15 25 25.6 -0.3**
EIDS IAmb IAmb 15 25 45.1
comp=Z,58nm,1.4s
EIDS Eidsvold 50.24 119 P **P** **15 25 28.3 +2.4**
AUDCS Dubbo College 50.42 128 P **P** **15 25 29.2 +2.0**
JLN Jalan Bani Buh 50.52 304 P **P** **15 25 29.6 +1.6**
WMQ Urumqi 50.59 346 *eP* **P** **15 25 29.9 +1.6**
NGCH Negor - Chabah 50.68 309 P **P** **15 25 32.0 +2.8**
KBL Kabul 50.77 323 P **P** **15 25 29.8 -0.2**
KBL IAmb IAmb 15 25 32.5
comp=Z,18nm,0.8s
KBL Kabul 50.77 323 P **P** **15 25 30.2 +0.2**
SNR=13
KBL Kabul 50.77 323 P **P** **15 25 29.8 -0.2**
KBL pmax pmax
comp=Z,18nm,0.8s
KSH Kashi 50.90 333 P **P** **15 25 29.7 -1.1**
KSH pP pP 15 25 45.0 -0.9
KSH pmax pmax
comp=Z,39nm,0.8s
WUS Wushi 50.93 337 P **P** **15 25 31.4 +0.4**
YNG Young 51.06 131 P **P** **15 25 33.7 +1.7**
WBK Wadi Bani Khal 51.09 304 P **P** **15 25 34.3 +1.9**
MHTO MHTO 51.21 302 P **P** **15 25 34.4 +1.1**
INU Inuyama 51.35 36 P **P** **15 25 34.0 -0.1**
INU IAmb IAmb 15 25 47.6
comp=Z,56nm,1.5s
INU Inuyama 51.35 36 P **P** **15 25 36.5 +2.4**
comp=Z,22nm,1.1s
JHJ Hachijo jima 2 51.54 40 LR LR 15 48 16.7
comp=Z,59nm,20.6s,baz=66,slow=37
WSAR Wadi Sarin 51.65 305 P **P** **15 25 38.7 +2.1**
WSAR Wadi Sarin 51.65 305 LR LR 15 46 20.2
comp=Z,133nm,18.8s,baz=188,slow=35
JMDO Jabal Madar 51.70 304 P **P** **15 25 38.9 +2.0**
AUPHS Peel High Scho 51.81 126 P **P** **15 25 40.3 +2.6**
CAN Canberra 51.94 132 P **P** **15 25 40.9 +2.3**
CAN IAmb IAmb 15 25 42.3
comp=Z,52nm,1.0s
CAN Canberra 51.94 132 P **P** **15 25 40.0 +1.4**
CAN Canberra 51.94 132 P **P** **15 25 40.9 +2.3**
CAN pmax pmax
comp=Z,52nm,1.0s
CAN Canberra 51.94 132 P **P** **15 25 41.1 +2.6**
TARG Taragay, Kyrgy 51.94 336 P **P** **15 25 38.9 0.0**
TARG IAmb IAmb 15 25 56.9
comp=Z,45nm,1.2s
TARG Taragay, Kyrgy 51.94 336 P **P** **15 25 38.9 0.0**
TARG pmax pmax
comp=Z,45nm,1.2s
SMDO Samad 52.05 304 P **P** **15 25 41.5 +1.9**
ARMA Armidale 52.19 125 P **P** **15 25 42.5 +1.9**
baz=52,SNR=9.7
ARMA Armidale 52.19 125 P **P** **15 25 43.1 +2.5**
ARMA IAmb IAmb 15 25 44.9
comp=Z,32nm,1.0s
ARMA Armidale 52.19 125 P **P** **15 25 43.2 +2.6**
BIDO Bidbid 52.19 305 P **P** **15 25 43.0 +2.5**
SNR=7.1
PRZ Przheval'sk 52.34 337 P **P** **15 25 42.5 +0.9**
PRZ PcP **PcP** **15 26 53.7 +1.7**
PRZ Przheval'sk 52.34 337 P **P** **15 25 42.5 +0.9**
PRZ 15 26 53.7
PRZ pmax pmax
comp=Z,37nm,0.6s
NRN Naryn 52.45 334 P **P** **15 25 42.2 -0.3**
NRN IAmb IAmb 15 25 43.7
comp=Z,34nm,1.0s
NRN PcP **PcP** **15 26 53.7 +1.1**
NRN Naryn 52.45 334 P **P** **15 25 42.2 -0.3**
NRN pmax pmax 15 26 53.7
comp=Z,34nm,1.0s
SHLS Shalkode 52.52 338⇑*iP* **P** **15 25 42.6 -0.2**
comp=Z,30nm,0.4s,baz=339
SHLS Shalkode 52.52 338*c iP* **P** **15 25 42.6 -0.2**
SHLS pmax pmax
comp=Z,30nm,0.4s
DMTO DMTO 52.56 297 P **P** **15 25 45.4 +2.0**
BSY Bisya 52.61 304 P **P** **15 25 45.9 +2.2**
UZB Uzynbulak 52.68 338⇑*iP* **P** **15 25 44.6 +0.6**
comp=Z,26nm,0.5s,baz=338
UZB Uzynbulak 52.68 338*c iP* **P** **15 25 44.6 +0.6**
UZB pmax pmax
comp=Z,26nm,0.5s
MGCD Mangrove Creek 52.73 128 P **P** **15 25 46.2 +1.8**
baz=53,SNR=5.7
SONM Songino Array 52.76 3 P **P** **15 25 44.7 +0.2**
SONM IAmb IAmb 15 25 46.3
comp=Z,45nm,1.0s
SONM PcP **PcP** **15 26 53.4 0.0**
SONM Songino Array 52.76 3 P **P** **15 25 44.7 +0.2**
SONM 15 26 53.4
SONM pmax pmax
comp=Z,45nm,1.0s
SONM Songino Array 52.76 3 P **P** **15 25 45.1 +0.7**
comp=Z,35nm,0.8s,baz=182,slow=8.6,SNR=124
SONM PcP **PcP** **15 26 53.9 +0.5**
comp=Z,7.6nm,0.5s,baz=191,slow=4.2,SNR=9.7
SONM LR LR 15 50 40.5
comp=Z,239nm,18.5s,baz=190,slow=39
comp=Z,35nm,0.8s
ULN Ulaanbaatar 52.83 3 P **P** **15 25 44.8 -0.2**
ULN P **P** **15 25 45.2 +0.2**
ULN IAmb IAmb 15 25 46.8
comp=Z,33nm,1.1s
ULN PcP **PcP** **15 26 53.8 +0.1**
ULN Ulaanbaatar 52.83 3 P **P** **15 25 45.7 +0.7**
ULN Ulaanbaatar 52.83 3*ceP* **P** **15 25 45.2 +0.2**
ULN pmax pmax
comp=Z,38nm,1.3s
ULN Ulaanbaatar 52.83 3 P **P** **15 25 45.5 +0.5**
ULN pP **pP** **15 26 01.3 +1.0**
ULN PcP **PcP** **15 26 54.0 +0.3**
SATY Saty 52.83 337⇑*iP* **P** **15 25 45.8 +0.6**
comp=Z,16nm,0.5s,baz=338
SATY Saty 52.83 337*c iP* **P** **15 25 45.7 +0.6**
SATY pmax pmax
comp=Z,16nm,0.5s
MAJO Matsushiro 52.87 36 P **P** **15 25 44.4 -1.0**
MAJO IAmb IAmb 15 25 45.2
comp=Z,33nm,1.1s
MAJO Matsushiro 52.87 36 P **P** **15 25 44.4 -1.0**
MAJO pmax pmax
comp=Z,33nm,1.1s
MJAR Matsushiro Arr 52.87 36 P **P** **15 25 44.1 -1.3**
comp=Z,18nm,0.9s,baz=215,slow=7.1,SNR=28
MJAR PcP **PcP** **15 26 54.4 +0.5**
comp=Z,3.2nm,0.7s,baz=206,slow=3.5,SNR=4.0
comp=Z,18nm,0.9s
MJB9 Matsu-Tunnel 52.87 36 P **P** **15 25 44.5 -0.8**
MJB9 IAmb IAmb 15 25 46.2
comp=Z,32nm,1.1s
HOQ Hoqain 52.89 305 P **P** **15 25 48.4 +2.6**
SNR=6.3
ZHN Zhinishke 52.92 338⇑*iP* **P** **15 25 46.1 +0.4**
baz=338
ZHN Zhinishke 52.92 338*c iP* **P** **15 25 46.1 +0.4**
ULHL Ulahol 53.02 335 P **P** **15 25 46.8 +0.2**
SNR=6.2
KPKS Kokpek 53.08 338⇑*iP* **P** **15 25 47.1 +0.2**
baz=338
KPKS Kokpek 53.08 338*c iP* **P** **15 25 47.1 +0.2**
KZA Kyzart 53.30 334 P **P** **15 25 49.5 +0.6**
SNR=14
TNSS Tian-Shan 53.38 336⇑*eP* **P** **15 25 49.7 +0.1**
baz=336
TNSS Tian-Shan 53.38 336⇑*eP* **P** **15 25 49.6 +0.1**
ARQ Araqi 53.43 304 P **P** **15 25 51.8 +2.1**
MDOK Medeo 53.45 336 *eP* **P** **15 25 50.1 +0.4**
baz=336
MDOK Medeo 53.45 336 *eP* **P** **15 25 50.0 +0.4**
JASK Jask - Hormozg 53.49 307 P **P** **15 25 52.3 +2.2**
SNR=5.4
AAA Alma-Ata 53.54 336 *eP* **P** **15 25 50.3 0.0**
baz=336
AAA Alma-Ata 53.54 336 *eP* **P** **15 25 50.2 0.0**
WHFO Wadi Hawf 53.68 296 P **P** **15 25 53.1 +1.5**
ARSB Arslanbob 53.71 332 P **P** **15 25 51.0 -0.7**
ARSB PcP **PcP** **15 26 58.2 +1.0**
UCH Uchtor 53.74 334 P **P** **15 25 52.6 +0.4**
SNR=18
SOHO SOHO 53.77 305 P **P** **15 25 53.5 +1.3**
SOHO SOHO 53.77 305 P **P** **15 25 53.9 +1.7**
BTK Batken 53.79 330 P **P** **15 25 52.1 0.0**
BTK IAmb IAmb 15 25 53.8
comp=Z,35nm,1.1s
BTK Batken 53.79 330 P **P** **15 25 52.1 0.0**
BTK pmax pmax
comp=Z,35nm,1.1s
TKM2 Tokmak 2 53.84 335 P **P** **15 25 52.9 +0.3**
SNR=72
KBK Karagaybulak 53.90 335 P **P** **15 25 53.8 +0.8**
SNR=26
ABTO Aybut 53.91 296 P **P** **15 25 54.9 +1.5**
AML Almayashu 54.02 333 P **P** **15 25 55.1 +0.9**
SNR=6.3
ARXS Arharly 54.04 338 *eP* **P** **15 25 52.9 -1.0**
CHKK Chushkaly 54.05 337 *eP* **P** **15 25 52.9 -1.0**
baz=337
CHKK Chushkaly 54.05 337 *eP* **P** **15 25 52.9 -1.0**
AAK Ala-Archa 54.08 334 P **P** **15 25 54.6 +0.2**
SNR=10
AAK Ala-Archa 54.08 334 P **P** **15 25 54.5 +0.2**
AAK PcP **PcP** **15 26 59.2 +0.7**
AAK Ala-Archa 54.08 334 P **P** **15 25 53.9 -0.4**
AAK Ala-Archa 54.08 334 P **P** **15 25 55.0 +0.7**
AAK Ala-Archa 54.08 334 P **P** **15 25 54.5 +0.2**
AAK 15 26 59.3
AAK pmax pmax
comp=Z,10.0nm,0.7s
AAK Ala-Archa 54.08 334 P **P** **15 25 54.2 -0.1**
comp=Z,5.6nm,0.5s,baz=150,slow=4.6,SNR=17
AAK PcP **PcP** **15 26 59.8 +1.3**
comp=Z,8.3nm,0.6s,baz=139,slow=5.7,SNR=5.1
AAK LR LR 15 53 06.9
comp=Z,117nm,18.5s,baz=145,slow=41
comp=Z,5.6nm,0.5s
AAK Ala-Archa 54.08 334 P **P** **15 25 55.0 +0.7**
AAK pP **pP** **15 26 11.5 +1.9**
AAK PcP **PcP** **15 27 00.4 +1.8**
FRU1 Bishkek 54.16 334 P **P** **15 25 54.6 -0.2**
FRU1 IAmb IAmb 15 25 56.2
comp=Z,43nm,0.9s
FRU1 Bishkek 54.16 334 P **P** **15 25 54.6 -0.2**
FRU1 pmax pmax
comp=Z,43nm,0.9s
CHMS Chumysh 54.26 335 P **P** **15 25 55.3 -0.2**
SNR=8.5
TAU Tasmania Unive 54.32 141 P **P** **15 25 56.5 +0.6**
TAU Tasmania Unive 54.32 141 P **P** **15 25 56.5 +0.6**
TAU pmax pmax
comp=Z,180nm,1.7s
KUU Kurty 54.34 336 *eP* **P** **15 25 55.7 -0.4**
baz=336
KUU Kurty 54.34 336 *eP* **P** **15 25 55.6 -0.4**
ALNE Al Ain 54.38 304 P **P** **15 25 58.3 +1.6**
ALNE Al Ain 54.38 304 P **P** **15 25 58.8 +2.2**
SNR=6.3
UOSS Minazif 54.40 306 P **P** **15 25 55.4 -1.4**
UOSS Minazif 54.40 306 P **P** **15 25 55.7 -1.0**
UOSS Minazif 54.40 306 P **P** **15 25 58.1 +1.4**
ASHO Ashiyiah 54.40 305 P **P** **15 25 57.0 +0.2**
ASHO Ashiyiah 54.40 305 P **P** **15 25 58.4 +1.6**
HATD Hatta, Dubai 54.41 305 P **P** **15 25 58.1 +1.3**
HATD Hatta, Dubai 54.41 305 P **P** **15 25 59.0 +2.2**
EKS2 Erkin-Say 54.41 334 P **P** **15 25 57.3 +0.7**
SNR=60
TDK Taldyqorghan 54.50 339⇑*iP* **P** **15 25 57.0 -0.1**
comp=Z,29nm,0.5s,baz=339
TDK Taldyqorghan 54.50 339*c iP* **P** **15 25 57.0 -0.1**
TDK pmax pmax
comp=Z,29nm,0.5s
USP Ospenovka 54.59 335 P **P** **15 25 57.4 -0.4**
SNR=17
MSFE Esma-Masafi 54.62 306 P **P** **15 25 59.4 +1.0**
MASF Masafi 54.63 306 P **P** **15 26 00.9 +2.5**
SGDS Sogindy 54.68 335 *eP* **P** **15 25 58.2 -0.3**
baz=335
SGDS Sogindy 54.68 335 *eP* **P** **15 25 58.2 -0.3**
ZSN Zaisan 54.69 345⇑*iP* **P** **15 25 59.0 +0.5**
baz=345
ZSN Zaisan 54.69 345*c iP* **P** **15 25 58.9 +0.5**
MK31 Makanchi Array 54.80 343 P **P** **15 25 58.8 -0.5**
MK31 IAmb IAmb 15 26 00.1
comp=Z,25nm,0.7s
MK31 Makanchi Array 54.80 343*ceP* **P** **15 25 58.8 -0.5**
MKAR Makanchi Array 54.80 343 *i* P **P** **15 25 59.0 -0.3**
MKAR pmax pmax
comp=Z,33nm,0.5s
MKAR Makanchi Array 54.80 343 P **P** **15 25 59.1 -0.2**
comp=Z,33nm,0.5s,baz=152,slow=8.7,SNR=188
MKAR LR LR 15 53 35.3
comp=Z,124nm,20.6s,baz=144,slow=41
comp=Z,33nm,0.5s
FAQ Al Faqa, Dubai 54.81 305 P **P** **15 26 01.5 +1.8**
SNR=5.3
NAZ Nazwa, Dubai 54.86 305 P **P** **15 26 02.7 +2.6**
MAKZ Makanchi 54.91 342 P **P** **15 25 59.3 -0.8**
MAKZ Makanchi 54.91 342 P **P** **15 25 59.3 -0.8**
MAKZ pmax pmax
comp=Z,17nm,1.0s
MAKZ Makanchi 54.91 342 P **P** **15 25 59.8 -0.3**
MDJ Mudanjiang 54.91 23 P **P** **15 25 58.9 -1.1**
MDJ Mudanjiang 54.91 23 P **P** **15 26 01.2 +1.1**
comp=Z,14nm,0.9s
MDJ Mudanjiang 54.91 23 P **P** **15 26 00.0 -0.1**
MDJ pmax pmax
comp=Z,20nm,1.3s
MDJ pmax pmax
comp=Z,190nm,6.0s
HRA Herat 54.93 319 P **P** **15 25 59.8 -0.9**
SHME Shamm 54.95 307 P **P** **15 26 03.1 +2.4**
ASUD Al Ashush, Dub 54.97 305 P **P** **15 26 02.2 +1.3**
ASUD Al Ashush, Dub 54.97 305 P **P** **15 26 03.2 +2.3**
BNX BinXian 55.06 21⇑ **P** **15 26 01.1 0.0**
BNX pmax pmax
comp=Z,87nm,1.2s
BNX pmax pmax
comp=Z,200nm,4.6s
ZAK Zakamensk 55.23 0 *eP* **P** **15 26 02.0 -0.4**
ZAK pmax pmax
comp=Z,13nm,1.0s
JMM Marumori 55.28 36 P **P** **15 26 01.5 -1.4**
JMM IAmb IAmb 15 26 03.1
comp=Z,41nm,1.1s
USA0B Ussuriysk Arra 55.54 25 P **P** **15 26 03.9 -0.7**
USA0B IAmb IAmb 15 26 05.7
comp=Z,39nm,0.9s
USA0B Ussuriysk Arra 55.54 25 *i* P **P** **15 26 04.4 -0.2**
USA0B *e**PP **pP** **15 26 19.4 -0.7**
USRK Ussuriysk Ar. 55.54 25 P **P** **15 26 03.9 -0.7**
USRK Ussuriysk Ar. 55.54 25 P **P** **15 26 04.6 0.0**
comp=Z,45nm,1.0s,baz=214,slow=4.3,SNR=35
comp=Z,45nm,1.0s
DZA Taraz 55.70 332 *eP* **P** **15 26 05.3 -0.6**
baz=332
DZA Taraz 55.70 332 *eP* **P** **15 26 05.2 -0.6**
HIA Hailar 56.04 13 P **P** **15 26 06.9 -1.2**
HIA IAmb IAmb 15 26 08.6
comp=Z,25nm,1.2s
HIA Hailar 56.04 13 P **P** **15 26 08.3 +0.2**
comp=Z,22nm,1.2s
HIA Hailar 56.04 13 P **P** **15 26 06.9 -1.2**
HIA pmax pmax
comp=Z,25nm,1.2s
ABPO Ambohimpanom 56.06 251 **P** **15 26 07.3 -1.8**
ABPO Ambohimpanom 56.06 251 P **P** **15 26 07.3 -1.8**
ABPO pmax pmax
comp=Z,14nm,1.0s
DGZ Jazzator, Alta 56.20 348*c iP* **P** **15 26 09.5 +0.1**
DGZ pmax pmax
comp=Z,61nm,0.7s
BTLS Baital 56.22 336⇑*iP* **P** **15 26 08.8 -0.7**
baz=336
BTLS Baital 56.22 336*c iP* **P** **15 26 08.7 -0.7**
KK31 Karatay Array 56.25 332 P **P** **15 26 08.6 -1.2**
KK31 Karatay Array 56.25 332 P **P** **15 26 08.6 -1.2**
KK31 pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 56.25 332 P **P** **15 26 08.6 -1.2**
KKAR Karatay Array 56.25 332 P **P** **15 26 08.8 -0.9**
KKAR IAmb IAmb 15 26 27.4
comp=Z,9.0nm,0.8s
KKAR Karatay Array 56.25 332 P **P** **15 26 08.8 -0.9**
KKAR pmax pmax
comp=Z,9.0nm,0.8s
HNR Honiara 56.60 98 P **P** **15 26 11.6 -1.1**
HNR Honiara 56.60 98 P **P** **15 26 14.6 +1.9**
HNR Honiara 56.60 98 P **P** **15 26 11.6 -1.1**
HNR pmax pmax
comp=Z,64nm,0.8s
HNR Honiara 56.60 98 LR LR 15 52 26.5
comp=Z,592nm,21.9s,baz=246,slow=38
VOI Vohitsoka 56.85 247 P **P** **15 26 13.6 -0.9**
JTM Tenmabayashi 57.42 34 P **P** **15 26 17.5 -0.5**
SEM Semipalatinsk 58.65 343⇑*iP* **P** **15 26 26.2 -0.6**
comp=Z,22nm,0.6s,baz=343
SEM Semipalatinsk 58.65 343*c iP* **P** **15 26 26.1 -0.6**
SEM pmax pmax
comp=Z,22nm,0.6s
HEH HeiHe 59.00 18 *eP* **P** **15 26 28.6 -0.3**
HEH pmax pmax
comp=Z,51nm,1.0s
HEH pmax pmax
comp=Z,310nm,4.9s
KURBB Kurchatov Arra 59.35 342 P **P** **15 26 31.1 -0.2**
comp=Z,24nm,0.7s,baz=160,slow=6.4,SNR=128
KURBB PcP **PcP** **15 27 19.5 +0.8**
comp=Z,8.1nm,0.6s,baz=156,slow=3.8,SNR=9.9
KURBB LR LR 15 55 45.3
comp=Z,166nm,19.6s,baz=160,slow=40
comp=Z,24nm,0.7s
KURK Kurchatov 59.40 342 P **P** **15 26 31.2 -0.5**
KURK Kurchatov 59.40 342 P **P** **15 26 31.6 0.0**
KURK Kurchatov 59.40 342*ceP* **P** **15 26 31.3 -0.3**
KURK pmax pmax
comp=Z,47nm,0.8s
KURK Kurchatov 59.40 342 P **P** **15 26 31.6 0.0**
KURK pP **pP** **15 26 48.0 +0.8**
ERM Erimo 59.40 34 P **P** **15 26 31.2 -0.6**
ERM Erimo 59.40 34*ceP* **P** **15 26 31.1 -0.7**
ERM pmax pmax
comp=Z,118nm,2.5s
KLR Kul'dur 59.58 21*ceP* **P** **15 26 32.6 -0.3**
KLR pmax pmax
comp=Z,53nm,1.7s
KLR Kul'dur 59.58 21 LR LR 15 53 03.7
comp=Z,155nm,21.4s,baz=224,slow=37
GEYT Alibeck 59.71 320 P **P** **15 26 34.4 +0.2**
GEYT Alibeck 59.71 320 P **P** **15 26 34.4 +0.2**
GEYT pmax pmax
comp=Z,47nm,1.0s
GEYT Alibeck 59.71 320 P **P** **15 26 34.8 +0.6**
comp=Z,28nm,0.7s,baz=140,slow=9.4,SNR=61
GEYT LR LR 15 53 37.8
comp=Z,96nm,22.0s,baz=154,slow=37
comp=Z,28nm,0.7s
GYA0B ALIBECK ARRAY 59.71 320 P **P** **15 26 34.5 +0.3**
GYA0B IAmb IAmb 15 26 35.8
comp=Z,39nm,0.9s
ASAJ Asahikawa 60.52 32 P **P** **15 26 39.3 -0.2**
ASAJ pmax pmax
comp=Z,25nm,0.6s
ASAJ Asahikawa 60.52 32 LR LR 15 53 20.1
comp=Z,71nm,21.1s,baz=205,slow=36
JKA Kamikawa-asahi 60.52 32 P **P** **15 26 39.3 -0.2**
JKA IAmb IAmb 15 26 40.7
comp=Z,25nm,0.6s
ZAA0 Zalesovo Array 60.75 348 P **P** **15 26 40.0 -0.8**
ZALV Zalesovo Beam 60.75 348 P **P** **15 26 40.3 -0.5**
comp=Z,18nm,0.4s,baz=173,slow=4.8,SNR=102
ZALV LR LR 15 55 50.3
comp=Z,388nm,20.9s,baz=140,slow=39
comp=Z,18nm,0.4s
BRZS Berezniki 60.79 338⇑*iP* **P** **15 26 40.9 -0.3**
baz=338
BRZS Berezniki 60.79 338*c iP* **P** **15 26 40.9 -0.3**
CASY Casey 61.33 177 P **P** **15 26 44.0 -0.6**
CASY IAmb IAmb 15 27 03.6

comp=Z,26nm,1.1s
KOUNC **Koumac, New Ca** 61.36 111 P **P** 15 26 45.5 -0.2
ZEA Zeya 62.03 16 *e*P **P** 15 26 49.7 +0.2
ZEA *e* 15 27 06.7
ZEA pmax pmax
comp=E,10.0nm,1.2s
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=Z,40nm,0.8s
ATD Arta Tunnel 62.08 286 P **P** 15 26 48.8 -1.8
ATD IAmb IAmb 15 27 08.3
comp=Z,20nm,1.1s
YSS Yuzh-Sakhalins 62.56 30 *e*P **P** 15 26 52.1 -1.0
YSS pmax pmax
comp=Z,30nm,1.0s
BOD Bodaibo 63.31 7 *e*P **P** 15 26 57.6 -0.3
BOD pmax pmax
comp=Z,43nm,1.2s
DZM Mont Dzumac 63.51 112 P **P** 15 26 59.5 -0.7
DZM Mont Dzumac 63.51 112 *e*S S 15 35 19.1 -10
comp=Z,48nm,24.1s
DZM *e*SS **SS** 15 39 31.8 -5.9
comp=Z,46nm,25.6s
DZM *e*LR LR 15 46 04.6
comp=Z,257nm,24.7s
DZM Mont Dzumac 63.51 112 LR LR 15 54 28.5
comp=Z,97nm,22.0s,baz=264,slow=36
ONTNC **Ouen Toro** 63.54 112 P **P** 15 27 00.1 -0.1
OUENC **Ouen Island, N** 63.91 112 P **P** 15 27 02.0 -0.6
OUENC IAmb IAmb 15 27 21.7
comp=Z,39nm,1.3s
BVAR Borovoye Array 64.09 339 P **P** 15 27 02.8 -0.5
comp=Z,36nm,0.5s,baz=142,slow=9.3,SNR=223
BVAR LR LR 15 58 25.0
comp=Z,79nm,21.8s,baz=142,slow=39
comp=Z,36nm,0.5s
BRVK Borovoye 64.16 339 P **P** 15 27 02.9 -0.7
BRVK IAmb IAmb 15 27 03.7
comp=Z,25nm,0.6s
BRVK Borovoye 64.16 339 P **P** 15 27 03.3 -0.3
BRVK Borovoye 64.16 339 *ce*P **P** 15 27 02.7 -0.9
BRVK pmax pmax
comp=Z,20nm,0.6s
BRVK Borovoye 64.16 339 P **P** 15 27 03.2 -0.5
BRVK pP **pP** 15 27 18.9 -0.4
KIBK Kibwezi 64.87 270 P **P** 15 27 09.3 +0.2
KMBO Kilima Mbogo 65.76 271 P **P** 15 27 14.0 -1.1
KMBO Kilima Mbogo 65.76 271 P **P** 15 27 14.0 -1.1
KMBO pmax pmax
comp=Z,14nm,1.1s
KMBO Kilima Mbogo 65.76 271 P **P** 15 27 17.1 +2.0
comp=Z,1.9nm,0.7s,baz=61,slow=9.9,SNR=5.2
KMBO LR LR 15 51 55.7
comp=Z,80nm,19.8s,baz=91,slow=32
comp=Z,1.9nm,0.7s
ABKAR **Akbulak array** 65.76 331 P **P** 15 27 14.0 -0.1
ABKAR **Akbulak array** 65.76 331 P **P** 15 27 13.2 -0.9
ABKAR IAmb IAmb 15 27 30.7
comp=Z,76nm,1.0s
AKTO Aktyubinsk 67.48 331 P **P** 15 27 24.8 -0.2
comp=Z,6.5nm,0.4s,baz=133,slow=8.6,SNR=17
AKTO LR LR 15 59 28.8
comp=Z,57nm,18.2s,baz=143,slow=38
comp=Z,6.5nm,0.4s
LODK Lodwar 68.11 276 P **P** 15 27 29.6 -0.3
MAW Mawson 68.11 195 P **P** 15 27 28.6 0.0
MAW Mawson 68.11 195 P **P** 15 27 28.7 0.0
MAW Mawson 68.11 195 P **P** 15 27 30.9 +2.2
comp=Z,6.8nm,0.9s,baz=325,slow=4.3,SNR=5.3
MAW LR LR 15 51 04.9
comp=Z,424nm,21.9s,baz=38,slow=30
comp=Z,6.8nm,0.9s
WHZ Wether Hill Ro 69.05 137 P **P** 15 27 36.0 +0.9
WHZ IAmb IAmb 15 28 08.9
comp=Z,110nm,1.9s
GNI Garni 69.81 316 P **P** 15 27 42.1 +2.1
comp=Z,7.4nm,0.7s,baz=186,slow=14,SNR=3.8
GNI LR LR 15 59 59.1
comp=Z,24nm,20.3s,baz=97,slow=37
comp=Z,7.4nm,0.7s
YAK Yakutsk 69.98 13 P **P** 15 27 38.9 -1.4
YAK IAmb IAmb 15 27 43.8
comp=Z,31nm,0.8s
YAK Yakutsk 69.98 13 *c i*P **P** 15 27 38.7 -1.6
YAK *e**PP **pP** 15 27 53.6 -2.6
YAK *e* 15 28 00.1
YAK *e* 15 30 09.7
YAK *e*PPP PPP 15 31 52.9
YAK *e*S **S** 15 36 44.8 -1.2
YAK *e**SS **sS** 15 37 17.0 +3.7
YAK pmax pmax
comp=Z,32nm,1.4s
YAK pmax pmax
comp=N,16nm,1.5s
YAK pmax pmax
comp=E,9.0nm,1.4s
YAK pmax pmax
comp=Z,121nm,4.1s
YAK pmax pmax
comp=N,98nm,4.1s
YAK pmax pmax
comp=E,85nm,4.1s
YAK smax smax
comp=E,127nm,4.8s
YAK smax smax
comp=N,95nm,3.7s
YAK Yakutsk 69.98 13 LR LR 16 02 05.8
comp=N,6.4nm,18.5s,baz=218,slow=39
SVE Sverdlovsk 70.65 337 *e*P **P** 15 27 45.0 +0.4
SVE pmax pmax
comp=Z,90nm,1.1s
RPZ Rata Peaks 70.70 135 LR LR 15 58 39.4
comp=Z,174nm,20.8s,baz=272,slow=36
INZ Inchbonnie 70.78 133 P **P** 15 27 45.4 -0.3
INZ IAmb IAmb 15 28 08.8
comp=Z,27nm,0.9s
GURO Guroymak-BITLI 71.07 314 P **P** 15 27 47.6 -0.1
KARS Kars 71.16 316 P **P** 15 27 47.9 -0.3
KARS Kars 71.16 316 P **P** 15 27 47.9 -0.3
KARS pmax pmax
comp=Z,216nm,1.3s
ARU Arti 71.21 336 P **P** 15 27 47.5 -0.4
ARU IAmb IAmb 15 27 49.1
comp=Z,51nm,0.9s
ARU Arti 71.21 336 *c i*P **P** 15 27 47.9 0.0
ARU *P**PP **pP** 15 28 02.9 -0.9
ARU 15 30 21.6
ARU S **S** 15 37 04.8 +4.3
ARU SS **SS** 15 41 34.6 -1.0
ARU pmax pmax
comp=Z,68nm,1.0s
ARU Arti 71.21 336 P **P** 15 27 48.4 +0.4
comp=Z,44nm,0.9s,baz=158,slow=2.2,SNR=50
ARU LR LR 16 05 52.3
comp=Z,76nm,18.9s,baz=136,slow=42
comp=Z,44nm,0.9s
ARU Arti 71.21 336 P **P** 15 27 48.0 0.0
ARU pP **pP** 15 28 03.8 0.0
QRZ Quartz Range 71.24 131 P **P** 15 27 49.2 +0.6
QRZ IAmb IAmb 15 27 51.4
comp=Z,47nm,1.0s
MRNZ Matariki Terra 71.50 132 P **P** 15 27 50.5 +0.4
ZEI Tsey 71.51 318 *e*P **P** 15 27 49.4 -1.0
ZEI pmax pmax
comp=Z,14nm,0.7s
THZ Tophouse 71.67 132 P **P** 15 27 52.5 +1.3
THZ IAmb IAmb 15 28 15.2
comp=Z,34nm,0.8s
KBZ Khabaz 72.58 319 *ce*P **P** 15 27 57.1 +0.7
KBZ pmax pmax
comp=Z,23nm,0.9s
KBZ Khabaz 72.58 319 P **P** 15 27 57.4 +1.0
comp=Z,24nm,0.8s,baz=124,slow=5.3,SNR=30
comp=Z,24nm,0.8s
HIZ Hauiti 72.67 129 P **P** 15 27 57.9 +0.7
HIZ IAmb IAmb 15 28 00.8
comp=Z,58nm,0.9s
SHA1 Shidzhatmaz 72.74 319 *i* P **P** 15 27 57.1 -0.6
KIV Kislovodsk 72.81 319 P **P** 15 27 57.8 -0.2
KIV IAmb IAmb 15 28 24.7
comp=Z,23nm,0.9s
KIV Kislovodsk 72.81 319 *e*P **P** 15 27 58.9 +0.9
KIV pmax pmax
comp=Z,17nm,1.0s
BHW Baring Head 73.08 132 P **P** 15 27 59.2 -0.3
BHW IAmb IAmb 15 30 22.5
comp=Z,68nm,1.1s
PLWZ Palliser 73.38 132 P **P** 15 28 02.1 +0.7
GHAJ Ghor Haditha 73.64 305 P **P** 15 28 03.2 +0.3
GHAJ IAmb IAmb 15 28 06.0
comp=Z,37nm,0.9s
EIL Elat 73.70 303 LR LR 15 58 59.1
comp=Z,94nm,20.7s,baz=117,slow=34
PEA0B Petropavlovsk- 73.91 31 P **P** 15 28 03.2 -0.9
PEA0B IAmb IAmb 15 28 16.0
comp=Z,88nm,1.5s
PEA0B Petropavlovsk- 73.91 31 P **P** 15 28 03.2 -0.9
PEA0B pmax pmax
comp=Z,88nm,1.5s
PETK Petropavlovsk- 73.91 31 P **P** 15 28 03.4 -0.7
PETK Petropavlovsk- 73.91 31 P **P** 15 28 03.9 -0.2
comp=Z,8.1nm,0.7s,baz=266,slow=2.2,SNR=16
PETK LR LR 16 01 59.6
comp=Z,35nm,19.4s,baz=245,slow=37
comp=Z,8.1nm,0.7s
ARPR Arapgir-MALATY 73.95 313 P **P** 15 28 03.2 -1.6
ARPR IAmb IAmb 15 28 07.6
comp=Z,77nm,1.6s
BFZ Birch Farm 74.01 131 P **P** 15 28 05.3 +0.3
BFZ IAmb IAmb 15 28 29.1
comp=Z,48nm,0.8s
BKZ Black Stump Fm 74.02 129 P **P** 15 28 05.3 +0.2
BKZ IAmb IAmb 15 28 07.3
comp=Z,38nm,0.9s
LSZ Lusaka 74.06 256 LR LR 15 56 00.6
comp=Z,125nm,20.8s,baz=102,slow=32
GAZ Gaziantep 74.14 311 P **P** 15 28 04.5 -1.3
GAZ IAmb IAmb 15 28 08.4
comp=Z,33nm,0.9s
MMAI Mount Meron Ar 74.26 306 P **P** 15 28 09.2 +2.5
comp=Z,16nm,0.7s,baz=103,slow=6.3,SNR=16
MMAI LR LR 16 02 06.5
comp=Z,93nm,18.7s,baz=74,slow=37
comp=Z,16nm,0.7s
RTZ Ruatahuna 74.33 129 P **P** 15 28 07.1 0.0
PET Petropavlovsk 74.35 31 P **P** 15 28 05.6 -1.0
PET IAmb IAmb 15 28 06.9
comp=Z,27nm,0.7s
PET Petropavlovsk 74.35 31 *e*P **P** 15 28 06.0 -0.6
PET pmax pmax
comp=Z,53nm,0.7s
URZ Urewera 74.40 128 LR LR 16 03 31.1
comp=Z,170nm,19.4s,baz=28,slow=38
MA2 Magadan 74.61 23 LR LR 16 01 32.4
comp=Z,59nm,20.9s,baz=248,slow=36
SOC Sochi 74.63 318 *e*P **P** 15 28 06.0 -2.5
SOC *e* 15 30 52.7
SOC *e*PPP PPP 15 32 38.9
SOC *e*S **S** 15 37 38.8 -1.1
SOC *e*SS **SS** 15 42 22.2 -6.1
SOC *e*SSS SSS 15 45 47.3
SOC pmax pmax
comp=Z,69nm,1.0s
BNN Bunyan 75.70 312 P **P** 15 28 14.1 -0.9
BNN IAmb IAmb 15 28 16.2
comp=Z,34nm,0.8s
KIRV Kirov 76.41 334 *ce*P **P** 15 28 18.5 +0.2
KIRV Kirov 76.41 334 P **P** 15 28 19.1 +0.8
comp=Z,90nm,0.8s,baz=121,slow=1.8,SNR=38
comp=Z,90nm,0.8s
CSS Mathiatis 76.47 308 P **P** 15 28 20.5 +1.3
LBTB Lobatse 76.48 246 P **P** 15 28 21.4 +1.7
LBTB Lobatse 76.48 246 P **P** 15 28 21.4 +1.7
LBTB pmax pmax
comp=Z,13nm,0.9s
LBTB Lobatse 76.48 246 LR LR 15 55 47.4
comp=Z,298nm,21.5s,baz=85,slow=31
VRH Novokhopyorsk 76.53 325 *e*P **P** 15 28 19.3 +0.1
VRH pmax pmax
comp=Z,77nm,0.8s
ANN Anapa 76.61 318 *e*P **P** 15 28 20.1 +0.4
ANN pmax pmax
comp=Z,88nm,0.9s
BOSA Boshof 76.85 242 P **P** 15 28 23.3 +1.6
BOSA IAmb IAmb 15 28 40.4
comp=Z,25nm,1.0s
BOSA Boshof 76.85 242 P **P** 15 28 23.3 +1.6
BOSA pmax pmax
comp=Z,25nm,1.0s
BOSA Boshof 76.85 242 P **P** 15 28 24.0 +2.3
comp=Z,3.7nm,0.8s,baz=83,slow=9.6,SNR=4.3
BOSA LR LR 15 56 22.1
comp=Z,191nm,19.3s,baz=76,slow=31
comp=Z,3.7nm,0.8s
SEY Seymchan 77.36 21 LR LR 16 05 05.0
comp=Z,69nm,18.4s,baz=255,slow=38
BR131 Keskin Array S 77.60 312 P **P** 15 28 26.2 +0.5
SNR=5.7
BRTR Keskin Array B 77.60 312 P **P** 15 28 25.9 +0.2
comp=Z,15nm,0.8s,baz=133,slow=7.2,SNR=66
BRTR LR LR 16 05 24.8
comp=Z,64nm,20.2s,baz=110,slow=38
comp=Z,15nm,0.8s
VORD Divnogorie 77.82 325 *e*P **P** 15 28 23.8 -2.6
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 78.00 325 *e*P **P** 15 28 25.0 -2.4
VSR pmax pmax
comp=Z,30nm,0.9s
VORR Voronezh 78.16 325 *e*P **P** 15 28 28.6 +0.3
VORR pmax pmax
comp=Z,56nm,0.5s
TIXI Tiksi 78.42 8 P **P** 15 28 27.4 -1.8
TIXI Tiksi 78.42 8 *ce*P **P** 15 28 27.9 -1.4
TIXI Tiksi 78.42 8 LR LR 16 08 00.5
comp=Z,10nm,18.3s,baz=209,slow=39
VNDA Vanda 78.59 169 P **P** 15 28 31.6 +1.3
VNDA IAmb IAmb 15 28 49.5
comp=Z,35nm,1.3s
VNDA Vanda 78.59 169 P **P** 15 28 31.6 +1.3
VNDA pmax pmax
comp=Z,35nm,1.3s
VNDA Vanda 78.59 169 P **P** 15 28 32.0 +1.8
comp=Z,2.8nm,1.0s,baz=294,slow=2.4,SNR=8.2
VNDA PP **PP** 15 31 30.1 +1.6
comp=Z,1.2nm,0.4s,baz=284,slow=18,SNR=8.6
VNDA LR LR 15 58 43.8
comp=Z,146nm,20.6s,baz=302,slow=32
comp=Z,2.8nm,1.0s
LPSR Galich'ya Gora 78.70 326 *e*P **P** 15 28 30.0 -1.2
LPSR pmax pmax
comp=Z,50nm,0.9s
SIM Simferopol' 78.88 318 *e*P **P** 15 28 32.7 +0.3
SIM pmax pmax
comp=Z,40nm,0.7s
MDUB Mudurnu 79.61 313 P **P** 15 28 36.9 +0.3
ELL Elmali 79.61 309 P **P** 15 28 36.7 -0.1
ELL Elmali 79.61 309 P **P** 15 28 36.7 -0.1
ELL pmax pmax
comp=Z,65nm,0.9s
PRGR Permogore 79.67 336 *i*P **P** 15 28 36.8 +0.5
PRGR *e**PP **pP** 15 28 49.3 -3.1
PRGR *e*S **S** 15 38 32.4 -1.5
PRGR pmax pmax
comp=Z,139nm,0.7s
SBA Scott Base 79.68 169 P **P** 15 28 38.5 +2.3
SBA IAmb IAmb 15 28 56.3
comp=Z,26nm,1.0s
SBA Scott Base 79.68 169 P **P** 15 28 38.5 +2.3
SBA pmax pmax
comp=Z,26nm,1.0s
MOS Moscow 80.66 329 *e*P **P** 15 28 41.0 -0.8
MOS *e* 15 28 57.0
MOS pmax pmax
comp=Z,101nm,0.8s
MOS pmax pmax
comp=Z,90nm,0.8s
SUR Sutherland 80.73 238 P **P** 15 28 42.1 -0.9
SUR IAmb IAmb 15 30 04.5
comp=Z,107nm,1.7s
SUR Sutherland 80.73 238 LR LR 16 02 44.1
comp=Z,34nm,18.6s,baz=104,slow=34
ARG Arkhangelos 80.89 308 P **P** 15 28 43.5 +0.1
ARG IAmb IAmb 15 28 45.8
comp=Z,59nm,1.0s
ARG Arkhangelos 80.89 308 P **P** 15 28 43.5 +0.1
ARG pmax pmax
comp=Z,59nm,1.0s
OBN Obninsk 80.97 328 P **P** 15 28 43.9 +0.5
OBN IAmb IAmb 15 28 44.9
comp=Z,48nm,0.8s
OBN Obninsk 80.97 328 *de*P **P** 15 28 43.4 0.0
OBN *e* 15 31 57.6
OBN *e*PPP PPP 15 33 43.9
OBN *e*S sS 15 39 28.0 +13
OBN pmax pmax
comp=Z,107nm,1.7s
OBN MLR MLR
comp=Z,107nm,13.0s
OBN Obninsk 80.97 328 P **P** 15 28 43.7 +0.2
comp=Z,34nm,0.6s,baz=130,slow=5.4,SNR=8.5
comp=Z,34nm,0.6s
KARP Karpathos 81.50 307 P **P** 15 28 48.3 +1.5
BALB Balikesir 81.86 311 P **P** 15 28 49.0 +0.4
BALB IAmb IAmb 15 28 50.7
comp=Z,31nm,0.8s
KLMR Klimovskoe 81.89 334 *e*P **P** 15 28 46.0 -2.2
KLMR AMP 15 28 50.0
comp=Z,104nm,1.3s
KLMR Klimovskoe 81.89 334 *e*P **P** 15 28 45.9 -2.2
KLMR pmax pmax
comp=Z,104nm,1.3s
PURM Purcari 82.18 318 P **P** 15 28 50.8 +0.8
JURR Jurilovca 82.39 316 ⇑P **P** 15 28 52.0 +0.9
TIRR Tirgusor 82.63 316 P **P** 15 28 53.5 +1.0
TIRR Tirgusor 82.63 316 P **P** 15 28 52.7 +0.2
TIRR Tirgusor 82.63 316 P **P** 15 28 52.7 +0.2
TIRR pmax pmax
comp=Z,61nm,1.0s
SHEM Shemya Is, Ala 82.72 35 LR LR 16 07 09.9
comp=Z,15nm,20.5s,baz=309,slow=37
MILM Milestii Mici 82.99 318 ⇑P **P** 15 28 55.2 +0.9
MILM Milestii Mici 82.99 318 ⇑P **P** 15 28 55.2 +0.9
CFR Carcaliu 83.00 317 ⇑P **P** 15 28 55.5 +1.2
CFR Carcaliu 83.00 317 ⇑P **P** 15 28 55.5 +1.2
SANT Santorini 83.02 307 P **P** 15 28 54.8 0.0
HARR Harsova 83.03 316 P **P** 15 28 56.2 +1.7
HARR Harsova 83.03 316 P **P** 15 28 56.2 +1.7
IDI Anoyia 83.27 306 P **P** 15 28 55.2 -0.9
IDI IAmb IAmb 15 28 58.8
comp=Z,31nm,0.9s
IDI Anoyia 83.27 306 LR LR 16 07 13.2
comp=Z,34nm,21.9s,baz=98,slow=36
ALN Alexandroupoli 83.51 312 P **P** 15 28 56.7 -0.4
ALN Alexandroupoli 83.51 312 P **P** 15 28 56.7 -0.4
ALN pmax pmax
comp=Z,16nm,0.9s
SORM Soroca 83.61 319 ⇑P **P** 15 28 58.2 +0.8
SORM Soroca 83.61 319 ⇑P **P** 15 28 58.2 +0.8
LOZB Loznitsa 83.65 315 P **P** 15 28 59.0 +1.3
AKASG Malin Array Be 83.73 322 P **P** 15 28 57.1 -0.9
AKASG IAmb IAmb 15 28 59.7
comp=Z,34nm,1.7s
AKASG Malin Array Be 83.73 322 *i* P **P** 15 28 58.2 +0.2
AKASG pmax pmax
comp=Z,9.0nm,0.7s
AKASG Malin Array Be 83.73 322 P **P** 15 28 58.2 +0.2
comp=Z,2.6nm,0.5s,baz=87,slow=4.6,SNR=30
AKASG PP **PP** 15 32 10.0 -1.7
comp=Z,3.4nm,0.8s,baz=91,slow=6.4,SNR=6.4
comp=Z,2.6nm,0.5s
AKBB Malin Array Si 83.73 322 P **P** 15 28 57.9 -0.1
AKBB Malin Array Si 83.73 322 *ce*P **P** 15 28 57.2 -0.8
KIEV Kiev 83.74 322 ⇑P **P** 15 28 58.4 +0.4
KIEV Kiev 83.74 322 P **P** 15 28 57.9 -0.1
KIEV Kiev 83.74 322 P **P** 15 28 57.9 -0.1
KIEV pmax pmax
comp=Z,12nm,0.8s
RAZG Razgrad 83.76 315 P **P** 15 28 59.5 +1.2
RDO Rodhopi 83.94 312 P **P** 15 28 59.0 -0.2
TSUM Tsumeb 84.05 251 P **P** 15 29 00.1 -0.4
TSUM Tsumeb 84.05 251 LR LR 16 03 04.7
comp=Z,181nm,18.8s,baz=156,slow=33
ELND Elena 84.07 314 ⇑P **P** 15 29 01.3 +1.4
VRI Vrincioaia 84.13 317 ⇑P **P** 15 29 02.2 +2.0
VRI Vrincioaia 84.13 317 ⇑P **P** 15 29 02.2 +2.0
PLOR Plostina 84.18 317 ⇑P **P** 15 29 02.4 +1.9
PLOR Plostina 84.18 317 ⇑P **P** 15 29 02.4 +1.9
TESR Tescani 84.33 318 ⇑P **P** 15 29 02.8 +1.6
GIRR Girov 84.53 318 ⇑P **P** 15 29 03.7 +1.6
MLR Muntele Rosu 84.58 316 ⇑P **P** 15 29 04.3 +1.7
MLR Muntele Rosu 84.58 316 P **P** 15 29 02.7 +0.1
MLR IAmb IAmb 15 29 05.3
comp=Z,30nm,1.0s
MLR Muntele Rosu 84.58 316 P **P** 15 29 02.7 +0.1
MLR pmax pmax
comp=Z,30nm,1.0s
TURR Turia 84.66 317 P **P** 15 29 04.0 +1.1
QSPA South Pole Qui 84.91 180 P **P** 15 29 04.2 +0.3
BILL Bilibino 84.99 20 P **P** 15 29 02.8 -1.2
BILL Bilibino 84.99 20 ⇑P **P** 15 29 03.7 -0.3
PLVB Pleven 85.06 314 ⇑P **P** 15 29 06.6 +1.7
DOPR Dopca 85.06 317 ⇑P **P** 15 29 06.3 +1.4
VOIR 85.18 316 ⇓P **P** 15 29 06.5 +0.9
VOIR 85.18 316 ⇓P **P** 15 29 06.5 +0.9
BURAR Bucovina Array 85.53 318 ⇑P **P** 15 29 09.5 +2.2
BURAR Bucovina Array 85.53 318 P **P** 15 29 09.1 +1.8
BURAR Bucovina Array 85.53 318 ⇑P **P** 15 29 09.5 +2.2
MNK Minsk 85.53 326 *i* P **P** 15 29 04.0 -3.0
comp=E,9.0nm,0.8s
MNK *i* P **P** 15 29 04.0 -3.0
comp=N,20nm,0.8s
MNK *i* P **P** 15 29 04.0 -3.0
comp=Z,18nm,0.6s,baz=285
MNK *i* pP **pP** 15 29 18.6 -4.5
MNK *i* PP **PP** 15 32 22.9 -3.3
MNK *i* PPP PPP 15 34 16.4
MNK *i* S **SKSac** 15 39 24.1 -3.1
MNK *i* sS **pS** 15 39 50.1 -4.6
MNK *i* SS **SS** 15 45 10.0 -0.8
MNK *i* SSS SSS 15 48 41.5
MNK *i* LQ LQ 16 02 10.2
MNK *i* LR LR 16 06 20.5
MNK *i* LRM MLR 16 07 18.9
comp=Z,130nm,18.9s
MNK *i* LRM MLR 16 08 16.3
comp=N,150nm,25.8s
MNK *i* LRM MLR 16 09 19.1
comp=E,47nm,18.1s
MNK Minsk 85.53 326 *i* P **P** 15 29 04.0 -3.0
MNK *i* *PP **pP** 15 29 18.6 -4.5
MNK *i* 15 32 22.9
MNK *i* PPP PPP 15 34 16.3
MNK *i* S **SKSac** 15 39 24.1 -3.1
MNK *i* SS **SS** 15 45 10.0 -0.8
MNK *i* SSS SSS 15 48 41.5
MNK pmax pmax
comp=E,9.0nm,0.8s
MNK pmax pmax
comp=Z,18nm,0.6s
MNK pmax pmax
comp=N,20nm,0.8s
MNK MLR MLR
comp=Z,130nm,19.0s
MNK MLR MLR
comp=N,150nm,26.0s
MNK MLR MLR
comp=E,47nm,18.0s
BUR08 Bucovina Ar. S 85.55 318 P **P** 15 29 08.9 +1.5
BUR08 IAmb IAmb 15 29 10.0
comp=Z,15nm,0.7s
NVL N'lazarevskaya 85.64 199 *e*P **P** 15 29 08.4 +1.1
NVL pmax pmax
comp=Z,11nm,0.9s
AGG Agios Georgios 85.95 310 P **P** 15 29 09.2 -0.3
AGG Agios Georgios 85.95 310 P **P** 15 29 09.2 -0.3
AGG pmax pmax
comp=Z,15nm,1.4s
NACGM **Naroch** 86.25 326 *e*P **P** 15 29 12.5 +1.9
comp=Z,42nm,1.0s,baz=104
IDID Didziasalis 86.38 326 *e*P **P** 15 29 11.5 +0.4
BLKB Belogradchik 86.50 314 ⇑P **P** 15 29 13.5 +1.4
LVZ Lovozero 86.69 339 P **P** 15 29 12.5 0.0
LVZ Lovozero 86.69 339 *ce*P **P** 15 29 12.4 0.0
LVZ pmax pmax
comp=Z,100nm,1.7s
GZR Gura Zlata 86.75 316 ⇑P **P** 15 29 14.6 +1.3
GZR Gura Zlata 86.75 316 ⇑P **P** 15 29 14.6 +1.3
MARR Marisel-Cluj 86.75 317 ⇓P **P** 15 29 15.1 +1.8
IZAR Zarasai 86.76 327 *e*P **P** 15 29 13.6 +0.6
LVV L'vov 86.76 320 *e*P **P** 15 29 12.8 -0.4
ISAL Salakas 86.78 326 *e*P **P** 15 29 13.7 +0.6
FNA Florina 86.97 311 P **P** 15 29 13.6 -0.8
FNA Florina 86.97 311 P **P** 15 29 13.6 -0.8

FNA pmax pmax
comp=Z,3.0nm,1.0s
SURR Surduc 87.26 316 ⇑P **P 15 29 17.4 +1.8**
MDVR Moldovita 87.38 315 ⇑P **P 15 29 18.0 +1.7**
KWP Kalwaria Pacla 87.57 320 P **P 15 29 17.0 -0.1**
KWP Kalwaria Pacla 87.57 320 P **P 15 29 17.0 -0.1**
KWP pmax pmax
comp=Z,60nm,1.6s
BZS Buzias 87.59 316 ⇑P **P 15 29 18.9 +1.6**
BZS Buzias 87.59 316 ⇑P **P 15 29 18.9 +1.6**
PABE Paberze 87.96 326 P **P 15 29 19.4 +0.6**
PABE Paberze 87.96 326 *e*P **P 15 29 19.2 +0.4**
KEK Kerkira 88.00 310 P **P 15 29 19.7 +0.3**
VSVD Vaisvydziai 88.08 326 *e*P **P 15 29 19.9 +0.6**
SUW Suwalki 88.11 324 P **P 15 29 19.5 0.0**
SUW Suwalki 88.11 324 *e*P **P 15 29 19.7 +0.2**
SUW Suwalki 88.11 324 P **P 15 29 19.5 0.0**
SUW pmax pmax
comp=Z,108nm,1.1s
FINES FINESS Array B 88.21 332 P **P 15 29 20.4 +0.6**
FINES FINESS Array B 88.21 332 P **P 15 29 20.7 +0.9**
comp=Z,15nm,0.7s,baz=107,slow=4.6,SNR=41
FINES LR LR 16 12 47.7
comp=Z,82nm,19.4s,baz=356,slow=38
comp=Z,15nm,0.7s
TROLL Troll, Antarti 88.45 198 ⇑P **P 15 29 24.6 +3.5**
comp=Z,144nm,0.5s
TROLL Troll, Antarti 88.45 198 ⇓P pP 15 29 35.7 -1.5
comp=Z,144nm,0.5s
STHS Stebnicka Huta 88.47 320 *e*P **P 15 29 22.5 +1.1**
STHS Stebnicka Huta 88.47 320 *e*P **P 15 29 22.5 +1.1**
STHS pmax pmax
comp=Z,15nm,0.8s
DIVS Divibare 88.49 314 P **P 15 29 22.5 +0.8**
DIVS IAmb IAmb 15 29 24.5
comp=Z,35nm,1.3s
FRGS Fruska Gora 88.77 315 P **P 15 29 24.0 +1.1**
PDG Podgorica 88.78 313 P **P 15 29 23.3 +0.3**
PDG IAmb IAmb 15 29 25.2
comp=Z,27nm,1.0s
PSZ Piszkesteto 89.12 318 ⇑P **P 15 29 25.4 +0.8**
PSZ Piszkesteto 89.12 318 P **P 15 29 24.7 +0.1**
PSZ IAmb IAmb 15 29 49.0
comp=Z,40nm,1.6s
PSZ Piszkesteto 89.12 318 P **P 15 29 24.7 +0.1**
PSZ pmax pmax
comp=Z,40nm,1.6s
OJC Ojcow 89.52 320 P **P 15 29 27.0 +0.7**
OJC IAmb IAmb 15 29 28.9
comp=Z,49nm,1.8s
OJC Ojcow 89.52 320 P **P 15 29 27.0 +0.7**
OJC pmax pmax
comp=Z,49nm,1.8s
MORH Mrgy, Hungar 89.73 316 ⇑P **P 15 29 28.7 +1.4**
KEV Kevo 89.91 340 P **P 15 29 27.7 +0.1**
KEV Kevo 89.91 340 P **P 15 29 27.7 +0.1**
KEV pmax pmax
comp=Z,238nm,2.0s
SNAA Sanae 90.17 198 P **P 15 29 29.0 0.0**
SNAA IAmb IAmb 15 29 49.8
comp=Z,22nm,1.2s
SNAA Sanae 90.17 198 ⇑P **P 15 29 32.2 +3.2**
SNAA Sanae 90.17 198 ⇓P pP 15 29 43.5 -1.7
SNAA Sanae 90.17 198 *i* P **P 15 29 28.0 -1.0**
SNAA pmax pmax
comp=Z,3.0nm,1.1s
SNAA Sanae 90.17 198 P **P 15 29 32.0 +3.0**
comp=Z,2.1nm,0.9s,baz=111,slow=2.7,SNR=3.5
SNAA LR LR 16 03 37.5
comp=Z,200nm,19.7s,baz=22,slow=31
comp=Z,2.1nm,0.9s
ARCES ARCESS Array B 90.36 340 P **P 15 29 30.3 +0.5**
ARCES ARCESS Array B 90.36 340 P **P 15 29 30.3 +0.5**
ARCES pmax pmax
comp=Z,25nm,0.9s
ARCES ARCESS Array B 90.36 340 P **P 15 29 30.2 +0.5**
comp=Z,14nm,0.7s,baz=100,slow=6.6,SNR=54
ARCES LR LR 16 14 11.3
comp=Z,179nm,19.9s,baz=96,slow=38
comp=Z,14nm,0.7s
CEL Celeste 90.84 308 P **P 15 29 34.0 +1.2**
MORC Moravsky Berou 90.91 320 ⇑P **P 15 29 33.7 +0.9**
MORC Moravsky Berou 90.91 320 P **P 15 29 33.2 +0.4**
MORC IAmb IAmb 15 29 35.1
comp=Z,10nm,1.0s
MORC Moravsky Berou 90.91 320 P **P 15 29 33.2 +0.4**
MORC pmax pmax
comp=Z,10.0nm,1.0s
MODS Modra-Piesok 90.92 318 *e*P **P 15 29 34.6 +1.7**
MODS Modra-Piesok 90.92 318 *e*P **P 15 29 34.6 +1.7**
MODS pmax pmax
comp=Z,36nm,1.2s
KRLC Kraliky 91.43 320 *e*P **P 15 29 37.1 +1.9**
KRLC *e*pP **pP 15 29 53.2 +1.7**
KRLC Kraliky 91.43 320 *e*P **P 15 29 37.1 +1.9**
KRLC *e* 15 29 53.2
VRAC Vranov 91.47 319 LR LR 16 15 28.7
comp=Z,46nm,18.2s,baz=60,slow=39
DPC Dobruska-Polom 91.75 320 *e*P **P 15 29 38.6 +1.9**
DPC *e*pP **pP 15 29 54.8 +1.9**
DPC Dobruska-Polom 91.75 320 *e*P **P 15 29 38.6 +1.9**
DPC *e* 15 29 54.8
GOLS Golise 91.79 316 *i* P **P 15 29 38.6 +1.6**
GROS Grobnik 91.92 316 *i* P **P 15 29 39.0 +1.4**
BOJS Bojanci 92.01 315 *i* P **P 15 29 39.4 +1.5**
PRU Pruhonice 92.86 320 *e*P **P 15 29 43.3 +1.5**
PRU Pruhonice 92.86 320 *e*P **P 15 29 43.3 +1.5**
NIKH Nikolski High 92.88 37 P **P 15 29 41.9 +0.1**
baz=266
CKRC Cesky Krumlov 92.92 319 *e*P **P 15 29 43.6 +1.5**
CKRC Cesky Krumlov 92.92 319 *e*P **P 15 29 43.6 +1.5**
PRED Cave del Predi 93.25 316 P **P 15 29 43.5 -0.3**
PRED IAmb IAmb 15 30 03.9
comp=Z,36nm,1.7s
GERES GERESS Array B 93.32 319 P **P 15 29 45.5 +1.4**
comp=Z,1.7nm,0.6s,baz=72,slow=4.3,SNR=7.4
comp=Z,1.7nm,0.6s
KHC Kasperske Hory 93.42 319 *e*P **P 15 29 45.1 +0.6**
KHC *e*pP **pP 15 30 01.4 +0.7**
KHC Kasperske Hory 93.42 319 *ce*P **P 15 29 44.5 0.0**
KHC pmax pmax
comp=Z,5.0nm,0.9s
CLUD Cludinico 93.72 316 P **P 15 29 45.4 -0.5**
CLUD IAmb IAmb 15 30 04.7
comp=Z,19nm,1.3s
HFS Hagfors 94.02 330 P **P 15 29 47.2 +0.3**
comp=Z,9.4nm,0.9s,baz=151,slow=3.4,SNR=9.5
HFS LR LR 16 14 52.7
comp=Z,78nm,18.7s,baz=354,slow=37
comp=Z,9.4nm,0.9s
CIMO Cimolais 94.02 316 P **P 15 29 46.8 -0.5**
CIMO IAmb IAmb 15 30 08.1
comp=Z,7.4nm,0.8s
SPITS Spitsbergen Ar 94.23 348 P **P 15 29 47.1 -0.5**
comp=Z,8.2nm,0.7s,baz=116,slow=7.5,SNR=8.7
SPITS LR LR 16 17 19.3
comp=Z,254nm,19.9s,baz=63,slow=39
comp=Z,8.2nm,0.7s
NB2 NORSAR Subarra 95.27 331 P **P 15 29 52.6 -0.1**
comp=Z,6.5nm,1.2s,baz=91,slow=5.1
NOA NORSAR Array B 95.27 331 P **P 15 29 52.5 -0.1**
comp=Z,2.3nm,0.9s,baz=95,slow=5.0,SNR=4.1
NOA LR LR 16 16 57.4
comp=Z,74nm,18.1s,baz=270,slow=38
comp=Z,2.3nm,0.9s
C16K Lisburne Hills 95.28 22 P **P 15 29 52.4 0.0**
baz=270
F15K North Star Dit 95.55 25 P **P 15 29 53.9 +0.2**
baz=270
G15K Niukluk 95.81 25 P **P 15 29 55.0 0.0**
baz=271
KEST Kesra 95.90 305 P **P 15 29 57.7 +1.5**
comp=Z,3.1nm,0.7s,baz=355,slow=5.8,SNR=3.8
comp=Z,3.1nm,0.7s
KONO Kongsberg 96.07 329 *ce*P **P 15 29 55.3 -0.9**
KONO pmax pmax
comp=Z,34nm,1.2s
C17K DeLong Mountai 96.08 22 P **P 15 29 56.3 +0.2**
baz=272
D17K Noatak River 96.14 23 P **P 15 29 56.9 +0.5**
baz=272
G16K Koyuk River 96.51 25 P **P 15 29 58.3 +0.2**
G16K Koyuk River 96.51 25 P **P 15 29 58.6 +0.4**
baz=272
B18K Kokolik River 96.54 21 P **P 15 29 59.4 +1.2**
baz=273
H16K Elim 96.58 26 P **P 15 29 58.9 +0.4**
baz=272
E17K Hotham Inlet 96.65 23 P **P 15 29 59.5 +0.8**
baz=273
A19K Wainwright 96.74 20 P **P 15 29 59.9 +0.8**
baz=274
C18K Utukok River 96.80 22 P **P 15 29 58.9 -0.6**
C18K Utukok River 96.80 22 P **P 15 29 59.4 -0.1**
baz=274
M14K Bethel 96.85 30 P **P 15 30 00.7 +1.0**
baz=272
F17K Baldwin Pennin 96.91 24 P **P 15 30 00.1 +0.2**
baz=273
K15K Wolf Creek Mou 97.00 28 P **P 15 30 01.6 +1.2**
baz=273
E18K Tukpahlearik C 97.10 23 P **P 15 30 00.8 0.0**
baz=274
G17K Kiwalik Mounta 97.21 25 P **P 15 30 01.1 -0.2**
baz=274
C19K Lookout Ridge 97.35 21 P Pdif 15 30 02.3 +0.3
baz=275
J16K Anvik River 97.37 27 IAmb IAmb 15 30 04.0
comp=Z,12nm,0.9s
J16K Anvik River 97.37 27 P Pdif 15 30 02.4 +0.3
baz=274
H17K Granite Mounta 97.56 25 P Pdif 15 30 03.6 +0.6
baz=274
D19K Kuna River 97.94 22 P **P 15 30 04.4 -0.2**
D19K IAmb IAmb 15 30 05.5
comp=Z,7.8nm,0.9s
D19K Kuna River 97.94 22 P Pdif 15 30 04.9 +0.3
baz=276
B20K Meade River 98.10 20 P Pdif 15 30 05.9 +0.7
baz=278
H18K Honhosa River 98.20 25 P Pdif 15 30 06.1 +0.3
baz=276
F19K Shaleruckik Mo 98.26 23 IAmb IAmb 15 30 06.7
comp=Z,8.7nm,1.0s
F19K Shaleruckik Mo 98.26 23 P **P 15 30 05.6 -0.4**
baz=277
E19K Redstone River 98.39 23 IAmb IAmb 15 30 08.2
comp=Z,8.3nm,0.9s
E19K Redstone River 98.39 23 P Pdif 15 30 07.1 +0.4
baz=277
D20K Etivluk River 98.46 21 P Pdif 15 30 07.4 +0.4
baz=278
K17K Iditarod 98.46 27 P Pdif 15 30 08.0 +1.0
baz=276
L17K Donlin 98.52 28 P Pdif 15 30 07.4 +0.1
baz=275
G19K Purcell Mounta 98.61 24 P **P 15 30 07.2 -0.4**
G19K IAmb IAmb 15 30 08.8
comp=Z,7.6nm,0.9s
G19K Purcell Mounta 98.61 24 P Pdif 15 30 07.8 +0.1
baz=277
A22K Sinclair Lake 98.67 19 P Pdif 15 30 08.0 +0.2
baz=280
E20K Nigu River 98.68 22 P Pdif 15 30 08.0 +0.1
baz=278
H19K Roundabout Mou 98.95 24 IAmb IAmb 15 30 10.8
comp=Z,8.6nm,0.9s
H19K Roundabout Mou 98.95 24 P Pdif 15 30 09.8 +0.7
baz=278
B21K Ikpikpuk River 99.03 20 **Pdif 15 30 09.0 -0.3**
B21K IAmb IAmb 15 30 10.6
comp=Z,12nm,0.8s
B21K Ikpikpuk River 99.03 20 P **Pdif 15 30 09.4 0.0**
baz=280
F20K Avaraart Lake 99.03 23 IAmb IAmb 15 30 10.6
comp=Z,5.5nm,0.8s
F20K Avaraart Lake 99.03 23 P **Pdif 15 30 09.7 +0.3**
baz=278
C21K Knifeblade Rid 99.05 21 P **Pdif 15 30 09.5 0.0**
baz=280
J18K Innoko River 99.10 27 P **Pdif 15 30 09.8 -0.1**
baz=277
B22K Teshekpuk Lake 99.30 19 IAmb IAmb 15 30 11.7
comp=Z,16nm,1.1s
B22K Teshekpuk Lake 99.30 19 P **Pdif 15 30 10.6 0.0**
baz=281
E21K Killik River 99.46 21 IAmb IAmb 15 30 12.3
comp=Z,12nm,0.9s
E21K Killik River 99.46 21 P **Pdif 15 30 11.5 +0.1**
baz=280
J19K Poorman 99.51 26 P **Pdif 15 30 11.9 +0.2**
baz=278
H20K Anotleneega Mo 99.61 24 P **Pdif 15 30 12.4 +0.4**
baz=279
D22K Ayikyak River 99.84 21 P **Pdif 15 30 13.3 +0.2**
baz=282
F21K Alatna River 99.87 23 Pdif **Pdif 15 30 13.2 -0.1**
F21K Alatna River 99.87 23 P **Pdif 15 30 13.1 -0.1**
baz=281
G21K Allakaket 99.99 23 P **Pdif 15 30 13.4 -0.4**
baz=280
F22K John River 100.31 22 P **Pdif 15 30 15.7 +0.5**
baz=282
E22K Anaktuvuk Pass 100.31 22 Pdif **Pdif 15 30 14.9 -0.3**
E22K Anaktuvuk Pass 100.31 22 P **Pdif 15 30 15.7 +0.5**
baz=282
C23K Killik River 100.35 20 P **Pdif 15 30 15.1 -0.2**
baz=284
H21K Melozitna Rive 100.43 24 P **Pdif 15 30 15.3 -0.4**
baz=281
N19K Bonanza Creek 100.50 29 P **Pdif 15 30 17.0 +0.7**
baz=279
D23K Nanushuk River 100.53 21 P **Pdif 15 30 16.5 +0.4**
baz=284
TOLK Toolik Lake Re 101.00 21 Pdif **Pdif 15 30 17.9 -0.4**
TOLK Toolik Lake Re 101.00 21 P **Pdif 15 30 18.0 -0.3**
baz=285
C24K Franklin Bluff 101.02 20 P **Pdif 15 30 17.9 -0.3**
baz=286
E23K Chandalar 101.13 21 P **Pdif 15 30 18.7 -0.2**
baz=284
D24K Happy Valley 101.13 20 P **Pdif 15 30 18.4 -0.4**
baz=285
G23K Bananza Creek 101.31 23 P **Pdif 15 30 19.6 0.0**
baz=284
F24K Squaw Lake 101.91 22 P **Pdif 15 30 23.2 +0.8**
baz=286
D25K Kavik River 101.92 20 Pdif **Pdif 15 30 22.0 -0.3**
D25K Kavik River 101.92 20 P **Pdif 15 30 22.3 0.0**
baz=288
TORD Torodi Ar. Bea 102.14 282 PP **PP 15 34 40.6 +3.5**
comp=Z,0.2nm,0.5s,baz=60,slow=38,SNR=1.6
C26K Camden Bay 102.22 19 P **Pdif 15 30 24.1 +0.5**
baz=289
ILAR Eielson Array 103.06 24 P **Pdif 15 30 27.7 +0.3**
comp=Z,0.3nm,0.7s,baz=307,slow=5.0,SNR=4.3
ILAR PP **PP 15 34 40.8 -1.6**
comp=Z,0.1nm,0.5s,baz=285,slow=7.1,SNR=2.3
TBI Tubuai 103.95 115 *e*LR LR 16 04 59.7
comp=Z,718nm,32.8s
PPT2 Papeete2 104.95 110 *e*LR LR 16 05 19.8
comp=Z,140nm,23.5s
PPT2 *e*LR LR 16 05 23.3
comp=Z,137nm,25.8s
E29M Blow River 105.12 20 P **PKiKP 15 34 51.2 +0.6**
baz=296
H09N1 TRISTAN DA CUN 106.75 229 T T 17 28 07.7
SNR=25
TAOE Nuku Hiva Isla 115.53 102 *e*LR LR 16 10 03.4
comp=Z,228nm,27.3s
YKA Yellowknife Ar 116.36 18 PKP **PKiKP 15 35 12.1 +0.1**
comp=Z,1.6nm,0.8s,baz=318,slow=2.0,SNR=17
NEW Newport 125.04 32 P **PKiKP 15 35 30.1 +0.5**
baz=308
FFC Flin Flon 126.53 18 PKPdf **PKPdf 15 35 31.9 +0.2**
FFC Flin Flon 126.53 18 PKIKP **PKPdf 15 35 32.0 +0.2**
MSO Missoula 127.61 31 PKPdf **PKPdf 15 35 34.5 +0.2**
MSO Missoula 127.61 31 P **PKPdf 15 35 34.6 +0.2**
baz=311
EGMT Eagleton 128.85 28 P **PKiKP 15 35 37.3 0.0**
baz=316
HLID Hailey 129.44 35 P **PKiKP 15 35 39.7 +0.9**
baz=309
BOZ Bozeman (W) 129.63 31 P **PKiKP 15 35 39.3 +0.2**
baz=313
NVAR Mina Array Bea 129.93 43 **PKPdf 15 35 38.6 -0.5**
NVAR Mina Array Bea 129.93 43 PKP **PKiKP 15 35 40.3 +0.4**
comp=Z,2.6nm,0.7s,baz=318,slow=2.0,SNR=13
NVAR SKPbc SKPbc 15 38 58.0 +1.1
comp=Z,1.0nm,0.6s,baz=268,slow=5.0,SNR=4.3
DGMT Dagmar 130.92 24 P **PKiKP 15 35 42.5 +1.2**
baz=323
CWC Cottonwood Cre 131.09 45 P **PKiKP 15 35 42.5 +0.3**
baz=300
LAO LASA Array 131.45 27 P **PKiKP 15 35 42.3 -0.2**
baz=320
MPMC Manual Prospec 131.69 45 P **PKiKP 15 35 43.8 +0.3**
baz=300
R11B Troy Canyon, C 131.78 41 P **PKiKP 15 35 43.2 -0.4**
baz=304
LRMC Laurel Mtn Rad 131.84 46 P **PKiKP 15 35 44.7 +1.0**
baz=300
EDW2 Edwards Air Fo 131.91 46 P **PKiKP 15 35 44.7 +0.9**
baz=299
ULM Lac du Bonnet 132.25 16 PKP **PKPdf 15 35 42.8 -0.1**
comp=Z,7.1nm,0.8s,baz=329,slow=5.4,SNR=11
DUG Dugway, Tooele 132.46 37 P **PKPdf 15 35 44.3 +0.5**
baz=308
GSC Goldstone, Bar 132.55 45 P **PKiKP 15 35 45.4 +0.3**
baz=300
BW06 Boulder Array 132.65 33 P **PKiKP 15 35 44.8 -0.5**
baz=313
PDAR Pinedale Array 132.65 33 PKP **PKPdf 15 35 44.7 +0.5**
comp=Z,0.7nm,0.5s,baz=111,slow=0.8,SNR=6.9
PDAR SKPbc **SKPab 15 39 07.9 0.0**
comp=Z,0.5nm,0.5s,baz=270,slow=0.6,SNR=5.0
HEC Hector,Ludlow 133.12 46 P **PKiKP 15 35 46.1 -0.2**
baz=300
GMRC Granite Mounta 133.62 45 P **PKiKP 15 35 47.6 +0.2**
baz=301
PFO Pinyon Flats O 133.63 47 P **PKiKP 15 35 48.2 +0.8**
baz=299
PFO Pinyon Flats O 133.63 47 *i* PKIKP **PKPdf 15 35 46.1 0.0**
TPFO Pinon Flats 133.64 47 P **PKiKP 15 35 48.4 +0.9**
baz=299
BELC Belle Mtn. Jos 133.78 46 P **PKiKP 15 35 47.7 0.0**
baz=300
MONP2 Monument Peak 134.00 48 P **PKiKP 15 35 48.2 -0.1**
baz=299
PLCA Paso Flores 134.04 187 PKP **PKiKP 15 35 49.1 +1.1**
comp=Z,2.1nm,1.0s,baz=232,slow=17,SNR=2.7
PLCA SKPbc **SKPab 15 39 12.6 -1.1**
comp=Z,2.0nm,0.8s,baz=152,slow=3.4,SNR=3.7
K22A Casper 134.31 31 P **PKiKP 15 35 48.2 -0.4**
baz=317
RSSD Black Hills 134.41 27 PKPdf **PKPdf 15 35 46.8 -0.6**
RSSD Black Hills 134.41 27 P **PKPdf 15 35 47.9 +0.4**
baz=321
RSSD Black Hills 134.41 27 PKIKP **PKPdf 15 35 46.8 -0.6**
O20A White River Ci 135.17 34 P **PKiKP 15 35 50.1 -0.4**
baz=313
EYMN Ely 135.50 14 P **PKiKP 15 35 51.1 +0.5**
baz=339
WUAZ Wupatki 136.16 42 P **PKiKP 15 35 52.0 -0.6**
baz=306
F36A Milaca 136.89 17 P **PKiKP 15 35 53.2 -0.2**
baz=336
W18A Petrified Fore 137.48 41 P **PKPdf 15 35 54.1 +0.7**
baz=307
S22A 4UR Ranch, Cre 137.60 36 P **PKPdf 15 35 54.1 +0.4**
baz=313
ECSD EROS Data Cent 137.78 21 P **PKPdf 15 35 54.3 +0.9**
baz=330
ECSD EROS Data Cent 137.78 21 P **PKPdf 15 35 53.8 +0.3**
baz=330
SDCO Great Sand Dun 138.36 35 P **PKPdf 15 35 55.2 +0.1**
baz=314
SDCO Great Sand Dun 138.36 35 P **PKPdf 15 35 55.7 +0.7**
baz=314
T25A Trinidad 139.40 34 P **PKiKP 15 35 58.1 -1.1**
baz=315
ANMO Albuquerque 139.68 39 P **PKiKP 15 35 58.9 -0.9**
baz=311
Y22A Socorro 140.01 40 P **PKiKP 15 35 59.6 -0.9**
baz=310
CPUP Villa Florida 143.44 210 PKP **PKPdf 15 36 03.2 -0.9**
comp=Z,2.2nm,0.8s,baz=132,slow=2.8,SNR=4.4
T35A Sooner Cattle 143.60 27 PKPdf PKPab 15 36 01.1 +0.4
CO03 El Pedregal 143.79 189 PKPbc 15 36 02.2 -0.2
OK033 Mehan 144.12 28 **PKPab 15 36 02.6 -0.1**
R40A Maddies Statio 144.12 21 P **PKPab 15 36 02.7 +0.1**
baz=334,SNR=7.9
WMOK Wichita Mounta 144.24 32 P PKPbc 15 36 03.8 +0.2
baz=321
WMOK Wichita Mounta 144.24 32 P PKPbc 15 36 03.4 -0.2
baz=321,SNR=27
S39A Bolivar 144.27 22 P **PKPab 15 36 03.2 0.0**
baz=332,SNR=5.4
OK030 Cody Creek RV 144.29 28 **PKPab 15 36 03.3 0.0**
N58A Sunbury 144.38 360 PKPbc 15 36 03.9 +0.1
N58A Sunbury 144.38 360 P **PKPab 15 36 03.6 +0.1**
baz=0.6
N58A P **PKPab 15 36 03.6 +0.1**
baz=0.6
O49A Covington 144.41 10 P **PKPab 15 36 03.5 -0.1**
baz=348
O49A P **PKPab 15 36 03.5 -0.1**
baz=348
SN01 Snyder 1 144.47 36 PKPdf PKPbc 15 36 04.3 -0.1
ACSO Alum Creek Sta 144.57 8 P PKPbc 15 36 04.4 0.0
baz=350
ACSO Alum Creek Sta 144.57 8 P **PKPab 15 36 04.0 -0.2**
baz=350,SNR=6.7
SSPA Standing Stone 144.58 1 P **PKPab 15 36 04.1 -0.1**
baz=359
SSPA Standing Stone 144.58 1 P **PKPab 15 36 04.2 0.0**
baz=359
Q44A Meyer Farm, Va 144.59 16 P PKPbc 15 36 04.5 0.0
baz=339
CCM Cathedral Cave 144.69 20 PKPdf **PKPab 15 36 04.3 -0.4**
CCM Cathedral Cave 144.69 20 P **PKPab 15 36 04.4 -0.4**
baz=335
CCM Cathedral Cave 144.69 20 P **PKPab 15 36 03.6 -1.0**
baz=335,SNR=11
CCM Cathedral Cave 144.69 20 PKIKP **PKPab 15 36 04.3 -0.4**
BDFB Brasilia 144.70 234 PKP **PKPdf 15 36 07.6 +0.9**
comp=Z,7.4nm,0.7s,baz=194,slow=6.3,SNR=11
TUL3 Leonard 144.76 27 P **PKPab 15 36 04.7 -0.3**
baz=326
TUL3 Leonard 144.76 27 P **PKPab 15 36 05.0 0.0**
baz=326,SNR=11
O53A New Philadelph 144.77 6 P **PKPab 15 36 04.4 -0.5**
baz=353
PANJ Princeton 144.78 357 P PKPbc 15 36 05.2 +0.2
baz=4.0
O52A Adamsville 144.83 6 PKPdf **PKPab 15 36 04.0 -1.1**
O52A Adamsville 144.83 6 P **PKPab 15 36 05.1 -0.1**
baz=352,SNR=6.3
O52A P **PKPab 15 36 05.1 -0.1**
baz=352,SNR=6.3
P48A Milroy 144.92 11 **PKPab 15 36 04.6 -0.9**
P48A Milroy 144.92 11 P **PKPab 15 36 05.4 -0.1**
baz=345,SNR=6.9
P48A P **PKPab 15 36 05.4 -0.1**
baz=345,SNR=6.9
U38A Gravette 144.92 25 P **PKPab 15 36 05.4 -0.3**
baz=329,SNR=28
PABK Blue Knob Stat 144.93 2 P **PKPab 15 36 05.1 -0.5**
baz=357
P49A Miami Univ. Ec 144.98 10 P **PKPab 15 36 05.3 -0.5**
baz=347
P49A Miami Univ. Ec 144.98 10 P **PKPab 15 36 05.2 -0.5**
baz=347,SNR=10
OLIL Olney 145.00 15 P PKPbc 15 36 06.1 +0.3
baz=341
TUPA Temple Univers 145.02 358 P **PKPdf 15 36 06.2 -0.2**
baz=3.2
FVM French Village 145.02 19 P **PKPbc 15 36 05.6 -0.3**
baz=336,SNR=9.3
TX31 Lajitas Ar. Si 145.08 43 P **PKPdf 15 36 07.5 +0.5**
baz=309
TXAR Lajitas Array 145.08 43 PKP **PKPdf 15 36 07.8 +0.7**
comp=Z,23nm,0.7s,baz=275,slow=1.4,SNR=160
TXAR SKPbc **SKiKP 15 39 42.7 +0.4**
comp=Z,0.9nm,0.9s,baz=278,slow=2.6,SNR=3.2
HHAR Hobbs 145.24 24 **PKPbc 15 36 06.0 -0.7**
PSUB Penn St. - Bra 145.27 358 P **PKPbc 15 36 06.2 -0.4**
baz=2.8
P52A Corning 145.27 7 P **PKPdf 15 36 07.0 +0.1**
baz=351
P51A Williamsport 145.30 8 P **PKPbc 15 36 06.6 -0.2**
baz=350,SNR=6.4
P51A P **PKPbc 15 36 06.6 -0.2**
baz=350,SNR=6.4
ABTX Abilene, Hawle 145.37 35 P **PKPab 15 36 07.6 +0.1**
baz=318
ABTX Abilene, Hawle 145.37 35 P **PKPbc 15 36 07.3 0.0**
baz=318,SNR=9.9
GEDE Greenville 145.39 358 P **PKPbc 15 36 06.5 -0.5**
baz=2.5,SNR=7.3
MCWV Mont Chateau 145.47 4 P **PKPab 15 36 08.0 +0.5**

baz=355
MCWV **Mont Chateau** 145.47 4 P PKPdf 15 36 07.1 -0.1
baz=355,SNR=9.0
P53A **Whipple** 145.50 6 P PKPdf 15 36 06.4 -0.9
baz=352,SNR=10
P53A P PKPdf 15 36 06.4 -0.9
baz=352,SNR=10
U40A **Yellville** 145.62 23 P PKPdf 15 36 07.4 -0.2
baz=331,SNR=54
U40A P PKPdf 15 36 07.4 -0.2
baz=331,SNR=54
S44A **Carbondale** 145.65 17 P PKPdf 15 36 07.7 +0.1
baz=338,SNR=10
Q51A **Peebles** 145.71 9 P PKPdf 15 36 07.9 +0.2
baz=349,SNR=13
Q51A P PKPdf 15 36 07.9 +0.2
baz=349,SNR=13
P57A **Homestead Farm** 145.72 1 P PKPdf 15 36 07.9 +0.2
baz=358,SNR=10
P57A P PKPdf 15 36 07.9 +0.2
baz=358,SNR=10
SDMD **Soldier's Deli** 145.81 360 P PKPdf 15 36 07.5 -0.3
baz=0.4,SNR=5.7
Q52A **Bidwell** 145.92 7 P PKPdf 15 36 08.3 +0.3
baz=351,SNR=7.6
Q52A P PKPdf 15 36 08.3 +0.3
baz=351,SNR=7.6
WCI **Wyandotte Cave** 145.92 13 P PKPab 15 36 09.1 -0.2
baz=344
WCI **Wyandotte Cave** 145.92 13 P PKPbc 15 36 08.6 -0.1
baz=344,SNR=11
X37A **Clayton** 146.04 28 P PKPdf 15 36 08.8 +0.4
baz=326,SNR=7.8
Q54A **Coxs Mills** 146.06 5 P PKPbc 15 36 08.9 -0.3
baz=353,SNR=8.2
Q54A P PKPbc 15 36 08.9 -0.3
baz=353,SNR=8.2
R49A **Shelbyville** 146.10 12 P PKPbc 15 36 09.2 -0.1
baz=345,SNR=14
R49A P PKPbc 15 36 09.2 -0.1
baz=345,SNR=14
PBMO **Poplar Bluff** 146.12 20 PKPdf 15 36 08.1 -0.3
PBMO **Poplar Bluff** 146.12 20 P PKPbc 15 36 09.0 -0.3
baz=336,SNR=9.6
Q56A **Snyder Ridge,** 146.12 3 P PKPbc 15 36 09.7 +0.3
baz=356
Q56A P PKPbc 15 36 09.7 +0.3
baz=356
R50A **Paris** 146.27 10 PKPdf 15 36 08.2 -0.4
R50A **Paris** 146.27 10 P PKPdf 15 36 09.1 +0.5
baz=347,SNR=11
R50A P PKPdf 15 36 09.1 +0.5
baz=347,SNR=11
LCAR **Lake Charles** 146.50 21 P PKPbc 15 36 10.2 -0.4
baz=334,SNR=33
R53A **Hurricane** 146.58 7 P PKPbc 15 36 10.4 -0.3
baz=351,SNR=10
R53A P PKPbc 15 36 10.4 -0.3
baz=351,SNR=10
BRDY **Brady** 146.72 36 PKPdf 15 36 10.5 +0.8
JCT **Junction City** 146.82 38 P PKPbc 15 36 11.6 -0.1
baz=315
JCT **Junction City** 146.82 38 P PKPdf 15 36 10.5 +0.6
baz=315
MIAR **Mount Ida** 146.88 26 P PKPbc 15 36 12.4 +0.7
baz=329
MIAR **Mount Ida** 146.88 26 P PKPbc 15 36 12.0 +0.3
baz=329,SNR=44
T47A **Sharon Grove** 146.90 15 P PKPbc 15 36 11.6 -0.1
baz=342,SNR=7.5
S51A **Beattyville** 147.02 10 P PKPbc 15 36 11.5 -0.5
baz=348,SNR=7.9
S51A P PKPbc 15 36 11.5 -0.5
baz=348,SNR=7.9
DRIO **Del Rio** 147.04 40 PKPdf 15 36 10.8 +0.6
T50A **Nancy** 147.39 12 P PKPbc 15 36 12.7 -0.4
baz=346
T50A P PKPbc 15 36 12.7 -0.4
baz=346
S57A **Dark Hollow, R** 147.41 3 P PKPdf 15 36 11.7 +1.2
baz=356
S57A P PKPdf 15 36 11.7 +1.2
baz=356
WVT **Waverly** 147.51 16 P PKPbc 15 36 13.4 0.0
baz=340
WVT **Waverly** 147.51 16 P PKPbc 15 36 13.1 -0.3
baz=340,SNR=18
U49A **Red Boiling Sp** 147.68 13 P PKPbc 15 36 13.6 -0.3
baz=344,SNR=13
435B **Jarrell** 147.90 35 P PKPbc 15 36 15.2 +0.5
baz=319
TZTN **Tazewell** 148.10 10 PKPbc 15 36 14.1 -0.9
TZTN **Tazewell** 148.10 10 P PKPbc 15 36 14.9 -0.1
baz=348
TZTN **Tazewell** 148.10 10 P PKPbc 15 36 14.5 -0.5
baz=348,SNR=10
T57A **Hurt** 148.15 3 P PKPbc 15 36 15.1 0.0
baz=356
T57A P PKPbc 15 36 15.1 0.0
baz=356
V48A **Smith Brothers** 148.16 15 P PKPbc 15 36 15.0 -0.2
baz=341,SNR=12
T59A **Double "B" Far** 148.24 1 P PKPbc 15 36 15.5 +0.2
baz=359,SNR=8.2
T59A P PKPbc 15 36 15.5 +0.2
baz=359,SNR=8.2
OXF **Oxford** 148.52 20 P PKPbc 15 36 15.9 -0.2
baz=336
833A **Chaparral WMA,** 148.57 40 PKPdf 15 36 14.4 +1.7
833A PKPab PKiKP 15 36 17.9 -0.1
833A **Chaparral WMA,** 148.57 40 P PKPbc 15 36 16.7 +0.3
baz=314
833A **Chaparral WMA,** 148.57 40 P PKPbc 15 36 15.5 -0.9
baz=314
V51A **Loudon** 148.67 12 P PKPbc 15 36 15.8 -0.7
baz=346,SNR=5.4
NATX **Nacogdoches** 148.70 30 P PKPbc 15 36 16.3 -0.4
baz=325
V52A **Sevierville** 148.77 10 P PKPbc 15 36 16.7 -0.1
baz=347,SNR=12
U59A **Littleton** 148.85 1 P PKPbc 15 36 17.2 +0.3
baz=359,SNR=5.2
U59A P PKPbc 15 36 17.2 +0.3
baz=359,SNR=5.2
TKL **Tuckaleechee C** 148.92 11 P PKPbc 15 36 16.6 -0.6
baz=347,SNR=7.7
V53A **Saluda** 149.07 9 P PKPbc 15 36 17.0 -0.6
baz=349,SNR=14
V53A P PKPbc 15 36 17.0 -0.6
baz=349,SNR=14
X48A **Hartselle** 149.31 16 P PKPbc 15 36 17.0 -1.1
baz=340,SNR=16
V58A **Windy Hill, Pi** 149.36 3 P PKPbc 15 36 18.4 +0.2
baz=356
V58A P PKPbc 15 36 18.4 +0.2
baz=356
W52A **Murphy** 149.44 11 P PKPbc 15 36 18.2 -0.3
baz=346,SNR=9.1
HKT **Hockley** 149.52 34 PKPdf 15 36 16.1 +1.9
HKT **Hockley** 149.52 34 PKIKP PKPdf 15 36 16.1 +1.9
CASEE **Lake Jocassee** 149.72 10 P PKPbc 15 36 19.4 +0.3
baz=348,SNR=8.3
KMSC **Kings Mountain** 149.80 7 P PKPbc 15 36 18.2 -1.1
baz=352
KMSC **Kings Mountain** 149.80 7 P PKPbc 15 36 18.5 -0.8
baz=352,SNR=8.9
Y49A **Blount Mountai** 150.04 16 P PKPbc 15 36 19.8 -0.2
baz=341,SNR=15
PAULI **Pauline** 150.06 8 P PKPbc 15 36 19.4 -0.5
baz=350,SNR=5.7
Z47A **Carrollton** 150.16 19 P PKPbc 15 36 19.6 -0.7
baz=338,SNR=7.0
HODGE **Hodges** 150.57 9 P PKPbc 15 36 20.4 -0.8
baz=349,SNR=5.7
Y52A **Lilburn** 150.60 12 P PKPbc 15 36 21.6 +0.3
baz=346,SNR=7.1
Y52A P PKPbc 15 36 21.6 +0.3
baz=346,SNR=7.1
LRAL **Lakeview Retre** 150.65 17 P PKPbc 15 36 21.4 0.0
baz=340
JSC **Jenkinsville** 150.66 7 P PKPbc 15 36 21.0 -0.4
baz=352,SNR=5.7
GOGA **Godfrey** 151.16 11 PKPbc PKPbc 15 36 21.4 -1.2
GOGA PKPab PKPab 15 36 29.3 -1.1
GOGA **Godfrey** 151.16 11 P PKPbc 15 36 22.4 -0.2
baz=347
GOGA **Godfrey** 151.16 11 P PKPbc 15 36 22.8 +0.2
baz=347
GOGA **Godfrey** 151.16 11 PKIKP PKPbc 15 36 21.4 -1.2
GOGA 15 36 29.3
PB09 **IPOC Station P** 152.25 196 PKPdf 15 36 19.9 +1.0
BRAL **Brewton** 152.36 19 P PKiKP 15 36 26.1 +0.4
baz=338
TIGA **Tifton** 153.04 13 P PKiKP 15 36 27.5 +0.4
baz=346
SDDR **Presa de Saban** 165.09 339 PKPdf PKPdf 15 36 32.1 -1.9
SDDR PKPab PKPab 15 37 29.6 -1.2

*IDC **07** 15:32:31.7±1.2,7°.30S×126°.12E, h0km,mb3.7/6, mbtmp3.6/10,ML3.5/4,Error ellipse: s-maj=35.4km s-min=19.9km az=76.0*
*DJA **07** 15:32:36.0±0.2,7°.5±3°×12°.6E±°, h10km,M4.2/15,mb4.5/9, MLv4.1/15*
ISC 07 15:32:33.6±0.7,**7°.58S**±0°.06×**125°.77E**±0°.07,**h10**km,**n23,** σ2ş**46**/26,**mb3.8/6,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	2.62	214	P	**Pn**	15 33 19.6	+3.4
BATI	**Baumata**	3.34	218	P	**Pn**	15 33 28.9	+3.0
BATI	**Baumata**	3.34	218	Pn	**Pb**	15 33 31.5	-1.5
	13nm,0.3s,baz=66,slow=2.6,SNR=15						
BATI				Sn	**Sb**	15 34 15.5	+1.9
	11nm,0.3s,baz=142,slow=22,SNR=5.9						
	32nm,0.4s						
MMRI	**Maumere**	3.65	253	P	**Pn**	15 33 32.0	+1.8
BBSI	**Bau Bau**	3.80	303	P	**Pn**	15 33 32.9	+0.7
EDFI	**Ende, Flores**	4.20	254	P	**Pn**	15 33 40.1	+2.2
NLAI	**Namlea**	4.51	17	P	**Pn**	15 33 43.9	+1.9
BNDI	**Bandanaira**	5.11	54	P	**Pn**	15 33 53.5	+3.2
	194nm,1.4s,0.8nm						
SAUI	**Saumlaki**	5.50	95	P	**Pn**	15 33 58.5	+2.9
	40nm,0.4s,0.3nm						
SANI	**Sanana**	5.50	2	P	**Pn**	15 33 54.1	-1.5
	12nm,1.1s,0.1nm						
BASI	**Baing, Sumba**	5.76	243	P	**Pn**	15 34 00.1	+0.9
	126nm,1.2s,0.4nm						
BKSI	**Bulukumba**	6.04	291	P	**Pn**	15 34 03.9	+0.8
	19nm,0.6s,0.1nm						
KAPI	**Kappang**	6.50	293	Pn	**Pn**	15 34 12.4	+3.0
	0.7nm,0.3s,baz=60,slow=13,SNR=1.4						
KAPI				Sn	**Sn**	15 35 22.0	-1.7
	0.8nm,0.3s,baz=115,slow=21,SNR=3.6						
	5.2nm,0.6s						
PLAI	**Plampang**	8.01	261	P	**Pn**	15 34 32.1	+2.0
	24nm,1.2s,0.1nm						
KMSI	**Cibinong**	8.29	348	P	**Pn**	15 34 34.7	+0.7
	55nm,1.1s						
WRA	**Warramunga Arr**	14.84	147	Pn	**Pn**	15 36 03.0	-0.7
	0.2nm,0.3s,baz=317,slow=14,SNR=1.7						
WRA				Sn	Sn	15 38 39.7	-8.5
	0.5nm,0.3s,baz=318,slow=24,SNR=5.4						
	0.4nm,0.4s						
ASAR	**Alice Springs**	17.80	155	P	**Pn**	15 36 43.2	+1.6
	0.1nm,0.3s,baz=317,slow=9.0,SNR=6.0						
ASAR				S	**Sn**	15 39 53.1	-7.1
	0.6nm,0.6s,baz=316,slow=20,SNR=4.8						
	0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	37.01	315	P	**P**	15 39 44.5	+0.7
	0.5nm,0.5s,baz=149,slow=7.5,SNR=6.9						
	0.5nm,0.5s						
SONM	**Songino Array**	57.77	345	P	**P**	15 42 24.9	-0.1
	0.4nm,0.7s,baz=138,slow=6.7,SNR=2.1						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	66.48	329	P	**P**	15 43 22.1	-1.3
	0.7nm,0.8s,baz=119,slow=7.1,SNR=2.7						
	0.7nm,0.8s						
ZALV	**Zalesovo Beam**	70.31	336	P	**P**	15 43 45.8	-1.4
	0.4nm,0.5s,baz=128,slow=8.3,SNR=2.0						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	70.87	330	P	**P**	15 43 48.8	-1.9
	0.6nm,0.9s,baz=130,slow=4.7,SNR=3.7						
	0.6nm,0.9s						
VNDA	**Vanda**	72.41	172	P	**P**	15 44 00.9	+1.3
	0.8nm,0.9s,baz=13,slow=3.4,SNR=3.2						
	0.8nm,0.9s						

*WEL **07** 15:43:01.5±0.3,42°.2±2°×17°.4E±°, h10km±2km,M3.5/60, ML3.6/24,MLv3.5/60,Error ellipse: s-maj=0.0km s-min=0.0km az=126.6,confirmed*
*NOU **07** 15:43:01.3,41°.85S×174°.39E, h10km,MLv3.8/9,Cook Strait, New Zealand*
ISC 07 15:43:01.5±0.8,**41°.76S**±0°.02×**174°.24E**±0°.02,**h16**km±4km, **n111,** σ1ş**31**/131,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	0.02	291	P	**Pg**	15 43 04.8	+0.3
CMWZ				S	**Sg**	15 43 07.6	+1.3
WDFS	**Ward Fire Stat**	0.10	226	P	**Pb**	15 43 05.4	+0.3
WDFS				S	**Sg**	15 43 08.6	+1.3
SDNS	**Seddon**	0.12	321	P	**Pg**	15 43 04.6	-0.6
SDNS				S	**Sg**	15 43 04.9	-2.7
SEDS	**Seddon Fire St**	0.15	305	P	**Pg**	15 43 04.9	-0.6
SEDS				S	**Sg**	15 43 07.6	-0.6
BSWZ	**Blackbirch Sta**	0.27	278	P	**Pg**	15 43 06.8	-0.7
BSWZ				S	**Sg**	15 43 10.7	-0.8
KEKS	**Kekerengu Vall**	0.28	224	P	**Pb**	15 43 08.0	-0.1
KEKS				S	**Sb**	15 43 12.8	+0.3
MGCS	**Blenheim Marlb**	0.33	318	P	**Pg**	15 43 06.3	-2.2
MGCS				S	**Sg**	15 43 11.0	-2.2
TUWZ	**Tuamarina**	0.39	326	P	**Pg**	15 43 08.6	-1.0
TUWZ				S	**Sg**	15 43 13.8	-1.2
BWRS	**Waikakaho Road**	0.40	322	P	**Pg**	15 43 08.8	-0.9
BWRS				S	**Sg**	15 43 14.2	-1.1
TCW	**Tory Channel**	0.55	3	P	**Pg**	15 43 11.5	-0.9
TCW				S	**Sg**	15 43 18.8	-0.9
SNZO	**South Karori**	0.57	38	P	**Pb**	15 43 12.9	-0.1
BHW	**Baring Head**	0.59	54	P	**Pb**	15 43 13.7	+0.3
WEL	**Wellington**	0.62	40	P	**Pb**	15 43 13.9	0.0
WEL				S	**Sn**	15 43 24.3	-0.8
MKBS	**Makara Bunker**	0.63	33	P	**Pg**	15 43 13.8	-0.2
MKBS				S	**Sb**	15 43 23.3	+0.6
PLWZ	**Palliser**	0.79	77	P	**Pn**	15 43 17.7	-0.3
PLWZ				S	**Sn**	15 43 30.0	+0.6
KIKS	**Kaikoura**	0.79	211	P	**Pb**	15 43 17.8	+1.0
KIKS				S	**Sn**	15 43 30.7	+1.3
NNZ	**Nelson**	0.84	310	P	**Pg**	15 43 16.4	-1.5
KHZ	**Kahutara**	0.84	218	P	**Pb**	15 43 18.5	+0.7
KHZ	**Kahutara**	0.84	218	P	**Pb**	15 43 18.4	+0.7
KHZ				S	**Sn**	15 43 31.4	+0.8
CAW	**Cannon Point**	0.90	44	P	**Pb**	15 43 18.7	0.0
CAW				S	**Sn**	15 43 33.6	+1.5
PAWZ	**Paruwai Farm**	0.97	68	P	**Pb**	15 43 20.2	+0.3
DUWZ	**D'Urville Isla**	0.98	346	P	**Pg**	15 43 18.8	-1.7
DUWZ				S	**Sg**	15 43 32.6	-0.8
THZ	**Tophouse**	1.00	269	P	**Pg**	15 43 19.6	-1.2
THZ				S	**Sg**	15 43 33.5	-0.5
KIW	**Kapiti Island**	1.03	30	P	**Pg**	15 43 20.5	-0.9
MTW	**Mount Morrison**	1.12	58	P	**Pb**	15 43 22.1	-0.4
MTW				S	**Sn**	15 43 39.0	+1.3
TRWZ	**Traveller**	1.15	72	P	**Pb**	15 43 22.3	-0.6
MRNZ	**Matariki Terra**	1.17	287	P	**Pb**	15 43 22.7	-0.6
MRNZ				S	**Sb**	15 43 38.8	+0.6
OGWZ	**Otaki Gorge**	1.17	37	P	**Pb**	15 43 23.3	-0.1
TKNZ	**Takaka Hill**	1.20	306	P	**Pn**	15 43 22.8	-0.8
HOWZ	**Holdsworth Sta**	1.29	49	P	**Pn**	15 43 24.4	-0.4
TMWZ	**Te Maipa**	1.40	63	P	**Pn**	15 43 25.7	-0.7
MRZ	**Mangatainoka R**	1.49	43	P	**Pn**	15 43 27.3	-0.4
GVZ	**Greta Valley S**	1.50	216	P	**Pn**	15 43 27.3	-0.5
TIWZ	**Tintock**	1.58	52	P	**Pn**	15 43 28.6	-0.3
QRZ	**Quartz Range**	1.59	305	P	**Pn**	15 43 29.4	+0.4
QRZ	**Quartz Range**	1.59	305	P	**Pn**	15 43 29.3	+0.4
CPWZ	**Castlepoint**	1.70	61	P	**Pg**	15 43 36.3	+2.0
OHWZ	**Ohakea**	1.75	28	P	**Pn**	15 43 32.4	+1.2
PRWZ	**Pori Road**	1.78	48	P	**Pn**	15 43 31.0	-0.6
LTZ	**Lake Taylor**	1.78	234	P	**Pn**	15 43 31.4	-0.3
POWZ	**Post Office Ro**	1.79	41	P	**Pn**	15 43 31.5	-0.2
DSZ	**Denniston Nort**	1.82	270	P	**Pn**	15 43 32.8	+0.6
AMCZ	**Amberley**	1.84	219	P	**Pn**	15 43 31.6	-0.9
BFZ	**Birch Farm**	1.86	55	P	**Pn**	15 43 31.7	-1.0
BFZ	**Birch Farm**	1.86	55	P	**Pn**	15 43 31.3	-1.3
DVHZ	**Dannevirke**	2.06	46	P	**Pn**	15 43 34.3	-1.2
WAZ	**Wanganui**	2.08	16	P	**Pb**	15 43 38.6	-0.3
ANWZ	**Angora Road**	2.13	53	P	**Pn**	15 43 35.2	-1.2
TSZ	**Takapari Road**	2.14	38	P	**Pn**	15 43 36.0	-0.6
OKCZ	**Okains Bay**	2.15	203	P	**Pn**	15 43 35.4	-1.3
OXZ	**Oxford**	2.26	225	P	**Pn**	15 43 36.6	-1.6
MQZ	**McQueen's Vall**	2.27	210	P	**Pn**	15 43 36.3	-2.1
INZ	**Inchbonnie**	2.29	244	P	**Pn**	15 43 38.7	+0.1
LREZ	**Lake Rotokare**	2.30	3	P	**Pb**	15 43 41.7	-0.9
AKCZ	**Akaroa Harbour**	2.33	204	P	**Pn**	15 43 37.7	-1.5
NMEZ	**Namu Road**	2.36	353	P	**Pb**	15 43 44.2	+0.6
PNHZ	**Pukenui**	2.37	40	P	**Pn**	15 43 38.8	-0.9
WPHZ	**Waipukurau**	2.38	45	P	**Pn**	15 43 38.9	-0.9
PREZ	**Palmer Road**	2.41	359	P	**Pn**	15 43 42.8	+2.4
KHEZ	**Kahui Hut**	2.46	356	P	**Pn**	15 43 43.6	+2.5
KHEZ	**Kahui Hut**	2.46	356	P	**Pb**	15 43 45.6	+0.1
NEZ	**North Egmont**	2.48	357	P	**Pb**	15 43 45.7	-0.1
NBEZ	**Newall Road No**	2.50	353	P	**Pb**	15 43 47.3	+1.2
RACZ	**Rakaia**	2.50	217	P	**Pn**	15 43 39.9	-1.6
MTVZ	**Mangateitei**	2.55	22	P	**Pn**	15 43 44.5	+2.2
DRHZ	**Durham Road**	2.56	359	P	**Pb**	15 43 46.8	-0.4
PKE	**Pukeiti**	2.57	356	P	**Pn**	15 43 45.4	+3.0
PKVZ	**Pokaka**	2.60	19	P	**Pn**	15 43 44.8	+1.7
MOVZ	**Moawhango**	2.62	27	P	**Pn**	15 43 43.7	+0.6
WNVZ	**Wahianoa**	2.64	24	P	**Pn**	15 43 44.8	+1.3
TRVZ	**Turoa**	2.65	23	P	**Pb**	15 43 48.8	+0.1
MHCZ	**Mount Hutt**	2.65	227	P	**Pn**	15 43 42.0	-1.7
BHHZ	**Black Hill Sta**	2.66	32	P	**Pn**	15 43 43.7	0.0
VRZ	**Vera Road**	2.66	9	P	**Pn**	15 43 45.3	+1.6
KRHZ	**Kereru**	2.66	38	P	**Pn**	15 43 42.6	-1.1
WHVZ	**Whangaehu Hut**	2.68	23	P	**Pn**	15 43 47.2	-2.0
FWVZ	**Far West T-bar**	2.69	22	P	**Pb**	15 43 48.1	-1.3
TUVZ	**Tukino**	2.71	24	P	**Pn**	15 43 45.4	+0.9
COVZ	**Chateau Observ**	2.74	22	P	**Pb**	15 43 48.9	-1.3
NGZ	**Ngauruhoe**	2.78	22	P	**Pb**	15 43 50.1	-0.8
SNVZ	**South Ngauruho**	2.78	23	P	**Pn**	15 43 47.2	+1.7
KAHZ	**Kahuranaki**	2.80	47	P	**Pn**	15 43 44.4	-1.3
WACZ	**Wakanui South**	2.81	218	P	**Pn**	15 43 44.4	-1.3
OTVZ	**Oturere**	2.81	23	P	**Pn**	15 43 46.8	+0.9
NNVZ	**North Ngauruho**	2.82	22	P	**Pn**	15 43 47.5	+1.4
WTVZ	**West Tongariro**	2.83	22	P	**Pb**	15 43 49.6	-2.2
TWVZ	**Taurewa**	2.83	19	P	**Pb**	15 43 51.2	-0.6
ETVZ	**East Tongariro**	2.85	24	P	**Pn**	15 43 47.5	+1.0
KWHZ	**Kaweka Forest**	2.86	36	P	**Pb**	15 43 53.3	+1.1
TMVZ	**Te Maari**	2.87	23	P	**Pn**	15 43 48.0	+1.4
KRVZ	**Karewarewa**	2.87	22	P	**Pb**	15 43 51.0	-1.4
NTVZ	**North Tongarir**	2.87	23	P	**Pn**	15 43 48.1	+1.3
WVZ	**Waitaha Valley**	2.91	242	P	**Pn**	15 43 49.8	+2.7
KATZ	**Kakaramea**	2.99	22	P	**Pb**	15 43 54.0	-0.5
RITZ	**Rihia Road**	3.04	25	P	**Pb**	15 43 55.6	+0.3
RPZ	**Rata Peaks**	3.06	229	P	**Pn**	15 43 49.4	+0.2
RPZ	**Rata Peaks**	3.06	229	P	**Pn**	15 43 48.1	-1.0
ARCZ	**Arundel**	3.14	225	P	**Pn**	15 43 49.2	-1.1
HIZ	**Hauiti**	3.27	9	P	**Pn**	15 43 55.2	+3.1
HIZ	**Hauiti**	3.27	9	P	**Pn**	15 43 55.0	+2.8
GCSZ	**Gaunt Creek Bo**	3.28	240	P	**Pn**	15 43 54.7	+2.5
TMZ	**Timaru**	3.54	221	P	**Pn**	15 43 54.6	-1.2
TLZ	**Tolley Road**	3.56	17	P	**Pn**	15 43 57.7	+1.5
FOZ	**Fox Glacier**	3.71	240	P	**Pn**	15 43 58.6	+0.5
RTZ	**Ruatahuna**	3.77	35	P	**Pb**	15 44 05.7	-2.1
TOZ	**Tahuroa Road**	4.14	14	P	**Pn**	15 44 06.9	+3.0
ODZ	**Otahua Downs**	4.20	217	P	**Pn**	15 44 04.6	-0.3
ODZ	**Otahua Downs**	4.20	217	P	**Pn**	15 44 03.4	-1.5
JCZ	**Jackson Bay**	4.62	238	P	**Pn**	15 44 13.4	+2.6
JCZ	**Jackson Bay**	4.62	238	P	**Pn**	15 44 13.2	+2.4
MKAZ	**Moumakai**	4.70	9	P	**Pn**	15 44 13.2	+1.5

*SNET **07** 16:03:40.9±0.6,13°.77N×89°.15W,h172km,ML3.3*
*NEIC **07** 16:03:41.2±1.4,13°.77N±0°.08×89°.18W±0°.07,h179km±5km, mb4.4/35,Error ellipse: s-maj=14.0km s-min=6.4km az=212.0*
*IDC **07** 16:03:42.0±1.5,13°.84N×88°.89W,h198km±15km,mb3.5/8, mbtmp4.1/11,MS3.6/1,Error ellipse: s-maj=27.4km s-min=10.7km az=53.0*
*CATAC **07** 16:03:42.8±0.3,13°.81N×89°.17W,h153km±2km,MB5.2, mb4.6,ML3.5*
*GCG **07** 16:03:58.4±0.3,14°.40N×90°.10W,h96km±28km,MD3.8*
ISC 07 16:03:39.9±0.6,**13°.76N**±0°.05×**89°.19W**±0°.04,**h177**km±5km, **n173,** σ1ş**40**/200,**mb4.3**/21,**1C,El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGN	**Direccin Gen**	0.05	155	*i* P	**Pn**	**16 04 04.3**	**+0.8**
IGN				IAML		16 04 04.6	
	comp=Z,33μm,1.0s						
UDBS	**Universidad Do**	0.05	140	*i* P	**Pn**	**16 04 04.2**	**+0.7**
UDBS				IAML		16 04 04.7	
	comp=Z,5μm,1.0s						
UTEC	**Universidad Te**	0.06	191	*i* P	**Pn**	**16 04 04.1**	**+0.6**
UTEC				IAML		16 04 04.7	
	comp=Z,2μm,1.0s						
SEMO	**Seminario San**	0.06	212	*i* P	**Pn**	**16 04 04.1**	**+0.6**
SEMO				IAML		16 04 04.6	
	comp=Z,7μm,1.0s						
UEES	**Universidad Ev**	0.06	230	*i* P	**Pn**	**16 04 04.2**	**+0.7**
UEES				IAML		16 04 04.6	
	comp=Z,2μm,1.0s						
LFU	**La Fuente**	0.07	96	*i* P	**Pn**	**16 04 04.4**	**+1.0**
SNET	**Serv Nac Est T**	0.08	210		**Pn**	**16 04 04.3**	**+0.7**
SNET	**Serv Nac Est T**	0.08	210	*i* P	**Pn**	**16 04 04.2**	**+0.7**
SNET				IAML		16 04 04.4	
	comp=Z,5μm,1.0s						
BOQS	**Boqueron**	0.09	256	*e*P	**Pn**	**16 04 04.5**	**+0.8**
QUEZ	**Alcaldia de Qu**	0.11	314	*i* P	**Pn**	**16 04 04.0**	**+0.6**
QUEZ				IAML		16 04 04.4	
	comp=Z,10μm,1.0s						
LOMA	**Loma Larga**	0.11	171	*i* P	**Pn**	**16 04 03.9**	**+0.3**
LOMA				IAML		16 04 07.6	
	comp=Z,1μm,1.0s						
LOMA				*i* S	**Sn**	**16 04 19.5**	**-2.3**
MAGS	**Ministerio de**	0.12	233	*i* P	**Pn**	**16 04 04.5**	**+0.9**
MAGS				IAML		16 04 05.0	
	comp=Z,1μm,1.0s						
ITCA	**Escuela Especi**	0.12	226	*i* P	**Pn**	**16 04 04.8**	**+1.3**
ITCA				IAML		16 04 04.8	
	comp=Z,4μm,1.0s						
PMON	**Piamonte**	0.13	250	*i* P	**Pn**	**16 04 04.0**	**+0.5**
PMON				IAML		16 04 09.0	
	comp=Z,1μm,1.0s						
PMON	**Piamonte**	0.13	250	*i* P	**Pn**	**16 04 04.3**	**+0.8**
PMON				IAML		16 04 09.0	
	comp=Z,1μm,1.0s						
PANCS	**Alcalda de**	0.14	176	*i* P	**Pn**	**16 04 04.1**	**+0.6**
PANCS				IAML		16 04 04.4	
	comp=Z,7μm,1.0s						
LFRS	**El Faro**	0.18	137	*i* P	**Pn**	**16 04 04.4**	**+0.8**
CEDA	**San Andres**	0.20	283	*i* P	**Pn**	**16 04 04.3**	**+0.7**
CEDA				IAML		16 04 04.6	
	comp=Z,6μm,1.0s						
CEDA				*i* S	**Sn**	**16 04 20.1**	**-1.5**
SJTE	**Alcalda de S**	0.23	128	*i* P	**Pn**	**16 04 04.2**	**+0.5**
SJTE	**Alcalda de S**	0.23	128	*i* P	**Pn**	**16 04 04.0**	**+0.3**
SJTE				IAML		16 04 04.7	
	comp=Z,2μm,1.0s						
SJTE				*i* S	**Sn**	**16 04 22.7**	**+0.8**
PAVA	**Las Pavas**	0.25	100	*i* P	**Pn**	**16 04 04.4**	**+0.7**
PAVA				IAML		16 04 05.1	
	comp=Z,16μm,1.0s						
PAVA				*i* S	**Sn**	**16 04 22.7**	**+0.8**
JAYA	**Jayaque - finc**	0.27	248	*i* P	**Pn**	**16 04 04.3**	**+0.5**
JAYA	**Jayaque - finc**	0.27	248	*i* P	**Pn**	**16 04 04.0**	**+0.1**
JAYA				IAML	

CEVE IAML 16 04 05.8
comp=Z,5μm,1.0s
CEVE Cerro Verde 0.43 280 *i* P **Pn 16 04 05.8 +1.4**
CEVE IAML 16 04 05.8
comp=Z,5μm,1.0s
SBLS San Blas 0.43 281 *i* P **Pn 16 04 05.4 +1.0**
SCLA Alcaldia de Sa 0.45 97 *i* P **Pn 16 04 05.4 +1.1**
SCLA Alcaldia de Sa 0.45 97 *i* P **Pn 16 04 05.2 +0.9**
SCLA IAML 16 04 05.9
comp=Z,1μm,1.0s
SCLA *i* S **Sn 16 04 28.0 +5.1**
TECO Alcaldia de Te 0.45 119 *i* P **Pn 16 04 04.8 +0.5**
TECO IAML 16 04 05.4
comp=Z,2μm,1.0s
TECO *i* S **Sn 16 04 22.1 -0.8**
RTR El Retiro 0.46 288 *i* P **Pn 16 04 05.6 +1.1**
LLGN La Laguna 0.47 30 *i* P **Pn 16 04 05.1 +0.7**
LLGN IAML 16 04 05.6
comp=Z,1μm,1.0s
LLGN *i* S **Sn 16 04 21.8 -1.5**
NUBE Las Nubes 0.59 284 *i* P **Pn 16 04 05.9 +0.9**
NUBE Las Nubes 0.59 284 *i* P **Pn 16 04 05.7 +0.7**
NUBE IAML 16 04 06.1
comp=Z,2μm,1.0s
NUBE Las Nubes 0.59 284 *i* P **Pn 16 04 05.9 +0.9**
NUBE IAML 16 04 06.1
comp=Z,2μm,1.0s
LOAL Lomas de Alarc 0.62 293 *i* P **Pn 16 04 06.0 +1.0**
LOAL IAML 16 04 06.6
comp=Z,14μm,1.0s
LOAL Lomas de Alarc 0.62 293 *i* P **Pn 16 04 06.4 +1.4**
LOAL IAML 16 04 06.6
comp=Z,14μm,1.0s
PQSS Presa 15 de Se 0.63 102 *i* P **Pn 16 04 05.5 +0.5**
PQSS IAML 16 04 06.0
comp=Z,2μm,1.0s
PQSS *i* S **Sn 16 04 24.4 +0.2**
SLOZ Alcaldia de Sa 0.64 295 *i* P **Pn 16 04 06.2 +1.1**
MTO3 Montecristo 0.66 345 Pn 16 04 06.4 +0.9
MTO3 Sn **Sn 16 04 25.1 -0.2**
MTO3 Montecristo 0.66 345 *i* P **Pn 16 04 06.3 +0.9**
MTO3 Montecristo 0.66 345 *i* P **Pn 16 04 06.1 +0.6**
MTO3 IAML 16 04 06.9
comp=Z,1μm,1.0s
MTO3 *i* S **Sn 16 04 24.8 -0.4**
MTO3 Montecristo 0.66 345 *i* P **Pn 16 04 06.3 +0.9**
MTO3 IAML 16 04 06.9
comp=Z,1μm,1.0s
TECA Tecapa 0.72 111 *i* P **Pn 16 04 06.7 +1.0**
ALJI Alcalda de J 0.74 125 *i* P **Pn 16 04 05.6 0.0**
ALJI IAML 16 04 05.8
comp=Z,2μm,1.0s
JUAM Asuncion Mita 0.76 319 *i* P **Pn 16 04 06.7 +0.9**
JUAM IAML 16 04 07.1
comp=Z,3μm,1.0s
ESQI Esquipulas 0.81 350 Pn 16 04 07.5 +1.3
ESQI Sn **Sn 16 04 27.3 +0.7**
ESQI Esquipulas 0.81 350 *i* P **Pn 16 04 07.3 +1.1**
ESQI IAML 16 04 07.7
comp=Z,1μm,1.0s
PACA Pacayal 0.89 109 *e*P **Pn 16 04 08.0 +1.2**
PACA Pacayal 0.89 109 *i* P **Pn 16 04 07.8 +1.1**
PACA IAML 16 04 38.6
comp=Z,7μm,1.0s
CNRM Centro Naciona 1.03 106 *i* P **Pn 16 04 08.6 +1.0**
CNRM IAML 16 04 31.4
comp=Z,5μm,1.0s
INTHN La Esperanza I 1.19 62 *i* P **Pn 16 04 10.1 +0.9**
LCND La Caada 1.34 109 *i* P **Pn 16 04 11.0 +0.8**
LCND *i* S **Sn 16 04 34.4 +0.9**
LCND IAML 16 04 42.2
comp=Z,460nm,1.0s
NBG Las Nubes 1.39 307 *e*P **Pn 16 04 13.6 +2.6**
GUNB GUNB 1.40 307 *i* P **Pn 16 04 11.8 +0.8**
GUNB IAML 16 04 12.6
comp=Z,900nm,1.0s
CNCH Conchagua 1.40 110 *i* P **Pn 16 04 11.7 +0.8**
CNCH Conchagua 1.40 110 *i* P **Pn 16 04 11.5 +0.6**
CNCH IAML 16 04 43.1
comp=Z,950nm,1.0s
CNCH Conchagua 1.40 110 *i* P **Pn 16 04 11.7 +0.8**
CNCH IAML 16 04 43.1
comp=Z,950nm,1.0s
AMPH Amapala 1.56 107 *i* P **Pn 16 04 13.0 +0.8**
ESSG Sabana Grande 1.71 292 *i* P **Pn 16 04 14.7 +0.9**
COMHN El Horno 1.73 67 *i* P **Pn 16 04 14.0 -0.1**
FUG Fuego 3 1.74 293 *e*P **Pn 16 04 16.4 +2.1**
CSGN Cosiguina Volc 1.77 116 *i* P **Pn 16 04 14.5 +0.1**
CSGN IAML 16 04 45.6
comp=Z,6μm,1.0s
CSGN Cosiguina Volc 1.77 116 *i* P **Pn 16 04 15.0 +0.6**
CSGN *i* S **Sn 16 04 42.3 +1.2**
CSGN IAML 16 04 45.6
comp=Z,6μm,1.0s
POTN Potosi Cosigui 1.80 114 *i* P **Pn 16 04 16.4 +1.7**
POTN IAML 16 04 37.9
comp=Z,220nm,1.0s
POTN Potosi Cosigui 1.80 114 *i* P Pn 16 04 09.9 -4.8
POTN *i* S **Sn 16 04 35.3 -6.3**
TGUH Tegucigalpa,Un 1.89 81 Pn **Pn 16 04 16.5 +0.7**
TGUH Sn **Sn 16 04 42.8 -0.6**
TGUH Tegucigalpa,Un 1.89 81 *i* P **Pn 16 04 16.4 +0.7**
TGUH IAML 16 04 17.1
comp=Z,1μm,1.0s
YUSH Yuscaran 2.29 85 *i* P **Pn 16 04 20.7 +0.6**
CRIN San Cristobal 2.33 116 Pn **Pn 16 04 20.4 -0.3**
CRIN San Cristobal 2.33 116 *i* P **Pn 16 04 22.7 +2.1**
CRIN IAML 16 05 02.5
comp=Z,2μm,1.0s
CRIN San Cristobal 2.33 116 *i* P **Pn 16 04 22.9 +2.3**
CRIN IAML 16 05 02.5
comp=Z,2μm,1.0s
SULM Suchitepequez, 2.37 284 *e*P **Pn 16 04 23.6 +2.7**
NISHN Nisperales Com 2.37 32 *i* P **Pn 16 04 21.7 +0.7**
PKGN Cerro Pekin 2.41 116 *i* P **Pn 16 04 24.0 +2.6**
PKGN *i* S **Sn 16 04 54.7 +1.0**
PKGN IAML 16 04 58.9
comp=Z,2μm,1.0s
YORHN Yoro 2.42 56 *i* P **Pn 16 04 22.3 +0.7**
STG3 Santiaguito 3, 2.50 293 *e*P **Pn 16 04 24.8 +2.2**
RTAL Retalhuleu 2.55 288 Pn 16 04 24.5 +1.5
ROCN Rota Cerro Neg 2.68 117 *i* P **Pn 16 04 26.6 +2.0**
ROCN *i* S **Sn 16 04 59.7 +0.3**
ROCN IAML 16 05 05.3
comp=Z,310nm,1.0s
ROCN Rota Cerro Neg 2.68 117 *i* P **Pn 16 04 27.2 +2.6**
ROCN *i* S **Sn 16 04 59.9 +0.5**
ROCN IAML 16 05 05.3
comp=Z,310nm,1.0s
ILCN San Idelfonso 2.69 116 *i* P **Pn 16 04 26.2 +1.4**
CNGN Cerro Negro 2.73 117 Pn 16 04 27.2 +1.9
CNGN Cerro Negro 2.73 117 *i* P **Pn 16 04 27.5 +2.3**
CNGN *i* S **Sn 16 05 01.8 +1.3**
CNGN IAML 16 05 08.7
comp=Z,440nm,1.0s
LIMN Finca el Limon 2.83 104 *i* P **Pn 16 04 27.6 +1.1**
LIMN IAML 16 05 04.2
comp=Z,100nm,1.0s
LIMN *i* S **Sn 16 05 04.4 +1.6**
LEVN Ruinas Leon Vi 2.85 118 *i* P **Pn 16 04 29.0 +2.4**
LEVN *i* S **Sn 16 05 03.5 +0.6**
LEVN IAML 16 05 12.3
comp=Z,510nm,1.0s
MOMN Momotombo 2.91 117 *i* P **Pn 16 04 29.7 +2.3**
MOMN *i* S **Sn 16 05 04.6 +0.2**
MOMN IAML 16 05 08.0
comp=Z,18nm,1.0s
MOMN Momotombo 2.91 117 *i* P **Pn 16 04 30.0 +2.6**
MOMN *i* S **Sn 16 05 04.5 +0.2**
MOMN IAML 16 05 08.0
comp=Z,18nm,1.0s
MOM2 El Cardon 2.94 116 *i* P **Pn 16 04 30.2 +2.4**
MOM2 *i* S **Sn 16 05 06.4 +1.4**
MOM2 IAML 16 05 09.5
comp=Z,230nm,1.0s
MOM2 El Cardon 2.94 116 *i* P **Pn 16 04 30.1 +2.3**
MOM2 *i* S **Sn 16 05 06.8 +1.8**
MOM2 IAML 16 05 09.5
comp=Z,230nm,1.0s
COPN Copaltepe 2.98 121 *i* P **Pn 16 04 30.8 +2.6**
COPN IAML 16 05 09.4
comp=Z,540nm,1.0s
COPN Copaltepe 2.98 121 *i* P **Pn 16 04 29.5 +1.3**
COPN IAML 16 05 09.4
comp=Z,540nm,1.0s
APYN Apoyeque 3.15 118 *i* P **Pn 16 04 33.1 +2.7**
APYN IAML 16 05 15.8
comp=Z,460nm,1.0s
APYN Apoyeque 3.15 118 *i* P **Pn 16 04 32.4 +2.0**
APYN IAML 16 05 15.8
comp=Z,460nm,1.0s
PETF Flores 3.21 348 Pn 16 04 32.8 +1.8
PETF Flores 3.21 348 *i* P **Pn 16 04 32.1 +1.1**
PETF IAML 16 04 39.2
comp=Z,290nm,1.0s
MSHP Masachapa 3.22 126 *i* P **Pn 16 04 32.9 +1.7**
MSHP *i* S **Sn 16 05 08.8 -2.3**
MSHP IAML 16 05 14.0
comp=Z,140nm,1.0s
CCIG Comitan 3.80 312 Pn **Pn 16 04 39.4 +0.8**
HZTE Horizontes, Gu 4.64 130 Pn 16 04 50.7 +1.6
HZTE Horizontes, Gu 4.64 130 *i* P **Pn 16 04 52.1 +2.9**
HZTE IAML 16 05 57.0
comp=Z,150nm,1.0s
VRLE La Escondida, 4.76 128 *i* P **Pn 16 04 54.2 +3.3**
VRLE IAML 16 05 50.6
comp=Z,92nm,1.0s
ORTG Ortega, Santa 4.97 132 Pn **Pn 16 04 55.5 +2.0**
ORTG Ortega, Santa 4.97 132 *i* P **Pn 16 04 56.1 +2.5**
ORTG IAML 16 04 56.8
comp=Z,99nm,1.0s
DUNO Dulce Nombre, 5.14 135 Pn 16 04 57.1 +1.3
INDI Punta indio, G 5.29 137 *i* P **Pn 16 05 00.4 +2.7**
INDI IAmb IAmb 16 05 01.0
comp=Z,39nm,1.0s
INDI IVmB_BB 16 06 00.2
comp=Z,1μm,1.0s
INDI IAML 16 06 02.6
comp=Z,120nm,1.0s
JTS Las Juntas de 5.39 129 Pn 16 05 00.1 +1.1
JTS Las Juntas de 5.39 129 P **Pn 16 05 00.7 +1.7**
comp=Z,18nm,0.3s,baz=312,slow=17,SNR=8.3
JTS S **Sn 16 05 59.4 -1.6**
comp=Z,20nm,0.3s,baz=280,slow=23,SNR=2.0
SOCE Pocosol 5.59 126 Pn **Pn 16 05 02.8 +1.2**
CMIG Matias Romero 6.41 302 P Pn 16 05 17.5 +5.1
comp=Z,1.0nm,0.4s,baz=126,slow=14,SNR=1.7
CMIG S **Sn 16 06 23.4 -1.8**
comp=Z,2.5nm,0.5s,baz=68,slow=19,SNR=1.7
LCR2 La Lucha 2 6.46 128 Pn **Pn 16 05 12.0 -1.2**
TEIG Tepich 6.49 8 Pn **Pn 16 05 14.2 +0.8**
TEIG Tepich 6.49 8 P **Pn 16 05 13.5 +0.1**
comp=Z,84nm,0.4s,baz=298,slow=2.3,SNR=7.7
RIMA Rio Macho 6.55 127 Pn 16 05 16.5 +2.1
SRBA San Rafael, Bu 7.27 128 Pn 16 05 25.6 +1.8
SOR Soroa 10.73 32 Pn **Pn 16 06 12.3 +3.2**
833A Chaparral WMA, 17.33 328 P **Pn 16 07 30.9 -0.3**
833A IAmb IAmb 16 07 33.6
comp=Z,16nm,0.8s
SDV Santo Domingo 18.82 103 P **P 16 07 45.9 -0.7**
SDV IAmb IAmb 16 07 51.0
comp=Z,8.9nm,0.6s
SDV Santo Domingo 18.82 103 P **P 16 07 44.4 -2.2**
comp=Z,5.5nm,0.4s,baz=279,slow=9.0,SNR=4.3
DRIO Del Rio 18.84 328 P **P 16 07 47.1 +0.6**
DRIO IAmb IAmb 16 07 53.5
comp=Z,6.3nm,0.9s
BRDY Brady 19.64 334 P **P 16 07 55.5 +0.4**
BRDY IAmb IAmb 16 07 56.8
comp=Z,5.5nm,0.7s
Y49A Blount Mountai 20.17 7 P **P 16 08 02.3 +1.5**
Y49A IAmb IAmb 16 08 03.0
comp=Z,7.0nm,0.6s
OZNA Ozona 20.31 329 P **P 16 08 03.7 +1.3**
OZNA IAmb IAmb 16 08 06.0
comp=Z,20nm,1.2s
TX31 Lajitas Ar. Si 20.50 321 P **P 16 08 06.4 +2.0**
TXAR Lajitas Array 20.50 321 P **P 16 08 06.2 +1.8**
TXAR Lajitas Array 20.50 321 P **P 16 08 06.7 +2.3**
comp=Z,1.9nm,0.7s,baz=143,slow=8.8,SNR=15
comp=Z,1.9nm,0.7s
MIAR Mount Ida 21.08 350 P **P 16 08 11.2 +0.9**
MIAR IAmb IAmb 16 08 14.0
comp=Z,8.3nm,0.7s
X37A Clayton 21.48 346 P **P 16 08 16.0 +1.3**
MNHN Monahans 21.49 327 P **P 16 08 15.4 +0.5**
MNHN IAmb IAmb 16 08 17.7
comp=Z,9.3nm,0.7s
WHAR Wooly Hollow 21.62 353 P **P 16 08 17.2 +1.1**
WHAR IAmb IAmb 16 08 55.5
comp=Z,14nm,1.4s
APMT Aspermont 21.88 335 P **P 16 08 18.7 -0.1**
APMT IAmb IAmb 16 08 20.6
comp=Z,4.8nm,0.8s
FCAR Ozark Folk Cen 22.20 354 P **P 16 08 21.9 +0.1**
FCAR IAmb IAmb 16 08 24.7
comp=Z,12nm,0.8s
POST Post 22.26 332 P **P 16 08 22.1 -0.5**
POST IAmb IAmb 16 08 25.9
comp=Z,7.7nm,0.9s
LCAR Lake Charles 22.29 356 P **P 16 08 23.2 +0.5**
TKL Tuckaleechee C 22.35 12 P **P 16 08 23.2 0.0**
TKL IAmb IAmb 16 08 29.3
comp=Z,15nm,1.2s
TKL Tuckaleechee C 22.35 12 P **P 16 08 23.5 +0.2**
comp=Z,2.6nm,0.5s,baz=201,slow=13,SNR=2.8
comp=Z,2.6nm,0.5s
W57A Gilead 22.86 20 P **P 16 08 27.3 -0.7**
W57A IAmb IAmb 16 08 44.2
comp=Z,21nm,1.3s
U49A Red Boiling Sp 22.87 7 P **P 16 08 28.2 +0.2**
U49A IAmb IAmb 16 08 29.8
comp=Z,6.2nm,0.7s
T47A Sharon Grove 23.21 4 P **P 16 08 31.2 +0.1**
T47A IAmb IAmb 16 08 32.1
comp=Z,9.7nm,0.7s
TZTN Tazewell 23.25 12 P **P 16 08 31.2 -0.3**
TZTN IAmb IAmb 16 09 07.1
comp=Z,24nm,1.4s
MGMO Mountain Grove 23.46 354 P **P 16 08 33.8 +0.4**
SMWD Samnorwood 23.48 337 P **P 16 08 34.3 +0.6**
SMWD IAmb IAmb 16 08 36.6
comp=Z,11nm,0.5s
MSTX Muleshoe 23.60 331 P **P 16 08 35.0 +0.1**
MSTX IAmb IAmb 16 08 36.5
comp=Z,9.6nm,0.9s
U54A Nelsons Funny 23.61 15 P **P 16 08 35.4 +0.5**
V58A Windy Hill, Pi 23.74 21 P **P 16 08 35.8 -0.1**
AMTX Amarillo 23.87 334 P **P 16 08 38.4 +1.1**
AMTX IAmb IAmb 16 08 39.7
comp=Z,7.0nm,0.5s
S39A Bolivar 24.12 352 P **P 16 08 39.9 +0.5**
CCM Cathedral Cave 24.27 356 P **P 16 08 40.7 -0.1**
R40A Maddies Statio 24.59 354 P **P 16 08 44.4 +0.8**
R40A IAmb IAmb 16 08 47.2
comp=Z,7.7nm,0.8s
KNB Kanab 31.33 322 P **P 16 09 43.5 -0.4**
MTPU Mount Pierson 31.65 324 P **P 16 09 46.0 -0.9**
MTPU IAmb IAmb 16 09 55.3
comp=Z,6.7nm,1.0s
PFO Pinyon Flats O 31.68 313 LR LR 16 22 53.9
comp=Z,99nm,20.8s,baz=262,slow=36
P17A Butcher Ranch, 31.88 327 P **P 16 09 48.2 -0.5**
ETMB Extrema 32.69 135 P **P 16 09 55.6 -0.1**
PDAR Pinedale Array 33.83 333 P **P 16 10 06.4 +0.8**
comp=Z,0.4nm,0.6s,baz=119,slow=12,SNR=3.8
comp=Z,0.4nm,0.6s
SAML Samuel 34.28 130 P **P 16 10 08.0 -1.5**
SAML IAmb IAmb 16 10 09.7
comp=Z,7.7nm,1.1s
ULM Lac du Bonnet 36.80 353 P **P 16 10 29.7 -0.8**
comp=Z,3.0nm,0.5s,baz=167,slow=9.7,SNR=6.5
comp=Z,3.0nm,0.5s
SIV San Ignacio 40.57 136 P **P 16 11 01.2 -1.2**
comp=Z,3.0nm,0.7s,baz=304,slow=9.6,SNR=13
comp=Z,3.0nm,0.7s
EDM Edmonton 43.79 339 P **P 16 11 28.2 +0.2**
EDM IAmb IAmb 16 11 29.3
comp=Z,12nm,0.7s
SCHQ Schefferville 44.55 18 P **P 16 11 33.1 -0.8**
comp=Z,3.5nm,0.4s,baz=251,slow=10,SNR=4.6
comp=Z,3.5nm,0.4s
YKA Yellowknife Ar 51.92 345 P **P 16 12 30.1 -0.1**
comp=Z,2.5nm,0.8s,baz=143,slow=7.3,SNR=31
comp=Z,2.5nm,0.8s
ILAR Eielson Array 64.15 336 P **P 16 13 54.9 -0.3**
comp=Z,0.2nm,0.6s,baz=174,slow=4.8,SNR=11
comp=Z,0.2nm,0.6s
WRA Warramunga Arr 137.98 255 PKP **PKPdf 16 22 44.8 +0.4**
comp=Z,1.5nm,0.8s,baz=92,slow=1.8,SNR=8.5
ASAR Alice Springs 138.15 250 PKP **PKiKP 16 22 45.8 -0.9**
comp=Z,0.8nm,0.9s,baz=113,slow=2.9,SNR=5.0
PZH PanZhiHua 138.59 345 PKP **PKPdf 16 22 45.3 -0.3**
CMAR Chiang Mai Arr 147.00 346 PKPbc **PKPdf 16 23 00.7 +0.3**
comp=Z,0.4nm,0.6s,baz=328,slow=4.2,SNR=4.5
BATI Baumata 147.69 273 PKPbc **PKPbc 16 23 04.6 0.0**
comp=Z,9.1nm,0.7s,baz=352,slow=10,SNR=2.1

*DJA **07** 16:12:47.0±0.3,11°S±3°×11°8E±°, h10km, M4.4/18, mb4.5/15, mB4.8/3, MLv4.4/18, Mw(mB)4.1/3*
*IDC **07** 16:12:52.9±5.8, 11°.18S×118°.43E, h62km±55km, mb3.4/1, mbtmp3.7/5, ML3.7/4, Error ellipse: s-maj=50.9km s-min=23.1km az=48.0*
ISC 07 16:12:49.4±1.2, 11°.3S±0°.1×118°.24E±0°.07, h35km, n24, σ1s48/26, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**2.49**	**349**	P	**Pn**	**16 13 28.3**	**+0.8**
BASI	**Baing, Sumba**	**2.53**	**65**	P	**Pn**	**16 13 28.9**	**+0.9**
TWSI	**Taliwang, Sumb**	**2.87**	**332**	P	**Pn**	**16 13 33.3**	**+0.6**
DNP	**Denpasar**	**3.96**	**311**	P	**Pn**	**16 13 48.4**	**+0.8**
EDFI	**Ende, Flores**	**4.23**	**54**	P	**Pn**	**16 13 51.5**	**+0.1**
SRBI	**Singaraja**	**4.36**	**317**	P	**Pn**	**16 13 54.7**	**+1.4**
MMRI	**Maumere**	**4.74**	**57**	P	**Pn**	**16 14 00.0**	**+1.6**
JAGI	**Jajag, Banyuwa**	**4.91**	**304**	P	**Pn**	**16 13 59.8**	**-0.9**
ABJI	**Asem Bagus** 38nm,0.6s,0.3nm	**5.26**	**311**	P	**Pn**	**16 14 05.6**	**0.0**
BATI	**Baumata** 19nm,1.7s,0.1nm	**5.44**	**79**	P	**Pn**	**16 14 09.4**	**+1.3**
BATI	**Baumata** 3.1nm,0.3s,baz=220,slow=0.8,SNR=6.5	**5.44**	**79**	P	**Pn**	**16 14 09.3**	**+1.2**
BATI				S	**Sn**	**16 15 08.1**	**-1.3**
	17nm,0.3s,baz=319,slow=19,SNR=5.8						
	8.2nm,0.4s						
BLJI	**Banyuglugur** 52nm,0.8s,1μm0.5nm	**5.78**	**307**	P	**Pn**	**16 14 13.1**	**+0.4**
KMMI	**Kalianget** 28nm,1.4s,0.1nm	**5.96**	**315**	P	**Pn**	**16 14 17.2**	**+2.0**
SOEI	**Soe** 19nm,1.1s,0.1nm	**6.12**	**76**	P	**Pn**	**16 14 18.5**	**+1.0**
BKSI	**Bulukumba** 32nm,0.6s,594nm0.1nm	**6.21**	**18**	P	**Pn**	**16 14 21.4**	**+2.7**
KAPI	**Kappang** 2.6nm,0.3s,baz=188,slow=8.9,SNR=11	**6.41**	**14**	P	**Pn**	**16 14 23.3**	**+1.8**
KAPI				S	**Sn**	**16 15 30.3**	**-3.1**
	5.4nm,0.3s,baz=240,slow=20,SNR=6.2						
	16nm,0.6s						
BBSI	**Bau Bau** 81nm,0.8s,0.3nm	**7.18**	**37**	P	**Pn**	**16 14 33.7**	**+1.7**
SPSI	**Sidrap Palu** 12nm,1.8s,0.1nm	**7.43**	**12**	P	**Pn**	**16 14 37.6**	**+2.1**
NGJI	**Ngawi** 28nm,0.5s,0.2nm	**7.74**	**300**	P	**Pn**	**16 14 39.5**	**-0.2**
UGM	**Wanagama** 85nm,1.2s	**8.32**	**293**	P	**Pn**	**16 14 47.4**	**-0.2**
TTSI	**Tana Toraja** 13nm,0.6s,523nm	**8.34**	**11**	P	**Pn**	**16 14 49.6**	**+1.7**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=296,slow=13,SNR=19	**17.72**	**121**	P	**Pn**	**16 16 52.3**	**-1.3**
WRA				S	Sn	16 19 57.9	-12
	0.4nm,0.6s,baz=288,slow=25,SNR=4.6						
	0.3nm,0.3s						
ASAR	**Alice Springs** 0.3nm,0.3s,baz=312,slow=13,SNR=26	**19.33**	**132**	P	**Pn**	**16 17 13.8**	**+0.6**
ASAR				S	S	16 20 35.8	-13
	0.5nm,0.9s,baz=296,slow=24,SNR=2.9						
	0.8nm,0.4s						
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=149,slow=6.3,SNR=7.0	**66.15**	**334**	P	**P**	**16 23 33.5**	**+0.2**
	0.4nm,0.5s						

*TEH **07** 16:25:01.6, 27°.83N×51°.90E, h24km±34km, ML3.5*
*DSN **07** 16:25:04.9±0.7, 27°.76N×52°.23E, h15km, ML2.9/7, Error ellipse: s-maj=13.7km s-min=6.2km az=44.0*
*OMAN **07** 16:25:06.2±0.3, 28°.14N×52°.64E, h20km, mb3.6/5, ml3.3/9, Error ellipse: s-maj=7.0km s-min=3.8km az=9.0*
ISC 07 16:25:02.9±1.1, 27°.89N±0°.04×51°.98E±0°.06, h26km, n42, σ1s59/55, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DSBU	**Dashti - Bushe**	**0.79**	**307**	Pg	**Pb**	**16 25 16.7**	**-1.3**
QIR1	**Qir**	**1.11**	**58**	Pg	**Pn**	**16 25 23.3**	**+0.4**
QIR1				Sg	**Sb**	**16 25 40.9**	**+3.4**
LMD1	**Lamerd**	**1.19**	**117**	Pg	**Pb**	**16 25 24.8**	**0.0**
JHRM	**Jahrom**	**1.54**	**66**	Pg	**Pb**	**16 25 31.1**	**+0.3**
SHI	**Shiraz**	**1.81**	**15**	Pn	**Pb**	**16 25 34.2**	**-1.2**
TRNA	**Turayna**	**3.22**	**192**	P	**Pb**	**16 26 01.5**	**+2.1**
TRNA				S	Sb	16 26 44.6	+6.5
SMRA	**Abu-Samra** SNR=6.5	**3.30**	**199**	P	Pb	16 26 03.3	+2.4
SMRA				S	Sb	16 26 48.7	+8.2
IRAM	**Ramesheh**	**3.92**	**5**	Pn	**Pn**	**16 26 02.3**	**+0.6**
SHME	**Shamm**	**4.14**	**115**	P	**Pn**	**16 26 03.9**	**-0.6**
SHME	**Shamm**	**4.14**	**115**	P	**Pn**	**16 26 04.7**	**+0.1**
SHME				S	**Sn**	**16 26 48.5**	**-3.7**
IMEH	**Mehriz**	**4.17**	**33**	Pn	**Pn**	**16 26 07.6**	**+2.5**
NAZ	**Nazwa, Dubai**	**4.39**	**130**	P	**Pn**	**16 26 08.8**	**+0.8**
ASUD	**Al Ashush, Dub**	**4.43**	**136**	P	**Pn**	**16 26 08.2**	**-0.3**
ASUD	**Al Ashush, Dub**	**4.43**	**136**	P	**Pn**	**16 26 09.2**	**+0.7**
MASF	**Masafi**	**4.51**	**123**	P	**Pn**	**16 26 09.6**	**+0.1**
FAQ	**Al Faqa, Dubai**	**4.51**	**133**	P	**Pn**	**16 26 11.3**	**+1.7**
FAQ				S	**Sn**	**16 27 01.3**	**+0.1**
MSFE	**Esma-Masafi**	**4.51**	**123**	P	**Pn**	**16 26 09.5**	**-0.2**
UOSS	**Minazif**	**4.79**	**127**	P	**Pn**	**16 26 13.1**	**-0.4**
UOSS	**Minazif**	**4.79**	**127**	P	**Pn**	**16 26 13.1**	**-0.4**
UOSS				S	**Sn**	**16 27 05.7**	**-2.5**
HATD	**Hatta, Dubai**	**4.82**	**128**	P	**Pn**	**16 26 13.6**	**-0.3**
HATD	**Hatta, Dubai**	**4.82**	**128**	P	**Pn**	**16 26 13.9**	**+0.1**
HATD				S	**Sn**	**16 27 07.6**	**-1.2**
ICHK	**Chekchek**	**4.82**	**25**	Pn	**Pn**	**16 26 15.9**	**+1.9**
ASHO	**Ashiyiah**	**4.86**	**130**	P	**Pn**	**16 26 14.4**	**0.0**
ASHO				S	**Sn**	**16 27 08.4**	**-1.5**
ASHO	**Ashiyiah** SNR=23	**4.86**	**130**	P	**Pn**	**16 26 14.4**	**0.0**
ASHO				S	**Sn**	**16 27 09.0**	**-0.9**
IZEF	**Zefreh**	**5.00**	**3**	Pn	**Pn**	**16 26 18.0**	**+1.5**
ALNE	**Al Ain**	**5.11**	**138**	P	**Pn**	**16 26 17.7**	**-0.2**
ALNE	**Al Ain** SNR=5.6	**5.11**	**138**	P	**Pn**	**16 26 17.9**	**0.0**
ALNE				S	**Sn**	**16 27 16.6**	**+0.5**
SOHO	**SOHO**	**5.55**	**131**	P	**Pn**	**16 26 23.1**	**-0.8**
SOHO	**SOHO**	**5.55**	**131**	P	**Pn**	**16 26 23.3**	**-0.6**
SOHO				S	**Sn**	**16 27 27.2**	**+0.3**
JASK	**Jask - Hormozg**	**5.63**	**110**	P	**Pn**	**16 26 24.3**	**-0.8**
JASK	**Jask - Hormozg**	**5.63**	**110**	Pn	**Pn**	**16 26 24.2**	**-0.8**
KBAM	**BAM**	**5.83**	**76**	Pn	**Pn**	**16 26 30.0**	**+2.2**
ARQ	**Araqi** SNR=14	**6.12**	**137**	P	**Pn**	**16 26 31.0**	**-0.7**
ARQ				S	**Sn**	**16 27 38.9**	**-2.0**
HOQ	**Hoqain**	**6.45**	**131**	P	**Pn**	**16 26 36.1**	**-0.1**
HOQ				S	**Sn**	**16 27 45.9**	**-3.1**
HOQ	**Hoqain**	**6.45**	**131**	Pn	**Pn**	**16 26 36.1**	**-0.1**
BSY	**Bisya** SNR=17	**6.97**	**136**	P	**Pn**	**16 26 43.0**	**-0.5**
TKDS	**Koohdasht(Taba**	**7.22**	**37**	Pn	**Pn**	**16 26 48.2**	**+1.3**
TNSJ	**Nastanj**	**7.24**	**32**	Pn	**Pn**	**16 26 48.6**	**+1.4**
SMDO	**Samad**	**7.30**	**130**	P	**Pn**	**16 26 47.2**	**-0.8**
SMDO				S	**Sn**	**16 28 04.9**	**-5.1**
WSAR	**Wadi Sarin**	**7.59**	**126**	P	**Pn**	**16 26 51.0**	**-0.8**
JMDO	**Jabal Madar**	**7.81**	**133**	P	**Pn**	**16 26 53.9**	**-1.1**
JMDO				S	**Sn**	**16 28 22.6**	**-0.1**
WBK	**Wadi Bani Khal**	**8.23**	**128**	P	**Pn**	**16 26 59.9**	**-0.8**
WBK				S	**Sn**	**16 28 29.0**	**-3.9**

*NEIC **07** 16:27:07.5±1.3, 56°.0S±0°.1×27°.9W±0°.2, h90km±7km, mb4.0/5, Error ellipse: s-maj=17.9km s-min=14.5km az=96.0*
*IDC **07** 16:27:14.2±9.9, 56°.01S×27°.57W, h151km±85km, mb3.7/5, mbtmp4.2/6, Error ellipse: s-maj=52.9km s-min=27.5km az=108.0*
ISC 07 16:27:09.9±0.6, 56°.0S±0°.1×28°.2W±0°.1, h121km, n33, σ0s81/31, mb4.0/5, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.04**	**286**	Pn	**Pn**	**16 28 23.7**	**+0.3**
HOPE				Sn	**Sn**	**16 29 19.4**	**-1.1**

VNA3	**Neumayer Olymp**	**17.28**	**160**	⇑P		**P**	**16 31 03.1**	**+0.1**
	comp=Z,4.6nm,0.8s								
VNA2	**Neumayer--Watz**	**17.50**	**157**	⇑P		**P**	**16 31 04.7**	**-0.7**
	comp=Z,3.9nm,0.5s,baz=319,slow=13								
SNAA	**Sanae**	**19.07**	**155**	P		**P**	**16 31 21.2**	**-1.3**
SNAA	**Sanae**	**19.07**	**155**	⇑P		**P**	**16 31 21.5**	**-1.1**
	comp=Z,209nm,0.4s								
SNAA	**Sanae**	**19.07**	**155**	P		**P**	**16 31 21.6**	**-0.9**
	comp=Z,8.9nm,0.4s,baz=304,slow=9.5,SNR=118								
TROLL	**Troll, Antarti**	**20.59**	**153**	⇑P		**P**	**16 31 37.8**	**-1.3**
	comp=Z,120nm,0.5s								
QSPA	**South Pole Qui**	**34.30**	**180**	P		**P**	**16 33 45.2**	**+0.8**
QSPA				IAmb		IAmb	16 33 46.1		
	comp=Z,2.0nm,0.6s								
QSPA	**South Pole Qui**	**34.30**	**180**	P		**P**	**16 33 45.5**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=188,slow=3.3,SNR=5.8								
	comp=Z,2.0nm,0.7s								
MAW	**Mawson**	**40.57**	**144**	P		**P**	**16 34 36.3**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=333,slow=19,SNR=1.6								
	comp=Z,1.9nm,0.7s								
VNDA	**Vanda**	**46.65**	**183**	P		**P**	**16 35 25.7**	**+0.3**
VNDA	**Vanda**	**46.65**	**183**	P		**P**	**16 35 26.6**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=178,slow=6.4,SNR=13								
	comp=Z,1.2nm,0.7s								
H10N1	**ASCENSION HYDR**	**49.19**	**18**	T		T	17 28 58.7		
	baz=195								
H10N3	**ASCENSION HYDR**	**49.19**	**18**	T		T	17 29 00.2		
	baz=195								
H10N2	**ASCENSION HYDR**	**49.20**	**18**	T		T	17 29 01.0		
	baz=195								
TOA0	**Torodi Ar. Sit**	**73.25**	**30**	P		**P**	**16 38 28.4**	**+0.7**
TOA0				IAmb		IAmb	16 38 28.9		
	comp=Z,1.9nm,0.7s								
TORD	**Torodi Ar. Bea**	**73.25**	**30**	P		**P**	**16 38 27.8**	**+0.2**
TORD				IAmb		IAmb	16 38 28.9		
	comp=Z,1.3nm,0.8s								
TORD	**Torodi Ar. Bea**	**73.25**	**30**	P		**P**	**16 38 28.1**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=198,slow=5.1,SNR=7.3								
	comp=Z,1.5nm,0.6s								
ASAR	**Alice Springs**	**99.25**	**163**	P		**Pdif**	**16 40 36.3**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=191,slow=3.7,SNR=4.3								
	comp=Z,0.3nm,0.6s								
WRA	**Warramunga Arr**	**102.97**	**163**	P		**Pdif**	**16 40 53.4**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=199,slow=4.4,SNR=1.6								
FINES	**FINESS Array B**	**124.56**	**28**	PKP		**PKPdf**	**16 45 52.8**	**-0.6**
	comp=Z,2.8nm,1.0s,baz=252,slow=2.8,SNR=4.0								
ARCES	**ARCESS Array B**	**131.06**	**22**	PKP		**PKiKP**	**16 46 06.3**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=245,slow=1.9,SNR=2.3								
BVAR	**Borovoye Array**	**135.20**	**58**	PKP		**PKPdf**	**16 46 13.8**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=199,slow=2.6,SNR=2.7								
YKA	**Yellowknife Ar**	**135.72**	**318**	PKP		**PKPdf**	**16 46 14.8**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=136,slow=2.1,SNR=5.2								
I30M	**Mount Dempster**	**145.46**	**315**			**PKPab**	**16 46 33.4**	**+0.5**
G29M	**Pine Creek**	**146.62**	**318**			**PKPab**	**16 46 36.8**	**-0.4**
F29M	**Blow River**	**146.95**	**320**			**PKPbc**	**16 46 37.2**	**+0.6**
F28M	**Old Crow**	**147.49**	**319**			**PKPbc**	**16 46 39.0**	**+0.9**
I26K	**Coal Creek Min**	**148.21**	**314**			**PKiKP**	**16 46 41.4**	**-0.3**
D27M	**Malcolm River**	**148.22**	**321**			**PKiKP**	**16 46 41.3**	**-0.4**
ILAR	**Eielson Array**	**149.63**	**312**			**PKPbc**	**16 46 44.1**	**+0.5**
ILAR	**Eielson Array**	**149.63**	**312**	PKPbc		**PKiKP**	**16 46 44.4**	**-0.2**
	comp=Z,3.5nm,0.9s,baz=130,slow=2.7,SNR=32								
SONM	**Songino Array**	**151.28**	**87**	PKPbc		**PKPbc**	**16 46 48.1**	**-0.2**
	comp=Z,2.6nm,0.5s,baz=220,slow=3.8,SNR=22								

*IDC **07** 16:31:41.6±2.4, 8.°11S×104.°22E, h0km, mb3.7/5, mbtmp3.7/6, ML3.6/1, MS3.1/1, Error ellipse: s-maj=68.3km s-min=27.1km az=41.0*

*DJA **07** 16:31:41.7±0.6, 8.°5S×10.°4E±.°, h10km, M4.3/17, mb4.6/4, MLv4.2/17*

ISC 07 16:31:47.2±1.3, 7.°9S±0.°1×104.°34E±0.°09, h35km, n24, σ1°31/25, mb3.7/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**1.88**	**46**	P	**Pn**	**16 32 15.7**	**-1.1**
SKJI	**Sukabumi**	**2.38**	**67**	P	**Pn**	**16 32 22.0**	**-1.8**
KASI	**Kota Agung**	**2.40**	**4**	P	**Pn**	**16 32 23.0**	**-1.0**
SBJI	**Serang**	**2.53**	**45**	P	**Pn**	**16 32 24.8**	**-1.0**
DBJI	**Dramaga**	**2.76**	**60**	P	**Pn**	**16 32 28.4**	**-0.6**
CNJI	**Cibinong**	**2.84**	**78**	P	**Pn**	**16 32 28.4**	**-1.6**
LWLI	**Liwa**	**2.91**	**355**	P	**Pn**	**16 32 29.4**	**-1.8**
CBJI	**Citeko**	**2.91**	**59**	P	**Pn**	**16 32 29.6**	**-1.5**
LEM	**Lembang**	**3.43**	**72**	P	**Pn**	**16 32 37.8**	**-0.6**
LEM	**Lembang**	**3.43**	**72**	Pn	**Pn**	**16 32 39.0**	**+0.6**
	5.2nm,0.3s,baz=337,slow=10,SNR=6.7						
LEM				Sn	**Sn**	**16 33 18.9**	**+0.9**
	5.9nm,0.3s,baz=156,slow=20,SNR=7.1						
	26nm,0.7s						
MNAI	**Manna**	**3.81**	**339**	P	**Pn**	**16 32 42.0**	**-1.4**
CMJI	**Cimerak**	**4.08**	**88**	P	**Pn**	**16 32 45.9**	**-1.2**
LHSI	**Lahat**	**4.16**	**349**	P	**Pn**	**16 32 46.8**	**-1.4**
KPJI	**Karang Pucung**	**4.59**	**83**	P	**Pn**	**16 32 53.8**	**-0.4**
UGM	**Wanagama**	**6.13**	**90**	P	**Pn**	**16 33 13.5**	**-1.9**
	114nm,1.5s,0.5nm						
JMBI	**JAMBI**	**6.29**	**354**	P	**Pn**	**16 33 16.6**	**-1.0**
NGJI	**Ngawi**	**7.08**	**86**	P	**Pn**	**16 33 27.1**	**-1.3**
	27nm,0.5s,0.3nm						
PWJI	**Pagerwojo**	**7.39**	**91**	P	**Pn**	**16 33 30.4**	**-2.3**
CMAR	**Chiang Mai Arr**	**26.76**	**349**	P	**P**	**16 37 25.1**	**+1.2**
	1.4nm,0.7s,baz=180,slow=8.6,SNR=16						
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**31.41**	**115**	P	**P**	**16 38 05.4**	**+0.1**
	0.4nm,0.9s,baz=287,slow=11,SNR=3.6						
	0.4nm,0.9s						
SONM	**Songino Array**	**55.55**	**2**	P	**P**	**16 41 19.4**	**+0.2**
	0.3nm,0.7s,baz=183,slow=7.3,SNR=2.6						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**57.91**	**342**	P	**P**	**16 41 37.1**	**+1.2**
	0.4nm,0.6s,baz=142,slow=7.3,SNR=2.9						
MKAR				LR	LR	17 08 32.0	
	comp=Z,16nm,20.2s,baz=322,slow=38						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**63.81**	**347**	P	**P**	**16 42 16.2**	**+0.5**
	0.8nm,0.4s,baz=162,slow=5.5,SNR=5.0						
	0.8nm,0.4s						
TXAR	**Lajitas Array**	**146.15**	**47**	PKPbc	**PKPbc**	**16 51 23.9**	**-0.7**
	0.5nm,0.8s,baz=319,slow=3.6,SNR=1.9						

*NEIC **07** 16:39:40.3±2.2, 47.°68N±0.°04×91.°94W±0.°05, h0km±1km, ML2.0/4, mb_Lg2.6(OTT), Error ellipse: s-maj=7.1km s-min=4.4km az=35.0*

*OTT **07** 16:39:41.7±0.2, 47.°62N×91.°89W, h0km, MN2.6/10, Blast, Minnesota, U.S. 127km south from Atikokan, On Mining explosion.*

ISC 07 16:39:40.6±1.0, 47.°65N±0.°03×91.°90W±0.°04, h0km, n20, σ0°88/31, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**0.40**	**43**		**Pg**	**16 39 48.5**	**+0.2**
EYMN				Sg	**Sg**	**16 39 53.5**	**0.0**
EYMN				IAML		16 39 56.3	
	122nm,0.1s						
EYMN	**Ely**	**0.40**	**43**	PG	**Pg**	**16 39 48.5**	**+0.2**
EYMN				SG	**Sg**	**16 39 54.5**	**+1.1**
E38A	**The Farm, Brul**	**1.07**	**167**		**Pg**	**16 40 00.6**	**-0.6**
E38A				IAML		16 40 25.6	
	comp=E,38nm,0.4s						
ATKO	**Atikokan Iron**	**1.19**	**10**	PG	**Pg**	**16 40 02.9**	**-0.4**
ATKO				SG	**Sg**	**16 40 19.0**	**+0.3**
ATKO				Trac		16 40 21.9	
	comp=E,6.0nm,0.1s						
TBO	**Thunder Bay**	**1.94**	**58**	PN	**Pn**	**16 40 15.4**	**+0.5**
TBO				SN	**Sn**	**16 40 40.3**	**+0.4**
TBO				Trac		16 40 46.1	
	comp=E,11nm,0.1s						
F36A	**Milaca**	**2.11**	**213**	Pn	**Pn**	**16 40 18.1**	**+1.0**
D41A	**Chassel**	**2.34**	**103**	Pn	**Pn**	**16 40 20.7**	**+0.4**
EPLO	**Experimental L**	**2.36**	**330**	PN	**Pn**	**16 40 21.4**	**+0.9**
EPLO				SN	**Sn**	**16 40 50.8**	**+0.6**
EPLO				Trac		16 41 09.1	
	comp=E,4.0nm,0.1s						
SOLO	**Sioux Lookout**	**2.37**	**357**	PN	**Pn**	**16 40 21.8**	**+1.1**
SOLO				SN	**Sn**	**16 40 51.1**	**+0.5**
SOLO				Trac		16 40 56.2	
	comp=E,6.2nm,0.1s						
COWI	**Conover**	**2.45**	**128**	Pn	**Pn**	**16 40 22.6**	**+0.8**
SPMN	**Marine on St.**	**2.51**	**195**	Pn	**Pn**	**16 40 24.4**	**+1.7**
G40A	**Rib Lake**	**2.66**	**153**	Pn	**Pn**	**16 40 24.4**	**-0.3**
F42A	**Maple Grove Fa**	**3.21**	**125**	Pn	**Pn**	**16 40 31.6**	**-0.6**
E43A	**Lone Tree Farm**	**3.59**	**109**	Pn	**Pn**	**16 40 37.0**	**-0.4**
ULM	**Lac du Bonnet**	**3.69**	**316**	Pn	**Pn**	**16 40 36.8**	**-2.0**
ULM	**Lac du Bonnet**	**3.69**	**316**	PN	**Pn**	**16 40 39.0**	**+0.1**
ULM				SN	**Sn**	**16 41 21.6**	**-1.4**
ULM				Trac		16 41 42.5	
	comp=E,20nm,0.7s						
PNPO	**Pukaskwa Natio**	**3.88**	**74**	PN	**Pn**	**16 40 41.5**	**+0.1**
PNPO				SN	**Sn**	**16 41 28.0**	**+0.4**
PNPO				Trac		16 41 48.5	
	comp=E,3.5nm,0.1s						
GTO	**Geraldton**	**3.88**	**56**	PN	**Pn**	**16 40 41.4**	**-0.1**
GTO				SN	**Sn**	**16 41 26.3**	**-1.5**
GTO				Trac		16 42 00.7	
	comp=E,3.9nm,0.1s						
GTOO	**Geraldton**	**3.88**	**56**	PN	**Pn**	**16 40 41.7**	**+0.2**
GTOO				SN	**Sn**	**16 41 26.7**	**-1.0**
GTOO				Trac		16 41 47.6	
	comp=E,3.1nm,0.1s						
PKLO	**Pickle Lake**	**3.98**	**14**	PN	**Pn**	**16 40 43.0**	**+0.2**
PKLO				SN	**Sn**	**16 41 28.8**	**-1.3**
PKLO				Trac		16 41 48.3	
	comp=E,2.4nm,0.2s						

*JMA **07** 16:44:21.8±0.2, 25.°1N±2.°×123.°5E±0.°4, h122km±2km, MV3.2/17, NW OFF ISHIGAKIJIMA IS*

ISC 07 16:44:21.4±1.8, 25.°0N±0.°1×123.°53E±0.°05, h127km±15km, n20, σ0°59/32, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.69**	**164**	P	**Pn**	**16 44 41.1**	**-0.3**
IRIF				S	**Sn**	**16 44 56.1**	**-0.3**
YOJ	**Yonaguni jima**	**0.71**	**221**	P	**Pn**	**16 44 41.8**	**+0.3**
YOJ	**Yonaguni jima**	**0.71**	**221**	P	**Pn**	**16 44 41.5**	**0.0**
YOJ				*eS*	**Sn**	**16 44 56.3**	**-0.4**
JYNG	**Yonagunijimaku**	**0.76**	**224**	*eP*	**Pn**	**16 44 42.1**	**+0.2**
JYNG				*eS*	**Sn**	**16 44 57.2**	**-0.2**
JISG	**Ishigakijimahi**	**0.82**	**120**	*iP*	**Pn**	**16 44 42.2**	**-0.2**
JISG				*eS*	**Sn**	**16 44 58.2**	**-0.1**
JIJ	**Ishigaki jima**	**0.84**	**138**	P	**Pn**	**16 44 42.4**	**-0.2**
JIJ				S	**Sn**	**16 44 58.2**	**-0.5**
JKRS	**Kuro-shima**	**0.88**	**150**	P	**Pn**	**16 44 43.2**	**+0.3**
JKRS				*eS*	**Sn**	**16 44 58.9**	**-0.2**
HATJ	**Hateruma jima**	**0.97**	**165**	P	**Pn**	**16 44 43.9**	**+0.2**
HATJ				*eS*	**Sn**	**16 45 00.7**	**0.0**
JTJ	**Tarama**	**1.13**	**108**	P	**Pn**	**16 44 45.6**	**+0.4**
JTJ				S	**Sn**	**16 45 03.4**	**+0.1**
JIRB	**Irabujima**	**1.50**	**96**	P	**Pn**	**16 44 49.5**	**+0.2**
JIRB				*eS*	**Sn**	**16 45 11.0**	**+0.4**
JIKM	**Ikemajima**	**1.56**	**92**	*eP*	**Pn**	**16 44 50.6**	**+0.6**
JIKM				*eS*	**Sn**	**16 45 12.1**	**+0.3**
JMJ2	**Miyako jima3**	**1.66**	**98**	*i* P	**Pn**	**16 44 51.7**	**+0.6**
JMJ2				S	**Sn**	**16 45 14.2**	**+0.5**
JOGS	**Gusukube**	**1.72**	**97**	P	**Pn**	**16 44 52.6**	**+0.7**
JOGS				S	**Sn**	**16 45 15.8**	**+0.7**
TATO	**Taipei**	**1.85**	**270**	P	**Pn**	**16 44 53.9**	**+0.5**
NACB	**Ninganchiao**	**1.94**	**245**	P	**Pn**	**16 44 53.7**	**-0.8**
YHNB	**Yeheng**	**1.98**	**261**	P	**Pn**	**16 44 55.9**	**+0.9**
YULB	**Yu-li**	**2.59**	**232**	P	**Pn**	**16 45 01.8**	**-0.8**
SSLB	**Suanglung**	**2.64**	**243**	P	**Pn**	**16 45 03.4**	**+0.2**
TPUB	**Ta-pu**	**3.14**	**238**	P	**Pn**	**16 45 10.8**	**+1.0**
JOW	**Kunigami**	**4.65**	**66**	P	**Pn**	**16 45 28.1**	**-1.6**

DJA 07 16:57:50.7±0.3, 1.°N±3.°×9.°9E±.°, h10km, M4.3/13, mb5.1/4, mB5.9/1, MLv3.9/13, Mw(mB)5.5/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.75**	**267**	P	Pn	16 58 21.3	+0.2
PBSI	**Pulau Batu**	**1.78**	**216**	P	Pn	16 58 20.7	-0.8
BKNI	**Bangkinang**	**2.02**	**122**	P	Pg	16 58 29.0	-0.5
PDSI	**Padang**	**2.56**	**154**	P	Pn	16 58 32.4	0.0
SISI	**Saibi**	**2.72**	**185**	P	Pn	16 58 35.1	+0.6
KRJI	**Kerinci**	**4.08**	**148**	P	Pn	16 58 52.5	-0.7
JMBI	**JAMBI**	**5.27**	**125**	P	Pn	16 59 10.5	+1.0
DSRI	**Dabo**	**5.58**	**110**	P	Pn	16 59 13.8	0.0
	5.8nm,0.6s,0.1nm						
LHSI	**Lahat**	**6.68**	**141**	P	Pn	16 59 29.7	+0.8
	215nm,0.8s,8μm1.5nm						
MNAI	**Manna**	**6.78**	**148**	P	Pn	16 59 29.8	-0.5

*NCEDC **07** 17:00:29.8±1.6, 36.°62N±0.°01×121.°22W±0.°03, h6km±7km, ML3.2/29, ML3.1/70(NEIC), Error ellipse: s-maj=3.4km s-min=2.1km az=79.0*

*ANF **07** 17:00:29.5±1.6, 36.°62N×121.°19W, h5km, ML3.2/8, Error ellipse: s-maj=14.2km s-min=8.3km az=98.0*

*NEIC **07** 17:00:30.1±1.2, 36.°60N±0.°01×121.°25W±0.°02, h9km±7km, Error ellipse: s-maj=2.9km s-min=1.7km az=69.0*

ISC 07 17:00:29.6±0.8, 36.°59N±0.°02×121.°27W±0.°02, h12km±5km, n144, σ0°79/153, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJOM	**Mount Johnson**	**0.05**	**317**		**Pg**	**17 00 33.1**	**+1.1**
BVL	**Bear Valley**	**0.07**	**104**		**Pg**	**17 00 31.5**	**-0.6**
BJCM	**Johnson Can.**	**0.11**	**246**		**Pg**	**17 00 32.9**	**+0.3**
SCZ	**Santa Cruz**	**0.11**	**274**		**Pg**	**17 00 32.8**	**+0.3**
SCZ					**Sg**	**17 00 34.9**	**+0.2**
BPIM	**Pinnacles**	**0.13**	**141**		**Pg**	**17 00 32.7**	**-0.2**
BEMM	**Emmet**	**0.16**	**63**		**Pg**	**17 00 33.0**	**-0.2**
BSGM	**Shirttail Gulc**	**0.18**	**176**		**Pg**	**17 00 33.8**	**+0.2**
BSGM					**Sg**	**17 00 36.5**	**+0.2**
BBGB	**Big Mountain B**	**0.18**	**94**		**Pg**	**17 00 34.0**	**+0.2**
BAVM	**Antelope Valle**	**0.20**	**74**		**Pg**	**17 00 33.9**	**-0.1**
BSRM	**Salinas Radio**	**0.21**	**291**		**Pg**	**17 00 34.6**	**+0.4**
SAO	**San Andreas Ge**	**0.22**	**320**	Pg	**Pg**	**17 00 34.4**	**0.0**
FRP	**Fremont Peak**	**0.24**	**313**		**Pg**	**17 00 34.7**	**0.0**
BSMM	**Soledad Missio**	**0.24**	**212**		**Pg**	**17 00 35.6**	**+0.8**
LRV	**Little Rabbit**	**0.26**	**129**		**Pg**	**17 00 35.4**	**+0.3**
HSFM	**Saint Francis**	**0.29**	**320**		**Pb**	**17 00 37.0**	**+0.2**
BPCNC	**Pine Canyon**	**0.29**	**267**		**Pg**	**17 00 36.4**	**+0.9**
HLTM	**Lone Tree Road**	**0.29**	**354**		**Pb**	**17 00 37.0**	**+0.1**
HAST	**Hastings Reser**	**0.30**	**228**		**Pg**	**17 00 36.6**	**+0.7**
HBTM	**San Juan Bauti**	**0.34**	**319**		**Pg**	**17 00 36.9**	**+0.4**
BCWM	**Chews Ridge**	**0.37**	**220**		**Pg**	**17 00 38.0**	**+0.9**
OCR	**O'Connell Ranc**	**0.38**	**330**		**Pg**	**17 00 37.1**	**-0.1**
HTUM	**Tustin Road**	**0.38**	**308**		**Pg**	**17 00 37.4**	**+0.2**
ANZ	**Anzar Road**	**0.39**	**319**		**Pg**	**17 00 37.6**	**+0.1**
HFEM	**San Felipe**	**0.41**	**345**		**Pg**	**17 00 38.3**	**+0.6**
HERM	**Elkhorn Road**	**0.41**	**300**		**Pg**	**17 00 38.4**	**+0.6**
BPRM	**Ponciano Ridge**	**0.41**	**244**		**Pg**	**17 00 38.7**	**+0.8**
PACP	**Pacheco Peak**	**0.42**	**358**		**Pg**	**17 00 38.5**	**+0.5**
HCOM	**Corn Cob Canyo**	**0.46**	**310**		**Pg**	**17 00 39.0**	**+0.3**
HCBM	**Chamberlain**	**0.46**	**317**		**Pg**	**17 00 39.8**	**+1.0**
CDC	**Canada Road**	**0.47**	**338**		**Pg**	**17 00 39.6**	**+0.8**
HCAM	**Canada Road**	**0.47**	**338**		**Pg**	**17 00 39.7**	**+0.9**
HPCM	**Pacheco Lake**	**0.47**	**359**		**Pg**	**17 00 39.3**	**+0.4**
SLD	**San Luis Dam**	**0.48**	**5**		**Pg**	**17 00 39.3**	**+0.1**
PCCM	**Crazy Canyon**	**0.51**	**170**		**Pg**	**17 00 40.3**	**+0.7**
BAPM	**Anderson Peak**	**0.51**	**216**		**Pg**	**17 00 40.5**	**+0.8**
GHS	**Gilroy Hot Spr**	**0.52**	**344**		**Pg**	**17 00 40.4**	**+0.5**
PMPB	**Monarch Peak**	**0.53**	**135**		**Pg**	**17 00 40.0**	**-0.1**
PMPB				IAML		17 00 50.8	
	comp=N,1μm,0.8s						
PMPB				IAML		17 00 52.9	
	comp=E,2μm,0.5s						
HLPM	**Lions Peak**	**0.54**	**327**		**Pg**	**17 00 40.6**	**+0.5**
BPOM	**Post Ranch**	**0.54**	**228**		**Pg**	**17 00 40.9**	**+0.7**
JELB	**Ellicott, Sant**	**0.56**	**307**		**Pg**	**17 00 41.1**	**+0.5**
HULI	**Fort Hunter Li**	**0.57**	**177**		**Pg**	**17 00 41.2**	**+0.5**
SCKWR	**San Luis Creek**	**0.61**	**15**		**Pg**	**17 00 42.3**	**+0.7**
CADM	**Anderson Res.**	**0.64**	**334**		**Pg**	**17 00 42.6**	**+0.6**
PSAM	**San Ardo**	**0.64**	**151**		**Pg**	**17 00 42.2**	**+0.1**
PPTM	**Peach Tree Val**	**0.65**	**137**		**Pg**	**17 00 42.3**	**-0.1**
PJUM	**Juniper Ridge**	**0.66**	**123**		**Pg**	**17 00 42.7**	**+0.3**
JLAB	**Laurel Hill**	**0.68**	**327**		**Pg**	**17 00 43.0**	**+0.2**
PAPM	**Alder Peak**	**0.68**	**186**		**Pg**	**17 00 43.5**	**+0.6**
CCOB	**Coe Ranch Numb**	**0.74**	**334**		**Pb**	**17 00 45.0**	**+0.4**
PSMM	**Smith Mountain**	**0.75**	**134**		**Pg**	**17 00 44.4**	**+0.2**
CMPM	**Mikes Peak**	**0.77**	**357**		**Pg**	**17 00 45.0**	**+0.5**
PDRM	**Domengine Ranc**	**0.77**	**109**		**Pg**	**17 00 45.0**	**+0.5**
PHSB	**Hesperia Broad**	**0.79**	**167**		**Pg**	**17 00 45.0**	**+0.2**
ARN	**Arnold Ranch**	**0.79**	**344**		**Pg**	**17 00 45.3**	**+0.4**
MHC	**Mount Hamilton**	**0.81**	**338**		**Pg**	**17 00 45.8**	**+0.6**
PHPM	**Hope Ranch**	**0.81**	**139**		**Pg**	**17 00 44.9**	**-0.4**
JJOM	**Saint Joseph's**	**0.84**	**317**		**Pg**	**17 00 45.3**	**-0.5**
SCCB	**Santa Clara Co**	**0.84**	**326**		**Pg**	**17 00 46.3**	**+0.4**
PANM	**San Antonio Re**	**0.86**	**160**		**Pg**	**17 00 46.4**	**+0.1**
PWMM	**Westland Maint**	**0.87**	**100**		**Pb**	**17 00 47.1**	**+0.5**
CMMM	**Mount Mocho**	**0.88**	**348**		**Pg**	**17 00 47.1**	**+0.4**
PVCM	**Vineyard Canyo**	**0.89**	**138**		**Pg**	**17 00 46.5**	**-0.4**
PPO	**Portuguese Can**	**0.90**	**144**		**Pg**	**17 00 47.0**	**0.0**
PSTM	**Stockdale Moun**	**0.90**	**137**		**Pg**	**17 00 46.5**	**-0.6**
PHCM	**Hearst Castle**	**0.91**	**174**		**Pg**	**17 00 47.4**	**+0.1**
MTOS	**Mt Oso, Westle**	**0.91**	**357**		**Pg**	**17 00 47.8**	**+0.5**
CMLM	**Mount Lewis**	**0.94**	**341**		**Pg**	**17 00 47.9**	**+0.2**
PWKM	**Work Ranch**	**0.99**	**141**		**Pg**	**17 00 48.5**	**-0.2**
JSJM	**St Joseph**	**0.99**	**319**		**Pg**	**17 00 48.1**	**-0.6**
PHFM	**Heflinger Ranc**	**1.00**	**135**		**Pg**	**17 00 48.5**	**-0.3**
CTM	**Castle Mountai**	**1.00**	**131**		**Pg**	**17 00 49.3**	**+0.4**
RAMR	**Ramage Ranch**	**1.01**	**161**		**Pg**	**17 00 48.7**	**-0.3**
JBMM	**Black Mountain**	**1.01**	**316**		**Pg**	**17 00 48.5**	**-0.7**
PHAM	**Harlan Ranch**	**1.03**	**137**		**Pg**	**17 00 49.1**	**-0.4**
MYLM	**Yosemite Lake**	**1.04**	**40**		**Pg**	**17 00 49.0**	**-0.7**
JPSM		**1.06**	**305**		**Pg**	**17 00 49.1**	**-0.9**
GHC	**Gold Hill**	**1.06**	**135**		**Pg**	**17 00 49.4**	**-0.7**
CSTL	**Corral Hollow**	**1.06**	**350**		**Pg**	**17 00 50.3**	**+0.2**
JFP	**Foothills Park**	**1.06**	**316**		**Pg**	**17 00 49.3**	**-0.9**
PKEM	**Kettleman Hill**	**1.08**	**119**		**Pn**	**17 00 51.0**	**+0.4**
JSFB	**Stanford Teles**	**1.09**	**318**		**Pb**	**17 00 49.7**	**-0.7**
PKLM	**Kerr Lake**	**1.11**	**137**		**Pb**	**17 00 50.2**	**-0.6**
JRSC	**Jasper Ridge**	**1.12**	**317**		**Pb**	**17 00 49.9**	**-1.2**
PSNM	**Stone Corral**	**1.12**	**135**		**Pb**	**17 00 50.6**	**-0.4**
CVLM	**Vallecito**	**1.13**	**336**		**Pb**	**17 00 50.1**	**-1.0**
TCAS	**Cass Winery, P**	**1.14**	**149**		**Pb**	**17 00 50.9**	**-0.3**
TCHL	**Shandon**	**1.14**	**142**		**Pb**	**17 00 51.2**	**-0.2**
ARDC	**Alexander Ranc**	**1.15**	**168**		**Pb**	**17 00 50.8**	**-0.7**
CNIC	**Niles Canyon**	**1.16**	**331**		**Pb**	**17 00 50.8**	**-0.9**
PMRM	**Maxey Ranch**	**1.16**	**134**		**Pb**	**17 00 51.1**	**-0.6**
TRAM	**Private Proper**	**1.22**	**138**		**Pn**	**17 00 52.5**	**-0.1**
MHDM	**Hidden Dam**	**1.22**	**64**		**Pn**	**17 00 51.5**	**-1.1**
PTAM	**Tassajara Cree**	**1.28**	**159**		**Pn**	**17 00 52.9**	**-0.5**
TSCN	**Private Proper**	**1.28**	**144**		**Pn**	**17 00 53.0**	**-0.5**
CSLM	**San Leandro Hi**	**1.32**	**329**		**Pn**	**17 00 53.0**	**-0.9**
LSDC	**Los Osos Digit**	**1.34**	**165**		**Pn**	**17 00 54.9**	**+0.8**
SAC	**San Andreas**	**1.35**	**317**		**Pn**	**17 00 53.2**	**-1.2**
VPDC	**Valencia Peak**	**1.39**	**166**		**Pn**	**17 00 54.3**	**-0.6**
TRAY	**Twisselman Ran**	**1.39**	**138**		**Pn**	**17 00 54.4**	**-0.5**
PBPM	**Bitterwater Pu**	**1.40**	**136**		**Pn**	**17 00 54.4**	**-0.6**
JSBM	**San Bruno Moun**	**1.41**	**321**		**Pn**	**17 00 53.5**	**-1.7**
DCD	**Diablo Creek**	**1.42**	**166**		**Pn**	**17 00 54.4**	**-0.9**
MMIM	**Miami Mountain**	**1.48**	**55**		**Pn**	**17 00 55.6**	**-0.6**
MCUB	**Copperopolis B**	**1.48**	**20**		**Pn**	**17 00 55.4**	**-0.7**
VOG	**Valley Oaks Go**	**1.54**	**99**	P	**Pn**	**17 00 57.0**	**0.0**
	baz=282						
VOG

mbtmp3.9/8,MS3.8/25,Error ellipse: s-maj=31.4km s-min=22.8km az=170.0

ISC 07 17:09:27.5±0.8,**53°6'S**±0.2°×**134°2'W**±0.2,**h10km,n42,** σ0**9**46/12,**mb4.0**/8,**MS3.9**/25,**Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**32.76**	**201**	P	**P**	**17 16 00.2**	**+0.2**
	0.6nm,0.9s,baz=70,slow=6.3,SNR=1.6						
VNDA				LR	LR	17 26 03.7	
	comp=Z,87nm,18.7s,baz=96,slow=30 0.6nm,0.9s						
PMSA	**Palmer Station**	**35.67**	**136**	LR	LR	17 27 10.4	
	comp=Z,314nm,20.9s,baz=278,slow=30						
URZ	**Urewera**	**36.39**	**275**	LR	LR	17 28 15.7	
	comp=Z,100nm,18.5s,baz=208,slow=31						
RPZ	**Rata Peaks**	**36.62**	**263**	LR	LR	17 27 28.9	
	comp=Z,130nm,20.2s,baz=116,slow=30						
RAR	**Rarotonga**	**37.78**	**319**	LR	LR	17 27 58.8	
	comp=Z,218nm,19.8s,baz=156,slow=30						
PPT	**Papeete**	**37.92**	**336**	LR	LR	17 28 51.9	
	comp=Z,211nm,18.6s,baz=173,slow=31						
H03S2	**Juan Fernandez**	**43.32**	**86**	T	T	18 03 56.0	
	baz=223,slow=74,SNR=15						
H03S1	**Juan Fernandez**	**43.33**	**86**	T	T	18 03 57.3	
	baz=223,slow=74,SNR=18						
H03S3	**Juan Fernandez**	**43.34**	**86**	T	T	18 03 56.3	
	baz=223,slow=74,SNR=15						
H03N3	**Juan Fernandez**	**43.59**	**85**	T	T	18 04 06.9	
	baz=227,slow=71,SNR=121						
H03N2	**Juan Fernandez**	**43.60**	**85**	T	T	18 04 04.0	
	baz=227,slow=71,SNR=155						
H03N1	**Juan Fernandez**	**43.61**	**85**	T	T	18 04 04.1	
	baz=227,slow=71,SNR=124						
PLCA	**Paso Flores**	**43.71**	**100**	P	**P**	**17 17 32.3**	**-0.3**
	2.4nm,1.0s,baz=208,slow=16,SNR=2.7						
PLCA				LR	LR	17 30 57.2	
	comp=Z,121nm,20.3s,baz=219,slow=30 2.4nm,1.0s						
SNAA	**Sanae**	**50.40**	**162**	P	**P**	**17 18 24.0**	**-0.4**
	0.8nm,0.8s,baz=272,slow=20,SNR=1.3						
SNAA				LR	LR	17 38 41.9	
	comp=Z,140nm,18.5s,baz=187,slow=35 0.8nm,0.8s						
DZM	**Mont Dzumac**	**54.42**	**281**	LR	LR	17 38 01.9	
	comp=Z,35nm,18.3s,baz=136,slow=32						
LVC	**Limon Verde**	**57.52**	**84**	LR	LR	17 38 08.8	
	comp=Z,30nm,20.6s,baz=220,slow=30						
MAW	**Mawson**	**58.41**	**188**	P	**P**	**17 19 22.7**	**+0.2**
	3.1nm,0.9s,baz=193,slow=19,SNR=2.1 3.1nm,0.9s						
NNA	**Nana**	**61.32**	**70**	LR	LR	17 39 28.3	
	comp=Z,133nm,20.7s,baz=199,slow=29						
CPUP	**Villa Florida**	**61.60**	**96**	LR	LR	17 41 39.2	
	comp=Z,82nm,21.2s,baz=218,slow=31						
ATAH	**Atahualpa**	**64.46**	**65**	LR	LR	17 42 26.4	
	comp=Z,61nm,18.3s,baz=211,slow=31						
SIV	**San Ignacio**	**67.29**	**86**	P	**P**	**17 20 22.8**	**+0.3**
	1.8nm,0.9s,baz=188,slow=6.0,SNR=5.3 1.8nm,0.9s						
CTA	**Charters Tower**	**67.91**	**266**	LR	LR	17 45 22.7	
	comp=Z,36nm,19.5s,baz=93,slow=32						
ASAR	**Alice Springs**	**72.38**	**254**	P	**P**	**17 20 53.4**	**-0.3**
	1.7nm,0.8s,baz=141,slow=7.0,SNR=17						
ASAR				LR	LR	17 49 24.8	
	comp=Z,38nm,18.4s,baz=152,slow=33 1.7nm,0.8s						
H01W1	**Cape Leeuwin H**	**73.92**	**233**	T	T	18 42 33.9	
	baz=142						
H01W2	**Cape Leeuwin H**	**73.93**	**233**	T	T	18 42 33.0	
	baz=142						
H01W3	**Cape Leeuwin H**	**73.94**	**233**	T	T	18 42 31.1	
	baz=142						
WRA	**Warramunga Arr**	**75.03**	**257**	P	**P**	**17 21 09.4**	**+0.1**
	1.0nm,0.7s,baz=145,slow=5.3,SNR=11 1.0nm,0.7s						
BDFB	**Brasilia**	**75.33**	**96**	LR	LR	17 50 01.0	
	comp=Z,60nm,21.2s,baz=14,slow=32						
TXAR	**Lajitas Array**	**86.77**	**26**	P	**P**	**17 22 11.4**	**-0.2**
	0.3nm,0.7s,baz=203,slow=5.9,SNR=2.3 0.3nm,0.7s						
MDP	**Montagnes des**	**89.09**	**80**	LR	LR	17 56 44.1	
	comp=Z,44nm,19.4s,baz=258,slow=32						
ANMO	**Albuquerque**	**91.43**	**23**	LR	LR	17 56 01.8	
	comp=Z,31nm,19.4s,baz=150,slow=31						
SUR	**Sutherland**	**91.65**	**150**	LR	LR	17 57 39.3	
	comp=Z,97nm,19.2s,baz=182,slow=32						
NVAR	**Mina Array Bea**	**92.71**	**12**	LR	LR	17 55 51.2	
	comp=Z,44nm,19.7s,baz=94,slow=30						
KAPI	**Kappang**	**95.40**	**254**	LR	LR	18 02 09.9	
	comp=Z,17nm,20.5s,baz=192,slow=33						
YBH	**Yreka Blue Hor**	**95.50**	**9**	LR	LR	17 57 06.4	
	comp=Z,54nm,18.2s,baz=192,slow=30						
BOSA	**Boshof**	**96.19**	**162**	LR	LR	18 02 47.9	
	comp=Z,56nm,18.6s,baz=183,slow=33						
PDAR	**Pinedale Array**	**98.33**	**18**	LR	LR	17 58 41.6	
	comp=Z,40nm,20.0s,baz=81,slow=30						
LBTB	**Lobatse**	**99.76**	**161**	LR	LR	18 06 52.7	
	comp=Z,52nm,18.0s,baz=206,slow=34						
ILAR	**Eielson Array**	**118.47**	**354**	PKP	**PKiKP**	**17 28 14.6**	**+0.8**
	0.2nm,0.8s,baz=163,slow=0.9,SNR=1.9						
SONM	**Songino Array**	**142.23**	**287**	PKP	**PKPdf**	**17 28 59.6**	**+0.3**
	0.6nm,0.8s,baz=153,slow=4.8,SNR=3.3						
MKAR	**Makanchi Array**	**155.86**	**268**	PKPab	**PKPab**	**17 29 47.8**	**-0.1**
	0.5nm,0.7s,baz=100,slow=4.7,SNR=2.2						
ZALV	**Zalesovo Beam**	**157.13**	**287**	PKPab	**PKPab**	**17 29 52.2**	**-0.8**
	0.3nm,0.4s,baz=108,slow=4.7,SNR=2.1						

*IDC **07** 17:21:15.1±1.1,13°.43N×146°.12E,h0km,mb3.7/9, mbtmp3.7/9,Error ellipse: s-maj=23.3km s-min=22.4km az=149.0*

ISC 07 17:21:21.2±1.0,**13°.4N**±0°.2×**146°.1E**±0°.1,**h43km,n12,** σ0**6**67/13,**mb3.7**/10,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.17**	**279**	Pn	**Pn**	**17 21 40.6**	**-0.5**
	69nm,0.3s,baz=86,slow=14,SNR=49						
GUMO				Sn	**Sn**	**17 21 56.4**	**+0.5**
	115nm,0.3s,baz=214,slow=23,SNR=8.1						
KSRS	**Korea Array**	**28.90**	**329**	P	**P**	**17 27 14.9**	**-1.2**
	1.5nm,0.9s,baz=139,slow=8.0,SNR=2.0 1.5nm,0.9s						
WRA	**Warramunga Arr**	**35.09**	**199**	P	**P**	**17 28 10.5**	**0.0**
	0.3nm,0.8s,baz=22,slow=9.8,SNR=2.3 0.3nm,0.8s						
ASAR	**Alice Springs**	**38.72**	**198**	P	**P**	**17 28 41.0**	**-0.4**
	0.3nm,0.8s,baz=24,slow=9.3,SNR=4.2 0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**45.48**	**283**	P	**P**	**17 29 37.2**	**+0.6**
	0.5nm,0.7s,baz=84,slow=6.1,SNR=7.1 0.5nm,0.7s						
MKAR	**Makanchi Array**	**62.42**	**316**	P	**P**	**17 31 41.0**	**+1.0**
	0.5nm,0.7s,baz=94,slow=7.8,SNR=2.5 0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**65.50**	**320**	P	**P**	**17 32 00.5**	**+0.4**
	0.6nm,0.7s,baz=101,slow=6.8,SNR=5.1 0.6nm,0.7s						
ILAR	**Eielson Array**	**68.24**	**25**	P	**P**	**17 32 17.9**	**+0.6**
	0.4nm,0.7s,baz=251,slow=5.9,SNR=6.2 0.4nm,0.7s						
BVAR	**Borovoye Array**	**70.78**	**322**	P	**P**	**17 32 33.2**	**0.0**
	0.6nm,0.5s,baz=100,slow=7.5,SNR=4.3 0.6nm,0.5s						
FINES	**FINESS Array B**	**91.81**	**335**	P	**P**	**17 34 24.3**	**-0.1**
	5.6nm,1.1s,baz=82,slow=4.0,SNR=4.8						
BRTR	**Keskin Array B**	**98.02**	**314**	P	**P**	**17 34 52.9**	**-0.6**
	0.7nm,0.8s,baz=55,slow=6.0,SNR=2.0 0.7nm,0.8s						
DBIC	**Dimbokro**	**144.89**	**303**	PKP	**PKPdf**	**17 40 55.1**	**+0.4**
	3.7nm,0.8s,baz=35,slow=4.8,SNR=3.5						

*LDG **07** 17:42:48.7±0.1,51°.58N×16°.09E,h1km,Ml4.5/31,Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0, Suspected Mining induced.*
*MOS **07** 17:42:48.8±1.4,51°.61N×16°.09E,h10km,mb4.6/21,Error ellipse: s-maj=5.0km s-min=2.9km az=76.2*
*IPEC **07** 17:42:49.0±0.2,51°.58N×16°.14E,h1km,ML3.9/4,Error ellipse: s-maj=2.9km s-min=1.4km az=59.0*
*NEIC **07** 17:42:50.8±2.9,51°.58N±0°.06×16°.09E±0°.08,h10km±1km, mb4.5/54,Error ellipse: s-maj=9.4km s-min=8.2km az=2.0*
*DNK **07** 17:42:50.7±1.5,51°.66N×16°.07E,h0km,ML3.4,Suspected explosion*
*BNS **07** 17:42:50.8±0.2,51°.44N×16°.03E,h1km,ML4.0*
*IDC **07** 17:42:50.4±0.4,51°.53N×16°.07E,h0km,mb4.1/20,*

mbtmp4.1/32,ML3.5/12,MS3.5/1,Error ellipse: s-maj=8.4km s-min=5.6km az=105.0
*PRU **07** 17:42:51.3,51°.50N×16°.12E,h0km,M4.7*
*BGR **07** 17:42:51.3±0.3,51°.51N×16°.13E,h1km,ML4.3,Error ellipse: s-maj=4.4km s-min=2.2km az=14.0*
*UPP **07** 17:42:55.9±3.3,51°.92N×15°.64E,h0km,ML3.6*

ISC 07 17:42:49.3±0.3,**51°.60N**±0°.02×**16°.09E**±0°.02,**h0km,n462,** σ1**67**/555,**mb4.5**/56,**26C-27D,Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.77**	**170**	*i* Pg	**Pg**	**17 43 03.5**	**-0.4**
KSP				eSg	**Sg**	**17 43 12.5**	**-1.4**
KSP	**Ksiaz**	**0.77**	**170**	ePg	**Pg**	**17 43 03.6**	**-0.3**
CHVC	**Chvalec**	**1.01**	**181**	ePG	**Pg**	**17 43 08.4**	**-0.2**
CHVC				eSG	**Sg**	**17 43 20.7**	**-1.0**
CHVC	**Chvalec**	**1.01**	**181**	eP	**Pg**	**17 43 08.4**	**-0.2**
CHVC				*e*		17 43 20.7	
OSTC	**Ostas**	**1.04**	**176**	ePG	**Pg**	**17 43 09.0**	**-0.3**
OSTC				eSG	**Sg**	**17 43 21.8**	**-1.0**
	comp=Z,13μm,3.3s						
OSTC				AMS	AMS	17 43 30.0	
	comp=Z,13μm,3.3s						
OSTC	**Ostas**	**1.04**	**176**	eP	**Pg**	**17 43 09.0**	**-0.3**
OSTC				*e*		17 43 21.8	
OSTC				smax	smax		
	comp=N,13μm,3.3s						
OSTC				MLR	MLR		
	comp=Z,13μm,3.3s						
UPC	**Upice**	**1.09**	**183**	ePG	**Pg**	**17 43 09.5**	**-0.7**
UPC				eSG	**Sg**	**17 43 22.6**	**-1.7**
	comp=Z,2μm,0.5s						
UPC	**Upice**	**1.09**	**183**	eP	**Pg**	**17 43 09.5**	**-0.7**
UPC				*e*		17 43 22.6	
UPC				smax	smax		
	comp=N,2μm,0.5s						
DPC	**Dobruska-Polom**	**1.26**	**173**	ePG	**Pg**	**17 43 12.3**	**-1.1**
DPC				eSG	**Sg**	**17 43 27.6**	**-2.0**
	comp=N,1μm,0.6s						
DPC				AMS	AMS	17 43 30.0	
	comp=N,5μm,4.4s						
DPC	**Dobruska-Polom**	**1.26**	**173**	eP	**Pg**	**17 43 12.3**	**-1.1**
DPC				*e*		17 43 27.6	
DPC				smax	smax		
	comp=N,1μm,0.6s						
DPC				MLR	MLR		
	comp=Z,5μm,4.4s						
DPC	**Dobruska-Polom**	**1.26**	**173**	ePg	**Pg**	**17 43 12.5**	**-0.9**
DPC				eSg	**Sg**	**17 43 28.1**	**-1.5**
PVCC	**Panska Ves**	**1.44**	**222**	ePG	**Pn**	**17 43 16.8**	**+0.2**
PVCC				eSG	**Sg**	**17 43 35.4**	**0.0**
	comp=Z,3μm,0.6s						
PVCC	**Panska Ves**	**1.44**	**222**	eP	**Pn**	**17 43 16.8**	**+0.2**
PVCC				*e*		17 43 35.4	
PVCC				smax	smax		
	comp=N,3μm,0.6s						
BRG	**Berggiesshubel**	**1.53**	**243**	Pn	**Pn**	**17 43 17.5**	**-0.5**
BRG				Pg	**Pb**	**17 43 19.0**	**+0.5**
BRG				Sg	**Sg**	**17 43 39.4**	**+1.0**
BRG				Amp		17 43 41.0	
	comp=Z,1μm,0.5s						
BRG				Amp		17 43 54.0	
	comp=Z,3.8nm,3.1s						
BRG				Amp		17 44 05.0	
	comp=N,3.9nm,2.4s						
BRG				Amp		17 44 05.0	
	comp=E,2.1nm,4.6s						
BRG	**Berggiesshubel**	**1.53**	**243**	P	**Pn**	**17 43 17.4**	**-0.5**
BRG						17 43 39.4	
KRLC	**Kraliky**	**1.58**	**164**	ePG	**Pn**	**17 43 18.4**	**-0.3**
KRLC				eSG	**Sn**	**17 43 38.8**	**-1.1**
	comp=E,881nm,0.5s						
KRLC	**Kraliky**	**1.58**	**164**	eP	**Pn**	**17 43 18.4**	**-0.3**
KRLC				*e*		17 43 38.8	
KRLC				smax	smax		
	comp=N,881nm,0.5s						
RICC	**Richard**	**1.64**	**231**	ePG	**Pn**	**17 43 20.2**	**+0.8**
RICC				eSG	**Sn**	**17 43 42.5**	**+1.3**
RUE	**Ruedersdorf**	**1.68**	**303**	eP	**Pn**	**17 43 20.5**	**+0.6**
GKP	**Gorka Klasztor**	**1.82**	**22**	eP	Pg	17 43 30.0	+5.9
FBE	**Freiberg**	**1.85**	**250**	ePn	**Pn**	**17 43 22.3**	**0.0**
FBE				ePg	**Pb**	**17 43 25.0**	**+1.1**
PRA	**Prague**	**1.85**	**215**	ePN	**Pn**	**17 43 22.2**	**-0.1**
PRA				eSG	**Sn**	**17 43 47.2**	**+0.8**
	comp=N,933nm,0.8s						
PRA	**Prague**	**1.85**	**215**	eP	**Pn**	**17 43 22.2**	**-0.1**
PRA				*e*		17 43 47.2	
PRA				smax	smax		
	comp=N,933nm,0.8s						
GOPC	**GO Pecny, Ondr**	**1.88**	**207**	ePN	**Pn**	**17 43 22.3**	**-0.4**
GOPC				ePG	**Pb**	**17 43 24.0**	**-0.4**
GOPC	**GO Pecny, Ondr**	**1.88**	**207**	eP	**Pn**	**17 43 22.3**	**-0.4**
PRU	**Pruhonice**	**1.89**	**212**	ePN	**Pn**	**17 43 22.3**	**-0.5**
PRU				ePG	**Pb**	**17 43 24.1**	**-0.5**
PRU				eSG	**Sn**	**17 43 48.3**	**+1.1**
	comp=N,1μm,0.5s						
PRU	**Pruhonice**	**1.89**	**212**	eP	**Pn**	**17 43 22.3**	**-0.5**
PRU				*e*		17 43 48.3	
PRU				smax	smax		
	comp=N,1μm,0.5s						
HSKC	**Hora Svate Kat**	**1.95**	**240**	ePN	**Pn**	**17 43 24.5**	**+0.9**
HSKC				ePG	**Pb**	**17 43 26.0**	**+0.4**
HSKC				eSG	**Sb**	**17 43 51.7**	**+1.2**
CLL	**Collm**	**1.95**	**263**		**Pn**	**17 43 22.8**	**-0.9**
CLL	**Collm**	**1.95**	**263**	ePn	**Pn**	**17 43 24.0**	**+0.3**
CLL				ePg	**Pb**	**17 43 27.0**	**+1.3**
CLL				*i* x	x	17 43 30.4	
CLL				*i* x	x	17 43 31.5	
CLL				*i* Sg	**Sg**	**17 43 53.4**	**+1.4**
	comp=Z,608nm,0.7s						
CLL				*ex*	x	17 44 01.0	
CLL	**Collm**	**1.95**	**263**	eP	**Pn**	**17 43 24.0**	**+0.3**
CLL				*i*		17 43 53.4	
CLL	**Collm**	**1.95**	**263**	ePn	**Pn**	**17 43 23.9**	**+0.3**
CLL				ePg	**Pb**	**17 43 27.5**	**+1.8**
CLL				eSg	**Sg**	**17 43 53.5**	**+1.5**
RAC	**Raciborz**	**2.02**	**138**	ePN	**Pn**	**17 43 23.9**	**-0.7**
RAC				ePG	**Pb**	**17 43 27.4**	**+0.5**
RAC				eSG	**Sg**	**17 43 54.5**	**+0.4**
RAC	**Raciborz**	**2.02**	**138**	eP	**Pn**	**17 43 23.9**	**-0.7**
RAC				*e*		17 43 54.5	
MORC	**Moravsky Berou**	**2.04**	**153**	↑P	**Pn**	**17 43 24.6**	**-0.4**
MORC				↑S	**Sb**	**17 43 54.2**	**+0.9**
MORC	**Moravsky Berou**	**2.04**	**153**		**Pn**	**17 43 23.8**	**-1.1**
MORC	**Moravsky Berou**	**2.04**	**153**	ePN	**Pn**	**17 43 24.0**	**-1.0**
MORC				eSG	**Sn**	**17 43 52.1**	**+0.9**
MORC	**Moravsky Berou**	**2.04**	**153**	P	**Pn**	**17 43 23.8**	**-1.1**
MORC	**Moravsky Berou**	**2.04**	**153**	ePn	**Pn**	**17 43 23.9**	**-1.1**
	baz=334						
MORC				eSg	**Sn**	**17 43 52.0**	**+0.9**
	comp=Z,599nm,0.9s,baz=334						
MORC	**Moravsky Berou**	**2.04**	**153**	ePn	**Pn**	**17 43 24.4**	**-0.6**
MORC				ePg	**Pb**	**17 43 28.4**	**+1.1**
OKC	**Ostrava-Krasne**	**2.19**	**143**	ePN	**Pn**	**17 43 26.3**	**-0.7**
OKC				ePG	**Pb**	**17 43 29.5**	**-0.3**
OKC				eSG	**Sg**	**17 43 59.8**	**+0.1**
OKC	**Ostrava-Krasne**	**2.19**	**143**	eP	**Pn**	**17 43 26.3**	**-0.7**
OKC				*e*		17 43 59.8	
OKC	**Ostrava-Krasne**	**2.19**	**143**	ePn	**Pn**	**17 43 26.3**	**-0.7**
OKC				ePg	**Pb**	**17 43 31.1**	**+1.3**
VRAC	**Vranov**	**2.31**	**172**	↑P	**Pn**	**17 43 28.9**	**+0.2**
VRAC				↓S	**Sb**	**17 44 01.5**	**+0.5**
VRAC	**Vranov**	**2.31**	**172**	Pn	**Pn**	**17 43 28.6**	**0.0**
	comp=Z,12nm,0.3s,baz=339,slow=15,SNR=47						
VRAC				Lg	Lg	17 44 00.4	
	comp=Z,43nm,0.3s,baz=79,slow=22,SNR=5.1 comp=Z,117nm,0.5s						
VRAC	**Vranov**	**2.31**	**172**	ePn	**Pn**	**17 43 27.8**	**-0.9**
	baz=353						
VRAC				eSg	**Sb**	**17 44 00.5**	**-0.5**
	comp=Z,578nm,0.7s,baz=353						
TREC	**Trest**	**2.33**	**190**	ePG	**Pb**	**17 43 32.2**	**-0.1**
TREC				eSG	**Sb**	**17 44 02.2**	**+0.5**
	comp=Z,526nm,0.6s						
TREC	**Trest**	**2.33**	**190**	eP	**Pb**	**17 43 32.2**	**-0.1**
TREC				*e*		17 44 02.2	
TREC				smax	smax		
	comp=N,526nm,0.6s						
ZVC	**Zvikov**	**2.48**	**210**	ePN	**Pn**	**17 43 30.9**	**0.0**
ZVC				ePG	**Pb**	**17 43 34.9**	**+0.2**
ZVC				eSG	**Sb**	**17 44 08.2**	**+2.5**
MAUC	**Maruska**	**2.49**	**153**	ePN	**Pn**	**17 43 31.0**	**-0.2**
KRUC	**Moravsky**	**2.54**	**175**	ePN	**Pn**	**17 43 31.2**	**-0.6**
KRUC				eSG	**Sb**	**17 44 08.0**	**+0.3**
KRUC	**Moravsky**	**2.54**	**175**	ePn	**Pn**	**17 43 31.1**	**-0.7**
	baz=356						
KRUC				eSg	**Sb**	**17 44 07.9**	**+0.3**
	comp=N,532nm,0.6s,baz=356						
TANN	**Tannenbergstha**	**2.58**	**244**	ePn	**Pn**	**17 43 33.4**	**+1.0**
TANN				ePg	**Pg**	**17 43 40.1**	**+1.4**
TANN				eSg	**Sg**	**17 44 12.1**	**0.0**
WERD	**Werda**	**2.65**	**246**	ePg	**Pg**	**17 43 41.4**	**+1.3**
WERD				eSg	**Sg**	**17 44 15.8**	**+1.4**
NKC	**Novy Kostel**	**2.68**	**241**	ePN	**Pn**	**17 43 34.6**	**+0.9**
NKC				ePG	**Pb**	**17 43 40.4**	**+2.3**
NKC				eSG	**Sg**	**17 44 17.3**	**+2.0**
	comp=N,953nm,0.8s						
NKC	**Novy Kostel**	**2.68**	**241**	eP	**Pn**	**17 43 34.6**	**+0.9**
WERN	**Wernitzgruen**	**2.69**	**242**	ePn	**Pn**	**17 43 34.7**	**+0.9**
WERN				ePg	**Pg**	**17 43 41.9**	**+1.1**
WERN				eSg	**Sg**	**17 44 18.2**	**+2.6**
OJC	**Ojcow**	**2.72**	**119**	ePn	**Pn**	**17 43 32.5**	**-1.8**
OJC				ePg	**Pb**	**17 43 41.2**	**+2.4**
OJC				eSg	**Sg**	**17 44 16.6**	**-0.2**
OJC	**Ojcow**	**2.72**	**119**		**Pn**	**17 43 32.3**	**-2.0**
OJC	**Ojcow**	**2.72**	**119**	P	**Pn**	**17 43 32.3**	**-2.0**
OJC	**Ojcow**	**2.72**	**119**	ePn	**Pn**	**17 43 32.6**	**-1.6**
OJC				ePg	**Pb**	**17 43 41.3**	**+2.4**
OJC				eSg	**Sg**	**17 44 17.6**	**+0.8**
JAVC	**Velka Javorina**	**2.92**	**159**	ePn	**Pn**	**17 43 36.1**	**-1.0**
	baz=341						
KHC	**Kasperske Hory**	**2.94**	**214**	Pn	**Pn**	**17 43 36.6**	**-0.8**
KHC				Sn	**Sn**	**17 44 11.8**	**-1.6**
KHC	**Kasperske Hory**	**2.94**	**214**	ePN	**Pn**	**17 43 37.1**	**-0.3**
KHC				ePG	**Pb**	**17 43 43.6**	**+0.9**
KHC				eSN	**Sn**	**17 44 12.4**	**-1.0**
KHC				eSG	**Sg**	**17 44 22.7**	**-1.2**
	comp=N,439nm,0.5s						
KHC	**Kasperske Hory**	**2.94**	**214**	*ce*P	**Pn**	**17 43 37.0**	**-0.3**
KHC				pmax	pmax		
	comp=Z,73nm,0.5s						
MOX	**Moxa**	**2.98**	**253**	P	**Pn**	**17 43 38.2**	**+0.4**
MOX	**Moxa**	**2.98**	**253**	ePn	**Pn**	**17 43 37.9**	**+0.1**
MOX				ePg	**Pg**	**17 43 47.5**	**+1.2**
MOX				eSg	**Sg**	**17 44 26.7**	**+1.9**
MANZ	**Manzenberg**	**3.00**	**239**	ePn	**Pn**	**17 43 39.0**	**+0.9**
MANZ				ePg	**Pg**	**17 43 47.6**	**+0.9**
CKRC	**Cesky Krumlov**	**3.00**	**203**	ePN	**Pn**	**17 43 38.5**	**+0.3**
CKRC				ePG	**Pb**	**17 43 45.1**	**+1.4**
CKRC				eSG	**Sb**	**17 44 23.3**	**+2.4**
	comp=Z,528nm,0.7s						
CKRC	**Cesky Krumlov**	**3.00**	**203**	eP	**Pn**	**17 43 38.5**	**+0.3**
CKRC				*e*		17 44 23.3	
CKRC				smax	smax		
	comp=N,528nm,0.7s						
ROTZ	**Rotzenmuhle**	**3.07**	**235**	ePn	**Pn**	**17 43 39.4**	**+0.3**
ROTZ				ePg	**Pg**	**17 43 48.8**	**+0.6**
ROTZ				eSg	**Sg**	**17 44 26.8**	**-1.2**
FLTG	**Flechtingen**	**3.09**	**286**	eSg	**Sg**	**17 44 30.2**	**+1.6**
GEC2	**GERESS Array S**	**3.15**	**210**	Pn	**Pn**	**17 43 40.3**	**+0.1**
GEC2	**GERESS Array S**	**3.15**	**210**	ePn	**Pn**	**17 43 40.6**	**+0.3**
GEC2				eSn	**Sn**	**17 44 15.9**	**-2.8**
GEC2				eSg	**Sg**	**17 44 28.9**	**-1.6**
GERES	**GERESS Array B**	**3.15**	**210**		**Pn**	**17 43 39.8**	**-0.5**
GERES	**GERESS Array B**	**3.15**	**210**	Pn	**Pn**	**17 43 40.4**	**+0.1**
	comp=N,18nm,0.3s,baz=31,slow=12,SNR=184						
GERES				Pg	**Pb**	**17 43 47.0**	**+0.7**
	comp=N,34nm,0.3s,baz=34,slow=16,SNR=34						
GERES				Lg	Lg	17 44 27.4	
	comp=N,51nm,0.3s,baz=32,slow=27,SNR=12 comp=N,45nm,0.4s						
WET	**Wettzell**	**3.20**	**221**	P	**Pn**	**17 43 41.3**	**+0.4**
WET	**Wettzell**	**3.20**	**221**	ePn	**Pn**	**17 43 41.2**	**+0.3**
WET				ePg	**Pb**	**17 43 49.8**	**+2.8**
SMOL	**Smolenice**	**3.20**	**164**	eP	**Pn**	**17 43 42.1**	**+1.2**
SMOL				pmax	pmax		
	comp=N,184nm,0.7s						
LANS	**Liptovska Anna**	**3.27**	**137**	ePN	**Pn**	**17 43 41.7**	**-0.1**
LANS				ePG	**Pg**	**17 43 51.6**	**-0.3**
LANS				eSG	**Sg**	**17 44 33.9**	**-0.3**
LANS				eLG	Lg	17 44 44.5	
LANS	**Liptovska Anna**	**3.27**	**137**	eP	**Pn**	**17 43 41.7**	**-0.1**
LANS				pmax	pmax		
	comp=N,175nm,0.6s						
MODS	**Modra-Piesok**	**3.31**	**166**	ePN	**Pn**	**17 43 43.7**	**+1.2**
MODS				ePG	**Pg**	**17 43 52.5**	**-0.3**
MODS				eSG	**Sg**	**17 44 33.9**	**-1.9**
MODS	**Modra-Piesok**	**3.31**	**166**	eP	**Pn**	**17 43 43.7**	**+1.2**
RGN	**Rugen**	**3.40**	**332**	eP	**Pn**	**17 43 46.5**	**+3.0**
NIE	**Niedzica**	**3.46**	**127**	ePn	**Pn**	**17 43 45.3**	**+0.9**
NIE				*e*		17 43 55.9	
NIE				eSg	**Sg**	**17 44 41.4**	**+0.9**
NIE	**Niedzica**	**3.46**	**127**	P	**Pn**	**17 43 45.3**	**+0.9**
ZST	**Bratislava**	**3.47**	**169**	ePN	**Pn**	**17 43 44.4**	**-0.1**
ZST				ePG	**Pb**	**17 43 53.6**	**+2.1**
ZST				eSG	**Sb**	**17 44 38.2**	**+4.1**
ZST				eLG	Lg	17 44 43.5	
ZST	**Bratislava**	**3.47**	**169**	eP	**Pn**	**17 43 44.4**	**-0.1**
ZST				pmax	pmax		
	comp=N,690nm,1.1s						
CLZ	**Clausthal**	**3.56**	**276**	ePn	**Pn**	**17 43 47.8**	**+1.9**
CLZ				eSg	**Sg**	**17 44 47.0**	**+3.2**
VYHS	**Vyhne**	**3.57**	**149**	ePN	**Pn**	**17 43

PSZ ⇓S Sn 17 44 54.8 +4.6
PSZ Piszkesteto 4.43 145 Pn Pn 17 43 57.8 -0.1
PSZ Piszkesteto 4.43 145 P Pn 17 43 57.8 -0.1
BUD Budapest 4.54 154 P Pn 17 44 00.9 +1.7
FUR Furstenfeldbru 4.63 224 P Pn 17 44 01.4 +0.8
KWP Kalwaria Pacla 4.65 112 Pn Pn 17 44 00.4 -0.4
KWP Kalwaria Pacla 4.65 112 P Pn 17 44 00.4 -0.4
BLEU Blekinge 4.72 358 P Pn 17 44 02.9 +1.2
BLEU S Sn 17 44 54.2 -2.9
BLEU Blekinge 4.72 358 *e*P Pn 17 44 02.9 +1.2
BLEU P Pb 17 44 02.9 -10
BLEU S Sn 17 44 54.2 -2.9
BLEU *e*S Sb 17 44 55.5 -15
LESA Schwarzleotal 4.73 209 *i* Pn Pn 17 44 01.8 -0.1
comp=N,3.5nm,0.3s
LESA *i* Sn Sn 17 44 59.4 +1.9
comp=N,25nm,0.5s
BJUU Bjuv 4.84 339 P Pn 17 44 03.4 0.0
BJUU Bjuv 4.84 339 P Pn 17 44 03.4 0.0
BJUU *i* P Pb 17 44 03.5 -11
BJUU *i* S Sn 17 44 58.9 -1.2
KBA Koelnbreinsper 4.86 203 *e*Pn Pn 17 44 04.2 +0.3
comp=N,45nm,0.4s
KBA *i* Sn Sb 17 45 14.1 -0.5
comp=N,73nm,0.5s
SUW Suwalki 4.94 58 Pn Pn 17 44 04.2 -0.5
SUW Suwalki 4.94 58 *e*P Pn 17 44 07.2 +2.5
SUW Suwalki 4.94 58 P Pn 17 44 04.2 -0.5
SOKA Soboth 4.97 188 *i* Pn Pn 17 44 05.8 +0.5
comp=N,8.1nm,0.4s,SNR=10
SOKA *e*Sn Sn 17 45 08.9 +5.4
comp=N,33nm,0.5s
TNS Taunus Mts 5.03 257 P Pn 17 44 06.8 +0.8
DEL Delary 5.06 346 P Pn 17 44 07.0 +0.6
DEL Delary 5.06 346 *e*P Pn 17 44 07.2 +0.8
DEL Delary 5.06 346 P Pn 17 44 07.0 +0.6
DEL *i* P Pb 17 44 07.0 -12
DEL *e*S Sn 17 45 03.1 -2.3
BSZH Besenyszg 5.09 146 ⇑P Pn 17 44 07.6 +0.8
WATA Walderalm 5.18 216 *i* Pn Pn 17 44 09.4 +1.2
comp=N,63nm,0.7s,SNR=31
WATA *e*Sn Sg 17 45 34.8 -0.8
comp=N,51nm,0.6s
OBKA Obir 5.19 192 *i* Pn Pn 17 44 08.5 +0.2
comp=N,4.2nm,0.3s
OBKA *i* Sn Sb 17 45 26.3 +2.4
comp=N,68nm,0.6s
WTTA Wattenberg 5.22 216 *i* Pn Pn 17 44 09.5 +0.7
comp=N,18nm,0.5s,SNR=14
WTTA *i* Sn Sg 17 45 35.3 -1.6
comp=N,66nm,0.8s
MYKA Terra Mystica 5.22 199 *i* Pn Pn 17 44 08.9 +0.2
comp=N,0.6nm,0.2s
MYKA *e*Sn Sg 17 45 35.2 -1.8
comp=N,116nm,1.1s
STU Stuttgart 5.25 240 Pn 17 44 08.4 -0.7
STU Stuttgart 5.25 240 P Pn 17 44 08.4 -0.7
LVV L'vov 5.35 106 *e*P Pn 17 44 09.9 -0.5
LVV *e* 17 45 09.0
LVV MLR MLR
comp=Z,900nm,4.0s
MOTA Moosalm 5.35 219 *i* Pn Pn 17 44 10.7 +0.1
comp=Z,20nm,0.4s,SNR=16
MOTA *i* Sn Sg 17 45 38.2 -3.0
comp=Z,48nm,0.6s
RETA Reutte 5.38 222 *e*Pn Pn 17 44 10.6 -0.3
comp=Z,23nm,0.5s,SNR=12
RETA *i* Sn Sg 17 45 39.7 -2.3
comp=Z,126nm,0.9s
VXJU Vaexsjoe 5.38 353 P Pn 17 44 11.7 +1.0
VXJU Vaexsjoe 5.38 353 P Pn 17 44 11.7 +1.0
ABTA Abfaltersbach 5.39 207 *i* Pn Pn 17 44 11.8 +0.8
comp=Z,34nm,0.6s,SNR=20
ABTA *i* Sn Sg 17 45 37.4 -4.9
comp=Z,54nm,0.5s
SQTA Sankt Quirin 5.41 218 *i* Pn Pn 17 44 12.0 +0.7
comp=Z,18nm,0.3s,SNR=13
SQTA *i* Sn Sg 17 45 40.2 -3.0
comp=Z,25nm,0.4s
PRED Cave del Predi 5.42 199 Pn 17 44 11.3 -0.1
HOBG Hohbusch 5.53 267 *e*Pn Pn 17 44 12.5 -0.3
CLUD Cludinico 5.56 204 Pn 17 44 13.7 +0.4
CADS Cadrg 5.59 197 *i* Pn Pn 17 44 13.7 0.0
CADS *i* 17 44 38.1
OSKU Oskarshamn 5.61 0 P Pn 17 44 15.2 +1.3
OSKU Oskarshamn 5.61 0 P Pn 17 44 15.2 +1.3
MORH Mrgy, Hungar 5.64 162 ⇑P Pn 17 44 14.1 -0.3
LJU Ljubljana 5.65 191 *i* Pn Pn 17 44 15.3 +0.7
BGG Burgeitz 5.71 259 *e*Pn Pn 17 44 14.5 -0.8
LAUG Laupendahl 5.72 271 *e*Pn Pn 17 44 14.9 -0.5
FETA Feichten 5.76 220 *i* Pn Pn 17 44 16.7 +0.5
comp=Z,6.1nm,0.4s,SNR=6.8
FETA *e*Sn Sg 17 45 50.5 -3.9
comp=Z,18nm,0.5s
STAL STALIGIAL 5.79 204 Pn Pn 17 44 16.6 +0.3
CRES Cresnjev 5.79 184 *i* Pn Pn 17 44 16.8 +0.4
CIMO Cimolais 5.81 206 Pn Pn 17 44 16.9 +0.1
SABO M.te Sabotino 5.86 197 Pn Pn 17 44 16.4 -1.0
DAVA Damuels 5.91 226 *i* Pn Pn 17 44 17.8 -0.5
comp=Z,3.5nm,0.3s
DAVA *e*Sn Sg 17 45 58.4 -0.8
comp=Z,47nm,0.5s
STB Steinbach 5.91 264 *e*Pn Pn 17 44 17.4 -0.7
STB *e*Sn Sn 17 45 23.2 -3.3
comp=Z,96nm,0.7s
BFO Black Forest 5.98 240 Pn 17 44 18.2 -0.8
BFO Black Forest 5.98 240 P Pn 17 44 18.3 -0.8
PABE Paberze 6.11 47 Pn Pn 17 44 22.0 +1.2
PABE Paberze 6.11 47 *e*P Pn 17 44 22.7 +1.9
BMR Baia Mare 6.21 126 ⇑P Pn 17 44 22.8 +0.6
BMR Baia Mare 6.21 126 P Pn 17 44 22.8 +0.6
DREG Dreilaegerbach 6.28 265 *e*Pn Pn 17 44 22.5 -0.6
CTI Castel Tesino 6.28 210 Pn Pn 17 44 23.3 +0.1
CTI Castel Tesino 6.28 210 P Pn 17 44 23.3 +0.1
FUORN Ofenpass-Fuorn 6.28 220 Pn Pn 17 44 22.7 -0.7
DAVOX Davos/Dischmat 6.31 223 P Pn 17 44 24.0 +0.3
DAVOX Davos/Dischmat 6.31 223 Pn Pn 17 44 24.0 +0.3
comp=Z,2.6nm,0.3s,baz=39,slow=14,SNR=43
DAVOX Lg Lg 17 45 57.6
comp=Z,2.6nm,0.3s,baz=12,slow=20,SNR=3.8
comp=Z,19nm,0.6s
BORU Boraas 6.35 344 *e*P Pn 17 44 26.2 +2.1
BTNL Ternell 6.36 265 *d*P Pn 17 44 25.4 +1.2
BTNL *d*S Sn 17 45 36.6 -0.9
MEM Membach 6.43 265 *d*P Pn 17 44 25.9 +0.8
MEM *d*S Sg 17 46 15.2 -0.5
WLS Welschbruch 6.47 244 P Pn 17 44 26.7 +0.9
SIRR Siria 6.47 143 ⇑P Pn 17 44 25.7 -0.1
BHOU Houvegnez 6.49 263 *d*P Pn 17 44 27.4 +1.3
BHOU *d*S Sb 17 46 00.7 -0.4
CDF Champ du Feu 6.51 244 *e*Pn Pn 17 44 24.0 -2.4
CDF Champ du Feu 6.51 244 *e*P Pn 17 44 27.2 +0.8
CDF *e*Sg Sg 17 46 11.8 -6.6
comp=Z,181nm,0.8s
CDF Champ du Feu 6.51 244 P Pn 17 44 24.5 -1.9
WLF Walferdange 6.61 257 *d*P Pn 17 44 28.6 +0.9
WLF *d*Sn Sn 17 45 43.0 -0.6
WLF *d*Sg Sb 17 46 03.0 -1.5
LLS Linth-Limmern 6.64 227 P Pn 17 44 31.1 +2.8
ECH Echery 6.69 243 Pn Pn 17 44 27.4 -1.3
ECH Echery 6.69 243 P Pn 17 44 27.5 -1.3
BSTI Sat Tilman 6.71 265 *d*P Pn 17 44 30.6 +1.6
BSTI *d*PP PnPn 17 44 38.2 +2.0
MARR Marisel-Cluj 6.74 134 ⇑P Pn 17 44 29.9 +0.3
TUE Stuetta 6.78 223 Pn Pn 17 44 29.6 -0.6
TEOL Teolo 6.89 207 Pn Pn 17 44 29.8 -1.8
FRGS Fruska Gora 6.90 158 ⇑P Pn 17 44 31.5 -0.2
BCLA Clavier 6.91 264 *d*P Pn 17 44 33.1 +1.4
BCLA *d*S Sn 17 45 46.9 -4.2
VIKU Vikbolandet 6.93 3 *e*P Pn 17 44 32.9 +0.8
BZS Buzias 7.01 146 ⇑P Pn 17 44 34.2 +0.9
BZS Buzias 7.01 146 P Pn 17 44 34.1 +0.9
RCHB Rochefort 7.02 262 *d*P Pn 17 44 34.9 +1.6
RCHB *d*PP PnPn 17 44 41.2 +0.7
SALO Salr 7.03 214 Pn Pn 17 44 34.1 +0.7
ARCR ARCALIA 7.04 127 ⇓P Pn 17 44 32.9 -0.6
BGES Gesves 7.05 264 *d*P Pn 17 44 35.3 +1.6
BGES *d*PP PnPn 17 44 42.9 +2.0
SURR Surduc 7.08 143 ⇑P Pn 17 44 34.2 +0.1
HINF Hinteralfeld 7.08 241 *e*Pn Pn 17 44 31.9 -2.3
HINF *e*Sg Sb 17 46 28.6 +10
comp=Z,171nm,0.8s
HINF Hinteralfeld 7.08 241 P Pn 17 44 34.1 -0.1

BUR08 Bucovina Ar. S 7.12 120 Pn Pn 17 44 34.5 -0.3
BURAR Bucovina Array 7.14 120 ⇑P Pn 17 44 35.3 +0.2
BURAR Bucovina Array 7.14 120 Pn Pn 17 44 35.2 +0.1
BURAR Bucovina Array 7.14 120 P Pn 17 44 35.3 +0.2
ISAL Salakas 7.18 52 *e*P Pn 17 44 40.8 +5.3
NACGM Naroch 7.22 59 *e*P Pn 17 44 37.0 +1.0
BMRD Maredsous 7.27 264 *d*P Pn 17 44 37.2 +0.5
DEV Deva 7.28 139 ⇑P Pn 17 44 36.2 -0.7
DEV Deva 7.28 139 P Pn 17 44 36.1 -0.7
GIVF Givet 7.29 263 *e*Pn Pn 17 44 33.4 -3.6
GIVF *e*Sg Sg 17 46 37.9 -5.3
comp=Z,219nm,1.1s
IZAR Zarasai 7.33 51 *e*P Pn 17 44 42.0 +4.6
PAGF Fort de Pagny 7.33 250 *e*Pn Pn 17 44 34.9 -2.7
PAGF *e*Sg Sg 17 46 37.8 -6.8
IDID Didziasalis 7.37 55 *e*P Pn 17 44 44.9 +6.9
DOU Dourbes 7.43 263 *d*P Pn 17 44 41.2 +2.3
GZR Gura Zlata 7.63 142 ⇑P Pn 17 44 42.6 +0.9
GZR Gura Zlata 7.63 142 P Pn 17 44 42.6 +0.9
SAVF Savonnieres en 7.66 251 *e*Sg Sg 17 46 49.7 -5.3
comp=Z,156nm,1.0s
BAIF Baives 7.68 263 *e*Sg Sg 17 46 47.3 -8.5
comp=Z,48nm,0.7s
MNK Minsk 7.68 63 *i* P Pn 17 44 38.4 -4.0
comp=E,5.0nm,0.9s
MNK *i* P Pn 17 44 38.4 -4.0
comp=N,7.0nm,0.8s
MNK *i* P Pn 17 44 38.4 -4.0
comp=Z,11nm,0.8s,baz=252
MNK *i* PP PnPn 17 44 46.0 -3.6
MNK *i* S Sn 17 46 06.0 -4.0
MNK *i* SS SnSn 17 46 18.5 -2.5
MNK *i* SSS SSS 17 46 30.8
MNK *i* LQ LQ 17 46 49.6
MNK *i* LR LR 17 47 16.8
MNK Minsk 7.68 63 *i* P Pn 17 44 38.3 -4.0
MNK *i* S Sn 17 46 05.9 -4.0
MNK pmax pmax
comp=Z,11nm,0.8s
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK pmax pmax
comp=E,5.0nm,0.9s
MMK Mattmark 7.71 227 P Pn 17 44 44.6 +1.6
MEZF Maizieres J'vi 7.75 251 *e*Pn Pn 17 44 42.1 -1.2
MEZF *e*Sg Sg 17 46 52.5 -5.5
comp=E,232nm,1.1s
MDVR Moldovita 7.78 149 ⇓P Pn 17 44 44.1 +0.3
SFTF Sexfontaines 7.90 249 *e*Pn Pn 17 44 42.5 -2.9
SFTF Sexfontaines 7.90 249 *e*Pg Pg 17 45 16.4 -4.2
SFTF *e*Sg Sg 17 46 57.0 -5.9
comp=E,128nm,0.8s
BOB Bobbio (Coli) 8.14 216 P Pn 17 44 51.3 +2.5
CABF La Chapelle 8.24 237 *e*Pn Pn 17 44 45.6 -4.5
CABF La Chapelle 8.24 237 *e*Pg Pb 17 45 20.1 +7.2
CABF *e*Sg Sg 17 47 07.8 -6.0
comp=E,208nm,1.0s
KIEV Kiev 8.30 91 ⇑P Pn 17 44 50.6 -0.3
KIEV Kiev 8.30 91 Pn Pn 17 44 48.7 -2.1
KIEV Kiev 8.30 91 P Pn 17 44 50.5 -0.3
AKASG Malin Array Be 8.31 91 Pn Pn 17 44 49.3 -1.7
comp=E,5.4nm,0.3s,baz=280,slow=12,SNR=30
AKASG Sn Sn 17 46 19.0 -6.5
comp=E,2.6nm,0.3s,baz=254,slow=20,SNR=1.9
comp=E,16nm,0.6s
AKBB Malin Array Si 8.31 91 Pn 17 44 49.0 -2.0
AKBB Malin Array Si 8.31 91 *ce*P Pn 17 44 49.8 -1.2
DOPR Dopca 8.33 129 ⇑P Pn 17 44 50.5 -0.8
MTSE Matsula 8.39 29 *e*P Pn 17 44 54.1 +2.1
ARR Arges 8.43 134 ⇓P Pn 17 44 52.7 +0.1
MSSA Maissana 8.51 214 Pn Pn 17 44 54.9 +1.1
LSD Lago del Serru 8.54 228 P Pn 17 44 57.4 +3.0
VOIR 8.56 133 ⇑P Pn 17 44 54.1 -0.4
VOIR 8.56 133 P Pn 17 44 54.1 -0.4
HFS Hagfors 8.66 352 Pn Pn 17 44 56.0 +0.2
comp=E,0.6nm,0.3s,baz=164,slow=14,SNR=9.6
HFS Sn Sn 17 46 31.1 -3.0
comp=E,0.5nm,0.3s,baz=170,slow=19,SNR=2.2
HFS Lg Lg 17 47 26.4
comp=E,0.7nm,0.3s,baz=164,slow=27,SNR=2.6
comp=E,9.0nm,0.8s
PCP Piancastagn 8.68 218 P Pn 17 45 00.9 +4.8
MURB Monte Urbino 8.68 198 Pn Pn 17 44 55.0 -1.2
LPL La Plagne 8.69 229 *e*Pn Pn 17 44 53.5 -2.9
LPL La Plagne 8.69 229 *e*Pg Pg 17 45 28.6 -7.0
LPL *e*Sg Sg 17 47 19.3 -8.8
comp=E,106nm,1.1s
LPG La Plagne 8.69 229 *e*Pn Pn 17 44 57.2 +0.7
LPG *e*Sg Sg 17 47 19.3 -8.9
comp=E,88nm,1.0s
OSSC Osservatorio P 8.71 204 Pn Pn 17 44 52.6 -3.9
FDMO Fiordimonte 8.80 195 Pn 17 44 57.1 -0.7
NRCA Norcia 9.00 194 Pn 17 44 59.0 -1.5
BNI Bardonecchia 9.06 227 Pn 17 45 00.1 -1.3
BNI Bardonecchia 9.06 227 P Pn 17 45 00.1 -1.3
LOR Lormes 9.07 246 *e*Pn Pn 17 44 59.6 -1.8
LOR *e*Sn Sn 17 46 35.5 -8.6
LOR *e*Sg 17 47 32.8
comp=E,129nm,1.2s
LOR Lormes 9.07 246 P Pn 17 45 00.6 -0.8
RRL Rocca Remolon 9.11 226 P Pn 17 45 05.4 +3.2
CAMP Campotosto 9.24 192 Pn Pn 17 45 03.4 -0.5
MBDF Montbardon 9.27 226 *e*Pn Pn 17 45 03.3 -1.0
MBDF *e*Sg Sn 17 47 40.5 +51
comp=E,51nm,0.9s
MBDF Montbardon 9.27 226 *e*P Pn 17 45 04.8 +0.5
SSF Saint Saulge 9.38 246 *e*Pn Pn 17 45 02.6 -3.1
SSF Saint Saulge 9.38 246 *e*Pg Pn 17 45 40.9 +35
SSF *e*Sg Sn 17 47 43.0 +51
comp=E,58nm,0.9s
SSF Saint Saulge 9.38 246 P Pn 17 45 05.3 -0.4
ENR Entracque 9.39 222 P Pn 17 45 09.7 +3.8
SMF Signal de Mont 9.43 243 *e*Pn Pn 17 45 02.1 -4.3
SMF Signal de Mont 9.43 243 *e*Pg Pn 17 45 42.8 +36
SMF *e*Sg Sn 17 47 44.0 +51
comp=E,45nm,0.7s
NC602 NORSAR Array S 9.50 346 Pn Pn 17 45 06.5 -0.8
ORIF Oris-en-Rattie 9.53 229 *e*Pn Pn 17 45 06.8 -1.1
ORIF *e*Sg Sn 17 47 47.2 +52
comp=E,112nm,1.1s
ORIF Oris-en-Rattie 9.53 229 *e*P Pn 17 45 08.6 +0.7
AVF Avril sur Loir 9.62 245 *e*Pn Pn 17 45 07.2 -1.8
AVF Avril sur Loir 9.62 245 *e*Pg Pn 17 45 46.2 +37
AVF *e*Sg Sn 17 47 50.8 +53
comp=E,163nm,1.3s
AVF Avril sur Loir 9.62 245 *e*P Pn 17 45 07.7 -1.3
CLF Chambon-Foret 9.63 254 Pn Pn 17 45 08.5 -0.5
SBF Sospel 9.68 220 *e*Pn Pn 17 45 09.2 -0.7
SBF *e*Sg Sn 17 47 48.4 +49
comp=E,54nm,0.9s
SBF Sospel 9.68 220 *e*P Pn 17 45 10.0 +0.1
NAO01 NORSAR Array S 9.71 345 Pn Pn 17 45 09.0 -1.1
HYF Humbligny 9.77 249 *e*Sg Sn 17 47 55.9 +55
comp=E,205nm,0.6s
MEF Metsahovi 9.81 25 *e*P Pn 17 45 13.5 +2.0
NB201 NORSAR Array S 9.84 346 Pn Pn 17 45 10.2 -1.7
NC405 NORSAR Array S 9.84 347 Pn Pn 17 45 11.1 -0.8
NOA NORSAR Array B 9.84 346 Pn Pn 17 45 09.6 -2.4
baz=165,slow=12,SNR=6.4
comp=E,1.4nm,0.8s
RAF Rauma 9.96 16 *e*P Pn 17 45 14.7 +1.3
BGF Bois d'Agland 10.04 245 *e*Pn Pn 17 45 11.9 -2.8
BGF Bois d'Agland 10.04 245 *e*Pg Pn 17 45 53.7 +39
BGF *e*Sg Sn 17 48 02.4 +54
comp=E,68nm,0.7s
BGF Bois d'Agland 10.04 245 *e*P Pn 17 45 13.9 -0.8
VIVF Saint-Julien-l 10.16 233 *e*Sg Sn 17 48 07.9 +57
comp=E,22nm,0.8s
VIVF Saint-Julien-l 10.16 233 *e*P Pn 17 45 16.9 +0.4
PGF Pioggiola 10.26 211 *e*Pn Pn 17 45 15.7 -2.1
PGF Pioggiola 10.26 211 P Pn 17 45 18.2 +0.4
SMRF Simiane la Rot 10.39 227 *e*Pn Pn 17 45 17.3 -2.3
LMR La Mourre 10.50 222 *e*Pn Pn 17 45 19.3 -1.7
LMR La Mourre 10.50 222 *e*P Pn 17 45 20.9 -0.1
TCF Toulx Ste Croi 10.56 245 *e*Sg Sn 17 48 18.1 +57
comp=E,39nm,0.8s
TCF Toulx Ste Croi 10.56 245 *e*P Pn 17 45 21.3 -0.5
LDF La Druitiere 10.84 260 *e*Pn Pn 17 45 27.5 +1.9
LDF La Druitiere 10.84 260 *e*P Pn 17 45 28.7 +3.1
FLN La Foliniere 11.00 262 *e*Sg Sn 17 48 32.1 +61
comp=E,68nm,1.1s
LASF Ste Croix 11.13 232 *e*Sg 17 48 37.1
comp=E,80nm,1.2s

FINES FINESS Array B 11.29 25 Pn Pn 17 45 30.3 -1.4
FINES FINESS Array B 11.29 25 P Pn 17 45 30.3 -1.4
FINES FINESS Array B 11.29 25 Pn Pn 17 45 30.7 -1.0
comp=E,1.1nm,0.3s,baz=199,slow=10,SNR=31
FINES Sn Sn 17 47 27.2 -11
comp=E,0.2nm,0.3s,baz=207,slow=18,SNR=1.4
FINES Lg Lg 17 48 47.9
comp=E,0.3nm,0.3s,baz=191,slow=21,SNR=1.6
comp=E,6.5nm,0.5s
GRR Gorron 11.37 260 *e*Sg Sn 17 48 41.1 +61
comp=E,32nm,1.0s
RJF Les Rejaudoux 11.53 243 *e*Sg 17 48 48.8
comp=E,42nm,0.9s
MFF Saint Martin d 11.75 251 *e*Sg 17 48 56.3
EKA Eskdalemuir Ar 12.06 296 Pn Pn 17 45 39.6 -2.6
baz=101,slow=14
EKA Sn Sn 17 47 49.7 -7.5
baz=98,slow=28
EKB Eskdalemuir 12.07 296 Pn Pn 17 45 38.6 -3.9
LFF La Frestale 12.19 243 *e*Sg 17 49 08.3
comp=E,51nm,0.8s
MTLF Montolieu 12.48 234 *e*Sg 17 49 20.6
comp=E,19nm,0.8s
OBN Obninsk 12.72 66 ⇓*e*P Pn 17 45 47.5 -3.8
OBN pmax pmax
comp=Z,17nm,1.0s
OBN MLR MLR
comp=Z,209nm,7.0s
OBN Obninsk 12.72 66 Sn Sn 17 48 00.6 -13
comp=Z,2.6nm,0.3s,baz=352,slow=24,SNR=1.4
OBN Lg Lg 17 49 33.1
comp=Z,2.6nm,0.3s,baz=239,slow=17,SNR=1.1
MOS Moscow 13.41 64 *e*P Pn 17 45 56.1 -4.5
MOS *e*S Sn 17 48 26.4 -3.8
MOS pmax pmax
comp=Z,43nm,1.0s
EPF Esparros 13.67 237 *e*Sg S 17 49 57.9 +58
comp=Z,1.1nm,0.4s
LPSR Galich'ya Gora 14.07 77 *e*P Pn 17 46 03.6 -6.1
LPSR pmax pmax
comp=Z,30nm,0.7s
ETSF Etsaut 14.24 239 *e*Pn Pn 17 46 07.5 -4.7
ETSF *e*Sg S 17 50 13.0 +61
comp=Z,5.3nm,0.7s
VORR Voronezh 14.35 81 *e*P Pn 17 46 08.1 -5.4
VORR pmax pmax
comp=Z,63nm,0.4s
VSR Storozhevoye 14.40 82 *e*P Pn 17 46 07.0 -7.2
VSR pmax pmax
comp=Z,20nm,1.2s
KLMR Klimovskoe 15.90 45 *e*Pn Pn 17 46 24.5 -10
KLMR AMP 17 46 29.0
comp=Z,16nm,1.2s
KLMR Klimovskoe 15.90 45 *e*P Pn 17 46 24.5 -10
KLMR pmax pmax
comp=Z,16nm,1.2s
VRH Novokhopyorsk 15.98 81 *e*P Pn 17 46 29.7 -5.6
VRH pmax pmax
comp=Z,45nm,0.9s
BRTR Keskin Array B 17.02 127 Pn Pn 17 46 50.4 +1.7
comp=Z,1.1nm,0.3s,baz=347,slow=13,SNR=1.6
comp=Z,0.5nm,0.7s
IDI Anoyia 17.49 155 Pn Pn 17 46 55.9 +1.4
comp=Z,0.1nm,0.3s,baz=292,slow=19,SNR=3.3
comp=Z,6.9nm,0.9s
APA Apatity 18.14 22 ⇓*i*P Pn 17 47 00.7 -1.6
APA pmax pmax
comp=Z,11nm,0.8s
ESDC Sonseca Array 18.33 237 Pn Pn 17 47 04.9 -0.1
comp=Z,0.1nm,0.3s,baz=48,slow=11,SNR=7.0
comp=Z,1.7nm,1.1s
ARCES ARCESS Array B 18.54 10 P P 17 47 04.2 -2.9
ARCES ARCESS Array B 18.54 10 P P 17 47 04.2 -2.9
ARCES pmax pmax
comp=Z,10.0nm,0.9s
ARCES ARCESS Array B 18.54 10 Pn P 17 47 04.5 -2.6
comp=Z,0.3nm,0.3s,baz=193,slow=14,SNR=17
comp=Z,7.3nm,0.8s
LVZ Lovozero 18.69 22 P P 17 47 05.9 -3.0
LVZ IAmb IAmb 17 47 40.4
comp=Z,71nm,1.5s
LVZ Lovozero 18.69 22 P P 17 47 05.9 -3.0
LVZ pmax pmax
comp=Z,71nm,1.5s
KEV Kevo 18.93 12 P P 17 47 09.6 -1.8
KEV IAmb IAmb 17 47 20.6
comp=Z,43nm,1.3s
KEV Kevo 18.93 12 P P 17 47 09.6 -1.8
KEV pmax pmax
comp=Z,43nm,1.3s
PRGR Permogore 18.93 47 *e*P P 17 47 07.5 -4.0
PRGR pmax pmax
comp=Z,10.0nm,0.7s
KBZ Khabaz 19.61 103 *i* P P 17 47 18.6 -0.4
KBZ pmax pmax
comp=Z,28nm,2.5s
KBZ Khabaz 19.61 103 P P 17 47 19.8 +0.8
baz=343,slow=14,SNR=1.9
comp=Z,2.0nm,0.8s
KIRV Kirov 20.15 57 *ce*P P 17 47 26.1 +1.4
KIRV Kirov 20.15 57 P P 17 47 24.9 +0.2
comp=Z,9.5nm,0.6s,baz=257,slow=1.4,SNR=6.1
comp=Z,9.5nm,0.6s
MMAI Mount Meron Ar 23.30 135 P P 17 47 59.5 +0.7
comp=Z,2.4nm,0.7s,baz=316,slow=12,SNR=2.4
comp=Z,2.4nm,0.7s
ARU Arti 25.11 62 P P 17 48 15.2 -0.2
ARU Arti 25.11 62 *di*P P 17 48 15.8 +0.3
ARU S S 17 52 43.0 +2.2
ARU SS SnSn 17 53 31.3 +2.0
ARU pmax pmax
comp=Z,16nm,1.1s
SVE Sverdlovsk 26.20 61 *e*P P 17 48 26.9 +1.6
SVE pmax pmax
comp=Z,22nm,1.4s
ABKAR Akbulak array 27.73 77 P P 17 48 37.1 -2.1
BRVK Borovoye 32.49 66 P P 17 49 20.9 -0.4
BRVK IAmb IAmb 17 49 24.2
comp=Z,6.2nm,0.8s
BRVK Borovoye 32.49 66 *ce*P P 17 49 22.4 +1.1
BRVK pmax pmax
comp=Z,20nm,2.5s
BVAR Borovoye Array 32.57 66 P P 17 49 23.3 +1.4
comp=Z,3.8nm,0.6s,baz=296,slow=7.8,SNR=20
comp=Z,3.8nm,0.6s
KK31 Karatay Array 37.06 81 P P 17 50 01.6 +0.7
KK31 IAmb IAmb 17 50 04.6
comp=Z,8.8nm,1.4s
KK31 Karatay Array 37.06 81 P P 17 50 01.6 +0.7
KK31 pmax pmax
comp=Z,9.0nm,1.4s
KKAR Karatay Array 37.06 81 P P 17 50 01.9 +1.0
KKAR Karatay Array 37.06 81 P P 17 50 01.9 +1.0
HRA Herat 37.18 99 P P 17 50 00.3 -1.9
KURBB Kurchatov Arra 38.15 66 P P 17 50 11.2 +1.2
comp=Z,2.9nm,0.7s,baz=298,slow=8.9,SNR=20
comp=Z,2.9nm,0.7s
KURK Kurchatov 38.16 66 P P 17 50 08.2 -1.8
KURK IAmb IAmb 17 50 12.0
comp=Z,6.5nm,1.0s
KURK Kurchatov 38.16 66 *ce*P P 17 50 08.6 -1.5
KURK pmax pmax
comp=Z,3.0nm,0.7s
BTK Batken 38.97 85 P P 17 50 18.2 +1.1
BTK Batken 38.97 85 P P 17 50 18.2 +1.1
BTK pmax pmax
comp=Z,6.0nm,1.0s
TULEG Thule 39.39 338 P P 17 50 17.9 -2.2
ARSB Arslanbob 39.58 82 P P 17 50 23.3 +1.1
ARSB Arslanbob 39.58 82 P P 17 50 23.3 +1.1
AAK Ala-Archa 39.77 79 P P 17 50 25.6 +1.8
AAK Ala-Archa 39.77 79 P P 17 50 25.6 +1.8
AAK pmax pmax
comp=Z,6.0nm,0.9s
TOA0 Torodi Ar. Sit 40.07 202 P P 17 50 25.8 -0.6
TORD Torodi Ar. Bea 40.07 202 P P 17 50 26.1 -0.3
TORD Torodi Ar. Bea 40.07 202 P P 17 50 27.1 +0.8
comp=Z,2.8nm,0.7s,baz=12,slow=9.9,SNR=17
comp=Z,2.8nm,0.7s
ZAA0 Zalesovo Array 40.16 59 P P 17 50 26.7 0.0
ZALV Zalesovo Beam 40.16 59 P P 17 50 26.5 -0.3
ZALV Zalesovo Beam 40.16 59 *i* P P 17 50 28.7 +1.9
ZALV pmax pmax
comp=Z,5.0nm,1.1s
ZALV Zalesovo Beam 40.16 59 P P 17 50 27.9 +1.1
comp=Z,5.6nm,1.1s,baz=297,slow=9.8,SNR=9.8

comp=Z,5.6nm,1.1s
NRN Naryn 41.37 80 P **P** 17 50 35.2 -2.1
NRN Naryn 41.37 80 P **P** 17 50 35.2 -2.1
MKAR Makanchi Array 42.20 69 P **P** 17 50 43.9 +0.3
MKAR Makanchi Array 42.20 69 P **P** 17 50 43.9 +0.3
MKAR Makanchi Array 42.20 69 P **P** 17 50 44.2 +0.6
comp=Z,2.0nm,0.8s,baz=308,slow=6.2,SNR=7.2
comp=Z,2.0nm,0.8s
KSH Kashi 42.49 82 P **P** 17 50 48.8 +2.6
KSH pmax pmax
comp=Z,7.0nm,1.2s
DGZ Jazzator, Alta 43.61 63 *i* P **P** 17 50 55.9 +0.7
DGZ pmax pmax
comp=Z,15nm,1.7s
SCHQ Schefferville 47.00 308 P **P** 17 51 21.8 0.0
comp=Z,5.9nm,0.8s,baz=126,slow=2.8,SNR=4.7
comp=Z,5.9nm,0.8s
WMQ Urumqi 47.02 70 *e*P **P** 17 51 24.2 +2.0
LODK Lodwar 50.65 155 P **P** 17 51 50.7 +0.4
PYUN Piuthan 54.38 88 *e*P **P** 17 52 17.6 -0.5
comp=Z,37nm,1.3s
DANN Dangsing 54.68 88 *e*P **P** 17 52 20.5 +0.1
comp=Z,31nm,1.2s
SONM Songino Array 54.88 55 P **P** 17 52 20.8 -0.6
SONM IAmb IAmb 17 52 24.5
comp=Z,3.4nm,1.1s
SONM Songino Array 54.88 55 P **P** 17 52 20.8 -0.6
SONM pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 54.88 55 P **P** 17 52 22.0 +0.6
comp=Z,1.5nm,0.7s,baz=290,slow=8.5,SNR=11
comp=Z,1.5nm,0.7s
YAK Yakutsk 55.14 32 **P** 17 52 22.6 -0.2
YAK Yakutsk 55.14 32 *e*P **P** 17 52 24.0 +1.2
YAK pmax pmax
comp=Z,10.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.3s
YAK Yakutsk 55.14 32 P **P** 17 52 23.1 +0.3
comp=N,0.6nm,0.7s,baz=331,slow=18,SNR=13
ULN Ulaanbaatar 55.20 55*ce*P **P** 17 52 25.2 +1.5
ULN pmax pmax
comp=Z,8.0nm,2.5s
GKN Gorkha 55.48 87 *e*P **P** 17 52 26.6 +0.6
comp=Z,27nm,1.1s
KMBO Kilima Mbogo 55.51 154 LR LR 18 17 05.2
comp=Z,42nm,21.6s,baz=88,slow=37
GUN Gumba 56.31 86 *e*P **P** 17 52 33.2 +1.0
comp=Z,19nm,1.1s
JIRN Jiri 56.69 86 *e*P **P** 17 52 35.7 +0.8
comp=Z,67nm,1.4s
RAMN Ramite 57.45 87 *e*P **P** 17 52 41.2 +1.1
comp=Z,15nm,0.8s
LSA Lhasa 58.32 81 P **P** 17 52 45.3 -1.2
LSA IAmb IAmb 17 52 49.6
comp=Z,4.3nm,0.9s
LSA Lhasa 58.32 81 P **P** 17 52 45.3 -1.2
LSA pmax pmax
comp=Z,4.0nm,0.9s
E29M Blow River 58.78 349 **P** 17 52 50.9 +2.3
G31M Satah River 59.70 347 P **P** 17 52 56.3 +1.4
G31M IAmb IAmb 17 52 57.1
comp=Z,3.6nm,0.9s
YKA Yellowknife Ar 59.77 336 P **P** 17 52 57.6 +2.1
comp=Z,2.4nm,0.7s,baz=28,slow=6.5,SNR=28
comp=Z,2.4nm,0.7s
ZEA Zeya 60.33 40 *e*P **P** 17 53 01.5 +2.0
SEY Seymchan 60.74 21 *i* P **P** 17 53 02.0 -0.1
SEY pmax pmax
comp=Z,3.0nm,1.1s
E19K Redstone River 61.16 357 P **P** 17 53 06.8 +1.8
E19K IAmb IAmb 17 53 09.0
comp=Z,3.0nm,0.8s
HHC Hu-ho-hao-te 62.35 58 *e*P **P** 17 53 14.7 +1.2
HHC pmax pmax
comp=Z,20nm,0.5s
HHC pmax pmax
comp=Z,180nm,4.8s
ILAR Eielson Array 63.22 352 P **P** 17 53 19.2 +0.4
comp=Z,0.3nm,0.7s,baz=22,slow=8.1,SNR=4.2
comp=Z,0.3nm,0.7s
E38A The Farm, Brul 64.16 313 P **P** 17 53 23.3 -2.0
KLR Kul'dur 65.60 40*ce*P **P** 17 53 33.2 -1.4
KLR pmax pmax
comp=Z,10.0nm,1.7s
KLR Kul'dur 65.60 40 P **P** 17 53 36.0 +1.4
comp=Z,2.4nm,0.8s,baz=326,slow=12,SNR=6.6
comp=Z,2.4nm,0.8s
XAN Xi'an 65.80 65 *e*P **P** 17 53 38.1 +1.9
XAN pP PcP 17 53 42.0 -25
XAN pmax pmax
comp=Z,9.0nm,1.2s
PZH PanZhiHua 67.09 76 P **P** 17 53 47.1 +2.4
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,70nm,3.9s
MDJ Mudanjiang 68.32 45 P **P** 17 53 51.4 -0.6
MDJ pmax pmax
comp=Z,10.0nm,2.5s
MDJ pmax pmax
comp=Z,180nm,5.8s
MSHR Mys Shultsa 70.63 45 *i* P **P** 17 54 04.7 -1.6
MSHR pmax pmax
comp=Z,26nm,1.2s
CHTO Chiang Mai 71.09 83 P **P** 17 54 11.0 +1.5
CHTO IAmb IAmb 17 54 11.6
comp=Z,4.7nm,0.9s
CHTO Chiang Mai 71.09 83 P **P** 17 54 11.0 +1.5
CHTO pmax pmax
comp=Z,5.0nm,1.0s
CMAR Chiang Mai Arr 71.36 84 P **P** 17 54 12.8 +1.7
comp=Z,1.3nm,0.7s,baz=308,slow=6.7,SNR=12
comp=Z,1.3nm,0.7s
ELMT Elliston 72.74 326 P **P** 17 54 17.5 -1.7
NJ2 Nanjing 72.80 60 *e*P **P** 17 54 18.2 -1.3
NJ2 pP PcP 17 54 21.5 -15
NJ2 sP 17 54 23.9
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NJ2 pmax pmax
comp=Z,250nm,3.8s
BPMT Black Pine Rid 73.14 326 P **P** 17 54 22.6 +0.9
BOZ Bozeman (W) 73.22 325 P **P** 17 54 23.9 +1.9
BOZ IAmb IAmb 17 54 26.1
comp=Z,5.0nm,1.1s
BOZ Bozeman (W) 73.22 325 P **P** 17 54 23.9 +1.9
BOZ pmax pmax
comp=Z,5.0nm,1.2s
D08A Wollman Farm, 74.41 330 P **P** 17 54 31.2 +2.4
D08A IAmb IAmb 17 55 15.2
comp=Z,5.0nm,1.3s
IMW Indian Meadow 74.42 323 P **P** 17 54 29.5 +0.2
IMW IAmb IAmb 17 54 33.5
comp=Z,4.1nm,0.9s
MOOW Moose Ponds 74.48 323 P **P** 17 54 29.1 -0.4
MOOW IAmb IAmb 17 54 34.8
comp=Z,3.6nm,0.9s
LOHW Long Hollow 74.54 323 P **P** 17 54 31.9 +2.0
LOHW IAmb IAmb 17 54 35.2
comp=Z,3.7nm,1.1s
E09A Wood Farm, Sta 74.65 329 P **P** 17 54 31.7 +1.6
FXWY Fox Creek 74.68 323 P **P** 17 54 33.6 +2.9
FXWY IAmb IAmb 17 54 34.9
comp=Z,6.3nm,1.1s
PDAR Pinedale Array 74.86 322 P **P** 17 54 33.5 +1.7
PDAR Pinedale Array 74.86 322 P **P** 17 54 33.8 +1.9
comp=Z,1.0nm,0.7s,baz=53,slow=5.1,SNR=9.7
comp=Z,1.0nm,0.7s
E08A Dider Farm, El 74.96 330 P **P** 17 54 34.3 +2.3
E08A IAmb IAmb 17 54 36.8
comp=Z,7.9nm,1.2s
BMO Blue Mountains 75.84 328 P **P** 17 54 37.9 +0.7
BMO Blue Mountains 75.84 328 P **P** 17 54 37.9 +0.7
BMO pmax pmax
comp=Z,6.0nm,0.8s
HLID Hailey 75.98 325 P **P** 17 54 38.4 +0.3
HLID IAmb IAmb 17 54 42.8
comp=Z,3.2nm,0.8s
HWUT Hardware Ranch 76.63 322 P **P** 17 54 42.5 +0.7
RDMU Red Mountain 76.74 321 P **P** 17 54 41.5 -1.0
TCUT Toone Canyon 76.99 322 P **P** 17 54 41.7 -2.3
BGU Big Grassy Mou 77.77 323 P **P** 17 54 50.1 +1.9
NLU North Lily Min 78.25 322 P **P** 17 54 52.8 +1.8
NLU IAmb IAmb 17 54 55.4
comp=Z,4.8nm,1.1s
DUG Dugway, Tooele 78.32 323 P **P** 17 54 54.4 +3.1
SRU San Rafael Swe 78.37 320 P **P** 17 54 53.4 +1.8
SRU IAmb IAmb 17 54 54.4
comp=Z,6.4nm,1.0s
SRU San Rafael Swe 78.37 320 P **P** 17 54 53.4 +1.8
SRU pmax pmax
comp=Z,6.0nm,1.0s
ELK Elko 78.74 324 P **P** 17 54 56.5 +2.7
ELK IAmb IAmb 17 54 57.8
comp=Z,4.4nm,1.0s
ELK Elko 78.74 324 P **P** 17 54 56.5 +2.7
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK Elko 78.74 324 P **P** 17 54 55.5 +1.8
comp=Z,2.5nm,0.9s,baz=95,slow=19,SNR=7.7
comp=Z,2.5nm,0.9s
K05A Summer Lake 78.91 329 P **P** 17 54 57.1 +2.6
HMU Henry Mountain 79.46 320 P **P** 17 55 00.1 +2.4
HMU IAmb IAmb 17 55 00.5
comp=Z,5.4nm,0.9s
SPR3 Spring Creek 3 79.94 323 P **P** 17 55 00.4 0.0
SPR3 IAmb IAmb 17 55 05.1
comp=Z,6.3nm,1.1s
MTPU Mount Pierson 79.95 321 P **P** 17 55 01.0 +0.5
PSUT Pine Spring 80.16 322 P **P** 17 55 00.8 -0.7
ANMO Albuquerque 80.21 315*ce*P **P** 17 55 02.1 +0.3
ANMO pmax pmax
comp=Z,2.0nm,1.3s
ANMO Albuquerque 80.21 315 P **P** 17 55 04.0 +2.2
comp=Z,0.6nm,0.5s,baz=53,slow=13,SNR=3.7
comp=Z,0.6nm,0.5s
BOSA Boshof 80.27 172 P **P** 17 55 03.5 +1.8
comp=Z,2.2nm,0.8s,baz=338,slow=3.9,SNR=4.4
comp=Z,2.2nm,0.8s
R11B Troy Canyon, C 80.98 324 **P** 17 55 07.6 +1.8
R11B IAmb IAmb 17 55 09.4
comp=Z,4.8nm,1.3s
NVAR Mina Array Bea 81.89 325 P **P** 17 55 12.8 +2.1
comp=Z,0.5nm,0.7s,baz=32,slow=5.3,SNR=4.6
comp=Z,0.5nm,0.7s
GWY Greenwater Val 83.29 323 P **P** 17 55 20.7 +2.7
GWY IAmb IAmb 17 55 22.9
comp=Z,3.8nm,0.9s
TXAR Lajitas Array 83.65 310 P **P** 17 55 21.7 +1.9
TXAR Lajitas Array 83.65 310 P **P** 17 55 21.7 +1.9
TXAR Lajitas Array 83.65 310 P **P** 17 55 20.9 +1.0
comp=Z,0.5nm,0.6s,baz=343,slow=1.7,SNR=4.4
comp=Z,0.5nm,0.6s
BDFB Brasilia 86.96 240 P **P** 17 55 37.6 +1.3
comp=Z,1.9nm,0.4s,baz=77,slow=7.7,SNR=3.3
comp=Z,1.9nm,0.4s
ASAR Alice Springs 125.37 84 PKP **PKPdf** 18 01 51.0 -1.0
comp=Z,0.6nm,0.7s,baz=339,slow=2.3,SNR=6.8
VNDA Vanda 151.05 165 PKPbc **PKPbc** 18 02 43.4 +0.9
comp=Z,0.8nm,0.8s,baz=251,slow=5.1,SNR=2.5

*IDC **07** 17:55:43.6±3.1,36°.29N×70°.65E,h147km±29km, mb3.5/6, mbtmp4.0/12,MS3.6/1, Error ellipse: s-maj=26.4km s-min=20.2km az=40.0*
*NNC **07** 17:55:48.6±3.1,36°.77N×70°.66E,h169km±45km, mb3.1, mpv3.9, Error ellipse: s-maj=27.6km s-min=21.2km az=48.0*
ISC 07 17:55:47.1±0.9, 36°.63N±0°.07×70°.80E±0°.09, h188km, n37, σ2s 00/43, mb3.4/5, 7C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.94**	**21**	P		**Pn**	**17 57 14.0**	**+0.4**
	SNR=115							
AML	**Almayashu**	**5.94**	**21**	⇑P		**Pn**	**17 57 13.8**	**+0.2**
	1.4nm,0.4s							
AML				⇑S		**Sn**	**17 58 21.1**	**-0.8**
	13nm,0.6s							
UCH	**Uchtor**	**6.29**	**26**	P		**Pn**	**17 57 18.7**	**+0.4**
	SNR=15							
EKS2	**Erkin-Say**	**6.45**	**20**	P		**Pn**	**17 57 20.8**	**+0.7**
	SNR=22							
KK31	**Karatay Array**	**6.47**	**358**	⇑P		**Pn**	**17 57 20.0**	**-0.3**
	19nm,0.5s,baz=189,slow=14,SNR=226							
KK31				⇑S		**Sn**	**17 58 33.0**	**-0.9**
	57nm,0.9s,baz=189,slow=21,SNR=14							
AAK	**Ala-Archa**	**6.64**	**24**	P		**Pn**	**17 57 23.8**	**+1.1**
	SNR=18							
AAK	**Ala-Archa**	**6.64**	**24**	P		**Pn**	**17 57 23.7**	**+1.1**
	7.2nm,0.3s,baz=204,slow=6.9,SNR=47							
AAK				S		**Sn**	**17 58 39.0**	**+0.8**
	13nm,0.5s,baz=333,slow=22,SNR=24							
ULHL	**Ulahol**	**7.01**	**35**	P		**Pn**	**17 57 29.5**	**+1.9**
	SNR=8.9							
CHMS	**Chumysh**	**7.05**	**24**	P		**Pn**	**17 57 28.8**	**+0.9**
	SNR=11							
CHMS	**Chumysh**	**7.05**	**24**	⇓P		**Pn**	**17 57 27.8**	**-0.1**
	5.8nm,0.5s							
CHMS				⇓S		**Sn**	**17 58 47.0**	**-0.7**
	18nm,0.6s							
USP	**Ospenovka**	**7.21**	**22**	P		**Pn**	**17 57 30.9**	**+0.9**
	SNR=6.1							
TKM2	**Tokmak 2**	**7.29**	**29**	P		**Pn**	**17 57 32.2**	**+1.0**
	SNR=11							
TKM2	**Tokmak 2**	**7.29**	**29**	⇓P		**Pn**	**17 57 31.5**	**+0.3**
	2.0nm,0.4s							
TKM2				⇑S		**Sn**	**17 58 53.7**	**+0.1**
	9.0nm,0.7s							
GEYT	**Alibeck**	**10.19**	**281**	P		Pn	17 58 05.1	-3.9
	1.7nm,0.3s,baz=71,slow=31,SNR=16							
GEYT				S		Sn	17 59 52.5	-10
	4.3nm,0.6s,baz=94,slow=16,SNR=2.9							
MKAR	**Makanchi Array**	**13.28**	**37**	P		**P**	**17 58 50.5**	**-1.1**
	3.1nm,0.7s,baz=206,slow=10,SNR=23							
PYUN	**Piuthan**	**13.35**	**126**	*e*P		**Pn**	**17 58 45.2**	**-4.4**
	18nm,0.4s							
DANN	**Dangsing**	**13.69**	**123**	*e*P		**Pn**	**17 58 50.6**	**-3.4**
GKN	**Gorkha**	**14.51**	**122**	*e*P		**Pn**	**17 59 01.3**	**-2.7**
AB31	**Akbulak array**	**14.89**	**331**	⇓P		**Pn**	**17 59 08.6**	**+0.3**
	2.8nm,0.5s,baz=147,slow=11,SNR=159							
AB31				⇑S		**Sn**	**18 01 47.4**	**-7.2**
	2.6nm,0.8s,baz=153,slow=21,SNR=6.1							
KURBB	**Kurchatov Arra**	**15.05**	**19**	P		**P**	**17 59 11.9**	**+0.7**
	0.7nm,0.4s,baz=204,slow=10,SNR=7.0							
DMN	**Daman**	**15.08**	**123**	*e*P		**Pn**	**17 59 08.6**	**-2.5**
	19nm,0.5s							
PKIN	**Phulchoki**	**15.30**	**122**	*e*P		**Pn**	**17 59 11.5**	**-2.3**
	16nm,0.4s							
PKI	**Pulchoki**	**15.31**	**122**	*e*P		**Pn**	**17 59 11.8**	**-2.2**
	0.5nm,0.2s							
GUN	**Gumba**	**15.42**	**120**	*e*P		**Pn**	**17 59 13.1**	**-2.3**
	10nm,0.4s							
JIRN	**Jiri**	**15.79**	**120**	*e*P		**Pn**	**17 59 17.9**	**-2.0**
	31nm,0.4s							
BVAR	**Borovoye Array**	**16.40**	**359**	P		**Pn**	**17 59 28.5**	**+2.0**
	2.6nm,0.5s,baz=165,slow=12,SNR=13							
RAMN	**Ramite**	**16.52**	**121**	*e*P		**P**	**17 59 27.6**	**-0.2**
	8.4nm,0.3s							
AKTO	**Aktyubinsk**	**16.59**	**330**	P		**Pn**	**17 59 30.8**	**+1.9**
	6.3nm,0.7s,baz=144,slow=11,SNR=18							
AKTO				S		**S**	**18 02 30.5**	**-1.0**
	1.8nm,0.5s,baz=130,slow=18,SNR=3.8							
AKTO	**Aktyubinsk**	**16.59**	**330**	⇑P		**Pn**	**17 59 31.0**	**+2.1**
	2.0nm,0.5s							
AKTO				⇓S		**S**	**18 02 32.7**	**+1.2**
	4.0nm,0.9s							
TAPN	**Taplejung**	**17.05**	**118**	*e*P		**Pn**	**17 59 34.8**	**-0.1**
	14nm,0.4s							
ZALV	**Zalesovo Beam**	**19.87**	**25**	P		**Pn**	**18 00 07.3**	**-0.3**
	17nm,0.4s,baz=221,slow=11,SNR=88							
	17nm,0.4s							
CMAR	**Chiang Mai Arr**	**30.66**	**119**	P		**P**	**18 01 44.6**	**+0.6**
	0.3nm,0.4s,baz=298,slow=8.5,SNR=4.8							
	0.3nm,0.4s							
FINES	**FINESS Array B**	**37.29**	**326**	P		**P**	**18 02 43.4**	**+2.9**
	3.7nm,0.9s,baz=134,slow=12,SNR=2.0							
	3.7nm,0.9s							
KEST	**Kesra**	**48.84**	**288**	LR		LR	18 29 24.4	
	comp=Z,56nm,18.2s,baz=320,slow=41							
YKA	**Yellowknife Ar**	**81.12**	**3**	P		**P**	**18 07 43.5**	**+2.5**
	0.3nm,0.6s,baz=355,slow=5.5,SNR=4.4							
	0.3nm,0.6s							
WRA	**Warramunga Arr**	**82.20**	**122**	P		**P**	**18 07 47.5**	**+0.2**
	0.3nm,0.5s,baz=325,slow=4.9,SNR=9.1							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**84.46**	**125**	P		**P**	**18 07 59.5**	**+0.7**
	0.4nm,0.6s,baz=313,slow=5.0,SNR=7.5							
	0.4nm,0.6s							

*NEIC **07** 18:08:18.8±1.0, 47°.17N±0°.02×122°.22W±0°.04, h21km±4km, Error ellipse: s-maj=3.6km s-min=3.4km az=109.0*
*PNSN **07** 18:08:19.5, 47°.18N×122°.21W, h16km, MD1.9, Fault plane solution: NP1:φ=20.00000°, δ=45.00000°, λ=-140.00000°.*
SEA 07 18:08:19.5±1.6, 47°.184N±0°.010×122°.21W±0°.02, h16km±3km, ML1.9/24, ML2.0/24(NEIC), Error ellipse: s-maj=1.9km s-min=0.8km az=48.0, Washington

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SMNR	**Sumner High Sc**	**0.03**	**318**			Sg	18 08 25.2	+0.9
PCEP	**Pierce County**	**0.09**	**219**			Sg	18 08 25.3	+0.4
D05A	**Enumclaw**	**0.15**	**88**			Pg	18 08 23.7	+0.2
D05A						Sb	18 08 26.9	-0.1
D05A	**Enumclaw**	**0.15**	**88**	IAML			18 08 27.1	
	comp=N,700nm,0.4s							
D05A				IAML			18 08 27.9	
	comp=E,196nm,0.4s							
GHW	**Garrison Hill**	**0.15**	**198**			Pg	18 08 23.1	-0.4
GHW						Sg	18 08 26.0	-0.1
B941	**Kapowsin**	**0.20**	**183**			Pg	18 08 23.6	-0.6
B941						Sg	18 08 26.7	-0.6
RAW	**Raver**	**0.24**	**50**			Pg	18 08 24.8	-0.1
PCFR	**Pierce County**	**0.25**	**220**			Pg	18 08 24.6	-0.4
PCFR						Sg	18 08 28.8	+0.1
GSM	**Grass Mountain**	**0.28**	**86**			Pg	18 08 25.4	-0.2
GSM						Sg	18 08 29.6	-0.2
RVC	**Mount Rainier-**	**0.29**	**146**			Pg	18 08 25.4	-0.3
VVHS	**Vashon High Sc**	**0.29**	**325**			Pg	18 08 25.7	-0.1
RATT	**Rattlesnake La**	**0.37**	**48**			Pg	18 08 26.6	-0.4
SP2	**Seward Park 2**	**0.37**	**355**			Pg	18 08 27.4	+0.3
CDMR	**Cedar Moraine**	**0.39**	**52**			Pg	18 08 27.1	-0.3
OBSR	**Observation Ro**	**0.39**	**137**			Pg	18 08 27.1	-0.5
OBSR						Sg	18 08 32.8	-0.2
FMW	**Mount Fremont**	**0.44**	**124**			Pg	18 08 27.8	-0.7
RCS	**Mount Rainier-**	**0.45**	**134**			Pg	18 08 28.0	-0.7
RCM	**Mount Rainier-**	**0.48**	**137**			Pg	18 08 28.4	-0.7
LON	**Longmire**	**0.51**	**148**			Pg	18 08 28.7	-1.0
LON				IAML			18 08 35.7	
	comp=E,62nm,0.2s							
LON	**Longmire**	**0.51**	**148**			Pg	18 08 28.7	-1.0
LON	**Longmire**	**0.51**	**148**			Sg	18 08 35.4	-1.2
GMW	**Gold Mountain**	**0.54**	**313**			Pg	18 08 29.3	-0.9
SR41	**SR410 Landslid**	**0.55**	**123**			Pg	18 08 29.4	-0.9
SR41						Sg	18 08 36.9	-0.8
GNW	**Green Mountain**	**0.57**	**312**			Pg	18 08 29.6	-1.2
GNW						Sg	18 08 37.6	-0.7
GNW	**Green Mountain**	**0.57**	**312**	IAML			18 08 37.8	
	comp=E,22nm,0.4s							
GNW				IAML			18 08 37.9	
	comp=N,25nm,0.5s							
CPW	**Capitol Peak**	**0.67**	**252**			Pg	18 08 31.8	-0.9
HTW	**Haystack Looko**	**0.69**	**25**			Pg	18 08 31.8	-1.2
C04A	**Brinnon**	**0.74**	**316**			Pg	18 08 32.6	-1.5
TDL	**Tradedollar La**	**0.83**	**180**			Pb	18 08 34.6	-1.2
B201	**Coldwater, Mou**	**0.88**	**183**			Pb	18 08 35.2	-1.3
ERK	**Elk Rock**	**0.88**	**186**			Pb	18 08 35.2	-1.3
B017	**Montesano**	**0.94**	**259**			Pb	18 08 36.9	-0.6
BOLM	**Sugar Bowl**	**0.97**	**179**			Pb	18 08 37.2	-0.9
FL2	**Flat Top 2**	**0.99**	**186**			Pb	18 08 37.3	-1.2
BMW	**Boistfort Moun**	**1.00**	**225**			Pb	18 08 37.1	-1.4
JCW	**Jim Creek**	**1.03**	**10**			Pb	18 08 37.8	-1.2
NAC	**Naches**	**1.05**	**115**			Pb	18 08 38.9	-0.4
LTY	**Liberty**	**1.05**	**85**			Pb	18 08 38.0	-1.4
LTY				IAML			18 08 52.4	
	comp=E,22nm,0.3s							
WRW	**Wenatchee Ridg**	**1.12**	**53**			Pb	18 08 39.7	-1.0
B019	**Raymond**	**1.12**	**242**			Pb	18 08 39.8	-0.8
NLWA	**Neilton Lookou**	**1.15**	**281**	Pn		Pn	18 08 39.3	-1.8
NLWA				IAML			18 08 59.2	
	comp=E,26nm,0.9s							
B023	**Clatskanie**	**1.23**	**210**			Pn	18 08 41.0	-1.0
B04A	**Port Angeles**	**1.24**	**315**	Pn		Pn	18 08 41.0	-1.2
B04A				IAML			18 08 53.0	
	comp=E,23nm,2.6s							
B04A				IAML			18 09 07.1	
	comp=N,23nm,1.8s							
F04A	**Amboy**	**1.26**	**187**	Pn		Pn	18 08 41.5	-1.0
F04A						Sb	18 08 57.2	-1.7
ETW	**Entiat**	**1.34**	**71**			Pb	18 08 44.4	0.0
RPW	**Rockport**	**1.35**	**20**			Pn	18 08 43.3	-0.5
B06A	**Marblemount**	**1.42**	**20**	Pn		Pn	18 08 43.1	-1.6
B06A				IAML			18 09 06.5	
	comp=E,36nm,0.2s							
MXC	**Moxie City**	**1.45**	**114**	Pn		Pn	18 08 45.1	0.0
MXC				IAML			18 09 06.6	
	comp=E,15nm,0.5s							
MXC				IAML			18 09 06.8	
	comp=N,20nm,2.0s							
MBW	**Mount Baker**	**1.61**	**7**			Pn	18 08 47.8	+0.3
E07A	**Sunnyside**	**1.73**	**110**	Pn		Pn	18 08 47.0	-2.0
E07A				IAML			18 09 15.3	
	comp=E,17nm,0.3s							
E07A				IAML			18 09 15.4	
	comp=N,20nm,2.4s							
HEBO	**Mount Hebo**	**2.25**	**209**			Pb	18 08 58.1	-1.7
I03D	**Drain, OR**	**3.58**	**193**			Pn	18 09 16.7	+2.4

*ATH **07** 18:20:29.9, 36°.00N×27°.29E, h25km±7km, ML2.3/2, Error ellipse: s-maj=8.7km s-min=1.6km az=135.0*
*AFAD **07** 18:20:41.3±0.0, 36°.87N×27°.83E, h8km±18km, ML2.0*
THE 07 18:20:29.3, 36°.03N×27°.29E, h13km±2km, ML2.4/4, Error ellipse: s-maj=2.5km s-min=0.8km az=120.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.49**	**193**	P		Pg	18 20 39.1	+0.1
KARP				S		Sb	18 20 46.4	-0.7
	372nm,0.2s							
KARP	**Karpathos**	**0.49**	**193**	P		Pg	18 20 39.1	+0.1
KARP				S		Sb	18 20 46.4	-0.7
KARP				AML		AML	18 20 47.7	
	comp=E,839μm,0.3s							
KARP				AML		AML	18 20 48.1	
	comp=N,640μm,0.2s							
NIS1	**Nisyros Isl.**	**0.58**	**351**	P		Pg	18 20 40.9	+0.3
NIS1				S		Sg	18 20 48.9	+0.6
	comp=N,525nm,0.6s							
NIS1	**Nisyros Isl.**	**0.58**	**351**	P		Pb	18 20 41.6	+0.3
ARG	**Arkhangelos**	**0.70**	**74**	P		Pb	18 20 43.4	0.0
ARG				S		Sg	18 20 52.5	+0.4
	comp=N,330nm,0.2s							
ARG	**Arkhangelos**	**0.70**	**74**	P		Pb	18 20 43.4	0.0
ARG				S		Sg	18 20 52.5	+0.4
ARG				AML		AML	18 20 53.7	
	comp=N,632μm,0.3s							
ARG				AML		AML	18 20 55.9	
	comp=E,789μm,0.6s							
DAT	**Datca**	**0.73**	**18**	P		Pg	18 20 43.2	-0.3
DAT				S		Sg	18 20 53.6	+0.4
DAT	**Datca**	**0.73**	**18**	P		Pg	18 20 43.2	-0.4
DAT				S		Sb	18 20 54.3	+0.2
BODT	**Bodrum**	**1.03**	**1**	P		Pb	18 20 47.8	-1.2
BODT				S		Sb	18 21 02.4	-0.1
BDRM	**Kayabasi**	**1.04**	**7**	P		Pb	18 20 48.5	-0.7
BDRM				S		Sb	18 21 00.7	-2.1
TURN	**Turunc**	**1.07**	**46**	P		Pb	18 20 49.0	-0.6
TURN				S		Sb	18 21 03.3	-0.2
SANT	**Santorini**	**1.52**	**283**	P		Pn	18 20 55.5	-0.8
SANT				S		Sn	18 21 14.1	-1.9
	comp=E,105nm,0.2s							
SANT	**Santorini**	**1.52**	**283**	P		Pn	18 20 56.1	-0.2
SANT				S		Sn	18 21 14.1	-1.9
SNT5	**Nea Kammeni, S**	**1.58**	**284**	P		Pn	18 20 55.3	-1.8
IZZE	**Mula-Seydike**	**1.61**	**75**	P		Pg	18 20 59.8	-0.5
IZZE				S		Sg	18 21 21.9	+0.6
IZZE				*i* AML		AML	18 21 25.0	
	comp=E,37nm,0.6s							
IZZE				*i* AML		AML	18 21 26.0	
	comp=E,44nm,0.3s							
IZZE				*i* AML		AML	18 21 26.0	
	comp=E,115nm,0.4s							
SMG	**Samos**	**1.71**	**348**	P		Pn	18 20 57.2	-1.7
TAVA	**DENIZLI_Tavas**	**1.94**	**42**	P		Pn	18 21 02.5	+0.5
TAVA				S		Sn	18 21 27.2	+0.9
CAEL	**Denizli, Camel**	**1.96**	**56**	P		Pb	18 21 05.5	+0.5
CAEL				S		Sg	18 21 34.3	+1.8
CAEL				*i* AML		AML	18 21 40.0	
	comp=E,38nm,1.2s							

CAEL				*i* AML	AML	18 21 42.0		
	comp=E,30nm,1.0s							
CAEL				*i* AML	AML	18 21 43.0		
	comp=E,18nm,0.6s							
IZMR	**zmir-demi**	**2.17**	**14**	P	Pb	18 21 09.1		+0.7

IDC 07 18:36:07.3±13.0, 18°32S×177°86W, h550km±164km, mb3.2/4, mbtmp4.1/4, Error ellipse: s-maj=77.7km s-min=33.2km az=12.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.35**	**191**	P	P	18 40 06.3	-0.1
	4.0nm,0.4s,baz=91,slow=4.0,SNR=6.6 4.0nm,0.4s						
WRA	**Warramunga Arr**	**45.08**	**260**	P	P	18 43 34.4	-0.5
	1.1nm,0.5s,baz=97,slow=7.2,SNR=19 1.1nm,0.5s						
ASAR	**Alice Springs**	**45.19**	**255**	P	P	18 43 36.1	+0.3
	5.3nm,0.6s,baz=87,slow=8.9,SNR=113 5.3nm,0.6s						
ILAR	**Eielson Array**	**86.17**	**13**	P	P	18 47 50.3	+0.2
	0.2nm,0.4s,baz=224,slow=4.4,SNR=6.2 0.2nm,0.4s						
BRTR	**Keskin Array B**	**145.44**	**315**	PKPbc	PKPdf	18 54 43.2	-0.2
	0.4nm,0.6s,baz=87,slow=3.3,SNR=2.0						

DJA 07 18:40:46.7±0.3, 0°S±3°×12°3E±°, h125km±9km, M4.0/16, mb3.9/6, MLv4.0/16, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.88**	**40**	P	Pn	18 41 09.8	+1.7
LUWI	**Luwuk**	**1.13**	**215**	P	Pn	18 41 10.5	0.0
MRSI	**Marisa**	**1.59**	**292**	P	Pn	18 41 14.7	-0.8
SANI	**Sanana**	**3.21**	**127**	P	Pn	18 41 34.6	-1.3
MPSI	**Mapaga**	**3.55**	**277**	P	Pn	18 41 40.7	+0.3
TNTI	**Ternate**	**4.04**	**77**	P	Pn	18 41 47.1	+0.2
LBMI	**Labuha**	**4.11**	**97**	P	Pn	18 41 47.4	-0.5
TTSI	**Tana Toraja**	**4.63**	**231**	P	Pn	18 41 54.8	0.0
NLAI	**Namlea**	**4.81**	**130**	P	Pn	18 41 57.7	+0.4
SPSI	**Sidrap Palu**	**5.29**	**224**	P	Pn	18 42 03.7	+0.1
	13nm,0.9s,0.1nm						
BKSI	**Bulukumba**	**6.14**	**212**	P	Pn	18 42 15.5	+0.5
	8.3nm,1.2s,0.0nm						
SWI	**Sorong**	**7.88**	**95**	P	Pn	18 42 38.6	+0.1

TAP 07 18:58:45.5, 23°12N×120°68E, h4km, ML0.3, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.09**	**61**	*i* P	Pg	18 58 48.0	+0.7
	baz=65						
STYT				S	Sg	18 58 49.7	+1.1
	baz=65						
SGST	**Jiashian**	**0.09**	**245**	P	Pg	18 58 47.8	+0.4
	baz=242						
SGST				*e*S	Sg	18 58 50.1	+1.3
	baz=242						
STYH	**Taoyuan**	**0.10**	**62**	*i* P	Pg	18 58 48.3	+0.7
	baz=62						
STYH				*i* S	Sg	18 58 50.1	+1.0
	baz=62						
WTP	**Ta-pu**	**0.14**	**335**	P	Pg	18 58 49.0	+0.7
	baz=346						
CHN1	**Nanshi**	**0.15**	**295**	P	Pg	18 58 49.7	+1.2
	baz=296						
TPUB	**Ta-pu**	**0.18**	**347**	P	Pg	18 58 49.9	+0.8
	baz=347						

IDC 07 18:58:53.1±0.8, 0°07S×130°80E, h0km, mb4.1/11, mbtmp4.1/13, ML1.9/1, MS3.1/9, Error ellipse: s-maj=33.5km s-min=14.5km az=69.0
DJA 07 18:58:56.0±0.7, 0°S±4°×13°1E±°, h21km±8km, M4.6/13, mb5.0/4, mB5.8/2, MLv4.4/13, Mw(mB)5.4/2
ISC 07 18:58:58.1±0.7, 0°13S±0°08×130°53E±0°07, h35km, n28, σ1°27/24, mb4.2/10, MS3.1/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.03**	**135**	P	**Pn**	18 59 16.0	**-0.1**
LBMI	**Labuha**	**3.07**	**260**	P	**Pn**	18 59 43.2	**-0.9**
TNTI	**Ternate**	**3.28**	**286**	P	**Pn**	18 59 46.5	**-0.6**
BNDI	**Bandanaira**	**4.41**	**188**	P	**Pn**	19 00 02.9	**+0.3**
NLAI	**Namlea**	**4.61**	**228**	P	**Pn**	19 00 05.7	**+0.3**
KMPI	**Kaimana, Papua**	**4.73**	**138**	P	**Pn**	19 00 07.3	**+0.2**
SANI	**Sanana**	**4.92**	**247**	P	**Pn**	19 00 07.7	**-2.0**
SGSI	**Sangihe**	**6.27**	**307**	P	**Pn**	19 00 26.6	**-1.6**
LUWI	**Luwuk**	**7.81**	**263**	P	**Pn**	19 00 48.7	**-0.6**
	39nm,0.8s,0.2nm						
SAUI	**Saumlaki**	**7.84**	**174**	P	**Pn**	19 00 49.3	**-0.5**
	76nm,0.6s,4µm0.6nm						
KAPI	**Kappang**	**11.81**	**246**	Pn	**Pn**	19 01 46.2	**+2.0**
	10nm,0.9s,baz=67,slow=20,SNR=2.1						
PMG	**Port Moresby**	**18.95**	**120**	P	**P**	19 03 13.5	**-2.9**
	0.1nm,0.3s,baz=255,slow=20,SNR=2.4						
PMG				LR	LR	19 11 46.1	
	comp=Z,106nm,19.0s,baz=256,slow=41 2.6nm,0.8s						
GUMO	**Guam**	**19.69**	**46**	LR	LR	19 09 58.2	
	comp=Z,55nm,19.8s,baz=230,slow=34						
WRA	**Warramunga Arr**	**20.04**	**169**	P	**P**	19 03 28.3	**0.0**
	5.0nm,0.7s,baz=346,slow=10,SNR=35						
WRA				S	S	19 07 00.9	-11
	1.3nm,0.6s,baz=354,slow=23,SNR=4.6 5.0nm,0.7s						
ASAR	**Alice Springs**	**23.63**	**172**	P	**P**	19 04 07.0	**+0.7**
	10.0nm,0.9s,baz=349,slow=10,SNR=38						
ASAR				S	**S**	19 08 16.9	**-1.7**
	0.3nm,0.8s,baz=350,slow=20,SNR=2.0 10.0nm,0.9s						
CTA	**Charters Tower**	**25.11**	**143**	LR	LR	19 15 49.9	
	comp=Z,64nm,21.4s,baz=316,slow=41						
JNU	**Nakatsue**	**33.07**	**1**	LR	LR	19 20 02.5	
	comp=Z,47nm,18.1s,baz=136,slow=38						
STKA	**Stephens Creek**	**33.27**	**163**	P	**P**	19 05 31.8	**-0.6**
	0.9nm,0.3s,baz=352,slow=14,SNR=2.7 0.9nm,0.3s						
CMAR	**Chiang Mai Arr**	**36.11**	**302**	P	**P**	19 05 59.0	**+1.9**
	2.0nm,1.0s,baz=121,slow=7.2,SNR=13						
CMAR				LR	LR	19 22 07.8	
	comp=Z,10nm,18.1s,baz=95,slow=38 2.0nm,1.0s						
MJAR	**Matsushiro Arr**	**37.17**	**10**	P	**P**	19 06 05.2	**-0.8**
	2.0nm,0.8s,baz=189,slow=9.1,SNR=4.3						
MJAR				LR	LR	19 21 35.5	
	comp=Z,28nm,18.9s,baz=234,slow=37 2.0nm,0.8s						
KSRS	**Korea Array**	**37.47**	**357**	LR	LR	19 21 15.6	
	comp=Z,18nm,19.0s,baz=175,slow=36						
KLR	**Kul'dur**	**49.18**	**1**	LR	LR	19 27 24.6	
	comp=Z,22nm,19.8s,baz=304,slow=35						
SONM	**Songino Array**	**52.18**	**340**	P	**P**	19 08 05.7	**+0.3**
	1.7nm,1.0s,baz=164,slow=8.2,SNR=7.7 1.7nm,1.0s						
MKAR	**Makanchi Array**	**62.87**	**325**	P	**P**	19 09 21.9	**+1.2**
	2.0nm,0.7s,baz=122,slow=6.7,SNR=8.1						
MKAR				LR	LR	19 38 53.0	
	comp=Z,28nm,19.9s,baz=317,slow=38 2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**65.73**	**332**	P	**P**	19 09 39.8	**+0.6**
	1.7nm,0.9s,baz=112,slow=6.6,SNR=6.6 1.7nm,0.9s						
KURBB	**Kurchatov Arra**	**67.02**	**327**	P	**P**	19 09 48.4	**+0.9**
	1.4nm,0.3s,baz=123,slow=5.8,SNR=15 1.4nm,0.3s						
BVAR	**Borovoye Array**	**72.60**	**327**	P	**P**	19 10 23.4	**+1.6**
	3.4nm,0.8s,baz=104,slow=6.3,SNR=13 3.4nm,0.8s						
VNDA	**Vanda**	**79.17**	**173**	P	**P**	19 10 59.1	**+0.3**
	0.8nm,0.9s,baz=323,slow=4.0,SNR=5.2 0.8nm,0.9s						

WEL 07 18:58:57.2±1.2, 36°S±7°×17°8E±1°0, h12km, M4.0/19, ML4.1/19, MLv4.0/19, Error ellipse: s-maj=0.0km s-min=0.0km az=58.3, confirmed
NEIC 07 18:58:59.9±1.5, 36°1S±0°1×177°8E±0°1, h10km±2km, mb4.5/6, Error ellipse: s-maj=19.2km s-min=13.8km az=354.0
IDC 07 18:58:59.1±9.5, 36°01S×177°70E, h0km, mb4.2/3, mbtmp4.2/4, ML3.2/1, MS3.4/3, Error ellipse: s-maj=175.9km s-min=28.4km az=75.0
ISC 07 18:58:58.1±1.1, 35°87S±0°06×177°88E±0°07, h10km, n88, σ2°12/92, mb4.4/7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.73**	**169**		**Pn**	**18 59 25.5**	**-2.6**
MXZ	**Matakaoa Point**	**1.73**	**169**	P	**Pg**	**18 59 31.1**	**-0.1**
MXZ				S	**Sg**	**18 59 54.2**	**+0.6**
MXZ				T	T	19 01 10.2	
HAZ	**Te Kaha**	**1.89**	**182**	P	**Pg**	**18 59 34.4**	**+0.2**
KUZ	**Kuaotunu**	**1.95**	**243**	P	**Pb**	**18 59 32.4**	**-1.2**
WMGZ	**Waiomatatini S**	**1.99**	**168**	P	**Pn**	**18 59 30.3**	**-1.5**
WMGZ				S	**Sb**	**18 59 59.3**	**0.0**
PKGZ	**Pakihiroa**	**2.02**	**176**	P	**Pb**	**18 59 33.7**	**-1.2**
RUGZ	**Raukumara Rang**	**2.10**	**184**	P	**Pn**	**18 59 33.7**	**+0.3**
PUZ	**Puketiti**	**2.22**	**172**	P	**Pn**	**18 59 35.1**	**+0.1**
PUZ				S	**Sb**	**19 00 05.4**	**-0.5**
TWGZ	**Tauwhareparae**	**2.31**	**178**	P	**Pb**	**18 59 38.6**	**-1.2**
TWGZ				S	**Sg**	**19 00 10.5**	**-1.7**
WIAZ	**Waiheke Island**	**2.40**	**247**	P	**Pb**	**18 59 39.1**	**-2.2**
URZ	**Urewera**	**2.46**	**194**	Pn	**Pn**	**18 59 38.4**	**+0.2**
	6.4nm,0.3s,baz=60,slow=3.9,SNR=21						
URZ				Sn	**Sn**	**19 00 07.3**	**-1.1**
	12nm,0.3s,baz=96,slow=19,SNR=11 34nm,0.5s						
URZ	**Urewera**	**2.46**	**194**	P	**Pn**	**18 59 38.4**	**+0.2**
MWZ	**Matawai**	**2.48**	**186**	P	**Pn**	**18 59 38.8**	**+0.3**
MKAZ	**Moumakai**	**2.51**	**240**	P	**Pb**	**18 59 40.9**	**-2.4**
TKGZ	**Te Karaka**	**2.57**	**181**	P	**Pb**	**18 59 42.3**	**-1.9**
TKGZ				S	**Sb**	**19 00 17.7**	**+2.0**
CNGZ	**Carnagh Statio**	**2.62**	**174**	P	**Pb**	**18 59 41.9**	**-3.3**
RAGZ	**Rawiri**	**2.65**	**188**	P	**Pb**	**18 59 44.2**	**-1.4**
TOZ	**Tahuroa Road**	**2.66**	**225**		**Pn**	**18 59 40.0**	**-1.0**
TOZ				Pg	**Pb**	**18 59 44.2**	**-1.6**
TOZ	**Tahuroa Road**	**2.66**	**225**	P	**Pb**	**18 59 44.0**	**-1.8**
RIGZ	**Rimuhau**	**2.83**	**182**	P	**Pb**	**18 59 45.4**	**-3.4**
RTZ	**Ruatahuna**	**2.83**	**194**	Pn	**Pn**	**18 59 43.1**	**-0.3**
RTZ	**Ruatahuna**	**2.83**	**194**	P	**Pb**	**18 59 48.1**	**-0.7**
WCZ	**Waipu Caves**	**2.87**	**268**	P	**Pb**	**18 59 46.6**	**-2.8**
SNGZ	**Shannon Statio**	**2.94**	**188**	P	**Pb**	**18 59 47.8**	**-2.7**
PRGZ	**Paritu Road**	**3.05**	**180**	P	**Pn**	**18 59 47.5**	**+1.1**
PRGZ				S	**Sn**	**19 00 25.5**	**+2.6**
MTHZ	**Maungataniwha**	**3.09**	**195**	P	**Pb**	**18 59 51.0**	**-2.2**
RAHZ	**Arahi**	**3.11**	**191**	P	**Pb**	**18 59 50.6**	**-2.8**
MHGZ	**Mahia Peninsul**	**3.28**	**180**	P	**Pn**	**18 59 50.6**	**+1.1**
NMHZ	**Naumai**	**3.33**	**194**	P	**Pb**	**18 59 53.8**	**-3.6**
NMHZ				S	**Sb**	**19 00 35.9**	**-2.1**
RATZ	**Rangitukua**	**3.43**	**209**	P	**Pb**	**18 59 58.9**	**0.0**
BKZ	**Black Stump Fm**	**3.47**	**198**		**Pn**	**18 59 53.7**	**+1.5**
BKZ	**Black Stump Fm**	**3.47**	**198**	P	**Pb**	**18 59 56.0**	**-3.7**
RITZ	**Rihia Road**	**3.49**	**207**	P	**Pb**	**18 59 59.4**	**-3.7**
KATZ	**Kakaramea**	**3.55**	**209**	P	**Pb**	**19 00 01.2**	**+0.1**
HIZ	**Hauiti**	**3.58**	**222**		**Pn**	**18 59 53.1**	**-0.5**
NTVZ	**North Tongarir**	**3.67**	**208**	P	**Pb**	**19 00 00.4**	**-2.7**
TMVZ	**Te Maari**	**3.67**	**207**	P	**Pb**	**18 59 59.5**	**-3.6**
ETVZ	**East Tongariro**	**3.69**	**207**	P	**Pb**	**18 59 59.2**	**-4.2**
WTVZ	**West Tongariro**	**3.72**	**209**	P	**Pb**	**19 00 04.5**	**+0.6**
NNVZ	**North Ngauruho**	**3.72**	**208**	P	**Pb**	**19 00 03.1**	**-0.9**
OTVZ	**Oturere**	**3.73**	**207**	P	**Pb**	**18 59 59.5**	**-4.7**
KWHZ	**Kaweka Forest**	**3.73**	**198**	P	**Pn**	**18 59 59.2**	**+3.4**
KWHZ				S	**Sb**	**19 00 46.7**	**-2.7**
TWVZ	**Taurewa**	**3.74**	**211**	P	**Pb**	**19 00 03.0**	**-1.2**
SNVZ	**South Ngauruho**	**3.76**	**208**	P	**Pb**	**19 00 01.1**	**-3.5**
NGZ	**Ngauruhoe**	**3.76**	**208**	P	**Pb**	**19 00 02.7**	**-2.0**
COVZ	**Chateau Observ**	**3.81**	**208**	P	**Pb**	**19 00 07.5**	**+2.0**
CKHZ	**Cape Kidnapper**	**3.84**	**189**	P	**Pn**	**18 59 58.1**	**+0.9**
CKHZ				S	**Sn**	**19 00 45.1**	**+2.8**
BHHZ	**Black Hill Sta**	**3.89**	**201**	P	**Pb**	**19 00 02.2**	**-4.6**
WNVZ	**Wahianoa**	**3.90**	**207**	P	**Pb**	**19 00 05.3**	**-1.7**
MOVZ	**Moawhango**	**3.91**	**205**	P	**Pb**	**19 00 02.9**	**-4.3**
KRHZ	**Kereru**	**3.95**	**197**	P	**Pn**	**18 59 60.0**	**+1.1**
KRHZ				S	**Sn**	**19 00 49.8**	**+4.6**
PKVZ	**Pokaka**	**3.96**	**210**	P	**Pb**	**19 00 06.3**	**-1.7**
KAHZ	**Kahuranaki**	**4.00**	**191**	P	**Pn**	**19 00 01.0**	**+1.6**
KAHZ				S	**Sn**	**19 00 51.1**	**+4.7**
VRZ	**Vera Road**	**4.09**	**216**	P	**Pb**	**19 00 10.2**	**+0.1**
PNHZ	**Pukenui**	**4.25**	**198**	P	**Pn**	**19 00 04.1**	**+1.2**
TSZ	**Takapari Road**	**4.45**	**199**	P	**Pn**	**19 00 13.6**	**-2.7**
PRHZ	**Porangahau**	**4.50**	**192**	P	**Pn**	**19 00 06.6**	**+0.3**
NEZ	**North Egmont**	**4.53**	**220**	P	**Pb**	**19 00 15.1**	**-2.7**
BFZ	**Birch Farm**	**4.97**	**194**	Pn	**Pn**	**19 00 11.5**	**-1.3**
MRZ	**Mangatainoka R**	**5.11**	**200**	Pn	**Pn**	**19 00 14.6**	**-0.1**
MRZ	**Mangatainoka R**	**5.11**	**200**	P	**Pn**	**19 00 16.6**	**+1.9**
BHW	**Baring Head**	**6.01**	**202**	Pn	**Pn**	**19 00 23.0**	**-4.0**
TCW	**Tory Channel**	**6.03**	**207**	Pn	**Pn**	**19 00 27.1**	**-0.2**
PLWZ	**Palliser**	**6.05**	**199**	Pn	**Pn**	**19 00 28.7**	**+1.1**
TUWZ	**Tuamarina**	**6.35**	**208**	Pn	**Pn**	**19 00 29.7**	**-2.0**
NNZ	**Nelson**	**6.40**	**212**	Pn	**Pn**	**19 00 31.0**	**-1.3**
TKNZ	**Takaka Hill**	**6.44**	**215**	Pn	**Pn**	**19 00 31.1**	**-1.9**
QRZ	**Quartz Range**	**6.49**	**219**	Pn	**Pn**	**19 00 32.7**	**-0.9**
MRNZ	**Matariki Terra**	**6.82**	**214**	Pn	**Pn**	**19 00 38.7**	**+0.5**
THZ	**Tophouse**	**7.05**	**212**	Pn	**Pn**	**19 00 40.2**	**-1.2**
DZM	**Mont Dzumac**	**16.98**	**321**	*e*LR	LR	19 07 17.3	
	262nm,25.4s						
DZM	**Mont Dzumac**	**16.98**	**321**	LR	LR	19 08 24.0	
	comp=Z,138nm,18.3s,baz=172,slow=33						
STKA	**Stephens Creek**	**30.28**	**267**	P	**P**	**19 05 09.7**	**+0.3**
	1.9nm,0.9s,baz=100,slow=17,SNR=1.9 1.9nm,0.9s						
TBI	**Tubuai**	**30.87**	**75**	*e*T	T	19 37 01.6	
	19nm,0.3s						
PPT2	**Papeete2**	**34.08**	**66**	*e*LR	LR	19 14 46.1	
	56nm,23.2s						
PPT2				*e*LR	LR	19 14 53.4	
	96nm,25.5s						
PPT2	**Papeete2**	**34.08**	**66**	*e*T	T	19 41 00.6	
	6.9nm,0.3s						
TVO	**Taravao**	**34.20**	**67**	*e*T	T	19 41 08.5	
	2.6nm,0.3s						
MEH	**Mehetia**	**35.03**	**68**	*e*T	T	19 42 16.2	
	12nm,0.3s						
AS31	**Alice Springs**	**39.76**	**275**	P	**P**	**19 06 32.1**	**+0.9**
AS31				IAmb	IAmb	19 06 33.6	
	comp=Z,3.1nm,0.6s						
ASAR	**Alice Springs**	**39.76**	**275**	P	**P**	**19 06 33.0**	**+1.8**
	comp=Z,5.9nm,0.6s,baz=118,slow=7.9,SNR=27 comp=Z,5.9nm,0.6s						
WRAB	**Tennant Creek**	**41.26**	**281**	P	**P**	**19 06 44.9**	**+1.3**
WRAB				IAmb	IAmb	19 07 10.4	
	comp=Z,16nm,1.2s						
WRA	**Warramunga Arr**	**41.26**	**281**	P	**P**	**19 06 45.1**	**+1.5**
	comp=Z,1.3nm,0.5s,baz=120,slow=7.7,SNR=10 comp=Z,1.3nm,0.5s						
WB0	**Warramunga Arr**	**41.31**	**281**	P	**P**	**19 06 45.1**	**+1.1**
WB0				IAmb	IAmb	19 07 16.6	
	comp=Z,17nm,1.2s						
VNDA	**Vanda**	**42.34**	**185**	P	**P**	**19 06 51.3**	**-0.4**
VNDA	**Vanda**	**42.34**	**185**	LR	LR	19 21 57.5	
	comp=Z,42nm,18.7s,baz=122,slow=33						
MBWA	**Marble Bar**	**52.45**	**270**	P	**P**	**19 08 11.9**	**+0.8**
QSPA	**South Pole Qui**	**54.25**	**180**	P	**P**	**19 08 23.7**	**-0.2**
QSPA				IAmb	IAmb	19 08 24.5	
	comp=Z,5.3nm,1.4s						
KAPI	**Kappang**	**61.45**	**286**	LR	LR	19 36 12.4	
	comp=Z,19nm,18.5s,baz=134,slow=36						

AEIC 07 19:03:46.1±0.9, 52°59N±0°09×164°62W±0°09, h26km±8km, Error ellipse: s-maj=13.2km s-min=6.2km az=156.0
NEIC 07 19:03:44.9±0.8, 52°61N±0°08×164°65W±0°09, h10km±2km, ML2.9(AEIC), Error ellipse: s-maj=13.3km s-min=8.8km az=172.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**1.66**	**338**		Pn	19 04 13.9	-0.1
AHB	**Akutan Harbor**	**1.67**	**336**		Pn	19 04 14.2	+0.1
UNV	**Unalaska Valle**	**1.67**	**319**		Pn	19 04 14.0	-0.1
UNV					Sn	19 04 35.0	-0.6
AKUT	**Akutan**	**1.68**	**337**	Pn	Pn	19 04 14.0	-0.2
ZRO	**Akutan Zero**	**1.69**	**332**		Pn	19 04 14.6	+0.1
AKV	**Akutan Volcano**	**1.72**	**333**		Pn	19 04 15.2	+0.3
AKLV	**Akutan Long Va**	**1.75**	**334**		Sn	19 04 37.3	-0.2
MREP	**Makushin Rep't**	**1.75**	**315**		Pn	19 04 15.2	0.0
AKRB	**Akutan Reef Bi**	**1.75**	**331**		Pn	19 04 15.8	+0.6
MNAT	**Makushin Natee**	**1.77**	**317**		Pn	19 04 15.6	0.0
MGOD	**Makushin Gods**	**1.79**	**313**		Pn	19 04 16.0	+0.1
MAPS	**Pakushin South**	**1.83**	**312**		Pn	19 04 16.3	-0.1
MTBL	**Makushin Table**	**1.83**	**319**		Pn	19 04 16.9	+0.4
MTBL					Sn	19 04 39.9	+0.2
MSW	**Makushin Switc**	**1.84**	**316**		Pn	19 04 16.5	+0.1
WESE	**West Dahl East**	**1.87**	**1**		Pn	19 04 16.8	-0.2
WECS	**Westdahl Cape**	**1.93**	**358**		Pn	19 04 17.9	+0.1
WECS					Sn	19 04 42.9	+0.8
SSBA	**Shishaldin**	**2.19**	**8**		Pn	19 04 21.3	-0.1
ISLZ	**Isanotski Laza**	**2.20**	**14**		Pn	19 04 20.8	-0.6
SSLN	**Shishaldin Nor**	**2.25**	**10**		Pn	19 04 22.0	-0.1
OKNC	**Okmok New Cone**	**2.27**	**293**		Pn	19 04 22.5	+0.1
ISNN	**Isanotski Nort**	**2.29**	**13**		Pn	19 04 23.0	+0.3
FALS	**False Pass**	**2.37**	**17**		Pn	19 04 23.4	-0.3
NIKH	**Nikolski High**	**2.58**	**280**		Pn	19 04 26.1	-0.6
DT1	**Dutton Round H**	**2.87**	**28**		Pn	19 04 30.5	-0.1
PS4A	**Pavlof South-4**	**3.20**	**30**		Pn	19 04 35.4	+0.2
PS1A	**Pavlof South-1**	**3.30**	**30**		Pn	19 04 36.9	+0.3
SDPT	**Sand Point**	**3.69**	**40**		Pn	19 04 42.1	+0.2
CNBA	**Chernabura Isl**	**3.73**	**52**		Pn	19 04 42.1	-0.4
VNFG	**Fog Glacier, M**	**4.74**	**37**		Pn	19 04 57.1	+0.7
CHGN	**Chignik**	**5.19**	**42**		Pn	19 05 02.5	0.0
ANPB	**Aniakchak Plen**	**5.59**	**39**		Pn	19 05 08.4	+0.3
ADK	**Adak**	**7.43**	**269**	Pn	Pn	19 05 33.7	+0.5
N15K	**Kwethluk River**	**7.99**	**17**	Pn	Pn	19 05 43.0	+2.1
KDAK	**Kodiak Island**	**8.63**	**48**	Pn	Pn	19 05 50.0	+0.5
Q19K	**Cape Douglas,**	**8.86**	**40**	Pn	Pn	19 05 52.5	-0.3
O18K	**Koktuh Hills**	**8.96**	**32**	Pn	Pn	19 05 54.2	0.0
SUA	**Susitna One**	**11.64**	**35**	Pn	Pn	19 06 30.3	-0.7
SKT	**Skwentna**	**11.75**	**32**	Pn	Pn	19 06 32.7	+0.4
RC01	**Rabbit Creek A**	**11.76**	**38**	Pn	Pn	19 06 31.3	-1.1
PWL	**Port Wells**	**12.16**	**41**	Pn	Pn	19 06 36.2	-1.7
KLU	**Klutina**	**13.48**	**41**	Pn	Pn	19 06 53.5	-2.6
N25K	**Chitina, Valde**	**14.08**	**42**	Pn	Pn	19 07 02.3	-1.9
H21K	**Melozitna Rive**	**14.39**	**20**	P	P	19 07 13.5	-1.9
G21K	**Allakaket**	**15.01**	**17**	P	P	19 07 22.8	+0.5
M26K	**Nabesna, AK**	**15.14**	**41**	Pn	Pn	19 07 16.7	-1.8
BCAR	**Beaver Creek A**	**15.96**	**40**	Pn	Pn	19 07 26.4	-2.8
J26L	**Joseph Creek**	**16.11**	**34**	P	P	19 07 34.2	-0.4
O29M	**Mount Kennedy**	**16.25**	**51**	Pn	Pn	19 07 32.6	-0.5
B21K	**Ikpikpuk River**	**17.70**	**12**		P	19 07 52.0	+0.1
I30M	**Mount Dempster**	**19.08**	**38**	P	P	19 08 07.1	-0.3
G30M	**tAoh Zraii Nji**	**20.02**	**33**	P	P	19 08 17.5	0.0
H31M	**Peel River**	**20.10**	**37**	P	P	19 08 18.1	-0.3

WEL 07 19:03:47.2±2.4, 36°S±16°×17°8E±2°0, h12km, M3.7/11, ML3.9/12, MLv3.7/11, Error ellipse: s-maj=0.0km s-min=0.0km az=52.8, confirmed
IDC 07 19:03:57.4±3.2, 36°20S×176°98E, h0km, mb3.8/2, mbtmp3.7/3, ML2.4/1, MS2.6/1, Error ellipse: s-maj=73.6km s-min=26.8km az=64.0
ISC 07 19:03:49.6±1.9, 35°86S±0°09×178°2E±0°1, h10km, n27, σ1°38/25, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.70**	**178**	P	**Pn**	**19 04 18.2**	**-1.2**
MXZ				T	T	19 06 05.5	
HAZ	**Te Kaha**	**1.93**	**190**	P	**Pb**	**19 04 24.1**	**-0.8**
WMGZ	**Waiomatatini S**	**1.96**	**176**	P	**Pb**	**19 04 24.1**	**-1.3**
WMGZ				T	T	19 06 17.4	
PKGZ	**Pakihiroa**	**2.03**	**183**	P	**Pn**	**19 04 24.7**	**+0.7**
PKGZ				T	T	19 06 14.1	
RUGZ	**Raukumara Rang**	**2.15**	**192**	P	**Pb**	**19 04 27.8**	**-0.9**
RUGZ				T	T	19 06 17.4	
KUZ	**Kuaotunu**	**2.21**	**246**	P	**Pn**	**19 04 26.2**	**-0.1**
KUZ				S	**Sn**	**19 04 54.2**	**+0.6**
PUZ	**Puketiti**	**2.21**	**179**	P	**Pb**	**19 04 28.7**	**-1.0**
PUZ				S	**Sg**	**19 05 00.6**	**-0.1**
TWGZ	**Tauwhareparae**	**2.32**	**185**	P	**Pg**	**19 04 33.2**	**-1.0**
MWZ	**Matawai**	**2.53**	**192**	P	**Pn**	**19 04 31.6**	**+0.8**
URZ	**Urewera**	**2.56**	**200**	Pn	**Pn**	**19 04 31.5**	**+0.4**
	1.3nm,0.3s,baz=0.0,slow=4.0,SNR=4.2						
URZ				Sn	**Sn**	**19 05 02.4**	**+0.2**
	3.9nm,0.3s,baz=59,slow=19,SNR=3.2 23nm,0.8s						
URZ	**Urewera**	**2.56**	**200**	P	**Pn**	**19 04 31.2**	**+0.1**
CNGZ	**Carnagh Statio**	**2.62**	**180**	P	**Pb**	**19 04 35.3**	**-1.4**
RAGZ	**Rawiri**	**2.71**	**193**	P	**Pb**	**19 04 38.3**	**0.0**
RIGZ	**Rimuhau**	**2.87**	**187**	P	**Pb**	**19 04 38.5**	**-2.4**
SNGZ	**Shannon Statio**	**3.00**	**193**	P	**Pb**	**19 04 41.5**	**-1.7**

JRA	**Rausu**	**0.94**	**337**	P	**Pn**	**19 24 38.6**	**+0.2**
JRA				*e*S	**Sn**	**19 24 50.7**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**0.98**	**10**	*e*P	**Pn**	**19 24 39.8**	**+0.8**
YUK				AMB	AMB	19 24 42.1	
	150nm,0.2s						
YUK				*e*S	**Sn**	**19 24 51.5**	**-0.3**
YUK				A	A	19 24 52.9	
	450nm,0.2s						
YUK				A	A	19 24 52.9	
	760nm,0.2s						
SHO	**Shikotan**	**1.19**	**47**	*e*P	**Pn**	**19 24 41.7**	**0.0**
SHO				AMB	AMB	19 24 43.0	
	80nm,0.2s						
SHO				*e*S	**Sn**	**19 24 55.0**	**-1.7**
SHO				A	A	19 24 58.4	
	390nm,0.2s						
SHO				A	A	19 24 58.4	
	360nm,0.2s						
JOB	**Onbets**	**1.33**	**264**	P	**Pn**	**19 24 43.8**	**+0.2**
JOB				*e*S	**Sn**	**19 24 60.0**	**-0.2**
JAR	**Ashorobuto**	**1.38**	**280**	*e*P	**Pn**	**19 24 44.7**	**+0.3**
JAR				*e*S	**Sn**	**19 25 01.4**	**-0.1**
JTKR	**Abashiri--Toko**	**1.54**	**306**	P	**Pn**	**19 24 47.4**	**+0.8**
JTKR				*e*S	**Sn**	**19 25 05.8**	**+0.4**
KUR	**Kuril'sk**	**2.70**	**36**	*e*P	**Pn**	**19 25 03.6**	**+1.2**
KUR				AMB	AMB	19 25 04.3	
	30nm,0.4s						
KUR				*e*S	**Sn**	**19 25 33.3**	**-0.5**
KUR				A	A	19 25 41.3	
	40nm,0.2s						
KUR				A	A	19 25 41.3	
	40nm,0.2s						

*NEIC **07** 19:29:04.8±1.8,35°.94S±0°.09×178°.43E±0°.09,h10km±2km, mb4.5/10, Error ellipse: s-maj=18.5km s-min=8.2km az=36.0*
*WEL **07** 19:29:04.2±1.2,36°.S±6°×17°.9E±1°.1,h12km,M4.2/42, mB4.4/2,ML4.3/42,MLv4.2/42,Mw(mB)3.6/2, Error ellipse: s-maj=0.0km s-min=0.0km az=68.6,confirmed*
*IDC **07** 19:29:05.1±1.4,36°.03S×178°.05E,h0km, mb4.3/4, mbtmp4.2/6,ML3.2/2,MS3.4/14, Error ellipse: s-maj=32.0km s-min=21.8km az=89.0*
ISC 07 19:29:03.0±2.2,35°.79S±0°.06×178°.16E±0°.08,h3km±11km, n115,σ2$22/98,mb4.2/9,MS3.5/13,3D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.78**	**176**		**Pn**	**19 29 33.1**	**-1.5**
MXZ	**Matakaoa Point**	**1.78**	**176**	P	**Pn**	**19 29 33.5**	**-1.1**
MXZ				S	**Sn**	**19 29 55.3**	**-2.4**
MXZ				T	T	19 31 15.0	
WSRZ	**White Island S**	**1.90**	**204**	T	T	19 31 33.1	
WIZ	**White Island**	**1.90**	**204**	P	**Pg**	**19 29 39.6**	**+0.1**
WIZ				T	T	19 31 30.5	
HAZ	**Te Kaha**	**1.99**	**189**	P	**Pn**	**19 29 37.9**	**+0.3**
HAZ				S	**Sn**	**19 30 03.9**	**+1.0**
HAZ				T	T	19 31 29.2	
WMGZ	**Waiomatatini S**	**2.04**	**174**	P	**Pn**	**19 29 38.6**	**+0.4**
WMGZ				S	**Sb**	**19 30 08.4**	**+1.9**
WMGZ				T	T	19 31 32.0	
PKGZ	**Pakihiroa**	**2.10**	**182**	P	**Pn**	**19 29 39.3**	**+0.2**
PKGZ				S	**Sg**	**19 30 11.0**	**+0.5**
PKGZ				T	T	19 31 28.3	
KUZ	**Kuaotunu**	**2.19**	**243**	P	**Pb**	**19 29 41.9**	**-1.4**
RUGZ	**Raukumara Rang**	**2.21**	**190**	P	**Pn**	**19 29 41.9**	**+1.2**
PUZ	**Puketiti**	**2.28**	**178**	P	**Pn**	**19 29 44.4**	**+2.9**
PUZ				S	**Sb**	**19 30 14.1**	**+0.6**
TWGZ	**Tauwhareparae**	**2.39**	**183**	P	**Pb**	**19 29 46.8**	**+0.1**
MWZ	**Matawai**	**2.59**	**191**	P	**Pn**	**19 29 46.9**	**+1.0**
URZ	**Urewera**	**2.61**	**198**	Pn	**Pn**	**19 29 45.7**	**-0.3**
	3.1nm,0.3s,baz=12,slow=3.4,SNR=18						
URZ					**Sn**	**19 30 15.8**	**-2.4**
	21nm,0.3s,baz=26,slow=3.7,SNR=6.4 29nm,0.6s						
URZ	**Urewera**	**2.61**	**198**	P	**Pn**	**19 29 47.2**	**+1.2**
TKGZ	**Te Karaka**	**2.66**	**185**	P	**Pb**	**19 29 50.3**	**-0.9**
TKGZ				S	**Sb**	**19 30 24.1**	**-0.2**
CNGZ	**Carnagh Statio**	**2.69**	**179**	P	**Pn**	**19 29 50.4**	**+3.2**
CNGZ				S	**Sb**	**19 30 25.3**	**+0.1**
MKRZ	**Makatiti**	**2.71**	**209**	P	**Pg**	**19 29 55.8**	**+0.8**
KMRZ	**Kaimai**	**2.72**	**220**	P	**Pb**	**19 29 50.7**	**-1.6**
OMRZ	**Omania**	**2.72**	**211**	P	**Pb**	**19 29 53.0**	**+0.6**
RAGZ	**Rawiri**	**2.77**	**192**	P	**Pb**	**19 29 51.9**	**-1.3**
TARZ	**Mount Tarawera**	**2.78**	**208**	P	**Pg**	**19 29 55.7**	**-0.5**
TOZ	**Tahuroa Road**	**2.88**	**227**	Pn	**Pn**	**19 29 52.0**	**+2.1**
RTZ	**Ruatahuna**	**2.98**	**198**	Pn	**Pn**	**19 29 50.7**	**-0.5**
SNGZ	**Shannon Statio**	**3.06**	**192**	P	**Pb**	**19 29 56.2**	**-1.9**
WCZ	**Waipu Caves**	**3.10**	**266**	P	**Pb**	**19 29 54.9**	**-3.8**
PRGZ	**Paritu Road**	**3.14**	**184**	P	**Pn**	**19 29 56.1**	**+2.7**
MTHZ	**Maungataniwha**	**3.23**	**199**	P	**Pn**	**19 29 58.3**	**+3.6**
RAHZ	**Arahi**	**3.24**	**195**	P	**Pb**	**19 29 58.6**	**-2.5**
KNZ	**Kokohu**	**3.25**	**187**	P	**Pn**	**19 29 57.1**	**+2.2**
TLZ	**Tolley Road**	**3.29**	**219**	P	**Pn**	**19 29 58.2**	**+2.7**
MRHZ	**Matea Rd**	**3.34**	**204**	P	**Pb**	**19 30 00.9**	**-2.0**
NMHZ	**Naumai**	**3.48**	**198**	P	**Pb**	**19 30 02.4**	**-2.8**
RATZ	**Rangitukua**	**3.62**	**211**	P	**Pb**	**19 30 06.7**	**-0.9**
BKZ	**Black Stump Fm**	**3.62**	**201**	Pn	**Pn**	**19 29 59.4**	**-0.7**
BKZ	**Black Stump Fm**	**3.62**	**201**	P	**Pn**	**19 30 04.2**	**+4.1**
RITZ	**Rihia Road**	**3.67**	**209**	P	**Pb**	**19 30 09.3**	**+0.7**
KATZ	**Kakaramea**	**3.74**	**211**	P	**Pb**	**19 30 11.5**	**+1.8**
OUZ	**Omahuta**	**3.76**	**277**	P	**Pn**	**19 30 02.7**	**+0.7**
HIZ	**Hauiti**	**3.79**	**223**	Pn	**Pn**	**19 30 05.1**	**+2.8**
MCHZ	**McNeill Hill**	**3.83**	**197**	P	**Pn**	**19 30 06.3**	**+3.4**
NTVZ	**North Tongarir**	**3.85**	**210**	P	**Pb**	**19 30 08.9**	**-2.7**
TMZ	**Te Maari**	**3.85**	**210**	P	**Pb**	**19 30 08.7**	**-3.0**
KRVZ	**Karewarewa**	**3.86**	**210**	P	**Pb**	**19 30 09.7**	**-2.1**
ETVZ	**East Tongariro**	**3.87**	**209**	P	**Pb**	**19 30 09.5**	**-2.5**
KWHZ	**Kaweka Forest**	**3.88**	**200**	P	**Pn**	**19 30 06.9**	**+3.3**
WTVZ	**West Tongariro**	**3.90**	**211**	P	**Pb**	**19 30 10.4**	**-2.1**
NNVZ	**North Ngauruho**	**3.90**	**210**	P	**Pb**	**19 30 10.5**	**-2.0**
OTVZ	**Oturere**	**3.91**	**210**	P	**Pn**	**19 30 08.2**	**+4.1**
TWVZ	**Taurewa**	**3.93**	**213**	P	**Pb**	**19 30 10.7**	**-2.3**
SNVZ	**South Ngauruho**	**3.94**	**210**	P	**Pb**	**19 30 09.0**	**-4.2**
NGZ	**Ngauruhoe**	**3.95**	**210**	P	**Pb**	**19 30 10.8**	**-2.5**
CKHZ	**Cape Kidnapper**	**3.96**	**192**	P	**Pn**	**19 30 06.4**	**+1.8**
TUVZ	**Tukino**	**4.00**	**209**	P	**Pb**	**19 30 12.1**	**-2.2**
BHHZ	**Black Hill Sta**	**4.05**	**204**	P	**Pn**	**19 30 09.6**	**+3.6**
WNVZ	**Wahianoa**	**4.08**	**209**	P	**Pb**	**19 30 11.8**	**-3.7**
MOVZ	**Moawhango**	**4.09**	**207**	P	**Pn**	**19 30 10.6**	**+4.1**
KRHZ	**Kereru**	**4.10**	**200**	P	**Pn**	**19 30 09.1**	**+2.5**
KAHZ	**Kahuranaki**	**4.13**	**194**	P	**Pn**	**19 30 08.9**	**+1.9**
PKVZ	**Pokaka**	**4.15**	**212**	P	**Pb**	**19 30 12.3**	**-4.4**
PXZ	**Pawanui**	**4.36**	**193**	P	**Pn**	**19 30 11.1**	**+1.0**
PNHZ	**Pukenui**	**4.40**	**200**	P	**Pn**	**19 30 12.7**	**+2.0**
TSZ	**Takapari Road**	**4.61**	**201**	P	**Pn**	**19 30 17.2**	**+3.6**
NEZ	**North Egmont**	**4.75**	**222**	P	**Pb**	**19 30 27.5**	**+0.7**
PRWZ	**Pori Road**	**5.06**	**199**	P	**Pn**	**19 30 22.4**	**+2.6**
BFZ	**Birch Farm**	**5.11**	**197**	Pn	**Pn**	**19 30 20.3**	**-0.2**
BFZ				Sn	**Sn**	**19 31 19.6**	**-0.5**
MRZ	**Mangatainoka R**	**5.27**	**202**	Pn	**Pn**	**19 30 19.1**	**-3.6**
MRZ				Sn	**Sn**	**19 31 22.0**	**-2.0**
MRZ	**Mangatainoka R**	**5.27**	**202**	P	**Pn**	**19 30 24.4**	**+1.7**
MRNZ	**Matariki Terra**	**7.02**	**215**	Pn	**Pn**	**19 30 48.9**	**+2.3**
THZ	**Tophouse**	**7.24**	**213**		**Pn**	**19 30 51.6**	**+1.9**
RAO	**Raoul Island**	**7.31**	**28**	Pn	Pn	19 30 57.8	+7.2
	46nm,0.3s,baz=233,slow=20,SNR=1.4						
RAO				LR	LR	19 33 24.4	
	comp=Z,809nm,21.6s,baz=135,slow=34						
LTZ	**Lake Taylor**	**8.34**	**211**		Pn	19 30 59.6	-5.2
RPZ	**Rata Peaks**	**9.62**	**212**	Pn	**Pn**	**19 31 20.4**	**-2.0**
	0.4nm,0.3s,baz=89,slow=23,SNR=1.8						
RPZ				Sn	**Sn**	**19 33 08.5**	**-2.4**
	0.4nm,0.3s,baz=79,slow=14,SNR=1.4 5.4nm,0.7s						
DZM	**Mont Dzumac**	**17.06**	**320**	*e*LR	LR	19 37 26.0	
	414nm,24.9s						
DZM	**Mont Dzumac**	**17.06**	**320**	LR	LR	19 38 22.8	
	comp=Z,222nm,19.9s,baz=224,slow=32						
RAR	**Rarotonga**	**24.15**	**59**	LR	LR	19 44 28.3	
	comp=Z,31nm,18.0s,baz=159,slow=38						
TBI	**Tubuai**	**30.63**	**75**	*e*T	T	20 07 06.1	
	14nm,0.3s						
HNR	**Honiara**	**31.04**	**323**	LR	LR	19 45 33.8	
	comp=Z,975nm,18.5s,baz=58,slow=32						
CTA	**Charters Tower**	**32.06**	**291**	LR	LR	19 48 09.0	
	comp=Z,32nm,21.6s,baz=92,slow=36						
PPT2	**Papeete2**	**33.84**	**66**	*e*LR	LR	19 44 19.3	
	47nm,22.8s						
PPT2	**Papeete2**	**33.84**	**66**	*e*T	T	20 11 08.6	
	6.3nm,0.3s						
TVO	**Taravao**	**33.96**	**67**	*e*T	T	20 11 16.7	
	2.4nm,0.3s						
MEH	**Mehetia**	**34.79**	**68**	*e*T	T	20 12 20.4	
	19nm,0.3s						
PMG	**Port Moresby**	**38.54**	**305**	LR	LR	19 50 14.0	
	comp=Z,94nm,19.1s,baz=166,slow=33						
AS31	**Alice Springs**	**39.97**	**275**	P	**P**	**19 36 41.3**	**+2.3**
ASAR	**Alice Springs**	**39.97**	**275**	P	**P**	**19 36 40.9**	**+2.0**
	4.4nm,0.7s,baz=118,slow=7.8,SNR=73						
ASAR				LR	LR	19 54 40.0	
	comp=Z,40nm,18.2s,baz=125,slow=38 4.4nm,0.7s						
WB2	**Warramunga Arr**	**41.46**	**280**	P	**P**	**19 36 53.6**	**+2.3**
WB2				IAmb	IAmb	19 37 18.2	
	comp=Z,10nm,1.0s						
WRA	**Warramunga Arr**	**41.47**	**280**	P	**P**	**19 36 54.4**	**+3.0**
WRA	**Warramunga Arr**	**41.47**	**280**	P	**P**	**19 36 53.8**	**+2.4**
	comp=Z,1.7nm,0.5s,baz=120,slow=7.8,SNR=39 comp=Z,1.7nm,0.5s						
WB0	**Warramunga Arr**	**41.52**	**281**	P	**P**	**19 36 53.9**	**+2.1**
WB0				IAmb	IAmb	19 36 54.7	
	comp=Z,4.3nm,0.9s						
VNDA	**Vanda**	**42.44**	**185**	P	**P**	**19 36 55.7**	**-2.8**
VNDA				IAmb	IAmb	19 37 26.7	
	comp=Z,5.1nm,1.5s						
VNDA	**Vanda**	**42.44**	**185**	LR	LR	19 51 05.7	
	comp=Z,43nm,21.4s,baz=2.5,slow=31						
KNRA	**Kununurra**	**48.24**	**281**	P	**P**	**19 37 45.5**	**+0.3**
NWAO	**Narrogin (SRO)**	**49.66**	**255**	LR	LR	19 59 02.0	
	comp=Z,26nm,18.7s,baz=182,slow=36						
PSA00	**Pilbara Seismi**	**52.38**	**269**	P	**P**	**19 38 15.9**	**-0.8**
PSA00				IAmb	IAmb	19 38 19.0	
	comp=Z,10.0nm,1.4s						
PSA00	**Pilbara Seismi**	**52.38**	**269**	P	**P**	**19 38 15.9**	**-0.8**
MBWA	**Marble Bar**	**52.68**	**269**	P	**P**	**19 38 20.2**	**+1.3**
MBWA				IAmb	IAmb	19 38 28.7	
	comp=Z,9.8nm,0.8s						
QSPA	**South Pole Qui**	**54.34**	**180**	P	**P**	**19 38 32.0**	**+1.4**
QSPA				IAmb	IAmb	19 38 33.3	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**54.34**	**180**	P	**P**	**19 38 33.0**	**+2.4**
	comp=Z,2.7nm,0.6s,baz=39,slow=2.3,SNR=2.8 comp=Z,2.7nm,0.6s						
BATI	**Baumata**	**55.44**	**283**	LR	LR	20 02 08.1	
	comp=Z,74nm,20.6s,baz=152,slow=36						
KAPI	**Kappang**	**61.65**	**285**	LR	LR	20 06 13.6	
	comp=Z,38nm,20.9s,baz=122,slow=36						
LEM	**Lembang**	**70.26**	**276**	LR	LR	20 12 20.1	
	comp=Z,28nm,19.8s,baz=196,slow=37						
SNAA	**Sanae**	**72.84**	**180**	P	**P**	**19 40 33.2**	**+0.6**
	comp=Z,2.3nm,1.0s,baz=186,slow=10,SNR=3.6 comp=Z,2.3nm,1.0s						
VNA3	**Neumayer Olymp**	**73.12**	**177**	⇓P	**P**	**19 40 34.5**	**+0.2**
VNA2	**Neumayer--Watz**	**73.52**	**178**	⇓P	**P**	**19 40 37.1**	**+0.5**
	baz=167,slow=5.0						
VNA1	**Neumayer--Stat**	**73.77**	**178**	⇓P	**P**	**19 40 35.8**	**-2.2**
H03S2	**Juan Fernandez**	**80.13**	**125**	T	T	21 09 13.9	
	baz=232,slow=74,SNR=39						
H03S1	**Juan Fernandez**	**80.14**	**125**	T	T	21 09 15.2	
	baz=232,slow=74,SNR=43						
H03S3	**Juan Fernandez**	**80.15**	**125**	T	T	21 09 14.1	
	baz=232,slow=74,SNR=39						
H03N3	**Juan Fernandez**	**80.36**	**124**	T	T	21 09 33.4	
	baz=236,slow=72,SNR=257						
H03N2	**Juan Fernandez**	**80.36**	**124**	T	T	21 09 27.8	
	baz=236,slow=72,SNR=194						
H03N1	**Juan Fernandez**	**80.38**	**124**	T	T	21 09 28.3	
	baz=236,slow=72,SNR=241						
PLCA	**Paso Flores**	**81.14**	**134**	LR	LR	20 08 29.6	
	comp=Z,38nm,19.3s,baz=187,slow=29						
ASAJ	**Asahikawa**	**85.84**	**335**	LR	LR	20 18 22.7	
	comp=Z,14nm,18.1s,baz=154,slow=34						
SHEM	**Shemya Is, Ala**	**88.22**	**358**	LR	LR	20 17 13.2	
	comp=Z,26nm,20.6s,baz=327,slow=33						
TORD	**Torodi Ar. Bea**	**157.23**	**189**	PKPab	**PKPab**	**19 49 30.2**	**-1.3**
	comp=Z,0.1nm,0.4s,baz=150,slow=2.6,SNR=2.6						

*IDC **07** 19:30:21.8±1.2,0°.42S±20°.18W,h0km,mb4.1/7, mbtmp4.2/9,ML4.3/2,MS3.4/13, Error ellipse: s-maj=34.8km s-min=23.3km az=96.0*
*NEIC **07** 19:30:23.8±1.9,0°.6S±0°.1×20°.2W±0°.1,h10km±1km, mb4.6/10, Error ellipse: s-maj=22.1km s-min=16.7km az=28.0*
ISC 07 19:30:24.5±0.7,0°.54S±0°.10×20°.1W±0°.1,h19km,n39, σ1$01/28,mb4.4/12,MS3.4/11,2C-1D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**9.16**	**142**	Pn	**Pn**	**19 32 36.0**	**+0.4**
	baz=320,slow=13						
H10N2				T	T	19 41 43.6	
	baz=322,slow=74,SNR=29						
H10N3	**ASCENSION HYDR**	**9.16**	**142**	Pn	**Pn**	**19 32 36.7**	**+1.2**
	baz=320,slow=13						
H10N3				T	T	19 41 43.6	
	baz=322,slow=74,SNR=26						
H10N1	**ASCENSION HYDR**	**9.18**	**142**	Pn	**Pn**	**19 32 36.6**	**+0.8**
	baz=320,slow=13						
H10N1				T	T	19 41 45.0	
	baz=322,slow=74,SNR=33						
ASCN	**Ascension**	**9.32**	**142**		**Pn**	**19 32 37.9**	**0.0**
H10S3	**ASCENSION HYDR**	**9.97**	**147**	Pn	**Pn**	**19 32 47.0**	**+0.4**
H10S3				T	T	19 42 45.7	
	baz=326,slow=74,SNR=23						
H10S2	**ASCENSION HYDR**	**9.98**	**147**	T	T	19 42 46.6	
	baz=254,slow=74,SNR=12						
LIC	**Lamto**	**16.50**	**66**	⇓*i*P	**P**	**19 34 16.8**	**-0.9**
	5.4nm,0.3s						
RCBR	**Riachuelo**	**16.60**	**251**	Pn	**Pn**	**19 34 15.2**	**-1.1**
RCBR	**Riachuelo**	**16.60**	**251**	Pn	**Pn**	**19 34 14.7**	**-1.7**
	1.2nm,0.3s,baz=81,slow=16,SNR=8.1						
RCBR				LR	LR	19 39 16.9	
	comp=Z,47nm,19.8s,baz=137,slow=32 4.2nm,0.4s						
TIC	**Toumodi**	**16.68**	**64**	⇑*i*P	**P**	**19 34 18.9**	**-0.8**
	7.6nm,0.2s						
KIC	**Kosan Boka**	**16.82**	**66**	⇑*i*P	**P**	**19 34 20.6**	**-0.6**
	4.3nm,0.3s						
DBIC	**Dimbokro**	**16.84**	**65**	P	**Pn**	**19 34 19.6**	**+0.2**
DBIC	**Dimbokro**	**16.84**	**65**	Pn	**Pn**	**19 34 19.3**	**-0.1**
	1.1nm,0.3s,baz=242,slow=14,SNR=23						
DBIC				LR	LR	19 39 33.9	
	comp=Z,139nm,18.3s,baz=236,slow=33 17nm,0.9s						
TOA0	**Torodi Ar. Sit**	**25.56**	**57**	P	**P**	**19 35 51.3**	**-1.1**
TOA0				IAmb	IAmb	19 35 54.8	
	comp=Z,9.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**25.56**	**57**	P	**P**	**19 35 52.4**	**0.0**
TORD				IAmb	IAmb	19 35 54.8	
	comp=Z,7.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**25.56**	**57**	P	**P**	**19 35 52.1**	**-0.3**
	comp=Z,7.9nm,0.8s,baz=229,slow=7.5,SNR=32						
TORD				LR	LR	19 44 15.2	
	comp=Z,51nm,19.0s,baz=174,slow=33 comp=Z,7.9nm,0.8s						
BDFB	**Brasilia**	**31.35**	**240**	LR	LR	19 48 10.2	
	comp=Z,89nm,20.2s,baz=132,slow=34						
MDP	**Montagnes Ges**	**32.96**	**280**	LR	LR	19 47 23.6	
	comp=Z,30nm,21.2s,baz=60,slow=31						
TAM	**Tamanrasset**	**34.08**	**45**	P	**P**	**19 37 09.3**	**+1.1**
TAM				IAmb	IAmb	19 37 10.1	
	comp=Z,4.8nm,1.1s						
MDT	**Midelt**	**36.27**	**22**	LR	LR	19 52 08.0	
	comp=Z,122nm,18.0s,baz=237,slow=36						
TSUM	**Tsumeb**	**41.35**	**119**	LR	LR	19 51 31.1	
	comp=Z,59nm,18.0s,baz=230,slow=31						
ESDC	**Sonseca Array**	**42.67**	**18**	P	**P**	**19 38 18.1**	**-2.0**
	comp=Z,0.4nm,0.6s,baz=196,slow=8.9,SNR=2.4 comp=Z,0.4nm,0.6s						
SIV	**San Ignacio**	**43.20**	**247**	LR	LR	19 54 31.2	
	comp=Z,45nm,20.9s,baz=112,slow=34						
CPUP	**Villa Florida**	**44.03**	**231**	LR	LR	19 56 42.5	
	comp=Z,53nm,18.2s,baz=210,slow=36						
BOSA	**Boshof**	**51.54**	**127**	P	**P**	**19 39 28.7**	**-1.0**
BOSA				IAmb	IAmb	19 40 12.0	
	comp=Z,19nm,1.4s						
LVC	**Limon Verde**	**52.23**	**242**	LR	LR	20 02 09.3	
	comp=Z,35nm,18.2s,baz=210,slow=36						
IDI	**Anoyia**	**55.05**	**45**	LR	LR	20 05 07.2	
	comp=Z,30nm,18.7s,baz=38,slow=38						
HOPE	**Hope Point**	**55.23**	**192**	P	**P**	**19 39 55.8**	**-0.3**
GERES	**GERESS Array B**	**57.20**	**26**	P	**P**	**19 40 09.8**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=262,slow=9.3,SNR=3.5 comp=Z,0.6nm,0.6s						
KMBO	**Kilima Mbogo**	**57.38**	**91**	LR	LR	20 02 29.2	
	comp=Z,60nm,19.7s,baz=84,slow=34						
NNA	**Nana**	**57.39**	**256**	LR	LR	20 04 21.0	
	comp=Z,40nm,19.3s,baz=43,slow=36						
BRTR	**Keskin Array B**	**63.27**	**44**	P	**P**	**19 40 52.6**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=232,slow=8.2,SNR=5.6 comp=Z,1.2nm,0.6s						
AKASG	**Malin Array Be**	**65.98**	**32**	P	**P**	**19 41 09.2**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=242,slow=6.9,SNR=4.7 comp=Z,1.9nm,0.7s						
FINES	**FINESS Array B**	**71.08**	**22**	P	**P**	**19 41 42.3**	**+1.2**
	comp=Z,6.2nm,1.0s,baz=254,slow=10.0,SNR=2.6 comp=Z,6.2nm,1.0s						
KBZ	**Khabaz**	**71.19**	**43**	P	**P**	**19 41 43.1**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=233,slow=10,SNR=4.6 comp=Z,3.0nm,0.8s						
ODSA	**Odessa**	**83.86**	**302**	P	**P**	**19 42 56.1**	**+2.6**
ODSA				IAmb	IAmb	19 42 59.7	
	comp=Z,8.9nm,0.9s						
ABKAR	**Akbulak array**	**83.92**	**40**	P	**P**	**19 42 53.3**	**+0.1**
ABKAR				IAmb	IAmb	19 42 55.0	
	comp=Z,2.4nm,0.8s						
ASAR	**Alice Springs**	**145.14**	**135**	PKPbc	**PKPdf**	**19 50 01.9**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=226,slow=2.6,SNR=43						
WRA	**Warramunga Arr**	**147.74**	**131**	PKPbc	**PKPbc**	**19 50 09.4**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=177,slow=1.5,SNR=4.8						

*IDC **07** 19:31:26.6±0.8,23°.08S×66°.44W,h200km±7km,mb4.0/14, mbtmp4.6/21,Error ellipse: s-maj=11.8km s-min=9.5km az=30.0*
*SJA **07** 19:31:26.6±0.8,23°.07S×66°.68W,h239km±5km,ML4.7, MW4.7*
*NEIC **07** 19:31:27.5±2.1,23°.15S±0°.03×66°.59W±0°.09,h210km±6km, mb4.7/201, Error ellipse: s-maj=11.7km s-min=3.6km az=84.0*
*GUC **07** 19:31:28.4±0.6,23°.07S×66°.95W,h252km±6km,ML5.1*
*VAO **07** 19:31:28.4±0.3,23°.04S×66°.66W,h224km,mb4.7*
ISC 07 19:31:28.2±0.5,23°.06S±0°.03×66°.70W±0°.04,h219km±5km, n332,σ1$39/281,mb4.7/115,18C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**1.37**	**274**		**Pn**	**19 32 04.0**	**+1.1**
AF01	**San Pedro de A**	**1.37**	**274**	⇑*i*P	**Pn**	**19 32 04.3**	**+1.4**
AF01				IAML		19 32 52.7	
	comp=E,4μm,0.6s						
YJA	**Yavi**	**1.40**	**52**	*e*P	**Pn**	**19 32 04.4**	**+1.0**
YJA				*e*S	**S**	**19 32 32.8**	**+2.1**
YJA				IAML		19 32 33.9	
	comp=Z,346nm,0.7s						
AZAP	**Zapla**	**1.90**	**128**	*e*P	**Pn**	**19 32 07.4**	**0.0**
AZAP				*e*S	**S**	**19 32 37.6**	**-0.3**
AZAP				IAML		19 32 54.2	
	comp=Z,1μm,1.8s						
SLA	**San Lorenzo**	**1.99**	**147**	*e*P	**Pn**	**19 32 09.4**	**+1.1**
SLA				*e*S	**S**	**19 32 41.0**	**+1.6**
SLA				IAML		19 32 43.8	
	comp=Z,1μm,1.0s						
LVC	**Limon Verde**	**2.09**	**282**		**Pn**	**19 32 10.1**	**+0.6**
LVC	**Limon Verde**	**2.09**	**282**	*e*P	**Pn**	**19 32 10.1**	**+0.6**
LVC				*e*S	**S**	**19 32 42.0**	**+0.6**
LVC				IAML		19 32 50.9	
	comp=Z,1μm,0.3s						
LVC	**Limon Verde**	**2.09**	**282**	*e*P	**Pn**	**19 32 09.7**	**+0.2**
LVC	**Limon Verde**	**2.09**	**282**	P	**Pn**	**19 32 09.7**	**+0.2**
	comp=Z,2μm,0.4s,baz=171,slow=3.3,SNR=2428						
LVC				S	**S**	**19 32 41.7**	**+0.3**
	comp=Z,942nm,0.4s,baz=322,slow=19,SNR=44						
LVC	**Limon Verde**	**2.09**	**282**	*e*P	**Pn**	**19 32 10.0**	**+0.6**
LVC				*e*S	**S**	**19 32 41.3**	**-0.1**
LVC				IAML		19 32 43.2	
	comp=Z,12μm,0.7s						
ASTB	**Santa Barbara**	**2.25**	**114**	*e*P	**Pn**	**19 32 10.9**	**+0.1**
ASTB				IAML		19 32 45.4	
	comp=Z,0.8nm,0.5s						
PB15	**IPOC Station P**	**2.56**	**266**		**Pn**	**19 32 14.3**	**+0.2**
PB15	**IPOC Station P**	**2.56**	**266**	*e*P	**Pn**	**19 32 14.7**	**+0.5**
PB15				*e*S	**S**	**19 32 49.9**	**+0.1**
PB15				IAML		19 32 51.4	
	comp=Z,36μm,0.3s						
PB15	**IPOC Station P**	**2.56**	**266**	⇑*i*P	**Pn**	**19 32 14.7**	**+0.5**
PB15				*i* S	**S**	**19 32 49.6**	**-0.2**
ALOL	**LOMAS

comp=Z,98nm,2.5s
HMBC Humberstone 4.05 312 *e*P **Pn** 19 32 30.6 -1.0
TA01 Diego Aracena 4.07 307 Pn **Pn** 19 32 30.8 -0.8
TA01 Diego Aracena 4.07 307 *e*P **Pn** 19 32 30.7 -1.0
TA01 *i* S **S** 19 33 18.6 -2.8
GO01 Chusmiza 4.09 325 **Pn** 19 32 32.9 +0.5
GO01 Chusmiza 4.09 325 *e*P **Pn** 19 32 32.6 +0.2
GO01 Chusmiza 4.09 325⇑ *i*P **Pn** 19 32 33.0 +0.6
GO01 *e*S **S** 19 33 22.9 +0.2
TA02 Huaiquique 4.23 310 *e*P **Pn** 19 32 32.7 -0.8
TA02 Huaiquique 4.23 310 *e*P **Pn** 19 32 32.9 -0.6
TA02 *e*S **S** 19 33 22.8 -2.0
TA02 IAML 19 33 25.0
comp=Z,934nm,0.2s
TA02 Huaiquique 4.23 310 *e*P **Pn** 19 32 32.5 -1.0
PB11 IPOC Station P 4.28 319 Pn **Pn** 19 32 33.6 -0.8
PB11 IPOC Station P 4.28 319 *e*P **Pn** 19 32 33.7 -0.7
PB11 *i* S **S** 19 33 24.3 -2.0
AC01 Pan de Azucar 4.70 228 Pn **Pn** 19 32 37.7 -1.6
AC01 Pan de Azucar 4.70 228 *e*P **Pn** 19 32 37.9 -1.4
AC01 *e*S **S** 19 33 31.9 -3.5
AC01 IAML 19 33 36.8
comp=Z,485nm,0.2s
PB16 IPOC Station P 5.38 330⇑ *i*P **Pn** 19 32 48.7 +0.2
PB16 *i* S **S** 19 33 50.4 -1.5
AC06 Mina Casimiro 5.41 217 Pn **Pn** 19 32 46.4 -1.9
GO03 Copiap 5.54 215 **Pn** 19 32 48.0 -1.9
PB12 IPOC Station P 5.57 322 **Pn** 19 32 48.5 -1.9
AP01 Chacalluta 5.77 323 **Pn** 19 32 51.5 -1.4
LPAZ La Paz 6.87 348 **Pn** 19 33 07.6 0.0
LCO Las Campanas 6.94 210 **Pn** 19 33 05.3 -2.7
ESFA Espinillo Form 7.74 106 *e*P **Pn** 19 33 17.9 -0.2
BBSD Serra de San D 8.17 46 *e*P **Pn** 19 33 23.1 -0.7
MURT Porto Murtinho 8.53 82 *e*P **Pn** 19 33 28.3 0.0
SCCA San Cayetano, 8.57 123 *e*P **Pn** 19 33 29.2 +0.5
ZON Zonda 8.64 191 **Pn** 19 33 27.7 -2.0
SIV San Ignacio 8.80 38 P **Pn** 19 33 30.0 -1.9
comp=Z,320nm,0.5s,baz=218,slow=13,SNR=129
SIV S S 19 34 56.8 -14
comp=Z,8.4nm,0.6s,baz=221,slow=20,SNR=1.3
CPUP Villa Florida 9.12 113 **Pn** 19 33 33.7 -2.2
CPUP Villa Florida 9.12 113 *e*P **Pn** 19 33 34.3 -1.6
CPUP Villa Florida 9.12 113 P **Pn** 19 33 31.9 -4.0
comp=Z,17nm,0.7s,baz=287,slow=11,SNR=29
CPUP S S 19 35 02.5 -16
comp=Z,8.0nm,0.7s,baz=297,slow=12,SNR=1.2
BDQN Bodoquena, MS 9.60 76 *e*P **Pn** 19 33 41.6 -0.6
MECA Mercedes 9.86 131 *e*P **Pn** 19 33 45.4 +0.1
ANTJ Antonio Joao (9.94 86 *e*P **Pn** 19 33 46.3 -0.2
PANT Pantanal (Braz 10.25 69 *e*P **Pn** 19 33 48.5 -2.0
PTLB Pontes e Lacer 10.40 45 **Pn** 19 33 51.3 -1.1
PTLB Pontes e Lacer 10.40 45 *e*P **Pn** 19 33 51.4 -1.0
AQDB Aquidauana 10.54 78 **Pn** 19 33 53.8 -0.4
AQDB Aquidauana 10.54 78 *e*P **Pn** 19 33 55.7 +1.6
ROC1 El Roble 10.59 200 **Pn** 19 33 51.5 -3.4
AMBA Amambai (Brazi 10.79 92 *e*P **Pn** 19 33 55.8 -1.5
MT02 Curacav 10.89 200 **Pn** 19 33 56.2 -2.3
ITQB Itaqui 11.18 128 **Pn** 19 34 01.4 -0.7
ITQB Itaqui 11.18 128 *e*P **Pn** 19 34 01.8 -0.4
BO04 La Punta 11.42 197 **Pn** 19 34 03.7 -1.6
MCR1 Marechal Candi 11.68 99 *e*P **Pn** 19 34 08.2 -0.5
RVDE Rio Verde (Bra 11.69 72 *e*P **Pn** 19 34 09.1 +0.3
VILB Vilhena 11.79 33 **Pn** 19 34 09.2 -0.9
VILB Vilhena 11.79 33 *e*P **Pn** 19 34 09.7 -0.4
BO01 Tunca 11.93 198 P **Pn** 19 34 09.7 -2.0
UNIS Unistalda (Bra 12.04 122 *e*P **Pn** 19 34 12.6 -0.5
CRSM Crissiumal (Br 12.27 114 *e*P **Pn** 19 34 15.9 -0.1
PP1B Ponte de Pedra 12.34 66 *e*P **Pn** 19 34 15.6 -1.3
SALV Santo Antonio 12.58 58 *e*P **Pn** 19 34 19.1 -0.8
RODS Rosario do Sul 12.58 128 *e*P **Pn** 19 34 18.9 -1.0
FRBT Francisco Belt 12.75 106 *e*P **Pn** 19 34 21.4 -0.6
ETMB Extrema 13.17 2 P **Pn** 19 34 26.0 -1.3
ETMB Extrema 13.17 2 *e*P **Pn** 19 34 26.0 -1.3
PTGB Pitanga 13.49 100 *e*P **Pn** 19 34 31.7 +0.4
ALGR Alto Alegre (B 13.56 118 *e*P **Pn** 19 34 31.8 -0.3
C2SB Chapadao do Su 13.64 74 *e*P **P** 19 34 34.1 -0.7
ITAB Concordia 13.83 110 P **Pn** 19 34 34.8 -0.6
ITAB Concordia 13.83 110 *e*P **Pn** 19 34 35.1 -0.2
CPSB Cacapava Do Su 13.92 125 *e*P **Pn** 19 34 35.7 -0.7
LDASE Londrina, Braz 14.33 94 *e*P **Pn** 19 34 41.2 -0.4
PCMB Pacaembu 14.36 87 *e*P **Pn** 19 34 41.5 -0.4
SAML Samuel 14.43 14 P **Pn** 19 34 42.2 -0.6
SAML Samuel 14.43 14 *e*P **Pn** 19 34 42.7 0.0
PLTB Pedras Altas 14.50 130 P **Pn** 19 34 41.5 -2.0
PLTB Pedras Altas 14.50 130 *e*P **Pn** 19 34 42.1 -1.4
NNA Nana 14.64 317 **Pn** 19 34 42.7 -2.8
NNA Nana 14.64 317 P **Pn** 19 34 45.8 +0.4
comp=Z,32nm,0.6s,baz=168,slow=11,SNR=14
PDRB Porto dos Gac 14.82 42 *e*P **Pn** 19 34 47.4 -0.2
H03N1 Juan Fernandez 14.91 223 P **P** 19 34 51.4 +2.8
baz=109,slow=15,SNR=17
H03N2 Juan Fernandez 14.93 223 P **P** 19 34 52.5 +3.8
baz=109,slow=15,SNR=11
H03N3 Juan Fernandez 14.93 223 P **P** 19 34 51.9 +3.0
baz=109,slow=15,SNR=18
H03S3 Juan Fernandez 15.17 222 P **P** 19 34 54.7 +3.3
baz=36,slow=20,SNR=9.0
H03S1 Juan Fernandez 15.18 222 P **P** 19 34 54.5 +3.0
baz=36,slow=20,SNR=6.6
H03S2 Juan Fernandez 15.19 222 P **P** 19 34 54.8 +3.2
baz=36,slow=20,SNR=9.4
TRQA Tornquist 15.49 166 P **P** 19 34 53.0 -2.3
CNLB Canela 15.53 117 *e*P **P** 19 34 55.1 -0.7
ITRB Iturama 15.58 81 *e*P **Pn** 19 34 56.8 0.0
FRTB Fartura 15.76 94 *e*P **Pn** 19 34 58.4 -0.5
CZSB Cruzeiro do Su 16.29 338 P **P** 19 35 01.8 -2.5
CZSB Cruzeiro do Su 16.29 338 *e*P **P** 19 35 03.5 -0.8
BB19B Bebedouro 16.96 87 *e*P **Pn** 19 35 12.2 -1.0
GO06 Curarrehue 16.97 193 P **P** 19 35 10.4 -1.1
GO06 IAmb IAmb 19 35 15.3
comp=Z,35nm,0.9s
RCLB Rio Claro- Sao 17.70 92 *e*P **P** 19 35 19.4 -0.2
SPB Sao Paulo 17.71 96 P **P** 19 35 18.4 -1.3
SPB Sao Paulo 17.71 96 *e*P **P** 19 35 20.1 +0.5
PET01 Itanhaem-SP 17.84 98 *e*P **P** 19 35 20.9 -0.2
PLCA Paso Flores 17.92 190 P **P** 19 35 22.5 +0.6
PLCA IAmb IAmb 19 35 23.9
comp=Z,24nm,0.7s
PLCA Paso Flores 17.92 190 *e*P **P** 19 35 22.6 +0.6
PLCA Paso Flores 17.92 190 P **P** 19 35 21.9 0.0
comp=Z,22nm,0.7s,baz=8.6,slow=11,SNR=59
PLCA PcP **PcP** 19 39 48.9 +2.0
comp=Z,2.7nm,0.8s,baz=352,slow=3.1,SNR=3.1
IPMB Ipameri, GO 18.03 77 *e*P **P** 19 35 23.5 +0.2
VAO Valinhos 18.17 94 *e*P **P** 19 35 24.1 -0.6
SNDB Serra Nova Dou 18.34 56 *e*P **P** 19 35 25.8 -0.9
TBTG Tabatinga, AM 19.01 350 P **P** 19 35 34.1 +0.3
TBTG Tabatinga, AM 19.01 350 *e*P **P** 19 35 35.4 +1.6
BDFB Brasilia 19.10 71 P **P** 19 35 34.0 -0.9
BDFB Brasilia 19.10 71 P **P** 19 35 33.3 -1.6
comp=Z,53nm,0.8s,baz=243,slow=11,SNR=61
NPGB Novo Progresso 19.30 36 *e*P **P** 19 35 36.0 -0.9
PARB Paraibuna 19.38 95 *e*P **P** 19 35 36.3 -1.5
ATAH Atahualpa 19.42 323 P **Pn** 19 35 41.3 -1.2
comp=Z,7.4nm,0.7s,baz=174,slow=9.3,SNR=5.7
PMNB Patos De Minas 19.46 80 *e*P **P** 19 35 38.3 -0.5
TEFE Tefe 19.53 6 *e*P **P** 19 35 39.2 -0.2
LL02 Futaleuf 20.53 191 P **P** 19 35 46.3 -3.5
LL02 IAmb IAmb 19 36 09.5
comp=Z,15nm,0.8s
MACA Manacapuru-AM 20.62 17 P **P** 19 35 48.5 -2.5
MACA Manacapuru-AM 20.62 17 *e*P **P** 19 35 50.4 -0.6
ITTB Itaituba 21.39 31 *e*P **P** 19 35 57.1 -1.9
VAS01 Vassouras-RJ 21.47 92 *e*P **P** 19 35 59.3 -0.5
AY01 Puyuhuapi 21.86 192 P **P** 19 36 00.4 -2.9
AY01 IAmb IAmb 19 36 04.5
comp=Z,27nm,0.8s
DIAM Diamantina, MG 22.05 82 *e*P **P** 19 36 04.8 -0.7
DUB01 Friburgo-RJ 22.48 92 *e*P **P** 19 36 08.9 -0.5
MCRA Macar, Loja 22.57 323 P **P** 19 36 11.2 +1.0
JANB Januaria 22.59 73 *e*P **P** 19 36 09.2 -1.2
SGCB SÍo Gabriel d 22.80 359 *e*P **P** 19 36 13.1 +0.9
BOSC San Juan Bosco 22.85 328 IAmb IAmb 19 36 29.7
comp=Z,16nm,0.5s
SMTB Santa Maria do 23.12 55 *e*P **P** 19 36 15.8 +0.6
SDBA SAO DESIDERIO 23.27 67 *e*P **P** 19 36 15.8 -0.8
PRPB Paraiapebas 23.38 47 *e*P **P** 19 36 16.9 -0.6
COHC Cochancay 23.81 327 P **P** 19 36 23.9 +2.5
COHC IAmb IAmb 19 36 45.2
comp=Z,10nm,0.5s
SJMB Sao Joao De Ma 24.22 84 *e*P **P** 19 36 24.2 -0.9
ALF01 Guarapari-ES 24.22 89 *e*P **P** 19 36 24.0 -1.1
MALB Monte Alegre 24.29 32 *e*P **P** 19 36 24.9 -0.8
RIB01 Linhares ES 24.80 86 *e*P **P** 19 36 29.4 -1.0
GO08 Villa O'Higgin 25.78 189 P **P** 19 36 45.1 +6.2
GO08 IAmb IAmb 19 36 45.6
comp=Z,22nm,0.8s
OTAV Otavalo 25.82 332 P **P** 19 36 36.9 -3.2
BOAV Boa Vista 26.00 14 P **P** 19 36 39.0 -2.2
BOAV Boa Vista 26.00 14 *e*P **P** 19 36 41.1 -0.1
GUA01 Guaratinga, BA 26.08 81 *e*P **P** 19 36 41.1 -0.8
MCPB Macapa, AP 26.68 34 *e*P **P** 19 36 47.1 -0.1
RCBR Riachuelo 34.27 65 *e*P **P** 19 37 54.1 +0.2
RCBR Riachuelo 34.27 65 P **P** 19 37 51.8 -2.1
comp=Z,6.2nm,0.7s,baz=238,slow=12,SNR=7.3
comp=Z,6.2nm,0.7s
LCR2 La Lucha 2 36.74 331 IAmb IAmb 19 38 19.4
comp=Z,17nm,0.9s
ORTG Ortega, Santa 37.95 329 IAmb IAmb 19 38 29.1
comp=Z,16nm,0.7s
MTO3 Montecristo 43.33 327 P **P** 19 39 11.2 +2.1
MTO3 IAmb IAmb 19 39 12.3
comp=Z,42nm,1.4s
TEIG Tepich 47.89 332 P **P** 19 39 44.6 +0.1
TEIG IAmb IAmb 19 39 46.3
comp=Z,30nm,0.8s
VNA3 Neumayer Olymp 57.95 161⇑P **P** 19 40 58.5 +1.3
comp=Z,13nm,0.7s
VNA1 Neumayer--Stat 58.14 160⇑P **P** 19 41 00.2 +1.7
comp=Z,22nm,1.1s
VNA2 Neumayer--Watz 58.51 161⇑P **P** 19 41 02.4 +1.3
comp=Z,24nm,0.8s,baz=286,slow=9.0
JSC Jenkinsville 58.68 346 IAmb IAmb 19 41 04.8
comp=Z,18nm,1.0s
LRAL Lakeview Retre 59.04 340 IAmb IAmb 19 41 06.5
comp=Z,18nm,1.1s
W57A Gilead 59.25 347 IAmb IAmb 19 41 08.6
comp=Z,19nm,0.8s
PAULI Pauline 59.32 346 IAmb IAmb 19 41 09.2
comp=Z,12nm,0.7s
KMSC Kings Mountain 59.52 346 IAmb IAmb 19 41 10.7
comp=Z,20nm,0.9s
Y49A Blount Mountai 59.63 341 P **P** 19 41 09.7 +0.4
Y49A IAmb IAmb 19 41 10.9
comp=Z,15nm,0.8s
SNAA Sanae 60.15 161 P **P** 19 41 12.6 +0.2
SNAA IAmb IAmb 19 41 15.6
comp=Z,12nm,1.0s
SNAA Sanae 60.15 161⇑P **P** 19 41 13.0 +0.7
comp=Z,159nm,0.7s
SNAA Sanae 60.15 161 P **P** 19 41 12.4 +0.1
comp=Z,9.0nm,0.9s,baz=273,slow=7.1,SNR=21
comp=Z,9.0nm,0.9s
V53A Saluda 60.37 345 IAmb IAmb 19 41 16.1
comp=Z,9.5nm,0.8s
W50A Signal Mountai 60.57 343 IAmb IAmb 19 41 17.2
comp=Z,15nm,0.9s
CPCT Cooper Cave 60.59 343 IAmb IAmb 19 41 17.2
comp=Z,12nm,0.9s
V52A Sevierville 60.72 344 IAmb IAmb 19 41 18.1
comp=Z,18nm,1.1s
SWET Sanee 60.76 342 IAmb IAmb 19 41 18.3
comp=Z,18nm,0.7s
HNDO Hondo 60.96 328 IAmb IAmb 19 41 20.8
comp=Z,13nm,0.7s
PLAL Pickwick Lake 61.18 340 IAmb IAmb 19 41 21.2
comp=Z,13nm,1.1s
V48A Smith Brothers 61.50 341 IAmb IAmb 19 41 22.9
comp=Z,12nm,0.8s
DRIO Del Rio 61.54 326 IAmb IAmb 19 41 24.4
comp=Z,12nm,1.1s
TROLL Troll, Antarti 61.86 161⇑P **P** 19 41 25.4 +1.5
comp=Z,380nm,0.6s
WVT Waverly 62.16 341 P **P** 19 41 25.9 -0.3
BRDY Brady 62.27 329 IAmb IAmb 19 41 28.6
comp=Z,8.4nm,0.7s
MIAR Mount Ida 62.72 335 IAmb IAmb 19 41 31.4
comp=Z,8.7nm,0.7s
SAND Sanderson 62.74 326 IAmb IAmb 19 41 33.0
comp=Z,13nm,1.0s
T47A Sharon Grove 62.74 342 IAmb IAmb 19 41 31.2
comp=Z,15nm,0.8s
OZNA Ozona 63.01 327 IAmb IAmb 19 41 34.1
comp=Z,14nm,0.9s
TXAR Lajitas Array 63.08 324 P **P** 19 41 34.1 +1.6
comp=Z,2.0nm,0.7s,baz=152,slow=8.5,SNR=13
comp=Z,2.0nm,0.7s
PBMO Poplar Bluff 63.59 339 IAmb IAmb 19 41 37.1
comp=Z,16nm,0.8s
ALPN Alpine 63.88 325 IAmb IAmb 19 41 40.1
comp=Z,4.5nm,0.6s
WTFS Witchita Falls 64.09 331 IAmb IAmb 19 41 41.0
comp=Z,26nm,0.6s
MNHN Monahans 64.18 326 IAmb IAmb 19 41 42.1
comp=Z,18nm,0.6s
HHAR Hobbs 64.39 336 IAmb IAmb 19 41 42.6
comp=Z,10nm,0.7s
SN01 Snyder 1 64.47 328 IAmb IAmb 19 41 43.6
comp=Z,28nm,0.6s
APMT Aspermont 64.49 329 IAmb IAmb 19 41 43.8
comp=Z,19nm,0.8s
MGMO Mountain Grove 64.55 338 IAmb IAmb 19 41 43.6
comp=Z,8.0nm,0.8s
ODSA Odessa 64.69 327 IAmb IAmb 19 41 44.9
comp=Z,14nm,0.7s
425A Indio Mountain 64.92 324 IAmb IAmb 19 41 47.1
comp=Z,14nm,0.8s
POST Post 64.94 328 IAmb IAmb 19 41 47.6
comp=Z,7.4nm,0.9s
CCM Cathedral Cave 65.02 339 P **P** 19 41 45.2 +0.4
DKNS Dickens 65.15 329 IAmb IAmb 19 41 47.7
comp=Z,8.8nm,0.6s
S39A Bolivar 65.41 337 IAmb IAmb 19 41 49.2
comp=Z,19nm,0.8s
R40A Maddies Statio 65.57 338 IAmb IAmb 19 41 49.7
comp=Z,9.6nm,0.7s
T35A Sonter Cattle 65.94 334 IAmb IAmb 19 41 53.1
comp=Z,17nm,1.2s
DBIC Dimbokro 67.24 72 P **P** 19 41 58.5 -1.0
DBIC Dimbokro 67.24 72 P P **P** 19 41 58.6 -0.8
comp=Z,6.7nm,0.8s,baz=205,slow=6.4,SNR=7.6
comp=Z,6.7nm,0.8s
319A Douglas 67.77 321 IAmb IAmb 19 42 06.1
comp=Z,13nm,0.8s
121A Cookes Peak, D 67.79 323 IAmb IAmb 19 42 06.6
comp=Z,15nm,0.9s
RTBA Rita Blanca 68.26 329 IAmb IAmb 19 42 08.7
comp=Z,10nm,0.7s
L40A Anamosa 68.65 341 IAmb IAmb 19 42 09.4
comp=Z,22nm,0.9s
ANMO Albuquerque 68.92 326 P **P** 19 42 11.0 +1.3
ANMO IAmb IAmb 19 42 13.1
comp=Z,10nm,1.0s
T25A Trinidad 69.62 329 IAmb IAmb 19 42 16.9
comp=Z,8.1nm,0.7s
SDCO Great Sand Dun 70.63 328 IAmb IAmb 19 42 23.2
comp=Z,7.7nm,0.7s
X16A Lo Mia Camp, P 71.23 322 IAmb IAmb 19 42 27.6
comp=Z,17nm,1.2s
Q24A Divide 71.43 329 IAmb IAmb 19 42 28.3
comp=Z,15nm,0.9s
MVCO Mesa Verde 71.72 326 IAmb IAmb 19 42 30.1
comp=Z,33nm,1.5s
WUAZ Wupatki 71.99 323 IAmb IAmb 19 42 32.3
comp=Z,14nm,0.9s
SMCO Snowmass 72.47 328 IAmb IAmb 19 42 35.0
comp=Z,9.6nm,0.8s
U15A North Rim 73.17 323 IAmb IAmb 19 42 39.5
comp=Z,11nm,0.8s
N23A Red Feather La 73.33 330 IAmb IAmb 19 42 39.4
comp=Z,9.1nm,0.7s
HMU Henry Mountain 73.44 325 IAmb IAmb 19 42 40.9
comp=Z,15nm,1.1s
O20A White River Ci 73.83 328 IAmb IAmb 19 42 42.5
comp=Z,17nm,0.8s
SRU San Rafael Swe 74.20 326 IAmb IAmb 19 42 44.4
comp=Z,16nm,0.7s
ELS Elsinore Mount 74.24 318 IAmb IAmb 19 42 45.1
comp=Z,12nm,0.9s
CCUT Cedar City 74.57 323 IAmb IAmb 19 42 47.8
comp=Z,15nm,0.9s
TMUT Trail Mountain 74.69 326 IAmb IAmb 19 42 47.9
comp=Z,16nm,1.5s
RDMU Red Mountain 74.81 328 IAmb IAmb 19 42 47.4
comp=Z,11nm,0.6s
BSUT Blindstream Ca 75.38 327 IAmb IAmb 19 42 51.8
comp=Z,18nm,0.8s
MPU Maple Canyon 75.44 326 IAmb IAmb 19 42 51.8
comp=Z,13nm,1.1s
GWY Greenwater Val 75.50 320 IAmb IAmb 19 42 52.1
comp=Z,10.0nm,0.8s
PSUT Pine Spring 75.54 324 IAmb IAmb 19 42 52.7
comp=Z,10nm,1.0s
VNDA Vanda 75.67 190 P **P** 19 42 49.1 +0.3
comp=Z,1.0nm,0.9s,baz=157,slow=6.1,SNR=4.0
comp=Z,1.0nm,0.9s
WCT Wildcat Mounta 75.89 321 IAmb IAmb 19 42 54.9
comp=Z,12nm,1.0s
TORD Torodi Ar. Bea 75.97 69 P **P** 19 42 50.3 -1.2
TORD Torodi Ar. Bea 75.97 69 P **P** 19 42 49.8 -1.8
comp=Z,2.4nm,0.4s,baz=259,slow=5.1,SNR=23
comp=Z,2.4nm,0.4s
TCUT Toone Canyon 76.14 327 IAmb IAmb 19 42 55.6
comp=Z,9.3nm,0.7s
ISA Isabella, Lake 76.23 319 P **P** 19 42 55.3 +2.7
ISA IAmb IAmb 19 42 56.5
comp=Z,9.5nm,0.8s
Q12A Willow Creek R 76.44 323 IAmb IAmb 19 42 57.6
comp=Z,12nm,1.0s
PDAR Pinedale Array 76.48 329 P **P** 19 42 55.9 +1.8
comp=Z,3.7nm,0.8s,baz=135,slow=7.7,SNR=16
comp=Z,3.7nm,0.8s
HWUT Hardware Ranch 76.59 327 IAmb IAmb 19 42 57.7
comp=Z,9.6nm,0.8s
SPUT South Promonto 76.81 326 IAmb IAmb 19 42 59.2
comp=Z,13nm,0.8s
ULM Lac du Bonnet 77.42 341 P **P** 19 42 58.8 0.0
comp=Z,3.8nm,0.5s,baz=147,slow=6.5,SNR=13
comp=Z,3.8nm,0.5s
SCHQ Schefferville 77.57 360 P **P** 19 42 59.8 +0.3
comp=Z,7.0nm,0.7s,baz=177,slow=3.0,SNR=8.2
comp=Z,7.0nm,0.7s
LOHW Long Hollow 77.62 329 IAmb IAmb 19 43 03.7
comp=Z,11nm,0.7s
TPAW Teton Pass 77.69 329 IAmb IAmb 19 43 04.3
comp=Z,10nm,0.8s
MOOW Moose Ponds 77.79 329 P **P** 19 43 03.1 +1.8
OMMB Old Mammoth Mi 77.84 320 P **P** 19 43 04.0 +2.2
OMMB IAmb IAmb 19 43 05.3
comp=Z,9.4nm,0.9s
NVAR Mina Array Bea 77.98 321 P **P** 19 43 04.6 +2.2
comp=Z,1.3nm,0.5s,baz=156,slow=6.4,SNR=15
comp=Z,1.3nm,0.5s
IMW Indian Meadow 78.00 329 IAmb IAmb 19 43 06.0
comp=Z,14nm,0.8s
FLWY Flagg Ranch 78.02 329 IAmb IAmb 19 43 05.9
comp=Z,12nm,0.7s
RLMT Red Lodge 78.16 331 IAmb IAmb 19 43 06.4
comp=Z,12nm,0.6s
YMP Mirror Lake Pl 78.27 330 IAmb IAmb 19 43 14.2
comp=Z,13nm,0.8s
KVN Kaiserville 78.28 322 IAmb IAmb 19 43 07.3
comp=Z,10nm,0.8s
YMR Madison River 78.59 329 IAmb IAmb 19 43 09.7
comp=Z,16nm,0.8s
DGMT Dagmar 78.72 336 IAmb IAmb 19 43 09.2
comp=Z,22nm,0.9s
PNTR Pine Nut 79.17 321 IAmb IAmb 19 43 12.9
comp=Z,18nm,0.7s
PAHR Pah Rah Range 79.46 321 IAmb IAmb 19 43 14.3
comp=Z,21nm,0.9s
MPK Martis Peak 79.56 321 IAmb IAmb 19 43 15.1
comp=Z,25nm,1.3s
AFDM Forest Hills D 79.89 320 P **P** 19 43 14.9 +2.3
ORV Oroville 80.59 320 IAmb IAmb 19 43 19.9
comp=Z,19nm,1.2s
EGMT Eagleton 80.61 332 IAmb IAmb 19 43 18.8
comp=Z,16nm,0.9s
BOSA Boshof 80.92 117 P **P** 19 43 17.4 -1.2
comp=Z,5.0nm,0.8s,baz=276,slow=2.5,SNR=3.3
comp=Z,5.0nm,0.8s
PTEO Sao Teotonio 81.26 43 *e*P **P** 19 43 22.5 +2.7
comp=Z,30nm,1.8s
J08A Circle Bar Ran 81.41 325 IAmb IAmb 19 43 23.8
comp=Z,12nm,0.7s
PBDV Barranco-do-Ve 81.58 44 *e*P **P** 19 43 23.2 +1.6
comp=Z,34nm,1.8s
PCVE Castro Verde 81.75 43 *e*P **P** 19 43 23.6 +1.2
comp=Z,18nm,1.7s
MESJ Messejana 81.76 43 *e*P **P** 19 43 24.0 +1.6
comp=Z,12nm,1.7s
MAW Mawson 82.25 163 P **P** 19 43 23.8 -0.7
comp=Z,3.4nm,0.8s,baz=275,slow=7.5,SNR=3.0
comp=Z,3.4nm,0.8s
PMTG Montargil 82.50 42 *e*P **P** 19 43 27.4 +1.1
comp=Z,13nm,1.7s
F10A Beach Ranch, E 82.57 327 IAmb IAmb 19 43 30.5
comp=Z,13nm,0.7s
PBAR Barrancos 82.70 43 *e*P **P** 19 43 28.5 +1.2
comp=Z,16nm,1.7s
J05D Fort Rock, OR 82.86 323 IAmb IAmb 19 43 31.4
comp=Z,16nm,1.2s
PINE Pine Mountain 83.03 324 IAmb IAmb 19 43 32.4
comp=Z,12nm,0.7s
DBO Dodson Butte 83.88 322 IAmb IAmb 19 43 38.1
comp=Z,8.9nm,0.8s
HAWA Hanford 84.03 326 IAmb IAmb 19 43 37.0
comp=Z,12nm,0.9s
PGAV Gavieira, Arco 84.25 40 *e*P **P** 19 43 33.2 -2.0
comp=Z,43nm,1.9s
FCC Fort Churchill 84.61 346 IAmb IAmb 19 43 38.8
comp=Z,9.7nm,0.9s
LTY Liberty 85.19 326 IAmb IAmb 19 43 42.4
comp=Z,9.5nm,0.8s
ESDC Sonseca Array 85.53 43 P **P** 19 43 42.5 +0.9
ESDC Sonseca Array 85.53 43 P P **P** 19 43 41.4 -0.2
comp=Z,1.1nm,0.8s,baz=242,slow=5.7,SNR=7.3
comp=Z,1.1nm,0.8s
YKA Yellowknife Ar 93.34 340 P **P** 19 44 18.5 +0.8
comp=Z,2.2nm,0.7s,baz=131,slow=4.3,SNR=28
comp=Z,2.2nm,0.7s
GERES GERESS Array B 101.00 42 P **Pdif** 19 44 50.9 -1.8
comp=Z,0.7nm,0.6s,baz=116,slow=15,SNR=4.8
CTA Charters Tower 126.40 219 PKP **PKPdf** 19 50 06.2 +0.5
comp=Z,1.3nm,0.5s,baz=96,slow=7.8,SNR=1.5
ASAR Alice Springs 129.43 205 SKPbc SKPbc 19 53 14.0 +1.8
comp=Z,0.9nm,0.7s,baz=143,slow=4.2,SNR=6.7
AS31 Alice Springs 129.43 205 PKPdf **PKPdf** 19 50 09.9 -1.5
WRA Warramunga Arr 132.59 207 PKP **PKPdf** 19 50 18.0 +0.6
comp=Z,1.1nm,0.6s,baz=161,slow=1.6,SNR=19
WRA SKPbc **SKPbc** 19 53 25.1 +1.3
comp=Z,2.1nm,0.8s,baz=152,slow=3.5,SNR=14
PETK Petropavlovsk- 135.03 323 PKP **PKPdf** 19 50 21.1 +0.2
comp=Z,1.0nm,0.4s,baz=76,slow=6.1,SNR=2.5
BVAR Borovoye Array 135.87 36 PKP **PKPdf** 19 50 21.2 -1.3
comp=Z,1.0nm,0.6s,baz=256,slow=4.4,SNR=4.9
KURBB Kurchatov Array 141.46 36 PKhKP PKPpre 19 50 30.2
comp=Z,0.8nm,0.6s,baz=302,slow=3.0,SNR=7.4
ZALV Zalesovo Beam 142.43 28 PKPdf **PKPdf** 19 50 31.6 -2.8
ZALV Zalesovo Beam 142.43 28 PKhKP PKPpre 19 50 31.2
comp=Z,3.0nm,0.7s,baz=312,slow=4.9,SNR=14
NRN Naryn 143.87 51 PKPdf PKPbc 19 50 37.1 +1.0
KSH Kashi 144.42 54 PKP **PKPab** 19 50 37.8 +0.4
MK31 Makanchi Array 145.62 39 **PKPab** 19 50 41.9 +0.3
MKAR Makanchi Array 145.62 39 **PKPbc** 19 50 41.5 +0.6
MKAR Makanchi Array 145.62 39 PKPbc **PKPdf** 19 50 39.7 -0.6
comp=Z,8.8nm,0.7s,baz=314,slow=3.1,SNR=41
WMQ Urumqi 150.45 39 *e*P **PKPdf** 19 50 48.5 +0.2
HEH HeiHe 150.69 341 *e*P **PKPbc** 19 50 54.5 +0.4
HEH pmax pmax
comp=Z,11nm,0.7s
HEH pmax pmax
comp=Z,220nm,5.2s
MJAR Matsushiro Arr 154.64 308 PKPab **PKPab** 19 51 20.2 +1.2
comp=Z,3.2nm,0.9s,baz=72,slow=4.7,SNR=4.0
SONM Songino Array 154.66 11 PKP **PKPdf** 19 50 55.5 +1.1
comp=Z,1.1nm,0.8s,baz=285,slow=1.8,SNR=7.8
SONM PKPab **PKPab** 19 51 19.6 +0.8
comp=Z,2.0nm,0.7s,baz=326,slow=4.0,SNR=11
MDJ Mudanjiang 154.68 332 P **PKPdf** 19 50 53.9 -0.5
MDJ pmax pmax
comp=Z,9.0nm,2.3s
MDJ pmax pmax
comp=Z,290nm,9.0s
KSRS Korea Array 160.92 322 PKPab **PKPab** 19 51 47.1 +1.1
comp=Z,1.6nm,0.7s,baz=51,slow=4.3,SNR=2.9
HHC Hu-ho-hao-te 162.20 4 *e*P **PKPdf** 19 51 01.4 -2.2
HHC pmax pmax
comp=Z,29nm,0.6s
HHC pmax pmax
comp=Z,440nm,5.3s
CMAR Chiang Mai Arr 165.81 106 PKP **PKPdf** 19 51 08.2 +0.8
comp=Z,0.2nm,0.4s,baz=276,slow=3.5,SNR=1.9
CMAR PKPab **PKPab** 19 52 08.2 0.0
comp=Z,1.4nm,0.7s,baz=254,slow=5.7,SNR=14
PZH PanZhiHua 168.95 70 PKP **PKPdf** 19 51 08.2 -1.4
NJ2 Nanjing 169.78 332 *e*P **PKPdf** 19 51 09.6 -0.1
NJ2 pmax pmax

IDC 07 19:38:02.9±3.7, 6°10S×150°57E, h0km, mb3.1/2, mbtmp3.3/3, ML1.5/1, Error ellipse: s-maj=124.1km s-min=47.7km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.71**	**226**	Pn	Pn	19 39 17.5	+2.1
	1.3nm,0.3s,baz=52,slow=15,SNR=7.0						
PMG				Sn	Sn	19 40 07.4	-3.4
	2.8nm,0.3s,baz=97,slow=19,SNR=6.8						
	3.9nm,0.3s						
WRA	**Warramunga Arr**	**20.93**	**227**	P	P	19 42 47.0	-0.4
	1.1nm,0.7s,baz=52,slow=11,SNR=9.0						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**23.71**	**221**	P	P	19 43 15.7	-1.1
	0.2nm,0.5s,baz=62,slow=8.7,SNR=1.9						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**148.55**	**285**	PKPbc	PKPbc	19 57 52.7	-0.2
	0.4nm,0.7s,baz=69,slow=1.1,SNR=2.6						

*IDC **07** 19:40:46.2±1.4, 5°.86S×150°.05E, h0km, mb3.8/4, mbtmp3.8/5, ML1.5/1, MS3.1/2, Error ellipse: s-maj=96.3km s-min=22.2km az=128.0*

ISC 07 19:40:52.8±1.2, 5°.9S±0°.6×150°.0E±0°.7, h52km, n8, σ0s80/7, mb3.7/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.47**	**220**	Pn	**Pn**	**19 41 57.6**	**-0.5**
	1.6nm,0.3s,baz=42,slow=13,SNR=5.4						
PMG				Sn	**Sn**	**19 42 49.7**	**+0.7**
	2.1nm,0.3s,baz=60,slow=20,SNR=7.0						
	5.8nm,0.3s						
WRA	**Warramunga Arr**	**20.66**	**226**	P	**P**	**19 45 29.1**	**+0.7**
	4.1nm,0.9s,baz=51,slow=11,SNR=13						
	4.1nm,0.9s						
DZM	**Mont Dzumac**	**22.55**	**137**	LR	LR	19 52 28.7	
	comp=Z,50nm,19.9s,baz=227,slow=31						
ASAR	**Alice Springs**	**23.49**	**220**	P	**P**	**19 45 57.2**	**-1.0**
	1.0nm,0.9s,baz=51,slow=9.8,SNR=7.3						
	1.0nm,0.9s						
RPZ	**Rata Peaks**	**41.92**	**157**	LR	LR	20 06 02.8	
	comp=Z,26nm,18.9s,baz=220,slow=36						
ILAR	**Eielson Array**	**84.25**	**23**	P	**P**	**19 53 18.5**	**-0.1**
	0.6nm,0.9s,baz=229,slow=5.8,SNR=4.5						
	0.6nm,0.9s						
NVAR	**Mina Array Bea**	**94.94**	**52**	P	**P**	**19 54 10.8**	**+0.5**
	0.4nm,0.6s,baz=255,slow=4.7,SNR=3.5						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**148.00**	**285**	PKPbc	**PKiKP**	**20 00 35.2**	**-0.2**
	0.9nm,0.6s,baz=59,slow=3.6,SNR=4.2						

IDC 07 19:56:33.0±8.7, 17°.85S×177°.77W, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=387.4km s-min=38.7km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.24**	**259**	P	P	20 04 50.8	-1.7
	0.1nm,0.4s,baz=97,slow=7.2,SNR=1.5						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**45.39**	**254**	P	P	20 04 54.5	+0.8
	0.5nm,0.5s,baz=88,slow=8.4,SNR=15						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**85.70**	**13**	P	P	20 09 13.4	0.0
	0.3nm,0.6s,baz=216,slow=5.4,SNR=4.9						
	0.3nm,0.6s						

*AEIC **07** 20:06:24.9±1.9, 53°.07N±0°.06×166°.81W±0°.06, h17km±7km, Error ellipse: s-maj=10.1km s-min=3.8km az=155.0*
*NEIC **07** 20:06:26.4±1.9, 53°.08N±0°.06×166°.87W±0°.06, h37km±23km, mb3.7/19, ML3.7/10, ML3.6(AEIC), Error ellipse: s-maj=8.9km s-min=4.7km az=154.0*

ISC 07 20:06:24.6±1.7, 53°.07N±0°.07×166°.75W±0°.05, h14km±11km, n95, σ1s39/100, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGOD	**Makushin Gods**	**0.73**	**354**		**Pb**	**20 06 39.3**	**+0.2**
MGOD					**Sb**	**20 06 49.7**	**+0.7**
MAPS	**Pakushin South**	**0.75**	**351**		**Pb**	**20 06 39.7**	**+0.2**
OKFG	**Magazine Ridge**	**0.78**	**297**		**Pg**	**20 06 39.5**	**-0.1**
OKFG					**Sb**	**20 06 50.2**	**-0.1**
UNV	**Unalaska Valle**	**0.79**	**11**		**Pg**	**20 06 39.7**	**-0.2**
UNV	**Unalaska Valle**	**0.79**	**11**	P	**Pg**	**20 06 39.8**	**-0.2**
MNAT	**Makushin Natee**	**0.82**	**3**		**Pg**	**20 06 40.7**	**+0.3**
MNAT					**Sb**	**20 06 51.9**	**+0.4**
MSW	**Makushin Switc**	**0.85**	**359**		**Pg**	**20 06 40.9**	**-0.1**
OKER	**Okmok East Rim**	**0.87**	**297**		**Pg**	**20 06 41.3**	**-0.2**
MTBL	**Makushin Table**	**0.90**	**3**		**Pg**	**20 06 42.2**	**+0.2**
MTBL					**Sn**	**20 06 55.5**	**-0.4**
OKNC	**Okmok New Cone**	**0.91**	**296**		**Pg**	**20 06 41.6**	**-0.5**
OKCE	**Okmok Cone E**	**0.92**	**293**		**Pg**	**20 06 41.9**	**-0.5**
OKCE					**Sb**	**20 06 54.8**	**+0.3**
ZRO	**Akutan Zero**	**1.12**	**24**		**Pb**	**20 06 45.1**	**-0.7**
AKRB	**Akutan Reef Bi**	**1.14**	**21**		**Pb**	**20 06 45.7**	**-0.4**
AKBBA	**Akutan Broad B**	**1.14**	**25**		**Pb**	**20 06 45.3**	**-0.8**
AKBBA					**Sn**	**20 07 02.5**	**+0.8**
AKV	**Akutan Volcano**	**1.16**	**24**		**Pb**	**20 06 45.7**	**-0.8**
LVA	**Lava Point**	**1.17**	**21**		**Pn**	**20 06 46.0**	**-0.6**
AHB	**Akutan Harbor**	**1.19**	**28**		**Pn**	**20 06 46.0**	**-0.9**
AKLV	**Akutan Long Va**	**1.19**	**23**		**Pn**	**20 06 46.0**	**-0.9**
AKUT	**Akutan**	**1.22**	**28**		**Pn**	**20 06 46.4**	**-0.8**
AKUT				IAML		20 07 05.6	
	comp=N,1μm,0.4s						
AKUT				IAML		20 07 07.3	
	comp=E,1μm,0.6s						
AKUT	**Akutan**	**1.22**	**28**	P	**Pn**	**20 06 46.4**	**-0.8**
AKSA	**Akutan Strait**	**1.24**	**30**		**Pn**	**20 06 46.5**	**-1.0**
AKSA					**Sn**	**20 07 04.5**	**+0.4**
NIKH	**Nikolski High**	**1.27**	**266**		**Pn**	**20 06 46.1**	**-1.8**
NIKH	**Nikolski High**	**1.27**	**266**	P	**Pn**	**20 06 46.2**	**-1.8**
CLCO	**Concord Point,**	**1.82**	**262**		**Pn**	**20 06 54.1**	**-1.4**
WECS	**Westdahl Cape**	**1.88**	**38**		**Pn**	**20 06 56.7**	**+0.4**
WESE	**West Dahl East**	**1.91**	**42**		**Pn**	**20 06 57.1**	**+0.4**
CLES	**Cleveland East**	**1.92**	**264**	Pn	**Pn**	**20 06 55.4**	**-1.4**
CLES				IAML		20 07 33.2	
	comp=N,945nm,0.4s						
WEBT	**Westdahl Beart**	**1.93**	**37**		**Pn**	**20 06 57.5**	**+0.5**
SSBA	**Shishaldin**	**2.31**	**41**		**Pn**	**20 07 02.3**	**0.0**
ISLZ	**Isanotski Laza**	**2.45**	**46**		**Pn**	**20 07 04.6**	**+0.4**
ISNN	**Isanotski Nort**	**2.49**	**44**		**Pn**	**20 07 05.7**	**+1.0**
PS1A	**Pavlof South-1**	**3.77**	**49**		**Pn**	**20 07 23.6**	**+1.3**
SDPT	**Sand Point**	**4.33**	**56**		**Pn**	**20 07 31.6**	**+1.6**
SDPT	**Sand Point**	**4.33**	**56**	IAML		20 08 42.9	
	comp=N,129nm,0.9s						
SDPT	**Sand Point**	**4.33**	**56**	P	**Pn**	**20 07 33.6**	**+3.6**
SPIA	**Saint Paul Isl**	**4.58**	**335**		**Pn**	**20 07 33.8**	**+0.4**
SPIA	**Saint Paul Isl**	**4.58**	**335**	P	**Pn**	**20 07 34.2**	**+0.9**
CNBA	**Chernabura Isl**	**4.58**	**65**	Pn	**Pn**	**20 07 33.3**	**-0.1**
ATKA	**Atka Island**	**4.62**	**262**		**Pn**	**20 07 33.8**	**0.0**
ATKA	**Atka Island**	**4.62**	**262**	IAML		20 08 44.7	
	comp=E,54nm,0.9s						
ATKA				IAML		20 08 46.0	
	comp=N,83nm,1.4s						
ATKA	**Atka Island**	**4.62**	**262**	P	**Pn**	**20 07 37.6**	**+3.7**
ADK	**Adak**	**6.18**	**263**		**Pn**	**20 07 56.2**	**+0.8**
ADK	**Adak**	**6.18**	**263**	P	**Pn**	**20 07 56.8**	**+1.4**
KIWB	**Kanaga Island**	**6.47**	**263**	Pn	**Pn**	**20 08 01.0**	**+1.7**
O14K	**Tigyukauivet M**	**6.91**	**24**		**Pn**	**20 08 07.7**	**+2.3**
M13K	**Dall Lake**	**7.60**	**13**	Pn	**Pn**	**20 08 17.6**	**+2.8**
N15K	**Kwethluk River**	**8.00**	**25**		**Pn**	**20 08 23.2**	**+2.8**
O16K	**Kokwok River B**	**8.11**	**33**	Pn	**Pn**	**20 08 22.5**	**+0.6**
M14K	**Bethel**	**8.13**	**17**	Pn	**Pn**	**20 08 23.4**	**+1.4**
L14K	**Kuka Creek**	**8.58**	**13**	Pn	**Pn**	**20 08 29.9**	**+1.6**
OHAK	**Old Harbor**	**8.76**	**56**	Pn	**Pn**	**20 08 30.8**	**+0.1**
OHAK	**Old Harbor**	**8.76**	**56**	P	**Pn**	**20 08 33.6**	**+2.9**
M16K	**Timber Creek**	**9.03**	**25**	Pn	**Pn**	**20 08 35.5**	**+1.2**
N17K	**Nushagak Hills**	**9.12**	**31**	Pn	**Pn**	**20 08 38.1**	**+2.4**
O18K	**Koktuh Hills**	**9.32**	**39**	Pn	**Pn**	**20 08 42.1**	**+3.7**
KDAK	**Kodiak Island**	**9.33**	**54**	Pn	**Pn**	**20 08 38.4**	**-0.2**
L16K	**Owhat River**	**9.51**	**21**	Pn	**Pn**	**20 08 43.1**	**+2.2**
K15K	**Wolf Creek Mou**	**9.66**	**15**	Pn	**Pn**	**20 08 46.2**	**+3.2**
N18K	**Kilae Creek**	**9.66**	**34**	Pn	**Pn**	**20 08 43.4**	**+0.3**
M17K	**Holitna River**	**9.75**	**27**	Pn	**Pn**	**20 08 45.8**	**+1.6**
SVW2	**Sparrevohn**	**10.07**	**33**	Pn	**Pn**	**20 08 49.1**	**+0.4**
N19K	**Bonanza Creek**	**10.24**	**36**	Pn	**Pn**	**20 08 53.0**	**+1.9**
K17K	**Iditarod**	**10.65**	**21**	Pn	**Pn**	**20 08 59.1**	**+2.5**
J16K	**Anvik River**	**10.74**	**15**	Pn	**Pn**	**20 08 58.1**	**+0.3**
L19K	**White Mountain**	**11.12**	**30**	Pn	**Pn**	**20 09 04.0**	**+1.0**
M20K	**Styx River**	**11.45**	**34**	Pn	**Pn**	**20 09 08.4**	**+0.8**
G16K	**Koyuk River**	**12.56**	**8**	Pn	**Pn**	**20 09 24.3**	**+1.6**
PWL	**Port Wells**	**12.69**	**45**	Pn	**Pn**	**20 09 27.0**	**+2.6**
F15K	**North Star Dit**	**12.72**	**4**	Pn	**Pn**	**20 09 22.2**	**-2.7**
SCM	**Sheep Creek Mo**	**13.60**	**42**	Pn	**Pn**	**20 09 37.1**	**+0.1**
KLU	**Klutina**	**14.02**	**45**	Pn	**Pn**	**20 09 40.3**	**-2.3**
M24K	**Tolsona, Glenn**	**14.21**	**42**	Pn	**Pn**	**20 09 45.3**	**+0.1**
H21K	**Melozitna Rive**	**14.43**	**24**	Pn	**Pn**	**20 09 48.6**	**+0.4**
N25K	**Chitina, Valde**	**14.63**	**46**	Pn	**Pn**	**20 09 51.2**	**+0.1**
GLB	**Gilahina Butte**	**14.91**	**47**	Pn	**Pn**	**20 09 54.8**	**+0.1**
M27K	**Edge Creek, AK**	**16.12**	**45**	P	**P**	**20 10 13.1**	**-0.8**
M27K				IAmb	IAmb	20 10 52.3	
	comp=Z,6.7nm,1.2s						
BCAR	**Beaver Creek A**	**16.45**	**43**	P	**P**	**20 10 17.3**	**-0.3**
D22K	**Ayikyak River**	**17.19**	**17**		**Pn**	**20 10 24.3**	**+0.3**
D22K				IAmb	IAmb	20 10 28.4	
	comp=Z,11nm,1.4s						
E24K	**Your Creek**	**17.40**	**23**		**P**	**20 10 27.8**	**-0.1**
B21K	**Ikpikpuk River**	**17.53**	**14**		**Pn**	**20 10 28.6**	**+0.4**
B21K				IAmb	IAmb	20 10 35.9	
	comp=Z,5.3nm,1.1s						
N30M	**Aishikik Lake**	**17.96**	**50**		**Pn**	**20 10 32.9**	**-0.9**
N30M				IAmb	IAmb	20 10 42.2	
	comp=Z,11nm,1.3s						
L29M	**L29M**	**18.00**	**45**		**Pn**	**20 10 33.6**	**-0.6**
L29M				IAmb	IAmb	20 11 12.2	
	comp=Z,9.2nm,1.4s						
I28M	**Miner Creek**	**18.29**	**37**	P	**Pn**	**20 10 37.5**	**-0.2**
C23K	**Itkillik River**	**18.39**	**18**	P	**P**	**20 10 38.0**	**-0.8**
C23K				IAmb	IAmb	20 10 57.4	
	comp=Z,11nm,1.4s						
K29M	**Barlow Dome**	**18.52**	**43**	P	**P**	**20 10 38.7**	**-1.7**
K29M				IAmb	IAmb	20 11 00.2	
	comp=Z,6.8nm,1.5s						
H29M	**Whitestone**	**19.23**	**36**	P	**P**	**20 10 47.0**	**-1.1**
H29M				IAmb	IAmb	20 11 08.4	
	comp=Z,5.3nm,1.0s						
M31M	**Drury Creek, Y**	**19.39**	**49**	P	**P**	**20 10 49.7**	**-0.1**
I30M	**Mount Dempster**	**19.52**	**40**	P	**P**	**20 10 51.1**	**-0.2**
G29M	**Pine Creek**	**19.70**	**34**	P	**P**	**20 10 51.5**	**-1.7**
G29M				IAmb	IAmb	20 10 56.8	
	comp=Z,4.8nm,1.1s						
FARO	**Faro, Yukon**	**19.87**	**49**	P	**P**	**20 10 55.5**	**+0.5**
E28M	**Babbage River**	**20.17**	**29**	P	**P**	**20 10 56.4**	**-1.9**
G30M	**tAoh Zraii Nji**	**20.35**	**35**	P	**P**	**20 10 58.8**	**-1.6**
E29M	**Blow River**	**20.53**	**31**	P	**P**	**20 11 02.0**	**-0.2**
E29M				IAmb	IAmb	20 11 12.2	
	comp=Z,5.7nm,1.4s						
G31M	**Satah River**	**21.01**	**36**	P	**P**	**20 11 05.9**	**-1.4**
G31M				IAmb	IAmb	20 11 48.0	
	comp=Z,5.2nm,1.2s						
INK	**Inuvik**	**21.89**	**33**	P	**P**	**20 11 14.8**	**-1.9**

IDC 07 20:07:13.7±6.8, 14°.63S×174°.54W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=294.9km s-min=39.5km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.95**	**256**	P	P	20 16 02.6	+0.3
	0.2nm,0.2s,baz=92,slow=7.8,SNR=21						
	0.2nm,0.2s						
ASAR	**Alice Springs**	**49.31**	**251**	P	P	20 16 04.5	-0.6
	0.5nm,0.5s,baz=88,slow=8.3,SNR=9.6						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**81.91**	**12**	P	P	20 19 34.7	0.0
	0.4nm,1.0s,baz=209,slow=7.2,SNR=2.5						
	0.4nm,1.0s						

AAE 07 20:08:19.9±2.9, 3°.87N×34°.94E, h0km±18km, ML3.7, Kenya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LODK	**Lodwar**	**0.62**	**136**	*e*P	Pg	20 08 28.6	-3.2
LODK				*e*S	Sg	20 08 39.9	+0.2
LODK				IAML		20 08 42.3	
	comp=N,5μm,0.3s						
LODK	**Lodwar**	**0.62**	**136**	*e*P	Pg	20 08 28.5	-3.3
LODK				*e*S	Sb	20 08 41.7	-1.2
LODK	**Lodwar**	**0.62**	**136**	*e*P	Pg	20 08 28.2	-3.5
LODK				*e*S	Sg	20 08 41.1	+1.3
LODK	**Lodwar**	**0.62**	**136**	*e*P	Pg	20 08 28.6	-3.2
LODK				*e*S	Sg	20 08 39.9	+0.2
LODK				IAML		20 08 42.3	
	comp=N,5μm,0.3s						
LODK	**Lodwar**	**0.62**	**136**	*e*P	Pg	20 08 28.5	-3.3
LODK				*e*S	Sb	20 08 41.7	-1.2
KMBO	**Kilima Mbogo**	**5.48**	**155**	*e*P	Pn	20 09 31.2	-12
KMBO				*e*S	Sn	20 10 23.9	-23
KMBO	**Kilima Mbogo**	**5.48**	**155**	*e*S	Sn	20 10 43.1	-3.8
KMBO	**Kilima Mbogo**	**5.48**	**155**	*e*P	Pn	20 09 31.2	-12
KMBO				*e*S	Sn	20 10 23.9	-23
FURI	**Furi**	**6.23**	**36**	*e*P	Pn	20 09 51.8	-1.7
FURI				*e*S	Sn	20 10 58.1	-7.5
FURI	**Furi**	**6.23**	**36**	*e*P	Pn	20 09 51.8	-1.7
FURI				*e*S	Sn	20 10 58.1	-7.5
KIBK	**Kibwezi**	**6.91**	**153**	*e*S	Sn	20 11 22.6	+0.5

*SJA **07** 20:12:38.9±0.8, 24°.25S×67°.32W, h198km±5km, ML3.9, MW3.9*
*NEIC **07** 20:12:39.2±1.3, 24°.28S±0°.08×67°.3W±0°.1, h201km±16km, mb4.2/3, Error ellipse: s-maj=20.1km s-min=10.1km az=109.0*
*GUC **07** 20:12:41.6±0.6, 24°.24S×67°.58W, h199km±5km, ML4.2*
*IDC **07** 20:12:42.1±1.4, 23°.97S×67°.42W, h204km±22km, mb3.3/2, mbtmp3.8/5, Error ellipse: s-maj=30.1km s-min=23.1km az=144.0*

ISC 07 20:12:39.2±0.8, 24°.28S±0°.03×67°.35W±0°.03, h195km±8km, n72, σ1s44/108, 4C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.53**	**330**	Pn	**Pn**	**20 13 13.4**	**+0.3**
AF01	**San Pedro de A**	**1.53**	**330**	*e*P	**Pn**	**20 13 13.8**	**+0.7**
AF01				*i* S	**Sn**	**20 13 39.2**	**-0.2**
AF01				IAML		20 13 40.7	
	comp=E,921nm,0.4s						
SLA	**San Lorenzo**	**1.74**	**105**	*e*P	**Pn**	**20 13 15.0**	**+0.1**
SLA				*e*S	**Sn**	**20 13 41.6**	**-1.0**
AZAP	**Zapla**	**2.09**	**89**	*e*P	**Pn**	**20 13 17.7**	**-0.8**
AZAP				*e*S	**Sn**	**20 13 48.2**	**-0.9**
LVC	**Limon Verde**	**2.19**	**319**	*e*P	**Pn**	**20 13 20.7**	**+0.8**
LVC				*e*S	**Sn**	**20 13 50.8**	**-0.6**
LVC	**Limon Verde**	**2.19**	**319**	P	**Pn**	**20 13 20.6**	**+0.8**
	comp=E,20nm,0.4s,baz=126,slow=7.9,SNR=185						
LVC				S	**Sn**	**20 13 50.6**	**-0.9**
	comp=E,149nm,0.3s,baz=90,slow=20,SNR=20						
LVC	**Limon Verde**	**2.19**	**319**	↑*i*P	**Pn**	**20 13 20.8**	**+0.8**
LVC				*i* S	**Sn**	**20 13 49.8**	**-1.7**
LVC				IAML		20 13 54.0	
	comp=E,2μm,0.3s						
GO02	**Mina Guanaco**	**2.21**	**246**		**Pn**	**20 13 21.1**	**+1.1**
GO02	**Mina Guanaco**	**2.21**	**246**	*e*P	**Pn**	**20 13 21.1**	**+1.1**
GO02				*e*S	**Sn**	**20 13 52.1**	**+0.4**
GO02	**Mina Guanaco**	**2.21**	**246**	*e*P	**Pn**	**20 13 21.0**	**+1.1**
GO02				*i* S	**Sn**	**20 13 51.2**	**-0.4**
GO02				IAML		20 13 52.8	
	comp=N,657nm,0.4s						
PB15	**IPOC Station P**	**2.22**	**298**		**Pn**	**20 13 20.8**	**+0.8**
PB15	**IPOC Station P**	**2.22**	**298**	*e*P	**Pn**	**20 13 20.9**	**+1.0**
PB15				*e*S	**Sn**	**20 13 51.2**	**-0.3**
PB15	**IPOC Station P**	**2.22**	**298**	↑*i*P	**Pn**	**20 13 20.9**	**+1.0**
PB15				*i* S	**Sn**	**20 13 50.7**	**-0.8**
PB06	**IPOC Station P**	**2.57**	**307**		**Pn**	**20 13 24.0**	**+0.1**
PB06	**IPOC Station P**	**2.57**	**307**	*e*P	**Pn**	**20 13 24.5**	**+0.7**
PB06				*e*S	**Sn**	**20 13 57.7**	**-0.9**
PB06				IAML		20 13 58.8	
	comp=Z,603nm,0.2s						
PB06	**IPOC Station P**	**2.57**	**307**	↑*i*P	**Pn**	**20 13 24.7**	**+0.9**
PB06				*i* S	**Sn**	**20 13 57.0**	**-1.5**
YJA	**Yavi**	**2.69**	**39**	*e*P	**Pn**	**20 13 25.8**	**+0.3**
PB14	**IPOC Station P**	**2.80**	**262**		**Pn**	**20 13 26.9**	**+0.4**
PB14	**IPOC Station P**	**2.80**	**262**	*e*P	**Pn**	**20 13 27.4**	**+0.7**
PB14				*e*S	**Sn**	**20 14 02.4**	**-1.1**
PB14	**IPOC Station P**	**2.80**	**262**	*e*P	**Pn**	**20 13 27.2**	**+0.7**
PB14				*i* S	**Sn**	**20 14 01.8**	**-1.7**
PB05	**IPOC Station P**	**2.98**	**298**		**Pn**	**20 13 29.1**	**+0.7**
PB09	**IPOC Station P**	**3.02**	**325**		**Pn**	**20 13 30.5**	**+1.4**
PB09	**IPOC Station P**	**3.02**	**325**	*e*P	**Pn**	**20 13 30.5**	**+1.4**
PB09				*e*S	**Sn**	**20 14 07.7**	**-0.4**
PB09				IAML		20 14 08.0	
	comp=Z,237nm,0.9s						
PB09	**IPOC Station P**	**3.02**	**325**	*e*P	**Pn**	**20 13 30.3**	**+1.2**
PB09				*i* S	**Sn**	**20 14 07.1**	**-1.0**
PB09				IAML		20 14 08.0	
	comp=N,247nm,0.5s						
AHML	**Horco Molle**	**3.09**	**144**	*e*P	**Pn**	**20 13 30.3**	**+0.6**
AHML				*e*S	**Sn**	**20 14 08.4**	**-0.9**
ALOL	**LOMAS DE OLMED**	**3.12**	**82**	*e*P	**Pn**	**20 13 29.7**	**-0.3**
ALOL				*e*S	**Sn**	**20 14 08.4**	**-1.3**
PB04	**IPOC Station P**	**3.22**	**306**		**Pn**	**20 13 31.9**	**+0.5**
PB04	**IPOC Station P**	**3.22**	**306**	*e*P	**Pn**	**20 13 32.1**	**+0.7**
PB04				*e*S	**Sn**	**20 14 10.7**	**-1.6**
PB04				IAML		20 14 11.9	
	comp=Z,323nm,0.2s						
PB04	**IPOC Station P**	**3.22**	**306**	*e*P	**Pn**	**20 13 32.1**	**+0.7**
PB04				*i* S	**Sn**	**20 14 09.8**	**-2.4**
PB07	**IPOC Station P**	**3.45**	**317**		**Pn**	**20 13 34.4**	**+0.2**
PB07	**IPOC Station P**	**3.45**	**317**	*e*P	**Pn**	**20 13 34.7**	**+0.4**
PB07				*e*S	**Sn**	**20 14 16.2**	**-1.1**
PB07				IAML		20 14 16.9	
	comp=Z,298nm,0.1s						
PB07	**IPOC Station P**	**3.45**	**317**	↑*e*P	**Pn**	**20 13 34.9**	**+0.6**
PB07				*e*S	**Sn**	**20 14 14.9**	**-2.5**
PB07				IAML		20 14 16.1	
	comp=E,368nm,0.3s						
AC01	**Pan de Azucar**	**3.48**	**237**		**Pn**	**20 13 34.5**	**+0.1**
AC01	**Pan de Azucar**	**3.48**	**237**	*e*P	**Pn**	**20 13 34.4**	**+0.1**
AC01				*e*S	**Sn**	**20 14 15.7**	**-1.9**
AC01				IAML		20 14 16.9	
	comp=Z,79nm,0.5s						
AC01	**Pan de Azucar**	**3.48**	**237**	*e*P	**Pn**	**20 13 34.5**	**+0.1**
AC01				*i* S	**Sn**	**20 14 15.3**	**-2.3**
AC01				IAML		20 14 18.9	
	comp=E,249nm,0.2s						
PB02	**IPOC Station P**	**3.77**	**321**		**Pn**	**20 13 38.0**	**0.0**
PB02	**IPOC Station P**	**3.77**	**321**	*e*P	**Pn**	**20 13 38.4**	**+0.3**
PB02				*e*S	**Sn**	**20 14 22.1**	**-2.1**
PB02				IAML		20 14 25.8	
	comp=Z,293nm,0.5s						
PB02	**IPOC Station P**	**3.77**	**321**	*e*P	**Pn**	**20 13 38.1**	**0.0**
PB02				*e*S	**Sn**	**20 14 21.6**	**-2.6**
PB01	**IPOC Station P**	**3.78**	**328**		**Pn**	**20 13 38.2**	**0.0**
PB01	**IPOC Station P**	**3.78**	**328**	*e*P	**Pn**	**20 13 38.5**	**+0.3**
PB01				*e*S	**Sn**	**20 14 22.9**	**-1.6**
PB01				IAML		20 14 24.8	
	comp=Z,161nm,0.2s						
PB01	**IPOC Station P**	**3.78**	**328**	*e*P	**Pn**	**20 13 38.3**	**0.0**
PB01				*e*S	**Sn**	**20 14 21.8**	**-2.6**
AC06	**Mina Casimiro**	**4.08**	**221**		**Pn**	**20 13 41.5**	**-0.4**
AC06				Sn	**Sn**	**20 14 25.0**	**-6.2**
AC06	**Mina Casimiro**	**4.08**	**221**	*e*P	**Pn**	**20 13 41.9**	**0.0**
AC06				*i* S	**Sn**	**20 14 29.7**	**-1.5**
GO03	**Copiap**	**4.20**	**218**	Pn	**Pn**	**20 13 43.2**	**-0.1**
GO03	**Copiap**	**4.20**	**218**	*e*P	**Pn**	**20 13 43.4**	**+0.1**
GO03				*e*S	**Sn**	**20 14 32.2**	**-1.5**
GO03	**Copiap**	**4.20**	**218**	*e*P	**Pn**	**20 13 43.1**	**-0.3**
GO03				*i* S	**Sn**	**20 14 31.5**	**-2.3**
PATCX	**Punta Patache**	**4.31**	**323**	Pn	**Pn**	**20 13 44.9**	**0.0**
PATCX	**Punta Patache**	**4.31**	**323**	*e*P	**Pn**	**20 13 44.0**	**-0.9**
PATCX				*e*S	**Sn**	**20 14 33.9**	**-2.5**
PATCX	**Punta Patache**	**4.31**	**323**	*e*P	**Pn**	**20 13 45.1**	**+0.2**
PB08	**IPOC Station P**	**4.45**	**338**		**Pn**	**20 13 47.5**	**+0.6**
PB08	**IPOC Station P**	**4.45**	**338**	*e*P	**Pn**	**20 13 47.7**	**+0.8**
PB08				*e*S	**Sn**	**20 14 39.5**	**-0.5**
PB08				IAML		20 14 40.9	
	comp=Z,44nm,0.1s						
TA01	**Diego Aracena**	**4.53**	**324**	Pn	**Pn**	**20 13 46.7**	**-0.8**
TA01	**Diego Aracena**	**4.53**	**324**	*e*P	**Pn**	**20 13 47.7**	**+0.1**
TA01	**Diego Aracena**	**4.53**	**324**	*e*P	**Pn**	**20 13 47.3**	**-0.3**
TA01				*i* S	**Sn**	**20 14 37.6**	**-3.7**
HMBC	**Humberstone**	**4.62**	**329**	*e*P	**Pn**	**20 13 48.6**	**-0.3**
HMBC				*e*S	**Sn**	**20 14 41.1**	**-2.6**
GO01	**Chusmiza**	**4.90**	**339**		**Pn**	**20 13 53.8**	**+1.0**
**GO

*IDC **07** 20:41:36.8±2.8, 21°.31S×168°.40E, h0km, mb3.9/3, mbtmp3.9/3, MS3.2/3, Error ellipse: s-maj=105.2km s-min=28.8km az=146.0*

ISC 07 20:41:37.0±1.6, **21°.48S**±0°.10×**168°.8E**±0°.1, **h29**km, **n21**, σ1**§08**/20, **mb3.9/3**, **MS3.0**/3, **Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.71**	**269**	P	**Pb**	**20 41 49.0**	**-1.8**
LIFNC	**LIFOU**	**1.61**	**295**	P	**Pn**	**20 42 02.1**	**-1.3**
LIFNC	**LIFOU**	**1.61**	**295**	P	**Pn**	**20 42 02.0**	**-1.3**
PINNC	**Pines Island,**	**1.69**	**228**	P	**Pn**	**20 42 03.4**	**-1.1**
PINNC	**Pines Island,**	**1.69**	**228**	P	**Pn**	**20 42 03.2**	**-1.3**
OUENC	**Ouen Island, N**	**2.04**	**242**	P	**Pn**	**20 42 09.2**	**-0.1**
OUENC	**Ouen Island, N**	**2.04**	**242**	P	**Pn**	**20 42 09.1**	**-0.2**
DZM	**Mont Dzumac**	**2.26**	**254**	P	**Pn**	**20 42 13.2**	**+0.7**
DZM	**Mont Dzumac**	**2.26**	**254**	Pn	**Pn**	**20 42 11.5**	**-1.0**
	18nm,0.3s,baz=71,slow=18,SNR=153						
DZM				Sn	**Sn**	**20 42 39.8**	**+0.3**
	44nm,0.3s,baz=0.0,slow=20,SNR=15						
DZM				LR	LR	20 42 55.7	
	comp=Z,133nm,20.9s,baz=49,slow=40						
ONTNC	**Ouen Toro**	**2.32**	**249**	P	**Pn**	**20 42 13.4**	**+0.1**
ONTNC	**Ouen Toro**	**2.32**	**249**	P	**Pn**	**20 42 13.3**	**0.0**
NOUC	**Port Laguerre**	**2.40**	**254**	P	**Pn**	**20 42 14.3**	**+0.1**
KOUNC	**Koumac, New Ca**	**4.31**	**282**	P	**Pn**	**20 42 41.9**	**+1.3**
KOUNC	**Koumac, New Ca**	**4.31**	**282**	P	**Pn**	**20 42 41.8**	**+1.2**
CTA	**Charters Tower**	**21.12**	**270**	LR	LR	20 53 39.7	
	comp=Z,48nm,18.5s,baz=83,slow=35						
STKA	**Stephens Creek**	**26.35**	**241**	P	**P**	**20 47 12.5**	**+1.9**
	2.3nm,1.1s,baz=98,slow=14,SNR=1.7						
STKA				LR	LR	20 56 36.5	
	comp=Z,44nm,20.3s,baz=26,slow=34						
	2.3nm,1.1s						
WRA	**Warramunga Arr**	**32.23**	**266**	P	**P**	**20 48 03.2**	**+0.2**
	0.8nm,0.6s,baz=97,slow=8.3,SNR=25						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**32.24**	**259**	P	**P**	**20 48 04.2**	**+1.0**
	1.7nm,0.8s,baz=88,slow=8.9,SNR=20						
	1.7nm,0.8s						
KAPI	**Kappang**	**50.22**	**282**	LR	LR	21 11 16.3	
	comp=Z,41nm,20.8s,baz=49,slow=36						
EKA	**Eskdalemuir Ar**	**145.66**	**352**	PKPbc	**PKiKP**	**21 01 15.5**	**-0.8**
	2.9nm,1.0s,baz=5.9,slow=8.3,SNR=1.9						
GERES	**GERESS Array B**	**146.23**	**330**	PKPbc	**PKiKP**	**21 01 18.3**	**+0.5**
	0.2nm,0.3s,baz=42,slow=3.2,SNR=2.0						

*IDC **07** 20:48:18.3±2.5, 9°.48S×112°.88E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=103.4km s-min=21.5km az=52.0*

*DJA **07** 20:48:23.5±0.4, 10°.5±5°.×11°.3E±°, h10km, M4.0/19, mb4.2/6, mB5.7/2, MLv3.9/19, Mw(mB)5.2/2, MwMwp4.5/1, Mwp4.9/1*

ISC 07 20:48:23.6±1.2, **9°.7S**±0°.1×**112°.85E**±0°.08, **h36**km, **n25**, σ1**§94**/25, **mb4.0/6**, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.77**	**47**	P	**Pn**	**20 48 51.9**	**+0.2**
BLJI	**Banyuglugur**	**2.07**	**21**	P	**Pn**	**20 48 57.8**	**+1.9**
ABJI	**Asem Bagus**	**2.33**	**36**	P	**Pn**	**20 49 01.6**	**+2.2**
DNP	**Denpasar**	**2.54**	**67**	P	**Pn**	**20 49 04.0**	**+1.7**
NGJI	**Ngawi**	**2.69**	**329**	P	**Pn**	**20 49 06.7**	**+2.4**
SRBI	**Singaraja**	**2.83**	**56**	P	**Pn**	**20 49 07.8**	**+1.5**
KMMI	**Kalianget**	**2.85**	**23**	P	**Pn**	**20 49 08.4**	**+1.8**
UGM	**Wanagama**	**2.90**	**307**	P	**Pn**	**20 49 08.7**	**+1.4**
YOGI	**Yogyakarta**	**3.14**	**306**	P	**Pn**	**20 49 12.8**	**+2.2**
SMRI	**Semarang**	**3.55**	**318**	P	**Pn**	**20 49 17.9**	**+1.7**
BWJI	**Bawean**	**3.82**	**357**	P	**Pn**	**20 49 21.4**	**+1.4**
TWSI	**Taliwang, Sumb**	**4.09**	**77**	P	**Pn**	**20 49 26.0**	**+2.3**
KPJI	**Karang Pucung**	**4.53**	**301**	P	**Pn**	**20 49 32.0**	**+2.3**
CMJI	**Cimerak**	**4.75**	**293**	P	**Pn**	**20 49 34.9**	**+2.2**
PLAI	**Plampang**	**4.94**	**80**	P	**Pn**	**20 49 37.7**	**+2.4**
CNJI	**Cibinong**	**6.13**	**292**	P	**Pn**	**20 49 54.1**	**+2.4**
	13nm,1.3s,0.1nm						
BBKI	**Banjar Baru**	**6.50**	**18**	P	**Pn**	**20 49 58.4**	**+1.6**
BKSI	**Bulukumba**	**8.42**	**59**	P	**Pn**	**20 50 25.4**	**+2.3**
	8.3nm,1.2s						
MMRI	**Maumere**	**9.33**	**84**	P	**Pn**	**20 50 37.6**	**+2.0**
WRA	**Warramunga Arr**	**23.11**	**119**	P	**P**	**20 53 26.9**	**+0.3**
	0.2nm,0.5s,baz=297,slow=11,SNR=4.9						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**24.44**	**127**	P	**P**	**20 53 40.0**	**+0.8**
	0.7nm,0.6s,baz=302,slow=8.5,SNR=11						
	0.7nm,0.6s						
USRK	**Ussuriysk Ar.**	**56.38**	**16**	P	**P**	**20 57 59.3**	**-1.9**
	1.2nm,0.6s,baz=209,slow=7.6,SNR=1.7						
	1.2nm,0.6s						
SONM	**Songino Array**	**57.56**	**355**	P	**P**	**20 58 08.7**	**-1.0**
	0.9nm,0.6s,baz=174,slow=7.9,SNR=8.3						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**62.50**	**337**	P	**P**	**20 58 42.3**	**-1.2**
	0.6nm,0.5s,baz=149,slow=6.4,SNR=7.1						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**67.70**	**343**	P	**P**	**20 59 15.7**	**-1.3**
	0.9nm,0.5s,baz=138,slow=6.0,SNR=5.0						
	0.9nm,0.5s						

*NEIC **07** 20:49:11.5±1.3, 58°.35N±0°.06×137°.6W±0°.1, h7km±10km, Error ellipse: s-maj=12.1km s-min=1.3km az=45.0*

*AEIC **07** 20:49:13.8±2.9, 58°.50N±0°.05×137°.16W±0°.09, h0km±7km, ML2.1, ML2.9(OTT), ML2.7/53(NEIC), Error ellipse: s-maj=0.0km s-min=0.0km az=137.0*

*PGC **07** 20:49:14.1±3.2, 58°.43N×137°.24W, h1km, ML2.9/16, 138km Wsw of Haines, Ak Southeastern Alaska*

ISC 07 20:49:12.7±1.4, **58°.51N**±0°.04×**137°.15W**±0°.04, **h2**km±12km, **n51**, σ1**§32/68**, **Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S31K	**Pelican**	**0.73**	**138**	Pg	**Pg**	**20 49 27.6**	**+1.0**
P29M	**Windy Craggy**	**1.17**	**345**		**Pg**	**20 49 35.4**	**+0.4**
P29M	**Windy Craggy**	**1.17**	**345**	P	**Pg**	**20 49 35.4**	**+0.4**
P29M				S	**Sn**	**20 49 52.8**	**+0.2**
BESE	**Bessie Mountai**	**1.20**	**86**	P	**Pn**	**20 49 37.0**	**+0.4**
BESE				S	**Sn**	**20 49 53.0**	**-0.5**
SKAG	**Skagway**	**1.34**	**44**	Pn	**Pg**	**20 49 40.1**	**+1.8**
R32K	**Eaglecrest**	**1.40**	**98**	Pn	**Pg**	**20 49 40.5**	**+1.0**
R32K				IAML		20 50 03.4	
	comp=N,77nm,1.0s						
JIS	**Juneau Island**	**1.47**	**98**		**Pg**	**20 49 41.5**	**+0.7**
P30M	**Million Dollar**	**1.62**	**3**	Pn	**Pg**	**20 49 44.7**	**+0.9**
P30M				Sg	**Sg**	**20 50 07.1**	**+2.3**
S32K	**Killisnoo**	**1.72**	**126**	Pn	**Pn**	**20 49 44.3**	**+0.7**
S32K				IAML		20 50 19.7	
	comp=E,56nm,4.5s						
SIT	**Sitka**	**1.75**	**145**	Pn	**Pn**	**20 49 42.7**	**-1.3**
SIT				IAML		20 50 19.2	
	comp=E,56nm,3.1s						
O29M	**Mount Kennedy**	**1.94**	**339**	Pn	**Pn**	**20 49 47.5**	**+0.7**
O29M				IAML		20 50 23.0	
	comp=N,56nm,2.3s						
O29M				IAML		20 50 24.7	
	comp=E,83nm,0.7s						
O29M	**Mount Kennedy**	**1.94**	**339**	Pn	**Pb**	**20 49 49.5**	**+0.6**
O29M				Sg	**Sg**	**20 50 16.0**	**+1.0**
P32M	**Atlin**	**2.08**	**57**	Pn	**Pb**	**20 49 51.2**	**+0.1**
P32M				IAML		20 50 22.5	
	comp=N,38nm,0.7s						
P32M	**Atlin**	**2.08**	**57**	Pn	**Pg**	**20 49 51.4**	**-1.1**
P32M				Sg	**Sg**	**20 50 20.5**	**+1.1**
YUK7	**Dusty Glacier**	**2.09**	**346**	Pn	**Pb**	**20 49 51.3**	**-0.1**
HYT	**Haines Junctio**	**2.33**	**356**		**Pb**	**20 49 55.6**	**+0.1**
HYT				IAML		20 50 33.2	
	comp=E,28nm,1.5s						
HYT				IAML		20 50 40.1	
	comp=N,26nm,4.3s						
HYT	**Haines Junctio**	**2.33**	**356**	Pn	**Pb**	**20 49 55.0**	**-0.5**
HYT				Sg	**Sg**	**20 50 28.2**	**+0.6**
O30N	**Mendenhall**	**2.33**	**13**		**Pg**	**20 49 56.7**	**-0.6**
O30N				IAML		20 50 36.1	
	comp=N,36nm,0.7s						
WHY	**Whitehorse**	**2.45**	**27**	Pn	**Pb**	**20 49 55.6**	**-1.8**
WHY				IAML		20 50 34.3	
	comp=E,42nm,0.7s						
WHY				IAML		20 50 36.4	
	comp=N,36nm,0.6s						
WHY	**Whitehorse**	**2.45**	**27**	Pg	**Pg**	**20 49 59.6**	**+0.1**
WHY				Sg	**Sg**	**20 50 32.0**	**+0.8**
Q32M	**Nakina River**	**2.58**	**78**	Pn	**Pb**	**20 49 58.9**	**-0.9**
Q32M				IAML		20 50 40.6	
	comp=N,42nm,2.6s						
Q32M				IAML		20 50 45.5	
	comp=E,34nm,1.7s						
Q32M	**Nakina River**	**2.58**	**78**	Pg	**Pg**	**20 50 01.9**	**-0.2**
Q32M				Sg	**Sg**	**20 50 36.5**	**+0.9**
P33M	**Teslin, Yukon**	**2.80**	**51**	Pn	**Pb**	**20 50 02.2**	**-1.1**
P33M				IAML		20 50 37.3	
	comp=N,22nm,4.2s						
P33M	**Teslin, Yukon**	**2.80**	**51**	Pg	**Pg**	**20 50 06.1**	**-0.1**
P33M				Sg	**Sg**	**20 50 42.3**	**-0.2**
N30M	**Aishikik Lake**	**2.96**	**1**	Pg	**Pg**	**20 50 08.2**	**-1.1**
N30M				IAML		20 50 41.3	
	comp=N,18nm,4.2s						
N30M				IAML		20 51 28.5	
	comp=E,24nm,4.3s						
N30M	**Aishikik Lake**	**2.96**	**1**	Pg	**Pg**	**20 50 08.8**	**-0.6**
N30M				Sg	**Sg**	**20 50 49.3**	**+1.6**
N31M	**Braeburn, Yuko**	**3.07**	**12**	Pg	**Pg**	**20 50 10.2**	**-1.1**
N31M	**Braeburn, Yuko**	**3.07**	**12**	Pg	**Pg**	**20 50 10.5**	**-0.8**
N31M				Sg	**Sg**	**20 50 51.6**	**+0.6**
S34M	**Telegraph Cree**	**3.24**	**98**	Pg	**Pg**	**20 50 13.5**	**-1.2**
S34M				IAML		20 50 31.3	
	comp=E,23nm,4.3s						
S34M				IAML		20 51 35.9	
	comp=N,22nm,4.0s						
S34M	**Telegraph Cree**	**3.24**	**98**	Pg	**Pg**	**20 50 15.3**	**+0.6**
S34M				Sg	**Sg**	**20 50 56.3**	**-0.2**
R33M	**Jennings River**	**3.32**	**72**	Pn	**Pn**	**20 50 07.8**	**+2.1**
R33M				Pg	**Pg**	**20 50 16.2**	**-0.1**
R33M				IAML		20 52 03.8	
	comp=E,18nm,4.9s						
R33M				IAML		20 52 13.0	
	comp=N,21nm,4.4s						
R33M	**Jennings River**	**3.32**	**72**	Pg	**Pg**	**20 50 14.9**	**-1.3**
R33M				Sg	**Sg**	**20 50 58.6**	**-0.7**
N32M	**Quiet Lake**	**3.35**	**36**	Pg	**Pg**	**20 50 17.2**	**+0.3**
N32M	**Quiet Lake**	**3.35**	**36**	Pg	**Pg**	**20 50 17.1**	**+0.3**
N32M				Sg	**Sg**	**20 51 01.1**	**+0.8**
DLBC	**Dease Lake**	**3.74**	**88**	Pn	**Pn**	**20 50 11.5**	**+0.1**
DLBC				IAML		20 51 30.8	
	comp=E,22nm,4.7s						
DLBC	**Dease Lake**	**3.74**	**88**	Pg	**Pb**	**20 50 21.7**	**+2.3**
DLBC				Sg	**Sg**	**20 51 11.1**	**-1.6**
M31M	**Drury Creek, Y**	**3.95**	**19**	Pn	**Pn**	**20 50 15.3**	**+1.1**
M31M				IAML		20 51 44.3	
	comp=N,17nm,4.8s						
M31M	**Drury Creek, Y**	**3.95**	**19**	Sg	**Sg**	**20 51 18.7**	**-0.7**
KAIM	**Kayak Island**	**4.00**	**294**	Pn	Pn	20 50 10.7	-4.2
T35M	**Bob Quinn**	**4.00**	**110**	Pn	**Pn**	**20 50 15.5**	**+0.6**
T35M	**Bob Quinn**	**4.00**	**110**	Sg	**Sg**	**20 51 18.3**	**-2.7**
M29M	**Somme Creek**	**4.00**	**351**	Pn	**Pn**	**20 50 14.2**	**-0.8**
M29M				IAML		20 51 15.6	
	comp=N,16nm,4.5s						
M29M				IAML		20 52 10.0	
	comp=E,16nm,4.7s						
M29M	**Somme Creek**	**4.00**	**351**	Sg	**Sg**	**20 51 20.6**	**-0.5**
M30M	**Minto, Yukon**	**4.09**	**2**	Pg	**Pg**	**20 50 29.0**	**-1.9**
M30M				IAML		20 50 46.2	
	comp=N,18nm,4.2s						
M30M				IAML		20 52 35.1	
	comp=E,18nm,4.0s						
M30M	**Minto, Yukon**	**4.09**	**2**	Pg	**Pg**	**20 50 29.5**	**-1.4**
M30M				Sg	**Sg**	**20 51 23.4**	**-0.4**
FARO	**Faro, Yukon**	**4.18**	**25**		**Pg**	**20 50 31.5**	**-1.2**
FARO				IAML		20 51 44.3	
	comp=N,17nm,3.6s						
L29M	**L29M**	**4.64**	**354**	Pn	**Pn**	**20 50 23.8**	**+0.1**
L29M	**L29M**	**4.64**	**354**	Pn	**Pn**	**20 50 27.8**	**+4.1**
L29M				Sg	**Sg**	**20 51 41.9**	**+0.2**
K29M	**Barlow Dome**	**5.36**	**358**	Sg	**Sg**	**20 52 03.9**	**-0.7**
DAWY	**Dawson**	**5.68**	**350**	Sg	**Sg**	**20 52 13.1**	**-1.8**
J30M	**Hart River**	**6.10**	**3**	Sg	**Sg**	**20 52 23.6**	**-4.9**

*DJA **07** 20:51:19.7±0.3, 10°.5±4°.×11°.3E±°, h10km, M4.4/22, mb4.4/11, mB5.0/2, MLv4.3/22, Mw(mB)4.4/2*

*IDC **07** 20:51:32.0±6.6, 9°.35S×113°.21E, h131km±57km, mb3.5/10, mbtmp3.9/11, MS3.0/5, Error ellipse: s-maj=59.8km s-min=14.8km az=57.0*

ISC 07 20:51:21.8±0.9, **9°.7S**±0°.1×**112°.82E**±0°.08, **h36**km, **n36**, σ1**§40**/33, **mb3.9**/10, **MS3.2**/3, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.82**	**47**	P	**Pn**	**20 51 49.8**	**-0.8**
PWJI	**Pagerwojo**	**1.97**	**329**	P	**Pn**	**20 51 54.1**	**+1.4**
BLJI	**Banyuglugur**	**2.12**	**21**	P	**Pn**	**20 51 55.7**	**+1.0**
ABJI	**Asem Bagus**	**2.38**	**36**	P	**Pn**	**20 51 59.7**	**+1.4**
DNP	**Denpasar**	**2.58**	**66**	P	**Pn**	**20 52 02.3**	**+1.2**
NGJI	**Ngawi**	**2.71**	**330**	P	**Pn**	**20 52 04.9**	**+2.1**
SRBI	**Singaraja**	**2.88**	**56**	P	**Pn**	**20 52 06.0**	**+0.8**
KMMI	**Kalianget**	**2.90**	**23**	P	**Pn**	**20 52 06.6**	**+1.1**
UGM	**Wanagama**	**2.90**	**308**	P	**Pn**	**20 52 06.5**	**+1.0**
YOGI	**Yogyakarta**	**3.14**	**307**	P	**Pn**	**20 52 10.0**	**+1.2**
SMRI	**Semarang**	**3.56**	**318**	P	**Pn**	**20 52 15.9**	**+1.4**
BWJI	**Bawean**	**3.86**	**358**	P	**Pn**	**20 52 20.1**	**+1.4**
TWSI	**Taliwang, Sumb**	**4.13**	**76**	P	**Pn**	**20 52 23.5**	**+1.1**
KPJI	**Karang Pucung**	**4.52**	**302**	P	**Pn**	**20 52 29.1**	**+1.3**
CMJI	**Cimerak**	**4.73**	**294**	P	**Pn**	**20 52 30.9**	**+0.2**
PLAI	**Plampang**	**4.98**	**80**	P	**Pn**	**20 52 35.0**	**+0.9**
LEM	**Lembang**	**5.90**	**299**	P	**Pn**	**20 52 47.7**	**+0.8**
	18nm,0.7s,0.2nm						
LEM	**Lembang**	**5.90**	**299**	LR	LR	20 55 10.0	
	comp=Z,54nm,20.6s,baz=208,slow=36						
CNJI	**Cibinong**	**6.12**	**293**	P	**Pn**	**20 52 50.8**	**+1.0**
	19nm,1.0s,0.1nm						
SKJI	**Sukabumi**	**6.76**	**293**	P	**Pn**	**20 52 59.7**	**+1.1**
	46nm,0.8s,0.2nm						
KBKI	**Kotabaru**	**7.21**	**28**	P	**Pn**	**20 53 06.3**	**+1.6**
	31nm,1.1s,955nm0.3nm						
CGJI	**Cibinong**	**7.70**	**293**	P	**Pn**	**20 53 13.2**	**+1.7**
	31nm,0.5s,1μm0.2nm						
KAPI	**Kappang**	**8.32**	**56**	P	**Pn**	**20 53 22.6**	**+2.6**
	7.0nm,0.8s,baz=253,slow=14,SNR=2.3						
KAPI				LR	LR	20 56 38.6	
	comp=Z,60nm,19.9s,baz=228,slow=39						
EDFI	**Ende, Flores**	**8.81**	**84**	P	**Pn**	**20 53 27.6**	**+0.7**
	7.5nm,0.7s						
LWLI	**Liwa**	**9.87**	**298**	P	**Pn**	**20 53 42.6**	**+1.3**
	34nm,0.8s						
WRA	**Warramunga Arr**	**23.12**	**118**	P	**P**	**20 56 24.9**	**0.0**
	0.7nm,0.8s,baz=294,slow=11,SNR=9.3						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**24.44**	**127**	P	**P**	**20 56 38.5**	**+1.0**
	1.9nm,0.7s,baz=304,slow=8.8,SNR=27						
	1.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.18**	**334**	P	**P**	**20 57 37.5**	**-0.2**
	1.0nm,0.8s,baz=168,slow=8.5,SNR=8.6						
CMAR				LR	LR	21 12 38.2	
	comp=Z,14nm,18.4s,baz=265,slow=41						
	1.0nm,0.8s						
STKA	**Stephens Creek**	**34.58**	**134**	P	**P**	**20 58 08.4**	**+1.1**
	1.7nm,0.7s,baz=297,slow=6.7,SNR=3.3						
STKA				LR	LR	21 12 42.9	
	comp=Z,50nm,21.8s,baz=206,slow=37						
	1.7nm,0.7s						
MJAR	**Matsushiro Arr**	**51.86**	**26**	P	P	21 00 22.8	-3.9
	1.4nm,0.7s,baz=251,slow=6.7,SNR=2.8						
	1.4nm,0.7s						
SONM	**Songino Array**	**57.60**	**355**	P	**P**	**21 01 06.4**	**-1.8**
	2.9nm,0.7s,baz=177,slow=8.5,SNR=21						
	2.9nm,0.7s						
RPZ	**Rata Peaks**	**60.53**	**135**	LR	LR	21 27 42.9	
	comp=Z,30nm,19.4s,baz=238,slow=36						
MKAR	**Makanchi Array**	**62.52**	**337**	P	**P**	**21 01 40.3**	**-1.6**
	1.4nm,0.5s,baz=148,slow=7.3,SNR=17						
	1.4nm,0.5s						
KURBB	**Kurchatov Arra**	**67.09**	**337**	P	**P**	**21 02 10.0**	**-1.5**
	0.6nm,0.7s,baz=150,slow=4.8,SNR=6.5						
	0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**67.73**	**343**	P	**P**	**21 02 13.7**	**-1.7**
	2.2nm,0.5s,baz=150,slow=4.7,SNR=13						
	2.2nm,0.5s						
BVAR	**Borovoye Array**	**72.20**	**335**	P	**P**	**21 02 40.7**	**-2.2**
	0.2nm,0.3s,baz=134,slow=11,SNR=2.7						
	0.2nm,0.3s						

*DJA **07** 21:05:56.8±0.2, 0°.5±3°.×12°.5E±°, h10km, M4.2/17, mb4.2/7, mB5.0/2, MLv4.2/17, Mw(mB)4.3/2*

*IDC **07** 21:05:59.1±5.6, 0°.16S×124°.76E, h67km±52km, mb3.5/7, mbtmp3.8/8, ML4.2/1, MS2.8/2, Error ellipse: s-maj=43.8km s-min=16.7km az=60.0*

ISC 07 21:05:57.9±0.8, **0°.13S**±0°.08×**124°.83E**±0°.06, **h53**km, **n25**, σ1**§34/26**, **mb3.8/7**, **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.10**	**310**	P	**Pn**	**21 06 17.1**	**+0.1**
SANI	**Sanana**	**2.23**	**149**	P	**Pn**	**21 06 31.2**	**-1.3**
LUWI	**Luwuk**	**2.25**	**246**	P	**Pn**	**21 06 34.2**	**+1.6**
TNTI	**Ternate**	**2.69**	**71**	P	**Pn**	**21 06 40.6**	**+1.8**
LBMI	**Labuha**	**2.72**	**101**	P	**Pn**	**21 06 40.5**	**+1.4**
MRSI	**Marisa**	**2.95**	**282**	P	**Pn**	**21 06 42.2**	**0.0**
NLAI	**Namlea**	**3.83**	**144**	P	**Pn**	**21 06 55.1**	**+0.7**
MPSI	**Mapaga**	**4.95**	**275**	P	**Pn**	**21 07 11.5**	**+1.8**
TTSI	**Tana Toraja**	**5.78**	**240**	P	**Pn**	**21 07 22.8**	**+1.7**
	33nm,0.7s,0.2nm						
SPSI	**Sidrap Palu**	**6.33**	**233**	P	**Pn**	**21 07 30.9**	**+2.3**
	30nm,1.0s,662nm0.1nm						
SWI	**Sorong**	**6.47**	**96**	P	**Pn**	**21 07 32.7**	**+2.1**
	9.9nm,0.9s,2μm0.1nm						
BNDI	**Bandanaira**	**6.69**	**131**	P	**Pn**	**21 07 35.2**	**+1.6**
	220nm,1.4s,1.2nm						
BKSI	**Bulukumba**	**6.98**	**222**	P	**Pn**	**21 07 38.6**	**+1.1**
	14nm,1.0s,0.1nm						
KAPI	**Kappang**	**7.02**	**226**	P	**Pn**	**21 07 40.2**	**+2.1**
	4.8nm,0.3s,baz=22,slow=9.6,SNR=10						
KAPI				S	**Sn**	**21 08 55.5**	**-1.0**
	4.9nm,0.4s,baz=107,slow=23,SNR=1.5						
	8.6nm,0.3s						
EDFI	**Ende, Flores**	**9.12**	**200**	P	**Pn**	**21 08 08.3**	**+1.3**
BATI	**Baumata**	**10.08**	**187**	LR	LR	21 12 09.6	
	comp=Z,144nm,21.8s,baz=336,slow=37						
WRA	**Warramunga Arr**	**21.79**	**155**	P	**P**	**21 10 44.6**	**-0.9**
	1.4nm,0.8s,baz=333,slow=10,SNR=10						
	1.4nm,0.8s						
ASAR	**Alice Springs**	**25.00**	**160**	P	**P**	**21 11 16.9**	**-0.1**
	3.5nm,0.9s,baz=330,slow=7.6,SNR=24						
ASAR				PcP	**PcP**	**21 14 51.2**	**+0.1**
	0.3nm,0.5s,baz=352,slow=2.8,SNR=4.7						
	3.5nm,0.9s						
STKA	**Stephens Creek**	**35.34**	**155**	P	**P**	**21 12 48.0**	**-0.3**
	1.1nm,0.4s,baz=334,slow=11,SNR=3.6						
	1.1nm,0.4s						
KSRS	**Korea Array**	**37.51**	**4**	LR	LR	21 26 54.0	
	comp=Z,5.4nm,21.7s,baz=350,slow=33						
SONM	**Songino Array**	**50.39**	**344**	P	**P**	**21 14 50.0**	**0.0**
	0.5nm,0.8s,baz=124,slow=2.6,SNR=1.2						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**59.69**	**327**	P	**P**	**21 15 55.3**	**-1.7**
	0.8nm,0.6s,baz=127,slow=7.9,SNR=5.1						
	0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**63.20**	**335**	P	**P**	**21 16 20.9**	**+0.4**
	0.3nm,0.3s,baz=102,slow=5.0,SNR=2.0						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**64.00**	**329**	P	**P**	**21 16 25.4**	**-0.4**
	0.2nm,0.3s,baz=123,slow=5.5,SNR=5.1						
	0.2nm,0.3s						
CPUP	**Villa Florida**	**153.61**	**176**	PKP	**PKPdf**	**21 25 43.7**	**-0.1**
	1.2nm,0.4s,baz=206,slow=0.9,SNR=3.5						
CPUP				PKPbc	**PKPbc**	**21 25 50.4**	**-1.1**
	1.4nm,0.3s,baz=173,slow=1.0,SNR=3.1						

DJA 07 21:31:39.6±1.8, **5°.N**±6°.×**9°.6E**±1°.0, **h27**km±14km, **M3.5**/6, **mb3.6**/1, **MLv3.5**/6, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**0.81**	**82**	P	Pb	21 31 54.7	-0.4
LHMI				S	Sn	21 32 07.0	+0.6
MLSI	**Meulaboh, Aceh**	**0.89**	**163**	P	Pb	21 31 56.8	+0.4
SNSI	**Sinabang, Aceh**	**2.70**	**176**	P	Pn	21 32 21.5	+0.2
SISI	**Saibi**	**7.05**	**155**	P	Pn	21 33 20.1	-1.0

*IDC **07** 21:34:34.5±1.7, 43°.28N×105°.23W, h0km, mb2.6/1, mbtmp3.1/5, ML3.3/4, Error ellipse: s-maj=36.0km s-min=8.3km az=153.0*

*NEIC **07** 21:34:38.9±0.7, 43°.71N±0°.04×105°.21W±0°.06, h0km±2km, ML3.2/80, Error ellipse: s-maj=10.1km s-min=3.7km az=313.0*

ISC 07 21:34:37.9±1.0, **43°.70N**±0°.06×**105°.27W**±0°.05, **h0**km, **n35**, σ1**§19**/24, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.99**	**64**		**Pb**	**21 34 57.7**	**-0.3**
K22A	**Casper**	**1.39**	**222**		**Pg**	**21 35 03.2**	**-1.4**
K22A				IAML		21 35 25.6	
	comp=E,346nm,0.4s						
K22A				IAML		21 35 28.8	
	comp=N,404nm,0.3s						
PHWY	**Pilot Hill**	**2.40**	**183**		**Pn**	**21 35 19.4**	**+0.7**
PHWY				IAML		21 35 55.6	
	comp=N,75nm,0.4s						
RWWY	**Rawlins**	**2.46**	**216**		**Pn**	**21 35 20.7**	**+1.1**
RWWY				IAML		21 35 56.5	
	comp=N,154nm,1.0s						
N23A	**Red Feather La**	**2.84**	**190**	Pn	**Pn**	**21 35 25.9**	**+1.1**
N23A				IAML		21 36 08.3	
	comp=E,73nm,0.5s						

comp=N,12nm,4.0s
BSUT IAML 21 37 34.5
comp=E,13nm,2.6s
ELK Elko 7.96 252 Pn **Pn 21 36 33.2 -1.9**
comp=E,0.1nm,0.3s,baz=68,slow=14,SNR=2.2
ELK Lg Lg 21 38 41.1
comp=E,0.1nm,0.3s,baz=205,slow=19,SNR=1.8
comp=E,0.3nm,0.5s
I10CA LAC DU BONNET 9.07 41 I I 22 34 10.0
baz=220,slow=335,SNR=5.6
ULM Lac du Bonnet 9.17 41 Pn **Pn 21 36 50.0 -1.3**
comp=E,2.4nm,0.3s,baz=233,slow=13,SNR=16
ULM Lg Lg 21 39 22.6
comp=E,0.2nm,0.3s,baz=297,slow=16,SNR=1.7
comp=E,3.9nm,0.3s
NVAR Mina Array Bea 11.15 246 Pn Pn 21 37 14.0 -4.8
comp=E,0.1nm,0.3s,baz=59,slow=19,SNR=1.4
comp=E,0.1nm,0.4s
YKA Yellowknife Ar 19.61 347 P **P 21 39 08.0 +0.5**
comp=E,0.1nm,0.5s,baz=164,slow=13,SNR=2.2
comp=E,0.1nm,0.5s

DJA 07 21:44:22.9±0.5, 0°S±4′×12°7E±°, h86km±13km, M3.9/9, mb4.4/4, MLv3.6/9, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.79**	**140**	P	Pn	21 44 40.6	+0.6
TNTI	**Ternate**	**0.88**	**25**	P	Pn	21 44 41.3	+0.3
SANI	**Sanana**	**2.24**	**207**	P	Pn	21 44 58.8	+0.6
KMSI	**Cibinong**	**3.07**	**281**	P	Pn	21 45 09.2	-0.1
NLAI	**Namlea**	**3.19**	**178**	P	Pn	21 45 11.1	+0.2
LUWI	**Luwuk**	**4.34**	**257**	P	Pn	21 45 27.0	+0.5
MPSI	**Mapaga** 5.6nm,1.4s,0.0nm	**7.10**	**273**	P	Pn	21 46 04.3	+0.1
SPSI	**Sidrap Palu** 12nm,0.6s	**8.21**	**241**	P	Pn	21 46 18.6	-0.7
BKSI	**Bulukumba**	**8.64**	**232**	P	Pn	21 46 25.0	-0.2

*UPA **07** 22:03:21.8±1.2, 9.°50N×85.°01W, h17km±272km, MW3.9*
*UCR **07** 22:03:25.0±0.8, 9.°39N×84.°62W, h13km±4km, MW3.9*
*CATAC **07** 22:03:25.9±0.4, 9.°45N×84.°57W, h3km±2km, ML3.9*
ISC 07 22:03:25.1±1.0, **9°45N**±0.°03×**84°60W**±0.°02, **h11**km±6km, **n106**, σ**0s88**/130, **2C-3D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.22**	**345**	*e*P	**Pb**	**22 03 31.0**	**-0.1**
JACO				*e*S	**Sb**	**22 03 35.8**	**+2.9**
JACO	**JACO, Garabito**	**0.22**	**345**	*i* S	**Sb**	**22 03 34.6**	**+1.8**
RITA	**Parrita**	**0.28**	**76**	*e*P	**Pb**	**22 03 31.8**	**-0.4**
TRB2	**Turrubares**	**0.48**	**18**	*e*P	**Pb**	**22 03 35.3**	**-0.5**
LLNJ	**Naranjito**	**0.50**	**87**	*e*P	**Pg**	**22 03 35.1**	**+0.3**
CBL1	**Cabuya**	**0.50**	**286**	*e*P	**Pb**	**22 03 35.5**	**-0.4**
ARZA	**Esparza**	**0.54**	**353**	*e*P	**Pb**	**22 03 37.2**	**+0.5**
ACOS	**Acosta**	**0.55**	**52**	*e*P	**Pg**	**22 03 36.4**	**+0.4**
ACOS				*e*S	**Sg**	**22 03 43.1**	**-0.2**
ABE2	**San Pablo**	**0.60**	**65**	*e*P	**Pg**	**22 03 37.1**	**+0.2**
SRA1	**San Ramn**	**0.64**	**11**	*e*P	**Pb**	**22 03 38.1**	**-0.4**
RAMO	**San Ramon**	**0.65**	**132**	*e*P	**Pb**	**22 03 38.2**	**-0.3**
LCR2	**La Lucha 2**	**0.66**	**64**	*e*P	**Pg**	**22 03 37.7**	**-0.3**
LCR2	**La Lucha 2**	**0.66**	**64**	*i* S	**Sg**	**22 03 45.4**	**-1.2**
BELE	**Belen**	**0.66**	**38**	*e*P	**Pb**	**22 03 39.3**	**+0.5**
SARCI	**Sarchi**	**0.68**	**22**	*e*P	**Pb**	**22 03 39.2**	**+0.1**
AMPA	**Desamparados**	**0.69**	**50**	*e*P	**Pg**	**22 03 38.6**	**0.0**
TBLN	**Tablon, Guarco**	**0.70**	**58**	*i* S	**Sg**	**22 03 45.5**	**-2.5**
LUJA	**Lujan**	**0.70**	**48**	*e*P	**Pb**	**22 03 39.9**	**+0.4**
SJS	**Escuela Geolog**	**0.73**	**48**	*e*P	**Pg**	**22 03 39.4**	**+0.2**
SJS3	**Mercedes San J**	**0.73**	**48**	*e*P	**Pg**	**22 03 39.5**	**+0.2**
DOMI	**Santo Domingo**	**0.73**	**44**	*e*P	**Pg**	**22 03 39.5**	**+0.2**
HDC3	**Heredia 3**	**0.73**	**42**	*e*P	**Pg**	**22 03 39.6**	**+0.2**
HDC3	**Heredia 3**	**0.73**	**42**	*i* S	**Sg**	**22 03 47.4**	**-1.5**
OCM	**Ochomogo**	**0.77**	**55**	*e*P	**Pg**	**22 03 39.8**	**-0.4**
OCM	**Ochomogo**	**0.77**	**55**	*i* S	**Sg**	**22 03 50.6**	**+0.3**
CORON	**Coronado**	**0.79**	**49**	*e*P	**Pg**	**22 03 40.7**	**+0.3**
VPTE	**Poasito**	**0.82**	**29**	*i* S	**Sg**	**22 03 51.4**	**-0.4**
CDM	**Cerro de Muert**	**0.83**	**83**	*e*P	**Pg**	**22 03 40.8**	**-0.6**
CDM	**Cerro de Muert**	**0.83**	**83**	*i* S	**Sb**	**22 03 54.1**	**+0.7**
BUS1	**Rivas**	**0.85**	**83**	*e*P	**Pg**	**22 03 40.9**	**-0.8**
CPMI	**Catarata Coope**	**0.85**	**15**	*e*P	**Pb**	**22 03 42.0**	**-0.2**
CPMI	**Catarata Coope**	**0.85**	**15**	*i* S	**Sb**	**22 03 53.9**	**+0.2**
MONTE	**Monteverde**	**0.87**	**347**	*e*P	**Pg**	**22 03 41.9**	**-0.2**
JTS	**Las Juntas de**	**0.90**	**338**	*e*P	**Pg**	**22 03 42.0**	**-0.5**
PCAYA	**Pacayas**	**0.91**	**59**	*e*P	**Pn**	**22 03 43.7**	**-0.4**
HAYA	**Volcan Irazu**	**0.92**	**55**	*i* S	**Sb**	**22 03 56.2**	**+0.5**
SOCE	**Pocosol**	**0.93**	**359**	*e*P	**Pb**	**22 03 43.2**	**-0.1**
SOCE	**Pocosol**	**0.93**	**359**	*i* S	**Sn**	**22 03 57.2**	**-0.3**
INDI	**Punta indio, G**	**0.98**	**295**	*i* S	**Sn**	**22 03 59.1**	**+0.4**
CASO	**Castillo**	**0.98**	**353**	*e*P	**Pg**	**22 03 44.1**	**0.0**
CASO				*e*S	**Sn**	**22 03 58.4**	**-0.5**
CVTQ	**Turrialba Volc**	**0.99**	**56**	*e*P	**Pb**	**22 03 44.7**	**+0.1**
CVTV	**Tajo**	**1.00**	**57**	*e*P	**Pb**	**22 03 44.5**	**-0.3**
CVTR	**Volcan Turrial**	**1.01**	**56**	*e*P	**Pb**	**22 03 45.0**	**+0.2**
ARE1	**Arenal 1**	**1.01**	**354**	*e*P	**Pn**	**22 03 44.7**	**-0.6**
FORC	**Fortuna**	**1.01**	**356**	*e*P	**Pg**	**22 03 44.6**	**0.0**
FORC				*e*S	**Sn**	**22 04 00.3**	**+0.8**
OCHAL	**Ojochal**	**1.01**	**110**	*i* S	**Sb**	**22 03 57.9**	**-0.1**
VACR	**Volcan Arenal**	**1.02**	**356**	*i* P	**Pn**	**22 03 45.2**	**-0.2**
VACR	comp=Z,3μm,1.0s			IAML		22 04 04.6	
VERB	**Verbena**	**1.02**	**61**	*e*P	**Pb**	**22 03 44.5**	**-0.5**
SGBR	**La Fortuna**	**1.03**	**351**	*e*P	**Pn**	**22 03 45.1**	**-0.5**
CEDE	**Laguna Cedeo**	**1.03**	**355⇑**	*e*P	**Pn**	**22 03 45.3**	**-0.3**
TABAC	**Tabacon**	**1.05**	**351**	*e*P	**Pn**	**22 03 45.7**	**-0.3**
NICO	**Nicoya**	**1.07**	**309**	*e*P	**Pn**	**22 03 45.5**	**-0.6**
RVSTA	**Santa Teresita**	**1.08**	**61**	*e*P	**Pb**	**22 03 45.4**	**-0.5**
RIFO	**Rio Frio, Sara**	**1.09**	**38**	*e*P	**Pb**	**22 03 45.8**	**-0.3**
RIFO	**Rio Frio, Sara**	**1.09**	**38**	*i* P	**Pn**	**22 03 46.1**	**-0.3**
RIFO	comp=Z,3μm,1.0s			IAML		22 04 04.1	
PLVR	**Palo Verde**	**1.16**	**320**	*e*P	**Pb**	**22 03 46.0**	**-1.2**
COTE	**Lago Cote**	**1.16**	**345**	*e*P	**Pb**	**22 03 46.8**	**-0.4**
COTE				*e*S	**Sn**	**22 04 04.9**	**+1.7**
LCOCO	**El Coco**	**1.21**	**59**	*e*P	**Pn**	**22 03 47.7**	**-0.3**
EDPN	**Palmar Norte**	**1.23**	**113**	*e*P	**Pn**	**22 03 46.8**	**-1.5**
ORTG	**Ortega, Santa**	**1.24**	**317**	*e*P	**Pb**	**22 03 48.0**	**-0.6**
ORTG	**Ortega, Santa**	**1.24**	**317**	*i* P	**Pn**	**22 03 47.5**	**-1.0**
ORTG	comp=Z,720nm,1.0s			IAML		22 04 09.5	
ACAL	**Aguas Claras**	**1.25**	**340⇓**	*i* P	**Pn**	**22 03 48.2**	**-0.4**
ACAL				*e*S	**Sg**	**22 04 06.3**	**+0.8**
COVE	**Coope Vega, Sa**	**1.27**	**9**	*e*P	**Pn**	**22 03 48.5**	**-0.5**
COVE	**Coope Vega, Sa**	**1.27**	**9**	*i* P	**Pb**	**22 03 49.1**	**-0.1**
COVE	comp=Z,2μm,1.0s			IAML		22 04 11.8	
MOTZ	**Rio Naranjo**	**1.31**	**339⇓**	*i* P	**Pb**	**22 03 49.5**	**-0.3**
MOTZ				*e*S	**Sg**	**22 04 08.2**	**+0.9**
PTEN	**Parque Tenorio**	**1.31**	**343⇓**	*i* P	**Pb**	**22 03 49.4**	**-0.4**
CUI	**Cuipilapa**	**1.32**	**335**	*e*P	**Pn**	**22 03 49.2**	**-0.4**
CUI				*e*S	**Sg**	**22 04 08.5**	**+0.8**
COLC	**Colonia**	**1.34**	**334**	*e*P	**Pb**	**22 03 49.7**	**-0.7**
COLC				*e*S	**Sg**	**22 04 08.4**	**0.0**
EDBA	**Buenos Aires**	**1.34**	**102**	*e*P	**Pn**	**22 03 46.5**	**-3.4**
HORNC	**Hornillas**	**1.37**	**336**	*e*P	**Pn**	**22 03 50.2**	**-0.2**
HORNC				*e*S	**Sg**	**22 04 09.2**	**-0.2**
LIM1	**Limonal**	**1.39**	**333**	*e*P	**Pn**	**22 03 50.4**	**-0.2**
LIM1				*e*S	**Sg**	**22 04 10.9**	**+0.8**
MESS	**Mesas**	**1.41**	**336⇑**	*e*P	**Pb**	**22 03 50.7**	**-0.8**
MESS				*e*S	**Sg**	**22 04 10.7**	**+0.2**
VERA	**Finca Concepci**	**1.42**	**349**	*e*P	**Pn**	**22 03 50.6**	**-0.3**
VERA				*e*S	**Sg**	**22 04 12.8**	**+2.0**
LIBE	**Liberia** comp=Z,2μm,1.0s	**1.43**	**324**	IAML		22 03 49.3	
LIBE				*i* P	**Pg**	**22 03 53.0**	**+0.4**
CLARA	**Aguas Claras**	**1.44**	**337**	*e*P	**Pb**	**22 03 51.3**	**-0.7**
CLARA				*e*S	**Sg**	**22 04 13.4**	**+1.9**
CANAL	**Canalete**	**1.44**	**342**	*e*P	**Pb**	**22 03 51.9**	**-0.2**
CANAL				*e*S	**Sg**	**22 04 12.4**	**+0.8**
VMAR	**Armenia, Volca**	**1.44**	**340**	*e*P	**Pb**	**22 03 51.9**	**-0.2**
VMAR	**Armenia, Volca**	**1.44**	**340**	*i* P	**Pg**	**22 03 52.5**	**-0.4**
VMAR	comp=Z,1μm,1.0s			IAML		22 04 27.7	
GP77	**Hacienda Santa**	**1.48**	**331**	*e*P	**Pb**	**22 03 51.9**	**-0.9**
GPS2	**Hotel Rincn d**	**1.49**	**330**	*e*P	**Pb**	**22 03 52.1**	**-0.8**
GPS3	**Bodega del ICE**	**1.50**	**330**	*e*P	**Pb**	**22 03 52.4**	**-0.7**
GP03	**Hacienda Santa**	**1.50**	**331**	*e*P	**Pb**	**22 03 52.2**	**-0.9**
GPS1	**Guardaparques**	**1.50**	**331**	*e*P	**Pb**	**22 03 52.3**	**-0.8**
POTG	**Potrero Grande**	**1.52**	**105**	*i* P	**Pn**	**22 03 51.7**	**-0.7**
POTG	comp=Z,1μm,1.0s			IAML		22 04 18.6	
VRLE	**La Escondida,**	**1.52**	**331**	*i* P	**Pb**	**22 03 52.8**	**-0.7**
VRLE	comp=Z,640nm,1.0s			IAML		22 04 22.0	
LAPC	**Finca la Perla**	**1.54**	**328**	*e*P	**Pb**	**22 03 52.8**	**-1.0**
LAPC				*e*S	**Sg**	**22 04 14.4**	**-0.4**
BUEV	**Buena Vista**	**1.55**	**329**	*e*P	**Pb**	**22 03 53.1**	**-0.9**
GB1A	**Borinquen Arri**	**1.57**	**330**	*e*P	**Pb**	**22 03 53.3**	**-0.9**
GB1A				*e*S	**Sg**	**22 04 15.4**	**-0.2**
BUAI	**Buenos Aires**	**1.59**	**333**	*e*P	**Pb**	**22 03 53.5**	**-1.0**
HZTE	**Horizontes, Gu**	**1.59**	**322**	*i* P	**Pb**	**22 03 54.2**	**-0.4**
HZTE	comp=Z,850nm,1.0s			IAML		22 04 27.1	
EDAD	**Golfito**	**1.63**	**119**	*e*P	**Pn**	**22 03 51.7**	**-2.1**
MLIR3	**Monte Lirio, C**	**1.88**	**110**	*e*P	**Pb**	**22 03 59.1**	**-0.4**
CTCR	**Cotoan**	**1.90**	**107**	*i* P	**Pb**	**22 04 00.1**	**+0.1**
CTCR	comp=Z,3μm,1.0s			IAML		22 04 31.6	
BRU2	**Volcan**	**2.00**	**109**	*e*P	**Pn**	**22 03 59.7**	**+0.6**
BRU2				*e*S	**Sg**	**22 04 30.0**	**+0.5**
BC3P	**Paso Ancho**	**2.07**	**108**	*e*P	**Pn**	**22 04 01.3**	**+1.3**
BC3P				*e*S	**Sg**	**22 04 31.4**	**-0.3**
CNI2	**El Empalme, Bo**	**2.10**	**91**	*e*P	**Pn**	**22 04 01.1**	**+0.8**
CNI2				*e*S	**Sb**	**22 04 30.4**	**+0.8**
PTPM	**Petroterminale**	**2.11**	**126**	*e*P	**Pn**	**22 04 01.2**	**+0.8**
PTPM				*e*S	**Sb**	**22 04 30.5**	**+0.9**
BCO2	**Palmira**	**2.17**	**109**	*e*P	**Pn**	**22 04 02.1**	**+0.6**
BCO2				*e*S	**Sb**	**22 04 33.4**	**+1.7**
LNBQ3	**Los Naranjos,**	**2.23**	**107**	*e*P	**Pn**	**22 04 02.3**	**0.0**
OMEN	**Al SSO del Vol**	**2.28**	**334**	*i* P	**Pg**	**22 04 07.4**	**-1.5**
CONN	**Concepcion**	**2.33**	**335**	*i* P	**Pb**	**22 04 06.6**	**-0.6**
CONN	comp=Z,1μm,1.0s			IAML		22 04 18.6	
DVD	**David**	**2.35**	**115**	*e*P	**Pn**	**22 04 04.7**	**+0.9**
DVD				*e*S	**Sb**	**22 04 37.5**	**+0.8**
CHGR2	**Aguacate**	**2.48**	**102**	*e*P	**Pn**	**22 04 06.5**	**+1.0**
CHGR2				*e*S	**Sb**	**22 04 40.1**	**-0.3**
BLUN	**Bluefields**	**2.67**	**18**	*i* P	**Pb**	**22 04 10.3**	**-2.6**
GMAL	**Guarumal, Vera**	**3.73**	**116**	*e*P	**Pn**	**22 04 23.3**	**+0.6**
CACAO	**El Cacao, Vera**	**4.25**	**119**	*e*P	**Pn**	**22 04 30.9**	**+1.0**

*IDC **07** 22:25:34.1±1.1, 23.°18S×171.°76E, h0km, mb4.1/8, mbtmp4.1/9, ML4.3/1, MS3.2/6, Error ellipse: s-maj=44.8km s-min=23.8km az=161.0*
*NEIC **07** 22:25:38.1±1.1, 23.°2S±0.°1×171.°54E±0.°06, h10km±2km, mb4.2/8, Error ellipse: s-maj=23.4km s-min=8.2km az=346.0*
*NOU **07** 22:26:29.1, 21.°74S×167.°68E, h0km, MLv2.4/5, Loyalty Islands*
ISC 07 22:25:41.5±0.7, **23.°1S**±0.°1×**171.°56E**±0.°08, **h49**km, **n44**, σ**1s14**/45, **mb4.1**/11, **MS3.2**/5, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.64**	**296**	Pn	**Pn**	**22 26 34.5**	**-0.9**
MARNC				Sn	**Sn**	**22 27 17.1**	**-0.1**
PINNC	**Pines Island,**	**3.82**	**277**		**Pn**	**22 26 36.8**	**-1.1**
PINNC				Sn	**Sn**	**22 27 22.0**	**+0.4**
OUENC	**Ouen Island, N**	**4.41**	**278**	Pn	**Pn**	**22 26 45.1**	**-0.8**
OUENC				Sn	**Sn**	**22 27 35.4**	**-0.5**
OUENC	**Ouen Island, N**	**4.41**	**278**	P	**Pn**	**22 26 48.2**	**+2.3**
LIFNC	**LIFOU**	**4.63**	**299**	Pn	**Pn**	**22 26 48.4**	**-0.5**
LIFNC	**LIFOU**	**4.63**	**299**	P	**Pn**	**22 26 49.0**	**+0.1**
ONTNC	**Ouen Toro**	**4.78**	**279**		**Pn**	**22 26 48.4**	**-2.6**
ONTNC	**Ouen Toro**	**4.78**	**279**	P	**Pn**	**22 26 53.9**	**+2.9**
DZM	**Mont Dzumac**	**4.84**	**281**		**Pn**	**22 26 50.3**	**-1.5**
DZM	**Mont Dzumac**	**4.84**	**281**	P	**Pn**	**22 26 50.8**	**-1.1**
DZM	**Mont Dzumac** 12nm,0.3s,baz=128,slow=14,SNR=55	**4.84**	**281**	Pn	**Pn**	**22 26 50.2**	**-1.6**
DZM	4.8nm,0.3s,baz=112,slow=19,SNR=4.3			Sn	**Sn**	**22 27 43.3**	**-3.3**
DZM	comp=Z,192nm,20.1s,baz=204,slow=37 24nm,0.3s			LR	LR	22 28 39.6	
NOUC	**Port Laguerre**	**4.96**	**281**	P	**Pn**	**22 26 53.6**	**+0.2**
KOUNC	**Koumac, New Ca**	**7.22**	**289**	Pn	**Pn**	**22 27 25.1**	**+0.7**
DSZ	**Denniston Nort**	**18.59**	**179**	P	**P**	**22 29 53.8**	**-0.8**
DSZ	comp=Z,11nm,1.1s			IAmb	IAmb	22 29 59.5	
RPZ	**Rata Peaks** comp=Z,56nm,18.6s,baz=76,slow=35	**20.56**	**181**	LR	LR	22 37 37.0	
CTA	**Charters Tower** comp=Z,44nm,19.2s,baz=87,slow=35	**23.71**	**272**	LR	LR	22 39 33.2	
STKA	**Stephens Creek**	**27.91**	**245**	P	**P**	**22 31 27.7**	**+0.6**
STKA	**Stephens Creek** comp=Z,0.9nm,0.5s,baz=99,slow=18,SNR=1.4	**27.91**	**245**	P	**P**	**22 31 28.2**	**+1.2**
STKA	comp=Z,63nm,18.2s,baz=33,slow=36 comp=Z,0.9nm,0.5s			LR	LR	22 42 08.4	
ASAR	**Alice Springs**	**34.50**	**261**	P	**P**	**22 32 25.7**	**+0.5**
ASAR	**Alice Springs** comp=Z,1.6nm,0.6s,baz=91,slow=8.5,SNR=11	**34.50**	**261**	P	**P**	**22 32 26.4**	**+1.1**
ASAR	comp=Z,42nm,18.1s,baz=116,slow=38 comp=Z,1.6nm,0.6s			LR	LR	22 47 15.5	
WR0	**Warramunga Arr**	**34.52**	**268**	P	**P**	**22 32 25.5**	**+0.1**
WR0	comp=Z,5.8nm,1.3s			IAmb	IAmb	22 32 32.1	
WB0	**Warramunga Arr**	**34.70**	**268**	P	**P**	**22 32 27.1**	**+0.2**
WB0	comp=Z,2.1nm,0.9s			IAmb	IAmb	22 32 36.4	
WB2	**Warramunga Arr**	**34.70**	**268**	P	**P**	**22 32 27.1**	**+0.2**
WRA	**Warramunga Arr**	**34.71**	**268**	P	**P**	**22 32 27.0**	**0.0**
WRA	**Warramunga Arr** comp=Z,0.6nm,0.4s,baz=96,slow=8.5,SNR=18 comp=Z,0.6nm,0.4s	**34.71**	**268**	P	**P**	**22 32 27.0**	**0.0**
FORT	**Forrest**	**39.33**	**249**	P	**P**	**22 33 06.5**	**+0.4**
FORT	comp=Z,10nm,1.0s			IAmb	IAmb	22 33 23.0	
MBWA	**Marble Bar**	**47.84**	**262**	P	**P**	**22 34 16.2**	**+1.5**
VNDA	**Vanda** comp=Z,30nm,19.9s,baz=182,slow=33	**54.67**	**183**	LR	LR	22 55 30.3	
CMAR	**Chiang Mai Arr** comp=Z,1.1nm,0.3s,baz=145,slow=4.1,SNR=9.1 comp=Z,1.1nm,0.3s	**82.05**	**294**	P	**P**	**22 37 58.1**	**+1.1**
SNAA	**Sanae** comp=Z,1.4nm,1.0s,baz=243,slow=11,SNR=2.0 comp=Z,1.4nm,1.0s	**85.40**	**182**	P	**P**	**22 38 11.8**	**-1.6**
NVAR	**Mina Array Bea** comp=Z,1.2nm,0.7s,baz=224,slow=8.3,SNR=9.3 comp=Z,1.2nm,0.7s	**89.76**	**48**	P	**P**	**22 38 35.0**	**0.0**
SONM	**Songino Array** comp=Z,1.0nm,0.8s,baz=137,slow=3.5,SNR=4.8 comp=Z,1.0nm,0.8s	**91.59**	**322**	P	**P**	**22 38 42.8**	**-0.4**
ILAR	**Eielson Array** comp=Z,0.5nm,1.0s,baz=191,slow=9.2,SNR=2.5 comp=Z,0.5nm,1.0s	**93.28**	**17**	P	**P**	**22 38 50.8**	**+0.4**
EKA	**Eskdalemuir Ar** comp=Z,0.4nm,0.4s,baz=2.2,slow=2.9,SNR=1.7	**147.57**	**354**	PKPbc	**PKPbc**	**22 45 19.0**	**-1.0**
RONA	**Rosalia, Austr** comp=Z,1.3nm,0.4s	**148.49**	**327**	*i* PKP	**PKPbc**	**22 45 23.1**	**+0.3**
CONA	**Conrad Observa** comp=Z,0.7nm,0.4s	**148.55**	**328**	*e*PKP	**PKiKP**	**22 45 24.0**	**-0.4**
GERES	**GERESS Array B** comp=Z,0.7nm,0.5s,baz=46,slow=2.8,SNR=3.9	**148.90**	**331**	PKPbc	**PKPbc**	**22 45 23.4**	**-0.4**
KBA	**Koelnbreinsper** comp=Z,0.8nm,0.4s	**150.36**	**329**	*i* PKP	**PKPbc**	**22 45 27.5**	**-0.1**
LESA	**Schwarzleotal** comp=Z,2.4nm,0.5s	**150.42**	**330**	*i* PKP	**PKPbc**	**22 45 27.3**	**-0.3**
ABTA	**Abfaltersbach** comp=Z,1.3nm,0.5s	**150.99**	**330**	*i* PKP	**PKPbc**	**22 45 28.7**	**-0.3**
WTTA	**Wattenberg** comp=Z,0.9nm,0.4s	**151.00**	**331**	*e*PKP	**PKPbc**	**22 45 29.3**	**+0.2**
MOTA	**Moosalm** comp=Z,0.8nm,0.3s	**151.18**	**332**	*i* PKP	**PKPbc**	**22 45 29.7**	**+0.2**
SQTA	**Sankt Quirin** comp=Z,2.1nm,0.5s	**151.23**	**332**	*e*PKP	**PKPbc**	**22 45 29.7**	**+0.1**
FETA	**Feichten** comp=Z,0.6nm,0.4s	**151.59**	**332**	*i* PKP	**PKiKP**	**22 45 30.9**	**0.0**

*AZER **07** 22:28:13.4±0.6, 34.°83N×46.°25E, h10km, Error ellipse: s-maj=7.3km s-min=7.2km az=348.0*
*IDC **07** 22:28:14.7±1.4, 34.°82N×45.°78E, h0km, mb3.6/8, mbtmp3.6/16, ML3.5/6, MS3.5/2, Error ellipse: s-maj=25.3km s-min=13.2km az=150.0*
*TEH **07** 22:28:15.0, 34.°67N×46.°18E, h8km±38km, ML3.9*
*OMAN **07** 22:28:27.1±1.2, 33.°26N×46.°20E, h10km, mb4.2/19, ms2.8/2, Error ellipse: s-maj=11.7km s-min=7.1km az=89.0*
ISC 07 22:28:14.6±0.5, **34.°58N**±0.°03×**46.°22E**±0.°03, **h10**km, **n123**, σ**2s41**/153, **mb3.7**/14, **7C-7D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.18**	**48**	Pg	**Pg**	**22 28 19.3**	**+0.6**
IDHR				Sg	**Sg**	**22 28 21.9**	**+0.4**
IGHG	**Ghaleghazi**	**0.38**	**130**	Pg	**Pg**	**22 28 24.3**	**+2.1**
IGHG				Sg	**Sb**	**22 28 32.6**	**+3.0**
KGS1	**Ghasr-e-Shirin**	**0.53**	**262**	Pg	**Pb**	**22 28 25.8**	**-0.1**
ILIN	**Lien**	**0.70**	**61**	Pg	**Pg**	**22 28 28.0**	**-0.2**
ILIN				Sg	**Sb**	**22 28 38.6**	**-0.3**
KCHF	**Cheshme Sefid,**	**0.74**	**114**	Pg	**Pg**	**22 28 30.0**	**+1.0**
ILBA	**Ilam Banvizeh**	**0.95**	**181**	Pg	**Pg**	**22 28 34.5**	**+1.6**
ILBA				Sg	**Sn**	**22 28 49.6**	**+1.8**
IKOM	**Komasi**	**1.14**	**110**	Pg	**Pn**	**22 28 37.7**	**+0.9**
IBZA	**Bozab**	**1.36**	**94**	Pg	**Pb**	**22 28 41.2**	**+0.9**
SDS1	**Sardasht. Az.**	**1.68**	**339**	Pg	**Pb**	**22 28 44.9**	**-0.8**
IKFM	**Kafar-mosalman**	**1.71**	**127**	Pg	**Pg**	**22 28 48.7**	**+1.2**
MAHB	**Mahabad**	**2.23**	**349**	Pn	**Pb**	**22 28 53.7**	**-1.2**
HAGD	**Aghdareh**	**2.42**	**83**	Pn	**Pb**	**22 28 57.8**	**-0.6**
IAZR	**Azarshahr**	**3.10**	**356**	Pn	**Pn**	**22 29 05.6**	**+1.8**
IRAZ	**Razeghan**	**3.16**	**74**	Pn	**Pn**	**22 29 07.8**	**+3.2**
ISRB	**Sarab**	**3.45**	**19**	Pn	**Pn**	**22 29 11.2**	**+2.7**
ITBZ	**Tabriz**	**3.65**	**359**	Pn	**Pn**	**22 29 12.6**	**+1.3**
ISHB	**Shabestar**	**3.73**	**353**	Pn	**Pn**	**22 29 14.4**	**+2.0**
IHRS	**Heris**	**3.79**	**10**	Pn	**Pn**	**22 29 15.4**	**+2.1**
IMRD	**Marand**	**4.15**	**354**	Pn	**Pn**	**22 29 20.9**	**+2.8**
IPIR	**Pirpir**	**4.33**	**115**	Pn	**Pn**	**22 29 23.8**	**+3.0**
ORD	**Ordubad** SNR=19	**4.35**	**358**	P	**Pn**	**22 29 21.0**	**+0.2**
ORD				S	**Sn**	**22 30 12.2**	**+0.6**
QAMS	**Qamsar**	**4.37**	**100**	Pn	**Pn**	**22 29 24.9**	**+3.6**
LRK	**Lerik**	**4.40**	**22**	P	**Pn**	**22 29 21.7**	**+0.1**
LRK				S	**Sn**	**22 30 13.5**	**+0.4**
GRMI	**Germi**	**4.43**	**17**	Pn	**Pn**	**22 29 24.4**	**+2.4**
ASTR	**Astara**	**4.48**	**27**	P	**Pn**	**22 29 22.8**	**+0.3**
ASTR				S	**Sn**	**22 30 15.5**	**+0.8**
ZNGN	**Zangian**	**4.59**	**121**	Pn	**Pn**	**22 29 28.1**	**+3.7**
LKRN	**Lenkeran, Azer**	**4.61**	**26**	P	**Pn**	**22 29 24.6**	**+0.3**
LKRN				S	**Sn**	**22 30 18.8**	**+0.9**
NAX	**Nakhchivan** SNR=11	**4.62**	**353**	P	**Pn**	**22 29 24.9**	**+0.3**
NAX				S	**Sn**	**22 30 19.4**	**+1.0**
YRD	**Yardimli** SNR=6.3	**4.62**	**20**	P	**Pn**	**22 29 24.8**	**+0.1**
YRD				S	**Sn**	**22 30 19.0**	**+0.4**
IKLH	**Kolahrood**	**4.63**	**104**	Pn	**Pn**	**22 29 29.0**	**+4.2**
SBZ	**Shahbuz**	**4.84**	**354**	P	**Pn**	**22 29 27.8**	**+0.2**
SBZ				S	**Sn**	**22 30 24.5**	**+0.7**
MAKU	**Maku**	**4.92**	**346**	Pn	**Pn**	**22 29 31.5**	**+2.7**
QRD	**Qoradiz**	**4.95**	**10**	P	**Pn**	**22 29 29.4**	**+0.3**
QRD				S	**Sn**	**22 30 27.2**	**+0.8**
GLBA	**Clilabad** SNR=6.0	**4.97**	**20**	P	**Pn**	**22 29 29.6**	**+0.3**
GLBA				S	**Sn**	**22 30 27.7**	**+0.9**
BLQ	**Beylaqan**	**5.25**	**11**	P	**Pn**	**22 29 33.4**	**+0.3**
BLQ				S	**Sn**	**22 30 34.6**	**+1.0**
HYR	**Heyderabad**	**5.25**	**348**	P	**Pn**	**22 29 33.4**	**+0.3**
HYR				S	**Sn**	**22 30 34.7**	**+0.9**
IZEF	**Zefreh**	**5.36**	**107**	Pn	**Pn**	**22 29 38.0**	**+3.1**
AGDM	**Agdam**	**5.57**	**7**	P	**Pn**	**22 29 37.8**	**+0.3**
AGDM				S	**Sn**	**22 30 42.4**	**+0.8**
GNI	**Garni** 0.4nm,0.3s,baz=213,slow=21,SNR=3.3	**5.69**	**348**

SMDO	**Samad**	**15.45**	**135**	P		**Pn**	**22 31 54.5**	**+1.7**
SMDO				S		**Sn**	**22 34 35.4**	**-8.7**
WSAR	**Wadi Sarin**	**15.66**	**133**	P		**Pn**	**22 31 55.2**	**-0.2**
WSAR				S		**Sn**	**22 34 40.8**	**-8.2**
JMDO	**Jabal Madar**	**16.02**	**136**	P		**Pn**	**22 31 59.7**	**-0.3**
JMDO				S		**Sn**	**22 34 51.9**	**-5.8**
WBK	**Wadi Bani Khal**	**16.34**	**134**	P		**Pn**	**22 32 04.6**	**+0.5**
WBK				S		Sn	22 34 55.8	-10
JLN	**Jalan Bani Buh**	**16.95**	**133**	P		**Pn**	**22 32 13.2**	**+1.3**
JLN				S		Sn	22 35 09.2	-11
MHTO	**MHTO**	**17.05**	**140**	P		**Pn**	**22 32 12.8**	**-0.4**
	SNR=8.0							
MHTO				S		Sn	22 35 12.7	-10
SLCR	**Slobozia Conac**	**17.85**	**314**	⇓P		**P**	**22 32 26.2**	**+2.5**
ELND	**Elena**	**17.89**	**304**	⇑P		**P**	**22 32 26.5**	**+2.3**
WHFO	**Wadi Hawf**	**17.91**	**156**	P		**Pn**	**22 32 22.8**	**-1.1**
	SNR=16							
WHFO				S		Sn	22 35 30.7	-13
AKTO	**Aktyubinsk**	**18.04**	**25**	P		**P**	**22 32 25.9**	**+0.2**
	0.2nm,0.3s,baz=233,slow=11,SNR=3.9							
	1.5nm,0.8s							
ABTO	**Aybut**	**18.28**	**158**	P		**Pn**	**22 32 27.8**	**-0.7**
	SNR=8.5							
ABTO				S		Sn	22 35 38.4	-14
RBK	**Rabkut**	**18.44**	**155**	P		**P**	**22 32 30.9**	**+0.6**
	SNR=6.4							
DMTO	**DMTO**	**18.51**	**153**	P		**P**	**22 32 31.1**	**0.0**
	SNR=11							
DMTO				S		Sn	22 35 43.0	-15
PLOR	**Plostina**	**18.66**	**313**	⇓P		Pn	22 32 40.7	+7.8
MLR	**Muntele Rosu**	**18.92**	**311**	⇑P		**Pn**	**22 32 42.1**	**+5.9**
MLR	**Muntele Rosu**	**18.92**	**311**	P		**P**	**22 32 30.9**	**-4.6**
	1.0nm,0.4s,baz=217,slow=4.6,SNR=3.4							
VOIR		**19.45**	**310**	⇓P		**Pn**	**22 32 43.9**	**+1.4**
DOPR	**Dopca**	**19.48**	**312**	⇓P		**Pn**	**22 32 43.7**	**+0.8**
ARR	**Arges**	**19.68**	**310**	⇓P		**Pn**	**22 32 46.4**	**+1.1**
LOT	**Lotru**	**20.27**	**309**	⇑P		Pn	22 32 51.2	-1.1
AKASG	**Malin Array Be**	**20.32**	**328**	P		**P**	**22 32 48.9**	**-1.7**
	0.8nm,0.3s,baz=137,slow=9.3,SNR=11							
	0.9nm,0.5s							
BLKB	**Belogradchik**	**20.33**	**303**	⇑P		P	22 32 38.1	-13
BURAR	**Bucovina Array**	**20.42**	**316**	⇓P		Pn	22 32 54.7	+0.7
ARCR	**ARCALIA**	**20.65**	**314**	⇑P		Pn	22 32 56.8	+0.2
GZR	**Gura Zlata**	**20.89**	**308**	⇑P		Pn	22 32 58.2	-1.3
MDVR	**Moldovita**	**21.36**	**306**	⇓P		**P**	**22 33 03.0**	**+1.0**
BZS	**Buzias**	**21.73**	**308**	⇑P		**P**	**22 33 07.3**	**+1.4**
BVAR	**Borovoye Array**	**25.18**	**36**	P		**P**	**22 33 41.5**	**+1.5**
	0.5nm,0.5s,baz=238,slow=8.2,SNR=3.6							
	0.5nm,0.5s							
GERES	**GERESS Array B**	**27.90**	**311**	P		**P**	**22 34 01.7**	**-3.1**
	0.2nm,0.3s,baz=67,slow=7.6,SNR=1.3							
	0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**28.39**	**46**	P		**P**	**22 34 10.9**	**+1.9**
	0.2nm,0.6s,baz=254,slow=9.6,SNR=1.9							
	0.2nm,0.6s							
WTTA	**Wattenberg**	**28.80**	**307**	*e*P		**P**	**22 34 14.3**	**+1.4**
	1.5nm,0.5s							
WATA	**Walderalm**	**28.85**	**307**	*i* P		**P**	**22 34 14.5**	**+1.2**
	1.1nm,0.4s							
SQTA	**Sankt Quirin**	**29.07**	**306**	*e*P		**P**	**22 34 15.7**	**+0.5**
	2.4nm,0.4s							
MOTA	**Moosalm**	**29.17**	**307**	*e*P		**P**	**22 34 15.7**	**-0.4**
	1.0nm,0.6s							
FETA	**Feichten**	**29.35**	**306**	*i* pP		**P**	**22 34 19.3**	**+1.6**
	3.0nm,1.0s							
RETA	**Reutte**	**29.43**	**307**	*e*P		**P**	**22 34 18.9**	**+0.6**
	11nm,1.8s							
MKAR	**Makanchi Array**	**29.69**	**55**	P		**P**	**22 34 22.4**	**+1.7**
	0.5nm,0.6s,baz=182,slow=15,SNR=2.4							
	0.5nm,0.6s							
EKA	**Eskdalemuir Ar**	**39.59**	**317**	P		**P**	**22 35 43.9**	**-2.0**
	1.9nm,0.6s,baz=105,slow=8.6,SNR=1.6							
	1.9nm,0.6s							
ESDC	**Sonseca Array**	**39.91**	**292**	P		**P**	**22 35 47.4**	**-1.5**
	1.0nm,0.9s,baz=60,slow=7.5,SNR=4.4							
	1.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**45.51**	**253**	P		**P**	**22 36 34.7**	**+0.2**
	0.4nm,0.8s,baz=38,slow=7.3,SNR=2.4							
	0.4nm,0.8s							
SFJD	**Kangerlussuaq**	**61.26**	**334**	LR		LR	23 04 06.9	
	comp=Z,75nm,18.2s,baz=159,slow=35							
YKA	**Yellowknife Ar**	**82.04**	**351**	P		**P**	**22 40 36.8**	**+2.2**
	0.4nm,0.8s,baz=14,slow=5.4,SNR=3.1							
	0.4nm,0.8s							

IDC ***07*** *22:28:27.4±8.7,2.2°22N×123.81E,h0km,mb3.8/3, mbtmp3.9/3,MS3.0/1,Error ellipse: s-maj=303.9km s-min=141.0km az=66.0*

DJA ***07*** *22:28:57.2±0.3,0.3°S×3.3°×12.4E±.7°,h71km±13km,M4.2/18, mb4.2/6,mB4.8/2,MLv4.2/18,Mw(mB)4.0/2*

ISC 07 22:28:56.6±1.3,0.03S±0.10×123.77E±0.05,h10km,n18, σ0.84/17,mb3.5/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.64**	**20**	P	**Pn**	**22 29 13.5**	**0.0**
LUWI	**Luwuk**	**1.42**	**225**	P	**Pn**	**22 29 21.0**	**-0.8**
MRSI	**Marisa**	**1.89**	**285**	P	**Pn**	**22 29 26.1**	**-1.7**
SANI	**Sanana**	**3.00**	**132**	P	**Pn**	**22 29 40.2**	**-2.1**
TNTI	**Ternate**	**3.69**	**78**	P	**Pn**	**22 29 51.8**	**+0.2**
LBMI	**Labuha**	**3.78**	**99**	P	**Pn**	**22 29 53.1**	**+0.2**
MPSI	**Mapaga**	**3.88**	**275**	P	**Pn**	**22 29 54.7**	**+0.5**
SGSI	**Sangihe**	**4.09**	**26**	P	**Pn**	**22 29 57.7**	**+0.7**
NLAI	**Namlea**	**4.61**	**134**	P	**Pn**	**22 30 04.3**	**+0.2**
TTSI	**Tana Toraja**	**4.96**	**233**	P	**Pn**	**22 30 09.0**	**+0.3**
BBSI	**Bau Bau**	**5.55**	**192**	P	**Pn**	**22 30 17.0**	**+0.1**
	41nm,1.1s,0.1nm						
SPSI	**Sidrap Palu**	**5.59**	**226**	P	**Pn**	**22 30 17.5**	**+0.1**
	70nm,0.5s,1μm0.4nm						
BKSI	**Bulukumba**	**6.40**	**215**	P	**Pn**	**22 30 28.8**	**+0.5**
	14nm,0.7s,0.1nm						
EDFI	**Ende, Flores**	**8.91**	**193**	P	**Pn**	**22 31 02.5**	**-0.1**
WRA	**Warramunga Arr**	**22.34**	**153**	P	**P**	**22 33 45.9**	**-0.6**
	1.4nm,0.6s,baz=336,slow=9.7,SNR=10						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**25.48**	**158**	P	**P**	**22 34 15.5**	**-0.1**
	0.3nm,0.4s,baz=333,slow=6.6,SNR=3.1						
	0.3nm,0.4s						
STKA	**Stephens Creek**	**35.89**	**154**	P	**P**	**22 35 47.8**	**+0.7**
	1.9nm,0.5s,baz=339,slow=6.6,SNR=6.9						
	1.9nm,0.5s						
KLR	**Kul'dur**	**49.55**	**7**	LR	LR	23 00 24.4	
	comp=Z,16nm,18.0s,baz=296,slow=40						

NEIC ***07*** *22:32:12.4±1.6,64°.85N±0°.05×25°.3E±0°.2,h10km±2km, mb3.5/3,Error ellipse: s-maj=16.0km s-min=3.0km az=298.0*

DNK ***07*** *22:32:12.6±2.2,64°.71N×25°.27E,h0km,ML2.9(UPP), Suspected explosion*

IDC ***07*** *22:32:12.7±0.8,64°.80N×25°.59E,h0km,mbtmp3.6/6, ML2.8/5,Error ellipse: s-maj=11.9km s-min=6.2km az=93.0*

UPP ***07*** *22:32:13.2±0.7,64°.72N×25°.19E,h0km,ML2.9*

IEPN ***07*** *22:32:13.0,64°.80N×25°.33E,h10km*

NAO ***07*** *22:32:16.4±0.6,64°.82N×25°.38E,h32km±8km,ML3.4*

HEL ***07*** *22:32:16.5±0.1,64°.78N×25°.36E,h38km,ML3.3, ML2.9(UPP),Confirmed Earthquake*

BER ***07*** *22:32:17.5±3.8,64°.80N×25°.30E,h23km±7km,ML2.8, ML3.3(HEL),Confirmed Earthquake*

ISC 07 22:32:10.8±0.6,64.78N±0.02×25.40E±0.02,h0km,n161, σ2.37/255,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBF4	**Vikkela, Lumij**	**0.13**	**284**	*e*P	Pg	22 32 22.9	+10
OBF4				*e*S	Sg	22 32 27.6	+13
OBF4				MSG		22 32 28.1	
	comp=Z,851nm,0.1s						
OBF4	**Vikkela, Lumij**	**0.13**	**284**	*e*P	Pg	22 32 22.9	+10
OBF4				*e*S	Sg	22 32 27.6	+13
OBF4				MSG		22 32 28.1	
	comp=Z,851nm,0.1s						
OBF3	**Siikajoki**	**0.30**	**274**	*e*P	**Pn**	**22 32 24.2**	**+1.8**
OBF3				*e*S	**Sb**	**22 32 30.0**	**+5.4**
OBF3				MSG		22 32 30.5	
	comp=Z,1μm,0.2s						
OBF3	**Siikajoki**	**0.30**	**274**	*e*P	**Pn**	**22 32 24.2**	**+1.8**
OBF3				*e*S	**Sb**	**22 32 30.0**	**+5.4**
OBF3				MSG		22 32 30.5	
	comp=Z,1μm,0.2s						
OUL	**Oulu**	**0.37**	**34**	*e*P	**Pn**	**22 32 25.2**	**+1.9**
OUL				*e*S	**Sb**	**22 32 31.4**	**+4.9**
OUL				MSG		22 32 32.0	
	comp=Z,3μm,0.2s						
OUL	**Oulu**	**0.37**	**34**	Pg	**Pn**	**22 32 24.7**	**+1.3**
OUL				Lg		22 32 31.3	
OBF5	**Vihanti**	**0.39**	**187**	*e*P	**Pn**	**22 32 25.0**	**+1.4**
OBF5				*e*S	**Sb**	**22 32 31.4**	**+4.5**
OBF5				MSG		22 32 31.9	
	comp=Z,651nm,0.2s						
OBF5	**Vihanti**	**0.39**	**187**	*e*P	**Pn**	**22 32 25.0**	**+1.4**
OBF5				*e*S	**Sb**	**22 32 31.4**	**+4.5**
OBF5				MSG		22 32 31.9	
	comp=Z,651nm,0.2s						
OBF2	**Ylip, Raahe**	**0.46**	**241**	*e*P	**Pn**	**22 32 26.1**	**+1.6**
OBF2				*e*S	**Sb**	**22 32 33.3**	**+4.4**
OBF2				MSG		22 32 33.8	
	comp=Z,2μm,0.2s						
OBF2	**Ylip, Raahe**	**0.46**	**241**	*e*P	**Pn**	**22 32 26.1**	**+1.6**
OBF2				*e*S	**Sb**	**22 32 33.3**	**+4.4**
OBF2				MSG		22 32 33.8	
	comp=Z,2μm,0.2s						
OUF	**Merijarvi**	**0.51**	**215**	*e*P	**Pn**	**22 32 26.9**	**+1.6**
OUF				*e*S	**Sb**	**22 32 34.6**	**+4.1**
OUF				MSG		22 32 34.8	
	comp=Z,1μm,0.1s						
OUF	**Merijarvi**	**0.51**	**215**	*e*P	**Pn**	**22 32 26.9**	**+1.6**
OUF				*e*S	**Sb**	**22 32 34.6**	**+4.1**
OUF				MSG		22 32 34.8	
	comp=Z,1μm,0.1s						
OBF0	**Syolatti, Pyha**	**0.58**	**241**	*e*P	**Pn**	**22 32 27.9**	**+1.6**
OBF0				*e*S	**Sn**	**22 32 36.1**	**-0.2**
OBF0				MSG		22 32 36.8	
	comp=Z,2μm,0.2s						
OBF0	**Syolatti, Pyha**	**0.58**	**241**	*e*P	**Pn**	**22 32 27.9**	**+1.6**
OBF0				*e*S	**Sn**	**22 32 36.1**	**-0.2**
OBF0				MSG		22 32 36.8	
	comp=Z,2μm,0.2s						
OBF1	**Elvisluoto, P**	**0.70**	**238**	*e*P	**Pn**	**22 32 29.6**	**+1.7**
OBF1				*e*S	**Sn**	**22 32 39.2**	**-0.1**
OBF1				MSG		22 32 40.2	
	comp=Z,965nm,0.2s						
OBF1	**Elvisluoto, P**	**0.70**	**238**	*e*P	**Pn**	**22 32 29.6**	**+1.7**
OBF1				*e*S	**Sn**	**22 32 39.2**	**-0.1**
OBF1				MSG		22 32 40.2	
	comp=Z,965nm,0.2s						
OBF6	**Kekajrvi, Yli**	**0.74**	**210**	*e*P	**Pn**	**22 32 30.2**	**+1.8**
OBF6				*e*S	**Sn**	**22 32 40.5**	**+0.1**
OBF6				MSG		22 32 41.0	
	comp=Z,800nm,0.2s						
OBF6	**Kekajrvi, Yli**	**0.74**	**210**	*e*P	**Pn**	**22 32 30.2**	**+1.8**
OBF6				*e*S	**Sn**	**22 32 40.5**	**+0.1**
OBF6				MSG		22 32 41.0	
	comp=Z,800nm,0.2s						
OBF7	**Kamusenper, K**	**0.84**	**224**	*e*P	**Pn**	**22 32 31.9**	**+2.1**
OBF7				*e*S	**Sn**	**22 32 43.2**	**+0.3**
OBF7				MSG		22 32 44.1	
	comp=Z,613nm,0.2s						
OBF7	**Kamusenper, K**	**0.84**	**224**	*e*P	**Pn**	**22 32 31.9**	**+2.1**
OBF7				*e*S	**Sn**	**22 32 43.2**	**+0.3**
OBF7				MSG		22 32 44.1	
	comp=Z,613nm,0.2s						
TOF	**Tornio**	**1.38**	**341**	*e*P	**Pb**	**22 32 39.6**	**+2.2**
TOF				*e*PB	**Pn**	**22 32 40.3**	**+3.1**
TOF				*e*S	**Sb**	**22 32 56.9**	**+1.4**
TOF				MSG		22 32 58.2	
	comp=Z,213nm,0.4s						
TOF	**Tornio**	**1.38**	**341**	*e*P	**Pb**	**22 32 39.6**	**+2.2**
TOF				*e*PB	**Pn**	**22 32 40.3**	**+3.1**
TOF				*e*S	**Sb**	**22 32 56.9**	**+1.4**
TOF				MSG		22 32 58.2	
	comp=Z,213nm,0.4s						
KALU	**Kalix**	**1.38**	**322**	P	**Pb**	**22 32 39.4**	**+2.0**
KALU				S	**Sn**	**22 32 58.0**	**+1.8**
KALU	**Kalix**	**1.38**	**322**	*e*P	**Pb**	**22 32 39.4**	**+2.0**
KALU				*e*PB	**Pn**	**22 32 40.4**	**+3.1**
KALU				*e*S	**Sn**	**22 32 57.5**	**+1.3**
KALU	**Kalix**	**1.38**	**322**	P	**Pb**	**22 32 39.4**	**+2.0**
KALU				S	**Sn**	**22 32 58.0**	**+1.8**
KALU	**Kalix**	**1.38**	**322**	*e*P	**Pb**	**22 32 39.4**	**+2.0**
KALU				*e*PB	**Pn**	**22 32 40.4**	**+3.1**
KALU				*e*S	**Sn**	**22 32 57.5**	**+1.3**
BURU	**Burvik**	**1.74**	**265**	P	**Pn**	**22 32 43.7**	**+1.4**
BURU				S	**Sn**	**22 33 05.8**	**+0.7**
BURU	**Burvik**	**1.74**	**265**	*e*P	**Pn**	**22 32 43.6**	**+1.4**
BURU				*e*S	**Sg**	**22 33 08.1**	**+1.4**
BURU	**Burvik**	**1.74**	**265**	P	**Pn**	**22 32 43.7**	**+1.4**
BURU				S	**Sn**	**22 33 05.8**	**+0.7**
BURU	**Burvik**	**1.74**	**265**	*e*P	**Pn**	**22 32 43.6**	**+1.4**
BURU				*e*SB	**Sg**	**22 33 08.1**	**+1.4**
NIF	**Nilsia**	**1.75**	**142**	*e*P	**Pb**	**22 32 45.6**	**+1.8**
NIF				*e*S	**Sb**	**22 33 08.7**	**+2.5**
NIF				MSG		22 33 10.1	
	comp=Z,198nm,0.1s						
NIF	**Nilsia**	**1.75**	**142**	*e*P	**Pb**	**22 32 45.6**	**+1.8**
NIF				*e*SB	**Sb**	**22 33 08.5**	**+2.3**
NIF				MSG		22 33 10.1	
	comp=Z,198nm,0.1s						
SJUU	**Sjulsmark**	**1.76**	**296**	P	**Pn**	**22 32 44.2**	**+1.7**
SJUU				S	**Sg**	**22 33 08.8**	**+1.5**
SJUU	**Sjulsmark**	**1.76**	**296**	P	**Pn**	**22 32 44.2**	**+1.7**
SJUU				S	**Sg**	**22 33 08.8**	**+1.5**
SJUU	**Sjulsmark**	**1.76**	**296**	*e*P	**Pn**	**22 32 44.2**	**+1.7**
SJUU				*e*SB	**Sg**	**22 33 08.8**	**+1.5**
RNF	**Rovaniemi**	**1.85**	**8**	MSG		22 33 13.0	
	comp=Z,115nm,0.2s						
MSF	**Maaselka**	**1.90**	**52**	*e*P	**Pn**	**22 32 46.9**	**+2.5**
MSF				*e*S	**Sn**	**22 33 09.4**	**+0.3**
MSF				MSG		22 33 12.8	
	comp=Z,364nm,0.2s						
RMF	**Romuvaara**	**2.04**	**104**	*e*P	**Pn**	**22 32 48.6**	**+2.2**
RMF				*e*SB	**Sb**	**22 33 17.1**	**+2.6**
RMF				MSG		22 33 19.4	
	comp=Z,72nm,0.2s						
ODEU	**Stanfors**	**2.06**	**262**	P	**Pn**	**22 32 47.8**	**+1.3**
ODEU				S	**Sn**	**22 33 12.0**	**-0.8**
ODEU	**Stanfors**	**2.06**	**262**	P	**Pn**	**22 32 47.8**	**+1.3**
ODEU				S	**Sn**	**22 33 12.0**	**-0.8**
ODEU	**Stanfors**	**2.06**	**262**	*e*P	**Pn**	**22 32 47.8**	**+1.3**
ODEU				*e*S	**Sn**	**22 33 12.0**	**-0.8**
VAF	**Ylistaro**	**2.12**	**216**	*e*P	**Pn**	**22 32 49.9**	**+2.5**
VAF				*e*SB	**Sb**	**22 33 18.7**	**+1.8**
ERTU	**Ertsjaerv**	**2.22**	**325**	P	**Pn**	**22 32 51.4**	**+2.6**
ERTU	**Ertsjaerv**	**2.22**	**325**	P	**Pn**	**22 32 51.4**	**+2.6**
ERTU	**Ertsjaerv**	**2.22**	**325**	*e*P	**Pn**	**22 32 51.4**	**+2.6**
ERTU				*e*SB	**Sg**	**22 33 22.7**	**+0.7**
UMAU	**Umeaa**	**2.25**	**248**	P	**Pn**	**22 32 50.4**	**+1.3**
UMAU				S	**Sn**	**22 33 16.4**	**-1.1**
UMAU	**Umeaa**	**2.25**	**248**	P	**Pn**	**22 32 50.4**	**+1.3**
UMAU				S	**Sn**	**22 33 16.4**	**-1.1**
UMAU	**Umeaa**	**2.25**	**248**	*e*P	**Pn**	**22 32 50.4**	**+1.3**
UMAU				*e*SB	**Sb**	**22 33 22.1**	**+1.6**
KU6	**Riekki**	**2.25**	**54**	*e*P	**Pn**	**22 32 51.9**	**+2.6**
KU6				*e*S	**Sn**	**22 33 18.2**	**+0.4**
OLKF	**Oulanka, Finla**	**2.27**	**45**	*e*P	**Pn**	**22 32 52.1**	**+2.6**
OLKF				*e*S	**Sn**	**22 33 19.3**	**+1.2**
HARU	**Harads**	**2.31**	**309**	P	**Pn**	**22 32 51.8**	**+1.8**
HARU				S	**Sn**	**22 33 19.1**	**+0.1**
HARU	**Harads**	**2.31**	**309**	P	**Pn**	**22 32 51.8**	**+1.8**
HARU				S	**Sn**	**22 33 19.1**	**+0.1**
HARU	**Harads**	**2.31**	**309**	*e*P	**Pn**	**22 32 51.8**	**+1.8**
HARU				*e*S	**Sn**	**22 33 19.1**	**+0.1**
LILU	**Lilltraesk**	**2.41**	**285**	P	**Pn**	**22 32 52.8**	**+1.4**
LILU				S	**Sn**	**22 33 21.5**	**0.0**
LILU	**Lilltraesk**	**2.41**	**285**	P	**Pn**	**22 32 52.8**	**+1.4**
LILU				S	**Sn**	**22 33 21.5**	**0.0**
LILU	**Lilltraesk**	**2.41**	**285**	*e*P	**Pn**	**22 32 52.8**	**+1.4**
LILU				*e*S	**Sn**	**22 33 21.5**	**0.0**
PAJU	**Pajala**	**2.44**	**338**	P	**Pn**	**22 32 54.4**	**+2.6**
PAJU				S	**Sn**	**22 33 23.1**	**+0.7**
PAJU	**Pajala**	**2.44**	**338**	P	**Pn**	**22 32 54.4**	**+2.6**
PAJU				S	**Sn**	**22 33 23.1**	**+0.7**
PAJU	**Pajala**	**2.44**	**338**	*e*P	**Pn**	**22 32 54.4**	**+2.6**
PAJU				*e*S	**Sn**	**22 33 23.0**	**+0.7**
SVAU	**Svanoeiden**	**2.53**	**266**	P	**Pn**	**22 32 54.1**	**+1.1**
SVAU				S	**Sn**	**22 33 23.5**	**-1.0**
SVAU	**Svanoeiden**	**2.53**	**266**	P	**Pn**	**22 32 54.1**	**+1.1**
SVAU				S	**Sn**	**22 33 23.5**	**-1.0**
SVAU	**Svanoeiden**	**2.53**	**266**	*e*P	**Pn**	**22 32 54.1**	**+1.1**
SVAU				*e*S	**Sn**	**22 33 23.5**	**-1.0**
KLF	**Kolari**	**2.53**	**347**	*e*P	**Pn**	**22 32 55.4**	**+2.3**
KLF				*e*S	**Sn**	**22 33 24.3**	**-0.3**
KEF	**Keuruu**	**2.64**	**185**	*e*P	**Pn**	**22 32 57.3**	**+2.8**
SGF	**Sodankyl**	**2.71**	**9**	*e*P	**Pn**	**22 32 57.3**	**+1.8**
SGF				*e*SB	**Sb**	**22 33 36.0**	**+2.2**
KAF	**Kangasniemi**	**2.71**	**171**	*e*P	**Pn**	**22 32 58.6**	**+3.1**
KAF				MSG		22 33 42.8	
	comp=Z,138nm,0.2s						
HUSU	**Husum**	**3.08**	**245**	P	**Pn**	**22 33 02.6**	**+2.1**
HUSU				S	**Sn**	**22 33 37.4**	**-0.7**
HUSU	**Husum**	**3.08**	**245**	P	**Pn**	**22 33 02.6**	**+2.1**
HUSU				S	**Sn**	**22 33 37.4**	**-0.7**
BREU	**Bredtraesk**	**3.10**	**256**	P	**Pn**	**22 33 02.0**	**+1.1**
BREU	**Bredtraesk**	**3.10**	**256**	P	**Pn**	**22 33 02.0**	**+1.1**
BREU	**Bredtraesk**	**3.10**	**256**	*e*P	**Pn**	**22 33 02.0**	**+1.1**
JOF	**Joensuu**	**3.22**	**123**	*e*P	**Pn**	**22 33 04.5**	**+2.0**
JOF				MSG		22 33 57.1	
	comp=Z,111nm,0.2s						
KPF	**Kankaanpaa**	**3.32**	**208**	*e*P	**Pn**	**22 33 06.5**	**+2.7**
FIA1	**FINESS Array S**	**3.37**	**174**	*e*P	**Pn**	**22 33 07.4**	**+2.9**
FIA1				MSG		22 34 02.4	
	comp=Z,139nm,0.3s						
FIA0	**FINESS Array S**	**3.37**	**174**	Pn	**Pn**	**22 33 07.7**	**+3.1**
	baz=352,slow=14						
FIA0				Pg	**Pg**	**22 33 16.2**	**+1.0**
	baz=356,slow=18						
FIA0				Sn	**Sn**	**22 33 46.1**	**+1.0**
	baz=347,slow=28						
FIA0				Sg	**Sg**	**22 33 59.6**	**+0.8**
	baz=357,slow=37						
FIA0	**FINESS Array S**	**3.37**	**174**	Pn	**Pn**	**22 33 07.7**	**+3.1**
	baz=352,slow=14						
FIA0				Pg	**Pg**	**22 33 16.2**	**+1.0**
	baz=356,slow=18						
FIA0				Sn	**Sn**	**22 33 46.1**	**+1.0**
	baz=347,slow=28						
FIA0				Lg	Lg	22 33 59.6	
	baz=357,slow=37						
FINES	**FINESS Array B**	**3.37**	**174**	Pn	**Pn**	**22 33 07.1**	**+2.6**
FINES	**FINESS Array B**	**3.37**	**174**	Pn	**Pn**	**22 33 07.3**	**+2.8**
	comp=Z,1.0nm,0.3s,baz=357,slow=14,SNR=44						
FINES				Pg	**Pb**	**22 33 11.7**	**+0.4**
	comp=Z,2.1nm,0.3s,baz=0.9,slow=15,SNR=7.8						
FINES				Sn	**Sn**	**22 33 45.0**	**-0.1**
	comp=Z,3.6nm,0.3s,baz=359,slow=20,SNR=4.1						
FINES				Lg	Lg	22 33 57.7	
	comp=Z,43nm,0.3s,baz=359,slow=31,SNR=30						
	comp=Z,5.9nm,0.2s						
VRF	**Varrio**	**3.43**	**28**	*e*P	**Pn**	**22 33 07.0**	**+1.6**
VRF				*e*S	**Sn**	**22 33 43.9**	**-2.8**
VRF				MSG		22 34 03.0	
	comp=Z,97nm,0.2s						
LANU	**Lannavaara**	**3.55**	**339**	P	**Pn**	**22 33 09.9**	**+2.8**
LANU	**Lannavaara**	**3.55**	**339**	P	**Pn**	**22 33 09.9**	**+2.8**
LANU	**Lannavaara**	**3.55**	**339**	*e*P	**Pn**	**22 33 09.9**	**+2.8**
LANU				*e*S	**Sn**	**22 33 48.9**	**-0.9**
HEF	**Hetta**	**3.71**	**350**	*e*P	**Pn**	**22 33 11.3**	**+2.0**
HEF				*e*S	**Sn**	**22 33 51.5**	**-2.0**
HEF	**Hetta**	**3.71**	**350**	*e*P	**Pn**	**22 33 11.1**	**+1.9**
HEF				*e*S	**Sn**	**22 33 51.7**	**-1.8**
HEF	**Hetta**	**3.71**	**350**	Pn	**Pn**	**22 33 11.2**	**+2.0**
HEF				Pg	**Pg**	**22 33 21.9**	**+0.1**
HEF				Sn	**Sn**	**22 33 51.8**	**-1.8**
RUF	**Ruokolahti**	**3.74**	**153**	*e*P	**Pn**	**22 33 12.6**	**+3.1**
RUF				*e*S	**Sn**	**22 33 55.1**	**+0.9**
RUF				MSG		22 34 12.8	
	comp=Z,114nm,0.2s						
RAF	**Rauma**	**4.12**	**205**	*e*P	**Pn**	**22 33 14.3**	**-0.6**
RAF	**Rauma**	**4.12**	**205**	*e*P	**Pn**	**22 33 17.1**	**+2.2**
APA0	**Apatity Array**	**4.18**	**44**	Pn	**Pn**	**22 33 17.1**	**+1.4**
	baz=231,slow=14						
APA0				Sn	**Sn**	**22 34 02.4**	**-2.8**
	baz=238,slow=22						
APA0				Sg	**Sb**	**22 34 21.9**	**+5.8**
	baz=217,slow=28						
APA0	**Apatity Array**	**4.18**	**44**	Pn	**Pn**	**22 33 17.1**	**+1.4**
	baz=231,slow=14						
APA0				Sn	**Sn**	**22 34 02.4**	**-2.8**
	baz=238,slow=22						
APA0				Lg	Lg	22 34 21.9	
	baz=217,slow=28						
PVF	**Pernaja**	**4.26**	**177**	*e*P	**Pn**	**22 33 19.2**	**+2.4**
NUR	**Nurmijrvi**	**4.30**	**185**	*e*P	**Pn**	**22 33 20.0**	**+2.6**
KTK1	**Kautokeino**	**4.33**	**350**	*e*P	**Pn**	**22 33 19.8**	**+2.0**
**K

baz=56,slow=14
NB2 Sn **Sn** 22 35 20.5 **-6.0**
baz=56,slow=28
NB2 NORSAR Subarra 7.48 246 Pn **Pn** 22 34 02.6 **+1.6**
baz=56,slow=14
NB2 Sn **Sn** 22 35 20.5 **-6.0**
baz=56,slow=28
NOA NORSAR Array B 7.48 246 Pn **Pn** 22 34 02.5 **+1.6**
baz=33,slow=18,SNR=5.7
NOA Sn **Sn** 22 35 23.7 **-2.8**
comp=Z,0.1nm,0.3s,baz=57,slow=22,SNR=3.9
NOA Lg Lg 22 36 12.5
comp=Z,0.6nm,0.3s,baz=52,slow=23,SNR=5.9
comp=Z,0.4nm,0.6s
NC204 NORSAR Array S 7.52 249 Pn **Pn** 22 34 01.8 **+0.2**
VIKU Vikbolandet 7.54 217 *eP* **Pn** 22 34 02.1 **+0.3**
NC602 NORSAR Array S 7.54 244 Pn **Pn** 22 34 01.8 **+0.1**
NRA0 NORESS Array S 7.54 244 Pn **Pn** 22 34 02.1 **+0.3**
baz=52,slow=12
NRA0 Sn **Sn** 22 35 20.8 **-7.1**
baz=53,slow=28
NRA0 NORESS Array S 7.54 244 Pn **Pn** 22 34 02.1 **+0.3**
baz=52,slow=12
NRA0 Sn **Sn** 22 35 20.8 **-7.1**
baz=53,slow=28
KLMR Klimovskoe 7.56 115 *eP* **Pn** 22 34 02.8 **+0.7**
KLMR *eS* **Sn** 22 35 22.2 **-6.2**
comp=Z,75nm,3.2s
NBO00 NORSAR Array S 7.66 247 Pn **Pn** 22 34 04.3 **+0.9**
NAO01 NORSAR Array S 7.73 246 Pn **Pn** 22 34 04.1 **-0.3**
SKAR Skarslia 8.85 250 *eP* **Pn** 22 34 20.4 **+0.6**
ISAL Salakas 9.25 177 *eP* **Pn** 22 34 25.6 **+0.4**
PABE Paberze 9.34 185 Pn **Pn** 22 34 27.0 **+0.6**
PABE Paberze 9.34 185 *eP* Pn 22 34 22.5 -3.8
IDID Didziasalis 9.52 175 *eP* **Pn** 22 34 29.7 **+0.8**
PRGR Permogore 9.64 100 *eP* **Pn** 22 34 30.7 **+0.1**
comp=Z,3.5nm,0.7s
PRGR *eS* **Sn** 22 36 14.2 **-5.3**
DEL Delary 10.06 219 *eP* **Pn** 22 34 35.0 **-1.3**
DEL Delary 10.06 219 *iP* **Pn** 22 34 35.0 **-1.3**
OBN Obninsk 11.17 145 Sn Sn 22 36 48.2 -8.7
comp=Z,1.9nm,0.3s,baz=335,slow=18,SNR=2.2
OBN Lg Lg 22 37 59.1
comp=Z,3.9nm,0.3s,baz=342,slow=20,SNR=1.9
SPB2 Spitsbergen Ar 13.73 352 Pn **Pn** 22 35 25.3 **-1.0**
SPA0 Spitsbergen Ar 13.73 352 *eP* **Pn** 22 35 24.1 **-2.2**
SPA0 *eS* Sn 22 37 47.5 -12
SPA0 Spitsbergen Ar 13.73 352 *eP* **Pn** 22 35 25.6 **-0.8**
SPA0 Spitsbergen Ar 13.73 352 Pn **Pn** 22 35 24.8 **-1.6**
baz=150,slow=16
SPITS Spitsbergen Ar 13.73 352 Pn **Pn** 22 35 24.5 **-1.9**
baz=166,slow=14
SPITS Sn Sn 22 37 44.6 -15
baz=185,slow=33
comp=Z,5.6nm,0.8s
AKASG Malin Array Be 14.26 170 Pn Pn 22 35 30.4 -3.3
AKASG Malin Array Be 14.26 170 Pn Pn 22 35 29.5 -4.3
comp=Z,0.9nm,0.4s,baz=352,slow=13,SNR=4.9
AKBB Malin Array Si 14.26 170 Pn Pn 22 35 29.0 -4.7
KIEV Kiev 14.27 170 Pn Pn 22 35 29.4 -4.4
OJC Ojcow 14.90 194 Pn Pn 22 35 37.8 -4.6
GERES GERESS Array B 17.16 207 Pn **Pn** 22 36 10.7 **-1.0**
BUR08 Bucovina Ar. S 17.18 180 Pn **Pn** 22 36 06.8 **-5.3**
BUR08 lAmb lAmb 22 36 30.9
comp=Z,7.0nm,1.4s
BURAR Bucovina Array 17.21 180 Pn **Pn** 22 36 08.6 **-3.8**
BURAR lAmb lAmb 22 36 29.6
comp=Z,1.2nm,0.9s
ARU Arti 18.09 102 **Pn** 22 36 23.0 **-0.1**
ARU lAmb lAmb 22 36 23.7
comp=Z,3.4nm,0.6s

IDC ***07*** *22:39:44.9±0.8, 13°.14N×144°.10E, h137km±7km, mb3.6/15, mbtmp4.0/15, Error ellipse: s-maj=22.5km s-min=13.8km az=90.0*
NEIC ***07*** *22:39:45.9±1.1, 13°.1N±0°.1×144°.1E±0°.2, h138km±9km, mb4.2/18, Error ellipse: s-maj=25.7km s-min=15.2km az=110.0*
ISC 07 22:39:44.9±0.6, 13°.09N±0°.10×144°.1E±0°.1, h138km, n44, σ0s73/46, mb4.0/25, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.92**	**58**		**Pn**	**22 40 08.2**	**+0.4**
GUMO				Sn	**Sn**	**22 40 25.1**	**-0.1**
GUMO	**Guam**	**0.92**	**58**	P	**Pn**	**22 40 07.9**	**+0.2**
	257nm,0.3s,baz=190,slow=6.1,SNR=36						
GUMO				S	**Sn**	**22 40 24.9**	**-0.3**
	819nm,0.3s,baz=323,slow=20,SNR=7.0						
MJAR	**Matsushiro Arr**	**23.93**	**348**	P	**P**	**22 44 44.5**	**-1.7**
	1.6nm,0.5s,baz=218,slow=12,SNR=3.4						
	1.6nm,0.5s						
KSRS	**Korea Array**	**28.22**	**332**	P	**P**	**22 45 25.4**	**+0.7**
	1.3nm,0.5s,baz=140,slow=9.4,SNR=4.8						
	1.3nm,0.5s						
KKM	**Kota Kinabalu**	**28.33**	**258**	P	**P**	**22 45 25.6**	**-0.5**
USRK	**Ussuriysk Ar.**	**32.68**	**344**	P	**P**	**22 46 03.1**	**-0.8**
	0.8nm,0.5s,baz=141,slow=12,SNR=1.9						
	0.8nm,0.5s						
WB0	**Warramunga Arr**	**34.02**	**196**	P	**P**	**22 46 16.2**	**+0.4**
WR0	**Warramunga Ar**	**34.16**	**196**	P	**P**	**22 46 17.7**	**+0.7**
WR0				lAmb	lAmb	22 46 27.3	
	comp=Z,8.6nm,1.4s						
WB2	**Warramunga Arr**	**34.20**	**196**	P	**P**	**22 46 18.3**	**+1.0**
WB2				lAmb	lAmb	22 46 47.5	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**34.20**	**196**	P	**P**	**22 46 17.9**	**+0.6**
WRA	**Warramunga Ar**	**34.20**	**196**	P	**P**	**22 46 17.6**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=18,slow=9.5,SNR=33						
	comp=Z,2.6nm,0.8s						
KLR	**Kul'dur**	**37.44**	**347**	P	**P**	**22 46 44.4**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=202,slow=14,SNR=3.6						
	comp=Z,0.8nm,0.4s						
AS31	**Alice Springs**	**37.86**	**195**	P	**P**	**22 46 49.8**	**+1.3**
ASAR	**Alice Springs**	**37.86**	**195**	P	**P**	**22 46 49.0**	**+0.5**
ASAR	**Alice Springs**	**37.86**	**195**	P	**P**	**22 46 48.5**	**0.0**
	comp=Z,0.3nm,0.5s,baz=19,slow=12,SNR=8.7						
	comp=Z,0.3nm,0.5s						
EIDS	**Eidsvold**	**38.84**	**170**		**P**	**22 46 55.3**	**-1.3**
EIDS				lAmb	lAmb	22 47 04.7	
	comp=Z,9.8nm,1.4s						
UGM	**Wanagama**	**39.32**	**240**	P	**P**	**22 47 00.9**	**+0.1**
SONM	**Songino Array**	**46.69**	**326**	P	**P**	**22 47 59.9**	**0.0**
	comp=Z,0.7nm,0.5s,baz=142,slow=6.2,SNR=5.6						
	comp=Z,0.7nm,0.5s						
MK31	**Makanchi Array**	**61.31**	**316**	P	**P**	**22 49 46.8**	**+1.0**
MK31				lAmb	lAmb	22 50 09.4	
	comp=Z,4.0nm,1.1s						
MKAR	**Makanchi Array**	**61.31**	**316**	P	**P**	**22 49 46.9**	**+1.1**
MKAR	**Makanchi Array**	**61.31**	**316**	P	**P**	**22 49 46.3**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=92,slow=8.8,SNR=10.0						
	comp=Z,0.9nm,0.5s						
MAKZ	**Makanchi**	**61.52**	**316**	P	**P**	**22 49 48.1**	**+0.8**
ZAA0	**Zalesovo Array**	**61.57**	**325**	P	**P**	**22 49 47.5**	**+0.1**
ZAA0				lAmb	lAmb	22 50 01.1	
	comp=Z,1.9nm,0.9s						
ZALV	**Zalesovo Beam**	**61.57**	**325**	P	**P**	**22 49 47.2**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=120,slow=8.8,SNR=2.5						
ZALV				PcP	**PcP**	**22 50 27.4**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=112,slow=5.3,SNR=4.5						
	comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**64.50**	**320**	P	**P**	**22 50 06.6**	**-0.2**
	comp=Z,2.2nm,0.4s,baz=103,slow=6.8,SNR=18						
	comp=Z,2.2nm,0.4s						
B20K	**Meade River**	**67.35**	**19**	P	**P**	**22 50 25.8**	**+1.1**
D22K	**Ayikyak River**	**68.36**	**20**	P	**P**	**22 50 31.3**	**+0.3**
B22K	**Teshekpuk Lake**	**68.65**	**19**	P	**P**	**22 50 33.5**	**+0.7**
B22K				lAmb	lAmb	22 51 10.7	
	comp=Z,9.2nm,1.4s						
KKAR	**Karatay Array**	**69.19**	**311**	P	**P**	**22 50 37.0**	**+0.2**
IL31		**69.34**	**25**	P	**P**	**22 50 37.3**	**+0.2**
ILAR	**Eielson Array**	**69.34**	**25**	P	**P**	**22 50 37.7**	**+0.5**
ILAR	**Eielson Array**	**69.34**	**25**	P	**P**	**22 50 36.4**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=247,slow=5.8,SNR=8.8						
	comp=Z,0.4nm,0.5s						
TOLK	**Toolik Lake Re**	**69.35**	**21**	P	**P**	**22 50 35.8**	**-1.5**
TOLK				lAmb	lAmb	22 50 44.4	
	comp=Z,5.7nm,1.5s						
C23K	**Itkillik River**	**69.38**	**20**	P	**P**	**22 50 38.7**	**+1.4**
C23K				lAmb	lAmb	22 51 13.7	
	comp=Z,3.0nm,1.2s						
E24K	**Your Creek**	**69.57**	**22**	P	**P**	**22 50 39.6**	**+0.9**
E24K				lAmb	lAmb	22 51 07.4	
	comp=Z,4.6nm,1.4s						

BVAR	**Borovoye Array**	**69.83**	**322**	P	**P**	**22 50 40.5**	**0.0**
	comp=Z,2.3nm,0.4s,baz=105,slow=8.1,SNR=17						
	comp=Z,2.3nm,0.4s						
D25K	**Kavik River**	**70.65**	**21**	P	**P**	**22 50 45.7**	**+0.5**
D25K				lAmb	lAmb	22 51 02.2	
	comp=Z,4.2nm,1.4s						
BMAR	**Burnt Mountain**	**70.86**	**23**	P	**P**	**22 50 47.2**	**+0.8**
ABKAR	**Akbulak array**	**76.39**	**318**	P	**P**	**22 51 18.8**	**-0.2**
YKA	**Yellowknife Ar**	**83.65**	**27**	P	**P**	**22 51 57.7**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=288,slow=5.2,SNR=8.3						
	comp=Z,0.3nm,0.4s						
NVAR	**Mina Array Bea**	**87.83**	**51**	P	**P**	**22 52 19.9**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=264,slow=5.9,SNR=12						
	comp=Z,2.4nm,0.6s						
PDAR	**Pinedale Array**	**92.86**	**45**	P	**P**	**22 52 42.6**	**0.0**
	comp=Z,0.3nm,0.6s,baz=243,slow=4.0,SNR=2.8						
	comp=Z,0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**134.50**	**304**	PKP	**PKiKP**	**22 58 49.4**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=56,slow=2.9,SNR=4.4						
DBIC	**Dimbokro**	**143.42**	**301**	PKP	PKPab	22 59 01.6	+1.2
	comp=Z,0.8nm,0.3s,baz=37,slow=1.8,SNR=4.6						

IDC ***07*** *22:44:03.9±0.8, 34°.31N×80°.59E, h0km, mb3.8/12, mbtmp3.8/16, ML3.0/4, MS2.9/1, Error ellipse: s-maj=26.2km s-min=16.2km az=60.0*
ISC 07 22:44:09.9±0.7, 34°.43N±0°.08×80°.7E±0°.1, h35km, n25, σ1s44/26, mb3.8/11, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DANN	**Dangsing**	**6.61**	**156**	*eP*	**Pn**	**22 45 46.3**	**+1.5**
	9.1nm,0.6s						
PYUN	**Piuthan**	**6.61**	**162**	*eP*	**Pn**	**22 45 45.1**	**+0.3**
	15nm,0.8s						
GKN	**Gorkha**	**7.25**	**151**	*eP*	**Pn**	**22 45 55.4**	**+1.9**
	6.9nm,0.3s						
GUN	**Gumba**	**7.88**	**144**	*eP*	**Pn**	**22 46 04.4**	**+2.1**
	7.1nm,0.4s						
PKIN	**Phulchoki**	**7.94**	**148**	*eP*	**Pn**	**22 46 04.9**	**+1.8**
	11nm,0.6s						
PKI	**Pulchoki**	**7.95**	**148**	*eP*	**Pn**	**22 46 05.0**	**+1.7**
	9.0nm,0.6s						
JIRN	**Jiri**	**8.24**	**143**	*eP*	**Pn**	**22 46 09.8**	**+2.5**
	18nm,0.5s						
RAMN	**Ramite**	**9.03**	**144**	*eP*	**Pn**	**22 46 19.1**	**+1.1**
	12nm,0.6s						
TAPN	**Taplejung**	**9.29**	**138**	*eP*	**Pn**	**22 46 22.9**	**+1.3**
	23nm,1.0s						
AAK	**Ala-Archa**	**9.52**	**331**	Pn	**Pn**	**22 46 26.4**	**+1.9**
	0.2nm,0.3s,baz=157,slow=7.7,SNR=3.3						
AAK				LR	LR	22 50 37.5	
	comp=Z,66nm,21.1s,baz=138,slow=41						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**12.41**	**5**	Pn	**Pn**	**22 47 03.4**	**-0.6**
	0.4nm,0.3s,baz=190,slow=14,SNR=19						
MKAR				Sn	**Sn**	**22 49 22.7**	**+1.7**
	baz=202,slow=27,SNR=2.0						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**16.26**	**355**	Pn	**Pn**	**22 47 52.8**	**-2.6**
	baz=180,slow=12,SNR=1.6						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**19.74**	**7**	P	**P**	**22 48 36.3**	**-0.1**
	baz=186,slow=13,SNR=4.2						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**19.98**	**342**	P	**P**	**22 48 39.0**	**-0.1**
	1.6nm,0.4s,baz=154,slow=11,SNR=12						
	1.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**22.76**	**130**	P	**P**	**22 49 06.8**	**-2.4**
	0.8nm,0.3s,baz=356,slow=11,SNR=1.2						
	0.8nm,0.3s						
SONM	**Songino Array**	**23.42**	**47**	P	**P**	**22 49 16.2**	**+0.3**
	0.2nm,0.3s,baz=237,slow=9.7,SNR=1.7						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**43.64**	**325**	P	**P**	**22 52 10.4**	**-0.2**
	1.9nm,0.6s,baz=101,slow=10,SNR=4.5						
	1.9nm,0.6s						
ARCES	**ARCESS Array B**	**46.14**	**336**	P	**P**	**22 52 30.9**	**+0.4**
	4.4nm,0.9s,baz=105,slow=9.4,SNR=5.8						
	4.4nm,0.9s						
NOA	**NORSAR Array B**	**50.74**	**324**	P	**P**	**22 53 05.9**	**-0.2**
	0.4nm,0.6s,baz=90,slow=7.6,SNR=1.4						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**73.67**	**275**	P	**P**	**22 55 39.1**	**-1.2**
	2.9nm,0.6s,baz=45,slow=5.6,SNR=32						
	2.9nm,0.6s						
WRA	**Warramunga Arr**	**74.34**	**128**	P	**P**	**22 55 44.1**	**0.0**
	0.9nm,0.8s,baz=322,slow=5.6,SNR=9.2						
	0.9nm,0.8s						
ILAR	**Eielson Array**	**74.37**	**19**	P	**P**	**22 55 43.3**	**-0.3**
	1.1nm,0.9s,baz=316,slow=5.4,SNR=5.7						
	1.1nm,0.9s						
INK	**Inuvik**	**74.44**	**13**	P	**P**	**22 55 43.9**	**-0.1**
	1.0nm,0.7s,baz=311,slow=8.9,SNR=3.1						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**76.76**	**131**	P	**P**	**22 55 57.7**	**-0.2**
	0.3nm,0.5s,baz=322,slow=5.5,SNR=3.1						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**82.64**	**7**	P	**P**	**22 56 28.9**	**-0.3**
	0.4nm,0.6s,baz=336,slow=5.4,SNR=5.3						
	0.4nm,0.6s						

IDC ***07*** *22:59:22.3±1.5, 37°.19N×141°.32E, h0km, mb3.6/6, mbtmp3.5/7, ML2.1/1, MS2.6/1, Error ellipse: s-maj=32.6km s-min=18.8km az=155.0*
NIED ***07*** *22:59:24.8, 37°.20N×141°.45E, h28km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=1.32; Mθθ=0.47; Mφφ=0.84; Mrθ=-0.10; Mθφ=0.86; Mrφ=0.52; Fault plane solution: M₀1.53000×10¹⁴ NP1: φs202.00000°, δ54.00000°, λ-112.00000°. NP2: φs56.00000°, δ41.00000°, λ-63.00000°.*
JMA ***07*** *22:59:24.8±0.2, 37°.2N±0°.4×141°.4E±0°.9, h28km±1km, MV3.8/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 07 22:59:24.3±1.8, 37°.21N±0°.04×141°.33E±0°.08, h15km±10km, n17, σ0s94/25, mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.39**	**293**	*i* P	**Pn**	**22 59 34.6**	**-1.0**
JFK				S	**Sn**	**22 59 41.5**	**-1.2**
ONAJ	**Iwakimizuishiy**	**0.44**	**256**	*i* P	**Pn**	**22 59 35.3**	**-0.9**
ONAJ				S	**Sn**	**22 59 43.0**	**-0.9**
JMST	**Minamisoumatoc**	**0.62**	**326**	*i* P	**Pn**	**22 59 37.9**	**-0.8**
JMST				S	**Sn**	**22 59 47.5**	**-0.8**
JFFD	**Fukushimafurud**	**0.62**	**259**	*i* P	**Pn**	**22 59 38.3**	**-0.4**
JFFD				S	**Sn**	**22 59 48.1**	**-0.4**
JMM	**Marumori**	**0.78**	**327**	*i* P	**Pn**	**22 59 40.5**	**-0.4**
JMM				S	**Sn**	**22 59 51.9**	**-0.4**
JHO	**Hitachi**	**0.85**	**226**	*i* P	**Pg**	**22 59 40.6**	**-0.3**
JHO				*eS*	**Sb**	**22 59 52.8**	**+0.6**
JOTO	**OTAMA OYAMA**	**0.86**	**294**	*i* P	**Pn**	**22 59 42.9**	**+0.8**
JOTO				S	**Sn**	**22 59 55.8**	**+1.3**
JIO	**Ouri**	**1.24**	**1**	*i* P	**Pn**	**22 59 46.4**	**-0.7**
JIO				S	**Sb**	**23 00 02.4**	**-0.9**
JOU	**Okura**	**1.27**	**336**	P	**Pg**	**22 59 48.6**	**-0.2**
JOU				S	**Sg**	**23 00 06.0**	**+0.8**
MJAR	**Matsushiro Arr**	**2.59**	**256**	Pn	**Pn**	**23 00 04.5**	**-1.3**
	0.4nm,0.3s,baz=72,slow=10,SNR=11						
MJAR				Lg	Lg	23 00 44.0	
	1.0nm,0.3s,baz=40,slow=19,SNR=5.1						
	3.2nm,0.5s						
JCJ	**Chichijima**	**10.11**	**176**	LR	LR	23 05 32.0	
	comp=Z,35nm,20.3s,baz=98,slow=37						
SONM	**Songino Array**	**27.63**	**304**	P	**P**	**23 05 13.3**	**+1.9**
	0.2nm,0.5s,baz=107,slow=12,SNR=2.4						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**41.74**	**312**	P	**P**	**23 07 11.5**	**-1.1**
	0.5nm,0.4s,baz=101,slow=7.5,SNR=2.7						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**45.84**	**308**	P	**P**	**23 07 46.0**	**+0.4**
	0.3nm,0.3s,baz=78,slow=8.6,SNR=4.2						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**49.38**	**32**	P	**P**	**23 08 13.9**	**+1.0**
	0.4nm,0.8s,baz=276,slow=9.9,SNR=5.0						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**57.23**	**188**	P	**P**	**23 09 11.1**	**0.0**
	0.2nm,0.4s,baz=5.9,slow=7.5,SNR=1.3						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**68.62**	**332**	P	**P**	**23 10 26.1**	**-0.3**
	2.9nm,0.9s,baz=51,slow=6.6,SNR=2.6						
	2.9nm,0.9s						

IDC ***07*** *23:01:53.3±0.5, 16°.78S×176°.06E, h0km, mb4.6/18, mbtmp4.6/19, ML3.2/1, MS4.7/9, Error ellipse: s-maj=20.7km s-min=14.8km az=117.0*
MOS ***07*** *23:01:54.3±0.8, 16°.70S×176°.01E, h11km, mb5.2/43, Error ellipse: s-maj=9.9km s-min=8.8km az=54.2*
NEIC ***07*** *23:01:56.3±1.9, 16°.62S±0°.09×176°.10E±0°.08, h10km±1km, mb5.1/199, Error ellipse: s-maj=18.0km s-min=9.1km az=138.0*
BJI ***07*** *23:01:58.5, 16°.10S×175°.74E, h7km, mb5.0/51, mB5.4/25, Ms5.0/6, Ms7 4.8/6*
NOU ***07*** *23:01:59.9, 16°.63S×176°.24E, h34km, mb5.0/57, Fiji Islands Region*
GCMT ***07*** *23:02:00.3±0.2, 16°.52S±0°.01×176°.06E±0°.02, h12km, MW5.0/93, Moment Tensor Solution. s51,c64; s93,c139; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.03±.14; Mθθ-3.53±.12; Mφφ-0.50±.14; Mrθ0.12±.33; Mθφ2.83±.11; Mφr0.07±.44; Best double couple: M₀4.63200×10¹⁶ NP1:φs118.00000°, δ45.00000°, λ86.00000°. NP2: φs304.00000°, δ45.00000°, λ94.00000°. Principal axes: T 4.0360, Plg87.0000°, Azm310.0000°; N 1.1860, Plg3.0000°, Azm121.0000°; P -5.2270, Plg0.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 23:01:57.6±0.7, 16°.70S±0°.06×176°.13E±0°.06, h22km±5km, n635, σ1s15/631, mb5.1/172, MS4.8/10, 13C-20D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSA	**Yasawairara**	**1.38**	**90**	P	**Pn**	**23 02 21.5**	**0.0**
DGTI	**Dogotuki**	**3.48**	**84**	P	**Pn**	**23 02 49.8**	**-0.6**
TAVE	**Taveuni**	**3.79**	**91**	P	**Pn**	**23 02 53.7**	**-1.0**
LKBA	**Tubou, Lakemba**	**5.06**	**108**	P	**Pn**	**23 03 11.2**	**-0.9**
FUTU	**Fugatoga**	**6.03**	**68**	P	**Pn**	**23 03 25.9**	**+0.5**
MARNC	**Mare, Loyalty**	**9.02**	**237**	Pn	**Pn**	**23 04 07.6**	**+1.1**
PINNC	**Pines Island,**	**10.08**	**233**		**Pn**	**23 04 20.8**	**-0.2**
PINNC	**Pines Island,**	**10.08**	**233**	P	**Pn**	**23 04 24.7**	**+3.7**
OUENC	**Ouen Island, N**	**10.44**	**236**		**Pn**	**23 04 26.7**	**+0.6**
OUENC	**Ouen Island, N**	**10.44**	**236**	P	**Pn**	**23 04 29.3**	**+3.3**
DZM	**Mont Dzumac**	**10.59**	**238**		**Pn**	**23 04 29.0**	**+0.9**
DZM	**Mont Dzumac**	**10.59**	**238**	P	**Pn**	**23 04 31.3**	**+3.2**
DZM	**Mont Dzumac**	**10.59**	**238**	Pn	**Pn**	**23 04 26.7**	**-1.5**
	0.2nm,0.3s,baz=127,slow=19,SNR=1.9						
DZM				LR	LR	23 07 57.8	
	comp=Z,4µm,20.5s,baz=68,slow=35						
	3.7nm,0.8s						
ONTNC	**Ouen Toro**	**10.70**	**237**		**Pn**	**23 04 30.0**	**+0.5**
ONTNC	**Ouen Toro**	**10.70**	**237**	P	**Pn**	**23 04 33.8**	**+4.3**
NOUC	**Port Laguerre**	**10.72**	**238**	P	**Pn**	**23 04 33.0**	**+3.2**
KOUNC	**Koumac, New Ca**	**11.87**	**249**		**Pn**	**23 04 43.2**	**-2.4**
KOUNC	**Koumac, New Ca**	**11.87**	**249**	P	**Pn**	**23 04 50.0**	**+4.5**
RAO	**Raoul Island**	**13.64**	**157**	LR	LR	23 09 24.0	
	comp=Z,2µm,19.1s,baz=310,slow=33						
HNR	**Honiara**	**17.34**	**293**	Pn	**Pn**	**23 05 57.1**	**-1.2**
HNR	**Honiara**	**17.34**	**293**	P	**Pn**	**23 05 57.1**	**-1.2**
HNR				pmax	pmax		
	comp=Z,118nm,1.2s						
HNR	**Honiara**	**17.34**	**293**	LR	LR	23 11 58.9	
	comp=Z,3µm,18.2s,baz=143,slow=35						
TOZ	**Tahuroa Road**	**20.96**	**181**		Pn	23 06 41.0	-0.7
LHI	**Lord Howe Isla**	**21.41**	**223**	P	**P**	**23 06 44.5**	**+0.5**
URZ	**Urewera**	**21.50**	**178**	P	**P**	**23 06 44.8**	**-0.1**
	comp=Z,34nm,0.8s,baz=83,slow=2.2,SNR=6.6						
	comp=Z,34nm,0.8s						
HIZ	**Hauiti**	**21.76**	**183**	P	**P**	**23 06 49.4**	**+1.7**
RTZ	**Ruatahuna**	**21.85**	**178**		**P**	**23 06 50.0**	**+1.3**
RTZ				lAmb	lAmb	23 06 54.0	
	comp=Z,184nm,1.5s						
BKZ	**Black Stump Fm**	**22.39**	**179**	P	**P**	**23 06 54.7**	**+0.3**
BKZ	**Black Stump Fm**	**22.39**	**179**	P	**P**	**23 06 56.9**	**+2.4**
MRZ	**Mangatainoka R**	**23.88**	**181**	P	**P**	**23 07 10.1**	**+0.5**
MRZ				lAmb	lAmb	23 07 12.9	
	comp=Z,120nm,1.6s						
BFZ	**Birch Farm**	**23.90**	**180**	P	**P**	**23 07 09.2**	**-0.4**
BFZ				lAmb	lAmb	23 07 33.2	
	comp=Z,82nm,1.4s						
QRZ	**Quartz Range**	**24.24**	**187**	P	**P**	**23 07 14.2**	**+1.3**
QRZ				lAmb	lAmb	23 07 21.7	
	comp=Z,77nm,1.0s						
TKNZ	**Takaka Hill**	**24.41**	**186**	P	**P**	**23 07 16.2**	**+1.8**
TCW	**Tory Channel**	**24.48**	**183**	P	**P**	**23 07 16.5**	**+1.4**
NNZ	**Nelson**	**24.55**	**185**	P	**P**	**23 07 17.1**	**+1.5**
TUWZ	**Tuamarina**	**24.72**	**184**	P	**P**	**23 07 18.3**	**+1.1**
MRNZ	**Matariki Terra**	**24.79**	**186**	P	**P**	**23 07 19.2**	**+1.4**
EIDS	**Eidsvold**	**24.89**	**246**	P	**P**	**23 07 19.4**	**+0.4**
	baz=25,SNR=6.3						
EIDS	**Eidsvold**	**24.89**	**246**	P	**P**	**23 07 18.6**	**-0.4**
EIDS				lAmb	lAmb	23 07 22.7	
	comp=Z,62nm,1.6s						
EIDS	**Eidsvold**	**24.89**	**246**	P	**P**	**23 07 20.6**	**+1.6**
THZ	**Tophouse**	**25.13**	**186**	P	**P**	**23 07 20.3**	**-0.7**
THZ				lAmb	lAmb	23 07 42.1	
	comp=Z,70nm,1.4s						
DSZ	**Denniston Nort**	**25.24**	**188**	P	**P**	**23 07 22.6**	**+0.6**
DSZ				lAmb	lAmb	23 07 26.5	
	comp=Z,82nm,1.2s						
KHZ	**Kahutara**	**25.73**	**184**	P	**P**	**23 07 26.1**	**-0.2**
LTZ	**Lake Taylor**	**26.21**	**186**	P	**P**	**23 07 31.6**	**+0.8**
LTZ				lAmb	lAmb	23 07 45.3	
	comp=Z,36nm,1.1s					

STKA **Stephens Creek** 34.74 238 *i* P P 23 08 47.1 +0.8
STKA **Stephens Creek** 34.74 238 P P 23 08 44.8 -1.6
comp=Z,24nm,0.9s,baz=67,slow=8.9,SNR=21
STKA LR LR 23 21 44.0
comp=Z,704nm,19.8s,baz=76,slow=34
comp=Z,24nm,0.9s
QIS **Mount Isa** 34.78 258 P P 23 08 47.4 +0.6
TABU **Tabubil** 36.03 284 P P 23 09 00.8 +3.1
H11S2 **WAKE ISLAND Hy** 36.18 345 T T 23 47 02.2
baz=166,slow=76,SNR=39
H11S3 **WAKE ISLAND Hy** 36.19 345 T T 23 47 07.8
baz=166,slow=76,SNR=26
H11S1 **WAKE ISLAND Hy** 36.20 345 T T 23 47 03.2
baz=166,slow=76,SNR=25
ARPS **Mount Arapiles** 36.30 230 P P 23 09 03.0 +3.4
comp=Z,46nm,1.1s
LCRK **Leigh Creek** 37.17 241 P P 23 09 07.4 +0.3
H11N1 **WAKE ISLAND Hy** 37.31 346 T T 23 48 34.6
baz=165,slow=76,SNR=35
H11N3 **WAKE ISLAND Hy** 37.31 346 T T 23 48 35.5
baz=165,slow=76,SNR=39
H11N2 **WAKE ISLAND Hy** 37.32 346 T T 23 48 36.7
baz=165,slow=76,SNR=17
HTT **Hallett** 37.36 236 P P 23 09 09.6 +0.9
baz=37,SNR=12
HTT **Hallett** 37.36 236 P P 23 09 09.8 +1.0
WHYH **Whyalla** 38.33 238 P P 23 09 19.5 +2.6
comp=Z,61nm,1.0s
OOD **Oodnadatta** 38.87 246 P P 23 09 22.5 +1.0
BBOO **Buckleboo** 39.51 238 P P 23 09 27.1 +0.3
baz=39,SNR=8.6
BBOO **Buckleboo** 39.51 238 P P 23 09 26.3 -0.5
BBOO IAmb IAmb 23 09 29.7
comp=Z,64nm,1.1s
BBOO **Buckleboo** 39.51 238 P P 23 09 27.6 +0.8
WR0 **Warramunga Arr** 39.55 259 P P 23 09 25.4 -1.9
WR0 IAmb IAmb 23 09 27.2
comp=Z,72nm,2.0s
SMPI **Sarmi** 39.60 288 P P 23 09 27.8 +0.1
comp=Z,144nm,1.2s,comp=Z,6µm
WB0 **Warramunga Arr** 39.69 259 P P 23 09 26.0 -2.5
WB2 **Warramunga Arr** 39.73 259 P P 23 09 27.6 -1.1
WRA **Warramunga Arr** 39.74 259 P P 23 09 27.0 -1.9
WRA **Warramunga Arr** 39.74 259 P P 23 09 27.0 -1.9
WRA **Warramunga Arr** 39.74 259 P P 23 09 26.6 -2.2
comp=Z,9.9nm,0.8s,baz=91,slow=8.6,SNR=52
WRA PcP PcP 23 11 34.2 -1.0
comp=Z,1.3nm,0.9s,baz=89,slow=3.5,SNR=4.5
comp=Z,9.9nm,0.8s
AS31 **Alice Springs** 40.12 253 P P 23 09 30.5 -1.6
ASAR **Alice Springs** 40.13 253 P P 23 09 30.7 -1.4
ASAR **Alice Springs** 40.13 253 P P 23 09 29.8 -2.2
comp=Z,19nm,0.8s,baz=81,slow=9.0,SNR=135
ASAR PcP PcP 23 11 35.2 -1.2
comp=Z,3.5nm,0.9s,baz=94,slow=3.4,SNR=7.0
comp=Z,19nm,0.8s
MULG **Mulgathing** 40.66 243 P P 23 09 36.3 -0.1
MTN **Manton Dam** 43.62 269 P P 23 09 57.9 -2.7
SAUI **Saumlaki** 44.56 276 P P 23 10 08.5 +0.3
SAUI **Saumlaki** 44.56 276 P P 23 10 08.6 +0.3
comp=Z,78nm,1.1s
WRKA **Warakurna** 45.27 251 P P 23 10 13.1 -0.8
baz=45,SNR=12
WRKA **Warakurna** 45.27 251 P P 23 10 13.8 -0.1
KNRA **Kununurra** 45.42 264 P P 23 10 13.2 -1.9
baz=45,SNR=7.0
FORT **Forrest** 45.85 243 P P 23 10 18.6 +0.2
FORT **Forrest** 45.85 243 P P 23 10 20.0 +1.7
SWI **Sorong** 46.89 285 P P 23 10 25.4 -1.3
comp=Z,51nm,1.3s
BNDI **Bandanaira** 46.90 280 P P 23 10 25.0 -1.7
comp=Z,237nm,1.1s,comp=Z,8µm
FITZ **Fitzroy Crossi** 48.08 260 P P 23 10 35.7 -0.2
baz=48,SNR=3.9
NLAI **Namlea** 49.96 280 P P 23 10 50.8 +0.5
LBMI **Labuha** 50.47 283 P P 23 10 54.5 +0.3
comp=Z,38nm,1.8s
SOEI **Soe** 50.85 271 P P 23 10 56.8 -0.5
SOEI **Soe** 50.85 271 P P 23 10 59.4 +2.2
SOEI **Soe** 50.85 271 P P 23 10 57.8 +0.6
comp=Z,54nm,1.1s
TNTI **Ternate** 51.11 285 P P 23 10 59.2 +0.1
comp=Z,26nm,1.0s
BATI **Baumata** 51.32 270 P P 23 11 00.6 -0.1
comp=Z,62nm,0.9s
SANI **Sanana** 51.40 281 P P 23 11 02.1 +0.9
SANI **Sanana** 51.40 281 P P 23 11 00.2 -1.0
comp=Z,36nm,1.8s,comp=Z,838nm
MMRI **Maumere** 53.06 272 P P 23 11 11.3 -2.3
comp=Z,64nm,1.6s,comp=Z,3µm
EDFI **Ende, Flores** 53.56 271 P P 23 11 15.1 -2.3
comp=Z,43nm,1.5s,comp=Z,928nm
BBSI **Bau Bau** 53.58 276 P P 23 11 17.6 +0.2
comp=Z,69nm,1.2s,comp=Z,902nm
KMSI **Cibinong** 54.19 283 P P 23 11 22.4 +0.6
comp=Z,80nm,0.4s
BASI **Baing, Sumba** 54.27 269 P P 23 11 23.6 +1.1
comp=Z,65nm,1.4s,comp=Z,2µm
KLBR **Kellerberrin** 54.71 243 P P 23 11 24.3 -1.2
baz=54,SNR=8.9
LUWI **Luwuk** 54.76 281 P P 23 11 26.6 +0.5
LUWI **Luwuk** 54.76 281 P P 23 11 28.7 +2.7
LUWI **Luwuk** 54.76 281 P P 23 11 26.8 +0.8
comp=Z,99nm,0.6s,comp=Z,3µm
NWAO **Narrogin (SRO)** 55.19 241 LR LR 23 33 10.7
comp=Z,890nm,21.8s,baz=79,slow=34
BKSI **Bulukumba** 55.96 275 P P 23 11 34.5 -0.2
comp=Z,13nm,0.7s
MORW **Morawa** 56.20 246 P P 23 11 35.8 -0.4
MORW IAmb IAmb 23 11 38.0
comp=Z,37nm,1.2s
KAPI **Kappang** 56.40 275 *i* P P 23 11 37.3 -0.5
KAPI pmax pmax
comp=Z,9.0nm,0.5s
TWSI **Taliwang, Sumb** 58.17 270 P P 23 11 48.3 -2.0
comp=Z,42nm,1.3s,comp=Z,751nm
SRBI **Singaraja** 59.93 270 P P 23 12 01.9 -0.6
comp=Z,26nm,1.8s
JAGI **Jajag, Banyuwa** 60.85 270 P P 23 12 07.7 -1.2
JAGI IAmb IAmb 23 12 39.5
comp=Z,16nm,1.0s
MYLDM **Lahad Datu** 60.96 286 P P 23 12 09.4 -0.2
VNDA **Vanda** 61.27 184 P P 23 12 10.9 +0.3
VNDA IAmb IAmb 23 12 16.7
comp=Z,19nm,1.6s
VNDA **Vanda** 61.27 184 P P 23 12 10.9 +0.3
VNDA pmax pmax
comp=Z,19nm,1.6s
VNDA **Vanda** 61.27 184 P P 23 12 09.7 -0.9
comp=Z,2.1nm,0.8s,baz=8.3,slow=6.0,SNR=12
comp=Z,2.1nm,0.8s
SBA **Scott Base** 61.35 182 P P 23 12 11.7 +0.5
SBA **Scott Base** 61.35 182 P P 23 12 11.7 +0.5
SBA pmax pmax
comp=Z,59nm,1.3s
KKM **Kota Kinabalu** 63.40 286 P P 23 12 25.4 -0.6
JMM **Marumori** 63.63 329 P P 23 12 25.6 -1.3
MJAR **Matsushiro Arr** 63.93 327 P P 23 12 28.4 -0.6
comp=Z,27nm,1.1s,baz=159,slow=6.5,SNR=23
comp=Z,27nm,1.1s
MAJO **Matsushiro** 63.93 327 P P 23 12 27.9 -1.1
MAJO **Matsushiro** 63.93 327 P P 23 12 28.5 -0.5
MAJO **Matsushiro** 63.93 327 P P 23 12 27.9 -1.1
MAJO pmax pmax
comp=Z,46nm,1.2s
MJB9 **Matsu-Tunnel** 63.93 327 P P 23 12 28.6 -0.4
KPJI **Karang Pucung** 66.14 269 P P 23 12 43.2 -0.6
comp=Z,23nm,1.6s
TATO **Taipei** 67.46 307 P P 23 12 50.9 -1.1
LEM **Lembang** 67.53 269 P P 23 12 53.0 +0.1
comp=Z,21nm,0.6s
KSRS **Korea Array** 70.41 321 P P 23 13 10.7 +0.7
comp=Z,2.2nm,0.9s,baz=144,slow=4.5,SNR=4.8
comp=Z,2.2nm,0.9s
KSAR **Wonju Array Be** 70.42 321 P P 23 13 09.8 -0.3
KSAR **Wonju Array Be** 70.42 321 P P 23 13 09.8 -0.3
PET **Petropavlovsk** 71.06 349 *i* P P 23 13 14.5 +0.9
PET pmax pmax
comp=Z,15nm,1.0s
PETK **Petropavlovsk-** 71.32 348 P P 23 13 16.3 +1.0
comp=Z,4.2nm,0.8s,baz=104,slow=9.5,SNR=4.8
comp=Z,4.2nm,0.8s
USA0B **Ussuriysk Arra** 72.77 328 P P 23 13 22.7 -1.4
USA0B **Ussuriysk Arra** 72.77 328 *i* P P 23 13 24.5 +0.4
USRK **Ussuriysk Ar.** 72.77 328 P P 23 13 23.9 -0.2
USRK **Ussuriysk Ar.** 72.77 328 P P 23 13 23.6 -0.5
comp=Z,9.2nm,1.1s,baz=132,slow=5.4,SNR=9.4
comp=Z,9.2nm,1.1s
NJ2 **Nanjing** 73.20 312 *e*P P 23 13 28.4 +1.5
NJ2 pP pP 23 13 31.4 -1.8
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 pmax pmax
comp=Z,380nm,3.7s
QSPA **South Pole Qui** 73.34 180 P P 23 13 27.6 +0.1
MDJ **Mudanjiang** 74.28 327 P P 23 13 34.8 +1.8
MDJ PcP PcP 23 13 47.6 -0.2
MDJ PP PP 23 16 20.8 +1.4
MDJ S S 23 23 08.1 +2.4
MDJ ScS ScS 23 23 41.8 -0.6
MDJ pmax pmax
comp=Z,18nm,1.4s
MDJ pmax pmax
comp=Z,250nm,4.8s
MDJ LR LR
comp=Z,440nm,9.6s
MDJ LR LR
comp=Z,420nm,12.8s
MDJ LR LR
comp=Z,290nm,10.3s
CN2 **Changchun** 75.96 325 *e*P P 23 13 43.1 +0.4
CN2 *e*S S 23 23 24.0 -0.4
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,100nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,300nm,10.0s
BNX **BinXian** 76.18 327 ⇓P P 23 13 44.5 +0.6
BNX pmax pmax
comp=Z,7.0nm,1.2s
BNX pmax pmax
comp=Z,210nm,4.3s
KLR **Kul'dur** 76.51 332 *ce*P P 23 13 46.3 +0.6
KLR pmax pmax
comp=Z,29nm,1.7s
R18K **Karluk** 77.92 16 P P 23 13 55.1 +1.7
baz=209
N14K **Kuskokwak Cree** 78.45 11 P P 23 13 57.5 +1.3
baz=202
RPSI **Rantau Prapat** 78.55 276 P P 23 13 57.1 -0.9
RPSI IAmb IAmb 23 13 59.5
comp=Z,34nm,1.5s
PSI **Prapat** 78.58 276 P P 23 13 58.5 +0.2
PSI **Prapat** 78.58 276 P P 23 13 57.1 -1.2
PSI pmax pmax
comp=Z,33nm,1.5s
HNS **HongShan** 78.91 315 ⇓P P 23 14 00.3 +0.9
HNS pmax pmax
comp=Z,25nm,1.5s
N15K **Kwethluk River** 78.98 12 P P 23 14 00.8 +1.5
baz=203
LYN **LuoYang** 79.07 311 ⇓P P 23 14 00.8 +0.5
LYN sP PcP 23 14 07.1 -1.7
LYN pmax pmax
comp=Z,56nm,1.2s
LYN pmax pmax
comp=Z,140nm,3.9s
M14K **Bethel** 79.17 11 P P 23 14 02.1 +1.9
baz=201
HEH **HeiHe** 79.23 331 *e*P P 23 14 02.8 +2.0
HEH pmax pmax
comp=Z,28nm,1.4s
HEH pmax pmax
comp=Z,230nm,5.9s
BJT **Baijiatuau** 79.31 317 P P 23 14 03.4 +1.9
ENH **Enshi** 79.31 306 P P 23 14 02.6 +0.8
BJI **Beijing** 79.32 317 P P 23 14 03.4 +1.8
BJI pmax pmax
comp=Z,9.0nm,1.7s
KCPM **Cahto Peak** 79.34 43 P P 23 14 02.2 +0.4
KCPM IAmb IAmb 23 14 06.0
comp=Z,22nm,1.2s
M15K **Kasigluk River** 79.35 11 P P 23 14 03.6 +2.4
KMPM **Mount Pierce** 79.38 42 P P 23 14 02.5 +0.4
KMPM IAmb IAmb 23 14 06.3
comp=Z,28nm,1.3s
BBGB **Big Mountain B** 79.46 47 P P 23 14 02.5 -0.1
BBGB IAmb IAmb 23 14 09.0
comp=Z,47nm,1.6s
N16K **Nishlik Lake** 79.53 12 P P 23 14 04.6 +2.3
baz=204
KMRM **Mail Ridge** 79.55 42 P P 23 14 03.3 +0.3
KMRM IAmb IAmb 23 14 07.2
comp=Z,25nm,1.0s
L14K **Kuka Creek** 79.60 10 P P 23 14 04.9 +2.4
baz=201
NONG **Nongkai** 79.70 292 P P 23 14 04.6 +0.5
O18K **Koktuh Hills** 79.75 14 P P 23 14 04.9 +1.4
baz=208
KHMM **Horse Mountain** 79.88 42 P P 23 14 06.1 +1.3
KHMM IAmb IAmb 23 14 09.2
comp=Z,24nm,1.3s
M16K **Timber Creek** 79.99 12 P P 23 14 06.2 +1.4
baz=204
KRMB **Red Mountain** 80.11 41 P P 23 14 05.5 -0.6
L15K **Ungalak Mounta** 80.12 11 P P 23 14 06.7 +1.3
baz=202
SLVN **Son La** 80.25 296 P P 23 14 06.3 -0.9
SLVN IAmb IAmb 23 14 10.3
comp=Z,23nm,1.4s
O19K **Port Alsworth** 80.26 14 P P 23 14 05.1 -1.1
O19K **Port Alsworth** 80.26 14 P P 23 14 07.7 +1.5
baz=209
PASC **Pasadena Art C** 80.35 50 P P 23 14 07.7 +0.3
PASC IAmb IAmb 23 15 09.3
comp=Z,33nm,1.4s
TIY **Taiyuan** 80.63 314 ⇑P P 23 14 11.2 +2.4
CMB **Columbia Colle** 80.64 46 P P 23 14 10.0 +1.2
CMB **Columbia Colle** 80.64 46 P P 23 14 10.0 +1.2
CMB pmax pmax
comp=Z,17nm,1.4s
ORV **Oroville** 80.65 44 P P 23 14 09.6 +0.8
ORV **Oroville** 80.65 44 P P 23 14 09.6 +0.8
ORV pmax pmax
comp=Z,12nm,1.2s
K15K **Wolf Creek Mou** 80.69 10 P P 23 14 10.8 +2.3
baz=202
AFDM **Forest Hills D** 80.69 45 P P 23 14 09.0 -0.1
EDW2 **Edwards Air Fo** 80.82 49 P P 23 14 12.3 +2.3
baz=242
ISA **Isabella, Lake** 80.84 49 P P 23 14 10.2 +0.2
ISA **Isabella, Lake** 80.84 49 P P 23 14 11.5 +1.5
baz=242
ISA **Isabella, Lake** 80.84 49 P P 23 14 10.2 +0.2
ISA pmax pmax
comp=Z,12nm,1.3s
K02D **Willamette Mer** 80.90 40 P P 23 14 08.5 -1.6
J01E **Myrtle Point** 80.99 40 P P 23 14 09.1 -1.4
J01E IAmb IAmb 23 15 41.3
comp=Z,38nm,1.5s
YBH **Yreka Blue Hor** 80.99 42 P P 23 14 11.3 +0.7
YBH **Yreka Blue Hor** 80.99 42 P P 23 14 11.4 +0.7
YBH pmax pmax
comp=Z,15nm,1.2s
OMMB **Old Mammoth Mi** 81.39 47 P P 23 14 12.9 -0.3
XAN **Xi'an** 81.42 309 P P 23 14 15.0 +1.9
XAN pP PcP 23 14 18.8 -0.3
XAN pmax pmax
comp=Z,33nm,1.5s
XLT **XiLinHaoTe** 81.46 321 *e*P P 23 14 14.4 +1.3
XLT pP PcP 23 14 18.1 -1.0
XLT sP pP 23 14 21.4 +2.0
XLT pmax pmax
comp=Z,13nm,1.8s
XLT pmax pmax
comp=Z,120nm,5.1s
CWC **Cottonwood Cre** 81.48 48 P P 23 14 14.6 +1.0
baz=242
WAKR **Walker** 81.52 46 P P 23 14 14.2 +0.4
WAKR IAmb IAmb 23 14 17.8
comp=Z,19nm,1.3s
SEY **Seymchan** 81.53 349 *ce*P P 23 14 11.8 -1.1
SEY pmax pmax
comp=Z,62nm,1.7s
L18K **Granite Mounta** 81.54 12 P P 23 14 11.5 -1.5
baz=206
L18K **Granite Mounta** 81.54 12 P P 23 14 14.6 +1.6
baz=206
K17K **Iditarod** 81.66 12 P P 23 14 14.7 +1.1
baz=205
O22K **Cooper Landing** 81.68 16 P P 23 14 14.0 +0.2
ZEA **Zeya** 81.68 333 *e*P P 23 14 14.4 +0.5
ZEA pmax pmax
comp=N,10.0nm,1.5s
ZEA pmax pmax
comp=Z,20nm,1.6s
PNTR **Pine Nut** 81.69 45 P P 23 14 13.4 -1.2
MPMC **Manual Prospec** 81.73 49 P P 23 14 15.3 +0.4
baz=243
J16K **Anvik River** 81.77 10 P 23 14 13.6 -0.6
J16K **Anvik River** 81.77 10 P P 23 14 15.1 +0.9
baz=203
GSC **Goldstone, Bar** 81.88 50 P P 23 14 15.2 -0.4
GSC **Goldstone, Bar** 81.88 50 P P 23 14 15.2 -0.4
GSC pmax pmax
comp=Z,13nm,1.4s
YERR **Yerington** 81.89 45 P P 23 14 16.1 +0.5
YERR IAmb IAmb 23 14 18.6
comp=Z,40nm,1.6s
L19K **White Mountain** 81.89 13 P P 23 14 16.0 +1.0
baz=208
LHV **Little Huntoon** 82.04 46 P P 23 14 17.1 +1.0
LHV IAmb IAmb 23 14 20.5
comp=Z,20nm,1.2s
SRDT **SRDT** 82.04 288 P P 23 14 17.3 +0.6
QSM **Queen of Sheba** 82.14 49 P P 23 14 16.8 0.0
PAHR **Pah Rah Range** 82.14 45 P P 23 14 16.5 -0.4
RYN **Ryan** 82.21 46 P P 23 14 17.4 +0.1
GRAC **Grapevine Rang** 82.25 48 P P 23 14 17.4 0.0
GRAC IAmb IAmb 23 14 21.6
comp=Z,16nm,1.1s
GRAC **Grapevine Rang** 82.25 48 P P 23 14 18.6 +1.2
baz=243
NVAR **Mina Array Bea** 82.26 46 P P 23 14 17.9 +0.3
NVAR **Mina Array Bea** 82.26 46 P P 23 14 18.6 +0.9
comp=Z,4.5nm,0.9s,baz=228,slow=7.9,SNR=16
comp=Z,4.5nm,0.9s
I17K **Unalakleet** 82.31 10 P P 23 14 18.2 +1.2
I17K **Unalakleet** 82.31 10 P P 23 14 18.4 +1.5
baz=202
TTA **Tatalina** 82.31 12 P P 23 14 18.2 +1.0
TTA IAmb IAmb 23 14 20.4
comp=Z,19nm,1.3s
TTA **Tatalina** 82.31 12 P P 23 14 18.8 +1.6
TTA **Tatalina** 82.31 12 P P 23 14 18.0 +0.8
baz=207
TTA **Tatalina** 82.31 12 P P 23 14 18.2 +1.0
TTA pmax pmax
comp=Z,19nm,1.3s
NV11 **Mina Array Sit** 82.37 46 P P 23 14 19.0 +0.9
NV11 IAmb IAmb 23 14 22.0
comp=Z,19nm,1.3s
L20K **Farewell, AK** 82.37 14 P P 23 14 17.6 +0.1
baz=209
PWL **Port Wells** 82.37 17 P P 23 14 17.6 +0.1
GWY **Greenwater Val** 82.38 49 P P 23 14 17.8 -0.5
HIA **Hailar** 82.43 327 *i* P P 23 14 18.4 +0.4
HIA pmax pmax
comp=Z,6.0nm,1.0s
H04D **Lebanon** 82.45 39 P 23 14 19.5 +1.3
GMN **Gold Mountain** 82.47 48 P P 23 14 19.9 +1.1
G03D **McMinnville, O** 82.50 38 P P 23 14 20.2 +1.7
MZP **Montezuma Peak** 82.56 47 P P 23 14 20.0 +0.6
SLBS **Sierra La Lagu** 82.57 63 P P 23 14 17.6 -1.9
TUQ **Turquoise Moun** 82.58 50 P P 23 14 19.6 +0.3
baz=244
M22K **Willow** 82.65 15 P P 23 14 18.8 0.0
M22K **Willow** 82.65 15 P P 23 14 19.0 +0.2
baz=213
J18K **Innoko River** 82.65 12 P P 23 14 18.5 -0.3
J18K IAmb IAmb 23 14 21.9
comp=Z,27nm,1.2s
J18K **Innoko River** 82.65 12 P P 23 14 19.5 +0.7
baz=206
K05A **Summer Lake** 82.65 41 P P 23 14 19.9 +0.3
K05A IAmb IAmb 23 14 26.1
comp=Z,22nm,1.1s
KMI **Kunming** 82.66 299 ⇓P P 23 14 21.4 +1.3
KMI pmax pmax
comp=Z,12nm,1.8s
WCT **Wildcat Mounta** 82.69 48 P P 23 14 20.2 +0.5
KVN **Kaiserville** 82.70 46 P P 23 14 20.4 +0.5
KVN IAmb IAmb 23 14 23.5
comp=Z,12nm,1.1s
KVN **Kaiserville** 82.70 46 P P 23 14 20.4 +0.5
KVN pmax pmax
comp=Z,12nm,1.1s
J05D **Fort Rock, OR** 82.72 41 P P 23 14 20.5 +0.6
J05D IAmb IAmb 23 14 23.7
comp=Z,23nm,1.1s
HHC **Hu-ho-hao-te** 82.75 316 ⇑P P 23 14 22.2 +2.2
HHC pmax pmax
comp=Z,29nm,1.0s
HHC pmax pmax
comp=Z,330nm,4.7s
KAIM **Kayak Island** 82.76 19 P P 23 14 20.3 +0.9
baz=218
H16K **Elim** 82.76 9 P P 23 14 19.9 +0.6
baz=201
PMR **Palmer** 82.77 16 P P 23 14 19.9 +0.5
PMR IAmb IAmb 23 14 21.8
comp=Z,23nm,1.2s
PMR **Palmer** 82.77 16 P P 23 14 20.9 +1.5
PMR **Palmer** 82.77 16 P P 23 14 20.7 +1.3
baz=214
PMR **Palmer** 82.77 16 P P 23 14 19.9 +0.5
PMR pmax pmax
comp=Z,23nm,1.2s
KNK **Knik Glacier** 82.80 16 P P 23 14 20.9 +1.2
baz=214
G15K **Niukluk** 82.84 8 P P 23 14 21.5 +1.8
baz=199
TPH **Tonopah** 82.85 47 P P 23 14 21.1 +0.4
TPH **Tonopah** 82.85 47 P P 23 14 21.1 +0.4
TPH pmax pmax
comp=Z,135nm,1.5s
EYAK **Cordova Ski Ar** 82.86 18 P P 23 14 22.9 +3.0
baz=217
H04A **Detroit Lake** 82.87 39 P P 23 14 21.6 +1.2
H04A IAmb IAmb 23 14 23.6
comp=Z,35nm,1.7s
BLYC **Blythe** 82.89 52 P P 23 14 21.4 +0.7
BLYC IAmb IAmb 23 16 53.2
comp=Z,21nm,1.5s
CRAI **Chiangrai** 82.92 293 P P 23 14 19.3 -2.0
CRAI IAmb IAmb 23 14 24.4
comp=Z,19nm,1.5s
TPNV **Topopah Spring** 83.03 48 P P 23 14 22.7 +1.1
TPNV IAmb IAmb 23 14 25.5
comp=Z,13nm,1.2s
TPNV **Topopah Spring** 83.03 48 P P 23 14 22.4 +0.8
baz=243
TPNV **Topopah Spring** 83.03 48 P P 23 14 22.7 +1.1
TPNV pmax pmax
comp=Z,13nm,1.2s
E03A **Lebam** 83.05 37 P P 23 14 22.4 +1.2
113A **Mohawk Valley,** 83.05 53 P P 23 14 22.9 +1.3
113A IAmb IAmb 23 14 28.1
comp=Z,34nm,1.9s
K20K **Telida** 83.11 13 P P 23 14 21.7 +0.5
baz=209
PINE **Pine Mountain** 83.17 40 P P 23 14 22.9 +0.7
PINE IAmb IAmb 23 14 29.3
comp=Z,18nm,1.3s
MAW **Mawson** 83.18 201 P P 23 14 22.9 +1.2
MAW **Mawson** 83.18 201 P P 23 14 22.9 +1.2
MAW pmax pmax
comp=Z,13nm,1.6s
MAW **Mawson** 83.18 201 P P 23 14 20.3 -1.3
comp=Z,12nm,1.1s,baz=160,slow=7.0,SNR=6.5
comp=Z,12nm,1.1s
I05D **Terrebonne, OR** 83.20 40 P P 23 14 23.5 +1.3
J19K **Poorman** 83.35 12 P P 23 14 22.9 +0.4
J19K **Poorman** 83.35 12 P P 23 14 23.5 +1.0
baz=207
F04A **Amboy** 83.39 38 P P 23 14 23.7 +0.7
H17K **Granite Mounta** 83.41 10 P P 23 14 22.5 -0.2
H17K IAmb IAmb 23 14 25.8
comp=Z,22nm,1.1s
H17K **Granite Mounta** 83.41 10 P P 23 14 24.0 +1.2
baz=203

214A Organ Pipe Nat 83.45 54 P 23 14 24.5 +0.8
214A IAmb IAmb 23 14 27.6
comp=Z,14nm,1.1s
214A Organ Pipe Nat 83.45 54 P P 23 14 25.1 +1.4
baz=246
G16K Koyuk River 83.45 9 P P 23 14 23.6 +0.7
G16K Koyuk River 83.45 9 P P 23 14 24.3 +1.4
baz=201
V12A Nelson 83.50 50 P P 23 14 23.9 -0.1
V12A IAmb IAmb 23 14 31.3
comp=Z,19nm,1.6s
HOOD Mount Hood Mea 83.52 39 P P 23 14 25.0 +1.1
BMRM Bremner River 83.53 18 P P 23 14 24.1 +0.6
BMRM Bremner River 83.53 18 P P 23 14 23.9 +0.4
baz=218
CMAR Chiang Mai Arr 83.58 291 P P 23 14 24.5 -0.1
CMAR Chiang Mai Arr 83.58 291 ceP P 23 14 25.3 +0.6
CMAR pmax pmax
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 83.58 291 P P 23 14 24.8 +0.1
comp=Z,4.1nm,0.9s,baz=121,slow=3.8,SNR=19
comp=Z,4.1nm,0.9s
WTNK Soaring Height 83.58 49 P P 23 14 25.4 +1.1
CAST Castle Rocks 83.60 14 P P 23 14 22.9 -0.9
CAST IAmb IAmb 23 14 25.7
comp=Z,18nm,1.0s
CAST Castle Rocks 83.60 14 P P 23 14 23.4 -0.4
baz=211
SHPR Sheep Range 83.61 49 P 23 14 24.2 -0.4
BTO Baotou 83.67 316 eP P 23 14 26.8 +2.1
BTO pP pP 23 14 31.5 +0.4
BTO sP sP 23 14 33.9 +0.6
BTO pmax pmax
comp=Z,23nm,1.2s
BTO pmax pmax
comp=Z,190nm,6.4s
CHTO Chiang Mai 83.70 292 P P 23 14 23.5 -1.7
CHTO IAmb IAmb 23 14 28.3
comp=Z,24nm,1.6s
CHTO Chiang Mai 83.70 292 P P 23 14 25.8 +0.5
CHTO Chiang Mai 83.70 292 P P 23 14 23.5 -1.7
CHTO pmax pmax
comp=Z,24nm,1.6s
G17K Kiwalik Mounta 83.82 10 P P 23 14 24.8 0.0
baz=202
H18K Honhosa River 83.88 11 P P 23 14 24.3 -0.9
baz=205
W13A Hualapai Mount 83.94 51 P P 23 14 26.8 +0.4
W13A IAmb IAmb 23 14 30.6
comp=Z,14nm,1.4s
BMN Battle Mountai 83.94 45 P P 23 14 27.2 +1.0
BMN IAmb IAmb 23 14 30.0
comp=Z,22nm,1.2s
BMN Battle Mountai 83.94 45 P P 23 14 27.3 +1.0
BMN pmax pmax
comp=Z,22nm,1.2s
WAT1 Susitna Watana 83.96 15 P P 23 14 25.2 -0.4
baz=214
WVOR Wild Horse Val 83.96 43 P P 23 14 27.0 +0.8
WVOR Wild Horse Val 83.96 43 P P 23 14 27.0 +0.8
WVOR pmax pmax
comp=Z,10.0nm,1.2s
CLRS Cowichan Lake 83.98 35 P P 23 14 26.1 +0.2
CBB Campbell River 83.99 34 P P 23 14 27.2 +1.2
CBB IAmb IAmb 23 14 29.5
comp=Z,21nm,1.2s
M24K Tolsona, Glenn 83.99 17 P P 23 14 26.1 +0.2
M24K Tolsona, Glenn 83.99 17 P P 23 14 26.3 +0.4
baz=216
PZH PanZhiHua 84.01 300 P P 23 14 27.6 +0.7
PZH pmax pmax
comp=Z,10.0nm,2.0s
PZH pmax pmax
comp=Z,90nm,5.0s
GNW Green Mountain 84.02 37 P P 23 14 26.7 +0.5
GNW IAmb IAmb 23 14 29.6
comp=Z,16nm,1.4s
CD2 Chengdu 84.06 305 P P 23 14 28.4 +1.5
CD2 pmax pmax
comp=Z,30nm,0.7s
VRDI Verde Repeater 84.08 18 P P 23 14 25.9 -0.6
PRN Pahroc Range 84.08 48 P P 23 14 27.6 +0.6
PRN IAmb IAmb 23 14 31.2
comp=Z,21nm,1.1s
G06A Carlson Farm, 84.09 39 P P 23 14 26.2 -0.5
R11B Troy Canyon, C 84.12 47 P P 23 14 27.9 +0.6
R11B Troy Canyon, C 84.12 47 P P 23 14 27.9 +0.6
baz=244
GLB Gilahina Butte 84.14 18 P P 23 14 23.6 -3.0
LON Longmire 84.18 38 P P 23 14 26.5 -0.7
LON IAmb IAmb 23 14 30.1
comp=Z,18nm,1.6s
LON Longmire 84.18 38 P P 23 14 26.5 -0.7
LON pmax pmax
comp=Z,18nm,1.6s
I07A Izee 84.21 41 P P 23 14 27.5 +0.1
I07A IAmb IAmb 23 14 31.1
comp=Z,12nm,1.2s
PGC Sidney 84.26 35 P P 23 14 27.9 +0.5
PGC IAmb IAmb 23 14 29.9
comp=Z,21nm,1.2s
D05A Enumclaw 84.30 37 P P 23 14 27.7 0.0
RND Reindeer 84.36 15 P P 23 14 27.6 -0.1
RND Reindeer 84.36 15 P P 23 14 27.6 -0.1
RND pmax pmax
comp=Z,46nm,1.3s
S32K Killisnoo 84.41 24 P P 23 14 26.7 -1.2
G18K Tagagawik 84.51 10 P P 23 14 28.6 +0.3
G18K Tagagawik 84.51 10 P P 23 14 29.5 +1.2
baz=204
J08A Circle Bar Ran 84.51 42 P P 23 14 29.4 +0.4
J08A IAmb IAmb 23 14 32.5
comp=Z,13nm,1.1s
CTG Chitna Glacier 84.53 19 P P 23 14 29.2 +0.4
baz=221
LOGN Logan Glacier 84.53 20 P P 23 14 29.6 +0.9
H19K Roundabout Mou 84.56 11 P P 23 14 29.8 +1.2
baz=206
F17K Baldwin Pennin 84.60 9 P P 23 14 29.0 +0.3
F17K Baldwin Pennin 84.60 9 P P 23 14 29.3 +0.6
baz=202
MCK McKinley 84.61 15 P P 23 14 29.0 +0.1
baz=214
P29M Windy Craggy 84.75 22 P P 23 14 30.8 +1.1
baz=224
BILL Bilibino 84.80 356 P P 23 14 30.1 +0.3
BILL IAmb IAmb 23 14 31.7
comp=Z,14nm,1.3s
BILL Bilibino 84.80 356 eP P 23 14 30.3 +0.6
H20K Anotleneega Mo 84.83 12 P P 23 14 30.4 +0.5
baz=208
PAX Paxson 84.89 17 P P 23 14 30.7 +0.3
baz=217
G19K Purcell Mounta 85.00 11 P P 23 14 31.8 +1.0
baz=206
E17K Hotham Inlet 85.12 8 P P 23 14 31.8 +0.5
baz=201
M26K Nabesna, AK 85.14 18 P P 23 14 31.8 +0.2
baz=219
G08A Pilot Rock 85.14 40 P P 23 14 32.8 +0.7
G08A IAmb IAmb 23 14 35.6
comp=Z,19nm,1.2s
TUC Tucson 85.17 54 P P 23 14 31.8 -0.7
TUC IAmb IAmb 23 14 37.0
comp=Z,12nm,1.1s
TUC Tucson 85.17 54 P P 23 14 33.3 +0.8
baz=247
TUC Tucson 85.17 54 P P 23 14 31.8 -0.7
TUC pmax pmax
comp=Z,12nm,1.1s
YUK8 Steele Glacier 85.28 20 P P 23 14 33.4 +0.8
baz=222
SPR3 Spring Creek 3 85.29 47 P P 23 14 33.0 -0.3
HAWA Hanford 85.34 39 P P 23 14 31.9 -1.1
HAWA IAmb IAmb 23 14 36.4
comp=Z,14nm,1.0s
P30M Million Dollar 85.38 22 P P 23 14 33.9 +1.0
baz=225
H21K Melozitna Rive 85.39 12 P P 23 14 33.7 +1.0
baz=210
ELK Elko 85.43 45 P P 23 14 34.1 +0.3
ELK Elko 85.43 45 P P 23 14 34.1 +0.3
ELK pmax pmax
comp=Z,5.0nm,1.0s
ELK Elko 85.43 45 LR LR 23 45 42.5
comp=Z,425nm,20.2s,baz=239,slow=31
M27K Edge Creek, AK 85.43 18 P P 23 14 34.0 +0.8
baz=220
K24K Donnelly Dome 85.47 16 P P 23 14 33.1 -0.1
baz=216
F19K Shaleruckik Mo 85.51 10 P P 23 14 32.3 -1.0
F19K IAmb IAmb 23 14 36.0
comp=Z,12nm,1.0s
F19K Shaleruckik Mo 85.51 10 P P 23 14 33.1 -0.2
baz=205
L26K Log Cabin Wild 85.52 17 P P 23 14 33.0 -0.5
baz=219
KNB Kanab 85.53 49 P P 23 14 32.7 -1.6
KNB IAmb IAmb 23 14 41.9
comp=Z,33nm,1.8s
KNB Kanab 85.53 49 P P 23 14 32.7 -1.6
KNB pmax pmax
comp=Z,33nm,1.8s
E18K Tukpahlearik C 85.61 9 P P 23 14 34.3 +0.5
E18K IAmb IAmb 23 14 37.6
comp=Z,17nm,1.1s
E18K Tukpahlearik C 85.61 9 P P 23 14 34.3 +0.5
baz=202
CCB Clear Creek Bu 85.65 15 P P 23 14 30.9 -3.1
CCB IAmb IAmb 23 14 34.8
comp=Z,22nm,1.6s
HDA Harding Lake 85.67 15 P P 23 14 33.0 -1.2
HDA Harding Lake 85.67 15 P P 23 14 34.3 +0.1
baz=215
HDA P P 23 14 34.3 +0.1
baz=215
U15A North Rim 85.67 50 P P 23 14 35.5 +0.3
U15A IAmb IAmb 23 14 39.5
comp=Z,15nm,1.2s
E08A Dider Farm, El 85.68 39 P P 23 14 36.0 +1.4
E08A IAmb IAmb 23 14 41.3
comp=Z,20nm,1.3s
I23K Minto, Yukon-K 85.70 14 P P 23 14 35.6 +1.4
baz=213
BVCY Beaver Creek 85.78 19 P P 23 14 35.5 +0.7
baz=221
C16K Lisburne Hills 85.80 7 P P 23 14 36.1 +1.4
baz=198
MDM Murphy Dome 85.81 14 P P 23 14 35.2 +0.3
MDM IAmb IAmb 23 14 37.0
comp=Z,15nm,1.2s
COLA College 85.83 15 P P 23 14 35.9 +1.0
T35M Bob Quinn 85.86 26 P P 23 14 37.0 +1.7
baz=231
H22K Ishtalitna Cre 85.89 13 P P 23 14 35.9 +0.6
baz=211
BMO Blue Mountains 85.96 41 P P 23 14 35.0 -1.2
BMO Blue Mountains 85.96 41 P P 23 14 35.0 -1.2
BMO pmax pmax
comp=Z,11nm,1.6s
IL31 85.98 15 P P 23 14 35.0 -0.6
ILAR Eielson Array 85.98 15 P P 23 14 35.1 -0.6
ILAR Eielson Array 85.98 15 P P 23 14 35.1 -0.6
ILAR Eielson Array 85.98 15 P P 23 14 33.9 -1.8
comp=Z,4.0nm,0.9s,baz=241,slow=5.9,SNR=21
ILAR LR LR 23 46 03.8
comp=Z,502nm,21.0s,baz=216,slow=31
comp=Z,4.0nm,0.9s
L27K Beaver Creek, 85.99 18 P P 23 14 36.6 +0.7
baz=220
G21K Allakaket 86.00 12 P P 23 14 36.2 +0.5
baz=209
D08A Wollman Farm, 86.04 38 P P 23 14 35.6 -0.8
F20K Avaraart Lake 86.06 11 P P 23 14 36.5 +0.5
baz=207
LZH Lanzhou 86.06 309 eP P 23 14 38.2 +1.2
LZH pP PcP 23 14 41.9 +2.3
LZH pmax pmax
comp=Z,31nm,1.2s
S34M Telegraph Cree 86.09 25 P P 23 14 37.9 +1.6
baz=230
SCRK Sand Creek 86.09 16 P P 23 14 35.6 -0.8
SCRK IAmb IAmb 23 14 38.9
comp=Z,34nm,1.9s
SCRK Sand Creek 86.09 16 P P 23 14 37.2 +0.8
baz=218
E19K Redstone River 86.17 10 P P 23 14 36.9 +0.3
baz=206
J25K Salcha River, 86.23 16 P P 23 14 37.6 +0.5
baz=217
E09A Wood Farm, Sta 86.24 39 P P 23 14 36.1 -1.3
E09A IAmb IAmb 23 14 41.4
comp=Z,32nm,1.7s
MFID Camas Ranch 86.24 43 P P 23 14 37.6 0.0
MFID IAmb IAmb 23 14 41.3
comp=Z,18nm,1.4s
MTPU Mount Pierson 86.41 49 P P 23 14 38.0 -0.9
MTPU IAmb IAmb 23 14 43.6
comp=Z,19nm,1.3s
WHY Whitehorse 86.49 22 P P 23 14 38.5 +0.1
baz=226
F10A Beach Ranch, E 86.54 40 P P 23 14 38.3 -0.7
F10A IAmb IAmb 23 14 45.1
comp=Z,35nm,1.8s
YAK Yakutsk 86.59 340 ceP P 23 14 39.2 +0.5
YAK pmax pmax
comp=Z,29nm,1.7s
MSU Marysvale 86.61 48 P P 23 14 39.8 +0.1
MSU Marysvale 86.61 48 P P 23 14 39.8 +0.1
J26L Joseph Creek 86.62 16 P P 23 14 40.0 +1.0
baz=218
F21K Alatna River 86.62 11 P P 23 14 39.6 +0.8
baz=209
K27K Chicken 86.66 17 P P 23 14 40.5 +1.5
baz=220
C18K Utukok River 86.67 8 P P 23 14 40.8 +1.8
baz=202
G22K Bettles 86.75 12 P P 23 14 40.4 +1.0
baz=211
DUG Dugway, Tooele 86.86 47 P P 23 14 42.3 +1.5
baz=245
DLBC Dease Lake 86.87 25 P P 23 14 41.2 +0.9
baz=231
PLID Pearl Lake 86.89 41 P P 23 14 41.0 +0.1
D19K Kuna River 86.97 9 P P 23 14 41.1 +0.6
baz=205
E20K Nigu River 87.06 10 P P 23 14 41.6 +0.5
baz=207
R33M Jennings River 87.11 24 P P 23 14 42.4 +0.9
baz=230
F22K John River 87.12 12 P P 23 14 41.5 +0.2
baz=210
L29M L29M 87.14 19 P P 23 14 42.5 +1.0
baz=224
M30M Minto, Yukon 87.19 20 P P 23 14 43.2 +1.5
baz=225
HLID Hailey 87.22 43 P P 23 14 42.4 -0.1
HLID Hailey 87.22 43 P P 23 14 43.5 +1.0
baz=244
B18K Kokolik River 87.26 8 P P 23 14 44.4 +2.5
baz=201
COLD Coldfoot 87.28 12 P P 23 14 43.0 +1.0
baz=212
C19K Lookout Ridge 87.31 8 P P 23 14 44.5 +2.3
baz=203
I26K Coal Creek Min 87.36 16 P P 23 14 42.5 +0.1
baz=219
D20K Etivluk River 87.41 10 P P 23 14 43.0 +0.4
baz=206
EGAK Eagle 87.49 17 P P 23 14 44.4 +1.3
baz=221
HVU Hansel Valley 87.55 45 P P 23 14 43.3 -0.8
HVU IAmb IAmb 23 14 48.0
comp=Z,17nm,1.2s
HVU Hansel Valley 87.55 45 P P 23 14 43.3 -0.8
HVU pmax pmax
comp=Z,17nm,1.2s
E21K Killik River 87.61 11 P P 23 14 44.2 +0.6
baz=209
NEW Newport 87.69 38 P P 23 14 44.2 -0.3
baz=242
NEW Newport 87.69 38 LR LR 23 49 16.1
comp=Z,271nm,18.4s,baz=232,slow=32
E22K Anaktuvuk Pass 87.74 11 P P 23 14 44.3 0.0
baz=211
SRU San Rafael Swe 88.03 48 P P 23 14 46.7 +0.1
SRU IAmb IAmb 23 14 50.2
comp=Z,17nm,1.4s
SRU San Rafael Swe 88.03 48 P P 23 14 46.7 +0.1
SRU pmax pmax
comp=Z,17nm,1.4s
C21K Knifeblade Rid 88.10 10 P P 23 14 46.3 +0.4
baz=208
D22K Ayikyak River 88.22 11 P P 23 14 47.9 +1.4
baz=210
HWUT Hardware Ranch 88.30 46 P P 23 14 46.9 -0.8
HWUT IAmb IAmb 23 18 09.6
comp=Z,8.4nm,0.7s
I28M Miner Creek 88.34 17 P P 23 14 49.4 +2.1
baz=222
BSUT Blindstream Ca 88.43 47 P P 23 14 48.0 -0.6
BSUT IAmb IAmb 23 14 52.4
comp=Z,8.8nm,0.9s
G26K Porcupine Rive 88.50 15 P P 23 14 48.0 +0.2
baz=218
H27K Steamboat Moun 88.51 16 P P 23 14 48.9 +1.0
baz=220
B21K Ikpikpuk River 88.54 10 P P 23 14 49.3 +1.3
baz=208
F25K Christian Rive 88.57 14 P P 23 14 49.9 +1.7
baz=216
TOLK Toolik Lake Re 88.61 12 P P 23 14 49.4 +1.0
baz=213
D23K Nanushuk River 88.67 11 P P 23 14 48.6 0.0
baz=212
I29M Ogilvie Camp, 88.74 17 P P 23 14 49.0 0.0
baz=223
ULN Ulaanbaatar 88.89 321 P P 23 14 49.8 -0.5
ULN IAmb IAmb 23 14 53.0
comp=Z,18nm,1.2s
ULN Ulaanbaatar 88.89 321 ceP P 23 14 49.6 -0.7
ULN pmax pmax
comp=Z,25nm,1.7s
E25K Arctic Village 89.02 13 P P 23 14 52.0 +1.7
baz=217
LIRD Liard River Hi 89.08 26 P P 23 14 52.0 +1.3
baz=234
BPMT Black Pine Rid 89.09 41 P P 23 14 51.4 0.0
I30M Mount Dempster 89.20 18 P P 23 14 50.7 -0.6
I30M Mount Dempster 89.20 18 P P 23 14 51.0 -0.3
baz=225
MNTX Cornudas Mount 89.21 57 P P 23 14 51.9 -0.1
baz=250
425A Indio Mountain 89.22 58 P P 23 14 53.3 +1.0
425A IAmb IAmb 23 15 02.7
comp=Z,17nm,1.9s
SONM Songino Array 89.28 321 P P 23 14 51.4 -0.7
SONM IAmb IAmb 23 14 54.6
comp=Z,16nm,1.3s
SONM Songino Array 89.28 321 P P 23 14 51.4 -0.7
SONM pmax pmax
comp=Z,17nm,1.3s
SONM Songino Array 89.28 321 P P 23 14 51.9 -0.3
comp=Z,6.0nm,1.1s,baz=121,slow=4.3,SNR=21
comp=Z,6.0nm,1.1s
H29M Whitestone 89.35 17 P P 23 14 52.2 +0.3
baz=223
B22K Teshekpuk Lake 89.38 10 P P 23 14 52.6 +0.8
baz=209
CHMT Chamberlain Mo 89.42 40 P P 23 14 52.7 -0.2
C23K Itkillik River 89.42 11 P P 23 14 53.2 +1.1
baz=212
REDW Red Top Meadow 89.50 44 P P 23 14 54.7 +1.3
ANMO Albuquerque 89.50 53 P P 23 14 53.6 +0.1
ANMO Albuquerque 89.50 53 P P 23 14 54.9 +1.4
baz=249
ANMO Albuquerque 89.50 53 iP P 23 14 54.3 +0.8
ANMO pmax pmax
comp=Z,4.0nm,1.0s
OVMT Ovando 89.64 40 P P 23 14 53.4 -0.5
IMW Indian Meadow 89.65 44 P P 23 14 53.2 -1.0
IMW IAmb IAmb 23 17 35.4
comp=Z,8.2nm,0.5s
MOOW Moose Ponds 89.72 44 P P 23 14 53.0 -1.4
TX31 Lajitas Ar. Si 89.81 59 P P 23 14 53.9 -1.1
TX31 IAmb IAmb 23 15 02.1
comp=Z,15nm,1.2s
TXAR Lajitas Array 89.81 59 P P 23 14 53.9 -1.1
TXAR Lajitas Array 89.81 59 P P 23 14 55.5 +0.5
comp=Z,1.2nm,0.8s,baz=217,slow=5.8,SNR=6.6
TXAR LR LR 23 46 52.9
comp=Z,272nm,21.3s,baz=251,slow=30
comp=Z,1.2nm,0.8s
FLWY Flagg Ranch 89.88 44 P P 23 14 55.8 +0.6
FLWY IAmb IAmb 23 18 23.7
comp=Z,31nm,1.8s
BOZ Bozeman (W) 89.89 42 P P 23 14 54.8 -0.3
BOZ IAmb IAmb 23 14 58.8
comp=Z,18nm,1.4s
BOZ Bozeman (W) 89.89 42 P P 23 14 55.9 +0.8
baz=246
BOZ Bozeman (W) 89.89 42 P P 23 14 54.8 -0.3
BOZ pmax pmax
comp=Z,18nm,1.4s
BEMT Mount Belmont 89.92 41 P P 23 14 55.8 +0.5
LYMT Lyon Mountain 90.04 41 P P 23 14 56.2 +0.4
O20A White River Ci 90.05 48 P P 23 14 56.7 +0.6
baz=248
BW06 Boulder Array 90.13 45 P P 23 14 57.0 +0.6
baz=247
PDAR Pinedale Array 90.13 45 P P 23 14 57.0 +0.6
comp=Z,2.5nm,1.1s,baz=225,slow=4.0,SNR=6.9
comp=Z,2.5nm,1.1s
ALPN Alpine 90.18 58 P P 23 14 54.6 -2.1
ALPN IAmb IAmb 23 15 02.8
comp=Z,9.8nm,1.4s
S22A 4UR Ranch, Cre 90.21 51 P P 23 14 56.4 -0.5
S22A IAmb IAmb 23 15 01.0
comp=Z,20nm,1.4s
S22A 4UR Ranch, Cre 90.21 51 P P 23 14 58.3 +1.3
baz=249
GTA Gaotai 90.28 311 P P 23 14 57.4 +0.4
GTA sP pwP 23 15 11.2 +4.1
GTA pmax pmax
comp=Z,18nm,1.5s
G30M tAoh Zraii Nji 90.50 17 P P 23 14 56.9 -0.3
G30M IAmb IAmb 23 15 01.2
comp=Z,16nm,1.4s
G30M tAoh Zraii Nji 90.50 17 P P 23 14 56.7 -0.6
baz=225
C26K Camden Bay 90.61 13 P P 23 14 57.5 -0.1
baz=217
SMCO Snowmass 90.61 49 P P 23 14 58.8 -0.2
SMCO IAmb IAmb 23 15 02.6
comp=Z,16nm,1.4s
E28M Babbage River 90.81 15 P P 23 14 57.5 -1.1
E28M Babbage River 90.81 15 P P 23 14 58.8 +0.2
baz=222
G31M Satah River 91.01 17 P P 23 14 59.2 -0.3
baz=227
E29M Blow River 91.06 15 P P 23 14 59.9 +0.2
baz=224
F30M Barrier River 91.06 17 P P 23 14 60.0 +0.1
baz=226
SDCO Great Sand Dun 91.19 51 P P 23 15 01.5 -0.1
SDCO IAmb IAmb 23 15 05.1
comp=Z,10nm,1.4s
SDCO Great Sand Dun 91.19 51 P P 23 15 01.1 -0.4
baz=250
TROLL Troll, Antarti 91.41 182 ⇓P P 23 15 01.0 -0.8
comp=Z,265nm,0.8s
SNAA Sanae 91.85 180 P P 23 15 01.9 -1.8
SNAA IAmb IAmb 23 15 07.9
comp=Z,14nm,1.4s
SNAA Sanae 91.85 180 ⇓P P 23 15 02.6 -1.1
comp=Z,50nm,0.7s
SNAA Sanae 91.85 180 ceP P 23 15 03.3 -0.4
SNAA pmax pmax
comp=Z,13nm,1.7s
SNAA Sanae 91.85 180 P P 23 15 00.9 -2.8
comp=Z,2.5nm,0.8s,baz=145,slow=5.6,SNR=6.0
comp=Z,2.5nm,0.8s
Q24A Divide 91.87 50 P P 23 15 05.6 +0.9
baz=250
EDM Edmonton 92.06 35 P P 23 15 04.5 -0.3
EDM Edmonton 92.06 35 P P 23 15 04.5 -0.3
EDM pmax pmax
comp=Z,43nm,1.7s
VNA3 Neumayer Olymp 92.19 178 P P 23 15 04.5 -0.7
comp=Z,3.7nm,0.9s
ZAK Zakamensk 92.21 322 eP P 23 15 00.8 -4.8
ZAK pmax pmax
comp=Z,7.0nm,1.3s
OZNA Ozona 92.40 59 P P 23 15 08.0 +1.0
OZNA IAmb IAmb 23 15 10.4
comp=Z,12nm,1.1s
PHWY Pilot Hill 92.45 48 P P 23 15 06.0 -1.3
PHWY IAmb IAmb 23 15 10.0
comp=Z,8.0nm,0.7s

VNA2 Neumayer--Watz 92.57 179 ⇓P **P 23 15 06.1 -0.9**
comp=Z,0.0nm,0.1s,baz=154,slow=4.0
VNA1 Neumayer--Stat 92.82 179 ⇓P **P 23 15 07.4 -0.6**
comp=Z,15nm,1.2s
TIXI Tiksi 93.72 347 P **P 23 15 11.5 -0.5**
TIXI IAmb IAmb 23 15 13.6
comp=Z,8.2nm,1.1s
TIXI Tiksi 93.72 347 *e*P **P 23 15 12.5 +0.5**
TIXI Tiksi 93.72 347 LR LR 23 53 08.6
comp=Z,13nm,20.9s,baz=156,slow=33
ABTX Abilene, Hawle 94.12 57 P **P 23 15 15.4 +0.6**
baz=253
RSSD Black Hills 94.37 45 P **P 23 15 17.4 +1.4**
baz=251
YKA Yellowknife Ar 95.47 26 P **P 23 15 18.9 -1.3**
comp=Z,1.3nm,0.9s,baz=249,slow=4.5,SNR=9.5
comp=Z,1.3nm,0.9s
A36M Sachs Harbour 96.67 16 P **P 23 15 22.8 -2.6**
A36M IAmb IAmb 23 15 28.1
comp=Z,8.5nm,1.1s
WMQ Urumqi 100.26 313 *e*P **Pdif 23 15 44.3 +2.0**
DGZ Jazzator, Alta 101.72 318 *i* P **Pdif 23 15 48.9 +0.1**
DGZ pmax pmax
comp=Z,1.0nm,1.1s
ZALV Zalesovo Beam 104.08 322 Pdiff **Pdif 23 15 58.1 -0.9**
comp=Z,0.3nm,0.4s,baz=66,slow=7.0,SNR=1.7
MKAR Makanchi Array 104.57 315 Pdiff **Pdif 23 16 00.8 -0.6**
comp=Z,1.8nm,1.0s,baz=97,slow=5.0,SNR=3.6
BVAR Borovoye Array 112.62 321 PKIKP **PKiKP 23 20 30.1 -2.0**
comp=Z,1.1nm,0.7s,baz=107,slow=1.5,SNR=6.5
ARU Arti 118.94 326 *i* PKIKP **PKiKP 23 20 44.9 +0.7**
ARU 23 22 02.9
ARU 23 27 56.8
ARU SS SS 23 38 23.6 +1.7
GEYT Alibeck 122.06 305 PKP **PKPdf 23 20 49.9 -0.9**
comp=Z,2.3nm,0.7s,baz=66,slow=14,SNR=4.1
KIRV Kirov 122.91 330 *c* *i* PKIKP **PKPdf 23 20 51.5 -0.1**
ARCES ARCESS Array B 124.13 348 PKP **PKPdf 23 20 52.4 -1.4**
comp=Z,2.7nm,0.7s,baz=11,slow=1.6,SNR=9.7
OBN Obninsk 130.75 331 *de*PKIKP **PKPdf 23 21 06.1 -0.6**
OBN *e* 23 23 20.9
OBN *e* 23 28 11.6
OBN pmax pmax
comp=Z,10.0nm,1.9s
OBN MLR MLR
comp=Z,297nm,18.0s
KIV Kislovodsk 132.34 315 *e*PKIKP **PKPdf 23 21 09.1 -1.2**
KIV pmax pmax
comp=Z,6.0nm,1.0s
NACGM Naroch 135.18 335 LQ LQ 00 13 46.4
AKASG Malin Array Be 136.97 329 *c* *i*PKIKP **PKiKP 23 21 21.1 +0.7**
AKASG Malin Array Be 136.97 329 PKP **PKPdf 23 21 18.1 -0.4**
comp=Z,0.3nm,0.3s,baz=40,slow=1.4,SNR=5.4
BRTR Keskin Array B 140.19 313 *c* *i*PKIKP **PKiKP 23 21 28.1 +0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 140.19 313 PKP **PKPdf 23 21 21.6 -3.4**
comp=Z,0.4nm,0.3s,baz=28,slow=13,SNR=2.0
ZVC Zvikov 144.21 340 *e*PKP **PKPab 23 21 29.7 +0.2**
KHC Kasperske Hory 144.67 340 PKPbc 23 21 31.6 +0.2
KHC Kasperske Hory 144.67 340 *e*PKP **PKPab 23 21 26.3 -4.9**
KHC *ex* x 23 21 31.8
KHC Kasperske Hory 144.67 340 *e*PKHKP PKPpre 23 21 26.3
KHC *e* 23 21 31.8
ALN Alexandroupoli 144.68 319 **PKPab 23 21 31.5 0.0**
ALN Alexandroupoli 144.68 319 PKIKP **PKPab 23 21 31.5 0.0**
CKRC Cesky Krumlov 144.70 339 *e*PKP **PKPab 23 21 31.4 +0.1**
CKRC Cesky Krumlov 144.70 339 *e*PKIKP **PKPab 23 21 31.4 +0.1**
RDO Rodhopi 144.86 320 P **PKPab 23 21 31.2 -0.9**
GERES GERESS Array B 144.88 340 PKP **PKPab 23 21 31.6 -0.4**
comp=Z,4.0nm,0.8s,baz=29,slow=3.0,SNR=13
CONA Conrad Observa 144.89 337 *e*PKP PKPbc 23 21 32.6 +0.4
comp=Z,9.8nm,0.7s,SNR=7.1
GRA1 Grafenberg Arr 144.89 343 **PKPdf 23 21 33.7 +0.8**
GRF Grafenberg Arr 144.89 343 PKIKP **PKPdf 23 21 33.7 +0.8**
GRFO Grafenberg 144.89 343 **PKPdf 23 21 34.3 +1.4**
GRFO Grafenberg 144.89 343 PKIKP **PKPdf 23 21 34.3 +1.4**
RONA Rosalia, Austr 144.91 336 *i* PKP PKPbc 23 21 32.6 +0.4
comp=Z,24nm,1.7s,SNR=7.9
YER Yerkesik 145.10 312 PKIKP **PKPdf 23 21 35.3 +1.6**
YER pmax pmax
comp=Z,16nm,1.0s
BTNL Ternell 145.25 349 *d*PKPdf **PKPdf 23 21 34.0 +0.5**
BTNL *d*PKP **PKiKP 23 21 38.3 +0.9**
MEM Membach 145.25 349 *d*PKP **PKPdf 23 21 35.3 +1.8**
BSTI Sart Tilman 145.36 349 *d*PKPdf **PKPab 23 21 34.6 +1.0**
BSTI *d*PKP **PKiKP 23 21 38.0 +0.5**
FRGS Fruska Gora 145.37 330 *e*P **PKPbc 23 21 33.5 -0.2**
KMR Kremsmunster 145.41 339 PKHKP PKPpre 23 21 24.8
KMR pmax pmax
comp=Z,54nm,0.9s
BHOU Houvegnez 145.50 349 *d*PKP **PKPab 23 21 34.8 +0.6**
MOA Molln 145.54 338 *i* PKP **PKPab 23 21 34.9 +0.4**
comp=Z,39nm,1.0s,SNR=6.7
BCLA Clavier 145.56 350 *d*PKP **PKPab 23 21 34.5 +0.1**
KAVA Kavala 145.57 320 P **PKPab 23 21 36.5 +1.7**
ARSA Arzberg 145.58 336 *i* PKP **PKPab 23 21 34.8 +0.1**
comp=Z,30nm,1.4s,SNR=8.5
BGES Gesves 145.63 350 *d*PKP **PKPbc 23 21 34.6 +0.2**
NVR Nevrokopi 145.75 322 P **PKPdf 23 21 34.6 -0.1**
BMRD Maredsous 145.76 350 *d*PKP **PKPdf 23 21 34.5 +0.1**
BIOA Bad Ischl, Aus 145.90 339 *i* PKP **PKPbc 23 21 35.2 -0.1**
comp=Z,10nm,1.1s
TEKS Tekeris 145.95 330 *e*P **PKPab 23 21 36.2 +0.1**
DOU Dourbes 145.99 350 *d*PKP **PKPbc 23 21 35.9 +0.4**
DIVS Divibare 146.05 329 *e*P **PKPbc 23 21 35.8 -0.2**
SRS Serrai 146.06 321 P **PKPdf 23 21 34.7 -0.5**
WLF Walferdange 146.13 348 *d*PKPdf **PKPbc 23 21 36.3 +0.4**
SOKA Soboth 146.24 336 *i* PKP **PKPbc 23 21 36.2 -0.3**
comp=Z,21nm,1.2s,SNR=6.2
LESA Schwarzleotal 146.46 340 *i* PKP **PKPbc 23 21 37.0 -0.1**
comp=Z,11nm,1.2s
KBA Koelnbreinsper 146.53 338 *i* PKP **PKPbc 23 21 37.0 -0.5**
comp=Z,16nm,1.0s
OBKA Obir 146.57 337 *i* PKP **PKPdf 23 21 36.1 +0.1**
comp=Z,5.7nm,0.9s
SJES Sjenica 146.66 328 *e*P **PKPbc 23 21 37.9 0.0**
HORT Hortiatis 146.67 321 P **PKPdf 23 21 37.2 +0.9**
RUDO Rudo 146.71 329 *e*P **PKPdf 23 21 36.4 +0.2**
CRES Cresnjev 146.78 335 *e*P **PKPbc 23 21 37.5 -0.5**
MYKA Terra Mystica 146.80 338 *i* PKP **PKPdf 23 21 37.3 +1.0**
comp=Z,9.4nm,1.0s
WATA Walderalm 146.89 341 *i* PKP **PKPbc 23 21 38.9 +0.4**
comp=Z,13nm,0.8s
BLY Banja Luka 146.90 332 *e*P **PKPdf 23 21 35.2 -1.2**
BFO Black Forest 146.91 345 **PKPbc 23 21 38.3 0.0**
BFO Black Forest 146.91 345 PKP2 **PKPbc 23 21 38.3 0.0**
WTTA Wattenberg 146.94 341 *i* PKP **PKPbc 23 21 38.9 +0.3**
comp=Z,16nm,0.9s
RETA Reutte 147.01 342 *i* PKP **PKPbc 23 21 38.7 0.0**
comp=Z,15nm,0.9s,SNR=5.9
MOTA Moosalm 147.03 341 *e*PKP **PKPbc 23 21 38.4 -0.5**
comp=Z,35nm,1.1s,SNR=7.5
ABTA Abfaltersbach 147.10 339 *i* PKP **PKPbc 23 21 38.5 -0.5**
comp=Z,15nm,0.9s,SNR=5.9
SQTA Sankt Quirin 147.11 341 *i* PKP **PKPbc 23 21 38.8 -0.2**
comp=Z,17nm,0.8s,SNR=5.6
BOJS Bojanci 147.12 335 *e*P **PKPbc 23 21 38.4 -0.5**
MGRS Mrkonjic Grad 147.20 332 *e*P **PKiKP 23 21 41.6 0.0**
CLUD Cludinico 147.22 338 **PKPbc 23 21 38.9 -0.4**
CEY Cerknica 147.26 336 *e*P **PKPbc 23 21 38.9 -0.5**
A050A Klekovaca 147.40 332 *e*P **PKPab 23 21 41.8 0.0**
FETA Feichten 147.44 341 *i* pPKP **PKPbc 23 21 40.3 +0.3**
comp=Z,29nm,1.3s
DAVA Damuels 147.45 343 *i* PKP **PKPdf 23 21 37.6 +0.1**
comp=Z,30nm,1.6s
FNA Florina 147.57 323 **PKPbc 23 21 39.3 -1.1**
FNA Florina 147.57 323 PKP2 **PKPbc 23 21 39.3 -1.1**
SKDS Skadanscina 147.58 336 *e*P **PKPdf 23 21 38.4 +0.8**
PDG Podgorica 147.62 327 *e*P **PKPdf 23 21 38.4 +0.7**
BRY Bratogost 147.64 328 *e*P **PKPdf 23 21 38.9 +0.9**
DRME Dracevica, Mon 147.83 327 *e*P **PKiKP 23 21 42.4 -0.6**
HCY Herceg Novi 148.00 328 *e*P **PKPbc 23 21 41.9 +0.4**
STON Ston 148.08 329 *e*P **PKPbc 23 21 41.0 -0.6**
ANX Ano Chora 148.61 319 P **PKiKP 23 21 44.5 -0.3**
GUR Goura 148.73 318 P **PKPbc 23 21 42.4 -1.2**
KLV Kalavryta, Ach 148.79 318 P **PKPbc 23 21 42.4 -1.3**
CESX Cesi 150.60 335 **PKPbc 23 21 47.8 -0.2**
ESDC Sonseca Array 157.11 0 PKPdf **PKPdf 23 21 52.8 +0.8**
ESDC PKPab **PKPab 23 22 24.0 +1.7**
ESDC Sonseca Array 157.11 0 PKPab **PKPab 23 22 21.7 -0.6**
comp=Z,3.8nm,1.2s,baz=343,slow=4.3,SNR=8.5
TORD Torodi Ar. Bea 173.57 237 PKPdf **PKPdf 23 22 06.6 +0.4**
TORD **PKPab 23 23 34.6 -0.8**
TORD Torodi Ar. Bea 173.57 237 PKP **PKPdf 23 22 04.9 -1.3**
comp=Z,1.5nm,1.0s,baz=101,slow=2.1,SNR=6.8
TORD PKPab **PKPab 23 23 33.7 -1.7**
comp=Z,1.7nm,1.0s,baz=89,slow=2.8,SNR=5.9

*IDC **07** 23:09:56.9±0.4, 15°.49S×173°.36W, h0km, mb4.7/25, mbtmp4.7/26, ML4.0/1, MS4.6/33, Error ellipse: s-maj=16.5km s-min=12.9km az=141.0*
*MOS **07** 23:09:58.8±0.8, 15°.26S×173°.53W, h15km, mb5.3/55, Error ellipse: s-maj=10.7km s-min=7.2km az=60.6*
*NEIC **07** 23:10:00.5±1.6, 15°.28S±0°.08×173°.47W±0°.08, h10km±1km, mb5.3/431, Error ellipse: s-maj=14.6km s-min=12.0km az=201.0*
*BJI **07** 23:10:00.8, 14°.83S×173°.16W, h18km, mb5.1/29, mB5.6/18, Ms5.1/3, Ms7 4.7/4*
*NOU **07** 23:10:03.1, 14°.95S×172°.92W, h62km, mb5.2/31, Samoa Islands*
*GCMT **07** 23:10:06.5±0.1, 14°.94S±0°.01×173°.08W±0°.01, h24km, MW5.4/152, Moment Tensor Solution. s100,c158; s152,c270; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr-1.05±.04; Mθθ 1.37±.03; Mφφ-0.31±.02; Mrθ 0.56±.03; Mθφ 1.01±.02; Mφr-0.07±.03; Best double couple: M○1.60800×10^17 NP1:φ≈270.00000°, δ61.00000°, λ-55.00000°. NP2:φ≈35.00000°, δ44.00000°, λ-135.00000°. Principal axes: T 1.9200, Plg9.0000°, Azm336.0000°; N -0.6210, Plg30.0000°, Azm71.0000°; P -1.2970, Plg59.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 23:10:00.3±0.5, 15°.36S±0°.05×173°.41W±0°.05, h14km±3km, h14km:pP-P, n1170, σ1≈20/1126, mb5.3/287, MS4.7/35, 39C-30D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.14**	**48**	P	P		Pn	23 10 28.3	-7.5
NIUE	**Niue**	**4.97**	**138**	P	Pn		**Pn**	**23 11 13.0**	**-1.6**
NIUE	**Niue**	**4.97**	**138**	P	P		**Pn**	**23 11 14.0**	**-0.6**
LKBA	**Tubou, Lakemba**	**5.91**	**240**	P	P		Pn	23 11 35.2	+7.7
DGTI	**Dogotuki**	**6.66**	**261**	P	P		Pn	23 11 46.3	+8.4
YSA	**Yasawairara**	**8.77**	**260**	P	P		Pn	23 12 15.7	+8.9
FUNA	**Funafuti**	**9.92**	**312**	P	Pn		**Pn**	**23 12 19.6**	**-3.1**
RAR	**Rarotonga**	**14.19**	**116**	P	Pn		**Pn**	**23 13 17.7**	**-3.4**
RAR	**Rarotonga**	**14.19**	**116**	P	P		**Pn**	**23 13 17.7**	**-3.4**
RAR	**Rarotonga**	**14.19**	**116**	P	P		**Pn**	**23 13 17.7**	**-3.4**
RAR	**Rarotonga**	**14.19**	**116**	P	Pn		**Pn**	**23 13 16.5**	**-4.5**
	6.4nm,0.3s,baz=252,slow=7.5,SNR=28								
RAR				Sn	Sn		Sn	23 15 42.5	-16
	1.2nm,0.3s,baz=181,slow=19,SNR=1.0								
RAR				LR	LR		LR	23 17 39.8	
	comp=Z,1μm,20.0s,baz=314,slow=33								
	134nm,0.9s								
RAO	**Raoul Island**	**14.44**	**196**	LR	LR		LR	23 17 46.6	
	comp=Z,3μm,18.8s,baz=359,slow=33								
MARNC	**Mare, Loyalty**	**18.62**	**248**	P	P		**Pn**	**23 14 18.3**	**+0.4**
LIFNC	**LIFOU**	**19.16**	**251**	P	P		**Pn**	**23 14 23.0**	**-0.5**
LIFNC					IAmb		IAmb	23 14 29.7	
	comp=Z,193nm,1.1s								
PINNC	**Pines Island,**	**19.47**	**245**	P	P		**Pn**	**23 14 27.9**	**-0.2**
OUENC	**Ouen Island, N**	**19.95**	**246**	P	P		**P**	**23 14 32.2**	**+0.1**
OUENC					IAmb		IAmb	23 14 41.5	
	comp=Z,165nm,1.0s								
DZM	**Mont Dzumac**	**20.20**	**248**	P	P		**P**	**23 14 34.0**	**-1.0**
DZM	**Mont Dzumac**	**20.20**	**248**	P	Pn		23 14 40.6	+3.7	
DZM	**Mont Dzumac**	**20.20**	**248**	*e*P	Pn		23 14 37.2	+0.3	
	comp=Z,793nm,1.4s								
DZM				*e*LR	LR		23 19 27.1		
	comp=Z,3μm,25.8s								
DZM	**Mont Dzumac**	**20.20**	**248**	P	P		**23 14 34.0**	**-1.0**
	comp=Z,9.4nm,0.8s,baz=82,slow=13,SNR=5.2								
DZM				LR	LR		23 21 31.6		
	comp=Z,2μm,18.7s,baz=78,slow=34								
	comp=Z,9.4nm,0.8s								
ONTNC	**Ouen Toro**	**20.26**	**247**		P		**P**	**23 14 36.5**	**+1.0**
KOUNC	**Koumac, New Ca**	**21.83**	**253**	P	P		**P**	**23 14 52.5**	**+0.1**
OUZ	**Omahuta**	**22.95**	**208**	P	P		**P**	**23 15 08.6**	**+4.3**
OUZ	**Omahuta**	**22.95**	**208**	P	P		**P**	**23 15 07.6**	**+3.3**
PAE	**Paea**	**22.96**	**99**	*e*P	P		**P**	**23 15 10.8**	**+6.3**
	comp=Z,23nm,1.0s								
PAE	**Paea**	**22.96**	**99**	*e*T	T			23 38 30.7	
	comp=Z,21nm,0.3s								
PPT	**Papeete**	**22.96**	**99**	LR	LR			23 22 26.0	
	comp=Z,1μm,18.0s,baz=272,slow=33								
PPT2	**Papeete2**	**22.96**	**99**	*e*P	P			23 15 16.3	+12
	comp=Z,133nm,1.4s								
PPT2	**Papeete2**	**22.96**	**99**	*e*T	T			23 38 26.8	
	comp=Z,29nm,0.4s								
TIAR	**Tiarei**	**23.18**	**99**	*e*P	P			23 15 25.5	+19
	comp=Z,8.2nm,0.9s								
TVO	**Taravao**	**23.28**	**99**	*e*P	P			23 15 23.5	+16
	comp=Z,76nm,1.3s								
TVO	**Taravao**	**23.28**	**99**	*e*T	T			23 38 46.1	
	comp=Z,9.7nm,0.3s								
KUZ	**Kuaotunu**	**23.39**	**202**	P	P		**P**	**23 15 12.4**	**+3.7**
KUZ	**Kuaotunu**	**23.39**	**202**	P	P		**P**	**23 15 12.2**	**+3.5**
WMGZ	**Waiomatatini S**	**23.51**	**196**	P	P		**P**	**23 15 14.1**	**+4.2**
WMGZ					S		**S**	**23 19 21.9**	**-1.4**
HAZ	**Te Kaha**	**23.63**	**198**	P	P		**P**	**23 15 14.1**	**+3.1**
PKGZ	**Pakihiroa**	**23.67**	**197**	P	P		**P**	**23 15 15.4**	**+4.1**
PUZ	**Puketiti**	**23.79**	**196**	P	P		**P**	**23 15 16.3**	**+3.6**
PUZ					S		**S**	**23 19 34.6**	**+6.7**
RUGZ	**Raukumara Rang**	**23.85**	**198**	P	P		**P**	**23 15 17.9**	**+4.5**
MKAZ	**Moumakai**	**23.92**	**203**	P	P		**P**	**23 15 16.7**	**+2.8**
TBI	**Tubuai**	**23.93**	**113**	*e*LQ	LQ			23 20 07.4	
	comp=Z,42μm,41.2s								
TBI				*e*LR	LR			23 20 36.6	
	comp=Z,8μm,26.8s								
TBI				*e*LR	LR			23 20 38.9	
	comp=Z,2μm,26.8s								
TBI	**Tubuai**	**23.93**	**113**	*e*T	T			23 39 33.6	
	comp=Z,51nm,0.3s								
URZ	**Urewera**	**24.29**	**198**	P	P		**P**	**23 15 20.3**	**+2.9**
	comp=Z,66nm,1.2s								
URZ	**Urewera**	**24.29**	**198**	P	P		**P**	**23 15 15.1**	**-2.3**
	comp=Z,4.5nm,0.6s,baz=300,slow=20,SNR=3.5								
URZ				LR	LR			23 24 00.3	
	comp=Z,4μm,18.4s,baz=91,slow=35								
	comp=Z,4.5nm,0.6s								
URZ	**Urewera**	**24.29**	**198**	P	P		**P**	**23 15 16.1**	**-1.2**
TOZ	**Tahuroa Road**	**24.35**	**202**	P	P		**P**	**23 15 18.9**	**+1.0**
TOZ					IAmb		IAmb	23 15 32.4	
	comp=Z,190nm,1.7s								
MEH	**Mehetia**	**24.41**	**99**	*e*T	T			23 40 24.8	
	comp=Z,17nm,0.3s								
PMOR	**Pomariorio Ree**	**24.63**	**93**	*e*P	P		**P**	**23 15 17.6**	**-3.0**
	comp=Z,157nm,1.1s								
PMOR	**Pomariorio Ree**	**24.63**	**93**	*e*T	T			23 40 38.2	
	comp=Z,20nm,0.4s								
RTZ	**Ruatahuna**	**24.66**	**198**	P	P		**P**	**23 15 22.0**	**+1.2**
HIZ	**Hauiti**	**25.27**	**202**	P	P		**P**	**23 15 27.3**	**+1.1**
HIZ					IAmb		IAmb	23 15 40.5	
	comp=Z,77nm,0.8s								
HIZ	**Hauiti**	**25.27**	**202**	P	P		**P**	**23 15 29.5**	**+3.3**
HIZ	**Hauiti**	**25.27**	**202**	P	P		**P**	**23 15 32.3**	**+6.1**
BKZ	**Black Stump Fm**	**25.32**	**199**	P	P		**P**	**23 15 27.4**	**+0.7**
TMVZ	**Te Maari**	**25.52**	**200**	P	P		**P**	**23 15 30.9**	**+2.3**
ETVZ	**East Tongariro**	**25.54**	**200**	P	P		**P**	**23 15 30.7**	**+1.9**
KWHZ	**Kaweka Forest**	**25.57**	**198**	P	P		**P**	**23 15 32.3**	**+3.2**
OTVZ	**Oturere**	**25.58**	**200**	P	P		**P**	**23 15 30.6**	**+1.4**
SNVZ	**South Ngauruho**	**25.61**	**200**	P	P		**P**	**23 15 32.3**	**+2.9**
TSZ	**Takapari Road**	**26.30**	**199**	P	P		**P**	**23 15 41.0**	**+5.5**
HNR	**Honiara**	**26.66**	**280**	LR	LR			23 24 26.4	
	comp=Z,10μm,20.5s,baz=122,slow=32								
BFZ	**Birch Farm**	**26.78**	**198**	P	P		**P**	**23 15 43.4**	**+3.5**
MRZ	**Mangatainoka R**	**26.97**	**199**	P	P		**P**	**23 15 40.3**	**-1.2**
MRZ					IAmb		IAmb	23 15 53.9	
	comp=Z,94nm,1.7s								
QRZ	**Quartz Range**	**28.16**	**203**	P	P		**P**	**23 15 54.3**	**+2.0**
KHZ	**Kahutara**	**29.20**	**200**	P	P		**P**	**23 16 03.8**	**+2.3**
JCZ	**Jackson Bay**	**32.38**	**204**	P	P		**P**	**23 16 31.4**	**+1.8**
TAOE	**Nuku Hiva Isla**	**33.13**	**83**	*e*S	S		**S**	**23 22 04.4**	**+8.6**
	comp=Z,820nm,28.0s								
TAOE				*e*LR	LR			23 25 19.4	
	comp=Z,936nm,22.6s								
TAOE	**Nuku Hiva Isla**	**33.13**	**83**	*e*T	T			23 51 00.8	
	comp=Z,84nm,0.2s								
EIDS	**Eidsvold**	**34.65**	**248**	P	P		**P**	**23 16 48.9**	**-0.6**
ARMA	**Armidale**	**35.35**	**239**	P	P		**P**	**23 16 54.9**	**-0.8**
ARMA	**Armidale**	**35.35**	**239**	P	P		**P**	**23 16 57.9**	**+2.2**
CTA	**Charters Tower**	**38.64**	**257**	LR	LR			23 32 38.9	
	comp=Z,779nm,18.5s,baz=81,slow=35								
PMG	**Port Moresby**	**38.92**	**274**	P	P		**P**	**23 17 23.6**	**-2.4**
PMG	**Port Moresby**	**38.92**	**274**	*i* P	P		**P**	**23 17 23.3**	**-2.8**
PMG				pmax	pmax				
	comp=Z,15nm,1.0s								
CAN	**Canberra**	**39.04**	**232**	P	P		**P**	**23 17 26.8**	**-0.2**
CAN				IAmb	IAmb			23 17 51.0	
	comp=Z,130nm,1.7s								
CAN	**Canberra**	**39.04**	**232**	P	P		**P**	**23 17 26.8**	**-0.2**
CAN				pmax	pmax				
	comp=Z,130nm,1.7s								
KIP	**Kipapa**	**39.56**	**23**	*i* P	P		**P**	**23 17 29.8**	**-1.4**
KIP				pmax	pmax				
	comp=Z,76nm,1.0s								
H11N3	**WAKE ISLAND Hy**	**39.87**	**330**	T	T			23 59 52.8	
	baz=132,slow=74,SNR=16								
H11N2	**WAKE ISLAND Hy**	**39.89**	**330**	T	T			23 59 45.2	
	baz=142,slow=74,SNR=8.4								
COEN	**Coen**	**41.97**	**266**	P	P		**P**	**23 17 49.8**	**-1.5**
TOO	**Toolangi**	**42.48**	**231**	P	P		**P**	**23 17 54.9**	**-0.4**
TOO				IAmb	IAmb			23 17 57.0	
	comp=Z,40nm,0.8s								
TOO	**Toolangi**	**42.48**	**231**	P	P		**P**	**23 17 56.1**	**+0.8**
	comp=Z,52nm,0.9s								
TOO	**Toolangi**	**42.48**	**231**	P	P		**P**	**23 17 54.9**	**-0.4**
TOO				pmax	pmax				
	comp=Z,40nm,0.9s								
STKA	**Stephens Creek**	**44.05**	**240**	P	P		**P**	**23 18 07.1**	**-0.9**
STKA	**Stephens Creek**	**44.05**	**240**	P	P		**P**	**23 18 09.0**	**+1.0**
STKA	**Stephens Creek**	**44.05**	**240**	*e*P	P		**P**	**23 18 07.9**	**-0.1**
STKA				pmax	pmax				
	comp=Z,15nm,0.9s								
STKA	**Stephens Creek**	**44.05**	**240**	P	P		**P**	**23 18 06.9**	**-1.0**
	comp=Z,15nm,0.9s,baz=74,slow=7.4,SNR=20								
STKA				LR	LR			23 34 07.6	
	comp=Z,546nm,21.5s,baz=77,slow=33								
	comp=Z,15nm,0.9s								
QIS	**Mount Isa**	**44.88**	**256**	P	P		**P**	**23 18 14.5**	**-0.3**
HTT	**Hallett**	**46.55**	**238**	P	P		**P**	**23 18 28.6**	**+0.7**
LCRK	**Leigh Creek**	**46.67**	**243**	P	P		**P**	**23 18 30.2**	**+1.4**
JAY	**Jayapura**	**46.97**	**281**	P	P		**P**	**23 18 28.5**	**-2.9**
	comp=Z,21nm,1.2s								
OOD	**Oodnadatta**	**48.62**	**246**	P	P		**P**	**23 18 45.3**	**+1.4**
BBOO	**Buckleboo**	**48.82**	**240**	P	P		**P**	**23 18 44.8**	**-0.7**
BBOO				IAmb	IAmb			23 19 21.4	
	comp=Z,32nm,1.1s								
BBOO	**Buckleboo**	**48.82**	**240**	P	P		**P**	**23 18 48.0**	**+2.5**
WR0	**Warramunga Arr**	**49.65**	**257**	P	P		**P**	**23 18 50.4**	**-1.6**
WR0				IAmb	IAmb			23 19 05.6	
	comp=Z,34nm,1.3s								
WRA	**Warramunga Arr**	**49.84**	**257**	P	P		**P**	**23 18 51.8**	**-1.7**
WRA	**Warramunga Arr**	**49.84**	**257**	*e*P	P		**P**	**23 18 52.5**	**-1.0**
WRA				pmax	pmax				
	comp=Z,6.0nm,0.7s								
WRA	**Warramunga Arr**	**49.84**	**257**	P	P		**P**	**23 18 51.4**	**-2.1**
	comp=Z,5.5nm,0.7s,baz=91,slow=7.1,SNR=65								
	comp=Z,5.5nm,0.7s								
AS31	**Alice Springs**	**50.11**	**252**	P	P		**P**	**23 18 54.9**	**-0.6**
ASAR	**Alice Springs**	**50.11**	**252**	P	P		**P**	**23 18 54.2**	**-1.3**
ASAR	**Alice Springs**	**50.11**	**252**	P	P		**P**	**23 18 54.5**	**-1.0**
	comp=Z,24nm,0.6s,baz=87,slow=8.3,SNR=243								
ASAR				S	S		**S**	**23 26 06.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=152,slow=35,SNR=1.6								
ASAR				LR	LR			23 38 24.5	
	comp=Z,1μm,21.2s,baz=94,slow=34								
	comp=Z,24nm,0.6s								
MULG	**Mulgathing**	**50.23**	**243**	P	P		**P**	**23 18 58.7**	**+2.5**
WRKA	**Warakurna**	**55.20**	**250**	P	P		**P**	**23 19 33.5**	**+0.3**
FORT	**Forrest**	**55.42**	**243**	P	P		**P**	**23 19 32.9**	**-1.8**
FORT				IAmb	IAmb			23 19 44.7	
	comp=Z,49nm,1.0s								
FORT	**Forrest**	**55.42**	**243**	P	P		**P**	**23 19 34.8**	**+0.2**
SWI	**Sorong**	**56.45**	**279**	P	P		**P**	**23 19 41.6**	**-0.6**
	comp=Z,49nm,0.8s								
NLAI	**Namlea**	**59.75**	**275**	P	P		**P**	**23 20 04.4**	**-1.0**
	comp=Z,8.7nm,0.6s,comp=Z,5μm								
LBMI	**Labuha**	**60.10**	**278**	P	P		**P**	**23 20 07.4**	**-0.4**
	comp=Z,37nm,1.2s								
JCJ	**Chichijima**	**60.32**	**314**	LR	LR			23 41 19.9	
	comp=Z,173nm,21.3s,baz=112,slow=31								
SOEI	**Soe**	**60.92**	**267**	P	P		**P**	**23 20 11.7**	**-1.8**
SOEI	**Soe**	**60.92**	**267**	P	P		**P**	**23 20 12.8**	**-0.7**
	comp=Z,69nm,0.9s								
SANI	**Sanana**	**61.14**	**276**	P	P		**P**	**23 20 14.5**	**-0.4**
	comp=Z,22nm,1.0s								
BATI	**Baumata**	**61.41**	**267**	P	P		**P**	**23 20 15.8**	**-0.9**
	comp=Z,22nm,0.9s								
BATI	**Baumata**	**61.41**	**267**	LR	LR			23 47 07.1	
	comp=Z,340nm,18.3s,baz=115,slow=36								
PSA00	**Pilbara Seismi**	**63.20**	**253**	P	P		**P**	**23 20 29.3**	**+0.6**
PSA00				IAmb	IAmb			23 20 41.9	
	comp=Z,20nm,0.8s								
PSA00	**Pilbara Seismi**	**63.20**	**253**	P	P		**P**	**23 20 28.5**	**-0.2**
PSA00				IAmb	IAmb			23 20 41.9	
	comp=Z,10nm,0.9s								
SBA	**Scott Base**	**63.29**

JAGI IAmb IAmb 23 21 19.8
comp=Z,27nm,1.0s
JAGI Jajag, Banyuwa 70.94 266 P **P** **23 21 17.5 -0.5**
comp=Z,30nm,1.0s
SDPT Sand Point 71.28 8 P **P** **23 21 18.5 -0.5**
baz=193
SAO San Andreas Ge 71.31 42 **P** **23 21 19.9 +0.2**
SAO IAmb IAmb 23 21 43.0
comp=Z,26nm,1.0s
SAO San Andreas Ge 71.31 42 P **P** **23 21 19.9 +0.2**
SAO pmax pmax
comp=Z,26nm,1.0s
PMPB Monarch Peak 71.41 43 P **P** **23 21 21.0 +0.6**
SMMC Simmler 71.41 44 P **P** **23 21 21.0 +0.6**
baz=235
CIS Catalina Islan 71.42 46 P **P** **23 21 19.8 -0.6**
baz=236
BBGB Big Mountain B 71.46 42 P **P** **23 21 21.7 +1.0**
BBKI Banjar Baru 71.50 271 P **P** **23 21 20.7 -0.6**
comp=Z,30nm,1.1s
ASAJ Asahikawa 71.50 328 P **P** **23 21 21.1 +0.4**
comp=Z,15nm,0.7s,baz=235,slow=12,SNR=2.5
comp=Z,15nm,0.7s
HOPS Hopland Field 71.65 39 P **P** **23 21 22.2 +0.6**
GDXM Geysers 71.70 39 P **P** **23 21 22.7 +0.6**
JNU Nakatsue 71.77 313 P **P** **23 21 22.1 -0.4**
comp=Z,9.3nm,0.7s,baz=72,slow=3.4,SNR=5.3
JNU LR LR 23 49 50.7
comp=Z,78nm,18.1s,baz=124,slow=33
comp=Z,9.3nm,0.7s
KCPM Cahto Peak 71.78 38 P **P** **23 21 23.0 +0.4**
KMPM Mount Pierce 71.92 38 **P** **23 21 24.2 +0.9**
KMPM IAmb IAmb 23 21 41.8
comp=Z,31nm,0.9s
KMRM Mail Ridge 72.04 38 P **P** **23 21 24.8 +0.7**
PET Petropavlovsk 72.24 343 *e*P **P** **23 21 29.5 +4.6**
PET *e*S **S** **23 30 51.5 +4.4**
PET pmax pmax
comp=Z,56nm,1.4s
PET MLR MLR
comp=Z,600nm,19.0s
ELS Elsinore Mount 72.24 47 P **P** **23 21 26.0 +0.6**
SPIA Saint Paul Isl 72.31 2 P **P** **23 21 26.3 +1.1**
baz=183
S14K Fog Glacier 72.32 8 P **P** **23 21 26.1 +0.7**
baz=194
ESJX Sierra Juarez 72.42 49 P **P** **23 21 28.5 +1.8**
ESJX IAmb IAmb 23 21 34.3
comp=Z,29nm,1.2s
KHMM Horse Mountain 72.44 37 P **P** **23 21 27.2 +0.6**
KHMM IAmb IAmb 23 21 49.1
comp=Z,39nm,1.1s
KRPM Rodgers 72.45 37 P **P** **23 21 27.6 +1.0**
KRPM IAmb IAmb 23 21 34.6
comp=Z,24nm,1.0s
CHGN Chignik 72.49 9 P **P** **23 21 26.9 +0.6**
baz=195
EDW2 Edwards Air Fo 72.53 45 P **P** **23 21 27.7 +0.6**
baz=236
MONP2 Monument Peak 72.55 48 P **P** **23 21 27.8 +0.3**
baz=238
PEA0B Petropavlovsk- 72.59 342 P **P** **23 21 27.4 +0.4**
PEA0B Petropavlovsk- 72.59 342 P **P** **23 21 27.4 +0.4**
PEA0B pmax pmax
comp=Z,84nm,1.4s
PETK Petropavlovsk- 72.59 342 P **P** **23 21 26.6 -0.4**
PETK Petropavlovsk- 72.59 342 P **P** **23 21 26.6 -0.4**
PETK Petropavlovsk- 72.59 342 P **P** **23 21 26.9 -0.1**
comp=Z,18nm,0.8s,baz=134,slow=8.5,SNR=3.6
comp=Z,18nm,0.8s
ISA Isabella, Lake 72.63 44 P **P** **23 21 28.3 +0.6**
ISA Isabella, Lake 72.63 44 P **P** **23 21 27.9 +0.1**
baz=236
ISA Isabella, Lake 72.63 44 P **P** **23 21 28.3 +0.6**
ISA pmax pmax
comp=Z,19nm,1.2s
IKP In-Ko-Pah, Jac 72.64 48 P **P** **23 21 28.5 +0.6**
baz=238
CMB Columbia Colle 72.74 41 **P** **23 21 28.6 +0.4**
CMB Columbia Colle 72.74 41 P **P** **23 21 28.7 +0.4**
CMB pmax pmax
comp=Z,20nm,1.2s
KRMB Red Mountain 72.75 37 P **P** **23 21 29.8 +1.4**
KRMB IAmb IAmb 23 21 46.4
comp=Z,26nm,1.1s
YUH Yuha Desert 72.78 48 P **P** **23 21 29.2 +0.6**
YUH IAmb IAmb 23 21 34.1
comp=Z,30nm,1.5s
PFO Pinyon Flats O 72.90 47 P **P** **23 21 30.0 +0.5**
baz=238
PFO Pinyon Flats O 72.90 47 *i*P **P** **23 21 29.9 +0.4**
PFO pmax pmax
comp=Z,38nm,2.2s
PFO Pinyon Flats O 72.90 47 LR LR 23 47 32.5
comp=Z,1µm,18.1s,baz=250,slow=31
TPFO Pinon Flats 72.90 47 P **P** **23 21 29.4 0.0**
baz=238
AFDM Forest Hills D 72.92 40 P **P** **23 21 29.8 +0.5**
ORV Oroville 72.96 40 P **P** **23 21 29.2 -0.3**
ORV Oroville 72.96 40 P **P** **23 21 29.2 -0.3**
ORV pmax pmax
comp=Z,17nm,1.3s
KSXB Camp Six Broad 72.96 36 P **P** **23 21 31.0 +1.4**
KBO Bosley Butte 73.01 36 P **P** **23 21 31.2 +1.3**
KBO IAmb IAmb 23 22 01.4
comp=Z,42nm,1.4s
LPIG La Paz 73.03 58 LR LR 23 46 23.7
comp=Z,470nm,18.3s,baz=230,slow=30
SLBS Sierra La Lagu 73.15 59 P **P** **23 21 31.7 +0.6**
SLBS IAmb IAmb 23 21 44.9
comp=Z,62nm,1.6s
L02F Cave Junction 73.33 36 P **P** **23 21 33.2 +1.5**
CWC Cottonwood Cre 73.33 44 P **P** **23 21 33.3 +1.4**
baz=236
KEBM Edson Butte 73.38 35 P **P** **23 21 31.9 -0.1**
KEBM IAmb IAmb 23 21 52.5
comp=Z,47nm,1.2s
OMMB Old Mammoth Mi 73.39 42 P **P** **23 21 33.1 +0.6**
BELC Belle Mtn. Jos 73.44 47 P **P** **23 21 33.3 +0.7**
baz=238
SII Sitkinak Islan 73.44 11 P **P** **23 21 33.9 +1.9**
baz=199
YSS Yuzh-Sakhalins 73.45 330 P **P** **23 21 33.0 +0.8**
YSS Yuzh-Sakhalins 73.45 330 *e*P **P** **23 21 32.5 +0.3**
MLAC Mammoth, Mammo 73.51 42 P **P** **23 21 34.1 +1.0**
baz=235
MPMC Manual Prospec 73.52 44 P **P** **23 21 33.7 +0.5**
baz=236,SNR=6.0
GSC Goldstone, Bar 73.57 45 **P** **23 21 33.0 -0.3**
GSC Goldstone, Bar 73.57 45 P **P** **23 21 33.4 +0.1**
baz=237
GSC Goldstone, Bar 73.57 45 P **P** **23 21 33.0 -0.3**
GSC pmax pmax
comp=Z,23nm,1.4s
YBH Yreka Blue Hor 73.58 37 P **P** **23 21 33.2 0.0**
YBH IAmb IAmb 23 21 51.1
comp=Z,22nm,0.9s
YBH Yreka Blue Hor 73.58 37 P **P** **23 21 33.2 0.0**
YBH pmax pmax
comp=Z,22nm,1.0s
TIN Tinemaha, Big 73.58 43 P **P** **23 21 32.1 -1.2**
baz=236
WAKR Walker 73.62 41 P **P** **23 21 34.0 +0.3**
WAKR IAmb IAmb 23 21 39.4
comp=Z,77nm,1.9s
K02D Willamette Mer 73.64 36 P **P** **23 21 34.3 +0.8**
K02D IAmb IAmb 23 21 51.5
comp=Z,28nm,1.1s
BC3 Big Chuckawall 73.64 47 P **P** **23 21 33.6 -0.2**
baz=238
HEC Hector,Ludlow 73.64 46 P **P** **23 21 33.4 -0.3**
baz=238,SNR=6.3
J01E Myrtle Point 73.79 35 P **P** **23 21 34.9 +0.6**
J01E IAmb IAmb 23 21 55.7
comp=Z,38nm,1.1s
PNTR Pine Nut 73.86 41 P **P** **23 21 35.1 0.0**
PNTR IAmb IAmb 23 21 57.3
comp=Z,30nm,1.0s
QSM Queen of Sheba 73.89 45 P **P** **23 21 34.9 -0.2**
YERR Yerington 74.03 41 P **P** **23 21 35.3 -0.7**
LHV Little Huntoon 74.08 42 P **P** **23 21 36.1 +0.1**
R17K Ugashik Creek 74.09 9 P **P** **23 21 35.5 -0.2**
L04D Klamath Falls 74.12 37 **P** **23 21 36.8 +0.4**
L04D IAmb IAmb 23 21 54.1
comp=Z,46nm,1.1s
GRAC Grapevine Rang 74.12 44 P **P** **23 21 37.5 +1.0**
baz=236
GRAC Grapevine Rang 74.12 44 P **P** **23 21 37.7 +1.3**
baz=236
IRM Iron Mountain 74.12 47 P **P** **23 21 37.1 +0.6**
baz=238
GWY Greenwater Val 74.14 45 P **P** **23 21 37.1 +0.3**
DBO Dodson Butte 74.15 36 P **P** **23 21 36.0 -0.5**
FURC Furnace Creek, 74.17 44 P **P** **23 21 37.4 +0.8**
baz=237
OHAK Old Harbor 74.23 11 P **P** **23 21 37.6 +1.1**
baz=200
TUQ Turquoise Moun 74.25 46 P **P** **23 21 37.9 +0.6**
baz=238
RYN Ryan 74.28 42 P **P** **23 21 38.8 +1.3**
NVAR Mina Array Bea 74.31 42 P **P** **23 21 38.1 +0.4**
NVAR Mina Array Bea 74.31 42 P **P** **23 21 37.7 0.0**
comp=Z,3.6nm,0.7s,baz=227,slow=9.7,SNR=15
comp=Z,3.6nm,0.7s
GMN Gold Mountain 74.36 43 P **P** **23 21 38.5 +0.4**
PAHR Pah Rah Range 74.36 40 P **P** **23 21 38.7 +0.8**
113A Mohawk Valley, 74.40 49 **P** **23 21 37.9 -0.2**
113A IAmb IAmb 23 21 44.4
comp=Z,32nm,1.4s
NV11 Mina Array Sit 74.41 42 P **P** **23 21 38.0 -0.2**
NV11 IAmb IAmb 23 21 43.7
comp=Z,45nm,1.6s
I03D Drain, OR 74.46 35 P **P** **23 21 37.8 -0.4**
I03D IAmb IAmb 23 21 56.0
comp=Z,39nm,1.2s
MZP Montezuma Peak 74.50 43 P **P** **23 21 39.5 +0.6**
WCT Wildcat Mounta 74.50 44 **P** **23 21 39.3 +0.6**
QSPA South Pole Qui 74.68 180 P **P** **23 21 40.8 +1.4**
214A Organ Pipe Nat 74.70 50 P **P** **23 21 41.4 +1.4**
HSIG 74.72 54 P **P** **23 21 40.8 +0.8**
Q17K Contact Creek 74.77 9 P **P** **23 21 41.3 +1.5**
baz=198
KVN Kaiserville 74.79 42 **P** **23 21 40.4 -0.1**
KVN Kaiserville 74.79 42 P **P** **23 21 40.4 -0.1**
KVN pmax pmax
comp=Z,21nm,1.1s
TPH Tonopah 74.81 43 P **P** **23 21 40.9 +0.3**
TPH Tonopah 74.81 43 P **P** **23 21 40.9 +0.3**
TPH pmax pmax
comp=Z,80nm,0.9s
TPNV Topopah Spring 74.84 44 P **P** **23 21 41.4 +0.6**
TPNV Topopah Spring 74.84 44 P **P** **23 21 41.8 +1.1**
baz=237
TPNV Topopah Spring 74.84 44 P **P** **23 21 41.4 +0.6**
TPNV pmax pmax
comp=Z,10.0nm,0.9s
KDAK Kodiak Island 74.89 11 *i*P **P** **23 21 39.1 -1.2**
KDAK pmax pmax
comp=Z,16nm,0.9s
KDAK Kodiak Island 74.89 11 LR LR 23 46 45.1
comp=Z,630nm,21.1s,baz=225,slow=29
PLTX Planet X, Gerl 74.89 40 P **P** **23 21 41.1 +0.1**
PLTX IAmb IAmb 23 21 49.1
comp=Z,42nm,1.1s
PDMCI Parker Dam,Lak 74.91 47 P **P** **23 21 42.5 +1.5**
baz=239
BUCK Buck Mountain 74.98 35 P **P** **23 21 41.7 +0.4**
BUCK IAmb IAmb 23 22 33.6
comp=Z,70nm,1.6s
I04A Tendick Farm, 75.04 36 P **P** **23 21 42.3 +0.7**
I04A IAmb IAmb 23 21 59.0
comp=Z,36nm,1.2s
V12A Nelson 75.14 46 **P** **23 21 43.5 +1.0**
HEBO Mount Hebo 75.21 34 P **P** **23 21 43.4 +0.8**
K05A Summer Lake 75.25 37 **P** **23 21 42.7 -0.4**
K05A IAmb IAmb 23 21 51.0
comp=Z,48nm,1.1s
Q18K Katmai Nardscr 75.28 10 P **P** **23 21 41.4 -1.3**
baz=198
WTNK Soaring Height 75.28 45 P **P** **23 21 44.1 +0.9**
H04D Lebanon 75.32 35 P **P** **23 21 44.4 +1.2**
H04D IAmb IAmb 23 22 03.5
comp=Z,30nm,0.9s
SHPR Sheep Range 75.34 45 **P** **23 21 44.7 +1.0**
J05D Fort Rock, OR 75.40 37 **P** **23 21 43.7 -0.2**
J05D IAmb IAmb 23 21 51.7
comp=Z,37nm,1.0s
G03D McMinnville, O 75.48 34 P **P** **23 21 43.8 -0.2**
W13A Hualapai Mount 75.49 47 P **P** **23 21 45.3 +0.7**
Y14A Wickenburg 75.54 48 **P** **23 21 45.3 +0.6**
S11A Rachel 75.55 44 P **P** **23 21 45.2 +0.4**
P17K Kvichak River 75.57 9 P **P** **23 21 44.0 -0.3**
baz=197
O16K Kokwok River B 75.72 8 P **P** **23 21 44.2 -0.9**
baz=195
H04A Detroit Lake 75.73 35 **P** **23 21 45.4 -0.1**
H04A IAmb IAmb 23 22 02.9
comp=Z,40nm,1.1s
PINE Pine Mountain 75.88 36 **P** **23 21 47.0 +0.3**
PRN Pahroc Range 75.89 44 **P** **23 21 47.5 +0.6**
PRN IAmb IAmb 23 21 52.9
comp=Z,63nm,1.8s
M13K Dall Lake 75.95 5 P **P** **23 21 46.4 0.0**
baz=190
P18K Big Mountain, 75.95 9 P **P** **23 21 44.8 -1.7**
P18K Big Mountain, 75.95 9 P **P** **23 21 46.4 -0.1**
baz=198
I05D Terrebonne, OR 75.99 36 P **P** **23 21 47.2 +0.1**
I05D IAmb IAmb 23 22 04.8
comp=Z,29nm,1.0s
O17K Koliganek Bris 76.03 8 P **P** **23 21 45.9 -1.0**
baz=196
N15K Kwethluk River 76.03 7 P **P** **23 21 48.6 +1.7**
N15K IAmb IAmb 23 21 54.0
comp=Z,48nm,1.4s
N15K Kwethluk River 76.03 7 P **P** **23 21 45.7 -1.2**
baz=193
R11B Troy Canyon, C 76.04 43 **P** **23 21 48.1 +0.5**
R11B Troy Canyon, C 76.04 43 P **P** **23 21 46.5 -1.1**
baz=237
KSRS Korea Array 76.12 316 *e*P **P** **23 21 49.3 +1.4**
KSRS pmax pmax
comp=Z,5.0nm,0.8s
KSRS Korea Array 76.12 316 P **P** **23 21 49.4 +1.4**
comp=Z,3.8nm,0.7s,baz=123,slow=7.3,SNR=7.0
comp=Z,3.8nm,0.7s
BMN Battle Mountai 76.13 41 **P** **23 21 48.5 +0.4**
BMN IAmb IAmb 23 21 55.5
comp=Z,20nm,0.9s
BMN Battle Mountai 76.13 41 P **P** **23 21 48.5 +0.4**
BMN pmax pmax
comp=Z,20nm,0.9s
KSAR Wonju Array Be 76.14 316 P **P** **23 21 49.0 +1.0**
KSAR Wonju Array Be 76.14 316 P **P** **23 21 49.0 +1.0**
F04D Rainier, OR 76.17 34 P **P** **23 21 48.4 +0.4**
E03A Lebam 76.18 33 P **P** **23 21 48.3 +0.2**
E03A IAmb IAmb 23 22 06.9
comp=Z,43nm,1.1s
KPJI Kanang Pucung 76.24 266 P **P** **23 21 48.4 -0.7**
comp=Z,23nm,1.4s
TUC Tucson 76.38 51 P **P** **23 21 50.1 +0.6**
TUC IAmb IAmb 23 21 56.4
comp=Z,35nm,1.3s
TUC Tucson 76.38 51 **P** **23 21 50.7 +1.1**
TUC Tucson 76.38 51 P **P** **23 21 48.4 -1.2**
baz=242
O18K Koktuh Hills 76.39 9 P **P** **23 21 48.8 -0.2**
O18K IAmb IAmb 23 22 04.4
comp=Z,38nm,1.1s
O18K Koktuh Hills 76.39 9 P **P** **23 21 47.7 -1.2**
baz=198
F04A Amboy 76.39 34 P **P** **23 21 50.2 +0.9**
F04A IAmb IAmb 23 22 11.9
comp=Z,23nm,1.0s
M14K Bethel 76.41 6 **P** **23 21 49.3 +0.3**
M14K Bethel 76.41 6 P **P** **23 21 49.1 +0.2**
baz=191,SNR=10
WVOR Wild Horse Val 76.41 38 P **P** **23 21 49.8 +0.2**
WVOR IAmb IAmb 23 21 57.1
comp=Z,28nm,0.9s
WVOR Wild Horse Val 76.41 38 P **P** **23 21 49.8 +0.2**
WVOR pmax pmax
comp=Z,28nm,1.0s
HOOD Mount Hood Mea 76.43 35 P **P** **23 21 50.4 +0.7**
HOOD IAmb IAmb 23 22 07.1
comp=Z,48nm,1.1s
M15K Kasigluk River 76.48 6 P **P** **23 21 49.0 -0.4**
baz=193
N16K Nishlik Lake 76.49 7 P **P** **23 21 47.3 -2.2**
baz=195
G05A Wamic 76.56 35 P **P** **23 21 51.4 +1.2**
NLWA Neilton Lookou 76.58 32 P **P** **23 21 50.5 +0.2**
NLWA IAmb IAmb 23 22 14.7
comp=Z,62nm,1.6s
DIB Dawson Inlet, 76.81 24 P **P** **23 21 50.9 -0.5**
HOM Homer 76.82 11 P **P** **23 21 49.6 -1.7**
ILSW Iliamna Southw 76.86 10 P **P** **23 21 50.5 -1.2**
O19K Port Alsworth 76.86 10 P **P** **23 21 51.6 0.0**
O19K Port Alsworth 76.86 10 P **P** **23 21 51.5 0.0**
baz=199
I07A Izee 76.88 37 **P** **23 21 52.1 -0.1**
I07A IAmb IAmb 23 22 10.0
comp=Z,36nm,1.2s
X16A Lo Mia Camp, P 76.90 49 P **P** **23 21 53.9 +1.3**
Q12A Willow Creek R 76.91 43 P **P** **23 21 52.4 -0.2**
Q12A IAmb IAmb 23 22 13.7
comp=Z,20nm,0.9s
L14K Kuka Creek 76.92 5 P **P** **23 21 51.6 -0.3**
L14K IAmb IAmb 23 22 08.5
comp=Z,40nm,0.9s
L14K Kuka Creek 76.92 5 P **P** **23 21 52.7 +0.9**
baz=191
G06A Carlson Farm, 76.94 35 P **P** **23 21 52.4 0.0**
G06A IAmb IAmb 23 22 32.1
comp=Z,63nm,1.8s
M16K Timber Creek 77.00 7 P **P** **23 21 53.0 +0.7**
M16K IAmb IAmb 23 21 59.4
comp=Z,35nm,1.1s
M16K Timber Creek 77.00 7 P **P** **23 21 52.3 -0.1**
baz=194
O20K Slope Mountain 77.04 11 P **P** **23 21 52.9 +0.2**
baz=201
J08A Circle Bar Ran 77.05 38 P **P** **23 21 52.9 -0.3**
J08A IAmb IAmb 23 22 01.2
comp=Z,35nm,1.1s
BRSE Bradley Lake S 77.07 12 P **P** **23 21 51.7 -1.1**
baz=202
319A Douglas 77.08 52 **P** **23 21 55.0 +1.3**
319A IAmb IAmb 23 22 11.6
comp=Z,43nm,1.1s
N18K Kilae Creek 77.08 9 P **P** **23 21 53.0 +0.2**
baz=197
CCUT Cedar City 77.11 45 P **P** **23 21 53.9 +0.1**
KSM Kuching 77.17 275 P **P** **23 21 53.3 -1.1**
KSM IAmb IAmb 23 22 04.4
comp=Z,24nm,1.0s
KNB Kanab 77.21 46 P **P** **23 21 55.8 +1.5**
KNB IAmb IAmb 23 22 01.4
comp=Z,72nm,1.6s
KNB Kanab 77.21 46 P **P** **23 21 55.8 +1.5**
KNB pmax pmax
comp=Z,72nm,1.6s
SPR3 Spring Creek 3 77.22 43 **P** **23 21 55.1 +0.6**
GNW Green Mountain 77.23 32 **P** **23 21 54.3 +0.4**
GNW IAmb IAmb 23 21 59.5
comp=Z,48nm,1.8s
LON Longmire 77.24 34 P **P** **23 21 54.8 +0.7**
LON IAmb IAmb 23 22 34.2
comp=Z,28nm,1.3s
LON Longmire 77.24 34 P **P** **23 21 54.8 +0.7**
LON pmax pmax
comp=Z,28nm,1.3s
U15A North Rim 77.28 46 P **P** **23 21 55.3 +0.5**
U15A IAmb IAmb 23 22 31.7
comp=Z,47nm,1.4s
PSUT Pine Spring 77.29 44 P **P** **23 21 55.4 +0.6**
SZCU Shurtz Canyon 77.32 45 P **P** **23 21 55.8 +0.8**
SZCU IAmb IAmb 23 22 01.1
comp=Z,66nm,1.8s
USA0B Ussuriysk Arra 77.35 323 *i*P **P** **23 21 53.2 -1.5**
USRK Ussuriysk Ar. 77.35 323 P **P** **23 21 53.8 -0.9**
USRK Ussuriysk Ar. 77.35 323 P **P** **23 21 53.8 -0.9**
USRK Ussuriysk Ar. 77.35 323 P **P** **23 21 54.1 -0.6**
comp=Z,3.0nm,0.9s,baz=93,slow=3.8,SNR=4.6
USRK LR LR 23 49 10.1
comp=Z,169nm,21.8s,baz=129,slow=30
comp=Z,3.0nm,0.9s
L15K Ungalak Mounta 77.37 6 P **P** **23 21 54.1 -0.2**
baz=192
N19K Bonanza Creek 77.42 9 P **P** **23 21 54.1 -0.8**
baz=199
D05A Enumclaw 77.42 33 P **P** **23 21 55.7 +0.7**
WUAZ Wupatki 77.48 48 P **P** **23 21 55.9 0.0**
WUAZ IAmb IAmb 23 22 02.0
comp=Z,37nm,1.4s
WUAZ Wupatki 77.48 48 P **P** **23 21 56.1 +0.3**
baz=241,SNR=5.5
M17K Holitna River 77.56 8 P **P** **23 21 56.1 +0.7**
baz=196
ELK Elko 77.56 41 **P** **23 21 56.1 -0.2**
ELK Elko 77.56 41 P **P** **23 21 56.1 -0.2**
ELK pmax pmax
comp=Z,27nm,1.4s
CBB Campbell River 77.60 29 P **P** **23 21 55.7 -0.2**
CBB IAmb IAmb 23 22 13.7
comp=Z,23nm,1.1s
L16K Owhat River 77.61 7 **P** **23 21 56.0 +0.3**
L16K IAmb IAmb 23 22 12.5
comp=Z,28nm,1.1s
L16K Owhat River 77.61 7 P **P** **23 21 55.7 -0.1**
baz=194,SNR=5.1
PGC Sidney 77.61 31 P **P** **23 21 56.3 +0.3**
PGC IAmb IAmb 23 22 22.0
comp=Z,29nm,1.1s
LEM Lembang 77.62 266 LR LR 23 55 44.3
comp=Z,257nm,20.9s,baz=90,slow=35
Q23K Middleton Isla 77.71 14 P **P** **23 21 57.3 +0.9**
MID Middleton Isla 77.71 14 P **P** **23 21 56.8 +0.5**
MID Middleton Isla 77.71 14 P **P** **23 21 56.8 +0.5**
MID pmax pmax
comp=Z,510nm,1.1s
F07A Phinny Hill Vi 77.73 35 P **P** **23 21 57.6 +0.8**
DUN6 Lazy B Ranch 77.76 51 **P** **23 21 58.3 +0.9**
PKCU Pink Cliffs 77.78 45 P **P** **23 21 58.2 +0.6**
M18K Stony River 77.86 9 P **P** **23 21 57.3 +0.1**
baz=197
G08A Pilot Rock 77.91 36 **P** **23 21 57.6 -0.4**
G08A IAmb IAmb 23 22 05.9
comp=Z,37nm,1.1s
K15K Wolf Creek Mou 77.97 6 P **P** **23 21 58.4 +0.7**
K15K Wolf Creek Mou 77.97 6 P **P** **23 21 57.8 +0.1**
baz=192,SNR=7.2
HPIG 78.02 58 P **P** **23 21 59.5 +0.3**
X18A Snowflake 78.03 49 P **P** **23 22 00.7 +1.7**
L17K Donlin 78.16 7 P **P** **23 21 59.1 +0.3**
baz=195,SNR=6.3
N20K Mount Spurr 78.16 10 P **P** **23 21 59.5 +0.5**
baz=201
LTY Liberty 78.17 34 P **P** **23 21 59.8 +0.5**
MTPU Mount Pierson 78.17 45 P **P** **23 22 00.2 +0.4**
E07A Sunnyside 78.18 35 P **P** **23 21 59.9 +0.6**
J14K Nanvaranak Lak 78.24 5 P **P** **23 21 59.2 0.0**
baz=190
HAWA Hanford 78.25 35 **P** **23 21 59.5 -0.2**
HAWA IAmb IAmb 23 22 17.3
comp=Z,78nm,1.8s
TCRU Three Creeks R 78.27 44 P **P** **23 22 01.3 +0.9**
TCRU IAmb IAmb 23 22 19.2
comp=Z,26nm,1.0s
MVU Marysvale 78.38 45 P **P** **23 22 02.3 +1.4**
MSU Marysvale 78.41 45 **P** **23 22 01.6 +0.6**
MSU Marysvale 78.41 45 P **P** **23 22 01.6 +0.6**
L18K Granite Mounta 78.45 8 P **P** **23 22 00.3 -0.1**
L18K IAmb IAmb 23 22 17.9
comp=Z,35nm,1.0s
L18K Granite Mounta 78.45 8 P **P** **23 22 00.7 +0.3**
baz=196,SNR=7.1
W18A Petrified Fore 78.47 49 P **P** **23 22 02.8 +1.4**
B06A Marblemount 78.53 32 P **P** **23 22 02.0 +0.9**
B06A IAmb IAmb 23 22 35.7
comp=Z,67nm,1.9s
E08A Dider Farm, El 78.57 35 P **P** **23 22 01.7 +0.2**
E08A IAmb IAmb 23 22 06.9
comp=Z,55nm,1.6s
PWL Port Wells 78.58 12 P **P** **23 22 01.6 +0.4**
baz=205
BMO Blue Mountains 78.60 37 P **P** **23 22 01.4 -0.4**
BMO Blue Mountains 78.60 37 P **P** **23 22 01.4 -0.4**
BMO pmax pmax
comp=Z,14nm,0.9s
M20K Styx River 78.65 10 P **P** **23 22 01.4 -0.2**
baz=200
MFID Camas Ranch 78.67 39 **P** **23 22 02.8 +0.6**
MFID IAmb IAmb 23 22 09.3
comp=Z,21nm,0.9s
SUA Susitna One 78.67 11 P **P** **23 22 01.2 -0.6**
SUA IAmb IAmb 23 22 01.8

	comp=Z,27nm,0.8s								
SUA	**Susitna One**	**78.67**	**11**	P		**P**	23 22 01.1		-0.6
	baz=202								
L19K	**White Mountain**	**78.67**	**9**	P		**P**	23 22 00.9		-0.7
	baz=198								
K17K	**Iditarod**	**78.72**	**7**			**P**	23 22 02.1		+0.2
K17K				IAmb		IAmb	23 22 21.5		
	comp=Z,24nm,1.0s								
K17K	**Iditarod**	**78.72**	**7**	P		**P**	23 22 02.6		+0.7
	baz=195,SNR=5.2								
121A	**Cookes Peak, D**	**78.73**	**52**	P		**P**	23 22 04.2		+1.3
121A	**Cookes Peak, D**	**78.73**	**52**	P		**P**	23 22 03.6		+0.7
	baz=244								
121A	**Cookes Peak, D**	**78.73**	**52**	P		**P**	23 22 04.2		+1.3
	baz=244								
DUG	**Dugway, Tooele**	**78.84**	**43**			**P**	23 22 03.0		-0.3
DUG	**Dugway, Tooele**	**78.84**	**43**	P		**P**	23 22 03.9		+0.6
	baz=239,SNR=11								
DUG	**Dugway, Tooele**	**78.84**	**43**	P		**P**	23 22 03.0		-0.3
DUG				pmax		pmax			
	comp=Z,19nm,1.0s								
EYAK	**Cordova Ski Ar**	**78.85**	**14**	P		**P**	23 22 03.3		+0.7
	baz=207								
GLI	**Glacier Island**	**78.85**	**13**	P		**P**	23 22 04.1		+1.5
GLI	**Glacier Island**	**78.85**	**13**	P		**P**	23 22 03.1		+0.4
	baz=206								
D08A	**Wollman Farm,**	**78.99**	**35**			**P**	23 22 03.8		+0.1
D08A				IAmb		IAmb	23 22 09.3		
	comp=Z,37nm,1.3s								
MDJ	**Mudanjiang**	**78.99**	**322**	P		**P**	23 22 03.4		-0.4
MDJ				IAmb		IAmb	23 22 11.8		
	comp=Z,84nm,2.0s								
MDJ	**Mudanjiang**	**78.99**	**322**	P		**P**	23 22 04.8		+1.0
MDJ				PP		**PP**	23 25 07.1		+4.1
MDJ				S		**S**	23 32 04.2		+2.0
MDJ				ScS		**SKKSac**	23 32 20.4		0.0
MDJ				pmax		pmax			
	comp=Z,15nm,1.9s								
MDJ				pmax		pmax			
	comp=Z,340nm,4.1s								
ZAIG	**Zacatecas**	**79.00**	**63**	P		**P**	23 22 04.3		-0.4
ZAIG				IAmb		IAmb	23 22 11.2		
	comp=Z,44nm,1.7s								
HMT	**Hamilton**	**79.01**	**14**	P		**P**	23 22 02.3		-1.3
SKT	**Skwentna**	**79.01**	**10**	P		**P**	23 22 02.8		-0.7
SKT	**Skwentna**	**79.01**	**10**	P		**P**	23 22 04.2		+0.7
	baz=202								
J16K	**Anvik River**	**79.03**	**6**	P		**P**	23 22 04.3		+0.7
J16K	**Anvik River**	**79.03**	**6**	P		**P**	23 22 04.6		+1.1
	baz=193								
M22K	**Willow**	**79.05**	**11**	P		**P**	23 22 02.9		-0.8
M22K	**Willow**	**79.05**	**11**	P		**P**	23 22 04.2		+0.5
	baz=203								
KNK	**Knik Glacier**	**79.06**	**12**			**P**	23 22 04.5		+0.7
KNK	**Knik Glacier**	**79.06**	**12**	P		**P**	23 22 02.8		-1.0
	baz=204								
BGU	**Big Grassy Mou**	**79.08**	**42**	P		**P**	23 22 04.5		-0.1
BGU				IAmb		IAmb	23 22 10.1		
	comp=Z,42nm,1.8s								
PMR	**Palmer**	**79.09**	**12**			**P**	23 22 03.1		-0.8
PMR				IAmb		IAmb	23 22 04.3		
	comp=Z,54nm,1.4s								
PMR	**Palmer**	**79.09**	**12**	P		**P**	23 22 03.8		-0.1
	baz=204								
PMR	**Palmer**	**79.09**	**12**	P		**P**	23 22 03.1		-0.8
PMR				pmax		pmax			
	comp=Z,54nm,1.4s								
E09A	**Wood Farm, Sta**	**79.09**	**35**			**P**	23 22 04.5		+0.2
L20K	**Farewell, AK**	**79.09**	**9**	P		**P**	23 22 03.9		-0.1
	baz=199								
HMU	**Henry Mountain**	**79.10**	**46**	P		**P**	23 22 05.6		+0.6
HMU				IAmb		IAmb	23 22 11.4		
	comp=Z,67nm,1.5s								
NLU	**North Lily Min**	**79.20**	**43**			**P**	23 22 06.1		+0.7
TTA	**Tatalina**	**79.22**	**8**			**P**	23 22 04.8		+0.1
TTA				IAmb		IAmb	23 22 42.6		
	comp=Z,38nm,1.2s								
TTA	**Tatalina**	**79.22**	**8**	P		**P**	23 22 04.1		-0.6
	baz=197,SNR=8.7								
TTA	**Tatalina**	**79.22**	**8**	P		**P**	23 22 04.8		+0.1
TTA				pmax		pmax			
	comp=Z,38nm,1.2s								
Q16A	**Castle Valley**	**79.29**	**45**	P		**P**	23 22 06.0		+0.2
Q16A				IAmb		IAmb	23 22 12.3		
	comp=Z,56nm,1.6s								
GHO	**Glory Hole Cre**	**79.29**	**12**	P		**P**	23 22 04.2		-0.9
GHO				IAmb		IAmb	23 22 05.5		
	comp=Z,27nm,0.8s								
F10A	**Beach Ranch, E**	**79.30**	**36**	P		**P**	23 22 05.2		-0.3
F10A				IAmb		IAmb	23 22 10.5		
	comp=Z,25nm,1.0s								
TMUT	**Trail Mountain**	**79.45**	**44**	P		**P**	23 22 07.6		+0.7
TMUT				IAmb		IAmb	23 22 14.0		
	comp=Z,36nm,1.1s								
BMRM	**Bremner River**	**79.48**	**14**	P		**P**	23 22 05.6		-0.6
	baz=208								
PLID	**Pearl Lake**	**79.50**	**37**			**P**	23 22 06.8		-0.1
MPU	**Maple Canyon**	**79.53**	**43**	P		**P**	23 22 08.1		+1.0
HLID	**Hailey**	**79.61**	**39**			**P**	23 22 07.7		+0.2
HLID				IAmb		IAmb	23 22 15.0		
	comp=Z,28nm,0.9s								
HLID	**Hailey**	**79.61**	**39**	P		**P**	23 22 08.0		+0.5
	baz=237,SNR=29								
I17K	**Unalakleet**	**79.61**	**6**			**P**	23 22 07.2		+0.5
I17K				IAmb		IAmb	23 22 28.7		
	comp=Z,33nm,1.2s								
I17K	**Unalakleet**	**79.61**	**6**	P		**P**	23 22 07.8		+1.1
	baz=192,SNR=6.1								
J18K	**Innoko River**	**79.64**	**8**			**P**	23 22 07.1		+0.2
J18K				IAmb		IAmb	23 22 08.3		
	comp=Z,26nm,0.9s								
J18K	**Innoko River**	**79.64**	**8**	P		**P**	23 22 07.4		+0.5
	baz=196,SNR=12								
CRQM	**Cirque**	**79.64**	**15**	P		**P**	23 22 06.8		-0.4
CRQM				IAmb		IAmb	23 22 19.0		
	comp=Z,58nm,1.2s								
SPUT	**South Promonto**	**79.65**	**42**	P		**P**	23 22 08.4		+0.7
CRQE	**Cirque**	**79.65**	**15**	P		**P**	23 22 06.3		-0.9
	baz=210								
KLU	**Klutina**	**79.66**	**13**	P		**P**	23 22 08.5		+1.4
KLU				IAmb		IAmb	23 24 37.8		
	comp=Z,24nm,0.7s								
KLU	**Klutina**	**79.66**	**13**	P		**P**	23 22 06.5		-0.6
	baz=207								
SCM	**Sheep Creek Mo**	**79.67**	**12**	P		**P**	23 22 06.6		-0.6
SCM				IAmb		IAmb	23 22 07.5		
	comp=Z,29nm,0.6s								
SCM	**Sheep Creek Mo**	**79.67**	**12**	P		**P**	23 22 07.0		-0.2
	baz=206								
SCM	**Sheep Creek Mo**	**79.67**	**12**	P		**P**	23 22 06.6		-0.6
SCM				pmax		pmax			
	comp=Z,29nm,0.6s								
HVU	**Hansel Valley**	**79.69**	**41**			**P**	23 22 08.3		+0.4
HVU	**Hansel Valley**	**79.69**	**41**	P		**P**	23 22 08.3		+0.4
HVU				pmax		pmax			
	comp=Z,17nm,0.8s								
PPLA	**Purkeypile**	**79.75**	**10**	P		**P**	23 22 07.4		-0.3
	baz=201								
C09A	**Chrisman Ranch**	**79.79**	**34**	P		**P**	23 22 07.5		-0.6
CTU	**Camp Tracy**	**79.79**	**43**	P		**P**	23 22 09.1		+0.6
SRU	**San Rafael Swe**	**79.83**	**45**			**P**	23 22 09.5		+0.8
SRU	**San Rafael Swe**	**79.83**	**45**	P		**P**	23 22 09.5		+0.8
SRU				pmax		pmax			
	comp=Z,30nm,1.2s								
P17A	**Butcher Ranch,**	**79.86**	**44**	P		**P**	23 22 09.8		+0.9
P17A				IAmb		IAmb	23 22 15.8		
	comp=Z,46nm,1.3s								
K20K	**Telida**	**79.90**	**9**	P		**P**	23 22 08.2		-0.1
K20K	**Telida**	**79.90**	**9**	P		**P**	23 22 08.8		+0.4
	baz=199								
GRNC	**Granite Creek**	**79.97**	**15**	P		**P**	23 22 09.5		+0.5
GRNC				IAmb		IAmb	23 22 28.7		
	comp=Z,38nm,1.0s								
VRDI	**Verde Repeater**	**79.98**	**14**	P		**P**	23 22 08.6		-0.5
VRDI				IAmb		IAmb	23 22 24.8		
	comp=Z,26nm,1.0s								
N25K	**Chitina, Valde**	**80.05**	**14**	P		**P**	23 22 08.4		-0.9
N25K				IAmb		IAmb	23 22 09.8		
	comp=Z,22nm,0.7s								
N25K	**Chitina, Valde**	**80.05**	**14**	P		**P**	23 22 09.3		0.0
	baz=208								
Y22D	**IRIS PASSCAL I**	**80.06**	**51**	P		**P**	23 22 11.0		+0.9
MA2	**Magadan**	**80.13**	**342**	*i* P		**P**	23 22 07.6		-2.0
MA2				pmax		pmax			
	comp=Z,29nm,1.2s								
P29M	**Windy Craggy**	**80.13**	**18**	P		**P**	23 22 09.0		-0.7
P29M	**Windy Craggy**	**80.13**	**18**	P		**P**	23 22 10.3		+0.6
	baz=215								
NJ2	**Nanjing**	**80.13**	**307**	*e* P		**P**	23 22 11.4		+1.1
NJ2				pP		**pP**	23 22 14.4		0.0
NJ2				pmax		pmax			
	comp=Z,6.0nm,0.5s								
NJ2				pmax		pmax			
	comp=Z,280nm,3.5s								
425A	**Indio Mountain**	**80.14**	**54**			**P**	23 22 11.2		+0.6
425A				IAmb		IAmb	23 22 16.5		
	comp=Z,75nm,1.7s								
M24K	**Tolsona, Glenn**	**80.15**	**13**	P		**P**	23 22 09.5		-0.3
M24K	**Tolsona, Glenn**	**80.15**	**13**	P		**P**	23 22 09.7		-0.1
	baz=207								
H16K	**Elim**	**80.21**	**5**	P		**P**	23 22 10.9		+1.0
	baz=191,SNR=6.3								
MNTX	**Cornudas Mount**	**80.21**	**53**	P		**P**	23 22 11.2		+0.4
	baz=245								
MNTX	**Cornudas Mount**	**80.21**	**53**	P		**P**	23 22 11.6		+0.8
	baz=245								
MCARA	**McCarthy VSAT**	**80.22**	**14**	P		**P**	23 22 09.4		-0.7
MCARA				IAmb		IAmb	23 22 28.4		
	comp=Z,34nm,1.2s								
MCARA	**McCarthy VSAT**	**80.22**	**14**	P		**P**	23 22 11.1		+1.0
	baz=210								
LOGN	**Logan Glacier**	**80.24**	**15**	P		**P**	23 22 09.0		-1.4
LOGN				IAmb		IAmb	23 22 17.7		
	comp=Z,54nm,1.3s								
CAST	**Castle Rocks**	**80.26**	**10**			**P**	23 22 08.3		-2.0
CAST				IAmb		IAmb	23 22 49.6		
	comp=Z,53nm,1.8s								
CAST	**Castle Rocks**	**80.26**	**10**	P		**P**	23 22 08.7		-1.7
	baz=201,SNR=7.2								
WAT6	**Susitna Watana**	**80.26**	**12**	P		**P**	23 22 10.3		-0.2
	baz=205,SNR=8.8								
CTG	**Chitna Glacier**	**80.27**	**15**	P		**P**	23 22 09.4		-1.1
	baz=211								
BARN	**Barnard Glacie**	**80.27**	**15**	P		**P**	23 22 10.7		+0.1
BARN				IAmb		IAmb	23 22 18.6		
	comp=Z,52nm,1.2s								
J19K	**Poorman**	**80.29**	**8**	P		**P**	23 22 10.3		-0.1
J19K	**Poorman**	**80.29**	**8**	P		**P**	23 22 11.4		+1.0
	baz=197								
MVCO	**Mesa Verde**	**80.33**	**47**	P		**P**	23 22 11.9		+0.4
WAT1	**Susitna Watana**	**80.33**	**11**	P		**P**	23 22 10.5		-0.2
	baz=204								
BSUT	**Blindstream Ca**	**80.37**	**43**			**P**	23 22 11.0		-0.9
HWUT	**Hardware Ranch**	**80.38**	**42**			**P**	23 22 11.3		-0.4
G15K	**Niukluk**	**80.43**	**4**	P		**P**	23 22 11.6		+0.4
	baz=189								
O29M	**Mount Kennedy**	**80.45**	**17**	P		**P**	23 22 11.1		-0.4
O29M				IAmb		IAmb	23 22 29.4		
	comp=Z,39nm,1.3s								
O29M	**Mount Kennedy**	**80.45**	**17**	P		**P**	23 22 11.7		+0.2
	baz=214								
KLR	**Kul'dur**	**80.48**	**327**	*i* P		**P**	23 22 11.0		-0.8
KLR				pmax		pmax			
	comp=Z,5.0nm,1.0s								
KLR	**Kul'dur**	**80.48**	**327**	P		**P**	23 22 12.2		+0.4
	comp=Z,5.2nm,1.1s,baz=89,slow=10,SNR=3.8								
	comp=Z,5.2nm,1.1s								
T35M	**Bob Quinn**	**80.51**	**22**	P		**P**	23 22 11.6		-0.1
T35M				IAmb		IAmb	23 22 40.2		
	comp=Z,60nm,1.8s								
T35M	**Bob Quinn**	**80.51**	**22**	P		**P**	23 22 11.2		-0.6
	baz=222								
KTH	**Kantishna Hill**	**80.58**	**10**			**P**	23 22 11.2		-0.9
KTH				IAmb		IAmb	23 22 49.2		
	comp=Z,31nm,1.2s								
TRF	**Thorofare Moun**	**80.59**	**10**			**P**	23 22 11.4		-0.9
TRF				IAmb		IAmb	23 22 27.5		
	comp=Z,41nm,1.0s								
TRF	**Thorofare Moun**	**80.59**	**10**	P		**P**	23 22 10.9		-1.3
	baz=203,SNR=8.9								
TX31	**Lajitas Ar. Si**	**80.60**	**56**			**P**	23 22 13.8		+0.8
TX31	**Lajitas Ar. Si**	**80.60**	**56**	P		**P**	23 22 14.4		+1.4
	baz=246								
TXAR	**Lajitas Array**	**80.60**	**56**	P		**P**	23 22 13.6		+0.6
	comp=Z,6.1nm,1.0s,baz=231,slow=6.0,SNR=18								
	comp=Z,6.1nm,1.0s								
HARP	**HAARP**	**80.63**	**13**	P		**P**	23 22 11.7		-0.6
	baz=208								
CHUM	**Lake Minchumin**	**80.66**	**9**	P		**P**	23 22 11.7		-0.7
	baz=201								
J20K	**Nowinta River**	**80.67**	**8**	P		**P**	23 22 12.5		+0.1
J20K				IAmb		IAmb	23 22 13.5		
	comp=Z,30nm,0.9s								
J20K	**Nowinta River**	**80.67**	**8**	P		**P**	23 22 11.9		-0.5
	baz=199								
NEW	**Newport**	**80.68**	**34**			**P**	23 22 13.0		0.0
NEW	**Newport**	**80.68**	**34**	P		**P**	23 22 13.1		+0.1
	baz=234								
NEW	**Newport**	**80.68**	**34**	P		**P**	23 22 13.0		0.0
NEW				pmax		pmax			
	comp=Z,9.0nm,1.1s								
TLIG	**Tlapa**	**80.70**	**69**	P		**P**	23 22 14.0		+0.2
TLIG				IAmb		IAmb	23 22 21.6		
	comp=Z,69nm,2.0s								
SKAG	**Skagway**	**80.71**	**19**			**P**	23 22 13.3		+0.5
SKAG				IAmb		IAmb	23 22 32.9		
	comp=Z,25nm,1.0s								
SKAG	**Skagway**	**80.71**	**19**	P		**P**	23 22 14.0		+1.2
	baz=217								
H17K	**Granite Mounta**	**80.71**	**6**			**P**	23 22 12.6		-0.1
H17K	**Granite Mounta**	**80.71**	**6**	P		**P**	23 22 13.1		+0.4
	baz=193								
P30M	**Million Dollar**	**80.76**	**18**	P		**P**	23 22 13.9		+0.8
	baz=216								
F14K	**Arctic Creek**	**80.77**	**3**	P		**P**	23 22 13.7		+0.7
	baz=187								
DHY	**Denali Highway**	**80.78**	**12**	P		**P**	23 22 12.7		-0.6
DHY	**Denali Highway**	**80.78**	**12**	P		**P**	23 22 12.3		-0.9
	baz=205								
ANMO	**Albuquerque**	**80.79**	**50**	P		**P**	23 22 14.2		+0.1
ANMO				IAmb		IAmb	23 22 20.1		
	comp=Z,57nm,1.6s								
ANMO	**Albuquerque**	**80.79**	**50**	P		**P**	23 22 13.9		-0.1
	baz=244								
ANMO	**Albuquerque**	**80.79**	**50**	P		**P**	23 22 15.2		+1.2
	baz=244								
ANMO	**Albuquerque**	**80.79**	**50**	*i* P		**P**	23 22 13.8		-0.2
ANMO				pmax		pmax			
	comp=Z,10.0nm,1.0s								
ANMO	**Albuquerque**	**80.79**	**50**	LR		LR	23 51 23.9		
	comp=Z,612nm,19.1s,baz=340,slow=31								
TNA	**Tin City**	**80.79**	**2**	P		**P**	23 22 13.8		+0.8
	baz=185								
RND	**Reindeer**	**80.81**	**11**			**P**	23 22 13.0		-0.3
RND				IAmb		IAmb	23 22 33.6		
	comp=Z,60nm,1.3s								
RND	**Reindeer**	**80.81**	**11**	P		**P**	23 22 13.0		-0.3
RND				pmax		pmax			
	comp=Z,60nm,1.3s								
GCSA	**Galena City Sc**	**80.86**	**7**	P		**P**	23 22 14.2		+0.8
	baz=196								
S34M	**Telegraph Cree**	**80.89**	**21**	P		**P**	23 22 13.3		-0.5
	baz=221								
BNX	**BinXian**	**80.90**	**322**	⇓P		**P**	23 22 13.9		-0.2
BNX				pmax		pmax			
	comp=Z,12nm,0.7s								
BNX				pmax		pmax			
	comp=Z,220nm,3.5s								
G16K	**Koyuk River**	**80.95**	**5**	P		**P**	23 22 13.8		-0.1
G16K	**Koyuk River**	**80.95**	**5**	P		**P**	23 22 15.2		+1.3
	baz=191								
YUK8	**Steele Glacier**	**80.95**	**16**	P		**P**	23 22 14.7		+0.3
	baz=213								
ALPN	**Alpine**	**81.04**	**55**			**P**	23 22 15.8		+0.4
ALPN				IAmb		IAmb	23 22 21.2		
	comp=Z,54nm,1.6s								
YUK6	**Outpost Mounta**	**81.04**	**16**	P		**P**	23 22 15.1		+0.3
	baz=214								
CN2	**Changchun**	**81.05**	**320**	*e* P		**P**	23 22 15.5		+0.5
CN2				pmax		pmax			
	comp=Z,20nm,0.8s								
PAX	**Paxson**	**81.07**	**13**	P		**P**	23 22 13.9		-0.9
	baz=207								
BPAW	**Bear Paw Mtn.**	**81.08**	**10**	P		**P**	23 22 14.1		-0.6
	baz=202								
H18K	**Honhosa River**	**81.08**	**6**	P		**P**	23 22 14.1		-0.5
H18K				IAmb		IAmb	23 22 32.0		
	comp=Z,63nm,1.8s								
H18K	**Honhosa River**	**81.08**	**6**	P		**P**	23 22 14.5		-0.2
	baz=195								
MCK	**McKinley**	**81.09**	**11**	P		**P**	23 22 14.0		-0.8
	baz=204,SNR=17								
F15K	**North Star Dit**	**81.10**	**4**	P		**P**	23 22 14.4		-0.3
	baz=189								
M26K	**Nabesna, AK**	**81.11**	**14**	P		**P**	23 22 14.7		-0.3
M26K				IAmb		IAmb	23 22 23.6		
	comp=Z,35nm,1.0s								
M26K	**Nabesna, AK**	**81.11**	**14**	P		**P**	23 22 14.1		-0.8
	baz=210,SNR=9.3								
RDMU	**Red Mountain**	**81.18**	**44**	P		**P**	23 22 16.3		+0.3
HYT	**Haines Junctio**	**81.18**	**17**			**P**	23 22 15.6		+0.2
HYT	**Haines Junctio**	**81.18**	**17**	P		**P**	23 22 15.0		-0.4
	baz=215								
YUK3	**Moose Creek**	**81.19**	**15**	P		**P**	23 22 15.6		+0.1
	baz=212								
G17K	**Kiwalik Mounta**	**81.20**	**5**	P		**P**	23 22 14.8		-0.4
	baz=192								
ECR	**Eagle Creek**	**81.23**	**41**	P		**P**	23 22 16.7		+0.5
AHID	**Auburn Hatcher**	**81.26**	**41**	P		**P**	23 22 17.1		+0.8
AHID				IAmb		IAmb	23 22 23.5		
	comp=Z,40nm,1.2s								
PECS	**Pecos**	**81.26**	**54**	P		**P**	23 22 17.5		+1.1
PECS				IAmb		IAmb	23 24 58.7		
	comp=Z,12nm,0.6s								
YUK4	**Talbot Arm**	**81.30**	**16**	P		**P**	23 22 15.2		-0.9
	baz=214								
Q32M	**Nakina River**	**81.30**	**20**	P		**P**	23 22 16.0		-0.2
	baz=220								
P32M	**Atlin**	**81.32**	**19**	P		**P**	23 22 15.5		-0.6
	baz=219								
M27K	**Edge Creek, AK**	**81.34**	**14**	P		**P**	23 22 16.4		+0.2
M27K				IAmb		IAmb	23 22 22.1		
	comp=Z,37nm,1.1s								
M27K	**Edge Creek, AK**	**81.34**	**14**	P		**P**	23 22 15.9		-0.4
	baz=211								
BWN	**Browne**	**81.40**	**10**	P		**P**	23 22 16.2		-0.2
MENT	**Mentasta**	**81.42**	**13**	P		**P**	23 22 16.3		-0.2
MENT				IAmb		IAmb	23 22 36.5		
	comp=Z,32nm,1.0s								
O30N	**Mendenhall**	**81.54**	**18**	P		**P**	23 22 17.1		-0.1
O30N	**Mendenhall**	**81.54**	**18**	P		**P**	23 22 18.1		+0.8
	baz=216								
L26K	**Log Cabin Wild**	**81.58**	**13**			**P**	23 22 16.9		-0.5
L26K	**Log Cabin Wild**	**81.58**	**13**	P		**P**	23 22 17.4		+0.1
	baz=209,SNR=6.2								
BVCY	**Beaver Creek**	**81.63**	**15**	P		**P**	23 22 18.0		+0.3
	baz=212								
MSO	**Missoula**	**81.66**	**37**			**P**	23 22 18.4		0.0
MSO				IAmb		IAmb	23 22 23.8		
	comp=Z,25nm,1.1s								
MSO	**Missoula**	**81.66**	**37**	P		**P**	23 22 18.3		0.0
	baz=237								
H19K	**Roundabout Mou**	**81.66**	**7**	P		**P**	23 22 17.6		0.0
H19K				IAmb		IAmb	23 22 19.2		
	comp=Z,25nm,1.1s								
H19K	**Roundabout Mou**	**81.66**	**7**	P		**P**	23 22 17.7		0.0
	baz=197								
DLBC	**Dease Lake**	**81.67**	**21**	P		**P**	23 22 18.1		+0.1
DLBC				IAmb		IAmb	23 24 02.1		
	comp=Z,66nm,1.9s								
DLBC	**Dease Lake**	**81.67**	**21**	P		**P**	23 22 17.4		-0.6
	baz=222								
DLBC	**Dease Lake**	**81.67**	**21**	LR		LR	23 51 06.4		
	comp=Z,360nm,19.3s,baz=246,slow=30								
REDW	**Red Top Meadow**	**81.71**	**41**	P		**P**	23 22 19.0		+0.2
TPAW	**Teton Pass**	**81.72**	**41**	P		**P**	23 22 19.7		+0.8
TPAW				IAmb		IAmb	23 22 26.2		
	comp=Z,33nm,1.1s								
BPMT	**Black Pine Rid**	**81.73**	**37**	P		**P**	23 22 18.6		-0.3
FXWY	**Fox Creek**	**81.74**	**41**	P		**P**	23 22 19.3		+0.3
S22A	**4UR Ranch, Cre**	**81.75**	**47**			**P**	23 22 20.0		+0.7
S22A				IAmb		IAmb	23 22 25.6		
	comp=Z,57nm,1.6s								
S22A	**4UR Ranch, Cre**	**81.75**	**47**	P		**P**	23 22 20.2		+1.0
	baz=243								
K24K	**Donnelly Dome**	**81.75**	**12**	P		**P**	23 22 18.5		+0.2
	baz=207,SNR=8.3								
G18K	**Tagagawik**	**81.77**	**6**	P		**P**	23 22 17.9		-0.4
G18K	**Tagagawik**	**81.77**	**6**	P		**P**	23 22 18.7		+0.4
	baz=194								
SMAI	**San Martin Ant**	**81.80**	**159**	P		**P**	23 22 19.7		+1.2
SMAI				IAmb		IAmb	23 22 36.2		
	comp=Z,51nm,1.2s								
WHY	**Whitehorse**	**81.81**	**18**	P		**P**	23 22 18.6		-0.1
WHY				IAmb		IAmb	23 22 49.6		
	comp=Z,71nm,1.9s								
WHY	**Whitehorse**	**81.81**	**18**	P		**P**	23 22 17.9		-0.8
	baz=217								
N30M	**Aishikik Lake**	**81.82**	**17**	P		**P**	23 22 18.0		-0.7
N30M	**Aishikik Lake**	**81.82**	**17**	P		**P**	23 22 18.4		-0.3
	baz=215								
H20K	**Anotleneega Mo**	**81.82**	**8**	P		**P**	23 22 17.8		-0.8
	baz=198,SNR=6.1								
SNOW	**Snow King Moun**	**81.83**	**41**	P		**P**	23 22 19.4		0.0
SNOW				IAmb		IAmb	23 22 26.8		
	comp=Z,34nm,1.0s								
NEA2	**Nenana**	**81.86**	**10**	P		**P**	23 22 18.4		-0.3
O20A	**White River Ci**	**81.86**	**45**	P		**P**	23 22 20.2		+0.6
O20A				IAmb		IAmb	23 22 25.

baz=241,SNR=15
PD31 Pinedale Array 82.25 42 P **P** 23 22 21.4 -0.3
PDAR Pinedale Array 82.25 42 P **P** 23 22 21.3 -0.3
comp=Z,2.4nm,0.6s,baz=211,slow=3.0,SNR=27
comp=Z,2.4nm,0.6s
H21K Melozitna Rive 82.26 8 P **P** 23 22 20.7 -0.2
H21K IAmb IAmb 23 22 37.6
comp=Z,22nm,1.1s
H21K Melozitna Rive 82.26 8 P **P** 23 22 20.9 0.0
baz=200
YHL Hebgen Lake 82.26 39 P **P** 23 22 22.2 +0.5
M29M Somme Creek 82.26 16 P **P** 23 22 20.9 -0.2
M29M IAmb IAmb 23 22 38.6
comp=Z,20nm,1.0s
M29M Somme Creek 82.26 16 P **P** 23 22 21.6 +0.5
baz=214
YFT Old Faithful 82.27 40 **P** 23 22 23.0 +1.3
SCRK Sand Creek 82.28 13 **P** 23 22 20.6 -0.5
SCRK IAmb IAmb 23 22 38.4
comp=Z,28nm,1.0s
SCRK Sand Creek 82.28 13 P **P** 23 22 19.3 -1.9
baz=209,SNR=11
SMCO Snowmass 82.29 46 P **P** 23 22 22.6 +0.5
SMCO IAmb IAmb 23 22 28.2
comp=Z,50nm,1.4s
YMR Madison River 82.30 40 P **P** 23 22 22.2 +0.3
I23K Minto, Yukon-K 82.32 10 P **P** 23 22 20.6 -0.6
I23K IAmb IAmb 23 22 40.0
comp=Z,22nm,1.0s
I23K Minto, Yukon-K 82.32 10 P **P** 23 22 20.9 -0.3
baz=203,SNR=14
COLA College 82.33 11 P **P** 23 22 20.0 -1.2
COLA College 82.33 11 P **P** 23 22 21.3 +0.1
baz=205
COLA College 82.33 11 P **P** 23 22 20.0 -1.2
COLA pmax pmax
comp=Z,66nm,0.9s
OVMT Ovando 82.33 37 P **P** 23 22 21.7 -0.1
ELMT Elliston 82.34 38 P **P** 23 22 21.8 -0.2
MDM Murphy Dome 82.34 11 P **P** 23 22 19.8 -1.5
MDM IAmb IAmb 23 22 37.0
comp=Z,39nm,1.2s
BOZ Bozeman (W) 82.37 39 P **P** 23 22 22.0 -0.1
BOZ IAmb IAmb 23 22 27.8
comp=Z,53nm,1.6s
BOZ Bozeman (W) 82.37 39 P **P** 23 22 22.2 +0.1
baz=239,SNR=21
BOZ Bozeman (W) 82.37 39 P **P** 23 22 22.0 -0.1
BOZ pmax pmax
comp=Z,53nm,1.6s
H17A Grant Village 82.40 40 P **P** 23 22 23.6 +1.2
H17A IAmb IAmb 23 22 29.2
comp=Z,32nm,1.4s
H17A Grant Village 82.40 40 P **P** 23 22 21.2 -1.3
baz=240,SNR=10
IL31 82.41 11 **P** 23 22 20.5 -1.1
ILAR Eielson Array 82.41 11 P **P** 23 22 20.7 -1.0
comp=Z,7.5nm,0.9s,baz=233,slow=6.5,SNR=88
comp=Z,7.5nm,0.9s
YHH Holmes Hill 82.43 40 **P** 23 22 23.0 +0.4
IMAR Indian Mountai 82.44 8 P **P** 23 22 21.8 0.0
SEY Seymchan 82.48 345 *i* P **P** 23 22 21.1 -0.9
SEY pmax pmax
comp=Z,9.0nm,0.9s
SEY Seymchan 82.48 345 P **P** 23 22 21.4 -0.7
comp=Z,8.1nm,0.9s,baz=124,slow=4.8,SNR=7.0
comp=Z,8.1nm,0.9s
YNM Yellowstone No 82.49 40 P **P** 23 22 24.2 +1.3
YNM IAmb IAmb 23 22 39.7
comp=Z,24nm,0.6s
YNR Norris Junctio 82.50 40 **P** 23 22 24.2 +1.3
BEMT Mount Belmont 82.55 37 P **P** 23 22 22.9 -0.2
J25K Salcha River, 82.56 12 P **P** 23 22 21.7 -0.8
J25K IAmb IAmb 23 22 38.5
comp=Z,22nm,0.9s
J25K Salcha River, 82.56 12 P **P** 23 22 21.9 -0.7
baz=207
ODSA Odessa 82.58 54 P **P** 23 22 24.4 +0.9
ODSA IAmb IAmb 23 22 41.6
comp=Z,26nm,1.0s
POKR Poker Plat Res 82.62 11 P **P** 23 22 22.7 -0.1
POKR Poker Plat Res 82.62 11 P **P** 23 22 22.4 -0.4
baz=205,SNR=21
E17K Hotham Inlet 82.65 5 P **P** 23 22 22.3 -0.5
baz=191,SNR=8.0
LYMT Lyon Mountain 82.69 37 P **P** 23 22 23.6 -0.2
SDCO Great Sand Dun 82.70 48 P **P** 23 22 24.5 +0.3
SDCO IAmb IAmb 23 22 29.9
comp=Z,34nm,1.6s
SDCO Great Sand Dun 82.70 48 P **P** 23 22 23.2 -0.9
baz=244
SDCO Great Sand Dun 82.70 48 P **P** 23 22 24.9 +0.7
baz=244
N32M Quiet Lake 82.74 18 P **P** 23 22 23.7 +0.2
N32M IAmb IAmb 23 22 40.0
comp=Z,24nm,1.1s
N32M Quiet Lake 82.74 18 P **P** 23 22 22.0 -1.5
baz=219
K27K Chicken 82.74 13 P **P** 23 22 23.2 -0.2
K27K IAmb IAmb 23 22 44.8
comp=Z,47nm,1.8s
K27K Chicken 82.74 13 P **P** 23 22 22.6 -0.8
baz=210
F19K Shaleruckik Mo 82.78 6 **P** 23 22 23.3 -0.1
F19K IAmb IAmb 23 22 29.3
comp=Z,22nm,0.8s
F19K Shaleruckik Mo 82.78 6 P **P** 23 22 22.9 -0.5
baz=195,SNR=11
M30M Minto, Yukon 82.81 16 **P** 23 22 23.6 -0.2
M30M Minto, Yukon 82.81 16 P **P** 23 22 23.0 -0.9
baz=216
J26L Joseph Creek 82.83 13 P **P** 23 22 24.1 +0.1
J26L IAmb IAmb 23 22 43.9
comp=Z,30nm,1.1s
J26L Joseph Creek 82.83 13 P **P** 23 22 22.7 -1.3
baz=209
YMP Mirror Lake Pl 82.84 40 P **P** 23 22 25.7 +0.9
YMP IAmb IAmb 23 22 48.0
comp=Z,20nm,1.1s
QIZ Qiongzhong 82.88 292 P **P** 23 22 24.6 -0.5
QIZ S **S** 23 32 43.3 -0.6
L29M L29M 82.90 15 P **P** 23 22 24.1 -0.2
L29M L29M 82.90 15 P **P** 23 22 24.9 +0.5
baz=214
G21K Allakaket 82.97 8 P **P** 23 22 24.8 +0.2
G21K IAmb IAmb 23 22 42.5
comp=Z,19nm,0.8s
G21K Allakaket 82.97 8 P **P** 23 22 25.3 +0.7
baz=199,SNR=9.0
E18K Tukpahlearik C 83.08 5 P **P** 23 22 25.2 +0.1
E18K Tukpahlearik C 83.08 5 P **P** 23 22 24.5 -0.6
baz=192
DRIO Del Rio 83.09 57 **P** 23 22 26.5 +0.4
DRIO IAmb IAmb 23 22 31.6
comp=Z,50nm,1.4s
MSTX Muleshoe 83.14 52 P **P** 23 22 26.7 +0.4
MSTX Muleshoe 83.14 52 P **P** 23 22 25.9 -0.5
baz=246
MSTX Muleshoe 83.14 52 P **P** 23 22 27.2 +0.9
baz=246
M31M Drury Creek, Y 83.18 17 P **P** 23 22 24.3 -1.5
baz=218
H24K Noodor Dome 83.20 10 P **P** 23 22 24.7 -1.1
H24K Noodor Dome 83.20 10 P **P** 23 22 25.5 -0.3
baz=205
F20K Avaraart Lake 83.21 7 P **P** 23 22 25.7 0.0
F20K Avaraart Lake 83.21 7 P **P** 23 22 25.4 -0.4
baz=197
T25A Trinidad 83.22 49 P **P** 23 22 26.5 -0.3
T25A IAmb IAmb 23 22 32.3
comp=Z,56nm,1.6s
T25A Trinidad 83.22 49 P **P** 23 22 25.2 -1.6
baz=245
OZNA Ozona 83.24 56 P **P** 23 22 27.5 +0.7
OZNA IAmb IAmb 23 22 32.2
comp=Z,82nm,1.9s
RWWY Rawlins 83.27 44 P **P** 23 22 27.3 +0.3
WTLY Watson Lake, Y 83.34 21 P **P** 23 22 25.8 -0.8
PRP Porcupine Dome 83.34 11 **P** 23 22 26.6 -0.1
PRP Porcupine Dome 83.34 11 P **P** 23 22 24.5 -2.1
baz=207,SNR=12
HEH HeiHe 83.37 326 *e*P **P** 23 22 27.8 +0.9
HEH pmax pmax
comp=Z,17nm,1.6s
HEH pmax pmax
comp=Z,190nm,5.5s

DAWY Dawson 83.39 14 **P** 23 22 26.7 -0.1
DAWY IAmb IAmb 23 22 43.2
comp=Z,20nm,0.9s
DAWY Dawson 83.39 14 P **P** 23 22 25.2 -1.7
baz=213,SNR=10
E19K Redstone River 83.44 6 P **P** 23 22 26.9 0.0
E19K IAmb IAmb 23 22 43.7
comp=Z,25nm,0.8s
E19K Redstone River 83.44 6 P **P** 23 22 26.0 -1.0
baz=196,SNR=18
Q24A Divide 83.47 47 P **P** 23 22 28.6 +0.4
Q24A Divide 83.47 47 P **P** 23 22 27.0 -1.1
baz=244
FARO Faro, Yukon 83.50 18 P **P** 23 22 27.6 +0.2
FARO Faro, Yukon 83.50 18 P **P** 23 22 25.7 -1.7
baz=219
ISCO Idaho Springs 83.51 46 **P** 23 22 28.7 +0.3
ISCO Idaho Springs 83.51 46 P **P** 23 22 26.1 -2.3
baz=244
ISCO Idaho Springs 83.51 46 P **P** 23 22 29.2 +0.8
baz=244
ISCO Idaho Springs 83.51 46 P **P** 23 22 28.7 +0.3
ISCO pmax pmax
comp=Z,12nm,1.1s
RDOG Red Dog Mine 83.54 4 P **P** 23 22 28.5 +1.1
RDOG pwP 23 22 45.7 +12
RDOG Red Dog Mine 83.54 4 P **P** 23 22 26.3 -1.2
baz=190
RLMT Red Lodge 83.57 40 P **P** 23 22 28.1 -0.4
RLMT IAmb IAmb 23 22 53.5
comp=Z,17nm,0.8s
RLMT Red Lodge 83.57 40 P **P** 23 22 27.6 -0.8
baz=241
EGAK Eagle 83.59 13 **P** 23 22 27.2 -0.6
EGAK IAmb IAmb 23 22 46.7
comp=Z,22nm,0.9s
EGAK Eagle 83.59 13 P **P** 23 22 27.1 -0.6
baz=211,SNR=8.3
C16K Lisburne Hills 83.61 3 **P** 23 22 27.9 +0.1
C16K IAmb IAmb 23 22 44.6
comp=Z,17nm,1.1s
C16K Lisburne Hills 83.61 3 P **P** 23 22 27.2 -0.6
baz=188
I26K Coal Creek Min 83.62 12 P **P** 23 22 27.8 -0.2
I26K IAmb IAmb 23 22 44.5
comp=Z,19nm,0.9s
I26K Coal Creek Min 83.62 12 P **P** 23 22 26.9 -1.0
baz=209
SGCY Sterling City 83.62 55 P **P** 23 22 29.4 +0.7
SGCY IAmb IAmb 23 22 34.2
comp=Z,36nm,1.3s
G22K Bettles 83.63 9 P **P** 23 22 28.3 +0.4
baz=201
F21K Alatna River 83.65 8 **P** 23 22 27.7 -0.3
F21K IAmb IAmb 23 23 17.1
comp=Z,50nm,1.8s
F21K Alatna River 83.65 8 P **P** 23 22 27.6 -0.4
baz=199
G23K Bananza Creek 83.66 9 P **P** 23 22 27.9 -0.2
G23K IAmb IAmb 23 22 44.6
comp=Z,15nm,0.8s
G23K Bananza Creek 83.66 9 P **P** 23 22 28.7 +0.6
baz=203
K29M Barlow Dome 83.66 15 P **P** 23 22 28.4 +0.1
K29M IAmb IAmb 23 22 46.1
comp=Z,24nm,0.9s
K29M Barlow Dome 83.66 15 P **P** 23 22 28.2 -0.1
baz=215
833A Chaparral WMA, 83.69 59 P **P** 23 22 30.0 +0.9
833A IAmb IAmb 23 22 34.7
comp=Z,43nm,1.4s
833A Chaparral WMA, 83.69 59 P **P** 23 22 28.5 -0.7
baz=249
POST Post 83.77 53 P **P** 23 22 29.9 +0.4
POST IAmb IAmb 23 22 34.8
comp=Z,42nm,1.2s
N23A Red Feather La 83.77 45 **P** 23 22 30.0 +0.4
N23A Red Feather La 83.77 45 P **P** 23 22 28.9 -0.7
baz=244
LIRD Liard River Hi 83.78 22 P **P** 23 22 28.8 -0.1
baz=226
MAYO Mayo, Yukon 83.88 16 P **P** 23 22 30.0 +0.7
MAYO Mayo, Yukon 83.88 16 P **P** 23 22 29.9 +0.7
baz=216
C17K DeLong Mountai 83.94 4 P **P** 23 22 28.9 -0.6
baz=190
BRLDA Berland Lookou 83.97 29 P **P** 23 22 30.0 -0.1
BELA Belgrano 2 84.03 172 P **P** 23 22 30.9 +0.9
BELA IAmb IAmb 23 22 37.5
comp=Z,27nm,1.0s
F22K John River 84.09 8 P **P** 23 22 29.8 -0.5
baz=201
COLD Coldfoot 84.11 9 P **P** 23 22 30.1 -0.2
baz=202,SNR=12
JCT Junction City 84.14 56 P **P** 23 22 31.7 +0.3
JCT IAmb IAmb 23 22 39.0
comp=Z,33nm,1.5s
JCT Junction City 84.14 56 P **P** 23 22 31.3 -0.1
baz=248
JCT Junction City 84.14 56 P **P** 23 22 31.7 +0.3
JCT pmax pmax
comp=Z,33nm,1.5s
RTBA Rita Blanca 84.16 50 P **P** 23 22 31.3 -0.2
RTBA IAmb IAmb 23 22 36.4
comp=Z,49nm,1.5s
SN01 Snyder 1 84.16 54 **P** 23 22 31.9 +0.4
SN01 IAmb IAmb 23 22 36.8
comp=Z,41nm,1.2s
K22A Casper 84.17 43 P **P** 23 22 31.9 +0.4
K22A IAmb IAmb 23 22 41.3
comp=Z,35nm,1.2s
K22A Casper 84.17 43 P **P** 23 22 31.3 -0.1
baz=243
I27K Kandik River 84.20 13 P **P** 23 22 31.2 +0.2
baz=211
PMSA Palmer Station 84.21 156 LR LR 23 59 17.5
comp=Z,173nm,18.1s,baz=252,slow=35
HNDO Hondo 84.21 57 P **P** 23 22 33.2 +1.4
HNDO IAmb IAmb 23 22 37.8
comp=Z,44nm,1.2s
C18K Utukok River 84.24 4 P **P** 23 22 30.7 -0.4
C18K IAmb IAmb 23 22 36.9
comp=Z,45nm,1.6s
C18K Utukok River 84.24 4 P **P** 23 22 31.1 0.0
baz=192
PHWY Pilot Hill 84.28 45 P **P** 23 22 31.7 -0.5
PHWY IAmb IAmb 23 24 52.4
comp=Z,16nm,0.8s
E20K Nigu River 84.32 6 P **P** 23 22 31.6 +0.1
baz=197
AMTX Amarillo 84.33 52 **P** 23 22 32.2 -0.2
AMTX Amarillo 84.33 52 P **P** 23 22 32.7 +0.3
baz=247
AMTX Amarillo 84.33 52 P **P** 23 22 32.7 +0.3
baz=247
D19K Kuna River 84.35 6 P **P** 23 22 31.3 -0.3
D19K IAmb IAmb 23 22 50.8
comp=Z,34nm,1.2s
D19K Kuna River 84.35 6 P **P** 23 22 31.5 -0.1
baz=195
I28M Miner Creek 84.43 13 **P** 23 22 32.2 0.0
I28M IAmb IAmb 23 22 37.5
comp=Z,16nm,0.9s
I28M Miner Creek 84.43 13 P **P** 23 22 32.0 -0.2
baz=212,SNR=10
DKNS Dickens 84.44 53 P **P** 23 22 33.4 +0.4
DKNS IAmb IAmb 23 22 40.4
comp=Z,99nm,1.8s
BILL Bilibino 84.47 352 P **P** 23 22 31.8 -0.4
BILL IAmb IAmb 23 22 40.7
comp=Z,22nm,1.0s
BILL Bilibino 84.47 352 *i* P **P** 23 22 31.4 -0.8
TGTN Hyland Airport 84.55 20 P **P** 23 22 32.7 -0.1
baz=223,SNR=9.4
J30M Hart River 84.56 15 P **P** 23 22 32.6 -0.3
J30M IAmb IAmb 23 22 50.5
comp=Z,17nm,0.9s
J30M Hart River 84.56 15 P **P** 23 22 32.4 -0.5
baz=216
EGMT Eagleton 84.71 37 **P** 23 22 34.1 +0.1
EGMT Eagleton 84.71 37 P **P** 23 22 33.5 -0.4
baz=240
D20K Etivluk River 84.71 6 P **P** 23 22 33.5 0.0
baz=196
E22K Anaktuvuk Pass 84.73 8 P **P** 23 22 33.5 -0.1
E22K Anaktuvuk Pass 84.73 8 P **P** 23 22 32.9 -0.7
baz=201,SNR=19
I29M Ogilvie Camp, 84.73 14 P **P** 23 22 33.3 -0.3
I29M IAmb IAmb 23 22 34.2
comp=Z,22nm,1.2s
I29M Ogilvie Camp, 84.73 14 P **P** 23 22 33.3 -0.3
baz=214,SNR=8.0
F24K Squaw Lake 84.73 10 P **P** 23 22 33.5 -0.1
F24K IAmb IAmb 23 22 51.8
comp=Z,15nm,0.9s
F24K Squaw Lake 84.73 10 P **P** 23 22 32.9 -0.7
baz=205
BRIGG Briggsdale 84.74 46 P **P** 23 22 34.9 +0.5
E21K Killik River 84.75 7 P **P** 23 22 33.4 -0.2
E21K Killik River 84.75 7 P **P** 23 22 32.8 -0.9
baz=199
H27K Steamboat Moun 84.76 12 P **P** 23 22 34.0 +0.2
baz=211
EF01 Eagle Ford 01 84.81 58 P **P** 23 22 36.2 +1.4
EF01 IAmb IAmb 23 22 42.6
comp=Z,48nm,1.0s
C19K Lookout Ridge 84.82 5 P **P** 23 22 34.1 +0.1
C19K IAmb IAmb 23 22 40.2
comp=Z,25nm,0.9s
C19K Lookout Ridge 84.82 5 P **P** 23 22 33.9 -0.1
baz=193
B18K Kokolik River 84.90 4 P **P** 23 22 33.9 -0.4
baz=191
APMT Aspermont 84.94 54 P **P** 23 22 35.0 -0.4
APMT IAmb IAmb 23 22 42.6
comp=Z,43nm,1.1s
G26K Porcupine Rive 84.94 11 P **P** 23 22 34.5 -0.1
baz=209
E23K Chandalar 84.97 9 P **P** 23 22 35.2 +0.4
baz=203
KOTAN Kotaneelee Air 85.03 22 P **P** 23 22 35.1 -0.1
baz=227
ABTX Abilene, Hawle 85.05 54 **P** 23 22 35.7 -0.3
ABTX Abilene, Hawle 85.05 54 P **P** 23 22 36.1 +0.2
baz=248
ABTX Abilene, Hawle 85.05 54 P **P** 23 22 36.2 +0.2
baz=248
BRDY Brady 85.07 56 **P** 23 22 36.7 +0.6
BRDY IAmb IAmb 23 22 42.5
comp=Z,87nm,1.9s
I30M Mount Dempster 85.08 15 P **P** 23 22 34.8 -0.7
I30M IAmb IAmb 23 22 43.2
comp=Z,21nm,0.9s
I30M Mount Dempster 85.08 15 P **P** 23 22 35.0 -0.5
baz=216
E24K Your Creek 85.15 9 P **P** 23 22 35.8 +0.1
E24K Your Creek 85.15 9 P **P** 23 22 35.7 +0.1
baz=204
F25K Christian Rive 85.18 10 P **P** 23 22 36.4 +0.5
baz=207
BMAR Burnt Mountain 85.22 11 **P** 23 22 36.4 +0.4
H03S2 Juan Fernandez 85.23 124 T T 00 57 08.9
baz=251,slow=75,SNR=19
G27K Doyon Strip 85.23 12 P **P** 23 22 36.2 +0.1
G27K Doyon Strip 85.23 12 P **P** 23 22 36.4 +0.2
baz=211
H03S1 Juan Fernandez 85.25 124 T T 00 57 02.8
baz=251,slow=75,SNR=17
H03S3 Juan Fernandez 85.25 124 T T 00 57 01.8
baz=251,slow=75,SNR=14
D22K Ayikyak River 85.32 7 P **P** 23 22 36.9 +0.4
D22K Ayikyak River 85.32 7 P **P** 23 22 36.0 -0.5
baz=200
H03N2 Juan Fernandez 85.33 123 T T 00 57 11.1
baz=244,slow=74,SNR=5.3
H03N3 Juan Fernandez 85.33 123 T T 00 57 09.2
baz=264,slow=74,SNR=3.3
C21K Knifeblade Rid 85.33 7 P **P** 23 22 37.2 +0.7
baz=198,SNR=11
ZEA Zeya 85.39 329 *e*P **P** 23 22 37.5 +0.4
ZEA *e* 23 22 46.5
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
H29M Whitestone 85.43 14 P **P** 23 22 36.2 -0.9
H29M IAmb IAmb 23 22 42.8
comp=Z,21nm,0.8s
H29M Whitestone 85.43 14 P **P** 23 22 37.9 +0.8
baz=214
BJI Beijing 85.44 313 P **P** 23 22 38.7 +1.0
BJI S **S** 23 33 10.5 +1.9
EDM Edmonton 85.46 32 **P** 23 22 37.8 +0.2
EDM IAmb IAmb 23 22 54.6
comp=Z,40nm,1.3s
EDM Edmonton 85.46 32 P **P** 23 22 37.8 +0.2
EDM pmax pmax
comp=Z,40nm,1.3s
TOLK Toolik Lake Re 85.51 9 **P** 23 22 37.1 -0.3
TOLK IAmb IAmb 23 22 54.3
comp=Z,25nm,0.9s
TOLK Toolik Lake Re 85.51 9 P **P** 23 22 36.9 -0.5
baz=203,SNR=9.0
F26K Sheenjek River 85.53 11 P **P** 23 22 38.5 +0.9
baz=208,SNR=12
D23K Nanushuk River 85.66 8 P **P** 23 22 39.0 +0.8
baz=202
E25K Arctic Village 85.66 10 **P** 23 22 38.2 0.0
E25K IAmb IAmb 23 22 55.4
comp=Z,31nm,0.9s
E25K Arctic Village 85.66 10 P **P** 23 22 38.7 +0.5
baz=207,SNR=18
B21K Ikpikpuk River 85.80 6 P **P** 23 22 38.4 -0.4
B21K IAmb IAmb 23 23 19.0
comp=Z,23nm,1.1s
B21K Ikpikpuk River 85.80 6 P **P** 23 22 38.5 -0.2
baz=198
B20K Meade River 85.91 6 P **P** 23 22 39.7 +0.3
baz=196
EPYK Eagle Plains 85.94 14 **P** 23 22 39.5 -0.1
EPYK IAmb IAmb 23 23 13.7
comp=Z,23nm,1.0s
EPYK Eagle Plains 85.94 14 P **P** 23 22 39.5 -0.1
baz=215
LYN LuoYang 86.03 307 ⇓P **P** 23 22 43.2 +2.4
LYN pP pwP 23 22 58.5 +11
LYN sP sP 23 23 03.2 +17
LYN LuoYang 86.03 307 S **S** 23 33 22.0 +7.3
LYN LuoYang 86.03 307 sS sS 23 33 32.3 +11
LYN LuoYang 86.03 307 SS SS 23 38 52.1 -1.2
LYN pmax pmax
comp=Z,32nm,0.9s
LYN pmax pmax
comp=Z,290nm,4.3s
LYN LR LR
comp=N,370nm,6.9s
LYN LR LR
comp=E,350nm,9.3s
LYN LR LR
comp=Z,440nm,16.5s
H31M Peel River 86.06 15 P **P** 23 22 39.6 -0.6
H31M Peel River 86.06 15 P **P** 23 22 40.0 -0.2
baz=218
G29M Pine Creek 86.09 13 P **P** 23 22 40.2 -0.1
G29M IAmb IAmb 23 22 56.7
comp=Z,30nm,1.0s
G29M Pine Creek 86.09 13 P **P** 23 22 40.6 +0.2
baz=214
D24K Happy Valley 86.09 9 P **P** 23 22 40.5 +0.2
D24K IAmb IAmb 23 23 30.9
comp=Z,16nm,0.7s
D24K Happy Valley 86.09 9 P **P** 23 22 40.9 +0.6
baz=204
PLPT Palo Pinto 86.16 55 **P** 23 22 41.4 -0.1
PLPT IAmb IAmb 23 22 48.0
comp=Z,140nm,1.5s
LAO LASA Array 86.19 39 **P** 23 22 41.6 +0.3
LAO LASA Array 86.19 39 P **P** 23 22 41.0 -0.3
baz=243
LAO LASA Array 86.19 39 P **P** 23 22 42.7 +1.4
baz=243
F28M Old Crow 86.28 12 **P** 23 22 41.2 -0.1
F28M IAmb IAmb 23 22 58.0
comp=Z,19nm,0.8s
F28M Old Crow 86.28 12 P **P** 23 22 41.5 +0.2
baz=212,SNR=11
WTFS Witchita Falls 86.38 54 **P** 23 22 42.8 +0.2
WTFS IAmb IAmb 23 22 48.0
comp=Z,29nm,1.0s
E27K Coleen River 86.44 11 P **P** 23 22 41.3 -0.7
E27K IAmb IAmb 23 22 59.2
comp=Z,23nm,0.9s

E27K Coleen River 86.44 11 P P 23 22 42.6 +0.6
baz=211
RSSD Black Hills 86.44 42 P P 23 22 42.0 -0.9
RSSD IAmb IAmb 23 22 48.6
comp=Z,25nm,1.1s
RSSD Black Hills 86.44 42 P P 23 22 42.8 -0.1
baz=245
RSSD Black Hills 86.44 42 P P 23 22 42.0 -0.9
RSSD pmax pmax
comp=Z,25nm,1.1s
C23K Itkillik River 86.48 8 P P 23 22 42.2 +0.1
C23K Itkillik River 86.48 8 P P 23 22 42.6 +0.5
baz=202
WMOK Wichita Mounta 86.49 53 P 23 22 43.5 +0.4
WMOK IAmb IAmb 23 22 48.8
comp=Z,42nm,2.0s
WMOK Wichita Mounta 86.49 53 P P 23 22 42.6 -0.4
baz=249
WMOK Wichita Mounta 86.49 53 P P 23 22 43.5 +0.4
WMOK pmax pmax
comp=Z,42nm,2.0s
G30M tAoh Zraii Nji 86.55 14 P P 23 22 42.2 -0.4
G30M tAoh Zraii Nji 86.55 14 P P 23 22 42.2 -0.4
baz=216
D25K Kavik River 86.61 9 P P 23 22 43.0 +0.1
D25K IAmb IAmb 23 23 38.6
comp=Z,14nm,0.7s
D25K Kavik River 86.61 9 P P 23 22 43.1 +0.2
baz=206
B22K Teshekpuk Lake 86.61 7 P P 23 22 43.5 +0.7
B22K Teshekpuk Lake 86.61 7 P P 23 22 43.1 +0.3
baz=199
C24K Franklin Bluff 86.63 8 P P 23 22 43.8 +0.9
baz=204
HILA High Level 86.81 26 P P 23 22 43.0 -1.0
G31M Satah River 86.96 14 P P 23 22 44.3 -0.3
baz=218,SNR=9.0
A22K Sinclair Lake 87.08 6 P P 23 22 44.8 -0.2
baz=198
XLT XiLinHaoTe 87.09 317 eP P 23 22 46.3 +0.4
XLT S S 23 33 29.8 +5.0
XLT pmax pmax
comp=Z,16nm,1.1s
XLT pmax pmax
comp=Z,130nm,4.0s
XLT XiLinHaoTe 87.09 317 PP P 23 22 46.6 +0.7
HIA Hailar 87.16 323 i P P 23 22 44.7 -1.3
HIA pmax pmax
comp=Z,5.0nm,1.1s
F30M Barrier River 87.16 14 P P 23 22 46.1 +0.5
baz=216
HKT Hockley 87.17 58 P P 23 22 48.0 +1.6
baz=251
E28M Babbage River 87.19 12 P P 23 22 45.6 -0.1
E28M Babbage River 87.19 12 P P 23 22 45.6 -0.1
baz=213
WRGLY Wrigley 87.34 20 P P 23 22 46.4 -0.1
baz=228
E29M Blow River 87.34 12 P P 23 22 45.6 -0.8
E29M Blow River 87.34 12 P P 23 22 45.8 -0.6
baz=214
C26K Camden Bay 87.38 9 P P 23 22 46.5 0.0
baz=208
D27M Malcolm River 87.46 11 P 23 22 47.0 0.0
D27M Malcolm River 87.46 11 P P 23 22 46.7 -0.4
baz=211
F31M Tsiigehtchic 87.50 14 P 23 22 46.8 -0.3
F31M Tsiigehtchic 87.50 14 P P 23 22 47.0 -0.2
baz=218,SNR=13
MAW Mawson 87.82 199 P P 23 22 47.9 -1.0
comp=Z,11nm,0.8s,baz=142,slow=8.5,SNR=15
MAW LR LR 23 59 02.0
comp=Z,846nm,19.9s,baz=116,slow=34
comp=Z,11nm,0.8s
D28M Stokes Point 87.96 12 P P 23 22 49.3 0.0
baz=213
GYA Guiyang 88.02 298 eP P 23 22 54.2 +3.4
GYA pmax pmax
comp=Z,11nm,0.5s
DGMT Dagmar 88.20 38 P P 23 22 50.5 -0.6
baz=244
INK Inuvik 88.23 14 P 23 22 50.5 -0.2
INK IAmb IAmb 23 23 06.9
comp=Z,19nm,1.2s
INK Inuvik 88.23 14 P P 23 22 50.6 -0.1
baz=218
INK Inuvik 88.23 14 P P 23 22 50.5 -0.2
INK pmax pmax
comp=Z,19nm,1.2s
INK Inuvik 88.23 14 LR LR 23 57 02.5
comp=Z,209nm,19.0s,baz=185,slow=32
XAN Xi'an 88.60 306 P P 23 22 55.5 +2.2
XAN pP sP 23 22 58.9 0.0
XAN pmax pmax
comp=Z,24nm,1.4s
HHC Hu-ho-hao-te 88.99 313 eP P 23 22 55.2 +0.2
HHC S S 23 33 49.0 +5.8
HHC pmax pmax
comp=Z,35nm,0.8s
HHC pmax pmax
comp=Z,250nm,5.7s
YAK Yakutsk 89.08 337 i P P 23 22 53.8 -0.9
YAK pmax pmax
comp=Z,13nm,1.1s
PLCA Paso Flores 89.54 132 P P 23 22 56.1 -1.7
comp=Z,2.8nm,1.0s,baz=235,slow=3.2,SNR=1.5
PLCA LR LR 23 57 28.7
comp=Z,98nm,18.6s,baz=240,slow=32
comp=Z,2.8nm,1.0s
BTO Baotou 90.00 312 eP P 23 23 01.6 +1.8
BTO pP **pwP** 23 23 06.1 0.0
BTO sP **sP** 23 23 08.7 +3.3
BTO PP **PP** 23 26 37.7 +4.6
BTO S **S** 23 33 53.1 +0.5
BTO sS **sS** 23 34 01.9 +2.8
BTO SS **SS** 23 39 51.4 +0.1
BTO pmax pmax
comp=Z,24nm,1.4s
YKA Yellowknife Ar 90.07 23 P 23 22 59.2 -0.1
YKA Yellowknife Ar 90.07 23 eP P 23 22 58.9 -0.5
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKA Yellowknife Ar 90.07 23 P P 23 22 58.0 -1.4
comp=Z,3.6nm,0.9s,baz=241,slow=4.4,SNR=34
comp=Z,3.6nm,0.9s
MIAR Mount Ida 90.46 54 P P 23 23 02.2 +0.2
baz=252
TEIG Tepich 90.78 69 LR LR 23 55 47.4
comp=Z,2µm,20.6s,baz=4.5,slow=30
JTS Las Juntas de 91.21 80 i P P 23 23 05.2 -0.7
ECSD EROS Data Cent 91.24 45 P 23 23 05.4 0.0
ECSD EROS Data Cent 91.24 45 P P 23 23 05.2 -0.1
baz=250
MT01 Popeta 91.32 126 P P 23 23 06.6 +0.5
WHAR Wooly Hollow 91.70 54 P 23 23 07.2 -0.5
CD2 Chengdu 91.78 301 P P 23 23 07.9 -0.3
FFC Flin Flon 92.08 33 P P 23 23 08.6 -0.3
FFC Flin Flon 92.08 33 P P 23 23 08.6 -0.3
FFC pmax pmax
comp=Z,63nm,2.0s
PZH PanZhiHua 92.25 297 P P 23 23 11.6 +1.0
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,7.1s
MGMO Mountain Grove 92.27 52 P P 23 23 09.9 -0.4
MT08 Bocatoma Ro 92.43 126 P P 23 23 10.3 -1.2
MT08 IAmb IAmb 23 23 23.4
comp=Z,19nm,1.1s
CMAR Chiang Mai Arr 92.59 288 P P 23 23 12.7 +0.5
comp=Z,0.6nm,0.4s,baz=97,slow=1.9,SNR=6.4
comp=Z,0.6nm,0.4s
R40A Maddies Statio 92.61 51 P 23 23 11.1 -0.7
TROLL Troll, Antarti 92.80 179 ⇑P P 23 23 14.1 +1.8
comp=Z,399nm,0.9s
A36M Sachs Harbour 92.87 13 P 23 23 11.8 -0.4
A36M Sachs Harbour 92.87 13 P P 23 23 11.9 -0.3
baz=226
VNA3 Neumayer Olymp 92.89 175 ⇑P P 23 23 14.3 +1.7
comp=Z,17nm,0.9s
GO04 Tololo Observa 92.91 122 P P 23 23 14.0 +0.2
ATAH Atahualpa 92.94 98 LR LR 23 57 11.4
comp=Z,697nm,18.1s,baz=255,slow=30
SNAA Sanae 92.94 177 P P 23 23 13.3 +0.5
SNAA IAmb IAmb 23 23 21.0
comp=Z,11nm,1.0s
SNAA Sanae 92.94 177 ⇑P P 23 23 14.3 +1.4
comp=Z,151nm,0.9s
SNAA Sanae 92.94 177 i P P 23 23 12.7 -0.2
SNAA pmax pmax
comp=Z,8.0nm,1.1s
SNAA Sanae 92.94 177 P P 23 23 12.4 -0.5
comp=Z,9.0nm,1.1s,baz=165,slow=2.1,SNR=8.8
SNAA LR LR 00 05 07.7
comp=Z,277nm,18.1s,baz=181,slow=36
comp=Z,9.0nm,1.1s
NNA Nana 93.08 103 LR LR 23 57 30.6
comp=Z,56nm,18.9s,baz=252,slow=31
LZH Lanzhou 93.19 306 eP P 23 23 16.1 +1.3
LZH pP pwP 23 23 23.6 +2.5
LZH pmax pmax
comp=Z,9.0nm,1.0s
LCO Las Campanas 93.38 121 P P 23 23 17.0 +1.0
LCO IAmb IAmb 23 23 24.4
comp=Z,19nm,1.1s
LCO Las Campanas 93.38 121 P P 23 23 17.0 +1.0
LCO pmax pmax
comp=Z,19nm,1.1s
VNA2 Neumayer--Watz 93.39 175 ⇑P P 23 23 16.8 +2.0
comp=Z,15nm,0.8s,baz=206,slow=2.0
VNA1 Neumayer--Stat 93.59 175 ⇑P P 23 23 17.9 +2.2
comp=Z,29nm,1.0s
OXF Oxford 93.74 55 P P 23 23 16.3 -0.8
baz=254
AC05 El Transito 93.79 121 P P 23 23 17.7 0.0
AC05 IAmb IAmb 23 23 26.4
comp=Z,20nm,1.1s
ULM Lac du Bonnet 93.91 39 P P 23 23 15.4 -2.0
comp=Z,3.4nm,0.9s,baz=213,slow=1.9,SNR=3.2
comp=Z,3.4nm,0.9s
CGM3 Cape Girardeau 94.31 53 P P 23 23 19.8 +0.1
CGM3 IAmb IAmb 23 23 31.9
comp=Z,20nm,1.3s
ULN Ulaanbaatar 94.40 318 i P P 23 23 18.4 -1.6
ULN pmax pmax
comp=Z,4.0nm,1.1s
CFA Coronel Fontan 94.48 124 LR LR 23 57 45.0
comp=Z,378nm,18.2s,baz=255,slow=30
SONM Songino Array 94.81 318 P P 23 23 20.1 -1.7
comp=Z,0.9nm,0.8s,baz=119,slow=4.8,SNR=5.0
comp=Z,0.9nm,0.8s
JFWS Jewell Farm 95.41 47 P P 23 23 24.3 -0.3
baz=254
WVT Waverly 95.42 54 P P 23 23 24.7 -0.1
baz=255
L44A Lake County Fo 96.88 48 P P 23 23 31.3 0.0
baz=256
LVC Limon Verde 97.04 116 LR LR 23 59 20.5
comp=Z,179nm,18.5s,baz=250,slow=31
GTA Gaotai 97.15 309 eP Pdif 23 23 34.2 +1.4
GTA sP pwP 23 23 43.3 +4.3
GTA pmax pmax
comp=Z,4.0nm,1.2s
TKL Tuckaleechee C 98.50 55 LR LR 00 03 52.5
comp=Z,495nm,18.4s,baz=265,slow=33
WMQ Urumqi 106.84 312 eP **Pdif** 23 24 16.4 +0.7
MKAR Makanchi Array 110.79 315 PKiKP **PKiKP** 23 28 31.2 -1.8
comp=Z,1.4nm,1.0s,baz=106,slow=6.2,SNR=2.4
KURK Kurchatov 113.11 319 i PKiKP **PKiKP** 23 28 35.9 -1.3
KURBB Kurchatov Arra 113.17 319 PKiKP **PKiKP** 23 28 35.9 -1.5
comp=Z,0.5nm,0.2s,baz=96,slow=1.7,SNR=2.3
BVAR Borovoye Array 117.85 322 PKP **PKPdf** 23 28 43.1 -3.2
comp=Z,0.2nm,0.3s,baz=108,slow=1.3,SNR=4.4
BRVK Borovoye 117.90 322 **PKiKP** 23 28 47.0 +0.5
BRVK Borovoye 117.90 322 i PKiKP **PKPdf** 23 28 45.3 -1.1
ARU Arti 123.30 328 PKPdf **PKPdf** 23 28 56.1 -0.6
ARU Arti 123.30 328 i PKiKP **PKPdf** 23 28 55.8 -0.9
ARU 23 30 35.5
ARU 23 36 07.4
ARU SS SS 23 47 20.1 -2.3
ARCES ARCESS Array B 124.57 352 PKP **PKPdf** 23 28 57.0 -1.8
comp=Z,5.4nm,0.7s,baz=318,slow=1.6,SNR=11
PRGR Permogore 126.10 338 ePKiKP **PKPdf** 23 29 00.7 -1.2
PRGR pmax pmax
comp=Z,14nm,0.9s
KIRV Kirov 126.50 334 i PKiKP **PKPdf** 23 29 01.7 -1.0
KLMR Klimovskoe 128.75 340 ePKPdf **PKPdf** 23 29 03.3 -3.7
KLMR AMP 23 29 14.1
comp=Z,55nm,2.0s
KLMR Klimovskoe 128.75 340 ePKiKP **PKPdf** 23 29 03.3 -3.7
KLMR pmax pmax
comp=Z,55nm,2.0s
GEYT Alibeck 129.48 307 PKP **PKPdf** 23 29 06.9 -2.2
comp=Z,0.8nm,0.8s,baz=339,slow=3.2,SNR=1.3
FINES FINESS Array B 131.91 348 PKP **PKPdf** 23 29 11.5 -1.4
comp=Z,3.6nm,0.8s,baz=96,slow=3.8,SNR=2.0
OBN Obninsk 134.07 336 ePKiKP **PKPdf** 23 29 17.0 -0.2
OBN e 23 31 47.8
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,179nm,19.0s
NOA NORSAR Array B 134.27 357 PKP **PKPdf** 23 29 15.4 -2.0
comp=Z,1.0nm,0.8s,baz=9.2,slow=4.8,SNR=2.0
VRH Novokhopyorsk 134.51 329 ePKiKP **PKPdf** 23 29 17.5 -0.6
VRH pmax pmax
comp=Z,9.0nm,0.9s
LPSR Galich'ya Gora 134.89 333 ePKiKP **PKPdf** 23 29 19.3 +0.5
LPSR pmax pmax
comp=Z,10.0nm,1.1s
VSR Storozhevoye 135.72 331 ePKiKP **PKPdf** 23 29 19.9 -0.5
VSR pmax pmax
comp=Z,5.0nm,1.0s
NACGM Naroch 137.55 343 LQ LQ 00 22 43.5
KIV Kislovodsk 138.17 320 i PKiKP **PKPdf** 23 29 24.8 -0.5
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,160nm,24.0s
SHA1 Shidzhatmaz 138.30 320 i PKiKP **PKPdf** 23 29 22.6 -3.2
NEUR Neytrino 138.51 319 i PKiKP **PKPdf** 23 29 26.9 +0.8
AKASG Malin Array Be 140.30 337 PKP **PKPdf** 23 29 27.3 -1.5
comp=Z,0.4nm,0.2s,baz=34,slow=2.6,SNR=2.7
CLL Collm 143.78 353 ePKPdf **PKPdf** 23 29 34.0 -1.0
CLL i x x 23 29 43.9
CLL Collm 143.78 353 ePKiKP **PKPdf** 23 29 34.0 -1.0
CLL i 23 29 43.9
STHS Stebnicka Huta 143.99 344 ePKP **PKPdf** 23 29 36.0 +0.5
STHS Stebnicka Huta 143.99 344 ePKiKP **PKPdf** 23 29 36.0 +0.5
CHVC Chvalec 144.04 350 ePKP **PKPab** 23 29 31.7 -1.3
CHVC Chvalec 144.04 350 ePKiKP **PKPab** 23 29 31.7 -1.3
OSTC Ostas 144.04 350 ePKP PKPbc 23 29 34.5 +1.0
OSTC Ostas 144.04 350 ePKiKP PKPbc 23 29 34.5 +1.0
BRG Berggiesshubel 144.09 352 ePKP **PKPab** 23 29 33.0 -0.1
BRG Amp 23 29 35.3
comp=Z,1.7nm,0.4s
BRG Berggiesshubel 144.09 352 P **PKiKP** 23 29 39.0 -0.1
BRG Amp 23 29 41.8
comp=Z,5.4nm,0.9s
BRG Berggiesshubel 144.09 352 P PKiKP 23 29 51.0 +12
BRG Amp 23 29 52.4
comp=Z,11nm,0.9s
BRG Berggiesshubel 144.09 352 ePKiKP **PKPab** 23 29 33.0 -0.1
BRG 23 29 39.0
BRG pmax pmax
comp=Z,2.0nm,0.4s
FBE Freiberg 144.12 353 ePKPbc **PKPdf** 23 29 36.9 +1.3
baz=8.0,slow=2.6
DPC Dobruska-Polom 144.22 349 ePKP PKPbc 23 29 34.0 -0.1
DPC ex x 23 29 51.4
DPC Dobruska-Polom 144.22 349 ePKiKP PKPbc 23 29 34.0 -0.1
KIBK Kibwezi 144.25 243 PKPdf PKPbc 23 29 36.0 +0.7
BUR08 Bucovina Ar. S 144.31 338 PKPdf **PKPdf** 23 29 35.8 -0.5
BURAR Bucovina Array 144.33 338 ⇑P PKPbc 23 29 35.2 +0.7
BURAR Bucovina Array 144.33 338 PKPbc 23 29 35.2 +0.6
BURAR Bucovina Array 144.33 338 ⇑PKiKP PKPbc 23 29 35.2 +0.6
OKC Ostrava-Krasne 144.35 347 ePKP **PKPdf** 23 29 36.9 +0.8
OKC Ostrava-Krasne 144.35 347 ePKiKP **PKPdf** 23 29 36.9 +0.8
CRVS Cervenica-Dubn 144.40 343 ePKP **PKiKP** 23 29 38.2 -1.7
CRVS Cervenica-Dubn 144.40 343 ePKiKP **PKiKP** 23 29 38.2 -1.7
KRLC Kraliky 144.40 349 ePKP PKPbc 23 29 35.2 +0.6
KRLC Kraliky 144.40 349 ePKiKP PKPbc 23 29 35.2 +0.6
MORC Moravsky Berou 144.54 348 ⇓P **PKPdf** 23 29 36.3 -0.2
MORC Moravsky Berou 144.54 348 **PKPdf** 23 29 36.1 -0.4
MORC Moravsky Berou 144.54 348 ePKP PKPbc 23 29 35.2 +0.1
MORC Moravsky Berou 144.54 348 PKiKP **PKPdf** 23 29 36.1 -0.4
PLN Plauen 144.68 354 ePKPbc **PKPdf** 23 29 36.6 -0.1
baz=8.0,slow=2.6
LANS Liptovska Anna 144.69 345 ePKP **PKPdf** 23 29 37.2 +0.4
LANS Liptovska Anna 144.69 345 ePKiKP **PKPdf** 23 29 37.2 +0.4
MEM Membach 144.84 1 dPKPdf PKPbc 23 29 36.2 +0.2
BSTI Sart Tilman 144.86 1 dPKPdf PKPbc 23 29 36.1 +0.1
BTNL Ternell 144.87 1 dPKP **PKPdf** 23 29 37.8 +0.8
PRU Pruhonice 144.87 351 ePKP **PKPdf** 23 29 36.8 -0.2
PRU ex x 23 29 51.4
PRU Pruhonice 144.87 351 ePKIKP **PKPdf** 23 29 36.8 -0.2
MAUC Maruska 144.87 347 ePKP **PKPdf** 23 29 36.9 -0.2
MAUC ex x 23 29 49.9
NKC Novy Kostel 144.90 353 ePKP **PKPdf** 23 29 38.6 +1.5
NKC Novy Kostel 144.90 353 ePKIKP **PKPdf** 23 29 38.6 +1.5
GOPC GO Pecny, Ondr 144.90 351 ePKP **PKPdf** 23 29 37.1 0.0
GOPC GO Pecny, Ondr 144.90 351 ePKIKP **PKPdf** 23 29 37.1 0.0
BCLA Clavier 145.02 1 dPKPdf **PKPab** 23 29 36.7 +0.2
KECS Kecovo 145.05 344 ePKP **PKPdf** 23 29 37.8 +0.4
KECS Kecovo 145.05 344 ePKIKP **PKPdf** 23 29 37.8 +0.4
BGES Gesves 145.05 2 dPKPdf **PKPbc** 23 29 36.5 -0.1
ARCR ARCALIA 145.09 339 ⇑P **PKPdf** 23 29 37.7 +0.2
BHOU Houvegnez 145.10 1 dPKPdf **PKPdf** 23 29 37.2 -0.2
BMRD Maredsous 145.12 2 dPKPdf **PKPbc** 23 29 36.8 -0.1
ODBI Odobesti 145.16 335 ⇑P **PKPdf** 23 29 38.5 +0.9
CFR Carcaliu 145.16 333 ⇓P **PKPbc** 23 29 37.1 -0.1
CFR Carcaliu 145.16 333 ⇓PKIKP **PKPbc** 23 29 37.1 -0.1
VRAC Vranov 145.17 349 ePKP **PKPdf** 23 29 37.4 -0.2
TNS Taunus Mts 145.20 358 ePKPbc **PKPdf** 23 29 37.5 -0.1
baz=8.0,slow=2.6
VRI Vrincioaia 145.21 335 ⇑P **PKPbc** 23 29 36.4 -1.0
VRI Vrincioaia 145.21 335 ⇑PKIKP **PKPbc** 23 29 36.4 -1.0
PLOR Plostina 145.25 335 ⇓P **PKPab** 23 29 37.6 0.0
PLOR Plostina 145.25 335 ⇓PKIKP **PKPab** 23 29 37.6 0.0
TPGR Topolog 145.29 332 ⇑P **PKPdf** 23 29 38.1 +0.2
DOU Dourbes 145.32 2 dPKP **PKPab** 23 29 37.7 0.0
TURR Turia 145.34 336 ⇑P **PKPdf** 23 29 38.8 +0.8
JAVC Velka Javorina 145.38 347 ePKP **PKPab** 23 29 39.1 +1.1
OZUR 145.39 336 ⇓P **PKPab** 23 29 38.2 +0.1
COVR Voineasa-Covas 145.44 336 ⇓P **PKPab** 23 29 38.4 +0.1
KRUC Moravsky 145.45 349 ePKP **PKPbc** 23 29 37.5 -0.5
VYHS Vyhne 145.46 346 ePKP **PKPab** 23 29 38.4 +0.1
VYHS Vyhne 145.46 346 ePKIKP **PKPab** 23 29 38.4 +0.1
BOSR Bodos 145.46 336 ⇑P **PKPab** 23 29 39.0 +0.6
KMBO Kilima Mbogo 145.54 244 i PKP2 **PKPdf** 23 29 37.4 -2.2
KMBO Kilima Mbogo 145.54 244 PKPbc **PKPab** 23 29 39.8 -0.1
comp=Z,12nm,1.0s,baz=49,slow=2.3,SNR=17
GRA1 Grafenberg Arr 145.56 355 **PKPdf** 23 29 38.1 -0.1
GRF Grafenberg Arr 145.56 355 PKIKP **PKPdf** 23 29 38.1 -0.1
TIRR Tirgusor 145.60 332 ⇑P **PKPab** 23 29 38.8 0.0
TIRR Tirgusor 145.60 332 **PKPab** 23 29 39.0 +0.1
TIRR Tirgusor 145.60 332 ⇑PKIKP **PKPab** 23 29 38.8 0.0
HARR Harsova 145.63 333 ⇓P **PKPab** 23 29 39.0 0.0
HARR Harsova 145.63 333 ⇓PKIKP **PKPab** 23 29 39.0 0.0
DOPR Dopca 145.65 337 ⇑P **PKPab** 23 29 39.8 +0.7
CJR Cluj-Napoca 145.67 339 ⇑P **PKPab** 23 29 39.8 +0.7
CJR Cluj-Napoca 145.67 339 ⇑PKIKP **PKPab** 23 29 39.8 +0.7
PSZ Piszkesteto 145.72 344 ⇓P **PKPdf** 23 29 38.6 -0.1
PSZ Piszkesteto 145.72 344 ⇓PKIKP **PKPdf** 23 29 38.6 -0.1
SMOL Smolenice 145.76 347 ePKIKP **PKPbc** 23 29 39.1 +0.1
WLF Walferdange 145.79 1 **PKPab** 23 29 39.8 +0.4
WLF Walferdange 145.79 1 dPKP **PKPab** 23 29 39.3 -0.1
WLF Walferdange 145.79 1 PKP2 **PKPab** 23 29 39.8 +0.4
WLF Walferdange 145.79 1 ePKPbc **PKPab** 23 29 39.9 +0.5
baz=8.0,slow=2.6
MLR Muntele Rosu 145.83 335 ⇑P **PKPab** 23 29 40.1 +0.2
MLR Muntele Rosu 145.83 335 **PKPdf** 23 29 39.0 +0.1
MLR Muntele Rosu 145.83 335 PKP2 **PKPdf** 23 29 39.1 +0.1
KHC Kasperske Hory 145.84 352 ePKP **PKPbc** 23 29 39.5 +0.2
KHC ex x 23 29 54.1
KHC Kasperske Hory 145.84 352 i PKP2 **PKPdf** 23 29 38.5 -0.3
MARR Marisel-Cluj 145.87 340 ⇑P **PKPbc** 23 29 39.7 +0.1
ISR Istrita 145.89 334 ⇓P **PKPab** 23 29 40.4 +0.4
ISR Istrita 145.89 334 ⇓PKP2 **PKPab** 23 29 40.4 +0.4
MODS Modra-Piesok 145.92 347 ePKP **PKPab** 23 29 40.6 +0.6
MODS Modra-Piesok 145.92 347 ePKP2 **PKPab** 23 29 40.6 +0.6
CKRC Cesky Krumlov 146.04 351 ePKP **PKPdf** 23 29 38.5 -0.6
CKRC Cesky Krumlov 146.04 351 ePKP2 **PKPdf** 23 29 38.5 -0.6
GEC2 GERESS Array S 146.10 352 **PKPbc** 23 29 40.5 +0.3
GEC2 GERESS Array S 146.10 352 ePKPbc **PKPbc** 23 29 40.5 +0.3
baz=8.0,slow=2.6
GERES GERESS Array B 146.10 352 **PKPbc** 23 29 40.1 -0.1
GERES GERESS Array B 146.10 352 PKPbc **PKPdf** 23 29 39.5 +0.3
comp=Z,12nm,0.9s,baz=26,slow=3.4,SNR=20
BR131 Keskin Array S 146.12 321 i PKP2 **PKPdf** 23 29 39.8 +0.1
BRTR Keskin Array B 146.12 321 **PKPab** 23 29 41.0 -0.2
BRTR Keskin Array B 146.12 321 PKPbc **PKPbc** 23 29 40.2 -0.3
comp=Z,22nm,0.8s,baz=113,slow=1.7,SNR=41
ZST Bratislava 146.13 347 ePKP **PKPab** 23 29 41.1 +0.4
ZST Bratislava 146.13 347 ePKP2 **PKPab** 23 29 41.1 +0.4
SRO Srobarova 146.22 346 ePKP **PKPab** 23 29 41.4 +0.3
SRO Srobarova 146.22 346 ePKP2 **PKPab** 23 29 41.4 +0.3
VOIR 146.23 336 ⇑P **PKPab** 23 29 41.4 +0.1
VOIR 146.23 336 ⇑PKP2 **PKPab** 23 29 41.4 +0.1
SULR 146.37 334 ⇑P **PKPab** 23 29 41.5 -0.2
ARR Arges 146.45 337 ⇑P **PKPab** 23 29 42.6 +0.5
ANTO Ankara 146.54 322 ⇓P **PKPab** 23 29 42.9 +0.2
ANTO Ankara 146.54 322 ⇓PKP2 **PKPab** 23 29 42.9 +0.2
DEV Deva 146.63 339 ⇑P **PKPbc** 23 29 41.8 +0.1
DEV Deva 146.63 339 ⇑PKP2 **PKPbc** 23 29 41.8 +0.1
CONA Conrad Observa 146.63 349 i pPKP **PKPab** 23 29 42.6 -0.2
comp=Z,12nm,0.9s,SNR=14
LOT Lotru 146.70 338 ⇑P **PKPbc** 23 29 41.8 -0.2
SIRR Siria 146.71 341 ⇑P **PKPdf** 23 29 39.6 -0.7
RONA Rosalia, Austr 146.77 348 i PKP **PKPbc** 23 29 42.2 +0.1
comp=Z,14nm,0.9s,SNR=12
MOA Molln 146.99 350 i PKP **PKPbc** 23 29 42.8 +0.1
comp=Z,25nm,1.1s,SNR=5.1
SURR Surduc 147.01 340 ⇑P **PKPbc** 23 29 43.0 +0.2
FUR Furstenfeldbru 147.06 354 ePKPbc **PKPbc** 23 29 43.5 +0.6
baz=8.0,slow=2.6
BFO Black Forest 147.09 358 **PKPbc** 23 29 43.1 +0.1
BFO Black Forest 147.09 358 PKP2 **PKPbc** 23 29 43.1 +0.1
BFO Black Forest 147.09 358 ePKPbc **PKPbc** 23 29 43.6 +0.6
baz=8.0,slow=2.6
GZR Gura Zlata 147.10 339 ⇑P **PKPbc** 23 29 43.2 +0.1
GZR Gura Zlata 147.10 339 ⇑PKP2 **PKPbc** 23 29 43.2 +0.1
BIOA Bad Ischl, Aus 147.24 351 i pPKP **PKPbc** 23 29 43.7 +0.2
comp=Z,18nm,1.1s
BZS Buzias 147.30 340 ⇑P **PKPdf** 23 29 41.5 +0.2
BZS Buzias 147.30 340 ⇑PKP2 **PKPdf** 23 29 41.5 +0.2
ARSA Arzberg 147.35 349 epPKP **PKPbc** 23 29 43.9 +0.2
comp=Z,15nm,1.2s
MORH Mrgy, Hungar 147.63 344 ⇓P **PKPbc** 23 29 44.2 -0.3
LESA Schwarzleotal 147.63 352 i pPKP **PKPbc** 23 29 44.5 -0.1
comp=Z,17nm,1.2s
RETA Reutte 147.78 355 i pPKP **PKPbc** 23 29 45.3 +0.3
comp=Z,22nm,1.0s
WATA Walderalm 147.85 354 i pPKP **PKPbc** 23 29 45.2 0.0
comp=Z,7.2nm,0.7s
KBA Koelnbreinsper 147.88 351 i pPKP **PKPbc** 23 29 45.1 -0.2
comp=Z,6.5nm,0.8s
MOTA Moosalm 147.89 354 i pPKP **PKPbc** 23 29 45.8 +0.4
comp=Z,27nm,1.0s,SNR=6.2
WTTA Wattenberg 147.92 354 i pPKP **PKPbc** 23 29 45.5 0.0
comp=Z,9.0nm,0.7s,SNR=6.3
SOKA Soboth 147.99 349 ePKP **PKPdf** 23 29 44.0 +1.5
comp=Z,16nm,1.0s,SNR=9.6
MDVR Moldovita 148.00 339 ⇓P **PKPdf** 23 29 43.6 +1.1
SQTA Sankt Quirin 148.00 354 i pPKP **PKPbc** 23 29 45.9 +0.3
comp=Z,6.9nm,0.9s
PERS Pernice 148.02 349 i PKPbc **PKPbc** 23 29 45.3 -0.3
PERS i 23 30 02.6
DAVA Damuels 148.05 356 i pPKP **PKPbc** 23 29 45.9 +0.1
comp=Z,14nm,0.9s
OBKA Obir 148.24 350 i pPKP **PKPbc** 23 29 45.6 -0.7
comp=Z,18nm,0.9s
OBKA Obir 148.24 350 eP **PKPdf** 23 29 44.2 +1.3
FETA Feichten 148.25 355 i PKiKP **PKPbc** 23 29 46.8 +0.4
comp=Z,7.4nm,1.0s
FRGS Fruska Gora 148.27 342 ⇓P **PKPbc** 23 29 46.4 +0.1
FRGS Fruska Gora 148.27 342 eP **PKPbc** 23 29 46.7 +0.4
MYKA Terra Mystica 148.28 351 i pPKP **PKPbc** 23 29 45.9 -0.5
comp=Z,11nm,0.9s
ABTA Abfaltersbach 148.32 352 i pPKP **PKPbc** 23 29 45.9 -0.6
comp=Z,14nm,0.8s
MPEP Malo Peshtene 148.48 336 eP **PKPbc** 23 29 47.3 +0.4
MMAI Mount Meron Ar 148.54 309 PKPbc **PKPbc** 23 29 48.2 +0.8
comp=Z,3.2nm,0.6s,baz=335,slow=1.2,SNR=3.0
LJU Ljubljana 148.70 349 ePKPbc **PKPbc** 23 29 47.2 -0.1
LJU i 23 30 04.6
CRES Cresnjev 148.73 348 eP **PKPbc** 23 29 47.5 +0.1
GBAS Gorenja Brezov 148.82 349 i PKPbc **PKPbc** 23 29 47.4 -0.3
GBAS i 23 30 04.9
TEKS Tekeris 148.91 342 eP **PKPbc** 23 29 47.7 -0.2
PGB Panagyurishte 149.01 334 eP **PKiKP** 23 29 50.3 +0.7
CEY Cerknica 149.01 349 eP **PKPbc** 23 29 48.2 0.0
BOJS Bojanci 149.08 348 eP **PKPbc** 23 29 48.7 +0.4

DIVS	**Divibare**	**149.17**	**341**	*e*P		**PKPbc**	**23 29 48.7**	**0.0**
SKDS	**Skadanscina**	**149.27**	**350**	*e*P		**PKPbc**	**23 29 48.3**	**-0.5**
VTS	**Vitosha**	**149.30**	**336**	*e*P		**PKPbc**	**23 29 48.9**	**-0.3**
BLY	**Banja Luka**	**149.36**	**345**	*e*P		**PKPbc**	**23 29 49.1**	**+0.1**
MGRS	**Mrkonjic Grad**	**149.70**	**345**	*e*P		**PKPab**	**23 29 53.1**	**-2.0**
A050A	**Klekovaca**	**149.77**	**346**	*e*P		**PKPdf**	**23 29 47.0**	**+1.5**
RUDO	**Rudo**	**149.80**	**341**	*e*P		**PKPbc**	**23 29 49.6**	**-0.6**
SJES	**Sjenica**	**149.93**	**340**	*e*P		**PKPbc**	**23 29 50.1**	**-0.5**
MMB	**Musomishta**	**149.98**	**334**	*e*P		**PKPbc**	**23 29 51.2**	**+0.5**
KKB	**Krupnik**	**150.00**	**335**	*e*P		**PKPbc**	**23 29 50.9**	**+0.2**
PEHC	**Pehcevo**	**150.14**	**335**	*i*P		**PKiKP**	**23 29 51.7**	**-0.3**
ELL	**Elmali**	**150.27**	**320**			**PKiKP**	**23 29 52.1**	**-0.4**
ELL	**Elmali**	**150.27**	**320**		PKIKP	**PKiKP**	**23 29 52.1**	**-0.4**
UPM	**Unac-Piva**	**150.32**	**342**	*e*P		**PKPab**	**23 29 56.5**	**-1.3**
STIP	**Stip**	**150.50**	**336**	*i*P		**PKPbc**	**23 29 51.2**	**-0.7**
VAY	**Valandovo**	**150.66**	**335**	*i*P		**PKiKP**	**23 29 54.1**	**+1.2**
BRY	**Bratogost**	**150.70**	**342**	*e*P		**PKPbc**	**23 29 52.3**	**-0.2**
PDG	**Podgorica**	**150.91**	**340**	*e*P		**PKiKP**	**23 29 54.1**	**+0.7**
STON	**Ston**	**150.97**	**343**	*e*P		**PKPbc**	**23 29 51.5**	**-1.4**
HCY	**Herceg Novi**	**151.13**	**342**	*e*P		**PKiKP**	**23 29 55.5**	**+1.6**
DRME	**Dracevica, Mon**	**151.15**	**340**	*e*P		**PKPbc**	**23 29 51.8**	**-1.6**
POLO	**Lamas de Olo**	**151.24**	**23**	*e*PKPbc		**PKiKP**	**23 29 57.6**	**+3.3**
PBRG	**Braganca**	**151.24**	**21**	*e*PKPbc		**PKPab**	**23 30 01.4**	**-0.1**
PBRG	**Braganca**	**151.24**	**21**	*e*PKP	PKPab	23 30 11.3	+10	
PVRL	**Vila Real**	**151.36**	**23**	*e*PKPbc		**PKiKP**	**23 29 58.1**	**+3.6**
MVO	**Moncorvo**	**151.71**	**22**	*e*PKPbc		**PKiKP**	**23 29 55.1**	**-0.2**
MVO	**Moncorvo**	**151.71**	**22**	*e*PKP	PKPab	23 30 13.3	+10	
PVIS	**Viseu**	**151.77**	**24**	*e*PKPab		**PKPab**	**23 30 02.3**	**-1.5**
PCAS	**Casmilo, Conde**	**152.09**	**25**	*e*PKPbc		**PKPab**	**23 30 01.2**	**-3.9**
PCAS	**Casmilo, Conde**	**152.09**	**25**	*e*PKP	PKPab	23 30 14.3	+9.2	
APE	**Apeiranthos**	**152.61**	**326**	∥P		**PKiKP**	**23 29 58.2**	**+1.0**
PCBR	**Castelo Branco**	**152.69**	**24**	*e*PKPbc		**PKPbc**	**23 29 54.5**	**-2.5**
PMTG	**Montargil**	**153.04**	**26**	*e*PKPbc		**PKiKP**	**23 30 00.6**	**+2.6**
PMRV	**Marv??o**	**153.07**	**24**	*e*PKPab		**PKPab**	**23 30 08.0**	**-1.2**
PMRV	**Marv??o**	**153.07**	**24**	*e*PKP		**PKPab**	**23 30 15.9**	**+6.7**
SANT	**Santorini**	**153.15**	**325**	⇑P		**PKPbc**	**23 29 56.2**	**-2.0**
PBEJ	**Beja**	**154.06**	**27**	*e*PKPab		**PKPab**	**23 30 11.1**	**-2.3**
ESDC	**Sonseca Array**	**154.08**	**19**	PKP		**PKPdf**	**23 29 51.4**	**-0.7**
	comp=Z,0.3nm,0.9s,baz=322,slow=9.8,SNR=1.4							
ESDC				PKPbc		**sPKPdf**	**23 29 57.8**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=327,slow=2.4,SNR=2.1							
ESDC				PKPab		**PKPab**	**23 30 10.8**	**-2.7**
	comp=Z,1.9nm,0.9s,baz=4.4,slow=2.9,SNR=4.9							
PBAR	**Barrancos**	**154.29**	**25**	*e*PKPab		**PKPab**	**23 30 18.6**	**+4.2**
PCVE	**Castro Verde**	**154.31**	**28**	*e*PKP	PKPab	23 30 28.9	+14	
PFVI	**Vila Bisbo**	**154.36**	**29**	*e*PKPab		**PKPab**	**23 30 17.1**	**+2.4**
KEST	**Kesra**	**159.57**	**354**	PKPab		**PKPab**	**23 30 35.6**	**-1.5**
	comp=Z,3.6nm,0.8s,baz=308,slow=8.7,SNR=4.6							
DBIC	**Dimbokro**	**165.84**	**126**	PKP		**PKPdf**	**23 30 04.9**	**-1.0**
	comp=Z,1.9nm,1.0s,baz=147,slow=4.9,SNR=1.5							
DBIC				PKPab		**PKPab**	**23 31 01.3**	**-4.0**
	comp=Z,3.0nm,1.0s,baz=294,slow=13,SNR=1.5							
TORD	**Torodi Ar. Bea**	**174.77**	**114**			**PKPdf**	**23 30 09.8**	**-1.0**
TORD				PKPab		**PKPab**	**23 31 46.6**	**+1.7**
TORD	**Torodi Ar. Bea**	**174.77**	**114**	PKP		**PKPdf**	**23 30 09.0**	**-1.8**
	comp=Z,3.1nm,1.2s,baz=288,slow=0.6,SNR=7.4							
TORD				PKPab		**PKPab**	**23 31 42.1**	**-2.8**
	comp=Z,0.5nm,0.8s,baz=224,slow=12,SNR=2.2							
TORD				PP		**PP**	**23 35 38.2**	**+0.9**
	comp=Z,1.0nm,1.1s,baz=246,slow=0.4,SNR=3.3							

*AFAD **07** 23:11:44.3±0.0,34°.39N×33°.76E,h15km±5km, ML2.1*
*ISK **07** 23:11:46.4,34°.33N×33°.19E,h14km, ML2.7/18*
*NIC **07** 23:11:47.5,34°.37N×33°.27E,h20km, Ml2.1/7*
ISC 07 23:11:47.1±1.5,**34°.33N**±0°.03×**33°.26E**±0°.04,**h10**km±11km,
n40,σ1°**06**/57,**3C,Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASGA	**Asgata**	**0.45**	**359**	⇑*e*P	**Pg**	**23 11 56.2**	**+0.3**
ASGA				S	**Sb**	**23 12 02.9**	**-1.1**
ASGA				AML	AML	23 12 04.2	
	0.7nm,0.4s						
ASGA				AML	AML	23 12 06.3	
	0.9nm,0.3s						
CSS	**Mathiatis**	**0.63**	**5**	Pg	**Pg**	**23 11 59.7**	**+0.4**
CSS				Sg	**Sb**	**23 12 09.1**	**-0.1**
CSS	**Mathiatis**	**0.63**	**5**	P	**Pg**	**23 11 59.2**	**-0.1**
CSS				S	**Sb**	**23 12 08.4**	**-0.8**
CSS				AML	AML	23 12 11.7	
	0.2nm,0.3s						
CSS				AML	AML	23 12 12.7	
	0.2nm,0.3s						
TROD	**Troodos**	**0.69**	**332**	⇑*i*P	**Pg**	**23 12 00.5**	**0.0**
TROD				S	**Sb**	**23 12 10.4**	**-0.7**
TROD				AML	AML	23 12 12.8	
	0.4nm,0.4s						
TROD				AML	AML	23 12 14.7	
	0.3nm,0.4s						
AKIN	**Akıncılar- Kıb**	**0.70**	**14**	Pg	**Pg**	**23 12 01.1**	**+0.5**
AKIN				Sg	**Sb**	**23 12 11.7**	**+0.5**
NATA	**Nata**	**0.72**	**308**	⇑*i*P	**Pg**	**23 12 01.8**	**+0.8**
NATA				S	**Sb**	**23 12 12.3**	**+0.5**
NATA				AML	AML	23 12 15.8	
	0.5nm,0.6s						
NATA				AML	AML	23 12 18.1	
	0.6nm,0.4s						
MVOU	**Mavrovouni**	**0.75**	**24**	P	**Pg**	**23 12 01.7**	**+0.2**
MVOU				S	**Sb**	**23 12 12.4**	**-0.1**
MVOU				AML	AML	23 12 17.1	
	0.2nm,0.4s						
MVOU				AML	AML	23 12 18.2	
	0.1nm,0.4s						
ATHAL	**Athalassa**	**0.81**	**8**	P	**Pb**	**23 12 03.5**	**+0.1**
ATHAL				S	**Sb**	**23 12 14.6**	**+0.2**
LEF	**Lefka**	**0.84**	**339**	Pg	**Pg**	**23 12 02.9**	**-0.4**
LEF	**Lefka**	**0.84**	**339**	P	**Pb**	**23 12 04.0**	**+0.2**
LEF				S	**Sn**	**23 12 19.2**	**+1.7**
LFK	**Lefkose**	**0.97**	**13**	Pg	**Pg**	**23 12 05.9**	**+0.2**
LFK				Sg	**Sn**	**23 12 20.1**	**-0.7**
ALFC	**Alefka**	**0.98**	**327**	P	**Pg**	**23 12 05.3**	**-0.7**
ALFC				S	**Sb**	**23 12 19.8**	**+0.5**
ALFC				AML	AML	23 12 24.2	
	0.4nm,0.2s						
ALFC				AML	AML	23 12 27.4	
	0.5nm,0.5s						
AKDN	**Akdeniz- Kıbrı**	**0.99**	**346**	Pg	**Pg**	**23 12 05.7**	**-0.4**
AKMS	**Akamas**	**1.02**	**312**	P	**Pb**	**23 12 06.2**	**-0.7**
AKMS				S	**Sn**	**23 12 21.3**	**-0.7**
AKMS				AML	AML	23 12 30.6	
	0.3nm,0.4s						
OSC2	**CSNet OBS 4**	**1.50**	**214**	P	**Pn**	**23 12 13.6**	**-0.5**
OSC2				S	**Sb**	**23 12 36.5**	**+2.3**
TEKE	**Tekeli-Mersin**	**1.81**	**356**	Pn	**Pn**	**23 12 18.3**	**0.0**
AKKU	**Akkuyu-Mersin**	**1.84**	**7**	Pn	**Pn**	**23 12 18.3**	**-0.4**
GULN	**MERSIN_Gulnar**	**1.86**	**7**	P	**Pn**	**23 12 18.9**	**-0.2**
GULN				S	**Sn**	**23 12 41.9**	**-0.7**
GULN				*i* AML	AML	23 12 45.0	
	comp=E,11nm,0.6s						
GULN				*i* AML	AML	23 12 48.0	
	comp=N,8.6nm,0.4s						
IKL	**Isikli**	**1.93**	**10**	Pn	**Pn**	**23 12 19.8**	**-0.2**
BERE	**Bereket-Mersin**	**2.01**	**359**	Pn	**Pn**	**23 12 20.8**	**-0.5**
GAZI	**Gazipasa**	**2.05**	**338**	Pn	**Pn**	**23 12 21.0**	**-0.7**
GAZI	**Gazipasa**	**2.05**	**338**	P	**Pn**	**23 12 21.4**	**-0.2**
GAZI				S	**Sn**	**23 12 47.6**	**+0.3**
GAZI				*i* AML	AML	23 12 53.0	
	comp=N,17nm,0.5s						
GAZI				*i* AML	AML	23 12 53.0	
	comp=E,20nm,0.6s						
TEVE	**Tevekalti-Mers**	**2.10**	**4**	Pn	**Pn**	**23 12 22.5**	**0.0**
KIZK	**Mersin**	**2.26**	**18**	Pn	**Pn**	**23 12 24.9**	**+0.3**
GEM	**Giv'at Ha'Em**	**2.29**	**119**	P	**Pn**	**23 12 24.2**	**-0.8**
HDMB	**Hadim**	**2.70**	**347**	Pn	**Pn**	**23 12 31.4**	**+0.6**
QRNJ	**Al-Qirein**	**2.78**	**135**	P	**Pn**	**23 12 30.9**	**-0.8**
KRMN	**Karaman**	**2.83**	**0**	Pn	**Pn**	**23 12 32.8**	**+0.2**
KKBE	**Karaman, Kazim**	**2.89**	**355**	P	**Pn**	**23 12 35.0**	**+1.6**
KKBE				S	**Sb**	**23 13 11.3**	**-3.0**
KKBE				*i* AML	AML	23 13 14.0	
	comp=E,6.3nm,0.8s						
KKBE				*i* AML	AML	23 13 22.0	
	comp=N,7.5nm,0.8s						
KEPZ	**Antalya-Kepez**	**2.90**	**333**	P	**Pn**	**23 12 33.5**	**+0.2**
KEPZ				*i* AML	AML	23 13 18.0	
	comp=E,8.6nm,1.8s						
KEPZ				*i* AML	AML	23 13 49.0	
	comp=N,7.7nm,1.9s						
KERG	**Konya-Eregli**	**3.15**	**13**	P	**Pn**	**23 12 39.2**	**+2.2**
KERG				S	**Sn**	**23 13 17.2**	**+2.5**
KERG				*i* AML	AML	23 14 29.0	
	comp=E,9.3nm,3.2s						
KARA	**Karaisali**	**3.27**	**26**	Pn	**Pn**	**23 12 39.6**	**+1.2**
SEYD	**Seydisehir-KON**	**3.27**	**340**	Pn	**Pn**	**23 12 39.3**	**+0.7**
DSI	**Dead Sea**	**3.28**	**147**	P	**Pn**	**23 12 38.4**	**-0.2**
SEDI	**Konya, Seydise**	**3.34**	**339**	P	**Pn**	**23 12 42.2**	**+2.7**
SEDI				S	**Sb**	**23 13 24.5**	**-2.8**
SEDI				*i* AML	AML	23 13 37.0	
	comp=N,4.3nm,0.7s						
SEDI				*i* AML	AML	23 14 00.0	
	comp=E,4.4nm,1.4s						
KORT	**Korkueli**	**3.56**	**319**	Pn	**Pn**	**23 12 42.4**	**-0.2**
CMRD	**Camardi-Nigde**	**3.61**	**22**	Pn	**Pn**	**23 12 43.9**	**+0.7**
KARJ	**KARJ**	**3.79**	**147**	P	**Pn**	23 12 35.4	-10
PRNI	**Paran**	**4.24**	**159**	P	**Pn**	**23 12 51.2**	**-0.6**
HRFI	**Mount Harif**	**4.54**	**160**	P	**Pn**	**23 12 55.6**	**-0.4**

*IDC **07** 23:16:37.9±0.6,47°.33N×153°.10E,h58km±5km,mb4.1/29, mbtmp4.4/35,MS3.5/8,Error ellipse: s-maj=12.8km s-min=9.6km az=137.0*
*MOS **07** 23:16:37.8±1.4,47°.26N×153°.35E,h82km,mb4.7/18, MS3.0/6,Error ellipse: s-maj=8.0km s-min=6.0km az=69.2*
*BJI **07** 23:16:38.1,47°.21N×152°.86E,h59km,mb4.6/39,mB5.0/20, Ms4.2/7,Ms7 3.8/9*
*SKHL **07** 23:16:38.1±0.6,47°.20N×153°.50E,h77km±5km,mb5.2/10*
*NEIC **07** 23:16:39.3±2.6,47°.3N±0°.1×153°.1E±0°.1,h69km±7km, mb5.0/61,Error ellipse: s-maj=17.9km s-min=11.3km az=143.0*
ISC 07 23:16:37.5±0.6,**47°.28N**±0°.05×**153°.29E**±0°.05,**h56**km±4km,
h56km:**pP-P,n313,**σ1**59**/325,**mb4.8**/102,**MS4.2**/5,
26C-20D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.89**	**28**	*e*P	**Pn**	**23 17 35.7**	**+1.0**
SKR				AMB	AMB	23 17 37.2	
	200nm,0.6s						
SKR				*e*S	**Sn**	**23 18 18.4**	**-0.6**
SKR				A	A	23 18 22.3	
	560nm,0.4s						
SKR				A	A	23 18 22.3	
	680nm,0.4s						
SKR	**Severo-Kuril's**	**3.89**	**28**	*e*PN	**Pn**	**23 17 35.7**	**+1.0**
SKR				*e*S	**Sn**	**23 18 18.4**	**-0.6**
SKR				pmax	pmax		
	comp=Z,195nm,0.7s						
SKR				smax	smax		
	comp=N,555nm,0.5s						
SKR				smax	smax		
	comp=E,678nm,0.3s						
SKR				MLR	MLR		
	comp=Z,300nm,15.0s						
KUR	**Kuril'sk**	**4.28**	**243**	*e*P	**Pn**	**23 17 42.5**	**+2.4**
KUR				AMB	AMB	23 17 44.2	
	comp=Z,310nm,0.5s						
KUR				*e*S	**Sn**	**23 18 31.0**	**+2.3**
KUR				A	A	23 18 47.0	
	comp=Z,730nm,0.6s						
KUR				A	A	23 18 47.0	
	comp=Z,210nm,0.6s						
KUR				A	A	23 18 48.6	
	comp=Z,1μm,2.0s						
KUR				A	A	23 18 48.6	
	comp=Z,2μm,2.0s						
KUR	**Kuril'sk**	**4.28**	**243**	*e*PN	**Pn**	**23 17 43.0**	**+2.9**
KUR				*e*S	**Sn**	**23 18 31.9**	**+3.2**
KUR				pmax	pmax		
	comp=Z,305nm,0.5s						
KUR				pmax	pmax		
	comp=N,84nm,0.4s						
KUR				pmax	pmax		
	comp=E,56nm,0.5s						
KUR				smax	smax		
	comp=N,728nm,0.7s						
KUR				smax	smax		
	comp=E,207nm,0.3s						
KUR				smax	smax		
	comp=E,2μm,1.2s						
KUR				smax	smax		
	comp=N,1μm,1.7s						
PAU	**Pauzhetka**	**4.79**	**27**	*e*P	**Pn**	**23 17 48.2**	**+1.2**
PAU				*e*S	**Sn**	**23 18 41.2**	**+0.1**
SHO	**Shikotan**	**5.67**	**235**	*e*P	**Pn**	**23 17 59.8**	**+0.7**
SHO				AMB	AMB	23 18 06.4	
	comp=N,60nm,0.3s						
SHO				*e*S	**Sn**	**23 19 04.5**	**+1.7**
SHO				A	A	23 19 10.3	
	comp=N,140nm,0.5s						
SHO				A	A	23 19 10.3	
	comp=N,170nm,0.5s						
SHO	**Shikotan**	**5.67**	**235**	*e*PN	**Pn**	**23 17 59.8**	**+0.7**
SHO				*e*S	**Sn**	**23 19 04.5**	**+1.7**
SHO				pmax	pmax		
	comp=Z,58nm,0.3s						
SHO				pmax	pmax		
	comp=E,34nm,0.2s						
SHO				pmax	pmax		
	comp=N,26nm,0.3s						
SHO				smax	smax		
	comp=N,137nm,0.5s						
SHO				smax	smax		
	comp=E,173nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**6.13**	**241**	*e*P	**Pn**	**23 18 07.3**	**+1.9**
YUK				AMB	AMB	23 18 09.7	
	comp=E,350nm,0.5s						
YUK				*e*S	**Sn**	**23 19 14.5**	**+0.3**
YUK				A	A	23 19 18.8	
	comp=E,2μm,3.0s						
YUK				A	A	23 19 18.8	
	comp=E,3μm,3.0s						
YUK				A	A	23 19 19.6	
	comp=E,500nm,0.6s						
YUK				A	A	23 19 19.6	
	comp=E,290nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.13**	**241**	*e*PN	**Pn**	**23 18 06.1**	**+0.7**
YUK				*e*S	**Sn**	**23 19 15.5**	**+1.3**
YUK				pmax	pmax		
	comp=N,119nm,0.2s						
YUK				pmax	pmax		
	comp=Z,252nm,0.2s						
YUK				smax	smax		
	comp=N,161nm,0.5s						
YUK				smax	smax		
	comp=E,251nm,0.5s						
PEA0B	**Petropavlovsk-**	**6.49**	**24**		**Pn**	**23 18 10.8**	**+0.5**
PEA0B	**Petropavlovsk-**	**6.49**	**24**	*i* PN	**Pn**	**23 18 10.5**	**+0.2**
PETK	**Petropavlovsk-**	**6.49**	**24**		**Pn**	**23 18 10.7**	**+0.3**
PETK	**Petropavlovsk-**	**6.49**	**24**	P	**Pn**	**23 18 09.0**	**-1.3**
	comp=E,17nm,0.8s,baz=184,slow=13,SNR=23						
PETK				S	**Sn**	**23 19 25.4**	**+2.4**
	comp=E,16nm,0.8s,baz=160,slow=18,SNR=1.0						
PETK				LR	LR	23 20 42.3	
	comp=E,227nm,21.7s,baz=208,slow=38						
PET	**Petropavlovsk**	**6.71**	**29**		**Pn**	**23 18 16.0**	**+2.7**
PET	**Petropavlovsk**	**6.71**	**29**	*e*P	**Pn**	**23 18 15.3**	**+2.0**
PET				AMB	AMB	23 18 20.0	
	comp=E,50nm,0.8s						
PET	**Petropavlovsk**	**6.71**	**29**	*e*PN	Pn	23 18 18.7	+5.4
PET				pmax	pmax		
	comp=Z,50nm,0.8s						
PET				MLR	MLR		
	comp=Z,200nm,20.0s						
YSS	**Yuzh-Sakhalins**	**7.20**	**271**	Pn	**Pn**	**23 18 24.1**	**+4.1**
YSS	**Yuzh-Sakhalins**	**7.20**	**271**	*e*P	**Pn**	**23 18 23.6**	**+3.6**
YSS				AMB	AMB	23 18 25.6	
	comp=Z,130nm,0.9s						
YSS				*e*S	**Sn**	**23 19 43.6**	**+3.3**
YSS				A	A	23 19 46.7	
	comp=Z,80nm,0.7s						
YSS				A	A	23 19 46.7	
	comp=Z,50nm,0.7s						
YSS				AMS	AMS	23 20 41.3	
	comp=Z,700nm,17.0s						
YSS	**Yuzh-Sakhalins**	**7.20**	**271**	*e*PN	Pn	23 18 24.8	+4.8
YSS				*e*S	**Sn**	**23 19 44.3**	**+4.0**
YSS				pmax	pmax		
	comp=Z,130nm,0.9s						
YSS				smax	smax		
	comp=N,80nm,0.7s						
YSS				smax	smax		
	comp=E,50nm,0.6s						
TYV	**Tymovskoe**	**7.85**	**301**	*e*P	**Pn**	**23 18 33.0**	**+4.0**
TYV				AMB	AMB	23 18 35.6	
	comp=E,200nm,4.0s						
TYV				AMB	AMB	23 18 35.6	
	comp=E,70nm,0.9s						
TYV				*e*S	**Sn**	**23 19 59.6**	**+3.3**
TYV				A	A	23 20 00.7	
	comp=E,20nm,0.9s						
TYV				A	A	23 20 00.7	
	comp=E,20nm,0.9s						
TYV				A	A	23 20 06.5	
	comp=E,500nm,6.0s						
TYV				A	A	23 20 06.5	
	comp=E,200nm,6.0s						
TYV	**Tymovskoe**	**7.85**	**301**	*e*PN	**Pn**	**23 18 33.0**	**+4.0**
TYV				*e*S	**Sn**	**23 19 59.6**	**+3.3**
TYV				pmax	pmax		
	comp=Z,200nm,3.5s						
TYV				pmax	pmax		
	comp=Z,72nm,0.9s						
TYV				smax	smax		
	comp=N,19nm,0.9s						
TYV				smax	smax		
	comp=E,20nm,0.9s						
TYV				smax	smax		
	comp=N,500nm,5.9s						
TYV				smax	smax		
	comp=E,200nm,5.9s						
JKA	**Kamikawa-asahi**	**8.12**	**251**	Pn	**Pn**	**23 18 36.5**	**+3.8**
JKA	**Kamikawa-asahi**	**8.12**	**251**	*e*P	**Pn**	**23 18 36.5**	**+3.8**
ASAJ	**Asahikawa**	**8.12**	**251**	PN	**Pn**	**23 18 36.5**	**+3.8**
ASAJ	**Asahikawa**	**8.12**	**251**	P	**Pn**	**23 18 31.2**	**-1.5**
	comp=E,14nm,1.1s,baz=198,slow=21,SNR=2.1						
ASAJ				LR	LR	23 21 30.1	
	comp=E,305nm,20.6s,baz=1.0,slow=36						
ERM	**Erimo**	**8.93**	**238**	Pn	**Pn**	**23 18 42.8**	**-1.0**
ERM	**Erimo**	**8.93**	**238**	*i* PN	**Pn**	**23 18 45.1**	**+1.3**
NKL	**Nikolayevsk**	**9.99**	**311**	*e*P	**Pn**	**23 19 01.8**	**+3.6**
NKL				AMB	AMB	23 19 04.5	
	comp=E,30nm,0.8s						
JTM	**Tenmabayashi**	**10.92**	**238**	Pn	**Pn**	**23 19 09.4**	**-1.6**
MA2	**Magadan**	**12.41**	**354**	Pn	**Pn**	**23 19 32.3**	**+1.1**
MA2	**Magadan**	**12.41**	**354**	*e*P	**Pn**	**23 19 32.1**	**+0.9**
MA2	**Magadan**	**12.41**	**354**	*i* PN	**Pn**	**23 19 32.1**	**+0.9**
MA2				pmax	pmax		
	comp=Z,21nm,0.5s						
MA2				MLR	MLR		
	comp=Z,148nm,18.0s						
MA2	**Magadan**	**12.41**	**354**	P	**Pn**	**23 19 30.1**	**-1.1**
	comp=E,21nm,0.5s,baz=168,slow=9.2,SNR=9.5						
MA2				LR	LR	23 24 12.4	
	comp=Z,137nm,19.2s,baz=176,slow=37						
KLR	**Kul'dur**	**14.48**	**286**	*e*P	**Pn**	**23 20 01.0**	**+1.8**
KLR	**Kul'dur**	**14.48**	**286**	*i* P	**P**	**23 20 01.7**	**-2.7**
KLR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KLR				MLR	MLR		
	comp=Z,218nm,15.0s						
KLR	**Kul'dur**	**14.48**	**286**	P	**Pn**	**23 19 58.0**	**-1.1**
	comp=E,0.2nm,0.3s,baz=187,slow=17,SNR=1.3						
KLR				LR	LR	23 25 46.6	
	comp=Z,266nm,19.1s,baz=94,slow=38						
USA0B	**Ussuriysk Arra**	**15.18**	**266**		**P**	**23 20 10.5**	**-1.8**
USA0B	**Ussuriysk Arra**	**15.18**	**266**	*i* P	**P**	**23 20 11.0**	**-1.3**
USRK	**Ussuriysk Ar.**	**15.18**	**266**		**P**	**23 20 10.6**	**-1.7**
USRK	**Ussuriysk Ar.**	**15.18**	**266**	P	**P**	**23 20 10.6**	**-1.7**
USRK	**Ussuriysk Ar.**	**15.18**	**266**	P	**Pn**	**23 20 07.5**	**-0.8**
	comp=Z,13nm,0.8s,baz=74,slow=12,SNR=18						
USRK				LR	LR	23 25 49.6	
	comp=Z,180nm,18.4s,baz=37,slow=37						
MJA0	**Matsu Arr-Jizo**	**15.47**	**232**	*e*P	**Pn**	**23 20 12.7**	**+0.5**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJB9	**Matsu-Tunnel**	**15.50**	**232**		**P**	**23 20 16.2**	**+0.3**
MAJO	**Matsushiro**	**15.50**	**232**		**P**	**23 20 15.4**	**-0.4**
MAJO	**Matsushiro**	**15.50**	**232**	*i* P	**P**	**23 20 15.3**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,23nm,0.9s						
MJAR	**Matsushiro Arr**	**15.50**	**232**	P	**Pn**	**23 20 11.8**	**-0.6**
	comp=Z,1.5nm,0.4s,baz=35,slow=13,SNR=5.1						
SEY	**Seymchan**	**15.70**	**358**	*i* P	**P**	**23 20 17.2**	**-0.7**
SEY				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SEY	**Seymchan**	**15.70**	**358**	P	**Pn**	**23 20 14.7**	**-0.2**
	comp=E,5.2nm,0.5s,baz=210,slow=16,SNR=8.3						
SEY				LR	LR	23 26 17.2	
	comp=Z,135nm,18.0s,baz=164,slow=37						
MDJ	**Mudanjiang**	**16.68**	**270**	P	**P**	**23 20 29.8**	**+0.9**
MDJ	**Mudanjiang**	**16.68**	**270**	P	**Pn**	**23 20 25.4**	**-1.9**
MDJ				pP	pP	23 20 36.0	-5.1
MDJ				sP	sP	23 20 43.4	-4.8
MDJ				S	**Sn**	**23 23 24.9**	**-6.7**
MDJ				PcP	**PcP**	**23 25 16.5**	**+2.8**
MDJ				ScP	**ScP**	**23 28 46.1**	**+2.7**
MDJ				PcS	**PcS**	**23 28 50.4**	**+0.9**
MDJ				pmax	pmax		
	comp=Z,13nm,2.1s						
MDJ				pmax	pmax		
	comp=Z,130nm,4.9s						
MDJ				LR	LR		
	comp=Z,450nm,13.1s						
MDJ				LR	LR		
	comp=Z,560nm,12.8s						
MDJ				LR	LR		
	comp=Z,140nm,11.2s						
HEH	**HeiHe**	**17.29**	**289**	*e*P	**P**	**23 20 37.6**	**+2.0**
HEH				pmax	pmax		
	comp=Z,21nm,0.9s						
HEH				pmax	pmax		
	comp=Z,310nm,4.7s						
HEH				LR	LR		
	comp=Z,140nm,10.5s						
HEH				LR	LR		
	comp=Z,330nm,11.0s						
HEH				LR	LR		
	comp=Z,300nm,12.5s						
ZEA	**Zeya**	**17.72**	**301**	*e*P	**Pn**	**23 20 39.7**	**-0.4**
ZEA				AMB	AMB	23 20 43.7	
	comp=Z,10.0nm,0.8s						
ZEA

F15K North Star Dit 28.85 35 P **P** 23 22 27.5 -2.7
F15K IAmb IAmb 23 22 35.1
comp=Z,25nm,1.1s
H11N2 WAKE ISLAND Hy 29.63 153 T T 23 54 23.6
baz=341,slow=76,SNR=1945
H11N1 WAKE ISLAND Hy 29.65 153 T T 23 54 30.0
baz=341,slow=76,SNR=1843
H11N3 WAKE ISLAND Hy 29.65 153 T T 23 54 23.6
baz=341,slow=76,SNR=1137
HNS HongShan 29.91 265 ⇓P **P** 23 22 40.1 +0.2
HNS pmax pmax
comp=Z,18nm,1.2s
NJ2 Nanjing 30.27 252 *e*P **P** 23 22 43.1 0.0
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 pmax pmax
comp=Z,240nm,3.6s
HHC Hu-ho-hao-te 30.38 273 *e*P **P** 23 22 44.8 +0.6
HHC pmax pmax
comp=Z,33nm,0.8s
HHC pmax pmax
comp=Z,310nm,4.7s
HHC LR LR
comp=Z,350nm,15.7s
HHC LR LR
comp=Z,590nm,14.5s
HHC LR LR
comp=Z,270nm,13.4s
H11S1 WAKE ISLAND Hy 30.73 154 T T 23 55 52.9
baz=342,slow=76,SNR=850
H11S3 WAKE ISLAND Hy 30.74 155 T T 23 55 53.5
baz=342,slow=76,SNR=918
H11S2 WAKE ISLAND Hy 30.75 154 T T 23 55 54.3
baz=342,slow=76,SNR=1867
SONM Songino Array 31.28 289 P **P** 23 22 51.3 -0.7
comp=Z,0.6nm,0.6s,baz=73,slow=9.3,SNR=5.3
SONM PcP **PcP** 23 25 45.8 +0.8
comp=Z,0.9nm,0.9s,baz=163,slow=4.8,SNR=2.7
SONM LR LR 23 35 11.4
comp=Z,122nm,19.0s,baz=64,slow=36
comp=Z,0.6nm,0.6s
LYN LuoYang 32.99 262 ⇓P **P** 23 23 08.8 +1.8
LYN pP sP 23 23 24.3 -2.8
LYN sP pP 23 23 31.0 +10
LYN PP **PnPn** 23 24 14.8 -2.9
LYN pmax pmax
comp=Z,19nm,0.6s
LYN pmax pmax
comp=Z,270nm,5.9s
LYN LR LR
comp=Z,350nm,17.5s
LYN LR LR
comp=Z,550nm,16.5s
LYN LR LR
comp=Z,240nm,17.2s
GUMO Guam 34.31 195 LR LR 23 34 38.1
comp=Z,143nm,20.2s,baz=134,slow=32
COLA College 35.65 39 P **P** 23 23 31.0 +1.4
ILAR Eielson Array 36.06 39 P **P** 23 23 33.0 -0.2
comp=Z,2.4nm,0.8s,baz=263,slow=8.4,SNR=8.5
comp=Z,2.4nm,0.8s
GTA Gaotai 39.01 278 *e*P **P** 23 24 01.2 +2.6
GTA PcP **PcP** 23 26 09.0 +1.2
GTA pmax pmax
comp=Z,4.0nm,1.0s
CD2 Chengdu 41.05 265 P **P** 23 24 16.1 +0.7
CD2 pmax pmax
comp=Z,20nm,1.1s
INK Inuvik 41.14 33 P **P** 23 24 17.1 +1.4
INK Inuvik 41.14 33 P **P** 23 24 17.1 +1.4
INK pmax pmax
comp=Z,14nm,1.3s
H31M Peel River 41.21 37 P **P** 23 24 17.3 +0.9
H31M IAmb IAmb 23 25 30.6
comp=Z,50nm,1.9s
GYA Guiyang 41.95 257 *e*P **P** 23 24 23.5 +0.6
GYA pmax pmax
comp=Z,15nm,0.9s
ZALV Zalesovo Beam 42.40 305 P **P** 23 24 24.4 -1.8
ZALV Zalesovo Beam 42.40 305 P **P** 23 24 24.5 -1.7
comp=Z,1.2nm,0.5s,baz=61,slow=6.3,SNR=6.1
ZALV PcP **PcP** 23 26 18.1 -0.3
comp=Z,1.0nm,0.4s,baz=62,slow=3.5,SNR=5.8
comp=Z,1.2nm,0.5s
DGZ Jazzator, Alta 42.46 299 *i* P **P** 23 24 25.3 -1.6
DGZ pmax pmax
comp=Z,5.0nm,1.9s
A36M Sachs Harbour 43.33 27 P **P** 23 24 35.1 +1.7
A36M IAmb IAmb 23 24 36.5
comp=Z,25nm,0.8s
Q32M Nakina River 43.86 46 P **P** 23 24 40.7 +2.5
Q32M IAmb IAmb 23 25 07.3
comp=Z,52nm,1.8s
C36M Paulatuk 44.30 30 P **P** 23 24 42.8 +1.6
C36M IAmb IAmb 23 24 43.7
comp=Z,11nm,0.5s
R33M Jennings River 44.35 45 P **P** 23 24 44.4 +2.4
R33M IAmb IAmb 23 25 39.3
comp=Z,37nm,1.8s
WMQ Urumqi 44.85 291 *e*P **P** 23 24 46.7 +0.6
PZH PanZhiHua 45.21 261 P **P** 23 24 49.5 +0.3
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,130nm,5.0s
MK31 Makanchi Array 46.81 297 P **P** 23 25 00.6 -0.8
MK31 Makanchi Array 46.81 297 *i* P **P** 23 25 01.7 +0.3
MKAR Makanchi Array 46.81 297 P **P** 23 25 00.5 -0.9
MKAR Makanchi Array 46.81 297 *e*P **P** 23 25 00.9 -0.5
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 46.81 297 P **P** 23 24 59.9 -1.5
comp=Z,1.1nm,0.7s,baz=63,slow=7.2,SNR=8.0
MKAR PcP **PcP** 23 26 33.5 -0.2
comp=Z,0.7nm,0.6s,baz=74,slow=1.0,SNR=4.1
comp=Z,1.1nm,0.7s
KURK Kurchatov 47.17 303 *e*P **P** 23 25 03.0 -1.1
KURK Kurchatov 47.17 303 *i* P **P** 23 25 03.0 -1.1
KURK pmax pmax
comp=Z,5.0nm,0.8s
KURBB Kurchatov Arra 47.27 303 P **P** 23 25 03.5 -1.4
comp=Z,2.9nm,0.6s,baz=68,slow=8.3,SNR=17
comp=Z,2.9nm,0.6s
TNCH TengChong 48.36 263 *e*P **P** 23 25 15.3 +1.4
TNCH pmax pmax
comp=Z,19nm,0.7s
CRAI Chiangrai 50.41 256 P **P** 23 25 30.8 +1.4
CRAI IAmb IAmb 23 25 31.9
comp=Z,9.5nm,0.8s
YKA Yellowknife Ar 50.43 37 P **P** 23 25 29.8 +0.9
comp=Z,2.0nm,0.5s,baz=267,slow=6.5,SNR=19
YKA pP **pwP** 23 25 44.6 -1.5
comp=Z,2.0nm,0.7s,baz=297,slow=7.4,SNR=5.4
YKA PcP **PcP** 23 26 47.1 +0.7
comp=Z,1.1nm,0.9s,baz=298,slow=3.8,SNR=4.3
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 50.62 309 P **P** 23 25 29.4 -1.2
comp=Z,1.6nm,0.5s,baz=57,slow=7.4,SNR=14
BVAR PcP **PcP** 23 26 47.6 +0.3
comp=Z,1.2nm,0.5s,baz=46,slow=0.9,SNR=6.6
comp=Z,1.6nm,0.5s
BRVK Borovoye 50.66 309 P **P** 23 25 30.3 -0.5
BRVK Borovoye 50.66 309 *e*P **P** 23 25 30.7 -0.1
BRVK Borovoye 50.66 309 *i* P **P** 23 25 30.7 -0.1
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 50.66 309 P **P** 23 25 30.3 -0.5
BRVK PcP **PcP** 23 26 47.7 +0.3
CHTO Chiang Mai 52.36 256 P **P** 23 25 42.0 -1.9
CHTO IAmb IAmb 23 25 46.4
comp=Z,13nm,0.8s
CHTO Chiang Mai 52.36 256 P **P** 23 25 42.0 -1.9
CHTO pmax pmax
comp=Z,13nm,0.8s
CHTO Chiang Mai 52.36 256 P **P** 23 25 45.7 +1.8
SHL Shillong 52.51 268 P **P** 23 25 43.5 -1.6
SHL IAmb IAmb 23 25 46.2
comp=Z,12nm,0.6s
SHL Shillong 52.51 268 P **P** 23 25 43.6 -1.6
SHL pmax pmax
comp=Z,12nm,0.6s
CM31 Chiang Mai Arr 52.61 256 P **P** 23 25 45.3 -0.5
CM31 IAmb IAmb 23 25 48.5
comp=Z,10nm,0.8s
CMAR Chiang Mai Arr 52.61 256 P **P** 23 25 46.0 +0.2
CMAR Chiang Mai Arr 52.61 256 *i* P **P** 23 25 47.9 +2.1
CMAR pmax pmax
comp=Z,6.0nm,0.6s
CMAR Chiang Mai Arr 52.61 256 P **P** 23 25 44.8 -1.0
comp=Z,6.6nm,0.7s,baz=35,slow=7.4,SNR=26
comp=Z,6.6nm,0.7s
TULEG Thule 53.59 11 P **P** 23 25 51.6 -0.6
TULEG Thule 53.59 11 *i* P **P** 23 25 50.9 -1.3
TULEG IAmb IAmb 23 25 53.9
comp=Z,20nm,0.8s
AAK Ala-Archa 53.71 296 P **P** 23 25 53.7 -0.1
TAPN Taplejung 54.19 273 *e*P **P** 23 25 58.6 +0.9
comp=Z,11nm,0.8s
NEEM North Greenlan 54.63 6 *i* P **P** 23 26 00.1 0.0
NEEM IAmb IAmb 23 26 01.9
comp=Z,6.4nm,0.7s
ARU Arti 54.71 317 *c i* P **P** 23 25 59.9 -0.7
ARU S **S** 23 33 35.2 -1.2
ARU SS **SS** 23 37 13.4 -5.9
ARU pmax pmax
comp=Z,46nm,3.6s
ARU Arti 54.71 317 P **P** 23 25 59.5 -1.1
JIRN Jiri 55.02 274 *e*P **P** 23 26 04.2 +0.4
GUN Gumba 55.08 275 *e*P **P** 23 26 05.1 +1.0
RAMN Ramite 55.20 273 *e*P **P** 23 26 05.1 +0.2
comp=Z,19nm,0.6s
KK31 Karatay Array 55.85 299 P **P** 23 26 08.4 -0.7
KK31 Karatay Array 55.85 299 P **P** 23 26 08.4 -0.7
KK31 pmax pmax
comp=Z,7.0nm,1.9s
KKAR Karatay Array 55.85 299 P **P** 23 26 07.9 -1.2
KKAR Karatay Array 55.85 299 P **P** 23 26 07.9 -1.2
EDM Edmonton 55.86 46 P **P** 23 26 10.1 +1.0
EDM IAmb IAmb 23 26 10.8
comp=Z,16nm,0.9s
EDM Edmonton 55.86 46 P **P** 23 26 10.1 +1.0
EDM pmax pmax
comp=Z,15nm,0.9s
DANN Dangsing 56.23 277 *e*P **P** 23 26 13.6 +1.3
comp=Z,19nm,0.5s
ARCES ARCESS Array B 57.40 341 *e*P **P** 23 26 21.0 +1.4
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 57.40 341 P **P** 23 26 18.5 -1.1
comp=Z,4.4nm,1.0s,baz=28,slow=7.7,SNR=12
comp=Z,4.4nm,1.0s
ABKAR Akbulak array 58.18 310 P **P** 23 26 24.8 -0.6
ABKAR IAmb IAmb 23 27 23.2
comp=Z,14nm,1.8s
DBG Daneborg 58.63 358 *i* P **P** 23 26 31.9 +3.7
DBG IAmb IAmb 23 26 34.4
comp=Z,1.6nm,0.9s
PLID Pearl Lake 59.27 55 P **P** 23 26 34.0 +0.6
PLID IAmb IAmb 23 26 50.8
comp=Z,10nm,0.7s
OVMT Ovando 59.71 52 P **P** 23 26 37.6 +1.3
BPMT Black Pine Rid 59.86 53 P **P** 23 26 38.1 +0.7
SUMG Summit 60.17 4 P **P** 23 26 39.0 -0.3
SUMG IAmb IAmb 23 26 41.3
comp=Z,16nm,0.9s
SUMG Summit 60.17 4 P **P** 23 26 39.0 -0.3
SUMG pmax pmax
comp=Z,16nm,0.9s
SUMG Summit 60.17 4 *i* P **P** 23 26 39.4 +0.1
SUMG IAmb IAmb 23 26 41.7
comp=Z,10nm,0.7s
FFC Flin Flon 60.26 40 P **P** 23 26 40.8 +1.1
FFC IAmb IAmb 23 26 57.1
comp=Z,8.1nm,0.8s
FFC Flin Flon 60.26 40 P **P** 23 26 40.8 +1.1
FFC pmax pmax
comp=Z,8.0nm,0.8s
FFC Flin Flon 60.26 40 P **P** 23 26 40.9 +1.2
FFC pP **pwP** 23 26 55.6 -1.6
BOZ Bozeman (W) 61.37 53 P **P** 23 26 48.4 +0.8
BOZ Bozeman (W) 61.37 53 P **P** 23 26 48.4 +0.8
BOZ pmax pmax
comp=Z,6.0nm,1.0s
NVAR Mina Array Bea 62.08 63 P **P** 23 26 52.7 +0.1
comp=Z,1.6nm,0.7s,baz=303,slow=7.4,SNR=6.0
NVAR pP **pwP** 23 27 09.2 -1.0
comp=Z,1.3nm,0.5s,baz=301,slow=7.5,SNR=6.0
comp=Z,1.6nm,0.7s
TPAW Teton Pass 63.10 54 P **P** 23 26 58.2 -1.1
TPAW IAmb IAmb 23 27 17.9
comp=Z,6.5nm,0.8s
ICESG Greenland Ices 63.56 5 *i* P **P** 23 27 01.5 -0.5
ICESG IAmb IAmb 23 27 04.5
comp=Z,21nm,0.9s
FINES FINESS Array B 63.62 335 *i* P **P** 23 27 02.0 -0.1
FINES pmax pmax
comp=Z,5.0nm,0.3s
FINES FINESS Array B 63.62 335 P **P** 23 27 01.3 -0.7
comp=Z,4.7nm,0.3s,baz=37,slow=7.1,SNR=85
comp=Z,4.7nm,0.3s
PD31 Pinedale Array 64.34 54 P **P** 23 27 07.0 -0.5
PDAR Pinedale Array 64.34 54 P **P** 23 27 08.5 +1.0
PDAR Pinedale Array 64.34 54 P **P** 23 27 07.8 +0.4
comp=Z,1.5nm,0.8s,baz=310,slow=2.1,SNR=8.4
PDAR pP **pwP** 23 27 24.1 -1.0
comp=Z,3.5nm,0.8s,baz=306,slow=1.6,SNR=14
comp=Z,1.5nm,0.8s
NLU North Lily Min 64.78 58 P **P** 23 27 10.9 +0.5
DY2G Dye2 65.60 8 *i* P **P** 23 27 14.1 -1.1
DY2G IAmb IAmb 23 27 16.5
comp=Z,7.5nm,0.8s
RDMU Red Mountain 65.80 56 P **P** 23 27 15.3 -1.7
RDMU IAmb IAmb 23 27 34.9
comp=Z,17nm,0.7s
ULM Lac du Bonnet 66.05 41 *e*P **P** 23 27 18.3 +0.2
ULM pmax pmax
comp=Z,3.0nm,0.7s
ULM Lac du Bonnet 66.05 41 P **P** 23 27 16.6 -1.4
comp=Z,2.9nm,0.7s,baz=321,slow=6.3,SNR=4.5
comp=Z,2.9nm,0.7s
SRU San Rafael Swe 66.23 58 P **P** 23 27 16.8 -2.9
SRU San Rafael Swe 66.23 58 P **P** 23 27 16.8 -2.9
SRU pmax pmax
comp=Z,6.0nm,0.8s
RSSD Black Hills 66.39 50 P **P** 23 27 19.6 -1.0
RSSD IAmb IAmb 23 27 37.9
comp=Z,8.2nm,0.8s
RSSD Black Hills 66.39 50 P **P** 23 27 19.7 -1.0
RSSD pmax pmax
comp=Z,8.0nm,0.8s
RSSD Black Hills 66.39 50 P **P** 23 27 21.6 +0.9
RSSD pP **pwP** 23 27 37.3 -1.1
GEYT Alibeck 66.44 301 P **P** 23 27 19.3 -1.6
comp=Z,2.4nm,0.7s,baz=69,slow=16,SNR=4.4
comp=Z,2.4nm,0.7s
HYB Hyderabad 67.11 271 *e*P **P** 23 27 29.0 +3.7
NC204 NORSAR Array S 67.66 341 P **P** 23 27 25.8 -2.4
NC204 IAmb IAmb 23 27 29.9
comp=Z,31nm,1.1s
NB2 NORSAR Subarra 67.77 341 P **P** 23 27 28.9 0.0
comp=Z,4.0nm,0.7s,baz=26,slow=6.5
NOA NORSAR Array B 67.77 341 P **P** 23 27 28.3 -0.6
comp=Z,7.6nm,0.8s,baz=26,slow=6.3,SNR=16
comp=Z,7.6nm,0.8s
HFS Hagfors 68.01 340 P **P** 23 27 30.5 +0.2
comp=Z,8.7nm,0.3s,baz=49,slow=4.7,SNR=60
comp=Z,8.7nm,0.3s
BORG Borgarnes 68.24 358 P **P** 23 27 33.0 +1.3
ISCO Idaho Springs 68.53 54 P **P** 23 27 31.7 -2.7
ISCO Idaho Springs 68.53 54 P **P** 23 27 31.7 -2.7
ISCO pmax pmax
comp=Z,5.0nm,0.8s
WB0 Warramunga Arr 68.87 199 P **P** 23 27 34.8 -1.3
WB0 IAmb IAmb 23 27 37.6
comp=Z,23nm,1.7s
F33A 5 Mile Ranch, 69.05 45 P **P** 23 27 36.0 -1.1
F33A IAmb IAmb 23 27 38.4
comp=Z,12nm,0.9s
WRA Warramunga Arr 69.05 199 P **P** 23 27 37.5 +0.2
comp=Z,1.5nm,0.7s,baz=17,slow=6.7,SNR=16
WRA pP **pP** 23 27 53.0 +1.1
comp=Z,1.8nm,0.8s,baz=15,slow=6.4,SNR=6.3
comp=Z,1.5nm,0.7s
ECSD EROS Data Cent 70.43 46 P **P** 23 27 45.0 -0.7
ECSD IAmb IAmb 23 27 47.0
comp=Z,14nm,0.9s
KIV Kislovodsk 70.52 314 *e*P **P** 23 27 47.0 +0.7
KIV Kislovodsk 70.52 314 *e*P **P** 23 27 47.0 +0.7
KIV pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 70.58 314 *e*P **P** 23 27 47.4 +0.9
KBZ Khabaz 70.58 314 *i* P **P** 23 27 47.4 +0.9
KBZ pmax pmax
comp=Z,8.0nm,1.0s
KBZ Khabaz 70.58 314 P **P** 23 27 45.5 -1.0
comp=Z,6.3nm,1.1s,baz=35,slow=7.0,SNR=4.0
comp=Z,6.3nm,1.1s
AKASG Malin Array Be 71.18 326 *e*P **P** 23 27 49.6 -0.4
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKASG Malin Array Be 71.18 326 P **P** 23 27 49.1 -0.8
comp=Z,3.7nm,0.4s,baz=34,slow=6.5,SNR=14
comp=Z,3.7nm,0.4s
I37A Lemond, Waseca 71.78 44 P **P** 23 27 52.6 -1.2
AS31 Alice Springs 72.74 199 P **P** 23 27 59.3 -0.3
ASAR Alice Springs 72.74 199 P **P** 23 28 00.8 +1.2
ASAR Alice Springs 72.74 199 P **P** 23 28 00.8 +1.2
ASAR Alice Springs 72.74 199 P **P** 23 28 00.0 +0.4
comp=Z,4.5nm,0.7s,baz=15,slow=6.3,SNR=42
comp=Z,4.5nm,0.7s
SCHQ Schefferville 72.78 23 P **P** 23 27 59.5 -0.1
SCHQ Schefferville 72.78 23 P **P** 23 27 59.3 -0.3
comp=Z,5.5nm,0.8s,baz=57,slow=6.2,SNR=3.0
comp=Z,5.5nm,0.8s
VASR Vaslui 75.03 325 ⇑P **P** 23 28 13.6 +0.8
BUR08 Bucovina Ar. S 75.20 327 P **P** 23 28 13.7 -0.2
BUR08 IAmb IAmb 23 29 55.9
comp=Z,13nm,1.0s
BURAR Bucovina Array 75.22 327 ⇑P **P** 23 28 14.2 +0.2
BURAR Bucovina Array 75.22 327 P **P** 23 28 13.8 -0.2
BURAR Bucovina Array 75.22 327 ⇑P **P** 23 28 14.3 +0.2
VLDQ Val d'Or 75.24 32 P **P** 23 28 12.7 -1.3
VLDQ IAmb IAmb 23 28 54.7
comp=Z,40nm,1.7s
DKNS Dickens 75.55 56 P P 23 28 24.6 +8.5
DKNS IAmb IAmb 23 28 33.4
comp=Z,4.9nm,0.7s
VLDR Vladesti 75.57 324 ⇓P **P** 23 28 16.4 +0.5
TESR Tescani 75.58 325 ⇑P **P** 23 28 15.2 -0.9
CHVC Chvalec 75.78 333 *e*P P 23 28 24.2 +7.1
CHVC Chvalec 75.78 333 *e*P P 23 28 24.2 +7.1
EKA Eskdalemuir Ar 75.86 346 P **P** 23 28 17.2 -0.2
comp=Z,2.2nm,0.6s,baz=14,slow=5.3,SNR=9.6
comp=Z,2.2nm,0.6s
DPC Dobruska-Polom 75.91 333 *e*P **P** 23 28 18.5 +0.6
DPC Dobruska-Polom 75.91 333 *e*P **P** 23 28 18.5 +0.6
MORC Moravsky Berou 76.03 332 P **P** 23 28 18.4 -0.2
MORC Moravsky Berou 76.03 332 P **P** 23 28 18.4 -0.2
MORC pmax pmax
comp=Z,98nm,1.9s
CLL Collm 76.04 336 P **P** 23 28 18.3 -0.2
CLL IAmb IAmb 23 28 19.1
comp=Z,17nm,0.9s
CLL Collm 76.04 336 *e*P **P** 23 28 18.0 -0.5
comp=Z,20nm,0.9s
CLL Collm 76.04 336 P **P** 23 28 18.3 -0.2
CLL pmax pmax
comp=Z,17nm,0.9s
VRI Vrincioaia 76.09 325 ⇑P **P** 23 28 17.9 -1.0
VRI Vrincioaia 76.09 325 ⇑P **P** 23 28 17.9 -1.0
CFR Carcaliu 76.09 323 ⇑P **P** 23 28 19.4 +0.5
CFR Carcaliu 76.09 323 ⇑P **P** 23 28 19.4 +0.5
MNHN Monahans 76.20 59 P **P** 23 28 24.6 +4.8
MNHN IAmb IAmb 23 28 37.1
comp=Z,6.4nm,0.8s
TURR Turia 76.21 325 ⇓P **P** 23 28 20.7 +1.1
TPGR Topolog 76.24 323 ⇓P **P** 23 28 20.7 +1.0
OZUR 76.26 325 ⇑P **P** 23 28 21.5 +1.5
COVR Voineasa-Covas 76.31 325 ⇓P **P** 23 28 19.9 -0.3
DOPR Dopca 76.52 326 ⇓P **P** 23 28 19.0 -2.4
HSKC Hora Svate Kat 76.54 335 *e*P **P** 23 28 22.0 +0.6
TIRR Tirgusor 76.57 323 ⇓P P 23 28 32.3 +11
HARR Harsova 76.57 323 ⇓P **P** 23 28 21.4 -0.3
HARR Harsova 76.57 323 ⇓P **P** 23 28 21.4 -0.3
LTVH Ltavrtes, Hu 76.62 328 ⇓P P 23 28 30.1 +8.2
UOSS Minazif 76.65 292 P **P** 23 28 21.3 -1.1
UOSS IAmb IAmb 23 28 23.3
comp=Z,10nm,0.8s
MLR Muntele Rosu 76.70 325 ⇑P **P** 23 28 22.3 -0.3
MLR Muntele Rosu 76.70 325 ⇑P **P** 23 28 22.3 -0.3
VRAC Vranov 76.74 333 ⇑P **P** 23 28 23.0 +0.4
VRAC Vranov 76.74 333 ⇑P **P** 23 28 23.0 +0.4
GOPC GO Pecny, Ondr 76.76 334 *e*P **P** 23 28 23.2 +0.5
GOPC GO Pecny, Ondr 76.76 334 *e*P **P** 23 28 23.2 +0.5
PRU Pruhonice 76.77 334 *e*P **P** 23 28 23.0 +0.3
PRU Pruhonice 76.77 334 *e*P **P** 23 28 23.0 +0.3
ISR Istrita 76.78 324 ⇑P **P** 23 28 18.2 -4.7
ISR Istrita 76.78 324 ⇑P **P** 23 28 18.2 -4.7
MARR Marisel-Cluj 76.78 327 ⇓P **P** 23 28 23.0 0.0
PSZ Piszkesteto 76.87 330 ⇓P **P** 23 28 19.1 -4.3
PSZ Piszkesteto 76.87 330 ⇓P **P** 23 28 19.1 -4.3
VOIR 77.10 325 ⇑P **P** 23 28 25.1 +0.4
VOIR 77.10 325 ⇑P **P** 23 28 25.1 +0.4
TXAR Lajitas Array 77.13 61 P **P** 23 28 26.1 +0.9
comp=Z,1.7nm,0.7s,baz=302,slow=3.8,SNR=8.9
comp=Z,1.7nm,0.7s
ARR Arges 77.32 326 ⇑P **P** 23 28 27.0 +1.1
ZVC Zvikov 77.36 334 *e*P **P** 23 28 26.3 +0.3
HHAR Hobbs 77.38 50 P **P** 23 28 29.7 +3.3
SADO Sadowa 77.39 35 LR LR 00 05 52.8
comp=Z,497nm,18.7s,baz=262,slow=38
SIRR Siria 77.66 328 ⇑P P 23 28 15.0 -13
KHC Kasperske Hory 77.82 334 P **P** 23 28 28.1 -0.5
KHC Kasperske Hory 77.82 334 *e*P **P** 23 28 28.5 -0.1
KHC Kasperske Hory 77.82 334 P **P** 23 28 28.1 -0.5
KHC pmax pmax
comp=Z,59nm,1.0s
CKRC Cesky Krumlov 77.88 334 *e*P **P** 23 28 28.9 0.0
CKRC Cesky Krumlov 77.88 334 *e*P **P** 23 28 28.9 0.0
SURR Surduc 77.93 327 ⇑P **P** 23 28 29.7 +0.5
GZR Gura Zlata 78.00 327 ⇓P **P** 23 28 28.7 -1.0
GZR Gura Zlata 78.00 327 ⇓P **P** 23 28 28.7 -1.0
GERES GERESS Array B 78.04 334 *e*P **P** 23 28 30.1 +0.2
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 78.04 334 P **P** 23 28 29.5 -0.4
comp=Z,2.4nm,0.7s,baz=46,slow=5.8,SNR=7.0
comp=Z,2.4nm,0.7s
BRTR Keskin Array B 78.09 317 *e*P **P** 23 28 31.1 +0.7
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 78.09 317 P **P** 23 28 30.1 -0.3
comp=Z,1.0nm,0.5s,baz=56,slow=2.4,SNR=8.1
comp=Z,1.0nm,0.5s
CONA Conrad Observa 78.19 332 *i* P **P** 23 28 31.2 +0.4
comp=Z,5.4nm,0.8s
BZS Buzias 78.23 328 ⇑P **P** 23 28 30.5 -0.4
BZS Buzias 78.23 328 ⇑P **P** 23 28 30.5 -0.4
RONA Rosalia, Austr 78.25 332 *i* P **P** 23 28 32.1 +1.1
comp=Z,8.4nm,0.9s,SNR=8.0
BTNL Ternell 78.49 339 *d*P **P** 23 28 32.5 +0.2
MEM Membach 78.50 339 *d*P **P** 23 28 32.5 +0.2
comp=Z,14nm,0.9s
MORH Mrgy, Hungar 78.77 330 ⇓P **P** 23 28 33.4 -0.5
ELND Elena 78.86 324 ⇑P **P** 23 28 32.9 -1.6
ARSA Arzberg 78.89 332 *e*P **P** 23 28 35.7 +1.1
comp=Z,3.2nm,0.9s
MDVR Moldovita 78.91 327 ⇑P **P** 23 28 34.0 -0.8
PLVB Pleven 78.98 325 ⇑P **P** 23 28 33.6 -1.5
BIOA Bad Ischl, Aus 79.09 334 *i* P **P** 23 28 36.7 +1.0
comp=Z,0.6nm,0.3s
FRGS Fruska Gora 79.28 328 ⇓P **P** 23 28 36.8 +0.1
X40A Basin Creek Fa 79.33 50 P P 23 28 42.4 +5.3
X40A IAmb IAmb 23 31 20.9
comp=Z,26nm,2.0s
SOKA Soboth 79.56 332 *e*P **P** 23 28 38.3 0.0
comp=Z,5.6nm,0.8s,SNR=6.5
LESA Schwarzleotal 79.61 334 *i* P **P** 23 28 39.2 +0.7
comp=Z,9.3nm,1.0s
HBAR Harrisburg 79.62 48 P **P** 23 28 43.0 +4.3
KBA Koelnbreinsper 79.72 333 *i* P **P** 23 28 40.4 +1.1
comp=Z,10nm,0.9s
WLAR White Oak Lake 79.80 51 P P 23 28 45.3 +5.6
OBKA Obir 79.86 332 *i* pP **P** 23 28 42.0 +2.1
comp=Z,8.1nm,1.2s
WATA Walderalm 80.02 335 *i* P **P** 23 28 41.5 +0.7
comp=Z,16nm,1.1s
WTTA Wattenberg 80.07 335 *e*P **P** 23 28 42.1 +0.9
comp=Z,12nm,0.8s
RETA Reutte 80.12 335 *i* P **P** 23 28 42.1 +0.8
comp=Z,7.3nm,1.1s,SNR=4.3
DIVS Divibare 80.13 328 P **P** 23 28 40.7 -0.7
MOTA Moosalm 80.15 335 *i* P **P** 23 28 42.0 +0.5
comp=Z,18nm,1.1s,SNR=7.4
PRED Cave del Predi 80.23 333 P **P** 23 28 40.8 -1.1
SQTA Sankt Quirin 80.23 335 *i* P **P** 23 28 42.8 +0.8

	comp=Z,12nm,1.0s							
ABTA	**Abfaltersbach**	**80.27**	**334**	*i* P		**P**	**23 28 41.7**	**-0.4**
	comp=Z,9.0nm,1.4s							
ECH	**Echery**	**80.43**	**338**	P		**P**	**23 28 43.9**	**+1.0**
ECH				IAmb		IAmb	23 29 54.9	
	comp=Z,27nm,1.1s							
ECH	**Echery**	**80.43**	**338**	P		**P**	**23 28 43.9**	**+1.0**
ECH				pmax		pmax		
	comp=Z,27nm,1.1s							
ALN	**Alexandroupoli**	**80.49**	**322**	P		**P**	**23 28 43.6**	**+0.3**
ALN				IAmb		IAmb	23 30 09.9	
	comp=Z,23nm,1.1s							
ALN	**Alexandroupoli**	**80.49**	**322**	P		**P**	**23 28 43.6**	**+0.3**
ALN				pmax		pmax		
	comp=Z,23nm,1.1s							
RDO	**Rodhopi**	**80.49**	**323**	P		**P**	**23 28 42.6**	**-0.7**
RDO				IAmb		IAmb	23 30 08.1	
	comp=Z,27nm,1.0s							
DAVA	**Damuels**	**80.55**	**336**	*i* P		**P**	**23 28 43.2**	**-0.5**
	comp=Z,10nm,1.0s							
FETA	**Feichten**	**80.55**	**335**	*i* P		**P**	**23 28 44.4**	**+0.7**
	comp=Z,5.9nm,1.0s							
SSFO	**Shawnee State**	**80.69**	**41**	P		**P**	**23 28 44.8**	**+0.4**
ELL	**Elmali**	**82.22**	**317**	P		**P**	**23 28 53.0**	**+0.3**
ELL	**Elmali**	**82.22**	**317**	P		**P**	**23 28 53.0**	**+0.3**
ELL				pmax		pmax		
	comp=Z,103nm,1.0s							
MMAI	**Mount Meron Ar**	**82.56**	**312**	P		**P**	**23 28 54.6**	**+0.2**
	comp=Z,8.9nm,0.5s,baz=44,slow=6.2,SNR=56							
	comp=Z,8.9nm,0.5s							
FDMO	**Fiordimonte**	**83.43**	**332**	P		**P**	**23 28 58.1**	**-0.6**
RCRC	**Randolf Colleg**	**83.47**	**40**	P		**P**	**23 28 56.3**	**-2.7**
NRCA	**Norcia**	**83.60**	**332**	P		**P**	**23 28 58.0**	**-1.7**
GHAJ	**Ghor Haditha**	**83.83**	**310**	P		**P**	**23 29 00.9**	**0.0**
ESDC	**Sonseca Array**	**91.09**	**343**	P		**P**	**23 29 35.1**	**-0.8**
	comp=Z,1.2nm,1.0s,baz=20,slow=4.7,SNR=4.8							
	comp=Z,1.2nm,1.0s							
KEST	**Kesra**	**91.27**	**331**	P		**P**	**23 29 36.2**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=333,slow=4.5,SNR=4.3							
	comp=Z,1.3nm,0.7s							
H03N2	**Juan Fernandez**	**138.63**	**90**	T		T	02 10 56.2	
	baz=309,slow=77,SNR=159							
H03N1	**Juan Fernandez**	**138.65**	**90**	T		T	02 10 57.2	
	baz=309,slow=77,SNR=184							
H03N3	**Juan Fernandez**	**138.65**	**90**	T		T	02 10 49.7	
	baz=309,slow=77,SNR=9.9							
BDFB	**Brasilia**	**143.85**	**36**	PKhKP		PKPpre	23 36 02.4	
	comp=Z,4.2nm,0.8s,baz=31,slow=5.9,SNR=5.2							
CPUP	**Villa Florida**	**148.10**	**60**	PKPbc		**PKPbc**	**23 36 15.8**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=295,slow=2.9,SNR=5.5							
PLCA	**Paso Flores**	**148.13**	**94**	PKPbc		**PKPbc**	**23 36 17.0**	**+0.4**
	comp=Z,2.5nm,1.0s,baz=333,slow=3.3,SNR=4.0							
SNAA	**Sanae**	**153.09**	**196**	PKPbc		**PKPbc**	**23 36 27.3**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=157,slow=8.1,SNR=7.1							
SNAA				PKPab		**PKPab**	**23 36 38.5**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=134,slow=4.0,SNR=5.3							

*ATH **07** 23:24:34.0, 41.36N×23.36E, h12km±3km, ML2.5/7, Manual Solution by S.Koutrakis This location: 2019/12/24 05:50:39 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*ISK **07** 23:24:34.5, 41.31N×23.33E, h9km, ML2.7/17*
*SOF **07** 23:24:34.3, 41.35N×23.36E, h11km, MD2.8*
*THE **07** 23:24:35.4, 41.30N×23.35E, h1km±1km, ML2.3/14, Error ellipse: s-maj=1.5km s-min=0.5km az=340.0*
*BEO **07** 23:24:35.6±0.3, 41.34N×23.33E, h0km, ML2.6/13*
*SKO **07** 23:24:36.2, 41.35N×23.26E, h9km, ML2.4*

ISC 07 23:24:34.5±1.0, **41.34N**±0.01×**23.35E**±0.01, **h5**km±9km, **n76**, σ1**9**10/130, **12C-9D, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SRS	**Serrai**	**0.29**	**141**	P		**Pg**	**23 24 40.4**	**+0.2**
SRS				S		**Sg**	**23 24 44.6**	**+0.6**
	795nm,0.4s							
SRS	**Serrai**	**0.29**	**141**	*e*Pg		**Pg**	**23 24 40.3**	**+0.2**
SRS				*e*Sg		**Sg**	**23 24 44.5**	**+0.6**
SRS	**Serrai**	**0.29**	**141**	P		**Pg**	**23 24 40.4**	**+0.2**
SRS				S		**Sg**	**23 24 44.6**	**+0.6**
MMB	**Musomishta**	**0.36**	**56**	*i* Pg		**Pg**	**23 24 41.8**	**+0.2**
KNT	**Kendrikon**	**0.39**	**242**	Pg		**Pg**	**23 24 42.1**	**+0.1**
KNT				Sg		**Sg**	**23 24 47.3**	**+0.2**
KNT	**Kendrikon**	**0.39**	**242**	P		**Pg**	**23 24 42.1**	**+0.1**
KNT				S		**Sg**	**23 24 47.2**	**+0.2**
	2µm,0.1s							
KNT	**Kendrikon**	**0.39**	**242**	P		**Pg**	**23 24 42.1**	**+0.1**
KNT				S		**Sg**	**23 24 46.6**	**-0.4**
NVR	**Nevrokopi**	**0.39**	**89**	P		**Pb**	**23 24 43.1**	**-0.8**
NVR				S		**Sb**	**23 24 48.8**	**-1.4**
	495nm,0.3s							
SOH	**Sokhos**	**0.52**	**180**	P		**Pg**	**23 24 44.7**	**+0.1**
SOH				S		**Sg**	**23 24 52.0**	**+0.7**
	765nm,0.2s							
SOH	**Sokhos**	**0.52**	**180**	P		**Pg**	**23 24 44.6**	**+0.1**
SOH				S		**Sg**	**23 24 52.0**	**+0.7**
KKB	**Krupnik**	**0.53**	**342**	*i* Pg		**Pg**	**23 24 44.7**	**0.0**
PEHC	**Pehcevo**	**0.55**	**322**	*i* Pg		**Pg**	**23 24 45.4**	**+0.2**
PEHC				*i* Sg		**Sg**	**23 24 53.5**	**+1.2**
VAY	**Valandovo**	**0.59**	**268**	*i* Pg		**Pg**	**23 24 45.9**	**0.0**
VAY				*i* Sg		**Sg**	**23 24 54.0**	**+0.6**
VAY				*e*Lg		Lg	23 24 56.2	
	comp=N,101nm,0.3s							
VAY				*e*Lg		Lg	23 24 57.9	
	comp=E,139nm,0.2s							
KOKK	**Kokkinochori,**	**0.72**	**137**	P		**Pg**	**23 24 48.1**	**-0.2**
KOKK				S		**Sg**	**23 24 57.5**	**-0.1**
	comp=E,178nm,0.4s							
KOKK	**Kokkinochori,**	**0.72**	**137**	P		**Pg**	**23 24 48.1**	**-0.2**
KOKK				S		**Sg**	**23 24 57.5**	**-0.1**
THE	**Thessaloniki**	**0.77**	**202**	P		**Pg**	**23 24 49.3**	**0.0**
THE				S		**Sb**	**23 25 00.0**	**-1.1**
	comp=E,322nm,0.2s							
THE	**Thessaloniki**	**0.77**	**202**	P		**Pg**	**23 24 49.3**	**0.0**
THE				S		**Sb**	**23 24 60.0**	**-1.1**
HORT	**Hortiatis**	**0.77**	**194**	Pg		**Pg**	**23 24 49.3**	**+0.1**
HORT				Sg		**Sb**	**23 25 00.0**	**-1.2**
HORT	**Hortiatis**	**0.77**	**194**	P		**Pg**	**23 24 49.3**	**+0.1**
HORT				S		**Sg**	**23 24 59.5**	**+0.3**
	comp=E,242nm,0.3s							
HORT	**Hortiatis**	**0.77**	**194**	P		**Pg**	**23 24 49.3**	**+0.1**
HORT				S		**Sg**	**23 24 59.5**	**+0.3**
GRG	**Griva**	**0.81**	**242**	Pg		**Pg**	**23 24 50.2**	**0.0**
GRG				Sg		**Sg**	**23 25 01.3**	**+0.6**
GRG	**Griva**	**0.81**	**242**	P		**Pg**	**23 24 50.1**	**0.0**
GRG				S		**Sb**	**23 25 01.8**	**-0.7**
	comp=E,322nm,0.2s							
GRG	**Griva**	**0.81**	**242**	P		**Pg**	**23 24 50.1**	**0.0**
GRG				S		**Sb**	**23 25 01.7**	**-0.7**
STIP	**Stip**	**0.94**	**292**	*i* Pg		**Pg**	**23 24 49.3**	**-3.3**
STIP				*i* Sg		**Sg**	**23 25 00.9**	**-3.9**
RZN	**Rozhen**	**1.10**	**71**	*e*P		**Pg**	**23 24 55.8**	**+0.1**
OUR	**Ouranopolis**	**1.12**	**154**	Pn		**Pb**	**23 24 56.2**	**-0.1**
OUR				Sn		**Sb**	**23 25 10.9**	**-0.2**
OUR	**Ouranopolis**	**1.12**	**154**	P		**Pg**	**23 24 55.9**	**0.0**
OUR				S		**Sb**	**23 25 11.0**	**-0.2**
	comp=E,988nm,0.4s							
OUR	**Ouranopolis**	**1.12**	**154**	P		**Pn**	**23 24 56.4**	**-0.4**
OUR				S		**Sb**	**23 25 10.5**	**-0.6**
PLNA	**Plana**	**1.13**	**3**	*i* P		**Pg**	**23 24 56.1**	**-0.2**
THAS	**Thassos island**	**1.27**	**125**	P		**Pg**	**23 24 59.3**	**+0.4**
THAS				S		**Sn**	**23 25 16.4**	**0.0**
	comp=E,322nm,0.3s							
VTS	**Vitosha**	**1.28**	**356**	*e*Pg		**Pn**	**23 24 58.5**	**-0.7**
VTS				*e*Sg		**Sb**	**23 25 14.9**	**-1.1**
VTS	**Vitosha**	**1.28**	**356**	*e*P		**Pn**	**23 24 58.7**	**-0.5**
PLD	**Plovdiv**	**1.32**	**52**	Pn		**Pn**	**23 24 58.9**	**-0.7**
PLD				Sn		**Sn**	**23 25 17.8**	**+0.2**
PLD	**Plovdiv**	**1.32**	**52**	*e*Pg		**Pn**	**23 24 58.8**	**-0.9**
PLD				*e*Sg		**Sn**	**23 25 18.0**	**+0.4**
PLD	**Plovdiv**	**1.32**	**52**	*i* P		**Pn**	**23 24 58.7**	**-0.9**
BOSS	**Bosilegrad**	**1.32**	**331**	*e*Pg		**Pn**	**23 24 58.3**	**-1.4**
BOSS				*e*Sg		**Sb**	**23 25 16.2**	**-0.9**
PGB	**Panagyurishte**	**1.32**	**27**	*e*P		**Pb**	**23 24 59.9**	**0.0**
PRVS	**Prvonek**	**1.50**	**321**	*e*Pg		**Pn**	**23 25 02.1**	**-0.1**
PRVS				*e*Sg		**Sb**	**23 25 22.5**	**+0.2**
KDZ	**Kurdzhali**	**1.52**	**78**	Pn		**Pb**	**23 25 03.0**	**-0.3**
KDZ				Sn		**Sg**	**23 25 24.0**	**+0.5**
KDZ	**Kurdzhali**	**1.52**	**78**	*e*P		**Pb**	**23 25 03.2**	**-0.1**
FNA	**Florina**	**1.59**	**250**	Pn		**Pn**	**23 25 03.2**	**-0.2**
FNA	**Florina**	**1.59**	**250**	P		**Pn**	**23 25 03.6**	**+0.2**
FNA				S		**Sg**	**23 25 25.9**	**+0.2**
	comp=E,60nm,0.5s							
FNA	**Florina**	**1.59**	**250**	*e*Pg		**Pn**	**23 25 03.4**	**0.0**
FNA				*e*Sg		**Sg**	**23 25 27.3**	**+1.6**
RDO	**Rodhopi**	**1.66**	**96**	Pn		**Pn**	**23 25 03.9**	**-0.4**
RDO	**Rodhopi**	**1.66**	**96**	P		**Pn**	**23 25 03.9**	**-0.4**
RDO				S		**Sg**	**23 25 27.6**	**-0.3**
	comp=E,170nm,0.3s							
DIM	**Dimitrovgrad**	**1.81**	**66**	*e*P		**Pb**	**23 25 08.2**	**0.0**
BARS	**Barje**	**1.86**	**323**	*e*Pn		**Pb**	**23 25 09.2**	**+0.1**
BARS				*e*Sn		**Sb**	**23 25 32.9**	**+0.2**
BARS	**Barje**	**1.86**	**323**	*i* Pg		**Pb**	**23 25 09.2**	**+0.1**
BARS				*i* Sg		**Sg**	**23 25 33.9**	**-0.5**
SMTH	**Samothraki Isl**	**1.87**	**117**	P		**Pn**	**23 25 07.0**	**-0.2**
SMTH				S		**Sb**	**23 25 32.9**	**+0.1**
	comp=E,22nm,0.3s							
ZAPS	**Zavoj**	**2.00**	**345**	*e*Pn		**Pb**	**23 25 11.2**	**-0.3**
ZAPS				*e*Sn		**Sb**	**23 25 36.1**	**-0.6**
MPEP	**Malo Peshtene**	**2.03**	**8**	*i* P		**Pg**	**23 25 13.6**	**+0.1**
ALN	**Alexandroupoli**	**2.08**	**101**	Pn		**Pn**	**23 25 10.3**	**+0.2**
ALN	**Alexandroupoli**	**2.08**	**101**	P		**Pn**	**23 25 10.1**	**0.0**
ALN				S		**Sb**	**23 25 37.8**	**-1.2**
	comp=E,30nm,0.7s							
ENEZ	**Enez**	**2.21**	**105**	Pn		**Pn**	**23 25 12.9**	**+1.1**
PLVB	**Pleven**	**2.25**	**24**	⇓P		**Pg**	**23 25 16.8**	**-0.9**
PLVB				⇓S		**Sg**	**23 25 48.3**	**+1.4**
GADA	**Gvkgeada**	**2.25**	**120**	Pn		**Pn**	**23 25 13.1**	**+0.7**
BLKB	**Belogradchik**	**2.33**	**348**	⇑P		**Pn**	**23 25 14.7**	**+1.1**
BLKB				⇑S		**Sn**	**23 25 42.6**	**-0.1**
AGG	**Agios Georgios**	**2.44**	**199**	Pn		**Pn**	**23 25 15.2**	**+0.1**
ELND	**Elena**	**2.46**	**49**	⇑P		**Pn**	**23 25 15.3**	**0.0**
ELND				⇑S		**Sg**	**23 25 54.5**	**+1.0**
UKOP	**Uzunkopru-Edir**	**2.49**	**94**	Pn		**Pb**	**23 25 17.4**	**-2.3**
ERIK	**Erikli-Kesan**	**2.49**	**105**	Pn		**Pn**	**23 25 16.4**	**+0.7**
SELS	**Selova**	**2.50**	**319**	*e*Pn		**Pn**	**23 25 17.7**	**+1.8**
SELS				*e*Sn		**Sn**	**23 25 47.8**	**+1.0**
GELI	**Tayfur-Gelibol**	**2.55**	**111**	Pn		**Pn**	**23 25 17.7**	**+1.2**
BOVS	**Bovan**	**2.59**	**333**	⇑P		**Pn**	**23 25 18.7**	**+1.6**
BOVS				⇑S		**Sb**	**23 25 56.0**	**+2.3**
EDRB	**Edirne**	**2.60**	**78**	Pn		**Pn**	**23 25 18.5**	**+1.3**
ZAGS	**Zajecar**	**2.60**	**342**	*e*Pn		**Pn**	**23 25 17.3**	**0.0**
ZAGS				*e*Sn		**Sn**	**23 25 49.4**	**+0.1**
BAIL	**Bailesti**	**2.68**	**360**	⇓P		**Pn**	**23 25 19.1**	**+0.8**
BAIL				⇓S		**Sg**	**23 26 00.9**	**+0.4**
COMU	**Canakkale**	**2.68**	**117**	Pn		**Pn**	**23 25 18.7**	**+0.3**
VLAD	**Vladila**	**2.77**	**16**	⇓P		**Pb**	**23 25 22.4**	**-2.1**
VLAD				⇓S		**Sg**	**23 26 05.9**	**+2.5**
PUNG	**Punghina**	**2.95**	**354**	⇑P		**Sb**	**23 26 06.8**	**+2.9**
GRUS	**Gruza**	**3.20**	**324**	*e*Pn		**Pn**	**23 25 28.1**	**+2.6**
GRUS				*e*Sn		**Sn**	**23 26 05.8**	**+1.8**
IVAS	**Ivanjica**	**3.25**	**314**	*e*Pn		**Pn**	**23 25 26.9**	**+0.6**
IVAS				*e*Sn		**Sn**	**23 26 09.0**	**+3.6**
HUMR	**Humele**	**3.40**	**20**	⇑P		**Pn**	**23 25 28.7**	**+0.4**
HUMR				⇓S		**Sg**	**23 26 21.6**	**-2.2**
MDVR	**Moldovita**	**3.64**	**341**	⇑P		**Pn**	**23 25 28.6**	**-3.0**
MDVR				⇑S		**Sn**	**23 26 14.1**	**-0.8**
GZR	**Gura Zlata**	**4.07**	**354**	⇓P		**Pn**	**23 25 36.2**	**-1.3**
GZR				⇓S		**Sb**	**23 26 39.1**	**+2.8**
BZS	**Buzias**	**4.45**	**344**	⇓P		**Pn**	**23 25 41.7**	**-1.0**
BZS				⇑S		**Sb**	**23 26 45.2**	**-2.0**

*SNET **07** 23:30:49.4±0.9, 12.05N×89.27W, h35km±40km, ML3.1*
*CATAC **07** 23:31:15.4±1.5, 13.17N×87.59W, h5km, ML2.4*

ISC 07 23:30:46.2±3.9, **12.1N**±0.2×**89.7W**±0.2, **h33**km, **n12**, σ1**8**2/16, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JAYA	**Jayaque - finc**	**1.57**	**9**	*e*P		**Pb**	**23 31 15.1**	**+0.3**
JAYA				*e*S		**Sb**	**23 31 34.9**	**+0.5**
JAYA				IAML			23 31 37.6	
	comp=Z,264nm,0.1s							
CEVE	**Cerro Verde**	**1.73**	**2**	*e*P		**Pb**	**23 31 18.5**	**+1.0**
CEVE				*e*S		**Sb**	**23 31 42.1**	**+3.1**
CEVE				IAML			23 31 45.0	
	comp=Z,137nm,0.2s							
NUBE	**Las Nubes**	**1.80**	**357**	*e*P		**Pb**	**23 31 19.9**	**+1.1**
NUBE				*e*S		**Sb**	**23 31 42.4**	**+1.4**
CNCH	**Conchagua**	**2.16**	**57**	*e*P		**Pn**	**23 31 18.9**	**-1.1**
CSGN	**Cosiguina Volc**	**2.26**	**67**	*i* P		**Pn**	**23 31 19.0**	**-2.3**
CSGN				IAML			23 31 44.9	
	comp=Z,280nm,1.0s							
MTO3	**Montecristo**	**2.32**	**8**	*e*P		**Pb**	**23 31 26.4**	**-1.1**
MTO3				*e*S		**Sb**	**23 31 55.6**	**-0.2**
CRIN	**San Cristobal**	**2.65**	**76**	*e*P		**Pn**	**23 31 25.0**	**-1.7**
CRIN	**San Cristobal**	**2.65**	**76**	*i* P		**Pn**	**23 31 24.6**	**-2.1**
CRIN				IAML			23 32 03.4	
	comp=Z,220nm,1.0s							
CNGA	**Al SSO del Vol**	**2.95**	**82**	*i* P		**Pb**	**23 31 38.6**	**+0.5**
CNGA				IAML			23 32 06.0	
	comp=Z,78nm,1.0s							
CNGN	**Cerro Negro**	**2.95**	**82**	*i* P		**Pb**	**23 31 37.6**	**-0.6**
CNGN				IAML			23 32 04.5	
	comp=Z,82nm,1.0s							
COPN	**Copaltepe**	**3.03**	**88**	IAML			23 31 39.7	
	comp=Z,76nm,1.0s							
COPN				*i* P		**Pb**	**23 31 42.9**	**+3.4**
YUSH	**Yuscaran**	**3.33**	**56**	*i* P		**Pn**	**23 31 35.0**	**-1.2**

*IDC **07** 23:44:47.5±0.9, 40.52N×22.46E, h0km, mb3.7/7, mbtmp3.6/14, ML3.5/6, MS2.9/2, Error ellipse: s-maj=14.9km s-min=11.6km az=124.0*
*SKO **07** 23:44:47.8, 40.43N×22.72E, h8km, ML3.9*
*BEO **07** 23:44:48.8±0.8, 40.48N×22.57E, h16km±5km, ML3.3/8*
*ISK **07** 23:44:48.6, 40.51N×22.51E, h16km, ML3.7/25*
*ATH **07** 23:44:49.4, 40.52N×22.54E, h6km±1km, ML3.6/30, Error ellipse: s-maj=1.8km s-min=0.6km az=341.0*
*PDG **07** 23:44:49.7±0.8, 40.54N×22.60E, h17km±1km, MD3.6/1, ML3.5/11, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
*THE **07** 23:44:49.1, 40.50N×22.54E, h0km±1km, ML3.6/14, Error ellipse: s-maj=1.2km s-min=0.3km az=316.0*
*SOF **07** 23:44:50.2, 40.61N×22.50E, h20km, MD3.9*
*PRU **07** 23:44:50.3, 40.24N×22.13E, h1km*
*NAO **07** 23:44:57.9, 40.78N×21.28E, h33km, mb3.5*

ISC 07 23:44:49.1±1.0, **40.50N**±0.02×**22.54E**±0.01, **h9**km±7km, **n275**, σ0**9**94/331, **mb3.7**/6, **31C-27D, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KTI	**Kastanea**	**0.34**	**252**	P		**Pg**	**23 44 55.8**	**-0.1**
THE	**Thessaloniki**	**0.35**	**68**	P		**Pg**	**23 44 56.1**	**+0.1**
THE				S		**Sg**	**23 45 01.1**	**+0.5**
	7µm,0.6s							
THE	**Thessaloniki**	**0.35**	**68**	P		**Pg**	**23 44 56.1**	**+0.1**
THE				S		**Sg**	**23 45 01.1**	**+0.5**
THE				AML		AML	23 45 08.6	
	comp=N,19235µm,0.8s							
THE				AML		AML	23 45 08.7	
	comp=E,8146µm,0.4s							
HORT	**Hortiatis**	**0.44**	**77**	Pg		**Pg**	**23 44 57.9**	**+0.2**
HORT				Sg		**Sb**	**23 45 05.7**	**0.0**
HORT	**Hortiatis**	**0.44**	**77**	P		**Pg**	**23 44 57.7**	**0.0**
HORT				S		**Sg**	**23 45 04.6**	**+1.2**
	comp=E,7µm,0.3s							
HORT	**Hortiatis**	**0.44**	**77**	P		**Pg**	**23 44 57.7**	**0.0**
HORT				S		**Sg**	**23 45 04.0**	**+0.6**
HORT				AML		AML	23 45 07.3	
	comp=N,18066µm,0.4s							
HORT				AML		AML	23 45 07.7	
	comp=E,10343µm,0.2s							
GRG	**Griva**	**0.47**	**347**	Pg		**Pg**	**23 44 57.9**	**-0.4**
GRG				Sg		**Sg**	**23 45 04.6**	**+0.2**
GRG	**Griva**	**0.47**	**347**	P		**Pg**	**23 44 57.8**	**-0.4**
GRG				S		**Sg**	**23 45 05.1**	**+0.7**
	comp=E,13µm,0.5s							
GRG	**Griva**	**0.47**	**347**	P		**Pg**	**23 44 57.8**	**-0.4**
GRG				S		**Sg**	**23 45 04.5**	**+0.1**
GRG				AML		AML	23 45 08.3	
	comp=N,24196µm,0.5s							
GRG				AML		AML	23 45 09.7	
	comp=E,27135µm,0.6s							
SOH	**Sokhos**	**0.70**	**62**	P		**Pg**	**23 45 02.4**	**-0.2**
SOH				S		**Sb**	**23 45 12.5**	**-0.7**
	comp=E,5µm,0.2s							
SOH	**Sokhos**	**0.70**	**62**	P		**Pg**	**23 45 02.4**	**-0.2**
SOH				S		**Sg**	**23 45 11.3**	**-0.3**
SOH				AML		AML	23 45 16.8	
	comp=N,8915µm,0.3s							
SOH				AML		AML	23 45 16.8	
	comp=E,13870µm,0.6s							
KNT	**Kendrikon**	**0.71**	**22**	Pg		**Pg**	**23 45 02.4**	**-0.5**
KNT				Sg		**Sb**	**23 45 13.8**	**+0.2**
KNT	**Kendrikon**	**0.71**	**22**	P		**Pg**	**23 45 02.3**	**-0.5**
KNT				S		**Sb**	**23 45 13.4**	**-0.2**
	comp=E,6µm,0.2s							
KNT	**Kendrikon**	**0.71**	**22**	P		**Pg**	**23 45 02.3**	**-0.5**
KNT				S		**Sg**	**23 45 11.4**	**-0.9**
KNT				AML		AML	23 45 15.4	
	comp=N,14994µm,0.4s							
KNT				AML		AML	23 45 19.0	
	comp=E,9560µm,0.4s							
VAY	**Valandovo**	**0.82**	**2**	*i* Pg		**Pg**	**23 45 03.9**	**-1.0**
VAY				*i* Sg		**Sb**	**23 45 16.9**	**+0.3**
VAY				*e*Lg		Lg	23 45 20.0	
	comp=E,5µm,0.9s							
VAY				*e*Lg		Lg	23 45 20.7	
	comp=N,4µm,0.9s							
LRSO	**Larissa Observ**	**0.84**	**188**	P		**Pg**	**23 45 05.2**	**0.0**
LRSO	**Larissa Observ**	**0.84**	**188**	P		**Pg**	**23 45 05.2**	**0.0**
LRSO				AML		AML	23 45 23.1	
	comp=E,27551µm,0.5s							
LRSO				AML		AML	23 45 26.0	
	comp=N,17921µm,0.5s							
FNA	**Florina**	**0.93**	**288**	Pg		**Pg**	**23 45 06.2**	**-0.8**
FNA				Sg		**Sb**	**23 45 19.8**	**0.0**
FNA	**Florina**	**0.93**	**288**	P		**Pg**	**23 45 05.8**	**-1.2**
FNA				S		**Sb**	**23 45 19.8**	**0.0**
	comp=N,4µm,0.4s							
FNA	**Florina**	**0.93**	**288**	*e*Pg		**Pg**	**23 45 05.9**	**-1.1**
FNA				*e*Sg		**Sg**	**23 45 19.3**	**+0.2**
FNA	**Florina**	**0.93**	**288**	P		**Pg**	**23 45 05.8**	**-1.2**
FNA				S		**Sb**	**23 45 19.8**	**0.0**
FNA				AML		AML	23 45 23.1	
	comp=N,8373µm,0.5s							
FNA				AML		AML	23 45 24.7	
	comp=E,8882µm,0.4s							
SRS	**Serrai**	**1.01**	**52**	P		**Pg**	**23 45 07.6**	**-0.9**
SRS				S		**Sb**	**23 45 22.2**	**+0.1**
	comp=E,2µm,0.6s							
SRS	**Serrai**	**1.01**	**52**	*e*Pg		**Pg**	**23 45 07.7**	**-0.8**
SRS				*e*Sg		**Sg**	**23 45 20.7**	**-0.9**
SRS	**Serrai**	**1.01**	**52**	P		**Pg**	**23 45 07.6**	**-0.9**
SRS				S		**Sg**	**23 45 21.6**	**0.0**
SRS				AML		AML	23 45 25.8	
	comp=E,4168µm,0.7s							
SRS				AML		AML	23 45 26.9	
	comp=N,3992µm,0.5s							
THL	**Klokotos Trika**	**1.02**	**203**	P		**Pg**	**23 45 08.0**	**-0.6**
THL				S		**Sn**	**23 45 23.8**	**-0.1**
	comp=N,4µm,0.9s							
THL	**Klokotos Trika**	**1.02**	**203**	P		**Pg**	**23 45 08.0**	**-0.6**
THL				S		**Sn**	**23 45 23.7**	**-0.1**
THL				AML		AML	23 45 26.0	
	comp=E,10552µm,1.0s							
THL				AML		AML	23 45 31.4	
	comp=N,6286µm,0.8s							
KPRO	**Kipourio**	**1.05**	**239**	P		**Pg**	**23 45 08.6**	**-0.7**
KPRO	**Kipourio**	**1.05**	**239**	P		**Pg**	**23 45 08.6**	**-0.7**
KPRO				AML		AML	23 45 31.9	
	comp=N,4441µm,0.6s							
KPRO				AML		AML	23 45 33.4	
	comp=E,5060µm,0.6s							
PENT	**Pentalofos**	**1.11**	**255**	P		**Pg**	**23 45 09.8**	**-0.7**
PENT				S		**Sn**	**23 45 26.4**	**0.0**
PENT	**Pentalofos**	**1.11**	**255**	P		**Pg**	**23 45 09.8**	**-0.7**
PENT				S		**Sn**	**23 45 26.4**	**0.0**
OUR	**Ouranopolis**	**1.11**	**98**	Pn		**Pb**	**23 45 10.7**	**+0.2**
OUR				Sn		**Sb**	**23 45 25.7**	**+0.6**
OUR	**Ouranopolis**	**1.11**	**98**	P		**Pg**	**23 45 10.2**	**-0.3**
OUR				S		**Sn**	**23 45 26.5**	**+0.2**
	comp=E,4µm,0.6s							
OUR	**Ouranopolis**	**1.11**	**98**	P		**Pg**	**23 45 10.2**	**-0.3**
OUR				S		**Sb**	**23 45 25.4**	**+0.3**
OUR				AML		AML	23 45 28.9	
	comp=N,9050µm,0.9s							
OUR				AML		AML	23 45 31.8	
	comp=E,7875µm,0.4s							
NEST	**Nestorio**	**1.14**	**266**	P		**Pg**

ALNA AML AML 23 46 08.3
comp=E,2814µm,1.1s
ALNA AML AML 23 46 22.1
comp=N,3844µm,0.9s
AXAR Agios Charalam 1.73 177 P **Pn 23 45 19.2 -0.2**
AXAR Agios Charalam 1.73 177 P **Pn 23 45 19.2 -0.2**
AXAR AML AML 23 46 00.0
comp=N,3294µm,0.7s
AXAR AML AML 23 46 03.1
comp=E,2965µm,0.7s
IGT Igoumenitsa 1.95 241 P **Pb 23 45 23.8 -1.0**
IGT Igoumenitsa 1.95 241 P **Pb 23 45 23.8 -1.0**
IGT AML AML 23 45 54.9
comp=E,1215µm,0.6s
IGT AML AML 23 46 02.6
comp=N,1376µm,0.7s
ANX Ano Chora 1.96 194 P **Pn 23 45 23.4 +0.7**
ANX Ano Chora 1.96 194 P **Pn 23 45 23.3 +0.7**
ANX AML AML 23 45 57.6
comp=N,3078µm,0.7s
ANX AML AML 23 46 01.5
comp=E,3532µm,0.6s
BOSS Bosilegrad 1.99 359 *e*Pn **Pn 23 45 23.5 +0.5**
BOSS *e*Sn **Sn 23 45 46.6 -1.4**
PRVS Prvonek 2.04 350 *e*Pn **Pn 23 45 22.9 -0.7**
PRVS *e*Sn **Sn 23 45 47.8 -1.3**
RZN Rozhen 2.04 54 *i* P **Pn 23 45 24.4 +0.6**
PLNA Plana 2.08 18 *i* P **Pn 23 45 24.5 +0.2**
LIA Limnos Island 2.11 106 P **Pn 23 45 24.3 -0.3**
LIA Limnos Island 2.11 106 P **Pn 23 45 24.3 -0.3**
LIA AML AML 23 46 05.0
comp=E,2816µm,0.7s
LIA AML AML 23 46 16.6
comp=N,3741µm,1.2s
EFP Efpalio 2.13 194 P **Pn 23 45 25.2 +0.4**
EFP Efpalio 2.13 194 P **Pn 23 45 25.2 +0.4**
VTS Vitosha 2.18 14 *i* P **Pn 23 45 25.2 -0.4**
TSLK Tsoukalades, L 2.22 222 P **Pn 23 45 27.0 +1.0**
TSLK Tsoukalades, L 2.22 222 P **Pn 23 45 27.0 +1.0**
LKD2 Lefkada island 2.24 221 P **Pn 23 45 28.1 +1.7**
LKD2 Lefkada island 2.24 221 P **Pn 23 45 28.0 +1.7**
NYDR Nydri-Lefkada 2.28 219 P **Pn 23 45 28.6 +1.7**
LAKA Lakka 2.30 191 P **Pn 23 45 27.7 +0.5**
LAKA Lakka 2.30 191 P **Pn 23 45 27.7 +0.5**
LAKA AML AML 23 46 20.6
comp=N,2193µm,1.5s
LAKA AML AML 23 46 20.8
comp=E,2143µm,0.8s
PLD Plovdiv 2.34 45 Pn **Pn 23 45 27.3 -0.4**
PGB Panagyurishte 2.35 31 *i* P **Pn 23 45 29.1 +1.1**
VIL2 Platees 2.35 166 P **Pn 23 45 28.3 +0.4**
RDO Rodhopi 2.36 73 Pn **Pn 23 45 28.2 +0.2**
RDO Rodhopi 2.36 73 P **Pn 23 45 27.7 -0.3**
RDO Rodhopi 2.36 73 P **Pn 23 45 27.7 -0.3**
DRAG Dragano-Lefkad 2.37 221 P **Pn 23 45 29.7 +1.6**
BARS Barje 2.38 347 *e*Pn **Pn 23 45 27.5 -0.7**
BARS Barje 2.38 347 *i* Pn **Pn 23 45 27.5 -0.7**
BARS *e*Sg **Sg 23 46 08.9 +3.5**
EVGI Lefkada island 2.38 218 P **Pn 23 45 30.1 +1.9**
KDZ Kurdzhali 2.40 61 Pn **Pn 23 45 28.6 +0.1**
KDZ Sn **Sn 23 45 58.2 +0.2**
KDZ Kurdzhali 2.40 61 *e*P **Pb 23 45 32.8 +0.4**
VILL Villia 2.41 165 P **Pn 23 45 28.3 -0.4**
THAL Thalero 2.46 178 P **Pn 23 45 29.4 0.0**
THAL Thalero 2.46 178 P **Pn 23 45 29.4 0.0**
KLV Kalavryta, Ach 2.47 187 P **Pn 23 45 29.7 +0.1**
KLV Kalavryta, Ach 2.47 187 P **Pn 23 45 29.7 +0.1**
LTK Loutraki 2.50 172 P **Pn 23 45 29.8 -0.1**
LOUT Loutraki 2.53 172 P **Pn 23 45 30.3 0.0**
LOUT Loutraki 2.53 172 P **Pn 23 45 30.3 0.0**
GUR Goura 2.57 183 P **Pn 23 45 30.9 0.0**
GUR Goura 2.57 183 P **Pn 23 45 30.9 0.0**
GADA Gvkgeada 2.59 96 Pn **Pn 23 45 31.1 0.0**
DRO Drossia 2.63 194 P **Pn 23 45 32.8 +1.2**
DRO Drossia 2.63 194 P **Pn 23 45 32.8 +1.2**
DION Dionisos Attik 2.65 155 P **Pn 23 45 32.7 +0.7**
DION Dionisos Attik 2.65 155 P **Pn 23 45 32.7 +0.7**
DION AML AML 23 46 40.6
comp=E,958µm,0.8s
DION AML AML 23 46 47.3
comp=N,1096µm,0.9s
PTL Penteli 2.66 157 P **Pn 23 45 32.6 +0.5**
PTL Penteli 2.66 157 P **Pn 23 45 32.6 +0.5**
ALN Alexandroupoli 2.69 80 Pn **Pn 23 45 33.3 +0.7**
ALN Alexandroupoli 2.69 80 P **Pn 23 45 32.6 0.0**
ALN Alexandroupoli 2.69 80 P **Pn 23 45 32.1 -0.4**
ALN AML AML 23 46 21.9
comp=N,377µm,0.7s
ALN AML AML 23 46 24.1
comp=E,531µm,1.2s
ATHU Athens Univers 2.71 159 P **Pn 23 45 32.7 -0.1**
ATHU Athens Univers 2.71 159 P **Pn 23 45 32.7 -0.1**
ENEZ Enez 2.76 84 Pn **Pn 23 45 33.8 +0.3**
ZAPS Zavoj 2.77 1 *e*Pn **Pn 23 45 33.8 +0.1**
VLY Voula,Athens 2.82 159 P **Pn 23 45 34.3 0.0**
VLY Voula,Athens 2.82 159 P **Pn 23 45 34.3 0.0**
VLY AML AML 23 46 37.8
comp=E,512µm,0.7s
VLY AML AML 23 46 48.6
comp=N,521µm,0.8s
PVY Plav 2.85 318 ⇓ *i* Pn **Pn 23 45 36.1 +1.3**
PVY *i* Sn **Sn 23 46 10.8 +1.5**
SIGR SIGRI 2.86 116 Pn **Pn 23 45 35.3 +0.5**
ULC Ulcinj 2.88 302 *i* Pn **Pn 23 45 36.7 +1.5**
ULC Ulcinj 2.88 302 ⇑ *i* Pn **Pn 23 45 36.6 +1.5**
ULC *i* Sn **Sn 23 46 12.3 +2.3**
SELS Selova 2.92 339 *e*Pn **Pn 23 45 34.4 -1.3**
EZN Ezine 2.98 102 Pn **Pn 23 45 36.7 +0.2**
MPEP Malo Peshtene 2.99 17 *i* P **Pn 23 45 37.3 +0.7**
GELI Tayfur-Gelibol 3.00 91 Pn **Pn 23 45 37.1 +0.3**
ERIK Erikli-Kesan 3.03 86 Pn **Pn 23 45 37.8 +0.6**
COMU Canakkale 3.04 96 Pn **Pn 23 45 37.8 +0.5**
DRME Dracevica, Mon 3.04 305 *e*Pn **Pn 23 45 39.6 +2.3**
DRME Dracevica, Mon 3.04 305 ⇓ *i* Pn **Pn 23 45 39.3 +2.0**
DRME *i* Sn **Sn 23 46 15.7 +2.0**
BEY Berane 3.09 321 *i* Pn **Pn 23 45 39.5 +1.4**
IVA Berane 3.09 321 ⇑ *i* Pn **Pn 23 45 39.5 +1.4**
IVA *i* Sn **Sn 23 46 16.1 +1.0**
BLKB Belogradchik 3.12 2 ⇓ P **Pn 23 45 38.8 +0.3**
PDG Podgorica 3.13 309 *e*Pn **Pn 23 45 40.0 +1.4**
PDG Podgorica 3.13 309 ⇑ *i* Pn **Pn 23 45 39.4 +0.8**
PDG *i* Sn **Sn 23 46 17.1 +1.1**
PRK Paraskevi 3.13 112 P **Pn 23 45 39.5 +0.9**
PRK Paraskevi 3.13 112 P **Pn 23 45 39.5 +0.9**
RFT1 Sazli 3.15 107 Pn **Pn 23 45 39.6 +0.8**
KRND KRANIDI 3.15 171 P **Pn 23 45 39.0 +0.2**
KRND KRANIDI 3.15 171 P **Pn 23 45 39.0 +0.2**
UKOP Uzunkopru-Edir 3.17 77 Pn **Pn 23 45 39.9 +0.8**
BOVS Bovan 3.19 349 ⇑ P **Pn 23 45 38.6 -0.8**
BOVS Bovan 3.19 349 *e*Pn **Pn 23 45 37.5 -1.9**
LPK Lapseki 3.22 91 Pn **Pn 23 45 40.2 +0.4**
KOME Kolasin 3.26 317 ⇑ *i* Pn **Pn 23 45 41.9 +1.4**
KOME *i* Sn **Sn 23 46 20.7 +1.3**
PLVB Pleven 3.27 28 ⇓ P **Pn 23 45 41.3 +0.7**
ZAGS Zajecar 3.32 356 *e*Pn **Pn 23 45 39.8 -1.3**
SJES Sjenica 3.36 326 *e*Pn **Pn 23 45 41.3 -0.5**
SJES *e*Sn **Sn 23 46 21.8 0.0**
SJES Sjenica 3.36 326 *e*Pn **Pn 23 45 42.9 +1.1**
CEME Cevo 3.40 308 ⇓ *i* Pn **Pn 23 45 44.1 +1.7**
CEME *i* Sn **Sn 23 46 23.6 +0.8**
CHOS Chios island 3.44 127 P **Pn 23 45 43.1 +0.1**
CHOS Chios island 3.44 127 P **Pn 23 45 43.1 +0.1**
EDRB Edirne 3.45 66 Pn **Pn 23 45 43.8 +0.9**
ELND Elena 3.48 45 ⇑ P **Pn 23 45 44.1 +0.7**
RKY Sarkoy-Tekirda 3.54 85 Pn **Pn 23 45 44.5 +0.3**
IVAS Ivanjica 3.55 331 *e*Pn **Pn 23 45 43.3 -1.1**
BAIL Bailesti 3.57 9 ⇓ P **Pn 23 45 45.0 +0.4**
HCY Herceg Novi 3.61 304 *e*Pn **Pn 23 45 43.8 -1.3**
HCY Herceg Novi 3.61 304 ⇑ *i* Pn **Pn 23 45 46.4 +1.3**
HCY *i* Sn **Sn 23 46 28.6 +0.8**
KRBG Karabiga-Canak 3.63 90 Pn **Pn 23 45 45.6 +0.2**
GRUS Gruza 3.65 339 *e*Pn **Pn 23 45 44.7 -0.9**
DKL Dikili 3.65 112 Pn **Pn 23 45 47.2 +1.5**
PLE Pljevlja 3.68 321 ⇑ *i* Pn **Pn 23 45 47.6 +1.4**
PLE *i* Sn **Sn 23 46 30.4 +0.7**
RFT7 Candarli 3.71 113 Pn **Pn 23 45 47.4 +0.8**
VLAD Vladila 3.76 21 ⇑ P **Pn 23 45 47.0 -0.2**
PUNG Punghina 3.79 4 ⇓ P **Pn 23 45 47.6 0.0**
VLI Veliai 3.79 175 P **Pn 23 45 47.9 +0.3**
VLI Veliai 3.79 175 P **Pn 23 45 47.9 +0.3**
ZIMR 3.79 33 ⇑ P **Pn 23 45 47.1 -0.5**

URLA Izmir 3.80 123 Pn **Pn 23 45 48.7 +0.9**
UPM Unac-Piva 3.83 316 *e*Pn **Pn 23 45 50.3 +2.0**
UPM Unac-Piva 3.83 316 ⇓ *i* Pn **Pn 23 45 50.5 +2.2**
UPM *i* Sn **Sn 23 46 34.0 +0.5**
BRY Bratogost 3.84 310 *e*Pn **Pn 23 45 49.1 +0.7**
BRY Bratogost 3.84 310 ⇓ *i* Pn **Pn 23 45 49.3 +0.9**
BRY *i* Sn **Sn 23 46 34.4 +0.7**
TREB Trebinje 3.84 307 *e*Pn **Pn 23 45 49.0 +0.6**
SVIS Svilajnac 3.89 346 *e*Pn **Pn 23 45 49.7 +0.8**
RUDO Rudo 3.91 324 *e*Pn **Pn 23 45 47.2 -2.1**
KUBS Kucevo 3.96 351 *e*Pn **Pn 23 45 47.9 -2.1**
CRLT Corlu 3.99 79 Pn **Pn 23 45 51.7 +1.3**
TRUS Trudelj 4.04 338 *e*Pn **Pn 23 45 49.2 -1.9**
DIVS Divibare 4.06 333 *e*Pn **Pn 23 45 50.4 -1.0**
DIVS Divibare 4.06 333 *e*Pn **Pn 23 45 50.0 -1.4**
APE Apeiranthos 4.15 145 ⇓ P **Pn 23 45 52.6 0.0**
RMGR Halanga-Turnu 4.16 2 ⇑ P **Pn 23 45 51.9 -0.8**
LOZB Loznitsa 4.17 45 ⇑ P **Pn 23 45 52.9 +0.1**
MDVR Moldovita 4.32 352 ⇑ P **Pn 23 45 54.0 -1.0**
STON Ston 4.33 305 *e*Pn **Pn 23 45 53.0 -2.0**
TEKS Tekeris 4.62 332 *e*Pn **Pn 23 45 59.6 +0.6**
TEKS Tekeris 4.62 332 *e*Pn **Pn 23 45 59.2 +0.2**
TIP Timpagrande 4.64 255 ⇑ P **Pn 23 45 58.9 -0.5**
GZR Gura Zlata 4.89 2 ⇓ P **Pn 23 46 01.4 -1.5**
SULR 4.99 32 ⇑ P **Pn 23 46 04.5 +0.4**
LOT Lotru 5.03 10 ⇑ P **Pn 23 46 04.2 -0.5**
FRGS Fruska Gora 5.07 338 ⇑ P **Pn 23 46 04.5 -0.7**
FRGS Fruska Gora 5.07 338 *e*Pn **Pn 23 46 04.2 -1.0**
FRGS Fruska Gora 5.07 338 *e*Pn **Pn 23 46 04.1 -1.1**
ARR Arges 5.10 17 ⇑ P **Pn 23 46 05.6 -0.1**
BZS Buzias 5.16 353 ⇑ P **Pn 23 46 05.4 -1.0**
SURR Surduc 5.26 357 ⇑ P **Pn 23 46 07.1 -0.7**
VOIR 5.26 20 ⇑ P **Pn 23 46 07.8 -0.2**
DEV Deva 5.39 3 ⇓ P **Pn 23 46 10.1 +0.6**
ISR Istrita 5.47 31 ⇓ P **Pn 23 46 11.9 +1.0**
IDI Anoyia 5.53 160 ⇑ P **Pn 23 46 12.7 +1.1**
IDI Anoyia 5.53 160 Pn **Pn 23 46 11.9 +0.3**
comp=N,0.6nm,0.3s,baz=336,slow=7.0,SNR=8.7
IDI Sn **Sn 23 47 15.2 0.0**
baz=297,slow=20
IDI LR LR 23 48 58.3
comp=N,74nm,18.8s,baz=2.5,slow=45
comp=N,2.0nm,0.4s
MLR Muntele Rosu 5.58 25 ⇓ P **Pn 23 46 13.5 +1.2**
MLR Muntele Rosu 5.58 25 Pn **Pn 23 46 12.6 +0.3**
comp=N,4.1nm,0.3s,baz=239,slow=7.2,SNR=20
MLR Sn **Sn 23 47 16.7 +0.1**
baz=200,slow=19
MLR Lg Lg 23 47 44.7
baz=252,slow=21
comp=N,14nm,0.5s
MGRS Mrkonjic Grad 5.62 316 *e*Pn **Pn 23 46 14.6 +1.8**
HARR Harsova 5.77 42 ⇑ P **Pn 23 46 14.7 -0.2**
BLY Banja Luka 5.80 319 *e*Pn **Pn 23 46 12.7 -2.5**
SIRR Siria 5.80 354 ⇓ P **Pn 23 46 15.0 -0.3**
DOPR Dopca 5.85 20 ⇓ P **Pn 23 46 16.0 +0.1**
GRER 5.86 32 ⇑ P **Pn 23 46 16.9 +0.8**
A050A Klekovaca 5.96 314 *e*Pn **Pn 23 46 17.3 -0.2**
COVR Voineasa-Covas 5.97 25 ⇓ P **Pn 23 46 19.1 +1.4**
BOSR Bodos 6.02 21 ⇑ P **Pn 23 46 19.1 +0.8**
OZUR 6.07 22 ⇓ P **Pn 23 46 19.6 +0.5**
TURR Turia 6.10 23 ⇑ P **Pn 23 46 20.8 +1.3**
PLOR Plostina 6.13 28 ⇓ P **Pn 23 46 21.0 +1.2**
TPGR Topolog 6.14 43 ⇑ P **Pn 23 46 21.4 +1.4**
VRI Vrincioaia 6.17 28 ⇓ P **Pn 23 46 22.0 +1.6**
MARR Marisel-Cluj 6.19 4 ⇓ P **Pn 23 46 21.7 +1.0**
ODBI Odobesti 6.21 31 ⇑ P **Pn 23 46 22.5 +1.6**
MORH Mrgy, Hungar 6.38 335 ⇓ P **Pn 23 46 22.4 -0.7**
GHRR 6.59 31 ⇑ P **Pn 23 46 27.0 +0.8**
VARL Varlezi 6.64 34 ⇓ P **Pn 23 46 27.2 +0.4**
VLDR Vladesti 6.70 35 ⇓ P **Pn 23 46 28.9 +1.3**
TESR Tescani 6.71 25 ⇑ P **Pn 23 46 27.9 +0.2**
VAE Valguarnera 7.01 247 Pn **Pn 23 46 32.0 +0.1**
comp=N,6.8nm,0.9s,baz=15,slow=16,SNR=3.6
VASR Vaslui 7.22 30 ⇓ P **Pn 23 46 35.3 +0.5**
BOJS Bojanci 7.31 316 *e*Pn **Pn 23 46 35.4 -0.6**
BURAR Bucovina Array 7.37 14 ⇓ P **Pn 23 46 37.5 +0.6**
CRES Cresnjev 7.42 318 *e*Pn **Pn 23 46 36.1 -1.4**
PSZ Piszkesteto 7.65 347 ⇑ P **Pn 23 46 40.7 0.0**
CEY Cerknica 7.91 314 *e*Pn **Pn 23 46 43.1 -1.1**
SKDS Skadanscina 8.02 312 *e*Pn **Pn 23 46 46.0 +0.2**
KECS Kecovo 8.11 350 *e*PN **Pn 23 46 47.8 +0.8**
SOKA Soboth 8.23 321 *e*Pn **Pn 23 46 49.6 +0.9**
comp=N,2.4nm,0.5s,SNR=5.1
OBKA Obir 8.35 319 *e*Pn **Pn 23 46 51.6 +1.3**
comp=N,0.8nm,0.4s
OBKA Obir 8.35 319 *e*Pn **Pn 23 46 50.1 -0.2**
VYHS Vyhne 8.42 343 *e*PN **Pn 23 46 52.3 +1.1**
ARSA Arzberg 8.43 325 *i* Pn **Pn 23 46 52.9 +1.4**
comp=N,2.6nm,0.4s
RONA Rosalia, Austr 8.48 330 *e*Pn **Pn 23 46 53.1 +1.1**
comp=N,1.0nm,0.3s
BRTR Keskin Array B 8.54 92 Pn **Pn 23 46 53.8 +0.7**
comp=N,0.2nm,0.3s,baz=272,slow=13,SNR=5.8
comp=N,0.7nm,0.5s
MODS Modra-Piesok 8.72 336 *e*PN **Pn 23 46 56.4 +1.1**
CONA Conrad Observa 8.84 329 *e*Pn **Pn 23 47 00.3 +3.4**
comp=N,1.1nm,0.4s
KBA Koelnbreinsper 9.35 318 *i* Pn **Pn 23 47 04.6 +0.5**
comp=N,1.0nm,0.4s
MOA Molln 9.44 324 *e*Pn **Pn 23 47 07.6 +2.4**
comp=N,1.7nm,0.6s
ABTA Abfaltersbach 9.58 314 *i* Pn **Pn 23 47 06.8 -0.3**
comp=N,1.3nm,0.4s
BIOA Bad Ischl, Aus 9.62 321 *i* Pn **Pn 23 47 09.3 +1.6**
comp=N,1.8nm,0.3s
LESA Schwarzleotal 9.92 318 *i* Pn **Pn 23 47 11.7 -0.1**
comp=N,1.7nm,0.4s
WTTA Wattenberg 10.37 314 *i* Pn **Pn 23 47 18.5 +0.5**
comp=N,1.0nm,0.4s
GERES GERESS Array B 10.44 326 Pn **Pn 23 47 17.9 -1.1**
comp=N,0.1nm,0.3s,baz=111,slow=11,SNR=2.5
comp=N,0.5nm,0.6s
WATA Walderalm 10.44 314 *i* Pn **Pn 23 47 19.9 +0.8**
comp=N,3.3nm,0.5s
SQTA Sankt Quirin 10.58 313 *e*Pn **Pn 23 47 20.2 -0.7**
comp=N,2.4nm,0.3s
MOTA Moosalm 10.71 313 *e*Pn **Pn 23 47 22.4 -0.3**
comp=N,2.6nm,0.8s
KHC Kasperske Hory 10.71 327 *e*P **Pn 23 47 26.8 +4.2**
FETA Feichten 10.74 311 *i* Pn **Pn 23 47 23.2 +0.1**
comp=N,1.0nm,0.5s
RETA Reitte 10.98 313 *e*Pn **Pn 23 47 26.1 -0.2**
comp=N,0.2nm,0.2s
DAVOX Davos/Dischmat 11.11 309 Pn **Pn 23 47 27.9 -0.2**
comp=N,0.4nm,0.3s,baz=146,slow=18,SNR=7.5
comp=N,2.4nm,0.6s
AKASG Malin Array Be 11.22 22 Pn **Pn 23 47 29.1 -0.4**
comp=N,0.4nm,0.3s,baz=300,slow=8.4,SNR=1.8
comp=N,0.1nm,0.2s
DAVA Damuels 11.37 311 *e*Pn **Pn 23 47 30.9 -0.8**
comp=N,2.1nm,0.8s
MMAI Mount Meron Ar 12.73 122 LR LR 23 53 45.1
comp=N,90nm,20.4s,baz=328,slow=42
MNK Minsk 14.46 13 *i* PKiKP PKiKP 00 01 12.1 -12
comp=E,10.0nm,1.0s
MNK *i* PKiKP PKiKP 00 01 12.1 -12
comp=N,17nm,1.0s
MNK *i* PKiKP PKiKP 00 01 12.1 -12
comp=Z,22nm,1.0s,baz=48
MNK *i* pPKP 00 01 45.4
MNK *i* sPKP 00 01 59.0
MNK *i* PP 00 03 17.2
MNK *i* SKP 00 04 03.7
MNK *i* PKS 00 04 50.3
MNK *i* PPP PPP 00 06 34.7
MNK *i* SKS 00 07 48.7
MNK *i* SKKS 00 11 26.1
MNK *i* SP 00 13 39.9
MNK *i* PS 00 14 40.9
MNK *i* SS 00 21 17.1
MNK *i* SSS SSS 00 26 52.1
ESDC Sonseca Array 20.27 276 P **P 23 49 24.2 -0.7**
comp=Z,1.7nm,0.9s,baz=75,slow=11,SNR=10
comp=Z,1.7nm,0.9s
FINES FINESS Array B 21.08 5 P **P 23 49 32.8 -0.5**
comp=Z,1.6nm,0.7s,baz=264,slow=7.1,SNR=1.2
comp=Z,1.6nm,0.7s
NB2 NORSAR Subarra 21.71 345 P **P 23 49 40.4 +0.2**
comp=Z,3.2nm,1.1s,baz=158,slow=11
NOA NORSAR Array B 21.71 345 P **P 23 49 39.9 -0.4**
comp=Z,0.9nm,0.7s,baz=151,slow=9.2,SNR=4.1
comp=Z,0.9nm,0.7s
EKA Eskdalemuir Ar 22.55 320 P **P 23 49 48.3 -0.9**
comp=Z,2.2nm,0.6s,baz=117,slow=9.9,SNR=4.6
comp=Z,2.2nm,0.6s
TORD Torodi Ar. Bea 32.82 220 P **P 23 51 22.2 -0.6**
comp=Z,1.9nm,0.6s,baz=31,slow=10,SNR=18
comp=Z,1.9nm,0.6s
MKAR Makanchi Array 42.78 61 P **P 23 52 47.4 +0.6**
comp=Z,0.8nm,0.6s,baz=277,slow=7.8,SNR=12
comp=Z,0.8nm,0.6s
ZALV Zalesovo Beam 42.99 50 P **P 23 52 49.1 +0.7**
comp=Z,1.0nm,0.6s,baz=270,slow=8.4,SNR=6.2
comp=Z,1.0nm,0.6s

TAP ***08*** *00:00:43.6, 24.79N×121.95E, h95km, ML4.0, B*
JMA ***08*** *00:00:44.0±0.1, 24.8N±0.3×122.0E±0.2, h92km±1km, MV3.5/16, TAIWAN REGION*
ISC 08 00:00:43.7±1.2, **24.80N**±0.03×**121.94E**±0.02, **h95**km±5km, **n142**, σ0s**77**/253, **41C-7D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EGS		**0.04**	**348**	*e*P		**Pn**		**00 00 56.8**	**-0.2**
	baz=5.0								
EGS				*e*S		**Sn**		**00 01 04.1**	**-2.8**
	baz=5.0								
NTC	**Toucheng**	**0.11**	**296**	*e*P		**Pn**		**00 00 57.1**	**+0.1**
	baz=306								
NTC				*e*S		**Sn**		**00 01 07.2**	**+0.2**
	baz=306								
ILA	**Ilan**	**0.18**	**258**	*e*P		**Pn**		**00 00 57.5**	**+0.4**
	baz=260								
ILA				*i* S		**Sn**		**00 01 07.8**	**+0.5**
	baz=260								
TIPB	**Shuangxi**	**0.20**	**328**	⇑ *i* P		**Pn**		**00 00 57.2**	**-0.1**
	baz=326								
TIPB				S		**Sn**		**00 01 06.5**	**-1.0**
	baz=326								
TWB1	**Santiao Chiao**	**0.21**	**12**	⇑ *i* P		**Pn**		**00 00 57.3**	**0.0**
	baz=16								
TWB1				*i* S		**Sn**		**00 01 06.9**	**-0.6**
	baz=16								
TWC	**Suao**	**0.21**	**204**	⇑ *i* P		**Pn**		**00 00 57.5**	**+0.2**
	baz=206								
TWC				S		**Sn**		**00 01 07.2**	**-0.3**
	baz=206								
TWE	**Neicheng**	**0.26**	**252**	P		**Pn**		**00 00 57.9**	**+0.4**
	baz=253								
TWE				*e*S		**Sn**		**00 01 08.3**	**+0.5**
	baz=253								
NDS	**Dongshan**	**0.27**	**230**	*e*P		**Pn**		**00 00 58.2**	**+0.7**
	baz=234								
NDS				*e*S		**Sn**		**00 01 08.4**	**+0.5**
	baz=234								
SXI1	**Grass Mountain**	**0.29**	**348**	*i* P		**Pn**		**00 00 57.5**	**-0.3**
	baz=339								
SXI1				S		**Sn**		**00 01 07.7**	**-0.6**
	baz=339								
NWF	**Wu-fen Shan**	**0.30**	**331**	⇑ *i* P		**Pn**		**00 00 57.8**	**-0.1**
	baz=330								
NWF				S		**Sn**		**00 01 07.2**	**-1.2**
	baz=330								
WFSB	**Wu-fen Shan**	**0.30**	**331**	⇑ *i* P		**Pn**		**00 00 57.8**	**0.0**
	baz=330								
WFSB				*e*S		**Sn**		**00 01 07.5**	**-0.7**
	baz=330								
FUSB	**Fushanzhiwuyua**	**0.33**	**262**	⇑ *i* P		**Pn**		**00 00 58.3**	**+0.4**
	baz=270								
FUSB				*e*S		**Sn**		**00 01 08.1**	**-0.4**
	baz=270								
TWA	**Mucha**	**0.37**	**298**	⇑ *i* P		**Pn**		**00 00 58.1**	**0.0**
	baz=302								
TWA				*e*S		**Sn**		**00 01 08.4**	**-0.5**
	baz=302								
TNOU	**National Taiwa**	**0.38**	**336**	*e*P		**Pn**		**00 00 57.9**	**-0.2**
	baz=335								
TNOU				*e*S		**Sn**		**00 01 08.2**	**-0.7**
	baz=335								
ENTT	**Nioudou**	**0.38**	**245**	⇑ *i* P		**Pn**		**00 00 58.9**	**+0.7**
	baz=256								
ENTT				*e*S		**Sn**		**00 01 09.7**	**+0.7**
	baz=256								
EWUT	**Wuta**	**0.39**	**203**	⇑ P		**Pn**		**00 00 58.7**	**+0.5**
	baz=199								
EWUT				*e*S		**Sn**		**00 01 09.6**	**+0.6**
	baz=199								
NWLT	**Wulai**	**0.40**	**266**	⇑ *i* P		**Pn**		**00 00 58.5**	**+0.2**
	baz=268								
NWLT				*e*S		**Sn**		**00 01 08.7**	**-0.5**
	baz=268								
NHDH	**Xindian Distri**	**0.41**	**293**	⇑ *i* P		**Pn**		**00 00 58.5**	**+0.2**
	baz=296								
NHDH				*i* S		**Sn**		**00 01 09.1**	**-0.1**
	baz=296								
NHY	**Taipei**	**0.41**	**305**	P		**Pn**		**00 00 58.5**	**+0.2**
	baz=308								
NHY				*e*S		**Sn**		**00 01 09.2**	**0.0**
	baz=308								
ENA	**Nanau**	**0.42**	**206**	⇑ *i* P		**Pn**		**00 00 58.9**	**+0.5**
	baz=201								
ENA				S		**Sn**		**00 01 10.0**	**+0.7**
	baz=201								
NDT	**Datong Townshi**	**0.44**	**243**	⇑ *i* P		**Pn**		**00 00 59.1**	**+0.6**
	baz=254								
NDT				*i* S		**Sn**		**00 01 10.2**	**+0.6**
	baz=254								
TATO	**Taipei**	**0.45**	**293**	P		**Pn**		**00 00 58.9**	**+0.4**
TAP	**Taipei**	**0.46**	**301**	⇓ *i* P		**Pn**		**00 00 59.0**	**+0.3**
	baz=306								
TAP				*e*S		**Sn**		**00 01 09.7**	**-0.1**
	baz=306								
LATG	**Datong**	**0.46**	**235**	⇑ *i* P		**Pn**		**00 00 59.5**	**+0.6**
	baz=245								
LATG				*e*S		**Sn**		**00 01 11.1**	**+1.0**
	baz=245								
EOS2	**EOS2**	**0.47**	**145**	*e*P		**Pn**		**00 00 59.3**	**+0.7**
	baz=148								
YM01	**YM01**	**0.48**	**315**	⇑ *i* P		**Pn**		**00 00 58.8**	**-0.1**
	baz=315								
YM01				*i* S		**Sn**		**00 01 09.7**	**-0.5**
	baz=315								
YM08	**YM08**	**0.50**	**320**	⇑ *i* P		**Pn**		**00 00 58.7**	**-0.3**
	baz=319								
YM08				*e*S		**Sn**		**00 01 10.8**	**+0.4**
	baz=319								
YHNB	**Yeheng**	**0.53**	**256**	P		**Pn**		**00 00 59.4**	**+0.1**
YHNB	**Yeheng**	**0.53**	**256**	⇑ *i* P		**Pn**		**00 00 59.4**	**+0.1**
	baz=256								
YHNB				*e*S		**Sn**		**00 01 09.5**	**-1.4**
	baz=256								
ANP	**Anpu**	**0.54**	**315**	⇓ *i* P		**Pn**		**00 00 59.2**	**-0.1**
	baz=317								
ANP				*e*S		**Sn**		**00 01 09.8**	**-1.3**
	baz=317								
NSK	**Sanguang**	**0.55**	**257**	⇑ *i* P		**Pn**		**00 00 59.5**	**+0.1**
	baz=257								
NSK				S		**Sn**		**00 01 10.6**	**-0.5**
	baz=257								
TWS1	**Kuangyinshan**	**0.56**	**302**	⇑ P		**Pn**		**00 00 59.8**	**+0.4**
	baz=304								
TWS1				S		**Sn**		**00 01 12.4**	**+1.2**
	baz=304								
TWY	**Chenhua**	**0.56**	**327**	⇑ *i* P		**Pn**		**00 00 59.5**	**0.0**
	baz=331								
TWY				*e*S		**Sn**		**00 01 11.2**	**0.0**
	baz=331								
NTST	**Danshui**	**0.57**	**309**	⇑ P		**Pn**		**00 00 59.7**	**+0.2**
	baz=311								
NTST				*e*S		**Sn**		**00 01 12.3**	**+1.0**
	baz=311								
EOS3	**EOS3**	**0.62**	**146**	*e*P		**Pn**		**00 01 00.6**	**+0.9**
	baz=153								
NNSB	**Datong**	**0.63**	**234**	⇑ *i* P		**Pn**		**00 01 00.6**	**+0.4**
	baz=239								
NNSB				*e*S		**Sn**		**00 01 13.2**	**+0.7**
	baz=239								
NNS	**Nan Shan**	**0.63**	**235**	⇑ *i* P		**Pn**		**00 01 00.6**	**+0.4**
	baz=240								
NNS				*i* S		**Sn**

NCUH	**Zhongli**	**0.71**	**284**	⇑P	**Pn**	**00 01 01.1**	**+0.4**
	baz=275						
NCUH				S	**Sn**	**00 01 14.1**	**+0.6**
	baz=275						
ETLH	**Xiulin Townshi**	**0.73**	**215**	⇓*i*P	**Pn**	**00 01 01.0**	**0.0**
	baz=223						
ETLH				S	**Sn**	**00 01 13.7**	**-0.3**
	baz=223						
EOS4	**EOS4**	**0.76**	**153**	*e*P	**Pn**	**00 01 01.0**	**+0.1**
	baz=153						
NFF	**Wufeng Townshi**	**0.77**	**257**	⇑*i*P	**Pn**	**00 01 01.4**	**+0.1**
	baz=257						
NFF				S	**Sn**	**00 01 14.5**	**-0.2**
	baz=257						
TWD	**Chiawan**	**0.79**	**204**	P	**Pn**	**00 01 01.1**	**-0.4**
	baz=213						
TWD				S	**Sn**	**00 01 14.2**	**-0.6**
	baz=213						
LIOB	**Emei**	**0.86**	**260**	⇑*i*P	**Pn**	**00 01 02.5**	**+0.3**
	baz=252						
LIOB				*i* S	**Sn**	**00 01 16.3**	**+0.1**
	baz=252						
SBCB	**Hsinchu**	**0.87**	**269**	⇑*i*P	**Pn**	**00 01 02.8**	**+0.5**
	baz=269						
SBCB				S	**Sn**	**00 01 16.7**	**+0.4**
	baz=269						
NSTT	**Nanjuang**	**0.87**	**259**	⇑*i*P	**Pn**	**00 01 02.6**	**+0.2**
	baz=258						
NSTT				*i* S	**Sn**	**00 01 16.1**	**-0.3**
	baz=258						
HWA	**Hwalien**	**0.88**	**201**	*e*P	**Pn**	**00 01 02.7**	**+0.3**
	baz=192						
HWA				*e*S	**Sn**	**00 01 16.8**	**+0.3**
	baz=192						
HSN	**Hsinchu**	**0.88**	**270**	⇑*i*P	**Pn**	**00 01 02.5**	**+0.1**
	baz=263						
HSN				*i* S	**Sn**	**00 01 16.2**	**-0.4**
	baz=263						
TWT	**Tachien**	**0.89**	**232**	⇑*i*P	**Pn**	**00 01 03.7**	**+1.0**
	baz=227						
TWT				*i* S	**Sn**	**00 01 18.1**	**+1.1**
	baz=227						
TDCB	**Techi**	**0.90**	**233**	⇑*i*P	**Pn**	**00 01 03.7**	**+0.9**
	baz=227						
TDCB				S	**Sn**	**00 01 17.3**	**+0.2**
	baz=227						
WHF	**Hehuan Shan**	**0.90**	**223**	⇓*i*P	**Pn**	**00 01 03.4**	**+0.3**
	baz=218						
WHF				S	**Sn**	**00 01 17.9**	**+0.3**
	baz=218						
LXIB	**Xiulin Townshi**	**0.92**	**212**	⇑*i*P	**Pn**	**00 01 02.4**	**-0.6**
	baz=205						
LXIB				S	**Sn**	**00 01 17.0**	**-0.5**
	baz=205						
ETM	**Tongmen**	**0.93**	**206**	*e*P	**Pn**	**00 01 02.4**	**-0.6**
	baz=208						
ETM				*e*S	**Sn**	**00 01 17.7**	**+0.2**
	baz=208						
JYNG	**Yonagunijimaku**	**0.98**	**111**	P	**Pn**	**00 01 03.5**	**+0.1**
JYNG				*e*S	**Sn**	**00 01 18.3**	**-0.1**
CHGB	**Renai**	**1.02**	**224**	⇑*i*P	**Pn**	**00 01 05.0**	**+0.8**
	baz=219						
CHGB				S	**Sn**	**00 01 20.3**	**+0.8**
	baz=219						
YOJ	**Yonaguni jima**	**1.03**	**109**	P	**Pn**	**00 01 04.1**	**0.0**
YOJ	**Yonaguni jima**	**1.03**	**109**	P	**Pn**	**00 01 04.1**	**0.0**
YOJ				*e*S	**Sn**	**00 01 19.3**	**-0.1**
YOJ	**Yonaguni jima**	**1.03**	**109**	⇓*i*P	**Pn**	**00 01 04.0**	**0.0**
	baz=113						
YOJ				*i* S	**Sn**	**00 01 19.6**	**+0.3**
	baz=113						
WHP	**Taichung City**	**1.05**	**240**	⇑*i*P	**Pn**	**00 01 05.2**	**+0.8**
	baz=240						
WHP				*e*S	**Sn**	**00 01 20.4**	**+0.4**
	baz=240						
ESL	**Shilin**	**1.09**	**205**	*e*P	**Pn**	**00 01 03.7**	**-1.0**
	baz=207						
ESL				*e*S	**Sn**	**00 01 19.2**	**-1.4**
	baz=207						
OWD	**Renai**	**1.10**	**220**	⇓*i*P	**Pn**	**00 01 05.5**	**+0.5**
	baz=216						
OWD				*e*S	**Sn**	**00 01 21.2**	**+0.2**
	baz=216						
WUSB	**Renai**	**1.10**	**223**	⇑*i*P	**Pn**	**00 01 05.7**	**+0.7**
	baz=218						
WUSB				S	**Sn**	**00 01 21.4**	**+0.3**
	baz=218						
NSY	**Sanyi**	**1.14**	**250**	⇑P	**Pn**	**00 01 06.0**	**+0.6**
	baz=250						
NSY				S	**Sn**	**00 01 22.0**	**+0.3**
	baz=250						
TEGC	**Jichi Village**	**1.15**	**199**	*e*P	**Pn**	**00 01 05.1**	**-0.3**
	baz=194						
TEGC				*e*S	**Sn**	**00 01 22.3**	**+0.5**
	baz=194						
TWQ1	**Liyutan**	**1.16**	**247**	⇓P	**Pn**	**00 01 06.0**	**+0.5**
	baz=247						
TWQ1				*e*S	**Sn**	**00 01 22.1**	**+0.1**
	baz=247						
WARBT	**Fenglin Townsh**	**1.19**	**205**	⇑P	**Pn**	**00 01 04.7**	**-1.3**
	baz=207						
WARBT				*e*S	**Sn**	**00 01 21.1**	**-1.7**
	baz=207						
WCS	**Beigang Elemen**	**1.20**	**232**	*e*P	**Pn**	**00 01 06.8**	**+0.8**
	baz=239						
WCS				*e*S	**Sn**	**00 01 23.4**	**+0.6**
	baz=239						
EGFH	**Guangfu**	**1.22**	**203**	*e*P	**Pn**	**00 01 06.3**	**0.0**
	baz=209						
EGFH				*i* S	**Sn**	**00 01 22.5**	**-0.9**
	baz=209						
WDJ	**Dajia District**	**1.27**	**249**	P	**Pn**	**00 01 07.4**	**+0.6**
	baz=243						
WDJ				*e*S	**Sn**	**00 01 25.0**	**+0.7**
	baz=243						
VWDT	**VWDT**	**1.28**	**215**	*e*P	**Pn**	**00 01 07.6**	**+0.6**
	baz=212						
VWDT				S	**Sn**	**00 01 24.8**	**+0.4**
	baz=212						
SMLT	**Sun Moon Lake**	**1.32**	**226**	⇑*i*P	**Pn**	**00 01 08.2**	**+0.6**
	baz=233						
SMLT				*i* S	**Sn**	**00 01 27.4**	**+1.8**
	baz=233						
TCU	**Taichung**	**1.33**	**241**	*e*P	**Pn**	**00 01 07.8**	**+0.2**
	baz=247						
TCU				*e*S	**Sn**	**00 01 25.8**	**+0.3**
	baz=247						
TYC	**Yuchr**	**1.33**	**228**	⇑*i*P	**Pn**	**00 01 08.2**	**+0.6**
	baz=235						
TYC				*e*S	**Sn**	**00 01 27.0**	**+1.2**
	baz=235						
SSLB	**Suanglung**	**1.35**	**222**	P	**Pn**	**00 01 08.8**	**+0.9**
SSLB	**Suanglung**	**1.35**	**222**	⇑P	**Pn**	**00 01 08.6**	**+0.7**
	baz=232						
SSLB				*e*S	**Sn**	**00 01 26.7**	**+0.4**
	baz=232						
HGSD	**Ruisui**	**1.39**	**200**	*e*P	**Pn**	**00 01 08.3**	**0.0**
	baz=202						
HGSD				*e*S	**Sn**	**00 01 27.0**	**+0.1**
	baz=202						
EHY	**Hungye**	**1.41**	**204**	*e*P	**Pn**	**00 01 07.4**	**-1.2**
	baz=204						
WCHH	**Zhanghua**	**1.45**	**241**	*e*P	**Pn**	**00 01 09.6**	**+0.6**
	baz=240						
WCHH				*i* S	**Sn**	**00 01 28.6**	**+0.3**
	baz=240						
WNT	**Mingjian**	**1.47**	**231**	P	**Pn**	**00 01 10.0**	**+0.7**
	baz=240						
WNT				S	**Sn**	**00 01 29.9**	**+1.2**
	baz=240						
WJS	**Zhushan**	**1.48**	**229**	P	**Pn**	**00 01 10.2**	**+0.8**
	baz=238						
WJS				S	**Sn**	**00 01 30.0**	**+1.1**
	baz=238						
WHYT	**Xinyi Township**	**1.48**	**222**	*e*P	**Pn**	**00 01 10.6**	**+1.1**
	baz=230						
WHYT				*i* S	**Sn**	**00 01 30.5**	**+1.4**
	baz=230						
YULB	**Yu-li**	**1.52**	**203**	*e*P	**Pn**	**00 01 08.8**	**-1.2**
	baz=196						
ECBN	**Changbin**	**1.55**	**197**	*e*P	**Pn**	**00 01 10.3**	**0.0**
	baz=206						
ECBN				*e*S	**Sn**	**00 01 30.0**	**-0.5**
	baz=206						
EYUL	**Yuli**	**1.56**	**202**	*e*P	**Pn**	**00 01 10.9**	**+0.4**
	baz=207						
TWF1	**Yuli**	**1.56**	**202**	*e*P	**Pn**	**00 01 09.4**	**-1.0**
	baz=196						
ALS	**Alishan**	**1.65**	**219**	*e*P	**Pn**	**00 01 12.8**	**+0.9**
	baz=228						
ALS				*e*S	**Sn**	**00 01 35.0**	**+1.7**
	baz=228						
CHN5	**Tsauling**	**1.67**	**224**	*e*P	**Pn**	**00 01 12.5**	**+0.7**
	baz=224						
CHN5				*i* S	**Sn**	**00 01 34.1**	**+0.9**
	baz=224						
WGK	**Gukeng**	**1.68**	**229**	*e*P	**Pn**	**00 01 12.4**	**+0.5**
	baz=238						
WGK				*e*S	**Sn**	**00 01 34.0**	**+0.6**
	baz=238						
WRL	**Guolierlin Hig**	**1.69**	**238**	P	**Pn**	**00 01 12.2**	**+0.2**
	baz=244						
WRL				*e*S	**Sn**	**00 01 33.6**	**+0.1**
	baz=244						
WDLH	**Douliu**	**1.69**	**229**	*e*P	**Pn**	**00 01 12.8**	**+0.7**
	baz=239						
WDLH				*e*S	**Sn**	**00 01 34.8**	**+1.1**
	baz=239						
FULB	**Fuli**	**1.70**	**200**	*e*P	**Pn**	**00 01 12.6**	**+0.3**
	baz=209						
FULB				S	**Sn**	**00 01 35.1**	**+1.0**
	baz=209						
CHKT	**Chengkung**	**1.78**	**197**	*e*P	**Pn**	**00 01 12.7**	**-0.5**
	baz=199						
CHKT				*e*S	**Sn**	**00 01 33.8**	**-1.8**
	baz=199						
EHD	**Haiduan**	**1.78**	**202**	*e*P	**Pn**	**00 01 14.1**	**+0.8**
	baz=204						
EHD				*e*S	**Sn**	**00 01 34.2**	**-1.5**
	baz=204						
WTK	**Tuku**	**1.80**	**232**	*i* P	**Pn**	**00 01 14.0**	**+0.5**
	baz=232						
WTK				*i* S	**Sn**	**00 01 36.4**	**+0.2**
	baz=232						
ELDTW	**Lidau**	**1.82**	**208**	*e*P	**Pn**	**00 01 13.7**	**-0.2**
	baz=203						
WCKO	**Fanlu**	**1.83**	**222**	*e*P	**Pn**	**00 01 14.9**	**+1.1**
	baz=222						
WCKO				*e*S	**Sn**	**00 01 37.5**	**+0.7**
	baz=222						
HATJ	**Hateruma jima**	**1.85**	**113**	P	**Pn**	**00 01 14.6**	**+0.4**
HATJ				*e*S	**Sn**	**00 01 37.6**	**+0.2**
CHY	**Chiayi**	**1.90**	**227**	*e*P	**Pn**	**00 01 15.5**	**+0.7**
	baz=227						
CHY				*i* S	**Sn**	**00 01 39.2**	**+0.8**
	baz=227						
EDH	**Donghe**	**1.91**	**198**	*e*P	**Pn**	**00 01 14.5**	**-0.4**
	baz=199						
EDH				*e*S	**Sn**	**00 01 37.7**	**-1.1**
	baz=199						
TPUB	**Ta-pu**	**1.92**	**219**	P	**Pn**	**00 01 15.8**	**+0.7**
TPUB	**Ta-pu**	**1.92**	**219**	*e*P	**Pn**	**00 01 15.7**	**+0.7**
	baz=219						
TPUB				*e*S	**Sn**	**00 01 39.0**	**+0.1**
	baz=219						
STYH	**Taoyuan**	**1.94**	**213**	*e*P	**Pn**	**00 01 16.2**	**+0.9**
	baz=223						
STYH				*e*S	**Sn**	**00 01 40.3**	**+0.8**
	baz=223						
WSF	**Szhu**	**1.95**	**234**	*e*P	**Pn**	**00 01 15.8**	**+0.4**
	baz=233						
WSF				*e*S	**Sn**	**00 01 39.9**	**+0.3**
	baz=233						
JKRS	**Kuro-shima**	**1.97**	**106**	P	**Pn**	**00 01 16.2**	**+0.6**
JKRS				*e*S	**Sn**	**00 01 39.9**	**0.0**
WTP	**Ta-pu**	**1.97**	**218**	*e*P	**Pn**	**00 01 16.3**	**+0.6**
	baz=218						
WTP				*e*S	**Sn**	**00 01 40.4**	**+0.2**
	baz=218						
TWK	**Hsinying**	**2.03**	**221**	*e*P	**Pn**	**00 01 17.1**	**+0.6**
	baz=221						
TWK				*e*S	**Sn**	**00 01 42.4**	**+0.9**
	baz=221						
LONT	**Longtian**	**2.03**	**202**	*e*P	**Pn**	**00 01 14.9**	**-1.5**
	baz=195						
JIJ	**Ishigaki jima**	**2.05**	**102**	P	**Pn**	**00 01 16.8**	**+0.1**
JIJ				S	**Sn**	**00 01 40.9**	**-1.0**
SNST	**Tainan City**	**2.06**	**220**	*e*P	**Pn**	**00 01 18.2**	**+1.4**
	baz=220						
SNST				*i* S	**Sn**	**00 01 42.5**	**+0.4**
	baz=220						
CHN1	**Nanshi**	**2.07**	**219**	*e*P	**Pn**	**00 01 17.6**	**+0.6**
	baz=219						
CHN1				*e*S	**Sn**	**00 01 43.1**	**+0.7**
	baz=219						
ICHU	**Yijhu**	**2.09**	**227**	*e*P	**Pn**	**00 01 17.8**	**+0.6**
	baz=237						
ICHU				*e*S	**Sn**	**00 01 43.0**	**+0.2**
	baz=237						
SGST	**Jiashian**	**2.12**	**216**	*e*P	**Pn**	**00 01 17.7**	**+0.1**
	baz=224						
SGST				*e*S	**Sn**	**00 01 44.1**	**+0.6**
	baz=224						
TWG	**Pinlang**	**2.13**	**202**	*e*P	**Pn**	**00 01 17.6**	**-0.2**
	baz=196						
TWG				*e*S	**Sn**	**00 01 41.4**	**-2.4**
	baz=196						
TWGBT	**Beinan**	**2.13**	**202**	P	**Pn**	**00 01 17.5**	**-0.3**
TWGBT	**Beinan**	**2.13**	**202**	*e*P	**Pn**	**00 01 16.5**	**-1.2**
	baz=196						
TWGBT				*e*S	**Sn**	**00 01 41.3**	**-2.5**
	baz=196						
SLGT	**Liugui**	**2.16**	**214**	*e*P	**Pn**	**00 01 19.6**	**+1.5**
	baz=223						
SLGT				*e*S	**Sn**	**00 01 44.9**	**+0.5**
	baz=223						
JISG	**Ishigakijimahi**	**2.17**	**95**	P	**Pn**	**00 01 18.8**	**+0.6**
JISG				S	**Sn**	**00 01 45.1**	**+0.4**
MATB	**Ma-tsu**	**2.25**	**307**	*e*P	**Pn**	**00 01 18.8**	**-0.5**
	baz=307						
VWUC	**VWUC**	**2.27**	**275**	*e*P	**Pn**	**00 01 19.0**	**-0.6**
	baz=274						
TSCK	**Chigu Township**	**2.37**	**226**	*e*P	**Pn**	**00 01 20.8**	**0.0**
	baz=233						
ECL	**Taimali**	**2.38**	**203**	*e*P	**Pn**	**00 01 20.9**	**-0.1**
	baz=199						
ECL				*e*S	**Sn**	**00 01 47.9**	**-1.7**
	baz=199						
TSMG	**Majia**	**2.40**	**210**	*e*P	**Pn**	**00 01 22.2**	**+0.9**
	baz=219						
MASBT	**Mashibuluo**	**2.49**	**209**	*e*P	**Pn**	**00 01 23.4**	**+0.9**
	baz=209						
MASBT				*e*S	**Sn**	**00 01 53.1**	**+0.8**
	baz=209						
PNG	**Penghu**	**2.50**	**241**	*e*P	**Pn**	**00 01 22.4**	**-0.2**
	baz=239						
JTJ	**Tarama**	**2.52**	**93**	P	**Pn**	**00 01 23.7**	**+0.9**
JTJ				S	**Sn**	**00 01 53.4**	**+0.5**
PHUB	**P'eng-hu**	**2.52**	**240**	*e*P	**Pn**	**00 01 22.1**	**-0.7**
	baz=239						
PHUB				*i* S	**Sn**	**00 01 51.0**	**-1.9**
	baz=239						
LYJJ	**Jianjiangzhen**	**2.63**	**312**	*e*P	**Pn**	**00 01 24.1**	**-0.2**
	baz=312						
XPSS	**Dashiqiu**	**2.64**	**324**	*e*P	**Pn**	**00 01 24.2**	**-0.2**
	baz=324						
SCZT	**Fangliau**	**2.71**	**207**	*e*P	**Pn**	**00 01 26.3**	**+0.9**
	baz=215						
VCHM	**Qimei**	**2.79**	**236**	*e*P	**Pn**	**00 01 26.1**	**-0.4**
	baz=235						
VCHM				*e*S	**Sn**	**00 01 58.4**	**-1.1**
	baz=235						
LYUB	**Lan-yu**	**2.81**	**187**	*e*P	**Pn**	**00 01 25.3**	**-1.4**
	baz=185						
LYUB				*e*S	**Sn**	**00 01 57.3**	**-2.6**
	baz=185						
MHZQ	**Yeshan**	**2.93**	**297**	*e*P	**Pn**	**00 01 27.5**	**-0.9**
	baz=296						
TWKBT	**Hengchun**	**3.03**	**200**	*e*P	**Pn**	**00 01 30.5**	**+0.7**
	baz=201						
JMJ2	**Miyako jima3**	**3.08**	**90**	*e*P	**Pn**	**00 01 31.0**	**+0.7**
JMJ2				*e*S	**Sn**	**00 02 07.4**	**+1.1**
JOGS	**Gusukube**	**3.15**	**90**	*e*P	**Pn**	**00 01 32.1**	**+0.9**
JOGS				S	**Sn**	**00 02 09.0**	**+1.0**
KNM	**Kinmen**	**3.22**	**264**	*e*P	**Pn**	**00 01 33.2**	**+1.1**
	baz=261						
KNMB	**Chin-men Tao**	**3.25**	**265**	*e*P	**Pn**	**00 01 31.3**	**-1.4**
	baz=262						
AXDP	**Jialang**	**3.61**	**272**	*e*P	**Pn**	**00 01 37.2**	**-0.2**
	baz=270						
ZPLA	**Ao Xicun**	**3.92**	**258**	*e*P	**Pn**	**00 01 41.6**	**-0.1**
	baz=255						
DSXP	**Dongshan**	**4.26**	**256**	*e*P	**Pn**	**00 01 46.1**	**-0.2**
	baz=253						

NEIC ***08*** *00:07:37.6±1.4,20.81S±0.08×177.9W±0.1,h447km±10km, mb4.4/41, Error ellipse: s-maj=19.1km s-min=8.8km az=62.0*

NOU ***08*** *00:07:37.9,20.64S×177.58W,h489km, mb4.4/19, Fiji Islands Region*

IDC ***08*** *00:07:38.4±3.6,20.86S×177.87W,h466km±37km, mb3.6/13, mbtmp4.4/14, Error ellipse: s-maj=22.5km s-min=13.4km az=82.0*

ISC 08 00:07:37.2±0.4, 20.89S±0.08×177.81W±0.08, h450km, n110, σ1°30/114, mb4.3/33, 4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**2.81**	**340**	P	**P**	**00 08 45.3**	**+2.4**
TAVE	**Taveuni**	**4.61**	**334**	P	**P**	**00 09 00.3**	**+2.3**
DGTI	**Dogotuki**	**5.13**	**333**	P	**P**	**00 09 04.9**	**+2.0**
YSA	**Yasawairara**	**6.04**	**313**	P	**P**	**00 09 13.7**	**+1.7**
NIUE	**Niue**	**7.63**	**78**	P	**P**	**00 09 28.7**	**0.0**
NIUE					**S**	**00 11 01.3**	**+1.3**
OUZ	**Omahuta**	**16.15**	**206**	P	**P**	**00 11 04.7**	**+4.3**
	27nm,1.5s						
WMGZ	**Waiomatatini S**	**17.18**	**190**	P	**P**	**00 11 13.0**	**+1.8**
HAZ	**Te Kaha**	**17.23**	**192**	P	**P**	**00 11 11.9**	**+0.1**
PKGZ	**Pakihiroa**	**17.31**	**191**	P	**P**	**00 11 13.7**	**+1.0**
RUGZ	**Raukumara Rang**	**17.46**	**192**	P	**P**	**00 11 13.9**	**-0.4**
TWGZ	**Tauwhareparae**	**17.61**	**191**	P	**P**	**00 11 17.7**	**+1.9**
TOZ	**Tahuroa Road**	**17.75**	**198**	P	**P**	**00 11 18.4**	**+1.2**
TOZ				IAmb	IAmb	00 11 19.5	
	comp=Z,9.9nm,1.0s						
MWZ	**Matawai**	**17.84**	**192**	P	**P**	**00 11 19.4**	**+1.1**
URZ	**Urewera**	**17.86**	**193**	P	**P**	**00 11 17.1**	**-1.2**
	comp=Z,9.3nm,0.3s,baz=21,slow=4.4,SNR=12						
URZ				S	**S**	**00 14 18.9**	**-1.1**
	comp=Z,7.9nm,0.8s,baz=294,slow=20,SNR=2.9						
URZ	**Urewera**	**17.86**	**193**	P	**P**	**00 11 17.1**	**-1.2**
RTZ	**Ruatahuna**	**18.23**	**193**	P	**P**	**00 11 23.1**	**+1.1**
RTZ				IAmb	IAmb	00 11 24.0	
	comp=Z,5.1nm,0.6s						
HIZ	**Hauiti**	**18.67**	**198**	P	**P**	**00 11 28.6**	**+2.4**
HIZ				IAmb	IAmb	00 11 45.6	
	comp=Z,15nm,1.0s						
HIZ	**Hauiti**	**18.67**	**198**	P	**P**	**00 11 28.7**	**+2.4**
HIZ	**Hauiti**	**18.67**	**198**	P	**P**	**00 11 28.6**	**+2.4**
BKZ	**Black Stump Fm**	**18.86**	**194**	P	**P**	**00 11 27.6**	**-0.5**
BKZ	**Black Stump Fm**	**18.86**	**194**	P	**P**	**00 11 28.4**	**+0.3**
ETVZ	**East Tongariro**	**19.02**	**196**	P	**P**	**00 11 30.3**	**+0.7**
SNVZ	**South Ngauruho**	**19.08**	**196**	P	**P**	**00 11 29.9**	**-0.3**
BFZ	**Birch Farm**	**20.37**	**193**	P	**P**	**00 11 40.5**	**-1.2**
BFZ				IAmb	IAmb	00 11 42.6	
	comp=Z,14nm,0.8s						
BFZ	**Birch Farm**	**20.37**	**193**	P	**P**	**00 11 41.9**	**+0.1**
TCW	**Tory Channel**	**21.34**	**197**	P	**P**	**00 11 49.4**	**-1.2**
BHW	**Baring Head**	**21.37**	**195**	P	**P**	**00 11 52.6**	**+1.7**
QRZ	**Quartz Range**	**21.50**	**200**	P	**P**	**00 11 53.6**	**+1.5**
QRZ	**Quartz Range**	**21.50**	**200**	P	**P**	**00 11 53.6**	**+1.5**
TKNZ	**Takaka Hill**	**21.56**	**199**	P	**P**	**00 11 53.0**	**+0.4**
NNZ	**Nelson**	**21.60**	**198**	P	**P**	**00 11 53.6**	**+0.7**
NNZ				IAmb	IAmb	00 11 54.3	
	comp=Z,17nm,0.7s						
TUWZ	**Tuamarina**	**21.63**	**197**	P	**P**	**00 11 55.8**	**+2.6**
BSWZ	**Blackbirch Sta**	**21.92**	**197**		**P**	**00 11 58.7**	**+2.9**
MRNZ	**Matariki Terra**	**21.95**	**199**	P	**P**	**00 11 56.8**	**+0.7**
THZ	**Tophouse**	**22.24**	**199**	P	**P**	**00 11 58.9**	**+0.1**
THZ				IAmb	IAmb	00 12 04.0	
	comp=Z,16nm,1.0s						
DSZ	**Denniston Nort**	**22.57**	**201**	P	**P**	**00 12 01.7**	**-0.1**
DSZ				IAmb	IAmb	00 12 02.0	
	comp=Z,16nm,1.0s						
LTZ	**Lake Taylor**	**23.36**	**199**	P	**P**	**00 12 09.9**	**+1.1**
INZ	**Inchbonnie**	**23.57**	**200**	P	**P**	**00 12 12.8**	**+2.1**
INZ				IAmb	IAmb	00 12 15.6	
	comp=Z,19nm,0.8s						
JCZ	**Jackson Bay**	**25.66**	**203**	P	**P**	**00 12 29.4**	**-0.1**
WHZ	**Wether Hill Ro**	**27.54**	**202**	P	**P**	**00 12 46.6**	**+0.7**
WHZ				IAmb	IAmb	00 12 49.1	
	comp=Z,16nm,0.8s						
EIDS	**Eidsvold**	**28.92**	**255**	P	**P**	**00 12 57.9**	**-0.4**
ARMA	**Armidale**	**29.06**	**245**	P	**P**	**00 13 00.3**	**+0.7**
ARMA				IAmb	IAmb	00 13 01.2	
	comp=Z,8.5nm,0.8s						
ARMA	**Armidale**	**29.06**	**245**	P	**P**	**00 13 00.3**	**+0.7**
	comp=Z,15nm,2.6s						
MGCD	**Mangrove Creek**	**30.16**	**239**	P	**P**	**00 13 10.2**	**+1.2**
	comp=Z,39nm,0.9s						
CNB	**Canberra Magne**	**32.16**	**236**	P	**P**	**00 13 27.1**	**+0.8**
CAN	**Canberra**	**32.44**	**237**	P	**P**	**00 13 29.6**	**+0.8**
CAN				IAmb	IAmb	00 13 30.0	
	comp=Z,16nm,0.9s						
CTA	**Charters Tower**	**33.63**	**265**	P	**P**	**00 13 38.9**	**-0.1**
	comp=Z,11nm,1.0s						
CTAO	**Charters Tower**	**33.63**	**265**	P	**P**	**00 13 38.9**	**-0.1**
CTAO	**Charters Tower**	**33.63**	**265**	P	**P**	**00 13 39.1**	**+0.1**
	comp=Z,9.8nm,1.1s						
CMSA	**Cobar Meteorol**	**34.28**	**244**	P	**P**	**00 13 44.6**	**+0.3**
TOO	**Toolangi**	**35.81**	**234**	P	**P**	**00 13 57.3**	**+0.1**
TOO				IAmb	IAmb	00 13 58.1	
	comp=Z,16nm,0.8s						
TOO	**Toolangi**	**35.81**	**234**	P	**P**	**00 13 57.9**	**+0.7**
STKA	**Stephens Creek**	**37.78**	**245**	P	**P**	**00 14 13.6**	**+0.1**
STKA	**Stephens Creek**	**37.78**	**245**	P	**P**	**00 14 13.7**	**+0.1**
	comp=Z,6.7nm,0.5s,baz=96,slow=10,SNR=14						
	comp=Z,6.7nm,0.5s						
COEN	**Coen**	**37.79**	**274**	P	**P**	**00 14 14.1**	**+0.3**
BBOO	**Buckleboo**	**42.53**	**244**	P	**P**	**00 14 51.4**	**-0.5**
BBOO				IAmb	IAmb	00 14 51.9	
	comp=Z,19nm,0.8s						
WR0	**Warramunga Arr**	**44.54**	**262**	P	**P**	**00 15 06.7**	**-1.0**
AS31	**Alice Springs**	**44.60**	**257**	P	**P**	**00 15 07.7**	**-0.6**
ASAR	**Alice Springs**	**44.60**	**257**	P	**P**	**00 15 08.2**	**-0.1**
ASAR	**Alice Springs**	**44.60**	**257**	P	**P**	**00 15 07.7**	**-0.6**
	comp=Z,12nm,0.6s,baz=96,slow=8.0,SNR=150						
ASAR				PcP	**PcP**	**00 16 41.0**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=104,slow=3.5,SNR=6.6						
	comp=Z,12nm,0.6s						
WB0	**Warramunga Arr**	**44.71**	**263**	P	**P**	**00 15 08.1**	**-1.0**
WB0				IAmb	IAmb	00 15 08.8	
	comp=Z,7.3nm,0.6s						
WB2	**Warramunga Arr**	**44.71**	**262**	P	**P**	**00 15 08.0**	**-1.1**
WRAB	**Tennant Creek**	**44.72**	**262**	P	**P**	**00 15 08.9**	**-0.3**
WRAB				IAmb	IAmb	00 15 09.3	
	comp=Z,23nm,0.8s						
WRA	**Warramunga Arr**	**44.73**	**262**	P	**P**	**00 15 08.2**	**-1.0**
WRA	**Warramunga Arr**	**44.73**	**262**	P	**P**	**00 15 07.8**	**-1.4**
	comp=Z,2.8nm,0.5s,baz=97,slow=7.6,SNR=61						
WRA				PcP	**pwP**	**00 16 40.1**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=107,slow=2.7,S

comp=Z,1.3nm,0.5s
USRK Ussuriysk Ar. 79.39 326 P **P** **00 18 56.3 +1.0**
comp=Z,4.2nm,0.7s,baz=120,slow=2.3,SNR=6.0
comp=Z,4.2nm,0.7s
MAW Mawson 81.26 200 P **P** **00 19 03.9 -0.9**
comp=Z,2.7nm,0.9s,baz=162,slow=3.2,SNR=1.6
comp=Z,2.7nm,0.9s
TROLL Troll, Antarti 87.34 180 ⇓P **P** **00 19 34.3 -0.7**
comp=Z,60nm,0.4s
SNAA Sanae 87.61 178 ⇓P **P** **00 19 35.2 -0.9**
comp=Z,19nm,0.6s
SNAA Sanae 87.61 178 P **P** **00 19 35.2 -0.9**
comp=Z,1.2nm,0.9s,baz=204,slow=5.8,SNR=5.9
comp=Z,1.2nm,0.9s
VNA3 Neumayer Olymp 87.74 176 ⇓P **P** **00 19 36.0 -0.7**
comp=Z,9.9nm,0.6s
VNA2 Neumayer--Watz 88.18 177 ⇓P **P** **00 19 38.4 -0.3**
comp=Z,5.2nm,0.6s,baz=185,slow=5.0
ILAR Eielson Array 88.66 13 P **P** **00 19 39.7 -1.1**
comp=Z,0.4nm,0.4s,baz=216,slow=4.9,SNR=12
comp=Z,0.4nm,0.4s
PDAR Pinedale Array 89.12 43 P **P** **00 19 44.1 +0.3**
comp=Z,0.3nm,0.7s,baz=206,slow=3.9,SNR=2.3
comp=Z,0.3nm,0.7s
CMAR Chiang Mai Arr 90.42 290 P **P** **00 19 51.1 +1.0**
comp=Z,1.6nm,0.3s,baz=119,slow=3.0,SNR=14
comp=Z,1.6nm,0.3s
ZALV Zalesovo Beam 110.91 321 PKiKP **PKiKP** **00 25 15.6 -2.3**
comp=Z,0.2nm,0.3s,baz=90,slow=1.4,SNR=2.0
KURBB Kurchatov Arra 114.45 317 PKiKP PKPdf 00 25 22.8 -2.0
comp=Z,0.2nm,0.4s,baz=90,slow=1.8,SNR=5.9
BVAR Borovoye Array 119.49 320 PKP **PKPdf** **00 25 33.0 -1.5**
comp=Z,1.2nm,0.4s,baz=126,slow=2.3,SNR=13
ARCES ARCESS Array B 129.34 350 PKP **PKPdf** **00 25 51.8 -1.1**
comp=Z,5.1nm,1.0s,baz=0.0,slow=0.9,SNR=5.8
FINES FINESS Array B 136.20 344 PKP **PKPdf** **00 26 04.6 -1.3**
comp=Z,4.7nm,1.0s,baz=70,slow=1.6,SNR=4.0
AKASG Malin Array Be 143.44 331 PKP PKPab 00 26 16.0 -1.3
comp=Z,4.4nm,0.6s,baz=42,slow=4.2,SNR=32
EKA Eskdalemuir Ar 145.38 5 PKPbc **PKPdf** **00 26 20.9 -1.7**
comp=Z,6.5nm,1.0s,baz=328,slow=2.5,SNR=2.9
BRTR Keskin Array B 147.24 312 PKPbc **PKPbc** **00 26 28.3 -1.1**
comp=Z,1.4nm,0.6s,baz=147,slow=5.2,SNR=4.0
MMAI Mount Meron Ar 148.16 299 PKPbc **PKPbc** **00 26 31.8 -0.1**
comp=Z,3.4nm,0.5s,baz=79,slow=6.2,SNR=13
CLL Collm 148.48 347 *e*PKPbc **PKPbc** **00 26 32.0 0.0**
CLL *e*PKPab **PKPab** **00 26 38.0 +1.0**
GERES GERESS Array B 150.62 344 PKPbc **PKPbc** **00 26 36.2 -1.2**
comp=Z,0.9nm,0.5s,baz=2.9,slow=2.7,SNR=3.9
CONA Conrad Observa 150.86 341 *i* PKP **PKPbc** **00 26 37.5 -0.4**
comp=Z,1.7nm,0.5s
RONA Rosalia, Austr 150.93 340 *i* PKP **PKPbc** **00 26 37.6 -0.5**
comp=Z,2.7nm,0.5s
OBKA Obir 152.53 341 *e*PKiKP **PKiKP** **00 26 46.1 +4.2**
comp=Z,1.7nm,0.6s
WTTA Wattenberg 152.60 346 *i* PKP **PKPbc** **00 26 40.8 -1.2**
comp=Z,1.2nm,0.3s
ABTA Abfaltersbach 152.87 344 *i* PKP **PKPbc** **00 26 40.7 -1.8**
comp=Z,1.0nm,0.5s
FETA Feichten 153.03 347 *i* PKP **PKPbc** **00 26 42.2 -0.7**
comp=Z,1.3nm,0.7s
TORD Torodi Ar. Bea 172.28 176 PKP **PKPdf** **00 26 52.8 -1.6**
comp=Z,0.4nm,0.8s,baz=220,slow=3.8,SNR=3.8
TORD PKPab **PKPab** **00 28 21.9 +0.7**
comp=Z,0.3nm,0.7s,baz=181,slow=2.8,SNR=4.8

IDC 08 00:19:11.0±2.2, 7.60S×127.31E, h0km, mb3.4/1, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=220.5km s-min=33.2km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.03**	**152**	Pn	Pn	00 22 29.7	-1.6
	0.3nm,0.3s,baz=325,slow=13,SNR=11						
WRA				Sn	Sn	00 24 51.9	-16
	0.8nm,0.3s,baz=343,slow=23,SNR=14						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**17.18**	**159**	P	P	00 23 13.9	-0.4
ASAR	0.2nm,0.3s,baz=338,slow=9.8,SNR=14			S	Sn	00 26 14.6	-10
	0.3nm,0.3s,baz=341,slow=23,SNR=5.3						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**67.30**	**328**	P	P	00 30 07.7	0.0
	0.3nm,0.8s,baz=124,slow=7.7,SNR=1.4						
	0.3nm,0.8s						

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*BJI **08** 00:22:51.8, 10.00N×140.42E, h20km, mb5.9/92, mB6.3/75, Ms6.4/98, Ms7 6.3/95*
*IDC **08** 00:22:51.5±0.4, 10.12N×140.26E, h0km, mb5.4/40, mbtmp5.4/41, ML6.4/2, MS6.1/73, Error ellipse: s-maj=15.9km s-min=10.0km az=71.0*
*MOS **08** 00:22:52.0±0.8, 10.07N×140.21E, h16km, mb6.2/96, MS6.2/61, Error ellipse: s-maj=6.4km s-min=3.8km az=109.9*
*KLM **08** 00:22:53, 9.92N×140.29E, h10km, mb6.3*
*IPGP **08** 00:22:53.0, 10.15N×140.21E, h17km, Mw6.4, Fault plane solution: NP1:φs238.00000°, δ71.00000°, λ.163.00000°. NP2:φs334.00000°, δ74.00000°, λ20.00000°.*
*NEIC **08** 00:22:54.3, 10.13N×140.22E, h20km*
*NEIC **08** 00:22:54.3, 10.03N×140.32E, h20km, Moment Tensor Solution. Duration: 7s7 Moment tensor: Scale 10^18Nm; Mrr0.25; Mθθ3.56; Mϕϕ-3.81; Mrθ-0.82; Mrϕ-2.34; Mθr0.47; Fault plane solution: Mo4.47000×10^18 NP1: φs331.82000°, δ83.27000°, λ10.80000°. NP2: φs240.54000°, δ79.28000°, λ173.15000°. Principal axes: T 4.4446, Plg12.0000°, Azm196.0000°; N 0.0545, Plg77.0000°, Azm3.0000°; P -4.4990, Plg3.0000°, Azm106.0000°;*
*NEIC **08** 00:22:54.2±1.5, 10.12N±0.06×140.22E±0.03, h13km±2km, mb6.2/621, Ms_20 6.4/1223, Mwb6.4/72, Mwc6.4/118, Mww6.4/58 Error ellipse: s-maj=10.0km s-min=0.8km az=155.0, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr0.06; Mθθ4.07; Mϕϕ-4.12; Mrθ-1.23; Mθϕ-2.56; Mϕr0.21; Fault plane solution: Mo4.99000×10^18 NP1:φs331.83000°, δ79.08000°, λ8.67000°. NP2: φs240.18000°, δ81.48000°, λ168.96000°. Principal axes: T 5.1029, Plg14.0000°, Azm196.0000°; N -0.2414, Plg76.0000°, Azm23.0000°; P -4.8615, Plg2.0000°, Azm286.0000°;*
*NEIC **08** 00:22:54.2, 10.13N×140.22E, h12km*
*NEIC **08** 00:22:54.2, 10.13N×140.22E, h12km*
*DJA **08** 00:22:56.7±0.5, 10.2°×14.0E±°, h38km±4km, M6.4/130, mB6.8/120, mb6.1/130, MLv6.7/1, Mw(mB)6.6/120, MwMwp6.2/108, Mwp6.2/108*
*GCMT **08** 00:22:58.2±0.0, 10.09N×140.17E, h16km, MW6.4/172, Moment Tensor Solution. s172,c399; s165,c701; Duration: 4s0 Moment tensor: Scale 10^18Nm; Mrr0.57±.02; Mθθ3.86±.02; Mϕϕ-4.43±.02; Mrθ-3.13±.08; Mθϕ-2.37±.02; Mϕr0.21±.06; Best double couple: Mo5.66200×10^18 NP1:φs237.00000°, δ75.00000°, λ154.00000°. NP2:φs334.00000°, δ65.00000°, λ16.00000°. Principal axes: T 6.1880, Plg29.0000°, Azm193.0000°; N -1.0490, Plg60.0000°, Azm30.0000°; P -5.1360, Plg7.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **08** 00:23:17.4, 10.59N×140.22E, h24km, Moment Tensor Solution. Duration: 8s9 Moment tensor: Scale 10^18Nm; Mrr0.39; Mθθ3.97; Mϕϕ-4.36; Mrθ-1.26; Mθϕ-2.73; Mϕr-0.74; Fault plane solution: Mo5.19000×10^18 NP1: φs331.69000°, δ73.52000°, λ1.32000°. NP2:φs241.32000°, δ88.74000°, λ163.52000°. Principal axes: T 5.0078, Plg12.0000°, Azm195.0000°; N 0.3661, Plg73.0000°, Azm57.0000°; P -5.3739, Plg11.0000°, Azm288.0000°;*
ISC 08 00:22:55.0±0.3, 10.01N±0.02×140.26E±0.03, h26km±1km, h26km; pP-P, n2594, s1584/2482, mb6.1/533, MS6.4/744, 40C-75D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.75**	**51**	Pn	**Pn**	**00 24 18.3**	**-0.4**
GUMO	**Guam**	**5.75**	**51**	Pn	**Pn**	**00 24 18.8**	**+0.1**
	2μm,0.3s,baz=196,slow=8.9,SNR=344						
GUMO				Sn	**Sn**	**00 25 21.9**	**-2.0**
	2μm,0.3s,baz=11,slow=23,SNR=9.6						
GUMO				LR	LR	00 27 19.7	
	comp=Z,146μm,18.4s,baz=329,slow=47						

SMPI Sarmi 12.02 187 P **Pn** **00 25 45.9 +1.0**
1μm,1.2s,53μm248μm
JAY Jayapura 12.46 178 P **Pn** **00 25 51.4 +0.6**
896nm,0.6s,24μm176μm
GENI Genyem 12.52 180 P **Pn** **00 25 55.3 +3.6**
GENI Genyem 12.52 180 P **Pn** **00 25 53.2 +1.5**
3μm,0.5s,58μm235μm
MANU Manus Island 13.91 149 **Pn** **00 26 13.5 +2.8**
MANU Manus Island 13.91 149 P **Pn** **00 26 13.3 +2.6**
SWI Sorong 14.03 220 P **Pn** **00 26 12.3 -0.1**
718nm,1.2s,56μm172μm
DAV Davao City (W) 14.80 260 P **P** **00 26 26.5 -2.1**
DAV Davao City (W) 14.80 260 P **P** **00 26 26.8 -1.8**
DAV Davao City (W) 14.80 260 P Pn 00 26 15.1 -7.8
DAV Davao City (W) 14.80 260 Pn **Pn** **00 26 24.0 +1.1**
104nm,0.3s,baz=72,slow=3.7,SNR=17
DAV LR LR 00 32 34.5
comp=Z,51μm,18.1s,baz=87,slow=39
191nm,0.5s
KMPI Kaimana, Papua 15.07 206 P **Pn** **00 26 25.9 -0.5**
2μm,0.8s,48μm170μm
TABU Tabubil 15.21 176 P **P** **00 26 34.0 +0.9**
TNTI Ternate 15.77 235 Pn **Pn** **00 26 36.2 +0.7**
TNTI Ternate 15.77 235 P **Pn** **00 26 37.1 +1.6**
730nm,1.8s
TNTI Ternate 15.77 235 P **Pn** **00 26 34.4 -1.1**
684nm,1.7s,27μm47μm
SGSI Sangihe 15.91 248 P **Pn** **00 26 37.7 +0.3**
2μm,1.4s,34μm99μm
KAVG Kavieng 16.34 139 P **P** **00 26 45.7 +0.1**
LBMI Labuha 16.53 231 P **Pn** **00 26 45.3 0.0**
4μm,1.7s,77μm
JCJ Chichijima 17.09 6 Pn **Pn** **00 26 50.8 -1.4**
JCJ IAmb IAmb 00 27 01.4
comp=Z,4μm,1.3s
JCJ Chichijima 17.09 6 P **P** **00 26 53.9 +0.1**
JCJ Chichijima 17.09 6 Pn **Pn** **00 26 48.1 -4.2**
comp=Z,21nm,0.3s,baz=168,slow=6.2,SNR=24
JCJ LR LR 00 31 59.7
comp=Z,44μm,18.3s,baz=173,slow=32
BNDI Bandanaira 17.74 216 P **P** **00 27 02.4 +1.3**
BNDI Bandanaira 17.74 216 P **Pn** **00 27 00.3 -0.2**
comp=Z,3μm,1.9s,comp=Z,92μmcomp=Z,174μm
JMZ Minamidaito 2 17.90 333 **Pn** **00 26 58.8 -3.5**
JMZ IAmb IAmb 00 27 10.0
comp=Z,3μm,1.5s
PATS Pohnpei 18.14 99 P **P** **00 27 05.9 +0.4**
baz=18,SNR=7.4
PATS Pohnpei 18.14 99 **Pn** **00 27 03.6 -1.8**
PATS IAmb IAmb 00 27 06.9
comp=Z,3μm,2.0s
PATS Pohnpei 18.14 99 P **P** **00 27 09.3 +3.8**
MMPI Merauke 18.36 180 P **Pn** **00 27 09.8 +1.8**
RABL Rabaul 18.43 139 P **Pn** **00 27 09.8 +0.8**
RABL Rabaul 18.43 139 P **Pn** **00 27 12.3 +3.3**
NLAI Namlea 18.57 226 P **P** **00 27 10.8 +0.5**
comp=Z,802nm,1.7s
SANI Sanana 18.59 231 P **Pn** **00 27 11.7 +0.9**
SANI Sanana 18.59 231 P **P** **00 27 08.8 -1.6**
SANI Sanana 18.59 231 P **P** **00 27 09.1 -1.3**
KMSI Cibinong 18.71 241 P **P** **00 27 12.1 +0.3**
comp=Z,2μm,1.0s,comp=Z,57μmcomp=Z,104μm
SAUI Saumlaki 19.98 207 P **Pn** **00 27 27.0 -0.5**
SAUI Saumlaki 19.98 207 P **Pn** **00 27 27.7 +0.2**
SAUI Saumlaki 19.98 207 P **P** **00 27 26.1 +0.4**
comp=Z,3μm,1.7s,comp=Z,88μmcomp=Z,201μm
JOW Kunigami 20.20 328 P **P** **00 27 27.0 -1.0**
JOW IAmb IAmb 00 27 30.8
comp=Z,848nm,1.1s
JOW Kunigami 20.20 328 P Pn 00 27 29.6 -0.4
comp=Z,723nm,0.9s
JOW Kunigami 20.20 328 P **P** **00 27 28.4 +0.5**
comp=Z,462nm,1.0s,baz=147,slow=12,SNR=26
JOW LR LR 00 33 35.7
comp=Z,97μm,21.5s,baz=154,slow=32
comp=Z,462nm,1.0s
PMG Port Moresby 20.48 160 P **P** **00 27 31.6 +0.6**
PMG IAmb IAmb 00 27 48.5
comp=Z,2μm,1.5s
PMG Port Moresby 20.48 160 IAMs_20 IAMs_20 00 34 06.6
comp=Z,162μm,21.0s
PMG Port Moresby 20.48 160 P Pn 00 27 33.6 +0.2
PMG Port Moresby 20.48 160 P Pn 00 27 33.5 +0.1
PMG Port Moresby 20.48 160 *ce*P **P** **00 27 31.7 +0.6**
PMG pmax pmax
comp=Z,1μm,2.5s
PMG MLR MLR
comp=Z,144μm,16.0s
PMG Port Moresby 20.48 160 P **P** **00 27 32.2 +1.1**
comp=Z,175nm,1.0s,baz=344,slow=9.5,SNR=96
PMG LR LR 00 34 26.6
comp=Z,154μm,19.3s,baz=333,slow=34
comp=Z,175nm,1.0s
MRSI Marsa 20.53 244 P **P** **00 27 31.9 +0.2**
comp=Z,4μm,1.5s,comp=Z,94μmcomp=Z,104μm
LUWI Luwuk 20.58 239 P **P** **00 27 32.3 +0.1**
LUWI Luwuk 20.58 239 P **P** **00 27 32.6 +0.4**
LUWI Luwuk 20.58 239 P **P** **00 27 32.3 +0.1**
comp=Z,7μm,1.3s,comp=Z,97μmcomp=Z,113μm
LUWI Luwuk 20.58 239 P **P** **00 27 28.0 -4.2**
SZP Santa 20.62 293 P **P** **00 27 33.9 +1.2**
TOLI2 Tolitoli 21.29 247 P **P** **00 27 40.6 +0.7**
TOLI2 Tolitoli 21.29 247 P **P** **00 27 41.4 +1.5**
YOJ Yonaguni jima 21.82 313 P **P** **00 27 42.4 -3.1**
YOJ Yonaguni jima 21.82 313 P **P** **00 27 45.7 +0.2**
YOJ Yonaguni jima 21.82 313 P **P** **00 27 42.4 -3.1**
YOJ pmax pmax
comp=Z,3μm,1.4s
MYLDM Lahad Datu 22.09 259 P **P** **00 27 50.3 +1.8**
TWGBT Beinan 22.33 307 P **P** **00 27 52.4 +1.3**
comp=Z,897nm,2.0s
TWG Pinlang 22.34 307 P **P** **00 27 50.7 -0.4**
YULB Yu-li 22.47 309 P **P** **00 27 51.8 -0.8**
YULB IAmb IAmb 00 28 12.6
comp=Z,2μm,1.4s
YULB Yu-li 22.47 309 P **P** **00 27 54.3 +1.7**
NACB Ninganchiao 22.68 311 P **P** **00 27 53.7 -1.1**
NACB IAmb IAmb 00 28 10.1
comp=Z,2μm,1.8s
NACB Ninganchiao 22.68 311 P **P** **00 27 56.0 +1.2**
TPUB Ta-pu 22.94 308 P **P** **00 27 56.0 -1.5**
TPUB Ta-pu 22.94 308 P **P** **00 27 57.2 -0.3**
comp=Z,1μm,1.1s
SSLB Suanglung 22.95 309 P **P** **00 27 56.5 -1.1**
SSLB IAmb IAmb 00 28 20.3
comp=Z,873nm,1.1s
SSLB Suanglung 22.95 309 P **P** **00 28 00.0 +2.4**
JHJ2 Mitsune 22.99 359 P **P** **00 27 55.2 -2.7**
JHJ2 IAmb IAmb 00 28 04.4
comp=Z,1μm,1.1s
JHJ2 IAMs_20 IAMs_20 00 34 52.0
comp=Z,123μm,20.0s
JHJ2 Mitsune 22.99 359 P **P** **00 27 57.3 -0.6**
comp=Z,844nm,1.0s
JHJ Hachijo jima 2 23.00 359 LR LR 00 35 13.1
comp=Z,115μm,19.6s,baz=202,slow=32
YHNB Yeheng 23.13 311 P **P** **00 27 58.6 -0.9**
YHNB Yeheng 23.13 311 P **P** **00 28 00.8 +1.3**
TATO Taipei 23.23 312 P **P** **00 27 59.3 -1.1**
TATO IAmb IAmb 00 28 14.8
comp=Z,736nm,1.1s
TATO Taipei 23.23 312 P **P** **00 28 02.1 +1.7**
comp=Z,1μm,1.3s
BBSI Bau Bau 23.40 230 P **P** **00 28 02.7 +0.5**
comp=Z,2μm,1.1s,comp=Z,64μmcomp=Z,58μm
KDU Kakadu 23.84 199 P **P** **00 28 05.8 -0.6**
baz=24,SNR=185
KDU Kakadu 23.84 199 P **P** **00 28 06.7 +0.3**
COEN Coen 23.99 173 P **P** **00 28 07.6 -0.2**
COEN IAmb IAmb 00 28 10.2
comp=Z,805nm,1.4s
COEN Coen 23.99 173 P **P** **00 28 08.5 +0.7**
KKM Kota Kinabalu 24.12 262 P **P** **00 28 08.8 -0.5**
KKM IAmb IAmb 00 28 37.2
comp=Z,758nm,1.2s
KKM Kota Kinabalu 24.12 262 P **P** **00 28 10.2 +1.0**
comp=Z,550nm,1.3s
TTSI Tana Toraja 24.14 239 P **P** **00 28 09.2 0.0**
comp=Z,2μm,0.8s,comp=Z,45μmcomp=Z,48μm
SPMM Sapulut 24.17 259 P **P** **00 28 10.0 +0.4**
JMN Monobe 24.32 347 P **P** **00 28 09.7 -1.0**
JMN IAmb IAmb 00 28 20.3
comp=Z,922nm,1.2s
JMN IAMs_20 IAMs_20 00 35 16.0
comp=Z,103μm,20.0s

JMN Monobe 24.32 347 P **P** **00 28 11.3 +0.6**
MTN Manton Dam 24.45 202 P **P** **00 28 12.0 0.0**
baz=24,SNR=52
MTN Manton Dam 24.45 202 P **P** **00 28 11.8 -0.2**
MTN Manton Dam 24.45 202 P **P** **00 28 12.5 +0.5**
JNU Nakatsue 24.57 341 P **P** **00 28 11.0 -2.0**
JNU IAmb IAmb 00 28 21.4
comp=Z,538nm,1.0s
JNU Nakatsue 24.57 341 LR LR 00 36 18.2
comp=Z,59μm,21.3s,baz=136,slow=33
JSG Sagara 24.62 356 P **P** **00 28 11.7 -1.7**
JSG IAmb IAmb 00 28 42.7
comp=Z,1μm,1.6s
JSG IAMs_20 IAMs_20 00 35 35.0
comp=Z,104μm,21.0s
JSG Sagara 24.62 356 P **P** **00 28 12.7 -0.7**
SPSI Sidrap Palu 24.68 237 P **P** **00 28 13.5 -0.7**
comp=Z,2μm,0.8s,comp=Z,24μmcomp=Z,41μm
BKSI Bulukumba 25.19 234 P **P** **00 28 18.8 +0.1**
comp=Z,712nm,1.4s,comp=Z,14μmcomp=Z,33μm
SOEI Soe 25.27 219 P **P** **00 28 18.3 -1.4**
SOEI Soe 25.27 219 P **P** **00 28 20.5 +0.8**
SOEI Soe 25.27 219 P **P** **00 28 19.1 -0.6**
comp=Z,2μm,1.4s,comp=Z,44μmcomp=Z,57μm
SOEI Soe 25.27 219 P **P** **00 28 18.1 -1.5**
KNMB Chin-men Tao 25.29 307 P **P** **00 28 18.1 -1.6**
KNMB IAmb IAmb 00 28 53.9
comp=Z,798nm,1.4s
KAPI Kappang 25.30 235 P **P** **00 28 19.9 +0.2**
KAPI Kappang 25.30 235 P **P** **00 28 20.1 +0.3**
comp=Z,496nm,1.1s
KAPI Kappang 25.30 235 P P 00 28 10.1 -10
KAPI Kappang 25.30 235 *i* P **P** **00 28 19.8 0.0**
KAPI pmax pmax
comp=Z,527nm,1.2s
KAPI MLR MLR
comp=Z,38μm,21.0s
KAPI Kappang 25.30 235 LR LR 00 37 03.0
comp=Z,39μm,21.3s,baz=45,slow=34
QZH Quanzhou 25.38 309 ⇓*i* P **P** **00 28 20.0 -0.4**
QZH S **S** **00 32 41.2 -4.5**
QZH pmax pmax
comp=Z,350nm,1.2s
QZH pmax pmax
comp=Z,5μm,6.4s
QZH LR LR
comp=Z,33μm,18.5s
QZH LR LR
comp=Z,55μm,13.4s
QZH LR LR
comp=Z,54μm,16.6s
INU Inuyama 25.39 354 P **P** **00 28 18.7 -1.7**
INU IAmb IAmb 00 28 42.2
comp=Z,677nm,1.4s
INU Inuyama 25.39 354 P **P** **00 28 20.0 -0.4**
comp=Z,292nm,1.0s
MMRI Maumere 25.79 225 P **P** **00 28 23.4 -0.8**
MMRI Maumere 25.79 225 P **P** **00 28 25.0 +0.8**
MMRI Maumere 25.79 225 P **P** **00 28 23.3 -0.9**
comp=Z,4μm,1.6s,comp=Z,76μmcomp=Z,56μm
BKB Balikpapan 25.81 246 P **P** **00 28 24.5 +0.1**
BKB Balikpapan 25.81 246 P **P** **00 28 25.6 +1.2**
BKB Balikpapan 25.81 246 P **P** **00 28 24.7 +0.3**
comp=Z,1μm,1.4s,comp=Z,26μmcomp=Z,60μm
BATI Baumata 26.00 220 P **P** **00 28 25.4 -0.7**
comp=Z,2μm,1.6s,comp=Z,47μmcomp=Z,46μm
BATI Baumata 26.00 220 LR LR 00 37 43.0
comp=Z,80μm,21.8s,baz=42,slow=34
EDFI Ende, Flores 26.25 225 P **P** **00 28 26.7 -1.8**
comp=Z,958nm,2.5s,comp=Z,39μmcomp=Z,40μm
JTU Tsushima 26.34 339 P **P** **00 28 30.7 +1.7**
MJAR Matsushiro Arr 26.47 356 P **P** **00 28 28.3 -1.9**
comp=Z,56nm,1.0s,baz=178,slow=10.0,SNR=41
MJAR ScP **ScP** **00 35 33.3 -0.1**
comp=Z,10nm,1.0s,baz=213,slow=3.3,SNR=6.2
MJAR LR LR 00 38 54.4
comp=Z,47μm,18.2s,baz=156,slow=36
comp=Z,56nm,1.0s
MAJO Matsushiro 26.48 356 P **P** **00 28 28.4 -1.8**
MAJO Matsushiro 26.48 356 P **P** **00 28 28.7 -1.5**
MAJO Matsushiro 26.48 356 *i* P **P** **00 28 29.0 -1.2**
MAJO pmax pmax
comp=Z,151nm,1.1s
MAJO MLR MLR
comp=Z,41μm,17.0s
MJB9 Matsu-Tunnel 26.48 356 P **P** **00 28 28.4 -1.9**
H11S3 WAKE ISLAND Hy 26.94 69 T T 00 56 45.7
baz=255,slow=76
H11S1 WAKE ISLAND Hy 26.95 69 T T 00 56 48.8
baz=255,slow=76
H11S2 WAKE ISLAND Hy 26.95 69 T T 00 56 45.3
baz=255,slow=76
WAKE Wake Island 27.12 67 P **P** **00 28 37.1 +0.9**
H11N1 WAKE ISLAND Hy 27.45 66 T T 00 57 23.4
baz=254,slow=75,SNR=4824
SSE Sheshan 27.46 323 P **P** **00 28 38.3 -0.8**
SSE S **S** **00 33 18.4 +0.1**
SSE pmax pmax
comp=Z,140nm,1.1s
SSE pmax pmax
comp=Z,3μm,7.9s
H11N2 WAKE ISLAND Hy 27.46 66 T T 00 57 23.4
baz=254,slow=75,SNR=4112
H11N3 WAKE ISLAND Hy 27.47 66 T T 00 57 24.5
baz=254,slow=75,SNR=1830
MTKI Muara Teweh, K 27.49 248 P **P** **00 28 39.5 -0.1**
comp=Z,217nm,1.1s,comp=Z,11μmcomp=Z,31μm
HNR Honiara 27.52 134 P **P** **00 28 39.7 -0.1**
HNR IAmb IAmb 00 29 05.4
comp=Z,436nm,0.8s
HNR Honiara 27.52 134 P **P** **00 28 42.6 +2.8**
HNR Honiara 27.52 134 P **P** **00 28 39.7 -0.1**
HNR pmax pmax
comp=Z,436nm,0.9s
HNR MLR MLR
comp=Z,47μm,18.0s
HNR Honiara 27.52 134 LR LR 00 39 07.9
comp=Z,577μm,18.6s,baz=306,slow=35
JMM Marumori 27.73 1 P **P** **00 28 40.1 -1.4**
JMM IAmb IAmb 00 29 05.5
comp=Z,413nm,0.9s
JMM Marumori 27.73 1 P **P** **00 28 41.2 -0.3**
HKC Hong Kong Obse 27.82 299 ⇑P **P** **00 28 44.0 +1.6**
HKPS Hong Kong Po S 27.83 299 P **P** **00 28 41.5 -1.1**
HKPS IAmb IAmb 00 28 45.2
comp=Z,602nm,1.2s
HKPS Hong Kong Po S 27.83 299 P **P** **00 28 44.5 +1.9**
KNRA Kununurra 27.95 204 P **P** **00 28 44.0 +0.4**
baz=28,SNR=81
KNRA Kununurra 27.95 204 P **P** **00 28 43.8 +0.2**
KNRA Kununurra 27.95 204 P **P** **00 28 44.2 +0.6**
BASI Baing, Sumba 28.06 225 P **P** **00 28 41.4 -3.2**
comp=Z,2μm,1.6s,comp=Z,18μmcomp=Z,23μm
MTSU Mount Surprise 28.25 172 P **P** **00 28 47.7 +1.4**
baz=28,SNR=46
MTSU Mount Surprise 28.25 172 P **P** **00 28 47.7 +1.4**
comp=Z,67nm,1.0s
MCO Taipa Grande 28.28 298 P **P** **00 28 48.0 +1.4**
BBKI Banjar Baru 28.64 243 P **P** **00 28 49.3 -0.5**
comp=Z,176nm,1.4s,comp=Z,9μm
TJN Taejon 28.73 338 P **P** **00 28 49.2 -1.2**
TJN Taejon 28.73 338 P **P** **00 28 49.8 -0.6**
TJN Taejon 28.73 338 *ce*P **P** **00 28 49.6 -0.8**
GZH Guangzhou 28.82 300 P **P** **00 28 48.8 -2.6**
GZH S **S** **00 33 37.7 -2.2**
GZH pmax pmax
comp=Z,120nm,1.3s
GZH LR LR
comp=Z,9μm,11.9s
GZH LR LR
comp=Z,6μm,11.4s
SBUM Sibu 28.84 257 P **P** **00 28 51.2 -0.5**
SBUM Sibu 28.84 257 P **P** **00 28 52.0 +0.3**
PLAI Plampang 29.17 231 P **P** **00 28 54.0 -0.6**
PLAI Plampang 29.17 231 P **P** **00 28 51.5 -3.1**
comp=Z,126nm,1.0s,comp=Z,6μmcomp=Z,19μm
KSRS Korea Array 29.50 340 P **P** **00 28 56.5 -0.6**
comp=Z,47nm,0.9s,baz=161,slow=10,SNR=72
KSRS ScP **ScP** **00 35 43.4 +0.7**
comp=Z,11nm,1.0s,baz=154,slow=3.3,SNR=7.9
KSRS LR LR 00 39 09.1
comp=Z,68μm,20.8s,baz=160,slow=33
comp=Z,47nm,0.9s
KSAR Wonju Array Be 29.50 340 P **P** **00 28 56.0 -1.2**
KSAR Wonju Array Be 29.50 340 P **P** **00 28 56.0 -1.2**
NJ2 Nanjing 29.55 321 ⇑P **P** **00 28 57.7 0.0**

NJ2 pP **pP** **00 29 01.8 -3.1**
NJ2 sP **sP** **00 29 06.0 -1.8**
NJ2 PP **PnPn** **00 29 52.6 -0.1**
NJ2 S **S** **00 33 58.3 +7.1**
NJ2 sS **sS** **00 34 03.6 +1.2**
NJ2 SS **SnSn** **00 35 29.2 +9.1**
NJ2 pmax pmax
comp=Z,74nm,1.0s
NJ2 pmax pmax
comp=Z,4μm,8.1s
NJ2 LR LR
comp=Z,84μm,17.3s
NJ2 LR LR
comp=Z,88μm,18.0s
NJ2 LR LR
comp=Z,75μm,18.9s
KS19 Wonju Array Si 29.56 340 P **P** **00 28 55.6 -2.2**
TV1H Townsville Har 29.80 167 P **P** **00 29 03.6 +3.6**
comp=Z,62nm,0.9s
TWSI Taliwang, Sumb 29.81 232 P **P** **00 28 57.6 -2.6**
comp=Z,141nm,0.8s,comp=Z,6μmcomp=Z,16μm
INCN Inchon 29.98 338 P **P** **00 29 00.0 -1.5**
INCN Inchon 29.98 338 P **P** **00 29 02.3 +0.8**
comp=Z,101nm,1.5s
INCN Inchon 29.98 338 P **P** **00 29 00.0 -1.5**
INCN pmax pmax
comp=Z,97nm,1.0s
INCN MLR MLR
comp=Z,33μm,18.0s
WB0 Warramunga Arr 30.15 191 P **P** **00 29 02.7 -0.4**
AUAYR Ayr State High 30.24 167 P **P** **00 29 06.7 +2.8**
STKI Sintang 30.29 253 P **P** **00 29 03.7 -0.8**
comp=Z,214nm,1.5s,comp=Z,16μm
WR0 Warramunga Arr 30.31 191 P **P** **00 29 04.3 -0.3**
WR0 lAmb lAmb 00 29 06.0
comp=Z,258nm,0.9s
WRAB Tennant Creek 30.32 191 P **P** **00 29 04.9 +0.2**
WRAB lAmb lAmb 00 29 06.1
comp=Z,278nm,1.1s
WRAB Tennant Creek 30.32 191 P **P** **00 29 04.9 +0.2**
WRAB pmax pmax
comp=Z,278nm,1.1s
WRAB MLR MLR
comp=Z,7μm,19.0s
WB2 Warramunga Arr 30.33 191 P **P** **00 29 04.3 -0.4**
WB2 lAmb lAmb 00 29 06.2
comp=Z,297nm,1.1s
WRA Warramunga Arr 30.33 191 P **P** **00 29 04.0 -0.8**
WRA Warramunga Arr 30.33 191 P **P** **00 29 04.0 -0.8**
WRA pmax pmax
comp=Z,50nm,1.2s
WRA MLR MLR
comp=Z,14μm,20.0s
WRA Warramunga Arr 30.33 191 P **P** **00 29 05.4 +0.7**
comp=Z,106nm,0.7s,baz=9.9,slow=9.7,SNR=180
WRA PcP **PcP** **00 32 06.4 +1.6**
comp=Z,14nm,0.9s,baz=357,slow=2.5,SNR=3.2
WRA LR LR 00 41 25.7
comp=Z,129μm,19.5s,baz=16,slow=37
comp=Z,106nm,0.7s
QIS Mount Isa 30.39 181 P **P** **00 29 05.5 +0.3**
baz=30,SNR=81
QIS Mount Isa 30.39 181 P **P** **00 29 05.9 +0.7**
CTA Charters Tower 30.49 169 P **P** **00 29 08.0 +1.8**
CTA Charters Tower 30.49 169 LR LR 00 41 01.8
comp=Z,71μm,18.4s,baz=348,slow=36
CTAO Charters Tower 30.49 169 P **P** **00 29 07.7 +1.5**
CTAO lAmb lAmb 00 29 11.3
comp=Z,249nm,1.1s
CTAO Charters Tower 30.49 169 lAMs_20 lAMs_20 00 39 59.9
comp=Z,67μm,20.0s
CTAO Charters Tower 30.49 169 P **P** **00 29 08.0 +1.8**
CTAO Charters Tower 30.49 169 P **P** **00 29 07.7 +1.5**
CTAO pmax pmax
comp=Z,249nm,1.1s
CTAO MLR MLR
comp=Z,67μm,20.0s
JTM Tenmabayashi 30.66 1 P **P** **00 29 05.8 -1.6**
JTM Tenmabayashi 30.66 1 P **P** **00 29 10.6 +3.2**
QIZ Qiongzhong 30.73 290 P **P** **00 29 07.5 -0.9**
QIZ lAmb lAmb 00 29 11.6
comp=Z,675nm,1.8s
QIZ Qiongzhong 30.73 290 P **P** **00 29 10.6 +2.2**
comp=Z,156nm,1.9s
QIZ Qiongzhong 30.73 290 ⇓*i*P **P** **00 29 09.2 +0.8**
QIZ S **S** **00 34 11.5 +1.4**
QIZ pmax pmax
comp=Z,71nm,1.0s
QIZ pmax pmax
comp=Z,2μm,3.3s
QIZ LR LR
comp=Z,24μm,18.6s
QIZ LR LR
comp=Z,16μm,19.6s
QIZ LR LR
comp=Z,24μm,19.1s
SRBI Singaraja 30.74 235 P **P** **00 29 08.3 -0.2**
comp=Z,186nm,2.2s,comp=Z,10μmcomp=Z,20μm
HJU Haeju 30.82 337 P **P** **00 29 08.1 -0.7**
HJU S **S** **00 34 11.6 +0.7**
HJU AmB
comp=Z,3μm,3.3s
HJU AMS AMS
comp=Z,31μm,14.7s
KSM Kuching 30.95 256 P **P** **00 29 09.4 -0.9**
KSM Kuching 30.95 256 P **P** **00 29 11.0 +0.6**
KSM Kuching 30.95 256 P **P** **00 29 10.0 -0.4**
DNP Denpasar 31.09 234 P **P** **00 29 10.4 -1.1**
comp=Z,535nm,0.9s,comp=Z,29μm
KMMI Kalianget 31.19 238 P **P** **00 29 12.6 +0.2**
comp=Z,219nm,1.4s,comp=Z,11μmcomp=Z,24μm
ABJI Asem Bagus 31.38 237 P **P** **00 29 14.0 -0.1**
comp=Z,458nm,2.2s,comp=Z,17μmcomp=Z,24μm
CNSH ChangSha 31.39 309 ⇑P **P** **00 29 14.9 +0.8**
CNSH S **S** **00 34 22.8 +2.6**
CNSH pmax pmax
comp=Z,160nm,1.3s
CNSH LR LR
comp=Z,14μm,15.0s
CNSH LR LR
comp=Z,22μm,17.8s
CNSH LR LR
comp=Z,28μm,16.6s
FITZ Fitzroy Crossi 31.44 207 P **P** **00 29 14.3 -0.3**
baz=32,SNR=50
WHN Wuhan 31.60 314 ⇓P **P** **00 29 17.0 +1.1**
WHN S **S** **00 34 21.9 -1.5**
WHN pmax pmax
comp=Z,500nm,1.3s
WHN pmax pmax
comp=Z,5μm,4.1s
WHN LR LR
comp=Z,56μm,16.5s
WHN LR LR
comp=Z,33μm,17.1s
WHN LR LR
comp=Z,61μm,17.4s
PYAG Pyongyang 31.69 338 P **P** **00 29 16.3 -0.3**
PYAG S **S** **00 34 25.3 +0.8**
PYAG AmB
comp=Z,3μm,3.3s
PYAG AMS AMS
comp=Z,21μm,13.7s
JAGI Jajag, Banyuwa 31.82 236 P **P** **00 29 15.8 -2.2**
JAGI Jajag, Banyuwa 31.82 236 P **P** **00 29 16.0 -2.0**
JAGI Jajag, Banyuwa 31.82 236 P **P** **00 29 17.1 -0.9**
comp=Z,221nm,1.5s,comp=Z,8μmcomp=Z,16μm
HHU Hamhung 31.87 341 P **P** **00 29 17.4 -0.7**
HHU S **S** **00 34 28.0 +0.7**
HHU AmB
comp=Z,5μm,3.9s
HHU AMS AMS
comp=Z,31μm,14.0s
BLJI Banyuglugur 31.88 237 P **P** **00 29 18.8 +0.3**
comp=Z,499nm,1.6s,comp=Z,14μmcomp=Z,21μm
GULI GuiLin 32.17 302 ⇓P **P** **00 29 23.3 +2.3**
GULI pP **pwP** **00 29 31.6 +0.5**
GULI sP **sP** **00 29 34.4 +3.7**
GULI S **S** **00 34 39.5 +7.0**
GULI pmax pmax
comp=Z,180nm,1.2s
GULI pmax pmax
comp=Z,3μm,4.9s
GULI LR LR
comp=Z,26μm,18.4s
GULI LR LR
comp=Z,21μm,18.4s
GULI LR LR
comp=Z,30μm,18.4s
SUJ Sinuiju 33.08 338 P **P** **00 29 28.5 -0.2**
SUJ S **S** **00 34 46.7 +0.5**
SUJ AmB
comp=Z,8μm,4.6s
SUJ AMS AMS
comp=Z,28μm,12.8s
DL2 Dalian 33.25 333 ⇓*i*P **P** **00 29 30.4 +0.2**
DL2 S **S** **00 34 49.2 +0.3**
DL2 pmax pmax
comp=Z,130nm,1.0s
DL2 pmax pmax
comp=Z,6μm,6.6s
DL2 LR LR
comp=Z,54μm,22.7s
DL2 LR LR
comp=Z,75μm,21.8s
DL2 LR LR
comp=Z,52μm,18.6s
MSHR Mys Shultsa 33.41 348 *ce*P **P** **00 29 32.0 +0.5**
MSHR pmax pmax
comp=Z,143nm,2.5s
MSHR MLR MLR
comp=Z,29μm,16.0s
TIA Tai'an 33.47 325 ⇓P **P** **00 29 31.7 -0.5**
TIA S **S** **00 34 58.1 +5.6**
TIA pmax pmax
comp=Z,78nm,1.3s
TIA pmax pmax
comp=Z,4μm,9.3s
TIA LR LR
comp=Z,60μm,17.7s
TIA LR LR
comp=Z,62μm,17.6s
TIA LR LR
comp=Z,52μm,18.6s
NGJI Ngawi 33.47 240 P **P** **00 29 32.5 0.0**
comp=Z,390nm,1.1s,comp=Z,9μmcomp=Z,27μm
PSTR Posyet 33.55 347 *i*P **P** **00 29 31.5 -1.2**
AS01 Alice Springs 34.03 190 P **P** **00 29 38.0 +0.7**
comp=Z,199nm,1.0s
ASAJ Asahikawa 34.04 3 P **P** **00 29 36.1 -0.9**
ASAJ pmax pmax
comp=Z,144nm,1.1s
ASAJ Asahikawa 34.04 3 LR LR 00 41 57.5
comp=Z,35μm,21.8s,baz=201,slow=34
JKA Kamikawa-asahi 34.04 3 P **P** **00 29 36.1 -0.9**
AS31 Alice Springs 34.04 190 P **P** **00 29 37.6 +0.3**
ASAR Alice Springs 34.05 190 P **P** **00 29 37.5 +0.1**
ASAR Alice Springs 34.05 190 P **P** **00 29 38.5 +1.2**
comp=Z,50nm,0.5s,baz=18,slow=12,SNR=516
ASAR PcP **PcP** **00 32 17.2 +2.3**
comp=Z,30nm,1.0s,baz=34,slow=3.5,SNR=2.5
ASAR LR LR 00 43 31.8
comp=Z,78μm,19.1s,baz=8.0,slow=36
comp=Z,50nm,0.5s
SMRI Semarang 34.19 241 P **P** **00 29 38.0 -0.8**
SMRI lAmb lAmb 00 30 46.2
comp=Z,444nm,1.2s
SMRI Semarang 34.19 241 P **P** **00 29 39.8 +1.0**
comp=Z,326nm,1.7s
SMRI Semarang 34.19 241 P **P** **00 29 38.3 -0.5**
comp=Z,326nm,1.2s,comp=Z,15μmcomp=Z,27μm
UGM Wanagama 34.55 240 P **P** **00 29 40.4 -1.5**
UGM Wanagama 34.55 240 P **P** **00 29 41.6 -0.3**
UGM Wanagama 34.55 240 P **P** **00 29 40.6 -1.3**
comp=Z,947nm,1.3s,comp=Z,15μmcomp=Z,20μm
RK1H Rockhampton Ha 34.67 163 P **P** **00 29 43.4 +0.7**
comp=Z,57nm,1.0s
YOGI Yogyakarta 34.70 240 P **P** **00 29 41.5 -1.6**
comp=Z,1μm,1.4s,comp=Z,15μm
USA0B Ussuriysk Arra 34.80 350 P **P** **00 29 42.5 -1.2**
USA0B Ussuriysk Arra 34.80 350 *d*iP **P** **00 29 43.4 -0.3**
USRK Ussuriysk Ar. 34.80 350 P **P** **00 29 42.5 -1.2**
USRK Ussuriysk Ar. 34.80 350 P **P** **00 29 43.6 -0.1**
comp=Z,43nm,0.7s,baz=168,slow=7.1,SNR=39
USRK LR LR 00 42 26.1
comp=Z,38μm,18.6s,baz=162,slow=34
comp=Z,43nm,0.7s
SNY Shenyang 34.92 338 ⇓P **P** **00 29 44.4 -0.3**
SNY S **S** **00 35 18.5 +3.9**
SNY pmax pmax
comp=Z,110nm,1.5s
SNY LR LR
comp=Z,49μm,21.8s
SNY LR LR
comp=Z,50μm,22.0s
SNY LR LR
comp=Z,64μm,16.9s
ENH Enshi 35.03 310 P **P** **00 29 45.8 -0.1**
ENH Enshi 35.03 310 P **P** **00 29 46.8 +0.9**
comp=Z,566nm,1.6s
TEY Ternei 35.04 355 ⇓*e*P **P** **00 29 45.1 -0.5**
TEY *e* 00 29 50.9
TEY pmax pmax
comp=N,40nm,1.2s
TEY pmax pmax
comp=Z,70nm,1.2s
TEY pmax pmax
comp=E,10.0nm,1.0s
LYN LuoYang 35.24 318 ⇓*i*P **P** **00 29 47.7 +0.2**
LYN pP pP 00 29 51.9 -2.9
LYN sP sP 00 29 56.0 -1.8
LYN S **S** **00 35 20.4 +0.6**
LYN pmax pmax
comp=E,370nm,1.2s
LYN pmax pmax
comp=E,9μm,6.5s
LYN LR LR
comp=E,68μm,22.0s
LYN LR LR
comp=E,62μm,21.8s
LYN LR LR
comp=E,88μm,19.8s
KPJI Karang Pucung 35.64 242 P **P** **00 29 50.0 -1.2**
comp=E,526nm,1.0s,comp=E,14μm
MDJ Mudanjiang 35.69 347 P **P** **00 29 50.6 -0.6**
MDJ lAMs_20 lAMs_20 00 41 38.8
comp=Z,62μm,21.0s
MDJ Mudanjiang 35.69 347 P **P** **00 29 53.2 +1.9**
comp=Z,55nm,2.2s
MDJ Mudanjiang 35.69 347 P **P** **00 29 51.2 -0.1**
MDJ PP **PP** **00 31 17.3 +4.7**
MDJ PcP **PcP** **00 32 15.7 -3.6**
MDJ S **S** **00 35 26.6 +0.2**
MDJ sS sS 00 35 39.0 +0.7
MDJ ScP **ScP** **00 35 57.6 -6.2**
MDJ PcS **PcS** **00 36 03.0 -3.4**
MDJ LR LR
comp=Z,39μm,20.4s
MDJ LR LR
comp=Z,58μm,19.7s
MDJ LR LR
comp=Z,59μm,21.5s
HNS HongShan 35.69 324 ⇓P **P** **00 29 51.1 -0.3**
HNS pP **pP** **00 29 57.8 -0.8**
HNS sP **sP** **00 29 59.8 -1.7**
HNS S **S** **00 35 26.0 -0.6**
HNS sS **pS** **00 35 35.6 +1.2**
HNS pmax pmax
comp=Z,190nm,1.4s
HNS LR LR
comp=Z,45μm,14.7s
HNS LR LR
comp=Z,78μm,16.8s
HNS LR LR
comp=Z,56μm,20.2s
KUR Kuril'sk 35.70 9 *e*P **P** **00 29 51.2 -0.1**
KUR *e*S **S** **00 35 30.4 +3.9**
KUR *e*SS **SnSn** **00 37 49.5 +0.3**
KUR *e*SSS SSS 00 38 06.7
KUR pmax pmax
comp=Z,8μm,6.6s
KUR pmax pmax
comp=Z,636nm,1.3s
GYA Guiyang 35.70 302 ⇓P **P** **00 29 53.6 +1.8**
GYA S **S** **00 35 31.5 +4.2**
GYA SS **SnSn** **00 37 49.9 -0.1**
GYA pmax pmax
comp=Z,170nm,1.2s
GYA pmax pmax
comp=Z,3μm,5.2s
GYA LR LR
comp=Z,8μm,15.9s
GYA LR LR
comp=Z,14μm,12.8s
GYA LR LR
comp=Z,17μm,14.4s
JCJI Jatiwangi 35.83 244 P **P** **00 29 53.1 +0.2**
comp=Z,2μm,1.1s,comp=Z,40μmcomp=Z,24μm
CN2 Changchun 36.04 342 *e*P **P** **00 29 53.5 -0.8**
CN2 PP **PnPn** **00 31 11.7 -3.9**
CN2 *e*S **S** **00 35 29.6 -2.2**
CN2 pmax pmax
comp=Z,90nm,1.2s
CN2 pmax pmax
comp=Z,600nm,4.0s
CN2 LR LR
comp=Z,19μm,18.0s
CN2 LR LR
comp=Z,28μm,18.0s
CN2 LR LR
comp=Z,30μm,18.0s
PPBI Pangkal Pinang 36.06 252 P **P** **00 29 53.8 -1.1**
comp=Z,106nm,0.6s,comp=Z,11μmcomp=Z,14μm
CMJI Cimerak 36.27 242 P **P** **00 29 53.5 -3.2**
comp=Z,343nm,1.7s,comp=Z,9μmcomp=Z,12μm
LEM Lembang 36.56 244 LR LR 00 46 40.1
comp=Z,18μm,19.2s,baz=60,slow=39
QLP Quilpie 36.58 174 P **P** **00 29 59.6 +0.5**
baz=37,SNR=36
QLP Quilpie 36.58 174 P **P** **00 30 00.6 +1.5**
SLVN Son La 36.67 292 P **P** **00 29 59.8 -0.3**
SLVN lAmb lAmb 00 30 03.1
comp=Z,324nm,1.1s
EIDS Eidsvold 36.72 163 P **P** **00 30 00.3 +0.1**
baz=37,SNR=6.9
EIDS Eidsvold 36.72 163 P **P** **00 30 00.3 +0.1**
EIDS lAMs_20 lAMs_20 00 43 35.9
comp=Z,53μm,20.0s
EIDS Eidsvold 36.72 163 P **P** **00 30 00.9 +0.6**
WRKA Warakurna 36.74 198 P **P** **00 30 00.4 -0.1**
baz=37,SNR=276
WRKA Warakurna 36.74 198 P **P** **00 30 00.9 +0.4**
BJT Baijiatuau 36.76 328 P **P** **00 29 59.9 -0.6**
BJT lAmb lAmb 00 30 10.4
comp=Z,416nm,1.1s
BJT Baijiatuau 36.76 328 P **P** **00 30 00.4 -0.1**
comp=Z,405nm,1.3s
BJT Baijiatuau 36.76 328 P **P** **00 29 59.9 -0.6**
BJT pmax pmax
comp=Z,416nm,1.1s
BJT MLR MLR
comp=Z,40μm,19.0s
BJI Beijing 36.77 328 P **P** **00 30 00.4 -0.1**
BJI S **S** **00 35 43.8 +0.8**
BJI sS **sS** **00 35 55.9 +1.0**
BJI pmax pmax
comp=Z,120nm,1.3s
BJI pmax pmax
comp=Z,3μm,6.6s
BJI LR LR
comp=Z,23μm,18.7s
BJI LR LR
comp=Z,24μm,16.3s
BJI LR LR
comp=Z,23μm,17.7s
BBJI Bungbulang 36.82 243 P **P** **00 29 59.4 -2.0**
NONG Nongkai 36.82 287 P **P** **00 30 02.3 +1.0**
comp=Z,391nm,1.8s
YSS Yuzh-Sakhalins 36.88 3 ⇓*i*P **P** **00 30 01.1 -0.2**
YSS *e* 00 31 20.5
YSS *e*S **S** **00 35 44.9 +0.5**
YSS pmax pmax
comp=Z,480nm,1.1s
YSS pmax pmax
comp=Z,7μm,7.8s
YSS pmax pmax
comp=N,3μm,8.6s
YSS pmax pmax
comp=E,1μm,9.8s
YSS pmax pmax
comp=N,6μm,8.1s
YSS pmax pmax
comp=E,2μm,8.4s
YSS MLR MLR
comp=Z,27μm,15.0s
MBWA Marble Bar 36.97 213 P **P** **00 30 01.6 -0.8**
MBWA lAmb lAmb 00 30 03.4
comp=Z,640nm,1.6s
MBWA Marble Bar 36.97 213 P **P** **00 30 01.4 -1.0**
MBWA Marble Bar 36.97 213 P P 00 29 57.9 -4.6
DSRI Dabo 37.00 256 P **P** **00 30 01.8 -1.1**
comp=Z,145nm,1.6s,comp=Z,8μmcomp=Z,16μm
CBJI Obeko 37.06 245 P **P** **00 30 03.3 -0.1**
comp=Z,1μm,0.9s,comp=Z,20μmcomp=Z,16μm
MYKOM Kota Tinggi 37.09 260 P **P** **00 30 02.0 -1.7**
CNJI Cibinong 37.21 244 P **P** **00 30 02.7 -1.9**
comp=Z,488nm,1.2s,comp=Z,5μmcomp=Z,7μm
RMQ Roma 37.21 167 P **P** **00 30 05.5 +1.1**
baz=37,SNR=11
RMQ Roma 37.21 167 P **P** **00 30 07.1 +2.6**
comp=Z,114nm,1.2s
DBJI Dramaga 37.21 245 P **P** **00 30 03.3 -1.4**
comp=Z,749nm,1.2s,comp=Z,22μmcomp=Z,16μm
PSA00 Pilbara Seismi 37.24 212 P **P** **00 30 03.7 -1.1**
PSA00 lAmb lAmb 00 30 06.0
comp=Z,954nm,1.6s
PSA00 Pilbara Seismi 37.24 212 P **P** **00 30 03.3 -1.5**
PSA00 lAmb lAmb 00 30 05.9
comp=Z,703nm,1.6s
PSA00 Pilbara Seismi 37.24 212 P **P** **00 30 04.0 -0.8**
comp=Z,379nm,1.6s
TIY Taiyuan 37.24 322 ⇓P **P** **00 30 05.1 +0.4**
TIY pP **pP** **00 30 13.3 +1.3**
TIY PP **PP** **00 31 27.6 -2.3**
TIY S **S** **00 35 44.5 -6.0**
TIY sS **ScP** **00 36 06.8 -3.0**
TIY SS **SnSn** **00 38 27.8 +0.8**
TIY LR LR
comp=Z,59μm,18.1s
TIY LR LR
comp=Z,63μm,18.6s
TIY LR LR
comp=Z,39μm,20.6s
BNX BinXian 37.27 345 ⇓P **P** **00 30 04.7 0.0**
BNX pP **pP** **00 30 10.6 -1.3**
BNX sP **pwP** **00 30 13.4 -0.6**
BNX PP **PP** **00 31 29.2 -0.8**
BNX S **S** **00 35 52.9 +2.4**
BNX sS **sS** **00 36 03.4 +1.1**
BNX pmax pmax
comp=Z,370nm,1.2s
BNX pmax pmax
comp=Z,10μm,5.7s
BNX LR LR
comp=Z,31μm,17.9s
BNX LR LR
comp=Z,36μm,19.5s
BNX LR LR
comp=Z,36μm,16.3s
XAN Xi'an 37.36 315 ⇓P **P** **00 30 05.6 -0.1**
XAN pP pP 00 30 10.4 -2.6
XAN S **S** **00 35 53.9 +1.6**
XAN SS **SnSn** **00 38 27.8 -2.0**
XAN pmax pmax
comp=Z,280nm,1.4s
XAN pmax pmax
comp=Z,8μm,6.1s
XAN LR LR
comp=Z,58μm,22.4s
XAN LR LR
comp=Z,46μm,21.0s
XAN LR LR
comp=Z,79μm,20.2s
INKA Innaminka 37.53 179 P **P** **00 30 09.5 +2.4**
SBJI Serang 37.58 246 P **P** **00 30 06.7 -1.1**
comp=Z,295nm,1.5s,comp=Z,10μm
SKJI Sukabumi 37.58 245 P **P** **00 30 06.5 -1.3**
comp=Z,317nm,0.8s,comp=Z,6μmcomp=Z,9μm
PMBI Palembang 37.60 252 P **P** **00 30 07.6 -0.4**
PMBI lAmb lAmb 00 30 24.3
comp=Z,798nm,1.3s
PMBI Palembang 37.60 252 P **P** **00 30 09.4 +1.4**
PMBI Palembang 37.60 252 P **P** **00 30 05.3 -2.7**
comp=Z,431nm,1.1s,comp=Z,11μmcomp=Z,14μm
OOD Oodnadatta 37.84 187 P **P** **00 30 10.6 +0.8**
JRMM Jerantut 37.97 263 P **P** **00 30 10.0 -1.1**
CGJI Cibinong 38.18 246 P **P** **00 30 10.1 -2.8**
comp=Z,754nm,1.0s,comp=Z,10μm

KLI **Kotabumi** 38.23 249 P **P** **00 30 12.6 -0.7**
comp=Z,1μm,1.0s,comp=Z,15μmcomp=Z,16μm
NAYO **Nakonayok** 38.27 280 P **P** **00 30 14.8 +1.2**
comp=Z,1μm,1.0s
KOUNC **Koumac, New Ca** 38.49 142 P **P** **00 30 16.5 +1.2**
KOUNC **Koumac, New Ca** 38.49 142 P **P** **00 30 17.9 +2.6**
KMI **Kunming** 38.63 298 ⇓P **P** **00 30 18.8 +1.9**
KMI sP pwP 00 30 26.6 -0.4
KMI S **S** **00 36 08.9 -3.3**
KMI pmax pmax
comp=Z,190nm,1.7s
KMI pmax pmax
comp=Z,4μm,7.5s
KMI LR LR
comp=Z,39μm,17.6s
KMI LR LR
comp=Z,13μm,15.4s
KMI LR LR
comp=Z,27μm,16.9s
AUBSH **Beerwah State** 38.67 162 P **P** **00 30 17.7 +1.0**
KASI **Kota Agung** 38.82 248 P **P** **00 30 16.0 -2.3**
comp=Z,407nm,1.5s,comp=Z,9μmcomp=Z,13μm
UGL **Uglegorsk** 38.97 2 *e*P **P** **00 30 19.8 +0.8**
UGL *e* 00 31 55.0
UGL *e*S **S** **00 36 20.1 +4.0**
UGL *e*SS SS 00 39 26.6 +18
UGL pmax pmax
comp=Z,400nm,1.2s
UGL pmax pmax
comp=E,3μm,6.0s
UGL pmax pmax
comp=Z,10μm,7.0s
DVP **Devils Point** 39.00 135 P **P** **00 30 23.4 +3.8**
LWLI **Liwa** 39.03 249 P **P** **00 30 19.7 -0.4**
comp=Z,748nm,1.0s,comp=Z,17μmcomp=Z,15μm
LHSI **Lahat** 39.09 251 P **P** **00 30 18.5 -2.0**
comp=Z,299nm,1.2s,comp=Z,8μm
RTV **Rentapao** 39.21 135 P **P** **00 30 24.8 +3.4**
comp=Z,387nm,2.2s
KULM **Kulim** 39.51 266 P **P** **00 30 23.7 -0.4**
KULM **Kulim** 39.51 266 P **P** **00 30 24.0 -0.1**
CRAI **Chiangrai** 39.72 290 P **P** **00 30 26.5 +0.7**
KLR **Kul'dur** 39.73 351 *ce*P **P** **00 30 25.5 +0.1**
KLR pmax pmax
comp=Z,727nm,1.3s
KLR MLR MLR
comp=Z,23μm,16.0s
KLR **Kul'dur** 39.73 351 LR LR 00 45 30.2
comp=Z,18μm,19.2s,baz=164,slow=34
XLT **XiLinHaoTe** 39.74 332 ⇓*i*P **P** **00 30 25.5 -0.2**
XLT pP pP 00 30 31.6 -1.3
XLT sP pwP 00 30 34.4 +1.5
XLT PP **PnPn** **00 31 59.9 -0.6**
XLT PcP **PcP** **00 32 30.2 -1.7**
XLT S **S** **00 36 34.4 +6.3**
XLT sS sS 00 36 43.3 +3.3
XLT SS **SS** **00 39 17.8 -6.6**
XLT pmax pmax
comp=Z,220nm,1.2s
XLT pmax pmax
comp=Z,7μm,6.6s
XLT LR LR
comp=Z,6μm,20.8s
XLT LR LR
comp=Z,46μm,20.8s
XLT LR LR
comp=Z,50μm,19.6s
CD2 **Chengdu** 39.75 307 P **P** **00 30 26.3 +0.4**
CD2 pP pP 00 30 30.3 -2.5
CD2 S **S** **00 36 30.1 +1.6**
CD2 pmax pmax
comp=Z,480nm,0.8s
CD2 pmax pmax
comp=Z,5μm,9.0s
CD2 LR LR
comp=Z,34μm,20.6s
CD2 LR LR
comp=Z,25μm,18.2s
CD2 LR LR
comp=Z,26μm,19.8s
MNAI **Manna** 39.80 251 P **P** **00 30 24.9 -1.6**
MNAI **Manna** 39.80 251 P **P** **00 30 26.7 +0.2**
MNAI **Manna** 39.80 251 P **P** **00 30 25.3 -1.2**
comp=Z,1μm,2.2s,comp=Z,17μmcomp=Z,15μm
HHC **Hu-ho-hao-te** 39.82 325 *e*P **P** **00 30 26.6 +0.2**
HHC pP pP 00 30 32.9 -0.8
HHC PP **PnPn** **00 32 01.9 +0.4**
HHC S **S** **00 36 29.0 -0.5**
HHC pmax pmax
comp=Z,140nm,1.1s
HHC pmax pmax
comp=Z,12μm,6.4s
HHC LR LR
comp=Z,59μm,16.3s
HHC LR LR
comp=Z,67μm,16.3s
HHC LR LR
comp=Z,91μm,17.2s
PZH **PanZhiHua** 39.89 300 P **P** **00 30 28.0 +0.8**
PZH sP **pwP** **00 30 37.2 -0.2**
PZH PP **PP** **00 32 00.8 +1.7**
PZH PcP **PcP** **00 32 30.4 -2.4**
PZH S **S** **00 36 36.1 +5.2**
PZH sS **sS** **00 36 44.4 +2.1**
PZH ScS **ScS** **00 40 35.4 +1.9**
PZH pmax pmax
comp=Z,100nm,1.2s
PZH pmax pmax
comp=Z,3μm,3.7s
PZH LR LR
comp=Z,13μm,17.1s
PZH LR LR
comp=Z,12μm,16.7s
PZH LR LR
comp=Z,16μm,17.3s
AULRC **Lightning Ridg** 39.91 169 P **P** **00 30 28.5 +1.4**
XMI **Christmas Isla** 39.94 240 P **P** **00 30 27.5 -0.1**
XMIS **Christmas Isla** 39.99 240 P **P** **00 30 25.5 -2.5**
XMIS IAmb IAmb 00 30 28.2
comp=Z,474nm,0.9s
XMIS **Christmas Isla** 39.99 240 P **P** **00 30 26.3 -1.7**
SURA **Surathani** 40.05 272 P **P** **00 30 29.2 +0.7**
comp=Z,293nm,1.2s
SRIT **Nakonsritamara** 40.13 271 P **P** **00 30 29.4 +0.2**
SRIT IAmb IAmb 00 30 31.2
comp=Z,441nm,1.2s
SRIT **Nakonsritamara** 40.13 271 P **P** **00 30 29.7 +0.5**
comp=Z,407nm,1.2s
BKNI **Bangkinang** 40.17 259 P **P** **00 30 27.9 -1.7**
BKNI IAmb IAmb 00 30 29.9
comp=Z,343nm,1.0s
BKNI **Bangkinang** 40.17 259 P **P** **00 30 30.9 +1.3**
BKNI **Bangkinang** 40.17 259 P **P** **00 30 29.3 -0.3**
comp=Z,366nm,1.5s,comp=Z,6μmcomp=Z,15μm
BKNI **Bangkinang** 40.17 259 P P 00 30 24.5 -5.1
LCRK **Leigh Creek** 40.28 183 P **P** **00 30 31.4 +1.3**
SRDT **SRDT** 40.40 280 P **P** **00 30 33.5 +2.1**
KRJI **Kerinci** 40.45 255 P **P** **00 30 31.1 -0.9**
comp=Z,323nm,0.8s,comp=Z,16μm
LIFNC **LIFOU** 40.50 139 P **P** **00 30 33.4 +1.3**
LIFNC IAmb IAmb 00 30 37.0
comp=Z,1μm,1.5s
LIFNC **LIFOU** 40.50 139 P **P** **00 30 35.5 +3.4**
MULG **Mulgathing** 40.50 188 P **P** **00 30 33.0 +1.0**
BTO **Baotou** 40.54 324 *e*P **P** **00 30 33.9 +1.5**
BTO pP **pP** **00 30 40.0 +0.3**
BTO sP **sP** **00 30 42.8 +0.1**
BTO PP **PnPn** **00 32 11.5 +1.5**
BTO S **S** **00 36 43.2 +2.9**
BTO sS **sS** **00 36 53.9 +1.7**
BTO SS **SS** **00 39 37.2 -3.3**
BTO pmax pmax
comp=Z,420nm,1.1s
BTO pmax pmax
comp=Z,15μm,10.5s
BTO LR LR
comp=Z,95μm,22.0s
GRNR **Gornyy** 40.76 356 ⇑*i*P **P** **00 30 33.8 -0.1**
GRNR *e*S **S** **00 36 46.9 +4.0**
GRNR pmax pmax
comp=E,10.0nm,0.9s
GRNR pmax pmax
comp=N,40nm,1.1s
GRNR pmax pmax
comp=Z,70nm,1.0s
GRNR smax smax
comp=E,3.0nm,0.8s
TYV **Tymovskoe** 40.77 2 *e*P **P** **00 30 34.6 +0.6**
TYV *e*S **S** **00 36 47.4 +4.3**
TYV pmax pmax
comp=Z,5μm,4.6s
TYV pmax pmax
comp=Z,193nm,1.0s
TYV smax smax
comp=N,46nm,2.7s
TYV smax smax
comp=E,32nm,2.7s
TYV smax smax
comp=N,5μm,7.9s
TYV smax smax
comp=E,4μm,7.9s
CM31 **Chiang Mai Arr** 40.83 287 P **P** **00 30 36.0 +1.0**
CM31 lAmb lAmb 00 30 47.6
comp=Z,628nm,0.9s
CM31 **Chiang Mai Arr** 40.83 287 P P 00 30 24.3 -11
CMAR **Chiang Mai Arr** 40.83 287 P **P** **00 30 35.7 +0.7**
CMAR **Chiang Mai Arr** 40.83 287 P **P** **00 30 35.7 +0.7**
CMAR **Chiang Mai Arr** 40.83 287 P **P** **00 30 36.6 +1.7**
comp=Z,300nm,1.0s,baz=91,slow=6.6,SNR=570
CMAR LR LR 00 46 11.1
comp=Z,9μm,21.8s,baz=100,slow=34
CMAR PKPPKP **P'P'df** **01 02 48.8 -5.9**
comp=Z,0.8nm,0.3s,baz=292,slow=2.8,SNR=4.9
comp=Z,300nm,1.0s
CHTO **Chiang Mai** 40.87 287 P **P** **00 30 35.4 +0.1**
CHTO **Chiang Mai** 40.87 287 P **P** **00 30 36.4 +1.1**
CHTO **Chiang Mai** 40.87 287 P **P** **00 30 36.8 +1.5**
CHTO P **P** **00 30 36.8 +1.5**
CHTO P **P** **00 30 36.8 +1.5**
CHTO **Chiang Mai** 40.87 287 P **P** **00 30 35.4 +0.1**
CHTO pmax pmax
comp=Z,172nm,0.9s
NOUC **Port Laguerre** 40.88 142 P **P** **00 30 38.7 +3.5**
DZM **Mont Dzumac** 40.95 141 P **P** **00 30 37.4 +1.5**
DZM lAmb lAmb 00 30 40.8
comp=Z,489nm,1.4s
DZM IAMs_20 IAMs_20 00 44 57.4
comp=Z,39μm,20.0s
DZM **Mont Dzumac** 40.95 141 P **P** **00 30 38.6 +2.7**
DZM **Mont Dzumac** 40.95 141 *e*P **P** **00 30 35.4 -0.5**
comp=Z,706nm,1.4s
DZM **Mont Dzumac** 40.95 141 *e*PP **PP** **00 32 09.3 -1.4**
comp=Z,3μm,25.3s
DZM *e*S **S** **00 36 44.8 -1.8**
comp=Z,8μm,29.3s
DZM *e*SS **SnSn** **00 40 00.0 +3.2**
comp=Z,33μm,26.3s
DZM *e*LR LR 00 41 44.7
comp=Z,83μm,24.0s
DZM **Mont Dzumac** 40.95 141 LR LR 00 44 49.3
comp=Z,40μm,21.0s,baz=322,slow=32
PDSI **Padang** 41.06 257 P **P** **00 30 34.7 -2.3**
comp=Z,238nm,1.4s,comp=Z,7μmcomp=Z,13μm
ONTNC **Ouen Toro** 41.13 142 P **P** **00 30 38.0 +0.7**
ONTNC **Ouen Toro** 41.13 142 P **P** **00 30 39.7 +2.4**
GIRL **Giralia** 41.27 218 P **P** **00 30 39.6 +1.1**
baz=41,SNR=6.8
GIRL **Giralia** 41.27 218 P **P** **00 30 38.8 +0.4**
GIRL lAmb lAmb 00 30 41.0
comp=Z,566nm,1.1s
GIRL **Giralia** 41.27 218 P **P** **00 30 40.1 +1.6**
OUENC **Ouen Island, N** 41.45 141 P **P** **00 30 42.1 +2.2**
OUENC lAmb lAmb 00 30 59.4
comp=Z,645nm,1.8s
OUENC IAMs_20 IAMs_20 00 45 24.8
comp=Z,47μm,21.0s
OUENC **Ouen Island, N** 41.45 141 P **P** **00 30 42.8 +2.9**
comp=Z,181nm,1.6s
HEH **HeiHe** 41.50 348 *e*P **P** **00 30 39.8 -0.2**
HEH pP **pP** **00 30 45.7 -1.5**
HEH PP **PP** **00 32 16.5 +0.4**
HEH PcS **PcS** **00 36 26.6 -1.8**
HEH S **S** **00 36 57.1 +3.1**
HEH pmax pmax
comp=Z,290nm,1.2s
HEH pmax pmax
comp=Z,12μm,6.6s
HEH LR LR
comp=Z,36μm,19.0s
HEH LR LR
comp=Z,69μm,18.1s
HEH LR LR
comp=Z,65μm,20.0s
MARNC **Mare, Loyalty** 41.52 139 P **P** **00 30 41.5 +1.0**
MARNC **Mare, Loyalty** 41.52 139 P P 00 30 45.4 +5.0
comp=Z,2.6nm,0.7s
CMSA **Cobar Meteorol** 41.64 173 P **P** **00 30 42.7 +1.4**
baz=42,SNR=109
CMSA **Cobar Meteorol** 41.64 173 P **P** **00 30 42.8 +1.5**
PSI **Prapat** 41.66 263 P **P** **00 30 42.3 +0.3**
PSI **Prapat** 41.66 263 P **P** **00 30 40.7 -1.3**
PSI pmax pmax
comp=Z,339nm,1.1s
ARMA **Armidale** 41.66 165 P **P** **00 30 42.2 +0.5**
baz=42,SNR=41
ARMA **Armidale** 41.66 165 P **P** **00 30 41.4 -0.2**
ARMA IAMs_20 IAMs_20 00 46 09.8
comp=Z,39μm,20.0s
ARMA **Armidale** 41.66 165 P **P** **00 30 42.5 +0.8**
STKA **Stephens Creek** 41.67 178 P **P** **00 30 42.0 +0.4**
baz=42,SNR=105
STKA **Stephens Creek** 41.67 178 P **P** **00 30 41.7 +0.1**
STKA **Stephens Creek** 41.67 178 P **P** **00 30 42.1 +0.4**
STKA **Stephens Creek** 41.67 178 *c*P **P** **00 30 41.9 +0.4**
STKA **Stephens Creek** 41.67 178 P **P** **00 30 42.0 +0.4**
comp=Z,66nm,0.8s,baz=348,slow=8.8,SNR=73
STKA LR LR 00 48 20.9
comp=Z,54μm,20.2s,baz=360,slow=37
comp=Z,66nm,0.8s
RPSI **Rantau Prapat** 41.68 263 P **P** **00 30 40.6 -1.3**
RPSI lAmb lAmb 00 30 42.9
comp=Z,339nm,1.1s
PINNC **Pines Island,** 41.97 141 P **P** **00 30 45.7 +1.6**
PINNC IAMs_20 IAMs_20 00 45 39.5
comp=Z,48μm,18.0s
PINNC **Pines Island,** 41.97 141 P **P** **00 30 48.5 +4.4**
LZH **Lanzhou** 41.98 314 ⇓P **P** **00 30 45.1 +0.7**
LZH pP pP 00 30 53.1 +1.4
LZH sP sP 00 30 57.4 +2.7
LZH S **S** **00 37 03.6 +1.8**
LZH SS **SS** **00 40 08.9 -0.3**
LZH pmax pmax
comp=Z,170nm,1.2s
LZH pmax pmax
comp=Z,6μm,4.0s
LZH LR LR
comp=Z,25μm,15.5s
LZH LR LR
comp=Z,29μm,16.0s
LZH LR LR
comp=Z,50μm,19.1s
MEEK **Meekatharra** 42.06 210 P **P** **00 30 44.5 -0.4**
baz=42,SNR=17
MEEK **Meekatharra** 42.06 210 P **P** **00 30 44.7 -0.2**
FORT **Forrest** 42.22 196 P **P** **00 30 47.1 +1.0**
baz=42,SNR=205
FORT **Forrest** 42.22 196 P **P** **00 30 46.6 +0.6**
FORT IAMs_20 IAMs_20 00 49 50.0
comp=Z,37μm,18.0s
FORT **Forrest** 42.22 196 P **P** **00 30 47.4 +1.4**
TNCH **TengChong** 42.31 296 ⇓*i*P **P** **00 30 48.6 +1.3**
TNCH pP pP 00 30 50.9 -3.4
TNCH sP pwP 00 30 53.4 -4.1
TNCH PP **PP** **00 32 28.8 +3.3**
TNCH S **S** **00 37 08.7 +1.6**
TNCH SS **SS** **00 40 12.2 -4.0**
TNCH ScS **ScS** **00 40 41.0 -7.3**
TNCH pmax pmax
comp=Z,240nm,1.2s
TNCH pmax pmax
comp=Z,2μm,3.5s
TNCH LR LR
comp=Z,6μm,17.9s
TNCH LR LR
comp=Z,10μm,19.0s
TNCH LR LR
comp=Z,19μm,19.4s
SKR **Severo-Kuril's** 42.61 15 *e*P **P** **00 30 48.8 -0.2**
SKR *e* 00 32 31.7
SKR *e*S **S** **00 37 09.3 -0.9**
SKR pmax pmax
comp=Z,6μm,10.8s
HIA **Hailar** 42.71 340 P **P** **00 30 49.5 -0.4**
HIA **Hailar** 42.71 340 P **P** **00 30 50.3 +0.4**
comp=Z,180nm,1.0s
HIA **Hailar** 42.71 340 *i*P **P** **00 30 49.7 -0.2**
HIA pmax pmax
comp=Z,83nm,1.1s
HIA MLR MLR
comp=Z,27μm,19.0s
AUDCS **Dubbo College** 42.76 170 P **P** **00 30 51.5 +1.0**
BBOO **Buckleboo** 42.77 185 P **P** **00 30 51.3 +0.7**
baz=43,SNR=62
BBOO **Buckleboo** 42.77 185 P **P** **00 30 50.9 +0.3**
BBOO IAMs_20 IAMs_20 00 49 07.9
comp=Z,50μm,19.0s
BBOO **Buckleboo** 42.77 185 P **P** **00 30 51.2 +0.7**
WHYH **Whyalla** 42.88 183 P **P** **00 30 53.3 +1.9**
comp=Z,76nm,1.1s
FUNA **Funafuti** 42.92 114 P **P** **00 30 52.7 +0.7**
FUNA lAmb lAmb 00 31 02.9
comp=Z,539nm,1.2s
FUNA **Funafuti** 42.92 114 IAMs_20 IAMs_20 00 46 38.1
comp=Z,35μm,18.0s
FUNA **Funafuti** 42.92 114 P **P** **00 30 54.0 +1.9**
PBSI **Pulau Batu** 42.94 259 P **P** **00 30 50.8 -1.4**
comp=Z,248nm,1.6s,comp=Z,10μm
NKL **Nikolayevsk** 43.02 0 *e*P **P** **00 30 51.9 -0.4**
NKL *e* 00 32 44.2
NKL *e*S **S** **00 37 16.3 +0.1**
NKL pmax pmax
comp=N,333nm,1.0s
NKL pmax pmax
comp=E,191nm,0.9s
NKL pmax pmax
comp=Z,1μm,0.9s
NKL smax smax
comp=E,2μm,6.0s
NKL smax smax
comp=N,862nm,3.9s
NKL MLR MLR
comp=N,54μm,16.0s
NKL MLR MLR
comp=E,38μm,16.0s
NKL MLR MLR
comp=Z,73μm,17.0s
LHMI **Lhok Sumawe** 43.16 267 P **P** **00 30 54.1 0.0**
LHMI **Lhok Sumawe** 43.16 267 P **P** **00 30 54.5 +0.5**
LHMI **Lhok Sumawe** 43.16 267 P **P** **00 30 54.1 0.0**
comp=Z,597nm,1.7s,comp=Z,13μmcomp=Z,19μm
HTT **Hallett** 43.22 182 P **P** **00 30 55.0 +0.8**
baz=43,SNR=24
HTT **Hallett** 43.22 182 P **P** **00 30 55.1 +0.8**
GSI **Gunungsitoli** 43.30 261 P **P** **00 30 52.8 -2.4**
GSI lAmb lAmb 00 30 55.0
comp=Z,604nm,1.3s
GSI **Gunungsitoli** 43.30 261 P **P** **00 30 53.9 -1.3**
GSI **Gunungsitoli** 43.30 261 P **P** **00 30 52.8 -2.4**
comp=Z,300nm,1.8s,comp=Z,8μmcomp=Z,15μm
MIDW **Midway** 43.66 59 P **P** **00 30 58.1 +0.2**
MIDW **Midway** 43.66 59 P **P** **00 31 00.8 +2.9**
MLSI **Meulaboh, Aceh** 43.85 266 P **P** **00 30 57.6 -2.0**
comp=Z,117nm,1.2s
MND **Mandalay** 43.92 291 P **P** **00 31 00.5 +0.4**
MND lAmb lAmb 00 31 02.8
comp=Z,522nm,1.2s
MND **Mandalay** 43.92 291 P **P** **00 31 01.2 +1.1**
SNSI **Sinabang, Aceh** 44.28 263 P **P** **00 31 02.0 -1.0**
comp=Z,388nm,1.6s,comp=Z,8μmcomp=Z,17μm
YNG **Young** 44.74 170 P **P** **00 31 07.9 +1.5**
KMBL **Kambalda** 44.76 203 P **P** **00 31 07.1 +0.6**
baz=45,SNR=26
KMBL **Kambalda** 44.76 203 P **P** **00 31 07.2 +0.6**
ZEA **Zeya** 44.84 349 *de*P **P** **00 31 07.2 +0.3**
ZEA *e*S **S** **00 37 47.0 +4.2**
ZEA *e*SS **SS** **00 41 05.5 +1.1**
ZEA pmax pmax
comp=N,80nm,0.8s
ZEA pmax pmax
comp=Z,150nm,0.8s
ZEA pmax pmax
comp=E,1μm,6.9s
ZEA pmax pmax
comp=N,3μm,7.8s
ZEA pmax pmax
comp=Z,5μm,7.6s
ZEA smax smax
comp=N,5μm,9.1s
LHI **Lord Howe Isla** 45.06 157 P **P** **00 31 10.0 +1.1**
LHI lAmb lAmb 00 31 13.1
comp=Z,400nm,1.4s
LHI **Lord Howe Isla** 45.06 157 P **P** **00 31 12.8 +3.9**
comp=Z,233nm,1.9s
LKP **Lekhapani** 45.18 299 IAMs_20 IAMs_20 00 49 09.0
comp=Z,30μm,21.8s
PEA0B **Petropavlovsk-** 45.22 15 P **P** **00 31 09.8 -0.2**
PEA0B lAmb lAmb 00 31 16.3
comp=Z,236nm,1.1s
PEA0B **Petropavlovsk-** 45.22 15 *ce*P **P** **00 31 10.3 +0.3**
PETK **Petropavlovsk-** 45.22 15 P **P** **00 31 09.1 -1.0**
PETK **Petropavlovsk-** 45.22 15 P **P** **00 31 09.8 -0.2**
comp=Z,127nm,1.0s,baz=188,slow=5.5,SNR=62
PETK LR LR 00 48 47.4
comp=Z,16μm,21.2s,baz=205,slow=34
comp=Z,127nm,1.0s
WOLH **Wollongong Har** 45.31 168 P **P** **00 31 15.0 +4.1**
comp=Z,59nm,1.1s
MORW **Morawa** 45.34 210 P **P** **00 31 11.2 -0.1**
baz=45,SNR=18
MORW **Morawa** 45.34 210 P **P** **00 31 10.4 -0.8**
MORW **Morawa** 45.34 210 P **P** **00 31 11.2 -0.1**
PET **Petropavlovsk** 45.39 16 P **P** **00 31 10.8 -0.4**
PET lAmb lAmb 00 31 14.7
comp=Z,305nm,1.0s
PET **Petropavlovsk** 45.39 16 P **P** **00 31 11.7 +0.4**
comp=Z,1μm,1.2s
PET **Petropavlovsk** 45.39 16 ⇑*i*P **P** **00 31 10.9 -0.4**
PET *e*S **S** **00 37 50.1 -0.7**
PET pmax pmax
comp=Z,448nm,1.0s
PET pmax pmax
comp=Z,6μm,8.9s
PET pmax pmax
comp=Z,10μm,7.1s
PET smax smax
comp=N,9μm,25.1s
YSA **Yasawairara** 45.47 125 P **P** **00 31 15.4 +3.0**
CAN **Canberra** 45.84 170 P **P** **00 31 16.0 +0.9**
CAN lAmb lAmb 00 31 19.7
comp=Z,415nm,1.4s
CAN IAMs_20 IAMs_20 00 50 05.4
comp=Z,34μm,18.0s
CAN **Canberra** 45.84 170 P **P** **00 31 17.0 +1.9**
CAN **Canberra** 45.84 170 P **P** **00 31 16.0 +0.9**
CAN pmax pmax
comp=Z,415nm,1.4s
CAN MLR MLR
comp=Z,34μm,18.0s
CNB **Canberra Magne** 45.90 170 P **P** **00 31 17.2 +1.6**
baz=46,SNR=24
CNB **Canberra Magne** 45.90 170 P **P** **00 31 17.3 +1.7**
MOKO **MOKOCHONG** 46.12 297 *e*P **P** **00 31 17.3 -0.4**
MOKO IAMs_20 IAMs_20 00 49 55.7
comp=Z,18μm,18.3s
BLDU **Ballidu** 46.30 208 P **P** **00 31 18.7 -0.1**
baz=46,SNR=90
BLDU **Ballidu** 46.30 208 P **P** **00 31 19.2 +0.4**
IMP **Imphal** 46.34 295 *e*P **P** **00 31 18.2 -1.2**
IMP lAmb lAmb 00 31 30.7
comp=Z,204nm,0.8s
IMP IAMs_20 IAMs_20 00 51 00.5
comp=Z,17μm,19.3s
KOHI **KOHIMA** 46.36 296 *e*P **P** **00 31 18.7 -0.9**
KOHI lAmb lAmb 00 31 31.1
comp=Z,849nm,1.6s
GTA **Gaotai** 46.37 316 ⇓P **P** **00 31 19.8 +0.3**
GTA sP sP 00 31 29.4 -0.4
GTA S **S** **00 38 04.2 -1.5**
GTA pmax pmax
comp=Z,150nm,1.3s
GTA pmax pmax
comp=Z,5μm,6.0s
GTA LR LR
comp=Z,15μm,15.6s
GTA LR LR
comp=Z,20μm,19.3s

GTA LR LR
comp=Z,26µm,18.9s
ARPS Mount Arapiles 46.56 178 P **P** **00 31 22.5 +1.8**
baz=47,SNR=15
ARPS Mount Arapiles 46.56 178 P **P** **00 31 22.6 +1.9**
comp=Z,156nm,0.9s
KLBR Kellerberrin 46.65 207 P **P** **00 31 22.0 +0.5**
baz=47,SNR=57
AUSMG Snowy Mountain 46.85 171 P **P** **00 31 24.9 +1.8**
SAIH SAIHA 46.85 291 *e*P **P** **00 31 22.7 -0.8**
ULN Ulaanbaatar 46.95 330 P **P** **00 31 23.8 0.0**
ULN Ulaanbaatar 46.95 330 IAMs_20 IAMs_20 00 50 32.1
comp=Z,42µm,20.0s
ULN Ulaanbaatar 46.95 330 *ce*P **P** **00 31 24.2 +0.3**
ULN pmax pmax
comp=Z,144nm,1.3s
ZIRO ZIRO 46.95 298 *e*P **P** **00 31 24.4 +0.1**
ZIRO IAMs_20 IAMs_20 00 50 28.0
comp=Z,30µm,19.7s
ITAN ITANAGAR 46.98 298 *e*P **P** **00 31 25.9 +1.6**
ITAN IAmb IAmb 00 31 37.7
comp=Z,2µm,1.2s
ITAN IAMs_20 IAMs_20 00 49 23.9
comp=Z,22µm,18.5s
DGTI Dogotuki 47.01 123 P **P** **00 31 27.4 +2.8**
NFK Norfolk Island 47.13 146 P **P** **00 31 26.5 +1.2**
baz=47,SNR=4.2
NFK Norfolk Island 47.13 146 P **P** **00 31 29.4 +4.1**
comp=Z,157nm,1.0s
CIT Chita 47.19 338 *e*P **P** **00 31 26.5 +0.9**
CIT *e* 00 32 59.3
CIT *e* 00 33 16.3
CIT *e* 00 34 05.0
CIT *e*S S 00 38 29.2 +12
CIT pmax pmax
comp=Z,1µm,2.2s
SONM Songino Array 47.26 329 P **P** **00 31 26.2 0.0**
SONM IAmb IAmb 00 31 37.4
comp=Z,366nm,1.6s
SONM Songino Array 47.26 329 P **P** **00 31 26.3 0.0**
SONM pmax pmax
comp=Z,366nm,1.6s
SONM Songino Array 47.26 329 P **P** **00 31 26.7 +0.5**
comp=Z,76nm,1.1s,baz=142,slow=7.1,SNR=176
SONM LR LR 00 50 34.0
comp=Z,25µm,21.2s,baz=126,slow=35
SONM PKPPKP **P'P'df** **01 02 44.0 -1.8**
comp=Z,0.6nm,0.8s,baz=185,slow=2.7,SNR=4.3
comp=Z,76nm,1.1s
SILR SILCHAR 47.36 294 *e*P **P** **00 31 28.4 +1.2**
SILR IAMs_20 IAMs_20 00 51 03.8
comp=Z,16µm,21.0s
BRAT Ballarat 47.44 176 P **P** **00 31 30.2 +2.7**
comp=Z,90nm,1.1s
TAVE Taveuni 47.51 124 P **P** **00 31 30.8 +2.3**
MILA Mila 47.56 170 P **P** **00 31 30.9 +2.4**
baz=48,SNR=12
MILA Mila 47.56 170 P **P** **00 31 31.0 +2.4**
comp=Z,170nm,2.0s
TOO Toolangi 47.59 174 P **P** **00 31 31.0 +2.3**
baz=48,SNR=43
TOO Toolangi 47.59 174 P **P** **00 31 30.0 +1.2**
TOO IAmb IAmb 00 31 34.8
comp=Z,280nm,1.1s
TOO Toolangi 47.59 174 P **P** **00 31 30.9 +2.1**
TOO Toolangi 47.59 174 P **P** **00 31 30.0 +1.2**
TOO pmax pmax
comp=Z,280nm,1.1s
TOO MLR MLR
comp=Z,71µm,18.0s
MUN Mundaring 47.67 208 P **P** **00 31 30.0 +0.6**
baz=48,SNR=70
MUN Mundaring 47.67 208 P **P** **00 31 30.3 +0.8**
TEZP TEZPUR 47.69 297 *e*P **P** **00 31 29.9 +0.2**
TEZP IAMs_20 IAMs_20 00 51 07.3
comp=Z,14µm,21.1s
FUTU Fugatoga 47.83 120 P **P** **00 31 34.7 +3.7**
comp=Z,188nm,1.1s
AUHPC Hawkesdale P12 47.91 178 P **P** **00 31 33.6 +2.4**
NWAO Narrogin (SRO) 48.02 206 P **P** **00 31 32.8 +0.6**
baz=48,SNR=49
NWAO P **P** **00 31 32.8 +0.6**
baz=48,SNR=49
NWAO Narrogin (SRO) 48.02 206 P **P** **00 31 32.3 +0.2**
NWAO Narrogin (SRO) 48.02 206 P **P** **00 31 32.6 +0.5**
NWAO IAmb IAmb 00 31 34.8
comp=Z,7µm,1.9s
NWAO Narrogin (SRO) 48.02 206 P **P** **00 31 32.9 +0.8**
NWAO Narrogin (SRO) 48.02 206 P **P** **00 31 32.7 +0.6**
NWAO Narrogin (SRO) 48.02 206 P P 00 31 22.0 -10
NWAO Narrogin (SRO) 48.02 206 P **P** **00 31 32.6 +0.5**
NWAO Narrogin (SRO) 48.02 206 LR LR 00 52 40.1
comp=Z,29µm,18.9s,baz=14,slow=37
AUSSC Sale College, 48.29 173 P **P** **00 31 36.5 +2.4**
SHL Shillong 48.31 295 P **P** **00 31 34.8 -0.1**
SHL IAmb IAmb 00 31 47.3
comp=Z,391nm,1.3s
SHL Shillong 48.31 295 P **P** **00 31 34.8 -0.1**
SHL pmax pmax
comp=Z,391nm,1.3s
SHL Shillong 48.31 295 *e*P **P** **00 31 35.2 +0.4**
SHL IAmb IAmb 00 31 47.0
comp=Z,294nm,1.3s
COCO West Island 48.45 244 P **P** **00 31 34.7 -1.1**
COCO West Island 48.45 244 P **P** **00 31 34.7 -1.1**
COCO pmax pmax
comp=Z,806nm,1.5s
GOMU GeErMu 48.66 310 P **P** **00 31 38.8 +1.2**
GOMU pP pP 00 31 42.9 -2.0
GOMU sP sP 00 31 46.2 -1.6
GOMU S **S** **00 38 32.8 -5.9**
GOMU sS pS 00 38 48.0 +0.9
GOMU pmax pmax
comp=Z,89nm,0.9s
GOMU pmax pmax
comp=Z,4µm,5.3s
GOMU LR LR
comp=Z,14µm,17.4s
GOMU LR LR
comp=Z,9µm,17.9s
GOMU LR LR
comp=Z,16µm,20.2s
LKBA Tubou, Lakemba 49.19 125 P **P** **00 31 44.1 +2.7**
JOHN Johnston Islan 49.20 77 P **P** **00 31 40.8 -0.8**
AUALB St Joseph's Co 49.52 204 P **P** **00 31 45.0 +1.4**
RKGY Rocky Gully 49.56 205 P **P** **00 31 45.9 +1.9**
baz=50,SNR=30
RKGY Rocky Gully 49.56 205 P **P** **00 31 45.9 +1.9**
comp=Z,359nm,1.4s
LSA Lhasa 49.74 300 P **P** **00 31 46.4 +0.3**
LSA IAmb IAmb 00 31 58.4
comp=Z,218nm,1.1s
LSA Lhasa 49.74 300 P **P** **00 31 47.2 +1.1**
LSA Lhasa 49.74 300 P **P** **00 31 46.4 +0.3**
LSA pmax pmax
comp=Z,218nm,1.1s
LSA Lhasa 49.74 300 P **P** **00 31 47.4 +1.3**
LSA S S 00 38 44.6 -10
LSA pmax pmax
comp=Z,200nm,1.2s
LSA LR LR
comp=Z,12µm,21.7s
LSA LR LR
comp=Z,14µm,21.7s
LSA LR LR
comp=Z,18µm,22.4s
MA2 Magadan 50.09 7 P **P** **00 31 46.8 -0.9**
MA2 IAmb IAmb 00 31 50.5
comp=Z,170nm,1.0s
MA2 Magadan 50.09 7 P **P** **00 31 48.2 +0.5**
MA2 Magadan 50.09 7 *ce*P **P** **00 31 48.0 +0.3**
MA2 pmax pmax
comp=Z,248nm,1.3s
MA2 MLR MLR
comp=Z,9µm,17.0s
MA2 Magadan 50.09 7 LR LR 00 52 52.1
comp=Z,8µm,19.1s,baz=204,slow=36
ZAK Zakamensk 50.47 330 *e*P **P** **00 31 50.7 -0.1**
ZAK pmax pmax
comp=Z,247nm,1.3s
SHEM Shemya Is, Ala 50.61 26 LR LR 00 51 34.7
comp=Z,36µm,19.8s,baz=218,slow=34
SMY Shemya 50.61 26 P **P** **00 31 51.8 +0.1**
SMY Shemya 50.61 26 P **P** **00 31 51.8 +0.1**
H01W1 Cape Leeuwin H 51.05 208 P **P** **00 31 57.3 +2.3**
baz=51,slow=11,SNR=5.8
H01W3 Cape Leeuwin H 51.05 208 P **P** **00 31 51.7 -3.3**
baz=51,slow=11,SNR=7.1
H01W2 Cape Leeuwin H 51.06 208 P **P** **00 31 57.4 +2.4**
baz=51,slow=11,SNR=5.3
IRK Irkutsk 51.22 332 *e*P **P** **00 31 56.3 -0.1**
IRK *e*S **S** **00 39 17.0 +3.7**
IRK pmax pmax
comp=Z,706nm,3.4s
GLAD Gladstone 51.24 172 P **P** **00 31 59.2 +2.6**
comp=Z,367nm,0.9s
GTK Tadong 51.50 297 *e*P **P** **00 31 59.7 +0.7**
GTK IAmb IAmb 00 32 02.2
comp=Z,249nm,1.0s
CORO Coronation Par 51.60 173 P **P** **00 32 02.3 +3.1**
comp=Z,130nm,0.9s
BOD Bodaibo 51.78 342 *e*P **P** **00 32 00.0 -0.4**
BOD pmax pmax
comp=Z,166nm,1.8s
AMKA Amchitka 52.12 30 P **P** **00 32 02.1 -0.9**
TAPN Taplejung 52.28 297 *e*P **P** **00 32 05.8 +0.7**
comp=Z,1µm,1.2s
MOY Mondy 52.40 330 *e*P **P** **00 32 05.7 +0.4**
MOY pmax pmax
comp=Z,230nm,1.9s
YAK Yakutsk 52.49 354 P **P** **00 32 05.0 -0.6**
YAK Yakutsk 52.49 354 IAMs_20 IAMs_20 00 51 05.4
comp=Z,39µm,21.0s
YAK Yakutsk 52.49 354 *d*P **P** **00 32 05.6 0.0**
YAK *e**PP **pP** **00 32 09.5 -3.5**
YAK *e* 00 34 08.9
YAK *e*S **S** **00 39 34.8 +4.4**
YAK *e**SS **sS** **00 39 41.6 -1.1**
YAK *e*SS **SS** **00 43 04.8 -3.8**
YAK pmax pmax
comp=Z,343nm,0.9s
YAK pmax pmax
comp=E,12nm,0.8s
YAK pmax pmax
comp=N,147nm,1.1s
YAK pmax pmax
comp=Z,298nm,1.9s
YAK pmax pmax
comp=N,249nm,1.7s
YAK pmax pmax
comp=E,131nm,1.5s
YAK smax smax
comp=N,257nm,1.8s
YAK smax smax
comp=E,3µm,4.5s
YAK Yakutsk 52.49 354 LR LR 00 54 10.5
comp=E,876nm,18.0s,baz=160,slow=36
ODAN Odare 52.50 296 *e*P **P** **00 32 07.2 +0.6**
comp=E,3µm,2.0s
MOO Moorlands 52.58 174 P **P** **00 32 09.1 +2.5**
baz=53,SNR=7.7
MOO Moorlands 52.58 174 P **P** **00 32 09.0 +2.5**
TAU Tasmania Unive 53.06 174 P **P** **00 32 10.8 +0.8**
TAU IAmb IAmb 00 32 14.8
comp=Z,663nm,1.6s
TAU Tasmania Unive 53.06 174 P **P** **00 32 11.9 +1.9**
TAU Tasmania Unive 53.06 174 P **P** **00 32 10.8 +0.8**
TAU pmax pmax
comp=Z,663nm,1.6s
TAU MLR MLR
comp=Z,95µm,18.0s
AUTAR Taroona High S 53.10 173 P **P** **00 32 12.5 +2.2**
AFI Afiamalu 53.19 116 P **P** **00 32 13.0 +1.4**
AFI Afiamalu 53.19 116 IAMs_20 IAMs_20 00 52 13.3
comp=Z,32µm,18.0s
AFI Afiamalu 53.19 116 P **P** **00 32 14.5 +2.9**
AFI Afiamalu 53.19 116 P **P** **00 32 13.0 +1.4**
AFI pmax pmax
comp=Z,174nm,1.3s
RAMN Ramite 53.21 296 *e*P **P** **00 32 12.8 +1.0**
comp=Z,836nm,1.1s
BOK Bokaro 53.49 292 *e*P **P** **00 32 15.2 +1.4**
BOK IAmb IAmb 00 32 27.1
comp=Z,811nm,1.4s
SEY Seymchan 53.55 7 *ce*P **P** **00 32 14.3 +0.9**
SEY pmax pmax
comp=Z,416nm,1.3s
SEY MLR MLR
comp=Z,14µm,19.0s
SEY Seymchan 53.55 7 LR LR 00 55 00.5
comp=Z,12µm,19.1s,baz=202,slow=36
JIRN Jiri 53.67 297 *e*P **P** **00 32 16.2 +0.8**
comp=Z,545nm,0.7s
GUN Gumba 53.97 297 *e*P **P** **00 32 18.4 +0.8**
comp=Z,2µm,1.0s
KIWB Kanaga Island 54.18 31 P **P** **00 32 17.7 -0.5**
PKI Pulchoki 54.34 297 *e*P **P** **00 32 20.5 +0.3**
comp=Z,2µm,1.6s
PKIN Phulchoki 54.35 297 *e*P **P** **00 32 20.4 +0.1**
comp=Z,3µm,1.8s
ADK Adak 54.44 31 P **P** **00 32 20.5 +0.4**
ADK Adak 54.44 31 P **P** **00 32 22.2 +2.1**
ADK Adak 54.44 31 P **P** **00 32 20.5 +0.4**
ADK pmax pmax
comp=Z,997nm,1.6s
KKN Kakani 54.48 297 *e*P **P** **00 32 21.6 +0.5**
comp=Z,2µm,1.9s
DMN Daman 54.61 297 *e*P **P** **00 32 22.4 +0.3**
comp=Z,1µm,1.2s
GSTR Great Sitkin T 54.87 31 P **P** **00 32 22.4 -0.9**
OUZ Omahuta 54.93 147 IAMs_20 IAMs_20 00 53 21.3
comp=Z,31µm,20.0s
GKN Gorkha 55.08 297 *e*P **P** **00 32 25.7 +0.3**
comp=Z,1µm,1.2s
JHSG JHARSUGUGA 55.30 289 *e*P **P** **00 32 27.4 +0.6**
VIS Vishakhapatnam 55.63 285 *e*P **P** **00 32 31.2 +2.0**
VIS IAmb IAmb 00 32 32.6
comp=Z,350nm,1.2s
DANN Dangsing 55.89 297 *e*P **P** **00 32 31.8 +0.4**
comp=Z,970nm,1.1s
ATKA Atka Island 55.90 32 P **P** **00 32 29.0 -1.6**
ATKA IAMs_20 IAMs_20 00 53 06.7
comp=Z,23µm,20.0s
ATKA Atka Island 55.90 32 P **P** **00 32 33.0 +2.4**
KOLN Koldanda 55.96 297 *e*P **P** **00 32 32.4 +0.6**
comp=Z,2µm,2.0s
RAO Raoul Island 56.12 135 LR LR 00 54 31.2
comp=Z,18µm,19.7s,baz=309,slow=34
WMQ Urumqi 56.45 316 ||P **P** **00 32 35.8 +0.9**
WMQ pP pP 00 32 41.5 -0.8
WMQ sP sP 00 32 45.4 +0.3
WMQ PcP **PcP** **00 33 32.0 +0.4**
WMQ ScP **ScP** **00 37 29.8 +0.3**
WMQ S **S** **00 40 22.9 -1.7**
WMQ sS pS 00 40 34.6 +1.4
WMQ pmax pmax
comp=Z,170nm,0.9s
WMQ pmax pmax
comp=Z,6µm,5.3s
WMQ LR LR
comp=Z,18µm,23.3s
WMQ LR LR
comp=Z,11µm,19.5s
WMQ LR LR
comp=Z,19µm,20.5s
PYUN Piuthan 56.53 297 *e*P **P** **00 32 36.3 +0.4**
comp=Z,1µm,1.0s
BLSP Bilaspur 56.84 290 *e*P **P** **00 32 38.8 +0.9**
NIUE Niue 56.98 120 P **P** **00 32 39.5 +0.7**
baz=57,SNR=4.5
NIUE Niue 56.98 120 P **P** **00 32 40.2 +1.4**
NIUE Niue 56.98 120 P **P** **00 32 41.9 +3.1**
KUZ Kuaotunu 57.22 146 P **P** **00 32 42.6 +2.4**
TOZ Tahuroa Road 57.83 147 P **P** **00 32 46.7 +2.2**
TOZ IAMs_20 IAMs_20 00 54 07.9
comp=Z,26µm,19.0s
HIZ Hauiti 58.07 148 P **P** **00 32 48.3 +2.1**
HIZ IAmb IAmb 00 32 51.6
comp=Z,440nm,1.4s
HIZ IAMs_20 IAMs_20 00 52 20.3
comp=Z,27µm,21.0s
VJD Vijayawada 58.21 283 *e*P **P** **00 32 49.6 +2.1**
KHEZ Kahui Hut 58.23 150 P **P** **00 32 49.8 +2.4**
CLES Cleveland East 58.48 33 IAMs_20 IAMs_20 00 57 18.2
comp=Z,25µm,19.0s
OMRZ Omania 58.57 147 P **P** **00 32 52.9 +3.2**
KEKH Kekaha 58.60 70 P **P** **00 32 50.4 +0.1**
KEKH IAmb IAmb 00 33 19.6
comp=Z,189nm,1.0s
QRZ Quartz Range 58.70 152 P **P** **00 32 51.1 +0.6**
QRZ IAmb IAmb 00 32 55.3
comp=Z,180nm,1.1s
TARZ Mount Tarawera 58.73 147 P **P** **00 32 56.4 +5.5**
MDRS Chennai 58.76 279 *e*P **P** **00 32 53.2 +1.7**
DGZ Jazzator, Alta 58.81 323 *i*P **P** **00 32 51.6 +0.1**
DGZ pmax pmax
comp=Z,106nm,1.2s
DGZ MLR MLR
comp=Z,28µm,18.0s
KATZ Kakaramea 58.85 148 P **P** **00 32 56.2 +4.4**
PALK Pallekele 58.88 272 P **P** **00 32 51.6 -0.7**
PALK IAmb IAmb 00 32 55.2
comp=Z,254nm,1.4s
PALK Pallekele 58.88 272 *i*P **P** **00 32 52.5 +0.1**
PALK pmax pmax
comp=Z,296nm,1.6s
PALK Pallekele 58.88 272 LR LR 00 56 19.4
comp=Z,7µm,21.3s,baz=181,slow=34
WTVZ West Tongariro 58.90 148 P **P** **00 32 55.2 +3.1**
NNVZ North Ngauruho 58.92 148 P **P** **00 32 56.0 +3.7**
NTVZ North Tongarir 58.93 148 P **P** **00 32 54.7 +2.3**
NGZ Ngauruhoe 58.95 148 P **P** **00 32 56.2 +3.7**
TMVZ Te Maari 58.96 148 P **P** **00 32 55.9 +3.4**
OTVZ Oturere 58.97 148 P **P** **00 32 56.4 +3.7**
ETVZ East Tongariro 58.98 148 P **P** **00 32 55.5 +2.8**
SNVZ South Ngauruho 58.98 148 P **P** **00 32 56.4 +3.7**
WNVZ Wahianoa 59.06 148 P P 00 33 04.4 +11
TKNZ Takaka Hill 59.07 152 P **P** **00 32 53.4 +0.3**
LGTI Lohaghat 59.07 298 *e*P **P** **00 32 54.6 +1.2**
URZ Urewera 59.08 147 P **P** **00 32 55.6 +2.4**
URZ Urewera 59.08 147 LR LR 00 55 28.5
comp=Z,14µm,21.5s,baz=41,slow=33
URZ Urewera 59.08 147 P **P** **00 32 53.6 +0.5**
HAZ Te Kaha 59.08 146 P **P** **00 32 55.5 +2.3**
DSZ Denniston Nort 59.10 153 P **P** **00 32 53.6 +0.2**
PTH Pithoragarh 59.11 298 *e*P **P** **00 32 54.1 +0.1**
PTH *e*P pP 00 32 54.2 -7.2
NIKH Nikolski High 59.11 33 P **P** **00 32 55.4 +2.1**
NIKH Nikolski High 59.11 33 P **P** **00 32 54.6 +1.4**
baz=243
MRHZ Matea Rd 59.12 148 P **P** **00 32 57.3 +3.8**
RUGZ Raukumara Rang 59.17 146 P **P** **00 32 56.1 +2.1**
MOVZ Moawhango 59.20 148 P **P** **00 32 55.2 +1.1**
MXZ Matakaoa Point 59.24 145 P **P** **00 32 55.0 +0.7**
MXZ IAmb IAmb 00 32 57.2
comp=Z,368nm,1.7s
MXZ IAMs_20 IAMs_20 00 54 31.3
comp=Z,30µm,19.0s
MRNZ Matariki Terra 59.26 152 P **P** **00 32 54.5 +0.1**
RTZ Ruatahuna 59.26 147 P **P** **00 32 55.0 +0.4**
RTZ IAmb IAmb 00 33 06.2
comp=Z,127nm,1.0s
RTZ Ruatahuna 59.26 147 P **P** **00 32 57.0 +2.4**
MWZ Matawai 59.36 146 P **P** **00 32 57.6 +2.4**
MTHZ Maungataniwha 59.36 147 P **P** **00 32 56.7 +1.4**
BKZ Black Stump Fm 59.41 148 P **P** **00 32 56.3 +0.7**
BKZ IAmb IAmb 00 32 58.3
comp=Z,402nm,1.9s
BKZ Black Stump Fm 59.41 148 P **P** **00 32 56.1 +0.6**
BKZ Black Stump Fm 59.41 148 P **P** **00 32 55.7 +0.2**
NNZ Nelson 59.41 151 P **P** **00 32 56.1 +0.7**
NNZ IAmb IAmb 00 32 58.0
comp=Z,405nm,2.0s
NNZ IAMs_20 IAMs_20 00 53 59.8
comp=Z,27µm,22.0s
RAGZ Rawiri 59.41 147 P **P** **00 32 58.3 +2.7**
BHHZ Black Hill Sta 59.42 148 P **P** **00 32 59.7 +4.1**
WMGZ Waiomatatini S 59.48 145 P **P** **00 32 58.3 +2.3**
NMHZ Naumai 59.52 147 P **P** **00 32 58.7 +2.3**
RAHZ Arahi 59.54 147 P **P** **00 32 59.0 +2.6**
KWHZ Kaweka Forest 59.56 148 P **P** **00 33 00.2 +3.6**
ZSN Zaisan 59.56 320 ||*i*P **P** **00 32 56.9 +0.3**
comp=Z,128nm,1.7s,baz=320
ZSN *e*S **S** **00 41 06.7 +1.6**
baz=320
ZSN Zaisan 59.56 320 *d*P **P** **00 32 56.8 +0.3**
ZSN *e*S **S** **00 41 06.6 +1.6**
ZSN pmax pmax
comp=Z,128nm,1.7s
SNGZ Shannon Statio 59.58 147 P **P** **00 32 58.6 +1.9**
THZ Tophouse 59.62 152 P **P** **00 32 57.1 +0.2**
THZ IAMs_20 IAMs_20 00 55 03.2
comp=Z,21µm,20.0s
KRHZ Kereru 59.70 148 P **P** **00 32 59.4 +1.9**
FOZ Fox Glacier 59.70 155 P **P** **00 32 57.6 +0.2**
FOZ IAmb IAmb 00 33 00.3
comp=Z,299nm,1.6s
FOZ IAMs_20 IAMs_20 00 55 44.4
comp=Z,24µm,19.0s
INZ Inchbonnie 59.73 154 P **P** **00 32 57.8 +0.2**
INZ IAmb IAmb 00 32 59.8
comp=Z,386nm,2.0s
INZ IAMs_20 IAMs_20 00 56 44.2
comp=Z,30µm,20.0s
JCZ Jackson Bay 59.74 157 P **P** **00 32 59.6 +1.8**
RIGZ Rimuhau 59.75 147 P **P** **00 33 00.8 +2.9**
TSZ Takapari Road 59.79 149 P **P** **00 33 00.3 +2.1**
PNHZ Pukenui 59.81 149 P **P** **00 32 59.1 +3.8**
TCW Tory Channel 59.83 151 P **P** **00 32 58.5 +0.1**
TUWZ Tuamarina 59.84 151 P **P** **00 32 58.3 -0.1**
BSWZ Blackbirch Sta 60.03 151 P **P** **00 32 59.9 +0.1**
MRZ Mangatainoka R 60.05 149 P **P** **00 33 00.6 +0.7**
MRZ IAmb IAmb 00 33 03.1
comp=Z,234nm,1.3s
DVHZ Dannevirke 60.08 149 P **P** **00 33 01.7 +1.6**
SNZO South Karori 60.12 151 P **P** **00 33 00.4 +0.2**
SNZO IAmb IAmb 00 33 01.8
comp=Z,92nm,0.8s
LTZ Lake Taylor 60.14 153 P **P** **00 33 00.7 +0.2**
LTZ IAmb IAmb 00 33 03.6
comp=Z,192nm,1.3s
KIP Kipapa 60.17 71 P **P** **00 32 60.0 -1.2**
KIP IAmb IAmb 00 33 37.2
comp=Z,155nm,1.0s
KIP Kipapa 60.17 71 P **P** **00 33 04.0 +2.9**
KIP Kipapa 60.17 71 *ce*P **P** **00 33 02.3 +1.2**
KIP pmax pmax
comp=Z,57nm,0.9s
OPA Opana 60.18 71 P **P** **00 33 02.0 +0.8**
OPA IAmb IAmb 00 33 17.2
comp=Z,365nm,1.4s
OPA Opana 60.18 71 P **P** **00 33 02.0 +0.8**
OPA pmax pmax
comp=Z,365nm,1.4s
HYB Hyderabad 60.19 284 *e*P **P** **00 33 01.5 +0.1**
HYB IVmB_BB 00 33 03.2
comp=Z,5µm,2.8s
HYB *es*P **pP** **00 33 07.5 -1.3**
HYB *e*PcP **PcP** **00 33 46.9 0.0**
HYB *e*PP **PP** **00 35 14.2 -0.1**
HYB *e*PcS **PcS** **00 37 49.6 +0.1**
HYB *e*S **S** **00 41 15.2 +1.2**
HYB IVMs_BB IVMs_BB 01 03 42.6
comp=Z,2µm,18.9s
BHW Baring Head 60.27 151 P **P** **00 33 01.5 +0.2**
BHW IAmb IAmb 00 33 09.8
comp=Z,422nm,1.7s
DCZ Deep Cove 60.30 158 P **P** **00 33 01.9 +0.4**
ANWZ Angora Road 60.35 149 P **P** **00 33 03.8 +1.9**
RPZ Rata Peaks 60.36 155 P **P** **00 33 02.4 +0.4**
RPZ IAmb IAmb 00 33 26.5
comp=Z,174nm,1.0s
RPZ IAMs_20 IAMs_20 00 56 20.0
comp=Z,35µm,20.0s
RPZ Rata Peaks 60.36 155 LR LR 00 56 30.7
comp=Z,28µm,21.1s,baz=322,slow=33
BFZ Birch Farm 60.40 149 P **P** **00 33 02.7 +0.4**
BFZ Birch Farm 60.40 149 P **P** **00 33 03.3 +1.1**
BFZ Birch Farm 60.40 149 P **P** **00 33 03.4 +1.1**
KHZ Kahutara 60.42 152 P **P** **00 33 02.5 +0.2**
KHZ IAmb IAmb 00 33 04.2
comp=Z,398nm,1.9s
KHZ IAMs_20 IAMs_20 00 55 39.5
comp=Z,30µm,19.0s
SPIA Saint Paul Isl 60.44 28 P **P** **00 33 04.7 +2.4**
SPIA Saint Paul Isl 60.44 28 P **P** **00 33 03.5 +1.1**
baz=240
WKZ Wanaka 60.46 157 P **P** **00 33 03.2 +0.6**
WKZ IAmb IAmb 00 33 06.3
comp=Z,170nm,1.4s
WKZ IAMs_20 IAMs_20 01 01 36.5
comp=Z,22µm,19.0s
BILL Bilibino 60.46 11 P **P** **00 33 02.1 -0.2**
BILL Bilibino 60.46 11 *e*P **P** **00 33 02.4 +0.1**
OXZ Oxford 60.47 154 P **P** **00 33 02.6 -0.1**

OXZ IAmb IAmb 00 33 03.3
comp=Z,396nm,1.8s
OXZ IAMs_20 IAMs_20 00 57 25.8
comp=Z,27µm,19.0s
LBZ Lake Benmore 60.55 156 P **P** **00 33 03.7 +0.5**
LBZ IAmb IAmb 00 33 04.6
comp=Z,380nm,1.7s
LBZ IAMs_20 IAMs_20 00 58 46.0
comp=Z,22µm,19.0s
MLZ Mavora Lakes 60.57 158 P **P** **00 33 04.3 +0.9**
MLZ IAmb IAmb 00 33 07.2
comp=Z,224nm,1.2s
PLWZ Palliser 60.58 150 P **P** **00 33 03.9 +0.4**
AMCZ Amberley 60.62 153 P **P** **00 33 03.5 -0.2**
GVZ Greta Valley S 60.62 153 P **P** **00 33 04.3 +0.6**
PYZ Puysegur Point 60.74 159 P **P** **00 33 06.2 +1.8**
PYZ IAmb IAmb 00 33 08.9
comp=Z,301nm,1.3s
PYZ Puysegur Point 60.74 159 P **P** **00 33 06.7 +2.2**
UNV Unalaska Valle 60.76 33 P **P** **00 33 06.7 +2.2**
UNV Unalaska Valle 60.76 33 P **P** **00 33 06.3 +1.7**
baz=245
UNV S **S** **00 41 17.4 -2.6**
baz=245
SALM Salem 60.87 278 *e*P **P** **00 33 07.9 +2.0**
WHZ Wether Hill Ro 60.96 158 P **P** **00 33 06.1 +0.1**
MK31 Makanchi Array 61.02 318 P **P** **00 33 06.3 -0.2**
MK31 IAmb IAmb 00 33 30.0
comp=Z,225nm,1.2s
MK31 Makanchi Array 61.02 318 *ce*P **P** **00 33 07.1 +0.6**
MKAR Makanchi Array 61.02 318 P **P** **00 33 05.9 -0.7**
MKAR Makanchi Array 61.02 318 *ce*P **P** **00 33 06.9 +0.4**
MKAR pmax pmax
comp=Z,85nm,0.9s
MKAR Makanchi Array 61.02 318 P **P** **00 33 06.9 +0.4**
comp=Z,84nm,0.9s,baz=102,slow=8.4,SNR=203
MKAR LR LR 00 59 47.0
comp=Z,20µm,21.1s,baz=108,slow=36
MKAR PKP2bc **P'P'df** **01 02 29.9 +3.8**
comp=Z,3.5nm,1.0s,baz=290,slow=4.5,SNR=6.3
comp=Z,84nm,0.9s
MQZ McQueen's Vall 61.04 154 P **P** **00 33 07.1 +0.6**
MQZ IAmb IAmb 00 33 10.0
comp=Z,320nm,1.4s
MQZ IAMs_20 IAMs_20 00 57 44.0
comp=Z,23µm,19.0s
BHPL Bhopal 61.22 291 *e*P **P** **00 33 08.6 +0.3**
BHPL IAmb IAmb 00 33 21.1
comp=Z,197nm,1.2s
MAKZ Makanchi 61.23 318 P **P** **00 33 08.0 +0.1**
MAKZ IAmb IAmb 00 33 31.5
comp=Z,331nm,1.3s
MAKZ IAMs_20 IAMs_20 00 59 31.3
comp=Z,24µm,20.0s
MAKZ Makanchi 61.23 318 P **P** **00 33 08.0 +0.1**
MAKZ pmax pmax
comp=Z,331nm,1.3s
MAKZ MLR MLR
comp=Z,24µm,20.0s
AKUT Akutan 61.28 33 P **P** **00 33 09.2 +1.2**
AKUT Akutan 61.28 33 P **P** **00 33 10.5 +2.5**
ODZ Otahua Downs 61.28 156 P **P** **00 33 07.6 -0.6**
ODZ IAMs_20 IAMs_20 00 59 18.3
comp=Z,18µm,18.0s
AKL Akola 61.58 288 *e*P **P** **00 33 11.5 +0.7**
NDI New Delhi 61.65 297 *e*P **P** **00 33 11.2 +0.1**
KHLH Kahului Airpor 61.65 72 P **P** **00 33 10.6 -0.6**
KHLH IAmb IAmb 00 33 23.4
comp=Z,194nm,1.2s
KOD Kodaikanal 61.72 276 *e*P **P** **00 33 13.7 +1.6**
HLK Haleakala 61.82 72 P **P** **00 33 12.3 -0.4**
HLK IAmb IAmb 00 33 25.9
comp=Z,137nm,0.8s
SMLA Simla 61.89 300 *e*P **P** **00 33 13.2 +0.6**
SMLA IAmb IAmb 00 33 14.6
comp=Z,449nm,1.0s
SYZ Scrubby Hill 61.94 158 P **P** **00 33 13.3 +0.7**
TIXI Tiksi 61.98 356 P **P** **00 33 12.2 -0.3**
TIXI Tiksi 61.98 356 IAMs_20 IAMs_20 00 57 18.8
comp=Z,25µm,22.0s
TIXI Tiksi 61.98 356 *ce*P **P** **00 33 13.1 +0.6**
TIXI Tiksi 61.98 356 LR LR 00 59 44.7
comp=Z,686nm,20.1s,baz=174,slow=36
ZAA0 Zalesovo Array 61.99 327 P **P** **00 33 11.6 -1.3**
ZAA0 IAmb IAmb 00 33 23.6
comp=Z,243nm,1.4s
ZAA0 IAMs_20 IAMs_20 00 59 02.0
comp=Z,23µm,19.0s
ZALV Zalesovo Beam 61.99 327 P **P** **00 33 12.1 -0.7**
ZALV Zalesovo Beam 61.99 327 *i* P **P** **00 33 12.3 -0.6**
ZALV pmax pmax
comp=Z,51nm,0.9s
ZALV Zalesovo Beam 61.99 327 P **P** **00 33 12.3 -0.6**
comp=Z,50nm,0.9s,baz=104,slow=6.3,SNR=172
ZALV LR LR 01 01 33.4
comp=Z,17µm,18.5s,baz=110,slow=38
ZALV PKPPKP **P'P'df** **01 02 18.6 -5.5**
comp=Z,1.6nm,0.8s,baz=305,slow=5.2,SNR=3.5
comp=Z,50nm,0.9s
SHLS Shalkode 62.00 314 ⇓ *i*P **P** **00 33 11.8 -1.6**
comp=Z,181nm,1.7s,baz=314
SHLS Shalkode 62.00 314 *d i*P **P** **00 33 11.7 -1.6**
SHLS pmax pmax
comp=Z,181nm,1.7s
PDGK Podgornoye 62.02 314 P **P** **00 33 13.5 0.0**
MHA Mahukona 62.15 72 P **P** **00 33 15.6 +1.1**
MHA Mahukona 62.15 72 P **P** **00 33 15.6 +1.1**
KHLU Kahalu`u 62.17 73 P **P** **00 33 14.8 -0.1**
KHLU IAmb IAmb 00 34 12.6
comp=Z,145nm,1.0s
HUH Hualalai 62.22 73 P **P** **00 33 14.3 -1.1**
HUH IAmb IAmb 00 33 27.3
comp=Z,222nm,1.3s
KUDL Kundal 62.26 296 *e*P **P** **00 33 15.1 0.0**
UZB Uzynbulak 62.31 314 ⇓ *i*P **P** **00 33 15.9 +0.4**
comp=Z,165nm,1.8s,baz=314
UZB *e*S **S** **00 41 40.8 +0.3**
baz=314
UZB Uzynbulak 62.31 314 *d i*P **P** **00 33 15.9 +0.4**
UZB *e*S **S** **00 41 40.8 +0.3**
UZB pmax pmax
comp=Z,165nm,1.8s
HPAH Hawaii Prepara 62.35 73 P **P** **00 33 16.4 +0.4**
HPAH IAmb IAmb 00 33 21.2
comp=Z,287nm,1.4s
XMAS Kiritimati 62.37 93 P **P** **00 33 15.9 -0.3**
XMAS IAmb IAmb 00 33 40.2
comp=Z,344nm,1.4s
XMAS Kiritimati 62.37 93 IAMs_20 IAMs_20 01 01 29.6
comp=Z,19µm,19.0s
TRD Trivandrum 62.41 274 *e*P **P** **00 33 18.0 +1.6**
TRD IAmb IAmb 00 33 18.9
comp=Z,282nm,1.0s
KHU Kahuku 62.44 74 P **P** **00 33 15.9 -0.9**
KHU Kahuku 62.44 74 P **P** **00 33 15.9 -0.9**
KHU pmax pmax
comp=Z,667nm,1.8s
MWH Moku'aweowe 62.45 73 P **P** **00 33 16.1 -1.2**
MLOA Mauna Loa Obse 62.47 73 P **P** **00 33 16.4 -0.9**
MLOA IAmb IAmb 00 33 35.0
comp=Z,190nm,1.0s
POHA Pohakuloa 62.51 73 P **P** **00 33 16.4 -0.8**
POHA IAmb IAmb 00 33 28.0
comp=Z,208nm,1.1s
POHA Pohakuloa 62.51 73 P **P** **00 33 19.2 +1.9**
HMH Humu'ula Sheep 62.56 73 P **P** **00 33 17.0 -0.7**
PRZ Przheval'sk 62.62 313 P **P** **00 33 18.0 +0.4**
PRZ Przheval'sk 62.62 313 P **P** **00 33 18.0 +0.4**
PRZ pmax pmax
comp=Z,310nm,0.9s
KPKS Kokpek 62.62 314 ⇓ *i*P **P** **00 33 17.9 +0.3**
comp=Z,170nm,2.0s,baz=314
KPKS Kokpek 62.62 314 *d i*P **P** **00 33 17.8 +0.3**
KPKS pmax pmax
comp=Z,170nm,2.0s
MLH Mauna Loa 62.65 73 P **P** **00 33 17.4 -0.8**
DHRM DHARAMSHALA 62.73 301 *e*P **P** **00 33 18.5 -0.1**
DHRM IAmb IAmb 00 33 19.9
comp=Z,297nm,0.9s
HLP Hilina Pali 62.73 73 P **P** **00 33 18.8 +0.2**
SATY Saty 62.73 313 ⇓ *i*P **P** **00 33 18.8 +0.5**
comp=Z,195nm,1.9s,baz=313
SATY *e*S **S** **00 41 47.7 +1.9**
baz=313
SATY Saty 62.73 313 *d i*P **P** **00 33 18.8 +0.5**
SATY pmax pmax
comp=Z,195nm,1.9s
WRMHI West Rim 62.73 73 P **P** **00 33 18.0 -0.7**
WRMHI IAmb IAmb 00 33 44.2
comp=Z,149nm,0.8s
ZHN Zhinishke 62.74 313 ⇓ *i*P **P** **00 33 18.7 +0.4**
baz=314
ZHN *e*S **S** **00 41 47.5 +1.7**
baz=314
ZHN Zhinishke 62.74 313 *d i*P **P** **00 33 18.7 +0.4**
ZHN *e*S **S** **00 41 47.5 +1.7**
SDHHI Sand Hill 62.74 73 P **P** **00 33 17.3 -1.4**
SDHHI IAmb IAmb 00 35 36.6
comp=Z,172nm,0.8s
SDHHI IAMs_20 IAMs_20 01 04 07.9
comp=Z,17µm,18.0s
UWE Uwekahuna 62.74 73 P **P** **00 33 17.9 -0.8**
OBL Observatory Le 62.75 73 P **P** **00 33 18.6 -0.1**
NPH North Pit 62.75 73 P **P** **00 33 17.0 -1.8**
NPH North Pit 62.75 73 P **P** **00 33 16.0 -2.8**
RSD Rainshed 62.75 73 P **P** **00 33 18.6 -0.2**
UWB Uwekahuna B 62.76 73 P **P** **00 33 17.8 -0.9**
RIM Rim 62.76 73 **P** **00 33 18.4 -0.4**
KKO Keanakako`i 62.77 73 P **P** **00 33 19.8 +0.9**
KKO IAmb IAmb 00 33 52.8
comp=Z,220nm,0.9s
HATHI Halema'uma'u T 62.77 73 P **P** **00 33 18.6 -0.2**
HATHI IAmb IAmb 00 35 32.4
comp=Z,282nm,1.0s
BYL Byron's Ledge 62.77 73 P **P** **00 33 18.5 -0.4**
BYL IAmb IAmb 00 35 36.8
comp=Z,250nm,1.0s
PUH Pauahi 62.81 73 P **P** **00 33 18.7 -0.5**
PUH IAmb IAmb 00 33 30.4
comp=Z,183nm,1.0s
FALS False Pass 62.82 33 P **P** **00 33 20.8 +2.4**
FALS False Pass 62.82 33 P **P** **00 33 19.8 +1.4**
baz=247
STCH Steam Cracks 62.90 73 P **P** **00 33 19.8 +0.1**
STCH IAmb IAmb 00 33 54.1
comp=Z,169nm,0.8s
TDK Taldyqorghan 63.16 315 ⇓ *i*P **P** **00 33 21.8 +0.8**
baz=316
TDK *e*S **S** **00 41 52.8 +2.0**
baz=316
TDK LR LR 00 59 42.8
comp=Z,12µm,17.2s,baz=316
TDK Taldyqorghan 63.16 315 *d i*P **P** **00 33 21.8 +0.8**
TDK *e*S **S** **00 41 52.8 +2.0**
TDK MLR MLR
comp=Z,12µm,17.0s
THN Thein Dam 63.24 301 *e*P **P** **00 33 21.8 +0.2**
GAMB Gambell 63.43 22 P **P** **00 33 23.8 +1.5**
baz=235
MDOK Medeo 63.73 313 *i* P **P** **00 33 25.6 +0.7**
baz=313
MDOK *e*S **S** **00 41 59.9 +1.6**
baz=313
MDOK LR LR 01 02 42.3
baz=313
MDOK Medeo 63.73 313 *i* P **P** **00 33 25.6 +0.7**
MDOK *e*S **S** **00 41 59.8 +1.6**
TNSS Tian-Shan 63.78 313 *e*P **P** **00 33 25.4 -0.1**
baz=313
TNSS Tian-Shan 63.78 313 *e*P **P** **00 33 25.4 -0.1**
AJM Ajmer 63.82 295 *e*P **P** **00 33 26.4 +0.7**
AAA Alma-Ata 63.83 313 *e*P **P** **00 33 26.2 +0.7**
baz=313
AAA LR LR 01 03 04.1
comp=Z,15µm,22.3s,baz=313
AAA Alma-Ata 63.83 313 *e*P **P** **00 33 26.2 +0.7**
AAA MLR MLR
comp=Z,15µm,22.0s
M11K Mekoryuk 63.85 26 P **P** **00 33 26.9 +1.8**
baz=242
M11K S **S** **00 41 55.4 -3.4**
baz=242
KSH Kashi 63.89 309 P **P** **00 33 29.0 +3.0**
KSH pP pP 00 33 34.5 +1.0
KSH sP sP 00 33 38.0 +1.7
KSH S **S** **00 42 03.8 +3.5**
KSH SS **SS** **00 46 14.7 +5.8**
KSH pmax pmax
comp=Z,150nm,1.1s
KSH pmax pmax
comp=Z,5µm,5.7s
KSH LR LR
comp=Z,11µm,18.6s
KSH LR LR
comp=Z,23µm,18.2s
KSH LR LR
comp=Z,26µm,18.9s
CHKK Chushkaly 63.91 314 ⇓ *i*P **P** **00 33 26.0 +0.1**
baz=314
CHKK Chushkaly 63.91 314 ⇓ *i*P **P** **00 33 26.0 +0.1**
JMU Jammu 63.95 301 *e*P **P** **00 33 28.4 +2.0**
ULHL Ulahol 64.14 312 P **P** **00 33 29.0 +1.3**
SNR=22
NRN Naryn 64.18 311 P **P** **00 33 27.8 -0.3**
NRN IAmb IAmb 00 34 09.7
comp=Z,212nm,1.4s
NRN Naryn 64.18 311 P **P** **00 33 27.8 -0.3**
NRN pmax pmax
comp=Z,212nm,1.4s
KAD Karad 64.36 284 *e*P **P** **00 33 29.8 +0.4**
KUU Kurty 64.38 314 ⇓ *i*P **P** **00 33 29.1 +0.1**
baz=314
KUU *e*S **S** **00 42 06.8 +0.8**
baz=314
KUU LR LR 01 00 32.3
comp=Z,13µm,17.0s,baz=314
KUU Kurty 64.38 314 *d i*P **P** **00 33 29.1 +0.1**
KUU *e*S **S** **00 42 06.7 +0.8**
KUU MLR MLR
comp=Z,13µm,17.0s
KURK Kurchatov 64.48 322 P **P** **00 33 29.0 -0.5**
KURK Kurchatov 64.48 322 IAMs_20 IAMs_20 01 01 49.1
comp=Z,26µm,18.0s
KURK Kurchatov 64.48 322 P P 00 33 11.2 -18
KURK Kurchatov 64.48 322 *ce*P **P** **00 33 29.1 -0.3**
KURK pmax pmax
comp=Z,243nm,0.8s
KURK MLR MLR
comp=Z,25µm,18.0s
KURBB Kurchatov Arra 64.51 322 P **P** **00 33 28.9 -0.7**
KURBB Kurchatov Arra 64.51 322 P **P** **00 33 29.6 -0.1**
comp=Z,109nm,0.9s,baz=103,slow=6.7,SNR=372
KURBB LR LR 01 01 54.1
comp=Z,22µm,21.2s,baz=112,slow=36
KURBB PKPPKP **P'P'df** **01 02 14.9 -5.2**
comp=Z,0.9nm,0.9s,baz=278,slow=3.4,SNR=4.7
KURBB PKP2bc **P'P'bc** **01 02 23.4 -2.4**
comp=Z,10nm,1.1s,baz=280,slow=3.8,SNR=18
comp=Z,109nm,0.9s
SDPT Sand Point 64.58 33 P **P** **00 33 29.8 -0.2**
SDPT Sand Point 64.58 33 P **P** **00 33 32.2 +2.2**
SDPT Sand Point 64.58 33 P **P** **00 33 30.1 +0.1**
baz=250
POO Poona 64.62 286 *e*P **P** **00 33 31.2 +0.2**
POO IAmb IAmb 00 33 32.6
comp=Z,385nm,1.0s
TKM2 Tokmak 2 64.73 313 P **P** **00 33 32.0 +0.5**
SNR=87
TKM2 Tokmak 2 64.73 313 P **P** **00 33 31.8 +0.3**
GOA Goa 64.81 282 *e*P **P** **00 33 33.6 +1.4**
GOA IAmb IAmb 00 33 34.3
comp=Z,262nm,1.0s
KZA Kyzart 64.84 312 P **P** **00 33 33.8 +1.2**
SNR=135
CNBA Chernabura Isl 64.88 34 P **P** **00 33 32.2 +0.2**
CNBA IAmb IAmb 00 33 42.7
comp=Z,144nm,1.1s
CHNA Chernabura Isl 64.88 34 P **P** **00 33 31.8 -0.2**
baz=251
CHNA S **S** **00 42 11.6 -0.1**
baz=251
M13K Dall Lake 65.13 27 P **P** **00 33 34.3 +0.9**
M13K IAMs_20 IAMs_20 01 00 10.7
comp=Z,18µm,20.0s
M13K Dall Lake 65.13 27 P **P** **00 33 35.6 +2.1**
baz=245
KBK Karagaybulak 65.16 312 P **P** **00 33 34.5 +0.3**
SNR=88
CHMS Chumysh 65.35 313 P **P** **00 33 35.7 +0.4**
SNR=78
S14K Fog Glacier 65.39 32 P **P** **00 33 37.0 +1.6**
baz=250
NIL Nilore 65.40 302 P **P** **00 33 36.2 +0.3**
NIL Nilore 65.40 302 P **P** **00 33 36.4 +0.6**
NIL Nilore 65.40 302 P **P** **00 33 36.2 +0.3**
NIL pmax pmax
comp=Z,605nm,0.9s
UCH Uchtor 65.40 312 P **P** **00 33 37.1 +0.9**
SNR=202
FRU1 Bishkek 65.41 313 P **P** **00 33 36.2 +0.4**
FRU1 Bishkek 65.41 313 P **P** **00 33 36.2 +0.4**
FRU1 pmax pmax
comp=Z,94nm,0.9s
FRU1 MLR MLR
comp=Z,12µm,18.0s
AAK Ala-Archa 65.48 312 P **P** **00 33 36.8 +0.4**
SNR=50
AAK Ala-Archa 65.48 312 P **P** **00 33 36.8 +0.4**
AAK Ala-Archa 65.48 312 *i* P **P** **00 33 36.3 -0.1**
SNR=57
AAK Ala-Archa 65.48 312 P **P** **00 33 36.8 +0.4**
AAK pmax pmax
comp=Z,66nm,0.9s
AAK MLR MLR
comp=Z,18µm,20.0s
AAK Ala-Archa 65.48 312 LR LR 01 03 13.7
comp=Z,17µm,21.6s,baz=88,slow=37
SGDS Sogindy 65.52 313 ⇓ *i*P **P** **00 33 36.4 -0.1**
baz=313
SGDS Sogindy 65.52 313 *d i*P **P** **00 33 36.3 -0.1**
USP Ospenovka 65.58 313 P **P** **00 33 37.2 +0.4**
SNR=56
O14K Tigyukauivet M 65.62 29 P **P** **00 33 36.9 +0.3**
O14K IAmb IAmb 00 34 04.5
comp=Z,256nm,1.4s
O14K Tigyukauivet M 65.62 29 P **P** **00 33 37.8 +1.1**
baz=247
N14K Kuskokwak Cree 65.69 28 P **P** **00 33 39.5 +2.4**
baz=247
TNA Tin City 65.77 21 P **P** **00 33 37.5 -0.1**
baz=236,SNR=5.6
TNA S **S** **00 42 21.2 -1.0**
baz=238
L14K Kuka Creek 65.82 26 P **P** **00 33 38.4 +0.4**
L14K Kuka Creek 65.82 26 P **P** **00 33 38.8 +0.8**
baz=245
L14K S **S** **00 42 26.0 +3.0**
baz=245
M14K Bethel 65.90 27 P **P** **00 33 38.4 0.0**
M14K Bethel 65.90 27 P **P** **00 33 38.3 -0.1**
baz=246,SNR=19
AML Almayashu 65.99 312 P **P** **00 33 40.6 +0.7**
SNR=141
AML Almayashu 65.99 312 P **P** **00 33 40.3 +0.3**
CHGN Chignik 65.99 32 P **P** **00 33 39.8 +0.7**
CHGN Chignik 65.99 32 P **P** **00 33 38.3 -0.8**
baz=251
EKS2 Erkin-Say 66.01 312 P **P** **00 33 40.3 +0.6**
SNR=34
J14K Nanvaranak Lak 66.07 25 P **P** **00 33 39.8 +0.3**
J14K Nanvaranak Lak 66.07 25 P **P** **00 33 40.3 +0.9**
baz=244,SNR=14
J14K S **S** **00 42 23.7 -2.2**
baz=244
MCQ Macquarie Isla 66.18 168 P **P** **00 33 42.2 +2.0**
baz=66,SNR=3.9
MCQ Macquarie Isla 66.18 168 P **P** **00 33 40.6 +0.4**
MCQ Macquarie Isla 66.18 168 P **P** **00 33 40.6 +0.4**
MCQ pmax pmax
comp=Z,480nm,1.4s
ANM Nome 66.20 23 P **P** **00 33 40.5 +0.2**
ANM Nome 66.20 23 P **P** **00 33 41.5 +1.2**
baz=241,SNR=15
ANM S **S** **00 42 28.9 +1.5**
baz=241
ANM Nome 66.20 23 P **P** **00 33 40.5 +0.2**
ANM pmax pmax
comp=Z,516nm,1.6s
O15K Ungalikthiuk R 66.28 29 P **P** **00 33 42.0 +1.1**
baz=249,SNR=12
O15K S **S** **00 42 30.1 +1.4**
baz=249
CTZ Chatham Island 66.29 147 P **P** **00 33 41.5 +0.3**
CTZ IAMs_20 IAMs_20 00 58 04.0
comp=Z,20µm,22.0s
CTZ Chatham Island 66.29 147 P **P** **00 33 43.6 +2.4**
F14K Arctic Creek 66.30 21 P **P** **00 33 42.5 +1.5**
baz=240,SNR=18
F14K S **S** **00 42 31.2 +2.6**
baz=240
ARSB Arslanbob 66.41 311 P **P** **00 33 42.7 +0.4**
ARSB Arslanbob 66.41 311 P **P** **00 33 42.7 +0.4**
ARSB pmax pmax
comp=Z,160nm,1.5s
M15K Kasigluk River 66.45 27 P **P** **00 33 42.2 +0.2**
baz=247,SNR=8.7
L15K Ungalak Mounta 66.49 26 P **P** **00 33 41.4 -0.8**
baz=246
N15K Kwethluk River 66.52 28 P **P** **00 33 43.0 +0.5**
N15K IAmb IAmb 00 34 11.2
comp=Z,182nm,1.1s
N15K Kwethluk River 66.52 28 P **P** **00 33 43.9 +1.4**
baz=248
N15K S **S** **00 42 31.6 0.0**
baz=248
RAR Rarotonga 66.56 118 LR LR 01 00 57.3
comp=Z,8µm,18.1s,baz=284,slow=34
K15K Wolf Creek Mou 66.72 26 P **P** **00 33 44.5 +0.8**
K15K IAMs_20 IAMs_20 01 00 39.6
comp=Z,23µm,20.0s
K15K Wolf Creek Mou 66.72 26 P **P** **00 33 44.5 +0.8**
baz=246
R16K Pilot Point 66.84 31 P **P** **00 33 45.3 +0.8**
baz=251
G15K Niukluk 66.90 22 P **P** **00 33 45.7 +0.8**
baz=242
G15K S **S** **00 42 40.2 +4.1**
baz=242
F15K North Star Dit 67.02 22 P **P** **00 33 46.4 +0.9**
F15K North Star Dit 67.02 22 P **P** **00 33 46.9 +1.3**
baz=241,SNR=29
F15K S **S** **00 42 38.1 +0.7**
baz=241
P16K Nushagak River 67.11 30 P **P** **00 33 47.0 +0.8**
baz=250
JASL Jaisalmer 67.18 295 *e*P **P** **00 33 48.3 +1.0**
N16K Nishlik Lake 67.25 28 P **P** **00 33 47.8 +0.7**
baz=249,SNR=12
O16K Kokwok River B 67.25 29 P **P** **00 33 47.4 +0.3**
O16K IAmb IAmb 00 34 12.4
comp=Z,193nm,1.1s
O16K IAMs_20 IAMs_20 00 58 49.9
comp=Z,27µm,22.0s
O16K Kokwok River B 67.25 29 P **P** **00 33 47.3 +0.1**
baz=250
CHIR Chirikof Islan 67.34 33 P **P** **00 33 48.1 +0.4**
CHIR Chirikof Islan 67.34 33 P **P** **00 33 49.1 +1.3**
baz=254
M16K Timber Creek 67.36 27 P **P** **00 33 48.0 +0.2**
M16K IAmb IAmb 00 34 16.6
comp=Z,294nm,1.5s
M16K IAMs_20 IAMs_20 00 58 19.5
comp=Z,25µm,22.0s
M16K Timber Creek 67.36 27 P **P** **00 33 49.5 +1.7**
baz=249
M16K S **S** **00 42 42.1 +0.4**
baz=249
L16K Owhat River 67.38 27 P **P** **00 33 47.6 -0.3**
L16K Owhat River 67.38 27 P **P** **00 33 48.6 +0.7**
baz=248,SNR=16
H16K Elim 67.43 23 P **P** **00 33 48.7 +0.5**
baz=244,SNR=42
R17K Ugashik Creek 67.47 31 P **P** **00 33 48.5 -0.1**
R17K IAMs_20 IAMs_20 01 01 14.7
comp=Z,29µm,20.0s
R17K Ugashik Creek 67.47 31 P **P** **00 33 49.9 +1.4**
baz=252
J16K Anvik River 67.52 25 P **P** **00 33 49.6 +0.8**
J16K IAmb IAmb 00 34 00.7
comp=Z,408nm,1.6s
J16K Anvik River 67.52 25 P **P** **00 33 49.5 +0.8**
baz=246,SNR=19
J16K S **S** **00 42 46.6 +3.1**
baz=246
Q16K King Salmon 67.65 30 P **P** **00 33 51.1 +1.4**
baz=252
G16K Koyuk River 67.72 22 P **P** **00 33 50.9 +0.9**

G16K IAmb IAmb 00 33 58.7
comp=Z,379nm,1.9s
G16K IAMs_20 IAMs_20 01 00 23.8
comp=Z,18µm,20.0s
G16K Koyuk River 67.72 22 P **P 00 33 51.4 +1.5**
baz=244
I17K Unalakleet 67.72 24 P **P 00 33 50.7 +0.7**
I17K IAmb IAmb 00 34 02.0
comp=Z,290nm,1.2s
I17K Unalakleet 67.72 24 P **P 00 33 51.5 +1.4**
baz=246,SNR=38
I17K S **S 00 42 47.9 +2.0**
baz=246
O17K Koliganek Bris 67.79 29 P **P 00 33 51.4 +0.9**
baz=251,SNR=16
DZA Taraz 67.82 312 ⇓*i* P **P 00 33 51.3 +0.2**
baz=312
DZA Taraz 67.82 312 *d i* P **P 00 33 51.3 +0.2**
BTK Batken 67.90 309 P **P 00 33 51.9 +0.2**
BTK IAmb IAmb 00 34 24.4
comp=Z,184nm,1.0s
BTK Batken 67.90 309 P **P 00 33 51.9 +0.2**
BTK pmax pmax
comp=Z,184nm,1.0s
Q17K Contact Creek 67.91 31 P **P 00 33 52.1 +0.6**
baz=253
OTUK Ortayu 67.91 318 P **P 00 33 51.2 -0.4**
P17K Kvichak River 67.92 30 P **P 00 33 50.9 -0.5**
baz=252
N17K Nushagak Hills 68.00 28 P **P 00 33 53.1 +1.2**
N17K Nushagak Hills 68.00 28 P **P 00 33 52.9 +1.1**
baz=251
N17K S **S 00 42 51.9 +2.5**
baz=251
BRZS Berezniki 68.01 320 ⇓*i* P **P 00 33 52.1 0.0**
comp=Z,103nm,1.5s,baz=320
BRZS *e* S **S 00 42 51.4 +1.4**
baz=320
BRZS Berezniki 68.01 320 *d i* P **P 00 33 52.1 0.0**
BRZS *e* S **S 00 42 51.3 +1.4**
BRZS pmax pmax
comp=Z,103nm,1.5s
C16K Lisburne Hills 68.05 19 P **P 00 33 51.9 -0.1**
C16K Lisburne Hills 68.05 19 P **P 00 33 53.5 +1.5**
baz=240,SNR=75
C16K S **S 00 42 51.8 +2.1**
baz=240
L17K Donlin 68.06 26 P **P 00 33 53.3 +1.1**
baz=249
M17K Holitna River 68.18 27 P **P 00 33 53.9 +1.0**
M17K IAmb IAmb 00 34 22.3
comp=Z,197nm,1.0s
M17K IAMs_20 IAMs_20 00 58 45.3
comp=Z,23µm,22.0s
M17K Holitna River 68.18 27 P **P 00 33 53.1 +0.1**
baz=250
K17K Iditarod 68.27 26 P **P 00 33 54.1 +0.6**
K17K IAMs_20 IAMs_20 01 01 49.4
comp=Z,20µm,20.0s
K17K Iditarod 68.27 26 P **P 00 33 54.9 +1.4**
baz=249
K17K S **S 00 42 55.1 +2.6**
baz=249
SII Sitkinak Islan 68.32 33 P **P 00 33 54.1 +0.2**
SII IAMs_20 IAMs_20 01 02 17.2
comp=Z,21µm,20.0s
SII Sitkinak Islan 68.32 33 P **P 00 33 56.0 +2.1**
SII Sitkinak Islan 68.32 33 P **P 00 33 56.5 +2.6**
baz=255
G17K Kiwalik Mounta 68.41 23 P **P 00 33 55.4 +1.0**
baz=245,SNR=48
G17K S **S 00 42 55.0 +0.9**
baz=245
R18K Karluk 68.44 32 P **P 00 33 54.5 -0.2**
baz=254
KK31 Karatay Array 68.45 312 P **P 00 33 54.9 -0.1**
KK31 IAmb IAmb 00 34 19.1
comp=Z,344nm,1.7s
KK31 Karatay Array 68.45 312 P **P 00 33 54.9 -0.1**
KK31 pmax pmax
comp=Z,344nm,1.7s
KKAR Karatay Array 68.45 312 P **P 00 33 54.8 -0.3**
KKAR Karatay Array 68.45 312 P **P 00 33 54.4 -0.7**
KKAR IAmb IAmb 00 34 19.1
comp=Z,344nm,1.7s
KKAR Karatay Array 68.45 312 P **P 00 33 54.4 -0.7**
KKAR pmax pmax
comp=Z,344nm,1.7s
H17K Granite Mounta 68.46 23 P **P 00 33 55.0 +0.3**
H17K IAmb IAmb 00 34 04.8
comp=Z,347nm,1.5s
H17K Granite Mounta 68.46 23 P **P 00 33 55.8 +1.1**
baz=246
H17K S **S 00 42 55.0 +0.3**
baz=246
Q18K Katmai Hardscr 68.47 31 P **P 00 33 54.0 -1.0**
baz=253,SNR=6.4
P18K Big Mountain, 68.58 30 P **P 00 33 56.5 +0.9**
P18K Big Mountain, 68.58 30 P **P 00 33 55.9 +0.4**
baz=253
F17K Baldwin Pennin 68.59 22 P **P 00 33 55.9 +0.5**
F17K Baldwin Pennin 68.59 22 P **P 00 33 56.5 +1.2**
baz=244,SNR=88
N18K Kilae Creek 68.65 28 P **P 00 33 56.4 +0.4**
N18K IAmb IAmb 00 34 25.2
comp=Z,170nm,1.2s
N18K Kilae Creek 68.65 28 P **P 00 33 57.4 +1.4**
baz=252,SNR=6.7
E17K Hotham Inlet 68.66 21 P **P 00 33 57.1 +1.2**
baz=244,SNR=72
E17K S **S 00 42 58.5 +1.5**
baz=244
O18K Koktuh Hills 68.72 29 P **P 00 33 56.2 -0.2**
O18K IAmb IAmb 00 34 25.3
comp=Z,288nm,1.2s
O18K IAMs_20 IAMs_20 00 59 34.8
comp=Z,24µm,21.0s
O18K Koktuh Hills 68.72 29 P **P 00 33 57.1 +0.7**
baz=253,SNR=11
O18K S **S 00 42 57.7 -0.4**
baz=253
RDOG Red Dog Mine 68.74 20 P **P 00 33 56.4 0.0**
RDOG IAmb IAmb 00 34 07.5
comp=Z,163nm,0.8s
RDOG Red Dog Mine 68.74 20 P **P 00 33 57.5 +1.1**
baz=242,SNR=41
RDOG S **S 00 43 00.9 +2.9**
baz=242
L18K Granite Mounta 68.79 27 P **P 00 33 57.4 +0.6**
L18K IAmb IAmb 00 34 26.1
comp=Z,208nm,1.2s
L18K IAMs_20 IAMs_20 00 59 03.4
comp=Z,20µm,22.0s
L18K Granite Mounta 68.79 27 P **P 00 33 57.5 +0.8**
baz=250
C17K DeLong Mountai 68.85 19 P **P 00 33 57.8 +0.8**
baz=242
C17K S **S 00 43 00.9 +1.7**
baz=242
KBU Kabul Universi 68.86 303 P **P 00 33 57.6 -0.5**
SVW2 Sparrevohn 68.93 28 P **P 00 33 58.4 +0.7**
SVW2 IAmb IAmb 00 34 09.7
comp=Z,364nm,1.5s
SVW2 IAMs_20 IAMs_20 01 01 35.7
comp=Z,27µm,20.0s
SVW2 Sparrevohn 68.93 28 P **P 00 33 59.9 +2.2**
KBL Kabul 68.94 303 P **P 00 33 58.1 -0.4**
KBL IAmb IAmb 00 34 00.1
comp=Z,95nm,0.8s
KBL Kabul 68.94 303 P P 00 33 50.2 -8.3
KBL Kabul 68.94 303 P **P 00 33 58.1 -0.4**
KBL pmax pmax
comp=Z,95nm,0.9s
M18K Stony River 68.94 28 P **P 00 33 59.1 +1.4**
baz=252
OHAK Old Harbor 68.96 32 P **P 00 33 57.9 0.0**
OHAK IAmb IAmb 00 34 09.5
comp=Z,330nm,1.5s
OHAK IAMs_20 IAMs_20 01 01 58.3
comp=Z,26µm,20.0s
OHAK Old Harbor 68.96 32 P **P 00 34 00.5 +2.6**
OHAK Old Harbor 68.96 32 P **P 00 33 59.9 +2.0**
baz=255
H18K Honhosa River 69.15 23 P **P 00 33 59.3 +0.3**
H18K IAmb IAmb 00 34 10.5
comp=Z,271nm,1.2s
H18K IAMs_20 IAMs_20 01 01 45.0
comp=Z,17µm,20.0s
H18K Honhosa River 69.15 23 P **P 00 33 60.0 +1.0**
baz=248,SNR=34
H18K S **S 00 43 02.8 -0.1**
baz=248
J18K Innoko River 69.21 25 P **P 00 33 59.6 +0.3**
J18K IAmb IAmb 00 34 10.8
comp=Z,389nm,1.8s
J18K IAMs_20 IAMs_20 01 01 38.3
comp=Z,26µm,20.0s
J18K Innoko River 69.21 25 P **P 00 33 59.8 +0.4**
baz=250
Q19K Cape Douglas, 69.23 30 IAMs_20 IAMs_20 01 01 04.5
comp=Z,18µm,20.0s
Q19K Cape Douglas, 69.23 30 P **P 00 33 58.7 -0.9**
baz=254
E18K Tukpahlearik C 69.24 21 P **P 00 34 00.4 +0.9**
E18K IAMs_20 IAMs_20 01 00 41.8
comp=Z,18µm,21.0s
E18K Tukpahlearik C 69.24 21 P **P 00 34 00.9 +1.4**
baz=245
E18K S **S 00 43 06.2 +2.4**
baz=245
O19K Port Alsworth 69.25 29 P **P 00 34 00.1 +0.5**
O19K IAMs_20 IAMs_20 00 59 40.7
comp=Z,26µm,21.0s
O19K Port Alsworth 69.25 29 P **P 00 34 00.1 +0.5**
baz=253
G18K Tagagawik 69.32 23 P **P 00 34 00.1 0.0**
G18K Tagagawik 69.32 23 P **P 00 34 01.1 +1.1**
baz=247
G18K S **S 00 43 06.4 +1.5**
baz=247
TTA Tatalina 69.33 26 P **P 00 34 00.4 +0.2**
TTA IAmb IAmb 00 34 11.8
comp=Z,257nm,1.4s
TTA Tatalina 69.33 26 P **P 00 34 02.0 +1.8**
TTA Tatalina 69.33 26 P **P 00 34 01.1 +0.9**
baz=251,SNR=20
TTA Tatalina 69.33 26 P **P 00 34 00.4 +0.2**
TTA pmax pmax
comp=Z,257nm,1.4s
N19K Bonanza Creek 69.35 28 P **P 00 34 00.6 +0.1**
N19K Bonanza Creek 69.35 28 P **P 00 34 01.3 +0.9**
baz=253
N19K S **S 00 43 06.0 +0.4**
baz=253
KDAK Kodiak Island 69.47 32 P **P 00 34 01.4 +0.3**
KDAK Kodiak Island 69.47 32 P **P 00 34 01.1 +0.1**
baz=256
KDAK Kodiak Island 69.47 32 P **P 00 34 01.4 +0.3**
KDAK pmax pmax
comp=Z,445nm,1.5s
KDAK MLR MLR
comp=Z,11µm,19.0s
KDAK Kodiak Island 69.47 32 LR LR 00 59 56.3
comp=Z,8µm,21.2s,baz=264,slow=32
C18K Utukok River 69.58 19 P **P 00 34 02.0 +0.4**
C18K IAmb IAmb 00 34 12.4
comp=Z,158nm,0.9s
C18K Utukok River 69.58 19 P **P 00 34 02.6 +1.0**
baz=244,SNR=23
C18K S **S 00 43 09.2 +1.3**
baz=244
GCSA Galena City Sc 69.59 24 P **P 00 34 02.7 +1.1**
baz=249,SNR=16
GCSA S **S 00 43 07.4 -0.6**
baz=249
L19K White Mountain 69.59 27 P **P 00 34 01.9 +0.1**
L19K IAmb IAmb 00 34 30.9
comp=Z,206nm,1.1s
L19K IAMs_20 IAMs_20 00 59 39.7
comp=Z,23µm,22.0s
L19K White Mountain 69.59 27 P **P 00 34 00.9 -0.9**
baz=252
L19K S **S 00 43 09.4 +1.1**
baz=252
P19K Oil Pt 69.62 30 P **P 00 34 01.0 -1.1**
P19K IAmb IAmb 00 34 40.4
comp=Z,151nm,1.0s
P19K Oil Pt 69.62 30 P **P 00 34 01.8 -0.3**
baz=255
DGAR Diego Garcia 69.70 258 P **P 00 34 02.9 -0.4**
DGAR Diego Garcia 69.70 258 P **P 00 34 02.9 -0.4**
DGAR pmax pmax
comp=Z,751nm,1.5s
B18K Kokolik River 69.70 19 P **P 00 34 04.0 +1.7**
baz=243,SNR=37
B18K S **S 00 43 11.6 +2.4**
baz=243
ILSW Iliamna Southw 69.76 29 P **P 00 34 02.6 -0.4**
ILSW IAmb IAmb 00 34 56.1
comp=Z,163nm,1.4s
ILSW IAMs_20 IAMs_20 01 00 07.1
comp=Z,21µm,22.0s
Q20K Shuyak Island 69.77 31 P **P 00 34 04.9 +2.0**
baz=256
SYI Shuyak Island 69.78 31 P **P 00 34 03.2 +0.3**
SYI IAmb IAmb 00 34 14.0
comp=Z,142nm,0.8s
SYI IAMs_20 IAMs_20 01 02 50.6
comp=Z,25µm,20.0s
J19K Poorman 69.84 25 P **P 00 34 03.7 +0.5**
J19K IAmb IAmb 00 34 15.2
comp=Z,228nm,1.2s
J19K Poorman 69.84 25 P **P 00 34 04.3 +1.1**
baz=251
J19K S **S 00 43 12.2 +1.1**
baz=251
BVA0 Borovoye Array 69.97 323 *i* P **P 00 34 04.2 -0.1**
BVAR Borovoye Array 69.97 323 P **P 00 34 04.3 0.0**
comp=Z,101nm,0.7s,baz=107,slow=6.6,SNR=396
BVAR LR LR 01 06 53.7
comp=Z,8µm,18.7s,baz=94,slow=38
comp=Z,101nm,0.7s
G19K Purcell Mounta 70.01 23 P **P 00 34 04.6 +0.3**
G19K IAmb IAmb 00 34 32.6
comp=Z,234nm,0.9s
G19K Purcell Mounta 70.01 23 P **P 00 34 05.0 +0.8**
baz=249
G19K S **S 00 43 13.2 +0.2**
baz=249
F19K Shaleruckik Mo 70.01 22 P **P 00 34 04.3 +0.1**
F19K Shaleruckik Mo 70.01 22 P **P 00 34 04.7 +0.5**
baz=248
O20K Slope Mountain 70.03 29 P **P 00 34 05.5 +0.9**
baz=255
H19K Roundabout Mou 70.03 23 P **P 00 34 05.0 +0.7**
H19K IAMs_20 IAMs_20 01 02 55.0
comp=Z,18µm,20.0s
H19K Roundabout Mou 70.03 23 P **P 00 34 05.5 +1.1**
baz=250
BRVK Borovoye 70.04 323 P **P 00 34 04.6 -0.1**
BRVK IAmb IAmb 00 34 16.5
comp=Z,192nm,0.8s
BRVK Borovoye 70.04 323 IAMs_20 IAMs_20 01 03 44.2
comp=Z,23µm,22.0s
BRVK Borovoye 70.04 323 P **P 00 34 06.8 +2.1**
BRVK Borovoye 70.04 323 *ce* P **P 00 34 04.1 -0.6**
BRVK pmax pmax
comp=Z,142nm,0.8s
BRVK MLR MLR
comp=Z,24µm,22.0s
L20K Farewell, AK 70.12 27 P **P 00 34 05.7 +0.7**
baz=253
L20K S **S 00 43 16.8 +2.3**
baz=253
M20K Styx River 70.28 28 P **P 00 34 06.7 +0.6**
M20K Styx River 70.28 28 P **P 00 34 06.7 +0.6**
baz=254
M20K S **S 00 43 18.1 +1.6**
baz=254
K20K Telida 70.30 26 P **P 00 34 06.8 +0.7**
K20K IAmb IAmb 00 34 35.0
comp=Z,234nm,1.1s
K20K IAMs_20 IAMs_20 01 02 13.2
comp=Z,19µm,20.0s
K20K Telida 70.30 26 P **P 00 34 07.1 +1.0**
baz=252
K20K S **S 00 43 18.5 +2.0**
baz=252
C19K Lookout Ridge 70.30 19 P **P 00 34 07.0 +1.0**
C19K Lookout Ridge 70.30 19 P **P 00 34 07.5 +1.5**
baz=245,SNR=64
C19K S **S 00 43 17.5 +1.1**
baz=245
A19K Wainwright 70.31 18 P **P 00 34 07.5 +1.5**
baz=243,SNR=19
A19K S **S 00 43 18.2 +1.9**
baz=243
HOM Homer 70.41 30 P **P 00 34 06.9 +0.1**
HOM IAMs_20 IAMs_20 01 00 51.1
comp=Z,19µm,22.0s
HOM Homer 70.41 30 P **P 00 34 08.1 +1.3**
baz=256
E19K Redstone River 70.45 21 P **P 00 34 08.0 +1.1**
baz=248
E19K S **S 00 43 19.7 +1.6**
baz=248
J20K Nowinta River 70.52 25 P **P 00 34 08.3 +0.9**
J20K Nowinta River 70.52 25 P **P 00 34 08.8 +1.4**
baz=252,SNR=85
J20K S **S 00 43 21.4 +2.4**
baz=252
N20K Mount Spurr 70.52 28 P **P 00 34 08.4 +0.8**
baz=255
D19K Kuna River 70.54 20 IAMs_20 IAMs_20 01 02 50.5
comp=Z,21µm,20.0s
D19K Kuna River 70.54 20 P **P 00 34 08.9 +1.4**
baz=247
D19K S **S 00 43 20.2 +1.0**
baz=247
I20K Naaghedeneel 70.57 24 P **P 00 34 09.1 +1.4**
I20K Naaghedeneel 70.57 24 P **P 00 34 09.1 +1.4**
baz=252
I20K S **S 00 43 21.7 +2.2**
baz=252
CNPM China Poot 70.58 30 P **P 00 34 08.2 +0.4**
CNPM IAmb IAmb 00 34 18.9
comp=Z,268nm,1.1s
CNPM IAMs_20 IAMs_20 01 00 57.7
comp=Z,20µm,22.0s
H20K Anotleneega Mo 70.64 24 P **P 00 34 09.4 +1.3**
baz=251
H20K S **S 00 43 22.1 +1.7**
baz=251
BRLK Bradley Lake 70.80 30 P **P 00 34 09.0 -0.3**
BRLK IAmb IAmb 00 34 20.0
comp=Z,162nm,1.0s
BRLK IAMs_20 IAMs_20 01 01 03.4
comp=Z,19µm,22.0s
F20K Avaraart Lake 70.84 22 P **P 00 34 10.2 +1.0**
F20K Avaraart Lake 70.84 22 P **P 00 34 10.6 +1.3**
baz=250,SNR=53
F20K S **S 00 43 25.3 +2.6**
baz=250
BRSE Bradley Lake S 70.87 30 P **P 00 34 10.0 +0.4**
baz=257
CAPN Captain Cook N 70.91 29 P **P 00 34 10.6 +0.8**
baz=256
PPLA Purkeypile 70.98 27 P **P 00 34 11.4 +1.0**
PPLA IAmb IAmb 00 34 24.3
comp=Z,406nm,1.4s
PPLA Purkeypile 70.98 27 P **P 00 34 11.4 +1.0**
baz=254,SNR=17
SKT Skwentna 71.04 28 P **P 00 34 10.2 -0.4**
SKT IAmb IAmb 00 34 21.3
comp=Z,340nm,1.6s
SKT Skwentna 71.04 28 P **P 00 34 10.3 -0.3**
baz=255,SNR=9.3
E20K Nigu River 71.11 21 P **P 00 34 12.3 +1.3**
baz=249
E20K S **S 00 43 27.2 +1.3**
baz=249
D20K Etivluk River 71.13 20 P **P 00 34 12.5 +1.4**
baz=248
D20K S **S 00 43 27.0 +1.0**
baz=248
CAST Castle Rocks 71.17 26 P **P 00 34 11.7 +0.3**
CAST IAmb IAmb 00 34 23.1
comp=Z,277nm,1.2s
CAST Castle Rocks 71.17 26 P **P 00 34 12.1 +0.7**
baz=254,SNR=42
CAST S **S 00 43 26.0 -0.7**
baz=254
CHUM Lake Minchumin 71.20 26 P **P 00 34 13.0 +1.4**
baz=254,SNR=26
CHUM S **S 00 43 27.5 +0.6**
baz=254
IMAR Indian Mountai 71.24 23 P **P 00 34 12.7 +0.9**
SUA Susitna One 71.27 28 P **P 00 34 11.8 -0.4**
SUA IAMs_20 IAMs_20 01 04 08.1
comp=Z,22µm,20.0s
SUA Susitna One 71.27 28 P **P 00 34 12.6 +0.4**
baz=256,SNR=9.6
B20K Meade River 71.45 19 P **P 00 34 13.4 +0.6**
B20K Meade River 71.45 19 P **P 00 34 14.5 +1.6**
baz=247,SNR=128
B20K S **S 00 43 30.5 +1.0**
baz=247
FIS Fire Island 71.45 29 IAMs_20 IAMs_20 01 03 36.7
comp=Z,22µm,20.0s
G21K Allakaket 71.50 23 P **P 00 34 14.2 +0.9**
G21K IAmb IAmb 00 34 25.4
comp=Z,322nm,1.3s
G21K Allakaket 71.50 23 P **P 00 34 14.4 +1.1**
baz=252,SNR=58
G21K S **S 00 43 30.8 +0.5**
baz=252
H21K Melozitna Rive 71.51 24 P **P 00 34 14.3 +0.9**
H21K Melozitna Rive 71.51 24 P **P 00 34 14.1 +0.7**
baz=253
H21K S **S 00 43 32.8 +2.3**
baz=253
O22K Cooper Landing 71.53 29 P **P 00 34 13.2 -0.4**
O22K IAMs_20 IAMs_20 01 01 05.1
comp=Z,23µm,22.0s
O22K Cooper Landing 71.53 29 P **P 00 34 13.8 +0.3**
baz=258,SNR=8.8
SEW Seward 71.58 30 P **P 00 34 14.2 +0.3**
SEW Seward 71.58 30 P **P 00 34 14.2 +0.3**
baz=258,SNR=7.9
M22K Willow 71.63 28 P **P 00 34 13.6 -0.5**
M22K IAmb IAmb 00 34 52.8
comp=Z,345nm,1.1s
M22K IAMs_20 IAMs_20 01 04 59.6
comp=Z,19µm,20.0s
M22K Willow 71.63 28 P **P 00 34 13.7 -0.5**
baz=257,SNR=11
RC01 Rabbit Creek A 71.66 29 P **P 00 34 14.2 -0.2**
RC01 IAmb IAmb 00 34 25.3
comp=Z,421nm,1.4s
RC01 IAMs_20 IAMs_20 01 01 07.4
comp=Z,25µm,22.0s
RC01 Rabbit Creek A 71.66 29 P **P 00 34 14.8 +0.4**
baz=257,SNR=11
KTH Kantishna Hill 71.71 26 P **P 00 34 14.1 -0.6**
KTH IAmb IAmb 00 34 28.2
comp=Z,256nm,1.1s
KTH IAMs_20 IAMs_20 01 01 22.5
comp=Z,18µm,21.0s
CUT Chulitna 71.72 27 P **P 00 34 15.4 +0.8**
CUT Chulitna 71.72 27 P **P 00 34 14.3 -0.4**
baz=256
F21K Alatna River 71.73 22 P **P 00 34 15.3 +0.6**
F21K IAmb IAmb 00 34 26.5
comp=Z,165nm,1.0s
F21K IAMs_20 IAMs_20 01 01 00.7
comp=Z,19µm,22.0s
F21K Alatna River 71.73 22 P **P 00 34 15.9 +1.2**
baz=252,SNR=32
F21K S **S 00 43 34.4 +1.4**
baz=252
BPAW Bear Paw Mtn. 71.82 26 P **P 00 34 15.8 +0.4**
BPAW IAmb IAmb 00 34 27.0
comp=Z,344nm,1.1s
BPAW Bear Paw Mtn. 71.82 26 P **P 00 34 15.9 +0.6**
baz=255,SNR=22
BPAW S **S 00 43 34.1 -0.1**
baz=255
C21K Knifeblade Rid 71.91 20 P **P 00 34 17.1 +1.3**
baz=250
C21K S **S 00 43 35.5 +0.5**
baz=250
E21K Killik River 71.95 21 P **P 00 34 16.8 +0.8**
baz=251
E21K S **S 00 43 35.7 +0.3**
baz=251
TRF Thorofare Moun 71.96 26 P **P 00 34 15.7 -0.6**
TRF IAmb IAmb 00 34 27.3
comp=Z,300nm,1.2s
TRF Thorofare Moun 71.96 26 P **P 00 34 16.5 +0.2**
baz=256,SNR=24

PMR	**Palmer**	**72.06**	**28**	P	**P**	**00 34 16.1**	**-0.6**
PMR				IAmb	IAmb	00 34 27.6	
	comp=Z,153nm,1.0s						
PMR	**Palmer**	**72.06**	**28**	P	**P**	**00 34 17.7**	**+1.0**
PMR	**Palmer**	**72.06**	**28**	P	**P**	**00 34 16.7**	**0.0**
	baz=258,SNR=17						
PMR	**Palmer**	**72.06**	**28**	P	**P**	**00 34 16.1**	**-0.6**
PMR				pmax	pmax		
	comp=Z,153nm,1.0s						
A21K	**Barrow**	**72.12**	**18**	P	**P**	**00 34 17.5**	**+0.5**
	baz=247						
A21K				S	**S**	**00 43 38.7**	**+1.4**
	baz=247						
B21K	**Ikpikpuk River**	**72.13**	**20**	P	**P**	**00 34 17.6**	**+0.6**
B21K	**Ikpikpuk River**	**72.13**	**20**	P	**P**	**00 34 18.0**	**+1.0**
	baz=250						
B21K				S	**S**	**00 43 37.4**	**+0.1**
	baz=250						
H22K	**Ishtalitna Cre**	**72.14**	**24**	P	**P**	**00 34 18.9**	**+1.6**
	baz=254						
H22K				S	**S**	**00 43 39.1**	**+1.4**
	baz=254						
MLY	**Manley**	**72.17**	**25**	P	**P**	**00 34 18.1**	**+0.7**
MLY				IAmb	IAmb	00 34 29.3	
	comp=Z,258nm,1.0s						
MLY				IAMs_20	IAMs_20	01 03 58.5	
	comp=Z,22µm,20.0s						
MLY	**Manley**	**72.17**	**25**	P	**P**	**00 34 18.4**	**+1.0**
	baz=255,SNR=54						
MLY				S	**S**	**00 43 38.7**	**+0.5**
	baz=255						
GHO	**Glory Hole Cre**	**72.19**	**28**	P	**P**	**00 34 17.4**	**-0.2**
GHO				IAmb	IAmb	00 34 33.4	
	comp=Z,129nm,0.9s						
GHO				IAMs_20	IAMs_20	01 03 30.4	
	comp=Z,26µm,20.0s						
PWL	**Port Wells**	**72.28**	**29**	P	**P**	**00 34 18.4**	**+0.3**
PWL				IAmb	IAmb	00 34 30.1	
	comp=Z,265nm,0.9s						
PWL				IAMs_20	IAMs_20	01 01 38.9	
	comp=Z,27µm,22.0s						
PWL	**Port Wells**	**72.28**	**29**	P	**P**	**00 34 18.7**	**+0.5**
	baz=259,SNR=17						
PWL				S	**S**	**00 43 38.4**	**-1.1**
	baz=259						
F22K	**John River**	**72.30**	**22**	P	**P**	**00 34 19.6**	**+1.5**
	baz=253						
F22K				S	**S**	**00 43 41.6**	**+2.2**
	baz=253						
KNK	**Knik Glacier**	**72.33**	**29**	P	**P**	**00 34 18.7**	**+0.3**
KNK				IAmb	IAmb	00 34 29.8	
	comp=Z,285nm,1.2s						
KNK				IAMs_20	IAMs_20	01 01 29.2	
	comp=Z,24µm,21.0s						
KNK	**Knik Glacier**	**72.33**	**29**	P	**P**	**00 34 19.1**	**+0.7**
	baz=258,SNR=14						
KNK				S	**S**	**00 43 40.0**	**-0.1**
	baz=258						
G22K	**Bettles**	**72.38**	**23**	P	**P**	**00 34 19.4**	**+0.8**
	baz=254						
G22K				S	**S**	**00 43 41.8**	**+1.5**
	baz=254						
SML	**Sawmill**	**72.47**	**28**	P	**P**	**00 34 19.5**	**+0.2**
SML	**Sawmill**	**72.47**	**28**	P	**P**	**00 34 19.9**	**+0.6**
	baz=258,SNR=20						
SML				S	**S**	**00 43 41.2**	**-0.6**
	baz=258						
BWN	**Browne**	**72.49**	**26**	P	**P**	**00 34 19.3**	**0.0**
BWN				IAMs_20	IAMs_20	01 03 50.9	
	comp=Z,22µm,20.0s						
A22K	**Sinclair Lake**	**72.50**	**18**	P	**P**	**00 34 20.3**	**+1.1**
	baz=249,SNR=38						
A22K				S	**S**	**00 43 42.5**	**+0.9**
	baz=249						
D22K	**Ayikyak River**	**72.53**	**20**	P	**P**	**00 34 20.1**	**+0.6**
D22K				IAMs_20	IAMs_20	01 04 44.9	
	comp=Z,19µm,20.0s						
D22K	**Ayikyak River**	**72.53**	**20**	P	**P**	**00 34 20.8**	**+1.3**
	baz=252						
D22K				S	**S**	**00 43 43.4**	**+1.2**
	baz=252						
P23K	**Montague Islan**	**72.57**	**30**	P	**P**	**00 34 20.4**	**+0.6**
	baz=260						
RND	**Reindeer**	**72.58**	**26**	P	**P**	**00 34 19.9**	**-0.1**
RND				IAMs_20	IAMs_20	01 03 27.4	
	comp=Z,18µm,21.0s						
RND	**Reindeer**	**72.58**	**26**	P	**P**	**00 34 19.9**	**-0.1**
RND				pmax	pmax		
	comp=Z,660nm,1.7s						
WAT1	**Susitna Watana**	**72.59**	**27**	P	**P**	**00 34 20.1**	**+0.2**
	baz=258						
WAT1				S	**S**	**00 43 40.9**	**-2.1**
	baz=258						
E22K	**Anaktuvuk Pass**	**72.61**	**21**	P	**P**	**00 34 20.8**	**+0.7**
E22K	**Anaktuvuk Pass**	**72.61**	**21**	P	**P**	**00 34 21.3**	**+1.3**
	baz=253,SNR=114						
E22K				S	**S**	**00 43 43.9**	**+0.7**
	baz=253						
MCK	**McKinley**	**72.62**	**26**	P	**P**	**00 34 19.8**	**-0.3**
MCK	**McKinley**	**72.62**	**26**	P	**P**	**00 34 20.2**	**+0.2**
	baz=257,SNR=43						
MCK	**McKinley**	**72.62**	**26**	P	**P**	**00 34 19.8**	**-0.3**
MCK				pmax	pmax		
	comp=Z,826nm,1.6s						
M23K	**Glacier View**	**72.75**	**28**	P	**P**	**00 34 21.4**	**+0.5**
	baz=259,SNR=12						
M23K				S	**S**	**00 43 44.1**	**-0.8**
	baz=259						
NEA2	**Nenana**	**72.75**	**25**	P	**P**	**00 34 21.5**	**+0.6**
NEA2				IAmb	IAmb	00 34 34.8	
	comp=Z,244nm,1.4s						
NEA2				IAMs_20	IAMs_20	01 04 47.0	
	comp=Z,25µm,20.0s						
NEA2	**Nenana**	**72.75**	**25**	P	**P**	**00 34 21.3**	**+0.4**
	baz=257						
NEA2				S	**S**	**00 43 44.7**	**-0.1**
	baz=257						
B22K	**Teshekpuk Lake**	**72.76**	**19**	P	**P**	**00 34 21.2**	**+0.4**
B22K				IAmb	IAmb	00 34 31.9	
	comp=Z,291nm,1.1s						
B22K	**Teshekpuk Lake**	**72.76**	**19**	P	**P**	**00 34 21.6**	**+0.9**
	baz=251,SNR=45						
B22K				S	**S**	**00 43 45.3**	**+0.8**
	baz=251						
I23K	**Minto, Yukon-K**	**72.76**	**25**	P	**P**	**00 34 22.2**	**+1.4**
I23K				IAMs_20	IAMs_20	01 04 07.2	
	comp=Z,26µm,20.0s						
I23K	**Minto, Yukon-K**	**72.76**	**25**	P	**P**	**00 34 21.6**	**+0.8**
	baz=256,SNR=49						
I23K				S	**S**	**00 43 45.4**	**+0.6**
	baz=256						
GLI	**Glacier Island**	**72.88**	**29**	P	**P**	**00 34 22.3**	**+0.6**
GLI				IAMs_20	IAMs_20	01 02 19.7	
	comp=Z,17µm,22.0s						
GLI	**Glacier Island**	**72.88**	**29**	P	**P**	**00 34 21.9**	**+0.2**
	baz=260						
GLI				S	**S**	**00 43 47.1**	**+0.7**
	baz=260						
G23K	**Bananza Creek**	**72.89**	**23**	P	**P**	**00 34 22.4**	**+0.7**
G23K				IAmb	IAmb	00 34 34.1	
	comp=Z,381nm,1.1s						
G23K	**Bananza Creek**	**72.89**	**23**	P	**P**	**00 34 22.7**	**+1.1**
	baz=255						
G23K				S	**S**	**00 43 48.0**	**+1.7**
	baz=255						
WAT6	**Susitna Watana**	**72.90**	**27**	P	**P**	**00 34 22.1**	**+0.1**
	baz=259,SNR=44						
WAT6				S	**S**	**00 43 46.2**	**-0.6**
	baz=259						
SCM	**Sheep Creek Mo**	**72.95**	**28**	P	**P**	**00 34 22.4**	**+0.2**
SCM				IAMs_20	IAMs_20	01 01 38.3	
	comp=Z,24µm,22.0s						
SCM	**Sheep Creek Mo**	**72.95**	**28**	P	**P**	**00 34 22.8**	**+0.6**
	baz=259,SNR=31						
SCM				S	**S**	**00 43 48.4**	**+1.2**
	baz=259						
SCM	**Sheep Creek Mo**	**72.95**	**28**	P	**P**	**00 34 22.4**	**+0.2**
SCM				pmax	pmax		
	comp=Z,789nm,1.4s						
COLD	**Coldfoot**	**72.95**	**22**	P	**P**	**00 34 23.4**	**+1.4**
COLD	**Coldfoot**	**72.95**	**22**	P	**P**	**00 34 23.4**	**+1.4**
	baz=255,SNR=92						
COLD				S	**S**	**00 43 49.0**	**+2.1**
	baz=255						
Q23K	**Middleton Isla**	**73.00**	**31**	IAMs_20	IAMs_20	01 03 03.0	
	comp=Z,15µm,20.0s						
Q23K	**Middleton Isla**	**73.00**	**31**	P	**P**	**00 34 23.3**	**+1.0**
	baz=261						
Q23K				S	**S**	**00 43 49.1**	**+1.5**
	baz=261						
HIN	**Hinchinbrook I**	**73.08**	**30**	P	**P**	**00 34 23.3**	**+0.4**
HIN				IAmb	IAmb	00 35 59.5	
	comp=Z,242nm,1.0s						
HIN				IAMs_20	IAMs_20	01 05 01.1	
	comp=Z,24µm,20.0s						
WRH	**Wood River Hil**	**73.14**	**25**	P	**P**	**00 34 23.1**	**-0.1**
WRH				IAmb	IAmb	00 34 34.0	
	comp=Z,168nm,1.1s						
WRH				IAMs_20	IAMs_20	01 04 51.2	
	comp=Z,18µm,19.0s						
FID	**Port Fidalgo**	**73.16**	**29**	P	**P**	**00 34 23.4**	**+0.1**
DHY	**Denali Highway**	**73.16**	**27**	P	**P**	**00 34 23.6**	**+0.1**
DHY				IAmb	IAmb	00 34 35.0	
	comp=Z,271nm,1.2s						
DHY				IAMs_20	IAMs_20	01 02 37.0	
	comp=Z,25µm,21.0s						
DHY	**Denali Highway**	**73.16**	**27**	P	**P**	**00 34 24.4**	**+0.9**
	baz=259,SNR=14						
DHY				S	**S**	**00 43 48.7**	**-1.1**
	baz=259						
MDM	**Murphy Dome**	**73.19**	**25**	P	**P**	**00 34 23.2**	**-0.3**
MDM				IAMs_20	IAMs_20	01 05 10.4	
	comp=Z,25µm,20.0s						
D23K	**Nanushuk River**	**73.25**	**21**	P	**P**	**00 34 25.8**	**+2.0**
	baz=254						
D23K				S	**SKiKP**	**00 43 52.4**	**-1.4**
	baz=254						
CCB	**Clear Creek Bu**	**73.30**	**25**	P	**P**	**00 34 23.7**	**-0.3**
CCB				IAmb	IAmb	00 34 34.8	
	comp=Z,428nm,1.4s						
CCB				IAMs_20	IAMs_20	01 04 23.4	
	comp=Z,22µm,20.0s						
COLA	**College**	**73.33**	**25**	P	**P**	**00 34 23.9**	**-0.3**
COLA	**College**	**73.33**	**25**	IAMs_20	IAMs_20	01 05 24.0	
	comp=Z,25µm,20.0s						
COLA	**College**	**73.33**	**25**	P	**P**	**00 34 25.4**	**+1.2**
COLA	**College**	**73.33**	**25**	P	**P**	**00 34 24.1**	**-0.1**
	baz=258						
COLA	**College**	**73.33**	**25**	P	**P**	**00 34 23.9**	**-0.3**
COLA				pmax	pmax		
	comp=Z,86nm,0.7s						
E23K	**Chandalar**	**73.39**	**22**	P	**P**	**00 34 26.0**	**+1.4**
	baz=255						
E23K				S	**SKiKP**	**00 43 54.1**	**0.0**
	baz=255						
EYAK	**Cordova Ski Ar**	**73.48**	**30**	P	**P**	**00 34 25.4**	**+0.2**
EYAK				IAmb	IAmb	00 35 04.0	
	comp=Z,247nm,1.3s						
EYAK	**Cordova Ski Ar**	**73.48**	**30**	P	**P**	**00 34 27.2**	**+2.0**
EYAK	**Cordova Ski Ar**	**73.48**	**30**	P	**P**	**00 34 24.9**	**-0.3**
	baz=261						
EYAK				S	**SKiKP**	**00 43 55.1**	**+0.7**
	baz=261						
C23K	**Itkillik River**	**73.52**	**20**	P	**P**	**00 34 25.8**	**+0.6**
C23K				IAMs_20	IAMs_20	01 03 57.8	
	comp=Z,17µm,20.0s						
C23K	**Itkillik River**	**73.52**	**20**	P	**P**	**00 34 26.6**	**+1.4**
	baz=254						
C23K				S	**SKiKP**	**00 43 54.6**	**+0.4**
	baz=254						
H24K	**Noodor Dome**	**73.52**	**24**	P	**P**	**00 34 25.8**	**+0.3**
H24K				IAMs_20	IAMs_20	01 04 30.3	
	comp=Z,24µm,20.0s						
H24K	**Noodor Dome**	**73.52**	**24**	P	**P**	**00 34 26.5**	**+1.0**
	baz=258,SNR=55						
H24K				S	**SKiKP**	**00 43 54.3**	**-0.1**
	baz=258						
M24K	**Tolsona, Glenn**	**73.53**	**28**	P	**P**	**00 34 26.2**	**+0.7**
M24K				IAMs_20	IAMs_20	01 02 07.8	
	comp=Z,27µm,21.0s						
M24K	**Tolsona, Glenn**	**73.53**	**28**	P	**P**	**00 34 26.6**	**+1.0**
	baz=260,SNR=7.9						
KLU	**Klutina**	**73.55**	**29**	P	**P**	**00 34 26.2**	**+0.5**
KLU				IAmb	IAmb	00 34 37.7	
	comp=Z,374nm,1.4s						
KLU				IAMs_20	IAMs_20	01 06 02.2	
	comp=Z,23µm,20.0s						
KLU	**Klutina**	**73.55**	**29**	P	**P**	**00 34 26.5**	**+0.8**
	baz=261,SNR=21						
KLU				S	**SKiKP**	**00 43 55.5**	**+0.9**
	baz=261						
POKR	**Poker Plat Res**	**73.55**	**25**	P	**P**	**00 34 24.6**	**-0.9**
POKR				IAmb	IAmb	00 34 37.3	
	comp=Z,334nm,1.6s						
POKR	**Poker Plat Res**	**73.55**	**25**	P	**P**	**00 34 25.4**	**-0.1**
	baz=258,SNR=22						
TOLK	**Toolik Lake Re**	**73.55**	**21**	P	**P**	**00 34 26.0**	**+0.5**
TOLK				IAmb	IAmb	00 34 38.0	
	comp=Z,316nm,1.0s						
TOLK				IAMs_20	IAMs_20	01 02 15.8	
	comp=Z,16µm,21.0s						
TOLK	**Toolik Lake Re**	**73.55**	**21**	P	**P**	**00 34 26.8**	**+1.3**
	baz=255,SNR=98						
TOLK				S	**SKiKP**	**00 43 54.2**	**-0.2**
	baz=255						
DIV	**Divide**	**73.56**	**29**	P	**P**	**00 34 27.1**	**+1.4**
DIV				IAmb	IAmb	00 34 37.7	
	comp=Z,462nm,1.4s						
HDA	**Harding Lake**	**73.61**	**26**	P	**P**	**00 34 25.3**	**-0.7**
HDA				IAmb	IAmb	00 34 36.5	
	comp=Z,183nm,1.0s						
HDA				IAMs_20	IAMs_20	01 05 13.7	
	comp=Z,24µm,20.0s						
HDA	**Harding Lake**	**73.61**	**26**	P	**P**	**00 34 25.6**	**-0.3**
	baz=259,SNR=39						
HDA				P	**P**	**00 34 25.6**	**-0.3**
	baz=259,SNR=39						
HDA				S	**SKiKP**	**00 43 56.1**	**+1.7**
	baz=259						
HDA				S	**SKiKP**	**00 43 56.1**	**+1.7**
	baz=259						
IL31		**73.71**	**25**	P	**P**	**00 34 25.5**	**-0.9**
IL31				IAmb	IAmb	00 34 36.8	
	comp=Z,216nm,1.1s						
ILAR	**Eielson Array**	**73.71**	**25**	P	**P**	**00 34 25.7**	**-0.8**
ILAR	**Eielson Array**	**73.71**	**25**	P	**P**	**00 34 25.7**	**-0.8**
ILAR	**Eielson Array**	**73.71**	**25**	P	**P**	**00 34 25.5**	**-1.0**
	comp=Z,45nm,0.7s,baz=252,slow=4.7,SNR=127						
ILAR				LR	LR	01 04 27.7	
	comp=Z,20µm,20.5s,baz=244,slow=34						
	comp=Z,45nm,0.7s						
IL03	**Eielson Array**	**73.72**	**25**	P	**P**	**00 34 26.4**	**-0.2**
E24K	**Your Creek**	**73.80**	**22**	P	**P**	**00 34 27.6**	**+0.6**
E24K				IAmb	IAmb	00 34 43.9	
	comp=Z,232nm,1.1s						
E24K	**Your Creek**	**73.80**	**22**	P	**P**	**00 34 28.3**	**+1.2**
	baz=256						
E24K				S	**S**	**00 43 59.4**	**+2.8**
	baz=256						
G24K	**Hadweenzic Riv**	**73.87**	**23**	P	**P**	**00 34 28.0**	**+0.6**
G24K				IAMs_20	IAMs_20	01 05 13.4	
	comp=Z,20µm,20.0s						
G24K	**Hadweenzic Riv**	**73.87**	**23**	P	**P**	**00 34 28.7**	**+1.3**
	baz=258						
G24K				S	**S**	**00 43 59.2**	**+1.8**
	baz=258						
F24K	**Squaw Lake**	**73.89**	**22**	P	**P**	**00 34 28.4**	**+0.9**
F24K				IAmb	IAmb	00 34 40.2	
	comp=Z,317nm,1.1s						
F24K	**Squaw Lake**	**73.89**	**22**	P	**P**	**00 34 29.0**	**+1.4**
	baz=257						
F24K				S	**S**	**00 43 58.1**	**+0.4**
	baz=257						
D24K	**Happy Valley**	**73.94**	**21**	P	**P**	**00 34 28.2**	**+0.4**
D24K				IAmb	IAmb	00 34 45.4	
	comp=Z,351nm,0.9s						
D24K				IAMs_20	IAMs_20	01 03 47.5	
	comp=Z,19µm,22.0s						
D24K	**Happy Valley**	**73.94**	**21**	P	**P**	**00 34 29.5**	**+1.7**
	baz=256						
D24K				S	**S**	**00 43 59.6**	**+1.5**
	baz=256						
RAGM	**Ragged Mountai**	**73.98**	**30**	IAMs_20	IAMs_20	01 04 10.7	
	comp=Z,26µm,20.0s						
PAX	**Paxson**	**74.00**	**27**	P	**P**	**00 34 28.8**	**+0.5**
PAX				IAmb	IAmb	00 34 40.1	
	comp=Z,216nm,1.2s						
PAX	**Paxson**	**74.00**	**27**	P	**P**	**00 34 29.2**	**+0.9**
	baz=261,SNR=57						
PAX				S	**S**	**00 43 59.0**	**-0.1**
	baz=261						
PAX	**Paxson**	**74.00**	**27**	P	**P**	**00 34 28.8**	**+0.5**
PAX				pmax	pmax		
	comp=Z,216nm,1.2s						
K24K	**Donnelly Dome**	**74.00**	**26**	P	**P**	**00 34 28.6**	**+0.3**
	baz=260,SNR=50						
K24K				S	**S**	**00 43 57.8**	**-1.2**
	baz=260						
KAIM	**Kayak Island**	**74.04**	**30**	P	**P**	**00 34 27.9**	**-0.6**
KAIM				IAmb	IAmb	00 34 41.7	
	comp=Z,277nm,0.9s						
KAIM				IAMs_20	IAMs_20	01 03 15.4	
	comp=Z,17µm,20.0s						
KAIM	**Kayak Island**	**74.04**	**30**	P	**P**	**00 34 29.8**	**+1.2**
	baz=262						
HARP	**HAARP**	**74.05**	**28**	P	**P**	**00 34 29.1**	**+0.5**
	baz=261,SNR=32						
BMRM	**Bremner River**	**74.09**	**29**	P	**P**	**00 34 29.2**	**+0.3**
BMRM				IAmb	IAmb	00 34 37.6	
	comp=Z,386nm,1.2s						
BMRM	**Bremner River**	**74.09**	**29**	P	**P**	**00 34 29.7**	**+0.8**
	baz=262,SNR=24						
C24K	**Franklin Bluff**	**74.13**	**20**	P	**P**	**00 34 29.8**	**+1.0**
	baz=256						
C24K				S	**S**	**00 44 01.3**	**+1.2**
	baz=256						
HMT	**Hamilton**	**74.18**	**30**	IAMs_20	IAMs_20	01 03 52.9	
	comp=Z,22µm,20.0s						
N25K	**Chitina, Valde**	**74.19**	**29**	P	**P**	**00 34 30.2**	**+0.7**
N25K				IAmb	IAmb	00 34 49.4	
	comp=Z,237nm,1.2s						
N25K				IAMs_20	IAMs_20	01 02 50.6	
	comp=Z,17µm,22.0s						
N25K	**Chitina, Valde**	**74.19**	**29**	P	**P**	**00 34 30.8**	**+1.3**
	baz=262						
J25K	**Salcha River,**	**74.32**	**26**	P	**P**	**00 34 29.5**	**-0.6**
J25K				IAMs_20	IAMs_20	01 05 45.5	
	comp=Z,20µm,20.0s						
J25K	**Salcha River,**	**74.32**	**26**	P	**P**	**00 34 29.9**	**-0.3**
	baz=260,SNR=37						
J25K				S	**S**	**00 44 05.4**	**+2.7**
	baz=260						
SUCK	**Suckling Hills**	**74.38**	**30**	P	**P**	**00 34 30.9**	**+0.4**
SUCK				IAMs_20	IAMs_20	01 03 37.3	
	comp=Z,17µm,20.0s						
RIDG	**Independent Ri**	**74.40**	**26**	IAMs_20	IAMs_20	01 09 09.0	
	comp=Z,16µm,20.0s						
RIDG	**Independent Ri**	**74.40**	**26**	P	**P**	**00 34 31.1**	**+0.5**
	baz=261						
PRP	**Porcupine Dome**	**74.42**	**25**	P	**P**	**00 34 29.3**	**-1.5**
PRP	**Porcupine Dome**	**74.42**	**25**	P	**P**	**00 34 30.8**	**0.0**
	baz=260,SNR=17						
G25K	**Bearman Lake**	**74.42**	**23**	P	**P**	**00 34 30.8**	**+0.3**
	baz=259						
BERG	**Berg Lake**	**74.46**	**30**	P	**P**	**00 34 31.4**	**+0.4**
BERG				IAMs_20	IAMs_20	01 03 09.4	
	comp=Z,15µm,20.0s						
PPT	**Papeete**	**74.52**	**111**	P	**P**	**00 34 32.0**	**-0.1**
PPT	**Papeete**	**74.52**	**111**	P	**P**	**00 34 32.0**	**-0.1**
	comp=Z,51nm,1.0s,baz=339,slow=8.6,SNR=3.2						
PPT				LR	LR	01 03 26.9	
	comp=Z,14µm,18.4s,baz=281,slow=33						
	comp=Z,51nm,1.0s						
PPT2	**Papeete2**	**74.52**	**111**	*e*PKIKP	**P**	**00 34 36.8**	**+4.6**
	comp=Z,151nm,1.2s						
PPT2				*e*S	**S**	**00 44 04.2**	**-2.2**
	comp=Z,13µm,31.8s						
PPT2				*e*SS	**SS**	**00 49 03.2**	**+9.5**
	comp=Z,9µm,28.0s						
PPT2				*e*LR	LR	00 57 08.5	
	comp=Z,37µm,32.2s						
PPT2				*e*LR	LR	00 57 17.4	
	comp=Z,21µm,34.2s						
PPTF	**Pamatai, Papee**	**74.53**	**111**	P	**P**	**00 34 31.6**	**-0.7**
PPTF				IAmb	IAmb	00 35 25.2	
	comp=Z,268nm,1.3s						
PPTF				IAMs_20	IAMs_20	01 03 35.0	
	comp=Z,16µm,19.0s						
PPTF	**Pamatai, Papee**	**74.53**	**111**	P	**P**	**00 34 36.8**	**+4.6**
PAE	**Paea**	**74.54**	**111**	*e*PKIKP	**P**	**00 34 35.7**	**+3.6**
	comp=Z,38nm,1.0s						
GLB	**Gilahina Butte**	**74.54**	**29**	P	**P**	**00 34 32.1**	**+0.6**
GLB				IAmb	IAmb	00 34 40.8	
	comp=Z,476nm,1.5s						
GLB				IAMs_20	IAMs_20	01 04 58.6	
	comp=Z,18µm,21.0s						
HRA	**Herat**	**74.56**	**303**	P	**P**	**00 34 32.2**	**-0.1**
HRA				IAmb	IAmb	00 34 34.6	
	comp=Z,180nm,0.8s						
BGLC	**Bering Glacier**	**74.63**	**30**	P	**P**	**00 34 34.2**	**+2.3**
	baz=263						
VRDI	**Verde Repeater**	**74.69**	**29**	P	**P**	**00 34 32.7**	**+0.2**
VRDI				IAMs_20	IAMs_20	01 06 34.4	
	comp=Z,21µm,20.0s						
FYU	**Fort Yukon**	**74.72**	**24**	P	**P**	**00 34 33.4**	**+1.1**
FYU				IAMs_20	IAMs_20	01 05 48.8	
	comp=Z,15µm,20.0s						
TIAR	**Tiarei**	**74.73**	**111**	*e*PKIKP	**P**	**00 34 37.9**	**+4.6**
	comp=Z,11nm,1.0s						
F25K	**Christian Rive**	**74.75**	**22**	P	**P**	**00 34 34.2**	**+1.6**
	baz=259,SNR=150						
F25K				S	**S**	**00 44 09.7**	**+2.4**
	baz=259						
CRQM	**Cirque**	**74.78**	**30**	IAMs_20	IAMs_20	01 04 26.0	
	comp=Z,25µm,21.0s						
MENT	**Mentasta**	**74.79**	**27**	P	**P**	**00 34 33.5**	**+0.7**
MENT				IAmb	IAmb	00 35 02.5	
	comp=Z,175nm,1.0s						
MENT				IAMs_20	IAMs_20	01 03 27.9	
	comp=Z,24µm,22.0s						
MENT	**Mentasta**	**74.79**	**27**	P	**P**	**00 34 35.0**	**+2.2**
CRQE	**Cirque**	**74.80**	**30**	P	**P**	**00 34 34.0**	**+0.9**
	baz=263						
SCRK	**Sand Creek**	**74.81**	**26**	P	**P**	**00 34 32.5**	**-0.6**
SCRK				IAmb	IAmb	00 34 44.8	
	comp=Z,368nm,1.3s						
SCRK				IAMs_20	IAMs_20	01 09 12.5	
	comp=Z,15µm,19.0s						
SCRK	**Sand Creek**	**74.81**	**26**	P	**P**	**00 34 33.8**	**+0.7**
	baz=262,SNR=52						
SCRK				S	**S**	**00 44 06.6**	**-1.7**
	baz=262						
D25K	**Kavik River**	**74.83**	**21**	P	**P**	**00 34 33.5**	**+0.5**
D25K				IAmb	IAmb	00 34 45.1	
	comp=Z,262nm,1.1s						
D25K				IAMs_20	IAMs_20	01 04 25.7	
	comp=Z,18µm,22.0s						
D25K	**Kavik River**	**74.83**	**21**	P	**P**	**00 34 34.3**	**+1.2**
	baz=258						
D25K				S	**S**	**00 44 08.9**	**+0.8**
	baz=258						
SNH	**Sunshine Point**	**74.86**	**30**	P	**P**	**00 34 33.5**	**+0.2**
SNH				IAMs_20	IAMs_20	01 02 59.0	
	comp=Z,17µm,22.0s						
TVO	**Taravao**	**74.87**	**112**	*e*PKIKP	**P**	**00 34 34.6**	**+0.4**
	comp=Z,61nm,1.2s						
E25K	**Arctic Village**	**74.88**	**22**	P	**P**	**00 34 34.2**	**+0.9**
E25K	**Arctic Village**	**74.88**	**22**	P	**P**	**00 34 34.8**	**+1.5**
	baz=259,SNR=143						
E25K				S	**S**	**00 44 11.4**	**+2.7**
	baz=259						
WAX	**Waxell Ridge**	**74.88**	**30**	P	**P**	**00 34 34.4**	**+0.9**
WAX				IAmb	IAmb	00 34 42.6	
	comp=Z,504nm,1.4s						
WAX				IAMs_20	IAMs_20	01 02 51.6	
	comp=Z,23µm,22.0s						
MCARA	**McCarthy VSAT**	**74.91**	**29**	P	**P**	**00 34 34.0**	**+0.4**
MCARA				IAmb	IAmb	00 34 47.1	
	comp=Z,209nm,1.0s						
MCARA				IAMs_20	IAMs_20	01 05 51.3	
	comp=Z,17µm,20.0s						
MCARA	**McCarthy VSAT**	**74.91**	**29**	P	**P**	**00 34 34.3**	**+

baz=262
BMAR Burnt Mountain 75.12 23 P **P** **00 34 35.7 +1.0**
ISLE Juniper Island 75.15 30 P **P** **00 34 34.5 -0.6**
ISLE IAMs_20 IAMs_20 01 02 48.7
comp=Z,23µm,22.0s
MESA MESA 75.30 30 P **P** **00 34 36.1 0.0**
MESA IAmb IAmb 00 34 42.2
comp=Z,238nm,1.0s
MESA MESA 75.30 30 P **P** **00 34 37.0 +1.0**
baz=264
F26K Sheenjek River 75.33 22 P **P** **00 34 37.7 +1.8**
baz=260
F26K S **S** **00 44 16.3 +2.5**
baz=260
G26K Porcupine Rive 75.35 23 P **P** **00 34 38.0 +2.0**
baz=261
G26K S **S** **00 44 16.4 +2.5**
baz=261
I26K Coal Creek Min 75.36 25 P **P** **00 34 35.4 -0.7**
I26K IAMs_20 IAMs_20 01 05 36.9
comp=Z,21µm,20.0s
I26K Coal Creek Min 75.36 25 P **P** **00 34 35.8 -0.3**
baz=262,SNR=34
AIS Amsterdam Isla 75.37 227 P **P** **00 34 36.4 -0.1**
PMOR Pomariorio Ree 75.40 108 *e*P **P** **00 34 39.5 +2.3**
comp=Z,266nm,1.2s
PMOR Pomariorio Ree 75.40 108 *e*T T 01 57 12.9
comp=Z,11nm,0.2s
GRNC Granite Creek 75.45 30 IAMs_20 IAMs_20 01 06 40.1
comp=Z,19µm,21.0s
C26K Camden Bay 75.45 20 P **P** **00 34 38.5 +2.0**
baz=259,SNR=131
C26K S **S** **00 44 16.3 +1.4**
baz=259
BARN Barnard Glacie 75.53 29 P **P** **00 34 38.0 +0.6**
BARN IAmb IAmb 00 34 55.9
comp=Z,314nm,1.4s
BARN IAMs_20 IAMs_20 01 04 48.7
comp=Z,26µm,21.0s
M27K Edge Creek, AK 75.56 28 P **P** **00 34 38.5 +1.1**
M27K Edge Creek, AK 75.56 28 P **P** **00 34 39.4 +1.9**
baz=264,SNR=55
K27K Chicken 75.66 26 P **P** **00 34 39.2 +1.5**
K27K IAmb IAmb 00 34 50.6
comp=Z,374nm,1.3s
K27K IAMs_20 IAMs_20 01 06 39.2
comp=Z,17µm,20.0s
K27K Chicken 75.66 26 P **P** **00 34 39.6 +1.8**
baz=263,SNR=72
K27K S **S** **00 44 18.5 +1.1**
baz=263
L27K Beaver Creek, 75.66 27 P **P** **00 34 38.3 +0.4**
L27K IAmb IAmb 00 34 57.8
comp=Z,344nm,1.4s
L27K IAMs_20 IAMs_20 01 07 05.0
comp=Z,19µm,20.0s
L27K Beaver Creek, 75.66 27 P **P** **00 34 38.9 +1.0**
baz=264
L27K S **S** **00 44 18.8 +1.3**
baz=264
CTG Chitna Glacier 75.68 30 P **P** **00 34 38.7 +0.5**
baz=265,SNR=30
BCAR Beaver Creek A 75.68 27 P **P** **00 34 38.2 +0.2**
CTGM Chitina Glacie 75.68 30 P **P** **00 34 39.1 +0.9**
CTGM IAMs_20 IAMs_20 01 04 54.6
comp=Z,26µm,22.0s
TABL Table Mountain 75.73 30 P **P** **00 34 39.7 +1.1**
TABL IAMs_20 IAMs_20 01 04 42.9
comp=Z,15µm,21.0s
LOGN Logan Glacier 75.83 30 P **P** **00 34 39.7 +0.6**
LOGN IAmb IAmb 00 34 51.7
comp=Z,298nm,1.0s
LOGN IAMs_20 IAMs_20 01 06 50.6
comp=Z,22µm,20.0s
SVE Sverdlovsk 76.00 326 *de*P **P** **00 34 40.4 +0.5**
SVE *e*S **S** **00 44 29.1 +7.7**
SVE pmax pmax
comp=Z,252nm,1.4s
SVE pmax pmax
comp=Z,2µm,11.6s
SVE MLR MLR
comp=E,27µm,20.0s
SVE MLR MLR
comp=Z,39µm,20.0s
NGCH Negor - Chabah 76.01 294 P **P** **00 34 42.4 +1.9**
BVCY Beaver Creek 76.04 28 P **P** **00 34 41.0 +1.0**
baz=265,SNR=30
BVCY S **S** **00 44 21.9 +0.2**
baz=265
I27K Kandik River 76.04 25 P **P** **00 34 41.0 +1.0**
baz=263
EGAK Eagle 76.14 26 P **P** **00 34 41.0 +0.5**
EGAK IAmb IAmb 00 35 00.2
comp=Z,200nm,1.1s
EGAK IAMs_20 IAMs_20 01 04 27.5
comp=Z,16µm,22.0s
EGAK Eagle 76.14 26 P **P** **00 34 41.4 +0.9**
baz=264,SNR=47
EGAK S **S** **00 44 23.7 +1.1**
baz=264
PCA Pinnacle 76.14 30 P **P** **00 34 41.8 +1.0**
PINM Pinnacle 76.14 30 P **P** **00 34 41.3 +0.6**
baz=266
H27K Steamboat Moun 76.15 24 P **P** **00 34 42.9 +2.2**
baz=263
H27K S **S** **00 44 25.4 +2.6**
baz=263
G27K Doyon Strip 76.16 24 P **P** **00 34 41.6 +0.9**
G27K IAMs_20 IAMs_20 01 06 24.0
comp=Z,17µm,20.0s
G27K Doyon Strip 76.16 24 P **P** **00 34 42.1 +1.4**
baz=263
G27K S **S** **00 44 24.5 +1.6**
baz=263
AB31 Akbulak array 76.17 318 *i*P **P** **00 34 40.1 -0.9**
ABKAR Akbulak array 76.17 318 P **P** **00 34 40.3 -0.7**
ABKAR Akbulak array 76.17 318 P **P** **00 34 40.9 -0.1**
YUK3 Moose Creek 76.17 29 P **P** **00 34 42.0 +0.9**
baz=265,SNR=76
YUK3 S **S** **00 44 24.9 +1.4**
baz=265
TBI Tubuai 76.27 117 *e*P **P** **00 34 37.7 -4.3**
comp=Z,4µm,28.0s
TBI Tubuai 76.27 117 *e*P **P** **00 34 41.9 -0.1**
comp=Z,254nm,1.1s
TBI *e*S **S** **00 44 20.7 -4.7**
comp=Z,42µm,35.5s
TBI *e*SS **SS** **00 49 13.8 -6.2**
comp=Z,22µm,27.0s
TBI *e*LQ LQ 00 55 06.3
comp=Z,78µm,27.8s
TBI *e*LR LR 00 58 09.9
comp=Z,187µm,33.8s
TBI *e*LR LR 00 58 16.3
comp=Z,32µm,32.8s
E27K Coleen River 76.36 22 P **P** **00 34 42.2 +0.5**
E27K IAmb IAmb 00 34 54.4
comp=Z,205nm,1.1s
E27K Coleen River 76.36 22 P **P** **00 34 43.1 +1.3**
baz=263,SNR=111
E27K S **S** **00 44 27.8 +2.8**
baz=263
BCPM Bancas Point 76.44 31 P **P** **00 34 43.3 +1.0**
BCPM IAmb IAmb 00 35 03.4
comp=Z,551nm,1.6s
BCPM IAMs_20 IAMs_20 01 07 31.8
comp=Z,19µm,20.0s
YUK8 Steele Glacier 76.47 29 P **P** **00 34 44.4 +1.6**
baz=266,SNR=27
YUK8 S **S** **00 44 29.5 +2.5**
baz=266
PNL Peninsula 76.55 31 P **P** **00 34 44.5 +1.5**
PNL Peninsula 76.55 31 P **P** **00 34 44.5 +1.5**
baz=267
I28M Miner Creek 76.72 25 P **P** **00 34 44.7 +0.8**
I28M Miner Creek 76.72 25 P **P** **00 34 45.0 +1.1**
baz=265
D27M Malcolm River 76.72 21 P **P** **00 34 44.5 +0.7**
D27M IAmb IAmb 00 35 04.1
comp=Z,303nm,1.2s
D27M IAMs_20 IAMs_20 01 06 35.5
comp=Z,14µm,20.0s
D27M Malcolm River 76.72 21 P **P** **00 34 45.1 +1.2**
baz=263,SNR=105
D27M S **S** **00 44 30.2 +1.2**
baz=263
DAWY Dawson 76.84 26 P **P** **00 34 45.5 +1.0**
DAWY IAmb IAmb 00 35 05.3
comp=Z,332nm,1.1s
DAWY Dawson 76.84 26 P **P** **00 34 45.9 +1.3**
baz=266,SNR=134
DAWY S **S** **00 44 32.8 +2.4**
baz=266
F28M Old Crow 76.94 23 P **P** **00 34 45.8 +0.8**
F28M IAmb IAmb 00 35 03.2
comp=Z,248nm,0.8s
F28M Old Crow 76.94 23 P **P** **00 34 46.4 +1.3**
baz=264,SNR=214
F28M S **S** **00 44 33.7 +2.3**
baz=264
O29M Mount Kennedy 76.99 30 P **P** **00 34 46.2 +0.6**
O29M IAmb IAmb 00 34 51.7
comp=Z,245nm,1.1s
O29M Mount Kennedy 76.99 30 P **P** **00 34 47.5 +1.9**
baz=267
O29M S **S** **00 44 35.9 +3.5**
baz=267
YUK4 Talbot Arm 77.01 29 P **P** **00 34 47.0 +1.2**
baz=267,SNR=30
YUK6 Outpost Mounta 77.12 30 P **P** **00 34 47.4 +0.9**
baz=268,SNR=13
ARU Arti 77.13 326 P **P** **00 34 45.9 -0.4**
ARU IAmb IAmb 00 34 57.7
comp=Z,262nm,1.4s
ARU Arti 77.13 326 *c i*P **P** **00 34 46.0 -0.3**
ARU 00 37 33.9
ARU PPP PPP 00 39 27.7
ARU S **S** **00 44 36.6 +2.8**
ARU pmax pmax
comp=Z,73nm,1.0s
ARU pmax pmax
comp=Z,1µm,6.0s
ARU MLR MLR
comp=Z,36µm,19.0s
ARU Arti 77.13 326 P **P** **00 34 45.8 -0.5**
comp=Z,37nm,0.8s,baz=93,slow=2.7,SNR=38
ARU LR LR 01 09 43.3
comp=Z,36µm,21.1s,baz=86,slow=36
comp=Z,37nm,0.8s
M29M Somme Creek 77.15 28 P **P** **00 34 47.3 +0.9**
M29M Somme Creek 77.15 28 P **P** **00 34 48.0 +1.6**
baz=267
M29M S **S** **00 44 36.8 +2.8**
baz=267
E28M Babbage River 77.16 22 P **P** **00 34 47.1 +0.8**
E28M Babbage River 77.16 22 P **P** **00 34 47.5 +1.2**
baz=265
E28M S **S** **00 44 35.6 +1.8**
baz=265
L29M L29M 77.34 27 P **P** **00 34 48.6 +1.2**
L29M IAMs_20 IAMs_20 01 05 17.4
comp=Z,19µm,22.0s
L29M L29M 77.34 27 P **P** **00 34 49.2 +1.8**
baz=267,SNR=81
L29M S **S** **00 44 39.1 +3.2**
baz=267
P29M Windy Craggy 77.39 31 P **P** **00 34 48.4 +0.6**
P29M IAmb IAmb 00 34 59.0
comp=Z,319nm,1.1s
P29M Windy Craggy 77.39 31 P **P** **00 34 49.7 +2.0**
baz=268,SNR=20
I29M Ogilvie Camp, 77.39 25 P **P** **00 34 47.9 +0.3**
I29M IAmb IAmb 00 35 04.4
comp=Z,412nm,1.4s
I29M IAMs_20 IAMs_20 01 07 01.5
comp=Z,19µm,20.0s
I29M Ogilvie Camp, 77.39 25 P **P** **00 34 48.9 +1.3**
baz=266,SNR=51
I29M S **S** **00 44 37.8 +1.4**
baz=266
AKTO Aktyubinsk 77.42 320 P **P** **00 34 47.6 -0.4**
comp=Z,13nm,0.6s,baz=87,slow=5.4,SNR=40
AKTO LR LR 01 10 58.8
comp=Z,17µm,19.1s,baz=86,slow=37
comp=Z,13nm,0.6s
H29M Whitestone 77.42 24 P **P** **00 34 48.8 +1.0**
H29M IAmb IAmb 00 35 13.9
comp=Z,411nm,1.2s
H29M Whitestone 77.42 24 P **P** **00 34 48.7 +1.0**
baz=266,SNR=34
H29M S **S** **00 44 38.0 +1.3**
baz=266
D28M Stokes Point 77.52 21 P **P** **00 34 49.5 +1.3**
baz=265,SNR=39
D28M S **S** **00 44 39.4 +2.0**
baz=265
HYT Haines Junctio 77.54 30 P **P** **00 34 49.4 +0.7**
HYT IAmb IAmb 00 34 54.7
comp=Z,258nm,1.0s
HYT IAMs_20 IAMs_20 01 08 07.9
comp=Z,23µm,20.0s
HYT Haines Junctio 77.54 30 P **P** **00 34 49.5 +0.8**
baz=268,SNR=69
G29M Pine Creek 77.60 24 P **P** **00 34 49.8 +1.0**
G29M IAmb IAmb 00 35 20.9
comp=Z,358nm,1.1s
G29M IAMs_20 IAMs_20 01 07 39.1
comp=Z,22µm,20.0s
G29M Pine Creek 77.60 24 P **P** **00 34 50.3 +1.6**
baz=266
G29M S **S** **00 44 41.2 +2.6**
baz=266
K29M Barlow Dome 77.65 27 P **P** **00 34 50.4 +1.2**
K29M IAMs_20 IAMs_20 01 07 54.5
comp=Z,15µm,20.0s
K29M Barlow Dome 77.65 27 P **P** **00 34 50.8 +1.6**
baz=268
K29M S **S** **00 44 42.4 +3.0**
baz=268
GEYT Alibeck 77.74 307 P **P** **00 34 51.2 +1.0**
comp=Z,61nm,0.9s,baz=111,slow=3.3,SNR=80
GEYT LR LR 01 10 52.8
comp=Z,7µm,21.8s,baz=96,slow=37
comp=Z,61nm,0.9s
GYA0B ALIBECK ARRAY 77.74 307 P **P** **00 34 50.3 +0.2**
GYA0B IAmb IAmb 00 35 03.4
comp=Z,316nm,1.4s
E29M Blow River 77.75 22 P **P** **00 34 49.9 +0.4**
E29M IAMs_20 IAMs_20 01 10 39.8
comp=Z,14µm,20.0s
E29M Blow River 77.75 22 P **P** **00 34 50.4 +0.9**
baz=266
E29M S **S** **00 44 41.7 +1.6**
baz=266
N30M Aishikik Lake 77.76 29 P **P** **00 34 51.0 +1.2**
N30M Aishikik Lake 77.76 29 P **P** **00 34 50.2 +0.4**
baz=268
N30M S **S** **00 44 41.5 +0.9**
baz=268
P30M Million Dollar 77.79 31 P **P** **00 34 51.8 +1.8**
baz=269
P30M S **S** **00 44 42.6 +1.7**
baz=269
JLN Jalan Bani Buh 77.88 291 P **P** **00 34 51.6 +0.4**
M30M Minto, Yukon 77.93 28 P **P** **00 34 52.0 +1.2**
M30M IAmb IAmb 00 35 11.2
comp=Z,485nm,1.6s
M30M Minto, Yukon 77.93 28 P **P** **00 34 52.2 +1.5**
baz=268,SNR=44
M30M S **S** **00 44 44.7 +2.3**
baz=268
EPYK Eagle Plains 78.09 24 P **P** **00 34 52.1 +0.6**
EPYK Eagle Plains 78.09 24 P **P** **00 34 52.6 +1.1**
baz=268,SNR=31
EPYK S **S** **00 44 44.9 +0.9**
baz=268
S31K Pelican 78.14 33 P **P** **00 34 52.3 +0.4**
S31K IAmb IAmb 00 35 05.4
comp=Z,169nm,1.1s
S31K IAMs_20 IAMs_20 01 06 53.0
comp=Z,14µm,19.0s
S31K Pelican 78.14 33 P **P** **00 34 51.3 -0.5**
baz=270
S31K S **S** **00 44 47.8 +3.2**
baz=270
I30M Mount Dempster 78.19 25 P **P** **00 34 53.0 +0.8**
I30M IAMs_20 IAMs_20 01 07 36.8
comp=Z,21µm,20.0s
I30M Mount Dempster 78.19 25 P **P** **00 34 53.0 +0.8**
baz=268,SNR=106
I30M S **S** **00 44 46.7 +1.5**
baz=268
J30M Hart River 78.19 26 P **P** **00 34 52.8 +0.6**
J30M IAmb IAmb 00 35 12.7
comp=Z,352nm,1.2s
J30M IAMs_20 IAMs_20 01 09 13.9
comp=Z,18µm,20.0s
J30M Hart River 78.19 26 P **P** **00 34 52.6 +0.3**
baz=268
J30M S **S** **00 44 45.1 -0.2**
baz=268
O30N Mendenhall 78.23 30 P **P** **00 34 52.6 +0.2**
O30N IAmb IAmb 00 35 12.6
comp=Z,314nm,1.6s
O30N IAMs_20 IAMs_20 01 08 39.1
comp=Z,17µm,20.0s
O30N Mendenhall 78.23 30 P **P** **00 34 53.4 +0.9**
baz=270,SNR=19
O30N S **S** **00 44 48.6 +2.9**
baz=270
WBK Wadi Bani Khal 78.23 291 P **P** **00 34 54.5 +1.4**
G30M tAoh Zraii Nji 78.31 24 P **P** **00 34 53.2 +0.4**
G30M IAmb IAmb 00 35 10.3
comp=Z,309nm,1.1s
G30M IAMs_20 IAMs_20 01 08 10.9
comp=Z,19µm,20.0s
G30M tAoh Zraii Nji 78.31 24 P **P** **00 34 53.6 +0.8**
baz=268,SNR=122
G30M S **S** **00 44 47.4 +1.0**
baz=268
MAYO Mayo, Yukon 78.36 27 P **P** **00 34 55.1 +2.0**
MAYO Mayo, Yukon 78.36 27 P **P** **00 34 54.2 +1.2**
baz=269
N31M Braeburn, Yuko 78.39 29 P **P** **00 34 54.2 +0.9**
N31M Braeburn, Yuko 78.39 29 P **P** **00 34 55.2 +1.9**
baz=270,SNR=40
N31M S **S** **00 44 48.8 +1.5**
baz=270
R31K City Hall, Gus 78.40 32 P **P** **00 34 53.8 +0.5**
baz=270
F30M Barrier River 78.50 23 P **P** **00 34 54.3 +0.5**
baz=268
F30M S **S** **00 44 50.3 +2.1**
baz=268
SKAG Skagway 78.61 31 P **P** **00 34 55.9 +1.4**
SKAG IAmb IAmb 00 35 15.1
comp=Z,331nm,1.2s
SKAG Skagway 78.61 31 P **P** **00 34 56.9 +2.5**
SKAG Skagway 78.61 31 P **P** **00 34 56.4 +2.0**
baz=270,SNR=14
SKAG S **S** **00 44 52.9 +3.3**
baz=270
SIT Sitka 78.64 34 P **P** **00 34 55.0 +0.4**
SIT IAmb IAmb 00 35 05.5
comp=Z,507nm,1.9s
SIT Sitka 78.64 34 P **P** **00 34 57.0 +2.4**
SIT Sitka 78.64 34 P **P** **00 34 54.8 +0.1**
baz=271
SIT Sitka 78.64 34 P **P** **00 34 55.0 +0.4**
SIT pmax pmax
comp=Z,507nm,1.9s
WHY Whitehorse 78.83 30 P **P** **00 34 56.9 +1.1**
WHY Whitehorse 78.83 30 P **P** **00 34 56.6 +0.8**
baz=271,SNR=54
WHY S **S** **00 44 55.7 +3.5**
baz=271
BESE Bessie Mountai 78.86 32 P **P** **00 34 56.7 +0.7**
BESE IAmb IAmb 00 35 07.7
comp=Z,269nm,1.1s
BIDO Bidbid 78.91 292 P **P** **00 34 58.0 +1.2**
SMDO Samad 79.03 292 P **P** **00 34 57.9 +0.2**
SMDO S **ScS** **00 45 17.9 -1.0**
S32K Killisnoo 79.03 33 P **P** **00 34 57.8 +1.0**
S32K Killisnoo 79.03 33 P **P** **00 34 56.8 0.0**
baz=272
M31M Drury Creek, Y 79.05 28 P **P** **00 34 57.5 +0.7**
M31M IAmb IAmb 00 35 28.8
comp=Z,256nm,1.3s
M31M IAMs_20 IAMs_20 01 07 48.6
comp=Z,22µm,20.0s
M31M Drury Creek, Y 79.05 28 P **P** **00 34 57.9 +1.0**
baz=271,SNR=34
M31M S **S** **00 44 56.2 +1.9**
baz=271
R32K Eaglecrest 79.05 32 P **P** **00 34 57.6 +0.7**
R32K Eaglecrest 79.05 32 P **P** **00 34 58.0 +1.1**
baz=271,SNR=12
H31M Peel River 79.05 25 P **P** **00 34 57.3 +0.5**
H31M IAmb IAmb 00 35 16.6
comp=Z,404nm,1.4s
H31M IAMs_20 IAMs_20 01 08 03.4
comp=Z,20µm,20.0s
H31M Peel River 79.05 25 P **P** **00 34 58.0 +1.2**
baz=270
H31M S **S** **00 44 54.0 -0.2**
baz=270
JMDO Jabal Madar 79.06 291 P **P** **00 34 59.1 +1.4**
G31M Satah River 79.08 24 P **P** **00 34 56.3 -0.6**
G31M IAmb IAmb 00 35 16.4
comp=Z,306nm,1.1s
G31M IAMs_20 IAMs_20 01 08 04.1
comp=Z,18µm,21.0s
G31M Satah River 79.08 24 P **P** **00 34 57.4 +0.5**
baz=270,SNR=51
G31M S **S** **00 44 54.8 +0.4**
baz=270
JIS Juneau Island 79.12 32 P **P** **00 34 57.5 +0.3**
JIS IAmb IAmb 00 35 08.9
comp=Z,208nm,1.0s
JIS Juneau Island 79.12 32 P **P** **00 35 01.3 +4.1**
CASY Casey 79.16 192 P **P** **00 34 57.3 +0.1**
CASY IAmb IAmb 00 34 58.9
comp=Z,218nm,1.4s
CASY Casey 79.16 192 IAMs_20 IAMs_20 01 07 18.4
comp=Z,22µm,20.0s
F31M Tsiigehtchic 79.29 23 P **P** **00 34 57.3 -0.6**
F31M IAMs_20 IAMs_20 01 08 52.5
comp=Z,15µm,20.0s
F31M Tsiigehtchic 79.29 23 P **P** **00 34 58.4 +0.4**
baz=270,SNR=23
F31M S **S** **00 44 56.8 +0.3**
baz=270
MHTO MHTO 79.34 290 P **P** **00 35 00.8 +1.6**
INK Inuvik 79.37 22 P **P** **00 34 58.4 0.0**
INK Inuvik 79.37 22 P **P** **00 34 58.5 +0.2**
baz=270,SNR=71
INK S **S** **00 44 56.3 -1.0**
baz=270
INK Inuvik 79.37 22 P **P** **00 34 58.4 0.0**
INK pmax pmax
comp=Z,185nm,1.3s
INK MLR MLR
comp=Z,8µm,19.0s
INK Inuvik 79.37 22 LR LR 01 09 27.5
comp=Z,6µm,20.4s,baz=250,slow=35
P32M Atlin 79.43 31 P **P** **00 34 59.7 +0.6**
P32M IAmb IAmb 00 35 42.9
comp=Z,214nm,1.2s
P32M Atlin 79.43 31 P **P** **00 35 00.3 +1.3**
baz=272,SNR=16
FARO Faro, Yukon 79.53 28 P **P** **00 34 59.5 0.0**
FARO **PcP** **00 35 00.1 -7.4**
FARO IAmb IAmb 00 35 19.6
comp=Z,335nm,1.5s
FARO IAMs_20 IAMs_20 01 08 01.5
comp=Z,17µm,20.0s
FARO Faro, Yukon 79.53 28 P **P** **00 35 00.8 +1.3**
baz=272,SNR=29
FARO S **S** **00 45 02.7 +3.2**
baz=272
HOQ Hoqain 79.65 292 P **P** **00 35 01.2 +0.3**
HOQ S **S** **00 45 00.5 -1.5**
N32M Quiet Lake 79.69 29 P **P** **00 35 01.2 +0.8**
N32M IAmb IAmb 00 35 11.9
comp=Z,285nm,0.9s
N32M Quiet Lake 79.69 29 P **P** **00 35 01.5 +1.1**
baz=272
N32M S **S** **00 45 02.3 +1.0**
baz=272
BSY Bisya 79.84 291 P **P** **00 35 02.0 0.0**
BSY S **S** **00 45 05.7 +1.6**
P33M Teslin, Yukon 79.86 30 P **P** **00 35 02.0 +0.6**
P33M IAmb IAmb 00 35 32.8
comp=Z,412nm,1.9s
P33M Teslin, Yukon 79.86 30 P **P** **00 35 02.9 +1.5**
baz=272,SNR=19
P33M S **S** **00 45 05.4 +2.3**
baz=272
U33K Whale Pass 79.89 35 P **P** **00 35 02.1 +0.7**
U33K Whale Pass 79.89 35 P **P** **00 35 01.6 +0.1**

baz=273
CRAG Craig 79.92 35 P **P** **00 35 00.9 -0.7**
CRAG IAmb IAmb 00 35 34.4
comp=Z,289nm,1.4s
CRAG IAMs_20 IAMs_20 01 07 21.2
comp=Z,13µm,19.0s
CRAG Craig 79.92 35 P **P** **00 35 03.5 +1.9**
CRAG Craig 79.92 35 P **P** **00 35 02.6 +1.0**
baz=273
T33K Petersburg 79.94 34 P **P** **00 35 02.9 +1.2**
baz=273
Q32M Nakina River 80.20 32 P **P** **00 35 04.0 +0.6**
Q32M Nakina River 80.20 32 P **P** **00 35 05.1 +1.7**
baz=273
SOHO SOHO 80.29 293 *i* P **P** **00 35 04.6 +0.3**
SNR=43
SOHO SOHO 80.29 293 P **P** **00 35 05.0 +0.6**
SOHO S **S** **00 45 13.8 +5.0**
WRAK Wrangell Islan 80.30 34 P **P** **00 35 03.9 +0.2**
WRAK IAmb IAmb 00 35 17.6
comp=Z,174nm,1.1s
WRAK Wrangell Islan 80.30 34 P **P** **00 35 05.7 +2.0**
baz=274,SNR=7.8
ARQ Araqi 80.39 292 P **P** **00 35 05.0 0.0**
ARQ S **S** **00 45 08.2 -1.8**
SHME Shamm 80.43 295 *i* P **P** **00 35 05.8 +0.8**
SNR=40
SHME Shamm 80.43 295 P **P** **00 35 06.9 +1.9**
DIB Dawson Inlet, 80.43 38 P **P** **00 35 04.0 -0.5**
H02S1 DAWSON INLET T 80.43 38 T T 02 03 52.7
SNR=34
MASF Masafi 80.49 294 P **P** **00 35 05.4 -0.1**
MASF S **S** **00 45 09.9 -1.0**
MSFE Esma-Masafi 80.49 294 *i* P **P** **00 35 05.8 +0.4**
SNR=48
UOSS Minazif 80.50 294 P **P** **00 35 05.6 +0.1**
UOSS IAmb IAmb 00 35 18.6
comp=Z,585nm,1.9s
UOSS Minazif 80.50 294 *i* P **P** **00 35 05.1 -0.3**
SNR=31
UOSS Minazif 80.50 294 P **P** **00 35 06.7 +1.3**
UOSS S **S** **00 45 06.6 -4.3**
HATD Hatta, Dubai 80.57 294 *i* P **P** **00 35 06.5 +0.6**
SNR=30
HATD Hatta, Dubai 80.57 294 P **P** **00 35 07.8 +1.9**
HATD S **S** **00 45 10.4 -1.4**
ASHO Ashiyiah 80.66 293 *i* P **P** **00 35 07.2 +0.9**
SNR=28
ASHO Ashiyiah 80.66 293 P **P** **00 35 07.8 +1.4**
ASHO S **S** **00 45 12.2 -0.5**
V35K Ketchikan 80.78 35 P **P** **00 35 06.4 +0.1**
V35K IAMs_20 IAMs_20 01 07 56.1
comp=Z,14µm,19.0s
V35K Ketchikan 80.78 35 P **P** **00 35 07.1 +0.8**
baz=274
R33M Jennings River 80.84 31 P **P** **00 35 07.8 +1.1**
R33M IAMs_20 IAMs_20 01 10 22.2
comp=Z,14µm,20.0s
R33M Jennings River 80.84 31 P **P** **00 35 08.6 +1.9**
baz=274,SNR=25
S34M Telegraph Cree 80.86 33 P **P** **00 35 07.5 +0.8**
S34M Telegraph Cree 80.86 33 P **P** **00 35 06.9 +0.2**
baz=274,SNR=21
NAZ Nazwa, Dubai 80.98 294 *i* P **P** **00 35 08.1 +0.1**
SNR=15
NAZ Nazwa, Dubai 80.98 294 P **P** **00 35 08.7 +0.7**
ALNE Al Ain 81.01 293 *i* P **P** **00 35 09.0 +0.8**
SNR=30
ALNE Al Ain 81.01 293 P **P** **00 35 09.6 +1.3**
ALNE S **S** **00 45 12.6 -3.8**
FAQ Al Faqa, Dubai 81.07 294 *i* P **P** **00 35 08.6 +0.1**
SNR=16
FAQ Al Faqa, Dubai 81.07 294 P **P** **00 35 07.4 -1.1**
FAQ S **S** **00 45 15.4 -1.5**
ROCAM Rodrigues Isla 81.23 248 P **P** **00 35 10.0 +0.7**
HG4B Hotspring 81.28 38 P **P** **00 35 08.8 -0.3**
ASUD Al Ashush, Dub 81.32 294 *i* P **P** **00 35 10.1 +0.3**
SNR=12
ASUD Al Ashush, Dub 81.32 294 P **P** **00 35 10.8 +1.0**
ASUD S **S** **00 45 13.4 -6.2**
DLBC Dease Lake 81.40 32 P **P** **00 35 10.4 +0.7**
DLBC IAmb IAmb 00 35 20.9
comp=Z,180nm,1.1s
DLBC IAMs_20 IAMs_20 01 08 27.2
comp=Z,15µm,20.0s
DLBC Dease Lake 81.40 32 P **P** **00 35 10.9 +1.2**
baz=275,SNR=21
DLBC Dease Lake 81.40 32 LR LR 01 08 47.4
comp=Z,11µm,20.2s,baz=294,slow=34
TAOE Nuku Hiva Isla 81.41 101 IAMs_20 IAMs_20 01 03 40.9
comp=Z,14µm,21.0s
TAOE Nuku Hiva Isla 81.41 101 *e*PKIKP P 00 35 00.0 -11
comp=Z,634nm,25.7s
TAOE Nuku Hiva Isla 81.41 101 *e*S S 00 45 11.9 -9.0
comp=Z,3µm,29.4s
TAOE *e*SS SS 00 50 50.1 +12
comp=Z,4µm,24.4s
TAOE *e*LQ LQ 00 57 07.8
comp=Z,20µm,28.4s
TAOE *e*LR LR 01 00 41.5
comp=Z,24µm,28.2s
T35M Bob Quinn 81.41 34 P **P** **00 35 10.3 +0.6**
T35M Bob Quinn 81.41 34 P **P** **00 35 10.2 +0.5**
baz=275,SNR=19
U35K Hyder 81.63 35 P **P** **00 35 11.4 +0.6**
U35K IAmb IAmb 00 35 58.6
comp=Z,257nm,1.4s
U35K IAMs_20 IAMs_20 01 08 33.5
comp=Z,12µm,19.0s
U35K Hyder 81.63 35 P **P** **00 35 12.1 +1.3**
baz=276
AJN Ajban 81.64 293 *i* P **P** **00 35 11.7 +0.1**
SNR=19
AJN Ajban 81.64 293 P **P** **00 35 12.0 +0.5**
RUBB Prince Rupert 81.66 36 P **P** **00 35 11.6 +0.7**
RUBB IAmb IAmb 00 35 34.3
comp=Z,198nm,1.3s
WTLY Watson Lake, Y 81.87 30 P **P** **00 35 13.0 +0.9**
WTLY IAmb IAmb 00 35 34.7
comp=Z,273nm,1.1s
WTLY IAMs_20 IAMs_20 01 11 13.4
comp=Z,18µm,20.0s
WTLY Watson Lake, Y 81.87 30 P **P** **00 35 13.1 +1.1**
baz=276,SNR=40
WTLY S **SKSac** **00 45 33.3 +2.8**
baz=276
GRNB Grenville Isla 81.88 37 P **P** **00 35 12.4 +0.2**
SHAO Shalim 81.90 287 P **P** **00 35 16.0 +3.0**
A36M Sachs Harbour 81.94 18 P **P** **00 35 12.3 +0.2**
A36M Sachs Harbour 81.94 18 P **P** **00 35 12.6 +0.5**
baz=277,SNR=62
KIRV Kirov 81.97 328 *ce*P **P** **00 35 13.0 +0.5**
KIRV Kirov 81.97 328 P **P** **00 35 12.4 -0.2**
comp=Z,38nm,0.9s,baz=185,slow=1.0,SNR=18
KIRV LR LR 01 12 52.5
comp=Z,17µm,21.9s,baz=80,slow=37
comp=Z,38nm,0.9s
TGTN Hyland Airport 81.98 29 P **P** **00 35 13.0 +0.3**
baz=276,SNR=47
TGTN S **SKSac** **00 45 34.8 +3.6**
baz=276
DMTO DMTO 82.58 287 P **P** **00 35 18.2 +1.6**
C36M Paulatuk 82.70 21 P **P** **00 35 16.2 0.0**
C36M IAmb IAmb 00 35 44.0
comp=Z,166nm,1.1s
C36M Paulatuk 82.70 21 P **P** **00 35 16.2 0.0**
baz=279,SNR=63
BBB Bella Bella 83.17 38 P **P** **00 35 18.9 -0.1**
BBB IAMs_20 IAMs_20 01 10 55.6
comp=Z,12µm,19.0s
BBB Bella Bella 83.17 38 LR LR 01 10 20.1
comp=Z,6µm,18.7s,baz=280,slow=34
LIRD Liard River Hi 83.31 31 P **P** **00 35 20.3 +0.7**
baz=278,SNR=30
RBK Rabkut 83.32 287 P **P** **00 35 21.2 +0.7**
HOLB Holberg 83.36 40 P **P** **00 35 20.8 +0.8**
HOLB IAmb IAmb 00 35 32.9
comp=Z,131nm,1.1s
HOLB IAMs_20 IAMs_20 01 13 38.8
comp=Z,15µm,18.0s
PRGR Permogore 83.46 331 ⇑ *i*P **P** **00 35 20.2 0.0**
PRGR pmax pmax
comp=Z,225nm,0.9s
JRN Qarnain Island 83.52 294 P **P** **00 35 22.2 +0.9**
WHFO Wadi Hawf 83.67 287 P **P** **00 35 22.7 +0.4**
SNR=8.0

WRGLY Wrigley 83.96 27 P **P** **00 35 23.9 +1.1**
WRGLY IAmb IAmb 00 35 45.9
comp=Z,157nm,1.1s
WRGLY Wrigley 83.96 27 P **P** **00 35 23.9 +1.1**
baz=280,SNR=21
WRGLY S **S** **00 45 47.6 +2.6**
baz=280
ABTO Aybut 84.20 287 P **P** **00 35 25.8 +0.8**
KOTAN Kotaneelee Air 84.22 30 P **P** **00 35 25.6 +1.4**
baz=280,SNR=23
KOTAN S **S** **00 45 49.6 +1.8**
baz=280
FLDN Fort Liard 84.49 30 P **P** **00 35 26.1 +0.6**
FLDN IAmb IAmb 00 35 40.4
comp=Z,339nm,1.6s
FLDN Fort Liard 84.49 30 P **P** **00 35 26.8 +1.3**
baz=280
FLDN S **S** **00 45 52.8 +2.4**
baz=280
PAF Port-aux-Franc 84.89 218 P **P** **00 35 27.8 +0.2**
PAF Port-aux-Franc 84.89 218 P **P** **00 35 27.8 +0.2**
PAF pmax pmax
comp=Z,897nm,1.8s
PAF MLR MLR
comp=Z,8µm,19.0s
LKRN Lenkeran, Azer 84.97 308 P **P** **00 35 29.0 +0.6**
TRNA Turayna 85.02 294 P **P** **00 35 29.7 +0.8**
SHMA Al-Shehemyia 85.07 295 P **P** 00 35 22.0 -7.2
CBB Campbell River 85.21 40 P **P** **00 35 29.9 +0.6**
CBB IAMs_20 IAMs_20 01 07 14.0
comp=Z,14µm,20.0s
MAK Makhachkala 85.26 313 *c* *i*P **P** **00 35 26.0 -3.8**
MAK *e* 00 38 45.4
MAK *e*PPP PPP 00 40 43.9
MAK *e* 00 45 47.2
MAK *e*SS SS 00 51 29.9 -3.1
MAK *e*SSS SSS 00 55 01.1
MAK pmax pmax
comp=Z,452nm,1.8s
MAK MLR MLR
comp=Z,10µm,16.0s
OZB Mount Ozzard 85.31 41 P **P** **00 35 31.1 +1.2**
OZB IAmb IAmb 00 35 45.0
comp=Z,132nm,1.0s
SMRA Abu-Samra 85.36 294 P **P** **00 35 32.4 +1.7**
SAKB Bahrain 85.43 295 P **P** 00 35 23.5 -7.5
MSEY Mahe Island 85.68 265 P **P** **00 35 32.2 -0.3**
MSEY Mahe Island 85.68 265 *i* P **P** **00 35 33.0 +0.6**
SNR=14
MSEY Mahe Island 85.68 265 P P 00 35 21.6 -11
MSEY Mahe Island 85.68 265 P **P** **00 35 32.2 -0.3**
MSEY pmax pmax
comp=Z,428nm,1.4s
SEKA Sheki 85.77 311 P **P** **00 35 32.9 +0.4**
MNGR Mingechevir, A 85.93 311 P **P** **00 35 33.9 +0.8**
C03A Quillayute Air 86.09 42 P **P** **00 35 32.9 -0.9**
C03A IAmb IAmb 00 36 03.9
comp=Z,219nm,1.2s
C03A IAMs_20 IAMs_20 01 09 38.4
comp=Z,13µm,19.0s
ZKTA Zakatala 86.13 311 P **P** **00 35 34.8 +0.6**
CLRS Cowichan Lake 86.22 41 P **P** **00 35 34.7 +0.3**
CLRS IAmb IAmb 00 35 40.6
comp=Z,108nm,1.0s
KLMR Klimovskoe 86.51 331 *eP* **P** **00 35 33.4 -2.2**
KLMR *eP* **P** **00 35 33.4 -2.2**
KLMR *eP* **P** **00 35 33.4 -2.2**
KLMR AMP 00 35 51.4
comp=Z,131nm,1.3s
KLMR *e*PP **PP** **00 38 57.8 +0.8**
KLMR S **SKSac** **00 45 59.8 -0.6**
KLMR S **SKSac** **00 45 59.8 -0.6**
KLMR SS **SS** **00 51 56.7 +6.3**
KLMR SS **SS** **00 51 56.7 +6.3**
KLMR LQ LQ 01 05 52.8
KLMR LQ LQ 01 05 52.8
KLMR LR LR 01 13 12.5
KLMR AMP 01 17 36.0
comp=Z,15µm,15.2s
KLMR Klimovskoe 86.51 331 *eP* **P** **00 35 33.3 -2.3**
KLMR *e* 00 38 57.7
KLMR S **SKSac** **00 45 59.8 -0.6**
KLMR SS **SS** **00 51 56.7 +6.3**
KLMR pmax pmax
comp=Z,131nm,1.3s
KLMR MLR MLR
comp=Z,15µm,15.0s
GANJ Ganja 86.52 310 P **P** **00 35 36.6 +0.5**
LVZ Lovozero 86.58 339 IAMs_20 IAMs_20 01 16 12.3
comp=Z,15µm,18.0s
NLWA Neilton Lookou 86.66 43 P **P** **00 35 36.4 -0.3**
NLWA IAmb IAmb 00 35 58.0
comp=Z,316nm,1.2s
PGC Sidney 86.69 41 P **P** **00 35 37.4 +0.7**
PGC IAmb IAmb 00 35 42.4
comp=Z,125nm,1.0s
B04A Port Angeles 86.77 42 P **P** **00 35 37.0 -0.1**
B04A IAmb IAmb 00 35 58.4
comp=Z,292nm,1.2s
B04A IAMs_20 IAMs_20 01 11 23.3
comp=Z,15µm,19.0s
WISH Wishkah 86.78 43 P **P** **00 35 38.2 +1.1**
SPITS Spitsbergen Ar 86.80 350 P **P** **00 35 36.4 -0.3**
SPITS pmax pmax
comp=Z,217nm,1.2s
SPITS Spitsbergen Ar 86.80 350 P **P** **00 35 36.5 -0.2**
comp=Z,22nm,1.0s,baz=108,slow=7.1,SNR=4.7
SPITS LR LR 01 15 13.6
comp=Z,17µm,20.2s,baz=9.5,slow=36
comp=Z,22nm,1.0s
RADR Rader Ridge 86.89 44 P **P** **00 35 38.3 +0.5**
E03A Lebam 87.03 43 P **P** **00 35 39.6 +1.2**
KBS Kingsbay 87.05 351 IAMs_20 IAMs_20 01 14 44.6
comp=Z,11µm,20.0s
KBS Kingsbay 87.05 351 *i* P **P** **00 35 38.4 +0.5**
APA Apatity 87.14 338 ⇓ *i*P P 00 35 46.0 +7.5
APA *i* 00 46 22.0
APA *i* PS PnS 00 47 40.0 +22
APA *i* SSS SSS 00 55 26.0
APA pmax pmax
comp=Z,30nm,1.0s
F03A Seaside 87.15 44 P **P** **00 35 39.6 +0.5**
HEBO Mount Hebo 87.16 45 IAMs_20 IAMs_20 01 06 46.6
comp=Z,12µm,22.0s
KEBM Edson Butte 87.20 47 P **P** **00 35 40.4 +0.9**
GNW Green Mountain 87.32 42 P **P** **00 35 40.9 +1.1**
GNW IAmb IAmb 00 36 09.4
comp=Z,191nm,1.0s
GNW IAMs_20 IAMs_20 01 10 36.8
comp=Z,12µm,20.0s
KBO Bosley Butte 87.41 48 P **P** **00 35 41.5 +1.0**
KBO IAmb IAmb 00 35 55.5
comp=Z,223nm,1.3s
KBO IAMs_20 IAMs_20 01 13 30.8
comp=Z,12µm,19.0s
NAX Nakhchivan 87.41 309 P **P** **00 35 42.0 +1.4**
J01E Myrtle Point 87.43 47 P **P** **00 35 41.3 +0.8**
J01E IAmb IAmb 00 36 04.4
comp=Z,254nm,1.2s
G03D McMinnville, O 87.50 45 P **P** **00 35 40.5 -0.2**
G03D IAmb IAmb 00 35 46.5
comp=Z,192nm,1.1s
G03D IAMs_20 IAMs_20 01 10 16.9
comp=Z,12µm,20.0s
VRH Novokhopyorsk 87.57 321 *eP* **P** **00 35 38.1 -2.8**
VRH pmax pmax
comp=Z,110nm,1.0s
VRH MLR MLR
comp=Z,16µm,16.0s
COR Corvallis 87.60 45 IAMs_20 IAMs_20 01 07 41.6
comp=Z,15µm,22.0s
K02D Willamette Mer 87.72 47 P **P** **00 35 42.1 +0.1**
K02D IAMs_20 IAMs_20 01 18 36.0
comp=Z,10µm,18.0s
KSXB Camp Six Broad 87.73 48 P **P** **00 35 42.7 +0.6**
KSXB IAmb IAmb 00 36 18.7
comp=Z,109nm,1.1s
KSXB IAMs_20 IAMs_20 01 12 27.6
comp=Z,14µm,19.0s
I03D Drain, OR 87.75 46 P **P** **00 35 42.4 +0.5**
I03D IAMs_20 IAMs_20 01 14 15.6
comp=Z,13µm,20.0s
KRPM Rodgers 87.76 49 P **P** **00 35 43.6 +1.4**
KRPM IAmb IAmb 00 36 19.2
comp=Z,228nm,1.3s
KRPM IAMs_20 IAMs_20 01 06 18.2
comp=Z,12µm,22.0s
KRMB Red Mountain 87.77 48 P **P** **00 35 43.4 +1.1**
KRMB IAmb IAmb 00 35 60.0
comp=Z,153nm,1.4s
KRMB IAMs_20 IAMs_20 01 16 02.6
comp=Z,11µm,18.0s
GNI Garni 87.80 310 P **P** **00 35 43.2 +0.7**
GNI IAmb IAmb 00 36 21.8
comp=Z,200nm,1.2s
GNI Garni 87.80 310 P **P** **00 35 42.1 -0.5**
GNI Garni 87.80 310 P **P** **00 35 43.2 +0.7**
GNI pmax pmax
comp=Z,200nm,1.2s
GNI MLR MLR
comp=Z,8µm,19.0s
GNI Garni 87.80 310 P **P** **00 35 42.9 +0.4**
comp=Z,13nm,0.9s,baz=175,slow=19,SNR=3.3
GNI LR LR 01 17 37.6
comp=Z,8µm,21.5s,baz=78,slow=38
comp=Z,13nm,0.9s
JCC Jacoby Creek, 87.82 49 P **P** **00 35 43.6 +1.2**
JCC IAmb IAmb 00 36 00.3
comp=Z,182nm,1.4s
KMPM Mount Pierce 87.83 49 P **P** **00 35 44.2 +1.6**
KMPM IAmb IAmb 00 36 00.5
comp=Z,148nm,1.2s
KMPM IAMs_20 IAMs_20 01 06 17.2
comp=Z,15µm,22.0s
NOR Nord 87.84 357 *i* P **P** **00 35 41.9 +0.1**
NOR IAmb IAmb 00 36 05.7
comp=Z,135nm,1.3s
ZEI Tsey 87.90 313 *eP* **P** **00 35 40.4 -2.6**
ZEI pmax pmax
comp=Z,87nm,1.0s
BUCK Buck Mountain 87.90 46 P **P** **00 35 43.4 +0.6**
BUCK IAMs_20 IAMs_20 01 07 28.6
comp=Z,14µm,22.0s
L02F Cave Junction 87.90 48 P **P** **00 35 43.5 +0.8**
L02F IAMs_20 IAMs_20 01 14 14.9
comp=Z,17µm,19.0s
F04A Amboy 87.93 44 P **P** **00 35 43.8 +1.0**
DBO Dodson Butte 87.94 47 P **P** **00 35 43.6 +0.6**
DBO IAmb IAmb 00 36 19.2
comp=Z,89nm,1.1s
D05A Enumclaw 87.95 43 P **P** **00 35 44.0 +1.2**
B06A Marblemount 88.00 41 P **P** **00 35 44.0 +1.0**
B06A IAmb IAmb 00 36 06.5
comp=Z,102nm,1.0s
H04D Lebanon 88.01 45 P **P** **00 35 43.9 +0.7**
H04D IAMs_20 IAMs_20 01 07 43.4
comp=Z,13µm,21.0s
KHMM Horse Mountain 88.03 49 P **P** **00 35 44.7 +1.1**
KHMM IAmb IAmb 00 36 01.4
comp=Z,189nm,1.3s
KHMM IAMs_20 IAMs_20 01 06 12.4
comp=Z,17µm,22.0s
GOF Gofitskoye 88.04 315 *ce*P **P** **00 35 46.2 +2.9**
YKAW3 Yellowknife Wh 88.05 27 IAMs_20 IAMs_20 01 17 13.5
comp=Z,15µm,20.0s
YKA Yellowknife Ar 88.08 27 P **P** **00 35 43.5 +0.4**
YKA Yellowknife Ar 88.08 27 *ce*P **P** **00 35 43.7 +0.6**
YKA pmax pmax
comp=Z,85nm,1.0s
YKA Yellowknife Ar 88.08 27 P **P** **00 35 43.7 +0.6**
comp=Z,82nm,1.0s,baz=288,slow=5.5,SNR=196
YKA PKKPbc **PKKPbc** **00 53 28.3 -1.9**
comp=Z,0.9nm,0.9s,baz=111,slow=2.5,SNR=5.3
YKA LR LR 01 17 07.8
comp=Z,9µm,19.0s,baz=280,slow=37
comp=Z,82nm,1.0s
HILA High Level 88.09 31 P **P** **00 35 43.5 +0.3**
YKAW1 Yellowknife Wh 88.13 27 IAMs_20 IAMs_20 01 17 06.7
comp=Z,14µm,20.0s
LON Longmire 88.17 43 P **P** **00 35 44.1 +0.2**
LON IAmb IAmb 00 36 13.0
comp=Z,142nm,1.5s
LON Longmire 88.17 43 P **P** **00 35 44.2 +0.2**
LON pmax pmax
comp=Z,142nm,1.5s
LON MLR MLR
comp=Z,9µm,18.0s
KMRM Mail Ridge 88.18 50 P **P** **00 35 44.9 +0.7**
KMRM IAmb IAmb 00 36 16.1
comp=Z,166nm,1.3s
KMRM IAMs_20 IAMs_20 01 11 20.5
comp=Z,15µm,20.0s
VNDA Vanda 88.25 175 P **P** **00 35 44.4 +0.9**
VNDA IAmb IAmb 00 35 46.8
comp=Z,193nm,1.8s
VNDA Vanda 88.25 175 P **P** **00 35 44.4 +0.9**
VNDA pmax pmax
comp=Z,193nm,1.8s
VNDA MLR MLR
comp=Z,20µm,20.0s
VNDA Vanda 88.25 175 P **P** **00 35 44.5 +0.9**
comp=Z,9.9nm,0.8s,baz=326,slow=5.5,SNR=39
VNDA LR LR 01 14 02.7
comp=Z,18µm,19.6s,baz=348,slow=35
comp=Z,9.9nm,0.8s
ONI Oni 88.26 313 P **P** **00 35 44.8 +0.3**
ONI IAmb IAmb 00 36 30.4
comp=Z,178nm,1.3s
ONI IAMs_20 IAMs_20 01 18 34.9
comp=Z,16µm,22.0s
ONI Oni 88.26 313 P **P** **00 35 44.8 +0.3**
ONI pmax pmax
comp=Z,178nm,1.3s
ONI MLR MLR
comp=Z,16µm,22.0s
H04A Detroit Lake 88.36 45 P **P** **00 35 45.5 +0.6**
H04A IAmb IAmb 00 36 11.4
comp=Z,158nm,1.0s
H04A IAMs_20 IAMs_20 01 07 45.7
comp=Z,12µm,21.0s
KCPM Cahto Peak 88.38 50 P **P** **00 35 46.0 +0.8**
KCPM IAmb IAmb 00 36 21.9
comp=Z,230nm,1.5s
KCPM IAMs_20 IAMs_20 01 12 33.8
comp=Z,12µm,19.0s
I04A Tendick Farm, 88.39 46 P **P** **00 35 46.1 +1.0**
I04A IAmb IAmb 00 36 01.9
comp=Z,254nm,1.4s
KBZ Khabaz 88.42 314 *i* P **P** **00 35 45.6 +0.5**
KBZ pmax pmax
comp=Z,16nm,0.9s
KBZ Khabaz 88.42 314 P **P** **00 35 45.1 0.0**
comp=Z,9.8nm,0.9s,baz=101,slow=5.1,SNR=7.7
KBZ LR LR 01 19 12.3
comp=Z,14µm,19.5s,baz=56,slow=38
comp=Z,9.8nm,0.9s
AKH Akhalkalaki 88.48 312 P **P** **00 35 46.2 +0.6**
AKH Akhalkalaki 88.48 312 P **P** **00 35 46.3 +0.6**
AKH pmax pmax
comp=Z,267nm,0.9s
RER Riviere de l'E 88.51 248 P **P** **00 35 45.3 -0.8**
KVAR Kislovodsk Arr 88.52 314 P **P** **00 35 46.1 +0.3**
comp=Z,5.8nm,1.1s,baz=356,slow=13,SNR=1.6
KVAR LR LR 01 16 57.0
comp=Z,6µm,21.0s,baz=280,slow=37
comp=Z,5.8nm,1.1s
KIV Kislovodsk 88.52 314 ⇓ P **P** **00 35 43.8 -1.9**
KIV Kislovodsk 88.52 314 P **P** **00 35 45.2 -0.6**
KIV Kislovodsk 88.52 314 P **P** **00 35 44.6 -1.2**
KIV Kislovodsk 88.52 314 *eP* **P** **00 35 45.1 -0.6**
KIV *e* 00 39 13.9
KIV *e*PPP PPP 00 41 09.6
KIV *e* 00 46 13.5
KIV *e*SS SS 00 52 21.7 +0.8
KIV *e*SSS SSS 00 55 57.1
KIV pmax pmax
comp=Z,19nm,1.1s
KIV MLR MLR
comp=Z,7µm,20.0s
HOOD Mount Hood Mea 88.59 44 P **P** **00 35 46.7 +0.6**
HOOD IAmb IAmb 00 36 03.7
comp=Z,173nm,1.0s
HOOD IAMs_20 IAMs_20 01 07 41.8
comp=Z,12µm,22.0s
SHA1 Shidzhatmaz 88.59 314 *i* P **P** **00 35 46.4 +0.1**
YBH Yreka Blue Hor 88.61 48 P **P** **00 35 47.2 +0.9**
YBH IAmb IAmb 00 36 17.6
comp=Z,115nm,1.1s
YBH IAMs_20 IAMs_20 01 10 30.7
comp=Z,11µm,20.0s
YBH Yreka Blue Hor 88.61 48 P **P** **00 35 47.2 +0.9**

YBH pmax pmax
comp=Z,115nm,1.2s
YBH Yreka Blue Hor 88.61 48 LR LR 01 10 23.5
comp=Z,9µm,19.9s,baz=277,slow=32
NEUR Neytrino 88.66 314 *i* P **P 00 35 46.8 +0.2**
L04D Klamath Falls 88.80 47 P **P 00 35 48.0 +0.8**
L04D IAmb IAmb 00 36 18.2
comp=Z,216nm,1.1s
LTY Liberty 88.81 42 P **P 00 35 47.6 +0.6**
LTY IAmb IAmb 00 36 08.5
comp=Z,289nm,1.5s
LTY IAMs_20 IAMs_20 01 12 47.5
comp=Z,12µm,19.0s
MOS Moscow 88.81 326 *e*P **P 00 35 44.4 -2.3**
MOS *e* 00 39 14.3
MOS *e* 00 46 09.1
MOS *e*S **S 00 46 35.5 +3.0**
MOS *e*PS **PnS 00 47 36.2 -2.1**
MOS *e*SS **SS 00 52 30.2 +6.0**
MOS *e*SSS SSS 00 56 05.9
MOS pmax pmax
comp=Z,145nm,1.8s
MOS MLR MLR
comp=N,14µm,22.0s
MOS MLR MLR
comp=E,26µm,22.0s
MOS MLR MLR
comp=Z,36µm,22.0s
G05A Wamic 88.84 44 P **P 00 35 48.0 +0.9**
G05A IAmb IAmb 00 36 18.3
comp=Z,249nm,1.2s
HOPS Hopland Field 88.91 51 P **P 00 35 47.9 +0.3**
HOPS IAmb IAmb 00 36 31.5
comp=Z,134nm,1.2s
HOPS IAMs_20 IAMs_20 01 15 46.7
comp=Z,13µm,18.0s
LPSR Galich'ya Gora 88.92 323 *e*P **P 00 35 44.5 -2.8**
LPSR pmax pmax
comp=Z,100nm,1.0s
LPSR MLR MLR
comp=Z,11µm,19.0s
KARS Kars 88.95 311 P **P 00 35 47.0 -0.9**
KARS Kars 88.95 311 P **P 00 35 47.0 -0.9**
KARS pmax pmax
comp=Z,304nm,1.0s
SBA Scott Base 88.98 175 P **P 00 35 48.1 +1.2**
SBA Scott Base 88.98 175 IAMs_20 IAMs_20 01 13 36.0
comp=Z,12µm,19.0s
SBA Scott Base 88.98 175 P **P 00 35 48.1 +1.2**
SBA pmax pmax
comp=Z,472nm,2.0s
VORR Voronezh 88.99 322 *e*P **P 00 35 44.8 -2.8**
VORR pmax pmax
comp=Z,126nm,1.4s
I05D Terrebonne, OR 89.03 45 P **P 00 35 48.9 +0.8**
I05D IAmb IAmb 00 36 37.8
comp=Z,289nm,1.5s
I05D IAMs_20 IAMs_20 01 08 26.4
comp=Z,12µm,21.0s
RES Resolute Bay 89.03 13 P **P 00 35 47.7 +0.3**
RES Resolute Bay 89.03 13 P **P 00 35 47.7 +0.3**
RES pmax pmax
comp=Z,52nm,1.0s
RES MLR MLR
comp=Z,9µm,20.0s
RES Resolute Bay 89.03 13 LR LR 01 17 47.0
comp=Z,7µm,20.0s,baz=316,slow=37
ARCES ARCESS Array B 89.04 341 P **P 00 35 47.6 0.0**
ARCES IAmb IAmb 00 36 11.6
comp=Z,152nm,1.4s
ARCES ARCESS Array B 89.04 341 P **P 00 35 47.6 0.0**
ARCES pmax pmax
comp=Z,152nm,1.4s
ARCES ARCESS Array B 89.04 341 P **P 00 35 47.2 -0.4**
comp=Z,9.5nm,0.7s,baz=73,slow=7.4,SNR=31
ARCES LR LR 01 18 27.7
comp=Z,28µm,20.5s,baz=66,slow=38
comp=Z,9.5nm,0.7s
BRLDA Berland Lookou 89.11 35 P **P 00 35 48.9 +0.6**
BRLDA IAmb IAmb 00 36 03.4
comp=Z,194nm,1.0s
K04D Chiloquin, OR 89.11 47 P **P 00 35 49.0 +0.4**
VORD Divnogorie 89.12 322 *e*P **P 00 35 45.1 -3.1**
VORD pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 89.13 322 *e*P **P 00 35 45.1 -3.2**
VSR pmax pmax
comp=Z,70nm,1.2s
VSR MLR MLR
comp=Z,15µm,19.0s
GDXM Geysers 89.16 51 P **P 00 35 49.9 +1.0**
G06A Carlson Farm, 89.31 44 P **P 00 35 50.0 +0.6**
G06A IAmb IAmb 00 36 02.9
comp=Z,160nm,1.5s
J05D Fort Rock, OR 89.34 46 P **P 00 35 50.1 +0.4**
J05D IAmb IAmb 00 36 07.7
comp=Z,183nm,1.2s
J05D IAMs_20 IAMs_20 01 15 08.7
comp=Z,12µm,19.0s
B08A Colville Reser 89.43 41 P **P 00 35 50.5 +0.6**
B08A IAmb IAmb 00 36 03.8
comp=Z,183nm,2.0s
PINE Pine Mountain 89.43 46 P **P 00 35 50.2 +0.1**
PINE IAmb IAmb 00 36 08.8
comp=Z,142nm,0.8s
PINE IAMs_20 IAMs_20 01 08 52.1
comp=Z,12µm,21.0s
E07A Sunnyside 89.52 43 P **P 00 35 50.7 +0.3**
E07A IAmb IAmb 00 36 04.8
comp=Z,157nm,1.3s
OBN Obninsk 89.57 326 ⇑P **P 00 35 49.0 -1.3**
OBN Obninsk 89.57 326 P **P 00 35 49.3 -1.0**
OBN Obninsk 89.57 326 P **P 00 35 49.3 -1.0**
comp=Z,23nm,0.8s,baz=313,slow=2.9,SNR=7.8
OBN LR LR 01 16 59.6
comp=Z,38µm,21.8s,baz=68,slow=36
comp=Z,23nm,0.8s
F07A Phinny Hill Vi 89.64 43 P **P 00 35 51.8 +0.9**
F07A IAMs_20 IAMs_20 01 18 13.3
comp=Z,11µm,18.0s
K05A Summer Lake 89.71 47 P **P 00 35 52.8 +1.3**
K05A IAmb IAmb 00 36 10.1
comp=Z,125nm,1.0s
HAWA Hanford 89.78 43 P **P 00 35 52.9 +1.4**
HAWA IAmb IAmb 00 36 06.0
comp=Z,126nm,1.4s
ORV Oroville 89.98 50 P **P 00 35 53.4 +0.8**
ORV Oroville 89.98 50 P **P 00 35 53.4 +0.8**
ORV pmax pmax
comp=Z,106nm,1.3s
D08A Wollman Farm, 90.02 42 P **P 00 35 53.1 +0.5**
D08A IAmb IAmb 00 36 06.2
comp=Z,182nm,1.5s
E08A Dider Farm, El 90.07 43 P **P 00 35 54.4 +1.5**
E08A IAmb IAmb 00 36 07.3
comp=Z,163nm,1.4s
SIRT Sirnak 90.10 308 P **P 00 35 53.0 -0.3**
SIRT IAmb IAmb 00 36 29.2
comp=Z,238nm,1.2s
SIRT IAMs_20 IAMs_20 01 20 26.0
comp=Z,17µm,20.0s
GURO Guroymak-BITLI 90.19 309 P **P 00 35 53.7 -0.1**
C09A Chrisman Ranch 90.25 41 P **P 00 35 54.5 +0.8**
I07A Izee 90.37 45 P **P 00 35 55.2 +0.7**
I07A IAMs_20 IAMs_20 01 08 59.9
comp=Z,15µm,21.0s
G08A Pilot Rock 90.44 44 P **P 00 35 55.5 +0.7**
AFDM Forest Hills D 90.51 50 P **P 00 35 55.9 +0.8**
SAO San Andreas Ge 90.64 53 P **P 00 35 56.8 +1.1**
SAO IAMs_20 IAMs_20 01 23 17.8
comp=Z,10µm,18.0s
SAO San Andreas Ge 90.64 53 P **P 00 35 56.8 +1.1**
SAO pmax pmax
comp=Z,78nm,1.2s
E09A Wood Farm, Sta 90.68 43 P **P 00 35 56.9 +1.2**
E09A IAmb IAmb 00 36 10.1
comp=Z,172nm,1.4s
SOC Sochi 90.70 314 *e*P P 00 35 49.1 -6.7
SOC *e*PPP PPP 00 41 25.6
SOC *e*S **SKSac 00 46 18.8 -7.3**
NEW Newport 90.88 41 P **P 00 35 57.2 +0.6**
NEW Newport 90.88 41 IAMs_20 IAMs_20 01 18 10.7
comp=Z,13µm,19.0s
NEW Newport 90.88 41 P **P 00 35 57.8 +1.2**
baz=286,SNR=25
NEW S **S 00 46 53.9 +1.8**
baz=286
NEW Newport 90.88 41 P **P 00 35 57.2 +0.6**
NEW pmax pmax
comp=Z,74nm,1.3s
NEW MLR MLR
comp=Z,13µm,19.0s
NEW Newport 90.88 41 LR LR 01 11 11.0
comp=Z,10µm,20.0s,baz=291,slow=32
BBGB Big Mountain B 91.00 53 P **P 00 35 57.5 -0.1**
BBGB IAmb IAmb 00 36 53.5
comp=Z,182nm,1.2s
BBGB IAMs_20 IAMs_20 01 23 44.4
comp=Z,13µm,18.0s
MPK Martis Peak 91.14 50 IAMs_20 IAMs_20 01 13 57.9
comp=Z,10µm,18.0s
CMB Columbia Colle 91.17 51 P **P 00 35 59.0 +0.7**
CMB IAmb IAmb 00 36 15.6
comp=Z,98nm,1.2s
CMB Columbia Colle 91.17 51 P **P 00 35 59.0 +0.7**
CMB pmax pmax
comp=Z,98nm,1.3s
PLTX Planet X, Gerl 91.22 48 IAMs_20 IAMs_20 01 08 35.9
comp=Z,10µm,20.0s
PMPB Monarch Peak 91.27 53 P **P 00 35 59.2 +0.4**
PMPB IAMs_20 IAMs_20 01 20 52.6
comp=Z,14µm,18.0s
J08A Circle Bar Ran 91.27 46 P **P 00 35 59.4 +0.7**
J08A IAmb IAmb 00 36 48.4
comp=Z,97nm,1.2s
WVOR Wild Horse Val 91.39 47 P **P 00 35 59.2 0.0**
WVOR IAmb IAmb 00 36 29.5
comp=Z,322nm,1.9s
WVOR IAMs_20 IAMs_20 01 16 35.3
comp=Z,10µm,20.0s
WVOR Wild Horse Val 91.39 47 P **P 00 35 59.3 0.0**
WVOR pmax pmax
comp=Z,322nm,1.9s
WVOR MLR MLR
comp=Z,10µm,20.0s
F10A Beach Ranch, E 91.44 43 P **P 00 36 00.4 +1.1**
PNTR Pine Nut 91.52 50 P **P 00 36 00.3 +0.2**
PNTR IAmb IAmb 00 36 42.4
comp=Z,113nm,1.1s
PAHR Pah Rah Range 91.53 49 P **P 00 36 00.3 +0.3**
PAHR IAmb IAmb 00 36 17.4
comp=Z,118nm,1.4s
PAHR IAMs_20 IAMs_20 01 19 09.1
comp=Z,10µm,18.0s
EDM Edmonton 91.67 35 P **P 00 36 01.0 +0.8**
EDM IAmb IAmb 00 36 05.3
comp=Z,114nm,1.2s
EDM IAMs_20 IAMs_20 01 14 19.0
comp=Z,15µm,20.0s
EDM Edmonton 91.67 35 P **P 00 36 01.0 +0.8**
EDM pmax pmax
comp=Z,114nm,1.2s
BMO Blue Mountains 91.69 44 P **P 00 36 00.9 +0.3**
BMO IAmb IAmb 00 36 30.4
comp=Z,236nm,2.0s
BMO Blue Mountains 91.69 44 P **P 00 36 00.9 +0.3**
BMO pmax pmax
comp=Z,236nm,2.0s
WAKR Walker 91.79 51 P **P 00 36 02.1 +0.8**
WAKR IAmb IAmb 00 36 32.3
comp=Z,157nm,1.6s
WAKR IAMs_20 IAMs_20 01 15 01.0
comp=Z,10µm,18.0s
YERR Yerington 91.82 50 P **P 00 36 01.8 +0.4**
YERR IAmb IAmb 00 36 07.0
comp=Z,93nm,1.2s
ANN Anapa 91.97 316 *e*P **P 00 36 04.6 +3.0**
ANN *e* 00 46 32.6
ANN *e* 00 46 53.4
ANN *e*SP SP 00 48 12.4 +1.2
ANN pmax pmax
comp=Z,113nm,0.9s
ANN MLR MLR
comp=N,10µm,21.0s
ANN MLR MLR
comp=Z,13µm,20.0s
ANN MLR MLR
comp=E,4µm,19.0s
SMMC Simmler 92.12 54 P **P 00 36 03.4 +0.7**
baz=284
SMMC S **S 00 47 05.9 +2.0**
baz=284
MDPB Devils Postpil 92.27 51 P **P 00 36 03.6 0.0**
OMMB Old Mammoth Mi 92.34 51 P **P 00 36 04.8 +0.8**
OMMB IAMs_20 IAMs_20 01 10 20.6
comp=Z,11µm,21.0s
VOG Valley Oaks Go 92.36 53 P **P 00 36 04.1 +0.4**
baz=284
VOG S **S 00 47 06.7 +0.8**
baz=284
PKM Mcpherson Peak 92.36 54 P **P 00 36 05.4 +1.4**
baz=284,SNR=6.7
PKM S **S 00 47 08.7 +2.2**
baz=284
FINES FINESS Array B 92.43 334 P **P 00 36 02.2 -1.2**
comp=Z,7.8nm,0.7s,baz=64,slow=5.1,SNR=31
FINES LR LR 01 20 55.2
comp=Z,15µm,18.7s,baz=66,slow=38
comp=Z,7.8nm,0.7s
NEEM North Greenlan 92.45 2 *i* P **P 00 36 02.8 -0.9**
RYN Ryan 92.45 50 P **P 00 36 05.2 +0.9**
MLAC Mammoth, Mammc 92.46 51 P **P 00 36 04.9 +0.4**
baz=285
MLAC S **S 00 47 11.3 +4.0**
baz=285
DAG Danmarks Havn 92.49 355 P **P 00 36 05.0 +1.6**
DAG Danmarks Havn 92.49 355 *i* P **P 00 36 02.0 -1.5**
PLID Pearl Lake 92.51 44 P **P 00 36 04.4 -0.1**
PLID IAMs_20 IAMs_20 01 09 24.4
comp=Z,11µm,22.0s
SBC Santa Barbara 92.55 55 P **P 00 36 04.0 -0.6**
baz=284
SBC S **S 00 47 11.1 +3.4**
baz=284
LHV Little Huntoon 92.56 51 P **P 00 36 05.8 +1.3**
LHV IAmb IAmb 00 36 41.7
comp=Z,106nm,1.3s
LHV IAMs_20 IAMs_20 01 14 48.5
comp=Z,16µm,19.0s
KVN Kaiserville 92.66 50 P **P 00 36 06.1 +0.8**
KVN Kaiserville 92.66 50 P **P 00 36 06.1 +0.8**
KVN pmax pmax
comp=Z,67nm,1.1s
NVAR Mina Array Bea 92.67 50 P **P 00 36 06.2 +0.8**
NVAR Mina Array Bea 92.67 50 P **P 00 36 06.9 +1.5**
comp=Z,30nm,0.7s,baz=272,slow=5.3,SNR=81
NVAR LR LR 01 12 23.5
comp=Z,4µm,19.5s,baz=280,slow=32
comp=Z,30nm,0.7s
BCW Bitter Crk WRg 92.67 54 P **P 00 36 07.2 +1.9**
BCW IAMs_20 IAMs_20 01 11 41.8
comp=Z,12µm,20.0s
VES Vestal, Richgr 92.71 53 P **P 00 36 05.6 +0.2**
baz=284
VES S **S 00 47 09.6 +0.5**
baz=284
SCZ2 Santa Cruz Isl 92.72 55 P **P 00 36 06.5 +1.1**
baz=284
SCZ2 S **S 00 47 11.3 +2.0**
baz=284
NV11 Mina Array Sit 92.78 50 P **P 00 36 06.2 +0.4**
NV11 IAmb IAmb 00 36 57.4
comp=Z,134nm,1.5s
NV11 IAMs_20 IAMs_20 01 18 46.3
comp=Z,10µm,18.0s
BMN Battle Mountai 92.95 48 P **P 00 36 07.0 +0.5**
BMN IAmb IAmb 00 36 37.2
comp=Z,121nm,1.6s
BMN IAMs_20 IAMs_20 01 17 20.6
comp=Z,13µm,19.0s
BMN Battle Mountai 92.95 48 P **P 00 36 07.0 +0.5**
BMN pmax pmax
comp=Z,121nm,1.6s
BMN MLR MLR
comp=Z,13µm,19.0s
SNCC San Nicolas Is 92.99 56 IAMs_20 IAMs_20 01 14 02.5
comp=Z,13µm,20.0s
SNCC San Nicolas Is 92.99 56 P **P 00 36 05.5 -1.2**
baz=284
SNCC S **S 00 47 13.8 +2.1**
baz=284
TIN Tinemaha, Big 93.07 52 P **P 00 36 07.9 +0.8**
baz=285
TIN S **S 00 47 13.8 +1.3**
baz=285
MFID Camas Ranch 93.11 45 P **P 00 36 07.9 +0.7**
MFID IAmb IAmb 00 36 46.4
comp=Z,83nm,1.1s
MFID IAMs_20 IAMs_20 01 14 14.5
comp=Z,11µm,20.0s
ISA Isabella, Lake 93.24 53 P **P 00 36 08.1 +0.2**
ISA IAMs_20 IAMs_20 01 22 01.7
comp=Z,10µm,19.0s
ISA Isabella, Lake 93.24 53 P **P 00 36 07.8 -0.1**
baz=285,SNR=6.0
ISA S **S 00 47 14.9 +0.9**
baz=285
ISA Isabella, Lake 93.24 53 P **P 00 36 08.1 +0.2**
ISA pmax pmax
comp=Z,50nm,1.3s
OSI Osito Audit: C 93.30 54 P **P 00 36 09.4 +1.2**
baz=285
OSI S **S 00 47 17.7 +3.2**
baz=285
CWC Cottonwood Cre 93.35 52 P **P 00 36 08.8 +0.3**
baz=285
CWC S **S 00 47 17.0 +1.9**
baz=285
MSO Missoula 93.36 41 P **P 00 36 08.3 +0.1**
MSO Missoula 93.36 41 P **P 00 36 09.2 +0.9**
baz=288
HEL Helsinki 93.48 333 P **P 00 36 12.9 +4.6**
HEL pmax pmax
comp=Z,67nm,1.1s
MZP Montezuma Peak 93.56 51 P **P 00 36 10.3 +0.7**
TPH Tonopah 93.58 51 P **P 00 36 10.1 +0.5**
TPH Tonopah 93.58 51 P **P 00 36 10.1 +0.5**
TPH pmax pmax
comp=Z,206nm,1.0s
DECC Green Verdugo 93.70 54 P **P 00 36 10.9 +0.9**
baz=285
CCAC Calif City Air 93.73 54 P **P 00 36 10.7 +0.5**
CCAC IAmb IAmb 00 36 27.8
comp=Z,92nm,1.1s
CCAC IAMs_20 IAMs_20 01 12 27.7
comp=Z,13µm,20.0s
GRAC Grapevine Rang 93.76 52 P **P 00 36 10.8 +0.6**
GRAC IAmb IAmb 00 36 49.4
comp=Z,112nm,1.4s
GRAC IAMs_20 IAMs_20 01 23 08.2
comp=Z,11µm,18.0s
GRAC Grapevine Rang 93.76 52 P **P 00 36 10.5 +0.3**
baz=286,SNR=8.1
GRAC S **S 00 47 22.0 +3.6**
baz=286
GMN Gold Mountain 93.76 51 P **P 00 36 10.6 +0.2**
CHMT Chamberlain Mo 93.78 41 P **P 00 36 11.4 +1.1**
BPMT Black Pine Rid 93.81 42 P **P 00 36 10.6 +0.1**
EDW2 Edwards Air Fo 93.82 54 P **P 00 36 11.9 +1.4**
baz=285,SNR=14
EDW2 S **S 00 47 22.0 +3.0**
baz=285
PASC Pasadena Art C 93.84 55 IAMs_20 IAMs_20 01 15 08.9
comp=Z,11µm,20.0s
CIS Catalina Islan 93.85 55 P **P 00 36 11.4 +0.7**
baz=285
CIS S **S 00 47 21.9 +2.6**
baz=285
PTCN Pitcairn Islan 93.86 115 IAMs_20 IAMs_20 01 15 59.0
comp=Z,14µm,18.0s
FMP Fort Macarthur 93.87 55 P **P 00 36 11.5 +0.7**
baz=285
FMP S **S 00 47 22.3 +2.9**
baz=285
OVMT Ovando 93.90 41 P **P 00 36 10.2 -0.6**
LRMC Laurel Mtn Rad 93.91 53 P **P 00 36 11.1 0.0**
baz=285,SNR=5.1
LRMC S **S 00 47 22.1 +2.1**
baz=285
MPMC Manual Prospec 93.91 53 P **P 00 36 11.2 +0.1**
baz=285,SNR=50
MPMC S **S 00 47 22.7 +2.6**
baz=285
HLID Hailey 94.05 45 P **P 00 36 11.8 +0.2**
HLID IAMs_20 IAMs_20 01 14 47.3
comp=Z,12µm,20.0s
HLID Hailey 94.05 45 P **P 00 36 12.2 +0.6**
baz=288,SNR=59
HLID S **S 00 47 23.2 +2.2**
baz=288
SIM Simferopol' 94.17 317 *e*P **P 00 36 10.0 -1.9**
SIM *e*S **S 00 47 13.4 -8.2**
SIM pmax pmax
comp=Z,46nm,1.3s
SIM smax smax
comp=E,693nm,15.8s
GAZ Gaziantep 94.22 309 P **P 00 36 11.5 -0.9**
BFSC Mount Baldy Ra 94.25 54 P **P 00 36 13.5 +0.9**
baz=285
FURC Furnace Creek, 94.29 52 P **P 00 36 12.9 +0.4**
baz=286,SNR=14
FURC S **S 00 47 25.1 +2.2**
baz=286
ELK Elko 94.31 48 P **P 00 36 13.0 +0.1**
ELK IAMs_20 IAMs_20 01 23 07.5
comp=Z,10µm,18.0s
ELK Elko 94.31 48 P **P 00 36 13.0 +0.1**
ELK pmax pmax
comp=Z,41nm,1.2s
ELK Elko 94.31 48 LR LR 01 13 38.2
comp=Z,7µm,20.1s,baz=280,slow=32
WCT Wildcat Mounta 94.38 52 P **P 00 36 14.1 +0.9**
WCT IAMs_20 IAMs_20 01 24 49.8
comp=Z,12µm,19.0s
LYMT Lyon Mountain 94.38 41 P **P 00 36 13.4 +0.3**
ELMT Elliston 94.40 41 P **P 00 36 14.1 +0.9**
QSM Queen of Sheba 94.42 52 P **P 00 36 13.2 0.0**
MAW Mawson 94.42 202 P **P 00 36 13.3 +0.9**
baz=94,SNR=27
MAW Mawson 94.42 202 P **P 00 36 12.8 +0.5**
MAW Mawson 94.42 202 P **P 00 36 12.8 +0.5**
MAW pmax pmax
comp=Z,15nm,1.1s
MAW Mawson 94.42 202 P **P 00 36 13.2 +0.9**
comp=Z,50nm,1.0s,baz=92,slow=5.2,SNR=35
MAW PP **PP 00 39 56.0 -4.0**
comp=Z,14nm,1.0s,baz=60,slow=5.8,SNR=4.1
MAW LR LR 01 15 40.3
comp=Z,13µm,20.6s,baz=74,slow=34
comp=Z,50nm,1.0s
BEMT Mount Belmont 94.43 41 P **P 00 36 13.8 +0.5**
MNK Minsk 94.49 327 *i* P **P 00 36 10.9 -2.2**
comp=E,7.0nm,0.9s
MNK *i* P **P 00 36 10.9 -2.2**
comp=N,4.0nm,0.9s
MNK *i* P **P 00 36 10.9 -2.2**
comp=Z,8.0nm,0.9s,baz=66
MNK *i* PP **PP 00 39 58.0 -2.5**
MNK *i* PPP PPP 00 41 59.1
MNK *i* SKS 00 46 11.4
MNK *i* S **SKSac 00 46 45.8 -0.9**
MNK *i* PS PS 00 48 25.6 -17
MNK *i* SS **SS 00 53 46.2 +0.3**
MNK *i* SSS SSS 00 57 27.9
MNK *i* LQ LQ 01 09 53.9
MNK *i* LR LR 01 12 16.8
MNK *i* LRM MLR 01 20 27.6
comp=Z,18µm,18.4s
MNK *i* LRM MLR 01 20 31.8
comp=E,7µm,18.3s
MNK *i* LRM MLR 01 21 35.3
comp=N,6µm,18.4s
MNK Minsk 94.49 327 *i* P **P 00 36 10.9 -2.2**
MNK *i* 00 39 57.9
MNK *i* PPP PPP 00 41 59.0
MNK *i* S **SKSac 00 46 45.8 -0.9**
MNK *i* SS **SS 00 53 46.1 +0.3**
MNK *i* SSS SSS 00 57 27.8
MNK pmax pmax
comp=N,4.0nm,0.9s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=Z,8.0nm,0.9s
MNK MLR MLR
comp=Z,18µm,18.0s
MNK MLR MLR

comp=E,7µm,18.0s
MNK MLR MLR
comp=N,6µm,18.0s
GWY Greenwater Val 94.52 52 P **P** **00 36 14.2 +0.4**
GWY IAmb IAmb 00 36 43.5
comp=Z,81nm,1.2s
ELS Elsinore Mount 94.59 55 P **P** **00 36 13.6 -0.5**
ELS IAMs_20 IAMs_20 01 15 31.7
comp=Z,10µm,20.0s
RRX Edison Barstow 94.61 54 P **P** **00 36 15.1 +1.0**
baz=286
RRX S **S** **00 47 26.9 +1.0**
baz=286
TPNV Topopah Spring 94.63 51 P **P** **00 36 14.9 +0.5**
TPNV IAMs_20 IAMs_20 01 25 11.5
comp=Z,9µm,18.0s
TPNV Topopah Spring 94.63 51 P **P** **00 36 15.2 +0.8**
baz=286,SNR=27
TPNV S **S** **00 47 28.8 +2.6**
baz=286
TPNV Topopah Spring 94.63 51 P **P** **00 36 14.9 +0.5**
TPNV pmax pmax
comp=Z,46nm,0.9s
GSC Goldstone, Bar 94.65 53 P **P** **00 36 15.2 +0.8**
GSC IAmb IAmb 00 36 29.6
comp=Z,69nm,1.1s
GSC Goldstone, Bar 94.65 53 P **P** **00 36 14.6 +0.2**
baz=286,SNR=17
GSC S **S** **00 47 29.6 +3.3**
baz=286
GSC Goldstone, Bar 94.65 53 P **P** **00 36 15.2 +0.8**
GSC pmax pmax
comp=Z,69nm,1.1s
R11B Troy Canyon, C 94.74 50 P **P** **00 36 15.3 +0.4**
R11B Troy Canyon, C 94.74 50 P **P** **00 36 16.5 +1.6**
baz=287,SNR=21
R11B S **S** **00 47 29.0 +1.8**
baz=287
BNN Bunyan 94.79 311 P **P** **00 36 13.9 -1.1**
BNN IAmb IAmb 00 36 44.2
comp=Z,123nm,1.2s
MURC Murrieta 94.79 55 P **P** **00 36 14.6 -0.4**
baz=285
S11A Rachel 94.82 51 IAMs_20 IAMs_20 01 15 34.4
comp=Z,11µm,19.0s
BBRC Big Bear Solar 94.83 54 P **P** **00 36 15.8 +0.4**
baz=286
NACGM Naroch 94.91 328 *eP* **P** **00 36 14.7 -0.3**
comp=Z,65nm,0.8s,baz=65
DBG Daneborg 94.96 355 *i* P **P** **00 36 12.2 -2.6**
109C Camp Elliot, M 95.05 56 P **P** **00 36 14.9 -1.2**
109C IAmb IAmb 00 36 38.7
comp=Z,82nm,1.2s
109C IAMs_20 IAMs_20 01 15 22.9
comp=Z,12µm,20.0s
109C Camp Elliot, M 95.05 56 P **P** **00 36 16.3 +0.2**
baz=285
Q12A Willow Creek R 95.11 49 P **P** **00 36 17.2 +0.7**
Q12A IAmb IAmb 00 37 01.0
comp=Z,76nm,1.2s
Q12A IAMs_20 IAMs_20 01 16 51.8
comp=Z,11µm,19.0s
HEC Hector,Ludlow 95.15 53 P **P** **00 36 17.2 +0.6**
baz=286,SNR=13
TJX Tijuana 95.19 56 IAMs_20 IAMs_20 01 14 37.7
comp=Z,12µm,20.0s
AKASG Malin Array Be 95.25 323 P **P** **00 36 14.9 -1.7**
AKASG Malin Array Be 95.25 323 P **P** **00 36 14.9 -1.7**
AKASG pmax pmax
comp=Z,14nm,1.0s
AKASG Malin Array Be 95.25 323 P **P** **00 36 14.9 -1.7**
comp=Z,3.0nm,0.8s,baz=53,slow=4.2,SNR=17
AKASG PP **PP** **00 40 07.1 +0.7**
comp=Z,2.9nm,0.8s,baz=55,slow=6.5,SNR=4.2
AKASG PKKPbc **PKKPdf** **00 53 10.2 -0.9**
comp=Z,1.9nm,0.9s,baz=266,slow=2.7,SNR=4.5
AKASG LR LR 01 22 02.5
comp=Z,12µm,19.4s,baz=64,slow=37
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 95.25 323 P **P** **00 36 14.7 -1.9**
AKBB Malin Array Si 95.25 323 *ce* P **P** **00 36 15.4 -1.2**
KIEV Kiev 95.26 323 ⇓P **P** **00 36 14.8 -2.0**
KIEV Kiev 95.26 323 P **P** **00 36 14.7 -2.0**
KIEV Kiev 95.26 323 P **P** **00 36 14.7 -2.0**
KIEV pmax pmax
comp=Z,19nm,1.0s
BOZ Bozeman (W) 95.28 42 P **P** **00 36 17.1 0.0**
BOZ Bozeman (W) 95.28 42 P **P** **00 36 17.1 0.0**
baz=290,SNR=28
BOZ Bozeman (W) 95.28 42 P **P** **00 36 17.1 0.0**
BOZ pmax pmax
comp=Z,82nm,1.5s
TUQ Turquoise Moun 95.30 53 P **P** **00 36 18.1 +0.7**
baz=286,SNR=11
PFO Pinyon Flats O 95.38 55 P **P** **00 36 17.9 +0.2**
PFO Pinyon Flats O 95.38 55 IAMs_20 IAMs_20 01 12 23.6
comp=Z,11µm,20.0s
PFO Pinyon Flats O 95.38 55 P **P** **00 36 18.5 +0.7**
baz=286
PFO Pinyon Flats O 95.38 55 P **P** **00 36 18.0 +0.2**
PFO pmax pmax
comp=Z,63nm,1.2s
PFO Pinyon Flats O 95.38 55 LR LR 01 12 26.3
comp=Z,10µm,21.3s,baz=274,slow=31
TPFO Pinon Flats 95.38 55 P **P** **00 36 17.8 0.0**
baz=286
PRN Pahroc Range 95.42 51 P **P** **00 36 18.7 +0.7**
PRN IAMs_20 IAMs_20 01 24 36.2
comp=Z,12µm,18.0s
PMD Palm Desert 95.43 55 P **P** **00 36 18.7 +0.8**
PMD IAMs_20 IAMs_20 01 12 28.0
comp=Z,11µm,20.0s
BAR Barrett 95.45 56 IAMs_20 IAMs_20 01 15 24.7
comp=Z,13µm,20.0s
SPR3 Spring Creek 3 95.49 49 P **P** **00 36 18.6 +0.1**
SPR3 IAMs_20 IAMs_20 01 17 14.9
comp=Z,12µm,19.0s
TKX Tecate 95.54 56 IAMs_20 IAMs_20 01 15 25.9
comp=Z,13µm,20.0s
SHPR Sheep Range 95.59 52 P **P** **00 36 19.6 +0.8**
MONP2 Monument Peak 95.60 55 P **P** **00 36 19.3 +0.4**
baz=286
EGMT Eagleton 95.62 39 P **P** **00 36 18.8 +0.2**
EGMT IAmb IAmb 00 36 43.9
comp=Z,75nm,1.1s
EGMT IAMs_20 IAMs_20 01 13 33.1
comp=Z,14µm,22.0s
EGMT Eagleton 95.62 39 P **P** **00 36 19.4 +0.9**
baz=292,SNR=20
BELC Belle Mtn. Jos 95.64 54 P **P** **00 36 19.3 +0.3**
baz=286
CCX Cicese 95.67 56 IAMs_20 IAMs_20 01 10 30.6
comp=Z,14µm,22.0s
GMRC Granite Mounta 95.69 53 P **P** **00 36 19.9 +0.6**
baz=286,SNR=9.9
HVU Hansel Valley 95.76 46 P **P** **00 36 20.0 +0.6**
HVU IAMs_20 IAMs_20 01 18 30.7
comp=Z,10µm,19.0s
HVU Hansel Valley 95.76 46 P **P** **00 36 20.0 +0.6**
HVU pmax pmax
comp=Z,50nm,1.1s
HVU MLR MLR
comp=Z,10µm,19.0s
ASF Jabal al Asfar 95.82 304 P **P** **00 36 19.1 -0.7**
comp=Z,5.9nm,0.8s,baz=97,slow=7.2,SNR=6.3
ASF LR LR 01 25 02.2
comp=Z,3µm,18.8s,baz=73,slow=39
comp=Z,5.9nm,0.8s
BGU Big Grassy Mou 95.85 47 P **P** **00 36 20.2 +0.3**
BGU IAMs_20 IAMs_20 01 21 25.2
comp=Z,10µm,19.0s
IKP In-Ko-Pah, Jac 95.92 56 P **P** **00 36 19.9 -0.3**
baz=286
RMX La Rumorosa 95.96 56 IAMs_20 IAMs_20 01 15 40.4
comp=Z,16µm,20.0s
PSUT Pine Spring 95.99 49 P **P** **00 36 20.7 +0.1**
PSUT IAMs_20 IAMs_20 01 17 18.1
comp=Z,11µm,19.0s
ABPO Ambohimpanom 96.04 252 P **P** **00 36 20.4 -0.7**
ABPO IAmb IAmb 00 36 22.2
comp=Z,146nm,1.8s
ABPO Ambohimpanom 96.04 252 P **P** **00 36 20.4 -0.7**
ABPO pmax pmax
comp=Z,146nm,1.8s
YMR Madison River 96.04 43 P **P** **00 36 21.1 +0.4**
V12A Nelson 96.06 52 P **P** **00 36 21.3 +0.5**
V12A IAMs_20 IAMs_20 01 16 36.2
comp=Z,10µm,20.0s
YUH Yuha Desert 96.07 55 P **P** **00 36 20.2 -0.6**
YUH IAMs_20 IAMs_20 01 15 34.0
comp=Z,14µm,19.0s
YHH Holmes Hill 96.07 43 P **P** **00 36 21.2 +0.2**
SWSC Sam W. Stewart 96.09 55 P **P** **00 36 21.5 +0.7**
baz=286
SPUT South Promonto 96.14 46 P **P** **00 36 21.8 +0.6**
SPUT IAMs_20 IAMs_20 01 18 02.9
comp=Z,9µm,19.0s
BRTR Keskin Array B 96.16 312 P **P** **00 36 20.3 -0.9**
BRTR Keskin Array B 96.16 312 P **P** **00 36 20.3 -0.9**
BRTR Keskin Array B 96.16 312 P **P** **00 36 20.6 -0.7**
comp=Z,2.9nm,0.8s,baz=64,slow=5.1,SNR=9.2
BRTR LR LR 01 23 50.5
comp=Z,4µm,21.3s,baz=52,slow=38
comp=Z,2.9nm,0.8s
BC3 Big Chuckawall 96.17 54 P **P** **00 36 21.4 0.0**
baz=286
YNM Yellowstone No 96.19 43 IAMs_20 IAMs_20 01 17 27.7
comp=Z,11µm,20.0s
YNR Norris Junctio 96.21 43 P **P** **00 36 23.1 +1.5**
YNR IAMs_20 IAMs_20 01 17 29.2
comp=Z,11µm,20.0s
ESJX Sierra Juarez 96.22 56 IAMs_20 IAMs_20 01 11 11.2
comp=Z,16µm,21.0s
DUG Dugway, Tooele 96.24 47 P **P** **00 36 21.2 -0.4**
DUG IAMs_20 IAMs_20 01 18 24.6
comp=Z,10µm,20.0s
DUG Dugway, Tooele 96.24 47 P **P** **00 36 22.8 +1.2**
baz=289,SNR=24
DUG Dugway, Tooele 96.24 47 P **P** **00 36 21.2 -0.4**
DUG pmax pmax
comp=Z,60nm,1.3s
DUG MLR MLR
comp=Z,10µm,20.0s
IRM Iron Mountain 96.28 54 P **P** **00 36 22.0 +0.2**
baz=287
IMW Indian Meadow 96.33 44 P **P** **00 36 21.6 -0.5**
FXWY Fox Creek 96.35 44 P **P** **00 36 22.2 0.0**
H17A Grant Village 96.40 43 P **P** **00 36 23.2 +0.8**
H17A IAmb IAmb 00 36 54.1
comp=Z,102nm,1.2s
H17A Grant Village 96.40 43 P **P** **00 36 22.7 +0.3**
baz=291,SNR=20
FLWY Flagg Ranch 96.42 43 P **P** **00 36 22.8 +0.3**
FLWY IAmb IAmb 00 36 53.1
comp=Z,106nm,1.1s
TPAW Teton Pass 96.46 44 P **P** **00 36 23.0 +0.3**
TPAW IAmb IAmb 00 36 51.1
comp=Z,93nm,1.6s
UABX UABC, Campus M 96.47 55 IAMs_20 IAMs_20 01 15 55.4
comp=Z,11µm,20.0s
JMIC Jan Mayen 96.48 350 LR LR 01 19 26.0
comp=Z,4µm,21.3s,baz=59,slow=35
MOOW Moose Ponds 96.51 44 P **P** **00 36 23.3 +0.4**
NEE2 Needles Airpor 96.52 53 P **P** **00 36 23.9 +1.1**
baz=287
VTX Valle De La Tr 96.53 57 IAMs_20 IAMs_20 01 11 07.2
comp=Z,13µm,21.0s
YMP Mirror Lake Pl 96.55 43 P **P** **00 36 23.9 +0.8**
REDW Red Top Meadow 96.57 44 P **P** **00 36 23.6 +0.4**
AHID Auburn Hatcher 96.60 45 P **P** **00 36 23.9 +0.6**
LOHW Long Hollow 96.65 44 P **P** **00 36 24.4 +0.9**
CCUT Cedar City 96.66 50 P **P** **00 36 23.4 -0.3**
CCUT IAMs_20 IAMs_20 01 13 47.0
comp=Z,10µm,21.0s
HWUT Hardware Ranch 96.67 46 P **P** **00 36 24.0 +0.4**
HWUT IAMs_20 IAMs_20 01 19 17.8
comp=Z,10µm,18.0s
SORM Soroca 96.77 321 ⇓P **P** **00 36 21.9 -1.7**
SORM Soroca 96.77 321 ⇓P **P** **00 36 21.9 -1.7**
MMAI Mount Meron Ar 96.80 305 P **P** **00 36 24.2 0.0**
comp=Z,6.2nm,0.8s,baz=60,slow=4.9,SNR=7.1
MMAI PKKPbc **PKKPbc** **00 53 06.9 0.0**
comp=Z,1.0nm,0.5s,baz=96,slow=3.4,SNR=5.0
MMAI LR LR 01 25 23.2
comp=Z,8µm,19.9s,baz=34,slow=39
comp=Z,6.2nm,0.8s
CTU Camp Tracy 96.84 47 P **P** **00 36 24.7 +0.3**
NLU North Lily Min 96.85 48 P **P** **00 36 24.4 -0.1**
NLU IAMs_20 IAMs_20 01 17 58.8
comp=Z,9µm,19.0s
SZCU Shurtz Canyon 96.85 50 P **P** **00 36 24.6 +0.1**
SZCU IAMs_20 IAMs_20 01 25 29.1
comp=Z,10µm,18.0s
VOI Vohitsoka 96.85 249 P **P** **00 36 26.8 +2.1**
GUVIX Guadalupe Vict 96.85 56 IAMs_20 IAMs_20 01 11 33.7
comp=Z,10µm,19.0s
TCUT Toone Canyon 96.95 46 IAMs_20 IAMs_20 01 22 05.1
comp=Z,9µm,19.0s
W13A Hualapai Mount 97.00 53 P **P** **00 36 26.3 +1.0**
W13A IAMs_20 IAMs_20 01 24 10.4
comp=Z,9µm,18.0s
RLMT Red Lodge 97.00 42 P **P** **00 36 25.9 +0.9**
RLMT IAmb IAmb 00 36 55.5
comp=Z,100nm,1.2s
RLMT Red Lodge 97.00 42 P **P** **00 36 25.4 +0.3**
baz=292,SNR=12
TCRU Three Creeks R 97.01 49 IAMs_20 IAMs_20 01 18 39.2
comp=Z,13µm,19.0s
PDMCI Parker Dam,Lak 97.03 53 P Pdif 00 36 25.4 +0.2
baz=287
MPU Maple Canyon 97.15 47 P Pdif 00 36 26.4 +0.4
SUW Suwalki 97.19 328 *eP* **P** **00 36 24.5 -0.9**
SUW *eL* L 01 22 29.7
comp=Z,41µm,20.2s
SUW Suwalki 97.19 328 P **P** **00 36 25.4 0.0**
SUW Suwalki 97.19 328 P **P** **00 36 25.4 0.0**
SUW pmax pmax
comp=Z,162nm,1.2s
SUW MLR MLR
comp=Z,39µm,20.0s
FFC Flin Flon 97.21 31 P **P** **00 36 25.5 0.0**
FFC Flin Flon 97.21 31 IAMs_20 IAMs_20 01 18 56.9
comp=Z,16µm,20.0s
FFC Flin Flon 97.21 31 P **P** **00 36 25.5 0.0**
FFC pmax pmax
comp=Z,32nm,1.0s
FFC MLR MLR
comp=Z,16µm,20.0s
MVU Marysvale 97.22 49 P Pdif 00 36 28.0 +1.7
MVU IAmb IAmb 00 36 31.6
comp=Z,65nm,0.9s
KNB Kanab 97.23 51 P Pdif 00 36 26.8 +0.4
KNB IAmb IAmb 00 37 08.0
comp=Z,100nm,1.6s
KNB IAMs_20 IAMs_20 01 23 56.2
comp=Z,9µm,19.0s
KNB Kanab 97.23 51 P Pdif 00 36 26.8 +0.5
KNB pmax pmax
comp=Z,101nm,1.6s
KNB MLR MLR
comp=Z,9µm,19.0s
MSU Marysvale 97.24 49 P Pdif 00 36 27.1 +0.7
MSU Marysvale 97.24 49 P Pdif 00 36 27.1 +0.7
MTPU Mount Pierson 97.39 49 P **P** **00 36 27.2 0.0**
MTPU IAMs_20 IAMs_20 01 17 36.2
comp=Z,11µm,19.0s
SFX San Felipe 97.39 57 IAMs_20 IAMs_20 01 12 29.2
comp=Z,11µm,21.0s
PKCU Pink Cliffs 97.49 50 IAMs_20 IAMs_20 01 28 12.8
comp=Z,10µm,18.0s
SUMG Summit 97.58 360 P **P** **00 36 27.4 +0.1**
SUMG IAmb IAmb 00 36 57.6
comp=Z,117nm,1.9s
SUMG Summit 97.58 360 PP **PP** **00 40 25.9 +1.7**
SUMG Summit 97.58 360 P **P** **00 36 27.4 +0.1**
SUMG pmax pmax
comp=Z,117nm,1.9s
SUMG MLR MLR
comp=Z,9µm,20.0s
SUMG Summit 97.58 360 *i* P **P** **00 36 27.0 -0.3**
BSUT Blindstream Ca 97.61 47 P Pdif 00 36 28.7 +0.6
BW06 Boulder Array 97.67 44 P Pdif 00 36 28.7 +0.5
BW06 IAMs_20 IAMs_20 01 18 08.9
comp=Z,10µm,20.0s
BW06 Boulder Array 97.67 44 P Pdif 00 36 28.4 +0.2
baz=291
PD31 Pinedale Array 97.67 44 P Pdif 00 36 29.0 +0.8
PDAR Pinedale Array 97.67 44 P Pdif 00 36 28.7 +0.5
PDAR Pinedale Array 97.67 44 P Pdif 00 36 29.4 +1.2
comp=Z,1.5nm,0.7s,baz=235,slow=1.6,SNR=11
PDAR PP **PP** **00 40 25.2 -0.5**
comp=Z,3.8nm,0.9s,baz=287,slow=6.0,SNR=4.5
PDAR LR LR 01 14 01.2
comp=Z,7µm,21.9s,baz=306,slow=32
comp=Z,1.5nm,0.7s
113A Mohawk Valley, 97.78 55 IAMs_20 IAMs_20 01 17 09.1
comp=Z,12µm,20.0s
U15A North Rim 97.82 51 P Pdif 00 36 29.7 +0.6
Q16A Castle Valley 97.85 48 P **P** **00 36 28.4 -0.6**
Q16A IAmb IAmb 00 37 00.2
comp=Z,54nm,1.3s
CSS Mathiatis 97.87 308 P **P** **00 36 26.8 -2.1**
CSS IAMs_20 IAMs_20 01 25 13.7
comp=Z,10µm,22.0s
TPGR Topolog 98.00 318 ⇓P **P** **00 36 28.7 -0.6**
Y14A Wickenburg 98.04 54 P Pdif 00 36 30.1 +0.3
Y14A IAMs_20 IAMs_20 01 14 25.8
comp=Z,10µm,20.0s
EIL Elat 98.12 302 LR LR 01 25 48.3
comp=Z,3µm,18.8s,baz=50,slow=38
SRU San Rafael Swe 98.26 48 P Pdif 00 36 31.1 +0.2
SRU San Rafael Swe 98.26 48 P Pdif 00 36 31.1 +0.2
SRU pmax pmax
comp=Z,17nm,0.9s
HFS Hagfors 98.28 336 P Pdif 00 36 31.4 +1.2
comp=Z,2.3nm,0.7s,baz=79,slow=7.5,SNR=1.6
HFS PP **PP** **00 40 29.2 -0.2**
comp=Z,12nm,1.0s,baz=73,slow=2.0,SNR=3.9
HFS LR LR 01 23 21.5
comp=Z,8µm,21.6s,baz=46,slow=37
comp=Z,2.3nm,0.7s
DESE Dese 98.34 283 *eP* Pdif 00 36 33.2 +1.4
DESE *eS* **SKSac** **00 47 12.1 +3.1**
DESE Dese 98.34 283 *eP* Pdif 00 36 33.2 +1.4
DESE *eS* **SKSac** **00 47 12.1 +3.1**
LAO LASA Array 98.35 40 P **P** **00 36 31.0 +0.1**
LAO LASA Array 98.35 40 P Pdif 00 36 32.0 +1.1
baz=294
PIX Pinacate 98.38 56 IAMs_20 IAMs_20 01 12 03.2
comp=Z,10µm,22.0s
RDMU Red Mountain 98.44 46 P Pdif 00 36 31.9 +0.2
RDMU IAMs_20 IAMs_20 01 23 00.8
comp=Z,9µm,18.0s
TESR Tescani 98.48 320 ⇑P **P** **00 36 30.0 -1.4**
HMU Henry Mountain 98.50 49 P **P** **00 36 31.3 -0.7**
HMU IAMs_20 IAMs_20 01 29 03.6
comp=Z,9µm,18.0s
LVV L'vov 98.64 324 *eP* **P** **00 36 30.5 -1.5**
LVV *e* 00 47 06.8
LVV *eS* **S** **00 47 53.8 -6.1**
LVV *eSS* **SS** **00 54 52.7 +8.0**
NB2 NORSAR Subarra 98.69 338 P **P** **00 36 31.9 -0.1**
comp=Z,6.0nm,0.9s,baz=48,slow=5.1
NB2 NORSAR Subarra 98.69 338 P **P** **00 36 31.9 -0.1**
baz=48,slow=5.1
NOA NORSAR Array B 98.69 338 P Pdif 00 36 33.8 +1.7
comp=Z,2.1nm,0.9s,baz=270,slow=3.0,SNR=2.4
NOA PP **PP** **00 40 31.5 -1.1**
comp=Z,0.6nm,0.7s,baz=232,slow=17,SNR=2.3
NOA LR LR 01 23 30.3
comp=Z,13µm,20.5s,baz=50,slow=37
comp=Z,2.1nm,0.9s
VRI Vrincioaia 98.69 320 ⇓P **P** **00 36 31.2 -1.2**
VRI Vrincioaia 98.69 320 ⇓P **P** **00 36 31.2 -1.2**
FCC Fort Churchill 98.73 25 P **P** **00 36 31.9 -0.3**
FCC Fort Churchill 98.73 25 P **P** **00 36 31.9 -0.3**
FCC pmax pmax
comp=Z,42nm,1.5s
PLOR Plostina 98.75 320 ⇑P **P** **00 36 32.0 -0.7**
PLOR Plostina 98.75 320 ⇑P **P** **00 36 32.0 -0.7**
214A Organ Pipe Nat 98.79 55 IAMs_20 IAMs_20 01 17 15.0
comp=Z,14µm,20.0s
214A Organ Pipe Nat 98.79 55 Pdiff Pdif 00 36 34.3 +1.1
baz=288
WUAZ Wupatki 98.82 52 P **P** **00 36 32.2 -1.2**
WUAZ Wupatki 98.82 52 Pdiff **P** **00 36 33.5 +0.1**
baz=289
DGMT Dagmar 98.84 37 P **P** **00 36 32.2 -0.8**
DGMT Dagmar 98.84 37 IAMs_20 IAMs_20 01 19 10.0
comp=Z,10µm,21.0s
DGMT Dagmar 98.84 37 Pdiff Pdif 00 36 34.0 +1.0
baz=296
BUR08 Bucovina Ar. S 98.90 322 P **P** **00 36 32.3 -1.1**
BUR08 IAmb IAmb 00 37 04.3
comp=Z,78nm,2.0s
BURAR Bucovina Array 98.91 322 ⇓P **P** **00 36 32.1 -1.3**
BURAR Bucovina Array 98.91 322 ⇓P **P** **00 36 32.3 -1.1**
BURAR Bucovina Array 98.91 322 ⇓P **P** **00 36 32.1 -1.3**
TURR Turia 99.07 320 ⇓P **Pdif** **00 36 33.8 -0.3**
NEHR Nehoiu 99.15 319 ⇑P **Pdif** **00 36 33.3 -1.1**
OZUR 99.20 320 ⇓P **Pdif** **00 36 33.2 -1.5**
MLR Muntele Rosu 99.35 319 P **Pdif** **00 36 36.8 +1.3**
comp=Z,3.8nm,1.0s,baz=66,slow=9.9,SNR=2.5
MLR LR LR 01 25 12.8
comp=Z,15µm,18.6s,baz=56,slow=38
comp=Z,3.8nm,1.0s
KWP Kalwaria Pacla 99.49 324 *eP* **Pdif** **00 36 34.9 -0.9**
KWP *eL* L 01 20 52.6
comp=Z,22µm,24.9s
DOPR Dopca 99.50 320 ⇓P **Pdif** **00 36 35.1 -0.9**
O20A White River Ci 99.55 46 Pdiff **Pdif** **00 36 36.8 +0.2**
baz=292
RWWY Rawlins 99.69 45 IAMs_20 IAMs_20 01 19 53.4
comp=Z,10µm,21.0s
FURI Furi 99.72 281 *eP* **Pdif** **00 36 41.9 +3.9**
FURI *eS* **SKSac** **00 47 23.1 +7.1**
FURI Furi 99.72 281 *eP* **Pdif** **00 36 41.9 +3.9**
FURI *eS* **SKSac** **00 47 23.1 +7.1**
K22A Casper 99.78 43 Pdiff **Pdif** **00 36 37.0 -0.5**
baz=294
VOIR 99.94 320 ⇓P **Pdif** **00 36 35.8 -2.2**
VOIR 99.94 320 ⇓P **Pdif** **00 36 35.8 -2.2**
W18A Petrified Fore 100.22 52 IAMs_20 IAMs_20 01 16 03.3
comp=Z,9µm,21.0s
W18A Petrified Fore 100.22 52 Pdiff **Pdif** **00 36 39.1 -0.5**
baz=290
ARR Arges 100.24 320 ⇑P **Pdif** **00 36 38.6 -0.7**
X18A Snowflake 100.25 52 IAMs_20 IAMs_20 01 16 16.3
comp=Z,9µm,20.0s
TUC Tucson 100.32 54 IAMs_20 IAMs_20 01 18 18.2
comp=Z,13µm,20.0s
TUC Tucson 100.32 54 Pdiff **Pdif** **00 36 40.2 +0.2**
baz=289
HUMR Humele 100.37 319 ⇓P **Pdif** **00 36 38.0 -1.9**
MVCO Mesa Verde 100.42 49 IAMs_20 IAMs_20 01 15 30.7
comp=Z,10µm,21.0s
MVCO Mesa Verde 100.42 49 Pdiff **Pdif** **00 36 40.0 -0.5**
baz=291
STHS Stebnicka Huta 100.44 324 *eP* **Pdif** **00 36 40.6 +0.5**
CRVS Cervenica-Dubn 100.56 324 *eP* **Pdif** **00 36 40.2 -0.4**
ILULI Ilulissat 100.57 4 IAMs_20 IAMs_20 01 23 20.7
comp=Z,9µm,21.0s
SRIG Santa Rosalia 100.64 60 IAMs_20 IAMs_20 01 12 23.6
comp=Z,11µm,22.0s
LOT Lotru 100.75 320 ⇑P **Pdif** **00 36 40.3 -1.4**
SMCO Snowmass 100.81 47 IAMs_20 IAMs_20 01 22 38.6
comp=Z,10µm,20.0s
RSSD Black Hills 100.83 41 IAMs_20 IAMs_20 01 24 34.4
comp=Z,9µm,19.0s
RSSD Black Hills 100.83 41 Pdiff **Pdif** **00 36 41.6 -0.6**
baz=296
OJC Ojcow 100.86 326 *eP* **Pdif** **00 36 42.0 +0.1**
OJC *eL* L 01 24 03.0
comp=Z,22µm,21.2s
N23A Red Feather La 100.87 45 IAMs_20 IAMs_20 01 21 40.9
comp=Z,9µm,20.0s
N23A Red Feather La 100.87 45 Pdiff **Pdif** **00 36 41.4 -1.2**
baz=294
NIE Niedzica 100.97 325 *eP* **Pdif** **00 36 42.8 +0.3**
NIE *eL* L 01 23 39.4
comp=Z,15µm,21.3s
PHWY Pilot Hill 101.05 44 IAMs_20 IAMs_20 01 21 24.4
comp=Z,10µm,19.0s
ICESG Greenland Ices 101.09 360 *i* P **Pdif** **00 36 39.1 -3.9**
HSIG 101.22 58 IAMs_20 IAMs_20 01 12 53.6
comp=Z,16µm,22.0s
S22A 4UR Ranch, Cre 101.46 48 IAMs_20 IAMs_20 01 22 36.9
comp=Z,9µm,19.0s
S22A 4UR Ranch, Cre 101.46 48 Pdiff **Pdif** **00 36 45.5 +0.2**
baz=292
ISCO Idaho Springs 101.54 46 IAMs_20 IAMs_20 01 21 17.7
comp=Z,13µm,20.0s
ISCO Idaho Springs 101.54 46 Pdiff **Pdif** **00 36 45.8 +0.2**
baz=294
SURR Surduc 101.64 321 ⇑P **Pdif** **00 36 45.1 -0.4**
E28A Huff 101.82 38 IAMs_20 IAMs_20 01 21 02.9
comp=Z,13µm,20.0s
319A Douglas 101.83 55 IAMs_20 IAMs_20 01 14 13.4
comp=Z,10µm,20.0s

MDND	**Maddock**	101.86	37	Pdiff	**Pdiff**	00 36 45.1	-1.3		
	baz=300								
OKC	**Ostrava-Krasne**	101.97	326	AMS	AMS	01 23 20.0			
	comp=Z,15µm,19.7s								
Q24A	**Divide**	102.20	46	Pdiff	**Pdiff**	00 36 46.1	-2.5		
	baz=294								
VYHS	**Vyhne**	102.27	324	*e*P	**Pdiff**	00 36 48.1	-0.2		
MORC	**Moravsky Berou**	102.33	326	IAMs_20	IAMs_20	01 23 43.9			
	comp=Z,15µm,21.0s								
MORC	**Moravsky Berou**	102.33	326	*e*PDIFF	**Pdiff**	00 36 48.7	+0.2		
MDVR	**Moldovita**	102.35	320	⇓P	**Pdiff**	00 36 48.2	-0.5		
KIBK	**Kibwezi**	102.42	270	PP	**PP**	00 40 56.8	-6.0		
KSP	**Ksiaz**	102.43	327	*e*P	**Pdiff**	00 36 41.7	-7.2		
KSP				*e*L	L	01 25 43.6			
	comp=Z,40µm,20.8s								
SDCO	**Great Sand Dun**	102.43	48	Pdiff	**Pdiff**	00 36 46.3	-3.2		
	baz=293								
OSTC	**Ostas**	102.63	327	AMS	AMS	01 25 10.0			
	comp=Z,32µm,20.3s								
121A	**Cookes Peak, D**	102.63	53	IAMs_20	IAMs_20	01 28 35.3			
	comp=Z,11µm,19.0s								
121A	**Cookes Peak, D**	102.63	53	Pdiff	**Pdiff**	00 36 49.4	-1.1		
	baz=291								
DPC	**Dobruska-Polom**	102.69	327	AMS	AMS	01 25 20.0			
	comp=Z,25µm,19.2s								
CHVC	**Chvalec**	102.70	327	AMS	AMS	01 25 30.0			
	comp=Z,34µm,19.1s								
ULM	**Lac du Bonnet**	102.70	33	P	**Pdiff**	00 36 50.0	-0.1		
	comp=Z,3.4nm,0.8s,baz=345,slow=6.8,SNR=4.4								
JAVC	**Velka Javorina**	102.74	325	*e*PDIFF	**Pdiff**	00 36 49.5	-0.9		
Y22D	**IRIS PASSCAL I**	102.75	52	Pdiff	**Pdiff**	00 36 45.1	-5.8		
	baz=292								
Y22F	**Passcal Instru**	102.75	52	Pdiff	**Pdiff**	00 36 45.1	-5.8		
	baz=292								
UPC	**Upice**	102.76	327	AMS	AMS	01 25 30.0			
	comp=Z,35µm,19.7s								
ANMO	**Albuquerque**	102.79	51	Pdiff	**Pdiff**	00 36 46.8	-4.3		
	baz=292								
KMBO	**Kilima Mbogo**	103.00	271	Pdiff	**Pdiff**	00 36 52.7	+0.2		
	comp=Z,2.8nm,1.0s,baz=51,slow=8.4,SNR=6.0								
VRAC	**Vranov**	103.10	326	⇑P	**Pdiff**	00 36 50.6	-1.4		
VRAC	**Vranov**	103.10	326	*e*PDIFF	**Pdiff**	00 36 51.3	-0.6		
VRAC	**Vranov**	103.10	326	⇑P	**Pdiff**	00 36 50.6	-1.4		
VRAC	**Vranov**	103.10	326	Pdiff	**Pdiff**	00 36 52.3	+0.4		
	comp=Z,1.4nm,0.7s,baz=31,slow=5.9,SNR=2.4								
KRUC	**Moravsky**	103.35	326	*e*PDIFF	**Pdiff**	00 36 52.1	-0.9		
FRGS	**Fruska Gora**	103.36	321	⇓P	**Pdiff**	00 36 51.9	-1.2		
SANT	**Santorini**	103.38	311	⇓P	**Pdiff**	00 36 52.6	-0.9		
T25A	**Trinidad**	103.47	48	IAMs_20	IAMs_20	01 28 00.1			
	comp=Z,11µm,19.0s								
T25A	**Trinidad**	103.47	48	Pdiff	**Pdiff**	00 36 50.1	-4.0		
	baz=294								
PVCC	**Panska Ves**	103.52	328	*e*PDIFF	**Pdiff**	00 36 54.8	+1.1		
PVCC				*ex*	x	00 37 06.7			
PVCC				AMS	AMS	01 25 50.0			
	comp=Z,34µm,20.2s								
PVCC	**Panska Ves**	103.52	328	*e*P	**Pdiff**	00 36 54.8	+1.1		
PVCC				MLR	MLR				
	comp=Z,34µm,20.2s								
MORH	**Mrgy, Hungar**	103.54	323	⇓P	**Pdiff**	00 36 53.3	-0.6		
OGNE	**Ogallala**	103.54	44	IAMs_20	IAMs_20	01 25 43.6			
	comp=Z,9µm,20.0s								
OGNE	**Ogallala**	103.54	44	Pdiff	**Pdiff**	00 36 53.2	-1.0		
	baz=296								
DY2G	**Dye2**	103.57	3	*i* P	**Pdiff**	00 36 52.3	-1.6		
DY2G	**Dye2**	103.57	3	*i* P	**PP**	00 41 07.2	-2.1		
DY2G				IAmb	IAmb	00 41 18.1			
	comp=Z,501nm,2.0s								
BRG	**Berggiesshubel**	103.64	328	P	**Pdiff**	00 36 53.7	-0.6		
BRG				Amp		00 36 55.5			
	comp=Z,8.0nm,1.1s								
BRG	**Berggiesshubel**	103.64	328	P	**Pdiff**	00 37 06.7	+12		
BRG				Amp		00 37 08.5			
	comp=Z,24nm,1.2s								
BRG				PKiKP	PP	00 40 35.0	-35		
BRG				Amp		00 40 39.2			
	comp=Z,12nm,1.2s								
BRG				PP	**PP**	00 41 04.8	-5.4		
BRG				Amp		00 41 20.6			
	comp=Z,20nm,1.3s								
BRG	**Berggiesshubel**	103.64	328	SS	SS	00 56 05.0	+11		
SLBS	**Sierra La Lagu**	103.70	63	IAMs_20	IAMs_20	01 14 07.1			
	comp=Z,10µm,21.0s								
TREC	**Trest**	103.72	326	*e*PDIFF	**Pdiff**	00 36 56.0	+1.3		
TREC				*ex*	x	00 37 07.9			
TREC				AMS	AMS	01 25 30.0			
	comp=Z,19µm,20.6s								
TREC	**Trest**	103.72	326	*e*P	**Pdiff**	00 36 56.0	+1.3		
TREC				MLR	MLR				
	comp=Z,19µm,20.6s								
GOPC	**GO Pecny, Ondr**	103.75	327	AMS	AMS	01 26 10.0			
	comp=Z,28µm,19.5s								
RICC	**Richard**	103.75	328	AMS	AMS	01 26 00.0			
	comp=Z,34µm,20.6s								
DIVS	**Divibare**	103.76	320	IAMs_20	IAMs_20	01 21 37.3			
	comp=Z,9µm,20.0s								
AGMN	**Agassiz Nation**	103.77	35	Pdiff	**Pdiff**	00 36 52.4	-2.5		
	baz=303								
PRU	**Pruhonice**	103.84	327	AMS	AMS	01 26 00.0			
	comp=Z,31µm,19.5s								
PRA	**Prague**	103.85	327	AMS	AMS	01 26 10.0			
	comp=Z,34µm,19.5s								
CLL	**Collm**	103.87	329	*e*Pdif	**Pdif**	00 36 55.0	-0.3		
CLL				*i* x	x	00 37 07.5			
CLL				*ex*	x	00 40 36.0			
CLL				*e*PP	**PKiKP**	00 41 13.0	+0.1		
CLL				*ex*	x	00 41 26.0			
CLL				*e*SKSac	**SKSac**	00 47 32.0	-1.7		
CLL				*e*SKKSac	**SKKSac**	00 48 22.0	+5.8		
CLL				*e*Sdif	**Sdif**	00 48 42.0	-1.5		
CLL				*e*PS	**PS**	00 50 25.0	+1.7		
CLL				*e*PPS	PPS	00 51 15.0			
CLL				*e*SS	SS	00 55 36.0	-21		
CLL				*e*SSS	SSS	00 59 54.0			
CLL				*ex*	x	01 01 24.0			
CLL				*ex*	x	01 05 57.0			
CLL				AMS	AMS	01 18 00.0			
	comp=N,40µm,21.1s								
CLL				AMS	AMS	01 18 00.0			
	comp=E,31µm,20.7s								
CLL				AMS	AMS	01 25 00.0			
CLL				AMS	AMS	01 26 00.0			
	comp=Z,20µm,19.0s								
CLL	**Collm**	103.87	329	*e*P	**Pdif**	00 36 55.0	-0.3		
CLL				*e*		00 47 32.0			
CLL				*e*S	**Sdif**	00 48 42.0	-1.5		
CLL				MLR	MLR				
	comp=Z,20µm,19.0s								
EPT	**El Paso**	103.92	54	IAMs_20	IAMs_20	01 20 34.4			
	comp=Z,9µm,20.0s								
SUSD	**Miller**	103.92	39	IAMs_20	IAMs_20	01 18 36.6			
	comp=Z,13µm,22.0s								
SUSD	**Miller**	103.92	39	Pdiff	**Pdif**	00 36 55.9	+0.2		
	baz=300								
KSCO	**Kaye Shedlock'**	103.97	46	Pdiff	**Pdif**	00 36 53.9	-2.3		
	baz=296								
LODK	**Lodwar**	104.03	276	⇓*e*P	**Pdif**	00 37 04.5	+7.6		
LODK				*e*S	**SKSac**	00 47 46.2	+10		
LODK	**Lodwar**	104.03	276	⇓*e*P	**Pdif**	00 37 04.5	+7.6		
LODK				*e*S	**SKSac**	00 47 46.2	+10		
HSKC	**Hora Svate Kat**	104.06	328	AMS	AMS	01 26 20.0			
	comp=Z,24µm,20.0s								
RONA	**Rosalia, Austr**	104.14	325	*e*pPdiff	**pPdif**	00 37 10.0	+5.6		
	comp=Z,7.3nm,1.4s								
RONA				*e*PP	**PP**	00 41 09.9	-4.1		
	comp=Z,18nm,1.6s								
IDI	**Anoyia**	104.23	310	PKP	**PKiKP**	00 41 11.9	-2.2		
CONA	**Conrad Observa**	104.26	325	*i* Pdiff	**Pdif**	00 36 57.0	-0.2		
	comp=Z,8.1nm,0.9s								
CONA				*e*PP	**PP**	00 41 15.2	+0.2		
	comp=Z,22nm,1.4s								
ZVC	**Zvikov**	104.34	327	*e*PDIFF	**Pdif**	00 36 56.8	-0.6		
ZVC				AMS	AMS	01 26 20.0			
	comp=Z,24µm,19.5s								
CKRC	**Cesky Krumlov**	104.62	326	*e*PDIFF	**Pdif**	00 36 57.7	-1.0		
CKRC				*ex*	x	00 37 10.8			
CKRC				AMS	AMS	01 25 30.0			
	comp=Z,22µm,21.2s								
CKRC	**Cesky Krumlov**	104.62	326	*e*P	**Pdif**	00 36 57.7	-1.0		
CKRC				MLR	MLR				
	comp=Z,22µm,21.2s								
NKC	**Novy Kostel**	104.79	328	AMS	AMS	01 28 40.0			
	comp=Z,24µm,17.7s								
ARSA	**Arzberg**	104.82	325	*e*Pdiff	**Pdif**	00 36 53.5	-6.1		
	comp=Z,5.9nm,1.4s								
ARSA				*e*PKiKP	**PKiKP**	00 41 08.0	-6.8		
	comp=Z,8.5nm,1.2s								
MNTX	**Cornudas Mount**	104.83	53	Pdiff	**Pdif**	00 36 59.9	-0.1		
	baz=292								
KHC	**Kasperske Hory**	104.84	327	*e*PDIFF	**Pdif**	00 37 03.5	+3.8		
KHC				*ex*	x	00 37 13.1			
KHC				*e*PP	**PP**	00 41 20.5	+1.3		
KHC				AMS	AMS	01 26 40.0			
	comp=Z,23µm,19.0s								
KHC	**Kasperske Hory**	104.84	327	*e*P	**Pdif**	00 37 03.5	+3.8		
KHC				*e*		00 41 20.5			
KHC				MLR	MLR				
	comp=Z,23µm,19.0s								
KBN	**Korca**	104.88	317	IAMs_20	IAMs_20	01 29 32.2			
	comp=Z,10µm,20.0s								
GERES	**GERESS Array B**	104.94	327	Pdiff	**Pdif**	00 37 00.3	+0.1		
	comp=Z,1.1nm,0.6s,baz=45,slow=4.0,SNR=4.0								
GERES				PKKPbc	**PKKPbc**	00 52 42.6	-1.6		
	comp=Z,0.4nm,0.4s,baz=251,slow=6.1,SNR=3.1								
PDG	**Podgorica**	105.04	319	IAMs_20	IAMs_20	01 28 14.1			
	comp=Z,13µm,20.0s								
TIR	**Tirane**	105.16	318	IAMs_20	IAMs_20	01 28 32.5			
	comp=Z,15µm,22.0s								
SOKA	**Soboth**	105.42	324	*e*Pdiff	**Pdif**	00 36 53.2	-9.2		
	comp=Z,5.0nm,1.0s								
SOKA				*ep*PKiKP	**pPKiKP**	00 41 30.7	+6.7		
	comp=Z,11nm,1.2s								
BIOA	**Bad Ischl, Aus**	105.64	326	*ep*Pdiff	**pPdif**	00 37 16.0	+5.0		
	comp=Z,15nm,1.8s								
BIOA				*e*PKiKP	PKiKP	00 41 08.4	-7.9		
	comp=Z,15nm,1.8s								
ECSD	**EROS Data Cent**	105.74	39	IAMs_20	IAMs_20	01 20 00.6			
	comp=Z,11µm,22.0s								
ECSD	**EROS Data Cent**	105.74	39	PKiKP	**PKiKP**	00 41 17.9	+1.2		
	baz=301								
OBKA	**Obir**	105.79	324	*i* pPdiff	**pPdif**	00 37 16.6	+4.8		
	comp=Z,6.1nm,0.9s								
OBKA				*ep*PKiKP	**PP**	00 41 30.5	+4.1		
	comp=Z,12nm,1.5s								
VLO	**Vlora**	105.82	317	IAMs_20	IAMs_20	01 28 26.1			
	comp=Z,11µm,22.0s								
BGNE	**Belgrade**	105.92	42	IAMs_20	IAMs_20	01 26 55.3			
	comp=Z,8µm,20.0s								
BGNE	**Belgrade**	105.92	42	PKiKP	**PKiKP**	00 41 15.5	-1.5		
	baz=299								
KEK	**Kerkira**	105.97	316	IAMs_20	IAMs_20	01 30 30.3			
	comp=Z,11µm,20.0s								
MSTX	**Muleshoe**	105.97	50	IAMs_20	IAMs_20	01 28 11.6			
	comp=Z,9µm,18.0s								
MSTX	**Muleshoe**	105.97	50	PKiKP	**PKiKP**	00 41 16.3	-1.2		
	baz=294								
CBKS	**Cedar Bluff**	106.08	45	IAMs_20	IAMs_20	01 27 27.7			
	comp=Z,8µm,19.0s								
CBKS	**Cedar Bluff**	106.08	45	PKiKP	**PKiKP**	00 41 16.9	-0.5		
	baz=298								
KBA	**Koelnbreinsper**	106.15	325	*i* pPdiff	**pPdif**	00 37 10.5	-3.0		
	comp=Z,9.1nm,1.2s								
KBA				*ep*PKiKP	**PP**	00 41 31.1	+2.0		
	comp=Z,26nm,1.2s								
MYKA	**Terra Mystica**	106.24	325	*ep*Pdiff	**pPdif**	00 37 18.1	+4.3		
	comp=Z,5.2nm,1.0s								
MYKA				*ep*PKiKP	**PP**	00 41 30.3	+0.6		
	comp=Z,13nm,1.0s								
LESA	**Schwarzleotal**	106.32	326	*ep*Pdiff	**pPdif**	00 37 17.7	+3.6		
	comp=Z,5.8nm,0.9s								
LESA				*ep*PKiKP	**PP**	00 41 33.6	+3.3		
	comp=Z,20nm,1.2s								
EYMN	**Ely**	106.38	33	PKiKP	**PKiKP**	00 41 19.6	+1.9		
	baz=306								
AMTX	**Amarillo**	106.42	49	IAMs_20	IAMs_20	01 29 27.1			
	comp=Z,9µm,18.0s								
AMTX	**Amarillo**	106.42	49	PKiKP	**PKiKP**	00 41 17.1	-1.2		
	baz=295								
SABO	**M.te Sabotino**	106.63	324	IAMs_20	IAMs_20	01 27 34.2			
	comp=Z,22µm,22.0s								
SCTE	**Santa Cesarea**	106.70	317	IAMs_20	IAMs_20	01 31 44.4			
	comp=Z,9µm,19.0s								
N33A	**J Bar K, Exete**	106.71	42	IAMs_20	IAMs_20	01 27 31.2			
	comp=Z,12µm,20.0s								
L34A	**Svendsen Farm,**	106.79	41	IAMs_20	IAMs_20	01 26 11.2			
	comp=Z,10µm,20.0s								
ABTA	**Abfaltersbach**	106.81	325	*ep*Pdiff	**pPdif**	00 37 19.7	+3.4		
	comp=Z,10nm,1.4s								
ABTA				*e*PKiKP	**PKiKP**	00 41 15.3	-3.3		
	comp=Z,8.7nm,1.4s								
R32A	**Long Quarter,**	106.97	45	IAMs_20	IAMs_20	01 20 55.3			
	comp=Z,9µm,21.0s								
WATA	**Walderalm**	106.98	326	*ep*Pdiff	**pPdif**	00 37 14.7	-2.5		
	comp=Z,6.1nm,1.0s								
WATA				*e*PP	**PP**	00 41 42.2	+7.0		
	comp=Z,23nm,1.5s								
WTTA	**Wattenberg**	106.99	326	*ep*Pdiff	**pPdif**	00 37 22.0	+4.8		
	comp=Z,11nm,1.3s								
WTTA				*e*PKiKP	**PKiKP**	00 41 14.5	-4.6		
	comp=Z,34nm,1.4s								
TXAR	**Lajitas Array**	107.09	55	Pdiff	**Pdif**	00 37 09.8	-0.4		
	comp=Z,0.3nm,0.6s,baz=253,slow=2.7,SNR=1.9								
TXAR				PKKPbc	**PKKPbc**	00 52 36.2	-0.8		
	comp=Z,1.8nm,1.1s,baz=212,slow=0.9,SNR=3.6								
CIMO	**Cimolais**	107.10	325	IAMs_20	IAMs_20	01 28 10.2			
	comp=Z,19µm,22.0s								
SPMN	**Marine on St.**	107.22	36	PKiKP	**PKiKP**	00 41 18.4	-0.9		
	baz=305								
MOTA	**Moosalm**	107.23	326	*e*Pdiff	**Pdif**	00 37 10.3	-0.2		
	comp=Z,4.7nm,1.0s								
MOTA				*ep*PKiKP	**pPKiKP**	00 41 29.0	+1.6		
	comp=Z,22nm,1.7s								
SQTA	**Sankt Quirin**	107.25	326	*ep*Pdiff	**pPdif**	00 37 15.3	-3.0		
	comp=Z,13nm,1.5s								
SQTA				*ep*PKiKP	pPKiKP	00 41 29.6	+2.2		
	comp=Z,26nm,1.8s								
RETA	**Reutte**	107.33	327	*e*Pdiff	**Pdif**	00 37 13.4	+2.5		
	comp=Z,12nm,1.6s								
RETA				*e*PKiKP	**PKiKP**	00 41 13.9	-5.6		
	comp=Z,12nm,1.6s								
ELIS	**Ellis County**	107.56	47	IAMs_20	IAMs_20	01 31 40.2			
	comp=Z,13µm,21.0s								
FETA	**Feichten**	107.63	326	*ep*Pdiff	**pPdif**	00 37 21.8	+1.7		
	comp=Z,9.3nm,1.6s								
FETA				*e*PKiKP	**PKiKP**	00 41 17.4	-2.8		
	comp=Z,11nm,1.2s								
SGRT	**San Giovanni R**	107.63	320	IAMs_20	IAMs_20	01 32 27.9			
	comp=Z,11µm,20.0s								
U32A	**Winter Ranch,**	107.72	47	IAMs_20	IAMs_20	01 24 20.3			
	comp=Z,9µm,19.0s								
N35A	**Tabor**	107.83	41	IAMs_20	IAMs_20	01 28 54.8			
	comp=Z,12µm,19.0s								
OK038	**West end E0370**	107.86	47	IAMs_20	IAMs_20	01 24 35.0			
	comp=Z,8µm,19.0s								
DAVA	**Damuels**	107.93	327	*ep*Pdiff	**pPdif**	00 37 23.2	+1.8		
	comp=Z,9.1nm,1.1s								
DAVA				*e*PP	**PP**	00 41 38.8	-3.3		
	comp=Z,16nm,1.2s								
EKA	**Eskdalemuir Ar**	108.07	339	PP	**PP**	00 41 43.3	+0.8		
	comp=Z,9.0nm,1.0s,baz=41,slow=9.0,SNR=4.3								
KSU1	**Kansas State U**	108.08	43	IAMs_20	IAMs_20	01 28 13.7			
	comp=Z,10µm,20.0s								
KSU1	**Kansas State U**	108.08	43	PKiKP	**PKiKP**	00 41 16.9	-4.2		
	baz=300								
OK032	**Salt Plains WL**	108.08	46	IAMs_20	IAMs_20	01 18 49.9			
	comp=Z,10µm,22.0s								
TIP	**Timpagrande**	108.29	317	IAMs_20	IAMs_20	01 29 52.5			
	comp=Z,13µm,22.0s								
CROK	**Carrier**	108.39	46	IAMs_20	IAMs_20	01 18 47.9			
	comp=Z,10µm,22.0s								
GUMA	**Gualdo di Mace**	108.43	322	IAMs_20	IAMs_20	01 30 54.6			
	comp=Z,13µm,21.0s								
CUC	**Castrocucco**	108.50	318	IAMs_20	IAMs_20	01 29 15.0			
	comp=Z,8µm,21.0s								
FDMO	**Fiordimonte**	108.59	322	IAMs_20	IAMs_20	01 30 59.0			
	comp=Z,13µm,21.0s								
WMOK	**Wichita Mounta**	108.62	48	IAMs_20	IAMs_20	01 22 02.5			
	comp=Z,9µm,21.0s								
WMOK	**Wichita Mounta**	108.62	48	PKiKP	**PKiKP**	00 41 15.2	-7.0		
	baz=297								
INTR	**Introdacqua**	108.66	321	IAMs_20	IAMs_20	01 29 33.8			
	comp=Z,10µm,22.0s								
CAMP	**Campotosto**	108.67	321	IAMs_20	IAMs_20	01 36 06.2			
	comp=Z,9µm,20.0s								
NRCA	**Norcia**	108.69	322	IAMs_20	IAMs_20	01 31 11.6			
	comp=Z,15µm,22.0s								
K38A	**Parkersburg**	108.69	38	IAMs_20	IAMs_20	01 28 57.7			
	comp=Z,12µm,19.0s								
IVI	**Ivigtut**	108.70	4	IAMs_20	IAMs_20	01 28 31.6			
	comp=Z,8µm,20.0s								
PAOL	**Paolisi**	108.77	320	IAMs_20	IAMs_20	01 31 07.9			
	comp=Z,13µm,20.0s								
SCIA	**State Center**	108.82	39	IAMs_20	IAMs_20	01 27 59.4			
	comp=Z,10µm,20.0s								
SCIA	**State Center**	108.82	39	PKiKP	**PKiKP**	00 41 20.4	-2.0		
	baz=303								
NRS	**Narsarsuaq**	108.91	3	IAMs_20	IAMs_20	01 26 29.3			
	comp=Z,10µm,22.0s								
ABTX	**Abilene, Hawle**	108.92	51	IAMs_20	IAMs_20	01 32 55.5			
	comp=Z,9µm,18.0s								
ABTX	**Abilene, Hawle**	108.92	51	PKiKP	PKiKP	00 41 14.2	-8.7		
	baz=296								
OK029	**Liberty Lake**	109.10	47	IAMs_20	IAMs_20	01 21 00.8			
	comp=Z,12µm,22.0s								
CESX	**Cesi**	109.14	322	IAMs_20	IAMs_20	01 31 38.4			
	comp=Z,13µm,21.0s								
OK048	**Pawnee Station**	109.16	46	IAMs_20	IAMs_20	01 19 23.5			
	comp=Z,10µm,22.0s								
OK051	**E0350 and S346**	109.20	46	IAMs_20	IAMs_20	01 36 03.3			
	comp=Z,9µm,19.0s								
T35A	**Sooner Cattle**	109.23	45	IAMs_20	IAMs_20	01 27 42.0			
	comp=Z,11µm,20.0s								
OKCSW	**OKLAHOMA CITY**	109.29	47	IAMs_20	IAMs_20	01 20 32.0			
	comp=Z,14µm,21.0s								
CEL	**Celeste**	109.34	316	IAMs_20	IAMs_20	01 32 07.2			
	comp=Z,11µm,22.0s								
N38A	**Joes South For**	109.42	40	IAMs_20	IAMs_20	01 26 47.6			
	comp=Z,11µm,20.0s								
QUOK	**Quay**	109.45	46	IAMs_20	IAMs_20	01 36 05.0			
	comp=Z,8µm,20.0s								
OK052	**Battle Ridge R**	109.47	46	IAMs_20	IAMs_20	01 28 10.6			
	comp=Z,8µm,18.0s								
OK030	**Cody Creek RV**	109.51	46	IAMs_20	IAMs_20	01 22 51.8			
	comp=Z,9µm,21.0s								
JCT	**Junction City**	109.71	53	IAMs_20	IAMs_20	01 24 13.9			
	comp=Z,10µm,19.0s								
JCT	**Junction City**	109.71	53	PKiKP	**PKiKP**	00 41 20.5	-3.9		
	baz=295								
DEOK	**Depew**	109.76	46	IAMs_20	IAMs_20	01 25 39.2			
	comp=Z,11µm,21.0s								
W35A	**Tecumseh**	109.82	47	IAMs_20	IAMs_20	01 33 36.0			
	comp=Z,11µm,18.0s								
P38A	**Dawn**	109.86	41	IAMs_20	IAMs_20	01 24 40.4			
	comp=Z,9µm,22.0s								
FW03	**Perrin-Whitt E**	109.92	49	IAMs_20	IAMs_20	01 31 36.0			
	comp=Z,7µm,19.0s								
L40A	**Anamosa**	109.97	38	IAMs_20	IAMs_20	01 22 13.5			
	comp=Z,13µm,22.0s								
JFWS	**Jewell Farm**	110.06	37	PKiKP	**PKiKP**	00 41 20.0	-4.7		
	baz=306								
TUL3	**Leonard**	110.22	46	IAMs_20	IAMs_20	01 28 14.5			
	comp=Z,12µm,20.0s								
TUL3	**Leonard**	110.22	46	PKiKP	**PKiKP**	00 41 19.3	-5.9		
	baz=300								
TUL3				PKiKP	**PKiKP**	00 41 25.3	+0.1		
	baz=300								
FW07	**Weatherford**	110.28	50	IAMs_20	IAMs_20	01 29 57.6			
	comp=Z,8µm,20.0s								
FW06	**Azle**	110.33	49	IAMs_20	IAMs_20	01 32 00.9			
	comp=Z,11µm,20.0s								
Z35A	**Perchaven, San**	110.39	49	IAMs_20	IAMs_20	01 29 35.4			
	comp=Z,9µm,20.0s								
ZAIG	**Zacatecas**	110.41	61	IAMs_20	IAMs_20	01 33 05.6			
	comp=Z,10µm,18.0s								
WHTX	**Lake Whitney,**	110.85	50	IAMs_20	IAMs_20	01 28 21.8			
	comp=Z,9µm,20.0s								
WHTX	**Lake Whitney,**	110.85	50	PKiKP	**PKiKP**	00 41 26.5	0.0		
	baz=297								
P40A	**Paris**	110.87	41	IAMs_20	IAMs_20	01 26 33.1			
	comp=Z,9µm,20.0s								
833A	**Chaparral WMA,**	110.93	55	IAMs_20	IAMs_20	01 25 01.3			
	comp=Z,12µm,20.0s								
833A	**Chaparral WMA,**	110.93	55	PKi

PVMO **Portageville** 114.15 43 IAMs_20 IAMs_20 01 31 40.1
comp=Z,8µm,19.0s
GNAR **Gosnell** 114.18 43 IAMs_20 IAMs_20 01 32 48.2
comp=Z,10µm,19.0s
PEBM **Pemiscott Bayo** 114.21 43 IAMs_20 IAMs_20 01 34 09.7
comp=Z,10µm,19.0s
SNAA **Sanae** 114.40 192 ⇓P PKPdf 00 41 32.6 +0.4
comp=Z,117nm,0.7s
SNAA **Sanae** 114.40 192 PKiKP PKPdf 00 41 32.7 +0.6
comp=Z,4.9nm,0.7s,baz=209,slow=4.7,SNR=16
SNAA PKKPbc **PKKPbc** 00 52 13.6 -0.7
comp=Z,1.7nm,1.0s,baz=211,slow=18,SNR=1.9
LNXT **Lenox** 114.46 43 IAMs_20 IAMs_20 01 34 26.5
comp=Z,9µm,20.0s
T45A **Paducah** 114.50 42 IAMs_20 IAMs_20 01 32 16.2
comp=Z,10µm,20.0s
GLAT **Glass** 114.50 43 IAMs_20 IAMs_20 01 31 58.5
comp=Z,8µm,19.0s
BLO **Bloomington** 114.56 39 IAMs_20 IAMs_20 01 29 07.1
comp=Z,13µm,21.0s
USIN **University of** 114.57 40 IAMs_20 IAMs_20 01 35 23.1
comp=Z,10µm,19.0s
UNM **Universidad Na** 114.59 63 IAMs_20 IAMs_20 01 20 46.7
comp=Z,10µm,20.0s
HDBT **Hernando Brdge** 114.61 44 IAMs_20 IAMs_20 01 24 08.4
comp=Z,8µm,21.0s
441A **DeRidder** 114.65 50 IAMs_20 IAMs_20 01 28 45.3
comp=Z,11µm,20.0s
HALT **Halls** 114.67 43 IAMs_20 IAMs_20 01 34 33.0
comp=Z,8µm,19.0s
O48B **Farmland** 114.71 37 PKiKP **PKiKP** 00 41 31.0 -2.7
baz=310
MET **Memphis--Engin** 114.71 44 IAMs_20 IAMs_20 01 27 22.2
comp=Z,8µm,21.0s
UTMT **University of** 114.74 42 IAMs_20 IAMs_20 01 28 21.7
comp=Z,8µm,21.0s
143A **Socs Landing,** 114.98 47 IAMs_20 IAMs_20 01 22 43.5
comp=Z,11µm,22.0s
P48A **Milroy** 115.05 38 IAMs_20 IAMs_20 01 30 04.8
comp=Z,12µm,20.0s
KEST **Kesra** 115.11 317 IAMs_20 IAMs_20 01 37 01.0
comp=Z,8µm,20.0s
WCI **Wyandotte Cave** 115.28 39 PKiKP **PKiKP** 00 41 31.5 -3.2
baz=308
OXF **Oxford** 115.41 44 IAMs_20 IAMs_20 01 23 29.6
comp=Z,9µm,22.0s
OXF **Oxford** 115.41 44 PKiKP **PKiKP** 00 41 31.3 -3.8
baz=304
P49A **Miami Univ. Ec** 115.43 37 PKiKP **PKiKP** 00 41 32.3 -2.7
baz=310
T47A **Sharon Grove** 115.51 41 IAMs_20 IAMs_20 01 32 16.0
comp=Z,9µm,20.0s
WVT **Waverly** 115.55 42 IAMs_20 IAMs_20 01 32 38.1
comp=Z,10µm,20.0s
WVT **Waverly** 115.55 42 PKiKP **PKiKP** 00 41 33.2 -2.2
baz=306
Y45A **Yeager Farm, C** 115.67 45 IAMs_20 IAMs_20 01 27 34.5
comp=Z,11µm,19.0s
MAHO **Mahon** 115.76 324 IAMs_20 IAMs_20 01 32 49.5
comp=Z,10µm,21.0s
TLIG **Tlapa** 115.76 65 IAMs_20 IAMs_20 01 24 52.9
comp=Z,11µm,20.0s
DELO **Deloro Mine** 115.82 29 IAMs_20 IAMs_20 01 32 39.1
comp=Z,12µm,21.0s
VBMS **Vicksburg** 115.87 47 PKiKP **PKiKP** 00 41 32.2 -3.9
baz=302
VNA2 **Neumayer--Watz** 115.89 191 ⇓P **PKPdf** 00 41 35.9 +0.9
comp=Z,21nm,0.6s,baz=142,slow=1.0
TRQ **Mont Tremblant** 115.92 26 IAMs_20 IAMs_20 01 29 38.6
comp=Z,10µm,21.0s
ACSO **Alum Creek Sta** 115.99 36 PKiKP **PKiKP** 00 41 33.4 -2.7
baz=312
PLAL **Pickwick Lake** 116.05 43 IAMs_20 IAMs_20 01 30 15.4
comp=Z,9µm,20.0s
VNA3 **Neumayer Olymp** 116.05 190 ⇓P **PKPdf** 00 41 36.0 +0.8
comp=Z,12nm,0.7s
J54A **Appleton** 116.23 31 IAMs_20 IAMs_20 01 30 28.0
comp=Z,11µm,20.0s
ERPA **Erie** 116.35 32 IAMs_20 IAMs_20 01 29 11.7
comp=Z,11µm,21.0s
ERPA **Erie** 116.35 32 PKiKP **PKPdf** 00 41 33.0 -3.8
baz=315
V48A **Smith Brothers** 116.44 42 IAMs_20 IAMs_20 01 31 04.6
comp=Z,9µm,20.0s
M53A **WI Miller and** 116.46 33 PKiKP **PKiKP** 00 41 38.8 +1.8
baz=314
CLTN **Cedars of Leba** 116.55 41 IAMs_20 IAMs_20 01 31 53.4
comp=Z,9µm,20.0s
LMQ **La Malbaie** 116.57 23 IAMs_20 IAMs_20 01 31 58.3
comp=Z,13µm,21.0s
BOSA **Boshof** 116.63 243 PKP **PKiKP** 00 41 38.1 +0.3
comp=Z,3.6nm,0.9s,baz=200,slow=3.0,SNR=4.3
BOSA PKKPbc **PKKPbc** 00 52 05.3 -0.1
comp=Z,3.2nm,1.1s,baz=181,slow=13,SNR=1.1
U49A **Red Boiling Sp** 116.65 40 IAMs_20 IAMs_20 01 29 44.0
comp=Z,11µm,21.0s
146A **Union** 116.68 46 IAMs_20 IAMs_20 01 34 11.5
comp=Z,9µm,19.0s
WVNY **West Valley, N** 116.87 31 IAMs_20 IAMs_20 01 35 13.1
comp=Z,12µm,20.0s
P52A **Corning** 116.87 36 PKiKP **PKPdf** 00 41 36.1 -1.7
baz=312
MNTQ **Montreal, Queb** 116.89 26 IAMs_20 IAMs_20 01 30 17.1
comp=Z,8µm,20.0s
T50A **Nancy** 116.93 39 **PKPdf** 00 41 38.0 0.0
O53A **New Philadelph** 116.98 35 PKiKP **PKPdf** 00 41 36.7 -1.3
baz=313
X48A **Hartselle** 117.05 43 IAMs_20 IAMs_20 01 33 42.9
comp=Z,8µm,20.0s
Z47A **Carrollton** 117.06 45 IAMs_20 IAMs_20 01 28 46.4
comp=Z,10µm,20.0s
LONY **Lake Ozonia** 117.16 27 IAMs_20 IAMs_20 01 30 35.2
comp=Z,10µm,20.0s
LONY **Lake Ozonia** 117.16 27 PKiKP **PKPdf** 00 41 36.6 -1.6
baz=321
SWET **Sewanee** 117.33 42 IAMs_20 IAMs_20 01 34 09.3
comp=Z,11µm,20.0s
FRNY **Flat Rock** 117.43 27 IAMs_20 IAMs_20 01 28 12.4
comp=Z,13µm,22.0s
D62A **Allapoint, All** 117.44 22 IAMs_20 IAMs_20 01 30 36.2
comp=Z,10µm,21.0s
M55A **Ridgway** 117.46 32 IAMs_20 IAMs_20 01 30 07.9
comp=Z,11µm,20.0s
L56A **Greenwood** 117.60 31 **PKiKP** 00 41 39.7 +0.5
L56A IAMs_20 IAMs_20 01 31 11.4
comp=Z,11µm,20.0s
W50A **Signal Mountai** 117.75 41 IAMs_20 IAMs_20 01 27 15.2
comp=Z,9µm,22.0s
J58A **Remsen** 117.80 29 PKPdf **PKPdf** 00 41 39.4 -0.1
J58A IAMs_20 IAMs_20 01 30 36.4
comp=Z,13µm,22.0s
Y49A **Blount Mountai** 117.82 43 IAMs_20 IAMs_20 01 31 38.3
comp=Z,9µm,20.0s
NCB **Newcomb** 117.82 28 IAMs_20 IAMs_20 01 34 38.8
comp=Z,12µm,21.0s
LRAL **Lakeview Retre** 117.89 44 **PKiKP** 00 41 40.8 +0.8
LRAL IAMs_20 IAMs_20 01 27 06.3
comp=Z,8µm,20.0s
LRAL **Lakeview Retre** 117.89 44 PKiKP **PKiKP** 00 41 40.2 +0.2
baz=305
FPAL **Fort Paine** 117.95 42 IAMs_20 IAMs_20 01 28 39.7
comp=Z,11µm,21.0s
TZTN **Tazewell** 118.04 39 IAMs_20 IAMs_20 01 32 08.2
comp=Z,11µm,20.0s
TZTN **Tazewell** 118.04 39 PKiKP **PKPdf** 00 41 39.6 -0.6
baz=310
MCWV **Mont Chateau** 118.15 34 PKiKP **PKPdf** 00 41 40.2 -0.1
baz=314
PQI **Presque Isle** 118.17 22 IAMs_20 IAMs_20 01 31 40.4
comp=Z,12µm,21.0s
VT1 **Waterbury** 118.19 26 IAMs_20 IAMs_20 01 32 36.9
comp=Z,8µm,21.0s
BINY **Binghamton** 118.34 30 PKiKP **PKPdf** 00 41 39.7 -0.9
baz=319
M57A **Sunshine Farm,** 118.40 31 IAMs_20 IAMs_20 01 34 08.7
comp=Z,12µm,20.0s
X51A **Calhoun** 118.43 42 IAMs_20 IAMs_20 01 38 07.3
comp=Z,9µm,20.0s
V52A **Sevierville** 118.45 40 IAMs_20 IAMs_20 01 29 31.3
comp=Z,13µm,22.0s
SSPA **Standing Stone** 118.52 32 IAMs_20 IAMs_20 01 31 10.9
comp=Z,11µm,21.0s
SSPA **Standing Stone** 118.52 32 PKiKP **PKPdf** 00 41 40.9 -0.1
baz=316
ACCN **Adirondack Com** 118.53 28 IAMs_20 IAMs_20 01 31 27.7
comp=Z,11µm,21.0s
LBNH **Lisbon** 118.62 26 IAMs_20 IAMs_20 01 31 10.0
comp=Z,9µm,20.0s
LBNH **Lisbon** 118.62 26 PKiKP **PKPdf** 00 41 41.0 -0.1
baz=324
PKME **Peaks-Kenny Pk** 118.87 23 PKiKP **PKiKP** 00 41 42.2 +0.7
baz=326
HNH **Hanover** 118.90 26 IAMs_20 IAMs_20 01 30 44.2
comp=Z,9µm,21.0s
BRAL **Brewton** 118.92 46 IAMs_20 IAMs_20 01 34 07.7
comp=Z,10µm,20.0s
BRAL **Brewton** 118.92 46 PKiKP **PKiKP** 00 41 43.4 +1.4
baz=304
ECHE **Chera** 118.93 326 PKP **PKiKP** 00 41 43.2 +1.3
250A **Grady** 119.01 45 IAMs_20 IAMs_20 01 40 15.9
comp=Z,9µm,19.0s
TRY **Troy** 119.04 28 IAMs_20 IAMs_20 01 35 16.2
comp=Z,10µm,20.0s
J61A **Chester** 119.06 27 IAMs_20 IAMs_20 01 30 47.7
comp=Z,10µm,21.0s
I62A **Tamworth** 119.17 26 IAMs_20 IAMs_20 01 31 56.4
comp=Z,9µm,20.0s
SMAI **San Martin Ant** 119.20 169 IAMs_20 IAMs_20 01 30 37.9
comp=Z,10µm,19.0s
Y52A **Lilburn** 119.38 42 IAMs_20 IAMs_20 01 32 33.5
comp=Z,12µm,22.0s
BLA **Blacksburg** 119.50 37 PKiKP **PKPdf** 00 41 42.4 -0.6
baz=313
G65A **Princeton** 119.58 22 IAMs_20 IAMs_20 01 31 51.0
comp=Z,10µm,21.0s
UCM **Universidad Co** 119.61 328 PKP **PKPdf** 00 41 40.8 -2.4
L61B **Northampton** 119.71 28 PKiKP **PKPdf** 00 41 42.7 -0.5
baz=322
K62A **Royalston** 119.75 27 IAMs_20 IAMs_20 01 33 04.8
comp=Z,9µm,21.0s
MVL **Millersville** 119.79 32 IAMs_20 IAMs_20 01 31 11.4
comp=Z,12µm,21.0s
LUPA **Lehigh Univers** 119.84 31 IAMs_20 IAMs_20 01 32 03.7
comp=Z,11µm,21.0s
ETOB **Tobarra** 119.92 326 PKP **PKPdf** 00 41 41.2 -2.6
GGN **Saint George** 119.92 22 IAMs_20 IAMs_20 01 37 28.8
comp=Z,9µm,20.0s
QUA2 **Belchertown** 120.00 28 IAMs_20 IAMs_20 01 33 37.5
comp=Z,11µm,21.0s
LMN **Caledonia Moun** 120.00 20 IAMs_20 IAMs_20 01 34 47.7
comp=Z,10µm,20.0s
EMMW **East Machias** 120.04 23 IAMs_20 IAMs_20 01 34 44.1
comp=Z,9µm,20.0s
GOGA **Godfrey** 120.05 42 PKiKP **PKiKP** 00 41 44.7 +0.5
baz=308
451A **Vernon** 120.15 46 IAMs_20 IAMs_20 01 25 43.6
comp=Z,11µm,22.0s
HRV **Adam Dziewonsk** 120.17 27 IAMs_20 IAMs_20 01 31 30.0
comp=Z,7µm,21.0s
HRV **Adam Dziewonsk** 120.17 27 PKiKP **PKPdf** 00 41 42.4 -1.7
baz=323
PBRG **Braganca** 120.19 332 *e*PKPdf **PKiKP** 00 41 47.0 +2.7
PBRG **Braganca** 120.19 332 *e*PP PP 00 43 16.7 +8.1
WUPA **West Chester U** 120.22 31 IAMs_20 IAMs_20 01 35 14.9
comp=Z,9µm,20.0s
PAULI **Pauline** 120.22 40 IAMs_20 IAMs_20 01 30 35.1
comp=Z,12µm,22.0s
352A **Blakely** 120.22 45 IAMs_20 IAMs_20 01 35 42.3
comp=Z,7µm,21.0s
PAL **Palisades** 120.26 29 PKiKP **PKPdf** 00 41 44.2 -0.1
baz=320
KMSC **Kings Mountain** 120.31 39 IAMs_20 IAMs_20 01 29 07.8
comp=Z,11µm,22.0s
KMSC **Kings Mountain** 120.31 39 PKiKP **PKPdf** 00 41 42.8 -1.8
baz=311
WES **Weston** 120.38 27 IAMs_20 IAMs_20 01 31 34.4
comp=Z,9µm,22.0s
UCCT **U. Connecticut** 120.44 28 IAMs_20 IAMs_20 01 33 50.2
comp=Z,11µm,21.0s
ESDC **Sonseca Array** 120.45 328 PKPdf **PKiKP** 00 41 46.1 +1.2
ESDC **Sonseca Array** 120.45 328 PKP **PKiKP** 00 41 45.3 +0.4
comp=Z,1.4nm,0.8s,baz=16,slow=2.7,SNR=8.5
ESDC PP **PP** 00 43 09.7 -0.8
comp=Z,3.1nm,1.1s,baz=28,slow=6.7,SNR=2.1
ESDC PKKPbc **PKKPbc** 00 51 51.9 -0.1
comp=Z,1.7nm,0.9s,baz=256,slow=3.2,SNR=6.0
BCX **Boston College** 120.48 27 IAMs_20 IAMs_20 01 31 38.2
comp=Z,9µm,22.0s
N62A **Caumsett State** 120.53 29 IAMs_20 IAMs_20 01 36 08.7
comp=Z,10µm,20.0s
CBN **Corbin Frederi** 120.54 34 PKiKP **PKiKP** 00 41 45.1 +0.2
baz=316
BRYW **Bryant College** 120.65 27 IAMs_20 IAMs_20 01 32 50.8
comp=Z,9µm,21.0s
PGAV **Gavieira, Arco** 120.76 333 *e*PKPdf **PKiKP** 00 41 47.0 +1.5
PGAV **Gavieira, Arco** 120.76 333 *e*PP PP 00 43 21.9 +9.4
PGAV **Gavieira, Arco** 120.76 333 *e*SKS 00 59 52.0
PGAV **Gavieira, Arco** 120.76 333 *e*LQ LQ 01 20 58.0
PGAV *e*LR LR 01 23 08.6
comp=Z,14µm,18.0s
MVO **Moncorvo** 120.82 332 *e*PKPdf **PKiKP** 00 41 46.0 +0.4
MVO **Moncorvo** 120.82 332 *e*PP PP 00 43 22.2 +9.2
MVO **Moncorvo** 120.82 332 *e*SKS 00 59 54.7
MVO **Moncorvo** 120.82 332 *e*LQ LQ 01 13 56.9
MVO *e*LR LR 01 23 26.5
comp=Z,17µm,20.0s
P61A **Hammonton** 120.83 31 IAMs_20 IAMs_20 01 32 33.0
comp=Z,11µm,21.0s
JSC **Jenkinsville** 120.92 40 IAMs_20 IAMs_20 01 34 49.9
comp=Z,10µm,20.0s
L64A **Middleborough** 120.95 27 IAMs_20 IAMs_20 01 30 19.6
comp=Z,9µm,22.0s
POLO **Lamas de Olo** 121.01 332 *e*PKPdf **PKiKP** 00 41 46.4 +0.4
POLO **Lamas de Olo** 121.01 332 *e*PP PP 00 43 22.7 +8.4
PVRL **Vila Real** 121.06 332 *e*PKPdf **PKPdf** 00 41 44.9 -1.0
PVRL **Vila Real** 121.06 332 *e*PP PP 00 43 25.4 +11
TIGA **Tifton** 121.17 44 IAMs_20 IAMs_20 01 36 19.1
comp=Z,8µm,19.0s
TIGA **Tifton** 121.17 44 PKiKP **PKPdf** 00 41 44.8 -1.4
baz=307
BIRD **Birdtown, Kers** 121.18 39 IAMs_20 IAMs_20 01 29 54.7
comp=Z,11µm,22.0s
553A **Crawfordville** 121.32 45 IAMs_20 IAMs_20 01 37 17.6
comp=Z,10µm,19.0s
M65A **Busby, Falmout** 121.34 27 IAMs_20 IAMs_20 01 33 50.8
comp=Z,9µm,20.0s
M65A **Busby, Falmout** 121.34 27 PKiKP **PKPdf** 00 41 41.8 -4.5
baz=324
PVIS **Viseu** 121.58 332 *e*PKPdf **PKiKP** 00 41 50.7 +3.6
PVIS **Viseu** 121.58 332 *e*PP **PP** 00 43 23.6 +5.5
Y57A **Sumter** 121.64 39 IAMs_20 IAMs_20 01 36 42.9
comp=Z,9µm,19.0s
MTE **Manteigas** 121.67 331 *e*PP PP 00 43 28.5 +10
MTE **Manteigas** 121.67 331 *e*SKS 01 00 03.6
MTE **Manteigas** 121.67 331 *e*LQ LQ 01 16 12.4
MTE *e*LR LR 01 23 53.7
comp=Z,19µm,20.0s
CCIG **Comitan** 121.95 64 IAMs_20 IAMs_20 01 25 02.3
comp=Z,10µm,22.0s
PCBR **Castelo Branco** 122.07 331 *e*PKPdf **PKiKP** 00 41 48.9 +0.9
PCBR **Castelo Branco** 122.07 331 *e*PP PP 00 43 32.4 +11
Y58A **Scranton** 122.16 39 IAMs_20 IAMs_20 01 30 32.7
comp=Z,11µm,21.0s
COI **Coimbra** 122.22 332 *e*PP **PP** 00 43 29.4 +7.0
CNNC **Cliffs of the** 122.33 37 PKiKP **PKPdf** 00 41 46.2 -2.2
baz=314
PMRV **Marv??o** 122.36 331 *e*PKPdf **PKiKP** 00 41 49.6 +1.0
PMRV **Marv??o** 122.36 331 *e*PP PP 00 43 32.4 +9.0
PMRV **Marv??o** 122.36 331 *e*SKS 01 00 14.6
PMRV **Marv??o** 122.36 331 *e*LQ LQ 01 14 23.4
PMRV **Marv??o** 122.36 331 *e*LR LR 01 25 56.9
comp=Z,8µm,20.0s
NHSC **New Hope** 122.37 40 PKiKP **PKPdf** 00 41 48.7 +0.2
baz=311
PCAS **Casmilo, Conde** 122.39 332 *e*PKPdf **PKiKP** 00 41 49.9 +1.3
PCAS **Casmilo, Conde** 122.39 332 *e*PP **PP** 00 43 29.7 +6.1
PMSA **Palmer Station** 122.74 168 IAMs_20 IAMs_20 01 38 38.3
comp=Z,7µm,19.0s
PMSA **Palmer Station** 122.74 168 *e*P **PKPdf** 00 41 45.7 -2.5
PESTR **Estremoz** 122.89 330 *e*PP PP 00 43 35.1 +8.1
PSBE **So Bento** 122.95 332 *e*PP **PP** 00 43 33.9 +6.5
PMTG **Montargil** 123.04 331 *e*PKPdf **PKiKP** 00 41 50.4 +0.5
PMTG **Montargil** 123.04 331 *e*PP **PP** 00 43 35.7 +7.7
PBAR **Barrancos** 123.15 329 *e*PKPdf **PKiKP** 00 41 51.3 +1.1
PBAR **Barrancos** 123.15 329 *e*PP PP 00 43 36.9 +8.1
EVO **Evora** 123.36 330 *e*PKPdf **PKiKP** 00 41 51.6 +1.0
EVO **Evora** 123.36 330 *e*PP **PP** 00 43 31.5 +1.3
PACT **Alcochete** 123.56 331 *e*PP PP 00 43 39.3 +7.8
PMAFR **Mafra** 123.63 332 *e*PP PP 00 43 41.4 +9.4
PBEJ **Beja** 123.68 330 *e*PKPdf **PKiKP** 00 41 52.1 +0.9
PBEJ **Beja** 123.68 330 *e*PP PP 00 43 42.4 +10
PETF **Flores** 123.68 62 IAMs_20 IAMs_20 01 26 23.9
comp=Z,9µm,21.0s
LIS **Lisbon** 123.75 331 *e*PP **PP** 00 43 33.8 +1.0
LIS IAMs_20 IAMs_20 01 29 11.6
comp=N,26µm,10.7s
PNCL **Nicolau / Gran** 123.94 330 *e*PKPdf **PKiKP** 00 41 53.2 +1.5
PNCL **Nicolau / Gran** 123.94 330 *e*PP PP 00 43 42.3 +8.2
MESJ **Messejana** 124.00 330 *e*PKPdf **PKiKP** 00 41 53.3 +1.4
MESJ **Messejana** 124.00 330 *e*PP PP 00 43 44.1 +10
MESJ **Messejana** 124.00 330 *e*PKPdf **PKiKP** 00 41 52.2 +0.3
MESJ *e*PP **PP** 00 43 35.5 +1.0
MESJ *e*SS SS 01 00 26.0 +3.5
MESJ IAMs_20 IAMs_20 01 32 06.3
comp=Z,15µm,25.2s
MESJ **Messejana** 124.00 330 *e*PKIKP **PKiKP** 00 41 52.1 +0.3
MESJ *e* 00 43 35.4
MESJ *e*SS SS 01 00 26.0 +3.5
PCVE **Castro Verde** 124.07 330 *e*PKPdf **PKiKP** 00 41 53.2 +1.2
PCVE **Castro Verde** 124.07 330 *e*PP PP 00 43 42.9 +7.9
PVAQ **Vaqueiros** 124.09 329 *e*SKS 01 00 31.0
PVAQ **Vaqueiros** 124.09 329 *e*LQ LQ 01 14 47.3
PBDV **Barranco-do-Ve** 124.32 329 *e*PP **PP** 00 43 44.2 +7.5
PTEO **Sao Teotonio** 124.48 330 *e*PKPdf **PKiKP** 00 41 53.7 +0.9
PTEO **Sao Teotonio** 124.48 330 *e*PP PP 00 43 49.6 +12
MORF **Marmelete** 124.63 330 *e*PKPdf **PKiKP** 00 41 54.4 +1.2
MORF **Marmelete** 124.63 330 *e*PP PP 00 43 47.8 +9.0
MORF **Marmelete** 124.63 330 *e*PKPdf **PKiKP** 00 41 53.2 0.0
MORF *e*PP **PP** 00 43 39.7 +0.9
MORF *e*SS SS 01 00 34.2 +3.6
MORF IAMs_20 IAMs_20 01 32 10.6
comp=Z,21µm,26.9s
MORF **Marmelete** 124.63 330 *e*PKIKP **PKiKP** 00 41 53.2 0.0
MORF *e* 00 43 39.7
MORF *e*SS SS 01 00 34.2 +3.6
DWPF **Disney Wildern** 124.66 46 IAMs_20 IAMs_20 01 36 10.1
comp=Z,9µm,20.0s
PFVI **Vila Bisbo** 124.85 330 *e*PP PP 00 43 48.3 +8.1
060A **Indiantown** 126.07 46 IAMs_20 IAMs_20 01 37 12.4
comp=Z,10µm,20.0s
061Z **Ochoppi** 126.38 47 IAMs_20 IAMs_20 01 37 40.9
comp=Z,9µm,20.0s
CAMR **Camarioca** 127.65 51 IAMs_20 IAMs_20 01 41 32.1
comp=Z,8µm,20.0s
PAYG **Puerto Ayora** 128.90 83 IAMs_20 IAMs_20 01 29 02.0
comp=Z,8µm,20.0s
BOAB **BOACO BROADBA** 130.22 65 IAMs_20 IAMs_20 01 42 01.2
comp=Z,9µm,21.0s
MG01 **Puerto William** 130.06 159 IAMs_20 IAMs_20 01 35 59.3
comp=Z,6µm,21.0s
ORTG **Ortega, Santa** 130.22 67 IAMs_20 IAMs_20 01 39 06.2
comp=Z,7µm,20.0s
JTS **Las Juntas de** 130.71 67 IAMs_20 IAMs_20 01 39 37.1
comp=Z,6µm,18.0s
ARE1 **Arenal 1** 130.86 67 IAMs_20 IAMs_20 01 39 20.9
comp=Z,6µm,19.0s
BBSR **BB Station** 131.58 29 IAMs_20 IAMs_20 01 40 28.2
comp=Z,7µm,21.0s
HDC **Heredia** 131.59 67 IAMs_20 IAMs_20 01 39 39.3
comp=Z,7µm,19.0s
PMPST **Porto Santo, M** 131.69 333 *e*PP PP 00 44 33.4 +8.4
PMPS **Porto Santo** 131.70 333 *e*PP PP 00 44 37.0 +12
LCR2 **La Lucha 2** 131.78 67 IAMs_20 IAMs_20 01 37 57.5
comp=Z,6µm,20.0s
RIMA **Rio Macho** 131.90 67 IAMs_20 IAMs_20 01 40 36.7
comp=Z,6µm,20.0s
PMAR **Madeira** 132.24 334 *e*PP PP 00 44 37.3 +8.5
FUL **Funchal** 132.30 334 *e*PP PP 00 44 41.2 +12
GO08 **Villa O'Higgin** 132.84 151 IAMs_20 IAMs_20 01 37 58.6
comp=Z,7µm,20.0s
TORD **Torodi Ar. Bea** 132.86 298 PKPdf **PKiKP** 00 42 10.6 +0.4
TORD **Torodi Ar. Bea** 132.86 298 PKP **PKPdf** 00 42 08.0 -1.1
comp=Z,12nm,0.9s,baz=33,slow=2.9,SNR=29
TORD PP **PP** 00 44 30.9 -3.0
comp=Z,8.4nm,1.0s,baz=55,slow=9.6,SNR=4.3
CDITO **Canoas** 133.26 68 IAMs_20 IAMs_20 01 37 49.8
comp=Z,7µm,20.0s
MTDJ **Mount Denham** 133.32 53 IAMs_20 IAMs_20 01 41 27.5
comp=Z,8µm,22.0s
BRU2 **Volcan** 133.34 68 IAMs_20 IAMs_20 01 38 03.0
comp=Z,6µm,21.0s
GTBY **Guantanamo Bay** 134.20 49 IAMs_20 IAMs_20 01 44 26.1
comp=Z,8µm,20.0s
GMAL **Guarumal, Vera** 135.07 68 *e*P **PKiKP** 00 42 14.8 +0.2
AY01 **Puyuhuapi** 135.49 146 IAMs_20 IAMs_20 01 31 46.1
comp=Z,6µm,21.0s
BCIP **Isla Barro Col** 135.78 66 IAMs_20 IAMs_20 01 35 49.6
comp=Z,6µm,20.0s
EFI **East Falkland** 135.84 164 IAMs_20 IAMs_20 01 42 10.0
comp=Z,7µm,22.0s
LL07 **Hotel Espejo d** 136.02 144 IAMs_20 IAMs_20 01 35 18.5
comp=Z,9µm,20.0s
LL06 **Loncomilla** 136.31 143 IAMs_20 IAMs_20 01 38 10.2
comp=Z,8µm,20.0s
LL02 **Futaleuf** 136.72 145 IAMs_20 IAMs_20 01 34 56.9
comp=Z,7µm,20.0s
LL05 **Los Muermos** 136.89 142 IAMs_20 IAMs_20 01 42 02.6
comp=Z,6µm,19.0s
LL01 **San Ignacio de** 136.92 144 IAMs_20 IAMs_20 01 35 55.2
comp=Z,9µm,21.0s
SDDR **Presa de Saban** 137.60 47 IAMs_20 IAMs_20 01 43 59.0
comp=Z,8µm,20.0s
SALI **Salinas** 138.30 82 IAMs_20 IAMs_20 01 39 18.0
comp=Z,8µm,19.0s
PLCA **Paso Flores** 139.04 144 PKPdf **PKPdf** 00 42 19.5 -0.4
PLCA IAMs_20 IAMs_20 01 38 00.5
comp=Z,6µm,20.0s
PLCA **Paso Flores** 139.04 144 PKIKP **PKPdf** 00 42 19.5 -0.4
PLCA **Paso Flores** 139.04 144 *e*P **PKPdf** 00 42 18.2 -1.7
PLCA **Paso Flores** 139.04 144 PKhKP PKPpre 00 42 14.7
comp=Z,3.5nm,0.5s,baz=221,slow=4.2,SNR=7.9
GO06 **Curarrehue** 139.21 142 PKPdf **PKPdf** 00 42 18.0 -2.3
GO06 IAMs_20 IAMs_20 01 39 31.0
comp=Z,6µm,19.0s
APAC **Apartado, Choc** 139.23 65 *e*P **PKPdf** 00 42 20.6 -0.3
ARNL **Arenillas** 139.48 84 IAMs_20 IAMs_20 01 38 39.5
comp=Z,7µm,19.0s
SJCC **San Jacinto, C** 139.57 62 *e*P **PKPdf** 00 42 18.3 -3.3
MCRA **Macar, Loja** 139.74 85 PKPdf **PKPdf** 00 42 18.3 -3.6
MCRA **Macar, Loja** 139.74 85 *e*P **PKPdf** 00 42 18.1 -3.8
DBBC **Dabeiba** 139.93 66 *e*P **PKiKP** 00 42 23.8 -0.9
COHC **Cochancay** 140.05 82 **PKPdf** 00 42 19.9 -2.5
OTAV **Otavalo** 140.17 77 PKPdf **PKPdf** 00 42 20.1 -3.1
OTAV **Otavalo** 140.17 77 IAMs_20 IAMs_20 01 36 06.2
comp=Z,7µm,20.0s
OTAV **Otavalo** 140.17 77 *e*P **PKPdf** 00 42 15.8 -7.4
OTAV **Otavalo** 140.17 77 PKIKP **PKPdf** 00 42 20.1 -3.1
OTAV **Otavalo** 140.17 77 *e*P **PKPdf** 00 42 20.3 -3.0
CUSE **Cuicocha Este** 140.20 77 *e*P **PKPdf** 00 42 22.7 -0.6
CHSH **Refugio Sur-Vo** 140.20 80 IAMs_20 IAMs_20 01 38 09.5
comp=Z,6µm,20.0s
UREC **San Jos de Ur** 140.23 65 *e*P **PKPdf** 00 42 19.9 -2.8
IMBA **Imbabura, San** 140.40 77 IAMs_20 IAMs_20 01 36 33.4
comp=Z,9µm,20.0s
ARGC **Ariguani, Magd** 140.40 61 *e*P **PKPdf** 00 42 21.4 -1.6
CBOC **Ciudad Bolivar** 140.58 68 *e*P PKPdf 00 42 12.2 -11
TULM **Tulcn-Chalpat** 140.67 76 IAMs_20 IAMs_20 01 41 33.5
comp=Z,8µm,19.0s
PIAT **Ana Tenorio** 140.67 79 *e*P **PKPdf** 00 42 19.4 -4.6
PLMC **San Jos del P** 140.70 69 *e*P **PKPdf** 00 42 22.9 -0.8
BBAC **Balboa, Cauca** 140.79 74 *e*P **PKPdf** 00 42 23.3 -0.8
GCUF **Volcan Galeras** 140.94 75 *e*P **PKPdf** 00 42 22.8 -1.9
JAMC **Jamundi, Valle** 140.94 72 *e*P **PKPdf** 00 42 20.7 -3.6
ZARC **Zaragoza, Cauc** 140.94 65 *e*P **PKPdf** 00 42 18.5 -5.5
YOTC **Yotoco, Valle** 140.98 71 *e*P **PKPdf** 00 42 20.9 -3.4
CRJC **Cerrejon, Guaj** 140.98 58 *e*P **PKPdf** 00 42 21.9 -2.3
BONI **La Bonita** 140.99 77 *e*P **PKPdf** 00 42 24.8 +0.4
POPC **Popayan, Colom** 141.17 73 *e*P **PKPdf** 00 42 21.2 -3.5
LL6C **La Loma 6 Bece** 141.30 61 *e*P **PKPdf** 00 42 25.0 +0.4
URIC **Uribia, Colomb** 141.36 57 *e*P **PKPdf** 00 42 23.4 -1.4
GUY2C **Guyana, Caldas** 141.42 68 *e*P **PKPdf** 00 42 20.9 -4.5
ML02 **Panimavida** 141.47 137 IAMs_20 IAMs_20 01 43 03.7
comp=Z,5µm,19.0s
DBIC **Dimbokro** 141.50 294 PKPpre 00 42 19.7
DBIC IAMs_20 IAMs_20 01 56 06.1
comp=Z,8µm,21.0s
DBIC **Dimbokro** 141.50 294 PKIKP **PKPdf** 00 42 19.7 -5.3
DBIC **Dimbokro** 141.50 294 PKhKP PKPpre 00 42 19.6
comp=Z,18nm,0.9s,baz=61,slow=3.4,SNR=19
KIC **Kosan Boka** 141.53 294⇑ *e*PKP1 **PKPdf** 00 42 21.2 -3.9
comp=Z,57nm,0.9s
TIC **Toumodi** 141.66 294⇑ *i*PKP1 **PKPdf** 00 42 21.5 -3.8
comp=Z,2.6nm,0.2s
ATAH **Atahualpa** 141.69 89 PKP **PKPdf** 00 42 24.8 -1.1
comp=Z,13nm,0.8s,baz=332,slow=2.2,SNR=7.7
PTBC **PUERTO BERRIO** 141.71 66 *e*P PKPdf 00 42 14.8 -11
SJG **San Juan** 141.78 43 IAMs_20 IAMs_20 01 49 56.1
comp=Z,8µm,20.0s
SJG **San Juan** 141.78 43 *e*P **PKPdf** 00 42 24.8 -0.6

SJG San Juan 141.78 43 PKP **PKPdf 00 42 23.6 -1.8**
comp=Z,13nm,0.3s,baz=289,slow=18,SNR=6.0
LIC Lamto 141.84 294 ⇑*i*PKP1 **PKPdf 00 42 22.2 -3.4**
comp=Z,68nm,0.8s
OCAC Ocana 141.97 63 *eP* **PKPdf 00 42 22.6 -3.5**
ORTC Ortega, Tolima 142.03 70 *eP* **PKPdf 00 42 25.6 -0.4**
GARC Garzon, Huila 142.40 73 *eP* **PKPdf 00 42 23.6 -3.3**
SPBC San Pablo de B 142.43 67 *eP* **PKPdf 00 42 27.6 +0.8**
PRAC Prado 142.43 70 *eP* **PKPdf 00 42 23.5 -3.2**
BO02 Sierra Bellavi 142.44 136 IAMs_20 IAMs_20 01 55 35.4
comp=Z,5μm,20.0s
FLOC Florencia 142.44 74 *eP* **PKPdf 00 42 24.1 -2.7**
VA05 Santo Domingo 142.47 134 IAMs_20 IAMs_20 01 35 55.3
comp=Z,7μm,19.0s
ROSC El Rosal 142.53 68 IAMs_20 IAMs_20 01 52 34.8
comp=Z,6μm,20.0s
ROSC El Rosal 142.53 68 *eP* **PKPdf 00 42 24.7 -2.7**
ROSC El Rosal 142.53 68 PKP **PKPdf 00 42 25.2 -2.1**
comp=Z,9.5nm,0.4s,baz=5.7,slow=24,SNR=5.1
MT01 Popeta 142.62 134 IAMs_20 IAMs_20 01 36 20.2
comp=Z,6μm,19.0s
MT01 Popeta 142.62 134 *i* P **PKPdf 00 42 22.9 -3.5**
VA01 Torpederas 142.77 133 IAMs_20 IAMs_20 01 41 21.6
comp=Z,6μm,18.0s
BARC Barichara 142.83 65 *eP* **PKPdf 00 42 24.8 -2.9**
MT09 Talagante 142.85 134 IAMs_20 IAMs_20 01 36 37.4
comp=Z,5μm,20.0s
CVER Cruz Verde, Cu 142.88 69 *eP* **PKPdf 00 42 25.4 -2.7**
PAMC Pamplona, Colo 142.93 64 *eP* **PKPdf 00 42 24.9 -3.3**
BO04 La Punta 143.00 135 PKPdf **PKPdf 00 42 27.1 -0.2**
BO04 IAMs_20 IAMs_20 01 44 33.3
comp=Z,5μm,18.0s
MT02 Curacav 143.01 133 IAMs_20 IAMs_20 01 43 04.9
comp=Z,6μm,18.0s
MT02 Curacav 143.01 133 *i* P PKPbc 00 42 25.1 +1.2
CHIC Chingaza 143.15 68 *eP* PKPbc 00 42 26.1 +0.7
MT05 Renca 143.23 134 IAMs_20 IAMs_20 01 36 36.5
comp=Z,6μm,20.0s
MT05 Renca 143.23 134 *i* P PKPbc 00 42 25.3 +0.7
ROC1 El Roble 143.25 133 *i* P PKPbc 00 42 25.9 +0.9
MT03 Universidad Ad 143.34 134 IAMs_20 IAMs_20 01 36 51.3
comp=Z,6μm,18.0s
MT13 San Alfonso 143.36 135 IAMs_20 IAMs_20 01 44 18.8
comp=Z,5μm,18.0s
LMEL Las Melosas 143.36 135 IAMs_20 IAMs_20 01 44 52.8
comp=Z,7μm,19.0s
VILC Villavicencio, 143.39 69 *eP* PKPbc 00 42 26.8 +1.1
PEL Peldehue 143.40 134 IAMs_20 IAMs_20 01 43 26.2
comp=Z,6μm,18.0s
PEL Peldehue 143.40 134 *i* P PKPbc 00 42 25.3 +0.2
NNA Nana 143.55 97 PKPdf PKPbc 00 42 27.4 +1.4
NNA Nana 143.55 97 IAMs_20 IAMs_20 01 33 20.8
comp=Z,6μm,21.0s
NNA Nana 143.55 97 *eP* PKPbc 00 42 25.8 -0.2
NNA Nana 143.55 97 *i* PKIKP **PKPdf 00 42 28.8 +0.1**
NNA Nana 143.55 97 PKP **PKPdf 00 42 27.7 -1.0**
comp=Z,97nm,1.1s,baz=280,slow=6.3,SNR=17
HATO Hato, Curacao 143.55 53 IAMs_20 IAMs_20 01 49 05.6
comp=Z,6μm,20.0s
PTLC Puerto Leguiza 143.69 76 *eP* PKPbc 00 42 27.3 +0.9
VA03 San Esteban 143.69 133 *i* P PKPab 00 42 25.5 +0.3
MT08 Bocatoma Ro 143.71 135 IAMs_20 IAMs_20 01 37 16.1
comp=Z,6μm,20.0s
SDV Santo Domingo 143.97 60 PKPdf PKPbc 00 42 28.0 +0.5
SDV IAMs_20 IAMs_20 01 43 27.8
comp=Z,7μm,21.0s
SDV Santo Domingo 143.97 60 *eP* PKPbc 00 42 28.6 +1.1
SDV Santo Domingo 143.97 60 *eP* PKPbc 00 42 27.7 +0.2
SDV Santo Domingo 143.97 60 PKP **PKPdf 00 42 28.8 -0.8**
comp=Z,39nm,0.5s,baz=295,slow=1.4,SNR=24
SABA Saba 144.04 40 IAMs_20 IAMs_20 01 45 20.2
comp=Z,9μm,22.0s
TAMC Tame, Arauca 144.14 64 *eP* **PKPdf 00 42 29.2 -0.6**
CO02 Combarbal 144.15 131 IAMs_20 IAMs_20 01 39 41.2
comp=Z,7μm,18.0s
CO02 Combarbal 144.15 131 *i* P PKPbc 00 42 28.1 +0.6
CO03 El Pedregal 144.56 130 IAMs_20 IAMs_20 01 57 00.1
comp=Z,6μm,19.0s
CO03 El Pedregal 144.56 130 *i* P PKPbc 00 42 28.9 +0.2
CO05 La Serena 144.58 129 IAMs_20 IAMs_20 01 43 44.7
comp=Z,7μm,19.0s
AVIZ Vizcacheras 144.73 136 *i* P **PKPdf 00 42 30.1 -0.3**
AAGR Agrelo 144.74 135 *i* P **PKPdf 00 42 30.8 +0.5**
PTGC Puerto Gaitan, 144.78 68 *eP* **PKPab 00 42 28.8 -0.9**
GO04 Tololo Observa 144.80 129 IAMs_20 IAMs_20 01 41 56.4
comp=Z,6μm,19.0s
GO04 Tololo Observa 144.80 129 *i* P PKPbc 00 42 30.0 +0.3
ARCO CERRO ARCO 144.80 135 *i* P PKPbc 00 42 30.1 +0.6
ASAL Salagasta 145.00 134 *i* P **PKPdf 00 42 30.9 +0.1**
RTLS Leoncito 145.10 133 *i* P **PKPdf 00 42 31.4 +0.1**
MBFL Flemmings, Mon 145.34 40 *eP* **PKPbc 00 42 28.4 -3.0**
MLYT Lee's Yard 145.38 40 *eP* **PKPdf 00 42 33.7 +1.9**
ANBD Bethesda, Anti 145.40 39 *eP* **PKPbc 00 42 30.8 -0.8**
LCO Las Campanas 145.41 127 **PKPab 00 42 32.6 +0.6**
LCO Las Campanas 145.41 127 IAMs_20 IAMs_20 01 39 53.6
comp=Z,7μm,18.0s
LCO Las Campanas 145.41 127 PKIKP **PKPab 00 42 32.6 +0.6**
LCO Las Campanas 145.41 127 *i* P **PKPab 00 42 32.4 +0.4**
CO01 Juntas del Tor 145.43 129 IAMs_20 IAMs_20 01 43 24.9
comp=Z,7μm,18.0s
CO01 Juntas del Tor 145.43 129 *i* P **PKPab 00 42 32.8 +0.8**
RTCV Cerro Valdivia 145.61 133 *i* P **PKPdf 00 42 29.0 -2.8**
TRQA Tornquist 145.67 148 PKPdf **PKPdf 00 42 32.0 +0.3**
TRQA IAMs_20 IAMs_20 01 50 20.4
comp=Z,8μm,20.0s
TRQA Tornquist 145.67 148 PKP2 **PKPdf 00 42 32.0 +0.3**
TRQA Tornquist 145.67 148 *eP* **PKPdf 00 42 29.4 -2.2**
ZON Zonda 145.68 133 IAMs_20 IAMs_20 01 40 44.3
comp=Z,7μm,19.0s
ZON Zonda 145.68 133 *i* P **PKPab 00 42 32.8 +0.2**
DOCA Reserva Natura 145.70 132 *i* P **PKPdf 00 42 29.0 -3.4**
AROD Rodeo 145.80 130 *i* P **PKPab 00 42 33.7 +0.3**
AC05 El Transito 145.82 128 **PKPdf 00 42 32.4 0.0**
AC05 IAMs_20 IAMs_20 01 40 42.5
comp=Z,7μm,19.0s
AC05 El Transito 145.82 128 *i* P **PKPab 00 42 33.7 +0.4**
ACCO Cerro Coronel 145.90 131 *i* P **PKPdf 00 42 31.4 -1.4**
RTLL Cerro Villicun 145.94 133 *i* P **PKPdf 00 42 26.0 -6.4**
CFA Coronel Fontan 145.97 133 *i* P **PKPdf 00 42 27.4 -5.0**
CFA Coronel Fontan 145.97 133 PKPbc **PKPbc 00 42 33.6 +0.4**
comp=Z,77nm,0.7s,baz=243,slow=2.7,SNR=58
ABD La Joyeuse, An 146.01 39 IAMs_20 IAMs_20 01 45 25.2
comp=Z,7μm,21.0s
ABD La Joyeuse, An 146.01 39 *eP* **PKiKP 00 42 38.3 +1.4**
ACDV Cuesta del Vie 146.07 130 *i* P **PKPab 00 42 35.2 +0.9**
BAUV El Baul 146.12 57 PKPdf **PKPdf 00 42 32.1 -1.0**
BAUV El Baul 146.12 57 *eP* **PKPdf 00 42 31.1 -1.9**
CBE Ff, Capester 146.24 40 *eP* **PKPdf 00 42 31.2 -2.0**
GDSD La Desirade Is 146.39 39 IAMs_20 IAMs_20 01 46 06.4
comp=Z,9μm,21.0s
GO03 Copiap 146.40 126 **PKPbc 00 42 34.6 +0.1**
MAGL Barre de l'ile 146.53 40 *eP* **PKPbc 00 42 34.6 -0.5**
AC01 Pan de Azucar 146.69 123 IAMs_20 IAMs_20 01 44 12.1
comp=Z,7μm,18.0s
AVFE Valle Fertil 147.04 133 *i* P **PKPdf 00 42 33.3 -1.0**
MRA San Martin 147.26 137 *i* P **PKPdf 00 42 35.2 +0.6**
ACHE Chepes 147.33 134 *i* P **PKPbc 00 42 38.2 +0.9**
CZSB Cruzeiro do Su 147.36 89 *eP* **PKPdf 00 42 35.8 +0.6**
CZSB Cruzeiro do Su 147.36 89 *eP* **PKPdf 00 42 33.2 -1.9**
PB14 IPOC Station P 147.43 120 IAMs_20 IAMs_20 01 45 40.7
comp=Z,7μm,18.0s
SVN Savane Anatole 147.43 41 *eP* **PKPab 00 42 39.5 -0.2**
VCA Vinchina 147.47 129 *i* P **PKPbc 00 42 37.2 -0.5**
FDF Fort de France 147.52 41 IAMs_20 IAMs_20 01 49 39.6
comp=Z,7μm,20.0s
FDF Fort de France 147.52 41 *eP* **PKPab 00 42 40.1 +0.1**
BIM Bigot 147.73 41 *eP* **PKPbc 00 42 39.5 +0.9**
APLL PUNTA DE LOS L 147.86 133 *i* P **PKPdf 00 42 36.1 +0.5**
GO02 Mina Guanaco 147.91 122 IAMs_20 IAMs_20 01 42 18.5
comp=Z,8μm,19.0s
MPOM Morne Pois Mar 147.92 41 IAMs_20 IAMs_20 01 49 50.2
comp=Z,7μm,20.0s
MPOM Morne Pois Mar 147.92 41 *eP* **PKPab 00 42 42.7 +1.2**
ACLC CERRO LA CRUZ 148.07 131 *i* P **PKPdf 00 42 36.0 -0.2**
PCRV Puerto La Cruz 148.13 52 PKPbc **PKPbc 00 42 39.6 -0.1**
comp=Z,28nm,0.6s,baz=270,slow=2.2,SNR=11
SLBI Saint Lucia, B 148.16 42 *eP* **PKPbc 00 42 39.3 -0.4**
PB05 IPOC Station P 148.20 117 IAMs_20 IAMs_20 01 41 56.4
comp=Z,5μm,18.0s
PB04 IPOC Station P 148.41 117 PKPbc **PKPbc 00 42 39.0 -1.5**
PB04 IAMs_20 IAMs_20 01 40 04.0
comp=Z,6μm,20.0s
SVB Belmont 148.52 43 *eP* **PKPab 00 42 43.3 -0.7**
TCA Tanti 148.67 136 *i* P **PKPdf 00 42 38.4 +1.4**

PB15 IPOC Station P 148.72 119 IAMs_20 IAMs_20 01 39 18.1
comp=Z,5μm,21.0s
PB06 IPOC Station P 148.80 118 IAMs_20 IAMs_20 01 44 19.3
comp=Z,5μm,20.0s
PB07 IPOC Station P 148.82 116 IAMs_20 IAMs_20 02 02 41.1
PATCX Punta Patache 148.84 114 IAMs_20 IAMs_20 01 39 42.1
comp=Z,5μm,20.0s
GCMP Grenada, Carri 148.96 44 *eP* **PKPbc 00 42 41.7 0.0**
GRHS Sauteurs 148.99 45 *eP* **PKPdf 00 42 33.1 -4.8**
GRGR Grenville 149.05 45 IAMs_20 IAMs_20 01 55 11.8
comp=Z,7μm,20.0s
GRGR Grenville 149.05 45 *eP* **PKPdf 00 42 36.2 -1.7**
AP01 Chacalluta 149.23 109 IAMs_20 IAMs_20 01 58 27.9
comp=Z,5μm,21.0s
PB09 IPOC Station P 149.37 116 IAMs_20 IAMs_20 01 38 30.7
comp=Z,6μm,22.0s
PB01 IPOC Station P 149.38 115 IAMs_20 IAMs_20 01 53 32.8
comp=Z,5μm,21.0s
LVC Limon Verde 149.41 118 **PKPbc 00 42 41.8 -1.4**
LVC Limon Verde 149.41 118 IAMs_20 IAMs_20 01 44 48.3
comp=Z,5μm,19.0s
LVC Limon Verde 149.41 118 PKP2 **PKPbc 00 42 41.8 -1.4**
LVC Limon Verde 149.41 118 *eP* **PKPdf 00 42 36.7 -2.0**
LVC Limon Verde 149.41 118 PKPbc **PKPbc 00 42 43.9 +0.7**
comp=Z,108nm,0.9s,baz=266,slow=2.6,SNR=38
TBTG Tabatinga, AM 149.53 81 *eP* **PKPdf 00 42 38.9 +0.2**
TBTG Tabatinga, AM 149.53 81 *eP* **PKPdf 00 42 37.0 -1.7**
PB11 IPOC Station P 149.56 112 IAMs_20 IAMs_20 01 39 31.4
comp=Z,7μm,20.0s
PB08 IPOC Station P 149.92 113 IAMs_20 IAMs_20 01 59 51.9
comp=Z,6μm,22.0s
AF01 San Pedro de A 149.93 119 IAMs_20 IAMs_20 01 45 18.0
comp=Z,7μm,19.0s
GO01 Chusmiza 150.00 112 IAMs_20 IAMs_20 01 39 55.1
comp=Z,7μm,21.0s
LPA La Plata 150.17 149 PKIKP **PKPdf 00 42 34.5 -4.6**
LPA La Plata 150.17 149 PKP **PKPab 00 42 48.4 -1.7**
LPA SKIKP 00 46 08.9
LPA PKIKS 00 46 14.3
LPA PP **PP 00 46 25.1 +7.0**
LPA pPP 00 46 36.9
LPA PPP PPP 00 49 41.4
LPA SKIKS 00 49 46.6
LPA SDIFF 00 55 24.7
LPA PSP PSP 00 59 12.0
LPA PPS PPS 00 59 18.7
LPA SS SS 01 06 03.1 +29
LPA SSS SSS 01 11 10.0
PB18 Visviri 150.19 108 IAMs_20 IAMs_20 01 40 02.3
comp=Z,6μm,20.0s
TRN Trinidad (W) 150.24 47 *eP* **PKPbc 00 42 43.8 -1.1**
SACV Santiago Islan 150.47 327 IAMs_20 IAMs_20 01 54 18.2
comp=Z,5μm,20.0s
SGCB SGo Gabriel d 151.13 72 *eP* **PKPdf 00 42 39.8 -1.5**
ETMB Extrema 153.93 92 *eP* **PKPdf 00 42 43.2 -2.1**
MECA Mercedes 154.20 141 *eP* **PKPdf 00 42 43.5 -1.8**
TEFE Tefe 154.47 77 *eP* **PKPdf 00 42 44.3 -1.8**
PLTB Pedras Altas 154.83 151 *eP* **PKPdf 00 42 44.8 -1.3**
ASCN Ascension 154.84 273 IAMs_20 IAMs_20 02 04 36.0
comp=Z,5μm,21.0s
ITQB Itaqui 154.87 143 IAMs_20 IAMs_20 01 57 18.7
comp=Z,6μm,20.0s
ITQB Itaqui 154.87 143 *eP* **PKPdf 00 42 44.8 -1.4**
SCCA San Cayetano, 155.07 137 *eP* **PKPdf 00 42 45.0 -1.6**
RODS Rosario do Sul 155.16 147 *eP* **PKPdf 00 42 45.3 -1.3**
BOAV Boa Vista 155.91 60 IAMs_20 IAMs_20 01 45 57.2
comp=Z,7μm,22.0s
BOAV Boa Vista 155.91 60 *eP* **PKPdf 00 42 47.6 -0.5**
BOAV Boa Vista 155.91 60 *eP* **PKPdf 00 42 46.2 -1.9**
CPSB Cacapava Do Su 156.03 150 *eP* **PKPdf 00 42 45.9 -1.9**
UNIS Unistalda (Bra 156.22 145 *eP* **PKPdf 00 42 46.1 -2.0**
CPUP Villa Florida 156.76 137 *eP* **PKPdf 00 42 45.0 -3.9**
CPUP Villa Florida 156.76 137 PKP **PKPdf 00 42 49.8 +0.9**
comp=Z,8.5nm,1.0s,baz=224,slow=0.4,SNR=12
CPUP PKPab **PKPab 00 43 19.1 +0.8**
comp=Z,12nm,0.8s,baz=218,slow=3.9,SNR=8.1
SAML Samuel 156.86 89 PKPdf **PKPdf 00 42 49.8 +0.5**
SAML Samuel 156.86 89 *eP* **PKPdf 00 42 50.0 +0.7**
SAML Samuel 156.86 89 PKIKP **PKPdf 00 42 49.8 +0.5**
SAML Samuel 156.86 89 *eP* **PKPdf 00 42 47.5 -1.8**
ALGR Alto Alegre (B 157.54 148 *eP* **PKPdf 00 42 47.9 -2.0**
CRSM Crissiumal (Br 158.00 144 *eP* **PKPdf 00 42 48.2 -2.2**
MACA Manacapuru-AM 158.12 73 IAMs_20 IAMs_20 01 50 42.7
comp=Z,7μm,20.0s
MACA Manacapuru-AM 158.12 73 *eP* **PKPdf 00 42 48.9 -2.1**
CNLB Canela 158.16 153 *eP* **PKPdf 00 42 49.0 -1.6**
SIV San Ignacio 158.40 108 PKP **PKPdf 00 42 52.2 +1.0**
comp=Z,6.8nm,0.9s,baz=180,slow=2.5,SNR=20
SIV PKPab **PKPab 00 43 25.6 -0.1**
comp=Z,31nm,1.3s,baz=334,slow=1.1,SNR=5.7
BBSD Serra de San D 158.52 112 *eP* **PKPdf 00 42 49.5 -1.8**
BBRB Robore, Bolivi 158.90 115 *eP* **PKPdf 00 42 49.5 -2.2**
ITAB Concordia 159.26 147 PKPdf **PKPdf 00 42 53.0 +1.1**
ITAB **PKPab 00 43 30.4 +1.5**
ITAB Concordia 159.26 147 *eP* **PKPdf 00 42 50.5 -1.4**
MURT Porto Murtinho 159.30 126 *eP* **PKPdf 00 42 50.1 -1.9**
FRBT Francisco Belt 159.72 143 *eP* **PKPdf 00 42 50.9 -1.6**
VILB Vilhena 159.74 100 *eP* **PKPdf 00 42 51.1 -1.7**
MCR1 Marechal Candi 160.21 138 *eP* **PKPdf 00 42 51.1 -2.0**
MDP Montagnes des 160.24 41 PKP **PKPdf 00 42 54.8 +1.4**
comp=Z,29nm,1.1s,baz=292,slow=1.1,SNR=3.5
MDP PKPab **PKPab 00 43 33.6 0.0**
comp=Z,8.4nm,0.8s,baz=83,slow=11,SNR=1.4
PTLB Pontes e Lacer 160.33 108 *eP* **PKPdf 00 42 51.0 -2.4**
ANTJ Antonio Joao (160.37 129 *eP* **PKPdf 00 42 51.4 -1.9**
AMBA Amambai (Brazi 160.57 133 *eP* **PKPdf 00 42 50.0 -3.5**
BDQN Bodoquena, MS 160.61 124 *eP* **PKPdf 00 42 51.7 -1.9**
PTGB Pitanga 161.26 143 *eP* **PKPdf 00 42 53.0 -1.3**
AQDB Aquidauana 161.44 126 *eP* **PKPdf 00 42 52.5 -2.0**
RVDE Rio Verde (Bra 162.79 123 *eP* **PKPdf 00 42 53.9 -2.0**
LDASE Londrina, Braz 162.82 142 *eP* **PKPdf 00 42 54.1 -1.8**
ITTB Itaituba 163.18 72 *eP* **PKPdf 00 42 54.6 -1.9**
PDRB Porto dos Gac 163.24 97 *eP* **PKPdf 00 42 54.7 -1.7**
SALV Santo Antonio 163.40 112 *eP* **PKPdf 00 42 55.2 -1.3**
MALB Monte Alegre 163.45 62 *eP* **PKPdf 00 42 54.9 -1.8**
PP1B Ponte de Pedra 163.49 119 *eP* **PKPdf 00 42 53.1 -3.5**
FRTB Fartura 163.76 146 *eP* **PKPdf 00 42 54.7 -2.0**
PCMB Pacaembu 164.02 138 *eP* **PKPdf 00 42 54.7 -2.3**
PET01 Itanhaem-SP 164.09 154 *eP* **PKPdf 00 42 55.4 -1.6**
CLDB Colider 164.19 95 *eP* **PKPdf 00 42 56.0 -1.4**
NPGB Novo Progresso 164.28 80 *eP* **PKPdf 00 42 56.0 -1.5**
MCPB Macapa, AP 164.44 53 *eP* **PKPdf 00 42 55.0 -2.6**
C2SB Chapadao do Su 164.63 126 *eP* **PKPdf 00 42 55.7 -1.9**
SPB Sao Paulo 164.63 122 *eP* **PKPdf 00 42 55.4 -2.1**
VAO Valinhos 165.35 153 *eP* **PKPdf 00 42 56.6 -1.6**
ITRB Iturama 165.93 134 *eP* **PKPdf 00 42 56.9 -1.8**
BB19B Bebedouro 166.14 143 *eP* **PKPdf 00 42 57.3 -1.6**
SNDB Serra Nova Dou 168.50 101 *eP* **PKPdf 00 42 59.5 -1.2**
IPMB Ipameri, GO 168.59 135 *eP* **PKPdf 00 42 58.8 -1.9**
TMAB Tom-Au,PA,Br 168.75 48 *eP* **PKPdf 00 43 00.4 -0.5**
PRPB Parauapebas 169.32 70 *eP* **PKPdf 00 42 58.8 -2.4**
PMNB Patos De Minas 169.33 143 *eP* **PKPdf 00 42 57.9 -3.3**
ALF01 Guarapari-ES 169.42 175 *eP* **PKPdf 00 42 59.8 -1.3**
RIB01 Linhares ES 170.73 176 *eP* **PKPdf 00 42 59.8 -2.1**
SMTB Santa Maria do 172.18 82 *eP* **PKPdf 00 43 00.8 -2.0**
JANB Januaria 173.29 139 *eP* **PKPdf 00 42 59.5 -3.7**
GUA01 Guaratinga, BA 173.47 179 *eP* **PKPdf 00 43 00.8 -2.4**
RCBR Riachuelo 174.36 317 *eP* **PKPdf 00 43 02.3 -1.3**
SDBA SAO DESIDERIO 174.41 116 *eP* **PKPdf 00 43 02.0 -1.6**

*IDC **08** 00:30:07.5±0.7, 9.99N×140.40E, h0km, mb4.3/20, mbtmp4.3/20, Error ellipse: s-maj=25.6km s-min=15.5km az=83.0*
*NEIC **08** 00:30:11.3±1.1, 10.33N±0.09×139.9E±0.1, h10km±1km, mb5.0/129, Error ellipse: s-maj=17.6km s-min=15.3km az=261.0*

ISC 08 00:30:14.2±0.4, **10.22N**±0.07×**140.04E**±0.09, **h35**km, **n290**, σ**1**§**04**/286, **mb4.9**/84, **Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**14.20**	**149**	P	**P**	**00 33 40.6**	**+0.8**
JCJ	**Chichijima**	**16.91**	**7**	Pn	**Pn**	**00 34 05.5**	**-2.8**
JCJ				IAmb	IAmb	00 34 26.8	
comp=Z,187nm,1.1s							
JMZ	**Minamidaito 2**	**17.62**	**333**	Pn	**Pn**	**00 34 14.2**	**-3.0**
PATS	**Pohnpei**	**18.38**	**99**	P	**Pn**	**00 34 28.4**	**+1.9**
PMG	**Port Moresby**	**20.74**	**160**	P	Pn	00 34 54.9	+0.4
PMG	**Port Moresby**	**20.74**	**160**	P	**P**	**00 34 46.6**	**-5.4**
comp=Z,5.5nm,0.4s,baz=326,slow=18,SNR=1.3							

comp=Z,5.5nm,0.4s
TOLI2 Tolitoli 21.17 246 P **P 00 34 57.6 +0.9**
TOLI2 IAmb IAmb 00 35 19.1
comp=Z,69nm,1.0s
YULB Yu-li 22.18 309 P **P 00 35 01.9 -5.6**
JMN Monobe 24.07 347 P **P 00 35 25.3 -1.1**
JMN IAmb IAmb 00 35 37.7
comp=Z,70nm,1.1s
COEN Coen 24.22 173 P **P 00 35 26.3 -1.5**
COEN IAmb IAmb 00 35 37.0
comp=Z,46nm,1.4s
MTN Manton Dam 24.56 201 P **P 00 35 27.9 -3.0**
MTN IAmb IAmb 00 35 40.5
comp=Z,24nm,0.7s
SOEI Soe 25.30 219 P **P 00 35 37.7 -0.1**
MJAR Matsushiro Arr 26.26 357 P **P 00 35 46.7 +0.4**
comp=Z,1.4nm,0.5s,baz=186,slow=9.4,SNR=2.3
comp=Z,1.4nm,0.5s
H11S3 WAKE ISLAND Hy 27.07 69 T T 01 03 58.6
baz=256,slow=76
H11S1 WAKE ISLAND Hy 27.08 69 T T 01 03 59.7
baz=256,slow=76
H11S2 WAKE ISLAND Hy 27.08 69 T T 01 03 59.6
baz=256,slow=76
H11N1 WAKE ISLAND Hy 27.57 67 T T 01 04 39.4
baz=253,slow=75
H11N2 WAKE ISLAND Hy 27.58 67 T T 01 04 39.2
baz=253,slow=75
H11N3 WAKE ISLAND Hy 27.59 67 T T 01 04 40.2
baz=253,slow=75
KNRA Kununurra 28.05 204 P **P 00 36 01.8 -0.6**
KSRS Korea Array 29.24 340 P **P 00 36 14.3 +1.5**
comp=Z,1.8nm,0.7s,baz=162,slow=9.1,SNR=1.3
comp=Z,1.8nm,0.7s
WB0 Warramunga Arr 30.31 191 P **P 00 36 21.8 -0.7**
WR0 Warramunga Arr 30.47 190 P **P 00 36 24.5 +0.6**
WB2 Warramunga Arr 30.49 191 P **P 00 36 20.8 -3.2**
WRA Warramunga Arr 30.49 191 P **P 00 36 20.9 -3.2**
comp=Z,5.5nm,0.8s,baz=10.0,slow=9.7,SNR=4.3
comp=Z,5.5nm,0.8s
ASAR Alice Springs 34.21 190 P **P 00 36 52.4 -4.2**
comp=Z,1.8nm,0.6s,baz=20,slow=12,SNR=5.4
ASAR PcP **PcP 00 39 32.8 -0.3**
comp=Z,1.3nm,0.8s,baz=21,slow=2.5,SNR=2.0
comp=Z,1.8nm,0.6s
USRK Ussuriysk Ar. 34.57 350 P **P 00 37 00.1 +0.5**
comp=Z,2.2nm,0.7s,baz=148,slow=6.5,SNR=2.6
comp=Z,2.2nm,0.7s
KLR Kul'dur 39.50 351 P **P 00 37 42.1 +0.7**
comp=Z,14nm,0.7s,baz=174,slow=7.7,SNR=9.5
comp=Z,14nm,0.7s
CMAR Chiang Mai Arr 40.57 286 P **P 00 37 52.8 +2.0**
comp=Z,16nm,0.8s,baz=93,slow=6.5,SNR=29
comp=Z,16nm,0.8s
HEH HeiHe 41.26 348 *eP* **P 00 37 56.5 +0.6**
HEH pmax pmax
comp=Z,15nm,0.8s
PETK Petropavlovsk- 45.08 15 P **P 00 38 25.7 -1.1**
comp=Z,6.1nm,0.8s,baz=195,slow=4.5,SNR=6.9
comp=Z,6.1nm,0.8s
SONM Songino Array 46.97 329 P **P 00 38 42.0 +0.1**
SONM Songino Array 46.97 329 P **P 00 38 44.2 +2.3**
comp=Z,2.1nm,0.9s,baz=151,slow=8.2,SNR=2.3
comp=Z,2.1nm,0.9s
TOO Toolangi 47.81 174 P **P 00 38 50.3 +1.9**
TAPN Taplejung 52.00 297 *eP* **P 00 39 22.0 +1.1**
comp=Z,46nm,0.9s
RAMN Ramite 52.93 296 *eP* **P 00 39 29.1 +1.4**
comp=Z,100nm,1.3s
JIRN Jiri 53.38 297 *eP* **P 00 39 32.2 +1.0**
comp=Z,64nm,0.9s
GUN Gumba 53.69 297 *eP* **P 00 39 34.6 +1.2**
comp=Z,94nm,1.0s
PKI Pulchoki 54.06 297 *eP* **P 00 39 37.2 +1.1**
comp=Z,41nm,1.0s
PKIN Phulchoki 54.07 297 *eP* **P 00 39 36.8 +0.7**
comp=Z,325nm,2.1s
DMN Daman 54.33 297 *eP* **P 00 39 38.9 +0.9**
comp=Z,81nm,1.1s
GKN Gorkha 54.79 297 *eP* **P 00 39 41.9 +0.7**
comp=Z,101nm,1.3s
DANN Dangsing 55.60 297 *eP* **P 00 39 47.8 +0.6**
comp=Z,52nm,1.1s
PYUN Piuthan 56.25 297 *eP* **P 00 39 52.7 +1.0**
comp=Z,109nm,0.9s
HYB Hyderabad 59.93 284 *eP* **P 00 40 16.7 -0.7**
HYB *e*PcP **PcP 00 41 05.0 +1.4**
HYB *e*S **S 00 48 28.9 +1.3**
BFZ Birch Farm 60.69 149 P **P 00 40 22.7 +0.6**
MK31 Makanchi Array 60.73 318 P **P 00 40 23.5 +1.1**
MKAR Makanchi Array 60.73 318 P **P 00 40 23.5 +1.1**
MKAR Makanchi Array 60.73 318 P **P 00 40 23.2 +0.8**
comp=Z,1.6nm,0.6s,baz=106,slow=8.2,SNR=6.4
comp=Z,1.6nm,0.6s
MAKZ Makanchi 60.94 318 P **P 00 40 24.4 +0.6**
MAKZ IAmb IAmb 00 40 34.2
comp=Z,14nm,1.1s
ZALV Zalesovo Beam 61.70 327 P **P 00 40 29.5 +0.7**
comp=Z,1.1nm,0.6s,baz=100,slow=6.1,SNR=1.9
comp=Z,1.1nm,0.6s
KURBB Kurchatov Arra 64.22 322 P **P 00 40 46.1 +0.5**
comp=Z,2.4nm,0.8s,baz=116,slow=5.9,SNR=5.1
comp=Z,2.4nm,0.8s
M13K Dall Lake 65.05 27 P **P 00 40 51.3 +0.5**
NIL Nilore 65.11 302 P **P 00 40 52.9 +1.1**
O14K Tigyukauivet M 65.55 29 P **P 00 40 53.8 -0.3**
L14K Kuka Creek 65.74 26 P **P 00 40 54.9 -0.3**
L14K IAmb IAmb 00 41 14.2
comp=Z,13nm,0.9s
L14K Kuka Creek 65.74 26 P **P 00 40 55.2 0.0**
baz=245
M14K Bethel 65.82 27 P **P 00 40 56.3 +0.5**
M14K IAmb IAmb 00 41 15.8
comp=Z,10nm,0.9s
ARSB Arslanbob 66.11 311 P **P 00 40 58.9 +0.6**
F14K Arctic Creek 66.19 22 P **P 00 40 58.9 +0.8**
baz=240
K15K Wolf Creek Mou 66.63 26 P **P 00 41 00.3 -0.7**
F15K North Star Dit 66.91 22 P **P 00 41 02.7 0.0**
F15K IAmb IAmb 00 41 29.9
comp=Z,12nm,1.1s
M16K Timber Creek 67.28 28 P **P 00 41 05.7 +0.5**
L16K Owhat River 67.30 27 P **P 00 41 04.7 -0.5**
L16K IAmb IAmb 00 41 23.5
comp=Z,12nm,1.2s
J16K Anvik River 67.42 25 P **P 00 41 06.3 +0.3**
J16K Anvik River 67.42 25 P **P 00 41 06.3 +0.3**
baz=247
I17K Unalakleet 67.63 24 P **P 00 41 07.9 +0.6**
I17K IAmb IAmb 00 41 29.1
comp=Z,15nm,1.1s
I17K Unalakleet 67.63 24 P **P 00 41 07.0 -0.2**
baz=246
O17K Koliganek Bris 67.72 29 P **P 00 41 08.2 +0.3**
baz=251
P17K Kvichak River 67.85 30 P **P 00 41 07.3 -1.5**
baz=252
N17K Nushagak Hills 67.92 28 P **P 00 41 10.0 +0.8**
N17K IAmb IAmb 00 41 21.3
comp=Z,21nm,1.3s
N17K Nushagak Hills 67.92 28 P **P 00 41 09.6 +0.4**
baz=251
C16K Lisburne Hills 67.93 19 P **P 00 41 09.2 +0.1**
C16K IAmb IAmb 00 41 22.6
comp=Z,20nm,1.2s
C16K Lisburne Hills 67.93 19 P **P 00 41 09.5 +0.5**
baz=240
L17K Donlin 67.97 26 P **P 00 41 09.0 -0.5**
baz=249
M17K Holitna River 68.10 27 P **P 00 41 10.5 +0.2**
M17K IAmb IAmb 00 41 21.2
comp=Z,20nm,1.2s
M17K Holitna River 68.10 27 P **P 00 41 09.6 -0.7**
baz=250
KK31 Karatay Array 68.15 312 P **P 00 41 11.7 +0.6**
KKAR Karatay Array 68.15 312 P **P 00 41 11.0 0.0**
K17K Iditarod 68.18 26 P **P 00 41 11.2 +0.4**
baz=248
SII Sitkinak Islan 68.26 33 P **P 00 41 11.1 -0.4**
baz=255
G17K Kiwalik Mounta 68.31 23 P **P 00 41 11.8 +0.3**
baz=246
F17K Baldwin Pennin 68.48 22 P **P 00 41 13.1 +0.6**
F17K Baldwin Pennin 68.48 22 P **P 00 41 12.7 +0.1**
baz=245
E17K Hotham Inlet 68.55 21 P **P 00 41 12.9 -0.1**
baz=244

N18K **Kilae Creek** 68.58 28 P P 00 41 14.8 +1.5
N18K IAmb IAmb 00 41 32.2
comp=Z,17nm,1.1s
RDOG **Red Dog Mine** 68.62 20 P P 00 41 13.7 +0.3
RDOG IAmb IAmb 00 41 14.2
comp=Z,7.0nm,0.7s
RDOG **Red Dog Mine** 68.62 20 P P 00 41 14.1 +0.6
baz=243
C17K **DeLong Mountai** 68.73 19 P P 00 41 14.7 +0.6
baz=242
H18K **Honhosa River** 69.05 23 P P 00 41 15.9 -0.3
baz=248
E18K **Tukpahlearik C** 69.13 21 P 00 41 17.1 +0.5
E18K IAmb IAmb 00 41 18.0
comp=Z,10nm,0.8s
E18K **Tukpahlearik C** 69.13 21 P P 00 41 17.2 +0.6
baz=245
G18K **Tagagawik** 69.22 23 P P 00 41 17.1 -0.1
G18K IAmb IAmb 00 41 19.5
comp=Z,10nm,0.9s
G18K **Tagagawik** 69.22 23 P P 00 41 17.3 0.0
baz=248
TTA **Tatalina** 69.24 26 P P 00 41 18.6 +1.2
TTA IAmb IAmb 00 41 32.1
comp=Z,14nm,1.4s
N19K **Bonanza Creek** 69.28 28 P P 00 41 18.1 +0.3
N19K IAmb IAmb 00 41 19.5
comp=Z,21nm,1.5s
N19K **Bonanza Creek** 69.28 28 P P 00 41 17.7 -0.1
baz=253
C18K **Utukok River** 69.46 20 P P 00 41 18.5 -0.2
C18K IAmb IAmb 00 41 32.7
comp=Z,13nm,1.3s
C18K **Utukok River** 69.46 20 P P 00 41 19.1 +0.4
baz=244
L19K **White Mountain** 69.51 27 P P 00 41 18.6 -0.5
L19K IAmb IAmb 00 41 44.9
comp=Z,11nm,1.1s
L19K **White Mountain** 69.51 27 P P 00 41 19.1 0.0
baz=252
B18K **Kokolik River** 69.58 19 P P 00 41 20.0 +0.6
baz=243
BVAR **Borovoye Array** 69.68 323 P P 00 41 21.2 +0.9
comp=Z,3.7nm,0.7s,baz=103,slow=7.8,SNR=5.0
comp=Z,3.7nm,0.7s
BRVK **Borovoye** 69.75 323 P P 00 41 21.6 +0.9
J19K **Poorman** 69.75 25 P P 00 41 20.8 +0.2
F19K **Shaleruckik Mo** 69.91 22 P P 00 41 21.8 +0.4
G19K **Purcell Mounta** 69.91 23 P P 00 41 21.6 +0.1
G19K IAmb IAmb 00 41 38.0
comp=Z,16nm,0.9s
G19K **Purcell Mounta** 69.91 23 P P 00 41 21.5 +0.1
baz=249
H19K **Roundabout Mou** 69.94 23 P P 00 41 21.7 +0.1
H19K **Roundabout Mou** 69.94 23 P P 00 41 22.0 +0.5
baz=250
C19K **Lookout Ridge** 70.18 19 P P 00 41 23.6 +0.4
C19K IAmb IAmb 00 41 24.8
comp=Z,16nm,1.0s
C19K **Lookout Ridge** 70.18 19 P P 00 41 23.9 +0.7
baz=246
K20K **Telida** 70.21 26 P P 00 41 23.6 +0.2
K20K IAmb IAmb 00 41 35.0
comp=Z,13nm,1.1s
E19K **Redstone River** 70.34 21 P P 00 41 24.9 +0.8
E19K IAmb IAmb 00 41 25.4
comp=Z,14nm,0.8s
E19K **Redstone River** 70.34 21 P P 00 41 24.8 +0.8
baz=248
D19K **Kuna River** 70.42 20 P P 00 41 24.9 +0.2
D19K IAmb IAmb 00 41 44.5
comp=Z,18nm,1.1s
D19K **Kuna River** 70.42 20 P P 00 41 24.8 +0.2
baz=247
J20K **Nowinta River** 70.42 25 P P 00 41 25.1 +0.4
J20K IAmb IAmb 00 41 50.4
comp=Z,14nm,1.1s
J20K **Nowinta River** 70.42 25 P P 00 41 25.0 +0.4
baz=252
CNPM **China Poot** 70.51 30 P P 00 41 27.9 +2.7
H20K **Anotleneega Mo** 70.54 24 P P 00 41 25.7 +0.4
baz=251
BRLK **Bradley Lake** 70.74 30 P P 00 41 27.4 +0.8
F20K **Avaraart Lake** 70.74 22 P P 00 41 27.0 +0.6
F20K IAmb IAmb 00 41 37.6
comp=Z,14nm,1.2s
F20K **Avaraart Lake** 70.74 22 P P 00 41 26.9 +0.4
baz=250
PPLA **Purkeypile** 70.90 27 P P 00 41 27.6 -0.1
SKT **Skwentna** 70.96 28 P P 00 41 30.6 +2.7
SKT IAmb IAmb 00 41 41.8
comp=Z,18nm,1.4s
E20K **Nigu River** 71.00 21 P P 00 41 28.1 0.0
baz=249
D20K **Etivluk River** 71.02 20 P P 00 41 28.6 +0.4
baz=249
CAST **Castle Rocks** 71.08 26 P P 00 41 28.9 +0.2
CAST IAmb IAmb 00 41 54.2
comp=Z,9.7nm,0.8s
CAST **Castle Rocks** 71.08 26 P P 00 41 28.2 -0.6
baz=255
IMAR **Indian Mountai** 71.14 23 P P 00 41 29.0 0.0
SUA **Susitna One** 71.20 28 P P 00 41 30.0 +0.4
B20K **Meade River** 71.32 19 P P 00 41 30.7 +0.7
B20K IAmb IAmb 00 41 40.2
comp=Z,13nm,0.8s
B20K **Meade River** 71.32 19 P P 00 41 29.3 -0.6
baz=248
G21K **Allakaket** 71.39 23 P P 00 41 30.8 +0.2
G21K IAmb IAmb 00 41 55.5
comp=Z,15nm,1.3s
G21K **Allakaket** 71.39 23 P P 00 41 30.4 -0.2
baz=252
H21K **Melozitna Rive** 71.41 24 P P 00 41 31.1 +0.4
H21K **Melozitna Rive** 71.41 24 P P 00 41 31.2 +0.5
baz=253
F21K **Alatna River** 71.62 22 P P 00 41 32.1 +0.2
baz=252
KTH **Kantishna Hill** 71.62 26 P P 00 41 31.4 -0.7
BPAW **Bear Paw Mtn.** 71.73 26 P P 00 41 32.5 -0.1
C21K **Knifeblade Rid** 71.79 20 P P 00 41 33.4 +0.6
baz=250
E21K **Killik River** 71.83 21 P P 00 41 33.8 +0.6
E21K **Killik River** 71.83 21 P P 00 41 33.0 -0.2
baz=251
TRF **Thorofare Moun** 71.87 26 P P 00 41 32.7 -0.9
TRF **Thorofare Moun** 71.87 26 P P 00 41 32.5 -1.1
baz=256
B21K **Ikpikpuk River** 72.01 20 P P 00 41 34.8 +0.7
B21K IAmb IAmb 00 41 35.3
comp=Z,17nm,1.1s
B21K **Ikpikpuk River** 72.01 20 P P 00 41 34.0 -0.1
baz=250
H22K **Ishtalitna Cre** 72.04 24 P P 00 41 34.4 0.0
baz=255
MLY **Manley** 72.07 25 P P 00 41 34.9 +0.3
MLY IAmb IAmb 00 41 59.9
comp=Z,22nm,1.3s
MLY **Manley** 72.07 25 P P 00 41 34.1 -0.6
baz=255
GHO **Glory Hole Cre** 72.11 28 P P 00 41 36.1 +1.1
GHO IAmb IAmb 00 41 54.5
comp=Z,27nm,1.4s
F22K **John River** 72.19 22 P P 00 41 35.8 +0.5
baz=253
PWL **Port Wells** 72.21 29 P P 00 41 37.3 +1.8
KNK **Knik Glacier** 72.26 29 P P 00 41 39.3 +3.4
KNK IAmb IAmb 00 41 52.3
comp=Z,20nm,1.0s
G22K **Bettles** 72.27 23 P P 00 41 35.1 -0.7
baz=254
A22K **Sinclair Lake** 72.37 18 P P 00 41 36.5 +0.3
baz=250
SML **Sawmill** 72.40 28 P P 00 41 38.5 +1.8
D22K **Ayikyak River** 72.42 21 P P 00 41 37.4 +0.8
D22K IAmb IAmb 00 41 48.5
comp=Z,9.9nm,0.7s
D22K **Ayikyak River** 72.42 21 P P 00 41 37.0 +0.4
baz=252
E22K **Anaktuvuk Pass** 72.50 21 P P 00 41 37.8 +0.6
E22K IAmb IAmb 00 41 38.6
comp=Z,14nm,1.1s
E22K **Anaktuvuk Pass** 72.50 21 P P 00 41 37.3 +0.1
baz=254
WAT1 **Susitna Watana** 72.50 27 P P 00 41 36.3 -1.0
baz=258

B22K **Teshekpuk Lake** 72.64 19 P P 00 41 38.1 +0.3
B22K IAmb IAmb 00 42 00.1
comp=Z,13nm,1.0s
B22K **Teshekpuk Lake** 72.64 19 P P 00 41 37.0 -0.8
baz=251
I23K **Minto, Yukon-K** 72.67 25 P P 00 41 38.5 +0.4
I23K **Minto, Yukon-K** 72.67 25 P P 00 41 38.2 0.0
baz=257
G23K **Bananza Creek** 72.78 23 P 00 41 39.6 +0.7
G23K IAmb IAmb 00 41 50.2
comp=Z,15nm,0.9s
G23K **Bananza Creek** 72.78 23 P P 00 41 39.0 +0.1
baz=256
WAT6 **Susitna Watana** 72.82 27 P P 00 41 38.4 -0.9
baz=259
COLD **Coldfoot** 72.85 22 P P 00 41 39.4 +0.2
baz=255
SCM **Sheep Creek Mo** 72.87 28 P P 00 41 39.4 -0.1
baz=260
DHY **Denali Highway** 73.08 27 P P 00 41 40.4 -0.4
baz=259
MDM **Murphy Dome** 73.09 25 P P 00 41 40.8 +0.1
D23K **Nanushuk River** 73.14 21 P P 00 41 42.0 +1.1
baz=254
E23K **Chandalar** 73.28 22 P P 00 41 42.3 +0.4
baz=256
C23K **Itkillik River** 73.40 20 P P 00 41 43.0 +0.6
C23K **Itkillik River** 73.40 20 P P 00 41 43.0 +0.6
baz=254
H24K **Noodor Dome** 73.43 24 P P 00 41 42.4 -0.3
H24K IAmb IAmb 00 41 43.9
comp=Z,26nm,1.4s
H24K **Noodor Dome** 73.43 24 P P 00 41 43.0 +0.3
baz=258
TOLK **Toolik Lake Re** 73.44 21 P P 00 41 43.0 +0.3
TOLK **Toolik Lake Re** 73.44 21 P P 00 41 43.2 +0.5
baz=256
KLU **Klutina** 73.47 29 P P 00 41 44.6 +1.6
KLU IAmb IAmb 00 41 55.3
comp=Z,23nm,1.2s
DIV **Divide** 73.49 29 P P 00 41 43.5 +0.4
DIV IAmb IAmb 00 42 03.2
comp=Z,18nm,1.0s
HDA **Harding Lake** 73.52 26 P P 00 41 44.8 +1.6
baz=259
HDA P P 00 41 44.8 +1.6
baz=259
IL31 73.62 25 P P 00 41 42.3 -1.4
ILAR **Eielson Array** 73.62 25 P P 00 41 42.1 -1.7
ILAR **Eielson Array** 73.62 25 P P 00 41 42.2 -1.6
comp=Z,2.8nm,0.7s,baz=247,slow=5.6,SNR=20
comp=Z,2.8nm,0.7s
IL03 **Eielson Array** 73.63 25 P P 00 41 42.4 -1.5
E24K **Your Creek** 73.69 22 P P 00 41 44.6 +0.3
E24K **Your Creek** 73.69 22 P P 00 41 44.5 +0.3
baz=257
G24K **Hadweenzic Riv** 73.77 23 P P 00 41 44.8 +0.2
baz=258
F24K **Squaw Lake** 73.79 22 P P 00 41 45.1 +0.3
F24K **Squaw Lake** 73.79 22 P P 00 41 44.7 -0.1
baz=257
D24K **Happy Valley** 73.83 21 P P 00 41 45.6 +0.6
D24K IAmb IAmb 00 41 54.9
comp=Z,17nm,1.0s
D24K **Happy Valley** 73.83 21 P P 00 41 45.5 +0.6
baz=256
PAX **Paxson** 73.92 27 P P 00 41 45.4 -0.3
PAX IAmb IAmb 00 41 56.2
comp=Z,28nm,1.5s
PAX **Paxson** 73.92 27 P P 00 41 45.2 -0.5
baz=261
K24K **Donnelly Dome** 73.92 26 P P 00 41 45.4 -0.3
baz=260
HARP **HAARP** 73.97 28 P P 00 41 45.3 -0.6
baz=261
C24K **Franklin Bluff** 74.01 20 P P 00 41 45.6 -0.3
baz=256
BMRM **Bremner River** 74.02 29 P P 00 41 47.0 +0.7
N25K **Chitina, Valde** 74.12 29 P P 00 41 47.0 +0.2
N25K IAmb IAmb 00 42 01.6
comp=Z,36nm,1.5s
J25K **Salcha River,** 74.23 26 P P 00 41 47.6 +0.2
F25K **Christian Rive** 74.65 23 P P 00 41 50.3 +0.4
baz=260
D25K **Kavik River** 74.72 21 P P 00 41 51.0 +0.8
D25K **Kavik River** 74.72 21 P P 00 41 50.5 +0.3
baz=258
E25K **Arctic Village** 74.77 22 P P 00 41 51.0 +0.5
E25K IAmb IAmb 00 41 52.9
comp=Z,27nm,1.4s
E25K **Arctic Village** 74.77 22 P P 00 41 51.2 +0.7
baz=259
MCARA **McCarthy VSAT** 74.84 29 P P 00 41 52.0 +1.1
L26K **Log Cabin Wild** 74.89 27 P P 00 41 51.5 +0.3
baz=263
J26L **Joseph Creek** 74.98 26 P P 00 41 51.5 -0.4
J26L **Joseph Creek** 74.98 26 P P 00 41 51.3 -0.5
baz=262
BMAR **Burnt Mountain** 75.02 23 P P 00 41 52.7 +0.7
F26K **Sheenjek River** 75.23 23 P P 00 41 53.8 +0.7
baz=261
MESA **MESA** 75.24 30 P P 00 41 51.9 -1.6
baz=265
G26K **Porcupine Rive** 75.25 23 P P 00 41 53.4 +0.2
baz=261
I26K **Coal Creek Min** 75.27 25 P P 00 41 53.7 +0.4
I26K IAmb IAmb 00 42 03.2
comp=Z,20nm,1.5s
I26K **Coal Creek Min** 75.27 25 P P 00 41 54.4 +1.1
baz=262
C26K **Camden Bay** 75.34 20 P P 00 41 54.0 +0.4
baz=260
GRNC **Granite Creek** 75.38 30 P P 00 41 54.6 +0.2
M27K **Edge Creek, AK** 75.48 28 P P 00 41 55.0 +0.1
M27K IAmb IAmb 00 41 58.5
comp=Z,14nm,1.1s
M27K **Edge Creek, AK** 75.48 28 P P 00 41 54.8 -0.1
baz=264
K27K **Chicken** 75.57 26 P P 00 41 56.2 +1.1
K27K IAmb IAmb 00 42 06.6
comp=Z,22nm,1.4s
K27K **Chicken** 75.57 26 P P 00 41 56.0 +0.9
baz=264
L27K **Beaver Creek,** 75.58 27 P P 00 41 55.1 -0.1
baz=264
BCAR **Beaver Creek A** 75.60 27 P P 00 41 55.1 -0.3
CTG **Chitna Glacier** 75.61 30 P P 00 41 54.8 -0.8
baz=265
LOGN **Logan Glacier** 75.76 30 P P 00 41 56.8 +0.4
ABKAR **Akbulak array** 75.87 318 P P 00 41 57.6 +0.5
ABKAR **Akbulak array** 75.87 318 P P 00 41 57.2 +0.1
I27K **Kandik River** 75.94 25 P P 00 41 57.2 -0.1
baz=264
BVCY **Beaver Creek** 75.96 28 P P 00 41 57.9 +0.4
baz=265
EGAK **Eagle** 76.05 26 P P 00 41 57.8 0.0
EGAK **Eagle** 76.05 26 P P 00 41 58.0 +0.1
baz=264
H27K **Steamboat Moun** 76.05 24 P P 00 41 59.0 +1.2
baz=264
G27K **Doyon Strip** 76.06 24 P P 00 41 58.9 +1.0
baz=263
YUK3 **Moose Creek** 76.09 29 P P 00 41 58.3 -0.2
baz=266
E27K **Coleen River** 76.25 22 P P 00 41 59.3 +0.3
E27K IAmb IAmb 00 42 09.0
comp=Z,11nm,1.0s
E27K **Coleen River** 76.25 22 P P 00 41 59.6 +0.6
baz=263
YUK8 **Steele Glacier** 76.39 29 P P 00 42 01.2 +1.0
baz=266
D27M **Malcolm River** 76.61 21 P P 00 42 01.6 +0.6
D27M **Malcolm River** 76.61 21 P P 00 42 01.6 +0.6
baz=264
I28M **Miner Creek** 76.62 25 P P 00 42 01.4 +0.2
I28M IAmb IAmb 00 42 11.7
comp=Z,11nm,0.9s
I28M **Miner Creek** 76.62 25 P P 00 42 01.8 +0.5
baz=265
DAWY **Dawson** 76.75 26 P P 00 42 01.9 +0.1
DAWY **Dawson** 76.75 26 P P 00 42 02.3 +0.4
baz=266
F28M **Old Crow** 76.84 23 P 00 42 03.0 +0.7
F28M IAmb IAmb 00 42 19.4
comp=Z,9.9nm,0.8s
F28M **Old Crow** 76.84 23 P P 00 42 02.6 +0.3
baz=265
ARU **Arti** 76.85 326 P P 00 42 04.5 +2.0
comp=Z,1.3nm,0.4s,baz=99,slow=13,SNR=1.6
comp=Z,1.3nm,0.4s
E28M **Babbage River** 77.06 22 P P 00 42 04.0 +0.6
E28M **Babbage River** 77.06 22 P P 00 42 03.6 +0.1
baz=265
M29M **Somme Creek** 77.07 28 P P 00 42 04.5 +0.7
M29M IAmb IAmb 00 42 14.9
comp=Z,9.8nm,0.8s
M29M **Somme Creek** 77.07 28 P P 00 42 04.3 +0.5
baz=267
AKTO **Aktyubinsk** 77.12 319 P P 00 42 06.0 +1.8
comp=Z,1.3nm,0.5s,baz=90,slow=8.1,SNR=1.6
comp=Z,1.3nm,0.5s
L29M **L29M** 77.26 27 P P 00 42 05.5 +0.8
L29M IAmb IAmb 00 42 12.8
comp=Z,12nm,0.9s
L29M **L29M** 77.26 27 P P 00 42 04.8 0.0
baz=268
I29M **Ogilvie Camp,** 77.30 25 P P 00 42 04.3 -0.6
baz=267
H29M **Whitestone** 77.32 24 P P 00 42 06.1 +1.1
P29M **Windy Craggy** 77.32 31 P P 00 42 05.8 +0.7
P29M IAmb IAmb 00 42 21.5
comp=Z,18nm,1.0s
HYT **Haines Junctio** 77.47 30 P P 00 42 06.5 +0.4
HYT IAmb IAmb 00 42 28.0
comp=Z,16nm,1.1s
HYT **Haines Junctio** 77.47 30 P P 00 42 05.7 -0.4
baz=269
G29M **Pine Creek** 77.50 24 P P 00 42 06.8 +0.7
G29M IAmb IAmb 00 42 22.8
comp=Z,15nm,0.9s
G29M **Pine Creek** 77.50 24 P P 00 42 07.0 +1.0
baz=267
K29M **Barlow Dome** 77.56 27 P P 00 42 06.9 +0.3
K29M IAmb IAmb 00 42 27.6
comp=Z,16nm,1.1s
K29M **Barlow Dome** 77.56 27 P P 00 42 06.9 +0.3
baz=268
E29M **Blow River** 77.64 22 P P 00 42 07.1 +0.4
N30M **Aishikik Lake** 77.69 29 P P 00 42 07.5 +0.3
N30M IAmb IAmb 00 42 35.0
comp=Z,22nm,1.3s
N30M **Aishikik Lake** 77.69 29 P P 00 42 07.0 -0.2
baz=269
P30M **Million Dollar** 77.72 31 P P 00 42 08.5 +1.1
baz=269
M30M **Minto, Yukon** 77.85 28 P P 00 42 07.8 -0.3
M30M IAmb IAmb 00 42 32.2
comp=Z,25nm,1.5s
I30M **Mount Dempster** 78.10 25 P P 00 42 09.6 +0.1
I30M **Mount Dempster** 78.10 25 P P 00 42 10.5 +1.0
baz=269
J30M **Hart River** 78.11 26 P P 00 42 09.8 +0.2
WHY **Whitehorse** 78.76 30 P P 00 42 13.8 +0.6
WHY IAmb IAmb 00 42 34.1
comp=Z,25nm,1.4s
WHY **Whitehorse** 78.76 30 P P 00 42 13.7 +0.5
baz=271
M31M **Drury Creek, Y** 78.97 28 P P 00 42 14.1 -0.1
G31M **Satah River** 78.98 24 P P 00 42 13.8 -0.3
F31M **Tsiigehtchic** 79.19 23 P P 00 42 14.5 -0.7
INK **Inuvik** 79.26 22 P P 00 42 16.7 +1.1
INK IAmb IAmb 00 42 34.5
comp=Z,23nm,1.4s
INK **Inuvik** 79.26 22 P P 00 42 16.3 +0.7
baz=271
WTLY **Watson Lake, Y** 81.81 30 P P 00 42 30.2 +0.7
baz=276
A36M **Sachs Harbour** 81.82 18 P P 00 42 29.2 -0.1
A36M IAmb IAmb 00 42 46.9
comp=Z,11nm,0.8s
C36M **Paulatuk** 82.59 21 P P 00 42 32.6 -0.8
YKA **Yellowknife Ar** 87.99 27 P P 00 43 00.3 -0.2
comp=Z,1.3nm,0.7s,baz=286,slow=5.2,SNR=6.8
comp=Z,1.3nm,0.7s
ARCES **ARCESS Array B** 88.78 341 P P 00 43 04.8 +0.7
comp=Z,2.9nm,0.9s,baz=15,slow=4.7,SNR=1.3
comp=Z,2.9nm,0.9s
NVAR **Mina Array Bea** 92.70 50 P P 00 43 22.7 -0.6
comp=Z,1.2nm,0.8s,baz=256,slow=6.2,SNR=2.4
comp=Z,1.2nm,0.8s
CWC **Cottonwood Cre** 93.39 52 P P 00 43 26.8 +0.3
baz=285
SDV **Santo Domingo** 144.05 59 PKP PKPbc 00 49 45.6 +0.2
comp=Z,3.4nm,0.4s,baz=326,slow=3.6,SNR=1.8
CFA **Coronel Fontan** 146.26 133 PKPbc **PKPdf** 00 49 48.1 -2.5
comp=Z,1.9nm,0.5s,baz=221,slow=3.2,SNR=2.5

PRU 08 00:36:38.3, 49°.81N × 18°.51E, h0 km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.24**	**277**	*e*PG	Pg	00 36 43.0	+0.2
OKC				*e*SG	Sg	00 36 47.0	+1.1
OKC	**Ostrava-Krasne**	**0.24**	**277**	*e*P	Pg	00 36 43.0	+0.2
MORC	**Moravsky Berou**	**0.63**	**267**	*e*PG	Pg	00 36 49.9	-0.4
MORC				*e*SG	Sg	00 36 57.2	-1.2
LANS	**Liptovska Anna**	**0.91**	**136**	*e*PG	Pg	00 36 54.6	-1.1
LANS				*e*SG	Sg	00 37 08.5	+1.0
LANS				*e*LG	Lg	00 37 14.5	
LANS	**Liptovska Anna**	**0.91**	**136**	*e*P	Pg	00 36 54.6	-1.1
LANS	**Liptovska Anna**	**0.91**	**136**	pmax	pmax		
	comp=N,2.0nm,0.3s						
KRLC	**Kraliky**	**1.15**	**284**	*e*PG	Pg	00 36 58.8	-1.5
KRLC				*e*SG	Sg	00 37 15.4	+0.2
KRLC	**Kraliky**	**1.15**	**284**	*e*P	Pg	00 36 58.8	-1.5
VRAC	**Vranov**	**1.34**	**249**	*e*PG	Pg	00 37 02.8	-1.3
VRAC				*e*SG	Sg	00 37 20.7	-0.8
DPC	**Dobruska-Polom**	**1.51**	**292**	*e*SG	Sg	00 37 25.5	-1.3
KRUC	**Moravsky**	**1.57**	**242**	*e*SG	Sn	00 37 27.8	-0.7

KRSC 08 00:43:52.3±1.2, 49°.52N × 156°.53E, h98 km±19 km, MI3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.20**	**347**	*e*P	Pn	00 44 15.5	+0.8
SKR				*e*S	Sn	00 44 32.9	+1.1
PAU	**Pauzhetka**	**1.96**	**5**	*e*P	Pn	00 44 25.7	+1.4
PAU				*e*S	Sn	00 44 50.5	+1.9
KDTR	**Khodutka, Kamc**	**2.50**	**23**	*e*P	Pn	00 44 33.5	+2.2
KDTR				*e*S	Sn	00 45 03.6	+2.4
ASAK	**Asacha**	**3.00**	**16**	*e*P	Pn	00 44 39.8	+1.8
ASAK				*e*S	Sn	00 45 14.9	+1.7
MTVR	**Mutnovka**	**3.15**	**19**	*e*P	Pn	00 44 42.7	+2.6
MTVR				*e*S	Sn	00 45 19.9	+3.0
GRL	**Gorelyy**	**3.19**	**17**	*e*P	Pn	00 44 42.5	+1.9
GRL				*e*S	Sn	00 45 20.7	+2.8
PET	**Petropavlovsk**	**3.76**	**20**	*e*S	Sn	00 45 33.9	+2.6
DALK	**Dalny**	**3.79**	**21**	*e*S	Sn	00 45 34.5	+2.5
UGLR	**Uglovaya**	**3.97**	**20**	*e*P	Pn	00 44 53.8	+2.8
UGLR				*e*S	Sn	00 45 39.0	+2.5
AVH	**Avacha**	**4.00**	**19**	*e*P	Pn	00 44 54.3	+2.9
KOK	**Koryaka**	**4.00**	**18**	*e*P	Pn	00 44 54.5	+2.9
SMAR	**Somma**	**4.01**	**20**	*e*P	Pn	00 44 54.1	+2.4
KRER	**Koryakskii**	**4.04**	**19**	*e*P	Pn	00 44 54.5	+2.4
KRER				*e*S	Sn	00 45 39.7	+1.3
SDLR	**Sedlovina**	**4.04**	**20**	*e*P	Pn	00 44 53.6	+1.5
NLC	**Nalytchevo**	**4.06**	**25**	*e*S	Sn	00 45 39.1	+0.4
KRX	**Arik**	**4.07**	**18**	*e*P	Pn	00 44 54.5	+2.1
SPN	**Mys Shipunski**	**4.20**	**30**	*e*P	Pn	00 44 56.8	+2.7
SPN				*e*S	Sn	00 45 42.7	+0.7
TUMR	**Tumrok**	**6.18**	**20**	*e*P	Pn	00 45 22.8	+1.7

*IDC **08** 00:47:12.3±0.8, 21°.85S × 170°.20E, h0 km, mb4.3/10, mbtmp4.3/11, ML4.0/1, Error ellipse: s-maj=30.4km s-min=20.9km az=163.0*
*NEIC **08** 00:47:15.0±2.1, 21°.64S±0°.08 × 170°.14E±0°.09, h10 km±1 km, mb4.7/22, Error ellipse: s-maj=14.3km s-min=13.6km az=167.0*
*NOU **08** 00:47:17.3, 21°.78S × 169°.95E, h0 km, MLv4.5/11, Southeast of Loyalty Islands*

ISC 08 00:47:14.3±0.6, 21°.58S±0°.08 × 170°.12E±0°.07, h10 km, n86, σ1§37/93, mb4.4/21, 5D, Southeast of Loyalty Islands

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

MARNC **Mare, Loyalty** 1.95 272 Pn 00 47 48.0 +0.6
MARNC Sn Sn 00 48 10.2 -1.7
MARNC **Mare, Loyalty** 1.95 272 P Pn 00 47 48.6 +1.2
PINNC **Pines Island,** 2.68 247 Pn 00 47 58.0 +0.5
PINNC Sn Sn 00 48 27.7 -2.4
PINNC **Pines Island,** 2.68 247 P Pn 00 47 58.2 +0.6
LIFNC **LIFOU** 2.80 286 Pn Pn 00 48 01.2 +2.0
LIFNC Sn Sn 00 48 31.2 -1.9
OUENC **Ouen Island, N** 3.15 254 Pn 00 48 05.1 +1.0
OUENC **Ouen Island, N** 3.15 254 P Pn 00 48 05.4 +1.3
DZM **Mont Dzumac** 3.45 261 Pn 00 48 09.4 +1.2
DZM Sn Sn 00 48 47.4 -1.8
DZM **Mont Dzumac** 3.45 261 P Pn 00 48 09.9 +1.7
DZM **Mont Dzumac** 3.45 261 Pn Pn 00 48 09.7 +1.5
13nm,0.3s,baz=130,slow=7.3,SNR=269
DZM Sn Sn 00 48 46.1 -3.2
21nm,0.3s,baz=71,slow=20,SNR=16
65nm,0.5s
ONTNC **Ouen Toro** 3.48 257 Pn 00 48 09.5 +0.9
ONTNC **Ouen Toro** 3.48 257 P Pn 00 48 10.0 +1.5
NOUC **Port Laguerre** 3.58 261 P Pn 00 48 11.4 +1.4
RTV **Rentapao** 4.09 337 P Pb 00 48 23.4 -3.0
DVP **Devils Point** 4.24 334 P Pn 00 48 25.0 +6.0
KOUNC **Koumac, New Ca** 5.54 280 Pn 00 48 40.0 +3.1
KOUNC **Koumac, New Ca** 5.54 280 P Pn 00 48 40.2 +3.3
EIDS **Eidsvold** 17.87 254 P P 00 51 27.1 +3.3
ARMA **Armidale** 18.79 238 P Pn 00 51 37.9 +3.4
CTA **Charters Tower** 22.35 269 P P 00 52 13.3 +0.7
4.6nm,0.8s,baz=95,slow=8.8,SNR=6.3
4.6nm,0.8s
PMG **Port Moresby** 25.17 295 P P 00 52 41.5 +1.4
8.9nm,0.2s,baz=148,slow=13,SNR=3.7
8.9nm,0.2s
COEN **Coen** 26.73 282 P P 00 52 54.9 +0.7
COEN IAmb IAmb 00 52 57.1
comp=Z,8.5nm,1.1s
STKA **Stephens Creek** 27.39 242 P P 00 52 59.7 -0.3
STKA **Stephens Creek** 27.39 242 P P 00 52 58.9 -1.1
comp=Z,4.8nm,0.8s,baz=81,slow=9.3,SNR=8.1
comp=Z,4.8nm,0.8s
MANU **Manus Island** 29.45 308 P P 00 53 16.8 -1.8
BBOO **Buckleboo** 32.16 242 P P 00 53 42.3 -0.1
BBOO IAmb IAmb 00 53 49.0
comp=Z,21nm,1.4s
WR0 **Warramunga Arr** 33.26 266 P P 00 53 51.7 -0.4
WR0 IAmb IAmb 00 53 52.5
comp=Z,7.6nm,1.0s
WB0 **Warramunga Arr** 33.43 267 P P 00 53 53.1 -0.5
WB0 IAmb IAmb 00 53 53.9
comp=Z,10nm,1.1s
AS31 **Alice Springs** 33.44 259 P P 00 53 52.5 -1.1
AS31 IAmb IAmb 00 53 54.1
comp=Z,1.7nm,0.7s
ASAR **Alice Springs** 33.44 259 P P 00 53 53.6 0.0
ASAR **Alice Springs** 33.44 259 P P 00 53 53.2 -0.5
comp=Z,3.4nm,0.8s,baz=83,slow=9.0,SNR=32
ASAR PcP PcP 00 56 33.5 -1.5
comp=Z,0.8nm,0.9s,baz=98,slow=3.8,SNR=3.4
comp=Z,3.4nm,0.8s
WB2 **Warramunga Arr** 33.44 266 P P 00 53 52.6 -1.1
WB2 IAmb IAmb 00 53 54.0
comp=Z,20nm,1.3s
WRA **Warramunga Arr** 33.45 266 P P 00 53 52.7 -1.1
WRA **Warramunga Arr** 33.45 266 P P 00 53 53.4 -0.4
comp=Z,3.3nm,0.7s,baz=99,slow=8.2,SNR=21
WRA PcP PcP 00 56 32.4 -2.6
comp=Z,0.9nm,1.0s,baz=106,slow=2.4,SNR=4.2
comp=Z,3.3nm,0.7s
MTN **Manton Dam** 38.15 277 P P 00 54 34.3 +0.1
FORT **Forrest** 38.66 247 P P 00 54 37.9 -0.3
FORT IAmb IAmb 00 54 53.1
comp=Z,8.5nm,0.9s
KNRA **Kununurra** 39.54 271 P P 00 54 45.8 0.0
KNRA IAmb IAmb 00 54 50.6
comp=Z,52nm,1.4s
NWAO **Narrogin (SRO)** 47.92 245 P P 00 55 52.7 -0.4
TOLI2 **Tolitoli** 53.18 289 P P 00 56 33.4 +0.4
TOLI2 IAmb IAmb 00 56 34.3
comp=Z,15nm,0.9s
BKB **Balikpapan** 55.59 284 P P 00 56 53.6 +3.1
QSPA **South Pole Qui** 68.49 180 P P 00 58 15.8 -0.8
QSPA IAmb IAmb 00 58 17.3
comp=Z,12nm,1.1s
ATKA **Atka Island** 74.73 10 P P 00 58 53.0 -1.0
MAW **Mawson** 76.59 202 P P 00 59 05.0 +0.4
CMAR **Chiang Mai Arr** 80.21 294 P P 00 59 26.3 +0.8
comp=Z,3.0nm,0.9s,baz=130,slow=4.3,SNR=9.5
comp=Z,3.0nm,0.9s
CHTO **Chiang Mai** 80.37 295 P P 00 59 28.5 +2.1
CHTO IAmb IAmb 00 59 29.1
comp=Z,8.5nm,1.1s
TROLL **Troll, Antarti** 86.27 184 ⇓P P 00 59 55.1 -1.0
comp=Z,144nm,0.7s
SNAA **Sanae** 86.87 182 P P 00 59 57.4 -1.6
SNAA IAmb IAmb 00 59 58.3
comp=Z,6.8nm,1.0s
SNAA **Sanae** 86.87 182 ⇓P P 00 59 57.6 -1.4
SNAA **Sanae** 86.87 182 P P 00 59 57.3 -1.6
comp=Z,6.3nm,1.1s,baz=201,slow=13,SNR=12
comp=Z,6.3nm,1.1s
VNA3 **Neumayer Olymp** 87.43 180 ⇓P P 01 00 00.2 -1.4
VNA2 **Neumayer--Watz** 87.73 181 ⇓P P 01 00 02.1 -1.0
baz=182,slow=5.0
SONM **Songino Array** 89.57 323 P P 01 00 12.5 +0.4
comp=Z,1.7nm,0.9s,baz=150,slow=6.5,SNR=8.9
comp=Z,1.7nm,0.9s
NVAR **Mina Array Bea** 89.73 48 P P 01 00 14.2 +1.0
comp=Z,0.6nm,0.7s,baz=222,slow=6.9,SNR=5.1
comp=Z,0.6nm,0.7s
ILAR **Eielson Array** 92.21 17 P P 01 00 25.0 +1.2
comp=Z,0.2nm,0.6s,baz=236,slow=5.3,SNR=1.4
comp=Z,0.2nm,0.6s
DPC **Dobruska-Polom** 144.66 331 *e*PKP PKPab 01 06 50.2 +0.3
PVCC **Panska Ves** 145.31 332 *e*PKP PKPbc 01 06 52.4 +0.4
BRG **Berggiesshubel** 145.32 333 *i* PKP PKPbc 01 06 52.0 -0.1
BRG Amp 01 06 52.6
comp=Z,11nm,0.8s
BRG Amp 01 26 15.0
comp=E,21nm,19.3s
BRG Amp 01 26 19.0
comp=Z,25nm,20.1s
BRG Amp 01 26 22.0
comp=N,14nm,20.4s
CLL **Collm** 145.37 335 *i* PKPbc PKPbc 01 06 51.9 -0.3
comp=Z,14nm,0.9s
GOPC **GO Pecny, Ondr** 145.66 331 *e*PKP PKPdf 01 06 53.2 +0.3
PRU **Pruhonice** 145.72 332 *e*PKP PKPdf 01 06 53.2 +0.2
TREC **Trest** 145.79 330 *e*PKP PKPdf 01 06 53.5 +0.3
EKA **Eskdalemuir Ar** 145.92 353 PKPbc PKPdf 01 06 52.8 -0.3
comp=Z,6.4nm,0.7s,baz=356,slow=2.7,SNR=12
ZVC **Zvikov** 146.28 331 *e*PKP PKPdf 01 06 55.1 +1.2
NKC **Novy Kostel** 146.43 334 *e*PKP PKPdf 01 06 55.6 +1.4
RONA **Rosalia, Austr** 146.49 327 *i* PKP PKPbc 01 06 56.3 +0.5
comp=Z,7.8nm,0.8s,SNR=7.8
CONA **Conrad Observa** 146.56 328 *i* PKP PKPbc 01 06 56.5 +0.4
comp=Z,10.0nm,0.9s,SNR=10
CKRC **Cesky Krumlov** 146.67 330 *e*PKP PKPbc 01 06 56.4 +0.1
KHC **Kasperske Hory** 146.78 331 *e*PKP PKPbc 01 06 56.7 +0.1
GERES **GERESS Array B** 146.93 331 PKPbc PKPbc 01 06 57.3 +0.2
comp=Z,9.3nm,0.7s,baz=26,slow=3.4,SNR=35
ARSA **Arzberg** 147.19 327 *e*PKP PKPdf 01 06 56.5 +0.9
comp=Z,1.2nm,0.7s
BIOA **Bad Ischl, Aus** 147.79 330 *i* PKP PKPdf 01 06 58.6 +2.1
comp=Z,2.8nm,0.8s
SOKA **Soboth** 147.82 327 *i* PKP PKPbc 01 06 59.3 -0.3
comp=Z,5.2nm,0.9s,SNR=5.0
KBA **Koelnbreinsper** 148.37 329 *i* PKP PKPbc 01 07 00.9 -0.3
comp=Z,7.3nm,0.8s
LESA **Schwarzleotal** 148.44 330 *i* PKP PKPbc 01 07 00.5 -0.8
comp=Z,10nm,1.0s
MEM **Membach** 148.45 341 *d*PKPbc PKPbc 01 07 00.9 -0.1
MYKA **Terra Mystica** 148.55 328 *i* PKP PKPdf 01 07 00.2 +2.3
comp=Z,7.0nm,0.8s,SNR=4.6
WATA **Walderalm** 149.00 331 *i* PKP PKPbc 01 07 02.2 -0.6
comp=Z,10nm,1.1s
ABTA **Abfaltersbach** 149.01 329 *i* PKP PKPbc 01 07 01.6 -1.2
comp=Z,6.9nm,0.7s,SNR=11
WTTA **Wattenberg** 149.03 331 *i* PKP PKPbc 01 07 02.5 -0.4
comp=Z,21nm,1.3s,SNR=6.0
MOTA **Moosalm** 149.21 332 *i* PKP PKPbc 01 07 03.0 -0.3
comp=Z,16nm,0.9s,SNR=9.0
RETA **Reutte** 149.25 332 *i* PKP PKPbc 01 07 03.0 -0.3
comp=Z,5.0nm,0.9s,SNR=4.1
SQTA **Sankt Quirin** 149.26 331 *i* PKP PKPbc 01 07 03.0 -0.4
comp=Z,12nm,0.8s,SNR=7.4
FETA **Feichten** 149.62 332 *i* PKP PKPbc 01 07 04.3 -0.1
comp=Z,16nm,1.0s,SNR=12
DAVA **Damuels** 149.78 333 *i* PKP PKPbc 01 07 04.7 -0.1
comp=Z,11nm,1.0s
DBIC **Dimbokro** 164.40 199 PKPab PKPab 01 08 12.2 -1.1
comp=Z,4.5nm,0.9s,baz=174,slow=2.4,SNR=4.9
TORD **Torodi Ar. Bea** 166.14 235 PKP PKPdf 01 07 20.2 -0.4
comp=Z,1.0nm,0.9s,baz=152,slow=0.8,SNR=3.7
TORD PKPab PKPab 01 08 20.4 -0.8
comp=Z,1.5nm,0.9s,baz=82,slow=4.5,SNR=4.9

IDC 08 00:51:22.0±1.1, 10°02N×140°42E, h0km, mb3.6/4, mbtmp3.8/5, ML4.5/1, Error ellipse: s-maj=38.4km s-min=23.7km az=115.0, Western Caroline Islands

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
GUMO Guam 5.62 50 Pn Pn 00 52 48.1 +1.2
13nm,0.3s,baz=211,slow=18,SNR=2.1
GUMO Sn Sn 00 53 47.2 -5.1
9.3nm,0.3s,baz=48,slow=22,SNR=1.3
35nm,0.2s
H11S3 WAKE ISLAND Hy 26.79 69 T T 01 25 16.1
baz=255,slow=76,SNR=24
H11S1 WAKE ISLAND Hy 26.81 69 T T 01 25 15.5
baz=255,slow=76,SNR=18
H11S2 WAKE ISLAND Hy 26.81 69 T T 01 25 14.9
baz=255,slow=76,SNR=28
H11N1 WAKE ISLAND Hy 27.31 66 T T 01 25 54.0
baz=253,slow=75,SNR=25
H11N2 WAKE ISLAND Hy 27.32 66 T T 01 25 55.7
baz=253,slow=75,SNR=18
H11N3 WAKE ISLAND Hy 27.33 66 T T 01 25 56.2
baz=253,slow=75,SNR=15
WRA Warramunga Arr 30.36 191 P P 00 57 35.3 -0.6
0.4nm,0.7s,baz=9.7,slow=10,SNR=3.1
0.4nm,0.7s
ASAR Alice Springs 34.08 191 P P 00 58 08.8 +0.3
0.3nm,0.6s,baz=18,slow=13,SNR=6.2
0.3nm,0.6s
CMAR Chiang Mai Arr 40.98 287 P P 00 59 07.3 +0.2
1.0nm,0.6s,baz=85,slow=6.0,SNR=6.7
1.0nm,0.6s
ILAR Eielson Array 73.64 25 P P 01 02 56.9 -0.3
0.5nm,0.5s,baz=247,slow=5.8,SNR=18
0.5nm,0.5s

IDC 08 00:52:10.6±5.7, 10°33S×161°25E, h79km±42km, mb3.4/3, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=53.2km s-min=31.3km az=112.0, Bougainville-Solomon Islands region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
HNR Honiara 1.56 305 P Pn 00 52 36.1 -0.6
3μm,0.4s,baz=105,slow=18,SNR=6.1
HNR S Sn 00 52 56.6 +0.1
7μm,0.3s,baz=228,slow=12,SNR=5.2
CTA Charters Tower 17.41 234 P P 00 56 08.8 +0.1
0.3nm,0.3s,baz=66,slow=14,SNR=6.3
5.5nm,0.8s
WRA Warramunga Arr 27.64 247 P P 00 57 51.0 -0.1
0.5nm,0.6s,baz=76,slow=9.0,SNR=3.2
0.5nm,0.6s
SONM Songino Array 75.52 325 P P 01 03 46.4 -0.2
0.9nm,0.8s,baz=124,slow=4.2,SNR=2.4
0.9nm,0.8s
ILAR Eielson Array 84.29 20 P P 01 04 33.7 +0.3
0.2nm,0.4s,baz=242,slow=5.0,SNR=4.8
0.2nm,0.4s

*SNET **08** 01:12:39.0±0.3, 13°.65N×91°.30W, h14km±877km, ML3.3*
*GCG **08** 01:12:42.4±0.4, 15°.31N×90°.90W, h13km±999km, MD3.6*
ISC 08 01:12:37.6±3.2, 13°.6N±0°.2×91°.5W±0°.1, h31km±20km, n6, σ0s92/11, Near coast of Guatemala

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
FUG Fuego 3 1.07 37 *e*P Pb 01 12 58.6 +0.9
FUG *e*S Sb 01 13 11.0 -0.6
STG3 Santiaguito 3, 1.12 357 *e*P Pb 01 12 59.0 +0.4
STG3 *e*S Sb 01 13 11.8 -1.2
PCG Pacaya 1.19 47 *e*P Pb 01 13 00.1 +0.4
PCG *e*S Sn 01 13 14.4 +0.9
NUBE Las Nubes 1.71 79 *e*P Pn 01 13 05.0 -0.4
NUBE *e*S Sn 01 13 25.3 -0.9
CEVE Cerro Verde 1.84 82 *e*P Pn 01 13 07.9 +0.5
CEVE *e*S Sn 01 13 30.2 +0.4
CEVE IAML 01 13 37.2
comp=Z,376nm,0.3s
JAYA Jayaque - finc 2.00 88 *e*S Sn 01 13 32.7 -0.8

*NEIC **08** 01:13:42.4±0.6, 36°.47N±0°.02×98°.74W±0°.05, h5km±1km, Error ellipse: s-maj=4.2km s-min=2.7km az=332.0*
TUL 08 01:13:42.8±1.0, 36°.48N±0°.02×98°.74W±0°.05, h5km±2km, ML2.5, ML2.2/10(NEIC), Error ellipse: s-maj=5.5km s-min=3.2km az=105.0, Oklahoma

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
OK038 West end E0370 0.01 234 Pg Pg 01 13 43.8 +0.1
OK038 Sg Sg 01 13 44.7 +0.3
OK038 IAML 01 13 44.9
4μm,0.2s
OK035 E0210 Rd and N 0.23 6 Pg Pg 01 13 47.8 +0.5
OK035 IAML 01 13 53.2
383nm,0.3s
U32A Winter Ranch, 0.24 245 Pg Pg 01 13 47.6 +0.2
U32A IAML 01 13 51.9
comp=N,394nm,0.3s
CROK Carrier 0.61 88 Pg Pg 01 13 54.5 0.0
CROK IAML 01 14 10.1
comp=E,202nm,0.3s
CROK IAML 01 14 15.6
comp=N,127nm,0.2s
KAN14 Manchester OK 0.78 52 Pg Pg 01 13 57.8 0.0
GC02 Grant County # 0.80 62 Pg Pg 01 13 57.9 -0.2
KAN17 Caldwell West 0.96 54 Pg Pg 01 14 01.0 -0.3
KAN09 Caldwell North 1.11 54 Pg Pg 01 14 03.7 -0.4
KAN13 South Haven SW 1.14 62 Pg Pg 01 14 04.0 -0.8
BLOK Blackwell 1.26 77 Pg Pg 01 14 06.1 -0.7
OK048 Pawnee Station 1.45 92 Pn 01 14 09.3 -0.4
OK033 Mehan 1.52 106 Pn 01 14 10.5 -0.2
OK051 E0350 and S346 1.53 89 Pn 01 14 10.8 0.0
FNO Franklin 1.63 138 Pn 01 14 12.3 +0.1
OK052 Battle Ridge R 1.64 107 Pn 01 14 12.3 0.0
QUOK Quay 1.67 100 Pn 01 14 13.0 +0.3
WMOK Wichita Mounta 1.74 181 Pn 01 14 13.4 -0.3
SMWD Samnorwood 1.84 222 Pn Pn 01 14 15.1 0.0
T35A Sooner Cattle 1.84 76 Pn Pn 01 14 15.1 0.0
DEOK Depew 1.92 106 Pn Pn 01 14 16.1 -0.1
R32A Long Quarter, 1.94 1 Pn 01 14 16.2 -0.3
W35A Tecumseh 2.01 131 Pn Pn 01 14 17.8 +0.4
TUL3 Leonard 2.45 103 Pn Pn 01 14 23.3 -0.1
WTFS Witchita Falls 2.72 175 Pn Pn 01 14 26.5 -0.7
AMTX Amarillo 2.88 237 Pn Pn 01 14 29.1 -0.3
RLO Rose Lookout 3.02 95 Pn Pn 01 14 30.9 -0.4
DKNS Dickens 3.33 213 Pn Pn 01 14 35.4 -0.2
APMT Aspermont 3.35 200 Pn Pn 01 14 35.7 -0.2
U38A Gravette 3.51 89 Pn Pn 01 14 37.2 -0.8
HHAR Hobbs 3.88 92 Pn Pn 01 14 42.9 -0.2

*IDC **08** 01:17:01.4±3.4, 9°.71N×141°.01E, h75km±35km, mb3.7/12, mbtmp4.1/14, ML4.7/2, Error ellipse: s-maj=28.8km s-min=14.0km az=94.0*
ISC 08 01:16:57.7±0.8, 9°.7N±0°.1×140°.8E±0°.1, h35km, n20, σ1s14/15, mb3.9/12, Western Caroline Islands

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
GUMO Guam 5.56 45 P Pn 01 18 19.2 +1.2
32nm,0.3s,baz=207,slow=4.5,SNR=7.4
GUMO S Sn 01 19 21.0 +0.4
106nm,0.4s,baz=20,slow=19,SNR=4.3
90nm,0.4s
JCJ Chichijima 17.37 4 P P 01 20 59.0 +0.5
2.1nm,0.3s,baz=201,slow=17,SNR=2.4
78nm,0.8s
H11S3 WAKE ISLAND Hy 26.55 68 T T 01 50 40.9
baz=253,slow=75
H11S1 WAKE ISLAND Hy 26.57 68 T T 01 50 42.2
baz=253,slow=75
H11S2 WAKE ISLAND Hy 26.57 68 T T 01 50 43.4
baz=253,slow=75
H11N1 WAKE ISLAND Hy 27.09 65 T T 01 51 21.2
baz=253,slow=75,SNR=96
H11N2 WAKE ISLAND Hy 27.10 65 T T 01 51 20.5
baz=253,slow=75,SNR=84
H11N3 WAKE ISLAND Hy 27.10 65 T T 01 51 20.0
baz=253,slow=75,SNR=69
KSRS Korea Array 30.00 339 P P 01 23 03.2 +0.1
0.8nm,0.4s,baz=134,slow=10,SNR=1.6
0.8nm,0.4s
WRA Warramunga Arr 30.12 192 P P 01 23 04.3 0.0
1.5nm,0.7s,baz=10,slow=9.8,SNR=11
1.5nm,0.7s
ASAR Alice Springs 33.82 191 P P 01 23 37.4 +0.6
0.9nm,0.6s,baz=18,slow=12,SNR=24
0.9nm,0.6s
STKA Stephens Creek 41.33 179 P P 01 24 40.3 +0.2
1.8nm,0.7s,baz=14,slow=8.3,SNR=1.1
1.8nm,0.7s
CMAR Chiang Mai Arr 41.46 287 P P 01 24 42.9 +1.3
2.2nm,0.3s,baz=94,slow=7.1,SNR=2.3
2.2nm,0.3s
SONM Songino Array 47.82 329 P P 01 25 31.2 -0.9
0.6nm,0.7s,baz=139,slow=6.8,SNR=3.1
0.6nm,0.7s
MKAR Makanchi Array 61.64 318 P P 01 27 13.0 +1.0
0.8nm,0.7s,baz=107,slow=8.2,SNR=5.8
0.8nm,0.7s
ZALV Zalesovo Beam 62.57 326 P P 01 27 19.0 +0.9
0.7nm,0.5s,baz=116,slow=5.2,SNR=4.4
0.7nm,0.5s
KURBB Kurchatov Arra 65.11 322 P P 01 27 34.9 0.0
1.6nm,0.2s,baz=109,slow=6.2,SNR=4.3
1.6nm,0.2s
BVAR Borovoye Array 70.57 323 P P 01 28 07.2 -2.1
1.7nm,0.6s,baz=95,slow=8.8,SNR=4.0
1.7nm,0.6s
ILAR Eielson Array 73.78 25 P P 01 28 26.2 -2.0
0.6nm,0.7s,baz=249,slow=5.8,SNR=4.2
0.6nm,0.7s
YKA Yellowknife Ar 88.13 27 P P 01 29 43.7 -0.9
0.3nm,0.7s,baz=297,slow=5.5,SNR=4.1
0.3nm,0.7s

*SCB **08** 01:36:02.1±1.4, 21°.28S×67°.36W, h191km±20km, ML3.1/3, MW4.0, Error ellipse: s-maj=6.3km s-min=4.1km az=0.0*
*GUC **08** 01:36:03.2±0.7, 21°.33S×67°.35W, h198km±10km, ML2.9*
ISC 08 01:36:01.9±2.2, 21°.29S±0°.05×67°.36W±0°.06, h202km±20km, n29, σ0s65/44, Chile-Bolivia border region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
MOCB Mochara 1.60 89 Pg Pn 01 36 37.6 +0.4
PB09 IPOC Station P 1.82 254 Pg Pn 01 36 38.8 -0.1
PB09 IPOC Station P 1.82 254 *e*P Pn 01 36 39.8 +0.8
PB09 *e*S S 01 37 07.7 +0.6
PB09 IAML 01 37 09.7
comp=N,17nm,0.2s
LVC Limon Verde 1.95 227 Pg Pn 01 36 39.8 -0.6
LVC Limon Verde 1.95 227 *e*P Pn 01 36 40.8 +0.4
LVC *e*S S 01 37 09.6 -0.2
LVC IAML 01 37 13.6
comp=N,40nm,0.2s
PB01 IPOC Station P 2.00 277 Pg Pn 01 36 40.7 +0.1
PB01 IPOC Station P 2.00 277 *e*P Pn 01 36 41.4 +0.7
PB01 *e*S S 01 37 10.1 -0.1
PB01 IAML 01 37 11.8
comp=E,24nm,0.2s
PB08 IPOC Station P 2.04 304 *e*P Pn 01 36 41.9 +0.6
PB08 *e*S S 01 37 11.8 +0.5
GO01 Chusmiza 2.36 313 Pg Pn 01 36 45.5 +0.6
GO01 Chusmiza 2.36 313 *e*P Pn 01 36 45.8 +0.9
GO01 *e*S S 01 37 18.2 +0.6
GO01 IAML 01 37 24.2
comp=E,23nm,0.1s
PB02 IPOC Station P 2.37 269 Pg Pn 01 36 44.7 +0.2
PB02 Sg S 01 37 16.0 -1.1
PB02 IAML 01 37 17.4
comp=E,64nm,0.5s
PB02 IPOC Station P 2.37 269 *e*P Pn 01 36 44.9 +0.4
PB02 *e*S S 01 37 15.9 -1.1
PB02 IAML 01 37 17.2
comp=N,106nm,0.6s
PB07 IPOC Station P 2.39 259 Pg Pn 01 36 45.4 +0.5
PB07 IPOC Station P 2.39 259 *e*P Pn 01 36 45.4 +0.5
PB07 *e*S S 01 37 16.7 -1.0
PB07 IAML 01 37 17.8
comp=N,67nm,0.6s
PB06 IPOC Station P 2.49 235 Pg Pn 01 36 46.3 +0.4
PB06 Sg S 01 37 19.5 -0.1
PB06 IAML 01 37 21.7
comp=N,20nm,0.3s
PB06 IPOC Station P 2.49 235 *e*P Pn 01 36 46.2 +0.3
PB06 *e*S S 01 37 19.5 -0.1
PB06 IAML 01 37 21.0
comp=E,38nm,0.2s
HMBC Humberstone 2.57 293 Pg Pn 01 36 46.2 -0.7
HMBC Humberstone 2.57 293 *e*P Pn 01 36 46.5 -0.3
HMBC *e*S S 01 37 20.5 -1.3
HMBC IAML 01 37 21.5
comp=N,23nm,0.2s
PB11 IPOC Station P 2.64 305 Pg Pn 01 36 47.6 0.0
PB11 IPOC Station P 2.64 305 *e*P Pn 01 36 47.5 -0.2
PB11 *e*S S 01 37 21.3 -1.3
PB11 IAML 01 37 23.6
comp=N,23nm,0.3s
PATCX Punta Patache 2.65 280 *e*P Pn 01 36 47.9 +0.2
PATCX *e*S S 01 37 21.6 -1.1
PATCX IAML 01 37 22.9
comp=N,46nm,0.2s
PB15 IPOC Station P 2.73 225 Pg Pn 01 36 49.1 +0.4
PB15 Sg S 01 37 24.9 +0.2
PB15 IAML 01 37 26.9
comp=N,113nm,0.2s
PB15 IPOC Station P 2.73 225 *e*P Pn 01 36 49.0 +0.3
PB15 *e*S S 01 37 25.0 +0.4
TA01 Diego Aracena 2.74 285 Pg Pn 01 36 48.3 -0.2
PB04 IPOC Station P 2.79 248 Pg Pn 01 36 49.5 +0.1
PB05 IPOC Station P 3.06 239 Pg Pn 01 36 52.9 +0.5
PB16 IPOC Station P 3.57 325 Pg Pn 01 37 00.2 +1.1
SOTI Planta Incahua 3.76 68 Pg Pn 01 37 00.4 -0.5
PB12 IPOC Station P 3.86 313 Pg Pn 01 37 03.2 +1.0

*AZER **08** 01:54:58.1±0.2, 35°.20N×45°.98E, h10km, Error ellipse: s-maj=4.0km s-min=3.2km az=236.0*
*TEH **08** 01:55:01.2, 35°.05N×45°.94E, h6km±50km, ML4.3*
*NEIC **08** 01:55:01.8±1.9, 35°.12N±0°.06×45°.79E±0°.07, h10km±2km, mb4.2/14, Error ellipse: s-maj=13.5km s-min=4.0km az=227.0*
*IDC **08** 01:55:03.7±2.4, 34°.99N×45°.76E, h35km±19km, mb3.8/19, mbtmp4.0/31, ML3.9/10, Error ellipse: s-maj=16.3km s-min=11.3km az=145.0*
ISC 08 01:54:60.0±0.4, 34°.97N±0°.03×45°.87E±0°.03, h10km, n218, σ2s17/259, mb4.2/40, 8C-5D, Iran-Iraq border region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
KSBB Baniby 0.15 299 Pg Pg 01 55 05.1 +1.7
IDHR Dehrash 0.50 122 Pg Pb 01 55 11.2 +0.2
IDHR Sg Sb 01 55 19.7 +1.3
KGS1 Ghasr-e-Shirin 0.52 207 Pg Pn 01 55 13.3 -0.1
KGS1 Sg Sn 01 55 22.4 +0.1
SLY Sulaymaniyah 0.70 334 Pg Pg 01 55 13.0 -0.6
IGHG Ghaleghazi 0.86 138 Pg Pn 01 55 18.7 +0.4
ILIN Lien 0.90 93 Pg Pg 01 55 17.5 +0.2
KCHF Cheshme Sefid, 1.19 125 Pg Pg 01 55 23.9 +1.1
KCHF Sg Sn 01 55 40.6 +1.5
SDS1 Sardasht. Az. 1.22 345 Pg Pb 01 55 22.1 -1.2
ILBA Ilam Banvizeh 1.37 168 Pg Pg 01 55 28.0 +1.8
IKOM Komasi 1.57 120 Pg Pg 01 55 31.1 +1.1
IBZA Bozab 1.71 106 Pg Pb 01 55 32.5 +0.8
MAHB Mahabad 1.80 356 Pg Pn 01 55 31.8 +0.6
IKFM Kafar-mosalman 2.18 131 Pn Pb 01 55 40.5 +1.0
IHSH Hashtrud 2.59 25 Pn Pn 01 55 44.3 +2.0
HAGD Aghdareh 2.69 92 Pn Pb 01 55 47.5 -0.9
IAZR Azarshahr 2.71 2 Pn Pn 01 55 46.1 +2.2
ISRB Sarab 3.20 26 Pn Pn 01 55 52.5 +2.0
ITBZ Tabriz 3.27 4 Pn Pn 01 55 52.3 +0.8
ISHB Shabestar 3.32 357 Pn Pn 01 55 52.8 +0.6
IHRS Heris 3.48 15 Pn Pn 01 55 56.0 +1.7

JIR1	Jirandeh	3.64	60	Pn	Pn	01 55 58.7	+2.2	
CSN1	Caspian	3.67	44	Pn	Pn	01 55 58.3	+1.5	
IMRD	Marand	3.74	358	Pn	Pn	01 56 00.0	+2.1	
SIRT	Sirnak	3.75	313		Pn	01 55 59.4	+1.3	
ORD	Ordubad	3.96	1	P	Pn	01 56 00.7	-0.1	
	SNR=17							
ORD				S	Sn	01 56 47.6	+0.3	
GRMI	Germi	4.16	22	Pn	Pn	01 56 06.1	+2.4	
LRK	Lerik	4.17	28	P	Pn	01 56 03.5	-0.3	
	SNR=14							
LRK				S	Sn	01 56 52.5	-0.2	
NAX	Nakhchivan	4.21	356	P	Pn	01 56 04.4	+0.1	
	SNR=11							
NAX				S	Sn	01 56 53.9	+0.3	
IQOM	Qom	4.27	90	Pn	Pn	01 56 07.9	+2.5	
ASTR	Astara	4.29	32	P	Pn	01 56 05.2	0.0	
	SNR=6.4							
ASTR				S	Sn	01 56 55.3	+0.1	
AHWZ	Ahwaz	4.31	147	Pn	Pn	01 56 09.6	+4.0	
AMIS	Naft Sefid	4.36	138	Pn	Pn	01 56 09.9	+3.5	
YRD	Yardimli	4.38	25	P	Pn	01 56 06.5	-0.2	
	SNR=17							
YRD				S	Sn	01 56 57.8	0.0	
LKRN	Lenkeran, Azer	4.40	31	P	Pn	01 56 06.8	-0.1	
	SNR=8.0							
LKRN				S	Sn	01 56 58.5	+0.3	
SBZ	Shahbuz	4.43	357	P	Pn	01 56 07.3	0.0	
	SNR=10							
SBZ				S	Sn	01 56 59.4	+0.3	
MAKU	Maku	4.48	348	Pn	Pn	01 56 10.7	+2.5	
KLST	Kelardasht - M	4.50	68	Pn	Pn	01 56 11.3	+2.8	
QRD	Qoradiz	4.63	14	P	Pn	01 56 10.0	-0.1	
	SNR=10							
QRD				S	Sn	01 57 04.2	+0.3	
GLBA	Clilabad	4.72	25	P	Pn	01 56 11.1	-0.2	
	SNR=34							
GLBA				S	Sn	01 57 06.5	+0.5	
GURO	Guroymak-BITLI	4.72	320		Pn	01 56 11.1	-0.3	
QAMS	Qamsar	4.73	103	Pn	Pn	01 56 15.1	+3.4	
IPIR	Pirpir	4.76	117	Pn	Pn	01 56 15.2	+3.2	
HYR	Heyderabad	4.81	351	P	Pn	01 56 12.6	+0.1	
	SNR=4.5							
HYR				S	Sn	01 57 09.3	+0.9	
JHBN	Jahan bin	4.84	123	Pn	Pn	01 56 16.3	+3.1	
BLQ	Beylaqan	4.93	15	P	Pn	01 56 14.1	-0.1	
	SNR=8.0							
BLQ				S	Sn	01 57 11.6	+0.3	
IKLH	Kolahrood	5.01	108	Pn	Pn	01 56 18.8	+3.3	
ZNGN	Zangian	5.04	123	Pn	Pn	01 56 18.5	+2.6	
IDMV	Damavand	5.08	81	Pn	Pn	01 56 19.0	+2.6	
AGDM	Agdam	5.23	10	P	Pn	01 56 16.9	-1.3	
AGDM				S	Sn	01 57 18.7	+0.2	
GNI	Garni	5.25	350	Pn	Pn	01 56 18.6	-0.1	
GNI	Garni	5.25	350	Pn	Pn	01 56 23.1	+4.4	
	2.4nm,0.3s,baz=24,slow=2.0,SNR=15							
GNI				Lg	Lg	01 57 49.2		
	baz=308,slow=19							
	14nm,0.6s							
ISFB	Sefidab	5.29	95	Pn	Pn	01 56 21.2	+2.1	
SAAT	Saatly	5.29	22	P	Pn	01 56 19.6	+0.6	
SAAT				S	Sn	01 57 21.1	+1.0	
BRDA	Brd	5.39	11	S	Sn	01 57 23.1	+0.6	
IBRJ	Brojen	5.44	123	Pn	Pn	01 56 24.7	+3.3	
ZRD	Zardab	5.50	15	P	Pn	01 56 21.9	+0.1	
ZRD				S	Sn	01 57 25.8	+0.7	
ALIB	Äli-Bayra	5.57	26	P	Pn	01 56 22.8	-0.1	
IFIR	Firoozkooh	5.67	81	Pn	Pn	01 56 27.4	+2.8	
GANJ	Ganja	5.68	3	S	Sn	01 57 30.0	+0.2	
KDMR	Kurdemir	5.70	18	P	Pn	01 56 24.7	0.0	
KDMR				S	Sn	01 57 31.4	+1.2	
IGAR	Gharneh	5.74	115	Pn	Pn	01 56 28.4	+2.9	
GDB	GEDABAY	5.75	359	P	Pn	01 56 25.3	-0.2	
GDB				S	Sn	01 57 31.8	+0.2	
IZEF	Zefreh	5.75	109	Pn	Pn	01 56 28.4	+2.8	
MNGR	Mingechevir, A	5.88	9	S	Sn	01 57 35.3	+0.8	
GBS	Qobustan	6.07	23	P	Pn	01 56 29.6	-0.2	
GBS				S	Sn	01 57 40.0	+0.6	
KARS	Kars	6.07	339	Pn	Pn	01 56 29.0	-0.9	
QZX	Qazax, Azerbai	6.09	356	P	Pn	01 56 30.1	-0.1	
QZX				S	Sn	01 57 40.4	+0.5	
IML	Ismayilli	6.10	17	S	Sn	01 57 40.4	+0.4	
QBL	Gabala	6.17	14	P	Pn	01 56 30.9	-0.3	
QBL				S	Sn	01 57 42.3	+0.5	
PQL	Pirkuli	6.20	20	P	Pn	01 56 31.4	-0.3	
	SNR=5.7							
PQL				S	Sn	01 57 42.7	0.0	
KLNJ	Kolanjah	6.22	128	Pn	Pn	01 56 35.8	+3.6	
GOBA	Gobu	6.23	28	P	Pn	01 56 31.8	-0.2	
GOBA				S	Sn	01 57 44.0	+0.8	
IRAM	Ramesheh	6.29	118	Pn	Pn	01 56 35.8	+2.7	
SEKA	Sheki	6.32	9	P	Pn	01 56 33.4	+0.1	
SEKA				S	Sn	01 57 46.8	+1.2	
ATGJ	Altiaghaj	6.36	21	P	Pn	01 56 33.7	-0.3	
ATGJ				S	Sn	01 57 46.8	+0.1	
GALA	Gala	6.41	31	S	Sn	01 57 48.3	+0.7	
XNQ	Khinaliq	6.45	15	P	Pn	01 56 35.0	-0.1	
XNQ				S	Sn	01 57 49.9	+1.0	
NDR	Nardaran	6.48	29	S	Sn	01 57 49.3	-0.1	
SIZA	Siyzn	6.55	20	P	Pn	01 56 36.4	-0.1	
SIZA				S	Sn	01 57 51.2	-0.1	
ZKTA	Zakatala	6.69	5	P	Pn	01 56 38.2	-0.1	
QUBA	Quba, Azerbaij	6.70	17	P	Pn	01 56 38.4	-0.2	
QUBA				S	Sn	01 57 55.2	+0.2	
ANAR	Anarak	6.76	103	Pn	Pn	01 56 42.3	+3.0	
QSAR	Qusar	6.80	15	P	Pn	01 56 39.7	-0.1	
QSAR				S	Sn	01 57 57.1	-0.3	
ARPR	Arapgir-MALATY	7.30	307	Pn	Pn	01 56 46.6	-0.2	
GAZ	Gaziantep	7.35	290	Pn	Pn	01 56 48.6	+1.2	
ASF	Jabal al Asfar	7.99	252	P	Pn	01 56 57.7	+1.4	
ASF	Jabal al Asfar	7.99	252	Pn	Pn	01 56 58.0	+1.7	
	4.0nm,0.3s,baz=59,slow=6.8,SNR=47							
ASF				Lg	Lg	01 59 15.5		
	2.6nm,0.3s,baz=310,slow=17,SNR=4.3							
	7.1nm,0.3s							
GEM	Giv'at Ha'Em	8.65	261	P	Pn	01 57 08.9	+3.7	
MMAI	Mount Meron Ar	8.91	260	Pn	Pn	01 57 10.8	+2.0	
	1.5nm,0.3s,baz=78,slow=17,SNR=17							
MMAI				Lg	Lg	01 59 43.2		
	3.5nm,0.3s,baz=56,slow=36,SNR=2.5							
	1.0nm,0.3s							
KBZ	Khabaz	9.05	346	Pn	Pn	01 57 15.7	+5.1	
	0.1nm,0.3s,baz=154,slow=10,SNR=9.6							
	7.3nm,0.9s							
UJAP	Al Uja	9.20	254	P	Pn	01 57 14.0	+1.3	
KARJ	KARJ	9.39	249	P	Pn	01 57 12.8	-2.6	
PRNI	Paran	10.25	246	P	Pn	01 57 29.7	+2.5	
GEYT	Alibeck	10.30	70	Pn	Pn	01 57 30.9	+3.1	
	0.3nm,0.3s,baz=252,slow=19,SNR=5.3							
	3.0nm,0.7s							
GYA0B	ALIBECK ARRAY	10.30	70	Pn	Pn	01 57 30.5	+2.6	
HRFI	Mount Harif	10.38	245	P	Pn	01 57 31.3	+2.3	
KRMI	Paran Flat	10.57	246	P	Pn	01 57 28.1	-3.5	
MBRI	Mt Berech	10.60	244	P	Pn	01 57 34.0	+2.0	
EIL	Elat	10.64	243	P	Pn	01 57 32.8	+0.3	
EIL	Elat	10.64	243	Pn	Pn	01 57 33.4	+0.9	
	0.9nm,0.3s,baz=224,slow=1.7,SNR=14							
EIL				Lg	Lg	02 00 39.6		
	1.2nm,0.3s,baz=72,slow=15,SNR=4.1							
	3.0nm,0.5s							
BRTR	Keskin Array B	10.83	300	Pn	Pn	01 57 37.5	+2.2	
	0.5nm,0.6s,baz=108,slow=12,SNR=2.2							
SMRA	Abu-Samra	11.05	156	P	Pn	01 57 39.0	+0.9	
SMRA				S	Sn	01 59 39.4	-2.5	
SHME	Shamm	12.54	132	Pn	Pn	01 57 57.1	-1.3	
SHME	Shamm	12.54	132	P	Pn	01 57 58.6	+0.1	
SHME				S	Sn	02 00 13.5	-4.7	
AJN	Ajban	13.04	140	P	Pn	01 58 06.3	+1.0	
AJN				S	Sn	02 00 24.4	-6.0	
MASF	Masafi	13.05	134	P	Pn	01 58 06.3	+0.7	
	SNR=9.2							
MASF				S	Sn	02 00 24.1	-6.8	
MSFE	Esma-Masafi	13.06	134	*i* Pn	Pn	01 58 05.3	-0.4	
	SNR=6.4							
NAZ	Nazwa, Dubai	13.06	137	*i* Pn	Pn	01 58 05.9	+0.2	
	SNR=16							
NAZ	Nazwa, Dubai	13.06	137	P	Pn	01 58 06.1	+0.4	
	SNR=16							
NAZ				S	Sn	02 00 24.7	-6.4	
ASUD	Al Ashush, Dub	13.17	139	Pn	Pn	01 58 07.7	+0.6	
	SNR=21							
ASUD	Al Ashush, Dub	13.17	139	P	Pn	01 58 08.1	+1.0	
	SNR=22							
ASUD				S	Sn	02 00 28.8	-4.9	

FAQ	Al Faqa, Dubai	13.22	138	Pn	Pn	01 58 07.8	+0.1	
FAQ	Al Faqa, Dubai	13.22	138	P	Pn	01 58 08.4	+0.6	
FAQ				S	Sn	02 00 28.5	-6.3	
UOSS	Minazif	13.40	135	Pn	Pn	01 58 13.0	+2.7	
UOSS	Minazif	13.40	135	*i* Pn	Pn	01 58 09.4	-0.9	
	SNR=9.8							
UOSS				Sn	Sn	02 00 28.6	-11	
UOSS	Minazif	13.40	135	P	Pn	01 58 10.2	-0.1	
UOSS				S	Sn	02 00 31.8	-7.6	
HATD	Hatta, Dubai	13.46	136	*i* Pn	Pn	01 58 10.5	-0.6	
	SNR=17							
HATD	Hatta, Dubai	13.46	136	P	Pn	01 58 11.2	+0.2	
	SNR=17							
HATD				S	Sn	02 00 31.4	-9.3	
ASHO	Ashiyiah	13.53	137	*i* Pn	Pn	01 58 11.5	-0.5	
	SNR=28							
ASHO	Ashiyiah	13.53	137	P	Pn	01 58 12.5	+0.5	
	SNR=25							
ASHO				S	Sn	02 00 33.4	-9.1	
MZR	Muzera	13.65	149	P	Pn	01 58 13.9	+0.2	
MZR				S	Sn	02 00 40.5	-4.8	
JASK	Jask - Hormozg	13.75	128	P	Pn	01 58 15.0	0.0	
JASK				S	Sn	02 00 38.6	-9.2	
ALNE	Al Ain	13.85	139	*i* Pn	Pn	01 58 16.0	-0.5	
	SNR=14							
ALNE	Al Ain	13.85	139	P	Pn	01 58 17.0	+0.5	
	SNR=14							
ALNE				S	Sn	02 00 42.6	-7.8	
SOHO	SOHO	14.22	137	Pn	Pn	01 58 20.1	-1.4	
SOHO	SOHO	14.22	137	P	Pn	01 58 21.2	-0.3	
SOHO				S	Sn	02 00 49.6	-10	
ARQ	Araqi	14.85	138	P	Pn	01 58 30.0	-0.1	
	SNR=12							
ARQ				S	Sn	02 01 06.5	-8.2	
HOQ	Hoqain	15.10	136	P	Pn	01 58 34.0	+0.6	
	SNR=5.6							
HOQ				S	Sn	02 01 14.7	-6.0	
BIDO	Bidbid	15.62	134	P	Pn	01 58 39.0	-1.3	
BIDO				S	Sn	02 01 22.7	-11	
BSY	Bisya	15.69	138	P	Pn	01 58 39.7	-1.6	
SMDO	Samad	15.93	135	P	Pn	01 58 42.9	-1.5	
SMDO				S	Sn	02 01 31.7	-9.4	
WSAR	Wadi Sarin	16.13	133	P	Pn	01 58 46.6	-0.3	
WSAR				S	Sn	02 01 34.7	-11	
WSAR	Wadi Sarin	16.13	133	Pn	Pn	01 58 46.9	0.0	
	2.5nm,0.3s,baz=294,slow=11,SNR=24							
WSAR				Sn	Sn	02 01 34.2	-12	
	0.4nm,0.3s,baz=177,slow=17,SNR=2.9							
	8.4nm,0.4s							
JMDO	Jabal Madar	16.50	136	P	Pn	01 58 50.5	-1.0	
JMDO				S	Sn	02 01 45.2	-10	
WBK	Wadi Bani Khal	16.81	134	P	Pn	01 58 55.3	-0.3	
	SNR=17							
WBK				S	Sn	02 01 53.4	-9.1	
IDI	Anoyia	17.17	277	P	Pn	01 59 00.6	+0.6	
	0.3nm,0.3s,baz=92,slow=15,SNR=2.2							
	6.4nm,1.0s							
JLN	Jalan Bani Buh	17.43	134	P	Pn	01 59 02.2	-1.0	
MHTO	MHTO	17.53	139	P	Pn	01 59 03.1	-1.5	
ABKAR	Akbulak array	17.64	32	Pn	Pn	01 59 05.9	+0.1	
AKTO	Aktyubinsk	17.81	26	P	P	01 59 09.0	+0.4	
	0.5nm,0.3s,baz=211,slow=9.0,SNR=9.6							
	2.3nm,0.5s							
WHFO	Wadi Hawf	18.38	155	P	Pn	01 59 15.0	-0.1	
	SNR=47							
MLR	Muntele Rosu	18.45	311	P	P	01 59 14.7	-1.0	
	0.2nm,0.3s,baz=138,slow=12,SNR=1.5							
	3.0nm,0.5s							
SORM	Soroca	18.52	321	⇑P	P	01 59 16.1	-0.2	
TURR	Turia	18.67	312	⇑P	Pn	01 59 20.2	+1.7	
ABTO	Aybut	18.75	157	P	P	01 59 18.6	-0.6	
	SNR=44							
RBK	Rabkut	18.91	155	P	P	01 59 20.5	-0.5	
	SNR=7.4							
SHAO	Shalim	18.98	150	P	P	01 59 21.7	+0.1	
	SNR=6.2							
VOIR		18.98	310	⇓P	Pn	01 59 23.8	+1.5	
DMTO	DMTO	18.99	152	P	P	01 59 22.0	+0.3	
	SNR=25							
DOPR	Dopca	19.01	311	⇑P	Pn	01 59 23.3	+0.7	
ARR	Arges	19.22	309	⇑P	Pn	01 59 26.4	+1.3	
LOT	Lotru	19.80	309	⇓P	Pn	01 59 31.8	-0.4	
AKASG	Malin Array Be	19.83	328	P	P	01 59 30.0	-0.8	
	6.7nm,0.7s,baz=138,slow=9.0,SNR=54							
AKBB	Malin Array Si	19.83	328	P	P	01 59 30.0	-0.7	
AKBB				IAmb	IAmb	01 59 31.6		
	comp=Z,26nm,1.1s							
KIEV	Kiev	19.84	327	⇑P	P	01 59 30.3	-0.5	
KIEV	Kiev	19.84	327		P	01 59 30.0	-0.7	
KIEV				IAmb	IAmb	01 59 31.7		
	comp=Z,24nm,1.1s							
BURAR	Bucovina Array	19.94	316	⇑P	Pn	01 59 33.1	-0.6	
BURAR	Bucovina Array	19.94	316	P	P	01 59 31.7	-0.3	
BUR08	Bucovina Ar. S	19.96	316		P	01 59 31.2	-1.1	
BUR08				IAmb	IAmb	01 59 35.0		
	comp=Z,16nm,1.3s							
BTK	Batken	20.40	68	P	P	01 59 38.7	+1.5	
GZR	Gura Zlata	20.42	308	⇑P	P	01 59 38.0	+0.7	
MARR	Marisel-Cluj	20.73	311	⇑P	P	01 59 41.8	+1.0	
KK31	Karatay Array	20.74	60	P	Pn	01 59 42.8	-0.3	
KK31				IAmb	IAmb	01 59 48.4		
	comp=Z,5.3nm,1.1s							
KKAR	Karatay Array	20.74	60	P	Pn	01 59 42.8	-0.3	
MESR	Meseseni	21.05	312	⇓P	P	01 59 45.3	+1.3	
OBN	Obninsk	21.16	345	⇓P	P	01 59 44.8	-0.2	
OBN	Obninsk	21.16	345	P	P	01 59 43.7	-1.3	
OBN	Obninsk	21.16	345	P	P	01 59 44.5	-0.5	
	comp=Z,14nm,0.4s,baz=209,slow=18,SNR=9.3							
	comp=Z,14nm,0.4s							
DIVS	Divibare	21.87	302	P	P	01 59 51.9	-1.1	
DIVS				IAmb	IAmb	02 00 20.7		
	comp=Z,8.2nm,1.2s							
KWP	Kalwaria Pacla	22.42	318	*e*P	P	02 00 00.3	+1.6	
CRVS	Cervenica-Dubn	22.75	315	*e*P	P	02 00 04.8	+2.5	
ARU	Arti	23.15	18	P	P	02 00 08.6	+2.4	
ARU				IAmb	IAmb	02 00 12.3		
	comp=Z,9.2nm,0.8s							
MORH	Mrgy, Hungar	23.42	307	⇓P	P	02 00 10.0	+0.9	
NACGM	Naroch	23.94	332	*e*P	P	02 00 16.5	+2.4	
	comp=Z,28nm,0.9s,baz=139							
VYHS	Vyhne	24.13	312	*e*P	P	02 00 18.6	+2.6	
OJC	Ojcow	24.34	317	*e*P	P	02 00 18.7	+0.9	
OJC	Ojcow	24.34	317	P	P	02 00 17.6	-0.3	
NRN	Naryn	24.46	66	P	P	02 00 19.2	-0.3	
NRN				IAmb	IAmb	02 00 46.4		
	comp=Z,3.1nm,0.8s							
SUW	Suwalki	24.80	327	*e*P	P	02 00 22.7	+0.8	
BRVK	Borovoye	25.00	36	P	P	02 00 24.3	+0.4	
BRVK				IAmb	IAmb	02 00 26.7		
	comp=Z,4.2nm,0.9s							
BVAR	Borovoye Array	25.04	36	P	P	02 00 24.8	+0.7	
	comp=Z,2.0nm,0.5s,baz=227,slow=7.9,SNR=8.7							
	comp=Z,2.0nm,0.5s							
MODS	Modra-Piesok	25.04	311	*e*P	P	02 00 25.9	+1.7	
RONA	Rosalia, Austr	25.42	309	*e*P	P	02 00 28.2	+0.5	
	comp=Z,5.6nm,0.8s							
RAFF	Raffo Rosso	25.50	284	P	P	02 00 26.4	-2.1	
CONA	Conrad Observa	25.77	309	*i* P	P	02 00 31.6	+0.6	
	comp=Z,7.8nm,1.0s							
ARSA	Arzberg	25.78	308	*e*pP	pP	02 00 34.1	-0.2	
	comp=Z,4.0nm,0.8s							
KLMR	Klimovskoe	26.23	353	*e*P	P	02 00 32.9	-1.9	
KLMR				AMP		02 00 36.5		
	comp=Z,31nm,1.3s							
BIOA	Bad Ischl, Aus	27.13	308	*i* P	P	02 00 43.5	+0.3	
	comp=Z,2.0nm,0.4s							
KBA	Koelnbreinsper	27.16	306	*i* P	P	02 00 43.9	+0.2	
	comp=Z,2.4nm,0.5s							
GERES	GERESS Array B	27.43	310	P	P	02 00 44.7	-1.3	
	comp=Z,0.4nm,0.4s,baz=110,slow=12,SNR=2.7							
	comp=Z,0.4nm,0.4s							
ABTA	Abfaltersbach	27.63	305	*i* P	P	02 00 48.2	+0.4	
	comp=Z,5.6nm,1.5s							
LESA	Schwarzleotal	27.69	307	*i* P	P	02 00 48.0	-0.2	
	comp=Z,1.2nm,0.4s							
KURBB	Kurchatov Arra	28.33	46	P	P	02 00 55.4	+1.6	
	comp=Z,1.0nm,0.2s,baz=252,slow=8.5,SNR=1.7							
	comp=Z,1.0nm,0.2s							
WTTA	Wattenberg	28.34	306	*i* P	P	02 00 53.9	-0.3	
	comp=Z,1.8nm,0.4s							
WATA	Walderalm	28.39	306	*i* P	P	02 00 54.0	-0.6	
	comp=Z,1.9nm,0.6s							
SQTA	Sankt Quirin	28.61	306	*i* P	P	02 00 55.9	-0.6	
	comp=Z,4.5nm,0.4s							
MOTA	Moosalm	28.71	306	*i* P	P	02 00 57.0	-0.4	

	comp=Z,2.3nm,0.5s							
FETA	Feichten	28.89	305	*i* P	P	02 00 59.1	+0.1	
	comp=Z,2.9nm,0.5s							
RETA	Reutte	28.96	306	*i* P	P	02 00 58.7	-0.9	
	comp=Z,1.7nm,0.4s							
FINES	FINESS Array B	29.35	341	P	P	02 01 02.4	-0.3	
	comp=Z,1.3nm,0.3s,baz=148,slow=10,SNR=19							
	comp=Z,1.3nm,0.3s							
DAVA	Damuels	29.51	306	*i* P	P	02 01 03.8	-0.7	
	comp=Z,6.8nm,0.4s							
MKAR	Makanchi Array	29.70	55	P	P	02 01 08.1	+2.0	
	comp=Z,1.2nm,0.8s,baz=252,slow=9.4,SNR=5.6							
	comp=Z,1.2nm,0.8s							
HFS	Hagfors	32.67	330	P	P	02 01 31.5	-0.5	
	comp=Z,2.0nm,0.4s,baz=133,slow=7.1,SNR=14							
	comp=Z,2.0nm,0.4s							
ZALV	Zalesovo Beam	33.10	43	P	P	02 01 36.7	+0.9	
	comp=Z,0.3nm,0.3s,baz=232,slow=8.7,SNR=2.2							
	comp=Z,0.3nm,0.3s							
WMQ	Urumqi	33.21	62	*e*P	P	02 01 40.1	+3.0	
NOA	NORSAR Array B	34.19	330	P	P	02 01 43.7	-1.6	
	comp=Z,0.5nm,0.5s,baz=128,slow=5.0,SNR=1.6							
	comp=Z,0.5nm,0.5s							
ARCES	ARCESS Array B	36.40	348	P	P	02 02 02.5	-1.7	
	comp=Z,0.7nm,0.6s,baz=156,slow=9.1,SNR=5.0							
	comp=Z,0.7nm,0.6s							
EKA	Eskdalemuir Ar	39.11	317	P	P	02 02 26.9	-0.3	
	comp=Z,7.2nm,0.5s,baz=107,slow=8.8,SNR=36							
	comp=Z,7.2nm,0.5s							
ESDC	Sonseca Array	39.50	292	P	P	02 02 30.8	-0.1	
	comp=Z,2.0nm,0.6s,baz=69,slow=8.1,SNR=28							
	comp=Z,2.0nm,0.6s							
SPITS	Spitsbergen Ar	45.12	352	P	P	02 03 15.9	-0.1	
	comp=Z,1.2nm,0.3s,baz=140,slow=12,SNR=19							
	comp=Z,1.2nm,0.3s							
TORD	Torodi Ar. Bea	45.35	253	P	P	02 03 18.7	+0.1	
	comp=Z,0.4nm,0.5s,baz=34,slow=9.1,SNR=5.0							
	comp=Z,0.4nm,0.5s							
SONM	Songino Array	46.06	55	P	P	02 03 24.6	+0.6	
	comp=Z,0.2nm,0.5s,baz=243,slow=6.3,SNR=1.8							
	comp=Z,0.2nm,0.5s							
PZH	PanZhiHua	48.23	84	P	P	02 03 45.0	+3.8	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
HHC	Hu-ho-hao-te	51.08	63	*e*P	P	02 04 04.3	+1.5	
HHC				pmax	pmax			
	comp=Z,12nm,1.0s							
HHC				pmax	pmax			
	comp=Z,1μm,5.7s							
HHC				LR	LR			
	comp=N,680nm,15.6s							
HHC				LR	LR			
	comp=E,1μm,14.4s							
HHC				LR	LR			
	comp=Z,2μm,14.7s							
BOSA	Boshof	66.17	200	P	P	02 05 46.7	-1.2	
	comp=Z,2.1nm,1.1s,baz=31,slow=5.9,SNR=1.4							
	comp=Z,2.1nm,1.1s							
SCHQ	Schefferville	73.62	326	P	P	02 06 33.0	-0.4	
	comp=Z,5.3nm,0.8s,baz=50,slow=3.7,SNR=3.5							
	comp=Z,5.3nm,0.8s							
ILAR	Eielson Array	80.09	6	P	P	02 07 08.6	-1.1	
	comp=Z,0.4nm,0.9s,baz=310,slow=3.4,SNR=4.5							
	comp=Z,0.4nm,0.9s							
YKA	Yellowknife Ar	81.61	351	P	P	02 07 17.2	-0.5	
	comp=Z,0.2nm,0.5s,baz=18,slow=6.3,SNR=4.5							
	comp=Z,0.2nm,0.5s							

KRSC 08 02:04:25.2±1.0, 56°29N×163°07E, h6km±5km, Mc4.0, Ml3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.17	239	*e*P	Pg		02 04 30.5	+2.0
KBTR				*e*S	Sg		02 04 32.9	+2.1
KBG	Krutoberegovo	0.21	259	*e*P	Pg		02 04 30.8	+1.4
KBG				*e*S	Sg		02 04 33.6	+1.5
SMKR	Semkarok	0.94	289	*e*P	Pg		02 04 43.1	-0.1
BDR	Baidarnaya	1.07	286	*e*P	Pg		02 04 45.6	-0.1
SRKR	Sorokina	1.12	290	*e*P	Pb		02 04 46.9	0.0
ZLN	Zelenaya	1.30	259	*e*P	Pb		02 04 50.0	0.0
ZLN				*e*S	Sb		02 05 07.1	+0.1
CIRR	Tsirk	1.31	263	*e*P	Pn		02 04 49.6	-0.5
LGNR	Loginova	1.35	262	*e*P	Pn		02 04 50.7	-0.1
KLY	Klyuchi	1.35	272	*e*P	Pn		02 04 48.3	-2.2
K

*NEIC **08** 02:09:58.9,30.˚59S×178.˚59W,h18km*
*NEIC **08** 02:09:58.9,30.˚59S×178.˚24W,h18km,Moment Tensor Solution. Duration: 5≥0 Moment tensor: Scale 1017Nm; Mrr8.35; Mθθ-3.70; Mϕϕ-4.65; Mrθ0.50; Mθϕ1.00; Mϕr-3.83; Fault plane solution: M07.79000×1017 NP1: ϕs159.78000°,δ59.46000°,λ96.06000°. NP2: ϕs327.99000°,δ31.08000°,λ79.86000°. Principal axes: T 9.4040, Plg75.0000°, Azm86.0000°; N -3.2241, Plg5.0000°, Azm337.0000°; P -6.1799, Plg14.0000°, Azm245.0000°;*
*GCMT **08** 02:10:02.4±0.1,30.˚48S±0.˚01×178.˚58W±0.˚01,h14km, MW5.8/156,Moment Tensor Solution. s141,c250; s156,c432; Duration: 2≥0 Moment tensor: Scale 1017 Nm; Mrr7.06±.09; Mθθ-2.31±.07; Mϕϕ-4.74±.07; Mrθ-1.85±.16; Mθϕ1.17±.05; Mϕr-1.45±.15; Best double couple: M06.44100×1017 NP1:ϕs173.00000°,δ50.00000°, λ107.00000°. NP2:ϕs327.00000°,δ43.00000°,λ70.00000°. Principal axes: T 7.6320, Plg76.0000°, Azm146.0000°; N -2.3700, Plg13.0000°, Azm341.0000°; P -5.2510, Plg3.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 08 02:09:57.5±0.5,30.˚74S±0.˚04×178.˚37W±0.˚04,h17km±2km, h17km:pP-P,n643,c2≥45/539,mb5.4/112,MS5.5/155, 15C-14D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.52**	**15**	P		**Pn**	**Pn**	**02 10 20.0**	**-4.0**
RAO	**Raoul Island**	**1.54**	**15**	Pn		**Pn**	**Pn**	**02 10 20.7**	**-3.5**
RAO	**Raoul Island**	**1.54**	**15**	⇓P		**Pn**	**Pn**	**02 10 20.3**	**-3.9**
RAO	**Raoul Island**	**1.54**	**15**	Pn		**Pn**	**Pn**	**02 10 20.3**	**-3.9**
	665nm,0.3s,baz=163,slow=7.0,SNR=25								
RAO				Sn		**Sn**	**Sn**	**02 10 42.8**	**-0.9**
	688nm,0.3s,baz=89,slow=24,SNR=8.0								
RAO	**Raoul Island**	**1.54**	**15**	P		**Pn**	**Pn**	**02 10 20.9**	**-3.2**
RIZ	**Raoul Island**	**1.54**	**14**	P		**Pn**	**Pn**	**02 10 20.9**	**-3.3**
MXZ	**Matakaoa Point**	**7.34**	**201**	Pn		**Pn**	**Pn**	**02 11 43.9**	**-0.1**
MXZ	**Matakaoa Point**	**7.34**	**201**	P		**Pn**	**Pn**	**02 11 45.3**	**+1.4**
MXZ				S		**Sn**	**Sn**	**02 13 11.7**	**+4.8**
WMGZ	**Waiomatatini S**	**7.54**	**200**	P		**Pn**	**Pn**	**02 11 47.1**	**+0.4**
WMGZ				S		**Sn**	**Sn**	**02 13 14.8**	**+2.9**
HAZ	**Te Kaha**	**7.69**	**203**	P		**Pn**	**Pn**	**02 11 47.6**	**-1.1**
HAZ				S		**Sn**	**Sn**	**02 13 18.8**	**+3.4**
PKGZ	**Pakihiroa**	**7.71**	**201**	P		**Pn**	**Pn**	**02 11 48.5**	**-0.6**
PKGZ				S		**Sn**	**Sn**	**02 13 16.3**	**+0.2**
PUZ	**Puketiti**	**7.83**	**200**	P		**Pn**	**Pn**	**02 11 51.3**	**+0.7**
PUZ				S		Sn	Sn	02 13 07.7	-11
RUGZ	**Raukumara Rang**	**7.91**	**203**	P		**Pn**	**Pn**	**02 11 52.1**	**+0.2**
RUGZ				S		**Sn**	**Sn**	**02 13 20.8**	**-0.3**
TWGZ	**Tauwhareparae**	**8.01**	**201**	P		**Pn**	**Pn**	**02 11 53.9**	**+0.8**
TWGZ				S		**Sn**	**Sn**	**02 13 22.8**	**-0.5**
OUZ	**Omahuta**	**8.09**	**234**	⇑P		**Pn**	**Pn**	**02 11 55.3**	**+1.0**
CNGZ	**Carnagh Statio**	**8.22**	**199**	P		**Pn**	**Pn**	**02 11 56.5**	**+0.5**
URZ	**Urewera**	**8.38**	**205**	⇑P		**Pn**	**Pn**	**02 11 57.3**	**-0.8**
URZ	**Urewera**	**8.38**	**205**	Pn		**Pn**	**Pn**	**02 11 56.5**	**-1.6**
	8.1nm,0.3s,baz=148,slow=4.5,SNR=30								
URZ				Sn		**Sn**	**Sn**	**02 13 34.9**	**+2.6**
	7.9nm,0.3s,baz=341,slow=3.6,SNR=8.7								
URZ				LR		LR	LR	02 15 05.0	
	comp=Z,52μm,21.0s,baz=102,slow=37 34nm,0.5s								
RIGZ	**Rimuhau**	**8.56**	**201**	P		**Pn**	**Pn**	**02 11 59.4**	**-1.2**
TOZ	**Tahuroa Road**	**8.62**	**214**	P		Pn	Pn	02 12 10.1	+8.6
PRGZ	**Paritu Road**	**8.72**	**200**	P		**Pn**	**Pn**	**02 12 03.9**	**+1.0**
SNGZ	**Shannon Statio**	**8.76**	**203**	P		**Pn**	**Pn**	**02 12 03.7**	**+0.2**
RAHZ	**Arahi**	**8.97**	**203**	P		**Pn**	**Pn**	**02 12 07.0**	**+0.6**
WHHZ	**Waihua**	**9.06**	**202**	P		**Pn**	**Pn**	**02 12 08.7**	**+1.1**
NMHZ	**Naumai**	**9.23**	**204**	P		**Pn**	**Pn**	**02 12 10.3**	**+0.4**
ARHZ	**Aropaoanui**	**9.31**	**203**	P		**Pn**	**Pn**	**02 12 11.3**	**+0.3**
BKZ	**Black Stump Fm**	**9.40**	**205**	P		**Pn**	**Pn**	**02 12 12.8**	**+0.5**
KATZ	**Kakaramea**	**9.55**	**209**	P		**Pn**	**Pn**	**02 12 16.1**	**+1.7**
KWHZ	**Kaweka Forest**	**9.65**	**205**	P		**Pn**	**Pn**	**02 12 17.0**	**+1.3**
NTVZ	**North Tongarir**	**9.66**	**209**	P		**Pn**	**Pn**	**02 12 15.6**	**-0.3**
TMVZ	**Te Maari**	**9.66**	**209**	P		**Pn**	**Pn**	**02 12 15.3**	**-0.7**
KRVZ	**Karewarewa**	**9.67**	**209**	P		**Pn**	**Pn**	**02 12 18.9**	**+2.8**
ETVZ	**East Tongariro**	**9.68**	**209**	P		**Pn**	**Pn**	**02 12 15.4**	**-0.8**
WTVZ	**West Tongariro**	**9.71**	**209**	P		**Pn**	**Pn**	**02 12 16.0**	**-0.6**
NNVZ	**North Ngauruho**	**9.71**	**209**	P		**Pn**	**Pn**	**02 12 18.7**	**+2.1**
OTVZ	**Oturere**	**9.72**	**209**	P		**Pn**	**Pn**	**02 12 16.1**	**-0.6**
SNVZ	**South Ngauruho**	**9.75**	**209**	P		**Pn**	**Pn**	**02 12 17.6**	**+0.4**
NGZ	**Ngauruhoe**	**9.76**	**209**	P		**Pn**	**Pn**	**02 12 18.8**	**+1.5**
KAHZ	**Kahuranaki**	**9.83**	**202**	P		**Pn**	**Pn**	**02 12 16.8**	**-1.4**
BHHZ	**Black Hill Sta**	**9.84**	**206**	P		**Pn**	**Pn**	**02 12 18.1**	**-0.3**
MOVZ	**Moawhango**	**9.89**	**208**	P		**Pn**	**Pn**	**02 12 19.6**	**+0.6**
PKVZ	**Pokaka**	**9.96**	**209**	P		**Pn**	**Pn**	**02 12 21.4**	**+1.5**
PXZ	**Pawanui**	**10.05**	**201**	P		**Pn**	**Pn**	**02 12 19.0**	**-2.1**
VRZ	**Vera Road**	**10.08**	**212**	P		Pn	Pn	02 12 27.4	+5.9
TSZ	**Takapari Road**	**10.38**	**205**	P		**Pn**	**Pn**	**02 12 24.1**	**-1.5**
BFZ	**Birch Farm**	**10.84**	**202**	P		**Pn**	**Pn**	**02 12 28.3**	**-3.6**
MRZ	**Mangatainoka R**	**11.05**	**205**	P		**Pn**	**Pn**	**02 12 31.9**	**-2.9**
HOWZ	**Holdsworth Sta**	**11.28**	**204**	P		**Pn**	**Pn**	**02 12 36.5**	**-1.4**
TMWZ	**Te Maipa**	**11.34**	**203**	P		**Pn**	**Pn**	**02 12 38.0**	**-0.8**
NIUE	**Niue**	**13.90**	**35**	P		**Pn**	**Pn**	**02 13 12.4**	**-1.5**
	baz=14								
LTZ	**Lake Taylor**	**14.15**	**209**	Pn		**Pn**	**Pn**	**02 13 18.2**	**+0.9**
OXZ	**Oxford**	**14.70**	**209**	P		**P**	**P**	**02 13 27.7**	**-3.0**
PINNC	**Pines Island,**	**15.04**	**299**				**Pn**	**02 13 27.5**	**-1.8**
RPZ	**Rata Peaks**	**15.43**	**210**	Pn		**Pn**	**Pn**	**02 13 35.1**	**+0.7**
	0.9nm,0.3s,baz=358,slow=2.0,SNR=8.3								
RPZ				Sn		**Sn**	**Sn**	**02 16 18.1**	**-6.8**
	0.5nm,0.3s,baz=85,slow=16,SNR=3.3								
RPZ				LR		LR	LR	02 19 29.6	
	comp=Z,28μm,21.2s,baz=40,slow=37 11nm,0.7s								
OUENC	**Ouen Island, N**	**15.60**	**299**				**P**	**02 13 41.0**	**+0.1**
OUENC					IAmb		IAmb	02 13 46.1	
	comp=Z,237nm,1.3s								
ONTNC	**Ouen Toro**	**15.96**	**298**	Pn		**Pn**	**Pn**	**02 13 39.1**	**-2.3**
ONTNC	**Ouen Toro**	**15.96**	**298**	⇓P		**Pn**	**Pn**	**02 13 42.1**	**+0.7**
DZM	**Mont Dzumac**	**16.10**	**299**	Pn		**Pn**	**Pn**	**02 13 42.5**	**-0.8**
DZM					IAmb		IAmb	02 13 53.6	
	comp=Z,329nm,1.3s								
DZM	**Mont Dzumac**	**16.10**	**299**	⇓P		**Pn**	**Pn**	**02 13 43.7**	**+0.4**
DZM	**Mont Dzumac**	**16.10**	**299**	*e*Pn		**Pn**	**Pn**	**02 13 41.2**	**-2.1**
DZM	**Mont Dzumac**	**16.10**	**299**	*e*P		P	P	02 13 56.6	+10
	comp=Z,6μm,25.7s								
DZM					*e*LR		LR	02 17 27.4	
	comp=Z,37μm,25.4s								
DZM	**Mont Dzumac**	**16.10**	**299**	Pn		**Pn**	**Pn**	**02 13 40.2**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=81,slow=18,SNR=1.3								
DZM					LR		LR	02 18 22.9	
	comp=Z,17μm,20.9s,baz=148,slow=32 comp=Z,15nm,1.0s								
LIFNC	**LIFOU**	**16.31**	**304**	Pn		**Pn**	**Pn**	**02 13 42.0**	**-3.9**
JCZ	**Jackson Bay**	**16.74**	**214**	P		**P**	**P**	**02 13 55.6**	**+2.1**
AFI	**Afiamalu**	**17.82**	**21**	Pn		**Pn**	**Pn**	**02 14 00.9**	**-4.0**
AFI	**Afiamalu**	**17.82**	**21**	P		**Pn**	**Pn**	**02 14 00.9**	**-4.0**
AFI					pmax		pmax		
	comp=Z,187nm,1.7s								
KOUNC	**Koumac, New Ca**	**18.62**	**299**	P		**P**	**P**	**02 14 11.6**	**-2.7**
KOUNC	**Koumac, New Ca**	**18.62**	**299**	⇑P		**P**	**P**	**02 14 13.8**	**-0.5**
RAR	**Rarotonga**	**19.20**	**65**	P		**Pn**	**Pn**	**02 14 22.0**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=180,slow=2.9,SNR=5.3								
RAR					LR		LR	02 20 07.2	
	comp=Z,8μm,21.8s,baz=250,slow=32 comp=Z,31nm,0.9s								
ARMA	**Armidale**	**25.80**	**263**	P		**P**	**P**	**02 15 28.2**	**+0.2**
	baz=26,SNR=9.2								
ARMA	**Armidale**	**25.80**	**263**	P		**P**	**P**	**02 15 27.2**	**-0.7**
ARMA					IAmb		IAmb	02 15 34.1	
	comp=Z,96nm,1.4s								
ARMA	**Armidale**	**25.80**	**263**	⇓P		**P**	**P**	**02 15 32.0**	**+4.0**
MGCD	**Mangrove Creek**	**25.97**	**257**	P		**P**	**P**	**02 15 30.0**	**+0.7**
	baz=26,SNR=7.8								
TBI	**Tubuai**	**26.73**	**81**	*e*P		**P**	**P**	**02 15 33.6**	**-2.6**
	comp=Z,6μm,31.0s								
TBI					*e*S		**S**	**02 20 10.1**	**-1.1**
	comp=Z,15μm,30.5s								
TBI					*e*LR		LR	02 22 16.5	
	comp=Z,125μm,29.5s								
TBI					*e*LR		LR	02 22 19.6	
	comp=Z,26μm,28.2s								
TBI	**Tubuai**	**26.73**	**81**	*e*T		T	T	02 43 26.7	
	comp=Z,881nm,0.3s								
EIDS	**Eidsvold**	**27.44**	**274**	P		**P**	**P**	**02 15 41.5**	**-1.2**
CAN	**Canberra**	**27.67**	**252**	P		**P**	**P**	**02 15 44.3**	**-0.4**
CAN					IAmb		IAmb	02 15 50.2	
	comp=Z,102nm,1.4s								
CAN	**Canberra**	**27.67**	**252**	P		**P**	**P**	**02 15 44.3**	**-0.4**
CAN					pmax		pmax		
	comp=Z,102nm,1.4s								
MCQ	**Macquarie Isla**	**28.77**	**208**		IAMs_20		IAMs_20	02 26 14.4	
	comp=Z,15μm,21.0s								
RMQ	**Roma**	**29.11**	**270**	P		**P**		**02 15 57.2**	**-0.4**
	baz=29,SNR=4.4								
PAE	**Paea**	**29.21**	**70**	*e*P		**P**		**02 16 00.7**	**+2.2**
	comp=Z,32nm,1.2s								
PAE	**Paea**	**29.21**	**70**	*e*T		T		02 46 32.0	
	comp=Z,450nm,0.3s								
PPT2	**Papeete2**	**29.25**	**70**	*e*P		P		02 15 49.6	-9.3
	comp=Z,1μm,25.8s								
PPT2	**Papeete2**	**29.25**	**70**	*e*P		**P**		**02 16 02.3**	**+3.4**
	comp=Z,85nm,1.1s								
PPT2					*e*S		**S**	**02 20 46.7**	**-4.6**
	comp=Z,4μm,25.8s								
PPT2					*e*LR		LR	02 23 20.7	
	comp=Z,31μm,29.2s								
PPT2					*e*LR		LR	02 23 28.3	
	comp=Z,17μm,29.0s								
PPT2	**Papeete2**	**29.25**	**70**	*e*T		T		02 46 34.6	
	comp=Z,127nm,0.2s								
PPT	**Papeete**	**29.26**	**70**	P		**P**		**02 16 01.6**	**+2.6**
	comp=Z,41nm,0.8s,baz=217,slow=23,SNR=2.6								
PPT					LR		LR	02 25 19.4	
	comp=Z,5μm,18.6s,baz=232,slow=32 comp=Z,41nm,0.8s								
HNR	**Honiara**	**29.29**	**312**	P		**P**		**02 15 57.0**	**-2.2**
HNR	**Honiara**	**29.29**	**312**	P		**P**		**02 15 57.0**	**-2.2**
HNR					pmax		pmax		
	comp=Z,142nm,0.9s								
HNR	**Honiara**	**29.29**	**312**	LR		LR		02 25 33.2	
	comp=Z,32μm,19.8s,baz=161,slow=32								
TVO	**Taravao**	**29.41**	**71**	*e*T		T		02 46 44.3	
	comp=Z,65nm,0.3s								
TIAR	**Tiarei**	**29.45**	**70**	*e*P		**P**		**02 16 02.6**	**+1.9**
	comp=Z,17nm,0.8s								
TIAR	**Tiarei**	**29.45**	**70**	*e*T		T		02 46 39.3	
	comp=Z,15nm,0.3s								
MEH	**Mehetia**	**30.33**	**72**	*e*T		T		02 47 58.1	
	comp=Z,510nm,0.3s								
TOO	**Toolangi**	**30.54**	**247**	P		**P**		**02 16 10.9**	**+0.7**
	baz=31,SNR=5.5								
TOO	**Toolangi**	**30.54**	**247**	P		**P**		**02 16 10.2**	**+0.1**
TOO					IAmb		IAmb	02 16 17.4	
	comp=Z,41nm,1.0s								
TOO	**Toolangi**	**30.54**	**247**	P		**P**		**02 16 10.2**	**+0.1**
TOO					pmax		pmax		
	comp=Z,41nm,1.0s								
CMSA	**Cobar Meteorol**	**30.69**	**259**	P		**P**		**02 16 11.4**	**-0.1**
	baz=31,SNR=22								
QLP	**Quilpie**	**32.98**	**268**	P		**P**		**02 16 31.2**	**-0.5**
	baz=33,SNR=5.0								
CTAO	**Charters Tower**	**33.54**	**280**	P		**P**		**02 16 35.3**	**-1.4**
CTAO					IAmb		IAmb	02 16 41.4	
	comp=Z,96nm,1.4s								
CTAO	**Charters Tower**	**33.54**	**280**		IAMs_20		IAMs_20	02 27 43.6	
	comp=Z,9μm,18.0s								
CTAO	**Charters Tower**	**33.54**	**280**	⇓P		**P**		**02 16 36.4**	**-0.3**
CTAO	**Charters Tower**	**33.54**	**280**	P		**P**		**02 16 35.3**	**-1.4**
CTAO					pmax		pmax		
	comp=Z,96nm,1.4s								
STKA	**Stephens Creek**	**34.09**	**258**	P		**P**		**02 16 41.6**	**+0.2**
	baz=34,SNR=55								
STKA	**Stephens Creek**	**34.09**	**258**	P		**P**		**02 16 41.5**	**+0.1**
STKA	**Stephens Creek**	**34.09**	**258**	*e*P		**P**		**02 16 41.4**	**+0.1**
STKA					pmax		pmax		
	comp=Z,99nm,1.0s								
STKA	**Stephens Creek**	**34.09**	**258**	P		**P**		**02 16 40.9**	**-0.5**
	comp=Z,71nm,1.0s,baz=97,slow=9.9,SNR=49								
STKA					LR		LR	02 29 09.7	
	comp=Z,9μm,20.6s,baz=90,slow=34 comp=Z,71nm,1.0s								
MTSU	**Mount Surprise**	**36.05**	**282**	P		**P**		**02 16 57.9**	**-0.4**
	baz=36,SNR=12								
HTT	**Hallett**	**36.10**	**254**	P		**P**		**02 16 58.8**	**0.0**
	baz=36,SNR=18								
HTT	**Hallett**	**36.10**	**254**	⇓P		**P**		**02 16 58.8**	**0.0**
PMG	**Port Moresby**	**38.47**	**296**	P		**P**		**02 17 18.2**	**-0.7**
PMG					IAmb		IAmb	02 17 22.8	
	comp=Z,62nm,1.1s								
PMG	**Port Moresby**	**38.47**	**296**	*c iP*		**P**		**02 17 18.3**	**-0.6**
PMG					pmax		pmax		
	comp=Z,67nm,1.2s								
PMG					MLR		MLR		
	comp=Z,6μm,13.0s								
PMG	**Port Moresby**	**38.47**	**296**	P		**P**		**02 17 18.2**	**-0.7**
	comp=Z,13nm,0.5s,baz=89,slow=5.5,SNR=8.1								
PMG					LR		LR	02 31 13.4	
	comp=Z,3μm,18.9s,baz=154,slow=33 comp=Z,13nm,0.5s								
BBOO	**Buckleboo**	**38.57**	**255**	P		**P**		**02 17 19.1**	**-0.5**
	baz=39,SNR=28								
BBOO	**Buckleboo**	**38.57**	**255**	P		**P**		**02 17 18.5**	**-1.1**
BBOO					IAMs_20		IAMs_20	02 32 11.8	
	comp=Z,7μm,19.0s								
QIS	**Mount Isa**	**39.02**	**275**	P		**P**		**02 17 22.8**	**-0.8**
	baz=39,SNR=4.5								
COEN	**Coen**	**39.06**	**287**	P		**P**		**02 17 22.3**	**-1.5**
COEN					IAmb		IAmb	02 17 28.5	
	comp=Z,126nm,1.8s								
TAOE	**Nuku Hiva Isla**	**41.73**	**67**	*e*P		P		02 17 58.7	+13
	comp=Z,957nm,24.1s								
TAOE					*e*S		**S**	**02 23 56.2**	**-6.5**
	comp=Z,3μm,26.0s								
TAOE					*e*SS		**SS**	**02 27 12.9**	**+4.2**
	comp=Z,2μm,25.2s								
TAOE					*e*LR		LR	02 29 03.1	
	comp=Z,15μm,30.3s								
AS31	**Alice Springs**	**42.78**	**267**	P		**P**		**02 17 52.6**	**-1.8**
ASAR	**Alice Springs**	**42.78**	**267**	P		**P**		**02 17 52.6**	**-1.9**
ASAR	**Alice Springs**	**42.78**	**267**	P		**P**		**02 17 52.8**	**-1.7**
	comp=Z,21nm,0.8s,baz=111,slow=8.2,SNR=100								
ASAR					ScP		**ScP**	**02 23 37.5**	**+1.4**
	comp=Z,1.0nm,0.9s,baz=126,slow=2.7,SNR=4.3								
ASAR					LR		LR	02 34 40.4	
	comp=Z,10μm,19.7s,baz=112,slow=35 comp=Z,21nm,0.8s								
PATS	**Pohnpei**	**43.54**	**325**	P		**P**		**02 17 59.9**	**-0.7**
	baz=44,SNR=3.9								
WR0	**Warramunga Arr**	**43.62**	**273**		IAMs_20		IAMs_20	02 34 24.7	
	comp=Z,6μm,19.0s								
WR8	**Warramunga Arr**	**43.65**	**273**		IAMs_20		IAMs_20	02 32 55.7	
	comp=Z,6μm,19.0s								
WR7	**Warramunga Arr**	**43.67**	**273**		IAMs_20		IAMs_20	02 32 56.3	
	comp=Z,6μm,19.0s								
WR6	**Warramunga Arr**	**43.69**	**273**		IAMs_20		IAMs_20	02 32 57.8	
	comp=Z,6μm,19.0s								
WR5	**Warramunga Arr**	**43.71**	**273**		IAMs_20		IAMs_20	02 32 57.3	
	comp=Z,6μm,19.0s								
WR4	**Warramunga Arr**	**43.73**	**273**		IAMs_20		IAMs_20	02 32 58.9	
	comp=Z,6μm,19.0s								
WR3	**Warramunga Arr**	**43.75**	**273**		IAMs_20		IAMs_20	02 32 58.4	
	comp=Z,6μm,19.0s								
WC3	**Warramunga Arr**	**43.76**	**273**		IAMs_20		IAMs_20	02 32 59.6	
	comp=Z,6μm,19.0s								
WR2	**Warramunga Arr**	**43.77**	**273**		IAMs_20		IAMs_20	02 32 59.9	
	comp=Z,6μm,19.0s								
WB1	**Warramunga Ar.**	**43.78**	**273**		IAMs_20		IAMs_20	02 33 37.2	
	comp=Z,7μm,22.0s								
WB2	**Warramunga Arr**	**43.79**	**273**	P		**P**		**02 18 00.5**	**-2.2**
WC4	**Warramunga Arr**	**43.79**	**273**		IAMs_20		IAMs_20	02 33 36.3	
	comp=Z,7μm,22.0s								
WB3	**Warramunga Arr**	**43.79**	**273**		IAMs_20		IAMs_20	02 33 36.3	
	comp=Z,7μm,22.0s								
WRAB	**Tennant Creek**	**43.79**	**273**	P		**P**		**02 18 01.4**	**-1.2**
WRAB					IAMs_20		IAMs_20	02 33 00.1	
	comp=Z,6μm,19.0s								
WRAB	**Tennant Creek**	**43.79**	**273**	P		**P**		**02 18 01.4**	**-1.2**
WRAB					pmax		pmax		
	comp=Z,168nm,1.3s								
WB4	**Warramunga Arr**	**43.80**	**273**		IAMs_20		IAMs_20	02 33 36.5	
	comp=Z,7μm,22.0s								
WR1	**Warramunga Arr**	**43.80**	**273**		IAMs_20		IAMs_20	02 33 36.5	
	comp=Z,7μm,22.0s								
WRA	**Warramunga Arr**	**43.80**	**273**	P		**P**		**02 17 59.9**	**-2.8**
WRA	**Warramunga Arr**	**43.80**	**273**	P		**P**		**02 18 00.9**	**-1.8**
	comp=Z,37nm,0.7s,baz=112,slow=7.4,SNR=58								
WRA					PcP		**PcP**	**02 19 47.2**	**-2.0**
	comp=Z,3.2nm,1.0s,baz=112,slow=3.9,SNR=2.3 comp=Z,37nm,0.7s								
WC1	**Warramunga Arr**	**43.80**	**273**		IAMs_20		IAMs_20	02 33 37.7	
	comp=Z,7μm,22.0s								
WB0	**Warramunga Arr**	**43.82**	**273**		IAMs_20		IAMs_20	02 34 23.2	
	comp=Z,6μm,20.0s								
FORT	**Forrest**	**45.65**	**256**	P		**P**		**02 18 17.2**	**-0.2**
	baz=46,SNR=23								
FORT	**Forrest**	**45.65**	**256**	P		**P**		**02 18 16.0**	**-1.4**
FORT	**Forrest**	**45.65**	**256**	⇓P		**P**		**02 18 15.9**	**-1.4**
WRKA	**Warakurna**	**47.12**	**263**	P		**P**		**02 18 27.2**	**-1.9**
	baz=47,SNR=75								
WRKA	**Warakurna**	**47.12**	**263**	⇑P		**P**		**02 18 26.9**	**-2.2**
SBA	**Scott Base**	**47.67**	**184**	P		**P**		**02 18 35.3**	**+2.8**
SBA	**Scott Base**	**47.67**	**184**	P		**P**		**02 18 35.3**	**+2.8**
SBA					pmax		pmax		
	comp=Z,78nm,1.3s								
VNDA	**Vanda**	**47.72**	**186**	P		**P**		**02 18 35.2**	**+2.2**
VNDA	**Vanda**	**47.72**	**186**	P		**P**		**02 18 35.2**	**+2.2**
VNDA					pmax		pmax		
	comp=Z,12nm,1.1s								
VNDA	**Vanda**	**47.72**	**186**	P		**P**		**02 18 34.1**	**+1.1**
	comp=Z,4.2nm,0.8s,baz=291,slow=6.3,SNR=3.0								
VNDA					LR		LR	02 35 47.3	
	comp=Z,2μm,20.9s,baz=80,slow=32 comp=Z,4.2nm,0.8s								
KDU	**Kakadu**	**48.67**	**280**	P		**P**		**02 18 38.0**	**-3.0**
	baz=49,SNR=6.1								
KDU	**Kakadu**	**48.67**	**280**	⇑P		**P**		**02 18 39.5**	**-1.5**
MTN	**Manton Dam**	**49.73**	**279**	P		**P**		**02 18 47.5**	**-1.6**
	baz=50,SNR=5.7								
MTN	**Manton Dam**	**49.73**	**279**				**P**	**02 18 46.6**	**-2.5**
MTN					IAMs_20		IAMs_20	02 37 05.3	
	comp=Z,8μm,21.0s								
MTN	**Manton Dam**	**49.73**	**279**	⇑P		**P**		**02 18 47.6**	**-1.5**
KNRA	**Kununurra**	**50.42**	**275**				**P**	**02 18 52.4**	**-2.0**
KMBL	**Kambalda**	**50.62**	**253**	P		**P**		**02 18 53.4**	**-2.4**
	baz=51,SNR=8.0								
FITZ	**Fitzroy Crossi**	**52.04**	**270**	P		**P**		**02 19 05.5**	**-1.1**
	baz=52,SNR=17								
FITZ	**Fitzroy Crossi**	**52.04**	**270**				**P**	**02 19 05.5**	**-1.1**
SAUI	**Saumlaki**	**52.09**	**285**	P		**P**		**02 19 07.0**	**+0.1**
KLBR	**Kellerberrin**	**53.94**	**251**	P		**P**		**02 19 19.8**	**-0.7**
	baz=54,SNR=9.5								
KHLU	**Kahalu`u**	**54.51**	**26**	P		**P**		**02 19 23.6**	**-1.1**
HMH	**Humu'ula Sheep**	**54.68**	**27**	P		**P**		**02 19 25.6**	**-0.5**
CASY	**Casey**	**54.69**	**208**	P		**P**		**02 19 25.3**	**0.0**
CASY					IAmb		IAmb	02 19 28.8	
	comp=Z,35nm,1.2s								
MEEK	**Meekatharra**	**54.80**	**257**	P		**P**		**02 19 26.3**	**-0.5**
	baz=55,SNR=6.0								
PSA00	**Pilbara Seismi**	**55.61**	**264**	P		**P**		**02 19 30.7**	**-2.0**
MBWA	**Marble Bar**	**55.87**	**264**				**P**	**02 19 32.7**	**-1.9**
MBWA					IAmb		IAmb	02 19 38.7	
	comp=Z,53nm,1.4s								
MBWA	**Marble Bar**	**55.87**	**264**	⇑P		**P**		**02 19 32.8**	**-1.8**
GUMO	**Guam**	**56.50**	**316**	LR		LR		02 42 22.4	
	comp=Z,822nm,18.8s,baz=122,slow=35								
SOEI	**Soe**	**57.09**	**279**	P		**P**		**02 19 43.2**	**-0.2**
SOEI	**Soe**	**57.09**	**279**	P		**P**		**02 19 47.3**	**+3.8**
SOEI	**Soe**	**57.09**	**279**	P		**P**		**02 19 41.5**	**-2.0**
BATI	**Baumata**	**57.38**	**278**	LR		LR		02 42

H03S2 Juan Fernandez 80.54 124 T T 03 51 02.3
baz=237,slow=74,SNR=1510
H03S1 Juan Fernandez 80.55 124 T T 03 51 04.6
baz=237,slow=74,SNR=1878
H03S3 Juan Fernandez 80.56 124 T T 03 51 03.4
baz=237,slow=74,SNR=2528
H03N3 Juan Fernandez 80.73 123 T T 03 51 08.9
baz=242,slow=73,SNR=191
H03N2 Juan Fernandez 80.74 123 T T 03 51 13.5
baz=242,slow=73,SNR=254
H03N1 Juan Fernandez 80.75 123 T T 03 51 08.1
baz=242,slow=73,SNR=186
QZH Quanzhou 81.89 305 P **P** **02 22 16.0 -0.2**
QZH S **S** **02 32 28.2 -1.2**
QZH pmax pmax
comp=Z,2μm,6.2s
BKNI Bangkinang 82.08 275 IAMs_20 IAMs_20 03 03 18.4
comp=Z,2μm,19.0s
BKNI Bangkinang 82.08 275 P **P** **02 22 14.5 -3.0**
PLCA Paso Flores 82.50 133 P **P** **02 22 20.6 +1.1**
PLCA IAmb IAmb 02 22 26.0
comp=Z,46nm,1.4s
PLCA Paso Flores 82.50 133 P **P** **02 22 21.2 +1.7**
comp=Z,11nm,1.1s,baz=233,slow=10,SNR=9.2
PLCA LR LR 02 52 51.3
comp=Z,2μm,18.2s,baz=252,slow=31
comp=Z,11nm,1.1s
GO06 Curarrehue 82.56 132 P **P** **02 22 20.6 +0.7**
GO06 IAmb IAmb 02 22 26.2
comp=Z,48nm,1.5s
ASAJ Asahikawa 82.60 333 LR LR 02 55 34.0
comp=Z,792nm,19.6s,baz=112,slow=33
NIKH Nikolski High 83.77 6 P **P** **02 22 29.8 +4.5**
baz=188
KSRS Korea Array 84.40 320 *e*P **P** **02 22 31.9 +3.0**
KSRS pmax pmax
comp=Z,2.0nm,0.4s
KSRS Korea Array 84.40 320 P **P** **02 22 28.9 0.0**
comp=Z,4.1nm,1.0s,baz=129,slow=5.6,SNR=6.2
KSRS LR LR 02 57 18.6
comp=Z,459nm,19.8s,baz=75,slow=34
comp=Z,4.1nm,1.0s
KSAR Wonju Array Be 84.42 320 P **P** **02 22 26.8 -2.2**
KSAR Wonju Array Be 84.42 320 P **P** **02 22 26.8 -2.2**
SNCC San Nicolas Is 84.51 46 P **P** **02 22 33.1 +3.5**
baz=228
QIZ Qiongzhong 84.86 296 P **P** **02 22 33.4 +1.7**
QIZ PP **PP** **02 25 51.0 +2.5**
QIZ S **S** **02 33 02.5 +2.9**
QIZ SS **SS** **02 38 34.1 +1.5**
QIZ pmax pmax
comp=Z,2μm,6.5s
QIZ LR LR
comp=Z,420nm,12.3s
QIZ LR LR
comp=Z,440nm,14.7s
QIZ LR LR
comp=Z,1μm,20.1s
UNV Unalaska Valle 84.86 7 P **P** **02 22 34.9 +4.1**
baz=190
YSS Yuzh-Sakhalins 84.92 334 *e*P **P** **02 22 31.2 -0.1**
YSS *e*S **S** **02 32 58.1 -0.9**
YSS pmax pmax
comp=Z,40nm,0.8s
YSS pmax pmax
comp=Z,3μm,8.3s
SCZ2 Santa Cruz Isl 84.94 45 P **P** **02 22 35.5 +3.7**
baz=228
LPIG La Paz 84.98 58 LR LR 02 51 18.9
comp=Z,2μm,21.9s,baz=222,slow=29
SLBS Sierra La Lagu 85.00 59 P **P** **02 22 30.8 -1.6**
SLBS IAmb IAmb 02 22 37.3
comp=Z,44nm,1.4s
SBC Santa Barbara 85.19 45 P **P** **02 22 36.9 +3.9**
baz=228
CIS Catalina Islan 85.30 47 P **P** **02 22 37.1 +3.5**
baz=228
PKM Mcpherson Peak 85.43 45 P **P** **02 22 38.2 +3.8**
baz=228
FMP Fort Macarthur 85.58 46 P **P** **02 22 38.3 +3.4**
baz=228
SMMC Simmler 85.61 44 P **P** **02 22 39.2 +4.1**
baz=227
SAO San Andreas Ge 85.74 42 P **P** **02 22 37.2 +1.5**
SAO San Andreas Ge 85.74 42 P **P** **02 22 37.2 +1.5**
SAO pmax pmax
comp=Z,26nm,1.4s
PET Petropavlovsk 85.79 346 *e*P P 02 22 28.3 -7.1
PET *e*S **SKSac** **02 33 00.8 +0.9**
PET pmax pmax
comp=Z,2μm,9.2s
PET MLR MLR
comp=Z,1μm,20.0s
109C Camp Elliot, M 85.79 48 IAMs_20 IAMs_20 02 51 38.3
comp=Z,2μm,22.0s
109C Camp Elliot, M 85.79 48 P **P** **02 22 39.7 +3.7**
baz=229
BBGB Big Mountain B 85.85 43 P **P** **02 22 37.1 +0.7**
MCCM Marconi Confer 85.88 41 IAMs_20 IAMs_20 02 52 10.2
comp=Z,3μm,22.0s
MT01 Popeta 85.91 127 P **P** **02 22 36.0 -0.9**
DECC Green Verdugo 85.91 46 P **P** **02 22 40.3 +3.7**
baz=228
OSI Osito Audit: C 85.91 46 P **P** **02 22 40.5 +3.8**
baz=228
BAR Barrett 85.93 48 P **P** **02 22 35.6 -1.2**
BAR IAmb IAmb 02 22 42.2
comp=Z,37nm,1.6s
PASC Pasadena Art C 85.95 46 IAMs_20 IAMs_20 02 51 30.4
comp=Z,2μm,20.0s
PETK Petropavlovsk- 86.06 346 P **P** **02 22 35.5 -1.4**
PETK Petropavlovsk- 86.06 346 P **P** **02 22 35.5 -1.4**
PETK Petropavlovsk- 86.06 346 P **P** **02 22 35.7 -1.1**
comp=Z,7.2nm,0.8s,baz=163,slow=7.7,SNR=6.7
comp=Z,7.2nm,0.8s
ELS Elsinore Mount 86.08 47 P **P** **02 22 37.6 +0.1**
ELS IAmb IAmb 02 22 42.9
comp=Z,63nm,1.9s
MT09 Talagante 86.14 127 P **P** **02 22 38.2 0.0**
MT09 IAmb IAmb 02 22 47.2
comp=Z,43nm,1.2s
MURC Murrieta 86.20 47 P **P** **02 22 41.8 +3.8**
baz=229
FALS False Pass 86.22 9 P **P** **02 22 41.6 +4.1**
baz=193
MONP2 Monument Peak 86.23 48 P **P** **02 22 42.0 +3.5**
baz=230
NJ2 Nanjing 86.23 311 *e*P **P** **02 22 39.6 +1.4**
NJ2 pP **pP** **02 22 42.8 -0.4**
NJ2 pmax pmax
comp=Z,39nm,1.3s
NJ2 pmax pmax
comp=Z,2μm,8.8s
IKP In-Ko-Pah, Jac 86.27 48 P **P** **02 22 42.3 +3.8**
baz=230
BFSC Mount Baldy Ra 86.32 46 P **P** **02 22 42.3 +3.5**
baz=229
HOPS Hopland Field 86.37 40 IAMs_20 IAMs_20 03 01 01.1
comp=Z,3μm,18.0s
MSHR Mys Shultsa 86.46 325 *i* P **P** **02 22 40.0 +1.0**
MSHR pmax pmax
comp=Z,48nm,1.3s
MSHR MLR MLR
comp=Z,529nm,18.0s
VES Vestal, Richgr 86.51 44 P **P** **02 22 42.5 +3.0**
baz=228
EDW2 Edwards Air Fo 86.54 46 P **P** **02 22 43.2 +3.4**
baz=229,SNR=6.4
VOG Valley Oaks Go 86.66 44 P **P** **02 22 43.6 +3.5**
baz=229
SWSC Sam W. Stewart 86.66 48 P **P** **02 22 43.6 +3.3**
baz=230
TPFO Pinon Flats 86.67 48 P **P** **02 22 43.7 +3.1**
baz=230
PFO Pinyon Flats O 86.67 48 P **P** **02 22 41.3 +0.8**
PFO IAmb IAmb 02 22 46.0
comp=Z,43nm,1.7s
PFO Pinyon Flats O 86.67 48 P **P** **02 22 43.9 +3.4**
baz=230
PFO Pinyon Flats O 86.67 48 P **P** **02 22 41.3 +0.8**
PFO pmax pmax
comp=Z,43nm,1.7s
PFO Pinyon Flats O 86.67 48 LR LR 02 52 48.0
comp=Z,1μm,21.5s,baz=210,slow=30
PEL Peldehue 86.71 127 P **P** **02 22 40.9 0.0**
PEL Peldehue 86.71 127 P **P** **02 22 40.9 0.0**
PEL pmax pmax
comp=Z,64nm,1.4s
CHNA Chernabura Isl 86.75 11 P **P** **02 22 44.7 +4.6**
baz=196
ISA Isabella, Lake 86.76 45 P **P** **02 22 42.6 +1.8**
ISA IAmb IAmb 02 22 46.2
comp=Z,38nm,1.3s
ISA Isabella, Lake 86.76 45 P **P** **02 22 44.8 +4.0**
baz=228,SNR=7.0
ISA Isabella, Lake 86.76 45 P **P** **02 22 42.6 +1.8**
ISA pmax pmax
comp=Z,38nm,1.3s
KMPM Mount Pierce 86.81 38 P **P** **02 22 41.6 +0.6**
SDPT Sand Point 87.11 10 P **P** **02 22 46.0 +4.1**
baz=196
LRMC Laurel Mtn Rad 87.13 45 P **P** **02 22 45.9 +3.2**
baz=229
RRX Edison Barstow 87.15 46 P **P** **02 22 46.3 +3.6**
baz=229
BELC Belle Mtn. Jos 87.21 47 P **P** **02 22 46.8 +3.7**
baz=230
CMB Columbia Colle 87.23 42 IAmb IAmb 02 22 47.6
comp=Z,24nm,1.4s
CMB IAMs_20 IAMs_20 02 52 05.7
comp=Z,2μm,22.0s
USA0B Ussuriysk Arra 87.27 327 P **P** **02 22 42.0 -1.0**
USA0B IAmb IAmb 02 22 46.5
comp=Z,53nm,1.6s
USA0B Ussuriysk Arra 87.27 327 P **P** **02 22 42.0 -1.0**
USA0B pmax pmax
comp=Z,53nm,1.6s
USRK Ussuriysk Ar. 87.27 327 P **P** **02 22 41.2 -1.8**
USRK Ussuriysk Ar. 87.27 327 P **P** **02 22 41.5 -1.5**
comp=Z,4.4nm,0.9s,baz=122,slow=2.5,SNR=11
USRK LR LR 02 57 35.5
comp=Z,924nm,20.8s,baz=66,slow=33
comp=Z,4.4nm,0.9s
BC3 Big Chuckawall 87.34 48 P **P** **02 22 47.5 +3.8**
baz=230
GLA Glamis 87.36 49 P **P** **02 22 47.6 +3.9**
baz=231
KRPM Rodgers 87.39 38 P **P** **02 22 42.2 -1.5**
KRPM IAmb IAmb 02 22 48.2
comp=Z,47nm,1.6s
AFDM Forest Hills D 87.52 41 IAmb IAmb 02 22 48.9
comp=Z,25nm,1.4s
CWC Cottonwood Cre 87.52 45 P **P** **02 22 47.9 +3.3**
baz=228
HEC Hector,Ludlow 87.54 47 P **P** **02 22 47.7 +3.1**
baz=230,SNR=6.0
GSC Goldstone, Bar 87.55 46 P **P** **02 22 47.9 +3.2**
baz=229,SNR=6.6
MPMC Manual Prospec 87.62 45 P **P** **02 22 47.9 +2.7**
baz=229,SNR=8.1
ORV Oroville 87.64 40 P **P** **02 22 43.1 -1.8**
ORV IAmb IAmb 02 22 49.6
comp=Z,32nm,1.8s
ORV Oroville 87.64 40 P **P** **02 22 43.1 -1.8**
ORV pmax pmax
comp=Z,32nm,1.8s
OMMB Old Mammoth Mi 87.75 43 IAmb IAmb 02 22 51.0
comp=Z,38nm,1.8s
TIN Tinemaha, Big 87.83 44 P **P** **02 22 49.1 +3.1**
baz=228
SPIA Saint Paul Isl 87.84 4 P **P** **02 22 48.9 +3.5**
baz=187
IRM Iron Mountain 87.86 48 P **P** **02 22 49.3 +3.2**
baz=230,SNR=7.2
MLAC Mammoth, Mammo 87.86 43 P **P** **02 22 50.1 +3.7**
baz=228
113A Mohawk Valley, 87.87 50 P **P** **02 22 45.6 -0.5**
113A IAmb IAmb 02 22 53.0
comp=Z,36nm,1.5s
GMRC Granite Mounta 87.93 47 P **P** **02 22 49.8 +3.2**
baz=230,SNR=7.7
QSM Queen of Sheba 87.94 46 IAmb IAmb 02 22 51.6
comp=Z,44nm,1.6s
214A Organ Pipe Nat 88.00 51 P **P** **02 22 46.7 -0.2**
214A Organ Pipe Nat 88.00 51 P **P** **02 22 50.9 +4.0**
baz=232
CO03 El Pedregal 88.02 125 P **P** **02 22 46.4 -0.8**
KBO Bosley Butte 88.04 37 P **P** **02 22 48.5 +1.6**
KBO IAmb IAmb 02 22 53.4
comp=Z,38nm,1.4s
S14K Fog Glacier 88.15 10 P **P** **02 22 51.0 +3.9**
baz=196
TUQ Turquoise Moun 88.19 46 P **P** **02 22 51.6 +3.8**
baz=230
GWY Greenwater Val 88.21 45 P **P** **02 22 48.7 +0.8**
FURC Furnace Creek, 88.27 45 P **P** **02 22 51.9 +3.9**
baz=229
GRAC Grapevine Rang 88.31 44 P **P** **02 22 51.9 +3.6**
baz=229,SNR=5.5
CHGN Chignik 88.35 11 P **P** **02 22 51.3 +3.5**
baz=197
PNTR Pine Nut 88.39 42 IAmb IAmb 02 22 53.5
comp=Z,25nm,1.2s
LHV Little Huntoon 88.47 43 IAmb IAmb 02 22 54.0
comp=Z,24nm,1.3s
YERR Yerington 88.53 42 IAmb IAmb 02 22 54.0
comp=Z,23nm,1.4s
GMN Gold Mountain 88.58 44 IAmb IAmb 02 22 54.5
comp=Z,30nm,1.7s
NEE2 Needles Airpor 88.58 48 P **P** **02 22 53.3 +3.8**
baz=231
PDMCI Parker Dam,Lak 88.59 48 P **P** **02 22 53.0 +3.5**
baz=231
WCT Wildcat Mounta 88.63 45 IAmb IAmb 02 22 55.1
comp=Z,42nm,1.8s
K02D Willamette Mer 88.67 37 P **P** **02 22 48.8 -1.1**
K02D IAmb IAmb 02 22 55.7
comp=Z,56nm,1.8s
NVAR Mina Array Bea 88.70 43 P **P** **02 22 50.1 -0.1**
NVAR Mina Array Bea 88.70 43 P **P** **02 22 51.0 +0.7**
comp=Z,5.2nm,1.0s,baz=224,slow=8.4,SNR=16
NVAR LR LR 02 54 06.1
comp=Z,3μm,21.8s,baz=184,slow=30
comp=Z,5.2nm,1.0s
MDJ Mudanjiang 88.73 326 P **P** **02 22 52.2 +2.3**
MDJ S **S** **02 33 41.4 +5.3**
MDJ pmax pmax
comp=Z,16nm,1.6s
MDJ pmax pmax
comp=Z,2μm,9.3s
MDJ LR LR
comp=Z,640nm,11.4s
MDJ LR LR
comp=Z,620nm,14.4s
MDJ LR LR
comp=Z,600nm,16.8s
CO01 Juntas del Tor 88.93 125 P **P** **02 22 53.5 +1.7**
CO01 IAmb IAmb 02 23 07.3
comp=Z,32nm,1.5s
TPNV Topopah Spring 88.96 45 P **P** **02 22 53.3 +1.8**
TPNV IAmb IAmb 02 22 56.8
comp=Z,49nm,1.8s
TPNV Topopah Spring 88.96 45 P **P** **02 22 54.8 +3.3**
baz=230,SNR=6.3
TPNV Topopah Spring 88.96 45 P **P** **02 22 53.3 +1.8**
TPNV pmax pmax
comp=Z,49nm,1.8s
DL2 Dalian 88.99 317 P **P** **02 22 49.6 -1.7**
DL2 S **S** **02 33 35.6 -3.1**
DL2 pmax pmax
comp=Z,1μm,8.2s
DL2 LR LR
comp=Z,1μm,20.6s
DL2 LR LR
comp=Z,2μm,19.6s
DL2 LR LR
comp=Z,1μm,22.1s
ZON Zonda 89.02 126 IAmb IAmb 02 22 58.1
comp=Z,51nm,1.6s
V12A Nelson 89.04 47 IAmb IAmb 02 22 57.4
comp=Z,31nm,1.6s
Y14A Wickenburg 89.10 49 IAmb IAmb 02 22 57.6
comp=Z,22nm,1.2s
DBO Dodson Butte 89.19 37 P **P** **02 22 52.1 -0.1**
DBO IAmb IAmb 02 22 57.4
comp=Z,35nm,1.6s
W13A Hualapai Mount 89.26 48 IAmb IAmb 02 22 58.6
comp=Z,25nm,1.4s
CFA Coronel Fontan 89.29 127 LR LR 02 54 02.7
comp=Z,1μm,20.9s,baz=226,slow=30
TUC Tucson 89.57 52 P **P** **02 22 58.3 +4.0**
baz=233
TIA Tai'an 89.97 313 P **P** **02 22 56.5 +0.5**
TIA S **S** **02 33 50.8 +2.7**
TIA SS **SS** **02 39 50.6 +3.6**
TIA pmax pmax
comp=Z,26nm,1.1s
TIA pmax pmax
comp=Z,2μm,7.3s
TIA LR LR
comp=Z,680nm,20.0s
TIA LR LR
comp=Z,480nm,20.4s
TIA LR LR
comp=Z,1μm,23.1s
PRN Pahroc Range 89.99 45 IAmb IAmb 02 23 01.9
comp=Z,32nm,1.4s
CN2 Changchun 90.22 323 *e*P **P** **02 22 58.7 +1.7**
CN2 pmax pmax
comp=Z,20nm,1.3s
R11B Troy Canyon, C 90.27 44 IAMs_20 IAMs_20 02 54 45.0
comp=Z,3μm,21.0s
R11B Troy Canyon, C 90.27 44 P **P** **02 22 59.9 +2.3**
baz=230
J05D Fort Rock, OR 90.36 38 IAmb IAmb 02 23 02.6
comp=Z,43nm,1.5s
GRNR Gornyy 90.45 333 ⇑ *i*P **P** **02 22 58.2 +0.4**
GRNR pmax pmax
comp=Z,8.0nm,1.0s
BNX BinXian 90.61 325 ⇑ P **P** **02 22 58.6 -0.1**
BNX pP **pP** **02 23 03.6 -0.2**
BNX sP **sP** **02 23 05.0 -0.6**
BNX PP **PP** **02 26 34.1 -0.2**
BNX S **S** **02 33 52.0 -1.5**
BNX sS **sS** **02 34 07.2 +5.4**
BNX pmax pmax
comp=Z,15nm,1.3s
BNX pmax pmax
comp=Z,1μm,7.1s
BNX LR LR
comp=Z,500nm,15.7s
BNX LR LR
comp=Z,800nm,17.3s
BNX LR LR
comp=Z,1μm,20.6s
BMN Battle Mountai 90.65 42 IAmb IAmb 02 23 03.9
comp=Z,28nm,1.5s
O14K Tigyukauivet M 90.78 9 IAMs_20 IAMs_20 02 55 58.6
comp=Z,3μm,22.0s
KDAK Kodiak Island 90.81 13 LR LR 02 56 32.2
comp=Z,2μm,21.9s,baz=156,slow=31
NKL Nikolayevsk 90.83 337 *e*P **P** **02 22 58.1 -1.4**
NKL pmax pmax
comp=E,39nm,1.2s
NKL pmax pmax
comp=N,43nm,1.3s
NKL pmax pmax
comp=Z,72nm,1.5s
NKL MLR MLR
comp=E,11μm,18.0s
NKL MLR MLR
comp=N,7μm,19.0s
NKL MLR MLR
comp=Z,7μm,21.0s
H04A Detroit Lake 90.84 36 P **P** **02 23 00.8 +0.9**
U15A North Rim 91.10 48 IAmb IAmb 02 23 07.2
comp=Z,38nm,1.5s
KNB Kanab 91.12 47 P **P** **02 23 01.4 -0.2**
KNB IAmb IAmb 02 23 07.1
comp=Z,37nm,1.6s
KNB Kanab 91.12 47 P **P** **02 23 01.4 -0.2**
KNB pmax pmax
comp=Z,37nm,1.6s
WUAZ Wupatki 91.13 49 P **P** **02 23 05.1 +3.5**
baz=232
Q12A Willow Creek R 91.16 44 IAmb IAmb 02 23 06.5
comp=Z,23nm,1.3s
KLR Kul'dur 91.17 330 *i* P **P** **02 23 01.6 +0.4**
KLR pmax pmax
comp=Z,20nm,1.4s
KLR MLR MLR
comp=Z,389nm,12.0s
KLR Kul'dur 91.17 330 LR LR 02 59 02.0
comp=Z,813nm,22.0s,baz=76,slow=32
WVOR Wild Horse Val 91.18 40 IAmb IAmb 02 23 06.3
comp=Z,26nm,1.4s
GYA Guiyang 91.45 300 *e*P **P** **02 23 06.6 +3.4**
GYA PP **PP** **02 26 45.7 +4.2**
GYA SKS **SKSac** **02 33 36.7 +1.4**
GYA S **S** **02 34 00.9 -1.4**
GYA SS **SS** **02 40 13.1 +4.2**
GYA pmax pmax
comp=Z,17nm,1.1s
GYA pmax pmax
comp=Z,1μm,12.6s
GYA LR LR
comp=Z,610nm,19.5s
GYA LR LR
comp=Z,630nm,22.7s
GYA LR LR
comp=Z,810nm,22.4s
121A Cookes Peak, D 91.74 53 P **P** **02 23 08.4 +3.9**
baz=234
I07A Izee 91.82 38 P **P** **02 23 04.3 -0.2**
I07A IAmb IAmb 02 23 09.2
comp=Z,20nm,1.4s
J08A Circle Bar Ran 91.89 39 IAmb IAmb 02 23 09.4
comp=Z,29nm,1.5s
LYN LuoYang 91.97 309 *e*P **P** **02 23 04.2 -1.1**
LYN pP pP 02 23 08.4 -2.0
LYN sP sP 02 23 11.9 -0.3
LYN S **S** **02 34 02.7 -3.7**
LYN sS sS 02 34 15.1 +0.4
LYN pmax pmax
comp=Z,28nm,1.0s
LYN pmax pmax
comp=Z,2μm,7.5s
LYN LR LR
comp=Z,930nm,20.6s
LYN LR LR
comp=Z,1μm,23.4s
LYN LR LR
comp=Z,2μm,21.9s
ELK Elko 92.01 43 LR LR 02 55 56.9
comp=Z,3μm,22.0s,baz=193,slow=30
HNS HongShan 92.23 313 ⇓ P **P** **02 23 09.4 +3.0**
HNS S **S** **02 34 14.1 +5.5**
HNS pmax pmax
comp=Z,17nm,1.3s
HNS pmax pmax
comp=Z,1μm,9.9s
HNS LR LR
comp=Z,500nm,20.2s
HNS LR LR
comp=Z,910nm,21.9s
HNS LR LR
comp=Z,1μm,23.5s
TXAR Lajitas Array 92.84 57 P **P** **02 23 08.2 -1.4**
TXAR Lajitas Array 92.84 57 P **P** **02 23 08.2 -1.4**
TXAR Lajitas Array 92.84 57 P **P** **02 23 10.0 +0.4**
comp=Z,2.0nm,1.0s,baz=214,slow=8.6,SNR=7.5
TXAR LR LR 02 58 20.6
comp=Z,548nm,19.2s,baz=221,slow=31
comp=Z,2.0nm,1.0s
G08A Pilot Rock 92.92 37 IAmb IAmb 02 23 14.1
comp=Z,21nm,1.3s
MNTX Cornudas Mount 92.94 55 P P 02 23 14.9 +5.0
baz=236
BJI Beijing 92.95 316 P **P** **02 23 12.4 +2.7**
BJI S **S** **02 34 19.8 +5.0**
DUG Dugway, Tooele 93.10 44 P **P** **02 23 14.7 +4.1**
baz=232
CMIG Matias Romero 93.16 72 LR LR 02 55 06.0
comp=Z,468nm,18.9s,baz=253,slow=29
CMAR Chiang Mai Arr 93.22 289 P **P** **02 23 07.9 -3.5**
CMAR Chiang Mai Arr 93.22 289 *e*P **P** **02 23 12.1 +0.6**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 93.22 289 P **P** **02 23 09.3 -2.1**
comp=Z,1.5nm,0.3s,baz=133,slow=3.6,SNR=4.4
CMAR LR LR 03 08 08.2
comp=Z,300nm,19.1s,baz=115,slow=38
comp=Z,1.5nm,0.3s
HAWA Hanford 93.37 36 IAmb IAmb 02 23 20.6
comp=Z,31nm,1.8s
M17K Holitna River 93.38 10 IAMs_20 IAMs_20 02 59 49.5
comp=Z,2μm,22.0s
MFID Camas Ranch 93.38 40 IAmb IAmb 02 23 16.3
comp=Z,21nm,1.6s
CHTO Chiang Mai 93.40 290 P **P** **02 23 11.6 -0.7**
CHTO Chiang Mai 93.40 290 P **P** **02 23 11.6 -0.7**

CHTO pmax pmax
comp=Z,14nm,1.6s
MA2 Magadan 93.54 345 *i* P **P 02 23 12.5 +0.6**
MA2 pmax pmax
comp=Z,14nm,1.1s
MA2 MLR MLR
comp=Z,446nm,18.0s
MA2 Magadan 93.54 345 LR LR 03 02 00.2
comp=Z,591nm,19.9s,baz=86,slow=34
BBB Bella Bella 93.55 28 LR LR 02 58 10.8
comp=Z,997nm,21.6s,baz=144,slow=31
NNA Nana 93.63 106 IAMs_20 IAMs_20 02 55 36.9
comp=Z,2µm,21.0s
NNA Nana 93.63 106 LR LR 02 55 48.6
comp=Z,2µm,21.7s,baz=231,slow=29
HEH HeiHe 93.83 329 *e*P **P 02 23 15.2 +1.7**
HEH pP **pP 02 23 18.5 -0.1**
HEH PP **PP 02 27 01.7 +2.1**
HEH S **S 02 34 27.6 +5.4**
HEH pmax pmax
comp=Z,12nm,1.3s
HEH pmax pmax
comp=Z,2µm,8.0s
HEH LR LR
comp=Z,660nm,19.9s
HEH LR LR
comp=Z,600nm,20.1s
HEH LR LR
comp=Z,2µm,19.6s
SRU San Rafael Swe 93.84 46 P **P 02 23 16.5 +2.4**
SRU San Rafael Swe 93.84 46 P **P 02 23 16.5 +2.4**
SRU pmax pmax
comp=Z,17nm,1.7s
TIY Taiyuan 93.86 312 P **P 02 23 16.8 +2.7**
TIY SKS **SKSac 02 33 48.5 +0.4**
TIY S **S 02 34 17.3 -5.9**
TIY pmax pmax
comp=Z,760nm,6.9s
TIY LR LR
comp=Z,630nm,17.9s
TIY LR LR
comp=Z,350nm,10.3s
TIY LR LR
comp=Z,560nm,22.7s
J14K Nanvaranak Lak 93.92 7 IAMs_20 IAMs_20 02 59 41.5
comp=Z,2µm,21.0s
P23K Montague Islan 93.94 15 P P 02 23 19.0 +5.3
baz=206
L17K Donlin 93.96 9 P P 02 23 18.8 +5.0
baz=197
MVCO Mesa Verde 94.00 49 IAMs_20 IAMs_20 02 56 04.3
comp=Z,2µm,21.0s
SPUT South Promonto 94.00 44 IAmb IAmb 02 23 19.4
comp=Z,26nm,1.5s
ANMO Albuquerque 94.04 52 P **P 02 23 13.1 -2.0**
ANMO Albuquerque 94.04 52 P **P 02 23 18.4 +3.3**
baz=235
ANMO Albuquerque 94.04 52 P **P 02 23 13.1 -2.0**
ANMO pmax pmax
comp=Z,19nm,2.0s
ANMO Albuquerque 94.04 52 LR LR 02 59 32.2
comp=Z,1µm,19.2s,baz=296,slow=32
LVC Limon Verde 94.05 119 LR LR 02 56 48.2
comp=Z,2µm,21.7s,baz=253,slow=30
XAN Xi'an 94.07 307 P **P 02 23 17.8 +2.7**
XAN pP sP 02 23 21.2 -0.8
XAN PP **PP 02 27 04.8 +2.9**
XAN S **S 02 34 25.7 +0.5**
XAN pmax pmax
comp=Z,15nm,1.0s
XAN pmax pmax
comp=Z,1µm,7.2s
XAN LR LR
comp=Z,1µm,16.2s
XAN LR LR
comp=Z,790nm,16.2s
XAN LR LR
comp=Z,1µm,19.2s
HVU Hansel Valley 94.10 43 IAmb IAmb 02 23 19.7
comp=Z,19nm,1.4s
E09A Wood Farm, Sta 94.16 37 IAmb IAmb 02 23 19.1
comp=Z,22nm,1.7s
HLID Hailey 94.27 41 IAMs_20 IAMs_20 02 56 45.0
comp=Z,2µm,20.0s
HLID Hailey 94.27 41 P **P 02 23 18.7 +2.8**
baz=231
PLID Pearl Lake 94.36 39 IAmb IAmb 02 23 20.4
comp=Z,22nm,1.5s
PLID IAMs_20 IAMs_20 02 57 58.4
comp=Z,2µm,19.0s
ATAH Atahualpa 94.89 101 LR LR 02 56 10.4
comp=Z,910nm,21.7s,baz=232,slow=29
SKT Skwentna 94.91 12 IAMs_20 IAMs_20 02 59 06.8
comp=Z,2µm,22.0s
PZH PanZhiHua 95.18 298 P **P 02 23 22.8 +2.3**
PZH PP **PP 02 27 11.1 +0.3**
PZH S **S 02 34 38.7 +3.3**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,410nm,6.4s
PZH LR LR
comp=Z,650nm,19.2s
PZH LR LR
comp=Z,530nm,19.2s
PZH LR LR
comp=Z,1µm,21.0s
XLT XiLinHaoTe 95.39 319 *e*P **P 02 23 21.8 +0.9**
XLT pmax pmax
comp=Z,7.0nm,0.7s
XLT pmax pmax
comp=Z,830nm,8.3s
ANM Nome 95.54 6 IAMs_20 IAMs_20 03 01 25.1
comp=Z,2µm,22.0s
AHID Auburn Hatcher 95.69 43 IAmb IAmb 02 23 27.0
comp=Z,26nm,1.6s
AHID IAMs_20 IAMs_20 02 58 05.3
comp=Z,2µm,21.0s
APG El Apazote 95.76 76 LR LR 02 59 38.0
comp=Z,42nm,19.2s,baz=180,slow=31
O20A White River Ci 95.86 46 P P 02 23 30.3 +6.9
baz=235
CD2 Chengdu 96.00 302 P **P 02 23 26.3 +2.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
N25K Chitina, Valde 96.01 15 P P 02 23 30.9 +7.6
baz=209
P29M Windy Craggy 96.09 19 P P 02 23 31.7 +8.0
baz=214
SMCO Snowmass 96.11 48 IAMs_20 IAMs_20 02 57 34.6
comp=Z,2µm,22.0s
TPAW Teton Pass 96.21 43 IAMs_20 IAMs_20 02 58 20.4
comp=Z,2µm,21.0s
SEY Seymchan 96.24 347 LR LR 03 04 20.1
comp=Z,615nm,19.4s,baz=76,slow=34
HHC Hu-ho-hao-te 96.24 314 *e*P **P 02 23 28.6 +3.7**
HHC S **S 02 34 42.6 -1.3**
HHC sS pS 02 34 50.7 0.0
HHC SS **SS 02 41 21.9 +4.9**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC LR LR
comp=Z,640nm,16.7s
HHC LR LR
comp=Z,660nm,14.5s
HHC LR LR
comp=Z,2µm,16.2s
FXWY Fox Creek 96.25 42 P **P 02 23 24.3 -0.8**
JCT Junction City 96.28 58 IAMs_20 IAMs_20 02 56 56.9
comp=Z,2µm,21.0s
ZEA Zeya 96.39 331 *e*P **P 02 23 28.2 +3.1**
O29M Mount Kennedy 96.41 19 IAMs_20 IAMs_20 03 02 12.2
comp=Z,2µm,20.0s
H17K Granite Mounta 96.45 8 IAMs_20 IAMs_20 03 06 31.4
comp=Z,2µm,20.0s
KTH Kantishna Hill 96.47 12 IAMs_20 IAMs_20 03 05 45.0
comp=Z,2µm,20.0s
MSO Missoula 96.58 39 IAMs_20 IAMs_20 02 53 03.8
comp=Z,2µm,20.0s
BW06 Boulder Array 96.60 44 IAMs_20 IAMs_20 02 58 37.6
comp=Z,2µm,20.0s
PDAR Pinedale Array 96.60 44 P **P 02 23 27.3 +0.6**
comp=Z,0.5nm,0.8s,baz=158,slow=1.0,SNR=2.5
PDAR PP **PP 02 27 21.2 -0.4**
comp=Z,2.7nm,1.3s,baz=135,slow=0.6,SNR=5.7
PDAR LR LR 02 59 21.8
comp=Z,2µm,21.9s,baz=211,slow=31
comp=Z,0.5nm,0.8s
G16K Koyuk River 96.63 7 IAMs_20 IAMs_20 03 01 58.0
comp=Z,2µm,22.0s
F15K North Star Dit 96.72 6 IAMs_20 IAMs_20 03 02 01.4
comp=Z,2µm,21.0s
TNCH TengChong 96.91 295 P **P 02 23 28.5 0.0**
TNCH pP pP 02 23 32.4 -1.1
TNCH sP sP 02 23 34.2 -1.2
TNCH S **S 02 34 48.9 -1.6**
TNCH sS sS 02 34 57.8 -1.6
TNCH SS **SS 02 41 34.7 +7.6**
TNCH pmax pmax
comp=Z,500nm,7.6s
TNCH LR LR
comp=Z,470nm,12.7s
TNCH LR LR
comp=Z,570nm,12.8s
TNCH LR LR
comp=Z,780nm,20.9s
M26K Nabesna, AK 97.07 16 IAMs_20 IAMs_20 03 00 00.4
comp=Z,2µm,22.0s
Q32M Nakina River 97.22 22 IAMs_20 IAMs_20 02 58 33.2
comp=Z,2µm,21.0s
G18K Tagagawik 97.52 8 IAMs_20 IAMs_20 03 00 32.7
comp=Z,2µm,22.0s
DLBC Dease Lake 97.56 23 LR LR 03 00 01.4
comp=Z,1µm,21.4s,baz=136,slow=31
NEA2 Nenana 97.76 12 IAMs_20 IAMs_20 03 01 07.1
comp=Z,2µm,21.0s
435B Jarrell 98.07 59 IAMs_20 IAMs_20 02 58 38.2
comp=Z,2µm,21.0s
JTS Las Juntas de 98.09 83 IAMs_20 IAMs_20 03 01 45.7
comp=Z,2µm,18.0s
M29M Somme Creek 98.23 18 IAMs_20 IAMs_20 02 59 26.5
comp=Z,2µm,22.0s
MDM Murphy Dome 98.24 12 IAMs_20 IAMs_20 03 05 12.0
comp=Z,2µm,20.0s
ILAR Eielson Array 98.33 13 LR LR 03 01 12.7
comp=Z,1µm,21.8s,baz=144,slow=31
LZH Lanzhou 98.67 307 *e*P Pdif 02 23 38.8 +2.7
LZH pP sP 02 23 43.0 0.0
LZH SS SS 02 41 56.9 +5.4
LZH pmax pmax
comp=Z,11nm,1.0s
E19K Redstone River 99.19 8 IAMs_20 IAMs_20 03 04 18.8
comp=Z,2µm,21.0s
C16K Lisburne Hills 99.19 5 IAMs_20 IAMs_20 03 06 05.7
comp=Z,2µm,21.0s
PRP Porcupine Dome 99.26 13 IAMs_20 IAMs_20 03 05 25.9
comp=Z,2µm,20.0s
G24K Hadweenzic Riv 99.95 12 IAMs_20 IAMs_20 03 02 05.3
comp=Z,2µm,22.0s
OK038 West end E0370 100.14 54 IAMs_20 IAMs_20 03 01 54.6
comp=Z,2µm,20.0s
FYU Fort Yukon 100.24 13 IAMs_20 IAMs_20 03 02 29.9
comp=Z,2µm,20.0s
E21K Killik River 100.53 9 IAMs_20 IAMs_20 03 01 52.5
comp=Z,2µm,22.0s
I29M Ogilvie Camp, 100.69 16 IAMs_20 IAMs_20 03 02 44.0
comp=Z,2µm,20.0s
G27K Doyon Strip 101.17 14 IAMs_20 IAMs_20 03 04 48.8
comp=Z,2µm,20.0s
OK052 Battle Ridge R 101.25 55 IAMs_20 IAMs_20 03 01 23.2
comp=Z,2µm,20.0s
TOLK Toolik Lake Re 101.35 10 IAMs_20 IAMs_20 02 59 35.3
comp=Z,2µm,22.0s
E28M Babbage River 103.12 14 IAMs_20 IAMs_20 03 01 15.4
comp=Z,2µm,20.0s
YKA Yellowknife Ar 105.89 26 PKiKP **PKiKP 02 28 18.5 -1.1**
comp=Z,0.1nm,0.4s,baz=232,slow=2.0,SNR=2.0
MTDJ Mount Denham 108.17 79 IAMs_20 IAMs_20 03 03 00.6
comp=Z,2µm,22.0s
SDV Santo Domingo 109.71 91 IAMs_20 IAMs_20 03 05 39.9
comp=Z,2µm,21.0s
HYB Hyderabad 109.72 279 *e*PKiKP **PKiKP 02 28 28.4 +0.2**
HYB *e*PP **PP 02 28 59.5 -0.4**
WCI Wyandotte Cave 109.75 57 IAMs_20 IAMs_20 03 06 15.4
comp=Z,2µm,22.0s
P49A Miami Univ. Ec 111.40 56 IAMs_20 IAMs_20 03 06 44.2
comp=Z,2µm,22.0s
GRHM Grahamstown, E 112.16 202 IAMs_20 IAMs_20 03 08 01.8
comp=Z,2µm,21.0s
WMQ Urumqi 113.19 308 *e*PKP **PKiKP 02 28 36.5 +2.5**
WMQ LR LR
comp=Z,560nm,20.1s
P52A Corning 113.29 57 IAMs_20 IAMs_20 03 10 41.3
comp=Z,2µm,20.0s
O53A New Philadelph 114.17 56 IAMs_20 IAMs_20 03 11 18.6
comp=Z,2µm,20.0s
BOSA Boshof 116.82 203 IAMs_20 IAMs_20 03 13 45.1
comp=Z,1µm,19.0s
SJG San Juan 117.83 85 IAMs_20 IAMs_20 03 11 54.6
comp=Z,1µm,21.0s
ZALV Zalesovo Beam 118.08 318 PKPdf **PKPdf 02 28 42.4 -0.6**
ZALV Zalesovo Beam 118.08 318 *e*PKiKP **PKiKP 02 28 44.5 +1.5**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 118.08 318 PKP **PKPdf 02 28 41.7 -1.3**
comp=Z,0.7nm,0.6s,baz=226,slow=3.9,SNR=3.9
YLE Yale 120.47 57 IAMs_20 IAMs_20 03 12 16.5
comp=Z,2µm,21.0s
NRN Naryn 120.65 303 PKPdf **PKPdf 02 28 48.1 -0.7**
NRN Naryn 120.65 303 PKiKP **PKPdf 02 28 48.1 -0.7**
BOOM Boomskoye usch 120.97 304 PKPdf **PKPdf 02 28 48.8 -0.4**
BOOM Boomskoye usch 120.97 304 PKiKP **PKPdf 02 28 48.8 -0.4**
KURK Kurchatov 121.06 314 PKPdf **PKPdf 02 28 48.5 -0.3**
KURK Kurchatov 121.06 314 PKiKP **PKPdf 02 28 46.7 -2.1**
KURBB Kurchatov Arra 121.09 314 PKP **PKPdf 02 28 46.7 -2.2**
comp=Z,1.7nm,0.7s,baz=106,slow=1.8,SNR=17
KBL Kabul 124.06 293 **PKPdf 02 28 53.8 -1.7**
KBL Kabul 124.06 293 PKiKP **PKPdf 02 28 53.8 -1.7**
BTK Batken 124.12 300 PKPdf **PKPdf 02 28 54.4 -0.8**
BTK Batken 124.12 300 PKiKP **PKPdf 02 28 54.4 -0.8**
KK31 Karatay Array 125.00 303 **PKPdf 02 28 55.8 -0.9**
KK31 Karatay Array 125.00 303 PKiKP **PKPdf 02 28 55.8 -0.9**
KKAR Karatay Array 125.00 303 PKPdf **PKPdf 02 28 55.3 -1.4**
KKAR Karatay Array 125.00 303 PKiKP **PKPdf 02 28 55.3 -1.4**
BVAR Borovoye Array 126.43 316 PKP **PKPdf 02 28 58.1 -1.0**
comp=Z,2.2nm,0.7s,baz=67,slow=1.2,SNR=11
BRVK Borovoye 126.49 316 PKPdf **PKPdf 02 28 59.5 +0.3**
BRVK Borovoye 126.49 316 PKiKP **PKPdf 02 28 59.5 +0.3**
HRA Herat 129.45 291 PKPdf **PKPdf 02 29 05.1 -0.6**
ARU Arti 133.15 320 *i* PKiKP **PKPdf 02 29 11.1 -0.6**
ARU 02 31 36.3
ARU SS SS 02 49 16.9 -4.3
KMBO Kilima Mbogo 133.62 234 IAMs_20 IAMs_20 03 21 12.9
comp=Z,1µm,20.0s
AKTO Aktyubinsk 134.10 312 PKP **PKPdf 02 29 13.1 -0.7**
comp=Z,1.4nm,0.9s,baz=304,slow=4.3,SNR=4.6
ATD Arta Tunnel 137.37 252 IAMs_20 IAMs_20 03 25 21.9
comp=Z,1µm,20.0s
APA Apatity 138.64 342 *i* PKiKP **PKiKP 02 29 24.4 +0.6**
APA *i* 02 32 17.5
APA pmax pmax
comp=Z,5.0nm,1.1s
ARCES ARCESS Array B 138.85 348 PKhKP PKPpre 02 29 16.4
comp=Z,2.3nm,0.9s,baz=41,slow=3.9,SNR=4.6
ARCES PKP **PKPdf 02 29 22.6 +0.6**
comp=Z,2.9nm,0.7s,baz=76,slow=0.5,SNR=4.9
MAK Makhachkala 141.76 302 *c i* P **Pdif 02 26 44.1 -3.2**
MAK *e* 02 32 31.6
MAK *e*SS SS 02 50 58.3 -6.1
MAK *e*SSS SSS 02 56 13.0
MAK pmax pmax
comp=Z,131nm,1.0s
VALR Valaam 143.87 336 *i* PKiKP **PKPdf 02 29 31.2 +0.1**
VALR pmax pmax
comp=Z,87nm,1.0s
GNI Garni 143.95 297 PKP **PKPdf 02 29 32.5 +0.2**
comp=Z,39nm,1.3s,baz=178,slow=17,SNR=3.3
TRLG Trialeti 144.37 300 P **PKiKP 02 29 35.8 -0.8**
TRLG Trialeti 144.37 300 PKiKP **PKiKP 02 29 35.8 -0.8**
ZEI Tsey 144.42 302 *i* PKiKP **PKPdf 02 29 32.9 -0.1**
ZEI pmax pmax
comp=Z,34nm,1.4s
MOS Moscow 144.44 325 *e*PKHKP PKPpre 02 29 27.3
MOS pmax pmax
comp=Z,32nm,1.0s
GOF Gofitskoye 144.74 306 *cei*PKiKP **PKPdf 02 29 34.2 +1.0**
ONI Oni 144.77 301 P **PKPab 02 29 31.7 -0.7**
ONI Oni 144.77 301 PKiKP **PKPab 02 29 31.7 -0.7**
KBZ Khabaz 145.04 303 *i* PKiKP PKPbc 02 29 33.2 0.0
KBZ Khabaz 145.04 303 PKP PKPbc 02 29 32.8 -0.4
comp=Z,16nm,1.1s,baz=345,slow=5.5,SNR=8.8
TKB Tkibuli 145.13 301 P **PKPbc 02 29 32.5 -1.2**
TKB Tkibuli 145.13 301 PKiKP **PKPbc 02 29 32.4 -1.2**
KVAR Kislovodsk Arr 145.15 304 PKP **PKPdf 02 29 34.6 +0.5**
comp=Z,7.0nm,0.8s,baz=84,slow=23,SNR=2.1
KIV Kislovodsk 145.16 304 **PKPbc 02 29 33.1 -0.7**
KIV Kislovodsk 145.16 304 *i* PKiKP **PKPbc 02 29 32.7 -1.0**
KIV pmax pmax
comp=Z,21nm,1.0s
LPSR Galich'ya Gora 145.17 320 *e*PKiKP **PKPbc 02 29 29.9 -3.4**
LPSR pmax pmax
comp=Z,70nm,1.7s
KARS Kars 145.20 298 **PKPbc 02 29 32.2 -1.8**
KARS Kars 145.20 298 PKiKP **PKPbc 02 29 32.2 -1.8**
SHA1 Shidzhatmaz 145.21 304 *i* PKiKP **PKPbc 02 29 33.5 -0.6**
NEUR Neytrino 145.24 303 *i* PKiKP **PKPbc 02 29 33.6 -0.5**
OBN Obninsk 145.27 325 PKPbc **PKPbc 02 29 32.7 -0.8**
OBN Obninsk 145.27 325 *i* PKP2 **PKPbc 02 29 29.5 -4.0**
OBN pmax pmax
comp=Z,55nm,1.4s
FINES FINESS Array B 145.36 340 PKPbc **PKPbc 02 29 32.5 -1.1**
FINES FINESS Array B 145.36 340 *e*PKP2 **PKPbc 02 29 30.0 -3.6**
FINES pmax pmax
comp=Z,13nm,0.7s
FINES FINESS Array B 145.36 340 PKPbc **PKPbc 02 29 31.1 -2.5**
comp=Z,13nm,0.7s,baz=56,slow=3.5,SNR=43
VORR Voronezh 145.38 318 *e*PKP2 **PKPbc 02 29 31.5 -2.5**
VORR pmax pmax
comp=Z,92nm,1.6s
VSR Storozhevoye 145.57 317 *e*PKP2 **PKPdf 02 29 32.4 -2.0**
VSR pmax pmax
comp=Z,50nm,1.0s
VORD Divnogorie 145.59 317 *e*PKP2 **PKPdf 02 29 32.5 -2.0**
VORD pmax pmax
comp=Z,90nm,1.5s
SIRT Sirnak 145.76 293 PKPdf **PKPdf 02 29 33.7 -1.7**
SOC Sochi 147.34 304 *i* PKHKP PKPpre 02 29 29.8
SOC *e*SSS SSS 02 57 35.6
ANN Anapa 148.69 307 *e*PKP2 **PKPab 02 29 46.5 -0.8**
ANN pmax pmax
comp=Z,167nm,1.5s
ARPR Arapgir-MALATY 148.94 296 **PKPbc 02 29 43.5 -1.2**
ARPR IAMs_20 IAMs_20 03 35 15.0
comp=Z,1µm,22.0s
NB2 NORSAR Subarra 149.04 351 PKP **PKPbc 02 29 42.9 -1.2**
comp=Z,6.3nm,1.1s,baz=17,slow=2.6
NOA NORSAR Array B 149.04 351 *e*PKiKP **PKPdf 02 29 41.0 +1.0**
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA NORSAR Array B 149.04 351 PKPbc **PKPdf 02 29 41.5 +1.5**
comp=Z,5.4nm,0.8s,baz=15,slow=4.3,SNR=11
HFS Hagfors 149.51 348 PKPbc **PKPdf 02 29 43.1 +2.3**
comp=Z,15nm,0.7s,baz=104,slow=0.6,SNR=11
MNK Minsk 149.72 329 *i* PKP **PKPbc 02 29 44.2 -1.8**
comp=E,4.0nm,0.9s
MNK *i* PKP **PKPbc 02 29 44.2 -1.8**
comp=N,4.0nm,0.9s
MNK *i* PKP **PKPbc 02 29 44.2 -1.8**
comp=Z,13nm,0.9s,baz=49
MNK *i* PP **PP 02 33 22.8 +3.5**
MNK *i* SKS SKSdf 02 36 20.6 -28
MNK *i* PPP PPP 02 36 43.4
MNK *i* SKKS SKKSac 02 39 13.4 -56
MNK *i* SS **SS 02 52 39.3 +5.9**
MNK *i* SSS SSS 02 56 26.5
MNK *i* LRM MLR 03 33 29.0
comp=Z,691nm,19.5s
MNK *i* LRM MLR 03 33 58.3
comp=N,619nm,19.3s
MNK *i* LRM MLR 03 35 33.4
comp=E,149nm,19.4s
MNK Minsk 149.72 329 *i* PKP2 **PKPbc 02 29 44.1 -1.8**
MNK *i* 02 33 22.7
MNK *i* PPP PPP 02 36 43.4
MNK pmax pmax
comp=N,4.0nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,13nm,0.9s
MNK MLR MLR
comp=Z,691nm,20.0s
MNK MLR MLR
comp=N,619nm,19.0s
MNK MLR MLR
comp=E,149nm,19.0s
NACGM Naroch 149.92 331 *e*PKP **PKPbc 02 29 46.6 +0.2**
comp=Z,42nm,0.8s,baz=48
GAZ Gaziantep 149.92 292 **PKPbc 02 29 45.4 -1.8**
ASF Jabal al Asfar 149.96 282 PKPbc **PKPbc 02 29 47.8 +0.4**
comp=Z,14nm,1.1s,baz=192,slow=1.9,SNR=9.5
EIL Elat 151.24 276 PKPbc **PKPbc 02 29 49.0 -1.4**
comp=Z,21nm,1.0s,baz=49,slow=1.8,SNR=11
MMAI Mount Meron Ar 151.30 283 PKPbc **PKPbc 02 29 50.2 -0.3**
comp=Z,16nm,0.8s,baz=107,slow=2.8,SNR=12
AKASG Malin Array Be 151.38 322 PKPbc **PKPbc 02 29 48.8 -1.2**
comp=Z,6.7nm,0.7s,baz=50,slow=2.7,SNR=32
KIEV Kiev 151.39 322 **PKPbc 02 29 48.8 -1.2**
KIEV Kiev 151.39 322 PKiKP **PKPbc 02 29 48.8 -1.2**
BRTR Keskin Array B 152.48 298 PKPbc **PKPbc 02 29 52.2 -0.8**
comp=Z,3.3nm,1.0s,baz=151,slow=2.8,SNR=10
BRTR PKPab **sPKPbc 02 30 01.7 +1.6**
comp=Z,3.7nm,1.0s,baz=78,slow=3.0,SNR=6.2
ANTO Ankara 153.10 298 **PKPbc 02 29 51.8 -2.6**
ANTO Ankara 153.10 298 PKiKP **PKPbc 02 29 51.8 -2.6**
LVV L'vov 154.57 325 *e*PKP2 **PKPab 02 30 10.2 -1.5**
BURAR Bucovina Array 155.29 320 PKPdf **PKPdf 02 29 48.6 -1.2**
BURAR PKPab **PKPab 02 30 13.6 -1.4**
DBIC Dimbokro 155.29 164 PKP **PKPdf 02 29 51.2 +0.5**
comp=Z,5.9nm,1.1s,baz=184,slow=2.1,SNR=4.5
DBIC PKPab **PKPab 02 30 16.2 +0.6**
comp=Z,4.9nm,0.8s,baz=162,slow=7.6,SNR=4.6
OJC Ojcow 156.25 330 *e*L L 03 34 24.0
comp=Z,1µm,27.3s
OJC Ojcow 156.25 330 *e*PKP **PKPab 02 30 17.5 -1.4**
CRVS Cervenica-Dubn 156.44 326 *e*PKP2 **PKPab 02 30 20.0 +0.3**
NIE Niedzica 156.62 328 *e*L L 03 36 05.2
comp=Z,492nm,23.9s
NIE Niedzica 156.62 328 *e*PKP **PKPab 02 30 19.7 -0.8**
BALB Balikesir 156.85 300 IAMs_20 IAMs_20 03 45 01.4
comp=Z,982nm,21.0s
DPC Dobruska-Polom 157.53 335 *e*PKPAB **PKPab 02 30 24.4 0.0**
CLL Collm 157.79 341 *e*PKPdf **PKPdf 02 29 55.0 +2.2**
CLL *ex* x 02 30 25.0
CLL *i* PKPab **PKPab 02 30 27.2 +1.8**
CLL *e*SSS SSS 03 00 06.0
CLL *e*(SSSS) 03 04 42.0
CLL AMS AMS 04 00 00.0
comp=N,600nm,20.2s
CLL AMS AMS 04 00 00.0
comp=E,400nm,18.3s
CLL AMS AMS 04 00 00.0
comp=Z,900nm,18.5s
CLL Collm 157.79 341 *e*PKIKP **PKPdf 02 29 55.0 +2.2**
CLL MLR MLR
comp=Z,900nm,18.5s
ALN Alexandroupoli 157.83 304 IAMs_20 IAMs_20 03 47 35.8
comp=Z,1µm,20.0s
PSZ Piszkesteto 157.87 326 PKPdf **PKPdf 02 29 51.5 -1.6**
PSZ **PKPab 02 30 24.5 -1.5**
PSZ Piszkesteto 157.87 326 PKIKP **PKPdf 02 29 51.5 -1.6**
PSZ 02 30 24.5
BRG Berggiesshubel 157.89 339 *e*PKP2 **PKPab 02 30 25.8 -0.1**
BRG pmax pmax
comp=Z,13nm,1.2s
VYHS Vyhne 157.95 328 *e*PKP **PKPab 02 30 26.1 -0.2**
VYHS Vyhne 157.95 328 *e*PKP2 **PKPab 02 30 26.1 -0.2**
KARP Karpathos 158.12 289 IAMs_20 IAMs_20 03 43 22.0
comp=Z,1µm,22.0s
JAVC Velka Javorina 158.19 331 *e*PKP **PKPab 02 30 28.7 +1.4**
PRU Pruhonice 158.46 337 *e*PKPAB **PKPab 02 30 29.2 +0.8**
PRU Pruhonice 158.46 337 *e*PKP2 **PKPab 02 30 29.2 +0.8**
MODS Modra-Piesok 158.73 330 *e*PKP **PKPab 02 30 30.2 +0.6**
MODS Modra-Piesok 158.73 330 *e*PKP2 **PKPab 02 30 30.2 +0.6**
ZVC Zvikov 159.05 337 *e*PKPAB **PKPab 02 30 30.9 -0.1**
KHC Kasperske Hory 159.52 337 *e*PKP PKPab 02 30 25.0 -8.1
KHC *e*PKPAB pPKPab 02 30 32.4 -5.8
KHC Kasperske Hory 159.52 337 *e*PKP2 PKPab 02 30 25.0 -8.1
CKRC Cesky Krumlov 159.53 335 *e*PKPAB **PKPab 02 30 32.6 -0.5**
CKRC Cesky Krumlov 159.53 335 *e*PKP2 **PKPab 02 30 32.6 -0.5**
RONA Rosalia, Austr 159.67 331 *i* PKP **PKPab 02 30 33.7 0.0**
comp=Z,13nm,1.4s
CONA Conrad Observa 159.67 332 *e*PKP **PKPab 02 30 32.3 -1.5**
comp=Z,7.6nm,1.3s
IDI Anoyia 159.99 289 IAMs_20 IAMs_20 03 39 48.5
comp=Z,889nm,22.0s
ARSA Arzberg 160.35 331 *i* PKP **PKPab 02 30 38.5 +1.8**
comp=Z,12nm,1.8s

MOA	**Molln**	**160.36**	**334**	*e*PKP		**PKPab**	**02 30 40.9**	**+4.2**
	comp=Z,13nm,1.5s							
BIOA	**Bad Ischl, Aus**	**160.73**	**335**	*i* PKP		**PKPab**	**02 30 38.1**	**-0.2**
	comp=Z,14nm,1.4s							
SOKA	**Soboth**	**161.00**	**331**	*i* PKP		**PKPab**	**02 30 39.5**	**-0.1**
	comp=Z,10nm,1.4s							
LESA	**Schwarzleotal**	**161.30**	**336**	*i* PKP		**PKPab**	**02 30 44.4**	**+3.5**
	comp=Z,11nm,1.7s							
WATA	**Walderalm**	**161.75**	**338**	*i* PKP		**PKPab**	**02 30 45.2**	**+2.3**
	comp=Z,12nm,1.5s							
WTTA	**Wattenberg**	**161.79**	**338**	*e*PKP		**PKPab**	**02 30 45.1**	**+1.9**
	comp=Z,14nm,1.6s							
RETA	**Reutte**	**161.86**	**340**	*i* PKP		**PKPab**	**02 30 45.8**	**+2.5**
	comp=Z,15nm,1.4s							
MOTA	**Moosalm**	**161.89**	**339**	*e*PKP		**PKPab**	**02 30 44.1**	**+0.5**
	comp=Z,12nm,1.1s							
ABTA	**Abfaltersbach**	**161.94**	**335**	*i* PKP		**PKPab**	**02 30 41.3**	**-2.5**
	comp=Z,11nm,1.7s							
SQTA	**Sankt Quirin**	**161.97**	**339**	*e*PKP		**PKPab**	**02 30 44.0**	**+0.2**
	comp=Z,12nm,1.5s							
FETA	**Feichten**	**162.29**	**339**	*i* PKP		**PKPab**	**02 30 44.9**	**-0.4**
	comp=Z,4.5nm,1.0s							
DAVA	**Damuels**	**162.30**	**341**	*i* PKP		**PKPab**	**02 30 45.2**	**-0.1**
	comp=Z,20nm,2.0s							
TOA0	**Torodi Ar. Sit**	**162.49**	**180**	PKPdf		**PKPdf**	**02 29 58.1**	**-1.0**
TOA0				PKPab		**PKPab**	**02 30 46.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**162.49**	**180**	PKPdf		**PKPdf**	**02 29 57.5**	**-1.6**
TORD				PKPab		**PKPab**	**02 30 46.7**	**0.0**
TORD	**Torodi Ar. Bea**	**162.49**	**180**	PKP		**PKPdf**	**02 29 59.7**	**+0.5**
	comp=Z,4.4nm,1.2s,baz=12,slow=2.9,SNR=9.7							
TORD				PKPab		**PKPab**	**02 30 46.4**	**-0.3**
	comp=Z,17nm,0.9s,baz=166,slow=2.3,SNR=20							
PMPST	**Porto Santo, M**	**164.56**	**77**	*e*PKPdf		**PKPdf**	**02 30 06.2**	**+5.6**
TIP	**Timpagrande**	**165.03**	**308**	PKPdf		**PKPdf**	**02 29 59.6**	**-1.3**
TIP						**PKPab**	**02 30 55.6**	**-2.0**
PGAV	**Gavieira, Arco**	**166.26**	**33**	*e*PKPdf		**PKPdf**	**02 30 06.2**	**+4.3**
POLO	**Lamas de Olo**	**166.94**	**33**	*e*PKPdf		**PKPdf**	**02 30 09.6**	**+7.2**
PVRL	**Vila Real**	**167.06**	**33**	*e*PKPdf		**PKPdf**	**02 30 09.6**	**+7.2**
PBRG	**Braganca**	**167.07**	**29**	*e*PKPdf		**PKPdf**	**02 30 09.6**	**+7.2**
MVO	**Moncorvo**	**167.46**	**32**	*e*PKPdf		**PKPdf**	**02 30 09.6**	**+6.9**
PCAS	**Casmilo, Conde**	**167.57**	**39**	*e*PKPdf		**PKPdf**	**02 30 09.4**	**+6.6**
PSBE	**So Bento**	**167.78**	**41**	*e*PKPdf		**PKPdf**	**02 30 09.4**	**+6.4**
MTE	**Manteigas**	**167.81**	**35**	*e*PKPdf		**PKPdf**	**02 30 06.4**	**+3.4**
PMAFR	**Mafra**	**167.86**	**45**	*e*PKPdf		**PKPdf**	**02 30 08.8**	**+5.8**
LIS	**Lisbon**	**168.09**	**45**	*e*PKPdf		**PKPdf**	**02 30 05.5**	**+2.4**
LIS				IAMs_20		IAMs_20	03 42 15.6	
	comp=Z,8µm,47.8s							
PACT	**Alcochete**	**168.25**	**44**	*e*PKPdf		**PKPdf**	**02 30 07.5**	**+4.3**
PCBR	**Castelo Branco**	**168.27**	**37**	*e*PKPdf		**PKPdf**	**02 30 10.1**	**+6.9**
PMTG	**Montargil**	**168.41**	**42**	*e*PKPdf		**PKPdf**	**02 30 10.2**	**+6.8**
PMRV	**Marv??o**	**168.62**	**38**	*e*PKPdf		PKPdf	02 30 11.4	+7.9
PNCL	**Nicolau / Gran**	**168.85**	**46**	*e*PKPdf		**PKPdf**	**02 30 08.3**	**+4.6**
PNCL	**Nicolau / Gran**	**168.85**	**46**	PKP		**PKPdf**	**02 30 08.6**	**+5.0**
EVO	**Evora**	**168.89**	**43**	*e*PKPdf		**PKPdf**	**02 30 08.3**	**+4.6**
PTEO	**Sao Teotonio**	**169.06**	**49**	*e*PKPdf		**PKPdf**	**02 30 08.3**	**+4.5**
MESJ	**Messejana**	**169.21**	**46**	*e*PKPdf		**PKPdf**	**02 30 08.3**	**+4.4**
MESJ	**Messejana**	**169.21**	**46**	*e*PKPdf		**PKPdf**	**02 30 06.2**	**+2.2**
MESJ				IAMs_20		IAMs_20	03 43 11.7	
	comp=Z,1µm,18.3s							
MORF	**Marmelete**	**169.25**	**50**	*e*PKPdf		**PKPdf**	**02 30 08.3**	**+4.3**
MORF	**Marmelete**	**169.25**	**50**	*e*PKPdf		**PKPdf**	**02 30 06.4**	**+2.4**
MORF				IAMs_20		IAMs_20	03 56 43.1	
	comp=Z,1µm,14.1s							
EBAD	**Badajoz**	**169.31**	**39**	PKP		**PKPdf**	**02 30 08.6**	**+4.7**
PBEJ	**Beja**	**169.31**	**45**	*e*PKPdf		**PKPdf**	**02 30 09.6**	**+5.6**
PCVE	**Castro Verde**	**169.45**	**47**	*e*PKPdf		**PKPdf**	**02 30 09.6**	**+5.5**
PBAR	**Barrancos**	**169.70**	**42**	*e*PKPdf		**PKPdf**	**02 30 09.6**	**+5.4**
PBDV	**Barranco-do-Ve**	**169.75**	**48**	*e*PKPdf		**PKPdf**	**02 30 09.6**	**+5.3**
ESDC	**Sonseca Array**	**169.98**	**26**			**PKPdf**	**02 30 02.5**	**-1.9**
ESDC						**PKPab**	**02 31 19.2**	**-0.1**
ESDC	**Sonseca Array**	**169.98**	**26**	PKP		**PKPdf**	**02 30 03.7**	**-0.7**
	comp=Z,2.0nm,0.9s,baz=358,slow=2.8,SNR=9.6							
ESDC				PKPab		**PKPab**	**02 31 20.4**	**+1.0**
	comp=Z,1.3nm,1.1s,baz=336,slow=6.8,SNR=3.0							
KEST	**Kesra**	**171.85**	**310**	PKPab		**PKPab**	**02 31 27.8**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=282,slow=5.4,SNR=6.2							

*IDC **08** 02:11:20.2±0.7, 10°.10N×140°.27E, h0km, mb4.4/18, mbtmp4.4/19, ML5.1/2, Error ellipse: s-maj=20.8km s-min=15.3km az=89.0*

*NEIC **08** 02:11:22.5±1.4, 10°.11N±0°.09×140°.3E±0°.1, h10km±1km, mb4.8/70, Error ellipse: s-maj=17.7km s-min=15.1km az=256.0*

ISC 08 02:11:24.0±0.5, 10°.03N±0°.07×140°.29E±0°.07, h26km, n124, σ1s08/122, mb4.7/65, 2C-2D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.72**	**51**	Pn	**Pn**	**02 12 48.2**	**+0.9**
GUMO	**Guam**	**5.72**	**51**	Pn	**Pn**	**02 12 47.9**	**+0.6**
	104nm,0.3s,baz=314,slow=2.2,SNR=42						
GUMO				Sn	**Sn**	**02 13 51.7**	**-0.4**
	147nm,0.3s,baz=48,slow=21,SNR=6.5						
JCJ	**Chichijima**	**17.07**	**6**	P	**Pn**	**02 15 21.3**	**+0.2**
	3.2nm,0.3s,baz=310,slow=23,SNR=2.8						
	81nm,0.9s						
JOW	**Kunigami**	**20.20**	**327**	P	**P**	**02 15 55.9**	**-1.2**
	32nm,0.8s,baz=309,slow=25,SNR=1.8						
	32nm,0.8s						
PMG	**Port Moresby**	**20.48**	**160**	P	**P**	**02 15 59.0**	**-1.1**
PMG	**Port Moresby**	**20.48**	**160**	P	**P**	**02 16 01.0**	**+0.9**
	3.1nm,0.3s,baz=209,slow=19,SNR=1.5						
	3.1nm,0.3s						
LUWI	**Luwuk**	**20.61**	**239**	P	**P**	**02 16 01.5**	**-0.1**
TOLI2	**Tolitoli**	**21.32**	**247**	P	**P**	**02 16 08.8**	**-0.4**
MYLDM	**Lahad Datu**	**22.12**	**259**	P	**P**	**02 16 18.7**	**+0.9**
YHNB	**Yeheng**	**23.15**	**311**	P	**P**	**02 16 28.9**	**+0.2**
COEN	**Coen**	**24.00**	**173**	P	**P**	**02 16 37.5**	**+0.7**
MTN	**Manton Dam**	**24.47**	**202**		**P**	**02 16 40.1**	**-1.0**
MTN				IAmb	IAmb	02 16 42.0	
	comp=Z,30nm,1.1s						
MMRI	**Maumere**	**25.82**	**225**	P	**P**	**02 16 54.1**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**26.91**	**69**	T	T	02 45 42.7	
	baz=255,slow=75,SNR=3616						
H11S1	**WAKE ISLAND Hy**	**26.92**	**69**	T	T	02 45 43.2	
	baz=255,slow=75,SNR=2607						
H11S2	**WAKE ISLAND Hy**	**26.92**	**69**	T	T	02 45 43.2	
	baz=255,slow=75,SNR=4423						
H11N1	**WAKE ISLAND Hy**	**27.42**	**66**	T	T	02 45 52.6	
	baz=253,slow=75,SNR=368						
H11N2	**WAKE ISLAND Hy**	**27.43**	**66**	T	T	02 46 20.5	
	baz=253,slow=75,SNR=666						
H11N3	**WAKE ISLAND Hy**	**27.44**	**66**	T	T	02 46 21.5	
	baz=253,slow=75,SNR=292						
KSRS	**Korea Array**	**29.50**	**340**	P	**P**	**02 17 25.2**	**-0.9**
	comp=Z,4.1nm,0.8s,baz=160,slow=11,SNR=8.3						
	comp=Z,4.1nm,0.8s						
NJ2	**Nanjing**	**29.55**	**321**	*e*P	**P**	**02 17 27.2**	**+0.5**
NJ2				pP	**pP**	**02 17 33.2**	**-0.8**
NJ2				sP	**sP**	**02 17 36.7**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
WB0	**Warramunga Arr**	**30.17**	**191**	P	**P**	**02 17 31.6**	**-0.7**
WRA	**Warramunga Arr**	**30.35**	**191**	P	**P**	**02 17 33.7**	**-0.2**
WRA	**Warramunga Arr**	**30.35**	**191**	P	**P**	**02 17 33.9**	**0.0**
	comp=Z,5.8nm,0.9s,baz=12,slow=10,SNR=28						
	comp=Z,5.8nm,0.9s						
ASAR	**Alice Springs**	**34.06**	**190**	P	**P**	**02 18 07.3**	**+0.9**
	comp=Z,3.1nm,0.7s,baz=16,slow=13,SNR=5.7						
	comp=Z,3.1nm,0.7s						
USRK	**Ussuriysk Ar.**	**34.80**	**350**	P	**P**	**02 18 11.6**	**-1.0**
USRK	**Ussuriysk Ar.**	**34.80**	**350**	P	**P**	**02 18 11.9**	**-0.7**
	comp=Z,5.3nm,0.8s,baz=170,slow=8.6,SNR=10.0						
	comp=Z,5.3nm,0.8s						
ENH	**Enshi**	**35.05**	**310**	P	**P**	**02 18 14.7**	**-0.3**
LYN	**LuoYang**	**35.25**	**318**	⇑P	**P**	**02 18 16.1**	**-0.5**
LYN				pmax	pmax		
	comp=Z,19nm,1.0s						
MDJ	**Mudanjiang**	**35.68**	**347**	P	**P**	**02 18 21.6**	**+1.4**
MDJ				pmax	pmax		
	comp=Z,12nm,2.5s						
MDJ				pmax	pmax		
	comp=Z,370nm,4.7s						
HNS	**HongShan**	**35.70**	**324**	⇑P	**P**	**02 18 19.7**	**-0.7**
HNS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SLVN	**Son La**	**36.69**	**292**	P	**P**	**02 18 29.6**	**+0.4**
SLVN				IAmb	IAmb	02 18 31.7	
	comp=Z,7.9nm,0.6s						
BJT	**Baijiatuan**	**36.76**	**328**	P	**P**	**02 18 29.3**	**-0.2**
BJT				IAmb	IAmb	02 18 41.0	
	comp=Z,17nm,1.1s						
BJI	**Beijing**	**36.77**	**328**	P	**P**	**02 18 30.0**	**+0.5**
BJI				pP	**pP**	**02 18 36.8**	**0.0**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BNX	**BinXian**	**37.26**	**345**	⇓P	**P**	**02 18 33.2**	**-0.4**
BNX				pmax	pmax		
	comp=Z,36nm,1.1s						
BNX				pmax	pmax		
	comp=Z,140nm,4.6s						
XAN	**Xi'an**	**37.37**	**315**	P	P	02 18 41.2	+6.4
XAN				pP	sP	02 18 51.3	+6.1
XAN				pmax	pmax		
	comp=Z,11nm,1.4s						
CRAI	**Chiangrai**	**39.74**	**290**	P	**P**	**02 18 54.0**	**-0.9**
XLT	**XiLinHaoTe**	**39.74**	**332**	*e*P	**P**	**02 18 54.0**	**-0.7**
XLT				pP	pP	02 19 02.5	+0.5
XLT				sP	sP	02 19 13.0	+8.0
XLT				pmax	pmax		
	comp=Z,15nm,0.8s						
XLT				pmax	pmax		
	comp=Z,710nm,14.9s						
HHC	**Hu-ho-hao-te**	**39.83**	**325**	*e*P	**P**	**02 18 58.1**	**+2.6**
HHC				S	**S**	**02 25 05.0**	**+6.5**
HHC				SS	**SS**	**02 27 50.6**	**-4.6**
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,310nm,5.0s						
HHC				LR	LR		
	comp=N,1µm,15.5s						
HHC				LR	LR		
	comp=E,2µm,15.0s						
HHC				LR	LR		
	comp=Z,1µm,16.4s						
PZH	**PanZhiHua**	**39.91**	**300**	P	**P**	**02 18 56.6**	**+0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CM31	**Chiang Mai Arr**	**40.86**	**287**	P	**P**	**02 19 04.0**	**-0.2**
CM31				IAmb	IAmb	02 19 14.9	
	comp=Z,11nm,0.7s						
CMAR	**Chiang Mai Arr**	**40.86**	**287**	P	**P**	**02 19 04.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**40.86**	**287**	P	**P**	**02 19 05.3**	**+1.1**
	comp=Z,7.5nm,0.8s,baz=92,slow=6.5,SNR=31						
	comp=Z,7.5nm,0.8s						
CHTO	**Chiang Mai**	**40.90**	**287**	P	**P**	**02 19 04.5**	**+0.1**
HEH	**HeiHe**	**41.50**	**348**	*e*P	**P**	**02 19 08.2**	**-0.7**
HEH				pmax	pmax		
	comp=Z,31nm,0.9s						
RPSI	**Rantau Prapat**	**41.71**	**263**	P	**P**	**02 19 11.1**	**0.0**
LZH	**Lanzhou**	**41.99**	**314**	*e*P	**P**	**02 19 16.3**	**+2.9**
LZH				pP	sP	02 19 23.3	-0.5
LZH				pmax	pmax		
	comp=Z,11nm,1.1s						
MND	**Mandalay**	**43.94**	**291**	P	**P**	**02 19 29.6**	**+0.4**
MND				IAmb	IAmb	02 19 40.8	
	comp=Z,16nm,1.2s						
PETK	**Petropavlovsk-**	**45.20**	**15**	P	**P**	**02 19 38.9**	**+0.1**
	comp=Z,4.4nm,1.0s,baz=101,slow=7.7,SNR=2.5						
	comp=Z,4.4nm,1.0s						
GTA	**Gaotai**	**46.38**	**316**	⇓P	**P**	**02 19 48.6**	**+0.1**
GTA				sP	sP	02 19 58.4	-0.6
GTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ULN	**Ulaanbaatar**	**46.95**	**330**	P	**P**	**02 19 52.5**	**-0.3**
ULN				IAmb	IAmb	02 20 05.2	
	comp=Z,6.3nm,0.9s						
SONM	**Songino Array**	**47.26**	**329**	P	**P**	**02 19 54.9**	**-0.3**
SONM				IAmb	IAmb	02 20 07.7	
	comp=Z,9.3nm,1.2s						
SONM	**Songino Array**	**47.26**	**329**	P	**P**	**02 19 55.4**	**+0.2**
	comp=Z,3.1nm,1.0s,baz=135,slow=7.2,SNR=15						
	comp=Z,3.1nm,1.0s						
SHL	**Shillong**	**48.33**	**295**	P	**P**	**02 20 04.0**	**+0.1**
SHL				IAmb	IAmb	02 20 17.6	
	comp=Z,8.8nm,1.0s						
LSA	**Lhasa**	**49.76**	**300**	P	**P**	**02 20 14.4**	**-0.8**
YAK	**Yakutsk**	**52.49**	**354**	P	**P**	**02 20 33.7**	**-0.8**
WMQ	**Urumqi**	**56.47**	**316**	*e*P	**P**	**02 21 04.6**	**+0.7**
WMQ				pP	sP	02 21 13.2	-1.1
WMQ				sP	pP	02 21 15.0	+3.5
WMQ				pmax	pmax		
	comp=Z,14nm,0.9s						
BILL	**Bilibino**	**60.44**	**11**	P	**P**	**02 21 31.0**	**-0.1**
BILL				IAmb	IAmb	02 21 31.9	
	comp=Z,12nm,1.2s						
MKAR	**Makanchi Array**	**61.03**	**318**	P	**P**	**02 21 35.3**	**-0.3**
MKAR	**Makanchi Array**	**61.03**	**318**	P	**P**	**02 21 35.4**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=96,slow=8.9,SNR=16						
	comp=Z,4.2nm,0.8s						
TIXI	**Tiksi**	**61.98**	**356**	P	**P**	**02 21 40.3**	**-1.1**
TIXI				IAmb	IAmb	02 21 58.9	
	comp=Z,5.3nm,0.8s						
ZAA0	**Zalesovo Array**	**61.99**	**327**	P	**P**	**02 21 40.7**	**-1.2**
ZAA0				IAmb	IAmb	02 21 53.1	
	comp=Z,4.3nm,0.8s						
ZALV	**Zalesovo Beam**	**61.99**	**327**	P	**P**	**02 21 40.9**	**-0.9**
ZALV	**Zalesovo Beam**	**61.99**	**327**	P	**P**	**02 21 41.0**	**-0.9**
	comp=Z,1.9nm,0.6s,baz=112,slow=7.8,SNR=9.0						
	comp=Z,1.9nm,0.6s						
KSH	**Kashi**	**63.91**	**309**	P	**P**	**02 21 57.6**	**+2.6**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NRN	**Naryn**	**64.19**	**311**	P	**P**	**02 21 56.1**	**-1.0**
NRN				IAmb	IAmb	02 21 58.2	
	comp=Z,6.4nm,1.2s						
KURK	**Kurchatov**	**64.49**	**322**	P	**P**	**02 21 58.0**	**-0.4**
KURBB	**Kurchatov Arra**	**64.52**	**322**	P	**P**	**02 21 58.0**	**-0.7**
	comp=Z,5.2nm,0.8s,baz=104,slow=6.5,SNR=25						
	comp=Z,5.2nm,0.8s						
NIL	**Nilore**	**65.42**	**302**	P	**P**	**02 22 04.7**	**-0.2**
AAK	**Ala-Archa**	**65.50**	**312**	P	**P**	**02 22 04.8**	**-0.7**
ARSB	**Arslanbob**	**66.42**	**311**	P	**P**	**02 22 11.0**	**-0.3**
BTK	**Batken**	**67.91**	**309**	P	**P**	**02 22 21.0**	**+0.2**
BTK				IAmb	IAmb	02 22 32.4	
	comp=Z,7.7nm,1.1s						
KK31	**Karatay Array**	**68.46**	**312**	P	**P**	**02 22 23.7**	**-0.4**
KK31				IAmb	IAmb	02 22 25.0	
	comp=Z,10nm,1.6s						
KKAR	**Karatay Array**	**68.46**	**312**	P	**P**	**02 22 23.1**	**-1.0**
KKAR				IAmb	IAmb	02 22 25.0	
	comp=Z,10nm,1.6s						
F17K	**Baldwin Pennin**	**68.57**	**22**	P	**P**	**02 22 23.9**	**-0.3**
KBL	**Kabul**	**68.96**	**303**	P	**P**	**02 22 26.4**	**-1.2**
KBL				IAmb	IAmb	02 22 40.6	
	comp=Z,6.9nm,1.1s						
E18K	**Tukpahlearik C**	**69.22**	**21**	P	**P**	**02 22 28.6**	**+0.3**
G18K	**Tagagawik**	**69.30**	**23**	P	**P**	**02 22 29.1**	**+0.2**
BVAR	**Borovoye Array**	**69.98**	**323**	P	**P**	**02 22 32.9**	**-0.4**
	comp=Z,6.0nm,0.7s,baz=106,slow=8.0,SNR=34						
	comp=Z,6.0nm,0.7s						
H19K	**Roundabout Mou**	**70.01**	**23**	P	**P**	**02 22 33.0**	**-0.2**
BRVK	**Borovoye**	**70.05**	**323**	P	**P**	**02 22 32.9**	**-0.8**
C19K	**Lookout Ridge**	**70.28**	**19**	P	**P**	**02 22 35.5**	**+0.6**
E19K	**Redstone River**	**70.42**	**21**	P	**P**	**02 22 36.5**	**+0.8**
D19K	**Kuna River**	**70.52**	**20**	P	**P**	**02 22 36.8**	**+0.4**
D19K				IAmb	IAmb	02 22 46.3	
	comp=Z,7.9nm,0.8s						
F20K	**Avaraart Lake**	**70.82**	**22**	P	**P**	**02 22 38.4**	**+0.3**
F20K				IAmb	IAmb	02 22 52.4	
	comp=Z,9.0nm,1.2s						
IMAR	**Indian Mountai**	**71.22**	**23**	P	**P**	**02 22 40.2**	**-0.4**
H21K	**Melozitna Rive**	**71.49**	**24**	P	**P**	**02 22 42.8**	**+0.6**
H21K				IAmb	IAmb	02 22 56.5	
	comp=Z,6.0nm,0.8s						
E21K	**Killik River**	**71.92**	**21**	P	**P**	**02 22 45.4**	**+0.5**
D22K	**Ayikyak River**	**72.51**	**20**	P	**P**	**02 22 49.4**	**+1.1**
D22K				IAmb	IAmb	02 22 59.0	
	comp=Z,6.1nm,0.8s						
E22K	**Anaktuvuk Pass**	**72.59**	**21**	P	**P**	**02 22 49.5**	**+0.7**
E22K				IAmb	IAmb	02 23 01.8	
	comp=Z,6.4nm,0.8s						
G23K	**Bananza Creek**	**72.86**	**23**	P	**P**	**02 22 51.1**	**+0.6**
G23K				IAmb	IAmb	02 23 06.6	
	comp=Z,9.4nm,0.9s						
C23K	**Itkillik River**	**73.50**	**20**	P	**P**	**02 22 55.0**	**+0.9**
C23K				IAmb	IAmb	02 23 09.8	
	comp=Z,6.4nm,0.8s						
TOLK	**Toolik Lake Re**	**73.53**	**21**	P	**P**	**02 22 55.2**	**+0.8**
TOLK				IAmb	IAmb	02 23 05.0	
	comp=Z,6.0nm,0.8s						
IL31		**73.69**	**25**	P	**P**	**02 22 54.9**	**-0.4**
ILAR	**Eielson Array**	**73.69**	**25**	P	**P**	**02 22 54.6**	**-0.7**
ILAR	**Eielson Array**	**73.69**	**25**	P	**P**	**02 22 54.1**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=247,slow=4.8,SNR=15						
	comp=Z,1.0nm,0.7s						
E24K	**Your Creek**	**73.78**	**22**	P	**P**	**02 22 56.3**	**+0.4**
E24K				IAmb	IAmb	02 23 09.6	
	comp=Z,10nm,1.4s						
F24K	**Squaw Lake**	**73.87**	**22**	P	**P**	**02 22 57.0**	**+0.6**
F24K				IAmb	IAmb	02 23 14.7	
	comp=Z,8.8nm,1.1s						
D24K	**Happy Valley**	**73.92**	**21**	P	**P**	**02 22 56.7**	**+0.1**
HRA	**Herat**	**74.57**	**303**	P	**P**	**02 23 00.4**	**-1.0**
HRA				IAmb	IAmb	02 23 13.6	
	comp=Z,10nm,1.1s						
D25K	**Kavik River**	**74.81**	**21**	P	**P**	**02 23 02.4**	**+0.6**
E25K	**Arctic Village**	**74.86**	**22**	P	**P**	**02 23 02.6**	**+0.5**
E25K				IAmb	IAmb	02 23 05.5	
	comp=Z,12nm,1.2s						
BMAR	**Burnt Mountain**	**75.10**	**23**	P	**P**	**02 23 04.1**	**+0.5**
ABKAR	**Akbulak array**	**76.18**	**318**	P	**P**	**02 23 09.3**	**-0.7**
E27K	**Coleen River**	**76.34**	**22**	P	**P**	**02 23 11.1**	**+0.5**
I28M	**Miner Creek**	**76.69**	**25**	P	**P**	**02 23 13.5**	**+0.8**
I28M				IAmb	IAmb	02 23 23.4	
	comp=Z,7.7nm,0.8s						
D27M	**Malcolm River**	**76.70**	**21**	P	**P**	**02 23 12.9**	**+0.3**
D27M				IAmb	IAmb	02 23 29.5	
	comp=Z,8.4nm,1.3s						
F28M	**Old Crow**	**76.92**	**23**	P	**P**	**02 23 14.9**	**+1.0**
F28M				IAmb	IAmb	02 23 24.8	
	comp=Z,8.3nm,0.8s						
E28M	**Babbage River**	**77.14**	**22**	P	**P**	**02 23 15.6**	**+0.5**
E28M				IAmb	IAmb	02 23 32.6	
	comp=Z,6.5nm,0.8s						
L29M	**L29M**	**77.32**	**27**	P	**P**	**02 23 17.0**	**+0.7**
G29M	**Pine Creek**	**77.58**	**24**	P	**P**	**02 23 19.2**	**+1.6**
G29M				IAmb	IAmb	02 23 28.6	
	comp=Z,8.4nm,0.9s						
K29M	**Barlow Dome**	**77.62**	**27**	P	**P**	**02 23 18.1**	**+0.1**
K29M				IAmb	IAmb	02 23 20.3	
	comp=Z,13nm,1.4s						
GEYT	**Alibeck**	**77.76**	**307**	P	**P**	**02 23 18.4**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=86,slow=4.5,SNR=2.6						
	comp=Z,0.8nm,0.5s						
GYA0B	**ALIBECK ARRAY**	**77.76**	**307**	P	**P**	**02 23 18.1**	**-1.1**
GYA0B				IAmb	IAmb	02 23 32.5	
	comp=Z,7.3nm,0.9s						
I30M	**Mount Dempster**	**78.17**	**25**	P	**P**	**02 23 21.0**	**0.0**
A36M	**Sachs Harbour**	**81.92**	**18**	P	**P**	**02 23 40.5**	**-0.4**
YKA	**Yellowknife Ar**	**88.05**	**27**	P	**P**	**02 24 11.2**	**-0.7**
YKA	**Yellowknife Ar**	**88.05**	**27**	P	**P**	**02 24 12.4**	**+0.4**
YKA	**Yellowknife Ar**	**88.05**	**27**	P	**P**	**02 24 12.3**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=291,slow=4.9,SNR=11						
	comp=Z,1.4nm,0.9s						
ARCES	**ARCESS Array B**	**89.04**	**341**	P	**P**	**02 24 17.2**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=348,slow=1.7,SNR=3.5						
	comp=Z,2.7nm,0.9s						
NVAR	**Mina Array Bea**	**92.64**	**50**	P	**P**	**02 24 35.3**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=269,slow=5.0,SNR=3.1						
	comp=Z,0.6nm,0.7s						
CO02	**Combarbal**	**144.13**	**131**	PKPdf	PKPbc	02 30 57.2	+0.8
CO03	**El Pedregal**	**144.55**	**130**	PKPdf	**PKPab**	**02 30 56.8**	**-0.6**
AC05	**El Transito**	**145.80**	**127**		**PKPdf**	**02 31 00.9**	**-0.4**

WEL 08 02:12:55.2±0.9, 38°S±8°×17°6E±°, h151km±8km, M2.5/14, MLv2.5/14, Error ellipse: s-maj=0.0km s-min=0.0km az=150.1, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRHZ	**Matea Rd**	**0.65**	**164**	P	Pn	02 13 17.7	+0.2
MRHZ				S	Sn	02 13 35.6	+0.9
RTZ	**Ruatahuna**	**0.74**	**123**	P	Pn	02 13 18.3	+0.2
RTZ				S	Sn	02 13 36.2	+0.5
KATZ	**Kakaramea**	**0.85**	**207**	P	Pn	02 13 19.5	+0.4
NTVZ	**North Tongarir**	**0.97**	**204**	P	Pn	02 13 20.2	+0.2
TMVZ	**Te Maari**	**0.98**	**203**	P	Pn	02 13 20.4	+0.3
BKZ	**Black Stump Fm**	**0.98**	**166**	P	Pn	02 13 19.9	-0.1

QRZ	**Quartz Range**	**5.69**	**43**	P	Pn	02 22 06.1	-1.3
TKNZ	**Takaka Hill**	**5.75**	**47**	P	Pn	02 22 07.6	-0.7

PRU 08 02:29:31.7, 51°46N × 16°12E, h0 km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVC	**Chvalec**	**0.87**	**183**	*e*PG	Pg	02 29 47.0	-1.4
CHVC				*e*SG	Sg	02 29 59.8	+0.1
CHVC	**Chvalec**	**0.87**	**183**	*e*PKIKP	Pg	02 29 47.0	-1.4
OSTC	**Ostas**	**0.91**	**176**	*e*PG	Pg	02 29 48.6	-0.4
OSTC				*e*SG	Sg	02 30 01.2	+0.4
OSTC	**Ostas**	**0.91**	**176**	*e*PKIKP	Pg	02 29 48.6	-0.4
UPC	**Upice**	**0.96**	**184**	*e*PG	Pg	02 29 48.8	-1.2
UPC				*e*SG	Sg	02 30 01.4	-1.0
UPC	**Upice**	**0.96**	**184**	*e*PKIKP	Pg	02 29 48.8	-1.2
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*PG	Pg	02 29 51.7	-1.4
DPC				*e*SG	Sg	02 30 07.3	-0.3
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*PKIKP	Pg	02 29 51.7	-1.4
PVCC	**Panska Ves**	**1.35**	**227**	*e*PG	Pg	02 29 57.0	-0.6
PVCC				*e*SG	Sg	02 30 14.5	-0.6
PVCC	**Panska Ves**	**1.35**	**227**	*e*PKIKP	Pg	02 29 57.0	-0.6
KRLC	**Kraliky**	**1.45**	**163**	*e*PG	Pn	02 29 57.5	-1.7
KRLC				*e*SG	Sg	02 30 17.1	-1.1
KRLC	**Kraliky**	**1.45**	**163**	*e*	Sg	02 30 17.1	-1.1
KRLC	**Kraliky**	**1.45**	**163**	*e*PKIKP	Pn	02 29 57.5	-1.7
BRG	**Berggiesshubel**	**1.49**	**248**	Sg	Sg	02 30 18.0	-1.6
BRG				Amp		02 30 20.0	
	comp=Z,3.5nm,0.7s						
HSKC	**Hora Svate Kat**	**1.90**	**244**	*e*SG	Sb	02 30 31.1	-0.4
KHC	**Kasperske Hory**	**2.84**	**216**	*e*SG	Sg	02 31 03.0	0.0

*IDC **08** 02:30:01.3±1.1, 7°27S × 125°94E, h0 km, mb4.0/5, mbtmp3.9/8, ML3.7/3, MS4.7/8, Error ellipse: s-maj=39.7km s-min=20.8km az=87.0*

ISC 08 02:30:06.3±1.0, 7°45S±0°09 × 126°3E±0°1, h35 km, n14, σ2s46/11, mb3.9/5, MS4.8/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.75**	**223**	Pn	**Pn**	**02 31 00.3**	**-1.4**
	9.2nm,0.3s,baz=59,slow=9.6,SNR=2.0						
BATI				Sn	**Sn**	**02 31 46.2**	**+1.5**
	8.4nm,0.3s,baz=348,slow=20,SNR=7.1						
	26nm,0.3s						
WRA	**Warramunga Arr**	**14.69**	**149**	Pn	**Pn**	**02 33 33.5**	**+1.9**
	0.2nm,0.3s,baz=326,slow=13,SNR=10.0						
WRA				Sn	**Sn**	**02 36 09.3**	**-4.0**
	0.4nm,0.3s,baz=320,slow=24,SNR=8.3						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**17.72**	**156**	P	**P**	**02 34 13.3**	**+2.2**
	0.4nm,0.3s,baz=336,slow=12,SNR=36						
ASAR				S	**Sn**	**02 37 24.9**	**-2.1**
	0.7nm,0.5s,baz=322,slow=17,SNR=4.8						
	1.8nm,0.5s						
JOW	**Kunigami**	**34.13**	**3**	LR	LR	02 49 27.7	
	comp=Z,879nm,21.8s,baz=62,slow=34						
SONM	**Songino Array**	**57.78**	**344**	LR	LR	03 06 53.6	
	comp=Z,435nm,20.6s,baz=30,slow=38						
PETK	**Petropavlovsk-**	**65.96**	**20**	P	**P**	**02 40 50.1**	**+1.2**
	2.2nm,0.8s,baz=112,slow=43,SNR=2.6						
	2.2nm,0.8s						
MKAR	**Makanchi Array**	**66.62**	**329**	P	**P**	**02 40 52.4**	**-0.9**
	0.4nm,0.5s,baz=124,slow=7.1,SNR=4.5						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**70.39**	**335**	P	**P**	**02 41 13.9**	**-2.7**
	0.6nm,0.5s,baz=101,slow=7.5,SNR=1.8						
ZALV				LR	LR	03 13 06.9	
	comp=Z,732nm,20.6s,baz=72,slow=37						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**71.00**	**330**	P	**P**	**02 41 18.5**	**-1.9**
	0.4nm,0.8s,baz=144,slow=4.3,SNR=4.7						
KURBB				LR	LR	03 14 02.9	
	comp=Z,804nm,21.7s,baz=119,slow=37						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**76.50**	**329**	LR	LR	03 19 28.3	
	comp=Z,422nm,19.7s,baz=123,slow=39						
OPO	**Ambohidratompo**	**77.34**	**253**	LR	LR	03 11 01.5	
	comp=Z,410nm,19.2s,baz=355,slow=32						
QSPA	**South Pole Qui**	**82.53**	**180**	P	**P**	**02 42 26.8**	**+1.4**
	1.1nm,0.3s,baz=11,slow=1.0,SNR=7.4						
	1.1nm,0.3s						
KIRV	**Kirov**	**89.51**	**329**	LR	LR	03 28 40.1	
	comp=Z,423nm,19.4s,baz=72,slow=39						
OBN	**Obninsk**	**95.87**	**325**	LR	LR	03 31 22.3	
	comp=Z,579nm,21.7s,baz=18,slow=38						

*IDC **08** 02:40:44.4±0.8, 9°70N × 140°70E, h0 km, mb3.8/11, mbtmp3.8/12, ML4.6/1, Error ellipse: s-maj=26.6km s-min=18.6km az=104.0*

ISC 08 02:40:49.6±0.9, 9°7N±0°1 × 140°8E±0°1, h35 km, n15, σ1s22/13, mb3.8/11, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.62**	**46**	Pn	**Pn**	**02 42 08.9**	**-1.8**
	20nm,0.3s,baz=110,slow=7.3,SNR=4.3						
GUMO				Sn	**Sn**	**02 43 15.5**	**+1.4**
	baz=358,slow=22						
	44nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**26.62**	**68**	T	T	03 14 30.7	
	baz=255,slow=75,SNR=519						
H11S1	**WAKE ISLAND Hy**	**26.64**	**68**	T	T	03 14 33.3	
	baz=255,slow=75,SNR=183						
H11S2	**WAKE ISLAND Hy**	**26.64**	**68**	T	T	03 14 37.2	
	baz=255,slow=75,SNR=745						
WRA	**Warramunga Arr**	**30.08**	**192**	P	**P**	**02 46 55.5**	**-0.4**
	1.3nm,0.8s,baz=11,slow=9.9,SNR=11						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**33.79**	**191**	P	**P**	**02 47 28.6**	**+0.1**
	0.4nm,0.4s,baz=19,slow=12,SNR=14						
	0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**41.40**	**287**	P	**P**	**02 48 33.9**	**+0.9**
	1.1nm,0.3s,baz=91,slow=7.6,SNR=4.2						
	1.1nm,0.3s						
SONM	**Songino Array**	**47.81**	**329**	P	**P**	**02 49 24.4**	**+0.6**
	0.2nm,0.4s,baz=146,slow=8.7,SNR=2.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**61.61**	**318**	P	**P**	**02 51 02.4**	**-1.3**
	0.4nm,0.5s,baz=104,slow=9.4,SNR=1.7						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**62.56**	**327**	P	**P**	**02 51 08.3**	**-1.6**
	0.4nm,0.3s,baz=176,slow=4.0,SNR=1.8						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**65.09**	**322**	P	**P**	**02 51 25.4**	**-1.2**
	0.4nm,0.6s,baz=110,slow=6.0,SNR=2.8						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**70.55**	**323**	P	**P**	**02 52 00.6**	**-0.5**
	0.8nm,0.5s,baz=105,slow=7.0,SNR=5.2						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**73.83**	**25**	P	**P**	**02 52 20.6**	**+0.2**
	0.3nm,0.5s,baz=250,slow=6.3,SNR=8.3						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**88.18**	**27**	P	**P**	**02 53 38.2**	**+1.5**
	0.7nm,0.9s,baz=289,slow=5.4,SNR=7.0						
	0.7nm,0.9s						
NVAR	**Mina Array Bea**	**92.52**	**51**	P	**P**	**02 53 58.1**	**+0.2**
	0.2nm,0.5s,baz=192,slow=20,SNR=1.6						
	0.2nm,0.5s						

*CATAC **08** 02:48:35.2±0.3, 8°93N × 82°91W, h10 km±3 km, ML2.6*
*UPA **08** 02:48:35.6±0.4, 8°96N × 82°83W, h18 km, MW2.8*

ISC 08 02:48:35.4±1.0, 8°96N±0°04 × 82°88W±0°04, h17 km±8 km, n16, σ0s53/32, 2C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLIR3	**Monte Lirio, C**	**0.18**	**164**	*e*P	**Pb**	**02 48 40.4**	**+0.2**
MLIR3				*e*S	**Sb**	**02 48 44.9**	**+1.3**
BRU2	**Volcan**	**0.25**	**133**	⇑*i*P	**Pb**	**02 48 41.4**	**-0.1**
BRU2				*e*S	**Sb**	**02 48 46.0**	**+0.4**
BRU2	**Volcan**	**0.25**	**133**	*i* P	**Pb**	**02 48 41.3**	**-0.2**
BRU2				*i* S	**Sb**	**02 48 46.0**	**+0.4**
BRU2				IAML		02 48 46.1	
	comp=Z,990nm,1.0s						
POTG	**Potrero Grande**	**0.26**	**290**	*i* P	**Pg**	**02 48 41.2**	**+0.1**
POTG				*i* S	**Sg**	**02 48 45.5**	**+0.4**
POTG				IAML		02 48 46.7	
	comp=Z,1μm,1.0s						
CDITO	**Canoas**	**0.39**	**180**	*e*P	**Pg**	**02 48 43.2**	**-0.1**
CDITO				*e*S	**Sb**	**02 48 49.3**	**-0.2**
CDITO	**Canoas**	**0.39**	**180**	*i* P	**Pg**	**02 48 43.1**	**-0.3**
CDITO				*i* S	**Sb**	**02 48 49.3**	**-0.2**
CDITO				IAML		02 48 53.6	
	comp=Z,680nm,1.0s						
BCO2	**Palmira**	**0.42**	**125**	⇑*i*P	**Pb**	**02 48 44.3**	**-0.1**
BCO2				*e*S	**Sb**	**02 48 50.6**	**0.0**
LNBQ3	**Los Naranjos,**	**0.46**	**112**	*e*P	**Pg**	**02 48 44.6**	**-0.1**
LNBQ3				*e*S	**Sb**	**02 48 51.5**	**-0.3**
DVD	**David**	**0.67**	**141**	*e*P	**Pg**	**02 48 48.1**	**-0.5**
DVD				*e*S	**Sb**	**02 48 57.6**	**-0.1**
PTPM	**Petroterminale**	**0.76**	**180**	*e*P	**Pg**	**02 48 49.6**	**-0.6**
PTPM				*e*S	**Sb**	**02 49 00.7**	**+0.6**
OCHAL	**Ojochal**	**0.77**	**280**	*i* P	**Pg**	**02 48 49.9**	**-0.6**
OCHAL				*i* S	**Sg**	**02 49 01.0**	**+0.3**
OCHAL				IAML		02 49 02.1	
	comp=Z,6.6nm,1.0s						
CDM	**Cerro de Muert**	**1.05**	**304**	*i* P	**Pb**	**02 48 54.5**	**-1.0**
CDM				*i* S	**Sb**	**02 49 09.6**	**+0.4**
CDM				IAML		02 49 12.1	
	comp=Z,99nm,1.0s						
RIMA	**Rio Macho**	**1.26**	**309**	*i* P	**Pn**	**02 48 57.9**	**-0.5**
RIMA				*i* S	**Sb**	**02 49 14.9**	**0.0**
RIMA				IAML		02 49 17.9	
	comp=Z,110nm,1.0s						
LCR2	**La Lucha 2**	**1.36**	**305**	*i* P	**Pn**	**02 48 59.5**	**-0.3**
LCR2				*i* S	**Sn**	**02 49 17.7**	**+0.2**
LCR2				IAML		02 49 18.6	
	comp=Z,100nm,1.0s						
HAYA	**Volcan Irazu**	**1.39**	**317**	*i* P	**Pn**	**02 49 00.7**	**+0.3**
HAYA				*i* S	**Sb**	**02 49 19.9**	**+1.1**
HAYA				IAML		02 49 24.0	
	comp=Z,270nm,1.0s						
OCM	**Ochomogo**	**1.42**	**311**	*i* P	**Pn**	**02 49 00.3**	**-0.3**
OCM				*i* S	**Sn**	**02 49 20.0**	**+1.1**
OCM				IAML		02 49 20.8	
	comp=Z,110nm,1.0s						

*IDC **08** 02:51:16.3±0.5, 27°63N × 86°21E, h0 km, mb4.5/35, mbtmp4.6/38, ML4.4/3, Error ellipse: s-maj=13.0km s-min=9.9km az=42.0*
*MOS **08** 02:51:16.8±1.0, 27°69N × 86°15E, h14 km, mb5.0/39, Error ellipse: s-maj=7.0km s-min=3.2km az=114.7*
*BJI **08** 02:51:17.1, 27°75N × 86°32E, h7 km, mb4.7/58, mB5.1/23, Ms4.3/19, Ms7 4.2/19*
*NEIC **08** 02:51:18.9±1.4, 27°76N±0°08 × 86°15E±0°09, h10 km±1 km, mb5.0/151, Error ellipse: s-maj=14.5km s-min=11.5km az=39.0*
*DMN **08** 02:51:18.4±0.1, 27°63N × 86°19E, h2 km, Ml5.5/7, Error ellipse: s-maj=3.4km s-min=1.2km az=22.0*
*NDI **08** 02:51:19.7±4.4, 27°67N × 86°11E, h10 km, ML4.5, mb5.0(NEIC)*

ISC 08 02:51:18.3±0.5, 27°62N±0°03 × 86°15E±0°02, h14 km±3 km, h14 km:pP-P, n659, σ1s41/655, mb4.9/172, MS4.3/5, 38C-9D, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**0.05**	**39**	*e*Pg	**Pg**	**02 51 20.4**	**-1.0**
GUN	**Gumba**	**0.38**	**320**	*e*Pg	**Pg**	**02 51 26.3**	**+0.2**
GUN				*e*Sg	**Sg**	**02 51 31.9**	**+0.5**
GUN				*e*Sg	**Sb**	**02 51 32.1**	**-0.8**
PKI	**Pulchoki**	**0.66**	**266**	*e*Pg	**Pb**	**02 51 32.1**	**+0.3**
PKI				*e*Sg	**Sb**	**02 51 41.3**	**+0.3**
	27μm,0.4s						
PKIN	**Phulchoki**	**0.67**	**267**	*e*Pg	**Pb**	**02 51 32.2**	**+0.2**
PKIN				*e*Sg	**Sg**	**02 51 41.0**	**+0.6**
	25μm,0.3s						
RAMN	**Ramite**	**0.78**	**149**	*e*Pg	**Pg**	**02 51 32.8**	**-0.6**
RAMN				*e*Sg	**Sg**	**02 51 43.6**	**-0.1**
	25μm,0.5s						
KKN	**Kakani**	**0.79**	**283**	*e*Pg	**Pb**	**02 51 34.2**	**+0.2**
KKN				*e*Sg	**Sg**	**02 51 44.5**	**+0.3**
KKN				*e*Sg	**Sb**	**02 51 44.9**	**+0.2**
	8μm,0.2s						
DMN	**Daman**	**0.93**	**270**	*e*Pg	**Pb**	**02 51 36.9**	**+0.5**
DMN				*e*Sg	**Sg**	**02 51 48.9**	**+0.4**
	13μm,0.4s						
ODAN	**Odare**	**1.34**	**124**	*e*Pg	**Pg**	**02 51 43.6**	**-0.4**
ODAN				*e*Sg	**Sn**	**02 52 00.4**	**0.0**
	12μm,0.4s						
ODAN				*e*Sg	**Sn**	**02 52 00.5**	**0.0**
GKN	**Gorkha**	**1.40**	**286**	*e*Pg	**Pg**	**02 51 45.2**	**0.0**
GKN				*e*Sg	**Sg**	**02 52 03.4**	**0.0**
	14μm,0.3s						
TAPN	**Taplejung**	**1.41**	**101**	*e*Pg	**Pn**	**02 51 43.9**	**+0.1**
TAPN				*e*Sg	**Sg**	**02 52 03.2**	**-0.6**
	5μm,0.4s						
GTK	**Tadong**	**2.20**	**97**	*e*P	**Pb**	**02 51 56.5**	**-1.4**
GTK				*e*S	**Sb**	**02 52 24.2**	**-0.8**
GTK				IAML		02 52 29.7	
	comp=N,5μm,0.5s						
GTK				IAML		02 52 31.3	
	comp=E,5μm,0.4s						
SLGI	**Shiliguri**	**2.21**	**114**	*e*P	**Pg**	**02 52 00.7**	**-0.1**
SLGI				*e*S	**Sg**	**02 52 28.2**	**-1.3**
DANN	**Dangsing**	**2.24**	**290**	*e*Pn	**Pb**	**02 51 57.4**	**-1.3**
DANN	**Dangsing**	**2.24**	**290**	*e*Pg	**Pg**	**02 52 00.4**	**-0.8**
DANN				*e*Sg	**Sg**	**02 52 29.4**	**-0.9**
	comp=E,9μm,0.5s						
KOLN	**Koldanda**	**2.27**	**274**	*e*Pg	**Pb**	**02 52 00.0**	**+0.8**
KOLN				*e*Sg	**Sg**	**02 52 30.9**	**-0.4**
KOLN				*e*Sg	**Sb**	**02 52 31.1**	**+3.9**
	comp=E,8μm,0.4s						
PYUN	**Piuthan**	**2.84**	**280**	*e*Pn	**Pn**	**02 52 05.3**	**+1.8**
PYUN	**Piuthan**	**2.84**	**280**	*e*Pg	**Pb**	**02 52 10.8**	**+1.9**
PYUN				*e*Sg	**Sg**	**02 52 47.2**	**-2.4**
	comp=E,10μm,0.6s						
BOK	**Bokaro**	**3.82**	**184**	*e*P	**Pn**	**02 52 18.5**	**+1.8**
BOK				*e*S	**Sn**	**02 52 57.5**	**-3.9**
BOK				IAML		02 53 19.4	
	comp=E,2μm,0.7s						
BRCI	**Bahraich**	**4.06**	**270**	*e*P	**Pn**	**02 52 24.0**	**+4.1**
LSA	**Lhasa**	**4.86**	**64**	Pn	**Pn**	**02 52 33.0**	**+1.6**
LSA	**Lhasa**	**4.86**	**64**	P	**Pn**	**02 52 33.0**	**+1.6**
LGTI	**Lohaghat**	**5.51**	**291**	*e*P	**Pn**	**02 52 44.1**	**+4.3**
LGTI				*e*S	**Sn**	**02 53 43.9**	**+0.9**
SHL	**Shillong**	**5.52**	**110**	Pn	**Pn**	**02 52 40.2**	**-0.1**
SHL	**Shillong**	**5.52**	**110**	P	**Pn**	**02 52 40.2**	**-0.1**
PTH	**Pithoragarh**	**5.56**	**292**	*e*P	**Pn**	**02 52 43.2**	**+2.3**
PTH				*e*S	**Sn**	**02 53 44.9**	**+0.2**
AGT	**Agartala**	**5.91**	**128**	*e*S	**Sn**	**02 53 55.2**	**+2.1**
TEZP	**TEZPUR**	**6.01**	**98**	*e*P	**Pn**	**02 52 47.5**	**+0.7**
TEZP				*e*S	**Sn**	**02 53 52.1**	**-3.3**
JHSG	**JHARSUGUGA**	**6.22**	**201**	*e*P	**Pn**	**02 52 51.9**	**+2.1**
JHSG				*e*S	**Sn**	**02 54 01.0**	**+0.3**
ITAN	**ITANAGAR**	**6.75**	**92**	*e*P	**Pn**	**02 52 57.5**	**+0.5**
ZIRO	**ZIRO**	**6.83**	**89**	*e*P	**Pn**	**02 52 59.0**	**+0.7**
ZIRO				*e*S	**Sn**	**02 54 14.7**	**-1.3**
KOHI	**KOHIMA**	**7.36**	**103**	*e*P	**Pn**	**02 53 05.9**	**+0.3**
KOHI				*e*S	**Sn**	**02 54 27.2**	**-1.9**
KOHI				IAML		02 55 21.8	
	comp=E,652nm,1.0s						
KOHI				IAML		02 55 22.6	
	comp=N,745nm,1.0s						
IMP	**Imphal**	**7.53**	**110**	*e*P	**Pn**	**02 53 09.4**	**+1.7**
IMP				*e*S	**Sn**	**02 54 32.3**	**-0.7**
MOKO	**MOKOCHONG**	**7.57**	**98**	*e*P	**Pn**	**02 53 09.2**	**+0.7**
MOKO				*e*S	**Sn**	**02 54 30.8**	**-3.4**
MOKO				IAML		02 54 40.1	
	comp=E,319nm,0.6s						
MOKO				IAML		02 54 41.0	
	comp=N,200nm,0.5s						
DDI	**Dehra Dun**	**7.59**	**293**	*e*P	**Pn**	**02 53 10.8**	**+2.2**
DDI				IAML		02 54 43.7	
	comp=E,883nm,0.6s						
NDI	**New Delhi**	**7.96**	**280**	*e*P	**Pn**	**02 53 13.8**	**+0.2**
NDI				*e*S	**Sn**	**02 54 35.3**	**-8.2**
SAIH	**SAIHA**	**8.03**	**128**	*e*P	**Pn**	**02 53 16.2**	**+1.5**
SAIH				*e*S	**Sn**	**02 54 44.1**	**-1.3**
SAIH				IAML		02 54 46.4	
	comp=E,173nm,0.6s						
SAIH				IAML		02 54 47.8	
	comp=N,143nm,0.4s						
KUDL	**Kundal**	**8.57**	**276**	*e*P	**Pn**	**02 53 22.3**	**+0.4**
LKP	**Lekhapani**	**8.62**	**90**	*e*P	**Pn**	**02 53 24.1**	**+1.5**
RAGD	**RAYAGADA**	**8.69**	**197**	*e*P	**Pn**	**02 53 25.4**	**+1.7**
RAGD				*e*S	**Sn**	**02 54 59.2**	**-2.4**
RAGD				IAML		02 55 01.7	
	comp=E,244nm,1.0s						
BHPL	**Bhopal**	**9.01**	**243**	*e*P	**Pn**	**02 53 27.5**	**-0.6**
BHPL				IAML		02 55 07.2	
	comp=E,270nm,0.3s						
DHRM	**DHARAMSHALA**	**9.71**	**301**	*e*P	**Pn**	**02 53 38.1**	**+0.2**
DHRM				*e*S	Sn	02 55 18.1	-8.8
DHRM				IAML		02 55 26.2	
	comp=N,313nm,0.6s						
DHRM				IAML		02 55 28.4	
	comp=E,496nm,0.7s						
THN	**Thein Dam**	**10.24**	**300**	*e*P	**Pn**	**02 53 44.0**	**-0.8**
THN				*e*S	**Sn**	**02 55 32.5**	**-6.8**
AJM	**Ajmer**	**10.32**	**266**	*e*P	**Pn**	**02 53 45.2**	**-0.9**
AJM				*e*S	**Sn**	**02 55 33.7**	**-8.0**
MND	**Mandalay**	**10.63**	**119**	Pn	**Pn**	**02 53 52.8**	**+2.6**
AKL	**Akola**	**10.81**	**232**	*e*P	**Pn**	**02 53 51.9**	**-0.9**
AKL				*e*S	**Sn**	**02 55 48.4**	**-5.2**
GOMU	**GeErMu**	**11.28**	**39**	P	**Pn**	**02 54 00.7**	**+1.3**
GOMU				pP		02 54 05.5	
GOMU				sP		02 54 07.8	
GOMU				pmax	pmax		
	comp=E,7.0nm,1.0s						
GOMU				LR	LR		
	comp=E,880nm,10.0s						
GOMU				LR	LR		
	comp=E,690nm,11.7s						
GOMU				LR	LR		
	comp=E,1μm,11.0s						
TNCH	**TengChong**	**11.39**	**100**	*e*P	**Pn**	**02 54 04.3**	**+3.5**
TNCH				sP		02 54 07.3	
TNCH				pmax	pmax		
	comp=E,71nm,0.5s						
HYB	**Hyderabad**	**12.34**	**216**	*e*P	**Pn**	**02 54 15.8**	**+2.1**
HYB				*e*S	**Sn**	**02 56 36.2**	**+5.1**
HYB				IVMs_BB	IVMs_BB	02 57 50.7	
	comp=Z,1μm,3.8s						
NIL	**Nilore**	**12.63**	**302**	Pn	**Pn**	**02 54 15.5**	**-2.0**
NIL	**Nilore**	**12.63**	**302**	P	**Pn**	**02 54 15.5**	**-2.0**
PZH	**PanZhiHua**	**13.94**	**91**	P	**Pn**	**02 54 33.4**	**-2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,5.5s						
POO	**Poona**	**14.48**	**234**	*e*S	Sn	02 57 11.6	-12
KSH	**Kashi**	**14.57**	**327**	P	**Pn**	**02 54 41.3**	**-2.9**
KSH				pP	P	02 54 45.0	-5.7
KSH				S	**Sn**	**02 57 16.9**	**-8.8**
KSH				pmax	pmax		
	comp=Z,44nm,0.9s						
CHTO	**Chiang Mai**	**14.66**	**124**	Pn	**Pn**	**02 54 46.0**	**+0.6**
CHTO	**Chiang Mai**	**14.66**	**124**	P	**Pn**	**02 54 46.0**	**+0.6**
CM31	**Chiang Mai Arr**	**14.88**	**125**	Pn	**Pn**	**02 54 48.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**14.88**	**125**	Pn	**Pn**	**02 54 48.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**14.88**	**125**	P	**Pn**	**02 54 48.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**14.88**	**125**	Pn	**Pn**	**02 54 46.0**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=302,slow=13,SNR=33						
CMAR				Lg	Lg	02 59 08.2	
	comp=Z,1.0nm,0.3s,baz=202,slow=34,SNR=2.7						
	comp=Z,5.4nm,0.8s						
CRAI	**Chiangrai**	**14.93**	**116**	Pn	**Pn**	**02 54 50.6**	**+1.5**
KMI	**Kunming**	**15.07**	**96**	⇑P	**Pn**	**02 54 49.6**	**-1.6**
KMI				pmax	pmax		
	comp=Z,18nm,0.9s						
MDRS	**Chennai**	**15.49**	**202**	*e*P	**Pn**	**02 54 56.4**	**-0.1**
TARG	**Taragay, Kyrgy**	**15.65**	**336**		**Pn**	**02 54 57.2**	**-1.6**
TARG	**Taragay, Kyrgy**	**15.65**	**336**	P	**Pn**	**02 54 57.2**	**-1.6**
TARG				pmax	pmax		
	comp=Z,25nm,0.8s						
NRN	**Naryn**	**16.10**	**331**	Pn	**Pn**	**02 55 02.9**	**-1.7**
NRN	**Naryn**	**16.10**	**331**	P	**Pn**	**02 55 02.9**	**-1.7**
NRN				pmax	pmax		
	comp=Z,21nm,1.1s						
PRZ	**Przheval'sk**	**16.12**	**339**	Pn	**Pn**	**02 55 01.9**	**-2.7**
PRZ	**Przheval'sk**	**16.12**	**339**	P	**Pn**	**02 55 01.9**	**-2.7**
PRZ				pmax	pmax		
	comp=Z,22nm,0.8s						
KBL	**Kabul**	**16.19**	**299**	Pn	**Pn**	**02 55 04.5**	**-1.1**
KBL	**Kabul**	**16.19**	**299**	P	**Pn**	**02 55 04.6**	**-1.1**
KBL				pmax	pmax		
	comp=Z,51nm,0.8s						
WMQ	**Urumqi**	**16.21**	**4**	*e*P	**Pn**	**02 55 03.1**	**-2.7**
WMQ				pP	P	02 55 09.0	+0.1
WMQ				sP	pP	02 55 11.3	-1.9
WMQ				pmax	pmax		
	comp=Z,23nm,0.7s						
GTA	**Gaotai**	**16.35**	**41**	P	**Pn**	**02 55 05.1**	**-2.5**
GTA				pP	P	02 55 09.6	-0.8
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SHLS	**Shalkode**	**16.43**	**342**	*e*P	**Pn**	**02 55 06.4**	**-2.1**
	baz=343						
SHLS	**Shalkode**	**16.43**	**342**	*e*P	**Pn**	**02 55 06.4**	**-2.1**
UZB	**Uzynbulak**	**16.54**	**341**	*e*P	**Pn**	**02 55 09.2**	**-0.7**
	baz=341						
UZB	**Uzynbulak**	**16.54**	**341**	*e*P	**Pn**	**02 55 09.2**	**-0.7**
PDGK	**Podgornoye**	**16.58**	**343**	P	**Pn**	**02 55 07.8**	**-2.6**
SATY	**Saty**	**16.64**	**340**	*e*P	**Pn**	**02 55 11.4**	**+0.1**
	baz=340						
SATY	**Saty**	**16.64**	**340**	*e*P	**Pn**	**02 55 11.3**	**+0.1**
ULHL	**Ulahol**	**16.68**	**334**	P	**P**	**02 55 16.7**	**+2.5**
	SNR=18						
KPKS	**Kokpek**	**16.93**	**341**	*e*P	**Pn**	**02 55 14.5**	**-0.4**
	baz=341						
KPKS	**Kokpek**	**16.93**	**341**	*e*P	**Pn**	**02 55 14.4**	**-0.4**
KZA	**Kyzart**	**

TDK **Taldyqorghan** 18.42 342 *e*P **Pn** 02 55 33.5 +0.3
MK31 **Makanchi Array** 19.38 352 **P** 02 55 43.0 -0.6
MK31 **Makanchi Array** 19.38 352 P **P** 02 55 43.1 -0.6
MK31 pmax pmax
comp=Z,20nm,0.8s
MKAR **Makanchi Array** 19.38 352 P **Pn** 02 55 44.5 -0.4
comp=Z,5.5nm,0.3s,baz=175,slow=8.9,SNR=82
comp=Z,17nm,0.5s
DZA **Taraz** 19.41 326 *e*P **Pn** 02 55 45.0 -0.3
baz=325
DZA **Taraz** 19.41 326 *e*P **Pn** 02 55 45.0 -0.3
MAKZ **Makanchi** 19.43 351 P **P** 02 55 42.8 -1.5
MAKZ **Makanchi** 19.43 351 P **P** 02 55 42.8 -1.5
MAKZ pmax pmax
comp=Z,42nm,1.2s
ZSN **Zaisan** 19.82 357 *e*P **P** 02 55 48.8 +0.2
baz=357
ZSN **Zaisan** 19.82 357 *e*P **P** 02 55 48.7 +0.2
BTLS **Baital** 19.89 334 *e*P **P** 02 55 49.6 +0.3
baz=334
BTLS **Baital** 19.89 334 *e*P **P** 02 55 49.6 +0.3
KK31 **Karatay Array** 19.98 325 P **P** 02 55 49.9 -0.4
KK31 **Karatay Array** 19.98 325 P **P** 02 55 49.9 -0.4
KK31 pmax pmax
comp=Z,11nm,0.9s
KKAR **Karatay Array** 19.98 325 P **P** 02 55 49.9 -0.4
KKAR **Karatay Array** 19.98 325 P **P** 02 55 49.9 -0.4
KKAR pmax pmax
comp=Z,11nm,0.9s
XAN **Xi'an** 20.55 66 P **P** 02 55 56.0 -0.6
XAN pP pP 02 56 00.4 -0.7
XAN pmax pmax
comp=Z,31nm,0.8s
ENH **Enshi** 20.59 77 P **P** 02 55 57.0 0.0
ENH IAmb IAmb 02 56 04.9
comp=Z,38nm,0.7s
PALK **Pallekele** 20.89 195 P Pn 02 56 02.6 -0.2
PALK **Pallekele** 20.89 195 P Pn 02 56 02.6 -0.2
PALK pmax pmax
comp=Z,18nm,0.5s
PALK **Pallekele** 20.89 195 P Pn 02 56 02.4 -0.4
comp=Z,4.7nm,0.6s,baz=118,slow=15,SNR=3.1
PALK S **S** 02 59 48.1 -4.8
comp=Z,11nm,0.7s,baz=176,slow=13,SNR=6.4
comp=Z,4.7nm,0.6s
HRA **Herat** 21.55 294 P **P** 02 56 06.4 -1.1
GULI **GuiLin** 21.80 91 ⇓P **P** 02 56 10.8 +0.8
GULI pmax pmax
comp=Z,60nm,0.8s
GULI pmax pmax
comp=Z,500nm,5.1s
DGZ **Jazzator, Alta** 22.07 2 *i* P **P** 02 56 12.0 -0.9
DGZ pmax pmax
comp=Z,28nm,0.7s
OTUK **Ortayu** 23.23 336 P **P** 02 56 25.5 +0.5
QIZ **Qiongzhong** 23.34 106 P **P** 02 56 27.4 +1.0
QIZ S **S** 03 00 41.4 +2.5
QIZ LR LR
comp=Z,320nm,8.4s
QIZ LR LR
comp=Z,300nm,10.8s
QIZ LR LR
comp=Z,470nm,12.8s
LYN **LuoYang** 23.53 66 *e*P **P** 02 56 28.7 +0.6
LYN sP sP 02 56 34.5 -0.4
LYN pmax pmax
comp=Z,25nm,0.9s
BTO **Baotou** 23.54 50 *e*P **P** 02 56 27.8 -0.5
BTO pP **pP** 02 56 32.8 -0.2
BTO sP **sP** 02 56 35.0 0.0
BTO PP **PnPn** 02 56 59.8 +4.8
BTO S **S** 03 00 42.1 +0.1
BTO SS **SnSn** 03 01 24.5 +6.1
BTO pmax pmax
comp=Z,42nm,1.0s
BTO pmax pmax
comp=Z,940nm,8.0s
BTO LR LR
comp=Z,970nm,16.3s
BTO LR LR
comp=Z,1μm,10.8s
BTO LR LR
comp=Z,1μm,12.7s
KURBB **Kurchatov Arra** 23.70 348 P **P** 02 56 30.0 +0.5
KURBB **Kurchatov Arra** 23.70 348 P **P** 02 56 30.6 +1.1
comp=Z,25nm,0.8s,baz=167,slow=9.3,SNR=158
comp=Z,25nm,0.8s
KURK **Kurchatov** 23.77 348 P **P** 02 56 30.6 +0.4
KURK **Kurchatov** 23.77 348 *ce*P **P** 02 56 31.1 +0.9
KURK pmax pmax
comp=Z,78nm,1.0s
BRZS **Berezniki** 24.60 339 *e*P **P** 02 56 38.8 +0.7
comp=Z,14nm,0.9s,baz=339
BRZS **Berezniki** 24.60 339 *e*P **P** 02 56 38.7 +0.7
BRZS pmax pmax
comp=Z,14nm,0.9s
HHC **Hu-ho-hao-te** 24.71 51 *e*P **P** 02 56 39.6 +0.4
HHC sP pP 02 56 43.8 -0.2
HHC PP **PnPn** 02 57 17.8 +6.8
HHC S **S** 03 00 57.4 -3.3
HHC SS **SnSn** 03 01 48.3 +1.4
HHC pmax pmax
comp=Z,12nm,0.7s
HHC LR LR
comp=Z,860nm,18.8s
HHC LR LR
comp=Z,660nm,17.2s
HHC LR LR
comp=Z,2μm,17.7s
WHN **Wuhan** 24.79 76 P **P** 02 56 45.3 +5.4
SONM **Songino Array** 25.62 33 P **P** 02 56 47.9 +0.5
SONM **Songino Array** 25.62 33 P **P** 02 56 47.9 +0.5
SONM pmax pmax
comp=Z,14nm,1.0s
SONM **Songino Array** 25.62 33 P **P** 02 56 48.3 +0.9
comp=Z,10nm,0.5s,baz=220,slow=10,SNR=72
comp=Z,10nm,0.5s
GEYT **Alibeck** 25.63 301 P **P** 02 56 48.9 +1.4
comp=Z,6.1nm,0.6s,baz=118,slow=12,SNR=9.8
comp=Z,6.1nm,0.6s
GYA0B **ALIBECK ARRAY** 25.63 301 P **P** 02 56 47.5 0.0
HNS **HongShan** 25.89 61 ⇑P **P** 02 56 50.9 +1.1
HNS pmax pmax
comp=Z,59nm,0.9s
ULN **Ulaanbaatar** 25.96 33 P **P** 02 56 50.4 -0.1
ULN **Ulaanbaatar** 25.96 33 *ce*P **P** 02 56 51.1 +0.6
ULN pmax pmax
comp=Z,16nm,1.0s
KULM **Kulim** 26.14 146 P **P** 02 56 52.8 +0.5
KULM IAmb IAmb 02 56 56.1
comp=Z,18nm,0.8s
ZAK **Zakamensk** 26.22 25 *e*P **P** 02 56 53.0 +0.3
ZAK pmax pmax
comp=Z,14nm,1.4s
ZAA0 **Zalesovo Array** 26.32 358 P **P** 02 56 53.3 -0.2
ZALV **Zalesovo Beam** 26.32 358 P **P** 02 56 54.1 +0.6
comp=Z,6.5nm,0.5s,baz=183,slow=9.8,SNR=31
comp=Z,6.5nm,0.5s
MOY **Mondy** 26.49 21 *e*P **P** 02 56 59.8 +4.6
MOY pmax pmax
comp=Z,38nm,2.0s
BJT **Baijiatuau** 27.70 56 P **P** 02 57 05.8 -0.2
BJT **Baijiatuau** 27.70 56 P **P** 02 57 05.8 -0.2
BJT pmax pmax
comp=Z,6.0nm,0.8s
BVA0 **Borovoye Array** 27.95 340 *i* P **P** 02 57 08.4 +0.2
BVAR **Borovoye Array** 27.95 340 P **P** 02 57 09.0 +0.8
comp=Z,5.5nm,0.4s,baz=150,slow=10,SNR=46
comp=Z,5.5nm,0.4s
BRVK **Borovoye** 28.01 339 P **P** 02 57 08.5 -0.2
BRVK **Borovoye** 28.01 339 *ce*P **P** 02 57 09.7 +1.0
BRVK pmax pmax
comp=Z,7.0nm,1.0s
GSI **Gunungsitoli** 28.36 155 P **P** 02 57 13.9 +1.7
GSI IAmb IAmb 02 57 14.6
comp=Z,36nm,1.2s
NJ2 **Nanjing** 28.65 73 *e*P **P** 02 57 15.9 +1.3
NJ2 sP **pP** 02 57 19.8 +0.4
NJ2 pmax pmax
comp=Z,12nm,0.5s
AB31 **Akbulak array** 29.54 324 *e*P **P** 02 57 23.1 +0.7
ABKAR **Akbulak array** 29.54 324 P **P** 02 57 22.8 +0.4
AKTO **Aktyubinsk** 31.25 324 P **P** 02 57 37.5 0.0
HIA **Hailar** 33.63 41 P **P** 02 57 58.3 -0.1
HIA IAmb IAmb 02 58 04.6
comp=Z,10nm,0.7s
HIA **Hailar** 33.63 41 *i* P **P** 02 57 58.2 -0.1
HIA pmax pmax
comp=Z,9.0nm,0.9s
SVE **Sverdlovsk** 34.37 335 *e*P **P** 02 58 06.1 +1.5
SVE pmax pmax
comp=Z,18nm,0.6s
MAK **Makhachkala** 34.73 306 *e*P **P** 02 58 06.8 -1.1
MAK *e*S **S** 03 03 35.6 -2.0
MAK pmax pmax
comp=Z,111nm,0.8s
MAK MLR MLR
comp=Z,323nm,16.0s
ARU **Arti** 34.88 333 P **P** 02 58 08.5 -0.6
ARU **Arti** 34.88 333 *d* i P **P** 02 58 09.0 -0.1
ARU 02 59 21.8
ARU 03 00 36.0
ARU S **S** 03 03 41.2 +1.5
ARU SS **SnSn** 03 05 53.6 -0.5
ARU pmax pmax
comp=Z,13nm,0.5s
CN2 **Changchun** 35.38 52 *e*P **P** 02 58 13.3 -0.3
CN2 pmax pmax
comp=Z,10.0nm,0.9s
BOD **Bodaibo** 35.96 25 *e*P **P** 02 58 19.1 +0.8
BOD pmax pmax
comp=Z,24nm,0.9s
KSRS **Korea Array** 36.30 64 P **P** 02 58 20.9 -0.7
comp=Z,9.7nm,0.6s,baz=261,slow=8.5,SNR=21
comp=Z,9.7nm,0.6s
BNX **BinXian** 37.22 50 ⇑P **P** 02 58 29.0 -0.2
BNX pmax pmax
comp=Z,15nm,1.0s
BNX pmax pmax
comp=Z,310nm,4.3s
ZEI **Tsey** 37.29 305 *e*P **P** 02 58 31.1 +1.0
ZEI pmax pmax
comp=Z,21nm,1.3s
SIRT **Sirnak** 37.85 296 P **P** 02 58 35.4 +0.5
KBZ **Khabaz** 38.17 307 P **P** 02 58 38.6 +1.3
comp=Z,2.7nm,0.8s,baz=85,slow=16,SNR=2.3
comp=Z,2.7nm,0.8s
KIV **Kislovodsk** 38.37 307 *e*P **P** 02 58 38.7 -0.4
KIV pmax pmax
comp=Z,7.0nm,1.0s
MDJ **Mudanjiang** 38.47 52 P **P** 02 58 38.8 -1.0
MDJ pmax pmax
comp=Z,9.0nm,1.8s
MDJ pmax pmax
comp=Z,780nm,11.7s
HEH **HeiHe** 38.58 43 *e*P **P** 02 58 40.9 +0.3
HEH pmax pmax
comp=Z,13nm,0.9s
ZEA **Zeya** 39.81 38 *e*P **P** 02 58 51.7 +0.8
ZEA pmax pmax
comp=Z,10.0nm,0.5s
KIRV **Kirov** 40.07 331 *ce*P **P** 02 58 52.8 -0.1
USRK **Ussuriysk Ar.** 40.09 53 P **P** 02 58 53.3 0.0
comp=Z,4.6nm,0.7s,baz=260,slow=8.8,SNR=6.8
comp=Z,4.6nm,0.7s
VRH **Novokhopyorsk** 40.79 318 *e*P **P** 02 58 57.9 -1.1
VRH pmax pmax
comp=Z,20nm,0.6s
KLR **Kul'dur** 40.95 46 *ce*P **P** 02 59 00.5 +0.1
KLR pmax pmax
comp=Z,6.0nm,0.8s
GAZ **Gaziantep** 42.01 296 P **P** 02 59 10.3 +0.9
VORD **Divnogorie** 42.19 317 *e*P **P** 02 59 09.3 -1.2
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR **Storozhevoye** 42.34 317 *e*P **P** 02 59 09.3 -2.4
VSR pmax pmax
comp=Z,8.0nm,0.6s
VORR **Voronezh** 42.43 318 *e*P **P** 02 59 09.2 -3.3
VORR pmax pmax
comp=Z,30nm,0.4s
LPSR **Galich'ya Gora** 42.86 319 *e*P **P** 02 59 14.4 -1.6
LPSR pmax pmax
comp=Z,20nm,0.8s
PRGR **Permogore** 43.34 333 *e*P **P** 02 59 19.2 -0.5
PRGR pmax pmax
comp=Z,21nm,0.6s
MMAI **Mount Meron Ar** 43.80 290 P **P** 02 59 25.9 +2.0
comp=Z,1.7nm,0.5s,baz=59,slow=14,SNR=3.5
comp=Z,1.7nm,0.5s
MJAR **Matsushiro Arr** 44.54 65 P **P** 02 59 30.0 +0.2
MJAR **Matsushiro Arr** 44.54 65 P **P** 02 59 30.0 +0.2
comp=Z,5.0nm,0.8s,baz=277,slow=11,SNR=7.9
comp=Z,5.0nm,0.8s
BRTR **Keskin Array B** 44.76 300 *ce*P **P** 02 59 34.0 +2.3
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR **Keskin Array B** 44.76 300 P **P** 02 59 32.2 +0.5
comp=Z,1.3nm,0.8s,baz=103,slow=9.3,SNR=3.6
comp=Z,1.3nm,0.8s
YAK **Yakutsk** 44.77 27 *ce*P **P** 02 59 32.1 +1.0
YAK pmax pmax
comp=Z,19nm,1.3s
OBN **Obninsk** 44.93 322 *i* P **P** 02 59 32.4 -0.1
OBN *i* 02 59 37.1
OBN pmax pmax
comp=Z,14nm,0.9s
KLMR **Klimovskoe** 45.54 330 *e*P **P** 02 59 34.5 -2.9
KLMR AMP 02 59 44.1
comp=Z,47nm,1.8s
KLMR *e*PP **PcP** 03 01 19.5 +3.7
KLMR **Klimovskoe** 45.54 330 *e*P **P** 02 59 34.4 -2.9
KLMR *e* 03 01 19.4
KLMR pmax pmax
comp=Z,47nm,1.8s
MILM **Milestii Mici** 48.39 309 ⇑P **P** 02 59 59.8 0.0
MILM **Milestii Mici** 48.39 309 ⇑P **P** 02 59 59.8 0.0
AKASG **Malin Array Be** 48.41 315 P **P** 02 59 59.5 -0.3
comp=Z,3.9nm,0.6s,baz=81,slow=7.1,SNR=35
AKASG PP **PP** 03 01 51.3 -1.1
comp=Z,0.9nm,0.7s,baz=97,slow=11,SNR=4.9
comp=Z,3.9nm,0.6s
AKBB **Malin Array Si** 48.41 315 IAmb IAmb 03 00 00.3
comp=Z,13nm,0.7s
AKBB **Malin Array Si** 48.41 315 *ce*P **P** 02 59 59.5 -0.4
AKBB pmax pmax
comp=Z,48nm,2.3s
KIEV **Kiev** 48.42 315 P **P** 02 59 59.7 -0.2
KIEV IAmb IAmb 03 00 00.4
comp=Z,12nm,0.7s
KIEV **Kiev** 48.42 315 P **P** 02 59 59.7 -0.2
KIEV pmax pmax
comp=Z,12nm,0.7s
SORM **Soroca** 48.77 311 ⇓P **P** 03 00 02.3 -0.4
SORM **Soroca** 48.77 311 ⇓P **P** 03 00 02.3 -0.4
VLDR **Vladesti** 48.87 308 ⇑P **P** 03 00 04.6 +1.1
MNK **Minsk** 49.70 319 *i* P **P** 03 00 09.6 -0.2
MNK comp=E,6.0nm,0.8s *i* P **P** 03 00 09.6 -0.2
MNK comp=N,8.0nm,0.8s *i* P **P** 03 00 09.6 -0.2
MNK comp=Z,14nm,0.8s,baz=98 *i* PcP **PcP** 03 01 30.7 -0.1
MNK *i* PP **PP** 03 02 04.1 0.0
MNK *i* PPP PPP 03 02 57.0
MNK *i* S **S** 03 07 18.9 +0.9
MNK *i* SS **SS** 03 10 52.8 +2.7
MNK *i* LQ LQ 03 18 42.4
MNK *i* LR LR 03 21 45.9
MNK *i* LRM MLR 03 22 59.5
MNK comp=N,251nm,17.3s *i* LRM MLR 03 23 44.3
MNK comp=E,133nm,17.3s *i* LRM MLR 03 24 07.7
MNK comp=Z,266nm,17.3s
MNK **Minsk** 49.70 319 *i* P **P** 03 00 09.5 -0.2
MNK *i* 03 01 30.6
MNK *i* 03 02 04.1
MNK *i* PPP PPP 03 02 57.0
MNK *i* S **S** 03 07 18.9 +0.9
MNK *i* SS **SS** 03 10 52.8 +2.7
MNK pmax pmax
comp=Z,14nm,0.8s
MNK pmax pmax
comp=E,6.0nm,0.8s
MNK pmax pmax
comp=N,8.0nm,0.8s
MNK MLR MLR
comp=N,251nm,17.0s
MNK MLR MLR
comp=E,133nm,17.0s
MNK MLR MLR
comp=Z,266nm,17.0s
VRI **Vrincioaia** 49.81 308 ⇑P **P** 03 00 12.3 +1.5
VRI **Vrincioaia** 49.81 308 ⇑P **P** 03 00 12.3 +1.5
PLOR **Plostina** 49.87 308 ⇑P **P** 03 00 12.7 +1.5
PLOR **Plostina** 49.87 308 ⇑P **P** 03 00 12.7 +1.5
TESR **Tescani** 49.87 309 ⇑P **P** 03 00 11.0 -0.1
TIXI **Tiksi** 49.92 16 P **P** 03 00 10.9 -0.2
TIXI **Tiksi** 49.92 16 *ce*P **P** 03 00 10.9 -0.2
NEHR **Nehoiu** 50.12 307 ⇑P **P** 03 00 11.2 -1.9
TURR **Turia** 50.31 308 ⇓P **P** 03 00 15.2 +0.7
MLR **Muntele Rosu** 50.37 308 ⇑P **P** 03 00 16.6 +1.5
MLR **Muntele Rosu** 50.37 308 IAmb IAmb 03 00 17.7
comp=Z,19nm,0.9s
MLR **Muntele Rosu** 50.37 308 ⇑P **P** 03 00 16.6 +1.5
NACGM **Naroch** 50.39 320 *e*P **P** 03 00 15.6 +0.7
comp=Z,39nm,0.7s,baz=98
IDID **Didziasalis** 50.47 320 *e*P **P** 03 00 16.2 +0.6
DOPR **Dopca** 50.75 308 ⇓P **P** 03 00 19.1 +1.3
ISAL **Salakas** 50.85 321 *e*P **P** 03 00 19.0 +0.6
BURAR **Bucovina Array** 50.86 310 ⇑P **P** 03 00 19.4 +0.7
BURAR **Bucovina Array** 50.86 310 ⇑P **P** 03 00 19.4 +0.7
BUR08 **Bucovina Ar. S** 50.87 310 P **P** 03 00 18.6 -0.3
VOIR 51.00 308 ⇑P **P** 03 00 20.3 +0.5
VOIR 51.00 308 ⇑P **P** 03 00 20.3 +0.5
SANT **Santorini** 51.48 296 ⇑P **P** 03 00 22.4 -1.0
FINES **FINESS Array B** 51.89 328 P **P** 03 00 26.3 +0.2
comp=Z,4.7nm,0.5s,baz=108,slow=8.0,SNR=58
comp=Z,4.7nm,0.5s
PABE **Paberze** 52.06 320 *e*P **P** 03 00 27.7 +0.2
MARR **Marisel-Cluj** 52.30 309 ⇑P **P** 03 00 30.1 +0.5
MTSE **Matsula** 52.53 324 *e*P **P** 03 00 31.1 +0.3
SURR **Surduc** 53.03 308 ⇓P **P** 03 00 35.8 +1.0
BZS **Buzias** 53.40 308 ⇓P **P** 03 00 38.6 +1.1
BZS **Buzias** 53.40 308 ⇓P **P** 03 00 38.6 +1.1
ARCES **ARCESS Array B** 54.22 338 P **P** 03 00 43.8 +0.6
comp=Z,7.4nm,0.6s,baz=107,slow=7.7,SNR=38
comp=Z,7.4nm,0.6s
LANS **Liptovska Anna** 54.66 312 *e*P **P** 03 00 47.9 +1.1
LANS **Liptovska Anna** 54.66 312 *e*P **P** 03 00 47.9 +1.1
DIVS **Divibare** 54.68 306 IAmb IAmb 03 00 54.2
comp=Z,16nm,1.5s
KMBO **Kilima Mbogo** 54.96 247 P **P** 03 00 50.5 +0.9
KMBO **Kilima Mbogo** 54.96 247 P **P** 03 00 52.0 +2.4
comp=Z,2.3nm,0.7s,baz=42,slow=14,SNR=8.1
comp=Z,2.3nm,0.7s
SEY **Seymchan** 54.99 31 *i* P **P** 03 00 49.0 +0.1
SEY pmax pmax
comp=Z,4.0nm,1.1s
VYHS **Vyhne** 55.11 312 *e*P **P** 03 00 50.7 +0.7
VYHS **Vyhne** 55.11 312 *e*P **P** 03 00 50.7 +0.7
MORH **Mrgy, Hungar** 55.42 309 ⇑P **P** 03 00 52.4 +0.2
OKC **Ostrava-Krasne** 55.49 313 *e*P **P** 03 00 53.1 +0.4
OKC **Ostrava-Krasne** 55.49 313 *e*P **P** 03 00 53.1 +0.4
MAUC **Maruska** 55.72 313 *e*P **P** 03 00 55.3 +0.9
UPP **Uppsala** 55.80 325 *e*P **P** 03 00 54.8 +0.1
VIKU **Vikbolandet** 56.22 324 *e*P **P** 03 00 57.8 0.0
KRLC **Kraliky** 56.35 314 *e*P **P** 03 00 59.4 +0.5
KRLC **Kraliky** 56.35 314 *e*P **P** 03 00 59.4 +0.5
VRAC **Vranov** 56.53 313 ⇑P **P** 03 01 00.0 -0.2
VRAC **Vranov** 56.53 313 ⇑P **P** 03 01 00.0 -0.2
DPC **Dobruska-Polom** 56.63 314 *e*P **P** 03 01 01.4 +0.5
DPC *e*pP **pP** 03 01 05.4 -0.4
DPC **Dobruska-Polom** 56.63 314 *e*P **P** 03 01 01.4 +0.5
DPC *e* 03 01 05.4
OSTC **Ostas** 56.68 314 *e*P **P** 03 01 01.6 +0.4
OSTC **Ostas** 56.68 314 *e*P **P** 03 01 01.6 +0.4
UPC **Upice** 56.81 314 *e*P **P** 03 01 02.7 +0.6
UPC **Upice** 56.81 314 *e*P **P** 03 01 02.7 +0.6
RONA **Rosalia, Austr** 56.88 311 *i* P **P** 03 01 02.1 -0.6
comp=Z,5.7nm,1.2s
CONA **Conrad Observa** 57.14 311 *e*P **P** 03 01 05.0 +0.3
comp=Z,16nm,1.9s,SNR=4.8
ARSA **Arzberg** 57.45 310 *i* P **P** 03 01 06.3 -0.4
comp=Z,5.7nm,1.4s
PETK **Petropavlovsk-** 57.50 43 P **P** 03 01 06.0 -1.0
PETK **Petropavlovsk-** 57.50 43 P **P** 03 01 06.0 -1.0
comp=Z,1.3nm,0.6s,baz=223,slow=5.7,SNR=1.4
comp=Z,1.3nm,0.6s
GOPC **GO Pecny, Ondr** 57.65 314 *e*P **P** 03 01 08.4 +0.3
GOPC **GO Pecny, Ondr** 57.65 314 *e*P **P** 03 01 08.4 +0.3
HFS **Hagfors** 57.79 326 P **P** 03 01 08.9 0.0
comp=Z,5.5nm,0.4s,baz=97,slow=7.6,SNR=24
comp=Z,5.5nm,0.4s
PRU **Pruhonice** 57.80 314 *e*P **P** 03 01 09.2 +0.1
PRU **Pruhonice** 57.80 314 *e*P **P** 03 01 09.2 +0.1
SOKA **Soboth** 57.85 310 *i* P **P** 03 01 10.1 +0.4
comp=Z,4.5nm,0.5s,SNR=6.5
CKRC **Cesky Krumlov** 58.07 312 *e*P **P** 03 01 11.4 +0.3
CKRC **Cesky Krumlov** 58.07 312 *e*P **P** 03 01 11.4 +0.3
ZVC **Zvikov** 58.08 313 *e*P **P** 03 01 11.6 +0.5
BRG **Berggiesshubel** 58.09 315 *i* P **P** 03 01 11.3 +0.1
BRG Amp 03 01 12.5
comp=Z,6.1nm,0.7s
BRG **Berggiesshubel** 58.09 315 P **P** 03 01 15.3 +4.1
BRG Amp 03 01 16.0
comp=Z,5.0nm,0.7s
BRG **Berggiesshubel** 58.09 315 *i* P **P** 03 01 11.2 +0.1
BRG 03 01 15.2
BRG pmax pmax
comp=Z,6.0nm,0.7s
OBKA **Obir** 58.20 310 *e*P **P** 03 01 12.9 +0.8
comp=Z,5.3nm,0.8s
CUC **Castrocucco** 58.36 302 IAmb IAmb 03 01 20.6
comp=Z,18nm,1.0s
GERES **GERESS Array B** 58.47 312 P **P** 03 01 14.1 +0.2
comp=Z,1.6nm,0.4s,baz=84,slow=6.3,SNR=5.5
comp=Z,1.6nm,0.4s
KHC **Kasperske Hory** 58.52 313 *e*P **P** 03 01 14.4 +0.2
KHC *e*pP **pP** 03 01 18.5 -0.7
KHC **Kasperske Hory** 58.52 313 *ce*P **P** 03 01 15.2 +1.0
KHC pmax pmax
comp=Z,23nm,1.7s
BIOA **Bad Ischl, Aus** 58.66 311 *i* P **P** 03 01 14.9 -0.3
comp=Z,3.9nm,0.7s
MYKA **Terra Mystica** 58.81 310 *i* P **P** 03 01 15.2 -1.1
comp=Z,3.7nm,1.0s
KBA **Koelnbreinsper** 58.94 310 *i* P **P** 03 01 16.7 -0.7
comp=Z,8.0nm,1.2s
NB2 **NORSAR Subarra** 59.00 327 P **P** 03 01 16.6 -0.7
comp=Z,2.1nm,0.6s,baz=88,slow=7.4
NOA **NORSAR Array B** 59.00 327 P **P** 03 01 16.9 -0.4
comp=Z,2.1nm,0.6s,baz=89,slow=6.8,SNR=8.1
comp=Z,2.1nm,0.6s
SPITS **Spitsbergen Ar** 59.04 347 P **P** 03 01 17.6 +0.3
comp=Z,7.5nm,0.5s,baz=114,slow=9.2,SNR=13
comp=Z,7.5nm,0.5s
LESA **Schwarzleotal** 59.34 311 *e*P **P** 03 01 19.8 -0.3
comp=Z,5.2nm,0.6s
STAL **STALIGIAL** 59.50 309 IAmb IAmb 03 01 21.3
comp=Z,11nm,0.8s
ABTA **Abfaltersbach** 59.56 310 *i* P **P** 03 01 22.4 +0.8
comp=Z,4.6nm,0.7s
CAMP **Campotosto** 59.66 305 IAmb IAmb 03 01 23.2
comp=Z,7.8nm,0.8s
CIMO **Cimolais** 59.68 310 P **P** 03 01 21.3 -1.0
CIMO IAmb IAmb 03 01 22.7
comp=Z,8.2nm,0.8s
NRCA **Norcia** 59.81 306 IAmb IAmb 03 01 49.7
comp=Z,6.8nm,0.9s
WTTA **Wattenberg** 60.07 311 *i* P **P** 03 01 24.5 -0.7
comp=Z,7.3nm,0.8s
WATA **Walderalm** 60.09 311 *i* P **P** 03 01 24.6 -0.7
comp=Z,4.5nm,0.6s
SQTA **Sankt Quirin** 60.36 311 *i* P **P** 03 01 26.4 -0.6
comp=Z,6.8nm,0.5s,SNR=9.5
MOTA **Moosalm** 60.41 311 *i* P **P** 03 01 26.7 -0.7
comp=Z,8.2nm,0.7s,SNR=8.5
RETA **Reutte** 60.62 311 *i* P **P** 03 01 28.4 -0.4
comp=Z,5.5nm,0.6s,SNR=4.6
FETA **Feichten** 60.72 311 *i* P **P** 03 01 28.6 -0.9
comp=Z,3.3nm,0.6s
BILL **Bilibino** 61.02 25 *e*P **P** 03 01 32.5 +1.5
DAVA **Damuels** 61.24 311 *i* P **P** 03 01 32.7 -0.4
comp=Z,7.4nm,0.7s
TUE **Stuetta** 61.75 310 P **P** 03 01 35.9 -0.7
TUE IAmb IAmb 03 01 37.9
comp=Z,5.8nm,0.8s
KEST **Kesra** 64.35 299 P **P** 03 01 54.0 +0.1
KEST **Kesra** 64.35 299 P **P** 03 01 54.7 +0.7
comp=Z,8.5nm,0.7s,baz=321,slow=5.6,SNR=9.6
comp=Z,8.5nm,0.7s
NOR **Nord** 64.71 351 *i* P **P** 03 01 53.9 -1.5
NOR IAmb IAmb 03 01 56.4
comp=Z,6.7nm,0.8s

WB0	Warramunga Arr	66.33	130		P		P	03 02 06.9	+0.2	
WRA	Warramunga Arr	66.41	130	*ce*	P		P	03 02 07.5	+0.3	
WRA					pmax		pmax			
	comp=Z,5.0nm,0.6s									
WRA	Warramunga Arr	66.41	130		P		P	03 02 07.6	+0.3	
	comp=Z,4.1nm,0.6s,baz=322,slow=6.4,SNR=98									
	comp=Z,4.1nm,0.6s									
WB2	Warramunga Arr	66.42	130		P		P	03 02 07.4	+0.1	
DAG	Danmarks Havn	66.64	346	*i*	P		P	03 02 07.0	-0.9	
DAG					IAmb		IAmb	03 02 13.3		
	comp=Z,8.1nm,0.8s									
EKA	Eskdalemuir Ar	67.38	322		P		P	03 02 13.3	+0.3	
	comp=Z,2.9nm,0.6s,baz=74,slow=6.0,SNR=6.6									
	comp=Z,2.9nm,0.6s									
DBG	Daneborg	67.93	344	*i*	P		P	03 02 13.8	-2.4	
DBG					IAmb		IAmb	03 02 17.9		
	comp=Z,4.8nm,0.8s									
AS31	Alice Springs	68.72	133		P		P	03 02 22.5	+0.7	
ASAR	Alice Springs	68.72	133		P		P	03 02 22.0	+0.2	
	comp=Z,2.8nm,0.8s,baz=316,slow=6.5,SNR=23									
	comp=Z,2.8nm,0.8s									
LSZ	Lusaka	70.52	240		P		P	03 02 35.6	+2.4	
LSZ	Lusaka	70.52	240		P		P	03 02 35.6	+2.4	
LSZ					pmax		pmax			
	comp=Z,11nm,0.6s									
C16K	Lisburne Hills	71.15	22		P		P	03 02 36.3	+0.2	
	baz=297									
A19K	Wainwright	71.55	19		P		P	03 02 38.1	-0.4	
	baz=300									
B18K	Kokolik River	71.75	20		P		P	03 02 40.6	+0.9	
	baz=300									
C17K	DeLong Mountai	71.76	21		P		P	03 02 40.8	+0.9	
	baz=299									
RDOG	Red Dog Mine	72.05	22		P		P	03 02 42.1	+0.5	
	baz=300									
F14K	Arctic Creek	72.09	25		P		P	03 02 42.4	+0.6	
	baz=297									
NEEM	North Greenlan	72.09	351	*i*	P		P	03 02 41.1	-1.0	
NEEM					IAmb		IAmb	03 02 42.9		
	comp=Z,38nm,0.6s									
D17K	Noatak River	72.17	22		P		P	03 02 42.5	+0.3	
	baz=299									
C18K	Utukok River	72.30	21		P		P	03 02 43.3	+0.2	
	baz=301									
EUNU	Eureka	72.47	359		P		P	03 02 43.9	-0.1	
EUNU					IAmb		IAmb	03 02 45.8		
	comp=Z,7.3nm,0.8s									
C19K	Lookout Ridge	72.56	20		P		P	03 02 45.6	+0.9	
	baz=302									
F15K	North Star Dit	72.59	24		P		P	03 02 44.9	0.0	
	baz=299									
B20K	Meade River	72.78	19		P		P	03 02 45.8	0.0	
	baz=304									
A22K	Sinclair Lake	72.82	17		P		P	03 02 46.9	+0.9	
	baz=306									
ANM	Nome	72.87	25		P		P	03 02 47.1	+0.6	
	baz=298									
E17K	Hotham Inlet	72.90	22		P		P	03 02 47.5	+0.8	
	baz=301									
ESDC	Sonseca Array	73.03	306		P		P	03 02 48.2	+0.2	
ESDC	Sonseca Array	73.03	306		P		P	03 02 47.9	-0.1	
	comp=Z,3.2nm,1.0s,baz=57,slow=6.3,SNR=16									
	comp=Z,3.2nm,1.0s									
E18K	Tukpahlearik C	73.13	22		IAmb		IAmb	03 02 55.0		
	comp=Z,18nm,1.1s									
E18K	Tukpahlearik C	73.13	22		P		P	03 02 48.7	+0.7	
	baz=302									
G15K	Niukluk	73.17	25		P		P	03 02 48.8	+0.6	
	baz=299									
SUMG	Summit	73.27	345		P		P	03 02 49.5	+0.3	
SUMG					IAmb		IAmb	03 02 50.9		
	comp=Z,14nm,0.9s									
SUMG	Summit	73.27	345		P		P	03 02 49.5	+0.3	
SUMG					pmax		pmax			
	comp=Z,14nm,0.9s									
SUMG	Summit	73.27	345	*i*	P		P	03 02 49.0	-0.2	
SUMG					IAmb		IAmb	03 02 51.1		
	comp=Z,14nm,1.0s									
D19K	Kuna River	73.34	20		IAmb		IAmb	03 02 51.3		
	comp=Z,22nm,1.4s									
D19K	Kuna River	73.34	20		P		P	03 02 50.1	+0.8	
	baz=304									
F17K	Baldwin Pennin	73.43	23		P		P	03 02 50.8	+1.1	
	baz=301									
G16K	Koyuk River	73.58	24		IAmb		IAmb	03 02 57.2		
	comp=Z,19nm,1.2s									
G16K	Koyuk River	73.58	24		P		P	03 02 51.6	+1.0	
	baz=301									
B22K	Teshekpuk Lake	73.63	18		IAmb		IAmb	03 02 52.0		
	comp=Z,18nm,1.1s									
B22K	Teshekpuk Lake	73.63	18		P		P	03 02 51.3	+0.4	
	baz=307									
D20K	Etivluk River	73.68	20		P		P	03 02 51.6	+0.3	
	baz=305									
B21K	Ikpikpuk River	73.73	19		IAmb		IAmb	03 02 57.8		
	comp=Z,11nm,0.9s									
B21K	Ikpikpuk River	73.73	19		P		P	03 02 52.0	+0.5	
	baz=306									
C21K	Knifeblade Rid	73.96	19		P		P	03 02 53.7	+0.8	
	baz=306									
H16K	Elim	74.01	25		P		P	03 02 53.2	0.0	
	baz=301									
E20K	Nigu River	74.07	20		P		P	03 02 54.2	+0.6	
	baz=305									
G17K	Kiwalik Mounta	74.13	23		P		P	03 02 54.4	+0.5	
	baz=302									
E19K	Redstone River	74.20	21		P		P	03 02 54.9	+0.6	
E19K					IAmb		IAmb	03 03 00.5		
	comp=Z,18nm,1.4s									
E19K	Redstone River	74.20	21		P		P	03 02 54.8	+0.5	
	baz=305									
F19K	Shaleruckim Mo	74.38	22		P		P	03 02 55.8	+0.5	
	baz=304									
J14K	Nanvaranak Lak	74.47	27		P		P	03 02 56.5	+0.6	
	baz=300									
G18K	Tagagawik	74.61	23		P		P	03 02 57.0	+0.2	
	baz=304									
E21K	Killik River	74.62	19		IAmb		IAmb	03 02 58.4		
	comp=Z,15nm,0.8s									
E21K	Killik River	74.62	19		P		P	03 02 57.2	+0.4	
	baz=307									
C23K	Itkillik River	74.70	17		P		P	03 02 58.0	+0.9	
	baz=310									
H17K	Granite Mounta	74.70	24		IAmb		IAmb	03 02 59.5		
	comp=Z,16nm,0.9s									
H17K	Granite Mounta	74.70	24		P		P	03 02 58.3	+1.0	
	baz=303									
D22K	Ayikyak River	74.73	19		IAmb		IAmb	03 03 04.3		
	comp=Z,16nm,1.2s									
D22K	Ayikyak River	74.73	19		P		P	03 02 57.8	+0.5	
	baz=308									
F20K	Avaraart Lake	74.92	21		IAmb		IAmb	03 03 04.4		
	comp=Z,15nm,1.3s									
F20K	Avaraart Lake	74.92	21		P		P	03 02 58.9	+0.5	
	baz=306									
I17K	Unalakleet	74.98	25		P		P	03 02 59.6	+0.7	
	baz=302									
G19K	Purcell Mounta	75.00	22		P		P	03 02 59.8	+0.8	
	baz=305									
H18K	Honhosa River	75.13	23		IAmb		IAmb	03 03 01.6		
	comp=Z,14nm,0.9s									
H18K	Honhosa River	75.13	23		P		P	03 03 00.6	+0.9	
	baz=304									
D23K	Nanushuk River	75.24	18		P		P	03 03 01.2	+0.9	
	baz=310									
C24K	Franklin Bluff	75.28	17		P		P	03 03 01.0	+0.5	
	baz=312									
J16K	Anvik River	75.34	25		P		P	03 03 02.3	+1.4	
	baz=303									
E22K	Anaktuvuk Pass	75.45	19		P		P	03 03 01.4	-0.2	
E22K					IAmb		IAmb	03 03 03.3		
	comp=Z,14nm,1.2s									
E22K	Anaktuvuk Pass	75.45	19		P		P	03 03 02.3	+0.8	
	baz=309									
K15K	Wolf Creek Mou	75.51	27		P		P	03 03 03.1	+1.1	
	baz=302									
F21K	Alatna River	75.52	20		IAmb		IAmb	03 03 03.8		
	comp=Z,13nm,0.9s									
F21K	Alatna River	75.52	20		P		P	03 03 03.1	+1.1	
	baz=308									
L14K	Kuka Creek	75.55	28		P		P	03 03 03.1	+1.0	
	baz=301									
H19K	Roundabout Mou	75.57	22		IAmb		IAmb	03 03 04.5		
	comp=Z,8.6nm,0.9s									
H19K	Roundabout Mou	75.57	22		P		P	03 03 03.2	+1.0	
	baz=306									
D24K	Happy Valley	75.62	18		IAmb		IAmb	03 03 03.9		
	comp=Z,7.6nm,0.7s									
D24K	Happy Valley	75.62	18		P		P	03 03 03.2	+0.7	
	baz=312									
F22K	John River	75.73	20		P		P	03 03 04.3	+1.1	
	baz=309									
M13K	Dall Lake	75.75	29		P		P	03 03 04.3	+1.0	
	baz=301									
TOLK	Toolik Lake Re	75.76	18		IAmb		IAmb	03 03 05.1		
	comp=Z,12nm,0.8s									
TOLK	Toolik Lake Re	75.76	18		P		P	03 03 04.0	+0.6	
	baz=311									
L15K	Ungalak Mounta	75.86	27		P		P	03 03 04.4	+0.5	
	baz=302									
ICESG	Greenland Ices	75.87	343	*i*	P		P	03 03 03.9	-0.5	
ICESG					IAmb		IAmb	03 03 06.0		
	comp=Z,23nm,0.8s									
GCSA	Galena City Sc	75.88	23		P		P	03 03 05.1	+1.1	
	baz=306									
G21K	Allakaket	75.94	21		IAmb		IAmb	03 03 05.7		
	comp=Z,7.5nm,0.8s									
G21K	Allakaket	75.94	21		P		P	03 03 05.2	+0.8	
	baz=308									
C26K	Camden Bay	76.10	16		P		P	03 03 06.2	+1.0	
	baz=315									
H20K	Anotleneega Mo	76.12	22		P		P	03 03 06.4	+1.0	
	baz=307									
E23K	Chandalar	76.13	19		P		P	03 03 06.4	+0.9	
	baz=311									
D25K	Kavik River	76.15	17		IAmb		IAmb	03 03 11.6		
	comp=Z,12nm,1.1s									
D25K	Kavik River	76.15	17		P		P	03 03 06.5	+1.0	
	baz=314									
M14K	Bethel	76.16	28		P		P	03 03 06.0	+0.4	
M14K	Bethel	76.16	28		P		P	03 03 06.5	+0.9	
	baz=302									
G22K	Bettles	76.31	20		P		P	03 03 06.8	+0.4	
	baz=310									
E24K	Your Creek	76.44	18		IAmb		IAmb	03 03 09.1		
	comp=Z,10nm,0.8s									
E24K	Your Creek	76.44	18		P		P	03 03 08.1	+0.8	
	baz=312									
COLD	Coldfoot	76.50	19		P		P	03 03 08.2	+0.7	
	baz=311									
K17K	Iditarod	76.53	25		P		P	03 03 08.8	+1.0	
	baz=305									
L16K	Owhat River	76.64	26		P		P	03 03 09.5	+1.2	
	baz=304									
I20K	Naaghedeneel	76.68	23		P		P	03 03 09.7	+1.2	
	baz=308									
J18K	Innoko River	76.69	24		IAmb		IAmb	03 03 15.2		
	comp=Z,19nm,1.2s									
J18K	Innoko River	76.69	24		P		P	03 03 09.5	+0.9	
	baz=306									
H21K	Melozitna Rive	76.70	21		IAmb		IAmb	03 03 10.7		
	comp=Z,12nm,0.9s									
H21K	Melozitna Rive	76.70	21		P		P	03 03 09.8	+1.1	
	baz=309									
M15K	Kasigluk River	76.71	28		P		P	03 03 09.7	+0.9	
	baz=303									
N14K	Kuskokwak Cree	76.72	29		P		P	03 03 10.0	+1.2	
	baz=302									
J19K	Poorman	76.77	24		P		P	03 03 10.0	+1.0	
J19K	Poorman	76.77	24		P		P	03 03 10.8	+1.7	
	baz=307									
L17K	Donlin	76.86	26		P		P	03 03 10.4	+0.8	
	baz=305									
G23K	Bananza Creek	76.89	20		IAmb		IAmb	03 03 11.7		
	comp=Z,12nm,0.9s									
G23K	Bananza Creek	76.89	20		P		P	03 03 10.8	+1.0	
	baz=311									
F24K	Squaw Lake	76.98	19		IAmb		IAmb	03 03 16.6		
	comp=Z,13nm,1.4s									
F24K	Squaw Lake	76.98	19		P		P	03 03 11.4	+1.1	
	baz=313									
H22K	Ishlatina Cre	77.01	21		P		P	03 03 11.4	+1.0	
	baz=310									
J20K	Nowinta River	77.17	23		IAmb		IAmb	03 03 13.8		
	comp=Z,13nm,0.9s									
J20K	Nowinta River	77.17	23		P		P	03 03 12.7	+1.4	
	baz=308									
E25K	Arctic Village	77.20	18		IAmb		IAmb	03 03 13.2		
	comp=Z,8.9nm,0.9s									
E25K	Arctic Village	77.20	18		P		P	03 03 12.7	+1.1	
	baz=314,SNR=6.7									
M16K	Timber Creek	77.24	27		P		P	03 03 12.7	+0.9	
	baz=304									
N15K	Kwethluk River	77.25	28		P		P	03 03 12.9	+1.0	
	baz=304									
TTA	Tatalina	77.26	25		P		P	03 03 12.8	+0.8	
	baz=307									
L18K	Granite Mounta	77.43	25		P		P	03 03 13.8	+1.0	
	baz=306									
D27M	Malcolm River	77.55	16		IAmb		IAmb	03 03 19.7		
	comp=Z,19nm,1.7s									
D27M	Malcolm River	77.55	16		P		P	03 03 14.3	+0.8	
	baz=318									
F25K	Christian Rive	77.55	18		P		P	03 03 14.9	+1.4	
	baz=314									
UNV	Unalaska Valle	77.60	35		P		P	03 03 15.3	+1.4	
	baz=300									
M17K	Holitna River	77.62	26		P		P	03 03 15.5	+1.6	
	baz=306									
N16K	Nishlik Lake	77.62	27		P		P	03 03 15.0	+1.0	
	baz=305									
G24K	Hadweenzic Riv	77.66	19		IAmb		IAmb	03 03 16.4		
	comp=Z,11nm,0.9s									
G24K	Hadweenzic Riv	77.66	19		P		P	03 03 14.8	+0.8	
	baz=313									
K20K	Telida	77.70	24		P		P	03 03 15.4	+1.0	
	baz=308									
MLY	Manley	77.77	21		IAmb		IAmb	03 03 16.1		
	comp=Z,12nm,0.9s									
MLY	Manley	77.77	21		P		P	03 03 15.6	+0.8	
	baz=311,SNR=6.4									
F26K	Sheenjek River	77.89	17		P		P	03 03 16.2	+0.9	
	baz=316									
O15K	Ungalikthiuk R	77.92	29		P		P	03 03 16.4	+0.8	
	baz=304									
BMAR	Burnt Mountain	77.96	18		P		P	03 03 16.1	+0.4	
CHUM	Lake Minchumin	77.99	23		P		P	03 03 17.1	+1.3	
	baz=309									
D28M	Stokes Point	78.00	15		P		P	03 03 17.2	+1.3	
	baz=320									
G25K	Bearman Lake	78.01	19		P		P	03 03 17.2	+1.3	
	baz=314									
H24K	Noodor Dome	78.13	20		P		P	03 03 17.9	+1.2	
	baz=313									
I23K	Minto, Yukon-K	78.13	21		IAmb		IAmb	03 03 19.4		
	comp=Z,7.9nm,0.8s									
I23K	Minto, Yukon-K	78.13	21		P		P	03 03 17.8	+1.1	
	baz=312,SNR=6.0									
L19K	White Mountain	78.14	25		IAmb		IAmb	03 03 19.0		
	comp=Z,9.4nm,0.9s									
L19K	White Mountain	78.14	25		P		P	03 03 18.1	+1.3	
	baz=308									
E27K	Coleen River	78.19	16		IAmb		IAmb	03 03 18.8		
	comp=Z,11nm,1.2s									
E27K	Coleen River	78.19	16		P		P	03 03 18.0	+1.0	
	baz=318									
M18K	Stony River	78.19	26		P		P	03 03 18.1	+1.0	
	baz=307									
N17K	Nushagak Hills	78.23	27		P		P	03 03 18.6	+1.2	
	baz=306									
BPAW	Bear Paw Mtn.	78.30	22		IAmb		IAmb	03 03 19.7		
	comp=Z,14nm,0.9s									
BPAW	Bear Paw Mtn.	78.30	22		P		P	03 03 18.6	+1.0	
	baz=310									
A36M	Sachs Harbour	78.31	10		IAmb		IAmb	03 03 19.0		
	comp=Z,14nm,0.8s									
A36M	Sachs Harbour	78.31	10		P		P	03 03 18.2	+0.7	
	baz=332,SNR=11									
L20K	Farewell, AK	78.32	24		P		P	03 03 19.5	+1.6	
	baz=308									
LBTB	Lobatse	78.36	234		P		P	03 03 19.9	+1.3	
LBTB					IAmb		IAmb	03 03 23.1		
	comp=Z,12nm,0.8s									
LBTB	Lobatse	78.36	234		P		P	03 03 19.9	+1.3	
LBTB					pmax		pmax			
	comp=Z,12nm,0.8s									
CAST	Castle Rocks	78.36	23		P		P	03 03 18.2	+0.1	
CAST	Castle Rocks	78.36	23		P		P	03 03 19.1	+1.1	
	baz=310,SNR=16									
E28M	Babbage River	78.37	16		IAmb		IAmb	03 03 19.9		
	comp=Z,8.7nm,0.8s									
E28M	Babbage River	78.37	16		P		P	03 03 19.0	+1.0	
	baz=320,SNR=16									
O16K	Kokwok River B	78.41	28		P		P	03 03 19.6	+1.3	
	baz=305									
G26K	Porcupine Rive	78.52	18		P		P	03 03 19.8	+1.1	
	baz=316									
NEA2	Nenana	78.60	21		P		P	03 03 20.3	+1.0	
	baz=312									
N18K	Kilae Creek	78.66	26		P		P	03 03 20.6	+0.9	
	baz=307									
PPLA	Purkeypile	78.66	23		P		P	03 03 20.4	+0.6	
	baz=310									
O17K	Koliganek Bris	78.72	27		P		P	03 03 20.8	+0.8	
	baz=306									
POKR	Poker Plat Res	78.76	20		IAmb		IAmb	03 03 21.9		
	comp=Z,14nm,0.7s									
POKR	Poker Plat Res	78.76	20		P		P	03 03 21.2	+1.0	
	baz=313,SNR=8.4									
COLA	College	78.79	21		P		P	03 03 20.8	+0.5	
	baz=313									
E29M	Blow River	78.92	15		P		P	03 03 21.9	+0.9	
E29M	Blow River	78.92	15		P		P	03 03 22.3	+1.3	
	baz=321									
TRF	Thorofare Moun	78.96	22		P		P	03 03 22.5	+1.0	
	baz=311									
M20K	Styx River	78.97	25		IAmb		IAmb	03 03 26.9		
	comp=Z,16nm,1.1s									
M20K	Styx River	78.97	25		P		P	03 03 22.8	+1.3	
	baz=309									
F28M	Old Crow	79.05	16		P		P	03 03 22.6	+0.9	
	baz=320,SNR=7.4									
PRP	Porcupine Dome	79.05	19		IAmb		IAmb	03 03 24.1		
	comp=Z,14nm,0.8s									
PRP	Porcupine Dome	79.05	19		P		P	03 03 23.6	+1.7	
	baz=315,SNR=8.3									
N19K	Bonanza Creek	79.12	26		P		P	03 03 23.3	+1.0	
	baz=308									
IL31		79.16	20		IAmb		IAmb	03 03 23.4		
	comp=Z,7.3nm,0.7s									
ILAR	Eielson Array	79.16	20		P		P	03 03 21.8	-0.6	
	comp=Z,6.0nm,0.7s,baz=308,slow=4.7,SNR=82									
ILAR					PP		PP	03 06 22.6	+1.4	
	comp=Z,0.6nm,0.9s,baz=318,slow=6.8,SNR=4.4									
	comp=Z,6.0nm,0.7s									
TORD	Torodi Ar. Bea	79.18	279		P		P	03 03 23.3	0.0	
TORD					IAmb		IAmb	03 03 45.3		
	comp=Z,7.4nm,0.8s									
TORD	Torodi Ar. Bea	79.18	279		P		P	03 03 22.4	-0.9	
	comp=Z,2.0nm,0.8s,baz=48,slow=5.3,SNR=6.4									
	comp=Z,2.0nm,0.8s									
G27K	Doyon Strip	79.20	17		P		P	03 03 23.3	+0.7	
	baz=318									
MCK	McKinley	79.22	22		P		P	03 03 23.3	+0.5	
	baz=312									
STKA	Stephens Creek	79.29	135		P		P	03 03 22.4	-1.1	
	comp=Z,2.2nm,0.7s,baz=301,slow=11,SNR=5.7									
	comp=Z,2.2nm,0.7s									
P17K	Kvichak River	79.33	28		P		P	03 03 24.5	+1.2	
	baz=307									
HDA	Harding Lake	79.40	21		IAmb		IAmb	03 03 35.1		
	comp=Z,15nm,1.4s									
HDA	Harding Lake	79.40	21		P		P	03 03 23.4	-0.3	
	baz=314									
HDA					P		P	03 03 23.4	-0.3	
	baz=314									
O18K	Koktuh Hills	79.43	27		P		P	03 03 25.4	+1.4	
	baz=308									
SKT	Skwentna	79.49	24		P		P	03 03 24.8	+0.6	
	baz=310,SNR=11									
DY2G	Dye2	79.51	342	*i*	P		P	03 03 23.7	-0.8	
DY2G					IAmb		IAmb	03 03 26.8		
	comp=Z,6.0nm,0.6s									
Q16K	King Salmon	79.55	28		P		P	03 03 25.2	+0.7	
	baz=307									
O19K	Port Alsworth	79.57	26		P		P	03 03 25.5	+0.8	
	baz=308									
H27K	Steamboat Moun	79.66	18		P		P	03 03 26.0	+0.8	
	baz=318									
P18K	Big Mountain,	79.70	27		P		P	03 03 26.1	+0.6	
	baz=308									
J25K	Salcha River,	79.74	20		P		P	03 03 25.4	-0.2	
	baz=315									
I26K	Coal Creek Min	79.89	19		IAmb		IAmb	03 03 28.3		
	comp=Z,19nm,1.2s									
I26K	Coal Creek Min	79.89	19		P		P	03 03 26.9	+0.6	
	baz=317									
WAT1	Susitna Watana	79.96	22		P		P	03 03 27.1	+0.3	
	baz=313									
INK	Inuvik	79.97	14		P		P	03 03 27.3	+0.7	
	baz=325,SNR=8.0									
INK	Inuvik	79.97	14		P		P	03 03 27.2	+0.5	
	comp=Z,6.0nm,0.7s,baz=348,slow=7.1,SNR=24									
	comp=Z,6.0nm,0.7s									
F30M	Barrier River	80.03	15		P		P	03 03 27.9	+0.9	
	baz=323									
G29M	Pine Creek	80.05	16		P		P	03 03 27.9	+0.8	
	baz=321									
I27K	Kandik River	80.11	18		P		P	03 03 28.3	+0.7	
	baz=318									
M22K	Willow	80.14	24		P		P	03 03 28.1	+0.4	
	baz=312									
K24K	Donnelly Dome	80.19	21		P		P	03 03 28.2	+0.2	
	baz=315,SNR=12									
Q18K	Katmai Hardscr	80.25	28		P		P	03 03 28.1	-0.4	
	baz=308									
P19K	Oil Pt	80.34	26		P		P	03 03 29.2	+0.3	
	baz=309									
J26L	Joseph Creek	80.36	20		IAmb		IAmb	03 03 30.3		
	comp=Z,11nm,0.8s									
J26L	Joseph Creek	80.36	20		P		P	03 03 29.2	+0.2	
	baz=317,SNR=8.1									
WAT6	Susitna Watana	80.41	22		P		P	03 03 29.1	-0.2	
	baz=314									
G30M	tAoh Zraii Nji	80.43	16		IAmb		IAmb	03 03 30.4		
	comp=Z,13nm,0.7s									
G30M	tAoh Zraii Nji	80.43	16		P		P	03 03 29.5	+0.3	
	baz=323									
CHNA	Chernabura Isl	80.49	32		P		P	03 03 29.4	-0.3	
	baz=305									
H29M	Whitestone	80.50	17		IAmb		IAmb	03 03 36.1		
	comp=Z,21nm,1.2s									
H29M	Whitestone	80.50	17		P		P	03 03 30.3	+0.6	
	baz=321									
PMR	Palmer	80.60	23		P		P	03 03 30.5	+0.4	
	baz=312									
SCRK	Sand Creek	80.62	20		P		P	03 03 30.4	0.0	
SCRK	Sand Creek	80.62	20		P		P	03 03 31.0	+0.6	
	baz=316,SNR=9.3								

baz=315
PWL Port Wells 81.38 24 P **P** 03 03 34.6 +0.2
baz=313
HARP HAARP 81.39 22 P **P** 03 03 35.5 +1.1
baz=316
SEW Seward 81.49 25 P **P** 03 03 35.3 +0.4
baz=312
L26K Log Cabin Wild 81.51 21 P **P** 03 03 35.6 +0.5
baz=317
CHIR Chirikof Islan 81.73 30 P **P** 03 03 36.7 +0.4
baz=308
KLU Klutina 81.78 22 P **P** 03 03 37.5 +0.9
baz=315
KDAK Kodiak Island 81.80 28 P **P** 03 03 36.9 +0.3
baz=310
KDAK Kodiak Island 81.80 28 P **P** 03 03 37.1 +0.5
comp=Z,20nm,0.5s,baz=326,slow=3.0,SNR=37
comp=Z,20nm,0.5s
I30M Mount Dempster 81.80 17 P **P** 03 03 36.9 +0.2
I30M Mount Dempster 81.80 17 P **P** 03 03 36.9 +0.2
baz=323
GLI Glacier Island 81.81 23 P **P** 03 03 37.1 +0.4
baz=314
H31M Peel River 81.83 16 P **P** 03 03 36.8 0.0
baz=324
OHAK Old Harbor 81.86 28 P **P** 03 03 36.5 -0.4
baz=310
DAWY Dawson 81.90 18 IAmb IAmb 03 03 42.9
comp=Z,9.7nm,1.0s
DAWY Dawson 81.90 18 P **P** 03 03 37.4 +0.2
baz=320
L27K Beaver Creek, 81.95 20 IAmb IAmb 03 03 44.0
comp=Z,18nm,1.2s
L27K Beaver Creek, 81.95 20 P **P** 03 03 38.7 +1.3
baz=318
M26K Nabesna, AK 82.08 21 IAmb IAmb 03 03 46.5
comp=Z,22nm,1.3s
M26K Nabesna, AK 82.08 21 P **P** 03 03 39.4 +1.2
baz=317
N25K Chitina, Valde 82.14 22 P **P** 03 03 39.7 +1.2
baz=316
J30M Hart River 82.33 17 IAmb IAmb 03 03 40.6
comp=Z,9.8nm,0.6s
J30M Hart River 82.33 17 P **P** 03 03 40.2 +0.7
baz=323
M27K Edge Creek, AK 82.46 20 P **P** 03 03 41.0 +0.8
baz=318
EYAK Cordova Ski Ar 82.51 23 P **P** 03 03 41.3 +1.0
baz=315
K29M Barlow Dome 82.59 18 IAmb IAmb 03 03 42.1
comp=Z,10nm,0.6s
K29M Barlow Dome 82.59 18 P **P** 03 03 41.7 +0.8
baz=322
BMRM Bremner River 82.60 22 P **P** 03 03 41.6 +0.7
baz=316
BVCY Beaver Creek 82.73 20 P **P** 03 03 42.7 +1.1
baz=319
MCARA McCarthy VSAT 82.82 22 P **P** 03 03 43.3 +1.3
baz=318
L29M L29M 83.00 19 IAmb IAmb 03 03 49.3
comp=Z,12nm,1.1s
L29M L29M 83.00 19 P **P** 03 03 43.9 +1.0
baz=322
MAYO Mayo, Yukon 83.23 18 P **P** 03 03 44.9 +0.8
baz=323
WIN Windhoek 83.27 240 P **P** 03 03 44.7 -0.3
WIN IAmb IAmb 03 03 50.2
comp=Z,8.3nm,0.9s
WIN Windhoek 83.27 240 P **P** 03 03 44.7 -0.3
WIN pmax pmax
comp=Z,8.0nm,0.9s
CRQE Cirque 83.27 22 P **P** 03 03 45.1 +0.7
baz=318
YUK3 Moose Creek 83.34 20 P **P** 03 03 45.7 +0.8
baz=320
KAIM Kayak Island 83.42 23 P **P** 03 03 46.0 +0.9
baz=316
M29M Somme Creek 83.43 19 P **P** 03 03 46.5 +1.3
baz=321
CTG Chitna Glacier 83.68 21 P **P** 03 03 47.5 +0.9
baz=319
M30M Minto, Yukon 83.80 18 P **P** 03 03 47.8 +0.8
baz=323
YUK8 Steele Glacier 83.93 20 P **P** 03 03 48.2 +0.2
baz=320
MESA MESA 84.07 22 P **P** 03 03 49.1 +0.4
baz=318
YUK4 Talbot Arm 84.23 20 P **P** 03 03 49.8 +0.4
baz=321
N30M Aishikik Lake 84.60 19 P **P** 03 03 51.6 +0.4
baz=322
YUK6 Outpost Mounta 84.63 20 P **P** 03 03 52.3 +0.8
baz=321
PINM Pinnacle 84.69 21 P **P** 03 03 52.2 +0.5
baz=320
M31M Drury Creek, Y 84.77 18 IAmb IAmb 03 03 53.3
comp=Z,7.5nm,0.8s
M31M Drury Creek, Y 84.77 18 P **P** 03 03 52.7 +0.8
baz=325
N31M Braeburn, Yuko 84.96 19 P **P** 03 03 54.3 +1.4
baz=324
HYT Haines Junctio 84.98 20 P **P** 03 03 54.2 +1.0
baz=322
FARO Faro, Yukon 85.02 17 P **P** 03 03 54.0 +0.8
baz=326
PNL Peninsula 85.30 21 P **P** 03 03 55.0 +0.3
baz=321
O30N Mendenhall 85.45 19 P **P** 03 03 56.4 +1.0
baz=323
P29M Windy Craggy 85.86 21 P **P** 03 03 58.1 +0.7
baz=322
WHY Whitehorse 85.89 19 P **P** 03 03 58.1 +0.4
baz=324
N32M Quiet Lake 85.99 18 P **P** 03 03 58.7 +0.6
baz=326
WRGLY Wrigley 86.46 13 IAmb IAmb 03 04 01.6
comp=Z,10nm,1.0s
WRGLY Wrigley 86.46 13 P **P** 03 04 01.0 +0.8
baz=334
SKAG Skagway 86.73 20 P **P** 03 04 02.6 +1.0
baz=324
P33M Teslin, Yukon 86.84 18 P **P** 03 04 01.5 -0.8
P33M IAmb IAmb 03 04 07.8
comp=Z,7.2nm,0.9s
P33M Teslin, Yukon 86.84 18 P **P** 03 04 03.0 +0.7
baz=326
TGTN Hyland Airport 86.91 16 P **P** 03 04 03.4 +0.9
baz=330
DBIC Dimbokro 87.84 276 P **P** 03 04 06.8 -1.1
comp=Z,4.2nm,0.8s,baz=43,slow=4.0,SNR=4.8
comp=Z,4.2nm,0.8s
WTLY Watson Lake, Y 88.00 17 P **P** 03 04 07.9 +0.1
baz=330
R33M Jennings River 88.04 18 P **P** 03 04 08.8 +0.6
baz=328
YKA Yellowknife Ar 88.67 9 P **P** 03 04 10.5 -0.4
comp=Z,2.9nm,0.7s,baz=330,slow=4.7,SNR=51
YKA PKKPbc **PKKPbc** 03 21 50.4 -2.1
comp=Z,0.2nm,0.6s,baz=160,slow=2.4,SNR=4.9
comp=Z,2.9nm,0.7s
DLBC Dease Lake 89.11 18 P **P** 03 04 14.2 +1.0
baz=328
DLBC Dease Lake 89.11 18 P **P** 03 04 13.9 +0.7
comp=Z,3.9nm,0.8s,baz=290,slow=7.4,SNR=4.1
comp=Z,3.9nm,0.8s
KOTAN Kotaneelee Air 89.12 15 P **P** 03 04 13.8 +0.8
baz=334
FLDN Fort Liard 89.15 14 P **P** 03 04 14.2 +1.1
baz=334
S34M Telegraph Cree 89.25 19 P **P** 03 04 14.9 +1.2
baz=328
LIRD Liard River Hi 89.28 16 P **P** 03 04 15.1 +1.2
baz=332
VNA2 Neumayer--Watz 116.97 202 ⇑PKPdf **PKPdf** 03 10 01.2 -0.6
comp=Z,4.5nm,0.8s,baz=10.0,slow=2.0
QSPA South Pole Qui 117.42 180 PKiKP **PKPdf** 03 10 01.8 -1.1
comp=Z,0.9nm,0.3s,baz=252,slow=2.6,SNR=4.2
VNA3 Neumayer Olymp 117.74 201 ⇑PKPdf **PKPdf** 03 10 02.5 -0.8
comp=Z,5.2nm,0.8s
GUY2C Guyana, Caldas 142.79 329 *e*P **PKPdf** 03 10 49.0 -3.8
PRAC Prado 143.88 327 *e*P PKPab 03 10 51.5 +0.3
ORTC Ortega, Tolima 143.88 327 *e*P PKPab 03 10 49.8 -1.4
YOTC Yotoco, Valle 144.33 329 *e*P **PKPab** 03 10 51.9 -1.0
AQDB Aquidauana 144.55 273 PKPdf PKPbc 03 10 53.8 +0.1
PLTB Pedras Altas 144.94 253 PKPbc **PKPab** 03 10 54.3 -0.3
VILB Vilhena 145.37 288 PKPbc **PKPbc** 03 10 56.3 -0.2
SAML Samuel 145.62 297 **PKPdf** 03 10 56.3 -0.7
SAML Samuel 145.62 297 *e*P **PKPdf** 03 10 56.7 -0.4
SAML Samuel 145.62 297 PKIKP **PKPdf** 03 10 56.3 -0.7
PTLB Pontes e Lacer 145.64 283 **PKPdf** 03 10 56.1 -0.8
ITQB Itaqui 147.36 257 PKPbc **PKPbc** 03 11 01.0 -1.0
CPUP Villa Florida 147.50 264 PKPbc **PKPdf** 03 11 01.2 +1.3
CPUP Villa Florida 147.50 264 PKP2 **PKPdf** 03 11 01.2 +1.3
CPUP Villa Florida 147.50 264 PKPbc **PKPdf** 03 11 01.0 +1.1
comp=Z,5.9nm,0.9s,baz=97,slow=2.3,SNR=8.0
OTAV Otavalo 148.60 329 *e*P **PKPbc** 03 11 05.7 -0.6

ROM 08 03:35:19.8±0.1, 41°.745N±0°.004×14°.258E±0°.005, h11km, ML1.3/22, 5C, Error ellipse: s-maj=0.4km s-min=0.2km az=50.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIDA	**Miranda**	**0.10**	**182**	⇑P	Pb	03 35 23.2	-0.6
MIDA				S	Sg	03 35 25.2	+0.6
MIDA				AML	AML		
	comp=E,723μm,0.2s						
MIDA				AML	AML		
	comp=N,628μm,1.4s						
MIDA				AML	AML		
	comp=E,798μm,0.2s						
MIDA				AML	AML		
	comp=N,658μm,1.4s						
MIDA				AML	AML		
	comp=N,292μm,0.2s						
TRIV	**Trivento**	**0.22**	**84**	⇑P	Pb	03 35 25.2	-0.6
TRIV				S	Sg	03 35 29.2	+1.7
CERA	**Filignano**	**0.23**	**231**	⇑P	Pg	03 35 25.0	+0.4
CERA				S	Sg	03 35 29.5	+1.6
CERA				AML	AML		
	comp=N,92μm,1.1s						
CERA				AML	AML		
	comp=E,119μm,0.6s						
CERA				AML	AML		
	comp=N,88μm,0.4s						
CERA				AML	AML		
	comp=N,69μm,1.8s						
CERA				AML	AML		
	comp=N,69μm,0.2s						
CERA				AML	AML		
	comp=E,106μm,0.3s						
CERA				AML	AML		
	comp=E,60μm,0.2s						
LPEL	**Lama dei Pelig**	**0.31**	**350**	P	Pg	03 35 26.4	+0.4
LPEL				S	Sb	03 35 31.3	-1.1
LPEL				AML	AML		
	comp=N,486μm,0.2s						
LPEL				AML	AML		
	comp=E,418μm,1.0s						
LPEL				AML	AML		
	comp=N,271μm,0.2s						
BSSO	**Busso**	**0.32**	**128**	P	Pb	03 35 27.0	-0.6
BSSO				S	Sg	03 35 31.6	+1.1
VAGA	**Valle Agricola**	**0.33**	**183**	⇑P	Pg	03 35 26.6	+0.2
VAGA				S	Sb	03 35 32.2	-0.9
VAGA				AML	AML		
	comp=N,186μm,1.1s						
VAGA				AML	AML		
	comp=N,174μm,1.1s						
VAGA				AML	AML		
	comp=E,105μm,0.1s						
VAGA				AML	AML		
	comp=N,174μm,0.9s						
VAGA				AML	AML		
	comp=N,186μm,0.9s						
VAGA				AML	AML		
	comp=E,108μm,1.2s						
SGG	**Gregorio Mates**	**0.37**	**166**	P	Pg	03 35 27.4	+0.2
SGG				S	Sg	03 35 33.1	+1.0
SGG				AML	AML		
	comp=N,61μm,0.4s						
SGG				AML	AML		
	comp=E,73μm,1.2s						
SGG				AML	AML		
	comp=N,61μm,0.4s						
SGG				AML	AML		
	comp=E,73μm,0.8s						
INTR	**Introdacqua**	**0.38**	**315**	P	Pg	03 35 27.5	+0.3
INTR				S	Sb	03 35 33.6	-0.8
INTR				AML	AML		
	comp=N,227μm,0.1s						
INTR				AML	AML		
	comp=N,186nm,1.2s						
INTR				AML	AML		
	comp=E,162μm,0.1s						
INTR				AML	AML		
	comp=N,186nm,0.8s						
INTR				AML	AML		
	comp=E,174nm,0.1s						
POFI	**Posta Fibreno**	**0.41**	**266**	⇑P	Pg	03 35 27.9	+0.1
POFI				S	Sb	03 35 34.5	-0.9
POFI				AML	AML		
	comp=N,67μm,1.3s						
POFI				AML	AML		
	comp=N,34μm,0.6s						
POFI				AML	AML		
	comp=E,87μm,0.7s						
POFI				AML	AML		
	comp=N,67μm,0.7s						
POFI				AML	AML		
	comp=E,82μm,2.7s						
POFI				AML	AML		
	comp=N,34μm,1.4s						
POFI				AML	AML		
	comp=E,82μm,0.7s						
MCI	**Monte Cassino**	**0.42**	**232**	P	Pg	03 35 28.4	+0.3
MCI				S	Sb	03 35 35.0	-0.7
SACR	**S. Croce Del S**	**0.48**	**136**	P	Pg	03 35 29.8	+0.5
CIGN	**Sant'Elia a Pi**	**0.49**	**100**	P	Pg	03 35 29.6	+0.2
LRP	**Arpino**	**0.51**	**259**	P	Pg	03 35 29.6	-0.1
LRP				S	Sb	03 35 37.7	-0.6
PIGN	**Pignataro Magg**	**0.55**	**186**	P	Pg	03 35 30.8	+0.4
T0110	**Collepietro**	**0.60**	**324**	P	Pg	03 35 31.2	-0.3
T0110				S	Sb	03 35 40.5	-0.4
MELA	**Melanico ??? S**	**0.65**	**93**	P	Pg	03 35 31.7	-0.7
MELA				S	Sb	03 35 41.6	-0.7
MELA				AML	AML		
	comp=E,53μm,0.7s						
MELA				AML	AML		
	comp=N,54μm,0.9s						
MELA				AML	AML		
	comp=N,54μm,1.1s						
MELA				AML	AML		
	comp=E,53μm,1.3s						
FAGN	**Fagnano**	**0.72**	**316**	P	Pg	03 35 34.0	+0.2
FAGN				S	Sg	03 35 43.7	+0.5

ROM 08 03:36:03.8±0.1, 41°.753N±0°.009×14°.26E±0°.01, h11km, ML2.1/35, 9C-1D, Error ellipse: s-maj=1.3km s-min=0.3km az=316.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIDA	**Miranda**	**0.11**	**182**	⇑P	Pg	03 36 07.3	+0.6
MIDA				S	Sg	03 36 09.4	+0.5
MIDA				AML	AML		
	comp=N,2555μm,0.3s						
MIDA				AML	AML		
	comp=N,2560μm,0.3s						
MIDA				AML	AML		
	comp=N,2730μm,0.3s						
MIDA				AML	AML		
	comp=E,3605μm,0.4s						
MIDA				AML	AML		
	comp=E,3565μm,0.4s						
TRIV	**Trivento**	**0.22**	**86**	⇓P	Pb	03 36 09.3	-0.5
TRIV				S	Sg	03 36 12.3	+0.8
TRIV				AML	AML		
	comp=E,452μm,0.3s						
TRIV				AML	AML		
	comp=N,538μm,1.2s						
TRIV				AML	AML		
	comp=N,551μm,0.3s						
TRIV				AML	AML		
	comp=N,552μm,0.3s						
TRIV				AML	AML		
	comp=N,538μm,1.2s						
TRIV				AML	AML		
	comp=E,448μm,0.3s						
TRIV				AML	AML		
	comp=E,452μm,0.3s						
CERA	**Filignano**	**0.24**	**230**	⇑P	Pg	03 36 09.1	+0.3
CERA				S	Sg	03 36 13.5	+1.4
CERA				AML	AML		
	comp=N,367μm,0.2s						
CERA				AML	AML		
	comp=E,443μm,0.6s						
CERA				AML	AML		
	comp=E,455μm,0.6s						
CERA				AML	AML		
	comp=N,379μm,0.2s						
CERA				AML	AML		
	comp=N,366μm,0.2s						
CERA				AML	AML		
	comp=E,455μm,1.4s						
CERA				AML	AML		
	comp=E,443μm,1.4s						
LPEL	**Lama dei Pelig**	**0.30**	**349**	P	Pg	03 36 10.5	+0.6
LPEL				S	Sb	03 36 15.3	-0.9
LPEL				AML	AML		
	comp=E,1190μm,1.1s						
LPEL				AML	AML		
	comp=N,1360μm,0.2s						
LPEL				AML	AML		
	comp=E,1190μm,0.9s						
BSSO	**Busso**	**0.32**	**129**	P	Pb	03 36 11.0	-0.6
VAGA	**Valle Agricola**	**0.34**	**183**	⇑P	Pg	03 36 10.7	+0.2
VAGA				S	Sg	03 36 16.1	+1.0
VAGA				AML	AML		
	comp=E,346μm,0.2s						
VAGA				AML	AML		
	comp=E,366μm,0.2s						
VAGA				AML	AML		
	comp=N,780μm,1.0s						
VAGA				AML	AML		
	comp=N,822μm,1.0s						
INTR	**Introdacqua**	**0.37**	**314**	P	Pg	03 36 11.6	+0.4
INTR				S	Sb	03 36 17.7	-0.6
INTR				AML	AML		
	comp=E,346nm,0.2s						
INTR				AML	AML		
	comp=N,390nm,1.0s						
INTR				AML	AML		
	comp=E,356μm,0.1s						
INTR				AML	AML		
	comp=N,390nm,1.0s						
INTR				AML	AML		
	comp=N,576μm,1.1s						
INTR				AML	AML		
	comp=E,345nm,0.1s						
INTR				AML	AML		
	comp=N,576μm,0.9s						
SGG	**Gregorio Mates**	**0.38**	**166**	⇑P	Pg	03 36 11.4	+0.1
SGG				S	Sg	03 36 17.0	+0.6
SGG				AML	AML		
	comp=E,223μm,0.3s						
SGG				AML	AML		
	comp=N,264μm,0.4s						
POFI	**Posta Fibreno**	**0.41**	**265**	⇑P	Pg	03 36 12.1	+0.1
POFI				S	Sb	03 36 18.6	-0.8
POFI				AML	AML		
	comp=E,250μm,0.6s						
POFI				AML	AML		
	comp=N,215μm,1.3s						
POFI				AML	AML		
	comp=N,204μm,1.3s						
POFI				AML	AML		
	comp=E,261μm,0.6s						
POFI				AML	AML		
	comp=N,215μm,0.7s						
POFI				AML	AML		
	comp=N,204μm,0.7s						
MCI	**Monte Cassino**	**0.43**	**231**	⇑P	Pg	03 36 12.4	+0.2
MCI				S	Sb	03 36 19.2	-0.6
MCI				AML	AML		
	comp=E,576μm,1.4s						
MCI				AML	AML		
	comp=E,576μm,0.6s						
MCI				AML	AML		
	comp=N,430μm,0.2s						
SACR	**S. Croce Del S**	**0.49**	**137**	P	Pg	03 36 13.5	+0.2
CIGN	**Sant'Elia a Pi**	**0.49**	**101**	⇑P	Pg	03 36 13.7	+0.2
CIGN				S	Sb	03 36 20.9	-0.8
LRP	**Arpino**	**0.52**	**258**	⇑P	Pg	03 36 13.7	-0.2
LRP				S	Sb	03 36 21.7	-0.6
LRP				AML	AML		
	comp=E,188μm,1.6s						
LRP				AML	AML		
	comp=N,444μm,0.3s						
LRP				AML	AML		
	comp=E,188μm,0.4s						
GATE	**Gambatesa**	**0.54**	**116**	P	Pg	03 36 14.4	+0.1
PIGN	**Pignataro Magg**	**0.56**	**186**	P	Pg	03 36 14.4	-0.2
LIK	**San Giovanni I**	**0.58**	**245**	AML	AML		
	comp=N,296μm,0.7s						
LIK				AML	AML		
	comp=E,260μm,0.6s						
T0110	**Collepietro**	**0.59**	**323**	P	Pg	03 36 15.3	-0.1
T0110				S	Sb	03 36 24.1	-0.6
T0110				AML	AML		
	comp=E,257μm,0.5s						
T0110				AML	AML		
	comp=E,257μm,1.5s						
T0110				AML	AML		
	comp=N,219μm,0.4s						
MELA	**Melanico ??? S**	**0.65**	**94**	⇑P	Pg	03 36 15.7	-0.7
MELA				S	Sg	03 36 25.4	+0.5
MELA				AML	AML		
	comp=E,154μm,0.9s						
MELA				AML	AML		
	comp=E,586μm,1.0s						
MELA				AML	AML		
	comp=N,292μm,0.2s						
MELA				AML	AML		
	comp=N,442μm,0.9s						
MODR	**Mondragone**	**0.67**	**205**	AML	AML		
	comp=N,164μm,0.7s						
MODR				AML	AML		
	comp=E,100μm,0.3s						
FAGN	**Fagnano**	**0.72**	**316**	P	Pg	03 36 17.7	-0.1
FAGN				S	Sb	03 36 27.9	-0.4
APRC	**Apricena**	**0.96**	**89**	AML	AML		
	comp=E,94μm,0.7s						
APRC				AML	AML		
	comp=N,153μm,0.2s						
MSAG	**Monte S. Angel**	**1.23**	**91**	AML	AML		
	comp=E,32μm,1.5s						
MSAG				AML	AML		
	comp=E,32μm,0.5s						
MSAG				AML	AML		
	comp=N,71μm,0.4s						

CATAC ***08*** *03:42:16.9±1.1, 13°.53N×91°.02W, h15km±8km, ML3.2*
SNET ***08*** *03:42:21.4±0.4, 13°.47N×90°.82W, h15km±999km, ML2.8*
GCG ***08*** *03:42:27.4±0.3, 14°.11N×90°.97W, h49km±8km, MD3.2*

ISC 08 03:42:17.1±2.3, 13°.55N±0°.09×90°.91W±0°.06, h1km±13km, n14, σ1$10/23, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.83**	**5**	*i* P	**Pb**	**03 42 34.2**	**-0.2**
ESSG				IAML		03 42 36.1	
	comp=Z,800nm,1.0s						
ESSG				*i* S	**Sb**	**03 42 45.8**	**-0.4**
PCG	**Pacaya**	**0.89**	**19**	*e*P	**Pn**	**03 42 37.3**	**+0.4**
FUG	**Fuego 3**	**0.90**	**4**	*e*P	**Pn**	**03 42 37.5**	**+0.5**
SULM	**Suchitepequez,**	**0.98**	**320**	*e*P	**Pn**	**03 42 39.8**	**+1.7**
NUBE	**Las Nubes**	**1.15**	**72**	*i* P	**Pn**	**03 42 41.1**	**+0.6**
NUBE				*i* S	**Sb**	**03 42 55.8**	**+0.4**
NUBE				IAML		03 42 57.7	
	comp=Z,180nm,1.0s						
NBG	**Las Nubes**	**1.17**	**28**	*e*P	**Pn**	**03 42 42.8**	**+2.0**
NBG				*e*S	**Sn**	**03 42 56.8**	**-0.7**
GUNB	**GUNB**	**1.17**	**28**	*i* P	**Pg**	**03 42 40.0**	**+0.4**
GUNB				*i* S	**Sb**	**03 42 55.4**	**-0.8**
GUNB				IAML		03 42 57.3	
	comp=Z,94nm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.19**	**66**	*e*P	**Pn**	**03 42 41.8**	**+0.9**
SLOZ				*e*S	**Sn**	**03 42 57.9**	**+0.2**
SNJE	**San Jose**	**1.30**	**76**	*e*P	**Pn**	**03 42 44.0**	**+1.4**
SNJE				*e*S	**Sn**	**03 43 01.8**	**+1.0**
STG3	**Santiaguito 3,**	**1.32**	**331**	*e*P	**Pn**	**03 42 43.4**	**+0.6**
STG3				*e*S	**Sg**	**03 42 58.6**	**-1.0**
JAYA	**Jayaque - finc**	**1.42**	**86**	*e*P	**Pn**	**03 42 45.0**	**+0.8**
JAYA				*e*S	**Sg**	**03 43 03.1**	**+0.3**
JAYA				IAML		03 43 03.9	

comp=Z,148nm,0.2s
MTO3 Montecristo 1.72 60 *i* P **Pn 03 42 48.5 +0.1**
MTO3 *i* S **Sg 03 43 12.6 +0.1**
MTO3 IAML 03 44 08.8
comp=Z,27nm,1.0s
PETF Flores 3.49 17 *i* P **Pn 03 43 11.0 -1.6**
PETF IAML 03 44 30.6
comp=Z,130nm,1.0s
CRIN San Cristobal 3.85 102 *i* P **Pn 03 43 15.3 -2.3**
CRIN IAML 03 43 17.7
comp=Z,220nm,1.0s

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*BJI **08** 03:44:28.7,24˚.33N×122˚.56E,h88km,mb4.6/53,mB4.8/23, Ms4.3/7,Ms7 4.0/6*
*ASIES **08** 03:44:29.7,24˚.36N×122˚.42E,h79km,ML5.3,Mw4.5, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}5.14; $M_{\theta\theta}$-2.78; $M_{\phi\phi}$-0.89; $M_{r\theta}$5.38; $M_{\theta\phi}$1.67; $M_{\phi r}$-0.62; Fault plane solution: $M_0$7.04364×10^{22} NP1: ϕ_s102.91000°,δ70.70000°,λ79.88000°. NP2: ϕ_s311.29000°,δ21.70000°,λ116.65000°. Principal axes: T Plg62.9580°, Azm357.0550°; N Plg9.5460°, Azm106.2910°; P Plg25.0440°, Azm200.7980°;*
*TAP **08** 03:44:29.7,24˚.36N×122˚.42E,h79km,ML5.3,C*
*JMA **08** 03:44:30.1±0.1,24˚.3N±0˚.9×122˚.4E±0˚.3,h69km±1km, MD4.6/18,MV4.6/18,NW OFF ISHIGAKIJIMA IS*
JMA Felt I J1 at NW OFF ISHIGAKIJIMA IS .
*NIED **08** 03:44:30.1,24˚.32N×122˚.41E,h69km,MW4.5,Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}4.32; $M_{\theta\theta}$-3.52; $M_{\phi\phi}$-0.80; $M_{r\theta}$4.92; $M_{\theta\phi}$1.74; $M_{\phi r}$-1.94; Fault plane solution: $M_0$6.84000×10^{15} NP1: ϕ_s113.00000°,δ70.00000°,λ88.00000°. NP2: ϕ_s300.00000°,δ20.00000°,λ97.00000°.*
*NEIC **08** 03:44:30.1±1.4,24˚.43N±0˚.03×122˚.45E±0˚.05,h74km±4km, mb4.8/87 Error ellipse: s-maj=7.0km s-min=3.7km az=121.0*
*IDC **08** 03:44:31.8±2.4,24˚.51N×122˚.47E,h92km±22km,mb4.2/32, mbtmp4.5/37,MS3.7/1,Error ellipse: s-maj=15.1km s-min=11.1km az=57.0*
ISC 08 03:44:29.6±0.4,24˚.38N±0˚.02×122˚.43E±0˚.02,h76km±3km, h75km:pP-P,n380,σ1s29/527,mb4.7/94,41C-27D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EOS3	**EOS3**	**0.14**	**228**	⇑*i*P		**Pn**	**03 44 41.2**	**+0.7**
	baz=247							
EOS3				*e*S		**Sn**	**03 44 49.3**	**+0.9**
	baz=247							
EOS2	**EOS2**	**0.19**	**282**	⇑*i*P		**Pn**	**03 44 41.5**	**+0.8**
	baz=283							
EOS2				*i* S		**Sn**	**03 44 50.3**	**+1.5**
	baz=283							
EOS4	**EOS4**	**0.28**	**202**	⇑*i*P		**Pn**	**03 44 40.9**	**0.0**
	baz=210							
EOS4				*e*S		**Sn**	**03 44 49.5**	**+0.4**
	baz=210							
JYNG	**Yonagunijimaku**	**0.47**	**81**	P		**Pn**	**03 44 43.0**	**+0.3**
JYNG				*e*S		**Sn**	**03 44 52.2**	**-0.2**
JYNG	**Yonagunijimaku**	**0.47**	**81**	A		A	03 44 43.0	
	comp=E,118nm,0.8s,comp=N,82nm,1.4s							
YOJ	**Yonaguni jima**	**0.53**	**81**			**Pn**	**03 44 43.5**	**+0.3**
YOJ	**Yonaguni jima**	**0.53**	**81**	P		**Pn**	**03 44 43.6**	**+0.3**
YOJ	**Yonaguni jima**	**0.53**	**81**	P		**Pn**	**03 44 43.5**	**+0.3**
YOJ				S		**Sn**	**03 44 53.1**	**-0.2**
YOJ	**Yonaguni jima**	**0.53**	**81**	A		A	03 44 43.5	
	comp=E,90nm,0.7s,comp=N,62nm,1.8s							
YOJ	**Yonaguni jima**	**0.53**	**81**	⇓*i*P		**Pn**	**03 44 43.6**	**+0.3**
	baz=73							
YOJ				S		**Sn**	**03 44 52.9**	**-0.4**
	baz=73							
TWC	**Suao**	**0.58**	**293**	⇑*i*P		**Pn**	**03 44 43.8**	**+0.1**
	baz=299							
TWC				S		**Sn**	**03 44 53.7**	**-0.4**
	baz=299							
EWUT	**Wuta**	**0.60**	**276**	⇑P		**Pn**	**03 44 44.0**	**+0.1**
	baz=278							
EWUT				S		**Sn**	**03 44 54.2**	**-0.3**
	baz=278							
ENA	**Nanau**	**0.63**	**274**	⇑*i*P		**Pn**	**03 44 44.2**	**0.0**
	baz=279							
ENA				*i* S		**Sn**	**03 44 54.9**	**-0.2**
	baz=279							
EHP	**Heping Village**	**0.64**	**264**	*e*P		**Pn**	**03 44 44.5**	**+0.2**
	baz=270							
EHP				S		**Sn**	**03 44 55.5**	**+0.4**
	baz=270							
EGS		**0.65**	**316**	*e*P		**Pn**	**03 44 44.8**	**+0.4**
	baz=309							
EGS				*e*S		**Sn**	**03 44 54.3**	**-1.0**
	baz=309							
NDS	**Dongshan**	**0.70**	**291**	⇓P		**Pn**	**03 44 45.7**	**+0.8**
	baz=299							
NDS				*e*S		**Sn**	**03 44 56.0**	**-0.4**
	baz=299							
NTC	**Toucheng**	**0.72**	**311**	*e*P		**Pn**	**03 44 45.2**	**0.0**
	baz=319							
NTC				S		**Sn**	**03 44 57.1**	**+0.3**
	baz=319							
ILA	**Ilan**	**0.73**	**302**	*e*P		**Pn**	**03 44 45.9**	**+0.6**
	baz=309							
ILA				*e*S		**Sn**	**03 44 57.4**	**+0.5**
	baz=309							
TWB1	**Santiao Chiao**	**0.74**	**327**	⇓P		**Pn**	**03 44 45.4**	**0.0**
	baz=320							
TWB1				S		**Sn**	**03 44 56.6**	**-0.5**
	baz=320							
ETL	**Fush Village**	**0.77**	**254**	⇑P		**Pn**	**03 44 45.6**	**-0.2**
	baz=248							
ETL				S		**Sn**	**03 44 57.1**	**-0.7**
	baz=248							
TWE	**Neicheng**	**0.78**	**296**	⇓*i*P		**Pn**	**03 44 46.3**	**+0.5**
	baz=301							
TWE				*i* S		**Sn**	**03 44 58.4**	**+0.7**
	baz=301							
NACB	**Ninganchiao**	**0.79**	**255**			**Pn**	**03 44 45.6**	**-0.3**
NACB	**Ninganchiao**	**0.79**	**255**	P		**Pn**	**03 44 45.8**	**-0.2**
NACB	**Ninganchiao**	**0.79**	**255**	⇑*i*P		**Pn**	**03 44 45.7**	**-0.3**
	baz=251							
NACB				S		**Sn**	**03 44 57.3**	**-0.8**
	baz=251							
TIPB	**Shuangxi**	**0.81**	**317**	⇓*i*P		**Pn**	**03 44 46.3**	**+0.1**
	baz=318							
TIPB				S		**Sn**	**03 44 58.0**	**-0.5**
	baz=318							
TWD	**Chiawan**	**0.82**	**249**	⇑*i*P		**Pn**	**03 44 46.0**	**-0.3**
	baz=243							
TWD				S		**Sn**	**03 44 57.9**	**-0.8**
	baz=243							
ENTT	**Nioudou**	**0.83**	**288**	⇑*i*P		**Pn**	**03 44 47.2**	**+0.8**
	baz=284							
ENTT				S		**Sn**	**03 44 59.6**	**+0.7**
	baz=284							
LATG	**Datong**	**0.84**	**281**	⇑*i*P		**Pn**	**03 44 47.1**	**+0.4**
	baz=277							
LATG				*i* S		**Sn**	**03 44 59.7**	**+0.4**
	baz=277							
HWA	**Hwalien**	**0.86**	**242**	⇑*i*P		**Pn**	**03 44 46.9**	**+0.2**
	baz=242							
HWA				*e*S		**Sn**	**03 44 59.6**	**+0.2**
	baz=242							
FUSB	**Fushanzhiwuyua**	**0.86**	**296**	⇓*i*P		**Pn**	**03 44 47.5**	**+0.7**
	baz=303							
FUSB				S		**Sn**	**03 44 59.1**	**-0.5**
	baz=303							
NDT	**Datong Townshi**	**0.87**	**285**	⇑*i*P		**Pn**	**03 44 47.6**	**+0.8**
	baz=283							
NDT				S		**Sn**	**03 45 00.1**	**+0.4**
	baz=283							
SXI1	**Grass Mountain**	**0.87**	**325**	⇓*i*P		**Pn**	**03 44 47.2**	**+0.2**
	baz=325							
SXI1				S		**Sn**	**03 44 59.4**	**-0.5**
	baz=325							
ETLH	**Xiulin Townshi**	**0.89**	**259**	⇑*i*P		**Pn**	**03 44 47.1**	**0.0**
	baz=256							
ETLH				*e*S		**Sn**	**03 44 59.7**	**-0.5**
	baz=256							
NWF	**Wu-fen Shan**	**0.91**	**319**	⇓*i*P		**Pn**	**03 44 47.8**	**+0.3**
	baz=313							
NWF				*e*S		**Sn**	**03 45 00.3**	**-0.3**
	baz=313							
WFSB	**Wu-fen Shan**	**0.91**	**319**	⇓*i*P		**Pn**	**03 44 47.7**	**+0.4**
	baz=314							
WFSB				*e*S		**Sn**	**03 45 00.2**	**-0.3**
	baz=314							
NWLT	**Wulai**	**0.94**	**295**	P		**Pn**	**03 44 48.6**	**+0.9**
	baz=300							
NWLT				*e*S		**Sn**	**03 45 01.2**	**+0.1**
	baz=300							
ETM	**Tongmen**	**0.95**	**244**	⇑P		**Pn**	**03 44 47.7**	**-0.2**
	baz=245							
ETM				S		**Sn**	**03 45 00.5**	**-1.0**
	baz=245							
NNSB	**Datong**	**0.96**	**273**	⇑*i*P		**Pn**	**03 44 48.4**	**+0.3**
	baz=274							
NNSB				S		**Sn**	**03 45 01.4**	**-0.4**
	baz=274							
NNS	**Nan Shan**	**0.97**	**274**	⇑*i*P		**Pn**	**03 44 48.5**	**+0.3**
	baz=274							
NNS				*e*S		**Sn**	**03 45 01.7**	**-0.3**
	baz=274							
TNOU	**National Taiwa**	**0.97**	**322**	⇓*i*P		**Pn**	**03 44 48.3**	**+0.2**
	baz=317							
TNOU				S		**Sn**	**03 45 01.1**	**-0.8**
	baz=317							
TWA	**Mucha**	**0.98**	**308**	⇓*i*P		**Pn**	**03 44 48.5**	**+0.4**
	baz=317							
TWA				S		**Sn**	**03 45 01.9**	**0.0**
	baz=317							
LXIB	**Xiulin Townshi**	**1.00**	**249**	⇑*i*P		**Pn**	**03 44 48.2**	**-0.3**
	baz=250							
LXIB				*i* S		**Sn**	**03 45 01.8**	**-0.8**
	baz=250							
YHNB	**Yeheng**	**1.00**	**287**			**Pn**	**03 44 49.4**	**+0.8**
YHNB	**Yeheng**	**1.00**	**287**	P		**Pn**	**03 44 50.0**	**+1.4**
YHNB	**Yeheng**	**1.00**	**287**	⇑P		**Pn**	**03 44 49.4**	**+0.8**
	baz=288							
YHNB				*i* S		**Sn**	**03 45 03.5**	**+0.8**
	baz=288							
NHDH	**Xindian Distri**	**1.01**	**305**	*i* P		**Pn**	**03 44 49.1**	**+0.6**
	baz=314							
NHDH				S		**Sn**	**03 45 02.4**	**-0.3**
	baz=314							
NSK	**Sanguang**	**1.02**	**287**	⇑P		**Pn**	**03 44 49.5**	**+0.7**
	baz=288							
NSK				*i* S		**Sn**	**03 45 03.7**	**+0.6**
	baz=288							
NHY	**Taipei**	**1.02**	**310**	*e*P		**Pn**	**03 44 49.9**	**+1.2**
	baz=317							
NHY				*e*S		**Sn**	**03 45 02.9**	**0.0**
	baz=317							
TATO	**Taipei**	**1.04**	**305**			**Pn**	**03 44 49.2**	**+0.2**
TATO	**Taipei**	**1.04**	**305**	P		**Pn**	**03 44 49.6**	**+0.7**
TEGC	**Jichi Village**	**1.05**	**231**	*e*P		**Pn**	**03 44 49.2**	**+0.1**
	baz=239							
TEGC				*e*S		**Sn**	**03 45 03.1**	**-0.6**
	baz=239							
TAP	**Taipei**	**1.07**	**308**	P		**Pn**	**03 44 49.7**	**+0.5**
	baz=309							
TAP				*e*S		**Sn**	**03 45 03.8**	**-0.1**
	baz=309							
ESL	**Shilin**	**1.07**	**239**	⇑*i*P		**Pn**	**03 44 48.9**	**-0.4**
	baz=238							
ESL				*e*S		**Sn**	**03 45 03.1**	**-1.0**
	baz=238							
WHF	**Hehuan Shan**	**1.09**	**258**	⇑*e*P		**Pn**	**03 44 50.2**	**+0.2**
	baz=251							
WHF				*e*S		**Sn**	**03 45 04.5**	**-0.7**
	baz=251							
YM01	**YM01**	**1.09**	**314**	⇓*i*P		**Pn**	**03 44 49.9**	**+0.2**
	baz=315							
YM01				*e*S		**Sn**	**03 45 04.4**	**-0.2**
	baz=315							
YM08	**YM08**	**1.11**	**317**	P		**Pn**	**03 44 49.8**	**-0.1**
	baz=310							
YM08				*e*S		**Sn**	**03 45 04.2**	**-0.7**
	baz=310							
ANP	**Anpu**	**1.15**	**314**	*e*P		**Pn**	**03 44 50.3**	**-0.1**
	baz=307							
TWT	**Tachien**	**1.15**	**264**	⇑P		**Pn**	**03 44 51.5**	**+1.0**
	baz=259							
TWT				S		**Sn**	**03 45 06.5**	**+0.4**
	baz=259							
EGFH	**Guangfu**	**1.16**	**233**	*i* P		**Pn**	**03 44 50.1**	**-0.3**
	baz=233							
EGFH				*e*S		**Sn**	**03 45 05.3**	**-0.7**
	baz=233							
WARBT	**Fenglin Townsh**	**1.16**	**236**	⇑*i*P		**Pn**	**03 44 50.0**	**-0.4**
	baz=243							
WARBT				S		**Sn**	**03 45 04.8**	**-1.3**
	baz=243							
TWS1	**Kuangyinshan**	**1.17**	**308**	*i* P		**Pn**	**03 44 51.1**	**+0.6**
	baz=315							
TWS1				*e*S		**Sn**	**03 45 06.6**	**+0.4**
	baz=315							
TWY	**Chenhua**	**1.17**	**320**	*e*P		**Pn**	**03 44 51.3**	**+0.8**
	baz=311							
TWY				*e*S		**Sn**	**03 45 06.3**	**+0.1**
	baz=311							
TDCB	**Techi**	**1.17**	**264**	⇑*i*P		**Pn**	**03 44 51.5**	**+0.8**
	baz=260							
TDCB				S		**Sn**	**03 45 06.2**	**-0.2**
	baz=260							
IRIF	**Iriomote-Funau**	**1.18**	**92**	A		A	03 44 51.4	
	comp=E,51nm,5.1s,comp=N,76nm,2.6s							
NTST	**Danshui**	**1.19**	**311**	P		**Pn**	**03 44 51.3**	**+0.6**
	baz=312							
NTST				*e*S		**Sn**	**03 45 06.6**	**+0.1**
	baz=312							
CHGB	**Renai**	**1.19**	**255**	⇑*i*P		**Pn**	**03 44 51.5**	**+0.4**
	baz=249							
CHGB				*e*S		**Sn**	**03 45 05.8**	**-1.2**
	baz=249							
NFF	**Wufeng Townshi**	**1.22**	**282**	*e*P		**Pn**	**03 44 52.4**	**+1.2**
	baz=292							
NFF				*e*S		**Sn**	**03 45 08.1**	**+0.6**
	baz=292							
OWD	**Renai**	**1.22**	**250**	*e*P		**Pn**	**03 44 51.6**	**+0.3**
	baz=245							
OWD				*e*S		**Sn**	**03 45 06.9**	**-0.8**
	baz=245							
WUSB	**Renai**	**1.26**	**252**	⇑*i*P		**Pn**	**03 44 52.4**	**+0.5**
	baz=248							
WUSB				S		**Sn**	**03 45 07.0**	**-1.5**
	baz=248							
NCUH	**Zhongli**	**1.28**	**298**	*e*P		**Pn**	**03 44 52.8**	**+0.9**
	baz=298							
NCUH				*e*S		**Sn**	**03 45 10.1**	**+1.5**
	baz=298							
HGSD	**Ruisui**	**1.28**	**226**	⇑*i*P		**Pn**	**03 44 51.7**	**-0.2**
	baz=224							
HGSD				*e*S		**Sn**	**03 45 07.4**	**-1.2**
	baz=224							
PCYT	**Pengchaiyu**	**1.29**	**345**	⇓P		**Pn**	**03 44 53.1**	**+1.1**
	baz=336							
PCYT				*i* S		**Sn**	**03 45 10.9**	**+2.1**
	baz=336							
HATJ	**Hateruma jima**	**1.29**	**104**	P		**Pn**	**03 44 53.2**	**+1.1**
HATJ				S		**Sn**	**03 45 10.3**	**+1.3**
HATJ	**Hateruma jima**	**1.29**	**104**	A		A	03 44 53.2	
	comp=E,14nm,0.6s,comp=N,23nm,1.2s							
LIOB	**Emei**	**1.32**	**282**	*e*P		**Pn**	**03 44 53.8**	**+1.3**
	baz=293							
LIOB				*e*S		**Sn**	**03 45 10.4**	**+0.8**
	baz=293							
NSTT	**Nanjuang**	**1.33**	**281**	*e*P		**Pn**	**03 44 54.1**	**+1.5**
	baz=281							
NSTT				*e*S		**Sn**	**03 45 10.7**	**+0.9**
	baz=281							
VWDT	**VWDT**	**1.34**	**242**	⇑*i*P		**Pn**	**03 44 53.2**	**+0.6**
	baz=236							
VWDT				S		**Sn**	**03 45 08.8**	**-1.1**
	baz=236							
EHY	**Hungye**	**1.34**	**230**	⇑P		**Pn**	**03 44 52.2**	**-0.5**
	baz=229							
EHY				S		**Sn**	**03 45 08.4**	**-1.7**
	baz=229							
WHP	**Taichung City**	**1.36**	**266**	*i* P		**Pn**	**03 44 54.6**	**+1.6**
	baz=264							
WHP				*i* S		**Sn**	**03 45 11.7**	**+1.0**
	baz=264							
SBCB	**Hsinchu**	**1.38**	**288**	*e*P		**Pn**	**03 44 54.3**	**+1.0**
	baz=288							
SBCB				*e*S		**Sn**	**03 45 11.8**	**+0.8**
	baz=288							
ECBN	**Changbin**	**1.39**	**221**	⇑P		**Pn**	**03 44 53.2**	**-0.2**
	baz=214							
ECBN				S		**Sn**	**03 45 09.9**	**-1.3**
	baz=214							
WCS	**Beigang Elemen**	**1.43**	**257**	*e*P		**Pn**	**03 44 55.1**	**+1.3**
	baz=255							
WCS				*e*S		**Sn**	**03 45 12.9**	**+0.9**
	baz=255							
YULB	**Yu-li**	**1.43**	**227**			**Pn**	**03 44 53.6**	**-0.3**
YULB	**Yu-li**	**1.43**	**227**	P		**Pn**	**03 44 53.9**	**0.0**
YULB	**Yu-li**	**1.43**	**227**	P		**Pn**	**03 44 53.6**	**-0.3**
	baz=235							
YULB				*e*S		**Sn**	**03 45 10.9**	**-1.3**
	baz=235							
JKRS	**Kuro-shima**	**1.45**	**95**	P		**Pn**	**03 44 55.1**	**+1.1**
JKRS				S		**Sn**	**03 45 13.5**	**+1.0**
JKRS	**Kuro-shima**	**1.45**	**95**	A		A	03 44 55.1	
	comp=E,23nm,1.5s,comp=N,23nm,2.0s							
EYUL	**Yuli**	**1.45**	**225**	*e*P		**Pn**	**03 44 54.1**	**0.0**
	baz=234							
EYUL				S		**Sn**	**03 45 11.9**	**-0.6**
	baz=234							
TWF1	**Yuli**	**1.46**	**226**	⇑*e*P		**Pn**	**03 44 54.0**	**-0.3**
	baz=234							
TWF1				S		**Sn**	**03 45 11.6**	**-1.3**
	baz=234							
SSLB	**Suanglung**	**1.48**	**247**			**Pn**	**03 44 55.1**	**+0.5**
SSLB	**Suanglung**	**1.48**	**247**	P		**Pn**	**03 44 55.8**	**+1.3**
SSLB	**Suanglung**	**1.48**	**247**	*e*P		**Pn**	**03 44 55.0**	**+0.5**
	baz=247							
SSLB				S		**Sn**	**03 45 12.2**	**-1.0**
	baz=247							
SMLT	**Sun Moon Lake**	**1.49**	**251**	P		**Pn**	**03 44 55.7**	**+1.0**
	baz=247							
SMLT				*i* S		**Sn**	**03 45 13.8**	**+0.2**
	baz=247							
NMLH	**Miaoli**	**1.50**	**276**	*e*P		**Pn**	**03 44 56.2**	**+1.3**
	baz=276							
NMLH				*e*S		**Sn**	**03 45 15.0**	**+1.1**
	baz=276							
TWQ1	**Liyutan**	**1.51**	**269**	*e*P		**Pn**	**03 44 56.4**	**+1.5**
	baz=269							
TWQ1				*e*S		**Sn**	**03 45 14.4**	**+0.3**
	baz=269							
TYC	**Yuchr**	**1.52**	**252**	⇑P		**Pn**	**03 44 56.0**	**+1.0**
	baz=248							
TYC				*e*S		**Sn**	**03 45 14.4**	**+0.3**
	baz=248							
JIJ	**Ishigaki jima**	**1.56**	**90**	P		**Pn**	**03 44 55.9**	**+0.3**
JIJ				S		**Sn**	**03 45 14.8**	**-0.3**
JIJ	**Ishigaki jima**	**1.56**	**90**	A		A	03 44 55.9	
	comp=E,12nm,0.8s,comp=N,9.0nm,1.2s							
FULB	**Fuli**	**1.57**	**222**	*e*P		**Pn**	**03 44 55.6**	**-0.2**
	baz=215							
FULB				S		**Sn**	**03 45 14.4**	**-1.1**
	baz=215							
WHYT	**Xinyi Township**	**1.60**	**245**	*i* P		**Pn**	**03 44 57.6**	**+1.5**
	baz=245							
WHYT				*i* S		**Sn**	**03 45 16.4**	**+0.3**
	baz=245							
CHKT	**Chengkung**	**1.61**	**218**	*i* P		**Pn**	**03 44 55.5**	**-0.7**
	baz=212							
CHKT				*e*S		**Sn**	**03 45 14.2**	**-2.0**
	baz=212							
TCU	**Taichung**	**1.62**	**262**	*e*P		**Pn**	**03 44 57.8**	**+1.4**
	baz=273							
TCU				*e*S		**Sn**	**03 45 18.1**	**+1.5**
	baz=273							
WDJ	**Dajia District**	**1.64**	**269**	*e*P		**Pn**	**03 44 58.0**	**+1.4**
	baz=269							
WDJ				S		**Sn**	**03 45 17.8**	**+0.8**
	baz=269							
WJS	**Zhushan**	**1.65**	**251**	*e*P		**Pn**	**03 44 58.7**	**+1.9**
	baz=251							
WJS				*i* S		**Sn**	**03 45 19.4**	**+2.0**
	baz=251							
EHD	**Haiduan**	**1.66**	**223**	*i* P		**Pn**	**03 44 56.6**	**-0.4**
	baz=231							
EHD				*e*S		**Sn**	**03 45 16.7**	**-1.0**
	baz=231							
WNT	**Mingjian**	**1.67**	**253**	*e*P		**Pn**	**03 44 58.9**	**+1.8**
	baz=253							
WNT				*i* S		**Sn**	**03 45 20.4**	**+2.5**
	baz=253							
ALS	**Alishan**	**1.72**	**240**	⇓P		**Pn**	**03 44 59.1**	**+1.1**
	baz=234							
ALS				*e*S		**Sn**	**03 45 19.6**	**+0.2**
	baz=234							
JISG	**Ishigakijimahi**	**1.72**	**83**	P		**Pn**	**03 44 58.1**	**+0.5**
JISG				S		**Sn**	**03 45 19.2**	**+0.2**
JISG	**Ishigakijimahi**	**1.72**	**83**	A		A	03 44 58.1	
	comp=E,9.0nm,1.0s,comp=N,13nm,0.6s							
WCHH	**Zhanghua**	**1.74**	**260**	*e*P		**Pn**	**03 44 59.2**	**+1.3**
	baz=272							
WCHH				*i* S		**Sn**	**03 45 21.0**	**+1.7**
	baz=272							
EDH	**Donghe**	**1.74**	**217**	*e*P		**Pn**	**03 44 57.6**	**-0.4**
	baz=212							
EDH				*e*S		**Sn**	**03 45 17.8**	**-1.6**
	baz=212							
ELDTW	**Lidau**	**1.76**	**228**	⇓*i*P		**Pn**	**03 44 58.2**	**-0.1**
	baz=227							
ELDTW				*i* S		**Sn**	**03 45 18.8**	**-1.2**
	baz=227							
WGK	**Gukeng**	**1.84**	**248**	*e*P		**Pn**	**03 45 01.9**	**+2.6**
	baz=248							
WGK				*i* S		**Sn**	**03 45 24.4**	**+2.5**
	baz=248							
WDLH	**Douliu**	**1.86**	**249**	*e*P		**Pn**	**03 45 01.3**	**+1.7**
	baz=261							
WDLH				*e*S		**Sn**	**03 45 24.9**	**+2.6**
	baz=261							
LONT	**Longtian**	**1.89**	**219**	⇓P		**Pn**	**03 44 59.7**	**-0.3**
	baz=219							
LONT				S		**Sn**	**03 45 21.8**	**-1.3**
	baz=219							
LDUT	**Ludao**	**1.92**	**208**	*e*P		**Pn**	**03 44 59.5**	**-0.8**
	baz=203							
LDUT				*e*S		**Sn**	**03 45 20.9**	**-2.6**
	baz=203							
WCKO	**Fanlu**	**1.92**	**241**	⇓P		**Pn**	**03 45 02.0**	**+1.6**
	baz=241							
WCKO				*e*S		**Sn**	**03 45 25.6**	**+1.9**
	baz=241							
STYH	**Taoyuan**	**1.94**	**232**	⇓*i*P		**Pn**	**03 45 01.6**	**+1.1**
	baz=228							
STYH				*e*S		**Sn**	**03 45 24.1**	**-0.1**
	baz=228							
WRL	**Guolierlin Hig**	**1.94**	**256**	P		**Pn**	**03 45 01.6**	**+1.0**
	baz=256							
WRL				*i* S		**Sn**	**03 45 24.8**	**+0.6**
	baz=256							
TPUB	**Ta-pu**	**1.97**	**237**			**Pn**	**03 45 02.4**	**+1.4**
TPUB	**Ta-pu**	**1.97**	**237**	P		**Pn**	**03 45 02.7**	**+1.7**
TPUB	**Ta-pu**	**1.97**	**237**	P		**Pn**	**03 45 02.4**	**+1.4**
	baz=230							
TPUB				*i* S		**Sn**	**03 45 27.3**	**+2.4**
	baz=230							
TWGBT	**Beinan**	**1.99**	**219**	P		**Pn**	**03 45 01.1**	**-0.2**
TWGBT	**Beinan**	**1.99**	**219**	⇑P		**Pn**	**03 45 00.7**	**-0.6**
	baz=218							
TWGBT				*i* S		**Sn**	**03 45 24.0**	**-1.4**
	baz=218							
TWG	**Pinlang**	**1.99**	**219**			**Pn**	**03 45 00.9**	**-0.5**
TWG	**Pinlang**	**1.99**	**219**	⇓*i*P		**Pn**	**03 45 00.8**	**-0.5**
	baz=218							
TWG				*i* S		**Sn**	**03 45 24.0**	**-1.5**
	baz=218							
WTK	**Tuku**	**1.99**	**250**	P		**Pn**	**03 45 02.8**	**+1.5**
	baz=262							
WTK				*i* S		**Sn**	**03 45 26.5**	**+1.1**
	baz=262							
TTN	**Taitung**	**2.00**	**216**	*e*P		**Pn**	**03 45 01.2**	**-0.3**
	baz=211							
TTN				*e*S		**Sn**	**03 45 25.1**	**-0.6**
	baz=211							
WTP	**Ta-pu**	**2.01**	**236**	*i* P		**Pn**	**03 45 03.

TWK *i* S **Sn** **03 45 30.1 +2.0**
baz=238
CHN1 **Nanshi** **2.11 236** ⇓*i*P **Pn** **03 45 04.2 +1.3**
baz=236
CHN1 *i* S **Sn** **03 45 30.2 +1.9**
baz=236
SNST **Tainan City** **2.12 237** *e*P **Pn** **03 45 04.6 +1.6**
baz=237
SNST S **Sn** **03 45 30.4 +1.9**
baz=237
SGST **Jiashian** **2.13 233** ⇓*i*P **Pn** **03 45 04.0 +0.8**
baz=232
SGST S **Sn** **03 45 29.9 +1.1**
baz=232
SLGT **Liugui** **2.14 230** ⇑P **Pn** **03 45 05.2 +1.9**
baz=237
SLGT *e*S **Sn** **03 45 31.5 +2.4**
baz=237
WSF **Szhu** **2.15 250** *e*P **Pn** **03 45 04.8 +1.4**
baz=260
WSF *i* S **Sn** **03 45 30.7 +1.4**
baz=260
WSL **Shuilin Townsh** **2.19 248** *e*P **Pn** **03 45 05.2 +1.2**
baz=258
WSL S **Sn** **03 45 32.8 +2.6**
baz=258
ICHU **Yijhu** **2.22 243** *e*P **Pn** **03 45 05.5 +1.2**
baz=233
ICHU *e*S **Sn** **03 45 32.2 +1.3**
baz=233
ECL **Taimali** **2.23 218** ⇓P **Pn** **03 45 03.9 -0.7**
baz=217
ECL S **Sn** **03 45 29.2 -2.1**
baz=217
CHN8 **Yiju** **2.28 244** *e*P **Pn** **03 45 05.5 +0.4**
baz=243
CHN8 S **Sn** **03 45 34.3 +1.9**
baz=243
CHN3 **Shinhua** **2.30 236** *e*P **Pn** **03 45 07.3 +1.9**
baz=246
CHN3 *e*S **Sn** **03 45 36.1 +3.4**
baz=246
SCST **Cishan** **2.32 230** P **Pn** **03 45 08.2 +2.5**
baz=239
SCST S **Sn** **03 45 37.0 +3.7**
baz=239
TSMG **Majia** **2.34 225** P **Pn** **03 45 07.3 +1.3**
baz=224
TSMG *e*S **Sn** **03 45 34.7 +0.9**
baz=224
SHHT **Tainan City** **2.34 235** *e*P **Pn** **03 45 08.1 +2.1**
baz=245
SHHT *e*S **Sn** **03 45 36.8 +2.9**
baz=245
SCLT **Jiali** **2.38 240** *e*P **Pn** **03 45 08.2 +1.8**
baz=239
SCLT *e*S **Sn** **03 45 36.7 +2.0**
baz=239
TWM1 **Shoushan** **2.41 230** P **Pn** **03 45 10.0 +3.0**
baz=229
MASBT **Mashibuluo** **2.42 224** ⇓P **Pn** **03 45 07.9 +0.9**
baz=223
MASBT *e*S **Sn** **03 45 35.0 -0.6**
baz=223
SGLT **Jiouru** **2.43 228** *e*P **Pn** **03 45 09.1 +2.0**
baz=226
TAW **Tawu** **2.46 215** *e*P **Pn** **03 45 07.4 -0.2**
baz=215
TAW *e*S **Sn** **03 45 34.8 -1.9**
baz=215
EAST **Anshuo** **2.46 217** ⇑P **Pn** **03 45 07.6 -0.2**
baz=215
LAY **Lan-yu** **2.47 199** *e*P **Pn** **03 45 06.8 -1.0**
baz=198
TSCK **Chigu Township** **2.48 241** *e*P **Pn** **03 45 08.7 +0.9**
baz=240
TSCK *i* S **Sn** **03 45 37.9 +0.8**
baz=240
TAWH **Dawu Township** **2.48 215** *e*P **Pn** **03 45 07.8 -0.1**
baz=215
TAWH S **Sn** **03 45 34.9 -2.2**
baz=215
LYUB **Lan-yu** **2.49 198** ⇑P **Pn** **03 45 06.6 -1.5**
baz=197
SNJT **Kaohsiung City** **2.52 230** *e*P **Pn** **03 45 10.6 +2.2**
baz=229
JIRB **Irabujima** **2.53 79** *e*P **Pn** **03 45 09.7 +1.1**
JIRB *e*S **Sn** **03 45 39.9 +1.5**
SCZT **Fangliau** **2.60 220** *e*P **Pn** **03 45 11.2 +1.6**
baz=231
SCZT *e*S **Sn** **03 45 41.6 +1.5**
baz=231
JIKM **Ikemajima** **2.62 77** *e*P **Pn** **03 45 11.3 +1.6**
JIKM *e*S **Sn** **03 45 42.0 +1.5**
WSSB **Gushan** **2.64 229** *e*P **Pn** **03 45 12.0 +1.9**
baz=229
WSSB *e*S **Sn** **03 45 43.1 +2.0**
baz=229
JMJ2 **Miyako jima3** **2.66 82** *e*P **Pn** **03 45 11.9 +1.6**
JMJ2 *e*S **Sn** **03 45 43.0 +1.4**
JOGS **Gusukube** **2.73 81** P **Pn** **03 45 12.9 +1.6**
JOGS *e*S **Sn** **03 45 44.7 +1.3**
PNG **Penghu** **2.75 253** *i*P **Pn** **03 45 11.5 0.0**
baz=253
PNG S **Sn** **03 45 42.4 -1.4**
baz=253
PHUB **P'eng-hu** **2.76 252** *e*P **Pn** **03 45 11.4 -0.1**
baz=252
PHUB *e*S **Sn** **03 45 42.4 -1.4**
baz=252
SMST **Manzhou Townsh** **2.77 212** *e*P **Pn** **03 45 12.7 +0.8**
baz=212
SMST *e*S **Sn** **03 45 43.7 -0.5**
baz=212
WDGT **Dungji** **2.77 247** *e*P **Pn** **03 45 12.5 +0.6**
baz=246
WDGT *i* S **Sn** **03 45 43.9 -0.4**
baz=246
VWUC **VWUC** **2.78 283** ⇓P **Pn** **03 45 12.0 +0.1**
baz=282
VWUC *i* S **Sn** **03 45 42.3 -2.2**
baz=282
HEN **Hengchun** **2.83 214** *e*P **Pn** **03 45 13.4 +0.8**
baz=205
HEN *e*S **Sn** **03 45 45.9 +0.1**
baz=205
TSEB **Hengchuen, Pin** **2.84 210** *e*P **Pn** **03 45 13.5 +0.7**
baz=210
TSEB *e*S **Sn** **03 45 45.8 -0.2**
baz=210
TWKBT **Hengchun** **2.85 212** P **Pn** **03 45 13.3 +0.5**
baz=211
TWK1 **Hengchun** **2.85 212** *e*P **Pn** **03 45 13.7 +0.8**
baz=211
TWK1 *e*S **Sn** **03 45 45.5 -0.7**
baz=211
MATB **Ma-tsu** **2.86 309** *e*P **Pn** **03 45 13.4 +0.4**
baz=299
VCHM **Qimei** **2.99 248** *e*P **Pn** **03 45 14.9 +0.2**
baz=247
VCHM *e*S **Sn** **03 45 49.0 -0.6**
baz=247
LYJJ **Jianjiangzhen** **3.24 312** *e*P **Pn** **03 45 18.4 +0.2**
baz=303
XPSS **Dashiqiu** **3.25 322** *e*P **Pn** **03 45 18.0 -0.3**
baz=321
XPSS S **Sn** **03 45 56.7 +0.9**
baz=321
MHZQ **Yeshan** **3.52 300** *e*P **Pn** **03 45 22.3 +0.3**
baz=298
MHZQ *e*S **Sn** **03 46 01.0 -1.6**
baz=298
QZH **Quanzhou** **3.54 280** ⇓*i*P **Pn** **03 45 22.0 -0.2**
QZH S **Sn** **03 45 59.7 -3.2**
QZH smax smax
comp=N,430nm,0.4s
QZH smax smax
comp=N,580nm,0.5s
KNM **Kinmen** **3.65 271** *e*P **Pn** **03 45 25.2 +1.5**
baz=280
KNMB **Chin-men Tao** **3.69 272** Pn **Pn** **03 45 23.9 -0.3**
KNMB **Chin-men Tao** **3.69 272** *e*P **Pn** **03 45 23.7 -0.6**
baz=280
AXDP **Jialang** **4.09 278** *e*P **Pn** **03 45 29.8 0.0**
baz=277
ZPLA **Ao Xicun** **4.30 265** *e*P **Pn** **03 45 32.2 -0.4**
baz=263
DSXP **Dongshan** **4.63 263** *e*P **Pn** **03 45 36.9 -0.2**
baz=261
SXFK **Yanhouchang** **4.77 296** *e*P **Pn** **03 45 38.9 -0.2**
baz=294
JOW **Kunigami** **5.81 64** Pn **Pn** **03 45 51.2 -2.1**
JOW **Kunigami** **5.81 64** P **Pn** **03 45 52.9 -0.4**
comp=N,51nm,0.4s,baz=96,slow=30,SNR=11
JOW S **Sn** **03 46 52.1 -6.4**
comp=N,24nm,0.5s,baz=267,slow=29,SNR=1.2
NJ2 **Nanjing** **8.27 338** *e*P **Pn** **03 46 29.5 +2.7**
NJ2 S **Sn** **03 47 56.8 -1.8**
NJ2 pmax pmax
comp=N,53nm,0.6s
NJ2 smax smax
comp=N,100nm,1.1s
NJ2 smax smax
comp=N,74nm,1.0s
NJ2 LR LR
comp=N,780nm,4.3s
NJ2 LR LR
comp=N,760nm,3.9s
NJ2 LR LR
comp=N,480nm,4.5s
CNSH **ChangSha** **9.33 296** ⇑P **Pn** **03 46 45.1 +3.8**
CNSH S **Sn** **03 48 30.4 +5.8**
CNSH smax smax
comp=N,120nm,0.8s
CNSH smax smax
comp=N,78nm,0.8s
WHN **Wuhan** **9.44 312** ⇑P **Pn** **03 46 45.5 +2.7**
WHN S Sn 03 48 36.5 +9.2
WHN pmax pmax
comp=N,28nm,0.6s
JNU **Nakatsue** **11.43 38** P **Pn** **03 47 10.7 +0.7**
comp=N,20nm,0.9s,baz=185,slow=5.3,SNR=4.6
INCN **Inchon** **13.55 14** Pn **Pn** **03 47 35.5 -2.9**
KSAR **Wonju Array Be** **13.83 18** Pn **Pn** **03 47 40.4 -1.8**
KSRS **Korea Array** **13.85 19** P **Pn** **03 47 43.9 +1.5**
comp=N,7.3nm,0.6s,baz=196,slow=12,SNR=25
KS19 **Wonju Array Si** **13.88 18** Pn **Pn** **03 47 42.0 -0.9**
HNS **HongShan** **14.56 335** ⇑P **P** **03 47 54.4 -1.8**
HNS pP Pn 03 48 05.6 +14
HNS PP 03 48 07.8
HNS pmax pmax
comp=N,15nm,1.4s
XAN **Xi'an** **15.21 312** P **Pn** **03 48 01.7 +1.5**
XAN pmax pmax
comp=N,23nm,0.8s
BJI **Beijing** **16.48 343** P **P** **03 48 17.8 +0.4**
JHJ **Hachijo jima 2** **17.51 56** P **P** **03 48 30.9 +1.9**
comp=N,146nm,0.8s,baz=215,slow=14,SNR=4.8
MJAR **Matsushiro Arr** **18.19 45** P **P** **03 48 35.4 -1.0**
comp=N,1.9nm,0.8s,baz=217,slow=11,SNR=3.2
MJAR LR LR 03 55 37.8
comp=N,248nm,21.6s,baz=203,slow=37
HHC **Hu-ho-hao-te** **18.77 334** *e*P **Pn** **03 48 44.9 +0.8**
HHC pmax pmax
comp=N,43nm,1.0s
HHC pmax pmax
comp=N,150nm,6.9s
PZH **PanZhiHua** **18.81 281** P **Pn** **03 48 46.2 +1.6**
PZH pmax pmax
comp=N,10.0nm,0.5s
PZH pmax pmax
comp=N,120nm,4.5s
KKM **Kota Kinabalu** **19.18 199** P **P** **03 48 47.2 -0.3**
KKM IAmb IAmb 03 48 52.9
comp=Z,48nm,1.1s
BTO **Baotou** **19.24 330** *e*P **Pn** **03 48 51.2 +1.6**
BTO pP **pP** **03 49 05.7 +2.6**
BTO PP **sP** **03 49 11.7 -1.0**
BTO S **Sn** **03 52 26.7 +1.8**
BTO SS **SnSn** **03 52 49.4 +8.9**
BTO pmax pmax
comp=Z,28nm,0.6s
BTO pmax pmax
comp=Z,810nm,11.7s
BTO LR LR
comp=Z,650nm,6.0s
BTO LR LR
comp=Z,350nm,6.6s
BTO LR LR
comp=Z,230nm,5.3s
MYLDM **Lahad Datu** **19.46 192** P **P** **03 48 50.3 -0.1**
MYLDM IAmb IAmb 03 48 57.4
comp=Z,39nm,1.0s
CN2 **Changchun** **19.53 7** *e*P **P** **03 48 51.4 +0.5**
CN2 pmax pmax
comp=Z,20nm,0.8s
LZH **Lanzhou** **19.81 310** *e*P **Pn** **03 48 56.6 +0.1**
LZH pP pP 03 49 11.4 +1.7
LZH pmax pmax
comp=Z,33nm,1.0s
XLT **XiLinHaoTe** **20.16 347** *e*P **P** **03 48 58.6 +0.8**
XLT pP pP 03 49 14.1 +1.0
XLT sP sP 03 49 23.7 +1.0
XLT pmax pmax
comp=Z,39nm,1.0s
MDJ **Mudanjiang** **21.02 14** P **P** **03 49 06.4 -0.6**
MDJ S **S** **03 52 50.6 -6.1**
MDJ pmax pmax
comp=Z,11nm,1.4s
MDJ pmax pmax
comp=Z,270nm,4.8s
MDJ LR LR
comp=Z,240nm,15.8s
MDJ LR LR
comp=Z,380nm,14.7s
MDJ LR LR
comp=Z,250nm,10.0s
USA0B **Ussuriysk Arra** **21.26 19** P **P** **03 49 08.6 -0.9**
USRK **Ussuriysk Ar.** **21.26 19** P **P** **03 49 09.0 -0.5**
USRK **Ussuriysk Ar.** **21.26 19** P **P** **03 49 09.5 0.0**
comp=Z,17nm,0.7s,baz=201,slow=10,SNR=31
comp=Z,17nm,0.7s
BNX **BinXian** **21.69 9** ⇓P **P** **03 49 14.6 +0.5**
BNX pmax pmax
comp=Z,11nm,0.9s
BNX pmax pmax
comp=Z,170nm,5.4s
TNCH **TengChong** **21.73 277** P **P** **03 49 14.7 -0.3**
TNCH pmax pmax
comp=Z,99nm,0.5s
TNCH pmax pmax
comp=Z,190nm,4.7s
CHTO **Chiang Mai** **22.52 260** P **P** **03 49 23.3 -0.1**
CMAR **Chiang Mai Arr** **22.63 259** P **P** **03 49 24.2 -0.3**
CMAR **Chiang Mai Arr** **22.63 259** P **P** **03 49 26.1 +1.5**
comp=Z,1.0nm,0.4s,baz=62,slow=8.0,SNR=11
comp=Z,1.0nm,0.4s
SBUM **Sibu** **23.93 206** P **P** **03 49 36.0 -0.8**
TNTI **Ternate** **23.95 168** P **P** **03 49 38.2 +1.2**
TNTI IAmb IAmb 03 49 46.1
comp=Z,19nm,0.8s
TNTI **Ternate** **23.95 168** P **P** **03 49 38.9 +1.9**
comp=Z,30nm,1.3s
GTA **Gaotai** **24.27 314** ⇑P **P** **03 49 40.2 +0.4**
GTA pP pP 03 49 58.9 +1.7
GTA PcP **PcP** **03 53 19.4 +1.2**
GTA pmax pmax
comp=Z,24nm,0.7s
HIA **Hailar** **24.93 356** P **P** **03 49 45.5 -0.1**
LUWI **Luwuk** **25.27 179** P **P** **03 49 49.9 +0.9**
LUWI IAmb IAmb 03 49 57.0
comp=Z,31nm,1.0s
LUWI **Luwuk** **25.27 179** P **P** **03 49 50.7 +1.7**
comp=Z,44nm,1.1s
LBMI **Labuha** **25.35 168** P **P** **03 49 52.8 +3.1**
comp=Z,72nm,1.1s,comp=Z,1μm
HEH **HeiHe** **26.12 7** *e*P **P** **03 49 54.4 -1.9**
HEH pmax pmax
comp=Z,6.0nm,0.7s
HEH pmax pmax
comp=Z,340nm,5.8s
ULN **Ulaanbaatar** **26.43 336** P **P** **03 49 58.6 -0.7**
ULN IAmb IAmb 03 50 00.4
comp=Z,16nm,0.7s
SONM **Songino Array** **26.65 335** P **P** **03 50 01.3 0.0**
SONM IAmb IAmb 03 50 02.3
comp=Z,29nm,0.8s
SONM **Songino Array** **26.65 335** P **P** **03 50 01.3 0.0**
comp=Z,27nm,0.8s,baz=149,slow=9.8,SNR=158
SONM PcP **PcP** **03 53 22.8 -0.6**
comp=Z,0.9nm,0.6s,baz=160,slow=3.4,SNR=4.2
comp=Z,27nm,0.8s
NLAI **Namlea** **27.83 170** P **P** **03 50 14.9 +2.9**
comp=Z,38nm,0.8s
RAMN **Ramite** **32.33 282** *e*P **P** **03 50 50.7 -1.4**
comp=Z,37nm,1.1s
JIRN **Jiri** **32.66 284** *e*P **P** **03 50 56.6 +1.5**
comp=Z,23nm,0.8s
GUN **Gumba** **32.92 284** *e*P **P** **03 50 59.1 +1.7**
comp=Z,14nm,0.4s
PKI **Pulchoki** **33.36 284** *e*P **P** **03 51 02.0 +0.9**
comp=Z,21nm,0.9s
WMQ **Urumqi** **34.35 313** *e*P **P** **03 51 09.9 +0.7**
WMQ pmax pmax
comp=Z,8.0nm,0.7s
DANN **Dangsing** **34.78 285** *e*P **P** **03 51 15.1 +1.7**
comp=Z,14nm,0.7s
KOLN **Koldanda** **34.95 284** *e*P **P** **03 51 15.6 +0.9**
comp=Z,88nm,2.1s
PYUN **Piuthan** **35.47 285** *e*P **P** **03 51 20.6 +1.4**
comp=Z,18nm,0.6s
MK31 **Makanchi Array** **38.99 315** P **P** **03 51 48.6 0.0**
MK31 IAmb IAmb 03 51 49.8
comp=Z,26nm,1.3s
MKAR **Makanchi Array** **38.99 315** P **P** **03 51 48.8 +0.2**
MKAR PcP **PcP** **03 53 57.0 -0.5**
MKAR **Makanchi Array** **38.99 315** P **P** **03 51 48.9 +0.2**
comp=Z,7.7nm,0.5s,baz=100,slow=10,SNR=77
MKAR PcP **PcP** **03 53 57.8 +0.2**
comp=Z,5.4nm,0.9s,baz=99,slow=5.6,SNR=7.9
comp=Z,7.7nm,0.5s
MAKZ **Makanchi** **39.20 315** P **P** **03 51 50.4 0.0**
MAKZ **Makanchi** **39.20 315** P **P** **03 51 50.9 +0.5**
MAKZ pP **pP** **03 52 08.2 -0.3**
MAKZ PcP **PcP** **03 53 58.2 +0.1**
ZAA0 **Zalesovo Array** **40.70 326** P **P** **03 52 01.7 -0.9**
ZAA0 IAmb IAmb 03 52 02.7
comp=Z,13nm,0.8s
ZAA0 PcP **PcP** **03 54 01.2 -1.6**
ZALV **Zalesovo Beam** **40.70 326** P **P** **03 52 01.5 -1.1**
ZALV PcP **PcP** **03 54 01.5 -1.3**
ZALV **Zalesovo Beam** **40.70 326** P **P** **03 52 01.7 -0.9**
comp=Z,8.1nm,0.6s,baz=116,slow=8.0,SNR=43
ZALV PcP **PcP** **03 54 01.9 -0.9**
comp=Z,2.8nm,0.5s,baz=106,slow=4.5,SNR=8.7
comp=Z,8.1nm,0.6s
KSH **Kashi** **41.75 303** P **P** **03 52 15.9 +4.3**
KSH pmax pmax
comp=Z,13nm,1.0s
ULHL **Ulahol** **41.95 307** P **P** **03 52 15.1 +1.7**
SNR=6.6
NRN **Naryn** **42.00 305** P **P** **03 52 15.2 +1.4**
NRN IAmb IAmb 03 52 16.4
comp=Z,21nm,0.8s
TKM2 **Tokmak 2** **42.54 308** P **P** **03 52 19.8 +1.7**
SNR=25
KZA **Kyzart** **42.65 306** P **P** **03 52 21.4 +2.2**
SNR=6.4
KURK **Kurchatov** **42.68 320** P **P** **03 52 18.1 -0.7**
KURK IAmb IAmb 03 52 20.2
comp=Z,19nm,1.0s
KURK **Kurchatov** **42.68 320** P **P** **03 52 18.6 -0.1**
KURK PcP **PcP** **03 54 09.1 -0.2**
KURBB **Kurchatov Arra** **42.70 319** P **P** **03 52 18.8 -0.2**
comp=Z,10nm,0.9s,baz=109,slow=8.0,SNR=54
KURBB PcP **PcP** **03 54 09.2 -0.3**
comp=Z,3.0nm,0.8s,baz=108,slow=3.5,SNR=13
comp=Z,10nm,0.9s
KBK **Karagaybulak** **42.97 307** P **P** **03 52 23.0 +1.5**
SNR=6.8
COEN **Coen** **43.15 150** P **P** **03 52 23.8 +0.8**
UCH **Uchtor** **43.22 306** P **P** **03 52 26.1 +2.3**
SNR=20
AAK **Ala-Archa** **43.30 307** P **P** **03 52 24.5 +0.4**
AAK **Ala-Archa** **43.30 307** P **P** **03 52 25.4 +1.3**
comp=Z,4.6nm,0.6s,baz=56,slow=21,SNR=4.4
comp=Z,4.6nm,0.6s
AAK **Ala-Archa** **43.30 307** P **P** **03 52 25.6 +1.4**
USP **Ospenovka** **43.40 308** P **P** **03 52 26.0 +1.2**
SNR=5.2
NIL **Nilore** **43.65 294** P **P** **03 52 27.1 +0.1**
NIL IAmb IAmb 03 52 28.4
comp=Z,9.3nm,0.7s
NIL **Nilore** **43.65 294** P **P** **03 52 27.9 +1.0**
NIL pP **pP** **03 52 44.5 -0.7**
NIL sP **sP** **03 52 53.2 -0.7**
AML **Almayashu** **43.81 306** P **P** **03 52 30.4 +1.9**
SNR=12
EKS2 **Erkin-Say** **43.82 307** P **P** **03 52 30.0 +1.7**
SNR=5.9
WB0 **Warramunga Arr** **45.40 164** P **P** **03 52 41.5 +0.6**
WB0 IAmb IAmb 03 52 42.4
comp=Z,11nm,0.8s
WRAB **Tennant Creek** **45.55 164** P **P** **03 52 42.2 +0.1**
WRAB IAmb IAmb 03 52 43.7
comp=Z,12nm,0.8s
WRA **Warramunga Arr** **45.56 164** P **P** **03 52 43.1 +1.0**
comp=Z,11nm,0.7s,baz=345,slow=8.6,SNR=82
WRA PcP **PcP** **03 54 19.7 +0.1**
comp=Z,1.4nm,0.8s,baz=348,slow=3.7,SNR=1.1
comp=Z,11nm,0.7s
BTK **Batken** **45.76 303** IAmb IAmb 03 52 46.1
comp=Z,14nm,1.4s
KK31 **Karatay Array** **46.26 307** P **P** **03 52 47.5 0.0**
KK31 PcP **PcP** **03 54 21.8 -0.1**
KKAR **Karatay Array** **46.26 307** P **P** **03 52 47.8 +0.3**
KKAR PcP **PcP** **03 54 21.5 -0.4**
KBL **Kabul** **47.11 295** P **P** **03 52 55.8 +1.3**
KBL IAmb IAmb 03 52 57.1
comp=Z,20nm,0.9s
TIXI **Tiksi** **47.44 3** P **P** **03 52 54.8 -1.4**
TIXI IAmb IAmb 03 52 57.2
comp=Z,7.1nm,0.8s
TIXI **Tiksi** **47.44 3** P **P** **03 52 55.2 -1.0**
BVAR **Borovoye Array** **48.25 320** P **P** **03 53 02.6 -0.1**
comp=Z,4.4nm,0.7s,baz=108,slow=9.5,SNR=18
BVAR PcP **PcP** **03 54 28.7 0.0**
comp=Z,6.6nm,0.8s,baz=114,slow=3.7,SNR=12
comp=Z,4.4nm,0.7s
BRVK **Borovoye** **48.32 320** P **P** **03 53 03.3 0.0**
BRVK IAmb IAmb 03 53 04.3
comp=Z,9.0nm,0.7s
BRVK PcP **PcP** **03 54 29.0 0.0**
BRVK **Borovoye** **48.32 320** P **P** **03 53 03.2 0.0**
BRVK pP **pP** **03 53 21.2 -0.8**
BRVK PcP **PcP** **03 54 28.6 -0.4**
ASAR **Alice Springs** **49.04 166** P **P** **03 53 09.8 +0.7**
ASAR PcP **PcP** **03 54 32.4 +0.4**
ASAR **Alice Springs** **49.04 166** P **P** **03 53 10.6 +1.5**
comp=Z,5.5nm,0.7s,baz=343,slow=7.9,SNR=66
ASAR PcP **PcP** **03 54 31.8 -0.2**
comp=Z,0.2nm,0.4s,baz=349,slow=4.3,SNR=1.7
comp=Z,5.5nm,0.7s
HRA **Herat** **52.72 296** P **P** **03 53 37.9 +0.9**
ABKAR **Akbulak array** **54.12 314** P **P** **03 53 47.0 +0.2**
ABKAR PcP **PcP** **03 54 49.9 -0.7**
FORT **Forrest** **55.11 174** P **P** **03 53 54.0 0.0**
AKTO **Aktyubinsk** **55.43 316** P **P** **03 53 55.9 -0.3**
comp=Z,2.3nm,0.6s,baz=91,slow=8.8,SNR=7.0
comp=Z,2.3nm,0.6s
ARU **Arti** **55.64 323** P **P** **03 53 57.0 -0.6**
comp=Z,5.8nm,0.2s,baz=164,slow=2.7,SNR=8.8
comp=Z,5.8nm,0.2s
GEYT **Alibeck** **55.68 300** IAmb IAmb 03 54 01.1
comp=Z,16nm,0.9s
GEYT **Alibeck** **55.68 300** P **P** **03 53 58.5 +0.2**
comp=Z,9.6nm,0.9s,baz=102,slow=5.1,SNR=15
comp=Z,9.6nm,0.9s
GYA0B **ALIBECK ARRAY** **55.68 300** P **P** **03 53 59.1 +0.8**
GYA0B IAmb IAmb 03 54 01.1
comp=Z,14nm,1.0s
STKA **Stephens Creek** **58.86 161** P **P** **03 54 21.6 +1.0**
comp=Z,0.8nm,0.4s,baz=54,slow=17,SNR=1.9
comp=Z,0.8nm,0.4s
KIRV **Kirov** **60.71 325** P **P** **03 54 32.2 -0.7**
comp=Z,12nm,0.5s,baz=141,slow=1.5,SNR=4.1
comp=Z,12nm,0.5s
D19K **Kuna River** **63.70 24** IAmb IAmb 03 54 54.2
comp=Z,16nm,1.4s
B21K **Ikpikpuk River** **64.93 23** IAmb IAmb 03 55 04.0
comp=Z,37nm,1.9s
E21K **Killik River** **65.23 24** IAmb IAmb 03 55 04.1
comp=Z,22nm,1.7s
B22K **Teshekpuk Lake** **65.31 22** IAmb IAmb 03 55 04.6
comp=Z,24nm,1.6s
D22K **Ayikyak River** **65.67 23** IAmb IAmb 03 55 07.5
comp=Z,30nm,1.7s
H21K **Melozitna Rive** **65.92 27** IAmb IAmb 03 55 08.9
comp=Z,4.9nm,0.7s
E22K **Anaktuvuk Pass** **66.05 24** P **P** **03 55 08.0 -0.1**

KBZ	**Khabaz**	**66.25**	**309**	P	**P**	**03 55 10.2**	**+0.6**
	comp=Z,5.3nm,0.9s,baz=117,slow=3.4,SNR=4.8						
	comp=Z,5.3nm,0.9s						
TOLK	**Toolik Lake Re**	**66.82**	**23**	IAmb	IAmb	03 55 14.8	
	comp=Z,14nm,1.4s						
D24K	**Happy Valley**	**67.02**	**23**	IAmb	IAmb	03 55 15.5	
	comp=Z,5.9nm,0.7s						
F24K	**Squaw Lake**	**67.61**	**25**	IAmb	IAmb	03 55 19.5	
	comp=Z,6.9nm,0.7s						
MDM	**Murphy Dome**	**67.92**	**27**	P	**P**	**03 55 19.9**	**-0.1**
MDM				IAmb	IAmb	03 55 21.7	
	comp=Z,11nm,1.1s						
RND	**Reindeer**	**67.93**	**29**	IAmb	IAmb	03 55 20.9	
	comp=Z,11nm,1.0s						
COLA	**College**	**68.09**	**27**	P	**P**	**03 55 22.3**	**+1.4**
COLA				sP	**PcP**	**03 55 47.5**	**+1.0**
ILAR	**Eielson Array**	**68.52**	**27**	P	**P**	**03 55 23.3**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=299,slow=9.3,SNR=14						
	comp=Z,0.6nm,0.7s						
KEV	**Kevo**	**69.22**	**338**	P	**P**	**03 55 27.2**	**-0.7**
KEV				pP	**pP**	**03 55 45.2**	**-2.5**
KEV				PcP	**PcP**	**03 55 50.9**	**-0.3**
SPITS	**Spitsbergen Ar**	**69.53**	**348**	P	**P**	**03 55 28.8**	**-1.1**
	comp=Z,7.9nm,0.7s,baz=72,slow=11,SNR=6.5						
	comp=Z,7.9nm,0.7s						
ARCES	**ARCESS Array B**	**69.78**	**338**	P	**P**	**03 55 30.6**	**-0.8**
	comp=Z,3.2nm,0.7s,baz=63,slow=5.8,SNR=12						
	comp=Z,3.2nm,0.7s						
FINES	**FINESS Array B**	**71.85**	**330**	P	**P**	**03 55 43.5**	**-0.6**
	comp=Z,5.5nm,0.8s,baz=174,slow=3.8,SNR=20						
	comp=Z,5.5nm,0.8s						
NOR	**Nord**	**72.26**	**354**	*i* P	**P**	**03 55 44.0**	**-2.2**
NOR				IAmb	IAmb	03 55 47.5	
	comp=Z,1.4nm,0.9s						
BNN	**Bunyan**	**72.61**	**305**	P	**P**	**03 55 49.6**	**+0.4**
BNN				IAmb	IAmb	03 55 50.8	
	comp=Z,18nm,0.9s						
AKASG	**Malin Array Be**	**73.48**	**319**	P	**P**	**03 55 52.9**	**-1.1**
	comp=Z,1.1nm,0.4s,baz=65,slow=6.5,SNR=6.9						
	comp=Z,1.1nm,0.4s						
BRTR	**Keskin Array B**	**73.97**	**307**	P	**P**	**03 55 57.1**	**-0.2**
BRTR	**Keskin Array B**	**73.97**	**307**	P	**P**	**03 55 57.8**	**+0.5**
	comp=Z,5.6nm,0.9s,baz=102,slow=5.6,SNR=18						
	comp=Z,5.6nm,0.9s						
MMAI	**Mount Meron Ar**	**74.79**	**300**	P	**P**	**03 56 02.8**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=39,slow=14,SNR=2.2						
	comp=Z,1.1nm,0.6s						
DAG	**Danmarks Havn**	**76.35**	**351**	*i* P	**P**	**03 56 08.0**	**-2.0**
DAG				IAmb	IAmb	03 56 09.9	
	comp=Z,3.6nm,0.8s						
HFS	**Hagfors**	**77.95**	**331**	P	**P**	**03 56 18.9**	**-0.4**
	comp=Z,4.9nm,0.8s,baz=104,slow=6.3,SNR=6.3						
	comp=Z,4.9nm,0.8s						
NEEM	**North Greenlan**	**78.33**	**359**	*i* P	**P**	**03 56 20.5**	**-0.9**
NEEM				IAmb	IAmb	03 56 23.7	
	comp=Z,4.6nm,0.7s						
NB2	**NORSAR Subarra**	**78.58**	**332**	P	**P**	**03 56 22.2**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=59,slow=5.6						
NOA	**NORSAR Array B**	**78.58**	**332**	P	**P**	**03 56 22.2**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=54,slow=5.9,SNR=3.6						
	comp=Z,1.5nm,0.7s						
TULEG	**Thule**	**79.07**	**3**	*i* P	**P**	**03 56 23.9**	**-1.3**
TULEG				IAmb	IAmb	03 56 25.5	
	comp=Z,29nm,0.9s						
VYHS	**Vyhne**	**80.57**	**319**	*e*P	**P**	**03 56 34.9**	**+1.1**
VRAC	**Vranov**	**81.52**	**320**	P	**P**	**03 56 38.1**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=8.1,slow=3.7,SNR=4.3						
	comp=Z,2.5nm,0.7s						
YKA	**Yellowknife Ar**	**82.34**	**23**	P	**P**	**03 56 42.0**	**-0.9**
YKA	**Yellowknife Ar**	**82.34**	**23**	P	**P**	**03 56 42.7**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=311,slow=5.0,SNR=36						
	comp=Z,2.6nm,0.7s						
SUMG	**Summit**	**82.42**	**354**	*i* P	**P**	**03 56 43.3**	**-0.3**
SUMG				IAmb	IAmb	03 56 44.9	
	comp=Z,4.7nm,1.0s						
GERES	**GERESS Array B**	**83.41**	**321**	P	**P**	**03 56 48.6**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=32,slow=9.6,SNR=3.2						
	comp=Z,1.1nm,0.7s						
SOKA	**Soboth**	**83.69**	**319**	*e*P	**P**	**03 56 50.3**	**0.0**
	comp=Z,3.2nm,1.0s						
OBKA	**Obir**	**84.06**	**319**	*i* P	**P**	**03 56 52.7**	**+0.6**
	comp=Z,11nm,1.5s						
KBA	**Koelnbreinsper**	**84.50**	**320**	*i* P	**P**	**03 56 55.1**	**+0.6**
	comp=Z,1.9nm,0.6s						
MYKA	**Terra Mystica**	**84.55**	**319**	*e*PcP	**P**	**03 56 56.4**	**+1.7**
	comp=Z,5.8nm,1.0s						
LESA	**Schwarzleotal**	**84.72**	**320**	*e*P	**P**	**03 56 55.3**	**-0.1**
	comp=Z,6.6nm,1.3s						
ABTA	**Abfaltersbach**	**85.16**	**320**	*e*P	**P**	**03 56 55.8**	**-1.9**
	comp=Z,1.0nm,0.6s						
WATA	**Walderalm**	**85.41**	**320**	*e*P	**P**	**03 56 57.7**	**-1.3**
	comp=Z,0.6nm,0.4s						
WTTA	**Wattenberg**	**85.41**	**320**	*e*P	**P**	**03 56 59.4**	**+0.4**
	comp=Z,0.5nm,0.4s						
SQTA	**Sankt Quirin**	**85.68**	**320**	*e*P	**P**	**03 56 59.5**	**-0.8**
	comp=Z,0.3nm,0.3s						
KIBK	**Kibwezi**	**85.84**	**266**	P	**P**	**03 57 01.9**	**+0.2**
KIBK				IAmb	IAmb	03 57 05.1	
	comp=Z,21nm,1.6s						
KMBO	**Kilima Mbogo**	**86.07**	**267**	P	**P**	**03 57 04.2**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=41,slow=8.7,SNR=4.7						
	comp=Z,1.3nm,0.6s						
BRLDA	**Berland Lookou**	**86.46**	**31**	IAmb	IAmb	03 57 05.4	
	comp=Z,9.4nm,0.8s						
GNW	**Green Mountain**	**87.50**	**38**	P	**P**	**03 57 09.7**	**+0.7**
EKA	**Eskdalemuir Ar**	**88.07**	**332**	P	**P**	**03 57 10.9**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=46,slow=2.4,SNR=6.5						
	comp=Z,2.1nm,0.6s						
LON	**Longmire**	**88.53**	**38**	IAmb	IAmb	03 57 16.4	
	comp=Z,12nm,1.2s						
LTY	**Liberty**	**88.88**	**37**	IAmb	IAmb	03 57 17.2	
	comp=Z,12nm,1.1s						
HOOD	**Mount Hood Mea**	**89.44**	**39**	P	**P**	**03 57 18.4**	**0.0**
HAWA	**Hanford**	**90.02**	**38**	IAmb	IAmb	03 57 23.3	
	comp=Z,9.9nm,0.9s						
YBH	**Yreka Blue Hor**	**90.84**	**43**	P	**P**	**03 57 25.4**	**+0.4**
YBH				IAmb	IAmb	03 57 27.2	
	comp=Z,4.3nm,1.1s						
G08A	**Pilot Rock**	**91.00**	**38**	IAmb	IAmb	03 57 28.0	
	comp=Z,11nm,1.4s						
K05A	**Summer Lake**	**91.38**	**41**	P	**P**	**03 57 27.6**	**0.0**
I07A	**Izee**	**91.41**	**40**	IAmb	IAmb	03 57 38.7	
	comp=Z,6.5nm,1.4s						
BMO	**Blue Mountains**	**92.20**	**38**	IAmb	IAmb	03 57 33.5	
	comp=Z,7.0nm,1.2s						
FFC	**Flin Flon**	**92.49**	**24**	P	**P**	**03 57 31.9**	**-0.3**
PLID	**Pearl Lake**	**92.78**	**37**	IAmb	IAmb	03 57 36.9	
	comp=Z,2.2nm,0.8s						
WVOR	**Wild Horse Val**	**92.90**	**40**	IAmb	IAmb	03 57 36.8	
	comp=Z,8.3nm,1.4s						
OVMT	**Ovando**	**93.10**	**34**	P	**P**	**03 57 35.6**	**+0.2**
MFID	**Camas Ranch**	**93.92**	**38**	IAmb	IAmb	03 57 45.8	
	comp=Z,6.5nm,1.4s						
RYN	**Ryan**	**95.25**	**43**	IAmb	IAmb	03 57 46.7	
	comp=Z,5.0nm,1.2s						
NVAR	**Mina Array Bea**	**95.51**	**43**	P	**P**	**03 57 46.1**	**-0.6**
NVAR	**Mina Array Bea**	**95.51**	**43**	P	**P**	**03 57 47.7**	**+1.0**
	comp=Z,1.6nm,0.8s,baz=297,slow=4.1,SNR=14						
	comp=Z,1.6nm,0.8s						
PDAR	**Pinedale Array**	**97.80**	**36**	P	Pdif	03 57 57.5	+0.4
	comp=Z,0.3nm,0.8s,baz=66,slow=2.3,SNR=2.1						
	comp=Z,0.3nm,0.8s						
SDV	**Santo Domingo**	**144.56**	**23**	PKPdf	**PKPab**	**04 03 57.2**	**+0.1**
CBOC	**Ciudad Bolivar**	**144.97**	**33**	*e*P	**PKPab**	**04 03 57.9**	**-0.7**
PTBC	**PUERTO BERRIO**	**145.13**	**30**	*e*P	**PKPbc**	**04 03 57.5**	**-1.4**
BAUV	**El Baul**	**145.34**	**18**	PKPbc	**PKPbc**	**04 03 58.4**	**-1.1**
BARC	**Barichara**	**145.66**	**28**	*e*P	**PKPbc**	**04 04 00.7**	**-0.1**
PLMC	**San Jos del P**	**145.66**	**35**	*e*P	**PKPdf**	**04 03 59.8**	**-0.5**
GUY2C	**Guyana, Caldas**	**145.85**	**33**	*e*P	**PKPdf**	**04 04 00.4**	**-0.7**
SPBC	**San Pablo de B**	**146.09**	**30**	*e*P	**PKPdf**	**04 04 01.3**	**+0.2**
YOTC	**Yotoco, Valle**	**146.40**	**35**	*e*P	**PKPdf**	**04 04 01.6**	**-0.1**
JAMC	**Jamundi, Valle**	**146.87**	**37**	*e*P	**PKPdf**	**04 04 03.3**	**+0.7**
ORTC	**Ortega, Tolima**	**147.03**	**34**	*e*P	**PKPdf**	**04 04 02.9**	**+0.3**
CHIC	**Chingaza**	**147.15**	**31**	*e*P	**PKPdf**	**04 04 02.0**	**-1.3**
PRAC	**Prado**	**147.38**	**33**	*e*P	**PKPdf**	**04 04 04.4**	**+1.2**
POPC	**Popayan, Colom**	**147.43**	**37**	*e*P	**PKPdf**	**04 04 04.4**	**+0.9**
VILC	**Villavicencio,**	**147.62**	**31**	*e*P	**PKPbc**	**04 04 06.6**	**+0.1**
OTAV	**Otavalo**	**148.24**	**43**	*e*P	**PKPbc**	**04 04 07.2**	**-1.3**
GARC	**Garzon, Huila**	**148.37**	**36**	*e*P	**PKPbc**	**04 04 08.0**	**-0.6**
CHSH	**Refugio Sur-Vo**	**149.31**	**45**	PKPbc	**PKPbc**	**04 04 10.4**	**-0.9**
PIAT	**Ana Tenorio**	**149.32**	**44**	*e*P	**PKPdf**	**04 04 08.6**	**+1.9**
ARNL	**Arenillas**	**150.01**	**50**	PKPbc	**PKPbc**	**04 04 10.2**	**-2.1**
MCRA	**Macar, Loja**	**150.67**	**51**	*e*P	**PKPbc**	**04 04 13.1**	**-0.9**

ROM 08 04:05:42.7±0.1,**41°74'N**±0°.004×**14°246'E**±0°.006,

h11km,**ML1.1**/9,**4C**,**Error ellipse: s-maj=0.5km s-min=0.4km az=250.0**,**Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIDA	**Miranda**	**0.10**	**177**	⇑P	Pg	04 05 46.0	+0.5
MIDA				S	Sg	04 05 48.2	+0.7
MIDA				AML	AML		
	comp=E,162μm,0.2s						
MIDA				AML	AML		
	comp=N,158μm,0.2s						
MIDA				AML	AML		
	comp=E,192μm,0.4s						
CERA	**Filignano**	**0.23**	**229**	⇑P	Pg	04 05 47.8	+0.4
CERA				S	Sg	04 05 52.1	+1.5
TRIV	**Trivento**	**0.23**	**84**	⇑P	Pg	04 05 48.0	+0.6
TRIV				S	Sg	04 05 52.4	+1.7
LPEL	**Lama dei Peligi**	**0.31**	**351**	P	Pg	04 05 49.2	+0.3
LPEL				S	Sb	04 05 54.2	-1.1
LPEL				AML	AML		
	comp=E,83μm,1.0s						
LPEL				AML	AML		
	comp=N,87μm,0.2s						
BSSO	**Busso**	**0.33**	**127**	P	Pg	04 05 49.5	+0.2
VAGA	**Valle Agricola**	**0.33**	**182**	⇑P	Pg	04 05 49.4	+0.1
VAGA				S	Sb	04 05 55.0	-1.0
VAGA				AML	AML		
	comp=E,23μm,1.1s						
VAGA				AML	AML		
	comp=N,39μm,0.3s						
VAGA				AML	AML		
	comp=E,23μm,0.9s						
INTR	**Introdacqua**	**0.37**	**316**	P	Pg	04 05 50.4	+0.3
INTR				S	Sb	04 05 56.4	-0.8
INTR				AML	AML		
	comp=N,50μm,0.1s						
INTR				AML	AML		
	comp=E,33μm,0.1s						
POFI	**Posta Fibreno**	**0.40**	**266**	P	Pg	04 05 50.9	+0.3
POFI				S	Sb	04 05 57.4	-0.7

*IDC **08** 04:05:56.3±0.9,41°.25N×23°.45E,h0km,mb3.5/6, mbtmp3.6/13,ML3.4/8,Error ellipse: s-maj=11.4km s-min=10.0km az=28.0*
*ISK **08** 04:05:56.7,41°.32N×23°.35E,h9km,ML4.2/21*
*BEO **08** 04:05:57.3±0.3,41°.32N×23°.34E,h5km±2km,ML3.9/17*
*ATH **08** 04:05:57.8,41°.31N×23°.35E,h3km±1km,ML3.8/23,Error ellipse: s-maj=1.6km s-min=0.6km az=166.0*
*SOF **08** 04:05:57.5,41°.42N×23°.40E,h15km,MD3.9*
*PDG **08** 04:05:57.3±0.5,41°.32N×23°.38E,h14km,ML3.9/11,Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*
*THE **08** 04:05:57.8,41°.31N×23°.35E,h4km,ML3.8/12,Error ellipse: s-maj=0.8km s-min=0.3km az=171.0*
*SKO **08** 04:05:57.9,41°.35N×23°.35E,h0km,ML3.7*
*AFAD **08** 04:05:57.9±0.0,41°.14N×23°.60E,h6km±4km,ML3.9*
*NAO **08** 04:06:00.7,41°.01N×22°.18E,h33km,mb3.8*
*PRU **08** 04:06:02.7,41°.64N×23°.26E,h1km*

ISC 08 04:05:57.4±1.0,**41°.34N**±0°.01×**23°.36E**±0°.01,**h5**km±7km, **n284,σ1°08/368,mb3.6**/4,**41C-33D**,**Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRS	**Serrai**	**0.28**	**142**	P	**Pg**	**04 06 02.8**	**-0.1**
SRS				S	**Sg**	**04 06 07.2**	**+0.6**
	23μm,0.4s						
SRS	**Serrai**	**0.28**	**142**	*e*Pg	**Pg**	**04 06 02.7**	**-0.1**
SRS				*e*Sg	**Sg**	**04 06 07.1**	**+0.4**
SRS	**Serrai**	**0.28**	**142**	⇓*i*Pg	**Pg**	**04 06 02.9**	**0.0**
SRS				*i* Sg	**Sg**	**04 06 07.3**	**+0.6**
SRS	**Serrai**	**0.28**	**142**	P	**Pg**	**04 06 02.9**	**-0.1**
SRS				S	**Sg**	**04 06 07.0**	**+0.4**
SRS				AML	AML	04 06 07.3	
	comp=E,43802μm,0.4s						
SRS				AML	AML	04 06 07.7	
	comp=N,50838μm,0.5s						
MMB	**Musomishta**	**0.36**	**55**	⇑*i*Pg	**Pg**	**04 06 04.3**	**0.0**
MMB				*i* Sg	**Sg**	**04 06 09.7**	**+0.7**
MMB	**Musomishta**	**0.36**	**55**	*i* Pg	**Pg**	**04 06 04.4**	**+0.1**
NVR	**Nevrokopi**	**0.38**	**89**	P	**Pg**	**04 06 05.6**	**+0.9**
NVR				S	**Sb**	**04 06 11.4**	**-1.3**
	comp=N,10μm,0.2s						
NVR	**Nevrokopi**	**0.38**	**89**	P	**Pg**	**04 06 05.7**	**+1.0**
NVR				S	**Sb**	**04 06 11.3**	**-1.3**
NVR				AML	AML	04 06 13.5	
	comp=E,19567μm,0.4s						
NVR				AML	AML	04 06 16.4	
	comp=N,19753μm,0.3s						
KNT	**Kendrikon**	**0.39**	**243**	Pg	**Pg**	**04 06 04.7**	**-0.3**
KNT				Sg	**Sg**	**04 06 09.8**	**-0.4**
KNT	**Kendrikon**	**0.39**	**243**	P	**Pg**	**04 06 04.7**	**-0.3**
KNT				S	**Sg**	**04 06 09.8**	**-0.4**
	comp=N,29μm,0.3s						
KNT	**Kendrikon**	**0.39**	**243**	⇓*i*Pg	**Pg**	**04 06 04.7**	**-0.3**
KNT				*i* Sg	**Sg**	**04 06 09.8**	**-0.4**
KNT	**Kendrikon**	**0.39**	**243**	P	**Pg**	**04 06 04.7**	**-0.3**
KNT				S	**Sg**	**04 06 09.7**	**-0.4**
KNT				AML	AML	04 06 10.2	
	comp=E,45583μm,0.3s						
KNT				AML	AML	04 06 10.5	
	comp=N,68424μm,0.3s						
SOH	**Sokhos**	**0.52**	**181**	P	**Pg**	**04 06 07.1**	**-0.3**
SOH				S	**Sg**	**04 06 14.7**	**+0.6**
	comp=N,26μm,0.3s						
SOH	**Sokhos**	**0.52**	**181**	⇑*i*Pg	**Pg**	**04 06 07.2**	**-0.2**
SOH				*i* Sg	**Sg**	**04 06 14.8**	**+0.7**
SOH	**Sokhos**	**0.52**	**181**	P	**Pg**	**04 06 07.2**	**-0.2**
SOH				S	**Sg**	**04 06 14.8**	**+0.6**
SOH				AML	AML	04 06 15.1	
	comp=E,51860μm,0.4s						
SOH				AML	AML	04 06 15.4	
	comp=N,76280μm,0.3s						
KKB	**Krupnik**	**0.53**	**341**	⇑*i*Pg	**Pg**	**04 06 07.4**	**-0.2**
KKB				*i* Sg	**Sg**	**04 06 14.8**	**+0.3**
KKB	**Krupnik**	**0.53**	**341**	*i* Pg	**Pg**	**04 06 07.3**	**-0.2**
PEHC	**Pehcevo**	**0.56**	**322**	⇑*i*Pg	**Pg**	**04 06 07.9**	**-0.2**
PEHC				*i* Sg	**Sg**	**04 06 15.6**	**+0.2**
VAY	**Valandovo**	**0.60**	**268**	⇓*i*Pg	**Pg**	**04 06 08.2**	**-0.6**
VAY				*i* Sg	**Sg**	**04 06 16.8**	**+0.2**
VAY				*e*Lg	Lg	04 06 18.3	
	comp=E,3μm,0.3s						
VAY				*e*Lg	Lg	04 06 18.7	
	comp=N,3μm,0.6s						
KOKK	**Kokkinochori,**	**0.71**	**137**	P	**Pg**	**04 06 10.5**	**-0.5**
KOKK	**Kokkinochori,**	**0.71**	**137**	P	**Pg**	**04 06 10.6**	**-0.4**
KOKK				S	**Sg**	**04 06 19.6**	**-0.7**
KOKK				AML	AML	04 06 24.9	
	comp=E,25702μm,0.3s						
KOKK				AML	AML	04 06 25.1	
	comp=N,27901μm,0.4s						
HORT	**Hortiatis**	**0.77**	**195**	Pg	**Pg**	**04 06 11.9**	**-0.3**
HORT				Sg	**Sg**	**04 06 22.5**	**+0.4**
HORT	**Hortiatis**	**0.77**	**195**	P	**Pg**	**04 06 11.8**	**-0.3**
HORT				S	**Sg**	**04 06 22.1**	**0.0**
	comp=N,8μm,0.4s						
HORT	**Hortiatis**	**0.77**	**195**	P	**Pg**	**04 06 11.8**	**-0.3**
HORT				S	**Sg**	**04 06 22.2**	**0.0**
HORT				AML	AML	04 06 23.2	
	comp=N,20348μm,0.4s						
HORT				AML	AML	04 06 26.7	
	comp=E,12558μm,0.3s						
THE	**Thessaloniki**	**0.77**	**203**	P	**Pg**	**04 06 11.8**	**-0.3**
THE				S	**Sg**	**04 06 22.4**	**+0.3**
	comp=E,10μm,0.4s						
THE	**Thessaloniki**	**0.77**	**203**	⇑*i*Pg	**Pg**	**04 06 11.8**	**-0.3**
THE				*i* Sg	**Sg**	**04 06 22.3**	**+0.1**
THE	**Thessaloniki**	**0.77**	**203**	P	**Pg**	**04 06 11.6**	**-0.5**
THE				S	**Sg**	**04 06 21.9**	**-0.3**
THE				AML	AML	04 06 23.1	
	comp=N,26296μm,0.3s						
THE				AML	AML	04 06 23.5	
	comp=E,12026μm,0.4s						
GRG	**Griva**	**0.82**	**242**	Pg	**Pg**	**04 06 12.6**	**-0.6**
GRG				Sg	**Sg**	**04 06 23.9**	**+0.1**
GRG	**Griva**	**0.82**	**242**	P	**Pg**	**04 06 12.5**	**-0.6**
GRG				S	**Sg**	**04 06 24.1**	**+0.3**
	comp=E,8μm,0.5s						
GRG	**Griva**	**0.82**	**242**	⇓*i*Pg	**Pg**	**04 06 12.6**	**-0.6**
GRG				*i* Sg	**Sg**	**04 06 24.3**	**+0.5**
GRG	**Griva**	**0.82**	**242**	P	**Pg**	**04 06 12.5**	**-0.6**
GRG				S	**Sg**	**04 06 23.5**	**-0.3**
GRG				AML	AML	04 06 25.6	
	comp=N,20338μm,0.5s						
GRG				AML	AML	04 06 25.6	
	comp=E,12869μm,0.5s						
KVLA	**Kavala**	**0.87**	**117**	P	**Pg**	**04 06 13.2**	**-0.9**
KVLA				S	**Sg**	**04 06 25.1**	**-0.3**
KVLA				AML	AML	04 06 28.7	
	comp=E,16233μm,0.3s						
KVLA				AML	AML	04 06 29.5	
	comp=N,11049μm,0.2s						
KAVA	**Kavala**	**0.94**	**111**	P	**Pg**	**04 06 14.4**	**-1.0**
KAVA	**Kavala**	**0.94**	**111**	P	**Pg**	**04 06 14.3**	**-1.0**
KAVA				S	**Sg**	**04 06 27.4**	**-0.1**
STIP	**Stip**	**0.95**	**292**	⇓*i*Pg	**Pg**	**04 06 11.8**	**-3.8**
STIP				*i* Sg	**Sg**	**04 06 23.4**	**-4.6**
RZN	**Rozhen**	**1.09**	**71**	*i* Pg	**Pg**	**04 06 17.5**	**-0.8**
OUR	**Ouranopolis**	**1.11**	**155**	Pn	**Pb**	**04 06 18.9**	**-0.1**
OUR				Sn	**Sb**	**04 06 33.5**	**-0.3**
OUR	**Ouranopolis**	**1.11**	**155**	P	**Pg**	**04 06 18.0**	**-0.7**
OUR				S	**Sb**	**04 06 33.4**	**-0.3**
	comp=N,33μm,0.5s						
OUR	**Ouranopolis**	**1.11**	**155**	P	**Pg**	**04 06 17.7**	**-1.0**
OUR				S	**Sg**	**04 06 32.5**	**-0.6**
OUR				AML	AML	04 06 36.0	
	comp=E,46427μm,0.3s						
OUR				AML	AML	04 06 36.3	
	comp=N,85657μm,0.7s						
PLNA	**Plana**	**1.13**	**2**	*i* Pg	**Pg**	**04 06 18.4**	**-0.7**
THAS	**Thassos island**	**1.26**	**125**	P	**Pg**	**04 06 21.7**	**+0.1**
THAS				S	**Sn**	**04 06 38.8**	**-0.1**
	comp=N,9μm,0.3s						
THAS	**Thassos island**	**1.26**	**125**	P	**Pg**	**04 06 21.8**	**+0.2**
THAS				AML	AML	04 06 42.1	
	comp=N,16045μm,0.3s						
THAS				AML	AML	04 06 42.1	
	comp=E,19239μm,0.4s						
VTS	**Vitosha**	**1.28**	**356**	*e*Pg	**Pn**	**04 06 20.9**	**-1.1**
VTS				*e*Sg	**Sg**	**04 06 37.6**	**-0.9**
VTS	**Vitosha**	**1.28**	**356**	*i* Pg	**Pn**	**04 06 20.8**	**-1.2**
PLD	**Plovdiv**	**1.31**	**52**	Pn	**Pn**	**04 06 21.4**	**-0.9**
PLD	**Plovdiv**	**1.31**	**52**	*e*Pg	**Pn**	**04 06 21.4**	**-0.9**
PLD				*e*Sg	**Sb**	**04 06 39.2**	**-0.4**
PLD	**Plovdiv**	**1.31**	**52**	⇑*i*Pg	**Pn**	**04 06 21.4**	**-0.9**
PLD				*e*Sg	**Sb**	**04 06 39.5**	**0.0**
PLD	**Plovdiv**	**1.31**	**52**	*i* Pg	**Pn**	**04 06 21.3**	**-1.0**
PGB	**Panagyurishte**	**1.32**	**27**	*i* P	**Pn**	**04 06 21.8**	**-0.6**
BOSS	**Bosilegrad**	**1.33**	**331**	*e*Pg	**Pn**	**04 06 22.1**	**-0.5**
BOSS				*e*Sg	**Sb**	**04 06 39.3**	**-0.8**
SOF	**Sofia**	**1.33**	**0**	*i* P	**Pn**	**04 06 22.8**	**+0.2**
KTI	**Kastanea**	**1.34**	**225**	P	**Pn**	**04 06 21.9**	**-0.9**
PRVS	**Prvonek**	**1.51**	**321**	*e*Pg	**Pn**	**04 06 24.6**	**-0.5**
PRVS				*e*Sg	**Sn**	**04 06 45.0**	**-0.1**
KDZ	**Kurdzhali**	**1.51**	**78**	Pn	**Pn**	**04 06 24.9**	**-0.2**
KDZ	**Kurdzhali**	**1.51**	**78**	*i* P	**Pn**	**04 06 25.4**	**+0.3**
SKO	**Skopje**	**1.57**	**294**	⇓*i*Pg	**Pn**	**04 06 25.6**	**-0.3**
SKO				*i* Sg	**Sg**	**04 06 49.6**	**+1.7**
FNA	**Florina**	**1.60**	**250**	Pn	**Pn**	**04 06 26.1**	**-0.3**
FNA	**Florina**	**1.60**	**250**	P	**Pn**	**04 06 25.9**	**-0.4**
FNA				S	**Sb**	**04 06 47.6**	**-0.4**
	comp=E,2μm,0.5s						
FNA	**Florina**	**1.60**	**250**	*e*Pg	**Pn**	**04 06 26.0**	**-0.3**
FNA				*e*Sg	**Sg**	**04 06 48.5**	**-0.3**
FNA	**Florina**	**1.60**	**250**	⇓*i*Pg	**Pn**	**04 06 26.1**	**-0.3**
FNA				*i* Sg	**Sg**	**04 06 49.6**	**+0.7**
FNA	**Florina**	**1.60**	**250**	P	**Pn**	**04 06 26.1**	**-0.3**
FNA				AML	AML	04 06 52.7	
	comp=N,4467μm,0.6s						
FNA				AML	AML	04 06 55.6	
	comp=E,3420μm,0.5s						
RDO	**Rodhopi**	**1.65**	**96**	Pn	**Pn**	**04 06 26.7**	**-0.2**
RDO	**Rodhopi**	**1.65**	**96**	P	**Pn**	**04 06 26.5**	**-0.5**
RDO				S	**Sb**	**04 06 49.3**	**0.0**
	comp=E,6μm,0.3s						
RDO	**Rodhopi**	**1.65**	**96**	P	**Pn**	**04 06 26.7**	**-0.2**
RDO				S	**Sn**	**04 06 48.3**	**-0.2**
RDO				AML	AML	04 06 52.5	
	comp=E,11411μm,0.3s						
RDO				AML	AML	04 06 52.7	
	comp=N,12946μm,0.4s						
DIM	**Dimitrovgrad**	**1.80**	**66**	*i* P	**Pb**	**04 06 30.3**	**-0.5**
BARS	**Barje**	**1.87**	**323**	*e*Pn	**Pn**	**04 06 29.7**	**-0.3**
BARS				*e*Sn	**Sb**	**04 06 55.9**	**+0.2**
BARS	**Barje**	**1.87**	**323**	⇓*i*Pn	**Pn**	**04 06 29.5**	**-0.5**
BARS				*i* Sg

ELND	**Elena**	**2.45**	**49**	⇓P	**Pn**	**04 06 38.1**	**+0.1**
UKOP	**Uzunkopru-Edir**	**2.48**	**94**	Pn	**Pn**	**04 06 38.8**	**+0.5**
ERIK	**Erikli-Kesan**	**2.48**	**105**	Pn	**Pn**	**04 06 37.9**	**-0.4**
ECEA	**Canakkale, Ece**	**2.50**	**120**	P	**Pn**	**04 06 39.8**	**+1.2**
ECEA				S	**Sb**	**04 07 12.3**	**-1.4**
ECEA				*i* AML	AML	04 07 20.0	
	comp=E,1μm,1.0s						
ECEA				*i* AML	AML	04 07 23.0	
	comp=E,634nm,1.0s						
ECEA				*i* AML	AML	04 07 33.0	
	comp=E,934nm,0.8s						
SELS	**Selova**	**2.51**	**319**	*e*Pn	**Pn**	**04 06 37.9**	**-0.9**
MAKR	**Makrakomi, Fth**	**2.51**	**202**	P	**Pn**	**04 06 38.9**	**+0.1**
MAKR	**Makrakomi, Fth**	**2.51**	**202**	P	**Pn**	**04 06 38.8**	**+0.1**
MAKR				AML	AML	04 07 11.4	
	comp=E,2686μm,0.4s						
MAKR				AML	AML	04 07 28.0	
	comp=N,2772μm,0.7s						
BOZC	**Bozcaada**	**2.54**	**125**	P	**Pn**	**04 06 38.2**	**-1.0**
BOZC				S	**Sb**	**04 07 16.2**	**+1.3**
GELI	**Tayfur-Gelibol**	**2.54**	**111**	Pn	**Pn**	**04 06 38.9**	**-0.3**
JAN	**Janina**	**2.55**	**230**	P	**Pn**	**04 06 39.8**	**+0.5**
EDRB	**Edirne**	**2.59**	**78**	Pn	**Pn**	**04 06 40.3**	**+0.5**
EDRB	**Edirne**	**2.59**	**78**	P	**Pn**	**04 06 40.0**	**+0.2**
BOVS	**Bovan**	**2.60**	**332**	⇑P	**Pn**	**04 06 40.8**	**+0.9**
BOVS	**Bovan**	**2.60**	**332**	*e*Pn	**Pn**	**04 06 41.1**	**+1.1**
BOVS				*e*Sn	**Sn**	**04 07 12.3**	**+0.4**
ZAGS	**Zajecar**	**2.61**	**342**	*e*Pn	**Pn**	**04 06 39.4**	**-0.7**
ZAGS				*e*Sn	**Sn**	**04 07 11.4**	**-0.7**
AXAR	**Agios Charalam**	**2.63**	**192**	P	**Pn**	**04 06 40.3**	**-0.1**
AXAR	**Agios Charalam**	**2.63**	**192**	P	**Pn**	**04 06 40.3**	**-0.1**
CNKL	**anakkale-Mer**	**2.63**	**118**	P	**Pn**	**04 06 39.6**	**-0.8**
CNKL				P	Pb	04 06 40.1	-4.8
CNKL				S	**Sn**	**04 07 11.1**	**-1.6**
CNKL				S	**Sn**	**04 07 11.5**	**-1.1**
COMU	**Canakkale**	**2.67**	**117**	Pn	**Pn**	**04 06 41.3**	**+0.3**
EVR	**Evrytania**	**2.70**	**207**	P	**Pn**	**04 06 41.7**	**+0.3**
EZN	**Ezine**	**2.72**	**123**	Pn	**Pn**	**04 06 41.4**	**-0.2**
EZN	**Ezine**	**2.72**	**123**	P	**Pn**	**04 06 41.2**	**-0.4**
LPN	**Lapseki**	**2.75**	**109**	Pn	**Pn**	**04 06 42.4**	**+0.3**
KOCA	**Canakkale, Ayv**	**2.81**	**130**	P	**Pn**	**04 06 42.4**	**-0.4**
KOCA				S	**Sb**	**04 07 22.9**	**+0.4**
PVY	**Plav**	**2.83**	**297**	⇑*i*Pn	**Pn**	**04 06 43.8**	**+0.5**
PVY				*i* Sn	**Sn**	**04 07 18.6**	**+0.8**
SIGR	**SIGRI**	**2.86**	**137**	Pn	**Pn**	**04 06 43.4**	**-0.1**
SIGR	**SIGRI**	**2.86**	**137**	P	**Pn**	**04 06 43.2**	**-0.3**
SIGR	**SIGRI**	**2.86**	**137**	P	**Pn**	**04 06 43.2**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**2.91**	**122**	P	**Pn**	**04 06 44.2**	**-0.1**
BAYC				S	**Sn**	**04 07 19.1**	**-0.4**
IGT	**Igoumenitsa**	**2.94**	**233**	P	**Pn**	**04 06 45.8**	**+1.2**
ANX	**Ano Chora**	**2.96**	**202**	P	**Pn**	**04 06 45.2**	**+0.1**
ANX	**Ano Chora**	**2.96**	**202**	P	**Pn**	**04 06 45.2**	**+0.1**
ANX				AML	AML	04 07 26.1	
	comp=N,2174μm,0.7s						
ANX				AML	AML	04 07 35.6	
	comp=E,1671μm,0.7s						
RKY	**Sarkoy-Tekirda**	**2.96**	**102**	Pn	**Pn**	**04 06 45.5**	**+0.5**
RFT1	**Sazli**	**2.96**	**127**	Pn	**Pn**	**04 06 45.3**	**+0.3**
BEY	**Berane**	**3.00**	**302**	⇓*i*Pn	**Pn**	**04 06 46.0**	**+0.4**
IVA	**Berane**	**3.00**	**302**	⇑*i*Pn	**Pn**	**04 06 45.9**	**+0.3**
IVA				*i* Sn	**Sn**	**04 07 23.7**	**+1.8**
PRK	**Paraskevi**	**3.06**	**132**	P	**Pn**	**04 06 46.0**	**-0.2**
PRK	**Paraskevi**	**3.06**	**132**	P	**Pn**	**04 06 46.0**	**-0.2**
EFP	**Efpalio**	**3.12**	**202**	P	**Pn**	**04 06 47.8**	**+0.6**
EFP	**Efpalio**	**3.12**	**202**	P	**Pn**	**04 06 47.7**	**+0.6**
VIL2	**Platees**	**3.13**	**181**	P	**Pn**	**04 06 47.3**	**0.0**
VIL2				AML	AML	04 07 25.6	
	comp=N,547μm,0.9s						
VIL2				AML	AML	04 07 27.7	
	comp=E,812μm,0.6s						
KRBG	**Karabiga-Canak**	**3.13**	**106**	Pn	**Pn**	**04 06 48.2**	**+0.9**
LOZB	**Loznitsa**	**3.14**	**49**	⇓P	**Pn**	**04 06 47.3**	**-0.1**
ULC	**Ulcinj**	**3.15**	**283**	⇑*i*Pn	**Pn**	**04 06 49.1**	**+1.5**
ULC	**Ulcinj**	**3.15**	**283**	⇑*i*Pn	**Pn**	**04 06 49.0**	**+1.4**
ULC				*i* Sn	**Sn**	**04 07 26.4**	**+0.9**
SJES	**Sjenica**	**3.16**	**308**	*e*Pn	**Pn**	**04 06 47.6**	**-0.2**
SJES				*e*Sn	**Sn**	**04 07 25.2**	**-0.8**
SJES	**Sjenica**	**3.16**	**308**	*e*Pn	**Pn**	**04 06 48.0**	**+0.2**
KEK	**Kerkira**	**3.17**	**240**	P	**Pn**	**04 06 48.8**	**+1.0**
KEK	**Kerkira**	**3.17**	**240**	P	**Pn**	**04 06 48.0**	**+0.2**
VILL	**Villia**	**3.17**	**181**	P	**Pn**	**04 06 47.4**	**-0.5**
GRUS	**Gruza**	**3.21**	**323**	*e*Pn	**Pn**	**04 06 47.6**	**-0.8**
GRUS				*e*Sn	**Sn**	**04 07 27.9**	**+1.0**
RAZG	**Razgrad**	**3.22**	**45**	⇑P	**Pn**	**04 06 48.8**	**+0.2**
KOME	**Kolasin**	**3.23**	**299**	⇑*i*Pn	**Pn**	**04 06 49.1**	**+0.3**
KOME				*i* Sn	**Sn**	**04 07 28.6**	**+0.8**
DRME	**Dracevica, Mon**	**3.24**	**286**	*e*Pn	**Pn**	**04 06 50.9**	**+2.1**
DRME	**Dracevica, Mon**	**3.24**	**286**	⇓*i*Pn	**Pn**	**04 06 51.1**	**+2.3**
DRME				*i* Sn	**Sn**	**04 07 28.6**	**+0.9**
PDG	**Podgorica**	**3.25**	**291**	⇓P	**Pn**	**04 06 49.7**	**+0.7**
PDG	**Podgorica**	**3.25**	**291**	*e*Pn	**Pn**	**04 06 50.2**	**+1.2**
PDG	**Podgorica**	**3.25**	**291**	⇑*i*Pn	**Pn**	**04 06 49.6**	**+0.7**
PDG				*i* Sn	**Sn**	**04 07 28.6**	**+0.6**
AYVA	**Ayvalik**	**3.25**	**128**	P	**Pn**	**04 06 48.8**	**-0.2**
AYVA				S	**Sn**	**04 07 26.3**	**-1.8**
AYVA				*i* AML	AML	04 07 52.0	
	comp=E,312nm,0.6s						
IVAS	**Ivanjica**	**3.26**	**314**	*e*Pn	**Pn**	**04 06 48.4**	**-0.7**
IVAS				*e*Sn	**Sn**	**04 07 27.2**	**-1.1**
LAKA	**Lakka**	**3.28**	**199**	P	**Pn**	**04 06 49.2**	**-0.1**
LKD2	**Lefkada island**	**3.29**	**220**	P	**Pn**	**04 06 50.8**	**+1.3**
DION	**Dionisos Attik**	**3.29**	**172**	P	**Pn**	**04 06 50.0**	**+0.5**
DION	**Dionisos Attik**	**3.29**	**172**	P	**Pn**	**04 06 50.1**	**+0.5**
KUBS	**Kucevo**	**3.31**	**339**	*e*Pn	**Pn**	**04 06 48.1**	**-1.7**
SVIS	**Svilajnac**	**3.32**	**332**	*e*Pn	**Pn**	**04 06 51.5**	**+1.6**
SVIS				*e*Sn	**Sn**	**04 07 30.6**	**+0.9**
NYDR	**Nydri-Lefkada**	**3.33**	**219**	P	**Pn**	**04 06 50.9**	**+0.9**
LTK	**Loutraki**	**3.33**	**185**	P	**Pn**	**04 06 49.7**	**-0.4**
THAL	**Thalero**	**3.34**	**190**	P	**Pn**	**04 06 50.2**	**0.0**
THAL	**Thalero**	**3.34**	**190**	P	**Pn**	**04 06 50.1**	**-0.1**
LOUT	**Loutraki**	**3.36**	**185**	P	**Pn**	**04 06 50.4**	**-0.1**
LOUT	**Loutraki**	**3.36**	**185**	P	**Pn**	**04 06 49.7**	**-0.8**
BUHA	**Balikesir, Bur**	**3.38**	**122**	P	**Pn**	**04 06 50.7**	**0.0**
BUHA				S	**Sn**	**04 07 31.0**	**-0.2**
BUHA				*i* AML	AML	04 07 47.0	
	comp=E,309nm,1.2s						
BUHA				*i* AML	AML	04 07 47.0	
	comp=E,378nm,0.5s						
DJES	**Djerdap**	**3.38**	**350**	*e*Pn	**Pn**	**04 06 51.5**	**+0.8**
HUMR	**Humele**	**3.40**	**20**	⇓P	**Pn**	**04 06 52.7**	**+1.8**
DRAG	**Dragano-Lefkad**	**3.41**	**220**	P	**Pn**	**04 06 52.4**	**+1.3**
EVGI	**Lefkada island**	**3.42**	**218**	P	**Pn**	**04 06 52.3**	**+1.0**
KLV	**Kalavryta, Ach**	**3.42**	**196**	P	**Pn**	**04 06 51.2**	**-0.2**
GUR	**Goura**	**3.49**	**193**	P	**Pn**	**04 06 52.2**	**-0.2**
VLY	**Voula,Athens**	**3.50**	**174**	P	**Pn**	**04 06 51.9**	**-0.5**
CEME	**Cevo**	**3.53**	**291**	⇑*i*Pn	**Pn**	**04 06 54.4**	**+1.6**
CEME				*i* Sn	**Sn**	**04 07 35.3**	**+0.4**
PLE	**Pljevlja**	**3.55**	**305**	⇑*i*Pn	**Pn**	**04 06 53.0**	**-0.2**
PLE				*i* Sn	**Sn**	**04 07 36.0**	**+0.4**
NKME	**Niksic**	**3.58**	**295**	⇑*i*Pn	**Pn**	**04 06 54.6**	**+1.1**
NKME				*i* Sn	**Sn**	**04 07 35.9**	**-0.3**
RLS	**Riolos of Patr**	**3.59**	**205**	P	**Pn**	**04 06 54.8**	**+1.2**
CHOS	**Chios island**	**3.61**	**144**	P	**Pn**	**04 06 53.9**	**0.0**
TRUS	**Trudelj**	**3.61**	**324**	*e*Pn	**Pn**	**04 06 52.9**	**-1.0**
TRUS				*e*Sn	**Sn**	**04 07 35.6**	**-1.2**
MDVR	**Moldovita**	**3.64**	**341**	⇑P	**Pn**	**04 06 53.7**	**-0.7**
DIVS	**Divibare**	**3.71**	**319**	*e*Pn	**Pn**	**04 06 54.6**	**-0.7**
DIVS				*e*Sn	**Sn**	**04 07 39.8**	**+0.4**
DIVS	**Divibare**	**3.71**	**319**	*e*Pn	**Pn**	**04 06 54.3**	**-1.0**
DIVS	**Divibare**	**3.71**	**319**	⇑P	**Pn**	**04 06 54.8**	**-0.5**
DIVS	**Divibare**	**3.71**	**319**	AML	AML		
	comp=E,461μm,1.5s						
DIVS	**Divibare**	**3.71**	**319**	AML	AML		
	comp=N,394μm,1.0s						
RUDO	**Rudo**	**3.73**	**309**	*e*Pn	**Pn**	**04 06 54.6**	**-0.9**
HCY	**Herceg Novi**	**3.80**	**289**	*e*Pn	**Pn**	**04 06 57.7**	**+1.2**
HCY	**Herceg Novi**	**3.80**	**289**	⇑*i*Pn	**Pn**	**04 06 58.0**	**+1.5**
HCY				*i* Sn	**Sn**	**04 07 41.8**	**+0.3**
VLS	**Valsamata**	**3.81**	**215**	P	**Pn**	**04 06 56.2**	**-0.6**
BRY	**Bratogost**	**3.91**	**295**	*e*Pn	**Pn**	**04 07 00.0**	**+1.9**
BRY	**Bratogost**	**3.91**	**295**	⇑*i*Pn	**Pn**	**04 07 00.1**	**+1.9**
BRY				*i* Sn	**Sn**	**04 07 44.0**	**-0.5**
TREB	**Trebinje**	**3.98**	**292**	*e*Pn	**Pn**	**04 07 00.0**	**+1.0**
GZR	**Gura Zlata**	**4.07**	**354**	⇑P	**Pn**	**04 07 00.4**	**+0.1**
MTUR	**Matau**	**4.08**	**17**	⇑P	**Pn**	**04 07 01.1**	**+0.7**
LOT	**Lotru**	**4.12**	**4**	⇑P	**Pn**	**04 07 01.4**	**+0.5**
ARR	**Arges**	**4.13**	**13**	⇓P	**Pn**	**04 07 03.0**	**+1.9**
TEKS	**Tekeris**	**4.26**	**320**	*e*Pn	**Pn**	**04 07 01.7**	**-1.2**
TEKS	**Tekeris**	**4.26**	**320**	*e*Pn	**Pn**	**04 07 01.9**	**-1.0**
VOIR		**4.27**	**16**	⇑P	**Pn**	**04 07 03.5**	**+0.5**
ISR	**Istrita**	**4.43**	**31**	⇑P	**Pn**	**04 07 06.8**	**+1.6**
BZS	**Buzias**	**4.46**	**344**	⇓P	**Pn**	**04 07 04.7**	**-0.8**
STON	**Ston**	**4.48**	**292**	*e*Pn	**Pn**	**04 07 05.4**	**-0.4**
SURR	**Surduc**	**4.50**	**349**	⇓P	**Pn**	**04 07 06.0**	**-0.1**
SMG	**Samos**	**4.51**	**142**	P	**Pn**	**04 07 06.2**	**-0.1**
DEV	**Deva**	**4.55**	**356**	⇑P	**Pn**	**04 07 07.7**	**+0.8**
MLR	**Muntele Rosu**	**4.55**	**24**	⇓P	**Pn**	**04 07 08.4**	**+1.4**
MLR	**Muntele Rosu**	**4.55**	**24**	Pn	**Pn**	**04 07 08.3**	**+1.3**
	comp=N,5.4nm,0.3s,baz=135,slow=3.0,SNR=40						
MLR				Sn	**Sn**	**04 08 03.9**	**+3.6**
	comp=N,5.7nm,0.3s,baz=130,slow=23,SNR=3.4						
MLR				Lg		04 08 23.5	
	comp=N,6.0nm,0.3s,baz=95,slow=19,SNR=6.2						
MANR	**Mangalia**	**4.58**	**56**	⇓P	**Pn**	**04 07 07.6**	**+0.4**
APE	**Apeiranthos**	**4.59**	**158**	⇓P	**Pn**	**04 07 07.0**	**-0.3**
NEHR	**Nehoiu**	**4.61**	**27**	⇑P	**Pn**	**04 07 09.4**	**+1.8**
FRGS	**Fruska Gora**	**4.61**	**327**	⇓P	**Pn**	**04 07 06.9**	**-0.8**
FRGS	**Fruska Gora**	**4.61**	**327**	*e*Pn	**Pn**	**04 07 06.6**	**-1.1**
FRGS	**Fruska Gora**	**4.61**	**327**	*e*Pn	**Pn**	**04 07 06.4**	**-1.3**
VLI	**Veliai**	**4.63**	**184**	P	**Pn**	**04 07 07.6**	**-0.3**
MFTR	**Murfatlar**	**4.68**	**51**	⇑P	**Pn**	**04 07 08.5**	**-0.1**
HARR	**Harsova**	**4.73**	**44**	⇓P	**Pn**	**04 07 10.7**	**+1.4**
TIRR	**Tirgusor**	**4.84**	**48**	⇑P	**Pn**	**04 07 12.6**	**+1.8**
DOPR	**Dopca**	**4.85**	**17**	⇓P	**Pn**	**04 07 11.5**	**+0.5**
COVR	**Voineasa-Covas**	**4.95**	**24**	⇑P	**Pn**	**04 07 13.3**	**+0.9**
BOSR	**Bodos**	**5.02**	**19**	⇑P	**Pn**	**04 07 14.0**	**+0.8**
OZUR		**5.07**	**19**	⇑P	**Pn**	**04 07 14.4**	**+0.4**
SIRR	**Siria**	**5.08**	**347**	⇑P	**Pn**	**04 07 14.9**	**+0.8**
TURR	**Turia**	**5.09**	**21**	⇑P	**Pn**	**04 07 15.3**	**+1.1**
PLOR	**Plostina**	**5.10**	**27**	⇓P	**Pn**	**04 07 16.0**	**+1.6**
TPGR	**Topolog**	**5.10**	**45**	⇓P	**Pn**	**04 07 15.6**	**+1.2**
DOB	**Doboj**	**5.13**	**313**	*e*Pn	**Pn**	**04 07 15.3**	**+0.5**
VRI	**Vrincioaia**	**5.14**	**27**	⇓P	**Pn**	**04 07 16.6**	**+1.7**
ODBI	**Odobesti**	**5.17**	**30**	⇑P	**Pn**	**04 07 17.2**	**+1.9**
CFR	**Carcaliu**	**5.18**	**41**	⇑P	**Pn**	**04 07 15.5**	**+0.1**
MARR	**Marisel-Cluj**	**5.34**	**358**	⇓P	**Pn**	**04 07 18.6**	**+0.9**
TLCR		**5.53**	**44**	⇓P	**Pn**	**04 07 21.8**	**+1.6**
MGRS	**Mrkonjic Grad**	**5.54**	**306**	*e*Pn	**Pn**	**04 07 20.2**	**-0.3**
VLDR	**Vladesti**	**5.66**	**36**	⇓P	**Pn**	**04 07 23.8**	**+1.8**
BLY	**Banja Luka**	**5.66**	**309**	*e*Pn	**Pn**	**04 07 21.4**	**-0.7**
A050A	**Klekovaca**	**5.92**	**304**	*e*Pn	**Pn**	**04 07 26.8**	**+1.2**
MORH	**Mrgy, Hungar**	**5.95**	**327**	⇑P	**Pn**	**04 07 25.2**	**-0.8**
GIRR	**Girov**	**6.05**	**21**	⇓P	**Pn**	**04 07 28.4**	**+1.1**
IDI	**Anoyia**	**6.16**	**168**	Pn	**Pn**	**04 07 29.3**	**+0.3**
	comp=N,1.5nm,0.3s,baz=355,slow=13,SNR=16						
	comp=N,9.2nm,0.6s						
BURAR	**Bucovina Array**	**6.41**	**11**	⇑P	**Pn**	**04 07 33.2**	**+0.7**
BOJS	**Bojanci**	**7.22**	**308**	*e*Pn	**Pn**	**04 07 40.6**	**-2.9**
CRES	**Cresnjev**	**7.28**	**311**	*e*Pn	**Pn**	**04 07 43.9**	**-0.4**
KECS	**Kecovo**	**7.43**	**345**	*e*PN	**Pn**	**04 07 50.4**	**+4.1**
CEY	**Cerknica**	**7.84**	**307**	*e*Pn	**Pn**	**04 07 52.8**	**+0.8**
VYHS	**Vyhne**	**7.84**	**337**	*e*PN	**Pn**	**04 07 54.2**	**+2.2**
VYHS				*e*SN	**Sn**	**04 09 22.6**	**+1.6**
VAE	**Valguarnera**	**7.93**	**244**	Pn	**Pn**	**04 07 52.9**	**-0.4**
	comp=N,1.1nm,0.3s,baz=42,slow=15,SNR=2.0						
VAE				Sn	**Sn**	**04 09 25.2**	**+1.8**
	comp=N,0.1nm,0.3s,baz=100,slow=11,SNR=3.1						
	comp=N,2.6nm,0.4s						
BRTR	**Keskin Array B**	**7.99**	**98**	Pn	**Pn**	**04 07 54.4**	**+0.1**
	comp=N,0.6nm,0.3s,baz=275,slow=12,SNR=18						
BRTR				Sn	**Sn**	**04 09 21.5**	**-3.5**
	comp=N,0.2nm,0.3s,baz=156,slow=26,SNR=1.1						
	comp=N,2.7nm,0.6s						
SKDS	**Skadanscina**	**7.99**	**305**	*e*Pn	Pn	04 07 47.3	-6.8
SOKA	**Soboth**	**8.03**	**314**	*i* Pn	**Pn**	**04 07 57.3**	**+2.7**
	comp=N,1.4nm,0.3s						
RONA	**Rosalia, Austr**	**8.11**	**324**	*i* Pn	**Pn**	**04 07 55.5**	**-0.3**
	comp=N,0.6nm,0.3s						
ARSA	**Arzberg**	**8.15**	**319**	*i* Pn	**Pn**	**04 07 57.0**	**+0.7**
	comp=N,1.7nm,0.3s						
OBKA	**Obir**	**8.19**	**312**	*i* Pn	**Pn**	**04 07 59.8**	**+2.9**
	comp=N,0.6nm,0.3s						
OBKA	**Obir**	**8.19**	**312**	*e*Pn	Pn	04 07 51.6	-5.3
CONA	**Conrad Observa**	**8.48**	**323**	*i* Pn	**Pn**	**04 08 01.5**	**+0.7**
	comp=N,0.5nm,0.4s						
MYKA	**Terra Mystica**	**8.78**	**310**	*i* Pn	**Pn**	**04 08 09.0**	**+4.1**
	comp=N,2.4nm,0.5s						
KBA	**Koelnbreinsper**	**9.20**	**312**	*i* Pn	**Pn**	**04 08 13.2**	**+2.5**
	comp=N,1.0nm,0.5s						
BIOA	**Bad Ischl, Aus**	**9.40**	**316**	*i* Pn	**Pn**	**04 08 16.9**	**+3.4**
	comp=N,1.1nm,0.3s						
ABTA	**Abfaltersbach**	**9.49**	**308**	*i* Pn	**Pn**	**04 08 15.5**	**+0.7**
	comp=N,5.4nm,0.5s						
LESA	**Schwarzleotal**	**9.77**	**312**	*i* Pn	**Pn**	**04 08 21.3**	**+2.8**
	comp=N,1.6nm,0.4s						
GERES	**GERESS Array B**	**10.14**	**321**	Pn	**Pn**	**04 08 25.5**	**+1.9**
	comp=N,0.1nm,0.3s,baz=142,slow=15,SNR=2.2						
GERES				Sn	**Sn**	**04 10 20.8**	**+3.1**
	comp=N,0.2nm,0.3s,baz=188,slow=40,SNR=1.4						
	comp=N,0.7nm,0.6s						
AKASG	**Malin Array Be**	**10.21**	**22**	Pn	**Pn**	**04 08 24.4**	**+0.1**
	comp=N,0.4nm,0.3s,baz=206,slow=12,SNR=2.0						
	comp=N,0.6nm,0.5s						
WTTA	**Wattenberg**	**10.28**	**309**	*i* Pn	**Pn**	**04 08 27.8**	**+2.3**
	comp=N,2.3nm,0.5s						
WATA	**Walderalm**	**10.35**	**309**	*i* Pn	**Pn**	**04 08 27.6**	**+1.2**
	comp=N,1.9nm,0.4s						
KHC	**Kasperske Hory**	**10.40**	**322**	*e*PN	**Pn**	**04 08 28.7**	**+1.7**
KHC				*e*SN	**Sn**	**04 10 28.5**	**+4.6**
SQTA	**Sankt Quirin**	**10.51**	**308**	*i* Pn	**Pn**	**04 08 30.6**	**+2.0**
	comp=N,4.0nm,0.7s						
MOTA	**Moosalm**	**10.63**	**308**	*i* Pn	**Pn**	**04 08 31.9**	**+1.6**
	comp=N,4.4nm,0.6s						
FETA	**Feichten**	**10.70**	**306**	*i* Pn	**Pn**	**04 08 33.2**	**+2.0**
	comp=N,1.3nm,0.4s						
RETA	**Reutte**	**10.90**	**309**	*i* Pn	**Pn**	**04 08 36.4**	**+2.5**
	comp=N,0.5nm,0.3s						
DAVOX	**Davos/Dischmat**	**11.12**	**304**	Pn	**Pn**	**04 08 38.2**	**+1.2**
	comp=N,0.3nm,0.3s,baz=157,slow=18,SNR=3.0						
	comp=N,1.8nm,0.5s						
DAVA	**Damuels**	**11.33**	**306**	*i* Pn	**Pn**	**04 08 40.8**	**+0.8**
	comp=N,0.8nm,0.4s						
HFS	**Hagfors**	**19.75**	**346**	P	**Pn**	**04 10 29.2**	**0.0**
	comp=N,0.2nm,0.3s,baz=169,slow=16,SNR=1.7						
	comp=N,1.7nm,0.6s						
FINES	**FINESS Array B**	**20.20**	**4**	P	**P**	**04 10 32.2**	**-0.4**
	comp=N,5.7nm,1.0s,baz=165,slow=17,SNR=1.6						
	comp=N,5.7nm,1.0s						
ESDC	**Sonseca Array**	**20.82**	**274**	P	**P**	**04 10 38.9**	**-0.7**
	comp=N,0.5nm,0.7s,baz=68,slow=10,SNR=4.6						
	comp=N,0.5nm,0.7s						
NB2	**NORSAR Subarra**	**21.07**	**343**	P	**P**	**04 10 42.6**	**+0.4**
	comp=Z,4.3nm,0.8s,baz=156,slow=11						
NOA	**NORSAR Array B**	**21.07**	**343**	P	**P**	**04 10 41.9**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=156,slow=11,SNR=2.8						
	comp=Z,1.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**33.86**	**220**	P	**P**	**04 12 40.5**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=34,slow=8.4,SNR=9.4						
	comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	**41.83**	**62**	P	**P**	**04 13 48.3**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=296,slow=6.4,SNR=2.4						
	comp=Z,1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**41.97**	**51**	P	**P**	**04 13 49.7**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=261,slow=9.6,SNR=2.9						
	comp=Z,0.6nm,0.5s						

SKO 08 04:14:19.6,41°.36N×23°.35E,h0km,ML1.1,
Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.30**	**143**	*i* Pg	Pg	04 14 24.9	-0.5
SRS				*e*Sg	Sg	04 14 29.1	-0.2
MMB	**Musomishta**	**0.35**	**58**	*i* Pg	Pg	04 14 26.2	-0.2
MMB				*e*Sg	Sg	04 14 31.2	+0.2
KNT	**Kendrikon**	**0.39**	**240**	*i* Pg	Pg	04 14 26.9	-0.3
KNT				*e*Sg	Sg	04 14 31.9	-0.4
KKB	**Krupnik**	**0.51**	**341**	*i* Pg	Pg	04 14 29.8	+0.4
KKB				*e*Sg	Sg	04 14 36.5	+0.5
PEHC	**Pehcevo**	**0.54**	**321**	*i* Pg	Pg	04 14 29.5	-0.4
PEHC				*e*Sg	Sg	04 14 36.4	-0.5
SOH	**Sokhos**	**0.54**	**180**	*e*Pg	Pg	04 14 29.1	-0.8
SOH				*e*Sg	Sg	04 14 36.6	-0.2
VAY	**Valandovo**	**0.59**	**266**	*e*Pg	Pg	04 14 30.1	-0.7
VAY				*e*Sg	Sg	04 14 38.5	0.0
VAY				*e*Lg	Lg	04 14 39.6	
	comp=N,2.2nm,0.3s						
VAY				*e*Lg	Lg	04 14 39.8	
	comp=E,2.5nm,0.3s						
GRG	**Griva**	**0.82**	**241**	*e*Pg	Pg	04 14 34.3	-1.0
GRG				*e*Sg	Sg	04 14 46.2	+0.2
STIP	**Stip**	**0.94**	**291**	*e*Pg	Pg	04 14 32.6	-4.9
STIP				*i* Sg	Sg	04 14 45.7	-4.0

ATH 08 04:15:00.7,40°.65N×22°.57E,h25km,8km,ML1.4/3,Error ellipse: s-maj=9.9km s-min=2.0km az=40.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THE	**Thessaloniki**	**0.30**	**94**	P	Pb	04 15 06.8	-0.9
GRG	**Griva**	**0.33**	**337**	P	Pb	04 15 08.3	0.0
GRG				AML	AML	04 15 18.7	
	comp=N,155μm,0.4s						
GRG				AML	AML	04 15 20.6	
	comp=E,89μm,0.3s						
HORT	**Hortiatis**	**0.41**	**97**	P	Pb	04 15 08.9	-0.6
HORT				S	Sb	04 15 15.8	+0.4
HORT				AML	AML	04 15 18.1	
	comp=E,147μm,0.2s						
HORT				AML	AML	04 15 18.1	
	comp=N,256μm,0.3s						
KNT	**Kendrikon**	**0.57**	**26**	P	Pb	04 15 10.9	-1.2
KNT				AML	AML	04 15 25.6	
	comp=E,58μm,0.4s						
KNT				AML	AML	04 15 26.2	
	comp=N,84μm,0.3s						
SOH	**Sokhos**	**0.62**	**74**	P	Pn	04 15 13.5	-0.4
KPRO	**Kipourio**	**1.16**	**233**	P	Pn	04 15 20.2	-1.2
THL	**Klokotos Trika**	**1.17**	**202**	P	Pn	04 15 20.0	-1.4
NEST	**Nestorio**	**1.19**	**259**	P	Pn	04 15 21.6	-0.2

*GII **08** 04:31:35.4±0.0,37°.90N×38°.78E,h1km,mb4.1/4,MD3.9/4*
*ISK **08** 04:31:49.8,37°.25N×37°.18E,h6km,ML3.9/17*
*IDC **08** 04:31:50.9±1.0,37°.24N×37°.12E,h0km,mb3.6/6,*
mbtmp3.7/12,ML3.4/6,MS2.9/3,Error ellipse:
s-maj=16.0km s-min=12.0km az=91.0
*AFAD **08** 04:31:50.0±0.0,37°.27N×37°.16E,h5km±2km,MW3.8*

ISC 08 04:31:51.2±0.6,37°.27N±0°.02×37°.17E±0°.02,h10km,n84,
**σ1.9

	1.7nm,0.7s							
KBA	**Koelnbreinsper**	**20.13**	**307**	*i* Pn	Pn	04 36 34.0	+6.8
	5.8nm,1.2s							
ABTA	**Abfaltersbach**	**20.55**	**305**	*e*Pn	Pn	04 36 30.5	-1.7
	1.6nm,0.6s							
GERES	**GERESS Array B**	**20.60**	**312**	P	Pn	04 36 31.9	-0.7
	1.7nm,0.6s,baz=116,slow=11,SNR=2.2							
	1.7nm,0.6s							
LESA	**Schwarzleotal**	**20.67**	**307**	*e*Pn	Pn	04 36 36.3	+2.7
	8.5nm,1.9s							
KHC	**Kasperske Hory**	**20.79**	**312**	*e*P	**P**	**04 36 32.0**	**-0.5**
WATA	**Walderalm**	**21.35**	**306**	*e*Pn	P	04 36 44.7	+6.2
	0.8nm,0.4s							
SQTA	**Sankt Quirin**	**21.55**	**306**	*e*Pn	**P**	**04 36 37.5**	**-3.2**
	0.9nm,0.3s							
MOTA	**Moosalm**	**21.66**	**306**	*e*Pn	**P**	**04 36 44.8**	**+2.9**
	3.5nm,0.7s							
FETA	**Feichten**	**21.80**	**305**	*e*Pn	**P**	**04 36 43.1**	**-0.4**
	3.9nm,0.8s							
RETA	**Reutte**	**21.92**	**306**	*e*Pn	**P**	**04 36 45.9**	**+1.3**
	0.9nm,0.4s							
DAVOX	**Davos/Dischmat**	**22.30**	**304**	P	**P**	**04 36 51.3**	**+2.5**
	1.6nm,0.6s,baz=63,slow=6.8,SNR=2.3							
	1.6nm,0.6s							
KEST	**Kesra**	**22.39**	**275**	P	**P**	**04 36 51.6**	**+1.8**
	2.9nm,0.8s,baz=167,slow=13,SNR=5.5							
	2.9nm,0.8s							
KURBB	**Kurchatov Arra**	**32.20**	**52**	P	**P**	**04 38 20.6**	**+1.4**
	0.4nm,0.4s,baz=266,slow=9.2,SNR=5.2							
	0.4nm,0.4s							
MKAR	**Makanchi Array**	**34.42**	**59**	P	**P**	**04 38 40.0**	**+1.3**
	0.9nm,0.8s,baz=263,slow=8.3,SNR=4.1							
	0.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**39.73**	**242**	P	**P**	**04 39 24.8**	**+0.8**
	0.9nm,1.0s,baz=31,slow=8.7,SNR=3.2							
	0.9nm,1.0s							

JMA ***08*** *04:33:41.9±0.3, 43°N±1°×14°7E±°, h44km, MV3.2/20, E OFF HOKKAIDO*

SKHL ***08*** *04:33:42.7±0.1, 43°10N×147°00E, h40km±3km, mb4.4/2*

ISC 08 04:33:43.5±3.2, **43°21N**±0°09×**146°85E**±0°09, **h17**km±16km, **n13**, σ0°42/19, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.66**	**359**	*e*P	**Pb**	**04 33 56.8**	**+0.2**
SHO				AMB	AMB	04 33 57.5	
	280nm,0.4s						
SHO				*e*S	**Sn**	**04 34 07.5**	**-0.6**
SHO				A	A	04 34 07.9	
	1μm,0.4s						
SHO				A	A	04 34 07.9	
	940nm,0.4s						
NEM2	**Nemuro 2**	**0.82**	**281**	*e*P	**Pb**	**04 33 59.6**	**+0.2**
NEM2				*e*S	**Sn**	**04 34 12.3**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**1.09**	**319**	*e*P	**Pb**	**04 34 03.5**	**-0.5**
YUK				AMB	AMB	04 34 04.9	
	200nm,0.4s						
YUK				*e*S	**Sg**	**04 34 19.0**	**0.0**
YUK				A	A	04 34 21.9	
	980nm,0.5s						
YUK				A	A	04 34 21.9	
	530nm,0.5s						
JKHN	**Kushirohamanak**	**1.24**	**265**	*e*P	**Pn**	**04 34 05.7**	**-0.3**
JRA	**Rausu**	**1.45**	**301**	*e*P	**Pn**	**04 34 08.9**	**-0.1**
JRA				*e*S	**Sb**	**04 34 28.5**	**+0.3**
JNSB	**Nemuroshibetsu**	**1.46**	**293**	*e*P	**Pn**	**04 34 08.7**	**-0.4**
JAK	**Akkeshi**	**1.59**	**263**	*e*P	**Pn**	**04 34 10.1**	**-0.7**
JAK				*e*S	**Sn**	**04 34 30.6**	**-0.4**
JNK	**Nakash**	**1.60**	**284**	*e*P	**Pn**	**04 34 10.6**	**-0.4**
JNK				*e*S	**Sn**	**04 34 31.6**	**+0.3**
KUR	**Kuril'sk**	**2.15**	**19**	*e*S	**Sn**	**04 34 45.1**	**+0.3**
KUR				A	A	04 34 46.9	
	60nm,0.2s						
KUR				A	A	04 34 46.9	
	20nm,0.2s						
JOB	**Onbets**	**2.23**	**263**	*e*P	**Pn**	**04 34 19.5**	**-0.2**
JTKR	**Abashiri--Toko**	**2.27**	**291**	*e*P	**Pn**	**04 34 20.8**	**+0.6**
JCH	**Churui**	**2.63**	**258**	*e*P	**Pn**	**04 34 25.1**	**0.0**
JNBK	**Urakawa-nobuka**	**3.16**	**254**	*e*P	**Pn**	**04 34 32.9**	**+0.4**

IDC 08 04:46:48.8±5.2, **8°71N×90°89E, h0**km, **mb3.5**/4, **mbtmp3.5**/4, **Error ellipse: s-maj=190.5km s-min=28.3km az=66.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**41.15**	**16**	P	P	04 54 35.5	+0.5
	0.4nm,0.8s,baz=186,slow=10.0,SNR=2.0						
	0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**45.38**	**355**	P	P	04 55 08.3	-0.6
	0.7nm,0.6s,baz=160,slow=9.0,SNR=2.8						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**51.38**	**124**	P	P	04 55 54.9	-0.8
	0.3nm,0.6s,baz=304,slow=8.7,SNR=8.7						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**52.93**	**128**	P	P	04 56 08.2	+0.9
	0.2nm,0.3s,baz=311,slow=6.0,SNR=2.0						
	0.2nm,0.3s						

IDC ***08*** *05:02:05.2±1.0, 29°58N×98°89E, h0km, mb3.6/6, mbtmp3.7/8, ML3.9/1, MS3.5/3, Error ellipse: s-maj=47.2km s-min=16.5km az=71.0*

ISC 08 05:02:09.7±0.9, **29°5N**±0°1×**98°6E**±0°1, **h35**km, **n21**, σ1°25/19, **mb3.6**/6, **Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ODAN	**Odare**	**10.23**	**258**	*e*P	**Pn**	**05 04 34.4**	**+0.1**
	39nm,0.7s						
RAMN	**Ramite**	**10.88**	**259**	*e*P	**Pn**	**05 04 43.7**	**+0.6**
	12nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.04**	**178**	Pn	**Pn**	**05 04 45.3**	**+0.1**
	3.6nm,0.3s,baz=0.0,slow=13,SNR=1.1						
CMAR				Lg	Lg	05 07 58.2	
	0.6nm,0.3s,baz=5.5,slow=30,SNR=2.0						
CMAR				LR	LR	05 09 04.8	
	comp=Z,93nm,18.7s,baz=10.0,slow=38						
JIRN	**Jiri**	**11.05**	**263**	*e*P	**Pn**	**05 04 46.7**	**+1.1**
	31nm,0.4s						
GUN	**Gumba**	**11.27**	**265**	*e*P	**Pn**	**05 04 49.6**	**+1.0**
	31nm,0.3s						
PKI	**Pulchoki**	**11.75**	**264**	*e*P	**Pn**	**05 04 54.9**	**-0.2**
	52nm,0.5s						
PKIN	**Phulchoki**	**11.76**	**264**	*e*P	**Pn**	**05 04 55.1**	**-0.1**
	43nm,0.4s						
KKN	**Kakani**	**11.81**	**265**	*e*P	**Pn**	**05 04 56.0**	**+0.1**
	32nm,0.5s						
DMN	**Daman**	**12.00**	**264**	*e*P	**Pn**	**05 04 58.1**	**-0.4**
	19nm,0.5s						
DANN	**Dangsing**	**13.04**	**268**	*e*P	**Pn**	**05 05 11.2**	**-1.5**
	13nm,0.4s						
KOLN	**Koldanda**	**13.28**	**266**	*e*P	**Pn**	**05 05 13.4**	**-2.5**
	91nm,2.6s						
PYUN	**Piuthan**	**13.75**	**268**	*e*P	**Pn**	**05 05 20.1**	**-2.2**
	15nm,0.5s						
SONM	**Songino Array**	**19.24**	**16**	P	**Pn**	**05 06 31.7**	**-0.5**
	0.3nm,0.3s,baz=200,slow=12,SNR=6.8						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**21.39**	**328**	P	**P**	**05 06 56.4**	**+2.2**
	2.3nm,0.8s,baz=142,slow=14,SNR=8.5						
	2.3nm,0.8s						
KURBB	**Kurchatov Arra**	**25.90**	**330**	P	**P**	**05 07 39.5**	**+1.3**
	0.9nm,0.8s,baz=136,slow=11,SNR=7.9						
	0.9nm,0.8s						
ZALV	**Zalesovo Beam**	**26.37**	**342**	P	**P**	**05 07 42.7**	**+0.3**
	0.8nm,0.5s,baz=149,slow=9.7,SNR=5.1						
	0.8nm,0.5s						
LEM	**Lembang**	**37.19**	**165**	LR	LR	05 24 43.9	
	comp=Z,32nm,19.3s,baz=228,slow=37						
WRA	**Warramunga Arr**	**60.07**	**141**	P	**P**	**05 12 12.4**	**-1.0**
	0.9nm,0.9s,baz=327,slow=7.7,SNR=8.7						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**62.86**	**143**	P	**P**	**05 12 33.3**	**+0.9**
	0.2nm,0.3s,baz=326,slow=6.6,SNR=5.4						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**73.25**	**24**	P	**P**	**05 13 36.7**	**-0.4**
	0.3nm,0.7s,baz=296,slow=4.9,SNR=2.2						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**89.48**	**285**	LR	LR	06 02 34.5	
	comp=Z,138nm,18.3s,baz=253,slow=40						

MEX ***08*** *05:02:19.2±1.0, 14°95N×94°26W, h24km±19km, MD4.1*

CATAC ***08*** *05:02:28.3±1.1, 15°36N×93°60W, h10km, ML3.9*

ISC 08 05:02:13.1±1.5, **14°92N**±0°05×**94°27W**±0°04, **h14**km±11km, **n24**, σ1°53/39, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.28**	**52**	*e*P	**Pg**	**05 02 38.0**	**+0.3**
PCIG				*e*S	**Sg**	**05 02 54.1**	**-0.4**
CARR	**Arriaga**	**1.36**	**15**	*e*P	**Pb**	**05 02 38.7**	**+0.2**
CARR				*i* S	**Sn**	**05 02 52.6**	**-3.1**
NILT	**Santiago Nilte**	**1.67**	**349**	*e*P	**Pn**	**05 02 42.9**	**+0.9**
NILT				*e*S	**Sn**	**05 03 00.4**	**-2.9**
HUIG	**Huatulco**	**1.96**	**296**	*e*P	**Pb**	**05 02 48.5**	**-0.2**
HUIG				*i* S	**Sn**	**05 03 08.9**	**-1.6**
PATR	**El Naranjo**	**1.98**	**84**	*e*P	**Pb**	**05 02 48.5**	**-0.6**
PATR				*i* S	**Sn**	**05 03 11.7**	**+0.5**
PAVE	**Pavencul**	**2.04**	**82**	*i* P	**Pb**	**05 02 50.0**	**-0.2**
PAVE				*i* S	**Sn**	**05 03 10.7**	**-2.1**
CHUJ	**Union Juarez**	**2.10**	**85**	*e*P	**Pb**	**05 02 50.4**	**-0.7**
CHUJ				*i* S	**Sn**	**05 03 15.1**	**+0.9**
SMCA	**Catarina**	**2.12**	**91**	*i* P	**Pg**	**05 02 56.6**	**+2.7**
SMCA				*i* S	**Sb**	**05 03 16.7**	**-1.1**
SMCA				IAML		05 03 25.8	
	comp=Z,470nm,1.0s						
TGIG		**2.15**	**31**	*i* P	**Pb**	**05 02 51.8**	**-0.2**
TGIG				*i* S	**Sn**	**05 03 16.1**	**+0.8**
TGBT	**Tuxtla Gutierr**	**2.17**	**32**	*i* P	**Pb**	**05 02 51.4**	**-0.8**
TGBT				*i* S	**Sn**	**05 03 14.6**	**-1.0**
CMIG	**Matias Romero**	**2.24**	**345**	*e*P	**Pn**	**05 02 51.5**	**+1.7**
CMIG				*i* S	**Sn**	**05 03 16.8**	**-0.6**
UXUV	**UXUV**	**2.39**	**3**	*e*P	**Pb**	**05 02 55.1**	**-0.8**
UXUV				*e*S	**Sn**	**05 03 21.8**	**+0.8**
SMSP	**San Marcos**	**2.41**	**88**	*i* P	**Pg**	**05 03 00.0**	**+0.6**
SMSP				IAML		05 03 45.1	
	comp=Z,5μm,1.0s						
CCIG	**Comitan**	**2.46**	**56**	*e*P	**Pb**	**05 02 57.6**	**+0.2**
CCIG				*i* S	**Sn**	**05 03 23.4**	**+0.2**
HUEH	**Huehuetenango**	**2.70**	**81**	*i* P	**Pb**	**05 03 01.8**	**+0.3**
HUEH				*i* S	**Sn**	**05 03 28.6**	**-0.6**
HUEH				IAML		05 03 42.0	
	comp=Z,1μm,1.0s						
SOKI	**Kika Raxquin**	**2.77**	**92**	*i* P	**Pg**	**05 03 04.9**	**-1.5**
SOKI				IAML		05 03 24.0	
	comp=Z,290nm,1.0s						
QUIS	**Sacapulas**	**3.09**	**83**	*i* P	**Pb**	**05 03 07.4**	**-0.7**
QUIS				*i* S	**Sn**	**05 03 38.6**	**-0.1**
QUIS				IAML		05 03 50.2	
	comp=Z,450nm,1.0s						
NEUV	**Arroyo Zacate**	**3.14**	**332**	*e*P	**Pn**	**05 03 04.7**	**+2.4**
NEUV				*e*S	**Sn**	**05 03 38.0**	**-1.6**
CHTG	**Tecpan**	**3.18**	**92**	*i* P	Pg	05 03 20.5	+6.3
VHO	**Vista Hermosa**	**3.19**	**312**	*e*S	**Sn**	**05 03 42.1**	**+1.0**
NUBE	**Las Nubes**	**4.47**	**103**	*i* P	**Pb**	**05 03 28.5**	**-3.0**
NUBE				*i* S	**Sn**	**05 04 16.3**	**+3.7**
NUBE				IAML		05 04 20.4	
	comp=Z,72nm,1.0s						
PETF	**Flores**	**4.68**	**64**	*i* P	Pn	05 03 28.5	+5.1
PETF				IAML		05 03 30.7	
	comp=Z,110nm,1.0s						
CEDA	**San Andres**	**4.86**	**103**	*i* P	**Pg**	**05 03 44.9**	**-1.3**
SJTE	**Alcalda de S**	**5.27**	**104**	*i* P	**Pb**	**05 03 43.9**	**-1.2**

MEX 08 05:02:51.0±0.5, **15°93N×96°95W, h21**km±11km, **MD3.2, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEIG	**Puerto Escondi**	**0.20**	**290**	*e*P	Pb	05 02 55.2	-1.7
PEIG				*i* S	Sb	05 02 58.6	-2.5
YOIG	**Yosondua**	**1.08**	**328**	*e*P	Pn	05 03 08.0	-3.3
YOIG				*e*S	Sb	05 03 21.1	-4.0
VHO	**Vista Hermosa**	**1.16**	**10**	*e*P	Pn	05 03 08.0	-4.2
VHO				*e*S	Sb	05 03 22.7	-4.3
VHO	**Vista Hermosa**	**1.16**	**10**	*e*P	Pn	05 03 07.5	-4.6
PNIG	**Pinotepa**	**1.22**	**292**	*e*P	Pn	05 03 10.3	-2.6
PNIG				*e*S	Sb	05 03 24.4	-4.3

IDC ***08*** *05:06:16.6±0.9, 22°79S×66°55W, h207km±13km, mb3.4/3, mbtmp4.0/8, Error ellipse: s-maj=22.1km s-min=13.9km az=141.0*

NEIC ***08*** *05:06:18.0±1.1, 22°89S±0°08×66°9W±0°2, h248km±12km, mb4.4/6, Error ellipse: s-maj=22.9km s-min=10.8km az=97.0*

VAO ***08*** *05:06:18.5±0.4, 22°76S×66°85W, h247km, mb4.0*

SJA ***08*** *05:06:18.0±1.5, 22°73S×66°61W, h200km, ML4.1, MW3.9*

GUC ***08*** *05:06:18.9±0.6, 22°76S×67°02W, h252km±10km, ML4.1*

ISC 08 05:06:17.4±0.6, **22°84S**±0°04×**66°85W**±0°05, **h238**km±7km, **n121**, σ1°18/150, **mb3.8**/4, **Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**1.23**	**265**		**Pn**	**05 06 53.6**	**+0.7**
YJA	**Yavi**	**1.40**	**62**	*e*P	**Pn**	**05 06 53.3**	**-1.1**
LVC	**Limon Verde**	**1.91**	**276**	Pn	**Pn**	**05 06 59.2**	**+0.8**
LVC	**Limon Verde**	**1.91**	**276**	*e*P	**Pn**	**05 06 59.3**	**+0.8**
LVC				*e*S	**S**	**05 07 30.8**	**+0.1**
LVC	**Limon Verde**	**1.91**	**276**	*e*P	**Pn**	**05 06 59.2**	**+0.8**
LVC	**Limon Verde**	**1.91**	**276**	P	**Pn**	**05 06 58.7**	**+0.2**
	257nm,0.3s,baz=105,slow=5.5,SNR=764						
LVC				S	**S**	**05 07 30.2**	**-0.4**
	67nm,0.3s,baz=242,slow=20,SNR=22						
SLA	**San Lorenzo**	**2.24**	**147**	*e*P	**Pn**	**05 07 00.8**	**-0.5**
SLA				*e*S	**S**	**05 07 34.0**	**-2.0**
PB15	**IPOC Station P**	**2.44**	**261**		**Pn**	**05 07 03.6**	**+0.2**
PB15	**IPOC Station P**	**2.44**	**261**	*e*P	**Pn**	**05 07 04.3**	**+1.0**
PB15				*i* S	**S**	**05 07 39.5**	**0.0**
PB09	**IPOC Station P**	**2.44**	**295**		**Pn**	**05 07 04.8**	**+1.4**
PB09	**IPOC Station P**	**2.44**	**295**	*e*P	**Pn**	**05 07 05.0**	**+1.5**
PB09				*e*S	**S**	**05 07 40.2**	**+0.6**
PB09				IAML		05 07 42.4	
	comp=Z,266nm,0.3s						
PB09	**IPOC Station P**	**2.44**	**295**	*e*P	**Pn**	**05 07 04.9**	**+1.5**
PB09				*i* S	**S**	**05 07 38.8**	**-0.7**
PB09				IAML		05 07 43.6	
	comp=N,307nm,0.7s						
PB06	**IPOC Station P**	**2.51**	**273**	Pn	**Pn**	**05 07 04.7**	**+0.6**
PB06	**IPOC Station P**	**2.51**	**273**	*e*P	**Pn**	**05 07 05.0**	**+0.9**
PB06				*e*S	**S**	**05 07 41.2**	**+0.4**
PB06				IAML		05 07 44.0	
	comp=Z,442nm,0.5s						
PB06	**IPOC Station P**	**2.51**	**273**	*e*P	**Pn**	**05 07 05.0**	**+0.9**
PB06				*i* S	**S**	**05 07 40.5**	**-0.3**
PB06				IAML		05 07 44.1	
	comp=N,533nm,0.5s						
PB07	**IPOC Station P**	**3.02**	**291**		**Pn**	**05 07 10.1**	**+0.5**
PB07	**IPOC Station P**	**3.02**	**291**	*e*P	**Pn**	**05 07 10.6**	**+1.0**
PB07				*e*S	**S**	**05 07 50.4**	**-0.2**
PB07				IAML		05 07 51.4	
	comp=Z,566nm,0.3s						
PB07	**IPOC Station P**	**3.02**	**291**	*e*P	**Pn**	**05 07 10.6**	**+1.0**
PB07				*i* S	**S**	**05 07 49.3**	**-1.4**
PB01	**IPOC Station P**	**3.03**	**306**		**Pn**	**05 07 10.3**	**+0.6**
PB01	**IPOC Station P**	**3.03**	**306**	*e*P	**Pn**	**05 07 10.4**	**+0.8**
PB01				*e*S	**S**	**05 07 50.5**	**-0.3**
PB01				IAML		05 07 52.5	
	comp=Z,267nm,0.2s						
PB01	**IPOC Station P**	**3.03**	**306**	*e*P	**Pn**	**05 07 10.4**	**+0.8**
PB01				*i* S	**S**	**05 07 50.1**	**-0.6**
PB04	**IPOC Station P**	**3.09**	**279**		**Pn**	**05 07 11.0**	**+0.7**
PB04	**IPOC Station P**	**3.09**	**279**	*e*P	**Pn**	**05 07 11.2**	**+1.0**
PB04				*e*S	**S**	**05 07 51.8**	**-0.2**
PB04				IAML		05 07 54.0	
	comp=Z,356nm,0.5s						
PB04	**IPOC Station P**	**3.09**	**279**	*e*P	**Pn**	**05 07 11.3**	**+1.0**
PB04				*i* S	**S**	**05 07 51.0**	**-1.0**
PB05	**IPOC Station P**	**3.09**	**269**		**Pn**	**05 07 11.2**	**+0.3**
PB05	**IPOC Station P**	**3.09**	**269**	*e*P	**Pn**	**05 07 11.2**	**+0.9**
PB05				*e*S	**S**	**05 07 51.9**	**0.0**
PB05				IAML		05 07 53.2	
	comp=Z,300nm,0.5s						
PB05	**IPOC Station P**	**3.09**	**269**	*e*P	**Pn**	**05 07 11.2**	**+0.9**
PB05				*i* S	**S**	**05 07 50.5**	**-1.5**
PB02	**IPOC Station P**	**3.20**	**298**		**Pn**	**05 07 11.7**	**+0.1**
PB02	**IPOC Station P**	**3.20**	**298**	*e*P	**Pn**	**05 07 12.1**	**+0.6**
PB02				*e*S	**S**	**05 07 53.3**	**-0.9**
PB02				IAML		05 07 57.4	
	comp=Z,663nm,0.4s						
PB02	**IPOC Station P**	**3.20**	**298**	*e*P	**Pn**	**05 07 12.2**	**+0.6**
PB02				*i* S	**S**	**05 07 52.7**	**-1.5**
GO02	**Mina Guanaco**	**3.41**	**227**	Pn	**Pn**	**05 07 14.4**	**+0.4**
PB08	**IPOC Station P**	**3.44**	**321**		**Pn**	**05 07 15.3**	**+0.8**
PB08	**IPOC Station P**	**3.44**	**321**	*e*P	**Pn**	**05 07 16.2**	**+1.7**
PB08				*e*S	**S**	**05 08 00.2**	**+0.7**
PB08	**IPOC Station P**	**3.44**	**321**	*e*P	**Pn**	**05 07 15.7**	**+1.2**
PB08				*i* S	**S**	**05 07 59.1**	**-0.4**
PATCX	**Punta Patache**	**3.67**	**303**		**Pn**	**05 07 16.8**	**0.0**
PATCX	**Punta Patache**	**3.67**	**303**	*e*P	**Pn**	**05 07 17.5**	**+0.6**
PATCX				*e*S	**S**	**05 08 02.7**	**-1.1**
PATCX				IAML		05 08 04.2	
	comp=Z,185nm,0.4s						
PATCX	**Punta Patache**	**3.67**	**303**	*e*P	**Pn**	**05 07 17.4**	**+0.6**
PATCX				*i* S	**S**	**05 08 01.9**	**-1.9**
PB14	**IPOC Station P**	**3.71**	**241**	Pn	**Pn**	**05 07 17.7**	**+0.2**
PB14	**IPOC Station P**	**3.71**	**241**	*e*P	**Pn**	**05 07 18.2**	**+0.7**
PB14				*e*S	**S**	**05 08 03.5**	**-1.5**
PB14				IAML		05 08 07.2	
	comp=Z,496nm,0.2s						
HMBC	**Humberstone**	**3.81**	**311**	*e*P	**Pn**	**05 07 18.5**	**0.0**
HMBC				*e*S	**S**	**05 08 05.3**	**-1.5**
HMBC				IAML		05 08 06.2	
	comp=Z,424nm,0.5s						
HMBC	**Humberstone**	**3.81**	**311**	*e*P	**Pn**	**05 07 18.6**	**0.0**
HMBC				*i* S	**S**	**05 08 04.8**	**-2.0**
TA01	**Diego Aracena**	**3.83**	**306**	Pn	**Pn**	**05 07 19.2**	**+0.5**
TA01	**Diego Aracena**	**3.83**	**306**	*e*P	**Pn**	**05 07 19.0**	**+0.2**
TA01				*e*S	**S**	**05 08 00.2**	**-7.0**
TA01				*e*S	S	05 08 06.1	-1.1
TA01				IAML		05 08 07.5	
	comp=Z,117nm,0.8s						
TA01	**Diego Aracena**	**3.83**	**306**	*e*P	**Pn**	**05 07 18.7**	**0.0**
TA01				*i* S	**S**	**05 08 04.8**	**-2.4**
GO01	**Chusmiza**	**3.84**	**325**		**Pn**	**05 07 20.3**	**+1.0**
GO01	**Chusmiza**	**3.84**	**325**	*e*P	**Pn**	**05 07 19.9**	**+0.6**
GO01				*e*S	**S**	**05 08 10.4**	**+2.3**
GO01				IAML		05 08 13.1	
	comp=Z,95nm,0.4s						
TA02	**Huaiquique**	**3.98**	**309**		**Pn**	**05 07 20.1**	**-0.4**
PB11	**IPOC Station P**	**4.03**	**319**		**Pn**	**05 07 21.1**	**-0.1**
PB11	**IPOC Station P**	**4.03**	**319**	*e*P	**Pn**	**05 07 21.4**	**+0.2**
PB11				IAML		05 08 14.3	
	comp=Z,144nm,0.2s						
PB11	**IPOC Station P**	**4.03**	**319**	*e*P	**Pn**	**05 07 21.4**	**+0.2**
PB11				*i* S	**S**	**05 08 10.2**	**-1.5**
AC01	**Pan de Azucar**	**4.74**	**225**	Pn	**Pn**	**05 07 28.9**	**-0.7**
AC01	**Pan de Azucar**	**4.74**	**225**	*e*P	**Pn**	**05 07 28.5**	**-1.1**
AC01				IAML		05 08 26.0	
	comp=Z,129nm,0.2s						
PB16	**IPOC Station P**	**5.13**	**330**	Pn	**Pn**	**05 07 36.0**	**+1.0**
PB12	**IPOC Station P**	**5.32**	**322**	Pn	**Pn**	**05 07 36.4**	**-0.5**
PB18	**Visviri**	**5.78**	**334**	Pn	**Pn**	**05 07 45.9**	**+2.8**
LPAZ	**La Paz**	**6.63**	**349**	Pn	**Pn**	**05 07 55.2**	**+1.4**
SIV	**San Ignacio**	**8.73**	**40**	P	**Pn**	**05 08 17.3**	**-2.7**
	comp=Z,7.4nm,0.6s,baz=207,slow=12,SNR=37						
SIV				S	S	05 09 49.4	-9.5
	comp=Z,0.5nm,0.4s,baz=271,slow=19,SNR=1.2						
CFA	**Coronel Fontan**	**8.82**	**188**	P	**Pn**	**05 08 20.6**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=351,slow=11,SNR=7.5						
CFA				S	S	05 09 53.1	-7.7
	comp=Z,5.5nm,0.3s,baz=188,slow=16,SNR=14						
CPUP	**Villa Florida**	**9.34**	**114**	*e*P	**Pn**	**05 08 30.8**	**+3.1**
CPUP	**Villa Florida**	**9.34**	**114**	P	**Pn**	**05 08 25.5**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=298,slow=16,SNR=1.6						
ANTJ	**Antonio Joao (**	**10.07**	**87**	*e*P	**Pn**	**05 08 37.1**	**+0.1**
PTLB	**Vantes e Lacer**	**10.35**	**46**	*e*P	**Pn**	**05 08 39.3**	**-1.3**
AQDB	**Aquidauana**	**10.63**	**79**	*e*P	**Pn**	**05 08 44.8**	**+0.6**
AMBA	**Amambai (Brazi**	**10.94**	**93**	*e*P	**Pn**	**05 08 48.9**	**+0.9**
BO04	**La Punta**	**11.59**	**196**		**Pn**	**05 08 55.7**	**-0.4**
VILB	**Vilhena**	**11.69**	**34**	*e*P	**Pn**	**05 08 58.1**	**+0.5**
RVDE	**Rio Verde (Bra**	**11.76**	**73**	*e*P	**Pn**	**05 08 58.9**	**+0.5**
MCR1	**Marechal Candi**	**11.86**	**100**	*e*P	**Pn**	**05 09 00.6**	**+1.1**
UNIS	**Unistalda (Bra**	**12.28**	**123**	*e*P	**P**	**05 09 07.6**	**-0.1**
PP1B	**Ponte de Pedra**	**12.39**	**67**	*e*P	**Pn**	**05 09 07.4**	**+1.2**
BO02	**Sierra Bellavi**	**12.39**	**195**		**Pn**	**05 09 06.5**	**+0.3**
CRSM	**Crissiumal (Br**	**12.49**	**114**	*e*P	**P**	**05 09 10.6**	**+0.5**
RODS	**Rosario do Sul**	**12.82**	**128**	*e*P	**Pn**	**05 09 11.4**	**-0.1**
FRBT	**Francisco Belt**	**12.95**	**107**	*e*P	**P**	**05 09 15.8**	**+0.6**
ETMB	**Extrema**	**12.96**	**3**	*e*P	**P**	**05 09 14.0**	**-1.5**
PTGB	**Pitanga**	**13.67**	**101**	*e*P	**P**	**05 09 24.8**	**+1.5**
ALGR	**Alto Alegre (B**	**13.79**	**118**	*e*P	**P**	**05 09 25.5**	**+1.0**
ITAB	**Concordia**	**14.04**	**111**	*e*P	**P**	**05 09 27.7**	**+0.4**
CPSB	**Cacapava Do Su**

*ATH **08** 05:20:40.8, 36°.35N ± 27°.64E, h14km ± 1km, ML4.3/13, Error ellipse: s-maj=1.3km s-min=0.6km az=52.0*
*IDC **08** 05:20:42.4 ± 1.8, 36°.42N ± 27°.56E, h30km ± 12km, mb4.1/25, mbtmp4.3/37, ML4.0/12, MS3.6/12, Error ellipse: s-maj=11.9km s-min=9.4km az=162.0*
*GII **08** 05:20:44.2 ± 0.0, 36°.02N ± 28°.08E, h2km, mb4.1/2, MD3.8/8*
*NAO **08** 05:21:09.3, 39°.70N ± 28°.94E, h33km, mb3.3*
ISC 08 05:20:40.3 ± 0.7, **36°.33N** ± 0°.02 - **27°.63E** ± 0°.02, **h15**km ± 4km, **n474**, **σ** 1§54/549, **mb4.5**/65, **MS3.9**/5, **13C-23D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.40**	**355**	Pg	**Pg**	**05 20 48.2**	**-0.3**
DAT				Sg	**Sg**	**05 20 53.5**	**-0.4**
DAT	**Datca**	**0.40**	**355**	P	**Pg**	**05 20 48.1**	**-0.3**
DAT				S	**Sg**	**05 20 53.7**	**-0.2**
DAT	**Datca**	**0.40**	**355**	P	**Pg**	**05 20 48.0**	**-0.4**
DAT				S	**Sg**	**05 20 53.9**	**0.0**
ARG	**Arkhangelos**	**0.42**	**106**	Pg	**Pg**	**05 20 49.1**	**+0.3**
ARG	**Arkhangelos**	**0.42**	**106**		**Pg**	**05 20 48.9**	**+0.1**
ARG	**Arkhangelos**	**0.42**	**106**	P	**Pg**	**05 20 48.9**	**+0.1**
ARG				S	**Sb**	**05 20 55.4**	**-0.2**
ARG	**Arkhangelos**	**0.42**	**106**	P	**Pg**	**05 20 48.9**	**+0.1**
ARG	**Arkhangelos**	**0.42**	**106**	P	**Pg**	**05 20 48.9**	**+0.1**
ARG				S	**Sg**	**05 20 54.3**	**-0.3**
ARG				AML	AML	05 20 56.1	
ARG				AML	AML	05 20 56.7	
NISR	**Nisiros**	**0.49**	**305**	P	**Pg**	**05 20 50.0**	**-0.1**
NISR				S	**Sb**	**05 20 58.6**	**+1.1**
	45μm,0.4s						
NISR	**Nisiros**	**0.49**	**305**	P	**Pg**	**05 20 49.9**	**-0.1**
NISR				S	**Sb**	**05 20 57.3**	**-0.2**
NISR				AML	AML	05 21 02.8	
NISR				AML	AML	05 21 03.7	
	comp=N,51765μm,0.3s						
TURN	**Turunc**	**0.67**	**48**	Pg	**Pg**	**05 20 52.7**	**-0.7**
TURN	**Turunc**	**0.67**	**48**	P	**Pg**	**05 20 52.4**	**-1.0**
TURN				S	**Sb**	**05 21 02.8**	**+0.2**
RFTAA	**Mazikoy-Bodrum**	**0.67**	**8**	Pg	**Pg**	**05 20 52.8**	**-0.7**
RFTAA				Sg	**Sb**	**05 21 02.7**	**-0.1**
RFTB	**Kemer-Bodrum**	**0.69**	**336**	Pg	**Pb**	**05 20 53.9**	**-0.1**
BDRM	**Kayabasi**	**0.74**	**349**	P	**Pg**	**05 20 54.2**	**-0.7**
BDRM				S	**Sb**	**05 21 05.1**	**+0.1**
BODT	**Bodrum**	**0.77**	**341**	Pg	**Pg**	**05 20 54.9**	**-0.4**
BODT	**Bodrum**	**0.77**	**341**	P	**Pg**	**05 20 54.8**	**-0.5**
BODT				S	**Sb**	**05 21 06.2**	**+0.5**
KLNA	**Kalymnos**	**0.81**	**320**	P	**Pg**	**05 20 56.4**	**+0.3**
KLNA				S	**Sb**	**05 21 07.4**	**+0.5**
KLNA				AML	AML	05 21 08.5	
	comp=E,43525μm,0.3s						
KLNA				AML	AML	05 21 08.8	
	comp=N,39316μm,0.3s						
KARP	**Karpathos**	**0.87**	**206**	Pg	**Pn**	**05 20 57.8**	**-0.2**
KARP				Sg	**Sn**	**05 21 10.4**	**0.0**
KARP	**Karpathos**	**0.87**	**206**		**Pg**	**05 20 57.4**	**+0.1**
KARP	**Karpathos**	**0.87**	**206**	P	**Pg**	**05 20 57.6**	**+0.4**
KARP				S	**Sn**	**05 21 11.4**	**+1.0**
KARP	**Karpathos**	**0.87**	**206**	P	**Pg**	**05 20 57.6**	**+0.4**
KARP	**Karpathos**	**0.87**	**206**	P	**Pg**	**05 20 57.5**	**+0.2**
KARP				S	**Sg**	**05 21 09.4**	**+0.7**
KARP				AML	AML	05 21 12.3	
KARP				AML	AML	05 21 12.5	
DALY	**Dalyan (Mula)**	**0.96**	**60**	Pg	**Pn**	**05 20 59.2**	**0.0**
YER	**Yerkesik**	**0.96**	**33**	Pg	**Pg**	**05 20 58.9**	**0.0**
YER				Sg	**Sn**	**05 21 12.3**	**-0.4**
YER	**Yerkesik**	**0.96**	**33**	P	**Pb**	**05 20 58.0**	**-0.7**
YER				S	**Sn**	**05 21 12.6**	**-0.1**
YER	**Yerkesik**	**0.96**	**33**	P	**Pg**	**05 20 58.9**	**0.0**
YER				SG	**Sn**	**05 21 12.2**	**-0.4**
MLSB	**Milas**	**0.97**	**7**	Pg	**Pb**	**05 20 58.8**	**0.0**
MLSB				Sg	**Sg**	**05 21 11.9**	**+0.1**
MULA	**Mugla, Merkez-**	**1.08**	**31**	P	**Pb**	**05 21 00.6**	**-0.1**
MULA				S	**Sg**	**05 21 15.1**	**-0.2**
DIDI	**Didim-Aydin**	**1.08**	**344**	Pg	**Pb**	**05 21 00.7**	**-0.1**
DDIM	**Aydin, Didim**	**1.16**	**345**	P	**Pn**	**05 21 01.9**	**-0.1**
DDIM				S	**Sg**	**05 21 20.3**	**+2.4**
FETY	**Fethiye**	**1.21**	**75**	Pn	**Pn**	**05 21 02.7**	**0.0**
IZZE	**Mula-Seydike**	**1.30**	**85**	P	**Pn**	**05 21 04.0**	**+0.1**
IZZE				S	**Sg**	**05 21 21.9**	**-0.3**
GCAM	**G?zelcaml?**	**1.40**	**347**	Pn	**Pn**	**05 21 04.9**	**-0.4**
GCAM	**G?zelcaml?**	**1.40**	**347**	P	**Pn**	**05 21 05.1**	**-0.2**
GCAM				S	**Sg**	**05 21 28.1**	**+2.6**
CAME	**Cameli-Denizli**	**1.48**	**65**	Pn	**Pb**	**05 21 07.2**	**-0.4**
CAME				Sn	**Sg**	**05 21 27.3**	**-0.8**
SMG	**Samos**	**1.51**	**336**	P	**Pn**	**05 21 06.3**	**-0.5**
SMG				S	**Sb**	**05 21 26.8**	**-0.2**
	comp=N,10μm,0.6s						
SMG	**Samos**	**1.51**	**336**	P	**Pn**	**05 21 06.1**	**-0.7**
SMG				AML	AML	05 21 33.3	
	comp=N,19827μm,0.5s						
SMG				AML	AML	05 21 35.2	
	comp=E,20713μm,0.5s						
TAVA	**DENIZLI_Tavas**	**1.53**	**42**	P	**Pb**	**05 21 08.1**	**-0.3**
TAVA				S	**Sg**	**05 21 28.7**	**-1.0**
CAEL	**Denizli, Camel**	**1.57**	**59**	P	**Pb**	**05 21 09.2**	**0.0**
CAEL				S	**Sg**	**05 21 33.2**	**+2.1**
KSL	**Kastellorizon**	**1.59**	**96**	P	**Pb**	**05 21 08.8**	**-0.6**
KSL				S	**Sn**	**05 21 28.6**	**+0.3**
KSL				AML	AML	05 21 33.5	
	comp=N,8411μm,0.5s						
KSL				AML	AML	05 21 36.6	
	comp=E,17206μm,0.6s						
IKRA	**Agios-Kirikos-**	**1.66**	**320**	P	**Pn**	**05 21 08.5**	**-0.3**
IKRA				S	**Sn**	**05 21 28.9**	**-1.0**
IKRA				AML	AML	05 21 39.6	
	comp=N,15370μm,0.5s						
IKRA				AML	AML	05 21 43.5	
	comp=E,16237μm,0.5s						
DNIZ	**Denizli-Tavas-**	**1.71**	**41**	P	**Pn**	**05 21 10.5**	**+0.8**
DNIZ				S	**Sg**	**05 21 38.3**	**+2.7**
SANT	**Santorini**	**1.75**	**272**	⇓P	**Pn**	**05 21 10.5**	**+0.3**
SANT	**Santorini**	**1.75**	**272**	Pn	**Pn**	**05 21 10.5**	**+0.3**
SANT	**Santorini**	**1.75**	**272**	Pn	**Pn**	**05 21 10.2**	**+0.1**
SANT	**Santorini**	**1.75**	**272**	P	**Pn**	**05 21 10.4**	**+0.3**
SANT	**Santorini**	**1.75**	**272**	P	**Pn**	**05 21 10.2**	**+0.1**
SANT				AML	AML	05 21 44.0	
	comp=E,8996μm,0.6s						
SANT				AML	AML	05 21 45.5	
	comp=N,4344μm,0.6s						
APMY	**Acipayam-Deniz**	**1.76**	**49**	Pn	**Pn**	**05 21 11.3**	**+1.0**
THT2	**Imerovigli**	**1.78**	**274**	P	**Pn**	**05 21 11.2**	**+0.7**
CMBO	**Columbo, Santo**	**1.80**	**275**	P	**Pn**	**05 21 11.2**	**+0.4**
CMBO	**Columbo, Santo**	**1.80**	**275**	P	**Pn**	**05 21 11.1**	**+0.4**
GOLH	**Golhisar**	**1.80**	**59**	P	**Pb**	**05 21 13.0**	**0.0**
GOLH				S	**Sg**	**05 21 38.6**	**+0.4**
SNT5	**Nea Kammeni, S**	**1.80**	**273**	P	**Pn**	**05 21 11.1**	**+0.3**
DGB	**zmir**	**1.81**	**341**	P	**Pn**	**05 21 10.5**	**-0.5**
DGB				S	**Sg**	**05 21 37.5**	**-1.3**
IZMR	**zmir-demi**	**1.82**	**8**	P	**Pn**	**05 21 10.6**	**-0.5**
IZMR				S	**Sg**	**05 21 40.9**	**+2.0**
GMLD	**Gumuldur**	**1.83**	**342**	Pn	**Pn**	**05 21 11.1**	**-0.1**
APE	**Apeiranthos**	**1.84**	**294**	⇓P	**Pn**	**05 21 11.6**	**+0.3**
APE	**Apeiranthos**	**1.84**	**294**	Pn	**Pn**	**05 21 11.3**	**0.0**
APE	**Apeiranthos**	**1.84**	**294**	P	**Pn**	**05 21 11.5**	**+0.1**
APE	**Apeiranthos**	**1.84**	**294**	*d* iP	**Pn**	**05 21 11.4**	**+0.1**
APE	**Apeiranthos**	**1.84**	**294**	P	**Pn**	**05 21 11.3**	**0.0**
APE				AML	AML	05 21 47.0	
	comp=N,1930μm,0.5s						
APE				AML	AML	05 21 48.5	
	comp=E,2771μm,0.8s						
ELL	**Elmali**	**1.89**	**77**	Pn	**Pn**	**05 21 13.1**	**+1.0**
ELL	**Elmali**	**1.89**	**77**		**Pb**	**05 21 14.4**	**-0.1**
ELL	**Elmali**	**1.89**	**77**	P	**Pb**	**05 21 14.4**	**-0.1**
FRMA	**Ierapetra Chan**	**2.03**	**230**	P	**Pn**	**05 21 14.4**	**+0.5**
FRMA				S	**Sn**	**05 21 38.8**	**-0.1**
	comp=E,2μm,0.6s						
FRMA	**Ierapetra Chan**	**2.03**	**230**	P	**Pn**	**05 21 14.2**	**+0.4**
FRMA				AML	AML	05 21 46.4	
	comp=N,10394μm,0.5s						
FRMA				AML	AML	05 21 47.0	
	comp=E,17398μm,0.6s						
ZEYE	**Izmir, Urla-Ze**	**2.10**	**335**	P	**Pn**	**05 21 14.4**	**-0.5**
ZEYE				S	**Sg**	**05 21 47.4**	**-0.5**
URLA	**Izmir**	**2.18**	**338**	Pn	**Pn**	**05 21 15.7**	**-0.4**
URLA	**Izmir**	**2.18**	**338**	P	**Pn**	**05 21 15.7**	**-0.4**
URLA				S	**Sg**	**05 21 53.9**	**+3.4**
AKUM	**Antalya-Kumluc**	**2.19**	**90**	P	**Pb**	**05 21 18.6**	**-1.1**
AKUM				S	**Sb**	**05 21 46.5**	**-0.1**
CESE	**eme**	**2.25**	**332**	Pn	**Pn**	**05 21 16.7**	**-0.3**
MANT	**Manisa**	**2.28**	**19**	P	**Pn**	**05 21 17.2**	**-0.3**
MANT				S	**Sg**	**05 21 53.0**	**-0.6**
HRKL	**Herakleio**	**2.29**	**244**	Pn	**Pn**	**05 21 18.2**	**+0.7**
HRKL	**Herakleio**	**2.29**	**244**	P	**Pn**	**05 21 18.4**	**+0.9**
HRKL				S	**Sb**	**05 21 48.4**	**-1.0**
	comp=E,6μm,0.5s						
HRKL	**Herakleio**	**2.29**	**244**	P	**Pn**	**05 21 18.0**	**+0.5**
KORT	**Korkueli**	**2.29**	**72**	Pn	**Pn**	**05 21 18.4**	**+0.8**
TNSA	**Tinos**	**2.31**	**302**	P	**Pn**	**05 21 17.6**	**-0.2**
IACM	**Heraklion**	**2.31**	**244**	P	**Pn**	**05 21 19.2**	**+1.4**
IACM				S	**Sn**	**05 21 46.8**	**+0.8**
	comp=E,14μm,0.6s						
IACM	**Heraklion**	**2.31**	**244**	P	**Pn**	**05 21 18.7**	**+0.9**
KULA	**Kula-Manisa**	**2.33**	**20**	Pn	**Pn**	**05 21 18.7**	**+0.6**
KULA	**Kula-Manisa**	**2.33**	**20**	P	**Pn**	**05 21 17.9**	**-0.2**
KULA				S	**Sn**	**05 21 46.8**	**+0.3**
BRDR	**BURDUR-Merkez**	**2.38**	**54**	P	**Pb**	**05 21 21.5**	**-1.4**
BRDR				S	**Sb**	**05 21 51.5**	**-0.6**
GOMA	**Golmarmara-Man**	**2.38**	**6**	Pn	**Pn**	**05 21 19.2**	**+0.4**
CHOS	**Chios island**	**2.40**	**329**	P	**Pn**	**05 21 18.8**	**-0.3**
CHOS				S	**Sn**	**05 21 50.0**	**+1.7**
	comp=E,3μm,0.9s						
CHOS	**Chios island**	**2.40**	**329**	P	**Pn**	**05 21 18.5**	**-0.6**
CHOS				AML	AML	05 22 01.0	
	comp=E,7596μm,0.8s						
CHOS				AML	AML	05 22 01.0	
	comp=N,5826μm,1.0s						
IDI	**Anoyia**	**2.46**	**246**	⇓P	**Pn**	**05 21 20.6**	**+0.8**
IDI				⇓S	**Sn**	**05 21 49.9**	**+0.3**
IDI	**Anoyia**	**2.46**	**246**	Pn	**Pn**	**05 21 20.7**	**+0.8**
IDI				Sn	**Sn**	**05 21 49.3**	**-0.3**
IDI	**Anoyia**	**2.46**	**246**		**Pn**	**05 21 20.3**	**+0.4**
IDI	**Anoyia**	**2.46**	**246**	P	**Pn**	**05 21 20.4**	**+0.6**
IDI	**Anoyia**	**2.46**	**246**	P	**Pn**	**05 21 20.5**	**+0.6**
IDI	**Anoyia**	**2.46**	**246**	Pn	**Pn**	**05 21 20.5**	**+0.6**
	comp=N,66nm,0.3s,baz=48,slow=11,SNR=378						
IDI				Sn	**Sn**	**05 21 48.2**	**-1.4**
	comp=N,156nm,0.3s,baz=14,slow=17,SNR=14						
IDI				LR	LR	05 22 28.6	
	comp=N,341nm,18.8s,baz=74,slow=44						
	comp=N,156nm,0.3s						
IDI	**Anoyia**	**2.46**	**246**	P	**Pn**	**05 21 20.2**	**+0.4**
IDI				AML	AML	05 21 54.4	
	comp=E,3872μm,0.5s						
IDI				AML	AML	05 22 00.6	
	comp=N,3759μm,0.5s						
FOCM	**Foa**	**2.48**	**344**	Pn	**Pn**	**05 21 19.9**	**-0.2**
KHL	**Karahalli**	**2.50**	**37**	Pn	**Pn**	**05 21 21.2**	**+0.8**
PASA	**Karahalli, USA**	**2.50**	**36**	P	**Pn**	**05 21 20.7**	**+0.3**
PASA				S	**Sn**	**05 21 49.6**	**-1.1**
BASM	**Basmaki-Afyon**	**2.50**	**50**	Pn	**Pn**	**05 21 21.9**	**+1.4**
EAG2	**Marmaro, Chios**	**2.51**	**332**	P	**Pn**	**05 21 20.7**	**+0.1**
KARB	**zmir-Karabur**	**2.52**	**338**	P	**Pn**	**05 21 20.7**	**+0.1**
KARB				S	**Sb**	**05 21 55.7**	**-0.2**
AKS	**Akhisar**	**2.54**	**3**	Pn	**Pn**	**05 21 21.2**	**+0.2**
ZEDA	**zmir-Bergama**	**2.66**	**351**	P	**Pn**	**05 21 22.6**	**0.0**
ZEDA				S	**Sg**	**05 22 07.4**	**+1.4**
RFT7	**Candarli**	**2.68**	**348**	Pn	**Pn**	**05 21 23.3**	**+0.5**
CAND	**Candarli**	**2.70**	**346**	Pn	**Pn**	**05 21 22.9**	**-0.2**
PRNS	**Prines Rethymn**	**2.71**	**250**	P	**Pn**	**05 21 25.3**	**+2.0**
ISP	**Isparta**	**2.75**	**56**	Pn	**Pn**	**05 21 25.9**	**+1.9**
ISP	**Isparta**	**2.75**	**56**	Pn	**Pn**	**05 21 26.0**	**+2.0**
ISP	**Isparta**	**2.75**	**56**	*i* P	**Pn**	**05 21 25.6**	**+1.6**
DKL	**Dikili**	**2.79**	**348**	Pn	**Pn**	**05 21 24.7**	**+0.3**
EA03	**Mitilini, Lesv**	**2.87**	**343**	P	**Pn**	**05 21 25.3**	**0.0**
SIMA	**Simav-Kutahya**	**2.95**	**21**	Pn	**Pn**	**05 21 27.3**	**+0.6**
CHAN	**Chania**	**3.02**	**255**	P	**Pn**	**05 21 29.0**	**+1.5**
IMMV	**Iera Moni Meta**	**3.08**	**255**	P	**Pn**	**05 21 29.8**	**+1.4**
PRK	**Paraskevi**	**3.10**	**340**	P	**Pn**	**05 21 28.7**	**+0.1**
PRK	**Paraskevi**	**3.10**	**340**	P	**Pn**	**05 21 28.5**	**-0.1**
SIGR	**SIGRI**	**3.20**	**335**	P	**Pn**	**05 21 29.9**	**0.0**
SIGR	**SIGRI**	**3.20**	**335**	P	**Pn**	**05 21 30.0**	**0.0**
GVD	**Gavdhos**	**3.25**	**244**	P	**Pn**	**05 21 33.5**	**+2.8**
GVD				AML	AML	05 22 17.7	
	comp=N,2232μm,0.6s						
GVD				AML	AML	05 22 20.4	
	comp=E,3216μm,0.7s						
BALB	**Balikesir**	**3.31**	**3**		**Pn**	**05 21 32.6**	**+1.1**
VLY	**Voula,Athens**	**3.42**	**297**	P	**Pn**	**05 21 34.1**	**+1.1**
VLY	**Voula,Athens**	**3.42**	**297**	P	**Pn**	**05 21 33.8**	**+0.8**
ANKY	**Antikythira Is**	**3.53**	**264**	P	**Pn**	**05 21 35.6**	**+1.0**
ANKY	**Antikythira Is**	**3.53**	**264**	P	**Pn**	**05 21 35.9**	**+1.3**
EZN	**Ezine**	**3.63**	**344**	P	**Pn**	**05 21 36.2**	**+0.2**
KRND	**KRANIDI**	**3.74**	**288**	P	**Pn**	**05 21 38.8**	**+1.4**
KRND	**KRANIDI**	**3.74**	**288**	P	**Pn**	**05 21 38.6**	**+1.2**
VLI	**Veliai**	**3.79**	**277**	P	**Pn**	**05 21 39.4**	**+1.2**
LIA	**Limnos Island**	**4.04**	**332**	P	**Pn**	**05 21 41.9**	**+0.3**
LIA	**Limnos Island**	**4.04**	**332**	P	**Pn**	**05 21 42.0**	**+0.4**
LOUT	**Loutraki**	**4.07**	**295**	P	**Pn**	**05 21 43.6**	**+1.7**
LTK	**Loutraki**	**4.08**	**296**	P	**Pn**	**05 21 43.5**	**+1.3**
GUR	**Goura**	**4.51**	**292**	P	**Pn**	**05 21 50.0**	**+1.8**
ENEZ	**Enez**	**4.54**	**346**	P	**Pn**	**05 21 49.0**	**+0.5**
NEO	**Neokhori**	**4.58**	**312**	P	**Pn**	**05 21 50.1**	**+1.1**
NEO	**Neokhori**	**4.58**	**312**	P	**Pn**	**05 21 49.9**	**+1.0**
KLV	**Kalavryta, Ach**	**4.69**	**293**	P	**Pn**	**05 21 52.4**	**+1.8**
ALN	**Alexandroupoli**	**4.72**	**345**	Pn	**Pn**	**05 21 50.9**	**0.0**
ALN	**Alexandroupoli**	**4.72**	**345**	P	**Pn**	**05 21 51.0**	**0.0**
ALN	**Alexandroupoli**	**4.72**	**345**	P	**Pn**	**05 21 50.9**	**0.0**
ALN	**Alexandroupoli**	**4.72**	**345**	P	**Pn**	**05 21 50.9**	**0.0**
THAS	**Thassos island**	**4.84**	**333**	P	**Pn**	**05 21 53.9**	**+1.4**
THAS	**Thassos island**	**4.84**	**333**	P	**Pn**	**05 21 54.1**	**+1.6**
CSS	**Mathiatis**	**4.84**	**105**	Pn	**Pn**	**05 21 52.9**	**+0.2**
CSS	**Mathiatis**	**4.84**	**105**	P	**Pn**	**05 21 53.3**	**+0.6**
AGG	**Agios Georgios**	**4.98**	**304**	Pn	**Pn**	**05 21 56.3**	**+1.7**
AGG	**Agios Georgios**	**4.98**	**304**	P	**Pn**	**05 21 56.3**	**+1.7**
MDUB	**Mudurnu**	**4.99**	**33**	Pn	**Pn**	**05 21 56.5**	**+1.7**
RDO	**Rodhopi**	**5.07**	**342**	Pn	**Pn**	**05 21 55.9**	**+0.1**
RDO	**Rodhopi**	**5.07**	**342**	P	**Pn**	**05 21 56.1**	**+0.3**
KAVA	**Kavala**	**5.25**	**333**	P	**Pn**	**05 21 58.5**	**+0.3**
KOKK	**Kokkinochori,**	**5.30**	**329**	P	**Pn**	**05 21 59.5**	**+0.6**
BR231	**Keskin MP Arra**	**5.36**	**48**		**Pn**	**05 22 02.5**	**+2.6**
ANTO	**Ankara**	**5.39**	**48**	⇓P	**Pn**	**05 22 01.5**	**+1.3**
ANTO	**Ankara**	**5.39**	**48**		**Pn**	**05 22 02.6**	**+2.4**
ANTO	**Ankara**	**5.39**	**48**	P	**Pn**	**05 22 02.6**	**+2.4**
SRS	**Serrai**	**5.72**	**328**	P	**Pn**	**05 22 02.6**	**+0.9**
NVR	**Nevrokopi**	**5.80**	**331**	P	**Pn**	**05 22 07.3**	**+1.5**
BR131	**Keskin Array S**	**5.83**	**53**	*i* P	**Pn**	**05 22 07.8**	**+1.5**
BRTR	**Keskin Array B**	**5.83**	**53**	Pn	**Pn**	**05 22 09.7**	**+3.4**
BRTR	**Keskin Array B**	**5.83**	**53**	*i* P	**Pn**	**05 22 09.1**	**+2.8**
BRTR				pmax	pmax		
	comp=Z,21nm,0.5s						
BRTR	**Keskin Array B**	**5.83**	**53**	Pn	**Pn**	**05 22 07.9**	**+1.6**
	comp=Z,3.3nm,0.3s,baz=232,slow=14,SNR=36						
BRTR				Sn	**Sn**	**05 23 13.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=236,slow=26,SNR=2.1						
	comp=Z,7.8nm,0.6s						
GRG	**Griva**	**6.17**	**320**	P	**Pn**	**05 22 13.5**	**+2.7**
PLD	**Plovdiv**	**6.22**	**340**	P	**Pn**	**05 22 12.4**	**+0.9**
VAY	**Valandovo**	**6.35**	**323**	*i* P	**Pb**	**05 22 26.5**	**-4.0**
PEHC	**Pehcevo**	**6.56**	**327**	*i* P	**Pn**	**05 22 18.3**	**+2.0**
FNA	**Florina**	**6.61**	**314**	Pn	**Pn**	**05 22 19.7**	**+2.8**
FNA	**Florina**	**6.61**	**314**	P	**Pn**	**05 22 19.7**	**+2.8**
ELND	**Elena**	**6.72**	**349**	⇑P	**Pn**	**05 22 18.9**	**+0.5**
STIP	**Stip**	**6.82**	**323**	*i* P	**Pn**	**05 22 20.8**	**+1.0**
KBN	**Korca**	**6.86**	**311**		**Pn**	**05 22 23.4**	**+3.0**
KBN	**Korca**	**6.86**	**311**	P	**Pn**	**05 22 23.4**	**+3.0**
BNN	**Bunyan**	**6.99**	**66**	Pn	**Pn**	**05 22 24.6**	**+2.3**
HNTI	**Hanita**	**7.01**	**115**	Pn	**Pn**	**05 22 21.9**	**-0.5**
HNTI				Sn	**Sn**	**05 23 37.9**	**-4.0**
HNTI	**Hanita**	**7.01**	**115**	P	**Pn**	**05 22 23.3**	**+0.9**
BHL	**Bhannes**	**7.01**	**108**	*e*P	**Pn**	**05 22 21.8**	**-0.7**
DQRL	**Deir Qamar**	**7.03**	**110**	*e*P	**Pn**	**05 22 21.7**	**-1.0**
KEK	**Kerkira**	**7.04**	**301**	Pn	**Pn**	**05 22 24.6**	**+1.8**
HWQ	**Hawqa**	**7.11**	**104**	*e*P	**Pn**	**05 22 23.8**	**0.0**
OFRI	**`Ofer**	**7.12**	**119**	Pn	**Pn**	**05 22 23.2**	**-0.7**
OFRI				Sn	**Sn**	**05 23 40.4**	**-4.1**
OFRI	**`Ofer**	**7.12**	**119**	P	**Pn**	**05 22 27.3**	**+3.4**
OHR	**Ohrid**	**7.16**	**314**	*i* P	Pn	05 22 29.6	+5.1
QRWL	**Qaraoun**	**7.18**	**110**	*e*P	**Pn**	**05 22 24.9**	**+0.2**
BLGI	**Bet Lehem HaGe**	**7.20**	**118**	Pn	**Pn**	**05 22 24.7**	**-0.3**
ZAHL	**Zahle**	**7.21**	**108**	*e*P	**Pn**	**05 22 24.9**	**-0.3**
BEIL	**Beino**	**7.21**	**102**	*e*P	**Pn**	**05 22 25.1**	**-0.1**
MMA0B	**Mount Meron ar**	**7.21**	**115**	Pn	**Pn**	**05 22 24.7**	**-0.5**
MMA0B				Sn	**Sn**	**05 23 43.0**	**-3.9**
MMAI	**Mount Meron Ar**	**7.21**	**115**	Pn	**Pn**	**05 22 25.0**	**-0.2**
	comp=Z,42nm,0.3s,baz=305,slow=12,SNR=131						
MMAI				Sn	**Sn**	**05 23 43.7**	**-3.2**
	comp=Z,63nm,0.3s,baz=286,slow=30,SNR=3.9						
MMAI				LR	LR	05 26 25.8	
	comp=Z,227nm,20.1s,baz=250,slow=47						
RAZG	**Razgrad**	**7.27**	**354**	⇓P	**Pn**	**05 22 26.9**	**+0.9**
SHBL	**Chebaa**	**7.31**	**112**	*e*P	**Pn**	**05 22 26.7**	**0.0**
GEM	**Giv'at Ha'Em**	**7.31**	**113**	Pn	**Pn**	**05 22 25.9**	**-0.6**
GEM	**Giv'at Ha'Em**	**7.31**	**113**	P	**Pn**	**05 22 27.1**	**+0.6**
RCY	**Rachaya**	**7.31**	**110**	*e*P	**Pn**	**05 22 26.5**	**-0.2**
NATI	**Neve Ativ**	**7.34**	**112**	Pn	**Pn**	**05 22 26.7**	**-0.2**
NATI				Sn	**Sn**	**05 23 45.8**	**-4.2**
SLTI	**Sal'it**	**7.37**	**122**	Pn	**Pn**	**05 22 26.4**	**-0.9**
SLTI				Sn	**Sn**	**05 23 44.6**	**-6.1**
SKO	**Skopje**	**7.40**	**321**	*i* P	**Pn**	**05 22 30.8**	**+3.0**
PLVB	**Pleven**	**7.41**	**313**	⇑P	**Pn**	**05 22 29.3**	**+1.5**
MMLI	**Mount Malkishu**	**7.53**	**119**	Pn	**Pn**	**05 22 28.7**	**-0.8**
MMLI				Sn	**Sn**	**05 23 48.5**	**-6.1**
SHMJ	**Saham**	**7.62**	**116**	P	**Pn**	**05 22 31.3**	**+0.5**
QRNJ	**Al-Qirein**	**7.69**	**119**	P	**Pn**	**05 22 32.1**	**+0.4**
HMDT	**Nahal Hemdat**	**7.70**	**120**	Pn	**Pn**	**05 22 31.4**	**-0.5**
AMAZ	**Amatzia**	**7.72**	**126**	Pn	**Pn**	**05 22 31.2**	**-1.0**
AMAZ				Sn	**Sn**	**05 23 55.6**	**-3.8**
GAZ	**Gaziantep**	**7.74**	**81**	Pn	**Pn**	**05 22 33.8**	**+1.3**
KZIT	**Kziot**	**7.82**	**132**	Pn	**Pn**	**05 22 32.8**	**-0.7**
UJAP	**Al Uja**	**7.83**	**122**	Pn	**Pn**	**05 22 33.5**	**-0.1**
UJAP				Sn	**Sn**	**05 23 58.1**	**-3.8**
UJAP	**Al Uja**	**7.83**	**122**	P	**Pn**	**05 22 34.5**	**+0.9**
TIR	**Tirane**	**7.86**	**312**	Pn	**Pn**	**05 22 36.4**	**+2.4**
TIR	**Tirane**	**7.86**	**312**	P	**Pn**	**05 22 36.4**	**+2.4**
YTIR	**Yattir**	**7.96**	**126**	P	**Pn**	**05 22 35.4**	**-0.1**
DSI	**Dead Sea**	**8.00**	**124**	Pn	**Pn**	**05 22 35.5**	**-0.5**
DSI				Sn	**Sn**	**05 24 01.7**	**-4.6**
DSI	**Dead Sea**	**8.00**	**124**	P	**Pn**	**05 22 37.2**	**+1.2**
SCTE	**Santa Cesarea**	**8.12**	**300**	Pn	**Pn**	**05 22 39.1**	**+1.6**
TIRR	**Tirgusor**	**8.14**	**4**	⇑P	**Pn**	**05 22 38.3**	**+0.5**
TIRR	**Tirgusor**	**8.14**	**4**	P	**Pn**	**05 22 38.3**	**+0.5**
MDBI	**Mazsada**	**8.15**	**126**	P	**Pn**	**05 22 38.0**	**0.0**
MSBI	**Mazada**	**8.15**	**126**	Pn	**Pn**	**05 22 37.3**	**-0.7**
MSBI				Sn	**Sn**	**05 24 05.7**	**-4.1**
BLKB	**Belogradchik**	**8.21**	**334**	⇓P	**Pn**	**05 22 40.3**	**+1.5**
HSUJ	**Al Zarqa**	**8.25**	**118**	P	**Pn**	**05 22 40.6**	**+1.1**
KARJ	**KARJ**	**8.47**	**126**	P	Pn

KBA Koelnbreinsper 15.11 320 *e*P pP 05 24 21.4 -1.2
comp=Z,53nm,1.0s
CIMO Cimolais 15.12 316 Pn **Pn** **05 24 13.1 -0.3**
CIMO IAmb IAmb 05 24 26.8
comp=Z,14nm,1.0s
KRUC Moravsky 15.14 331 *e*P **P** **05 24 20.3 +1.7**
MOA Molln 15.16 323 *i* P **P** **05 24 21.2 +2.3**
comp=Z,12nm,1.0s
VRAC Vranov 15.26 332 *e*P **P** **05 24 21.5 +1.6**
VRAC Vranov 15.26 332 Pn **Pn** **05 24 16.3 +1.2**
comp=Z,0.3nm,0.3s,baz=141,slow=11,SNR=1.6
VRAC LR LR 05 31 04.3
comp=Z,302nm,18.7s,baz=184,slow=41
comp=Z,6.9nm,0.8s
MORC Moravsky Berou 15.30 335 *e*P **P** **05 24 21.2 +0.8**
ABTA Abfaltersbach 15.34 317 *i* P **P** **05 24 19.5 -1.4**
comp=Z,2.8nm,0.5s
BIOA Bad Ischl, Aus 15.36 322 *i* P **P** **05 24 21.4 +0.3**
comp=Z,16nm,0.9s,SNR=9.0
CTI Castel Tesino 15.43 314 Pn **Pn** **05 24 17.6 +0.2**
CTI IAmb IAmb 05 24 28.1
comp=Z,26nm,0.9s
CTI Castel Tesino 15.43 314 P **Pn** **05 24 17.6 +0.2**
CTI pmax pmax
comp=Z,26nm,0.9s
LESA Schwarzleotal 15.68 320 *i* P **P** **05 24 25.7 +1.0**
comp=Z,31nm,0.8s
KRLC Kraliky 15.82 334 *e*P **P** **05 24 29.1 +2.9**
KRLC Kraliky 15.82 334 *e*P **P** **05 24 29.1 +2.9**
CKRC Cesky Krumlov 15.84 326 *e*P **P** **05 24 27.6 +1.2**
CKRC Cesky Krumlov 15.84 326 *e*P **P** **05 24 27.6 +1.2**
WTTA Wattenberg 16.13 318 *e*pP pP 05 24 32.0 -1.9
comp=Z,42nm,1.8s
GERES GERESS Array B 16.14 325 Pn **P** **05 24 28.2 -1.5**
comp=Z,0.3nm,0.3s,baz=140,slow=10,SNR=17
GERES LR LR 05 30 38.7
comp=Z,164nm,21.6s,baz=239,slow=37
comp=Z,9.9nm,0.8s
WATA Walderalm 16.21 318 *e*pP **P** **05 24 32.6 +2.0**
comp=Z,42nm,1.1s
DPC Dobruska-Polom 16.21 333 *e*P **P** **05 24 33.5 +2.9**
DPC Dobruska-Polom 16.21 333 *e*P **P** **05 24 33.5 +2.9**
SQTA Sankt Quirin 16.34 317 *i* pP **P** **05 24 33.2 +1.1**
comp=Z,26nm,1.2s
KHC Kasperske Hory 16.40 326 *e*P **P** **05 24 32.6 0.0**
KHC Kasperske Hory 16.40 326 *i* P **Pn** **05 24 30.7 +0.9**
KHC pmax pmax
comp=Z,64nm,1.2s
GOPC GO Pecny, Ondr 16.46 330 *e*P **P** **05 24 35.6 +2.4**
GOPC GO Pecny, Ondr 16.46 330 *e*P **P** **05 24 35.6 +2.4**
MOTA Moosalm 16.47 317 *i* P **P** **05 24 34.5 +0.9**
comp=Z,19nm,1.0s
FETA Feichten 16.50 316 *e*pP **P** **05 24 35.1 +1.3**
comp=Z,32nm,1.0s,SNR=7.4
CHVC Chvalec 16.51 333 *e*P **P** **05 24 35.8 +2.0**
CHVC Chvalec 16.51 333 *e*P **P** **05 24 35.8 +2.0**
RETA Reutte 16.75 317 *e*P **P** **05 24 38.0 +1.5**
comp=Z,26nm,1.3s
DAVOX Davos/Dischmat 16.85 314 Pn **Pn** **05 24 36.6 +0.8**
comp=Z,0.1nm,0.3s,baz=132,slow=15,SNR=3.1
DAVOX LR LR 05 32 40.0
comp=Z,335nm,18.6s,baz=83,slow=43
comp=Z,2.3nm,0.7s
VORD Divnogorie 16.86 26 *e*P **Pn** **05 24 35.0 -0.5**
VORD pmax pmax
comp=Z,9.0nm,0.9s
TUE Stuetta 17.01 312 **Pn** **05 24 37.7 0.0**
VSR Storozhevoye 17.02 25 *e*P **Pn** **05 24 35.0 -2.6**
VSR pmax pmax
comp=Z,4.0nm,0.9s
PVCC Panska Ves 17.03 331 *e*P **P** **05 24 43.4 +3.9**
PVCC Panska Ves 17.03 331 *e*P **P** **05 24 43.4 +3.9**
DAVA Damuels 17.13 315 *e*P **P** **05 24 41.9 +1.1**
comp=Z,22nm,0.8s,SNR=6.3
BRG Berggiesshubel 17.55 330 *e*P **P** **05 24 47.8 +2.5**
BRG Amp 05 24 53.1
comp=Z,13nm,1.1s
BRG Berggiesshubel 17.55 330 *e*P **P** **05 24 47.7 +2.5**
BRG pmax pmax
comp=Z,13nm,1.1s
HSKC Hora Svate Kat 17.55 329 *e*P **P** **05 24 47.6 +2.3**
VRH Novokhoyorsk 17.97 30 *e*P **Pn** **05 24 45.6 -3.7**
VRH pmax pmax
comp=Z,8.0nm,1.0s
BNI Bardonecchia 18.08 305 P **P** **05 24 52.9 +1.6**
BNI Bardonecchia 18.08 305 P **P** **05 24 52.9 +1.6**
BNI pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 18.12 23 *e*P **P** **05 24 53.2 +1.7**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
MNK Minsk 18.17 0 *i* P **Pn** **05 24 50.6 -1.2**
comp=E,3.0nm,0.7s
MNK *i* P **Pn** **05 24 50.6 -1.2**
comp=N,12nm,0.7s
MNK *i* P **Pn** **05 24 50.6 -1.2**
comp=Z,17nm,0.7s,baz=181
MNK *i* PP **PnPn** **05 25 01.7 -1.3**
MNK *i* S **Sn** **05 28 13.8 -0.4**
MNK *i* SS **SnSn** **05 28 28.9 +0.9**
MNK *i* LQ LQ 05 30 09.9
MNK *i* LR LR 05 31 37.2
MNK *i* LRM MLR 05 32 19.1
comp=N,155nm,15.7s
MNK *i* LRM MLR 05 32 55.8
comp=E,55nm,15.0s
MNK *i* LRM MLR 05 33 00.3
comp=Z,109nm,15.0s
MNK Minsk 18.17 0 *i* P **Pn** **05 24 50.6 -1.2**
MNK *i* S **Sn** **05 28 13.7 -0.4**
MNK pmax pmax
comp=N,12nm,0.7s
MNK pmax pmax
comp=Z,17nm,0.7s
MNK pmax pmax
comp=E,3.0nm,0.7s
MNK MLR MLR
comp=N,155nm,16.0s
MNK MLR MLR
comp=E,55nm,15.0s
MNK MLR MLR
comp=Z,109nm,15.0s
SENIN Lac Senin/Sane 18.21 310 P **P** **05 24 53.1 +0.3**
CLL Collm 18.26 330 *e*P **P** **05 24 54.0 +0.9**
comp=Z,10.0nm,1.0s
CLL *i* PP **PnPn** **05 25 06.0 +1.7**
CLL Collm 18.26 330 *e*P **P** **05 24 54.0 +0.9**
CLL pmax pmax
comp=Z,10.0nm,1.0s
MOX Moxa 18.37 326 P **Pn** **05 24 56.6 +2.3**
BFO Black Forest 18.57 316 P **Pn** **05 24 58.7 +1.9**
BFO IAmb IAmb 05 25 07.3
comp=Z,27nm,1.3s
BFO Black Forest 18.57 316 P **Pn** **05 24 58.7 +1.9**
BFO pmax pmax
comp=Z,27nm,1.3s
KLNR Kaliningrad 18.98 347 *i* P **Pn** **05 25 01.7 +0.1**
KLNR pmax pmax
comp=Z,104nm,0.9s
OBN Obninsk 19.76 15 *i* P **P** **05 25 06.7 -2.8**
OBN pmax pmax
comp=Z,17nm,0.8s
OBN MLR MLR
comp=Z,228nm,16.0s
WLF Walferdange 20.50 317 *d*P Pn 05 25 19.2 -0.6
MOS Moscow 20.57 16 *e*P **P** **05 25 16.7 -1.6**
MOS pmax pmax
comp=Z,58nm,1.3s
BTNL Ternell 21.02 319 *d*P **P** **05 25 24.8 +1.5**
comp=Z,11nm,1.0s
MEM Membach 21.10 319 *d*P **P** **05 25 27.9 +3.8**
comp=Z,18nm,1.0s
MEM Membach 21.10 319 P **P** **05 25 26.6 +2.5**
BCLA Clavier 21.37 318 *d*P **P** **05 25 31.6 +4.6**
comp=Z,11nm,1.1s
BGES Gesves 21.47 318 *d*P **P** **05 25 30.1 +2.1**
GEYT Alibeck 24.31 77 P **P** **05 25 58.2 +0.9**
GEYT Alibeck 24.31 77 P **P** **05 25 58.2 +0.9**
GEYT pmax pmax
comp=Z,18nm,0.5s
GEYT Alibeck 24.31 77 P **P** **05 25 58.0 +0.7**
comp=Z,15nm,0.4s,baz=280,slow=8.9,SNR=12
comp=Z,15nm,0.4s
GYA0B ALIBECK ARRAY 24.31 77 P **P** **05 25 57.8 +0.5**
ESBB Sonseca Array 25.04 287 P **P** **05 26 03.9 0.0**
ESBB IAmb IAmb 05 26 11.7
comp=Z,12nm,1.1s
ESDC Sonseca Array 25.05 287 P **P** **05 26 03.8 -0.1**
ESDC Sonseca Array 25.05 287 P **P** **05 26 03.9 -0.1**
comp=Z,2.1nm,0.6s,baz=82,slow=9.0,SNR=22
ESDC ScP **ScP** **05 33 14.3 -2.6**
comp=Z,1.1nm,0.8s,baz=43,slow=2.4,SNR=7.0
comp=Z,2.1nm,0.6s
VALR Valaam 25.13 4 *i* P **P** **05 26 06.6 +2.3**
VALR pmax pmax
comp=Z,78nm,0.9s
FINES FINESS Array B 25.15 358 P **P** **05 26 03.8 -0.8**
FINES FINESS Array B 25.15 358 *i* P **P** **05 26 04.0 -0.5**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 25.15 358 P **P** **05 26 03.5 -1.1**
comp=Z,2.4nm,0.5s,baz=167,slow=11,SNR=14
FINES PcP **PcP** **05 29 37.1 -1.0**
comp=Z,0.9nm,0.4s,baz=188,slow=1.0,SNR=7.4
comp=Z,2.4nm,0.5s
PAB San Pablo 25.35 287 P **P** **05 26 06.8 +0.1**
PAB IAmb IAmb 05 26 08.4
comp=Z,8.7nm,0.9s
PAB San Pablo 25.35 287 P **P** **05 26 06.8 +0.1**
PAB pmax pmax
comp=Z,9.0nm,1.0s
HFS Hagfors 25.45 344 P **P** **05 26 05.6 -1.7**
comp=Z,7.3nm,0.9s,baz=156,slow=11,SNR=7.6
HFS LR LR 05 38 46.3
comp=Z,326nm,19.5s,baz=263,slow=43
comp=Z,7.3nm,0.9s
KLMR Klimovskoe 25.68 13 *e*P **P** **05 26 08.7 -0.7**
KLMR AMP 05 26 16.4
comp=Z,35nm,1.0s
KLMR Klimovskoe 25.68 13 *e*P **P** **05 26 08.7 -0.7**
KLMR pmax pmax
comp=Z,35nm,1.0s
KIRV Kirov 26.46 26 *i* P **P** **05 26 18.2 +1.8**
NAO01 NORSAR Array S 26.75 342 P **P** **05 26 19.6 +0.6**
ABKAR Akbulak array 26.78 51 P **P** **05 26 21.2 +1.8**
NB2 NORSAR Subarra 26.84 342 P **P** **05 26 20.0 +0.1**
comp=Z,0.5nm,0.4s,baz=145,slow=10
NOA NORSAR Array B 26.84 342 P **P** **05 26 17.1 -2.8**
comp=Z,0.9nm,0.6s,baz=151,slow=9.1,SNR=1.9
NOA LR LR 05 39 20.4
comp=Z,159nm,18.1s,baz=255,slow=42
comp=Z,0.9nm,0.6s
PBRG Braganca 27.12 292 *e*P **P** **05 26 23.3 +0.7**
comp=Z,29nm,2.0s
MVO Moncorvo 27.34 291 *e*P **P** **05 26 26.5 +1.8**
comp=Z,28nm,1.9s
PBAR Barrancos 27.56 284 *e*P **P** **05 26 26.5 -0.1**
comp=Z,20nm,2.1s
PMRV Marv??o 27.71 287 *e*P **P** **05 26 27.2 -0.7**
comp=Z,18nm,1.4s
PCBR Castelo Branco 27.74 288 *e*P **P** **05 26 29.8 +1.6**
comp=Z,17nm,1.8s
PRGR Permogore 27.75 18 *e*P **P** **05 26 26.2 -1.7**
PRGR pmax pmax
comp=Z,8.0nm,0.4s
PESTR Estremoz 27.91 286 *e*P **P** **05 26 29.1 -0.7**
comp=Z,22nm,1.8s
PVIS Viseu 28.01 290 *e*P **P** **05 26 31.0 +0.4**
PVAQ Vaqueiros 28.20 283 *e*P **P** **05 26 31.9 -0.4**
comp=Z,2.7nm,1.6s
EVO Evora 28.28 285 *e*P **P** **05 26 33.3 +0.3**
comp=Z,16nm,1.5s
EKA Eskdalemuir Ar 28.30 322 P **P** **05 26 30.9 -2.0**
comp=Z,2.0nm,0.8s,baz=201,slow=26,SNR=1.6
EKA PcP **PcP** **05 29 44.6 -1.0**
comp=Z,1.0nm,0.5s,baz=110,slow=2.0,SNR=5.5
comp=Z,2.0nm,0.8s
PCVE Castro Verde 28.42 283 *e*P **P** **05 26 35.9 +1.7**
comp=Z,25nm,1.8s
ARU Arti 28.92 36 P **P** **05 26 40.5 +2.0**
ARU S **S** **05 31 31.6 +3.3**
ARU SS **SnSn** **05 32 51.6 +0.7**
TOA0 Torodi Ar. Sit 32.78 232 P **P** **05 27 13.5 +0.5**
TOA0 IAmb IAmb 05 27 21.6
comp=Z,11nm,0.9s
TORD Torodi Ar. Bea 32.78 232 P **P** **05 27 13.2 +0.3**
TORD IAmb IAmb 05 27 21.7
comp=Z,6.1nm,0.9s
TORD Torodi Ar. Bea 32.78 232 P **P** **05 27 13.2 +0.3**
comp=Z,6.2nm,0.4s,baz=34,slow=9.0,SNR=141
TORD PcP **PcP** **05 29 57.7 -0.4**
comp=Z,1.0nm,0.7s,baz=18,slow=4.2,SNR=4.7
TORD ScP **ScP** **05 33 39.4 -2.1**
comp=Z,0.5nm,0.6s,baz=46,slow=3.9,SNR=2.9
comp=Z,6.2nm,0.4s
ARCES ARCESS Array B 33.28 359 P **P** **05 27 18.2 +1.5**
ARCES ARCESS Array B 33.28 359 P **P** **05 27 18.2 +1.5**
ARCES pmax pmax
comp=Z,22nm,1.4s
ARCES ARCESS Array B 33.28 359 P **P** **05 27 15.4 -1.4**
comp=Z,4.1nm,0.9s,baz=175,slow=7.9,SNR=8.0
ARCES PcP **PcP** **05 29 57.1 -1.5**
comp=Z,2.6nm,0.8s,baz=180,slow=5.0,SNR=1.8
comp=Z,4.1nm,0.9s
KK31 Karatay Array 33.39 65 P **P** **05 27 19.4 +1.3**
KK31 IAmb IAmb 05 27 24.7
comp=Z,10nm,1.5s
KK31 Karatay Array 33.39 65 P **P** **05 27 19.4 +1.3**
KK31 pmax pmax
comp=Z,11nm,1.5s
KKAR Karatay Array 33.39 65 P **P** **05 27 18.8 +0.7**
KKAR Karatay Array 33.39 65 P **P** **05 27 18.8 +0.7**
BRVK Borovoye 34.03 47 *i* P **P** **05 27 25.2 +1.7**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
BVAR Borovoye Array 34.08 47 P **P** **05 27 24.7 +0.7**
comp=Z,0.7nm,0.6s,baz=266,slow=19,SNR=1.9
comp=Z,0.7nm,0.6s
NIL Nilore 37.21 80 P **P** **05 27 52.2 +1.1**
NIL IAmb IAmb 05 27 55.6
comp=Z,10nm,0.8s
NIL Nilore 37.21 80 P **P** **05 27 52.2 +1.1**
NIL pmax pmax
comp=Z,10.0nm,0.8s
NRN Naryn 37.61 67 P **P** **05 27 56.0 +1.3**
NRN Naryn 37.61 67 P **P** **05 27 56.0 +1.3**
NRN pmax pmax
comp=Z,4.0nm,1.1s
KURBB Kurchatov Arra 38.82 52 P **P** **05 28 04.6 +0.2**
comp=Z,3.4nm,0.6s,baz=275,slow=8.7,SNR=24
KURBB PcP **PcP** **05 30 14.6 -0.8**
comp=Z,1.4nm,0.6s,baz=279,slow=3.9,SNR=5.1
KURBB ScP **S** **05 34 00.7 -0.7**
comp=Z,0.4nm,0.2s,baz=273,slow=4.8,SNR=5.1
comp=Z,3.4nm,0.6s
KURK Kurchatov 38.88 52 P **P** **05 28 05.2 +0.3**
KURK IAmb IAmb 05 28 11.6
comp=Z,8.0nm,0.9s
KURK Kurchatov 38.88 52 *i* P **P** **05 28 05.6 +0.7**
KURK pmax pmax
comp=Z,8.0nm,0.9s
BORG Borgarnes 40.51 330 LR LR 05 48 03.2
comp=Z,174nm,20.2s,baz=74,slow=41
MK31 Makanchi Array 41.45 58 P **P** **05 28 27.4 +1.1**
MK31 IAmb IAmb 05 28 32.4
comp=Z,3.2nm,0.6s
MK31 Makanchi Array 41.45 58 P **P** **05 28 27.4 +1.1**
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 41.45 58 P **P** **05 28 26.9 +0.5**
MKAR Makanchi Array 41.45 58 *ce*P **P** **05 28 27.3 +1.0**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 41.45 58 P **P** **05 28 26.8 +0.4**
comp=Z,2.7nm,0.6s,baz=270,slow=8.0,SNR=25
MKAR PcP **PcP** **05 30 23.0 -1.0**
comp=Z,0.8nm,0.5s,baz=280,slow=4.8,SNR=2.2
MKAR ScP **ScP** **05 34 11.2 -2.3**
comp=Z,0.8nm,0.5s,baz=282,slow=3.7,SNR=4.8
comp=Z,2.7nm,0.6s
DBIC Dimbokro 41.87 233 P **P** **05 28 29.6 -0.4**
DBIC IAmb IAmb 05 28 38.2
comp=Z,12nm,1.0s
DBIC Dimbokro 41.87 233 P **P** **05 28 29.6 -0.4**
DBIC pmax pmax
comp=Z,12nm,1.0s
DBIC Dimbokro 41.87 233 P **P** **05 28 29.5 -0.4**
comp=Z,6.5nm,0.4s,baz=31,slow=8.3,SNR=26
comp=Z,6.5nm,0.4s
TIC Toumodi 41.99 233 *i* P **P** **05 28 30.4 -0.6**
comp=Z,6.5nm,0.5s
KIC Kosan Boka 42.03 233 *e*P **P** **05 28 31.3 0.0**
comp=Z,14nm,0.5s
LIC Lamto 42.32 233 *e*P **P** **05 28 29.6 -4.0**
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 42.74 47 P **P** **05 28 36.7 0.0**
ZALV Zalesovo Beam 42.74 47 *i* P **P** **05 28 36.2 -0.5**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 42.74 47 P **P** **05 28 36.3 -0.4**
comp=Z,3.4nm,0.5s,baz=273,slow=7.9,SNR=13
comp=Z,3.4nm,0.5s
SCO Scoresbysund 42.98 338 P **P** **05 28 38.8 +0.4**
SCO IAmb IAmb 05 29 02.8
comp=Z,18nm,1.4s
SCO Scoresbysund 42.98 338 P **P** **05 28 38.8 +0.4**
SCO pmax pmax
comp=Z,18nm,1.4s
DGZ Jazzator, Alta 44.58 53 *i* P **P** **05 28 51.0 -0.7**
DGZ pmax pmax
comp=Z,3.0nm,0.9s
WMQ Urumqi 45.68 61 *e*P **P** **05 29 03.9 +3.4**
PYUN Piuthan 47.01 84 *e*P **P** **05 29 13.8 +2.5**
comp=Z,13nm,0.6s
DANN Dangsing 47.53 83 *e*P **P** **05 29 19.4 +4.0**
comp=Z,46nm,0.7s
GKN Gorkha 48.37 83 *e*P **P** **05 29 23.1 +1.3**
comp=Z,11nm,0.3s
DMN Daman 48.92 83 *e*P **P** **05 29 24.2 -1.9**
comp=Z,18nm,0.7s
GUN Gumba 49.41 82 *e*P **P** **05 29 30.4 +0.4**
comp=Z,9.9nm,0.5s
RAMN Ramite 50.40 83 *e*P P 05 29 29.6 -7.8
comp=Z,34nm,1.2s
GTA Gaotai 55.64 63 *e*P **P** **05 30 16.1 +0.3**
GTA pP pP 05 30 21.2 +0.7
GTA pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 57.19 52 P **P** **05 30 26.7 0.0**
SONM Songino Array 57.19 52 P **P** **05 30 26.8 0.0**
comp=Z,1.8nm,0.7s,baz=274,slow=8.2,SNR=7.5
comp=Z,1.8nm,0.7s
ULN Ulaanbaatar 57.60 52 *i* P **P** **05 30 30.3 +0.7**
ULN pmax pmax
comp=Z,4.0nm,1.1s
LZH Lanzhou 59.88 65 *e*P P 05 30 51.5 +5.8
LZH pP sP 05 30 56.7 +4.4
LZH pmax pmax
comp=Z,17nm,1.1s
BTO Baotou 62.37 58 *e*P **P** **05 31 04.2 +1.8**
BTO PP **PP** **05 33 24.0 +4.6**
BTO S **S** **05 39 32.9 +4.4**
BTO Baotou 62.37 58 SS SS 05 43 24.6 -7.1
BTO pmax pmax
comp=Z,25nm,0.5s
BTO pmax pmax
comp=Z,290nm,7.5s
BTO LR LR
comp=N,5μm,19.0s
BTO LR LR
comp=E,5μm,19.0s
BTO LR LR
comp=Z,2μm,19.8s
PZH PanZhiHua 62.62 76 P **P** **05 31 07.0 +2.7**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,6.0s
HHC Hu-ho-hao-te 63.32 58 *e*P **P** **05 31 10.0 +1.3**
HHC pmax pmax
comp=Z,23nm,0.7s
HHC pmax pmax
comp=Z,290nm,5.6s
HHC LR LR
comp=N,790nm,15.3s
HHC LR LR
comp=E,970nm,17.4s
HHC LR LR
comp=Z,340nm,16.2s
SCHQ Schefferville 63.59 320 P **P** **05 31 08.3 -1.8**
comp=Z,5.1nm,1.0s,baz=56,slow=3.7,SNR=7.7
comp=Z,5.1nm,1.0s
YAK Yakutsk 63.85 31 *i* P **P** **05 31 13.7 +2.0**
YAK pmax pmax
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 64.46 85 *i* P **P** **05 31 20.0 +3.6**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 64.46 85 P **P** **05 31 16.7 +0.3**
comp=Z,2.1nm,0.6s,baz=297,slow=7.9,SNR=6.3
comp=Z,2.1nm,0.6s
XAN Xi'an 64.52 65 *e*P P 05 31 22.6 +5.9
XAN pP sP 05 31 27.5 +4.2
XAN pmax pmax
comp=Z,12nm,1.0s
BOSA Boshof 64.64 182 P **P** **05 31 18.0 +0.6**
BOSA Boshof 64.64 182 P **P** **05 31 17.9 +0.6**
comp=Z,2.7nm,0.9s,baz=0.0,slow=3.0,SNR=1.2
comp=Z,2.7nm,0.9s
HEH HeiHe 68.64 43 *e*P **P** **05 31 43.1 +0.4**
HEH pmax pmax
comp=Z,4.0nm,0.9s
BILL Bilibino 71.42 15 *i* P **P** **05 32 00.9 +1.5**
NJ2 Nanjing 72.73 63 *e*P **P** **05 32 08.2 +0.3**
NJ2 pP **pP** **05 32 11.8 -0.9**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
MDJ Mudanjiang 72.94 47 P **P** **05 32 09.8 +0.9**
MDJ pmax pmax
comp=Z,7.0nm,1.3s
MDJ pmax pmax
comp=Z,290nm,10.0s
USRK Ussuriysk Ar. 74.59 46 P **P** **05 32 18.2 -0.3**
comp=Z,3.5nm,0.6s,baz=299,slow=5.2,SNR=7.9
comp=Z,3.5nm,0.6s
KSRS Korea Array 75.97 54 P **P** **05 32 26.5 -0.2**
comp=Z,2.5nm,0.6s,baz=306,slow=4.6,SNR=7.1
comp=Z,2.5nm,0.6s
YKA Yellowknife Ar 76.93 343 *i* P **P** **05 32 30.6 -1.0**
YKA Yellowknife Ar 76.93 343 P **P** **05 32 30.0 -1.6**
comp=Z,0.3nm,0.6s,baz=30,slow=5.0,SNR=6.2
comp=Z,0.3nm,0.6s
ILAR Eielson Array 79.13 358 P **P** **05 32 42.9 -1.0**
comp=Z,0.9nm,0.7s,baz=340,slow=4.4,SNR=18
comp=Z,0.9nm,0.7s
ULM Lac du Bonnet 80.43 327 P **P** **05 32 49.4 -1.8**
comp=Z,1.5nm,0.6s,baz=29,slow=6.1,SNR=1.9
comp=Z,1.5nm,0.6s
MJAR Matsushiro Arr 83.05 49 P **P** **05 33 05.0 -0.2**
comp=Z,1.6nm,0.6s,baz=307,slow=6.0,SNR=1.7
comp=Z,1.6nm,0.6s
BDFB Brasilia 88.00 249 P **P** **05 33 31.2 +1.0**
comp=Z,3.3nm,0.8s,baz=117,slow=2.3,SNR=6.3
comp=Z,3.3nm,0.8s
PDAR Pinedale Array 92.12 330 P **P** **05 33 47.5 -1.9**
comp=Z,0.3nm,0.7s,baz=37,slow=4.6,SNR=2.8
comp=Z,0.3nm,0.7s
TXAR Lajitas Array 100.24 318 P **Pdif** **05 34 25.1 -1.2**
comp=Z,6.6nm,0.9s,baz=64,slow=4.1,SNR=4.1
WRA Warramunga Arr 114.74 97 PKP PKPdf 05 39 19.5 -1.0
comp=Z,0.4nm,0.8s,baz=314,slow=1.9,SNR=2.6
ASAR Alice Springs 116.30 101 PKP **PKPdf** **05 39 22.5 -1.0**
comp=Z,0.4nm,0.4s,baz=333,slow=1.2,SNR=5.6
QSPA South Pole Qui 126.18 180 PKP **PKPdf** **05 39 41.1 -0.1**
comp=Z,0.7nm,0.5s,baz=206,slow=3.5,SNR=10

IDC 08 05:36:22.4±2.7, 2°.02S×133°.28E, h0km, mb3.6/2, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=121.5km s-min=29.8km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.84**	**177**	P	Pn	05 40 31.4	-0.8
	0.2nm,0.3s,baz=356,slow=12,SNR=11						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**21.52**	**178**	P	P	05 41 13.6	+0.4
	1.7nm,0.6s,baz=3.6,slow=12,SNR=23						
	1.7nm,0.6s						
MKAR	**Makanchi Array**	**66.00**	**324**	P	P	05 47 10.8	0.0
	0.4nm,0.5s,baz=116,slow=7.4,SNR=1.9						
	0.4nm,0.5s						

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*BJI **08** 05:37:48.4, 9°.73N×140°.61E, h10km, mb5.1/78, mB5.5/48, Ms5.1/77, Ms7 4.9/71*
*IDC **08** 05:37:51.9±0.5, 10°.01N×140°.24E, h0km, mb4.8/35, mbtmp4.8/36, ML5.1/1, MS4.7/63, Error ellipse: s-maj=16.8km s-min=10.1km az=86.0*

MOS ***08*** *05:37:52.0±0.9, 10.00N×140.11E, h12km, mb5.5/57, MS5.0/7, Error ellipse: s-maj=8.8km s-min=4.6km az=111.5*

NEIC ***08*** *05:37:54.6, 9.98N×140.03E, h12km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^17 Nm; Mrr=0.08; Mθθ=0.86; Mφφ=-0.95; Mrθ=0.24; Mθφ=0.10; Mφr=-0.50; Fault plane solution: M0=1.05000×10^17 NP1: φs=311.82000°, δ=86.00000°, λ=-28.28000°. NP2: φs=43.97000°, δ=61.80000°, λ=-175.46000°. Principal axes: T 0.9333, Plg17.0000°, Azm1.0000°; N 0.2330, Plg61.0000°, Azm124.0000°; P -1.1662, Plg23.0000°, Azm264.0000°;*

NEIC ***08*** *05:37:54.7±1.3, 9.98N±0.07×140.13E±0.05, h10km±1km, mb5.5/109, Mwb5.4/11, Mww5.3/25 Error ellipse: s-maj=13.0km s-min=8.4km az=156.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=0.15; Mθθ=1.41; Mφφ=-1.56; Mrθ=-0.11; Mθφ=0.14; Mφr=0.05; Fault plane solution: M0=1.50000×10^17 NP1: φs=222.16000°, δ=85.24000°, λ=177.66000°. NP2: φs=312.35000°, δ=87.66000°, λ=4.76000°. Principal axes: T 1.4235, Plg5.0000°, Azm177.0000°; N 0.1459, Plg85.0000°, Azm338.0000°; P -1.5694, Plg2.0000°, Azm87.0000°;*

DJA ***08*** *05:37:54.2±0.2, 10.2N±2.4×140.0E±1.1, h10km, M5.4/74, mb5.5/74, mB5.9/49, MLv5.5/1, Mw(mB)5.5/49, MwMwp5.2/7, Mwp5.4/7*

NEIC ***08*** *05:37:54.7, 9.98N×140.12E, h10km*

NEIC ***08*** *05:37:54.6, 9.98N×140.13E, h12km*

GCMT ***08*** *05:37:55.7±0.1, 9.98N±0.01×140.10E±0.01, h12km, MW5.3/133, Moment Tensor Solution. s69,c102; s133,c234; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=0.00±.02; Mθθ=0.98±.01; Mφφ=-0.97±.01; Mrθ=0.17±.04; Mθφ=0.14±.01; Mφr=-0.49±.04; Best double couple: M0=1.10500×10^17 NP1: φs=309.00000°, δ=80.00000°, λ=-23.00000°. NP2: φs=43.00000°, δ=68.00000°, λ=-169.00000°. Principal axes: T 1.0070, Plg8.0000°, Azm358.0000°; N 0.1950, Plg65.0000°, Azm107.0000°; P -1.2030, Plg23.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 05:37:54.8±0.4, 10.02N±0.03×140.20E±0.04, h14km±2km, h15km:pP-P, n879, σ1s51/887, mb5.4/180, MS4.8/96, 21C-18D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.79**	**52**	Pn		**Pn**	**05 39 20.7**	**+0.5**
GUMO	**Guam**	**5.79**	**52**	P		**Pn**	**05 39 21.1**	**+0.8**
GUMO	**Guam**	**5.79**	**52**	Pn		**Pn**	**05 39 20.4**	**+0.1**
	57nm,0.3s,baz=216,slow=9.9,SNR=27							
GUMO				Sn		**Sn**	**05 40 25.4**	**-1.1**
	93nm,0.3s,baz=157,slow=23,SNR=1.3							
GUMO				LR		LR	05 41 22.0	
	comp=Z,3μm,20.9s,baz=226,slow=36							
	577nm,0.8s							
SMPI	**Sarmi**	**12.02**	**187**	P		**Pn**	**05 40 48.3**	**+2.6**
	153nm,1.4s,3μm							
JAY	**Jayapura**	**12.46**	**178**	P		**Pn**	**05 40 53.8**	**+2.0**
	57nm,0.7s,1μm							
GENI	**Genyem**	**12.53**	**180**	P		**Pn**	**05 40 56.8**	**+4.1**
GENI	**Genyem**	**12.53**	**180**	P		**Pn**	**05 40 54.3**	**+1.6**
	238nm,0.8s,5μm5μm							
MANU	**Manus Island**	**13.94**	**149**			**Pn**	**05 41 12.0**	**-0.1**
MANU	**Manus Island**	**13.94**	**149**	P		**Pn**	**05 41 13.4**	**+1.3**
SWI	**Sorong**	**14.00**	**220**	P		**Pn**	**05 41 16.7**	**+3.9**
	77nm,1.4s,2μm3μm							
DAV	**Davao City (W)**	**14.75**	**260**			**P**	**05 41 26.6**	**-2.5**
DAV	**Davao City (W)**	**14.75**	**260**	LR		LR	05 47 55.5	
	comp=Z,3μm,18.8s,baz=82,slow=41							
TABU	**Tabubil**	**15.22**	**176**	P		**P**	**05 41 32.3**	**-2.1**
TNTI	**Ternate**	**15.72**	**235**			**Pn**	**05 41 34.5**	**-1.4**
TNTI	**Ternate**	**15.72**	**235**	P		**Pn**	**05 41 35.8**	**-0.2**
TNTI	**Ternate**	**15.72**	**235**	P		P	05 41 48.0	+8.1
KAVG	**Kavieng**	**16.38**	**139**	P		**P**	**05 41 46.0**	**-1.2**
LBMI	**Labuha**	**16.48**	**231**	P		**P**	**05 41 48.0**	**-0.4**
	358nm,1.4s,6μm							
JCJ	**Chichijima**	**17.09**	**6**			**Pn**	**05 41 53.0**	**-0.4**
JCJ				IAmb		IAmb	05 42 01.8	
	comp=Z,313nm,0.9s							
JCJ	**Chichijima**	**17.09**	**6**	P		**P**	**05 41 56.6**	**+1.5**
JCJ	**Chichijima**	**17.09**	**6**	P		**Pn**	**05 41 50.2**	**-3.1**
	comp=Z,93nm,0.8s,baz=203,slow=5.9,SNR=4.0							
JCJ				LR		LR	05 47 36.5	
	comp=Z,1μm,18.1s,baz=162,slow=34							
BNDI	**Bandanaira**	**17.71**	**216**	P		**P**	**05 42 02.9**	**+0.9**
BNDI	**Bandanaira**	**17.71**	**216**	P		**P**	**05 42 07.2**	**+5.2**
	comp=Z,645nm,1.8s							
PATS	**Pohnpei**	**18.19**	**99**	P		**P**	**05 42 09.1**	**+1.8**
RABL	**Rabaul**	**18.47**	**139**	P		**Pn**	**05 42 11.8**	**+1.3**
NLAI	**Namlea**	**18.54**	**225**	P		**Pn**	**05 42 12.0**	**+0.7**
	comp=Z,87nm,1.6s,comp=Z,3μm							
SANI	**Sanana**	**18.54**	**230**	P		**P**	**05 42 08.2**	**-3.0**
SANI	**Sanana**	**18.54**	**230**	P		**P**	**05 42 09.3**	**-1.9**
	comp=Z,157nm,1.4s,comp=Z,3μm							
KMSI	**Cibinong**	**18.66**	**241**	P		**Pn**	**05 42 12.8**	**0.0**
	comp=Z,302nm,1.0s,comp=Z,8μm							
GTOI	**Gorontalo**	**19.47**	**242**	P		**Pn**	**05 42 22.0**	**-0.6**
	comp=Z,70nm,1.1s,comp=Z,1μm							
JOW	**Kunigami**	**20.17**	**328**	P		Pn	05 42 30.0	-0.7
JOW				IAmb		IAmb	05 42 36.4	
	comp=Z,242nm,0.9s							
JOW	**Kunigami**	**20.17**	**328**	P		Pn	05 42 31.2	+0.4
JOW	**Kunigami**	**20.17**	**328**	P		**P**	**05 42 28.2**	**-0.6**
	comp=Z,60nm,0.8s,baz=156,slow=12,SNR=4.9							
JOW				LR		LR	05 48 36.4	
	comp=Z,3μm,21.5s,baz=140,slow=32							
	comp=Z,60nm,0.8s							
MRSI	**Marisa**	**20.48**	**244**	P		**P**	**05 42 33.0**	**+0.6**
	comp=Z,829nm,1.6s,comp=Z,12μm							
PMG	**Port Moresby**	**20.50**	**160**	P		**P**	**05 42 31.3**	**-1.2**
PMG	**Port Moresby**	**20.50**	**160**	P		**P**	**05 42 31.7**	**-0.8**
PMG	**Port Moresby**	**20.50**	**160**	P		**P**	**05 42 32.1**	**-0.4**
PMG	**Port Moresby**	**20.50**	**160**	*ce*P		**P**	**05 42 31.6**	**-0.9**
PMG					pmax	pmax		
	comp=Z,134nm,1.3s							
PMG	**Port Moresby**	**20.50**	**160**	P		**P**	**05 42 30.8**	**-1.8**
	comp=Z,28nm,0.6s,baz=341,slow=6.0,SNR=19							
PMG				LR		LR	05 50 15.7	
	comp=Z,6μm,18.1s,baz=330,slow=36							
	comp=Z,28nm,0.6s							
LUWI	**Luwuk**	**20.53**	**239**	P		**P**	**05 42 32.0**	**-0.9**
LUWI	**Luwuk**	**20.53**	**239**	P		**P**	**05 42 32.9**	**0.0**
LUWI	**Luwuk**	**20.53**	**239**	P		**P**	**05 42 32.3**	**-0.6**
	comp=Z,983nm,1.0s,comp=Z,9μm							
TOLI2	**Tolitoli**	**21.24**	**247**	P		**P**	**05 42 40.1**	**-0.4**
TOLI2	**Tolitoli**	**21.24**	**247**	P		**P**	**05 42 40.7**	**+0.2**
MYLDM	**Lahad Datu**	**22.03**	**259**	P		**P**	**05 42 48.3**	**-0.8**
TWGBT	**Beinan**	**22.29**	**307**	P		**P**	**05 42 54.3**	**+2.5**
TWG	**Pinlang**	**22.30**	**307**	P		**P**	**05 42 52.5**	**+0.6**
TWG				IAmb		IAmb	05 42 58.3	
	comp=Z,233nm,1.4s							
YULB	**Yu-li**	**22.43**	**309**	P		**P**	**05 42 53.4**	**+0.1**
YULB				IAmb		IAmb	05 43 12.4	
	comp=Z,231nm,1.1s							
YULB	**Yu-li**	**22.43**	**309**	P		**P**	**05 42 55.0**	**+1.7**
NACB	**Ninganchiao**	**22.64**	**311**	P		**P**	**05 42 55.1**	**-0.4**
NACB				IAmb		IAmb	05 43 11.1	
	comp=Z,227nm,1.4s							
NACB	**Ninganchiao**	**22.64**	**311**	P		**P**	**05 43 00.6**	**+5.1**
TPUB	**Ta-pu**	**22.89**	**308**	P		**P**	**05 42 57.2**	**-1.0**
TPUB				IAmb		IAmb	05 43 13.7	
	comp=Z,114nm,0.8s							
TPUB	**Ta-pu**	**22.89**	**308**	P		**P**	**05 43 00.3**	**+2.0**
SSLB	**Suanglung**	**22.91**	**309**	P		**P**	**05 42 58.3**	**0.0**
SSLB				IAmb		IAmb	05 43 06.1	
	comp=Z,191nm,0.9s							
SSLB	**Suanglung**	**22.91**	**309**	P		**P**	**05 43 00.4**	**+2.0**
JHJ	**Hachijo jima 2**	**23.00**	**359**	LR		LR	05 50 17.0	
	comp=Z,4μm,19.2s,baz=233,slow=32							
YHNB	**Yeheng**	**23.09**	**312**	P		**P**	**05 43 00.6**	**+0.3**
YHNB	**Yeheng**	**23.09**	**312**	P		**P**	**05 43 01.9**	**+1.6**
BBSI	**Bau Bau**	**23.36**	**230**	P		P	05 43 11.9	+8.9
KDU	**Kakadu**	**23.82**	**199**	P		**P**	**05 43 05.9**	**-1.5**
	baz=24,SNR=25							
KDU	**Kakadu**	**23.82**	**199**	P		**P**	**05 43 06.0**	**-1.5**
COEN	**Coen**	**24.00**	**173**	P		**P**	**05 43 08.3**	**-0.8**
COEN				IAmb		IAmb	05 43 24.0	
	comp=Z,354nm,1.8s							
COEN	**Coen**	**24.00**	**173**	P		**P**	**05 43 07.2**	**-2.0**
KKM	**Kota Kinabalu**	**24.07**	**262**	P		**P**	**05 43 08.8**	**-1.3**
KKM				IAmb		IAmb	05 43 21.6	
	comp=Z,137nm,1.0s							
KKM	**Kota Kinabalu**	**24.07**	**262**	P		**P**	**05 43 09.7**	**-0.3**
TTSI	**Tana Toraja**	**24.09**	**238**	P		**P**	**05 43 10.9**	**+0.8**
	comp=Z,265nm,0.9s,comp=Z,4μm							
JMN	**Monobe**	**24.30**	**347**	P		**P**	**05 43 11.5**	**-0.5**
JMN				IAmb		IAmb	05 43 19.0	
	comp=Z,101nm,1.0s							
JMN	**Monobe**	**24.30**	**347**	P		**P**	**05 43 11.9**	**-0.1**
MTN	**Manton Dam**	**24.43**	**202**	P		**P**	**05 43 11.8**	**-1.3**
	baz=24,SNR=3.7							
MTN	**Manton Dam**	**24.43**	**202**	P		**P**	**05 43 11.6**	**-1.6**
MTN				IAmb		IAmb	05 43 18.4	
	comp=Z,131nm,1.3s							
MTN	**Manton Dam**	**24.43**	**202**	P		**P**	**05 43 12.2**	**-1.0**
JNU	**Nakatsue**	**24.55**	**341**	P		**P**	**05 43 14.3**	**+0.2**
JNU				IAmb		IAmb	05 43 20.8	
	comp=Z,182nm,1.0s							
JNU	**Nakatsue**	**24.55**	**341**	P		**P**	**05 43 15.0**	**+0.8**
JNU	**Nakatsue**	**24.55**	**341**	P		**P**	**05 43 13.7**	**-0.4**
	comp=Z,48nm,0.8s,baz=164,slow=3.3,SNR=12							
JNU				LR		LR	05 51 20.9	
	comp=Z,3μm,21.5s,baz=149,slow=33							
	comp=Z,48nm,0.8s							
SPSI	**Sidrap Palu**	**24.64**	**237**	P		**P**	**05 43 15.1**	**0.0**
	comp=Z,278nm,1.1s,comp=Z,3μm							
BKSI	**Bulukumba**	**25.14**	**234**	P		**P**	**05 43 19.4**	**-0.3**
	comp=Z,153nm,1.0s,comp=Z,2μm							
SOEI	**Soe**	**25.24**	**219**	P		**P**	**05 43 22.1**	**+1.4**
SOEI				IAmb		IAmb	05 43 53.1	
	comp=Z,140nm,1.1s							
SOEI	**Soe**	**25.24**	**219**	P		**P**	**05 43 24.2**	**+3.5**
SOEI	**Soe**	**25.24**	**219**	P		**P**	**05 43 22.9**	**+2.2**
	comp=Z,124nm,1.1s,comp=Z,3μm							
KAPI	**Kappang**	**25.25**	**235**	P		**P**	**05 43 19.8**	**-0.9**
KAPI	**Kappang**	**25.25**	**235**	P		**P**	**05 43 20.3**	**-0.4**
KAPI	**Kappang**	**25.25**	**235**	P		**P**	**05 43 20.4**	**-0.2**
KAPI	**Kappang**	**25.25**	**235**	*i* P		**P**	**05 43 19.2**	**-1.5**
KAPI					pmax	pmax		
	comp=Z,107nm,1.0s							
KAPI	**Kappang**	**25.25**	**235**	P		**P**	**05 43 19.5**	**-1.2**
	comp=Z,35nm,1.0s,baz=57,slow=8.2,SNR=19							
KAPI				LR		LR	05 52 50.1	
	comp=Z,1μm,18.9s,baz=10,slow=36							
	comp=Z,35nm,1.0s							
QZH	**Quanzhou**	**25.34**	**309**	⇑*i* P		**P**	**05 43 22.7**	**+1.3**
QZH				S		**S**	**05 47 49.1**	**+1.8**
QZH					pmax	pmax		
	comp=Z,120nm,1.0s							
QZH				LR		LR		
	comp=Z,2μm,14.1s							
QZH				LR		LR		
	comp=Z,3μm,11.0s							
QZH				LR		LR		
	comp=Z,2μm,10.3s							
MMRI	**Maumere**	**25.75**	**225**	P		**P**	**05 43 24.4**	**-0.8**
MMRI	**Maumere**	**25.75**	**225**	P		**P**	**05 43 24.8**	**-0.4**
MMRI	**Maumere**	**25.75**	**225**	P		**P**	**05 43 26.4**	**+1.2**
	comp=Z,222nm,1.1s,comp=Z,4μm							
BKB	**Balikpapan**	**25.76**	**246**	P		**P**	**05 43 25.4**	**+0.1**
BKB	**Balikpapan**	**25.76**	**246**	P		P	05 43 33.2	+7.9
BATI	**Baumata**	**25.96**	**220**	P		**P**	**05 43 27.8**	**+0.7**
	comp=Z,122nm,1.0s,comp=Z,2μm							
EDFI	**Ende, Flores**	**26.21**	**225**	P		**P**	**05 43 29.4**	**-0.1**
	comp=Z,67nm,1.2s,comp=Z,2μm							
MJAR	**Matsushiro Arr**	**26.47**	**356**	P		**P**	**05 43 29.4**	**-2.2**
	comp=Z,4.4nm,0.7s,baz=178,slow=10,SNR=8.7							
MJAR				PcP		**PcP**	**05 46 57.4**	**+0.8**
	comp=Z,4.1nm,0.9s,baz=147,slow=2.9,SNR=2.0							
MJAR				LR		LR	05 53 09.8	
	comp=Z,2μm,19.4s,baz=154,slow=35							
	comp=Z,4.4nm,0.7s							
MAJO	**Matsushiro**	**26.47**	**356**	P		**P**	**05 43 31.4**	**-0.1**
MAJO	**Matsushiro**	**26.47**	**356**	P		**P**	**05 43 32.9**	**+1.4**
MAJO	**Matsushiro**	**26.47**	**356**	*i* P		**P**	**05 43 31.5**	**-0.1**
MAJO					pmax	pmax		
	comp=Z,15nm,1.0s							
MJB9	**Matsu-Tunnel**	**26.48**	**356**	P		**P**	**05 43 31.6**	**0.0**
H11S3	**WAKE ISLAND Hy**	**26.99**	**69**	T		T	06 11 33.3	
	baz=255,slow=75,SNR=144							
H11S1	**WAKE ISLAND Hy**	**27.01**	**69**	T		T	06 11 34.5	
	baz=255,slow=75,SNR=118							
H11S2	**WAKE ISLAND Hy**	**27.01**	**69**	T		T	06 11 34.4	
	baz=255,slow=75,SNR=97							
SSE	**Sheshan**	**27.42**	**323**	P		**P**	**05 43 42.2**	**+2.1**
SSE				S		**S**	**05 48 23.4**	**+3.3**
SSE					pmax	pmax		
	comp=Z,44nm,1.1s							
SSE					pmax	pmax		
	comp=Z,240nm,4.3s							
SSE				LR		LR		
	comp=Z,1μm,16.5s							
SSE				LR		LR		
	comp=Z,1μm,16.8s							
H11N1	**WAKE ISLAND Hy**	**27.50**	**66**	T		T	06 12 22.3	
	baz=253,slow=75,SNR=44							
H11N2	**WAKE ISLAND Hy**	**27.51**	**66**	T		T	06 12 20.4	
	baz=253,slow=75,SNR=18							
H11N3	**WAKE ISLAND Hy**	**27.52**	**66**	T		T	06 12 24.6	
	baz=253,slow=75,SNR=39							
HNR	**Honiara**	**27.56**	**134**	P		**P**	**05 43 41.0**	**-0.5**
HNR	**Honiara**	**27.56**	**134**	P		**P**	**05 43 41.0**	**-0.5**
HNR					pmax	pmax		
	comp=Z,407nm,1.9s							
HNR	**Honiara**	**27.56**	**134**	LR		LR	05 54 05.1	
	comp=Z,12μm,18.3s,baz=304,slow=35							
JMM	**Marumori**	**27.74**	**1**	P		**P**	**05 43 43.9**	**+1.1**
JMM				IAmb		IAmb	05 44 04.4	
	comp=Z,77nm,1.1s							
HKPS	**Hong Kong Po S**	**27.79**	**299**	P		**P**	**05 43 45.1**	**+1.6**
KNRA	**Kununurra**	**27.93**	**204**	P		**P**	**05 43 44.4**	**-0.4**
KNRA				IAmb		IAmb	05 44 14.4	
	comp=Z,148nm,1.6s							
KNRA	**Kununurra**	**27.93**	**204**	P		**P**	**05 43 44.2**	**-0.5**
BASI	**Baing, Sumba**	**28.02**	**225**	P		P	05 43 56.5	+11
MTSU	**Mount Surprise**	**28.26**	**172**	P		**P**	**05 43 46.8**	**-1.0**
	baz=28,SNR=9.6							
TJN	**Taejon**	**28.71**	**338**	P		**P**	**05 43 51.2**	**-0.3**
TJN	**Taejon**	**28.71**	**338**	P		**P**	**05 43 56.1**	**+4.5**
TJN	**Taejon**	**28.71**	**338**	*ce*P		**P**	**05 43 50.9**	**-0.7**
SBUM	**Sibu**	**28.79**	**257**	P		**P**	**05 43 51.2**	**-1.3**
KSRS	**Korea Array**	**29.48**	**340**	P		**P**	**05 43 57.7**	**-0.6**
	comp=Z,12nm,0.8s,baz=163,slow=9.7,SNR=23							
KSRS				PcP		**PcP**	**05 47 05.2**	**+1.4**
	comp=Z,2.5nm,0.7s,baz=162,slow=2.2,SNR=1.9							
KSRS				LR		LR	05 54 12.1	
	comp=Z,2μm,21.2s,baz=155,slow=33							
	comp=Z,12nm,0.8s							
KSAR	**Wonju Array Be**	**29.48**	**340**	P		**P**	**05 43 57.8**	**-0.6**
KSAR	**Wonju Array Be**	**29.48**	**340**	P		**P**	**05 43 57.8**	**-0.6**
NJ2	**Nanjing**	**29.51**	**321**	*e*P		**P**	**05 44 00.5**	**+1.8**
NJ2				sP		**sP**	**05 44 03.4**	**-0.5**
NJ2				LR		LR		
	comp=Z,3μm,15.6s							
NJ2				LR		LR		
	comp=Z,3μm,15.2s							
NJ2				LR		LR		
	comp=Z,2μm,17.8s							
WB0	**Warramunga Arr**	**30.14**	**191**	P		**P**	**05 44 02.7**	**-1.7**
WB0				IAmb		IAmb	05 44 18.1	
	comp=Z,198nm,1.5s							
WRAB	**Tennant Creek**	**30.31**	**191**	P		**P**	**05 44 04.6**	**-1.3**
WRAB				IAmb		IAmb	05 44 19.7	
	comp=Z,158nm,1.5s							
WRAB	**Tennant Creek**	**30.31**	**191**	P		**P**	**05 44 04.6**	**-1.3**
WRAB					pmax	pmax		
	comp=Z,158nm,1.5s							
WRA	**Warramunga Arr**	**30.32**	**191**	P		**P**	**05 44 04.2**	**-1.8**
WRA	**Warramunga Arr**	**30.32**	**191**	*ce*P		**P**	**05 44 04.8**	**-1.2**
WRA					pmax	pmax		
	comp=Z,16nm,1.0s							
WRA	**Warramunga Arr**	**30.32**	**191**	P		**P**	**05 44 04.8**	**-1.2**
	comp=Z,23nm,1.1s,baz=12,slow=9.9,SNR=54							
WRA				PcP		**PcP**	**05 47 06.8**	**+0.5**
	comp=Z,3.5nm,1.0s,baz=357,slow=2.8,SNR=3.6							
	comp=Z,23nm,1.1s							
QIS	**Mount Isa**	**30.39**	**181**	P		**P**	**05 44 05.7**	**-0.9**
	baz=30,SNR=9.3							
QIS	**Mount Isa**	**30.39**	**181**	P		**P**	**05 44 06.9**	**+0.3**
CTA	**Charters Tower**	**30.50**	**169**	P		**P**	**05 44 07.8**	**+0.2**
CTA	**Charters Tower**	**30.50**	**169**	P		**P**	**05 44 06.6**	**-1.0**
	comp=Z,2.8nm,0.5s,baz=344,slow=8.0,SNR=9.9							
	comp=Z,2.8nm,0.5s							
CTAO	**Charters Tower**	**30.50**	**169**	P		**P**	**05 44 06.6**	**-1.0**
CTAO	**Charters Tower**	**30.50**	**169**	P		**P**	**05 44 07.7**	**+0.2**
CTAO	**Charters Tower**	**30.50**	**169**	P		**P**	**05 44 06.6**	**-1.0**
CTAO					pmax	pmax		
	comp=Z,57nm,1.4s							
QIZ	**Qiongzhong**	**30.68**	**290**	P		**P**	**05 44 08.1**	**-1.1**
QIZ				S		**S**	**05 49 12.7**	**+1.1**
QIZ				ScP		**ScP**	**05 50 48.1**	**-1.6**
QIZ				LR		LR		
	comp=Z,1μm,14.7s							
QIZ				LR		LR		
	comp=Z,910nm,15.2s							
QIZ				LR		LR		
	comp=Z,960nm,11.6s							
FITZ	**Fitzroy Crossi**	**31.42**	**207**	P		**P**	**05 44 15.5**	**-0.1**
	baz=31,SNR=6.6							
FITZ	**Fitzroy Crossi**	**31.42**	**207**	P		**P**	**05 44 14.5**	**-1.2**
FITZ	**Fitzroy Crossi**	**31.42**	**207**	P		**P**	**05 44 17.3**	**+1.6**
WHN	**Wuhan**	**31.56**	**314**	⇑P		**P**	**05 44 18.3**	**+1.5**
WHN				sP		**pwP**	**05 44 23.0**	**-0.7**
WHN				S		**S**	**05 49 27.6**	**+2.5**
WHN				pmax		pmax		
	comp=Z,120nm,1.2s							
WHN				LR		LR		
	comp=Z,2μm,14.7s							
WHN				LR		LR		
	comp=Z,1μm,14.2s							
WHN				LR		LR		
	comp=Z,2μm,16.3s							
JAGI	**Jajag, Banyuwa**	**31.78**	**236**	P		**P**	**05 44 18.2**	**-0.7**
JAGI				IAmb		IAmb	05 44 30.8	
	comp=Z,83nm,1.4s							
JAGI	**Jajag, Banyuwa**	**31.78**	**236**	P		**P**	**05 44 18.9**	**0.0**
JAGI	**Jajag, Banyuwa**	**31.78**	**236**	P		**P**	**05 44 22.0**	**+3.1**
	comp=Z,42nm,1.1s,comp=Z,968nm							
BLJI	**Banyuglugur**	**31.83**	**237**	P		P	05 44 25.9	+6.5
GULI	**GuiLin**	**32.12**	**302**	⇓P		**P**	**05 44 23.8**	**+1.9**
GULI				S		**S**	**05 49 39.1**	**+5.0**
GULI				pmax		pmax		
	comp=Z,40nm,1.1s							
GULI				LR		LR		
	comp=Z,650nm,17.4s							
GULI				LR		LR		
	comp=Z,630nm,17.3s							
GULI				LR		LR		
	comp=Z,880nm,17.3s							
DL2	**Dalian**	**33.22**	**333**	P		**P**	**05 44 36.0**	**+4.7**
DL2				S		**S**	**05 49 57.4**	**+6.6**
DL2				pmax		pmax		
	comp=Z,82nm,1.2s							
DL2				LR		LR		
	comp=Z,1μm,20.3s							
DL2				LR		LR		
	comp=Z,2μm,20.3s							
DL2				LR		LR		
	comp=Z,2μm,20.8s							
NGJI	**Ngawi**	**33.43**	**240**	P		P	05 44 41.5	+8.1
TIA	**Tai'an**	**33.44**	**325**	P		**P**	**05 44 32.0**	**-1.3**
TIA				pmax		pmax		
	comp=Z,23nm,1.4s							
TIA				LR		LR		
	comp=Z,1μm,14.7s							
TIA				LR		LR		
	comp=Z,2μm,18.6s							
TIA				LR		LR		
	comp=Z,2μm,17.7s							
PSTR	**Posyet**	**33.53**	**347**	*i* P		**P**	**05 44 33.0**	**-1.0**
AS31	**Alice Springs**	**34.03**	**190**	P		**P**	**05 44 37.5**	**-1.0**
ASAR	**Alice Springs**	**34.04**	**190**	P		**P**	**05 44 37.9**	**-0.8**
	comp=Z,8.2nm,0.6s,baz=18,slow=12,SNR=108							
ASAR				PcP		**PcP**	**05 47 16.5**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=11,slow=2.4,SNR=2.8							
ASAR				LR		LR	05 58 23.5	
	comp=Z,3μm,19.3s,baz=12,slow=36							
	comp=Z,8.2nm,0.6s							
ASAJ	**Asahikawa**	**34.04**	**3**	P		**P**	**05 44 38.3**	**-0.1**
	comp=Z,11nm,0.8s,baz=183,slow=19,SNR=2.3							
ASAJ				PcP		**PcP**	**05 47 16.5**	**+0.5**
	comp=Z,3.7nm,0.3s,baz=204,slow=20,SNR=1.7							
ASAJ				LR		LR	05 57 14.1	
	comp=Z,974nm,21.6s,baz=192,slow=34							
	comp=Z,11nm,0.8s							
UGM	**Wanagama**	**34.50**	**240**	P		**P**	**05 44 40.7**	**-2.1**
UGM	**Wanagama**	**34.50**	**240**	P		**P**	**05 44 41.6**	**-1.2**
UGM	**Wanagama**	**34.50**	**240**	P		**P**	**05 44 41.9**	**-0.9**
	comp=Z,192nm,1.2s							
YOGI	**Yogyakarta**	**34.65**	**240**	P		**P**	**05 44 48.2**	**+4.2**
	comp=Z,153nm,1.5s,comp=Z,2μm							
USA0B	**Ussuriysk Arra**	**34.79**	**350**	P		**P**	**05 44 44.8**	**-0.1**
USA0B	**Ussuriysk Arra**	**34.79**	**350**	*i* P		**P**	**05 44 44.8**	**-0.1**
USRK	**Ussuriysk Ar.**	**34.79**	**350**	P		**P**	**05 44 44.7**	**-0.2**
USRK	**Ussuriysk Ar.**	**34.79**	**350**	P		**P**	**05 44 44.7**	**-0.2**
USRK	**Ussuriysk Ar.**	**34.79**	**350**	P		**P**	**05 44 44.0**	**-0.9**
	comp=Z,12nm,0.7s,baz=173,slow=8.9,SNR=25							
USRK				LR		LR	05 56 52.2	
	comp=Z,2μm,20.9s,baz=166,slow=33							
	comp=Z,12nm,0.7s							
SNY	**Shenyang**	**34.90**	**338**	⇑P		**P**	**05 44 45.9**	**+0.1**
SNY				S		**S**	**05 50 20.

comp=Z,815nm,20.8s,baz=50,slow=37
QLP Quilpie 36.59 174 P P 05 45 01.3 +0.8
WRKA Warakurna 36.72 198 P P 05 45 00.7 -1.0
baz=37,SNR=72
WRKA Warakurna 36.72 198 P P 05 45 01.4 -0.3
BJT Baijiatuau 36.73 328 P P 05 45 02.4 +0.8
BJI Beijing 36.74 328 P P 05 45 01.8 +0.2
BJI S S 05 50 47.9 +3.0
BJI pmax pmax
comp=Z,23nm,1.5s
BJI LR LR
comp=Z,780nm,18.3s
BJI LR LR
comp=Z,700nm,15.3s
BJI LR LR
comp=Z,730nm,19.0s
NONG Nongkai 36.77 287 P P 05 45 03.0 +0.8
BBJI Bungbulang 36.77 243 P P 05 45 00.1 -2.3
YSS Yuzh-Sakhalins 36.88 3 eP P 05 45 01.8 -0.9
YSS eS S 05 50 42.0 -4.9
YSS pmax pmax
comp=Z,40nm,1.0s
MBWA Marble Bar 36.94 213 P P 05 45 03.1 -0.4
MBWA Marble Bar 36.94 213 P P 05 45 04.1 +0.6
MBWA Marble Bar 36.94 213 P P 05 45 04.6 +1.0
DSRI Dabo 36.95 256 P P 05 45 07.9 +4.1
comp=Z,42nm,1.3s
CBJI Citeko 37.01 245 P P 05 45 03.6 -0.7
comp=Z,277nm,1.0s,comp=Z,8μm
CNJI Cibinong 37.16 244 P P 05 45 03.0 -2.6
comp=Z,117nm,1.0s,comp=Z,944nm
DBJI Dramaga 37.16 245 P P 05 45 04.2 -1.4
comp=Z,102nm,1.3s,comp=Z,14μm
TIY Taiyuan 37.21 322 ⇑P P 05 45 06.5 +0.7
TIY S S 05 50 46.6 -5.8
TIY pmax pmax
comp=Z,52nm,1.1s
TIY pmax pmax
comp=Z,380nm,4.5s
TIY LR LR
comp=Z,2μm,17.2s
TIY LR LR
comp=Z,2μm,19.2s
TIY LR LR
comp=Z,1μm,21.3s
PSA00 Pilbara Seismi 37.21 212 P P 05 45 06.0 +0.2
PSA00 Pilbara Seismi 37.21 212 P P 05 45 06.7 +0.8
BNX BinXian 37.25 345 ⇓P P 05 45 05.9 0.0
BNX pP pP 05 45 09.1 -0.8
BNX sP sP 05 45 10.4 -1.1
BNX PP PP 05 46 31.5 +0.5
BNX S S 05 50 55.4 +2.8
BNX sS ScP 05 51 05.8 -6.5
BNX pmax pmax
comp=Z,220nm,1.0s
BNX pmax pmax
comp=Z,360nm,4.6s
BNX LR LR
comp=Z,1μm,23.3s
BNX LR LR
comp=Z,990nm,14.1s
BNX LR LR
comp=Z,2μm,22.8s
XAN Xi'an 37.32 315 ⇓P P 05 45 06.6 -0.2
XAN pP sP 05 45 11.9 -0.1
XAN S S 05 50 54.3 +0.2
XAN SS SnSn 05 53 28.4 -2.0
XAN pmax pmax
comp=Z,44nm,1.4s
XAN LR LR
comp=Z,3μm,21.3s
XAN LR LR
comp=Z,2μm,23.4s
XAN LR LR
comp=Z,3μm,19.5s
SBJI Serang 37.53 246 P P 05 45 12.9 +4.2
comp=Z,92nm,1.2s
INKA Innaminka 37.54 179 P P 05 45 09.3 +0.8
OOD Oodnadatta 37.84 187 P P 05 45 13.0 +1.9
CGJI Cibinong 38.13 246 P P 05 45 10.3 -3.5
comp=Z,215nm,1.1s,comp=Z,2μm
KLI Kotabumi 38.18 249 P P 05 45 12.9 -1.3
comp=Z,318nm,1.2s,comp=Z,5μm
NAYO Nakonayok 38.21 280 P P 05 45 15.2 +0.7
KOUNC Koumac, New Ca 38.52 142 P P 05 45 17.4 +0.4
KOUNC Koumac, New Ca 38.52 142 P P 05 45 22.0 +5.0
KMI Kunming 38.58 298 ⇓P P 05 45 19.0 +1.2
KMI sP pwP 05 45 24.5 -0.2
KMI S S 05 51 18.2 +4.3
KMI pmax pmax
comp=Z,60nm,1.6s
KMI pmax pmax
comp=Z,320nm,4.9s
KMI LR LR
comp=Z,1μm,13.8s
KMI LR LR
comp=Z,1μm,18.7s
KMI LR LR
comp=Z,2μm,17.4s
KASI Kota Agung 38.77 248 P P 05 45 18.6 -0.6
comp=Z,104nm,0.8s
DVP Devils Point 39.04 135 P P 05 45 23.9 +2.6
KULM Kulim 39.45 266 P P 05 45 23.0 -2.0
CRAI Chiangrai 39.67 290 P P 05 45 26.1 -0.6
CD2 Chengdu 39.70 307 P P 05 45 27.3 +0.4
CD2 pP pP 05 45 30.7 0.0
CD2 S S 05 51 30.9 +0.6
CD2 SS SS 05 54 26.0 0.0
CD2 pmax pmax
comp=Z,90nm,0.8s
CD2 LR LR
comp=Z,1μm,20.6s
CD2 LR LR
comp=Z,1μm,15.2s
CD2 LR LR
comp=Z,1μm,18.2s
XLT XiLinHaoTe 39.72 332 eP P 05 45 26.3 -0.5
XLT pP sP 05 45 32.0 -0.4
XLT S S 05 51 29.3 -0.8
XLT SS SnSn 05 54 28.2 +0.1
XLT pmax pmax
comp=Z,87nm,1.3s
XLT pmax pmax
comp=Z,310nm,3.6s
XLT LR LR
comp=Z,1μm,17.9s
XLT LR LR
comp=Z,1μm,21.7s
KLR Kul'dur 39.72 351 ceP P 05 45 26.1 -0.6
KLR pmax pmax
comp=Z,163nm,1.3s
KLR Kul'dur 39.72 351 LR LR 05 59 52.9
comp=Z,522nm,19.3s,slow=33
HHC Hu-ho-hao-te 39.79 325 eP P 05 45 28.1 +0.6
HHC pP sP 05 45 33.0 -0.2
HHC PP PnPn 05 47 03.8 +1.6
HHC S S 05 51 35.4 +4.0
HHC SS SS 05 54 21.0 -6.5
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,410nm,6.3s
HHC LR LR
comp=Z,2μm,13.0s
HHC LR LR
comp=Z,2μm,13.7s
HHC LR LR
comp=Z,2μm,14.5s
PZH PanZhiHua 39.84 300 P P 05 45 29.0 +0.8
PZH sP pwP 05 45 34.2 -0.8
PZH S S 05 51 34.6 +2.1
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,290nm,5.2s
PZH LR LR
comp=Z,760nm,13.9s
PZH LR LR
comp=Z,820nm,15.8s
PZH LR LR
comp=Z,1μm,21.0s
XMI Christmas Isla 39.90 240 P P 05 45 29.4 +0.8
AULRC Lightning Ridg 39.93 169 P P 05 45 29.7 +1.1
XMIS Christmas Isla 39.94 240 P P 05 45 29.3 +0.3
SURA Surathani 39.99 272 P P 05 45 31.7 +2.3

SRIT Nakonsritamara 40.07 271 P P 05 45 29.1 -1.0
SRIT IAmb IAmb 05 45 30.5
comp=Z,86nm,0.9s
SRIT Nakonsritamara 40.07 271 P P 05 45 29.8 -0.3
LCRK Leigh Creek 40.27 183 P P 05 45 32.8 +1.4
MULG Mulgathing 40.50 188 P P 05 45 32.4 -0.9
BTO Baotou 40.51 324 ⇑P P 05 45 35.4 +1.9
BTO pP pwP 05 45 40.4 -0.1
BTO PP PnPn 05 47 12.4 +1.7
BTO S S 05 51 46.8 +4.6
BTO SS SS 05 54 43.6 +1.7
BTO pmax pmax
comp=Z,66nm,0.8s
BTO LR LR
comp=Z,3μm,11.4s
BTO LR LR
comp=Z,2μm,11.4s
BTO LR LR
comp=Z,2μm,14.1s
GRNR Gornyy 40.75 356 ⇓P P 05 45 35.4 +0.2
GRNR pmax pmax
comp=N,8.0nm,1.1s
GRNR pmax pmax
comp=Z,10.0nm,1.0s
CM31 Chiang Mai Arr 40.78 287 P P 05 45 36.5 +0.6
CM31 IAmb IAmb 05 45 38.0
comp=Z,78nm,0.8s
CM31 Chiang Mai Arr 40.78 287 P P 05 45 37.0 +1.0
SNR=28
CMAR Chiang Mai Arr 40.78 287 P P 05 45 35.3 -0.6
CMAR Chiang Mai Arr 40.78 287 ceP P 05 45 36.7 +0.7
CMAR pmax pmax
comp=Z,43nm,0.8s
CMAR Chiang Mai Arr 40.78 287 P P 05 45 36.6 +0.7
comp=Z,41nm,0.8s,baz=91,slow=6.6,SNR=181
CMAR PcP PcP 05 47 37.5 +0.4
comp=Z,2.0nm,0.5s,baz=86,slow=3.8,SNR=1.6
comp=Z,41nm,0.8s
CHTO Chiang Mai 40.82 287 P P 05 45 35.7 -0.5
CHTO Chiang Mai 40.82 287 P P 05 45 36.4 +0.2
CHTO Chiang Mai 40.82 287 P P 05 45 35.8 -0.4
CHTO Chiang Mai 40.82 287 P P 05 45 35.7 -0.5
CHTO pmax pmax
comp=Z,30nm,1.1s
NOUC Port Laguerre 40.92 141 P P 05 45 42.0 +5.1
DZM Mont Dzumac 40.98 141 P P 05 45 37.4 -0.1
DZM IAmb IAmb 05 45 54.8
comp=Z,128nm,1.4s
DZM Mont Dzumac 40.98 141 P P 05 45 38.4 +0.8
DZM Mont Dzumac 40.98 141 eP P 05 45 36.9 -0.7
comp=Z,214nm,1.4s
DZM eS S 05 51 50.3 +0.8
comp=Z,200nm,26.2s
DZM eSS SnSn 05 54 56.4 -2.9
comp=Z,675nm,25.5s
DZM eLR LR 05 56 41.8
comp=Z,2μm,24.5s
DZM Mont Dzumac 40.98 141 LR LR 06 01 27.7
comp=Z,899nm,20.4s,baz=326,slow=35
PDSI Padang 41.01 257 P P 05 45 34.8 -3.1
comp=Z,24nm,0.8s
HEH HeiHe 41.49 348 eP P 05 45 41.4 +0.1
HEH pP sP 05 45 46.3 -0.6
HEH S S 05 51 57.5 +1.3
HEH SS SS 05 55 02.3 +1.4
HEH pmax pmax
comp=Z,90nm,0.9s
HEH pmax pmax
comp=Z,500nm,5.3s
HEH LR LR
comp=Z,1μm,20.1s
HEH LR LR
comp=Z,1μm,19.5s
HEH LR LR
comp=Z,3μm,21.5s
PSI Prapat 41.60 263 P P 05 45 41.1 -1.8
PSI Prapat 41.60 263 P P 05 45 40.5 -2.4
PSI pmax pmax
comp=Z,58nm,0.9s
RPSI Rantau Prapat 41.62 263 P P 05 45 40.5 -2.4
CMSA Cobar Meteorol 41.65 173 P P 05 45 43.9 +1.1
ARMA Armidale 41.67 165 P P 05 45 48.3 +5.2
STKA Stephens Creek 41.67 178 P P 05 45 42.7 -0.3
STKA Stephens Creek 41.67 178 P P 05 45 46.6 +3.6
STKA Stephens Creek 41.67 178 i P P 05 45 42.2 -0.8
STKA Stephens Creek 41.67 178 P P 05 45 41.0 -2.0
comp=Z,2.3nm,0.6s,baz=348,slow=9.5,SNR=5.7
STKA LR LR 06 03 01.7
comp=Z,1μm,21.4s,baz=351,slow=36
comp=Z,2.3nm,0.6s
LZH Lanzhou 41.94 314 ⇓P P 05 45 45.9 +0.5
LZH sP pwP 05 45 51.9 -0.5
LZH S S 05 52 08.0 +4.3
LZH pmax pmax
comp=Z,30nm,1.3s
LZH pmax pmax
comp=Z,410nm,5.0s
LZH LR LR
comp=Z,620nm,16.7s
LZH LR LR
comp=Z,1μm,15.3s
LZH LR LR
comp=Z,2μm,18.9s
PINNC Pines Island, 42.00 141 P P 05 45 47.1 +1.3
MEEK Meekatharra 42.04 209 P P 05 45 43.8 -2.3
baz=42,SNR=5.2
MEEK Meekatharra 42.04 209 P P 05 45 46.3 +0.2
AUPHS Peel High Scho 42.15 166 P P 05 45 48.7 +1.8
FORT Forest 42.20 196 P P 05 45 47.3 0.0
baz=42,SNR=22
FORT Forest 42.20 196 P P 05 45 46.9 -0.4
FORT Forest 42.20 196 P P 05 45 48.1 +0.8
TNCH TengChong 42.26 296 P P 05 45 48.8 +0.6
TNCH pP pP 05 45 51.6 -0.4
TNCH sP pwP 05 45 54.8 -0.3
TNCH PP PP 05 47 32.0 +5.8
TNCH pmax pmax
comp=Z,270nm,1.9s
TNCH LR LR
comp=Z,740nm,12.4s
TNCH LR LR
comp=Z,620nm,17.1s
TNCH LR LR
comp=Z,830nm,16.5s
HIA Hailar 42.69 340 P P 05 45 52.1 +1.0
HIA Hailar 42.69 340 i P P 05 45 50.3 -0.8
HIA pmax pmax
comp=Z,14nm,1.0s
BBOO Buckleboo 42.77 185 P P 05 45 51.7 -0.2
baz=43,SNR=7.4
BBOO Buckleboo 42.77 185 P P 05 45 52.4 +0.5
HTT Hallett 43.22 182 P P 05 45 57.0 +1.4
GSI Gunungsitoli 43.24 261 P P 05 45 52.6 -3.5
GSI IAmb IAmb 05 45 59.8
comp=Z,104nm,1.2s
GSI Gunungsitoli 43.24 261 P P 05 45 53.6 -2.5
GSI Gunungsitoli 43.24 261 P P 05 45 53.3 -2.8
comp=Z,79nm,1.2s
MLSI Meulaboh, Aceh 43.80 266 P P 05 45 59.2 -1.4
comp=Z,20nm,1.2s
MND Mandalay 43.87 291 P P 05 46 00.3 -0.7
MND IAmb IAmb 05 46 08.0
comp=Z,112nm,1.1s
MND Mandalay 43.87 291 P P 05 46 01.4 +0.4
KMBL Kambalda 44.74 202 P P 05 46 06.5 -1.3
baz=45,SNR=14
KMBL Kambalda 44.74 202 P P 05 46 08.6 +0.8
ZEA Zeya 44.83 349 eP P 05 46 08.2 0.0
ZEA eS S 05 52 48.8 +3.7
ZEA pmax pmax
comp=Z,200nm,3.8s
ZEA pmax pmax
comp=N,60nm,1.4s
ZEA pmax pmax
comp=Z,80nm,1.2s
ZEA smax smax
comp=N,400nm,13.3s
PEA0B Petropavlovsk- 45.24 15 ceP P 05 46 11.8 +0.3
PETK Petropavlovsk- 45.24 15 P P 05 46 12.0 +0.5
PETK Petropavlovsk- 45.24 15 P P 05 46 11.8 +0.3
comp=N,8.0nm,0.8s,baz=178,slow=5.8,SNR=9.2
PETK LR LR 06 04 03.3
comp=N,448nm,19.9s,baz=189,slow=35
comp=N,8.0nm,0.8s
MORW Morawa 45.31 210 P P 05 46 12.4 0.0
baz=45,SNR=6.7
MORW Morawa 45.31 210 P P 05 46 13.0 +0.6
PET Petropavlovsk 45.41 16 P P 05 46 13.1 +0.3
PET IAmb IAmb 05 46 19.6
comp=Z,102nm,1.4s
PET Petropavlovsk 45.41 16 P P 05 46 14.5 +1.7
PET Petropavlovsk 45.41 16 eP P 05 46 12.8 0.0
PET eS S 05 52 53.3 -0.1
PET eSS ScS 05 56 12.8 +3.8
PET pmax pmax
comp=Z,70nm,1.1s
PET MLR MLR
comp=Z,600nm,20.0s
BLDU Ballidu 46.27 208 P P 05 46 19.0 -1.0
baz=46,SNR=8.9
BLDU Ballidu 46.27 208 P P 05 46 21.7 +1.7
GTA Gaotai 46.33 316 ⇓P P 05 46 20.7 +0.1
GTA pP sP 05 46 26.3 +0.5
GTA S S 05 53 06.8 -0.7
GTA pmax pmax
comp=Z,27nm,1.1s
GTA LR LR
comp=Z,620nm,17.1s
GTA LR LR
comp=Z,570nm,16.4s
GTA LR LR
comp=Z,830nm,17.1s
KLBR Kellerberrin 46.62 207 P P 05 46 22.1 -0.6
baz=47,SNR=18
ULN Ulaanbaatar 46.92 330 P P 05 46 25.1 0.0
ULN Ulaanbaatar 46.92 330 P P 05 46 25.6 +0.5
ULN Ulaanbaatar 46.92 330 ceP P 05 46 24.5 -0.5
ULN pmax pmax
comp=Z,53nm,1.7s
DGTI Dogotuki 47.06 123 P P 05 46 28.0 +1.7
CIT Chita 47.17 338 eP P 05 46 28.0 +1.2
CIT e 05 48 01.6
CIT pmax pmax
comp=Z,249nm,1.9s
SONM Songino Array 47.23 329 P P 05 46 27.3 -0.1
SONM Songino Array 47.23 329 P P 05 46 27.3 -0.1
comp=Z,10nm,1.0s,baz=142,slow=7.7,SNR=45
SONM PcP PcP 05 48 00.7 +2.0
comp=Z,4.5nm,0.8s,baz=134,slow=4.2,SNR=2.2
SONM LR LR 06 05 45.6
comp=Z,342nm,21.0s,baz=126,slow=35
comp=Z,10nm,1.0s
TOO Toolangi 47.59 174 P P 05 46 31.4 +1.2
MUN Mundaring 47.65 208 P P 05 46 30.3 -0.4
baz=48,SNR=13
MUN Mundaring 47.65 208 P P 05 46 30.5 -0.2
NWAO Narrogin (SRO) 47.99 206 P P 05 46 33.3 0.0
baz=48,SNR=12
NWAO P P 05 46 33.3 0.0
baz=48,SNR=12
NWAO Narrogin (SRO) 47.99 206 P P 05 46 33.1 -0.2
NWAO Narrogin (SRO) 47.99 206 P P 05 46 35.8 +2.5
NWAO Narrogin (SRO) 47.99 206 P P 05 46 33.1 -0.2
NWAO pmax pmax
comp=Z,86nm,1.0s
NWAO Narrogin (SRO) 47.99 206 LR LR 06 07 31.3
comp=Z,534nm,18.6s,baz=19,slow=37
SHL Shillong 48.26 295 P P 05 46 35.6 -0.2
SHL IAmb IAmb 05 46 42.5
comp=Z,77nm,1.0s
SHL Shillong 48.26 295 P P 05 46 35.9 +0.1
SNR=17
SHL Shillong 48.26 295 P P 05 46 35.6 -0.2
SHL pmax pmax
comp=Z,77nm,1.0s
GOMU GeErMu 48.61 310 P P 05 46 39.5 +0.9
GOMU pP sP 05 46 43.5 -0.4
GOMU sP pwP 05 46 45.0 -0.7
GOMU S S 05 53 35.3 -5.3
GOMU sS sS 05 53 53.6 +6.4
GOMU pmax pmax
comp=Z,15nm,0.9s
GOMU pmax pmax
comp=Z,180nm,4.8s
GOMU LR LR
comp=Z,570nm,16.9s
GOMU LR LR
comp=Z,450nm,18.6s
GOMU LR LR
comp=Z,810nm,19.8s
RKGY Rocky Gully 49.54 205 P P 05 46 45.9 +0.7
baz=50,SNR=5.0
LSA Lhasa 49.70 300 i P P 05 46 48.4 +1.2
SNR=7.4
LSA Lhasa 49.70 300 P P 05 46 47.9 +0.7
LSA pmax pmax
comp=Z,43nm,1.1s
MA2 Magadan 50.10 7 P P 05 46 52.8 +3.7
MA2 Magadan 50.10 7 P P 05 46 47.3 -1.8
comp=Z,11nm,0.8s,baz=189,slow=13,SNR=1.8
comp=Z,11nm,0.8s
ZAK Zakamensk 50.44 330 eP P 05 46 51.6 -0.4
ZAK pmax pmax
comp=Z,93nm,1.5s
SHEM Shemya Is, Ala 50.63 26 LR LR 06 04 39.2
comp=Z,808nm,21.9s,baz=253,slow=32
IRK Irkutsk 51.20 332 eP P 05 46 58.0 +0.4
IRK pmax pmax
comp=Z,144nm,1.8s
BOD Bodaibo 51.76 342 eP P 05 47 01.5 -0.2
BOD pmax pmax
comp=Z,47nm,1.9s
TAPN Taplejung 52.23 297 eP P 05 47 06.8 +0.7
MOY Mondy 52.37 330 eP P 05 47 06.8 +0.3
MOY pmax pmax
comp=Z,120nm,2.6s
ODAN Odare 52.45 296 eP P 05 47 07.9 +0.3
comp=Z,585nm,1.8s
YAK Yakutsk 52.49 354 P P 05 47 06.8 -0.2
YAK Yakutsk 52.49 354 eP P 05 47 06.5 -0.5
YAK e*PP sP 05 47 12.1 -0.5
YAK e 05 49 04.4
YAK ePPP PPP 05 50 07.4
YAK eS S 05 54 34.5 +1.7
YAK e*SS sS 05 54 42.4 +2.8
YAK eSSS SSS 05 59 52.0
YAK pmax pmax
comp=Z,70nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK pmax pmax
comp=N,32nm,1.3s
YAK pmax pmax
comp=Z,6.0nm,0.4s
YAK smax smax
comp=N,94nm,2.5s
YAK smax smax
comp=E,111nm,3.3s
YAK Yakutsk 52.49 354 P P 05 47 06.2 -0.7
comp=E,3.5nm,0.7s,baz=159,slow=11,SNR=19
YAK LR LR 06 07 13.8
comp=E,25nm,21.2s,baz=152,slow=34
RAMN Ramite 53.16 296 eP P 05 47 13.1 +0.2
comp=E,499nm,1.5s
SEY Seymchan 53.55 7 i P P 05 47 15.1 +0.3
SEY pmax pmax
comp=Z,39nm,1.1s
SEY Seymchan 53.55 7 LR LR 06 08 16.3
comp=Z,912nm,22.0s,baz=194,slow=34
JIRN Jiri 53.62 297 eP P 05 47 16.7 +0.3
comp=Z,360nm,1.3s
GUN Gumba 53.92 297 eP P 05 47 18.9 +0.3
comp=Z,338nm,1.1s
PKI Pulchoki 54.29 297 eP P 05 47 20.9 -0.4
comp=Z,416nm,1.5s
PKIN Phulchoki 54.30 297 eP P 05 47 21.0 -0.3
comp=Z,298nm,1.4s
KKN Kakani 54.43 297 eP P 05 47 22.2 0.0
comp=Z,471nm,1.7s
DMN Daman 54.56 297 eP P 05 47 23.3 +0.1
comp=Z,472nm,1.4s
GKN Gorkha 55.02 297 eP P 05 47 26.3 -0.1
comp=Z,298nm,1.2s
DANN Dangsing 55.84 297 eP P 05 47 32.3 -0.1
comp=Z,464nm,1.3s
KOLN Koldanda 55.91 297 eP P 05 47 31.7 -1.1
WMQ Urumqi 56.41 316 ⇓P P 05 47 36.7 +0.7
WMQ pP sP 05 47 41.2 -0.5
WMQ pmax pmax
comp=Z,53nm,1.3s
WMQ pmax pmax

comp=Z,290nm,4.3s
WMQ LR LR
comp=Z,840nm,24.7s
WMQ LR LR
comp=Z,520nm,18.5s
WMQ LR LR
comp=Z,470nm,24.7s
PYUN Piuthan 56.48 297 *e*P P **05 47 36.8 -0.1**
comp=Z,480nm,1.1s
KUZ Kuaotunu 57.25 146 P P **05 47 44.3 +2.5**
TOZ Tahuroa Road 57.86 147 P P **05 47 46.4 +0.3**
HIZ Hauiti 58.10 148 P P **05 47 48.7 +0.9**
HIZ IAmb IAmb 05 47 57.4
comp=Z,86nm,1.0s
DGZ Jazzator, Alta 58.78 323 *i* P P **05 47 52.0 -0.7**
DGZ pmax pmax
comp=Z,12nm,1.0s
PALK Pallekele 58.82 272 LR LR 06 11 53.6
comp=Z,383nm,21.8s,baz=183,slow=35
URZ Urewera 59.11 147 LR LR 06 10 32.1
comp=Z,568nm,21.8s,baz=34,slow=33
RTZ Ruatahuna 59.30 147 P P **05 47 55.6 -0.7**
RTZ IAmb IAmb 05 48 04.0
comp=Z,58nm,1.1s
BKZ Black Stump Fm 59.44 148 P P **05 47 58.4 +1.2**
MRZ Mangatainoka R 60.08 149 P P **05 48 00.9 -0.6**
LTZ Lake Taylor 60.16 153 P P **05 48 01.0 -1.1**
LTZ IAmb IAmb 05 48 11.2
comp=Z,27nm,0.8s
RPZ Rata Peaks 60.39 155 P P **05 48 02.3 -1.2**
RPZ Rata Peaks 60.39 155 LR LR 06 11 24.5
comp=Z,711nm,21.1s,baz=317,slow=33
BFZ Birch Farm 60.43 149 P P 05 48 08.9 +5.0
SPIA Saint Paul Isl 60.47 28 P P **05 48 05.0 +1.1**
baz=240
BILL Bilibino 60.47 11 P P **05 48 04.0 +0.2**
BILL IAmb IAmb 05 48 17.2
comp=Z,54nm,1.2s
BILL Bilibino 60.47 11 *e*P P **05 48 07.0 +3.2**
OXZ Oxford 60.49 154 P P **05 48 02.7 -1.6**
UNV Unalaska Valle 60.79 33 P P **05 48 07.4 +1.2**
baz=245
MK31 Makanchi Array 60.98 318 P P **05 48 07.4 -0.3**
MK31 IAmb IAmb 05 48 14.7
comp=Z,53nm,1.2s
MK31 Makanchi Array 60.98 318 *ce*P P **05 48 07.0 -0.7**
MKAR Makanchi Array 60.98 318 P P **05 48 07.0 -0.8**
MKAR Makanchi Array 60.98 318 *ce*P P **05 48 07.9 +0.2**
MKAR pmax pmax
comp=Z,18nm,0.9s
MKAR Makanchi Array 60.98 318 P P **05 48 07.5 -0.2**
comp=Z,18nm,0.9s,baz=98,slow=9.2,SNR=54
MKAR LR LR 06 14 24.7
comp=Z,593nm,21.3s,baz=110,slow=36
comp=Z,18nm,0.9s
MAKZ Makanchi 61.19 318 P P **05 48 08.9 -0.2**
MAKZ Makanchi 61.19 318 P P **05 48 08.9 -0.2**
MAKZ pmax pmax
comp=Z,122nm,1.5s
ZAA0 Zalesovo Array 61.96 327 P P **05 48 13.0 -1.1**
ZAA0 IAmb IAmb 05 48 19.5
comp=Z,35nm,0.8s
ZALV Zalesovo Beam 61.96 327 P P **05 48 12.9 -1.2**
ZALV Zalesovo Beam 61.96 327 P P **05 48 13.3 -0.8**
comp=Z,12nm,0.7s,baz=102,slow=6.2,SNR=48
ZALV LR LR 06 15 08.2
comp=Z,335nm,20.1s,baz=112,slow=36
comp=Z,12nm,0.7s
SHLS Shalkode 61.96 314 *e*P P **05 48 11.9 -2.6**
comp=Z,25nm,1.3s,baz=314
SHLS Shalkode 61.96 314 *e*P P **05 48 11.9 -2.6**
SHLS pmax pmax
comp=Z,25nm,1.3s
TIXI Tiksi 61.98 356 P P **05 48 12.9 -1.0**
TIXI Tiksi 61.98 356 *ce*P P **05 48 14.2 +0.3**
TIXI Tiksi 61.98 356 LR LR 06 14 54.2
comp=Z,18nm,18.3s,baz=180,slow=36
UZB Uzynbulak 62.27 314 *e*P P **05 48 15.5 -1.1**
comp=Z,47nm,1.9s,baz=314
UZB Uzynbulak 62.27 314 *e*P P **05 48 15.5 -1.1**
UZB pmax pmax
comp=Z,47nm,1.9s
KPKS Kokpek 62.58 314 *je*P P **05 48 17.5 -1.2**
comp=Z,14nm,1.3s,baz=314
KPKS Kokpek 62.58 314 *de*P P **05 48 17.4 -1.2**
KPKS pmax pmax
comp=Z,14nm,1.3s
SATY Saty 62.69 313 *e*P P **05 48 18.6 -0.8**
comp=Z,20nm,1.1s,baz=313
SATY Saty 62.69 313 *e*P P **05 48 18.6 -0.8**
SATY pmax pmax
comp=Z,21nm,1.1s
ZHN Zhinishke 62.70 313 *e*P P **05 48 18.7 -0.8**
baz=314
ZHN Zhinishke 62.70 313 *e*P P **05 48 18.6 -0.8**
FALS False Pass 62.85 33 P P **05 48 21.5 +1.5**
baz=247
TDK Taldyqorghan 63.12 316 *e*P P **05 48 21.8 -0.4**
baz=316
TDK Taldyqorghan 63.12 316 *e*P P **05 48 21.7 -0.4**
ARXS Arharly 63.35 315 *e*P P **05 48 23.2 -0.5**
GAMB Gambell 63.45 22 P P **05 48 25.5 +1.7**
baz=235
MDOK Medeo 63.69 313 *e*P P **05 48 25.6 -0.5**
baz=313
MDOK Medeo 63.69 313 *e*P P **05 48 25.6 -0.5**
TNSS Tian-Shan 63.73 313 *e*P P **05 48 25.7 -1.0**
baz=313
TNSS Tian-Shan 63.73 313 *e*P P **05 48 25.7 -1.0**
AAA Alma-Ata 63.79 313 *e*P P **05 48 25.1 -1.6**
baz=313
AAA Alma-Ata 63.79 313 *e*P P **05 48 25.9 -0.8**
KSH Kashi 63.85 309 P P **05 48 29.5 +2.4**
KSH sP pwP 05 48 35.3 +1.0
KSH pmax pmax
comp=Z,36nm,1.5s
CHKK Chushkaly 63.87 314 *e*P P **05 48 26.6 -0.5**
baz=314
CHKK Chushkaly 63.87 314 *e*P P **05 48 26.6 -0.5**
NRN Naryn 64.14 311 P P **05 48 29.0 -0.3**
NRN IAmb IAmb 05 48 35.9
comp=Z,46nm,1.1s
NRN Naryn 64.14 311 P P **05 48 29.0 -0.3**
NRN pmax pmax
comp=Z,46nm,1.1s
KUU Kurty 64.34 314 *e*P P **05 48 29.4 -0.8**
baz=314
KUU Kurty 64.34 314 *e*P P **05 48 29.3 -0.8**
KURK Kurchatov 64.44 322 P P **05 48 29.9 -0.8**
KURK Kurchatov 64.44 322 P P **05 48 30.7 +0.1**
KURK Kurchatov 64.44 322 *ce*P P **05 48 28.5 -2.2**
KURK pmax pmax
comp=Z,95nm,1.3s
KURBB Kurchatov Arra 64.47 322 P P **05 48 30.3 -0.6**
comp=Z,25nm,0.8s,baz=104,slow=6.9,SNR=85
KURBB LR LR 06 16 44.1
comp=Z,634nm,21.9s,baz=161,slow=36
comp=Z,25nm,0.8s
SDPT Sand Point 64.61 33 P P **05 48 35.0 +3.4**
SDPT Sand Point 64.61 33 P P **05 48 32.7 +1.1**
baz=250
TKM2 Tokmak 2 64.69 313 P P **05 48 33.0 +0.3**
SNR=13
KZA Kyzart 64.80 312 P P **05 48 35.0 +1.3**
SNR=32
CHNA Chernabura Isl 64.91 34 P P **05 48 34.4 +0.7**
baz=251
KBK Karagaybulak 65.11 312 P P **05 48 36.0 +0.5**
SNR=13
M13K Dall Lake 65.16 27 P P **05 48 36.3 +1.3**
baz=245
CHMS Chumysh 65.31 313 P P **05 48 36.5 -0.1**
SNR=13
NIL Nilore 65.35 302 P P **05 48 37.0 0.0**
NIL Nilore 65.35 302 P P **05 48 37.0 0.0**
NIL pmax pmax
comp=Z,198nm,1.1s
UCH Uchtor 65.36 312 P P **05 48 38.5 +1.1**
SNR=34
S14K Fog Glacier 65.42 32 P P **05 48 37.6 +0.6**
baz=250
AAK Ala-Archa 65.44 312 P P **05 48 37.8 +0.2**
SNR=8.1
AAK Ala-Archa 65.44 312 P P **05 48 37.1 -0.4**
AAK IAmb IAmb 05 48 44.0
comp=Z,28nm,1.0s
AAK Ala-Archa 65.44 312 *i* P P **05 48 37.0 -0.5**
SNR=19
AAK Ala-Archa 65.44 312 P P **05 48 38.0 +0.4**
AAK Ala-Archa 65.44 312 P P **05 48 37.2 -0.4**
AAK pmax pmax
comp=Z,28nm,1.0s
AAK Ala-Archa 65.44 312 P P **05 48 37.0 -0.5**
comp=Z,7.5nm,0.9s,baz=113,slow=6.5,SNR=15
comp=Z,7.5nm,0.9s
SGDS Sogindy 65.48 313 *e*P P **05 48 36.5 -1.1**
baz=313
SGDS Sogindy 65.48 313 *e*P P **05 48 36.5 -1.1**
USP Ospenovka 65.54 313 P P **05 48 38.1 +0.1**
SNR=9.3
O14K Tigyukauivet M 65.65 29 P P **05 48 39.0 +0.7**
baz=247
N14K Kuskokwak Cree 65.71 28 P P **05 48 39.1 +0.4**
baz=247
TNA Tin City 65.79 21 P P **05 48 39.5 +0.4**
baz=238
L14K Kuka Creek 65.85 26 P P **05 48 39.8 +0.3**
L14K Kuka Creek 65.85 26 P P **05 48 40.0 +0.4**
baz=245
M14K Bethel 65.92 27 P P **05 48 40.8 +0.8**
M14K IAmb IAmb 05 48 57.1
comp=Z,47nm,0.9s
M14K Bethel 65.92 27 P P **05 48 41.5 +1.4**
baz=246
AML Amayashu 65.95 312 P P **05 48 42.0 +0.9**
SNR=24
EKS2 Erkin-Say 65.97 312 P P **05 48 41.4 +0.4**
SNR=11
CHGN Chignik 66.02 32 P P **05 48 41.9 +1.1**
baz=251
J14K Nanvaranak Lak 66.09 25 P P **05 48 42.3 +1.3**
baz=244
BTLS Baital 66.16 315 *e*P P **05 48 41.2 -0.8**
comp=Z,25nm,1.5s,baz=315
BTLS Baital 66.16 315 *e*P P **05 48 41.1 -0.8**
BTLS pmax pmax
comp=Z,25nm,1.5s
ANM Nome 66.22 23 P P **05 48 42.5 +0.6**
baz=241
O15K Ungalikthiuk R 66.30 29 P P **05 48 43.5 +0.9**
baz=249
F14K Arctic Creek 66.31 21 P P **05 48 43.2 +0.7**
baz=240
M15K Kasigluk River 66.47 27 P P **05 48 44.0 +0.4**
baz=247
L15K Ungalak Mounta 66.51 26 P P **05 48 44.8 +1.0**
baz=246
N15K Kwethluk River 66.55 28 P P **05 48 44.2 +0.1**
baz=248
RAR Rarotonga 66.61 118 LR LR 06 13 31.5
comp=Z,426nm,19.5s,baz=328,slow=32
K15K Wolf Creek Mou 66.74 26 P P **05 48 45.4 +0.1**
baz=246
R16K Pilot Point 66.87 31 P P **05 48 46.1 0.0**
baz=251
G15K Niukluk 66.92 22 P P **05 48 47.3 +0.8**
baz=242
F15K North Star Dit 67.04 22 P P **05 48 47.5 +0.4**
baz=241
P16K Nushagak River 67.14 30 P P **05 48 48.4 +0.5**
baz=250
N16K Nikiliak Lake 67.27 28 P P **05 48 49.8 +1.1**
baz=249
O16K Kokwok River B 67.28 29 P P **05 48 50.1 +1.3**
baz=250
CHIR Chirikof Islan 67.37 33 P P **05 48 50.5 +1.1**
baz=254
M16K Timber Creek 67.38 27 P P **05 48 50.5 +1.1**
baz=249
L16K Owhat River 67.41 27 P P **05 48 50.7 +1.1**
baz=248,SNR=6.5
H16K Elim 67.45 23 P P **05 48 50.6 +0.8**
baz=244,SNR=6.1
R17K Ugashik Creek 67.50 31 P P **05 48 50.9 +0.7**
baz=252
J16K Anvik River 67.54 25 P P **05 48 51.1 +0.8**
baz=246
G16K Koyuk River 67.74 22 P P **05 48 53.0 +1.4**
baz=244
I17K Unalakleet 67.74 24 P P **05 48 51.9 +0.3**
baz=246,SNR=13
O17K Koliganek Bris 67.82 29 P P **05 48 51.3 -0.8**
baz=251,SNR=5.8
BTK Batken 67.85 309 P P **05 48 52.6 -0.3**
BTK Batken 67.85 309 P P **05 48 52.6 -0.3**
BTK pmax pmax
comp=Z,77nm,1.3s
Q17K Contact Creek 67.94 31 P P **05 48 52.6 -0.5**
baz=253
P17K Kvichak River 67.95 30 P P **05 48 53.3 +0.3**
baz=252
BRZS Berezniki 67.97 320 *i* P P **05 48 53.0 -0.4**
baz=320
BRZS Berezniki 67.97 320 *i* P P **05 48 53.0 -0.4**
N17K Nushagak Hills 68.02 28 P P **05 48 53.7 +0.3**
baz=251
C16K Lisburne Hills 68.07 19 P P **05 48 54.4 +0.9**
baz=240
L17K Donlin 68.08 26 P P **05 48 54.4 +0.6**
baz=249
M17K Holitna River 68.20 27 P P **05 48 55.1 +0.5**
baz=250
K17K Iditarod 68.29 26 P P **05 48 56.0 +0.9**
baz=249
SII Sitkinak Islan 68.35 33 P P **05 48 56.2 +0.6**
baz=255
KK31 Karatay Array 68.40 312 P P **05 48 55.8 -0.4**
KK31 IAmb IAmb 05 49 03.2
comp=Z,56nm,1.2s
KK31 Karatay Array 68.40 312 P P **05 48 55.8 -0.4**
KK31 pmax pmax
comp=Z,56nm,1.3s
KKAR Karatay Array 68.40 312 P P **05 48 55.5 -0.7**
KKAR IAmb IAmb 05 49 03.2
comp=Z,56nm,1.2s
KKAR Karatay Array 68.40 312 P P **05 48 55.5 -0.7**
KKAR 05 48 55.5
KKAR pmax pmax
comp=Z,56nm,1.3s
G17K Kiwalik Mounta 68.43 23 P P **05 48 57.1 +1.2**
baz=245
R18K Karluk 68.47 32 P P **05 48 56.8 +0.5**
baz=254
H17K Granite Mounta 68.48 23 P P **05 48 56.8 +0.6**
baz=246
Q18K Katmai Hardscr 68.49 31 P P **05 48 56.7 +0.1**
baz=253
D17K Noatak River 68.53 20 P P **05 48 57.1 +0.6**
baz=242
P18K Big Mountain, 68.60 30 P P **05 48 57.8 +0.6**
baz=253
F17K Baldwin Pennin 68.61 22 P P **05 48 58.1 +1.1**
baz=244,SNR=14
N18K Kilae Creek 68.68 28 P P **05 48 58.7 +1.1**
baz=252
E17K Hotham Inlet 68.68 21 P P **05 48 58.5 +1.1**
baz=244,SNR=28
O18K Koktuh Hills 68.75 29 P P **05 48 58.4 +0.3**
baz=253
RDOG Red Dog Mine 68.76 20 P P **05 48 58.5 +0.6**
baz=242,SNR=5.5
L18K Granite Mounta 68.82 27 P P **05 48 58.9 +0.5**
baz=250
C17K DeLong Mountai 68.87 19 P P **05 48 59.8 +1.2**
baz=242
KBL Kabul 68.89 303 P P **05 48 58.6 -1.0**
KBL IAmb IAmb 05 49 07.8
comp=Z,36nm,1.0s
KBL Kabul 68.89 303 P P **05 48 59.6 -0.1**
SNR=19
KBL Kabul 68.89 303 P P **05 48 58.7 -1.0**
KBL pmax pmax
comp=Z,36nm,1.0s
SVW2 Sparrevohn 68.95 28 P P 05 49 05.6 +6.3
M18K Stony River 68.97 28 P P **05 49 00.1 +0.7**
baz=252,SNR=6.3
OHAK Old Harbor 68.99 32 P P **05 49 00.3 +0.8**
baz=255
H18K Honhosa River 69.17 23 P P **05 49 01.1 +0.5**
baz=248
J18K Innoko River 69.23 25 P P **05 49 02.1 +1.1**
baz=250
Q19K Cape Douglas, 69.25 30 P P **05 49 02.2 +1.0**
baz=254
E18K Tukpahlearik C 69.26 21 P P **05 49 02.0 +0.9**
baz=245
O19K Port Alsworth 69.28 29 P P **05 49 02.0 +0.7**
baz=253
G18K Tagagawik 69.34 23 P P **05 49 02.6 +0.9**
baz=247
TTA Tatalina 69.35 26 P P **05 49 04.2 +2.4**
TTA Tatalina 69.35 26 P P **05 49 02.6 +0.8**
baz=251
N19K Bonanza Creek 69.38 28 P P **05 49 02.4 +0.3**
baz=253
KDAK Kodiak Island 69.50 32 P P **05 49 03.1 +0.4**
baz=256
KDAK Kodiak Island 69.50 32 *i* P P **05 49 02.0 -0.7**
KDAK pmax pmax
comp=Z,23nm,1.0s
C18K Utukok River 69.59 19 P P **05 49 03.7 +0.5**
baz=244
GCSA Galena City Sc 69.61 24 P P **05 49 04.1 +0.9**
baz=249
L19K White Mountain 69.62 27 P P **05 49 04.2 +0.8**
baz=252
P19K Oil Pt 69.65 30 P P **05 49 04.4 +0.7**
baz=255
B18K Kokolik River 69.72 19 P P **05 49 05.0 +1.2**
baz=243,SNR=18
J19K Poorman 69.87 25 P P **05 49 05.4 +0.5**
baz=251
BVAR Borovoye Array 69.94 323 P P **05 49 05.2 -0.3**
comp=Z,37nm,0.7s,baz=101,slow=7.7,SNR=119
comp=Z,37nm,0.7s
BRVK Borovoye 70.01 323 P P **05 49 05.7 -0.2**
BRVK Borovoye 70.01 323 P P **05 49 05.9 0.0**
BRVK Borovoye 70.01 323 *ce*P P **05 49 04.3 -1.6**
BRVK pmax pmax
comp=Z,43nm,0.8s
G19K Purcell Mounta 70.03 23 P P **05 49 06.5 +0.6**
baz=249
F19K Shaleruckik Mo 70.03 22 P P **05 49 06.8 +1.0**
baz=248
H19K Roundabout Mou 70.06 23 P P **05 49 06.9 +1.0**
baz=250
O20K Slope Mountain 70.06 29 P P **05 49 06.2 0.0**
baz=255
L20K Farewell, AK 70.14 27 P P **05 49 06.7 +0.1**
baz=253
M20K Styx River 70.31 28 P P **05 49 07.8 +0.1**
baz=254
C19K Lookout Ridge 70.32 19 P P **05 49 08.4 +0.8**
C19K Lookout Ridge 70.32 19 P P **05 49 08.0 +0.4**
baz=245,SNR=35
K20K Telida 70.32 26 P P **05 49 08.3 +0.6**
baz=252
A19K Wainwright 70.33 18 P P **05 49 07.7 +0.2**
baz=243
HOM Homer 70.43 30 P P **05 49 08.5 +0.1**
baz=256
E19K Redstone River 70.47 21 P P **05 49 09.4 +0.9**
baz=248
J20K Nowinta River 70.54 25 P P **05 49 09.5 +0.5**
baz=252
N20K Mount Spurr 70.55 28 P P **05 49 09.5 +0.3**
baz=255
D19K Kuna River 70.56 20 P P **05 49 09.8 +0.7**
baz=247
I20K Naaghedeneel 70.60 24 P P **05 49 10.2 +0.9**
baz=252
H20K Anotleneega Mo 70.66 24 P P **05 49 10.3 +0.6**
baz=251
F20K Avaraart Lake 70.86 22 P P **05 49 11.2 +0.3**
baz=250
BRSE Bradley Lake S 70.90 30 P P **05 49 11.5 +0.3**
baz=257
CAPN Captain Cook N 70.94 29 P P **05 49 11.7 +0.2**
baz=256
PPLA Purkeypile 71.01 27 P P **05 49 12.4 +0.4**
baz=254
SKT Skwentna 71.06 28 P P **05 49 12.8 +0.5**
baz=255
E20K Nigu River 71.13 21 P P **05 49 12.9 +0.3**
baz=249
D20K Etivluk River 71.15 20 P P **05 49 13.4 +0.7**
baz=248
CAST Castle Rocks 71.20 26 P P **05 49 13.8 +0.8**
baz=254,SNR=31
CHUM Lake Minchumin 71.22 26 P P **05 49 13.7 +0.6**
baz=254,SNR=6.7
SUA Susitna One 71.30 28 P P **05 49 14.5 +0.7**
baz=256
B20K Meade River 71.46 19 P P **05 49 14.7 +0.2**
baz=247
G21K Allakaket 71.52 23 P P **05 49 15.4 +0.5**
baz=252
H21K Melozitna Rive 71.53 24 P P **05 49 15.2 +0.2**
baz=253,SNR=38
O22K Cooper Landing 71.56 29 P P **05 49 15.5 +0.3**
baz=258
SEW Seward 71.61 30 P P **05 49 16.1 +0.5**
baz=258
M22K Willow 71.66 28 P P **05 49 16.2 +0.5**
baz=257,SNR=5.2
RC01 Rabbit Creek A 71.69 29 P P **05 49 16.1 +0.1**
baz=257
I21K Tanana 71.72 24 P P **05 49 16.6 +0.5**
baz=254
CUT Chulitna 71.74 27 P P **05 49 16.4 +0.1**
baz=256
F21K Alatna River 71.75 22 P P **05 49 17.1 +0.8**
baz=252
BPAW Bear Paw Mtn. 71.85 26 P P **05 49 17.2 +0.3**
baz=255,SNR=29
C21K Knifeblade Rid 71.93 20 P P **05 49 18.0 +0.7**
baz=250
E21K Killik River 71.97 21 P P **05 49 17.7 +0.1**
baz=251,SNR=18
TRF Thorofare Moun 71.98 26 P P **05 49 18.3 +0.3**
baz=256,SNR=7.4
PMR Palmer 72.08 28 P P **05 49 22.3 +4.0**
PMR Palmer 72.08 28 P P **05 49 17.8 -0.6**
baz=258
B21K Ikpikpuk River 72.14 20 P P **05 49 18.8 +0.2**
baz=250
H22K Ishtalitna Cre 72.16 24 P P **05 49 19.6 +0.8**
baz=254
MLY Manley 72.19 25 P P **05 49 19.6 +0.6**
baz=255,SNR=42
PWL Port Wells 72.31 29 P P **05 49 20.1 +0.4**
baz=259
F22K John River 72.32 22 P P **05 49 20.4 +0.7**
baz=253,SNR=60
KNK Knik Glacier 72.36 29 P P **05 49 20.6 +0.6**
baz=258
G22K Bettles 72.40 23 P P **05 49 20.7 +0.6**
baz=254
SML Sawmill 72.50 28 P P **05 49 21.5 +0.5**
baz=258
A22K Sinclair Lake 72.52 18 P P **05 49 21.3 +0.6**
baz=249
D22K Ayikyak River 72.55 20 P P **05 49 21.1 0.0**
baz=252
WAT1 Susitna Watana 72.61 27 P P **05 49 21.9 +0.3**
baz=258
E22K Anaktuvuk Pass 72.63 21 P P **05 49 22.1 +0.5**
baz=253
MCK McKinley 72.64 26 P P **05 49 21.7 0.0**
baz=257,SNR=22
B22K Teshekpuk Lake 72.77 19 P P **05 49 22.3 0.0**
baz=251,SNR=23
NEA2 Nenana 72.78 25 P P **05 49 23.5 +1.1**
NEA2 IAmb IAmb 05 49 29.9
comp=Z,44nm,1.2s
NEA2 Nenana 72.78 25 P P **05 49 23.1 +0.6**
baz=257
M23K Glacier View 72.78 28 P P **05 49 22.9 +0.3**
baz=259
I23K Minto, Yukon-K 72.79 25 P P **05 49 23.3 +0.8**
I23K IAmb IAmb 05 49 29.6
comp=Z,56nm,0.9s
I23K Minto, Yukon-K 72.79 25 P P **05 49 22.8 +0.4**
baz=256,SNR=34
G23K Bananza Creek 72.91 23 P P **05 49 23.8 +0.5**
baz=255
WAT6 Susitna Watana 72.93 27 P P **05 49 23.2 -0.4**
baz=259,SNR=20
SCM Sheep Creek Mo 72.97 28 P P **05 49 24.3 +0.5**
SCM Sheep Creek Mo 72.97 28 P P **05 49 24.3 +0.5**
baz=259,SNR=6.1
SCM Sheep Creek Mo 72.97 28 P P **05 49 24.3 +0.5**

SCM pmax pmax
comp=Z,136nm,1.1s
COLD Coldfoot 72.97 22 P **P** 05 49 23.7 +0.1
baz=255,SNR=23
Q23K Middleton Isla 73.03 31 P **P** 05 49 24.3 +0.3
baz=261
DHY Denali Highway 73.19 27 P **P** 05 49 25.1 0.0
baz=259
D23K Nanushuk River 73.27 21 P **P** 05 49 25.9 +0.6
baz=254
COLA College 73.35 25 P **P** 05 49 25.8 0.0
COLA IAmb IAmb 05 49 34.0
comp=Z,27nm,0.8s
COLA College 73.35 25 P **P** 05 49 28.2 +2.4
COLA College 73.35 25 P **P** 05 49 27.0 +1.2
baz=258
COLA College 73.35 25 P **P** 05 49 25.8 0.0
COLA pmax pmax
comp=Z,27nm,0.8s
E23K Chandalar 73.41 22 P **P** 05 49 27.1 +0.9
baz=255
EYAK Cordova Ski Ar 73.50 30 P **P** 05 49 27.6 +0.8
baz=261
C23K Itkillik River 73.54 20 P **P** 05 49 27.9 +1.1
baz=254
H24K Noodor Dome 73.55 24 P **P** 05 49 27.8 +0.8
baz=258
M24K Tolsona, Glenn 73.56 28 P **P** 05 49 27.7 +0.5
baz=260
TOLK Toolik Lake Re 73.57 21 P **P** 05 49 28.5 +1.3
TOLK IAmb IAmb 05 49 34.5
comp=Z,35nm,0.9s
TOLK Toolik Lake Re 73.57 21 P **P** 05 49 28.3 +1.2
baz=255,SNR=23
KLU Klutina 73.57 29 P **P** 05 49 28.2 +0.9
baz=261,SNR=5.4
POKR Poker Plat Res 73.57 25 P **P** 05 49 27.8 +0.6
baz=258,SNR=12
HDA Harding Lake 73.64 26 P **P** 05 49 27.8 +0.3
baz=259,SNR=7.2
HDA P **P** 05 49 27.8 -0.3
baz=259,SNR=7.2
ILAR Eielson Array 73.73 25 P **P** 05 49 27.2 -0.9
comp=Z,5.5nm,0.7s,baz=249,slow=5.8,SNR=74
ILAR LR LR 06 20 20.7
comp=Z,344nm,20.0s,baz=246,slow=35
comp=Z,5.5nm,0.7s
E24K Your Creek 73.82 22 P **P** 05 49 29.0 +0.4
baz=256
G24K Hadweenzic Riv 73.89 23 P **P** 05 49 29.6 +0.6
baz=258
F24K Squaw Lake 73.91 22 P **P** 05 49 29.7 +0.6
baz=257
D24K Happy Valley 73.96 21 P **P** 05 49 30.2 +0.8
baz=256,SNR=41
PAX Paxson 74.03 27 P **P** 05 49 30.1 +0.1
baz=261,SNR=6.0
K24K Donnelly Dome 74.03 26 P **P** 05 49 30.3 +0.4
baz=260,SNR=5.6
HARP HAARP 74.08 28 P **P** 05 49 30.7 +0.5
baz=261,SNR=6.4
BMRM Bremner River 74.12 29 P **P** 05 49 30.8 +0.2
baz=262,SNR=6.2
C24K Franklin Bluff 74.15 20 P **P** 05 49 31.2 +0.8
baz=256,SNR=26
N25K Chitina, Valde 74.22 29 P **P** 05 49 31.5 +0.4
baz=262
J25K Salcha River, 74.34 26 P **P** 05 49 32.7 +0.9
baz=260
PRP Porcupine Dome 74.44 25 P **P** 05 49 33.2 +0.8
baz=260,SNR=6.0
G25K Bearman Lake 74.44 23 P **P** 05 49 33.4 +1.3
baz=259
HRA Herat 74.51 303 P **P** 05 49 32.8 -0.8
HRA IAmb IAmb 05 49 40.4
comp=Z,71nm,0.9s
PPT Papeete 74.57 111 LR LR 06 14 43.6
comp=Z,708nm,21.3s,baz=272,slow=30
PPT2 Papeete2 74.58 111 *e*P P 05 49 45.3 +11
comp=Z,78nm,27.0s
PPT2 *e*S **S** **05 59 07.8 -1.8**
comp=Z,225nm,26.0s
PPT2 *e*SS **SS** **06 04 04.2 +7.3**
comp=Z,192nm,25.2s
PPT2 *e*LQ LQ 06 09 14.8
comp=Z,912nm,26.2s
PPT2 *e*LR LR 06 12 08.4
comp=Z,2μm,24.2s
PPT2 *e*LR LR 06 12 19.7
comp=Z,2μm,25.0s
F25K Christian Rive 74.77 22 P **P** 05 49 34.9 +0.7
baz=259
MENT Mentasta 74.81 27 P **P** 05 49 38.4 +3.9
CRQE Cirque 74.83 30 P **P** 05 49 35.3 +0.6
baz=263
SCRK Sand Creek 74.84 26 P **P** 05 49 34.8 +0.1
baz=262,SNR=5.2
D25K Kavik River 74.85 21 P **P** 05 49 35.1 +0.5
baz=258
E25K Arctic Village 74.90 22 P **P** 05 49 35.6 +0.7
baz=259,SNR=53
MCARA McCarthy VSAT 74.94 29 P **P** 05 49 35.5 +0.3
baz=263
L26K Log Cabin Wild 74.99 27 P **P** 05 49 35.9 +0.4
baz=262,SNR=22
M26K Nabesna, AK 75.07 28 P **P** 05 49 36.9 +0.8
baz=263
J26L Joseph Creek 75.10 26 P **P** 05 49 37.0 +0.8
baz=262
MESA MESA 75.33 30 P **P** 05 49 38.2 +0.5
baz=264
F26K Sheenjek River 75.35 22 P **P** 05 49 38.3 +0.8
baz=261
G26K Porcupine Rive 75.37 23 P **P** 05 49 38.3 +0.8
baz=261,SNR=12
I26K Coal Creek Min 75.38 25 P **P** 05 49 38.0 +0.4
baz=262
C26K Camden Bay 75.47 20 P **P** 05 49 38.4 +0.3
baz=259,SNR=53
M27K Edge Creek, AK 75.58 28 P **P** 05 49 39.5 +0.5
baz=264,SNR=5.1
K27K Chicken 75.68 26 P **P** 05 49 40.1 +0.7
baz=263
L27K Beaver Creek, 75.68 27 P **P** 05 49 40.2 +0.7
baz=264
CTG Chitna Glacier 75.70 30 P **P** 05 49 40.1 +0.3
baz=265,SNR=5.3
NGCH Negor - Chabah 75.95 294 P **P** 05 49 39.4 -2.3
SVE Sverdlovsk 75.97 326|| *e*P **P** 05 49 41.3 +0.1
SVE pmax pmax
comp=Z,79nm,1.4s
I27K Kandik River 76.06 25 P **P** 05 49 42.7 +1.1
baz=263
BVCY Beaver Creek 76.06 28 P **P** 05 49 42.1 +0.5
baz=265
ABKAR Akbulak array 76.13 318 P **P** 05 49 41.6 -0.6
ABKAR Akbulak array 76.13 318 P **P** 05 49 41.8 -0.5
ABKAR IAmb IAmb 05 49 47.9
comp=Z,28nm,0.8s
EGAK Eagle 76.16 26 P **P** 05 49 42.8 +0.7
baz=264,SNR=7.2
H27K Steamboat Moun 76.17 24 P **P** 05 49 42.4 +0.2
baz=263
PINM Pinnacle 76.17 30 P **P** 05 49 42.5 +0.2
baz=266
G27K Doyon Strip 76.19 24 P **P** 05 49 42.5 +0.2
baz=263
YUK3 Moose Creek 76.20 29 P **P** 05 49 42.9 +0.2
baz=265,SNR=18
TBI Tubuai 76.32 117 *e*P P 05 49 38.2 -5.6
comp=Z,180nm,24.0s
TBI *e*S **S** **05 59 33.7 +5.1**
comp=Z,598nm,34.5s
TBI *e*SS **SS** **06 04 16.0 -7.1**
comp=Z,2μm,39.5s
TBI *e*LQ LQ 06 10 06.5
comp=Z,3μm,28.8s
TBI *e*LR LR 06 13 13.6
comp=Z,7μm,32.5s
TBI *e*LR LR 06 13 20.2
comp=Z,2μm,28.5s
E27K Coleen River 76.38 22 P **P** 05 49 43.9 +0.5
baz=263
YUK8 Steele Glacier 76.49 29 P **P** 05 49 44.4 0.0
baz=266,SNR=6.3
D27M Malcolm River 76.74 21 P **P** 05 49 45.6 +0.2
baz=263,SNR=37
I28M Miner Creek 76.74 25 P **P** 05 49 45.9 +0.4
baz=265
DAWY Dawson 76.86 26 P **P** 05 49 46.3 +0.1
baz=266,SNR=41
F28M Old Crow 76.96 23 P **P** 05 49 47.7 +1.1
F28M IAmb IAmb 05 49 54.1
comp=Z,38nm,0.9s
F28M Old Crow 76.96 23 P **P** 05 49 47.4 +0.8
baz=265,SNR=43
O29M Mount Kennedy 77.02 30 P **P** 05 49 47.8 +0.5
baz=267
YUK4 Talbot Arm 77.03 29 P **P** 05 49 48.4 +1.0
baz=267
ARU Arti 77.10 326*c* iP **P** 05 49 46.5 -1.1
ARU S **S** 05 59 37.4 +1.4
ARU SS **SS** 06 04 28.3 -4.8
ARU pmax pmax
comp=Z,19nm,0.8s
ARU MLR MLR
comp=Z,1μm,20.0s
ARU Arti 77.10 326 P **P** 05 49 46.6 -1.0
comp=Z,3.8nm,0.3s,baz=75,slow=2.0,SNR=22
ARU LR LR 06 24 43.5
comp=Z,995nm,21.3s,baz=88,slow=36
comp=Z,3.8nm,0.3s
YUK6 Outpost Mounta 77.15 30 P **P** 05 49 48.0 -0.1
baz=268
M29M Somme Creek 77.18 28 P **P** 05 49 48.4 +0.3
baz=267
E28M Babbage River 77.18 22 P **P** 05 49 48.5 +0.7
baz=265
L29M L29M 77.36 27 P **P** 05 49 49.1 +0.1
baz=267
AKTO Aktyubinsk 77.38 320 P **P** 05 49 48.4 -0.9
comp=Z,4.5nm,0.8s,baz=104,slow=6.8,SNR=12
AKTO LR LR 06 25 08.9
comp=Z,380nm,19.3s,baz=65,slow=37
comp=Z,4.5nm,0.8s
I29M Ogilvie Camp, 77.41 25 P **P** 05 49 50.7 +1.5
baz=266,SNR=16
P29M Windy Craggy 77.41 31 P **P** 05 49 50.4 +1.1
baz=268
H29M Whitestone 77.44 24 P **P** 05 49 50.1 +0.7
baz=266
D28M Stokes Point 77.53 21 P **P** 05 49 50.8 +1.1
baz=265
HYT Haines Junctio 77.57 30 P **P** 05 49 51.6 +1.3
baz=268,SNR=15
G29M Pine Creek 77.62 24 P **P** 05 49 52.1 +1.7
baz=266
K29M Barlow Dome 77.67 27 P **P** 05 49 52.5 +1.6
baz=268,SNR=28
GEYT Alibeck 77.70 307 P **P** 05 49 51.7 +0.3
comp=Z,16nm,0.9s,baz=83,slow=4.9,SNR=18
comp=Z,16nm,0.9s
E29M Blow River 77.77 22 P **P** 05 49 52.7 +1.5
baz=266
N30M Aishikik Lake 77.79 29 P **P** 05 49 52.8 +1.4
baz=268
P30M Million Dollar 77.82 31 P **P** 05 49 53.2 +1.5
baz=269
JLN Jalan Bani Buh 77.82 291 P **P** 05 49 52.3 0.0
SNR=8.1
M30M Minto, Yukon 77.96 28 P **P** 05 49 53.1 +0.7
baz=268,SNR=6.5
EPYK Eagle Plains 78.12 24 P **P** 05 49 53.9 +0.8
baz=268,SNR=17
S31K Pelican 78.17 33 P **P** 05 49 54.3 +0.8
baz=270
WBK Wadi Bani Khal 78.18 291 P **P** 05 49 54.7 +0.4
SNR=8.5
I30M Mount Dempster 78.22 25 P **P** 05 49 54.8 +1.0
baz=268,SNR=25
J30M Hart River 78.22 26 P **P** 05 49 54.5 +0.7
baz=268
O30N Mendenhall 78.26 30 P **P** 05 49 54.6 +0.6
baz=270
G30M tAoh Zraii Nji 78.34 24 P **P** 05 49 55.6 +1.3
G30M IAmb IAmb 05 50 00.5
comp=Z,35nm,1.1s
G30M tAoh Zraii Nji 78.34 24 P **P** 05 49 55.3 +0.9
baz=268,SNR=8.8
MAYO Mayo, Yukon 78.39 27 P **P** 05 49 55.1 +0.4
baz=269,SNR=5.6
N31M Braeburn, Yuko 78.42 29 P **P** 05 49 56.1 +1.2
N31M IAmb IAmb 05 50 05.6
comp=Z,88nm,1.1s
N31M Braeburn, Yuko 78.42 29 P **P** 05 49 55.8 +0.9
baz=270
WSAR Wadi Sarin 78.43 292 P **P** 05 49 55.8 +0.1
SNR=7.7
F30M Barrier River 78.53 23 P **P** 05 49 56.0 +0.6
baz=268
SKAG Skagway 78.64 31 P **P** 05 50 00.5 +4.4
SKAG Skagway 78.64 31 P **P** 05 49 57.0 +0.9
baz=270,SNR=6.6
JASK Jask - Hormozg 78.85 294 P **P** 05 49 59.4 +1.5
SNR=14
WHY Whitehorse 78.85 30 P **P** 05 49 58.1 +0.7
baz=271,SNR=6.3
BIDO Bidbid 78.86 292 P **P** 05 49 58.3 +0.3
SNR=27
SMDO Samad 78.98 292 P **P** 05 49 58.7 -0.1
SNR=9.9
JMDO Jabal Madar 79.00 291 P **P** 05 49 58.7 -0.2
S32K Killisnoo 79.07 33 P **P** 05 49 59.0 +0.6
baz=272
H31M Peel River 79.07 25 P **P** 05 49 59.0 +0.5
baz=270
M31M Drury Creek, Y 79.07 28 P **P** 05 49 59.1 +0.6
baz=271,SNR=7.7
R32K Eaglecrest 79.08 32 P **P** 05 49 59.3 +0.7
baz=271
G31M Satah River 79.10 24 P **P** 05 49 59.0 +0.6
baz=270,SNR=8.4
JIS Juneau Island 79.15 32 P **P** 05 50 02.7 +3.8
MHTO MHTO 79.28 290 P **P** 05 50 00.3 -0.1
SNR=16
F31M Tsiigehtchic 79.31 23 P **P** 05 50 00.7 +1.1
baz=270,SNR=7.9
INK Inuvik 79.39 22 P **P** 05 50 00.5 +0.5
baz=270,SNR=20
INK Inuvik 79.39 22 LR LR 06 24 52.0
comp=Z,103nm,19.7s,baz=185,slow=36
P32M Atlin 79.46 31 P **P** 05 50 01.4 +0.8
baz=272,SNR=5.2
FARO Faro, Yukon 79.56 28 P **P** 05 50 01.6 +0.4
baz=272,SNR=13
HOQ Hoqain 79.59 292 P **P** 05 50 02.2 +0.1
SNR=24
N32M Quiet Lake 79.72 29 P **P** 05 50 02.7 +0.7
baz=272,SNR=7.4
BSY Bisya 79.79 291 P **P** 05 50 02.7 -0.5
SNR=7.8
P33M Teslin, Yukon 79.89 30 P **P** 05 50 03.9 +0.8
baz=272
U33K Whale Pass 79.92 35 P **P** 05 50 03.8 +0.7
baz=273
Q32M Nakina River 80.23 32 P **P** 05 50 06.3 +1.3
baz=273
SOHO SOHO 80.24 293 *i* P **P** 05 50 04.8 -0.7
SNR=12
SOHO SOHO 80.24 293 P **P** 05 50 05.3 -0.3
WRAK Wrangell Islan 80.33 34 P **P** 05 50 06.9 +1.5
baz=274
ARQ Araqi 80.34 292 P **P** 05 50 06.4 +0.3
SNR=20
SHME Shamm 80.38 295 P **P** 05 50 05.3 -1.0
MASF Masafi 80.44 294 P **P** 05 50 07.2 +0.6
SNR=15
MSFE Esma-Masafi 80.44 294 *i* P **P** 05 50 07.0 +0.3
SNR=11
UOSS Minazif 80.44 294 P **P** 05 50 06.1 -0.6
UOSS Minazif 80.44 294 P **P** 05 50 06.0 -0.6
UOSS Minazif 80.44 294 P **P** 05 50 06.2 -0.4
HATD Hatta, Dubai 80.52 294 *i* P **P** 05 50 07.0 -0.1
SNR=7.1
HATD Hatta, Dubai 80.52 294 P **P** 05 50 07.3 +0.2
ASHO Ashiyiah 80.61 293 *i* P **P** 05 50 07.6 0.0
SNR=9.7
ASHO Ashiyiah 80.61 293 P **P** 05 50 07.5 -0.1
R33M Jennings River 80.87 31 P **P** 05 50 09.1 +0.7
baz=274
S34M Telegraph Cree 80.89 33 P **P** 05 50 09.9 +1.5
baz=274
ALNE Al Ain 80.96 293 *i* P **P** 05 50 09.5 +0.2
SNR=7.3
ALNE Al Ain 80.96 293 P **P** 05 50 09.6 +0.2
FAQ Al Faqa, Dubai 81.02 294 P **P** 05 50 11.3 +1.6
FAQ Al Faqa, Dubai 81.02 294 P **P** 05 50 10.7 +1.0
DLBC Dease Lake 81.43 32 P **P** 05 50 12.5 +1.2
baz=275,SNR=8.3
DLBC Dease Lake 81.43 32 LR LR 06 23 18.0
comp=Z,209nm,19.7s,baz=288,slow=34
T35M Bob Quinn 81.44 34 P **P** 05 50 12.5 +1.1
baz=275
TAOE Nuku Hiva Isla 81.47 101 *e*LR LR 06 15 04.6
comp=Z,1μm,23.6s
WTLY Watson Lake, Y 81.90 30 P **P** 05 50 15.1 +1.4
baz=276,SNR=30
KIRV Kirov 81.94 328*ce*P **P** 05 50 12.1 -1.8
KIRV Kirov 81.94 328 LR LR 06 29 16.6
comp=Z,432nm,20.3s,baz=79,slow=38
A36M Sachs Harbour 81.96 18 P **P** 05 50 14.0 +0.3
A36M IAmb IAmb 05 50 20.1
comp=Z,28nm,0.8s
A36M Sachs Harbour 81.96 18 P **P** 05 50 14.6 +0.9
baz=278,SNR=25
TGTN Hyland Airport 82.01 29 P **P** 05 50 15.0 +0.7
baz=276,SNR=6.9
DMTO DMTO 82.53 287 P **P** 05 50 17.5 -0.3
C36M Paulatuk 82.72 21 P **P** 05 50 18.5 +0.8
baz=279,SNR=7.0
BBB Bella Bella 83.21 38 LR LR 06 21 44.1
comp=Z,594nm,20.3s,baz=280,slow=32
RBK Rabkut 83.26 287 P **P** 05 50 21.8 +0.1
LIRD Liard River Hi 83.34 31 P **P** 05 50 21.8 +0.6
baz=278,SNR=7.9
PRGR Permogore 83.44 331 *e*P **P** 05 50 20.2 -1.4
PRGR pmax pmax
comp=Z,37nm,0.7s
WHFO Wadi Hawf 83.61 287 P **P** 05 50 22.7 -0.8
WRGLY Wrigley 83.99 27 P **P** 05 50 25.3 +0.9
baz=280,SNR=6.1
ABTO Aybut 84.14 287 P **P** 05 50 26.0 -0.2
KOTAN Kotaneelee Air 84.25 30 P **P** 05 50 26.8 +1.0
baz=280
KLMR Klimovskoe 86.49 331 *e*P P 05 50 31.4 -5.5
KLMR AMP 05 50 43.5
comp=Z,47nm,1.5s
KLMR LQ LQ 06 23 44.3
KLMR LQ LQ 06 23 44.3
KLMR LR LR 06 28 27.7
KLMR Klimovskoe 86.49 331 *e*P P 05 50 31.4 -5.5
KLMR pmax pmax
comp=Z,47nm,1.5s
SPITS Spitsbergen Ar 86.79 350 LR LR 06 30 16.9
comp=Z,558nm,19.8s,baz=12,slow=36
APA Apatity 87.11 338|| *i* P **P** 05 50 36.4 -3.5
APA *i* 05 54 02.7
APA pmax pmax
comp=Z,6.0nm,1.0s
VRH Novokhopyorsk 87.54 321 *e*P P 05 50 37.3 -5.0
VRH pmax pmax
comp=Z,10.0nm,1.0s
GNI Garni 87.76 310 LR LR 06 33 31.3
comp=Z,204nm,20.4s,baz=83,slow=38
I03D Drain, OR 87.78 46 P **P** 05 50 44.9 +1.2
I03D IAmb IAmb 05 50 52.1
comp=Z,35nm,1.2s
KRPM Rodgers 87.80 49 P **P** 05 50 44.6 +0.8
KRPM IAmb IAmb 05 50 53.6
comp=Z,67nm,1.7s
NOR Nord 87.84 357 *i* P **P** 05 50 44.6 +1.4
NOR IAmb IAmb 05 50 52.7
comp=Z,3.6nm,1.4s
ZEI Tsey 87.86 313 *e*P **P** 05 50 41.9 -2.4
ZEI pmax pmax
comp=Z,40nm,1.4s
L02F Cave Junction 87.94 48 P **P** 05 50 45.5 +1.0
YKA Yellowknife Ar 88.10 27 P **P** 05 50 45.0 +0.3
comp=Z,5.9nm,0.9s,baz=291,slow=5.1,SNR=35
YKA LR LR 06 27 05.6
comp=Z,262nm,21.6s,baz=274,slow=34
comp=Z,5.9nm,0.9s
VNDA Vanda 88.25 175 P **P** 05 50 44.8 -0.2
VNDA Vanda 88.25 175 P **P** 05 50 44.8 -0.2
comp=Z,2.4nm,0.9s,baz=337,slow=7.5,SNR=8.6
VNDA LR LR 06 27 22.8
comp=Z,453nm,21.5s,baz=348,slow=34
comp=Z,2.4nm,0.9s
KBZ Khabaz 88.38 314 P **P** 05 50 46.9 +0.5
comp=Z,5.1nm,0.9s,baz=71,slow=7.6,SNR=3.2
KBZ LR LR 06 34 10.1
comp=Z,246nm,18.8s,baz=62,slow=38
comp=Z,5.1nm,0.9s
I04A Tendick Farm, 88.43 46 P **P** 05 50 47.6 +0.9
I04A IAmb IAmb 05 50 53.1
comp=Z,29nm,1.2s
KVAR Kislovodsk Arr 88.47 314 LR LR 06 34 16.4
comp=Z,299nm,18.8s,baz=294,slow=38
HOOD Mount Hood Mea 88.63 44 P **P** 05 50 48.0 +0.2
HOOD IAmb IAmb 05 50 56.7
comp=Z,45nm,1.2s
YBH Yreka Blue Hor 88.65 48 P **P** 05 50 48.3 +0.4
YBH Yreka Blue Hor 88.65 48 P **P** 05 50 48.3 +0.4
YBH pmax pmax
comp=Z,17nm,1.1s
YBH Yreka Blue Hor 88.65 48 LR LR 06 22 51.3
comp=Z,524nm,21.5s,baz=280,slow=30
MOS Moscow 88.78 326 *e*P **P** 05 50 44.9 -3.2
MOS *e* 05 54 15.1
MOS pmax pmax
comp=Z,39nm,0.9s
MOS MLR MLR
comp=Z,1μm,21.0s
LPSR Galich'ya Gora 88.88 323 *e*P **P** 05 50 44.5 -4.1
LPSR pmax pmax
comp=Z,20nm,1.0s
VORR Voronezh 88.95 322 *e*P P 05 50 44.2 -4.8
VORR pmax pmax
comp=Z,20nm,0.9s
ARCES ARCESS Array B 89.03 341 P **P** 05 50 47.4 -1.6
comp=Z,5.1nm,0.8s,baz=46,slow=5.2,SNR=3.9
ARCES LR LR 06 33 20.4
comp=Z,1μm,21.1s,baz=74,slow=37
comp=Z,5.1nm,0.8s
RES Resolute Bay 89.04 13 LR LR 06 33 29.3
comp=Z,207nm,19.6s,baz=340,slow=38
VORD Divnogorie 89.08 322 *e*P **P** 05 50 46.7 -2.9
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 89.10 322 *e*P **P** 05 50 45.4 -4.3
VSR pmax pmax
comp=Z,9.0nm,0.9s
BRLDA Berland Lookou 89.14 35 P **P** 05 50 50.0 0.0
BRLDA IAmb IAmb 05 50 57.1
comp=Z,40nm,1.0s
OBN Obninsk 89.54 326 *i* P **P** 05 50 49.2 -2.4
OBN *i* 05 54 22.1
OBN pmax pmax
comp=Z,34nm,1.3s
OBN MLR MLR
comp=Z,911nm,22.0s
OBN Obninsk 89.54 326 LR LR 06 31 49.1
comp=Z,836nm,21.8s,baz=38,slow=36
SOC Sochi 90.66 314 *e*P **P** 05 50 55.7 -1.5
SOC *e* 05 54 26.5
SOC *e*PPP PPP 05 56 26.0
SOC *e*S **SKSac** **06 01 27.5 -1.1**
SOC *e*SS **SS** **06 07 48.8 -5.3**
SOC *e*SSS SSS 06 11 26.8
SOC pmax pmax
comp=Z,38nm,0.8s
E09A Wood Farm, Sta 90.71 43 P **P** 05 50 57.6 +0.3
NEW Newport 90.91 41 P **P** 05 50 59.5 +1.2
baz=286
NEW Newport 90.91 41 LR LR 06 25 34.2
comp=Z,446nm,20.5s,baz=287,slow=32
PNTR Pine Nut 91.56 50 P **P** 05 51 02.0 +0.2
PNTR IAmb IAmb 05 51 09.2
comp=Z,22nm,1.0s
FINES FINESS Array B 92.40 334*ce*P **P** 05 51 03.7 -1.1
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 92.40 334 P **P** 05 51 03.1 -1.7
comp=Z,5.0nm,1.0s,baz=60,slow=5.5,SNR=8.3
FINES LR LR 06 33 26.6
comp=Z,620nm,21.9s,baz=62,slow=36
comp=Z,5.0nm,1.0s
PKM Mcpherson Peak 92.41 54 P **P** 05 51 06.7 +1.0
baz=284
DAG Danmarks Havn 92.49 355 *i* P **P** 05 51 04.0 -1.0
DAG IAmb IAmb 05 51 16.3
comp=Z,2.6nm,1.1s

MLAC	Mammoth, Mammo	92.50	51	P		P	05 51 06.1	-0.1
	baz=285							
SBC	Santa Barbara	92.60	55	P		P	05 51 06.3	0.0
	baz=284							
NVAR	Mina Array Bea	92.71	50	P		P	05 51 05.1	-1.9
	comp=Z,2.6nm,0.7s,baz=271,slow=5.1,SNR=16							
NVAR				LR		LR	06 30 44.4	
	comp=Z,326nm,18.3s,baz=288,slow=34							
	comp=Z,2.6nm,0.7s							
VES	Vestal, Richgr	92.76	53	P		P	05 51 07.5	+0.5
	baz=284							
TIN	Tinemaha, Big	93.12	52	P		P	05 51 08.6	-0.3
	baz=285							
ISA	Isabella, Lake	93.28	53	P		P	05 51 09.7	+0.1
	baz=285							
CWC	Cottonwood Cre	93.39	52	P		P	05 51 10.4	+0.2
	baz=285							
MSO	Missoula	93.39	41	P		P	05 51 10.1	+0.2
	baz=288							
TPH	Tonopah	93.62	51	P		P	05 51 11.2	-0.1
TPH	Tonopah	93.62	51	P		P	05 51 11.2	-0.1
TPH				pmax		pmax		
	comp=Z,105nm,1.4s							
GRAC	Grapevine Rang	93.80	52	P		P	05 51 11.9	0.0
	baz=286							
EDW2	Edwards Air Fo	93.86	54	P		P	05 51 12.0	-0.2
	baz=285							
OVMT	Ovando	93.93	41	P		P	05 51 12.5	+0.1
LRMC	Laurel Mtn Rad	93.95	53	P		P	05 51 12.7	-0.1
	baz=285							
MPMC	Manual Prospec	93.95	53	P		P	05 51 12.0	-0.9
	baz=285							
HLID	Hailey	94.09	45	P		P	05 51 13.2	-0.1
	baz=288							
BFSC	Mount Baldy Ra	94.29	54	P		P	05 51 14.0	-0.4
	baz=285							
FURC	Furnace Creek,	94.33	52	P		P	05 51 14.6	+0.3
	baz=286							
ELK	Elko	94.35	48	LR		LR	06 26 48.0	
	comp=Z,632nm,21.8s,baz=290,slow=31							
MAW	Mawson	94.40	202	LR		LR	06 31 10.4	
	comp=Z,314nm,19.3s,baz=68,slow=34							
MNK	Minsk	94.46	327	*i* P		P	05 51 12.0	-2.5
	comp=E,7.0nm,0.9s							
MNK				*i* P		P	05 51 12.0	-2.5
	comp=N,30nm,0.9s							
MNK				*i* P		P	05 51 12.0	-2.5
	comp=Z,15nm,0.9s,baz=66							
MNK				*i* PP		PP	05 54 59.3	-2.2
MNK				*i* PPP		PPP	05 57 00.5	
MNK				*i* SKS		SKSac	06 01 36.2	-13
MNK				*i* S		SKSac	06 01 47.0	-2.3
MNK				*i* PS		PS	06 03 34.6	-8.6
MNK				*i* SS		SS	06 08 29.0	-19
MNK				*i* SSS		SSS	06 11 46.4	
MNK				*i* LQ		LQ	06 27 52.9	
MNK				*i* LR		LR	06 31 50.0	
MNK				*i* LRM		MLR	06 36 28.6	
	comp=E,328nm,18.4s							
MNK				*i* LRM		MLR	06 36 33.5	
	comp=Z,775nm,18.4s							
MNK				*i* LRM		MLR	06 37 21.5	
	comp=N,627nm,18.1s							
MNK	Minsk	94.46	327	*i* P		P	05 51 12.0	-2.5
MNK				*i*			05 54 59.3	
MNK				*i* PPP		PPP	05 57 00.5	
MNK				*i* S		SKSac	06 01 47.0	-2.3
MNK				pmax		pmax		
	comp=N,30nm,0.9s							
MNK				pmax		pmax		
	comp=E,7.0nm,0.9s							
MNK				pmax		pmax		
	comp=Z,15nm,0.9s							
MNK				MLR		MLR		
	comp=E,328nm,18.0s							
MNK				MLR		MLR		
	comp=Z,775nm,18.0s							
MNK				MLR		MLR		
	comp=N,627nm,18.0s							
TPNV	Topopah Spring	94.67	51	P		P	05 51 15.8	-0.2
	baz=286							
GSC	Goldstone, Bar	94.69	53	P		P	05 51 15.9	-0.2
	baz=286							
R11B	Troy Canyon, C	94.79	50	P		P	05 51 16.4	-0.2
	baz=287							
NACGM	Naroch	94.88	328	*e*P		P	05 51 15.3	-1.0
	comp=Z,29nm,0.9s,baz=65							
HEC	Hector,Ludlow	95.19	53	P		P	05 51 18.8	+0.4
	baz=286							
AKASG	Malin Array Be	95.21	323	P		P	05 51 15.6	-2.4
	comp=Z,1.1nm,0.7s,baz=53,slow=4.5,SNR=4.1							
AKASG				LR		LR	06 37 16.0	
	comp=Z,356nm,19.4s,baz=38,slow=37							
	comp=Z,1.1nm,0.7s							
BOZ	Bozeman (W)	95.31	42	P		P	05 51 19.1	+0.2
	baz=290							
TUQ	Turquoise Moun	95.35	53	P		P	05 51 19.1	0.0
	baz=286							
PFO	Pinyon Flats O	95.42	55	P		P	05 51 20.1	+0.6
	baz=286							
PFO	Pinyon Flats O	95.42	55	LR		LR	06 27 21.5	
	comp=Z,386nm,21.2s,baz=280,slow=31							
TPFO	Pinon Flats	95.43	55	P		P	05 51 19.9	+0.4
	baz=286							
EGMT	Eagleton	95.66	39	P		P	05 51 21.2	+0.9
	baz=292							
BELC	Belle Mtn. Jos	95.69	54	P		P	05 51 20.8	0.0
	baz=286							
GMRC	Granite Mounta	95.74	53	P		P	05 51 21.2	+0.3
	baz=286							
IKP	In-Ko-Pah, Jac	95.96	55	P		P	05 51 22.2	+0.2
	baz=286							
BRTR	Keskin Array B	96.11	312	P		P	05 51 21.5	-1.1
	comp=Z,0.4nm,0.4s,baz=53,slow=32,SNR=2.2							
BRTR				LR		LR	06 38 42.7	
	comp=Z,163nm,21.9s,baz=57,slow=38							
	comp=Z,0.4nm,0.4s							
BC3	Big Chuckawall	96.22	54	P		P	05 51 23.3	+0.1
	baz=286							
DUG	Dugway, Tooele	96.28	47	P		P	05 51 22.9	-0.4
	baz=289							
IRM	Iron Mountain	96.32	54	P		P	05 51 22.5	-1.0
	baz=287							
JMIC	Jan Mayen	96.47	350	LR		LR	06 32 20.1	
	comp=Z,182nm,21.9s,baz=5.0,slow=34							
MMAI	Mount Meron Ar	96.76	305	P		P	05 51 24.9	-0.6
	comp=Z,0.4nm,0.3s,baz=16,slow=11,SNR=1.4							
MMAI				LR		LR	06 40 00.0	
	comp=Z,254nm,20.4s,baz=46,slow=38							
	comp=Z,0.4nm,0.3s							
SUMG	Summit	97.58	360	*i* P		Pdif	05 51 33.2	+4.4
SUMG				IAmb		IAmb	05 51 36.7	
	comp=Z,3.4nm,0.9s							
PDAR	Pinedale Array	97.70	44	P		P	05 51 28.9	-0.9
	comp=Z,0.1nm,0.5s,baz=308,slow=3.0,SNR=1.8							
PDAR				LR		LR	06 29 55.1	
	comp=Z,103nm,22.0s,baz=312,slow=32							
	comp=Z,0.1nm,0.5s							
EIL	Elat	98.07	302	LR		LR	06 40 43.4	
	comp=Z,189nm,19.3s,baz=66,slow=38							
HFS	Hagfors	98.26	336	LR		LR	06 38 12.5	
	comp=Z,432nm,20.1s,baz=52,slow=37							
NOA	NORSAR Array B	98.66	338	LR		LR	06 38 33.0	
	comp=Z,480nm,20.1s,baz=45,slow=37							
MLR	Muntele Rosu	99.31	319	LR		LR	06 40 16.1	
	comp=Z,453nm,18.7s,baz=58,slow=38							
QSPA	South Pole Qui	99.88	180	LR		LR	06 35 40.2	
	comp=Z,730nm,20.6s,baz=4.0,slow=35							
CRVS	Cervenica-Dubn	100.53	324	*e*P		Pdif	05 51 40.9	-1.1
CRVS	Cervenica-Dubn	100.53	324	*e*PDIFF		Pdif	05 51 40.9	-1.1
ICESG	Greenland Ices	101.09	360	*i* P		Pdif	05 51 48.6	+4.1
ICESG				IAmb		IAmb	05 51 53.9	
	comp=Z,4.3nm,1.1s							
CLL	Collm	103.84	329	*e*(Pdif)			05 52 00.0	
CLL				*ex*		x	05 52 07.0	
CLL				*ex*		x	06 21 06.0	
CLL				AMS		AMS	06 33 00.0	
	comp=N,1μm,20.5s							
CLL				AMS		AMS	06 33 00.0	
	comp=E,800nm,20.3s							
CLL				AMS		AMS	06 41 00.0	
	comp=Z,500nm,19.6s							
CLL	Collm	103.84	329	*e*P		Pdif	05 52 00.0	+3.4
CLL				MLR		MLR		
	comp=Z,500nm,19.6s							
MIAR	Mount Ida	112.52	46	P		PKiKP	05 56 29.0	-2.1
	baz=301							
WVT	Waverly	115.58	42	P		PKiKP	05 56 35.9	-1.1
	baz=306							
VNA2	Neumayer--Watz	115.88	191	⇓PKPdf		PKPdf	05 56 38.2	+1.7
	comp=Z,7.4nm,0.7s,baz=125,slow=2.0							
VNA3	Neumayer Olymp	116.04	190	⇓PKPdf		PKPdf	05 56 38.5	+1.7
	comp=Z,6.4nm,0.9s							
M53A	WI Miller and	116.49	33	P		PKPdf	05 56 37.9	-0.7
	baz=314							
O53A	New Philadelph	117.01	35	P		PKPdf	05 56 38.3	-1.3
	baz=313							
LRAL	Lakeview Retre	117.93	44	P		PKPdf	05 56 40.4	-1.2
	baz=305							
BINY	Binghamton	118.36	30	P		PKPdf	05 56 41.0	-1.2
	baz=319							
SSPA	Standing Stone	118.55	32	P		PKPdf	05 56 41.6	-1.0
	baz=316							
LBNH	Lisbon	118.65	26	P		PKPdf	05 56 42.5	-0.2
	baz=324							
PKME	Peaks-Kenny Pk	118.89	23	P		PKPdf	05 56 41.8	-1.3
	baz=326							
L61B	Northampton	119.74	28	P		PKPdf	05 56 43.8	-1.0
	baz=322							
GOGA	Godfrey	120.08	42	P		PKPdf	05 56 44.6	-1.1
	baz=308							
HRV	Adam Dziewonsk	120.20	27	P		PKPdf	05 56 44.6	-1.1
	baz=323							
PAL	Palisades	120.28	29	P		PKPdf	05 56 44.7	-1.1
	baz=320							
TORD	Torodi Ar. Bea	132.81	298	PKhKP		PKPpre	05 57 03.8	
	comp=Z,0.7nm,0.8s,baz=56,slow=3.2,SNR=4.1							
TORD				PKP		PKiKP	05 57 11.3	-0.3
	comp=Z,4.2nm,0.9s,baz=44,slow=2.0,SNR=11							
PLCA	Paso Flores	139.07	144	PKP		PKPdf	05 57 20.7	-0.9
	comp=Z,1.3nm,0.8s,baz=208,slow=8.0,SNR=2.6							
CBOC	Ciudad Bolivar	140.63	68	*e*P		PKPdf	05 57 24.2	-1.1
DBIC	Dimbokro	141.45	294	PKhKP		PKPpre	05 57 20.4	
	comp=Z,6.3nm,0.9s,baz=354,slow=6.5,SNR=3.1							
DBIC				PKP		PKPdf	05 57 25.9	-0.6
	comp=Z,7.7nm,0.8s,baz=81,slow=3.3,SNR=6.3							
ORTC	Ortega, Tolima	142.08	70	*e*P		PKPdf	05 57 27.1	-0.6
SPBC	San Pablo de B	142.48	67	*e*P		PKPdf	05 57 25.0	-3.5
ROSC	El Rosal	142.58	68	PKP		PKPdf	05 57 28.3	-0.7
	comp=Z,15nm,0.8s,baz=271,slow=18,SNR=7.6							
CHIC	Chingaza	143.20	68	*e*P		PKPab	05 57 25.6	-0.2
VILC	Villavicencio,	143.44	69	*e*P		PKPbc	05 57 27.2	-0.1
NNA	Nana	143.60	97	*c i*PKIKP		PKPdf	05 57 30.6	+0.3
NNA				pmax		pmax		
	comp=Z,33nm,1.3s							
PTLC	Puerto Leguiza	143.74	76	*e*P		PKPbc	05 57 27.9	-0.2
SDV	Santo Domingo	144.02	60	*e*P		PKPbc	05 57 29.1	-0.1
TAMC	Tame, Arauca	144.19	64	*e*P		PKPbc	05 57 30.3	+0.8
CO02	Combarbal	144.19	131	PKPdf		PKPbc	05 57 29.2	0.0
CO03	El Pedregal	144.60	130	PKPdf		PKPab	05 57 30.2	-0.1
PTGC	Puerto Gaitan,	144.83	68	*e*P		PKPab	05 57 31.1	-0.4
GO04	Tololo Observa	144.84	129	PKPdf		PKPab	05 57 31.2	-0.1
LCO	Las Campanas	145.45	128	PKPdf		PKPbc	05 57 33.1	-0.3
LCO	Las Campanas	145.45	128	PKiKP		PKPbc	05 57 33.1	-0.3
CO01	Juntas del Tor	145.47	129			PKPbc	05 57 33.2	-0.3
ZON	Zonda	145.72	133			PKPdf	05 57 33.2	-0.4
ZON	Zonda	145.72	133	PKP2		PKPdf	05 57 33.2	-0.4
CZSB	Cruzeiro do Su	147.42	89	*e*P		PKPbc	05 57 38.7	-0.6
TBTG	Tabatinga, AM	149.58	81	*e*P		PKPbc	05 57 43.0	-2.0
BOAV	Boa Vista	155.96	60	*e*P		PKPdf	05 57 49.7	-0.1

*ASRS **08** 05:38:28.7±0.2, 54.°N±1.°×9.°1E±.°, h10km, MLh3.7/14, Error ellipse: s-maj=2.7km s-min=2.0km az=151.0, confirmed*
*NNC **08** 05:38:36.8±4.9, 53.°88N×90.°39E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=38.5km s-min=28.4km az=50.0, Suspected Mining explosion.*

ISC 08 05:38:30.3±0.8, 54.°12N±0.°03×90.°94E±0.°02, h0km, n30, σ1s76/51, 7C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LUZB	Luzhba, Kemero	1.29	250	Pg	Pg		05 38 54.9	-0.1
LUZB				Sg	Sb		05 39 12.4	-0.2
CERR	Cheremushki	1.30	167	Pg	Pn		05 38 55.9	+0.1
CERR				Sg	Sb		05 39 13.0	+0.1
DJO	Djoy, Khakassi	1.35	173	Pg	Pg		05 38 56.1	-0.2
DJO				Sg	Sg		05 39 14.1	+0.3
MINR	Mina	2.06	66	Pg	Pg		05 39 10.6	+0.9
MINR				Sg	Sg		05 39 38.1	+1.8
ERU	Erunakovo, Kuz	2.09	272	Pg	Pb		05 39 09.5	+0.4
ERU				Sg	Sg		05 39 39.9	+2.5
BRCR	Berchikul'	2.15	316	Sg	Sg		05 39 39.2	+0.1
TASR	Tashtagol	2.28	234	Pg	Pb		05 39 12.6	+0.3
TASR				Sg	Sg		05 39 43.5	-0.1
TAIL	Tailep, Kuzbas	2.32	255	Pg	Pb		05 39 12.6	-0.4
TAIL				Sg	Sg		05 39 45.0	+0.2
KOTO	Kotino, Kuzbas	2.36	273	Sg	Sg		05 39 47.1	+1.0
POMOR	Pomortsevo, Ku	2.60	278	Sg	Sg		05 39 57.1	+3.2
GZL	Zheleznogorsk	2.62	34	Sg	Sg		05 39 54.4	+0.2
VCHU	Verkh-Chumysh,	2.66	268	Pg	Pg		05 39 20.2	-1.0
VCHU				Sg	Sg		05 39 55.6	+0.1
SHTK	Zheleznogorsk-	2.69	34	Pg	Pg		05 39 21.5	-0.4
SHTK				Sg	Sg		05 39 54.4	-2.3
GZLN	Zheleznogorsk	2.78	34	Pg	Pb		05 39 20.5	-0.3
GZLN				Sg	Sg		05 39 58.7	-1.0
BJR3	Bachatsky-3 (S	2.81	274	Sg	Sg		05 40 00.2	-0.3
BJR1	Bachatsky 1, K	2.88	274	Pg	Pb		05 39 24.1	-1.4
BJR1				Sg	Sg		05 40 02.9	+0.1
ELT	Eltsovka	2.92	255	Pg	Pb		05 39 23.0	-0.2
ELT				Sg	Sb		05 40 01.1	+1.6
SALR	Pechorkino, Sa	3.08	278	Pg	Pb		05 39 27.1	+1.1
SALR				Sg	Sg		05 40 08.0	-1.3
YALR	Yailyu, Altay	3.10	222	Pg	Pb		05 39 26.9	+0.6
YALR				Sg	Sb		05 40 05.2	+0.6
BALAH	Balakhonka, Ku	3.21	300	Sg	Sg		05 40 14.1	+0.7
ARTR	Artybash	3.21	225	Pg	Pb		05 39 29.8	+1.6
ARTR				Sg	Sg		05 40 10.9	-2.5
ZAA0	Zalesovo Array	3.61	270	⇑Pg	Pb		05 39 37.2	+2.2
	0.8nm,0.8s							
ZAA0				⇑Lg	Lg		05 40 23.1	
	5.7nm,0.7s							
ULGR	Ulagan, Altay	3.95	209	Pg	Pg		05 39 45.4	-0.6
ULGR				Sg	Sg		05 40 38.5	+1.4
ELDR	Elanda	4.14	227	Pg	Pb		05 39 45.4	+1.3
ELDR				Sg	Sb		05 40 38.7	+4.1
AKAR	Aktash	4.32	210	Pg	Pb		05 39 47.5	+0.3
AKAR				Sg	Sg		05 40 45.8	-3.2
NVSII	Novosibirsk	4.55	282	Pg	Pg		05 39 55.8	-1.6
NVSII				Sg	Sg		05 40 52.4	-3.9
MOY	Mondy	6.56	108	Sg	Sg		05 41 57.6	-3.3
KURK	Kurchatov	8.27	251	⇑Pn	Pn		05 40 34.4	+3.1
	4.8nm,0.9s							
KURK				⇑Lg	Lg		05 42 49.5	
	9.8nm,0.8s							
KURBB	Kurchatov Arra	8.36	250	⇑Pn	Pn		05 40 32.1	-0.6
	8.0nm,1.2s							
KURBB				⇓Sn	Sn		05 42 02.7	-5.0
	6.5nm,0.6s							
KURBB				⇑Lg	Lg		05 42 53.7	
	19nm,0.8s							
MK31	Makanchi Array	9.17	220	⇑Pn	Pn		05 40 44.8	+1.0
	2.0nm,0.9s,baz=39,slow=15,SNR=7.6							
MK31				⇓Sn	Sn		05 42 27.5	-0.2
	1.5nm,0.7s							
MK31				⇓Lg	Lg		05 43 15.4	
	7.9nm,1.3s							

ISK 08 05:40:04.9, 36.°96N×27.°33E, h9km, ML1.7/10, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RFTB	Kemer-Bodrum	0.05	271	Pg	Pg		05 40 06.8	+0.2
RFTB				Sg	Sg		05 40 08.7	+0.8
BODT	Bodrum	0.10	352	Pg	Pg		05 40 07.5	+0.1
DAT	Datca	0.31	139	Pg	Pg		05 40 11.3	+0.3
RFTAA	Mazikoy-Bodrum	0.34	84	Pg	Pg		05 40 11.9	+0.4
MLSB	Milas	0.49	47	Pg	Pg		05 40 14.9	+0.5
MLSB				Sg	Sb		05 40 22.3	-0.7
GCAM	G?zelcaml?	0.74	354	Pg	Pg		05 40 19.3	+0.1
TURN	Turunc	0.76	104	Pg	Pg		05 40 19.8	+0.3
YER	Yerkesik	0.78	77	Pg	Pb		05 40 20.4	-0.4
ARG	Arkhangelos	0.98	139	Pg	Pb		05 40 24.5	+0.4
CAME	Cameli-Denizli	1.58	90	Pn	Pn		05 40 33.8	+0.5

TIR 08 05:42:00.5, 40.°78N×19.°63E, h0km, Md2.2, Ml1.5, Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SRN	Sarande	0.94	162	P		Pb	05 42 19.6	0.0
	baz=162							
SRN				S		Sn	05 42 34.1	-0.9
	baz=162							
SRN				AMP				
	comp=N,0.1nm,0.4s,baz=162							
SCTE	Santa Cesarea	1.13	232	P		Pb	05 42 23.1	+0.2
	baz=233							
SCTE				S		Sn	05 42 40.4	+0.7
	baz=233							
IGT	Igoumenitsa	1.35	156	P		Pb	05 42 28.4	+1.7
	baz=156							
IGT				S		Sn	05 42 48.2	+2.9
	baz=156							

IDC 08 05:57:03.8±1.8, 1.72N×125.°86E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=180.2km s-min=28.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.08	159	P		P	06 02 11.7	+0.4
	0.5nm,0.5s,baz=337,slow=11,SNR=13							
	0.5nm,0.5s							
ASAR	Alice Springs	26.42	163	P		P	06 02 43.0	+0.5
	0.2nm,0.4s,baz=339,slow=8.0,SNR=1.6							
ASAR				PcP		PcP	06 06 06.5	-1.7
	0.3nm,0.3s,baz=354,slow=2.2,SNR=5.0							
	0.2nm,0.4s							
MKAR	Makanchi Array	58.72	326	P		P	06 07 03.9	+0.5
	0.3nm,0.5s,baz=126,slow=8.4,SNR=2.6							
	0.3nm,0.5s							

*NOU **08** 06:05:11.9, 21.°47S×168.°91E, h0km, MLv4.3/11, Loyalty Islands*
*IDC **08** 06:05:14.3±1.4, 21.°42S×168.°56E, h0km, mb3.9/5, mbtmp3.9/6, ML3.4/1, Error ellipse: s-maj=38.1km s-min=27.1km az=159.0*

ISC 08 06:05:16.1±0.9, 21.°43S±0.°08×168.°71E±0.°09, h20km, n21, σ0s96/22, mb4.0/7, 3D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MARNC	Mare, Loyalty	0.64	265	P		Pb	06 05 27.7	-0.8
LIFNC	LIFOU	1.52	295	P		Pn	06 05 41.6	-0.5
PINNC	Pines Island,	1.66	225	P		Pn	06 05 43.0	-1.1
OUENC	Ouen Island, N	2.00	240	P		Pn	06 05 48.6	-0.1
DZM	Mont Dzumac	2.20	253	P		Pn	06 05 51.8	+0.2
DZM	Mont Dzumac	2.20	253	Pn		Pn	06 05 50.9	-0.7
	13nm,0.3s,baz=99,slow=7.7,SNR=347							
DZM				Sn		Sn	06 06 17.4	-0.9
	84nm,0.3s,baz=104,slow=22,SNR=16							
	40nm,0.3s							
ONTNC	Ouen Toro	2.27	247	P		Pn	06 05 53.0	+0.5
NOUC	Port Laguerre	2.34	253	P		Pn	06 05 54.0	+0.6
RTV	Rentapao	3.63	356	P		Pn	06 06 11.3	+0.2
DVP	Devils Point	3.72	352	P		Pn	06 06 11.6	-0.8
KOUNC	Koumac, New Ca	4.23	281	P		Pn	06 06 20.9	+1.5
STKA	Stephens Creek	26.31	241	P		P	06 10 52.0	+1.5
	1.2nm,0.6s,baz=108,slow=9.6,SNR=1.7							
	1.2nm,0.6s							
WRA	Warramunga Arr	32.15	266	P		P	06 11 42.0	-0.7
	0.8nm,0.6s,baz=101,slow=7.8,SNR=17							
	0.8nm,0.6s							
ASAR	Alice Springs	32.18	259	P		P	06 11 42.5	-0.3
	1.4nm,0.7s,baz=86,slow=9.5,SNR=17							
	1.4nm,0.7s							
VNDA	Vanda	56.24	182	P		P	06 14 55.5	+1.1
	0.5nm,0.8s,baz=87,slow=19,SNR=5.9							
	0.5nm,0.8s							
CMAR	Chiang Mai Arr	78.96	295	P		P	06 17 20.1	+1.2
	1.1nm,0.3s,baz=125,slow=4.5,SNR=1.3							
	1.1nm,0.3s							
TROLL	Troll, Antarti	86.33	184	⇓P		P	06 17 56.6	+0.2
	comp=Z,111nm,0.6s							
VNA3	Neumayer Olymp	87.57	181	⇓P		P	06 18 02.1	-0.3
	comp=Z,1.0nm,0.3s							
VNA2	Neumayer--Watz	87.86	181	⇓P		P	06 18 03.8	0.0
	comp=Z,1.7nm,0.6s,baz=170,slow=4.0							
EKA	Eskdalemuir Ar	145.60	352	PKPbc		PKPab	06 24 53.3	+0.2
	comp=Z,12nm,1.3s,baz=2.7,slow=3.0,SNR=5.7							
GERES	GERESS Array B	146.15	330	PKPbc		PKiKP	06 24 56.0	-2.2
	comp=Z,0.3nm,0.3s,baz=23,slow=3.5,SNR=2.0							

*SJA **08** 06:07:39.7±0.6, 29.°88S×72.°49W, h10km, ML4.2, MW3.9*
*IDC **08** 06:07:43.6±1.2, 29.°94S×72.°31W, h0km, mb4.0/2, mbtmp3.8/7, ML3.7/5, MS2.8/3, Error ellipse: s-maj=32.7km s-min=24.9km az=82.0*
*GUC **08** 06:07:46.8±0.6, 29.°90S×71.°96W, h38km±4km, ML3.9*
*NEIC **08** 06:07:47.0±1.9, 29.°88S±0.°04×72.°1W±0.°1, h22km±7km, mb4.3/4, Error ellipse: s-maj=15.6km s-min=6.4km az=85.0*

ISC 08 06:07:45.4±1.4, 29.°92S±0.°03×72.°19W±0.°05, h12km±8km, n85, σ1s76/125, mb4.1/3, 4C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CO05	La Serena	0.82	90			Pb	06 07 59.8	-1.9
CO05	La Serena	0.82	90	*e*P		Pb	06 07 59.9	-1.7
CO05				*i* S		Sb	06 08 09.1	-3.6
CO05				IAML			06 08 13.0	
	comp=N,13μm,0.4s							
GO04	Tololo Observa	1.23	102			Pn	06 08 06.5	-2.1
GO04	Tololo Observa	1.23	102	*e*P		Pn	06 08 06.8	-1.9
GO04				*e*S		Sb	06 08 23.9	-0.7
GO04				IAML			06 08 27.1	
	comp=Z,6μm,0.3s							
GO04	Tololo Observa	1.23	102	*e*P		Pn	06 08 06.8	-1.9
GO04				*i* S		Sb	06 08 22.5	-2.2
LCO	Las Campanas	1.58	55	Pn		Pn	06 08 12.1	-1.4
LCO	Las Campanas	1.58	55	*e*P		Pn	06 08 12.5	-1.0
LCO				*e*S		Sg	06

GO03 eS Sn 06 09 08.5 +2.6
GO03 IAML 06 09 19.3
comp=Z,396nm,0.8s
GO03 Copiap 2.88 37 *i* P Pn 06 08 30.3 -0.9
GO03 IAML 06 09 23.6
comp=E,488nm,0.6s
AC06 Mina Casimiro 3.02 33 Pn Pn 06 08 32.2 -0.9
AC06 Mina Casimiro 3.02 33⇑ *e*P Pn 06 08 32.4 -0.6
AC06 IAML 06 09 30.0
comp=E,226nm,0.6s
RTLS Leoncito 3.11 128 *e*P Pn 06 08 37.5 +2.9
RTLS eS Sb 06 09 17.0 -1.9
RTLS IAML 06 09 26.8
comp=Z,2µm,0.8s
ROCH El Roble 3.21 162 *e*P Pn 06 08 35.7 -0.1
ROCH *e*P Pn 06 08 35.6 -0.3
ROC1 El Roble 3.21 162 Pn 06 08 35.5 -0.5
MT02 Curacav 3.45 165 Pn Pn 06 08 39.6 +0.6
MT02 Curacav 3.45 165 *e*P Pn 06 08 38.0 -1.0
MT02 eS Sn 06 09 21.4 +1.6
MT02 IAML 06 09 39.8
comp=Z,246nm,1.1s
MT02 Curacav 3.45 165 *e*P Pn 06 08 38.3 -0.7
PEL Peldehue 3.46 159 Pn 06 08 39.5 +0.3
PEL Peldehue 3.46 159⇑ *e*P Pn 06 08 39.1 -0.1
RTLL Cerro Villicun 3.49 115 *e*P Pn 06 08 41.7 +2.0
RTLL eS Sb 06 09 30.2 +0.5
MT10 Hacienda Santa 3.63 158 *e*P Pn 06 08 42.2 +0.6
MT10 eS Sn 06 09 23.9 -0.6
MT05 Renca 3.68 161 Pn 06 08 42.6 +0.4
MT05 Renca 3.68 161 *e*P Pn 06 08 42.4 +0.2
MT05 eS Sn 06 09 27.2 +1.7
MT05 IAML 06 09 46.0
comp=Z,580nm,1.1s
MT05 Renca 3.68 161 *e*P Pn 06 08 42.3 +0.2
MT14 Cerro Cal¡n 3.74 158 *e*P Pn 06 08 42.4 -0.7
MT14 eS Sn 06 09 31.0 +3.9
FCH Farellones 3.76 155⇓ *e*P Pn 06 08 44.6 +1.0
FCH eS Sn 06 09 29.7 +1.7
CFA Coronel Fontan 3.79 117 *e*P Pn 06 08 45.3 +1.5
CFA eS Sb 06 09 33.9 -4.3
CFA Coronel Fontan 3.79 117 Pn Pn 06 08 45.5 +1.8
comp=Z,10nm,0.3s,baz=280,slow=12,SNR=79
CFA Sn Sn 06 09 33.6 +5.3
comp=Z,23nm,0.3s,baz=40,slow=15,SNR=5.9
CFA LR LR 06 09 48.5
comp=Z,83nm,20.6s,baz=254,slow=32
comp=Z,32nm,0.3s
MT03 Universidad Ad 3.84 159 Pn 06 08 45.0 +0.5
MT03 Universidad Ad 3.84 159 *e*P Pn 06 08 45.3 +0.9
MT03 eS Sn 06 09 30.4 +0.8
MT03 IAML 06 09 51.1
comp=Z,430nm,1.1s
MT04 Ro Olivares 3.89 154 *e*P Pn 06 08 46.7 +1.5
MT04 eS Sn 06 09 32.6 +1.6
MT15 Las Vizcachas 3.94 159 *e*P Pn 06 08 46.5 +0.7
MT08 Bocatoma Ro 3.97 153 Pn 06 08 48.7 +2.3
MT08 Bocatoma Ro 3.97 153 *e*P Pn 06 08 48.3 +1.9
MT09 Talagante 3.98 165 Pn 06 08 46.5 +0.1
MT09 Talagante 3.98 165 *e*P Pn 06 08 46.1 -0.3
MT09 eS Sn 06 09 31.5 -1.6
AC01 Pan de Azucar 4.01 21 *e*P Pn 06 08 44.5 -2.3
AC01 eS Sb 06 09 48.5 +4.0
MT01 Popeta 4.01 169 Pn 06 08 45.9 -0.9
MT01 Popeta 4.01 169 *e*P Pn 06 08 45.7 -1.0
MT01 eS Sb 06 09 47.0 +2.4
MT12 Pirque 4.05 160 *e*P Pn 06 08 47.7 +0.4
MT13 San Alfonso 4.14 158 Pn 06 08 49.7 +1.0
MT13 San Alfonso 4.14 158 *e*P Pn 06 08 49.7 +1.0
MT13 eS Sn 06 09 33.5 -3.6
LMEL Las Melosas 4.26 157 Pn 06 08 51.2 +0.8
BO04 La Punta 4.27 162 Pn Pn 06 08 50.5 +0.1
BO01 Tunca 4.56 168 Pn 06 08 53.7 -0.5
BO01 Tunca 4.56 168 *e*P Pn 06 08 53.3 -0.9
BO01 eS Sn 06 09 46.0 -1.1
BO01 IAML 06 10 23.4
comp=Z,94nm,0.9s
ACLC CERRO LA CRUZ 4.58 85 *e*P Pn 06 08 56.3 +1.5
ACLC eS Sb 06 09 57.5 -3.6
ACLC IAML 06 10 11.4
comp=Z,249nm,0.8s
APLL PUNTA DE LOS L 4.92 97 *e*P Pn 06 09 00.8 +1.5
APLL eS Sn 06 10 01.5 +5.3
BO02 Sierra Bellavi 5.00 167 Pn 06 09 00.4 0.0
BO02 Sierra Bellavi 5.00 167 *e*P Pn 06 09 00.0 -0.4
BO02 *e*P Pn 06 09 00.5 0.0
BO02 eS Sn 06 10 01.0 +2.7
BO02 IAML 06 10 30.1
comp=Z,160nm,1.8s
GO05 Huala 5.08 178 *e*P Pn 06 09 00.5 -1.0
GO05 IAML 06 10 34.2
comp=Z,64nm,0.8s
LVC Limon Verde 7.85 23 Pn Pn 06 09 38.5 -1.3
comp=Z,0.2nm,0.3s,baz=268,slow=12,SNR=1.4
LVC Sn Sn 06 11 05.3 -3.5
comp=Z,0.6nm,0.3s,baz=223,slow=5.3,SNR=2.2
LVC LR LR 06 11 58.5
comp=Z,37nm,21.3s,baz=221,slow=32
comp=Z,0.7nm,0.4s
GO01 Chusmiza 10.56 16 Pn Pn 06 10 16.3 -0.8
PLCA Paso Flores 10.87 173 Pn Pn 06 10 20.1 -0.9
comp=Z,0.2nm,0.3s,baz=358,slow=3.2,SNR=5.3
comp=Z,0.7nm,0.4s
TRQA Tornquist 11.72 137 Pn 06 10 32.5 -0.1
ITQB Itaqui 13.52 93 Pn Pn 06 10 58.1 +1.1
CPUP Villa Florida 13.59 78 Pn Pn 06 10 58.8 +0.8
comp=Z,0.1nm,0.3s,baz=252,slow=18,SNR=2.1
CPUP Sn Sn 06 13 34.4 +5.4
comp=Z,0.1nm,0.3s,baz=247,slow=15,SNR=1.6
CPUP LR LR 06 16 60.0
comp=Z,126nm,18.9s,baz=236,slow=41
comp=Z,1.2nm,0.8s
SIV San Ignacio 17.21 39 P Pn 06 11 45.5 -0.4
baz=210,slow=12,SNR=10
comp=Z,2.4nm,0.8s
VILB Vilhena 20.21 36 P P 06 12 17.4 -2.9
SNAA Sanae 55.41 159 P P 06 17 19.1 -0.2
SNAA Sanae 55.41 159 P P 06 17 18.7 -0.6
comp=Z,2.0nm,1.0s,baz=253,slow=8.5,SNR=3.1
comp=Z,2.0nm,1.0s
TOA0 Torodi Ar. Sit 82.95 71 P P 06 20 09.8 -1.0
TOA0 IAmb IAmb 06 20 31.0
comp=Z,4.2nm,1.2s
TORD Torodi Ar. Bea 82.95 71 P P 06 20 10.2 -0.6
TORD IAmb IAmb 06 20 31.0
comp=Z,2.5nm,1.2s
TORD Torodi Ar. Bea 82.95 71 P P 06 20 10.6 -0.2
comp=Z,0.8nm,0.8s,baz=244,slow=4.5,SNR=4.7
comp=Z,0.8nm,0.8s
KURBB Kurchatov Arra 149.87 38 PKP **PKPdf** 06 27 29.9 -0.5
comp=Z,0.2nm,0.3s,baz=289,slow=2.8,SNR=3.2
KURBB PKPbc **pPKPdf** 06 27 34.2 +1.3
comp=Z,0.5nm,0.3s,baz=334,slow=10,SNR=12
ZALV Zalesovo Beam 150.77 28 PKPbc **PKiKP** 06 27 38.3 +0.5
comp=Z,2.0nm,0.7s,baz=317,slow=3.8,SNR=8.7
ZALV PKPab **PKPab** 06 27 46.5 +2.2
comp=Z,1.7nm,0.5s,baz=314,slow=3.3,SNR=6.7
PZH PanZhiHua 173.65 121 PKP **PKPdf** 06 27 55.2 -0.2

*WEL **08** 06:22:28.5±0.6,31°S±6°×18°0E±°, h33km, M4.8/13, mB5.1/13, ML5.4/12, MLv5.5/12, Mw(mB)4.4/13, Error ellipse: s-maj=0.0km s-min=0.0km az=122.3, confirmed*
*NOU **08** 06:22:31.1,31°55S×178°49W, h199km, mb4.6/30, Kermadec Islands Region*
*IDC **08** 06:22:32.1±1.0,31°22S×179°14W, h176km±10km, mb4.3/12, mbtmp4.8/13, Error ellipse: s-maj=13.8km s-min=12.5km az=125.0*
*NEIC **08** 06:22:32.5±2.9,31°32S±0°09×179°1W±0°1, h176km±7km, mb4.8/26, Error ellipse: s-maj=18.0km s-min=13.0km az=110.0*

ISC 08 06:22:32.2±0.4, 31°34S±0°05×179°16W±0°07, h176km, h176km:pP-P, n137, σ2§13/144, mb4.8/25, 5C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
GLKZ	**Green Lake**	**2.33**	**28**	P		**Pn**	**06 23 11.8**	**-0.9**
GLKZ				S		**Sn**	**06 23 43.2**	**-1.0**
RAO	**Raoul Island**	**2.34**	**28**			**Pn**	**06 23 12.0**	**-0.8**
RAO	**Raoul Island**	**2.34**	**28**	P		**Pn**	**06 23 13.0**	**+0.2**
RAO	**Raoul Island**	**2.34**	**28**	P		**Pn**	**06 23 12.3**	**-0.5**
	2µm,0.2s,baz=69,slow=12,SNR=20							
RAO				S		**Sn**	**06 23 43.7**	**-0.7**
	2µm,0.3s,baz=135,slow=17,SNR=6.2							
RIZ	**Raoul Island**	**2.35**	**27**	P		**Pn**	**06 23 12.3**	**-0.5**
RIZ				S		**Sn**	**06 23 44.4**	**-0.1**
MXZ	**Matakaoa Point**	**6.55**	**198**	Pn		**Pn**	**06 24 04.9**	**-1.4**
MXZ	**Matakaoa Point**	**6.55**	**198**	P		**Pn**	**06 24 04.7**	**-1.5**
MXZ	**Matakaoa Point**	**6.55**	**198**	P		**Pn**	**06 24 04.6**	**-1.7**
MXZ				S		**Sn**	**06 25 17.7**	**-2.8**
GRZ	**Great Barrier**	**6.63**	**221**	S		Sn	06 25 10.2	-12
WMGZ	**Waiomatatini S**	**6.76**	**197**	P		**Pn**	**06 24 08.2**	**-0.9**
WMGZ				S		**Sn**	**06 25 25.5**	**-0.1**
KUZ	**Kuaotunu**	**6.86**	**217**	P		**Pn**	**06 24 13.0**	**+2.6**
HAZ	**Te Kaha**	**6.88**	**201**	P		**Pn**	**06 24 10.4**	**-0.1**
HAZ				S		**Sn**	**06 25 28.0**	**-0.2**
PKGZ	**Pakihiroa**	**6.92**	**198**	P		**Pn**	**06 24 09.0**	**-2.1**
PKGZ				S		**Sn**	**06 25 27.3**	**-1.9**
OUZ	**Omahuta**	**7.19**	**236**	P		Pn	06 24 20.2	+5.5
URZ	**Urewera**	**7.55**	**203**	P		**Pn**	**06 24 17.7**	**-1.7**
URZ	**Urewera**	**7.55**	**203**	P		**Pn**	**06 24 17.8**	**-1.6**
	4.6nm,0.3s,baz=347,slow=3.7,SNR=20							
URZ				S		**Sn**	**06 25 41.8**	**-2.4**
	108nm,0.4s,baz=188,slow=23,SNR=14							
RAHZ	**Arahi**	**8.16**	**201**	P		**Pn**	**06 24 24.8**	**-2.7**
RAHZ				S		**Sn**	**06 25 51.9**	**-6.8**
MTHZ	**Maungataniwha**	**8.18**	**203**	P		**Pn**	**06 24 25.4**	**-2.4**
MTHZ				S		**Sn**	**06 25 54.0**	**-5.2**
WHHZ	**Waihua**	**8.26**	**200**	P		**Pn**	**06 24 25.9**	**-2.9**
WHHZ				S		**Sn**	**06 25 54.7**	**-6.5**
ARHZ	**Aropaoanui**	**8.50**	**201**	P		**Pn**	**06 24 28.5**	**-3.5**
ARHZ				S		Sn	06 25 55.7	-11
HIZ	**Hauiti**	**8.68**	**213**	Pn		**Pn**	**06 24 36.1**	**+1.9**
HIZ	**Hauiti**	**8.68**	**213**	P		**Pn**	**06 24 36.7**	**+2.4**
MCHZ	**McNeill Hill**	**8.76**	**202**	P		**Pn**	**06 24 35.2**	**-0.2**
MCHZ				S		Sn	06 26 01.8	-11
KWHZ	**Kaweka Forest**	**8.83**	**203**	P		Pn	06 24 32.1	-4.3
KWHZ				S		Sn	06 26 03.1	-12
BHHZ	**Black Hill Sta**	**9.01**	**204**	P		Pn	06 24 34.8	-4.0
BHHZ				S		**Sn**	**06 26 14.1**	**-5.2**
KAHZ	**Kahuranaki**	**9.03**	**200**	P		Pn	06 24 34.8	-4.2
KAHZ				S		Sn	06 26 05.4	-14
KRHZ	**Kereru**	**9.05**	**203**	P		Pn	06 24 34.8	-4.3
KRHZ				S		Sn	06 26 07.3	-13
VRZ	**Vera Road**	**9.22**	**211**	P		**Pn**	**06 24 38.0**	**-3.4**
PNHZ	**Pukenui**	**9.35**	**203**	P		Pn	06 24 39.0	-4.1
PNHZ				S		**Sn**	**06 26 19.8**	**-7.5**
BFZ	**Birch Farm**	**10.03**	**200**	Pn		**Pn**	**06 24 50.8**	**-1.2**
BFZ	**Birch Farm**	**10.03**	**200**	P		**Pn**	**06 24 50.4**	**-1.7**
SNZO	**South Karori**	**11.11**	**205**	Pn		**Pn**	**06 25 04.3**	**-1.7**
SNZO	**South Karori**	**11.11**	**205**	P		**Pn**	**06 25 05.5**	**-0.5**
TCW	**Tory Channel**	**11.18**	**206**	P		Pn	06 25 00.7	-6.2
TCW				S		Sn	06 26 59.5	-11
NNZ	**Nelson**	**11.54**	**209**	Pn		**Pn**	**06 25 10.6**	**-1.1**
QRZ	**Quartz Range**	**11.60**	**213**	P		**Pn**	**06 25 11.7**	**-0.8**
QRZ	**Quartz Range**	**11.60**	**213**	P		**Pn**	**06 25 09.5**	**-3.0**
QRZ				S		Sn	06 27 11.1	-10
THZ	**Tophouse**	**12.19**	**209**	Pn		**Pn**	**06 25 18.3**	**-1.8**
THZ	**Tophouse**	**12.19**	**209**	P		Pn	06 25 06.6	-14
THZ				S		Sn	06 27 20.4	-15
KHZ	**Kahutara**	**12.49**	**206**	P		**Pn**	**06 25 22.9**	**-1.0**
DSZ	**Denniston Nort**	**12.66**	**212**	P		**Pn**	**06 25 22.9**	**-3.2**
GVZ	**Greta Valley S**	**13.16**	**206**	P		Pn	06 25 25.8	-6.5
LTZ	**Lake Taylor**	**13.30**	**208**	P		Pn	06 25 30.0	-4.2
INZ	**Inchbonnie**	**13.60**	**211**	P		**Pn**	**06 25 34.4**	**-3.5**
OKCZ	**Okains Bay**	**13.80**	**204**	P		Pn	06 25 36.1	-4.4
MQZ	**McQueen's Vall**	**13.94**	**205**	P		Pn	06 25 36.5	-5.6
WVZ	**Waitaha Valley**	**14.20**	**212**	P		**Pn**	**06 25 43.0**	**-2.3**
MHCZ	**Mount Hutt**	**14.21**	**209**	P		**Pn**	**06 25 42.1**	**-3.4**
GCSZ	**Gaunt Creek Bo**	**14.57**	**212**	P		Pn	06 25 45.9	-4.1
RPZ	**Rata Peaks**	**14.57**	**209**	P		**Pn**	**06 25 47.5**	**-2.5**
	3.1nm,0.3s,baz=57,slow=13,SNR=2.2							
RPZ				S		Sn	06 28 18.4	-14
	11nm,0.4s,baz=322,slow=22,SNR=10							
RPZ	**Rata Peaks**	**14.57**	**209**	P		**Pn**	**06 25 47.5**	**-2.5**
ARCZ	**Arundel**	**14.71**	**209**	P		**Pn**	**06 25 48.2**	**-3.6**
PINNC	**Pines Island,**	**14.76**	**303**	P		**P**	**06 25 54.4**	**+0.4**
NIUE	**Niue**	**14.79**	**36**	P		**Pn**	**06 25 49.4**	**-3.5**
YSA	**Yasawairara**	**14.88**	**348**	P		**Pn**	**06 25 54.8**	**+0.8**
OUENC	**Ouen Island, N**	**15.32**	**302**	P		**P**	**06 26 01.7**	**+1.5**
DZM	**Mont Dzumac**	**15.82**	**302**	P		**P**	**06 26 08.9**	**+3.0**
DZM	**Mont Dzumac**	**15.82**	**302**	P		**P**	**06 26 07.8**	**+1.9**
	29nm,0.8s,baz=131,slow=12,SNR=22							
ODZ	**Otahua Downs**	**15.83**	**207**	P		**Pn**	**06 26 04.5**	**-1.0**
JCZ	**Jackson Bay**	**15.87**	**213**	P		**Pn**	**06 26 04.0**	**-2.0**
KOUNC	**Koumac, New Ca**	**18.34**	**302**	P		**P**	**06 26 35.1**	**+1.8**
KOUNC				IAmb		IAmb	06 26 36.7	
	comp=Z,53nm,0.8s							
LHI	**Lord Howe Isla**	**18.59**	**264**	P		**Pn**	**06 26 38.7**	**+0.3**
AFI	**Afiamalu**	**18.63**	**23**	P		**P**	**06 26 34.3**	**-2.3**
RAR	**Rarotonga**	**20.07**	**64**	P		**P**	**06 26 51.0**	**-1.0**
RAR	**Rarotonga**	**20.07**	**64**	P		**P**	**06 26 51.4**	**-0.6**
	comp=Z,30nm,0.8s,baz=234,slow=8.4,SNR=5.8							
RAR				S		**S**	**06 30 32.5**	**+4.6**
	comp=Z,11nm,0.5s,baz=345,slow=11,SNR=1.9							
	comp=Z,30nm,0.8s							
ARMA	**Armidale**	**25.06**	**264**	P		**P**	**06 27 42.9**	**+2.4**
CNB	**Canberra Magne**	**26.54**	**253**	P		**P**	**06 27 54.1**	**+0.4**
EIDS	**Eidsvold**	**26.81**	**275**	P		**P**	**06 27 56.6**	**+0.6**
CAN	**Canberra**	**26.84**	**253**	P		**P**	**06 27 57.9**	**+1.6**
CAN				IAmb		IAmb	06 28 04.2	
	comp=Z,48nm,1.5s							
TOO	**Toolangi**	**29.68**	**248**	P		**P**	**06 28 23.2**	**+1.7**
TOO				IAmb		IAmb	06 28 35.6	
	comp=Z,24nm,1.2s							
TOO	**Toolangi**	**29.68**	**248**	P		**P**	**06 28 22.6**	**+1.1**
CMSA	**Cobar Meteorol**	**29.91**	**260**	P		**P**	**06 28 26.3**	**+2.7**
QLP	**Quilpie**	**32.28**	**269**	P		**P**	**06 28 46.3**	**+1.9**
CTA	**Charters Tower**	**32.99**	**281**	P		**P**	**06 28 51.5**	**+0.9**
	comp=Z,19nm,0.5s,baz=109,slow=10,SNR=67							
	comp=Z,19nm,0.5s							
CTAO	**Charters Tower**	**32.99**	**281**	P		**P**	**06 28 51.5**	**+0.9**
CTAO	**Charters Tower**	**32.99**	**281**	P		**P**	**06 28 52.2**	**+1.6**
CTAO	**Charters Tower**	**32.99**	**281**	⇑P		**P**	**06 28 51.8**	**+1.2**
STKA	**Stephens Creek**	**33.30**	**259**	P		**P**	**06 28 54.6**	**+1.3**
STKA				IAmb		IAmb	06 28 55.9	
	comp=Z,15nm,1.0s							
STKA	**Stephens Creek**	**33.30**	**259**	P		**P**	**06 28 55.2**	**+2.0**
STKA	**Stephens Creek**	**33.30**	**259**	P		**P**	**06 28 54.9**	**+1.7**
	comp=Z,32nm,0.5s,baz=98,slow=10,SNR=90							
	comp=Z,32nm,0.5s							
HTT	**Hallett**	**35.29**	**255**	P		**P**	**06 29 11.6**	**+1.2**
LCRK	**Leigh Creek**	**36.42**	**260**	P		**P**	**06 29 21.3**	**+1.4**
BBOO	**Buckleboo**	**37.76**	**256**	P		**P**	**06 29 31.5**	**+0.2**
BBOO				IAmb		IAmb	06 29 31.8	
	comp=Z,24nm,0.8s							
BBOO	**Buckleboo**	**37.76**	**256**	P		**P**	**06 29 31.7**	**+0.5**
QIS	**Mount Isa**	**38.41**	**276**	P		**P**	**06 29 37.0**	**+0.3**
OOD	**Oodnadatta**	**39.23**	**263**	P		**P**	**06 29 44.8**	**+1.3**
MULG	**Mulgathing**	**39.96**	**259**	P		**P**	**06 29 49.9**	**+0.4**
AS31	**Alice Springs**	**42.08**	**269**	P		**P**	**06 30 06.6**	**-0.3**
AS31				IAmb		IAmb	06 30 07.5	
	comp=Z,19nm,0.7s							
ASAR	**Alice Springs**	**42.08**	**269**	P		**P**	**06 30 07.3**	**+0.4**
ASAR	**Alice Springs**	**42.08**	**269**	P		**P**	**06 30 06.7**	**-0.2**
	comp=Z,58nm,0.6s,baz=105,slow=7.6,SNR=680							
	comp=Z,58nm,0.6s							
DRV	**Dumont d'Urvil**	**42.89**	**203**	P		**P**	**06 30 12.8**	**+0.1**
DRV				sP		**sP**	**06 31 09.9**	**+0.4**
WR0	**Warramunga Arr**	**42.97**	**274**	P		**P**	**06 30 13.6**	**-0.5**
WRA	**Warramunga Arr**	**43.15**	**274**	P		**P**	**06 30 14.8**	**-0.8**
WRA	**Warramunga Arr**	**43.15**	**274**	P		**P**	**06 30 15.3**	**-0.2**
	comp=Z,85nm,0.5s,baz=112,slow=7.9,SNR=60							
FORT	**Forrest**	**44.85**	**256**	P		**P**	**06 30 28.9**	**-0.1**
FORT				IAmb		IAmb	06 30 29.1	
	comp=Z,27nm,0.7s							
SBA	**Scott Base**	**47.03**	**184**			**P**	**06 30 48.3**	**+3.0**
SBA				IAmb		IAmb	06 30 50.5	
	comp=Z,36nm,1.3s							
SBA	**Scott Base**	**47.03**	**184**	P		**P**	**06 30 49.2**	**+4.0**
VNDA	**Vanda**	**47.06**	**186**	P		**P**	**06 30 48.0**	**+2.5**
VNDA	**Vanda**	**47.06**	**186**	P		**P**	**06 30 47.8**	**+2.3**
	comp=Z,1.5nm,0.6s,baz=358,slow=9.1,SNR=18							
	comp=Z,1.5nm,0.6s							
VNDA	**Vanda**	**47.06**	**186**	P		**P**	**06 30 48.1**	**+2.6**
VNDA				pP		**pP**	**06 31 26.6**	**+2.5**
KNRA	**Kununurra**	**49.80**	**276**	P		**P**	**06 31 06.8**	**-0.5**
KNRA				IAmb		IAmb	06 31 07.2	
	comp=Z,12nm,0.7s							
CCD	**Concordia, Ant**	**51.77**	**196**	P		**P**	**06 31 21.8**	**+0.1**
CASY	**Casey**	**53.84**	**208**	P		**P**	**06 31 35.6**	**-0.8**
CASY				IAmb		IAmb	06 31 40.7	
	comp=Z,13nm,0.9s							
CASY	**Casey**	**53.84**	**208**	P		**P**	**06 31 35.9**	**-0.6**
MORW	**Morawa**	**55.31**	**254**	P		**P**	**06 31 46.1**	**-1.6**
MORW				IAmb		IAmb	06 32 01.0	
	comp=Z,33nm,1.5s							
QSPA	**South Pole Qui**	**58.77**	**180**	P		**P**	**06 32 13.6**	**+2.0**
QSPA	**South Pole Qui**	**58.77**	**180**	P		**P**	**06 32 13.5**	**+2.0**
	comp=Z,61nm,0.8s,baz=24,slow=2.0,SNR=112							
	comp=Z,61nm,0.8s							
QSPA	**South Pole Qui**	**58.77**	**180**	P		**P**	**06 32 13.8**	**+2.3**
QSPA				pP		**pP**	**06 32 53.0**	**+1.0**
QSPA				PcP		**PcP**	**06 33 04.5**	**+5.3**
QSPA				sP		**sP**	**06 33 13.7**	**+2.5**
GIRL	**Giralia**	**59.20**	**261**	P		**P**	**06 32 15.6**	**+0.6**
SMAI	**San Martin Ant**	**68.93**	**158**	P		**P**	**06 33 20.5**	**+2.9**
SMAI				IAmb		IAmb	06 33 21.4	
	comp=Z,16nm,1.0s							
BELA	**Belgrano 2**	**68.98**	**172**	P		**P**	**06 33 17.8**	**0.0**
BELA				IAmb		IAmb	06 33 31.6	
	comp=Z,22nm,1.5s							
MAW	**Mawson**	**71.08**	**201**	P		**P**	**06 33 30.7**	**+0.1**
MAW	**Mawson**	**71.08**	**201**	P		**P**	**06 33 30.5**	**-0.1**
	comp=Z,9.7nm,0.9s,baz=111,slow=7.4,SNR=6.6							
	comp=Z,9.7nm,0.9s							
TROLL	**Troll, Antarti**	**76.93**	**181**	⇑P		**P**	**06 34 05.4**	**+0.6**
	comp=Z,738nm,0.8s							
SNAA	**Sanae**	**77.24**	**179**	P		**P**	**06 34 06.5**	**+0.1**
SNAA				IAmb		IAmb	06 34 09.9	
	comp=Z,16nm,1.1s							
SNAA	**Sanae**	**77.24**	**179**	⇑P		**P**	**06 34 06.9**	**+0.5**
	comp=Z,301nm,1.2s							
SNAA	**Sanae**	**77.24**	**179**	P		**P**	**06 34 06.7**	**+0.3**
	comp=Z,7.7nm,0.8s,baz=204,slow=5.0,SNR=22							
	comp=Z,7.7nm,0.8s							
VNA3	**Neumayer Olymp**	**77.43**	**177**	⇑P		**P**	**06 34 07.7**	**+0.3**
	comp=Z,41nm,0.6s							
VNA2	**Neumayer--Watz**	**77.85**	**177**	⇑P		**P**	**06 34 10.4**	**+0.7**
	comp=Z,24nm,0.7s,baz=186,slow=5.0							
KSRS	**Korea Array**	**84.43**	**320**	P		**P**	**06 34 44.0**	**-0.7**
KSRS	**Korea Array**	**84.43**	**320**	P		**P**	**06 34 44.0**	**-0.7**
	comp=Z,2.2nm,0.9s,baz=118,slow=6.7,SNR=4.2							
	comp=Z,2.2nm,0.9s							
PETK	**Petropavlovsk-**	**86.48**	**346**	P		**P**	**06 34 53.2**	**-1.3**
	comp=Z,1.9nm,0.6s,baz=185,slow=7.2,SNR=2.2							
	comp=Z,1.9nm,0.6s							
NVAR	**Mina Array Bea**	**89.61**	**43**	P		**P**	**06 35 09.4**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=219,slow=7.0,SNR=11							
	comp=Z,1.8nm,0.8s							
PDAR	**Pinedale Array**	**97.50**	**44**	P		**P**	**06 35 45.1**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=208,slow=5.0,SNR=4.0							
PDAR				PKKPbc		**PKKPbc**	**06 52 21.8**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=120,slow=4.9,SNR=5.2							
	comp=Z,0.3nm,0.6s							
YKA	**Yellowknife Ar**	**106.72**	**26**	PKKPbc	PKKPbc		06 51 53.9	-2.8
	comp=Z,0.3nm,0.6s,baz=36,slow=3.0,SNR=7.2							
KURBB	**Kurchatov Arra**	**121.01**	**313**	PKP		**PKPdf**	**06 41 00.8**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=115,slow=1.7,SNR=4.5							
BVAR	**Worovoye Array**	**126.38**	**315**	PKP		**PKPdf**	**06 41 12.2**	**-1.3**
	comp=Z,6.9nm,0.5s,baz=104,slow=3.0,SNR=3.7							
KBZ	**Khabaz**	**144.79**	**303**	PKP	PKPbc		06 41 46.4	-0.9
	comp=Z,8.4nm,0.9s,baz=72,slow=3.2,SNR=7.0							
FINES	**FINESS Array B**	**145.67**	**339**	PKPbc		**PKPdf**	**06 41 47.8**	**-1.0**
	comp=Z,20nm,0.7s,baz=46,slow=4.0,SNR=52							
NB2	**NORSAR Subarra**	**149.52**	**350**	PKP		**PKPbc**	**06 41 59.5**	**-0.4**
	comp=Z,5.3nm,0.6s,baz=17,slow=4.1							
NOA	**NORSAR Array B**	**149.52**	**350**	PKPbc		**PKPbc**	**06 41 59.2**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=17,slow=4.2,SNR=7.2							
HFS	**Hagfors**	**149.95**	**347**	PKPbc		**PKPbc**	**06 41 59.1**	**-1.8**
	comp=Z,3.2nm,0.6s,baz=64,slow=5.0,SNR=11							
MMAI	**Mount Meron Ar**	**150.78**	**283**	PKPbc		**PKPbc**	**06 42 02.9**	**-1.0**
	comp=Z,0.7nm,0.2s,baz=64,slow=3.4,SNR=3.9							
AKASG	**Malin Array Be**	**151.42**	**321**	PKPbc		**PKPbc**	**06 42 02.9**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=44,slow=3.3,SNR=13							
BRTR	**Keskin Array B**	**152.15**	**297**	PKPbc		**PKPbc**	**06 42 05.5**	**-1.3**
	comp=Z,1.8nm,0.5s,baz=107,slow=1.5,SNR=9.0							
BRTR				PKPab		**PKPab**	**06 42 15.3**	**-2.0**
	comp=Z,1.5nm,0.8s,baz=83,slow=3.9,SNR=4.5							
DBIC	**Dimbokro**	**154.88**	**167**	PKP		**PKPdf**	**06 42 05.3**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=180,slow=5.1,SNR=4.6							
DBIC				PKPbc		**PKiKP**	**06 42 15.5**	**+2.2**
	comp=Z,1.9nm,0.6s,baz=167,slow=4.6,SNR=3.5							
TORD	**Torodi Ar. Bea**	**161.87**	**183**	PKP		**PKPdf**	**06 42 12.2**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=158,slow=1.6,SNR=7.4							
TORD				PKPab		**pPKPdf**	**06 42 59.0**	**+0.6**
	comp=Z,4.3nm,0.8s,baz=156,slow=3.5,SNR=17							

*DJA **08** 06:23:05.6±1.4,3°S±5°×12°2E±°, h16km±12km, M3.8/10, MLv3.8/10*
*IDC **08** 06:23:11.9±1.7,3°86S×121°91E, h0km, mb

CMAR	**Chiang Mai Arr**	**42.66**	**302**	P		**P**	**06 33 47.0**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=134,slow=7.7,SNR=4.4							
	comp=Z,1.0nm,0.3s							
SONM	**Songino Array**	**57.27**	**336**	P		**P**	**06 35 38.0**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=134,slow=4.2,SNR=2.3							
	comp=Z,0.4nm,0.6s							
MKAR	**Makanchi Array**	**68.81**	**323**	P		**P**	**06 36 55.2**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=111,slow=7.5,SNR=11							
	comp=Z,1.4nm,0.6s							
KKAR	**Karatay Array**	**74.87**	**316**	P		**P**	**06 37 30.5**	**-0.7**
VNDA	**Vanda**	**75.40**	**174**	P		**P**	**06 37 36.6**	**+3.0**
VNDA	**Vanda**	**75.40**	**174**	P		**P**	**06 37 35.2**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=333,slow=9.6,SNR=3.0							
	comp=Z,0.8nm,0.8s							
BVAR	**Borovoye Array**	**78.43**	**326**	P		**P**	**06 37 50.9**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=116,slow=6.8,SNR=6.1							
	comp=Z,0.8nm,0.4s							
TTA	**Tatalina**	**82.99**	**25**	P		**P**	**06 38 14.6**	**-0.8**
TTA				IAmb		IAmb	06 38 58.6	
	comp=Z,6.1nm,1.2s							
G18K	**Tagagawik**	**83.09**	**22**	P		**P**	**06 38 16.3**	**+0.6**
G18K				IAmb		IAmb	06 38 42.0	
	comp=Z,7.0nm,1.5s							
C18K	**Utukok River**	**83.39**	**19**	P		**P**	**06 38 16.9**	**-0.4**
ABKAR	**Akbulak array**	**83.62**	**320**	P		**P**	**06 38 18.3**	**-0.6**
ABKAR	**Akbulak array**	**83.62**	**320**	P		**P**	**06 38 18.0**	**-0.8**
ABKAR				IAmb		IAmb	06 38 42.7	
	comp=Z,4.0nm,1.2s							
G19K	**Purcell Mounta**	**83.77**	**22**	P		**P**	**06 38 18.5**	**-0.8**
G19K				IAmb		IAmb	06 38 23.8	
	comp=Z,8.2nm,1.2s							
E19K	**Redstone River**	**84.23**	**21**	P		**P**	**06 38 21.8**	**+0.2**
E19K				IAmb		IAmb	06 38 29.6	
	comp=Z,4.9nm,0.9s							
D19K	**Kuna River**	**84.34**	**20**	P		**P**	**06 38 22.5**	**+0.3**
D19K				IAmb		IAmb	06 38 32.0	
	comp=Z,7.4nm,1.1s							
TRF	**Thorofare Moun**	**85.61**	**26**	P		**P**	**06 38 28.4**	**-0.4**
E22K	**Anaktuvuk Pass**	**86.40**	**21**	P		**P**	**06 38 32.7**	**+0.2**
E22K				IAmb		IAmb	06 38 40.6	
	comp=Z,2.0nm,0.8s							
C23K	**Itkillik River**	**87.33**	**19**	P		**P**	**06 38 36.4**	**-0.5**
ILAR	**Eielson Array**	**87.39**	**25**	P		**P**	**06 38 37.0**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=260,slow=5.4,SNR=1.9							
	comp=Z,0.6nm,0.7s							
CPUP	**Villa Florida**	**147.72**	**157**	PKPbc		**PKiKP**	**06 45 37.1**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=186,slow=1.5,SNR=2.8							

*IDC **08** 06:28:46.9±4.0, 50.07N×76.36E, h0km, mbtmp2.9/1, ML1.5/1, Error ellipse: s-maj=33.4km s-min=21.1km az=90.0*
*NNC **08** 06:28:46.9±1.0, 49.83N×76.57E, h0km, mb2.8, mpv2.8, Error ellipse: s-maj=94.0km s-min=6.0km az=146.0, Suspected Mining explosion.*
ISC 08 06:28:46.4±3.2, 49.70N±0.08×76.7E±0.2, h0km, n14, σ0§37/23, 11C-9D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**1.45**	**52**	⇑P		**Pn**		**06 29 13.9**	**0.0**
KUR07				⇓S		**Sn**		**06 29 34.2**	**+0.7**
KUR17	**Kurchatov Arra**	**1.46**	**49**	⇑P		**Pg**		**06 29 14.2**	**-0.1**
KUR17				⇓S		**Sn**		**06 29 33.9**	**+0.2**
KUR06	**Kurchatov Arra**	**1.47**	**51**	⇑P		**Pn**		**06 29 14.2**	**+0.1**
KUR06				⇓S		**Sn**		**06 29 33.9**	**0.0**
KUR16	**Kurchatov Arra**	**1.47**	**50**	⇑P		**Pn**		**06 29 14.2**	**+0.1**
KUR16				⇓S		**Sn**		**06 29 34.1**	**+0.1**
KURBB	**Kurchatov Arra**	**1.48**	**50**	Pg		**Pn**		**06 29 14.2**	**0.0**
	0.2nm,0.3s,baz=251,slow=19,SNR=17								
KURBB				Lg		Lg		06 29 34.9	
	0.4nm,0.3s,baz=259,slow=29,SNR=18								
KURBB	**Kurchatov Arra**	**1.48**	**50**	⇑P		**Pg**		**06 29 14.5**	**-0.2**
	6.4nm,0.8s								
KURBB				⇑S		**Sn**		**06 29 35.6**	**+1.3**
	36nm,1.0s								
KUR15	**Kurchatov Arra**	**1.49**	**51**	⇓P		**Pn**		**06 29 14.2**	**-0.3**
KUR15				⇓S		**Sb**		**06 29 34.2**	**-0.3**
KUR05	**Kurchatov Arra**	**1.50**	**50**	⇑P		**Pn**		**06 29 14.5**	**0.0**
KUR05				⇓S		**Sg**		**06 29 34.2**	**-0.2**
KUR14	**Kurchatov Arra**	**1.51**	**52**	⇓P		**Pn**		**06 29 14.5**	**-0.1**
KUR14				⇓S		**Sn**		**06 29 34.7**	**-0.2**
KUR04	**Kurchatov Arra**	**1.51**	**50**	⇑P		**Pn**		**06 29 14.9**	**+0.2**
KUR04				⇑S		**Sg**		**06 29 34.6**	**-0.4**
KURK	**Kurchatov**	**1.58**	**49**	⇑P		**Pn**		**06 29 15.4**	**-0.2**
	7.4nm,0.8s								
KURK				⇑S		**Sg**		**06 29 37.6**	**+0.4**
	20nm,1.1s								
MKAR	**Makanchi Array**	**4.71**	**126**	Pg		**Pg**		**06 30 16.6**	**-0.1**
	baz=309,slow=15,SNR=2.4								
MKAR				Lg		Lg		06 31 27.5	
	0.2nm,0.3s,baz=324,slow=24,SNR=5.9								
I46RU	**ZALESOVO INFRA**	**6.57**	**47**	I		I		07 08 20.0	
	baz=236,slow=338,SNR=5.5								
ZALV	**Zalesovo Beam**	**6.57**	**47**	Pn		**Pn**		**06 30 24.2**	**0.0**
	0.1nm,0.3s,baz=235,slow=18,SNR=2.0								
	0.5nm,0.4s								

IDC 08 06:44:26.3±2.9, 53.55N×87.79E, h0km, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=23.8km s-min=14.8km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**284**	I		I		06 54 50.0	
	0.1nm,0.9s,baz=99,slow=334,SNR=13								
ZALV	**Zalesovo Beam**	**1.81**	**284**	Pg		Pn		06 44 58.3	-0.4
	2.6nm,0.3s,baz=98,slow=14,SNR=29								
ZALV				Lg		Lg		06 45 24.1	
	7.5nm,0.3s,baz=104,slow=26,SNR=21								
KURBB	**Kurchatov Arra**	**6.42**	**246**	Pn		Pn		06 46 02.8	+0.9
	0.3nm,0.3s,baz=62,slow=14,SNR=12								
KURBB				Sn		Sn		06 47 14.0	-1.8
	0.1nm,0.3s,baz=62,slow=36,SNR=1.3								
KURBB				Lg		Lg		06 47 50.2	
	0.1nm,0.3s,baz=64,slow=32,SNR=7.7								
	1.8nm,0.5s								
MKAR	**Makanchi Array**	**7.63**	**210**	Pn		Pn		06 46 19.8	+1.1
	0.2nm,0.3s,baz=30,slow=12,SNR=4.7								
MKAR				Sn		Sn		06 47 45.6	-0.2
	0.1nm,0.3s,baz=30,slow=23,SNR=1.8								
MKAR				Lg		Lg		06 48 29.6	
	0.4nm,0.3s,baz=24,slow=30,SNR=6.5								
	0.3nm,0.3s								

IDC 08 06:47:44.6±2.5, 54.02N×86.55E, h0km, mbtmp3.4/2, ML2.8/2, Error ellipse: s-maj=20.5km s-min=11.7km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**267**	I		I		06 53 30.0	
	0.2nm,0.8s,baz=84,slow=337,SNR=58								
ZALV	**Zalesovo Beam**	**1.02**	**267**	Pg		Pg		06 48 02.8	-1.5
	1.3nm,0.3s,baz=82,slow=18,SNR=8.6								
ZALV				Lg		Lg		06 48 18.9	
	2.8nm,0.3s,baz=88,slow=32,SNR=8.4								
ZALV				Rg		Rg		06 48 23.9	
	92nm,1.1s,baz=96,slow=35,SNR=13								
KURBB	**Kurchatov Arra**	**5.98**	**239**	Pn		Pn		06 49 15.1	+0.8
	0.2nm,0.3s,baz=56,slow=14,SNR=19								
KURBB				Lg		Lg		06 50 55.6	
	baz=58,slow=32,SNR=8.0								
	6.5nm,0.7s								
MKAR	**Makanchi Array**	**7.73**	**202**	Pn		Pn		06 49 39.5	+1.2
	0.2nm,0.3s,baz=25,slow=14,SNR=6.8								
MKAR				Sn		Sn		06 51 05.8	-0.7
	baz=21,slow=22								
MKAR				Lg		Lg		06 51 50.0	
	0.1nm,0.3s,baz=21,slow=28,SNR=3.5								
	1.0nm,0.6s								

IDC 08 06:50:27.6±2.9, 53.67N×86.83E, h0km, mbtmp2.9/2, ML2.3/2, Error ellipse: s-maj=25.6km s-min=14.9km az=73.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**284**	I		I		06 57 20.0	
	0.1nm,0.7s,baz=100,slow=336,SNR=10.0								
ZALV	**Zalesovo Beam**	**1.22**	**284**	Pg		Pg		06 50 49.8	-1.2
	0.7nm,0.3s,baz=106,slow=11,SNR=9.8								
ZALV				Lg		Lg		06 51 07.9	
	1.4nm,0.3s,baz=106,slow=30,SNR=9.0								
ZALV				Rg		Rg		06 51 16.1	
	3.0nm,0.4s,baz=89,slow=24,SNR=3.2								
KURBB	**Kurchatov Arra**	**5.95**	**242**	Pn		Pn		06 51 57.7	+0.8
	baz=58,slow=14,SNR=2.8								
	0.7nm,0.5s								
MKAR	**Makanchi Array**	**7.47**	**205**	Pn		Pn		06 52 19.2	+1.4
	0.1nm,0.3s,baz=22,slow=12,SNR=1.4								
	0.5nm,0.6s								

IDC 08 06:55:44.5±2.5, 54.13N×86.37E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=19.5km s-min=11.5km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**260**	I		I		07 01 12.9	
	0.1nm,0.5s,baz=80,slow=336,SNR=11								
ZALV	**Zalesovo Beam**	**0.93**	**259**	Pg		Pg		06 56 01.4	-1.0
	1.3nm,0.3s,baz=76,slow=16,SNR=9.9								
ZALV				Lg		Lg		06 56 15.9	
	3.1nm,0.3s,baz=79,slow=30,SNR=15								
ZALV				Rg		Rg		06 56 23.5	
	3.5nm,0.3s,baz=78,slow=30,SNR=3.8								
KURBB	**Kurchatov Arra**	**5.95**	**237**	Pn		Pn		06 57 14.5	+0.8
	0.2nm,0.3s,baz=54,slow=14,SNR=7.3								
KURBB				Lg		Lg		06 58 51.8	
	baz=58,slow=30,SNR=1.3								
	0.8nm,0.3s								
MKAR	**Makanchi Array**	**7.79**	**201**	Pn		Pn		06 57 39.8	+0.8
	0.2nm,0.3s,baz=20,slow=13,SNR=8.0								
MKAR				Sn		Sn		06 59 08.8	+0.8
	0.1nm,0.3s,baz=14,slow=13,SNR=1.6								
	0.3nm,0.3s								

*IDC **08** 07:20:08.2±1.3, 49.80N×81.71E, h0km, mbtmp2.4/2, ML1.8/2, Error ellipse: s-maj=17.6km s-min=9.3km az=55.0*
*NNC **08** 07:20:09.3±1.4, 49.61N×81.61E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=20.5km s-min=4.0km az=54.0, Suspected Mining explosion.*
ISC 08 07:20:02.0±1.3, 49.91N±0.06×82.17E±0.07, h0km, n8, σ0§93/9, 3C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.41**	**291**	⇑Pn		**Pb**		**07 20 47.4**	**+1.1**
	20nm,0.7s								
KURK				⇓Sn		**Sb**		**07 21 16.2**	**-0.3**
	39nm,1.4s								
KURBB	**Kurchatov Arra**	**2.44**	**288**	Pg		**Pb**		**07 20 47.6**	**+0.9**
	0.2nm,0.3s,baz=112,slow=19,SNR=93								
KURBB				Lg		Lg		07 21 18.3	
	0.2nm,0.3s,baz=108,slow=30,SNR=16								
KURBB	**Kurchatov Arra**	**2.44**	**288**	⇑Pn		**Pg**		**07 20 48.1**	**-0.7**
	22nm,0.8s								
KURBB				⇓Sn		**Sb**		**07 21 16.8**	**-0.6**
	47nm,0.7s								
MAKZ	**Makanchi**	**3.10**	**182**	⇑Lg		Lg		07 21 39.3	
	13nm,1.1s								
MK31	**Makanchi Array**	**3.12**	**178**	⇓Pg		**Pg**		**07 21 00.7**	**-1.0**
	2.4nm,0.8s,baz=355,slow=14,SNR=5.5								
MK31				Lg		Lg		07 21 40.4	
	6.7nm,0.6s,baz=353,slow=27,SNR=14								
MKAR	**Makanchi Array**	**3.12**	**178**	Pn		**Pb**		**07 20 59.2**	**+0.9**
	0.2nm,0.3s,baz=355,slow=11,SNR=2.8								
MKAR				Pg		**Pg**		**07 21 01.4**	**-0.3**
	0.2nm,0.3s,baz=352,slow=14,SNR=8.8								
MKAR				Lg		Lg		07 21 40.1	
	0.7nm,0.3s,baz=352,slow=27,SNR=16								
	0.4nm,0.3s								
I46RU	**ZALESOVO INFRA**	**4.37**	**21**	I		I		07 47 50.0	
	baz=197,slow=322,SNR=1.1								
ZALV	**Zalesovo Beam**	**4.37**	**21**	Pn		**Pb**		**07 21 20.1**	**+0.5**
	0.1nm,0.3s,baz=206,slow=22,SNR=1.7								
ZALV				Lg		Lg		07 22 33.4	
	0.4nm,0.3s,baz=202,slow=26,SNR=12								
	0.3nm,0.2s								

IDC 08 07:26:54.0±3.2, 23.78S×179.48W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=282.2km s-min=37.3km az=164.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.53**	**260**	P		P		07 34 51.6	0.0
	0.3nm,0.5s,baz=96,slow=9.1,SNR=6.0								
	0.3nm,0.5s								
WRA	**Warramunga Arr**	**42.89**	**266**	P		P		07 34 54.4	-0.2
	0.9nm,0.5s,baz=104,slow=8.0,SNR=10.0								
	0.9nm,0.5s								
TXAR	**Lajitas Array**	**89.96**	**58**	P		P		07 39 55.7	0.0
	0.2nm,0.6s,baz=216,slow=4.5,SNR=2.0								
	0.2nm,0.6s								

IDC 08 07:34:32.0±2.8, 53.94N×86.56E, h0km, mbtmp3.1/2, ML2.5/2, Error ellipse: s-maj=22.9km s-min=13.5km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**271**	I		I		07 40 20.0	
	baz=88,slow=334,SNR=2.2								
ZALV	**Zalesovo Beam**	**1.03**	**271**	Pg		Pg		07 34 51.5	-0.2
	0.7nm,0.3s,baz=90,slow=18,SNR=5.7								
ZALV				Lg		Lg		07 35 06.0	
	1.7nm,0.3s,baz=93,slow=29,SNR=7.0								
KURBB	**Kurchatov Arra**	**5.94**	**239**	Pn		Pn		07 36 01.9	+0.8
	0.1nm,0.3s,baz=58,slow=13,SNR=2.4								
	1.1nm,0.2s								
MKAR	**Makanchi Array**	**7.66**	**203**	Pn		Pn		07 36 25.8	+1.0
	0.1nm,0.3s,baz=26,slow=16,SNR=4.9								
	0.3nm,0.5s								

*IDC **08** 07:39:41.8±0.9, 34.34N×45.71E, h0km, mb4.1/18, mbtmp3.9/29, ML3.8/10, MS3.5/24, Error ellipse: s-maj=17.5km s-min=11.1km az=167.0*
*TEH **08** 07:39:43.7, 34.40N×45.73E, h9km±19km, ML4.2*
*NEIC **08** 07:39:46.0±1.9, 34.52N±0.06×45.74E±0.09, h10km±1km, mb4.2/20, Error ellipse: s-maj=12.8km s-min=9.6km az=252.0*
*MOS **08** 07:39:45.4±1.4, 34.69N×45.77E, h14km, mb4.4/17, Error ellipse: s-maj=7.9km s-min=4.7km az=105.8*
*OMAN **08** 07:39:54.0±1.1, 33.07N×45.60E, h6km, mb3.9/19, ms3.1/3, Error ellipse: s-maj=18.8km s-min=9.8km az=37.0*
*AZER **08** 07:40:13.3±0.2, 35.94N×45.59E, h6km, Error ellipse: s-maj=1.6km s-min=1.3km az=0.0*
ISC 08 07:39:43.9±0.9, 34.37N±0.03×45.70E±0.03, h14km±5km, n251, σ2§71/261, mb4.2/42, MS3.5/16, 24C-13D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.17**	**325**	Pg		**Pg**		**07 39 46.9**	**-1.1**
KGS1				Sg		**Sg**		**07 39 50.7**	**0.0**
IDHR	**Dehrash**	**0.65**	**59**	Pg		**Pg**		**07 39 55.3**	**-1.5**
KSBB	**Baniby**	**0.67**	**0**	Pg		**Pb**		**07 39 57.0**	**-0.5**
IGHG	**Ghaleghazi**	**0.72**	**93**	Pg		**Pg**		**07 39 57.2**	**-0.8**
ILBA	**Ilam Banvizeh**	**0.85**	**150**	Pg		**Pb**		**07 40 00.9**	**+0.3**
KCHF	**Cheshme Sefid,**	**1.11**	**94**	Pg		**Pg**		**07 40 04.1**	**-1.3**
ILIN	**Lien**	**1.17**	**62**	Pg		**Pg**		**07 40 05.7**	**-0.9**
ILIN				Sg		**Sn**		**07 40 23.5**	**+1.3**
SLY	**Sulaymaniyah**	**1.24**	**352**	Pg		**Pb**		**07 40 06.5**	**-0.7**
IKOM	**Komasi**	**1.51**	**97**	Pg		**Pg**		**07 40 13.1**	**+0.1**
SDS1	**Sardasht. Az.**	**1.79**	**354**	Pg		**Pb**		**07 40 16.3**	**-0.3**
IBZA	**Bozab**	**1.79**	**86**	Pg		**Pg**		**07 40 17.1**	**-1.2**
IKFM	**Kafar-mosalman**	**1.97**	**115**	Pn		**Pb**		**07 40 19.2**	**-0.5**
MAHB	**Mahabad**	**2.39**	**0**	Pn		**Pb**		**07 40 24.8**	**-2.1**
HAGD	**Aghdareh**	**2.87**	**80**	Pn		**Pn**		**07 40 31.6**	**+2.1**
IHSH	**Hashtrud**	**3.19**	**23**	Pn		**Pn**		**07 40 35.8**	**+1.7**
IAZR	**Azarshahr**	**3.31**	**4**	Pn		**Pn**		**07 40 37.5**	**+1.8**
CUKT	**Cukurca**	**3.34**	**330**	eP		**Pg**		**07 40 49.4**	**+1.5**
QSDN	**Sirdan**	**3.54**	**52**	Pn		**Pn**		**07 40 40.8**	**+1.9**
IRAZ	**Razeghan**	**3.62**	**72**	Pn		**Pn**		**07 40 41.7**	**+1.8**
ISRB	**Sarab**	**3.80**	**24**	Pn		**Pn**		**07 40 44.2**	**+1.9**
ISHB	**Shabestar**	**3.91**	**359**	Pn		**Pn**		**07 40 44.3**	**+0.5**
AMIS	**Naft Sefid**	**4.04**	**131**	Pn		**Pn**		**07 40 48.0**	**+2.5**
JIR1	**Jirandeh**	**4.08**	**54**	Pn		**Pn**		**07 40 47.4**	**+1.3**
IHRS	**Heris**	**4.09**	**15**	Pn		**Pn**		**07 40 48.4**	**+2.1**
IMRD	**Marand**	**4.34**	**360**	Pn		**Pn**		**07 40 51.7**	**+2.0**
IQOM	**Qom**	**4.45**	**82**	Pn		**Pn**		**07 40 53.0**	**+1.6**
AKDM	**Akdamar-Van**	**4.52**	**332**	eP		**Pn**		**07 40 55.9**	**+3.7**
ORD	**Ordubad**	**4.56**	**3**	P		**Pb**		**07 41 01.6**	**-2.1**
	SNR=11								
ORD				S		**Sn**		**07 41 39.0**	**-6.5**
VANB	**Van**	**4.61**	**337**	eP		**Pg**		**07 41 13.9**	**+1.6**
IPIR	**Pirpir**	**4.65**	**110**	Pn		**Pn**		**07 40 56.3**	**+2.3**
JHBN	**Jahan bin**	**4.67**	**116**	Pn		**Pn**		**07 40 56.4**	**+2.0**
LRK	**Lerik**	**4.76**	**26**	P		**Pb**		**07 41 08.0**	**+0.7**
	SNR=6.9								
LRK				S		**Sn**		**07 41 50.5**	**-0.2**
GRMI	**Germi**	**4.77**	**21**	Pn		**Pn**		**07 40 57.4**	**+1.9**
QAMS	**Qamsar**	**4.77**	**96**	Pn		**Pn**		**07 40 57.8**	**+2.1**
NAX	**Nakhchivan**	**4.80**	**358**	P		**Pb**		**07 41 04.9**	**-3.0**
	SNR=7.5								
NAX				S		**Sn**		**07 41 44.7**	**-6.7**
ZNGN	**Zangian**	**4.87**	**116**	Pn		**Pn**		**07 40 59.5**	**+2.4**
ASTR	**Astara**	**4.87**	**30**	P		**Pb**		**07 41 10.5**	**+1.5**
ASTR				S		**Sn**		**07 41 54.9**	**+1.9**
CLDR	**Caldiran**	**4.98**	**344**	eP		**Pn**		**07 41 02.4**	**+3.9**
YRD	**Yardimli**	**4.98**	**23**	P		**Pb**		**07 41 10.4**	**-0.6**
	SNR=6.9								
YRD				S		**Sn**		**07 41 54.6**	**-1.3**
LKRN	**Lenkeran, Azer**	**4.99**	**29**	P		**Pb**		**07 41 11.9**	**+0.8**
LKRN				S		**Sn**		**07 41 57.4**	**+1.4**
SBZ	**Shahbuz**	**5.02**	**359**	P		**Pb**		**07 41 07.9**	**-3.8**
	SNR=5.4								
SBZ				S		**Sn**		**07 41 50.1**	**-6.8**
MAKU	**Maku**	**5.04**	**351**	Pn		**Pn**		**07 41 01.8**	**+2.5**
GURO	**Guroymak-BITLI**	**5.12**	**326**	eP		**Pn**		**07 41 03.4**	**+3.1**
GURO	**Guroymak-BITLI**	**5.12**	**326**	Pn		**Pn**		**07 41 02.4**	**+2.1**
SVAN	**Silvan-Diyarba**	**5.24**	**317**	eP		**Pn**		**07 41 02.6**	**+0.6**
QRD	**Qoradiz**	**5.25**	**14**	P		**Pb**		**07 41 12.2**	**-3.2**
	SNR=8.6								
QRD				S		**Sn**		**07 41 58.0**	**-4.3**
MAZI	**Mazidag**	**5.26**	**307**	eP		**Pn**		**07 41 05.5**	**+3.1**
GLBA	**Clilabad**	**5.32**	**23**	P		**Pb**		**07 41 15.0**	**-1.7**
	SNR=7.1								
GLBA				S		**Sn**		**07 42 03.0**	**-1.1**
IDMV	**Damavand**	**5.33**	**75**	Pn		**Pn**		**07 41 04.9**	**+1.4**
HYR	**Heyderabad**	**5.38**	**353**	P		Pb		07 41 12.8	-5.0
HYR				S		**Sn**		**07 41 59.3**	**-6.5**
MLAZ	**Malazgirt-MUS**	**5.39**	**333**	P		**Pb**		**07 41 15.7**	**-2.4**
ISFB	**Sefidab**	**5.41**	**88**	Pn		**Pn**		**07 41 05.8**	**+1.5**
BLQ	**Beylaqan**	**5.54**	**15**	P		**Pb**		**07 41 16.5**	**-4.0**
	SNR=8.7								
BLQ				S		**Sn**		**07 42 05.7**	**-3.9**
AGRB	**Hanur-Agry**	**5.63**	**338**	eP		**Pg**		**07 41 30.0**	**-1.8**
IGAR	**Gharneh**	**5.65**	**109**	Pn		**Pn**		**07 41 09.6**	**+1.8**
IZEF	**Zefreh**	**5.72**	**103**	Pn		**Pn**		**07 41 11.5**	**+2.7**
GNI	**Garni**	**5.82**	**353**	deP		**Pn**		**07 41 07.1**	**-2.9**
GNI	**Garni**	**5.82**	**353**	Pn		**Pn**		**07 41 12.5**	**+2.5**
	1.1nm,0.3s,baz=209,slow=14,SNR=3.0								
GNI				Lg		Lg		07 42 47.6	
	1.0nm,0.3s,baz=75,slow=16,SNR=1.1								
	4.4nm,0.4s								
AGDM	**Agdam**	**5.84**	**11**	P		Pb		07 41 20.0	-5.6
	SNR=8.2								
AGDM				S		**Sn**		**07 42 11.9**	**-5.0**
IFIR	**Firoozkooh**	**5.92**	**76**	Pn		**Pn**		**07 41 13.1**	**+1.6**
KLNJ	**Kolanjah**	**5.99**	**122**	Pn		**Pn**		**07 41 14.9**	**+2.3**
BNGB	**Bingl**	**6.13**	**320**	eP		**Pn**		**07 41 16.2**	**+2.0**
GANJ	**Ganja**	**6.29**	**4**	P		Pb		07 41 25.5	-7.7
	SNR=4.7								
GANJ				S		**Sn**		**07 42 22.1**	**-5.9**
GDB	**GEDABAY**	**6.34**	**0**	P		Pb		07 41 26.1	-8.2
GDB				S		**Sn**		**07 42 23.0**	**-6.6**
GBS	**Qobustan**	**6.67**	**22**	P		Pb		07 41 33.1	-6.7
GBS				S		**Sn**		**07 42 35.5**	**-2.0**
QZX	**Qazax, Azerbai**	**6.68**	**358**	P		Pn		07 41 30.6	+8.8
	SNR=7.2								
QZX				S		**Sn**		**07 42 31.0**	**-6.7**
IML	**Ismayilli**	**6.71**	**16**	P		Pb		07 41 32.5	-7.9
IML				S		**Sn**		**07 42 34.7**	**-3.7**
PQL	**Pirkuli**	**6.81**	**19**	P		Pb		07 41 34.4	-7.7
PQL				S		**Sn**		**07 42 37.8**	**-3.1**
SEKA	**Sheki**	**6.93**	**9**	P		Pb		07 41 35.0	-9.2
SEKA				S		**Sn**		**07 42 39.0**	**-4.9**
ATGJ	**Altiaghaj**	**6.97**	**21**	P		Pb		07 41 36.9	-8.0
ATGJ				S		**Sn**		**07 42 42.5**	**-2.4**
XNQ	**Khinaliq**	**7.06**	**15**	P		Pb		07 41 37.4	-9.1
XNQ				S		**Sn**		**07 42 43.2**	**-4.1**
SIZA	**

ELL	**Elmali**	**13.08**	**285**	P	**Pn**	**07 42 52.3**	**+2.8**
UOSS	**Minazif**	**13.09**	**133**	Pn	**Pn**	**07 42 49.0**	**-0.5**
UOSS	**Minazif**	**13.09**	**133**	*i* Pn	**Pn**	**07 42 48.7**	**-0.9**
	SNR=7.4						
UOSS	**Minazif**	**13.09**	**133**	P	**Pn**	**07 42 49.5**	**-0.1**
UOSS				S	**Sn**	**07 45 09.9**	**-5.1**
HATD	**Hatta, Dubai**	**13.13**	**134**	*i* Pn	**Pn**	**07 42 49.7**	**-0.5**
	SNR=12						
HATD	**Hatta, Dubai**	**13.13**	**134**	P	**Pn**	**07 42 50.0**	**-0.1**
	SNR=12						
HATD				S	**Sn**	**07 45 10.7**	**-5.4**
ASHO	**Ashiyiah**	**13.20**	**134**	*i* Pn	**Pn**	**07 42 50.0**	**-1.1**
	SNR=11						
ASHO	**Ashiyiah**	**13.20**	**134**	P	**Pn**	**07 42 50.7**	**-0.4**
	SNR=11						
ASHO				S	**Sn**	**07 45 11.2**	**-6.5**
ALNE	**Al Ain**	**13.50**	**137**	*i* Pn	**Pn**	**07 42 54.8**	**-0.4**
	SNR=8.9						
ALNE	**Al Ain**	**13.50**	**137**	P	**Pn**	**07 42 54.7**	**-0.4**
ALNE				S	Sn	07 45 16.6	-8.6
JASK	**Jask - Hormozg**	**13.50**	**126**	P	**Pn**	**07 42 54.6**	**-0.6**
SOHO	**SOHO**	**13.89**	**134**	Pn	**Pn**	**07 42 59.4**	**-1.2**
SOHO	**SOHO**	**13.89**	**134**	P	**Pn**	**07 42 60.0**	**-0.6**
SOHO				S	**Sn**	**07 45 29.7**	**-4.9**
ARQ	**Araqi**	**14.50**	**136**	P	**Pn**	**07 43 08.3**	**-0.6**
ARQ				S	**Sn**	**07 45 42.8**	**-6.8**
HOQ	**Hoqain**	**14.78**	**134**	P	**Pn**	**07 43 12.8**	**+0.1**
BIDO	**Bidbid**	**15.32**	**132**	P	**Pn**	**07 43 18.9**	**-0.9**
BSY	**Bisya**	**15.35**	**136**	P	**Pn**	**07 43 19.4**	**-0.9**
SMDO	**Samad**	**15.61**	**133**	P	**Pn**	**07 43 23.5**	**-0.3**
	SNR=14						
SMDO				S	**Sn**	**07 46 08.4**	**-8.4**
WSAR	**Wadi Sarin**	**15.84**	**131**	P	**Pn**	**07 43 24.8**	**-1.8**
WSAR				S	**Sn**	**07 46 13.1**	**-8.9**
WSAR	**Wadi Sarin**	**15.84**	**131**	Pn	**Pn**	**07 43 24.1**	**-2.6**
	comp=Z,0.6nm,0.3s,baz=334,slow=8.1,SNR=7.9						
WSAR				Sn	**Sn**	**07 46 14.2**	**-7.8**
	comp=Z,0.3nm,0.3s,baz=30,slow=20,SNR=2.0						
WSAR				LR	LR	07 49 39.8	
	comp=Z,78nm,19.4s,baz=50,slow=38						
	comp=Z,7.3nm,0.6s						
JMDO	**Jabal Madar**	**16.17**	**134**	P	**Pn**	**07 43 30.5**	**-0.3**
JMDO				S	**Sn**	**07 46 21.9**	**-8.2**
WBK	**Wadi Bani Khal**	**16.51**	**132**	P	**Pn**	**07 43 34.0**	**-1.3**
VRH	**Novokhopyorsk**	**17.07**	**351**	*eP*	**Pn**	**07 43 39.2**	**-2.9**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
IDI	**Anoyia**	**17.11**	**279**	P	**Pn**	**07 43 42.8**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=66,slow=17,SNR=2.5						
IDI				LR	LR	07 53 11.9	
	comp=Z,52nm,19.5s,baz=94,slow=47						
	comp=Z,2.2nm,0.7s						
JLN	**Jalan Bani Buh**	**17.12**	**132**	P	**Pn**	**07 43 43.1**	**+0.2**
MHTO	**MHTO**	**17.18**	**138**	P	**Pn**	**07 43 41.6**	**-2.0**
	SNR=7.2						
MHTO				S	**Sn**	**07 46 44.5**	**-10**
VORD	**Divnogorie**	**17.23**	**346**	*eP*	**P**	**07 43 45.2**	**-0.4**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.7s						
RDO	**Rodhopi**	**17.30**	**299**		**P**	**07 43 48.5**	**+2.0**
VSR	**Storozhevoye**	**17.50**	**346**	*eP*	**P**	**07 43 48.6**	**+0.1**
VSR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
DQM	**DQM**	**17.80**	**141**	P	**Pn**	**07 43 48.9**	**-2.5**
DQM				S	Sn	07 46 58.5	-11
WHFO	**Wadi Hawf**	**17.90**	**154**	P	**Pn**	**07 43 51.1**	**-1.5**
WHFO				S	Sn	07 46 58.2	-14
ABKAR	**Akbulak array**	**18.23**	**31**	P	**P**	**07 43 57.0**	**+0.4**
ABKAR	**Akbulak array**	**18.23**	**31**		**P**	**07 43 56.9**	**+0.3**
ABKAR				IAmb	IAmb	07 43 58.5	
	comp=Z,4.1nm,0.9s						
ABTO	**Aybut**	**18.26**	**156**	P	**Pn**	**07 43 54.3**	**-2.8**
ABTO				S	Sn	07 47 09.7	-11
AKTO	**Aktyubinsk**	**18.41**	**26**	P	**Pn**	**07 43 58.3**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=224,slow=11,SNR=4.3						
AKTO				LR	LR	07 53 25.5	
	comp=Z,126nm,19.7s,baz=194,slow=45						
	comp=Z,2.5nm,0.7s						
RBK	**Rabkut**	**18.44**	**154**	P	**P**	**07 43 56.8**	**-2.4**
VRI	**Vrincioaia**	**18.45**	**314**	⇑P	**Pn**	**07 44 01.1**	**+1.8**
VRI	**Vrincioaia**	**18.45**	**314**	⇑P	**Pn**	**07 44 01.1**	**+1.8**
PLOR	**Plostina**	**18.49**	**314**	⇑P	**Pn**	**07 44 01.7**	**+1.9**
PLOR	**Plostina**	**18.49**	**314**	⇑P	**Pn**	**07 44 01.7**	**+1.9**
DMTO	**DMTO**	**18.53**	**151**	P	**P**	**07 43 58.1**	**-2.1**
	SNR=14						
DMTO				S	Sn	07 47 14.5	-13
SHAO	**Shalim**	**18.54**	**149**	P	**P**	**07 43 58.4**	**-1.8**
	SNR=9.4						
MLR	**Muntele Rosu**	**18.74**	**312**	P	**Pn**	**07 44 04.1**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=158,slow=19,SNR=1.8						
	comp=Z,2.0nm,0.6s						
TESR	**Tescani**	**18.85**	**316**	⇑P	**Pn**	**07 44 05.4**	**+1.3**
LPSR	**Galich'ya Gora**	**18.86**	**347**	*eP*	**P**	**07 44 01.3**	**-2.2**
LPSR				pmax	pmax		
	comp=Z,30nm,0.8s						
SORM	**Soroca**	**18.90**	**322**	⇓P	**Pn**	**07 44 05.1**	**+0.5**
SORM	**Soroca**	**18.90**	**322**	⇓P	**Pn**	**07 44 05.1**	**+0.5**
TURR	**Turia**	**18.98**	**314**	⇓P	**Pn**	**07 44 07.4**	**+1.8**
KBL	**Kabul**	**19.25**	**83**	P	**Pn**	**07 44 10.8**	**+1.7**
KBL	**Kabul**	**19.25**	**83**	P	**Pn**	**07 44 10.9**	**+1.7**
KBL				pmax	pmax		
	comp=Z,8.0nm,1.2s						
VOIR		**19.26**	**311**	⇑P	**Pn**	**07 44 10.8**	**+1.7**
VOIR		**19.26**	**311**	⇑P	**Pn**	**07 44 10.8**	**+1.7**
DOPR	**Dopca**	**19.31**	**313**	⇓P	**Pn**	**07 44 10.5**	**+0.8**
ARR	**Arges**	**19.49**	**311**	⇑P	**Pn**	**07 44 12.7**	**+0.8**
AKASG	**Malin Array Be**	**20.27**	**329**	P	**P**	**07 44 18.5**	**-0.4**
	comp=Z,5.8nm,0.8s,baz=139,slow=10,SNR=14						
	comp=Z,5.8nm,0.8s						
AKBB	**Malin Array Si**	**20.27**	**329**	P	**P**	**07 44 19.5**	**+0.6**
AKBB				IAmb	IAmb	07 44 22.1	
	comp=Z,16nm,1.1s						
AKBB	**Malin Array Si**	**20.27**	**329**	⇑*eP*	**P**	**07 44 19.5**	**+0.6**
KIEV	**Kiev**	**20.27**	**329**	⇑P	**P**	**07 44 19.6**	**+0.7**
KIEV	**Kiev**	**20.27**	**329**	P	**P**	**07 44 19.8**	**+0.8**
KIEV				IAmb	IAmb	07 44 22.2	
	comp=Z,14nm,1.0s						
KIEV	**Kiev**	**20.27**	**329**	P	**P**	**07 44 19.8**	**+0.8**
KIEV				pmax	pmax		
	comp=Z,14nm,1.0s						
BURAR	**Bucovina Array**	**20.27**	**317**	⇑P	Pn	07 44 21.3	+0.1
BURAR	**Bucovina Array**	**20.27**	**317**	P	**P**	**07 44 20.1**	**+0.9**
BURAR	**Bucovina Array**	**20.27**	**317**	⇑P	Pn	07 44 21.3	+0.1
BUR08	**Bucovina Ar. S**	**20.30**	**317**	P	**P**	**07 44 20.5**	**+1.0**
BUR08				IAmb	IAmb	07 44 41.2	
	comp=Z,11nm,1.1s						
DJES	**Djerdap**	**20.57**	**307**	⇑P	Pn	07 44 25.3	+0.8
DJES	**Djerdap**	**20.57**	**307**	P	**P**	**07 44 23.6**	**+1.4**
GZR	**Gura Zlata**	**20.68**	**309**	⇓P	Pn	07 44 25.5	-0.4
GZR	**Gura Zlata**	**20.68**	**309**	⇓P	Pn	07 44 25.5	-0.4
MARR	**Marisel-Cluj**	**21.03**	**313**	⇑P	**P**	**07 44 29.5**	**+2.1**
MDVR	**Moldovita**	**21.14**	**307**	⇑P	**P**	**07 44 31.0**	**+2.4**
KK31	**Karatay Array**	**21.17**	**58**		**P**	**07 44 30.0**	**+1.2**
KK31				IAmb	IAmb	07 44 44.0	
	comp=Z,12nm,1.4s						
KK31	**Karatay Array**	**21.17**	**58**	P	**P**	**07 44 30.0**	**+1.2**
KK31				pmax	pmax		
	comp=Z,12nm,1.5s						
KKAR	**Karatay Array**	**21.17**	**58**		**P**	**07 44 30.4**	**+1.6**
KKAR	**Karatay Array**	**21.17**	**58**		**P**	**07 44 30.2**	**+1.4**
KKAR				IAmb	IAmb	07 44 44.0	
	comp=Z,12nm,1.4s						
KKAR	**Karatay Array**	**21.17**	**58**	P	**P**	**07 44 30.4**	**+1.6**
KKAR				pmax	pmax		
	comp=Z,12nm,1.5s						
OBN	**Obninsk**	**21.70**	**346**	*i* P	**P**	**07 44 35.2**	**+0.9**
OBN				*i*		07 44 53.4	
OBN				pmax	pmax		
	comp=Z,12nm,1.2s						
MOS	**Moscow**	**22.09**	**348**	*eP*	**P**	**07 44 44.5**	**+6.0**
MOS				pmax	pmax		
	comp=Z,49nm,0.9s						
NIL	**Nilore**	**22.83**	**84**	P	**P**	**07 44 48.1**	**+1.4**
NIL				IAmb	IAmb	07 45 30.6	
	comp=Z,10nm,1.1s						
NIL	**Nilore**	**22.83**	**84**	P	**P**	**07 44 48.1**	**+1.4**
NIL				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CRVS	**Cervenica-Dubn**	**23.09**	**316**	*eP*	**P**	**07 44 51.6**	**+2.4**
CRVS	**Cervenica-Dubn**	**23.09**	**316**	*eP*	**P**	**07 44 51.7**	**+2.5**
MORH	**Mrgy, Hungar**	**23.67**	**308**	⇓P	**P**	**07 44 55.9**	**+0.9**
ARU	**Arti**	**23.76**	**18***d*	*i* P	**P**	**07 44 56.8**	**+1.0**
ARU						07 45 20.2	
ARU				S	**S**	**07 49 12.6**	**+2.0**
ARU				SS	**SnSn**	**07 49 49.3**	**+0.5**
ARU				pmax	pmax		
	comp=Z,20nm,2.1s						
ARU	**Arti**	**23.76**	**18**	P	**P**	**07 44 56.7**	**+1.0**
	comp=Z,1.9nm,0.3s,baz=210,slow=16,SNR=1.4						
	comp=Z,1.9nm,0.3s						
AAK	**Ala-Archa**	**23.91**	**61**	P	**P**	**07 44 57.2**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=257,slow=15,SNR=1.8						
AAK				LR	LR	07 56 09.2	
	comp=Z,138nm,19.5s,baz=282,slow=41						
	comp=Z,0.4nm,0.3s						
KIRV	**Kirov**	**24.35**	**5**	LR	LR	07 56 51.0	
	comp=Z,150nm,21.6s,baz=193,slow=42						
VYHS	**Vyhne**	**24.44**	**313**	*eP*	**P**	**07 45 04.8**	**+2.6**
VYHS	**Vyhne**	**24.44**	**313**	*eP*	**P**	**07 45 04.8**	**+2.6**
NRN	**Naryn**	**24.84**	**65**	P	**P**	**07 45 08.1**	**+1.8**
NRN				IAmb	IAmb	07 45 21.5	
	comp=Z,4.1nm,1.0s						
NRN	**Naryn**	**24.84**	**65**	P	**P**	**07 45 08.1**	**+1.8**
NRN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BOOM	**Boomskoye usch**	**24.94**	**62**	P	**P**	**07 45 09.0**	**+2.0**
BOOM				IAmb	IAmb	07 45 11.8	
	comp=Z,5.8nm,0.8s						
BOOM	**Boomskoye usch**	**24.94**	**62**	P	**P**	**07 45 09.0**	**+2.0**
BOOM				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MODS	**Modra-Piesok**	**25.33**	**312**	*eP*	**P**	**07 45 14.6**	**+4.3**
MODS	**Modra-Piesok**	**25.33**	**312**	*eP*	**P**	**07 45 14.6**	**+4.3**
BRVK	**Borovoye**	**25.57**	**36**	P	**P**	**07 45 13.2**	**+0.8**
BRVK	**Borovoye**	**25.57**	**36**	⇓*eP*	**P**	**07 45 13.5**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,15nm,1.7s						
BVAR	**Borovoye Array**	**25.60**	**36**	P	**P**	**07 45 13.0**	**+0.3**
BVAR	**Borovoye Array**	**25.60**	**36**	P	**P**	**07 45 13.0**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=219,slow=9.2,SNR=11						
BVAR				LR	LR	07 57 10.9	
	comp=Z,114nm,18.3s,baz=243,slow=41						
	comp=Z,3.2nm,0.8s						
RONA	**Rosalia, Austr**	**25.70**	**310**	*eP*	**P**	**07 45 15.3**	**+1.7**
	comp=Z,3.0nm,1.2s						
MORC	**Moravsky Berou**	**25.76**	**315**	P	**P**	**07 45 17.0**	**+2.8**
MORC	**Moravsky Berou**	**25.76**	**315**	P	**P**	**07 45 17.0**	**+2.8**
MORC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CONA	**Conrad Observa**	**26.05**	**310**	*eP*	**P**	**07 45 20.3**	**+3.4**
	comp=Z,10nm,1.3s						
OBKA	**Obir**	**26.45**	**307**	*ep*P	pP	07 45 26.7	+1.9
	comp=Z,7.4nm,0.8s						
BIOA	**Bad Ischl, Aus**	**27.39**	**309**	*eP*	**P**	**07 45 31.1**	**+2.2**
	comp=Z,1.8nm,0.7s						
KBA	**Koelnbreinsper**	**27.41**	**307**	*eP*	**P**	**07 45 31.0**	**+1.7**
	comp=Z,7.7nm,1.1s						
GERES	**GERESS Array B**	**27.72**	**311**	P	**P**	**07 45 32.0**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=154,slow=10,SNR=3.8						
	comp=Z,0.7nm,0.5s						
WTTA	**Wattenberg**	**28.58**	**307**	*eP*	**P**	**07 45 41.2**	**+1.5**
	comp=Z,4.7nm,1.1s						
WATA	**Walderalm**	**28.64**	**307**	*i* pP	pP	07 45 49.4	+5.0
	comp=Z,4.6nm,1.0s						
KURBB	**Kurchatov Arra**	**28.84**	**46**	P	**P**	**07 45 42.9**	**+1.1**
	comp=Z,1.8nm,0.3s,baz=253,slow=9.1,SNR=12						
KURBB				LR	LR	07 59 12.2	
	comp=Z,132nm,18.9s,baz=175,slow=40						
	comp=Z,1.8nm,0.3s						
KURK	**Kurchatov**	**28.93**	**46**	P	**P**	**07 45 43.5**	**+1.0**
KURK	**Kurchatov**	**28.93**	**46**	⇓*eP*	**P**	**07 45 44.5**	**+1.9**
KURK				pmax	pmax		
	comp=Z,17nm,1.7s						
MOTA	**Moosalm**	**28.95**	**307**	*ep*P	pP	07 45 48.0	+0.7
	comp=Z,11nm,1.6s						
DAVA	**Damuels**	**29.75**	**307**	*eP*	**P**	**07 45 53.0**	**+2.9**
	comp=Z,3.8nm,0.9s						
FINES	**FINESS Array B**	**29.87**	**341**	*i* P	**P**	**07 45 50.7**	**0.0**
FINES				pmax	pmax		
	comp=Z,7.0nm,1.0s						
FINES	**FINESS Array B**	**29.87**	**341**	P	**P**	**07 45 50.3**	**-0.4**
	comp=Z,6.8nm,1.0s,baz=154,slow=11,SNR=7.4						
	comp=Z,6.8nm,1.0s						
MK31	**Makanchi Array**	**30.16**	**55**	P	**P**	**07 45 54.9**	**+1.4**
MK31				IAmb	IAmb	07 45 56.9	
	comp=Z,3.0nm,0.9s						
MK31	**Makanchi Array**	**30.16**	**55**	P	**P**	**07 45 54.9**	**+1.4**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**30.16**	**55**	P	**P**	**07 45 54.8**	**+1.2**
MKAR	**Makanchi Array**	**30.16**	**55**	*ceP*	**P**	**07 45 55.7**	**+2.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**30.16**	**55**	P	**P**	**07 45 54.1**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=252,slow=6.5,SNR=10						
MKAR				LR	LR	08 00 23.7	
	comp=Z,89nm,18.1s,baz=254,slow=41						
	comp=Z,1.8nm,0.7s						
HFS	**Hagfors**	**33.12**	**331**	P	**P**	**07 46 18.5**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=102,slow=4.9,SNR=7.4						
	comp=Z,1.9nm,0.5s						
WMQ	**Urumqi**	**33.62**	**61**	*eP*	**P**	**07 46 27.1**	**+3.1**
WMQ				sP	sP	07 46 34.6	+4.5
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
ZAA0	**Zalesovo Array**	**33.63**	**42**	P	**P**	**07 46 24.1**	**+0.1**
ZAA0				IAmb	IAmb	07 46 28.4	
	comp=Z,3.8nm,0.9s						
ZALV	**Zalesovo Beam**	**33.63**	**42**	P	**P**	**07 46 24.3**	**+0.4**
ZALV	**Zalesovo Beam**	**33.63**	**42**	*i* P	**P**	**07 46 24.8**	**+0.9**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**33.63**	**42**	P	**P**	**07 46 24.0**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=254,slow=8.2,SNR=8.7						
ZALV				LR	LR	08 03 29.6	
	comp=Z,47nm,19.2s,baz=232,slow=42						
	comp=Z,2.2nm,0.6s						
DGZ	**Jazzator, Alta**	**34.09**	**50**	⇑*eP*	**P**	**07 46 29.0**	**+0.9**
DGZ				pmax	pmax		
	comp=Z,7.0nm,1.6s						
NOA	**NORSAR Array B**	**34.64**	**331**	LR	LR	08 02 53.9	
	comp=Z,20nm,20.6s,baz=250,slow=40						
ARCES	**ARCESS Array B**	**36.96**	**348**	P	**P**	**07 46 52.6**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=168,slow=6.2,SNR=5.3						
	comp=Z,2.2nm,0.8s						
EKA	**Eskdalemuir Ar**	**39.46**	**317**	P	**P**	**07 47 13.1**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=100,slow=9.4,SNR=3.5						
	comp=Z,1.0nm,0.5s						
ESDC	**Sonseca Array**	**39.60**	**293**	P	**P**	**07 47 14.9**	**-0.1**
	comp=Z,1.3nm,1.0s,baz=70,slow=7.5,SNR=6.6						
	comp=Z,1.3nm,1.0s						
TORD	**Torodi Ar. Bea**	**45.05**	**253**	P	**P**	**07 47 59.6**	**0.0**
	comp=Z,0.4nm,0.5s,baz=49,slow=4.7,SNR=6.7						
TORD				LR	LR	08 10 01.7	
	comp=Z,83nm,18.4s,baz=72,slow=40						
	comp=Z,0.4nm,0.5s						
SPITS	**Spitsbergen Ar**	**45.69**	**352**	P	**P**	**07 48 04.8**	**+0.8**
	comp=Z,9.6nm,0.9s,baz=140,slow=12,SNR=20						
	comp=Z,9.6nm,0.9s						
SONM	**Songino Array**	**46.52**	**54**	LR	LR	08 11 12.9	
	comp=Z,61nm,18.6s,baz=224,slow=41						
ULN	**Ulaanbaatar**	**46.96**	**54**	⇓*eP*	**P**	**07 48 17.5**	**+3.0**
ULN				pmax	pmax		
	comp=Z,7.0nm,2.5s						
PZH	**PanZhiHua**	**48.43**	**83**	P	**P**	**07 48 30.5**	**+4.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,5.7s						
CMAR	**Chiang Mai Arr**	**49.70**	**94**	*ceP*	**P**	**07 48 36.4**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**49.70**	**94**	P	**P**	**07 48 35.8**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=294,slow=8.6,SNR=4.4						
CMAR				LR	LR	08 14 18.9	
	comp=Z,29nm,18.4s,baz=260,slow=42						
	comp=Z,1.2nm,0.3s						
HHC	**Hu-ho-hao-te**	**51.48**	**62**	*eP*	**P**	**07 48 51.3**	**+2.1**
DBIC	**Dimbokro**	**54.07**	**251**	LR	LR	08 13 52.2	
	comp=Z,71nm,19.4s,baz=345,slow=38						
TIXI	**Tiksi**	**55.65**	**22**	*ceP*	**P**	**07 49 20.1**	**+1.0**
YAK	**Yakutsk**	**57.56**	**34**	LR	LR	08 17 57.9	
	comp=Z,6.7nm,19.9s,baz=306,slow=40						
USRK	**Ussuriysk Ar.**	**64.60**	**53**	LR	LR	08 22 48.6	
	comp=Z,49nm,21.2s,baz=332,slow=40						
SEY	**Seymchan**	**66.98**	**28**	LR	LR	08 24 56.6	
	comp=Z,78nm,18.5s,baz=346,slow=40						
PETK	**Petropavlovsk-**	**74.84**	**35**	LR	LR	08 27 49.8	
	comp=Z,58nm,18.7s,baz=4.6,slow=39						
SKR	**Severo-Kuril's**	**75.52**	**38**	*ceP*	**P**	**07 51 29.4**	**+1.6**
ILAR	**Eielson Array**	**80.69**	**5**	P	**P**	**07 51 56.4**	**+0.1**
	comp=Z,0.6nm,1.0s,baz=290,slow=3.2,SNR=6.0						
	comp=Z,0.6nm,1.0s						
YKA	**Yellowknife Ar**	**82.18**	**351**	*ceP*	**P**	**07 52 04.5**	**+0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YKA	**Yellowknife Ar**	**82.18**	**351**	P	**P**	**07 52 04.1**	**-0.1**
	comp=Z,1.0nm,1.0s,baz=12,slow=5.5,SNR=7.6						
	comp=Z,1.0nm,1.0s						
PDAR	**Pinedale Array**	**99.97**	**342**	LR	LR	08 42 52.8	
	comp=Z,37nm,19.2s,baz=27,slow=38						

IDC 08 07:51:55.4±3.0, 53.72N×86.83E, h0km, mbtmp3.5/2, ML2.4/2, Error ellipse: s-maj=26.4km s-min=15.4km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**282**	I	I	07 58 50.0	
	0.1nm,0.9s,baz=101,slow=337,SNR=15						
ZALV	**Zalesovo Beam**	**1.22**	**282**	Pg	Pg	07 52 18.1	-0.5
	0.6nm,0.3s,baz=101,slow=16,SNR=8.9						
ZALV				Lg	Lg	07 52 35.3	
	0.9nm,0.3s,baz=101,slow=24,SNR=9.6						
KURBB	**Kurchatov Arra**	**5.97**	**242**	Pn	Pn	07 53 25.3	+0.4
	0.1nm,0.3s,baz=59,slow=14,SNR=2.4						
	2.1nm,0.2s						
MKAR	**Makanchi Array**	**7.51**	**205**	Pn	Pn	07 53 47.6	+1.5
	0.1nm,0.3s,baz=26,slow=13,SNR=2.8						
	3.2nm,1.2s						

IDC 08 08:17:44.1±3.2, 53.63N×87.71E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=30.5km s-min=16.2km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**282**	I	I	08 27 24.2	
	0.1nm,1.1s,baz=100,slow=336,SNR=5.0						
ZALV	**Zalesovo Beam**	**1.75**	**282**	Pg	Pn	08 18 15.9	+0.3
	1.1nm,0.3s,baz=96,slow=15,SNR=11						
ZALV				Lg	Lg	08 18 39.4	
	1.9nm,0.3s,baz=96,slow=27,SNR=9.1						
KURBB	**Kurchatov Arra**	**6.40**	**246**	Pn	Pn	08 19 20.4	+0.9
	0.1nm,0.3s,baz=63,slow=14,SNR=1.0						
KURBB				Lg	Lg	08 21 06.7	
	baz=63,slow=33						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**7.67**	**209**	Pn	Pn	08 19 38.1	+1.1
	0.3nm,0.3s,baz=32,slow=14,SNR=12						
	0.4nm,0.3s						

IDC 08 08:18:42.2±2.9, 53.51N×87.67E, h0km, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=25.3km s-min=14.4km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**286**	I	I	08 29 00.5	
	baz=98,slow=335						
ZALV	**Zalesovo Beam**	**1.75**	**286**	Pg	Pn	08 19 13.8	0.0
	2.2nm,0.3s,baz=104,slow=12,SNR=3.6						
ZALV				Lg	Lg	08 19 38.4	
	7.4nm,0.3s,baz=103,slow=25,SNR=14						
KURBB	**Kurchatov Arra**	**6.33**	**246**	Pn	Pn	08 20 17.0	+0.2
	0.2nm,0.3s,baz=62,slow=14,SNR=2.3						
KURBB				Lg	Lg	08 22 01.8	
	baz=61,slow=29						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**7.56**	**209**	Pn	Pn	08 20 35.4	+1.8
	0.3nm,0.3s,baz=25,slow=13,SNR=12						
MKAR				Sn	Sn	08 21 58.3	-1.7
	baz=28,slow=22,SNR=1.3						
MKAR				Lg	Lg	08 22 40.5	
	baz=26,slow=32,SNR=1.3						
	0.5nm,0.2s						

HEL ***08*** *08:22:15.9±0.3, 67.84N×20.21E, h0km, ML1.4, Explosion*
UPP 08 08:22:15.3±0.0, 67.85N×20.20E, h0km, ML1.7, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.12**	**26**	P	Pg	08 22 17.8	+0.2
KUA				S	Sg	08 22 19.4	+0.3
RATU	**Laukkuluspa**	**0.23**	**265**	P	Pg	08 22 19.9	+0.2
KOVU	**Salmi**	**0.38**	**358**	P	Pg	08 22 22.5	0.0
LANU	**Lannavaara**	**0.71**	**73**	P	Pg	08 22 28.7	-0.2
LANU	**Lann

KARS					S		Sb	08 25 29.2	+0.7
ARUZ	**Aruch**	**1.12**	**174**		*e*P		**Pg**	**08 25 16.1**	**+0.1**
ARUZ					⇈S		**Sb**	**08 25 31.7**	**+0.1**
QZX	**Qazax, Azerbai**	**1.13**	**107**		P		**Pg**	**08 25 14.7**	**-1.4**
	SNR=229								
QZX					S		**Sg**	**08 25 29.2**	**-1.4**
GUDG	**Gudauri**	**1.14**	**20**		P		**Pg**	**08 25 16.1**	**-0.2**
GUDG	**Gudauri**	**1.14**	**20**		*i* Pg		**Pg**	**08 25 16.0**	**-0.2**
GUDG					*e*Sg		**Sb**	**08 25 31.4**	**-0.9**
CHRG	**Chargali**	**1.18**	**38**		P		**Pg**	**08 25 16.5**	**-0.7**
TKB	**Tkibuli**	**1.19**	**324**		P		**Pn**	**08 25 17.9**	**-0.2**
TKB					S		**Sn**	**08 25 34.4**	**-0.4**
TKB	**Tkibuli**	**1.19**	**324**		*e*Pg		**Pn**	**08 25 17.9**	**-0.2**
TKB					*e*Sg		**Sn**	**08 25 34.4**	**-0.4**
ONI	**Oni**	**1.25**	**343**		Pn		**Pn**	**08 25 18.9**	**-0.1**
ONI					Sn		**Sn**	**08 25 35.9**	**-0.4**
ONI	**Oni**	**1.25**	**343**		P		**Pb**	**08 25 18.3**	**-0.5**
ONI					S		**Sn**	**08 25 35.5**	**-0.9**
ONI	**Oni**	**1.25**	**343**		*i* Pg		**Pg**	**08 25 18.2**	**-0.3**
ONI					*e*Sg		**Sn**	**08 25 35.4**	**-0.9**
VNNZ	**Vanand**	**1.30**	**184**	⇊	*i*P		**Pg**	**08 25 19.6**	**+0.3**
VNNZ				⇈	*i*S		**Sb**	**08 25 37.3**	**+0.6**
MTEO	**Meteo**	**1.35**	**19**		P		**Pg**	**08 25 20.2**	**-0.3**
GNI	**Garni**	**1.38**	**154**	⇈	*i*P		**Pn**	**08 25 21.1**	**+0.2**
GNI				⇈	*i*S		**Sn**	**08 25 40.3**	**+0.5**
GNI	**Garni**	**1.38**	**154**		*i* Pg		**Pn**	**08 25 21.1**	**+0.2**
GNI					*i* Sg		**Sn**	**08 25 40.3**	**+0.5**
ZEI	**Tsey**	**1.39**	**359**		*e*Pg		**Pb**	**08 25 21.2**	**0.0**
ZEI					*e*Sg		**Sn**	**08 25 40.2**	**+0.2**
TASB	**TASBURUN-IGDIR**	**1.43**	**171**		Pn		**Pg**	**08 25 23.0**	**+1.1**
LACR	**Lac**	**1.45**	**10**		*e*Pg		**Pb**	**08 25 21.8**	**-0.4**
LACR					*e*Sg		**Sn**	**08 25 41.4**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.47**	**236**		Pn		**Pg**	**08 25 23.6**	**+0.9**
SENK					Sn		**Sn**	**08 25 44.4**	**+2.4**
NRKZ	**NAREK**	**1.50**	**159**	⇊	*i*P		**Pb**	**08 25 23.0**	**0.0**
NRKZ				⇈	*i*S		**Sg**	**08 25 43.3**	**+0.7**
GDB	**GEDABAY**	**1.52**	**116**		P		**Pn**	**08 25 21.3**	**-1.5**
	SNR=19								
GDB					S		**Sn**	**08 25 40.2**	**-3.1**
DIGR	**Digorskoe uzhe**	**1.53**	**350**		*e*Pg		**Pg**	**08 25 24.0**	**+0.2**
DIGR					*e*Sg		**Sg**	**08 25 45.0**	**+1.5**
KORR	**Kora**	**1.69**	**3**		*e*Pg		**Pg**	**08 25 27.4**	**+0.5**
KORR					*e*Sg		**Sg**	**08 25 51.2**	**+2.4**
BATM	**Batumi**	**1.71**	**278**		Pn		**Pg**	**08 25 26.8**	**-0.4**
VLKR	**Vladikavkaz**	**1.73**	**18**		*e*Pg		**Pg**	**08 25 28.3**	**+0.6**
VLKR					*e*Sg		**Sg**	**08 25 52.5**	**+3.2**
LGD	**Lagodekhi**	**1.77**	**75**		P		**Pb**	**08 25 26.5**	**+0.4**
LGD					S		**Sb**	**08 25 50.7**	**+0.3**
LGD	**Lagodekhi**	**1.77**	**75**		*e*Pg		**Pn**	**08 25 26.5**	**+0.4**
LGD					*e*Sg		**Sb**	**08 25 50.7**	**+0.3**
KMGR	**Komgaron**	**1.79**	**22**		*e*Pg		**Pg**	**08 25 28.7**	**-0.2**
KMGR					*e*Pg		**Pb**	**08 25 28.8**	**+0.8**
KMGR					*e*Sg		**Sg**	**08 25 51.9**	**-0.2**
KMGR					*e*Sg		**Sb**	**08 25 54.5**	**+3.6**
VSHL	**Vashlovani**	**1.85**	**94**		P		**Pn**	**08 25 28.1**	**+0.8**
VSHL					S		**Sn**	**08 25 52.1**	**+0.9**
HOPA	**Hopa-Artvin**	**1.88**	**271**		Pn		**Pb**	**08 25 29.1**	**-0.4**
LSNR	**Lesken**	**1.88**	**357**		*e*Pg		**Pg**	**08 25 30.4**	**-0.1**
LSNR					*e*Sg		**Sg**	**08 25 56.3**	**+1.3**
GANJ	**Ganja**	**1.95**	**112**		P		**Pn**	**08 25 28.6**	**+0.1**
	SNR=13								
GANJ					S		**Sn**	**08 25 52.9**	**-0.6**
AGRB	**Hanur-Agry**	**1.96**	**202**		Pn		**Pb**	**08 25 30.6**	**-0.4**
STDR	**Stavd-Durt**	**1.97**	**2**		*e*Pg		**Pg**	**08 25 32.5**	**+0.2**
STDR					*e*Sg		**Sg**	**08 26 01.4**	**+3.5**
ZKTA	**Zakatala**	**2.02**	**82**		P		**Pn**	**08 25 30.4**	**+0.8**
	SNR=15								
ZKTA					S		**Sb**	**08 25 57.2**	**-0.4**
NEUR	**Neytrino**	**2.08**	**334**		*e*Pg		**Pg**	**08 25 33.7**	**-0.7**
NEUR					*e*Sg		**Sg**	**08 26 01.2**	**-0.2**
BTLR	**Botlikh**	**2.12**	**52**		*e*Pg		**Pb**	**08 25 32.9**	**-0.6**
BTLR					*e*Sg		**Sb**	**08 26 00.1**	**-0.1**
KOPR	**Koprukoy-ERZUR**	**2.12**	**229**		Pn		**Pb**	**08 25 32.9**	**-0.8**
DVE	**Vedeno**	**2.25**	**45**		*e*Pn		**Pb**	**08 25 34.7**	**-1.1**
DVE					*e*Sn		**Sb**	**08 26 04.2**	**+0.2**
SBZ	**Shahbuz**	**2.34**	**148**		P		**Pn**	**08 25 36.0**	**+2.0**
SBZ					S		**Sb**	**08 26 07.2**	**+0.4**
XNZR	**Khunzakh**	**2.35**	**60**		*e*Pn		**Pb**	**08 25 36.2**	**-1.4**
	30nm,0.3s								
XNZR					*e*Sn		**Sb**	**08 26 08.7**	**+1.6**
	247nm,0.3s								
KBTC	**Kuba-Taba**	**2.45**	**351**		*e*Pn		**Pb**	**08 25 37.0**	**-2.2**
KBTC					*e*Sn		**Sb**	**08 26 08.2**	**-1.7**
MNGR	**Mingechevir, A**	**2.45**	**104**		P		**Pn**	**08 25 35.6**	**+0.2**
MNGR					S		**Sn**	**08 26 05.2**	**-0.7**
KBZ	**Khabaz**	**2.46**	**342**		*e*Pn		**Pb**	**08 25 38.0**	**-1.3**
KBZ					*e*Sn		**Sb**	**08 26 10.0**	**0.0**
SEKA	**Sheki**	**2.46**	**93**		P		**Pn**	**08 25 37.0**	**+1.4**
	SNR=8.1								
SEKA					S		**Sn**	**08 26 07.7**	**+1.6**
GNBR	**Gunib**	**2.46**	**65**		*e*Pn		**Pb**	**08 25 38.1**	**-1.4**
	23nm,0.6s								
GNBR					*e*Sn		**Sb**	**08 26 11.8**	**+1.7**
	159nm,0.5s								
KMKR	**Kumukh**	**2.47**	**72**		*e*Pn		**Pn**	**08 25 37.3**	**+1.5**
	2.0nm,0.1s								
KMKR					*e*Sn		**Sb**	**08 26 11.1**	**+0.6**
	119nm,0.4s								
UNCR	**Uncukul**	**2.50**	**57**		*e*Pn		**Pb**	**08 25 38.5**	**-1.5**
	30nm,0.4s								
UNCR					*e*Sn		**Sb**	**08 26 12.9**	**+1.8**
	61nm,0.4s								
NAX	**Nakhchivan**	**2.52**	**151**		P		**Pb**	**08 25 41.0**	**+0.6**
NAX					S		**Sg**	**08 26 14.6**	**-0.7**
ARKR	**Arakani**	**2.57**	**61**		*e*Pn		**Pb**	**08 25 39.6**	**-1.7**
	14nm,0.4s								
ARKR					*e*Sn		**Sb**	**08 26 14.3**	**+1.0**
	32nm,0.3s								
KRNR	**Karanay**	**2.62**	**56**		*e*Pn		**Pb**	**08 25 40.2**	**-2.0**
	8.0nm,0.5s								
KRNR					*e*Sn		**Sb**	**08 26 16.1**	**+1.2**
	32nm,0.7s								
DBC	**Dubki**	**2.69**	**52**		*e*Pn		**Pb**	**08 25 41.5**	**-1.8**
	14nm,0.3s								
DBC					*e*Sn		**Sb**	**08 26 18.6**	**+1.9**
	152nm,0.4s								
KIV	**Kislovodsk**	**2.72**	**340**		*e*Pn		**Pb**	**08 25 41.6**	**-2.2**
KIV					*e*Sn		**Sb**	**08 26 14.5**	**-3.2**
AGDM	**Agdam**	**2.72**	**117**		P		**Pn**	**08 25 39.8**	**+0.6**
	SNR=7.8								
AGDM					S		**Sn**	**08 26 15.2**	**+2.5**
BUJR	**Buynaksk**	**2.75**	**58**		*e*Pn		**Pn**	**08 25 41.6**	**+2.0**
	37nm,0.4s								
BUJR					*e*Sn		**Sb**	**08 26 18.9**	**+0.4**
	150nm,0.3s								
AKT	**Akhty**	**2.84**	**87**		*e*Pn		**Pn**	**08 25 42.5**	**+1.6**
	14nm,0.6s								
AKT					*e*Sn		**Sb**	**08 26 20.7**	**-0.5**
	152nm,0.4s								
ORD	**Ordubad**	**2.92**	**147**		P		**Pb**	**08 25 45.1**	**-2.2**
	SNR=4.9								
ORD					S		**Sb**	**08 26 22.9**	**-0.6**
QBL	**Gabala**	**2.97**	**97**		P		**Pb**	**08 25 45.7**	**-2.4**
QBL					S		**Sn**	**08 26 20.1**	**+1.4**
XNQ	**Khinaliq**	**3.17**	**93**		P		**Pn**	**08 25 46.6**	**+1.2**
	SNR=10								
XNQ					S		**Sn**	**08 26 23.2**	**-0.7**
QRD	**Qoradiz**	**3.22**	**126**		P		**Pb**	**08 25 49.9**	**-2.4**
QRD					S		**Sn**	**08 26 26.7**	**+1.8**
QSAR	**Qusar**	**3.25**	**86**		P		**Pn**	**08 25 45.2**	**-1.2**
QSAR					S		**Sn**	**08 26 27.0**	**+1.5**
QUBA	**Quba, Azerbaij**	**3.42**	**89**		S		**Sn**	**08 26 30.6**	**+0.7**
PQL	**Pirkuli**	**3.56**	**98**		P		**Pn**	**08 25 51.0**	**+0.1**
PQL					S		**Sn**	**08 26 33.8**	**+0.2**
SIZA	**Siyzn**	**3.75**	**93**		P		**Pn**	**08 25 53.4**	**+0.1**
SIZA					S		**Sn**	**08 26 39.9**	**+1.9**
ATGJ	**Altiaghaj**	**3.81**	**96**		P		**Pn**	**08 25 54.7**	**+0.6**
ATGJ					S		**Sn**	**08 26 39.9**	**+0.4**
YRD	**Yardimli**	**4.12**	**126**		P		**Pn**	**08 25 58.9**	**+0.4**
YRD					S		**Sb**	**08 26 53.3**	**-4.7**

IDC 08 08:26:15.4±3.2, 53°38′N×87°32′E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=31.0km s-min=16.9km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.59**	**292**	I	I	08 35 06.0	
	baz=109,slow=334,SNR=4.2						
ZALV	**Zalesovo Beam**	**1.59**	**292**	Pg	Pn	08 26 42.9	-1.9
	0.5nm,0.3s,baz=115,slow=13,SNR=6.7						
ZALV				Lg	Lg	08 27 06.8	
	0.4nm,0.3s,baz=113,slow=29,SNR=2.1						
KURBB	**Kurchatov Arra**	**6.09**	**247**	Pn	Pn	08 27 47.2	+0.7
	baz=62,slow=14,SNR=1.7						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.34**	**208**	Pn	Pn	08 28 05.2	+1.4
	0.1nm,0.3s,baz=28,slow=11,SNR=2.2						
	0.3nm,0.2s						

*IDC **08** 08:28:37.9±0.8, 9°.90N×140°.20E, h0km, mb4.1/13, mbtmp4.1/14, ML4.6/1, MS3.3/16, Error ellipse: s-maj=26.6km s-min=17.3km az=94.0*
*NEIC **08** 08:28:42.9±2.2, 9°.69N±0°.09×140°.2E±0°.1, h10km±1km, mb4.5/16, Error ellipse: s-maj=24.2km s-min=8.5km az=126.0*
ISC 08 08:28:44.0±0.6, 9°.91N±0°.09×140°.31E±0°.10, h35km, n53, σ2s 01/37, mb4.3/20, MS3.3/14, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.77**	**50**	Pn	**Pn**	**08 30 09.3**	**+2.0**
GUMO	**Guam**	**5.77**	**50**	Pn	**Pn**	**08 30 06.6**	**-0.6**
	14nm,0.3s,baz=207,slow=14,SNR=2.6						
GUMO				Sn	**Sn**	**08 31 10.4**	**-1.9**
	18nm,0.3s,baz=198,slow=20,SNR=1.5						
GUMO				LR	LR	08 32 38.0	
	comp=Z,112nm,19.2s,baz=226,slow=41						
	42nm,0.4s						
DAV	**Davao City (W)**	**14.84**	**260**	LR	LR	08 36 36.1	
	comp=Z,126nm,22.0s,baz=151,slow=32						
PMG	**Port Moresby**	**20.36**	**160**	LR	LR	08 40 42.0	
	comp=Z,96nm,18.4s,baz=329,slow=36						
LUWI	**Luwuk**	**20.57**	**239**	P	**P**	**08 33 17.6**	**-2.4**
MYLDM	**Lahad Datu**	**22.12**	**259**	P	**P**	**08 33 35.7**	**-1.1**
MYLDM				IAmb	IAmb	08 34 02.2	
	comp=Z,25nm,1.1s						
COEN	**Coen**	**23.88**	**173**	P	**P**	**08 33 54.6**	**+0.1**
JNU	**Nakatsue**	**24.69**	**341**	LR	LR	08 42 07.0	
	comp=Z,82nm,21.0s,baz=127,slow=33						
MJAR	**Matsushiro Arr**	**26.59**	**356**	LR	LR	08 43 45.9	
	comp=Z,80nm,20.2s,baz=158,slow=34						
H11S3	**WAKE ISLAND Hy**	**26.93**	**69**	T	T	09 02 37.3	
	baz=255,slow=75,SNR=115						
H11S1	**WAKE ISLAND Hy**	**26.94**	**69**	T	T	09 02 38.5	
	baz=255,slow=75,SNR=142						
H11S2	**WAKE ISLAND Hy**	**26.94**	**69**	T	T	09 02 31.4	
	baz=255,slow=75,SNR=126						
H11N1	**WAKE ISLAND Hy**	**27.44**	**66**	T	T	09 03 12.4	
	baz=245,slow=78,SNR=459						
H11N2	**WAKE ISLAND Hy**	**27.45**	**66**	T	T	09 03 36.7	
	baz=245,slow=78,SNR=110						
H11N3	**WAKE ISLAND Hy**	**27.46**	**66**	T	T	09 03 15.8	
	baz=245,slow=78,SNR=102						
KSRS	**Korea Array**	**29.62**	**340**	LR	LR	08 44 58.0	
	comp=Z,73nm,21.4s,baz=145,slow=33						
WB0	**Warramunga Arr**	**30.06**	**191**	P	**P**	**08 34 50.4**	**+0.3**
WB0				IAmb	IAmb	08 35 36.2	
	comp=Z,8.9nm,1.5s						
WB2	**Warramunga Arr**	**30.23**	**191**	P	**P**	**08 34 52.2**	**+0.6**
WB2				IAmb	IAmb	08 35 03.2	
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr**	**30.24**	**191**	P	**P**	**08 34 52.0**	**+0.3**
WRA	**Warramunga Arr**	**30.24**	**191**	P	**P**	**08 34 49.8**	**-1.9**
	comp=Z,1.3nm,0.8s,baz=11,slow=10,SNR=13						
WRA				PcP	**PcP**	**08 37 52.4**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=359,slow=2.9,SNR=2.4						
	comp=Z,1.3nm,0.8s						
CTA	**Charters Tower**	**30.37**	**169**	LR	LR	08 45 58.7	
	comp=Z,64nm,19.7s,baz=287,slow=34						
AS31	**Alice Springs**	**33.95**	**191**	P	**P**	**08 35 23.4**	**-0.9**
ASAR	**Alice Springs**	**33.95**	**191**	P	**P**	**08 35 23.8**	**-0.5**
ASAR	**Alice Springs**	**33.95**	**191**	P	**P**	**08 35 23.0**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=19,slow=12,SNR=40						
ASAR				PcP	**PcP**	**08 38 01.9**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=30,slow=2.6,SNR=2.1						
ASAR				LR	LR	08 48 47.6	
	comp=Z,65nm,21.0s,baz=334,slow=36						
	comp=Z,1.0nm,0.5s						
ASAJ	**Asahikawa**	**34.14**	**3**	LR	LR	08 49 18.3	
	comp=Z,36nm,18.9s,baz=184,slow=36						
USRK	**Ussuriysk Ar.**	**34.92**	**350**	P	**P**	**08 35 31.6**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=177,slow=15,SNR=2.8						
	comp=Z,2.1nm,0.7s						
LEM	**Lembang**	**36.56**	**244**	LR	LR	08 52 15.8	
	comp=Z,36nm,18.6s,baz=26,slow=39						
KLR	**Kul'dur**	**39.85**	**351**	LR	LR	08 52 18.4	
	comp=Z,37nm,19.0s,baz=132,slow=36						
CMAR	**Chiang Mai Arr**	**40.92**	**287**	P	**P**	**08 36 21.9**	**-1.5**
	comp=Z,1.2nm,0.4s,baz=90,slow=6.1,SNR=5.0						
CMAR				LR	LR	08 52 32.7	
	comp=Z,13nm,21.1s,baz=290,slow=35						
	comp=Z,1.2nm,0.4s						
FORT	**Forrest**	**42.13**	**196**	P	**P**	**08 36 32.2**	**-0.8**
FORT				IAmb	IAmb	08 36 39.2	
	comp=Z,15nm,0.8s						
MND	**Mandalay**	**44.01**	**291**	P	**P**	**08 36 50.4**	**+1.9**
MND				IAmb	IAmb	08 36 52.6	
	comp=Z,5.5nm,0.8s						
PETK	**Petropavlovsk-**	**45.31**	**15**	P	**P**	**08 36 58.5**	**+0.1**
	comp=Z,5.3nm,1.1s,baz=211,slow=8.2,SNR=2.0						
	comp=Z,5.3nm,1.1s						
SONM	**Songino Array**	**47.38**	**329**	P	**P**	**08 37 17.9**	**+3.0**
SONM				IAmb	IAmb	08 37 24.3	
	comp=Z,3.0nm,1.3s						
SONM	**Songino Array**	**47.38**	**329**	P	**P**	**08 37 14.1**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=152,slow=9.6,SNR=3.4						
	comp=Z,0.5nm,0.5s						
NWAO	**Narrogin (SRO)**	**47.94**	**206**	P	**P**	**08 37 21.5**	**+2.2**
MK31	**Makanchi Array**	**61.14**	**318**	P	**P**	**08 38 58.0**	**+3.0**
MK31				IAmb	IAmb	08 39 06.5	
	comp=Z,3.5nm,1.2s						
MKAR	**Makanchi Array**	**61.14**	**318**	P	**P**	**08 38 57.7**	**+2.7**
MKAR	**Makanchi Array**	**61.14**	**318**	P	**P**	**08 38 55.4**	**+0.4**
	comp=Z,2.5nm,0.9s,baz=101,slow=9.3,SNR=8.4						
	comp=Z,2.5nm,0.9s						
ZALV	**Zalesovo Beam**	**62.11**	**327**	LR	LR	09 06 42.8	
	comp=Z,26nm,18.9s,baz=18,slow=37						
KURBB	**Kurchatov Arra**	**64.63**	**322**	P	**P**	**08 39 16.1**	**-2.0**
	comp=Z,2.7nm,0.7s,baz=112,slow=6.8,SNR=1.8						
	comp=Z,2.7nm,0.7s						
ARSB	**Arslanbob**	**66.52**	**311**	P	**P**	**08 39 34.1**	**+3.4**
GAR	**Garm**	**68.30**	**308**	P	**P**	**08 39 44.1**	**+2.1**
KK31	**Karatay Array**	**68.56**	**312**	P	**P**	**08 39 45.8**	**+2.4**
KK31				IAmb	IAmb	08 40 06.8	
	comp=Z,4.5nm,1.3s						
KKAR	**Karatay Array**	**68.56**	**312**	P	**P**	**08 39 46.3**	**+2.9**
BVAR	**Borovoye Array**	**70.09**	**323**	P	**P**	**08 39 49.8**	**-2.8**
	comp=Z,1.3nm,0.6s,baz=107,slow=8.2,SNR=3.9						
	comp=Z,1.3nm,0.6s						
ILAR	**Eielson Array**	**73.78**	**25**	P	**P**	**08 40 12.5**	**-2.0**
	comp=Z,1.7nm,0.8s,baz=237,slow=5.2,SNR=3.7						
	comp=Z,1.7nm,0.8s						
ARU	**Arti**	**77.25**	**326**	LR	LR	09 15 50.8	
	comp=Z,50nm,19.2s,baz=298,slow=37						
GEYT	**Alibeck**	**77.85**	**307**	P	**P**	**08 40 35.4**	**-3.0**
	comp=Z,1.3nm,0.4s,baz=42,slow=15,SNR=1.3						
	comp=Z,1.3nm,0.4s						
KIRV	**Kirov**	**82.10**	**328**	LR	LR	09 21 12.3	
	comp=Z,36nm,18.1s,baz=305,slow=38						
BBB	**Bella Bella**	**83.22**	**38**	LR	LR	09 10 00.1	
	comp=Z,27nm,20.9s,baz=344,slow=30						
YKA	**Yellowknife Ar**	**88.15**	**27**	P	**P**	**08 41 35.7**	**+4.7**
YKA	**Yellowknife Ar**	**88.15**	**27**	P	**P**	**08 41 30.7**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=290,slow=5.3,SNR=12						
	comp=Z,1.6nm,0.9s						
NVAR	**Mina Array Bea**	**92.69**	**50**	P	**P**	**08 41 53.4**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=241,slow=5.0,SNR=2.7						
	comp=Z,0.6nm,0.7s						

*IDC **08** 08:28:53.4±2.0, 55°.01N×167°.62E, h0km, mb3.3/2, mbtmp3.3/3, ML2.6/1, Error ellipse: s-maj=119.6km s-min=26.5km az=160.0*
*KRSC **08** 08:28:55.2±2.0, 54°.68N×167°.39E, h32km±29km, Ml3.8*
ISC 08 08:28:57.5±1.3, 54°.73N±0°.06×167°.65E±0°.08, h35km, n44, σ1s 37/64, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.07**	**297**	*e*P	**Pn**	**08 29 13.2**	**-2.8**
BKI				*e*S	**Sn**	**08 29 26.9**	**-2.7**
KBTR	**Krutoberegovo**	**3.12**	**300**	*e*P	**Pn**	**08 29 42.2**	**-1.9**
KBTR				*e*S	**Sn**	**08 30 18.4**	**-1.6**
KBG	**Krutoberegovo**	**3.20**	**300**	*e*S	**Sn**	**08 30 19.8**	**-2.2**
SMKR	**Semkarok**	**3.96**	**300**	*e*P	**Pn**	**08 29 55.8**	**+0.1**
SMKR				*e*S	**Sn**	**08 30 41.8**	**+0.9**
BDR	**Baidarnaya**	**4.08**	**299**	*e*P	**Pn**	**08 29 58.6**	**+1.2**
BDR				*e*S	**Sn**	**08 30 45.7**	**+1.7**
SRKR	**Sorokina**	**4.14**	**300**	*e*P	**Pn**	**08 29 59.2**	**+1.0**
SRKR				*e*S	**Sn**	**08 30 46.7**	**+1.3**
BZGR	**Bezymyannyi-Gr**	**4.15**	**290**	*e*P	**Pn**	**08 29 56.7**	**-1.6**
CIRR	**Tsirk**	**4.17**	**292**	*e*P	**Pn**	**08 30 00.6**	**+2.0**
TUMD	**Tumrok D**	**4.20**	**279**	*e*P	**Pn**	**08 29 58.2**	**-0.8**
TUMD				*e*S	**Sn**	**08 30 46.2**	**-0.7**
BZP	**Bezymyannyi-Pe**	**4.23**	**289**	*e*P	**Pn**	**08 30 00.6**	**+1.1**
BZP				*e*S	**Sn**	**08 30 47.0**	**-0.7**
BZMR	**Bezymyannaya**	**4.26**	**289**	*e*P	**Pn**	**08 30 01.5**	**+1.6**
BZMR				*e*S	**Sn**	**08 30 49.4**	**+1.0**
BZWR	**Bezymyannyi-We**	**4.26**	**290**	*e*P	**Pn**	**08 30 01.6**	**+1.6**
BZWR				*e*S	**Sn**	**08 30 50.0**	**+1.4**
KLY	**Klyuchi**	**4.28**	**295**	*e*S	**Sn**	**08 30 47.4**	**-1.3**
KRSR	**Krestovskiy**	**4.29**	**293**	*e*P	**Pn**	**08 30 00.8**	**+0.5**
KRSR				*e*S	**Sn**	**08 30 48.8**	**-0.5**
KIRR	**Kirishev**	**4.35**	**289**	*e*P	**Pn**	**08 30 01.9**	**+0.8**
KIRR				*e*S	**Sn**	**08 30 50.6**	**0.0**
TUMR	**Tumrok**	**4.35**	**280**	*e*P	**Pn**	**08 30 02.0**	**+0.8**
TUMR				*e*S	**Sn**	**08 30 52.4**	**+1.7**
KMNR	**Kamenistaya**	**4.36**	**287**	*e*P	**Pn**	**08 30 02.3**	**+1.0**
KMNR				*e*S	**Sn**	**08 30 51.0**	**+0.1**
KPT	**Kopyto**	**4.41**	**289**	*e*P	**Pn**	**08 30 02.5**	**+0.5**
KPT				*e*S	**Sn**	**08 30 54.0**	**+1.9**
KOZ	**Kozyrevsk**	**4.63**	**290**	*e*S	**Sn**	**08 30 56.0**	**-1.2**
SRDR	**Sredinnyy**	**4.78**	**293**	*e*P	**Pn**	**08 30 07.8**	**+0.9**
SRDR				*e*S	**Sn**	**08 31 02.0**	**+0.9**
SPN	**Mys Shipunski**	**4.80**	**253**	*e*P	**Pn**	**08 30 07.1**	**0.0**
SPN				*e*S	**Sn**	**08 30 58.7**	**-2.7**
KII	**Karymskiy**	**4.84**	**265**	*e*P	**Pn**	**08 30 08.3**	**+0.5**
KII				*e*S	**Sn**	**08 31 03.3**	**+0.7**
ESO	**Esso**	**5.25**	**287**	*e*P	**Pn**	**08 30 15.0**	**+1.7**
SDLR	**Sedlovina**	**5.37**	**258**	*e*P	**Pn**	**08 30 15.8**	**+0.7**
SDLR				*e*S	**Sn**	**08 31 16.1**	**+0.3**
SMAR	**Somma**	**5.42**	**258**	*e*P	**Pn**	**08 30 16.9**	**+1.0**
UGLR	**Uglovaya**	**5.43**	**257**	*e*P	**Pn**	**08 30 16.9**	**+1.0**
UGLR				*e*S	**Sn**	**08 31 16.9**	**-0.3**
KRER	**Koryakskii**	**5.44**	**258**	*e*P	**Pn**	**08 30 18.1**	**+1.9**
KRER				*e*S	**Sn**	**08 31 16.5**	**-1.1**
AVH	**Avacha**	**5.46**	**258**	*e*P	**Pn**	**08 30 17.3**	**+1.0**
AVH				*e*S	**Sn**	**08 31 18.5**	**+0.6**
KRX	**Arik**	**5.48**	**259**	*e*P	**Pn**	**08 30 17.3**	**+0.7**
KRX				*e*S	**Sn**	**08 31 18.5**	**+0.1**
KOK	**Koryaka**	**5.51**	**258**	*e*P	**Pn**	**08 30 18.1**	**+1.1**
KRMR	**Karymshinskiy**	**5.96**	**255**	*e*P	**Pn**	**08 30 24.0**	**+1.0**
KRMR				*e*S	**Sn**	**08 31 28.6**	**-1.3**
MTVR	**Mutnovka**	**6.07**	**252**	*e*P	**Pn**	**08 30 25.7**	**+0.9**
MTVR				*e*S	**Sn**	**08 31 30.8**	**-2.2**
GRL	**Gorelyy**	**6.10**	**253**	*e*P	**Pn**	**08 30 23.3**	**-1.8**
PETK	**Petropavlovsk-**	**6.10**	**259**	Pn	**Pn**	**08 30 26.0**	**+1.0**
	0.7nm,0.3s,baz=73,slow=21,SNR=7.3						
PETK				Sn	**Sn**	**08 31 35.5**	**+2.0**
	0.7nm,0.3s,baz=27,slow=38,SNR=1.2						
	2.0nm,0.5s						
ASAK	**Asacha**	**6.27**	**252**	*e*P	**Pn**	**08 30 28.7**	**+1.2**
ASAK				*e*S	**

baz=175
MWC Mount Wilson 0.53 75 Pb 08 44 31.6 -0.8
MWC Sb 08 44 39.2 -0.5
DLAC Del Amo 0.54 116 Pb 08 44 32.7 +0.3
RHC Rose Hills Cem 0.56 99 Pb 08 44 32.8 +0.1
RHC Sn 08 44 42.5 -0.7
CHFC Chilao Flat St 0.59 65 Pb 08 44 32.5 -0.9
CHFC Sb 08 44 40.5 -0.9
BTPC Burnt Peak 0.60 8 Pb 08 44 33.0 -0.5
BTPC Sb 08 44 41.6 -0.1
LEOC Leona Valley 0.63 30 Pb 08 44 32.9 -1.1
LEOC Sb 08 44 41.7 -0.6
BREC Barre Substati 0.64 115 Pb 08 44 34.6 +0.5
FULC Fullerton 0.66 109 Pg 08 44 35.1 +0.3
FULC Sn 08 44 45.7 0.0
SBI Santa Barbara 0.67 206 Pb 08 44 34.9 +0.3
SBI Sg 08 44 44.3 +0.4
ALPC Antelope 0.68 28 Pb 08 44 33.9 -0.9
ALPC Sb 08 44 43.4 -0.4
PEM Pine Mountain 0.68 83 Pb 08 44 33.8 -0.9
LRRC Littlerock Res 0.69 51 Pb 08 44 34.3 -0.7
LRRC Sb 08 44 44.1 -0.1
JNH Juniper Hills 0.70 59 Pb 08 44 34.3 -0.9
JNH Sb 08 44 43.8 -0.7
XTL Crystal Lake, 0.71 73 Pb 08 44 34.3 -1.1
CIS Catalina Islan 0.72 162 P Pb 08 44 34.9 -0.6
baz=343,SNR=55
CIS S Sb 08 44 45.0 +0.2
baz=343
CIAC Catalina I. Ai 0.72 162 Pb 08 44 34.9 -0.5
CIAC Sb 08 44 44.8 -0.1
PSRC Puddingstone R 0.72 89 Pb 08 44 34.8 -0.7
PSRC Sb 08 44 44.7 -0.3
SANC Santa Ana 0.76 120 Pb 08 44 36.3 +0.2
SANC Sn 08 44 48.3 +0.2
SCZ2 Santa Cruz Isl 0.80 264 Pb 08 44 36.8 0.0
SCZ2 Santa Cruz Isl 0.80 264 S Sb 08 44 46.5 -0.8
baz=83
THC Tehachapi Micr 0.82 1 Pb 08 44 36.7 -0.7
THC Sb 08 44 47.5 -0.5
MPI Mount Pinos, F 0.82 332 Pb 08 44 36.7 -0.7
MPI Sb 08 44 48.1 -0.1
SSK Sunset Peak 0.83 81 Pb 08 44 36.6 -0.8
CHNC Chino 0.83 96 Pb 08 44 36.9 -0.5
CHNC Sb 08 44 48.9 +0.7
BFSC Mount Baldy Ra 0.86 80 Pb 08 44 36.8 -1.1
BFSC Sg 08 44 50.1 +0.2
BFSC Mount Baldy Ra 0.86 80 P Pb 08 44 36.9 -1.1
baz=261,SNR=94
BFSC S Sb 08 44 49.2 +0.2
baz=261
TPO Tropico Hills 0.87 25 Pb 08 44 37.5 -0.7
TPO Sb 08 44 49.9 +0.4
SBB Saddle Back Bu 0.93 49 Pb 08 44 38.2 -0.9
SBB Sb 08 44 50.7 -0.3
SBC Santa Barbara 0.93 293 Pb 08 44 38.6 -0.4
SBC Santa Barbara 0.93 293 P Pb 08 44 38.5 -0.5
baz=112,SNR=8.3
SBC Sb Sg 08 44 51.7 -0.3
baz=112
TJR Tejon Ranch 0.94 357 Pb 08 44 38.6 -0.7
EDW2 Edwards Air Fo 0.97 35 Pb 08 44 39.0 -0.9
EDW2 Edwards Air Fo 0.97 35 P Pb 08 44 38.9 -0.9
baz=216,SNR=387
EDW2 S Sb 08 44 52.9 +0.6
baz=216
SS2 San Sevaine 0.98 83 Pb 08 44 39.7 -0.2
BCW Bitter Crk WRg 1.04 325 Pb 08 44 40.6 -0.5
RVR Riverside 1.09 95 Pn 08 44 40.9 -0.8
SNCC San Nicolas Is 1.09 220 Pn 08 44 41.1 -0.7
SNCC IAML 08 44 58.2
comp=N,284nm,0.3s
SNCC San Nicolas Is 1.09 220 P Pn 08 44 40.8 -1.1
baz=40,SNR=8.7
SNCC S Sb 08 44 55.2 -0.5
baz=40
ELS Elsinore Mount 1.13 112 Pn 08 44 40.9 -1.5
ELS IAML 08 44 57.3
comp=E,241nm,0.5s
TEJ El Tejon 1.14 360 Pn 08 44 42.1 -0.4
CCAC Calif City Air 1.20 27 Pn 08 44 42.8 -0.5
HYS Haystack Butte 1.20 49 Pn 08 44 43.1 -0.3
VTV Victorville 1.21 67 Pn 08 44 43.9 +0.3
PKM Mcpherson Peak 1.23 311 Pb Pn 08 44 43.5 -0.4
baz=130
PKM S Sb 08 44 59.7 -0.2
baz=130
MURC Murrieta 1.33 111 P Pn 08 44 43.8 -1.3
baz=292,SNR=32
MURC S Sn 08 45 02.5 +0.3
baz=292
BBRC Big Bear Solar 1.47 83 P Pn 08 44 46.8 -0.4
baz=264
BBRC S Sn 08 45 06.2 +0.2
baz=264
ISA Isabella, Lake 1.58 6 Pn 08 44 48.7 +0.1
ISA Isabella, Lake 1.58 6 P Pn 08 44 48.4 -0.2
baz=186
ISA S Sn 08 45 08.4 -0.2
baz=186
LRMC Laurel Mtn Rad 1.61 30 P Pn 08 44 48.9 -0.2
baz=211
LRMC S Sn 08 45 08.8 -0.7
baz=211
SMMC Simmler 1.64 319 P Pn 08 44 48.6 -0.7
baz=138
SMMC Sb Sb 08 45 11.4 0.0
baz=138
109C Camp Elliot, M 1.78 132 P Pn 08 44 49.3 -1.9
baz=313,SNR=10
VES Vestal, Richgr 1.78 349 S Sn 08 45 13.4 0.0
baz=169
PFO Pinyon Flats O 1.91 104 Pn 08 44 52.5 -0.5
PFO IAML 08 45 21.1
comp=E,78nm,0.6s
PFO IAML 08 45 23.9
comp=E,55nm,0.6s
PFO Pinyon Flats O 1.91 104 P Pn 08 44 52.6 -0.5
baz=285
PFO Sb Sb 08 45 20.0 +0.8
baz=285
GSC Goldstone, Bar 1.96 51 Pn 08 44 53.8 -0.1
GSC IAML 08 45 33.4
comp=N,90nm,0.7s
GSC Goldstone, Bar 1.96 51 P Pn 08 44 53.6 -0.2
baz=232,SNR=64
GSC S Sn 08 45 17.9 0.0
baz=232
PMD Palm Desert 1.96 102 Pn 08 44 53.4 -0.4
PMD IAML 08 45 22.6
comp=E,73nm,0.6s
PMD IAML 08 45 24.9
comp=N,86nm,0.6s
HEC Hector,Ludlow 2.07 68 P Pn 08 44 55.1 -0.2
baz=250,SNR=15
HEC S Sn 08 45 21.0 +0.4
baz=250
BAR Barrett 2.19 129 Pn 08 44 55.3 -1.6
BAR IAML 08 45 30.2
comp=E,76nm,0.4s
BAR IAML 08 45 32.6
comp=N,65nm,0.2s
MPMC Manual Prospec 2.20 26 P Pn 08 44 57.2 0.0
baz=207,SNR=33
MPMC S Sn 08 45 24.0 +0.2
baz=207
BELC Belle Mtn. Jos 2.23 91 P Pn 08 44 57.2 -0.3
baz=273,SNR=10
BELC Sb Sb 08 45 30.7 +2.2
baz=273
MONP2 Monument Peak 2.23 122 P Pn 08 44 56.9 -0.7
baz=303
MONP2 S Sn 08 45 24.7 0.0
baz=303
QSM Queen of Sheba 2.39 38 Pn 08 44 59.5 -0.2
QSM IAML 08 45 40.1
comp=E,35nm,0.6s
QSM IAML 08 45 51.1
comp=N,45nm,0.7s
CWC Cottonwood Cre 2.40 12 Sb Sb 08 45 35.4 +1.9
baz=192
IKP In-Ko-Pah, Jac 2.58 123 P Pn 08 45 02.0 -0.4
baz=305
IKP Sb Sb 08 45 40.4 +1.7
baz=305

GMRC Granite Mounta 2.59 74 P Pn 08 45 02.2 -0.4
baz=255,SNR=11
GMRC S Sn 08 45 33.8 +0.3
baz=255
TUQ Turquoise Moun 2.64 59 P Pn 08 45 03.3 +0.1
baz=240,SNR=17
TUQ Sb Sb 08 45 43.7 +3.4
baz=240
SWSC Sam W. Stewart 2.66 115 Sb Sb 08 45 43.4 +2.6
baz=296
GWY Greenwater Val 2.67 38 Pn 08 45 03.6 +0.1
GWY IAML 08 45 58.6
comp=N,27nm,0.5s
GWY IAML 08 46 01.4
comp=E,35nm,0.5s
BC3 Big Chuckawall 2.72 98 Sb Sb 08 45 45.7 +3.2
baz=280
PMPB Monarch Peak 2.75 321 Pn 08 45 04.3 -0.3
PMPB IAML 08 45 47.0
comp=N,34nm,3.5s
PMPB IAML 08 46 03.5
comp=E,45nm,4.3s
IRM Iron Mountain 2.93 88 Sb Sb 08 45 51.8 +3.2
baz=270
BBGB Big Mountain B 3.15 323 Pn 08 45 09.6 -0.6
BBGB IAML 08 46 19.8
comp=N,36nm,0.8s
WCT Wildcat Mounta 3.18 31 Pn 08 45 10.6 0.0
TPNV Topopah Spring 3.48 34 Pn 08 45 15.1 +0.4
TPNV IAML 08 46 15.7
comp=N,18nm,0.8s
TPNV IAML 08 46 18.3
comp=N,14nm,0.9s
TPNV Topopah Spring 3.48 34 P Pn 08 45 15.5 +0.8
baz=215,SNR=10
OMMB Old Mammoth Mi 3.53 356 Pn 08 45 16.7 +1.1
OMMB IAML 08 46 09.1
comp=N,12nm,0.6s
OMMB IAML 08 46 11.3
comp=E,13nm,1.0s
V12A Nelson 3.54 61 Pn 08 45 16.6 +1.0
V12A IAML 08 45 58.4
comp=E,10nm,0.4s
SHPR Sheep Range 3.76 49 Pn 08 45 19.3 +0.7
W13A Hualapai Mount 4.08 74 Pn 08 45 23.2 +0.1
W13A IAML 08 46 39.1
comp=E,7.0nm,0.8s
W13A IAML 08 46 48.2
comp=N,12nm,4.2s

*IDC **08** 08:45:57.3±33.0, 17°.13S×179°.21W, h562km±425km, mb3.1/8, mbtmp4.0/8, Error ellipse: s-maj=116.6km s-min=53.3km az=39.0*
ISC 08 08:45:54.9±1.3, 17°.1S±0°.4×179°.2W±0°.3, h533km, n8, σ0°34/8, mb3.4/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.38**	**240**	P	**P**	**08 52 30.6**	**0.0**
	2.1nm,0.5s,baz=86,slow=9.4,SNR=25 2.1nm,0.5s						
WRA	**Warramunga Arr**	**44.06**	**259**	P	**P**	**08 53 15.7**	**-0.1**
	0.3nm,0.3s,baz=85,slow=7.8,SNR=11 0.3nm,0.3s						
ASAR	**Alice Springs**	**44.31**	**253**	P	**P**	**08 53 17.8**	**+0.1**
	6.9nm,0.6s,baz=89,slow=8.1,SNR=54 6.9nm,0.6s						
PETK	**Petropavlovsk-**	**72.72**	**346**	P	**P**	**08 56 28.9**	**+0.4**
	4.5nm,1.0s,baz=132,slow=6.2,SNR=3.7 4.5nm,1.0s						
NVAR	**Mina Airpay Bea**	**79.36**	**44**	P	**P**	**08 57 05.7**	**-0.1**
	0.1nm,0.3s,baz=214,slow=8.5,SNR=3.8 0.1nm,0.3s						
ILAR	**Eielson Array**	**85.27**	**13**	P	**P**	**08 57 34.3**	**-0.5**
	0.3nm,0.4s,baz=225,slow=5.4,SNR=10 0.3nm,0.4s						
TXAR	**Lajitas Array**	**86.19**	**58**	P	**P**	**08 57 40.5**	**+0.3**
	0.6nm,0.9s,baz=224,slow=5.2,SNR=4.9 0.6nm,0.9s						
PDAR	**Pinedale Array**	**87.28**	**44**	P	**P**	**08 57 45.1**	**-0.1**
	0.3nm,0.3s,baz=235,slow=3.2,SNR=4.5 0.3nm,0.3s						

*IDC **08** 08:47:39.6±4.3, 5°.87S×147°.08E, h84km±42km, mb3.5/4, mbtmp3.9/7, Error ellipse: s-maj=47.9km s-min=19.1km az=124.0*
ISC 08 08:47:39.3±1.1, 5°.80S±0°.09×146°.9E±0°.2, h78km, n7, σ1°23/10, mb3.6/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.59**	**177**	P	**Pn**	**08 48 33.3**	**+0.6**
	50nm,0.2s,baz=33,slow=8.1,SNR=56						
PMG				S	**Sn**	**08 49 11.7**	**-2.3**
	135nm,0.5s,baz=74,slow=19,SNR=5.0						
CTA	**Charters Tower**	**14.22**	**183**	P	**Pn**	**08 50 58.1**	**+1.1**
	2.2nm,0.3s,baz=358,slow=13,SNR=11						
WRA	**Warramunga Arr**	**18.65**	**220**	P	**P**	**08 51 51.2**	**+0.2**
	1.7nm,0.7s,baz=41,slow=12,SNR=17						
WRA				S	**Sn**	**08 55 20.8**	**+0.1**
	0.4nm,0.8s,baz=38,slow=20,SNR=2.4						
WRA				PcP	**PcP**	**08 56 18.2**	**+1.3**
	0.3nm,0.6s,baz=29,slow=1.7,SNR=1.3						
ASAR	**Alice Springs**	**21.75**	**214**	P	**P**	**08 52 24.9**	**+0.3**
	0.6nm,0.5s,baz=54,slow=8.8,SNR=24 0.6nm,0.5s						
STKA	**Stephens Creek**	**26.43**	**190**	P	**P**	**08 53 08.3**	**-0.4**
	1.2nm,0.7s,baz=5.7,slow=10,SNR=3.0 1.2nm,0.7s						
MKAR	**Makanchi Array**	**77.30**	**320**	P	**P**	**08 59 24.1**	**-1.3**
	0.6nm,0.8s,baz=116,slow=5.5,SNR=3.7 0.6nm,0.8s						
ILAR	**Eielson Array**	**85.32**	**23**	P	**P**	**09 00 07.4**	**0.0**
	1.3nm,0.6s,baz=260,slow=3.6,SNR=2.7 1.3nm,0.6s						

*IDC **08** 08:54:00.8±1.6, 22°.12S×170°.40E, h0km, mb3.7/3, mbtmp3.7/4, ML3.6/1, MS3.2/8, Error ellipse: s-maj=48.7km s-min=34.8km az=3.0*
*NOU **08** 08:54:06.1, 21°.82S×170°.07E, h0km, MLv4.1/12, Southeast of Loyalty Islands*
ISC 08 08:54:05.3±1.3, 22°.0S±0°.1×170°.2E±0°.1, h25km, n22, σ1°50/17, mb3.7/3, MS3.1/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**2.10**	**283**	P	**Pn**	**08 54 39.0**	**+0.1**
PINNC	**Pines Island,**	**2.66**	**255**	P	**Pn**	**08 54 48.2**	**+1.6**
LIFNC	**LIFOU**	**3.03**	**292**	P	**Pn**	**08 54 52.1**	**+0.4**
OUENC	**Ouen Island, N**	**3.18**	**261**	P	**Pn**	**08 54 55.4**	**+1.7**
DZM	**Mont Dzumac**	**3.52**	**267**	P	**Pn**	**08 55 00.2**	**+1.7**
DZM	**Mont Dzumac**	**3.52**	**267**	Pn	**Pn**	**08 55 00.1**	**+1.6**
	4.9nm,0.3s,baz=86,slow=18,SNR=157						
DZM				Sn	**Sn**	**08 55 37.1**	**-2.2**
	10nm,0.3s,baz=107,slow=19,SNR=9.5						
DZM				LR	LR	08 56 06.1	
	comp=Z,79nm,19.6s,baz=45,slow=34 13nm,0.3s						
ONTNC	**Ouen Toro**	**3.52**	**264**	P	**Pn**	**08 55 00.3**	**+1.8**
NOUC	**Port Laguerre**	**3.65**	**267**	P	**Pn**	**08 55 01.7**	**+1.5**
RTV	**Rentapao**	**4.48**	**337**	P	**Pn**	**08 55 13.1**	**+1.4**
DVP	**Devils Point**	**4.63**	**335**	P	**Pn**	**08 55 14.8**	**+1.1**
KOUNC	**Koumac, New Ca**	**5.72**	**283**	P	**Pn**	**08 55 31.0**	**+2.3**
HNR	**Honiara**	**15.90**	**320**	LR	LR	09 03 26.0	
	comp=Z,393nm,19.2s,baz=33,slow=35						
URZ	**Urewera**	**17.29**	**162**	LR	LR	09 03 34.5	
	comp=Z,78nm,19.9s,baz=110,slow=34						
CTA	**Charters Tower**	**22.46**	**270**	LR	LR	09 07 04.6	
	comp=Z,59nm,18.8s,baz=85,slow=35						
PMG	**Port Moresby**	**25.43**	**296**	LR	LR	09 07 24.3	
	comp=Z,44nm,18.1s,baz=116,slow=31						
STKA	**Stephens Creek**	**27.31**	**243**	LR	LR	09 09 40.4	
	comp=Z,52nm,20.5s,baz=30,slow=34						
ASAR	**Alice Springs**	**33.48**	**260**	P	**P**	**09 00 42.8**	**0.0**
	0.6nm,0.8s,baz=89,slow=8.5,SNR=5.7						
ASAR				LR	LR	09 13 48.5	
	comp=Z,34nm,18.5s,baz=143,slow=35 0.6nm,0.8s						
WRA	**Warramunga Arr**	**33.53**	**267**	P	**P**	**09 00 43.1**	**-0.2**
	0.6nm,0.6s,baz=101,slow=8.6,SNR=8.9 0.6nm,0.6s						
NWAO	**Narrogin (SRO)**	**47.85**	**245**	LR	LR	09 22 21.1	
	comp=Z,49nm,18.7s,baz=250,slow=36						
QSPA	**South Pole Qui**	**68.11**	**180**	P	**P**	**09 05 01.7**	**-1.2**

0.4nm,0.4s,baz=36,slow=3.7,SNR=2.5 0.4nm,0.4s
EKA Eskdalemuir Ar 146.31 353 PKPbc PKPdf 09 13 42.4 0.0
2.6nm,0.8s,baz=5.7,slow=1.7,SNR=3.7
GERES GERESS Array B 147.31 331 PKPbc PKPbc 09 13 46.8 +0.1
2.5nm,0.7s,baz=46,slow=2.8,SNR=4.9

IDC 08 09:01:17.1±1.9, 54°.72N×83°.82E, h0km, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=17.0km s-min=10.6km az=11.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**142**	I	I	09 06 45.8	
	0.1nm,2.0s,baz=319,slow=319,SNR=2.0						
ZALV	**Zalesovo Beam**	**0.97**	**142**	Pg	Pg	09 01 35.0	-0.5
	3.0nm,0.3s,baz=332,slow=17,SNR=29						
ZALV				Lg	Lg	09 01 49.6	
	7.9nm,0.3s,baz=327,slow=29,SNR=7.9						
ZALV				Rg	Rg	09 01 54.3	
	14nm,0.3s,baz=323,slow=29,SNR=11						
KURBB	**Kurchatov Arra**	**5.21**	**220**	Pn	Pn	09 02 36.0	-0.2
	0.1nm,0.3s,baz=37,slow=14,SNR=4.0						
KURBB				Pg	Pb	09 02 49.8	+0.8
	0.1nm,0.3s,baz=38,slow=15,SNR=10						
KURBB				Sn	Sn	09 03 36.4	-0.6
	baz=22,slow=15,SNR=2.1						
KURBB				Lg	Lg	09 04 02.7	
	0.1nm,0.3s,baz=43,slow=32,SNR=6.1 0.4nm,0.5s						
MKAR	**Makanchi Array**	**7.99**	**188**	Pn	Pn	09 03 14.8	+0.4
	0.1nm,0.3s,baz=12,slow=14,SNR=2.0						
MKAR				Lg	Lg	09 05 31.7	
	0.1nm,0.3s,baz=7.7,slow=34,SNR=2.8 0.4nm,0.6s						
BVAR	**Borovoye Array**	**8.12**	**263**	Pn	Pn	09 03 15.2	-0.9
	0.1nm,0.3s,baz=76,slow=14,SNR=3.1 1.7nm,0.7s						

*ISK **08** 09:25:03.1, 38°.41N×39°.15E, h8km, ML2.5/10*
*AFAD **08** 09:25:03.2±0.0, 38°.38N×39°.09E, h7km±3km, ML2.0*
ISC 08 09:25:03.1±1.1, 38°.40N±0°.02×39°.14E±0°.03, h7km±10km, n22, σ0°49/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTK	**Pertek**	**0.53**	**22**	Pg	**Pg**	**09 25 13.7**	**+0.3**
MAYA	**Malatya/Merkez**	**0.56**	**263**	P	**Pg**	**09 25 13.9**	**-0.2**
MAYA				S	**Sg**	**09 25 21.5**	**+0.1**
MAYA				*i* AML	AML	09 25 23.0	
	comp=N,432nm,0.2s						
MAYA				*i* AML	AML	09 25 23.0	
	comp=E,281nm,0.2s						
NARI	**Adyaman-Kaht**	**0.59**	**210**	P	**Pg**	**09 25 14.8**	**+0.2**
NARI				S	**Sg**	**09 25 21.8**	**-0.5**
NARI				*i* AML	AML	09 25 24.0	
	comp=N,37nm,0.8s						
NARI				*i* AML	AML	09 25 27.0	
	comp=E,27nm,0.4s						
KOVA	**Elazig, Kovanc**	**0.61**	**60**	P	**Pb**	**09 25 16.0**	**-0.2**
KOVA				S	**Sn**	**09 25 28.1**	**-0.5**
KOVA				*i* AML	AML	09 25 33.0	
	comp=E,36nm,0.5s						
KOVA				*i* AML	AML	09 25 34.0	
	comp=N,27nm,0.5s						
HANM	**anlurfa/Hi**	**0.84**	**194**	P	**Pb**	**09 25 19.7**	**-0.4**
HANM				S	**Sn**	**09 25 33.5**	**-0.7**
HANM				*i* AML	AML	09 25 34.0	
	comp=E,65nm,0.3s						
HANM				*i* AML	AML	09 25 35.0	
	comp=N,80nm,0.4s						
DYBB	**Diyarbakir**	**0.91**	**119**	Pg	**Pg**	**09 25 20.8**	**+0.3**
DIYA	**Diyarbakir**	**0.91**	**121**	P	**Pn**	**09 25 22.1**	**-0.3**
DIYA				S	**Sn**	**09 25 35.0**	**-0.9**
DIYA				*i* AML	AML	09 25 38.0	
	comp=N,67nm,0.3s						
DIYA				*i* AML	AML	09 25 40.0	
	comp=E,52nm,0.3s						
AZEY	**Adyaman-Merk**	**0.92**	**230**	P	**Pg**	**09 25 20.8**	**+0.1**
AZEY				S	**Sb**	**09 25 34.2**	**+0.4**
AZEY				*i* AML	AML	09 25 39.0	
	comp=E,67nm,0.6s						
AZEY				*i* AML	AML	09 25 41.0	
	comp=N,30nm,0.3s						
ARPR	**Arapgir-MALATY**	**0.93**	**318**	Pg	**Pb**	**09 25 21.4**	**-0.4**
ARPR				Sg	**Sb**	**09 25 34.8**	**+0.3**
AKCD	**Akcadag**	**0.96**	**264**	P	**Pg**	**09 25 20.8**	**-0.8**
AKCD				S	**Sg**	**09 25 33.7**	**-0.3**
AKCD				*i* AML	AML	09 25 36.0	
	comp=E,173nm,0.5s						
AKCD				*i* AML	AML	09 25 39.0	
	comp=N,146nm,0.5s						
URFA	**Urfa**	**0.99**	**195**	Pg	**Pb**	**09 25 22.6**	**-0.1**
URFA				Sg	**Sn**	**09 25 37.3**	**-0.6**
KEMA	**Kemaliye**	**1.00**	**330**	P	**Pg**	**09 25 22.3**	**-0.1**
KEMA				S	**Sb**	**09 25 36.6**	**+0.2**
KEMA				*i* AML	AML	09 25 38.0	
	comp=E,59nm,0.4s						
KEMA				*i* AML	AML	09 25 41.0	
	comp=N,45nm,0.3s						
ILIC	**ilic-Erzincan**	**1.14**	**337**	Pn	**Pg**	**09 25 24.7**	**-0.3**
ATAB	**Bozova**	**1.14**	**216**	P	**Pb**	**09 25 25.0**	**-0.2**
ATAB				S	**Sn**	**09 25 41.4**	**-0.1**
ATAB				*i* AML	AML	09 25 43.0	
	comp=E,88nm,0.6s						
ATAB				*i* AML	AML	09 25 44.0	
	comp=N,58nm,0.3s						
AKCA	**Adyaman/G¶l**	**1.29**	**243**	P	**Pg**	**09 25 28.7**	**+0.8**
AKCA				S	**Sn**	**09 25 46.0**	**+0.6**
AKCA				*i* AML	AML	09 25 53.0	
	comp=E,75nm,0.8s						
AKCA				*i* AML	AML	09 25 55.0	
	comp=N,67nm,0.6s						
DARE	**Darende-Malaty**	**1.31**	**278**	Pn	**Pg**	**09 25 28.0**	**-0.2**
BNGB	**Bingl**	**1.34**	**63**	Pn	**Pb**	**09 25 28.9**	**+0.2**
MAZI	**Mazidag**	**1.40**	**132**	Pn	**Pn**	**09 25 29.5**	**+0.3**
SURC	**SANLIURFA_SURC**	**1.57**	**196**	P	**Pg**	**09 25 33.0**	**-0.3**
SURC				S	**Sg**	**09 25 54.5**	**+0.8**
SURC				*i* AML	AML	09 25 58.0	
	comp=E,25nm,0.4s						
SURC				*i* AML	AML	09 25 59.0	
	comp=N,28nm,0.6s						
CUKAN	**kangal_SIVAS**	**1.59**	**306**	P	**Pg**	**09 25 33.2**	**-0.4**
CUKAN				S	**Sg**	**09 25 54.0**	**-0.4**
CUKAN				*i* AML	AML	09 25 57.0	
	comp=E,13nm,0.4s						
CUKAN				*i* AML	AML	09 26 00.0	
	comp=N,20nm,0.6s						
BAYT	**Aydıntepe-Bayb**	**2.14**	**21**	Pn	**Pn**	**09 25 39.9**	**+0.4**
SVSK	**Karacayir**	**2.25**	**313**	Pn	**Pn**	**09 25 41.9**	**+1.1**

IDC 08 09:27:20.3±2.6, 53°.57N×87°.80E, h0km, mbtmp3.1/3, ML2.7/3, Error ellipse: s-maj=22.6km s-min=14.3km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**283**	I	I	09 37 30.0	
	0.1nm,1.0s,baz=98,slow=337,SNR=12						
ZALV	**Zalesovo Beam**	**1.81**	**283**	Pg	Pn	09 27 52.5	-0.2
	4.1nm,0.3s,baz=96,slow=16,SNR=32						
ZALV				Lg	Lg	09 28 19.1	
	11nm,0.3s,baz=100,slow=27,SNR=9.7						
KURBB	**Kurchatov Arra**	**6.43**	**246**	Pn	Pn	09 28 56.6	+0.5
	0.1nm,0.3s,baz=62,slow=14,SNR=8.2						
KURBB				Sn	Sn	09 30 08.4	-1.7
	0.1nm,0.3s,baz=47,slow=21,SNR=2.4						
KURBB				Lg	Lg	09 30 42.2	
	baz=61,slow=31,SNR=1.3 0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.64**	**210**	Pn	Pn	09 29 14.0	+1.1
	0.2nm,0.3s,baz=28,slow=14,SNR=6.3						
MKAR				Sn	Sn	09 30 40.6	+0.4
	0.2nm,0.3s,baz=27,slow=31,SNR=2.0						
MKAR				Lg	Lg	09 31 21.1	
	0.1nm,0.3s,baz=24,slow=41,SNR=3.5 0.2nm,0.3s						
BVAR	**Borovoye Array**	**10.44**	**274**	Pn	Pn	09 29 50.3	-0.8
	baz=77,slow=14,SNR=2.7 0.5nm,0.3s						

*SJA **08** 09:28:41.0±0.9, 40°.36S×72°.39W, h148km±48km, ML3.6,*

MW3.6
*NEIC **08** 09:28:44.7±2.4, 40.34°S±0.05°×72.65°W±0.07°, h78^{km}±7^{km}, mb4.1/8, Error ellipse: s-maj=8.4km s-min=6.9km az=121.0*
*GUC **08** 09:28:45.4±0.8, 40.34°S×72.59°W, h81^{km}±4^{km}, ML4.0*

ISC 08 09:28:44.7±0.8, 40.33S±0.03×72.59W±0.04, h84^{km}±7^{km}, n51, σ1§18/67, 2C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LR05	**Currie**	**0.46**	**78**	Pn	**Pn**	**09 28 58.5**	**0.0**
LR05				*e*S	**Sn**	**09 29 08.8**	**0.0**
LR05	**Currie**	**0.46**	**78**	⇓*i*P	**Pn**	**09 28 58.6**	**0.0**
LR05				*e*S	**Sn**	**09 29 08.6**	**-0.2**
LR05				IAML		09 29 09.7	
	comp=E,15μm,0.3s						
LR03	**Panguipulli**	**0.72**	**15**	*e*P	**Pn**	**09 29 01.3**	**+0.4**
LR03				*e*S	**Sn**	**09 29 13.4**	**+0.4**
LR03				IAML		09 29 15.7	
	comp=E,13μm,0.7s						
LR02	**Universidad Au**	**0.73**	**316**	*e*P	**Pn**	**09 29 01.4**	**+0.5**
LR02				*e*S	**Sn**	**09 29 13.3**	**+0.3**
LR02				IAML		09 29 18.4	
	comp=N,23μm,0.5s						
LR04	**Corral**	**0.78**	**305**	*e*P	**Pn**	**09 29 02.0**	**+0.5**
LR04				*e*S	**Sn**	**09 29 14.4**	**+0.3**
LR04				IAML		09 29 16.5	
	comp=E,14μm,0.2s						
LL03	**Petrohue**	**0.82**	**170**		**Pn**	**09 29 01.9**	**-0.1**
LL03				Sn	**Sn**	**09 29 14.9**	**+0.1**
LL03	**Petrohue**	**0.82**	**170**	*e*P	**Pn**	**09 29 01.8**	**-0.1**
LL03				*e*S	**Sn**	**09 29 14.7**	**-0.1**
LL03				IAML		09 29 20.4	
	comp=N,3μm,0.4s						
GO06	**Curarrehue**	**1.14**	**49**	Pn	**Pn**	**09 29 06.0**	**+0.2**
GO06	**Curarrehue**	**1.14**	**49**	⇓*i*P	**Pn**	**09 29 06.1**	**+0.4**
GO06				*e*S	**Sn**	**09 29 22.1**	**+0.6**
LL05	**Los Muermos**	**1.27**	**212**		**Pn**	**09 29 06.8**	**-0.5**
LL05	**Los Muermos**	**1.27**	**212**	⇓*i*P	**Pn**	**09 29 06.7**	**-0.5**
LL05				*e*S	**Sn**	**09 29 23.3**	**-0.8**
LL05				IAML		09 29 26.7	
	comp=E,1μm,0.3s						
PLCA	**Paso Flores**	**1.61**	**105**	Pn	**Pn**	**09 29 11.8**	**+0.2**
PLCA				Sn	**Sn**	**09 29 31.8**	**-0.3**
PLCA	**Paso Flores**	**1.61**	**105**	*i* P	**Pn**	**09 29 11.0**	**-0.6**
PLCA				*e*S	**Sn**	**09 29 32.1**	**+0.1**
PLCA				IAML		09 29 42.0	
	comp=Z,95nm,2.1s						
PLCA	**Paso Flores**	**1.61**	**105**	⇑*i*P	**Pn**	**09 29 11.7**	**+0.1**
PLCA				*e*S	**Sn**	**09 29 31.9**	**-0.1**
LC02	**Puerto Saavedr**	**1.65**	**338**		**Pn**	**09 29 12.9**	**+0.8**
LC02	**Puerto Saavedr**	**1.65**	**338**	⇑*i*P	**Pn**	**09 29 13.1**	**+0.9**
LC02				*e*S	**Sn**	**09 29 32.8**	**-0.1**
LC02				IAML		09 29 43.1	
	comp=E,9μm,0.5s						
LL06	**Loncomilla**	**2.04**	**202**	Pn	**Pn**	**09 29 16.3**	**-0.9**
LL06	**Loncomilla**	**2.04**	**202**	*e*P	**Pn**	**09 29 16.2**	**-0.9**
LL06				*e*S	**Sn**	**09 29 41.8**	**-0.2**
LL06				IAML		09 29 44.7	
	comp=N,714nm,0.4s						
LL01	**San Ignacio de**	**2.05**	**176**		**Pn**	**09 29 17.8**	**+0.5**
LL01	**San Ignacio de**	**2.05**	**176**	*i* P	**Pn**	**09 29 17.1**	**-0.2**
LL01				*e*S	**Sn**	**09 29 43.5**	**+1.3**
LL01				IAML		09 29 45.0	
	comp=Z,146nm,0.8s						
LL01	**San Ignacio de**	**2.05**	**176**	*e*P	**Pn**	**09 29 17.8**	**+0.5**
LL01				*e*S	**Sn**	**09 29 42.7**	**+0.4**
LL07	**Hotel Espejo d**	**2.59**	**195**		**Pn**	**09 29 23.8**	**-0.7**
GO07	**Milladeo Hill,**	**2.90**	**196**		**Pn**	**09 29 28.3**	**-0.4**
GO07	**Milladeo Hill,**	**2.90**	**196**	*i* P	**Pn**	**09 29 27.3**	**-1.4**
GO07				IAML		09 30 09.1	
	comp=Z,1μm,0.4s						
LL02	**Futaleuf**	**2.91**	**169**	Pn	**Pn**	**09 29 29.9**	**+1.0**
BI05	**Punta Hualpn**	**3.61**	**352**		**Pn**	**09 29 38.2**	**-0.1**
ML02	**Panimavida**	**4.65**	**12**	Pn	**Pn**	**09 29 52.6**	**+0.1**
GO05	**Huala**	**5.34**	**6**		**Pn**	**09 30 00.6**	**-1.3**
GO05	**Huala**	**5.34**	**6**	*i* P	**Pn**	**09 30 00.0**	**-1.9**
GO05				IAML		09 31 16.7	
	comp=Z,53nm,0.7s						
BO02	**Sierra Bellavi**	**5.71**	**15**	Pn	**Pn**	**09 30 06.4**	**-0.7**
BO01	**Tunca**	**6.05**	**12**		**Pn**	**09 30 10.1**	**-1.5**
BO04	**La Punta**	**6.52**	**15**		**Pn**	**09 30 16.6**	**-1.4**
MT01	**Popeta**	**6.54**	**10**		**Pn**	**09 30 16.3**	**-2.0**
MT09	**Talagante**	**6.67**	**12**		**Pn**	**09 30 18.0**	**-2.1**
LMEL	**Las Melosas**	**6.75**	**17**		**Pn**	**09 30 20.3**	**-0.9**
MT02	**Curacav**	**7.15**	**10**		**Pn**	**09 30 24.0**	**-2.6**
PEL	**Peldehue**	**7.33**	**13**		**Pn**	**09 30 26.8**	**-2.3**
VA04	**Juan Fernndez**	**8.33**	**321**		**Pn**	**09 30 43.7**	**+1.0**
TRQA	**Tornquist**	**8.55**	**78**	Pn	**Pn**	**09 30 46.1**	**+0.5**
CO03	**El Pedregal**	**9.60**	**10**		**Pn**	**09 30 56.9**	**-3.1**
LCO	**Las Campanas**	**11.40**	**8**	Pn	**Pn**	**09 31 21.3**	**-3.4**
AC05	**El Transito**	**11.62**	**10**	Pn	**Pn**	**09 31 23.6**	**-4.0**
LVC	**Limon Verde**	**17.94**	**11**	P	**P**	**09 32 48.5**	**+0.1**
PB02	**IPOC Station P**	**19.09**	**8**	P	**P**	**09 33 00.5**	**-0.2**
PB02				IAmb	IAmb	09 33 05.0	
	comp=Z,21nm,1.3s						
PB01	**IPOC Station P**	**19.41**	**9**	P	**P**	**09 33 04.0**	**-0.2**
PB11	**IPOC Station P**	**20.66**	**8**	P	**P**	**09 33 19.0**	**+1.3**
PB11				IAmb	IAmb	09 33 38.6	
	comp=Z,9.0nm,0.9s						
LPAZ	**La Paz**	**24.27**	**10**	P	**P**	**09 33 55.8**	**+1.1**
MACA	**Manacapuru-AM**	**38.54**	**19**	P	**P**	**09 35 58.2**	**-0.9**
BELA	**Belgrano 2**	**40.76**	**169**	P	**P**	**09 36 17.7**	**+0.8**
BELA				IAmb	IAmb	09 36 22.0	
	comp=Z,7.3nm,1.5s						
SNAA	**Sanae**	**45.95**	**156**	P	**P**	**09 36 59.3**	**+0.5**
SNAA				IAmb	IAmb	09 37 06.5	
	comp=Z,1.7nm,0.9s						
BCIP	**Isla Barro Col**	**49.70**	**351**	P	**P**	**09 37 29.2**	**+1.0**

IDC 08 09:31:14.5±2.6, 54.28N×86.22E, h0^{km}, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=20.7km s-min=12.0km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.89**	**249**	I	I	09 35 40.0	
	baz=66,slow=331,SNR=3.1						
ZALV	**Zalesovo Beam**	**0.89**	**249**	Pg	Pg	09 31 31.5	0.0
	1.8nm,0.3s,baz=64,slow=17,SNR=11						
ZALV				Lg	Lg	09 31 43.8	
	6.7nm,0.3s,baz=68,slow=29,SNR=9.4						
KURBB	**Kurchatov Arra**	**5.96**	**235**	Pn	Pn	09 32 45.2	+1.3
	0.1nm,0.3s,baz=52,slow=13,SNR=6.3						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**7.90**	**200**	Pn	Pn	09 33 10.9	+0.3
	0.5nm,0.3s,baz=24,slow=13,SNR=9.8						
	0.4nm,0.3s						

*NNC **08** 09:34:05.2±0.6, 51.73N×75.46E, h0^{km}, mb3.6, mpv3.3, Error ellipse: s-maj=9.8km s-min=3.9km az=25.0, Suspected Mining explosion.*
*IDC **08** 09:34:06.7±0.8, 51.54N×75.32E, h0^{km}, mbtmp3.2/6, ML2.7/6, Error ellipse: s-maj=15.9km s-min=7.2km az=23.0*

ISC 08 09:34:04.1±0.8, 51.52N±0.07×75.14E±0.05, h0^{km}, n17, σ2§23/20, 8C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.32**	**111**	Pn	**Pn**	**09 34 43.7**	**+0.2**
	1.4nm,0.3s,baz=297,slow=19,SNR=56						
KURBB				Lg	Lg	09 35 15.6	
	1.7nm,0.3s,baz=307,slow=34,SNR=8.4						
	3.7nm,0.4s						
KURBB	**Kurchatov Arra**	**2.32**	**111**	⇓Pg	**Pb**	**09 34 46.1**	**-0.6**
	8.6nm,0.4s						
KURBB				⇑Lg	Lg	09 35 18.2	
	82nm,0.6s						
KURK	**Kurchatov**	**2.34**	**109**	⇑Pg	**Pb**	**09 34 45.3**	**-1.8**
	6.1nm,0.4s						
KURK				⇓Lg	Lg	09 35 14.1	
	28nm,0.5s						
BVA0	**Borovoye Array**	**3.29**	**299**	Pg	**Pg**	**09 35 06.7**	**-0.4**
	5.2nm,0.7s,baz=109,slow=15,SNR=23						
BVA0				⇑Lg	Lg	09 35 51.3	
	16nm,0.6s,baz=106,slow=28,SNR=8.7						
BVAR	**Borovoye Array**	**3.29**	**299**	Pn	**Pb**	**09 35 01.4**	**-1.8**
	0.1nm,0.3s,baz=116,slow=16,SNR=19						
BVAR				Lg	Lg	09 35 52.2	
	0.9nm,0.3s,baz=110,slow=25,SNR=11						
	1.3nm,0.5s						
BRVK	**Borovoye**	**3.36**	**299**	⇑Pg	**Pg**	**09 35 08.3**	**-0.1**
	2.9nm,0.6s						
BRVK				⇓Lg	Lg	09 35 53.3	
	30nm,0.6s						
OTUK	**Ortayu**	**3.74**	**210**	⇑Pg	**Pg**	**09 35 19.1**	**+3.3**
	3.0nm,0.6s						
OTUK				⇓Lg	Lg	09 36 13.5	
	8.2nm,0.5s						
I46RU	**ZALESOVO INFRA**	**6.36**	**64**	I	I	10 11 30.0	
	baz=251,slow=325,SNR=1.2						
ZALV	**Zalesovo Beam**	**6.36**	**64**	Pn	**Pn**	**09 35 40.4**	**+1.4**
	1.0nm,0.3s,baz=258,slow=14,SNR=5.9						
ZALV				Sn	**Sn**	**09 36 52.4**	**0.0**
	0.5nm,0.3s,baz=253,slow=24,SNR=4.7						
ZALV				Lg	Lg	09 37 24.4	
	0.4nm,0.3s,baz=249,slow=26,SNR=2.3						
	2.8nm,0.4s						
MK31	**Makanchi Array**	**6.66**	**132**	⇑Pn	**Pn**	**09 35 45.6**	**+2.5**
	0.7nm,0.5s,baz=316,slow=12,SNR=5.9						
MK31				⇑Sn	**Sn**	**09 37 02.2**	**+2.5**
	1.7nm,0.5s,baz=332,slow=20,SNR=4.6						
MK31				⇑Lg	Lg	09 37 34.7	
	4.7nm,0.5s,baz=324,slow=27,SNR=7.2						
MKAR	**Makanchi Array**	**6.66**	**132**	Pn	**Pn**	**09 35 46.1**	**+3.0**
	0.3nm,0.3s,baz=322,slow=12,SNR=4.7						
MKAR				Sn	**Sn**	**09 36 59.5**	**-0.2**
	0.2nm,0.3s,baz=323,slow=18,SNR=2.2						
MKAR				Lg	Lg	09 37 34.6	
	1.2nm,0.3s,baz=317,slow=25,SNR=4.6						
	0.5nm,0.4s						
KAPS	**Kapalarasan**	**6.84**	**154**	Pg	**Pg**	**09 36 11.8**	**-3.2**
	1.0nm,0.4s						
KAPS				Lg	Lg	09 37 42.9	
	6.6nm,0.5s						
ARXS	**Arharly**	**7.53**	**165**	Pg	**Pg**	**09 36 26.3**	**-1.9**
	2.6nm,0.8s						
ARXS				Lg	Lg	09 38 07.3	
	14nm,0.6s						
KNOS	**Konyrlen**	**7.66**	**158**	Pg	**Pg**	**09 36 26.7**	**-4.0**
	1.1nm,0.5s						
KNOS				Lg	Lg	09 38 07.1	
	4.9nm,0.5s						
KUU	**Kurty**	**7.67**	**173**	Pg	**Pg**	**09 36 28.9**	**-2.1**
	2.1nm,0.6s						
KUU				Lg	Lg	09 38 10.7	
	6.8nm,0.9s						
AAK	**Ala-Archa**	**8.89**	**183**	Pn	**Pn**	**09 36 15.7**	**+1.7**
	0.1nm,0.3s,baz=5.9,slow=10,SNR=1.4						
AAK				Lg	Lg	09 38 52.8	
	0.4nm,0.3s,baz=237,slow=19,SNR=8.1						
	0.5nm,0.4s						
AKTO	**Aktyubinsk**	**10.85**	**271**	Pn	**Pn**	**09 36 41.9**	**+1.3**
	0.2nm,0.3s,baz=75,slow=10,SNR=1.5						
AKTO				Sn	**Sn**	**09 38 40.7**	**-2.0**
	0.2nm,0.3s,baz=346,slow=5.1,SNR=1.6						
AKTO				Lg	Lg	09 39 51.2	
	0.2nm,0.3s,baz=36,slow=23,SNR=1.6						
	0.9nm,0.5s						

*DJA **08** 09:35:29.9±0.6, 10°S±4°×11°8E±°, h10^{km}, M3.5/6, MLv3.5/6*
*IDC **08** 09:35:35.7±3.1, 8.03S×117.90E, h0^{km}, mb3.2/2, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=259.6km s-min=28.6km az=51.0*

ISC 08 09:35:36.5±1.3, 8.19S±0.09×117.8E±0.1, h10^{km}, n8, σ1§18/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.64**	**180**	P	**Pg**	**09 35 49.1**	**+0.2**
PLAI				S	**Sg**	**09 35 57.1**	**-0.2**
TWSI	**Taliwang, Sumb**	**1.04**	**238**	P	Pn	09 35 51.2	-5.9
TWSI				S	Sb	09 36 01.0	-9.3
SRBI	**Singaraja**	**2.54**	**272**	P	**Pn**	**09 36 17.5**	**-0.3**
IGBI	**Denpasar**	**2.67**	**256**	Pg	Pb	09 36 19.4	-5.1
IGBI				Pn	Pn	09 36 13.9	-5.8
BASI	**Baing, Sumba**	**3.43**	**126**	P	Pn	09 36 14.9	-15
WRA	**Warramunga Arr**	**19.84**	**128**	P	**Pn**	**09 40 07.9**	**-1.5**
	0.1nm,0.3s,baz=300,slow=12,SNR=7.0						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**21.81**	**137**	P	**P**	**09 40 30.4**	**+1.3**
	0.5nm,0.4s,baz=313,slow=8.8,SNR=18						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**63.19**	**333**	P	**P**	**09 46 05.1**	**+0.2**
	0.2nm,0.6s,baz=134,slow=8.3,SNR=1.5						
	0.2nm,0.6s						

IDC 08 09:38:06.3±3.1, 54.09N×86.52E, h0^{km}, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=24.1km s-min=13.8km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**263**	I	I	09 41 40.0	
	baz=63,slow=337,SNR=3.5						
ZALV	**Zalesovo Beam**	**1.01**	**263**	Pg	Pg	09 38 24.2	-1.4
	0.4nm,0.3s,baz=81,slow=20,SNR=3.0						
ZALV				Lg	Lg	09 38 40.7	
	1.1nm,0.3s,baz=80,slow=31,SNR=5.5						
ZALV				Rg	Rg	09 38 48.3	
	1.2nm,0.3s,baz=85,slow=31,SNR=6.1						
KURBB	**Kurchatov Arra**	**6.00**	**238**	Pn	Pn	09 39 37.0	+0.8
	0.1nm,0.3s,baz=55,slow=13,SNR=2.7						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.78**	**202**	Pn	Pn	09 40 01.8	+1.1
	baz=25,slow=13,SNR=1.3						
	0.4nm,0.5s						

*IDC **08** 09:40:13.4±0.7, 10.01N×140.28E, h0^{km}, mb3.9/11, mbtmp4.0/12, ML4.7/1, MS3.5/1, Error ellipse: s-maj=25.4km s-min=18.4km az=94.0*
*NEIC **08** 09:40:16.2±1.3, 9.96N±0.09×140.3E±0.1, h10^{km}±1^{km}, mb4.4/25, Error ellipse: s-maj=18.8km s-min=14.8km az=298.0*

ISC 08 09:40:17.5±0.5, 9.98N±0.07×140.27E±0.08, h26^{km}, n52, σ0§92/50, mb4.3/24, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.76**	**51**		**Pn**	**09 41 41.4**	**0.0**
GUMO				Sn	**Sn**	**09 42 49.2**	**+2.5**
GUMO	**Guam**	**5.76**	**51**	Pn	**Pn**	**09 41 41.4**	**0.0**
	20nm,0.3s,baz=196,slow=2.1,SNR=15						
GUMO				Sn	**Sn**	**09 42 43.9**	**-2.8**
	8.9nm,0.3s,baz=73,slow=21,SNR=1.6						
GUMO				LR	LR	09 44 13.7	
	comp=Z,420nm,18.3s,baz=225,slow=42						
	68nm,0.3s						
RABL	**Rabaul**	**18.40**	**139**	P	**P**	**09 44 30.7**	**-0.1**
PMG	**Port Moresby**	**20.44**	**160**	P	**P**	**09 44 54.0**	**+0.8**
PMG				IAmb	IAmb	09 45 13.0	
	comp=Z,22nm,1.1s						
LUWI	**Luwuk**	**20.57**	**239**	P	**P**	**09 44 53.9**	**-0.6**
TOLI2	**Tolitoli**	**21.28**	**247**	P	**P**	**09 45 02.2**	**-0.1**
TOLI2				IAmb	IAmb	09 45 15.9	
	comp=Z,26nm,0.9s						
MYLDM	**Lahad Datu**	**22.09**	**259**	P	**P**	**09 45 12.3**	**+1.3**
MYLDM				IAmb	IAmb	09 45 17.4	
	comp=Z,26nm,1.1s						
COEN	**Coen**	**23.95**	**173**	P	**P**	**09 45 30.0**	**+0.1**
MTN	**Manton Dam**	**24.42**	**202**	P	**P**	**09 45 33.6**	**-0.6**
MTN				IAmb	IAmb	09 45 38.0	
	comp=Z,15nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**26.94**	**69**	T	T	10 14 06.5	
	baz=255,slow=75,SNR=781						
H11S1	**WAKE ISLAND Hy**	**26.96**	**69**	T	T	10 14 09.0	
	baz=255,slow=75,SNR=594						
H11S2	**WAKE ISLAND Hy**	**26.96**	**69**	T	T	10 14 05.1	
	baz=255,slow=75,SNR=888						
H11N1	**WAKE ISLAND Hy**	**27.46**	**66**	T	T	10 14 42.3	
	baz=251,slow=75,SNR=192						
H11N2	**WAKE ISLAND Hy**	**27.47**	**66**	T	T	10 14 42.5	
	baz=251,slow=75,SNR=247						
H11N3	**WAKE ISLAND Hy**	**27.48**	**66**	T	T	10 14 44.5	
	baz=251,slow=75,SNR=157						
INCN	**Inchon**	**30.02**	**338**	P	**P**	**09 46 25.1**	**+0.8**
WB0	**Warramunga Arr**	**30.12**	**191**	P	**P**	**09 46 26.0**	**+0.7**
WB0				IAmb	IAmb	09 46 31.4	
	comp=Z,6.3nm,1.1s						
WB2	**Warramunga Arr**	**30.30**	**191**	P	**P**	**09 46 27.3**	**+0.4**
WB2				IAmb	IAmb	09 46 28.2	
	comp=Z,5.6nm,0.9s						
WRA	**Warramunga Arr**	**30.30**	**191**	P	**P**	**09 46 26.2**	**-0.7**
WRA	**Warramunga Arr**	**30.30**	**191**	P	**P**	**09 46 26.0**	**-0.9**
	comp=Z,1.6nm,1.1s,baz=12,slow=10,SNR=10						
WRA				PcP	**PcP**	**09 49 28.1**	**+0.9**
	comp=Z,0.4nm,1.0s,baz=5.3,slow=3.3,SNR=1.9						
	comp=Z,1.6nm,1.1s						
AS31	**Alice Springs**	**34.01**	**190**	P	**P**	**09 47 00.2**	**+0.8**
ASAR	**Alice Springs**	**34.01**	**190**	P	**P**	**09 46 59.9**	**+0.4**
ASAR	**Alice Springs**	**34.01**	**190**	P	**P**	**09 46 59.4**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=18,slow=12,SNR=18						
ASAR				PcP	**PcP**	**09 49 38.7**	**+1.5**
	comp=Z,0.5nm,0.9s,baz=20,slow=2.2,SNR=4.1						
	comp=Z,0.7nm,0.6s						
USA0B	**Ussuriysk Arra**	**34.84**	**350**	P	**P**	**09 47 06.7**	**+0.3**
USA0B				IAmb	IAmb	09 47 10.2	
	comp=Z,4.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**34.84**	**350**	P	**P**	**09 47 06.2**	**-0.3**
BJT	**Baijiatuau**	**36.79**	**328**	P	**P**	**09 47 23.1**	**-0.1**
BJT				IAmb	IAmb	09 47 31.6	
	comp=Z,5.5nm,1.1s						
CMAR	**Chiang Mai Arr**	**40.86**	**287**	P	**P**	**09 47 58.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**40.86**	**287**	P	**P**	**09 47 57.8**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=92,slow=6.3,SNR=12						
	comp=Z,2.2nm,0.7s						
HEH	**HeiHe**	**41.54**	**348**	*e*P	**P**	**09 48 00.4**	**-2.4**
HEH				pmax	pmax		
	comp=Z,8.0nm,1.4s						
HEH				pmax	pmax		
	comp=Z,200nm,5.1s						
FORT	**Forrest**	**42.18**	**196**	P	**P**	**09 48 08.3**	**+0.1**
FORT				IAmb	IAmb	09 48 21.3	
	comp=Z,11nm,0.8s						
BBOO	**Buckleboo**	**42.73**	**185**	P	**P**	**09 48 11.9**	**-0.7**
MND	**Mandalay**	**43.95**	**291**	P	**P**	**09 48 22.6**	**-0.1**
MND				IAmb	IAmb	09 48 28.7	
	comp=Z,6.0nm,1.0s						
SONM	**Songino Array**	**47.29**	**329**	P	**P**	**09 48 49.7**	**+0.7**
SONM	**Songino Array**	**47.29**	**329**	P	**P**	**09 48 49.3**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=149,slow=6.4,SNR=4.0						
	comp=Z,0.5nm,0.6s						
TOO	**Toolangi**	**47.55**	**174**	P	**P**	**09 48 49.9**	**-1.0**
GSTR	**Great Sitkin T**	**54.90**	**31**	P	**P**	**09 49 46.6**	**+0.7**
TCW	**Tory Channel**	**59.79**	**151**	P	**P**	**09 50 21.1**	**+0.6**
LTZ	**Lake Taylor**	**60.10**	**153**	P	**P**	**09 50 23.1**	**+0.4**
WHZ	**Wether Hill Ro**	**60.92**	**158**	P	**P**	**09 50 28.4**	**+0.2**
MKAR	**Makanchi Array**	**61.06**	**318**	P	**P**	**09 50 29.6**	**+0.4**
MKAR	**Makanchi Array**	**61.06**	**318**	P	**P**	**09 50 28.4**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=99,slow=8.9,SNR=3.0						
	comp=Z,0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**64.55**	**322**	P	**P**	**09 50 52.6**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=100,slow=7.0,SNR=5.5						
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**70.01**	**323**	P	**P**	**09 51 26.1**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=107,slow=8.2,SNR=7.8						
	comp=Z,1.7nm,0.6s						
E19K	**Redstone River**	**70.48**	**21**	P	**P**	**09 51 30.2**	**+0.6**
E19K				IAmb	IAmb	09 51 38.3	
	comp=Z,3.4nm,0.8s						
D19K	**Kuna River**	**70.57**	**20**	P	**P**	**09 51 30.7**	**+0.5**
D19K				IAmb	IAmb	09 51 36.0	
	comp=Z,6.1nm,1.1s						
ILAR	**Eielson Array**	**73.74**	**25**	P	**P**	**09 51 47.9**	**-1.2**
	comp=Z,1.2nm,0.9s,baz=247,slow=5.7,SNR=11						
	comp=Z,1.2nm,0.9s						
E28M	**Babbage River**	**77.19**	**22**	P	**P**	**09 52 09.4**	**+0.5**
E28M				IAmb	IAmb	09 52 16.4	
	comp=Z,2.3nm,0.9s						
GEYT	**Alibeck**	**77.78**	**307**	P	**P**	**09 52 12.9**	**+0.1**
	comp=Z,0.9nm,0.2s,baz=86,slow=1.9,SNR=1.1						
	comp=Z,0.9nm,0.2s						
YKA	**Yellowknife Ar**	**88.10**	**27**	P	**P**	**09 53 06.2**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=286,slow=5.3,SNR=8.8						
	comp=Z,0.6nm,0.7s						
VNDA	**Vanda**	**88.21**	**175**	P	**P**	**09 53 06.2**	**+0.4**
NVAR	**Mina Array Bea**	**92.68**	**50**	P	**P**	**09 53 27.6**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=250,slow=5.4,SNR=3.0						
	comp=Z,0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**132.89**	**298**	PKP	**PKPdf**	**09 59 30.0**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=33,slow=3.4,SNR=1.2						

IDC 08 09:46:54.0±4.0, 53.68N×91.41E, h0^{km}, mbtmp2.9/3, ML2.4/3, Error ellipse: s-maj=37.2km s-min=27.5km az=29.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**3.92**	**277**	Pn	Pn	09 47 56.4	+1.1
	0.3nm,0.3s,baz=93,slow=15,SNR=3.1						
ZALV				Pg	Pb	09 48 05.2	+1.3
	0.7nm,0.3s,baz=96,slow=17,SNR=6.8						
ZALV				Lg	Lg	09 48 58.0	
	1.9nm,0.3s,baz=92,slow=23,SNR=9.7						
	0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**8.49**	**254**	Pn	Pn	09 48 57.1	-0.9
	0.1nm,0.3s,baz=69,slow=13,SNR=1.9						
KURBB				Sn	Sn	09 50 32.7	-1.8
	baz=67,slow=26						
KURBB				Lg	Lg	09 51 24.6	
	0.1nm,0.3s,baz=59,slow=33,SNR=2.6						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**9.03**	**224**	Pn	Pn	09 49 06.5	+0.9
	0.1nm,0.3s,baz=35,slow=12,SNR=1.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.79**	**52**	Pn	**Pn**	**09 52 33.1**	**-1.2**
GUMO	**Guam**	**5.79**	**52**	P	**Pn**	**09 52 33.9**	**-0.4**
GUMO	**Guam**	**5.79**	**52**	⇓P	**Pn**	**09 52 33.1**	**-1.2**
GUMO	**Guam**	**5.79**	**52**	Pn	**Pn**	**09 52 33.8**	**-0.4**
	443nm,0.3s,baz=314,slow=1.9,SNR=95						
GUMO				Sn	**Sn**	**09 53 37.9**	**-2.6**
	702nm,0.3s,baz=38,slow=20,SNR=10						
SMPI	**Sarmi**	**12.03**	**187**	P	**Pn**	**09 53 59.0**	**-0.9**
	823nm,1.4s,27μm166μm						
JAY	**Jayapura**	**12.47**	**178**	P	**Pn**	**09 54 04.0**	**-2.0**
	532nm,1.0s,12μm136μm						
GENI	**Genyem**	**12.54**	**180**	P	Pn	09 54 12.0	+5.1
GENI	**Genyem**	**12.54**	**180**	P	**Pn**	**09 54 05.9**	**-1.0**
	2μm,0.7s,23μm169μm						
GENI	**Genyem**	**12.54**	**180**	⇑P	**Pn**	**09 54 06.9**	**0.0**
MANU	**Manus Island**	**13.96**	**149**		**Pn**	**09 54 25.2**	**-1.2**
MANU	**Manus Island**	**13.96**	**149**	P	**Pn**	**09 54 27.8**	**+1.4**
MANU	**Manus Island**	**13.96**	**149**	⇑P	**Pn**	**09 54 26.2**	**-0.2**
SWI	**Sorong**	**14.00**	**220**	P	**Pn**	**09 54 26.1**	**-0.8**
	397nm,1.8s,13μm28μm						
DAV	**Davao City (W)**	**14.74**	**260**		**Pn**	**09 54 37.7**	**+0.7**
DAV	**Davao City (W)**	**14.74**	**260**	P	**P**	**09 54 41.7**	**-1.3**
DAV	**Davao City (W)**	**14.74**	**260**	P	**Pn**	**09 54 38.7**	**+1.6**
DAV				P	**Pn**	**09 54 38.7**	**+1.6**
DAV	**Davao City (W)**	**14.74**	**260**	Pn	**Pn**	**09 54 34.5**	**-2.5**
	30nm,0.3s,baz=245,slow=6.2,SNR=1.5						
DAV				Sn	**Sn**	**09 57 22.4**	**+2.2**
	21nm,0.3s,baz=32,slow=19,SNR=1.3						
DAV				LR	LR	09 59 19.1	
	comp=Z,79μm,20.7s,baz=88,slow=33 92nm,0.3s						
KMPI	**Kaimana, Papua**	**15.06**	**206**	P	**Pn**	**09 54 40.9**	**-0.3**
	665nm,0.9s,11μm66μm						
TABU	**Tabubil**	**15.23**	**176**	P	**Pn**	**09 54 45.8**	**+2.1**
TNTI	**Ternate**	**15.72**	**235**	Pn	**Pn**	**09 54 48.7**	**-1.3**
TNTI	**Ternate**	**15.72**	**235**	P	**P**	**09 54 52.9**	**-1.0**
TNTI	**Ternate**	**15.72**	**235**	P	**Pn**	**09 54 49.3**	**-0.7**
	295nm,2.0s,12μm42μm						
TNTI	**Ternate**	**15.72**	**235**	⇑P	**Pn**	**09 54 48.9**	**-1.0**
SGSI	**Sangihe**	**15.85**	**248**	P	**Pn**	**09 54 50.3**	**-1.4**
	610nm,1.4s,26μm133μm						
KAVG	**Kavieng**	**16.40**	**139**	P	**P**	**09 55 04.1**	**+2.7**
LBMI	**Labuha**	**16.48**	**231**	P	**Pn**	**09 54 58.2**	**-1.6**
	2μm,2.4s,35μm						
JCJ	**Chichijima**	**17.08**	**6**	P	**Pn**	**09 55 07.1**	**-0.2**
JCJ	**Chichijima**	**17.08**	**6**	P	**P**	**09 55 08.7**	**-0.2**
JCJ	**Chichijima**	**17.08**	**6**	⇑P	**Pn**	**09 55 06.8**	**-0.4**
JCJ	**Chichijima**	**17.08**	**6**	Pn	**Pn**	**09 55 04.7**	**-2.5**
	23nm,0.3s,baz=159,slow=9.0,SNR=18						
JCJ				Sn	**Sn**	**09 58 14.1**	**-2.9**
	2.1nm,0.3s,baz=295,slow=20,SNR=1.2						
JCJ				LR	LR	10 00 41.0	
	comp=Z,44μm,19.5s,baz=172,slow=34 672nm,1.0s						
BNDI	**Bandanaira**	**17.72**	**216**	P	**P**	**09 55 20.4**	**+4.4**
BNDI	**Bandanaira**	**17.72**	**216**	P	**P**	**09 55 17.7**	**+1.7**
	969nm,2.1s,37μm40μm						
BNDI	**Bandanaira**	**17.72**	**216**	⇑P	**P**	**09 55 18.9**	**+2.8**
JMZ	**Minamidaito 2**	**17.86**	**333**	P	**Pn**	**09 55 17.0**	**+0.1**
JMZ	**Minamidaito 2**	**17.86**	**333**	P	**P**	**09 55 19.0**	**+1.5**
MMPI	**Merauke**	**18.38**	**179**	P	**Pn**	**09 55 22.5**	**-0.8**
	684nm,1.7s,19μm						
BULU	**Kimbe**	**18.46**	**146**	P	**Pn**	**09 55 26.4**	**+2.0**
RABL	**Rabaul**	**18.49**	**139**	P	**P**	**09 55 22.6**	**-2.1**
RABL				IAmb	IAmb	09 55 32.9	
	comp=Z,941nm,1.2s						
RABL	**Rabaul**	**18.49**	**139**	P	**Pn**	**09 55 26.8**	**+2.0**
RABL	**Rabaul**	**18.49**	**139**	⇑P	**P**	**09 55 23.6**	**-1.0**
NLAI	**Namlea**	**18.54**	**225**	P	**P**	**09 55 24.9**	**-0.2**
	comp=Z,307nm,1.9s,comp=Z,11μm						
SANI	**Sanana**	**18.54**	**230**	P	**P**	**09 55 25.2**	**0.0**
SANI	**Sanana**	**18.54**	**230**	P	**P**	**09 55 22.1**	**-3.1**
	comp=Z,518nm,1.1s,comp=Z,26μmcomp=Z,44μm						
SANI	**Sanana**	**18.54**	**230**	⇓P	**P**	**09 55 22.3**	**-2.9**
KMSI	**Cibinong**	**18.66**	**241**	P	**P**	**09 55 25.2**	**-1.2**
	comp=Z,1μm,1.9s,comp=Z,29μmcomp=Z,63μm						
GTOI	**Gorontalo**	**19.46**	**242**	P	**P**	**09 55 35.4**	**+0.1**
	comp=Z,420nm,2.7s,comp=Z,15μmcomp=Z,27μm						
SAUI	**Saumlaki**	**19.96**	**207**	P	**P**	**09 55 39.3**	**-1.4**
SAUI	**Saumlaki**	**19.96**	**207**	P	**Pn**	**09 55 42.0**	**-0.4**
SAUI	**Saumlaki**	**19.96**	**207**	P	**P**	**09 55 39.9**	**-0.8**
	comp=Z,932nm,1.1s,comp=Z,34μmcomp=Z,69μm						
JOW	**Kunigami**	**20.15**	**328**	P	**P**	**09 55 42.0**	**-0.7**
JOW	**Kunigami**	**20.15**	**328**	P	Pn	09 55 44.9	+0.3
JOW	**Kunigami**	**20.15**	**328**	⇓P	Pn	09 55 45.4	+0.8
JOW	**Kunigami**	**20.15**	**328**	P	**P**	**09 55 42.9**	**+0.2**
	comp=Z,208nm,0.8s,baz=150,slow=9.0,SNR=14						
JOW				LR	LR	10 01 51.3	
	comp=Z,80μm,21.5s,baz=154,slow=32 comp=Z,208nm,0.8s						
MRSI	**Marisa**	**20.48**	**243**	P	**P**	**09 55 46.6**	**+0.2**
	comp=Z,3μm,1.5s,comp=Z,81μmcomp=Z,67μm						
PMG	**Port Moresby**	**20.52**	**160**	P	**P**	**09 55 45.1**	**-1.6**
PMG				IAmb	IAmb	09 55 55.3	
	comp=Z,1μm,1.3s						
PMG	**Port Moresby**	**20.52**	**160**	IAMs_20	IAMs_20	10 03 20.4	
	comp=Z,125μm,18.0s						
PMG	**Port Moresby**	**20.52**	**160**	P	**P**	**09 55 45.8**	**-0.9**
PMG	**Port Moresby**	**20.52**	**160**	P	**P**	**09 55 46.0**	**-0.7**
PMG	**Port Moresby**	**20.52**	**160**	⇑P	**P**	**09 55 44.9**	**-1.8**
PMG	**Port Moresby**	**20.52**	**160**	*ce*P	**P**	**09 55 44.9**	**-1.8**
PMG				pmax	pmax		
	comp=Z,1μm,1.3s						
PMG				MLR	MLR		
	comp=Z,116μm,17.0s						
PMG	**Port Moresby**	**20.52**	**160**	P	**P**	**09 55 46.2**	**-0.5**
	comp=Z,340nm,1.0s,baz=70,slow=3.7,SNR=38						
PMG				LR	LR	10 03 31.6	
	comp=Z,127μm,18.4s,baz=332,slow=36 comp=Z,340nm,1.0s						
LUWI	**Luwuk**	**20.53**	**239**	P	**P**	**09 55 46.6**	**-0.3**
LUWI	**Luwuk**	**20.53**	**239**	P	Pn	09 55 48.3	-0.8
LUWI	**Luwuk**	**20.53**	**239**	P	**P**	**09 55 45.2**	**-1.7**
	comp=Z,2μm,1.1s,comp=Z,36μmcomp=Z,58μm						
LUWI	**Luwuk**	**20.53**	**239**	⇓P	**P**	**09 55 45.6**	**-1.3**
SZP	**Santa**	**20.55**	**293**	P	Pn	09 55 48.9	-0.5
TOLI2	**Tolitoli**	**21.23**	**247**	P	**P**	**09 55 53.8**	**-0.7**
TOLI2	**Tolitoli**	**21.23**	**247**	P	**P**	**09 55 55.5**	**+1.0**
YOJ	**Yonaguni jima**	**21.76**	**313**	P	**P**	**09 55 58.8**	**-1.2**
YOJ				IAmb	IAmb	09 56 15.7	
	comp=Z,1μm,1.4s						
YOJ	**Yonaguni jima**	**21.76**	**313**	P	**P**	**09 56 01.6**	**+1.6**
YOJ	**Yonaguni jima**	**21.76**	**313**	P	**P**	**09 55 58.8**	**-1.2**
YOJ				pmax	pmax		
	comp=Z,1μm,1.4s						
MYLDM	**Lahad Datu**	**22.02**	**259**	P	**P**	**09 56 03.5**	**+0.5**
MYLDM	**Lahad Datu**	**22.02**	**259**	⇑P	**P**	**09 56 03.9**	**+0.9**
TWGBT	**Beinan**	**22.27**	**307**	P	**P**	**09 56 07.4**	**+1.8**
TWG	**Pinlang**	**22.28**	**307**	P	**P**	**09 56 04.0**	**-1.7**
TWG				IAmb	IAmb	09 56 19.7	
	comp=Z,944nm,1.7s						
MPSI	**Mapaga**	**22.36**	**246**	P	**P**	**09 56 05.4**	**-1.2**
	comp=Z,430nm,1.4s,comp=Z,17μmcomp=Z,58μm						
YULB	**Yu-li**	**22.41**	**309**	P	**P**	**09 56 06.7**	**-0.4**
YULB	**Yu-li**	**22.41**	**309**	P	**P**	**09 56 11.1**	**+4.0**
NACB	**Ninganchiao**	**22.62**	**311**	P	**P**	**09 56 11.3**	**+2.0**
TPUB	**Ta-pu**	**22.88**	**308**	P	**P**	**09 56 11.4**	**-0.7**
TPUB				IAmb	IAmb	09 56 27.5	
	comp=Z,811nm,1.3s						
TPUB				IAMs_20	IAMs_20	10 03 25.0	
	comp=Z,89μm,19.0s						
TPUB	**Ta-pu**	**22.88**	**308**	P	**P**	**09 56 14.3**	**+2.2**
SSLB	**Suanglung**	**22.89**	**309**	IAmb	IAmb	09 56 24.6	
	comp=Z,440nm,1.0s						
SSLB	**Suanglung**	**22.89**	**309**	P	**P**	**09 56 13.8**	**+1.6**
JHJ2	**Mitsune**	**22.98**	**359**	IAMs_20	IAMs_20	10 02 51.0	
	comp=Z,126μm,21.0s						
JHJ	**Hachijo jima 2**	**22.98**	**359**	LR	LR	10 03 11.6	
	comp=Z,120μm,20.5s,baz=189,slow=32						
YHNB	**Yeheng**	**23.07**	**312**	P	**P**	**09 56 14.0**	**-0.2**
YHNB				IAmb	IAmb	09 56 26.3	
	comp=Z,803nm,1.1s						
YHNB	**Yeheng**	**23.07**	**312**	P	**P**	**09 56 17.0**	**+2.9**
TATO	**Taipei**	**23.17**	**312**	P	**P**	**09 56 15.1**	**0.0**
TATO				IAmb	IAmb	09 56 31.3	
	comp=Z,872nm,1.6s						
TATO	**Taipei**	**23.17**	**312**	IAMs_20	IAMs_20	10 03 39.7	
	comp=Z,100μm,20.0s						
TATO	**Taipei**	**23.17**	**312**	P	**P**	**09 56 16.3**	**+1.3**
TATO	**Taipei**	**23.17**	**312**	P	**P**	**09 56 14.8**	**-0.2**
TATO				P	**P**	**09 56 14.8**	**-0.2**
BBSI	**Bau Bau**	**23.36**	**229**	P	**P**	**09 56 17.7**	**+0.7**
	comp=Z,627nm,1.3s,comp=Z,18μmcomp=Z,20μm						
KDU	**Kakadu**	**23.83**	**199**	P	**P**	**09 56 19.9**	**-1.7**
	baz=24,SNR=44						
KDU	**Kakadu**	**23.83**	**199**	P	**P**	**09 56 20.4**	**-1.2**
KDU	**Kakadu**	**23.83**	**199**	⇑P	**P**	**09 56 19.6**	**-2.0**
COEN	**Coen**	**24.02**	**173**	P	**P**	**09 56 22.2**	**-1.1**
COEN				IAMs_20	IAMs_20	10 05 01.2	
	comp=Z,84μm,19.0s						
COEN	**Coen**	**24.02**	**173**	P	**P**	**09 56 24.3**	**+1.0**
COEN	**Coen**	**24.02**	**173**	⇑P	**P**	**09 56 21.0**	**-2.3**
KKM	**Kota Kinabalu**	**24.06**	**262**	P	**P**	**09 56 22.2**	**-1.7**
KKM				IAmb	IAmb	09 56 26.6	
	comp=Z,1μm,1.6s						
KKM	**Kota Kinabalu**	**24.06**	**262**	P	**P**	**09 56 25.4**	**+1.5**
KKM	**Kota Kinabalu**	**24.06**	**262**	⇓P	**P**	**09 56 22.0**	**-1.9**
TTSI	**Tana Toraja**	**24.09**	**238**	P	**P**	**09 56 23.8**	**-0.3**
	comp=Z,799nm,1.0s,comp=Z,19μmcomp=Z,30μm						
JMN	**Monobe**	**24.29**	**347**	IAMs_20	IAMs_20	10 03 43.8	
	comp=Z,125μm,20.0s						
JMN	**Monobe**	**24.29**	**347**	P	**P**	**09 56 26.7**	**+0.9**
JMN	**Monobe**	**24.29**	**347**	⇑P	**P**	**09 56 25.4**	**-0.3**
MTN	**Manton Dam**	**24.44**	**202**	P	**P**	**09 56 26.1**	**-1.1**
	baz=24,SNR=44						
MTN	**Manton Dam**	**24.44**	**202**	P	**P**	**09 56 25.7**	**-1.5**
MTN				IAmb	IAmb	09 56 28.1	
	comp=Z,247nm,0.9s						
MTN	**Manton Dam**	**24.44**	**202**	P	**P**	**09 56 26.4**	**-0.8**
MTN	**Manton Dam**	**24.44**	**202**	⇑P	**P**	**09 56 25.3**	**-2.0**
JNU	**Nakatsue**	**24.53**	**341**	P	**P**	**09 56 26.9**	**-1.1**
JNU				IAmb	IAmb	09 56 37.7	
	comp=Z,303nm,1.1s						
JNU	**Nakatsue**	**24.53**	**341**	P	**P**	**09 56 29.7**	**+1.7**
JNU	**Nakatsue**	**24.53**	**341**	P	**P**	**09 56 27.2**	**-0.8**
	comp=Z,128nm,0.8s,baz=34,slow=15,SNR=18						
JNU				LR	LR	10 04 35.3	
	comp=Z,74μm,21.7s,baz=150,slow=33 comp=Z,128nm,0.8s						
SPSI	**Sidrap Palu**	**24.64**	**237**	P	**P**	**09 56 28.0**	**-1.1**
	comp=Z,774nm,1.1s,comp=Z,17μmcomp=Z,35μm						
SMKI	**Samarinda**	**25.12**	**247**	P	**P**	**09 56 34.8**	**+1.3**
	comp=Z,677nm,1.2s,comp=Z,19μmcomp=Z,56μm						
BKSI	**Bulukumba**	**25.14**	**234**	P	**P**	**09 56 32.4**	**-1.2**
	comp=Z,332nm,1.2s,comp=Z,8μmcomp=Z,23μm						
KNMB	**Chin-nen Tao**	**25.23**	**307**	IAmb	IAmb	09 57 06.9	
	comp=Z,348nm,1.1s						
SOEI	**Soe**	**25.24**	**219**	P	**P**	**09 56 33.1**	**-1.6**
SOEI	**Soe**	**25.24**	**219**	P	**P**	**09 56 36.0**	**+1.3**
SOEI	**Soe**	**25.24**	**219**	P	**P**	**09 56 33.0**	**-1.7**
	comp=Z,431nm,1.2s,comp=Z,12μmcomp=Z,14μm						
SOEI	**Soe**	**25.24**	**219**	⇑P	**P**	**09 56 33.5**	**-1.2**
KAPI	**Kappang**	**25.25**	**235**	P	**P**	**09 56 33.9**	**-0.8**
KAPI				IAmb	IAmb	09 56 46.1	
	comp=Z,478nm,1.2s						
KAPI	**Kappang**	**25.25**	**235**	P	**P**	**09 56 35.9**	**+1.2**
KAPI	**Kappang**	**25.25**	**235**	P	**P**	**09 56 34.3**	**-0.3**
KAPI				P	**P**	**09 56 34.3**	**-0.3**
KAPI				P	**P**	**09 56 34.3**	**-0.3**
KAPI	**Kappang**	**25.25**	**235**	⇓P	**P**	**09 56 32.9**	**-1.8**
KAPI	**Kappang**	**25.25**	**235**	*d*P	**P**	**09 56 34.0**	**-0.7**
KAPI				pmax	pmax		
	comp=Z,513nm,1.2s						
KAPI				MLR	MLR		
	comp=Z,31μm,19.0s						
KAPI	**Kappang**	**25.25**	**235**	LR	LR	10 06 06.8	
	comp=Z,30μm,19.2s,baz=4.0,slow=36						
QZH	**Quanzhou**	**25.32**	**309**	⇓*i*P	**P**	**09 56 35.0**	**-0.2**
QZH				S	**S**	**10 01 00.2**	**-0.8**
QZH				SS	**SnSn**	**10 02 01.7**	**+9.0**
QZH				pmax	pmax		
	comp=Z,160nm,1.3s						
QZH				pmax	pmax		
	comp=Z,7μm,7.6s						
QZH				LR	LR		
	comp=Z,48μm,16.5s						
QZH				LR	LR		
	comp=Z,58μm,13.7s						
QZH				LR	LR		
	comp=Z,42μm,14.1s						
MMRI	**Maumere**	**25.75**	**225**	P	**P**	**09 56 37.7**	**-1.4**
MMRI	**Maumere**	**25.75**	**225**	P	**P**	**09 56 39.5**	**+0.3**
MMRI	**Maumere**	**25.75**	**225**	P	**P**	**09 56 37.2**	**-2.0**
	comp=Z,1μm,1.2s,comp=Z,21μmcomp=Z,19μm						
MMRI	**Maumere**	**25.75**	**225**	⇓P	**P**	**09 56 37.4**	**-1.8**
BKB	**Balikpapan**	**25.75**	**245**	P	**P**	**09 56 38.2**	**-1.0**
BKB	**Balikpapan**	**25.75**	**245**	P	**P**	**09 56 39.6**	**+0.4**
BKB	**Balikpapan**	**25.75**	**245**	P	**P**	**09 56 38.3**	**-1.0**
	comp=Z,679nm,1.1s,comp=Z,12μmcomp=Z,32μm						
BATI	**Baumata**	**25.97**	**220**	P	**P**	**09 56 39.9**	**-1.3**
	comp=Z,827nm,1.7s,comp=Z,11μmcomp=Z,14μm						
EDFI	**Ende, Flores**	**26.21**	**225**	P	**P**	**09 56 40.9**	**-2.6**
	comp=Z,410nm,2.3s,comp=Z,9μmcomp=Z,15μm						
MJAR	**Matsushiro Arr**	**26.45**	**356**	P	**P**	**09 56 42.6**	**-2.8**
	comp=Z,26nm,1.0s,baz=173,slow=9.0,SNR=19						
MJAR				PcP	**PcP**	**10 00 10.9**	**+0.4**
	comp=Z,16nm,1.0s,baz=176,slow=3.4,SNR=5.1						
MJAR				LR	LR	10 06 23.7	
	comp=Z,50μm,19.6s,baz=154,slow=35 comp=Z,26nm,1.0s						
MAJO	**Matsushiro**	**26.46**	**356**	P	**P**	**09 56 43.3**	**-2.1**
MAJO	**Matsushiro**	**26.46**	**356**	P	**P**	**09 56 43.5**	**-1.9**
MAJO	**Matsushiro**	**26.46**	**356**	⇑P	**P**	**09 56 42.5**	**-2.9**
MAJO	**Matsushiro**	**26.46**	**356**	*ie*P	**P**	**09 56 43.0**	**-2.4**
MAJO				pmax	pmax		
	comp=Z,94nm,1.1s						
MAJO				MLR	MLR		
	comp=Z,45μm,18.0s						
H11S3	**WAKE ISLAND Hy**	**27.00**	**69**	T	T	10 25 00.3	
	baz=255,slow=76						
H11S1	**WAKE ISLAND Hy**	**27.01**	**69**	T	T	10 24 59.3	
	baz=255,slow=76						
H11S2	**WAKE ISLAND Hy**	**27.01**	**69**	T	T	10 24 60.0	
	baz=255,slow=76						
SSE	**Sheshan**	**27.40**	**323**	P	**P**	**09 56 54.6**	**+0.7**
SSE				S	**S**	**10 01 33.7**	**0.0**
SSE				pmax	pmax		
	comp=Z,43nm,0.9s						
SSE				pmax	pmax		
	comp=Z,1μm,7.0s						
SSE				LR	LR		
	comp=Z,910nm,17.9s						
SSE				LR	LR		
	comp=Z,8μm,17.9s						
MTKI	**Muara Teweh, K**	**27.43**	**248**	P	**P**	**09 56 53.6**	**-0.8**
	comp=Z,136nm,1.8s,comp=Z,13μmcomp=Z,24μm						
H11N1	**WAKE ISLAND Hy**	**27.51**	**66**	T	T	10 25 40.6	
	baz=247,slow=73,SNR=2424						
H11N2	**WAKE ISLAND Hy**	**27.52**	**66**	T	T	10 25 41.3	
	baz=247,slow=73,SNR=2430						
H11N3	**WAKE ISLAND Hy**	**27.53**	**66**	T	T	10 25 36.8	
	baz=247,slow=73,SNR=1927						
HNR	**Honiara**	**27.58**	**134**	LR	LR	10 07 20.8	
	comp=Z,373μm,18.7s,baz=303,slow=35						
JMM	**Marumori**	**27.72**	**1**	P	**P**	**09 56 56.3**	**-0.4**
JMM				IAmb	IAmb	09 57 24.3	
	comp=Z,198nm,0.8s						
JMM	**Marumori**	**27.72**	**1**	P	**P**	**09 56 58.8**	**+2.1**
JMM	**Marumori**	**27.72**	**1**	⇑P	**P**	**09 56 55.8**	**-1.0**
HKPS	**Hong Kong Po S**	**27.77**	**299**	IAmb	IAmb	09 57 11.2	
	comp=Z,397nm,1.3s						
HKPS	**Hong Kong Po S**	**27.77**	**299**	P	**P**	**09 56 59.6**	**+2.3**
KNRA	**Kununurra**	**27.93**	**204**	P	**P**	**09 56 58.3**	**-0.5**
	baz=28,SNR=99						
KNRA	**Kununurra**	**27.93**	**204**	P	**P**	**09 56 58.0**	**-0.8**
KNRA				IAmb	IAmb	09 57 01.4	
	comp=Z,413nm,1.0s						
KNRA	**Kununurra**	**27.93**	**204**	P	**P**	**09 56 58.5**	**-0.3**
BASI	**Baing, Sumba**	**28.02**	**225**	P	**P**	**09 56 56.1**	**-3.5**
	comp=Z,525nm,1.7s,comp=Z,6μmcomp=Z,9μm						
MCO	**Taipa Grande**	**28.21**	**298**	P	**P**	**09 57 04.0**	**+2.7**
MTSU	**Mount Surprise**	**28.28**	**172**	P	**P**	**09 57 02.3**	**+0.4**
	baz=28,SNR=29						
BBKI	**Banjar Baru**	**28.58**	**243**	P	**P**	**09 57 04.4**	**-0.3**
	comp=Z,128nm,1.2s,comp=Z,7μmcomp=Z,14μm						
TJN	**Taejon**	**28.69**	**338**	P	**P**	**09 57 04.8**	**-0.6**
TJN	**Taejon**	**28.69**	**338**	*ie*P	**P**	**09 57 04.4**	**-1.0**
GZH	**Guangzhou**	**28.75**	**300**	P	**P**	**09 57 03.4**	**-2.7**
GZH				S	**S**	**10 01 52.5**	**-2.7**
GZH				SS	**SnSn**	**10 03 19.3**	**+2.8**
GZH				pmax	pmax		
	comp=Z,88nm,1.4s						
GZH				LR	LR		
	comp=Z,19μm,15.1s						
GZH				LR	LR		
	comp=Z,9μm,14.5s						
SBUM	**Sibu**	**28.78**	**257**	P	**P**	**09 57 05.1**	**-1.4**
SBUM	**Sibu**	**28.78**	**257**	⇓P	**P**	**09 57 04.9**	**-1.5**
PLAI	**Plampang**	**29.13**	**231**	P	**P**	**09 57 05.5**	**-4.0**
	comp=Z,81nm,1.9s,comp=Z,3μmcomp=Z,10μm						
KSRS	**Korea Array**	**29.46**	**340**	P	**P**	**09 57 11.3**	**-0.8**
	comp=Z,31nm,0.9s,baz=162,slow=10,SNR=44						
KSRS				PcP	**PcP**	**10 00 19.2**	**+1.5**
	comp=Z,12nm,1.0s,baz=175,slow=2.3,SNR=6.5						
KSRS				LR	LR	10 07 15.9	
	comp=Z,66μm,21.6s,baz=155,slow=33 comp=Z,31nm,0.9s						
KSAR	**Wonju Array Be**	**29.46**	**340**	P	**P**	**09 57 11.5**	**-0.7**
KSAR	**Wonju Array Be**	**29.46**	**340**	P	**P**	**09 57 11.5**	**-0.7**
NJ2	**Nanjing**	**29.49**	**321**	*e*P	**P**	**09 57 12.8**	**+0.3**
NJ2				pP	**pwP**	**09 57 18.4**	**-1.2**
NJ2				sP	**sP**	**09 57 21.0**	**+3.0**
NJ2				S	**S**	**10 02 05.3**	**-1.3**
NJ2				sS	sS	10 02 20.2	+7.2
NJ2				PcS	**PcS**	**10 04 05.3**	**+4.3**
NJ2				pmax	pmax		
	comp=Z,23nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,2μm,8.3s						
NJ2				LR	LR		
	comp=Z,84μm,16.8s						
NJ2				LR	LR		
	comp=Z,98μm,17.3s						
NJ2				LR	LR		
	comp=Z,60μm,18.0s						
KS19	**Wonju Array Si**	**29.52**	**340**	P	**P**	**09 57 11.6**	**-1.2**
TWSI	**Taliwang, Sumb**	**29.76**	**232**	P	**P**	**09 57 11.2**	**-3.9**
	comp=Z,52nm,1.4s,comp=Z,2μmcomp=Z,13μm						
INCN	**Inchon**	**29.94**	**338**	P	**P**	**09 57 17.8**	**+1.3**
WB0	**Warramunga Arr**	**30.15**	**191**	P	**P**	**09 57 17.4**	**-1.2**
WB0				IAmb	IAmb	09 57 38.0	
	comp=Z,220nm,1.2s						
WB0				IAMs_20	IAMs_20	10 08 57.4	
	comp=Z,103μm,21.0s						
STKI	**Sintang**	**30.23**	**253**	P	**P**	**09 57 18.9**	**-0.4**
	comp=Z,106nm,2.0s,comp=Z,21μm						
WB7	**Warramunga Arr**	**30.23**	**191**	IAMs_20	IAMs_20	10 09 09.4	
	comp=Z,86μm,20.0s						
WB5	**Warramunga Arr**	**30.27**	**191**	IAMs_20	IAMs_20	10 09 01.4	
	comp=Z,98μm,20.0s						
AUAYR	**Ayr State High**	**30.27**	**166**	P	**P**	**09 57 21.3**	**+1.8**
WR0	**Warramunga Arr**	**30.31**	**191**	IAMs_20	IAMs_20	10 09 13.7	
	comp=Z,85μm,20.0s						
WR9	**Warramunga Arr**	**30.32**	**191**	IAMs_20	IAMs_20	10 09 13.7	
	comp=Z,85μm,19.0s						
WR8	**Warramunga Arr**	**30.32**	**191**	IAMs_20	IAMs_20	10 09 13.8	
	comp=Z,89μm,20.0s						
WR7	**Warramunga Arr**	**30.32**	**191**	IAMs_20	IAMs_20	10 09 13.9	
	comp=Z,90μm,19.0s						
WRAB	**Tennant Creek**	**30.32**	**191**	P	**P**	**09 57 18.9**	**-1.0**
WRAB				IAmb	IAmb	09 57 27.6	
	comp=Z,160nm,1.0s						
WRAB	**Tennant Creek**	**30.32**	**191**	P	**P**	**09 57 19.0**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,160nm,1.0s						
WRAB				MLR	MLR		
	comp=Z,5μm,19.0s						
WB2	**Warramunga Arr**	**30.33**	**191**	P	**P**	**09 57 19.0**	**-1.1**
WB2				IAmb	IAmb	09 57 27.8	
	comp=Z,188nm,1.1s						
WRA	**Warramunga Arr**	**30.34**	**191**	P	**P**	**09 57 18.8**	**-1.3**
WRA	**Warramunga Arr**	**30.34**	**191**	*i*P	**P**	**09 57 18.1**	**-2.0**
WRA				pmax	pmax		
	comp=Z,120nm,0.9s						
WRA	**Warramunga Arr**	**30.34**	**191**	P	**P**	**09 57 19.2**	**-0.9**
	comp=Z,123nm,0.9s,baz=11,slow=10,SNR=179						
WRA				PcP	**PcP**	**10 00 21.2**	**+0.8**
	comp=Z,26nm,0.9s,baz=6.6,slow=3.0,SNR=5.5						
WRA				PKiKP	**PKiKP**	**10 07 51.5**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=345,slow=1.1,SNR=6.0						
WRA				ScS	ScS	10 08 00.8	+2.3
	comp=Z,0.8nm,0.8s,baz=13,slow=8.4,SNR=2.8						
WRA				LR	LR	10 09 24.2	
	comp

comp=Z,60nm,1.2s
GULI LR LR
comp=Z,14µm,11.0s
GULI LR LR
comp=Z,11µm,11.4s
GULI LR LR
comp=Z,10µm,15.7s
DL2 Dalian 33.20 333 P **P** **09 57 44.0 -1.2**
DL2 S **S** **10 03 02.2 -2.3**
DL2 pmax pmax
comp=Z,110nm,1.3s
DL2 pmax pmax
comp=Z,2µm,7.1s
DL2 LR LR
comp=Z,45µm,25.0s
DL2 LR LR
comp=Z,37µm,23.7s
DL2 LR LR
comp=Z,45µm,23.5s
MSHR Mys Shultsa 33.38 348⇑ *e*P **P** **09 57 46.8 +0.2**
MSHR pmax pmax
comp=Z,72nm,1.2s
TIA Tai'an 33.42 325 ⇓P **P** **09 57 47.7 +0.6**
TIA S **S** **10 03 01.5 -6.5**
TIA pmax pmax
comp=Z,30nm,1.1s
TIA pmax pmax
comp=Z,2µm,11.3s
TIA LR LR
comp=Z,47µm,14.2s
TIA LR LR
comp=Z,64µm,16.7s
TIA LR LR
comp=Z,47µm,19.6s
NGJI Ngawi 33.42 240 P **P** **09 57 47.8 +0.4**
comp=Z,232nm,1.8s,comp=Z,23µm
PSTR Posyet 33.52 347 *d* iP **P** **09 57 48.3 +0.5**
JKA Kamikawa-asahi 34.02 3 P **P** **09 57 52.2 -0.1**
JKA IAmb IAmb 09 57 54.3
comp=Z,214nm,1.6s
ASAJ Asahikawa 34.02 3 P **P** **09 57 52.2 0.0**
ASAJ pmax pmax
comp=Z,215nm,1.6s
ASAJ MLR MLR
comp=Z,20µm,21.0s
ASAJ Asahikawa 34.02 3 P **P** **09 57 51.6 -0.7**
comp=Z,19nm,0.8s,baz=186,slow=5.2,SNR=7.0
ASAJ LR LR 10 10 28.2
comp=Z,25µm,21.6s,baz=196,slow=34
comp=Z,19nm,0.8s
AS31 Alice Springs 34.05 190 P **P** **09 57 52.0 -0.7**
ASAR Alice Springs 34.05 190 P **P** **09 57 52.2 -0.5**
comp=Z,91nm,1.1s,baz=34,slow=5.8,SNR=201
ASAR PP **PnPn** **09 59 06.0 -0.3**
comp=Z,54nm,1.1s,baz=13,slow=12,SNR=4.1
ASAR PcP **PcP** **10 00 31.4 +1.0**
comp=Z,47nm,0.9s,baz=5.7,slow=3.0,SNR=8.7
ASAR S **S** **10 03 22.6 +4.7**
comp=Z,2.3nm,1.0s,baz=15,slow=18,SNR=1.7
ASAR PKiKP **PKiKP** **10 07 54.2 -0.6**
comp=Z,1.2nm,0.9s,baz=22,slow=1.7,SNR=4.1
ASAR LR LR 10 11 30.6
comp=Z,77µm,20.2s,baz=12,slow=36
ASAR P3KP 10 30 14.7
comp=Z,0.5nm,1.0s,baz=128,slow=2.6,SNR=2.6
comp=Z,91nm,1.1s
YUK Yuzh-Kuril'sk 34.23 7 *c* iP **P** **09 57 53.8 -0.2**
YUK *e* 09 59 06.9
YUK *e*S **S** **10 03 22.1 +1.8**
YUK *e*SS **SnSn** **10 05 29.0 -0.4**
YUK *e*SSS SSS 10 05 57.1
UGM Wanagama 34.50 240 P **P** **09 57 57.9 +1.1**
UGM Wanagama 34.50 240 P **P** **09 57 56.2 -0.6**
comp=Z,397nm,1.7s,comp=Z,7µmcomp=Z,15µm
YOGI Yogyakarta 34.65 240 P **P** **09 57 57.2 -0.8**
comp=Z,472nm,1.6s,comp=Z,5µm
USA0B Ussuriysk Arra 34.78 350 P **P** **09 57 58.4 -0.4**
USA0B IAMs_20 IAMs_20 10 09 55.3
comp=Z,55µm,20.0s
USA0B Ussuriysk Arra 34.78 350 *c* iP **P** **09 57 58.6 -0.2**
USRK Ussuriysk Ar. 34.78 350 P **P** **09 57 58.3 -0.5**
USRK Ussuriysk Ar. 34.78 350 P **P** **09 57 58.5 -0.3**
comp=Z,37nm,0.8s,baz=172,slow=8.2,SNR=37
USRK LR LR 10 10 06.1
comp=Z,54µm,21.1s,baz=164,slow=33
comp=Z,37nm,0.8s
SNY Shenyang 34.88 338 ⇓P **P** **09 58 00.6 +0.9**
SNY PP **PP** **09 59 20.6 +1.7**
SNY S **S** **10 03 33.7 +3.4**
SNY pmax pmax
comp=Z,72nm,1.0s
SNY LR LR
comp=Z,28µm,18.9s
SNY LR LR
comp=Z,36µm,17.8s
SNY LR LR
comp=Z,69µm,18.5s
ENH Enshi 34.97 310 P **P** **09 58 00.2 -0.5**
ENH IAmb IAmb 09 58 26.4
comp=Z,527nm,1.5s
ENH Enshi 34.97 310 P **P** **09 58 03.0 +2.3**
TEY Ternei 35.02 356⇓ *e*P **P** **09 58 01.5 +0.7**
TEY pmax pmax
comp=E,10.0nm,1.3s
TEY pmax pmax
comp=N,30nm,1.3s
TEY pmax pmax
comp=Z,60nm,1.3s
TEY MLR MLR
comp=E,1µm,14.0s
TEY MLR MLR
comp=N,700nm,15.0s
TEY MLR MLR
comp=Z,700nm,15.0s
LYN LuoYang 35.18 318 ⇑P **P** **09 58 02.9 +0.5**
LYN pP pwP 09 58 07.6 -1.9
LYN sP sP 09 58 09.9 +2.0
LYN S **S** **10 03 39.5 +4.3**
LYN pmax pmax
comp=Z,120nm,0.9s
LYN pmax pmax
comp=Z,2µm,6.9s
LYN LR LR
comp=Z,80µm,22.0s
LYN LR LR
comp=Z,73µm,20.4s
LYN LR LR
comp=Z,95µm,21.1s
KPJI Karang Pucung 35.59 242 P **P** **09 58 05.3 -0.8**
comp=Z,337nm,1.5s,comp=Z,5µm
GYA Guiyang 35.63 302 P **P** **09 58 07.8 +1.2**
GYA pP pwP 09 58 12.8 -0.8
GYA SS **SnSn** **10 06 03.4 -0.6**
GYA pmax pmax
comp=Z,110nm,1.2s
GYA pmax pmax
comp=Z,3µm,5.8s
GYA LR LR
comp=Z,15µm,15.7s
GYA LR LR
comp=Z,10µm,14.4s
GYA LR LR
comp=Z,26µm,14.5s
HNS HongShan 35.64 324 ⇑P **P** **09 58 06.2 -0.1**
HNS pP **pwP** **09 58 13.7 +0.3**
HNS S **S** **10 03 42.7 +0.6**
HNS pmax pmax
comp=Z,72nm,1.1s
HNS LR LR
comp=Z,57µm,15.6s
HNS LR LR
comp=Z,80µm,15.6s
HNS LR LR
comp=Z,49µm,20.6s
MDJ Mudanjiang 35.66 347 P **P** **09 58 05.9 -0.5**
MDJ IAMs_20 IAMs_20 10 09 54.6
comp=Z,68µm,22.0s
MDJ Mudanjiang 35.66 347 P **P** **09 58 07.6 +1.3**
MDJ Mudanjiang 35.66 347 P **P** **09 58 06.2 -0.1**
MDJ pP pP 09 58 08.3 -2.3
MDJ PcP **PcP** **10 00 37.4 +2.7**
MDJ S **S** **10 03 44.2 +2.0**
MDJ sS sS 10 03 56.0 +7.1
MDJ PcS **PcS** **10 04 25.8 +4.0**
MDJ ScS **ScS** **10 08 24.1 -1.0**
MDJ pmax pmax
comp=Z,3µm,10.3s
MDJ LR LR
comp=Z,32µm,20.8s
MDJ LR LR
comp=Z,25µm,17.0s
MDJ LR LR
comp=Z,61µm,21.5s
JCJI Jatiwangi 35.78 244 P **P** **09 58 08.4 +0.7**
comp=Z,545nm,1.6s,comp=Z,17µmcomp=Z,15µm
CN2 Changchun 36.00 342 *e*P **P** **09 58 08.5 -0.8**
CN2 PP **PP** **09 59 33.7 +2.5**
CN2 *e*S **S** **10 03 46.1 -1.4**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,1µm,11.1s
CN2 LR LR
comp=Z,18µm,18.0s
CN2 LR LR
comp=Z,16µm,18.0s
CN2 LR LR
comp=Z,20µm,18.6s
CMJI Cimerak 36.22 242 P **P** **09 58 08.8 -2.7**
comp=Z,220nm,1.5s,comp=Z,3µmcomp=Z,16µm
LEM Lembang 36.51 244 P **P** **09 58 13.5 -0.7**
comp=Z,400nm,1.0s,comp=Z,7µmcomp=Z,15µm
LEM Lembang 36.51 244 LR LR 10 12 13.1
comp=Z,20µm,21.9s,baz=54,slow=35
SLVN Son La 36.60 292 IAmb IAmb 09 58 18.6
comp=Z,299nm,1.6s
QLP Quilpie 36.60 174 P **P** **09 58 14.4 -0.2**
baz=37,SNR=16
QLP Quilpie 36.60 174 P **P** **09 58 15.4 +0.8**
QLP Quilpie 36.60 174 ⇑P **P** **09 58 13.9 -0.7**
BJT Baijiatuau 36.71 328 P **P** **09 58 15.5 +0.1**
BJT IAmb IAmb 09 58 32.0
comp=Z,203nm,1.2s
BJT Baijiatuau 36.71 328 IAMs_20 IAMs_20 10 12 25.5
comp=Z,42µm,19.0s
BJT Baijiatuau 36.71 328 P **P** **09 58 16.9 +1.5**
BJT Baijiatuau 36.71 328 P **P** **09 58 15.5 +0.1**
BJT pmax pmax
comp=Z,203nm,1.2s
BJT MLR MLR
comp=Z,42µm,19.0s
BJI Beijing 36.72 328 P **P** **09 58 16.6 +1.1**
BJI pP **pwP** **09 58 23.1 +0.7**
BJI sP sP 09 58 27.0 +5.9
BJI PP **PP** **09 59 40.4 +1.2**
BJI S **S** **10 03 59.6 +1.0**
BJI pmax pmax
comp=Z,42nm,1.3s
BJI LR LR
comp=Z,23µm,17.2s
BJI LR LR
comp=Z,20µm,17.5s
BJI LR LR
comp=Z,22µm,21.0s
WRKA Warakurna 36.73 198 P **P** **09 58 14.4 -1.4**
baz=37,SNR=236
WRKA Warakurna 36.73 198 P **P** **09 58 15.9 +0.1**
WRKA Warakurna 36.73 198 ⇓P **P** **09 58 14.8 -1.0**
EIDS Eidsvold 36.75 163 P **P** **09 58 15.5 -0.4**
baz=37,SNR=3.7
EIDS Eidsvold 36.75 163 P **P** **09 58 14.8 -1.1**
EIDS Eidsvold 36.75 163 P **P** **09 58 17.8 +1.9**
EIDS Eidsvold 36.75 163 ⇑P **P** **09 58 13.3 -2.6**
NONG Nongkai 36.75 287 P **P** **09 58 16.8 +0.7**
BBJI Bungbulang 36.77 243 P **P** **09 58 15.3 -1.0**
YSS Yuzh-Sakhalins 36.86 3 IAMs_20 IAMs_20 10 12 02.9
comp=Z,50µm,19.0s
YSS Yuzh-Sakhalins 36.86 3 *c* iP **P** **09 58 16.4 -0.2**
YSS *e*S **S** **10 04 03.3 +2.7**
YSS pmax pmax
comp=Z,110nm,0.9s
YSS pmax pmax
comp=Z,2µm,3.4s
YSS pmax pmax
comp=N,800nm,3.5s
YSS pmax pmax
comp=E,400nm,3.6s
YSS MLR MLR
comp=E,12µm,15.0s
DSRI Dabo 36.94 256 P **P** **09 58 15.9 -1.8**
comp=E,41nm,1.0s,comp=E,10µmcomp=E,10µm
MBWA Marble Bar 36.94 213 P **P** **09 58 15.8 -1.7**
MBWA Marble Bar 36.94 213 P **P** **09 58 15.9 -1.7**
MBWA Marble Bar 36.94 213 P **P** **09 58 15.9 -1.7**
MBWA P **P** **09 58 15.9 -1.7**
MBWA Marble Bar 36.94 213 ⇓P **P** **09 58 16.4 -1.2**
CBJI Citeko 37.01 245 P **P** **09 58 18.2 -0.1**
comp=E,600nm,1.0s,comp=E,13µm
CNJI Cibinong 37.16 244 P **P** **09 58 16.3 -3.2**
comp=E,236nm,1.2s,comp=E,2µmcomp=E,7µm
DBJI Dramaga 37.16 245 P **P** **09 58 18.8 -0.8**
comp=E,221nm,2.2s,comp=E,40µmcomp=E,12µm
TIY Taiyuan 37.19 322 ⇓P **P** **09 58 21.1 +1.5**
TIY S **S** **10 04 05.2 -0.8**
TIY pmax pmax
comp=E,59nm,0.8s
TIY pmax pmax
comp=E,2µm,7.6s
TIY LR LR
comp=E,51µm,15.8s
TIY LR LR
comp=E,66µm,19.2s
TIY LR LR
comp=E,33µm,22.0s
PSA00 Pilbara Seismi 37.22 212 IAmb IAmb 09 58 21.3
comp=Z,64nm,1.1s
PSA00 Pilbara Seismi 37.22 212 P **P** **09 58 19.1 -0.8**
BNX BinXian 37.23 345 ⇑P **P** **09 58 19.4 -0.4**
BNX pP **sP** **09 58 22.6 -3.2**
BNX PP **PP** **09 59 44.5 -0.3**
BNX S **S** **10 04 04.7 -1.6**
BNX pmax pmax
comp=Z,280nm,1.3s
BNX pmax pmax
comp=Z,3µm,6.0s
BNX LR LR
comp=Z,35µm,18.4s
BNX LR LR
comp=Z,21µm,15.7s
BNX LR LR
comp=Z,53µm,23.9s
RMQ Roma 37.24 167 P **P** **09 58 20.1 0.0**
baz=37,SNR=4.1
XAN Xi'an 37.30 315 ⇓P **P** **09 58 21.8 +1.2**
XAN sP pwP 09 58 30.4 +2.7
XAN S **S** **10 04 08.8 +1.1**
XAN PcS **PcS** **10 04 31.8 +3.4**
XAN SS **SnSn** **10 06 36.8 -7.1**
XAN pmax pmax
comp=Z,120nm,1.3s
XAN pmax pmax
comp=Z,3µm,6.1s
XAN LR LR
comp=Z,55µm,16.9s
XAN LR LR
comp=Z,56µm,20.3s
XAN LR LR
comp=Z,86µm,19.4s
SBJI Serang 37.53 246 P **P** **09 58 21.7 -1.0**
comp=Z,236nm,1.4s,comp=Z,6µm
INKA Innaminka 37.55 179 P **P** **09 58 23.8 +1.2**
OOD Oodnadatta 37.85 187 P **P** **09 58 25.2 0.0**
CGJI Cibinong 38.13 246 P **P** **09 58 25.1 -2.7**
comp=Z,465nm,1.2s,comp=Z,6µm
KLI Kotabumi 38.18 249 P **P** **09 58 27.0 -1.2**
comp=Z,675nm,1.1s,comp=Z,7µmcomp=Z,10µm
NAYO Nakonayok 38.20 280 P **P** **09 58 29.3 +0.9**
KOUNC Koumac, New Ca 38.54 142 P **P** **09 58 31.3 +0.2**
KOUNC Koumac, New Ca 38.54 142 P **P** **09 58 33.1 +2.0**
KOUNC Koumac, New Ca 38.54 142 ⇑P **P** **09 58 31.4 +0.3**
KMI Kunming 38.57 298 ⇓P **P** **09 58 32.9 +1.3**
KMI PP **PP** **09 59 59.1 -0.9**
KMI S **S** **10 04 31.8 +4.2**
KMI SS **SnSn** **10 07 09.0 -6.1**
KMI pmax pmax
comp=Z,130nm,1.5s
KMI pmax pmax
comp=Z,3µm,7.9s
KMI LR LR
comp=Z,64nm,16.4s
KMI LR LR
comp=Z,19µm,15.6s
KMI LR LR
comp=Z,48µm,17.9s
KASI Kota Agung 38.76 248 P **P** **09 58 31.8 -1.3**
comp=Z,147nm,1.1s,comp=Z,5µm
UGL Uglegorsk 38.95 2 *e*P **P** **09 58 31.7 -2.5**
UGL *e*S **S** **10 04 31.4 -0.8**
UGL pmax pmax
comp=Z,2µm,4.3s
UGL pmax pmax
comp=Z,200nm,1.7s
UGL smax smax
comp=E,10µm,11.0s
LWLI Liwa 38.97 249 P **P** **09 58 33.5 -1.5**
comp=E,487nm,0.9s,comp=E,9µm
DVP Devils Point 39.06 135 P **P** **09 58 37.1 +1.6**
RTV Rentapao 39.27 135 P **P** **09 58 39.5 +2.2**
KULM Kulim 39.44 266 ⇓P **P** **09 58 37.0 -1.8**
CD2 Chengdu 39.69 307 P **P** **09 58 42.7 +2.0**
CD2 pP pwP 09 58 49.0 +1.2
CD2 PcP **PcP** **10 00 48.8 +1.3**
CD2 S **S** **10 04 43.9 0.0**
CD2 sS sS 10 04 56.4 +6.0
CD2 SS **SS** **10 07 39.8 +0.3**
CD2 pmax pmax
comp=E,120nm,0.9s
CD2 pmax pmax
comp=E,3µm,7.4s
CD2 LR LR
comp=E,38µm,23.1s
CD2 LR LR
comp=E,29µm,17.6s
CD2 LR LR
comp=E,25µm,20.6s
XLT XiLinHaoTe 39.70 332 *e*P **P** **09 58 40.0 -0.7**
XLT pP pP 09 58 43.3 -1.4
XLT sP pwP 09 58 48.0 +0.3
XLT PP **PnPn** **10 00 16.7 +1.7**
XLT PcP **PcP** **10 00 47.0 -0.3**
XLT S **S** **10 04 41.0 -2.8**
XLT SS **SS** **10 07 33.5 -6.0**
XLT pmax pmax
comp=E,84nm,1.0s
XLT pmax pmax
comp=E,2µm,6.5s
XLT LR LR
comp=E,41µm,17.9s
XLT LR LR
comp=E,44µm,22.5s
KLR Kul'dur 39.71 351 *c* iP **P** **09 58 39.9 -0.6**
KLR pmax pmax
comp=E,661nm,1.5s
KLR Kul'dur 39.71 351 P **P** **09 58 40.5 -0.1**
comp=Z,290nm,1.0s,baz=164,slow=5.5,SNR=194
KLR S **S** **10 04 43.6 0.0**
comp=Z,6.3nm,1.1s,baz=313,slow=23,SNR=5.8
KLR LR LR 10 15 11.1
comp=Z,11µm,18.2s,baz=160,slow=36
comp=Z,290nm,1.0s
MNAI Manna 39.75 251 P **P** **09 58 39.7 -1.7**
comp=Z,439nm,2.1s,comp=Z,11µmcomp=Z,11µm
HHC Hu-ho-hao-te 39.77 325 *e*P **P** **09 58 42.5 +1.1**
HHC pP pwP 09 58 49.0 +0.5
HHC PP **PnPn** **10 00 20.7 +4.7**
HHC S **S** **10 04 46.1 +1.0**
HHC sS sS 10 04 59.7 +8.1
HHC SS **SS** **10 07 32.3 -8.8**
HHC pmax pmax
comp=Z,55nm,1.3s
HHC pmax pmax
comp=Z,2µm,6.1s
HHC LR LR
comp=Z,53µm,14.4s
HHC LR LR
comp=Z,71µm,14.2s
HHC LR LR
comp=Z,80µm,18.8s
PZH PanZhiHua 39.82 300 P **P** **09 58 44.6 +2.6**
PZH sP **pwP** **09 58 52.3 +3.3**
PZH PcS **PcS** **10 04 34.4 -4.1**
PZH S **S** **10 04 43.2 -3.0**
PZH sS sS 10 04 58.8 +6.1
PZH pmax pmax
comp=Z,90nm,1.7s
PZH pmax pmax
comp=Z,3µm,7.2s
PZH LR LR
comp=Z,32µm,17.3s
PZH LR LR
comp=Z,26µm,19.4s
PZH LR LR
comp=Z,29µm,20.4s
XMI Christmas Isla 39.89 240 P **P** **09 58 40.1 -2.5**
XMI Christmas Isla 39.89 240 ⇓P **P** **09 58 40.1 -2.5**
XMIS Christmas Isla 39.94 240 IAmb IAmb 09 58 50.3
comp=Z,290nm,1.1s
XMIS Christmas Isla 39.94 240 P **P** **09 58 42.0 -0.9**
AULRC Lightning Ridg 39.94 169 P **P** **09 58 43.9 +1.2**
SURA Surathani 39.98 272 P **P** **09 58 44.0 +0.7**
BKNI Bangkinang 40.11 258 P **P** **09 58 42.9 -1.5**
BKNI Bangkinang 40.11 258 P **P** **09 58 42.6 -1.8**
comp=Z,200nm,0.8s,comp=Z,6µmcomp=Z,10µm
LCRK Leigh Creek 40.29 183 P **P** **09 58 46.8 +1.2**
KRJI Kerinci 40.39 255 P **P** **09 58 45.0 -1.9**
comp=Z,348nm,1.3s,comp=Z,10µmcomp=Z,11µm
BTO Baotou 40.49 324 *e*P **P** **09 58 48.7 +1.4**
BTO S **S** **10 05 01.0 +5.2**
BTO SS **SS** **10 07 56.8 +1.3**
BTO pmax pmax
comp=Z,140nm,0.9s
BTO pmax pmax
comp=Z,4µm,6.9s
BTO LR LR
comp=Z,73µm,16.3s
BTO LR LR
comp=Z,35µm,13.5s
BTO LR LR
comp=Z,60µm,17.0s
MULG Mulgathing 40.51 188 P **P** **09 58 47.1 -0.3**
LIFNC LIFOU 40.56 139 P **P** **09 58 47.7 -0.2**
LIFNC IAmb IAmb 09 59 03.2
comp=Z,534nm,1.2s
LIFNC LIFOU 40.56 139 P **P** **09 58 49.5 +1.6**
GRNR Gornyy 40.73 356⇑ *i*P **P** **09 58 50.0 +0.9**
GRNR *e*S **S** **10 05 04.1 +5.1**
GRNR pmax pmax
comp=E,7.0nm,0.9s
GRNR pmax pmax
comp=N,20nm,1.1s
GRNR pmax pmax
comp=Z,30nm,1.1s
GRNR smax smax
comp=N,6.0nm,1.1s
TYV Tymovskoe 40.76 2 *e*P **P** **09 58 48.8 -0.4**
TYV *e*S **S** **10 05 00.7 +1.4**
TYV pmax pmax
comp=Z,2µm,4.5s
TYV pmax pmax
comp=Z,131nm,1.5s
TYV smax smax
comp=N,23nm,2.4s
TYV smax smax
comp=E,24nm,2.4s
TYV smax smax
comp=N,7µm,8.4s
TYV smax smax
comp=E,6µm,8.4s
CM31 Chiang Mai Arr 40.77 287 P **P** **09 58 49.8 0.0**
CM31 IAmb IAmb 09 59 01.3
comp=Z,369nm,1.2s
CM31 Chiang Mai Arr 40.77 287 P **P** **09 58 50.4 +0.6**
SNR=78
CM31 P **P** **09 58 50.4 +0.6**
SNR=78
CMAR Chiang Mai Arr 40.77 287 P **P** **09 58 49.4 -0.4**
CMAR Chiang Mai Arr 40.77 287 P **P** **09 58 49.4 -0.4**
CMAR Chiang Mai Arr 40.77 287 P **P** **09 58 50.2 +0.4**
comp=Z,50nm,0.6s,baz=94,slow=6.8,SNR=140
CMAR LR LR 10 17 09.8
comp=Z,10µm,18.2s,baz=100,slow=38
comp=Z,50nm,0.6s
CHTO Chiang Mai 40.80 287 P **P** **09 58 50.0 -0.1**
CHTO Chiang Mai 40.80 287 P **P** **09 58 50.2 +0.1**
CHTO Chiang Mai 40.80 287 P **P** **09 58 50.6 +0.5**
CHTO P **P** **09 58 50.6 +0.5**
CHTO Chiang Mai 40.80 287 ⇓P **P** **09 58 50.1 +0.1**

CHTO	**Chiang Mai**	**40.80**	**287**	P	**P**	**09 58 50.0**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,93nm,1.2s						
CHTO				MLR	MLR		
	comp=Z,19µm,19.0s						
NOUC	**Port Laguerre**	**40.94**	**141**	P	**P**	**09 58 52.5**	**+1.4**
PDSI	**Padang**	**41.00**	**257**	P	**P**	**09 58 49.2**	**-2.6**
	comp=Z,84nm,0.5s,comp=Z,4µmcomp=Z,9µm						
DZM	**Mont Dzumac**	**41.00**	**141**	P	**P**	**09 58 51.8**	**+0.1**
DZM				IAmb	IAmb	09 58 54.8	
	comp=Z,260nm,1.1s						
DZM	**Mont Dzumac**	**41.00**	**141**	P	**P**	**09 58 52.8**	**+1.1**
DZM	**Mont Dzumac**	**41.00**	**141**	⇑P	**P**	**09 58 52.0**	**+0.2**
DZM	**Mont Dzumac**	**41.00**	**141**	*e*P	**P**	**09 58 50.4**	**-1.3**
	comp=Z,479nm,1.1s						
DZM	**Mont Dzumac**	**41.00**	**141**	*e*PP	**PP**	**10 00 26.5**	**0.0**
	comp=Z,1µm,22.1s						
DZM				*e*S	**S**	**10 05 07.6**	**+3.9**
	comp=Z,8µm,26.7s						
DZM				*e*SS	**SnSn**	**10 08 10.9**	**-2.8**
	comp=Z,21µm,25.4s						
DZM				*e*LR	LR	10 09 57.0	
	comp=Z,51µm,24.4s						
DZM	**Mont Dzumac**	**41.00**	**141**	LR	LR	10 13 41.5	
	comp=Z,25µm,21.4s,baz=327,slow=33						
ONTNC	**Ouen Toro**	**41.18**	**142**	P	**P**	**09 58 52.9**	**-0.2**
ONTNC	**Ouen Toro**	**41.18**	**142**	P	**P**	**09 58 54.7**	**+1.6**
ONTNC	**Ouen Toro**	**41.18**	**142**	⇑P	**P**	**09 58 53.0**	**0.0**
GIRL	**Giralia**	**41.24**	**218**	P	**P**	**09 58 53.0**	**-0.6**
	baz=41,SNR=3.6						
GIRL	**Giralia**	**41.24**	**218**	P	**P**	**09 58 54.0**	**+0.4**
HEH	**HeiHe**	**41.47**	**348**	*e*P	**P**	**09 58 54.2**	**-0.9**
HEH				sP	**pwP**	**09 59 02.8**	**+3.4**
HEH				PcP	**PcP**	**10 00 52.2**	**-0.5**
HEH				S	**S**	**10 05 08.7**	**-1.2**
HEH				SS	**SS**	**10 08 14.2**	**-0.3**
HEH				pmax	pmax		
	comp=Z,310nm,1.2s						
HEH				pmax	pmax		
	comp=Z,4µm,5.9s						
HEH				LR	LR		
	comp=Z,30µm,20.9s						
HEH				LR	LR		
	comp=Z,33µm,18.8s						
HEH				LR	LR		
	comp=Z,70µm,20.6s						
OUENC	**Ouen Island, N**	**41.51**	**141**	P	**P**	**09 58 58.7**	**+3.0**
CMSA	**Cobar Meteorol**	**41.66**	**173**	P	**P**	**09 58 57.3**	**+0.4**
	baz=42,SNR=26						
CMSA	**Cobar Meteorol**	**41.66**	**173**	P	**P**	**09 58 57.3**	**+0.4**
STKA	**Stephens Creek**	**41.69**	**178**	P	**P**	**09 58 56.5**	**-0.6**
	baz=42,SNR=42						
STKA	**Stephens Creek**	**41.69**	**178**	P	**P**	**09 58 56.7**	**-0.4**
STKA	**Stephens Creek**	**41.69**	**178**	P	**P**	**09 58 56.7**	**-0.4**
	comp=Z,46nm,0.9s,baz=352,slow=8.5,SNR=42						
	comp=Z,46nm,0.9s						
ARMA	**Armidale**	**41.69**	**165**	IAMs_20	IAMs_20	10 15 10.5	
	comp=Z,39µm,19.0s						
ARMA	**Armidale**	**41.69**	**165**	P	**P**	**09 58 58.3**	**+1.0**
ARMA	**Armidale**	**41.69**	**165**	⇑P	**P**	**09 58 55.2**	**-2.0**
LZH	**Lanzhou**	**41.92**	**314**	⇓P	**P**	**09 59 01.2**	**+2.0**
LZH				sP	pwP	09 59 12.3	+5.9
LZH				S	**S**	**10 05 16.5**	**-0.8**
LZH				sS	sS	10 05 30.3	+6.4
LZH				pmax	pmax		
	comp=Z,90nm,1.3s						
LZH				pmax	pmax		
	comp=Z,2µm,5.3s						
LZH				LR	LR		
	comp=Z,10µm,15.6s						
LZH				LR	LR		
	comp=Z,38µm,18.2s						
LZH				LR	LR		
	comp=Z,48µm,19.6s						
PINNC	**Pines Island,**	**42.02**	**141**	IAmb	IAmb	09 59 03.4	
	comp=Z,241nm,1.1s						
PINNC				IAMs_20	IAMs_20	10 14 02.1	
	comp=Z,37µm,20.0s						
PINNC	**Pines Island,**	**42.02**	**141**	P	**P**	**09 59 02.3**	**+2.3**
MEEK	**Meekatharra**	**42.04**	**209**	P	**P**	**09 58 59.6**	**-0.5**
	baz=42,SNR=20						
MEEK	**Meekatharra**	**42.04**	**209**	P	**P**	**09 58 59.6**	**-0.5**
AUPHS	**Peel High Scho**	**42.16**	**166**	P	**P**	**09 59 01.9**	**+0.9**
FORT	**Forrest**	**42.21**	**196**	P	**P**	**09 59 02.0**	**+0.6**
	baz=42,SNR=107						
FORT	**Forrest**	**42.21**	**196**	P	**P**	**09 59 01.0**	**-0.4**
FORT				IAMs_20	IAMs_20	10 16 43.7	
	comp=Z,35µm,20.0s						
FORT	**Forrest**	**42.21**	**196**	P	**P**	**09 59 02.0**	**+0.6**
FORT	**Forrest**	**42.21**	**196**	⇓P	**P**	**09 59 00.6**	**-0.8**
TNCH	**TengChong**	**42.25**	**296**	⇓P	**P**	**09 59 01.7**	**-0.4**
TNCH				S	**S**	**10 05 25.3**	**+2.8**
TNCH				sS	sS	10 05 35.7	+6.7
TNCH				SS	**SS**	**10 08 23.5**	**-7.4**
TNCH				pmax	pmax		
	comp=Z,200nm,1.6s						
TNCH				pmax	pmax		
	comp=Z,3µm,8.1s						
TNCH				LR	LR		
	comp=Z,9µm,14.3s						
TNCH				LR	LR		
	comp=Z,11µm,18.3s						
TNCH				LR	LR		
	comp=Z,18µm,19.6s						
KCSI	**Kotacane, Aceh**	**42.58**	**264**	P	**P**	**09 59 02.2**	**-2.5**
	comp=Z,305nm,1.4s,comp=Z,5µm						
SKR	**Severo-Kuril's**	**42.61**	**15**	*e*P	**P**	**09 59 01.1**	**-3.3**
SKR				*e*S	**S**	**10 05 26.7**	**+0.1**
SKR				pmax	pmax		
	comp=Z,3µm,12.7s						
HIA	**Hailar**	**42.67**	**340**	P	**P**	**09 59 05.0**	**0.0**
HIA	**Hailar**	**42.67**	**340**	IAMs_20	IAMs_20	10 14 53.3	
	comp=Z,40µm,20.0s						
HIA	**Hailar**	**42.67**	**340**	P	**P**	**09 59 05.7**	**+0.7**
HIA	**Hailar**	**42.67**	**340**	*ce*P	**P**	**09 59 05.2**	**+0.2**
HIA				pmax	pmax		
	comp=Z,86nm,1.3s						
BBOO	**Buckleboo**	**42.78**	**185**	P	**P**	**09 59 05.8**	**-0.1**
	baz=43,SNR=32						
BBOO	**Buckleboo**	**42.78**	**185**	P	**P**	**09 59 05.3**	**-0.7**
BBOO	**Buckleboo**	**42.78**	**185**	P	**P**	**09 59 06.0**	**0.0**
AUDCS	**Dubbo College**	**42.79**	**169**	P	**P**	**09 59 06.4**	**+0.3**
PBSI	**Pulau Batu**	**42.87**	**259**	P	**P**	**09 59 04.8**	**-2.3**
	comp=Z,155nm,1.6s,comp=Z,4µmcomp=Z,10µm						
FUNA	**Funafuti**	**42.99**	**114**	IAMs_20	IAMs_20	10 14 28.9	
	comp=Z,36µm,19.0s						
FUNA	**Funafuti**	**42.99**	**114**	P	**P**	**09 59 09.3**	**+1.3**
NKL	**Nikolayevsk**	**43.00**	**0**	*e*P	**P**	**09 59 05.7**	**-1.8**
NKL				*e*		10 01 00.8	
NKL				*e*S	**S**	**10 05 30.1**	**-2.2**
NKL				pmax	pmax		
	comp=E,57nm,0.8s						
NKL				pmax	pmax		
	comp=N,345nm,1.6s						
NKL				pmax	pmax		
	comp=Z,824nm,1.5s						
NKL				smax	smax		
	comp=N,2µm,7.0s						
NKL				smax	smax		
	comp=E,1µm,7.0s						
NKL				MLR	MLR		
	comp=N,22µm,12.0s						
NKL				MLR	MLR		
	comp=E,24µm,15.0s						
NKL				MLR	MLR		
	comp=Z,24µm,15.0s						
LHMI	**Lhok Sumawe**	**43.09**	**267**	P	**P**	**09 59 08.3**	**-0.5**
LHMI				IAmb	IAmb	09 59 40.3	
	comp=Z,447nm,1.2s						
GSI	**Gunungsitoli**	**43.23**	**261**	P	**P**	**09 59 07.2**	**-2.8**
GSI				IAmb	IAmb	09 59 10.8	
	comp=Z,579nm,1.6s						
GSI	**Gunungsitoli**	**43.23**	**261**	P	**P**	**09 59 09.5**	**-0.5**
GSI	**Gunungsitoli**	**43.23**	**261**	P	**P**	**09 59 08.4**	**-1.6**
	comp=Z,211nm,1.6s,comp=Z,5µmcomp=Z,11µm						
GSI	**Gunungsitoli**	**43.23**	**261**	⇓P	**P**	**09 59 06.2**	**-3.8**
HTT	**Hallett**	**43.23**	**182**	P	**P**	**09 59 09.8**	**+0.1**
	baz=43,SNR=28						
HTT	**Hallett**	**43.23**	**182**	P	**P**	**09 59 10.8**	**+1.1**
HTT	**Hallett**	**43.23**	**182**	⇑P	**P**	**09 59 09.3**	**-0.4**
MIDW	**Midway**	**43.72**	**60**	P	**P**	**09 59 14.9**	**+1.2**
MLSI	**Meulaboh, Aceh**	**43.79**	**266**	P	**P**	**09 59 12.3**	**-2.2**
	comp=Z,93nm,1.2s						
MND	**Mandalay**	**43.85**	**291**	P	**P**	**09 59 14.7**	**-0.2**
MND				IAmb	IAmb	09 59 18.5	
	comp=Z,376nm,1.4s						
MND				IAMs_20	IAMs_20	10 15 45.4	
	comp=Z,18µm,20.0s						
MND	**Mandalay**	**43.85**	**291**	P	**P**	**09 59 16.4**	**+1.5**
KMBL	**Kambalda**	**44.74**	**202**	P	**P**	**09 59 22.0**	**+0.2**
	baz=45,SNR=65						
KMBL	**Kambalda**	**44.74**	**202**	P	**P**	**09 59 22.1**	**+0.2**
YNG	**Young**	**44.77**	**170**	P	**P**	**09 59 22.8**	**+0.8**
ZEA	**Zeya**	**44.81**	**349**	*ce*P	**P**	**09 59 21.8**	**-0.3**
ZEA				*e*S	**S**	**10 06 01.2**	**+2.4**
ZEA				pmax	pmax		
	comp=N,100nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,180nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,2µm,11.5s						
ZEA				smax	smax		
	comp=E,3µm,11.7s						
LHI	**Lord Howe Isla**	**45.10**	**157**	P	**P**	**09 59 25.7**	**+1.1**
PEA0B	**Petropavlovsk-**	**45.23**	**15**	P	**P**	**09 59 25.8**	**+0.3**
PEA0B				IAmb	IAmb	09 59 27.5	
	comp=Z,333nm,1.4s						
PEA0B	**Petropavlovsk-**	**45.23**	**15**	*de*P	**P**	**09 59 26.6**	**+1.2**
PETK	**Petropavlovsk-**	**45.23**	**15**	P	**P**	**09 59 25.4**	**+0.1**
PETK	**Petropavlovsk-**	**45.23**	**15**	P	**P**	**09 59 25.5**	**+0.1**
PETK	**Petropavlovsk-**	**45.23**	**15**	P	**P**	**09 59 24.9**	**-0.5**
	comp=Z,97nm,1.1s,baz=190,slow=5.1,SNR=40						
PETK				LR	LR	10 17 17.0	
	comp=Z,13µm,20.2s,baz=189,slow=35						
	comp=Z,97nm,1.1s						
MORW	**Morawa**	**45.32**	**210**	P	**P**	**09 59 26.1**	**-0.3**
	baz=45,SNR=21						
MORW	**Morawa**	**45.32**	**210**	P	**P**	**09 59 25.7**	**-0.7**
MORW				IAmb	IAmb	09 59 28.7	
	comp=Z,178nm,1.3s						
MORW	**Morawa**	**45.32**	**210**	P	**P**	**09 59 26.0**	**-0.5**
MORW	**Morawa**	**45.32**	**210**	⇑P	**P**	**09 59 25.7**	**-0.7**
PET	**Petropavlovsk**	**45.40**	**16**	P	**P**	**09 59 26.7**	**0.0**
PET				IAmb	IAmb	09 59 28.8	
	comp=Z,329nm,1.3s						
PET	**Petropavlovsk**	**45.40**	**16**	P	**P**	**09 59 28.0**	**+1.3**
PET	**Petropavlovsk**	**45.40**	**16**	⇑P	**P**	**09 59 26.1**	**-0.6**
PET	**Petropavlovsk**	**45.40**	**16**	*e*P	**P**	**09 59 26.7**	**0.0**
PET				*e*S	**S**	**10 06 06.2**	**-1.0**
PET				pmax	pmax		
	comp=Z,264nm,1.4s						
PET				pmax	pmax		
	comp=Z,2µm,13.1s						
PET				pmax	pmax		
	comp=Z,4µm,12.8s						
PET				MLR	MLR		
	comp=Z,13µm,18.0s						
PET				MLR	MLR		
	comp=Z,12µm,15.0s						
YSA	**Yasawairara**	**45.53**	**125**	P	**P**	**09 59 29.6**	**+1.3**
CAN	**Canberra**	**45.87**	**170**	P	**P**	**09 59 30.8**	**0.0**
CAN				IAmb	IAmb	09 59 43.9	
	comp=Z,174nm,1.4s						
CAN				IAMs_20	IAMs_20	10 19 29.0	
	comp=Z,36µm,18.0s						
CAN	**Canberra**	**45.87**	**170**	P	**P**	**09 59 32.5**	**+1.8**
CAN	**Canberra**	**45.87**	**170**	⇑P	**P**	**09 59 30.6**	**0.0**
CAN	**Canberra**	**45.87**	**170**	P	**P**	**09 59 30.8**	**0.0**
CAN				pmax	pmax		
	comp=Z,174nm,1.4s						
CAN				MLR	MLR		
	comp=Z,36µm,18.0s						
CNB	**Canberra Magne**	**45.92**	**170**	P	**P**	**09 59 35.1**	**+3.9**
	baz=46,SNR=4.0						
CNB	**Canberra Magne**	**45.92**	**170**	P	**P**	**09 59 32.7**	**+1.5**
MOKO	**MOKOCHONG**	**46.05**	**297**	*e*P	**P**	**09 59 33.8**	**+1.2**
MOKO				IAMs_20	IAMs_20	10 17 02.9	
	comp=Z,25µm,21.0s						
IMP	**Imphal**	**46.27**	**295**	*e*P	**P**	**09 59 34.2**	**-0.1**
IMP				IAmb	IAmb	09 59 42.5	
	comp=Z,111nm,0.9s						
IMP				IAMs_20	IAMs_20	10 15 47.4	
	comp=Z,20µm,17.9s						
BLDU	**Ballidu**	**46.28**	**208**	P	**P**	**09 59 33.2**	**-0.8**
	baz=46,SNR=49						
BLDU	**Ballidu**	**46.28**	**208**	P	**P**	**09 59 33.4**	**-0.6**
KOHI	**KOHIMA**	**46.29**	**296**	*e*P	**P**	**09 59 33.8**	**-0.7**
GTA	**Gaotai**	**46.31**	**316**	*e*P	**P**	**09 59 34.5**	**+0.1**
GTA				PcP	**PcP**	**10 01 10.8**	**+1.2**
GTA				PP	**PP**	**10 01 26.3**	**+3.1**
GTA				S	**S**	**10 06 21.4**	**+0.2**
GTA				SS	**SS**	**10 09 46.0**	**-0.9**
GTA				pmax	pmax		
	comp=Z,44nm,0.9s						
GTA				pmax	pmax		
	comp=Z,1µm,7.6s						
GTA				LR	LR		
	comp=Z,16µm,16.4s						
GTA				LR	LR		
	comp=Z,20µm,17.1s						
GTA				LR	LR		
	comp=Z,28µm,18.2s						
JORH	**JORHAT**	**46.37**	**297**	IAMs_20	IAMs_20	10 18 54.4	
	comp=Z,14µm,16.0s						
ARPS	**Mount Arapiles**	**46.58**	**178**	P	**P**	**09 59 37.3**	**+1.1**
	baz=47,SNR=11						
KLBR	**Kellerberrin**	**46.63**	**207**	P	**P**	**09 59 36.7**	**0.0**
	baz=47,SNR=20						
SAIH	**SAIHA**	**46.79**	**291**	*e*P	**P**	**09 59 37.7**	**-0.7**
SAIH				IAmb	IAmb	09 59 41.5	
	comp=Z,415nm,1.1s						
SAIH				IAMs_20	IAMs_20	10 18 17.9	
	comp=Z,11µm,19.4s						
AUSMG	**Snowy Mountain**	**46.88**	**171**	P	**P**	**09 59 39.7**	**+1.0**
ZIRO	**ZIRO**	**46.89**	**298**	*e*P	**P**	**09 59 40.4**	**+1.3**
ZIRO				IAMs_20	IAMs_20	10 17 12.3	
	comp=Z,45µm,20.9s						
ULN	**Ulaanbaatar**	**46.90**	**330**	P	**P**	**09 59 39.0**	**+0.2**
ULN				IAmb	IAmb	09 59 59.7	
	comp=Z,106nm,1.2s						
ULN	**Ulaanbaatar**	**46.90**	**330**	IAMs_20	IAMs_20	10 19 20.5	
	comp=Z,34µm,20.0s						
ULN	**Ulaanbaatar**	**46.90**	**330**	P	**P**	**09 59 39.4**	**+0.6**
ULN				P	**P**	**09 59 39.4**	**+0.6**
ULN	**Ulaanbaatar**	**46.90**	**330**	⇑P	**P**	**09 59 39.5**	**+0.6**
ULN	**Ulaanbaatar**	**46.90**	**330**	*ce*P	**P**	**09 59 38.4**	**-0.5**
ULN				pmax	pmax		
	comp=Z,121nm,1.7s						
ULN				MLR	MLR		
	comp=Z,31µm,20.0s						
ITAN	**ITANAGAR**	**46.92**	**298**	*e*P	**P**	**09 59 40.7**	**+1.5**
ITAN				IAmb	IAmb	09 59 51.5	
	comp=Z,664nm,1.0s						
ITAN				IAMs_20	IAMs_20	10 17 13.6	
	comp=Z,23µm,21.2s						
DGTI	**Dogotuki**	**47.08**	**123**	P	**P**	**09 59 41.9**	**+1.4**
CIT	**Chita**	**47.15**	**338**	*e*P	**P**	**09 59 42.0**	**+1.4**
CIT				*e*		09 59 51.4	
CIT				*e*		10 01 28.4	
CIT				*e*S	**S**	**10 06 35.8**	**+3.2**
CIT				pmax	pmax		
	comp=Z,446nm,1.9s						
NFK	**Norfolk Island**	**47.18**	**146**	P	**P**	**09 59 42.7**	**+1.6**
NFK	**Norfolk Island**	**47.18**	**146**	⇑P	**P**	**09 59 41.9**	**+0.8**
SONM	**Songino Array**	**47.21**	**329**	P	**P**	**09 59 41.4**	**+0.1**
SONM				IAmb	IAmb	10 00 24.9	
	comp=Z,155nm,1.5s						
SONM	**Songino Array**	**47.21**	**329**	P	**P**	**09 59 41.4**	**+0.1**
SONM				pmax	pmax		
	comp=Z,155nm,1.5s						
SONM	**Songino Array**	**47.21**	**329**	P	**P**	**09 59 41.5**	**+0.1**
	comp=Z,34nm,1.0s,baz=139,slow=7.6,SNR=60						
SONM				LR	LR	10 21 07.2	
	comp=Z,14µm,18.9s,baz=126,slow=38						
SONM				PKPPKP	**P'P'df**	**10 30 58.7**	**-2.9**
	comp=Z,0.3nm,0.5s,baz=324,slow=7.3,SNR=3.6						
SONM				PKP2ab	**P'P'ab**	**10 31 58.4**	**+0.1**
	comp=Z,1.8nm,1.1s,baz=325,slow=1.8,SNR=3.5						
	comp=Z,34nm,1.0s						
SILR	**SILCHAR**	**47.29**	**294**	IAMs_20	IAMs_20	10 18 29.2	
	comp=Z,15µm,16.9s						
TAVE	**Taveuni**	**47.58**	**124**	P	**P**	**09 59 46.5**	**+2.1**
MILA	**Mila**	**47.59**	**170**	P	**P**	**09 59 45.7**	**+1.5**
	baz=48,SNR=9.2						
MILA	**Mila**	**47.59**	**170**	P	**P**	**09 59 45.6**	**+1.5**
MILA	**Mila**	**47.59**	**170**	⇑P	**P**	**09 59 45.5**	**+1.3**
TOO	**Toolangi**	**47.61**	**174**	P	**P**	**09 59 45.7**	**+1.4**
	baz=48,SNR=18						
TOO	**Toolangi**	**47.61**	**174**	IAmb	IAmb	09 59 59.9	
	comp=Z,180nm,1.2s						
TOO	**Toolangi**	**47.61**	**174**	P	**P**	**09 59 46.3**	**+2.0**
TOO	**Toolangi**	**47.61**	**174**	⇓P	**P**	**09 59 45.8**	**+1.4**
TEZP	**TEZPUR**	**47.62**	**297**	*e*P	**P**	**09 59 43.9**	**-0.7**
TEZP				IAmb	IAmb	09 59 56.0	
	comp=Z,293nm,1.2s						
TEZP				IAMs_20	IAMs_20	10 19 35.5	
	comp=Z,13µm,16.3s						
MUN	**Mundaring**	**47.66**	**208**	P	**P**	**09 59 45.0**	**+0.2**
	baz=48,SNR=50						
MUN	**Mundaring**	**47.66**	**208**	P	**P**	**09 59 45.1**	**+0.4**
FUTU	**Fugatoga**	**47.90**	**120**	P	**P**	**09 59 49.8**	**+2.9**
AUHPC	**Hawkesdale P12**	**47.93**	**178**	P	**P**	**09 59 48.1**	**+1.4**
NWAO	**Narrogin (SRO)**	**48.00**	**206**	P	**P**	**09 59 47.6**	**+0.2**
	baz=48,SNR=28						
NWAO				P	**P**	**09 59 47.6**	**+0.2**
	baz=48,SNR=28						
NWAO	**Narrogin (SRO)**	**48.00**	**206**	P	**P**	**09 59 47.1**	**-0.2**
NWAO	**Narrogin (SRO)**	**48.00**	**206**	P	**P**	**09 59 47.1**	**-0.2**
NWAO				IAmb	IAmb	09 59 50.3	
	comp=Z,204nm,1.1s						
NWAO	**Narrogin (SRO)**	**48.00**	**206**	P	**P**	**09 59 47.1**	**-0.2**
NWAO	**Narrogin (SRO)**	**48.00**	**206**	P	**P**	**09 59 47.7**	**+0.3**
NWAO	**Narrogin (SRO)**	**48.00**	**206**	P	**P**	**09 59 47.2**	**-0.2**
NWAO				P	**P**	**09 59 47.2**	**-0.2**
NWAO	**Narrogin (SRO)**	**48.00**	**206**	P	**P**	**09 59 47.1**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,204nm,1.2s						
NWAO	**Narrogin (SRO)**	**48.00**	**206**	LR	LR	10 21 41.8	
	comp=Z,16µm,18.0s,baz=9.5,slow=38						
SHL	**Shillong**	**48.24**	**295**	IAmb	IAmb	10 00 00.5	
	comp=Z,180nm,1.3s						
SHL	**Shillong**	**48.24**	**295**	P	**P**	**09 59 49.5**	**-0.1**
	SNR=29						
SHL	**Shillong**	**48.24**	**295**	*e*P	**P**	**09 59 49.8**	**+0.1**
SHL				IAmb	IAmb	09 59 58.7	
	comp=Z,79nm,1.0s						
AGT	**Agartala**	**48.55**	**293**	IAMs_20	IAMs_20	10 19 27.9	
	comp=Z,22µm,17.3s						
GOMU	**GeErMu**	**48.59**	**310**	P	**P**	**09 59 54.4**	**+1.9**
GOMU				pP	pwP	10 00 02.4	+2.7
GOMU				sP	sP	10 00 05.9	+7.8
GOMU				S	**S**	**10 06 58.0**	**+3.8**
GOMU				pmax	pmax		
	comp=Z,25nm,0.9s						
GOMU				LR	LR		
	comp=Z,18µm,18.0s						
GOMU				LR	LR		
	comp=Z,14µm,20.4s						
GOMU				LR	LR		
	comp=Z,28µm,20.8s						
AUALB	**St Joseph's Co**	**49.51**	**204**	P	**P**	**10 00 00.0**	**+1.1**
RKGY	**Rocky Gully**	**49.55**	**205**	P	**P**	**10 00 00.8**	**+1.5**
	baz=50,SNR=6.9						
LSA	**Lhasa**	**49.68**	**300**	*i* P	**P**	**10 00 01.4**	**+0.4**
	SNR=18						
LSA	**Lhasa**	**49.68**	**300**	P	**P**	**10 00 03.2**	**+2.2**
LSA				pmax	pmax		
	comp=Z,2µm,7.8s						
LSA				LR	LR		
	comp=Z,40µm,29.2s						
LSA				LR	LR		
	comp=Z,15µm,17.1s						
LSA				LR	LR		
	comp=Z,16µm,22.1s						
MA2	**Magadan**	**50.08**	**7**	P	**P**	**10 00 02.9**	**-0.1**
MA2				IAmb	IAmb	10 00 05.8	
	comp=Z,389nm,1.4s						
MA2	**Magadan**	**50.08**	**7**	P	**P**	**10 00 04.0**	**+1.0**
MA2	**Magadan**	**50.08**	**7**	⇑P	**P**	**10 00 02.4**	**-0.6**
MA2	**Magadan**	**50.08**	**7**	*ce*P	**P**	**10 00 03.1**	**+0.1**
MA2				pmax	pmax		
	comp=Z,412nm,1.7s						
MA2	**Magadan**	**50.08**	**7**	LR	LR	10 19 32.5	
	comp=Z,15µm,22.0s,baz=200,slow=34						
ZAK	**Zakamensk**	**50.42**	**330**	*e*P	**P**	**10 00 06.2**	**+0.3**
ZAK				*e*		10 07 20.3	
ZAK				pmax	pmax		
	comp=Z,125nm,1.5s						
SHEM	**Shemya Is, Ala**	**50.62**	**26**	LR	LR	10 17 52.5	
	comp=Z,22µm,21.8s,baz=222,slow=32						
IRK	**Irkutsk**	**51.18**	**332**	*e*P	**P**	**10 00 12.1**	**+0.7**
IRK				*e*S	**S**	**10 07 32.6**	**+3.5**
IRK				pmax	pmax		
	comp=Z,281nm,2.7s						
GTK	**Tadong**	**51.43**	**297**	*e*P	**P**	**10 00 14.8**	**+0.8**
GTK				IAmb	IAmb	10 00 27.6	
	comp=Z,92nm,0.9s						
BOD	**Bodaibo**	**51.74**	**342**	*e*P	**P**	**10 00 15.1**	**-0.4**
BOD				pmax	pmax		
	comp=Z,122nm,1.8s						
TAPN	**Taplejung**	**52.22**	**297**	*e*P	**P**	**10 00 22.0**	**+2.0**
	comp=Z,746nm,1.1s						
MOY	**Mondy**	**52.35**	**330**	*e*P	**P**	**10 00 21.0**	**+0.6**
MOY				pmax	pmax		
	comp=Z,166nm,1.9s						
ODAN	**Odare**	**52.43**	**296**	*e*P	**P**	**10 00 21.2**	**-0.3**
	comp=Z,1µm,1.7s						
YAK	**Yakutsk**	**52.47**	**354**	P	**P**	**10 00 19.9**	**-1.0**
YAK	**Yakutsk**	**52.47**	**354**	IAMs_20	IAMs_20	10 19 57.6	
	comp=Z,28µm,21.0s						
YAK	**Yakutsk**	**52.47**	**354**	⇑P	**P**	**10 00 20.0**	**-0.8**
YAK	**Yakutsk**	**52.47**	**354**	*e*P	**P**	**10 00 20.5**	**-0.4**
YAK				*e*PP	**pP**	**10 00 23.3**	**-1.8**
YAK				*e*S	**S**	**10 07 45.7**	**-0.8**
YAK				*e*SS	sS	10 07 58.6	+4.9
YAK				pmax	pmax		
	comp=Z,175nm,0.9s						
YAK				pmax	pmax		
	comp=E,6.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,151nm,1.4s						
YAK				pmax	pmax		
	comp=Z,1µm,4.9s						
YAK				pmax	pmax		
	comp=E,117nm,1.8s						
YAK				pmax	pmax		
	comp=N,349nm,3.0s						
YAK				smax	smax		
	comp=E,619nm,2.3s						
YAK				smax	smax		
	comp=N,2µm,4.0s						
YAK	**Yakutsk**	**52.47**	**354**	S	**S**	**10 07 45.8**	**-0.8**
	comp=N,0.4nm,0.3s,baz=274,slow=22,SNR=8.2						
YAK				LR	LR	10 22 18.4	
	comp=N,984nm,18.0s,baz=165,slow=36						
MOO	**Moorlands**	**52.61**	**173**	P	**P**	**10 00 23.7**	**+1.6**
	baz=53,SNR=5.9						
MOO	**Moorlands**	**52.61**	**173**	P	**P**	**10 00 23.6**	**+1.5**
TAU	**Tasmania Unive**	**53.08**	**173**	P	**P**	**10 00 27.3**	**+1.7**

ADK Adak 54.46 31 P **P** **10 00 36.8 +1.2**
ADK Adak 54.46 31 ⇑P **P** **10 00 36.0 +0.3**
ADK Adak 54.46 31 P **P** **10 00 35.9 +0.3**
ADK pmax pmax
comp=Z,259nm,1.1s
DMN Daman 54.54 297 *e*P **P** **10 00 37.2 +0.2**
comp=Z,700nm,1.3s
OUZ Omahuta 54.98 147 ⇑P **P** **10 00 41.8 +2.1**
GKN Gorkha 55.01 297 *e*P **P** **10 00 41.6 +1.3**
comp=Z,468nm,1.2s
RAGD RAYAGADA 55.45 286 *e*P **P** **10 00 44.6 +1.2**
VIS Vishakhapatnam 55.56 285 *e*P **P** **10 00 44.7 +0.6**
VIS IAmb IAmb 10 00 48.5
comp=Z,500nm,1.7s
DANN Dangsing 55.82 297 *e*P **P** **10 00 47.6 +1.3**
comp=Z,432nm,1.0s
KOLN Koldanda 55.89 297 *e*P **P** **10 00 46.5 -0.2**
comp=Z,1µm,2.2s
ATKA Atka Island 55.92 32 IAmb IAmb 10 01 01.5
comp=Z,206nm,0.9s
ATKA Atka Island 55.92 32 P **P** **10 00 48.5 +2.3**
ATKA Atka Island 55.92 32 ⇑P **P** **10 00 46.2 0.0**
RAO Raoul Island 56.18 135 IAMs_20 IAMs_20 10 21 12.9
comp=Z,22µm,20.0s
RAO Raoul Island 56.18 135 LR LR 10 21 34.0
comp=Z,20µm,20.0s,baz=321,slow=32
WMQ Urumqi 56.40 316 ⇑P **P** **10 00 51.6 +1.7**
WMQ pP pwP 10 00 57.6 +0.5
WMQ sP sP 10 01 02.0 +6.5
WMQ S **S** **10 08 36.6 -3.6**
WMQ SS **SS** **10 12 27.5 +0.2**
WMQ pmax pmax
comp=Z,110nm,0.9s
WMQ pmax pmax
comp=Z,3µm,5.3s
WMQ LR LR
comp=Z,22µm,17.9s
WMQ LR LR
comp=Z,17µm,17.9s
WMQ LR LR
comp=Z,13µm,22.1s
PYUN Piuthan 56.46 297 *e*P **P** **10 00 50.4 -0.4**
comp=Z,459nm,0.8s
WIAZ Waiheke Island 56.98 147 P **P** **10 00 56.0 +2.0**
NIUE Niue 57.05 120 IAmb IAmb 10 01 19.5
comp=Z,289nm,1.2s
NIUE Niue 57.05 120 P **P** **10 00 58.0 +3.3**
MKAZ Moumakai 57.23 147 P **P** **10 00 57.0 +1.3**
KUZ Kuaotunu 57.27 146 P **P** **10 00 57.7 +1.7**
KUZ Kuaotunu 57.27 146 P **P** **10 00 57.1 +1.1**
HIZ Hauiti 58.12 148 IAmb IAmb 10 01 05.5
comp=Z,216nm,1.1s
HIZ IAMs_20 IAMs_20 10 26 47.2
comp=Z,21µm,18.0s
HIZ Hauiti 58.12 148 P **P** **10 01 03.5 +1.6**
VJD Vijayawada 58.14 283 *e*P **P** **10 01 03.8 +1.3**
KHEZ Kahui Hut 58.28 149 P **P** **10 01 06.8 +3.6**
CLES Cleveland East 58.51 33 IAMs_20 IAMs_20 10 23 27.2
comp=Z,21µm,20.0s
KEKH Kekaha 58.66 70 P **P** **10 01 08.2 +2.1**
KEKH IAmb IAmb 10 01 08.5
comp=Z,100nm,0.9s
MDRS Chennai 58.69 279 *e*P **P** **10 01 09.1 +2.7**
QRZ Quartz Range 58.75 152 P **P** **10 01 05.8 -0.5**
QRZ IAmb IAmb 10 01 09.1
comp=Z,169nm,1.1s
DGZ Jazzator, Alta 58.76 323*c i*P **P** **10 01 07.7 +1.2**
DGZ pmax pmax
comp=Z,190nm,2.0s
DGZ MLR MLR
comp=Z,36µm,20.0s
PALK Pallekele 58.81 272 P **P** **10 01 06.3 -1.0**
PALK IAmb IAmb 10 01 10.1
comp=Z,222nm,1.7s
PALK Pallekele 58.81 272 P **P** **10 01 08.2 +0.8**
PALK P **P** **10 01 08.2 +0.8**
PALK Pallekele 58.81 272 ⇓P **P** **10 01 07.9 +0.6**
PALK Pallekele 58.81 272*d i*P **P** **10 01 07.6 +0.3**
PALK pmax pmax
comp=Z,114nm,1.3s
PALK Pallekele 58.81 272 LR LR 10 25 10.1
comp=Z,9µm,21.9s,baz=181,slow=35
MALK Mahakanadarawa 58.83 274 P **P** **10 01 06.7 -0.7**
RATZ Rangitukua 58.86 148 P **P** **10 01 08.6 +1.5**
NNVZ North Ngauruho 58.97 148 P **P** **10 01 09.9 +1.8**
NTVZ North Tongarir 58.98 148 P **P** **10 01 10.1 +2.1**
LGTI Lohaghat 59.01 298 *e*P **P** **10 01 08.1 -0.3**
TMVZ Te Maari 59.01 148 P **P** **10 01 10.1 +1.8**
PTH Pithoragarh 59.04 298 *e*P **P** **10 01 08.8 -0.1**
URZ Urewera 59.13 147 ⇑P **P** **10 01 08.1 -0.9**
URZ Urewera 59.13 147 LR LR 10 23 59.0
comp=Z,16µm,21.4s,baz=42,slow=33
HAZ Te Kaha 59.13 146 P **P** **10 01 10.5 +1.5**
NIKH Nikolski High 59.14 33 P **P** **10 01 09.4 +0.6**
baz=243
DSZ Denniston Nort 59.15 153 IAmb IAmb 10 01 11.7
comp=Z,104nm,0.9s
MRHZ Matea Rd 59.17 147 P **P** **10 01 10.9 +1.5**
RTZ Ruatahuna 59.31 147 IAmb IAmb 10 01 23.8
comp=Z,144nm,1.2s
BKZ Black Stump Fm 59.46 148 IAmb IAmb 10 01 27.6
comp=Z,96nm,1.1s
BKZ Black Stump Fm 59.46 148 P **P** **10 01 11.9 +0.6**
ZSN Zaisan 59.51 320 *e*P **P** **10 01 12.2 +0.5**
comp=Z,94nm,2.0s,baz=320
ZSN *e*S **S** **10 09 21.7 +1.0**
baz=320
ZSN Zaisan 59.51 320 *e*P **P** **10 01 12.1 +0.5**
ZSN *e*S **S** **10 09 21.7 +1.0**
ZSN pmax pmax
comp=Z,94nm,2.0s
INZ Inchbonnie 59.77 154 IAmb IAmb 10 01 24.2
comp=Z,282nm,1.9s
JCZ Jackson Bay 59.78 156 P **P** **10 01 16.1 +2.6**
MRZ Mangatainoka R 60.10 149 IAMs_20 IAMs_20 10 24 07.6
comp=Z,25µm,19.0s
HYB Hyderabad 60.12 284 *e*P **P** **10 01 15.3 -0.9**
HYB IVmB_BB 10 01 17.2
comp=Z,2µm,3.4s
HYB *e*PcP **PcP** **10 02 02.2 +0.1**
HYB *e*PP **PP** **10 03 27.6 -1.4**
HYB *e*PcS **PcS** **10 06 04.8 +0.1**
HYB IVMs_BB IVMs_BB 10 26 26.3
comp=Z,3µm,16.8s
SNZO South Karori 60.16 151 P **P** **10 01 14.8 -1.2**
SNZO IAmb IAmb 10 01 33.7
comp=Z,193nm,1.2s
SNZO South Karori 60.16 151 IAMs_20 IAMs_20 10 26 43.2
comp=Z,21µm,18.0s
SNZO South Karori 60.16 151 P **P** **10 01 17.0 +1.0**
SNZO South Karori 60.16 151 ⇑P **P** **10 01 14.9 -1.1**
LTZ Lake Taylor 60.18 153 P **P** **10 01 15.7 -0.5**
LTZ IAMs_20 IAMs_20 10 24 36.7
comp=Z,18µm,20.0s
KIP Kipapa 60.23 71 P **P** **10 01 17.0 +0.1**
KIP IAmb IAmb 10 01 24.9
comp=Z,169nm,1.2s
KIP Kipapa 60.23 71 P **P** **10 01 18.9 +1.9**
KIP Kipapa 60.23 71⇑*e*P **P** **10 01 17.6 +0.6**
KIP pmax pmax
comp=Z,400nm,2.5s
BHW Baring Head 60.32 150 IAmb IAmb 10 01 17.7
comp=Z,98nm,0.9s
BHW IAMs_20 IAMs_20 10 26 57.4
comp=Z,23µm,18.0s
DCZ Deep Cove 60.34 158 IAmb IAmb 10 01 20.7
comp=Z,96nm,1.0s
RPZ Rata Peaks 60.41 155 P **P** **10 01 16.8 -0.8**
RPZ IAMs_20 IAMs_20 10 22 51.6
comp=Z,19µm,21.0s
RPZ Rata Peaks 60.41 155 LR LR 10 24 40.7
comp=Z,18µm,21.2s,baz=323,slow=33
BFZ Birch Farm 60.45 149 IAMs_20 IAMs_20 10 25 36.9
comp=Z,25µm,20.0s
BFZ Birch Farm 60.45 149 P **P** **10 01 18.4 +0.4**
BILL Bilibino 60.46 11 P **P** **10 01 17.7 0.0**
BILL Bilibino 60.46 11 *i*P **P** **10 01 17.9 +0.2**
SPIA Saint Paul Isl 60.46 28 P **P** **10 01 18.3 +0.5**
baz=240
KHZ Kahutara 60.47 152 IAMs_20 IAMs_20 10 26 38.3
comp=Z,21µm,19.0s
KHZ Kahutara 60.47 152 ⇑P **P** **10 01 17.0 -1.0**
OXZ Oxford 60.51 154 IAmb IAmb 10 01 19.2
comp=Z,149nm,1.0s
OXZ IAMs_20 IAMs_20 10 25 04.5
comp=Z,18µm,19.0s
LBZ Lake Benmore 60.60 156 P **P** **10 01 18.6 -0.4**
LBZ IAmb IAmb 10 01 20.4
comp=Z,162nm,0.9s
LBZ IAMs_20 IAMs_20 10 30 31.6
comp=Z,18µm,19.0s
PYZ Puysegur Point 60.78 159 P **P** **10 01 21.9 +1.8**
UNV Unalaska Valle 60.78 33 P **P** **10 01 22.3 +2.2**
UNV Unalaska Valle 60.78 33 P **P** **10 01 19.9 -0.2**
baz=245
UNV S **S** **10 09 37.2 +0.4**
baz=245
SALM Salem 60.80 278 *e*P **P** **10 01 21.0 +0.1**
MK31 Makanchi Array 60.96 318 P **P** **10 01 21.8 +0.2**
MK31 Makanchi Array 60.96 318 P **P** **10 01 21.8 +0.2**
MK31 pmax pmax
comp=Z,82nm,1.2s
MKAR Makanchi Array 60.96 318 P **P** **10 01 21.3 -0.3**
MKAR Makanchi Array 60.96 318 *i*P **P** **10 01 22.2 +0.6**
MKAR pmax pmax
comp=Z,29nm,0.8s
MKAR Makanchi Array 60.96 318 P **P** **10 01 21.4 -0.1**
comp=Z,28nm,0.8s,baz=100,slow=8.7,SNR=146
MKAR LR LR 10 27 40.3
comp=Z,19µm,21.4s,baz=111,slow=36
MKAR PKP2bc **P'P'bc** **10 30 48.1 -2.8**
comp=Z,3.4nm,0.8s,baz=289,slow=3.7,SNR=5.5
comp=Z,28nm,0.8s
WHZ Wether Hill Ro 61.00 158 IAmb IAmb 10 01 23.0
comp=Z,119nm,0.9s
MQZ McQueen's Vall 61.09 154 IAmb IAmb 10 01 23.8
comp=Z,177nm,1.1s
BHPL Bhopal 61.15 291 *e*P **P** **10 01 24.2 +1.0**
BHPL IAmb IAmb 10 01 35.0
comp=Z,98nm,1.1s
MAKZ Makanchi 61.17 318 P **P** **10 01 22.7 -0.3**
MAKZ IAmb IAmb 10 01 39.1
comp=Z,213nm,1.5s
MAKZ IAMs_20 IAMs_20 10 27 35.9
comp=Z,23µm,20.0s
MAKZ Makanchi 61.17 318 ⇑P **P** **10 01 23.7 +0.7**
MAKZ Makanchi 61.17 318 P **P** **10 01 22.7 -0.3**
MAKZ pmax pmax
comp=Z,213nm,1.5s
MAKZ MLR MLR
comp=Z,23µm,20.0s
AKUT Akutan 61.30 33 P **P** **10 01 24.3 +0.7**
ODZ Otahua Downs 61.32 156 ⇑P **P** **10 01 24.2 +0.3**
AKL Akola 61.51 288 *e*P **P** **10 01 26.6 +0.8**
KOD Kodaikanal 61.65 276 *e*P **P** **10 01 26.7 -0.3**
KOD IAmb IAmb 10 01 30.2
comp=Z,123nm,1.2s
KHLH Kahului Airpor 61.71 72 IAmb IAmb 10 01 37.5
comp=Z,105nm,0.9s
KHLH IAMs_20 IAMs_20 10 26 41.0
comp=Z,16µm,18.0s
SMLA Simla 61.82 300 *e*P **P** **10 01 27.5 -0.1**
SMLA IAmb IAmb 10 01 33.7
comp=Z,826nm,1.8s
ZAA0 Zalesovo Array 61.94 327 P **P** **10 01 27.3 -0.7**
ZAA0 IAmb IAmb 10 01 45.5
comp=Z,206nm,1.8s
ZAA0 IAMs_20 IAMs_20 10 27 06.0
comp=Z,18µm,20.0s
ZALV Zalesovo Beam 61.94 327 P **P** **10 01 26.9 -1.0**
ZALV Zalesovo Beam 61.94 327 P **P** **10 01 27.3 -0.7**
comp=Z,26nm,0.7s,baz=107,slow=6.6,SNR=87
ZALV S **S** **10 09 51.0 -0.5**
comp=Z,0.2nm,0.3s,baz=108,slow=9.5,SNR=1.4
ZALV LR LR 10 29 59.5
comp=Z,13µm,18.6s,baz=114,slow=38
ZALV PKPPKP **P'P'df** **10 30 38.2 -1.7**
comp=Z,3.5nm,0.9s,baz=302,slow=3.3,SNR=6.2
comp=Z,26nm,0.7s
SHLS Shalkode 61.94 314 *e*P **P** **10 01 26.6 -1.9**
baz=314
SHLS Shalkode 61.94 314 *e*P **P** **10 01 26.5 -1.9**
PDGK Podgornoye 61.96 314 P **P** **10 01 27.9 -0.6**
TIXI Tiksi 61.97 356 P **P** **10 01 27.8 0.0**
TIXI Tiksi 61.97 356 ⇑P **P** **10 01 26.1 -1.7**
TIXI Tiksi 61.97 356*c e*P **P** **10 01 27.9 +0.1**
TIXI Tiksi 61.97 356 LR LR 10 28 08.6
comp=Z,571nm,18.8s,baz=178,slow=36
SYZ Scrubby Hill 61.98 158 P **P** **10 01 29.4 +1.1**
KUDL Kundal 62.19 296 *e*P **P** **10 01 31.0 +0.9**
KHLU Kahalu`u 62.23 73 IAmb IAmb 10 01 32.6
comp=Z,103nm,1.0s
KHLU IAMs_20 IAMs_20 10 22 59.8
comp=Z,24µm,21.0s
UZB Uzynbulak 62.25 314 *e*P **P** **10 01 31.1 +0.6**
baz=314
UZB Uzynbulak 62.25 314 *e*P **P** **10 01 31.1 +0.6**
HUH Hualalai 62.28 73 IAMs_20 IAMs_20 10 23 11.2
comp=Z,23µm,20.0s
TRD Trivandrum 62.34 274 *e*P **P** **10 01 32.7 +1.3**
HPAH Hawaii Prepara 62.41 73 IAmb IAmb 10 01 39.4
comp=Z,163nm,1.2s
XMAS Kiritimati 62.44 93 IAMs_20 IAMs_20 10 22 23.6
comp=Z,22µm,20.0s
BHK Bhakra 62.49 300 *e*P **P** **10 01 33.0 +0.9**
KHU Kahuku 62.50 74 IAmb IAmb 10 02 03.0
comp=Z,188nm,1.2s
KHU IAMs_20 IAMs_20 10 23 06.0
comp=Z,21µm,21.0s
MWH Moku'aweowe 62.51 73 IAmb IAmb 10 01 39.3
comp=Z,144nm,1.0s
MWH IAMs_20 IAMs_20 10 23 18.3
comp=Z,21µm,21.0s
MLOA Mauna Loa Obse 62.53 73 IAMs_20 IAMs_20 10 23 18.7
comp=Z,22µm,20.0s
KPKS Kokpek 62.56 314 *e*P **P** **10 01 33.0 +0.4**
baz=314
KPKS *i*S **S** **10 10 01.5 +1.5**
baz=314
KPKS Kokpek 62.56 314 *e*P **P** **10 01 32.9 +0.4**
KPKS *i*S **S** **10 10 01.5 +1.5**
POHA Pohakuloa 62.57 73 P **P** **10 01 34.6 +1.5**
POHA IAmb IAmb 10 01 35.2
comp=Z,160nm,0.9s
POHA Pohakuloa 62.57 73 IAMs_20 IAMs_20 10 23 08.7
comp=Z,20µm,22.0s
POHA Pohakuloa 62.57 73 P **P** **10 01 34.8 +1.7**
POHA Pohakuloa 62.57 73 ⇑P **P** **10 01 34.7 +1.6**
HMH Humu'ula Sheep 62.62 73 P **P** **10 01 35.4 +1.8**
HMH IAMs_20 IAMs_20 10 23 21.0
comp=Z,26µm,22.0s
DHRM DHARAMSHALA 62.66 301 *e*P **P** **10 01 34.0 +0.5**
DHRM IAmb IAmb 10 01 39.0
comp=Z,163nm,0.9s
SATY Saty 62.67 313 *e*P **P** **10 01 34.1 +0.8**
baz=313
SATY *i*S **S** **10 10 03.0 +1.4**
baz=313
SATY Saty 62.67 313 *e*P **P** **10 01 34.1 +0.8**
SATY *i*S **S** **10 10 02.9 +1.4**
ZHN Zhinishke 62.68 313 *e*P **P** **10 01 33.9 +0.6**
baz=314
ZHN *e*S **S** **10 10 02.6 +1.1**
baz=314
ZHN Zhinishke 62.68 313 *e*P **P** **10 01 33.9 +0.6**
ZHN *e*S **S** **10 10 02.5 +1.1**
MLH Mauna Loa 62.71 73 IAMs_20 IAMs_20 10 23 12.5
comp=Z,24µm,20.0s
HLP Hilina Pali 62.79 73 IAMs_20 IAMs_20 10 23 15.6
comp=Z,26µm,21.0s
WRMHI West Rim 62.80 73 IAMs_20 IAMs_20 10 23 15.7
comp=Z,24µm,20.0s
SDHHI Sand Hill 62.80 73 IAMs_20 IAMs_20 10 23 14.9
comp=Z,23µm,20.0s
UWE Uwekahuna 62.80 73 IAMs_20 IAMs_20 10 23 14.9
comp=Z,22µm,20.0s
OBL Observatory Le 62.81 73 IAMs_20 IAMs_20 10 23 17.1
comp=Z,24µm,20.0s
NPH North Pit 62.81 73 IAMs_20 IAMs_20 10 23 15.2
comp=Z,23µm,20.0s
UWB Uwekahuna B 62.82 73 IAMs_20 IAMs_20 10 23 14.3
comp=Z,24µm,21.0s
RIM Rim 62.82 73 IAMs_20 IAMs_20 10 23 15.4
comp=Z,24µm,20.0s
SBLHI Steaming Bluff 62.83 73 IAMs_20 IAMs_20 10 23 16.5
comp=Z,23µm,20.0s
KKO Keanakako`i 62.83 73 IAMs_20 IAMs_20 10 23 15.6
comp=Z,23µm,19.0s
HATHI Halema'uma'u T 62.83 73 IAMs_20 IAMs_20 10 23 18.7
comp=Z,23µm,20.0s
BYL Byron's Ledge 62.83 73 IAMs_20 IAMs_20 10 23 18.7
comp=Z,24µm,21.0s
TARG Taragay, Kyrgy 62.84 312 IAmb IAmb 10 02 48.0
comp=Z,124nm,1.4s
FALS False Pass 62.85 33 P **P** **10 01 34.6 +0.6**
FALS False Pass 62.85 33 P **P** **10 01 33.9 -0.1**
baz=247
FALS S **S** **10 10 01.5 -1.4**
baz=247
PUH Pauahi 62.88 73 IAMs_20 IAMs_20 10 23 27.9
comp=Z,24µm,21.0s
STCH Steam Cracks 62.96 73 IAMs_20 IAMs_20 10 23 20.1
comp=Z,23µm,19.0s
NPOC North of Pu'u 62.98 73 IAMs_20 IAMs_20 10 23 20.5
comp=Z,23µm,21.0s
JCUZ Jacuzzi 62.98 73 IAMs_20 IAMs_20 10 23 33.7
comp=Z,24µm,21.0s
TDK Taldyqorghan 63.11 315 *e*P **P** **10 01 36.5 +0.4**
comp=Z,189nm,1.1s,baz=316
TDK *i*S **S** **10 10 08.7 +2.1**
baz=316
TDK LR LR 10 27 53.0
comp=Z,9µm,17.4s,baz=316
TDK Taldyqorghan 63.11 315 *e*P **P** **10 01 36.4 +0.4**
TDK *i*S **S** **10 10 08.7 +2.1**
TDK pmax pmax
comp=Z,189nm,1.1s
TDK MLR MLR
comp=Z,9µm,17.0s
THN Thein Dam 63.17 301 *e*P **P** **10 01 37.6 +1.0**
GAMB Gambell 63.44 22 P **P** **10 01 38.7 +1.0**
baz=235
GAMB S **S** **10 10 10.1 +0.2**
baz=235
MDOK Medeo 63.67 313 *e*P **P** **10 01 40.4 +0.5**
baz=313
MDOK *i*S **S** **10 10 15.6 +1.6**
baz=313
MDOK LR LR 10 28 07.6
baz=313
MDOK Medeo 63.67 313 P **P** **10 01 40.4 +0.5**
TNSS Tian-Shan 63.72 313 *e*P **P** **10 01 40.8 +0.2**
baz=313
TNSS Tian-Shan 63.72 313 *e*P **P** **10 01 40.7 +0.2**
AJM Ajmer 63.76 295 *e*P **P** **10 01 40.2 -0.5**
AAA Alma-Ata 63.77 313 *e*P **P** **10 01 41.1 +0.6**
baz=313
KSH Kashi 63.83 309 P **P** **10 01 44.6 +3.6**
KSH S **S** **10 10 19.0 +3.0**
KSH SS **SS** **10 14 29.4 +5.2**
KSH pmax pmax
comp=Z,40nm,0.8s
KSH pmax pmax
comp=Z,2µm,7.1s
KSH LR LR
comp=Z,27µm,22.7s
KSH LR LR
comp=Z,9µm,22.0s
KSH LR LR
comp=Z,25µm,18.6s
CHKK Chushkaly 63.85 314 *e*P **P** **10 01 41.1 +0.2**
baz=314
CHKK Chushkaly 63.85 314 *e*P **P** **10 01 41.1 +0.2**
M11K Mekoryuk 63.87 26 P **P** **10 01 40.6 0.0**
baz=242
M11K S **S** **10 10 11.2 -4.2**
baz=242
ULHL Ulahol 64.08 312 P **P** **10 01 42.9 +0.2**
SNR=40
NRN Naryn 64.12 311 IAmb IAmb 10 02 26.2
comp=Z,87nm,1.1s
KAD Karad 64.29 284 *e*P **P** **10 01 44.1 -0.2**
KAD IAmb IAmb 10 01 49.7
comp=Z,145nm,1.2s
KUU Kurty 64.32 314 *e*P **P** **10 01 45.0 +1.0**
comp=Z,216nm,1.2s,baz=314
KUU *i*S **S** **10 10 22.5 +0.7**
baz=314
KUU LR LR 10 28 23.2
comp=Z,12µm,17.3s,baz=314
KUU Kurty 64.32 314 *e*P **P** **10 01 45.0 +1.0**
KUU *i*S **S** **10 10 22.4 +0.7**
KUU pmax pmax
comp=Z,216nm,1.2s
KUU MLR MLR
comp=Z,12µm,17.0s
BOOM Boomskoye usch 64.34 312 IAmb IAmb 10 02 31.5
comp=Z,108nm,1.3s
KURK Kurchatov 64.42 322 P **P** **10 01 44.2 -0.3**
KURK Kurchatov 64.42 322 IAMs_20 IAMs_20 10 29 32.9
comp=Z,23µm,19.0s
KURK Kurchatov 64.42 322 P **P** **10 01 44.6 +0.1**
KURK Kurchatov 64.42 322 ⇑P **P** **10 01 44.3 -0.3**
KURK Kurchatov 64.42 322*c i*P **P** **10 01 44.2 -0.3**
KURK pmax pmax
comp=Z,129nm,0.7s
KURK MLR MLR
comp=Z,23µm,20.0s
KURBB Kurchatov Arra 64.45 322 P **P** **10 01 43.5 -1.2**
KURBB Kurchatov Arra 64.45 322 P **P** **10 01 44.4 -0.3**
comp=Z,58nm,0.8s,baz=104,slow=6.8,SNR=149
KURBB LR LR 10 29 58.8
comp=Z,21µm,21.9s,baz=111,slow=36
KURBB PKP2bc **P'P'df** **10 30 37.3 +1.4**
comp=Z,11nm,1.1s,baz=281,slow=3.4,SNR=11
comp=Z,58nm,0.8s
POO Poona 64.55 286 *e*P **P** **10 01 45.4 -0.6**
POO IAmb IAmb 10 01 51.4
comp=Z,336nm,1.4s
SDPT Sand Point 64.60 33 P **P** **10 01 45.5 0.0**
SDPT Sand Point 64.60 33 P **P** **10 01 48.5 +2.9**
SDPT Sand Point 64.60 33 P **P** **10 01 45.6 0.0**
baz=250,SNR=7.8
SDPT S **S** **10 10 22.4 -2.3**
baz=250
TKM2 Tokmak 2 64.67 313 P **P** **10 01 47.9 +1.3**
SNR=40
TKM2 Tokmak 2 64.67 313 P **P** **10 01 46.7 +0.1**
KZA Kyzart 64.78 312 P **P** **10 01 49.8 +2.2**
SNR=72
CHNA Chernabura Isl 64.91 34 P **P** **10 01 47.4 -0.2**
baz=251
CHNA S **S** **10 10 27.2 -1.2**
baz=251
KBK Karagaybulak 65.09 312 P **P** **10 01 50.7 +1.4**
SNR=26
M13K Dall Lake 65.15 27 P **P** **10 01 50.1 +1.1**
baz=245
CHMS Chumysh 65.29 313 P **P** **10 01 51.5 +1.1**
SNR=23
NIL Nilore 65.33 302 P **P** **10 01 50.8 -0.1**
NIL Nilore 65.33 302 P **P** **10 01 50.8 -0.1**
NIL pmax pmax
comp=Z,197nm,0.9s
UCH Uchtor 65.34 312 P **P** **10 01 53.3 +2.0**
SNR=73
S14K Fog Glacier 65.41 32 P **P** **10 01 51.5 +0.5**
baz=250
S14K S **S** **10 10 32.3 -2.6**
baz=250
AAK Ala-Archa 65.42 312 P **P** **10 01 52.3 +0.9**
SNR=23
AAK Ala-Archa 65.42 312 P **P** **10 01 52.1 +0.7**
AAK Ala-Archa 65.42 312 IAMs_20 IAMs_20 10 30 41.3
comp=Z,16µm,20.0s
AAK Ala-Archa 65.42 312 *i*P **P** **10 01 51.7 +0.2**
SNR=5.7
AAK Ala-Archa 65.42 312 P **P** **10 01 52.6 +1.2**
AAK Ala-Archa 65.42 312 ⇑P **P** **10 01 52.5 +1.1**
AAK Ala-Archa 65.42 312 P **P** **10 01 52.1 +0.7**
AAK pmax pmax
comp=Z,40nm,1.1s
AAK MLR MLR
comp=Z,16µm,20.0s
AAK Ala-Archa 65.42 312 P **P** **10 01 51.9 +0.5**
comp=Z,18nm,0.8s,baz=129,slow=4.7,SNR=41
AAK LR LR 10 31 04.8
comp=Z,13µm,21.8s,baz=90,slow=37
comp=Z,18nm,0.8s
SGDS Sogindy 65.46 313 *e*P **P** **10 01 52.2 +0.6**
baz=313
SGDS Sogindy 65.46 313 *e*P **P** **10 01 52.1 +0.6**
USP Ospenovka 65.52 313 P **P** **10 01 52.7 +0.8**
SNR=21
O14K Tigyukauivet M 65.64 29 P **P** **10 01 52.4 +0.1**
O14K IAmb IAmb 10 01 54.5
comp=Z,211nm,1.6s
O14K Tigyukauivet M 65.64 29 P **P** **10 01 52.9 +0.7**

O14K S **S** **10 10 36.1 -1.2**
baz=247
N14K **Kuskokwak Cree** **65.71 28** P **P** **10 01 53.3 +0.6**
baz=247
N14K S **S** **10 10 36.5 -1.6**
baz=247
TNA **Tin City** **65.78 21** P **P** **10 01 53.9 +0.9**
baz=238
TNA S **S** **10 10 38.2 -0.6**
baz=238
TNA **Tin City** **65.78 21** ⇑P **P** **10 01 53.8 +0.7**
L14K **Kuka Creek** **65.84 26** IAMs_20 IAMs_20 10 24 24.9
comp=Z,16µm,21.0s
L14K **Kuka Creek** **65.84 26** P **P** **10 01 54.6 +1.1**
baz=245
L14K S **S** **10 10 40.9 +1.2**
baz=245
M14K **Bethel** **65.92 27** IAMs_20 IAMs_20 10 25 38.9
comp=Z,18µm,22.0s
M14K **Bethel** **65.92 27** P **P** **10 01 55.2 +1.2**
baz=246,SNR=19
M14K S **S** **10 10 39.6 -1.0**
baz=246
AML **Almayashu** **65.93 312** P **P** **10 01 56.5 +1.5**
SNR=55
AML **Almayashu** **65.93 312** P **P** **10 01 55.0 0.0**
EKS2 **Erkin-Say** **65.95 312** P **P** **10 01 56.0 +1.2**
SNR=39
CHGN **Chignik** **66.02 32** IAmb IAmb 10 02 30.2
comp=Z,148nm,1.3s
CHGN **Chignik** **66.02 32** P **P** **10 01 54.5 -0.2**
baz=251
CHGN S **S** **10 10 39.1 -2.9**
baz=251
J14K **Nanvaranak Lak** **66.08 25** IAMs_20 IAMs_20 10 27 15.3
comp=Z,22µm,21.0s
J14K **Nanvaranak Lak** **66.08 25** P **P** **10 01 55.9 +0.9**
baz=244
J14K S **S** **10 10 43.6 +1.0**
baz=244
BTLS **Baital** **66.14 315** *i* P **P** **10 01 56.2 +0.3**
baz=315
BTLS **Baital** **66.14 315** *i* P **P** **10 01 56.1 +0.3**
ANM **Nome** **66.21 23** P **P** **10 01 57.0 +1.1**
baz=241,SNR=11
ANM S **S** **10 10 43.8 -0.3**
baz=241
MCQ **Macquarie Isla** **66.21 168** P **P** **10 01 56.9 +1.1**
baz=66,SNR=4.0
HMDM **Hanimaadhoo** **66.27 273** P **P** **10 01 58.7 +1.6**
O15K **Ungalikthiuk R** **66.30 29** P **P** **10 01 56.9 +0.4**
baz=249
O15K S **S** **10 10 45.0 -0.4**
baz=249
F14K **Arctic Creek** **66.31 21** P **P** **10 01 57.9 +1.4**
baz=240
F14K S **S** **10 10 45.6 +0.4**
baz=240
CTZ **Chatham Island** **66.34 147** P **P** **10 01 58.5 +1.5**
M15K **Kasigluk River** **66.47 27** P **P** **10 01 58.0 +0.5**
baz=247
M15K S **S** **10 10 46.0 -1.3**
baz=247
L15K **Ungalak Mounta** **66.50 26** P **P** **10 01 58.4 +0.6**
baz=246,SNR=18
L15K S **S** **10 10 46.3 -1.5**
baz=246
N15K **Kwethluk River** **66.54 28** IAmb IAmb 10 02 00.4
comp=Z,240nm,1.5s
N15K IAMs_20 IAMs_20 10 27 47.4
comp=Z,25µm,21.0s
N15K **Kwethluk River** **66.54 28** P **P** **10 01 58.9 +0.9**
baz=248,SNR=9.6
N15K S **S** **10 10 48.2 -0.1**
baz=248
RAR **Rarotonga** **66.63 118** IAMs_20 IAMs_20 10 26 34.3
comp=Z,16µm,20.0s
RAR **Rarotonga** **66.63 118** LR LR 10 26 55.9
comp=Z,11µm,19.7s,baz=287,slow=32
K15K **Wolf Creek Mou** **66.74 26** IAMs_20 IAMs_20 10 25 14.0
comp=Z,18µm,22.0s
K15K **Wolf Creek Mou** **66.74 26** P **P** **10 02 00.8 +1.5**
baz=246
K15K S **S** **10 10 50.1 -0.5**
baz=246
R16K **Pilot Point** **66.86 31** P **P** **10 02 00.4 +0.3**
baz=251
G15K **Niukluk** **66.92 22** P **P** **10 02 01.1 +0.7**
baz=242
G15K S **S** **10 10 51.8 -0.8**
baz=242
F15K **North Star Dit** **67.03 22** P **P** **10 02 02.0 +1.0**
baz=241
F15K S **S** **10 10 53.7 -0.3**
baz=241
P16K **Nushagak River** **67.13 30** P **P** **10 02 02.8 +1.0**
baz=250,SNR=8.8
N16K **Nishlik Lake** **67.26 28** P **P** **10 02 03.7 +1.0**
baz=249
N16K S **S** **10 10 58.7 +1.6**
baz=249
O16K **Kokwok River B** **67.27 29** P **P** **10 02 03.2 +0.5**
baz=250
O16K S **S** **10 10 58.2 +1.0**
baz=250
CHIR **Chirikof Islan** **67.37 33** P **P** **10 02 04.0 +0.7**
baz=254
CHIR S **S** **10 10 54.6 -3.7**
baz=254
M16K **Timber Creek** **67.37 27** IAmb IAmb 10 02 05.8
comp=Z,170nm,1.5s
M16K IAMs_20 IAMs_20 10 26 35.5
comp=Z,23µm,20.0s
M16K **Timber Creek** **67.37 27** P **P** **10 02 04.2 +0.9**
baz=249,SNR=11
M16K S **S** **10 10 55.9 -2.5**
baz=249
L16K **Owhat River** **67.40 27** IAmb IAmb 10 02 05.8
comp=Z,142nm,1.3s
L16K IAMs_20 IAMs_20 10 26 35.1
comp=Z,18µm,22.0s
L16K **Owhat River** **67.40 27** P **P** **10 02 04.2 +0.7**
baz=248,SNR=20
L16K S **S** **10 10 55.4 -3.1**
baz=248
H16K **Elim** **67.44 23** P **P** **10 02 04.5 +0.8**
baz=244,SNR=18
H16K S **S** **10 10 59.8 +0.8**
baz=244
R17K **Ugashik Creek** **67.49 31** IAMs_20 IAMs_20 10 28 50.7
comp=Z,25µm,20.0s
R17K **Ugashik Creek** **67.49 31** P **P** **10 02 04.4 +0.2**
baz=252
R17K S **S** **10 10 56.0 -3.8**
baz=252
J16K **Anvik River** **67.53 25** IAMs_20 IAMs_20 10 29 01.5
comp=Z,20µm,19.0s
J16K **Anvik River** **67.53 25** P **P** **10 02 05.6 +1.3**
baz=246
J16K S **S** **10 11 01.5 +1.4**
baz=246
Q16K **King Salmon** **67.67 30** P **P** **10 02 04.6 -0.6**
baz=252
Q16K S **S** **10 10 58.9 -3.0**
baz=252
G16K **Koyuk River** **67.73 22** P **P** **10 02 06.2 +0.7**
baz=244
G16K S **S** **10 10 59.9 -2.6**
baz=244
I17K **Unalakleet** **67.74 24** IAMs_20 IAMs_20 10 30 16.0
comp=Z,18µm,20.0s
I17K **Unalakleet** **67.74 24** P **P** **10 02 06.9 +1.3**
baz=246,SNR=40
I17K S **S** **10 11 02.2 -0.3**
baz=246
DZA **Taraz** **67.76 312** *e*P **P** **10 02 06.5 +0.2**
baz=312
DZA **Taraz** **67.76 312** *e*P **P** **10 02 06.4 +0.2**
O17K **Koliganek Bris** **67.81 29** P **P** **10 02 06.8 +0.7**
baz=251,SNR=23
O17K S **S** **10 11 02.7 -0.9**
baz=251
BTK **Batken** **67.83 309** IAmb IAmb 10 02 33.3
comp=Z,88nm,1.1s
OTUK **Ortayu** **67.86 318** P **P** **10 02 06.5 -0.2**
Q17K **Contact Creek** **67.93 31** P **P** **10 02 06.7 -0.4**
baz=253
Q17K S **S** **10 11 03.5 -1.9**
baz=253
P17K **Kvichak River** **67.94 30** P **P** **10 02 06.5 -0.4**
baz=252
P17K S **S** **10 11 01.2 -4.0**
baz=252
BRZS **Berezniki** **67.95 320** *e*P **P** **10 02 07.4 +0.2**
baz=320
BRZS **Berezniki** **67.95 320** *e*P **P** **10 02 07.4 +0.2**
N17K **Nushagak Hills** **68.02 28** IAmb IAmb 10 02 10.4
comp=Z,210nm,1.6s
N17K IAMs_20 IAMs_20 10 28 43.8
comp=Z,18µm,20.0s
N17K **Nushagak Hills** **68.02 28** P **P** **10 02 08.4 +1.0**
baz=251
N17K S **S** **10 11 05.7 -0.3**
baz=251
C16K **Lisburne Hills** **68.06 19** P **P** **10 02 08.0 +0.5**
baz=240,SNR=29
C16K S **S** **10 11 07.2 +0.9**
baz=240
L17K **Donlin** **68.07 26** P **P** **10 02 09.2 +1.5**
baz=249
L17K S **S** **10 11 06.1 -0.6**
baz=249
M17K **Holitna River** **68.20 27** IAMs_20 IAMs_20 10 26 01.6
comp=Z,20µm,22.0s
M17K **Holitna River** **68.20 27** P **P** **10 02 09.8 +1.3**
baz=250
M17K S **S** **10 11 06.3 -1.9**
baz=250
K17K **Iditarod** **68.28 26** IAMs_20 IAMs_20 10 26 00.9
comp=Z,17µm,20.0s
K17K **Iditarod** **68.28 26** P **P** **10 02 10.4 +1.4**
baz=249
K17K S **S** **10 11 10.9 +1.8**
baz=249
SII **Sitkinak Islan** **68.34 33** P **P** **10 02 10.1 +0.6**
SII **Sitkinak Islan** **68.34 33** P **P** **10 02 13.0 +3.5**
SII **Sitkinak Islan** **68.34 33** P **P** **10 02 10.3 +0.7**
baz=255
KK31 **Karatay Array** **68.39 312** P **P** **10 02 10.7 +0.6**
KK31 IAmb IAmb 10 02 24.1
comp=Z,163nm,1.6s
KK31 **Karatay Array** **68.39 312** P **P** **10 02 10.7 +0.6**
KK31 pmax pmax
comp=Z,163nm,1.6s
KKAR **Karatay Array** **68.39 312** P **P** **10 02 10.3 +0.2**
KKAR **Karatay Array** **68.39 312** ⇑P **P** **10 02 11.0 +0.9**
KKAR **Karatay Array** **68.39 312** P **P** **10 02 10.3 +0.2**
G17K **Kiwalik Mounta** **68.42 23** P **P** **10 02 11.0 +1.1**
baz=245
G17K S **S** **10 11 09.4 -1.3**
baz=245
R18K **Karluk** **68.47 32** P **P** **10 02 10.6 +0.3**
baz=254
R18K S **S** **10 11 10.3 -1.2**
baz=254
H17K **Granite Mounta** **68.47 23** P **P** **10 02 11.0 +0.8**
baz=246
H17K S **S** **10 11 12.7 +1.3**
baz=246
Q18K **Katmai Hardscr** **68.49 31** P **P** **10 02 10.1 -0.4**
baz=253,SNR=10.0
Q18K S **S** **10 11 08.7 -3.3**
baz=253
D17K **Noatak River** **68.52 20** P **P** **10 02 11.8 +1.4**
baz=242
D17K S **S** **10 11 14.1 +2.3**
baz=242
P18K **Big Mountain,** **68.59 30** P **P** **10 02 11.0 -0.1**
baz=253
P18K S **S** **10 11 11.1 -2.0**
baz=253
F17K **Baldwin Pennin** **68.60 22** P **P** **10 02 12.1 +1.2**
baz=244,SNR=52
F17K S **S** **10 11 12.9 +0.1**
baz=244
N18K **Kilae Creek** **68.67 28** IAMs_20 IAMs_20 10 28 42.8
comp=Z,21µm,21.0s
N18K **Kilae Creek** **68.67 28** P **P** **10 02 12.6 +1.0**
baz=252
N18K S **S** **10 11 13.9 0.0**
baz=252
E17K **Hotham Inlet** **68.67 21** P **P** **10 02 12.9 +1.5**
baz=244,SNR=76
E17K S **S** **10 11 13.9 +0.3**
baz=244
O18K **Koktuh Hills** **68.74 29** P **P** **10 02 12.7 +0.7**
baz=253,SNR=12
O18K S **S** **10 11 14.3 -0.4**
baz=253
RDOG **Red Dog Mine** **68.75 20** P **P** **10 02 13.2 +1.3**
baz=242,SNR=38
RDOG S **S** **10 11 14.4 -0.2**
baz=242
KBU **Kabul Universi** **68.80 303** P **P** **10 02 11.0 -2.1**
L18K **Granite Mounta** **68.81 27** IAMs_20 IAMs_20 10 28 04.4
comp=Z,19µm,21.0s
L18K **Granite Mounta** **68.81 27** P **P** **10 02 13.9 +1.5**
baz=250
L18K S **S** **10 11 16.5 +1.1**
baz=250
C17K **DeLong Mountai** **68.86 19** P **P** **10 02 13.7 +1.1**
baz=242,SNR=23
C17K S **S** **10 11 14.5 -1.4**
baz=242
KBL **Kabul** **68.87 303** P **P** **10 02 12.7 -0.9**
KBL IAmb IAmb 10 03 00.4
comp=Z,83nm,1.1s
KBL **Kabul** **68.87 303** P **P** **10 02 14.4 +0.8**
SNR=29
KBL **Kabul** **68.87 303** P **P** **10 02 12.7 -0.9**
KBL pmax pmax
comp=Z,83nm,1.1s
SVW2 **Sparrevohn** **68.95 28** P **P** **10 02 13.2 0.0**
SVW2 IAmb IAmb 10 02 16.1
comp=Z,203nm,1.5s
SVW2 IAMs_20 IAMs_20 10 27 44.6
comp=Z,18µm,21.0s
SVW2 **Sparrevohn** **68.95 28** P **P** **10 02 15.3 +2.1**
M18K **Stony River** **68.96 28** P **P** **10 02 14.8 +1.5**
baz=252
M18K S **S** **10 11 18.0 +0.8**
baz=252
CHM **Chimkent** **68.97 311** *e*P **P** **10 02 14.2 +0.4**
baz=312
CHM **Chimkent** **68.97 311** *e*P **P** **10 02 14.2 +0.4**
OHAK **Old Harbor** **68.99 32** IAmb IAmb 10 02 15.9
comp=Z,169nm,1.5s
OHAK IAMs_20 IAMs_20 10 29 53.3
comp=Z,21µm,20.0s
OHAK **Old Harbor** **68.99 32** P P 10 02 18.4 +4.9
OHAK **Old Harbor** **68.99 32** P **P** **10 02 14.6 +1.1**
baz=255
OHAK S **S** **10 11 18.2 +0.5**
baz=255
H18K **Honhosa River** **69.16 23** IAMs_20 IAMs_20 10 31 20.6
comp=Z,14µm,19.0s
H18K **Honhosa River** **69.16 23** P **P** **10 02 15.6 +1.1**
baz=248,SNR=37
H18K S **S** **10 11 18.7 -0.9**
baz=248
J18K **Innoko River** **69.22 25** IAMs_20 IAMs_20 10 26 40.6
comp=Z,19µm,22.0s
J18K **Innoko River** **69.22 25** P **P** **10 02 15.6 +0.7**
baz=250
J18K S **S** **10 11 19.6 -0.7**
baz=250
Q19K **Cape Douglas,** **69.25 30** IAMs_20 IAMs_20 10 29 17.1
comp=Z,18µm,21.0s
Q19K **Cape Douglas,** **69.25 30** P **P** **10 02 14.7 -0.4**
baz=254
Q19K S **S** **10 11 17.5 -3.4**
baz=254
E18K **Tukpahlearik C** **69.25 21** P **P** **10 02 16.3 +1.3**
baz=245,SNR=74
E18K S **S** **10 11 20.4 -0.1**
baz=245
O19K **Port Alsworth** **69.27 29** IAmb IAmb 10 02 17.5
comp=Z,201nm,1.5s
O19K **Port Alsworth** **69.27 29** P **P** **10 02 15.8 +0.6**
baz=253,SNR=12
O19K S **S** **10 11 18.2 -2.7**
baz=253
G18K **Tagagawik** **69.34 23** P **P** **10 02 16.7 +1.1**
baz=247
G18K S **S** **10 11 20.9 -0.7**
baz=247
TTA **Tatalina** **69.34 26** IAmb IAmb 10 02 18.3
comp=Z,185nm,1.5s
TTA IAMs_20 IAMs_20 10 26 35.5
comp=Z,16µm,22.0s
TTA **Tatalina** **69.34 26** P **P** **10 02 18.0 +2.3**
TTA **Tatalina** **69.34 26** P **P** **10 02 16.6 +0.8**
baz=251,SNR=28
TTA S **S** **10 11 21.0 -0.9**
baz=251
TTA **Tatalina** **69.34 26** ⇓P **P** **10 02 16.0 +0.3**
N19K **Bonanza Creek** **69.37 28** IAMs_20 IAMs_20 10 28 53.3
comp=Z,18µm,20.0s
N19K **Bonanza Creek** **69.37 28** P **P** **10 02 17.1 +1.2**
baz=253,SNR=20
N19K S **S** **10 11 23.5 +1.1**
baz=253
KDAK **Kodiak Island** **69.49 32** P **P** **10 02 17.4 +0.8**
KDAK IAmb IAmb 10 02 36.4
comp=Z,176nm,1.4s
KDAK **Kodiak Island** **69.49 32** P **P** **10 02 17.6 +1.0**
baz=256
KDAK S **S** **10 11 23.1 -0.6**
baz=256
KDAK **Kodiak Island** **69.49 32** ⇓P **P** **10 02 17.9 +1.3**
KDAK **Kodiak Island** **69.49 32***ce*P **P** **10 02 17.0 +0.4**
KDAK pmax pmax
comp=Z,218nm,1.4s
C18K **Utukok River** **69.58 19** P **P** **10 02 18.1 +0.9**
baz=244,SNR=48
C18K S **S** **10 11 25.4 +0.8**
baz=244
GCSA **Galena City Sc** **69.60 24** P **P** **10 02 18.0 +0.9**
baz=249,SNR=58
GCSA S **S** **10 11 23.7 -0.9**
baz=249
L19K **White Mountain** **69.61 27** IAmb IAmb 10 02 20.1
comp=Z,245nm,1.4s
L19K IAMs_20 IAMs_20 10 27 55.0
comp=Z,23µm,21.0s
L19K **White Mountain** **69.61 27** P **P** **10 02 18.6 +1.3**
baz=252,SNR=36
L19K S **S** **10 11 25.5 +0.5**
baz=252
P19K **Oil Pt** **69.65 30** P **P** **10 02 17.9 +0.3**
baz=255
P19K S **S** **10 11 24.6 -0.9**
baz=255
B18K **Kokolik River** **69.71 19** P **P** **10 02 19.5 +1.7**
baz=243,SNR=47
B18K S **S** **10 11 27.3 +1.5**
baz=243
ILSW **Iliamna Southw** **69.78 29** IAmb IAmb 10 02 19.7
comp=Z,193nm,1.6s
Q20K **Shuyak Island** **69.80 31** P **P** **10 02 18.6 +0.1**
baz=256
Q20K S **S** **10 11 26.1 -1.1**
baz=256
SYI **Shuyak Island** **69.80 31** IAMs_20 IAMs_20 10 29 43.6
comp=Z,25µm,21.0s
J19K **Poorman** **69.86 25** IAMs_20 IAMs_20 10 30 23.4
comp=Z,17µm,20.0s
J19K **Poorman** **69.86 25** P **P** **10 02 20.1 +1.3**
baz=251
J19K S **S** **10 11 28.8 +1.0**
baz=251
BVA0 **Borovoye Array** **69.92 323** *i* P **P** **10 02 19.1 -0.3**
BVAR **Borovoye Array** **69.92 323** P **P** **10 02 19.1 -0.3**
comp=Z,77nm,0.7s,baz=106,slow=7.4,SNR=222
BVAR S **S** **10 11 26.8 -2.1**
comp=Z,1.6nm,1.0s,baz=99,slow=8.9,SNR=1.6
BVAR LR LR 10 35 19.0
comp=Z,10µm,18.3s,baz=95,slow=38
comp=Z,77nm,0.7s
BRVK **Borovoye** **69.99 323** P **P** **10 02 19.1 -0.7**
BRVK IAmb IAmb 10 02 22.6
comp=Z,94nm,0.8s
BRVK **Borovoye** **69.99 323** IAMs_20 IAMs_20 10 32 36.0
comp=Z,16µm,20.0s
BRVK **Borovoye** **69.99 323** P **P** **10 02 19.7 -0.1**
BRVK **Borovoye** **69.99 323** ⇑P **P** **10 02 19.5 -0.3**
BRVK **Borovoye** **69.99 323***ce*P **P** **10 02 19.7 -0.1**
BRVK pmax pmax
comp=Z,115nm,0.9s
BRVK MLR MLR
comp=Z,15µm,18.0s
G19K **Purcell Mounta** **70.02 23** P **P** **10 02 20.9 +1.1**
baz=249,SNR=148
G19K S **S** **10 11 31.0 +1.3**
baz=249
F19K **Shaleruckik Mo** **70.03 22** IAmb IAmb 10 02 22.1
comp=Z,122nm,1.4s
F19K **Shaleruckik Mo** **70.03 22** P **P** **10 02 20.4 +0.7**
baz=248
F19K S **S** **10 11 29.8 +0.2**
baz=248
H19K **Roundabout Mou** **70.05 23** P **P** **10 02 21.4 +1.5**
baz=250
H19K S **S** **10 11 30.0 +0.1**
baz=250
O20K **Slope Mountain** **70.06 29** P **P** **10 02 21.8 +1.7**
baz=255
L20K **Farewell, AK** **70.14 27** P **P** **10 02 21.7 +1.1**
baz=253
L20K S **S** **10 11 31.7 +0.5**
baz=253
M20K **Styx River** **70.30 28** IAMs_20 IAMs_20 10 28 27.9
comp=Z,22µm,21.0s
M20K **Styx River** **70.30 28** P **P** **10 02 23.2 +1.6**
baz=254
M20K S **S** **10 11 33.2 0.0**
baz=254
C19K **Lookout Ridge** **70.31 19** IAMs_20 IAMs_20 10 32 43.8
comp=Z,14µm,20.0s
C19K **Lookout Ridge** **70.31 19** P **P** **10 02 23.0 +1.5**
baz=245,SNR=102
C19K S **S** **10 11 33.3 +0.3**
baz=245
K20K **Telida** **70.31 26** P **P** **10 02 23.2 +1.6**
baz=252
K20K S **S** **10 11 34.5 +1.3**
baz=252
A19K **Wainwright** **70.32 18** P **P** **10 02 22.9 +1.4**
baz=243
A19K S **S** **10 11 33.9 +1.0**
baz=243
HOM **Homer** **70.43 30** P **P** **10 02 22.2 -0.2**
baz=256
E19K **Redstone River** **70.46 21** P **P** **10 02 23.9 +1.5**
baz=248
E19K S **S** **10 11 33.0 -1.7**
baz=248
J20K **Nowinta River** **70.53 25** IAMs_20 IAMs_20 10 32 12.9
comp=Z,16µm,20.0s
J20K **Nowinta River** **70.53 25** P **P** **10 02 24.7 +1.7**
baz=252
J20K S **S** **10 11 35.8 +0.2**
baz=252
N20K **Mount Spurr** **70.54 28** P **P** **10 02 23.6 +0.4**
baz=255
N20K S **S** **10 11 33.6 -2.5**
baz=255
D19K **Kuna River** **70.55 20** IAMs_20 IAMs_20 10 30 48.2
comp=Z,15µm,20.0s
D19K **Kuna River** **70.55 20** P **P** **10 02 24.4 +1.4**
baz=247
D19K S **S** **10 11 35.9 +0.1**
baz=247
I20K **Naaghedeneel** **70.59 24** IAMs_20 IAMs_20 10 31 05.8
comp=Z,18µm,20.0s
I20K **Naaghedeneel** **70.59 24** P **P** **10 02 25.0 +1.8**
baz=252
I20K S **S** **10 11 37.9 +1.7**
baz=252
H20K **Anotleneega Mo** **70.65 24** P **P** **10 02 25.1 +1.4**
baz=251
H20K S **S** **10 11 38.3 +1.3**
baz=251
BRLK **Bradley Lake** **70.83 30** IAmb IAmb 10 02 26.2
comp=Z,308nm,1.6s
F20K **Avaraart Lake** **70.86 22** P **P** **10 02 26.5 +1.7**
baz=250,SNR=113
F20K S **S** **10 11 40.7 +1.4**
baz=250
BRSE **Bradley Lake S** **70.89 30** P **P** **10 02 25.2 0.0**
baz=257,SNR=12
BRSE S **S** **10 11 39.2 -0.9**
baz=257

CAPN Captain Cook N 70.93 29 P P 10 02 26.6 +1.2
baz=256
PPLA Purkeypile 71.00 27 P P 10 02 26.6 +0.6
baz=254,SNR=17
PPLA S S 10 11 39.8 -1.6
baz=254
SKT Skwentna 71.06 28 IAmb IAmb 10 02 27.6
comp=Z,156nm,1.3s
SKT IAMs_20 IAMs_20 10 28 52.8
comp=Z,20µm,21.0s
SKT Skwentna 71.06 28 P P 10 02 26.0 -0.2
baz=255,SNR=32
SKT S S 10 11 38.4 -3.5
baz=255
E20K Nigu River 71.12 21 P P 10 02 27.8 +1.3
baz=249,SNR=119
E20K S S 10 11 42.3 -0.2
baz=249
D20K Etivluk River 71.14 20 P P 10 02 27.8 +1.2
baz=248
D20K S S 10 11 43.0 +0.3
baz=248
CAST Castle Rocks 71.19 26 IAmb IAmb 10 02 29.4
comp=Z,259nm,1.3s
CAST IAMs_20 IAMs_20 10 29 27.3
comp=Z,17µm,21.0s
CAST Castle Rocks 71.19 26 P P 10 02 27.6 +0.7
baz=254,SNR=60
CAST S S 10 11 43.9 +0.5
baz=254
CHUM Lake Minchumin 71.22 26 P P 10 02 28.8 +1.7
baz=254,SNR=50
CHUM S S 10 11 44.6 +1.0
baz=254
SUA Susitna One 71.29 28 IAmb IAmb 10 02 29.1
comp=Z,170nm,1.3s
SUA Susitna One 71.29 28 P P 10 02 27.6 -0.2
baz=256,SNR=18
SUA S S 10 11 45.1 +0.3
baz=256
B20K Meade River 71.45 19 P P 10 02 29.7 +1.3
baz=247
B20K S S 10 11 47.2 +1.1
baz=247
G21K Allakaket 71.51 23 P P 10 02 30.3 +1.5
baz=252
G21K S S 10 11 46.4 -0.6
baz=252
H21K Melozitna Rive 71.52 24 IAMs_20 IAMs_20 10 32 53.0
comp=Z,17µm,20.0s
H21K Melozitna Rive 71.52 24 P P 10 02 30.4 +1.5
baz=253
H21K S S 10 11 47.0 -0.1
baz=253
O22K Cooper Landing 71.55 29 IAMs_20 IAMs_20 10 27 58.0
comp=Z,17µm,22.0s
O22K Cooper Landing 71.55 29 P P 10 02 29.2 +0.1
baz=258,SNR=22
O22K S S 10 11 45.5 -2.1
baz=258
SEW Seward 71.61 30 P P 10 02 29.8 +0.4
baz=258,SNR=9.7
SEW S S 10 11 48.1 0.0
baz=258
M22K Willow 71.65 28 P P 10 02 29.2 -0.5
baz=257,SNR=18
RC01 Rabbit Creek A 71.68 29 IAMs_20 IAMs_20 10 31 16.3
comp=Z,16µm,21.0s
RC01 Rabbit Creek A 71.68 29 P P 10 02 29.8 -0.2
baz=257,SNR=17
RC01 S S 10 11 48.0 -1.1
baz=257
I21K Tanana 71.72 24 IAMs_20 IAMs_20 10 31 40.2
comp=Z,18µm,20.0s
I21K Tanana 71.72 24 P P 10 02 31.6 +1.5
baz=254,SNR=82
I21K S S 10 11 50.0 +0.6
baz=254
KTH Kantishna Hill 71.73 26 IAMs_20 IAMs_20 10 27 59.5
comp=Z,18µm,21.0s
CUT Chulitna 71.73 27 IAMs_20 IAMs_20 10 29 58.8
comp=Z,21µm,22.0s
CUT Chulitna 71.73 27 P P 10 02 30.0 -0.2
baz=256,SNR=9.1
CUT S S 10 11 46.6 -3.0
baz=256
F21K Alatna River 71.74 22 P P 10 02 31.4 +1.1
baz=252
F21K S S 10 11 50.7 +1.1
baz=252
BPAW Bear Paw Mtn. 71.84 26 IAMs_20 IAMs_20 10 28 12.4
comp=Z,15µm,22.0s
BPAW Bear Paw Mtn. 71.84 26 P P 10 02 31.8 +0.9
baz=255,SNR=83
BPAW S S 10 11 47.8 -3.1
baz=255
C21K Knifeblade Rid 71.92 20 P P 10 02 32.5 +1.2
baz=250,SNR=42
C21K S S 10 11 51.7 +0.2
baz=250
E21K Killik River 71.96 21 P P 10 02 32.9 +1.4
baz=251,SNR=36
E21K S S 10 11 50.8 -1.3
baz=251
TRF Thorofare Moun 71.98 26 IAmb IAmb 10 02 33.5
comp=Z,270nm,1.4s
TRF IAMs_20 IAMs_20 10 27 56.1
comp=Z,20µm,22.0s
TRF Thorofare Moun 71.98 26 P P 10 02 31.9 0.0
baz=256,SNR=39
TRF S S 10 11 50.3 -2.4
baz=256
PMR Palmer 72.08 28 IAmb IAmb 10 02 33.7
comp=Z,184nm,1.4s
PMR Palmer 72.08 28 P P 10 02 34.3 +2.0
PMR Palmer 72.08 28 P P 10 02 32.5 +0.2
baz=258,SNR=16
PMR S S 10 11 50.4 -3.2
baz=258
A21K Barrow 72.13 18 P P 10 02 33.3 +0.9
baz=248
A21K S S 10 11 54.2 +0.3
baz=248
B21K Ikpikpuk River 72.14 20 P P 10 02 33.7 +1.2
baz=250
B21K S S 10 11 51.9 -2.1
baz=250
H22K Ishtalitna Cre 72.16 24 P P 10 02 33.8 +1.1
baz=254
H22K S S 10 11 54.9 +0.5
baz=254
MLY Manley 72.18 25 IAMs_20 IAMs_20 10 31 54.4
comp=Z,13µm,20.0s
MLY Manley 72.18 25 P P 10 02 33.9 +0.9
baz=255,SNR=136
MLY S S 10 11 53.9 -0.9
baz=255
GHO Glory Hole Cre 72.21 28 IAmb IAmb 10 02 47.5
comp=Z,108nm,1.0s
GHO IAMs_20 IAMs_20 10 28 42.3
comp=Z,17µm,22.0s
PWL Port Wells 72.30 29 IAMs_20 IAMs_20 10 31 02.8
comp=Z,14µm,21.0s
PWL Port Wells 72.30 29 P P 10 02 34.2 +0.5
baz=259,SNR=13
PWL S S 10 11 54.0 -2.2
baz=259
F22K John River 72.31 22 P P 10 02 35.5 +1.8
baz=253,SNR=196
F22K S S 10 11 56.4 +0.3
baz=253
KNK Knik Glacier 72.35 29 IAmb IAmb 10 02 36.1
comp=Z,260nm,1.3s
KNK IAMs_20 IAMs_20 10 31 35.1
comp=Z,16µm,21.0s
KNK Knik Glacier 72.35 29 P P 10 02 34.8 +0.8
baz=258,SNR=18
KNK S S 10 11 54.9 -1.9
baz=258
G22K Bettles 72.39 23 P P 10 02 35.4 +1.3
baz=254
G22K S S 10 11 58.0 +1.1
baz=254
SML Sawmill 72.49 28 IAMs_20 IAMs_20 10 29 49.8
comp=Z,14µm,20.0s
SML Sawmill 72.49 28 P P 10 02 35.9 +1.0
baz=258,SNR=27
SML S S 10 11 55.7 -2.8
baz=258
BWN Browne 72.50 26 IAMs_20 IAMs_20 10 28 45.9
comp=Z,15µm,21.0s
A22K Sinclair Lake 72.51 18 P P 10 02 36.0 +1.4
baz=249
A22K S S 10 11 57.6 -0.6
baz=249
D22K Ayikyak River 72.54 20 IAmb IAmb 10 02 38.2
comp=Z,254nm,1.2s
D22K IAMs_20 IAMs_20 10 31 29.3
comp=Z,15µm,20.0s
D22K Ayikyak River 72.54 20 P P 10 02 36.4 +1.4
baz=252
D22K S S 10 11 58.4 -0.4
baz=252
P23K Montague Islan 72.59 30 P P 10 02 36.0 +0.6
baz=260
RND Reindeer 72.59 26 IAmb IAmb 10 02 37.0
comp=Z,186nm,1.2s
RND IAMs_20 IAMs_20 10 30 34.4
comp=Z,16µm,21.0s
WAT1 Susitna Watana 72.61 27 P P 10 02 35.6 +0.1
baz=258
WAT1 S S 10 11 57.0 -2.7
baz=258
E22K Anaktuvuk Pass 72.62 21 P P 10 02 37.0 +1.4
baz=253
E22K S S 10 11 57.7 -2.1
baz=253
MCK McKinley 72.63 26 P P 10 02 35.7 0.0
baz=257,SNR=76
MCK S S 10 11 56.6 -3.4
baz=257
B22K Teshekpuk Lake 72.77 19 P P 10 02 37.4 +1.2
baz=251,SNR=64
B22K S S 10 12 01.4 +0.3
baz=251
NEA2 Nenana 72.77 25 IAmb IAmb 10 02 39.6
comp=Z,154nm,1.2s
NEA2 IAMs_20 IAMs_20 10 33 42.0
comp=Z,15µm,19.0s
NEA2 Nenana 72.77 25 P P 10 02 36.3 -0.1
baz=257,SNR=55
NEA2 S S 10 11 59.7 -1.7
baz=257
M23K Glacier View 72.77 28 P P 10 02 37.4 +0.9
baz=259,SNR=12
M23K S S 10 12 00.3 -1.3
baz=259
I23K Minto, Yukon-K 72.78 25 IAMs_20 IAMs_20 10 31 23.2
comp=Z,19µm,21.0s
I23K Minto, Yukon-K 72.78 25 P P 10 02 37.6 +1.2
baz=256,SNR=97
I23K S S 10 12 00.9 -0.5
baz=256
G23K Bananza Creek 72.90 23 P P 10 02 38.9 +1.7
baz=255,SNR=131
G23K S S 10 12 04.0 +1.0
baz=255
GLI Glacier Island 72.90 29 IAMs_20 IAMs_20 10 32 15.6
comp=Z,21µm,20.0s
GLI Glacier Island 72.90 29 P P 10 02 38.0 +0.8
baz=260
GLI S S 10 12 01.1 -2.0
baz=260
WAT6 Susitna Watana 72.92 27 P P 10 02 38.1 +0.6
baz=259,SNR=41
WAT6 S S 10 12 01.2 -2.4
baz=259
COLD Coldfoot 72.97 22 P P 10 02 39.3 +1.8
baz=255,SNR=135
COLD S S 10 12 03.2 -0.4
baz=255
SCM Sheep Creek Mo 72.97 28 IAMs_20 IAMs_20 10 29 18.3
comp=Z,16µm,22.0s
SCM Sheep Creek Mo 72.97 28 P P 10 02 38.3 +0.6
baz=259,SNR=31
SCM S S 10 12 02.0 -1.9
baz=259
Q23K Middleton Isla 73.02 31 IAMs_20 IAMs_20 10 28 27.0
comp=Z,19µm,21.0s
Q23K Middleton Isla 73.02 31 P P 10 02 37.5 -0.4
baz=261
HIN Hinchinbrook I 73.11 30 IAMs_20 IAMs_20 10 32 46.0
comp=Z,16µm,20.0s
WRH Wood River Hil 73.16 25 IAmb IAmb 10 02 40.3
comp=Z,187nm,1.3s
DHY Denali Highway 73.18 27 IAmb IAmb 10 03 18.9
comp=Z,211nm,1.3s
DHY IAMs_20 IAMs_20 10 30 53.0
comp=Z,20µm,21.0s
DHY Denali Highway 73.18 27 P P 10 02 39.7 +0.6
baz=259,SNR=27
DHY S S 10 12 03.9 -2.6
baz=259
MDM Murphy Dome 73.20 25 IAMs_20 IAMs_20 10 33 46.4
comp=Z,16µm,20.0s
D23K Nanushuk River 73.26 21 P P 10 02 40.9 +1.7
baz=254
D23K S S 10 12 07.8 +0.9
baz=254
COLA College 73.34 25 P P 10 02 39.5 -0.2
COLA IAmb IAmb 10 02 41.3
comp=Z,269nm,1.6s
COLA College 73.34 25 IAMs_20 IAMs_20 10 34 09.0
comp=Z,14µm,20.0s
COLA College 73.34 25 P P 10 02 40.4 +0.7
COLA College 73.34 25 P P 10 02 39.8 +0.1
baz=258
COLA S S 10 12 04.2 -3.6
baz=258
COLA College 73.34 25 ⇑P P 10 02 39.1 -0.6
COLA College 73.34 25 P P 10 02 39.6 -0.2
COLA pmax pmax
comp=Z,269nm,1.6s
E23K Chandalar 73.40 22 P P 10 02 42.0 +1.8
baz=255
E23K S S 10 12 08.1 -0.6
baz=255
EYAK Cordova Ski Ar 73.50 30 P P 10 02 42.6 +1.9
EYAK Cordova Ski Ar 73.50 30 P P 10 02 41.5 +0.8
baz=261
EYAK S S 10 12 09.8 +0.1
baz=261
C23K Itkillik River 73.53 20 P P 10 02 42.2 +1.4
baz=254
C23K S S 10 12 08.8 -1.0
baz=254
H24K Noodor Dome 73.54 24 IAMs_20 IAMs_20 10 31 35.3
comp=Z,15µm,21.0s
H24K Noodor Dome 73.54 24 P P 10 02 42.2 +1.2
baz=258
H24K S S 10 12 08.3 -1.9
baz=258
M24K Tolsona, Glenn 73.55 28 IAMs_20 IAMs_20 10 29 25.8
comp=Z,20µm,22.0s
M24K Tolsona, Glenn 73.55 28 P P 10 02 42.2 +1.1
baz=260,SNR=18
M24K S S 10 12 08.4 -2.1
baz=260
TOLK Toolik Lake Re 73.56 21 IAMs_20 IAMs_20 10 31 39.8
comp=Z,14µm,21.0s
TOLK Toolik Lake Re 73.56 21 P P 10 02 42.2 +1.1
baz=255,SNR=115
TOLK S S 10 12 10.2 -0.2
baz=255
KLU Klutina 73.56 29 IAmb IAmb 10 02 43.9
comp=Z,212nm,1.2s
KLU Klutina 73.56 29 P P 10 02 42.0 +0.8
baz=261,SNR=22
KLU S S 10 12 10.2 -0.5
baz=261
POKR Poker Plat Res 73.57 25 IAmb IAmb 10 02 44.2
comp=Z,199nm,1.4s
POKR IAMs_20 IAMs_20 10 34 26.1
comp=Z,16µm,19.0s
POKR Poker Plat Res 73.57 25 P P 10 02 41.0 -0.2
baz=258,SNR=43
POKR S S 10 12 06.1 -4.4
baz=258
HDA Harding Lake 73.63 26 P P 10 02 41.2 -0.3
baz=259,SNR=33
HDA P P 10 02 41.2 -0.3
baz=259,SNR=33
HDA S SKiKP 10 12 10.0 -1.2
baz=259
HDA S SKiKP 10 12 10.0 -1.2
baz=259
IL31 73.72 25 IAmb IAmb 10 02 43.0
comp=Z,346nm,1.6s
ILAR Eielson Array 73.72 25 P P 10 02 40.5 -1.5
comp=Z,59nm,1.0s,baz=252,slow=4.6,SNR=239
ILAR PKPPKP P'P'df 10 30 17.5 -2.1
comp=Z,1.1nm,1.1s,baz=113,slow=2.1,SNR=4.2
comp=Z,59nm,1.0s
E24K Your Creek 73.81 22 IAmb IAmb 10 02 45.7
comp=Z,200nm,1.4s
E24K Your Creek 73.81 22 P P 10 02 44.3 +1.7
baz=256
E24K S SKiKP 10 12 12.8 +1.3
baz=256
G24K Hadweenzic Riv 73.88 23 IAmb IAmb 10 02 46.0
comp=Z,256nm,1.2s
G24K IAMs_20 IAMs_20 10 32 26.7
comp=Z,15µm,21.0s
G24K Hadweenzic Riv 73.88 23 P P 10 02 44.4 +1.4
baz=258
G24K S S 10 12 14.4 +0.4
baz=258
F24K Squaw Lake 73.91 22 IAmb IAmb 10 02 46.4
comp=Z,256nm,1.3s
F24K Squaw Lake 73.91 22 P P 10 02 44.8 +1.7
baz=257,SNR=92
F24K S SKiKP 10 12 14.0 +2.3
baz=257
D24K Happy Valley 73.95 21 IAMs_20 IAMs_20 10 33 27.2
comp=Z,12µm,19.0s
D24K Happy Valley 73.95 21 P P 10 02 44.9 +1.6
baz=256
D24K S S 10 12 15.4 +0.7
baz=256
RAGM Ragged Mountai 74.00 30 IAMs_20 IAMs_20 10 30 25.7
comp=Z,15µm,21.0s
PAX Paxson 74.02 27 P P 10 02 44.7 +0.8
baz=261,SNR=53
PAX S S 10 12 15.2 -0.6
baz=261
K24K Donnelly Dome 74.02 26 P P 10 02 44.6 +0.8
baz=260
K24K S SKiKP 10 12 14.6 +2.8
baz=260
KAIM Kayak Island 74.06 30 P P 10 02 45.3 +1.2
baz=262
HARP HAARP 74.07 28 P P 10 02 44.8 +0.6
baz=261,SNR=20
BMRM Bremner River 74.11 29 P P 10 02 44.9 +0.4
baz=262,SNR=27
BMRM S SKiKP 10 12 14.0 +1.9
baz=262
C24K Franklin Bluff 74.14 20 P P 10 02 45.5 +1.1
baz=256
C24K S S 10 12 18.8 +2.1
baz=256
HMT Hamilton 74.20 30 IAMs_20 IAMs_20 10 30 30.9
comp=Z,15µm,22.0s
J25K Salcha River, 74.34 26 IAMs_20 IAMs_20 10 29 48.9
comp=Z,13µm,20.0s
J25K Salcha River, 74.34 26 P P 10 02 45.0 -0.8
baz=260
J25K S S 10 12 17.6 -1.7
baz=260
SUCK Suckling Hills 74.40 30 IAMs_20 IAMs_20 10 30 22.4
comp=Z,16µm,22.0s
PRP Porcupine Dome 74.43 25 IAMs_20 IAMs_20 10 32 53.9
comp=Z,14µm,20.0s
PRP Porcupine Dome 74.43 25 P P 10 02 45.5 -0.8
baz=260,SNR=8.3
PRP S S 10 12 18.7 -1.7
baz=260
G25K Bearman Lake 74.43 23 P P 10 02 47.5 +1.5
baz=259,SNR=31
G25K S S 10 12 22.2 +2.2
baz=259
GLB Gilahina Butte 74.56 29 IAmb IAmb 10 02 49.6
comp=Z,269nm,1.2s
GLB IAMs_20 IAMs_20 10 33 48.5
comp=Z,17µm,21.0s
PPT Papeete 74.59 111 P P 10 02 47.9 0.0
comp=Z,99nm,1.1s,baz=296,slow=10,SNR=9.5
PPT LR LR 10 28 19.2
comp=Z,18µm,21.8s,baz=268,slow=30
comp=Z,99nm,1.1s
PPT2 Papeete2 74.59 111 *e*PKIKP P 10 02 49.6 +1.6
comp=Z,119nm,1.0s
PPT2 *e*S S 10 12 22.4 -1.3
comp=Z,6µm,27.2s
PPT2 *e*SS SS 10 16 51.2 -20
comp=Z,5µm,27.5s
PPT2 *e*LQ LQ 10 22 29.4
comp=Z,34µm,26.5s
PPT2 *e*LR LR 10 25 22.2
comp=Z,55µm,24.2s
PPT2 *e*LR LR 10 25 33.7
comp=Z,42µm,28.0s
PPTF Pamatai, Papee 74.60 111 IAMs_20 IAMs_20 10 27 45.7
comp=Z,17µm,20.0s
PPTF Pamatai, Papee 74.60 111 ⇓P P 10 02 52.3 +4.2
PPTF Pamatai, Papee 74.60 111 ⇓P P 10 02 51.0 +2.9
PAE Paea 74.61 111 *e*PKIKP P 10 02 47.1 -0.9
comp=Z,22nm,0.9s
VRDI Verde Repeater 74.70 29 IAmb IAmb 10 02 50.3
comp=Z,173nm,1.2s
VRDI IAMs_20 IAMs_20 10 33 51.3
comp=Z,15µm,20.0s
FYU Fort Yukon 74.73 24 IAMs_20 IAMs_20 10 34 32.9
comp=Z,13µm,20.0s
F25K Christian Rive 74.76 22 P P 10 02 49.7 +1.6
baz=259
F25K S S 10 12 25.9 +1.9
baz=259
TIAR Tiarei 74.80 111 *e*PKIKP P 10 02 51.1 +2.0
comp=Z,11nm,0.9s
CRQM Cirque 74.80 30 IAMs_20 IAMs_20 10 30 52.8
comp=Z,15µm,21.0s
MENT Mentasta 74.80 27 IAmb IAmb 10 02 51.1
comp=Z,106nm,0.9s
MENT Mentasta 74.80 27 P P 10 02 50.5 +2.1
CRQE Cirque 74.82 30 P P 10 02 49.4 +0.7
baz=263
SCRK Sand Creek 74.83 26 IAmb IAmb 10 02 50.8
comp=Z,204nm,1.3s
SCRK IAMs_20 IAMs_20 10 34 21.5
comp=Z,13µm,20.0s
SCRK Sand Creek 74.83 26 P P 10 02 49.2 +0.5
baz=262,SNR=68
SCRK S S 10 12 21.1 -3.9
baz=262
D25K Kavik River 74.84 21 IAmb IAmb 10 02 51.4
comp=Z,281nm,1.3s
D25K Kavik River 74.84 21 P P 10 02 49.8 +1.2
baz=258,SNR=151
D25K S S 10 12 24.6 -0.2
baz=258
SNH Sunshine Point 74.88 30 IAMs_20 IAMs_20 10 29 38.1
comp=Z,20µm,22.0s
E25K Arctic Village 74.89 22 P P 10 02 50.4 +1.6
baz=259,SNR=157
E25K S S 10 12 26.7 +1.3
baz=259
WAX Waxell Ridge 74.91 30 IAmb IAmb 10 02 51.9
comp=Z,277nm,1.2s
MCARA McCarthy VSAT 74.93 29 IAmb IAmb 10 02 52.2
comp=Z,177nm,1.0s
MCARA IAMs_20 IAMs_20 10 33 59.3
comp=Z,14µm,20.0s
MCARA McCarthy VSAT 74.93 29 P P 10 02 50.2 +1.1
baz=263,SNR=22
MCARA S S 10 12 25.1 -0.8
baz=263
TVO Taravao 74.94 111 *e*PKIKP P 10 02 57.7 +7.7
comp=Z,48nm,1.1s
TGL Tana Glacier 74.95 30 IAMs_20 IAMs_20 10 30 56.2
comp=Z,15µm,21.0s
L26K Log Cabin Wild 74.98 27 IAmb IAmb 10 02 52.1
comp=Z,179nm,1.1s
L26K IAMs_20 IAMs_20 10 31 26.6
comp=Z,16µm,22.0s
L26K Log Cabin Wild 74.98 27 P P 10 02 50.8 +1.4
baz=262,SNR=58
L26K S S 10 12 25.4 -1.1
baz=262
M26K Nabesna, AK 75.06 28 P P 10 02 50.8 +0.8
baz=263
M26K S S 10 12 24.8 -2.8
baz=263
J26L Joseph Creek 75.09 26 P P 10 02 50.9 +0.8

J26L baz=262,SNR=80 S **S** **10 12 26.6 -1.1**

ISLE **Juniper Island** **75.17 30** IAMs_20 IAMs_20 10 31 02.7
comp=Z,16µm,20.0s

MESA **MESA** **75.32 30** IAMs_20 IAMs_20 10 33 19.7
comp=Z,18µm,22.0s

MESA **MESA** **75.32 30** P **P** **10 02 53.1 +1.4**

F26K **Sheenjek River** **75.34 22** P **P** **10 02 53.1 +1.7**
F26K baz=261 S **S** **10 12 31.0 +0.6**

G26K **Porcupine Rive** **75.36 23** P **P** **10 02 53.2 +1.7**
G26K baz=261,SNR=74 S **S** **10 12 30.5 0.0**

I26K **Coal Creek Min** **75.38 25** IAMs_20 IAMs_20 10 30 31.2
I26K baz=261 S **S** **10 12 30.0 -0.7**

C26K **Camden Bay** **75.46 20** P **P** **10 02 53.9 +1.9**
C26K baz=259,SNR=137 S **S** **10 12 34.0 +2.5**

PMOR **Pomariorio Ree** **75.47 108** *e*P **P** **10 02 54.6 +1.6**
PMOR **Pomariorio Ree** **75.47 108** *e*T T 11 26 52.9
comp=Z,191nm,1.0s
comp=Z,4.8nm,0.2s

GRNC **Granite Creek** **75.47 30** IAMs_20 IAMs_20 10 31 13.0
comp=Z,14µm,21.0s

BARN **Barnard Glacie** **75.55 29** IAmb IAmb 10 02 55.8
BARN comp=Z,278nm,1.6s IAMs_20 IAMs_20 10 33 36.7
comp=Z,14µm,20.0s

M27K **Edge Creek, AK** **75.58 28** IAMs_20 IAMs_20 10 34 41.4
comp=Z,13µm,20.0s

M27K **Edge Creek, AK** **75.58 28** P **P** **10 02 54.3 +1.2**
M27K baz=264 S **S** **10 12 32.3 -1.0**

K27K **Chicken** **75.67 26** IAMs_20 IAMs_20 10 34 55.2
comp=Z,16µm,20.0s

K27K **Chicken** **75.67 26** P **P** **10 02 55.0 +1.6**
L27K **Beaver Creek,** **75.68 27** IAmb IAmb 10 02 56.2
L27K comp=Z,168nm,1.2s IAMs_20 IAMs_20 10 32 32.9
comp=Z,17µm,21.0s

L27K **Beaver Creek,** **75.68 27** P **P** **10 02 54.6 +1.2**
L27K baz=264,SNR=41 S **S** **10 12 34.1 -0.2**

CTG **Chitna Glacier** **75.70 30** P **P** **10 02 55.1 +1.4**
CTGM **Chitina Glacie** **75.70 30** IAMs_20 IAMs_20 10 34 02.6
comp=Z,16µm,21.0s

LOGN **Logan Glacier** **75.85 30** IAmb IAmb 10 02 57.5
LOGN comp=Z,226nm,1.1s IAMs_20 IAMs_20 10 31 23.6
comp=Z,17µm,21.0s

NGCH **Negor - Chabah** **75.94 294** P **P** **10 02 57.6 +2.0**
SNR=13

SVE **Sverdlovsk** **75.95 326** *e*P **P** **10 02 55.5 +0.4**
SVE *e*S **S** **10 12 36.3 -1.1**
SVE pmax pmax
comp=Z,120nm,1.2s
SVE MLR MLR
SVE comp=E,27µm,20.0s MLR MLR
comp=Z,36µm,20.0s

I27K **Kandik River** **76.05 25** P **P** **10 02 56.5 +1.0**
I27K baz=263 S **S** **10 12 36.8 -1.5**

BVCY **Beaver Creek** **76.06 28** P **P** **10 02 56.7 +1.1**
BVCY baz=265,SNR=26 S **S** **10 12 36.8 -1.6**

AB31 **Akbulak array** **76.11 318** *i*P **P** **10 02 55.7 -0.4**
ABKAR **Akbulak array** **76.11 318** P **P** **10 02 55.6 -0.6**
ABKAR **Akbulak array** **76.11 318** ⇑P **P** **10 02 55.5 -0.6**
ABKAR ⇑P **P** **10 02 55.5 -0.6**

EGAK **Eagle** **76.15 26** IAmb IAmb 10 03 07.3
comp=Z,221nm,1.5s

EGAK **Eagle** **76.15 26** P **P** **10 02 56.7 +0.7**
EGAK baz=264,SNR=27 S **S** **10 12 39.7 +0.4**

EGAK **Eagle** **76.15 26** ⇑P **P** **10 02 56.9 +0.8**
H27K **Steamboat Moun** **76.16 24** P **P** **10 02 57.7 +1.6**
H27K baz=263,SNR=226 S **S** **10 12 39.1 -0.3**

PINM **Pinnacle** **76.16 30** P **P** **10 02 57.8 +1.5**
baz=266,SNR=8.0

G27K **Doyon Strip** **76.18 24** IAMs_20 IAMs_20 10 36 08.4
comp=Z,13µm,20.0s

G27K **Doyon Strip** **76.18 24** P **P** **10 02 57.4 +1.2**
G27K baz=263 S **S** **10 12 42.2 +2.5**

YUK3 **Moose Creek** **76.19 29** P **P** **10 02 58.0 +1.4**
YUK3 baz=265,SNR=55 S **S** **10 12 40.5 +0.2**

TBI **Tubuai** **76.34 117** *e*P P 10 02 51.4 -6.5
TBI comp=Z,3µm,26.5s *e*S **S** **10 12 43.3 +0.6**
TBI comp=Z,14µm,34.2s *e*SS **SS** **10 17 30.7 -6.6**
TBI comp=Z,15µm,27.8s *e*LQ LQ 10 23 21.8
TBI comp=Z,108µm,27.2s *e*LR LR 10 26 28.9
TBI comp=Z,189µm,32.8s *e*LR LR 10 26 32.1
comp=Z,36µm,32.0s

E27K **Coleen River** **76.37 22** IAMs_20 IAMs_20 10 36 21.1
comp=Z,12µm,20.0s

E27K **Coleen River** **76.37 22** P **P** **10 02 58.6 +1.3**
E27K baz=263,SNR=111 S **S** **10 12 42.1 +0.4**

BCPM **Bancas Point** **76.46 31** IAMs_20 IAMs_20 10 33 54.9
comp=Z,17µm,20.0s

YUK8 **Steele Glacier** **76.48 29** P **P** **10 02 60.0 +1.6**
YUK8 baz=266,SNR=26 S **S** **10 12 45.7 +2.0**

PNL **Peninsula** **76.57 31** P **P** **10 03 00.2 +1.6**
PNL **Peninsula** **76.57 31** P **P** **10 03 00.1 +1.5**
baz=267
PNL S **S** **10 12 43.2 -0.9**

D27M **Malcolm River** **76.73 21** P **P** **10 03 00.7 +1.4**
D27M baz=263,SNR=90 S **S** **10 12 45.8 +0.2**

I28M **Miner Creek** **76.73 25** IAmb IAmb 10 03 02.3
I28M comp=Z,181nm,1.1s IAMs_20 IAMs_20 10 31 25.1
comp=Z,20µm,21.0s

I28M **Miner Creek** **76.73 25** P **P** **10 03 00.8 +1.3**
I28M baz=265 S **S** **10 12 48.2 +2.3**

DAWY **Dawson** **76.85 26** P **P** **10 03 01.6 +1.4**
DAWY baz=266,SNR=52 S **S** **10 12 48.9 +1.7**

F28M **Old Crow** **76.95 23** IAmb IAmb 10 03 03.7
comp=Z,233nm,1.2s

F28M **Old Crow** **76.95 23** P **P** **10 03 02.2 +1.6**
F28M baz=265,SNR=123 S **S** **10 12 50.6 +2.5**

O29M **Mount Kennedy** **77.01 30** IAmb IAmb 10 03 04.6
comp=Z,221nm,1.1s

O29M **Mount Kennedy** **77.01 30** P **P** **10 03 03.0 +1.9**
O29M baz=267,SNR=30 S **S** **10 12 51.5 +2.4**

YUK4 **Talbot Arm** **77.03 29** P **P** **10 03 03.0 +1.7**
YUK4 baz=267,SNR=26 S **S** **10 12 52.5 +3.0**

ARU **Arti** **77.08 326** P **P** **10 03 01.2 -0.3**
ARU **Arti** **77.08 326** *c*P **P** **10 03 01.4 -0.1**
ARU S **S** **10 12 54.5 +4.7**
ARU pmax pmax
comp=Z,90nm,1.5s
ARU pmax pmax
comp=Z,622nm,7.3s
ARU smax smax
comp=N,2µm,10.2s
ARU MLR MLR
comp=Z,34µm,20.0s

ARU **Arti** **77.08 326** P **P** **10 03 00.5 -1.0**
comp=Z,36nm,0.8s,baz=105,slow=1.8,SNR=21
ARU S **S** **10 12 47.5 -2.2**
comp=Z,4.6nm,0.2s,baz=331,slow=20,SNR=3.6
ARU LR LR 10 37 47.9
comp=Z,35µm,21.6s,baz=86,slow=36
comp=Z,36nm,0.8s

YUK6 **Outpost Mounta** **77.14 30** P **P** **10 03 03.1 +1.0**
YUK6 baz=268,SNR=16 S **S** **10 12 53.4 +2.6**
baz=268

M29M **Somme Creek** **77.17 28** IAmb IAmb 10 03 05.3
M29M comp=Z,219nm,1.1s IAMs_20 IAMs_20 10 31 28.8
comp=Z,17µm,22.0s

M29M **Somme Creek** **77.17 28** P **P** **10 03 03.8 +1.8**
M29M baz=267,SNR=49 S **S** **10 12 53.0 +2.2**
baz=267

E28M **Babbage River** **77.17 22** P **P** **10 03 03.2 +1.4**
E28M baz=265,SNR=143 S **S** **10 12 50.1 -0.3**
baz=265

L29M **L29M** **77.36 27** IAMs_20 IAMs_20 10 32 38.8
comp=Z,17µm,22.0s

L29M **L29M** **77.36 27** P **P** **10 03 04.9 +1.9**
L29M baz=267 S **S** **10 12 53.5 +0.8**
baz=267

AKTO **Aktyubinsk** **77.36 320** P **P** **10 03 03.1 0.0**
comp=Z,18nm,0.6s,baz=87,slow=5.5,SNR=39
AKTO S **S** **10 12 53.9 +0.8**
comp=Z,0.9nm,0.5s,baz=231,slow=22,SNR=1.8
AKTO LR LR 10 38 24.2
comp=Z,14µm,20.0s,baz=90,slow=37
comp=Z,18nm,0.6s

I29M **Ogilvie Camp,** **77.41 25** IAMs_20 IAMs_20 10 31 45.5
comp=Z,14µm,22.0s

I29M **Ogilvie Camp,** **77.41 25** P **P** **10 03 04.0 +0.9**
I29M baz=266,SNR=15 S **S** **10 12 51.4 -1.7**
baz=266

P29M **Windy Craggy** **77.41 31** P **P** **10 03 05.3 +2.0**
P29M baz=268 S **S** **10 12 53.2 -0.1**
baz=268

H29M **Whitestone** **77.43 24** IAMs_20 IAMs_20 10 35 09.3
comp=Z,19µm,20.0s

H29M **Whitestone** **77.43 24** P **P** **10 03 04.4 +1.1**
H29M baz=266 S **S** **10 12 52.1 -1.2**
baz=266

D28M **Stokes Point** **77.53 21** P **P** **10 03 04.9 +1.2**
D28M baz=265 S **S** **10 12 55.5 +1.4**
baz=265

HYT **Haines Junctio** **77.56 30** P **P** **10 03 06.1 +1.8**
HYT baz=268,SNR=60 S **S** **10 12 58.1 +3.0**
baz=268

G29M **Pine Creek** **77.62 24** IAMs_20 IAMs_20 10 36 34.4
comp=Z,16µm,20.0s

G29M **Pine Creek** **77.62 24** P **P** **10 03 05.8 +1.5**
G29M baz=266,SNR=69 S **S** **10 12 57.2 +1.9**
baz=266

K29M **Barlow Dome** **77.66 27** IAMs_20 IAMs_20 10 33 31.5
comp=Z,13µm,22.0s

K29M **Barlow Dome** **77.66 27** P **P** **10 03 06.3 +1.6**
K29M baz=268 S **S** **10 12 56.9 +0.8**
baz=268

GEYT **Alibeck** **77.68 307** P **P** **10 03 04.8 -0.5**
GEYT IAmb IAmb 10 03 22.2
comp=Z,277nm,1.4s

GEYT **Alibeck** **77.68 307** P **P** **10 03 04.8 -0.5**
GEYT pmax pmax
comp=Z,277nm,1.4s

GEYT **Alibeck** **77.68 307** P **P** **10 03 05.5 +0.2**
comp=Z,94nm,1.2s,baz=83,slow=4.6,SNR=36
GEYT LR LR 10 41 23.4
comp=Z,6µm,19.3s,baz=104,slow=39
comp=Z,94nm,1.2s

GYA0B **ALIBECK ARRAY** **77.68 307** P **P** **10 03 05.3 0.0**
GYA0B IAmb IAmb 10 03 17.2
comp=Z,198nm,1.1s

E29M **Blow River** **77.76 22** P **P** **10 03 06.1 +1.1**
E29M baz=266 S **S** **10 12 56.8 +0.1**
baz=266

N30M **Aishikik Lake** **77.78 29** IAMs_20 IAMs_20 10 34 59.1
comp=Z,16µm,20.0s

N30M **Aishikik Lake** **77.78 29** P **P** **10 03 07.2 +1.8**
N30M baz=268 S **S** **10 12 57.6 +0.2**
baz=268

JLN **Jalan Bani Buh** **77.81 291** P **P** **10 03 06.5 +0.3**
SNR=13

P30M **Million Dollar** **77.81 31** P **P** **10 03 07.2 +1.6**
P30M baz=269 S **S** **10 12 56.6 -1.1**
baz=269

M30M **Minto, Yukon** **77.95 28** IAmb IAmb 10 03 09.5
comp=Z,208nm,1.2s
M30M IAMs_20 IAMs_20 10 33 10.1
comp=Z,16µm,21.0s

M30M **Minto, Yukon** **77.95 28** P **P** **10 03 07.9 +1.6**
baz=268,SNR=43
M30M S **S** **10 12 58.5 -0.6**
baz=268

EPYK **Eagle Plains** **78.11 24** IAMs_20 IAMs_20 10 35 50.1
comp=Z,18µm,20.0s

EPYK **Eagle Plains** **78.11 24** P **P** **10 03 08.0 +0.9**
baz=268,SNR=54
EPYK S **S** **10 12 58.2 -2.5**
baz=268

WBK **Wadi Bani Khal** **78.16 291** P **P** **10 03 08.7 +0.5**
SNR=22

S31K **Pelican** **78.17 33** IAmb IAmb 10 03 31.2
comp=Z,192nm,1.4s

S31K **Pelican** **78.17 33** P **P** **10 03 08.9 +1.4**
S31K baz=270 S **S** **10 13 02.6 +1.2**
baz=270

I30M **Mount Dempster** **78.21 25** IAMs_20 IAMs_20 10 34 41.8
comp=Z,15µm,21.0s

I30M **Mount Dempster** **78.21 25** P **P** **10 03 08.8 +1.0**
baz=268,SNR=84
I30M S **S** **10 13 01.7 -0.3**
baz=268

J30M **Hart River** **78.21 26** IAmb IAmb 10 03 10.9
comp=Z,278nm,1.4s
J30M IAMs_20 IAMs_20 10 36 51.2
comp=Z,12µm,20.0s

J30M **Hart River** **78.21 26** P **P** **10 03 09.3 +1.5**
baz=268
J30M S **S** **10 13 01.7 -0.3**
baz=268

O30N **Mendenhall** **78.25 30** IAmb IAmb 10 03 10.9
comp=Z,219nm,1.5s

O30N **Mendenhall** **78.25 30** P **P** **10 03 09.3 +1.3**
baz=270,SNR=22
O30N S **S** **10 13 03.1 +0.7**
baz=270

G30M **tAoh Zraii Nji** **78.33 24** P **P** **10 03 09.1 +0.8**
baz=268
G30M S **S** **10 13 01.7 -1.3**
baz=268

MAYO **Mayo, Yukon** **78.38 27** IAMs_20 IAMs_20 10 33 30.4
comp=Z,14µm,22.0s

MAYO **Mayo, Yukon** **78.38 27** P **P** **10 03 10.3 +1.7**
baz=269,SNR=20
MAYO S **S** **10 13 03.8 +0.2**
baz=269

N31M **Braeburn, Yuko** **78.41 29** IAMs_20 IAMs_20 10 33 33.3
comp=Z,21µm,22.0s

N31M **Braeburn, Yuko** **78.41 29** P **P** **10 03 10.4 +1.6**
baz=270,SNR=30
N31M S **S** **10 13 06.3 +2.2**
baz=270

WSAR **Wadi Sarin** **78.41 292** P **P** **10 03 11.0 +1.4**
SNR=16

R31K **City Hall, Gus** **78.42 32** P **P** **10 03 09.8 +0.9**
baz=270
R31K S **S** **10 13 05.8 +1.6**
baz=270

F30M **Barrier River** **78.52 23** P **P** **10 03 10.4 +1.1**
baz=268
F30M S **S** **10 13 02.8 -2.2**
baz=268

SKAG **Skagway** **78.63 31** IAmb IAmb 10 03 13.3
comp=Z,233nm,1.2s
SKAG IAMs_20 IAMs_20 10 34 13.3
comp=Z,12µm,20.0s

SKAG **Skagway** **78.63 31** P **P** **10 03 12.4 +2.4**
SKAG **Skagway** **78.63 31** P **P** **10 03 11.5 +1.5**
baz=270,SNR=20
SKAG S **S** **10 13 07.5 +1.2**
baz=270

SKAG **Skagway** **78.63 31** ⇑P **P** **10 03 11.7 +1.7**
SKAG ⇓P **P** **10 03 12.5 +2.4**

SIT **Sitka** **78.66 34** P **P** **10 03 11.7 +1.5**
baz=271
SIT S **S** **10 13 08.8 +2.1**
baz=271

JASK **Jask - Hormozg** **78.83 294** P **P** **10 03 14.0 +2.1**
SNR=22

BIDO **Bidbid** **78.84 292** P **P** **10 03 12.0 +0.1**
SNR=42

WHY **Whitehorse** **78.85 30** P **P** **10 03 13.0 +1.6**
baz=271,SNR=62
WHY S **S** **10 13 09.8 +0.9**
baz=271

SMDO **Samad** **78.96 292** P **P** **10 03 12.9 +0.2**
SNR=14

JMDO **Jabal Madar** **78.99 291** P **P** **10 03 12.7 0.0**
SNR=13

S32K **Killisnoo** **79.06 33** IAmb IAmb 10 03 15.2
comp=Z,184nm,1.4s

S32K **Killisnoo** **79.06 33** P **P** **10 03 13.8 +1.4**
baz=272,SNR=5.9

H31M **Peel River** **79.06 25** IAMs_20 IAMs_20 10 32 46.8
comp=Z,15µm,21.0s

H31M **Peel River** **79.06 25** P **P** **10 03 13.5 +1.1**
baz=270
H31M S **S** **10 13 11.0 +0.1**
baz=270

M31M **Drury Creek, Y** **79.07 28** IAmb IAmb 10 03 15.1
comp=Z,119nm,1.1s
M31M IAMs_20 IAMs_20 10 34 42.6
comp=Z,19µm,22.0s

M31M **Drury Creek, Y** **79.07 28** P **P** **10 03 13.7 +1.3**
baz=271,SNR=31
M31M S **S** **10 13 11.0 0.0**
baz=271

R32K **Eaglecrest** **79.07 32** P **P** **10 03 14.2 +1.7**
baz=271

G31M **Satah River** **79.09 24** IAmb IAmb 10 03 14.6
comp=Z,192nm,1.1s
G31M IAMs_20 IAMs_20 10 36 11.1
comp=Z,14µm,20.0s

G31M **Satah River** **79.09 24** P **P** **10 03 13.1 +0.7**
baz=270,SNR=65
G31M S **S** **10 13 11.2 +0.1**
baz=270

JIS **Juneau Island** **79.14 32** IAmb IAmb 10 03 15.9
comp=Z,314nm,1.4s

JIS **Juneau Island** **79.14 32** P **P** **10 03 16.4 +3.6**
CASY **Casey** **79.16 192** P **P** **10 03 12.3 -0.4**
CASY **Casey** **79.16 192** IAMs_20 IAMs_20 10 35 07.4
comp=Z,18µm,20.0s

CASY **Casey** **79.16 192** ⇑P **P** **10 03 12.7 +0.1**
MHTO **MHTO** **79.27 290** P **P** **10 03 14.4 +0.1**
SNR=41

F31M **Tsiigehtchic** **79.30 23** IAmb IAmb 10 03 16.4
comp=Z,251nm,1.6s

F31M **Tsiigehtchic** **79.30 23** P **P** **10 03 14.1 +0.5**
baz=270,SNR=44
F31M S **S** **10 13 11.7 -1.5**
baz=270

INK **Inuvik** **79.38 22** P **P** **10 03 13.9 0.0**
INK IAmb IAmb 10 03 15.8
comp=Z,126nm,1.2s

INK **Inuvik** **79.38 22** P **P** **10 03 14.2 +0.3**
baz=270,SNR=61
INK S **S** **10 13 11.5 -2.5**
baz=270

INK **Inuvik** **79.38 22** ⇓P **P** **10 03 13.3 -0.6**
INK ⇑P **pP** **10 03 14.1 -4.3**
INK **Inuvik** **79.38 22** P **P** **10 03 14.0 0.0**
INK pmax pmax
comp=Z,126nm,1.2s
INK MLR MLR
comp=Z,10µm,19.0s

INK **Inuvik** **79.38 22** LR LR 10 38 05.1
comp=Z,3µm,19.6s,baz=248,slow=36

P32M **Atlin** **79.45 31** IAmb IAmb 10 03 17.6
comp=Z,214nm,1.3s
P32M IAMs_20 IAMs_20 10 34 36.9
comp=Z,15µm,21.0s

P32M **Atlin** **79.45 31** P **P** **10 03 15.8 +1.2**
P32M baz=272,SNR=16 S **S** **10 13 16.6 +1.4**
baz=272

FARO **Faro, Yukon** **79.55 28** P **P** **10 03 16.1 +1.0**
baz=272,SNR=47
FARO S **S** **10 13 17.2 +0.9**
baz=272

HOQ **Hoqain** **79.58 292** P **P** **10 03 16.5 +0.5**
SNR=58

N32M **Quiet Lake** **79.72 29** IAMs_20 IAMs_20 10 33 35.8
comp=Z,21µm,22.0s

N32M **Quiet Lake** **79.72 29** P **P** **10 03 17.3 +1.3**
baz=272
N32M S **S** **10 13 18.1 +0.1**
baz=272

BSY **Bisya** **79.77 291** P **P** **10 03 17.4 +0.3**
SNR=16

DQM **DQM** **79.79 289** P **P** **10 03 18.1 +0.9**
SNR=8.9

P33M **Teslin, Yukon** **79.88 30** IAMs_20 IAMs_20 10 35 49.2
comp=Z,17µm,20.0s

P33M **Teslin, Yukon** **79.88 30** P **P** **10 03 18.3 +1.3**
baz=272,SNR=22
P33M S **S** **10 13 21.3 +1.4**
baz=272

U33K **Whale Pass** **79.91 35** IAmb IAmb 10 03 20.2
comp=Z,164nm,1.2s

U33K **Whale Pass** **79.91 35** P **P** **10 03 18.5 +1.4**
baz=273,SNR=6.2
U33K S **S** **10 13 23.2 +3.2**
baz=273

CRAG **Craig** **79.94 35** IAmb IAmb 10 03 37.3
comp=Z,279nm,1.6s

CRAG **Craig** **79.94 35** P **P** **10 03 19.0 +1.7**
CRAG **Craig** **79.94 35** P **P** **10 03 18.8 +1.6**
baz=273
CRAG S **S** **10 13 24.6 +4.1**
baz=273

T33K **Petersburg** **79.97 34** P **P** **10 03 19.3 +1.9**
baz=273,SNR=6.8

Q32M **Nakina River** **80.22 32** IAmb IAmb 10 03 32.8
comp=Z,363nm,1.9s

Q32M **Nakina River** **80.22 32** P **P** **10 03 20.7 +1.7**
baz=273,SNR=10
Q32M S **S** **10 13 26.6 +2.9**
baz=273

SOHO **SOHO** **80.22 293** *i*P **P** **10 03 18.9 -0.5**
SNR=16
SOHO **SOHO** **80.22 293** P **P** **10 03 20.1 +0.7**
MDH **Madha** **80.30 294** *i*P **P** **10 03 18.8 -1.1**
SNR=6.7
MDH **Madha** **80.30 294** P **P** **10 03 21.5 +1.6**
ARQ **Araqi** **80.33 292** P **P** **10 03 20.9 +0.9**
SNR=40

WRAK **Wrangell Islan** **80.33 34** IAmb IAmb 10 03 22.3
comp=Z,292nm,1.2s

WRAK **Wrangell Islan** **80.33 34** P **P** **10 03 20.7 +1.4**
baz=274,SNR=12
WRAK S **S** **10 13 27.2 +2.8**
baz=274

WRAK **Wrangell Islan** **80.33 34** ⇑P **P** **10 03 21.4 +2.1**
SHME **Shamm** **80.36 295** *i*P **P** **10 03 20.5 +0.4**
SNR=8.8

SHME Shamm 80.36 295 P **P** 10 03 20.1 0.0
SNR=8.3
MASF Masafi 80.42 294 P **P** 10 03 21.3 +0.8
SNR=22
MSFE Esma-Masafi 80.42 294 *i* P **P** 10 03 20.3 -0.2
SNR=19
UOSS Minazif 80.43 294 P **P** 10 03 20.2 -0.3
UOSS Minazif 80.43 294 *i* P **P** 10 03 19.6 -0.9
SNR=14
UOSS Minazif 80.43 294 P **P** 10 03 20.7 +0.1
H02S1 DAWSON INLET T 80.46 38 P **P** 10 03 20.2 +0.1
SNR=12
H02S1 T T 11 32 17.0
SNR=20
HATD Hatta, Dubai 80.51 294 *i* P **P** 10 03 20.8 -0.2
SNR=18
HATD Hatta, Dubai 80.51 294 P **P** 10 03 21.8 +0.9
SNR=17
ASHO Ashiyiah 80.59 293 *i* P **P** 10 03 21.2 -0.2
SNR=8.9
ASHO Ashiyiah 80.59 293 P **P** 10 03 22.6 +1.1
SNR=11
V35K Ketchikan 80.81 35 IAmb IAmb 10 03 24.6
comp=Z,219nm,1.8s
V35K Ketchikan 80.81 35 P **P** 10 03 23.3 +1.4
baz=274
V35K S **S** 10 13 30.4 +0.8
baz=274
R33M Jennings River 80.86 31 P **P** 10 03 24.3 +2.0
baz=274
R33M S **S** 10 13 31.8 +1.5
baz=274
S34M Telegraph Cree 80.89 33 IAmb IAmb 10 03 25.5
comp=Z,137nm,1.1s
S34M Telegraph Cree 80.89 33 P **P** 10 03 24.2 +1.9
baz=274,SNR=31
S34M S **S** 10 13 33.1 +2.8
baz=274
NAZ Nazwa, Dubai 80.91 294 *i* P **P** 10 03 22.8 -0.4
SNR=5.9
NAZ Nazwa, Dubai 80.91 294 P **P** 10 03 24.2 +1.1
ALNE Al Ain 80.94 293 *i* P **P** 10 03 23.8 +0.5
SNR=21
ALNE Al Ain 80.94 293 P **P** 10 03 24.2 +0.9
SNR=32
FAQ Al Faqa, Dubai 81.00 294 *i* P **P** 10 03 23.3 -0.4
SNR=5.3
FAQ Al Faqa, Dubai 81.00 294 P **P** 10 03 24.7 +1.1
ASUD Al Ashush, Dub 81.25 293 P **P** 10 03 24.6 -0.4
ASUD Al Ashush, Dub 81.25 293 P **P** 10 03 26.8 +1.8
DLBC Dease Lake 81.43 32 IAmb IAmb 10 03 28.4
comp=Z,321nm,1.4s
DLBC Dease Lake 81.43 32 P **P** 10 03 26.9 +1.6
baz=275,SNR=43
DLBC S **SKSac** 10 13 39.4 -4.9
baz=275
DLBC Dease Lake 81.43 32 LR LR 10 36 33.0
comp=Z,6µm,21.3s,baz=286,slow=34
T35M Bob Quinn 81.44 34 IAmb IAmb 10 03 28.5
comp=Z,155nm,1.2s
T35M Bob Quinn 81.44 34 P **P** 10 03 27.2 +1.9
baz=275,SNR=19
T35M S **SKSac** 10 13 40.1 -4.3
baz=275
TAOE Nuku Hiva Isla 81.48 101 IAMs_20 IAMs_20 10 31 29.2
comp=Z,19µm,21.0s
TAOE Nuku Hiva Isla 81.48 101 *e*PKIKP P 10 03 14.7 -12
comp=Z,588nm,24.2s
TAOE Nuku Hiva Isla 81.48 101 *e*S **S** 10 13 30.8 -7.4
comp=Z,3µm,39.3s
TAOE *e*SS **SS** 10 19 04.3 +9.2
comp=Z,2µm,23.5s
TAOE *e*LQ LQ 10 25 08.4
comp=Z,12µm,24.0s
TAOE *e*LR LR 10 28 54.1
comp=Z,34µm,25.1s
AJN Ajban 81.57 293 P **P** 10 03 28.4 +1.8
U35K Hyder 81.66 35 P **P** 10 03 27.7 +1.3
baz=276
U35K S **SKSac** 10 13 42.4 -3.3
baz=276
RUBB Prince Rupert 81.68 36 IAmb IAmb 10 03 29.4
comp=Z,289nm,1.6s
RUBB IAMs_20 IAMs_20 10 34 38.2
comp=Z,14µm,20.0s
SHAO Shalim 81.83 287 P **P** 10 03 30.3 +2.2
WTLY Watson Lake, Y 81.89 30 P **P** 10 03 29.3 +1.6
baz=276,SNR=78
WTLY S **S** 10 13 41.9 +1.1
baz=276
GRNB Grenville Isla 81.90 37 IAmb IAmb 10 03 30.6
comp=Z,182nm,1.4s
KIRV Kirov 81.93 328 *ce*P **P** 10 03 28.4 +0.6
KIRV Kirov 81.93 328 P **P** 10 03 24.9 -2.8
comp=Z,59nm,0.9s,baz=89,slow=6.2,SNR=32
KIRV LR LR 10 40 58.5
comp=Z,16µm,21.9s,baz=80,slow=36
A36M Sachs Harbour 81.95 18 IAmb IAmb 10 03 35.4
comp=Z,79nm,0.8s
A36M Sachs Harbour 81.95 18 P **P** 10 03 28.2 +0.6
baz=278,SNR=74
A36M S **S** 10 13 39.2 -1.6
baz=278
TGTN Hyland Airport 82.00 29 P **P** 10 03 29.9 +1.7
baz=276,SNR=40
TGTN S **SKSac** 10 13 43.6 -4.5
baz=276
DMTO DMTO 82.52 287 P **P** 10 03 33.0 +1.3
SNR=6.4
C36M Paulatuk 82.72 21 IAmb IAmb 10 03 33.5
comp=Z,201nm,1.4s
C36M Paulatuk 82.72 21 P **P** 10 03 32.3 +0.6
baz=279,SNR=54
C36M S **S** 10 13 47.8 -0.9
baz=279
BBB Bella Bella 83.20 38 LR LR 10 34 47.5
comp=Z,17µm,20.6s,baz=280,slow=32
RBK Rabkut 83.25 287 P **P** 10 03 35.0 -0.6
SNR=8.0
LIRD Liard River Hi 83.34 31 P **P** 10 03 36.3 +1.2
baz=278,SNR=38
LIRD S **SKSac** 10 13 56.9 0.0
baz=278
HOLB Holberg 83.40 40 IAMs_20 IAMs_20 10 32 41.7
comp=Z,12µm,20.0s
PRGR Permogore 83.42 331 *e*P **P** 10 03 33.9 -1.6
PRGR pmax pmax
comp=Z,178nm,0.9s
WHFO Wadi Hawf 83.60 287 P **P** 10 03 37.1 -0.2
SNR=5.2
WRGLY Wrigley 83.98 27 P **P** 10 03 39.4 +1.1
baz=280,SNR=19
WRGLY S **S** 10 14 03.1 +1.4
baz=280
ABTO Aybut 84.13 287 P **P** 10 03 39.6 -0.5
SNR=7.3
KOTAN Kotaneelee Air 84.24 30 P **P** 10 03 40.9 +1.1
baz=280,SNR=22
KOTAN S **S** 10 14 05.6 +1.1
baz=280
FLDN Fort Liard 84.51 30 IAmb IAmb 10 03 44.1
comp=Z,219nm,1.5s
FLDN Fort Liard 84.51 30 P **P** 10 03 42.7 +1.6
baz=280,SNR=6.1
TRNA Turayna 84.95 294 P **P** 10 03 45.8 +1.7
SHMA Al-Shehemyia 85.00 295 P **P** 10 03 46.4 +2.1
MAK Makhachkala 85.20 313 *e*P P 10 03 39.8 -5.1
MAK *e* 10 14 00.4
MAK *e*SS SS 10 19 41.8 -6.6
MAK *e*SSS SSS 10 23 22.1
MAK pmax pmax
comp=Z,380nm,1.8s
MAK MLR MLR
comp=Z,6µm,17.0s
CBB Campbell River 85.24 40 IAmb IAmb 10 03 48.1
comp=Z,154nm,1.6s
SMRA Abu-Samra 85.30 294 P **P** 10 03 47.6 +1.8
SAKB Bahrain 85.37 295 P **P** 10 03 47.7 +1.6
MSEY Mahe Island 85.61 264 IAmb IAmb 10 03 51.5
comp=Z,120nm,1.2s
MSEY Mahe Island 85.61 264 *i* P **P** 10 03 47.9 +0.3
SNR=8.9
MSEY Mahe Island 85.61 264 P **P** 10 03 48.7 +1.1
SEKA Sheki 85.71 311 P **P** 10 03 48.9 +1.2
C03A Quillayute Air 86.13 42 IAMs_20 IAMs_20 10 33 14.1
comp=Z,13µm,22.0s
CLRS Cowichan Lake 86.25 41 IAmb IAmb 10 03 52.9
comp=Z,108nm,1.0s
CLRS IAMs_20 IAMs_20 10 34 56.3
comp=Z,11µm,19.0s
GANJ Ganja 86.46 310 P **P** 10 03 52.7 +1.4
KLMR Klimovskoe 86.47 331 *e*P **P** 10 03 48.8 -2.1
KLMR *e*P **P** 10 03 48.8 -2.1
KLMR *e*P **P** 10 03 48.8 -2.1
KLMR AMP 10 03 58.3
comp=Z,99nm,1.3s
KLMR S **SKSac** 10 14 14.6 -2.2
KLMR S **SKSac** 10 14 14.6 -2.2
KLMR LQ LQ 10 35 12.5
KLMR LQ LQ 10 35 12.5
KLMR LR LR 10 41 16.6
KLMR AMP 10 43 06.3
comp=Z,18µm,18.6s
KLMR Klimovskoe 86.47 331 *e*P **P** 10 03 48.7 -2.1
KLMR S **SKSac** 10 14 14.5 -2.2
KLMR pmax pmax
comp=Z,99nm,1.3s
KLMR MLR MLR
comp=Z,18µm,19.0s
LVZ Lovozero 86.54 339⇑ *e*P **P** 10 03 53.4 +2.2
LVZ MLR MLR
comp=Z,17µm,19.0s
NLWA Neilton Lookou 86.69 43 ⇑P **P** 10 03 54.0 +1.6
NLWA ⇓P **pP** 10 03 54.2 -2.6
PGC Sidney 86.72 41 IAmb IAmb 10 03 55.2
comp=Z,139nm,1.1s
SPB2 Spitsbergen Ar 86.77 350 P **P** 10 03 51.8 -0.3
SPITS Spitsbergen Ar 86.77 350 P **P** 10 03 52.6 +0.5
SPITS pmax pmax
comp=Z,199nm,1.5s
SPITS Spitsbergen Ar 86.77 350 P **P** 10 03 51.4 -0.8
comp=Z,23nm,0.9s,baz=44,slow=9.0,SNR=3.6
SPITS LR LR 10 43 30.7
comp=Z,13µm,19.8s,baz=14,slow=36
comp=Z,23nm,0.9s
WISH Wishkah 86.81 43 IAMs_20 IAMs_20 10 37 08.3
comp=Z,10µm,20.0s
KBS Kingsbay 87.03 351 IAMs_20 IAMs_20 10 43 21.5
comp=Z,15µm,19.0s
E03A Lebam 87.07 43 IAMs_20 IAMs_20 10 36 07.0
comp=Z,11µm,20.0s
APA Apatity 87.10 338 ⇓ *i*P **P** 10 03 52.7 -1.1
APA *i* 10 07 14.7
APA *i*S **S** 10 14 29.0 -3.3
APA *i*SSS SSS 10 23 45.0
APA pmax pmax
comp=Z,12nm,0.9s
HEBO Mount Hebo 87.20 45 IAMs_20 IAMs_20 10 33 38.5
comp=Z,11µm,22.0s
KEBM Edson Butte 87.24 47 IAMs_20 IAMs_20 10 34 11.9
comp=Z,18µm,22.0s
GNW Green Mountain 87.36 42 IAMs_20 IAMs_20 10 34 49.6
comp=Z,10µm,21.0s
KBO Bosley Butte 87.44 48 IAmb IAmb 10 03 59.5
comp=Z,152nm,1.3s
KBO IAMs_20 IAMs_20 10 35 24.3
comp=Z,15µm,20.0s
J01E Myrtle Point 87.47 47 IAmb IAmb 10 03 59.1
comp=Z,141nm,1.2s
J01E IAMs_20 IAMs_20 10 34 43.0
comp=Z,15µm,22.0s
VRH Novokhopyorsk 87.52 321 *e*P **P** 10 03 53.4 -2.8
VRH pmax pmax
comp=Z,40nm,0.9s
VRH MLR MLR
comp=Z,23µm,21.0s
F04D Rainier, OR 87.53 44 IAmb IAmb 10 04 16.7
comp=Z,166nm,1.4s
F04D IAMs_20 IAMs_20 10 33 51.4
comp=Z,13µm,22.0s
G03D McMinnville, O 87.54 45 IAMs_20 IAMs_20 10 33 49.6
comp=Z,12µm,22.0s
COR Corvallis 87.64 45 P **P** 10 03 57.0 +0.1
COR Corvallis 87.64 45 IAMs_20 IAMs_20 10 34 28.2
comp=Z,14µm,22.0s
COR Corvallis 87.64 45 P **P** 10 03 57.0 +0.1
COR pmax pmax
comp=Z,420nm,1.6s
GNI Garni 87.74 310 P **P** 10 03 57.2 -0.6
GNI Garni 87.74 310 *ce*P **P** 10 03 59.3 +1.6
GNI pmax pmax
comp=Z,79nm,1.9s
GNI MLR MLR
comp=Z,6µm,20.0s
GNI Garni 87.74 310 LR LR 10 45 39.6
comp=Z,6µm,21.4s,baz=82,slow=37
K02D Willamette Mer 87.76 47 IAmb IAmb 10 04 00.4
comp=Z,89nm,1.4s
KSXB Camp Six Broad 87.77 48 IAmb IAmb 10 04 00.9
comp=Z,98nm,1.3s
KSXB IAMs_20 IAMs_20 10 34 50.1
comp=Z,17µm,21.0s
I03D Drain, OR 87.78 46 IAmb IAmb 10 04 00.6
comp=Z,167nm,1.3s
I03D IAMs_20 IAMs_20 10 34 53.2
comp=Z,18µm,22.0s
KRPM Rodgers 87.80 49 IAmb IAmb 10 04 01.4
comp=Z,139nm,1.2s
KRMB Red Mountain 87.81 48 IAmb IAmb 10 04 01.2
comp=Z,91nm,1.2s
NOR Nord 87.83 357 *i* P **P** 10 03 57.8 +0.7
NOR IAmb IAmb 10 04 12.1
comp=Z,9.1nm,1.0s
ZEI Tsey 87.84 313 *e*P **P** 10 03 56.6 -1.6
ZEI pmax pmax
comp=Z,137nm,1.4s
JCC Jacoby Creek, 87.86 49 IAmb IAmb 10 04 01.4
comp=Z,144nm,1.4s
KMPM Mount Pierce 87.87 49 IAmb IAmb 10 04 01.6
comp=Z,81nm,1.2s
BUCK Buck Mountain 87.94 46 IAMs_20 IAMs_20 10 34 48.2
comp=Z,16µm,22.0s
F04A Amboy 87.97 44 IAMs_20 IAMs_20 10 34 03.9
comp=Z,12µm,22.0s
DBO Dodson Butte 87.98 47 IAmb IAmb 10 04 01.6
comp=Z,116nm,1.6s
GOF Gofitskoye 87.98 315 *ce*P **P** 10 03 59.7 +1.2
B06A Marblemount 88.03 41 IAmb IAmb 10 04 06.9
comp=Z,87nm,1.1s
B06A IAMs_20 IAMs_20 10 34 49.4
comp=Z,14µm,22.0s
H04D Lebanon 88.04 45 IAMs_20 IAMs_20 10 35 04.0
comp=Z,12µm,21.0s
YKAW3 Yellowknife Wh 88.07 27 IAMs_20 IAMs_20 10 39 55.5
comp=Z,10µm,22.0s
KHMM Horse Mountain 88.07 49 IAmb IAmb 10 04 02.7
comp=Z,123nm,1.3s
YKA Yellowknife Ar 88.09 27 *i* P **P** 10 03 58.2 -0.5
YKA pmax pmax
comp=Z,52nm,0.9s
YKA Yellowknife Ar 88.09 27 P **P** 10 03 58.3 -0.3
comp=Z,51nm,0.9s,baz=291,slow=5.3,SNR=339
YKA PKKPbc **PKKPbc** 10 21 44.0 -1.8
comp=Z,1.2nm,0.8s,baz=115,slow=2.1,SNR=11
YKA PKPPKP **P'P'df** 10 29 50.9 -2.6
comp=Z,0.9nm,1.1s,baz=64,slow=1.5,SNR=5.4
YKA LR LR 10 41 21.2
comp=Z,8µm,20.6s,baz=284,slow=34
comp=Z,51nm,0.9s
YKAW1 Yellowknife Wh 88.15 27 IAMs_20 IAMs_20 10 39 46.6
comp=Z,11µm,22.0s
ONI Oni 88.20 313 IAmb IAmb 10 04 23.5
comp=Z,146nm,1.5s
ONI IAMs_20 IAMs_20 10 46 13.5
comp=Z,12µm,21.0s
LON Longmire 88.20 43 IAmb IAmb 10 04 14.7
comp=Z,78nm,1.4s
LON IAMs_20 IAMs_20 10 36 43.1
comp=Z,12µm,21.0s
KMRM Mail Ridge 88.22 50 IAmb IAmb 10 04 03.3
comp=Z,120nm,1.5s
VNDA Vanda 88.27 175 P **P** 10 03 59.0 -0.1
VNDA IAMs_20 IAMs_20 10 40 05.9
comp=Z,12µm,21.0s
VNDA Vanda 88.27 175 P **P** 10 03 59.0 -0.1
VNDA pmax pmax
comp=Z,55nm,1.6s
VNDA Vanda 88.27 175 P **P** 10 03 58.7 -0.4
comp=Z,7.6nm,0.8s,baz=322,slow=5.9,SNR=39
VNDA LR LR 10 40 39.1
comp=Z,9µm,21.5s,baz=345,slow=34
comp=Z,7.6nm,0.8s
KBZ Khabaz 88.36 314 *de*P **P** 10 04 00.3 0.0
KBZ pmax pmax
comp=Z,33nm,1.1s
KBZ MLR MLR
comp=Z,12µm,19.0s
KBZ Khabaz 88.36 314 P **P** 10 03 59.4 -0.9
comp=Z,6.1nm,1.1s,baz=182,slow=16,SNR=5.5
KBZ LR LR 10 47 25.6
comp=Z,10µm,19.3s,baz=64,slow=38
comp=Z,6.1nm,1.1s
KCPM Cahto Peak 88.42 50 IAmb IAmb 10 04 04.0
comp=Z,101nm,1.2s
KCPM IAMs_20 IAMs_20 10 38 23.3
comp=Z,13µm,20.0s
I04A Tendick Farm, 88.43 46 IAmb IAmb 10 04 03.2
comp=Z,132nm,1.3s
I04A IAMs_20 IAMs_20 10 35 02.2
comp=Z,12µm,22.0s
KVAR Kislovodsk Arr 88.46 314 P **P** 10 04 03.9 +2.9
comp=Z,6.3nm,0.8s,baz=233,slow=22,SNR=2.4
KIV Kislovodsk 88.46 314 *e*P **P** 10 04 02.1 +1.1
KIV *e* 10 07 30.1
KIV *e*PPP PPP 10 09 25.5
KIV *e* 10 14 30.5
KIV *e*SS SS 10 20 38.5 +2.1
KIV *e*SSS SSS 10 24 15.0
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,6µm,20.0s
HOOD Mount Hood Mea 88.63 44 IAmb IAmb 10 04 04.5
comp=Z,172nm,1.2s
HOOD IAMs_20 IAMs_20 10 35 09.4
comp=Z,11µm,22.0s
YBH Yreka Blue Hor 88.65 48 IAmb IAmb 10 04 04.9
comp=Z,80nm,1.2s
YBH Yreka Blue Hor 88.65 48 LR LR 10 36 04.7
comp=Z,14µm,21.7s,baz=278,slow=30
MOS Moscow 88.77 326 *e*P **P** 10 03 59.1 -2.9
MOS *e* 10 07 31.9
MOS *e* 10 14 26.7
MOS *e*S **S** 10 14 52.4 +3.8
MOS *e*PS **PnS** 10 15 46.7 -6.1
MOS pmax pmax
comp=Z,126nm,1.3s
MOS MLR MLR
comp=N,7µm,20.0s
MOS MLR MLR
comp=E,21µm,20.0s
MOS MLR MLR
comp=Z,28µm,20.0s
L04D Klamath Falls 88.84 47 IAmb IAmb 10 04 05.5
comp=Z,136nm,1.3s
LTY Liberty 88.85 42 IAmb IAmb 10 04 05.1
comp=Z,219nm,1.8s
LTY IAMs_20 IAMs_20 10 35 01.2
comp=Z,13µm,22.0s
LPSR Galich'ya Gora 88.86 323 *e*P **P** 10 04 00.1 -2.4
LPSR pmax pmax
comp=Z,60nm,0.9s
G05A Wamic 88.88 44 IAmb IAmb 10 04 25.9
comp=Z,100nm,1.1s
G05A IAMs_20 IAMs_20 10 34 42.9
comp=Z,11µm,22.0s
VORR Voronezh 88.94 322 *e*P **P** 10 04 01.7 -1.2
VORR pmax pmax
comp=Z,56nm,1.3s
HOPS Hopland Field 88.95 51 IAmb IAmb 10 04 33.8
comp=Z,206nm,1.9s
HOPS IAMs_20 IAMs_20 10 40 59.4
comp=Z,11µm,20.0s
SBA Scott Base 89.00 175 P **P** 10 04 03.5 +1.0
SBA IAmb IAmb 10 04 15.6
comp=Z,149nm,1.9s
SBA Scott Base 89.00 175 IAMs_20 IAMs_20 10 39 37.2
comp=Z,10µm,20.0s
SBA Scott Base 89.00 175 P **P** 10 04 03.5 +1.0
SBA pmax pmax
comp=Z,149nm,1.9s
ARCES ARCESS Array B 89.01 341 P **P** 10 04 01.0 -1.9
ARCES ARCESS Array B 89.01 341 P **P** 10 04 01.0 -1.9
ARCES pmax pmax
comp=Z,37nm,1.0s
ARCES ARCESS Array B 89.01 341 P **P** 10 04 02.5 -0.4
comp=Z,15nm,0.8s,baz=62,slow=5.5,SNR=14
ARCES PP **PP** 10 07 31.7 -0.5
comp=Z,8.8nm,1.1s,baz=65,slow=11,SNR=1.7
ARCES LR LR 10 46 34.5
comp=Z,32µm,21.1s,baz=76,slow=37
comp=Z,15nm,0.8s
RES Resolute Bay 89.03 13 LR LR 10 46 42.8
comp=Z,6µm,19.7s,baz=302,slow=38
I05D Terrebonne, OR 89.06 45 IAmb IAmb 10 04 06.4
comp=Z,224nm,1.7s
I05D IAMs_20 IAMs_20 10 35 13.0
comp=Z,11µm,22.0s
VORD Divnogorie 89.06 322 *e*P **P** 10 04 01.1 -2.4
VORD pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 89.08 322 *e*P **P** 10 04 00.6 -3.0
VSR pmax pmax
comp=Z,30nm,1.0s
VSR MLR MLR
comp=Z,18µm,17.0s
K04D Chiloquin, OR 89.15 47 IAmb IAmb 10 04 07.1
comp=Z,181nm,1.2s
K04D IAMs_20 IAMs_20 10 35 58.4
comp=Z,15µm,22.0s
GDXM Geysers 89.20 51 IAmb IAmb 10 04 07.8
comp=Z,96nm,1.5s
MCCM Marconi Confer 89.27 52 IAmb IAmb 10 04 14.4
comp=Z,157nm,1.6s
MCCM IAMs_20 IAMs_20 10 41 46.0
comp=Z,12µm,18.0s
G06A Carlson Farm, 89.34 44 IAmb IAmb 10 04 20.3
comp=Z,136nm,1.8s
G06A IAMs_20 IAMs_20 10 37 05.4
comp=Z,10µm,21.0s
J05D Fort Rock, OR 89.37 46 IAmb IAmb 10 04 08.3
comp=Z,145nm,1.3s
J05D IAMs_20 IAMs_20 10 37 49.3
comp=Z,11µm,20.0s
PINE Pine Mountain 89.47 46 IAmb IAmb 10 04 08.8
comp=Z,110nm,1.0s
PINE IAMs_20 IAMs_20 10 36 09.7
comp=Z,15µm,22.0s
OBN Obninsk 89.52 326 ⇑P **P** 10 04 06.8 +1.2
OBN Obninsk 89.52 326 *i* P **P** 10 04 04.7 -0.8
OBN *i* 10 04 10.9
OBN *i* 10 07 33.7
OBN *i*S **S** 10 14 53.8 -1.9
OBN *i*SS **SS** 10 20 52.2 +1.4
OBN pmax pmax
comp=Z,131nm,1.6s
OBN MLR MLR
comp=Z,30µm,22.0s
OBN Obninsk 89.52 326 P **P** 10 04 04.1 -1.4
comp=Z,19nm,0.3s,baz=96,slow=3.5,SNR=10
OBN LR LR 10 45 04.2
comp=Z,27µm,22.0s,baz=68,slow=36
comp=Z,19nm,0.3s
E07A Sunnyside 89.56 43 IAmb IAmb 10 04 08.9
comp=Z,107nm,1.3s
F07A Phinny Hill Vi 89.67 43 IAmb IAmb 10 04 09.4
comp=Z,119nm,1.5s
F07A IAMs_20 IAMs_20 10 38 20.9
comp=Z,14µm,20.0s
K05A Summer Lake 89.75 47 IAmb IAmb 10 04 39.5
comp=Z,83nm,1.0s
HAWA Hanford 89.82 43 IAmb IAmb 10 04 10.0
comp=Z,107nm,1.4s
ORV Oroville 90.02 50 IAmb IAmb 10 04 10.7
comp=Z,84nm,1.2s
D08A Wollman Farm, 90.06 42 IAmb IAmb 10 04 11.0
comp=Z,130nm,1.5s
E08A Dider Farm, El 90.11 43 IAmb IAmb 10 04 11.3
comp=Z,123nm,1.4s
E08A IAMs_20 IAMs_20 10 36 02.5
comp=Z,13µm,22.0s
C09A Chrisman Ranch 90.29 41 IAmb IAmb 10 04 11.9
comp=Z,84nm,1.4s
C09A IAMs_20 IAMs_20 10 36 09.1
comp=Z,13µm,22.0s
I07A Izee 90.41 45 IAMs_20 IAMs_20 10 36 06.5
comp=Z,17µm,22.0s
G08A Pilot Rock 90.48 44 IAmb IAmb 10 04 13.2
comp=Z,126nm,1.8s
AFDM Forest Hills D 90.56 50 IAmb IAmb 10 04 13.6
comp=Z,72nm,1.2s

SOC Sochi 90.64 314 eP P 10 04 13.4 +2.3
SOC eS SKSac 10 14 45.4 +3.0
SOC eSSS SSS 10 24 42.0
SAO San Andreas Ge 90.69 53 IAMs_20 IAMs_20 10 44 25.5
comp=Z,11µm,18.0s
E09A Wood Farm, Sta 90.71 43 IAmb IAmb 10 04 14.2
comp=Z,122nm,1.3s
E09A IAMs_20 IAMs_20 10 36 19.4
comp=Z,12µm,22.0s
NEW Newport 90.91 41 IAmb IAmb 10 04 14.8
comp=Z,82nm,1.4s
NEW Newport 90.91 41 IAMs_20 IAMs_20 10 37 55.5
comp=Z,14µm,21.0s
NEW Newport 90.91 41 P P 10 04 13.3 +1.0
baz=286,SNR=24
NEW S S 10 15 10.3 +1.3
baz=286
NEW Newport 90.91 41 LR LR 10 38 37.2
comp=Z,14µm,20.6s,baz=285,slow=31
BBGB Big Mountain B 91.05 53 IAmb IAmb 10 04 22.2
comp=Z,99nm,1.1s
BBGB IAMs_20 IAMs_20 10 36 29.0
comp=Z,10µm,21.0s
EMB Emerald Bay 91.21 50 IAmb IAmb 10 04 17.0
comp=Z,91nm,1.3s
CMB Columbia Colle 91.22 51 IAmb IAmb 10 04 16.5
comp=Z,57nm,1.1s
CMB IAMs_20 IAMs_20 10 38 40.4
comp=Z,11µm,20.0s
PLTX Planet X, Gerl 91.26 48 IAmb IAmb 10 04 17.2
comp=Z,103nm,1.2s
J08A Circle Bar Ran 91.31 46 IAmb IAmb 10 04 17.0
comp=Z,60nm,1.1s
J08A IAMs_20 IAMs_20 10 40 40.5
comp=Z,10µm,20.0s
PMPB Monarch Peak 91.32 53 IAmb IAmb 10 04 35.1
comp=Z,125nm,1.3s
PMPB IAMs_20 IAMs_20 10 36 03.2
comp=Z,11µm,21.0s
WVOR Wild Horse Val 91.43 47 P P 10 04 15.4 +0.4
WVOR Wild Horse Val 91.43 47 P P 10 04 15.4 +0.4
WVOR pmax pmax
comp=Z,34nm,1.0s
PNTR Pine Nut 91.56 50 IAmb IAmb 10 04 18.8
comp=Z,111nm,1.1s
PAHR Pah Rah Range 91.57 49 IAmb IAmb 10 04 18.4
comp=Z,66nm,1.2s
PAHR IAMs_20 IAMs_20 10 37 32.6
comp=Z,12µm,20.0s
EDM Edmonton 91.70 35 IAmb IAmb 10 04 18.1
comp=Z,127nm,1.1s
EDM IAMs_20 IAMs_20 10 40 17.9
comp=Z,9µm,20.0s
BMO Blue Mountains 91.72 44 IAmb IAmb 10 04 18.5
comp=Z,76nm,1.3s
BMO IAMs_20 IAMs_20 10 39 25.3
comp=Z,10µm,20.0s
WAKR Walker 91.83 51 IAmb IAmb 10 04 20.1
comp=Z,85nm,1.3s
WAKR IAMs_20 IAMs_20 10 38 42.5
comp=Z,11µm,20.0s
YERR Yerington 91.86 50 IAmb IAmb 10 04 19.9
comp=Z,91nm,1.2s
ANN Anapa 91.91 316 eP P 10 04 17.3 +0.4
ANN e*PP sP 10 04 20.7 -2.3
ANN e 10 14 50.4
ANN e 10 15 09.9
ANN eSP SP 10 16 31.3 +4.2
ANN eSS SS 10 21 37.8 +12
ANN pmax pmax
comp=Z,125nm,1.1s
ANN MLR MLR
comp=N,19µm,24.0s
ANN MLR MLR
comp=Z,17µm,22.0s
ANN MLR MLR
comp=E,12µm,21.0s
SMMC Simmler 92.17 54 P P 10 04 19.9 +1.5
baz=284
SMMC S S 10 15 19.7 -1.2
baz=284
FINES FINESS Array B 92.38 334 i P P 10 04 17.2 -1.5
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 92.38 334 P P 10 04 17.3 -1.4
comp=Z,5.8nm,0.7s,baz=74,slow=4.2,SNR=18
FINES LR LR 10 46 52.8
comp=Z,14µm,22.0s,baz=68,slow=36
comp=Z,5.8nm,0.7s
OMMB Old Mammoth Mi 92.38 51 IAMs_20 IAMs_20 10 40 13.3
comp=Z,10µm,20.0s
VOG Valley Oaks Go 92.41 53 P P 10 04 20.4 +1.0
baz=284
PKM Mcpherson Peak 92.41 54 P P 10 04 20.8 +1.1
baz=284,SNR=19
NEEM North Greenlan 92.44 2 i P P 10 04 18.6 -0.5
NEEM IAmb IAmb 10 04 27.0
comp=Z,14nm,0.9s
DAG Danmarks Havn 92.47 355 i P P 10 04 18.3 -0.6
DAG IAmb IAmb 10 04 30.1
comp=Z,6.6nm,0.7s
RYN Ryan 92.49 50 IAmb IAmb 10 04 22.8
comp=Z,47nm,1.0s
MLAC Mammoth, Mammo 92.50 51 P P 10 04 21.8 +1.6
baz=285,SNR=18
MLAC S S 10 15 24.2 -0.1
baz=285
SBC Santa Barbara 92.60 55 P P 10 04 21.5 +1.2
baz=284
SBC S S 10 15 25.8 +1.1
baz=284
LHV Little Huntoon 92.60 51 IAmb IAmb 10 04 23.6
comp=Z,72nm,1.3s
LHV IAMs_20 IAMs_20 10 39 38.0
comp=Z,15µm,20.0s
KVN Kaiserville 92.70 50 IAmb IAmb 10 04 23.7
comp=Z,55nm,1.2s
NVAR Mina Array Bea 92.71 50 P P 10 04 22.2 +1.2
comp=Z,33nm,0.8s,baz=263,slow=5.9,SNR=230
NVAR PP PP 10 08 02.3 -0.4
comp=Z,3.5nm,1.0s,baz=276,slow=8.1,SNR=2.6
NVAR PKKPbc PKKPbc 10 21 33.1 -0.6
comp=Z,1.3nm,1.1s,baz=117,slow=2.3,SNR=4.4
NVAR LR LR 10 43 58.1
comp=Z,9µm,18.2s,baz=286,slow=34
comp=Z,33nm,0.8s
BCW Bitter Crk WRg 92.72 54 IAmb IAmb 10 04 46.3
comp=Z,100nm,1.2s
BCW IAMs_20 IAMs_20 10 52 51.4
comp=Z,10µm,18.0s
VES Vestal, Richgr 92.76 53 P P 10 04 21.9 +0.9
baz=284,SNR=14
VES S S 10 15 26.5 +0.5
baz=284
SCZ2 Santa Cruz Isl 92.77 55 P P 10 04 21.9 +0.7
baz=284
NV11 Mina Array Sit 92.82 50 IAmb IAmb 10 04 24.3
comp=Z,57nm,1.1s
NV11 IAMs_20 IAMs_20 10 40 14.8
comp=Z,10µm,20.0s
BMN Battle Mountai 92.99 48 IAmb IAmb 10 04 32.9
comp=Z,99nm,1.8s
SNCC San Nicolas Is 93.04 56 IAMs_20 IAMs_20 10 39 19.0
comp=Z,10µm,20.0s
SNCC San Nicolas Is 93.04 56 P P 10 04 23.2 +0.8
baz=284
SNCC S S 10 15 29.6 +0.9
baz=284
TIN Tinemaha, Big 93.12 52 P P 10 04 24.4 +1.5
baz=285
TIN S S 10 15 31.1 +1.6
baz=285
MFID Camas Ranch 93.15 45 IAmb IAmb 10 04 25.4
comp=Z,73nm,1.1s
ISA Isabella, Lake 93.28 53 IAMs_20 IAMs_20 10 37 03.3
comp=Z,12µm,22.0s
ISA Isabella, Lake 93.28 53 P P 10 04 24.4 +0.9
baz=285,SNR=17
ISA S S 10 15 30.1 -0.8
baz=285
OSI Osito Audit: C 93.35 54 P P 10 04 25.1 +1.2
baz=285
OSI S S 10 15 32.8 +1.3
baz=285
MSO Missoula 93.39 41 P P 10 04 24.5 +0.6
baz=288,SNR=12
MSO S S 10 15 30.5 -1.0
baz=288

CWC Cottonwood Cre 93.39 52 P P 10 04 25.3 +1.1
baz=285
CWC S S 10 15 33.5 +1.5
baz=285
DECC Green Verdugo 93.75 54 P P 10 04 26.3 +0.5
baz=285
DECC S S 10 15 36.3 +1.4
baz=285
CCAC Calif City Air 93.78 54 IAmb IAmb 10 04 50.7
comp=Z,56nm,1.1s
CCAC IAMs_20 IAMs_20 10 37 41.3
comp=Z,13µm,21.0s
GRAC Grapevine Rang 93.80 52 IAmb IAmb 10 04 50.9
comp=Z,142nm,1.8s
GRAC IAMs_20 IAMs_20 10 44 10.8
comp=Z,9µm,19.0s
GRAC Grapevine Rang 93.80 52 P P 10 04 26.9 +1.0
baz=286,SNR=10
GRAC S S 10 15 36.0 +0.6
baz=286
EDW2 Edwards Air Fo 93.86 54 P P 10 04 27.5 +1.3
baz=285,SNR=18
EDW2 S S 10 15 38.6 +2.6
baz=285
PASC Pasadena Art C 93.89 54 IAMs_20 IAMs_20 10 54 41.5
comp=Z,10µm,18.0s
CIS Catalina Islan 93.90 55 P P 10 04 26.9 +0.5
baz=285
CIS S S 10 15 37.6 +1.3
baz=285
FMP Fort Macarthur 93.92 55 P P 10 04 27.1 +0.7
baz=285
FMP S S 10 15 37.1 +0.7
baz=285
PTCN Pitcairn Islan 93.93 115 IAMs_20 IAMs_20 10 39 56.6
comp=Z,15µm,21.0s
LRMC Laurel Mtn Rad 93.95 53 P P 10 04 26.9 +0.2
baz=285,SNR=26
MPMC Manual Prospec 93.95 53 P P 10 04 27.9 +1.1
baz=285,SNR=49
MPMC S S 10 15 37.8 +0.8
baz=285
HLID Hailey 94.09 45 IAMs_20 IAMs_20 10 38 43.9
comp=Z,9µm,21.0s
HLID Hailey 94.09 45 P P 10 04 28.6 +1.4
baz=288,SNR=58
HLID S S 10 15 37.2 -0.7
baz=288
SIM Simferopol' 94.12 317 eP P 10 04 24.4 -2.7
SIM eS S 10 15 29.2 -8.5
SIM pmax pmax
comp=Z,48nm,1.3s
GAZ Gaziantep 94.16 309 P P 10 04 27.1 -0.5
BFSC Mount Baldy Ra 94.30 54 P P 10 04 28.6 +0.3
baz=285
FURC Furnace Creek, 94.33 52 P P 10 04 29.5 +1.3
baz=286,SNR=47
FURC S S 10 15 40.7 +0.9
baz=286
ELK Elko 94.35 48 LR LR 10 39 50.5
comp=Z,19µm,21.9s,baz=286,slow=31
MAW Mawson 94.41 202 P P 10 04 28.6 +0.8
comp=Z,80nm,0.9s,baz=65,slow=5.3,SNR=51
MAW LR LR 10 44 27.5
comp=Z,8µm,19.6s,baz=69,slow=34
comp=Z,80nm,0.9s
WCT Wildcat Mounta 94.43 52 IAmb IAmb 10 04 31.4
comp=Z,112nm,1.6s
MNK Minsk 94.44 327 i P P 10 04 27.3 -1.1
comp=E,10.0nm,1.0s
MNK i P P 10 04 27.3 -1.1
comp=N,14nm,1.0s
MNK i P P 10 04 27.3 -1.1
comp=Z,15nm,1.0s,baz=66
MNK i PP PP 10 08 05.4 -10
MNK i PPP PPP 10 10 12.7
MNK i SKS 10 14 16.0
MNK i S SKSac 10 15 03.2 +0.1
MNK i PS PS 10 16 50.8 -6.1
MNK i SS SS 10 22 03.4 +1.9
MNK i SSS SSS 10 25 45.0
MNK i LQ LQ 10 38 27.7
MNK i LR LR 10 42 09.3
MNK i LRM MLR 10 47 54.0
comp=N,7µm,18.4s
MNK i LRM MLR 10 48 35.3
comp=E,7µm,18.4s
MNK i LRM MLR 10 48 39.9
comp=Z,17µm,18.4s
MNK Minsk 94.44 327 i P P 10 04 27.2 -1.1
MNK i S SKSac 10 15 03.2 +0.1
MNK i PS PS 10 16 50.8 -6.1
MNK i SS SS 10 22 03.4 +1.9
MNK i SSS SSS 10 25 45.0
MNK pmax pmax
comp=N,14nm,1.0s
MNK pmax pmax
comp=E,10.0nm,1.0s
MNK pmax pmax
comp=Z,15nm,1.0s
MNK MLR MLR
comp=N,7µm,18.0s
MNK MLR MLR
comp=E,7µm,18.0s
MNK MLR MLR
comp=Z,17µm,18.0s
QSM Queen of Sheba 94.46 52 IAMs_20 IAMs_20 10 38 50.4
comp=Z,9µm,20.0s
GWY Greenwater Val 94.56 52 IAmb IAmb 10 04 49.6
comp=Z,74nm,1.4s
ELS Elsinore Mount 94.64 55 IAMs_20 IAMs_20 10 44 09.2
comp=Z,9µm,19.0s
RRX Edison Barstow 94.66 54 P P 10 04 30.4 +0.5
baz=286
RRX S S 10 15 44.5 +1.7
baz=286
TPNV Topopah Spring 94.67 51 P P 10 04 31.4 +1.3
baz=286,SNR=34
TPNV S S 10 15 43.4 +0.2
baz=286
GSC Goldstone, Bar 94.69 53 IAMs_20 IAMs_20 10 37 46.5
comp=Z,10µm,21.0s
GSC Goldstone, Bar 94.69 53 P P 10 04 31.1 +1.0
baz=286,SNR=25
GSC S S 10 15 44.7 +1.4
baz=286
BNN Bunyan 94.72 311 IAmb IAmb 10 04 40.4
comp=Z,84nm,1.4s
R11B Troy Canyon, C 94.79 50 P P 10 04 32.0 +1.4
baz=287,SNR=24
R11B S S 10 15 44.5 +0.3
baz=287
MURC Murrieta 94.83 55 P P 10 04 31.3 +0.6
baz=285
MURC S S 10 15 46.5 +2.0
baz=285
NACGM Naroch 94.86 328 PP PP 10 08 29.4 +11
baz=65
S11A Rachel 94.86 51 IAMs_20 IAMs_20 10 41 09.9
comp=Z,12µm,20.0s
BBRC Big Bear Solar 94.88 54 P P 10 04 31.7 +0.6
baz=286
BBRC S S 10 15 46.7 +1.5
baz=286
DBG Daneborg 94.94 355 i P P 10 04 30.6 +0.4
DBG IAmb IAmb 10 04 42.6
comp=Z,6.3nm,0.9s
109C Camp Elliot, M 95.09 55 IAMs_20 IAMs_20 10 40 19.4
comp=Z,10µm,20.0s
109C Camp Elliot, M 95.09 55 P P 10 04 32.6 +0.8
baz=285
109C S S 10 15 46.0 -0.7
baz=285
ATD Arta Tunnel 95.10 283 LR LR 10 44 18.2
comp=Z,63nm,20.8s,baz=65,slow=34
Q12A Willow Creek R 95.15 49 IAmb IAmb 10 05 05.6
comp=Z,42nm,1.1s
Q12A IAMs_20 IAMs_20 10 39 26.4
comp=Z,13µm,21.0s
HEC Hector,Ludlow 95.19 53 P P 10 04 33.2 +0.8
baz=286,SNR=24
HEC S S 10 15 48.1 +0.5
baz=286
AKASG Malin Array Be 95.19 323 i P P 10 04 29.2 -2.7
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 95.19 323 P P 10 04 30.3 -1.6
comp=Z,3.3nm,0.7s,baz=56,slow=4.1,SNR=13
AKASG PP PP 10 08 20.3 -1.1
comp=Z,0.3nm,0.3s,baz=54,slow=6.5,SNR=2.1
AKASG LR LR 10 50 20.3
comp=Z,10µm,20.0s,baz=59,slow=37
comp=Z,3.3nm,0.7s
AKBB Malin Array Si 95.19 323 ||eP P 10 04 30.0 -1.9
TJX Tijuana 95.24 56 IAMs_20 IAMs_20 10 40 52.1
comp=Z,10µm,20.0s
BOZ Bozeman (W) 95.31 42 IAmb IAmb 10 04 35.2
comp=Z,81nm,1.5s
BOZ IAMs_20 IAMs_20 10 39 05.1
comp=Z,11µm,22.0s
BOZ Bozeman (W) 95.31 42 P P 10 04 33.5 +0.7
baz=290,SNR=30
BOZ S S 10 15 48.6 +0.1
baz=290
TUQ Turquoise Moun 95.35 53 P P 10 04 34.4 +1.2
baz=286,SNR=22
TUQ S S 10 15 50.6 +1.5
baz=286
PFO Pinyon Flats O 95.42 55 P P 10 04 33.3 -0.2
PFO Pinyon Flats O 95.42 55 IAMs_20 IAMs_20 10 51 52.1
comp=Z,8µm,19.0s
PFO Pinyon Flats O 95.42 55 P P 10 04 34.2 +0.7
baz=286,SNR=9.4
PFO S S 10 15 51.0 +1.1
baz=286
PFO Pinyon Flats O 95.42 55 ||i P P 10 04 34.6 +1.1
PFO pmax pmax
comp=Z,41nm,1.3s
PFO Pinyon Flats O 95.42 55 LR LR 10 40 45.8
comp=Z,9µm,20.7s,baz=278,slow=31
TPFO Pinon Flats 95.43 55 P P 10 04 34.3 +0.7
baz=286,SNR=9.2
TPFO S S 10 15 50.4 +0.5
baz=286
PRN Pahroc Range 95.46 51 IAMs_20 IAMs_20 10 41 28.8
comp=Z,11µm,20.0s
PMD Palm Desert 95.48 55 IAMs_20 IAMs_20 10 44 45.5
comp=Z,9µm,19.0s
BAR Barrett 95.50 56 IAMs_20 IAMs_20 10 43 45.2
comp=Z,10µm,20.0s
SPR3 Spring Creek 3 95.53 49 IAMs_20 IAMs_20 10 39 39.5
comp=Z,13µm,22.0s
TKX Tecate 95.58 56 IAMs_20 IAMs_20 10 41 04.4
comp=Z,10µm,20.0s
MONP2 Monument Peak 95.65 55 P P 10 04 35.3 +0.7
baz=286
MONP2 S S 10 15 53.7 +1.8
baz=286
EGMT Eagleton 95.66 39 IAmb IAmb 10 04 36.2
comp=Z,78nm,1.2s
EGMT IAMs_20 IAMs_20 10 40 39.9
comp=Z,12µm,21.0s
EGMT Eagleton 95.66 39 P P 10 04 35.0 +0.8
baz=292,SNR=16
EGMT S S 10 15 50.1 -1.1
baz=292
BELC Belle Mtn. Jos 95.69 54 P P 10 04 35.4 +0.7
baz=286,SNR=9.1
BELC S S 10 15 52.1 0.0
baz=286
CCX Cicese 95.72 56 IAMs_20 IAMs_20 10 50 18.1
comp=Z,8µm,18.0s
GMRC Granite Mounta 95.74 53 P P 10 04 35.9 +1.0
baz=286,SNR=25
GMRC S S 10 15 52.4 -0.1
baz=286
HVU Hansel Valley 95.80 46 IAMs_20 IAMs_20 10 39 19.2
comp=Z,13µm,22.0s
YHL Hebgen Lake 95.87 43 IAMs_20 IAMs_20 10 43 08.8
comp=Z,8µm,20.0s
BGU Big Grassy Mou 95.89 47 IAMs_20 IAMs_20 10 39 54.8
comp=Z,15µm,22.0s
IKP In-Ko-Pah, Jac 95.97 55 P P 10 04 36.5 +0.6
baz=286
IKP S S 10 15 54.0 -0.5
baz=286
ABPO Ambohimpanom 95.98 252 P P 10 04 35.2 -1.1
ABPO Ambohimpanom 95.98 252 P P 10 04 35.2 -1.1
ABPO pmax pmax
comp=Z,28nm,1.1s
RMX La Rumorosa 96.00 56 IAMs_20 IAMs_20 10 41 28.9
comp=Z,12µm,20.0s
YMR Madison River 96.08 43 IAmb IAmb 10 04 39.7
comp=Z,107nm,1.4s
YMR IAMs_20 IAMs_20 10 43 26.3
comp=Z,10µm,20.0s
BR131 Keskin Array S 96.10 312 ⇑i P P 10 04 37.4 +0.9
BRTR Keskin Array B 96.10 312 P P 10 04 35.5 -0.9
BRTR Keskin Array B 96.10 312 i P P 10 04 37.0 +0.5
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 96.10 312 P P 10 04 35.2 -1.3
comp=Z,2.8nm,0.8s,baz=76,slow=5.2,SNR=8.9
BRTR LR LR 10 51 56.3
comp=Z,4µm,21.9s,baz=57,slow=38
comp=Z,2.8nm,0.8s
V12A Nelson 96.10 52 IAmb IAmb 10 04 39.3
comp=Z,36nm,1.0s
YUH Yuha Desert 96.12 55 IAMs_20 IAMs_20 10 41 21.5
comp=Z,12µm,20.0s
SWSC Sam W. Stewart 96.14 55 P P 10 04 37.1 +0.5
baz=286
SWSC S S 10 15 55.9 +0.2
baz=286
SPUT South Promonto 96.18 46 IAMs_20 IAMs_20 10 39 43.4
comp=Z,12µm,22.0s
BC3 Big Chuckawall 96.22 54 P P 10 04 38.0 +0.9
baz=286,SNR=9.5
BC3 S S 10 15 53.4 -3.3
baz=286
YNM Yellowstone No 96.23 43 IAMs_20 IAMs_20 10 42 50.4
comp=Z,9µm,19.0s
YFT Old Faithful 96.24 43 IAmb IAmb 10 04 49.3
comp=Z,52nm,1.2s
YNR Norris Junctio 96.25 43 IAMs_20 IAMs_20 10 42 51.9
comp=Z,9µm,19.0s
ESJX Sierra Juarez 96.27 56 IAmb IAmb 10 05 38.4
comp=Z,56nm,1.2s
ESJX IAMs_20 IAMs_20 10 41 13.7
comp=Z,9µm,20.0s
DUG Dugway, Tooele 96.28 47 IAmb IAmb 10 04 39.5
comp=Z,82nm,1.8s
DUG IAMs_20 IAMs_20 10 40 29.1
comp=Z,12µm,22.0s
DUG Dugway, Tooele 96.28 47 P P 10 04 37.5 +0.2
baz=289,SNR=19
DUG S S 10 15 54.7 -2.3
baz=289
IRM Iron Mountain 96.32 54 P P 10 04 38.7 +1.2
baz=287,SNR=9.6
IRM S S 10 15 54.4 -3.0
baz=287
IMW Indian Meadow 96.36 43 IAmb IAmb 10 04 40.6
comp=Z,83nm,1.9s
H17A Grant Village 96.43 43 IAmb IAmb 10 04 42.4
comp=Z,126nm,1.8s
H17A Grant Village 96.43 43 P P 10 04 39.3 +1.3
baz=291,SNR=16
H17A S S 10 15 57.7 -0.7
baz=291
JMIC Jan Mayen 96.45 350 LR LR 10 47 53.6
comp=Z,3µm,21.3s,baz=60,slow=35
FLWY Flagg Ranch 96.46 43 IAMs_20 IAMs_20 10 42 18.5
comp=Z,9µm,21.0s
UABX UABC, Campus M 96.51 55 IAMs_20 IAMs_20 10 47 46.9
comp=Z,8µm,19.0s
NEE2 Needles Airpor 96.56 53 P P 10 04 39.3 +0.8
baz=287
SNOW Snow King Moun 96.64 44 IAmb IAmb 10 05 33.0
comp=Z,70nm,1.9s
CCUT Cedar City 96.70 50 IAMs_20 IAMs_20 10 54 59.5
comp=Z,8µm,18.0s
HWUT Hardware Ranch 96.71 46 IAmb IAmb 10 04 41.4
comp=Z,40nm,1.4s
HWUT IAMs_20 IAMs_20 10 40 23.4
comp=Z,13µm,22.0s
MMAI Mount Meron Ar 96.74 305 P P 10 04 38.5 -0.9
comp=Z,2.8nm,0.6s,baz=125,slow=4.2,SNR=1.8
MMAI LR LR 10 53 16.4
comp=Z,8µm,20.2s,baz=46,slow=39
comp=Z,2.8nm,0.6s
CTU Camp Tracy 96.88 47 IAmb IAmb 10 04 42.0
comp=Z,64nm,1.9s
CTU IAMs_20 IAMs_20 10 40 37.0
comp=Z,11µm,21.0s

NLU North Lily Min 96.89 48 IAMs_20 IAMs_20 10 40 48.3
comp=Z,15µm,22.0s
TCUT Toone Canyon 96.98 46 IAMs_20 IAMs_20 10 40 31.7
comp=Z,15µm,22.0s
RLMT Red Lodge 97.04 42 IAMs_20 IAMs_20 10 40 21.8
comp=Z,10µm,22.0s
RLMT Red Lodge 97.04 42 P Pdif 10 04 42.2 +1.4
baz=292,SNR=7.1
W13A Hualapai Mount 97.04 53 IAMs_20 IAMs_20 10 40 26.7
comp=Z,10µm,21.0s
TCRU Three Creeks R 97.05 49 IAMs_20 IAMs_20 10 43 11.7
comp=Z,13µm,20.0s
PDMCI Parker Dam,Lak 97.08 53 P Pdif 10 04 41.9 +0.9
baz=287,SNR=6.0
PDMCI S **S 10 16 00.1 -3.6**
baz=287
SUW Suwalki 97.14 328 *e*P **P 10 04 39.8 -0.9**
FFC Flin Flon 97.23 31 P **P 10 04 41.2 +0.1**
FFC IAmb IAmb 10 04 42.7
comp=Z,44nm,1.2s
FFC Flin Flon 97.23 31 IAMs_20 IAMs_20 10 44 20.0
comp=Z,12µm,21.0s
FFC Flin Flon 97.23 31 P **P 10 04 41.2 +0.1**
FFC pmax pmax
comp=Z,44nm,1.2s
KNB Kanab 97.28 51 IAmb IAmb 10 04 44.8
comp=Z,33nm,1.0s
KNB IAMs_20 IAMs_20 10 42 26.8
comp=Z,9µm,21.0s
SFX San Felipe 97.44 57 IAMs_20 IAMs_20 10 40 39.6
comp=Z,9µm,22.0s
PKCU Pink Cliffs 97.53 50 IAmb IAmb 10 04 54.5
comp=Z,56nm,1.3s
PKCU IAMs_20 IAMs_20 10 42 29.4
comp=Z,9µm,20.0s
SUMG Summit 97.56 360 IAmb IAmb 10 04 57.3
comp=Z,85nm,1.8s
SUMG Summit 97.56 360 *i* P **P 10 04 43.0 +0.3**
SUMG IAmb IAmb 10 04 52.9
comp=Z,7.1nm,0.9s
BW06 Boulder Array 97.70 44 P Pdif 10 04 44.4 +0.6
baz=291
BW06 S **S 10 16 12.1 +2.8**
baz=291
PDAR Pinedale Array 97.70 44 P **P 10 04 44.1 +0.3**
comp=Z,2.2nm,0.9s,baz=294,slow=4.7,SNR=11
PDAR PP **PP 10 08 40.1 -1.2**
comp=Z,3.0nm,1.1s,baz=285,slow=5.7,SNR=9.0
PDAR PKKPbc **PKKPbc 10 21 18.6 -2.0**
comp=Z,1.1nm,0.9s,baz=99,slow=4.7,SNR=6.5
PDAR LR LR 10 44 16.0
comp=Z,1µm,20.1s,baz=312,slow=33
comp=Z,2.2nm,0.9s
113A Mohawk Valley, 97.83 55 IAMs_20 IAMs_20 10 42 56.7
comp=Z,10µm,19.0s
U15A North Rim 97.87 51 IAMs_20 IAMs_20 10 49 18.4
comp=Z,10µm,19.0s
Q16A Castle Valley 97.89 48 IAMs_20 IAMs_20 10 41 07.3
comp=Z,13µm,21.0s
TPGR Topolog 97.94 318 ⇑P **P 10 04 44.0 -0.6**
EIL Elat 98.05 302 LR LR 10 53 50.4
comp=Z,5µm,19.4s,baz=68,slow=38
Y14A Wickenburg 98.08 53 IAMs_20 IAMs_20 10 46 31.4
comp=Z,10µm,19.0s
HFS Hagfors 98.24 336 P **P 10 04 44.3 -1.2**
comp=Z,3.4nm,0.7s,baz=57,slow=10,SNR=2.6
HFS LR LR 10 51 27.1
comp=Z,15µm,20.3s,baz=54,slow=37
comp=Z,3.4nm,0.7s
LAO LASA Array 98.39 40 IAMs_20 IAMs_20 10 42 25.2
comp=Z,13µm,22.0s
LAO LASA Array 98.39 40 P Pdif 10 04 47.2 +0.6
baz=294,SNR=11
LAO LASA Array 98.39 40 P Pdif 10 04 47.7 +1.2
baz=294
TESR Tescani 98.42 320 ⇑P **P 10 04 44.6 -2.0**
RDMU Red Mountain 98.48 46 IAmb IAmb 10 04 49.5
comp=Z,61nm,1.7s
HMU Henry Mountain 98.54 49 IAMs_20 IAMs_20 10 41 28.1
comp=Z,11µm,22.0s
VRI Vrincioaia 98.64 320 ⇑P **P 10 04 47.8 +0.2**
VRI Vrincioaia 98.64 320 ⇑P **P 10 04 47.8 +0.2**
NOA NORSAR Array B 98.65 337 P **P 10 04 45.9 -1.5**
comp=Z,0.8nm,0.6s,baz=56,slow=4.7,SNR=2.5
NOA PP **PP 10 08 46.8 -0.9**
comp=Z,1.3nm,0.8s,baz=45,slow=8.0,SNR=4.2
NOA LR LR 10 51 47.1
comp=Z,14µm,20.3s,baz=65,slow=37
comp=Z,0.8nm,0.6s
PLOR Plostina 98.69 320 ⇑P Pdif 10 04 48.8 +0.9
PLOR Plostina 98.69 320 ⇑P Pdif 10 04 48.8 +0.9
FCC Fort Churchill 98.75 25 IAMs_20 IAMs_20 10 48 08.7
comp=Z,9µm,21.0s
214A Organ Pipe Nat 98.84 55 IAMs_20 IAMs_20 10 42 52.6
comp=Z,9µm,20.0s
214A Organ Pipe Nat 98.84 55 Pdiff Pdif 10 04 49.6 +0.7
baz=288
214A S **S 10 16 19.1 +0.1**
baz=288
BURAR Bucovina Array 98.85 322 ⇓P **P 10 04 45.7 -3.0**
BURAR Bucovina Array 98.85 322 ⇓P **P 10 04 45.7 -3.0**
WUAZ Wupatki 98.86 52 IAMs_20 IAMs_20 10 48 15.9
comp=Z,9µm,19.0s
WUAZ Wupatki 98.86 52 Pdiff Pdif 10 04 50.4 +1.3
baz=289
WUAZ S **S 10 16 22.1 +2.7**
baz=289
DGMT Dagmar 98.87 37 IAMs_20 IAMs_20 10 43 08.9
comp=Z,14µm,22.0s
DGMT Dagmar 98.87 37 Pdiff Pdif 10 04 49.5 +0.9
baz=296
TURR Turia 99.01 320 ⇑P **Pdif 10 04 49.6 +0.3**
X16A Lo Mia Camp, P 99.17 53 IAMs_20 IAMs_20 10 44 38.0
comp=Z,10µm,20.0s
MLR Muntele Rosu 99.29 319 ⇑P **Pdif 10 04 48.8 -1.9**
MLR Muntele Rosu 99.29 319 ⇑P **Pdif 10 04 48.8 -1.9**
MLR Muntele Rosu 99.29 319 LR LR 10 54 40.9
comp=Z,12µm,18.1s,baz=58,slow=38
KWP Kalwaria Pacla 99.44 324 *e*P **Pdif 10 04 51.0 -0.1**
DOPR Dopca 99.45 320 ⇓P **Pdif 10 04 52.3 +1.1**
O20A White River Ci 99.59 46 Pdiff **Pdif 10 04 52.9 +0.7**
baz=292
RWWY Rawlins 99.72 45 IAMs_20 IAMs_20 10 50 28.0
comp=Z,8µm,20.0s
K22A Casper 99.82 43 IAMs_20 IAMs_20 10 44 37.4
comp=Z,8µm,20.0s
K22A Casper 99.82 43 Pdiff **Pdif 10 04 53.9 +0.7**
baz=293
VOIR 99.89 320 ⇓P **Pdif 10 04 58.6 +5.3**
VOIR 99.89 320 ⇓P **Pdif 10 04 58.6 +5.3**
QSPA South Pole Qui 99.89 180 P **Pdif 10 04 52.8 0.0**
comp=Z,13nm,0.9s,baz=341,slow=2.0,SNR=23
QSPA PKKP **PKKPdf 10 21 19.9 -0.5**
comp=Z,1.1nm,0.9s,baz=221,slow=2.8,SNR=2.2
QSPA LR LR 10 48 57.3
comp=Z,18µm,20.8s,baz=1.5,slow=35
comp=Z,13nm,0.9s
KONO Kongsberg 100.16 337 IAMs_20 IAMs_20 10 57 28.0
comp=Z,12µm,20.0s
ARR Arges 100.18 320 ⇑P **Pdif 10 04 54.5 -0.1**
W18A Petrified Fore 100.26 51 IAMs_20 IAMs_20 10 42 03.8
comp=Z,9µm,22.0s
W18A Petrified Fore 100.26 51 Pdiff **Pdif 10 04 56.4 +1.1**
baz=290
X18A Snowflake 100.29 52 IAMs_20 IAMs_20 10 45 36.7
comp=Z,8µm,19.0s
TUC Tucson 100.36 54 IAMs_20 IAMs_20 10 44 33.8
comp=Z,10µm,20.0s
TUC Tucson 100.36 54 Pdiff **Pdif 10 04 57.2 +1.4**
baz=289
STHS Stebnicka Huta 100.38 324 *e*PDIFF **Pdif 10 04 56.6 +1.3**
STHS Stebnicka Huta 100.38 324 *e*P **Pdif 10 04 56.6 +1.3**
MVCO Mesa Verde 100.47 49 IAMs_20 IAMs_20 10 42 29.3
comp=Z,11µm,22.0s
MVCO Mesa Verde 100.47 49 Pdiff **Pdif 10 04 57.0 +0.7**
baz=291
CRVS Cervenica-Dubn 100.51 324 *e*PDIFF **Pdif 10 04 55.6 -0.3**
CRVS Cervenica-Dubn 100.51 324 *e*P **Pdif 10 04 55.6 -0.3**
MARR Marisel-Cluj 100.55 321 ⇑P **Pdif 10 05 03.0 +6.8**
SRIG Santa Rosalia 100.69 60 IAMs_20 IAMs_20 10 47 41.0
comp=Z,11µm,20.0s
OJC Ojcow 100.80 326 *e*P **Pdif 10 04 57.1 -0.1**
RSSD Black Hills 100.86 41 IAMs_20 IAMs_20 10 43 26.9
comp=Z,10µm,22.0s
RSSD Black Hills 100.86 41 Pdiff **Pdif 10 04 58.7 +0.9**
baz=296
RSSD Black Hills 100.86 41 P **Pdif 10 04 58.7 +0.9**
baz=296
N23A Red Feather La 100.91 45 Pdiff **Pdif 10 04 59.1 +0.9**
baz=294
NIE Niedzica 100.92 325 *e*P **Pdif 10 04 59.1 +1.4**
ICESG Greenland Ices 101.08 360 *i* P **Pdif 10 04 57.7 -0.7**
ICESG IAmb IAmb 10 05 07.5
comp=Z,6.6nm,0.9s
HSIG 101.27 58 IAMs_20 IAMs_20 10 43 04.1
comp=Z,12µm,20.0s
GZR Gura Zlata 101.34 320 ⇓P **Pdif 10 05 01.0 +1.2**
GZR Gura Zlata 101.34 320 ⇓P **Pdif 10 05 01.0 +1.2**
S22A 4UR Ranch, Cre 101.50 48 Pdiff **Pdif 10 05 01.8 +0.8**
baz=292
ISCO Idaho Springs 101.58 46 IAMs_20 IAMs_20 10 42 51.3
comp=Z,12µm,22.0s
ISCO Idaho Springs 101.58 46 Pdiff **Pdif 10 05 02.1 +0.8**
baz=294
SURR Surduc 101.59 321 ⇑P **Pdif 10 05 11.3 +11**
319A Douglas 101.88 55 IAMs_20 IAMs_20 10 45 39.0
comp=Z,9µm,20.0s
MDND Maddock 101.88 37 Pdiff **Pdif 10 05 03.1 +1.0**
baz=300
OKC Ostrava-Krasne 101.91 326 AMS AMS 10 54 10.0
comp=Z,17µm,17.4s
VYHS Vyhne 102.22 324 *e*PDIFF **Pdif 10 05 02.7 -0.8**
VYHS Vyhne 102.22 324 *e*P **Pdif 10 05 02.7 -0.8**
Q24A Divide 102.24 46 Pdiff **Pdif 10 05 04.8 +0.6**
baz=294
MDVR Moldovita 102.29 320 ⇑P **Pdif 10 05 05.0 +1.0**
KIBK Kibwezi 102.36 270 PP **PP 10 09 12.3 -5.4**
KSP Ksiaz 102.38 327 *e*P **Pdif 10 05 03.8 -0.4**
SDCO Great Sand Dun 102.47 48 IAMs_20 IAMs_20 10 45 57.1
comp=Z,13µm,20.0s
SDCO Great Sand Dun 102.47 48 Pdiff **Pdif 10 05 06.0 +0.7**
baz=293
SDCO Great Sand Dun 102.47 48 P **Pdif 10 05 06.2 +1.0**
baz=293
KRLC Kraliky 102.54 327 AMS AMS 10 54 20.0
comp=Z,13µm,17.4s
OSTC Ostas 102.58 327 AMS AMS 10 53 20.0
comp=Z,25µm,19.1s
DPC Dobruska-Polom 102.64 327 *e*PDIFF **Pdif 10 05 05.2 -0.2**
DPC AMS AMS 10 53 30.0
comp=Z,21µm,19.2s
DPC Dobruska-Polom 102.64 327 *e*P **Pdif 10 05 05.2 -0.2**
DPC MLR MLR
comp=Z,21µm,19.2s
CHVC Chvalec 102.65 327 AMS AMS 10 53 30.0
comp=Z,26µm,19.7s
121A Cookes Peak, D 102.68 53 IAMs_20 IAMs_20 10 45 44.0
comp=Z,11µm,20.0s
121A Cookes Peak, D 102.68 53 Pdiff **Pdif 10 05 07.6 +1.5**
baz=291
121A Cookes Peak, D 102.68 53 P **Pdif 10 05 08.3 +2.2**
baz=291
UPC Upice 102.72 327 AMS AMS 10 53 20.0
comp=Z,27µm,19.2s
ULM Lac du Bonnet 102.73 33 IAMs_20 IAMs_20 10 48 42.6
comp=Z,11µm,20.0s
ULM Lac du Bonnet 102.73 33 ⇓*e*P **Pdif 10 05 06.5 +0.8**
ULM Lac du Bonnet 102.73 33 P **Pdif 10 05 04.3 -1.4**
comp=Z,4.9nm,1.1s,baz=357,slow=4.7,SNR=4.9
SFJD Kangerlussuaq 102.78 4 *i* P **Pdif 10 05 05.9 +0.4**
SFJD IAmb IAmb 10 05 10.1
comp=Z,6.2nm,0.8s
Y22D IRIS PASSCAL I 102.80 52 Pdiff **Pdif 10 05 07.5 +0.9**
baz=292
Y22F Passcal Instru 102.80 52 Pdiff **Pdif 10 05 06.8 +0.2**
baz=292
ANMO Albuquerque 102.83 51 Pdif **Pdif 10 05 06.1 -0.7**
ANMO Albuquerque 102.83 51 IAMs_20 IAMs_20 10 43 41.9
comp=Z,9µm,20.0s
ANMO Albuquerque 102.83 51 Pdiff **Pdif 10 05 07.9 +1.1**
baz=292
ANMO Albuquerque 102.83 51 P **Pdif 10 05 08.2 +1.4**
baz=292
ANMO Albuquerque 102.83 51 P **Pdif 10 05 06.1 -0.7**
PVCC Panska Ves 103.47 328 AMS AMS 10 54 20.0
comp=Z,30µm,19.5s
T25A Trinidad 103.51 48 IAMs_20 IAMs_20 10 44 43.6
comp=Z,14µm,22.0s
T25A Trinidad 103.51 48 Pdiff **Pdif 10 05 10.9 +1.1**
baz=294
BRG Berggiesshubel 103.60 328 ⇓*e*Pif 10 05 07.2
BRG Amp 10 05 16.5
comp=Z,14nm,1.1s
BRG Berggiesshubel 103.60 328 PS PS 10 18 40.0 +4.3
BRG Berggiesshubel 103.60 328 *e*P **Pdif 10 05 07.1 -2.5**
BRG pmax pmax
comp=Z,14nm,1.1s
TREC Trest 103.67 326 AMS AMS 10 55 00.0
comp=Z,18µm,17.6s
GOPC GO Pecny, Ondr 103.70 327 AMS AMS 10 54 10.0
comp=Z,23µm,19.6s
RICC Richard 103.70 328 AMS AMS 10 54 30.0
comp=Z,32µm,19.2s
SLBS Sierra La Lagu 103.75 63 IAMs_20 IAMs_20 10 46 38.3
comp=Z,8µm,21.0s
PRU Pruhonice 103.79 327 AMS AMS 10 54 10.0
comp=Z,26µm,20.3s
AGMN Agassiz Nation 103.80 35 Pdiff **Pdif 10 05 10.7 +0.2**
baz=303
PRA Prague 103.80 327 AMS AMS 10 54 20.0
comp=Z,28µm,21.1s
CLL Collm 103.82 329 *e*Pdif **Pdif 10 05 11.0 +0.4**
CLL *ex* x 10 05 21.0
CLL *e*PP **PP 10 09 28.0 +1.1**
CLL *ex* x 10 09 41.0
CLL *e*PPP PPP 10 11 37.0
CLL *e*PPPP 10 13 25.0
CLL *e*SKSac **SKSac 10 15 48.0 -2.2**
CLL *e*SKKSac **SKKSac 10 16 36.0 +3.5**
CLL *e*(Sdif) 10 16 54.0
CLL *ex* x 10 17 54.0
CLL *e*PS **PS 10 18 36.0 -2.1**
CLL *e*PPS PPS 10 19 29.0
CLL *e*SS **SS 10 24 18.0 +5.3**
CLL *ex* x 10 25 42.0
CLL *e*SSS SSS 10 28 12.0
CLL *ex* x 10 34 16.0
CLL AMS AMS 10 46 00.0
comp=N,36µm,21.3s
CLL AMS AMS 10 46 00.0
comp=E,22µm,20.6s
CLL AMS AMS 10 55 00.0
comp=Z,15µm,19.0s
CLL AMS AMS 10 55 00.0
CLL Collm 103.82 329 *e*P **Pdif 10 05 11.0 +0.4**
CLL MLR MLR
comp=Z,15µm,19.0s
SUSD Miller 103.95 39 IAMs_20 IAMs_20 10 46 52.5
comp=Z,12µm,22.0s
EPT El Paso 103.96 54 IAMs_20 IAMs_20 10 46 01.4
comp=Z,9µm,20.0s
KSCO Caye Shedlock' 104.01 46 IAMs_20 IAMs_20 10 47 02.6
comp=Z,8µm,20.0s
HSKC Hora Svate Kat 104.02 328 AMS AMS 10 54 20.0
comp=Z,30µm,19.5s
RONA Rosalia, Austr 104.09 325 *e*Pdiff **Pdif 10 05 11.2 -0.6**
comp=Z,3.7nm,1.2s
IDI Anoyia 104.17 310 ⇑P **Pdif 10 05 06.3 -6.3**
IDI Anoyia 104.17 310 PKP **PP 10 09 28.2 -2.0**
CONA Conrad Observa 104.21 325 *e*Pdiff **Pdif 10 05 12.8 +0.3**
comp=Z,8.1nm,1.5s
ZVC Zvikov 104.29 327 *e*PDIFF **Pdif 10 05 12.3 -0.4**
ZVC AMS AMS 10 54 30.0
comp=Z,20µm,19.0s
CKRC Cesky Krumlov 104.58 326 *e*PDIFF **Pdif 10 05 16.7 +2.7**
CKRC AMS AMS 10 55 50.0
comp=Z,20µm,18.4s
CKRC Cesky Krumlov 104.58 326 *e*P **Pdif 10 05 16.7 +2.7**
CKRC MLR MLR
comp=Z,20µm,18.4s
NKC Novy Kostel 104.74 328 AMS AMS 10 54 30.0
comp=Z,25µm,20.2s
ARSA Arzberg 104.77 325 *e*Pdiff **Pdif 10 05 15.5 +0.5**
comp=Z,6.3nm,1.1s
KHC Kasperske Hory 104.79 327 *e*PDIFF **Pdif 10 05 16.5 +1.5**
KHC *e*pPKP **PKiKP 10 09 30.0 -0.3**
KHC *e*SKS **SKSac 10 15 54.3 -0.5**
KHC AMS AMS 10 54 40.0
comp=Z,21µm,18.0s
KHC Kasperske Hory 104.79 327 *e*P **Pdif 10 05 16.5 +1.5**
KHC *e* 10 09 30.0
KHC *e* 10 15 54.3
KHC MLR MLR
comp=Z,21µm,18.0s
KBN Korca 104.82 317 IAMs_20 IAMs_20 10 57 20.0
comp=Z,8µm,19.0s
MNTX Cornudas Mount 104.88 53 Pdiff **Pdif 10 05 15.7 0.0**
baz=292
GERES GERESS Array B 104.89 327 Pdiff **Pdif 10 05 16.0 +0.5**
comp=Z,1.9nm,0.8s,baz=44,slow=7.3,SNR=2.0
MOA Molln 105.15 326 *e*Pdiff **Pdif 10 05 16.9 +0.3**
comp=Z,6.5nm,1.2s
SOKA Soboth 105.37 324 *e*Pdiff **Pdif 10 05 19.7 +2.0**
comp=Z,9.2nm,1.2s
BIOA Bad Ischl, Aus 105.59 326 *i* pPdiff pPdif 10 05 24.0 +1.0
comp=Z,6.5nm,1.1s
OBKA Obir 105.74 324 *e*Pdiff **Pdif 10 05 19.2 -0.1**
comp=Z,12nm,1.4s
VLO Vlora 105.76 317 IAMs_20 IAMs_20 10 56 52.9
comp=Z,12µm,21.0s
ECSD EROS Data Cent 105.77 39 IAMs_20 IAMs_20 10 46 14.5
comp=Z,9µm,21.0s
ECSD EROS Data Cent 105.77 39 PKiKP **PKiKP 10 09 32.6 +0.4**
baz=301
KEK Kerkira 105.91 316 IAMs_20 IAMs_20 10 58 01.0
comp=Z,7µm,19.0s
BGNE Belgrade 105.96 42 IAMs_20 IAMs_20 10 49 12.7
comp=Z,9µm,22.0s
BGNE Belgrade 105.96 42 PKiKP **PKiKP 10 09 32.7 +0.1**
baz=299
MSTX Muleshoe 106.02 50 IAMs_20 IAMs_20 10 47 50.1
comp=Z,11µm,21.0s
MSTX Muleshoe 106.02 50 PKiKP **PKiKP 10 09 32.6 -0.5**
baz=294
KBA Koelnbreinsper 106.10 325 *i* pPdiff pPdif 10 05 28.2 +2.7
comp=Z,13nm,1.4s
CBKS Cedar Bluff 106.12 45 IAMs_20 IAMs_20 11 01 40.3
comp=Z,7µm,18.0s
CBKS Cedar Bluff 106.12 45 PKiKP **PKiKP 10 09 32.2 -0.8**
baz=298
MYKA Terra Mystica 106.19 325 *e*Pdiff **Pdif 10 05 22.1 +0.8**
comp=Z,6.3nm,1.1s
LESA Schwarzleotal 106.27 326 *i* Pdiff **Pdif 10 05 23.2 +1.5**
comp=Z,7.1nm,1.3s
EYMN Ely 106.41 33 PKiKP **PKiKP 10 09 33.5 +0.2**
baz=306
AMTX Amarillo 106.46 49 IAMs_20 IAMs_20 10 53 10.7
comp=Z,9µm,20.0s
AMTX Amarillo 106.46 49 PKiKP **PKiKP 10 09 32.4 -1.5**
baz=295
SABO M.te Sabotino 106.58 324 IAMs_20 IAMs_20 10 55 48.2
comp=Z,20µm,20.0s
SCTE Santa Cesarea 106.64 317 IAMs_20 IAMs_20 11 00 38.2
comp=Z,10µm,19.0s
N33A J Bar K, Exete 106.75 42 IAMs_20 IAMs_20 10 48 29.7
comp=Z,9µm,22.0s
ABTA Abfaltersbach 106.76 325 *e*Pdiff **Pdif 10 05 23.5 -0.4**
comp=Z,9.0nm,1.2s
WATA Walderalm 106.93 326 *e*Pdiff **Pdif 10 05 23.6 -1.0**
comp=Z,9.1nm,1.5s
WTTA Wattenberg 106.94 326 *i* Pdiff **Pdif 10 05 24.9 +0.1**
comp=Z,10nm,1.4s
CIMO Cimolais 107.05 325 IAMs_20 IAMs_20 10 56 13.1
comp=Z,16µm,20.0s
TXAR Lajitas Array 107.14 55 Pdiff **Pdif 10 05 25.3 -0.6**
comp=Z,0.8nm,1.1s,baz=35,slow=3.1,SNR=3.7
TXAR PKiKP **PKiKP 10 09 35.5 +0.2**
comp=Z,1.2nm,0.8s,baz=270,slow=2.2,SNR=6.7
TXAR PP **PP 10 09 49.6 -2.8**
comp=Z,1.2nm,0.8s,baz=312,slow=12,SNR=4.8
TXAR PKKPbc **PKKPbc 10 20 53.1 +0.7**
comp=Z,1.3nm,0.8s,baz=134,slow=3.9,SNR=8.3
MOTA Moosalm 107.18 326 *i* Pdiff **Pdif 10 05 20.1 -5.7**
comp=Z,17nm,1.8s
SQTA Sankt Quirin 107.20 326 *i* Pdiff **Pdif 10 05 17.5 -8.3**
comp=Z,2.6nm,0.7s
SPMN Marine on St. 107.25 36 PKiKP **PKiKP 10 09 35.2 +0.3**
baz=305
RETA Reutte 107.28 327 *i* pPdiff pPdif 10 05 29.6 -1.1
comp=Z,8.4nm,1.6s
STU Stuttgart 107.32 328 IAMs_20 IAMs_20 10 57 10.9
comp=Z,11µm,19.0s
SGRT San Giovanni R 107.58 320 IAMs_20 IAMs_20 11 00 10.7
comp=Z,12µm,20.0s
I37A Lemod, Waseca 107.58 38 IAMs_20 IAMs_20 10 48 38.3
comp=Z,11µm,20.0s
FETA Feichten 107.58 326 *e*Pdiff **Pdif 10 05 24.2 -3.4**
comp=Z,9.5nm,1.6s
ELIS Ellis County 107.60 47 IAMs_20 IAMs_20 10 45 19.7
comp=Z,12µm,21.0s
N35A Tabor 107.87 41 IAMs_20 IAMs_20 10 47 06.3
comp=Z,10µm,22.0s
DAVA Damuels 107.88 327 *i* Pdiff **Pdif 10 05 29.8 +0.9**
comp=Z,11nm,1.2s
EKA Eskdalemuir Ar 108.03 339 PP **PP 10 09 58.1 +0.5**
comp=Z,5.6nm,0.9s,baz=60,slow=9.1,SNR=4.5
ESK Eskdalemuir 108.06 339 IAMs_20 IAMs_20 10 54 05.7
comp=Z,11µm,21.0s
KSU1 Kansas State U 108.12 43 IAMs_20 IAMs_20 10 55 10.1
comp=Z,8µm,20.0s
KSU1 Kansas State U 108.12 43 PKiKP **PKiKP 10 09 36.0 -0.8**
baz=300
TIP Timpagrande 108.23 317 IAMs_20 IAMs_20 10 59 33.2
comp=Z,10µm,21.0s
CUC Castrocucco 108.44 318 IAMs_20 IAMs_20 10 59 07.8
comp=Z,11µm,22.0s
WMOK Wichita Mounta 108.66 48 IAMs_20 IAMs_20 10 59 17.0
comp=Z,6µm,19.0s
WMOK Wichita Mounta 108.66 48 PKiKP **PKiKP 10 09 37.2 -0.7**
baz=297
K38A Parkersburg 108.72 38 IAMs_20 IAMs_20 10 58 17.6
comp=Z,11µm,20.0s
BLOK Blackwell 108.85 46 IAMs_20 IAMs_20 10 48 09.6
comp=Z,12µm,21.0s
SCIA State Center 108.86 39 IAMs_20 IAMs_20 10 48 43.2
comp=Z,9µm,21.0s
SCIA State Center 108.86 39 PKiKP **PKiKP 10 09 37.3 -0.7**
baz=303
ABTX Abilene, Hawle 108.96 50 IAMs_20 IAMs_20 10 58 17.0
comp=Z,10µm,19.0s
ABTX Abilene, Hawle 108.96 50 PKiKP **PKiKP 10 09 38.1 -0.4**
baz=296
T35A Sooner Cattle 109.26 45 IAMs_20 IAMs_20 10 48 09.6
comp=Z,10µm,22.0s
CEL Celeste 109.28 316 IAMs_20 IAMs_20 11 01 38.0
comp=Z,11µm,20.0s
JCT Junction City 109.75 53 IAMs_20 IAMs_20 10 52 53.3
comp=Z,9µm,19.0s
JCT Junction City 109.75 53 PKiKP **PKiKP 10 09 39.9 -0.2**
baz=295
DEOK Depew 109.80 46 IAMs_20 IAMs_20 10 58 59.8
comp=Z,10µm,20.0s
P38A Dawn 109.89 41 IAMs_20 IAMs_20 10 48 18.8
comp=Z,9µm,22.0s
FW03 Perrin-Whitt E 109.96 49 IAMs_20 IAMs_20 10 50 22.6
comp=Z,8µm,20.0s
L40A Anamosa 110.00 38 IAMs_20 IAMs_20 10 50 29.4
comp=Z,8µm,21.0s
CASP Castiglione de 110.02 323 IAMs_20 IAMs_20 10 59 23.9
comp=Z,10µm,20.0s
JFWS Jewell Farm 110.09 37 PKiKP **PKiKP 10 09 40.0 -0.3**
baz=306
TUL3 Leonard 110.26 46 PKiKP **PKiKP 10 09 39.5 -1.4**
baz=300
FW07 Weatherford 110.33 50 IAMs_20 IAMs_20 10 57 03.2
comp=Z,9µm,19.0s
FW06 Azle 110.37 49 IAMs_20 IAMs_20 10 50 50.4
comp=Z,10µm,20.0s
Z35A Perchaven, San 110.44 49 IAMs_20 IAMs_20 11 02 19.0
comp=Z,8µm,19.0s
ZAIG Zacatecas 110.46 61 IAMs_20 IAMs_20 11 01 19.9
comp=Z,6µm,18.0s
RLO Rose Lookout 110.68 45 IAMs_20 IAMs_20 10 48 42.9
comp=Z,13µm,22.0s
DSB Dublin 110.83 339 IAMs_20 IAMs_20 10 58 02.1
comp=Z,10µm,21.0s
WHTX Lake Whitney, 110.90 50 IAMs_20 IAMs_20 11 03 36.4
comp=Z,8µm,18.0s
WHTX Lake Whitney, 110.90 50 PKiKP **PKiKP 10 09 41.8 -0.4**
baz=297
P40A Paris 110.91 41 IAMs_20 IAMs_20 10 54 36.6
comp=Z,8µm,21.0s
833A Chaparral WMA, 110.98 55 IAMs_20 IAMs_20 10 52 35.9
comp=Z,8µm,20.0s
833A Chaparral WMA, 110.98 55 PKiKP **PKiKP 10 09 42.6 +0.2**
baz=295
U38A Gravette 110.98 45 IAMs_20 IAMs_20 10 58 02.0
comp=Z,7µm,19.0s
U38A Gravette 110.98 45 P **PKiKP 10 09 42.2 0.0**
baz=301
N41A Harden Midland 111.00 39 IAMs_20 IAMs_20 10 50 07.0
comp=Z,10µm,21.0s

S39A	**Bolivar** comp=Z,7µm,20.0s	111.06	43	IAMs_20	IAMs_20	10 52 11.9			
S39A	**Bolivar** baz=302	111.06	43	P	**PKiKP**	**10 09 42.0**	**-0.3**		
E46A	**Sault Ste Mari** comp=Z,12µm,21.0s	111.20	31	IAMs_20	IAMs_20	10 53 31.6			
G45A	**Suttons Bay** comp=Z,10µm,20.0s	111.37	33	IAMs_20	IAMs_20	10 54 04.2			
735A	**Kenedy** comp=Z,11µm,19.0s	112.01	53	IAMs_20	IAMs_20	11 01 59.3			
MGMO	**Mountain Grove** comp=Z,7µm,21.0s	112.05	43	IAMs_20	IAMs_20	10 52 53.3			
HDIL	**Hopedale** comp=Z,11µm,22.0s	112.06	39	IAMs_20	IAMs_20	10 50 08.9			
HDIL	**Hopedale** baz=306	112.06	39	PKiKP	**PKiKP**	**10 09 44.4**	**+0.3**		
GLMI	**Grayling** baz=312	112.07	33	PKiKP	**PKiKP**	**10 09 44.4**	**+0.4**		
237A	**Washetta, Mont** comp=Z,10µm,19.0s	112.13	49	IAMs_20	IAMs_20	10 57 36.0			
Z38A	**Mt. Pleasant** comp=Z,10µm,19.0s	112.14	48	IAMs_20	IAMs_20	10 58 59.0			
HQIL	**Hanson Quary C** comp=Z,12µm,22.0s	112.18	37	IAMs_20	IAMs_20	10 51 08.9			
CCM	**Cathedral Cave** comp=Z,6µm,18.0s	112.24	42	IAMs_20	IAMs_20	11 05 00.1			
CCM	**Cathedral Cave** baz=304	112.24	42	PKiKP	**PKiKP**	**10 09 44.9**	**+0.4**		
M44A	**Midewin, Midew** comp=Z,11µm,22.0s	112.32	37	IAMs_20	IAMs_20	10 51 25.6			
P43A	**Skaggs, Pawnee** comp=Z,7µm,20.0s	112.45	40	IAMs_20	IAMs_20	10 54 29.4			
KVTX	**Kingsville** comp=Z,7µm,19.0s	112.51	55	IAMs_20	IAMs_20	10 52 24.8			
MIAR	**Mount Ida** baz=301	112.52	46	PKiKP	**PKiKP**	**10 09 45.7**	**+0.6**		
SLM	**Saint Louis** comp=Z,10µm,21.0s	112.57	41	IAMs_20	IAMs_20	10 55 45.8			
MOIG	**Morelia** comp=Z,11µm,20.0s	112.75	64	IAMs_20	IAMs_20	10 53 30.1			
O44A	**Mansfield** comp=Z,9µm,21.0s	112.80	39	IAMs_20	IAMs_20	10 51 54.6			
FVM	**French Village** comp=Z,10µm,22.0s	112.82	41	IAMs_20	IAMs_20	10 51 34.4			
FCAR	**Ozark Folk Cen** comp=Z,7µm,20.0s	112.83	44	IAMs_20	IAMs_20	10 55 48.9			
VSL	**Villasalto** comp=Z,7µm,19.0s	112.86	321	IAMs_20	IAMs_20	11 02 25.3			
TROLL	**Troll, Antarti** comp=Z,680nm,1.0s	113.00	193	⇑PKiKP	**PKiKP**	**10 09 45.9**	**+0.8**		
WHAR	**Wooly Hollow** comp=Z,9µm,22.0s	113.03	45	IAMs_20	IAMs_20	10 50 13.4			
NATX	**Nacogdoches** comp=Z,8µm,19.0s	113.11	49	IAMs_20	IAMs_20	11 02 02.1			
NATX	**Nacogdoches** baz=299	113.11	49	PKiKP	**PKiKP**	**10 09 44.9**	**-1.5**		
LCAR	**Lake Charles** comp=Z,7µm,22.0s	113.39	44	IAMs_20	IAMs_20	10 49 46.8			
PBMO	**Poplar Bluff** comp=Z,7µm,18.0s	113.49	43	IAMs_20	IAMs_20	11 03 27.3			
SFIN	**Lafayette** comp=Z,9µm,20.0s	113.50	38	IAMs_20	IAMs_20	10 57 28.0			
SFIN	**Lafayette** baz=308	113.50	38	PKiKP	**PKiKP**	**10 09 45.8**	**-1.0**		
CGM3	**Cape Girardeau** comp=Z,7µm,21.0s	113.71	42	IAMs_20	IAMs_20	10 55 27.9			
S44A	**Carbondale** comp=Z,10µm,22.0s	113.75	41	IAMs_20	IAMs_20	10 56 09.9			
SIUC	**Southern Illin** comp=Z,10µm,21.0s	113.76	41	IAMs_20	IAMs_20	10 56 10.2			
OLIL	**Olney** comp=Z,7µm,19.0s	113.88	40	IAMs_20	IAMs_20	11 04 11.2			
PARMO	**Parma** comp=Z,7µm,18.0s	114.01	42	IAMs_20	IAMs_20	11 03 59.9			
HBAR	**Harrisburg** comp=Z,8µm,19.0s	114.01	44	IAMs_20	IAMs_20	10 59 29.2			
PVMO	**Portageville** comp=Z,7µm,19.0s	114.18	43	IAMs_20	IAMs_20	11 02 22.5			
GNAR	**Gosnell** comp=Z,7µm,19.0s	114.22	43	IAMs_20	IAMs_20	11 01 57.6			
PEBM	**Pemiscott Bayo** comp=Z,6µm,19.0s	114.24	43	IAMs_20	IAMs_20	11 01 03.2			
AAM	**Ann Arbor** baz=312	114.27	34	PKiKP	**PKiKP**	**10 09 48.6**	**+0.3**		
SNAA	**Sanae** comp=Z,140nm,0.9s	114.40	192	⇑PKPdf	**PKiKP**	**10 09 47.9**	**+0.2**		
SNAA	**Sanae** comp=Z,1.0nm,0.9s,baz=150,slow=22,SNR=1.9	114.40	192	Pdiff	**Pdif**	**10 05 56.4**	**-0.8**		
SNAA	comp=Z,6.3nm,0.9s,baz=62,slow=1.0,SNR=8.4			PKP	**PKiKP**	**10 09 47.6**	**-0.1**		
SNAA	comp=Z,11nm,1.0s,baz=143,slow=7.5,SNR=5.9			PP	**PP**	**10 10 41.2**	**-2.4**		
HICK	**Hickman** comp=Z,8µm,22.0s	114.42	42	IAMs_20	IAMs_20	10 50 56.9			
T45A	**Paducah** comp=Z,9µm,21.0s	114.53	41	IAMs_20	IAMs_20	10 55 59.1			
GLAT	**Glass** comp=Z,8µm,21.0s	114.54	42	IAMs_20	IAMs_20	10 56 10.9			
BLO	**Bloomington** comp=Z,12µm,22.0s	114.59	38	IAMs_20	IAMs_20	10 55 10.9			
USIN	**University of** comp=Z,10µm,22.0s	114.61	40	IAMs_20	IAMs_20	10 52 33.5			
UNM	**Universidad Na** comp=Z,7µm,20.0s	114.65	63	IAMs_20	IAMs_20	10 52 47.9			
441A	**DeRidder** comp=Z,7µm,21.0s	114.70	50	IAMs_20	IAMs_20	10 57 01.2			
HALT	**Halls** comp=Z,8µm,19.0s	114.71	43	IAMs_20	IAMs_20	11 02 30.4			
O48B	**Farmland** comp=Z,9µm,22.0s	114.73	37	IAMs_20	IAMs_20	10 53 43.9			
O48B	**Farmland** baz=310	114.73	37	PKiKP	**PKiKP**	**10 09 49.0**	**-0.2**		
UTMT	**University of** comp=Z,10µm,22.0s	114.78	42	IAMs_20	IAMs_20	10 56 37.2			
N49A	**Columbus Grove** baz=311	114.87	36	P	**PKiKP**	**10 09 49.7**	**+0.2**		
N49A	baz=311			P	**PKiKP**	**10 09 49.7**	**+0.2**		
KEST	**Kesra** comp=Z,7µm,20.0s	115.05	317	IAMs_20	IAMs_20	11 04 30.0			
KEST	**Kesra** comp=Z,3.5nm,0.8s,baz=205,slow=4.2,SNR=3.0	115.05	317	PKP	**PKPdf**	**10 09 50.9**	**+0.8**		
WCI	**Wyandotte Cave** comp=Z,9µm,21.0s	115.31	39	IAMs_20	IAMs_20	10 56 47.1			
WCI	**Wyandotte Cave** baz=308	115.31	39	PKiKP	**PKiKP**	**10 09 50.5**	**+0.1**		
OXF	**Oxford** comp=Z,9µm,19.0s	115.44	44	IAMs_20	IAMs_20	11 00 04.4			
OXF	**Oxford** baz=304	115.44	44	PKiKP	**PKiKP**	**10 09 49.5**	**-1.3**		
P49A	**Miami Univ. Ec** baz=310	115.45	37	PKiKP	**PKiKP**	**10 09 50.6**	**0.0**		
T47A	**Sharon Grove** comp=Z,9µm,22.0s	115.55	41	IAMs_20	IAMs_20	10 52 49.8			
WVT	**Waverly** comp=Z,7µm,20.0s	115.58	42	IAMs_20	IAMs_20	10 57 29.9			
WVT	**Waverly** baz=306	115.58	42	PKiKP	**PKiKP**	**10 09 50.7**	**-0.3**		
WVT	**Waverly** baz=306	115.58	42	P	**PKiKP**	**10 09 50.6**	**-0.3**		
MAHO	**Mahon** comp=Z,10µm,21.0s	115.71	324	IAMs_20	IAMs_20	11 02 55.7			
TLIG	**Tlapa** comp=Z,8µm,18.0s	115.82	65	IAMs_20	IAMs_20	11 00 02.4			
DELO	**Deloro Mine** comp=Z,10µm,22.0s	115.84	29	IAMs_20	IAMs_20	10 53 51.4			
VNA2	**Neumayer--Watz** comp=Z,20nm,0.7s,baz=142,slow=1.0	115.90	191	⇑PKPdf	**PKiKP**	**10 09 50.5**	**0.0**		
VBMS	**Vicksburg** baz=302	115.91	47	PKiKP	**PKiKP**	**10 09 51.2**	**-0.4**		
TRQ	**Mont Tremblant** comp=Z,9µm,20.0s	115.94	26	IAMs_20	IAMs_20	11 02 00.9			
R49A	**Shelbyville** comp=Z,10µm,20.0s	115.96	39	IAMs_20	IAMs_20	10 59 07.7			
ACSO	**Alum Creek Sta** baz=312	116.02	36	PKiKP	**PKiKP**	**10 09 51.4**	**-0.3**		
VNA3	**Neumayer Olymp** comp=Z,13nm,0.8s	116.06	190	⇑PKPdf	**PKiKP**	**10 09 51.2**	**+0.3**		
PLAL	**Pickwick Lake** comp=Z,6µm,18.0s	116.08	43	IAMs_20	IAMs_20	11 03 11.2			
J54A	**Appleton** comp=Z,9µm,20.0s	116.25	31	IAMs_20	IAMs_20	11 00 14.4			
ERPA	**Erie** comp=Z,9µm,19.0s	116.38	32	IAMs_20	IAMs_20	11 00 03.0			
ERPA	**Erie** baz=315	116.38	32	PKiKP	**PKPdf**	**10 09 50.4**	**-2.0**		
V48A	**Smith Brothers** comp=Z,7µm,19.0s	116.47	42	IAMs_20	IAMs_20	11 00 40.4			
M53A	**WI Miller and** baz=314	116.48	33	PKiKP	**PKPdf**	**10 09 51.7**	**-0.9**		
BOSA	**Boshof** comp=Z,3.5nm,0.8s,baz=100,slow=3.2,SNR=4.5	116.58	243	PKP	**PKPdf**	**10 09 53.4**	**+0.2**		
Q51A	**Peebles** comp=Z,11µm,22.0s	116.59	37	IAMs_20	IAMs_20	10 54 52.2			
J55A	**Hilton** comp=Z,10µm,20.0s	116.66	30	IAMs_20	IAMs_20	11 00 54.3			
P52A	**Corning** baz=312	116.90	36	PKiKP	**PKPdf**	**10 09 52.4**	**-1.1**		
MNTQ	**Montreal, Queb** comp=Z,10µm,20.0s	116.91	26	IAMs_20	IAMs_20	10 59 17.4			
T50A	**Nancy** comp=Z,10µm,21.0s	116.96	39	IAMs_20	IAMs_20	10 58 53.2			
O53A	**New Philadelph** baz=313	117.01	35	PKiKP	**PKPdf**	**10 09 53.2**	**-0.5**		
X48A	**Hartselle** comp=Z,8µm,21.0s	117.08	43	IAMs_20	IAMs_20	10 54 06.7			
Z47A	**Carrollton** comp=Z,9µm,18.0s	117.10	45	IAMs_20	IAMs_20	11 08 37.4			
346A	**Big Creek Wild** comp=Z,7µm,19.0s	117.11	47	IAMs_20	IAMs_20	11 03 48.9			
J56A	**Wolcott** comp=Z,11µm,22.0s	117.13	30	IAMs_20	IAMs_20	10 58 04.6			
LONY	**Lake Ozonia** comp=Z,8µm,21.0s	117.17	27	IAMs_20	IAMs_20	11 01 26.5			
LONY	**Lake Ozonia** baz=321	117.17	27	PKiKP	**PKPdf**	**10 09 53.6**	**-0.2**		
SWET	**Sewanee** comp=Z,5µm,18.0s	117.37	42	IAMs_20	IAMs_20	11 05 15.1			
FRNY	**Flat Rock** comp=Z,8µm,20.0s	117.45	26	IAMs_20	IAMs_20	11 03 44.7			
M55A	**Ridgway** comp=Z,9µm,20.0s	117.48	32	IAMs_20	IAMs_20	11 00 47.2			
L56A	**Greenwood** comp=Z,8µm,20.0s	117.62	31	IAMs_20	IAMs_20	11 01 07.7			
W50A	**Signal Mountai** comp=Z,6µm,21.0s	117.78	41	IAMs_20	IAMs_20	10 56 53.0			
J58A	**Remsen** comp=Z,9µm,20.0s	117.82	29	IAMs_20	IAMs_20	10 57 55.7			
NCB	**Newcomb** comp=Z,8µm,20.0s	117.84	27	IAMs_20	IAMs_20	11 02 42.1			
Y49A	**Blount Mountai** comp=Z,8µm,20.0s	117.85	43	IAMs_20	IAMs_20	10 56 03.1			
LRAL	**Lakeview Retre**	117.93	44	PKPdf	**PKPdf**	**10 09 55.4**	**-0.2**		
LRAL	comp=Z,7µm,19.0s			IAMs_20	IAMs_20	11 08 47.3			
LRAL	**Lakeview Retre** baz=305	117.93	44	PKiKP	**PKPdf**	**10 09 55.1**	**-0.5**		
LRAL	**Lakeview Retre** baz=305	117.93	44	P	**PKPdf**	**10 09 55.0**	**-0.5**		
FPAL	**Fort Paine** comp=Z,8µm,20.0s	117.98	42	IAMs_20	IAMs_20	10 56 54.5			
V51A	**Loudon** comp=Z,11µm,22.0s	118.03	40	IAMs_20	IAMs_20	10 54 48.5			
TZTN	**Tazewell** baz=310	118.07	39	PKiKP	**PKPdf**	**10 09 55.0**	**-0.8**		
J59A	**Piesco** comp=Z,10µm,20.0s	118.10	28	IAMs_20	IAMs_20	11 01 05.2			
CPCT	**Cooper Cave** comp=Z,10µm,22.0s	118.14	41	IAMs_20	IAMs_20	10 54 52.4			
MCWV	**Mont Chateau** baz=314	118.18	34	PKiKP	**PKPdf**	**10 09 55.3**	**-0.6**		
PQI	**Presque Isle** comp=Z,10µm,20.0s	118.18	22	IAMs_20	IAMs_20	10 59 58.7			
VT1	**Waterbury** comp=Z,7µm,19.0s	118.21	26	IAMs_20	IAMs_20	11 03 30.2			
BINY	**Binghamton** comp=Z,10µm,20.0s	118.36	30	IAMs_20	IAMs_20	11 01 46.2			
BINY	**Binghamton** baz=319	118.36	30	PKiKP	**PKPdf**	**10 09 55.6**	**-0.6**		
M57A	**Sunshine Farm,** M57A	118.43	31	PKPdf	**PKPdf**	**10 09 55.7**	**-0.6**		
M57A	comp=Z,9µm,20.0s			IAMs_20	IAMs_20	11 01 44.1			
M57A	**Sunshine Farm,** baz=317	118.43	31	P	**PKPdf**	**10 09 55.6**	**-0.7**		
M57A	baz=317			P	**PKPdf**	**10 09 55.6**	**-0.7**		
G62A	**West of Eustis** comp=Z,9µm,21.0s	118.43	24	IAMs_20	IAMs_20	10 59 38.5			
X51A	**Calhoun** comp=Z,7µm,19.0s	118.46	42	IAMs_20	IAMs_20	11 06 41.1			
V52A	**Sevierville** comp=Z,10µm,20.0s	118.48	40	IAMs_20	IAMs_20	10 59 51.4			
V52A	**Sevierville** baz=309	118.48	40	P	**PKPdf**	**10 09 56.7**	**+0.1**		
TKL	**Tuckaleechee C** comp=Z,9µm,21.0s	118.48	40	IAMs_20	IAMs_20	10 58 38.6			
SSPA	**Standing Stone**	118.54	32	PKPdf	**PKPdf**	**10 09 56.6**	**+0.1**		
SSPA	**Standing Stone** comp=Z,9µm,20.0s	118.54	32	IAMs_20	IAMs_20	11 01 58.3			
SSPA	**Standing Stone** baz=316	118.54	32	PKiKP	**PKPdf**	**10 09 55.6**	**-1.0**		
ACCN	**Adirondack Com** comp=Z,9µm,22.0s	118.55	28	IAMs_20	IAMs_20	11 02 30.0			
F63A	**Nahmakanta, Br** comp=Z,7µm,20.0s	118.59	23	IAMs_20	IAMs_20	11 01 04.7			
S54A	**Dingess, Beckl** comp=Z,10µm,21.0s	118.60	37	IAMs_20	IAMs_20	10 56 14.3			
LBNH	**Lisbon** comp=Z,11µm,22.0s	118.64	26	IAMs_20	IAMs_20	10 58 19.3			
LBNH	**Lisbon** baz=324	118.64	26	PKiKP	**PKPdf**	**10 09 55.5**	**-1.1**		
W52A	**Murphy** comp=Z,9µm,22.0s	118.74	41	IAMs_20	IAMs_20	10 55 22.4			
F64A	**Sherman** comp=Z,11µm,22.0s	118.74	22	IAMs_20	IAMs_20	10 59 31.7			
L59A	**Walton** comp=Z,10µm,22.0s	118.82	29	IAMs_20	IAMs_20	10 59 37.4			
ECHE	**Chera**	118.88	326	PKP	**PKPdf**	**10 09 55.5**	**-1.8**		
PKME	**Peaks-Kenny Pk** comp=Z,7µm,21.0s	118.88	23	IAMs_20	IAMs_20	11 00 53.5			
PKME	**Peaks-Kenny Pk** baz=326	118.88	23	PKiKP	**PKPdf**	**10 09 55.2**	**-1.8**		
HNH	**Hanover** comp=Z,7µm,21.0s	118.91	26	IAMs_20	IAMs_20	11 00 20.5			
KSPA	**Keystone Colle** comp=Z,9µm,21.0s	118.95	30	IAMs_20	IAMs_20	10 56 49.8			
DRLN	**Deer Lake** comp=Z,8µm,22.0s	118.95	13	IAMs_20	IAMs_20	11 01 08.7			
BRAL	**Brewton** baz=304	118.95	46	PKiKP	**PKPdf**	**10 09 56.4**	**-1.2**		
N58A	**Sunbury** comp=Z,9µm,20.0s	119.00	31	IAMs_20	IAMs_20	11 01 04.4			
Z51A	**Franklin** comp=Z,7µm,20.0s	119.00	43	IAMs_20	IAMs_20	11 00 28.6			
250A	**Grady** comp=Z,8µm,19.0s	119.04	45	IAMs_20	IAMs_20	11 04 10.8			
TRY	**Troy** comp=Z,8µm,20.0s	119.06	28	IAMs_20	IAMs_20	11 01 42.5			
J61A	**Chester** comp=Z,6µm,19.0s	119.08	27	IAMs_20	IAMs_20	10 57 24.0			
V53A	**Saluda** comp=Z,10µm,21.0s	119.08	39	IAMs_20	IAMs_20	11 00 08.3			
U54A	**Nelsons Funny** comp=Z,9µm,20.0s	119.14	38	IAMs_20	IAMs_20	10 58 19.8			
I62A	**Tamworth** comp=Z,10µm,21.0s	119.19	26	IAMs_20	IAMs_20	10 58 45.7			
SMAI	**San Martin Ant** comp=Z,6µm,19.0s	119.23	169	IAMs_20	IAMs_20	11 03 35.5			
WVL	**Waterville** comp=Z,8µm,21.0s	119.32	24	IAMs_20	IAMs_20	11 00 36.0			
Y52A	**Lilburn** comp=Z,9µm,20.0s	119.41	42	IAMs_20	IAMs_20	10 57 46.3			
Y52A	**Lilburn** baz=308	119.41	42	P	**PKPdf**	**10 09 58.8**	**+0.4**		
Y52A	baz=308			P	**PKPdf**	**10 09 58.8**	**+0.4**		
BG3	**Lake Jocassee** comp=Z,9µm,22.0s	119.44	40	IAMs_20	IAMs_20	10 55 42.8			
CASEE	**Lake Jocassee** baz=310	119.44	40	P	**PKiKP**	**10 09 59.0**	**+0.4**		
BLA	**Blacksburg** comp=Z,10µm,21.0s	119.52	37	IAMs_20	IAMs_20	10 55 09.7			
BLA	**Blacksburg** baz=313	119.52	37	PKiKP	**PKPdf**	**10 09 56.6**	**-2.0**		
BLA	**Blacksburg** baz=313	119.52	37	P	**PKPdf**	**10 09 58.7**	**+0.1**		
G65A	**Princeton** comp=Z,10µm,22.0s	119.60	22	IAMs_20	IAMs_20	11 02 36.3			
152A	**Waverly Hall** comp=Z,9µm,21.0s	119.70	43	IAMs_20	IAMs_20	10 57 20.0			
L61B	**Northampton** comp=Z,9µm,21.0s	119.73	28	IAMs_20	IAMs_20	11 03 55.3			
L61B	**Northampton** baz=322	119.73	28	PKiKP	**PKPdf**	**10 09 57.3**	**-1.4**		
K62A	**Royalston** comp=Z,7µm,21.0s	119.76	27	IAMs_20	IAMs_20	11 01 58.1			
MVL	**Millersville** comp=Z,9µm,19.0s	119.81	32	IAMs_20	IAMs_20	11 07 27.8			
LUPA	**Lehigh Univers** comp=Z,8µm,20.0s	119.86	31	IAMs_20	IAMs_20	11 02 19.1			
ODNJ	**Ogdensburg** comp=Z,9µm,21.0s	119.88	30	IAMs_20	IAMs_20	10 57 28.4			
KSCT	**Kent School, K** comp=Z,9µm,20.0s	119.92	29	IAMs_20	IAMs_20	11 00 40.5			
GGN	**Saint George** comp=Z,10µm,21.0s	119.93	22	IAMs_20	IAMs_20	11 00 50.1			
SDMD	**Soldier's Deli** comp=Z,6µm,21.0s	119.98	33	IAMs_20	IAMs_20	10 57 58.4			
QUA2	**Belchertown** comp=Z,8µm,21.0s	120.02	27	IAMs_20	IAMs_20	10 59 08.8			
TRNY	**Table Rock, Ra** comp=Z,8µm,22.0s	120.02	30	IAMs_20	IAMs_20	10 57 45.0			
EMMW	**East Machias** comp=Z,9µm,21.0s	120.06	22	IAMs_20	IAMs_20	11 02 49.4			
GOGA	**Godfrey** comp=Z,9µm,22.0s	120.08	42	IAMs_20	IAMs_20	10 55 43.0			
GOGA	**Godfrey** baz=308	120.08	42	PKiKP	**PKPdf**	**10 09 58.5**	**-1.2**		
U56A	**King** comp=Z,10µm,22.0s	120.13	37	IAMs_20	IAMs_20	10 56 17.7			
PBRG	**Braganca**	120.14	332	*e*PKPdf	**PKPdf**	**10 10 00.0**	**+0.3**		
HRV	**Adam Dziewonsk** baz=323	120.19	27	PKiKP	**PKPdf**	**10 09 59.0**	**-0.7**		
352A	**Blakely** comp=Z,8µm,19.0s	120.26	44	IAMs_20	IAMs_20	11 10 09.1			
PAL	**Palisades** comp=Z,8µm,21.0s	120.28	29	IAMs_20	IAMs_20	11 00 53.9			
PAL	**Palisades** baz=320	120.28	29	PKiKP	**PKPdf**	**10 09 58.9**	**-1.0**		
GEDE	**Greenville** baz=318	120.32	31	P	**PKPdf**	**10 09 59.9**	**-0.1**		
PSUB	**Penn St. - Bra** baz=318	120.33	31	P	**PKPdf**	**10 10 00.1**	**+0.1**		
KMSC	**Kings Mountain** baz=311	120.34	39	PKiKP	**PKPdf**	**10 09 58.6**	**-1.6**		
KMSC	**Kings Mountain** baz=311	120.34	39	P	**PKiKP**	**10 10 00.7**	**+0.4**		
HODGE	**Hodges** comp=Z,11µm,22.0s	120.35	40	IAMs_20	IAMs_20	10 58 49.0			
HODGE	**Hodges** baz=310	120.35	40	P	**PKiKP**	**10 10 00.8**	**+0.5**		
WES	**Weston** comp=Z,6µm,20.0s	120.39	27	IAMs_20	IAMs_20	11 04 24.7			
ESDC	**Sonseca Array**	120.41	328	PKPdf	**PKPdf**	**10 09 59.8**	**-0.4**		
ESDC	**Sonseca Array** comp=Z,1.7nm,0.8s,baz=50,slow=2.5,SNR=12	120.41	328	PKP	**PKPdf**	**10 10 00.4**	**+0.1**		
ESDC	comp=Z,8.5nm,1.3s,baz=35,slow=7.0,SNR=7.6			PP	**PP**	**10 11 26.2**	**+0.5**		
ESDC	comp=Z,2.1nm,1.0s,baz=222,slow=3.2,SNR=7.7			PKKPbc	**PKKPbc**	**10 20 06.1**	**-1.5**		
ESDC	comp=Z,2.9nm,1.2s,baz=242,slow=2.8,SNR=5.4			SKKP	**SKKPdf**	**10 24 12.8**	**-2.0**		
WSPT	**Westport, CT** comp=Z,9µm,20.0s	120.43	29	IAMs_20	IAMs_20	11 03 10.9			
UCCT	**U. Connecticut** comp=Z,9µm,21.0s	120.45	28	IAMs_20	IAMs_20	11 02 09.5			
YLE	**Yale** comp=Z,9µm,21.0s	120.50	29	IAMs_20	IAMs_20	11 03 42.9			
N62A	**Caumsett State** comp=Z,7µm,20.0s	120.55	29	IAMs_20	IAMs_20	11 04 26.0			
CBN	**Corbin Frederi** baz=316	120.57	34	PKiKP	**PKPdf**	**10 09 59.3**	**-1.2**		
BRYW	**Bryant College** comp=Z,8µm,21.0s	120.67	27	IAMs_20	IAMs_20	10 59 49.1			
PGAV	**Gavieira, Arco**	120.71	333	*e*PKPdf	**PKPdf**	**10 10 00.6**	**-0.2**		
PGAV	**Gavieira, Arco** comp=Z,14µm,18.0s	120.71	333	*e*LR	LR	10 51 13.7			
MVO	**Moncorvo**	120.78	332	*e*PKPdf	**PKiKP**	**10 10 02.5**	**+1.5**		
MVO	**Moncorvo** comp=Z,11µm,18.0s	120.78	332	*e*LR	LR	10 52 46.9			
154A	**Montrose** comp=Z,8µm,20.0s	120.81	42	IAMs_20	IAMs_20	11 00 30.4			
M63A	**Gales Ferry** comp=Z,9µm,21.0s	120.85	28	IAMs_20	IAMs_20	11 02 18.8			
P61A	**Hammonton** comp=Z,8µm,20.0s	120.85	31	IAMs_20	IAMs_20	11 02 57.3			
JSC	**Jenkinsville** comp=Z,10µm,22.0s	120.95	40	IAMs_20	IAMs_20	10 56 00.8			
L64A	**Middleborough** comp=Z,6µm,20.0s	120.97	27	IAMs_20	IAMs_20	10 58 22.9			
POLO	**Lamas de Olo**	120.97	332	*e*PKPdf	**PKiKP**	**10 10 02.8**	**+1.4**		
PVRL	**Vila Real**	121.01	332	*e*PKPdf	**PKiKP**	**10 10 02.5**	**+1.0**		
W57A	**Gilead** comp=Z,9µm,21.0s	121.16	38	IAMs_20	IAMs_20	11 00 31.2			
TIGA	**Tifton** comp=Z,7µm,20.0s	121.20	44	IAMs_20	IAMs_20	11 02 31.9			
TIGA	**Tifton** baz=307	121.20	44	PKiKP	**PKPdf**	**10 10 01.4**	**-0.5**		
BIRD	**Birdtown, Kers** comp=Z,10µm,22.0s	121.21	39	IAMs_20	IAMs_20	10 54 38.6			
V58A	**Windy Hill, Pi** comp=Z,10µm,21.0s	121.26	37	IAMs_20	IAMs_20	10 57 25.6			
T59A	**Double "B" Far**	121.34	35	PKPdf	**PKPdf**	**10 10 01.3**	**-0.7**		
M65A	**Busby, Falmout** comp=Z,8µm,20.0s	121.35	27	IAMs_20	IAMs_20	11 00 30.1			
M65A	**Busby, Falmout** baz=324	121.35	27	PKiKP	**PKPdf**	**10 10 01.4**	**-0.5**		
PVIS	**Viseu**	121.53	332	*e*PKPdf	**PKiKP**	**10 10 03.7**	**+1.2**		
MTE	**Manteigas**	121.62	331	*e*PKPdf	**PKiKP**	**10 10 03.8**	**+1.1**		
MTE	**Manteigas** comp=Z,11µm,20.0s	121.62	331	*e*LR	LR	10 53 17.3			
255A	**Hazlehurst** comp=Z,8µm,20.0s	121.66	43	IAMs_20	IAMs_20	11 01 05.8			
EADA	**Adamuz**	121.84	328	PKP	**PKPdf**	**10 10 03.4**	**+0.4**		
X58A	**Rowland** comp=Z,10µm,22.0s	121.96	38	IAMs_20	IAMs_20	11 00 53.4			
PCBR	**Castelo Branco**	122.03	331	*e*PKPdf	**PKiKP**	**10 10 04.8**	**+1.4**		
W59A	**Clinton** comp=Z,10µm,22.0s	122.08	37	IAMs_20	IAMs_20	10 57 26.5			
PMRV	**Marv??o**	122.31	331	*e*PKPdf	**PKiKP**	**10 10 05.0**	**+1.0**		
PMRV	**Marv??o** comp=Z,10µm,22.0s	122.31	331	*e*LR	LR	10 53 47.7			
PCAS	**Casmilo, Conde**	122.34	332	*e*PKPdf	**PKiKP**	**10 10 04.8**	**+0.7**		
CNNC	**Cliffs of the** baz=314	122.36	37	PKiKP	**PKPdf**	**10 10 03.8**	**-0.2**		
NHSC	**New Hope** comp=Z,8µm,21.0s	122.40	40	IAMs_20	IAMs_20	10 58 16.2			
NHSC	**New Hope** baz=311	122.40	40	PKiKP	**PKPdf**	**10 10 03.8**	**-0.3**		
257A	**Skidaway Islan** comp=Z,9µm,22.0s	122.58	42	IAMs_20	IAMs_20	10

MORF	Marmelete	124.58	330	*e*PKIKP	PKiKP	10 10 08.9	+0.3			
MORF				*e*		10 11 55.6				
DWPF	Disney Wildern	124.70	46	IAMs_20	IAMs_20	11 02 23.8				
	comp=Z,9μm,21.0s									
DWPF	Disney Wildern	124.70	46	PKiKP	PKPdf	10 10 08.3	-0.4			
	baz=307									
PFVI	Vila Bisbo	124.81	330	*e*PKPdf	PKiKP	10 10 10.3	+1.3			
LCRM	LCR	125.28	324	P	PKiKP	10 10 13.0	+2.7			
MDT	Midelt	125.76	323	P	PKiKP	10 10 13.7	+2.5			
061Z	Ochoppi	126.42	47	IAMs_20	IAMs_20	11 02 31.5				
	comp=Z,10μm,21.0s									
ZHG	ZHG	126.47	325	P	PKiKP	10 10 15.0	+2.4			
AVE	Averroes	127.01	326	IAMs_20	IAMs_20	11 12 14.6				
	comp=Z,6μm,20.0s									
CAMR	Camarioca	127.69	51	IAMs_20	IAMs_20	11 05 44.6				
	comp=Z,8μm,20.0s									
TZRR	Tazzarine	127.78	322	P	PKiKP	10 10 17.0	+1.7			
ZGR	Zagora	128.28	322	P	PKiKP	10 10 18.0	+1.7			
OUZM	OUZ	128.40	323	P	PKiKP	10 10 18.0	+1.5			
TIO	Tiouine	128.68	324	PKP	PKiKP	10 10 18.2	+1.1			
OUK	Oukaimeden	128.82	324	P	PKiKP	10 10 20.0	+2.3			
PAYG	Puerto Ayora	128.96	83	IAMs_20	IAMs_20	10 54 39.0				
	comp=Z,8μm,20.0s									
BOAB	BOACO BROADBAND	129.27	65	PKPdf	PKPdf	10 10 17.7	0.0			
BOAB				IAMs_20	IAMs_20	10 56 40.0				
	comp=Z,7μm,22.0s									
ACON	Acoyapa	129.91	65	*e*P	PKiKP	10 10 20.2	+0.4			
HZTE	Horizontes, Gu	130.02	67	IAMs_20	IAMs_20	11 06 21.1				
	comp=Z,6μm,18.0s									
MG01	Puerto William	130.09	159	IAMs_20	IAMs_20	11 06 16.2				
	comp=Z,6μm,20.0s									
ORTG	Ortega, Santa	130.28	67	IAMs_20	IAMs_20	10 56 46.9				
	comp=Z,7μm,21.0s									
JTS	Las Juntas de	130.77	67	IAMs_20	IAMs_20	10 57 20.8				
	comp=Z,6μm,19.0s									
JTS	Las Juntas de	130.77	67	*e*P	PKPdf	10 10 20.2	-0.5			
ARE1	Arenal 1	130.91	67	IAMs_20	IAMs_20	10 57 19.7				
	comp=Z,5μm,20.0s									
GO09	Cerro Castillo	131.02	153	IAMs_20	IAMs_20	10 57 42.2				
	comp=Z,6μm,22.0s									
COVE	Coope Vega, Sa	131.10	66	IAMs_20	IAMs_20	10 57 00.5				
	comp=Z,6μm,21.0s									
MG02	Cerro Sombrero	131.19	157	IAMs_20	IAMs_20	11 11 26.5				
	comp=Z,5μm,20.0s									
BBSR	BB Station	131.60	28	IAMs_20	IAMs_20	11 08 45.5				
	comp=Z,7μm,20.0s									
HDC	Heredia	131.64	67	IAMs_20	IAMs_20	10 57 50.0				
	comp=Z,8μm,20.0s									
LCR2	La Lucha 2	131.84	67	IAMs_20	IAMs_20	10 57 33.3				
	comp=Z,8μm,21.0s									
RIMA	Rio Macho	131.96	67	IAMs_20	IAMs_20	10 57 47.6				
	comp=Z,8μm,21.0s									
TORD	Torodi Ar. Bea	132.79	298	PKhKP	PKPpre	10 10 08.9				
	comp=Z,0.9nm,1.1s,baz=27,slow=3.5,SNR=3.1									
TORD				PKP	PKPdf	10 10 24.7	+0.3			
	comp=Z,15nm,0.9s,baz=20,slow=2.7,SNR=33									
TORD				PP	PP	10 12 49.3	+0.4			
	comp=Z,5.5nm,1.1s,baz=49,slow=6.8,SNR=4.7									
TORD				SKKP	SKKPdf	10 23 46.8	-4.5			
	comp=Z,1.4nm,1.1s,baz=264,slow=1.4,SNR=1.2									
GO08	Villa O'Higgin	132.88	151	IAMs_20	IAMs_20	11 01 34.8				
	comp=Z,6μm,19.0s									
CDITO	Canoas	133.32	68	IAMs_20	IAMs_20	10 58 00.5				
	comp=Z,7μm,20.0s									
BRU2	Volcan	133.40	68	IAMs_20	IAMs_20	11 04 15.7				
	comp=Z,7μm,20.0s									
GTBY	Guantanamo Bay	134.24	49	IAMs_20	IAMs_20	11 20 03.0				
	comp=Z,6μm,18.0s									
GMAL	Guarumal, Vera	135.13	68	*e*P	PKPdf	10 10 29.6	+0.7			
AY01	Puyuhuapi	135.54	146	IAMs_20	IAMs_20	11 02 11.4				
	comp=Z,7μm,20.0s									
MACI	Morro de la Ar	135.77	330	IAMs_20	IAMs_20	11 12 00.2				
	comp=Z,6μm,21.0s									
BCIP	Isla Barro Col	135.84	66	*e*P	PKPdf	10 10 30.0	-0.2			
EFI	East Falkland	135.88	164	IAMs_20	IAMs_20	11 13 04.8				
	comp=Z,6μm,20.0s									
LL07	Hotel Espejo d	136.07	144	IAMs_20	IAMs_20	11 04 32.9				
	comp=Z,7μm,20.0s									
LL06	Loncomilla	136.36	143	IAMs_20	IAMs_20	11 04 48.7				
	comp=Z,6μm,20.0s									
LL02	Futaleuf	136.77	145	IAMs_20	IAMs_20	11 03 43.2				
	comp=Z,7μm,20.0s									
LL05	Los Muermos	136.94	142	IAMs_20	IAMs_20	11 03 15.1				
	comp=Z,6μm,18.0s									
LL01	San Ignacio de	136.97	144	IAMs_20	IAMs_20	11 02 34.6				
	comp=Z,8μm,20.0s									
VA04	Juan Fernndez	137.21	129	IAMs_20	IAMs_20	10 57 39.6				
	comp=Z,7μm,22.0s									
SALI	Salinas	138.36	82	IAMs_20	IAMs_20	11 02 19.2				
	comp=Z,5μm,20.0s									
PLCA	Paso Flores	139.09	144	IAMs_20	IAMs_20	11 04 11.0				
	comp=Z,6μm,21.0s									
PLCA	Paso Flores	139.09	144	PKhKP	PKPpre	10 10 29.4				
	comp=Z,1.8nm,0.6s,baz=237,slow=4.1,SNR=10									
PLCA				PKP	PKPdf	10 10 36.5	+0.9			
	comp=Z,14nm,0.9s,baz=221,slow=2.7,SNR=25									
GO06	Curarrehue	139.26	142	PKPdf	PKPdf	10 10 34.5	-1.4			
GO06				IAMs_20	IAMs_20	11 01 59.7				
	comp=Z,6μm,21.0s									
APAC	Apartado, Choc	139.29	65	*e*P	PKPdf	10 10 30.2	-6.3			
ARNL	Arenillas	139.54	84	IAMs_20	IAMs_20	11 01 35.6				
	comp=Z,6μm,20.0s									
BI05	Punta Hualpn	139.79	137	IAMs_20	IAMs_20	11 10 40.3				
	comp=Z,5μm,19.0s									
MCRA	Macar, Loja	139.81	85	*e*P	PKPdf	10 10 29.2	-8.4			
COHC	Cochancay	140.12	82	*e*P	PKPdf	10 10 29.6	-8.5			
OTAV	Otavalo	140.23	77	*e*P	PKPdf	10 10 32.0	-6.9			
CHSH	Refugio Sur-Vo	140.27	80	IAMs_20	IAMs_20	11 03 25.6				
	comp=Z,5μm,20.0s									
UREC	San Jos de Ur	140.29	65	*e*P	PKPdf	10 10 32.4	-6.0			
CMBC	Cumbal	140.63	76	*e*P	PKPdf	10 10 35.4	-4.2			
CBOC	Ciudad Bolivar	140.64	68	*e*P	PKPdf	10 10 34.9	-4.4			
TULM	Tulcn-Chalpat	140.73	76	*e*P	PKPdf	10 10 36.8	-3.1			
PIAT	Ana Tenorio	140.74	79	*e*P	PKPdf	10 10 36.2	-3.5			
PLMC	San Jos del P	140.76	69	*e*P	PKPdf	10 10 35.4	-4.0			
BBAC	Balboa, Cauca	140.85	74	*e*P	PKPdf	10 10 34.1	-5.6			
ZARC	Zaragoza, Cauc	141.00	65	*e*P	PKPdf	10 10 34.2	-5.5			
JAMC	Jamundi, Valle	141.00	72	*e*P	PKPdf	10 10 36.1	-3.8			
GCUF	Volcan Galeras	141.00	75	*e*P	PKPdf	10 10 39.7	-0.7			
CRJC	Cerrejon, Guaj	141.03	58	*e*P	PKPdf	10 10 35.6	-4.2			
YOTC	Yotoco, Valle	141.04	71	*e*P	PKPdf	10 10 35.8	-4.1			
BONI	La Bonita	141.06	77	*e*P	PKPdf	10 10 36.6	-3.5			
POPC	Popayan, Colom	141.23	73	*e*P	PKPdf	10 10 34.6	-5.8			
CRUC	La Cruz	141.28	75	*e*P	PKPdf	10 10 39.3	-1.3			
LL6C	La Loma 6 Bece	141.35	60	*e*P	PKPdf	10 10 34.7	-5.6			
DBIC	Dimbokro	141.43	294	PKPdf	PKPdf	10 10 36.9	-3.5			
DBIC				IAMs_20	IAMs_20	11 24 21.4				
	comp=Z,6μm,21.0s									
DBIC	Dimbokro	141.43	294	PKiKP	PKPdf	10 10 36.9	-3.5			
DBIC	Dimbokro	141.43	294	PKhKP	PKPpre	10 10 34.8				
	comp=Z,20nm,0.9s,baz=69,slow=2.5,SNR=19									
KIC	Kosan Boka	141.46	294	⏊ *i*PKP1	PKPdf	10 10 36.8	-3.7			
	comp=Z,67nm,0.9s									
GUY2C	Guyana, Caldas	141.48	68	*e*P	PKPdf	10 10 35.9	-5.3			
ML02	Panimavida	141.53	137	IAMs_20	IAMs_20	11 03 03.3				
	comp=Z,5μm,20.0s									
GO05	Huala	141.59	135	IAMs_20	IAMs_20	10 59 55.1				
	comp=Z,6μm,22.0s									
TIC	Toumodi	141.59	294	⏊ *i*PKP1	PKPdf	10 10 37.6	-3.1			
	comp=Z,3.7nm,0.3s									
ANIL	Santa Ana	141.73	70	*e*P	PKPdf	10 10 36.1	-5.2			
PTBC	PUERTO BERRIO	141.77	66	*e*P	PKPdf	10 10 35.9	-5.2			
LIC	Lamto	141.77	294	⏊ *i*PKP1	PKPdf	10 10 37.7	-3.4			
	comp=Z,63nm,0.8s									
SJG	San Juan	141.82	43	IAMs_20	IAMs_20	11 09 04.0				
	comp=Z,6μm,22.0s									
OCAC	Ocana	142.02	63	*e*P	PKPdf	10 10 37.0	-4.7			
ORTC	Ortega, Tolima	142.09	70	*e*P	PKPdf	10 10 41.2	-0.5			
BETC	Betania	142.34	72	*e*P	PKPdf	10 10 40.8	-1.3			
SPBC	San Pablo de B	142.49	67	*e*P	PKPdf	10 10 38.1	-4.4			
PRAC	Prado	142.49	70	*e*P	PKPdf	10 10 39.4	-3.1			
BO02	Sierra Bellavi	142.50	136	IAMs_20	IAMs_20	11 00 58.1				
	comp=Z,7μm,22.0s									
FLOC	Florencia	142.50	74	*e*P	PKPdf	10 10 39.1	-3.3			
VA05	Santo Domingo	142.53	134	IAMs_20	IAMs_20	11 06 11.1				
	comp=Z,6μm,18.0s									
ROSC	El Rosal	142.59	68	IAMs_20	IAMs_20	11 05 13.2				
	comp=Z,5μm,21.0s									
ROSC	El Rosal	142.59	68	*e*P	PKPdf	10 10 40.4	-2.6			
ROSC	El Rosal	142.59	68	PKP	PKPdf	10 10 40.2	-2.8			
	comp=Z,21nm,0.6s,baz=351,slow=6.7,SNR=9.8									
MT01	Popeta	142.68	134	IAMs_20	IAMs_20	11 07 41.0				
	comp=Z,5μm,18.0s									
VA01	Torpederas	142.83	133	IAMs_20	IAMs_20	11 01 49.4				
	comp=Z,5μm,22.0s									
BARC	Barichara	142.89	65	*e*P	PKPdf	10 10 38.7	-4.6			
MT09	Talagante	142.91	134	IAMs_20	IAMs_20	11 07 46.1				
	comp=Z,4μm,19.0s									
CVER	Cruz Verde, Cu	142.94	69	*e*P	PKPdf	10 10 34.1	-10			
PAMC	Pamplona, Colo	142.98	63	*e*P	PKPdf	10 10 40.8	-3.1			
BO04	La Punta	143.06	135	IAMs_20	IAMs_20	11 06 00.0				
	comp=Z,6μm,18.0s									
MT02	Curacav	143.07	134	IAMs_20	IAMs_20	11 04 32.6				
	comp=Z,5μm,20.0s									
CHIC	Chingaza	143.21	68	*e*P	PKPab	10 10 40.8	+1.0			
MT05	Renca	143.29	134	IAMs_20	IAMs_20	11 12 03.2				
	comp=Z,5μm,18.0s									
MT03	Universidad Ad	143.39	134	IAMs_20	IAMs_20	11 08 11.0				
	comp=Z,6μm,20.0s									
MT13	San Alfonso	143.42	135	IAMs_20	IAMs_20	11 11 28.5				
	comp=Z,5μm,20.0s									
LMEL	Las Melosas	143.42	135	IAMs_20	IAMs_20	11 06 12.5				
	comp=Z,7μm,19.0s									
VILC	Villavicencio,	143.44	69	*e*P	PKPbc	10 10 42.0	+0.7			
PEL	Peldehue	143.46	134	IAMs_20	IAMs_20	11 02 12.9				
	comp=Z,4μm,20.0s									
HATO	Hato, Curacao	143.59	53	IAMs_20	IAMs_20	11 20 02.4				
	comp=Z,5μm,20.0s									
NNA	Nana	143.62	97	PKPdf	PKPbc	10 10 42.3	+0.6			
NNA	Nana	143.62	97	IAMs_20	IAMs_20	11 03 17.5				
	comp=Z,5μm,20.0s									
NNA	Nana	143.62	97	*e*P	PKPbc	10 10 41.7	0.0			
NNA	Nana	143.62	97	PKIKP	PKPbc	10 10 42.3	+0.6			
PTLC	Puerto Leguiza	143.75	76	*e*P	PKPbc	10 10 43.4	+1.3			
MT08	Bocatoma Ro	143.77	135	IAMs_20	IAMs_20	11 08 32.8				
	comp=Z,6μm,19.0s									
SMRT	St. Maarten	143.86	40	PKPdf	PKPbc	10 10 42.9	+0.6			
SDV	Santo Domingo	144.02	60	PKPdf	PKPbc	10 10 43.8	+0.7			
SDV				IAMs_20	IAMs_20	11 06 14.5				
	comp=Z,7μm,22.0s									
SDV	Santo Domingo	144.02	60	*e*P	PKPab	10 10 42.7	+0.1			
TAMC	Tame, Arauca	144.19	64	*e*P	PKPdf	10 10 44.9	-0.5			
CO02	Combarbal	144.21	131	IAMs_20	IAMs_20	11 02 31.1				
	comp=Z,7μm,22.0s									
PTGC	Puerto Gaitan,	144.84	68	*e*P	PKPab	10 10 45.3	-0.1			
MBFL	Flemmings, Mon	145.38	40	*e*P	PKPbc	10 10 46.4	-0.7			
MLYT	Lee's Yard	145.41	40	*e*P	PKPab	10 10 48.0	+0.6			
ANBD	Bethesda, Anti	145.43	39	*e*P	PKPbc	10 10 46.7	-0.6			
LCO	Las Campanas	145.47	128	IAMs_20	IAMs_20	11 01 29.9				
	comp=Z,6μm,22.0s									
TRQA	Tornquist	145.72	148	PKPdf	PKPdf	10 10 47.0	-0.3			
TRQA	Tornquist	145.72	148	PKP2	PKPdf	10 10 47.0	-0.3			
AC05	El Transito	145.88	128	IAMs_20	IAMs_20	11 03 44.8				
	comp=Z,6μm,20.0s									
ABD	La Joyeuse, An	146.04	39	IAMs_20	IAMs_20	11 18 00.4				
	comp=Z,7μm,21.0s									
ABD	La Joyeuse, An	146.04	39	*e*P	PKPdf	10 10 40.8	-7.6			
BAUV	El Baul	146.17	57	*e*P	PKPdf	10 10 45.4	-3.4			
CBE	Ff, Capester	146.27	40	*e*P	PKPab	10 10 51.4	+0.8			
AC06	Mina Casimiro	146.47	125	IAMs_20	IAMs_20	11 04 09.6				
	comp=Z,7μm,21.0s									
MAGL	Barre de l'ile	146.56	40	*e*P	PKPdf	10 10 47.1	-2.2			
AC01	Pan de Azucar	146.76	123	IAMs_20	IAMs_20	11 07 38.6				
	comp=Z,7μm,19.0s									
CZSB	Cruzeiro do Su	147.43	89	*e*P	PKPdf	10 10 51.6	+0.7			
CZSB	Cruzeiro do Su	147.43	89	*e*P	PKPdf	10 10 51.1	+0.3			
FDF	Fort de France	147.55	41	IAMs_20	IAMs_20	11 10 28.8				
	comp=Z,7μm,22.0s									
FDF	Fort de France	147.55	41	*e*P	PKPdf	10 10 50.6	-0.4			
BIM	Bigot	147.77	41	IAMs_20	IAMs_20	11 09 50.4				
	comp=Z,6μm,21.0s									
BIM	Bigot	147.77	41	*e*P	PKPbc	10 10 54.1	-0.1			
MPOM	Morne Pois Mar	147.96	41	IAMs_20	IAMs_20	11 10 51.4				
	comp=Z,8μm,22.0s									
MPOM	Morne Pois Mar	147.96	41	*e*P	PKPdf	10 10 47.1	-4.5			
SLBI	Saint Lucia, B	148.19	42	*e*P	PKPdf	10 10 52.1	+0.1			
PB04	IPOC Station P	148.48	117	IAMs_20	IAMs_20	11 04 27.8				
	comp=Z,7μm,21.0s									
SVB	Belmont	148.55	43	*e*P	PKPdf	10 10 51.4	-1.2			
PB06	IPOC Station P	148.87	118	IAMs_20	IAMs_20	11 07 02.0				
	comp=Z,7μm,20.0s									
PB07	IPOC Station P	148.89	116	IAMs_20	IAMs_20	11 04 26.9				
	comp=Z,7μm,21.0s									
PATCX	Punta Patache	148.91	114	IAMs_20	IAMs_20	11 02 47.5				
	comp=Z,5μm,22.0s									
TA01	Diego Aracena	148.95	113	IAMs_20	IAMs_20	11 02 58.7				
	comp=Z,6μm,22.0s									
GCMP	Grenada, Carri	149.00	44	*e*P	PKPdf	10 10 55.1	+1.7			
PB02	IPOC Station P	149.00	115	IAMs_20	IAMs_20	11 29 42.9				
	comp=Z,5μm,22.0s									
TA02	Huaiquique	149.07	113	IAMs_20	IAMs_20	11 02 49.9				
	comp=Z,5μm,22.0s									
GRGR	Grenville	149.09	45	IAMs_20	IAMs_20	11 17 32.9				
	comp=Z,7μm,21.0s									
AP01	Chacalluta	149.30	109	IAMs_20	IAMs_20	11 04 23.5				
	comp=Z,5μm,20.0s									
PB09	IPOC Station P	149.44	116	IAMs_20	IAMs_20	11 04 55.4				
	comp=Z,6μm,21.0s									
PB01	IPOC Station P	149.44	115	IAMs_20	IAMs_20	11 07 08.7				
	comp=Z,5μm,20.0s									
LVC	Limon Verde	149.47	118	*e*P	PKPdf	10 10 53.1	-1.3			
TBTG	Tabatinga, AM	149.59	81	*e*P	PKPdf	10 10 55.0	+0.6			
TBTG	Tabatinga, AM	149.59	81	*e*P	PKPdf	10 10 54.0	-0.4			
PB11	IPOC Station P	149.63	112	IAMs_20	IAMs_20	11 07 42.8				
	comp=Z,5μm,21.0s									
PB08	IPOC Station P	149.99	113	IAMs_20	IAMs_20	11 03 53.3				
	comp=Z,4μm,22.0s									
GO01	Chusmiza	150.07	112	IAMs_20	IAMs_20	11 09 27.6				
	comp=Z,5μm,20.0s									
PB16	IPOC Station P	150.09	109	IAMs_20	IAMs_20	11 05 09.2				
	comp=Z,6μm,21.0s									
LPA	La Plata	150.22	149	PKIKP	PKPdf	10 10 47.8	-6.9			
LPA	La Plata	150.22	149	PKP	PKiKP	10 11 02.9	+2.2			
LPA				SKIKP		10 14 22.1				
LPA				PKIKS		10 14 28.1				
LPA				PP	PP	10 14 39.9	+6.0			
LPA				pPP		10 14 50.9				
LPA				PPP	PPP	10 17 37.3				
LPA				SKIKS		10 17 43.1				
LPA				SDIFF		10 23 24.3				
LPA				PSP	PSP	10 27 18.7				
LPA				PPS	PPS	10 27 24.6				
LPA				SS	SS	10 34 03.6	+13			
LPA				SSS	SSS	10 39 21.5				
TRN	Trinidad (W)	150.28	47	*e*P	PKPdf	10 10 57.9	+2.5			
SACV	Santiago Islan	150.42	327	PKPab	PKiKP	10 11 03.9	+2.3			
SACV	Santiago Islan	150.42	327	IAMs_20	IAMs_20	11 22 24.7				
	comp=Z,5μm,20.0s									
SGCB	Sto Gabriel d	151.19	72	*e*P	PKPdf	10 10 56.9	0.0			
ETMB	Extrema	154.00	92	*e*P	PKPdf	10 11 00.6	-0.3			
MECA	Mercedes	154.26	141	*e*P	PKPdf	10 10 59.7	-1.2			
PLTB	Pedras Altas	154.88	151	*e*P	PKPdf	10 11 02.1	+0.3			
BOAV	Boa Vista	155.97	60	*e*P	PKPdf	10 11 04.1	+0.4			
CPUP	Villa Florida	156.82	137	IAMs_20	IAMs_20	11 15 38.1				
	comp=Z,6μm,20.0s									
CPUP	Villa Florida	156.82	137	PKP	PKPdf	10 11 03.3	-1.2			
	comp=Z,6.6nm,1.0s,baz=304,slow=0.7,SNR=12									
CPUP				PKPab	PKPab	10 11 34.2	+0.3			
	comp=Z,23nm,1.1s,baz=226,slow=4.7,SNR=6.7									
SAML	Samuel	156.93	89	*e*P	PKPdf	10 11 04.4	-0.5			
BBSD	Serra de San D	158.59	112	*e*P	PKPdf	10 11 07.0	+0.1			
BBRB	Robore, Bolivi	158.97	115	*e*P	PKPdf	10 11 07.8	+0.4			
ITAB	Concordia	159.31	147	*e*P	PKPdf	10 11 08.5	+1.0			
MURT	Porto Murtinho	159.37	126	*e*P	PKPdf	10 11 07.6	-0.1			
VILB	Vilhena	159.81	100	*e*P	PKPdf	10 11 08.5	+0.1			
BDQN	Bodoquena, MS	160.67	124	*e*P	PKPdf	10 11 10.0	+0.8			
AQDB	Aquidauana	161.50	126	*e*P	PKPdf	10 11 10.1	0.0			
LDASE	Londrina, Braz	162.88	142	*e*P	PKPdf	10 11 11.2	-0.3			
BDFB	Brasilia	170.25	126	PKP	PKPdf	10 11 16.8	-0.6			
	comp=Z,4.6nm,0.7s,baz=127,slow=3.0,SNR=7.1									
BDFB				PKPab	PKPab	10 12 33.4	+0.1			
	comp=Z,4.5nm,0.9s,baz=269,slow=9.8,SNR=1.8									

TAP ***08*** *09:53:04.2,24°.21N×122°.75E,h18km,ML2.5,D*
JMA ***08*** *09:53:04.1±0.2,24°.N±°×122°.8E±0°.5,h16km±3km,*
MV2.1/12,NW OFF ISHIGAKIJIMA IS

ISC 08 09:53:03.5±0.9,24°.17N±0°.04×122°.79E±0°.02,h17km±7km,
n51,σ0°66/97,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JYNG	Yonagunijimaku	0.31	27	*e*S		Sg	09 53 14.4	-0.3
YOJ	Yonaguni jima	0.35	35	P		Pg	09 53 10.8	0.0
YOJ				S		Sg	09 53 15.7	-0.1
EOS4	EOS4	0.44	263	*i* P		Pg	09 53 12.3	+0.1
	baz=261							
EOS4				*i* S		Sg	09 53 18.3	+0.2
	baz=261							
EOS3	EOS3	0.45	285	*e*P		Pg	09 53 12.7	+0.2
	baz=279							
EOS3				*e*S		Sb	09 53 19.1	-0.1
	baz=279							
EOS2	EOS2	0.57	296	*e*P		Pb	09 53 15.0	+0.1
	baz=295							
EOS2				*e*S		Sb	09 53 23.3	+0.6
	baz=295							
IRIF	Iriomote-Funau	0.87	79	P		Pb	09 53 20.3	+0.1
IRIF				*e*S		Sg	09 53 32.2	+0.2
HATJ	Hateruma jima	0.93	97	P		Pb	09 53 21.3	+0.1
HATJ				*e*S		Sb	09 53 34.0	+0.6
TWC	Suao	0.96	297	*e*P		Pb	09 53 21.4	-0.4
	baz=307							
TWC				*e*S		Sb	09 53 32.5	-1.7
	baz=307							
EWUT	Wuta	0.96	287	*i* P		Pb	09 53 21.1	-0.7
	baz=285							
EWUT				*i* S		Sb	09 53 34.6	+0.3
	baz=285							
ENA	Nanau	0.99	285	*i* P		Pb	09 53 21.6	-0.6
	baz=283							
ENA				*e*S		Sb	09 53 35.0	0.0
	baz=283							
NDS	Dongshan	1.08	295	*e*S		Sb	09 53 37.9	+0.2
	baz=294							
NACB	Ninganchiao	1.09	270	*i* P		Pn	09 53 24.3	+0.2
	baz=268							
NACB				S		Sb	09 53 38.3	+0.3
	baz=268							
JKRS	Kuro-shima	1.11	86	P		Pn	09 53 24.8	+0.5
JKRS				*e*S		Sg	09 53 39.9	+0.2
TWE	Neicheng	1.16	298	*i* P		Pn	09 53 25.0	0.0
	baz=306							
TWE				*e*S		Sb	09 53 39.6	-0.4
	baz=306							
TIPB	Shuangxi	1.19	312	*e*P		Pb	09 53 25.9	+0.2
	baz=312							
TIPB				*e*S		Sn	09 53 41.4	+0.2
	baz=312							
ETLH	Xiulin Townshi	1.20	272	P		Pn	09 53 25.9	+0.3
	baz=270							
ETLH				S		Sg	09 53 42.2	-0.2
	baz=270							
ETM	T

baz=243
WTP *e*S **Sb** **09 54 08.4 -1.4**
baz=243
TWK **Hsinying** **2.30 247** *e*S **Sn** **09 54 09.9 +1.3**
baz=245

IDC 08 09:53:39.5±87.0, 15°60'S×173°47'W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=1667.0km s-min=222.9km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.88**	**240**	P	P	10 01 47.9	-0.1
	6.5nm,0.7s,baz=78,slow=9.0,SNR=0.9 6.5nm,0.7s						
WRA	**Warramunga Arr**	**49.73**	**257**	P	P	10 02 33.7	-0.4
	1.3nm,0.6s,baz=85,slow=7.1,SNR=1.1 1.3nm,0.6s						
ASAR	**Alice Springs**	**49.99**	**252**	P	P	10 02 36.1	+0.1
	4.5nm,0.7s,baz=88,slow=7.8,SNR=3.9 4.5nm,0.7s						

IDC 08 09:55:47.8±2.9, 53°72N×86°74E, h0km, mbtmp2.7/2, ML2.1/2, Error ellipse: s-maj=24.9km s-min=14.7km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.16**	**282**	Pg	Pg	09 56 09.5	-0.5
	0.4nm,0.3s,baz=98,slow=17,SNR=4.1						
ZALV				Lg	Lg	09 56 25.8	
	0.8nm,0.3s,baz=103,slow=30,SNR=7.1						
I46RU	**ZALESOVO INFRA**	**1.16**	**282**	I	I	10 02 00.0	
	baz=100,slow=336,SNR=2.7						
KURBB	**Kurchatov Arra**	**5.93**	**242**	Pn	Pn	09 57 17.9	+1.1
	baz=58,slow=13,SNR=2.2 0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.50**	**204**	Pn	Pn	09 57 39.3	+0.9
	0.1nm,0.3s,baz=26,slow=14,SNR=2.2 0.3nm,0.4s						

*IDC **08** 10:01:49.9±1.1, 10°10N×140°08E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=38.5km s-min=22.8km az=87.0*
ISC 08 10:01:55.2±1.1, 10°1N±0°2×140°0E±0°2, h35km, n14, σ0s30/8, mb3.8/8, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy 27.12**		**69**	T	T	10 36 03.0	
	baz=255,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy 27.14**		**69**	T	T	10 36 00.6	
	baz=255,slow=76,SNR=9.5						
H11S2	**WAKE ISLAND Hy 27.14**		**69**	T	T	10 36 01.8	
	baz=255,slow=76,SNR=7.4						
H11N1	**WAKE ISLAND Hy 27.63**		**67**	T	T	10 36 40.6	
	baz=253,slow=76,SNR=9.6						
H11N2	**WAKE ISLAND Hy 27.64**		**67**	T	T	10 36 40.9	
	baz=253,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy 27.64**		**67**	T	T	10 36 38.9	
	baz=253,slow=76						
WRA	**Warramunga Arr**	**30.35**	**191**	P	**P**	**10 08 03.8**	**-0.1**
	0.9nm,0.8s,baz=12,slow=10,SNR=2.8 0.9nm,0.8s						
ASAR	**Alice Springs**	**34.07**	**190**	P	**P**	**10 08 36.6**	**+0.1**
	0.6nm,0.6s,baz=19,slow=12,SNR=9.4 0.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**40.61**	**287**	P	**P**	**10 09 31.8**	**-0.2**
	1.1nm,0.3s,baz=100,slow=6.6,SNR=6.8 1.1nm,0.3s						
MKAR	**Makanchi Array**	**60.83**	**318**	P	**P**	**10 12 04.1**	**0.0**
	0.6nm,0.7s,baz=108,slow=4.7,SNR=2.6 0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**64.33**	**322**	P	**P**	**10 12 27.3**	**+0.1**
	1.2nm,0.8s,baz=104,slow=6.9,SNR=4.5 1.2nm,0.8s						
BVAR	**Borovoye Array**	**69.79**	**323**	P	**P**	**10 13 02.5**	**+0.6**
	2.8nm,0.8s,baz=115,slow=6.7,SNR=4.2 2.8nm,0.8s						
ILAR	**Eielson Array**	**73.75**	**25**	P	**P**	**10 13 25.4**	**-0.1**
	0.3nm,0.7s,baz=243,slow=5.6,SNR=4.1 0.3nm,0.7s						
YKA	**Yellowknife Ar**	**88.12**	**27**	P	**P**	**10 14 42.0**	**0.0**
	0.2nm,0.7s,baz=287,slow=5.2,SNR=1.7 0.2nm,0.7s						

*IDC **08** 10:02:06.7±0.9, 10°09N×140°20E, h0km, mb3.9/7, mbtmp4.0/8, ML4.6/1, Error ellipse: s-maj=29.2km s-min=20.3km az=112.0*
ISC 08 10:02:11.9±0.9, 10°1N±0°2×140°2E±0°1, h35km, n8, σ0s82/9, mb3.9/7, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.75**	**52**	Pn	**Pn**	**10 03 33.7**	**-1.1**
	16nm,0.3s,baz=14,slow=21,SNR=1.7						
GUMO				Sn	**Sn**	**10 04 40.8**	**+1.1**
	7.6nm,0.3s,baz=2.4,slow=21,SNR=1.2 52nm,0.3s						
WRA	**Warramunga Arr**	**30.36**	**191**	P	**P**	**10 08 20.6**	**-0.1**
	1.3nm,0.8s,baz=9.1,slow=9.8,SNR=4.8 1.3nm,0.8s						
ASAR	**Alice Springs**	**34.08**	**190**	P	**P**	**10 08 53.3**	**+0.1**
	0.9nm,0.5s,baz=17,slow=12,SNR=12 0.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**40.78**	**287**	P	**P**	**10 09 50.8**	**+0.6**
	0.8nm,0.3s,baz=85,slow=6.4,SNR=5.7 0.8nm,0.3s						
MKAR	**Makanchi Array**	**60.97**	**318**	P	**P**	**10 12 21.0**	**-0.6**
	0.8nm,0.8s,baz=104,slow=6.1,SNR=2.5 0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**64.45**	**322**	P	**P**	**10 12 44.2**	**-0.6**
	1.4nm,0.8s,baz=102,slow=6.9,SNR=4.8 1.4nm,0.8s						
ILAR	**Eielson Array**	**73.69**	**25**	P	**P**	**10 13 42.2**	**+0.4**
	0.9nm,0.7s,baz=253,slow=5.4,SNR=9.6 0.9nm,0.7s						
YKA	**Yellowknife Ar**	**88.06**	**27**	P	**P**	**10 14 58.9**	**+0.4**
	0.6nm,0.8s,baz=292,slow=5.3,SNR=5.1 0.6nm,0.8s						

*IDC **08** 10:07:02.3±1.4, 10°11N×140°12E, h0km, mb3.5/7, mbtmp3.5/7, Error ellipse: s-maj=48.8km s-min=23.9km az=84.0*
ISC 08 10:07:07.7±1.3, 10°1N±0°2×140°1E±0°3, h35km, n13, σ0s63/7, mb3.5/7, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy 27.09**		**69**	T	T	10 40 55.1	
	baz=255,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy 27.11**		**69**	T	T	10 40 54.2	
	baz=255,slow=75,SNR=9.3						
H11S2	**WAKE ISLAND Hy 27.11**		**69**	T	T	10 40 54.8	
	baz=255,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy 27.60**		**67**	T	T	10 41 32.5	
	baz=266,slow=74,SNR=13						
H11N2	**WAKE ISLAND Hy 27.61**		**67**	T	T	10 41 32.7	
	baz=266,slow=74,SNR=9.6						
H11N3	**WAKE ISLAND Hy 27.62**		**67**	T	T	10 41 32.0	
	baz=266,slow=74,SNR=8.1						
WRA	**Warramunga Arr**	**30.36**	**191**	P	**P**	**10 13 16.5**	**+0.1**
	0.4nm,0.7s,baz=9.0,slow=7.9,SNR=3.5 0.4nm,0.7s						
ASAR	**Alice Springs**	**34.08**	**190**	P	**P**	**10 13 49.1**	**+0.1**
	0.4nm,0.6s,baz=18,slow=12,SNR=5.7 0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**40.63**	**287**	P	**P**	**10 14 44.2**	**-0.5**
	0.6nm,0.3s,baz=91,slow=6.3,SNR=2.0 0.6nm,0.3s						
MKAR	**Makanchi Array**	**60.85**	**318**	P	**P**	**10 17 17.5**	**+0.8**
	0.4nm,0.8s,baz=108,slow=6.4,SNR=1.2 0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**64.34**	**322**	P	**P**	**10 17 39.3**	**-0.5**
	0.2nm,0.7s,baz=108,slow=7.8,SNR=2.3 0.2nm,0.7s						
BVAR	**Borovoye Array**	**69.81**	**323**	P	**P**	**10 18 15.0**	**+0.5**
	0.3nm,0.4s,baz=91,slow=6.1,SNR=1.2 0.3nm,0.4s						
ILAR	**Eielson Array**	**73.73**	**25**	P	**P**	**10 18 37.6**	**-0.3**
	0.2nm,0.7s,baz=248,slow=4.8,SNR=2.0 0.2nm,0.7s						

ZUR 08 10:13:10.4, 46°32N×7°31E, h0km±1km, MLh0.6/6, 3C-2D, Error ellipse: s-maj=1848.1km s-min=658.1km az=281.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENIN	**Lac Senin/Sane**	**0.04**	**349**	⇑Pg	Pg	10 13 11.7	+0.4
SENIN				Sg	Sg	10 13 12.5	+0.6
SAYF2	**Ayent-Fortunoz**	**0.08**	**113**	⇓Pg	Pg	10 13 12.3	+0.3
SAYF2				Sg	Sg	10 13 13.7	+0.7
STSW2	**Zeuzier, Staus**	**0.09**	**73**	⇑Pg	Pg	10 13 12.4	+0.3
STSW2				Sg	Sg	10 13 13.9	+0.5
SIOV	**Sion-Valere**	**0.09**	**156**	⇓Pg	Pg	10 13 12.5	+0.3
SIOV				Sg	Sg	10 13 14.0	+0.7
GRYON	**Gryon**	**0.15**	**244**	⇑Pg	Pg	10 13 13.6	+0.2
GRYON				Sg	Sg	10 13 16.1	+0.7
LKBD2	**Leukerbad 2**	**0.24**	**76**	Sg	Sg	10 13 18.9	+0.8
DIX	**Grande Dixence**	**0.25**	**164**	Sg	Sg	10 13 19.0	+0.6
SALAN	**Lac Salanfe**	**0.29**	**233**	Sg	Sg	10 13 20.7	+0.9
LAUCH	**Lauchernalp**	**0.33**	**73**	Pg	Pg	10 13 17.3	+0.5
LAUCH				Sg	Sg	10 13 22.0	+0.9

ZUR 08 10:14:07.2, 46°32N×7°30E, h-1km±2km, MLh-0.4/1, 1C, Error ellipse: s-maj=4318.0km s-min=1014.5km az=242.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENIN	**Lac Senin/Sane**	**0.05**	**357**	⇑Pg	Pg	10 14 08.5	+0.3
SENIN				Sg	Sg	10 14 09.3	+0.5
SAYF2	**Ayent-Fortunoz**	**0.08**	**109**	Pg	Pg	10 14 09.1	+0.3
SIOV	**Sion-Valere**	**0.09**	**152**	Sg	Sg	10 14 10.9	+0.8
GRYON	**Gryon**	**0.15**	**244**	Sg	Sg	10 14 12.8	+0.9

*IDC **08** 10:14:59.3±0.9, 9°95N×140°39E, h0km, mb3.9/11, mbtmp3.9/12, ML4.2/1, Error ellipse: s-maj=25.2km s-min=19.2km az=103.0*
ISC 08 10:15:03.2±0.9, 9°9N±0°1×140°5E±0°1, h26km, n18, σ1s27/13, mb3.9/11, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.66**	**49**	Pn	**Pn**	**10 16 23.1**	**-2.6**
	6.4nm,0.3s,baz=237,slow=20,SNR=2.4						
GUMO				Sn	**Sn**	**10 17 31.3**	**+1.4**
	11nm,0.3s,baz=146,slow=17,SNR=1.1 66nm,0.7s						
H11S3	**WAKE ISLAND Hy 26.80**		**69**	T	T	10 48 51.4	
	baz=255,slow=75,SNR=48						
H11S1	**WAKE ISLAND Hy 26.81**		**69**	T	T	10 48 52.4	
	baz=255,slow=75,SNR=47						
H11S2	**WAKE ISLAND Hy 26.81**		**69**	T	T	10 48 52.2	
	baz=255,slow=75,SNR=70						
H11N1	**WAKE ISLAND Hy 27.32**		**66**	T	T	10 49 28.1	
	baz=258,slow=73,SNR=56						
H11N2	**WAKE ISLAND Hy 27.33**		**66**	T	T	10 49 28.9	
	baz=258,slow=73,SNR=49						
H11N3	**WAKE ISLAND Hy 27.34**		**66**	T	T	10 49 32.1	
	baz=258,slow=73,SNR=39						
WRA	**Warramunga Arr**	**30.28**	**191**	P	**P**	**10 21 11.6**	**-0.9**
	1.2nm,0.9s,baz=12,slow=10,SNR=5.9 1.2nm,0.9s						
ASAR	**Alice Springs**	**33.99**	**191**	P	**P**	**10 21 45.4**	**+0.4**
	0.6nm,0.7s,baz=18,slow=12,SNR=15 0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**41.04**	**287**	P	**P**	**10 22 44.7**	**-0.2**
	1.8nm,0.7s,baz=91,slow=6.5,SNR=12 1.8nm,0.7s						
SONM	**Songino Array**	**47.43**	**329**	P	**P**	**10 23 36.4**	**+0.6**
	0.3nm,0.5s,baz=120,slow=5.2,SNR=2.4 0.3nm,0.5s						
MKAR	**Makanchi Array**	**61.22**	**318**	P	**P**	**10 25 15.6**	**-0.4**
	0.5nm,0.5s,baz=98,slow=8.1,SNR=2.7 0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**62.17**	**327**	P	**P**	**10 25 21.4**	**-0.9**
	0.3nm,0.3s,baz=117,slow=5.7,SNR=2.1 0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**64.70**	**322**	P	**P**	**10 25 38.5**	**-0.6**
	1.7nm,0.8s,baz=104,slow=6.9,SNR=7.2 1.7nm,0.8s						
BVAR	**Borovoye Array**	**70.16**	**323**	P	**P**	**10 26 12.8**	**-0.8**
	2.3nm,0.8s,baz=115,slow=7.0,SNR=6.7 2.3nm,0.8s						
ILAR	**Eielson Array**	**73.71**	**25**	P	**P**	**10 26 35.5**	**+0.8**
	0.8nm,0.9s,baz=245,slow=5.0,SNR=7.0 0.8nm,0.9s						
YKA	**Yellowknife Ar**	**88.08**	**27**	P	**P**	**10 27 51.5**	**+0.3**
	1.1nm,1.0s,baz=292,slow=5.2,SNR=3.7 1.1nm,1.0s						
NVAR	**Mina Array Bea**	**92.58**	**50**	P	**P**	**10 28 15.0**	**+1.9**
	0.4nm,0.7s,baz=255,slow=2.7,SNR=2.9 0.4nm,0.7s						

HEL 08 10:20:57.8±0.2, 61°22N×29°79E, h0km, ML1.2, Suspected explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.46**	**297**	PG	Pg	10 21 06.0	-0.5
	baz=117						
RUF				SG	Sg	10 21 11.3	-1.1
RUF				MSG		10 21 12.9	
	comp=Z,3.7nm,0.2s						
VJF	**Virojoki**	**1.29**	**239**	PN	Pg	10 21 22.4	-0.1
VJF				MSG		10 21 36.7	
	comp=Z,2.1nm,0.2s						
VJF				SN	Sn	10 21 43.1	+2.1
FIA0	**FINESS Array S**	**1.81**	**279**	PG	Pn	10 21 30.5	+0.4
	baz=96						
FIA0				MSG		10 21 51.7	
	comp=Z,1.4nm,0.2s						
FIA0				SN	Sb	10 21 54.9	+0.1
JOF	**Joensuu**	**1.85**	**22**	PG	Pn	10 21 31.0	+0.3
	baz=205						
JOF				SG	Sn	10 21 54.9	+0.2
KAF	**Kangasniemi**	**1.89**	**300**	PG	Pn	10 21 31.9	+0.6
KAF				MSG		10 21 54.0	
	comp=Z,1.7nm,0.2s						
KAF				SG	Sn	10 21 56.3	+0.5
PVF	**Pernaja**	**2.04**	**252**	PG	Pb	10 21 34.6	-1.0
PVF				MSG		10 21 58.4	
	comp=Z,1.1nm,0.2s						
NIF	**Nilsia**	**2.37**	**338**	PG	Pb	10 21 39.7	-1.5
	baz=157						
NIF				SG	Sb	10 22 10.6	-0.3
KEF	**Keuruu**	**2.53**	**294**	MSG		10 22 12.4	
	comp=Z,0.8nm,0.2s						
KEF				SG	Sb	10 22 14.8	-0.9

*BJI **08** 10:50:25.3, 9°99N×140°58E, h5km, mb4.7/42, mB5.7/11, Ms5.4/3, Ms7 5.1/4*
*IDC **08** 10:50:27.3±0.6, 10°10N×140°24E, h0km, mb4.4/23, mbtmp4.5/24, ML4.9/1, Error ellipse: s-maj=20.1km s-min=12.0km az=91.0*
*NEIC **08** 10:50:30.2±1.5, 10°18N±0°08×140°22E±0°07, h10km±1km, mb4.9/98, Error ellipse: s-maj=17.5km s-min=4.5km az=142.0*
*DJA **08** 10:50:31.3±0.3, 10°N±4°×14°0E±°, h10km, M5.0/29, mB5.8/4, mb4.8/29, MLv5.0/1, Mw(mB)5.4/4*
ISC 08 10:50:32.0±0.3, 10°14N±0°05×140°28E±0°06, h26km, n352, σ1s29/327, mb4.8/88, 1C-1D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.65**	**52**		**Pn**	**10 51 54.5**	**+0.1**
GUMO	**Guam**	**5.65**	**52**	Pn	**Pn**	**10 51 55.2**	**+0.9**
	30nm,0.3s,baz=199,slow=8.6,SNR=18						
GUMO				Sn	**Sn**	**10 52 57.1**	**-1.3**
	17nm,0.3s,baz=264,slow=18,SNR=1.6 326nm,0.6s						
SMPI	**Sarmi**	**12.15**	**187**	P	Pn	10 53 29.7	+6.1
	57nm,0.9s						
JAY	**Jayapura**	**12.58**	**178**	P	**Pn**	**10 53 34.1**	**+4.6**
	33nm,0.8s						
GENI	**Genyem**	**12.65**	**181**	P	**P**	**10 53 38.8**	**-2.7**
	114nm,0.6s						
LBMI	**Labuha**	**16.63**	**231**	P	**P**	**10 54 26.6**	**+0.8**
	73nm,1.5s						
NLAI	**Namlea**	**18.68**	**225**	P	**Pn**	**10 54 50.4**	**+1.5**
	11nm,0.9s						
SANI	**Sanana**	**18.69**	**230**	P	**P**	**10 54 48.0**	**-0.5**
	26nm,1.1s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**19.60**	**242**	P	**Pn**	**10 55 00.8**	**+0.8**
	17nm,1.2s						
PMG	**Port Moresby**	**20.59**	**160**	P	**P**	**10 55 05.9**	**-3.4**
	5.6nm,0.7s,baz=300,slow=20,SNR=1.3 5.6nm,0.7s						
MRSI	**Marisa**	**20.61**	**243**	P	**P**	**10 55 08.9**	**-0.7**
	116nm,1.4s,2μm						
LUWI	**Luwuk**	**20.67**	**238**	P	**P**	**10 55 08.4**	**-1.7**
LUWI	**Luwuk**	**20.67**	**238**	P	**P**	**10 55 08.4**	**-1.7**
	113nm,1.4s,8μm						
TOLI2	**Tolitoli**	**21.36**	**246**	P	**P**	**10 55 15.6**	**-2.0**
TOLI2				IAmb	IAmb	10 55 24.3	
	comp=Z,68nm,1.1s						
MYLDM	**Lahad Datu**	**22.14**	**259**	P	**P**	**10 55 23.6**	**-2.4**
MYLDM				IAmb	IAmb	10 55 49.0	
	comp=Z,95nm,1.4s						
MPSI	**Mapaga**	**22.49**	**246**	P	**P**	**10 55 31.9**	**+2.1**
	comp=Z,21nm,1.6s						
COEN	**Coen**	**24.11**	**173**	P	**P**	**10 55 46.5**	**+0.7**
TTSI	**Tana Toraja**	**24.23**	**238**	P	**P**	**10 55 47.1**	**+0.1**
	comp=Z,35nm,1.0s						
JNU	**Nakatsue**	**24.46**	**341**	P	**P**	**10 55 48.1**	**-0.8**
MTN	**Manton Dam**	**24.58**	**202**	P	**P**	**10 55 48.4**	**-1.7**
SPSI	**Sidrap Palu**	**24.78**	**237**	P	**P**	**10 55 53.3**	**+1.3**
	comp=Z,31nm,0.9s,comp=Z,5μm						
SOEI	**Soe**	**25.39**	**219**	P	**P**	**10 55 57.3**	**-0.4**
SOEI	**Soe**	**25.39**	**219**	P	**P**	**10 56 01.2**	**+3.5**
	comp=Z,59nm,1.0s						
KAPI	**Kappang**	**25.39**	**235**	P	**P**	**10 55 54.5**	**-3.1**
	comp=Z,5.1nm,0.8s,baz=99,slow=19,SNR=2.2 comp=Z,5.1nm,0.8s						
JWT	**Wachi**	**25.42**	**351**	P	**P**	**10 55 56.1**	**-1.5**
MMRI	**Maumere**	**25.90**	**225**	P	**P**	**10 56 01.2**	**-0.9**
BATI	**Baumata**	**26.11**	**220**	P	**P**	**10 56 05.5**	**+1.4**
	comp=Z,42nm,0.8s						
BATI	**Baumata**	**26.11**	**220**	P	**P**	**10 56 03.1**	**-1.0**
	comp=Z,19nm,0.6s,baz=111,slow=2.7,SNR=2.3 comp=Z,19nm,0.6s						
MJAR	**Matsushiro Arr**	**26.35**	**356**	P	**P**	**10 56 04.3**	**-1.8**
	comp=Z,2.1nm,0.7s,baz=177,slow=9.7,SNR=4.8 comp=Z,2.1nm,0.7s						
EDFI	**Ende, Flores**	**26.36**	**225**	P	**P**	**10 56 07.9**	**+1.5**
H11S3	**WAKE ISLAND Hy 26.87**		**69**	T	T	11 24 25.2	
	baz=255,slow=75,SNR=947						
H11S1	**WAKE ISLAND Hy 26.89**		**69**	T	T	11 24 25.7	
	baz=255,slow=75,SNR=561						
H11S2	**WAKE ISLAND Hy 26.89**		**69**	T	T	11 24 25.7	
	baz=255,slow=75,SNR=1396						
H11N1	**WAKE ISLAND Hy 27.38**		**67**	T	T	11 25 01.3	
	baz=263,slow=75,SNR=134						
H11N2	**WAKE ISLAND Hy 27.39**		**67**	T	T	11 25 01.4	
	baz=263,slow=75,SNR=114						
H11N3	**WAKE ISLAND Hy 27.40**		**67**	T	T	11 25 00.4	
	baz=263,slow=75,SNR=82						
JMM	**Marumori**	**27.61**	**1**	P	**P**	**10 56 16.8**	**-0.6**
KNRA	**Kununurra**	**28.07**	**204**	P	**P**	**10 56 21.3**	**-0.4**
KNRA				IAmb	IAmb	10 56 26.5	
	comp=Z,15nm,0.8s						
KSRS	**Korea Array**	**29.39**	**340**	P	**P**	**10 56 30.6**	**-2.5**
	comp=Z,3.6nm,0.8s,baz=163,slow=9.1,SNR=7.8 comp=Z,3.6nm,0.8s						
NJ2	**Nanjing**	**29.46**	**321**	*e*P	**P**	**10 56 35.6**	**+1.7**
NJ2				pP	**pP**	**10 56 37.9**	**-3.3**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
WB0	**Warramunga Arr**	**30.28**	**191**	P	**P**	**10 56 40.1**	**-1.2**
WR0	**Warramunga Arr**	**30.44**	**191**	P	**P**	**10 56 41.5**	**-1.2**
WR0				IAmb	IAmb	10 56 52.4	
	comp=Z,20nm,1.1s						
WB2	**Warramunga Arr**	**30.46**	**191**	P	**P**	**10 56 42.5**	**-0.4**
WB2				IAmb	IAmb	10 57 02.5	
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**30.46**	**191**	P	**P**	**10 56 41.7**	**-1.2**
WRA	**Warramunga Arr**	**30.46**	**191**	P	**P**	**10 56 41.2**	**-1.6**
	comp=Z,2.8nm,0.8s,baz=10,slow=9.6,SNR=24						
WRA				PcP	**PcP**	**10 59 42.1**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=360,slow=2.6,SNR=2.0 comp=Z,2.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**31.57**	**207**	P	**P**	**10 56 53.6**	**+1.0**
AS31	**Alice Springs**	**34.17**	**190**	P	**P**	**10 57 14.9**	**-0.5**
ASAR	**Alice Springs**	**34.17**	**190**	P	**P**	**10 57 14.8**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=19,slow=11,SNR=35						
ASAR				PcP	**PcP**	**10 59 52.0**	**-0.2**
	comp=Z,2.6nm,1.0s,baz=13,slow=3.1,SNR=4.9 comp=Z,2.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**34.69**	**349**	P	**P**	**10 57 19.6**	**0.0**
USRK	**Ussuriysk Ar.**	**34.69**	**349**	P	**P**	**10 57 18.4**	**-1.2**
	comp=Z,5.7nm,0.8s,baz=177,slow=9.8,SNR=8.6 comp=Z,5.7nm,0.8s						
MDJ	**Mudanjiang**	**35.57**	**347**	P	**P**	**10 57 28.2**	**+1.0**
HNS	**HongShan**	**35.60**	**324**	⇑P	**P**	**10 57 30.2**	**+2.6**
CN2	**Changchun**	**35.92**	**342**	*e*P	**P**	**10 57 29.9**	**-0.3**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
BJI	**Beijing**	**36.67**	**328**	P	**P**	**10 57 37.6**	**+0.9**
BNX	**BinXian**	**37.15**	**345**	⇓P	**P**	**10 57 41.2**	**+0.5**
BNX				pmax	pmax		
	comp=Z,37nm,1.0s						
BNX				pmax	pmax		
	comp=Z,1μm,9.5s						
XAN	**Xi'an**	**37.29**	**314**	P	**P**	**10 57 44.8**	**+2.7**
XAN				pP	pP	10 57 48.8	-0.7
XAN				pmax	pmax		
	comp=Z,11nm,0.9s						
PSA00	**Pilbara Seismi**	**37.36**	**212**	P	**P**	**10 57 43.0**	**+0.3**
XLT	**XiLinHaoTe**	**39.64**	**332**	*e*P	**P**	**10 58 01.7**	**-0.1**
XLT				pP	pP	10 58 06.3	-2.9
XLT				sP	sP	10 58 10.1	-2.1
XLT				PP	**PnPn**	**10 59 39.6**	**+3.4**
XLT				PcP	**PcP**	**11 00 09.1**	**+0.6**
XLT				pmax	pmax		
	comp=Z,14nm,1.1s						
XLT				pmax	pmax		
	comp=Z,1μm,13.6s						
CD2	**Chengdu**	**39.70**	**307**	*e*P	**P**	**10 58 04.0**	**+1.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**39.74**	**325**	*e*P	**P**	**10 58 04.2**	**+1.5**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				LR	LR		
	comp=Z,2μm,13.0s						
HHC				LR	LR		
	comp=Z,2μm,14.5s						
HHC				LR	LR		
	comp=Z,2μm,13.8s						
PZH	**PanZhiHua**	**39.85**	**299**	P	**P**	**10 58 04.2**	**+0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BTO	**Baotou**	**40.46**	**324**	*e*P	**P**	**10 58 10.2**	**+1.6**
BTO				pP	**pP**	**10 58 14.2**	**-1.8**
BTO				sP	**sP**	**10 58 17.0**	**-2.0**
BTO				PP	**PnPn**	**10 59 50.1**	**+4.1**
BTO				S	**S**	**11 04 20.8**	**+4.9**
BTO				SS	**SS**	**11 07 12.8**	**-2.9**
BTO				pmax	pmax		
	comp=Z,14nm,0.5s						
BTO				LR	LR		
	comp=Z,2μm,12.8s						
BTO				LR	LR		
	comp=Z,2μm,13.5s						
BTO				LR	LR		
	comp=Z,2μm,15.3s						
CM31	**Chiang Mai Arr**	**40.82**	**286**	P	**P**	**10 58 11.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**40.82**	**286**	P	**P**	**10 58 11.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**40.82**	**286**	P	**P**	**10 58 12.2**	**+0.3**

PETK Petropavlovsk- 45.09 15 P P 10 58 44.9 -1.0
comp=Z,6.1nm,0.9s,baz=208,slow=8.4,SNR=5.8
comp=Z,6.1nm,0.9s
GTA Gaotai 46.30 316 eP P 10 58 56.2 +0.3
GTA pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 46.85 330 P P 10 59 00.2 +0.2
SONM Songino Array 47.16 329 P P 10 59 02.1 -0.3
SONM IAmb IAmb 10 59 10.1
comp=Z,11nm,1.4s
SONM Songino Array 47.16 329 P P 10 59 02.3 -0.1
comp=Z,3.2nm,1.0s,baz=138,slow=7.8,SNR=14
SONM PcP PcP 11 00 33.4 -0.5
comp=Z,0.7nm,0.6s,baz=151,slow=3.3,SNR=1.5
comp=Z,3.2nm,1.0s
NWAO Narrogin (SRO) 48.14 206 P P 10 59 10.9 +0.8
YAK Yakutsk 52.37 354 P P 10 59 41.6 0.0
RAMN Ramite 53.17 296 eP P 10 59 51.5 +2.9
comp=Z,86nm,1.6s
JIRN Jiri 53.63 297 eP P 10 59 51.4 -0.7
comp=Z,25nm,0.8s
GUN Gumba 53.94 297 eP P 10 59 52.2 -2.1
comp=Z,42nm,1.0s
PKI Pulchoki 54.31 297 eP P 10 59 57.3 +0.4
comp=Z,5.5nm,0.7s
PKIN Phulchoki 54.32 297 eP P 10 59 57.0 0.0
comp=Z,5.6nm,0.6s
DANN Dangsing 55.85 297 eP P 11 00 06.4 -1.7
comp=Z,8.5nm,0.8s
WMQ Urumqi 56.38 316 eP P 11 00 12.2 +0.9
WMQ sP pP 11 00 19.1 +0.2
WMQ pmax pmax
comp=Z,17nm,1.1s
PYUN Piuthan 56.50 297 eP P 11 00 12.8 +0.2
comp=Z,10nm,0.8s
TUWZ Tuamarina 59.94 151 P P 11 00 36.0 0.0
BILL Bilibino 60.33 11 P P 11 00 38.3 0.0
BILL IAmb IAmb 11 00 39.9
comp=Z,11nm,0.9s
MK31 Makanchi Array 60.95 318 P P 11 00 42.6 -0.3
MKAR Makanchi Array 60.95 318 P P 11 00 42.7 -0.3
MKAR Makanchi Array 60.95 318 P P 11 00 42.5 -0.4
comp=Z,5.0nm,1.0s,baz=101,slow=8.8,SNR=15
comp=Z,5.0nm,1.0s
MAKZ Makanchi 61.16 318 P P 11 00 43.8 -0.6
MAKZ IAmb IAmb 11 01 01.6
comp=Z,8.6nm,1.0s
TIXI Tiksi 61.86 356 P P 11 00 48.6 0.0
ZAA0 Zalesovo Array 61.90 326 P P 11 00 48.6 -0.6
ZALV Zalesovo Beam 61.90 326 P P 11 00 48.6 -0.6
ZALV Zalesovo Beam 61.90 326 P P 11 00 48.7 -0.5
comp=Z,2.3nm,0.7s,baz=99,slow=6.9,SNR=11
comp=Z,2.3nm,0.7s
KURK Kurchatov 64.40 322 P P 11 01 05.2 -0.7
KURK IAmb IAmb 11 01 06.5
comp=Z,11nm,0.8s
KURBB Kurchatov Arra 64.43 322 P P 11 01 05.6 -0.4
comp=Z,5.1nm,0.8s,baz=105,slow=6.6,SNR=33
comp=Z,5.1nm,0.8s
NIL Nilore 65.36 302 P P 11 01 12.3 -0.2
N14K Kuskokwak Cree 65.56 28 P P 11 01 13.3 0.0
baz=247
L14K Kuka Creek 65.70 26 P P 11 01 14.1 +0.1
baz=245
L15K Ungalak Mounta 66.36 26 P P 11 01 18.0 -0.4
baz=246
N15K Kwethluk River 66.40 28 P P 11 01 19.0 +0.4
baz=248
K15K Wolf Creek Mou 66.59 26 P P 11 01 19.7 -0.1
baz=246
F15K North Star Dit 66.89 22 P P 11 01 22.3 +0.6
baz=241
P16K Nushagak River 66.99 30 P P 11 01 22.8 +0.4
baz=250
O16K Kokwok River B 67.13 29 P P 11 01 23.3 0.0
baz=250
CHIR Chirikof Islan 67.22 33 P P 11 01 23.9 -0.1
baz=254
L16K Owhat River 67.26 27 P P 11 01 24.5 +0.4
baz=248
H16K Elim 67.30 23 P P 11 01 24.8 +0.5
baz=244
J16K Anvik River 67.39 25 P P 11 01 25.3 +0.5
baz=246
I17K Unalakleet 67.60 24 P P 11 01 26.8 +0.6
baz=246
O17K Koliganek Bris 67.67 29 P P 11 01 27.0 +0.3
baz=251
C16K Lisburne Hills 67.92 19 P P 11 01 28.4 +0.3
baz=240
L17K Donlin 67.93 26 P P 11 01 29.0 +0.7
baz=249
M17K Holitna River 68.06 27 P P 11 01 30.0 +0.9
baz=250
GAR Garm 68.13 308 P P 11 01 29.6 -0.6
GAR IAmb IAmb 11 01 33.4
comp=Z,13nm,1.1s
K17K Iditarod 68.14 26 P P 11 01 30.2 +0.5
baz=249
G17K Kiwalik Mounta 68.28 23 P P 11 01 31.5 +1.0
baz=245
R18K Karluk 68.32 32 P P 11 01 31.5 +0.6
baz=254
KK31 Karatay Array 68.38 312 P P 11 01 28.9 -2.7
KK31 IAmb IAmb 11 01 41.9
comp=Z,7.2nm,1.1s
KKAR Karatay Array 68.38 312 P P 11 01 30.4 -1.2
D17K Noatak River 68.39 20 P P 11 01 32.3 +1.2
baz=242
F17K Baldwin Pennin 68.46 22 P P 11 01 32.9 +1.4
F17K Baldwin Pennin 68.46 22 P P 11 01 32.4 +0.9
baz=244
N18K Kilae Creek 68.53 28 P P 11 01 33.1 +0.9
baz=252
E17K Hotham Inlet 68.54 21 P P 11 01 33.1 +1.1
baz=244,SNR=5.2
L18K Granite Mounta 68.67 27 P P 11 01 33.8 +0.9
baz=250
M18K Stony River 68.82 28 P P 11 01 35.0 +1.1
baz=252
H18K Honhosa River 69.02 23 P P 11 01 35.9 +0.8
baz=248
J18K Innoko River 69.08 25 P P 11 01 36.4 +0.8
baz=250
E18K Tukpahlearik C 69.11 21 IAmb IAmb 11 01 38.2
comp=Z,12nm,0.8s
E18K Tukpahlearik C 69.11 21 P P 11 01 36.5 +0.9
baz=245,SNR=6.2
G18K Tagagawik 69.20 23 P P 11 01 37.0 +0.8
baz=247
TTA Tatalina 69.20 26 P P 11 01 37.0 +0.7
baz=251
N19K Bonanza Creek 69.23 28 P P 11 01 37.2 +0.6
baz=253
C18K Utukok River 69.45 19 P P 11 01 38.5 +0.8
baz=244
GCSA Galena City Sc 69.46 24 P P 11 01 38.4 +0.6
baz=249
L19K White Mountain 69.47 27 P P 11 01 38.5 +0.6
baz=252
B18K Kokolik River 69.58 19 P P 11 01 39.3 +0.9
baz=243
Q20K Shuyak Island 69.65 31 P P 11 01 40.2 +1.1
baz=256
J19K Poorman 69.72 25 P P 11 01 40.2 +0.7
baz=251
G19K Purcell Mounta 69.89 23 P P 11 01 41.4 +1.0
baz=249,SNR=8.9
F19K Shaleruckik Mo 69.89 22 P P 11 01 41.6 +1.3
baz=248
BVAR Borovoye Array 69.89 323 P P 11 01 40.4 -0.3
comp=Z,9.6nm,0.7s,baz=101,slow=7.7,SNR=30
comp=Z,9.6nm,0.7s
H19K Roundabout Mou 69.91 23 P P 11 01 41.3 +0.7
H19K Roundabout Mou 69.91 23 P P 11 01 42.2 +1.7
baz=250
BRVK Borovoye 69.96 323 P P 11 01 40.9 -0.2
BRVK IAmb IAmb 11 01 41.8
comp=Z,9.0nm,0.8s
L20K Farewell, AK 69.99 27 P P 11 01 42.2 +1.0
baz=253
M20K Styx River 70.16 28 P P 11 01 43.3 +1.0
baz=254
C19K Lookout Ridge 70.17 19 P P 11 01 43.5 +1.3
baz=245,SNR=7.3
K20K Telida 70.17 26 P P 11 01 43.6 +1.4
baz=252

E19K Redstone River 70.32 21 P P 11 01 44.7 +1.6
baz=248
J20K Nowinta River 70.39 25 P P 11 01 44.7 +1.2
baz=252
D19K Kuna River 70.41 20 P P 11 01 45.2 +1.6
baz=247
I20K Naaghedeneel 70.45 24 P P 11 01 45.3 +1.5
baz=252
H20K Anotleneega Mo 70.51 24 P P 11 01 45.5 +1.2
baz=251
F20K Avaraart Lake 70.72 22 IAmb IAmb 11 01 47.7
comp=Z,7.1nm,0.9s
F20K Avaraart Lake 70.72 22 P P 11 01 47.1 +1.6
baz=250,SNR=6.2
BRSE Bradley Lake S 70.75 30 P P 11 01 46.5 +0.6
baz=257
E20K Nigu River 70.98 21 P P 11 01 48.5 +1.4
baz=249
D20K Etivluk River 71.00 20 P P 11 01 48.6 +1.3
baz=248
CAST Castle Rocks 71.05 26 IAmb IAmb 11 01 49.5
comp=Z,9.3nm,0.9s
CAST Castle Rocks 71.05 26 P P 11 01 48.7 +1.1
baz=254,SNR=7.3
CHUM Lake Minchumin 71.08 26 P P 11 01 48.9 +1.2
baz=254
SUA Susitna One 71.15 28 P P 11 01 49.0 +0.6
baz=256
B20K Meade River 71.32 19 P P 11 01 50.1 +1.0
baz=247
G21K Allakaket 71.37 23 IAmb IAmb 11 01 52.0
comp=Z,14nm,1.3s
G21K Allakaket 71.37 23 P P 11 01 50.6 +1.1
baz=252
H21K Melozitna Rive 71.38 24 P P 11 01 50.9 +1.3
baz=253
O22K Cooper Landing 71.41 29 P P 11 01 50.5 +0.7
baz=258
RC01 Rabbit Creek A 71.54 29 P P 11 01 51.3 +0.7
baz=257
I21K Tanana 71.58 24 IAmb IAmb 11 01 53.3
comp=Z,18nm,1.1s
I21K Tanana 71.58 24 P P 11 01 52.0 +1.3
baz=254,SNR=6.4
F21K Alatna River 71.60 22 P P 11 01 51.8 +0.9
baz=252
BPAW Bear Paw Mtn. 71.70 26 IAmb IAmb 11 01 53.5
comp=Z,14nm,1.0s
BPAW Bear Paw Mtn. 71.70 26 P P 11 01 52.9 +1.3
baz=255,SNR=5.8
C21K Knifeblade Rid 71.78 20 P P 11 01 52.7 +0.8
baz=250
TRF Thorofare Moun 71.84 26 P P 11 01 53.0 +0.5
baz=256
PMR Palmer 71.93 28 P P 11 01 53.6 +0.7
baz=258
A21K Barrow 71.99 18 P P 11 01 53.6 +0.5
baz=248
B21K Ikpikpuk River 72.00 20 P P 11 01 54.4 +1.2
baz=250
H22K Ishtalitna Cre 72.02 24 P P 11 01 54.4 +1.0
baz=254
MLY Manley 72.04 25 P P 11 01 54.4 +0.8
MLY IAmb IAmb 11 01 55.8
comp=Z,19nm,1.1s
MLY Manley 72.04 25 P P 11 01 55.0 +1.4
baz=255,SNR=12
PWL Port Wells 72.16 29 P P 11 01 55.4 +1.1
baz=259
F22K John River 72.17 22 P P 11 01 55.7 +1.4
baz=253
G22K Bettles 72.25 23 P P 11 01 55.5 +0.8
baz=254
SML Sawmill 72.35 28 P P 11 01 56.1 +0.6
baz=258
A22K Sinclair Lake 72.37 18 P P 11 01 56.5 +1.1
baz=249
D22K Ayikyak River 72.41 20 P P 11 01 57.1 +1.4
baz=252
P23K Montague Islan 72.45 30 P P 11 01 57.3 +1.2
baz=260
WAT1 Susitna Watana 72.46 27 P P 11 01 56.4 +0.2
baz=259
E22K Anaktuvuk Pass 72.49 21 IAmb IAmb 11 01 58.7
comp=Z,16nm,0.9s
E22K Anaktuvuk Pass 72.49 21 P P 11 01 57.8 +1.6
baz=253,SNR=14
MCK McKinley 72.49 26 P P 11 01 57.4 +1.1
baz=257
NEA2 Nenana 72.63 25 P P 11 01 57.7 +0.7
baz=257
B22K Teshekpuk Lake 72.63 19 P P 11 01 58.0 +1.1
baz=251
M23K Glacier View 72.63 28 P P 11 01 57.5 +0.4
baz=259
I23K Minto, Yukon-K 72.64 25 IAmb IAmb 11 01 59.4
comp=Z,12nm,0.9s
I23K Minto, Yukon-K 72.64 25 P P 11 01 58.4 +1.3
baz=256,SNR=6.9
G23K Bananza Creek 72.76 23 P P 11 01 59.7 +1.8
baz=255,SNR=11
WAT6 Susitna Watana 72.78 27 P P 11 01 59.2 +1.0
baz=259
SCM Sheep Creek Mo 72.82 28 P P 11 01 59.3 +1.0
baz=259
COLD Coldfoot 72.83 22 P P 11 01 59.8 +1.6
baz=255,SNR=17
DHY Denali Highway 73.04 27 P P 11 02 01.0 +1.2
baz=259
D23K Nanushuk River 73.12 21 P P 11 02 01.3 +1.4
baz=254
E23K Chandalar 73.26 22 P P 11 02 02.4 +1.6
baz=255
C23K Itkillik River 73.39 20 P P 11 02 03.0 +1.6
baz=254
H24K Noodor Dome 73.40 24 P P 11 02 02.7 +1.1
baz=258
KLU Klutina 73.42 29 P P 11 02 02.0 +0.1
baz=261
POKR Poker Plat Res 73.42 25 P P 11 02 02.8 +1.0
baz=258
TOLK Toolik Lake Re 73.42 21 IAmb IAmb 11 02 03.8
comp=Z,9.8nm,0.8s
TOLK Toolik Lake Re 73.42 21 P P 11 02 03.5 +1.7
baz=255,SNR=6.4
HDA Harding Lake 73.49 26 P P 11 02 02.0 -0.1
baz=259
HDA P P 11 02 02.0 -0.1
baz=259
IL31 73.58 25 IAmb IAmb 11 02 03.1
comp=Z,7.3nm,0.8s
ILAR Eielson Array 73.58 25 P P 11 02 02.4 -0.3
comp=Z,4.4nm,0.7s,baz=247,slow=6.0,SNR=68
comp=Z,4.4nm,0.7s
E24K Your Creek 73.67 22 IAmb IAmb 11 02 05.8
comp=Z,12nm,1.3s
E24K Your Creek 73.67 22 P P 11 02 04.4 +1.2
baz=256
G24K Hadweenzic Riv 73.74 23 IAmb IAmb 11 02 06.1
comp=Z,12nm,1.0s
G24K Hadweenzic Riv 73.74 23 P P 11 02 04.8 +1.2
baz=258
F24K Squaw Lake 73.77 22 P P 11 02 05.3 +1.5
F24K IAmb IAmb 11 02 06.0
comp=Z,8.6nm,1.0s
F24K Squaw Lake 73.77 22 P P 11 02 05.1 +1.3
baz=257,SNR=6.7
D24K Happy Valley 73.82 21 P P 11 02 05.1 +1.2
baz=256
PAX Paxson 73.88 27 P P 11 02 05.5 +0.9
baz=261
C24K Franklin Bluff 74.00 20 P P 11 02 06.1 +1.1
baz=256
J25K Salcha River, 74.19 26 P P 11 02 06.9 +0.6
baz=260
G25K Bearman Lake 74.29 23 P P 11 02 07.8 +1.0
baz=259
F25K Christian Rive 74.62 22 P P 11 02 09.8 +1.0
baz=259
MENT Mentasta 74.66 27 IAmb IAmb 11 02 12.1
comp=Z,9.5nm,0.9s
SCRK Sand Creek 74.69 26 P P 11 02 10.1 +0.7
SCRK Sand Creek 74.69 26 P P 11 02 09.8 +0.5
baz=262
D25K Kavik River 74.71 21 IAmb IAmb 11 02 11.6
comp=Z,14nm,1.1s
D25K Kavik River 74.71 21 P P 11 02 10.2 +1.0
baz=258,SNR=13

E25K Arctic Village 74.75 22 IAmb IAmb 11 02 12.4
comp=Z,15nm,1.1s
E25K Arctic Village 74.75 22 P P 11 02 10.8 +1.3
baz=259,SNR=8.4
L26K Log Cabin Wild 74.84 27 IAmb IAmb 11 02 12.3
comp=Z,13nm,0.8s
L26K Log Cabin Wild 74.84 27 P P 11 02 11.1 +1.0
baz=262,SNR=5.9
J26L Joseph Creek 74.95 26 IAmb IAmb 11 02 19.2
comp=Z,13nm,1.3s
J26L Joseph Creek 74.95 26 P P 11 02 11.6 +0.8
baz=262,SNR=5.3
F26K Sheenjek River 75.21 22 P P 11 02 13.8 +1.6
baz=261
G26K Porcupine Rive 75.22 23 P P 11 02 13.6 +1.5
baz=261
I26K Coal Creek Min 75.23 25 P P 11 02 12.1 -0.2
baz=262
C26K Camden Bay 75.33 20 P P 11 02 14.1 +1.4
baz=259
M27K Edge Creek, AK 75.44 28 P P 11 02 14.7 +1.0
baz=264
K27K Chicken 75.53 26 P P 11 02 15.1 +1.1
baz=263
L27K Beaver Creek, 75.53 27 P P 11 02 15.3 +1.2
baz=264
CTG Chitna Glacier 75.55 30 P P 11 02 15.3 +1.0
baz=265
I27K Kandik River 75.91 25 P P 11 02 17.4 +1.2
baz=263,SNR=6.6
BVCY Beaver Creek 75.91 28 P P 11 02 17.2 +1.0
baz=265
EGAK Eagle 76.01 26 IAmb IAmb 11 02 33.1
comp=Z,11nm,1.2s
EGAK Eagle 76.01 26 P P 11 02 18.2 +1.5
baz=264
H27K Steamboat Moun 76.02 24 P P 11 02 18.7 +1.8
baz=263,SNR=14
G27K Doyon Strip 76.04 24 P P 11 02 18.6 +1.7
baz=263
YUK3 Moose Creek 76.05 29 P P 11 02 18.2 +1.0
baz=265
ABKAR Akbulak array 76.09 318 P P 11 02 16.4 -1.1
E27K Coleen River 76.23 22 P P 11 02 19.7 +1.7
baz=263
YUK8 Steele Glacier 76.34 29 P P 11 02 20.3 +1.2
baz=266
I28M Miner Creek 76.59 25 P P 11 02 21.3 +1.2
I28M IAmb IAmb 11 02 22.5
comp=Z,12nm,0.9s
I28M Miner Creek 76.59 25 P P 11 02 21.5 +1.4
baz=265
D27M Malcolm River 76.59 21 P P 11 02 21.3 +1.2
baz=263
DAWY Dawson 76.71 26 P P 11 02 22.3 +1.5
DAWY IAmb IAmb 11 02 23.2
comp=Z,11nm,0.8s
DAWY Dawson 76.71 26 P P 11 02 22.3 +1.5
baz=266,SNR=7.2
F28M Old Crow 76.82 23 P P 11 02 22.7 +1.4
F28M IAmb IAmb 11 02 23.9
comp=Z,10nm,0.9s
F28M Old Crow 76.82 23 P P 11 02 23.0 +1.7
baz=265,SNR=9.8
O29M Mount Kennedy 76.87 30 P P 11 02 23.5 +1.6
baz=268
YUK6 Outpost Mounta 77.00 30 P P 11 02 24.0 +1.3
baz=268
M29M Somme Creek 77.03 28 IAmb IAmb 11 02 25.5
comp=Z,13nm,1.0s
M29M Somme Creek 77.03 28 P P 11 02 24.2 +1.5
baz=267,SNR=5.4
E28M Babbage River 77.04 22 IAmb IAmb 11 02 25.1
comp=Z,18nm,1.4s
E28M Babbage River 77.04 22 P P 11 02 24.2 +1.7
baz=265,SNR=11
L29M L29M 77.22 27 P P 11 02 25.2 +1.5
baz=267
P29M Windy Craggy 77.26 31 P P 11 02 25.6 +1.6
baz=268
I29M Ogilvie Camp, 77.26 25 IAmb IAmb 11 02 52.6
comp=Z,15nm,1.4s
I29M Ogilvie Camp, 77.26 25 P P 11 02 25.3 +1.5
baz=266
H29M Whitestone 77.29 24 P P 11 02 25.5 +1.5
baz=266
D28M Stokes Point 77.39 21 P P 11 02 26.1 +1.7
baz=265
HYT Haines Junctio 77.42 30 P P 11 02 26.6 +1.7
baz=268,SNR=5.5
G29M Pine Creek 77.48 24 IAmb IAmb 11 02 42.3
comp=Z,11nm,1.1s
G29M Pine Creek 77.48 24 P P 11 02 26.7 +1.7
baz=266,SNR=5.3
K29M Barlow Dome 77.52 27 P P 11 02 27.1 +1.7
baz=268
N30M Aishikik Lake 77.64 29 P P 11 02 27.2 +1.1
baz=268
P30M Million Dollar 77.67 31 P P 11 02 27.7 +1.5
baz=269
GEYT Alibeck 77.69 307 P P 11 02 26.2 -0.6
comp=Z,3.7nm,0.8s,baz=97,slow=4.6,SNR=5.7
comp=Z,3.7nm,0.8s
M30M Minto, Yukon 77.81 28 P P 11 02 28.8 +1.8
baz=268
EPYK Eagle Plains 77.97 24 P P 11 02 29.1 +1.4
baz=268
I30M Mount Dempster 78.07 25 P P 11 02 29.8 +1.3
baz=268
J30M Hart River 78.07 26 P P 11 02 29.8 +1.3
baz=268
O30N Mendenhall 78.11 30 P P 11 02 30.0 +1.3
baz=270
G30M tAoh Zraii Nji 78.19 24 P P 11 02 30.4 +1.4
baz=268
MAYO Mayo, Yukon 78.24 27 P P 11 02 30.7 +1.4
baz=269
N31M Braeburn, Yuko 78.27 29 P P 11 02 30.9 +1.4
baz=270
F30M Barrier River 78.38 23 P P 11 02 31.6 +1.6
baz=268
SKAG Skagway 78.49 31 P P 11 02 31.8 +1.2
baz=270
WHY Whitehorse 78.70 30 IAmb IAmb 11 02 34.8
comp=Z,15nm,1.0s
WHY Whitehorse 78.70 30 P P 11 02 33.2 +1.2
baz=271
M31M Drury Creek, Y 78.92 28 P P 11 02 34.0 +0.9
baz=271
H31M Peel River 78.92 25 P P 11 02 34.4 +1.4
baz=270
G31M Satah River 78.95 24 IAmb IAmb 11 02 34.2
comp=Z,9.2nm,0.8s
G31M Satah River 78.95 24 P P 11 02 34.2 +1.0
baz=270
F31M Tsiigehtchic 79.16 23 P P 11 02 34.8 +0.6
baz=270
INK Inuvik 79.24 22 P P 11 02 35.1 +0.4
INK Inuvik 79.24 22 P P 11 02 35.2 +0.6
baz=270
P32M Atlin 79.31 31 P P 11 02 36.1 +0.8
baz=272
FARO Faro, Yukon 79.41 28 P P 11 02 36.7 +0.9
baz=272
N32M Quiet Lake 79.57 29 P P 11 02 38.1 +1.4
baz=272
Q32M Nakina River 80.08 32 P P 11 02 39.5 -0.2
baz=273
R33M Jennings River 80.72 31 P P 11 02 45.0 +1.9
baz=274
S34M Telegraph Cree 80.74 33 P P 11 02 44.6 +1.6
baz=274
DLBC Dease Lake 81.28 32 P P 11 02 47.4 +1.4
baz=275
T35M Bob Quinn 81.29 34 P P 11 02 47.0 +1.0
baz=275
WTLY Watson Lake, Y 81.75 30 IAmb IAmb 11 02 51.0
comp=Z,13nm,0.9s
WTLY Watson Lake, Y 81.75 30 P P 11 02 49.6 +1.2
baz=276
A36M Sachs Harbour 81.81 18 IAmb IAmb 11 02 49.8
comp=Z,6.5nm,0.8s
A36M Sachs Harbour 81.81 18 P P 11 02 49.4 +1.0
baz=278
TGTN Hyland Airport 81.86 29 P P 11 02 49.7 +0.8
baz=276
C36M Paulatuk 82.58 21 IAmb IAmb 11 02 53.2
comp=Z,4.1nm,0.6s

C36M	**Paulatuk**	**82.58**	**21**	P	**P**	**11 02 52.6**	**+0.1**	
	baz=279							
LIRD	**Liard River Hi**	**83.19**	**31**	P	**P**	**11 02 57.1**	**+1.2**	
	baz=278							
WRGLY	**Wrigley**	**83.84**	**27**	P	**P**	**11 03 00.3**	**+1.3**	
	baz=280							
KOTAN	**Kotaneelee Air**	**84.10**	**30**	P	**P**	**11 03 01.7**	**+1.2**	
	baz=280							
KLMR	**Klimovskoe**	**86.42**	**331**	*e*P	P	11 03 04.4	-7.6	
KLMR				AMP		11 03 13.8		
	comp=Z,42nm,2.1s							
YKA	**Yellowknife Ar**	**87.95**	**27**	P	**P**	**11 03 20.1**	**+0.7**	
	comp=Z,2.9nm,0.8s,baz=289,slow=5.3,SNR=38							
	comp=Z,2.9nm,0.8s							
VNDA	**Vanda**	**88.37**	**175**	P	**P**	**11 03 21.8**	**+0.7**	
VNDA	**Vanda**	**88.37**	**175**	P	**P**	**11 03 20.7**	**-0.3**	
	comp=Z,0.3nm,0.6s,baz=339,slow=4.5,SNR=2.5							
	comp=Z,0.3nm,0.6s							
L04D	**Klamath Falls**	**88.70**	**47**	P	**P**	**11 03 23.6**	**0.0**	
L04D				IAmb	IAmb	11 03 46.2		
	comp=Z,7.3nm,1.1s							
RES	**Resolute Bay**	**88.90**	**13**	P	**P**	**11 03 23.8**	**+0.2**	
RES				IAmb	IAmb	11 03 47.2		
	comp=Z,7.7nm,1.5s							
ARCES	**ARCESS Array B**	**88.93**	**341**	P	**P**	**11 03 23.3**	**-0.7**	
ARCES	**ARCESS Array B**	**88.93**	**341**	P	**P**	**11 03 22.5**	**-1.5**	
	comp=Z,8.0nm,1.1s,baz=74,slow=6.4,SNR=4.2							
	comp=Z,8.0nm,1.1s							
PINE	**Pine Mountain**	**89.32**	**46**	P	**P**	**11 03 26.2**	**-0.4**	
PINE				IAmb	IAmb	11 03 51.1		
	comp=Z,9.0nm,1.0s							
K05A	**Summer Lake**	**89.60**	**47**	P	**P**	**11 03 28.2**	**+0.3**	
K05A				IAmb	IAmb	11 03 30.5		
	comp=Z,16nm,1.4s							
NEW	**Newport**	**90.76**	**41**	P	**P**	**11 03 34.5**	**+1.4**	
	baz=286							
J08A	**Circle Bar Ran**	**91.17**	**46**	P	**P**	**11 03 33.8**	**-1.3**	
OMMB	**Old Mammoth Mi**	**92.24**	**51**	P	**P**	**11 03 39.5**	**-1.0**	
FINES	**FINESS Array B**	**92.33**	**334**	P	**P**	**11 03 37.8**	**-2.1**	
	comp=Z,2.5nm,0.8s,baz=71,slow=6.0,SNR=1.7							
	comp=Z,2.5nm,0.8s							
NVAR	**Mina Array Bea**	**92.56**	**50**	P	**P**	**11 03 42.4**	**+0.5**	
	comp=Z,2.2nm,0.7s,baz=264,slow=5.8,SNR=17							
	comp=Z,2.2nm,0.7s							
MFID	**Camas Ranch**	**93.00**	**45**	IAmb	IAmb	11 03 45.8		
	comp=Z,5.1nm,0.9s							
CWC	**Cottonwood Cre**	**93.25**	**52**	P	**P**	**11 03 45.5**	**+0.5**	
	baz=285							
MPMC	**Manual Prospec**	**93.81**	**53**	P	**P**	**11 03 48.5**	**+0.9**	
	baz=286							
HLID	**Hailey**	**93.94**	**45**	P	**P**	**11 03 48.2**	**+0.1**	
HLID	**Hailey**	**93.94**	**45**	P	**P**	**11 03 48.7**	**+0.7**	
	baz=288							
FURC	**Furnace Creek,**	**94.19**	**52**	P	**P**	**11 03 50.2**	**+1.2**	
	baz=286							
TPNV	**Topopah Spring**	**94.53**	**51**	P	**P**	**11 03 51.8**	**+1.0**	
	baz=286							
GSC	**Goldstone, Bar**	**94.55**	**53**	P	**P**	**11 03 51.6**	**+0.7**	
	baz=286							
R11B	**Troy Canyon, C**	**94.64**	**50**	P	**P**	**11 03 52.0**	**+0.6**	
	baz=287							
BOZ	**Bozeman (W)**	**95.17**	**42**	P	**P**	**11 03 54.0**	**+0.5**	
	baz=290							
TUQ	**Turquoise Moun**	**95.20**	**53**	P	**P**	**11 03 55.0**	**+1.1**	
	baz=286							
DUG	**Dugway, Tooele**	**96.13**	**47**	P	**P**	**11 03 57.7**	**-0.4**	
	baz=289							
MOOW	**Moose Ponds**	**96.40**	**44**	IAmb	IAmb	11 04 03.5		
	comp=Z,2.7nm,0.6s							

IDC 08 11:11:56.8±1.5, 9°95N×140°36E, h0km, mb3.4/3, mbtmp3.6/4, ML3.9/1, MS4.2/1, Error ellipse: s-maj=44.7km s-min=25.1km az=111.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.71**	**50**	Pn	Pn	11 13 22.1	-0.7
	3.7nm,0.3s,baz=22,slow=23,SNR=1.4						
GUMO				Sn	Sn	11 14 29.6	+0.5
	6.7nm,0.3s,baz=43,slow=20,SNR=1.4						
	19nm,0.3s						
JCJ	**Chichijima**	**17.14**	**6**	LR	LR	11 21 41.0	
	comp=Z,753nm,20.9s,baz=103,slow=34						
H11S3	**WAKE ISLAND Hy**	**26.87**	**69**	T	T	11 45 49.6	
	baz=255,slow=75,SNR=146						
H11S1	**WAKE ISLAND Hy**	**26.88**	**69**	T	T	11 45 51.7	
	baz=255,slow=75,SNR=49						
H11S2	**WAKE ISLAND Hy**	**26.88**	**69**	T	T	11 45 52.6	
	baz=255,slow=75,SNR=114						
H11N1	**WAKE ISLAND Hy**	**27.38**	**66**	T	T	11 46 25.8	
	baz=265,slow=74,SNR=24						
H11N2	**WAKE ISLAND Hy**	**27.39**	**66**	T	T	11 46 30.4	
	baz=265,slow=74,SNR=16						
H11N3	**WAKE ISLAND Hy**	**27.40**	**66**	T	T	11 46 28.9	
	baz=265,slow=74,SNR=20						
WRA	**Warramunga Arr**	**30.29**	**191**	P	P	11 18 09.2	-0.8
	0.3nm,0.8s,baz=9.4,slow=10,SNR=4.5						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**34.00**	**191**	P	P	11 18 42.9	+0.4
	0.3nm,0.6s,baz=20,slow=14,SNR=10						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**61.13**	**318**	P	P	11 22 13.4	+0.4
	0.5nm,0.9s,baz=122,slow=7.6,SNR=1.9						
	0.5nm,0.9s						

IDC 08 11:19:14.2±1.4, 9°88N×140°63E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=50.1km s-min=26.7km az=88.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**26.65**	**68**	T	T	11 53 10.2	
	baz=255,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**26.66**	**68**	T	T	11 53 08.3	
	baz=255,slow=75,SNR=57						
H11S2	**WAKE ISLAND Hy**	**26.66**	**68**	T	T	11 53 10.9	
	baz=255,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**27.17**	**66**	T	T	11 53 48.4	
	baz=253,slow=74,SNR=39						
H11N2	**WAKE ISLAND Hy**	**27.18**	**66**	T	T	11 53 48.7	
	baz=253,slow=74,SNR=31						
H11N3	**WAKE ISLAND Hy**	**27.19**	**66**	T	T	11 53 50.2	
	baz=253,slow=74,SNR=30						
WRA	**Warramunga Arr**	**30.27**	**192**	P	P	11 25 27.0	-0.3
	0.4nm,0.9s,baz=11,slow=10,SNR=2.4						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**33.98**	**191**	P	P	11 25 59.9	+0.1
	0.3nm,1.0s,baz=18,slow=12,SNR=6.3						
	0.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**41.23**	**287**	P	P	11 27 01.4	+0.1
	0.5nm,0.5s,baz=90,slow=6.3,SNR=1.6						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**64.84**	**322**	P	P	11 29 54.9	-0.2
	0.4nm,0.9s,baz=108,slow=6.6,SNR=1.4						
	0.4nm,0.9s						
ILAR	**Eielson Array**	**73.68**	**25**	P	P	11 30 49.7	+0.1
	0.4nm,0.8s,baz=250,slow=5.4,SNR=2.1						
	0.4nm,0.8s						

*DJA **08** 11:22:34.3±0.6, 6°N±5°×12°7E±°, h71km±8km, M4.8/18, mB5.2/11, mb5.0/18, MLv5.1/12, Mw(mB)4.5/11*
*NEIC **08** 11:22:35.2±1.4, 5°.79N±0°.04×127°.05E±0°.09, h60km±7km, mb4.7/64, Error ellipse: s-maj=13.1km s-min=5.8km az=88.0*
*IDC **08** 11:22:36.5±1.4, 5°.71N×126°.68E, h68km±10km, mb4.3/30, mbtmp4.6/32, Error ellipse: s-maj=21.3km s-min=8.7km az=69.0*

ISC 08 11:22:35.8±0.8, 5°68N±0°04×126°89E±0°07, h65km±7km, n152, σ1835/161, mb4.7/63, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.90**	**317**	Pn	**Pn**	**11 23 06.3**	**+0.3**
DAV	**Davao City (W)**	**1.90**	**317**	P	**Pn**	**11 23 05.7**	**-0.3**
	2μm,0.6s,baz=114,slow=1.7,SNR=30						
DAV				LR	LR	11 23 23.8	
	comp=Z,559nm,21.6s,baz=105,slow=27						
DAV				S	**Sn**	**11 23 25.5**	**-3.4**
	2μm,0.6s,baz=227,slow=18,SNR=7.6						
SGSI	**Sangihe**	**2.40**	**214**	P	**Pn**	**11 23 13.3**	**+0.4**
TNTI	**Ternate**	**4.90**	**174**	Pn	**Pn**	**11 23 48.2**	**+1.2**
TNTI	**Ternate**	**4.90**	**174**	P	**Pn**	**11 23 48.3**	**+1.3**
KMSI	**Cibinong**	**5.84**	**210**	P	**Pn**	**11 24 01.0**	**+1.0**
	447nm,1.0s,4μm2.3nm						
LBMI	**Labuha**	**6.31**	**174**	P	**Pn**	**11 24 07.2**	**+0.9**
	327nm,0.8s,3μm1.9nm						
GTOI	**Gorontalo**	**6.33**	**218**	P	**Pn**	**11 24 07.8**	**+1.2**
	54nm,0.6s,700nm0.2nm						
MRSI	**Marisa**	**7.15**	**224**	P	**Pn**	**11 24 19.8**	**+2.0**
	318nm,0.5s,3μm1.2nm						
TOLI2	**Tolitoli**	**7.60**	**234**	Pn	**Pn**	**11 24 23.9**	**-0.1**
SANI	**Sanana**	**7.73**	**187**	P	**Pn**	**11 24 23.2**	**-2.6**
	91nm,0.8s,2μm0.4nm						
SWI	**Sorong**	**7.83**	**146**	P	**Pn**	**11 24 25.7**	**-1.4**
	58nm,0.4s,0.3nm						
LUWI	**Luwuk**	**7.84**	**212**	Pn	**Pn**	**11 24 29.2**	**+1.9**
LUWI	**Luwuk**	**7.84**	**212**	P	**Pn**	**11 24 30.6**	**+3.3**
	172nm,0.7s,7μm						
MYLDM	**Lahad Datu**	**8.37**	**267**	Pn	**Pn**	**11 24 35.6**	**+1.1**
MPSI	**Mapaga**	**8.77**	**233**	P	**Pn**	**11 24 41.0**	**+1.0**
	34nm,0.7s,638nm						
NLAI	**Namlea**	**8.86**	**179**	P	**Pn**	**11 24 40.1**	**-1.2**
TTSI	**Tana Toraja**	**11.18**	**219**	P	**Pn**	**11 25 15.3**	**+2.4**
	59nm,0.8s,679nm						
KAPI	**Kappang**	**12.79**	**214**	Pn	**Pn**	**11 25 36.2**	**+1.2**
KAPI	**Kappang**	**12.79**	**214**	P	**Pn**	**11 25 36.3**	**+1.4**
	53nm,1.0s,baz=3.0,slow=10,SNR=8.9						
MMRI	**Maumere**	**14.96**	**198**	Pn	**Pn**	**11 26 04.9**	**+1.2**
MMRI				IAmb	IAmb	11 26 14.3	
	comp=Z,68nm,1.0s						
SBUM	**Sibu**	**14.98**	**258**	Pn	**P**	**11 26 06.4**	**-1.6**
SBUM				IAmb	IAmb	11 26 16.8	
	comp=Z,46nm,0.7s						
EDFI	**Ende, Flores**	**15.24**	**200**	P	**Pn**	**11 26 07.2**	**-0.2**
	comp=Z,71nm,1.0s						
SOEI	**Soe**	**15.56**	**190**		**Pn**	**11 26 11.4**	**0.0**
SOEI				IAmb	IAmb	11 26 39.9	
	comp=Z,52nm,0.7s						
SOEI	**Soe**	**15.56**	**190**	P	**Pn**	**11 26 11.4**	**0.0**
	comp=Z,79nm,0.8s						
BATI	**Baumata**	**16.11**	**192**	P	**Pn**	**11 26 18.5**	**+0.2**
	comp=Z,93nm,1.2s						
BATI	**Baumata**	**16.11**	**192**	P	**P**	**11 26 20.6**	**+0.1**
	comp=Z,62nm,0.5s,baz=344,slow=5.7,SNR=9.3						
KSM	**Kuching**	**17.06**	**256**	P	**P**	**11 26 31.1**	**-0.1**
KSM				IAmb	IAmb	11 26 38.9	
	comp=Z,50nm,0.8s						
TWSI	**Taliwang, Sumb**	**17.46**	**215**	P	**P**	**11 26 35.4**	**0.0**
	comp=Z,87nm,1.0s,comp=Z,1μm						
MTN	**Manton Dam**	**18.88**	**167**	P	**P**	**11 26 51.0**	**-0.1**
JAGI	**Jajag, Banyuwa**	**18.95**	**222**	P	**P**	**11 26 52.1**	**+0.2**
JAGI				IAmb	IAmb	11 27 17.1	
	comp=Z,29nm,0.8s						
DLV	**T Lat**	**19.21**	**290**	P	**P**	**11 26 54.5**	**-0.4**
DLV				IAmb	IAmb	11 26 57.9	
	comp=Z,66nm,0.8s						
SMRI	**Semarang**	**20.72**	**233**	P	Pn	11 27 13.1	-1.0
JOW	**Kunigami**	**21.07**	**3**	P	**P**	**11 27 11.7**	**-3.2**
JOW	**Kunigami**	**21.07**	**3**	P	**P**	**11 27 16.4**	**+1.6**
	comp=Z,17nm,0.4s,baz=180,slow=29,SNR=1.9						
	comp=Z,17nm,0.4s						
KNRA	**Kununurra**	**21.30**	**175**	P	**P**	**11 27 17.5**	**+0.2**
MYKOM	**Kota Tinggi**	**23.31**	**261**	P	**P**	**11 27 39.3**	**+0.9**
MYKOM				IAmb	IAmb	11 28 01.0	
	comp=Z,24nm,0.9s						
FITZ	**Fitzroy Crossi**	**23.66**	**183**	P	**P**	**11 27 41.0**	**-0.5**
COEN	**Coen**	**25.34**	**140**	P	**P**	**11 27 54.9**	**-1.9**
JCJ	**Chichijima**	**25.80**	**33**	P	**P**	**11 27 58.3**	**-2.7**
KULM	**Kulim**	**26.12**	**270**	P	**P**	**11 28 05.3**	**+1.3**
WB0	**Warramunga Arr**	**26.34**	**164**	P	**P**	**11 28 06.0**	**0.0**
WRAB	**Tennant Creek**	**26.49**	**164**	P	**P**	**11 28 06.4**	**-0.9**
WRAB				IAmb	IAmb	11 28 11.1	
	comp=Z,29nm,0.7s						
WRA	**Warramunga Arr**	**26.50**	**164**	P	**P**	**11 28 06.7**	**-0.6**
WRA	**Warramunga Arr**	**26.50**	**164**	P	**P**	**11 28 07.2**	**-0.1**
	comp=Z,21nm,0.6s,baz=344,slow=10.0,SNR=95						
WRA				PcP	**PcP**	**11 31 31.2**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=338,slow=2.3,SNR=5.7						
WRA				ScP	**ScP**	**11 35 04.6**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=342,slow=3.2,SNR=8.9						
	comp=Z,21nm,0.6s						
WB2	**Warramunga Arr**	**26.50**	**164**	P	**P**	**11 28 07.2**	**-0.1**
WR0	**Warramunga Arr**	**26.57**	**164**	P	**P**	**11 28 07.0**	**-0.9**
WR0				IAmb	IAmb	11 28 11.9	
	comp=Z,22nm,0.7s						
NJ2	**Nanjing**	**27.29**	**345**	*e*P	**P**	**11 28 15.1**	**+0.8**
NJ2				pP	**pP**	**11 28 29.3**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MBWA	**Marble Bar**	**27.58**	**195**	P	**P**	**11 28 17.4**	**+0.4**
MBWA				IAmb	IAmb	11 28 23.9	
	comp=Z,12nm,0.8s						
PSA00	**Pilbara Seismi**	**27.95**	**194**	P	**P**	**11 28 20.9**	**+0.5**
PSA00	**Pilbara Seismi**	**27.95**	**194**	P	**P**	**11 28 20.4**	**+0.1**
PSA00				IAmb	IAmb	11 28 22.6	
	comp=Z,18nm,0.9s						
GYA	**Guiyang**	**28.28**	**319**	*e*P	**P**	**11 28 27.2**	**+3.9**
GYA				pmax	pmax		
	comp=Z,7.0nm,0.5s						
AS31	**Alice Springs**	**29.96**	**167**	P	**P**	**11 28 38.6**	**+0.4**
ASAR	**Alice Springs**	**29.96**	**167**	P	**P**	**11 28 38.3**	**+0.1**
ASAR	**Alice Springs**	**29.96**	**167**	P	**P**	**11 28 38.2**	**0.0**
	comp=Z,4.6nm,0.6s,baz=347,slow=6.9,SNR=66						
ASAR				PcP	**PcP**	**11 31 40.3**	**+0.8**
	comp=Z,6.3nm,0.5s,baz=348,slow=2.3,SNR=26						
ASAR				ScP	**ScP**	**11 35 16.2**	**0.0**
	comp=Z,0.9nm,0.6s,baz=340,slow=2.8,SNR=6.7						
	comp=Z,4.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.07**	**297**	P	**P**	**11 28 40.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**30.07**	**297**	P	**P**	**11 28 39.8**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=110,slow=7.3,SNR=7.4						
CMAR				PcP	**PcP**	**11 31 41.2**	**+1.3**
	comp=Z,2.1nm,0.9s,baz=84,slow=0.8,SNR=9.2						
CMAR				ScP	**ScP**	**11 35 15.6**	**-1.1**
	comp=Z,1.5nm,0.9s,baz=127,slow=1.1,SNR=6.5						
	comp=Z,1.7nm,0.7s						
PZH	**PanZhiHua**	**31.69**	**314**	P	**P**	**11 28 54.6**	**+1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	**Xi'an**	**32.77**	**332**	P	**P**	**11 29 05.1**	**+2.3**
XAN				pP	pP	11 29 18.7	+1.0
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
HNS	**HongShan**	**33.47**	**342**	⇑P	**P**	**11 29 11.6**	**+2.8**
HNS				pmax	pmax		
	comp=Z,20nm,0.8s						
BJI	**Beijing**	**35.54**	**346**	P	**P**	**11 29 28.2**	**+1.6**
FORT	**Forrest**	**36.27**	**178**	P	**P**	**11 29 33.7**	**+0.7**
LZH	**Lanzhou**	**36.92**	**328**	*e*P	P	11 29 46.2	+7.4
LZH				pP	pwP	11 29 59.3	+1.2
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC	**Hu-ho-hao-te**	**37.61**	**341**	*e*P	**P**	**11 29 45.4**	**+1.0**
HHC				pmax	pmax		
	comp=Z,23nm,0.7s						
HHC				pmax	pmax		
	comp=Z,680nm,6.5s						
HHC				LR	LR		
	comp=N,850nm,15.0s						
HHC				LR	LR		
	comp=E,940nm,14.3s						
HHC				LR	LR		
	comp=Z,2μm,14.3s						
USRK	**Ussuriysk Ar.**	**38.62**	**6**	P	**P**	**11 29 54.6**	**+1.8**
	comp=Z,3.8nm,0.6s,baz=184,slow=7.3,SNR=7.8						
	comp=Z,3.8nm,0.6s						
EIDS	**Eidsvold**	**38.80**	**144**	P	**P**	**11 29 55.0**	**+0.5**
EIDS				IAmb	IAmb	11 29 57.2	
	comp=Z,7.9nm,0.8s						
MDJ	**Mudanjiang**	**38.85**	**3**	P	**P**	**11 29 55.9**	**+1.2**
MDJ				pP	pP	11 29 58.3	-11
MDJ				sP	pwP	11 29 59.5	-15
MDJ				PP	**PP**	**11 31 23.2**	**-1.6**
MDJ				PcP	**PcP**	**11 32 08.7**	**+4.1**
MDJ				ScP	**ScP**	**11 35 47.5**	**+0.1**
MDJ				S	**S**	**11 35 50.2**	**+2.3**
MDJ				PcS	PcS	11 36 02.6	+8.6
MDJ				SS	**SS**	**11 38 41.9**	**+0.3**
MDJ	**Mudanjiang**	**38.85**	**3**	ScS	ScS	11 39 59.8	+1.5
MDJ				pmax	pmax		
	comp=Z,10.0nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,730nm,11.6s						
SHL	**Shillong**	**38.88**	**304**	P	**P**	**11 29 55.4**	**0.0**
SHL				IAmb	IAmb	11 29 57.8	
	comp=Z,14nm,0.7s						
XLT	**XiLinHaoTe**	**39.23**	**348**	*e*P	P	11 30 03.4	+5.4
XLT				pP	sP	11 30 20.7	+0.3
XLT				sP	pwP	11 30 27.3	+10
XLT				pmax	pmax		
	comp=Z,14nm,0.8s						
XLT				pmax	pmax		
	comp=Z,420nm,9.4s						
BBOO	**Buckleboo**	**39.26**	**168**	P	**P**	**11 29 57.9**	**-0.3**
BBOO				IAmb	IAmb	11 30 01.3	
	comp=Z,13nm,0.8s						
STKA	**Stephens Creek**	**39.90**	**160**	P	**P**	**11 30 04.5**	**+1.0**
	comp=Z,15nm,0.6s,baz=332,slow=8.0,SNR=27						
	comp=Z,15nm,0.6s						
GTA	**Gaotai**	**41.53**	**328**	*e*P	**P**	**11 30 17.3**	**+0.2**
GTA				PcP	PcP	11 32 21.5	+8.0
GTA				ScP	**ScP**	**11 35 58.4**	**+0.2**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
RAMN	**Ramite**	**43.79**	**303**	*e*P	**P**	**11 30 34.9**	**-0.8**
	comp=Z,17nm,0.6s						
RAMN	**Ramite**	**43.79**	**303**	*e*P	**PcP**	**11 32 23.8**	**+2.3**
	comp=Z,23nm,1.0s						
JIRN	**Jiri**	**44.39**	**304**	*e*P	**P**	**11 30 39.7**	**-1.0**
	comp=Z,16nm,0.5s						
JIRN	**Jiri**	**44.39**	**304**	*e*P	**PcP**	**11 32 23.7**	**0.0**
	comp=Z,61nm,1.4s						
HEH	**HeiHe**	**44.42**	**0**	*e*P	**P**	**11 30 43.9**	**+3.8**
HEH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GUN	**Gumba**	**44.74**	**304**	*e*P	**P**	**11 30 42.8**	**-0.6**
	comp=Z,22nm,0.7s						
GUN	**Gumba**	**44.74**	**304**	*e*P	**PcP**	**11 32 24.0**	**-0.9**
	comp=Z,12nm,0.4s						
PKI	**Pulchoki**	**45.00**	**304**	*e*P	**PcP**	**11 32 27.2**	**+1.5**
	comp=Z,34nm,0.5s						
PKIN	**Phulchoki**	**45.01**	**304**	*e*P	**PcP**	**11 32 27.1**	**+1.4**
	comp=Z,36nm,0.6s						
DMN	**Daman**	**45.26**	**304**	*e*P	**PcP**	**11 32 28.1**	**+1.5**
	comp=Z,30nm,0.7s						
ULN	**Ulaanbaatar**	**45.33**	**341**	P	**P**	**11 30 47.1**	**-0.4**
ULN				IAmb	IAmb	11 31 02.1	
	comp=Z,7.4nm,0.9s						
SONM	**Songino Array**	**45.52**	**341**	P	**P**	**11 30 47.6**	**-1.4**
SONM	**Songino Array**	**45.52**	**341**	P	**P**	**11 30 49.3**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=153,slow=7.9,SNR=7.8						
SONM				PcP	**PcP**	**11 32 26.8**	**0.0**
	comp=Z,1.0nm,0.6s,baz=150,slow=6.1,SNR=2.7						
	comp=Z,0.8nm,0.4s						
CAN	**Canberra**	**45.79**	**155**	P	**P**	**11 30 50.1**	**-1.1**
GKN	**Gorkha**	**45.79**	**304**	*e*P	**PcP**	**11 32 28.1**	**-0.2**
	comp=Z,15nm,0.4s						
PALK	**Pallekele**	**45.91**	**275**	P	**P**	**11 30 53.6**	**+1.1**
PALK				IAmb	IAmb	11 30 56.7	
	comp=Z,24nm,1.4s						
TOO	**Toolangi**	**46.39**	**160**	P	**P**	**11 30 55.7**	**-0.2**
TOO				IAmb	IAmb	11 31 07.6	
	comp=Z,14nm,1.2s						
KOLN	**Koldanda**	**46.57**	**303**	*e*P	**P**	**11 30 57.9**	**+0.2**
	comp=Z,150nm,2.7s						
DANN	**Dangsing**	**46.64**	**304**	*e*P	**P**	**11 30 57.5**	**-0.9**
	comp=Z,20nm,0.5s						
DANN	**Dangsing**	**46.64**	**304**	*e*P	**PcP**	**11 32 31.2**	**-0.2**
	comp=Z,38nm,0.6s						
PYUN	**Piuthan**	**47.19**	**303**	*e*P	**P**	**11 31 02.9**	**+0.3**
	comp=Z,10.0nm,0.4s						
PYUN	**Piuthan**	**47.19**	**303**	*e*P	**PcP**	**11 32 33.9**	**+0.6**
	comp=Z,20nm,0.7s						
WMQ	**Urumqi**	**51.24**	**324**	*e*P	**P**	**11 31 35.8**	**+2.8**
WMQ				pmax	pmax		
	comp=Z,29nm,0.9s						
PETK	**Petropavlovsk-**	**53.58**	**23**	P	**P**	**11 31 51.8**	**+1.7**
	comp=Z,2.8nm,0.6s,baz=179,slow=3.5,SNR=5.3						
	comp=Z,2.8nm,0.6s						
MK31	**Makanchi Array**	**56.06**	**324**	P	**P**	**11 32 07.7**	**-0.6**
MKAR	**Makanchi Array**	**56.06**	**324**	P	**P**	**11 32 07.7**	**-0.6**
MKAR	**Makanchi Array**	**56.06**	**324**	P	**P**	**11 32 07.4**	**-0.9**
	comp=Z,3.0nm,0.4s,baz=114,slow=7.5,SNR=62						
MKAR				PcP	**PcP**	**11 33 05.0**	**-0.8**
	comp=Z,6.4nm,0.7s,baz=113,slow=4.7,SNR=9.4						
MKAR				ScP	**ScP**	**11 36 57.2**	**-2.2**
	comp=Z,0.7nm,0.8s,baz=100,slow=3.4,SNR=3.2						
	comp=Z,3.0nm,0.4s						
PRZ	**Przheval'sk**	**56.35**	**318**	P	**P**	**11 32 10.5**	**-0.1**
NIL	**Nilore**	**56.88**	**307**	P	**P**	**11 32 14.3**	**0.0**
NRN	**Naryn**	**57.53**	**316**	P	**P**	**11 32 18.4**	**-0.7**
NRN				IAmb	IAmb	11 32 20.4	
	comp=Z,8.7nm,1.5s						
BOOM	**Boomskoye usch**	**58.00**	**317**	P	**P**	**11 32 20.3**	**-1.9**
ZAA0	**Zalesovo Array**	**58.94**	**332**	P	**P**	**11 32 25.9**	**-2.4**
ZAA0				IAmb	IAmb	11 32 30.6	
	comp=Z,4.4nm,0.6s						
ZALV	**Zalesovo Beam**	**58.94**	**332**	P	**P**	**11 32 26.4**	**-1.8**
	comp=Z,3.7nm,0.4s,baz=113,slow=6.8,SNR=12						
	comp=Z,3.7nm,0.4s						
AAK	**Ala-Archa**	**59.04**	**317**	P	**P**	**11 32 28.8**	**-0.6**
ARSB	**Arslanbob**	**59.59**	**315**	P	**P**	**11 32 32.9**	**-0.3**
KURK	**Kurchatov**	**60.20**	**327**	P	**P**	**11 32 35.9**	**-1.0**
KURBB	**Kurchatov Arra**	**60.20**	**327**	P	**P**	**11 32 36.0**	**-0.9**
	comp=Z,9.0nm,0.6s,baz=126,slow=6.9,SNR=57						

ARCES ARCESS Array B 88.68 340 P **P** **11 35 20.8 -0.9**
comp=Z,6.0nm,0.7s,baz=68,slow=6.7,SNR=22
comp=Z,6.0nm,0.7s
BRTR Keskin Array B 88.91 310 P **P** **11 35 23.2 -0.4**
comp=Z,3.0nm,0.8s,baz=113,slow=4.3,SNR=10
comp=Z,3.0nm,0.8s
FINES FINESS Array B 90.20 332 P **P** **11 35 28.8 -0.2**
comp=Z,3.0nm,0.4s,baz=96,slow=5.7,SNR=36
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 90.49 321 P **P** **11 35 29.1 -1.5**
comp=Z,0.4nm,0.3s,baz=63,slow=5.3,SNR=3.1
comp=Z,0.4nm,0.3s
QSPA South Pole Qui 95.58 180 P **P** **11 35 54.4 +0.7**
QSPA IAmb IAmb 11 35 56.3
comp=Z,5.7nm,1.1s
QSPA South Pole Qui 95.58 180 P **P** **11 35 54.2 +0.4**
comp=Z,2.8nm,0.9s,baz=254,slow=0.9,SNR=9.4
comp=Z,2.8nm,0.9s
HFS Hagfors 96.37 332 P **P** **11 35 56.3 -1.1**
comp=Z,3.9nm,0.9s,baz=103,slow=3.2,SNR=5.0
comp=Z,3.9nm,0.9s
NB2 NORSAR Subarra 97.12 334 P Pdif 11 36 01.7 +0.8
comp=Z,1.1nm,0.7s,baz=66,slow=5.1
NOA NORSAR Array B 97.12 334 P **P** **11 36 00.6 -0.2**
comp=Z,1.8nm,0.8s,baz=66,slow=4.8,SNR=4.5
comp=Z,1.8nm,0.8s
YKA Yellowknife Ar 97.67 24 P Pdif 11 36 03.6 +0.4
comp=Z,0.2nm,0.7s,baz=298,slow=5.5,SNR=3.7
YKA PKKPbc **PKKPbc** **11 52 37.4 -4.0**
comp=Z,0.9nm,0.8s,baz=122,slow=2.5,SNR=12
comp=Z,0.2nm,0.7s
PDAR Pinedale Array 109.79 41 PKKPbc PKKPbc 11 52 02.9 -2.0
comp=Z,0.2nm,0.4s,baz=186,slow=2.4,SNR=3.8
SCHQ Schefferville 118.63 9 PKP **PKiKP** **11 41 17.6 +1.2**
comp=Z,1.1nm,0.4s,baz=264,slow=8.3,SNR=5.4
TXAR Lajitas Array 120.27 51 PKP **PKiKP** **11 41 21.3 +0.8**
comp=Z,0.4nm,0.7s,baz=174,slow=2.2,SNR=5.3
TXAR PKKPbc **PKKPbc** **11 51 26.5 -1.7**
comp=Z,0.6nm,0.8s,baz=134,slow=5.4,SNR=5.1
TORD Torodi Ar. Bea 122.44 289 PKP **PKPdf** **11 41 24.0 -0.8**
comp=Z,3.0nm,0.6s,baz=40,slow=3.2,SNR=22
DBIC Dimbokro 130.30 284 PKP **PKiKP** **11 41 41.0 +0.3**
comp=Z,3.4nm,0.8s,baz=87,slow=3.9,SNR=3.9
PLCA Paso Flores 141.76 158 PKP **PKPdf** **11 41 58.1 -2.4**
comp=Z,2.4nm,0.7s,baz=211,slow=4.5,SNR=5.4

HEL 08 11:30:58.4±0.1, 65.11N×25.68E, h0km, ML1.2,
Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUL	**Oulu**	**0.10**	**107**	PG	Pg	11 30 59.9	-0.3
OBF4	**Vikkela, Lumij** baz=37	**0.39**	**219**	PG	Pg	11 31 05.1	-0.7
OBF4				SG	Sg	11 31 10.5	-0.3
OUF	**Merijarvi**	**0.85**	**209**	PG	Pg	11 31 13.6	-1.1
OUF	comp=Z,2.6nm,0.2s			MSG		11 31 24.9	
OUF				SB	Sg	11 31 25.2	-0.5
OBF0	**Syolatti, Pyha**	**0.88**	**226**	PG	Pg	11 31 14.2	-0.9
OBF0	comp=Z,3.3nm,0.2s			MSG		11 31 25.4	
TOF	**Tornio**	**1.12**	**330**	PG	Pg	11 31 18.3	-1.6
TOF	comp=Z,1.2nm,0.2s			MSG		11 31 32.4	
TOF				SB	Sg	11 31 32.8	-1.6
KALU	**Kalix**	**1.23**	**309**	PG	Pg	11 31 20.8	-1.0
KALU				SB	Sg	11 31 36.6	-1.1
RNF	**Rovaniemi**	**1.51**	**5**	PN	Pn	11 31 26.4	-0.3
RNF				SN	Sg	11 31 46.5	-0.3
MSF	**Maaselka**	**1.61**	**59**	SN	Sn	11 31 49.1	-0.5
BURU	**Burvik**	**1.92**	**256**	PG	Pn	11 31 32.9	+0.7
BURU				SG	Sb	11 31 58.1	-0.4
OLKF	**Oulanka, Finla**	**1.96**	**50**	PG	Pb	11 31 34.5	-0.4
OLKF	comp=Z,1.2nm,0.2s			MSG		11 31 56.7	
OLKF				SG	Sb	11 31 59.2	-0.6
NIF	**Nilsia**	**1.96**	**151**	SG	Sb	11 31 59.6	-0.3
KU6	**Riekki**	**1.98**	**60**	PG	Pn	11 31 34.1	+1.0
KU6	comp=Z,2.3nm,0.2s			MSG		11 31 57.0	
KU6				SG	Sb	11 31 59.6	-0.7
RMF	**Romuvaara** baz=297	**2.04**	**114**	PG	Pn	11 31 34.7	+0.8
RMF	comp=Z,3.8nm,0.2s			MSG		11 31 58.8	
RMF				SG	Sb	11 32 01.2	-0.9
ERTU	**Ertsjaerv** baz=135	**2.04**	**317**	PG	Pn	11 31 34.7	+0.8
ERTU				SG	Sb	11 32 01.3	-0.8
PAJU	**Pajala**	**2.19**	**333**	PG	Pn	11 31 37.3	+1.3
PAJU				SG	Sn	11 32 04.4	+0.7
KLF	**Kolari**	**2.24**	**343**	PG	Pn	11 31 37.1	+0.4
KLF	comp=Z,0.9nm,0.2s			MSG		11 32 04.7	
KLF				SB	Sn	11 32 05.0	-0.1
VAF	**Ylistaro** comp=Z,0.9nm,0.2s	**2.46**	**214**	MSG		11 32 11.2	
VAF				SG	Sb	11 32 13.9	-0.5
UMAU	**Umeaa**	**2.49**	**243**	PB	Pn	11 31 40.2	+0.1
UMAU				SG	Sb	11 32 13.9	-1.3
KIF	**Kilpisjarvi**	**4.35**	**336**	SB	Sb	11 33 05.2	-3.3
ARA0	**ARCESS Array S** baz=183	**4.44**	**359**	PN	Pn	11 32 08.3	+1.4

*IDC **08** 11:35:55.3±1.6, 38.88N×15.41E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=76.9km s-min=22.5km az=124.0*
*ROM **08** 11:36:04.2±0.2, 38.20N±0.01×14.85E±0.01, h118km±1km, ML2.7/109, Error ellipse: s-maj=1.0km s-min=1.0km az=151.0*
ISC 08 11:36:03.6±0.9, 38.21N±0.05×14.86E±0.04, h120km±6km, n54, σ1.9 03/72, mb3.9/4, 20C, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MUCR	**Ucria**	**0.17**	**177**	P	**Pn**	**11 36 20.2**	**-0.1**
MUCR				S	**Sn**	**11 36 32.8**	**-0.1**
MUCR	comp=E,364μm,1.3s			AML	AML		
MUCR	comp=N,224μm,0.4s			AML	AML		
MUCR	comp=E,302μm,0.4s			AML	AML		
MUCR	comp=N,224μm,0.4s			AML	AML		
VPL	**Vulcano Piano**	**0.19**	**29**	*iP*	**Pn**	**11 36 20.5**	**+0.2**
VPL				S	**Sn**	**11 36 32.8**	**-0.1**
VPL	comp=E,390μm,0.5s			AML	AML		
VPL	comp=N,338μm,0.5s			AML	AML		
VPL	comp=E,300μm,0.4s			AML	AML		
VPL	comp=N,338μm,0.5s			AML	AML		
IVGP	**Vulcano Grotta**	**0.20**	**22**	P	**Pn**	**11 36 20.4**	**+0.1**
MSFR	**San Fratello**	**0.28**	**231**	P	**Pn**	**11 36 20.9**	**+0.2**
MSFR				S	**Sn**	**11 36 33.6**	**+0.2**
MSFR	comp=N,146μm,1.5s			AML	AML		
MSFR	comp=E,146μm,0.5s			AML	AML		
MSFR	comp=E,146μm,0.5s			AML	AML		
MSFR	comp=N,144μm,0.4s			AML	AML		
NOV	**Novara**	**0.28**	**130**	P	**Pn**	**11 36 21.4**	**+0.7**
NOV				S	**Sn**	**11 36 34.6**	**+1.2**
NOV	comp=E,654μm,0.4s			AML	AML		
NOV	comp=N,605μm,0.4s			AML	AML		
NOV	comp=E,654μm,0.4s			AML	AML		
NOV	comp=N,605μm,0.4s			AML	AML		
MILZ	**Milazzo**	**0.30**	**78**	*iP*	**Pn**	**11 36 20.4**	**-0.1**
MILZ				S	**Sn**	**11 36 32.6**	**-0.7**
MILZ	comp=E,362μm,0.3s			AML	AML		
MILZ	comp=N,178μm,0.6s			AML	AML		
MILZ	comp=N,178μm,1.4s			AML	AML		
MILZ	comp=N,166μm,0.5s			AML	AML		
MILZ	comp=E,362μm,0.3s			AML	AML		
AIO	**Antillo**	**0.38**	**129**	*iP*	**Pn**	**11 36 21.7**	**+0.7**
AIO				S	**Sn**	**11 36 35.4**	**+1.3**
AIO	comp=N,370μm,0.5s			AML	AML		
AIO	comp=E,288μm,0.5s			AML	AML		
AIO	comp=E,288μm,0.5s			AML	AML		
AIO	comp=N,370μm,0.5s			AML	AML		
EPZF	**Pizzo Felice**	**0.39**	**181**	P	**Pn**	**11 36 22.4**	**+1.2**
EMSG	**Monte Spagnolo**	**0.39**	**170**	P	**Pn**	**11 36 22.4**	**+1.2**
EMSG	comp=E,1134μm,0.6s			AML	AML		
EMSG	comp=N,1001μm,0.6s			AML	AML		
EMSG	comp=E,1134μm,0.6s			AML	AML		
EMSG	comp=N,1002μm,0.6s			AML	AML		
IFIL	**Filicudi I Eol**	**0.42**	**327**	P	**Pn**	**11 36 21.8**	**+0.6**
IFIL	comp=E,1250μm,0.7s			AML	AML		
IFIL	comp=N,438μm,0.6s			AML	AML		
IFIL	comp=N,437μm,0.6s			AML	AML		
IFIL	comp=N,437μm,0.6s			AML	AML		
IFIL	comp=E,1248μm,0.7s			AML	AML		
MSRU	**Castanea**	**0.51**	**84**	*iP*	**Pn**	**11 36 21.5**	**-0.2**
MSRU	comp=E,216μm,0.5s			AML	AML		
MSRU	comp=N,166μm,0.4s			AML	AML		
MSRU	comp=E,216μm,0.5s			AML	AML		
MSRU	comp=N,161μm,0.3s			AML	AML		
MSRU	comp=E,216μm,0.5s			AML	AML		
IACL	**Alicudi**	**0.51**	**309**	*iP*	**Pn**	**11 36 22.1**	**+0.4**
IACL	comp=E,290μm,0.9s			AML	AML		
IACL	comp=E,289μm,0.9s			AML	AML		
IACL	comp=N,440μm,0.9s			AML	AML		
IACL	comp=E,253μm,0.4s			AML	AML		
IACL	comp=N,440μm,0.9s			AML	AML		
GALF	**Gagliano Caste**	**0.55**	**205**	*iP*	**Pn**	**11 36 23.0**	**+1.0**
GALF	comp=E,620μm,0.6s			AML	AML		
GALF	comp=N,522μm,1.1s			AML	AML		
GALF	comp=E,620μm,0.6s			AML	AML		
GALF	comp=N,368μm,0.5s			AML	AML		
GALF	comp=N,492μm,0.3s			AML	AML		
GALF	comp=E,620μm,0.6s			AML	AML		
ESML	**S. M. di Licod**	**0.59**	**179**	*iP*	**Pn**	**11 36 22.8**	**+0.6**
ESML	comp=E,268μm,0.7s			AML	AML		
ESML	comp=N,290μm,1.0s			AML	AML		
ESML	comp=E,268μm,0.7s			AML	AML		
ESML	comp=N,233μm,0.6s			AML	AML		
PLLN	**Pollina**	**0.61**	**249**	*iP*	**Pn**	**11 36 22.2**	**-0.2**
PLLN				S	**Sn**	**11 36 36.0**	**-0.5**
PLLN	comp=N,466μm,0.5s			AML	AML		
PLLN	comp=E,400μm,0.8s			AML	AML		
PLLN	comp=N,466μm,0.5s			AML	AML		
PLLN	comp=E,399μm,0.8s			AML	AML		
CSLB	**Castelbuono**	**0.69**	**247**	P	**Pn**	**11 36 22.7**	**-0.2**
CSLB	comp=E,65μm,0.7s			AML	AML		
CSLB	comp=N,84μm,1.6s			AML	AML		
CSLB	comp=N,83μm,0.3s			AML	AML		
CSLB	comp=E,65μm,0.7s			AML	AML		
GIB	**Gibilmanna**	**0.69**	**252**	*iP*	**Pn**	**11 36 22.9**	**-0.1**
GIB				S	**Sn**	**11 36 37.6**	**-0.1**
GIB	comp=E,370μm,1.1s			AML	AML		
GIB	comp=N,549μm,0.7s			AML	AML		
GIB	comp=N,549μm,0.7s			AML	AML		
GIB	comp=E,370μm,1.1s			AML	AML		
PETRA	**Petralia Sopra**	**0.70**	**238**	*iP*	**Pn**	**11 36 23.7**	**+0.5**
PETRA	comp=E,375μm,0.3s			AML	AML		
PETRA	comp=N,563μm,0.3s			AML	AML		
PETRA	comp=E,206μm,0.6s			AML	AML		
PETRA	comp=N,298μm,1.0s			AML	AML		
PETRA	comp=N,563μm,0.3s			AML	AML		
PETRA	comp=E,375μm,0.3s			AML	AML		
EPOZ	**Pozzillo**	**0.72**	**166**	P	**Pn**	**11 36 23.3**	**+0.2**
EPOZ	comp=N,309μm,0.8s			AML	AML		
EPOZ	comp=E,384μm,1.6s			AML	AML		
EPOZ	comp=N,309μm,0.8s			AML	AML		
EPOZ	comp=E,288μm,0.7s			AML	AML		
VAE	**Valguarnera**	**0.81**	**206**	Pn	**Pn**	**11 36 25.4**	**+1.4**
VAE	comp=E,24nm,0.3s,baz=323,slow=3.9,SNR=22			Sn	**Sn**	**11 36 43.8**	**+4.4**
	comp=E,7.6nm,0.3s,baz=261,slow=17,SNR=3.6						
CEL	**Celeste**	**0.81**	**86**	P	**Pn**	**11 36 24.3**	**+0.3**
CEL				S	**Sn**	**11 36 39.6**	**+0.2**
CEL	comp=E,156μm,0.9s			AML	AML		
CEL	comp=N,158μm,0.7s			AML	AML		
CEL	comp=E,168μm,1.6s			AML	AML		
CEL	comp=N,222μm,0.7s			AML	AML		
CEL	comp=E,112μm,0.3s			AML	AML		
CEL	comp=N,140μm,0.5s			AML	AML		
CEL	comp=E,137μm,0.3s			AML	AML		
CEL	comp=N,188μm,0.5s			AML	AML		
RESU	**Resuttano**	**0.85**	**229**	P	**Pn**	**11 36 25.7**	**+1.3**
RESU	comp=E,168μm,0.4s			AML	AML		
RESU	comp=N,212μm,0.6s			AML	AML		
RESU	comp=N,212μm,0.6s			AML	AML		
RESU	comp=E,169μm,0.4s			AML	AML		
HLNI	**Lentini**	**0.86**	**180**	*iP*	**Pn**	**11 36 24.4**	**0.0**
HLNI				S	**Sn**	**11 36 39.9**	**-0.1**
HLNI	comp=E,438μm,0.4s			AML	AML		
HLNI	comp=E,439μm,0.4s			AML	AML		
HLNI	comp=N,267μm,0.7s			AML	AML		
JOPP	**Joppolo**	**0.90**	**63**	*iP*	**Pn**	**11 36 25.0**	**+0.3**
JOPP				S	**Sn**	**11 36 40.5**	**-0.2**
JOPP	comp=E,160μm,0.4s			AML	AML		
JOPP	comp=N,158μm,1.3s			AML	AML		
JOPP	comp=N,155μm,0.3s			AML	AML		
JOPP	comp=E,159μm,0.4s			AML	AML		
SOI	**Samo**	**0.95**	**98**	*iP*	**Pn**	**11 36 25.8**	**+0.7**
SOI				S	**Sn**	**11 36 41.9**	**+0.4**
SOI	comp=E,144μm,1.4s			AML	AML		
SOI	comp=N,159μm,0.8s			AML	AML		
SOI	comp=E,136μm,0.5s			AML	AML		
SOI	comp=N,161μm,0.9s			AML	AML		
SOI	comp=E,144μm,0.6s			AML	AML		
HAGA	**Augusta**	**0.95**	**166**	*iP*	**Pn**	**11 36 25.1**	**-0.1**
HAGA				S	**Sn**	**11 36 41.1**	**-0.3**
HAGA	comp=E,336μm,0.8s			AML	AML		
HAGA	comp=N,141μm,0.7s			AML	AML		
HAGA	comp=E,336μm,0.8s			AML	AML		
HAGA	comp=N,141μm,0.7s			AML	AML		
ALJA	**Alia**	**0.99**	**243**	*iP*	**Pn**	**11 36 26.7**	**+1.1**
ALJA	comp=E,332μm,0.5s			AML	AML		
ALJA	comp=N,271μm,0.4s			AML	AML		
ALJA	comp=E,331μm,0.5s			AML	AML		
ALJA	comp=N,271μm,0.4s			AML	AML		
SOLUN	**Solunto**	**1.05**	**264**	*iP*	**Pn**	**11 36 26.2**	**+0.1**
SOLUN				S	**Sn**	**11 36 43.4**	**+0.2**
SOLUN	comp=E,301μm,0.7s			AML	AML		
SOLUN	comp=N,315μm,0.3s			AML	AML		
SOLUN	comp=E,252μm,0.8s			AML	AML		
SOLUN	comp=N,315μm,0.3s			AML	AML		
RAFF	**Raffo Rosso**	**1.06**	**202**	*iP*	**Pn**	**11 36 27.0**	**+0.7**
RAFF				S	**Sn**	**11 36 45.3**	**+1.9**
RAFF	comp=E,270μm,0.5s			AML	AML		
RAFF	comp=N,308μm,0.8s			AML	AML		
RAFF	comp=E,270μm,0.5s			AML	AML		
RAFF	comp=N,308μm,0.8s			AML	AML		
SSY	**Sortino**	**1.07**	**171**	*iP*	**Pn**	**11 36 26.4**	**0.0**
SSY				S	**Sn**	**11 36 43.6**	**0.0**
SSY	comp=E,260μm,0.8s			AML	AML		
SSY	comp=N,268μm,0.5s			AML	AML		
SSY	comp=E,249μm,0.6s			AML	AML		
SSY	comp=N,238μm,0.2s			AML	AML		
PLAC	**Placanica**	**1.26**	**79**	*iP*	**Pn**	**11 36 29.2**	**+0.8**
PLAC				S	**Sn**	**11 36 48.1**	**+0.9**
PLAC	comp=E,257μm,0.6s			AML	AML		
PLAC	comp=N,422μm,0.5s			AML	AML		
PLAC	comp=E,430μm,0.4s			AML	AML		
PLAC	comp=N,232μm,0.5s			AML	AML		
PLAC	comp=E,257μm,0.6s			AML	AML		
PLAC	comp=N,232μm,0.5s			AML	AML		
PLAC	comp=N,421μm,0.5s			AML	AML		
PLAC	comp=E,431μm,0.4s			AML	AML		
CORL	**Corleone**	**1.27**	**256**	*iP*	**Pn**	**11 36 29.0**	**+0.5**
CORL	comp=E,300μm,0.3s			AML	AML		
CORL	comp=E,300μm,0.3s			AML	AML		
CORL	comp=N,250μm,0.4s			AML	AML		
CORL	comp=N,250μm,0.4s			AML	AML		
CORL	comp=E,300μm,0.3s			AML	AML		
GRI	**Girifalco**	**1.37**	**63**	P	**Pn**	**11 36 30.9**	**+1.3**
GRI	comp=E,247μm,0.4s			AML	AML		
GRI	comp=N,168μm,0.4s			AML	AML		
GRI	comp=E,247μm,0.4s			AML	AML		
GRI	comp=N,167μm,0.4s			AML	AML		
USI	**Ustica**	**1.41**	**291**	P	**Pn**	**11 36 31.0**	**+0.9**
CLTB	**Caltabellotta**	**1.45**	**245**	P	**Pn**	**11 36 31.2**	**+0.7**
CLTB	comp=N,1620μm,0.3s			AML	AML		
CLTB	comp=E,816μm,0.5s			AML	AML		
CLTB	comp=N,1616μm,0.3s			AML	AML		
CLTB	comp=E,816μm,0.5s			AML	AML		
CAR1	**CAROLEI**	**1.48**	**45**	P	**Pn**	**11 36 31.5**	**+0.6**
CAR1	comp=N,132μm,0.5s			AML	AML		
CAR1	comp=E,150μm,1.0s			AML	AML		
CAR1	comp=N,132μm,0.5s			AML	AML		
CAR1	comp=E,127μm,0.4s			AML	AML		
CAR1	comp=E,228μm,0.4s			AML	AML		
CAR1	comp=N,215μm,0.7s			AML	AML		
CRJA	**Costa Raja**	**1.52**	**255**	P	**Pn**	**11 36 32.6**	**+1.3**
CRJA	comp=E,256μm,0.8s			AML	AML		
CRJA	comp=N,104μm,0.6s			AML	AML		
CRJA	comp=E,256μm,0.8s			AML	AML		
CRJA	comp=N,104μm,0.6s			AML	AML		
SPS2	**Spezzano della**	**1.58**	**46**	P	**Pn**	**11 36 33.1**	**+1.0**
SPS2				S	**Sn**	**11 36 54.9**	**+1.1**
SPS2	comp=E,43μm,1.6s			AML	AML		
SPS2	comp=N,51μm,0.3s			AML	AML		
SPS2	comp=E,37μm,0.6s			AML	AML		
SPS2	comp=N,51μm,0.3s			AML	AML		
MMGO	**Monte Magaggia**	**1.59**	**250**	P	**Pn**	**11 36 32.4**	**+0.3**
MMGO	comp=E,99μm,0.9s			AML	AML		
MMGO	comp=N,63μm,0.6s			AML	AML		
MMGO	comp=N,59μm,0.3s			AML	AML		
MMGO	comp=E,99μm,0.2s			AML	AML		
SERS	**Sersale**	**1.65**	**59**	P	**Pn**	**11 36 34.1**	**+1.1**
SERS				AML	AML		

comp=E,65μm,0.4s
SERS AML AML
comp=N,67μm,0.4s
SERS AML AML
comp=N,56μm,0.4s
SERS AML AML
comp=E,65μm,0.4s
SERS AML AML
comp=N,67μm,0.4s
SERS AML AML
comp=E,74μm,1.0s
CAVT Castelvetrano 1.75 253 P **Pn 11 36 34.4 +0.4**
CAVT AML AML
comp=E,263μm,0.5s
CAVT AML AML
comp=N,147μm,0.4s
CAVT AML AML
comp=E,263μm,0.5s
CAVT AML AML
comp=N,147μm,0.4s
CAVT AML AML
comp=E,263μm,0.5s
CELI Celico 1.75 47 P **Pn 11 36 35.5 +1.3**
CELI AML AML
comp=E,107μm,1.3s
CELI AML AML
comp=N,141μm,0.7s
CELI AML AML
comp=E,64μm,1.0s
CELI AML AML
comp=N,141μm,0.7s
CELI AML AML
comp=E,96μm,0.8s
CELI AML AML
comp=N,60μm,1.0s
TIP Timpagrande 1.77 56 P **Pn 11 36 35.4 +1.1**
TIP AML AML
comp=E,44μm,1.5s
TIP AML AML
comp=N,62μm,1.0s
TIP AML AML
comp=E,36μm,0.7s
TIP AML AML
comp=N,60μm,0.5s
TIP AML AML
comp=E,59μm,0.8s
TIP AML AML
comp=N,49μm,0.6s
MARS Marsala (TP) I 1.87 257 P **Pn 11 36 36.4 +1.0**
MARS S **Sn 11 37 00.8 +1.0**
MARS AML AML
comp=E,170μm,0.4s
MARS AML AML
comp=N,200μm,0.5s
MARS AML AML
comp=N,199μm,0.5s
MARS AML AML
comp=N,199μm,0.5s
MARS AML AML
comp=E,170μm,0.4s
PIPA Pietrapaola 1.99 50 P **Pn 11 36 38.4 +1.4**
PIPA AML AML
comp=E,82μm,0.3s
PIPA AML AML
comp=N,81μm,0.3s
PIPA AML AML
comp=E,131μm,0.8s
PIPA AML AML
comp=N,216μm,1.2s
PIPA AML AML
comp=N,81μm,0.3s
PIPA AML AML
comp=E,82μm,0.3s
SALB San Lorenzo Be 2.03 34 P **Pn 11 36 39.3 +1.8**
SALB AML AML
comp=E,64μm,0.3s
SALB AML AML
comp=N,44μm,0.3s
SALB AML AML
comp=E,64μm,0.3s
SALB AML AML
comp=N,44μm,0.3s
MIGL Miglionico 2.69 27 P **Pn 11 36 47.8 +1.9**
MIGL AML AML
comp=N,160μm,0.5s
MIGL AML AML
comp=E,176μm,0.5s
LTRZ Laterza 2.83 32 P **Pn 11 36 48.1 +0.4**
LTRZ AML AML
comp=E,76μm,0.2s
LTRZ AML AML
comp=N,153μm,0.6s
LTRZ AML AML
comp=E,151μm,1.2s
LTRZ AML AML
comp=N,145μm,1.2s
AMUR Altamura 3.01 26 AML AML
AMUR AML AML
comp=E,130μm,0.2s
AMUR AML AML
comp=N,95μm,0.2s
AMUR AML AML
comp=E,130μm,0.2s
TRIV Trivento 3.56 356 AML AML
comp=N,65μm,1.6s
TRIV AML AML
comp=E,54μm,1.6s
TRIV AML AML
comp=N,41μm,0.8s
TRIV AML AML
comp=N,74μm,1.3s
TRIV AML AML
comp=E,49μm,1.4s
TRIV AML AML
comp=E,59μm,1.8s
FINES FINESS Array B 24.29 13 P **P 11 41 06.8 -2.6**
comp=E,9.7nm,1.1s,baz=195,slow=14,SNR=3.9
comp=E,9.7nm,1.1s
BVAR Borovoye Array 40.51 50 P **P 11 43 30.4 -0.2**
comp=E,0.4nm,0.4s,baz=256,slow=6.0,SNR=4.1
comp=E,0.4nm,0.4s
ZALV Zalesovo Beam 48.97 47 P **P 11 44 36.3 -1.3**
comp=E,0.9nm,0.3s,baz=286,slow=8.2,SNR=4.2
comp=E,0.9nm,0.3s
MKAR Makanchi Array 49.06 57 P **P 11 44 38.2 -0.2**
comp=E,0.5nm,0.4s,baz=278,slow=6.9,SNR=9.1
comp=E,0.5nm,0.4s

BJI ***08*** *12:06:11.5,9˚.99N×140˚.42E,h5km,mb4.7/64,mB5.1/28, Ms4.8/15,Ms7 4.6/17*

IDC ***08*** *12:06:13.5±0.6,9˚.98N×140˚.19E,h0km,mb4.5/23, mbtmp4.6/24,ML5.1/1,MS4.2/9,Error ellipse: s-maj=20.6km s-min=12.2km az=85.0*

NEIC ***08*** *12:06:14.9±1.2,9˚.94N±0˚.08×140˚.24E±0˚.09,h10km±1km, mb4.8/113,Error ellipse: s-maj=15.8km s-min=13.0km az=283.0*

DJA ***08*** *12:06:15.0±0.4,10˚N±6˚×14˚0E±˚,h10km,M5.0/13, mB5.5/7,mb4.9/13,MLv5.2/1,Mw(mB)4.9/7*

ISC 08 12:06:18.0±0.3,9˚.93N±0˚.04×140˚.28E±0˚.06,h35km,n195, σ1§31/175,mb4.8/95,MS4.6/15,2C-2D,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.78**	**51**	Pn	**Pn**	**12 07 40.7**	**-0.6**
GUMO	**Guam**	**5.78**	**51**	Pn	**Pn**	**12 07 40.9**	**-0.5**
	51nm,0.3s,baz=195,slow=9.2,SNR=18						
GUMO				Sn	**Sn**	**12 08 44.6**	**-1.9**
	48nm,0.3s,baz=206,slow=22,SNR=1.9						
GUMO				LR	LR	12 10 09.8	
	comp=Z,1μm,21.3s,baz=233,slow=41						
	204nm,0.4s						
SMPI	**Sarmi**	**11.94**	**188**	P	**Pn**	**12 09 09.5**	**+3.7**
	123nm,1.5s						
JAY	**Jayapura**	**12.37**	**178**	P	**Pn**	**12 09 12.6**	**+0.9**
	38nm,1.2s						
GENI	**Genyem**	**12.44**	**181**	P	**Pn**	**12 09 15.4**	**+2.8**
	144nm,0.8s,3μm						
MANU	**Manus Island**	**13.83**	**149**	Pn	**Pn**	**12 09 30.3**	**-1.3**
RABL	**Rabaul**	**18.36**	**139**	P	**P**	**12 10 26.9**	**-2.9**
RABL				IAmb	IAmb	12 10 55.8	
	comp=Z,58nm,0.8s						
NLAI	**Namlea**	**18.53**	**226**	P	**Pn**	**12 10 32.1**	**+0.1**
	comp=Z,27nm,1.3s						
SANI	**Sanana**	**18.55**	**231**	P	**P**	**12 10 30.8**	**-1.1**
	comp=Z,30nm,1.5s						
GTOI	**Gorontalo**	**19.50**	**243**	P	**Pn**	**12 10 43.8**	**+0.1**
	comp=Z,19nm,1.3s,comp=Z,318nm						
SAUI	**Saumlaki**	**19.91**	**207**	P	**P**	**12 10 43.6**	**-3.2**
JOW	**Kunigami**	**20.28**	**328**	P	**P**	**12 10 49.6**	**-1.1**
JOW	**Kunigami**	**20.28**	**328**	P	**P**	**12 10 51.2**	**+0.5**
	comp=Z,50nm,0.7s,baz=148,slow=17,SNR=4.0						
JOW				LR	LR	12 17 32.5	
	comp=Z,332nm,20.1s,baz=126,slow=34						
	comp=Z,50nm,0.7s						
PMG	**Port Moresby**	**20.39**	**160**	P	**P**	**12 10 51.1**	**-0.9**
PMG	**Port Moresby**	**20.39**	**160**	P	**P**	**12 10 53.3**	**+1.4**
	comp=Z,11nm,0.8s,baz=328,slow=8.9,SNR=4.9						
	comp=Z,11nm,0.8s						
MRSI	**Marisa**	**20.52**	**244**	P	Pn	12 10 54.7	-1.0
	comp=Z,115nm,0.8s,comp=Z,2μm						
LUWI	**Luwuk**	**20.55**	**239**	P	**P**	**12 10 52.5**	**-1.3**
LUWI	**Luwuk**	**20.55**	**239**	P	**P**	**12 10 54.2**	**+0.4**
	comp=Z,167nm,0.7s,comp=Z,7μm						
TOLI2	**Tolitoli**	**21.27**	**247**	P	**P**	**12 11 00.2**	**-1.4**
TOLI2				IAmb	IAmb	12 11 10.2	
	comp=Z,47nm,0.9s						
YULB	**Yu-li**	**22.54**	**309**	P	**P**	**12 11 13.2**	**-1.9**
YULB				IAmb	IAmb	12 11 26.4	
	comp=Z,35nm,0.9s						
TPUB	**Ta-pu**	**23.01**	**308**	P	**P**	**12 11 19.2**	**-0.8**
SSLB	**Suanglung**	**23.02**	**309**	P	**P**	**12 11 18.7**	**-1.4**
SSLB				IAmb	IAmb	12 11 22.4	
	comp=Z,42nm,0.9s						
JHJ	**Hachijo jima 2**	**23.08**	**359**	P	**P**	**12 11 20.1**	**-0.5**
	comp=Z,306nm,0.9s,baz=102,slow=9.5,SNR=2.9						
YHNB	**Yeheng**	**23.20**	**312**	P	**P**	**12 11 20.2**	**-1.8**
COEN	**Coen**	**23.91**	**173**	P	**P**	**12 11 28.8**	**+0.1**
MTN	**Manton Dam**	**24.38**	**202**	P	**P**	**12 11 31.6**	**-1.5**
MTN				IAmb	IAmb	12 11 33.3	
	comp=Z,22nm,0.8s						
JNU	**Nakatsue**	**24.65**	**341**	P	**P**	**12 11 33.1**	**-2.3**
JNU	**Nakatsue**	**24.65**	**341**	P	**P**	**12 11 35.1**	**-0.4**
	comp=Z,23nm,0.9s,baz=155,slow=11,SNR=7.2						
	comp=Z,23nm,0.9s						
SPSI	**Sidrap Palu**	**24.66**	**237**	P	**P**	**12 11 35.9**	**+0.3**
SOEI	**Soe**	**25.22**	**220**	P	**P**	**12 11 39.9**	**-1.0**
MMRI	**Maumere**	**25.74**	**225**	P	**P**	**12 11 44.8**	**-0.7**
BATI	**Baumata**	**25.95**	**220**	LR	LR	12 20 59.3	
	comp=Z,606nm,22.0s,baz=122,slow=34						
MJAR	**Matsushiro Arr**	**26.56**	**356**	P	**P**	**12 11 53.0**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=172,slow=10,SNR=4.6						
	comp=Z,2.9nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**26.95**	**69**	T	T	12 40 30.2	
	baz=255,slow=75,SNR=3104						
H11S1	**WAKE ISLAND Hy**	**26.97**	**69**	T	T	12 40 06.2	
	baz=255,slow=75,SNR=1231						
H11S2	**WAKE ISLAND Hy**	**26.97**	**69**	T	T	12 40 32.1	
	baz=255,slow=75,SNR=4691						
HNR	**Honiara**	**27.44**	**134**	LR	LR	12 21 54.0	
	comp=Z,3μm,20.1s,baz=310,slow=34						
H11N1	**WAKE ISLAND Hy**	**27.47**	**66**	T	T	12 40 43.6	
	baz=253,slow=75,SNR=505						
H11N2	**WAKE ISLAND Hy**	**27.48**	**66**	T	T	12 40 42.2	
	baz=253,slow=75,SNR=416						
H11N3	**WAKE ISLAND Hy**	**27.49**	**66**	T	T	12 40 45.3	
	baz=253,slow=75,SNR=185						
KNRA	**Kununurra**	**27.88**	**204**	P	**P**	**12 12 04.5**	**-0.2**
SBUM	**Sibu**	**28.84**	**257**	P	**P**	**12 12 12.2**	**-1.2**
KSRS	**Korea Array**	**29.59**	**340**	P	**P**	**12 12 18.9**	**-0.8**
	comp=Z,4.2nm,0.7s,baz=160,slow=9.7,SNR=12						
	comp=Z,4.2nm,0.7s						
NJ2	**Nanjing**	**29.62**	**321**	*e*P	**P**	**12 12 20.6**	**+0.5**
NJ2				sP	**pP**	**12 12 26.0**	**-3.4**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,190nm,3.6s						
KS19	**Wonju Array Si**	**29.65**	**340**	P	**P**	**12 12 18.9**	**-1.4**
KS19				IAmb	IAmb	12 12 34.1	
	comp=Z,22nm,1.1s						
INCN	**Inchon**	**30.07**	**338**	P	**P**	**12 12 23.4**	**-0.6**
INCN				IAmb	IAmb	12 12 28.5	
	comp=Z,26nm,1.1s						
WB0	**Warramunga Arr**	**30.07**	**191**	P	**P**	**12 12 23.5**	**-0.6**
WB0				IAmb	IAmb	12 12 30.4	
	comp=Z,13nm,0.9s						
WR0	**Warramunga Arr**	**30.23**	**191**	P	**P**	**12 12 25.4**	**-0.1**
WR0				IAmb	IAmb	12 12 26.8	
	comp=Z,13nm,0.8s						
WRAB	**Tennant Creek**	**30.24**	**191**	P	**P**	**12 12 25.1**	**-0.6**
WRAB				IAmb	IAmb	12 12 53.1	
	comp=Z,15nm,0.8s						
WB2	**Warramunga Arr**	**30.25**	**191**	P	**P**	**12 12 25.6**	**-0.1**
WB2				IAmb	IAmb	12 12 27.1	
	comp=Z,14nm,1.0s						
WRA	**Warramunga Arr**	**30.25**	**191**	P	**P**	**12 12 26.1**	**+0.3**
WRA	**Warramunga Arr**	**30.25**	**191**	P	**P**	**12 12 25.2**	**-0.5**
	comp=Z,7.6nm,0.8s,baz=9.5,slow=10,SNR=64						
WRA				PcP	**PcP**	**12 15 26.7**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=357,slow=2.2,SNR=2.3						
	comp=Z,7.6nm,0.8s						
CTAO	**Charters Tower**	**30.40**	**169**	P	**P**	**12 12 27.3**	**+0.2**
KSM	**Kuching**	**30.95**	**256**	P	**P**	**12 12 30.6**	**-1.5**
KSM				IAmb	IAmb	12 12 32.0	
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	**31.38**	**207**	P	**P**	**12 12 35.5**	**-0.2**
ERM	**Erimo**	**32.06**	**4**	P	**P**	**12 12 40.7**	**-0.7**
AS31	**Alice Springs**	**33.96**	**190**	P	**P**	**12 12 58.8**	**+0.5**
AS31				IAmb	IAmb	12 13 00.7	
	comp=Z,5.5nm,0.5s						
ASAR	**Alice Springs**	**33.97**	**190**	P	**P**	**12 12 58.8**	**+0.4**
ASAR	**Alice Springs**	**33.97**	**190**	P	**P**	**12 12 59.0**	**+0.6**
	comp=Z,6.6nm,0.6s,baz=17,slow=12,SNR=249						
ASAR				PcP	**PcP**	**12 15 36.9**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=26,slow=2.1,SNR=2.7						
ASAR				S	**S**	**12 18 17.7**	**-3.5**
	comp=Z,0.4nm,0.6s,baz=16,slow=12,SNR=5.3						
	comp=Z,6.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**34.89**	**350**	P	**P**	**12 13 05.6**	**-0.5**
USRK	**Ussuriysk Ar.**	**34.89**	**350**	P	**P**	**12 13 05.4**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=181,slow=6.5,SNR=3.5						
	comp=Z,2.3nm,0.7s						
USA0B	**Ussuriysk Arra**	**34.89**	**350**	P	**P**	**12 13 05.8**	**-0.3**
ENH	**Enshi**	**35.10**	**310**	P	**P**	**12 13 07.6**	**-0.6**
LYN	**LuoYang**	**35.31**	**318**	*e*P	**P**	**12 13 09.9**	**0.0**
LYN				pmax	pmax		
	comp=Z,19nm,0.8s						
HNS	**HongShan**	**35.77**	**324**	⇑P	**P**	**12 13 13.7**	**0.0**
HNS				pmax	pmax		
	comp=Z,16nm,1.0s						
MDJ	**Mudanjiang**	**35.77**	**347**	P	**P**	**12 13 15.6**	**+1.9**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,180nm,5.4s						
CN2	**Changchun**	**36.12**	**342**	*e*P	**P**	**12 13 16.0**	**-0.7**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
EIDS	**Eidsvold**	**36.63**	**163**	P	**P**	**12 13 21.6**	**+0.4**
BJT	**Baijiatuan**	**36.84**	**328**	P	**P**	**12 13 22.6**	**-0.3**
BJI	**Beijing**	**36.85**	**328**	P	**P**	**12 13 23.0**	**+0.1**
PSA00	**Pilbara Seismi**	**37.18**	**213**	P	**P**	**12 13 24.9**	**-1.1**
PSA00				IAmb	IAmb	12 13 25.6	
	comp=Z,16nm,0.9s						
BNX	**BinXian**	**37.35**	**345**	⇑P	**P**	**12 13 27.3**	**+0.2**
BNX				pmax	pmax		
	comp=Z,29nm,0.9s						
BNX				pmax	pmax		
	comp=Z,140nm,4.6s						
XAN	**Xi'an**	**37.43**	**315**	P	**P**	**12 13 28.3**	**+0.3**
XAN				pP	pP	12 13 32.9	-4.6
XAN				pmax	pmax		
	comp=Z,17nm,1.0s						
XAN				LR	LR		
	comp=Z,520nm,17.9s						
XAN				LR	LR		
	comp=Z,810nm,17.2s						
XAN				LR	LR		
	comp=Z,1μm,20.6s						
KMI	**Kunming**	**38.69**	**298**	⇓P	**P**	**12 13 40.7**	**+1.7**
KMI				pmax	pmax		
	comp=Z,13nm,0.8s						
KMI				LR	LR		
	comp=Z,300nm,18.8s						
KMI				LR	LR		
	comp=Z,430nm,17.9s						
KMI				LR	LR		
	comp=Z,600nm,22.8s						
KULM	**Kulim**	**39.53**	**266**	P	**P**	**12 13 44.4**	**-1.4**
CRAI	**Chiangrai**	**39.77**	**290**	P	**P**	**12 13 46.6**	**-1.3**
CD2	**Chengdu**	**39.82**	**307**	*e*P	**P**	**12 13 49.0**	**+0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KLR	**Kul'dur**	**39.82**	**351**	P	**P**	**12 13 48.2**	**+0.4**
	comp=Z,15nm,0.8s,baz=164,slow=8.7,SNR=42						
	comp=Z,15nm,0.8s						
XLT	**XiLinHaoTe**	**39.83**	**332**	*e*P	**P**	**12 13 47.8**	**-0.3**
XLT				pP	pP	12 13 52.2	-5.6
XLT				sP	pwP	12 13 55.0	-5.1
XLT				PP	**PnPn**	**12 15 24.7**	**+1.3**
XLT				pmax	pmax		
	comp=Z,16nm,0.9s						
XLT				pmax	pmax		
	comp=Z,240nm,7.1s						
HHC	**Hu-ho-hao-te**	**39.91**	**325**	*e*P	**P**	**12 13 50.9**	**+2.1**
HHC				pmax	pmax		
	comp=Z,32nm,0.8s						
HHC				pmax	pmax		
	comp=Z,90nm,5.2s						
HHC				LR	LR		
	comp=Z,550nm,15.6s						
HHC				LR	LR		
	comp=Z,770nm,16.1s						
HHC				LR	LR		
	comp=Z,380nm,15.2s						
PZH	**PanZhiHua**	**39.95**	**300**	P	**P**	**12 13 50.2**	**+0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,180nm,6.1s						
BTO	**Baotou**	**40.62**	**324**	*e*P	**P**	**12 13 56.4**	**+1.7**
BTO				pP	**pP**	**12 14 00.9**	**-3.6**
BTO				sP	**pwP**	**12 14 03.5**	**-3.2**
BTO				PP	**PnPn**	**12 15 34.0**	**+1.2**
BTO				S	**S**	**12 20 08.8**	**+6.5**
BTO				SS	**SS**	**12 23 02.7**	**-0.6**
BTO				pmax	pmax		
	comp=Z,27nm,1.5s						
BTO				pmax	pmax		
	comp=Z,760nm,9.1s						
BTO				LR	LR		
	comp=Z,660nm,15.1s						
BTO				LR	LR		
	comp=Z,440nm,11.0s						
BTO				LR	LR		
	comp=Z,610nm,12.1s						
DZM	**Mont Dzumac**	**40.87**	**141**	P	**P**	**12 13 56.4**	**-0.5**
DZM				IAmb	IAmb	12 14 02.1	
	comp=Z,18nm,1.1s						
CM31	**Chiang Mai Arr**	**40.88**	**287**	P	**P**	**12 13 58.2**	**+1.2**
CM31				IAmb	IAmb	12 13 59.2	
	comp=Z,18nm,0.7s						
CMAR	**Chiang Mai Arr**	**40.88**	**287**	P	**P**	**12 13 56.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**40.88**	**287**	P	**P**	**12 13 58.2**	**+1.2**
	comp=Z,9.9nm,0.7s,baz=90,slow=7.1,SNR=70						
CMAR				LR	LR	12 29 29.0	
	comp=Z,142nm,21.6s,baz=260,slow=34						
	comp=Z,9.9nm,0.7s						
CHTO	**Chiang Mai**	**40.92**	**287**	P	**P**	**12 13 56.6**	**-0.7**
STKA	**Stephens Creek**	**41.59**	**178**	P	**P**	**12 14 03.6**	**+1.1**
STKA	**Stephens Creek**	**41.59**	**178**	P	**P**	**12 14 05.0**	**+2.4**
	comp=Z,1.8nm,0.7s,baz=352,slow=12,SNR=4.7						
	comp=Z,1.8nm,0.7s						
HEH	**HeiHe**	**41.59**	**348**	*e*P	**P**	**12 14 02.4**	**0.0**
HEH				pmax	pmax		
	comp=Z,20nm,0.8s						
HEH				pmax	pmax		
	comp=Z,310nm,4.5s						
HEH				LR	LR		
	comp=Z,370nm,19.4s						
HEH				LR	LR		
	comp=Z,450nm,19.9s						
HEH				LR	LR		
	comp=Z,1μm,17.7s						
LZH	**Lanzhou**	**42.05**	**314**	*e*P	**P**	**12 14 07.1**	**+0.5**
LZH				pP	pP	12 14 11.7	-4.5
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
LZH				LR	LR		
	comp=Z,240nm,15.8s						
LZH				LR	LR		
	comp=Z,380nm,13.1s						
LZH				LR	LR		
	comp=Z,660nm,16.1s						
FORT	**Forrest**	**42.14**	**196**	P	**P**	**12 14 07.8**	**+0.8**
TNCH	**TengChong**	**42.37**	**296**	P	**P**	**12 14 10.4**	**+1.0**
TNCH				sP	pP	12 14 19.6	+0.6
TNCH				pmax	pmax		
	comp=Z,28nm,0.7s						
TNCH				pmax	pmax		
	comp=Z,120nm,5.5s						
TNCH				LR	LR		
	comp=Z,190nm,5.7s						
TNCH				LR	LR		
	comp=Z,320nm,7.8s						
TNCH				LR	LR		
	comp=Z,140nm,9.3s						
BBOO	**Buckleboo**	**42.69**	**185**	P	**P**	**12 14 10.2**	**-1.3**
HIA	**Hailar**	**42.80**	**340**	P	**P**	**12 14 11.9**	**-0.4**
MND	**Mandalay**	**43.97**	**291**	P	**P**	**12 14 21.2**	**-0.9**
MND				IAmb	IAmb	12 14 24.3	
	comp=Z,13nm,0.9s						
MORW	**Morawa**	**45.28**	**210**	P	**P**	**12 14 32.0**	**-0.3**
MORW				IAmb	IAmb	12 14 47.0	
	comp=Z,13nm,1.0s						
PEA0B	**Petropavlovsk-**	**45.30**	**15**	P	**P**	**12 14 31.7**	**-0.6**
PEA0B				IAmb	IAmb	12 14 37.7	
	comp=Z,19nm,1.1s						
PETK	**Petropavlovsk-**	**45.30**	**15**	P	**P**	**12 14 31.4**	**-0.9**
PETK	**Petropavlovsk-**	**45.30**	**15**	P	**P**	**12 14 33.9**	**+1.6**
	comp=Z,6.9nm,1.1s,baz=235,slow=6.8,SNR=6.5						
	comp=Z,6.9nm,1.1s						
PET	**Petropavlovsk**	**45.47**	**15**	P	**P**	**12 14 32.4**	**-1.1**
PET				IAmb	IAmb	12 14 56.7	
	comp=Z,13nm,0.9s						
CAN	**Canberra**	**45.75**	**170**	P	**P**	**12 14 35.9**	**-0.2**
CAN				IAmb	IAmb	12 14 56.4	
	comp=Z,16nm,1.1s						
GTA	**Gaotai**	**46.45**	**316**	⇓P	**P**	**12 14 41.9**	**+0.2**
GTA				pP	pP	12 14 46.6	-5.0
GTA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ULN	**Ulaanbaatar**	**47.03**	**330**	P	**P**	**12 14 46.1**	**0.0**
ULN				IAmb	IAmb	12 14 57.3	
	comp=Z,7.8nm,0.9s						
SONM	**Songino Array**	**47.34**	**329**	P	**P**	**12 14 48.7**	**+0.1**
SONM				IAmb	IAmb	12 14 59.8	
	comp=Z,9.1nm,1.1s						
SONM	**Songino Array**	**47.34**	**329**	P	**P**	**12 14 48.5**	**-0.1**
	comp=Z,3.2nm,0.9s,baz=141,slow=8.6,SNR=17						
SONM				PcP	**PcP**	**12 16 21.0**	**+2.0**
	comp=Z,1.0nm,0.9s,baz=119,slow=5.1,SNR=1.3						
	comp=Z,3.2nm,0.9s						
NWAO	**Narrogin (SRO)**	**47.95**	**206**	LR	LR	12 37 50.7	
	comp=Z,612nm,19.6s,baz=228,slow=40						
SHL	**Shillong**	**48.36**	**295**	P	**P**	**12 14 56.3**	**-0.6**
SHL				IAmb	IAmb	12 14 57.5	
	comp=Z,8.6nm,0.6s						
ODAN	**Odare**	**52.55**	**296**	*e*P	**P**	**12 15 29.1**	**+0.5**
	comp=Z,92nm,1.8s						
RAMN	**Ramite**	**53.26**	**296**	*e*P	**P**	**12 15 34.6**	**+0.7**
	comp=Z,20nm,0.6s						
JIRN	**Jiri**	**53.72**	**297**	*e*P	**P**	**12 15 37.9**	**+0.5**
	comp=Z,61nm,1.1s						
GUN	**Gumba**	**54.03**	**297**	*e*P	**P**	**12 15 40.2**	**+0.6**
	comp=Z,70nm,0.9s						
PKI	**Pulchoki**	**54.40**	**297**	*e*P	**P**	**12 15 42.2**	**-0.1**
	comp=Z,42nm,1.1s						
PKIN	**Phulchoki**	**54.41**	**297**	*e*P	**P**	**12 15 42.4**	**+0.1**
	comp=Z,24nm,0.8s						
KKN	**Kakani**	**54.54**	**297**	*e*P	**P**	**12 15 43.1**	**-0.1**
	comp=Z,90nm,1.4s						
DMN	**Daman**	**54.67**	**297**	*e*P	**P**	**12 15 44.2**	**0.0**
	comp=Z,40nm,0.8s						
GKN	**Gorkha**	**55.13**	**297**	*e*P	**P**	**12 15 47.4**	**0.0**
	comp=Z,36nm,0.8s						
DANN	**Dangsing**	**55.95**	**297**	*e*P	**P**	**12 15 53.6**	**+0.2**
	comp=Z,47nm,1.0s						
KOLN	**Koldanda**	**56.01**	**297**	*e*P	**P**	**12 15 53.9**	**+0.1**
	comp=Z,145nm,2.7s						
WMQ	**Urumqi**	**56.53**	**316**	*e*P	**P**	**12 15 56.7**	**-0.3**
WMQ				pP	pP	12 16 04.1	-3.0
WMQ				sP	pwP	12 16 07.6	-1.7
WMQ				PcP	**PcP**	**12 16 56.8**	**+3.4**
WMQ				pmax	pmax		

	comp=Z,18nm,0.9s							
WMQ				LR	LR			
	comp=Z,680nm,21.5s							
WMQ				LR	LR			
	comp=Z,620nm,18.7s							
WMQ				LR	LR			
	comp=Z,620nm,21.5s							
PYUN	**Piuthan**	**56.59**	**297**	*eP*	**P**	**12**	**15**	**58.3 +0.4**
	comp=Z,74nm,0.9s							
MRZ	**Mangatainoka R**	**59.97**	**149**	P	**P**	**12**	**16**	**22.1 +1.2**
BILL	**Bilibino**	**60.54**	**11**	P	**P**	**12**	**16**	**25.6 +1.2**
BILL				IAmb	IAmb	12	16	31.0
	comp=Z,9.8nm,1.1s							
MK31	**Makanchi Array**	**61.10**	**318**	P	**P**	**12**	**16**	**28.8 +0.2**
MK31				IAmb	IAmb	12	16	39.5
	comp=Z,6.2nm,0.9s							
MKAR	**Makanchi Array**	**61.10**	**318**	P	**P**	**12**	**16**	**28.4 -0.2**
MKAR	**Makanchi Array**	**61.10**	**318**	P	**P**	**12**	**16**	**29.0 +0.4**
	comp=Z,6.7nm,0.8s,baz=96,slow=8.7,SNR=24							
	comp=Z,6.7nm,0.8s							
MAKZ	**Makanchi**	**61.31**	**318**	P	**P**	**12**	**16**	**30.0 -0.1**
MAKZ				IAmb	IAmb	12	16	41.1
	comp=Z,11nm,1.1s							
ZAA0	**Zalesovo Array**	**62.07**	**327**	P	**P**	**12**	**16**	**34.0 -1.0**
ZAA0				IAmb	IAmb	12	16	45.0
	comp=Z,6.2nm,0.9s							
ZALV	**Zalesovo Beam**	**62.07**	**327**	P	**P**	**12**	**16**	**34.1 -0.9**
ZALV	**Zalesovo Beam**	**62.07**	**327**	P	**P**	**12**	**16**	**34.4 -0.6**
	comp=Z,4.0nm,0.7s,baz=104,slow=6.4,SNR=18							
	comp=Z,4.0nm,0.7s							
KSH	**Kashi**	**63.96**	**309**	P	**P**	**12**	**16**	**51.2 +3.2**
KSH				pmax	pmax			
	comp=Z,8.0nm,0.8s							
ULHL	**Ulahol**	**64.21**	**312**	P	**P**	**12**	**16**	**50.9 +1.1**
	SNR=6.1							
NRN	**Naryn**	**64.25**	**311**	IAmb	IAmb	12	16	51.8
	comp=Z,6.6nm,1.0s							
BOOM	**Boomskoye usch**	**64.48**	**312**	P	**P**	**12**	**16**	**52.0 +0.6**
BOOM				IAmb	IAmb	12	16	58.3
	comp=Z,4.4nm,0.7s							
KURK	**Kurchatov**	**64.56**	**322**	P	**P**	**12**	**16**	**50.6 -0.9**
KURBB	**Kurchatov Arra**	**64.59**	**322**	P	**P**	**12**	**16**	**51.6 -0.1**
	comp=Z,8.9nm,0.8s,baz=104,slow=6.8,SNR=53							
	comp=Z,8.9nm,0.8s							
KZA	**Kyzart**	**64.91**	**312**	P	**P**	**12**	**16**	**56.0 +1.5**
	SNR=12							
KBK	**Karagaybulak**	**65.23**	**312**	P	**P**	**12**	**16**	**57.2 +0.8**
	SNR=6.0							
NIL	**Nilore**	**65.46**	**302**	P	**P**	**12**	**16**	**58.1 +0.2**
UCH	**Uchtor**	**65.47**	**312**	P	**P**	**12**	**16**	**59.6 +1.3**
	SNR=14							
AAK	**Ala-Archa**	**65.55**	**312**	P	**P**	**12**	**16**	**58.0 -0.5**
AML	**Almayashu**	**66.06**	**312**	P	**P**	**12**	**17**	**03.1 +1.1**
	SNR=10							
BTK	**Batken**	**67.97**	**309**	P	**P**	**12**	**17**	**14.0 +0.2**
BTK				IAmb	IAmb	12	17	27.2
	comp=Z,10.0nm,1.1s							
GAR	**Garm**	**68.26**	**308**	P	**P**	**12**	**17**	**16.0 +0.3**
KK31	**Karatay Array**	**68.52**	**312**	P	**P**	**12**	**17**	**17.4 +0.3**
KKAR	**Karatay Array**	**68.52**	**312**	P	**P**	**12**	**17**	**17.4 +0.3**
KKAR	**Karatay Array**	**68.52**	**312**	P	**P**	**12**	**17**	**16.9 -0.2**
KBL	**Kabul**	**69.00**	**303**	P	**P**	**12**	**17**	**19.8 -0.7**
KBL				IAmb	IAmb	12	17	21.4
	comp=Z,6.2nm,0.8s							
CHGR	**Chuyangaron**	**69.13**	**308**	P	**P**	**12**	**17**	**21.1 0.0**
J19K	**Poorman**	**69.91**	**25**	IAmb	IAmb	12	17	38.7
	comp=Z,11nm,1.1s							
BVAR	**Borovoye Array**	**70.05**	**323**	P	**P**	**12**	**17**	**26.4 0.0**
	comp=Z,12nm,0.7s,baz=108,slow=7.8,SNR=54							
	comp=Z,12nm,0.7s							
BRVK	**Borovoye**	**70.12**	**323**	P	**P**	**12**	**17**	**26.9 +0.1**
J20K	**Nowinta River**	**70.58**	**25**	IAmb	IAmb	12	17	43.3
	comp=Z,12nm,1.0s							
G21K	**Allakaket**	**71.57**	**23**	IAmb	IAmb	12	17	49.6
	comp=Z,11nm,1.1s							
F21K	**Alatna River**	**71.80**	**22**	IAmb	IAmb	12	17	48.8
	comp=Z,8.7nm,1.1s							
BPAW	**Bear Paw Mtn.**	**71.89**	**26**	IAmb	IAmb	12	17	50.5
	comp=Z,12nm,1.0s							
MLY	**Manley**	**72.24**	**25**	P	**P**	**12**	**17**	**40.8 +1.3**
MLY				IAmb	IAmb	12	17	47.2
	comp=Z,12nm,1.1s							
PWL	**Port Wells**	**72.34**	**29**	P	**P**	**12**	**17**	**40.5 +0.4**
D22K	**Ayikyak River**	**72.61**	**20**	IAmb	IAmb	12	17	52.4
	comp=Z,8.5nm,0.8s							
E22K	**Anaktuvuk Pass**	**72.69**	**21**	IAmb	IAmb	12	17	58.9
	comp=Z,11nm,0.9s							
MDM	**Murphy Dome**	**73.25**	**25**	P	**P**	**12**	**17**	**47.0 +1.6**
C23K	**Itkillik River**	**73.59**	**20**	IAmb	IAmb	12	17	59.6
	comp=Z,12nm,1.1s							
TOLK	**Toolik Lake Re**	**73.62**	**21**	IAmb	IAmb	12	18	00.2
	comp=Z,13nm,1.1s							
ILAR	**Eielson Array**	**73.78**	**25**	P	**P**	**12**	**17**	**48.0 -0.4**
	comp=Z,2.4nm,0.7s,baz=246,slow=5.3,SNR=25							
	comp=Z,2.4nm,0.7s							
E24K	**Your Creek**	**73.87**	**22**	IAmb	IAmb	12	18	08.3
	comp=Z,6.9nm,0.8s							
HRA	**Herat**	**74.62**	**303**	IAmb	IAmb	12	18	00.3
	comp=Z,11nm,0.9s							
SCRK	**Sand Creek**	**74.88**	**26**	P	**P**	**12**	**17**	**55.9 +0.8**
E25K	**Arctic Village**	**74.95**	**22**	IAmb	IAmb	12	18	21.6
	comp=Z,14nm,1.1s							
ABKAR	**Akbulak array**	**76.24**	**318**	P	**P**	**12**	**18**	**02.8 -0.2**
I28M	**Miner Creek**	**76.78**	**25**	IAmb	IAmb	12	18	15.1
	comp=Z,10nm,0.9s							
DAWY	**Dawson**	**76.90**	**26**	IAmb	IAmb	12	18	17.4
	comp=Z,12nm,1.1s							
F28M	**Old Crow**	**77.01**	**23**	IAmb	IAmb	12	18	13.8
	comp=Z,6.8nm,0.8s							
ARU	**Arti**	**77.22**	**326**	P	**P**	**12**	**18**	**08.1 -0.2**
ARU				IAmb	IAmb	12	18	11.5
	comp=Z,7.2nm,0.9s							
ARU	**Arti**	**77.22**	**326**	LR	LR	12	52	37.2
	comp=Z,332nm,20.9s,baz=330,slow=36							
GEYT	**Alibeck**	**77.81**	**307**	P	**P**	**12**	**18**	**11.6 -0.5**
GEYT				IAmb	IAmb	12	18	18.7
	comp=Z,13nm,1.0s							
GEYT	**Alibeck**	**77.81**	**307**	P	**P**	**12**	**18**	**12.0 -0.1**
	comp=Z,1.6nm,0.4s,baz=69,slow=8.0,SNR=5.4							
	comp=Z,1.6nm,0.4s							
M30M	**Minto, Yukon**	**78.00**	**28**	P	**P**	**12**	**18**	**13.5 +0.9**
M30M				IAmb	IAmb	12	18	20.0
	comp=Z,9.3nm,1.1s							
J30M	**Hart River**	**78.26**	**26**	IAmb	IAmb	12	18	28.4
	comp=Z,7.7nm,1.0s							
CASY	**Casey**	**79.08**	**192**	P	**P**	**12**	**18**	**19.0 +0.7**
CASY				IAmb	IAmb	12	18	27.3
	comp=Z,9.9nm,1.0s							
G31M	**Satah River**	**79.15**	**24**	P	**P**	**12**	**18**	**19.6 +0.8**
G31M				IAmb	IAmb	12	18	25.1
	comp=Z,9.9nm,0.8s							
INK	**Inuvik**	**79.44**	**22**	P	**P**	**12**	**18**	**20.5 +0.1**
DLBC	**Dease Lake**	**81.46**	**32**	P	**P**	**12**	**18**	**33.6 +2.1**
	comp=Z,2.5nm,0.7s,baz=259,slow=5.2,SNR=1.9							
	comp=Z,2.5nm,0.7s							
WTLY	**Watson Lake, Y**	**81.94**	**30**	IAmb	IAmb	12	18	42.2
	comp=Z,11nm,0.8s							
A36M	**Sachs Harbour**	**82.02**	**18**	IAmb	IAmb	12	19	02.7
	comp=Z,8.0nm,0.8s							
C36M	**Paulatuk**	**82.78**	**21**	IAmb	IAmb	12	18	53.2
	comp=Z,6.0nm,0.9s							
BBB	**Bella Bella**	**83.23**	**38**	LR	LR	12	50	39.2
	comp=Z,130nm,19.3s,baz=332,slow=32							
YKA	**Yellowknife Ar**	**88.14**	**27**	P	**P**	**12**	**19**	**06.3 +1.3**
	comp=Z,3.8nm,0.8s,baz=289,slow=5.2,SNR=26							
	comp=Z,3.8nm,0.8s							
VNDA	**Vanda**	**88.16**	**175**	P	**P**	**12**	**19**	**06.6 +1.9**
RES	**Resolute Bay**	**89.11**	**13**	P	**P**	**12**	**19**	**10.0 +0.8**
ARCES	**ARCESS Array B**	**89.13**	**341**	P	**P**	**12**	**19**	**11.2 +1.7**
	comp=Z,6.0nm,1.1s,baz=65,slow=9.0,SNR=2.5							
	comp=Z,6.0nm,1.1s							
NVAR	**Mina Array Bea**	**92.70**	**50**	P	**P**	**12**	**19**	**28.8 +1.7**
	comp=Z,0.9nm,0.7s,baz=274,slow=5.9,SNR=10							
	comp=Z,0.9nm,0.7s							
RAF	**Rauma**	**94.55**	**335**	*eP*	**P**	**12**	**19**	**31.9 -2.9**
NOA	**NORSAR Array B**	**98.77**	**338**	LR	LR	13	09	45.4
	comp=Z,51nm,18.1s,baz=250,slow=39							
TORD	**Torodi Ar. Bea**	**132.92**	**298**	PKP	**PKiKP**	**12**	**25**	**32.6 +0.8**
	comp=Z,1.3nm,0.8s,baz=59,slow=1.6,SNR=7.1							
LVC	**Limon Verde**	**149.35**	**118**	PKPdf	**PKPdf**	**12**	**25**	**59.1 -1.0**

*IDC **08** 12:29:43.8±2.1, 7.°18S×126.°11E, h0km, mb3.6/1, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=58.3km s-min=31.3km az=72.0*
*DJA **08** 12:29:51.1±1.0, 7.°S±5.°×12.°5E±.°, h10km, M3.5/6, MLv3.5/6*

ISC 08 12:29:48.5±1.4, 7.°29S±0.°09×126.°0E±0.°1, h35km, n9, σ1s59/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.96**	**214**	P	**Pn**	**12**	**30**	**34.1 +0.9**
BATI	**Baumata**	**3.68**	**218**	P	**Pn**	**12**	**30**	**43.8 +0.8**
BATI	**Baumata**	**3.68**	**218**	Pn	**Pn**	**12**	**30**	**44.5 +1.5**
	8.3nm,0.3s,baz=83,slow=6.2,SNR=4.3							
BATI				Sn	**Sn**	**12**	**31**	**25.9 +0.8**
	5.1nm,0.3s,baz=148,slow=6.1,SNR=4.0							
	19nm,0.4s							
BBSI	**Bau Bau**	**3.81**	**298**	P	**Pn**	**12**	**30**	**45.7 +1.0**
MMRI	**Maumere**	**3.91**	**250**	P	**Pn**	**12**	**30**	**44.8 -1.4**
EDFI	**Ende, Flores**	**4.46**	**251**	P	**Pn**	**12**	**30**	**52.2 -1.6**
WRA	**Warramunga Arr**	**14.98**	**148**	Pn	**Pn**	**12**	**33**	**15.2 -2.6**
	0.1nm,0.3s,baz=327,slow=15,SNR=2.8							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**17.99**	**156**	P	**P**	**12**	**33**	**56.9 +0.7**
	0.2nm,0.3s,baz=331,slow=12,SNR=11							
	1.1nm,0.6s							
MKAR	**Makanchi Array**	**66.33**	**329**	P	**P**	**12**	**40**	**34.2 +0.6**
	0.5nm,0.7s,baz=126,slow=7.3,SNR=2.6							
	0.5nm,0.7s							

*GCG **08** 12:32:09.7±0.7, 15.°03N×90.°48W, h77km±24km, MD3.4*
*CATAC **08** 12:32:09.8±1.1, 13.°62N×90.°74W, h2km±5km, ML2.9*
ISC 08 12:32:11.6±1.9, 13.°7N±0.°1×90.°79W±0.°07, h49km±45km, n13, σ1s50/20, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESSG	**Sabana Grande**	**0.67**	**356**	IAML		12 32 23.3	
	comp=Z,430nm,1.0s						
ESSG				*i* P	**Pn**	**12**	**32**	**24.1 -1.0**
ESSG				*i* S	**Sn**	**12**	**32**	**34.4 -0.5**
PCG	**Pacaya**	**0.70**	**14**	*eP*	**Pn**	**12**	**32**	**25.5 -0.1**
FUG	**Fuego 3**	**0.74**	**356**	*eP*	**Pn**	**12**	**32**	**25.0 -1.0**
FUG				*eS*	**Sn**	**12**	**32**	**38.1 +1.6**
SULM	**Suchitepequez,**	**0.96**	**308**	*eP*	**Pn**	**12**	**32**	**32.0 +3.1**
GUNB	**GUNB**	**0.98**	**26**	*i* S	**Sn**	**12**	**32**	**44.0 +1.6**
NUBE	**Las Nubes**	**1.00**	**79**	*i* P	**Pn**	**12**	**32**	**29.2 -0.2**
NUBE				*i* S	**Sn**	**12**	**32**	**41.4 -1.1**
NUBE				IAML		12 32 49.8		
	comp=Z,160nm,1.0s							
LOAL	**Lomas de Alarc**	**1.02**	**73**	IAML		12 32 27.3		
	comp=Z,2μm,1.0s							
LOAL				*i* P	**Pn**	**12**	**32**	**29.7 0.0**
LOAL				*i* S	**Sn**	**12**	**32**	**43.2 +0.3**
CEVE	**Cerro Verde**	**1.14**	**84**	*i* P	**Pn**	**12**	**32**	**31.4 0.0**
CEVE				IAML		12 32 51.6		
	comp=Z,180nm,1.0s							
UNIC	**Universidad Ca**	**1.23**	**77**	*i* P	**Pn**	**12**	**32**	**33.5 +0.9**
UNIC				IAML		12 32 48.1		
	comp=Z,360nm,1.0s							
STG3	**Santiaguito 3,**	**1.25**	**323**	*eP*	**Pn**	**12**	**32**	**31.1 -1.9**
STG3				*eS*	**Sn**	**12**	**32**	**46.6 -2.3**
JAYA	**Jayaque - finc**	**1.30**	**92**	*i* P	**Pn**	**12**	**32**	**32.3 -1.3**
JAYA				*i* S	**Sn**	**12**	**32**	**49.4 -0.5**
JAYA				IAML		12 32 52.7		
	comp=Z,450nm,1.0s							
PMON	**Piamonte**	**1.43**	**90**	*i* S	**Sn**	**12**	**32**	**53.1 +0.1**
MTO3	**Montecristo**	**1.54**	**63**	*i* P	**Pn**	**12**	**32**	**36.9 -0.1**
MTO3				*i* S	**Sn**	**12**	**32**	**58.4 +2.4**
MTO3				IAML		12 33 00.8		
	comp=Z,35nm,1.0s							

*NEIC **08** 12:32:12.8±1.6, 2.°02S±0.°04×136.°4E±0.°1, h10km±1km, mb4.2/11, Error ellipse: s-maj=23.2km s-min=6.9km az=99.0*
*IDC **08** 12:32:15.0±1.4, 2.°47S×136.°93E, h0km, mb3.9/7, mbtmp3.9/8, ML3.9/2, Error ellipse: s-maj=91.2km s-min=18.9km az=75.0*
*DJA **08** 12:32:21.0±1.9, 2.°S±6.°×13.°7E±.°, h11km±14km, M4.5/6, mb4.6/5, mB5.0/1, MLv4.4/6, Mw(mB)4.3/1*
ISC 08 12:32:21.7±0.7, 2.°71S±0.°07×136.°54E±0.°05, h42km, n31, σ1s80/33, mb4.0/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**2.28**	**72**	P	**Pn**	**12**	**32**	**57.4 +0.5**
SMPI				S	**Sn**	**12**	**33**	**25.0 +1.3**
KMPI	**Kaimana, Papua**	**2.99**	**251**	P	**Pn**	**12**	**33**	**10.4 +3.8**
GENI	**Genyem**	**3.62**	**88**	P	**Pn**	**12**	**33**	**17.3 +2.0**
GENI				S	**Sn**	**12**	**34**	**00.8 +3.9**
JAY	**Jayapura**	**4.16**	**87**	P	**Pn**	**12**	**33**	**23.5 +0.7**
SWI	**Sorong**	**5.59**	**289**	P	**Pn**	**12**	**33**	**43.4 +1.0**
	28nm,0.6s,0.2nm							
MMPI	**Merauke**	**6.88**	**146**	P	Pn	12	34	06.0 +5.9
	274nm,1.2s,3.3nm							
MTN	**Maton Dam**	**11.41**	**208**		**Pn**	**12**	**35**	**02.9 +0.8**
PMG	**Port Moresby**	**12.47**	**123**	Pn	**Pn**	**12**	**35**	**16.1 -0.7**
COEN	**Coen**	**12.96**	**150**	Pn	**Pn**	**12**	**35**	**24.9 +1.5**
KNRA	**Kununurra**	**14.99**	**210**		**Pn**	**12**	**35**	**52.2 +1.3**
KNRA				IAmb	IAmb	12	36	16.4
	comp=Z,22nm,0.9s							
MMRI	**Maumere**	**15.40**	**247**	Pn	**Pn**	**12**	**35**	**52.5 -3.8**
WB0	**Warramunga Arr**	**17.09**	**187**		**P**	**12**	**36**	**21.4 +2.5**
WB0				IAmb	IAmb	12	36	32.5
	comp=Z,11nm,1.0s							
WR0	**Warramunga Arr**	**17.26**	**186**		**P**	**12**	**36**	**21.2 +0.3**
WR0				IAmb	IAmb	12	36	34.6
	comp=Z,16nm,1.1s							
WRA	**Warramunga Arr**	**17.27**	**187**	P	**P**	**12**	**36**	**22.8 +1.9**
WRA	**Warramunga Arr**	**17.27**	**187**	P	**P**	**12**	**36**	**21.4 +0.5**
	comp=Z,0.8nm,0.3s,baz=6.4,slow=12,SNR=11							
WRA				S	**Sn**	**12**	**39**	**28.4 -2.7**
	comp=Z,2.3nm,0.7s,baz=5.8,slow=22,SNR=5.0							
CTA	**Charters Tower**	**19.70**	**152**	P	**P**	**12**	**36**	**45.6 -2.1**
	comp=Z,0.1nm,0.3s,baz=339,slow=12,SNR=1.6							
	comp=Z,1.8nm,0.9s							
CTAO	**Charters Tower**	**19.70**	**152**	P	**Pn**	**12**	**36**	**49.0 -0.4**
AS31	**Alice Springs**	**20.99**	**187**	P	**P**	**12**	**37**	**02.2 +0.6**
AS31				IAmb	IAmb	12	37	21.2
	comp=Z,5.7nm,0.6s							
ASAR	**Alice Springs**	**20.99**	**187**	P	**P**	**12**	**37**	**03.1 +1.4**
ASAR	**Alice Springs**	**20.99**	**187**	P	**P**	**12**	**37**	**03.5 +1.8**
	comp=Z,6.9nm,0.9s,baz=9.5,slow=12,SNR=24							
ASAR				S	**S**	**12**	**40**	**52.1 -1.3**
	comp=Z,0.9nm,0.8s,baz=6.3,slow=29,SNR=2.6							
	comp=Z,6.9nm,0.9s							
PSA00	**Pilbara Seismi**	**24.81**	**220**	P	**P**	**12**	**37**	**38.1 -2.0**
PSA00				IAmb	IAmb	12	38	03.5
	comp=Z,5.1nm,1.1s							
SONM	**Songino Array**	**56.82**	**336**	P	**P**	**12**	**42**	**02.4 +0.4**
	comp=Z,0.4nm,0.5s,baz=155,slow=9.0,SNR=3.8							
	comp=Z,0.4nm,0.5s							
CASY	**Casey**	**66.04**	**191**	P	**P**	**12**	**43**	**03.5 -0.4**
MKAR	**Makanchi Array**	**68.48**	**323**	P	**P**	**12**	**43**	**18.1 -1.6**
	comp=Z,0.4nm,0.6s,baz=128,slow=6.7,SNR=2.9							
	comp=Z,0.4nm,0.6s							
ZALV	**Zalesovo Beam**	**70.86**	**331**	P	**P**	**12**	**43**	**33.1 -1.0**
	comp=Z,0.6nm,0.3s,baz=111,slow=6.1,SNR=2.5							
	comp=Z,0.6nm,0.3s							
KURBB	**Kurchatov Arra**	**72.49**	**325**	P	**P**	**12**	**43**	**43.6 -0.4**
	comp=Z,0.2nm,0.2s,baz=135,slow=7.1,SNR=1.3							
	comp=Z,0.2nm,0.2s							
VNDA	**Vanda**	**75.98**	**174**	P	**P**	**12**	**44**	**04.0 +0.1**
VNDA				IAmb	IAmb	12	44	07.9
	comp=Z,1.7nm,0.9s							
VNDA	**Vanda**	**75.98**	**174**	P	**P**	**12**	**44**	**05.3 +1.4**
	comp=Z,1.2nm,0.8s,baz=301,slow=5.9,SNR=7.3							
	comp=Z,1.2nm,0.8s							
QSPA	**South Pole Qui**	**87.24**	**180**	P	**P**	**12**	**45**	**02.6 -1.1**
QSPA				IAmb	IAmb	12	45	21.9
	comp=Z,2.7nm,1.1s							
QSPA	**South Pole Qui**	**87.24**	**180**	P	**P**	**12**	**45**	**03.8 +0.2**
	comp=Z,0.7nm,0.7s,baz=308,slow=1.9,SNR=2.3							
	comp=Z,0.7nm,0.7s							
BMAR	**Burnt Mountain**	**88.22**	**22**	P	P	12	45	01.2 -7.0

*IDC **08** 12:37:54.4±1.7, 42.°04N×49.°08E, h0km, mb3.7/4, mbtmp3.7/9, ML3.2/5, Error ellipse: s-maj=26.8km s-min=11.2km az=172.0*
*AZER **08** 12:37:59.7±0.0, 41.°98N×48.°96E, h60km, Error ellipse: s-maj=0.7km s-min=0.5km az=232.0*
*MOS **08** 12:38:00.0, 41.°83N×49.°15E, h48km, MPVA4.3*
*DRS **08** 12:38:03.5, 41.°90N×49.°43E, h26km*
ISC 08 12:37:59.7±0.7, 41.°89N±0.°03×49.°12E±0.°04, h85km±6km, n92, σ2s51/147, mb3.5/4, 5C-3D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRN	**Derbent**	**0.60**	**284**	*e*PG	**Pn**	**12**	**38**	**15.4 +0.6**
DRN				*e*S	**Sn**	**12**	**38**	**26.0 0.0**
DRN				pmax	pmax			
	comp=Z,102nm,0.4s							
DRN				smax	smax			
	comp=E,2μm,0.2s							
DRN	**Derbent**	**0.60**	**284**	*e*Pg	**Pn**	**12**	**38**	**14.8 0.0**
DRN				*e*Sg	**Sn**	**12**	**38**	**25.0 -1.0**
QUBA	**Quba, Azerbaij**	**0.71**	**222**	P	**Pn**	**12**	**38**	**16.6 +0.7**
	SNR=38							
QUBA				S	**Sn**	**12**	**38**	**28.3 +0.3**
QSAR	**Qusar**	**0.74**	**240**	P	**Pn**	**12**	**38**	**16.5 +0.3**
	SNR=61							
QSAR				S	**Sn**	**12**	**38**	**28.3 -0.2**
KSMR	**Kasumkent**	**0.80**	**249**	*e*PG	**Pn**	**12**	**38**	**17.9 +1.1**
KSMR				pmax	pmax			
	comp=Z,163nm,0.2s							
KSMR	**Kasumkent**	**0.80**	**249**	*e*Pg	**Pn**	**12**	**38**	**17.9 +1.1**
	comp=Z,163nm,0.2s							
KSMR				*e*Sg	**Sn**	**12**	**38**	**29.5 -0.1**
	comp=Z,32nm,0.6s							
SIZA	**Siyzn**	**0.83**	**192**	P	**Pn**	**12**	**38**	**18.1 +0.9**
	SNR=9.1							
SIZA				S	**Sn**	**12**	**38**	**31.7 +1.5**
XNQ	**Khinaliq**	**1.03**	**226**	P	**Pn**	**12**	**38**	**20.0 +0.4**
	SNR=286							
XNQ				S	**Sn**	**12**	**38**	**35.7 +1.3**
ATGJ	**Altiaghaj**	**1.04**	**188**	P	**Pn**	**12**	**38**	**20.9 +1.3**
	SNR=61							
ATGJ				S	**Sn**	**12**	**38**	**36.6 +2.2**
AKT	**Akhty**	**1.12**	**249**	*e*PG	**Pn**	**12**	**38**	**21.9 +1.3**
AKT				pmax	pmax			
	comp=Z,159nm,0.2s							
AKT	**Akhty**	**1.12**	**249**	*e*Pg	**Pn**	**12**	**38**	**22.0 +1.5**
	comp=Z,158nm,0.2s							
AKT				*e*Sg	**Sn**	**12**	**38**	**37.0 +0.9**
	comp=Z,114nm,0.2s							
URKR	**Urkarakh**	**1.14**	**285**	*e*PG	**Pn**	**12**	**38**	**22.5 +1.7**
URKR				*e*S	**Sn**	**12**	**38**	**39.8 +3.1**
URKR				pmax	pmax			
	comp=Z,104nm,0.1s							
URKR				smax	smax			
	comp=E,553nm,0.2s							
URKR	**Urkarakh**	**1.14**	**285**	*e*Pg	**Pn**	**12**	**38**	**22.5 +1.7**
	comp=E,104nm,0.1s							
URKR				*e*Sg	**Sn**	**12**	**38**	**38.1 +1.4**
	comp=E,25nm,0.2s							
PQL	**Pirkuli**	**1.17**	**200**	P	**Pn**	**12**	**38**	**22.4 +1.1**
	SNR=18							
PQL				S	**Sn**	**12**	**38**	**39.2 +1.8**
SGKR	**Sergokala**	**1.23**	**298**	*e*PG	**Pn**	**12**	**38**	**23.7 +1.9**
SGKR				*e*S	**Sn**	**12**	**38**	**41.5 +3.1**
SGKR				pmax	pmax			
	comp=Z,51nm,0.2s							
SGKR				smax	smax			
	comp=E,526nm,0.4s							
SGKR	**Sergokala**	**1.23**	**298**	*e*Pg	**Pn**	**12**	**38**	**23.6 +1.9**
	comp=E,57nm,0.1s							
SGKR				*e*Sg	**Sn**	**12**	**38**	**39.9 +1.5**
	comp=E,300nm,0.6s							
IML	**Ismayilli**	**1.30**	**213**	Pn	**Pn**	**12**	**38**	**23.8 +1.0**
	SNR=4.8							
IML				Sn	**Sn**	**12**	**38**	**41.8 +1.7**
GBS	**Qobustan**	**1.36**	**186**	Pn	**Pn**	**12**	**38**	**25.8 +2.3**
	SNR=20							
NDR	**Nardaran**	**1.46**	**153**	Pn	**Pn**	**12**	**38**	**27.3 +2.6**
NDR				Sn	**Sn**	**12**	**38**	**48.1 +4.5**
KMKR	**Kumukh**	**1.52**	**280**	*e*PN	**Pn**	**12**	**38**	**28.2 +2.5**
KMKR				pmax	pmax			
	comp=Z,5.0nm,0.1s							
GOBA	**Gobu**	**1.56**	**162**	Pn	**Pn**	**12**	**38**	**28.8 +2.8**
GOBA				Sn	**Sn**	**12**	**38**	**51.3 +5.6**
SEKA	**Sheki**	**1.59**	**245**	Pg	**Pn**	**12**	**38**	**28.2 +1.7**
SEKA				Sg	**Sn**	**12**	**38**	**49.5 +2.8**
MAK	**Makhachkala**	**1.60**	**312**	*e*PN	**Pn**	**12**	**38**	**28.8 +2.3**
MAK				pmax	pmax			
	comp=Z,84nm,0.2s							
MAK	**Makhachkala**	**1.60**	**312**	*e*Pg	**Pn**	**12**	**38**	**28.8 +2.3**
	comp=Z,83nm,0.2s							
MAK				*e*Sg	**Sn**	**12**	**38**	**48.8 +2.0**
	comp=Z,377nm,0.2

AGDM	**Agdam**	**2.34**	**221**	Pn		**Pn**	12 38 36.8	**+0.5**
	SNR=11							
AGDM				Sn		**Sn**	12 39 04.7	**+0.4**
GANJ	**Ganja**	**2.45**	**240**	Pn		**Pn**	12 38 38.0	**+0.3**
GANJ				Sn		**Sn**	12 39 05.4	**-1.4**
DVE	**Vedeno**	**2.46**	**297**	*e*Pn		**Pn**	12 38 40.9	**+3.0**
DVE				*e*Sn		**Sn**	12 39 09.9	**+2.8**
BLQ	**Beylaqan**	**2.47**	**209**	Pn		**Pn**	12 38 40.7	**+2.7**
BLQ				Sn		**Sn**	12 39 06.8	**-0.5**
GLBA	**Clilabad**	**2.70**	**192**	Pn		**Pn**	12 38 41.7	**+0.6**
GLBA				Sn		**Sn**	12 39 12.6	**-0.3**
QZX	**Qazax, Azerbai**	**2.94**	**255**	Pn		**Pn**	12 38 44.7	**+0.4**
	SNR=6.8							
QZX				Sn		**Sn**	12 39 17.6	**-1.0**
YRD	**Yardimli**	**3.04**	**193**	Pn		**Pn**	12 38 45.6	**-0.3**
YRD				Sn		**Sn**	12 39 20.2	**-1.3**
CHRG	**Chargali**	**3.15**	**279**	P		**Pn**	12 38 48.7	**+1.5**
CHRG	**Chargali**	**3.15**	**279**	*e*Pn		**Pn**	12 38 48.7	**+1.5**
LKRN	**Lenkeran, Azer**	**3.19**	**185**	Sn		**Sn**	12 39 23.6	**-1.0**
LRK	**Lerik**	**3.30**	**191**	Pn		**Pn**	12 38 49.0	**-0.4**
	SNR=5.0							
LRK				Sn		**Sn**	12 39 27.0	**-0.6**
ASTR	**Astara**	**3.33**	**184**	Sn		**Sn**	12 39 27.0	**-1.2**
MTEO	**Meteo**	**3.49**	**285**	P		**Pn**	12 38 54.1	**+1.9**
MTEO	**Meteo**	**3.49**	**285**	PN		**Pn**	12 38 54.0	**+1.9**
LACR	**Lac**	**3.69**	**286**	*e*Pn		**Pn**	12 38 55.9	**+1.3**
LACR				*e*Sn		**Sn**	12 39 35.5	**-1.5**
GNI	**Garni**	**3.74**	**244**	*e*Pn		**Pn**	12 38 58.0	**+2.7**
GNI				*e*Sn		**Sn**	12 39 37.0	**-1.3**
KBTC	**Kuba-Taba**	**4.62**	**297**	*e*Sn		**Sn**	12 39 59.5	**0.0**
PYA1	**Pyatigorsk**	**4.92**	**298**	*c i*PN		**Pn**	12 39 11.6	**+0.4**
PYA1	**Pyatigorsk**	**4.92**	**298**	*e*Pn		**Pn**	12 39 11.3	**+0.1**
PYA1				*e*Sn		**Sn**	12 40 04.4	**-2.5**
KBZ	**Khabaz**	**4.93**	**294**	⇑*e*PN		**Pn**	12 39 11.1	**-0.2**
KBZ	**Khabaz**	**4.93**	**294**	*e*Pn		**Pn**	12 39 11.5	**+0.2**
KBZ				*e*Sn		**Sn**	12 40 05.0	**-2.0**
KBZ	**Khabaz**	**4.93**	**294**	Pn		**Pn**	12 39 11.2	**-0.1**
	comp=N,0.6nm,0.3s,baz=135,slow=5.7,SNR=9.0							
KBZ				Sn		**Sn**	12 40 04.9	**-2.0**
	comp=N,0.6nm,0.3s,baz=95,slow=13,SNR=2.0 comp=N,1.4nm,0.2s							
NEUR	**Neytrino**	**4.93**	**288**	*e*Pn		**Pn**	12 39 12.0	**+0.5**
NEUR				*e*Sn		**Sn**	12 40 06.4	**-1.0**
SHA1	**Shidzhatmaz**	**5.10**	**293**	*e*Pn		**Pn**	12 39 14.9	**+1.1**
SHA1				*e*Sn		**Sn**	12 40 11.3	**-0.2**
KVAR	**Kislovodsk Arr**	**5.15**	**296**	Pn		**Pn**	12 39 13.2	**-1.2**
	baz=131,slow=20 comp=N,1.9nm,0.2s							
KIV	**Kislovodsk**	**5.15**	**296**	*e*PN		**Pn**	12 39 16.4	**+2.0**
KIV				*e*S		**Sn**	12 40 15.9	**+3.3**
KIV				pmax		pmax		
	comp=Z,10.0nm,1.0s							
KIV	**Kislovodsk**	**5.15**	**296**	*e*Pn		**Pn**	12 39 16.5	**+2.1**
KIV				*e*Sn		**Sn**	12 40 12.0	**-0.7**
GEYT	**Alibeck**	**7.96**	**117**	Pn		**Pn**	12 39 53.5	**+0.7**
	comp=Z,0.6nm,0.3s,baz=88,slow=36,SNR=2.6 comp=Z,1.1nm,0.3s							
AKTO	**Aktyubinsk**	**10.53**	**33**	Pn		**Pn**	12 40 24.9	**-2.8**
	comp=Z,0.4nm,0.3s,baz=203,slow=7.7,SNR=2.7							
AKTO				Sn		**Sn**	12 42 17.4	**-6.2**
	comp=Z,0.7nm,0.3s,baz=161,slow=24,SNR=8.3 comp=Z,1.5nm,0.4s							
AKTO	**Aktyubinsk**	**10.53**	**33**	⇑P		**Pn**	12 40 27.1	**-0.6**
	comp=Z,2.6nm,1.1s							
AKTO				⇑S		**Sn**	12 42 16.4	**-7.3**
	comp=Z,3.3nm,0.7s							
AB31	**Akbulak array**	**10.57**	**42**	P		**Pn**	12 40 27.2	**-0.9**
AB31				S		**Sn**	12 42 17.4	**-7.1**
AB31	**Akbulak array**	**10.57**	**42**	P		**Pn**	12 40 27.2	**-0.9**
	comp=Z,0.2nm,0.3s,baz=222,slow=13,SNR=15							
AB31				⇓S		**Sn**	12 42 17.4	**-7.1**
	comp=Z,1.3nm,0.5s,baz=225,slow=24,SNR=7.0							
BRVK	**Borovoye**	**18.08**	**45**	⇓*e*P		**Pn**	12 42 04.7	**-0.3**
BRVK				pmax		pmax		
	comp=Z,1.0nm,1.0s							
BVAR	**Borovoye Array**	**18.12**	**45**	P		**Pn**	12 42 05.9	**+0.5**
	baz=235,slow=6.8,SNR=2.4 comp=Z,0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**22.01**	**57**	P		**P**	12 42 49.4	**+2.6**
	comp=Z,0.3nm,0.3s,baz=265,slow=12,SNR=1.8 comp=Z,0.3nm,0.3s							
KURK	**Kurchatov**	**22.09**	**56**	⇑*e*P		**P**	12 42 48.2	**+0.5**
VYHS	**Vyhne**	**22.24**	**298**	*e*P		**P**	12 42 50.0	**+0.6**
FINES	**FINESS Array B**	**24.00**	**332**	P		**P**	12 43 07.2	**+1.0**
	comp=Z,3.4nm,0.8s,baz=142,slow=12,SNR=1.8 comp=Z,3.4nm,0.8s							
MKAR	**Makanchi Array**	**24.11**	**67**	P		**P**	12 43 10.3	**+2.8**
MKAR	**Makanchi Array**	**24.11**	**67**	P		**P**	12 43 09.9	**+2.4**
	comp=Z,0.3nm,0.5s,baz=264,slow=9.6,SNR=1.9 comp=Z,0.3nm,0.5s							
HFS	**Hagfors**	**28.31**	**322**	P		**P**	12 43 46.7	**+1.7**
	comp=Z,7.8nm,1.0s,baz=134,slow=10,SNR=3.0 comp=Z,7.8nm,1.0s							

IDC ***08*** *12:38:15.8±0.4,22°.08S×179°.48W,h586km±3km,mb4.1/29, mbtmp5.0/30,Error ellipse: s-maj=8.7km s-min=8.4km az=117.0*

NOU ***08*** *12:38:15.9,22°.14S×179°.43W,h583km,mb5.1/89,South of Fiji Islands*

NEIC ***08*** *12:38:15.2±1.8,22°.12S±0°.10×179°.4W±0°.1,h571km±6km, mb4.9/169,Error ellipse: s-maj=14.9km s-min=13.2km az=152.0*

ISC 08 12:38:15.8±0.3,22°.18S±0°.04×179°.44W±0°.04, h590km±2km,h591km;pP-P,n765,σ1≤30/832,mb4.9/158, 31C-24D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**5.46**	**355**	P		**P**	12 39 52.1	**+0.2**
DGTI	**Dogotuki**	**5.90**	**352**	P		**P**	12 39 55.3	**-0.4**
YSA	**Yasawairara**	**6.14**	**332**	P		**P**	12 39 57.4	**-0.3**
RIZ	**Raoul Island**	**7.16**	**169**	P		**P**	12 40 07.2	**+0.5**
RIZ				S		**S**	12 41 33.4	**-4.2**
RAO	**Raoul Island**	**7.17**	**169**	P		**P**	12 40 05.2	**-1.6**
RAO	**Raoul Island**	**7.17**	**169**	P		**P**	12 40 06.0	**-0.8**
RAO	**Raoul Island**	**7.17**	**169**	P		**P**	12 40 03.7	**-3.1**
	2μm,0.2s,baz=279,slow=19,SNR=24							
RAO				S		**S**	12 41 32.6	**-5.2**
	789nm,0.3s,baz=160,slow=22,SNR=2.8							
GLKZ	**Green Lake**	**7.18**	**169**	P		**P**	12 40 05.8	**-1.1**
GLKZ				S		**S**	12 41 34.9	**-3.1**
FTUI	**Fugatoga**	**7.93**	**9**	P		**P**	12 40 14.4	**+0.2**
NIUE	**Niue**	**9.43**	**73**	P		**P**	12 40 28.1	**-0.6**
	baz=9.4,SNR=16							
NIUE	**Niue**	**9.43**	**73**	P		**P**	12 40 28.2	**-0.6**
NIUE	**Niue**	**9.43**	**73**	P		**P**	12 40 28.2	**-0.5**
AFI	**Afiamalu**	**10.99**	**43**	P		**P**	12 40 42.3	**-2.2**
MARNC	**Mare, Loyalty**	**11.66**	**271**	P		**P**	12 40 50.1	**-1.0**
MARNC	**Mare, Loyalty**	**11.66**	**271**	P		**P**	12 40 51.3	**+0.2**
PINNC	**Pines Island,**	**12.14**	**265**	P		**P**	12 40 55.8	**-0.1**
PINNC	**Pines Island,**	**12.14**	**265**	P		**P**	12 40 56.4	**+0.5**
LIFNC	**LIFOU**	**12.48**	**274**	P		**P**	12 40 58.4	**-1.0**
OUENC	**Ouen Island, N**	**12.70**	**266**	P		**P**	12 41 01.5	**-0.1**
OUENC	**Ouen Island, N**	**12.70**	**266**	P		**P**	12 41 01.1	**-0.5**
DZM	**Mont Dzumac**	**13.08**	**268**	P		**P**	12 41 05.3	**-0.4**
DZM	**Mont Dzumac**	**13.08**	**268**	P		**P**	12 41 05.5	**-0.2**
DZM	**Mont Dzumac**	**13.08**	**268**	*e*P		**P**	12 41 03.3	**-2.4**
	94nm,1.2s							
DZM				*e*S		**S**	12 43 25.4	**+0.1**
	140nm,1.4s							
DZM	**Mont Dzumac**	**13.08**	**268**	P		**P**	12 41 03.7	**-2.0**
	12nm,0.7s,baz=79,slow=18,SNR=9.0							
DZM				S		**S**	12 43 20.2	**-5.2**
	9.4nm,1.0s,baz=120,slow=15,SNR=1.2							
NOUC	**Port Laguerre**	**13.21**	**268**	P		**P**	12 41 06.8	**-0.1**
NFK	**Norfolk Island**	**13.27**	**236**	P		**P**	12 41 08.1	**+0.7**
	baz=13,SNR=3.2							
FUNA	**Funafuti**	**13.64**	**354**	P		**P**	12 41 10.8	**-0.6**
KUZ	**Kuaotunu**	**15.11**	**195**	P		**P**	12 41 25.8	**+0.7**
KOUNC	**Koumac, New Ca**	**15.25**	**273**	P		**P**	12 41 26.8	**+0.2**
KOUNC	**Koumac, New Ca**	**15.25**	**273**	P		**P**	12 41 27.3	**+0.6**
WSRZ	**White Island S**	**15.56**	**190**	P		**S**	12 44 09.0	**+1.6**
WIZ	**White Island**	**15.57**	**190**	S		**S**	12 44 08.0	**+0.6**
HAZ	**Te Kaha**	**15.71**	**188**	P		**S**	12 44 09.4	**-0.2**
HAZ	**Te Kaha**	**15.71**	**188**	P		**P**	12 41 28.3	**-2.4**
RUGZ	**Raukumara Rang**	**15.93**	**188**	P		**P**	12 41 31.2	**-1.7**
RUGZ				S		**S**	12 44 09.0	**-4.5**
PUZ	**Puketiti**	**15.96**	**187**	S		**S**	12 44 10.6	**-3.3**
PUZ	**Puketiti**	**15.96**	**187**	P		**P**	12 41 31.2	**-1.9**
TWGZ	**Tauwhareparae**	**16.10**	**187**	P		**P**	12 41 33.0	**-1.4**
TWGZ				S		**S**	12 44 07.6	**-8.5**
TOZ	**Tahuroa Road**	**16.10**	**195**	P		**P**	12 41 35.4	**+1.1**
URZ	**Urewera**	**16.30**	**190**	P		**P**	12 41 33.2	**-2.9**
	41nm,0.3s,baz=10,slow=3.2,SNR=86							
URZ				S		**S**	12 44 11.4	**-7.9**
	21nm,0.5s,baz=262,slow=18,SNR=12							
URZ	**Urewera**	**16.30**	**190**	P		**P**	12 41 33.4	**-2.8**
URZ				S		**S**	12 44 12.5	**-6.8**
MWZ	**Matawai**	**16.31**	**189**	P		**P**	12 41 34.4	**-1.9**
MWZ				S		**S**	12 44 13.7	**-6.0**
TKGZ	**Te Karaka**	**16.37**	**188**	P		**P**	12 41 35.9	**-0.9**
TKGZ				S		**S**	12 44 15.1	**-5.4**
RAGZ	**Rawiri**	**16.48**	**189**	P		**P**	12 41 37.2	**-0.7**
MUGZ	**Murupara**	**16.56**	**190**	P		**P**	12 41 37.0	**-1.6**
RIGZ	**Rimuhau**	**16.64**	**188**	P		**P**	12 41 37.6	**-1.7**
RIGZ				P		**S**	12 44 20.1	**-5.0**
RTZ	**Ruatahuna**	**16.66**	**190**	P		**P**	12 41 37.6	**-2.0**
RTZ	**Ruatahuna**	**16.66**	**190**	P		**P**	12 41 37.4	**-2.2**
RTZ				P		**S**	12 44 22.6	**-2.9**
SNGZ	**Shannon Statio**	**16.77**	**189**	P		**P**	12 41 38.4	**-2.1**
SNGZ				P		**S**	12 44 21.8	**-5.4**
PRGZ	**Paritu Road**	**16.84**	**187**	P		**P**	12 41 40.6	**-0.5**
PRGZ				P		**S**	12 44 25.4	**-3.0**
MTHZ	**Maungataniwha**	**16.92**	**190**	P		**P**	12 41 40.8	**-1.0**
MTHZ				P		**S**	12 44 24.2	**-5.4**
RAHZ	**Arahi**	**16.94**	**189**	P		**P**	12 41 40.9	**-1.1**
RAHZ				P		**S**	12 44 27.2	**-2.7**
KNZ	**Kokohu**	**16.97**	**188**	P		**P**	12 41 40.7	**-1.5**
KNZ				P		**S**	12 44 27.7	**-2.5**
MRHZ	**Matea Rd**	**16.97**	**191**	P		**P**	12 41 40.7	**-1.6**
MRHZ				P		**S**	12 44 27.4	**-3.1**
HIZ	**Hauiti**	**17.00**	**195**	P		**P**	12 41 44.7	**+2.2**
HIZ	**Hauiti**	**17.00**	**195**	P		**P**	12 41 43.7	**+1.2**
MHGZ	**Mahia Peninsul**	**17.07**	**187**	P		**P**	12 41 42.8	**-0.3**
MHGZ				S		**S**	12 44 30.1	**-1.8**
WHHZ	**Waihua**	**17.08**	**189**	P		**P**	12 41 42.1	**-1.1**
WHHZ				P		**S**	12 44 28.1	**-4.0**
NMHZ	**Naumai**	**17.16**	**190**	P		**P**	12 41 42.0	**-2.1**
NMHZ				S		**S**	12 44 30.3	**-3.3**
BKZ	**Black Stump Fm**	**17.28**	**191**	P		**P**	12 41 43.8	**-1.4**
BKZ	**Black Stump Fm**	**17.28**	**191**	P		**S**	12 44 30.6	**-4.9**
ARHZ	**Aropaoanui**	**17.30**	**189**	P		**S**	12 44 32.3	**-3.3**
TMVZ	**Te Maari**	**17.38**	**193**	P		**S**	12 44 36.7	**-0.5**
ETVZ	**East Tongariro**	**17.40**	**193**	P		**S**	12 44 39.2	**+1.6**
OTVZ	**Oturere**	**17.44**	**193**	P		**S**	12 44 40.1	**+1.9**
NGZ	**Ngauruhoe**	**17.46**	**193**	P		**S**	12 44 38.5	**-0.1**
SNVZ	**South Ngauruho**	**17.46**	**193**	P		**S**	12 44 39.6	**+0.9**
KWHZ	**Kaweka Forest**	**17.55**	**191**	P		**S**	12 44 34.6	**-5.2**
WNVZ	**Wahianoa**	**17.61**	**193**	P		**S**	12 44 41.7	**+0.7**
MOVZ	**Moawhango**	**17.65**	**192**	P		**S**	12 44 42.5	**+0.9**
CKHZ	**Cape Kidnapper**	**17.67**	**189**	P		**S**	12 44 42.4	**+0.7**
BHHZ	**Black Hill Sta**	**17.67**	**192**	P		**S**	12 44 38.2	**-3.7**
KRHZ	**Kereru**	**17.77**	**191**	P		**S**	12 44 43.9	**+0.5**
KAHZ	**Kahuranaki**	**17.84**	**189**	P		**S**	12 44 41.6	**-2.9**
PNHZ	**Pukenui**	**18.06**	**191**	P		**S**	12 44 46.7	**-1.4**
PXZ	**Pawanui**	**18.07**	**189**	P		**S**	12 44 45.3	**-2.7**
WAZ	**Wanganui**	**18.15**	**194**	P		**S**	12 44 52.6	**+3.1**
WPHZ	**Waipukurau**	**18.17**	**190**	P		**S**	12 44 50.8	**+1.1**
TSZ	**Takapari Road**	**18.25**	**191**	P		**S**	12 44 51.7	**+0.6**
RAR	**Rarotonga**	**18.30**	**91**	P		**P**	12 41 53.3	**-1.4**
RAR	**Rarotonga**	**18.30**	**91**	P		**P**	12 41 55.4	**+0.7**
RAR	**Rarotonga**	**18.30**	**91**	P		**P**	12 41 50.5	**-4.2**
	27nm,0.8s,baz=162,slow=20,SNR=2.3							
PRHZ	**Porangahau**	**18.33**	**190**	P		**S**	12 44 51.9	**-0.5**
DVHZ	**Dannevirke**	**18.44**	**191**	P		**S**	12 44 54.3	**+0.1**
ANWZ	**Angora Road**	**18.55**	**190**	P		**S**	12 44 54.0	**-1.8**
MRZ	**Mangatainoka R**	**18.90**	**192**	P		**P**	12 41 58.8	**-1.0**
HOWZ	**Holdsworth Sta**	**19.14**	**192**	P		**S**	12 45 02.9	**-2.5**
DUWZ	**D'Urville Isla**	**19.39**	**195**	P		**S**	12 45 12.9	**+3.4**
TCW	**Tory Channel**	**19.70**	**194**	P		**P**	12 42 07.8	**+0.7**
QRZ	**Quartz Range**	**19.79**	**198**	P		**P**	12 42 08.7	**+0.8**
QRZ	**Quartz Range**	**19.79**	**198**	P		**P**	12 42 08.1	**+0.2**
TUWZ	**Tuamarina**	**19.98**	**195**	P		**P**	12 42 09.3	**-0.3**
THZ	**Tophouse**	**20.56**	**196**	P		**P**	12 42 15.2	**+0.3**
THZ	**Tophouse**	**20.56**	**196**	P		**S**	12 45 25.5	**-2.4**
KHZ	**Kahutara**	**21.02**	**195**	P		**P**	12 42 21.7	**+2.9**
GVZ	**Greta Valley S**	**21.66**	**195**	P		**S**	12 45 40.4	**-4.7**
LTZ	**Lake Taylor**	**21.68**	**197**	P		**P**	12 42 25.3	**+0.4**
INZ	**Inchbonnie**	**21.85**	**198**	P		**P**	12 42 25.3	**-1.1**
HNR	**Honiara**	**23.50**	**299**	P		**P**	12 42 39.6	**-1.8**
	357nm,0.4s,baz=221,slow=6.4,SNR=4.0							
EIDS	**Eidsvold**	**27.14**	**257**	P		**P**	12 43 13.7	**+0.3**
	baz=27,SNR=17							
EIDS	**Eidsvold**	**27.14**	**257**	P		**P**	12 43 13.8	**+0.4**
ARMA	**Armidale**	**27.14**	**246**	P		**P**	12 43 14.9	**+1.5**
	baz=27,SNR=40							
ARMA	**Armidale**	**27.14**	**246**	P		**P**	12 43 15.0	**+1.5**
ARMA	**Armidale**	**27.14**	**246**	P		**P**	12 43 15.1	**+1.6**
TBI	**Tubuai**	**27.65**	**98**	*e*P		**P**	12 43 17.1	**-0.7**
	337nm,1.2s							
AUPHS	**Peel High Scho**	**27.90**	**245**	P		**P**	12 43 21.3	**+1.3**
MGCD	**Mangrove Creek**	**28.20**	**241**	P		**P**	12 43 24.1	**+1.6**
	baz=28,SNR=9.2							
PAE	**Paea**	**28.41**	**86**	*e*P		P	12 43 19.4	-5.1
	28nm,1.2s							
PAE	**Paea**	**28.41**	**86**	*e*T		T	13 09 51.5	
	6.9nm,0.3s							
PPT2	**Papeete2**	**28.43**	**86**	*e*P		**P**	12 43 23.2	**-1.5**
	106nm,1.4s							
PPT2				*e*sS		sS	12 50 04.0	-23
	500nm,26.8s							
PPT2	**Papeete2**	**28.43**	**86**	*e*T		T	13 09 54.0	
	3.9nm,0.3s							
PPT	**Papeete**	**28.43**	**86**	P		**P**	12 43 25.2	**+0.5**
	72nm,1.1s,baz=351,slow=16,SNR=8.3 72nm,1.1s							
PPTF	**Pamatai, Papee**	**28.44**	**86**	P		**P**	12 43 25.4	**+0.5**
PPTF	**Pamatai, Papee**	**28.44**	**86**	P		**P**	12 43 25.3	**+0.5**
TIAR	**Tiarei**	**28.65**	**86**	*e*P		**P**	12 43 26.0	**-0.6**
	9.2nm,0.9s							
TVO	**Taravao**	**28.68**	**87**	*e*P		**P**	12 43 25.8	**-1.1**
	57nm,1.4s							
TVO	**Taravao**	**28.68**	**87**	*e*T		T	13 10 10.0	
	1.1nm,0.3s							
RMQ	**Roma**	**29.25**	**255**	P		**P**	12 43 32.2	**+0.5**
	baz=29,SNR=11							
AUDCS	**Dubbo College**	**30.01**	**244**	P		**P**	12 43 39.7	**+1.5**
AULRC	**Lightning Ridg**	**30.14**	**249**	P		**P**	12 43 40.9	**+1.6**
CNB	**Canberra Magne**	**30.18**	**237**	P		**P**	12 43 41.0	**+1.3**
	baz=30,SNR=40							
CNB	**Canberra**	**30.18**	**237**	P		**P**	12 43 41.2	**+1.5**
CAN	**Canberra**	**30.47**	**238**	P		**P**	12 43 43.4	**+1.3**
CAN	**Canberra**	**30.47**	**238**	P		**P**	12 43 43.1	**+1.0**
CAN	**Canberra**	**30.47**	**238**	P		**P**	12 43 43.0	**+0.9**
CAN				pP		**pP**	12 45 16.8	**+1.2**
PMOR	**Pomariorio Ree**	**30.70**	**82**	*e*P		**P**	12 43 43.1	**-1.1**
	260nm,1.3s							
CTA	**Charters Tower**	**32.03**	**267**	P		**P**	12 43 56.1	**+0.5**
CTA	**Charters Tower**	**32.03**	**267**	P		**P**	12 43 55.8	**+0.2**
	54nm,0.6s,baz=95,slow=10.0,SNR=138							
CTA				PcP		**PcP**	12 46 27.5	**+0.5**
	3.0nm,0.5s,baz=96,slow=8.3,SNR=2.7							
CTA				ScP		**ScP**	12 49 16.8	**+1.5**
	4.1nm,0.8s,baz=129,slow=6.5,SNR=3.5 54nm,0.6s							
CTAO	**Charters Tower**	**32.03**	**267**	P		**P**	12 43 56.0	**+0.5**
CTAO	**Charters Tower**	**32.03**	**267**	P		**P**	12 43 55.8	**+0.2**
CTAO	**Charters Tower**	**32.03**	**267**	⇓P		**P**	12 43 55.8	**+0.2**
CTAO				PcP		**PcP**	12 46 27.4	**+0.4**
CTAO				ScP		**ScP**	12 49 18.3	**+3.1**
CMSA	**Cobar Meteorol**	**32.36**	**246**	P		**P**	12 43 58.7	**+0.6**
	baz=32,SNR=84							
CMSA	**Cobar Meteorol**	**32.36**	**246**	P		**P**	12 43 58.9	**+0.7**
QLP	**Quilpie**	**33.30**	**255**	P		**P**	12 44 06.4	**+0.3**
	baz=33,SNR=24							
QLP	**Quilpie**	**33.30**	**255**	P		**P**	12 44 06.3	**+0.1**
TOO	**Toolangi**	**33.83**	**235**	P		**P**	12 44 11.2	**+0.7**
	baz=34,SNR=23							
TOO	**Toolangi**	**33.83**	**235**	P		**P**	12 44 10.0	**-0.5**
TOO				IAmb		IAmb	12 44 12.1	
	comp=Z,35nm,0.7s							
TOO	**Toolangi**	**33.83**	**235**	P		**P**	12 44 11.5	**+1.0**
MTSU	**Mount Surprise**	**34.21**	**270**	P		**P**	12 44 13.9	**0.0**
	baz=34,SNR=61							
PMG	**Port Moresby**	**34.47**	**286**	P		**P**	12 44 16.0	**-0.1**
PMG	**Port Moresby**	**34.47**	**286**	P		**P**	12 44 16.3	**+0.2**
PMG	**Port Moresby**	**34.47**	**286**	P		**P**	12 44 16.2	**+0.2**
PMG	**Port Moresby**	**34.47**	**286**	P		**P**	12 44 15.7	**-0.4**
	comp=Z,130nm,0.8s,baz=102,slow=5.9,SNR=45 comp=Z,130nm,0.8s							
PMG	**Port Moresby**	**34.47**	**286**	P		**P**	12 44 15.8	**-0.3**
PMG				pP		**pP**	12 45 52.8	**+0.3**
TAU	**Tasmania Unive**	**34.49**	**225**	P		**P**	12 44 16.5	**+0.7**
KAVG	**Kavieng**	**34.85**	**300**	P		**P**	12 44 18.3	**-0.9**
STKA	**Stephens Creek**	**35.86**	**246**	P		**P**	12 44 28.1	**+0.6**
	baz=36,SNR=30							
STKA	**Stephens Creek**	**35.86**	**246**	P		**P**	12 44 28.0	**+0.6**
STKA	**Stephens Creek**	**35.86**	**246**	P		**P**	12 44 28.3	**+0.9**
STKA	**Stephens Creek**	**35.86**	**246**	P		**P**	12 44 28.1	**+0.6**
	comp=Z,37nm,0.7s,baz=89,slow=12,SNR=68							
STKA				ScP		**ScP**	12 49 29.9	**+1.0**
	comp=Z,3.1nm,0.8s,baz=82,slow=18,SNR=3.1 comp=Z,37nm,0.7s							
COEN	**Coen**	**36.39**	**277**	P		**P**	12 44 32.4	**+0.4**
COEN	**Coen**	**36.39**	**277**	P		**P**	12 44 32.3	**+0.3**
INKA	**Innaminka**	**36.40**	**253**	P		**P**	12 44 33.4	**+1.5**
ARPS	**Mount Arapiles**	**36.45**	**238**	P		**P**	12 44 32.4	**+0.3**
	baz=37,SNR=6.3							
MANU	**Manus Island**	**37.96**	**297**	P		**P**	12 44 44.8	**0.0**
MANU	**Manus Island**	**37.96**	**297**	P		**P**	12 44 44.8	**0.0**
QIS	**Mount Isa**	**38.09**	**265**	P		**P**	12 44 45.2	**-0.6**
	baz=38,SNR=11							
QIS	**Mount Isa**	**38.09**	**265**	P		**P**	12 44 45.3	**-0.5**
HTT	**Hallett**	**38.27**	**244**	P		**P**	12 44 47.3	**+0.2**
	baz=38,SNR=19							
HTT	**Hallett**	**38.27**	**244**	P		**P**	12 44 47.7	**+0.6**
LCRK	**Leigh Creek**	**38.66**	**249**	P		**P**	12 44 50.7	**+0.5**
BBOO	**Buckleboo**	**40.61**	**245**	P		**P**	12 45 05.6	**-0.2**
	baz=41,SNR=45							
BBOO	**Buckleboo**	**40.61**	**245**	P		**P**	12 45 05.7	**0.0**
BBOO				IAmb		IAmb	12 45 06.4	
	comp=Z,38nm,0.7s							
BBOO	**Buckleboo**	**40.61**	**245**	P		**P**	12 45 05.9	**+0.1**
OOD	**Oodnadatta**	**40.88**	**253**	P		**P**	12 45 09.5	**+1.5**
MULG	**Mulgathing**	**42.25**	**249**	P		**P**	12 45 19.0	**+0.3**
AS31	**Alice Springs**	**42.85**	**259**	P		**P**	12 45 23.6	**0.0**
AS31				IAmb		IAmb	12 45 24.2	
	comp=Z,22nm,0.7s							
ASAR	**Alice Springs**	**42.85**	**259**	P		**P**	12 45 23.7	**+0.2**
ASAR	**Alice Springs**	**42.85**	**259**	P		**P**	12 45 23.4	**-0.2**
	comp=Z,98nm,0.8s,baz=100,slow=7.6,SNR=575							
ASAR				PcP		**PcP**	12 46 60.0	**-0.9**
	comp=Z,3.9nm,0.5s,baz=91,slow=4.6,SNR=5.8							
ASAR				ScP		**ScP**	12 49 58.0	**+1.6**
	comp=Z,1.4nm,0.8s,baz=108,slow=5.1,SNR=3.1							
ASAR				S		**S**	12 51 03.5	**-3.0**

comp=Z,95nm,1.0s,comp=Z,1µm
BLDU Ballidu 57.16 247 P **P** **12 47 07.3 -0.4**
baz=57,SNR=30
BLDU Ballidu 57.16 247 P **P** **12 47 09.0 +1.3**
MUN Mundaring 57.40 245 P **P** **12 47 09.5 +0.2**
baz=57,SNR=4.4
MUN Mundaring 57.40 245 P **P** **12 47 09.6 +0.2**
MMRI Maumere 57.50 274 P **P** **12 47 10.0 -0.2**
MMRI IAmb IAmb 12 47 10.7
comp=Z,83nm,0.9s
MMRI Maumere 57.50 274 P **P** **12 47 10.4 +0.1**
MMRI Maumere 57.50 274 P **P** **12 47 09.4 -0.9**
comp=Z,94nm,1.0s
MORW Morawa 57.96 249 P **P** **12 47 12.9 -0.3**
baz=58,SNR=14
MORW Morawa 57.96 249 P **P** **12 47 13.0 -0.2**
EDFI Ende, Flores 57.97 274 P **P** **12 47 12.8 -0.8**
comp=Z,105nm,0.9s,comp=Z,1µm
BASI Baing, Sumba 58.49 271 P **P** **12 47 17.4 +0.4**
KMSI Cibinong 59.55 285 P **P** **12 47 23.4 -0.6**
comp=Z,115nm,1.1s
LUWI Luwuk 59.95 282 P **P** **12 47 27.3 +0.6**
LUWI Luwuk 59.95 282 P **P** **12 47 26.6 -0.1**
comp=Z,107nm,0.5s,comp=Z,8µm
CCD Concordia, Ant 60.51 194 P **P** **12 47 30.9 +1.1**
CCD pP **pP** **12 49 22.8 -0.8**
CCD pwP **pwP** **12 49 28.9 +2.1**
CCD sP **sP** **12 50 25.9 -0.1**
BKSI Bulukumba 60.66 277 P **P** **12 47 30.2 -1.2**
comp=Z,61nm,0.8s
GIRL Giralia 60.82 256 P **P** **12 47 33.4 +1.1**
baz=61,SNR=5.1
GIRL Giralia 60.82 256 P **P** **12 47 33.4 +1.1**
MRSI Marisa 61.35 283 P **P** **12 47 34.6 -1.2**
comp=Z,35nm,1.2s
SPSI Sidrap Palu 61.51 278 P **P** **12 47 35.4 -1.5**
comp=Z,49nm,1.2s,comp=Z,970nm
PLAI Plampang 61.56 272 P **P** **12 47 37.7 +0.4**
PLAI Plampang 61.56 272 P **P** **12 47 37.0 -0.3**
CASY Casey 61.88 206 P **P** **12 47 39.5 +1.1**
TWSI Taliwang, Sumb 62.42 272 P **P** **12 47 42.3 -0.5**
comp=Z,120nm,1.0s,comp=Z,1µm
TOLI2 Tolitoli 62.66 283 P **P** **12 47 43.8 -0.5**
TOLI2 IAmb IAmb 12 47 44.6
comp=Z,50nm,0.9s
TOLI2 Tolitoli 62.66 283 P **P** **12 47 44.9 +0.5**
MPSI Mapaga 63.13 282 P **P** **12 47 46.7 -0.7**
comp=Z,80nm,0.9s
SRBI Singaraja 64.20 272 P **P** **12 47 53.4 -0.7**
comp=Z,87nm,0.9s
JAGI Jajag, Banyuwa 65.05 271 P **P** **12 47 58.5 -1.0**
JAGI Jajag, Banyuwa 65.05 271 P **P** **12 47 58.5 -1.0**
JAGI Jajag, Banyuwa 65.05 271 P **P** **12 47 58.1 -1.4**
comp=Z,92nm,1.0s,comp=Z,1µm
ABJI Asem Bagus 65.21 272 P **P** **12 48 00.1 -0.4**
comp=Z,79nm,1.1s
KMMI Kalianget 65.72 272 P **P** **12 48 04.4 +0.7**
comp=Z,69nm,0.9s
BLJI Banyuglugur 65.82 271 P **P** **12 48 03.9 -0.4**
comp=Z,103nm,0.8s
QSPA South Pole Qui 67.89 180 P **P** **12 48 17.7 +1.4**
QSPA IAmb IAmb 12 48 18.7
comp=Z,62nm,1.1s
QSPA South Pole Qui 67.89 180 P **P** **12 48 17.4 +1.1**
comp=Z,44nm,1.0s,baz=20,slow=1.0,SNR=163
QSPA pP **pwP** **12 50 16.0 -0.8**
comp=Z,32nm,1.0s,baz=48,slow=2.7,SNR=13
QSPA S **S** **12 56 30.2 +1.3**
comp=Z,1.6nm,1.2s,baz=0.0,slow=1.0,SNR=2.2
comp=Z,44nm,1.0s
QSPA South Pole Qui 67.89 180 ⇑P **P** **12 48 17.6 +1.3**
QSPA pP **pP** **12 50 15.2 +1.1**
NGJI Ngawi 67.93 271 P **P** **12 48 18.3 +1.1**
comp=Z,63nm,0.8s
UGM Wanagama 68.60 270 P **P** **12 48 21.2 -0.2**
KKM Kota Kinabalu 68.91 286 P **P** **12 48 23.3 0.0**
KKM IAmb IAmb 12 48 24.2
comp=Z,28nm,0.8s
JOW Kunigami 70.24 311 P **P** **12 48 31.3 +0.5**
comp=Z,45nm,0.7s,baz=132,slow=16,SNR=2.8
comp=Z,45nm,0.7s
KPJI Karang Pucung 70.28 270 P **P** **12 48 30.7 -0.7**
comp=Z,66nm,0.9s
MJAR Matsushiro Arr 70.78 325 P **P** **12 48 33.4 -0.4**
comp=Z,14nm,0.8s,baz=157,slow=5.7,SNR=26
MJAR pP **pP** **12 50 33.2 +0.5**
comp=Z,1.9nm,0.9s,baz=97,slow=11,SNR=1.9
MJAR PP **PP** **12 51 22.1 +0.2**
comp=Z,2.1nm,0.9s,baz=102,slow=18,SNR=4.7
comp=Z,14nm,0.8s
MAJO Matsushiro 70.79 325 P **P** **12 48 34.1 +0.3**
MAJO IAmb IAmb 12 48 34.6
comp=Z,28nm,1.1s
MAJO Matsushiro 70.79 325 P **P** **12 48 34.3 +0.5**
MAJO Matsushiro 70.79 325 P **P** **12 48 33.6 -0.2**
JMN Monobe 71.19 320 P **P** **12 48 37.1 +0.9**
JMN Monobe 71.19 320 P **P** **12 48 37.1 +0.9**
BBJI Bungbulang 71.42 269 P **P** **12 48 37.8 -0.3**
LEM Lembang 71.68 270 P **P** **12 48 39.9 +0.2**
comp=Z,105nm,0.8s,baz=111,slow=12,SNR=18
comp=Z,105nm,0.8s
XMIS Christmas Isla 72.23 266 P **P** **12 48 42.8 +0.1**
XMIS IAmb IAmb 12 48 43.5
comp=Z,33nm,0.9s
KSM Kuching 72.33 279 P **P** **12 48 43.8 +0.4**
KSM Kuching 72.33 279 P **P** **12 48 43.9 +0.6**
DBJI Dramaga 72.58 270 P **P** **12 48 44.3 -0.5**
comp=Z,89nm,1.4s,comp=Z,12µm
JTM Tenmabayashi 72.61 330 P **P** **12 48 44.8 +0.6**
TWG Pinlang 73.18 304 P **P** **12 48 46.6 -1.3**
NACB Ninganchiao 73.53 305 P **P** **12 48 49.9 0.0**
NACB Ninganchiao 73.53 305 P **P** **12 48 50.9 +1.0**
TPUB Ta-pu 73.78 304 P **P** **12 48 50.6 -0.7**
TPUB Ta-pu 73.78 304 P **P** **12 48 51.1 -0.2**
ADK Adak 73.78 2 P **P** **12 48 50.4 -0.2**
SSLB Suanglung 73.80 305 P **P** **12 48 51.5 0.0**
NIKH Nikolski High 75.40 7 P **P** **12 48 58.7 -1.0**
baz=190
UNV Unalaska Valle 76.53 8 P **P** **12 49 05.0 -0.9**
baz=192
KSRS Korea Array 77.27 320 P **P** **12 49 10.6 +0.3**
comp=Z,6.2nm,0.9s,baz=136,slow=6.1,SNR=11
comp=Z,6.2nm,0.9s
PET Petropavlovsk 77.27 347 P **P** **12 49 10.0 +0.1**
PET IAmb IAmb 12 51 55.9
comp=Z,95nm,1.7s
KSAR Wonju Array Be 77.29 320 P **P** **12 49 11.4 +1.0**
SMAI San Martin Ant 77.52 159 P **P** **12 49 12.8 +1.7**
SMAI IAmb IAmb 12 49 13.8
comp=Z,74nm,1.0s
PEA0B Petropavlovsk- 77.56 346 P **P** **12 49 11.9 +0.4**
PEA0B IAmb IAmb 12 49 12.7
comp=Z,56nm,1.2s
PETK Petropavlovsk- 77.56 346 P **P** **12 49 11.1 -0.4**
PETK Petropavlovsk- 77.56 346 P **P** **12 49 10.8 -0.8**
comp=Z,36nm,0.9s,baz=135,slow=5.3,SNR=45
PETK pP **pP** **12 51 14.7 +0.6**
comp=Z,5.2nm,0.8s,baz=150,slow=6.7,SNR=4.1
comp=Z,36nm,0.9s
FALS False Pass 77.95 9 P **P** **12 49 13.0 -0.5**
baz=195
BELA Belgrano 2 78.07 173 P **P** **12 49 14.3 +0.3**
BELA IAmb IAmb 12 49 15.3
comp=Z,33nm,1.0s
CHNA Chernabura Isl 78.57 12 P **P** **12 49 17.0 +0.2**
baz=199
SDPT Sand Point 78.90 11 P **P** **12 49 18.4 -0.2**
baz=198
SPIA Saint Paul Isl 79.43 5 P **P** **12 49 20.5 -0.8**
baz=189
MAW Mawson 79.53 200 P **P** **12 49 22.9 +1.1**
comp=Z,3.8nm,0.6s,baz=153,slow=10,SNR=11
MAW pP **pP** **12 51 25.9 +0.9**
comp=Z,6.4nm,0.9s,baz=108,slow=7.6,SNR=2.4
comp=Z,3.8nm,0.6s
USA0B Ussuriysk Arra 79.61 327 P **P** **12 49 23.7 +1.1**
USA0B IAmb IAmb 12 49 24.9
comp=Z,64nm,1.2s
USRK Ussuriysk Ar. 79.61 327 P **P** **12 49 23.4 +0.8**
USRK Ussuriysk Ar. 79.61 327 P **P** **12 49 22.7 +0.1**
comp=Z,20nm,1.0s,baz=116,slow=3.4,SNR=24
USRK pP **pP** **12 51 26.7 +1.3**
comp=Z,5.2nm,1.1s,baz=120,slow=8.5,SNR=3.8
comp=Z,20nm,1.0s
NJ2 Nanjing 79.93 311 ⇑i P **P** **12 49 25.8 +1.2**
NJ2 pmax pmax
comp=Z,21nm,0.8s
S14K Fog Glacier 79.95 11 P **P** **12 49 24.0 -0.2**
baz=199
PKM Mcpherson Peak 80.12 46 P **P** **12 49 26.1 +0.3**
baz=234
CHGN Chignik 80.18 12 P **P** **12 49 25.2 0.0**
baz=200
MDJ Mudanjiang 81.13 326 P **P** **12 49 31.5 +1.0**
MURC Murrieta 81.17 48 P **P** **12 49 31.7 +0.7**
baz=236
BFSC Mount Baldy Ra 81.21 48 P **P** **12 49 31.8 +0.5**
baz=236
SII Sitkinak Islan 81.29 14 P **P** **12 49 32.5 +1.5**
baz=204
EDW2 Edwards Air Fo 81.34 47 P **P** **12 49 32.6 +0.7**
baz=235
IKP In-Ko-Pah, Jac 81.41 50 P **P** **12 49 33.7 +1.4**
baz=237
ISA Isabella, Lake 81.47 46 P **P** **12 49 33.2 +0.7**
ISA Isabella, Lake 81.47 46 P **P** **12 49 33.2 +0.7**
baz=235
PFO Pinyon Flats O 81.69 49 P **P** **12 49 34.3 +0.5**
baz=236
TPFO Pinon Flats 81.69 49 P **P** **12 49 34.3 +0.5**
baz=236
SWSC Sam W. Stewart 81.79 50 P **P** **12 49 34.7 +0.6**
baz=237
R17K Ugashik Creek 81.83 12 P **P** **12 49 34.0 +0.3**
baz=202
OHAK Old Harbor 82.09 14 P **P** **12 49 35.2 +0.2**
baz=204
R18K Karluk 82.15 13 P **P** **12 49 35.6 +0.3**
baz=203
CWC Cottonwood Cre 82.17 46 P **P** **12 49 36.8 +0.6**
baz=235
BELC Belle Mtn. Jos 82.22 49 P **P** **12 49 37.0 +0.5**
baz=237
MPMC Manual Prospec 82.35 46 P **P** **12 49 37.2 +0.1**
baz=236
MLAC Mammoth, Mammo 82.36 44 P **P** **12 49 37.6 +0.4**
baz=234
GSC Goldstone, Bar 82.38 47 P **P** **12 49 37.9 +0.6**
baz=236
BC3 Big Chuckawall 82.42 49 P **P** **12 49 37.6 +0.2**
baz=237
Q17K Contact Creek 82.50 12 P **P** **12 49 36.7 -0.6**
baz=202
O14K Tigyukauivet M 82.51 9 P **P** **12 49 36.8 -0.2**
baz=197
O15K Ungalikthiuk R 82.66 10 P **P** **12 49 37.7 -0.2**
baz=198
KULM Kulim 82.69 279 P **P** **12 49 39.7 +0.6**
PNTR Pine Nut 82.72 43 P **P** **12 49 40.5 +1.5**
Q16K King Salmon 82.74 12 P **P** **12 49 38.2 0.0**
baz=201
GMRC Granite Mounta 82.88 48 P **P** **12 49 39.9 +0.1**
baz=237
IRM Iron Mountain 82.90 49 P **P** **12 49 40.2 +0.4**
baz=237
M11K Mekoryuk 82.97 7 P **P** **12 49 39.4 0.0**
baz=192
FURC Furnace Creek, 83.00 46 P **P** **12 49 41.2 +1.1**
baz=236
BNX BinXian 83.03 326 ⇓P **P** **12 49 39.9 -0.2**
BNX pmax pmax
comp=Z,38nm,0.9s
BNX pmax pmax
comp=Z,200nm,5.2s
Q18K Katmai Hardscr 83.04 13 P **P** **12 49 39.4 -0.5**
baz=203
N14K Kuskokwak Cree 83.09 9 P **P** **12 49 39.7 -0.3**
baz=196
NVAR Mina Array Bea 83.16 44 P **P** **12 49 42.5 +1.3**
comp=Z,1.3nm,0.7s,baz=224,slow=8.8,SNR=13
NVAR pP **pP** **12 51 44.7 -1.1**
comp=Z,0.3nm,0.8s,baz=250,slow=2.6,SNR=1.3
comp=Z,1.3nm,0.7s
P17K Kvichak River 83.27 12 P **P** **12 49 40.5 -0.3**
baz=201,SNR=6.6
M13K Dall Lake 83.34 8 P **P** **12 49 40.8 -0.4**
baz=195
O16K Kokwok River B 83.34 11 P **P** **12 49 41.4 +0.2**
baz=200
214A Organ Pipe Nat 83.41 52 P **P** **12 49 41.7 -0.6**
baz=239
Q20K Shuyak Island 83.56 14 P **P** **12 49 43.1 +0.8**
baz=205
N15K Kwethluk River 83.56 10 P **P** **12 49 42.9 +0.5**
baz=198
TPH Tonopah 83.66 45 IAmb IAmb 12 49 46.0
comp=Z,22nm,1.0s
TPNV Tonopah Spring 83.67 46 P **P** **12 49 43.7 0.0**
baz=236
P18K Big Mountain, 83.68 12 P **P** **12 49 42.5 -0.5**
baz=202
PDMCI Parker Dam,Lak 83.68 49 P **P** **12 49 43.9 +0.4**
baz=238
O17K Koliganek Bris 83.69 11 P **P** **12 49 42.7 -0.3**
baz=201
M14K Bethel 83.85 9 P **P** **12 49 44.3 +0.6**
M14K IAmb IAmb 12 49 45.5
comp=Z,78nm,1.6s
M14K Bethel 83.85 9 P **P** **12 49 43.8 +0.1**
baz=196
M15K Kasigluk River 83.97 9 P **P** **12 49 44.6 +0.3**
baz=197
GSI Gunungsitoli 83.99 274 IAmb IAmb 12 49 47.5
comp=Z,44nm,0.9s
GSI Gunungsitoli 83.99 274 P **P** **12 49 46.3 +0.7**
GSI Gunungsitoli 83.99 274 P **P** **12 49 46.1 +0.5**
comp=Z,60nm,0.9s
N16K Nishlik Lake 84.06 10 P **P** **12 49 45.2 +0.4**
baz=199
O18K Koktuh Hills 84.11 12 P **P** **12 49 45.3 +0.2**
O18K IAmb IAmb 12 49 45.5
comp=Z,30nm,0.9s
O18K Koktuh Hills 84.11 12 P **P** **12 49 44.8 -0.4**
baz=202
L14K Kuka Creek 84.32 8 P **P** **12 49 44.1 -1.9**
baz=196
P19K Oil Pt 84.33 13 P **P** **12 49 45.6 -0.6**
baz=204
N17K Nushagak Hills 84.38 11 P **P** **12 49 45.9 -0.5**
baz=201
M16K Timber Creek 84.55 10 IAmb IAmb 12 49 49.8
comp=Z,76nm,1.6s
M16K Timber Creek 84.55 10 P **P** **12 49 46.9 -0.3**
baz=199
O19K Port Alsworth 84.60 12 P **P** **12 49 46.9 -0.6**
baz=203,SNR=8.5
K13K Kusilvak Mount 84.66 7 IAmb IAmb 12 49 49.9
comp=Z,56nm,1.5s
K13K Kusilvak Mount 84.66 7 P **P** **12 49 46.9 -0.7**
baz=194
N18K Kilae Creek 84.75 11 P **P** **12 49 47.1 -1.2**
baz=202
L15K Ungalak Mounta 84.81 8 P **P** **12 49 47.6 -0.8**
baz=197
O20K Slope Mountain 84.84 13 P **P** **12 49 49.0 +0.2**
baz=205
R11B Troy Canyon, C 84.88 45 P **P** **12 49 48.9 -0.7**
baz=237
BRSE Bradley Lake S 84.95 14 P **P** **12 49 49.0 -0.2**
baz=206
TUC Tucson 85.07 52 P **P** **12 49 50.3 -0.3**
baz=240
L16K Owhat River 85.13 9 P **P** **12 49 49.4 -0.5**
baz=198
SURA Surathani 85.13 282 P **P** **12 49 52.8 +1.7**
N19K Bonanza Creek 85.14 12 P **P** **12 49 49.8 -0.4**
baz=203
M17K Holitna River 85.16 10 IAmb IAmb 12 53 09.6
comp=Z,73nm,1.9s
M17K Holitna River 85.16 10 P **P** **12 49 50.0 -0.2**
baz=200
K15K Wolf Creek Mou 85.39 8 IAmb IAmb 12 49 53.0
comp=Z,32nm,1.1s
K15K Wolf Creek Mou 85.39 8 P **P** **12 49 51.1 -0.2**
baz=197
M18K Stony River 85.52 11 P **P** **12 49 52.1 +0.2**
baz=202
NONG Nongkai 85.62 291 P **P** **12 49 54.4 +1.1**
NAYO Nakonayok 85.67 287 P **P** **12 49 55.2 +1.6**
HNS HongShan 85.70 313 ⇓P **P** **12 49 54.1 +0.8**
HNS pmax pmax
comp=Z,18nm,0.9s
L17K Donlin 85.71 10 P **P** **12 49 53.4 +0.7**
baz=200
LYN LuoYang 85.78 310 eP **P** **12 49 54.1 +0.3**
LYN pmax pmax
comp=Z,35nm,1.0s
ENH Enshi 85.88 305 P **P** **12 49 54.9 +0.6**
ENH Enshi 85.88 305 P **P** **12 49 55.0 +0.6**
N20K Mount Spurr 85.95 13 P **P** **12 49 53.3 -0.7**
baz=205
P23K Montague Islan 85.97 16 P **P** **12 49 53.6 -0.4**
baz=210
HEH HeiHe 86.04 329 eP **P** **12 49 54.8 +0.2**
HEH pmax pmax
comp=Z,29nm,1.6s
TROLL Troll, Antarti 86.05 181 ⇑P **P** **12 49 54.4 -0.2**
comp=Z,396nm,0.5s
TROLL ⇑pP **pP** **12 52 01.2 +0.7**
comp=Z,787nm,0.8s
L18K Granite Mounta 86.05 10 P **P** **12 49 54.0 -0.4**
baz=201
BJT Baijiatuau 86.15 316 IAmb IAmb 12 49 56.6
comp=Z,11nm,0.8s
BJT Baijiatuau 86.15 316 P **P** **12 49 56.2 +0.9**
BJI Beijing 86.15 316 P **P** **12 49 55.9 +0.5**
BJI pmax pmax
comp=Z,8.0nm,1.5s
MLSI Meulaboh, Aceh 86.19 276 P **P** **12 49 56.0 -0.2**
comp=Z,21nm,0.8s,comp=Z,3µm
D05A Enumclaw 86.24 35 IAmb IAmb 12 49 59.0
comp=Z,37nm,1.4s
WUAZ Wupatki 86.25 49 P **P** **12 49 56.4 +0.2**
baz=239
K17K Iditarod 86.26 10 P **P** **12 49 55.2 -0.1**
baz=200
L19K White Mountain 86.34 11 IAmb IAmb 12 49 57.2
comp=Z,31nm,1.1s
L19K White Mountain 86.34 11 P **P** **12 49 55.9 +0.2**
baz=203
SNAA Sanae 86.37 179 ⇑P **P** **12 49 55.3 -0.7**
comp=Z,39nm,0.6s
SNAA ⇑pP **pP** **12 52 03.9 +1.7**
comp=Z,255nm,0.9s
SNAA Sanae 86.37 179 P **P** **12 49 55.4 -0.6**
comp=Z,1.6nm,0.7s,baz=200,slow=12,SNR=10
SNAA pP **pP** **12 52 02.4 +0.2**
comp=Z,13nm,0.9s,baz=188,slow=4.0,SNR=13
comp=Z,1.6nm,0.7s
RC01 Rabbit Creek A 86.38 14 P **P** **12 49 56.4 +0.5**
baz=207
M20K Styx River 86.39 12 P **P** **12 49 56.1 0.0**
baz=204
J16K Anvik River 86.47 8 P **P** **12 49 56.4 +0.1**
baz=197
SUA Susitna One 86.49 13 IAmb IAmb 12 49 57.2
comp=Z,25nm,1.1s
SUA Susitna One 86.49 13 P **P** **12 49 56.3 -0.3**
baz=206,SNR=6.1
PWL Port Wells 86.50 15 P **P** **12 49 56.0 -0.6**
baz=209
VNA3 Neumayer Olymp 86.55 177 ⇑P **P** **12 49 56.3 -0.6**
comp=Z,10nm,0.9s
VNA3 ⇑pP **pP** **12 52 04.3 +1.2**
comp=Z,29nm,0.8s
KAIM Kayak Island 86.68 17 P **P** **12 49 57.5 +0.1**
baz=212
L20K Farewell, AK 86.79 12 P **P** **12 49 57.2 -0.7**
baz=204
CRAG Craig 86.79 24 P **P** **12 49 57.5 -0.5**
baz=222
SKT Skwentna 86.80 13 P **P** **12 49 57.3 -0.7**
baz=206
GLI Glacier Island 86.81 15 P **P** **12 49 57.7 -0.3**
baz=210
TTA Tatalina 86.83 10 IAmb IAmb 12 49 59.4
comp=Z,17nm,1.2s
TTA Tatalina 86.83 10 P **P** **12 49 58.6 +0.5**
TTA Tatalina 86.83 10 P **P** **12 49 57.6 -0.5**
baz=202
EYAK Cordova Ski Ar 86.86 16 P **P** **12 49 58.2 0.0**
baz=211
M22K Willow 86.89 13 P **P** **12 49 58.4 +0.1**
baz=207
KNK Knik Glacier 86.96 14 P **P** **12 49 58.2 -0.5**
baz=208
PMR Palmer 86.96 14 IAmb IAmb 12 49 59.5
comp=Z,29nm,1.2s
PMR Palmer 86.96 14 P **P** **12 49 58.8 +0.2**
PMR Palmer 86.96 14 P **P** **12 49 58.7 0.0**
baz=208
VNA2 Neumayer--Watz 86.98 177 P **P** **12 49 59.0 +0.2**
comp=Z,7.8nm,0.6s,baz=184,slow=4.0
VNA2 ⇑pP **pP** **12 52 05.5 +0.4**
comp=Z,7.6nm,0.6s,baz=140,slow=5.0
MTPU Mount Pierson 86.99 47 IAmb IAmb 12 53 17.5
comp=Z,28nm,2.0s
I17K Unalakleet 87.03 8 P **P** **12 49 58.3 -0.6**
baz=197
LL02 Futaleuf 87.07 136 IAmb IAmb 12 50 02.5
comp=Z,47nm,1.3s
HAWA Hanford 87.09 37 IAmb IAmb 12 50 02.5
comp=Z,19nm,1.4s
J18K Innoko River 87.22 10 IAmb IAmb 12 50 01.0
comp=Z,22nm,1.0s
J18K Innoko River 87.22 10 P **P** **12 49 59.3 -0.6**
baz=201
V35K Ketchikan 87.27 25 P **P** **12 50 00.1 -0.1**
baz=223
TIY Taiyuan 87.41 313 P **P** **12 50 03.0 +1.6**
CUT Chulitna 87.44 13 P **P** **12 50 00.2 -0.7**
baz=207
M23K Glacier View 87.46 14 P **P** **12 50 00.4 -0.6**
baz=209
PPLA Purkeypile 87.49 12 P **P** **12 50 00.6 -0.7**
baz=205
BMRM Bremnan River 87.51 16 P **P** **12 50 01.4 0.0**
baz=212
H16K Elim 87.56 7 P **P** **12 50 00.6 -0.8**
baz=196
K20K Telida 87.56 11 IAmb IAmb 12 50 02.5
comp=Z,21nm,1.1s
K20K Telida 87.56 11 P **P** **12 50 00.7 -0.7**
baz=203
SCM Sheep Creek Mo 87.59 15 P **P** **12 50 00.6 -1.1**
baz=210
KLU Klutina 87.63 15 P **P** **12 50 01.3 -0.6**
baz=211
SRDT SRDT 87.63 286 P **P** **12 50 04.6 +1.7**
LL03 Petrohue 87.66 134 P **P** **12 50 01.6 -1.0**
G15K Niukluk 87.71 6 P **P** **12 50 01.0 -1.1**
baz=194
D08A Wollman Farm, 87.83 37 P **P** **12 50 03.9 +0.8**
J19K Poorman 87.89 10 IAmb IAmb 12 50 04.3
comp=Z,14nm,1.1s
J19K Poorman 87.89 10 P **P** **12 50 02.5 -0.4**
baz=202
TNA Tin City 87.91 5 P **P** **12 50 01.9 -1.0**
baz=191
CAST Castle Rocks 87.99 12 IAmb IAmb 12 50 03.1
comp=Z,19nm,0.8s
CAST Castle Rocks 87.99 12 P **P** **12 50 02.0 -1.4**
baz=205,SNR=12
XAN Xi'an 88.09 308 ⇓P **P** **12 50 05.7 +1.0**
XAN pP pwP 12 52 17.4 +1.8
XAN pmax pmax
comp=Z,38nm,1.0s
M24K Tolsona, Glenn 88.10 15 P **P** **12 50 03.2 -0.9**
baz=211
H17K Granite Mounta 88.14 8 P **P** **12 50 03.0 -1.1**
baz=198
WAT6 Susitna Watana 88.15 14 P **P** **12 50 03.5 -0.9**
baz=209
F10A Beach Ranch, E 88.15 38 IAmb IAmb 12 52 25.7
comp=Z,31nm,1.8s
WAT1 Susitna Watana 88.19 14 P **P** **12 50 04.0 -0.4**
baz=208
MCARA McCarthy VSAT 88.28 17 P **P** **12 50 05.0 +0.2**
baz=213
G16K Koyuk River 88.28 7 P **P** **12 50 04.4 -0.3**
baz=196
J20K Nowinta River 88.31 11 IAmb IAmb 12 50 06.0
comp=Z,19nm,1.2s
J20K Nowinta River 88.31 11 P **P** **12 50 04.3 -0.6**
baz=203
XLT XiLinHaoTe 88.32 319 eP **P** **12 50 05.8 +0.2**
XLT pP pwP 12 52 19.2 +2.7
XLT S **S** **12 59 56.4 -5.4**
XLT pmax pmax
comp=Z,10.0nm,1.0s
XLT pmax pmax
comp=Z,360nm,8.3s

KTH Kantishna Hill 88.34 12 IAmb IAmb 12 50 05.0
comp=Z,15nm,0.9s
PLID Pearl Lake 88.36 39 IAmb IAmb 12 50 08.3
comp=Z,19nm,1.9s
CHUM Lake Minchumin 88.37 12 P P 12 50 04.3 -0.9
baz=205
TRF Thorofare Moun 88.37 13 IAmb IAmb 12 50 05.7
comp=Z,22nm,0.8s
TRF Thorofare Moun 88.37 13 P P 12 50 05.1 -0.4
baz=207,SNR=8.4
CTG Chitna Glacier 88.39 18 P P 12 50 05.0 -0.5
baz=215
GCSA Galena City Sc 88.39 9 P P 12 50 04.8 -0.4
baz=201
HLID Hailey 88.47 41 P P 12 50 07.1 +0.7
baz=237
HVU Hansel Valley 88.54 43 IAmb IAmb 12 52 17.9
comp=Z,26nm,2.0s
G17K Kiwalik Mounta 88.58 8 P P 12 50 05.8 -0.3
baz=197
HARP HAARP 88.59 15 P P 12 50 06.5 +0.2
baz=212
SRU San Rafael Swe 88.65 47 IAmb IAmb 12 50 10.4
comp=Z,16nm,1.7s
O29M Mount Kennedy 88.65 19 P P 12 50 07.0 +0.2
baz=217
DHY Denali Highway 88.66 14 P P 12 50 06.7 -0.1
baz=210
MNTX Cornudas Mount 88.81 55 P P 12 50 08.7 +0.6
baz=243
I20K Naaghedeneel 88.82 10 IAmb IAmb 12 50 08.1
comp=Z,22nm,1.0s
I20K Naaghedeneel 88.82 10 P P 12 50 07.2 0.0
baz=203
CRAI Chiangrai 88.89 292 IAmb IAmb 12 50 11.1
comp=Z,19nm,1.1s
MCK McKinley 88.90 13 P P 12 50 07.6 -0.1
baz=208
T35M Bob Quinn 89.00 24 P P 12 50 09.2 +0.9
baz=224
P30M Million Dollar 89.01 20 P P 12 50 09.2 +0.8
baz=219
PLCA Paso Flores 89.08 134 P P 12 50 10.8 +1.5
PLCA IAmb IAmb 12 50 11.4
comp=Z,10nm,0.9s
PLCA Paso Flores 89.08 134 P P 12 50 10.9 +1.5
comp=Z,8.6nm,1.1s,baz=233,slow=6.0,SNR=11
PLCA pP pP 12 52 16.9 +0.7
comp=Z,3.2nm,1.0s,baz=305,slow=7.7,SNR=4.1
comp=Z,8.6nm,1.1s
TX31 Lajitas Ar. Si 89.09 58 IAmb IAmb 12 50 12.5
comp=Z,28nm,1.3s
TXAR Lajitas Array 89.09 58 P P 12 50 10.9 +1.4
comp=Z,2.4nm,0.8s,baz=215,slow=6.5,SNR=19
TXAR pP pP 12 52 15.0 -1.4
comp=Z,2.0nm,1.2s,baz=224,slow=2.5,SNR=3.1
TXAR PKKPbc PKKPbc 13 07 44.5 +0.7
comp=Z,0.1nm,0.4s,baz=74,slow=7.6,SNR=4.5
comp=Z,2.4nm,0.8s
YUK8 Steele Glacier 89.09 18 P P 12 50 08.9 -0.1
baz=216
M26K Nabesna, AK 89.14 16 IAmb IAmb 12 50 15.3
comp=Z,22nm,1.3s
M26K Nabesna, AK 89.14 16 P P 12 50 08.7 -0.1
baz=213
H19K Roundabout Mou 89.19 9 P P 12 50 09.6 +0.7
H19K IAmb IAmb 12 50 10.3
comp=Z,15nm,1.1s
H19K Roundabout Mou 89.19 9 P P 12 50 09.1 +0.1
baz=201
G18K Tagagawik 89.22 8 IAmb IAmb 12 53 35.9
comp=Z,35nm,2.0s
G18K Tagagawik 89.22 8 P P 12 50 09.2 0.0
baz=199
YUK6 Outpost Mounta 89.23 19 P P 12 50 09.9 +0.3
baz=218
YUK3 Moose Creek 89.30 17 P P 12 50 10.0 +0.2
baz=216
S34M Telegraph Cree 89.33 23 P P 12 50 10.4 +0.6
baz=224
M27K Edge Creek, AK 89.39 17 P P 12 50 10.4 +0.2
baz=214
HYT Haines Junctio 89.39 19 P P 12 50 10.8 +0.6
baz=218
H20K Anotleneega Mo 89.40 10 P P 12 50 10.2 +0.2
baz=203
F17K Baldwin Pennin 89.42 7 P P 12 50 09.7 -0.2
baz=197
CMAR Chiang Mai Arr 89.42 290 P P 12 50 12.1 +1.0
comp=Z,21nm,0.9s,baz=137,slow=3.3,SNR=115
CMAR pP pP 12 52 17.2 -0.4
comp=Z,2.7nm,0.8s,baz=140,slow=3.5,SNR=4.9
CMAR PP PP 12 53 55.0 +1.4
comp=Z,0.6nm,0.7s,baz=125,slow=6.1,SNR=5.4
comp=Z,21nm,0.9s
YUK4 Talbot Arm 89.47 18 P P 12 50 11.5 +0.9
baz=217
ANMO Albuquerque 89.50 52 P P 12 50 12.3 +0.9
ANMO Albuquerque 89.50 52 P P 12 50 11.8 +0.4
baz=242
NEW Newport 89.52 36 P P 12 50 10.7 -0.3
baz=235
CHTO Chiang Mai 89.56 290 P P 12 50 13.6 +1.7
CHTO Chiang Mai 89.56 290 P P 12 50 13.5 +1.7
ALPN Alpine 89.56 57 IAmb IAmb 12 50 14.3
comp=Z,5.2nm,0.7s
L26K Log Cabin Wild 89.57 16 P P 12 50 11.6 +0.7
baz=213
HHC Hu-ho-hao-te 89.57 315 eP P 12 50 11.3 -0.2
HHC pmax pmax
comp=Z,40nm,1.1s
I21K Tanana 89.61 11 IAmb IAmb 12 50 12.2
comp=Z,16nm,1.1s
I21K Tanana 89.61 11 P P 12 50 11.1 +0.2
baz=205,SNR=6.1
NEA2 Nenana 89.64 13 P P 12 50 11.1 0.0
NEA2 IAmb IAmb 12 50 24.8
comp=Z,13nm,1.5s
NEA2 Nenana 89.64 13 P P 12 50 11.1 0.0
baz=208
G19K Purcell Mounta 89.67 9 IAmb IAmb 12 50 12.3
comp=Z,13nm,1.1s
G19K Purcell Mounta 89.67 9 P P 12 50 11.4 +0.2
baz=201
MLY Manley 89.70 12 P P 12 50 10.8 -0.6
MLY Manley 89.70 12 P P 12 50 10.8 -0.6
baz=206,SNR=6.4
BVCY Beaver Creek 89.71 17 P P 12 50 11.5 0.0
baz=215
O30N Mendenhall 89.78 20 P P 12 50 12.6 +0.7
baz=220
H21K Melozitna Rive 89.90 11 IAmb IAmb 12 50 14.5
comp=Z,14nm,1.3s
H21K Melozitna Rive 89.90 11 P P 12 50 12.1 -0.2
baz=204,SNR=6.9
HDA Harding Lake 89.92 13 P P 12 50 12.8 +0.4
HDA IAmb IAmb 12 50 13.9
comp=Z,10nm,1.1s
HDA Harding Lake 89.92 13 P P 12 50 11.4 -1.0
baz=210
HDA P P 12 50 11.4 -1.0
baz=210
CCB Clear Creek Bu 89.94 13 IAmb IAmb 12 50 12.7
comp=Z,20nm,1.2s
E17K Hotham Inlet 89.97 7 P P 12 50 12.4 -0.2
baz=196,SNR=6.6
L27K Beaver Creek, 89.99 16 P P 12 50 12.9 +0.1
baz=214
N30M Aishikik Lake 90.02 19 P P 12 50 13.0 0.0
baz=219
IMAR Indian Mountai 90.04 10 P P 12 50 13.5 +0.6
I23K Minto, Yukon-K 90.07 12 P P 12 50 13.1 0.0
baz=208
WHY Whitehorse 90.08 20 P P 12 50 13.1 -0.3
baz=221
DLBC Dease Lake 90.12 24 P P 12 50 13.6 +0.1
comp=Z,2.9nm,1.0s,baz=225,slow=4.3,SNR=2.5
comp=Z,2.9nm,1.0s
MDM Murphy Dome 90.13 13 IAmb IAmb 12 50 13.6
comp=Z,16nm,1.2s
COLA College 90.14 13 P P 12 50 12.6 -0.8
COLA IAmb IAmb 12 50 13.5
comp=Z,35nm,1.4s
COLA College 90.14 13 P P 12 50 12.9 -0.4
baz=209
SCRK Sand Creek 90.22 15 IAmb IAmb 12 52 25.0
comp=Z,36nm,2.0s
SCRK Sand Creek 90.22 15 P P 12 50 14.4 +0.5
baz=212
F19K Shaleruckik Mo 90.23 8 P P 12 50 13.9 +0.2
baz=200
IL31 90.25 13 IAmb IAmb 12 50 14.3
comp=Z,23nm,1.6s
ILAR Eielson Array 90.25 13 P P 12 50 13.4 -0.5
ILAR Eielson Array 90.25 13 P P 12 50 12.9 -0.9
comp=Z,2.1nm,0.8s,baz=224,slow=5.9,SNR=14
ILAR pP pP 12 52 20.8 -0.6
comp=Z,1.4nm,0.9s,baz=236,slow=4.2,SNR=2.8
comp=Z,2.1nm,0.8s
PZH PanZhiHua 90.32 298 P P 12 50 15.9 +0.6
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,200nm,5.7s
H22K Ishtalitna Cre 90.36 11 P P 12 50 14.4 0.0
baz=206
M29M Somme Creek 90.39 18 P P 12 50 15.1 +0.3
baz=217
P33M Teslin, Yukon 90.42 21 P P 12 50 15.8 +0.9
baz=222
E18K Tukpahlearik C 90.43 7 IAmb IAmb 12 50 15.4
comp=Z,12nm,0.9s
E18K Tukpahlearik C 90.43 7 P P 12 50 14.8 +0.1
baz=197,SNR=5.8
D17K Noatak River 90.43 6 P P 12 50 15.0 +0.4
baz=195
N31M Braeburn, Yuko 90.44 19 P P 12 50 15.8 +1.0
baz=220
POKR Poker Plat Res 90.44 13 P P 12 50 14.0 -0.7
baz=209
J25K Salcha River, 90.44 14 P P 12 50 15.4 +0.5
baz=211
R33M Jennings River 90.47 23 P P 12 50 15.6 +0.4
baz=224
BTO Baotou 90.47 314 eP P 12 50 17.6 +1.9
BTO pmax pmax
comp=Z,37nm,0.6s
BTO pmax pmax
comp=Z,800nm,10.1s
MSO Missoula 90.52 39 P P 12 50 16.2 +0.5
baz=238
S22A 4UR Ranch, Cre 90.53 49 P P 12 50 17.3 +1.0
baz=242
G21K Allakaket 90.57 10 IAmb IAmb 12 50 16.4
comp=Z,9.5nm,1.0s
G21K Allakaket 90.57 10 P P 12 50 15.7 +0.3
baz=204
BILL Bilibino 90.57 355 P P 12 50 15.3 0.0
BILL IAmb IAmb 12 50 16.6
comp=Z,18nm,1.1s
O20A White River Ci 90.69 47 P P 12 50 17.0 +0.3
baz=241
F20K Avaraart Lake 90.72 9 IAmb IAmb 12 50 17.2
comp=Z,12nm,1.1s
F20K Avaraart Lake 90.72 9 P P 12 50 16.1 +0.2
baz=202
K27K Chicken 90.73 15 IAmb IAmb 12 50 17.8
comp=Z,18nm,1.3s
K27K Chicken 90.73 15 P P 12 50 16.7 +0.6
baz=214
J26L Joseph Creek 90.76 15 IAmb IAmb 12 50 18.0
comp=Z,14nm,1.1s
J26L Joseph Creek 90.76 15 P P 12 50 17.0 +0.6
baz=213
RDOG Red Dog Mine 90.79 6 P P 12 50 16.3 0.0
baz=195
E19K Redstone River 90.89 8 IAmb IAmb 12 50 18.1
comp=Z,17nm,1.1s
E19K Redstone River 90.89 8 P P 12 50 17.0 +0.2
baz=200,SNR=9.5
M30M Minto, Yukon 90.98 18 P P 12 50 17.9 +0.5
baz=219
L29M L29M 91.02 17 IAmb IAmb 12 50 18.7
comp=Z,15nm,1.2s
L29M L29M 91.02 17 P P 12 50 18.3 +0.7
baz=218
PDAR Pinedale Array 91.10 44 P P 12 50 19.1 +0.4
comp=Z,0.5nm,0.6s,baz=202,slow=3.9,SNR=7.4
PDAR pP pP 12 52 27.1 +1.3
comp=Z,0.8nm,1.0s,baz=218,slow=5.7,SNR=3.4
comp=Z,0.5nm,0.6s
F21K Alatna River 91.22 10 IAmb IAmb 12 50 21.1
comp=Z,22nm,1.9s
F21K Alatna River 91.22 10 P P 12 50 18.4 0.0
baz=204
BOZ Bozeman (W) 91.23 41 P P 12 50 19.4 +0.3
baz=239
G22K Bettles 91.27 11 P P 12 50 18.8 +0.2
baz=206
M31M Drury Creek, Y 91.41 19 P P 12 50 20.0 +0.7
baz=221
DAWY Dawson 91.44 16 P P 12 50 19.8 +0.3
baz=217
SDCO Great Sand Dun 91.46 50 P P 12 50 20.6 +0.1
baz=243
DRIO Del Rio 91.53 59 IAmb IAmb 12 50 22.7
comp=Z,24nm,1.5s
I26K Coal Creek Min 91.54 14 P P 12 50 19.6 -0.2
baz=213
C18K Utukok River 91.54 7 P P 12 50 19.4 -0.4
baz=197
EGAK Eagle 91.57 15 P P 12 50 20.0 0.0
baz=215
F22K John River 91.69 10 P P 12 50 20.8 +0.3
baz=205
D19K Kuna River 91.75 8 IAmb IAmb 12 50 21.9
comp=Z,14nm,1.1s
D19K Kuna River 91.75 8 P P 12 50 21.0 +0.2
baz=200
FARO Faro, Yukon 91.75 20 P P 12 50 21.1 +0.1
baz=222
K29M Barlow Dome 91.77 17 P P 12 50 21.6 +0.5
baz=218
COLD Coldfoot 91.77 11 P P 12 50 21.1 +0.2
baz=207
E20K Nigu River 91.78 8 P P 12 50 21.2 +0.2
baz=202
MT01 Popeta 91.86 128 P P 12 50 23.1 +0.8
MT01 IAmb IAmb 12 50 23.2
comp=Z,15nm,0.9s
I27K Kandik River 92.14 15 P P 12 50 22.0 -0.7
baz=215
D20K Etivluk River 92.15 8 P P 12 50 23.2 +0.6
baz=201
C19K Lookout Ridge 92.16 7 IAmb IAmb 12 50 24.1
comp=Z,24nm,1.3s
C19K Lookout Ridge 92.16 7 P P 12 50 23.0 +0.4
baz=198
B18K Kokolik River 92.17 6 P P 12 50 23.0 +0.4
baz=196
LIRD Liard River Hi 92.27 24 P P 12 50 23.7 +0.4
baz=228
E22K Anaktuvuk Pass 92.32 10 IAmb IAmb 12 50 24.6
comp=Z,15nm,1.4s
E22K Anaktuvuk Pass 92.32 10 P P 12 50 23.3 -0.1
baz=206
ISCO Idaho Springs 92.32 48 P P 12 50 24.0 -0.5
baz=243
TNCH TengChong 92.38 296 eP P 12 50 25.9 +1.0
TNCH pmax pmax
comp=Z,130nm,5.9s
I28M Miner Creek 92.42 15 P P 12 50 24.2 +0.2
baz=216
F24K Squaw Lake 92.45 12 P P 12 50 24.4 +0.4
baz=209
N23A Red Feather La 92.59 47 P P 12 50 25.7 +0.1
baz=243
E23K Chandalar 92.62 11 P P 12 50 25.7 +0.8
baz=208
HNDO Hondo 92.64 59 IAmb IAmb 12 50 28.1
comp=Z,20nm,1.4s
LZH Lanzhou 92.73 308 eP P 12 50 27.3 +1.1
LZH pP PcP 12 50 40.3 +14
LZH pmax pmax
comp=Z,21nm,1.0s
G26K Porcupine Rive 92.78 13 P P 12 50 26.3 +0.8
baz=213
C21K Knifeblade Rid 92.81 9 P P 12 50 25.9 +0.3
baz=203
E24K Your Creek 92.83 11 P P 12 50 26.8 +1.0
baz=208
D22K Ayikyak River 92.86 9 P P 12 50 26.7 +0.9
baz=205
A19K Wainwright 93.05 6 P P 12 50 27.3 +0.7
baz=197
G27K Doyon Strip 93.13 14 P P 12 50 28.0 +0.8
baz=215
TOLK Toolik Lake Re 93.14 11 P P 12 50 28.1 +0.9
baz=208
I30M Mount Dempster 93.16 17 P P 12 50 28.0 +0.6
baz=219
YAK Yakutsk 93.17 339 P P 12 50 26.8 -0.5
D23K Nanushuk River 93.25 10 P P 12 50 27.5 -0.1
baz=206
B21K Ikpikpuk River 93.26 8 P P 12 50 27.3 -0.3
baz=203
B20K Meade River 93.30 8 P P 12 50 27.9 +0.1
baz=201
F26K Sheenjek River 93.33 13 P P 12 50 28.9 +0.9
baz=212
E25K Arctic Village 93.42 12 P P 12 50 29.3 +0.9
baz=211
H29M Whitestone 93.43 15 P P 12 50 29.0 +0.5
baz=218
D24K Happy Valley 93.73 11 P P 12 50 29.3 -0.4
baz=208
EPYK Eagle Plains 93.96 16 P P 12 50 30.5 -0.5
baz=219
C23K Itkillik River 94.04 10 IAmb IAmb 12 50 30.9
comp=Z,7.9nm,1.0s
C23K Itkillik River 94.04 10 P P 12 50 30.5 -0.6
baz=207
G29M Pine Creek 94.06 15 P P 12 50 30.8 -0.6
baz=218
E27K Coleen River 94.28 13 P P 12 50 32.7 +0.4
baz=215
D25K Kavik River 94.30 11 IAmb IAmb 12 51 04.3
comp=Z,22nm,2.0s
D25K Kavik River 94.30 11 P P 12 50 32.7 +0.2
baz=210
A22K Sinclair Lake 94.50 8 P P 12 50 33.8 +0.6
baz=203
G30M tAoh Zraii Nji 94.56 16 P P 12 50 34.0 +0.3
baz=220
A21K Barrow 94.60 7 P P 12 50 34.9 +1.2
baz=201
G31M Satah River 95.01 16 P P 12 50 35.8 +0.1
baz=221
E28M Babbage River 95.07 14 IAmb IAmb 12 50 37.0
comp=Z,6.2nm,1.2s
E28M Babbage River 95.07 14 P P 12 50 36.0 +0.1
baz=217
C26K Camden Bay 95.08 11 P P 12 50 36.6 +0.8
baz=212
F30M Barrier River 95.15 15 P P 12 50 37.0 +0.7
baz=220
E29M Blow River 95.26 14 P P 12 50 36.7 0.0
baz=218
D27M Malcolm River 95.28 13 IAmb IAmb 12 50 39.0
comp=Z,15nm,1.6s
D27M Malcolm River 95.28 13 P P 12 50 37.2 +0.3
baz=215
F31M Tsiigehtchic 95.54 16 P P 12 50 38.0 0.0
baz=222
SONM Songino Array 96.14 319 P P 12 50 41.1 -0.3
comp=Z,0.4nm,0.5s,baz=141,slow=6.2,SNR=4.7
SONM pP pP 12 52 49.3 +0.7
comp=Z,0.8nm,0.8s,baz=116,slow=3.4,SNR=3.3
SONM PP PP 12 54 45.9 +0.9
comp=Z,2.8nm,1.1s,baz=138,slow=8.9,SNR=3.5
SONM S SKSac 13 00 20.9 -0.5
comp=Z,0.2nm,0.4s,baz=108,slow=13,SNR=1.5
comp=Z,0.4nm,0.5s
INK Inuvik 96.24 16 P P 12 50 40.7 -0.4
baz=222
INK Inuvik 96.24 16 P P 12 50 40.6 -0.5
comp=Z,1.5nm,0.8s,baz=192,slow=5.4,SNR=4.9
comp=Z,1.5nm,0.8s
GTA Gaotai 97.00 310 eP P 12 50 43.6 -1.8
GTA sP Pdif 12 50 51.5 +6.1
GTA pmax pmax
comp=Z,2.0nm,1.8s
YKA Yellowknife Ar 98.60 25 P Pdif 12 50 51.7 -0.1
comp=Z,0.6nm,1.0s,baz=248,slow=4.6,SNR=6.7
YKA pP pP 12 53 00.8 +0.6
comp=Z,0.4nm,1.1s,baz=241,slow=4.9,SNR=2.3
comp=Z,0.6nm,1.0s
TZTN Tazewell 107.41 57 P PKiKP 12 55 35.4 -1.0
baz=255
NHSC New Hope 109.22 61 P PKiKP 12 55 39.1 -0.7
baz=256
ZALV Zalesovo Beam 110.95 321 PKiKP PKiKP 12 55 40.9 -1.6
comp=Z,0.6nm,0.3s,baz=79,slow=1.0,SNR=6.0
ZALV PP PP 12 56 35.4 +2.4
comp=Z,0.9nm,0.8s,baz=79,slow=7.7,SNR=3.7
MKAR Makanchi Array 111.37 313 PKiKP PKiKP 12 55 42.2 -1.3
comp=Z,0.5nm,0.4s,baz=159,slow=0.5,SNR=16
MKAR PP PP 12 56 30.6 -5.5
comp=Z,2.4nm,0.9s,baz=40,slow=4.7,SNR=4.0
MKAR PKKPbc PKKPbc 13 06 40.0 -1.3
comp=Z,1.1nm,0.9s,baz=290,slow=9.8,SNR=3.3
KURBB Kurchatov Arra 114.36 317 PKP PKPdf 12 55 47.9 -1.2
comp=Z,1.0nm,0.4s,baz=113,slow=1.9,SNR=11
KURBB PP PP 12 56 55.8 -1.0
comp=Z,0.5nm,0.2s,baz=101,slow=7.3,SNR=4.7
KURBB PKKPbc PKKPbc 13 06 30.6 -0.9
comp=Z,0.2nm,0.3s,baz=260,slow=5.4,SNR=2.7
KK31 Karatay Array 119.23 308 PKPdf PKPdf 12 55 58.2 -0.6
KKAR Karatay Array 119.23 308 PKPdf PKPdf 12 55 58.0 -0.7
BVAR Borovoye Array 119.49 319 PKP PKPdf 12 55 58.2 -0.7
comp=Z,6.1nm,0.3s,baz=110,slow=2.6,SNR=58
BVAR SKP SKPdf 12 58 38.7 -0.4
comp=Z,1.7nm,0.8s,baz=42,slow=2.4,SNR=3.7
KBL Kabul 119.50 298 PKiKP 12 56 00.2 +0.3
BRVK Borovoye 119.55 319 PKPdf PKPdf 12 55 58.4 -0.7
SPITS Spitsbergen Ar 123.45 356 PKP PKPdf 12 56 05.6 -0.3
comp=Z,8.1nm,1.0s,baz=63,slow=9.9,SNR=5.9
ARU Arti 125.80 324 PKPdf PKiKP 12 56 11.3 0.0
GEYT Alibeck 128.53 301 PKP PKiKP 12 56 17.3 -0.2
comp=Z,2.9nm,0.6s,baz=68,slow=16,SNR=5.5
GEYT PP PP 12 58 29.3 -2.8
comp=Z,12nm,1.3s,baz=83,slow=2.3,SNR=4.0
ARCES ARCESS Array B 130.31 349 PKP PKPdf 12 56 18.6 -0.6
comp=Z,5.1nm,0.7s,baz=54,slow=1.6,SNR=23
ARCES SKPbc SKPab 12 58 48.6 0.0
comp=Z,5.0nm,0.8s,baz=31,slow=7.4,SNR=4.5
FINES FINESS Array B 136.98 342 PKhKP PKPpre 12 56 19.9
comp=Z,1.7nm,0.5s,baz=132,slow=2.8,SNR=7.1
FINES PKP PKPdf 12 56 30.3 -1.5
comp=Z,3.1nm,0.6s,baz=64,slow=3.2,SNR=9.9
FINES SKPbc SKPbc 12 59 11.0 +0.9
comp=Z,5.5nm,1.0s,baz=29,slow=4.4,SNR=4.3
NB2 NORSAR Subarra 140.47 352 PKP PKPpre 12 56 32.0
comp=Z,0.8nm,0.5s,baz=24,slow=3.1
NOA NORSAR Array B 140.47 352 PKhKP PKPpre 12 56 31.7
comp=Z,2.2nm,0.8s,baz=31,slow=2.6,SNR=4.1
NOA PKP PKiKP 12 56 40.1 -0.9
comp=Z,0.5nm,0.3s,baz=16,slow=3.8,SNR=2.3
NOA SKPbc SKPbc 12 59 20.4 +0.7
comp=Z,1.2nm,0.7s,baz=9.2,slow=3.6,SNR=3.4
HFS Hagfors 140.96 350 PKhKP PKPpre 12 56 33.2
comp=Z,3.9nm,0.4s,baz=66,slow=3.7,SNR=40
HFS SKPbc SKPbc 12 59 21.4 +0.5
comp=Z,4.6nm,0.8s,baz=77,slow=3.1,SNR=2.7
AKASG Malin Array Be 143.79 329 PKP PKPbc 12 56 41.8 -1.8
comp=Z,13nm,0.4s,baz=39,slow=4.2,SNR=78
AKASG SKPbc SKPbc 12 59 28.1 0.0
comp=Z,1.3nm,0.6s,baz=46,slow=3.0,SNR=9.3
AKBB Malin Array Si 143.79 329 PKPbc 12 56 42.8 -0.9
SUW Suwalki 143.90 337 ePKPbc PKPbc 12 56 43.7 -0.2
SORM Soroca 145.89 326 ⇓P PKPbc 12 56 49.4 -0.6
GKP Gorka Klasztor 146.45 342 ePKPbc PKPbc 12 56 51.4 0.0
BEL Belsk 146.51 337 ePKPbc PKPbc 12 56 52.3 +0.7
EKA Eskdalemuir Ar 146.78 4 PKPbc PKPbc 12 56 51.2 -0.9
comp=Z,7.1nm,0.7s,baz=2.7,slow=3.0,SNR=16
BRTR Keskin Array B 146.92 310 PKPbc 12 56 53.4 +0.1
BRTR Keskin Array B 146.92 310 PKPbc PKPbc 12 56 52.5 -0.8
comp=Z,6.8nm,0.8s,baz=90,slow=2.9,SNR=26
BRTR pPKPbc pPKPbc 12 59 06.3 -0.1
comp=Z,0.6nm,0.5s,baz=43,slow=6.5,SNR=2.3
VASR Vaslui 147.13 324 ⇑P PKPbc 12 56 53.5 +0.1
MMAI Mount Meron Ar 147.43 297 PKPbc PKPbc 12 56 54.5 -0.2
comp=Z,7.5nm,0.3s,baz=77,slow=5.2,SNR=24
MMAI pPKPbc pPKPbc 12 59 08.2 0.0
comp=Z,2.1nm,0.5s,baz=38,slow=4.5,SNR=4.1
VLDR Vladesti 147.46 323 ⇓P PKPbc 12 56 54.6 +0.3
ANTO Ankara 147.47 310 PKPbc 12 56 54.9 +0.3
KWP Kalwaria Pacla 147.50 333 ePKPbc PKPbc 12 56 54.5 +0.2
KWP ePKPab PKPab 12 56 59.2 +0.8
BURAR Bucovina Array 147.82 328 ⇑P PKPbc 12 56 55.4 +0.2
BURAR Bucovina Array 147.82 328 PKiKP 12 56 56.0 -0.6
TESR Tescani 147.82 325 ⇓P PKPbc 12 56 55.1 -0.1
CFR Carcaliu 147.83 322 ⇑P PKPbc 12 56 55.4 +0.2

TPGR	Topolog	147.85	321	⇑P	PKPbc	12 56 55.8	+0.5
TIRR	Tirgusor	148.09	321	⇑P	PKPbc	12 56 56.3	+0.4
VRI	Vrincioaia	148.19	324	⇑P	PKPbc	12 56 55.7	-0.4
OJC	Ojcow	148.19	336	*e*PKPbc	PKPbc	12 56 56.1	+0.1
HARR	Harsova	148.23	321	⇑P	PKPbc	12 56 55.8	-0.5
PLOR	Plostina	148.24	324	⇓P	PKPbc	12 56 56.0	-0.3
STHS	Stebnicka Huta	148.27	334	*e*PKP	PKPbc	12 56 56.1	-0.1
STHS				*e*		12 57 01.6	
TURR	Turia	148.45	325	⇓P	PKiKP	12 56 57.9	0.0
CRVS	Cervenica-Dubn	148.59	333	*e*PKP	PKiKP	12 56 57.7	-0.4
NIE	Niedzica	148.65	335	*e*PKPbc	PKiKP	12 56 58.6	+0.4
CSS	Mathiatis	148.68	301		PKPbc	12 56 57.5	-0.2
ISR	Istrita	148.76	323	⇑P	PKPbc	12 56 57.4	-0.2
DOPR	Dopca	148.84	326	⇓P	PKPbc	12 56 58.2	+0.4
MLR	Muntele Rosu	148.85	324	⇑P	PKPbc	12 56 58.2	+0.2
MLR				⇓P	pPKPab	12 59 17.1	+3.4
MLR	Muntele Rosu	148.85	324		PKPbc	12 56 57.4	-0.5
KSP	Ksiaz	148.86	341	*e*PKPbc	PKiKP	12 56 58.2	-0.4
KSP				*e*PKPab	PKPab	12 57 04.4	+0.4
LANS	Liptovska Anna	149.19	335	*e*PKP	PKiKP	12 56 59.9	+0.6
CJR	Cluj-Napoca	149.24	328	⇓P	PKPbc	12 56 58.5	-0.2
CLL	Collm	149.35	345	⇓*i*PKPbc	PKPbc	12 56 58.9	+0.1
	comp=Z,47nm,1.0s						
CLL				⇑*i*PKPab	PKPab	12 57 05.9	-0.1
	comp=Z,36nm,1.1s						
CLL				*e*pPKPab	pPKPbc	12 59 14.0	+0.8
VOIR		149.37	325	⇑P	PKPbc	12 56 59.2	+0.1
VOIR				⇓P	pPKPab	12 59 19.1	+3.5
MORC	Moravsky Berou	149.37	338	⇓P	PKPbc	12 56 58.7	-0.2
MORC				⇓P	pPKPab	12 59 19.3	+3.7
MORC	Moravsky Berou	149.37	338	*e*PKP	PKPbc	12 56 59.1	+0.2
MORC				*e*		12 57 06.5	
MARR	Marisel-Cluj	149.50	329	⇑P	PKPbc	12 56 59.2	-0.2
MARR				⇓P	pPKPab	12 59 18.9	+2.7
BRG	Berggiesshuel	149.51	343	*i* PKP	PKPbc	12 56 58.4	-0.7
BRG				Amp		12 56 59.5	
	comp=Z,19nm,0.7s						
BRG				pPKP	pPKPbc	12 59 12.9	-0.7
BRG				Amp		12 59 22.0	
	comp=Z,6.8nm,1.0s						
ARR	Arges	149.63	325	⇑P	PKPbc	12 57 00.0	+0.3
VYHS	Vyhne	149.97	335	*e*PKP	PKPbc	12 57 00.4	+0.1
VYHS				*e*		12 57 09.1	
VYHS				*e*		12 59 20.0	
PSZ	Piszkesteto	150.00	334		PKiKP	12 57 00.8	-0.3
PSZ				PKPab	PKPab	12 57 09.7	+0.8
VRAC	Vranov	150.09	339	⇑P	PKPbc	12 57 00.5	0.0
VRAC	Vranov	150.09	339	*e*PKP	PKPbc	12 57 00.6	0.0
VRAC				*e*		12 57 09.9	
JAVC	Velka Javorina	150.10	337	*e*PKP	PKiKP	12 57 01.8	+0.5
JAVC				*e*		12 57 10.8	
KRUC	Moravsky	150.37	339	*e*PKP	PKPbc	12 57 01.1	-0.1
KRUC				*e*		12 57 10.9	
ELND	Elena	150.47	320	⇓P	PKPbc	12 57 01.2	-0.5
SIRR	Siria	150.49	330	⇑P	PKPbc	12 57 01.2	-0.4
GZR	Gura Zlata	150.57	327	⇑P	PKPbc	12 57 01.0	-0.9
GZR				⇑P	pPKPab	12 59 21.7	+1.1
SURR	Surduc	150.64	328	⇑P	PKPbc	12 57 01.3	-0.6
MODS	Modra-Piesok	150.65	337	*e*PKP	PKiKP	12 57 02.6	+0.2
MODS				*e*		12 57 12.9	
MODS				*e*		12 59 17.9	
BZS	Buzias	150.98	329	⇓P	PKPbc	12 57 02.3	-0.5
KHC	Kasperske Hory	151.19	342	⇑*e*PKP	PKPbc	12 57 03.0	-0.2
KHC				*e*PKPAB	PKPab	12 57 14.0	+0.2
KHC				*ep*PKP	pPKPdf	12 59 13.0	-0.1
MEM	Membach	151.31	353	*d*PKiKP	PKPbc	12 57 03.4	+0.1
BTNL	Ternell	151.32	353	*d*PKP	PKPbc	12 57 03.1	-0.2
GEC2	GERESS Array S	151.41	342		PKiKP	12 57 04.0	0.0
GEC2				PKPab	PKPab	12 57 15.4	+0.5
GERES	GERESS Array B	151.41	342	PKPbc	PKPbc	12 57 03.3	-0.4
	comp=Z,2.9nm,0.3s,baz=7.6,slow=1.7,SNR=14						
GERES				PKPab	PKPab	12 57 14.7	-0.2
	comp=Z,1.9nm,0.5s,baz=13,slow=5.3,SNR=6.3						
GERES				pPKPbc	pPKPbc	12 59 16.3	-2.4
	comp=Z,2.3nm,0.9s,baz=20,slow=4.4,SNR=4.6						
GERES				pPKPab	pPKPab	12 59 23.2	-0.7
	comp=Z,3.7nm,0.8s,baz=359,slow=5.3,SNR=7.2						
CONA	Conrad Observa	151.53	338	*e*PKP	PKiKP	12 57 04.5	+0.2
	comp=Z,14nm,1.2s						
CONA				*i* PKP	PKPab	12 57 16.3	+0.9
	comp=Z,18nm,1.3s						
CONA				*ep*PKP	pPKPbc	12 59 17.0	-1.8
	comp=Z,10nm,1.0s						
MDVR	Moldovita	151.54	327	⇑P	PKPbc	12 57 02.5	-1.6
MDVR				⇓P	pPKPab	12 59 23.2	-1.1
RONA	Rosalia, Austr	151.57	337	*i* PKP	PKiKP	12 57 04.5	+0.2
	comp=Z,6.9nm,0.5s						
RONA				*i* PKP	PKPab	12 57 16.5	+1.0
	comp=Z,17nm,1.0s						
RONA				*ep*PKiKP	pPKPbc	12 59 19.0	+0.2
	comp=Z,11nm,1.0s						
RDO	Rodhopi	151.71	318		PKPbc	12 57 03.5	-1.1
MORH	Mrgy, Hungar	151.88	333	⇑P	PKPbc	12 57 03.5	-1.2
MORH				⇑P	pPKPbc	12 59 18.4	-0.9
DOU	Dourbes	151.96	354	*d*PKP	PKPab	12 57 16.6	-0.3
MOA	Molln	152.13	340	*i* PKP	PKPbc	12 57 05.2	-0.1
	comp=Z,7.7nm,1.2s						
MOA				*i* PKP	PKPab	12 57 18.6	+0.8
	comp=Z,13nm,1.2s						
BIOA	Bad Ischl, Aus	152.46	341	*e*PKiKP	PKiKP	12 57 07.0	+0.9
	comp=Z,1.7nm,0.5s						
BIOA				*i* PKP	PKPab	12 57 19.9	+0.7
	comp=Z,34nm,1.1s,SNR=5.6						
SOKA	Soboth	152.89	338	*i* PKP	PKiKP	12 57 07.5	+0.4
	comp=Z,8.3nm,1.1s						
SOKA				*i* PKP	PKPab	12 57 20.7	-0.5
	comp=Z,17nm,1.4s						
SOKA				*i* pPKiKP	pPKPbc	12 59 21.4	-0.6
	comp=Z,7.8nm,1.2s						
LESA	Schwarzleotal	152.99	342	*i* PKP	PKPbc	12 57 07.0	-0.2
	comp=Z,2.9nm,0.5s						
LESA				*i* PKP	PKPab	12 57 22.1	+0.5
	comp=Z,28nm,1.6s						
KBA	Koelnbreinsper	153.10	340	*i* PKiKP	PKiKP	12 57 08.3	+0.7
	comp=Z,1.8nm,0.4s						
KBA				*i* PKP	PKPab	12 57 23.5	+1.3
	comp=Z,9.1nm,1.0s						
WATA	Walderalm	153.38	343	*i* PKP	PKPdf	12 56 59.3	-0.7
	comp=Z,4.4nm,0.9s						
WATA				*i* PKP	PKPbc	12 57 07.8	-0.4
	comp=Z,3.4nm,0.5s						
WATA				*i* PKP	PKPab	12 57 23.6	+0.3
	comp=Z,22nm,1.3s						
WATA				*i* pPKiKP	pPKPbc	12 59 22.8	-0.4
	comp=Z,15nm,1.4s						
MYKA	Terra Mystica	153.40	340	*i* PKP	PKPbc	12 57 07.4	-0.7
	comp=Z,3.8nm,0.9s						
MYKA				*i* PKP	PKPab	12 57 22.9	-0.4
	comp=Z,4.9nm,0.6s						
WTTA	Wattenberg	153.43	343	*i* PKP	PKPbc	12 57 08.2	-0.1
	comp=Z,4.6nm,0.4s						
WTTA				*i* PKP	PKPab	12 57 24.1	+0.6
	comp=Z,9.8nm,0.6s						
WTTA				*i* pPKiKP	pPKPbc	12 59 23.1	-0.3
	comp=Z,6.5nm,0.9s						
RETA	Reutte	153.45	344	*i* PKP	PKPbc	12 57 08.0	-0.2
	comp=Z,5.5nm,1.0s						
RETA				*i* PKP	PKPab	12 57 23.8	+0.3
	comp=Z,19nm,1.2s						
MOTA	Moosalm	153.49	344	*i* PKP	PKPbc	12 57 08.0	-0.4
	comp=Z,4.8nm,1.0s						
MOTA				*i* PKP	PKPab	12 57 24.1	+0.3
	comp=Z,24nm,1.1s						
MOTA				*i* pPKiKP	pPKPbc	12 59 23.0	-0.4
	comp=Z,7.6nm,1.1s						
SQTA	Sankt Quirin	153.58	344	*i* PKP	PKPbc	12 57 08.4	-0.2
	comp=Z,10nm,1.2s						
SQTA				*i* PKP	PKPab	12 57 24.6	+0.5
	comp=Z,15nm,1.1s						
SQTA				*i* pPKiKP	pPKPbc	12 59 23.3	-0.3
	comp=Z,13nm,1.4s						
ABTA	Abfaltersbach	153.65	341	*i* PKP	PKPdf	12 57 00.3	0.0
	comp=Z,12nm,1.6s						
ABTA				*i* PKP	PKPbc	12 57 08.0	-0.6
	comp=Z,10nm,1.1s						
ABTA				*e*PKP	PKPab	12 57 23.9	-0.5
	comp=Z,9.1nm,0.7s,SNR=5.6						
ABTA				*ep*PKP	pPKPbc	12 59 22.7	-1.1
	comp=Z,17nm,1.3s						
DAVA	Damuels	153.85	346	*i* PKP	PKPab	12 57 25.5	+0.2
	comp=Z,10.0nm,0.9s						
FETA	Feichten	153.89	344	*ep*PKiKP	pPKiKP	12 59 24.1	-0.7
	comp=Z,7.5nm,1.2s						
FUORN	Ofenpass-Fuorn	154.38	344	PKPab	PKPab	12 57 28.9	+1.2

ESDC	Sonseca Array	162.14	11	PKPab	PKPab	12 58 01.4	0.0
ESDC	Sonseca Array	162.14	11	PKPab	PKPab	12 58 01.0	-0.5
	comp=Z,3.9nm,1.1s,baz=339,slow=4.4,SNR=14						
DBIC	Dimbokro	163.72	160	PKP	PKPdf	12 57 12.3	-0.5
	comp=Z,2.1nm,0.7s,baz=292,slow=5.4,SNR=4.4						
DBIC				PKPab	PKPab	12 58 08.7	-0.2
	comp=Z,3.6nm,0.6s,baz=213,slow=5.3,SNR=5.7						
KEST	Kesra	164.47	332	PKPab	PKPab	12 58 11.8	-0.2
	comp=Z,4.6nm,0.7s,baz=305,slow=0.7,SNR=5.2						
TORD	Torodi Ar. Bea	170.95	187	PKPdf	PKPdf	12 57 18.2	+0.3
TORD				PKPab	PKPab	12 58 41.2	+0.4
TORD	Torodi Ar. Bea	170.95	187	PKP	PKPdf	12 57 16.9	-1.0
	comp=Z,1.6nm,0.9s,baz=170,slow=1.7,SNR=7.5						
TORD				PKPab	PKPab	12 58 40.3	-0.5
	comp=Z,1.0nm,0.8s,baz=175,slow=2.8,SNR=6.2						
TORD				pPKPab	pPKPab	13 00 53.5	+4.6
	comp=Z,1.7nm,0.9s,baz=168,slow=1.5,SNR=7.0						
TORD				PP	PP	13 02 32.9	+1.9
	comp=Z,1.6nm,1.0s,baz=240,slow=1.1,SNR=4.1						

OMAN ***08*** *12:38:28.9±2.0,30°.87N×57°.38E,h10km,mb4.8/21, Error ellipse: s-maj=25.1km s-min=18.3km az=81.0*
IDC ***08*** *12:38:28.4±0.9,30°.67N×57°.28E, h0km,mb4.0/14, mbtmp4.0/20,ML4.0/6,MS3.8/1, Error ellipse: s-maj=18.4km s-min=14.7km az=169.0*
DSN ***08*** *12:38:28.5±1.9,30°.81N×57°.89E,h10km,ML3.8/7, Error ellipse: s-maj=111.8km s-min=17.8km az=104.0*
TEH ***08*** *12:38:28.6,30°.78N×57°.35E, h8km±39km,ML4.4*
NEIC ***08*** *12:38:29.6±1.7,30°.75N±0°.08×57°.26E±0°.06,h10km±1km, mb4.2/18, Error ellipse: s-maj=13.4km s-min=8.7km az=7.0*

ISC 08 12:38:29.9±0.4,**30°.80N**±0°.04×**57°.32E**±0°.04,**h10km**,**n144**, σ1§**54**/148,**mb4.1**/30,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.69	284	Pg	Pb	12 38 43.1	-1.2
KHGB	Koh Gabri	0.84	240	Pg	Pg	12 38 44.2	-2.0
TVBK	TV Kerman	0.94	211	Pg	Pg	12 38 46.8	-1.3
NGRK	Negar Kerman	1.26	204	Pg	Pb	12 38 52.5	-1.5
IBAF	Bafgh	1.70	298	Pg	Pb	12 39 00.7	-0.6
KBAM	BAM	1.93	149	Pn	Pn	12 39 02.5	-0.4
BSRN	Basiran	1.93	53	Pn	Pn	12 39 02.9	-0.1
IKOO	Kooshah	2.17	41	Pn	Pn	12 39 06.7	+0.4
TPRV	Parvadeh(Tabas	2.29	341	Pn	Pn	12 39 08.4	+0.5
IMEH	Mehriz	2.40	285	Pn	Pn	12 39 10.4	+0.9
NHDN	Nehbandan	2.42	75	Pn	Pn	12 39 10.0	+0.3
ITEG	Tejag	2.42	30	Pn	Pn	12 39 10.3	+0.5
TKDS	Koohdasht(Taba	2.81	357	Pn	Pn	12 39 15.8	+0.7
ICHK	Chekchek	2.87	301	Pn	Pn	12 39 17.8	+1.8
IDAH	Dahanechah	2.91	48	Pn	Pn	12 39 17.1	+0.5
AFRZ	Afriz	2.99	28	Pn	Pn	12 39 18.3	+0.8
TNSJ	Nastanj	3.21	349	Pn	Pn	12 39 21.3	+0.7
ISAD	Sadrabad	3.30	291	Pn	Pn	12 39 23.6	+1.6
ZHDN	Zahedan	3.33	114	Pn	Pn	12 39 22.0	-0.3
IBND	Bandar-abas	3.41	192	Pn	Pn	12 39 24.2	+1.0
GENO	Geno	3.53	197	Pn	Pn	12 39 26.5	+1.4
ANAR	Anarak	3.87	309	Pn	Pn	12 39 31.0	+1.3
IRAM	Ramesheh	4.34	285	Pn	Pn	12 39 37.7	+1.5
IZEF	Zefreh	4.73	298	Pn	Pn	12 39 42.9	+1.3
SHME	Shamm	4.84	193	P	Pn	12 39 42.6	-0.3
KLNJ	Kolanjah	4.93	274	Pn	Pn	12 39 46.9	+2.5
JASK	Jask - Hormozg	4.94	174	P	Pn	12 39 45.3	+1.1
	SNR=16						
JASK	Jask - Hormozg	4.94	174	Pn	Pn	12 39 44.8	+0.6
IBRJ	Brojen	5.30	284	Pn	Pn	12 39 51.7	+2.2
HRA	Herat	5.48	48	Pn	Pn	12 39 53.5	+1.6
IKLH	Kolahrood	5.48	299	Pn	Pn	12 39 54.2	+2.3
MASF	Masafi	5.50	191	P	Pn	12 39 53.8	+1.7
	SNR=12						
MASF				S	Sn	12 40 58.8	+3.3
MSFE	Esma-Masafi	5.51	191	P	Pn	12 39 53.8	+1.6
ISFB	Sefidab	5.56	311	Pn	Pn	12 39 53.9	+1.1
SBZV	Sabzevar	5.58	2	Pn	Pn	12 39 54.3	+1.0
SRVN	Saravan	5.58	126	Pn	Pn	12 39 53.7	+0.5
ZNGN	Zangian	5.68	285	Pn	Pn	12 39 56.4	+1.7
IPIR	Pirpir	5.79	291	Pn	Pn	12 39 58.6	+2.4
QAMS	Qamsar	5.81	302	Pn	Pn	12 39 58.4	+2.0
ILAS	Lasjerd	5.85	322	Pn	Pn	12 39 57.5	+0.5
JHBN	Jahan bin	5.86	286	Pn	Pn	12 39 59.2	+2.1
IAKL	Akhelmad	5.91	11	Pn	Pn	12 39 58.7	+0.8
UOSS	Minazif	5.91	190		Pn	12 39 57.5	-0.1
UOSS	Minazif	5.91	190	P	Pn	12 39 58.3	+0.7
UOSS	Minazif	5.91	190	P	Pn	12 39 58.7	+1.0
NAZ	Nazwa, Dubai	5.97	195	P	Pn	12 40 00.0	+1.6
	SNR=5.8						
NAZ				S	Sn	12 41 11.7	+4.8
HATD	Hatta, Dubai	6.04	190	P	Pn	12 40 01.6	+2.2
HATD	Hatta, Dubai	6.04	190	P	Pn	12 40 02.7	+3.3
	SNR=7.0						
HATD				S	Sn	12 41 12.5	+3.8
ASHO	Ashiyiah	6.19	191	P	Pn	12 40 01.7	+0.2
ASHO				S	Sn	12 41 15.6	+3.2
ASHO	Ashiyiah	6.19	191	P	Pn	12 40 03.0	+1.5
	SNR=21						
FAQ	Al Faqa, Dubai	6.22	195	P	Pn	12 40 02.4	+0.5
FAQ	Al Faqa, Dubai	6.22	195	P	Pn	12 40 03.1	+1.3
IKRD	Kardeh	6.24	16	Pn	Pn	12 40 03.1	+0.8
IGLO	Ghaloghah	6.39	334	Pn	Pn	12 40 06.3	+1.9
ASUD	Al Ashush, Dub	6.40	196	P	Pn	12 40 07.0	+2.7
AJN	Ajban	6.55	199	P	Pn	12 40 08.7	+2.4
AJN				S	Sn	12 41 20.5	-0.5
SOHO	SOHO	6.68	186	P	Pn	12 40 07.1	-1.0
SOHO	SOHO	6.68	186	P	Pn	12 40 07.7	-0.4
IEMG	Emamgholi	6.69	9	Pn	Pn	12 40 09.5	+1.0
IPRN	Peran	6.84	324	Pn	Pn	12 40 11.8	+1.4
ALNE	Al Ain	6.86	192	P	Pn	12 40 11.3	+0.6
ALNE	Al Ain	6.86	192	P	Pn	12 40 12.2	+1.6
MRVT	Maraveh tapeh	6.92	352	Pn	Pn	12 40 13.1	+1.6
GEYT	Alibeck	7.14	5		Pn	12 40 15.8	+1.2
GEYT	Alibeck	7.14	5	Pn	Pn	12 40 16.1	+1.5
	1.4nm,0.3s,baz=183,slow=17,SNR=5.5						
GEYT				Sn	Sn	12 41 33.6	-2.2
	baz=8.0,slow=33						
GEYT				Lg	Lg	12 42 19.8	
	0.1nm,0.3s,baz=61,slow=46,SNR=1.4						
	3.4nm,0.4s						
GYA0B	ALIBECK ARRAY	7.14	5	Pn	Pn	12 40 15.8	+1.2
HOQ	Hoqain	7.19	180	P	Pn	12 40 14.6	-0.6
	SNR=9.6						
HOQ				S	Sn	12 41 39.2	+2.3
BIDO	Bidbid	7.29	174	P	Pn	12 40 16.2	-0.3
ARQ	Araqi	7.47	186	P	Pn	12 40 20.1	+1.1
	SNR=9.6						
ARQ				S	Sn	12 41 45.1	+1.3
WSAR	Wadi Sarin	7.62	171	P	Pn	12 40 20.8	-0.3
	SNR=9.6						
WSAR				S	Sn	12 41 47.4	-0.2
WSAR	Wadi Sarin	7.62	171	Pn	Pn	12 40 20.9	-0.1
	5.8nm,0.3s,baz=14,slow=12,SNR=66						
WSAR				Sn	Sn	12 41 40.1	-7.5
	baz=210,slow=21						
	29nm,0.5s						
SMDO	Samad	7.74	175	P	Pn	12 40 22.9	+0.1
	SNR=10.0						
SMDO				S	Sn	12 41 51.2	+0.7
BSY	Bisya	8.02	181	P	Pn	12 40 28.0	+1.4
	SNR=16						
TRNA	Turayna	8.11	223	P	Pn	12 40 26.9	-0.8
	SNR=12						
WBK	Wadi Bani Khal	8.29	169	P	Pn	12 40 29.5	-0.8
	SNR=6.1						
SMRA	Abu-Samra	8.33	225	P	Pn	12 40 29.6	-1.2
JMDO	Jabal Madar	8.42	175	P	Pn	12 40 32.0	-0.1
JLN	Jalan Bani Buh	8.81	167	P	Pn	12 40 37.3	-0.2
MHTO	MHTO	9.79	176	P	Pn	12 40 52.1	+1.3
DMTO	DMTO	13.20	190	P	Pn	12 41 35.1	-2.4
WHFO	Wadi Hawf	13.22	195	P	Pn	12 41 35.5	-2.4
	SNR=13						
ABTO	Aybut	13.88	196	P	Pn	12 41 42.8	-4.0
	SNR=7.4						
BTK	Batken	14.35	46		Pn	12 41 54.0	+0.7
KK31	Karatay Array	16.16	37	Pn	Pn	12 42 15.8	-1.3
KKAR	Karatay Array	16.16	37	Pn	Pn	12 42 16.4	-0.8
ARSB	Arslanbob	16.43	46		Pn	12 42 20.6	-0.1
ASF	Jabal al Asfar	17.48	280	P	Pn	12 42 33.5	-0.3
	0.3nm,0.3s,baz=99,slow=13,SNR=4.9						
	3.2nm,0.7s						
KIV	Kislovodsk	17.51	323		Pn	12 42 34.1	0.0
KIV				IAmb	IAmb	12 42 45.4	
	comp=Z,18nm,1.0s						

GAZ	Gaziantep	17.83	296	P	P	12 42 39.6	+0.6
GAZ				IAmb	IAmb	12 42 52.9	
	comp=Z,14nm,1.0s						
AAK	Ala-Archa	18.10	45	P	Pn	12 42 40.8	-0.9
AAK	Ala-Archa	18.10	45	P	P	12 42 43.1	+1.1
	comp=Z,0.2nm,0.3s,baz=220,slow=15,SNR=5.5						
	comp=Z,1.5nm,0.7s						
ABKAR	Akbulak array	18.54	5	P	P	12 42 46.3	-0.3
MMAI	Mount Meron Ar	18.74	282	P	Pn	12 42 49.3	0.0
	comp=Z,8.9nm,0.3s,baz=88,slow=7.6,SNR=1.7						
	comp=Z,0.6nm,0.4s						
AKTO	Aktyubinsk	19.62	1	P	P	12 42 59.2	+0.7
	comp=Z,1.5nm,0.3s,baz=176,slow=19,SNR=5.8						
	comp=Z,5.3nm,0.5s						
BRTR	Keskin Array B	21.24	301	P	P	12 43 15.1	-1.2
BRTR	Keskin Array B	21.24	301	P	P	12 43 17.1	+0.8
	comp=Z,8.9nm,1.0s,baz=116,slow=14,SNR=17						
	comp=Z,8.9nm,1.0s						
PYUN	Piuthan	22.50	90	*e*P	P	12 43 31.0	+1.0
	comp=Z,27nm,0.6s						
KOLN	Koldanda	23.10	91	*e*P	P	12 43 36.7	+0.4
DANN	Dangsing	23.11	89	*e*P	P	12 43 38.0	+1.5
	comp=Z,100nm,1.0s						
ELL	Elmali	23.50	292	P	P	12 43 39.9	-0.3
GKN	Gorkha	23.94	90	*e*P	P	12 43 45.6	+1.1
	comp=Z,50nm,1.0s						
BRVK	Borovoye	24.17	19	P	P	12 43 46.8	+0.6
BRVK				IAmb	IAmb	12 43 53.2	
	comp=Z,6.6nm,1.0s						
BVAR	Borovoye Array	24.17	19	P	P	12 43 47.1	+0.9
	comp=Z,2.6nm,0.5s,baz=195,slow=6.8,SNR=13						
	comp=Z,2.6nm,0.5s						
PKIN	Phulchoki	24.70	90	*e*P	P	12 43 52.0	+0.4
	comp=Z,36nm,1.0s						
PKI	Pulchoki	24.71	90	*e*P	P	12 43 52.2	+0.4
	comp=Z,42nm,1.0s						
MK31	Makanchi Array	25.02	43	P	P	12 43 52.4	-1.7
MK31				IAmb	IAmb	12 43 59.8	
	comp=Z,4.7nm,1.1s						
MKAR	Makanchi Array	25.02	43	P	P	12 43 54.1	0.0
MKAR	Makanchi Array	25.02	43	P	P	12 43 55.5	+1.4
	comp=Z,1.6nm,0.9s,baz=218,slow=8.8,SNR=4.9						
	comp=Z,1.6nm,0.9s						
GUN	Gumba	25.03	89	*e*P	P	12 43 56.2	+1.5
	comp=Z,60nm,1.0s						
KURBB	Kurchatov Arra	25.35	33	P	P	12 43 58.0	+1.1
	comp=Z,2.3nm,0.8s,baz=233,slow=9.0,SNR=12						
	comp=Z,2.3nm,0.8s						
JIRN	Jiri	25.36	90	*e*P	P	12 43 58.4	+0.7
	comp=Z,38nm,0.7s						
KURK	Kurchatov	25.45	33	P	P	12 43 57.5	-0.3
KURK				IAmb	IAmb	12 44 03.8	
	comp=Z,3.2nm,0.8s						
KARP	Karpathos	25.63	289	P	P	12 43 58.1	-1.6
ARU	Arti	25.64	2	P	P	12 43 59.1	-0.3
RAMN	Ramite	25.89	91	*e*P	P	12 44 02.5	+0.1
WMQ	Urumqi	27.27	53	*e*P	P	12 44 15.7	+1.2
WMQ				pP	pP	12 44 18.8	+0.8
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
AKASG	Malin Array Be	28.85	322	P	P	12 44 28.8	+0.5
	comp=Z,0.8nm,0.6s,baz=130,slow=8.5,SNR=5.9						
	comp=Z,0.8nm,0.6s						
BURAR	Bucovina Array	29.73	314	P	P	12 44 35.5	-1.0
BURAR				IAmb	IAmb	12 44 41.4	
	comp=Z,2.7nm,1.0s						
ZAA0	Zalesovo Array	30.45	33	P	P	12 44 42.6	+0.1
ZAA0				IAmb	IAmb	12 44 48.0	
	comp=Z,3.9nm,0.8s						
ZALV	Zalesovo Beam	30.45	33	P	P	12 44 42.6	+0.1
ZALV	Zalesovo Beam	30.45	33	P	P	12 44 42.8	+0.3
	comp=Z,2.6nm,0.6s,baz=235,slow=9.5,SNR=12						
	comp=Z,2.6nm,0.6s						
GTA	Gaotai	35.54	64	*e*P	P	12 45 32.5	+5.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
FINES	FINESS Array B	36.84	335	P	P	12 45 38.8	+0.8
	comp=Z,6.2nm,0.7s,baz=148,slow=11,SNR=8.0						
	comp=Z,6.2nm,0.7s

	baz=322							
ENA	**Nanau**	**0.69**	**314**	*eP*	**Pb**	**12 41 57.5**	**0.0**	
	baz=321							
ENA				*eS*	**Sb**	**12 42 06.6**	**-0.1**	
	baz=321							
TEGC	**Jichi Village**	**0.72**	**252**	*eS*	**Sn**	**12 42 09.0**	**-0.5**	
	baz=246							
ETM	**Tongmen**	**0.73**	**272**	*eP*	**Pb**	**12 41 57.9**	**-0.1**	
	baz=255							
ETM				*eS*	**Sb**	**12 42 08.0**	**+0.5**	
	baz=255							
TWC	**Suao**	**0.78**	**329**	P	**Pb**	**12 41 57.8**	**-1.0**	
	baz=334							
TWC				*eS*	**Sb**	**12 42 07.3**	**-1.7**	
	baz=334							
ETLH	**Xiulin Townshi**	**0.78**	**290**	*eP*	**Pb**	**12 41 58.9**	**-0.1**	
	baz=272							
ETLH				*eS*	**Sb**	**12 42 09.8**	**+0.6**	
	baz=272							
JYNG	**Yonagunijimaku**	**0.79**	**50**	*eP*	**Pb**	**12 41 59.2**	**+0.1**	
JYNG				*eS*	**Sb**	**12 42 08.1**	**-1.2**	
ESL	**Shilin**	**0.79**	**261**	*eP*	**Pb**	**12 41 58.7**	**-0.4**	
	baz=245							
LXIB	**Xiulin Townshi**	**0.80**	**276**	*eP*	**Pb**	**12 41 59.2**	**-0.1**	
	baz=271							
EGFH	**Guangfu**	**0.83**	**251**	*eP*	**Pb**	**12 41 59.9**	**+0.1**	
	baz=247							
EGFH				*eS*	**Sn**	**12 42 11.6**	**-0.6**	
	baz=247							
YOJ	**Yonaguni jima**	**0.84**	**52**	P	**Pn**	**12 42 00.4**	**-0.3**	
YOJ	**Yonaguni jima**	**0.84**	**52**	P	**Pb**	**12 42 00.1**	**+0.2**	
YOJ				*eS*	**Sb**	**12 42 09.7**	**-1.1**	
YOJ	**Yonaguni jima**	**0.84**	**52**	*eP*	**Pb**	**12 42 00.1**	**+0.2**	
	baz=54							
YOJ				*eS*	**Sb**	**12 42 10.9**	**+0.1**	
	baz=54							
WARBT	**Fenglin Townsh**	**0.85**	**255**	*eP*	**Pb**	**12 41 59.7**	**-0.4**	
	baz=240							
WARBT				*eS*	**Sb**	**12 42 11.2**	**0.0**	
	baz=240							
NDS	**Dongshan**	**0.86**	**323**	*eP*	**Pb**	**12 41 59.9**	**-0.5**	
	baz=326							
HGSD	**Ruisui**	**0.91**	**241**	*eP*	**Pb**	**12 42 00.8**	**-0.3**	
	baz=237							
HGSD				*eS*	**Sb**	**12 42 13.1**	**+0.4**	
	baz=237							
LATG	**Datong**	**0.91**	**311**	P	**Pb**	**12 42 01.0**	**-0.2**	
	baz=307							
WHF	**Hehuan Shan**	**0.95**	**283**	*eP*	**Pb**	**12 42 01.8**	**-0.3**	
	baz=278							
WHF				*eS*	**Sb**	**12 42 14.3**	**-0.2**	
	baz=278							
ENTT	**Nioudou**	**0.96**	**317**	*eP*	**Pb**	**12 42 01.9**	**-0.1**	
	baz=314							
NNSB	**Datong**	**0.96**	**301**	*eP*	**Pb**	**12 42 01.8**	**-0.2**	
	baz=296							
NNSB				*eS*	**Sb**	**12 42 14.3**	**0.0**	
	baz=296							
TWE	**Neicheng**	**0.96**	**324**	*eP*	**Pb**	**12 42 01.5**	**-0.5**	
	baz=330							
NDT	**Datong Townshi**	**0.97**	**313**	*eP*	**Pb**	**12 42 02.0**	**-0.1**	
	baz=316							
NDT				*eS*	**Sb**	**12 42 14.6**	**+0.1**	
	baz=316							
NNS	**Nan Shan**	**0.97**	**301**	*eP*	**Pb**	**12 42 02.0**	**-0.2**	
	baz=297							
NNS				*eS*	**Sb**	**12 42 14.9**	**+0.2**	
	baz=297							
EHY	**Hungye**	**0.98**	**244**	*eP*	**Pb**	**12 42 02.4**	**0.0**	
	baz=241							
EHY				*eS*	**Sb**	**12 42 15.3**	**+0.4**	
	baz=241							
OWD	**Renai**	**1.01**	**271**	*eP*	**Pb**	**12 42 02.8**	**-0.3**	
	baz=267							
CHGB	**Renai**	**1.02**	**277⇑**	*iP*	**Pb**	**12 42 03.0**	**-0.2**	
	baz=261							
CHGB				*eS*	**Sb**	**12 42 15.9**	**-0.3**	
	baz=261							
FUSB	**Fushanzhiwuyua**	**1.03**	**322**	*eP*	**Pb**	**12 42 03.1**	**-0.2**	
	baz=327							
YULB	**Yu-li**	**1.06**	**239**	P	**Pb**	**12 42 03.3**	**-0.3**	
YULB	**Yu-li**	**1.06**	**239**	*eP*	**Pb**	**12 42 03.5**	**-0.2**	
	baz=225							
YULB				*eS*	**Sb**	**12 42 17.4**	**+0.3**	
	baz=225							
VWDT	**VWDT**	**1.06**	**260**	*eP*	**Pb**	**12 42 03.6**	**-0.1**	
	baz=257							
VWDT				*eS*	**Sb**	**12 42 17.1**	**-0.1**	
	baz=257							
EYUL	**Yuli**	**1.06**	**237**	*eP*	**Pb**	**12 42 03.7**	**-0.1**	
	baz=234							
EYUL				*eS*	**Sn**	**12 42 18.3**	**+0.3**	
	baz=234							
WUSB	**Renai**	**1.07**	**273**	*eP*	**Pb**	**12 42 03.7**	**-0.2**	
	baz=269							
WUSB				*eS*	**Sb**	**12 42 17.4**	**-0.1**	
	baz=269							
TDCB	**Techi**	**1.08**	**287**	*eP*	**Pb**	**12 42 03.9**	**-0.2**	
	baz=271							
TWF1	**Yuli**	**1.08**	**237**	*eP*	**Pb**	**12 42 03.9**	**-0.1**	
	baz=222							
TWF1				*eS*	**Sn**	**12 42 18.4**	**0.0**	
	baz=222							
NWLT	**Wulai**	**1.10**	**320**	*eP*	**Pn**	**12 42 04.1**	**-0.2**	
	baz=326							
NWLT				*eS*	**Sb**	**12 42 18.4**	**+0.1**	
	baz=326							
YHNB	**Yeheng**	**1.10**	**311**	P	**Pn**	**12 42 04.1**	**-0.3**	
YHNB	**Yeheng**	**1.10**	**311**	P	**Pn**	**12 42 04.1**	**-0.3**	
	baz=307							
YHNB				*eS*	**Sb**	**12 42 18.0**	**-0.5**	
	baz=307							
TIPB	**Shuangxi**	**1.11**	**338**	*eP*	**Pn**	**12 42 04.3**	**-0.2**	
	baz=335							
TIPB				*eS*	**Sb**	**12 42 17.6**	**-1.0**	
	baz=335							
NSK	**Sanguang**	**1.12**	**311**	*eP*	**Pn**	**12 42 04.2**	**-0.4**	
	baz=308							
FULB	**Fuli**	**1.17**	**231**	*eP*	**Pn**	**12 42 04.7**	**-0.6**	
	baz=229							
CHKT	**Chengkung**	**1.19**	**225**	*eS*	**Sb**	**12 42 19.3**	**-1.6**	
	baz=212							
SXI1	**Grass Mountain**	**1.21**	**342**	*eP*	**Pn**	**12 42 05.1**	**-0.8**	
	baz=349							
WFSB	**Wu-fen Shan**	**1.22**	**338**	*eP*	**Pn**	**12 42 05.6**	**-0.3**	
	baz=335							
WFSB				*eS*	**Sb**	**12 42 21.0**	**-0.7**	
	baz=335							
TWA	**Mucha**	**1.22**	**328**	*eP*	**Pb**	**12 42 06.6**	**+0.2**	
	baz=326							
SSLB	**Suanglung**	**1.23**	**263**	P	**Pb**	**12 42 06.4**	**-0.2**	
SSLB	**Suanglung**	**1.23**	**263**	*eP*	**Pn**	**12 42 06.1**	**0.0**	
	baz=260							
SSLB				*eS*	**Sb**	**12 42 21.2**	**-0.9**	
	baz=260							
NHDH	**Xindian Distri**	**1.23**	**326**	*eP*	**Pb**	**12 42 06.5**	**-0.1**	
	baz=335							
NHDH				*eS*	**Sn**	**12 42 22.3**	**+0.1**	
	baz=335							
TATO	**Taipei**	**1.26**	**325**	P	**Pb**	**12 42 07.5**	**+0.4**	
WCS	**Beigang Elemen**	**1.26**	**276**	*eP*	**Pn**	**12 42 06.8**	**+0.3**	
	baz=272							
EHD	**Haiduan**	**1.27**	**232**	*eP*	**Pn**	**12 42 05.9**	**-0.7**	
	baz=218							
EHD				*eS*	**Sn**	**12 42 22.0**	**-1.0**	
	baz=218							
NFF	**Wufeng Townshi**	**1.27**	**303**	*eP*	**Pn**	**12 42 07.0**	**+0.3**	
	baz=300							
SMLT	**Sun Moon Lake**	**1.27**	**268**	*eP*	**Pn**	**12 42 06.8**	**+0.1**	
	baz=253							
WHP	**Taichung City**	**1.27**	**286**	*eP*	**Pb**	**12 42 07.7**	**+0.4**	
	baz=271							
WHP				*eS*	**Sb**	**12 42 26.3**	**+3.0**	
	baz=271							
ECS	**Chishang**	**1.29**	**230**	*eP*	**Pn**	**12 42 06.6**	**-0.4**	
	baz=216							
ECS				*eS*	**Sb**	**12 42 24.2**	**+0.4**	
	baz=216							
TYC	**Yuchr**	**1.31**	**269**	*eP*	**Pn**	**12 42 07.4**	**+0.3**	
	baz=266							
WHYT	**Xinyi Township**	**1.33**	**260**	*eP*	**Pb**	**12 42 09.0**	**+0.6**	
	baz=248							
WHYT				*eS*	**Sb**	**12 42 25.2**	**+0.1**	
	baz=248							
LIOB	**Emei**	**1.35**	**301**	*eP*	**Pb**	**12 42 09.0**	**+0.2**	
	baz=299							
NSTT	**Nanjuang**	**1.36**	**301**	*eP*	**Pb**	**12 42 08.9**	**+0.1**	
	baz=297							
NSTT				*eS*	**Sb**	**12 42 26.2**	**+0.4**	
	baz=297							
YM01	**YM01**	**1.37**	**332**	*eP*	**Pn**	**12 42 08.5**	**+0.5**	
	baz=347							
IRIF	**Iriomote-Funau**	**1.38**	**73**	*eP*	**Pb**	**12 42 08.8**	**-0.2**	
IRIF				*eS*	**Sb**	**12 42 26.2**	**-0.1**	
ELDTW	**Lidau**	**1.38**	**238**	*eP*	**Pn**	**12 42 07.8**	**-0.5**	
	baz=236							
ELDTW				*eS*	**Sn**	**12 42 24.6**	**-1.4**	
	baz=236							
HATJ	**Hateruma jima**	**1.40**	**85**	*eS*	**Sn**	**12 42 26.4**	**+0.2**	
YM08	**YM08**	**1.40**	**333**	*eP*	**Pn**	**12 42 08.5**	**+0.1**	
	baz=347							
ALS	**Alishan**	**1.42**	**253**	*eP*	**Pb**	**12 42 09.9**	**-0.2**	
	baz=250							
ALS				*eS*	**Sb**	**12 42 27.9**	**0.0**	
	baz=250							
ANP	**Anpu**	**1.42**	**331**	*eP*	**Pn**	**12 42 09.0**	**+0.2**	
	baz=328							
WJS	**Zhushan**	**1.43**	**266**	*eP*	**Pb**	**12 42 10.5**	**+0.5**	
	baz=263							
WJS				*eS*	**Sb**	**12 42 29.4**	**+1.6**	
	baz=263							
TWQ1	**Liyutan**	**1.44**	**287**	*eP*	**Pb**	**12 42 10.4**	**+0.2**	
	baz=283							
TWQ1				*eS*	**Sb**	**12 42 29.0**	**+0.9**	
	baz=283							
WNT	**Mingjian**	**1.47**	**268**	*eP*	**Pb**	**12 42 11.4**	**+0.8**	
	baz=265							
WNT				*eS*	**Sb**	**12 42 30.0**	**+1.1**	
	baz=265							
NSY	**Sanyi**	**1.47**	**289**	*eP*	**Pb**	**12 42 11.1**	**+0.4**	
	baz=286							
TCU	**Taichung**	**1.49**	**278**	*eP*	**Pb**	**12 42 11.3**	**+0.4**	
	baz=275							
TCU				*eS*	**Sb**	**12 42 30.9**	**+1.5**	
	baz=275							
NMLH	**Miaoli**	**1.49**	**294**	*eP*	**Pb**	**12 42 11.0**	**0.0**	
	baz=278							
CHN5	**Tsauling**	**1.51**	**257**	*eP*	**Pb**	**12 42 11.9**	**+0.4**	
	baz=244							
CHN5				*eS*	**Sb**	**12 42 31.2**	**+1.0**	
	baz=244							
WDJ	**Dajia District**	**1.56**	**285**	*eP*	**Pb**	**12 42 11.8**	**-0.4**	
	baz=282							
WDJ				*eS*	**Sb**	**12 42 32.1**	**+0.6**	
	baz=282							
TWGBT	**Beinan**	**1.57**	**225**	P	**Pn**	**12 42 10.8**	**0.0**	
TWGBT	**Beinan**	**1.57**	**225**	*eP*	**Pn**	**12 42 10.3**	**-0.5**	
	baz=237							
TWGBT				*eS*	**Sn**	**12 42 29.7**	**-0.9**	
	baz=237							
TWG	**Pinlang**	**1.58**	**225**	*eP*	**Pn**	**12 42 11.0**	**+0.1**	
	baz=237							
TWG				*eS*	**Sn**	**12 42 30.4**	**-0.3**	
	baz=237							
STYH	**Taoyuan**	**1.58**	**241**	*eP*	**Pn**	**12 42 11.7**	**+0.7**	
	baz=229							
STYH				*eS*	**Sb**	**12 42 31.7**	**-0.5**	
	baz=229							
JKRS	**Kuro-shima**	**1.60**	**79**	S	**Sb**	**12 42 35.0**	**+2.3**	
WCKO	**Fanlu**	**1.62**	**252**	*eS*	**Sb**	**12 42 34.1**	**+0.9**	
	baz=250							
WDLH	**Douliu**	**1.62**	**261**	*eP*	**Pb**	**12 42 14.0**	**+0.8**	
	baz=259							
WDLH				*eS*	**Sb**	**12 42 34.5**	**+1.2**	
	baz=259							
TPUB	**Ta-pu**	**1.65**	**248**	P	**Pb**	**12 42 13.6**	**-0.1**	
TPUB	**Ta-pu**	**1.65**	**248**	*eP*	**Pb**	**12 42 13.7**	**0.0**	
	baz=246							
TPUB				*eS*	**Sb**	**12 42 34.7**	**+0.6**	
	baz=246							
WTP	**Ta-pu**	**1.68**	**246**	*eP*	**Pb**	**12 42 14.2**	**-0.2**	
	baz=244							
WTP				*eS*	**Sb**	**12 42 36.7**	**+1.6**	
	baz=244							
WRL	**Guolierlin Hig**	**1.75**	**269**	*eP*	**Pb**	**12 42 14.7**	**-0.7**	
	baz=267							
WRL				*eS*	**Sb**	**12 42 37.2**	**+0.3**	
	baz=267							
JIJ	**Ishigaki jima**	**1.75**	**76**	P	**Pn**	**12 42 14.0**	**+0.8**	
JIJ				S	**Sn**	**12 42 35.7**	**+0.8**	
WTK	**Tuku**	**1.75**	**262**	*eP*	**Pb**	**12 42 15.7**	**+0.2**	
	baz=260							
WTK				*eS*	**Sb**	**12 42 37.9**	**+0.8**	
	baz=260							
CHY	**Chiayi**	**1.76**	**256**	*eS*	**Sb**	**12 42 38.0**	**+0.6**	
	baz=254							
SLGT	**Liugui**	**1.78**	**238**	*eP*	**Pb**	**12 42 15.0**	**-0.9**	
	baz=227							
SLGT				*eS*	**Sb**	**12 42 37.7**	**0.0**	
	baz=227							
SGST	**Jiashian**	**1.78**	**242**	*eP*	**Pb**	**12 42 15.5**	**-0.5**	
	baz=229							
SGST				*eS*	**Sb**	**12 42 37.4**	**-0.5**	
	baz=229							
SNST	**Tainan City**	**1.79**	**247**	*eS*	**Sb**	**12 42 38.8**	**+0.6**	
	baz=245							
JISG	**Ishigakijimahi**	**1.96**	**70**	*eP*	**Pn**	**12 42 17.0**	**+0.9**	
JISG				*eS*	**Sn**	**12 42 41.0**	**+0.9**	

KRSZO 08 12:42:38.3±1.2, 48.53N×20.80E, h0km, ML1.7/4, Error ellipse: s-maj=8.6km s-min=5.4km az=130.0, Explosion., Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABAH	**Abaujker**	**0.37**	**129**	Pg	Pg	12 42 46.2	+0.8
	comp=Z,12nm,SNR=2.0						
ABAH				Lg	Lg	12 42 52.3	
CRVS	**Cervenica-Dubn**	**0.57**	**49**	Pg	Pg	12 42 48.9	-0.4
	comp=Z,2.4nm,SNR=1.0						
CRVS				Lg	Lg	12 42 57.0	
CRVS	**Cervenica-Dubn**	**0.57**	**49**	*e*Pg	Pg	12 42 48.9	-0.4
CRVS				*e*Sg	Sg	12 42 56.4	-0.3
CRVS	**Cervenica-Dubn**	**0.57**	**49**	*e*	Sg	12 42 56.4	-0.3
CRVS	**Cervenica-Dubn**	**0.57**	**49**	*e*P	Pg	12 42 48.9	-0.4
PSZ	**Piszkesteto**	**0.86**	**225**	Pn	Pn	12 42 57.1	-0.7
	comp=Z,13nm,SNR=2.5						
PSZ				Lg	Lg	12 43 09.2	
NIE	**Niedzica**	**0.95**	**340**	Pn	Pn	12 42 59.2	+0.3
	comp=Z,8.9nm,SNR=1.7						
HOLU	**Holmets**	**1.05**	**90**	Pg	Pb	12 42 59.0	-0.4

IDC 08 12:57:35.1±2.4, 6.83S×129.31E, h0km, mb3.5/1, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=146.7km s-min=33.6km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.92**	**160**	Pn	Pn	13 00 52.8	-1.0
	0.2nm,0.3s,baz=342,slow=13,SNR=9.1						
WRA				Sn	Sn	13 03 14.3	-15
	0.3nm,0.3s,baz=333,slow=22,SNR=8.5						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**17.31**	**166**	P	P	13 01 39.3	-0.6
	0.1nm,0.3s,baz=346,slow=13,SNR=5.0						
ASAR				S	Sn	13 04 39.3	-13
	0.1nm,0.5s,baz=353,slow=29,SNR=2.0						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**67.71**	**327**	P	P	13 08 34.4	0.0
	0.2nm,0.4s,baz=124,slow=6.0,SNR=1.4						
	0.2nm,0.4s						

*MOS **08** 12:58:16.6, 43.72N×42.70E, h12km, MPVA3.9*
*NORS **08** 12:58:17.1, 43.67N×42.72E, h5km, MPVA3.8*
*TIF **08** 12:58:18.4, 43.64N×42.87E, h3km±2km*

ISC 08 12:58:17.2±0.9, 43.70N±0.02×42.72E±0.02, h6km±6km, n31, σ0.83/59, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHA1	**Shidzhatmaz**	**0.06**	**311**	*i* Pg	**Pg**	**12 58 19.2**	**+0.2**
SHA1				*e*Sg	**Sg**	**12 58 20.5**	**+0.2**
KBZ	**Khabaz**	**0.13**	**78**	*i* Pg	**Pg**	**12 58 20.0**	**+0.1**
KBZ				*i* Sg	**Sg**	**12 58 21.9**	**+0.1**
KIV	**Kislovodsk**	**0.26**	**355**	*e*Pg	**Pg**	**12 58 21.7**	**-0.5**
KIV				*e*Sg	**Sg**	**12 58 24.9**	**-0.7**
BEYR	**Belyy Ugol+**	**0.32**	**13**	*e*Pg	**Pg**	**12 58 22.8**	**-0.6**
BEYR				*e*Sg	**Sg**	**12 58 26.9**	**-0.8**
NEUR	**Neytrino**	**0.44**	**182**	*i* Pg	**Pb**	**12 58 26.0**	**-1.3**
NEUR				*i* Sg	**Sg**	**12 58 31.7**	**+0.3**
PYA1	**Pyatigorsk**	**0.45**	**37**	*e*Pg	**Pg**	**12 58 25.3**	**-0.7**
PYA1				*e*Sg	**Sg**	**12 58 31.2**	**-0.7**
KBTC	**Kuba-Taba**	**0.51**	**77**	*i* Pg	**Pg**	**12 58 27.6**	**+0.5**
KBTC				*e*Sg	**Sg**	**12 58 35.3**	**+1.6**
NCK	**Nalchik**	**0.67**	**107**	*e*Pg	**Pg**	**12 58 30.2**	**+0.1**
NCK				*e*Sg	**Sb**	**12 58 39.6**	**-1.1**
LSNR	**Lesken**	**0.91**	**117**	*e*Pg	**Pb**	**12 58 35.3**	**0.0**
LSNR				*e*Sg	**Sb**	**12 58 47.9**	**+0.2**
DIGR	**Digorskoe uzhe**	**1.02**	**141**	*i* Pg	**Pg**	**12 58 36.5**	**-0.2**
DIGR				*e*Sg	**Sg**	**12 58 49.2**	**-0.7**
STDR	**Stavd-Durt**	**1.03**	**108**	*e*Pg	**Pn**	**12 58 38.7**	**+0.5**
STDR				*e*Sg	**Sn**	**12 58 54.5**	**+1.6**
ARXR	**Arkhyz**	**1.06**	**263**	*i* Pg	**Pg**	**12 58 37.0**	**-0.4**
ARXR				*e*Sg	**Sg**	**12 58 50.5**	**-0.7**
ALER	**Alexandrovskoy**	**1.07**	**7**	*e*Pg	**Pg**	**12 58 37.8**	**+0.1**
ALER				*e*Sg	**Sb**	**12 58 53.5**	**+1.2**
KORR	**Kora**	**1.16**	**121**	*e*Pg	**Pn**	**12 58 40.4**	**+0.4**
KORR				*e*Sg	**Sn**	**12 58 56.8**	**+0.7**
ONI	**Oni**	**1.23**	**154**	P	**Pn**	**12 58 41.1**	**+0.1**
ONI				S	**Sn**	**12 58 57.8**	**-0.1**
ONI	**Oni**	**1.23**	**154**	*e*Pg	**Pn**	**12 58 41.0**	**+0.1**
ONI				*e*Sg	**Sn**	**12 58 57.8**	**-0.1**
ZEI	**Tsey**	**1.26**	**136**	*i* Pg	**Pg**	**12 58 40.9**	**-0.4**
ZEI				*e*Sg	**Sg**	**12 58 56.9**	**-0.6**
GOF	**Gofitskoye**	**1.38**	**10**	*e*Pg	**Pn**	**12 58 43.7**	**+0.8**
GOF				*e*Sg	**Sn**	**12 59 02.6**	**+1.2**
LACR	**Lac**	**1.45**	**127**	*e*Pg	**Pg**	**12 58 44.5**	**-0.4**
LACR				*e*Sg	**Sn**	**12 59 03.4**	**+0.1**
MTEO	**Meteo**	**1.67**	**127**	P	**Pb**	**12 58 48.1**	**-0.5**
MTEO				S	**Sg**	**12 59 10.4**	**-0.6**
MTEO	**Meteo**	**1.67**	**127**	*e*Pg	**Pb**	**12 58 48.1**	**-0.5**
MTEO				*e*Sg	**Sg**	**12 59 10.4**	**-0.6**
ALIG	**Mtskhetisjvari**	**1.73**	**156**	P	**Pg**	**12 58 50.0**	**-0.4**
ALIG	**Mtskhetisjvari**	**1.73**	**156**	*e*Pg	**Pg**	**12 58 50.0**	**-0.4**
RPOR	**Krasnaya Polya**	**1.78**	**271**	*e*Pg	**Pn**	**12 58 49.2**	**+0.8**
RPOR				*e*Sg	**Sn**	**12 59 11.9**	**+0.6**
GUDG	**Gudauri**	**1.79**	**133**	*e*Pg	**Pb**	**12 58 49.6**	**-0.7**
GUDG				*e*Sg	**Sb**	**12 59 12.8**	**-0.2**
GUZR	**Guzeripl'**	**1.90**	**280**	*e*Pg	**Pn**	**12 58 50.2**	**0.0**
GUZR				*e*Sg	**Sn**	**12 59 14.6**	**+0.1**
ABS	**Abastumani**	**1.94**	**178**	P	**Pg**	**12 58 54.9**	**+0.5**
ABS				S	**Sg**	**12 59 21.8**	**+2.2**
ABS	**Abastumani**	**1.94**	**178**	*e*Pg	**Pg**	**12 58 54.9**	**+0.5**
ABS				*e*Sg	**Sg**	**12 59 21.8**	**+2.2**
CHRG	**Chargali**	**2.12**	**129**	P	**Pb**	**12 58 55.7**	**-0.3**
CHRG				S	**Sg**	**12 59 23.5**	**-1.8**
CHRG	**Chargali**	**2.12**	**129**	*e*Pg	**Pb**	**12 58 55.7**	**-0.3**
CHRG				*e*Sg	**Sg**	**12 59 23.5**	**-1.8**
GOYR	**Goytkh**	**2.47**	**284**	*e*Sn	**Sn**	**12 59 28.1**	**-0.3**

*IDC **08** 13:04:39.4±6.0, 4.28S×145.08E, h64km±56km, mb3.2/4, mbtmp3.5/6, ML2.7/2, Error ellipse: s-maj=42.4km s-min=34.5km az=115.0*

ISC 08 13:04:38.0±1.1, 4.2S±0.1×145.1E±0.2, h50km, n6, σ1.9s8/7, mb3.6/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.57**	**159**	P	**Pn**	**13 06 00.1**	**+1.7**
	2.2nm,0.3s,baz=357,slow=3.3,SNR=11						
PMG				S	**Sn**	**13 07 00.3**	**-0.8**
	8.6nm,0.5s,baz=320,slow=23,SNR=6.9						
	12nm,0.6s						
WRA	**Warramunga Arr**	**18.85**	**213**	P	**P**	**13 08 53.3**	**-0.8**
	0.1nm,0.3s,baz=30,slow=10,SNR=5.5						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**22.18**	**208**	P	**P**	**13 09 30.4**	**+0.3**
	0.2nm,0.5s,baz=29,slow=12,SNR=2.3						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**84.20**	**324**	P	**P**	**13 17 05.6**	**+1.5**
	0.8nm,0.7s,baz=95,slow=7.2,SNR=3.8						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**84.57**	**24**	P	**P**	**13 17 04.7**	**-1.0**
	0.3nm,0.7s,baz=260,slow=5.1,SNR=4.1						
	0.3nm,0.7s						
QSPA	**South Pole Qui**	**85.77**	**180**	P	**P**	**13 17 10.3**	**-1.5**
	0.5nm,0.8s,baz=19,slow=0.1,SNR=1.0						
	0.5nm,0.8s						

*BER **08** 13:08:46.9±3.6, 72.85N×12.24E, h10km, ML2.0, ML2.6(NAO), Confirmed Earthquake*
*NAO **08** 13:08:47.8±3.7, 72.98N×13.35E, ML2.6*
*KOLA **08** 13:08:51.9, 72.62N×13.29E, h0km, ML2.2, Norwegian sea*

ISC 08 13:08:43.1±1.2, 72.82N±0.05×12.11E±0.08, h10km, n20, σ3.9s00/33, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRO	**Tromso**	**3.89**	**142**	*e*S	**Sn**	**13 10 27.3**	**-1.2**
TRO				IAML		13 10 31.1	
	comp=Z,4.1nm,0.4s						
JETT	**Jettan, Norway**	**4.24**	**137**	*e*S	**Sn**	**13 10 36.3**	**-0.9**
JETT				IAML		13 10 45.6	
	comp=Z,6.8nm,0.7s						
HAMF	**Hammerfest**	**4.25**	**115**	*e*S	**Sn**	**13 10 33.5**	**-3.8**
HAMF				IAML		13 10 38.9	
	comp=Z,8.0nm,0.8s						
HAMF	**Hammerfest**	**4.25**	**115**	Pn	**Pn**	**13 09 48.7**	**+0.9**
HAMF				Sn	**Sn**	**13 10 33.3**	**-4.0**
LOF	**Lofoten**	**4.74**	**173**	*e*P	**Pn**	**13 09 55.8**	**+1.3**
LOF				*e*S	**Sn**	**13 10 45.3**	**-4.2**
LOF				IAML		13 10 48.6	
	comp=Z,13nm,0.5s						
STEI	**Steigen**	**5.03**	**166**	*e*P	**Pn**	**13 10 00.2**	**+1.7**
STEI				*e*S	**Sn**	**13 10 54.8**	**-1.8**
STEI				IAML		13 10 58.0	
	comp=Z,5.8nm,0.6s						
KTK1	**Kautokeino**	**5.28**	**131**	*e*S	**Sn**	**13 11 01.4**	**-1.4**
KTK1				IAML		13 11 08.5	
	comp=Z,2.2nm,1.0s						
ARA0	**ARCESS Array S**	**5.44**	**121**	Pn	**Pn**	**13 10 07.3**	**+3.2**
	baz=324,slow=12						
ARA0				Sn	**Sn**	**13 11 04.5**	**-2.3**
	baz=319,slow=22						
ARA0				IAML		13 11 05.1	
	comp=Z,2.2nm,0.6s						
ARA0	**AR

JKE	**Kume jima 2**	**0.55**	**43**	A		A	13 09 27.0	
	comp=E,6.0nm,1.1s,comp=N,3.0nm,3.0s							
JAGN	**Aguni-jima**	**1.03**	**49**	P		**Pb**	**13 09 34.8**	**+0.2**
JAGN				S		**Sn**	**13 09 48.2**	**+0.3**
JJT3	**Tamagusuku3**	**1.29**	**80**	P		**Pn**	**13 09 37.6**	**-0.3**
JJT3				S		**Sn**	**13 09 53.5**	**-0.8**
JIKM	**Ikemajima**	**1.42**	**226**	P		**Pn**	**13 09 40.1**	**+0.5**
JIKM				S		**Sb**	**13 09 59.0**	**+0.1**
JOGS	**Gusukube**	**1.45**	**217**	P		**Pn**	**13 09 40.7**	**+0.7**
JMJ2	**Miyako jima3**	**1.51**	**219**	P		**Pn**	**13 09 41.4**	**+0.6**
JMJ2				S		**Sb**	**13 10 00.9**	**-0.5**
JIRB	**Irabujima**	**1.53**	**225**	*e*P		**Pn**	**13 09 41.5**	**+0.3**
JNTH	**Nagotoyohara**	**1.60**	**68**	P		**Pn**	**13 09 42.6**	**+0.5**
JNTH				S		**Sn**	**13 10 02.0**	**+0.1**
JIH	**Iheya**	**1.81**	**52**	*e*P		**Pn**	**13 09 45.9**	**+0.8**
JOW	**Kunigami**	**1.94**	**62**	P		**Pn**	**13 09 48.5**	**+1.7**
JOW				S		**Sb**	**13 10 12.5**	**-1.3**
JOW	**Kunigami**	**1.94**	**62**	Pn		**Pn**	**13 09 48.5**	**+1.7**
	comp=N,128nm,0.3s,baz=137,slow=25,SNR=74							
JOW				Sn		**Sn**	**13 10 11.8**	**+1.5**
	comp=N,147nm,0.3s,baz=342,slow=28,SNR=10							
JTJ	**Tarama**	**1.98**	**230**	P		**Pn**	**13 09 49.1**	**+1.9**
JYRO	**Yoronjima**	**2.17**	**59**	P		**Pn**	**13 09 51.5**	**+1.6**
MJAR	**Matsushiro Arr**	**14.64**	**41**	Pn		**Pn**	**13 12 40.4**	**-0.5**
	baz=227,slow=20,SNR=1.9							
	comp=N,1.1nm,0.8s							
SONM	**Songino Array**	**26.94**	**329**	P		**P**	**13 14 52.7**	**-2.1**
	comp=N,0.2nm,0.3s,baz=143,slow=10,SNR=2.1							
	comp=N,0.2nm,0.3s							
MKAR	**Makanchi Array**	**40.51**	**313**	P		**P**	**13 16 52.2**	**-0.1**
	comp=N,0.4nm,0.5s,baz=97,slow=10,SNR=4.6							
	comp=N,0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**43.93**	**317**	P		**P**	**13 17 17.9**	**-2.3**
	comp=N,0.2nm,0.3s,baz=106,slow=7.8,SNR=5.7							
	comp=N,0.2nm,0.3s							
WRA	**Warramunga Arr**	**46.24**	**170**	P		P	13 17 44.1	+5.4
	comp=N,0.6nm,0.7s,baz=353,slow=8.6,SNR=6.2							
	comp=N,0.6nm,0.7s							
ASAR	**Alice Springs**	**49.83**	**171**	P		P	13 18 12.3	+5.9
	comp=N,0.3nm,0.6s,baz=356,slow=14,SNR=5.3							
	comp=N,0.3nm,0.6s							
ILAR	**Eielson Array**	**65.50**	**28**	P		**P**	**13 19 56.9**	**+0.6**
	comp=N,0.3nm,0.8s,baz=287,slow=8.7,SNR=4.5							
	comp=N,0.3nm,0.8s							
FINES	**FINESS Array B**	**72.31**	**330**	P		**P**	**13 20 38.2**	**-0.4**
	comp=N,3.9nm,1.0s,baz=52,slow=9.2,SNR=4.4							
	comp=N,3.9nm,1.0s							
BRTR	**Keskin Array B**	**75.90**	**307**	P		**P**	**13 21 01.1**	**+0.9**
	comp=N,0.4nm,0.4s,baz=69,slow=6.3,SNR=2.2							
	comp=N,0.4nm,0.4s							
YKA	**Yellowknife Ar**	**79.50**	**24**	P		**P**	**13 21 20.4**	**+0.8**
	comp=N,0.3nm,0.7s,baz=296,slow=5.7,SNR=5.4							
	comp=N,0.3nm,0.7s							

*JMA **08** 13:15:16.8±0.1,23.7N±0.3×121.8E±0.8,h29km±2km, MV3.1/15,TAIWAN REGION*

*ASIES **08** 13:15:17.1,23.74N×121.77E,h32km,ML3.7,Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; Mrr2.47; Mθθ0.09; Mϕϕ-2.56; Mrθ-1.86; Mθϕ-1.15; Mϕr-0.63; Fault plane solution: Mo3.39255×10^{21} NP1: ϕs226.02000°,δ62.93000°,λ118.05000°. NP2: ϕs356.52000°,δ38.20000°,λ47.38000°. Principal axes: T Plg61.3380°, Azm179.9110°; N Plg24.7550°, Azm32.3920°; P Plg13.5270°, Azm296.0230°;*

*TAP **08** 13:15:17.1,23.74N×121.77E,h32km,ML3.7,B*

ISC 08 13:15:16.9±0.9,23.73N±0.02×121.79E±0.02,h30km±6km, n131,σ0̸65/239,8C-40D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
TEGC	**Jichi Village**	**0.23**	**265**	P	**Pb**	**13 15 23.9**	**+0.4**
	baz=255						
TEGC				S	**Sn**	**13 15 29.1**	**+0.2**
	baz=255						
HWA	**Hwalien**	**0.30**	**326**	⇑P	**Pb**	**13 15 24.6**	**+0.3**
	baz=325						
HWA				*e*S	**Sn**	**13 15 30.3**	**-0.4**
	baz=325						
ESL	**Shilin**	**0.34**	**284**	⇓*i*P	**Pb**	**13 15 24.6**	**-0.3**
	baz=279						
ESL				*e*S	**Sb**	**13 15 29.9**	**-0.4**
	baz=279						
EGFH	**Guangfu**	**0.34**	**259**	⇑*i*P	**Pb**	**13 15 24.8**	**-0.1**
	baz=260						
EGFH				*e*S	**Sb**	**13 15 30.7**	**+0.4**
	baz=260						
ETM	**Tongmen**	**0.36**	**311**	⇑*i*P	**Pb**	**13 15 25.1**	**-0.1**
	baz=320						
ETM				S	**Sb**	**13 15 31.2**	**+0.3**
	baz=320						
WARBT	**Fenglin Townsh**	**0.37**	**268**	⇓*i*P	**Pb**	**13 15 25.1**	**-0.3**
	baz=266						
WARBT				S	**Sb**	**13 15 31.3**	**+0.2**
	baz=266						
TWD	**Chiawan**	**0.39**	**333**	⇑*i*P	**Pb**	**13 15 25.5**	**-0.1**
	baz=338						
TWD				*i* S	**Sb**	**13 15 31.7**	**+0.1**
	baz=338						
HGSD	**Ruisui**	**0.41**	**235**	P	**Pb**	**13 15 25.8**	**-0.1**
	baz=230						
HGSD				S	**Sb**	**13 15 32.5**	**+0.4**
	baz=230						
LXIB	**Xiulin Townshi**	**0.45**	**310**	⇓*i*P	**Pb**	**13 15 26.4**	**-0.3**
	baz=311						
LXIB				S	**Sn**	**13 15 33.9**	**-0.7**
	baz=311						
ETL	**Fush Village**	**0.45**	**340**	⇑P	**Pb**	**13 15 26.5**	**-0.2**
	baz=344						
ETL				*e*S	**Sb**	**13 15 33.1**	**-0.2**
	baz=344						
NACB	**Ninganchiao**	**0.47**	**338**	⇓*i*P	**Pb**	**13 15 26.6**	**-0.4**
	baz=345						
NACB				S	**Sb**	**13 15 33.7**	**-0.1**
	baz=345						
EHY	**Hungye**	**0.48**	**242**	⇓*i*P	**Pb**	**13 15 26.8**	**-0.3**
	baz=252						
EHY				*e*S	**Sb**	**13 15 34.3**	**+0.3**
	baz=252						
ECBN	**Changbin**	**0.52**	**217**	*e*P	**Pb**	**13 15 27.4**	**-0.2**
	baz=207						
ECBN				*e*S	**Sb**	**13 15 35.0**	**+0.1**
	baz=207						
ETLH	**Xiulin Townshi**	**0.55**	**329**	⇓*i*P	**Pb**	**13 15 27.9**	**-0.3**
	baz=331						
ETLH				*e*S	**Sb**	**13 15 35.9**	**-0.1**
	baz=331						
YULB	**Yu-li**	**0.56**	**233**	⇓*i*P	**Pb**	**13 15 28.0**	**-0.4**
	baz=244						
YULB				*i* S	**Sb**	**13 15 36.2**	**-0.1**
	baz=244						
EYUL	**Yuli**	**0.58**	**229**	⇓P	**Pb**	**13 15 28.6**	**0.0**
	baz=240						
EYUL				*e*S	**Sn**	**13 15 37.9**	**+0.4**
	baz=240						
EHP	**Heping Village**	**0.58**	**356**	*e*P	**Pb**	**13 15 28.4**	**-0.3**
	baz=359						
EHP				*e*S	**Sn**	**13 15 37.4**	**-0.2**
	baz=359						
TWF1	**Yuli**	**0.59**	**230**	⇓*i*P	**Pb**	**13 15 28.5**	**-0.3**
	baz=241						
TWF1				*e*S	**Sn**	**13 15 37.6**	**-0.2**
	baz=241						
VWDT	**VWDT**	**0.59**	**272**	⇓*i*P	**Pb**	**13 15 28.9**	**0.0**
	baz=271						
VWDT				S	**Sb**	**13 15 37.0**	**0.0**
	baz=271						
OWD	**Renai**	**0.60**	**292**	⇓*i*P	**Pb**	**13 15 29.0**	**-0.2**
	baz=299						
OWD				*i* S	**Sb**	**13 15 37.5**	**0.0**
	baz=299						
EOS4	**EOS4**	**0.62**	**51**	P	**Pb**	**13 15 29.2**	**+0.1**
	baz=64						
EOS4				S	**Sb**	**13 15 38.0**	**+0.6**
	baz=64						
WHF	**Hehuan Shan**	**0.63**	**311**	⇓*i*P	**Pb**	**13 15 29.3**	**-0.5**
	baz=312						
WHF				S	**Sb**	**13 15 38.3**	**-0.3**
	baz=312						
CHGB	**Renai**	**0.65**	**300**	⇓*i*P	**Pb**	**13 15 29.8**	**-0.2**
	baz=300						
CHGB				S	**Sb**	**13 15 38.8**	**-0.1**
	baz=300						
WUSB	**Renai**	**0.67**	**293**	⇓*i*P	**Pb**	**13 15 30.1**	**-0.1**
	baz=293						
WUSB				S	**Sb**	**13 15 38.8**	**-0.5**
	baz=293						
ENA	**Nanau**	**0.69**	**356**	⇓*i*P	**Pn**	**13 15 30.2**	**-0.5**
	baz=359						
ENA				*e*S	**Sb**	**13 15 39.9**	**-0.1**
	baz=359						
FULB	**Fuli**	**0.70**	**221**	*e*P	**Pn**	**13 15 30.0**	**-0.8**
	baz=209						
FULB				S	**Sb**	**13 15 39.9**	**-0.1**
	baz=209						
EWUT	**Wuta**	**0.71**	**359**	⇓P	**Pn**	**13 15 30.5**	**-0.4**
	baz=352						
EWUT				*e*S	**Sn**	**13 15 40.6**	**-0.2**
	baz=352						
EOS3	**EOS3**	**0.73**	**41**	*e*P	**Pn**	**13 15 31.3**	**+0.2**
	baz=38						
EOS3				*e*S	**Sb**	**13 15 40.3**	**-0.6**
	baz=38						
CHKT	**Chengkung**	**0.74**	**212**	*e*P	**Pn**	**13 15 29.9**	**-1.4**
	baz=198						
CHKT				*e*S	**Sb**	**13 15 39.0**	**-2.1**
	baz=198						
TWT	**Tachien**	**0.76**	**313**	*e*P	**Pb**	**13 15 31.9**	**0.0**
	baz=305						
TWT				S	**Sn**	**13 15 42.0**	**-0.4**
	baz=305						
SSLB	**Suanglung**	**0.77**	**274**	⇓*i*P	**Pn**	**13 15 31.1**	**-0.6**
	baz=273						
SSLB				*e*S	**Sb**	**13 15 40.3**	**-1.7**
	baz=273						
TDCB	**Techi**	**0.78**	**312**	⇓*i*P	**Pn**	**13 15 31.9**	**-0.1**
	baz=307						
TDCB				*i* S	**Sb**	**13 15 42.1**	**-0.2**
	baz=307						
NNSB	**Datong**	**0.79**	**332**	⇓*i*P	**Pn**	**13 15 31.7**	**-0.4**
	baz=334						
NNSB				*i* S	**Sb**	**13 15 42.3**	**-0.3**
	baz=334						
EHD	**Haiduan**	**0.79**	**223**	*e*P	**Pn**	**13 15 31.0**	**-1.1**
	baz=233						
EHD				*e*S	**Sn**	**13 15 42.2**	**-0.6**
	baz=233						
NNS	**Nan Shan**	**0.80**	**332**	⇓*i*P	**Pn**	**13 15 31.9**	**-0.4**
	baz=334						
NNS				*i* S	**Sb**	**13 15 42.7**	**-0.3**
	baz=334						
ECS	**Chishang**	**0.82**	**220**	*e*P	**Pn**	**13 15 32.6**	**+0.1**
	baz=217						
SMLT	**Sun Moon Lake**	**0.83**	**281**	⇓*i*P	**Pn**	**13 15 32.5**	**-0.2**
	baz=285						
SMLT				*e*S	**Sb**	**13 15 43.8**	**+0.1**
	baz=285						
LATG	**Datong**	**0.84**	**343**	⇓*i*P	**Pn**	**13 15 32.3**	**-0.4**
	baz=345						
LATG				*e*S	**Sn**	**13 15 43.2**	**-0.9**
	baz=345						
WHYT	**Xinyi Township**	**0.86**	**268**	⇓P	**Pb**	**13 15 33.2**	**-0.1**
	baz=267						
WHYT				*i* S	**Sn**	**13 15 44.0**	**-0.6**
	baz=267						
WCS	**Beigang Elemen**	**0.87**	**292**	⇓*i*P	**Pb**	**13 15 33.2**	**-0.2**
	baz=292						
TYC	**Yuchr**	**0.87**	**282**	⇓*i*P	**Pn**	**13 15 33.0**	**-0.1**
	baz=288						
TYC				*e*S	**Sb**	**13 15 45.3**	**+0.5**
	baz=288						
TWC	**Suao**	**0.88**	**4**	⇓*i*P	**Pn**	**13 15 33.3**	**+0.1**
	baz=358						
TWC				*i* S	**Sb**	**13 15 45.0**	**0.0**
	baz=358						
ELDTW	**Lidau**	**0.89**	**233**	*e*P	**Pn**	**13 15 32.6**	**-0.9**
	baz=230						
ELDTW				*e*S	**Sn**	**13 15 44.4**	**-1.0**
	baz=230						
NDS	**Dongshan**	**0.90**	**356**	⇑*i*P	**Pn**	**13 15 33.7**	**+0.1**
	baz=358						
NDS				*e*S	**Sb**	**13 15 45.8**	**+0.1**
	baz=358						
NDT	**Datong Townshi**	**0.90**	**344**	*e*P	**Pn**	**13 15 33.5**	**-0.1**
	baz=333						
NDT				S	**Sb**	**13 15 45.8**	**0.0**
	baz=333						
ENTT	**Nioudou**	**0.93**	**347**	⇓*i*P	**Pn**	**13 15 33.9**	**-0.1**
	baz=350						
ENTT				*e*S	**Sb**	**13 15 46.7**	**+0.2**
	baz=350						
ALS	**Alishan**	**0.93**	**257**	⇓*e*P	**Pb**	**13 15 34.5**	**-0.2**
	baz=254						
ALS				S	**Sn**	**13 15 46.4**	**-0.3**
	baz=254						
WHP	**Taichung City**	**0.94**	**305**	⇓*i*P	**Pb**	**13 15 34.6**	**-0.2**
	baz=315						
WHP				*e*S	**Sb**	**13 15 47.2**	**+0.2**
	baz=315						
WJS	**Zhushan**	**0.98**	**276**	⇓P	**Pb**	**13 15 35.7**	**+0.4**
	baz=275						
WJS				*e*S	**Sb**	**13 15 49.1**	**+1.3**
	baz=275						
TWE	**Neicheng**	**0.99**	**354**	*e*P	**Pn**	**13 15 34.9**	**+0.1**
	baz=356						
TWE				*e*S	**Sn**	**13 15 47.8**	**0.0**
	baz=356						
YHNB	**Yeheng**	**1.01**	**338**	⇓*i*P	**Pn**	**13 15 35.3**	**+0.2**
	baz=340						
YHNB				*e*S	**Sn**	**13 15 47.8**	**-0.5**
	baz=340						
LONT	**Longtian**	**1.02**	**217**	*e*P	**Pn**	**13 15 34.1**	**-1.1**
	baz=214						
NSK	**Sanguang**	**1.02**	**337**	⇓*i*P	**Pn**	**13 15 35.4**	**+0.1**
	baz=339						
NSK				*e*S	**Sn**	**13 15 48.2**	**-0.4**
	baz=339						
WNT	**Mingjian**	**1.02**	**278**	⇓P	**Pb**	**13 15 36.4**	**+0.3**
	baz=278						
WNT				*e*S	**Sb**	**13 15 49.9**	**+0.7**
	baz=278						
CHN5	**Tsauling**	**1.03**	**263**	⇓P	**Pb**	**13 15 36.2**	**0.0**
	baz=261						
CHN5				*e*S	**Sb**	**13 15 50.0**	**+0.6**
	baz=261						
ILA	**Ilan**	**1.03**	**358**	*e*P	**Pn**	**13 15 35.7**	**+0.4**
ILA				S	**Sb**	**13 15 50.0**	**+0.6**
FUSB	**Fushanzhiwuyua**	**1.04**	**350**	*e*P	**Pn**	**13 15 35.7**	**+0.1**
	baz=352						
FUSB				*e*S	**Sb**	**13 15 49.7**	**0.0**
	baz=352						
NWLT	**Wulai**	**1.07**	**346**	*e*P	**Pn**	**13 15 36.3**	**+0.3**
	baz=348						
NWLT				S	**Sn**	**13 15 49.9**	**+0.1**
	baz=348						
STYH	**Taoyuan**	**1.08**	**239**	⇓*e*P	**Pb**	**13 15 36.7**	**-0.4**
	baz=237						
STYH				*i* S	**Sb**	**13 15 50.5**	**-0.4**
	baz=237						
NFF	**Wufeng Townshi**	**1.09**	**326**	⇓*e*P	**Pb**	**13 15 36.7**	**-0.5**
	baz=327						
NFF				*i* S	**Sb**	**13 15 51.0**	**0.0**
	baz=327						
LDUT	**Ludao**	**1.09**	**196**	*e*P	**Pn**	**13 15 35.0**	**-1.2**
	baz=187						
LDUT				*e*S	**Sn**	**13 15 47.5**	**-2.7**
	baz=187						
TCU	**Taichung**	**1.10**	**292**	*e*P	**Pb**	**13 15 37.9**	**+0.5**
	baz=292						
TCU				*e*S	**Sb**	**13 15 52.1**	**+0.8**
	baz=292						
TWQ1	**Liyutan**	**1.11**	**304**	⇓*i*P	**Pb**	**13 15 38.1**	**+0.5**
	baz=304						
TWQ1				*e*S	**Sb**	**13 15 52.9**	**+1.1**
	baz=304						
TWGBT	**Beinan**	**1.12**	**216**	*e*P	**Pn**	**13 15 35.5**	**-1.1**
	baz=214						
TWG	**Pinlang**	**1.12**	**216**	*e*P	**Pn**	**13 15 35.6**	**-1.0**
	baz=214						
WCKO	**Fanlu**	**1.12**	**255**	*e*P	**Pb**	**13 15 37.9**	**+0.1**
	baz=253						
WCKO				*e*S	**Sb**	**13 15 52.9**	**+0.8**
	baz=253						
WGK	**Gukeng**	**1.12**	**268**	*e*P	**Pb**	**13 15 37.6**	**-0.1**
	baz=267						
WGK				*e*S	**Sb**	**13 15 53.1**	**+1.0**
	baz=267						
TPUB	**Ta-pu**	**1.15**	**248**	*i* P	**Pb**	**13 15 38.0**	**-0.1**
	baz=246						
TPUB				S	**Sb**	**13 15 53.4**	**+0.7**
	baz=246						
WDLH	**Douliu**	**1.15**	**268**	*e*P	**Pb**	**13 15 38.1**	**-0.1**
	baz=267						
WDLH				*i* S	**Sb**	**13 15 53.4**	**+0.7**
	baz=267						
NSTT	**Nanjuang**	**1.15**	**321**	⇓*i*P	**Pb**	**13 15 38.2**	**0.0**
	baz=323						
NSTT				*i* S	**Sb**	**13 15 53.0**	**+0.2**
	baz=323						
LIOB	**Emei**	**1.15**	**322**	⇓*i*P	**Pb**	**13 15 38.5**	**+0.2**
	baz=324						
LIOB				S	**Sb**	**13 15 53.4**	**+0.5**
	baz=324						
WCHH	**Zhanghua**	**1.18**	**287**	*e*P	**Pb**	**13 15 39.2**	**+0.5**
	baz=287						
WCHH				*e*S	**Sb**	**13 15 55.4**	**+1.8**
	baz=287						
WTP	**Ta-pu**	**1.18**	**246**	⇑P	**Pb**	**13 15 38.6**	**-0.2**
	baz=244						
WTP				*e*S	**Sb**	**13 15 54.4**	**+0.6**
	baz=244						
NMLH	**Miaoli**	**1.21**	**312**	⇓P	**Pb**	**13 15 39.4**	**0.0**
	baz=312						
NMLH				*e*S	**Sb**	**13 15 55.5**	**+0.9**
	baz=312						
WDJ	**Dajia District**	**1.22**	**301**	*e*P	**Pb**	**13 15 39.4**	**0.0**
	baz=300						
WDJ				*e*S	**Sb**	**13 15 55.5**	**+0.9**
	baz=300						
TIPB	**Shuangxi**	**1.24**	**2**	*e*P	**Pb**	**13 15 39.3**	**-0.4**
	baz=351						
TIPB				*e*S	**Sb**	**13 15 54.7**	**-0.6**
	baz=351						
NHDH	**Xindian Distri**	**1.25**	**349**	P	**Pb**	**13 15 39.4**	**-0.6**
	baz=340						
NHDH				*i* S	**Sb**	**13 15 55.0**	**-0.7**
	baz=340						
TWA	**Mucha**	**1.26**	**351**	*e*P	**Pb**	**13 15 39.8**	**-0.3**
	baz=343						
TWA				*i* S	**Sb**	**13 15 55.7**	**-0.2**
	baz=343						
CHY	**Chiayi**	**1.27**	**260**	*e*P	**Pb**	**13 15 40.6**	**+0.3**
	baz=258						
CHY				*e*S	**Sb**	**13 15 57.9**	**+1.6**
	baz=258						
CHN1	**Nanshi**	**1.28**	**245**	*e*P	**Pb**	**13 15 40.1**	**-0.4**
	baz=243						
CHN1				*e*S	**Sb**	**13 15 57.2**	**+0.7**
	baz=243						
TWK	**Hsinying**	**1.28**	**249**	P	**Pb**	**13 15 40.3**	**-0.2**
	baz=247						
TWK				*e*S	**Sb**	**13 15 57.3**	**+0.7**
	baz=247						
SLGT	**Liugui**	**1.28**	**235**	*e*P	**Pb**	**13 15 39.7**	**-0.7**
	baz=222						
SLGT				*e*S	**Sb**	**13 15 56.7**	**+0.2**
	baz=222						
SGST	**Jiashian**	**1.28**	**240**	⇑*i*P	**Pn**	**13 15 39.2**	**+0.4**
	baz=237						
SGST				*i* S	**Sb**	**13 15 56.9**	**+0.3**
	baz=237						
WTK	**Tuku**	**1.28**	**268**	*e*P	**Pb**	**13 15 40.8**	**+0.3**
	baz=267						
WTK				*e*S	**Sb**	**13 15 56.8**	**+0.2**
	baz=267						
TWB1	**Santiao Chiao**	**1.28**	**8**	*e*P	**Pb**	**13 15 40.1**	**-0.4**
	baz=10.0						
SBCB	**Hsinchu**	**1.29**	**325**	*e*P	**Pb**	**13 15 40.6**	**+0.1**
	baz=326						
SBCB				*e*S	**Sb**	**13 15 56.7**	**0.0**
	baz=326						
SNST	**Tainan City**	**1.29**	**247**	*e*P	**Pb**	**13 15 40.6**	**0.0**
	baz=245						
SNST				S	**Sb**	**13 15 57.5**	**+0.7**
	baz=245						
HSN	**Hsinchu**	**1.30**	**325**	*e*P	**Pb**	**13 15 40.5**	**-0.3**
	baz=328						
HSN				*e*S	**Sb**	**13 15 57.8**	**+0.6**
	baz=328						
WRL	**Guolierlin Hig**	**1.30**	**278**	*e*P	**Pb**	**13 15 40.5**	**-0.3**
	baz=277						
WRL				*i* S	**Sb**	**13 15 57.7**	**+0.5**
	baz=277						
YOJ	**Yonaguni jima**	**1.33**	**57**	*e*S	**Sn**	**13 15 56.5**	**+0.2**
NWF	**Wu-fen Shan**	**1.33**	**360**	*e*P	**Pb**	**13 15 41.1**	**-0.3**
	baz=346						
NWF				*i* S	**Sb**	**13 15 58.6**	**+0.4**
	baz=346						
WFSB	**Wu-fen Shan**	**1.33**	**360**	*e*P	**Pn**	**13 15 40.4**	**+0.9**
	baz=347						
WFSB				*e*S	**Sb**	**13 15 58.2**	**+0.2**
	baz=347						
NCUH	**Zhongli**	**1.35**	**336**	*e*P	**Pb**	**13 15 41.3**	**-0.3**
	baz=336						
NCUH				*e*S	**Sb**	**13 16 00.0**	**+1.5**
	baz=336						
SXI1	**Grass Mountain**	**1.36**	**3**	*e*P	**Pb**	**13 15 41.2**	**-0.6**
	baz=24						
SXI1				*i* S	**Sb**	**13 15 59.1**	**+0.3**
	baz=24						
ECL	**Taimali**	**1.36**	**214**	*e*P	**Pn**	**13 15 40.6**	**+0.7**
	baz=211						
ECL				*e*S	**Sn**	**13 15 55.3**	**-1.7**
	baz=211						
WTCT	**Ta-ch'eng**	**1.39**	**276**	*e*P	**Pb**	**13 15 41.3**	**-0.9**
	baz=275						
TWS1	**Kuangyinshan**	**1.41**	**346**	*e*P	**Pb**	**13 15 41.6**	**-0.9**
	baz=348						
TWS1				*i* S	**Sb**	**13 15 59.9**	**-0.2**
	baz=348						
YM01	**YM01**	**1.42**	**352**	*e*P	**Pn**	**13 15 41.1**	**+0.3**
	baz=342						
YM01				*e*S	**Sb**	**13 15 59.5**	**-1.1**
	baz=342						
ICHU	**Yijhu**	**1.43**	**255**	*e*P	**Pb**	**13 15 42.1**	**-0.9**
	baz=254						
ICHU				*e*S	**Sb**	**13 16 01.5**	**+0.6**
	baz=254						
WSL	**Shuilin Townsh**	**1.45**	**262**	*e*P	**Pb**	**13 15 42.9**	**-0.3**
	baz=260						
SCST	**Cishan**	**1.46**	**235**	*e*P	**Pb**	**13 15 44.1**	**+0.7**
	baz=248						
SCST				*e*S	**Sb**	**13 16 03.3**	**+1.8**
	baz=248						
NTST	**Danshui**	**1.46**	**348**	*e*P	**Pb**	**13 15 42.4**	**-1.1**
	baz=360						
NTST				*e*S	**Sb**	**13 16 01.1**	**-0.5**
	baz=360						
CHN3	**Shinhua**	**1.46**	**244**	*e*P	**Pb**	**13 15 44.3**	**+0.8**
	baz=241						
YM08	**YM08**	**1.46**	**353**	*e*P	**Pn**	**13 15 41.7**	**+0.4**
	baz=339						
TSMG	**Majia**	**1.47**	**226**	*e*P	**Pb**	**13 15 43.8**	**+0.2**
	baz=215						
ANP	**Anpu**	**1.47**	**350**	*e*P	**Pn**	**13 15 41.9**	**+0.5**
	baz=352						
ANP				*e*S	**Sn**	**13 15 59.7**	**-0.1**
	baz=352						
CHN8	**Yiju**	**1.50**	**255**	*e*P	**Pb**	**13 15 43.2**	**-0.9**
	baz=254						
CHN8				*e*S	**Sb**	**13 16 02.7**	**0.0**
	baz=254						
SHHT	**Tainan City**	**1.50**	**242**	*e*P	**Pb**	**13 15 44.9**	**+0.8**
	baz=253						
SHHT				*e*S	**Sb**	**13 16 04.9**	**+2.1**
	baz=253						
MASBT	**Mashibuluo**	**1.54**	**224**	*e*P	**Pn**	**13 15 42.8**	**+0.4**
	baz=222						
MASBT				*e*S	**Sb**	**13 16 03.4**	**-0.6**
	baz=222						
TWM1	**Shoushan**	**1.55**	**235**	*e*P	**Pb**	**13 15 45.9**	**+0.9**
	baz=247						
TWM1				*e*S	**Sb**	**13 16 06.2**	**+2.0**
	baz=247						
SCLT	**Jiali**	**1.56**	**250**	*e*P	**Pn**	**13 15 43.0**	**+0.3**
	baz=248						
SCLT				*e*S	**Sb**	**13 16 05.4**	**+0.7**
	baz=248						
EAST	**Anshuo**	**1.60**	**213**	*e*P	**Pn**	**13 15 44.5**	**+1.4**
	baz=200						
TSCK	**Chigu Township**	**1

PNG					*i* S		Sn	13 16 14.5	+0.5
	baz=252								
JKRS	Kuro-shima	2.09	76	*e*P			Pn	13 15 50.5	+0.5
JKRS					*e*S		Sn	13 16 15.9	+1.0
JIJ	Ishigaki jima	2.24	73	P			Pn	13 15 52.2	+0.2
JIJ					S		Sn	13 16 17.8	-0.9
JISG	Ishigakijimahi	2.46	69	*e*P			Pn	13 15 55.0	+0.1
JISG					*e*S		Sn	13 16 23.4	-0.6
VWUC	VWUC	2.48	301	*e*P			Pn	13 15 55.0	-0.2
	baz=300								
JTJ	Tarama	2.81	71	P			Pn	13 16 00.4	+0.6
JTJ					S		Sn	13 16 33.1	+0.4
MATB	Ma-tsu	2.93	326	*e*P			Pn	13 16 01.0	-0.5
	baz=325								
KNMB	Chin-men Tao	3.19	284	*e*P			Pn	13 16 04.9	-0.1
	baz=284								
LYJJ	Jianjiangzhen	3.35	327	*e*P			Pn	13 16 07.3	0.0
	baz=327								
JMJ2	Miyako jima3	3.38	72	P			Pn	13 16 08.9	+1.2
JMJ2					*e*S		Sn	13 16 46.9	+0.1
MHZQ	Yeshan	3.44	314	*e*P			Pn	13 16 07.8	-0.7
	baz=313								
XPSS	Dashiqiu	3.50	336	*e*P			Pn	13 16 08.6	-0.7
	baz=335								
AXDP	Jialang	3.67	289	*e*P			Pn	13 16 11.8	+0.1
	baz=289								
DSXP	Dongshan	4.00	271	*e*P			Pn	13 16 16.6	+0.5
	baz=270								
SXFK	Yanhouchang	4.60	306	*e*P			Pn	13 16 24.2	-0.3
	baz=304								

IDC 08 13:20:57.1±3.2, 61°.62S×154°.64E, h0km, mb4.0/3, mbtmp3.9/4, ML3.6/1, MS4.0/21, Error ellipse: s-maj=178.4km s-min=38.4km az=76.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VNDA	Vanda	16.14	174	Pn		Pn	13 24 45.2	+0.2
	0.2nm,0.3s,baz=349,slow=14,SNR=20							
VNDA				LR		LR	13 30 33.2	
	comp=Z,786nm,18.4s,baz=352,slow=36 0.9nm,0.5s							
RPZ	Rata Peaks	20.40	36	LR		LR	13 32 20.8	
	comp=Z,688nm,18.4s,baz=179,slow=34							
URZ	Urewera	27.22	41	LR		LR	13 37 51.4	
	comp=Z,389nm,18.1s,baz=216,slow=37							
QSPA	South Pole Qui	28.46	180	LR		LR	13 38 46.5	
	comp=Z,213nm,18.9s,baz=8,slow=38							
STKA	Stephens Creek	30.95	338	P		P	13 27 16.6	+1.0
	3.3nm,1.0s,baz=111,slow=8.6,SNR=3.9 3.3nm,1.0s							
MAW	Mawson	36.31	220	LR		LR	13 43 09.7	
	comp=Z,463nm,18.1s,baz=100,slow=37							
H01W1	Cape Leeuwin H	36.97	297	T		T	14 07 10.2	
	baz=148,slow=75,SNR=141							
H01W2	Cape Leeuwin H	36.98	297	T		T	14 07 10.5	
	baz=148,slow=75,SNR=129							
H01W3	Cape Leeuwin H	36.99	297	T		T	14 07 11.5	
	baz=148,slow=75,SNR=117							
NWAO	Narrogin (SRO)	37.40	303	LR		LR	13 39 37.2	
	comp=Z,360nm,20.1s,baz=38,slow=30							
DZM	Mont Dzumac	40.36	17	LR		LR	13 41 47.6	
	comp=Z,297nm,19.1s,baz=213,slow=31							
ASAR	Alice Springs	40.51	330	P		P	13 28 38.6	+0.9
	1.7nm,1.1s,baz=168,slow=7.5,SNR=7.0 1.7nm,1.1s							
CTA	Charters Tower	41.91	348	LR		LR	13 43 19.3	
	comp=Z,223nm,20.0s,baz=170,slow=32							
WRA	Warramunga Arr	44.00	332	P		P	13 29 04.2	-1.9
	2.7nm,1.1s,baz=165,slow=7.3,SNR=7.7 2.7nm,1.1s							
SNAA	Sanae	46.07	190	LR		LR	13 49 31.0	
	comp=Z,557nm,18.1s,baz=182,slow=37							
HNR	Honiara	52.24	7	LR		LR	13 48 03.8	
	comp=Z,3μm,18.8s,baz=216,slow=31							
PMG	Port Moresby	52.41	351	LR		LR	13 49 36.1	
	comp=Z,182nm,18.9s,baz=156,slow=33							
BATI	Baumata	56.09	322	LR		LR	13 54 16.8	
	comp=Z,74nm,19.8s,baz=200,slow=36							
PPT	Papeete	58.68	67	LR		LR	13 51 58.0	
	comp=Z,84nm,18.1s,baz=304,slow=32							
KAPI	Kappang	62.18	320	LR		LR	13 56 02.3	
	comp=Z,114nm,19.5s,baz=160,slow=34							
LEM	Lembang	64.72	307	LR		LR	13 55 12.0	
	comp=Z,97nm,21.2s,baz=198,slow=32							
PLCA	Paso Flores	71.63	145	LR		LR	13 58 27.1	
	comp=Z,69nm,18.1s,baz=192,slow=31							
GUMO	Guam	75.36	350	LR		LR	14 03 58.1	
	comp=Z,33nm,19.4s,baz=220,slow=34							
H03S1	Juan Fernandez	75.48	136	T		T	14 56 33.7	
	baz=201,slow=74,SNR=14							
H03S2	Juan Fernandez	75.48	136	T		T	14 56 32.2	
	baz=201,slow=74,SNR=13							
H03S3	Juan Fernandez	75.49	136	T		T	14 56 33.0	
	baz=201,slow=74,SNR=11							
H08S2	Diego Garcia H	79.58	273	T		T	15 00 40.2	
	baz=154,slow=76							
H08S1	Diego Carcia H	79.59	273	T		T	15 00 43.4	
	baz=154							
H08S3	Diego Garcia H	79.60	273	T		T	15 00 42.8	
	baz=154,slow=76							
LBTB	Lobatse	84.47	225	LR		LR	14 07 43.9	
	comp=Z,66nm,19.7s,baz=138,slow=33							
PALK	Pallekele	88.82	288	LR		LR	14 07 04.1	
	comp=Z,47nm,19.2s,baz=261,slow=31							
CMAR	Chiang Mai Arr	91.20	308	LR		LR	14 13 43.4	
	comp=Z,24nm,19.3s,baz=155,slow=35							
TSUM	Tsumeb	92.48	220	LR		LR	14 15 46.4	
	comp=Z,62nm,18.1s,baz=150,slow=36							
JNU	Nakatsue	96.36	340	LR		LR	14 17 47.0	
	comp=Z,41nm,18.8s,baz=155,slow=35							

NOU 08 13:24:27.1, 16°.00S×167°.79E, h0km, MLv4.8/4, Vanuatu Islands, Vanuatu Islands

*JMA **08** 13:25:13.2±0.2, 33°.N±2°.×13°.8E±°, h325km, MV3.4/30, FAR S OFF TOKAI DISTRICT*
*IDC **08** 13:25:16.0±1.0, 33°.26N×138°.33E, h302km±9km, mb3.3/16, mbtmp3.9/22, Error ellipse: s-maj=17.1km s-min=11.5km az=73.0*
ISC 08 13:25:15.8±0.7, 33°.31N±0°.08×138°.34E±0°.07, h300km, n41, σ0s85/46, mb3.5/16, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TK02	Tokai 2	0.80	323	P		Pn	13 25 56.3	+1.3
JKO	Kozu shima	1.10	37	P		Pn	13 25 57.3	+0.7
JMKN	Mikurajimanish	1.19	60	P		Pn	13 25 57.5	+0.4
JHJ	Hachijo jima 2	1.22	98	P		Pn	13 25 57.6	+0.3
	68nm,0.3s,baz=152,slow=22,SNR=10							
JHJ				S		S	13 26 31.8	+1.5
	141nm,0.7s,baz=72,slow=20,SNR=1.7							
TTO1	TONANKAI O.B.S	1.34	284	*e*P		Pn	13 25 58.9	+1.3
JIE	Ise	1.74	309	P		Pn	13 26 01.2	+0.7
JOD2	Odawara 2	2.05	17	P		Pn	13 26 03.6	+0.7
JOD2				S		S	13 26 42.8	+2.4
JYN	Shimob	2.19	4	P		Pn	13 26 05.4	+1.2
JTNC	Tanabenakahech	2.34	283	P		Pn	13 26 05.5	+0.2
JWY	Kouya	2.46	292	P		Pn	13 26 07.4	+0.8
BSO1	Boso 1	2.57	58	P		Pn	13 26 05.9	-0.9
BSO1				*e*S		S	13 26 47.0	-0.5
JYTA	Yamagatataniai	2.64	330	P		Pn	13 26 08.9	+0.9
JRY	Ryogami san	2.74	10	P		Pn	13 26 10.1	+1.1
JWT	Wachi	3.13	310	P		Pn	13 26 13.5	+0.7
MJAR	Matsushiro Arr	3.23	358	P		Pn	13 26 14.1	+0.4
	5.8nm,0.5s,baz=173,slow=11,SNR=23							
MAT	Matsushiro	3.23	358	P		Pn	13 26 14.7	+0.9
JAG	Ashikaga	3.24	16	P		Pn	13 26 13.5	-0.4
JAI	Aioi	3.28	280	*e*P		Pn	13 26 14.6	+0.2
JKG	Kaga	3.39	331	*e*P		Pn	13 26 16.2	+0.8
JMN	Monobe	3.75	278	P		Pn	13 26 19.9	+0.5
JNU	Nakatsue	6.26	270	P		Pn	13 26 48.6	+0.4
	10nm,1.0s,baz=108,slow=3.2,SNR=2.0							
KSRS	Korea Array	9.46	299	P		Pn	13 27 27.9	+0.7
	2.9nm,0.7s,baz=110,slow=13,SNR=7.4							
ASAJ	Asahikawa	11.29	16	P		P	13 27 50.5	-1.2
	2.4nm,0.3s,baz=247,slow=13,SNR=11							
USRK	Ussuriysk Ar.	11.95	337	P		P	13 27 58.8	-0.1
	0.5nm,0.4s,baz=139,slow=14,SNR=1.4							
KLR	Kul'dur	16.65	345	P		Pn	13 28 51.2	-2.0
	1.3nm,0.4s,baz=176,slow=6.3,SNR=6.1							
SONM	Songino Array	28.04	311	P		P	13 30 40.1	+0.2
	1.2nm,0.8s,baz=107,slow=6.3,SNR=3.7 1.2nm,0.8s							
ZALV	Zalesovo Beam	42.68	315	P		P	13 32 43.4	0.0
	1.0nm,0.4s,baz=106,slow=8.8,SNR=6.2							
ZALV				PcP		PP	13 34 28.9	-0.3
	0.7nm,0.3s,baz=132,slow=2.1,SNR=4.1 1.0nm,0.4s							
MKAR	Makanchi Array	44.07	305	P		P	13 32 54.6	0.0
	0.7nm,0.4s,baz=85,slow=10,SNR=13 0.7nm,0.4s							
KURBB	Kurchatov Arra	46.40	311	P		P	13 33 12.5	-0.3
	1.4nm,0.2s,baz=88,slow=7.2,SNR=7.3 1.4nm,0.2s							
BVAR	Borovoye Array	51.28	314	P		P	13 33 50.1	+0.6
	1.3nm,0.5s,baz=94,slow=7.5,SNR=9.9							
BVAR				PcP		PcP	13 34 59.7	-0.2
	0.5nm,0.4s,baz=69,slow=4.9,SNR=2.8 1.3nm,0.5s							
WRA	Warramunga Arr	53.09	185	P		P	13 34 02.5	-0.6
	0.3nm,0.3s,baz=0.0,slow=7.6,SNR=17 0.3nm,0.3s							
ILAR	Eielson Array	53.98	31	P		P	13 34 09.8	+0.8
	0.4nm,0.8s,baz=284,slow=6.2,SNR=4.1 0.4nm,0.8s							
ASAR	Alice Springs	56.81	185	P		P	13 34 29.4	-0.2
	0.3nm,0.8s,baz=18,slow=11,SNR=6.4 0.3nm,0.8s							
ARCES	ARCESS Array B	66.59	339	P		P	13 35 34.4	+0.6
	8.3nm,1.1s,baz=61,slow=7.9,SNR=6.3 8.3nm,1.1s							
YKA	Yellowknife Ar	68.28	29	P		P	13 35 44.1	-0.3
	0.1nm,0.4s,baz=226,slow=6.0,SNR=4.7 0.1nm,0.4s							
FINES	FINESS Array B	70.92	332	P		P	13 36 00.5	+0.1
	2.3nm,0.5s,baz=54,slow=6.0,SNR=19 2.3nm,0.5s							
AKASG	Malin Array Be	75.67	322	P		P	13 36 28.1	-0.1
	0.5nm,0.4s,baz=53,slow=4.7,SNR=2.8 0.5nm,0.4s							
HFS	Hagfors	76.41	335	P		P	13 36 32.3	+0.1
	2.1nm,0.7s,baz=62,slow=3.4,SNR=7.0 2.1nm,0.7s							
NOA	NORSAR Array B	76.62	336	P		P	13 36 33.4	0.0
	1.2nm,0.6s,baz=40,slow=5.8,SNR=2.4 1.2nm,0.6s							
GERES	GERESS Array B	84.50	327	P		P	13 37 14.4	-1.0
	0.4nm,0.5s,baz=89,slow=7.9,SNR=1.9 0.4nm,0.5s							
TXAR	Lajitas Array	94.40	51	P		P	13 38 03.0	+0.7
	0.2nm,0.7s,baz=247,slow=1.9,SNR=2.4 0.2nm,0.7s							

*SNET **08** 13:35:07.5±1.4, 13°.18N×90°.39W, h34km±999km, ML3.3*
*CATAC **08** 13:35:12.2±0.5, 13°.38N×90°.06W, h31km±3km, ML3.4*
*GCG **08** 13:35:15.4±0.3, 13°.54N×90°.17W, h74km±10km, MD3.8*
ISC 08 13:35:13.9±5.4, 13°.40N±0°.06×90°.02W±0°.04, h38km±7km, n55, σ0s87/82, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NUBE	Las Nubes	0.55	25	*e*P		Pn	13 35 25.1	-0.4
NUBE				IAML			13 35 37.4	
	comp=Z,641nm,0.4s							
NUBE	Las Nubes	0.55	25	*i* P		Pn	13 35 24.7	-0.8
NUBE				*i* S		Sn	13 35 34.3	+0.8
NUBE				IAML			13 35 37.0	
	comp=Z,1μm,1.0s							
CEVE	Cerro Verde	0.57	42	*e*P		Pn	13 35 25.6	-0.2
CEVE	Cerro Verde	0.57	42	*i* P		Pn	13 35 25.5	-0.4
CEVE				*i* S		Sn	13 35 35.1	+0.9
CEVE				IAML			13 35 36.4	
	comp=Z,5μm,1.0s							
SBLS	San Blas	0.58	41	*e*P		Pn	13 35 25.6	-0.4
JAYA	Jayaque - finc	0.61	65	*e*P		Pn	13 35 25.6	-0.7
JAYA				IAML			13 35 38.3	
	comp=Z,2μm,0.2s							
JAYA	Jayaque - finc	0.61	65	*i* P		Pn	13 35 25.4	-0.9
JAYA				*i* S		Sn	13 35 35.9	+1.0
JAYA				IAML			13 35 38.1	
	comp=Z,3μm,1.0s							
RTR	El Retiro	0.61	36	*e*P		Pn	13 35 26.1	-0.2
SNJE	San Jose	0.61	41	*e*P		Pn	13 35 26.0	-0.4
SNJE				*e*P		Pn	13 35 26.1	-0.4
LOAL	Lomas de Alarc	0.64	21	*i* P		Pn	13 35 26.6	0.0
LOAL				*i* S		Sn	13 35 36.9	+1.4
LOAL				IAML			13 35 39.0	
	comp=Z,4μm,1.0s							
SLOZ	Alcaldia de Sa	0.66	20	*e*P		Pn	13 35 26.0	-0.9
CEDA	San Andres	0.73	56	*i* P		Pn	13 35 25.0	-2.7
CEDA				*i* S		Sn	13 35 38.2	+0.6
UNIC	Universidad Ca	0.74	38	*i* P		Pn	13 35 27.2	-0.6
UNIC				IAML			13 35 27.8	
	comp=Z,780nm,1.0s							
UNIC				*i* S		Sn	13 35 37.7	-0.2
PMON	Piamonte	0.75	66	*i* P		Pn	13 35 27.3	-0.7
PMON				*i* S		Sn	13 35 39.6	+1.3
PMON				IAML			13 35 45.1	
	comp=Z,2μm,1.0s							
MAGS	Ministerio de	0.77	68	*i* P		Pn	13 35 28.1	-0.1
MAGS				IAML			13 35 45.6	
	comp=Z,820nm,1.0s							
ITCA	Escuela Especi	0.77	69	*i* P		Pn	13 35 26.6	-1.7
SNET	Serv Nac Est T	0.82	69	*i* P		Pn	13 35 29.0	+0.1
SNET				IAML			13 35 29.3	
	comp=Z,3μm,1.0s							
SNET				*i* S		Sn	13 35 39.8	-0.1
UEES	Universidad Ev	0.82	67	*i* P		Pn	13 35 28.4	-0.6
UEES				IAML			13 35 45.3	
	comp=Z,820nm,1.0s							
SEMO	Seminario San	0.83	69	*i* P		Pn	13 35 28.7	-0.4
SEMO				IAML			13 35 55.2	
	comp=Z,6μm,1.0s							
PANCS	Alcalda de	0.84	75	*i* P		Pn	13 35 28.3	-1.0
PANCS				IAML			13 35 29.8	
	comp=Z,3μm,1.0s							
QUEZ	Alcaldia de Qu	0.84	59	*i* P		Pn	13 35 28.9	-0.4
QUEZ				IAML			13 35 29.6	
	comp=Z,5μm,1.0s							
LOMA	Loma Larga	0.86	73	*e*P		Pn	13 35 28.9	-0.7
LOMA	Loma Larga	0.86	73	*i* P		Pn	13 35 28.8	-0.7
LOMA				*i* S		Sn	13 35 41.4	+0.4
LOMA				IAML			13 35 44.7	
	comp=Z,1μm,1.0s							
LFRS	El Faro	0.96	76	*e*P		Pn	13 35 29.9	-1.0
JUAM	Asuncion Mita	0.98	18	*i* P		Pn	13 35 30.2	-0.9
JUAM				*i* S		Sn	13 35 44.3	+0.5
JUAM				IAML			13 35 46.4	
	comp=Z,840nm,1.0s							
SJTE	Alcalda de S	1.01	78	*e*P		Pn	13 35 31.5	0.0
SJTE	Alcalda de S	1.01	78	*i* P		Pn	13 35 30.9	-0.6
SJTE				*i* S		Sn	13 35 44.7	+0.2
SJTE				IAML			13 35 49.7	
	comp=Z,760nm,1.0s							
PAVA	Las Pavas	1.10	73	*e*P		Pn	13 35 32.9	+0.1
PAVA	Las Pavas	1.10	73	*i* P		Pn	13 35 32.3	-0.5
PAVA				*i* S		Sn	13 35 48.2	+1.4
PAVA				IAML			13 35 51.2	
	comp=Z,640nm,1.0s							
COEG	Centro de Oper	1.13	79	*e*P		Pn	13 35 32.5	-0.7
COEG	Centro de Oper	1.13	79	*i* P		Pn	13 35 32.6	-0.6
COEG				*i* S		Sn	13 35 48.1	+0.6
COEG				IAML			13 35 56.2	
	comp=Z,430nm,1.0s							
PCG	Pacaya	1.14	330	*e*S		Sn	13 35 49.2	+1.2
MTO3	Montecristo	1.18	33	*e*P		Pn	13 35 33.4	-0.7
MTO3				IAML			13 35 52.1	
	comp=Z,58nm,0.5s							
MTO3	Montecristo	1.18	33	*i* P		Pn	13 35 33.1	-1.0
MTO3				IAML			13 35 33.6	
	comp=Z,200nm,1.0s							
MTO3				*i* S		Sn	13 35 49.6	+0.6
TECO	Alcaldia de Te	1.21	83	*i* P		Pn	13 35 33.5	-0.8
TECO				*i* S		Sn	13 35 49.6	+0.1
TECO				IAML			13 35 53.4	
	comp=Z,210nm,1.0s							
UESV	Universidad de	1.22	79	*i* P		Pn	13 35 34.0	-0.4
UESV				*i* S		Sn	13 35 49.9	+0.2
UESV				IAML			13 35 54.6	
	comp=Z,490nm,1.0s							
NBG	Las Nubes	1.22	345	*e*P		Pn	13 35 35.8	+1.1
NBG				*e*S		Sn	13 35 51.7	+1.6
GUNB	GUNB	1.23	345	*i* P		Pn	13 35 33.8	-1.0
GUNB				*i* S		Sn	13 35 49.4	-1.0
GUNB				IAML			13 35 51.7	
	comp=Z,320nm,1.0s							
ESSG	Sabana Grande	1.26	321	*i* S		Sn	13 35 49.4	-1.3
LLGN	La Laguna	1.29	54	*i* S		Sn	13 35 51.9	+0.4
SCLA	Alcaldia de Sa	1.29	76	*i* P		Pn	13 35 35.2	-0.2
SCLA				*i* S		Sn	13 35 50.5	-1.0
SCLA				IAML			13 35 59.4	
	comp=Z,120nm,1.0s							
FUG	Fuego 3	1.31	323	*e*P		Pn	13 35 36.1	+0.3
FUG				*e*S		Sn	13 35 52.4	+0.1
ESQI	Esquipulas	1.33	30	*i* P		Pn	13 35 35.5	-0.5
ESQI				IAML			13 35 35.6	
	comp=Z,190nm,1.0s							
ALJI	Alcalda de J	1.41	93	*i* S		Sn	13 35 53.0	-1.4
PQSS	Presa 15 de Se	1.44	81	*i* P		Pn	13 35 36.5	-0.8
PQSS				*i* S		Sn	13 35 56.0	+1.0
PQSS				IAML			13 35 56.6	
	comp=Z,160nm,1.0s							
PACA	Pacayal	1.65	87	*e*P		Pn	13 35 40.7	+0.2
PACA	Pacayal	1.65	87	*i* P		Pn	13 35 41.9	+1.5
PACA				*i* S		Sn	13 36 01.9	+1.4
SARH	Santa Rosa de	1.83	42	*i* P		Pn	13 35 42.4	-0.5
STG3	Santiaguito 3,	1.99	311	*e*P		Pn	13 35 45.2	0.0
STG3				*e*S		Sn	13 36 08.3	-0.7
LCND	La Caada	2.07	92	*i* P		Pn	13 35 45.8	-0.3
LCND				*i* S		Sn	13 36 11.5	+0.8
LCND				IAML			13 37 22.4	
	comp=Z,210nm,1.0s							
CNCH	Conchagua	2.13	93	*e*P		Pn	13 35 46.0	-1.0
CNCH				IAML			13 36 19.1	
	comp=Z,567nm,0.4s							
CNCH	Conchagua	2.13	93	*i* P		Pn	13 35 46.3	-0.7
CNCH				*i* S		Sn	13 36 13.9	+1.6
CNCH				IAML			13 36 18.7	
	comp=Z,540nm,1.0s							
CSGN	Cosiguina Volc	2.43	100	*i* P		Pn	13 35 50.6	-0.5
CSGN				IAML			13 36 29.2	
	comp=Z,530nm,1.0s							
COMHN	El Horno	2.60	66	*i* P		Pn	13 35 52.0	-1.6
PKGN	Cerro Pekin	3.05	103	*i* P		Pn	13 36 00.2	+0.6
PKGN				*i* S		Sn	13 36 34.7	-0.2

*IDC **08** 13:44:17.6±1.0, 55°.25S×28°.68W, h0km, mb3.9/4, mbtmp3.9/5, ML4.3/1, Error ellipse: s-maj=46.6km s-min=22.1km az=81.0*
ISC 08 13:44:18.6±1.0, 55°.3S±0°.2×28°.7W±0°.3, h10km, n10, σ1s04/7, mb3.9/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SNAA	Sanae	19.79	156	P		Pn	13 48 48.8	-1.5
	0.9nm,0.3s,baz=304,slow=12,SNR=35 2.6nm,0.4s							
QSPA	South Pole Qui	34.98	180	P		P	13 51 11.6	+0.9
	0.9nm,0.6s,baz=216,slow=2.8,SNR=16 0.9nm,0.6s							
CPUP	Villa Florida	35.67	312	P		P	13 51 16.4	-0.4
	1.0nm,0.5s,baz=153,slow=12,SNR=2.9 1.0nm,0.5s							
VNDA	Vanda	47.31	183	P		P	13 52 52.1	+0.5
	0.8nm,0.7s,baz=182,slow=5.7,SNR=6.4 0.8nm,0.7s							
H10N1	ASCENSION HYDR	148.63	19	T		T	14 45 47.6	
	baz=190							
H10N3	ASCENSION HYDR	148.63	19	T		T	14 45 24.0	
	baz=190							
H10N2	ASCENSION HYDR	148.64	19	T		T	14 45 31.4	
	baz=190							
TORD	Torodi Ar. Bea	72.80	31	P		P	13 55 47.8	+0.7
	1.0nm,0.6s,baz=203,slow=6.4,SNR=5.6 1.0nm,0.6s							
ILAR	Eielson Array	148.98	313	PKPbc		PKiKP	14 04 05.8	-0.7
	1.8nm,0.8s,baz=117,slow=1.7,SNR=17							
SONM	Songino Array	151.51	86	PKPbc		PKiKP	14 04 12.2	-0.3
	0.5nm,0.5s,baz=226,slow=2.7,SNR=3.1							

*SJA **08** 13:50:18.6±0.6, 29°.90S×72°.41W, h38km±6km, ML4.1, MW4.4*
*IDC **08** 13:50:19.4±1.1, 29°.94S×72°.09W, h0km, mb3.8/4, mbtmp3.7/6, ML4.0/2, Error ellipse: s-maj=32.1km s-min=26.0km az=110.0*
*NEIC **08** 13:50:22.5±1.5, 29°.88S±0°.05×72°.1W±0°.1, h27km±7km, mb4.4/5, Error ellipse: s-maj=15.3km s-min=6.8km az=99.0*
*GUC **08** 13:50:22.0±0.8, 29°.93S×72°.08W, h36km±4km, ML4.0*
ISC 08 13:50:19.2±1.6, 29°.94S±0°.03×72°.15W±0°.05, h2km±9km, n75, σ1s40/105, mb4.2/6, 5C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO05	La Serena	0.79	89			Pb	13 50 35.5	-0.1
CO05	La Serena	0.79	89	⇓*i* P		Pb	13 50 35.6	-0.1
CO05				IAML			13 50 48.7	
	comp=N,14μm,0.4s							
GO04	Tololo Observa	1.19	102	Pn		Pg	13 50 42.3	+0.3
GO04	Tololo Observa	1.19	102	*e*P		Pg	13 50 42.4	+0.3
GO04				*e*S		Sn	13 50 59.7	-0.3
GO04				IAML			13 51 02.8	
	comp=Z,7μm,0.3s							
GO04	Tololo Observa	1.19	102	⇓*i* P		Pg	13 50 42.3	+0.3
CO03	El Pedregal	1.55	126			Pn	13 50 48.0	+0.2
CO03	El Pedregal	1.55	126	*e*P		Pn	13 50 48.4	+0.5
CO03				*e*S		Sg	13 51 10.3	+1.4
CO03				IAML			13 51 13.2	
	comp=Z,2μm,0.8s							
CO03	El Pedregal	1.55	126	⇓*i* P		Pn	13 50 48.1	+0.2
CO03				*i* S		Sn	13 51 07.2	-1.4
CO03				IAML			13 51 13.9	
	comp=E,4μm,0.3s							
LCO	Las Campanas	1.56	54			Pn	13 50 47.3	-0.9
LCO	Las Campanas	1.56	54	*e*P		Pn	13 50 48.1	-0.1
LCO				*e*S		Sg	13 51 10.7	+1.3
LCO	Las Campanas	1.56	54	⇑*i* P		Pn	13 50 48.0	-0.1
LCO				*i* S		Sn	13 51 07.9	-1.2
CO02	Combarbal	1.60	142	*e*P		Pn	13 50 49.0	+0.3
CO02				*e*S		Sb	13 51 10.9	+0.5
CO02				IAML			13 51 16.5	
	comp=Z,3μm,0.4s				

ROCH				*e*P		**Pn**	13 51 11.2	**+0.8**
ROCH				*e*S		**Sn**	13 51 47.6	**-1.5**
ROCH				IAML			13 52 08.2	
	comp=N,646nm,0.5s							
ROC1	**El Roble**	**3.18**	**163**			**Pn**	13 51 11.0	**+0.5**
MT02	**Curacav**	**3.42**	**166**			**Pn**	13 51 14.1	**+0.5**
PEL	**Peldehue**	**3.43**	**159**			**Pn**	13 51 14.9	**+1.1**
PEL	**Peldehue**	**3.43**	**159**	*e*P		**Pn**	13 51 14.9	**+1.1**
MT10	**Hacienda Santa**	**3.60**	**158**	*e*P		**Pn**	13 51 17.4	**+1.3**
MT10				*e*S		**Sn**	13 51 59.4	**+0.1**
VCA	**Vinchina**	**3.64**	**72**	*e*P		**Pn**	13 51 15.9	**-0.8**
VCA				*e*S		**Sg**	13 52 14.9	**-1.3**
VCA				IAML			13 52 23.8	
	comp=Z,403nm,0.6s							
MT05	**Renca**	**3.65**	**161**			**Pn**	13 51 18.0	**+1.2**
MT05	**Renca**	**3.65**	**161**	*e*P		**Pn**	13 51 17.7	**+1.0**
MT05				*e*S		**Sg**	13 52 13.9	**-2.6**
MT05				IAML			13 52 21.6	
	comp=Z,559nm,1.1s							
MT05	**Renca**	**3.65**	**161**	*e*P		**Pn**	13 51 18.2	**+1.5**
MT05				*e*S		**Sn**	13 52 00.2	**-0.2**
MT14	**Cerro Cal¡n**	**3.71**	**159**	*e*P		**Pn**	13 51 19.7	**+2.0**
MT03	**Universidad Ad**	**3.81**	**159**			**Pn**	13 51 20.3	**+1.2**
ASAL	**Salagasta**	**3.88**	**134**	*e*P		**Pb**	13 51 24.8	**-3.6**
ASAL				*e*S		**Sg**	13 52 21.4	**-2.4**
ASAL				IAML			13 52 39.7	
	comp=Z,213nm,0.7s							
MT15	**Las Vizcachas**	**3.91**	**160**	*e*P		**Pn**	13 51 20.8	**+0.4**
MT15				*e*S		**Sn**	13 52 05.8	**-1.1**
MT08	**Bocatoma Ro**	**3.94**	**153**	*e*P		**Pn**	13 51 24.4	**+3.5**
MT01	**Popeta**	**3.99**	**169**	*e*P		**Pn**	13 51 21.4	**0.0**
MT01				*e*P		**Pn**	13 51 21.9	**+0.5**
MT01				*e*S		**Sb**	13 52 21.9	**+3.0**
MT01				IAML			13 52 30.4	
	comp=Z,177nm,0.7s							
AC01	**Pan de Azucar**	**4.01**	**20**	Pn		**Pn**	13 51 19.9	**-1.7**
AC01	**Pan de Azucar**	**4.01**	**20**	*e*P		**Pn**	13 51 20.0	**-1.7**
AC01				*e*S		**Sn**	13 52 06.3	**-3.0**
AC01				IAML			13 52 37.2	
	comp=Z,152nm,0.8s							
MT12	**Pirque**	**4.02**	**161**	*e*P		**Pn**	13 51 20.4	**-1.5**
MT13	**San Alfonso**	**4.11**	**158**	*e*P		**Pn**	13 51 25.4	**+2.2**
AVFE	**Valle Fertil**	**4.12**	**101**	*e*P		**Pn**	13 51 25.8	**+2.6**
AVFE				*e*S		**Sg**	13 52 30.9	**-0.7**
AVFE				IAML			13 52 36.1	
	comp=Z,248nm,0.6s							
LMEL	**Las Melosas**	**4.24**	**158**			**Pn**	13 51 25.6	**+0.7**
BO04	**La Punta**	**4.25**	**162**	Pn		**Pn**	13 51 25.9	**+0.9**
BO01	**Tunca**	**4.53**	**169**			**Pn**	13 51 29.6	**+0.8**
BO01	**Tunca**	**4.53**	**169**	*e*P		**Pn**	13 51 29.0	**+0.2**
BO01				*e*S		**Sn**	13 52 21.2	**-0.9**
BO01				IAML			13 52 59.0	
	comp=Z,98nm,0.8s							
ACLC	**CERRO LA CRUZ**	**4.55**	**85**	*e*P		**Pn**	13 51 31.4	**+2.2**
ACLC				*e*S		**Sb**	13 52 32.4	**-2.8**
ACLC				IAML			13 52 46.9	
	comp=Z,291nm,0.9s							
BO02	**Sierra Bellavi**	**4.98**	**167**	Pn		**Pn**	13 51 35.9	**+0.9**
GO05	**Huala**	**5.06**	**178**			**Pn**	13 51 36.6	**+0.4**
GO05	**Huala**	**5.06**	**178**	*e*P		Pn	13 51 30.9	-5.2
GO05				*e*P		**Pn**	13 51 35.7	**-0.4**
H03N1	**Juan Fernandez**	**6.74**	**237**	Pn		**Pn**	13 52 00.3	**+1.4**
	baz=114,slow=19							
H03N1				T		T	13 59 19.3	
	baz=69,slow=72,SNR=1197							
H03N2	**Juan Fernandez**	**6.76**	**237**	Pn		**Pn**	13 51 59.6	**+0.5**
	baz=114,slow=19							
H03N2				T		T	13 59 19.9	
	baz=69,slow=72,SNR=986							
H03N3	**Juan Fernandez**	**6.76**	**237**	Pn		**Pn**	13 51 59.3	**+0.1**
	baz=114,slow=19							
H03N3				T		T	13 59 18.6	
	baz=69,slow=72,SNR=1234							
PLCA	**Paso Flores**	**10.85**	**174**	Pn		**Pn**	13 52 55.6	**0.0**
PLCA	**Paso Flores**	**10.85**	**174**	Pn		**Pn**	13 52 56.1	**+0.5**
	comp=Z,0.2nm,0.3s,baz=352,slow=14,SNR=6.5							
	comp=Z,0.6nm,0.4s							
TRQA	**Tornquist**	**11.69**	**137**			**Pn**	13 53 08.0	**+1.0**
CPUP	**Villa Florida**	**13.56**	**78**	Pn		**Pn**	13 53 32.8	**+0.3**
CPUP	**Villa Florida**	**13.56**	**78**	Pn		**Pn**	13 53 34.0	**+1.4**
	comp=Z,0.2nm,0.3s,baz=244,slow=9.6,SNR=2.4							
CPUP				Sn		**Sn**	13 56 06.0	**+2.2**
	comp=Z,0.2nm,0.3s,baz=252,slow=5.7,SNR=2.2							
CPUP				Lg		Lg	13 57 28.3	
	comp=Z,0.1nm,0.3s,baz=258,slow=20,SNR=2.1							
	comp=Z,0.7nm,0.4s							
SNAA	**Sanae**	**55.39**	**159**	P		**P**	13 59 54.5	**+0.1**
SNAA	**Sanae**	**55.39**	**159**	P		**P**	13 59 55.2	**+0.7**
	comp=Z,1.1nm,0.7s,baz=221,slow=11,SNR=2.2							
	comp=Z,1.1nm,0.7s							
QSPA	**South Pole Qui**	**60.29**	**180**	P		**P**	14 00 30.4	**+1.4**
QSPA				IAmb		IAmb	14 00 35.8	
	comp=Z,7.4nm,1.5s							
QSPA	**South Pole Qui**	**60.29**	**180**	P		**P**	14 00 29.5	**+0.5**
	comp=Z,1.2nm,0.9s,baz=130,slow=2.4,SNR=6.2							
	comp=Z,1.2nm,0.9s							
VNDA	**Vanda**	**68.06**	**191**	P		**P**	14 01 18.3	**-1.4**
VNDA				IAmb		IAmb	14 01 57.3	
	comp=Z,2.7nm,1.3s							
PDAR	**Pinedale Array**	**80.11**	**333**	P		**P**	14 02 32.3	**+1.6**
	comp=Z,0.2nm,0.6s,baz=153,slow=8.1,SNR=2.6							
	comp=Z,0.2nm,0.6s							
TOA0	**Torodi Ar. Sit**	**82.93**	**71**	P		**P**	14 02 44.6	**-1.4**
TOA0				IAmb		IAmb	14 02 46.6	
	comp=Z,5.5nm,1.4s							
TORD	**Torodi Ar. Bea**	**82.93**	**71**	P		**P**	14 02 44.6	**-1.4**
TORD	**Torodi Ar. Bea**	**82.93**	**71**	P		**P**	14 02 45.8	**-0.2**
	comp=Z,0.9nm,0.8s,baz=256,slow=3.4,SNR=5.1							
	comp=Z,0.9nm,0.8s							
KURBB	**Kurchatov Arra**	**149.86**	**38**	PKPbc		**PKPbc**	14 10 10.1	**-0.5**
	comp=Z,0.4nm,0.7s,baz=290,slow=2.7,SNR=2.8							
ZALV	**Zalesovo Beam**	**150.77**	**28**	PKPbc		**PKPbc**	14 10 12.8	**+0.1**
	comp=Z,3.6nm,0.7s,baz=297,slow=3.7,SNR=14							

KRSC 08 14:13:38.1±1.0, 54°.18N×166°.92E, h15^{km}±23^{km}, MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.17**	**332**	*e*P	Pn	14 13 58.7	-1.1
BKI				*e*S	Sb	14 14 14.5	-0.3
TUMD	**Tumrok D**	**3.92**	**288**	*e*P	Pn	14 14 42.1	+4.4
TUMD				*e*S	Sn	14 15 28.7	+5.2
SDLR	**Sedlovina**	**4.86**	**263**	*e*P	Pn	14 14 55.2	+4.6
SMAR	**Somma**	**4.91**	**263**	*e*P	Pn	14 14 56.5	+5.1
UGLR	**Uglovaya**	**4.91**	**262**	*e*P	Pn	14 14 55.4	+4.0
AVH	**Avacha**	**4.94**	**263**	*e*P	Pn	14 14 56.5	+4.7
KRX	**Arik**	**4.97**	**264**	*e*P	Pn	14 14 56.0	+3.7
KRX				*e*S	Sn	14 15 54.2	+4.6
KOK	**Koryaka**	**5.00**	**263**	*e*P	Pn	14 14 56.4	+3.9
MTVR	**Mutnovka**	**5.50**	**256**	*e*P	Pn	14 15 03.8	+4.2
MTVR				*e*S	Sn	14 16 06.3	+3.7
GRL	**Gorelyy**	**5.54**	**257**	*e*P	Pn	14 15 05.1	+5.1
ASAK	**Asacha**	**5.70**	**255**	*e*P	Pn	14 15 06.0	+3.8

*IDC **08** 14:19:32.8±1.6, 7°.40S×74°.91W, h135^{km}±15^{km}, mb3.6/14, mbtmp4.1/18, MS3.7/1, Error ellipse: s-maj=16.7km s-min=10.7km az=63.0*

*NEIC **08** 14:19:33.3±2.7, 7°.36S±0°.06×74°.99W±0°.08, h135^{km}±5^{km}, mb4.3/18, Error ellipse: s-maj=11.1km s-min=9.3km az=99.0*

*VAO **08** 14:19:45.1±0.9, 6°.25S×72°.96W, h10^{km}, mbR4.1*

ISC 08 14:19:33.9±0.4, 7°.42S±0°.05×74°.91W±0°.06, h150^{km}, n88, σ1°72/89, mb4.0/18, 3C, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**2.21**	**98**		**Pn**	14 20 11.0	**-0.5**
CZSB	**Cruzeiro do Su**	**2.21**	**98**	⇑*i*P	**Pn**	14 20 11.3	**-0.2**
CZSB	**Cruzeiro do Su**	**2.21**	**98**	*e*P	**Pn**	14 20 11.4	**-0.1**
ATAH	**Atahualpa**	**3.47**	**274**	P	**Pn**	14 20 27.1	**-0.6**
	86nm,0.3s,baz=350,slow=3.8,SNR=71						
ATAH				S	**Sn**	14 21 07.8	**-1.5**
	93nm,0.5s,baz=101,slow=13,SNR=4.1						
NNA	**Nana**	**4.92**	**203**		**Pn**	14 20 45.8	**-0.5**
NNA	**Nana**	**4.92**	**203**	*e*P	**Pn**	14 20 46.8	**+0.4**
NNA	**Nana**	**4.92**	**203**	P	**Pn**	14 20 45.3	**-1.1**
	13nm,0.3s,baz=18,slow=7.3,SNR=9.5						
NNA				S	**Sn**	14 21 39.8	**-3.1**
	42nm,0.3s,baz=244,slow=5.8,SNR=4.4						
BOSC	**San Juan Bosco**	**5.54**	**320**	Pn	**Pn**	14 20 50.7	**-4.0**
MCRA	**Macar, Loja**	**5.86**	**301**	Pn	**Pn**	14 20 54.9	**-4.0**
MCRA	**Macar, Loja**	**5.86**	**301**	*e*P	**Pn**	14 20 55.0	**-4.0**
MCRA				*e*P	**Pn**	14 20 55.4	**-3.5**
ARNL	**Arenillas**	**6.42**	**307**	Pn	**Pn**	14 21 03.0	**-3.2**
COHC	**Cochancay**	**6.55**	**318**		**Pn**	14 21 08.0	**-0.1**
COHC	**Cochancay**	**6.55**	**318**	*e*P	**Pn**	14 21 06.7	**-1.4**
CHSH	**Refugio Sur-Vo**	**7.09**	**326**		**Pn**	14 21 15.5	**-0.3**
PIAT	**Ana Tenorio**	**7.20**	**332**	*e*P	**Pn**	14 21 14.3	**-2.8**
PTLC	**Puerto Leguiza**	**7.54**	**1**	*e*P	Pn	14 21 15.3	-6.0
SLOR	**San Lorenzo -**	**7.55**	**332**	Pn	**Pn**	14 21 20.9	**-0.9**
SALI	**Salinas**	**7.99**	**310**	Pn	**Pn**	14 21 26.3	**-0.9**
BONI	**La Bonita**	**8.25**	**341**	*e*P	**Pn**	14 21 28.1	**-2.8**
ETMB	**Extrema**	**8.92**	**106**	Pn	**Pn**	14 21 36.3	**-3.4**
ETMB	**Extrema**	**8.92**	**106**	*e*P	**Pn**	14 21 36.2	**-3.4**
GCUF	**Volcan Galeras**	**8.93**	**344**	*e*P	**Pn**	14 21 39.9	**-0.3**
FLOC	**Florencia**	**8.97**	**355**	*e*P	**Pn**	14 21 39.5	**-1.0**
GARC	**Garzon, Huila**	**9.56**	**356**	*e*P	**Pn**	14 21 47.7	**-0.7**
LPAZ	**La Paz**	**11.03**	**144**	Pn	**Pn**	14 22 05.5	**-2.6**
PRAC	**Prado**	**11.06**	**0**	*e*P	**P**	14 22 19.0	**+2.5**
ORTC	**Ortega, Tolima**	**11.26**	**358**	*e*P	**Pn**	14 22 09.9	**-0.7**
SAML	**Samuel**	**11.71**	**98**	Pn	**Pn**	14 22 12.6	**-3.9**
SAML	**Samuel**	**11.71**	**98**	*e*P	**Pn**	14 22 12.6	**-3.9**
SAML	**Samuel**	**11.71**	**98**	*e*P	Pn	14 22 10.2	-6.3
GUY2C	**Guyana, Caldas**	**12.57**	**358**	*e*P	**P**	14 22 31.3	**-2.4**
MACA	**Manacapuru-AM**	**14.78**	**74**	Pn	**Pn**	14 22 54.8	**-0.9**
PAMC	**Pamplona, Colo**	**14.83**	**9**	*e*P	**P**	14 22 59.3	**+0.5**
SIV	**San Ignacio**	**15.99**	**123**	P	**Pn**	14 23 10.1	**-0.6**
	4.2nm,0.5s,baz=313,slow=14,SNR=20						
SDV	**Santo Domingo**	**16.75**	**15**	P	**P**	14 23 18.8	**-1.0**
SDV				IAmb	IAmb	14 23 27.1	
	comp=Z,6.4nm,0.7s						
SDV	**Santo Domingo**	**16.75**	**15**	*e*P	**Pn**	14 23 20.7	**+0.6**
SDV	**Santo Domingo**	**16.75**	**15**	P	**P**	14 23 19.5	**-0.3**
	comp=Z,4.3nm,0.5s,baz=177,slow=17,SNR=4.3						
BOAV	**Boa Vista**	**17.35**	**56**	P	**P**	14 23 25.9	**-0.3**
PTLB	**Pontes e Lacer**	**17.39**	**119**		**P**	14 23 26.3	**-0.3**
BAUV	**El Baul**	**17.64**	**23**	P	**P**	14 23 29.7	**+0.4**
BAUV				IAmb	IAmb	14 23 57.1	
	comp=Z,13nm,0.7s						
CRJC	**Cerrejon, Guaj**	**18.43**	**6**	*e*P	**P**	14 23 34.6	**-3.5**
AC01	**Pan de Azucar**	**19.07**	**168**		**P**	14 23 45.5	**+0.6**
AC01				IAmb	IAmb	14 24 28.6	
	comp=Z,16nm,1.1s						
ITTB	**Itaituba**	**19.31**	**82**	*e*P	**P**	14 23 47.3	**-0.3**
NPGB	**Novo Progresso**	**19.40**	**90**	*e*P	**P**	14 23 48.6	**0.0**
PCRV	**Puerto La Cruz**	**20.25**	**30**	P	Pn	14 23 59.5	-1.9
	comp=Z,8.0nm,0.7s,baz=180,slow=9.1,SNR=2.1						
	comp=Z,8.0nm,0.7s						
MALB	**Monte Alegre**	**21.30**	**76**	*e*P	**P**	14 24 08.6	**-0.3**
MCPB	**Macapa, AP**	**23.84**	**74**	*e*P	**P**	14 24 34.4	**+0.8**
BDFB	**Brasilia**	**27.56**	**110**	P	**P**	14 25 08.4	**+1.2**
	comp=Z,1.8nm,0.4s,baz=98,slow=24,SNR=2.2						
	comp=Z,1.8nm,0.4s						
PLCA	**Paso Flores**	**33.40**	**174**	P	**P**	14 25 59.2	**+1.0**
PLCA				IAmb	IAmb	14 26 00.6	
	comp=Z,6.2nm,1.1s						
PLCA	**Paso Flores**	**33.40**	**174**	P	**P**	14 25 59.6	**+1.4**
	comp=Z,2.2nm,0.7s,baz=349,slow=8.3,SNR=6.2						
PLCA				LR	LR	14 40 03.6	
	comp=Z,115nm,18.3s,baz=189,slow=37						
	comp=Z,2.2nm,0.7s						
W50A	**Signal Mountai**	**43.51**	**348**	P	**P**	14 27 21.6	**-1.0**
W50A				IAmb	IAmb	14 27 31.4	
	comp=Z,20nm,1.4s						
V48A	**Smith Brothers**	**44.37**	**346**	P	**P**	14 27 29.3	**-0.1**
T57A	**Hurt**	**44.37**	**355**	P	**P**	14 27 29.9	**+0.5**
S57A	**Dark Hollow, R**	**45.10**	**355**	P	**P**	14 27 35.7	**+0.5**
S57A				IAmb	IAmb	14 27 37.0	
	comp=Z,10nm,0.7s						
TXAR	**Lajitas Array**	**45.84**	**324**	P	**P**	14 27 42.2	**+0.9**
TXAR	**Lajitas Array**	**45.84**	**324**	P	**P**	14 27 42.6	**+1.3**
	comp=Z,0.4nm,0.5s,baz=151,slow=9.0,SNR=9.9						
TXAR				PcP	**PcP**	14 29 16.9	**+0.8**
	comp=Z,0.4nm,0.5s,baz=152,slow=7.5,SNR=7.4						
	comp=Z,0.4nm,0.5s						
K57A	**Scipio Center**	**49.93**	**358**	P	**P**	14 28 12.4	**+0.1**
PDAR	**Pinedale Array**	**59.07**	**331**	P	**P**	14 29 18.6	**0.0**
	comp=Z,0.3nm,0.6s,baz=93,slow=5.9,SNR=2.7						
PDAR				PcP	**PcP**	14 30 05.9	**+0.1**
	comp=Z,0.5nm,0.4s,baz=121,slow=6.4,SNR=5.5						
	comp=Z,0.3nm,0.6s						
ULM	**Lac du Bonnet**	**60.26**	**345**	P	**P**	14 29 25.6	**-0.7**
	comp=Z,1.8nm,0.4s,baz=146,slow=3.6,SNR=3.8						
	comp=Z,1.8nm,0.4s						
NVAR	**Mina Array Bea**	**60.89**	**322**	P	**P**	14 29 30.9	**-0.2**
	comp=Z,0.2nm,0.4s,baz=120,slow=8.4,SNR=3.1						
	comp=Z,0.2nm,0.4s						
DBIC	**Dimbokro**	**71.26**	**80**	P	**P**	14 30 38.0	**+0.5**
	comp=Z,2.4nm,0.4s,baz=261,slow=6.6,SNR=7.6						
	comp=Z,2.4nm,0.4s						
YKA	**Yellowknife Ar**	**76.08**	**342**	P	**P**	14 31 04.7	**+0.2**
	comp=Z,0.6nm,0.8s,baz=138,slow=6.0,SNR=9.8						
	comp=Z,0.6nm,0.8s						
SNAA	**Sanae**	**77.39**	**162**	P	**P**	14 31 13.3	**+1.3**
SNAA	**Sanae**	**77.39**	**162**	⇑P	**P**	14 31 13.7	**+1.6**
SNAA	**Sanae**	**77.39**	**162**	P	**P**	14 31 13.6	**+1.6**
	comp=Z,1.3nm,0.5s,baz=284,slow=5.9,SNR=12						
	comp=Z,1.3nm,0.5s						
TOA0	**Torodi Ar. Sit**	**78.77**	**75**	P	**P**	14 31 19.5	**-1.0**
TOA0				IAmb	IAmb	14 31 29.4	
	comp=Z,5.5nm,1.4s						
TORD	**Torodi Ar. Bea**	**78.77**	**75**	P	**P**	14 31 19.3	**-1.3**
TORD	**Torodi Ar. Bea**	**78.77**	**75**	P	**P**	14 31 19.7	**-0.9**
	comp=Z,0.6nm,0.3s,baz=264,slow=5.9,SNR=5.4						
	comp=Z,0.6nm,0.3s						
TROLL	**Troll, Antarti**	**79.11**	**162**	⇑P	**P**	14 31 23.4	**+1.8**
	comp=Z,144nm,0.7s						
ESDC	**Sonseca Array**	**80.31**	**48**	P	**P**	14 31 28.9	**+0.3**
	comp=Z,0.9nm,1.0s,baz=238,slow=7.2,SNR=4.1						
	comp=Z,0.9nm,1.0s						
QSPA	**South Pole Qui**	**82.68**	**180**	P	**P**	14 31 42.3	**+1.8**
QSPA				IAmb	IAmb	14 31 43.5	
	comp=Z,3.9nm,0.8s						
QSPA	**South Pole Qui**	**82.68**	**180**	P	**P**	14 31 42.1	**+1.5**
	comp=Z,3.5nm,0.6s,baz=170,slow=1.4,SNR=40						
	comp=Z,3.5nm,0.6s						
ILAR	**Eielson Array**	**89.11**	**336**	P	**P**	14 32 12.1	**+0.1**
	comp=Z,0.6nm,0.6s,baz=150,slow=2.9,SNR=9.4						
	comp=Z,0.6nm,0.6s						
VNDA	**Vanda**	**89.60**	**190**	P	**P**	14 32 13.9	**-0.1**
VNDA				IAmb	IAmb	14 32 33.5	
	comp=Z,2.2nm,1.3s						
H24K	**Noodor Dome**	**89.85**	**337**	P	**P**	14 32 16.4	**+0.9**
H24K				IAmb	IAmb	14 32 39.4	
	comp=Z,3.2nm,1.2s						
STKA	**Stephens Creek**	**127.65**	**220**	PKP	**PKiKP**	14 38 22.8	**+0.2**
	comp=Z,1.0nm,0.5s,baz=88,slow=19,SNR=3.9						
ZALV	**Zalesovo Beam**	**130.80**	**16**	PKP	**PKPdf**	14 38 26.6	**-0.6**
	comp=Z,0.7nm,0.4s,baz=333,slow=0.6,SNR=4.5						
KURBB	**Kurchatov Arra**	**131.60**	**22**	PKP	**PKPdf**	14 38 27.4	**-1.5**
	comp=Z,0.3nm,0.3s,baz=339,slow=14,SNR=2.2						
MKAR	**Makanchi Array**	**136.17**	**23**	PKP	**PKPdf**	14 38 38.1	**+0.5**
	comp=Z,0.5nm,0.6s,baz=293,slow=2.4,SNR=4.0						
ASAR	**Alice Springs**	**138.20**	**222**	PKhKP	PKPpre	14 38 33.6	
	comp=Z,0.3nm,0.5s,baz=136,slow=2.0,SNR=8.3						
ASAR				PKP	**PKPdf**	14 38 42.5	**+0.4**
	comp=Z,0.6nm,0.4s,baz=115,slow=1.8,SNR=10						
WRA	**Warramunga Arr**	**140.40**	**226**	PKhKP	PKPpre	14 38 41.0	
	comp=Z,0.4nm,0.3s,baz=130,slow=2.7,SNR=20						
WRA				PKP	**PKPdf**	14 38 47.2	**+1.0**
	comp=Z,1.4nm,0.5s,baz=125,slow=1.9,SNR=20						
JNU	**Nakatsue**	**145.00**	**320**	PKP	PKPbc	14 38 52.9	-0.7
	comp=Z,15nm,1.0s,baz=0.0,slow=4.0,SNR=5.0						
PYUN	**Piuthan**	**150.68**	**43**	*e*P	**PKiKP**	14 39 09.9	**0.0**
	comp=Z,12nm,0.6s						
DANN	**Dangsing**	**151.03**	**41**	*e*P	**PKPbc**	14 39 09.3	**-0.9**
GKN	**Gorkha**	**151.83**	**41**	*e*P	**PKiKP**	14 39 12.6	**+0.4**
	comp=Z,12nm,0.7s						
PKIN	**Phulchoki**	**152.61**	**41**	*e*P	**PKiKP**	14 39 16.7	**+2.7**
	comp=Z,99nm,1.9s						
PKI	**Pulchoki**	**152.62**	**41**	*e*P	**PKiKP**	14 39 17.1	**+3.0**
	comp=Z,21nm,1.3s						
JIRN	**Jiri**	**153.06**	**39**	*e*P	**PKiKP**	14 39 18.1	**+3.0**
	comp=Z,48nm,1.6s						

*DNK **08** 14:30:15.5±2.7, 57°.00N×7°.19E, h15^{km}, ML2.9, Probable volcanic*

*NAO **08** 14:30:15.0±1.6, 57°.06N×6°.91E, ML2.7*

*BER **08** 14:30:17.5±2.1, 57°.00N×7°.08E, h15^{km}, ML2.2, ML2.7(NAO), Confirmed Earthquake*

*UPP **08** 14:30:19.0±1.3, 57°.11N×7°.68E, h0^{km}, ML2.4*

ISC 08 14:30:16.5±1.4, 57°.10N±0°.03×7°.38E±0°.04, h12^{km}±10^{km}, n95, σ1°82/194, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUD	**Monsted U'grnd**	**1.18**	**122**	*e*P	**Pb**	14 30 39.8	**+1.0**
MUD				*e*S	**Sb**	14 30 55.3	**+1.4**
MUD	**Monsted U'grnd**	**1.18**	**122**	*i* P	**Pb**	14 30 39.4	**+0.7**
MUD				*e*P	**Pb**	14 30 39.8	**+1.0**
MUD				*i* S	**Sg**	14 30 51.5	**-3.0**
MUD				*e*S	**Sb**	14 30 55.3	**+1.4**
MUD				IAML		14 31 11.1	
	comp=Z,93nm,0.3s						
MUD	**Monsted U'grnd**	**1.18**	**122**	Pn	**Pb**	14 30 39.7	**+1.0**
MUD				Lg	Lg	14 30 59.1	
SNART	**Snartemo**	**1.25**	**356**	*e*P	**Pb**	14 30 40.7	**+0.8**
SNART				*e*S	**Sb**	14 30 56.5	**+0.6**
SNART				IAML		14 31 03.4	
	comp=Z,133nm,0.2s						
SNART	**Snartemo**	**1.25**	**356**	*i* P	**Pb**	14 30 40.5	**+0.6**
SNART				*e*P	**Pb**	14 30 40.7	**+0.8**
SNART				*e*PG	**Pn**	14 30 41.8	**+2.1**
SNART				*i* S	**Sb**	14 30 55.8	**-0.1**
SNART				*e*S	**Sb**	14 30 56.5	**+0.6**
SNART				IAML		14 31 03.4	
	comp=Z,133nm,0.2s						
HOMB	**Homborsund**	**1.32**	**27**	*e*P	**Pg**	14 30 42.5	**+0.6**
HOMB				*e*S	**Sn**	14 31 00.7	**+2.5**
HOMB				IAML		14 31 03.5	
	comp=Z,104nm,0.1s						
HOMB	**Homborsund**	**1.32**	**27**	*e*P	**Pg**	14 30 42.5	**+0.6**
HOMB				*i* P	**Pg**	14 30 42.5	**+0.6**
HOMB				*i* S	**Sn**	14 31 00.5	**+2.3**
HOMB				*e*S	**Sn**	14 31 00.7	**+2.5**
HOMB				IAML		14 31 03.5	
	comp=Z,104nm,0.1s						
HOMB	**Homborsund**	**1.32**	**27**	Pn	**Pg**	14 30 42.4	**+0.5**
HOMB				Lg	Lg	14 31 00.7	
STAV	**Stavanger**	**2.05**	**335**	*e*P	**Pn**	14 30 50.4	**-0.3**
STAV				*e*S	**Sn**	14 31 13.0	**-3.0**
STAV				IAML		14 31 32.2	
	comp=Z,32nm,0.4s						
STAV	**Stavanger**	**2.05**	**335**	Pn	**Pn**	14 30 50.2	**-0.4**
STAV				Sn	**Sn**	14 31 13.2	**-2.8**
SSRD	**Sdr. Stenderup**	**2.05**	**141**	*i* P	**Pb**	14 30 56.3	**+2.7**
SSRD				*i* S	**Sb**	14 31 20.9	**+1.9**
BLS5	**Blasjo**	**2.38**	**349**	*e*P	**Pn**	14 30 55.8	**+0.5**
BLS5				*e*S	**Sn**	14 31 22.9	**-1.5**
BLS5				IAML		14 31 44.0	
	comp=Z,21nm,0.4s						
BLS5	**Blasjo**	**2.38**	**349**	*e*P	**Pn**	14 30 55.8	**+0.5**
BLS5				*e*S	**Sn**	14 31 22.9	**-1.5**
BLS5				IAML		14 31 44.0	
	comp=Z,21nm,0.4s						
BLS5	**Blasjo**	**2.38**	**349**	Pn	**Pn**	14 30 55.9	**+0.5**
BLS5				Sn	**Sn**	14 31 22.9	**-1.5**
KMY	**Karmoy**	**2.40**	**333**	*e*P	**Pn**	14 30 55.6	**+0.1**
KMY				*e*S	**Sn**	14 31 21.8	**-3.0**
KMY				IAML		14 31 32.4	
	comp=Z,20n

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
FINU				S	Sn	14 31 52.8	-0.3
FKPU	Falk	3.57	70	P	Pn	14 31 14.1	+2.5
FKPU				S	Sn	14 31 54.8	+1.1
FKPU	Falk	3.57	70	P	Pn	14 31 14.1	+2.5
FKPU				S	Sn	14 31 54.8	+1.1
FKPU	Falk	3.57	70	P	Pn	14 31 14.1	+2.5
FKPU				P	Pn	14 31 14.1	+2.5
FKPU				S	Sn	14 31 54.8	+1.1
FKPU				S	Sn	14 31 54.8	+1.1
NASU	Vaermlandsnaes	3.59	57	P	Pn	14 31 14.3	+2.4
NASU	Vaermlandsnaes	3.59	57	P	Pn	14 31 14.3	+2.4
NASU	Vaermlandsnaes	3.59	57	P	Pn	14 31 14.3	+2.4
NASU				P	Pn	14 31 14.3	+2.4
SKAR	Skarslia	3.62	7	eP	Pn	14 31 15.7	+3.3
SKAR				eS	Sn	14 31 54.1	-1.0
SKAR	Skarslia	3.62	7	eP	Pn	14 31 15.7	+3.3
SKAR				eS	Sn	14 31 54.1	-1.0
DEL	Delary	3.62	97	P	Pn	14 31 14.7	+2.4
DEL				S	Sn	14 31 54.7	-0.3
DEL	Delary	3.62	97	P	Pn	14 31 14.7	+2.4
DEL				S	Sn	14 31 54.7	-0.3
DEL	Delary	3.62	97	iP	Pn	14 31 14.0	+1.6
DEL				P	Pn	14 31 14.7	+2.4
DEL				P	Pn	14 31 14.7	+2.4
DEL				iS	Sn	14 31 54.4	-0.6
DEL				S	Sn	14 31 54.7	-0.3
DEL				S	Sn	14 31 54.7	-0.3
LUNU	Lund	3.68	111	P	Pn	14 31 14.0	+0.8
LUNU	Lund	3.68	111	P	Pn	14 31 14.0	+0.8
LUNU	Lund	3.68	111	iP	Pn	14 31 13.6	+0.5
LUNU				P	Pb	14 31 14.0	-7.4
LUNU				P	Pb	14 31 14.0	-7.4
LUNU				iS	Sn	14 31 53.2	-3.1
NC6	NORSAR Subarra	4.22	28	Pn	Pn	14 31 22.0	+1.4
NC6				Sn	Sn	14 32 11.8	+2.0
NRA0	NORESS Array S	4.24	29	Pn	Pn	14 31 22.0	+1.2
	baz=212,slow=14						
NRA0				Sn	Sn	14 32 10.9	+0.8
	baz=207,slow=22						
NRA0				Sg	Sg	14 32 32.0	-0.4
	baz=217,slow=37						
NRA0	NORESS Array S	4.24	29	Pn	Pn	14 31 22.0	+1.2
	baz=212,slow=14						
NRA0				Sn	Sn	14 32 10.9	+0.8
	baz=207,slow=22						
NRA0				Sg	Sg	14 32 32.0	-0.4
	baz=217,slow=37						
NRA0	NORESS Array S	4.24	29	Pn	Pn	14 31 22.0	+1.2
	baz=212,slow=14						
NRA0				Sn	Sn	14 32 10.9	+0.8
	baz=207,slow=22						
NRA0				Lg	Lg	14 32 32.0	
	baz=217,slow=37						
NBO	NORSAR Subarra	4.32	23	Pn	Pn	14 31 23.8	+1.9
NB2	NORSAR Subarra	4.42	25	Pn	Pn	14 31 24.6	+1.2
	baz=205,slow=16						
NB2				Sn	Sn	14 32 14.3	-0.4
NB2	NORSAR Subarra	4.42	25	Pn	Pn	14 31 24.6	+1.2
	baz=205,slow=16						
NB2				Sn	Sn	14 32 14.3	-0.4
NB2	NORSAR Subarra	4.42	25	Pn	Pn	14 31 24.6	+1.2
	baz=205,slow=16						
NB2				Sn	Sn	14 32 14.3	-0.4
HFS	Hagfors	4.49	45	Pn	Pn	14 31 26.3	+2.1
	baz=230,slow=14						
HFS				Sn	Sn	14 32 15.3	-1.0
	baz=229,slow=28						
HFS	Hagfors	4.49	45	Pn	Pn	14 31 26.3	+2.1
	baz=230,slow=14						
HFS				Sn	Sn	14 32 15.3	-1.0
	baz=229,slow=28						
HFS	Hagfors	4.49	45	Pn	Pn	14 31 26.3	+2.1
	baz=230,slow=14						
HFS				Sn	Sn	14 32 15.3	-1.0
	baz=229,slow=28						
NC2	NORSAR Subarra	4.55	21	Pn	Pn	14 31 25.9	+0.8
NC4	NORSAR Subarra	4.58	27	Pn	Pn	14 31 27.1	+1.7
NC4				Sn	Sn	14 32 19.9	+1.5
NC3	NORSAR Subarra	4.66	25	Pn	Pn	14 31 27.7	+1.1
NC3				Sn	Sn	14 32 22.6	+2.1
BSD	Bornholm Skovb	4.66	112	iP	Pn	14 31 26.5	-0.1
BSD				iS	Sn	14 32 17.3	-3.3
BSD				IAML		14 32 46.1	
	comp=Z,3.5nm,0.2s						
BLEU	Blekinge	4.72	96	iP	Pn	14 31 28.4	+1.0
BLEU				iS	Sn	14 32 19.2	-2.6
DOMB	Dombas	5.03	9	e	Pb	14 31 43.0	-1.4
DOMB	Dombas	5.03	9	e	Pb	14 31 43.0	-1.4
DRUM	Mains of Drumt	5.40	272	eP	Pn	14 31 33.5	-3.3
DRUM				eS	Sn	14 32 26.3	-12
DRUM	Mains of Drumt	5.40	272	eP	Pn	14 31 33.5	-3.3
DRUM				eS	Sn	14 32 26.3	-12
EDMD	Edmundbyers	5.72	251	eP	Pn	14 31 36.5	-4.6
EDMD	Edmundbyers	5.72	251	eP	Pn	14 31 36.5	-4.6
EKA	Eskdalemuir Ar	6.14	258	Pn	Pn	14 31 42.5	-4.5
EKA				Sn	Sn	14 32 42.6	-14
EKA	Eskdalemuir Ar	6.14	258	Pn	Pn	14 31 42.5	-4.5
EKA				Sn	Sn	14 32 42.6	-14
EKA	Eskdalemuir Ar	6.14	258	Pn	Pn	14 31 42.5	-4.5
EKA				Sn	Sn	14 32 42.6	-14
KPL	Plockton	7.08	277	eP	Pn	14 31 56.9	-2.9
KPL	Plockton	7.08	277	eP	Pn	14 31 56.9	-2.9
FIA0	FINESS Array S	10.49	58	Pn	Pn	14 32 48.0	+1.4
	baz=253,slow=12						
FIA0				Sn	Sn	14 34 38.4	-5.4
	baz=250,slow=22						
FIA0	FINESS Array S	10.49	58	Pn	Pn	14 32 48.0	+1.4
	baz=253,slow=12						
FIA0				Sn	Sn	14 34 38.4	-5.4
	baz=250,slow=22						
FIA0	FINESS Array S	10.49	58	Pn	Pn	14 32 48.0	+1.4
	baz=253,slow=12						
FIA0				Sn	Sn	14 34 38.4	-5.4
	baz=250,slow=22						

IDC 08 14:37:27.5±46.0,16.22S×173.25W,h0km,mb3.8/3, mbtmp3.8/3,Error ellipse: s-maj=893.4km s-min=179.4km az=79.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
STKA	Stephens Creek	43.76	241	P	P	14 45 35.8	+0.8
	0.6nm,0.5s,baz=81,slow=13,SNR=4.9						
	0.6nm,0.5s						
WRA	Warramunga Arr	49.80	257	P	P	14 46 22.1	-0.5
	0.2nm,0.5s,baz=97,slow=6.9,SNR=7.3						
	0.2nm,0.5s						
ASAR	Alice Springs	50.00	253	P	P	14 46 23.5	-0.5
	2.1nm,0.5s,baz=88,slow=8.5,SNR=61						
	2.1nm,0.5s						

KRSC 08 14:37:33.7±1.6,50.51N×157.56E,h73km±26km,Ml3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
SKR	Severo-Kuril's	0.93	281	eP	Pn	14 37 52.1	+0.7
SKR				eS	Sn	14 38 04.7	0.0
PAU	Pauzhetka	1.06	334	eP	Pn	14 37 56.0	+2.9
PAU				eS	Sn	14 38 11.2	+3.6
KDTR	Khodutka, Kamc	1.34	14	eP	Pn	14 37 58.3	+1.7
KDTR				eS	Sn	14 38 15.5	+1.7
ASAK	Asacha	1.88	6	eP	Pn	14 38 05.9	+2.0
ASAK				eS	Sn	14 38 29.4	+2.5
MTVR	Mutnovka	2.01	11	eP	Pn	14 38 07.7	+2.1
MTVR				eS	Sn	14 38 31.8	+1.8
RUS	Russkaya	2.01	17	eP	Pn	14 38 09.0	+3.4
GRL	Gorelyy	2.07	9	eP	Pn	14 38 08.2	+2.4
GRL				eS	Sn	14 38 34.0	+2.7
KRMR	Karymshinskiy	2.35	9	eP	Pn	14 38 12.3	+2.2
KRMR				eS	Sn	14 38 42.3	+4.5
APC	Apacha	2.43	354	eP	Pn	14 38 13.5	+2.4
PET	Petropavlovsk	2.60	15	eP	Pn	14 38 15.1	+1.6
PET				eS	Sn	14 38 46.3	+2.2
DALK	Dalny	2.63	16	eP	Pn	14 38 15.9	+2.1
DALK				eS	Sn	14 38 46.9	+2.3
INSR	Institute	2.64	14	eP	Pn	14 38 16.4	+2.4
INSR				eS	Sn	14 38 48.0	+3.2
UGLR	Uglovaya	2.81	16	eP	Pn	14 38 19.2	+2.7
UGLR				eS	Sn	14 38 51.5	+2.2
AVH	Avacha	2.85	14	eP	Pn	14 38 20.3	+3.4
AVH				eS	Sn	14 38 53.5	+3.3
SMAR	Somma	2.86	15	eP	Pn	14 38 19.7	+2.5
KOK	Koryaka	2.86	13	eP	Pn	14 38 20.4	+3.3
KOK				eS	Sn	14 38 54.4	+3.9
SDLR	Sedlovina	2.89	16	eP	Pn	14 38 19.4	+1.9
SDLR				eS	Sn	14 38 51.8	+0.6
KRER	Koryakskii	2.89	14	eP	Pn	14 38 20.5	+2.9
KRER				eS	Sn	14 38 53.6	+2.3
KRX	Arik	2.93	13	eP	Pn	14 38 21.0	+3.0
KRX				eS	Sn	14 38 54.2	+2.0
SPN	Mys Shipunski	3.01	30	eP	Pn	14 38 21.3	+2.3
SPN				eS	Sn	14 38 54.3	+0.4
KII	Karymskiy	3.71	18	eP	Pn	14 38 32.8	+4.2
KII				eS	Sn	14 39 14.5	+3.3
TUMD	Tumrok D	5.00	19	eP	Pn	14 38 49.7	+3.5
TUMD				eS	Sn	14 39 43.6	+0.9

IDC 08 14:59:37.2±0.9,48.95S×108.35E,h0km,mb4.1/6, mbtmp4.1/6,MS4.0/32,Error ellipse: s-maj=37.8km s-min=21.2km az=109.0

NEIC 08 14:59:39.9±0.9,48.9S±0.1×108.5E±0.3,h10km±1km, mb4.5/16,Error ellipse: s-maj=33.3km s-min=20.4km az=280.0

GCMT 08 14:59:41.9±0.4,48.85S±0.03×108.19E±0.07,h16km±1km, MW4.9/81,Moment Tensor Solution. s8,c10; s81,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.45±.25; $M_{\theta\theta}$1.58±.15; $M_{\phi\phi}$0.86±.14; $M_{r\theta}$0.67±.45; $M_{\theta\phi}$-0.84±.08; $M_{\phi r}$2.08±.49; Best double couple: $M_0$2.95700×10^{16} NP1:ϕ_s158.00000°,δ62.00000°,λ-62.00000°. NP2: ϕ_s289.00000°,δ39.00000°,λ-132.00000°. Principal axes: T 2.2810, Plg13.0000°, Azm228.0000°; N 1.3510, Plg25.0000°, Azm324.0000°; P -3.6330, Plg61.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 08 14:59:39.2±0.7,48.9S±0.1×108.5E±0.2,h10km,n66, σ0.61/33,mb4.3/11,MS4.0/32,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
H01W2	Cape Leeuwin H	14.62	19	T	T	15 18 12.2	
	baz=194,slow=74,SNR=91						
H01W1	Cape Leeuwin H	14.63	19	T	T	15 18 13.5	
	baz=194,slow=74,SNR=107						
H01W3	Cape Leeuwin H	14.64	19	T	T	15 18 14.0	
	baz=194,slow=74,SNR=72						
NWAO	Narrogin (SRO)	17.27	25	P	Pn	15 03 39.9	-0.5
NWAO				IAmb	IAmb	15 03 47.4	
	comp=Z,41nm,1.5s						
NWAO	Narrogin (SRO)	17.27	25	LR	LR	15 08 39.2	
	comp=Z,979nm,21.4s,baz=206,slow=31						
MORW	Morawa	20.66	19	P	P	15 04 19.6	+0.6
MORW				IAmb	IAmb	15 04 37.6	
	comp=Z,38nm,1.4s						
BBOO	Buckleboo	26.13	62	P	P	15 05 13.6	+0.3
BBOO				IAmb	IAmb	15 05 23.7	
	comp=Z,7.7nm,1.0s						
MAW	Mawson	29.42	214	LR	LR	15 14 45.7	
	comp=Z,426nm,20.9s,baz=52,slow=31						
STKA	Stephens Creek	30.10	68	P	P	15 05 48.8	+0.1
STKA	Stephens Creek	30.10	68	P	P	15 05 49.1	+0.4
	comp=Z,2.2nm,0.8s,baz=275,slow=7.0,SNR=5.4						
STKA				LR	LR	15 15 42.0	
	comp=Z,418nm,21.3s,baz=210,slow=32						
	comp=Z,2.2nm,0.8s						
ASAR	Alice Springs	32.19	48	P	P	15 06 08.0	+0.8
ASAR	Alice Springs	32.19	48	P	P	15 06 07.5	+0.3
	comp=Z,3.2nm,0.7s,baz=210,slow=8.0,SNR=71						
ASAR				PcP	PcP	15 08 55.5	-0.4
	comp=Z,0.7nm,0.7s,baz=205,slow=1.8,SNR=11						
ASAR				LR	LR	15 17 27.7	
	comp=Z,484nm,21.3s,baz=238,slow=33						
	comp=Z,3.2nm,0.7s						
AS31	Alice Springs	32.19	48	P	P	15 06 07.1	-0.1
VNDA	Vanda	34.98	162	P	P	15 06 31.8	+0.9
VNDA	Vanda	34.98	162	P	P	15 06 30.6	-0.3
	comp=Z,1.8nm,0.8s,baz=294,slow=9.4,SNR=8.7						
VNDA				LR	LR	15 19 53.6	
	comp=Z,231nm,18.3s,baz=297,slow=35						
	comp=Z,1.8nm,0.8s						
WRA	Warramunga Arr	35.58	45	P	P	15 06 36.8	+0.1
WRA	Warramunga Arr	35.58	45	P	P	15 06 37.3	+0.6
	comp=Z,6.5nm,0.8s,baz=208,slow=8.1,SNR=63						
WRA				PcP	PcP	15 09 03.9	-1.6
	comp=Z,0.6nm,0.8s,baz=222,slow=2.7,SNR=6.6						
	comp=Z,6.5nm,0.8s						
WB2	Warramunga Arr	35.58	45	P	P	15 06 37.5	+0.8
WR0	Warramunga Arr	35.66	45	P	P	15 06 38.3	+1.0
WB0	Warramunga Arr	35.75	45	P	P	15 06 38.7	+0.5
WB0				IAmb	IAmb	15 06 46.0	
	comp=Z,12nm,1.1s						
ARMA	Armidale	37.39	76	P	P	15 06 52.1	-0.1
BATI	Baumata	40.63	23	LR	LR	15 25 24.4	
	comp=Z,240nm,18.5s,baz=204,slow=38						
QSPA	South Pole Qui	41.20	180	P	P	15 07 24.3	+0.6
QSPA				IAmb	IAmb	15 07 38.5	
	comp=Z,9.9nm,1.1s						
CTA	Charters Tower	41.68	60	LR	LR	15 24 21.1	
	comp=Z,352nm,18.5s,baz=230,slow=36						
LEM	Lembang	41.97	359	LR	LR	15 21 17.9	
	comp=Z,262nm,20.7s,baz=204,slow=31						
RPZ	Rata Peaks	42.42	107	LR	LR	15 21 28.6	
	comp=Z,201nm,21.0s,baz=260,slow=31						
KAPI	Kappang	44.79	16	LR	LR	15 23 57.0	
	comp=Z,185nm,21.3s,baz=192,slow=33						
RTZ	Ruatahuna	48.94	105	P	P	15 08 25.0	-0.5
URZ	Urewera	49.23	105	LR	LR	15 26 23.5	
	comp=Z,112nm,18.1s,baz=255,slow=33						
SNAA	Sanae	50.42	202	P	P	15 08 36.4	+0.2
SNAA				IAmb	IAmb	15 08 46.0	
	comp=Z,4.8nm,1.0s						
SNAA	Sanae	50.42	202	P	P	15 08 35.3	-1.0
	comp=Z,1.7nm,0.8s,baz=151,slow=13,SNR=1.6						
SNAA				LR	LR	15 27 45.3	
	comp=Z,303nm,19.0s,baz=167,slow=34						
	comp=Z,1.7nm,0.8s						
PMG	Port Moresby	50.93	53	LR	LR	15 28 56.9	
	comp=Z,263nm,19.8s,baz=203,slow=34						
BELA	Belgrano 2	51.45	189	P	P	15 08 44.4	+0.5
BELA				IAmb	IAmb	15 08 57.2	
	comp=Z,6.4nm,0.8s						
DZM	Mont Dzumac	52.72	81	eLR	LR	15 24 49.3	
	comp=Z,285nm,28.6s						
DZM	Mont Dzumac	52.72	81	LR	LR	15 26 44.0	
	comp=Z,89nm,21.5s,baz=236,slow=31						
DAV	Davao City (W)	57.74	20	LR	LR	15 33 02.4	
	comp=Z,60nm,21.9s,baz=202,slow=35						
HNR	Honiara	58.13	65	LR	LR	15 31 51.8	
	comp=Z,1μm,22.0s,baz=205,slow=33						
PALK	Pallekele	61.04	328	LR	LR	15 33 53.4	
	comp=Z,60nm,18.1s,baz=256,slow=34						
BOSA	Boshof	64.77	255	LR	LR	15 32 06.2	
	comp=Z,181nm,19.8s,baz=172,slow=30						
SUR	Sutherland	64.98	249	LR	LR	15 32 41.9	
	comp=Z,216nm,18.8s,baz=160,slow=31						
PMSA	Palmer Station	66.49	183	LR	LR	15 39 00.4	
	comp=Z,155nm,18.7s,baz=198,slow=36						
LBTB	Lobatse	67.05	258	LR	LR	15 35 44.1	
	comp=Z,101nm,18.1s,baz=148,slow=32						
CM31	Chiang Mai Arr	67.62	350	P	P	15 10 36.4	+0.4
CM31				IAmb	IAmb	15 10 50.3	
	comp=Z,6.0nm,1.2s						
CMAR	Chiang Mai Arr	67.62	350	P	P	15 10 36.2	+0.2
	comp=Z,0.6nm,0.6s,baz=195,slow=5.1,SNR=8.5						
CMAR				LR	LR	15 37 21.3	
	comp=Z,67nm,20.0s,baz=175,slow=34						
	comp=Z,0.6nm,0.6s						
GUMO	Guam	70.06	38	LR	LR	15 41 23.5	
	comp=Z,84nm,18.5s,baz=197,slow=36						
LSZ	Lusaka	72.32	267	LR	LR	15 37 13.3	
	comp=Z,126nm,21.2s,baz=153,slow=31						
TSUM	Tsumeb	76.37	256	LR	LR	15 39 39.1	
	comp=Z,127nm,19.2s,baz=152,slow=32						
KMBO	Kilima Mbogo	76.91	284	LR	LR	15 38 44.3	
	comp=Z,43nm,18.0s,baz=90,slow=31						
TBI	Tubuai	80.21	114	eLR	LR	15 37 00.3	
	comp=Z,389nm,30.5s						
JNU	Nakatsue	84.09	19	LR	LR	15 49 55.6	
	comp=Z,30nm,19.9s,baz=174,slow=36						
PPT2	Papeete2	84.49	110	eLR	LR	15 39 24.5	
	comp=Z,27nm,21.5s						
KSRS	Korea Array	87.72	15	LR	LR	15 55 09.5	
	comp=Z,11nm,18.1s,baz=155,slow=38						
PLCA	Paso Flores	90.72	181	LR	LR	15 53 10.8	
	comp=Z,120nm,18.9s,baz=180,slow=35						
SONM	Songino Array	96.40	359	LR	LR	15 57 32.7	
	comp=Z,21nm,19.2s,baz=168,slow=36						
TAOE	Nuku Hiva Isla	97.02	112	eLR	LR	15 44 45.5	
	comp=Z,53nm,25.2s						
ASAJ	Asahikawa	97.36	24	LR	LR	15 57 33.6	
	comp=Z,27nm,21.2s,baz=178,slow=36						
MKAR	Makanchi Array	98.03	342	LR	LR	15 56 41.6	
	comp=Z,31nm,20.4s,baz=316,slow=35						
KLR	Kul'dur	99.81	15	LR	LR	16 00 47.7	
	comp=Z,26nm,18.2s,baz=203,slow=37						
ILAR	Eielson Array	138.63	39	PKP	PKPdf	15 19 03.8	-0.1
	comp=Z,0.5nm,0.9s,baz=283,slow=3.5,SNR=4.3						
INK	Inuvik	144.37	34	PKP	PKPab	15 19 12.4	+0.2
	comp=Z,3.1nm,1.0s,baz=308,slow=4.8,SNR=7.6						
NVAR	Mina Array Bea	145.06	90	PKPbc	PKPdf	15 19 16.7	+0.2
	comp=Z,3.0nm,0.6s,baz=228,slow=6.0,SNR=27						
ELK	Elko	148.28	88	PKPbc	PKPbc	15 19 25.2	-0.1
	comp=Z,1.4nm,0.6s,baz=277,slow=4.6,SNR=8.6						
TXAR	Lajitas Array	148.62	117	PKPbc	PKPbc	15 19 26.1	-0.2
	comp=Z,1.9nm,0.7s,baz=193,slow=5.5,SNR=23						
ANMO	Albuquerque	150.76	105	PKPbc	PKPbc	15 19 30.9	-0.7
	comp=Z,0.9nm,0.5s,baz=349,slow=2.8,SNR=6.7						
YKA	Yellowknife Ar	152.78	44	PKPbc	PKPbc	15 19 34.4	-0.6
	comp=Z,1.5nm,0.7s,baz=284,slow=2.1,SNR=21						
PDAR	Pinedale Array	152.99	89	PKPbc	PKPbc	15 19 35.6	-0.8
	comp=Z,0.9nm,0.9s,baz=201,slow=2.5,SNR=5.4						

IDC 08 15:08:19.6±2.3,48.69N×128.65W,h0km,mb3.6/1, mbtmp3.2/7,ML2.9/4,MS3.0/2,Error ellipse: s-maj=49.2km s-min=12.9km az=73.0

PGC 08 15:08:19.4±0.0,48.56N×128.49W,h10km,MLSn2.7/21, Mw3.3/21,199km Wsw of Tofino, Bc Vancouver Island, Canada Region

ISC 08 15:08:19.1±1.5,48.53N±0.03×128.50W±0.04, h32km±14km,n47,σ1.03/54,Vancouver Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
NCHR	NEPTUNE Canada	0.68	215	P	Pn	15 08 32.7	+0.6
NCHR				S	Sn	15 08 41.2	-0.2
KEMF	NEPTUNE Canada	0.70	215	P	Pn	15 08 33.1	+0.6
KEMF				S	Sn	15 08 41.8	-0.2
NC27	ODP1027	0.92	147	P	Pb	15 08 36.6	+0.4
NC27				S	Sb	15 08 46.6	-1.3
NC89	ODP889	1.11	82	P	Pn	15 08 38.6	+0.5
NC89				S	Sn	15 08 50.5	-1.6
ETB	Estevan Point	1.55	56	P	Pn	15 08 44.1	-0.3
NCBC	Barkley Canyon	1.55	93	S	Sn	15 09 03.5	+0.2
EDB	Eliza Dome	1.62	33	Pn	Pn	15 08 45.0	-0.4
TOFB	Tofino	1.82	69	Pn	Pn	15 08 48.4	+0.3
TOFB				Sn	Sn	15 09 09.1	-1.0
B012	Ucluelet	2.00	77	Pn	Pn	15 08 50.8	+0.2
B012				Sn	Sn	15 09 14.4	-0.1
OZB	Mount Ozzard	2.04	77	Pn	Pn	15 08 51.3	+0.2
OZB				Sn	Sn	15 09 15.7	+0.1
WOSB	Woss	2.06	37	Pn	Pn	15 08 52.1	+0.6
MAYB	Maynard	2.07	24	Pn	Pn	15 08 51.8	+0.2
HOLB	Holberg	2.13	6	Pn	Pn	15 08 53.2	+0.8
HOLB				Sn	Sn	15 09 17.4	-0.3
BFSB	Bamfield	2.25	81	Sn	Sn	15 09 20.3	-0.3
B928	Bamfield	2.25	81	Sn	Sn	15 09 20.7	0.0
PHC	Port Hardy	2.29	17	Pn	Pn	15 08 55.7	+1.2
PHC				Sn	Sn	15 09 20.9	-0.6
SPLB	Strathcona Par	2.31	53	Pn	Pn	15 08 56.0	+1.1
SPLB				Sn	Sn	15 09 22.5	+0.2
NCRB	Newcastle Ridg	2.46	39	Pn	Pn	15 08 58.3	+1.2
CBB	Campbell River	2.55	53	Pn	Pn	15 08 59.5	+1.3
CBB				Sn	Sn	15 09 25.8	-2.2
PFB	Port Renfrew	2.70	88	Pn	Pn	15 09 01.7	+1.4
PTRF	Port Renfrew	2.72	88	Pn	Pn	15 09 01.6	+1.2
PTRF				Sn	Sn	15 09 32.1	-0.1
B926	Mesachie Lake	2.91	83	Sn	Sn	15 09 36.3	-0.7
CLRS	Cowichan Lake	2.91	83	Pn	Pn	15 09 04.1	+1.0
CLRS				Sn	Sn	15 09 36.2	-0.8
TXB	Texada	2.92	65	Pn	Pn	15 09 04.6	+1.4
SHB	Sechelt	3.23	69	Pn	Pn	15 09 08.3	+0.8
GOBB	Galiano Island	3.33	81	Pn	Pn	15 09 10.0	+1.2
BIB	Bowen Island	3.54	74	Pn	Pn	15 09 12.4	+0.7
SNB	Saturna Island	3.54	84	Pn	Pn	15 09 13.8	+1.9
BBB	Bella Bella	3.67	4	Pn	Pn	15 09 15.1	+1.6
	7.5nm,0.3s,baz=191,slow=15,SNR=128						
BBB				Sn	Sn	15 09 55.8	+0.2
	3.0nm,0.3s,baz=131,slow=19,SNR=6.4						
BBB				LR	LR	15 10 40.5	
	comp=Z,251nm,18.9s,baz=145,slow=40						
	21nm,0.3s						
BBB	Bella Bella	3.67	4	Pn	Pn	15 09 14.7	+1.2
BBB				Sn	Sn	15 09 54.6	-1.0
MBW	Mount Baker	4.38	84	Pn	Pn	15 09 23.6	+0.1
BUTB	Butedale	4.54	0	Pn	Pn	15 09 26.5	+0.9
BUTB				Sn	Sn	15 10 16.0	-1.3
RPW	Rockport	4.65	88	Pn	Pn	15 09 29.3	+2.2
KITB	Kitimat	5.56	359	Pn	Pn	15 09 39.6	+0.2
NEW	Newport	7.58	88	LR	LR	15 13 11.8	
	comp=Z,107nm,19.6s,baz=314,slow=38						
YBH	Yreka Blue Hor	7.93	147	Pn	Pn	15 10 19.5	+7.3
	0.1nm,0.3s,baz=324,slow=9.0,SNR=2.3						
	0.4nm,0.3s						
NVAR	Mina Array Bea	12.51	140	Pn	P	15 11 23.9	-2.4
	0.1nm,0.3s,baz=327,slow=8.9,SNR=3.1						
	0.2nm,0.4s						
PDAR	Pinedale Array	14.44	106	Pn	P	15 11 49.1	+1.4
	0.1nm,0.4s,baz=300,slow=20,SNR=1.8						
YKA	Yellowknife Ar	16.00	24	Pn	Pn	15 12 01.4	0.0
	baz=218,slow=11,SNR=2.6						
	0.2nm,0.9s						
ILAR	Eielson Array	19.03	336	P	Pn	15 12 39.4	+0.4
	0.6nm,1.2s,baz=138,slow=12,SNR=1.9						
TXAR	Lajitas Array	27.02	126	P	P	15 14 06.8	+8.5
	0.9nm,1.1s,baz=322,slow=8.0,SNR=3.5						
	0.9nm,1.1s						
H11N2	WAKE ISLAND Hy	58.71	265	T	T	16 21 57.9	
	baz=44,slow=76,SNR=87						
H11N3	WAKE ISLAND Hy	58.72	265	T	T	16 21 57.8	
	baz=44,slow=76,SNR=89						
H11N1	WAKE ISLAND Hy	58.73	265	T	T	16 22 00.9	
	baz=44,slow=76,SNR=90						
H11S1	WAKE ISLAND Hy	59.71	264	T	T	16 23 12.1	
	baz=44,slow=74,SNR=14						
H11S2	WAKE ISLAND Hy	59.72	264	T	T	16 23 14.5	
	baz=44,slow=74,SNR=16						
H11S3	WAKE ISLAND Hy	59.73	264	T	T	16 23 14.8	
	baz=44,slow=74,SNR=16						

TAP 08 15:50:36.0,23.28N×121.95E,h31km±1km,ML1.7,D

ISC 08 15:50:36.0±1.5,23.27N±0.05×121.96E±0.05,h29km±11km, n31,σ0.41/57,Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
ECBN	Changbin	0.47	275	P	Pn	15 50 46.7	-0.1
	baz=274						
ECBN				iS	Sn	15 50 54.0	-0.1
	baz=274						
HGSD	Ruisui	0.54	294	P	Pb	15 50 47.2	+0.1
	baz=293						
HGSD				eS	Sn	15 50 55.0	-0.8
	baz=293						
CHKT	Chengkung	0.58	253	iP	Pn	15 50 48.0	-0.2
	baz=251						
CHKT				eS	Sn	15 50 58.0	+1.3
	baz=251						
EYUL	Yuli	0.60	277	P	Pn	15 50 48.5	0.0
	baz=276						
EYUL				S	Sn	15 50 57.9	+0.7
	baz=276						
TWF1	Yuli	0.62	277	P	Pb	15 50 48.4	+0.1
	baz=276						
TWF1				iS	Sn	15 50 57.7	0.0
	baz=276						
FULB	Fuli	0.62	263	P	Pb	15 50 48.3	-0.1
	baz=262						
FULB				S	Sn	15 50 57.4	-0.5
	baz=262						
YULB	Yu-li	0.62	281	P	Pn	15 50 49.0	+0.1
	baz=280						
YULB				S	Sn	15 50 58.2	+0.3
	baz=280						
EGFH	Guangfu	0.63	309	P	Pn	15 50 49.0	0.0
	baz=308						
EGFH				eS	Sb	15 50 57.0	-0.1
	baz=308						

EHY	**Hungye**	**0.63**	**292**	P		**Pn**	**15 50 48.9**	**-0.1**
	baz=291							
EHY				S		**Sn**	**15 50 58.4**	**+0.3**
	baz=291							
WARBT	**Fenglin Townsh**	**0.69**	**310**	P		**Pb**	**15 50 49.5**	**-0.1**
	baz=310							
WARBT				*i* S		**Sn**	**15 50 59.4**	**-0.1**
	baz=310							
EHD	**Haiduan**	**0.71**	**260**	*e*P		**Pb**	**15 50 49.2**	**-0.6**
	baz=259							
EHD				*e*S		**Sb**	**15 50 59.0**	**-0.3**
	baz=259							
ESL	**Shilin**	**0.73**	**318**	P		**Pn**	**15 50 49.9**	**-0.4**
	baz=318							
ESL				*e*S		**Sb**	**15 50 59.6**	**-0.2**
	baz=318							
LONT	**Longtian**	**0.85**	**245**	S		**Sb**	**15 51 03.7**	**+0.4**
	baz=243							
ELDTW	**Lidau**	**0.88**	**265**	P		**Pn**	**15 50 52.0**	**-0.4**
	baz=263							
ELDTW				S		**Sn**	**15 51 03.5**	**-0.7**
	baz=263							
VWDT	**VWDT**	**0.89**	**302**	P		**Pb**	**15 50 53.1**	**+0.1**
	baz=302							
VWDT				*e*S		**Sb**	**15 51 05.8**	**+1.3**
	baz=302							
LXIB	**Xiulin Townshi**	**0.90**	**326**	*i* P		**Pn**	**15 50 52.7**	**-0.1**
	baz=326							
LXIB				S		**Sn**	**15 51 04.6**	**-0.3**
	baz=326							
EOS4	**EOS4**	**0.90**	**21**	P		**Pb**	**15 50 53.2**	**+0.3**
	baz=21							
EOS4				S		**Sb**	**15 51 04.6**	**+0.1**
	baz=21							
NACB	**Ninganchiao**	**0.96**	**339**	P		**Pn**	**15 50 53.3**	**-0.2**
	baz=339							
NACB				*e*S		**Sn**	**15 51 05.5**	**-0.6**
	baz=339							
OWD	**Renai**	**0.99**	**313**	*i* P		**Pn**	**15 50 54.1**	**0.0**
	baz=313							
OWD				S		**Sb**	**15 51 07.6**	**+0.1**
	baz=313							
ETLH	**Xiulin Townshi**	**1.03**	**335**	S		**Sn**	**15 51 07.9**	**-0.1**
	baz=334							
WUSB	**Renai**	**1.05**	**313**	*e*P		**Pb**	**15 50 55.7**	**-0.1**
	baz=312							
WUSB				S		**Sb**	**15 51 09.1**	**-0.2**
	baz=312							
SSLB	**Suanglung**	**1.06**	**299**	P		**Pb**	**15 50 55.5**	**-0.2**
	baz=298							
SSLB				*e*S		**Sb**	**15 51 09.9**	**+0.6**
	baz=298							
EOS3	**EOS3**	**1.06**	**18**	P		**Pb**	**15 50 55.4**	**-0.3**
	baz=18							
EOS3				*i* S		**Sb**	**15 51 08.9**	**-0.2**
	baz=18							
CHGB	**Renai**	**1.07**	**317**	P		**Pb**	**15 50 55.7**	**-0.3**
	baz=317							
CHGB				S		**Sn**	**15 51 09.1**	**-0.1**
	baz=317							
WHF	**Hehuan Shan**	**1.08**	**324**	P		**Pn**	**15 50 55.6**	**0.0**
	baz=324							
WHF				S		**Sb**	**15 51 09.8**	**-0.5**
	baz=324							
STYH	**Taoyuan**	**1.10**	**265**	*e*P		**Pn**	**15 50 55.6**	**+0.2**
	baz=264							
WHYT	**Xinyi Township**	**1.10**	**293**	*e*P		**Pb**	**15 50 56.8**	**+0.3**
	baz=292							
EWUT	**Wuta**	**1.18**	**352**	*i* P		**Pn**	**15 50 56.8**	**+0.3**
	baz=352							
EWUT				S		**Sn**	**15 51 11.6**	**0.0**
	baz=352							
WCS	**Beigang Elemen**	**1.24**	**309**	P		**Pb**	**15 50 58.5**	**-0.3**
	baz=309							
NNSB	**Datong**	**1.27**	**335**	*i* P		**Pn**	**15 50 58.1**	**+0.3**
	baz=335							
NNSB				*e*S		**Sn**	**15 51 14.2**	**+0.3**
	baz=335							
LATG	**Datong**	**1.32**	**342**	*i* P		**Pn**	**15 50 58.8**	**+0.3**
	baz=342							
LATG				*e*S		**Sn**	**15 51 15.6**	**+0.4**
	baz=342							

TAP 08 15:50:47.5, 23.57N×120.97E, h25km±1km, ML1.0, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALS	**Alishan**	**0.16**	**250**	P	Pb	15 50 53.4	+0.3
	baz=248						
ALS				*i* S	Sb	15 50 57.0	+0.2
	baz=248						
WHYT	**Xinyi Township**	**0.17**	**320**	P	Pb	15 50 53.4	+0.6
	baz=319						
SSLB	**Suanglung**	**0.22**	**356**	P	Pb	15 50 54.2	+0.7
	baz=355						
SSLB				*i* S	Sb	15 50 58.6	+1.1
	baz=355						
CHN5	**Tsauling**	**0.27**	**276**	P	Pb	15 50 54.7	+0.5
	baz=276						
CHN5				*i* S	Sb	15 50 59.9	+1.1
	baz=276						
SMLT	**Sun Moon Lake**	**0.32**	**348**	*i* P	Pb	15 50 55.3	+0.4
	baz=349						
SMLT				S	Sb	15 51 01.0	+1.0
	baz=349						
EHY	**Hungye**	**0.33**	**101**	P	Pb	15 50 55.4	+0.5
	baz=100						
TYC	**Yuchr**	**0.35**	**343**	P	Pb	15 50 55.8	+0.5
	baz=344						
TYC				S	Sn	15 51 02.1	-1.1
	baz=344						
WCKO	**Fanlu**	**0.36**	**249**	*e*P	Pb	15 50 55.2	-0.3
	baz=249						
ELDTW	**Lidau**	**0.38**	**174**	*i* P	Pb	15 50 56.4	+0.5
	baz=172						

*IDC **08** 16:09:52.8±2.8, 3.51S×101.65E, h0km, mb3.7/7, mbtmp3.7/7, MS4.0/1, Error ellipse: s-maj=136.8km s-min=20.4km az=52.0*
*DJA **08** 16:10:07.8±0.5, 3.3S±6.6×10.2E±.°, h98km±11km, M3.8/11, mb4.2/1, MLv3.6/11*
ISC 08 16:10:06.7±0.9, 3.3S±0.1×102.2E±0.1, h100km, n18, σ1§27/17, mb3.8/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**1.34**	**329**	P	**Pn**	**16 10 33.1**	**+2.0**
MNAI	**Manna**	**1.36**	**144**	P	**Pn**	**16 10 32.6**	**+1.3**
LHSI	**Lahat**	**1.48**	**113**	P	**Pn**	**16 10 34.2**	**+1.5**
PPSI	**Pulau Pagai**	**2.19**	**283**	P	**Pn**	**16 10 43.1**	**+1.3**
LWLI	**Liwa**	**2.59**	**133**	P	**Pn**	**16 10 48.9**	**+1.8**
PDSI	**Padang**	**2.87**	**324**	P	**Pn**	**16 10 52.0**	**+1.2**
KASI	**Kota Agung**	**3.25**	**134**	P	**Pn**	**16 10 57.0**	**+1.2**
SISI	**Saibi**	**3.61**	**302**	P	**Pn**	**16 11 01.8**	**+1.2**
CGJI	**Cibinong**	**4.86**	**134**	P	**Pn**	**16 11 16.9**	**-0.6**
PBSI	**Pulau Batu**	**5.01**	**309**	P	**Pn**	**16 11 20.1**	**+0.6**
WRA	**Warramunga Arr**	**35.51**	**120**	P	**P**	**16 16 54.0**	**-0.1**
	0.2nm,0.4s,baz=302,slow=9.4,SNR=5.5 0.2nm,0.4s						
ASAR	**Alice Springs**	**36.78**	**126**	P	**P**	**16 17 04.8**	**-0.2**
	0.2nm,0.5s,baz=300,slow=7.9,SNR=11 0.2nm,0.5s						
SONM	**Songino Array**	**51.01**	**4**	P	**P**	**16 18 58.8**	**+0.3**
	0.3nm,0.5s,baz=182,slow=10,SNR=2.3 0.3nm,0.5s						
MKAR	**Makanchi Array**	**52.83**	**343**	P	**P**	**16 19 11.4**	**-0.5**
	0.4nm,0.4s,baz=154,slow=10,SNR=8.2 0.4nm,0.4s						
OPO	**Ambohidratompo**	**55.84**	**250**	LR	LR	16 38 21.2	
	comp=Z,149nm,20.8s,baz=2.0,slow=31						
ZALV	**Zalesovo Beam**	**58.81**	**348**	P	**P**	**16 19 52.9**	**-1.5**
	0.6nm,0.4s,baz=158,slow=4.7,SNR=2.7 0.6nm,0.4s						
BVAR	**Borovoye Array**	**62.10**	**339**	P	**P**	**16 20 15.6**	**-1.3**
	0.9nm,0.6s,baz=133,slow=8.1,SNR=5.9 0.9nm,0.6s						
ARCES	**ARCESS Array B**	**88.38**	**340**	P	**P**	**16 22 46.5**	**-0.5**
	3.7nm,0.9s,baz=99,slow=5.6,SNR=1.4 3.7nm,0.9s						

*IDC **08** 16:17:38.1±2.0, 0.31N×124.79E, h110km±17km, mb4.1/19, mbtmp4.5/22, Error ellipse: s-maj=19.3km s-min=8.8km az=74.0*

*DJA **08** 16:17:39.8±0.2, 2.0°N±2°×12°5E±.°, h80km±8km, M4.6/20, mB4.9/6, mb4.7/16, MLv4.7/20, Mw(mB)4.2/6*
*NEIC **08** 16:17:39.0±2.2, 0.29N±0.08×124.97E±0.07, h129km±8km, mb4.4/33, Error ellipse: s-maj=11.8km s-min=9.8km az=190.0*
ISC 08 16:17:37.2±0.4, 0.28N±0.05×124.93E±0.05, h100km, n131, σ1§72/137, mb4.5/45, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.99**	**287**	P	**Pn**	**16 18 00.0**	**+2.5**
GTOI	**Gorontalo**	**1.95**	**281**	P	Pn	16 18 13.4	+4.3
GTOI				S	**Sn**	**16 18 38.9**	**+5.4**
TNTI	**Ternate**	**2.49**	**79**	Pn	**Pn**	**16 18 17.1**	**+0.9**
TNTI	**Ternate**	**2.49**	**79**	P	**Pn**	**16 18 18.8**	**+2.6**
TNTI	**Ternate**	**2.49**	**79**	P	**Pn**	**16 18 19.0**	**+2.9**
TNTI				S	**Sn**	**16 18 48.6**	**+2.5**
LUWI	**Luwuk**	**2.52**	**239**	Pn	**Pn**	**16 18 19.3**	**+2.7**
LUWI	**Luwuk**	**2.52**	**239**	P	**Pn**	**16 18 19.7**	**+3.1**
SANI	**Sanana**	**2.54**	**155**	P	**Pn**	**16 18 17.0**	**+0.1**
SANI	**Sanana**	**2.54**	**155**	P	**Pn**	**16 18 16.9**	**+0.1**
SANI				S	**Sn**	**16 18 45.4**	**-2.0**
LBMI	**Labuha**	**2.73**	**109**	P	**Pn**	**16 18 21.8**	**+2.4**
MRSI	**Marisa**	**2.99**	**274**	P	**Pn**	**16 18 22.8**	**-0.1**
NLAI	**Namlea**	**4.11**	**148**	P	**Pn**	**16 18 39.4**	**+1.5**
TOLI2	**Tolitoli**	**4.23**	**281**	Pn	**Pn**	**16 18 41.3**	**+1.8**
TOLI2	**Tolitoli**	**4.23**	**281**	P	**Pn**	**16 18 40.7**	**+1.2**
MPSI	**Mapaga**	**5.03**	**271**	P	**Pn**	**16 18 52.4**	**+2.1**
	96nm,0.7s,1μm0.3nm						
TTSI	**Tana Toraja**	**6.08**	**237**	P	**Pn**	**16 19 06.1**	**+1.5**
	102nm,0.6s,1μm0.6nm						
SWI	**Sorong**	**6.43**	**100**	P	**Pn**	**16 19 12.3**	**+2.9**
	45nm,0.9s,0.2nm						
SPSI	**Sidrap Palu**	**6.66**	**231**	P	**Pn**	**16 19 14.3**	**+1.8**
	71nm,0.5s,1μm0.3nm						
BNDI	**Bandanaira**	**6.89**	**134**	P	**Pn**	**16 19 19.0**	**+3.4**
BNDI	**Bandanaira**	**6.89**	**134**	P	**Pn**	**16 19 17.6**	**+2.0**
	150nm,1.5s,1.2nm						
BKSI	**Bukumba**	**7.35**	**221**	P	**Pn**	**16 19 24.9**	**+3.1**
	28nm,0.8s,0.1nm						
KAPI	**Kappang**	**7.37**	**224**	P	**Pn**	**16 19 22.1**	**-0.1**
	7.7nm,0.3s,baz=30,slow=20,SNR=1.4						
KAPI				S	**Sn**	**16 20 43.1**	**-1.2**
	32nm,0.5s,baz=30,slow=20,SNR=8.4						
MYLDM	**Lahad Datu**	**8.06**	**307**	Pn	Pn	16 19 36.3	+4.8
EDFI	**Ende, Flores**	**9.53**	**200**	P	**Pn**	**16 19 52.7**	**+1.0**
	20nm,1.1s						
KMPI	**Kaimana, Papua**	**9.60**	**114**	P	**Pn**	**16 19 55.9**	**+3.3**
	38nm,0.6s						
KKM	**Kota Kinabalu**	**10.41**	**304**	Pn	**Pn**	**16 20 01.5**	**-2.2**
KKM	**Kota Kinabalu**	**10.41**	**304**	P	**Pn**	**16 20 07.5**	**+3.8**
BATI	**Baumata**	**10.49**	**187**	P	**Pn**	**16 20 05.6**	**+0.9**
	23nm,0.8s,baz=291,slow=19,SNR=2.1						
SBUM	**Sibu**	**12.89**	**280**	Pn	**Pn**	**16 20 37.6**	**+0.9**
MTN	**Manton Dam**	**14.41**	**155**		Pn	16 20 51.4	-5.1
MTN	**Manton Dam**	**14.41**	**155**	P	**Pn**	**16 20 57.0**	**+0.4**
KSM	**Kuching**	**14.67**	**275**		**P**	**16 21 04.9**	**+1.6**
KDU	**Kakadu**	**14.90**	**150**	P	**Pn**	**16 21 04.8**	**+2.1**
KNRA	**Kununurra**	**16.30**	**167**		**Pn**	**16 21 18.4**	**-1.9**
KNRA	**Kununurra**	**16.30**	**167**	P	**Pn**	**16 21 21.9**	**+1.6**
UGM	**Wanagama**	**16.50**	**240**	P	**P**	**16 21 24.8**	**+1.0**
FITZ	**Fitzroy Crossi**	**18.27**	**178**	P	**P**	**16 21 41.1**	**-2.1**
FITZ	**Fitzroy Crossi**	**18.27**	**178**	P	**P**	**16 21 44.1**	**+0.9**
LEM	**Lembang**	**18.66**	**247**	P	**P**	**16 21 47.5**	**-0.1**
	20nm,0.8s,baz=336,slow=20,SNR=5.0						
BBJI	**Bungbulang**	**18.87**	**246**	P	**Pn**	**16 21 52.8**	**+1.3**
	46nm,0.8s						
MBWA	**Marble Bar**	**21.90**	**193**	P	**P**	**16 22 19.4**	**-3.0**
MBWA				IAmb	IAmb	16 22 23.7	
	comp=Z,11nm,0.8s						
WB0	**Warramunga Arr**	**21.98**	**156**	P	**P**	**16 22 22.3**	**-0.8**
WRA	**Warramunga Arr**	**22.11**	**156**	P	**P**	**16 22 21.4**	**-3.2**
WRA	**Warramunga Arr**	**22.11**	**156**	P	**P**	**16 22 24.5**	**-0.1**
	comp=Z,7nm,0.7s,baz=334,slow=9.9,SNR=186 comp=Z,47nm,0.7s						
WB2	**Warramunga Arr**	**22.11**	**156**	P	**P**	**16 22 23.4**	**-1.2**
WR0	**Warramunga Arr**	**22.21**	**155**	P	**P**	**16 22 24.6**	**-1.0**
PSA00	**Pilbara Seismi**	**22.28**	**193**	P	**P**	**16 22 23.8**	**-2.5**
PSA00	**Pilbara Seismi**	**22.28**	**193**	P	**P**	**16 22 27.5**	**+1.2**
COEN	**Coen**	**22.95**	**129**	P	**P**	**16 22 32.9**	**-0.3**
COEN				IAmb	IAmb	16 22 35.6	
	comp=Z,7.6nm,0.8s						
COEN	**Coen**	**22.95**	**129**	P	**P**	**16 22 33.7**	**+0.5**
TPUB	**Ta-pu**	**23.26**	**350**	P	**P**	**16 22 34.1**	**-2.0**
TPUB				IAmb	IAmb	16 22 50.0	
	comp=Z,36nm,1.1s						
TPUB	**Ta-pu**	**23.26**	**350**	P	**P**	**16 22 36.8**	**+0.7**
KULM	**Kulim**	**24.75**	**282**	P	**P**	**16 22 47.1**	**-2.6**
KULM				IAmb	IAmb	16 22 49.6	
	comp=Z,11nm,1.0s						
QIS	**Mount Isa**	**25.20**	**146**	P	**P**	**16 22 55.0**	**+1.3**
AS31	**Alice Springs**	**25.35**	**160**	P	**P**	**16 22 53.8**	**-1.2**
AS31				IAmb	IAmb	16 22 58.7	
	comp=Z,6.2nm,0.5s						
ASAR	**Alice Springs**	**25.35**	**160**	P	**P**	**16 22 53.0**	**-2.1**
ASAR	**Alice Springs**	**25.35**	**160**	P	**P**	**16 22 55.9**	**+0.9**
	comp=Z,10nm,0.5s,baz=340,slow=7.7,SNR=373						
ASAR				PcP	**PcP**	**16 26 25.6**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=354,slow=2.0,SNR=8.6						
ASAR				S	**S**	**16 27 15.9**	**+1.7**
	comp=Z,0.3nm,0.4s,baz=20,slow=9.2,SNR=5.3						
ASAR				ScP	**ScP**	**16 29 53.2**	**-2.6**
	comp=Z,0.5nm,0.6s,baz=338,slow=2.7,SNR=5.7 comp=Z,10nm,0.5s						
AS01	**Alice Springs**	**25.36**	**160**	P	**P**	**16 22 55.6**	**+0.4**
	comp=Z,23nm,0.7s						
WRKA	**Warakurna**	**25.38**	**173**	P	**P**	**16 22 56.5**	**+1.2**
OOD	**Oodnadatta**	**29.76**	**161**	P	**P**	**16 23 35.4**	**+1.0**
FORT	**Forrest**	**31.03**	**175**	P	**P**	**16 23 46.0**	**+0.4**
FORT				IAmb	IAmb	16 23 56.8	
	comp=Z,14nm,0.9s						
FORT	**Forrest**	**31.03**	**175**	P	**P**	**16 23 46.2**	**+0.7**
CM31	**Chiang Mai Arr**	**31.27**	**307**	P	**P**	**16 23 46.8**	**-1.0**
CM31				IAmb	IAmb	16 23 49.7	
	comp=Z,4.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.27**	**307**	P	**P**	**16 23 46.4**	**-1.5**
CMAR	**Chiang Mai Arr**	**31.27**	**307**	P	**P**	**16 23 48.0**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=134,slow=7.6,SNR=23						
CMAR				PcP	**PcP**	**16 26 40.5**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=175,slow=1.3,SNR=8.0 comp=Z,2.5nm,0.8s						
CHTO	**Chiang Mai**	**31.46**	**307**	P	**P**	**16 23 49.4**	**-0.1**
CHTO				IAmb	IAmb	16 23 50.5	
	comp=Z,9.4nm,0.8s						
KMBL	**Kambalda**	**31.60**	**185**	P	**P**	**16 23 50.4**	**-0.2**
MULG	**Mulgathing**	**31.61**	**165**	P	**P**	**16 23 51.5**	**+0.9**
INKA	**Innaminka**	**31.73**	**153**	P	**P**	**16 23 53.5**	**+1.8**
NJ2	**Nanjing**	**32.12**	**350**	*e*P	**P**	**16 23 56.5**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
LCRK	**Leigh Creek**	**33.07**	**159**	P	**P**	**16 24 04.4**	**+1.0**
RK1H	**Rockhampton Ha**	**34.21**	**135**	P	**P**	**16 24 14.5**	**+1.0**
	comp=Z,11nm,0.5s						
PZH	**PanZhiHua**	**34.33**	**321**	P	**P**	**16 24 14.6**	**+0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,160nm,5.8s						
BBOO	**Buckleboo**	**34.55**	**163**	P	**P**	**16 24 16.5**	**+0.3**
BBOO				IAmb	IAmb	16 24 17.7	
	comp=Z,13nm,1.0s						
BBOO	**Buckleboo**	**34.55**	**163**	P	**P**	**16 24 17.1**	**+0.9**
STKA	**Stephens Creek**	**35.66**	**155**	P	**P**	**16 24 25.2**	**-0.5**
STKA	**Stephens Creek**	**35.66**	**155**	P	**P**	**16 24 26.9**	**+1.1**
STKA	**Stephens Creek**	**35.66**	**155**	P	**P**	**16 24 26.9**	**+1.1**
	comp=Z,6.6nm,0.6s,baz=329,slow=9.2,SNR=28 comp=Z,6.6nm,0.6s						
HTT	**Hallett**	**36.02**	**160**	P	**P**	**16 24 30.9**	**+2.0**
KSRS	**Korea Array**	**37.10**	**4**	P	**P**	**16 24 39.2**	**+1.3**
	comp=Z,2.4nm,0.8s,baz=184,slow=9.4,SNR=5.2 comp=Z,2.4nm,0.8s						
CMSA	**Cobar Meteorol**	**37.26**	**150**	P	**P**	**16 24 41.2**	**+1.8**
MJAR	**Matsushiro Arr**	**38.13**	**17**	P	**P**	**16 24 46.2**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=196,slow=8.8,SNR=3.1 comp=Z,2.4nm,0.8s						
ARMA	**Armidale**	**39.71**	**143**	P	**P**	**16 24 58.5**	**-1.6**
ARMA				IAmb	IAmb	16 25 03.2	
	comp=Z,5.4nm,0.7s						
ARMA	**Armidale**	**39.71**	**143**	P	**P**	**16 25 02.4**	**+2.3**
ARPS	**Mount Arapiles**	**40.06**	**159**	P	**P**	**16 25 03.9**	**+1.2**
	comp=Z,14nm,0.6s						
LZH	**Lanzhou**	**40.66**	**333**	*e*P	**P**	**16 25 09.9**	**+2.0**
LZH				sP	sP	16 25 49.4	+6.8
	comp=Z,21nm,0.9s						
LZH				pmax	pmax		
CAN	**Canberra**	**41.94**	**150**	P	**P**	**16 25 16.9**	**-1.4**
CAN	**Canberra**	**41.94**	**150**	P	**P**	**16 25 19.8**	**+1.6**
TOO	**Toolangi**	**42.18**	**155**	P	**P**	**16 25 18.2**	**-2.0**
TOO	**Toolangi**	**42.18**	**155**	P	**P**	**16 25 22.5**	**+2.3**
LSA	**Lhasa**	**43.49**	**315**	P	**P**	**16 25 29.4**	**-1.9**
LSA				IAmb	IAmb	16 25 34.4	
	comp=Z,8.3nm,0.6s						
USA0B	**Ussuriysk Arra**	**44.18**	**7**	P	**P**	**16 25 32.5**	**-3.6**
USA0B				IAmb	IAmb	16 25 37.4	
	comp=Z,4.2nm,0.7s						
USRK	**Ussuriysk Ar.**	**44.18**	**7**	P	**P**	**16 25 36.6**	**+0.5**
	comp=Z,2.8nm,0.6s,baz=196,slow=7.8,SNR=7.4 comp=Z,2.8nm,0.6s						
MDJ	**Mudanjiang**	**44.34**	**5**	P	**P**	**16 25 38.1**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,160nm,4.4s						
GTA	**Gaotai**	**45.21**	**332**	⇓P	**P**	**16 25 46.0**	**+1.5**
GTA				pmax	pmax		
	comp=Z,12nm,0.9s						
HEH	**HeiHe**	**49.84**	**2**	*e*P	**P**	**16 26 20.5**	**+0.5**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SONM	**Songino Array**	**50.03**	**344**	P	**P**	**16 26 19.8**	**-1.9**
SONM				IAmb	IAmb	16 26 24.2	
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**50.03**	**344**	P	**P**	**16 26 21.1**	**-0.6**
	comp=Z,3.8nm,0.8s,baz=156,slow=9.0,SNR=19 comp=Z,3.8nm,0.8s						
WMQ	**Urumqi**	**54.58**	**327**	*e*P	**P**	**16 26 56.3**	**+1.0**
KSH	**Kashi**	**59.27**	**317**	P	**P**	**16 27 30.2**	**+1.6**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MK31	**Makanchi Array**	**59.41**	**327**	P	**P**	**16 27 28.2**	**-1.1**
MK31				IAmb	IAmb	16 27 31.0	
	comp=Z,5.4nm,0.8s						
MKAR	**Makanchi Array**	**59.41**	**327**	P	**P**	**16 27 28.0**	**-1.3**
MKAR	**Makanchi Array**	**59.41**	**327**	P	**P**	**16 27 28.2**	**-1.1**
MKAR	comp=Z,6.1nm,0.6s,baz=127,slow=7.1,SNR=38			PcP	**PcP**	**16 28 15.4**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=121,slow=4.7,SNR=4.1 comp=Z,6.1nm,0.6s						
KZA	**Kyzart**	**60.99**	**320**	P	**P**	**16 27 42.7**	**+2.0**
	SNR=5.8						
UCH	**Uchtor**	**61.54**	**319**	P	**P**	**16 27 46.3**	**+1.9**
	SNR=9.6						
AAK	**Ala-Archa**	**61.75**	**320**	P	**P**	**16 27 46.5**	**+1.0**
	SNR=6.1						
AAK	**Ala-Archa**	**61.75**	**320**	P	**P**	**16 27 45.0**	**-0.5**
AAK				IAmb	IAmb	16 27 47.8	
	comp=Z,3.9nm,0.8s						
AML	**Almayashu**	**62.03**	**319**	P	**P**	**16 27 49.4**	**+1.8**
	SNR=11						
USP	**Ospenovka**	**62.06**	**320**	P	**P**	**16 27 48.2**	**+0.8**
	SNR=13						
ARSB	**Arslanbob**	**62.13**	**318**	P	**P**	**16 27 46.7**	**-1.3**
EKS2	**Erkin-Say**	**62.23**	**320**	P	**P**	**16 27 50.5**	**+1.9**
	SNR=7.0						
KBL	**Kabul**	**62.24**	**309**	P	**P**	**16 27 47.0**	**-2.0**
ZAA0	**Zalesovo Array**	**62.87**	**335**	P	**P**	**16 27 50.7**	**-1.8**
ZAA0				IAmb	IAmb	16 27 53.8	
	comp=Z,3.6nm,0.9s						
ZALV	**Zalesovo Beam**	**62.87**	**335**	P	**P**	**16 27 50.8**	**-1.7**
ZALV	**Zalesovo Beam**	**62.87**	**335**	P	**P**	**16 27 50.6**	**-1.9**
	comp=Z,1.9nm,0.6s,baz=127,slow=6.3,SNR=11 comp=Z,1.9nm,0.6s						
KURBB	**Kurchatov Arra**	**63.71**	**329**	P	**P**	**16 27 56.5**	**-1.5**
	comp=Z,7.0nm,0.8s,baz=130,slow=5.9,SNR=49 comp=Z,7.0nm,0.8s						
KURK	**Kurchatov**	**63.72**	**329**	P	**P**	**16 27 56.3**	**-1.8**
KKAR	**Karatay Array**	**64.57**	**319**	P	**P**	**16 28 03.5**	**-0.5**
BVAR	**Borovoye Array**	**69.25**	**328**	P	**P**	**16 28 32.1**	**-1.3**
	comp=Z,3.3nm,0.6s,baz=130,slow=7.0,SNR=22 comp=Z,3.3nm,0.6s						
BRVK	**Borovoye**	**69.32**	**328**	P	**P**	**16 28 34.0**	**+0.2**
BRVK				IAmb	IAmb	16 28 35.6	
	comp=Z,6.3nm,0.9s						
GEYT	**Alibeck**	**71.68**	**310**	P	**P**	**16 28 47.9**	**-0.7**
	comp=Z,4.9nm,0.7s,baz=150,slow=6.2,SNR=11 comp=Z,4.9nm,0.7s						
ABKAR	**Akbulak array**	**73.70**	**322**	P	**P**	**16 28 58.7**	**-1.5**
VNDA	**Vanda**	**80.26**	**172**	P	**P**	**16 29 36.1**	**-0.4**
VNDA	**Vanda**	**80.26**	**172**	P	**P**	**16 29 36.9**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=327,slow=6.0,SNR=7.7 comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**88.97**	**25**	P	**P**	**16 30 19.2**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=253,slow=4.3,SNR=1.7 comp=Z,0.1nm,0.3s						
MMAI	**Mount Meron Ar**	**89.45**	**303**	P	**P**	**16 30 23.8**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=86,slow=7.4,SNR=10 comp=Z,1.9nm,0.5s						
QSPA	**South Pole Qui**	**90.21**	**180**	P	**P**	**16 30 23.8**	**-2.6**
BRTR	**Keskin Array B**	**90.82**	**310**	P	**P**	**16 30 28.1**	**-1.7**
	comp=Z,1.4nm,0.8s,baz=59,slow=0.8,SNR=3.4 comp=Z,1.4nm,0.8s						
ARCES	**ARCESS Array B**	**93.04**	**340**	P	**P**	**16 30 37.5**	**-1.7**
	comp=Z,5.7nm,1.0s,baz=87,slow=4.7,SNR=2.0 comp=Z,5.7nm,1.0s						
FINES	**FINESS Array B**	**94.00**	**332**	P	**P**	**16 30 42.5**	**-1.3**
	comp=Z,6.6nm,1.0s,baz=106,slow=11,SNR=4.5 comp=Z,6.6nm,1.0s						
TORD	**Torodi Ar. Bea**	**122.19**	**286**	PKP	**PKPdf**	**16 36 20.4**	**-1.0**

PB04 IPOC Station P 3.22 284 *e*P **Pn** **16 23 39.6 +0.5**
PB04 *e*S **S** **16 24 19.9 -0.8**
PB04 IAML 16 24 26.0
comp=Z,523nm,0.5s
PB04 IPOC Station P 3.22 284⇑*i*P **Pn** **16 23 39.9 +0.7**
PB04 *i* S **S** **16 24 18.8 -1.8**
GO02 Mina Guanaco 3.26 232 Pn **Pn** **16 23 40.8 +1.1**
GO02 Mina Guanaco 3.26 232 *e*P **Pn** **16 23 40.4 +0.7**
GO02 *e*S **S** **16 24 23.0 +1.3**
GO02 IAML 16 24 25.6
comp=Z,445nm,0.2s
GO02 Mina Guanaco 3.26 232⇑*i*P **Pn** **16 23 40.8 +1.1**
GO02 *i* S **S** **16 24 21.8 +0.2**
PB01 IPOC Station P 3.28 309 **Pn** **16 23 40.3 +0.6**
PB01 IPOC Station P 3.28 309 *e*P **Pn** **16 23 40.6 +0.9**
PB01 *e*S **S** **16 24 21.5 -0.2**
PB01 IAML 16 24 24.6
comp=Z,552nm,0.1s
PB01 IPOC Station P 3.28 309⇑*i*P **Pn** **16 23 40.5 +0.7**
PB01 *i* S **S** **16 24 20.5 -1.2**
PB02 IPOC Station P 3.42 302 **Pn** **16 23 41.8 +0.4**
PB02 IPOC Station P 3.42 302⇑*i*P **Pn** **16 23 41.9 +0.5**
PB02 *i* S **S** **16 24 22.7 -2.0**
PB14 IPOC Station P 3.63 245 Pn **Pn** **16 23 44.5 +0.5**
PB14 IPOC Station P 3.63 245 *e*P **Pn** **16 23 44.7 +0.7**
PB14 *e*S **S** **16 24 28.8 -0.8**
PB14 IAML 16 24 32.1
comp=Z,216nm,0.5s
PB14 IPOC Station P 3.63 245⇑*i*P **Pn** **16 23 44.8 +0.7**
PB14 *i* S **S** **16 24 28.0 -1.7**
PB08 IPOC Station P 3.73 323 **Pn** **16 23 47.1 +1.7**
PB08 IPOC Station P 3.73 323⇑*i*P **Pn** **16 23 46.9 +1.5**
PB08 *i* S **S** **16 24 32.1 +0.2**
PX03 IPOC Station P 3.81 315 *e*P **Pn** **16 23 45.7 -0.5**
PX03 *e*S **S** **16 24 30.8 -2.5**
AHML Horco Molle 3.84 160 *e*P **Pn** **16 23 47.8 +1.5**
PATCX Punta Patache 3.90 306 **Pn** **16 23 47.2 0.0**
PATCX Punta Patache 3.90 306 *e*P **Pn** **16 23 47.6 +0.4**
PATCX *e*S **S** **16 24 33.8 -1.4**
PATCX IAML 16 24 36.5
comp=Z,302nm,0.5s
PATCX Punta Patache 3.90 306 *i* P **Pn** **16 23 47.0 -0.2**
PATCX *i* S **S** **16 24 32.8 -2.4**
HMBC Humberstone 4.07 314 *e*P **Pn** **16 23 49.0 -0.3**
HMBC *e*S **S** **16 24 36.2 -2.8**
TA01 Diego Aracena 4.08 308 Pn **Pn** **16 23 48.0 -1.3**
TA01 Diego Aracena 4.08 308 *e*P **Pn** **16 23 49.3 0.0**
TA01 *e*S **S** **16 24 37.4 -1.6**
TA01 IAML 16 24 39.6
comp=Z,241nm,0.3s
TA01 Diego Aracena 4.08 308 *e*P **Pn** **16 23 49.2 0.0**
TA01 *e*S **S** **16 24 36.2 -2.7**
GO01 Chusmiza 4.14 326 **Pn** **16 23 51.1 +0.7**
GO01 Chusmiza 4.14 326 *e*P **Pn** **16 23 51.4 +0.9**
GO01 *e*S **S** **16 24 42.3 +1.3**
GO01 IAML 16 24 46.4
comp=Z,156nm,0.5s
GO01 Chusmiza 4.14 326⇑*i*P **Pn** **16 23 51.4 +0.9**
GO01 *i* S **S** **16 24 40.9 -0.2**
PB11 IPOC Station P 4.31 321 **Pn** **16 23 52.1 -0.2**
PB11 IPOC Station P 4.31 321 *e*P **Pn** **16 23 52.3 0.0**
PB11 *e*S **S** **16 24 42.4 -2.1**
PB11 IAML 16 24 46.9
comp=Z,244nm,0.5s
PB11 IPOC Station P 4.31 321 *i* P **Pn** **16 23 52.1 -0.2**
PB11 *i* S **S** **16 24 42.1 -2.3**
AC01 Pan de Azucar 4.58 229 Pn **Pn** **16 23 54.9 -0.5**
AC01 Pan de Azucar 4.58 229 *e*P **Pn** **16 23 55.2 -0.2**
AC01 *e*S **S** **16 24 48.3 -1.9**
AC01 IAML 16 24 52.3
comp=Z,96nm,0.3s
AC01 Pan de Azucar 4.58 229⇑*i*P **Pn** **16 23 55.0 -0.4**
AC06 Mina Casimiro 5.29 217 Pn **Pn** **16 24 03.6 -0.7**
GO03 Copiap 5.42 215 **Pn** **16 24 05.2 -0.8**
GO03 Copiap 5.42 215 *e*P **Pn** **16 24 05.6 -0.4**
GO03 *e*S **S** **16 25 06.9 -2.4**
PB16 IPOC Station P 5.43 331 Pn **Pn** **16 24 07.8 +1.0**
PB12 IPOC Station P 5.61 323 **Pn** **16 24 07.4 -1.1**
AC04 Llanos de Chal 6.35 217 **Pn** **16 24 16.4 -1.4**
AC05 El Transito 6.48 208 **Pn** **16 24 18.8 -0.7**
LCO Las Campanas 6.82 210 **Pn** **16 24 22.6 -1.5**
LPAZ La Paz 6.95 349 **Pn** **16 24 27.6 +1.4**
CO01 Juntas del Tor 7.42 203 Pn **Pn** **16 24 32.9 +1.1**
GO04 Tololo Observa 7.86 206 **Pn** **16 24 36.0 -1.4**
BBSD Serra de San D 8.29 45 *e*P **Pn** **16 24 42.1 -0.8**
CO03 El Pedregal 8.41 204 **Pn** **16 24 41.4 -3.1**
SCCA San Cayetano, 8.57 123 *e*P **Pn** **16 24 50.1 +3.8**
MURT Porto Murtinho 8.61 82 *e*P **Pn** **16 24 47.6 +0.7**
CO02 Combarbal 8.86 204 **Pn** **16 24 48.5 -1.7**
SIV San Ignacio 8.92 38 P **Pn** **16 24 49.5 -1.6**
comp=Z,14nm,0.5s,baz=212,slow=12,SNR=62
SIV S **S** **16 26 26.5 -5.1**
comp=Z,5.1nm,0.8s,baz=299,slow=19,SNR=4.8
CPUP Villa Florida 9.15 112 Pn **Pn** **16 24 51.4 -2.4**
CPUP Villa Florida 9.15 112 P **Pn** **16 24 52.6 -1.2**
comp=Z,2.5nm,0.8s,baz=302,slow=11,SNR=4.5
BDQN Bodoquena, MS 9.69 76 *e*P **Pn** **16 25 00.8 -0.2**
ANTJ Antonio Joao (10.02 85 *e*P **Pn** **16 25 05.4 +0.3**
PTLB Pontes e Lacer 10.52 45 *e*P **Pn** **16 25 11.0 -0.5**
AQDB Aquidauana 10.62 78 *e*P **Pn** **16 25 13.4 +0.5**
MT02 Curacav 10.78 200 Pn **Pn** **16 25 10.5 -4.1**
AMBA Amambai (Brazi 10.85 91 *e*P **P** **16 25 19.1 -2.5**
MT09 Talagante 11.21 198 Pn **Pn** **16 25 19.2 -1.1**
BO04 La Punta 11.31 196 **Pn** **16 25 21.1 -0.4**
MCR1 Marechal Candi 11.73 99 *e*P **Pn** **16 25 28.8 +1.9**
RVDE Rio Verde (Bra 11.78 72 *e*P **Pn** **16 25 27.9 +0.3**
BO01 Tunca 11.82 198 Pn **Pn** **16 25 24.8 -3.0**
VILB Vilhena 11.91 33 Pn **Pn** **16 25 27.2 -2.0**
UNIS Unistalda (Bra 12.05 122 *e*P **P** **16 25 33.1 -1.8**
BO02 Sierra Bellavi 12.12 196 Pn **Pn** **16 25 28.6 -3.1**
PP1B Ponte de Pedra 12.44 66 *e*P **Pn** **16 25 35.7 -0.2**
RODS Rosario do Sul 12.58 127 *e*P **P** **16 25 39.9 -0.8**
SALV Santo Antonio 12.69 57 *e*P **Pn** **16 25 38.9 0.0**
ETMB Extrema 13.27 2 **Pn** **16 25 43.2 -3.0**
ETMB Extrema 13.27 2 *e*P **Pn** **16 25 46.9 +0.7**
PTGB Pitanga 13.54 100 *e*P **P** **16 25 52.1 +0.5**
ALGR Alto Alegre (B 13.58 117 *e*P **P** **16 25 53.8 +1.9**
C2SB Chapadao do Su 13.73 74 *e*P **P** **16 25 54.1 +0.5**
ITAB Concordia 13.86 110 P **P** **16 25 54.5 -0.5**
ITAB Concordia 13.86 110 *e*P **P** **16 25 57.0 +2.0**
CPSB Cacapava Do Su 13.92 124 *e*P **P** **16 25 55.1 -0.6**
LDASE Londrina, Braz 14.39 94 *e*P **P** **16 26 01.0 +0.1**
PCMB Pacaembu 14.43 87 *e*P **P** **16 26 02.5 +1.1**
PLTB Pedras Altas 14.49 129 Pn **Pn** **16 25 59.2 -1.8**
SAML Samuel 14.54 14 P **Pn** **16 26 00.9 -0.9**
SAML Samuel 14.54 14 *e*P **P** **16 26 02.5 -0.1**
TRQA Tornquist 15.41 166 P **P** **16 26 09.9 -2.2**
CNLB Canela 15.54 117 *e*P **Pn** **16 26 14.2 +0.3**
ITRB Iturama 15.66 80 *e*P **Pn** **16 26 16.8 +1.4**
FRTB Fartura 15.82 94 *e*P **Pn** **16 26 18.6 +1.4**
CLDB Colider 16.09 42 *e*P **Pn** **16 26 21.4 +0.8**
GO06 Curarrehue 16.86 193 P **Pn** **16 26 29.2 -0.4**
GO06 IAmb IAmb 16 26 33.1
comp=Z,5.1nm,0.8s
BB19B Bebedouro 17.04 86 *e*P **Pn** **16 26 33.3 +1.5**
LR05 Currie 17.59 193 P **P** **16 26 36.5 +0.6**
RCLB Rio Claro- Sao 17.76 91 *e*P **Pn** **16 26 40.2 -0.1**
SPB Sao Paulo 17.76 95 *e*P **Pn** **16 26 39.7 -0.5**
PLCA Paso Flores 17.82 189 P **P** **16 26 36.9 -1.5**
PLCA IAmb IAmb 16 26 42.2
comp=Z,3.4nm,0.7s
PLCA Paso Flores 17.82 189 *e*P **Pn** **16 26 41.6 +0.8**
PLCA Paso Flores 17.82 189 P **Pn** **16 26 41.0 +0.2**
comp=Z,2.6nm,0.5s,baz=6.2,slow=12,SNR=15
PET01 Itanhaem-SP 17.89 98 *e*P **Pn** **16 26 40.8 -0.9**
IPMB Ipameri, GO 18.12 77 *e*P **Pn** **16 26 43.7 -0.9**
VAO Valinhos 18.23 93 *e*P **Pn** **16 26 44.4 -1.4**
SNDB Serra Nova Dou 18.46 56 *e*P **P** **16 26 45.9 +0.3**
BDFB Brasilia 19.20 70 P **P** **16 26 51.1 -2.5**
BDFB Brasilia 19.20 70 *e*P **P** **16 26 54.4 +0.8**
comp=Z,33nm,0.7s,baz=247,slow=11,SNR=42
NPGB Novo Progresso 19.42 36 *e*P **P** **16 26 54.9 -1.0**
PARB Paraibuna 19.44 95 *e*P **Pn** **16 26 59.5 -0.5**
PMNB Patos De Minas 19.55 80 *e*P **P** **16 26 58.4 +1.0**
LL06 Loncomilla 19.85 195 P **P** **16 26 57.8 -2.4**
LL06 IAmb IAmb 16 27 03.8
comp=Z,39nm,1.1s
BSCB Bom Sucesso 20.50 88 *e*P **P** **16 27 09.2 +1.6**
MACA Manacapuru-AM 20.73 17 P **P** **16 27 06.7 -3.3**
MACA Manacapuru-AM 20.73 17 *e*P **P** **16 27 09.7 -0.2**
ITTB Itaituba 21.51 31 *e*P **P** **16 27 17.4 -0.6**

VAS01 Vassouras-RJ 21.54 92 *e*P **P** **16 27 19.6 +1.4**
AY01 Puyuhuapi 21.76 191 P **P** **16 27 18.6 -1.4**
AY01 IAmb IAmb 16 27 22.5
comp=Z,10nm,0.6s
DIAM Diamantina, MG 22.13 82 *e*P **P** **16 27 24.4 +0.3**
DUB01 Friburgo-RJ 22.54 92 *e*P **P** **16 27 29.0 +1.3**
JANB Januaria 22.68 73 *e*P **P** **16 27 30.0 +1.0**
SDBA SAO DESIDERIO 23.37 67 *e*P **P** **16 27 36.0 +0.8**
PRPB Parauapebas 23.49 47 *e*P **P** **16 27 36.5 +0.3**
ALF01 Guarapari-ES 24.29 89 *e*P **P** **16 27 44.7 +1.2**
SJMB Sao Joao De Ma 24.29 84 *e*P **P** **16 27 44.6 +1.1**
MALB Monte Alegre 24.40 32 *e*P **P** **16 27 44.8 +0.3**
RIB01 Linhares ES 24.87 86 *e*P **P** **16 27 48.3 -0.4**
BOAV Boa Vista 26.11 14 P **P** **16 27 59.6 -0.3**
BOAV IAmb IAmb 16 28 02.2
comp=Z,4.3nm,0.8s
BOAV Boa Vista 26.11 14 *e*P **P** **16 28 01.2 +1.3**
GUA01 Guaratinga, BA 26.16 80 *e*P **P** **16 28 01.2 +0.8**
EFI East Falkland 29.26 169 P **P** **16 28 25.4 -2.0**
EFI IAmb IAmb 16 28 42.7
comp=Z,20nm,1.1s
BAUV El Baul 31.92 358 P **P** **16 28 48.8 -2.4**
BAUV IAmb IAmb 16 29 02.9
comp=Z,6.2nm,0.8s
SDV Santo Domingo 32.07 353 P **P** **16 28 54.2 +1.6**
comp=Z,2.2nm,0.3s,baz=217,slow=10,SNR=2.0
comp=Z,2.2nm,0.3s
SNAA Sanae 60.08 161 P **P** **16 32 29.4 -0.3**
SNAA Sanae 60.08 161 P **P** **16 32 31.8 +2.1**
comp=Z,0.5nm,0.5s,baz=285,slow=12,SNR=1.2
comp=Z,0.5nm,0.5s
TXAR Lajitas Array 63.12 324 P **P** **16 32 51.8 +1.2**
comp=Z,0.5nm,0.8s,baz=147,slow=6.6,SNR=5.9
comp=Z,0.5nm,0.8s
QSPA South Pole Qui 67.05 180 P **P** **16 33 17.2 +1.8**
QSPA IAmb IAmb 16 33 21.7
comp=Z,3.5nm,0.9s
DBIC Dimbokro 67.34 72 P **P** **16 33 18.6 +0.8**
comp=Z,3.5nm,0.8s,baz=176,slow=2.9,SNR=3.1
comp=Z,3.5nm,0.8s
TORD Torodi Ar. Bea 76.07 69 P **P** **16 34 10.0 +0.1**
TORD Torodi Ar. Bea 76.07 69 P **P** **16 34 10.6 +0.7**
comp=Z,1.1nm,0.4s,baz=260,slow=5.6,SNR=19
comp=Z,1.1nm,0.4s
PDAR Pinedale Array 76.53 329 P **P** **16 34 13.4 +1.2**
comp=Z,0.6nm,0.7s,baz=129,slow=7.1,SNR=2.1
comp=Z,0.6nm,0.7s
ESDC Sonseca Array 85.64 44 P **P** **16 35 02.0 +2.0**
comp=Z,0.9nm,0.8s,baz=270,slow=4.4,SNR=5.6
comp=Z,0.9nm,0.8s
ASAR Alice Springs 129.31 205 PKP **PKiKP** **16 41 30.8 +1.0**
comp=Z,0.4nm,0.7s,baz=119,slow=1.4,SNR=8.4
WRA Warramunga Arr 132.47 207 PKP **PKiKP** **16 41 37.7 +1.5**
comp=Z,0.3nm,0.5s,baz=171,slow=1.6,SNR=9.7
MKAR Makanchi Array 145.74 39 PKPbc **PKPbc** **16 41 59.2 0.0**
comp=Z,1.1nm,0.7s,baz=340,slow=2.2,SNR=6.3
SONM Songino Array 154.77 11 PKPbc **PKiKP** **16 42 23.2 +2.0**
comp=Z,0.5nm,0.4s,baz=329,slow=3.5,SNR=2.1
CMAR Chiang Mai Arr 165.85 107 PKPab **PKPab** **16 43 28.2 +2.0**
comp=Z,0.2nm,0.3s,baz=242,slow=5.8,SNR=5.1
PZH PanZhiHua 169.05 70 PKP **PKPdf** **16 42 23.2 -4.3**

*NCEDC **08** 17:06:26.7± 1.2, 37.°55N±0.°02×118.°82W±0.°02, h3km±.5km, Mwr3.7/4, ML3.4/100(NEIC), Mwr3.6(REN), Error ellipse: s-maj=3.1km s-min=1.9km az=207.0*
*NEIC **08** 17:06:26.8, 37.°55N×118.°82W, h3km*
*ANF **08** 17:06:26.8± 0.3, 37.°53N×118.°79W, h0km, ML3.7/23, ML3.6/23, Error ellipse: s-maj=2.9km s-min=2.6km az=107.0*
*REN **08** 17:06:26.8± 1.3, 37.°55N±0.°02×118.°83W±0.°02, h6km±.4km, Error ellipse: s-maj=3.6km s-min=2.4km az=195.0*
*NEIC **08** 17:06:26.8, 37.°55N×118.°82W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-3.88; $M_{\theta\theta}$1.39; $M_{\phi\phi}$2.49; $M_{r\theta}$0.78; $M_{\theta\phi}$-1.53; $M_{\phi r}$-0.35; Fault plane solution: M_o3.83000×10^{14} NP1:ϕ_s150.52000°, δ39.67000°, λ-81.07000°. NP2:ϕ_s318.98000°, δ50.90000°, λ-97.34000°. Principal axes: T 3.6380, Plg6.0000°, Azm54.0000°; N 0.3638, Plg6.0000°, Azm324.0000°; P -4.0018, Plg82.0000°, Azm189.0000°;*
*IDC **08** 17:06:27.1± 1.1, 37.°56N×118.°80W, h0km, mb3.3/1, mbtmp3.2/5, ML3.4/4, MS2.8/1 Error ellipse: s-maj=14.5km s-min=7.9km az=106.0*
*NEIC **08** 17:06:27.1± 1.1, 37.°56N±0.°01×118.°81W±0.°01, h6km±.3km, Error ellipse: s-maj=2.3km s-min=1.1km az=143.0*

ISC 08 17:06:27.1±0.8, 37.56N±0.02×118.82W±0.01, h7km±5km, n252, σ1$\hat{9}$10/279, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCVM	**Convict Lake**	**0.04**	**343**		**Pg**	**17 06 28.0**	**-0.9**
EXSG	**Experiment Sta**	**0.06**	**349**		**Pg**	**17 06 28.6**	**-0.5**
MLAC	**Mammoth, Mammo**	**0.08**	**348**		**Pg**	**17 06 30.9**	**+1.6**
MLAC	**Mammoth, Mammo**	**0.08**	**348**	P	**Pg**	**17 06 28.9**	**-0.4**
	baz=168,SNR=1000						
MLAC				S	**Pg**	**17 06 30.8**	**+1.6**
	baz=168						
MDRNC	**Doe Ridge**	**0.08**	**349**		**Pg**	**17 06 29.1**	**-0.3**
MLCM	**Laurel Creek C**	**0.10**	**306**		**Pg**	**17 06 29.1**	**-0.5**
MGPM	**Gravel Pit**	**0.10**	**316**		**Pg**	**17 06 29.3**	**-0.3**
MCBM	**Casa Benchmark**	**0.11**	**324**		**Pg**	**17 06 29.6**	**-0.2**
MCBM					**Sg**	**17 06 31.5**	**-0.1**
MCSM	**Casa Diablo Ho**	**0.12**	**324**		**Pg**	**17 06 29.8**	**-0.1**
MLHT	**Little Hot Cre**	**0.12**	**0**		**Pg**	**17 06 29.9**	**0.0**
MEMM	**East Mammoth H**	**0.15**	**318**		**Pg**	**17 06 30.3**	**-0.1**
ORC	**Owens River**	**0.15**	**58**		**Pg**	**17 06 30.1**	**-0.2**
MMLB	**Mammoth Lakes**	**0.17**	**309**		**Pg**	**17 06 30.6**	**0.0**
MMPM	**Mammoth Pass**	**0.18**	**288**		**Pg**	**17 06 30.6**	**-0.3**
MLIM	**Lincoln Peak**	**0.18**	**297**		**Pg**	**17 06 30.9**	**0.0**
WMD		**0.18**	**129**		**Pg**	**17 06 30.5**	**-0.3**
MDYM	**Dry Creek**	**0.19**	**303**		**Pg**	**17 06 31.1**	**+0.1**
MDYM					**Sg**	**17 06 34.2**	**+0.5**
MRDM	**Red Cones**	**0.20**	**282**		**Pg**	**17 06 31.0**	**-0.3**
CASR	**Casa Diablo Mo**	**0.21**	**85**		**Pg**	**17 06 31.3**	**-0.1**
MINS	**Minaret Summit**	**0.22**	**297**		**Pg**	**17 06 31.4**	**-0.2**
MINS					**Sg**	**17 06 34.4**	**-0.3**
SCHCA	**Scheelite**	**0.22**	**153**		**Pg**	**17 06 31.2**	**-0.4**
MDPB	**Devils Postpil**	**0.22**	**290**		**Pg**	**17 06 31.3**	**-0.3**
MDPB					**Sg**	**17 06 34.2**	**-0.5**
MDPB				IAML		17 06 35.2	
	comp=N,8μm,0.7s						
MDCM	**Deadman Creek**	**0.24**	**311**		**Pg**	**17 06 31.7**	**-0.2**
BENR	**Benton**	**0.25**	**50**		**Pg**	**17 06 31.8**	**-0.4**
MRCM	**Red Rock Canyo**	**0.27**	**64**		**Pg**	**17 06 32.5**	**-0.2**
MGNR	**McGee Canyon**	**0.27**	**20**		**Pg**	**17 06 32.6**	**-0.1**
MTUM	**Tungsten Hills**	**0.28**	**135**		**Pg**	**17 06 32.5**	**-0.3**
MCDM	**Chidago Canyon**	**0.30**	**91**		**Pg**	**17 06 33.0**	**0.0**
MFBM	**Five Bridges**	**0.33**	**112**		**Pg**	**17 06 33.9**	**+0.1**
BHPR	**Bishop**	**0.37**	**134**		**Pg**	**17 06 34.1**	**-0.2**
MLNR	**Milner Canyon**	**0.38**	**84**		**Pg**	**17 06 34.5**	**-0.1**
BCKR	**Birch Creek**	**0.38**	**68**		**Pg**	**17 06 34.7**	**+0.1**
ANTCA	**Antelope Range**	**0.41**	**29**		**Pg**	**17 06 35.0**	**-0.2**
KCC	**Kaiser Creek**	**0.46**	**240**		**Pg**	**17 06 35.6**	**-0.5**
KCC	**Kaiser Creek**	**0.46**	**240**		**Sg**	**17 06 41.8**	**-0.4**
POCCA	**Poleta Canyon**	**0.47**	**114**		**Pg**	**17 06 36.0**	**-0.2**
POCCA	**Poleta Canyon**	**0.47**	**114**		**Sg**	**17 06 43.0**	**+0.6**
HCK	**Huntoon Valley**	**0.55**	**19**		**Pg**	**17 06 37.8**	**+0.1**
BONR	**Boundary Peak**	**0.57**	**45**		**Pg**	**17 06 37.9**	**-0.3**
TIN	**Tinemaha, Big**	**0.69**	**137**		**Pg**	**17 06 40.1**	**-0.3**
TIN	**Tinemaha, Big**	**0.69**	**137**	P	**Pg**	**17 06 40.0**	**-0.3**
	baz=317,SNR=28						
TIN				S	**Sg**	**17 06 49.5**	**+0.3**
	baz=317						
LHV	**Little Huntoon**	**0.74**	**19**		**Pg**	**17 06 41.1**	**-0.2**
LHV					**Sg**	**17 06 50.5**	**-0.5**
LHV				IAML		17 06 55.1	
	comp=E,2μm,0.6s						
LHV				IAML		17 06 59.6	
	comp=N,2μm,0.7s						
MMIM	**Miami Mountain**	**0.75**	**260**		**Pg**	**17 06 41.0**	**-0.6**
NV08	**Mina Array Sit**	**0.93**	**25**		**Pg**	**17 06 44.6**	**-0.5**
NV09	**Mina Array Sit**	**0.96**	**23**		**Pg**	**17 06 45.1**	**-0.5**
NVAR	**Mina Array Bea**	**0.96**	**25**		**Pg**	**17 06 45.0**	**-0.6**
NVAR	**Mina Array Bea**	**0.96**	**25**	Pg	**Pg**	**17 06 44.2**	**-1.4**
	comp=N,136nm,0.3s,baz=206,slow=21,SNR=1205						
NVAR				Lg	Lg	17 06 58.7	
	comp=N,171nm,0.3s,baz=308,slow=23,SNR=11						
NVAR				LR	LR	17 07 24.6	
	comp=N,283nm,18.6s,baz=260,slow=57						
MHDM	**Hidden Dam**	**0.96**	**243**		**Pg**	**17 06 44.9**	**-0.8**
NV11	**Mina Array Sit**	**1.02**	**31**		**Pg**	**17 06 46.0**	**-0.7**
NV11					Sg	**17 06 59.9**	**-0.1**
NV11				IAML		17 07 05.2	
	comp=E,1μm,0.8s						
NV11				IAML		17 07 05.5	
	comp=N,804nm,0.9s						
WAKR	**Walker 1.07**	**333**			**Pg**	**17 06 47.2**	**-0.4**
RYN	**Ryan 1.10**	**12**			**Pg**	**17 06 47.7**	**-0.5**
RYN	**Ryan 1.10**	**12**		Sg	**Sg**	**17 07 02.3**	**-0.2**
RYN				IAML		17 07 04.2	
	comp=N,547nm,0.3s						
RYN				IAML		17 07 07.7	
	comp=E,606nm,1.1s						
MZP	**Montezuma Peak 1.15**	**82**			**Pg**	**17 06 48.5**	**-0.7**
MZP				Sg	**Sb**	**17 07 04.3**	**-0.4**
MZP				IAML		17 07 08.7	
	comp=E,658nm,0.6s						
CWC	**Cottonwood Cre 1.26**	**152**			**Pg**	**17 06 50.1**	**-1.2**
CWC	**Cottonwood Cre 1.26**	**152**	P		**Pg**	**17 06 50.1**	**-1.2**
	baz=332						
CWC				S	**Sg**	**17 07 06.9**	**-0.8**
	baz=332						
GMN	**Gold Mountain 1.27**	**101**			**Pg**	**17 06 50.7**	**-0.7**
GMN				Sg	**Sb**	**17 07 08.0**	**0.0**
GMN				IAML		17 07 12.3	
	comp=E,727nm,0.7s						
GMN				IAML		17 07 12.6	
	comp=N,705nm,0.8s						
GRAC	**Grapevine Rang 1.28**	**115**			**Pg**	**17 06 51.1**	**-0.7**
GRAC				Sg	**Sb**	**17 07 08.3**	**-0.1**
GRAC	**Grapevine Rang 1.28**	**115**	P		**Pg**	**17 06 51.4**	**-0.4**
	baz=296,SNR=150						
GRAC				S	**Sn**	**17 07 08.9**	**-0.1**
	baz=296						
MRHM	**Rocky Hill 1.28**	**190**			**Pg**	**17 06 50.2**	**-1.6**
MYLM	**Yosemite Lake 1.29**	**263**			**Pg**	**17 06 50.8**	**-1.1**
RCTC	**Rector, Farmer 1.29**	**195**			**Pg**	**17 06 50.6**	**-1.4**
VOG	**Valley Oaks Go 1.31**	**200**			**Pg**	**17 06 51.2**	**-1.1**
VOG	**Valley Oaks Go 1.31**	**200**	P		**Pg**	**17 06 51.2**	**-1.1**
	baz=20,SNR=12						
VOG				S	**Sg**	**17 07 08.8**	**-0.6**
	baz=20						
CMB	**Columbia Colle 1.33**	**292**	Pn		**Pg**	**17 06 51.0**	**-1.7**
CMB			Sn		**Sg**	**17 07 08.7**	**-1.3**
CMB				IAML		17 07 13.1	
	comp=N,804nm,0.7s						
CMB				IAML		17 07 15.3	
	comp=E,646nm,0.5s						
SPG2	**Springville 2 1.35**	**178**			**Pn**	**17 06 51.5**	**-1.0**
TPH	**Tonopah 1.36**	**67**			**Pg**	**17 06 52.4**	**-0.9**
TPH				Sn	**Sg**	**17 07 10.8**	**-0.3**
YERR	**Yerington 1.47**	**347**			**Pn**	**17 06 54.2**	**0.0**
MCUB	**Copperopolis B 1.49**	**287**			**Pn**	**17 06 53.8**	**-0.6**
PWMM	**Westland Maint 1.58**	**225**			**Pn**	**17 06 56.5**	**-0.2**
KVN	**Kaiserville 1.60**	**20**			**Pn**	**17 06 56.1**	**+0.1**
KVN				IAML		17 07 19.8	
	comp=E,391nm,0.7s						
KVN				IAML		17 07 21.4	
	comp=N,569nm,0.7s						
PNTR	**Pine Nut 1.65**	**338**	Pn		**Pn**	**17 06 57.5**	**+0.7**
PNTR				IAML		17 07 25.1	
	comp=E,299nm,0.9s						
PNTR				IAML		17 07 25.2	
	comp=N,284nm,0.8s						
VES	**Vestal, Richgr 1.73**	**187**	P		**Pn**	**17 06 58.2**	**+0.6**
	baz=7.1,SNR=30						
VES				S	**Sg**	**17 07 21.8**	**-0.8**
	baz=7.1						
PDRM	**Domengine Ranc 1.74**	**226**			**Pb**	**17 06 58.9**	**-0.6**
EMB	**Emerald Bay 1.74**	**325**			**Pn**	**17 06 58.9**	**+0.9**
EMB				IAML		17 07 35.1	
	comp=N,326nm,0.8s						
EMB				IAML		17 07 42.8	
	comp=E,346nm,0.5s						
WCSM	**Coso Springs S 1.74**	**151**			**Pb**	**17 06 59.4**	**-0.1**
PKEM	**Kettleman Hill 1.82**	**215**			**Pb**	**17 07 00.3**	**-0.4**
WASM	**Alta Sierra Ca 1.83**	**173**			**Pb**	**17 07 00.2**	**-0.8**
SCKWR	**San Luis Creek 1.83**	**259**			**Pb**	**17 07 00.6**	**-0.4**
MPMC	**Manual Prospec 1.83**	**144**	P		**Pn**	**17 06 59.3**	**0.0**
	baz=325,SNR=110						
WNMM	**Nine Mile Cany 1.86**	**157**			**Pb**	**17 07 00.9**	**-0.5**
FURC	**Furnace Creek, 1.90**	**124**	Pb		**Pb**	**17 07 02.4**	**+0.2**
	baz=305						
FURC				Sb	**Sg**	**17 07 28.5**	**+0.2**
	baz=305						
WCT	**Wildcat Mounta 1.91**	**113**			**Pn**	**17 07 00.5**	**+0.3**
WCT				IAML		17 07 31.2	
	comp=N,267nm,0.5s						
ISA	**Isabella, Lake 1.91**	**172**			**Pb**	**17 07 01.5**	**-0.9**
ISA	**Isabella, Lake 1.91**	**172**	Pb		**Pb**	**17 07 01.7**	**-0.7**
	baz=352						
ISA				S	**Sb**	**17 07 25.9**	**-0.5**
	baz=352						
WORM	**Onyx Ranch 1.91**	**166**			**Pb**	**17 07 01.8**	**-0.6**
PJUM	**Juniper Ridge 1.95**	**228**			**Pn**	**17 07 01.5**	**+0.8**
SLD	**San Luis Dam 1.98**	**257**			**Pb**	**17 07 02.4**	**-1.1**
MPK	**Martis Peak 1.98**	**332**			**Pn**	**17 07 02.4**	**+1.0**
MPK				IAML		17 07 37.7	
	comp=N,266nm,0.8s						
MPK				IAML		17 08 02.1	
	comp=E,233nm,0.6s						
BAVM	**Antelope Valle 1.99**	**244**			**Pn**	**17 07 02.4**	**+1.2**
MTOS	**Mt Oso, Westle 2.00**	**269**			**Pn**	**17 07 02.6**	**+1.3**
CMPM	**Mikes Peak 2.00**	**265**			**Pn**	**17 07 02.5**	**+1.1**
HPCM	**Pacheco Lake 2.02**	**257**			**Pn**	**17 07 02.9**	**+1.2**
BBGB	**Big Mountain B 2.03**	**242**	Pn		**Pn**	**17 07 03.1**	**+1.2**
BEMM	**Emmet 2.03**	**245**			**Pb**	**17 07 03.5**	**-0.9**
CTM	**Castle Mountai 2.03**	**217**			**Pb**	**17 07 03.3**	**-1.2**
PACP	**Pacheco Peak 2.04**	**255**			**Pn**	**17 07 03.4**	**+1.3**
PSMM	**Smith Mountain 2.06**	**224**			**Pn**	**17 07 03.3**	**+1.0**
PSRM	**Scobie Ranch 2.06**	**215**			**Pn**	**17 07 03.5**	**+1.2**
**

SCZ	Santa Cruz	2.28	246			Pn	17 07 06.4	+1.2
FRP	Fremont Peak	2.28	250			Pn	17 07 06.3	+1.1
BJCM	Johnson Can.	2.29	245			Pn	17 07 06.7	+1.3
CCOB	Coe Ranch Numb	2.29	263			Pb	17 07 07.8	-1.1
HLPM	Lions Peak	2.30	258			Pn	17 07 07.1	+1.5
ANZ	Anzar Road	2.31	254			Pb	17 07 07.7	-1.5
TEJ	El Tejon	2.32	177			Pb	17 07 08.3	-1.1
WENL	Wente Vineyard	2.34	273			Pb	17 07 08.8	-0.8
CCCA	Chr Cany lake	2.34	150			Pg	17 07 11.4	-0.5
HCBM	Chamberlain	2.35	256			Pn	17 07 07.7	+1.5
TSCN	Private Proper	2.36	212			Pn	17 07 07.7	+1.4
JLAB	Laurel Hill	2.36	261			Pn	17 07 08.0	+1.7
HTUM	Tustin Road	2.37	253			Pn	17 07 07.6	+1.1
CALM	Calaveras Res.	2.37	268			Pb	17 07 09.0	-1.2
PCCM	Crazy Canyon	2.38	233			Pn	17 07 08.1	+1.4
CARC	Carrizo Plain	2.39	201			Pn	17 07 08.2	+1.4
TCAS	Cass Winery, P	2.40	216			Pn	17 07 07.9	+1.1
BSMM	Soledad Missio	2.40	242			Pn	17 07 08.4	+1.5
HCOM	Corn Cob Canyo	2.40	255			Pb	17 07 09.0	-1.7
CRGC	Crocker Grade	2.42	198			Pn	17 07 09.1	+1.8
SMMC	Simmler	2.43	203			Pn	17 07 08.7	+1.3
SMMC	Simmler	2.43	203	P		Pn	17 07 08.6	+1.3
	baz=23							
HERM	Elkhorn Road	2.43	253			Pb	17 07 09.7	-1.5
S11A	Rachel	2.44	87			Pn	17 07 07.7	+0.2
PANM	San Antonio Re	2.44	224			Pn	17 07 08.8	+1.4
BPCNC	Pine Canyon	2.45	247			Pn	17 07 08.9	+1.3
HAST	Hastings Reser	2.48	243			Pn	17 07 09.2	+1.2
CCAC	Calif City Air	2.48	165			Pn	17 07 08.8	+0.7
TJR	Tejon Ranch	2.52	179			Pb	17 07 11.7	-1.1
RAMR	Ramage Ranch	2.53	221			Pn	17 07 10.0	+1.3
JJOM	Saint Joseph's	2.54	263			Pn	17 07 10.3	+1.5
BPRM	Ponciano Ridge	2.60	245			Pn	17 07 10.9	+1.3
PAPM	Alder Peak	2.62	232			Pn	17 07 11.1	+1.1
PTAM	Tassajara Cree	2.64	216			Pn	17 07 11.8	+1.6
BCW	Bitter Crk WRg	2.65	191			Pn	17 07 10.7	+0.3
R11B	Troy Canyon, C	2.67	72	Pn		Pn	17 07 10.6	-0.2
R11B	Troy Canyon, C	2.67	72	P		Pn	17 07 10.6	-0.2
	baz=254							
R11B				Sb		Sg	17 07 51.4	-1.6
	baz=254							
EDW2	Edwards Air Fo	2.75	166	Pb		Pb	17 07 16.4	-0.3
	baz=346,SNR=48							
EDW2				Sb		Sb	17 07 52.7	+2.1
	baz=346							
GSC	Goldstone, Bar	2.77	144	Pn		Pn	17 07 11.6	-0.5
GSC				IAML			17 08 08.0	
	comp=E,114nm,0.7s							
GSC	Goldstone, Bar	2.77	144	P		Pn	17 07 12.2	+0.1
	baz=325,SNR=13							
PKM	Mcpherson Peak	2.78	197	P		Pn	17 07 14.1	+1.8
	baz=16							
PKM				S		Sn	17 07 46.7	+0.5
	baz=16							
JPSM		2.84	264			Pn	17 07 14.4	+1.6
ORV	Oroville	2.90	314			Pn	17 07 14.2	+0.5
ORV				IAML			17 08 03.0	
	comp=N,77nm,0.8s							
ORV				IAML			17 08 12.4	
	comp=E,101nm,0.6s							
OSI	Osito Audit: C	2.94	179	Pb		Pb	17 07 19.0	-0.8
	baz=359							
OSI				Sb		Sb	17 07 56.6	+0.7
	baz=359							
PRN	Pahroc Range	3.00	92	Pn		Pn	17 07 15.4	+0.2
PRN				IAML			17 08 28.4	
	comp=N,132nm,1.0s							
SHPR	Sheep Range	3.11	109	Pn		Pn	17 07 17.0	+0.3
BMN	Battle Mountai	3.13	23	Pn		Pn	17 07 16.9	-0.2
TUQ	Turquoise Moun	3.15	131	P		Pn	17 07 16.8	-0.5
	baz=313							
PLTX	Planet X, Gerl	3.19	351			Pn	17 07 17.9	+0.1
MCCM	Marconi Confer	3.27	282			Pn	17 07 18.6	-0.2
MCCM				IAML			17 08 20.6	
	comp=N,85nm,0.9s							
MCCM				IAML			17 08 20.9	
	comp=E,107nm,1.1s							
DECC	Green Verdugo	3.32	173	Pg		Pg	17 07 29.4	-1.3
	baz=353							
WTNK	Soaring Height	3.34	113			Pn	17 07 20.0	+0.1
GDXM	Geysers	3.38	293			Pn	17 07 20.4	+0.1
HEC	Hector,Ludlow	3.38	143	P		Pn	17 07 20.4	0.0
	baz=324							
PASC	Pasadena Art C	3.42	171			Pn	17 07 20.8	-0.1
PASC				IAML			17 08 20.4	
	comp=N,100nm,0.8s							
Q12A	Willow Creek R	3.47	63			Pn	17 07 21.6	-0.2
HOPS	Hopland Field	3.64	295			Pn	17 07 23.8	-0.2
V12A	Nelson	3.67	119			Pn	17 07 23.7	-0.8
GMRC	Granite Mounta	3.76	136	P		Pn	17 07 26.4	+0.6
	baz=318							
SPR3	Spring Creek 3	3.81	66	Pn		Pn	17 07 26.3	-0.3
FMP	Fort Macarthur	3.86	174	P		Pn	17 07 27.3	+0.4
	baz=354							
PSUT	Pine Spring	4.04	74			Pn	17 07 28.6	-1.0
BELC	Belle Mtn. Jos	4.22	146	P		Pn	17 07 32.6	+0.5
	baz=328							
ELK	Elko	4.23	40	Pn		Pn	17 07 32.5	+0.3
ELK	Elko	4.23	40	Pn		Pn	17 07 33.0	+0.7
	comp=N,1.5nm,0.3s,baz=239,slow=15,SNR=36							
ELK				Pg		Pb	17 07 40.1	-1.9
	comp=N,2.5nm,0.3s,baz=231,slow=12,SNR=13							
ELK				Lg	Lg		17 08 36.5	
	comp=N,9.7nm,0.3s,baz=316,slow=20,SNR=9.1							
	comp=N,7.4nm,0.5s							
KCPM	Cahto Peak	4.30	301	Pn		Pn	17 07 32.8	-0.3
CCUT	Cedar City	4.33	88			Pn	17 07 34.4	+0.7
SNCC	San Nicolas Is	4.34	188	Pn		Pn	17 07 33.5	0.0
SNCC				IAML			17 08 35.7	
	comp=N,50nm,3.9s							
SNCC				IAML			17 09 10.1	
	comp=E,46nm,4.7s							
PMD	Palm Desert	4.38	152			Pn	17 07 35.0	+1.0
PMD				IAML			17 08 56.6	
	comp=N,26nm,0.6s							
PMD				IAML			17 08 56.8	
	comp=E,30nm,0.7s							
PFO	Pinyon Flats O	4.38	153			Pn	17 07 34.0	-0.2
PFO				IAML			17 08 58.8	
	comp=E,31nm,1.4s							
PFO				IAML			17 09 05.2	
	comp=E,35nm,1.4s							
PFO	Pinyon Flats O	4.38	153	Pn		Pn	17 07 35.6	+1.4
	comp=E,0.8nm,0.3s,baz=339,slow=16,SNR=7.0							
PFO				Pg		Pb	17 07 46.0	+1.5
	comp=E,0.8nm,0.3s,baz=341,slow=18,SNR=6.6							
PFO				Lg	Lg		17 08 42.3	
	comp=E,0.4nm,0.3s,baz=294,slow=14,SNR=1.4							
	comp=E,0.9nm,0.3s							
SZCU	Shurtz Canyon	4.55	88			Pn	17 07 37.1	+0.5
W13A	Hualapai Mount	4.67	120			Pn	17 07 38.7	+0.3
KNB	Kanab	4.81	95			Pn	17 07 37.6	-2.6
WVOR	Wild Horse Val	4.88	2			Pn	17 07 38.2	-2.8
WVOR				IAML			17 09 17.0	
	comp=E,14nm,4.3s							
TCRU	Three Creeks R	5.13	76			Pn	17 07 43.7	-1.0
YBH	Yreka Blue Hor	5.14	325	Pn		Pn	17 07 44.3	-0.3
YBH				IAML			17 09 23.8	
	comp=E,12nm,5.0s							
YBH	Yreka Blue Hor	5.14	325	Pn		Pn	17 07 47.3	+2.7
	comp=E,0.4nm,0.3s,baz=158,slow=14,SNR=8.4							
YBH				Lg	Lg		17 09 05.2	
	comp=E,0.3nm,0.3s,baz=61,slow=22,SNR=2.4							
	comp=E,1.3nm,0.4s							
BAR	Barrett	5.17	160	Pn		Pn	17 07 44.9	-0.1
BAR				IAML			17 09 10.7	
	comp=E,23nm,0.8s							
BAR				IAML			17 09 14.7	
	comp=N,18nm,0.7s							
PKCU	Pink Cliffs	5.17	89	Pn		Pn	17 07 43.8	-1.5
MTPU	Mount Pierson	5.28	83			Pn	17 07 47.8	+1.0
MVU	Marysvale	5.30	78			Pn	17 07 45.9	-1.1
MSU	Marysvale	5.33	78			Pn	17 07 46.9	-0.5
U15A	North Rim	5.34	100	Pn		Pn	17 07 46.5	-1.1
DUG	Dugway, Tooele	5.37	59			Pn	17 07 48.2	+0.3
DUG				IAML			17 09 21.6	
	comp=N,24nm,0.9s							
DUG				IAML			17 09 28.6	
	comp=N,19nm,1.5s							
L04D	Klamath Falls	5.37	331			Pn	17 07 48.5	+0.6
K05A	Summer Lake	5.40	344			Pn	17 07 50.0	+1.7
KRPM	Rodgers	5.41	313	Pn		Pn	17 07 48.4	+0.2
YUH	Yuha Desert	5.44	153	Pn		Pn	17 07 48.0	-0.7
CBX	Cerro Bola	5.52	161	Pn		Pn	17 07 50.0	+0.1

BGU	Big Grassy Mou	5.61	51	Pn		Pn	17 07 52.4	+1.2
NLU	North Lily Min	5.79	63			Pn	17 07 52.1	-1.5
J08A	Circle Bar Ran	5.80	2			Pn	17 07 52.9	-0.8
J05D	Fort Rock, OR	6.01	343			Pn	17 07 55.5	-1.2
SPUT	South Promonto	6.19	51			Pn	17 07 59.2	+0.1
TMUT	Trail Mountain	6.22	71			Pn	17 07 59.0	-0.7
MFID	Camas Ranch	6.28	20			Pn	17 07 59.0	-1.3
HVU	Hansel Valley	6.29	46			Pn	17 07 59.2	-1.2
WUAZ	Wupatki	6.33	107			Pn	17 07 59.5	-1.5
K02D	Willamette Mer	6.34	326	Pn		Pn	17 08 01.2	+0.2
HMU	Henry Mountain	6.41	84	Pn		Pn	17 08 02.5	+0.3
PINE	Pine Mountain	6.44	346	Pn		Pn	17 08 06.3	+3.8
DBO	Dodson Butte	6.50	330	Pn		Pn	17 08 08.1	+4.8
I07A	Izee	6.54	356	Pn		Pn	17 08 07.9	+4.0
P17A	Butcher Ranch,	6.62	71			Pn	17 08 04.7	-0.3
SRU	San Rafael Swe	6.70	74			Pn	17 08 08.3	+2.1
HLID	Hailey	6.87	28			Pn	17 08 12.7	+4.2
HWUT	Hardware Ranch	6.91	52	Pn		Pn	17 08 07.9	-1.1
BSUT	Blindstream Ca	6.94	62			Pn	17 08 07.9	-1.7
PDAR	Pinedale Array	8.79	51	Pn		Pn	17 08 38.4	+3.5
	comp=N,0.1nm,0.3s,baz=266,slow=14,SNR=4.0							
PDAR				Lg	Lg		17 10 56.9	
	comp=N,0.1nm,0.3s,baz=272,slow=40,SNR=1.6							
PDAR				LR	LR		17 12 36.1	
	comp=N,67nm,21.3s,baz=86,slow=42							
	comp=N,1.2nm,0.9s							
ILAR	Eielson Array	31.91	338	P		P	17 12 54.4	+1.5
	comp=N,0.4nm,0.8s,baz=155,slow=8.1,SNR=4.7							
	comp=N,0.4nm,0.8s							

KRSC 08 17:11:40.4±1.7, 54.34N×167.70E, h17km±26km, Ml3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BKI	Bering	1.32	311	eP		Pn	17 12 03.3	-0.8
BKI				eS		Sb	17 12 21.8	+0.4
TUMD	Tumrok D	4.32	284	eP		Pn	17 12 49.0	+3.8
BZGR	Bezymyannyi-Gr	4.33	295	eP		Pn	17 12 49.7	+4.2
TUMR	Tumrok	4.47	285	eP		Pn	17 12 51.9	+4.4
KMNR	Kamenistaya	4.52	291	eP		Pn	17 12 52.2	+4.1
KMNR				eS		Sn	17 13 45.5	+5.3
KPT	Kopyto	4.59	294	eP		Pn	17 12 53.1	+4.1
SPN	Mys Shipunski	4.73	258	eP		Pn	17 12 54.1	+3.2
SPN				eS		Sn	17 13 49.9	+4.6
KII	Karymskiy	4.86	270	eP		Pn	17 12 57.7	+4.9
SDLR	Sedlovina	5.33	262	eP		Pn	17 13 03.8	+4.5
SMAR	Somma	5.38	262	eP		Pn	17 13 04.8	+4.7
UGLR	Uglovaya	5.39	261	eP		Pn	17 13 04.5	+4.5
KRER	Koryakskii	5.41	263	eP		Pn	17 13 05.2	+4.8
AVH	Avacha	5.42	262	eP		Pn	17 13 05.3	+4.8
KRX	Arik	5.45	263	eP		Pn	17 13 05.6	+4.7
KRX				eS		Sn	17 14 07.4	+4.2
KOK	Koryaka	5.47	263	eP		Pn	17 13 06.0	+4.8
DALK	Dalny	5.48	260	eP		Pn	17 13 05.5	+4.4
DALK				eS		Sn	17 14 10.1	+6.4
PET	Petropavlovsk	5.54	260	eP		Pn	17 13 06.8	+4.9
KRMR	Karymshinskiy	5.90	259	eP		Pn	17 13 11.4	+4.4
KRMR				eS		Sn	17 14 19.1	+5.1
MTVR	Mutnovka	5.99	256	eP		Pn	17 13 13.7	+5.4
MTVR				eS		Sn	17 14 21.3	+4.8
GRL	Gorelyy	6.03	257	eP		Pn	17 13 14.1	+5.3
ASAK	Asacha	6.19	255	eP		Pn	17 13 16.1	+5.1
KDTR	Khodutka, Kamc	6.33	250	eS		Sn	17 14 26.9	+2.3

*IDC **08** 17:37:28.9±5.3, 3.46N×97.52E, h68km±48km, mb4.0/23, mbtmp4.3/24, ML3.5/1, MS3.2/13, Error ellipse: s-maj=20.5km s-min=11.0km az=54.0*
*DJA **08** 17:37:30.9±0.2, 3.30N±2.2×9.7E±1.1, h85km±5km, M4.9/18, mB5.5/4, mb4.8/18, MLv4.9/13, Mw(mB)5.0/4*
*NEIC **08** 17:37:30.6±2.1, 3.30N±0.05×97.54E±0.06, h78km±7km, mb4.5/64, Error ellipse: s-maj=9.7km s-min=7.0km az=60.0*

ISC 08 17:37:32.0±0.3, 3.30N±0.05×97.52E±0.04, h100km, n172, σ1°48/162, mb4.4/53, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KCSI	Kotacane, Aceh	0.34	48	P		Pn	17 37 43.3	-3.5
MLSI	Meulaboh, Aceh	1.47	311	P		Pn	17 37 56.0	-2.0
MLSI				S		Sn	17 38 15.4	-2.3
GSI	Gunungsitoli	1.98	178	Pn		Pn	17 38 02.2	-2.2
GSI	Gunungsitoli	1.98	178	P		Pn	17 38 02.7	-1.7
GSI	Gunungsitoli	1.98	178	P		Pn	17 38 02.3	-2.1
LHMI	Lhok Sumawe	2.00	343	Pn		Pn	17 38 03.9	-0.7
LHMI				Sn		Sn	17 38 28.4	-1.2
LHMI	Lhok Sumawe	2.00	343	P		Pn	17 38 04.0	-0.7
LHMI	Lhok Sumawe	2.00	343	P		Pn	17 38 03.8	-0.9
PBSI	Pulau Batu	3.41	167	P		Pn	17 38 22.2	-1.2
KULM	Kulim	3.70	57	Pn		Pn	17 38 26.6	-0.6
KULM				Sn		Sn	17 39 06.9	-2.9
BKNI	Bangkinang	4.59	130	Pn		Pn	17 38 39.1	-0.2
BKNI	Bangkinang	4.59	130	P		Pn	17 38 39.6	+0.4
SISI	Saibi	4.85	161	P		Pn	17 38 42.9	+0.1
PDSI	Padang	5.11	145	P		Pn	17 38 46.8	+0.5
	368nm,1.1s,3μm1.1nm							
SURA	Surathani	6.20	20	P		Pn	17 39 00.6	-0.5
MYKOM	Kota Tinggi	6.50	103	Pn		Pn	17 39 04.9	-0.2
MYKOM				Sn		Sn	17 40 14.1	-3.8
PPSI	Pulau Pagai	6.51	158	P		Pn	17 39 04.2	-1.1
	254nm,1.1s,0.9nm							
KRJI	Kerinci	6.64	144	P		Pn	17 39 07.8	+0.6
	365nm,1.1s,4μm2.0nm							
TPRI	Tanjung Pinang	7.39	108	P		Pn	17 39 17.9	+0.6
	29nm,0.8s,0.3nm							
DSRI	Dabo	7.99	118	P		Pn	17 39 25.6	+0.2
	32nm,1.0s							
MNAI	Manna	9.35	144	Pn		Pn	17 39 41.6	-2.3
MNAI	Manna	9.35	144	P		Pn	17 39 41.8	-2.1
MNAI	Manna	9.35	144	P		Pn	17 39 41.8	-2.1
	128nm,1.2s							
LWLI	Liwa	10.53	142	P		Pn	17 39 57.3	-2.8
	138nm,0.7s							
KASI	Kota Agung	11.19	141	P		Pn	17 40 05.0	-4.0
	29nm,1.3s							
CGJI	Cibinong	12.79	140	P		Pn	17 40 29.3	-0.9
	33nm,1.8s							
LEM	Lembang	14.24	135	LR		LR	17 47 36.7	
	comp=Z,23nm,20.3s,baz=288,slow=42							
SBUM	Sibu	14.71	99	Pn		Pn	17 40 54.2	-0.9
BBJI	Bungbulang	14.71	137	P		Pn	17 40 52.7	-2.6
CM31	Chiang Mai Arr	15.13	5			Pn	17 40 60.0	-0.6
CMAR	Chiang Mai Arr	15.13	5			Pn	17 40 60.0	-0.6
CMAR	Chiang Mai Arr	15.13	5	P		Pn	17 41 01.0	+0.4
	1.3nm,0.7s,baz=199,slow=11,SNR=14							
CMAR				LR		LR	17 47 06.3	
	comp=Z,48nm,19.6s,baz=195,slow=39							
CHTO	Chiang Mai	15.49	5			Pn	17 41 03.9	-1.1
KPJI	Karang Pucung	15.53	133	P		Pn	17 41 02.3	-3.2
	19nm,0.7s							
XMIS	Christmas Isla	15.90	149	Pn		Pn	17 41 08.2	-2.1
XMIS				IAmb		IAmb	17 41 47.1	
	comp=Z,78nm,1.2s							
CRAI	Chiangrai	17.06	9	Pn		Pn	17 41 22.3	-2.2
UGM	Wanagama	17.09	131	Pn		Pn	17 41 21.9	-3.1
UGM	Wanagama	17.09	131	P		Pn	17 41 22.7	-2.3
UGM	Wanagama	17.09	131	P		Pn	17 41 22.6	-2.4
	comp=Z,122nm,1.3s							
PALK	Pallekele	17.20	284			P	17 41 25.4	-0.9
PALK				IAmb		IAmb	17 41 58.3	
	comp=Z,20nm,1.1s							
PALK	Pallekele	17.20	284	P		Pn	17 41 23.7	-2.6
	comp=Z,0.2nm,0.3s,baz=149,slow=2.2,SNR=1.3							
PALK				S		Sn	17 44 22.1	-16
	comp=Z,3.5nm,0.5s,baz=260,slow=9.8,SNR=2.9							
PALK				LR		LR	17 47 30.7	
	comp=Z,87nm,21.5s,baz=224,slow=35							
	comp=Z,2.2nm,0.5s							
KKM	Kota Kinabalu	18.83	81	P		P	17 41 42.4	-1.9
KKM				IAmb		IAmb	17 42 07.8	
	comp=Z,22nm,0.9s							
KMMI	Kalianget	19.37	122	P		Pn	17 41 51.0	-1.1
BKB	Balikpapan	19.89	103	P		P	17 41 54.1	-1.6
MYLDM	Lahad Datu	21.00	84	P		P	17 42 07.2	-0.5
MYLDM				IAmb		IAmb	17 42 33.5	
	comp=Z,54nm,1.5s							
TNCH	TengChong	21.63	2	P		P	17 42 16.7	+2.2
TNCH				pP		pP	17 42 35.0	+0.9
TNCH				sP		sP	17 42 45.0	-1.7
TNCH				PP			17 42 50.9	

TNCH				S		S	17 46 03.2	-5.4
TNCH				sS		Sn	17 46 27.4	+3.5
TNCH				pmax		pmax		
	comp=Z,5.0nm,1.4s							
TNCH				pmax		pmax		
	comp=Z,64nm,5.6s							
TNCH				LR		LR		
	comp=N,100nm,5.9s							
TNCH				LR		LR		
	comp=E,200nm,4.5s							
TNCH				LR		LR		
	comp=Z,83nm,8.8s							
SHL	Shillong	22.80	347	P		P	17 42 23.3	-3.4
SHL				IAmb		IAmb	17 43 05.1	
	comp=Z,21nm,1.0s							
TOLI2	Tolitoli	23.34	95	P		P	17 42 30.5	-1.3
TOLI2				IAmb		IAmb	17 42 33.7	
	comp=Z,33nm,1.4s							
TOLI2	Tolitoli	23.34	95	P		P	17 42 32.9	+1.1
PZH	PanZhiHua	23.43	10	P		P	17 42 35.1	+2.5
PZH				pmax		pmax		
	comp=Z,10.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,130nm,5.5s							
PLAI	Plampang	23.51	121	P		P	17 42 33.1	-0.2
KAPI	Kappang	23.69	110	P		P	17 42 33.4	-1.6
KAPI	Kappang	23.69	110	P		P	17 42 36.8	+1.8
KAPI	Kappang	23.69	110	P		P	17 42 36.0	+1.0
	comp=Z,22nm,0.6s,baz=272,slow=7.4,SNR=10							
KAPI				LR		LR	17 51 54.8	
	comp=Z,59nm,21.7s,baz=282,slow=36							
	comp=Z,22nm,0.6s							
TAPN	Taplejung	25.69	340	eP		P	17 42 55.0	+1.7
	comp=Z,26nm,1.0s							
JIRN	Jiri	26.54	337	eP		P	17 43 01.9	+0.9
	comp=Z,33nm,1.2s							
GUN	Gumba	26.88	337	eP		P	17 43 03.9	-0.1
	comp=Z,12nm,0.7s							
H08S2	Diego Garcia H	27.23	246	T		T	18 09 40.0	
	baz=68,slow=76,SNR=14							
H08S3	Diego Garcia H	27.24	246	T		T	18 09 35.4	
	baz=68,slow=76,SNR=92							
H08S1	Diego Carcia H	27.25	246	T		T	18 09 36.5	
	baz=68,slow=76,SNR=17							
GKN	Gorkha	27.47	335	eP		P	17 43 09.7	+0.6
	comp=Z,97nm,1.7s							
DANN	Dangsing	28.16	334	eP		P	17 43 14.6	-0.8
PYUN	Piuthan	28.29	332	eP		P	17 43 16.2	-0.3
	comp=Z,6.5nm,0.5s							
BATI	Baunata	29.29	118	LR		LR	17 55 51.9	
	comp=Z,71nm,19.7s,baz=299,slow=38							
PSA00	Pilbara Seismi	32.99	140	P		P	17 43 58.2	+0.5
PSA00	Pilbara Seismi	32.99	140	P		P	17 43 56.1	-1.6
PSA00				IAmb		IAmb	17 44 15.6	
	comp=Z,3.4nm,1.1s							
FITZ	Fitzroy Crossi	34.93	128	P		P	17 44 14.2	-0.3
NJ2	Nanjing	34.93	33	eP		P	17 44 16.3	+1.9
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
KNRA	Kununurra	36.21	122	P		P	17 44 25.0	-0.4
MTN	Manton Dam	37.03	116	P		P	17 44 32.4	-0.1
HHC	Hu-ho-hao-te	39.47	17	eP		P	17 44 56.4	+3.6
HHC				pmax		pmax		
	comp=Z,31nm,0.9s							
WRKA	Warakurna	41.05	135	P		P	17 45 06.8	+0.8
WMQ	Urumqi	41.28	349	eP		P	17 45 09.7	+2.1
NRN	Naryn	42.61	336	P		P	17 45 18.5	-0.2
NRN				IAmb		IAmb	17 45 20.0	
	comp=Z,5.3nm,0.9s							
MSEY	Mahe Island	42.74	260	P		P	17 45 19.8	-0.2
WB0	Warramunga Arr	42.86	124	P		P	17 45 21.0	+0.2
WB0				IAmb		IAmb	17 45 22.1	
	comp=Z,7.5nm,0.9s							
WRA	Warramunga Arr	42.90	124	P		P	17 45 21.9	+0.8
WRA	Warramunga Arr	42.90	124	P		P	17 45 21.7	+0.6
	comp=Z,4.7nm,0.8s,baz=302,slow=9.2,SNR=50							
WRA				PcP		PcP	17 47 10.7	+0.4
	comp=Z,0.4nm,0.4s,baz=308,slow=2.8,SNR=3.0							
	comp=Z,4.7nm,0.8s							
WB2	Warramunga Arr	42.91	124	P		P	17 45 21.6	+0.4
WB2				IAmb		IAmb	17 45 47.8	
	comp=Z,7.7nm,0.6s							
JNU	Nakatsatake	43.04	43	P		P	17 45 23.2	+1.2
WR0	Warramunga Arr	43.08	124	P		P	17 45 22.9	+0.5
WR0				IAmb		IAmb	17 45 24.5	
	comp=Z,9.9nm,0.7s							
ARSB	Arslanbob	43.81	333	P		P	17 45 28.4	+0.1
BTK	Batken	43.85	330	P		P	17 45 28.5	0.0
BTK				IAmb		IAmb	17 45 30.5	
	comp=Z,8.4nm,0.8s							
UCH	Uchtor	43.88	335	P		P	17 45 29.8	+0.6
	SNR=11							
KSRS	Korea Array	43.96	35	LR		LR	18 03 19.5	
	comp=Z,18nm,21.8s,baz=320,slow=35							
KBK	Karagaybulak	44.06	336	P		P	17 45 32.0	+1.8
	SNR

ZALV	**Zalesovo Beam**	**51.56**	**350**	P	**P**	**17 46 26.4**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=165,slow=6.5,SNR=8.2						
	comp=Z,1.1nm,0.3s						
CTA	**Charters Tower**	**53.17**	**118**	LR	LR	18 15 29.3	
	comp=Z,17nm,18.2s,baz=266,slow=43						
KLR	**Kul'dur**	**54.25**	**27**	LR	LR	18 12 55.5	
	comp=Z,21nm,19.9s,baz=325,slow=39						
BVAR	**Borovoye Array**	**54.40**	**340**	P	**P**	**17 46 48.2**	**-0.3**
	comp=Z,5.0nm,0.6s,baz=138,slow=8.7,SNR=27						
	comp=Z,5.0nm,0.6s						
BRVK	**Borovoye**	**54.46**	**340**	P	**P**	**17 46 48.5**	**-0.5**
BRVK				IAmb	IAmb	17 46 49.5	
	comp=Z,3.8nm,0.7s						
STKA	**Stephens Creek**	**54.53**	**133**	P	**P**	**17 46 50.9**	**+0.9**
STKA	**Stephens Creek**	**54.53**	**133**	P	**P**	**17 46 50.8**	**+0.9**
	comp=Z,2.7nm,0.7s,baz=323,slow=13,SNR=5.5						
	comp=Z,2.7nm,0.7s						
VOI	**Vohitsoka**	**55.55**	**241**	P	**P**	**17 46 58.2**	**+0.6**
ABKAR	**Akbulak array**	**55.84**	**331**	P	**P**	**17 46 58.2**	**-0.9**
ABKAR	**Akbulak array**	**55.84**	**331**	P	**P**	**17 46 58.0**	**-1.0**
ABKAR				IAmb	IAmb	17 47 00.2	
	comp=Z,7.9nm,1.0s						
ASAJ	**Asahikawa**	**56.81**	**38**	LR	LR	18 15 19.2	
	comp=Z,21nm,18.7s,baz=296,slow=40						
EIDS	**Eidsvold**	**59.19**	**122**	P	**P**	**17 47 24.3**	**+1.3**
KMBO	**Kilima Mbogo**	**60.40**	**267**	P	**P**	**17 47 32.0**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=35,slow=13,SNR=4.4						
KMBO				LR	LR	18 11 47.7	
	comp=Z,33nm,18.5s,baz=92,slow=34						
	comp=Z,1.3nm,0.7s						
ARU	**Arti**	**61.40**	**337**	P	**P**	**17 47 36.6**	**-0.9**
ARU				IAmb	IAmb	17 47 37.9	
	comp=Z,5.9nm,1.0s						
LODK	**Lodwar**	**62.04**	**272**	P	**P**	**17 47 42.6**	**-0.1**
LODK				IAmb	IAmb	17 47 46.5	
	comp=Z,3.0nm,1.0s						
KBZ	**Khabaz**	**62.72**	**318**	P	**P**	**17 47 46.1**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=108,slow=10,SNR=5.2						
	comp=Z,2.1nm,0.7s						
H04N2	**CROZET ISLANDS**	**63.68**	**214**	T	T	18 55 55.9	
	baz=51,slow=74						
H04N1	**CROZET ISLANDS**	**63.69**	**214**	T	T	18 55 49.0	
	baz=51						
H04N3	**CROZET ISLANDS**	**63.70**	**214**	T	T	18 55 59.5	
	baz=51,slow=74						
H04S1	**CROZET ISLANDS**	**64.03**	**213**	T	T	18 56 16.0	
	baz=50,slow=75,SNR=8.0						
H04S3	**CROZET ISLANDS**	**64.04**	**213**	T	T	18 56 15.4	
	baz=50,slow=75,SNR=12						
H04S2	**CROZET ISLANDS**	**64.05**	**213**	T	T	18 56 13.7	
	baz=50,slow=75,SNR=8.5						
BNN	**Bunyan**	**66.07**	**311**	P	**P**	**17 48 08.6**	**-0.1**
BRTR	**Keskin Array B**	**67.96**	**312**	P	**P**	**17 48 19.9**	**-0.8**
BRTR	**Keskin Array B**	**67.96**	**312**	P	**P**	**17 48 20.2**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=132,slow=6.9,SNR=10						
	comp=Z,1.7nm,0.7s						
MA2	**Magadan**	**69.32**	**26**	LR	LR	18 21 34.0	
	comp=Z,38nm,18.2s,baz=142,slow=38						
TIXI	**Tiksi**	**71.08**	**10**	P	**P**	**17 48 38.1**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=176,slow=5.3,SNR=2.3						
	comp=Z,0.1nm,0.3s						
KARP	**Karpathos**	**72.14**	**306**	P	**P**	**17 48 46.3**	**+0.1**
AKASG	**Malin Array Be**	**73.81**	**322**	P	**P**	**17 48 54.5**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=84,slow=5.3,SNR=5.1						
	comp=Z,0.5nm,0.4s						
IDI	**Anoyia**	**73.94**	**306**	P	**P**	**17 48 57.4**	**+0.6**
IDI				IAmb	IAmb	17 49 30.9	
	comp=Z,7.9nm,1.1s						
MLR	**Muntele Rosu**	**74.78**	**316**	P	**P**	**17 49 03.0**	**+1.4**
MLR				IAmb	IAmb	17 49 24.8	
	comp=Z,5.8nm,1.0s						
MAW	**Mawson**	**74.81**	**193**	P	**P**	**17 49 03.0**	**+1.9**
MAW	**Mawson**	**74.81**	**193**	P	**P**	**17 49 02.6**	**+1.5**
	comp=Z,2.5nm,1.0s,baz=5.5,slow=12,SNR=1.9						
	comp=Z,2.5nm,1.0s						
LBTB	**Lobatse**	**75.11**	**243**	P	**P**	**17 49 04.7**	**+0.9**
LBTB				IAmb	IAmb	17 49 06.8	
	comp=Z,8.9nm,0.9s						
LBTB	**Lobatse**	**75.11**	**243**	LR	LR	18 18 14.5	
	comp=Z,26nm,18.6s,baz=172,slow=32						
BURAR	**Bucovina Array**	**75.68**	**318**	P	**P**	**17 49 07.4**	**+0.8**
BUR08	**Bucovina Ar. S**	**75.69**	**318**	P	**P**	**17 49 07.5**	**+0.7**
BUR08				IAmb	IAmb	17 49 30.1	
	comp=Z,12nm,1.4s						
BOSA	**Boshof**	**76.10**	**240**	P	**P**	**17 49 10.4**	**+1.0**
BOSA				IAmb	IAmb	17 49 16.3	
	comp=Z,10nm,1.2s						
BOSA	**Boshof**	**76.10**	**240**	P	**P**	**17 49 10.8**	**+1.3**
	comp=Z,4.1nm,0.7s,baz=81,slow=7.4,SNR=9.4						
	comp=Z,4.1nm,0.7s						
FINES	**FINESS Array B**	**78.30**	**332**	P	**P**	**17 49 21.0**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=116,slow=6.3,SNR=6.6						
	comp=Z,3.2nm,0.9s						
SUR	**Sutherland**	**80.57**	**237**	P	**P**	**17 49 36.8**	**+2.7**
ARCES	**ARCESS Array B**	**80.69**	**340**	P	**P**	**17 49 33.5**	**-0.2**
	comp=Z,8.9nm,1.2s,baz=99,slow=5.6,SNR=5.7						
	comp=Z,8.9nm,1.2s						
HFS	**Hagfors**	**84.08**	**330**	P	**P**	**17 49 51.1**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=113,slow=3.7,SNR=1.3						
	comp=Z,3.0nm,0.9s						
CIMO	**Cimolais**	**84.23**	**316**	P	**P**	**17 49 52.9**	**+0.2**
CIMO				IAmb	IAmb	17 50 15.8	
	comp=Z,6.9nm,0.8s						
SPITS	**Spitsbergen Ar**	**84.98**	**348**	P	**P**	**17 49 55.6**	**-0.1**
	comp=Z,11nm,0.9s,baz=216,slow=4.6,SNR=1.7						
	comp=Z,11nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**85.74**	**316**	P	**P**	**17 50 02.7**	**+2.2**
FUORN				IAmb	IAmb	17 50 34.6	
	comp=Z,7.5nm,1.1s						
KEST	**Kesra**	**86.61**	**305**	P	**P**	**17 50 05.4**	**+0.6**
	comp=Z,3.6nm,0.8s,baz=74,slow=7.4,SNR=4.8						
	comp=Z,3.6nm,0.8s						
VNDA	**Vanda**	**87.80**	**169**	P	**P**	**17 50 11.3**	**+1.8**
VNDA	**Vanda**	**87.80**	**169**	P	**P**	**17 50 11.0**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=262,slow=6.6,SNR=4.1						
	comp=Z,0.6nm,0.7s						
ELIB	**Princess Elisa**	**88.24**	**197**	*d*PcP	**PcP**	**17 50 14.6**	**+1.0**
	comp=Z,3.7nm,0.9s						
NVAR	**Mina Array Bea**	**126.90**	**35**	PKP	**PKPdf**	**17 56 24.2**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=300,slow=1.8,SNR=3.7						
TXAR	**Lajitas Array**	**141.72**	**31**	PKhKP	PKPpre	17 56 47.5	
	comp=Z,0.7nm,1.1s,baz=318,slow=3.6,SNR=1.9						
CPUP	**Villa Florida**	**146.74**	**224**	PKPbc	**PKiKP**	**17 57 04.2**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=155,slow=2.6,SNR=4.8						

*IDC **08** 17:42:25.0±1.4, 16°.83S×174°.30W, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=46.8km s-min=26.2km az=107.0*
*NEIC **08** 17:42:38.4±1.4, 16°.92S±0°.08×174°.2W±0°.1, h110km±5km, mb4.3/10, Error ellipse: s-maj=17.2km s-min=10.5km az=76.0*
ISC 08 17:42:36.9±0.6, **16°.94S**±0°.07×**174°.21W**±0°.09, **h100**km, **n21**, σ1¶**25**/23, **mb4.1**/10, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.82**	**38**		**Pn**	**17 43 35.1**	**+1.3**
AFI				Sn	**Sn**	**17 44 16.6**	**-1.2**
NIUE	**Niue**	**4.59**	**118**		**Pn**	**17 43 46.4**	**+2.2**
NIUE				Sn	**Sn**	**17 44 33.4**	**-3.0**
URZ	**Urewera**	**22.56**	**198**	P	**P**	**17 47 27.9**	**-1.0**
	3.0nm,0.4s,baz=156,slow=0.7,SNR=5.7						
	3.0nm,0.4s						
RTZ	**Ruatahuna**	**22.93**	**198**		**P**	**17 47 31.4**	**-1.2**
TCW	**Tory Channel**	**26.14**	**200**	P	**P**	**17 48 01.9**	**+0.1**
QRZ	**Quartz Range**	**26.42**	**203**	P	**P**	**17 48 05.0**	**+0.8**
LTZ	**Lake Taylor**	**28.22**	**201**	P	**P**	**17 48 20.9**	**+0.6**
LTZ				IAmb	IAmb	17 48 40.4	
	comp=Z,17nm,1.2s						
WR0	**Warramunga Arr**	**48.56**	**258**	P	**P**	**17 51 09.8**	**-0.7**
WR0				IAmb	IAmb	17 51 50.4	
	comp=Z,5.4nm,1.3s						
WRA	**Warramunga Arr**	**48.75**	**258**	P	**P**	**17 51 11.0**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=95,slow=6.8,SNR=5.5						
	comp=Z,0.2nm,0.7s						
AS31	**Alice Springs**	**48.91**	**253**	P	**P**	**17 51 12.5**	**-0.7**
ASAR	**Alice Springs**	**48.91**	**253**	P	**P**	**17 51 12.9**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=87,slow=8.4,SNR=17						
	comp=Z,0.9nm,0.6s						
VNDA	**Vanda**	**61.77**	**186**	P	**P**	**17 52 45.0**	**+0.5**
VNDA				IAmb	IAmb	17 52 59.6	
	comp=Z,3.7nm,1.4s						
VNDA	**Vanda**	**61.77**	**186**	P	**P**	**17 52 45.4**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=356,slow=5.9,SNR=2.2						
	comp=Z,0.6nm,0.8s						
PSA00	**Pilbara Seismi**	**62.03**	**254**	P	**P**	**17 52 45.9**	**-1.4**
QSPA	**South Pole Qui**	**73.11**	**180**	P	**P**	**17 53 56.9**	**+0.6**
QSPA				IAmb	IAmb	17 53 57.7	
	comp=Z,4.1nm,1.0s						
PEA0B	**Petropavlovsk-**	**73.86**	**343**	P	**P**	**17 54 01.5**	**+0.9**
PETK	**Petropavlovsk-**	**73.86**	**343**	P	**P**	**17 54 00.3**	**-0.3**
PETK	**Petropavlovsk-**	**73.86**	**343**	P	**P**	**17 54 00.1**	**-0.5**
	comp=Z,3.8nm,0.9s,baz=115,slow=7.8,SNR=2.9						
	comp=Z,3.8nm,0.9s						
PV14	**Lion Creek, Pa**	**82.14**	**46**	P	**P**	**17 54 45.8**	**-1.3**
PV14				IAmb	IAmb	17 54 55.8	
	comp=Z,3.7nm,0.6s						
ILAR	**Eielson Array**	**84.10**	**11**	P	**P**	**17 54 56.9**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=230,slow=6.3,SNR=4.6						
	comp=Z,0.3nm,0.6s						
BRTR	**Keskin Array B**	**146.83**	**319**	PKPbc	**PKPbc**	**18 02 09.7**	**+1.6**
	comp=Z,0.9nm,0.9s,baz=145,slow=4.5,SNR=4.3						

*IDC **08** 17:47:01.9±0.8, 10°.00N×140°.36E, h0km, mb3.8/8, mbtmp3.9/9, ML4.6/1, Error ellipse: s-maj=29.2km s-min=19.3km az=97.0*
*NEIC **08** 17:47:03.7±1.8, 9°.9N±0°.2×140°.4E±0°.2, h10km±1km, mb4.5/27, Error ellipse: s-maj=37.8km s-min=13.8km az=307.0*
ISC 08 17:47:05.6±0.6, **9°.9N**±0°.1×**140°.4E**±0°.1, **h26**km, **n48**, σ1¶**19**/46, **mb4.3**/21, **Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.68**	**50**	Pn	**Pn**	**17 48 29.7**	**+1.2**
GUMO				Sn	**Sn**	**17 49 32.3**	**-0.6**
GUMO	**Guam**	**5.68**	**50**	Pn	**Pn**	**17 48 28.9**	**+0.4**
	16nm,0.3s,baz=165,slow=8.5,SNR=7.6						
GUMO				Sn	**Sn**	**17 49 31.3**	**-1.6**
	5.8nm,0.3s,baz=25,slow=20,SNR=1.5						
	32nm,0.3s						
TNTI	**Ternate**	**15.84**	**236**	Pn	**Pn**	**17 50 46.5**	**-0.6**
JMN	**Monobe**	**24.42**	**347**	P	**P**	**17 52 21.8**	**-0.4**
MTN	**Manton Dam**	**24.44**	**202**	P	**P**	**17 52 21.5**	**-0.9**
MTN				IAmb	IAmb	17 52 29.0	
	comp=Z,24nm,1.4s						
H11S3	**WAKE ISLAND Hy**	**26.84**	**69**	T	T	18 20 55.3	
	baz=255,slow=75,SNR=229						
H11S1	**WAKE ISLAND Hy**	**26.85**	**69**	T	T	18 20 55.0	
	baz=255,slow=75,SNR=204						
H11S2	**WAKE ISLAND Hy**	**26.85**	**69**	T	T	18 20 53.6	
	baz=255,slow=75,SNR=386						
H11N1	**WAKE ISLAND Hy**	**27.35**	**66**	T	T	18 21 32.0	
	baz=243,slow=77						
H11N2	**WAKE ISLAND Hy**	**27.36**	**66**	T	T	18 21 32.0	
	baz=243,slow=77						
H11N3	**WAKE ISLAND Hy**	**27.37**	**66**	T	T	18 21 33.5	
	baz=243,slow=77						
WB0	**Warramunga Arr**	**30.11**	**191**	P	**P**	**17 53 13.3**	**-0.1**
WR0	**Warramunga Arr**	**30.27**	**191**	P	**P**	**17 53 13.6**	**-1.1**
WRA	**Warramunga Arr**	**30.29**	**191**	P	**P**	**17 53 13.8**	**-1.2**
WRA	**Warramunga Arr**	**30.29**	**191**	P	**P**	**17 53 14.8**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=8.4,slow=9.8,SNR=7.4						
WRA				PcP	**PcP**	**17 56 16.6**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=352,slow=2.3,SNR=2.3						
	comp=Z,1.0nm,0.7s						
AS31	**Alice Springs**	**34.00**	**191**	P	**P**	**17 53 47.3**	**-0.2**
ASAR	**Alice Springs**	**34.00**	**191**	P	**P**	**17 53 46.3**	**-1.1**
ASAR	**Alice Springs**	**34.00**	**191**	P	**P**	**17 53 48.4**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=17,slow=12,SNR=30						
ASAR				PcP	**PcP**	**17 56 26.5**	**+1.2**
	comp=Z,0.4nm,0.9s,baz=28,slow=4.8,SNR=2.9						
	comp=Z,0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**40.99**	**287**	P	**P**	**17 54 47.0**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=90,slow=6.5,SNR=16						
	comp=Z,1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**64.65**	**322**	P	**P**	**17 57 40.6**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=117,slow=5.4,SNR=3.0						
	comp=Z,0.4nm,0.8s						
F17K	**Baldwin Pennin**	**68.60**	**22**	P	**P**	**17 58 07.6**	**+1.6**
G18K	**Tagagawik**	**69.34**	**23**	P	**P**	**17 58 09.4**	**-1.3**
G18K				IAmb	IAmb	17 58 47.3	
	comp=Z,3.3nm,1.1s						
G19K	**Purcell Mounta**	**70.02**	**23**	P	**P**	**17 58 15.6**	**+0.8**
G19K				IAmb	IAmb	17 58 19.5	
	comp=Z,6.6nm,1.2s						
BVAR	**Borovoye Array**	**70.11**	**323**	P	**P**	**17 58 15.4**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=103,slow=6.7,SNR=6.1						
	comp=Z,1.1nm,0.7s						
E19K	**Redstone River**	**70.46**	**21**	P	**P**	**17 58 18.4**	**+0.9**
E19K				IAmb	IAmb	17 58 19.9	
	comp=Z,7.6nm,1.3s						
D19K	**Kuna River**	**70.56**	**20**	P	**P**	**17 58 19.3**	**+1.2**
IMAR	**Indian Mountai**	**71.25**	**23**	P	**P**	**17 58 20.3**	**-2.0**
H21K	**Melozitna Rive**	**71.52**	**24**	P	**P**	**17 58 21.8**	**-2.2**
KTH	**Kantishna Hill**	**71.71**	**26**	P	**P**	**17 58 23.0**	**-2.3**
KTH				IAmb	IAmb	17 58 26.9	
	comp=Z,5.6nm,1.1s						
E21K	**Killik River**	**71.96**	**21**	P	**P**	**17 58 24.5**	**-2.1**
E21K				IAmb	IAmb	17 58 28.9	
	comp=Z,2.9nm,1.1s						
TRF	**Thorofare Moun**	**71.96**	**26**	P	**P**	**17 58 24.7**	**-2.2**
GHO	**Glory Hole Cre**	**72.19**	**28**	P	**P**	**17 58 28.2**	**0.0**
E22K	**Anaktuvuk Pass**	**72.63**	**21**	P	**P**	**17 58 31.8**	**+1.1**
E22K				IAmb	IAmb	17 58 33.3	
	comp=Z,3.7nm,0.9s						
C23K	**Itkillik River**	**73.54**	**20**	P	**P**	**17 58 36.7**	**+0.8**
ILAR	**Eielson Array**	**73.71**	**25**	P	**P**	**17 58 37.0**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=249,slow=5.6,SNR=8.4						
	comp=Z,0.6nm,0.7s						
F24K	**Squaw Lake**	**73.91**	**22**	P	**P**	**17 58 39.5**	**+1.3**
RIDG	**Independent Ri**	**74.40**	**26**	P	**P**	**17 58 41.0**	**-0.1**
J26L	**Joseph Creek**	**75.08**	**26**	P	**P**	**17 58 45.6**	**+0.5**
J26L				IAmb	IAmb	17 59 27.5	
	comp=Z,7.7nm,1.4s						
BMAR	**Burnt Mountain**	**75.14**	**23**	P	**P**	**17 58 47.4**	**+2.0**
BCAR	**Beaver Creek A**	**75.68**	**27**	P	**P**	**17 58 49.1**	**+0.6**
I28M	**Miner Creek**	**76.72**	**25**	P	**P**	**17 58 56.0**	**+1.5**
I28M				IAmb	IAmb	17 58 56.8	
	comp=Z,2.3nm,0.8s						
F28M	**Old Crow**	**76.95**	**23**	P	**P**	**17 58 56.8**	**+1.2**
F28M				IAmb	IAmb	17 58 57.4	
	comp=Z,4.0nm,1.2s						
E28M	**Babbage River**	**77.18**	**22**	P	**P**	**17 58 59.0**	**+2.1**
E28M				IAmb	IAmb	17 58 59.4	
	comp=Z,7.4nm,1.5s						
H31M	**Peel River**	**79.06**	**25**	P	**P**	**17 59 07.6**	**+0.2**
H31M				IAmb	IAmb	17 59 21.2	
	comp=Z,8.2nm,1.4s						
G31M	**Satah River**	**79.09**	**24**	P	**P**	**17 59 07.5**	**+0.1**
G31M				IAmb	IAmb	17 59 09.7	
	comp=Z,4.0nm,1.1s						
YKA	**Yellowknife Ar**	**88.08**	**27**	P	**P**	**17 59 54.0**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=290,slow=4.6,SNR=4.2						
	comp=Z,0.6nm,0.8s						
VNDA	**Vanda**	**88.16**	**175**	P	**P**	**17 59 53.3**	**-0.3**
VNDA				IAmb	IAmb	18 00 03.6	
	comp=Z,1.6nm,1.1s						
VNDA	**Vanda**	**88.16**	**175**	P	**P**	**17 59 53.6**	**0.0**
	comp=Z,0.5nm,0.7s,baz=350,slow=1.1,SNR=5.0						
	comp=Z,0.5nm,0.7s						

*IDC **08** 17:54:58.2±1.1, 9°.98N×140°.37E, h0km, mb3.6/5, mbtmp3.7/6, ML4.2/1, MS2.5/1, Error ellipse: s-maj=36.2km s-min=21.3km az=118.0*
ISC 08 17:55:02.2±1.0, **10°.0N**±0°.2×**140°.4E**±0°.2, **h26**km, **n13**, σ0¶**37**/7, **mb3.5**/5, **Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.71**	**50**	Pn	**Pn**	**17 56 25.5**	**+0.2**
	7.0nm,0.3s,baz=150,slow=22,SNR=2.9						
GUMO				Sn	**Sn**	**17 57 30.1**	**+0.1**
	6.8nm,0.3s,baz=352,slow=20,SNR=1.3						
	116nm,1.0s						
DAV	**Davao City (W)**	**14.89**	**260**	LR	LR	18 03 13.4	
	comp=Z,18nm,21.1s,baz=55,slow=33						
H11S3	**WAKE ISLAND Hy**	**26.87**	**69**	T	T	18 28 45.5	
	baz=255,slow=75,SNR=110						
H11S1	**WAKE ISLAND Hy**	**26.89**	**69**	T	T	18 28 49.5	
	baz=255,slow=75,SNR=84						
H11S2	**WAKE ISLAND Hy**	**26.89**	**69**	T	T	18 28 47.8	
	baz=255,slow=75,SNR=152						
H11N1	**WAKE ISLAND Hy**	**27.39**	**66**	T	T	18 29 31.3	
	baz=243,slow=78,SNR=78						
H11N2	**WAKE ISLAND Hy**	**27.40**	**66**	T	T	18 29 30.8	
	baz=243,slow=78,SNR=43						
H11N3	**WAKE ISLAND Hy**	**27.41**	**66**	T	T	18 29 31.7	
	baz=243,slow=78,SNR=43						
WRA	**Warramunga Arr**	**30.30**	**191**	P	**P**	**18 01 11.3**	**-0.3**
	0.7nm,0.8s,baz=12,slow=9.9,SNR=5.6						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**34.01**	**191**	P	**P**	**18 01 44.5**	**+0.3**
	0.4nm,0.6s,baz=17,slow=12,SNR=23						
	0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**40.94**	**287**	P	**P**	**18 02 43.1**	**+0.2**
	0.6nm,0.7s,baz=94,slow=6.5,SNR=6.2						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**73.72**	**25**	P	**P**	**18 06 33.1**	**-0.5**
	0.5nm,0.9s,baz=250,slow=5.5,SNR=2.3						
	0.5nm,0.9s						
YKA	**Yellowknife Ar**	**88.08**	**27**	P	**P**	**18 07 50.2**	**0.0**
	0.1nm,0.4s,baz=286,slow=4.4,SNR=2.3						
	0.1nm,0.4s						

*BER **08** 18:01:34.5±0.8, 66°.71N×21°.48E, h0km, ML2.1, Suspected explosion*
*UPP **08** 18:01:35.1±0.1, 67°.07N×20°.94E, h0km, ML2.6, Suspected explosion*
*IDC **08** 18:01:36.4±0.9, 67°.04N×21°.48E, h0km, mbtmp3.3/5, ML2.3/4, Error ellipse: s-maj=15.0km s-min=8.6km az=102.0*
ISC 08 18:01:34.7±0.8, **67°.06N**±0°.03×**20°.93E**±0°.03, **h0**km, **n20**, σ1¶**25**/25, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.15**	**292**	P	**Pg**	**18 01 38.3**	**+0.7**
DUNU				S	**Sg**	**18 01 40.2**	**+0.6**
MASU	**Masugnsbyn**	**0.57**	**46**	P	**Pg**	**18 01 45.9**	**+0.2**
ERTU	**Ertsjaerv**	**0.71**	**135**	P	**Pg**	**18 01 48.6**	**+0.2**
PAJU	**Pajala**	**0.86**	**92**	P	**Pg**	**18 01 51.0**	**-0.1**
HARU	**Harads**	**0.91**	**179**	P	**Pg**	**18 01 52.2**	**+0.2**
KUA	**Kurravaara**	**0.92**	**346**	P	**Pg**	**18 01 51.8**	**-0.5**
SALU	**Saltoluokta**	**1.00**	**290**	P	**Pg**	**18 01 53.7**	**0.0**
HEF	**Hetta**	**1.70**	**36**	*e*P	**Pb**	**18 02 06.0**	**-0.8**
KTK1	**Kautokeino**	**2.14**	**23**	*e*P	**Pb**	**18 02 13.9**	**-0.3**
KTK1				*e*S	**Sb**	**18 02 41.7**	**+0.4**
KTK1				IAML		18 02 43.5	
	comp=Z,15nm,0.2s						
FAUS	**Fauske**	**2.22**	**281**	*e*P	**Pb**	**18 02 14.8**	**-0.8**
FAUS				IAML		18 02 49.4	
	comp=Z,28nm,0.2s						
STEI	**Steigen**	**2.36**	**294**	*e*P	**Pb**	**18 02 17.2**	**-0.7**
JETT	**Jettan, Norway**	**2.51**	**356**	*e*P	**Pb**	**18 02 19.7**	**-0.9**
ARA0	**ARCESS Array S**	**3.01**	**32**	*e*P	**Pn**	**18 02 23.8**	**+0.3**
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**	**18 02 24.1**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=210,slow=14,SNR=80						
ARCES				Lg	Lg	18 03 01.1	
	comp=Z,0.6nm,0.3s,baz=215,slow=18,SNR=1.7						
	comp=Z,4.6nm,0.2s						
UMAU	**Umeaa**	**3.20**	**182**	P	**Pn**	**18 02 27.4**	**+1.3**
KEV	**Kevo**	**3.51**	**37**	*e*P	**Pn**	**18 02 30.9**	**+0.5**
FINES	**FINESS Array B**	**6.07**	**156**	Pn	**Pn**	**18 03 06.8**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=345,slow=14,SNR=14						
FINES				Sn	**Sn**	**18 04 14.8**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=349,slow=21,SNR=7.2						
FINES				Lg	Lg	18 04 42.1	
	comp=Z,0.2nm,0.3s,baz=341,slow=29,SNR=1.7						
	comp=Z,3.1nm,0.9s						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**18 03 25.8**	**+2.1**
	baz=38,slow=10,SNR=6.1						
NOA				Sn	**Sn**	**18 04 48.1**	**0.0**
	baz=105,slow=14,SNR=0.9						
NOA				Lg	Lg	18 05 29.3	
	baz=114,slow=14,SNR=1.9						
	comp=Z,0.1nm,0.3s						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 03 27.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=21,slow=13,SNR=13						
HFS				Sn	**Sn**	**18 04 50.2**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=264,slow=15,SNR=2.3						
HFS				Lg	Lg	18 05 35.9	
	comp=Z,0.3nm,0.3s,baz=32,slow=27,SNR=1.3						
	comp=Z,0.5nm,0.3s						
SPITS	**Spitsbergen Ar**	**11.25**	**355**	Pn	**Pn**	**18 04 16.7**	**+0.3**
	comp=Z,5.3nm,0.8s,baz=161,slow=18,SNR=1.3						

*DJA **08** 18:09:06.0±0.6, 8°.S±7°×12°.3E±°, h268km±7km, M3.5/8, mb3.8/3, MLv3.4/8*
ISC 08 18:09:05.9±1.4, **7°.6S**±0°.1×**123°.4E**

ANCK Sn 18 53 52.2 -0.1
P16K Nushagak River 1.20 349 Pn 18 53 31.0 +0.7
P16K Sn 18 53 53.4 +0.4
P16K Nushagak River 1.20 349 P Pn 18 53 31.0 +0.7
baz=168
P16K S Sn 18 53 53.4 +0.4
baz=168
ACHA Angle Creek He 1.24 73 Pn 18 53 31.1 +0.3
KABU Katmai Buttres 1.28 70 Pn 18 53 31.6 +0.5
KVTA Katmai Vly 10 1.31 66 Pn 18 53 31.7 +0.3
KCE Katmai Mt Cerb 1.32 72 Pn 18 53 32.3 +0.8
KAKN Katmai Knife C 1.40 71 Pn 18 53 32.5 +0.2
KAKN Sn 18 53 56.0 -0.2
P17K Kvichak River 1.46 23 Pn 18 53 33.4 +0.7
P17K Kvichak River 1.46 23 P Pn 18 53 33.4 +0.7
baz=203
KAHC Katmai Hardscr 1.56 59 Pn 18 53 34.1 +0.3
KAHC Sn 18 53 58.8 -0.3
KAHC Katmai Hardscr 1.56 59 Pn 18 53 34.1 +0.3
KAHC Katmai Hardscr 1.56 59 P Pn 18 53 34.1 +0.3
baz=239
Q18K Katmai Hardscr 1.56 59 P Pn 18 53 34.1 +0.3
baz=239
Q18K S Sn 18 53 58.7 -0.3
baz=239
CHGN Chignik 1.63 197 Pn 18 53 34.0 -0.4
CHGN Sn Sn 18 53 58.1 -1.9
CHGN IAML 18 54 02.0
comp=N,1µm,0.1s
CHGN Chignik 1.63 197 P Pn 18 53 34.0 -0.4
baz=17
CHGN S Sn 18 53 58.8 -1.2
baz=17
R18K Karluk 1.69 99 Pn 18 53 34.9 -0.1
KAHG Katmai Hook Gl 1.72 67 Pn 18 53 35.7 +0.3
O16K Kokwok River B 1.76 351 Pn 18 53 35.9 +0.3
O16K Sn Sn 18 54 01.9 -0.5
O16K IAML 18 54 02.6
comp=N,205nm,0.9s
O16K IAML 18 54 02.7
comp=E,329nm,1.0s
O16K Kokwok River B 1.76 351 P Pn 18 53 36.1 +0.5
baz=170
O15K Ungalikthiuk R 1.78 319 Pn 18 53 36.3 +0.4
VNFG Fog Glacier, M 1.92 215 Pn 18 53 37.9 +0.3
VNFG Fog Glacier, M 1.92 215 IAML 18 54 07.2
comp=N,742nm,0.9s
VNFG IAML 18 54 16.1
comp=E,581nm,0.7s
O17K Koliganek Bris 1.93 7 Pn 18 53 37.7 +0.2
O17K Sn 18 54 04.9 -0.7
O17K Koliganek Bris 1.93 7 P Pn 18 53 37.7 +0.2
baz=187
O17K S Sn 18 54 04.9 -0.7
baz=187
VNSG Veniaminof 6 1.93 206 Pn 18 53 37.3 -0.3
VNSS Veniaminof 8 1.94 213 Pn 18 53 38.0 +0.1
P18K Big Mountain, 1.96 37 Pn 18 53 37.8 0.0
P18K Sn Sn 18 54 05.2 -1.1
P18K Big Mountain, 1.96 37 P Pn 18 53 37.9 +0.1
baz=218
VNWF Veniaminof 8 2.04 213 Pn 18 53 39.0 +0.2
SII Sitkinak Islan 2.25 124 Pn 18 53 40.4 -0.7
SII Sn Sn 18 54 09.5 -2.4
SII Sitkinak Islan 2.25 124 P Pn 18 53 40.4 -0.7
SII Sitkinak Islan 2.25 124 P Pn 18 53 40.5 -0.6
baz=306
CHIR Chirikof Islan 2.31 152 Pn 18 53 40.7 -1.0
CHIR Sn Sn 18 54 10.4 -2.5
CHIR Chirikof Islan 2.31 152 P Pn 18 53 40.6 -1.0
baz=333
CHIR S Sn 18 54 10.7 -2.2
baz=333
Q19K Cape Douglas, 2.32 61 Pn 18 53 42.2 +0.3
Q19K Sn Sn 18 54 13.1 -0.2
Q19K IAML 18 54 17.7
comp=N,572nm,1.0s
Q19K Cape Douglas, 2.32 61 P Pn 18 53 42.0 +0.2
baz=243
O18K Koktuh Hills 2.34 30 Pn 18 53 42.5 +0.5
O18K Sn Sn 18 54 13.2 -0.6
O18K IAML 18 54 14.3
comp=N,185nm,0.6s
O18K Koktuh Hills 2.34 30 P Pn 18 53 42.5 +0.5
baz=211
OHAK Old Harbor 2.39 104 Pn 18 53 42.0 -0.5
OHAK Sn Sn 18 54 11.7 -2.9
OHAK Old Harbor 2.39 104 P Pn 18 53 42.1 -0.5
O14K Tigyukauivet M 2.39 307 Pn 18 53 43.0 +0.4
O14K IAML 18 54 17.1
comp=E,153nm,1.9s
AUCH Augustine Cone 2.62 53 Pn 18 53 46.3 +0.9
N15K Kwethluk River 2.66 332 Pn 18 53 45.8 0.0
N15K Sn Sn 18 54 20.1 -0.3
N15K IAML 18 54 22.0
comp=N,102nm,1.4s
N15K Kwethluk River 2.66 332 P Pn 18 53 46.0 +0.3
baz=150
KDAK Kodiak Island 2.66 90 Pn Pn 18 53 45.0 -0.7
KDAK Sn Sn 18 54 16.9 -3.4
KDAK Kodiak Island 2.66 90 P Pn 18 53 45.1 -0.7
comp=N,151nm,0.3s,baz=291,slow=4.9,SNR=884
KDAK S Sn 18 54 17.0 -3.3
comp=N,546nm,0.4s,baz=16,slow=23,SNR=11
KDAK LR LR 18 54 37.7
comp=N,136nm,20.5s,baz=82,slow=35
N17K Nushagak Hills 2.68 4 Pn 18 53 46.3 +0.4
N16K Nishlik Lake 2.69 347 Pn 18 53 46.5 +0.3
Q20K Shuyak Island 2.83 72 P Pn 18 53 47.4 -0.4
baz=256
SYI Shuyak Island 2.83 72 Pn Pn 18 53 47.2 -0.5
SYI Sn Sn 18 54 21.3 -2.7
SYI IAML 18 54 24.3
comp=N,362nm,0.4s
SYI IAML 18 54 24.4
comp=E,541nm,0.6s
O19K Port Alsworth 2.88 34 Pn Pn 18 53 49.0 +0.8
O19K IAML 18 54 44.2
comp=N,149nm,0.4s
O19K IAML 18 54 52.9
comp=E,200nm,0.5s
O19K Port Alsworth 2.88 34 P Pn 18 53 49.0 +0.8
baz=216
P19K Oil Pt 2.88 50 Pn Pn 18 53 49.0 +0.6
P19K Sn Sn 18 54 24.1 -1.0
P19K IAML 18 54 26.2
comp=N,280nm,0.7s
P19K IAML 18 54 26.6
comp=E,344nm,0.7s
P19K Oil Pt 2.88 50 P Pn 18 53 48.5 +0.1
baz=232
N18K Kilae Creek 2.95 16 Pn 18 53 49.9 +0.7
N14K Kuskokwak Cree 2.98 316 Pn 18 53 49.7 +0.2
N14K Kuskokwak Cree 2.98 316 P Pn 18 53 49.7 +0.2
baz=133
SDPT Sand Point 2.99 214 Pn Pn 18 53 49.3 -0.4
SDPT IAML 18 54 27.3
comp=N,269nm,0.6s
SDPT IAML 18 54 33.5
comp=E,237nm,1.7s
SDPT Sand Point 2.99 214 P Pn 18 53 49.8 0.0
SDPT Sand Point 2.99 214 P Pn 18 53 49.8 0.0
baz=32
SDPT S Sn 18 54 25.4 -2.1
baz=32
ILSW Iliamna Southw 3.12 45 Pn 18 53 51.7 +0.3
ILW Iliamna West 3.18 44 Pn 18 53 52.7 +0.6
IVE Iliamna Volcan 3.19 46 Pn 18 53 53.0 +0.8
CHNA Chernabura Isl 3.24 201 P Pn 18 53 51.2 -1.6
baz=20
M16K Timber Creek 3.25 348 Pn Pn 18 53 53.5 +0.7
M16K Timber Creek 3.25 348 P Pn 18 53 53.6 +0.7
baz=166
CNBA Chernabura Isl 3.25 201 Pn 18 53 51.1 -1.9
CNBA IAML 18 54 30.3
comp=N,318nm,0.4s
CNBA IAML 18 54 33.8
comp=E,507nm,0.6s
M15K Kasigluk River 3.26 332 Pn 18 53 52.9 -0.1
N19K Bonanza Creek 3.35 27 Pn Pn 18 53 55.3 +1.1
PS1A Pavlof South-1 3.37 225 Pn 18 53 54.7 +0.4
O20K Slope Mountain 3.39 47 Pn 18 53 55.8 +1.2
O20K Slope Mountain 3.39 47 P Pn 18 53 55.8 +1.2
baz=230
SVW2 Sparrevohn 3.40 16 Pn 18 53 55.5 +0.8
SVW2 Sparrevohn 3.40 16 P Pn 18 53 55.4 +0.8
PN7A Pavlof North-7 3.46 227 Pn 18 53 56.1 +0.6
M17K Holitna River 3.55 1 Pn 18 53 57.4 +0.8
M17K IAML 18 55 04.5
comp=E,62nm,0.9s
M17K IAML 18 55 25.6
comp=N,71nm,1.5s
RED Redoubt Volcan 3.56 42 Pn 18 53 57.6 +0.8
HOM Homer 3.57 57 Pn Pn 18 53 57.4 +0.7
RDWB Redoubt West 3.58 41 Pn 18 53 57.7 +0.6
RDSO Redoubt South 3.59 42 Pn 18 53 58.0 +0.8
M14K Bethel 3.67 324 Pn Pn 18 53 57.7 -0.3
M14K IAML 18 54 42.5
comp=N,74nm,1.2s
M14K IAML 18 55 33.9
comp=E,66nm,3.4s
M14K Bethel 3.67 324 P Pn 18 53 57.8 -0.3
baz=140
CNPM China Poot 3.70 61 Pn Pn 18 53 58.5 +0.1
CNPM IAML 18 54 41.8
comp=N,285nm,0.5s
M18K Stony River 3.75 13 Pn 18 53 60.0 +1.0
RDT Redoubt 3.79 42 Pn 18 54 00.4 +0.7
DT1 Dutton Round H 3.81 225 Pn 18 53 59.7 -0.1
M13K Dall Lake 3.93 313 Pn 18 54 01.5 +0.1
M13K IAML 18 54 43.6
comp=N,162nm,3.4s
M13K IAML 18 55 17.5
comp=E,139nm,3.0s
BRLK Bradley Lake 3.96 58 Pn 18 54 01.4 -0.4
BRLK IAML 18 54 46.7
comp=N,299nm,0.7s
BRLK IAML 18 54 49.6
comp=E,280nm,0.5s
L16K Owhat River 3.98 347 Pn Pn 18 54 02.5 +0.5
L16K Owhat River 3.98 347 P Pn 18 54 02.8 +0.8
baz=165
BRSE Bradley Lake S 4.01 59 Pn 18 54 02.1 -0.4
BRSE Bradley Lake S 4.01 59 P Pn 18 54 02.1 -0.4
baz=244
SPNN North Nagishla 4.29 33 Pn 18 54 07.5 +1.3
L17K Donlin 4.30 355 Pn 18 54 06.9 +0.8
SPBG Spurr Blockage 4.31 36 Pn 18 54 08.0 +1.7
L15K Ungalak Mounta 4.31 334 Pn 18 54 06.0 -0.3
L15K Ungalak Mounta 4.31 334 P Pn 18 54 06.0 -0.3
baz=151
N20K Mount Spurr 4.32 37 P Pn 18 54 07.5 +1.2
baz=221
SPCR Spurr Chakacha 4.32 37 Pn 18 54 07.5 +1.1
SPCN Chakachatna No 4.34 37 Pn 18 54 07.7 +1.1
L14K Kuka Creek 4.35 325 Pn Pn 18 54 06.2 -0.5
L14K IAML 18 54 54.5
comp=N,100nm,1.3s
L14K IAML 18 54 54.6
comp=E,74nm,1.4s
M19K Big River Lodg 4.36 20 Pn 18 54 08.1 +1.3
M19K IAML 18 56 00.4
comp=E,31nm,3.8s
SPCP Crater Peak Br 4.38 37 Pn 18 54 08.5 +1.2
CAPN Captain Cook N 4.39 46 Pn Pn 18 54 09.4 +2.3
L18K Granite Mounta 4.39 5 Pn 18 54 08.4 +1.1
FALS False Pass 4.44 230 Pn 18 54 08.1 +0.3
FALS False Pass 4.44 230 P Pn 18 54 08.2 +0.3
FALS False Pass 4.44 230 P Pn 18 54 08.1 +0.3
baz=45
L19K White Mountain 4.54 16 Pn Pn 18 54 09.7 +0.6
L19K IAML 18 56 07.2
comp=E,28nm,4.2s
L19K IAML 18 56 23.2
comp=N,31nm,4.0s
M20K Styx River 4.61 27 Pn 18 54 11.5 +1.4
M20K IAML 18 56 24.9
comp=E,27nm,4.4s
M20K IAML 18 57 22.5
comp=N,26nm,4.1s
SLKM Skilak Lake 4.61 52 Pn 18 54 09.9 -0.2
ISLZ Isanotski Laza 4.65 230 Pn 18 54 10.8 +0.1
STLK Strandline Lak 4.66 36 Pn 18 54 11.7 +0.9
SEW Seward 4.76 58 Pn 18 54 11.9 0.0
SEW Seward 4.76 58 P Pn 18 54 11.9 0.0
baz=245
SSLS Shishaldin Sou 4.78 231 Pn 18 54 12.6 +0.2
SSBA Shishaldin 4.79 233 Pn 18 54 12.6 +0.1
O22K Cooper Landing 4.81 54 Pn 18 54 12.6 0.0
K15K Wolf Creek Mou 4.87 338 Pn 18 54 13.9 +0.5
K15K IAML 18 55 05.8
comp=E,29nm,3.7s
K17K Iditarod 4.88 356 Pn 18 54 14.6 +1.0
K17K IAML 18 55 25.9
comp=N,31nm,2.8s
K17K IAML 18 56 34.8
comp=E,35nm,3.6s
FIS Fire Island 4.98 46 Pn Pn 18 54 15.4 +0.6
L20K Farewell, AK 4.98 20 Pn 18 54 16.4 +1.5
L20K Farewell, AK 4.98 20 P Pn 18 54 16.4 +1.5
baz=203
SUA Susitna One 5.00 41 Pn 18 54 15.3 +0.1
SUA IAML 18 55 16.9
comp=N,95nm,0.9s
SUA Susitna One 5.00 41 P Pn 18 54 15.3 +0.1
baz=226
M11K Mekoryuk 5.12 303 Pn 18 54 16.4 -0.2
SKT Skwentna 5.12 34 Pn Pn 18 54 17.5 +0.8
SKT IAML 18 55 20.6
comp=E,27nm,0.6s
SKT IAML 18 55 25.5
comp=N,29nm,0.3s
SKT Skwentna 5.12 34 P Pn 18 54 17.8 +1.1
baz=218
RC01 Rabbit Creek A 5.13 48 Pn Pn 18 54 16.6 -0.2
RC01 IAML 18 55 15.4
comp=N,137nm,0.3s
RC01 Rabbit Creek A 5.13 48 P Pn 18 54 17.0 +0.2
baz=234
TTA Tatalina 5.14 8 Pn Pn 18 54 18.0 +1.0
TTA IAML 18 55 33.5
comp=N,25nm,4.7s
TTA IAML 18 56 35.5
comp=E,20nm,4.8s
TTA Tatalina 5.14 8 P Pn 18 54 18.6 +1.6
TTA Tatalina 5.14 8 P Pn 18 54 18.3 +1.3
baz=189
WEBT Westdahl Beart 5.18 234 Pn 18 54 17.9 +0.3
M22K Willow 5.41 41 Pn Pn 18 54 19.8 -0.6
PWL Port Wells 5.59 54 Pn Pn 18 54 21.9 -0.9
PWL Port Wells 5.59 54 P Pn 18 54 22.0 -0.8
baz=241
J18K Innoko River 5.64 4 Pn 18 54 23.8 +0.4
J16K Anvik River 5.64 346 Pn 18 54 24.3 +0.8
PMR Palmer 5.67 45 Pn Pn 18 54 23.5 -0.3
PMR Palmer 5.67 45 P Pn 18 54 24.0 +0.2
PMR Palmer 5.67 45 P Pn 18 54 22.8 -1.0
baz=232
P23K Montague Islan 5.68 64 Pn 18 54 23.5 -0.4
P23K Montague Islan 5.68 64 P Pn 18 54 23.5 -0.4
baz=252
PPLA Purkeypile 5.71 26 Pn 18 54 26.5 +2.1
PPLA Purkeypile 5.71 26 P Pn 18 54 25.5 +1.1
baz=210
J14K Nanvaranak Lak 5.74 331 Pn Pn 18 54 24.6 0.0
K20K Telida 5.77 16 Pn 18 54 26.3 +1.1
KNK Knik Glacier 5.83 49 Pn 18 54 24.7 -1.2
KNK Knik Glacier 5.83 49 P Pn 18 54 24.7 -1.2
baz=236
CUT Chulitna 5.83 36 Pn Pn 18 54 25.1 -0.7
GHO Glory Hole Cre 5.86 44 Pn 18 54 24.5 -1.9
AKSA Akutan Strait 5.90 234 Pn 18 54 27.1 +0.2
AKUT Akutan 5.93 234 Pn 18 54 25.4 -1.8
AHB Akutan Harbor 5.96 234 Pn 18 54 27.5 -0.2
AKV Akutan Volcano 6.02 235 Pn 18 54 27.3 -1.2
AKBBA Akutan Broad B 6.03 235 Pn 18 54 28.6 +0.1
ZRO Akutan Zero 6.05 235 Pn 18 54 28.3 -0.6
Q23K Middleton Isla 6.06 70 Pn Pn 18 54 25.9 -2.9
MID Middleton Isla 6.06 70 Pn Pn 18 54 25.9 -3.0
MID Middleton Isla 6.06 70 P Pn 18 54 29.5 +0.6
comp=E,541nm,1.7s
SML Sawmill 6.10 46 Pn Pn 18 54 27.2 -2.3
SML Sawmill 6.10 46 P Pn 18 54 28.0 -1.5
baz=233
GLI Glacier Island 6.14 56 Pn 18 54 28.3 -1.7
GLI Glacier Island 6.14 56 P Pn 18 54 28.8 -1.2
baz=245
CAST Castle Rocks 6.19 23 Pn Pn 18 54 31.0 +0.4
CAST Castle Rocks 6.19 23 P Pn 18 54 31.5 +0.9
baz=208
J19K Poorman 6.22 8 Pn 18 54 31.9 +0.8
HIN Hinchinbrook I 6.23 61 Pn Pn 18 54 30.7 -0.5
I17K Unalakleet 6.24 347 Pn Pn 18 54 32.3 +1.2
I17K Unalakleet 6.24 347 P Pn 18 54 32.7 +1.5
baz=164
M23K Glacier View 6.33 47 Pn 18 54 32.7 +0.2
M23K Glacier View 6.33 47 P Pn 18 54 32.7 +0.2
baz=235
FID Port Fidalgo 6.37 58 Pn 18 54 31.3 -1.7
UNV Unalaska Valle 6.45 235 Pn 18 54 33.3 -0.8
UNV Unalaska Valle 6.45 235 P Pn 18 54 33.2 -0.8
UNV Unalaska Valle 6.45 235 P Pn 18 54 33.5 -0.5
baz=48
MNAT Makushin Natee 6.50 236 Pn 18 54 34.3 -0.5
SCM Sheep Creek Mo 6.51 48 Pn 18 54 32.9 -2.0
SCM Sheep Creek Mo 6.51 48 P Pn 18 54 34.1 -0.8
baz=236
MSW Makushin Switc 6.52 237 Pn 18 54 34.5 -0.6
J20K Nowinta River 6.55 13 Pn 18 54 36.1 +0.8
KTH Kantishna Hill 6.57 27 Pn Pn 18 54 33.8 -1.8
WAT7 Susitna Watana 6.59 37 Pn 18 54 34.2 -1.8
EYAK Cordova Ski Ar 6.63 61 Pn 18 54 35.7 -0.7
EYAK Cordova Ski Ar 6.63 61 P Pn 18 54 35.7 -0.7
EYAK Cordova Ski Ar 6.63 61 P Pn 18 54 35.7 -0.7
baz=251
MGOD Makushin Gods 6.64 236 Pn 18 54 36.2 -0.5
TRF Thorofare Moun 6.64 29 Pn Pn 18 54 34.7 -2.0
TRF Thorofare Moun 6.64 29 P Pn 18 54 36.0 -0.7
baz=215
WAT6 Susitna Watana 6.80 42 Pn 18 54 36.5 -2.3
WAT6 Susitna Watana 6.80 42 P Pn 18 54 36.7 -2.1
baz=230
DIV Divide 6.83 56 Pn 18 54 38.2 -0.9
KLU Klutina 6.92 53 Pn 18 54 39.0 -1.3
KLU Klutina 6.92 53 P Pn 18 54 39.5 -0.8
baz=243
RND Reindeer 7.01 34 Pn Pn 18 54 39.5 -2.0
BPAW Bear Paw Mtn. 7.02 24 Pn Pn 18 54 40.5 -1.1
KAIM Kayak Island 7.11 68 Pn Pn 18 54 41.2 -1.5
M24K Tolsona, Glenn 7.12 49 Pn Pn 18 54 40.9 -1.9
M24K Tolsona, Glenn 7.12 49 P Pn 18 54 42.0 -0.9
baz=238
GOAT Goat Mountain 7.12 62 Pn 18 54 42.5 -0.5
H17K Granite Mounta 7.19 352 Pn 18 54 41.9 -1.8
DHY Denali Highway 7.25 40 Pn Pn 18 54 42.3 -2.4
HMT Hamilton 7.28 64 Pn Pn 18 54 42.4 -2.6
BMRM Bremner River 7.30 59 Pn 18 54 44.8 -0.5
BMRM Bremner River 7.30 59 P Pn 18 54 44.7 -0.5
baz=250
H18K Honhosa River 7.33 357 Pn Pn 18 54 43.3 -2.3
BERG Berg Lake 7.56 65 Pn 18 54 47.9 -0.8
HARP HAARP 7.68 48 Pn 18 54 49.6 -0.6
HARP HAARP 7.68 48 P Pn 18 54 50.5 +0.4
baz=239
ANM Nome 7.71 334 Pn Pn 18 54 50.7 +0.2
H19K Roundabout Mou 7.71 3 Pn Pn 18 54 50.5 0.0
KHIT Khitrov Hills 7.79 65 Pn 18 54 51.5 -0.3
I21K Tanana 7.81 18 Pn 18 54 52.2 +0.4
WACK Wrangell Chich 7.82 53 Pn 18 54 51.8 -0.4
GLB Gilahina Butte 7.83 57 Pn Pn 18 54 51.2 -1.0
WASW Wrangell South 7.86 53 Pn 18 54 52.6 -0.2
PAX Paxson 7.87 44 Pn 18 54 51.3 -1.4
PAX Paxson 7.87 44 P Pn 18 54 52.5 -0.2
baz=234
NEA2 Nenana 7.89 28 Pn Pn 18 54 49.9 -3.0
G16K Koyuk River 7.89 345 Pn Pn 18 54 55.0 +2.1
MLY Manley 7.89 22 Pn 18 54 51.7 -1.4
VRDI Verde Repeater 7.92 59 Pn Pn 18 54 52.8 -0.7
CRQM Cirque 7.92 62 Pn Pn 18 54 53.4 -0.2
SNH Sunshine Point 7.94 67 Pn Pn 18 54 52.5 -1.2
CRQE Cirque 7.95 63 P Pn 18 54 53.4 -0.5
baz=255
WAX Waxell Ridge 7.99 65 Pn 18 54 53.9 -0.5
WRH Wood River Hil 8.05 31 Pn Pn 18 54 55.1 +0.1
TGL Tana Glacier 8.07 63 Pn 18 54 55.3 -0.2
G18K Tagagawik 8.08 357 Pn Pn 18 54 56.6 +1.2
H21K Melozitna Rive 8.14 14 Pn 18 54 56.3 +0.1
H21K Melozitna Rive 8.14 14 P Pn 18 54 56.8 +0.6
baz=198
MCARA McCarthy VSAT 8.16 58 Pn 18 54 56.6 +0.1
MCARA McCarthy VSAT 8.16 58 P Pn 18 54 56.7 +0.1
baz=250
CCB Clear Creek Bu 8.26 30 Pn 18 54 55.0 -2.8
ISLE Juniper Island 8.27 64 Pn 18 54 57.6 -0.5
K24K Donnelly Dome 8.27 39 Pn 18 54 57.5 -0.5
K24K Donnelly Dome 8.27 39 P Pn 18 54 57.5 -0.5
baz=229
I23K Minto, Yukon-K 8.29 25 Pn Pn 18 54 55.0 -3.1
G19K Purcell Mounta 8.31 1 Pn Pn 18 54 58.1 -0.4
HDA Harding Lake 8.32 34 Pn 18 54 55.7 -2.9
KIAG Kiagna River 8.34 62 Pn 18 54 58.9 -0.2
IMAR Indian Mountai 8.34 11 Pn Pn 18 54 58.0 -0.9
PTPK Patty Peak 8.36 60 Pn 18 54 59.6 +0.3
BAGL Bagley Icefiel 8.37 65 Pn 18 55 00.2 +1.1
MESA MESA 8.38 67 Pn Pn 18 55 00.1 +0.5
MESA MESA 8.38 67 P Pn 18 54 59.9 +0.3
baz=260
MDM Murphy Dome 8.40 28 Pn Pn 18 54 57.1 -2.6
COLA College 8.43 29 Pn Pn 18 54 58.0 -1.9
COLA College 8.43 29 P Pn 18 54 58.9 -1.1
MENT Mentasta 8.52 48 Pn 18 55 00.3 -1.0
F15K North Star Dit 8.55 340 Pn Pn 18 54 59.5 -2.2
RIDG Independent Ri 8.55 41 Pn 18 54 59.7 -2.0
M26K Nabesna, AK 8.56 52 Pn 18 55 00.7 -1.2
GRNC Granite Creek 8.58 64 Pn 18 55 02.4 +0.2
IL31 8.61 32 Pn Pn 18 54 59.8 -2.6
ILAR Eielson Array 8.61 32 Pn Pn 18 54 58.7 -3.7
ILAR Eielson Array 8.61 32 P Pn 18 54 59.7 -2.7
comp=E,1.9nm,0.3s,baz=222,slow=14,SNR=38
ILAR S Sn 18 56 30.3 -8.2
comp=E,3.8nm,0.7s,baz=219,slow=22,SNR=14
CLES Cleveland East 8.65 240 Pn Pn 18 55 01.2 -1.8
BARN Barnard Glacie 8.70 62 Pn 18 55 02.5 -1.3
L26K Log Cabin Wild 8.71 48 Pn 18 55 01.6 -2.2
POKR Poker Plat Res 8.73 29 Pn Pn 18 55 01.3 -2.7
F17K Baldwin Pennin 8.78 350 Pn Pn 18 55 04.7 +0.2
TABL Table Mountain 8.82 66 Pn 18 55 05.3 0.0
CTG Chitina Glacier 8.83 63 P Pn 18 55 05.9 +0.5
baz=256
CTGM Chitina Glacie 8.83 63 Pn Pn 18 55 05.3 -0.2
G21K Allakaket 8.89 11 Pn Pn 18 55 07.3 +1.3
LOGN Logan Glacier 8.96 64 Pn 18 55 07.6 +0.4
SCRK Sand Creek 9.00 41 Pn Pn 18 55 05.7 -1.9
F19K Shaleruckik Mo 9.01 359 Pn Pn 18 55 08.3 +0.7
M27K Edge Creek, AK 9.02 53 Pn 18 55 08.5 +0.6
H24K Noodor Dome 9.20 26 Pn Pn 18 55 06.7 -3.6
F20K Avaraart Lake 9.26 4 Pn Pn 18 55 11.1 +0.2
YUK2 White River 9.28 58 Pn 18 55 11.7 +0.3
L27K Beaver Creek, 9.34 50 Pn 18 55 11.1 -0.9
BCAR Beaver Creek A 9.36 50 Pn Pn 18 55 11.3 -1.0
YUK3 Moose Creek 9.45 58 Pn 18 55 14.1 +0.4
YUK3 Moose Creek 9.45 58 P Pn 18 55 14.1 +0.4
baz=253
J26L Joseph Creek 9.47 40 Pn 18 55 11.8 -2.0
BVCY Beaver Creek 9.48 54 Pn 18 55 14.1 +0.2
BVCY Beaver Creek 9.48 54 P Pn 18 55 14.1 +0.2
baz=248
BCPM Bancas Point 9.50 70 Pn Pn 18 55 11.7 -2.4
G23K Bananza Creek 9.54 18 Pn Pn 18 55 13.2 -1.4
PRP Porcupine Dome 9.55 32 Pn Pn 18 55 10.9 -4.0
F21K Alatna River 9.58 10 Pn Pn 18 55 13.1 -2.0
PNL Peninsula 9.60 71 P Pn 18 55 15.8 +0.3
E19K Redstone River 9.63 1 Pn Pn 18 55 13.7 -2.1
YUK8 Steele Glacier 9.65 62 Pn 18 55 16.9 +0.6
YUK8 Steele Glacier 9.65 62 P Pn 18 55 16.9 +0.6
baz=257
E18K Tukpahlearik C 9.70 353 Pn Pn 18 55 14.8 -1.8
K27K Chicken 9.72 44 Pn Pn 18 55 14.6 -2.4
G24K Hadweenzic Riv 10.02 24 Pn Pn 18 55 18.6 -2.3
O29M Mount Kennedy 10.06 68 Pn 18 55 21.4 -0.2
I26K Coal Creek Min 10.12 37 Pn 18 55 18.9 -3.2
FYU Fort Yukon 10.43 28 Pn Pn 18 55 24.7 -1.5
P29M Windy Craggy 10.44 72 Pn Pn 18 55 26.1 -0.4
EGAK Eagle 10.47 42 Pn Pn 18 55 24.5 -2.1
M29M Somme Creek 10.55 56 Pn 18 55 28.0 +0.1
E22K Anaktuvuk Pass 10.63 12 Pn Pn 18 55 28.1 -0.8
F24K Squaw Lake 10.64 20 Pn Pn 18 55 26.7 -2.3
HYT Haines Junctio 10.65 65 Pn Pn 18 55 26.7 -2.5
E21K Killik River 10.74 7 Pn 18 55 31.1 +0.9
DAWY Dawson 10.77 47 Pn Pn 18 55 26.7 -4.0
L29M L29M 10.90 53 Pn Pn 18 55 32.1 -0.3

L29M Sn 18 57 33.2 -0.2
N30M Aishikik Lake 10.95 62 Pn **Pn** 18 55 31.6 -1.4
C18K Utukok River 10.95 353 Pn **Pn** 18 55 33.8 +0.8
C16K Lisburne Hills 11.02 345 Pn **Pn** 18 55 32.8 -1.0
ATKA Atka Island 11.09 246 Pn **Pn** 18 55 33.5 -1.3
D22K Ayikyak River 11.27 9 Pn **Pn** 18 55 38.1 +1.0
BMAR Burnt Mountain 11.27 26 Pn **Pn** 18 55 33.0 -4.1
I28M Miner Creek 11.27 40 Pn **Pn** 18 55 35.6 -1.6
C19K Lookout Ridge 11.32 356 Pn **Pn** 18 55 37.0 -0.8
M30M Minto, Yukon 11.33 57 Pn **Pn** 18 55 36.6 -1.3
O30N Mendenhall 11.33 66 Pn **Pn** 18 55 36.9 -1.1
S31K Pelican 11.34 80 Pn **Pn** 18 55 37.3 -0.6
TOLK Toolik Lake Re 11.39 15 Pn **Pn** 18 55 38.4 -0.2
K29M Barlow Dome 11.43 50 Pn **Pn** 18 55 36.6 -2.6
N31M Braeburn, Yuko 11.57 63 Pn **Pn** 18 55 41.8 +0.8
G27K Doyon Strip 11.58 33 Pn Pn 18 55 36.0 -5.1
E25K Arctic Village 11.62 23 Pn **Pn** 18 55 36.9 -4.6
B21K Ikpikpuk River 11.88 5 Pn **Pn** 18 55 44.0 -0.8
WHY Whitehorse 11.92 67 Pn **Pn** 18 55 45.6 +0.1
J30M Hart River 12.19 48 Pn **Pn** 18 55 49.2 +0.1
H29M Whitestone 12.24 39 Pn **Pn** 18 55 46.9 -2.6
JIS Juneau Island 12.26 78 Pn **Pn** 18 55 51.6 +1.8
S32K Killisnoo 12.30 82 **Pn** 18 55 47.1 -3.2
M31M Drury Creek, Y 12.34 60 **Pn** 18 55 48.2 -2.6
C23K Itkillik River 12.39 11 **Pn** 18 55 50.0 -1.4
I30M Mount Dempster 12.45 45 Pn **Pn** 18 55 50.8 -1.5
P32M Atlin 12.49 72 Pn **Pn** 18 55 51.0 -1.8
ADK Adak 12.51 250 **Pn** 18 55 51.7 -1.4
E27K Coleen River 12.58 28 **Pn** 18 55 52.5 -1.4
F28M Old Crow 12.64 32 **Pn** 18 55 52.4 -2.3
B22K Teshekpuk Lake 12.65 6 **Pn** 18 55 54.3 -0.4
G29M Pine Creek 12.76 37 **Pn** 18 55 55.9 -0.1
FARO Faro, Yukon 12.82 60 **Pn** 18 55 57.8 +0.8
N32M Quiet Lake 12.83 65 **Pn** 18 55 56.3 -0.8
EPYK Eagle Plains 12.88 40 Pn **Pn** 18 55 58.5 +0.8
P33M Teslin, Yukon 12.93 69 **Pn** 18 55 56.9 -1.5
Q32M Nakina River 13.28 75 **Pn** 18 56 01.5 -1.4
G30M tAoh Zraii Nji 13.38 38 **Pn** 18 56 01.8 -2.2
E29M Blow River 13.71 32 **Pn** 18 56 06.7 -1.5
R33M Jennings River 13.90 72 **Pn** 18 56 10.1 -0.5
G31M Satah River 14.01 40 **Pn** 18 56 10.3 -1.5
S34M Telegraph Cree 14.03 79 **P** 18 56 13.3 -1.1
DLBC Dease Lake 14.51 76 P **Pn** 18 56 18.5 +0.3
DLBC Dease Lake 14.51 76 P **P** 18 56 19.2 -0.6
comp=E,6.2nm,0.7s,baz=219,slow=14,SNR=18
DLBC S **Sn** 18 58 59.3 -0.4
comp=E,1.1nm,0.5s,baz=168,slow=11,SNR=1.5
AMKA Amchitka 14.85 254 P **Pn** 18 56 21.5 -0.8
INK Inuvik 14.97 36 P **Pn** 18 56 23.7 +0.1
INK Inuvik 14.97 36 P **Pn** 18 56 21.5 -2.1
comp=E,0.5nm,0.3s,baz=219,slow=12,SNR=8.5
INK S **Sn** 18 59 06.8 -3.5
comp=E,1.3nm,0.8s,baz=51,slow=32,SNR=5.8
C36M Paulatuk 18.50 38 P **P** 18 57 02.6 -0.9
C36M IAmb IAmb 18 57 03.9
comp=Z,4.2nm,0.8s
BILL Bilibino 19.02 317 P **P** 18 57 08.2 -1.0
YKA Yellowknife Ar 21.54 60 P **P** 18 57 35.2 -0.8
YKA Yellowknife Ar 21.54 60 P **P** 18 57 36.3 +0.2
comp=Z,0.8nm,0.5s,baz=279,slow=10,SNR=11
YKA S **S** 19 01 24.8 +2.0
comp=Z,0.6nm,0.9s,baz=274,slow=17,SNR=4.1
comp=Z,0.8nm,0.5s
PET Petropavlovsk 24.96 278 P **P** 18 58 10.7 +2.8
EDM Edmonton 25.08 81 P **P** 18 58 10.0 +0.9
PEA0B Petropavlovsk- 25.42 279 P **P** 18 58 14.4 +2.3
PETK Petropavlovsk- 25.42 279 P **P** 18 58 14.0 +1.9
PETK Petropavlovsk- 25.42 279 P **P** 18 58 11.1 -1.0
comp=Z,3.5nm,0.5s,baz=70,slow=14,SNR=17
comp=Z,3.5nm,0.5s
DBO Dodson Butte 25.99 110 P **P** 18 58 20.7 +3.3
DBO IAmb IAmb 18 58 36.3
comp=Z,9.4nm,1.4s
K02D Willamette Mer 26.09 111 P **P** 18 58 21.5 +3.2
LYMT Lyon Mountain 29.13 92 P **P** 18 58 47.5 +2.0
PNTR Pine Nut 30.83 111 P **P** 18 59 04.0 +3.6
WAKR Walker 31.36 111 P **P** 18 59 08.3 +3.2
WAKR IAmb IAmb 18 59 09.1
comp=Z,2.4nm,0.6s
TIXI Tiksi 31.84 325 P **P** 18 59 09.0 +0.3
TIXI IAmb IAmb 18 59 09.8
comp=Z,3.3nm,0.8s
FLWY Flagg Ranch 31.86 95 P **P** 18 59 12.8 +3.3
NVAR Mina Array Bea 31.98 110 P **P** 18 59 12.9 +2.4
comp=Z,2.0nm,0.7s,baz=307,slow=9.1,SNR=18
NVAR PcP **PcP** 19 01 55.9 -0.1
comp=Z,0.3nm,0.5s,baz=271,slow=1.4,SNR=2.4
comp=Z,2.0nm,0.7s
FCC Fort Churchill 32.25 61 P **P** 18 59 14.0 +1.6
OMMB Old Mammoth Mi 32.27 112 P **P** 18 59 16.1 +2.9
OMMB IAmb IAmb 18 59 17.4
comp=Z,4.0nm,1.0s
PMPB Monarch Peak 32.49 116 P **P** 18 59 17.5 +2.7
PMPB IAmb IAmb 18 59 29.6
comp=Z,5.1nm,0.9s
PDAR Pinedale Array 33.37 96 P **P** 18 59 24.6 +2.1
comp=Z,1.3nm,0.6s,baz=316,slow=5.0,SNR=2.2
comp=Z,1.3nm,0.6s
ISA Isabella, Lake 34.06 114 P **P** 18 59 30.8 +2.4
ISA IAmb IAmb 18 59 31.6
comp=Z,3.3nm,0.7s
GWY Greenwater Val 34.54 111 P **P** 18 59 34.7 +2.1
GWY IAmb IAmb 18 59 36.2
comp=Z,4.0nm,0.6s
QSM Queen of Sheba 34.62 111 P **P** 18 59 36.3 +3.1
QSM IAmb IAmb 18 59 36.5
comp=Z,3.7nm,0.6s
EYMN Ely 39.52 75 P **P** 19 00 15.7 +1.5
EYMN IAmb IAmb 19 00 25.1
comp=Z,8.9nm,1.1s
SUMG Summit 43.32 23 P **P** 19 00 45.4 +0.1
SPITS Spitsbergen Ar 44.16 2 P **P** 19 00 50.9 -0.5
comp=Z,6.2nm,0.9s,baz=328,slow=6.8,SNR=1.1
comp=Z,6.2nm,0.9s
425A Indio Mountain 44.76 104 P **P** 19 00 59.8 +2.8
MJAR Matsushiro Arr 46.52 272 P **P** 19 01 09.3 -1.2
comp=Z,0.9nm,0.5s,baz=40,slow=8.4,SNR=2.3
comp=Z,0.9nm,0.5s
TX31 Lajitas Ar. Si 46.61 104 P **P** 19 01 14.0 +2.6
TX31 IAmb IAmb 19 01 14.0
comp=Z,6.0nm,1.1s
TXAR Lajitas Array 46.61 104 P **P** 19 01 13.9 +2.5
TXAR Lajitas Array 46.61 104 P **P** 19 01 11.3 -0.1
comp=Z,1.3nm,0.9s,baz=314,slow=3.6,SNR=8.2
comp=Z,1.3nm,0.9s
SCHQ Schefferville 46.73 53 P **P** 19 01 12.3 +0.4
SCHQ IAmb IAmb 19 01 31.6
comp=Z,5.8nm,1.1s
SCHQ Schefferville 46.73 53 P **P** 19 01 12.1 +0.2
comp=Z,2.9nm,0.7s,baz=304,slow=11,SNR=2.2
comp=Z,2.9nm,0.7s
MIAR Mount Ida 47.88 90 P **P** 19 01 21.2 +0.2
MIAR IAmb IAmb 19 01 23.0
comp=Z,2.3nm,0.7s
ARCES ARCESS Array B 52.88 359 P **P** 19 01 57.8 -0.2
comp=Z,2.4nm,0.7s,baz=7.7,slow=6.0,SNR=6.9
comp=Z,2.4nm,0.7s
SONM Songino Array 54.09 304 P **P** 19 02 08.0 +0.7
SONM Songino Array 54.09 304 P **P** 19 02 06.5 -0.7
comp=Z,1.3nm,0.6s,baz=46,slow=6.5,SNR=11
SONM PcP **PcP** 19 03 08.7 -0.9
comp=Z,0.7nm,0.6s,baz=112,slow=3.0,SNR=3.0
comp=Z,1.3nm,0.6s
ZALV Zalesovo Beam 57.64 322 P **P** 19 02 32.8 +0.6
ZALV Zalesovo Beam 57.64 322 P **P** 19 02 31.8 -0.4
comp=Z,2.0nm,0.7s,baz=38,slow=7.5,SNR=9.0
ZALV PcP **PcP** 19 03 22.0 -1.2
comp=Z,0.4nm,0.4s,baz=356,slow=4.6,SNR=1.8
comp=Z,2.0nm,0.7s
FINES FINESS Array B 61.00 358 P **P** 19 02 54.6 -0.4
FINES FINESS Array B 61.00 358 P **P** 19 02 54.9 -0.2
comp=Z,3.0nm,0.8s,baz=3.4,slow=8.3,SNR=20
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 61.11 6 P **P** 19 02 55.3 -0.6
comp=Z,2.5nm,0.9s,baz=352,slow=6.7,SNR=3.7
comp=Z,2.5nm,0.9s
HFS Hagfors 62.14 5 P **P** 19 03 02.4 -0.3
comp=Z,3.5nm,0.6s,baz=345,slow=5.2,SNR=8.8
comp=Z,3.5nm,0.6s
KURK Kurchatov 62.40 323 P **P** 19 03 04.6 0.0
KURK IAmb IAmb 19 03 33.4
comp=Z,3.3nm,1.3s
KURBB Kurchatov Arra 62.51 323 P **P** 19 03 05.1 -0.3
comp=Z,0.9nm,0.6s,baz=29,slow=6.1,SNR=6.0
KURBB PcP **PcP** 19 03 40.8 -2.0
comp=Z,0.6nm,0.8s,baz=32,slow=3.8,SNR=4.6
comp=Z,0.9nm,0.6s
BRVK Borovoye 62.79 330 P **P** 19 03 07.3 +0.2
BVAR Borovoye Array 62.79 330 P **P** 19 03 07.1 -0.1
comp=Z,6.9nm,0.5s,baz=29,slow=5.9,SNR=32
comp=Z,6.9nm,0.5s
MKAR Makanchi Array 64.56 319 P **P** 19 03 18.8 0.0
MKAR Makanchi Array 64.56 319 P **P** 19 03 18.6 -0.2
comp=Z,0.9nm,0.8s,baz=44,slow=7.1,SNR=3.8
comp=Z,0.9nm,0.8s
EKA Eskdalemuir Ar 65.28 16 P **P** 19 03 23.1 -0.2
comp=Z,3.0nm,0.6s,baz=334,slow=5.1,SNR=12
comp=Z,3.0nm,0.6s
PABE Paberze 66.98 359 P **P** 19 03 34.0 0.0
ABKAR Akbulak array 68.86 335 P **P** 19 03 46.1 +0.1
ABKAR Akbulak array 68.86 335 P **P** 19 03 46.1 +0.1
AKASG Malin Array Be 71.66 355 P **P** 19 04 02.5 -0.4
AKASG Malin Array Be 71.66 355 P **P** 19 04 02.4 -0.5
comp=Z,1.7nm,0.4s,baz=5.6,slow=5.8,SNR=9.9
comp=Z,1.7nm,0.4s
AKBB Malin Array Si 71.66 355 P **P** 19 04 02.4 -0.5
AKBB IAmb IAmb 19 04 12.7
comp=Z,4.7nm,1.1s
KIEV Kiev 71.66 355 P **P** 19 04 02.4 -0.5
KIEV IAmb IAmb 19 04 12.7
comp=Z,4.2nm,1.1s
KKAR Karatay Array 71.71 325 P **P** 19 04 04.0 +0.6
ARSB Arslanbob 72.54 322 P **P** 19 04 09.0 +0.5
KHC Kasperske Hory 73.12 6 P **P** 19 04 12.3 +0.7
GEC2 GERESS Array S 73.41 6 P **P** 19 04 13.2 -0.3
GEC2 IAmb IAmb 19 04 35.1
comp=Z,6.0nm,1.3s
GERES GERESS Array B 73.41 6 P **P** 19 04 13.7 +0.3
GERES GERESS Array B 73.41 6 P **P** 19 04 13.4 -0.1
comp=Z,1.3nm,0.7s,baz=348,slow=5.7,SNR=4.0
comp=Z,1.3nm,0.7s
ECH Echery 73.53 11 P **P** 19 04 14.0 -0.1
ECH IAmb IAmb 19 04 15.0
comp=Z,5.1nm,0.9s
BUR08 Bucovina Ar. S 74.83 358 P **P** 19 04 21.6 -0.1
BURAR Bucovina Array 74.86 358 P **P** 19 04 21.6 -0.2
FUORN Ofenpass-Fuorn 75.39 9 P **P** 19 04 25.8 +0.8
FUORN IAmb IAmb 19 04 25.9
comp=Z,4.7nm,1.1s
TUE Stuetta 75.46 9 P **P** 19 04 26.5 +1.1
TUE IAmb IAmb 19 04 32.2
comp=Z,3.6nm,0.9s
BNI Bardonecchia 76.61 11 P **P** 19 04 33.4 +1.5
KBZ Khabaz 77.34 345 P **P** 19 04 34.8 -0.9
comp=Z,4.4nm,1.0s,baz=14,slow=8.3,SNR=2.8
comp=Z,4.4nm,1.0s
GEYT Alibeck 79.98 332 P **P** 19 04 50.7 +0.3
comp=Z,1.8nm,0.7s,baz=227,slow=47,SNR=3.8
comp=Z,1.8nm,0.7s
ESDC Sonseca Array 80.33 20 P **P** 19 04 52.7 +0.5
comp=Z,1.0nm,0.6s,baz=342,slow=5.3,SNR=7.7
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 81.52 291 P **P** 19 04 58.1 -0.6
comp=Z,0.4nm,0.6s,baz=17,slow=5.6,SNR=5.4
comp=Z,0.4nm,0.6s
BRTR Keskin Array B 82.32 351 P **P** 19 05 03.7 +0.9
BRTR Keskin Array B 82.32 351 P **P** 19 05 02.5 -0.3
comp=Z,1.0nm,0.8s,baz=31,slow=2.9,SNR=5.1
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 95.68 241 P **P** 19 06 03.5 -2.9
comp=Z,0.3nm,0.6s,baz=35,slow=5.2,SNR=2.2
ASAR Alice Springs 99.09 240 P **Pdif** 19 06 19.9 -1.7
comp=Z,0.2nm,0.7s,baz=24,slow=3.9,SNR=1.8
comp=Z,0.2nm,0.7s
BOSA Boshof 150.70 355 PKPbc **PKPbc** 19 12 31.1 -0.8
comp=Z,3.4nm,0.9s,baz=290,slow=1.1,SNR=5.4

SCB 08 19:11:50.8±1.2, 21.46S×66.74W, h217km±9km, ML3.5/3, MW3.6, Error ellipse: s-maj=4.7km s-min=4.0km az=0.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.05**	**79**	Pg	Pn	19 12 23.9	+0.8
MOCB				Sg	S	19 12 48.1	0.0
MOCB				IAML		19 12 49.7	
	308nm,0.4s						
AOVT	**TarijaAcel**	**1.89**	**93**	Pg	Pn	19 12 29.8	0.0
LVC	**Limon Verde**	**2.32**	**240**	Pg	Pn	19 12 35.0	+0.8
PB09	**IPOC Station P**	**2.35**	**261**	Pg	Pn	19 12 35.2	+0.8
PB01	**IPOC Station P**	**2.60**	**279**	Pg	Pn	19 12 37.5	+0.6
PB01				Sg	S	19 13 12.6	-0.1
PB01				IAML		19 13 13.7	
	103nm,0.2s						
PB08	**IPOC Station P**	**2.61**	**300**	Pg	Pn	19 12 38.3	+0.9
PB06	**IPOC Station P**	**2.91**	**244**	Pg	Pn	19 12 41.5	+1.1
GO01	**Chusmiza**	**2.91**	**307**	Pg	Pn	19 12 41.4	+0.5
PB07	**IPOC Station P**	**2.94**	**264**	Pg	Pn	19 12 41.4	+0.6
PB02	**IPOC Station P**	**2.95**	**272**	Pg	Pn	19 12 41.4	+0.6
PB15	**IPOC Station P**	**3.07**	**235**	Pg	Pn	19 12 43.1	+0.8
SOEO	**Opoqueri**	**3.08**	**339**	Pg	Pn	19 12 43.2	+0.4
PB11	**IPOC Station P**	**3.21**	**301**	Pg	Pn	19 12 44.0	0.0
PB04	**IPOC Station P**	**3.29**	**254**	Pg	Pn	19 12 45.5	+0.7
PB04				Sg	S	19 13 25.7	-1.1
PB04				IAML		19 13 27.5	
	67nm,0.4s						
TA01	**Diego Aracena**	**3.34**	**285**	Pg	Pn	19 12 45.1	-0.2
SOET	**ToroToro**	**3.44**	**15**	Pg	Pn	19 12 46.8	-0.1
PB05	**IPOC Station P**	**3.50**	**246**	Pg	Pn	19 12 47.8	+0.6
AOEA	**Aiquile**	**3.56**	**24**	Pg	Pn	19 12 48.0	-0.2
PB16	**IPOC Station P**	**4.06**	**320**	Pg	Pn	19 12 55.5	+1.0
SOEJ	**Jacaque**	**4.67**	**343**	Pg	Pn	19 13 03.5	+1.4
BBOE	**La Paz, Chanca**	**4.77**	**346**	Pg	Pn	19 13 04.5	+1.1
LPAZ	**La Paz**	**5.31**	**345**	Pg	Pn	19 13 10.9	+0.7

*TAP **08** 19:13:06.6, 24.24N×121.69E, h18km, ML4.0, B*
*ASIES **08** 19:13:06.6, 24.24N×121.69E, h18km, ML4.0, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}=2.63; $M_{\theta\theta}$=0.01; $M_{\phi\phi}$=2.62; $M_{r\theta}$=1.99; $M_{\theta\phi}$=-1.79; $M_{r\phi}$=5.48; Fault plane solution: M_0=6.63794×10^{21} NP1: ϕ_s=191.09000°, δ=78.97000°, λ=-69.71000°. NP2: ϕ_s=308.45000°, δ=22.99000°, λ=-150.66000°. Principal axes: T Plg=31.0390°, Azm=264.4560°; N Plg=19.9060°, Azm=7.0420°; P Plg=51.8380°, Azm=124.4800°;*
*JMA **08** 19:13:06.3±0.1, 24.2N±0.3×121.7E±0.6, h23km, MV3.4/15, TAIWAN REGION*
*IDC **08** 19:13:16.8±7.5, 24.14N×121.69E, h120km±73km, mb3.1/5, mbtmp3.5/6, MS3.0/1, Error ellipse: s-maj=51.4km s-min=19.3km az=74.0*

ISC 08 19:13:06.4±0.7, 24.23N±0.01×121.72E±0.02, h18km±2km, n159, $_{\sigma}$0^{s}77/253, mb3.5/5, 16C-19D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.09**	**16**	*i* P	**Pg**	**19 13 10.2**	**+0.3**
	baz=38						
EHP				S	**Sg**	**19 13 12.9**	**+0.5**
	baz=38						
ETL	**Fush Village**	**0.11**	**232**	⇓*i* P	**Pg**	**19 13 10.4**	**+0.2**
	baz=217						
ETL				*i* S	**Sg**	**19 13 13.1**	**+0.5**
	baz=217						
NACB	**Ninganchiao**	**0.12**	**245**	P	**Pg**	**19 13 10.4**	**+0.2**
NACB	**Ninganchiao**	**0.12**	**245**	⇓*i* P	**Pg**	**19 13 10.4**	**+0.2**
	baz=233						
NACB				*i* S	**Sg**	**19 13 12.8**	**0.0**
	baz=233						
TWD	**Chiawan**	**0.18**	**217**	⇓*i* P	**Pg**	**19 13 11.3**	**+0.3**
	baz=213						
TWD				*i* S	**Sg**	**19 13 14.8**	**+0.6**
	baz=213						
ENA	**Nanau**	**0.20**	**7**	⇑*i* P	**Pb**	**19 13 11.6**	**+0.2**
	baz=16						
ENA				S	**Sb**	**19 13 14.7**	**+0.1**
	baz=16						
ETLH	**Xiulin Townshi**	**0.21**	**265**	⇓*i* P	**Pb**	**19 13 11.7**	**+0.1**
	baz=260						
ETLH				S	**Sb**	**19 13 15.0**	**-0.1**
	baz=260						
EWUT	**Wuta**	**0.23**	**15**	⇑*i* P	**Pb**	**19 13 12.0**	**+0.1**
	baz=21						
EWUT				*e* S	**Sb**	**19 13 15.5**	**+0.1**
	baz=21						
HWA	**Hwalien**	**0.27**	**202**	P	**Pb**	**19 13 13.3**	**+0.7**
	baz=204						
HWA				*e* S	**Sg**	**19 13 18.0**	**+1.6**
	baz=204						
ETM	**Tongmen**	**0.33**	**218**	⇓*i* P	**Pg**	**19 13 13.5**	**+0.1**
	baz=214						
ETM				*i* S	**Sg**	**19 13 18.2**	**+0.1**
	baz=214						
LXIB	**Xiulin Townshi**	**0.34**	**234**	⇓*i* P	**Pg**	**19 13 13.7**	**0.0**
	baz=230						
LXIB				S	**Sg**	**19 13 18.5**	**-0.2**
	baz=230						
LATG	**Datong**	**0.35**	**331**	⇓*i* P	**Pg**	**19 13 13.9**	**0.0**
	baz=333						
LATG				S	**Sg**	**19 13 18.8**	**-0.3**
	baz=333						
NNSB	**Datong**	**0.36**	**304**	⇓*i* P	**Pg**	**19 13 14.1**	**0.0**
	baz=304						
NNSB				S	**Sg**	**19 13 19.1**	**-0.2**
	baz=304						
NNS	**Nan Shan**	**0.38**	**305**	⇓*i* P	**Pg**	**19 13 14.3**	**0.0**
	baz=305						
NNS				*i* S	**Sg**	**19 13 19.4**	**-0.3**
	baz=305						
TWC	**Suao**	**0.40**	**18**	⇑*i* P	**Pg**	**19 13 14.8**	**+0.1**
	baz=19						
TWC				S	**Sg**	**19 13 20.2**	**-0.1**
	baz=19						
NDS	**Dongshan**	**0.41**	**0**	⇑*i* P	**Pg**	**19 13 15.1**	**+0.3**
	baz=3.0						
NDS				S	**Sg**	**19 13 20.6**	**+0.2**
	baz=3.0						
WHF	**Hehuan Shan**	**0.42**	**259**	⇓*i* P	**Pg**	**19 13 15.3**	**+0.1**
	baz=256						
WHF				*e* S	**Sg**	**19 13 20.4**	**-0.7**
	baz=256						
NDT	**Datong Townshi**	**0.42**	**334**	⇓*i* P	**Pg**	**19 13 15.1**	**+0.1**
	baz=343						
NDT				S	**Sg**	**19 13 20.8**	**0.0**
	baz=343						
ENTT	**Nioudou**	**0.43**	**342**	⇓*i* P	**Pg**	**19 13 15.3**	**+0.1**
	baz=345						
ENTT				S	**Sg**	**19 13 21.4**	**+0.1**
	baz=345						
ESL	**Shilin**	**0.48**	**212**	⇑*i* P	**Pg**	**19 13 16.2**	**0.0**
	baz=215						
ESL				*e* S	**Sb**	**19 13 23.3**	**+0.2**
	baz=215						
TWT	**Tachien**	**0.49**	**273**	⇑*i* P	**Pg**	**19 13 17.0**	**+0.6**
	baz=271						
TWT				*i* S	**Sg**	**19 13 23.4**	**+0.3**
	baz=271						
TDCB	**Techi**	**0.51**	**273**	⇑P	**Pg**	**19 13 17.0**	**+0.4**
	baz=271						
TDCB				S	**Sg**	**19 13 23.4**	**-0.2**
	baz=271						
EOS2	**EOS2**	**0.51**	**68**	*e*P	**Pb**	**19 13 18.1**	**+1.4**
	baz=57						
CHGB	**Renai**	**0.52**	**252**	⇑*i* P	**Pg**	**19 13 17.2**	**+0.3**
	baz=250						
CHGB				S	**Sg**	**19 13 24.2**	**+0.2**
	baz=250						
TEGC	**Jichi Village**	**0.54**	**197**	*e*P	**Pb**	**19 13 18.2**	**+1.0**
	baz=198						
TEGC				*e* S	**Sn**	**19 13 27.5**	**-0.2**
	baz=198						
ILA	**Ilan**	**0.54**	**3**	*e*P	**Pb**	**19 13 17.5**	**+0.2**
	baz=1.0						
ILA				*e* S	**Sb**	**19 13 25.6**	**+0.9**
	baz=1.0						
YHNB	**Yeheng**	**0.54**	**325**	P	**Pg**	**19 13 17.2**	**0.0**
YHNB	**Yeheng**	**0.54**	**325**	⇓*i* P	**Pg**	**19 13 17.2**	**0.0**
	baz=326						
YHNB				S	**Sg**	**19 13 23.8**	**-0.7**
	baz=326						
FUSB	**Fushanzhiwuyua**	**0.55**	**348**	⇓P	**Pg**	**19 13 17.4**	**0.0**
	baz=349						
FUSB				*i* S	**Sg**	**19 13 24.1**	**-0.6**
	baz=349						
EOS3	**EOS3**	**0.55**	**84**	*e*P	**Pn**	**19 13 19.4**	**+0.2**
	baz=85						
NSK	**Sanguang**	**0.55**	**324**	⇓*i* P	**Pb**	**19 13 17.4**	**-0.2**
	baz=326						
NSK				S	**Sg**	**19 13 24.4**	**-0.6**
	baz=326						
EOS4	**EOS4**	**0.56**	**101**	*e*P	**Pn**	**19 13 19.0**	**-0.1**
	baz=101						
EOS4				*e* S	**Sn**	**19 13 29.2**	**+1.4**
	baz=101						
OWD	**Renai**	**0.56**	**241**	*e*P	**Pg**	**19 13 17.8**	**+0.2**
	baz=235						
OWD				*i* S	**Sg**	**19 13 25.2**	**0.0**
	baz=235						
NWLT	**Wulai**	**0.58**	**341**	*e*P	**Pb**	**19 13 18.0**	**-0.1**
	baz=332						
NWLT				S	**Sb**	**19 13 25.6**	**-0.4**
	baz=332						
WARBT	**Fenglin Townsh**	**0.59**	**211**	*e*P	**Pb**	**19 13 17.6**	**-0.5**
	baz=214						
WARBT				*e* S	**Sb**	**19 13 26.2**	**+0.2**
	baz=214						
WUSB	**Renai**	**0.59**	**247**	⇑*i* P	**Pb**	**19 13 18.5**	**+0.2**
	baz=238						
WUSB				*e* S	**Sg**	**19 13 25.5**	**-0.7**
	baz=238						
EGFH	**Guangfu**	**0.61**	**205**	*e*P	**Pb**	**19 13 18.6**	**0.0**
	baz=215						
EGFH				*e* S	**Sg**	**19 13 28.3**	**+1.6**
	baz=215						
NTC	**Toucheng**	**0.64**	**9**	*e*P	**Pb**	**19 13 18.3**	**-0.7**
	baz=11						
EGS		**0.65**	**18**	⇑*i* P	**Pb**	**19 13 19.5**	**+0.4**
	baz=26						
EGS				*e* S	**Sb**	**19 13 28.4**	**+0.5**
	baz=26						
NFF	**Wufeng Townshi**	**0.68**	**307**	*e*P	**Pb**	**19 13 19.8**	**+0.1**
	baz=307						
NFF				*e* S	**Sb**	**19 13 28.3**	**-0.5**
	baz=307						
VWDT	**VWDT**	**0.70**	**228**	⇑*i* P	**Pb**	**19 13 20.2**	**+0.2**
	baz=220						
VWDT				*e* S	**Sg**	**19 13 29.9**	**+0.3**
	baz=220						
WHP	**Taichung City**	**0.70**	**274**	*e*P	**Pb**	**19 13 20.4**	**+0.2**
	baz=273						
WHP				S	**Sb**	**19 13 29.9**	**+0.4**
	baz=273						
TIPB	**Shuangxi**	**0.75**	**8**	*e*P	**Pb**	**19 13 21.0**	**0.0**
	baz=3.0						
TIPB				*e* S	**Sb**	**19 13 30.8**	**-0.1**
	baz=3.0						
WCS	**Beigang Elemen**	**0.75**	**257**	*e*P	**Pb**	**19 13 21.2**	**+0.2**
	baz=250						
WCS				S	**Sb**	**19 13 30.8**	**0.0**
	baz=250						
NHDH	**Xindian Distri**	**0.76**	**347**	*e*P	**Pb**	**19 13 21.4**	**+0.4**
	baz=356						
NHDH				*e* S	**Sb**	**19 13 30.8**	**-0.1**
	baz=356						
TWA	**Mucha**	**0.76**	**351**	⇓P	**Pb**	**19 13 21.4**	**+0.3**
	baz=353						
TWA				*e* S	**Sb**	**19 13 31.4**	**+0.2**
	baz=353						
LIOB	**Emei**	**0.76**	**303**	*e*P	**Pb**	**19 13 21.8**	**+0.6**
	baz=303						
LIOB				*e* S	**Sb**	**19 13 31.4**	**+0.2**
	baz=303						
NSTT	**Nanjuang**	**0.77**	**302**	P	**Pb**	**19 13 21.6**	**+0.4**
	baz=302						
NSTT				*e* S	**Sb**	**19 13 30.7**	**-0.6**
	baz=302						
TATO	**Taipei**	**0.78**	**345**	P	**Pb**	**19 13 21.7**	**+0.4**
HGSD	**Ruisui**	**0.78**	**200**	*e*P	**Pb**	**19 13 21.3**	**-0.1**
	baz=211						
EHY	**Hungye**	**0.80**	**207**	*e*P	**Pb**	**19 13 20.6**	**-1.2**
	baz=205						
SMLT	**Sun Moon Lake**	**0.82**	**246**	⇑*i* P	**Pb**	**19 13 22.3**	**+0.1**
	baz=236						
SMLT				S	**Sg**	**19 13 33.7**	**+0.4**
	baz=236						
TWB1	**Santiao Chiao**	**0.82**	**18**	*e*P	**Pb**	**19 13 22.3**	**+0.2**
	baz=20						
TWB1				*e* S	**Sb**	**19 13 33.6**	**+0.8**
	baz=20						
SSLB	**Suanglung**	**0.82**	**238**	P	**Pb**	**19 13 22.4**	**+0.3**
SSLB	**Suanglung**	**0.82**	**238**	⇑*i* P	**Pb**	**19 13 22.0**	**-0.1**
	baz=237						
SSLB				S	**Sb**	**19 13 32

TAP					*e*S	**Sb**	19 13 33.9	+0.7	
	baz=356								
NWF	**Wu-fen Shan**	0.84	4	P		**Pb**	19 13 23.1	+0.5	
	baz=358								
NWF					*e*S	**Sb**	19 13 34.2	+0.6	
	baz=358								
WFSB	**Wu-fen Shan**	0.84	4	*e*P		**Pb**	19 13 23.1	+0.5	
	baz=358								
WFSB					*e*S	**Sb**	19 13 34.3	+0.8	
	baz=358								
TYC	**Yuchr**	0.85	248	⇑*i*P		**Pb**	19 13 22.6	+0.1	
	baz=239								
TYC					*i* S	**Sb**	19 13 34.0	+0.4	
	baz=239								
TWQ1	**Liyutan**	0.87	278	⇓*i*P		**Pn**	19 13 24.1	+0.4	
	baz=277								
TWQ1					*e*S	**Sg**	19 13 35.1	+0.3	
	baz=277								
SBCB	**Hsinchu**	0.87	311	*e*P		**Pn**	19 13 24.2	+0.4	
	baz=310								
SBCB					S	**Sg**	19 13 35.6	+0.6	
	baz=310								
SXI1	**Grass Mountain**	0.88	10	*e*P		**Pb**	19 13 23.4	+0.3	
	baz=1.0								
SXI1					*e*S	**Sg**	19 13 36.4	+1.3	
	baz=1.0								
NCUH	**Zhongli**	0.88	327	*e*P		**Pb**	19 13 24.1	+0.9	
	baz=327								
NCUH					S	**Sn**	19 13 37.2	+0.9	
	baz=327								
HSN	**Hsinchu**	0.89	310	*e*P		**Pg**	19 13 24.4	+0.7	
	baz=313								
NSY	**Sanyi**	0.89	283	*e*P		**Pn**	19 13 24.9	+0.9	
	baz=281								
NMLH	**Miaoli**	0.90	290	*e*P		**Pn**	19 13 25.1	+1.0	
	baz=289								
NMLH					*e*S	**Sn**	19 13 36.9	+0.2	
	baz=289								
TWS1	**Kuangyinshan**	0.91	343	*e*P		**Pg**	19 13 24.7	+0.5	
	baz=351								
TWS1					*e*S	**Sg**	19 13 37.0	+0.8	
	baz=351								
YULB	**Yu-li**	0.91	205	P		**Pb**	19 13 23.2	-0.5	
YULB	**Yu-li**	0.91	205	*e*P		**Pb**	19 13 22.1	-1.6	
	baz=212								
YULB					*e*S	**Sb**	19 13 35.8	+0.3	
	baz=212								
TNOU	**National Taiwa**	0.92	3	*e*P		**Pb**	19 13 24.1	+0.3	
	baz=4.0								
YM01	**YM01**	0.93	352	*e*P		**Pb**	19 13 24.5	+0.6	
	baz=1.0								
ECBN	**Changbin**	0.94	195	*e*P		**Pb**	19 13 24.1	0.0	
	baz=209								
EYUL	**Yuli**	0.95	203	*e*P		**Pb**	19 13 24.8	+0.6	
	baz=211								
WHYT	**Xinyi Township**	0.95	236	*e*P		**Pg**	19 13 25.0	+0.2	
	baz=240								
WHYT					*e*S	**Sg**	19 13 37.3	0.0	
	baz=240								
TWF1	**Yuli**	0.95	204	*e*P		**Pb**	19 13 24.3	0.0	
	baz=211								
TWF1					*e*S	**Sb**	19 13 36.8	+0.3	
	baz=211								
TCU	**Taichung**	0.95	266	*e*P		**Pg**	19 13 25.8	+0.9	
	baz=264								
TCU					*i* S	**Sn**	19 13 39.6	+1.6	
	baz=264								
NTST	**Danshui**	0.97	346	P		**Pb**	19 13 25.3	+0.7	
	baz=353								
NTST					S	**Sn**	19 13 39.3	+0.9	
	baz=353								
YM08	**YM08**	0.97	353	P		**Pb**	19 13 24.7	+0.1	
	baz=342								
YM08					*e*S	**Sb**	19 13 37.6	+0.5	
	baz=342								
ANP	**Anpu**	0.97	350	P		**Pb**	19 13 25.2	+0.4	
	baz=351								
ANP					*e*S	**Sb**	19 13 37.3	0.0	
	baz=351								
WJS	**Zhushan**	0.99	246	P		**Pg**	19 13 26.3	+0.7	
	baz=242								
WJS					*e*S	**Sn**	19 13 39.5	+0.6	
	baz=242								
WDJ	**Dajia District**	0.99	277	*e*P		**Pg**	19 13 26.6	+1.0	
	baz=276								
WNT	**Mingjian**	1.00	250	⇑P		**Pg**	19 13 26.5	+0.7	
	baz=247								
WNT					S	**Sn**	19 13 41.5	+2.2	
	baz=247								
WCHH	**Zhanghua**	1.07	262	*e*P		**Pg**	19 13 27.9	+0.9	
	baz=261								
FULB	**Fuli**	1.09	201	*e*P		**Pb**	19 13 26.5	-0.2	
	baz=211								
ALS	**Alishan**	1.09	230	⇑P		**Pb**	19 13 27.2	+0.2	
	baz=216								
ALS					*e*S	**Sg**	19 13 42.6	+0.6	
	baz=216								
CHN5	**Tsauling**	1.14	237	⇓P		**Pg**	19 13 28.5	+0.1	
	baz=236								
CHN5					*i* S	**Sg**	19 13 45.4	+2.1	
	baz=236								
JYNG	**Yonagunijimaku**	1.15	78	P		**Pn**	19 13 28.1	+0.6	
CHKT	**Chengkung**	1.17	196	*e*P		**Pn**	19 13 27.1	-0.7	
	baz=210								
EHD	**Haiduan**	1.17	204	*e*P		**Pn**	19 13 27.1	-0.7	
	baz=203								
WGK	**Gukeng**	1.18	243	⇓*i*P		**Pg**	19 13 29.7	+0.4	
	baz=230								
WGK					*e*S	**Sg**	19 13 46.1	+1.3	
	baz=230								
WDLH	**Douliu**	1.20	244	*e*P		**Pg**	19 13 29.9	+0.3	
	baz=231								
WDLH					*e*S	**Sg**	19 13 47.0	+1.7	
	baz=231								
YOJ	**Yonaguni jima**	1.21	78	P		Pn	19 13 17.8	-11	
YOJ	**Yonaguni jima**	1.21	78	P		**Pn**	19 13 28.9	+0.5	
YOJ	**Yonaguni jima**	1.21	78	*e*P		**Pn**	19 13 27.3	-1.0	
	baz=69								
YOJ					*e*S	**Sg**	19 13 45.9	+0.4	
	baz=69								
ECS	**Chishang**	1.21	202	*e*P		**Pn**	19 13 28.4	-0.1	
	baz=202								
ELDTW	**Lidau**	1.21	212	*e*P		**Pn**	19 13 27.3	-1.3	
	baz=212								
ELDTW					*e*S	**Sb**	19 13 43.9	-0.3	
	baz=212								
WRL	**Guolierlin Hig**	1.26	256	*e*P		**Pb**	19 13 30.4	+0.8	
	baz=254								
WRL					*i* S	**Sg**	19 13 47.7	+0.4	
	baz=254								
WCKO	**Fanlu**	1.28	233	*e*P		**Pb**	19 13 30.8	+0.8	
	baz=219								
WCKO					*e*S	**Sg**	19 13 49.3	+1.3	
	baz=219								
EDH	**Donghe**	1.30	197	*e*P		**Pn**	19 13 27.6	-2.0	
	baz=210								
WTK	**Tuku**	1.33	246	P		**Pb**	19 13 31.6	+0.9	
	baz=255								
WTK					*i* S	**Sg**	19 13 50.4	+1.1	
	baz=255								
TPUB	**Ta-pu**	1.35	227	P		**Pb**	19 13 31.9	+0.7	
TPUB	**Ta-pu**	1.35	227	P		**Pb**	19 13 31.6	+0.4	
	baz=216								
TPUB					S	**Sb**	19 13 48.8	+0.6	
	baz=216								
STYH	**Taoyuan**	1.36	220	*e*P		**Pn**	19 13 30.9	+0.5	
	baz=211								
STYH					S	**Sg**	19 13 50.5	+0.2	
	baz=211								
WTCT	**Ta-ch'eng**	1.36	255	*e*P		**Pb**	19 13 31.9	+0.6	
	baz=266								
WTCT					*e*S	**Sg**	19 13 50.4	0.0	
	baz=266								
CHY	**Chiayi**	1.39	239	*e*P		**Pg**	19 13 32.9	-0.2	
	baz=238								
CHY					S	**Sg**	19 13 52.2	+1.0	
	baz=238								
WTP	**Ta-pu**	1.40	226	P		**Pb**	19 13 32.9	+0.8	
	baz=212								
LONT	**Longtian**	1.42	202	*e*P		**Pn**	19 13 31.8	+0.5	
	baz=202								
TWK	**Hsinying**	1.47	230	*e*P		**Pb**	19 13 34.0	+0.7	
	baz=217								
TWK					*e*S	**Sg**	19 13 54.9	+0.8	
	baz=217								
WSF	**Szhu**	1.48	247	*e*P		**Pb**	19 13 33.9	+0.4	
	baz=255								
WSF					S	**Sg**	19 13 54.5	+0.1	
	baz=255								
SNST	**Tainan City**	1.50	228	*e*P		**Pb**	19 13 34.0	+0.3	
	baz=216								
SNST					*e*S	**Sg**	19 13 54.2	-0.6	
	baz=216								
CHN1	**Nanshi**	1.50	227	*e*P		**Pb**	19 13 34.8	+1.0	
	baz=227								
CHN1					*e*S	**Sg**	19 13 55.1	+0.2	
	baz=227								
TWG	**Pinlang**	1.52	203	*e*P		**Pn**	19 13 31.9	-0.8	
	baz=187								
TWGBT	**Beinan**	1.52	203	*e*P		**Pn**	19 13 31.9	-0.7	
	baz=187								
WSL	**Shuilin Townsh**	1.53	243	*e*P		**Pb**	19 13 34.8	+0.6	
	baz=243								
WSL					*e*S	**Sg**	19 13 56.3	+0.5	
	baz=243								
SGST	**Jiashian**	1.54	223	*e*P		**Pn**	19 13 34.0	+1.0	
	baz=213								
SGST					S	**Sg**	19 13 55.9	-0.2	
	baz=213								
LDUT	**Ludao**	1.56	188	*e*P		**Pn**	19 13 32.3	-0.9	
	baz=177								
LDUT					*e*S	**Sn**	19 13 53.5	+0.6	
	baz=177								
SLGT	**Liugui**	1.57	219	*e*P		**Pb**	19 13 34.6	-0.3	
	baz=220								
SLGT					*e*S	**Sg**	19 13 56.3	-0.7	
	baz=220								
ICHU	**Yijhu**	1.57	237	P		**Pb**	19 13 35.3	+0.4	
	baz=222								
ICHU					S	**Sg**	19 13 56.8	-0.4	
	baz=222								
CHN8	**Yiju**	1.63	238	*e*P		**Pb**	19 13 36.0	+0.1	
	baz=224								
CHN8					*i* S	**Sg**	19 13 58.9	-0.1	
	baz=224								
CHN3	**Shinhua**	1.69	228	*e*P		**Pb**	19 13 38.1	+1.3	
	baz=229								
CHN3					*e*S	**Sg**	19 14 01.4	+0.6	
	baz=229								
SHHT	**Tainan City**	1.73	227	*e*P		**Pb**	19 13 38.6	+1.0	
	baz=227								
SCST	**Cishan**	1.74	220	*e*P		**Pb**	19 13 37.8	-0.1	
	baz=222								
SCST					*e*S	**Sg**	19 14 02.1	-0.4	
	baz=222								
ECL	**Taimali**	1.77	203	*e*P		**Pn**	19 13 35.7	-0.3	
	baz=191								
TSMG	**Majia**	1.80	213	P		**Pb**	19 13 38.8	-0.1	
	baz=216								
TSMG					S	**Sb**	19 14 02.9	+1.7	
	baz=216								
TWM1	**Shoushan**	1.83	221	*e*P		**Pb**	19 13 40.3	+0.9	
	baz=221								
TSCK	**Chigu Township**	1.84	235	*e*P		**Pb**	19 13 38.7	-0.8	
	baz=220								
IRIF	**Iriomote-Funau**	1.84	86	P		**Pn**	19 13 37.7	+0.6	
IRIF					*e*S	**Sn**	19 14 01.1	+1.2	
MASBT	**Mashibuluo**	1.89	212	*e*P		**Pn**	19 13 38.4	+0.7	
	baz=215								
MASBT					S	**Sb**	19 14 04.8	+1.2	
	baz=215								
HATJ	**Hateruma jima**	1.92	95	P		**Pn**	19 13 38.9	+0.8	
HATJ					S	**Sn**	19 14 02.6	+0.8	
EAST	**Anshuo**	2.00	204	*e*P		**Pn**	19 13 41.0	+1.7	
	baz=194								
TAWH	**Dawu Township**	2.02	202	*e*P		**Pn**	19 13 41.2	+1.6	
	baz=191								
PNG	**Penghu**	2.08	252	*e*P		**Pn**	19 13 40.9	+0.5	
	baz=250								
PHUB	**P'eng-hu**	2.08	251	*e*P		**Pn**	19 13 40.6	+0.2	
	baz=249								
PHUB					S	**Sn**	19 14 07.6	+1.7	
	baz=249								
JKRS	**Kuro-shima**	2.10	89	P		**Pn**	19 13 41.6	+1.0	
SCZT	**Fangliau**	2.10	209	*e*P		**Pn**	19 13 42.5	+1.8	
	baz=195								
VWUC	**VWUC**	2.20	291	*e*P		**Pn**	19 13 41.6	-0.4	
	baz=277								
LYUB	**Lan-yu**	2.22	183	*e*P		**Pn**	19 13 39.3	-3.0	
	baz=183								
JIJ	**Ishigaki jima**	2.22	86	P		**Pn**	19 13 42.7	+0.4	
JIJ					S	**Sn**	19 14 09.7	+0.4	
JISG	**Ishigakijimahi**	2.39	81	P		**Pn**	19 13 45.0	+0.3	
TWK1	**Hengchun**	2.42	200	*e*P		**Pn**	19 13 47.4	+2.4	
	baz=193								
TWKBT	**Hengchun**	2.42	200	*e*P		**Pn**	19 13 46.8	+1.7	
	baz=193								
MATB	**Ma-tsu**	2.50	320	*e*P		**Pn**	19 13 46.5	+0.3	
	baz=319								
JTJ	**Tarama**	2.75	81	P		**Pn**	19 13 51.0	+1.4	
LYJJ	**Jianjiangzhen**	2.91	323	*e*P		**Pn**	19 13 51.8	0.0	
	baz=322								
KNM	**Kinmen**	3.00	274	*e*P		**Pn**	19 13 54.2	+1.2	
	baz=271								
XPSS	**Dashiqiu**	3.02	333	*e*P		**Pn**	19 13 53.7	+0.3	
	baz=331								
KNMB	**Chin-men Tao**	3.04	275	*e*P		**Pn**	19 13 53.5	-0.1	
	baz=272								
AXDP	**Jialang**	3.48	282	*e*P		**Pn**	19 13 59.2	-0.3	
	baz=279								
ZPLA	**Ao Xicun**	3.63	266	*e*P		**Pn**	19 14 01.8	0.0	
	baz=263								
DSXP	**Dongshan**	3.96	263	*e*P		**Pn**	19 14 06.3	+0.1	
	baz=259								
SXFK	**Yanhouchang**	4.27	301	*e*P		**Pn**	19 14 10.4	-0.1	
	baz=299								
KSRS	**Korea Array**	14.22	21	P		**P**	19 16 32.8	-1.3	
	0.9nm,0.8s,baz=263,slow=28,SNR=2.0								
CMAR	**Chiang Mai Arr**	21.96	259	LR		LR	19 27 05.3		
	comp=Z,36nm,18.9s,baz=75,slow=38								
SONM	**Songino Array**	26.52	337	P		**P**	19 18 45.6	+2.6	
	0.1nm,0.3s,baz=144,slow=10,SNR=1.7								
	0.1nm,0.3s								
MKAR	**Makanchi Array**	38.65	316	P		**P**	19 20 27.6	-1.2	
	0.5nm,0.8s,baz=108,slow=10,SNR=1.9								
	0.5nm,0.8s								
WRA	**Warramunga Arr**	45.59	163	P		**P**	19 21 24.1	-1.5	
	0.5nm,0.5s,baz=343,slow=8.9,SNR=7.2								
	0.5nm,0.5s								
ASAR	**Alice Springs**	49.05	165	P		**P**	19 21 51.6	-1.0	
	0.4nm,0.8s,baz=348,slow=7.2,SNR=6.5								
	0.4nm,0.8s								
YKA	**Yellowknife Ar**	82.74	23	P		**P**	19 25 27.2	-1.7	
	0.6nm,0.9s,baz=311,slow=4.7,SNR=7.0								
	0.6nm,0.9s								

IDC ***08*** *19:19:24.8±0.9, 29˚.26N×142˚.48E, h0km, mb4.0/16, mbtmp4.0/20, ML3.4/4, MS3.2/7, Error ellipse: s-maj=26.9km s-min=17.6km az=77.0*

JMA ***08*** *19:19:25.9±0.3, 29˚.3N±0˚.5×14˚3E±˚, h55km, MV4.1/26, NEAR TORISHIMA IS*

NEIC ***08*** *19:19:28.9±1.9, 29˚.27N±0˚.05×142˚.5E±0˚.1, h25km±6km, mb4.5/28, Error ellipse: s-maj=16.0km s-min=7.0km az=86.0*

ISC 08 19:19:29.4±0.5, 29˚26N±0˚.05×142˚45E±0˚.09, h35km, n73, σ1§65/80, mb4.4/30, MS3.2/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
CBIJ	**Chichi jima**	**2.17**	**186**	*e*P		**Pn**	**19 20 01.7**	**-1.3**
CBIJ					*e*S	**Sn**	**19 20 28.0**	**-0.7**
JCJ	**Chichijima**	**2.17**	**186**	Pn		**Pn**	**19 20 03.3**	**+0.3**
JCJ					Sn	**Sn**	**19 20 26.8**	**-1.9**
JCJ	**Chichijima**	**2.17**	**186**	Pn		**Pn**	**19 20 04.0**	**+0.9**
	21nm,0.3s,baz=287,slow=23,SNR=2.0							
JCJ					Sn	**Sn**	**19 20 22.6**	**-6.1**
	49nm,0.3s,baz=347,slow=18,SNR=7.5							
	52nm,0.3s							
JHJ2	**Mitsune**	**4.45**	**330**	Pn		**Pn**	**19 20 33.7**	**-0.7**
JHJ	**Hachijo jima 2**	**4.47**	**330**	Pn		**Pn**	**19 20 35.2**	**+0.6**
	6.5nm,0.3s,baz=285,slow=18,SNR=1.2							
JHJ					Sn	**Sn**	**19 21 22.3**	**-3.2**
	4.8nm,0.3s,baz=63,slow=16,SNR=1.8							
	183nm,1.0s							
BSO1	**Boso 1**	**5.52**	**347**	*e*P		**Pn**	**19 20 48.7**	**+0.2**
BSO1					*e*S	**Sn**	**19 21 48.9**	**-1.6**
BSO3	**Boso 3**	**5.76**	**344**	*e*P		**Pn**	**19 20 52.8**	**+0.6**
BSO3					*e*S	**Sn**	**19 21 56.0**	**-0.9**
BSO4	**Boso 4**	**5.99**	**343**	*e*P		**Pn**	**19 20 57.2**	**+1.9**
JOD2	**Odawara 2**	**6.63**	**335**	P		**Pn**	**19 21 05.7**	**+1.5**
JHU	**Hanno**	**7.09**	**339**	*e*P		**Pn**	**19 21 10.3**	**-0.3**
JHU					*e*S	**Sn**	**19 22 27.1**	**-3.0**
JRY	**Ryogami san**	**7.37**	**337**	*e*P		**Pn**	**19 21 15.6**	**+1.1**
JRY					*e*S	**Sn**	**19 22 35.5**	**-1.4**
JHO	**Hitachi**	**7.50**	**348**	*e*P		**Pn**	**19 21 15.6**	**-0.6**
JAG	**Ashikaga**	**7.58**	**341**	P		**Pn**	**19 21 16.6**	**-0.7**
JAG					*e*S	**Sn**	**19 22 40.0**	**-1.9**
MJAR	**Matsushiro Arr**	**8.09**	**335**	Pn		**Pn**	**19 21 24.5**	**+0.2**
	0.2nm,0.3s,baz=160,slow=11,SNR=15							
	3.7nm,0.7s							
MAJO	**Matsushiro**	**8.09**	**335**	Pn		**Pn**	**19 21 23.7**	**-0.7**
MAJO						**Sn**	**19 22 52.1**	**-2.4**
JMM	**Marumori**	**8.69**	**351**	Pn		**Pn**	**19 21 31.9**	**-0.6**
JMM						**Sn**	**19 23 02.8**	**-6.6**
JNU	**Nakatsue**	**10.63**	**294**	LR		LR	19 26 03.7	
	comp=Z,98nm,19.8s,baz=145,slow=37							
ERM	**Erimo**	**12.74**	**2**	Pn		**Pn**	**19 22 23.9**	**-4.0**
JOW	**Kunigami**	**12.75**	**262**	LR		LR	19 26 50.5	
	comp=Z,100nm,20.6s,baz=150,slow=35							
KSRS	**Korea Array**	**14.62**	**308**	Pn		**P**	**19 22 57.9**	**-1.6**
	0.4nm,0.3s,baz=113,slow=12,SNR=5.7							
KSRS					LR	LR	19 28 38.4	
	comp=Z,89nm,19.2s,baz=120,slow=38							
ASAJ	**Asahikawa**	**14.83**	**0**	LR		LR	19 30 14.9	
	comp=Z,77nm,20.8s,baz=180,slow=44							
JKA	**Kamikawa-asahi**	**14.83**	**0**	Pn		**Pn**	**19 22 54.3**	**-2.0**
USRK	**Ussuriysk Ar.**	**17.08**	**334**	P		**Pn**	**19 23 24.8**	**-0.5**
	0.1nm,0.3s,baz=134,slow=48,SNR=2.4							
	1.7nm,0.7s							
MDJ	**Mudanjiang**	**18.42**	**330**	P		**Pn**	**19 23 42.1**	**+0.3**
SSLB	**Suanglung**	**19.98**	**259**			Pn	19 24 00.9	+0.1
KLR	**Kul'dur**	**21.55**	**341**	P		**P**	**19 24 15.2**	**-0.3**
	1.4nm,0.6s,baz=135,slow=19,SNR=2.5							
	1.4nm,0.6s							
SONM	**Songino Array**	**33.35**	**314**	P		**P**	**19 26 05.0**	**+0.8**
SONM	**Songino Array**	**33.35**	**314**	P		**P**	**19 26 05.1**	**+0.8**
	3.4nm,0.8s,baz=114,slow=7.9,SNR=19							
SONM					LR	LR	19 40 37.3	
	comp=Z,41nm,18.4s,baz=65,slow=38							
	3.4nm,0.8s							
AMKA	**Amchitka**	**35.20**	**41**	P		**P**	**19 26 21.0**	**+1.1**
CRAI	**Chiangrai**	**39.09**	**266**	P		**P**	**19 26 53.6**	**+0.2**
CRAI					IAmb	IAmb	19 26 55.2	
	comp=Z,5.9nm,0.8s							
CHTO	**Chiang Mai**	**40.87**	**265**	P		**P**	**19 27 08.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**41.01**	**265**	P		**P**	**19 27 09.4**	**0.0**
CMAR	**Chiang Mai Arr**	**41.01**	**265**	P		**P**	**19 27 09.7**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=48,slow=7.6,SNR=7.2							
CMAR					LR	LR	19 44 17.3	
	comp=Z,25nm,21.5s,baz=90,slow=36							
	comp=Z,0.9nm,0.8s							
ZAA0	**Zalesovo Array**	**48.03**	**318**	P		**P**	**19 28 04.8**	**-0.1**
ZAA0					IAmb	IAmb	19 28 07.6	
	comp=Z,3.1nm,0.8s							
ZALV	**Zalesovo Beam**	**48.03**	**318**	P		**P**	**19 28 05.2**	**+0.3**
ZALV	**Zalesovo Beam**	**48.03**	**318**	P		**P**	**19 28 05.9**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=304,slow=8.6,SNR=4.1							
	comp=Z,1.8nm,0.6s							
N15K	**Kwethluk River**	**48.99**	**34**	P		**P**	**19 28 13.5**	**+1.2**
MK31	**Makanchi Array**	**49.30**	**308**	P		**P**	**19 28 15.4**	**+0.5**
MK31					IAmb	IAmb	19 28 56.6	
	comp=Z,8.4nm,1.2s							
MKAR	**Makanchi Array**	**49.30**	**308**	P		**P**	**19 28 15.4**	**+0.5**
MKAR	**Makanchi Array**	**49.30**	**308**	P		**P**	**19 28 15.8**	**+1.0**
	comp=Z,1.8nm,0.7s,baz=92,slow=9.2,SNR=10.0							
	comp=Z,1.8nm,0.7s							
WB0	**Warramunga Arr**	**49.36**	**190**	P		**P**	**19 28 15.2**	**-0.2**
WRA	**Warramunga Arr**	**49.54**	**190**	P		**P**	**19 28 16.2**	**-0.6**
WRA	**Warramunga Arr**	**49.54**	**190**	P		**P**	**19 28 17.1**	**+0.2**
	comp=Z,3.7nm,1.0s,baz=9.6,slow=8.2,SNR=13							
	comp=Z,3.7nm,1.0s							
RDOG	**Red Dog Mine**	**50.16**	**24**	P		**P**	**19 28 19.9**	**-1.2**
F17K	**Baldwin Pennin**	**50.20**	**26**	P		**P**	**19 28 20.3**	**-1.0**
F17K					IAmb	IAmb	19 28 32.9	
	comp=Z,11nm,1.3s							
M17K	**Holitna River**	**50.52**	**33**	P		**P**	**19 28 24.3**	**+0.5**
KURK	**Kurchatov**	**51.66**	**313**	P		**P**	**19 28 33.5**	**+0.9**
KURK					IAmb	IAmb	19 28 34.9	
	comp=Z,9.9nm,1.1s							
C19K	**Lookout Ridge**	**51.67**	**23**	P		**P**	**19 28 33.3**	**+0.9**
C19K					IAmb	IAmb	19 29 13.7	
	comp=Z,12nm,1.4s							
KURBB	**Kurchatov Arra**	**51.72**	**313**	P		**P**	**19 28 34.0**	**+1.1**
	comp=Z,5.0nm,0.8s,baz=92,slow=6.8,SNR=44							
	comp=Z,5.0nm,0.8s							
E19K	**Redstone River**	**52.01**	**25**	P		**P**	**19 28 35.9**	**+0.9**
E19K					IAmb	IAmb	19 28 41.4	
	comp=Z,6.8nm,1.3s							
B20K	**Meade River**	**52.76**	**22**	P		**P**	**19 28 41.1**	**+0.7**
AS31	**Alice Springs**	**53.26**	**190**	P		**P**	**19 28 41.7**	**-3.0**
AS31					IAmb	IAmb	19 28 46.0	
	comp=Z,1.4nm,0.4s							
ASAR	**Alice Springs**	**53.26**	**190**	P		**P**	**19 28 41.4**	**-3.2**
CAST	**Castle Rocks**	**53.30**	**31**	P		**P**	**19 28 44.6**	**0.0**
D22K	**Ayikyak River**	**54.00**	**24**	P		**P**	**19 28 50.8**	**+1.2**
D22K					IAmb	IAmb	19 29 06.8	
	comp=Z,9.5nm,1.4s							
AAK	**Ala-Archa**	**55.24**	**304**	P		**P**	**19 28 58.5**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=360,slow=11,SNR=3.0							
AAK					LR	LR	19 52 25.3	
	comp=Z,47nm,20.1s,baz=20,slow=36							
	comp=Z,0.9nm,0.6s							
D24K	**Happy Valley**	**55.42**	**24**	P		**P**	**19 29 00.6**	**+0.8**
D24K					IAmb	I

JHHC				⇓S		Sn	19 21 34.0	0.0	
JKIT	**Kitakata**	**0.52**	**338**	*i* P		Pn	19 21 30.7	+0.3	
JKIT				S		Sn	19 21 39.1	+0.7	
JNKG	**Nichinankitago**	**0.54**	**209**	P		Pn	19 21 31.3	+0.6	
JNKG				S		Sn	19 21 40.2	+1.3	
JTZ	**Takazaki**	**0.56**	**245**	⇓*i* P		Pn	19 21 30.8	-0.1	
JTZ				⇓S		Sn	19 21 39.5	+0.3	
JNAR	**Kushima--Naru**	**0.70**	**210**	⇓*i* P		Pn	19 21 33.3	+0.5	
JNAR				⇓S		Sn	19 21 43.7	+1.1	
JIU3	**Izumi3**	**0.84**	**299**	P		Pn	19 21 35.0	+0.3	
JIU3				S		Sn	19 21 46.4	+0.5	
JZO	**Okuchi**	**0.92**	**270**	⇓P		Pn	19 21 36.0	+0.3	
JZO				⇓S		Sn	19 21 48.2	+0.4	
JUS	**Usuki**	**0.92**	**4**	P		Pn	19 21 36.5	+0.7	
JUS				S		Sn	19 21 49.6	+1.6	
JTO	**Tosashimizu**	**1.19**	**53**	⇓*i* P		Pn	19 21 38.7	-0.7	
JNU	**Nakatsue**	**1.19**	**326**	Pg		Pn	19 21 40.0	+0.6	
	43nm,0.3s,baz=189,slow=16,SNR=199								
JNU				Lg		Lg	19 21 57.2		
	31nm,0.3s,baz=42,slow=6.2,SNR=22								
UWA2	**Uwa jima 2**	**1.33**	**36**	⇓*i* P		Pn	19 21 40.8	-0.6	
KSRS	**Korea Array**	**6.14**	**331**	Pn		Pn	19 22 48.2	+1.0	
	0.4nm,0.3s,baz=146,slow=15,SNR=4.8								
	0.7nm,0.3s								
MJAR	**Matsushiro Arr**	**6.96**	**49**	Pn		Pn	19 23 00.3	+1.8	
	0.3nm,0.3s,baz=236,slow=14,SNR=7.1								
	1.6nm,0.3s								
KLR	**Kul'dur**	**17.07**	**0**	P		P	19 25 17.8	+2.1	
	0.2nm,0.3s,baz=193,slow=7.0,SNR=3.6								
	1.7nm,0.7s								
SONM	**Songino Array**	**24.76**	**317**	P		P	19 26 36.8	+0.2	
	1.8nm,0.9s,baz=128,slow=9.0,SNR=4.8								
	1.8nm,0.9s								
MKAR	**Makanchi Array**	**40.17**	**306**	P		P	19 28 49.6	-1.3	
	0.4nm,0.6s,baz=99,slow=8.4,SNR=1.3								
	0.4nm,0.6s								
FINES	**FINESS Array B**	**69.23**	**330**	P		P	19 32 18.8	-2.2	
	0.9nm,0.4s,baz=72,slow=4.5,SNR=6.3								
	0.9nm,0.4s								

*IDC **08** 19:24:30.0±5.7, 5°.63S×133°.32E, h0km, mb3.5/1, mbtmp3.7/3, ML3.9/2, Error ellipse: s-maj=333.5km s-min=33.5km az=77.0*

ISC 08 19:24:37.8±2.1, 6°.2S±0°.2×132°.2E±0°.5, h35km, n10, σ2§94/6, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.99**	**206**	P	Pn	19 25 10.9	+1.8
BNDI	**Bandanaira**	**2.80**	**306**	P	Pn	19 25 17.7	-2.5
KDU	**Kakadu**	**6.47**	**177**	P	Pn	19 26 16.4	+5.7
MTN	**Manton Dam**	**6.70**	**189**	P	**Pn**	**19 26 15.9**	**+2.1**
KNRA	**Kununurra**	**10.02**	**199**	P	Pn	19 26 55.9	-3.4
WRA	**Warramunga Arr**	**13.84**	**171**	Pn	**Pn**	**19 27 53.9**	**+2.2**
	0.5nm,0.3s,baz=355,slow=13,SNR=16						
WRA				Sn	**Sn**	**19 30 20.5**	**-3.7**
	0.5nm,0.3s,baz=342,slow=22,SNR=5.6						
	0.9nm,0.5s						
QIS	**Mount Isa**	**16.00**	**154**	P	P	19 28 31.6	+8.0
ASAR	**Alice Springs**	**17.46**	**175**	P	**P**	**19 28 40.8**	**+1.0**
	0.5nm,0.3s,baz=360,slow=10,SNR=68						
ASAR				S	Sn	19 31 45.3	-7.0
	0.5nm,0.6s,baz=355,slow=27,SNR=4.0						
	1.4nm,0.5s						
WRKA	**Warakurna**	**19.12**	**191**	P	**P**	**19 28 57.2**	**-0.7**
MKAR	**Makanchi Array**	**68.75**	**326**	P	**P**	**19 35 37.1**	**-1.1**
	0.5nm,1.0s,baz=132,slow=8.6,SNR=1.2						
	0.5nm,1.0s						

*IDC **08** 19:32:47.2±0.8, 11°.59N×139°.02E, h0km, mb4.0/13, mbtmp4.0/13, MS3.5/18, Error ellipse: s-maj=36.6km s-min=14.4km az=76.0*

*NEIC **08** 19:32:47.7±1.7, 11°.6N±0°.1×139°.4E±0°.2, h10km±1km, mb4.9/27, Error ellipse: s-maj=33.8km s-min=19.0km az=90.0*

ISC 08 19:32:47.9±0.6, 11°.56N±0°.08×139°.2E±0°.2, h10km, n62, σ1§23/44, mb4.6/25, MS3.6/17, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**14.13**	**253**	LR	LR	19 42 28.9	
	comp=Z,30nm,18.7s,baz=120,slow=42						
TPUB	**Ta-pu**	**21.16**	**306**	P	**P**	**19 37 34.2**	**+0.8**
YHNB	**Yeheng**	**21.31**	**310**	P	**P**	**19 37 35.2**	**0.0**
PMG	**Port Moresby**	**22.30**	**159**	P	**P**	**19 37 48.1**	**+2.4**
	3.1nm,0.6s,baz=332,slow=12,SNR=2.0						
	3.1nm,0.6s						
JMN	**Monobe**	**22.59**	**348**	P	**P**	**19 37 49.2**	**+0.5**
JNU	**Nakatsue**	**22.77**	**342**	P	**P**	**19 37 50.8**	**+0.2**
JNU				IAmb	IAmb	19 38 06.9	
	comp=Z,120nm,1.7s						
MTN	**Manton Dam**	**25.52**	**198**	P	**P**	**19 38 15.8**	**-1.1**
MTN				IAmb	IAmb	19 38 18.1	
	comp=Z,16nm,0.9s						
BATI	**Baumata**	**26.55**	**216**	LR	LR	19 49 32.7	
	comp=Z,56nm,18.2s,baz=68,slow=38						
H11S3	**WAKE ISLAND Hy**	**27.44**	**72**	T	T	20 07 57.3	
	baz=255,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hy**	**27.45**	**72**	T	T	20 07 58.4	
	baz=255,slow=74,SNR=15						
H11S2	**WAKE ISLAND Hy**	**27.45**	**72**	T	T	20 07 58.3	
	baz=255,slow=74,SNR=15						
KSRS	**Korea Array**	**27.69**	**340**	P	**P**	**19 38 36.6**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=165,slow=9.5,SNR=4.4						
	comp=Z,1.6nm,0.7s						
KNRA	**Kununurra**	**28.96**	**201**	P	**P**	**19 38 46.4**	**-1.3**
KNRA				IAmb	IAmb	19 39 11.5	
	comp=Z,28nm,1.6s						
HNR	**Honiara**	**29.36**	**134**	LR	LR	19 50 07.3	
	comp=Z,778nm,19.2s,baz=290,slow=35						
WB0	**Warramunga Arr**	**31.48**	**189**	P	**P**	**19 39 09.9**	**-0.1**
WB0				IAmb	IAmb	19 40 18.0	
	comp=Z,13nm,1.6s						
WR0	**Warramunga Arr**	**31.65**	**188**	P	**P**	**19 39 11.2**	**-0.4**
WB2	**Warramunga Arr**	**31.66**	**189**	P	**P**	**19 39 11.7**	**0.0**
WRA	**Warramunga Arr**	**31.66**	**189**	P	**P**	**19 39 11.3**	**-0.3**
WRA	**Warramunga Arr**	**31.66**	**189**	P	**P**	**19 39 11.9**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=10.0,slow=9.6,SNR=20						
	comp=Z,1.5nm,0.8s						
AS31	**Alice Springs**	**35.39**	**188**	P	**P**	**19 39 44.3**	**+0.2**
ASAR	**Alice Springs**	**35.39**	**188**	P	**P**	**19 39 43.3**	**-0.8**
ASAR	**Alice Springs**	**35.39**	**188**	P	**P**	**19 39 44.7**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=18,slow=12,SNR=102						
	comp=Z,3.5nm,0.8s						
LEM	**Lembang**	**36.31**	**241**	LR	LR	19 55 28.4	
	comp=Z,23nm,20.4s,baz=140,slow=38						
CMAR	**Chiang Mai Arr**	**39.38**	**285**	P	**P**	**19 40 17.9**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=89,slow=6.3,SNR=4.8						
CMAR				LR	LR	19 55 21.7	
	comp=Z,16nm,20.8s,baz=60,slow=34						
	comp=Z,0.9nm,0.3s						
STKA	**Stephens Creek**	**43.25**	**177**	P	**P**	**19 40 48.0**	**-1.7**
STKA	**Stephens Creek**	**43.25**	**177**	P	**P**	**19 40 50.7**	**+1.0**
	comp=Z,3.7nm,0.7s,baz=336,slow=9.8,SNR=12						
	comp=Z,3.7nm,0.7s						
FORT	**Forrest**	**43.43**	**194**	P	**P**	**19 40 51.1**	**0.0**
SONM	**Songino Array**	**45.38**	**329**	P	**P**	**19 41 07.4**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=152,slow=10,SNR=6.5						
	comp=Z,1.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**48.94**	**205**	P	**P**	**19 41 34.2**	**-0.3**
NWAO	**Narrogin (SRO)**	**48.94**	**205**	P	**P**	**19 41 34.3**	**-0.3**
NWAO				IAmb	IAmb	19 42 21.3	
	comp=Z,378nm,1.9s						
SHEM	**Shemya Is, Ala**	**49.71**	**27**	LR	LR	19 59 14.2	
	comp=Z,27nm,21.6s,baz=292,slow=32						
MKAR	**Makanchi Array**	**59.16**	**318**	P	**P**	**19 42 49.8**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=101,slow=9.0,SNR=6.3						
	comp=Z,1.4nm,0.9s						
ZALV	**Zalesovo Beam**	**60.11**	**326**	P	**P**	**19 42 55.3**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=93,slow=7.4,SNR=5.0						
	comp=Z,0.9nm,0.5s						
KURK	**Kurchatov**	**62.61**	**321**		**P**	**19 43 12.3**	**0.0**
KURK				IAmb	IAmb	19 43 13.2	
	comp=Z,3.0nm,0.8s						
KURBB	**Kurchatov Arra**	**62.64**	**321**	P	**P**	**19 43 12.1**	**-0.5**
	comp=Z,3.9nm,0.2s,baz=107,slow=6.7,SNR=5.5						
	comp=Z,3.9nm,0.2s						
M17K	**Holitna River**	**67.31**	**28**	P	**P**	**19 43 39.3**	**-3.5**
BVAR	**Borovoye Array**	**68.10**	**323**	P	**P**	**19 43 47.6**	**-0.3**
BVAR				LR	LR	20 15 36.2	
	comp=Z,27nm,18.1s,baz=3.2,slow=38						
	comp=Z,1.3nm,0.7s,baz=96,slow=11,SNR=5.5						
	comp=Z,1.3nm,0.7s						
KDAK	**Kodiak Island**	**68.74**	**32**	LR	LR	20 10 07.9	
	comp=Z,34nm,19.8s,baz=282,slow=33						
G19K	**Purcell Mounta**	**69.01**	**23**	P	**P**	**19 43 52.8**	**-0.6**
G19K				IAmb	IAmb	19 45 42.4	
	comp=Z,24nm,1.9s						
C19K	**Lookout Ridge**	**69.21**	**20**	P	**P**	**19 43 52.2**	**-2.5**
C19K				IAmb	IAmb	19 44 52.2	
	comp=Z,24nm,1.5s						
D19K	**Kuna River**	**69.47**	**20**	P	**P**	**19 43 55.9**	**-0.4**
J20K	**Nowinta River**	**69.58**	**25**	P	**P**	**19 43 56.0**	**-1.0**
J20K				IAmb	IAmb	19 46 06.9	
	comp=Z,35nm,2.0s						
B20K	**Meade River**	**70.34**	**19**	P	**P**	**19 44 01.3**	**-0.2**
I21K	**Tanana**	**70.75**	**25**	P	**P**	**19 44 01.3**	**-2.8**
I21K				IAmb	IAmb	19 44 18.7	
	comp=Z,28nm,1.8s						
D22K	**Ayikyak River**	**71.47**	**21**	P	**P**	**19 44 07.5**	**-0.9**
D22K				IAmb	IAmb	19 44 17.1	
	comp=Z,14nm,1.4s						
C23K	**Itkillik River**	**72.44**	**20**	P	**P**	**19 44 12.0**	**-2.2**
C23K				IAmb	IAmb	19 45 42.7	
	comp=Z,24nm,1.9s						
ILAR	**Eielson Array**	**72.78**	**26**	P	**P**	**19 44 16.9**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=255,slow=7.0,SNR=1.6						
ILAR				LR	LR	20 13 02.1	
	comp=Z,25nm,21.0s,baz=330,slow=33						
	comp=Z,0.4nm,0.8s						
BMAR	**Burnt Mountain**	**74.12**	**23**	P	**P**	**19 44 23.0**	**-1.3**
ABKAR	**Akbulak array**	**74.30**	**318**	P	**P**	**19 44 25.4**	**-0.2**
TABL	**Table Mountain**	**74.94**	**30**	P	**P**	**19 44 26.6**	**-2.8**
ARU	**Arti**	**75.26**	**325**	LR	LR	20 17 45.7	
	comp=Z,55nm,21.8s,baz=42,slow=36						
E28M	**Babbage River**	**76.14**	**22**	P	**P**	**19 44 35.3**	**-0.5**
E28M				IAmb	IAmb	19 44 41.3	
	comp=Z,13nm,1.9s						
INK	**Inuvik**	**78.35**	**22**	LR	LR	20 17 34.5	
	comp=Z,29nm,19.6s,baz=178,slow=34						
EUNU	**Eureka**	**85.59**	**7**	P	**P**	**19 45 26.8**	**+0.6**
YKA	**Yellowknife Ar**	**87.18**	**27**	P	**P**	**19 45 35.7**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=290,slow=5.4,SNR=2.3						
	comp=Z,0.2nm,0.6s						
ARCES	**ARCESS Array B**	**87.24**	**341**	LR	LR	20 28 49.3	
	comp=Z,64nm,18.5s,baz=123,slow=39						
VNDA	**Vanda**	**89.87**	**175**	LR	LR	20 24 57.0	
	comp=Z,28nm,18.1s,baz=207,slow=35						
FINES	**FINESS Array B**	**90.57**	**334**	LR	LR	20 29 40.3	
	comp=Z,59nm,18.3s,baz=235,slow=38						
NVAR	**Mina Array Bea**	**92.51**	**50**	LR	LR	20 24 02.8	
	comp=Z,18nm,19.0s,baz=62,slow=33						
ELK	**Elko**	**94.06**	**47**	LR	LR	20 22 16.4	
	comp=Z,33nm,19.4s,baz=26,slow=32						
HFS	**Hagfors**	**96.44**	**336**	LR	LR	20 34 11.5	
	comp=Z,83nm,18.2s,baz=276,slow=38						
NOA	**NORSAR Array B**	**96.85**	**337**	LR	LR	20 33 30.4	
	comp=Z,27nm,18.4s,baz=280,slow=38						

*TRN **08** 19:40:14.6, 10°.52N×60°.97W, h51km, MD3.8*

*IDC **08** 19:40:14.8±15.0, 11°.82N×60°.95W, h0km, mb3.4/4, mbtmp3.4/4, MS3.5/2, Error ellipse: s-maj=360.3km s-min=90.7km az=163.0*

ISC 08 19:40:16.1±2.0, 10°.6N±0°.1×61°.1W±0°.2, h57km±9km, n22, σ1§03/30, mb3.5/4, 1C, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.33**	**283**	⇑*i* P	**Pn**	**19 40 26.5**	**+0.2**
TRN				*e*S	**Sn**	19 40 33.1	-0.5
GRGR	**Grenville**	**1.65**	**340**	*e*P	**Pn**	19 40 42.4	-0.5
GRGR				*e*S	**Sn**	19 41 03.5	+0.4
GRHS	**Sauteurs**	**1.73**	**341**	*e*P	**Pn**	19 40 44.3	+0.4
GRHS				*e*S	**Sn**	19 41 05.0	0.0
GRSS	**Sisters**	**1.80**	**343**	*e*P	**Pn**	19 40 45.2	+0.4
GRSS				*e*S	**Sn**	19 41 06.4	-0.1
GCMP	**Grenada, Carri**	**1.94**	**350**	*e*P	**Pn**	19 40 45.8	-0.9
GCMP				*e*S	**Sn**	19 41 09.5	-0.4
SVOC	**Richmond Hill,**	**2.57**	**357**	*e*P	**Pn**	19 40 55.2	-0.2
SVOC				*e*S	**Sn**	19 41 25.2	-0.3
SVB	**Belmont**	**2.69**	**356**	*e*P	**Pn**	**19 40 56.5**	**-0.6**
SVB				*e*S	**Sn**	19 41 27.7	-0.7
SLBI	**Saint Lucia, B**	**3.43**	**2**	*e*P	**Pn**	19 41 06.5	-0.7
SLBI				*e*S	**Sn**	19 41 45.2	-1.5
MPOM	**Morne Pois Mar**	**3.86**	**3**	*e*P	**Pn**	19 41 12.2	-0.8
MPOM				*e*S	**Sn**	19 41 54.6	-2.5
BIM	**Bigot**	**3.92**	**0**	*e*P	**Pn**	19 41 13.4	-0.5
BIM				*e*S	**Sn**	19 41 57.8	-0.9
FDF	**Fort de France**	**4.14**	**359**	*e*P	**Pn**	19 41 17.0	+0.1
FDF	**Fort de France**	**4.14**	**359**	*e*S	**Sn**	19 42 02.9	-1.1
MAGL	**Barre de l'ile**	**5.35**	**358**	*e*P	**Pn**	19 41 33.7	+0.3
ANBD	**Bethesda, Anti**	**6.47**	**354**	*e*P	**Pn**	19 41 50.0	+1.1
BAUV	**El Baul**	**7.05**	**257**	*e*P	**Pn**	19 41 56.9	+0.1
BAUV	**El Baul**	**7.05**	**257**	*e*S	**Sn**	19 43 12.9	-2.8
LVC	**Limon Verde**	**33.86**	**193**	LR	LR	20 03 18.4	
	comp=Z,67nm,21.9s,baz=234,slow=39						
TXAR	**Lajitas Array**	**43.87**	**301**	P	**P**	**19 48 19.0**	**+1.8**
	0.4nm,0.8s,baz=108,slow=11,SNR=4.4						
	0.4nm,0.8s						
PDAR	**Pinedale Array**	**52.90**	**316**	P	**P**	**19 49 26.4**	**-0.3**
	0.3nm,0.5s,baz=106,slow=9.4,SNR=3.9						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**64.36**	**336**	P	**P**	**19 50 45.3**	**-0.4**
	0.2nm,0.4s,baz=108,slow=7.1,SNR=7.5						
	0.2nm,0.4s						
DLBC	**Dease Lake**	**70.08**	**329**	LR	LR	20 22 18.8	
	comp=Z,38nm,19.4s,baz=212,slow=36						
ILAR	**Eielson Array**	**78.73**	**334**	P	**P**	**19 52 12.8**	**+0.6**
	0.3nm,0.6s,baz=87,slow=4.8,SNR=4.1						
	0.3nm,0.6s						

*NIED **08** 20:01:16.9, 37°.10N×142°.01E, h45km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=0.85; Mθθ=0.15; Mφφ=0.70; Mrθ=0.27; Mθφ=-0.38; Mφr=1.60; Fault plane solution: M0=1.84000×10^14 NP1: φs=184.00000°, δ=77.00000°, λ=-76.00000°. NP2: φs=315.00000°, δ=19.00000°, λ=-137.00000°.*

*JMA **08** 20:01:16.9±0.3, 37°.1N±0°.7×14°.2E±°, h45km, MV3.6/35, E OFF FUKUSHIMA PREF*

*IDC **08** 20:01:17.3±4.0, 36°.46N×142°.03E, h0km, mb3.3/2, mbtmp3.3/3, ML2.8/1, MS2.6/1, Error ellipse: s-maj=77.9km s-min=33.0km az=30.0*

ISC 08 20:01:14.0±2.0, 37°.10N±0°.05×141°.98E±0°.07, h11km±11km, n22, σ1§00/25, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.92**	**287**	P	**Pn**	**20 01 33.8**	**+0.9**
JFK				S	**Sn**	**20 01 45.8**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.94**	**271**	P	**Pn**	20 01 34.1	+0.9
JMST	**Minamisoumatoc**	**1.07**	**306**	P	**Pn**	20 01 36.0	+1.1
JMST				S	**Sn**	20 01 49.3	-0.4
JFFD	**Fukushimafurud**	**1.13**	**270**	P	**Pn**	20 01 36.7	+1.0
JMM	**Marumori**	**1.22**	**310**	*i* P	**Pg**	20 01 38.1	+0.8
JMM				*e*S	**Sn**	20 01 53.0	-0.3
JHO	**Hitachi**	**1.23**	**247**	P	**Pg**	20 01 38.1	+0.5
JHO				*e*S	**Sn**	20 01 52.8	-0.9
JOTO	**OTAMA OYAMA**	**1.39**	**290**	*i* P	**Pg**	20 01 41.6	+1.0
JOTO				S	**Sg**	20 01 59.1	+0.5
JIO	**Ouri**	**1.45**	**340**	*i* P	**Pg**	20 01 40.9	-0.8
JIO				S	**Sn**	20 01 57.4	-1.6
JOU	**Okura**	**1.64**	**321**	P	**Pg**	20 01 45.0	-0.4
JOU				S	**Sb**	20 02 05.5	+0.6
JFY	**Yanaizu**	**1.84**	**280**	P	**Pg**	20 01 48.7	-0.6
JFY				S	**Sb**	20 02 10.8	+0.2
JYS	**Shirataka**	**1.89**	**307**	S	**Sb**	20 02 13.1	+1.0
JMK	**Ichinoseki**	**1.95**	**342**	P	**Pb**	20 01 48.7	-0.8
JAG	**Ashikaga**	**2.13**	**252**	*e*P	**Pb**	20 01 51.2	-1.4
MJAR	**Matsushiro Arr**	**3.07**	**261**	Pn	**Pb**	**20 02 06.8**	**-1.8**
	1.1nm,0.3s,baz=86,slow=15,SNR=42						
MJAR				Sn	**Sb**	**20 02 45.0**	**-1.2**
	0.5nm,0.3s,baz=92,slow=26,SNR=5.9						
MJAR				LR	LR	20 03 36.8	
	comp=Z,86nm,18.4s,baz=107,slow=45						
	9.1nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.80**	**122**	T	T	20 36 32.4	
	baz=314,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**27.80**	**122**	T	T	20 36 34.6	
	baz=314,slow=75,SNR=8.9						
H11N3	**WAKE ISLAND Hy**	**27.81**	**122**	T	T	20 36 37.9	
	baz=314,slow=75,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	**28.52**	**124**	T	T	20 37 13.5	
	baz=316,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**28.52**	**124**	T	T	20 37 18.3	
	baz=316,slow=76,SNR=7.9						
H11S2	**WAKE ISLAND Hy**	**28.53**	**124**	T	T	20 37 17.2	
	baz=316,slow=76,SNR=5.7						
WRA	**Warramunga Arr**	**57.19**	**189**	P	**P**	**20 11 02.3**	**+1.3**
	0.3nm,0.7s,baz=5.5,slow=7.5,SNR=2.1						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**60.91**	**188**	P	**P**	**20 11 27.0**	**+0.1**
	0.2nm,0.7s,baz=14,slow=8.4,SNR=1.7						
	0.2nm,0.7s						

*SFS **08** 20:47:30.3, 36°.93N×4°.79W, h0km, ML2.4/9, ML2.5/9, MLv2.4/9*

*CNRM **08** 20:47:30.2, 36°.87N×4°.80W, h0km, ml2.3*

*MDD **08** 20:47:30.4±0.3, 36°.88N×4°.76W, h12km, mb_Lg2.5/29, Error ellipse: s-maj=2.3km s-min=1.6km az=173.0*

*INMG **08** 20:47:31.6±2.0, 36°.87N×4°.68W, h23km±4km, ML2.2, Error ellipse: s-maj=4.0km s-min=2.9km az=172.0*

ISC 08 20:47:29.6±1.0, 36°.96N±0°.02×4°.75W±0°.02, h7km±9km, n62, σ1§38/113, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.32**	**127**	Sg	**Sg**	**20 47 40.6**	**+0.4**
EMAL				Pg	**Pg**	**20 47 35.8**	**-0.1**
EMIJ	**Mijas**	**0.39**	**183**	Pg	**Pg**	**20 47 36.3**	**-0.9**
EMIJ				Sg	**Sg**	**20 47 41.8**	**-0.5**
EMIJ				*i* Vmb_Lg		20 47 43.8	
EMIJ	**Mijas**	**0.39**	**183**	Pg	**Pg**	**20 47 36.3**	**-0.9**
EGOR	**Sierra Gorda,**	**0.54**	**73**	Pg	**Pg**	**20 47 40.0**	**+0.1**
EGOR				Sg	**Sb**	**20 47 49.1**	**-0.2**
EGOR				*i* Vmb_Lg		20 47 56.9	
EGOR	**Sierra Gorda,**	**0.54**	**73**	Pg	**Pg**	**20 47 40.2**	**+0.3**
ESPR	**Espera**	**0.89**	**265**	Pg	**Pg**	**20 47 46.4**	**-0.3**
ESPR				Sg	**Sg**	**20 47 58.3**	**+0.1**
ESPR				*i* Vmb_Lg		20 48 12.6	
ESPR	**Espera**	**0.89**	**265**	Pg	**Pn**	**20 47 48.6**	**+0.1**
ELGU	**Los Guajares,**	**0.91**	**95**	Pg	**Pg**	**20 47 46.0**	**-0.9**
ELGU				Sg	**Sb**	**20 47 59.3**	**-0.6**
ELGU				*i* Vmb_Lg		20 48 09.4	
ELGU	**Los Guajares,**	**0.91**	**95**	Sg	**Sg**	**20 47 58.6**	**-0.1**
ELGU				Pg	**Pg**	**20 47 45.9**	**-1.1**
EQTA	**Presa de Quent**	**1.07**	**76**	Pn	**Pn**	**20 47 53.5**	**+2.4**
EQTA				Sn	**Sn**	**20 48 10.3**	**+4.0**
EQUE	**Quentar**	**1.08**	**76**	Pg	**Pb**	**20 47 50.4**	**-0.2**
EQUE				Sg	**Sb**	**20 48 04.3**	**-0.6**
EQUE				*i* Vmb_Lg		20 48 18.0	
EADA	**Adamuz**	**1.22**	**6**	Pg	**Pb**	**20 47 52.8**	**-0.1**
EADA				Sg	**Sb**	**20 48 09.2**	**+0.3**
EADA				*i* Vmb_Lg		20 48 13.5	
EADA	**Adamuz**	**1.22**	**6**	Pn	**Pg**	**20 47 52.6**	**-0.3**
EADA				Sn	**Sn**	**20 48 10.4**	**+0.6**
ECAB	**El Cabril**	**1.24**	**335**	Pg	**Pg**	**20 47 52.5**	**-0.8**
ECAB				Sg	**Sb**	**20 48 10.1**	**+0.7**
ECAB				*i* Vmb_Lg		20 48 12.3	
ECAB	**El Cabril**	**1.24**	**335**	Pn	**Pg**	**20 47 52.1**	**-1.2**
ECAB				Sn	**Sb**	**20 48 09.8**	**+0.4**
SMIR	**Smir Dam**	**1.37**	**202**	P	**Pn**	**20 47 52.6**	**-2.5**
EBER	**Berja**	**1.49**	**92**	Pg	**Pg**	**20 47 57.8**	**-0.4**
EBER				Sg	**Sb**	**20 48 17.0**	**+0.1**
EBER				*i* Vmb_Lg		20 48 30.0	
EBER	**Berja**	**1.49**	**92**	Pn	**Pg**	**20 47 58.1**	**-0.1**
EQES	**Quesada**	**1.58**	**57**	Pn	**Pb**	**20 47 58.7**	**-0.5**
EQES				Sn	**Sn**	**20 48 18.3**	**-0.5**
EQES				*i* Vmb_Lg		20 48 29.1	
EMIN	**Mina Concepcio**	**1.73**	**298**	Pn	**Pn**	**20 47 58.9**	**-1.2**
EMIN				Sn	**Sn**	**20 48 21.2**	**-1.3**
EMIN				*i* Vmb_Lg		20 48 27.8	
CHEFC	**Chefchaouen**	**1.91**	**195**	P	**Pb**	**20 48 03.9**	**-0.9**
PSIM	**Granatula de C**	**2.02**	**23**	Pg	**Pb**	**20 48 06.5**	**-0.1**
PSIM				Sn	**Sn**	**20 48 28.6**	**-1.0**
ENIJ	**Nijar**	**2.04**	**89**	Sn	**Sn**	**20 48 28.7**	**-1.3**
ENIJ				*i* Vmb_Lg		20 48 38.1	
PBAR	**Barrancos**	**2.19**	**304**	*e*Pn	**Pn**	**20 48 06.3**	**-0.1**
PBAR				*e*Sg	**Sn**	**20 48 34.6**	**+0.9**
PBAR				A	A	20 48 51.0	
	5.6nm,0.5s						
EGRO	**El Granado**	**2.26**	**286**	Pn	**Pn**	**20 48 05.9**	**-1.4**
EGRO				Sn	**Sn**	**20 48 33.8**	**

PSBE				*e*Sg	**Sg**	**20 49 43.3**	**+2.6**
PSBE				A	A	20 49 55.4	
	6.2nm,0.7s						
MDT	**Midelt**	**4.13**	**178**	P	**Pn**	**20 48 36.3**	**+3.1**
MDT				S	**Sn**	**20 49 23.6**	**+1.7**
PCAS	**Casmilo, Conde**	**4.27**	**318**	*e*Sg	**Sg**	**20 49 52.2**	**+5.6**
PVIS	**Viseu**	**4.49**	**328**	*e*Pn	**Pn**	**20 48 42.3**	**+4.3**
PVIS				*e*Sn	**Sn**	**20 49 26.8**	**-3.6**
PVIS				*e*Sg	**Sg**	**20 49 54.4**	**+0.8**
MVO	**Moncorvo**	**4.56**	**338**	*e*Pn	**Pn**	**20 48 39.6**	**+0.6**
MVO				*e*Sn	**Sn**	**20 49 30.3**	**-2.0**
MVO				*e*Sg	**Sg**	**20 49 54.1**	**-1.9**
MVO				A	A	20 49 59.9	
	3.9nm,0.6s						
PVRL	**Vila Real**	**4.89**	**333**	*e*Pn	**Pn**	**20 48 45.5**	**+1.9**
POLO	**Lamas de Olo**	**5.00**	**333**	*e*Sg	**Sg**	**20 50 09.0**	**-1.3**
PBRG	**Braganca**	**5.08**	**343**	*e*Sg	**Sg**	**20 50 11.8**	**-0.9**

WEL 08 20:48:16.1,39°S±14″×17°6E±1′5, h34km±10km, M0.7/3, ML0.9/6, MLv0.7/3, Error ellipse: s-maj=0.0km s-min=0.0km az=100.6, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	**Moawhango**	**0.14**	**195**	P	Pn	20 48 18.2	-1.4
OTVZ	**Oturere**	**0.15**	**315**	P	Pb	20 48 22.1	-0.5
OTVZ				S	Sb	20 48 27.8	+0.8
SNVZ	**South Ngauruho**	**0.15**	**304**	P	Pb	20 48 21.6	-1.0
SNVZ				S	Sb	20 48 27.2	+0.3
ETVZ	**East Tongariro**	**0.15**	**332**	P	Pb	20 48 22.4	-0.1
ETVZ				S	Sb	20 48 28.5	+1.6
WHVZ	**Whangaehu Hut**	**0.17**	**266**	P	Pb	20 48 24.4	+1.6
WNVZ	**Wahianoa**	**0.17**	**250**	P	Pn	20 48 19.6	-1.0
TMVZ	**Te Maari**	**0.17**	**334**	P	Pb	20 48 22.7	+0.1
TMVZ				S	Sb	20 48 28.7	+1.5
NTVZ	**North Tongarir**	**0.20**	**330**	P	Pb	20 48 23.0	+0.1
NNVZ	**North Ngauruho**	**0.20**	**314**	P	Pb	20 48 22.7	-0.2
NNVZ				S	Sb	20 48 28.8	+1.1
WTVZ	**West Tongariro**	**0.23**	**313**	P	Pb	20 48 23.0	-0.2
MTVZ	**Mangateitei**	**0.28**	**246**	P	Pn	20 48 19.9	-3.7
BHHZ	**Black Hill Sta**	**0.30**	**137**	P	Pn	20 48 20.9	-3.0
KATZ	**Kakaramea**	**0.31**	**344**	P	Pb	20 48 25.3	+1.2
MTHZ	**Maungataniwha**	**0.91**	**63**	P	Pb	20 48 35.8	+2.4
WEL	**Wellington**	**2.16**	**201**	P	Pb	20 48 55.4	+0.9
TCW	**Tory Channel**	**2.26**	**211**	P	Pb	20 48 53.8	-2.5
PLWZ	**Palliser**	**2.33**	**190**	P	Pb	20 48 57.8	+0.3
NNZ	**Nelson**	**2.69**	**223**	P	Pn	20 48 58.8	+2.0
TKNZ	**Takaka Hill**	**2.80**	**230**	P	Pb	20 49 05.1	-0.3
MRNZ	**Matariki Terra**	**3.15**	**227**	P	Pn	20 49 04.6	+1.3

*IDC **08** 20:51:38.6±5.3, 20°.26S×178°.01W, h472km±55km, mb3.0/6, mbtmp3.9/7, Error ellipse: s-maj=37.3km s-min=27.8km az=138.0*
*NEIC **08** 20:51:38.5±2.5, 20°.4S±0°.1×177°.9W±0°.1, h475km±9km, mb4.4/57, Error ellipse: s-maj=20.4km s-min=15.3km az=131.0*

ISC 08 20:51:36.9±0.5, 20°.3S±0°.1×177°.95W±0°.08, h450km, n85, σ1s39/77, mb4.4/35, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.65**	**82**	P	**P**	**20 53 31.0**	**+2.4**
NIUE				S	**S**	**20 55 02.6**	**+2.4**
AFI	**Afiamalu**	**8.66**	**44**	P	**P**	**20 53 40.2**	**+0.7**
AFI				S	**S**	**20 55 16.0**	**-4.4**
PINNC	**Pines Island,**	**13.79**	**258**	P	**P**	**20 54 38.7**	**+3.6**
DZM	**Mont Dzumac**	**14.67**	**260**	P	**P**	**20 54 45.6**	**+0.9**
	4.5nm,0.9s,baz=111,slow=22,SNR=2.3						
URZ	**Urewera**	**18.42**	**192**	P	P	20 55 16.6	-6.9
	8.8nm,0.8s,baz=190,slow=8.4,SNR=3.1						
BFZ	**Birch Farm**	**20.93**	**192**	P	**P**	**20 55 44.0**	**-2.6**
MRZ	**Mangatainoka R**	**21.05**	**194**	P	**P**	**20 55 45.4**	**-2.3**
BHW	**Baring Head**	**21.93**	**195**	P	**P**	**20 55 55.7**	**+0.1**
QRZ	**Quartz Range**	**22.03**	**200**	P	**P**	**20 55 55.2**	**-1.3**
TUWZ	**Tuamarina**	**22.18**	**196**	P	**P**	**20 55 57.2**	**-0.7**
LTZ	**Lake Taylor**	**23.90**	**198**	P	**P**	**20 56 11.7**	**-1.7**
CTAO	**Charters Tower**	**33.56**	**264**	P	P	20 57 35.1	-2.9
TOO	**Toolangi**	**36.06**	**234**	P	**P**	**20 57 56.5**	**-2.5**
TOO				IAmb	IAmb	20 58 03.7	
	comp=Z,28nm,1.5s						
STKA	**Stephens Creek**	**37.93**	**244**	P	**P**	**20 58 13.7**	**-0.7**
STKA	**Stephens Creek**	**37.93**	**244**	P	**P**	**20 58 14.3**	**-0.1**
	comp=Z,2.7nm,0.9s,baz=73,slow=11,SNR=8.1						
	comp=Z,2.7nm,0.9s						
BBOO	**Buckleboo**	**42.69**	**243**	P	**P**	**20 58 52.1**	**-0.7**
BBOO				IAmb	IAmb	20 59 23.3	
	comp=Z,22nm,1.5s						
ASAR	**Alice Springs**	**44.61**	**257**	P	**P**	**20 59 07.0**	**-1.0**
ASAR	**Alice Springs**	**44.61**	**257**	P	**P**	**20 59 07.8**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=93,slow=8.2,SNR=27						
ASAR				PcP	**pwP**	**21 00 40.9**	**+3.4**
	comp=Z,0.4nm,0.5s,baz=111,slow=3.9,SNR=6.2						
	comp=Z,1.3nm,0.5s						
WB0	**Warramunga AR**	**44.65**	**262**	P	**P**	**20 59 06.6**	**-1.8**
WRA	**Warramunga Arr**	**44.68**	**262**	P	**P**	**20 59 07.7**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=96,slow=7.2,SNR=8.2						
	comp=Z,0.3nm,0.3s						
VNDA	**Vanda**	**58.13**	**185**	P	**P**	**21 00 45.4**	**-0.2**
VNDA	**Vanda**	**58.13**	**185**	P	**P**	**21 00 45.4**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=360,slow=6.1,SNR=1.8						
	comp=Z,0.5nm,0.7s						
QSPA	**South Pole Qui**	**69.79**	**180**	P	**P**	**21 01 59.8**	**-0.8**
BELA	**Belgrano 2**	**79.77**	**173**	P	**P**	**21 02 54.7**	**-1.8**
OHAK	**Old Harbor**	**79.92**	**13**	P	**P**	**21 02 57.4**	**-0.1**
NVAR	**Mina Array Bea**	**80.83**	**43**	P	**P**	**21 03 03.8**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=236,slow=4.2,SNR=2.3						
	comp=Z,0.4nm,0.7s						
O16K	**Kokwok River B**	**81.23**	**10**	P	**P**	**21 03 02.9**	**-1.3**
O16K				IAmb	IAmb	21 03 18.1	
	comp=Z,10.0nm,1.3s						
N15K	**Kwethluk River**	**81.47**	**9**	P	**P**	**21 03 06.0**	**+0.5**
N15K				IAmb	IAmb	21 03 44.4	
	comp=Z,20nm,1.4s						
K05A	**Summer Lake**	**81.76**	**39**	P	**P**	**21 03 08.8**	**+1.1**
J05D	**Fort Rock, OR**	**81.91**	**38**	P	**P**	**21 03 09.6**	**+1.2**
O18K	**Koktuh Hills**	**81.98**	**11**	P	**P**	**21 03 08.1**	**-0.1**
O18K				IAmb	IAmb	21 03 45.4	
	comp=Z,15nm,1.1s						
M16K	**Timber Creek**	**82.45**	**9**	P	**P**	**21 03 11.5**	**+0.9**
M16K				IAmb	IAmb	21 03 54.4	
	comp=Z,21nm,1.5s						
N18K	**Kilae Creek**	**82.63**	**11**	P	**P**	**21 03 11.2**	**-0.3**
N18K				IAmb	IAmb	21 03 27.2	
	comp=Z,16nm,1.5s						
N19K	**Bonanza Creek**	**83.01**	**11**	P	**P**	**21 03 12.8**	**-0.7**
N19K				IAmb	IAmb	21 03 44.7	
	comp=Z,9.9nm,1.3s						
L16K	**Owhat River**	**83.04**	**9**	P	**P**	**21 03 14.3**	**+0.9**
L16K				IAmb	IAmb	21 03 28.1	
	comp=Z,10nm,1.4s						
M17K	**Holitna River**	**83.05**	**10**	P	**P**	**21 03 14.8**	**+1.2**
M17K				IAmb	IAmb	21 03 51.4	
	comp=Z,15nm,1.4s						
K15K	**Wolf Creek Mou**	**83.32**	**8**	P	**P**	**21 03 15.4**	**+0.5**
SZCU	**Shurtz Canyon**	**83.83**	**46**	P	P	21 03 13.8	-4.5
L18K	**Granite Mounta**	**83.94**	**10**	P	**P**	**21 03 18.6**	**+0.6**
L18K				IAmb	IAmb	21 03 46.3	
	comp=Z,12nm,1.4s						
M19K	**Big River Lodg**	**84.04**	**11**	P	**P**	**21 03 17.9**	**-0.6**
M19K				IAmb	IAmb	21 03 27.6	
	comp=Z,9.7nm,1.4s						
K17K	**Iditarod**	**84.17**	**9**	P	**P**	**21 03 19.7**	**+0.6**
K17K				IAmb	IAmb	21 03 58.0	
	comp=Z,19nm,1.5s						
L19K	**White Mountain**	**84.22**	**11**	P	**P**	**21 03 20.1**	**+0.7**
L19K				IAmb	IAmb	21 03 56.4	
	comp=Z,15nm,1.5s						
SUA	**Susitna One**	**84.34**	**13**	P	**P**	**21 03 19.4**	**-0.7**
J16K	**Anvik River**	**84.40**	**8**	P	**P**	**21 03 20.1**	**-0.1**
J16K				IAmb	IAmb	21 03 31.8	
	comp=Z,17nm,1.5s						
RAGM	**Ragged Mountai**	**84.79**	**16**		pwP	21 05 11.6	+5.7
B06A	**Marblemount**	**84.98**	**34**		pP	21 05 08.1	+4.6
GHO	**Glory Hole Cre**	**85.00**	**13**	P	**P**	**21 03 23.3**	**0.0**
CUT	**Chulitna**	**85.28**	**13**		pP	21 05 06.5	+1.6
SCM	**Sheep Creek Mo**	**85.41**	**14**	P	**P**	**21 03 25.4**	**+0.1**
K20K	**Telida**	**85.44**	**11**	P	**P**	**21 03 25.2**	**-0.1**
K20K				IAmb	IAmb	21 04 07.7	
	comp=Z,10nm,1.5s						
J19K	**Poorman**	**85.78**	**10**	P	**P**	**21 03 26.7**	**-0.3**
J19K				IAmb	IAmb	21 04 00.7	
	comp=Z,6.7nm,1.4s						
CAST	**Castle Rocks**	**85.86**	**11**	P	**P**	**21 03 25.4**	**-2.0**
J20K	**Nowinta River**	**86.19**	**10**	P	**P**	**21 03 28.7**	**-0.2**
TRF	**Thorofare Moun**	**86.22**	**12**	P	**P**	**21 03 28.2**	**-1.2**
TRF				IAmb	IAmb	21 03 44.2	
	comp=Z,16nm,1.5s						
M27K	**Edge Creek, AK**	**87.19**	**16**	P	**P**	**21 03 34.2**	**+0.4**
M27K				IAmb	IAmb	21 04 11.6	
	comp=Z,14nm,1.5s						
O30N	**Meidenhall**	**87.54**	**19**	P	**P**	**21 03 35.9**	**+0.5**
MLY	**Manley**	**87.57**	**11**	P	**P**	**21 03 34.7**	**-0.8**
MLY				IAmb	IAmb	21 03 35.0	
	comp=Z,2.3nm,0.6s						
HDA	**Harding Lake**	**87.76**	**13**	P	**P**	**21 03 35.9**	**-0.4**
HDA				IAmb	IAmb	21 03 36.7	
	comp=Z,4.1nm,0.7s						
H21K	**Melozitna Rive**	**87.78**	**10**	P	**P**	**21 03 36.4**	**-0.1**
CCB	**Clear Creek Bu**	**87.79**	**12**	P	**P**	**21 03 35.7**	**-0.8**
IMAR	**Indian Mountai**	**87.93**	**10**	P	**P**	**21 03 36.5**	**-0.6**
MDM	**Murphy Dome**	**87.98**	**12**	P	**P**	**21 03 35.8**	**-1.7**
MDM				IAmb	IAmb	21 04 13.4	
	comp=Z,5.7nm,1.2s						
IL31		**88.09**	**13**	P	**P**	**21 03 36.1**	**-1.7**
ILAR	**Eielson Array**	**88.09**	**13**	P	**P**	**21 03 36.4**	**-1.4**
ILAR	**Eielson Array**	**88.09**	**13**	P	**P**	**21 03 36.8**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=215,slow=5.5,SNR=21						
	comp=Z,0.9nm,0.5s						
M29M	**Somme Creek**	**88.17**	**17**	P	**P**	**21 03 39.4**	**+0.9**
M29M				IAmb	IAmb	21 03 59.2	
	comp=Z,12nm,1.5s						
J25K	**Salcha River,**	**88.28**	**13**	P	**P**	**21 03 38.5**	**-0.4**
J25K				IAmb	IAmb	21 04 21.4	
	comp=Z,6.0nm,1.5s						
G21K	**Allakaket**	**88.46**	**10**	P	**P**	**21 03 38.5**	**-1.1**
J26L	**Joseph Creek**	**88.58**	**14**	P	**P**	**21 03 40.4**	**0.0**
M30M	**Minto, Yukon**	**88.75**	**18**	P	**P**	**21 03 41.3**	**+0.2**
M30M				IAmb	IAmb	21 03 43.7	
	comp=Z,10nm,1.4s						
L29M	**L29M**	**88.80**	**17**	P	**P**	**21 03 41.9**	**+0.7**
L29M				IAmb	IAmb	21 03 58.6	
	comp=Z,12nm,1.4s						
E19K	**Redstone River**	**88.82**	**8**	P	**P**	**21 03 40.9**	**-0.3**
E19K				IAmb	IAmb	21 04 02.8	
	comp=Z,13nm,1.5s						
DAWY	**Dawson**	**89.24**	**16**	P	**P**	**21 03 43.5**	**+0.2**
DAWY				IAmb	IAmb	21 03 43.8	
	comp=Z,8.7nm,1.5s						
EGAK	**Eagle**	**89.38**	**15**	P	**P**	**21 03 44.1**	**+0.2**
EGAK				IAmb	IAmb	21 04 15.3	
	comp=Z,12nm,1.5s						
CM31	**Chiang Mai Arr**	**90.08**	**290**	P	**P**	**21 03 49.5**	**+1.2**
FNO	**Franklin**	**94.12**	**54**		pwP	21 05 54.2	+3.2
KAN09	**Caldwell North**	**94.65**	**52**		pP	21 05 52.0	+1.5
PB02	**IPOC Station P**	**98.44**	**116**		pwP	21 06 13.6	+2.4
TA01	**Diego Aracena**	**98.52**	**116**		pwP	21 06 12.8	+1.4
BVAR	**Borovoye Array**	**118.94**	**320**	PKP	**PKPdf**	**21 09 31.0**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=115,slow=2.5,SNR=6.4						
ARCES	**ARCESS Array B**	**128.71**	**350**	PKP	**PKPdf**	**21 09 49.6**	**-1.8**
	comp=Z,3.9nm,0.9s,baz=27,slow=3.0,SNR=1.9						
AKASG	**Malin Array Be**	**142.84**	**331**	PKhKP	PKPpre	21 10 13.3	
	comp=Z,0.2nm,0.2s,baz=41,slow=4.0,SNR=6.1						
EKA	**Eskdalemuir Ar**	**144.78**	**5**	PKP	**PKPdf**	**21 10 20.5**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=335,slow=3.1,SNR=2.2						
BRTR	**Keskin Array B**	**146.73**	**313**	PKPbc	**PKPdf**	**21 10 26.7**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=70,slow=1.7,SNR=2.4						
MMAI	**Mount Meron Ar**	**147.75**	**300**	PKPbc	**PKPdf**	**21 10 30.4**	**+3.4**
	comp=Z,0.6nm,0.4s,baz=74,slow=6.2,SNR=6.3						

IDC 08 20:51:44.8±1.9, 0°.53N×122°.92E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=225.2km s-min=28.7km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.22**	**152**	P	P	20 56 53.6	0.0
	0.4nm,0.6s,baz=327,slow=11,SNR=5.7						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**26.31**	**157**	P	P	20 57 22.3	-0.1
	0.2nm,0.8s,baz=350,slow=13,SNR=1.7						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**58.13**	**328**	P	P	21 01 40.3	0.0
	0.6nm,0.8s,baz=116,slow=7.3,SNR=1.7						
	0.6nm,0.8s						

AFAD 08 21:25:20.6±0.0, 37°.88N×35°.23E, h7km±5km, ML1.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAHY	**KAYSERI_Yahyal**	**0.24**	**26**	P	Pg	21 25 26.2	+0.7
YAHY				S	Sg	21 25 28.6	-0.2
NIDE	**Nigde/Merkez-G**	**0.38**	**289**	P	Pg	21 25 28.2	+0.1
NIDE				S	Sg	21 25 32.5	-0.6
NIDE				*i* AML	AML	21 25 35.0	
	comp=E,14nm,0.2s						
AKO	**Adana**	**0.45**	**157**	P	Pb	21 25 30.5	-0.3
AKO				S	Sg	21 25 35.8	+0.7
SAIM	**ADANA**	**0.68**	**81**	P	Pg	21 25 33.8	+0.1
SAIM				S	Sg	21 25 41.9	-0.7

*NEIC **08** 21:34:25.9±1.1, 36°.14N±0°.01×98°.96W±0°.02, h4km±3km, Error ellipse: s-maj=2.2km s-min=1.7km az=102.0*
TUL 08 21:34:26.1±1.1, 36°.13N±0°.01×98°.97W±0°.02, h6km±2km, ML2.6, mb_Lg2.3/10(NEIC), ML2.4/16(NEIC), Error ellipse: s-maj=2.2km s-min=1.6km az=107.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.25**	**354**	Pg	Pg	21 34 29.4	-1.7
U32A				Sg	Sg	21 34 35.4	+0.9
U32A				IAML		21 34 39.4	
	comp=E,314nm,0.2s						
ELIS	**Ellis County**	**0.37**	**260**	Pg	Pg	21 34 34.1	+0.8
ELIS				Sg	Sb	21 34 41.5	+0.4
ELIS				IAML		21 34 44.9	
	comp=E,325nm,0.3s						
ELIS				IAML		21 34 45.5	
	comp=N,541nm,0.4s						
OK038	**West end E0370**	**0.40**	**27**	Pg	Pg	21 34 33.3	-0.5
OK038				Sg	Sg	21 34 39.7	+0.7
OK038				IAML		21 34 42.7	
	comp=N,544nm,0.4s						
CSTR	**Hydro, Custer**	**0.53**	**155**	Pg	Pg	21 34 36.0	-0.3
CSTR				Sg	Sg	21 34 44.1	+0.8
OK035	**E0210 Rd and N**	**0.62**	**20**	Pg	Pg	21 34 36.7	-1.3
OK035				Sg	Sg	21 34 46.3	+0.2
OK035				IAML		21 34 50.2	
	comp=N,205nm,0.2s						
OK035				IAML		21 34 56.1	
	comp=N,218nm,0.3s						
CROK	**Carrier**	**0.88**	**64**	Pg	Pg	21 34 42.8	-0.2
CROK				Sg	Sg	21 34 55.0	+0.5
OK032	**Salt Plains WL**	**0.91**	**42**	Pg	Pg	21 34 43.2	-0.4
OK032				Sg	Sg	21 34 55.8	+0.4
OK032				IAML		21 35 02.6	
	comp=N,182nm,0.2s						
GC02	**Grant County #**	**1.15**	**51**	Pg	Pn	21 34 49.5	+0.8
KAN14	**Manchester OK**	**1.16**	**44**		Pg	21 34 47.6	-0.7
WMOK	**Wichita Mounta**	**1.40**	**174**		Pn	21 34 50.8	-1.3
KAN13	**South Haven SW**	**1.49**	**53**		Pn	21 34 53.3	-0.1
FNO	**Franklin**	**1.54**	**124**		Pn	21 34 53.9	-0.2
OK033	**Mehan**	**1.65**	**92**	Pg	Pn	21 34 56.1	+0.5
OK048	**Pawnee Station**	**1.66**	**79**		Pb	21 34 56.5	-0.6
OK052	**Battle Ridge R**	**1.76**	**94**	Pn	Pn	21 34 57.0	-0.1
OK030	**Cody Creek RV**	**1.78**	**96**	IAmb_Lg		21 35 22.0	
	comp=Z,6.1nm,0.7s						
QUOK	**Quay**	**1.83**	**88**		Pn	21 34 58.7	+0.6
W35A	**Tecumseh**	**1.96**	**119**		Pn	21 35 00.2	+0.3
W35A					Sg	21 35 28.7	-0.5
DEOK	**Depew**	**2.02**	**97**	Pn	Pn	21 35 00.7	0.0
T35A	**Sooner Cattle**	**2.13**	**68**	Pn	Pn	21 35 02.5	+0.3
T35A				IAmb_Lg		21 35 34.6	
	comp=Z,10nm,0.8s						
AMTX	**Amarillo**	**2.54**	**242**	IAmb_Lg		21 35 46.4	
	comp=Z,19nm,0.7s						
SN05	**Snyder 5**	**3.61**	**207**	IAmb_Lg		21 36 23.6	
	comp=Z,7.9nm,0.8s						
T25A	**Trinidad**	**4.49**	**285**	IAmb_Lg		21 36 49.4	
	comp=Z,8.8nm,0.8s						

*IDC **08** 21:37:25.3±4.9, 36°.33N×71°.26E, h82km±31km, mb3.6/6, mbtmp3.7/12, Error ellipse: s-maj=60.8km s-min=22.9km az=142.0*
ISC 08 21:37:29.1±1.6, 36°.7N±0°.1×70°.9E±0°.1, h100km, n20, σ1s25/24, mb3.8/6, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.88**	**20**	P	**Pn**	**21 38 54.5**	**+0.5**
	SNR=23						
AML	**Almayashu**	**5.88**	**20**	⇓Pn	**Pn**	**21 38 54.4**	**+0.4**
	0.3nm,0.3s						
AML				⇑Sn	**Sn**	**21 39 58.8**	**-1.3**
	3.9nm,0.7s						
UCH	**Uchtor**	**6.22**	**25**	P	**Pn**	**21 38 59.0**	**+0.3**
	SNR=5.4						
KK31	**Karatay Array**	**6.46**	**357**	Pn	**Pn**	**21 39 02.9**	**+1.4**
	5.1nm,0.4s,baz=179,slow=12,SNR=67						
KK31				⇑Sn	**Sn**	**21 40 12.7**	**-1.0**
	3.7nm,0.4s,baz=184,slow=24,SNR=9.7						
AAK	**Ala-Archa**	**6.58**	**24**	P	**Pn**	**21 39 04.2**	**+0.9**
	SNR=12						
AAK	**Ala-Archa**	**6.58**	**24**	P	**Pn**	**21 39 04.0**	**+0.7**
	4.2nm,0.3s,baz=189,slow=7.0,SNR=32						
AAK				S	**Sn**	**21 40 16.4**	**-0.5**
	3.1nm,0.5s,baz=170,slow=23,SNR=7.9						
USP	**Ospenovka**	**7.15**	**21**	P	**Pn**	**21 39 11.4**	**+0.4**
	SNR=9.0						
TKM2	**Tokmak 2**	**7.21**	**28**	P	**Pn**	**21 39 12.1**	**0.0**
	SNR=5.4						
GEYT	**Alibeck**	**10.30**	**281**	P	**Pn**	**21 39 53.5**	**-0.3**
	0.6nm,0.3s,baz=120,slow=13,SNR=5.8						
GEYT				S	**Sn**	**21 41 44.6**	**-2.7**
	1.2nm,0.4s,baz=358,slow=28,SNR=2.2						
MKAR	**Makanchi Array**	**13.20**	**36**	P	**Pn**	**21 40 30.7**	**-1.8**
	0.4nm,0.8s,baz=210,slow=8.0,SNR=1.8						
KURBB	**Kurchatov Arra**	**15.00**	**19**	P	**P**	**21 40 57.2**	**-1.3**
	0.3nm,0.5s,baz=206,slow=10,SNR=7.0						
BVAR	**Borovoye Array**	**16.38**	**359**	P	**P**	**21 41 14.6**	**+0.7**
	0.5nm,0.4s,baz=170,slow=11,SNR=7.3						
ZALV	**Zalesovo Beam**	**19.80**	**25**	P	**P**	**21 41 50.1**	**-1.2**
	1.3nm,0.3s,baz=204,slow=10,SNR=7.8						
AKASG	**Malin Array Be**	**32.82**	**309**	P	**P**	**21 43 54.2**	**+1.5**
	0.5nm,0.5s,baz=82,slow=7.4,SNR=4.2						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**37.33**	**326**	P	**P**	**21 44 33.1**	**+1.7**
	3.9nm,0.8s,baz=122,slow=10,SNR=2.4						
	3.9nm,0.8s						
ARCES	**ARCESS Array B**	**40.99**	**338**	P	**P**	**21 45 03.1**	**+1.4**
	4.2nm,1.1s,baz=119,slow=9.9,SNR=5.5						
	4.2nm,1.1s						
HFS	**Hagfors**	**42.92**	**322**	P	**P**	**21 45 18.8**	**+1.3**
	1.8nm,0.8s,baz=91,slow=9.0,SNR=4.4						
	1.8nm,0.8s						
NB2	**NORSAR Subarra**	**44.23**	**323**	P	**P**	**21 45 28.9**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.23**	**323**	P	**P**	**21 45 29.2**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=98,slow=7.7,SNR=2.1						
	comp=Z,0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**65.67**	**269**	P	**P**	**21 48 02.1**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=53,slow=5.6,SNR=1.9						
	comp=Z,0.2nm,0.5s						

*TIF **08** 21:40:09.9, 43°.23N×41°.59E, h2km±3km*
*MOS **08** 21:40:10.6, 43°.33N×41°.55E, h2km, MPVA3.4*
*NORS **08** 21:40:12.4, 43°.42N×41°.60E, h2km, MPVA3.2*
*AFAD **08** 21:40:14.7±0.0, 42°.72N×41°.28E, h19km±5km, ML2.0*
ISC 08 21:40:11.2±1.1, 43°.35N±0°.03×41°.56E±0°.02, h18km±5km, n37, σ1s31/65, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARXR	**Arkhyz**	**0.30**	**315**	*i* Pg	**Pg**	**21 40 17.1**	**-0.7**
ARXR				*i* Sg	**Sg**	**21 40 22.2**	**-0.1**
GRYR	**Gornoye**	**0.84**	**336**	*e*Pg	**Pg**	**21 40 27.1**	**-0.5**
GRYR				*e*Sg	**Sn**	**21 40 39.5**	**-0.6**
NEUR	**Neytrino**	**0.84**	**96**	*e*Pg	**Pb**	**21 40 25.6**	**-1.8**
NEUR				*e*Sg	**Sb**	**21 40 35.8**	**-2.5**
SHA1	**Shidzhatmaz**	**0.89**	**64**	*e*Pg	**Pn**	**21 40 27.9**	**-1.2**
SHA1				*e*Sg	**Sn**	**21 40 40.1**	**-1.5**
RPOR	**Krasnaya Polya**	**1.00**	**291**	*e*Pg	**Pb**	**21 40 28.5**	**-1.6**
RPOR				*e*Sg	**Sb**	**21 40 44.0**	**+0.9**
KIV	**Kislovodsk**	**1.01**	**53**	*e*Pg	**Pn**	**21 40 30.4**	**-0.4**
KIV				*e*Sg	**Sn**	**21 40 44.7**	**+0.1**
KBZ	**Khabaz**	**1.04**	**68**	*e*Pg	**Pn**	**21 40 30.3**	**-0.6**
KBZ				*e*Sg	**Sn**	**21 40 45.2**	**+0.2**
VSLR	**Vesyoloye**	**1.12**	**276**	*e*Pg	**Pn**	**21 40 31.8**	**-0.3**
VSLR				*e*Sg	**Sb**	**21 40 48.0**	**+1.6**
BEYR	**Belyy Ugol+**	**1.12**	**54**	*e

8.1nm,0.3s,baz=36,slow=19,SNR=2.0
GUMO Sn Sn 21 57 00.1 -0.5
9.5nm,0.3s,baz=171,slow=21,SNR=1.4
GUMO LR LR 21 58 12.7
comp=Z,62nm,21.3s,baz=220,slow=40
31nm,0.3s
JHJ Hachijo jima 2 23.04 359 LR LR 22 07 08.3
comp=Z,30nm,20.1s,baz=76,slow=33
H11S3 WAKE ISLAND Hy 26.77 69 T T 22 28 22.9
baz=254,slow=74,SNR=224
H11S1 WAKE ISLAND Hy 26.79 69 T T 22 28 22.9
baz=254,slow=74,SNR=240
H11S2 WAKE ISLAND Hy 26.79 69 T T 22 28 23.6
baz=254,SNR=367
H11N1 WAKE ISLAND Hy 27.29 66 T T 22 29 07.0
baz=242,slow=78,SNR=170
H11N2 WAKE ISLAND Hy 27.30 66 T T 22 28 60.0
baz=242,slow=78,SNR=99
H11N3 WAKE ISLAND Hy 27.31 66 T T 22 29 01.3
baz=242,slow=78,SNR=79
HNR Honiara 27.35 134 LR LR 22 09 34.6
comp=Z,369nm,19.7s,baz=18,slow=33
KSRS Korea Array 29.60 340 LR LR 22 11 06.2
comp=Z,20nm,19.5s,baz=280,slow=34
WRA Warramunga Arr 30.33 191 P **P 22 00 44.4 -0.2**
0.7nm,0.9s,baz=5.3,slow=12,SNR=2.0
0.7nm,0.9s
ASAR Alice Springs 34.04 191 P **P 22 01 17.3 +0.1**
0.2nm,0.5s,baz=17,slow=13,SNR=6.7
ASAR LR LR 22 14 53.8
comp=Z,25nm,18.2s,baz=338,slow=36
0.2nm,0.5s
CMAR Chiang Mai Arr 41.03 287 P **P 22 02 16.6 +0.1**
0.9nm,0.3s,baz=96,slow=6.7,SNR=12
0.9nm,0.3s
SONM Songino Array 47.39 329 P **P 22 03 07.8 +0.6**
0.2nm,0.4s,baz=89,slow=5.9,SNR=1.7
0.2nm,0.4s
MKAR Makanchi Array 61.18 318 P **P 22 04 47.0 -0.5**
0.7nm,0.8s,baz=94,slow=7.3,SNR=2.4
0.7nm,0.8s
KURBB Kurchatov Arra 64.66 322 P **P 22 05 10.1 -0.4**
0.2nm,0.2s,baz=104,slow=7.7,SNR=2.0
0.2nm,0.2s
BVAR Borovoye Array 70.12 323 P **P 22 05 44.6 -0.4**
0.8nm,0.7s,baz=98,slow=11,SNR=5.5
0.8nm,0.7s
ILAR Eielson Array 73.66 25 P **P 22 06 06.1 0.0**
0.3nm,0.6s,baz=244,slow=6.7,SNR=5.8
0.3nm,0.6s

IDC 08 22:11:29.4±2.0, 6.54S×128.73E, **h0**km, **mb3.9**/1, **mbtmp3.6**/3, **ML3.6**/2, **Error ellipse: s-maj=121.2km s-min=30.7km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.40**	**158**	Pn	Pn	22 14 54.6	-0.1
	0.4nm,0.3s,baz=337,slow=13,SNR=4.7						
WRA				Sn	Sn	22 17 21.4	-14
	0.6nm,0.3s,baz=15,slow=23,SNR=6.3						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**17.74**	**164**	P	Pn	22 15 38.0	-0.1
	0.1nm,0.3s,baz=346,slow=10,SNR=9.1						
ASAR				S	Sn	22 18 41.6	-15
	0.3nm,0.5s,baz=354,slow=24,SNR=3.2						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**67.15**	**327**	P	P	22 22 25.2	0.0
	0.6nm,0.5s,baz=117,slow=8.3,SNR=9.9						
	0.6nm,0.5s						

*IDC **08** 22:19:17.3±1.0, 37.55N×118.81W, h0km, mb3.6/1, mbtmp3.3/6, ML3.4/5, MS3.0/8, Error ellipse: s-maj=11.1km s-min=7.0km az=99.0*

*REN **08** 22:19:17.2±1.1, 37.55N±0.03×118.82W±0.03, h5km±2km, Error ellipse: s-maj=3.8km s-min=2.8km az=158.0*

*ANF **08** 22:19:17.2±0.2, 37.51N×118.82W, h0km, ML3.8/24, ML3.9/24, Error ellipse: s-maj=1.9km s-min=1.6km az=65.0*

*NEIC **08** 22:19:17.5±1.7, 37.56N±0.03×118.83W±0.02, h10km±1km, Error ellipse: s-maj=4.5km s-min=2.6km az=336.0*

*NCEDC **08** 22:19:17.1±1.0, 37.55N±0.03×118.81W±0.03, h3km, Mwr3.8/4, ML3.5/100(NEIC), Mwr3.8(REN), Error ellipse: s-maj=3.6km s-min=2.9km az=169.0*

*NEIC **08** 22:19:17.1, 37.55N×118.81W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-5.38; $M_{\theta\theta}$0.95; $M_{\phi\phi}$4.43; $M_{r\theta}$0.73; $M_{r\phi}$-2.94; $M_{\theta r}$-0.53; Fault plane solution: M_o5.85000×10^{14} NP1:ϕ_s154.87000°, δ41.14000°, λ-83.27000°. NP2:ϕ_s325.96000°, δ49.21000°, λ-95.85000°. Principal axes: T 6.1695, Plg4.0000°, Azm60.0000°; N -0.6982, Plg4.0000°, Azm330.0000°; P -5.4713, Plg84.0000°, Azm192.0000°;*

*NEIC **08** 22:19:17.1, 37.55N×118.81W, h3km*

*NEIC **08** 22:19:19, 37.55N×118.82W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-5.71; $M_{\theta\theta}$1.69; $M_{\phi\phi}$4.02; $M_{r\theta}$0.41; $M_{\theta\phi}$-3.08; $M_{\theta r}$-3.14; Fault plane solution: M_o6.73000×10^{14} NP1:ϕ_s338.00000°, δ59.00000°, λ-76.00000°. NP2:ϕ_s132.00000°, δ34.00000°, λ-112.00000°. Principal axes: T 6.7972, Plg13.0000°, Azm58.0000°; N -0.1317, Plg12.0000°, Azm151.0000°; P -6.6655, Plg72.0000°, Azm282.0000°;*

ISC 08 22:19:16.9±0.9, **37.51N**±0.01×**118.84W**±0.01, **h6**km±7km, **n235**, σ1**s03**/247, **California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCVM	**Convict Lake**	**0.08**	**4**		**Pg**	**22 19 18.5**	**-0.4**
RCCR	**Rock Creek Can**	**0.09**	**103**		**Pg**	**22 19 19.3**	**+0.2**
MLAC	**Mammoth, Mammo**	**0.12**	**360**		**Pg**	**22 19 21.1**	**+1.6**
MLAC	**Mammoth, Mammo**	**0.12**	**360**	P	**Pg**	**22 19 19.4**	**-0.1**
	baz=166,SNR=1000						
MLAC				S	**Sg**	**22 19 21.4**	**0.0**
	baz=166						
MLCM	**Laurel Creek C**	**0.12**	**329**		**Pg**	**22 19 19.6**	**+0.1**
MDRNC	**Doe Ridge**	**0.13**	**0**		**Pg**	**22 19 19.6**	**-0.1**
MGPM	**Gravel Pit**	**0.13**	**336**		**Pg**	**22 19 19.8**	**+0.1**
MCBM	**Casa Benchmark**	**0.14**	**341**		**Pg**	**22 19 20.0**	**+0.1**
MCBM					**Sg**	**22 19 20.0**	**0.0**
MCSM	**Casa Diablo Ho**	**0.16**	**339**		**Pg**	**22 19 20.3**	**+0.2**
OMMB	**Old Mammoth Mi**	**0.17**	**309**		**Pg**	**22 19 20.6**	**+0.3**
OMMB				Sg	**Sg**	**22 19 22.7**	**0.0**
OMMB				IAML		22 19 23.2	
	comp=E,12μm,0.4s						
OMMB				IAML		22 19 23.3	
	comp=N,18μm,0.7s						
WMD		**0.17**	**113**		**Pg**	**22 19 20.8**	**+0.5**
MLHM	**Little Hot Cre**	**0.17**	**6**		**Pg**	**22 19 20.4**	**0.0**
MEMM	**East Mammoth H**	**0.18**	**332**		**Pg**	**22 19 20.8**	**+0.2**
MMPM	**Mammoth Pass**	**0.18**	**304**		**Pg**	**22 19 21.0**	**+0.4**
MMLB	**Mammoth Lakes**	**0.19**	**323**		**Pg**	**22 19 21.1**	**+0.4**
SCHCA	**Scheelite**	**0.19**	**142**		**Pg**	**22 19 21.5**	**+0.8**
ORC	**Owens River**	**0.19**	**48**		**Pg**	**22 19 20.5**	**-0.2**
MLIM	**Lincoln Peak**	**0.19**	**312**		**Pg**	**22 19 21.4**	**+0.6**
MLIM					**Sg**	**22 19 24.3**	**+0.9**
MRDM	**Red Cones**	**0.20**	**297**		**Pg**	**22 19 21.4**	**+0.5**
MDYM	**Dry Creek**	**0.20**	**317**		**Pg**	**22 19 21.5**	**+0.5**
MDYM					**Sg**	**22 19 24.1**	**+0.3**
MDPB	**Devils Postpil**	**0.23**	**303**		**Pg**	**22 19 21.8**	**+0.4**
MDPB				Sg	**Sg**	**22 19 24.9**	**+0.3**
MDPB				IAML		22 19 25.3	
	comp=E,9μm,0.5s						
MDPB				IAML		22 19 25.5	
	comp=N,11μm,0.7s						
MINS	**Minaret Summit**	**0.23**	**309**		**Pg**	**22 19 21.8**	**+0.3**
MINS					**Sg**	**22 19 24.9**	**+0.3**
CASR	**Casa Diablo Mo**	**0.23**	**73**		**Pg**	**22 19 21.6**	**+0.1**
MDCM	**Deadman Creek**	**0.26**	**321**		**Pg**	**22 19 22.2**	**+0.2**
MTUM	**Tungsten Hills**	**0.27**	**125**		**Pg**	**22 19 22.8**	**+0.7**
BENR	**Benton**	**0.29**	**45**		**Pg**	**22 19 22.2**	**-0.5**
MRCM	**Red Rock Canyo**	**0.31**	**58**		**Pg**	**22 19 22.8**	**-0.2**
MCDM	**Chidago Canyon**	**0.32**	**83**		**Pg**	**22 19 23.3**	**+0.3**
MGNR	**McGee Canyon**	**0.32**	**20**		**Pg**	**22 19 23.1**	**-0.2**
MFBM	**Five Bridges**	**0.33**	**103**		**Pb**	**22 19 24.1**	**-1.2**
BHPR	**Bishop**	**0.35**	**127**		**Pb**	**22 19 24.4**	**-1.2**
MLNR	**Milner Canyon**	**0.40**	**77**		**Pg**	**22 19 24.8**	**+0.1**
BCKR	**Birch Creek**	**0.41**	**63**		**Pg**	**22 19 25.0**	**+0.1**
BCKR	**Birch Creek**	**0.41**	**63**		**Sg**	**22 19 30.7**	**+0.3**
KCC	**Kaiser Creek**	**0.43**	**245**		**Pb**	**22 19 26.0**	**-0.8**
KCC					**Sb**	**22 19 32.1**	**-1.5**
MCCR	**Mono Craters**	**0.44**	**340**		**Pb**	**22 19 25.6**	**-1.5**
ANTCA	**Antelope Range**	**0.46**	**28**		**Pg**	**22 19 25.4**	**-0.4**
POCCA	**Poleta Canyon**	**0.47**	**108**		**Pg**	**22 19 26.3**	**+0.5**
BONR	**Boundary Peak**	**0.61**	**43**		**Pg**	**22 19 28.3**	**-0.4**
TIN	**Tinemaha, Big**	**0.66**	**133**		**Pb**	**22 19 30.4**	**-0.6**
TIN					**Sb**	**22 19 39.9**	**-0.6**
TIN	**Tinemaha, Big**	**0.66**	**133**	P	**Pb**	**22 19 30.3**	**-0.6**
	baz=317,SNR=58						
TIN				S	**Sb**	**22 19 39.2**	**-1.2**
	baz=317						
MMIM	**Miami Mountain**	**0.73**	**263**		**Pb**	**22 19 31.4**	**-0.6**
LHV	**Little Huntoon**	**0.79**	**19**		**Pg**	**22 19 31.6**	**-0.4**
LHV				Sg	**Sg**	**22 19 41.5**	**-0.7**
LHV				IAML		22 19 47.2	
	comp=N,3μm,0.5s						
MHDM	**Hidden Dam**	**0.93**	**246**		**Pb**	**22 19 35.3**	**-0.1**
TVH1	**TV Hill, Hawth**	**0.95**	**3**		**Pg**	**22 19 34.7**	**-0.4**
TVH1					**Sg**	**22 19 47.1**	**-0.3**
NV08	**Mina Array Sit**	**0.98**	**24**		**Pg**	**22 19 35.1**	**-0.7**
NV09	**Mina Array Sit**	**1.01**	**23**		**Pg**	**22 19 35.5**	**-0.7**
NVAR	**Mina Array Bea**	**1.01**	**24**	Pg	**Pg**	**22 19 35.5**	**-0.8**
	comp=N,172nm,0.3s,baz=204,slow=21,SNR=1636						
NVAR				Lg	Lg	22 19 49.3	
	comp=N,254nm,0.3s,baz=183,slow=33,SNR=14						
NVAR				LR	LR	22 20 15.8	
	comp=N,425nm,19.0s,baz=250,slow=56						
NV11	**Mina Array Sit**	**1.07**	**30**		**Pg**	**22 19 36.5**	**-0.8**
NV11	**Mina Array Sit**	**1.07**	**30**	Sg	**Sg**	**22 19 50.2**	**-1.0**
NV11				IAML		22 19 55.5	
	comp=E,2μm,1.0s						
NV11				IAML		22 19 55.8	
	comp=N,1μm,1.1s						
WAKR	**Walker**	**1.10**	**335**		**Pg**	**22 19 37.3**	**-0.7**
WAKR				Sn	**Sn**	**22 19 55.7**	**+0.9**
RYN	**Ryan**	**1.15**	**12**		**Pg**	**22 19 38.1**	**-0.7**
RYN	**Ryan**	**1.15**	**12**	IAML		22 19 58.2	
	comp=E,1μm,1.0s						
RYN				IAML		22 19 58.4	
	comp=N,1μm,0.9s						
MZP	**Montezuma Peak**	**1.17**	**80**		**Pg**	**22 19 38.7**	**-0.6**
MZP	**Montezuma Peak**	**1.17**	**80**	IAML		22 19 58.7	
	comp=N,2μm,0.7s						
MZP				IAML		22 19 59.4	
	comp=E,826nm,0.7s						
CWC	**Cottonwood Cre**	**1.23**	**150**		**Pn**	**22 19 40.5**	**-0.2**
CWC	**Cottonwood Cre**	**1.23**	**150**	P	**Pn**	**22 19 40.5**	**-0.2**
	baz=332						
CWC				S	**Sb**	**22 19 57.0**	**+0.3**
	baz=332						
MRHM	**Rocky Hill**	**1.24**	**189**		**Pn**	**22 19 40.4**	**-0.3**
RCTC	**Rector, Farmer**	**1.24**	**195**		**Pn**	**22 19 40.9**	**+0.1**
VOG	**Valley Oaks Go**	**1.26**	**200**		**Pn**	**22 19 41.5**	**+0.4**
VOG	**Valley Oaks Go**	**1.26**	**200**	P	**Pn**	**22 19 41.5**	**+0.4**
	baz=20,SNR=9.2						
VOG				S	**Sn**	**22 19 59.3**	**+1.0**
	baz=20						
MYLM	**Yosemite Lake**	**1.27**	**265**		**Pn**	**22 19 41.2**	**+0.1**
GMN	**Gold Mountain**	**1.27**	**99**		**Pb**	**22 19 41.1**	**-0.3**
GMN	**Gold Mountain**	**1.27**	**99**	IAML		22 20 02.6	
	comp=E,1μm,0.7s						
GMN				IAML		22 20 02.9	
	comp=N,1μm,0.7s						
GRAC	**Grapevine Rang**	**1.28**	**113**		**Pb**	**22 19 41.5**	**+0.1**
GRAC	**Grapevine Rang**	**1.28**	**113**	P	**Pb**	**22 19 41.6**	**+0.2**
	baz=296,SNR=421						
GRAC				S	**Sn**	**22 19 59.2**	**+0.4**
	baz=296						
SPG2	**Springville 2**	**1.31**	**178**		**Pb**	**22 19 41.8**	**0.0**
CMB	**Columbia Colle**	**1.34**	**294**		**Pg**	**22 19 41.6**	**-0.9**
CMB	**Columbia Colle**	**1.34**	**294**	IAML		22 20 03.6	
	comp=N,1μm,0.7s						
CMB				IAML		22 20 05.8	
	comp=E,817nm,0.6s						
TPH	**Tonopah**	**1.40**	**66**		**Pn**	**22 19 42.9**	**-0.2**
MCUB	**Copperopolis B**	**1.49**	**289**		**Pg**	**22 19 44.5**	**-1.0**
YERR	**Yerington**	**1.51**	**348**		**Pb**	**22 19 44.8**	**-0.6**
SGV	**South Grapevin**	**1.53**	**110**		**Pg**	**22 19 45.8**	**-0.5**
PWMM	**Westland Maint**	**1.54**	**226**		**Pg**	**22 19 46.9**	**+0.6**
KVN	**Kaiserville**	**1.65**	**20**		**Pn**	**22 19 46.6**	**+0.1**
KVN	**Kaiserville**	**1.65**	**20**	IAML		22 20 10.3	
	comp=E,677nm,0.7s						
VES	**Vestal, Richgr**	**1.68**	**187**		**Pg**	**22 19 48.6**	**-0.4**
VES	**Vestal, Richgr**	**1.68**	**187**	P	**Pg**	**22 19 48.4**	**-0.5**
	baz=7.3,SNR=117						
VES				S	**Sg**	**22 20 11.6**	**+0.9**
	baz=7.3						
PNTR	**Pine Nut**	**1.69**	**339**		**Pb**	**22 19 47.7**	**-0.8**
PNTR				IAML		22 20 15.2	
	comp=E,440nm,0.8s						
PNTR				IAML		22 20 19.3	
	comp=N,427nm,1.0s						
PDRM	**Domengine Ranc**	**1.70**	**227**		**Pg**	**22 19 49.3**	**-0.1**
PKEM	**Kettleman Hill**	**1.77**	**216**		**Pg**	**22 19 50.6**	**-0.1**
EMB	**Emerald Bay**	**1.77**	**326**		**Pg**	**22 19 49.7**	**-1.2**
EMB	**Emerald Bay**	**1.77**	**326**	IAML		22 20 31.1	
	comp=E,328nm,0.8s						
EMB				IAML		22 20 32.6	
	comp=N,477nm,0.6s						
WASM	**Alta Sierra Ca**	**1.78**	**173**		**Pg**	**22 19 50.6**	**-0.3**
MPMC	**Manual Prospec**	**1.81**	**143**	P	**Pb**	**22 19 49.8**	**-0.6**
	baz=325,SNR=141						
MPMC				Sb	**Sg**	**22 20 15.8**	**+0.9**
	baz=325						
SCKWR	**San Luis Creek**	**1.81**	**260**		**Pg**	**22 19 51.0**	**-0.5**
WNMM	**Nine Mile Cany**	**1.82**	**155**		**Pg**	**22 19 51.2**	**-0.6**
ISA	**Isabella, Lake**	**1.86**	**171**		**Pg**	**22 19 51.9**	**-0.6**
ISA	**Isabella, Lake**	**1.86**	**171**	Pb	**Pg**	**22 19 52.0**	**-0.6**
	baz=352,SNR=205						
ISA				Sb	**Sg**	**22 20 17.4**	**+0.7**
	baz=352						
WORM	**Onyx Ranch**	**1.87**	**165**		**Pg**	**22 19 52.0**	**-0.7**
FURC	**Furnace Creek,**	**1.89**	**123**	Pb	**Pg**	**22 19 52.2**	**-0.9**
	baz=305,SNR=136						
FURC				Sb	**Sg**	**22 20 18.8**	**+1.2**
	baz=305						
PJUM	**Juniper Ridge**	**1.90**	**228**		**Pg**	**22 19 52.2**	**-1.1**
WCT	**Wildcat Mounta**	**1.91**	**111**	IAML		22 20 21.4	
	comp=N,533nm,0.5s						
WCT				IAML		22 20 22.2	
	comp=E,517nm,0.5s						
SLD	**San Luis Dam**	**1.95**	**258**		**Pb**	**22 19 52.5**	**-0.3**
BAVM	**Antelope Valle**	**1.95**	**245**		**Pb**	**22 19 52.8**	**-0.1**
CMPM	**Mikes Peak**	**1.98**	**266**		**Pb**	**22 19 53.0**	**-0.4**
CTM	**Castle Mountai**	**1.98**	**218**		**Pg**	**22 19 53.7**	**-1.1**
MTOS	**Mt Oso, Westle**	**1.98**	**271**		**Pb**	**22 19 53.2**	**-0.1**
BBGB	**Big Mountain B**	**1.99**	**243**		**Pb**	**22 19 52.2**	**-1.4**
BEMM	**Emmet**	**2.00**	**246**		**Pg**	**22 19 53.9**	**-1.2**
PSMM	**Smith Mountain**	**2.01**	**225**		**Pb**	**22 19 53.6**	**-0.4**
PSRM	**Scobie Ranch**	**2.02**	**216**		**Pb**	**22 19 53.8**	**-0.2**
MPK	**Martis Peak**	**2.02**	**333**		**Pn**	**22 19 51.7**	**-0.1**
MPK				IAML		22 20 31.1	
	comp=E,297nm,1.0s						
MPK				IAML		22 20 34.9	
	comp=N,390nm,0.8s						
PACP	**Pacheco Peak**	**2.02**	**256**		**Pb**	**22 19 53.8**	**-0.3**
PMPB	**Monarch Peak**	**2.04**	**231**		**Pb**	**22 19 53.1**	**-1.2**
PHFM	**Heflinger Ranc**	**2.05**	**218**		**Pb**	**22 19 54.1**	**-0.5**
LRV	**Little Rabbit**	**2.06**	**239**		**Pb**	**22 19 54.5**	**-0.1**
PMRM	**Maxey Ranch**	**2.06**	**214**		**Pb**	**22 19 54.2**	**-0.4**
PPTM	**Peach Tree Val**	**2.06**	**228**		**Pb**	**22 19 54.1**	**-0.6**
GHC	**Gold Hill**	**2.07**	**217**		**Pb**	**22 19 54.0**	**-0.8**
PSTM	**Stockdale Moun**	**2.07**	**221**		**Pb**	**22 19 54.2**	**-0.7**
PSNM	**Stone Corral**	**2.08**	**215**		**Pb**	**22 19 54.2**	**-0.8**
PHPM	**Hope Ranch**	**2.08**	**224**		**Pb**	**22 19 54.3**	**-0.8**
PVCM	**Vineyard Canyo**	**2.09**	**221**		**Pb**	**22 19 54.5**	**-0.8**
BVL	**Bear Valley**	**2.10**	**244**		**Pb**	**22 19 55.1**	**-0.3**
PKLM	**Kerr Lake**	**2.11**	**215**		**Pb**	**22 19 54.9**	**-0.7**
CMMM	**Mount Mocho**	**2.12**	**269**		**Pb**	**22 19 54.9**	**-0.8**
CSTL	**Corral Hollow**	**2.12**	**274**		**Pb**	**22 19 55.7**	**-0.1**
CSTL	**Corral Hollow**	**2.12**	**274**		**Pb**	**22 19 55.6**	**-0.1**
BPIM	**Pinnacles**	**2.12**	**242**		**Pb**	**22 19 55.1**	**-0.7**
TPNV	**Topopah Spring**	**2.14**	**104**		**Pn**	**22 19 53.4**	**+0.1**
TPNV				IAML		22 20 29.6	
	comp=N,405nm,1.0s						
TPNV				IAML		22 20 32.1	
	comp=N,501nm,1.0s						
TPNV	**Topopah Spring**	**2.14**	**104**	P	**Pn**	**22 19 53.8**	**+0.5**
	baz=287,SNR=355						
TPNV				Sb	**Sg**	**22 20 25.5**	**-0.1**
	baz=287						
ARN	**Arnold Ranch**	**2.15**	**267**		**Pn**	**22 19 53.5**	**+0.1**
PWKM	**Work Ranch**	**2.16**	**219**		**Pb**	**22 19 55.5**	**-0.9**
TRAM	**Private Proper**	**2.16**	**213**		**Pb**	**22 19 55.9**	**-0.6**
BJOM	**Mount Johnson**	**2.17**	**247**		**Pb**	**22 19 56.4**	**-0.1**
PBPM	**Bitterwater Pu**	**2.17**	**208**		**Pb**	**22 19 56.2**	**-0.4**
PPO	**Portuguese Can**	**2.17**	**222**		**Pb**	**22 19 55.8**	**-0.8**
DONR	**Donner Summit**	**2.18**	**328**		**Pb**	**22 19 55.5**	**-1.4**
GWY	**Greenwater Val**	**2.18**	**127**		**Pn**	**22 19 54.1**	**+0.2**
QSM	**Queen of Sheba**	**2.21**	**134**		**Pn**	**22 19 54.8**	**+0.7**
TCHL	**Shandon**	**2.21**	**215**		**Pb**	**22 19 56.8**	**-0.5**
TRAY	**Twisselman Ran**	**2.21**	**208**		**Pb**	**22 19 56.6**	**-0.7**
AFDM	**Forest Hills D**	**2.21**	**311**		**Pn**	**22 19 55.1**	**+0.9**
PSAM	**San Ardo**	**2.21**	**229**		**Pb**	**22 19 56.8**	**-0.5**
SAO	**San Andreas Ge**	**2.21**	**251**	Pn	**Pb**	**22 19 56.1**	**-1.2**
BSGM	**Shirttail Gulc**	**2.22**	**241**		**Pb**	**22 19 56.5**	**-1.0**
LRMC	**Laurel Mtn Rad**	**2.23**	**155**	P	**Pn**	**22 19 55.6**	**+1.2**
	baz=337,SNR=79						
LRMC				Sb	**Sg**	**22 20 28.2**	**-0.2**
	baz=337						
PAHR	**Pah Rah Range**	**2.24**	**349**		**Pn**	**22 19 54.6**	**0.0**
CMLM	**Mount Lewis**	**2.24**	**270**		**Pb**	**22 19 57.2**	**-0.6**
SCZ	**Santa Cruz**	**2.25**	**247**		**Pb**	**22 19 56.8**	**-1.1**
CBSNC	**Byron Hot Spri**	**2.25**	**279**		**Pb**	**22 19 57.9**	**+0.1**
CADM	**Anderson Res.**	**2.25**	**262**		**Pb**	**22 19 58.0**	**+0.1**
FRP	**Fremont Peak**	**2.25**	**251**		**Pb**	**22 19 56.7**	**-1.2**
BJCM	**Johnson Can.**	**2.26**	**246**		**Pb**	**22 19 57.2**	**-0.8**
HBTM	**San Juan Bauti**	**2.27**	**254**		**Pb**	**22 19 57.3**	**-0.9**
CCOB	**Coe Ranch Numb**	**2.27**	**265**		**Pb**	**22 19 58.4**	**0.0**
PEAR	**Peavine Mounta**	**2.27**	**338**		**Pg**	**22 19 59.0**	**-1.5**
TEJ	**El Tejon**	**2.28**	**177**		**Pb**	**22 19 58.6**	**+0.2**
ANZ	**Anzar Road**	**2.29**	**255**		**Pb**	**22 19 57.7**	**-0.8**
BSRM	**Salinas Radio**	**2.30**	**249**		**Pb**	**22 19 57.3**	**-1.5**
CCCA	**Chr Cany lake**	**2.31**	**149**		**Pb**	**22 19 58.2**	**-0.7**
TSCN	**Private Proper**	**2.31**	**212**		**Pb**	**22 19 58.4**	**-0.5**
BABR	**Babbit Peak**	**2.32**	**335**		**Pb**	**22 19 57.5**	**-1.8**
WENL	**Wente Vineyard**	**2.32**	**274**		**Pb**	**22 19 58.7**	**-0.4**
HCBM	**Chamberlain**	**2.33**	**257**		**Pb**	**22 19 58.0**	**-1.3**
JLAB	**Laurel Hill**	**2.34**	**262**		**Pb**	**22 19 58.2**	**-1.2**
CARC	**Carrizo Plain**	**2.34**	**201**		**Pb**	**22 19 59.4**	**-0.1**
HTUM	**Tustin Road**	**2.34**	**254**		**Pb**	**22 19 57.7**	**-1.8**
PCCM	**Crazy Canyon**	**2.34**	**234**		**Pb**	**22 19 58.8**	**-0.7**
TCAS	**Cass Winery, P**	**2.35**	**217**		**Pb**	**22 19 58.3**	**-1.3**
CALM	**Calaveras Res.**	**2.36**	**270**		**Pb**	**22 19 58.7**	**-1.0**
BSMM	**Soledad Missio**	**2.36**	**242**		**Pb**	**22 19 58.7**	**-1.2**
CRGC	**Crocker Grade**	**2.37**	**198**		**Pb**	**22 19 59.8**	**-0.3**
HCOM	**Corn Cob Canyo**	**2.38**	**256**		**Pn**	**22 19 56.9**	**+0.5**
ARVC	**Arvin**	**2.38**	**180**		**Pg**	**22 20 00.9**	**-1.5**
ARVC	**Arvin**	**2.38**	**180**	Pb	**Pb**	**22 20 00.7**	**+0.6**
	baz=0.4,SNR=7.0						
ARVC				Sb	**Sg**	**22 20 32.3**	**-0.9**
	baz=0.4						
CVLM	**Vallecito**	**2.39**	**274**		**Pb**	**22 20 00.0**	**-0.2**
CDOM	**Doolan Road**	**2.39**	**276**		**Pb**	**22 19 59.7**	**-0.6**
PANM	**San Antonio Re**	**2.40**	**225**		**Pb**	**22 19 59.1**	**-1.4**
TSCS	**Shell Creek So**	**2.40**	**211**		**Pn**	**22 19 57.3**	**+0.6**
LOY	**Loyalton**	**2.41**	**333**		**Pn**	**22 19 55.6**	**-1.4**
BPCNC	**Pine Canyon**	**2.42**	**248**		**Pb**	**22 19 59.5**	**-1.3**
HULI	**Fort Hunter Li**	**2.43**	**233**		**Pb**	**22 19 59.6**	**-1.4**
CCAC	**Calif City Air**	**2.44**	**164**		**Pg**	**22 20 03.0**	**-0.6**
HAST	**Hastings Reser**	**2.44**	**244**		**Pb**	**22 19 59.5**	**-1.7**
PHSB	**Hesperia Broad**	**2.45**	**227**		**Pb**	**22 19 59.5**	**-1.8**
S11A	**Rachel**	**2.46**	**86**		**Pn**	**22 19 57.4**	**-0.3**
TJR	**Tejon Ranch**	**2.48**	**178**		**Pb**	**22 20 02.0**	**+0.2**
RAMR	**Ramage Ranch**	**2.48**	**222**		**Pb**	**22 20 00.2**	**-1.7**
BCWM	**Chews Ridge**	**2.50**	**242**		**Pb**	**22 20 00.4**	**-1.8**
JJOM	**Saint Joseph's**	**2.52**	**264**		**Pb**	**22 20 00.7**	**-1.9**
BPRM	**Ponciano Ridge**	**2.56**	**246**		**Pb**	**22 20 01.1**	**-2.2**
PAPM	**Alder Peak**	**2.58**	**233**		**Pb**	**22 20 01.5**	**-2.1**
PTAM	**Tassajara Cree**	**2.59**	**216**		**Pb**	**22 20 01.9**	**-1.9**
JSJM	**St Joseph**	**2.60**	**267**		**Pb**	**22 20 02.0**	**-1.8**
BCW	**Bitter Crk WRg**	**2.60**	**190**		**Pb**	**22 20 02.2**	**-1.8**
BCW	**Bitter Crk WRg**	**2.60**	**190**	Pn	**Pn**	**22 20 01.1**	**+1.4**
PHCM	**Hearst Castle**	**2.61**	**226**		**Pb**	**22 20 01.9**	**-2.1**
BEKR	**Beckworth**	**2.64**	**334**		**Pn**	**22 20 01.5**	**+1.3**
JSFB	**Stanford Teles**	**2.66**	**269**		**Pb**	**22 20 03.6**	**-1.3**
JFP	**Foothills Park**	**2.67**	**268**		**Pb**	**22 20 02.5**	**-2.7**
R11B	**Troy Canyon, C**	**2.70**	**71**	Pn	**Pn**	**22 20 00.6**	**-0.5**
R11B	**Troy Canyon, C**	**2.70**	**71**	P	**Pn**	**22 20 01.1**	**0.0**
	baz=254

YBH	**Yreka Blue Hor**	**5.17**	**326**	Pn	**Pn**	**22 20 37.0**	**+2.1**	
	comp=N,0.5nm,0.3s,baz=156,slow=7.7,SNR=9.2							
YBH				Lg	Lg	22 21 59.4		
	comp=N,0.5nm,0.3s,baz=70,slow=14,SNR=4.4							
YBH				LR	LR	22 22 33.2		
	comp=N,86nm,19.3s,baz=218,slow=38 comp=N,2.5nm,0.5s							
PDAR	**Pinedale Array**	**8.83**	**51**	Pn	**Pn**	**22 21 29.4**	**+4.1**	
	comp=N,0.1nm,0.3s,baz=225,slow=13,SNR=7.6							
PDAR				Lg	Lg	22 23 53.6		
	comp=N,0.1nm,0.3s,baz=130,slow=34,SNR=2.7							
PDAR				LR	LR	22 25 08.0		
	comp=N,105nm,19.4s,baz=218,slow=40 comp=N,1.3nm,0.8s							
ANMO	**Albuquerque**	**10.32**	**101**	LR	LR	22 26 07.9		
	comp=N,63nm,19.7s,baz=24,slow=40							
NEW	**Newport**	**10.82**	**6**	LR	LR	22 26 28.1		
	comp=N,80nm,19.8s,baz=24,slow=40							
TXAR	**Lajitas Array**	**15.05**	**118**	Pn	**P**	**22 22 55.5**	**-0.2**	
	baz=294,slow=10,SNR=4.9 comp=N,0.4nm,0.8s							
TKL	**Tuckaleechee C**	**28.12**	**83**	LR	LR	22 36 42.9		
	comp=N,96nm,18.9s,baz=346,slow=37							
KDAK	**Kodiak Island**	**29.98**	**323**	LR	LR	22 34 58.2		
	comp=N,64nm,19.1s,baz=95,slow=31							
ILAR	**Eielson Array**	**31.94**	**338**	P	**P**	**22 25 46.1**	**+3.0**	
	comp=N,0.8nm,0.9s,baz=133,slow=7.7,SNR=9.6 comp=N,0.8nm,0.9s							

IDC 08 22:28:31.2±4.0, 0.°17S×129.°87E, h0km, mb3.5/4, mbtmp3.5/4, MS3.0/1, Error ellipse: s-maj=338.0km s-min=24.2km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.14**	**168**	P	P	22 33 07.2	+0.1
	0.7nm,0.6s,baz=349,slow=12,SNR=5.0 0.7nm,0.6s						
ASAR	**Alice Springs**	**23.69**	**171**	P	P	22 33 44.6	-0.1
	1.1nm,0.5s,baz=351,slow=9.3,SNR=19 1.1nm,0.5s						
JNU	**Nakatsue**	**33.13**	**2**	LR	LR	22 49 41.5	
	comp=Z,21nm,18.4s,baz=318,slow=38						
MKAR	**Makanchi Array**	**62.52**	**325**	P	P	22 38 56.1	-0.7
	0.5nm,0.8s,baz=100,slow=7.7,SNR=2.1 0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**66.69**	**327**	P	P	22 39 24.6	+0.7
	0.2nm,0.2s,baz=130,slow=6.0,SNR=2.2 0.2nm,0.2s						

TEH 08 22:37:29.9, 30.°73N×57.°34E, h9km±36km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.73**	**289**	Pg	Pb	22 37 44.8	-0.1
KHGB	**Koh Gabri**	**0.83**	**245**	Pg	Pb	22 37 46.3	-0.2
KHGB				Sg	Sb	22 37 57.9	0.0
TVBK	**TV Kerman**	**0.90**	**214**	Pg	Pb	22 37 47.7	-0.1
NGRK	**Negar Kerman**	**1.21**	**206**	Pg	Pn	22 37 53.7	+0.4
IBAF	**Bafgh**	**1.74**	**300**	Pg	Pb	22 38 02.7	+0.6
KBAM	**BAM**	**1.86**	**149**	Pn	Pb	22 38 04.0	-0.2
IKOO	**Kooshah**	**2.20**	**40**	Pn	Pb	22 38 08.8	-1.3
TPRV	**Parvadeh(Tabas**	**2.35**	**346**	Pn	Pb	22 38 11.1	-1.4
NHDN	**Nehbandan**	**2.42**	**74**	Pn	Pb	22 38 11.7	-1.9
IMEH	**Mehriz**	**2.43**	**286**	Pn	Pb	22 38 12.4	-1.6
ITEG	**Tejag**	**2.47**	**29**	Pn	Pn	22 38 12.5	+2.0
BAGH	**Bagheran - Bir**	**2.59**	**37**	Pn	Pn	22 38 14.3	+2.1
TKDS	**Koohdasht(Taba**	**2.88**	**356**	Pn	Pn	22 38 17.9	+1.8
ICHK	**Chekchek**	**2.92**	**302**	Pn	Pn	22 38 19.4	+2.7
AFRZ	**Afriz**	**3.04**	**27**	Pn	Pn	22 38 20.1	+1.9
TNSJ	**Nastanj**	**3.28**	**349**	Pn	Pn	22 38 23.4	+1.9
ZHDN	**Zahedan**	**3.29**	**113**	Pn	Pn	22 38 23.4	+1.7
ISAD	**Sadrabad**	**3.34**	**292**	Pn	Pn	22 38 25.4	+2.8
ANAR	**Anarak**	**3.93**	**310**	Pn	Pn	22 38 32.3	+1.8
IRAM	**Ramesheh**	**4.38**	**285**	Pn	Pn	22 38 39.5	+2.7
IZEF	**Zefreh**	**4.78**	**298**	Pn	Pn	22 38 44.6	+2.3
TBJM	**Torbat-e-JAM**	**5.17**	**28**	Pn	Pn	22 38 50.2	+2.5

IDC 08 22:52:23.1±2.1, 7.°96S×118.°79E, h0km, mb3.5/2, mbtmp3.3/4, ML3.2/2, MS3.3/1, Error ellipse: s-maj=55.8km s-min=24.5km az=71.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.08**	**18**	Pn	Pn	22 53 12.4	-0.6
	1.3nm,0.3s,baz=58,slow=19,SNR=2.5						
KAPI				Sn	Sn	22 53 52.1	+1.5
	5.7nm,0.3s,baz=81,slow=5.5,SNR=4.3 9.2nm,0.6s						
WRA	**Warramunga Arr**	**19.20**	**130**	P	P	22 56 48.8	-0.1
	0.1nm,0.3s,baz=304,slow=12,SNR=2.1 0.3nm,0.5s						
ASAR	**Alice Springs**	**21.31**	**139**	P	P	22 57 11.9	+0.1
	0.5nm,0.4s,baz=309,slow=8.7,SNR=7.8 0.5nm,0.4s						
JHJ	**Hachijo jima 2**	**45.47**	**25**	LR	LR	23 18 24.7	
	comp=Z,37nm,21.2s,baz=59,slow=34						
MKAR	**Makanchi Array**	**63.44**	**333**	P	P	23 02 54.9	+0.1
	0.7nm,0.8s,baz=160,slow=8.8,SNR=1.9 0.7nm,0.8s						

*REN **08** 22:52:53.5±1.2, 37.°55N±0.°03×118.°82W±0.°03, h6km±5km, Error ellipse: s-maj=4.4km s-min=2.3km az=208.0*
*NEIC **08** 22:52:53.9±1.9, 37.°57N±0.°02×118.°82W±0.°03, h10km±1km, Error ellipse: s-maj=5.3km s-min=3.3km az=229.0*
*ANF **08** 22:52:53.5±0.3, 37.°51N×118.°81W, h1km±2km, ML3.1/18, ML3.2/18, Error ellipse: s-maj=2.1km s-min=1.5km az=121.0*
*NCEDC **08** 22:52:53.5±1.2, 37.°55N±0.°03×118.°81W±0.°04, h3km±5km, ML3.5/15, ML2.9/9(REN), ML2.8/84(NEIC), Error ellipse: s-maj=4.3km s-min=3.6km az=47.0*

ISC 08 22:52:53.6±0.8, 37.°55N±0.°02×118.°81W±0.°01, h8km±5km, n181, σ0.°95/198, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLAC	**Mammoth, Mammo**	**0.08**	**345**		**Pg**	**22 52 55.8**	**-0.2**
MLAC	**Mammoth, Mammo**	**0.08**	**345**	P	**Pg**	**22 52 55.9**	**-0.1**
	baz=164,SNR=426						
MLAC				S	**Sg**	**22 52 57.6**	**0.0**
	baz=164						
MDRNC	**Doe Ridge**	**0.09**	**347**		**Pg**	**22 52 56.0**	**-0.1**
RCCR	**Rock Creek Can**	**0.09**	**133**		**Pg**	**22 52 55.7**	**-0.5**
MLCM	**Laurel Creek C**	**0.10**	**306**		**Pg**	**22 52 56.0**	**-0.3**
MGPM	**Gravel Pit**	**0.11**	**316**		**Pg**	**22 52 56.1**	**-0.2**
MCBM	**Casa Benchmark**	**0.12**	**324**		**Pg**	**22 52 56.4**	**-0.1**
MCBM					**Sg**	**22 52 58.5**	**0.0**
MLHM	**Little Hot Cre**	**0.13**	**358**		**Pg**	**22 52 56.8**	**+0.2**
MCSM	**Casa Diablo Ho**	**0.13**	**324**		**Pg**	**22 52 56.6**	**0.0**
ORC	**Owens River**	**0.15**	**55**		**Pg**	**22 52 56.8**	**-0.1**
MEMM	**East Mammoth H**	**0.15**	**318**		**Pg**	**22 52 57.1**	**0.0**
OMMB	**Old Mammoth Mi**	**0.16**	**292**		**Pg**	**22 52 57.0**	**-0.2**
OMMB					**Sg**	**22 52 59.3**	**-0.4**
OMMB				IAML		22 52 59.6	
	comp=E,6μm,0.3s						
OMMB				IAML		22 52 59.7	
	comp=N,6μm,0.5s						
MMLB	**Mammoth Lakes**	**0.17**	**309**		**Pg**	**22 52 57.5**	**+0.1**
WMD		**0.17**	**129**		**Pg**	**22 52 57.1**	**-0.1**
WMD		**0.17**	**129**		**Sg**	**22 52 59.6**	**0.0**
MMPM	**Mammoth Pass**	**0.18**	**289**		**Pg**	**22 52 57.4**	**-0.1**
MLIM	**Lincoln Peak**	**0.19**	**298**		**Pg**	**22 52 57.8**	**+0.2**
MDYM	**Dry Creek**	**0.19**	**304**		**Pg**	**22 52 57.9**	**+0.2**
MDYM	**Dry Creek**	**0.19**	**304**		**Sg**	**22 53 01.0**	**+0.5**
MRDM	**Red Cones**	**0.20**	**283**		**Pg**	**22 52 57.8**	**-0.1**
CASR	**Casa Diablo Mo**	**0.21**	**83**		**Pg**	**22 52 57.9**	**0.0**
SCHCA	**Scheelite**	**0.21**	**153**		**Pg**	**22 52 57.9**	**-0.2**
MINS	**Minaret Summit**	**0.23**	**297**		**Pg**	**22 52 58.2**	**-0.1**
MINS					**Sg**	**22 53 01.3**	**-0.1**
MDPB	**Devils Postpil**	**0.23**	**291**		**Pg**	**22 52 58.2**	**-0.1**
MDPB					**Sg**	**22 53 01.4**	**-0.1**
MDPB				IAML		22 53 02.2	
	comp=N,3μm,0.5s						
MDPB				IAML		22 53 02.5	
	comp=E,3μm,0.5s						
MDCM	**Deadman Creek**	**0.24**	**311**		**Pg**	**22 52 58.5**	**-0.1**
BENR	**Benton**	**0.25**	**49**		**Pg**	**22 52 58.5**	**-0.2**
MRCM	**Red Rock Canyo**	**0.27**	**63**		**Pg**	**22 52 59.0**	**-0.1**
MGNR	**McGee Canyon**	**0.28**	**19**		**Pg**	**22 52 59.4**	**+0.1**
MTUM	**Tungsten Hills**	**0.28**	**135**		**Pg**	**22 52 59.1**	**-0.1**
MCDM	**Chidago Canyon**	**0.29**	**90**		**Pg**	**22 52 59.6**	**+0.1**
MFBM	**Five Bridges**	**0.33**	**112**		**Pg**	**22 53 00.4**	**+0.3**
BHPR	**Bishop**	**0.36**	**134**		**Pg**	**22 53 00.7**	**0.0**
MLNR	**Milner Canyon**	**0.37**	**83**		**Pg**	**22 53 01.1**	**0.0**
BCKR	**Birch Creek**	**0.38**	**67**		**Pg**	**22 53 01.3**	**+0.2**
ANTCA	**Antelope Range**	**0.41**	**28**		**Pg**	**22 53 01.7**	**-0.1**
POCCA	**Poleta Canyon**	**0.46**	**114**		**Pg**	**22 53 02.6**	**0.0**
KCC	**Kaiser Creek**	**0.46**	**241**		**Pg**	**22 53 02.5**	**-0.2**
KCC	**Kaiser Creek**	**0.46**	**241**		**Sg**	**22 53 08.6**	**-0.2**
BONR	**Boundary Peak**	**0.57**	**45**		**Pg**	**22 53 04.6**	**-0.1**
TIN	**Tinemaha, Big**	**0.68**	**137**		**Pg**	**22 53 06.7**	**0.0**
TIN	**Tinemaha, Big**	**0.68**	**137**		**Sb**	**22 53 16.5**	**-0.9**
TIN	**Tinemaha, Big**	**0.68**	**137**	P	**Pg**	**22 53 06.5**	**-0.2**
	baz=317						
TIN				S	**Sg**	**22 53 16.0**	**+0.4**
	baz=317						
LHV	**Little Huntoon**	**0.74**	**19**		**Pg**	**22 53 07.8**	**-0.1**
LHV				IAML		22 53 21.8	
	comp=E,637nm,0.6s						
LHV				IAML		22 53 24.5	
	comp=N,438nm,0.6s						
LHV	**Little Huntoon**	**0.74**	**19**		**Sb**	**22 53 18.4**	**-0.7**
MMIM	**Miami Mountain**	**0.76**	**260**		**Pg**	**22 53 07.8**	**-0.4**
NV08	**Mina Array Sit**	**0.94**	**24**		**Pg**	**22 53 11.3**	**-0.3**
NV09	**Mina Array Sit**	**0.96**	**23**		**Pg**	**22 53 11.8**	**-0.5**
MHDM	**Hidden Dam**	**0.97**	**244**		**Pg**	**22 53 11.7**	**-0.5**
NV11	**Mina Array Sit**	**1.02**	**30**		**Pg**	**22 53 12.8**	**-0.5**
NV11	**Mina Array Sit**	**1.02**	**30**	IAML		22 53 31.7	
	comp=E,286nm,1.0s						
WAKR	**Walker**	**1.07**	**333**		**Pg**	**22 53 14.0**	**-0.2**
RYN	**Ryan**	**1.10**	**12**		**Pg**	**22 53 14.4**	**-0.4**
RYN				IAML		22 53 34.3	
	comp=E,243nm,1.0s						
RYN				IAML		22 53 34.6	
	comp=N,174nm,0.8s						
MZP	**Montezuma Peak**	**1.14**	**82**		**Pg**	**22 53 15.2**	**-0.4**
MZP				IAML		22 53 34.9	
	comp=N,218nm,0.7s						
CWC	**Cottonwood Cre**	**1.25**	**152**		**Pg**	**22 53 16.8**	**-0.9**
CWC	**Cottonwood Cre**	**1.25**	**152**	P	**Pg**	**22 53 16.8**	**-0.9**
	baz=333						
CWC				S	**Sg**	**22 53 33.3**	**-0.7**
	baz=333						
GMN	**Gold Mountain**	**1.26**	**101**		**Pg**	**22 53 17.3**	**-0.5**
GMN				IAML		22 53 38.7	
	comp=E,166nm,0.7s						
GMN				IAML		22 53 40.0	
	comp=N,210nm,0.6s						
GRAC	**Grapevine Rang**	**1.28**	**115**	Pg	**Pn**	**22 53 17.6**	**-0.3**
GRAC	**Grapevine Rang**	**1.28**	**115**		**Pn**	**22 53 18.0**	**+0.1**
GRAC	**Grapevine Rang**	**1.28**	**115**	P	**Pn**	**22 53 17.8**	**-0.1**
	baz=296,SNR=87						
GRAC				S	**Sn**	**22 53 35.4**	**+0.2**
	baz=296						
MRHM	**Rocky Hill**	**1.28**	**190**		**Pn**	**22 53 16.8**	**-1.1**
RCTC	**Rector, Farmer**	**1.29**	**196**		**Pn**	**22 53 17.3**	**-0.7**
MYLM	**Yosemite Lake**	**1.29**	**263**		**Pn**	**22 53 17.6**	**-0.4**
VOG	**Valley Oaks Go**	**1.31**	**201**		**Pn**	**22 53 17.9**	**-0.3**
VOG	**Valley Oaks Go**	**1.31**	**201**	P	**Pn**	**22 53 17.9**	**-0.3**
	baz=20						
VOG				S	**Sg**	**22 53 35.7**	**-0.1**
	baz=20						
CMB	**Columbia Colle**	**1.34**	**292**	Pn	**Pn**	**22 53 17.9**	**-0.8**
CMB				IAML		22 53 39.9	
	comp=N,216nm,0.6s						
CMB				IAML		22 53 42.1	
	comp=E,197nm,0.5s						
SPG2	**Springville 2**	**1.35**	**179**		**Pn**	**22 53 18.3**	**-0.6**
TPH	**Tonopah**	**1.36**	**67**		**Pn**	**22 53 19.1**	**-0.1**
YERR	**Yerington**	**1.47**	**347**		**Pn**	**22 53 20.9**	**+0.2**
MCUB	**Copperopolis B**	**1.50**	**287**		**Pn**	**22 53 20.9**	**+0.1**
KVN	**Kaiserville**	**1.60**	**20**		**Pn**	**22 53 22.7**	**+0.3**
KVN				IAML		22 53 46.4	
	comp=E,110nm,0.7s						
KVN				IAML		22 53 48.0	
	comp=N,171nm,0.6s						
PNTR	**Pine Nut**	**1.66**	**338**		**Pn**	**22 53 23.8**	**+0.5**
PNTR				IAML		22 53 31.2	
	comp=E,80nm,0.6s						
VES	**Vestal, Richgr**	**1.72**	**187**		**Pb**	**22 53 25.0**	**-0.5**
VES	**Vestal, Richgr**	**1.72**	**187**	Pb	**Pb**	**22 53 25.1**	**-0.5**
	baz=7.3,SNR=17						
VES				S	**Sb**	**22 53 47.8**	**+0.5**
	baz=7.3						
PDRM	**Domengine Ranc**	**1.74**	**226**		**Pb**	**22 53 25.6**	**-0.2**
EMB	**Emerald Bay**	**1.75**	**325**		**Pn**	**22 53 25.4**	**+0.8**
EMB				IAML		22 54 07.4	
	comp=E,88nm,0.6s						
EMB				IAML		22 54 07.4	
	comp=N,139nm,0.8s						
PKEM	**Kettleman Hill**	**1.82**	**215**		**Pb**	**22 53 27.0**	**-0.1**
WASM	**Alta Sierra Ca**	**1.82**	**174**		**Pb**	**22 53 27.0**	**-0.3**
MPMC	**Manual Prospec**	**1.83**	**144**	Pb	**Pb**	**22 53 27.3**	**-0.1**
	baz=325,SNR=15						
MPMC				Sb	**Sg**	**22 53 51.9**	**-0.6**
	baz=325						
WNMM	**Nine Mile Cany**	**1.85**	**157**		**Pb**	**22 53 27.5**	**-0.2**
FURC	**Furnace Creek,**	**1.90**	**124**	Pb	**Pb**	**22 53 28.9**	**+0.4**
	baz=306,SNR=15						
WCT	**Wildcat Mounta**	**1.90**	**113**		**Pn**	**22 53 27.0**	**+0.5**
WCT				IAML		22 53 57.6	
	comp=N,82nm,0.5s						
WCT				IAML		22 53 58.3	
	comp=E,103nm,0.4s						
ISA	**Isabella, Lake**	**1.90**	**172**		**Pb**	**22 53 28.4**	**-0.2**
ISA	**Isabella, Lake**	**1.90**	**172**	Pg	**Pb**	**22 53 28.5**	**-0.2**
ISA				IAML		22 53 54.3	
	comp=E,471nm,0.2s						
ISA				IAML		22 53 56.6	
	comp=N,349nm,0.2s						
ISA	**Isabella, Lake**	**1.90**	**172**	Pb	**Pb**	**22 53 28.4**	**-0.2**
	baz=352,SNR=27						
ISA				Sb	**Sb**	**22 53 53.5**	**+0.9**
	baz=352						
WORM	**Onyx Ranch**	**1.91**	**166**		**Pb**	**22 53 28.1**	**-0.6**
PJUM	**Juniper Ridge**	**1.95**	**228**		**Pb**	**22 53 28.8**	**-0.6**
SLD	**San Luis Dam**	**1.98**	**257**		**Pb**	**22 53 28.9**	**-1.0**
MPK	**Martis Peak**	**1.99**	**332**		**Pg**	**22 53 31.4**	**-0.4**
MPK				IAML		22 54 08.5	
	comp=E,65nm,0.8s						
MPK				IAML		22 54 11.2	
	comp=N,107nm,0.8s						
BAVM	**Antelope Valle**	**1.99**	**244**		**Pb**	**22 53 29.2**	**-1.0**
MTOS	**Mt Oso, Westle**	**2.00**	**269**		**Pb**	**22 53 29.5**	**-0.9**
CMPM	**Mikes Peak**	**2.01**	**265**		**Pb**	**22 53 29.5**	**-1.0**
HPCM	**Pacheco Lake**	**2.03**	**257**		**Pb**	**22 53 29.8**	**-1.0**
CTM	**Castle Mountai**	**2.03**	**218**		**Pb**	**22 53 30.1**	**-0.8**
BBGB	**Big Mountain B**	**2.03**	**242**		**Pn**	**22 53 28.9**	**+0.6**
BEMM	**Emmet**	**2.03**	**245**		**Pb**	**22 53 30.3**	**-0.6**
PACP	**Pacheco Peak**	**2.05**	**255**		**Pb**	**22 53 30.2**	**-1.0**
PSMM	**Smith Mountain**	**2.06**	**225**		**Pb**	**22 53 30.2**	**-1.2**
PSRM	**Scobie Ranch**	**2.06**	**215**		**Pb**	**22 53 30.2**	**-1.2**
PMPB	**Monarch Peak**	**2.08**	**231**		**Pn**	**22 53 30.2**	**+1.3**
PHFM	**Heflinger Ranc**	**2.10**	**218**		**Pn**	**22 53 30.5**	**+1.3**
PMRM	**Maxey Ranch**	**2.10**	**213**		**Pn**	**22 53 30.6**	**+1.4**
PPTM	**Peach Tree Val**	**2.10**	**227**		**Pn**	**22 53 30.2**	**+1.0**
PSTM	**Stockdale Moun**	**2.12**	**221**		**Pn**	**22 53 30.7**	**+1.3**
GHC	**Gold Hill**	**2.12**	**216**		**Pn**	**22 53 30.0**	**+0.6**
PSNM	**Stone Corral**	**2.13**	**215**		**Pn**	**22 53 30.7**	**+1.2**
TPNV	**Topopah Spring**	**2.13**	**106**		**Pn**	**22 53 30.0**	**+0.3**
TPNV				IAML		22 54 04.3	
	comp=N,64nm,0.5s						
TPNV				IAML		22 54 08.2	
	comp=N,66nm,1.0s						
TPNV	**Topopah Spring**	**2.13**	**106**	P	**Pn**	**22 53 30.2**	**+0.5**
	baz=287,SNR=33						
PVCM	**Vineyard Canyo**	**2.14**	**221**		**Pn**	**22 53 30.9**	**+1.2**
CMMM	**Mount Mocho**	**2.14**	**268**		**Pb**	**22 53 31.4**	**-1.3**
CSTL	**Corral Hollow**	**2.14**	**273**		**Pb**	**22 53 32.0**	**-0.6**
BVL	**Bear Valley**	**2.14**	**244**		**Pb**	**22 53 31.9**	**-0.8**
HFEM	**San Felipe**	**2.14**	**255**		**Pb**	**22 53 31.4**	**-1.3**
GHS	**Gilroy Hot Spr**	**2.15**	**259**		**Pb**	**22 53 31.8**	**-1.1**
PKLM	**Kerr Lake**	**2.16**	**215**		**Pn**	**22 53 31.2**	**+1.3**
BPIM	**Pinnacles**	**2.16**	**241**		**Pb**	**22 53 31.7**	**-1.3**
ARN	**Arnold Ranch**	**2.18**	**266**		**Pb**	**22 53 31.8**	**-1.5**
GWY	**Greenwater Val**	**2.19**	**128**	Pg	**Pg**	**22 53 34.9**	**-0.8**
CDC	**Canada Road**	**2.20**	**257**		**Pb**	**22 53 32.8**	**-0.9**
PAHR	**Pah Rah Range**	**2.20**	**348**		**Pn**	**22 53 30.9**	**+0.3**
AFDM	**Forest Hills D**	**2.20**	**310**		**Pn**	**22 53 31.0**	**+0.4**
BJOM	**Mount Johnson**	**2.20**	**246**		**Pb**	**22 53 32.5**	**-1.2**
PWKM	**Work Ranch**	**2.21**	**219**		**Pn**	**22 53 32.1**	**+1.4**
TRAM	**Private Proper**	**2.21**	**213**		**Pn**	**22 53 32.1**	**+1.5**
PBPM	**Bitterwater Pu**	**2.22**	**208**		**Pb**	**22 53 32.8**	**-1.3**
PPO	**Portuguese Can**	**2.22**	**221**		**Pn**	**22 53 32.3**	**+1.5**
QSM	**Queen of Sheba**	**2.22**	**135**		**Pg**	**22 53 35.2**	**-1.1**
SAO	**San Andreas Ge**	**2.25**	**250**		**Pb**	**22 53 33.0**	**-1.5**
SAO	**San Andreas Ge**	**2.25**	**250**	Pn	**Pn**	**22 53 31.7**	**+0.5**
TCHL	**Shandon**	**2.26**	**215**		**Pb**	**22 53 33.0**	**-1.6**
LRMC	**Laurel Mtn Rad**	**2.26**	**156**	Pb	**Pb**	**22 53 34.7**	**0.0**
	baz=337,SNR=14						
LRMC				Sb	**Sb**	**22 54 04.1**	**+1.2**
	baz=337						
TRAY	**Twisselman Ran**	**2.26**	**208**		**Pb**	**22 53 33.1**	**-1.6**
CMLM	**Mount Lewis**	**2.26**	**269**		**Pb**	**22 53 33.4**	**-1.4**
BSGM	**Shirttail Gulc**	**2.26**	**241**		**Pn**	**22 53 33.0**	**+1.6**
MHC	**Mount Hamilton**	**2.26**	**266**		**Pn**	**22 53 32.8**	**+1.3**
SCZ	**Santa Cruz**	**2.28**	**246**		**Pn**	**22 53 33.1**	**+1.5**
FRP	**Fremont Peak**	**2.28**	**250**		**Pn**	**22 53 33.2**	**+1.4**
BJCM	**Johnson Can.**	**2.30**	**245**		**Pn**	**22 53 33.4**	**+1.6**
HLPM	**Lions Peak**	**2.31**	**258**		**Pb**	**22 53 33.9**	**-1.7**
BSRM	**Salinas Radio**	**2.34**	**249**		**Pn**	**22 53 33.7**	**+1.2**
TSCN	**Private Proper**	**2.35**	**212**		**Pn**	**22 53 34.5**	**+1.8**
HCBM	**Chamberlain**	**2.36**	**256**		**Pn**	**22 53 34.5**	**+1.8**
HTUM	**Tustin Road**	**2.38**	**253**		**Pb**	**22 53 35.4**	**-1.3**
PCCM	**Crazy Canyon**	**2.39**	**233**		**Pn**	**22 53 34.9**	**+1.9**
CARC	**Carrizo Plain**	**2.39**	**201**		**Pn**	**22 53 35.0**	**+1.8**
BSMM	**Soledad Missio**	**2.40**	**242**		**Pn**	**22 53 35.1**	**+1.8**
ARVC	**Arvin**	**2.42**	**180**	P	**Pn**	**22 53 33.8**	**+0.3**
	baz=0.4						
ARVC				Sb	**Sb**	**22 54 08.6**	**+1.2**
	baz=0.4						
CRGC	**Crocker Grade**	**2.42**	**198**		**Pb**	**22 53 36.2**	**-1.3**
SMMC	**Simmler**	**2.43**	**204**	S	**Sn**	**22 54 04.8**	**+1.2**
	baz=23						
S11A	**Rachel**	**2.43**	**87**		**Pg**	**22 53 39.4**	**-0.9**
BPCNC	**Pine Canyon**	**2.46**	**247**		**Pn**	**22 53 35.8**	**+1.8**
HULI	**Fort Hunter Li**	**2.47**	**233**		**Pb**	**22 53 36.4**	**-2.0**
HAST	**Hastings Reser**	**2.48**	**243**		**Pn**	**22 53 36.1**	**+1.7**
PHSB	**Hesperia Broad**	**2.50**	**227**		**Pn**	**22 53 36.1**	**+1.5**
RAMR	**Ramage Ranch**	**2.53**	**222**		**Pn**	**22 53 36.6**	**+1.5**
BCWM	**Chews Ridge**	**2.53**	**241**		**Pn**	**22 53 36.7**	**+1.5**
BPRM	**Ponciano Ridge**	**2.60**	**245**		**Pn**	**22 53 37.7**	**+1.6**
PAPM	**Alder Peak**	**2.62**	**232**		**Pn**	**22 53 38.3**	**+1.9**
PTAM	**Tassajara Cree**	**2.64**	**216**		**Pn**	**22 53 38.4**	**+1.7**
BCW	**Bitter Crk WRg**	**2.65**	**191**		**Pn**	**22 53 39.0**	**+2.2**
BCW	**Bitter Crk WRg**	**2.65**	**191**	Pn	**Pn**	**22 53 38.4**	**+1.6**
PHCM	**Hearst Castle**	**2.65**	**226**		**Pn**	**22 53 38.5**	**+1.8**
R11B	**Troy Canyon, C**	**2.67**	**72**	Pg	**Pb**	**22 53 41.9**	**+0.1**
R11B	**Troy Canyon, C**	**2.67**	**72**	Pb	**Pb**	**22 53 41.8**	**+0.1**
	baz=254,SNR=32						
R11B				Sb	**Sg**	**22 54 18.2**	**-1.3**
	baz=254						
EDW2	**Edwards Air Fo**	**2.74**	**166**	Pb	**Pb**	**22 53 43.1**	**+0.1**
	baz=346,SNR=13						
EDW2				Sb	**Sb**	**22 54 19.0**	**+2.1**
	baz=346						
GSC	**Goldstone, Bar**	**2.77**	**144**	Pn	**Pn**	**22 53 38.3**	**-0.1**
GSC				Pg	**Pg**	**22 53 47.3**	**+0.6**
GSC				IAML		22 54 47.1	
	comp=E,30nm,0.8s						
PKM	**Mcpherson Peak**	**2.78**	**197**	P	**Pn**	**22 53 39.8**	**+1.2**
	baz=17,SNR=11						
ORV	**Oroville**	**2.91**	**314**		**Pg**	**22 53 48.0**	**-1.3**
ORV				IAML		22 54 28.6	
	comp=E,30nm,0.8s						
ORV				IAML		22 54 34.5	
	comp=N,22nm,0.5s						
OSI	**Osito Audit: C**	**2.93**	**179**	Sb	**Sb**	**22 54 23.2**	**+1.0**
	baz=359						
PRN	**Pahroc Range**	**2.99**	**92**		**Pn**	**22 53 41.9**	**+0.3**
PRN				Pg	**Pg**	**22 53 49.7**	**-1.3**
PRN				IAML		22 54 37.5	
	comp=N,38nm,0.9s						
PRN				IAML		22 54 46.4	
	comp=E,45nm,1.3s						
SHPR	**Sheep Range**	**3.10**	**109**		**Pn**	**22 53 43.5**	**+0.4**
BMN	**Battle Mountai**	**3.

JMN	Monobe	2.86	265			Pn		23 16 17.7	+0.3
JAG	Ashikaga	2.97	36	*i*	P	Pn		23 16 16.7	-1.5
BSO1	Boso 1	3.11	78		P	Pn		23 16 16.9	-2.0
BSO1					S	S		23 17 05.2	-1.5
JHS	Saijyo	3.58	287		Pn	Pn		23 16 23.4	-0.7
JHS	Saijyo	3.58	287		P	Pn		23 16 24.8	+0.7
JHS					S	S		23 17 15.9	-0.1
JMM	Marumori	4.76	36			Pn		23 16 35.1	-1.2
JMM					Sn	S		23 17 33.2	-4.9
JNU	Nakatsue	5.43	262		Pn	Pn		23 16 43.9	+0.1
JNU	Nakatsue	5.43	262		P	Pn		23 16 44.1	+0.3
	23nm,0.7s,baz=79,slow=7.4,SNR=9.0								
JTU	Tsushima	6.55	276		Pn	Pn		23 16 56.5	-0.2
KSRS	Korea Array	8.35	297		P	Pn		23 17 18.8	+1.1
	20nm,0.8s,baz=112,slow=12,SNR=44								
KSAR	Wonju Array Be	8.37	297		Pn	Pn		23 17 18.4	+0.4
KS19	Wonju Array Si	8.40	297			Pn		23 17 18.9	+0.5
INCN	Inchon	9.32	295		Pn	Pn		23 17 29.2	-0.2
JOW	Kunigami	10.59	230		P	Pn		23 17 43.5	-1.2
	17nm,0.5s,baz=115,slow=19,SNR=2.1								
ASAJ	Asahikawa	10.87	21		P	P		23 17 48.5	-0.2
	9.7nm,0.8s,baz=216,slow=14,SNR=3.1								
JKA	Kamikawa-asahi	10.87	21		P	P		23 17 49.0	+0.2
USA0B	Ussuriysk Arra	10.95	340			P		23 17 50.8	+1.2
USRK	Ussuriysk Ar.	10.95	340			P		23 17 50.8	+1.2
USRK	Ussuriysk Ar.	10.95	340		P	Pn		23 17 49.1	+0.3
	7.1nm,0.8s,baz=174,slow=11,SNR=16								
MDJ	Mudanjiang	12.12	333		P	Pn		23 18 03.4	+0.7
BNX	BinXian	13.92	330	⇑	P	P		23 18 22.8	+0.3
BNX					pmax	pmax			
	comp=Z,20nm,0.7s								
BNX					pmax	pmax			
	comp=Z,190nm,4.6s								
KLR	Kul'dur	15.73	346		P	P		23 18 42.2	0.0
	comp=Z,1.8nm,0.5s,baz=166,slow=13,SNR=6.5								
YHNB	Yeheng	16.71	240		P	P		23 18 52.1	-1.0
NACB	Ninganchiao	16.86	238		P	P		23 18 54.4	-0.3
SSLB	Suanglung	17.55	239		P	P		23 19 01.1	-1.1
YULB	Yu-li	17.57	237		P	P		23 18 59.4	-3.0
BJT	Baijiatuau	17.88	296			P		23 19 04.7	-0.7
TPUB	Ta-pu	18.09	238		P	P		23 19 06.4	-1.5
HNS	HongShan	18.64	287	⇓	P	P		23 19 13.8	+0.3
HNS					pmax	pmax			
	comp=Z,34nm,0.9s								
WHN	Wuhan	19.70	266	⇑	*i* P	P		23 19 24.5	-0.4
WHN					sP	pP		23 20 25.2	+11
WHN					pmax	pmax			
	comp=Z,40nm,0.6s								
XAN	Xi'an	23.48	278		P	P		23 19 59.1	-0.6
XAN					pmax	pmax			
	comp=Z,18nm,0.7s								
PEA0B	Petropavlovsk-	23.97	31		P	P		23 20 04.7	+0.9
PETK	Petropavlovsk-	23.97	31		P	P		23 20 05.4	+1.5
PETK	Petropavlovsk-	23.97	31		P	P		23 20 04.9	+1.1
	comp=Z,10nm,1.1s,baz=249,slow=7.6,SNR=2.2								
	comp=Z,10nm,1.1s								
ULN	Ulaanbaatar	26.50	311		P	P		23 20 27.3	+0.7
ULN					IAmb	IAmb		23 20 29.6	
	comp=Z,5.5nm,0.7s								
SONM	Songino Array	26.90	310		P	P		23 20 31.8	+1.6
SONM	Songino Array	26.90	310		P	P		23 20 31.2	+1.0
	comp=Z,3.1nm,0.7s,baz=117,slow=10,SNR=14								
	comp=Z,3.1nm,0.7s								
GTA	Gaotai	30.37	291	*e*	P	P		23 21 00.2	-0.6
GTA					pmax	pmax			
	comp=Z,5.0nm,1.0s								
SLVN	Son La	32.01	255		P	P		23 21 13.8	-1.4
SLVN					IAmb	IAmb		23 21 17.2	
	comp=Z,7.9nm,1.1s								
GOMU	GeErMu	34.62	286		P	P		23 21 38.0	+0.3
GOMU					pmax	pmax			
	comp=Z,8.0nm,0.7s								
CRAI	Chiangrai	35.42	257		P	P		23 21 44.1	-0.2
CRAI					IAmb	IAmb		23 21 46.0	
	comp=Z,6.7nm,0.9s								
CMAR	Chiang Mai Arr	37.49	255		P	P		23 22 01.4	-0.3
	comp=Z,1.7nm,0.5s,baz=54,slow=6.7,SNR=11								
	comp=Z,1.7nm,0.5s								
BILL	Bilibino	37.86	17		P	P		23 22 05.3	+1.2
BILL					IAmb	IAmb		23 22 05.9	
	comp=Z,4.6nm,0.6s								
ZALV	Zalesovo Beam	41.55	315		P	P		23 22 34.3	0.0
	comp=Z,0.4nm,0.3s,baz=99,slow=8.9,SNR=2.8								
	comp=Z,0.4nm,0.3s								
MK31	Makanchi Array	42.94	304		P	P		23 22 46.0	+0.4
MK31					IAmb	IAmb		23 23 24.2	
	comp=Z,11nm,1.4s								
MKAR	Makanchi Array	42.94	304		P	P		23 22 46.0	+0.3
MKAR	Makanchi Array	42.94	304		P	P		23 22 45.9	+0.2
	comp=Z,4.8nm,0.7s,baz=86,slow=9.8,SNR=32								
	comp=Z,4.8nm,0.7s								
KURK	Kurchatov	45.21	310		P	P		23 23 03.3	0.0
KURK					IAmb	IAmb		23 23 03.8	
	comp=Z,8.1nm,1.1s								
KURBB	Kurchatov Arra	45.27	310		P	P		23 23 03.5	-0.2
	comp=Z,3.1nm,0.2s,baz=86,slow=6.7,SNR=13								
	comp=Z,3.1nm,0.2s								
J14K	Nanvaranak Lak	46.32	33		P	P		23 23 12.6	+0.9
J14K					IAmb	IAmb		23 23 23.3	
	comp=Z,15nm,1.3s								
F15K	North Star Dit	46.45	29		P	P		23 23 14.5	+1.8
F15K					IAmb	IAmb		23 23 35.6	
	comp=Z,16nm,1.2s								
M14K	Bethel	46.80	36		P	P		23 23 16.9	+1.5
M14K					IAmb	IAmb		23 24 00.3	
	comp=Z,13nm,1.1s								
K15K	Wolf Creek Mou	47.18	34		P	P		23 23 20.1	+1.7
N15K	Kwethluk River	47.66	37		P	P		23 23 23.4	+1.3
N15K					IAmb	IAmb		23 23 32.0	
	comp=Z,19nm,1.4s								
J16K	Anvik River	47.73	33		P	P		23 23 24.4	+1.8
J16K					IAmb	IAmb		23 23 24.9	
	comp=Z,18nm,1.5s								
F17K	Baldwin Pennin	47.96	28		P	P		23 23 25.9	+1.7
F17K					IAmb	IAmb		23 24 03.2	
	comp=Z,16nm,1.4s								
L16K	Owhat River	48.09	35		P	P		23 23 26.3	+1.1
L16K					IAmb	IAmb		23 24 04.4	
	comp=Z,12nm,1.4s								
M16K	Timber Creek	48.28	36		P	P		23 23 28.0	+1.3
M16K					IAmb	IAmb		23 23 35.9	
	comp=Z,17nm,1.4s								
E18K	Tukpahlearik C	48.40	27		P	P		23 23 28.7	+1.2
E18K					IAmb	IAmb		23 23 34.4	
	comp=Z,9.4nm,1.3s								
C18K	Utukok River	48.43	25		P	P		23 23 29.0	+1.2
C18K					IAmb	IAmb		23 23 47.0	
	comp=Z,16nm,1.5s								
O16K	Kokwok River B	48.64	38		P	P		23 23 30.3	+0.9
K17K	Iditarod	48.72	34		P	P		23 23 31.4	+1.4
K17K					IAmb	IAmb		23 23 41.6	
	comp=Z,16nm,1.5s								
G18K	Tagagawik	48.91	29		P	P		23 23 31.9	+0.5
H18K	Honhosa River	48.94	30		P	P		23 23 33.2	+1.5
H18K					IAmb	IAmb		23 24 09.3	
	comp=Z,7.9nm,1.3s								
M17K	Holitna River	49.04	35		P	P		23 23 34.2	+1.8
M17K					IAmb	IAmb		23 23 46.2	
	comp=Z,16nm,1.4s								
C19K	Lookout Ridge	49.10	25		P	P		23 23 34.3	+1.5
C19K					IAmb	IAmb		23 23 53.4	
	comp=Z,15nm,1.5s								
N17K	Nushagak Hills	49.12	37		P	P		23 23 34.7	+1.6
GSI	Gunungsitoli	49.37	237		P	P		23 23 35.9	+0.3
D19K	Kuna River	49.51	26		P	P		23 23 37.1	+1.1
E19K	Redstone River	49.69	27		P	P		23 23 38.9	+1.7
N18K	Kilae Creek	49.77	36		P	P		23 23 39.2	+1.2
N18K					IAmb	IAmb		23 23 53.3	
	comp=Z,11nm,1.2s								
H19K	Roundabout Mou	49.78	30		P	P		23 23 38.9	+1.1
J19K	Poorman	50.01	32		P	P		23 23 40.9	+1.2
J19K					IAmb	IAmb		23 24 17.6	
	comp=Z,11nm,1.5s								
B20K	Meade River	50.11	24		P	P		23 23 41.4	+1.2
O18K	Koktuh Hills	50.11	37		P	P		23 23 42.8	+2.4
BVAR	Borovoye Array	50.15	314		P	P		23 23 41.0	+0.1
	comp=Z,0.9nm,0.5s,baz=100,slow=8.3,SNR=7.6								
	comp=Z,0.9nm,0.5s								
L19K	White Mountain	50.29	34		P	P		23 23 43.2	+1.4
L19K					IAmb	IAmb		23 24 14.6	
	comp=Z,14nm,1.5s								
ARSB	Arslanbob	50.39	298		P	P		23 23 41.9	-1.1
N19K	Bonanza Creek	50.46	36		P	P		23 23 44.1	+1.0
N19K					IAmb	IAmb		23 24 00.1	
	comp=Z,9.9nm,1.3s								

DHY	Denali Highway	53.72	33		P	P		23 24 08.1	+1.1
DHY					IAmb	IAmb		23 24 16.6	
	comp=Z,11nm,1.4s								
WRA	Warramunga Arr	53.75	183		P	P		23 24 05.9	-1.6
WRA	Warramunga Arr	53.75	183		P	P		23 24 06.1	-1.4
	comp=Z,4.0nm,0.3s,baz=359,slow=7.6,SNR=58								
	comp=Z,4.0nm,0.3s								
WR0	Warramunga Arr	53.76	183		P	P		23 24 06.2	-1.3
ILAR	Eielson Array	53.80	31		P	P		23 24 07.5	+0.1
	comp=Z,0.8nm,1.0s,baz=276,slow=5.3,SNR=8.4								
	comp=Z,0.8nm,1.0s								
ABKAR	Akbulak array	57.31	311		P	P		23 24 32.1	-0.2
AS31	Alice Springs	57.47	184		P	P		23 24 32.2	-1.5
ASAR	Alice Springs	57.47	184		P	P		23 24 33.0	-0.7
ASAR	Alice Springs	57.47	184		P	P		23 24 32.5	-1.2
	comp=Z,1.3nm,0.3s,baz=17,slow=12,SNR=30								
	comp=Z,1.3nm,0.3s								
EPYK	Eagle Plains	57.77	28		P	P		23 24 36.7	+1.5
EPYK					IAmb	IAmb		23 24 37.4	
	comp=Z,5.3nm,0.7s								
G30M	tAoh Zraii Nji	57.84	28		P	P		23 24 36.9	+1.2
G30M					IAmb	IAmb		23 24 37.7	
	comp=Z,8.5nm,1.3s								
M29M	Somme Creek	57.86	33		P	P		23 24 38.0	+1.9
INK	Inuvik	58.56	26		P	P		23 24 41.3	+0.7
G31M	Satah River	58.60	27		P	P		23 24 41.5	+0.6
F31M	Tsiigehtchic	58.68	27		P	P		23 24 41.6	+0.2
F31M					IAmb	IAmb		23 25 06.4	
	comp=Z,14nm,1.5s								
H31M	Peel River	58.84	29		P	P		23 24 43.8	+1.2
H31M					IAmb	IAmb		23 24 44.9	
	comp=Z,5.9nm,1.0s								
STKA	Stephens Creek	65.69	176		P	P		23 25 27.3	-0.6
	comp=Z,0.9nm,0.4s,baz=314,slow=5.1,SNR=4.3								
	comp=Z,0.9nm,0.4s								
YKA	Yellowknife Ar	68.06	28		P	P		23 25 42.5	+0.1
	comp=Z,0.7nm,0.8s,baz=301,slow=6.3,SNR=7.1								
	comp=Z,0.7nm,0.8s								
FINES	FINESS Array B	69.87	332		P	P		23 25 53.4	0.0
	comp=Z,1.7nm,0.8s,baz=60,slow=5.5,SNR=7.0								
	comp=Z,1.7nm,0.8s								
AKASG	Malin Array Be	74.56	321		P	P		23 26 20.8	-0.4
	comp=Z,0.7nm,0.4s,baz=51,slow=5.6,SNR=7.1								
	comp=Z,0.7nm,0.4s								
HFS	Hagfors	75.39	334		P	P		23 26 25.6	-0.1
	comp=Z,2.5nm,0.9s,baz=94,slow=15,SNR=1.5								
	comp=Z,2.5nm,0.9s								
BRTR	Kenkin Array B	78.26	310		P	P		23 26 42.4	+0.1
	comp=Z,0.5nm,0.5s,baz=151,slow=5.6,SNR=4.4								
	comp=Z,0.5nm,0.5s								
PDAR	Pinedale Array	82.15	43		P	P		23 27 03.0	+0.2
	comp=Z,0.3nm,0.6s,baz=294,slow=4.7,SNR=3.7								
	comp=Z,0.3nm,0.6s								
TXAR	Lajitas Array	94.61	50		P	P		23 28 02.9	+0.6
	comp=Z,0.3nm,0.6s,baz=281,slow=2.6,SNR=4.9								
	comp=Z,0.3nm,0.6s								

*NEIC **08** 23:42:08.9, 16.03S×173.65W, h160km, Moment Tensor Solution. Duration: 3-3 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.15; $M_{\theta\theta}$=0.24; $M_{\phi\phi}$=-0.10; $M_{r\theta}$=0.59; $M_{r\phi}$=-0.36; $M_{\theta\phi}$=4.04; Fault plane solution: M_o=4.10000×10^{17} NP1:ϕ_s=7.71000°, δ89.85000°, λ,85.73000°. NP2:ϕ_s=275.74000°, δ4.27000°, λ178.02000°. Principal axes: T 3.9285, Plg45.0000°, Azm273.0000°; N 0.3383, Plg4.0000°, Azm8.0000°; P -4.2668, Plg45.0000°, Azm102.0000°;*

*NEIC **08** 23:42:08.9, 16.13S×173.96W, h160km*
*BJI **08** 23:42:09.0, 15.86S×174.00W, h120km, mb5.9/77, mB5.8/57*

*IPGP **08** 23:42:09.0, 16.13S×173.96W, h160km, Mw5.8, Fault plane solution: NP1:ϕ_s=8.00000°, δ80.00000°, λ,85.00000°. NP2:ϕ_s213.00000°, δ11.00000°, λ,115.00000°.*

*NEIC **08** 23:42:10.4, 16.13S×173.95W, h125km*
*IDC **08** 23:42:10.9±3.0, 15.99S×173.98W, h128km±26km, mb5.5/22, mbtmp5.9/25, MS4.4/52, Error ellipse: s-maj=11.8km s-min=10.4km az=166.0*

*MOS **08** 23:42:10.3±0.8, 16.02S×174.04W, h138km, mb5.7/56, Error ellipse: s-maj=7.0km s-min=5.9km az=62.8*

*NEIC **08** 23:42:13.8±1.4, 16.12S±0.07×173.92W±0.07, h155km±1km, mb5.6/805, Mwb5.7/52, Mww5.7/21, Error ellipse: s-maj=12.0km s-min=11.4km az=70.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.59; $M_{\theta\theta}$=-0.69; $M_{\phi\phi}$=0.10; $M_{r\theta}$=0.32; $M_{r\phi}$=-0.29; $M_{\theta\phi}$=4.40; Fault plane solution: M_o=4.47000×10^{17} NP1: ϕ_s=254.17000°, δ5.03000°, λ158.77000°. NP2:ϕ_s=5.32000°, δ88.18000°, λ,85.31000°. Principal axes: T 4.7543, Plg47.0000°, Azm270.0000°; N -0.6379, Plg5.0000°, Azm5.0000°; P -4.1164, Plg43.0000°, Azm100.0000°;*

*NOU **08** 23:42:13.2, 16.14S×173.83W, h157km, ML6.1/190, Tonga Islands*

*GCMT **08** 23:42:16.8±0.1, 15.98S±0.01×173.57W±0.01, h164km, MW5.8/160, Moment Tensor Solution. s150,c311; s160,c335; Duration: 1-9 Moment tensor: Scale 10^{17}Nm; M_{rr}=1.04±.05; $M_{\theta\theta}$=-0.37±.06; $M_{\phi\phi}$=-0.66±.06; $M_{r\theta}$=0.84±.04; $M_{r\phi}$=-0.65±.07; $M_{\theta\phi}$=5.62±.04; Best double couple: M_o=5.79100×10^{17} NP1:ϕ_s=9.00000°, δ85.00000°, λ84.00000°. NP2:ϕ_s=239.00000°, δ7.00000°, λ140.00000°. Principal axes: T 5.8780, Plg49.0000°, Azm273.0000°; N -0.1710, Plg6.0000°, Azm10.0000°; P -5.7050, Plg40.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 23:42:12.0±0.3, 16.11S±0.03×173.85W±0.03, h147km±2km, h148km; pP-P, n2498, σ1-9 15/2401, mb5.7/538, 165C-88D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.97	43	Pn	Pn	23 42 57.6	-1.4
AFI	Afiamalu	2.97	43	P	Pn	23 42 58.2	-0.8
AFI	Afiamalu	2.97	43	P	Pn	23 42 57.6	-1.4
FUTU	Fugatoga	4.50	293	P	Pn	23 43 22.3	+3.5
NIUE	Niue	4.76	129	P	Pn	23 43 22.7	+0.4
	baz=4.9,SNR=595						
NIUE				S	Sn	23 44 15.5	-1.5
	baz=4.9						
NIUE	Niue	4.76	129		Pn	23 43 19.3	-3.0
NIUE	Niue	4.76	129	P	Pn	23 43 23.2	+0.9
LKBA	Tubou, Lakemba	5.19	245	P	Pn	23 43 32.4	+4.4
TAVE	Taveuni	5.84	263	P	Pn	23 43 40.5	+3.9
DGTI	Dogotuki	6.16	267	P	Pn	23 43 44.9	+4.0
YSA	Yasawairara	8.25	265	P	Pn	23 44 12.6	+3.8
FUNA	Funafuti	10.14	317	Pn	Pn	23 44 30.4	-3.7
FUNA	Funafuti	10.14	317	P	Pn	23 44 37.1	+3.0
RAO	Raoul Island	13.60	195	Pn	Pn	23 45 16.9	-2.1
RAO	Raoul Island	13.60	195	P	Pn	23 45 20.1	+1.1
	190nm,0.3s,baz=88,slow=22,SNR=2.1						
RAO				S	Sn	23 47 41.1	-8.5
	229nm,0.3s,baz=287,slow=19,SNR=1.5						
RAR	Rarotonga	14.27	113	Pn	Pn	23 45 26.7	-0.8
RAR	Rarotonga	14.27	113	P	P	23 45 30.6	+0.2
RAR	Rarotonga	14.27	113	P	P	23 45 30.8	+0.5
	931nm,0.9s,baz=254,slow=6.4,SNR=24						
RAR				S	Sn	23 48 08.4	+2.6
	13nm,0.4s,baz=300,slow=18,SNR=0.8						
RTV	Rentapao	17.04	262	P	Pn	23 46 03.2	+1.6
DVP	Devils Point	17.26	262	P	Pn	23 46 05.9	+1.6
MARNC	Mare, Loyalty	17.96	250	P	P	23 46 09.1	-2.0
MARNC	Mare, Loyalty	17.96	250	P	P	23 46 11.2	+0.1
LIFNC	LIFOU	18.52	253		P	23 46 15.4	-1.8
LIFNC	LIFOU	18.52	253	P	P	23 46 16.4	-0.9
PINNC	Pines Island,	18.78	247	P	P	23 46 18.6	-1.5
PINNC	Pines Island,	18.78	247	P	P	23 46 20.0	-0.1
OUENC	Ouen Island, N	19.27	248	P	P	23 46 23.8	-1.6
OUENC	Ouen Island, N	19.27	248	P	P	23 46 24.6	-0.8
DZM	Mont Dzumac	19.53	249	P	P	23 46 26.8	-1.6
DZM	Mont Dzumac	19.53	249	P	P	23 46 27.4	-1.0
DZM	Mont Dzumac	19.53	249	*e*P	P	23 46 26.5	-1.9
	4μm,1.1s						
DZM				epP	pP	23 46 53.4	-0.1
DZM				*e*S	S	23 50 04.8	+3.6
	5μm,26.8s						
DZM	Mont Dzumac	19.53	249	P	P	23 46 27.8	-0.6
	424nm,0.9s,baz=78,slow=16,SNR=121						
ONTNC	Ouen Toro	19.58	249	P	P	23 46 26.4	-2.4
ONTNC	Ouen Toro	19.58	249	P	P	23 46 28.4	-0.4
NOUC	Port Laguerre	19.67	249	P	P	23 46 28.6	-1.1
NFK	Norfolk Island	21.14	229	P	P	23 46 44.7	-0.7
	baz=21,SNR=7.6						

NFK	Norfolk Island	21.14	229		P	P		23 46 46.2	+0.8
KOUNC	Koumac, New Ca	21.21	255		P	P		23 46 44.6	-1.6
KOUNC	Koumac, New Ca	21.21	255		P	P		23 46 45.4	-0.9
MXZ	Matakaoa Point	22.46	196		P	P		23 46 58.5	-0.4
MXZ					IAmb	IAmb		23 47 12.0	
	comp=Z,164nm,0.7s								
KUZ	Kuaotunu	22.54	202		P	P		23 47 01.1	+1.4
PAE	Paea	23.27	97	*e*	P	P		23 47 07.5	+0.8
	comp=Z,281nm,1.2s								
PAE	Paea	23.27	97	*e*	T	T		00 10 24.1	
	comp=Z,9.9nm,0.3s								
PPT	Papeete	23.28	97	P		P		23 47 08.5	+1.7
	comp=Z,898nm,1.0s,baz=297,slow=2.2,SNR=41								
PPT					LR	LR		23 54 19.9	
	comp=Z,1μm,20.1s,baz=274,slow=31								
	comp=Z,898nm,1.0s								
PPT2	Papeete2	23.28	97	*e*	P	P		23 47 07.9	+1.1
	comp=Z,904nm,1.1s								
PPT2				*ep*	P	pP		23 47 35.1	+2.4
	comp=Z,1μm,15.5s								
PPT2				*e*	S	S		23 51 05.4	-2.8
	comp=Z,1μm,17.2s								
PPT2				*es*	S	sS		23 51 54.4	-4.7
	comp=Z,3μm,27.2s								
PPT2	Papeete2	23.28	97	*e*	T	T		00 10 35.6	
	comp=Z,12nm,0.3s								
PPTF	Pamatai, Papee	23.29	97	P		P		23 47 07.7	+0.8
PPTF	Pamatai, Papee	23.29	97	P		P		23 47 08.5	+1.6
URZ	Urewera	23.45	198	P		P		23 47 03.7	-0.8
TIAR	Tiarei	23.50	97	*e*	P	P		23 47 11.0	+2.2
	comp=Z,100nm,0.9s								
TOZ	Tahuroa Road	23.50	202		P	P		23 47 09.2	+0.7
TVO	Taravao	23.59	98	*e*	P	P		23 47 10.6	+1.0
	comp=Z,375nm,0.9s								
TVO	Taravao	23.59	98	*e*	T	T		00 11 02.2	
	comp=Z,7.2nm,0.4s								
RTZ	Ruatahuna	23.82	198		P	P		23 47 10.9	-0.6
RTZ					IAmb	IAmb		23 47 30.6	
	comp=Z,119nm,0.8s								
TBI	Tubuai	24.04	111	*e*	P	P		23 47 15.8	+2.2
	comp=Z,1μm,0.9s								
TBI				*ep*	P	pwP		23 47 46.7	-3.1
	comp=Z,4μm,17.5s								
TBI				*e*	S	S		23 51 20.6	+0.4
TBI				*es*	S	sS		23 52 10.6	-2.9
	comp=Z,17μm,30.2s								
TBI	Tubuai	24.04	111	*e*	T	T		00 11 48.3	
	comp=Z,20nm,0.3s								
XMAS	Kiritimati	24.26	43		P	P		23 47 15.3	-0.4
XMAS	Kiritimati	24.26	43		P	P		23 47 16.6	+1.0
HIZ	Hauiti	24.43	202		P	P		23 47 17.6	+0.7
BKZ	Black Stump Fm	24.48	198		P	P		23 47 16.3	-1.2
BKZ	Black Stump Fm	24.48	198		P	P		23 47 17.2	-0.3
MEH	Mehetia	24.72	98	*e*	P	P		23 47 20.8	+1.0
	comp=Z,164nm,1.2s								
MEH	Mehetia	24.72	98	*e*	T	T		00 12 38.1	
	comp=Z,9.3nm,0.2s								
PMOR	Pomariorio Ree	25.03	91	*e*	P	P		23 47 24.0	+1.4
	comp=Z,1μm,1.0s								
PMOR	Pomariorio Ree	25.03	91	*e*	T	T		00 13 05.7	
	comp=Z,6.8nm,0.3s								
KHEZ	Kahui Hut	25.42	202		P	P		23 47 27.5	+1.4
BFZ	Birch Farm	25.95	197		P	P		23 47 29.6	-1.1
BFZ					IAmb	IAmb		23 47 33.1	
	comp=Z,190nm,0.7s								
BFZ	Birch Farm	25.95	197		P	P		23 47 30.9	+0.2
MRZ	Mangatainoka R	26.12	198		P	P		23 47 30.8	-1.5
MRZ					IAmb	IAmb		23 47 35.5	
	comp=Z,174nm,0.8s								
HNR	Honiara	26.38	281		P	P		23 47 33.6	-1.3
HNR	Honiara	26.38	281		P	P		23 47 34.8	-0.1
HNR	Honiara	26.38	281		P	P		23 47 33.6	-1.3
DUWZ	D'Urville Isla	26.79	201		P	P		23 47 39.3	+1.1
SNZO	South Karori	26.99	199		P	P		23 47 38.8	-1.2
SNZO					IAmb	IAmb		23 47 44.9	
	comp=Z,162nm,0.8s								
SNZO	South Karori	26.99	199		P	P		23 47 39.2	-0.8
BHW	Baring Head	27.02	199		P	P		23 47 38.7	-1.6
BHW					IAmb	IAmb		23 47 43.5	
	comp=Z,181nm,0.9s								
BHW						PcP		23 50 58.5	+0.6
TCW	Tory Channel	27.04	200		P	P		23 47 40.1	-0.3
TCW	Tory Channel	27.04	200		P	P		23 47 41.6	+1.1
PLWZ	Palliser	27.05	198		P	P		23 47 39.3	-1.4
QRZ	Quartz Range	27.31	203		P	P		23 47 42.5	-0.4
QRZ	Quartz Range	27.31	203		P	P		23 47 44.2	+1.3
QRZ	Quartz Range	27.31	203		P	P		23 47 43.5	+0.6
TKNZ	Takaka Hill	27.33	202		P	P		23 47 42.3	-0.8
TKNZ	Takaka Hill

baz=35,SNR=78
ARMA Armidale 34.61 240 P **P** **23 48 46.4 -0.8**
ARMA IAmb IAmb 23 48 48.0
comp=Z,230nm,1.0s
ARMA Armidale 34.61 240 P **P** **23 48 46.9 -0.3**
AUPHS Peel High Scho 35.41 239 P **P** **23 48 53.9 -0.1**
RABL Rabaul 35.42 286 P **P** **23 48 52.8 -1.5**
RABL Rabaul 35.42 286 P **P** **23 48 53.8 -0.5**
MGCD Mangrove Creek 35.89 235 P **P** **23 48 57.9 -0.1**
baz=36,SNR=28
RIV Riverview 36.07 234 P **P** **23 48 59.4 -0.1**
baz=36,SNR=6.7
RIV Riverview 36.07 234 P **P** **23 48 59.2 -0.3**
RMQ Roma 36.22 247 P **P** **23 49 00.4 -0.5**
baz=36,SNR=56
AUAYR Ayr State High 36.98 259 P **P** **23 49 06.4 -1.1**
AUUHS Ulladulla High 37.15 232 P **P** **23 49 07.7 -0.9**
KAVG Kavieng 37.28 287 P **P** **23 49 08.0 -2.1**
AULRC Lightning Ridg 37.43 242 P **P** **23 49 09.9 -1.2**
AUDCS Dubbo College 37.58 238 P **P** **23 49 11.8 -0.6**
CNB Canberra Magne 37.97 233 P **P** **23 49 15.4 -0.4**
baz=38,SNR=125
CNB Canberra Magne 37.97 233 P **P** **23 49 15.5 -0.2**
CTA Charters Tower 38.06 258 P **P** **23 49 15.0 -1.6**
CTA Charters Tower 38.06 258 LR LR 00 02 33.6
comp=Z,916nm,20.7s,baz=90,slow=32
CTAO Charters Tower 38.06 258 P **P** **23 49 14.7 -1.9**
CTAO IAmb IAmb 23 49 18.2
comp=Z,140nm,0.8s
CTAO Charters Tower 38.06 258 P **P** **23 49 15.0 -1.6**
CTAO Charters Tower 38.06 258 P **P** **23 49 14.7 -1.9**
CTAO pmax pmax
comp=Z,140nm,0.8s
CTAO Charters Tower 38.06 258 P **P** **23 49 15.0 -1.6**
CTAO PcP **PcP** **23 51 29.8 +0.9**
CAN Canberra 38.26 233 P **P** **23 49 17.0 -1.1**
CAN Canberra 38.26 233 P **P** **23 49 17.5 -0.6**
CAN Canberra 38.26 233 P **P** **23 49 17.0 -1.1**
CAN pmax pmax
comp=Z,256nm,1.0s
CAN Canberra 38.26 233 P **P** **23 49 17.3 -0.7**
CAN pP **pP** **23 49 50.3 +0.8**
CAN sP **sP** **23 50 08.2 +2.2**
CAN PcP **PcP** **23 51 30.7 +1.4**
YNG Young 38.38 235 P **P** **23 49 18.6 -0.5**
PMG Port Moresby 38.56 275 P **P** **23 49 20.7 -0.1**
PMG Port Moresby 38.56 275 P **P** **23 49 21.2 +0.5**
PMG Port Moresby 38.56 275 P **P** **23 49 21.3 +0.5**
PMG Port Moresby 38.56 275 P **P** **23 49 20.7 -0.1**
PMG pmax pmax
comp=Z,617nm,1.1s
PMG Port Moresby 38.56 275 P **P** **23 49 21.3 +0.6**
PMG pP **pwP** **23 49 55.2 -0.1**
PMG PcP **PcP** **23 51 31.1 +0.6**
MILA Mila 38.77 230 P **P** **23 49 21.8 -0.5**
baz=39,SNR=8.2
MILA Mila 38.77 230 P **P** **23 49 21.5 -0.8**
AUSMG Snowy Mountain 38.94 231 P **P** **23 49 23.4 -0.4**
H11S2 WAKE ISLAND Hy 39.35 330 T T 00 30 46.3
baz=146,slow=75,SNR=400
H11S3 WAKE ISLAND Hy 39.37 330 T T 00 30 53.6
baz=146,slow=75,SNR=211
H11S1 WAKE ISLAND Hy 39.37 330 T T 00 30 53.5
baz=146,slow=75,SNR=126
KHU Kahuku 39.45 28 P **P** **23 49 27.4 -0.9**
KHU IAmb IAmb 23 49 42.7
comp=Z,138nm,1.2s
KHU Kahuku 39.45 28 P **P** **23 49 27.4 -0.9**
KHU pmax pmax
comp=Z,138nm,1.2s
KHLU Kahalu`u 39.63 27 P **P** **23 49 29.0 -0.7**
KHLU IAmb IAmb 23 49 31.2
comp=Z,83nm,0.6s
HLP Hilina Pali 39.63 28 P **P** **23 49 28.0 -1.6**
HLP IAmb IAmb 23 49 43.7
comp=Z,202nm,1.1s
HUH Hualalai 39.74 27 P **P** **23 49 30.3 -0.5**
HUH IAmb IAmb 23 49 32.7
comp=Z,196nm,1.4s
PUH Pauahi 39.74 28 P **P** **23 49 30.2 -0.4**
PUH IAmb IAmb 23 49 39.7
comp=Z,120nm,0.8s
CMSA Cobar Meteorol 39.82 240 P **P** **23 49 30.1 -1.0**
baz=40,SNR=418
CMSA Cobar Meteorol 39.82 240 P **P** **23 49 30.0 -1.0**
HMH Humu'ula Sheep 39.82 28 P **P** **23 49 32.4 +1.0**
HMH IAmb IAmb 23 49 33.8
comp=Z,121nm,1.0s
POHA Pohakuloa 39.94 27 P **P** **23 49 33.4 +1.0**
POHA IAmb IAmb 23 49 56.5
comp=Z,84nm,0.6s
POHA Pohakuloa 39.94 27 P **P** **23 49 33.5 +1.2**
MTSU Mount Surprise 39.97 261 P **P** **23 49 31.2 -1.3**
baz=40,SNR=266
WAKE Wake Island 40.06 331 P **P** **23 49 30.9 -2.2**
WAKE Wake Island 40.06 331 P **P** **23 49 33.2 +0.1**
HPAH Hawaii Prepara 40.10 27 P **P** **23 49 34.0 +0.5**
HPAH IAmb IAmb 23 49 35.5
comp=Z,122nm,0.7s
MHA Mahukona 40.15 27 P **P** **23 49 34.4 +0.6**
MHA Mahukona 40.15 27 P **P** **23 49 34.4 +0.6**
QLP Quilpie 40.24 248 P **P** **23 49 33.2 -1.5**
baz=40,SNR=124
QLP Quilpie 40.24 248 P **P** **23 49 33.4 -1.2**
KEKH Kekaha 40.32 21 P **P** **23 49 35.4 +0.2**
KEKH IAmb IAmb 23 49 38.1
comp=Z,142nm,0.8s
H11N3 WAKE ISLAND Hy 40.32 331 P **P** **23 49 34.8 -0.1**
baz=174,slow=8.9,SNR=7.5
H11N3 T T 00 31 21.8
baz=140,slow=75
H11N1 WAKE ISLAND Hy 40.32 331 P **P** **23 49 34.8 -0.1**
baz=174,slow=8.9,SNR=4.3
H11N1 T T 00 33 08.4
baz=140
HON Honolulu 40.32 23 P **P** **23 49 35.1 -0.1**
HON IAmb IAmb 23 49 38.6
comp=Z,143nm,0.9s
HON Honolulu 40.32 23 P **P** **23 49 35.1 -0.1**
HON pmax pmax
comp=Z,143nm,0.9s
H11N2 WAKE ISLAND Hy 40.34 331 P **P** **23 49 34.6 -0.5**
baz=174,slow=8.9,SNR=5.2
H11N2 T T 00 31 26.5
baz=140,slow=75
KIP Kipapa 40.41 23 P **P** **23 49 36.2 +0.3**
KIP IAmb IAmb 23 49 39.4
comp=Z,158nm,0.9s
KIP Kipapa 40.41 23 P **P** **23 49 37.6 +1.7**
KIP Kipapa 40.41 23*ce* P **P** **23 49 37.7 +1.8**
KIP pmax pmax
comp=Z,188nm,1.1s
KIP Kipapa 40.41 23 P **P** **23 49 37.5 +1.7**
HLK Haleakala 40.51 26 P **P** **23 49 38.1 +1.0**
HLK IAmb IAmb 23 49 40.5
comp=Z,149nm,1.1s
KHLH Kahului Airpor 40.56 26 P **P** **23 49 37.4 +0.2**
KHLH IAmb IAmb 23 49 40.2
comp=Z,265nm,1.6s
OPA Opana 40.65 23 P **P** **23 49 38.8 +0.9**
OPA IAmb IAmb 23 49 48.1
comp=Z,496nm,1.9s
OPA Opana 40.65 23 P **P** **23 49 38.8 +0.9**
OPA pmax pmax
comp=Z,497nm,1.9s
MANU Manus Island 40.66 286 P **P** **23 49 37.8 -0.4**
MANU Manus Island 40.66 286 P **P** **23 49 38.8 +0.6**
COEN Coen 41.51 267 P **P** **23 49 44.9 -0.2**
COEN Coen 41.51 267 P **P** **23 49 45.2 +0.1**
TOO Toolangi 41.68 231 P **P** **23 49 45.8 -0.4**
baz=42,SNR=64
TOO Toolangi 41.68 231 P **P** **23 49 45.2 -1.1**
TOO Toolangi 41.68 231 P **P** **23 49 46.0 -0.3**
TOO Toolangi 41.68 231 P **P** **23 49 45.2 -1.1**
TOO pmax pmax
comp=Z,385nm,1.0s
PTCN Pitcairn Islan 41.77 110 P **P** **23 49 47.3 +0.2**
MOO Moorlands 42.38 224 P **P** **23 49 51.8 0.0**
baz=42,SNR=5.0
TAU Tasmania Unive 42.50 223 P **P** **23 49 51.3 -1.5**
TAU IAmb IAmb 23 49 53.6
comp=Z,383nm,1.9s
TAU Tasmania Unive 42.50 223 P **P** **23 49 51.9 -0.9**
TAU Tasmania Unive 42.50 223 P **P** **23 49 51.3 -1.5**
TAU pmax pmax
comp=Z,383nm,1.9s
STKA Stephens Creek 43.31 240 P **P** **23 49 59.0 -0.5**
baz=43,SNR=132
STKA Stephens Creek 43.31 240 P **P** **23 49 58.8 -0.7**
STKA IAmb IAmb 23 50 00.4
comp=Z,180nm,0.9s
STKA Stephens Creek 43.31 240 P **P** **23 49 59.2 -0.3**
STKA Stephens Creek 43.31 240 P **P** **23 49 58.8 -0.7**
STKA pmax pmax
comp=Z,180nm,0.9s
STKA Stephens Creek 43.31 240 P **P** **23 49 59.4 -0.1**
comp=Z,800nm,0.9s,baz=89,slow=8.7,SNR=848
STKA PcP **PcP** **23 51 46.5 +0.8**
comp=Z,114nm,0.7s,baz=136,slow=3.3,SNR=5.7
STKA LR LR 00 06 28.8
comp=Z,477nm,18.3s,baz=77,slow=34
comp=Z,800nm,0.9s
INKA Innaminka 43.46 247 P **P** **23 50 00.5 -0.2**
MCQ Macquarie Isla 43.72 203 P **P** **23 50 04.0 +1.6**
baz=44,SNR=4.4
MCQ Macquarie Isla 43.72 203 P **P** **23 50 01.6 -0.7**
MCQ IAmb IAmb 23 50 04.7
comp=Z,214nm,0.9s
MCQ Macquarie Isla 43.72 203 P **P** **23 50 03.9 +1.6**
MCQ Macquarie Isla 43.72 203 P **P** **23 50 01.6 -0.7**
MCQ pmax pmax
comp=Z,214nm,1.0s
MIDW Midway 44.20 356 P **P** **23 50 06.7 +0.3**
MIDW Midway 44.20 356 P **P** **23 50 06.8 +0.4**
MIDW Midway 44.20 356 P **P** **23 50 06.7 +0.3**
ARPS Mount Arapiles 44.22 234 P **P** **23 50 06.1 -0.5**
baz=44,SNR=76
AUHPC Hawkesdale P12 44.23 232 P **P** **23 50 07.3 +0.6**
QIS Mount Isa 44.29 257 P **P** **23 50 05.6 -1.9**
baz=44,SNR=85
QIS Mount Isa 44.29 257 P **P** **23 50 05.6 -1.9**
TABU Tabubil 45.34 279 P **P** **23 50 16.7 +0.8**
HTT Hallett 45.80 239 P **P** **23 50 18.7 -0.6**
baz=46,SNR=231
HTT Hallett 45.80 239 P **P** **23 50 18.7 -0.6**
LCRK Leigh Creek 45.95 243 P **P** **23 50 19.9 -0.6**
JAY Jayapura 46.70 282 P **P** **23 50 26.6 +0.1**
comp=Z,816nm,1.0s,comp=Z,9μm
GENI Genyem 47.18 282 P **P** **23 50 31.1 +0.9**
GENI Genyem 47.18 282 P **P** **23 50 30.0 -0.2**
comp=Z,1μm,1.1s,comp=Z,16μmcomp=Z,4μm
OOD Oodnadatta 47.93 247 P **P** **23 50 35.5 -0.3**
BBOO Buckleboo 48.08 240 P **P** **23 50 36.0 -0.9**
baz=48,SNR=794
BBOO Buckleboo 48.08 240 P **P** **23 50 35.7 -1.2**
BBOO Buckleboo 48.08 240 P **P** **23 50 36.3 -0.6**
SMPI Sarmi 48.76 282 P **P** **23 50 42.1 -0.2**
comp=Z,631nm,1.2s,comp=Z,8μmcomp=Z,4μm
WR0 Warramunga Arr 49.07 257 P **P** **23 50 42.9 -1.8**
WB0 Warramunga Arr 49.22 258 P **P** **23 50 44.3 -1.5**
WB2 Warramunga Arr 49.25 257 P **P** **23 50 44.2 -1.8**
WRAB Tennant Creek 49.25 257 P **P** **23 50 44.3 -1.8**
WRAB Tennant Creek 49.25 257 P **P** **23 50 44.3 -1.8**
WRAB pmax pmax
comp=Z,607nm,0.9s
WRA Warramunga Arr 49.26 257 P **P** **23 50 44.5 -1.7**
WRA IAmb IAmb 23 50 46.4
comp=Z,78nm,0.8s
WRA Warramunga Arr 49.26 257 P **P** **23 50 44.5 -1.7**
WRA pmax pmax
comp=Z,78nm,0.8s
WRA Warramunga Arr 49.26 257 P **P** **23 50 45.2 -0.9**
comp=Z,566nm,0.9s,baz=93,slow=7.1,SNR=642
WRA PcP **PcP** **23 52 07.2 +0.2**
comp=Z,90nm,0.9s,baz=87,slow=3.9,SNR=6.2
WRA S **S** **23 57 37.3 -4.0**
comp=Z,3.4nm,0.8s,baz=93,slow=13,SNR=3.1
comp=Z,566nm,0.9s
AS31 Alice Springs 49.48 252 P **P** **23 50 46.6 -1.2**
ASAR Alice Springs 49.48 252 P **P** **23 50 46.7 -1.1**
ASAR Alice Springs 49.48 252 P **P** **23 50 47.1 -0.6**
comp=Z,1μm,0.7s,baz=86,slow=8.4,SNR=3836
ASAR PcP **PcP** **23 52 08.0 +0.3**
comp=Z,61nm,0.6s,baz=105,slow=4.2,SNR=5.5
ASAR S **S** **23 57 39.7 -4.6**
comp=Z,5.1nm,0.8s,baz=86,slow=15,SNR=4.7
ASAR LR LR 00 09 55.2
comp=Z,1μm,20.7s,baz=96,slow=34
MULG Mulgathing 49.51 244 P **P** **23 50 46.9 -1.0**
GUMO Guam 50.36 304 P **P** **23 50 53.6 -0.8**
GUMO Guam 50.36 304 P **P** **23 50 54.8 +0.4**
GUMO Guam 50.36 304 P **P** **23 50 53.6 -0.8**
GUMO pmax pmax
comp=Z,2μm,1.1s
GUMO Guam 50.36 304 LR LR 00 09 59.1
comp=Z,198nm,19.4s,baz=130,slow=33
GUMO Guam 50.36 304 P **P** **23 50 54.2 -0.2**
GUMO pP **pwP** **23 51 29.3 -1.0**
GUMO sP **sP** **23 51 46.2 +2.7**
GUMO PcP **PcP** **23 52 11.0 +0.1**
KDU Kakadu 51.99 266 P **P** **23 51 05.9 -0.7**
baz=52,SNR=148
KDU Kakadu 51.99 266 P **P** **23 51 05.9 -0.7**
KMPI Kaimana, Papua 52.97 278 P **P** **23 51 14.1 +0.2**
comp=Z,1μm,1.0s,comp=Z,10μmcomp=Z,3μm
MTN Manton Dam 53.24 266 P **P** **23 51 15.0 -0.9**
baz=53,SNR=182
MTN Manton Dam 53.24 266 P **P** **23 51 14.6 -1.2**
MTN Manton Dam 53.24 266 P **P** **23 51 15.1 -0.7**
SAUI Saumlaki 54.11 272 P **P** **23 51 21.8 -0.4**
SAUI Saumlaki 54.11 272 P **P** **23 51 22.8 +0.6**
SAUI Saumlaki 54.11 272 P **P** **23 51 22.4 +0.2**
comp=Z,1μm,1.1s,comp=Z,13μm
WRKA Warakurna 54.55 251 P **P** **23 51 24.4 -0.9**
baz=54,SNR=653
WRKA Warakurna 54.55 251 P **P** **23 51 24.5 -0.8**
FORT Forrest 54.71 244 P **P** **23 51 25.1 -1.2**
baz=55,SNR=268
FORT Forrest 54.71 244 P **P** **23 51 24.9 -1.3**
FORT Forrest 54.71 244 P **P** **23 51 25.1 -1.2**
KNRA Kununurra 55.03 262 P **P** **23 51 28.0 -0.8**
baz=55,SNR=264
KNRA Kununurra 55.03 262 P **P** **23 51 27.8 -1.0**
KNRA Kununurra 55.03 262 P **P** **23 51 28.1 -0.7**
SWI Sorong 56.16 280 P **P** **23 51 36.8 0.0**
BNDI Bandanaira 56.35 275 P **P** **23 51 38.2 0.0**
BNDI Bandanaira 56.35 275 P **P** **23 51 37.6 -0.6**
comp=Z,712nm,1.3s,comp=Z,12μmcomp=Z,4μm
FITZ Fitzroy Crossi 57.64 259 P **P** **23 51 46.9 -0.3**
baz=58,SNR=231
FITZ Fitzroy Crossi 57.64 259 P **P** **23 51 46.7 -0.5**
FITZ IAmb IAmb 23 51 48.3
comp=Z,173nm,1.2s
FITZ Fitzroy Crossi 57.64 259 P **P** **23 51 47.1 -0.1**
DRV Dumont d'Urvil 58.78 200 ⇑P **P** **23 51 55.5 +1.2**
NLAI Namlea 59.40 276 P **P** **23 51 58.7 -0.8**
comp=Z,247nm,1.5s,comp=Z,8μmcomp=Z,678μm
LBMI Labuha 59.79 279 P **P** **23 52 02.3 +0.1**
comp=Z,2μm,0.9s,comp=Z,13μm
KMBL Kambalda 60.01 243 P **P** **23 52 02.3 -1.2**
baz=60,SNR=96
KMBL Kambalda 60.01 243 P **P** **23 52 02.3 -1.2**
VA02 Isla de Pascua 60.33 112 P **P** **23 52 06.2 +0.6**
TNTI Ternate 60.37 280 P **P** **23 52 05.5 -0.6**
TNTI Ternate 60.37 280 P **P** **23 52 06.3 +0.2**
TNTI Ternate 60.37 280 P **P** **23 52 05.4 -0.7**
comp=Z,581nm,1.2s,comp=Z,6μmcomp=Z,2μm
RPN Rapa Nui 60.42 112 LR LR 00 13 23.5
comp=Z,260nm,20.0s,baz=274,slow=31
RPN Rapa Nui 60.42 112 P **P** **23 52 09.4 +3.2**
SOEI Soe 60.46 268 P **P** **23 52 07.1 +0.2**
SOEI Soe 60.46 268 P **P** **23 52 08.0 +1.1**
SOEI Soe 60.46 268 P **P** **23 52 07.2 +0.3**
comp=Z,2μm,0.9s,comp=Z,15μmcomp=Z,4μm
JCJ Chichijima 60.54 315 P **P** **23 52 06.8 -0.2**
JCJ Chichijima 60.54 315 LR LR 00 14 26.2
comp=Z,283nm,19.7s,baz=140,slow=32
SANI Sanana 60.81 277 P **P** **23 52 08.5 -0.6**
SANI Sanana 60.81 277 P **P** **23 52 08.0 -1.1**
comp=Z,641nm,1.0s,comp=Z,7μmcomp=Z,3μm
BATI Baumata 60.94 267 P **P** **23 52 10.6 +0.5**
comp=Z,568nm,1.0s,comp=Z,7μmcomp=Z,3μm
BATI Baumata 60.94 267 P **P** **23 52 11.0 +1.0**
comp=Z,463nm,0.9s,baz=164,slow=1.8,SNR=67
BATI LR LR 00 15 14.3
comp=Z,385nm,21.8s,baz=140,slow=33
comp=Z,463nm,0.9s
SBA Scott Base 62.51 185 P **P** **23 52 21.9 +2.5**
SBA IAmb IAmb 23 52 23.5
comp=Z,74nm,0.8s
SBA Scott Base 62.51 185 P **P** **23 52 21.9 +2.5**
SBA pmax pmax
comp=Z,75nm,0.9s
SBA Scott Base 62.51 185 ⇑P **P** **23 52 22.8 +3.3**
SBA pP **pP** **23 52 56.9 +2.7**
SBA PcP **PcP** **23 52 59.8 +2.6**
SBA sP **sP** **23 53 12.3 +2.2**
PSA00 Pilbara Seismi 62.59 254 P **P** **23 52 20.6 -0.3**
PSA00 Pilbara Seismi 62.59 254 P **P** **23 52 20.2 -0.7**
PSA00 IAmb IAmb 23 52 21.6
comp=Z,2μm,0.7s
PSA00 Pilbara Seismi 62.59 254 P **P** **23 52 20.5 -0.4**
VNDA Vanda 62.63 186 P **P** **23 52 22.5 +2.3**
VNDA IAmb IAmb 23 52 24.0
comp=Z,94nm,1.1s
VNDA Vanda 62.63 186 P **P** **23 52 22.8 +2.5**
comp=Z,57nm,0.9s,baz=8.2,slow=6.6,SNR=223
VNDA PcP **PcP** **23 52 59.7 +2.0**
comp=Z,13nm,0.7s,baz=68,slow=2.6,SNR=3.9
VNDA PKP2bc **P'P'bc** **00 21 28.6 -1.9**
comp=Z,2.1nm,0.8s,baz=262,slow=8.0,SNR=4.6
comp=Z,57nm,0.9s
VNDA Vanda 62.63 186 ⇑P **P** **23 52 22.7 +2.5**
VNDA PcP **PcP** **23 52 59.8 +2.0**
MMRI Maumere 62.67 268 P **P** **23 52 21.1 -0.4**
MMRI Maumere 62.67 268 P **P** **23 52 21.0 -0.6**
MMRI Maumere 62.67 268 P **P** **23 52 20.4 -1.2**
comp=Z,948nm,1.1s,comp=Z,10μmcomp=Z,2μm
MBWA Marble Bar 62.75 254 P **P** **23 52 21.9 -0.1**
MBWA Marble Bar 62.75 254 P **P** **23 52 21.6 -0.4**
MBWA Marble Bar 62.75 254 P **P** **23 52 22.0 0.0**
MBWA Marble Bar 62.75 254 P **P** **23 52 21.5 -0.4**
SGSI Sangihe 63.06 283 P **P** **23 52 23.7 -0.5**
comp=Z,1μm,1.1s,comp=Z,14μmcomp=Z,5μm
MEEK Meekatharra 63.14 248 P **P** **23 52 23.7 -0.8**
baz=63,SNR=369
MEEK Meekatharra 63.14 248 P **P** **23 52 23.8 -0.8**
EDFI Ende, Flores 63.17 268 P **P** **23 52 23.4 -1.6**
comp=Z,1μm,1.0s,comp=Z,10μm
AUALB St Joseph's Co 63.26 239 P **P** **23 52 25.3 +0.1**
KMSI Cibinong 63.51 279 P **P** **23 52 26.5 -0.6**
comp=Z,2μm,0.8s,comp=Z,11μmcomp=Z,3μm
KLBR Kellerberrin 63.52 242 P **P** **23 52 26.6 -0.4**
baz=64,SNR=327
NWAO Narrogin (SRO) 63.89 241 P **P** **23 52 29.3 -0.1**
baz=64,SNR=61
NWAO P **P** **23 52 29.3 -0.1**
baz=64,SNR=61
NWAO Narrogin (SRO) 63.89 241 P **P** **23 52 29.3 -0.1**
NWAO Narrogin (SRO) 63.89 241 P **P** **23 52 29.3 -0.1**
NWAO Narrogin (SRO) 63.89 241 P **P** **23 52 29.3 -0.1**
NWAO Narrogin (SRO) 63.89 241 P **P** **23 52 29.3 -0.1**
NWAO Narrogin (SRO) 63.89 241 P **P** **23 52 29.3 -0.1**
NWAO pmax pmax
comp=Z,1μm,1.4s
NWAO Narrogin (SRO) 63.89 241 LR LR 00 21 21.7
comp=Z,334nm,18.5s,baz=63,slow=37
NWAO Narrogin (SRO) 63.89 241 ⇑P **P** **23 52 29.2 -0.1**
NWAO PcP **PcP** **23 53 03.7 -0.1**
NWAO sP **sP** **23 53 21.7 +2.0**
BASI Baing, Sumba 63.90 266 P **P** **23 52 29.4 -0.3**
comp=Z,1μm,1.2s,comp=Z,12μmcomp=Z,3μm
RKGY Rocky Gully 64.03 239 P **P** **23 52 30.6 +0.4**
baz=64,SNR=35
LUWI Luwuk 64.17 277 P **P** **23 52 31.9 +0.5**
LUWI Luwuk 64.17 277 P **P** **23 52 32.0 +0.5**
LUWI Luwuk 64.17 277 P **P** **23 52 30.7 -0.8**
comp=Z,977nm,1.2s,comp=Z,11μm
DAV Davao City (W) 64.21 286 P **P** **23 52 31.8 +0.1**
comp=Z,181nm,0.4s,baz=127,slow=2.4,SNR=7.1
DAV LR LR 00 18 36.6
comp=Z,173nm,18.7s,baz=100,slow=34
comp=Z,181nm,0.4s
BLDU Ballidu 64.48 243 P **P** **23 52 32.6 -0.7**
baz=64,SNR=224
BLDU Ballidu 64.48 243 P **P** **23 52 32.6 -0.7**
MUN Mundaring 64.81 242 P **P** **23 52 35.2 -0.2**
baz=65,SNR=186
MUN Mundaring 64.81 242 P **P** **23 52 35.4 0.0**
MORW Morawa 65.19 245 P **P** **23 52 37.4 -0.5**
baz=65,SNR=96
MORW Morawa 65.19 245 P **P** **23 52 37.4 -0.5**
MORW Morawa 65.19 245 P **P** **23 52 37.3 -0.5**
MRSI Marisa 65.42 278 P **P** **23 52 38.2 -1.3**
comp=Z,313nm,1.1s,comp=Z,3μmcomp=Z,2μm
BKSI Bulukumba 65.52 271 P **P** **23 52 39.3 -0.9**
comp=Z,162nm,1.8s,comp=Z,2μm
KAPI Kappang 65.96 272 P **P** **23 52 42.8 -0.2**
KAPI Kappang 65.96 272 P **P** **23 52 43.2 +0.2**
KAPI Kappang 65.96 272 P **P** **23 52 43.1 +0.1**
KAPI Kappang 65.96 272 P **P** **23 52 42.8 -0.2**
KAPI pmax pmax
comp=Z,197nm,1.0s
KAPI Kappang 65.96 272 P **P** **23 52 42.8 -0.2**
JHJ2 Mitsune 65.98 318 P **P** **23 52 43.1 +0.4**
JHJ Hachijo jima 2 66.00 318 LR LR 00 14 43.3
comp=Z,157nm,21.6s,baz=132,slow=30
SPSI Sidrap Palu 66.22 273 P **P** **23 52 43.6 -1.1**
comp=Z,288nm,1.2s,comp=Z,2μm
H01W1 Cape Leeuwin H 66.34 239 P **P** **23 52 46.6 +1.7**
baz=109,slow=7.5,SNR=41
H01W3 Cape Leeuwin H 66.36 239 P **P** **23 52 46.5 +1.6**
baz=109,slow=7.5,SNR=26
H01W2 Cape Leeuwin H 66.36 239 P **P** **23 52 46.7 +1.8**
baz=109,slow=7.5,SNR=28
TTSI Tana Toraja 66.43 274 P **P** **23 52 45.5 -0.5**
comp=Z,209nm,1.3s,comp=Z,2μm
TOLI2 Tolitoli 66.72 278 P **P** **23 52 47.1 -0.7**
TOLI2 Tolitoli 66.72 278 P **P** **23 52 47.6 -0.2**
PLAI Plampang 66.91 267 P **P** **23 52 48.6 -0.4**
PLAI Plampang 66.91 267 P **P** **23 52 48.2 -0.8**
comp=Z,1μm,1.0s,comp=Z,8μmcomp=Z,2μm
MPSI Mapaga 67.33 277 P **P** **23 52 51.0 -0.7**
comp=Z,647nm,1.0s,comp=Z,6μmcomp=Z,3μm
GIRL Giralia 67.59 252 P **P** **23 52 54.0 +0.8**
baz=68,SNR=69
GIRL Giralia 67.59 252 P **P** **23 52 54.2 +1.1**
GIRL Giralia 67.59 252 P **P** **23 52 54.3 +1.1**
CCD Concordia, Ant 67.67 194 ⇑P **P** **23 52 54.6 +1.3**
CCD PcP **PcP** **23 53 19.8 +0.6**
CCD pP **pwP** **23 53 31.7 +1.3**
KIWB Kanaga Island 67.74 358 P **P** **23 52 54.2 +0.8**
ADK Adak 67.75 358 P **P** **23 52 53.7 +0.2**
ADK Adak 67.75 358 P **P** **23 52 53.6 +0.2**
ADK Adak 67.75 358 P **P** **23 52 53.7 +0.2**
ADK pmax pmax
comp=Z,206nm,0.9s
ADK Adak 67.75 358 ⇑P **P** **23 52 53.5 +0.1**
ADK pP **pwP** **23 53 30.3 -0.7**
TWSI Taliwang, Sumb 67.79 267 P **P** **23 52 54.1 -0.5**
comp=Z,2μm,1.0s,comp=Z,13μm
JSG Sagara 68.02 319 P **P** **23 52 55.9 +0.4**
JSG Sagara 68.02 319 P **P** **23 52 56.0 +0.4**
ATKA Atka Island 68.03 360 P **P** **23 52 55.3 +0.2**
ATKA Atka Island 68.03 360 P **P** **23 52 55.2 0.0**
JMM Marumori 68.53 323 P **P** **23 52 58.5 -0.1**
JMM IAmb IAmb 23 52 59.5
comp=Z,177nm,0.9s
JMM Marumori 68.53 323 P **P** **23 52 58.5 -0.1**
CLES Cleveland East 68.73 3 P **P** **23 53 00.5 +0.9**
NIKH Nikolski High 68.93 3 P **P** **23 53 01.0 +0.2**
NIKH Nikolski High 68.93 3 P **P** **23 53 00.7 -0.1**
baz=185,SNR=10
MJAR Matsushiro Arr 69.20 320 P **P** **23 53 02.1 -0.7**
comp=Z,34nm,0.9s,baz=151,slow=5.6,SNR=54
MJAR PP **PP** **23 55 37.6 -0.4**
comp=Z,10nm,1.1s,baz=147,slow=7.0,SNR=5.0
MJAR LR LR 00 17 33.0
comp=Z,341nm,21.6s,baz=119,slow=31
comp=Z,34nm,0.9s
MAJO Matsushiro 69.20 320 P **P** **23 53 02.6 -0.3**
MAJO Matsushiro 69.20 320 P **P** **23 53 02.2 -0.7**
MAJO Matsushiro 69.20 320*c i* P **P** **23 53 02.1 -0.8**
MAJO pmax pmax
comp=Z,53nm,0.9s
MAJO Matsushiro 69.20 320 P **P** **23 53 02.1 -0.8**
MJB9 Matsu-Tunnel 69.21 320 P **P** **23 53 02.9 0.0**
SHEM Shemya Is, Ala 69.34 352 LR LR 00 18 44.4
comp=Z,196nm,18.9s,baz=84,slow=32
DNP Denpasar 69.41 267 P **P** **23 53 04.0 -0.6**
comp=Z,2μm,1.0s,comp=Z,26μm
IGBI Denpasar 69.44 266 P **P** **23 53 04.8 0.0**
comp=Z,1μm,1.1s,comp=Z,13μm
SRBI Singaraja 69.55 267 P **P** **23 53 04.9 -0.6**

comp=Z,1µm,1.2s,comp=Z,11µmcomp=Z,2µm
CASY Casey 69.58 205 P P 23 53 05.5 +0.8
CASY Casey 69.58 205 P P 23 53 05.5 +0.8
BKB Balikpapan 69.73 275 P P 23 53 07.4 +0.8
BKB Balikpapan 69.73 275 P P 23 53 08.7 +2.1
BKB Balikpapan 69.73 275 P P 23 53 07.9 +1.3
comp=Z,431nm,1.3s,comp=Z,6µm
UNV Unalaska Valle 69.96 5 P P 23 53 06.6 -0.4
UNV Unalaska Valle 69.96 5 P P 23 53 06.8 -0.3
baz=188,SNR=12
ERM Erimo 70.12 327 P P 23 53 08.1 -0.2
ERM IAmb IAmb 23 53 10.6
comp=Z,82nm,0.8s
ERM Erimo 70.12 327 P P 23 53 09.0 +0.6
ERM Erimo 70.12 327 *ce*P P 23 53 08.9 +0.6
ERM pmax pmax
comp=Z,92nm,1.0s
ERM Erimo 70.12 327 P P 23 53 08.9 +0.6
JEM Erimo 70.12 327 P P 23 53 09.1 +0.8
MYLDM Lahad Datu 70.16 282 P P 23 53 10.1 +0.9
JWT Wachi 70.18 318 P P 23 53 06.0 -2.9
YUK Yuzh-Kuril'sk 70.26 330 *de*P P 23 53 09.4 +0.3
JMN Monobe 70.26 316 P P 23 53 09.3 -0.1
JMN Monobe 70.26 316 P P 23 53 09.7 +0.3
AKUT Akutan 70.30 5 P P 23 53 08.8 -0.3
AKUT Akutan 70.30 5 P P 23 53 09.0 -0.1
JTM Tenmabayashi 70.37 325 P P 23 53 09.1 -0.8
JTM Tenmabayashi 70.37 325 P P 23 53 09.8 -0.1
JAGI Jajag, Banyuwa 70.47 267 P P 23 53 09.3 -1.8
JAGI Jajag, Banyuwa 70.47 267 P P 23 53 09.5 -1.7
JAGI Jajag, Banyuwa 70.47 267 P P 23 53 09.3 -1.8
comp=Z,1µm,1.0s,comp=Z,12µmcomp=Z,2µm
JOW Kunigami 70.55 307 P P 23 53 11.2 -0.1
JOW IAmb IAmb 23 53 13.2
comp=Z,235nm,1.2s
JOW Kunigami 70.55 307 P P 23 53 12.0 +0.7
JOW Kunigami 70.55 307 LR LR 00 21 22.4
comp=Z,242nm,19.5s,baz=108,slow=33
ABJI Asem Bagus 70.56 267 P P 23 53 11.2 -0.4
comp=Z,905nm,1.1s,comp=Z,9µm
KMMI Kalianget 71.00 268 P P 23 53 15.0 +0.7
comp=Z,597nm,1.1s,comp=Z,6µm
BBKI Banjar Baru 71.09 272 P P 23 53 15.4 +0.5
comp=Z,692nm,1.3s,comp=Z,10µm
BLJI Banyuglugur 71.19 267 P P 23 53 14.6 -0.8
comp=Z,1µm,0.9s,comp=Z,11µm
FALS False Pass 71.24 6 P P 23 53 14.8 0.0
FALS False Pass 71.24 6 P P 23 53 14.7 -0.1
FALS False Pass 71.24 6 P P 23 53 14.2 -0.6
baz=191
SNCC San Nicolas Is 71.38 46 P P 23 53 17.7 +1.5
SNCC IAmb IAmb 23 53 19.0
comp=Z,78nm,0.8s
SNCC San Nicolas Is 71.38 46 P P 23 53 17.9 +1.6
baz=235,SNR=8.2
SKR Severo-Kuril's 71.54 340 *e*P P 23 53 17.0 +0.3
SKR *e*S S 00 02 22.5 -1.1
SKR pmax pmax
comp=Z,400nm,6.9s
SKR MLR MLR
comp=Z,600nm,16.0s
CNBA Chernabura Isl 71.69 9 P P 23 53 17.2 -0.2
CNBA IAmb IAmb 23 53 18.6
comp=Z,184nm,1.2s
CHNA Chernabura Isl 71.70 9 P P 23 53 17.4 -0.1
baz=194,SNR=5.5
SCZ2 Santa Cruz Isl 71.73 45 P P 23 53 19.8 +1.4
baz=235,SNR=17
MTKI Muara Teweh, K 71.74 274 P P 23 53 19.4 +0.6
comp=Z,294nm,1.3s
JKA Kamikawa-asahi 71.91 329 P P 23 53 19.4 +0.3
ASAJ Asahikawa 71.91 329 P P 23 53 19.4 +0.3
ASAJ pmax pmax
comp=Z,413nm,0.8s
ASAJ Asahikawa 71.91 329 LR LR 00 18 20.1
comp=Z,219nm,21.9s,baz=154,slow=30
SBC Santa Barbara 71.93 45 P P 23 53 21.0 +1.6
baz=235,SNR=6.0
JNU Nakatsue 71.97 314 P P 23 53 19.3 -0.4
JNU Nakatsue 71.97 314 P P 23 53 19.3 -0.4
JNU Nakatsue 71.97 314 LR LR 00 17 57.8
comp=Z,237nm,21.9s,baz=108,slow=30
SDPT Sand Point 72.08 8 P P 23 53 19.4 -0.4
SDPT Sand Point 72.08 8 P P 23 53 19.9 +0.1
SDPT Sand Point 72.08 8 P P 23 53 19.8 -0.1
baz=194,SNR=7.8
MCCM Marconi Confer 72.08 40 P P 23 53 20.6 +0.3
MCCM IAmb IAmb 23 53 22.6
comp=Z,106nm,0.9s
PKM Mcpherson Peak 72.12 44 P P 23 53 22.4 +1.6
baz=235,SNR=36
SAO San Andreas Ge 72.15 42 P P 23 53 21.9 +1.2
SAO IAmb IAmb 23 53 23.9
comp=Z,124nm,0.9s
SAO San Andreas Ge 72.15 42 P P 23 53 21.9 +1.2
SAO pmax pmax
comp=Z,124nm,1.0s
CIS Catalina Islan 72.24 46 P P 23 53 22.3 +0.9
baz=236,SNR=17
PMPB Monarch Peak 72.24 43 P P 23 53 22.3 +0.9
PMPB IAmb IAmb 23 53 24.2
comp=Z,144nm,1.1s
SMMC Simmler 72.25 44 P P 23 53 22.9 +1.5
baz=234,SNR=30
BBGB Big Mountain B 72.30 42 P P 23 53 23.5 +1.7
BBGB IAmb IAmb 23 53 25.6
comp=Z,201nm,1.1s
BCW Bitter Crk WRg 72.42 45 P P 23 53 23.5 +1.0
BCW IAmb IAmb 23 53 25.3
comp=Z,86nm,0.8s
FMP Fort Macarthur 72.50 46 P P 23 53 23.8 +1.0
baz=236
HOPS Hopland Field 72.50 39 P P 23 53 23.6 +0.9
HOPS IAmb IAmb 23 53 26.0
comp=Z,205nm,1.1s
GDXM Geysers 72.55 40 P P 23 53 24.6 +1.5
KKM Kota Kinabalu 72.59 282 P P 23 53 23.3 -0.6
KKM IAmb IAmb 23 53 24.6
comp=Z,135nm,0.6s
KKM Kota Kinabalu 72.59 282 P P 23 53 23.9 -0.1
KCPM Cahto Peak 72.62 38 P P 23 53 24.6 +1.0
KCPM IAmb IAmb 23 53 26.4
comp=Z,133nm,1.1s
CCX Cicese 72.64 49 P P 23 53 23.7 0.0
OSI Osito Audit: C 72.70 45 P P 23 53 25.3 +1.2
baz=236
TJX Tijuana 72.71 48 P P 23 53 24.4 +0.2
TJX IAmb IAmb 23 53 26.6
comp=Z,166nm,0.7s
DECC Green Verdugo 72.77 46 P P 23 53 25.2 +0.7
baz=236
KMPM Mount Pierce 72.77 38 P P 23 53 25.9 +1.5
KMPM IAmb IAmb 23 53 27.4
comp=Z,161nm,0.9s
PASC Pasadena Art C 72.83 46 P P 23 53 25.3 +0.5
PET Petropavlovsk 72.83 343 P P 23 53 24.1 -0.2
PET Petropavlovsk 72.83 343 P P 23 53 24.1 -0.2
PET Petropavlovsk 72.83 343 *e*P P 23 53 24.2 -0.2
PET *e*S S 00 02 37.8 -0.3
PET pmax pmax
comp=Z,190nm,0.9s
PET pmax pmax
comp=Z,500nm,11.5s
SZP Santa 72.85 295 P P 23 53 26.8 +1.6
109C Camp Elliot, M 72.88 47 P P 23 53 25.8 +0.8
109C Camp Elliot, M 72.88 47 P P 23 53 25.9 +0.8
baz=237
CBX Cerro Bola 72.88 48 P P 23 53 26.1 +0.8
KMRM Mail Ridge 72.89 38 P P 23 53 25.8 +0.7
ARVC Arvin 72.92 45 P P 23 53 26.4 +1.1
baz=235,SNR=8.7
VTX Valle De La Tr 73.03 49 P P 23 53 26.6 +0.5
VTX IAmb IAmb 23 53 28.6
comp=Z,195nm,1.6s
TKX Tecate 73.06 48 P P 23 53 26.8 +0.5
TKX IAmb IAmb 23 53 28.6
comp=Z,148nm,1.7s
ELS Elsinore Mount 73.06 47 P P 23 53 27.0 +0.7
BAR Barrett 73.07 48 P P 23 53 27.1 +0.8
SPIA Saint Paul Isl 73.07 2 P P 23 53 26.2 +0.6
SPIA Saint Paul Isl 73.07 2 P P 23 53 25.9 +0.2
baz=184
JCC Jacoby Creek, 73.08 37 P P 23 53 27.0 +1.0
S14K Fog Glacier 73.11 8 P P 23 53 26.4 +0.4
baz=194

VES Vestal, Richgr 73.16 44 P P 23 53 27.7 +1.0
baz=235,SNR=23
PEA0B Petropavlovsk- 73.17 343 P P 23 53 26.6 +0.2
PEA0B Petropavlovsk- 73.17 343 *c i*P P 23 53 26.5 +0.2
PETK Petropavlovsk- 73.17 343 P P 23 53 26.3 -0.1
PETK Petropavlovsk- 73.17 343 P P 23 53 26.3 -0.1
PETK Petropavlovsk- 73.17 343 P P 23 53 26.2 -0.2
comp=Z,294nm,0.7s,baz=115,slow=6.1,SNR=184
PETK LR LR 00 20 05.3
comp=Z,178nm,21.4s,baz=161,slow=31
comp=Z,294nm,0.7s
MURC Murrieta 73.20 47 P P 23 53 28.3 +1.2
baz=237,SNR=22
BFSC Mount Baldy Ra 73.23 46 P P 23 53 28.2 +0.9
baz=236,SNR=34
VOG Valley Oaks Go 73.23 43 P P 23 53 28.0 +0.9
baz=235
ESJX Sierra Juarez 73.23 49 P P 23 53 27.5 0.0
ESJX IAmb IAmb 23 53 30.1
comp=Z,168nm,1.6s
CHIR Chirikof Islan 73.29 11 P P 23 53 27.7 +0.7
CHIR IAmb IAmb 23 53 28.4
comp=Z,196nm,1.0s
CHIR Chirikof Islan 73.29 11 P P 23 53 27.5 +0.6
baz=198
KHMM Horse Mountain 73.29 37 P P 23 53 28.2 +0.6
KHMM IAmb IAmb 23 53 30.5
comp=Z,109nm,1.1s
CHGN Chignik 73.29 9 P P 23 53 27.1 +0.2
CHGN IAmb IAmb 23 53 27.9
comp=Z,156nm,0.8s
CHGN Chignik 73.29 9 P P 23 53 27.4 +0.4
baz=196,SNR=11
KRPM Rodgers 73.30 37 P P 23 53 28.8 +1.3
KRPM IAmb IAmb 23 53 30.6
comp=Z,104nm,1.1s
NGJI Ngawi 73.33 267 P P 23 53 29.3 +1.1
comp=Z,512nm,1.0s,comp=Z,5µm
EDW2 Edwards Air Fo 73.35 45 P P 23 53 29.2 +1.3
baz=236,SNR=152
MONP2 Monument Peak 73.36 48 P P 23 53 29.5 +1.3
baz=238,SNR=41
RMX La Rumorosa 73.45 48 P P 23 53 29.7 +1.0
IKP In-Ko-Pah, Jac 73.46 48 P P 23 53 30.0 +1.4
baz=238,SNR=33
ISA Isabella, Lake 73.46 44 P P 23 53 29.6 +1.0
ISA Isabella, Lake 73.46 44 P P 23 53 30.0 +1.4
baz=236,SNR=62
ISA Isabella, Lake 73.46 44 P P 23 53 29.6 +1.0
ISA pmax pmax
comp=Z,70nm,1.0s
CCAC Calif City Air 73.49 45 P P 23 53 30.1 +1.3
SFX San Felipe 73.54 50 P P 23 53 29.8 +0.8
CMB Columbia Colle 73.58 41 P P 23 53 29.6 +0.4
CMB IAmb IAmb 23 53 31.4
comp=Z,92nm,1.0s
CMB Columbia Colle 73.58 41 P P 23 53 29.6 +0.4
CMB pmax pmax
comp=Z,92nm,1.0s
YUH Yuha Desert 73.59 48 P P 23 53 29.7 +0.4
KRMB Red Mountain 73.60 37 P P 23 53 30.5 +1.2
KRMB IAmb IAmb 23 53 32.3
comp=Z,88nm,0.9s
YOJ Yonaguni jima 73.61 302 P P 23 53 28.7 -0.8
YOJ Yonaguni jima 73.61 302 P P 23 53 28.7 -0.8
YOJ pmax pmax
comp=Z,357nm,1.1s
SRIG Santa Rosalia 73.70 55 P P 23 53 30.1 +0.1
SRIG IAmb IAmb 23 53 32.3
comp=Z,233nm,1.1s
PFO Pinyon Flats O 73.72 47 P P 23 53 30.9 +0.7
PFO Pinyon Flats O 73.72 47 P P 23 53 31.1 +0.9
baz=237,SNR=19
PFO Pinyon Flats O 73.72 47 P P 23 53 30.9 +0.7
PFO pmax pmax
comp=Z,38nm,0.9s
PFO Pinyon Flats O 73.72 47 LR LR 00 20 51.9
comp=Z,558nm,18.2s,baz=244,slow=32
TPFO Pinon Flats 73.72 47 P P 23 53 31.3 +1.0
baz=237,SNR=18
AFDM Forest Hills D 73.76 40 P P 23 53 30.8 +0.6
AFDM IAmb IAmb 23 53 32.8
comp=Z,89nm,1.0s
LPIG La Paz 73.78 58 LR LR 00 20 08.8
comp=Z,306nm,18.8s,baz=233,slow=31
PMD Palm Desert 73.80 47 P P 23 53 31.3 +0.8
ORV Oroville 73.80 40 P P 23 53 31.3 +0.9
ORV Oroville 73.80 40 P P 23 53 31.3 +0.9
ORV pmax pmax
comp=Z,66nm,1.0s
KSXB Camp Six Broad 73.81 37 P P 23 53 31.6 +1.1
KSXB IAmb IAmb 23 53 37.9
comp=Z,113nm,1.0s
SWSC Sam W. Stewart 73.83 48 P P 23 53 31.9 +1.2
baz=238,SNR=14
KBO Bosley Butte 73.86 36 P P 23 53 32.2 +1.4
YSS Yuzh-Sakhalins 73.89 331 P P 23 53 30.9 +0.3
YSS Yuzh-Sakhalins 73.89 331⇑ *e*P P 23 53 31.4 +0.7
YSS *e**SP **sP** 23 54 17.4 -4.4
YSS *e*S **S** 00 02 51.4 +1.1
YSS *e*PS **PnS** 00 03 37.7 -7.1
YSS *e*SS **SS** 00 07 42.2 +4.1
YSS pmax pmax
comp=Z,710nm,0.9s
YSS pmax pmax
comp=Z,700nm,3.7s
LRMC Laurel Mtn Rad 73.89 45 P P 23 53 31.8 +0.6
baz=236,SNR=86
SLBS Sierra La Lagu 73.89 59 P P 23 53 32.1 +0.7
SLBS IAmb IAmb 23 53 34.2
comp=Z,349nm,1.8s
CPBX Cerro Prieto 73.92 49 P P 23 53 32.2 +1.0
QSPA South Pole Qui 73.94 180 P P 23 53 32.4 +1.4
QSPA IAmb IAmb 23 53 35.6
comp=Z,166nm,1.0s
QSPA South Pole Qui 73.94 180 P P 23 53 32.9 +1.9
comp=Z,163nm,1.0s,baz=37,slow=1.7,SNR=170
comp=Z,163nm,1.0s
UGM Wanagama 74.09 266 P P 23 53 32.1 -0.6
UGM Wanagama 74.09 266 P P 23 53 32.4 -0.3
UGM Wanagama 74.09 266 P P 23 53 32.4 -0.3
comp=Z,883nm,1.2s,comp=Z,11µm
L02F Cave Junction 74.18 36 P P 23 53 33.4 +0.9
MDPB Devils Postpil 74.19 42 P P 23 53 33.8 +0.8
OMMB Old Mammoth Mi 74.23 42 P P 23 53 33.9 +0.6
KEBM Edson Butte 74.23 36 P P 23 53 34.3 +1.4
KEBM IAmb IAmb 23 53 35.7
comp=Z,106nm,1.1s
SII Sitkinak Islan 74.25 11 P P 23 53 33.0 +0.4
SII IAmb IAmb 23 53 35.8
comp=Z,112nm,0.8s
SII Sitkinak Islan 74.25 11 P P 23 53 33.2 +0.6
SII Sitkinak Islan 74.25 11 P P 23 53 32.8 +0.3
baz=200
BELC Belle Mtn. Jos 74.25 47 P P 23 53 34.4 +1.1
baz=238,SNR=38
EMB Emerald Bay 74.32 41 P P 23 53 33.9 +0.2
YOGI Yogyakarta 74.33 266 P P 23 53 33.7 -0.4
comp=Z,531nm,1.3s,comp=Z,5µm
MLAC Mammoth, Mammo 74.34 42 P P 23 53 35.3 +1.4
baz=235,SNR=9.3
MPMC Manual Prospec 74.35 44 P P 23 53 35.3 +1.4
baz=236,SNR=177
SMRI Semarang 74.39 267 P P 23 53 34.1 -0.3
SMRI Semarang 74.39 267 P P 23 53 34.8 +0.4
SMRI Semarang 74.39 267 P P 23 53 34.7 +0.4
comp=Z,494nm,1.1s,comp=Z,6µm
GSC Goldstone, Bar 74.39 45 P P 23 53 34.8 +0.7
GSC IAmb IAmb 23 53 36.3
comp=Z,82nm,0.9s
GSC Goldstone, Bar 74.39 45 P P 23 53 34.9 +0.9
baz=237,SNR=76
GSC Goldstone, Bar 74.39 45 P P 23 53 34.8 +0.7
GSC pmax pmax
comp=Z,82nm,1.0s
TIN Tinemaha, Big 74.41 43 P P 23 53 35.6 +1.4
baz=235,SNR=8.0
YBH Yreka Blue Hor 74.43 37 P P 23 53 35.0 +0.9
YBH IAmb IAmb 23 53 36.9
comp=Z,107nm,0.8s
YBH Yreka Blue Hor 74.43 37 P P 23 53 35.0 +0.9
YBH pmax pmax
comp=Z,107nm,0.9s
YBH Yreka Blue Hor 74.43 37 LR LR 00 21 04.6
comp=Z,327nm,18.4s,baz=231,slow=31

BC3 Big Chuckawall 74.45 48 P P 23 53 35.8 +1.3
baz=238,SNR=28
HEC Hector,Ludlow 74.46 46 P P 23 53 35.5 +1.0
baz=237,SNR=76
WAKR Walker 74.46 41 P P 23 53 35.4 +0.9
WAKR IAmb IAmb 23 53 37.0
comp=Z,82nm,0.9s
TWGBT Beinan 74.48 300 P P 23 53 33.2 -1.5
K02D Willamette Mer 74.49 36 P P 23 53 35.0 +0.6
TWG Pinlang 74.49 300 P P 23 53 32.8 -1.9
TWG IAmb IAmb 23 53 34.0
comp=Z,94nm,0.8s
YULB Yu-li 74.55 300 P P 23 53 34.1 -0.9
YULB IAmb IAmb 23 53 35.2
comp=Z,107nm,0.7s
YULB Yu-li 74.55 300 P P 23 53 34.4 -0.7
MPK Martis Peak 74.56 41 P P 23 53 36.2 +1.1
MPK IAmb IAmb 23 53 38.1
comp=Z,202nm,1.1s
GLA Glamis 74.59 48 P P 23 53 36.2 +1.1
GLA Glamis 74.59 48 P P 23 53 36.7 +1.5
baz=239
GLA Glamis 74.59 48 P P 23 53 36.2 +1.1
NACB Ninganchiao 74.64 301 P P 23 53 34.7 -0.8
NACB Ninganchiao 74.64 301 P P 23 53 35.2 -0.3
J01E Myrtle Point 74.64 35 P P 23 53 36.5 +1.4
J01E IAmb IAmb 23 53 37.8
comp=Z,86nm,1.0s
PNTR Pine Nut 74.70 41 P P 23 53 36.9 +1.0
PNTR IAmb IAmb 23 53 38.4
comp=Z,154nm,0.9s
QSM Queen of Sheba 74.72 45 P P 23 53 36.8 +1.0
QSM IAmb IAmb 23 53 38.0
comp=Z,123nm,0.8s
PIX Pinacate 74.83 50 P P 23 53 37.3 +0.9
PIX IAmb IAmb 23 53 39.3
comp=Z,120nm,1.3s
YERR Yerington 74.87 41 P P 23 53 37.6 +0.8
YERR IAmb IAmb 23 53 39.1
comp=Z,124nm,1.0s
R17K Ugashik Creek 74.89 10 P P 23 53 36.3 +0.1
R17K Ugashik Creek 74.89 10 P P 23 53 36.7 +0.4
baz=197
GMRC Granite Mounta 74.91 46 P P 23 53 38.2 +1.1
baz=238,SNR=48
IRM Iron Mountain 74.94 47 P P 23 53 38.6 +1.4
baz=238,SNR=48
GRAC Grapevine Rang 74.95 44 P P 23 53 38.2 +1.1
GRAC IAmb IAmb 23 53 39.9
comp=Z,94nm,0.9s
GRAC Grapevine Rang 74.95 44 P P 23 53 38.8 +1.7
baz=236,SNR=84
L04D Klamath Falls 74.97 37 P P 23 53 38.3 +1.0
L04D IAmb IAmb 23 53 39.6
comp=Z,115nm,0.9s
GWY Greenwater Val 74.97 45 P P 23 53 37.8 +0.4
FURC Furnace Creek, 74.99 44 P P 23 53 38.6 +1.3
baz=236,SNR=37
DBO Dodson Butte 75.00 36 P P 23 53 37.5 +0.1
SSLB Suanglung 75.00 301 P P 23 53 36.4 -1.3
SSLB Suanglung 75.00 301 P P 23 53 36.6 -1.1
YHNB Yeheng 75.03 302 P P 23 53 37.1 -0.8
YHNB Yeheng 75.03 302 P P 23 53 37.6 -0.3
OHAK Old Harbor 75.04 11 P P 23 53 37.2 +0.1
OHAK Old Harbor 75.04 11 P P 23 53 37.7 +0.7
OHAK Old Harbor 75.04 11 P P 23 53 37.8 +0.7
baz=200,SNR=9.0
TPUB Ta-pu 75.06 300 P P 23 53 36.9 -1.2
TPUB Ta-pu 75.06 300 P P 23 53 36.5 -1.5
TUQ Turquoise Moun 75.07 46 P P 23 53 39.2 +1.2
baz=237,SNR=82
TATO Taipei 75.08 302 P P 23 53 37.3 -0.7
TATO Taipei 75.08 302 P P 23 53 37.8 -0.2
TATO Taipei 75.08 302 P P 23 53 38.1 +0.1
RYN Ryan 75.12 42 P P 23 53 39.2 +1.0
NVAR Mina Array Bea 75.15 42 P P 23 53 39.1 +0.6
NVAR Mina Array Bea 75.15 42 P P 23 53 39.6 +1.2
comp=Z,83nm,0.9s,baz=227,slow=9.5,SNR=377
NVAR PKKPbc **PKKPbc** **00 13 02.6 +0.7**
comp=Z,0.6nm,0.7s,baz=39,slow=5.8,SNR=2.8
NVAR PKPPKP **P'P'df** **00 20 57.5 -4.0**
comp=Z,1.0nm,0.8s,baz=73,slow=3.4,SNR=4.4
NVAR LR LR 00 21 41.1
comp=Z,402nm,18.2s,baz=240,slow=32
comp=Z,83nm,0.9s
R18K Karluk 75.15 11 P P 23 53 38.4 +0.7
baz=199,SNR=22
BLYC Blythe 75.17 48 P P 23 53 39.5 +1.2
GMN Gold Mountain 75.19 44 P P 23 53 39.5 +0.7
GMN IAmb IAmb 23 53 41.0
comp=Z,87nm,0.9s
PAHR Pah Rah Range 75.20 40 P P 23 53 39.4 +0.7
PAHR IAmb IAmb 23 53 41.0
comp=Z,90nm,1.0s
113A Mohawk Valley, 75.21 49 P P 23 53 39.8 +1.1
NV11 Mina Array Sit 75.24 42 P P 23 53 39.6 +0.7
NV11 IAmb IAmb 23 53 41.4
comp=Z,142nm,1.1s
SBUM Sibu 75.28 277 P P 23 53 39.1 -0.3
STKI Sintang 75.30 274 P P 23 53 40.0 +0.4
comp=Z,301nm,1.4s
I03D Drain, OR 75.31 35 P P 23 53 39.4 +0.4
MZP Montezuma Peak 75.33 43 P P 23 53 39.9 +0.3
WCT Wildcat Mounta 75.33 44 P P 23 53 40.1 +0.8
214A Organ Pipe Nat 75.50 50 P P 23 53 41.2 +0.8
214A IAmb IAmb 23 53 43.1
comp=Z,294nm,1.7s
214A Organ Pipe Nat 75.50 50 P P 23 53 41.7 +1.3
baz=240,SNR=31
HSIG 75.50 54 P P 23 53 41.0 +0.6
K04D Chiloquin, OR 75.54 37 P P 23 53 41.3 +0.8
K04D IAmb IAmb 23 54 21.8
comp=Z,113nm,1.1s
Q17K Contact Creek 75.57 10 P P 23 53 40.4 +0.1
baz=198,SNR=33
NEE2 Needles Airpor 75.63 47 P P 23 53 42.4 +1.4
baz=238,SNR=6.3
KVN Kaiserville 75.63 42 P P 23 53 42.4 +1.2
KVN Kaiserville 75.63 42 P P 23 53 42.4 +1.2
TPH Tonopah 75.65 43 P P 23 53 42.1 +0.8
TPH Tonopah 75.65 43 P P 23 53 42.1 +0.8
TPH pmax pmax
comp=Z,512nm,1.0s
TEY Ternei 75.66 326⇑ *e*P P 23 53 40.0 -0.9
TEY pmax pmax
comp=E,20nm,1.0s
TEY pmax pmax
comp=Z,50nm,0.8s
TPNV Topopah Spring 75.67 44 P P 23 53 41.9 +0.5
TPNV Topopah Spring 75.67 44 P P 23 53 42.6 +1.2
baz=237,SNR=105
TPNV Topopah Spring 75.67 44 P P 23 53 41.9 +0.5
TPNV pmax pmax
comp=Z,72nm,0.9s
KDAK Kodiak Island 75.70 12 P P 23 53 41.3 +0.4
KDAK IAmb IAmb 23 53 42.8
comp=Z,92nm,0.8s
KDAK Kodiak Island 75.70 12 P P 23 53 41.7 +0.8
baz=201
KDAK Kodiak Island 75.70 12 P P 23 53 41.3 +0.4
KDAK pmax pmax
comp=Z,92nm,0.8s
KDAK Kodiak Island 75.70 12 LR LR 00 19 59.4
comp=Z,259nm,20.1s,baz=219,slow=30
PDMCI Parker Dam,Lak 75.72 48 P P 23 53 42.9 +1.4
baz=239,SNR=38
PLTX Planet X, Gerl 75.74 40 P P 23 53 42.7 +1.1
PLTX IAmb IAmb 23 53 47.7
comp=Z,130nm,0.8s
UGL Uglegorsk 75.75 332 *e*P P 23 53 41.3 0.0
KPJI Karang Pucung 75.76 266 P P 23 53 41.5 -0.7
comp=Z,368nm,1.2s,comp=Z,4µm
O14K Tigyukauivet M 75.80 7 P P 23 53 40.2 -1.2
O14K Tigyukauivet M 75.80 7 P P 23 53 41.4 +0.1
baz=193
BUCK Buck Mountain 75.83 35 P P 23 53 42.9 +0.9
Q16K King Salmon 75.85 9 P P 23 53 42.0 +0.3
baz=197,SNR=17
O15K Ungalikthiuk R 75.89 7 P P 23 53 42.0 +0.1
baz=194
I04A Tendick Farm, 75.90 36 P P 23 53 42.9 +0.5
COR Corvallis 75.91 35 P P 23 53 43.1 +0.8
COR Corvallis 75.91 35 P P 23 53 43.1 +0.8
COR pmax pmax
comp=Z,47nm,1.0s

V12A Nelson 75.97 46 P **P** **23 53 43.9 +0.9**
P16K Nushagak River 75.99 8 P **P** **23 53 42.9 +0.5**
baz=196,SNR=48
HEBO Mount Hebo 76.07 34 P **P** **23 53 44.7 +1.3**
Q18K Katmai Hardscr 76.08 10 P **P** **23 53 43.2 +0.1**
baz=199,SNR=24
K05A Summer Lake 76.10 37 P **P** **23 53 44.9 +1.1**
K05A IAmb IAmb 23 53 46.4
comp=Z,118nm,0.9s
WTNK Soaring Height 76.10 45 P **P** **23 53 44.8 +1.1**
CMJI Cimerak 76.11 266 P **P** **23 53 42.7 -1.5**
comp=Z,347nm,1.5s,comp=Z,4µm
TJN Taejon 76.16 315 IAmb IAmb 23 53 46.6
comp=Z,171nm,1.0s
TJN Taejon 76.16 315⇑*e*P **P** **23 53 41.9 -2.1**
SHPR Sheep Range 76.17 45 P **P** **23 53 45.2 +1.0**
H04D Lebanon 76.18 35 P **P** **23 53 44.5 +0.6**
J05D Fort Rock, OR 76.25 37 P **P** **23 53 45.6 +1.1**
J05D IAmb IAmb 23 53 47.1
comp=Z,113nm,0.9s
W13A Hualapai Mount 76.31 47 P **P** **23 53 46.2 +1.0**
G03D McMinnville, O 76.33 34 P **P** **23 53 45.8 +1.0**
G03D IAmb IAmb 23 53 47.7
comp=Z,135nm,1.2s
Y14A Wickenburg 76.35 48 P **P** **23 53 46.0 +0.8**
Y14A IAmb IAmb 23 53 47.5
comp=Z,91nm,1.0s
KSRS Korea Array 76.36 316 P **P** **23 53 46.0 +1.0**
comp=Z,38nm,0.9s,baz=129,slow=5.7,SNR=79
KSRS PP **PP** **23 56 36.6 -2.3**
comp=Z,2.9nm,0.9s,baz=131,slow=9.6,SNR=4.4
KSRS PKiKP **PKiKP** **23 59 29.0 +0.3**
comp=Z,2.6nm,0.7s,baz=142,slow=2.2,SNR=6.1
KSRS LR LR 00 24 55.5
comp=Z,61nm,18.9s,baz=125,slow=34
comp=Z,38nm,0.9s
P17K Kvichak River 76.38 9 P **P** **23 53 44.8 +0.2**
baz=197,SNR=59
KSAR Wonju Array Be 76.38 316 P **P** **23 53 45.7 +0.5**
KSAR Wonju Array Be 76.38 316 P **P** **23 53 45.7 +0.5**
S11A Rachel 76.38 44 P **P** **23 53 46.5 +1.1**
S11A IAmb IAmb 23 53 47.7
comp=Z,81nm,0.8s
N14K Kuskokwak Cree 76.41 6 P **P** **23 53 45.3 +0.6**
baz=192,SNR=22
KS19 Wonju Array Si 76.42 316 P **P** **23 53 45.2 -0.2**
M11K Mekoryuk 76.48 4 P **P** **23 53 46.9 +1.7**
baz=188,SNR=8.8
Q20K Shuyak Island 76.51 11 P **P** **23 53 46.2 +0.8**
baz=201,SNR=9.1
SYI Shuyak Island 76.51 11 P **P** **23 53 45.4 0.0**
SYI IAmb IAmb 23 53 47.4
comp=Z,146nm,0.8s
O16K Kokwok River B 76.52 8 P **P** **23 53 45.4 0.0**
O16K IAmb IAmb 23 53 46.4
comp=Z,159nm,1.0s
O16K Kokwok River B 76.52 8 P **P** **23 53 45.3 -0.2**
baz=196
Q19K Cape Douglas, 76.58 11 P **P** **23 53 45.9 +0.1**
Q19K IAmb IAmb 23 53 56.5
comp=Z,114nm,0.8s
Q19K Cape Douglas, 76.58 11 P **P** **23 53 46.2 +0.3**
baz=200,SNR=5.4
H04A Detroit Lake 76.58 35 P **P** **23 53 46.6 +0.3**
JCJI Jatiwangi 76.61 267 P **P** **23 53 46.7 -0.3**
comp=Z,705nm,1.4s,comp=Z,11µm
F03A Seaside 76.64 33 P **P** **23 53 46.6 +0.1**
F03A IAmb IAmb 23 54 29.8
comp=Z,182nm,1.5s
PRN Pahroc Range 76.72 44 P **P** **23 53 48.3 +1.0**
PRN IAmb IAmb 23 53 50.1
comp=Z,124nm,1.2s
M13K Dall Lake 76.73 5 P **P** **23 53 47.7 +1.1**
M13K Dall Lake 76.73 5 P **P** **23 53 48.3 +1.7**
baz=190
PINE Pine Mountain 76.73 36 IAmb IAmb 23 53 49.9
comp=Z,128nm,0.9s
P18K Big Mountain, 76.75 10 P **P** **23 53 47.0 +0.2**
baz=198,SNR=51
TYV Tymovskoe 76.79 333 *e*P **P** **23 53 47.4 +0.3**
TYV *e*S **S** **00 03 19.5 -2.7**
TYV pmax pmax
comp=Z,2µm,3.8s
TYV pmax pmax
comp=Z,315nm,1.0s
TYV smax smax
comp=E,2µm,8.4s
N15K Kwethluk River 76.83 7 IAmb IAmb 23 53 50.1
comp=Z,103nm,0.7s
N15K Kwethluk River 76.83 7 P **P** **23 53 47.8 +0.6**
baz=194
O17K Koliganek Bris 76.83 9 P **P** **23 53 47.4 +0.2**
baz=197,SNR=58
I05D Terrebonne, OR 76.84 36 P **P** **23 53 48.5 +0.8**
R11B Troy Canyon, C 76.87 43 P **P** **23 53 48.6 +0.4**
R11B Troy Canyon, C 76.87 43 P **P** **23 53 49.0 +0.8**
baz=237,SNR=58
BBJI Bungbulang 76.96 266 P **P** **23 53 47.7 -1.4**
BMN Battle Mountai 76.97 41 P **P** **23 53 49.3 +0.6**
BMN IAmb IAmb 23 53 50.9
comp=Z,87nm,0.9s
BMN Battle Mountai 76.97 41 P **P** **23 53 49.3 +0.6**
BMN pmax pmax
comp=Z,87nm,0.9s
F04D Rainier, OR 77.03 34 P **P** **23 53 49.7 +1.0**
E03A Lebam 77.04 33 P **P** **23 53 49.9 +1.2**
E03A IAmb IAmb 23 53 56.8
comp=Z,129nm,1.0s
LEM Lembang 77.15 267 P **P** **23 53 49.7 -0.6**
comp=Z,787nm,1.2s,comp=Z,9µmcomp=Z,2µm
LEM Lembang 77.15 267 LR LR 00 27 44.1
comp=Z,318nm,20.1s,baz=68,slow=36
TUC Tucson 77.17 51 **P** **23 53 51.1 +1.2**
TUC Tucson 77.17 51 P **P** **23 53 50.6 +0.7**
TUC IAmb IAmb 23 53 52.7
comp=Z,99nm,1.0s
TUC Tucson 77.17 51 P **P** **23 53 51.6 +1.7**
baz=241
TUC Tucson 77.17 51 P **P** **23 53 50.6 +0.7**
TUC pmax pmax
comp=Z,99nm,1.0s
M14K Bethel 77.19 6 P **P** **23 53 50.0 +0.9**
M14K Bethel 77.19 6 P **P** **23 53 50.4 +1.2**
baz=192,SNR=123
O18K Koktuh Hills 77.20 10 P **P** **23 53 49.8 +0.5**
O18K Koktuh Hills 77.20 10 P **P** **23 53 49.9 +0.5**
baz=198,SNR=71
MSHR Mys Shultsa 77.21 322*c i*P **P** **23 53 50.2 +0.5**
MSHR pmax pmax
comp=Z,157nm,1.3s
INCN Inchon 77.24 315 P **P** **23 53 50.6 +0.5**
INCN Inchon 77.24 315 P **P** **23 53 51.4 +1.3**
INCN Inchon 77.24 315 P **P** **23 53 51.6 +1.5**
INCN Inchon 77.24 315 P **P** **23 53 50.6 +0.5**
INCN pmax pmax
comp=Z,191nm,0.7s
F04A Amboy 77.25 34 P **P** **23 53 50.4 +0.5**
WVOR Wild Horse Val 77.26 39 P **P** **23 53 50.7 +0.5**
WVOR IAmb IAmb 23 53 52.5
comp=Z,87nm,1.0s
WVOR Wild Horse Val 77.26 39 P **P** **23 53 50.7 +0.5**
WVOR pmax pmax
comp=Z,87nm,1.0s
M15K Kasigluk River 77.27 7 P **P** **23 53 50.7 +1.1**
baz=193
HOOD Mount Hood Mea 77.28 35 P **P** **23 53 50.8 +0.6**
N16K Nishlik Lake 77.28 8 P **P** **23 53 50.7 +0.9**
baz=195
WISH Wishkah 77.30 32 P **P** **23 53 51.8 +1.7**
WISH IAmb IAmb 23 54 34.1
comp=Z,136nm,1.4s
P19K Oil Pt 77.34 11 P **P** **23 53 50.2 +0.2**
P19K IAmb IAmb 23 53 51.7
comp=Z,204nm,0.9s
P19K Oil Pt 77.34 11 P **P** **23 53 50.6 +0.5**
baz=200,SNR=13
KNMB Chin-men Tao 77.41 300 P **P** **23 53 51.1 -0.2**
KNMB IAmb IAmb 23 53 52.7
comp=Z,161nm,0.8s
G05A Wamic 77.42 35 IAmb IAmb 23 54 51.1
comp=Z,118nm,1.3s
NLWA Neilton Lookou 77.43 32 P **P** **23 53 52.2 +1.3**
QZH Quanzhou 77.44 301⇑*i*P **P** **23 53 51.8 +0.4**
QZH S **S** **00 03 32.3 +2.0**
QZH pmax pmax
comp=Z,260nm,1.0s

HG4B Hotspring 77.49 25 P **P** **23 53 52.5 +1.4**
CNJI Cibinong 77.50 266 P **P** **23 53 50.8 -1.2**
comp=Z,186nm,1.1s,comp=Z,2µm
N17K Nushagak Hills 77.55 8 IAmb IAmb 23 53 52.8
comp=Z,101nm,1.0s
N17K Nushagak Hills 77.55 8 P **P** **23 53 51.6 +0.4**
baz=196
CNPM China Poot 77.59 12 IAmb IAmb 23 53 53.4
comp=Z,139nm,0.9s
HOM Homer 77.63 11 P **P** **23 53 52.9 +1.2**
HOM Homer 77.63 11 P **P** **23 53 52.0 +0.3**
baz=202
O19K Port Alsworth 77.66 10 P **P** **23 53 52.1 +0.3**
baz=199,SNR=70
USA0B Ussuriysk Arra 77.69 323 IAmb IAmb 23 53 54.3
comp=Z,136nm,1.1s
USRK Ussuriysk Ar. 77.69 323 P **P** **23 53 52.8 +0.4**
comp=Z,66nm,0.9s,baz=120,slow=3.0,SNR=73
USRK LR LR 00 26 04.8
comp=Z,167nm,18.2s,baz=130,slow=34
comp=Z,66nm,0.9s
L14K Kuka Creek 77.70 5 P **P** **23 53 53.5 +1.5**
baz=191
X16A Lo Mia Camp, P 77.71 49 P **P** **23 53 53.9 +0.9**
X16A IAmb IAmb 23 53 55.8
comp=Z,99nm,0.9s
LCMT Little Creek M 77.74 46 P **P** **23 53 53.6 +0.6**
Q12A Willow Creek R 77.74 43 IAmb IAmb 23 53 55.3
comp=Z,90nm,0.9s
G06A Carlson Farm, 77.79 35 IAmb IAmb 23 54 35.1
comp=Z,157nm,1.8s
M16K Timber Creek 77.79 7 P **P** **23 53 54.2 +1.7**
baz=195,SNR=105
O20K Slope Mountain 77.85 11 P **P** **23 53 53.3 +0.3**
baz=201,SNR=18
319A Douglas 77.87 52 P **P** **23 53 54.8 +1.0**
319A IAmb IAmb 23 53 56.7
comp=Z,228nm,1.1s
BRLK Bradley Lake 77.88 12 P **P** **23 53 54.3 +0.3**
BRLK IAmb IAmb 23 53 54.8
comp=Z,161nm,0.9s
N18K Kilae Creek 77.88 9 IAmb IAmb 23 53 54.5
comp=Z,110nm,0.8s
N18K Kilae Creek 77.88 9 P **P** **23 53 53.5 +0.4**
baz=198
BRSE Bradley Lake S 77.88 12 P **P** **23 53 53.9 +0.8**
baz=203,SNR=31
J08A Circle Bar Ran 77.90 38 pP 23 54 32.0 +2.3
CCUT Cedar City 77.94 45 IAmb IAmb 23 53 57.0
comp=Z,88nm,1.0s
CBJI Citeko 77.99 267 P **P** **23 53 53.6 -1.1**
comp=Z,396nm,0.9s,comp=Z,19µm
KNB Kanab 78.03 46 P **P** **23 53 56.1 +1.4**
KNB IAmb IAmb 23 53 57.5
comp=Z,89nm,0.9s
KNB Kanab 78.03 46 P **P** **23 53 56.1 +1.4**
KNB pmax pmax
comp=Z,89nm,0.9s
SPR3 Spring Creek 3 78.05 43 P **P** **23 53 55.2 +0.3**
B04A Port Angeles 78.06 32 P **P** **23 53 55.8 +1.5**
DBJI Dramaga 78.06 267 P **P** **23 53 54.7 -0.4**
comp=Z,343nm,0.9s,comp=Z,3µm
GNW Green Mountain 78.08 33 P **P** **23 53 54.8 +0.4**
XMI Christmas Isla 78.09 262 P **P** **23 53 55.7 +0.4**
U15A North Rim 78.10 46 IAmb IAmb 23 53 58.2
comp=Z,174nm,1.0s
XMIS Christmas Isla 78.12 262 P **P** **23 53 55.1 -0.3**
XMIS Christmas Isla 78.12 262 P **P** **23 53 55.8 +0.4**
PSUT Pine Spring 78.12 44 IAmb IAmb 23 53 57.4
comp=Z,67nm,0.8s
SKJI Sukabumi 78.12 266 P **P** **23 53 54.2 -1.3**
comp=Z,715nm,0.7s,comp=Z,5µm
L15K Ungalak Mounta 78.15 6 P **P** **23 53 55.5 +1.0**
baz=192,SNR=78
N19K Bonanza Creek 78.22 10 P **P** **23 53 55.3 +0.2**
baz=199
D05A Enumclaw 78.28 33 IAmb IAmb 23 54 40.5
comp=Z,138nm,1.2s
WUAZ Wupatki 78.30 48 IAmb IAmb 23 53 59.0
comp=Z,135nm,1.1s
WUAZ Wupatki 78.30 48 P **P** **23 53 57.8 +1.6**
baz=240,SNR=69
SVW2 Sparrevohn 78.33 9 IAmb IAmb 23 53 56.9
comp=Z,117nm,0.8s
SVW2 Sparrevohn 78.33 9 P **P** **23 53 55.4 -0.1**
M17K Holitna River 78.35 8 P **P** **23 53 57.2 +1.6**
baz=196
L16K Owhat River 78.40 7 IAmb IAmb 23 53 58.6
comp=Z,230nm,1.1s
L16K Owhat River 78.40 7 P **P** **23 53 57.5 +1.6**
baz=194,SNR=57
ELK Elko 78.40 41 LR LR 00 22 53.9
comp=Z,282nm,19.1s,baz=226,slow=31
SEW Seward 78.47 12 P **P** **23 53 56.7 +0.5**
baz=204,SNR=12
Q23K Middleton Isla 78.54 14 P **P** **23 53 57.4 +0.8**
baz=207
PKCU Pink Cliffs 78.60 46 IAmb IAmb 23 54 01.5
comp=Z,271nm,1.2s
M18K Stony River 78.67 9 P **P** **23 53 58.2 +0.9**
baz=198,SNR=46
BBB Bella Bella 78.71 27 LR LR 00 25 09.8
comp=Z,173nm,18.4s,baz=224,slow=33
K15K Wolf Creek Mou 78.75 6 P **P** **23 53 59.7 +1.9**
baz=192
CAPN Captain Cook N 78.76 11 P **P** **23 53 59.6 +1.8**
baz=202,SNR=9.9
SBJI Serang 78.76 267 P **P** **23 53 58.4 -0.6**
comp=Z,228nm,1.4s,comp=Z,11µm
O22K Cooper Landing 78.77 12 P **P** **23 53 58.3 +0.4**
baz=204,SNR=17
HPIG 78.78 58 IAmb IAmb 23 54 01.3
comp=Z,106nm,1.0s
P23K Montague Islan 78.81 13 P **P** **23 53 58.9 +0.8**
baz=206
X18A Snowflake 78.84 49 IAmb IAmb 23 54 02.0
comp=Z,146nm,1.4s
L17K Donlin 78.95 7 P **P** **23 54 01.1 +2.2**
baz=195
N20K Mount Spurr 78.97 10 P **P** **23 53 59.0 -0.1**
baz=201
J14K Nanvaranak Lak 79.02 5 P **P** **23 54 00.1 +1.0**
baz=190,SNR=18
CGJI Cibinong 79.05 266 P **P** **23 53 59.6 -0.9**
comp=Z,1µm,0.6s,comp=Z,11µmcomp=Z,10µm
L18K Granite Mounta 79.24 8 IAmb IAmb 23 54 03.3
comp=Z,197nm,0.8s
L18K Granite Mounta 79.24 8 P **P** **23 54 02.2 +1.8**
baz=197,SNR=99
M19K Big River Lodg 79.27 9 IAmb IAmb 23 54 01.9
comp=Z,117nm,0.8s
M19K Big River Lodg 79.27 9 P **P** **23 54 01.0 +0.3**
baz=199
W18A Petrified Fore 79.28 49 IAmb IAmb 23 54 04.2
comp=Z,157nm,1.4s
W18A Petrified Fore 79.28 49 P **P** **23 54 02.9 +1.4**
baz=242,SNR=10.0
MDJ Mudanjiang 79.32 323 IAmb IAmb 23 54 03.2
comp=Z,131nm,1.1s
MDJ Mudanjiang 79.32 323 P **P** **23 54 01.6 +0.3**
MDJ Mudanjiang 79.32 323 P **P** **23 54 01.8 +0.5**
MDJ PcP **PcP** **23 54 09.3 +0.3**
MDJ pP pP 23 54 29.1 -8.2
MDJ PP **PP** **23 57 00.9 -2.6**
MDJ S **S** **00 03 50.8 +1.2**
MDJ ScS **ScS** **00 04 12.7 +1.8**
MDJ pmax pmax
comp=Z,120nm,1.0s
MDJ pmax pmax
comp=Z,990nm,3.6s
MDJ LR LR
comp=Z,260nm,11.0s
MDJ LR LR
comp=Z,270nm,16.4s
MDJ LR LR
comp=Z,330nm,16.2s
RC01 Rabbit Creek A 79.32 12 IAmb IAmb 23 54 02.6
comp=Z,178nm,0.9s
RC01 Rabbit Creek A 79.32 12 P **P** **23 54 01.4 +0.5**
baz=204,SNR=40
HIN Hinchinbrook I 79.37 13 IAmb IAmb 23 54 02.7
comp=Z,126nm,0.9s
PWL Port Wells 79.39 12 IAmb IAmb 23 54 02.8
comp=Z,160nm,0.8s
PWL Port Wells 79.39 12 P **P** **23 54 01.7 +0.3**
baz=205,SNR=29
KAIM Kayak Island 79.44 15 P **P** **23 54 02.7 +1.2**
baz=209,SNR=6.0
M20K Styx River 79.45 10 P **P** **23 54 01.6 -0.1**
baz=200
L19K White Mountain 79.47 9 IAmb IAmb 23 54 03.4
comp=Z,79nm,0.8s
L19K White Mountain 79.47 9 P **P** **23 54 02.3 +0.6**
baz=199
SUA Susitna One 79.48 11 P **P** **23 54 02.2 +0.3**
baz=203,SNR=165
K17K Iditarod 79.52 7 IAmb IAmb 23 54 04.8
comp=Z,257nm,1.1s
K17K Iditarod 79.52 7 P **P** **23 54 03.8 +1.9**
baz=195
121A Cookes Peak, D 79.53 52 IAmb IAmb 23 54 06.0
comp=Z,184nm,1.1s
121A Cookes Peak, D 79.53 52 P **P** **23 54 04.8 +1.9**
baz=243,SNR=92
121A Cookes Peak, D 79.53 52 P **P** **23 54 05.0 +2.0**
baz=243,SNR=92
GRNR Gornyy 79.54 330⇑*i*P **P** **23 54 02.8 +0.4**
GRNR pmax pmax
comp=E,30nm,1.0s
GRNR pmax pmax
comp=N,30nm,0.8s
GRNR pmax pmax
comp=Z,110nm,1.0s
V35K Ketchikan 79.61 23 P **P** **23 54 04.6 +2.0**
baz=221
SIT Sitka 79.64 20 P **P** **23 54 05.9 +3.3**
baz=218
GAMB Gambell 79.65 1 P **P** **23 54 03.8 +1.3**
baz=182,SNR=5.2
U33K Whale Pass 79.66 22 IAmb IAmb 23 54 43.4
comp=Z,181nm,1.6s
U33K Whale Pass 79.66 22 P **P** **23 54 05.1 +2.3**
baz=220
GLI Glacier Island 79.67 13 P **P** **23 54 03.1 +0.3**
baz=206,SNR=28
EYAK Cordova Ski Ar 79.67 14 P **P** **23 54 03.3 +0.5**
EYAK Cordova Ski Ar 79.67 14 P **P** **23 54 03.4 +0.6**
baz=207,SNR=6.2
DUG Dugway, Tooele 79.68 43 P **P** **23 54 04.5 +1.0**
baz=239,SNR=43
ZAIG Zacatecas 79.72 63 IAmb IAmb 23 54 07.3
comp=Z,96nm,1.1s
MOIG Molia 79.77 66 IAmb IAmb 23 54 06.9
comp=Z,98nm,0.8s
J16K Anvik River 79.81 6 P **P** **23 54 05.4 +1.9**
baz=193
SKT Skwentna 79.82 10 IAmb IAmb 23 54 04.2
comp=Z,93nm,0.9s
SKT Skwentna 79.82 10 P **P** **23 54 02.9 -0.7**
baz=202,SNR=48
D08A Wollman Farm, 79.84 35 IAmb IAmb 23 54 07.5
comp=Z,76nm,0.9s
M22K Willow 79.86 11 P **P** **23 54 04.0 +0.2**
baz=203,SNR=39
KNK Knik Glacier 79.87 12 IAmb IAmb 23 54 05.9
comp=Z,167nm,0.8s
KNK Knik Glacier 79.87 12 P **P** **23 54 04.6 +0.6**
baz=205,SNR=36
L20K Farewell, AK 79.90 9 P **P** **23 54 04.4 +0.3**
baz=200,SNR=72
PMR Palmer 79.90 12 P **P** **23 54 04.4 +0.4**
PMR Palmer 79.90 12 P **P** **23 54 04.5 +0.4**
baz=204,SNR=21
TTA Tatalina 80.02 8 IAmb IAmb 23 54 07.1
comp=Z,172nm,0.9s
TTA Tatalina 80.02 8 P **P** **23 54 05.6 +0.9**
TTA Tatalina 80.02 8 P **P** **23 54 06.0 +1.3**
baz=198,SNR=114
SNH Sunshine Point 80.05 15 IAmb IAmb 23 54 07.7
comp=Z,152nm,0.9s
S31K Pelican 80.07 19 IAmb IAmb 23 54 21.3
comp=Z,183nm,1.5s
S31K Pelican 80.07 19 P **P** **23 54 07.1 +2.2**
baz=217
F10A Beach Ranch, E 80.15 36 IAmb IAmb 23 54 07.8
comp=Z,85nm,0.8s
HKPS Hong Kong Po S 80.15 297 P **P** **23 54 07.5 +1.2**
KIDD KIDD Seismic O 80.16 53 P **P** **23 54 07.5 +1.2**
baz=244,SNR=12
WRAK Wrangell Islan 80.17 22 P **P** **23 54 07.9 +2.4**
baz=220
S32K Killisnoo 80.21 20 P **P** **23 54 07.8 +2.0**
baz=218
NJ2 Nanjing 80.25 307⇑*i*P **P** **23 54 07.1 +0.5**
NJ2 sP **pwP** **23 54 47.6 +2.4**
NJ2 S **SKSac** **00 04 06.9 -3.7**
NJ2 SKS **SKSac** **00 04 10.2 -0.4**
NJ2 pmax pmax
comp=Z,85nm,0.9s
NJ2 pmax pmax
comp=Z,730nm,3.5s
SML Sawmill 80.26 12 P **P** **23 54 06.4 +0.3**
baz=205,SNR=12
MESA MESA 80.27 16 IAmb IAmb 23 54 10.0
comp=Z,262nm,1.3s
MESA MESA 80.27 16 P **P** **23 54 07.3 +1.0**
baz=211,SNR=7.3
WAX Waxell Ridge 80.28 15 IAmb IAmb 23 54 08.7
comp=Z,105nm,0.8s
TMUT Trail Mountain 80.28 44 IAmb IAmb 23 54 09.9
comp=Z,150nm,1.2s
BMRM Bremner River 80.31 14 P **P** **23 54 07.0 +0.7**
baz=208
M23K Glacier View 80.37 12 P **P** **23 54 06.6 +0.1**
baz=206,SNR=9.8
I17K Unalakleet 80.39 6 IAmb IAmb 23 54 09.5
comp=Z,213nm,1.1s
I17K Unalakleet 80.39 6 P **P** **23 54 08.4 +1.9**
baz=193,SNR=59
CUT Chultina 80.44 11 P **P** **23 54 07.3 +0.4**
baz=203,SNR=50
J18K Innoko River 80.44 8 P **P** **23 54 08.2 +1.3**
baz=197
HLID Hailey 80.45 39 P **P** **23 54 08.9 +1.3**
baz=237,SNR=115
CRQM Cirque 80.47 15 IAmb IAmb 23 54 12.9
comp=Z,123nm,0.9s
KLU Klutina 80.48 13 IAmb IAmb 23 54 09.8
comp=Z,80nm,0.9s
KLU Klutina 80.48 13 P **P** **23 54 07.7 +0.5**
baz=207,SNR=22
CRQE Cirque 80.48 15 P **P** **23 54 08.0 +0.7**
baz=210
SCM Sheep Creek Mo 80.48 12 P **P** **23 54 07.9 +0.6**
baz=206,SNR=56
KASI Kota Agung 80.49 267 P **P** **23 54 06.9 -1.4**
comp=Z,604nm,0.7s,comp=Z,5µm
PNL Peninsula 80.53 17 P **P** **23 54 08.8 +1.3**
PNL Peninsula 80.53 17 P **P** **23 54 08.3 +0.8**
baz=214
ISLE Juniper Island 80.54 15 IAmb IAmb 23 54 13.1
comp=Z,114nm,1.0s
TGL Tana Glacier 80.55 15 IAmb IAmb 23 54 11.7
comp=Z,98nm,1.0s
PPLA Purkeypile 80.56 10 P **P** **23 54 06.7 -1.0**
baz=201,SNR=12
PINM Pinnacle 80.65 16 P **P** **23 54 12.7 +4.5**
baz=213
ANM Nome 80.69 4 IAmb IAmb 23 54 10.6
comp=Z,110nm,0.8s
ANM Nome 80.69 4 P **P** **23 54 09.6 +1.4**
baz=188,SNR=30
K20K Telida 80.70 9 IAmb IAmb 23 54 10.3
comp=Z,150nm,0.8s
K20K Telida 80.70 9 P **P** **23 54 08.9 +0.6**
baz=199,SNR=110
TABL Table Mountain 80.70 16 IAmb IAmb 23 54 12.0
comp=Z,96nm,1.0s
MA2 Magadan 80.71 343 P **P** **23 54 08.3 -0.1**
MA2 IAmb IAmb 23 54 09.3
comp=Z,160nm,0.9s
MA2 Magadan 80.71 343 P **P** **23 54 07.9 -0.5**
MA2 Magadan 80.71 343*c i*P **P** **23 54 07.9 -0.5**
MA2 pmax pmax
comp=Z,352nm,1.7s
MA2 Magadan 80.71 343 LR LR 00 26 32.5
comp=Z,128nm,19.4s,baz=140,slow=33
Y22A Socorro 80.77 51 P **P** **23 54 11.0 +1.5**
baz=244
VRDI Verde Repeater 80.81 14 IAmb IAmb 23 54 12.4
comp=Z,104nm,1.0s
Y22D IRIS PASSCAL I 80.86 51 IAmb IAmb 23 54 13.2
comp=Z,166nm,0.9s
Y22D IRIS PASSCAL I 80.86 51 P **P** **23 54 12.0 +2.0**
baz=244,SNR=7.2

Y22F	**Passcal Instru**	**80.86**	**51**	P		**P**		**23 54 12.0**	**+1.9**	
	baz=244,SNR=6.4									
KLR	**Kul'dur**	**80.88**	**327**	*c i*	P		**P**	**23 54 09.7**	**+0.2**	
KLR					pmax		pmax			
	comp=Z,74nm,1.0s									
KLR	**Kul'dur**	**80.88**	**327**		LR		LR	00 23 46.7		
	comp=Z,173nm,21.4s,baz=138,slow=31									
GLB	**Gilahina Butte**	**80.91**	**14**		IAmb		IAmb	23 54 11.2		
	comp=Z,84nm,0.8s									
PMBI	**Palembang**	**80.91**	**270**		P		**P**	**23 54 12.2**	**+1.6**	
PMBI	**Palembang**	**80.91**	**270**		P		**P**	**23 54 11.7**	**+1.1**	
	comp=Z,815nm,1.1s									
P29M	**Windy Craggy**	**80.97**	**18**		IAmb		IAmb	23 54 12.7		
	comp=Z,71nm,0.8s									
M24K	**Tolsona, Glenn**	**80.97**	**13**		P		**P**	**23 54 10.9**	**+1.1**	
	baz=207,SNR=47									
H16K	**Elim**	**80.99**	**5**		P		**P**	**23 54 11.2**	**+1.4**	
	baz=191,SNR=58									
MNTX	**Cornudas Mount**	**81.00**	**53**		P		**P**	**23 54 12.1**	**+1.5**	
	baz=245,SNR=156									
MNTX	**Cornudas Mount**	**81.00**	**53**		P		**P**	**23 54 12.1**	**+1.5**	
	baz=245,SNR=156									
LWLI	**Liwa**	**81.04**	**267**		P		**P**	**23 54 10.6**	**-0.8**	
	comp=Z,777nm,0.7s									
MCARA	**McCarthy VSAT**	**81.05**	**14**		IAmb		IAmb	23 54 21.6		
	comp=Z,82nm,0.9s									
MCARA	**McCarthy VSAT**	**81.05**	**14**		P		**P**	**23 54 10.8**	**+0.7**	
	baz=210,SNR=12									
TCUT	**Toone Canyon**	**81.07**	**43**		IAmb		IAmb	23 54 13.4		
	comp=Z,158nm,0.9s									
CAST	**Castle Rocks**	**81.07**	**10**		IAmb		IAmb	23 54 10.5		
	comp=Z,79nm,0.8s									
CAST	**Castle Rocks**	**81.07**	**10**		P		**P**	**23 54 09.4**	**-0.9**	
	baz=201,SNR=55									
LOGN	**Logan Glacier**	**81.07**	**16**		IAmb		IAmb	23 54 13.8		
	comp=Z,194nm,1.4s									
WAT6	**Susitna Watana**	**81.08**	**12**		P		**P**	**23 54 11.0**	**+0.5**	
	baz=205,SNR=71									
J19K	**Poorman**	**81.09**	**8**		IAmb		IAmb	23 54 12.8		
	comp=Z,120nm,1.0s									
J19K	**Poorman**	**81.09**	**8**		P		**P**	**23 54 11.7**	**+1.4**	
	baz=198									
BARN	**Barnard Glacie**	**81.10**	**15**		IAmb		IAmb	23 54 13.1		
	comp=Z,96nm,0.8s									
CTG	**Chitna Glacier**	**81.10**	**15**		P		**P**	**23 54 11.3**	**+0.7**	
	baz=212,SNR=18									
CTGM	**Chitina Glacie**	**81.10**	**15**		IAmb		IAmb	23 54 13.4		
	comp=Z,113nm,1.0s									
MVCO	**Mesa Verde**	**81.14**	**47**		P		**P**	**23 54 12.7**	**+1.2**	
	baz=242,SNR=17									
WAT1	**Susitna Watana**	**81.15**	**11**		P		**P**	**23 54 11.1**	**+0.4**	
	baz=205									
G15K	**Niukluk**	**81.20**	**4**		P		**P**	**23 54 12.1**	**+1.2**	
	baz=190,SNR=94									
BNX	**BinXian**	**81.23**	**323**	⇑	P		**P**	**23 54 11.2**	**-0.3**	
BNX					PP		**PP**	**23 57 18.4**	**-0.9**	
BNX					pmax		pmax			
	comp=Z,260nm,0.9s									
BNX					pmax		pmax			
	comp=Z,620nm,4.3s									
BNX					LR		LR			
	comp=Z,490nm,21.1s									
BNX					LR		LR			
	comp=Z,420nm,17.3s									
BNX					LR		LR			
	comp=Z,330nm,11.9s									
O29M	**Mount Kennedy**	**81.28**	**17**		IAmb		IAmb	23 54 15.5		
	comp=Z,140nm,1.4s									
O29M	**Mount Kennedy**	**81.28**	**17**		P		**P**	**23 54 12.9**	**+1.3**	
	baz=214									
CN2	**Changchun**	**81.35**	**320**	*e*	P		**P**	**23 54 12.2**	**0.0**	
CN2				*e*	S		**SKSac**	**00 04 15.6**	**-2.1**	
CN2					pmax		pmax			
	comp=Z,100nm,1.0s									
CN2					pmax		pmax			
	comp=Z,100nm,4.0s									
CN2					LR		LR			
	comp=Z,200nm,11.0s									
CN2					LR		LR			
	comp=Z,300nm,11.0s									
CN2					LR		LR			
	comp=Z,400nm,11.0s									
T35M	**Bob Quinn**	**81.36**	**22**		P		**P**	**23 54 14.7**	**+2.8**	
	baz=222,SNR=5.1									
TLIG	**Tlapa**	**81.36**	**69**		IAmb		IAmb	23 54 16.5		
	comp=Z,208nm,1.6s									
DL2	**Dalian**	**81.37**	**315**	⇑ *i*	P		**P**	**23 54 12.9**	**+0.6**	
DL2					sP		**pwP**	**23 54 56.2**	**+5.4**	
DL2					S		**SKSac**	**00 04 16.4**	**-1.6**	
DL2					pmax		pmax			
	comp=Z,160nm,0.7s									
DL2					pmax		pmax			
	comp=Z,790nm,6.2s									
TX31	**Lajitas Ar. Si**	**81.37**	**56**		P		**P**	**23 54 14.3**	**+1.6**	
	baz=246									
TXAR	**Lajitas Array**	**81.37**	**56**		P		**P**	**23 54 14.2**	**+1.5**	
	comp=Z,80nm,1.0s,baz=220,slow=5.1,SNR=337									
TXAR					PKKPbc		**PKKPbc**	**00 12 47.9**	**+0.7**	
	comp=Z,2.8nm,1.0s,baz=88,slow=1.8,SNR=3.7									
TXAR					PKPPKP		**P'P'df**	**00 20 44.8**	**-6.4**	
	comp=Z,0.7nm,0.9s,baz=48,slow=1.9,SNR=4.6									
TXAR					LR		LR	00 24 34.3		
	comp=Z,222nm,18.6s,baz=239,slow=31									
	comp=Z,80nm,1.0s									
TRF	**Thorofare Moun**	**81.40**	**10**		P		**P**	**23 54 12.2**	**0.0**	
	baz=203,SNR=125									
HARP	**HAARP**	**81.45**	**13**		P		**P**	**23 54 13.1**	**+0.8**	
	baz=208,SNR=25									
CHUM	**Lake Minchumin**	**81.47**	**9**		P		**P**	**23 54 12.1**	**-0.1**	
	baz=201,SNR=116									
J20K	**Nowinta River**	**81.47**	**9**		P		**P**	**23 54 13.3**	**+1.0**	
	baz=199									
H17K	**Granite Mounta**	**81.50**	**6**		IAmb		IAmb	23 54 14.1		
	comp=Z,81nm,0.7s									
H17K	**Granite Mounta**	**81.50**	**6**		P		**P**	**23 54 13.4**	**+1.0**	
	baz=194									
SNY	**Shenyang**	**81.51**	**318**	⇑	P		**P**	**23 54 13.1**	**+0.1**	
SNY					S		**SKSac**	**00 04 17.1**	**-1.7**	
SNY					pmax		pmax			
	comp=Z,98nm,1.2s									
SNY					LR		LR			
	comp=Z,180nm,4.5s									
SNY					LR		LR			
	comp=Z,160nm,5.5s									
SNY					LR		LR			
	comp=Z,190nm,5.2s									
F14K	**Arctic Creek**	**81.54**	**3**		P		**P**	**23 54 13.8**	**+1.1**	
	baz=187									
NEW	**Newport**	**81.54**	**34**		P		**P**	**23 54 13.0**	**-0.1**	
	baz=234,SNR=17									
NEW	**Newport**	**81.54**	**34**		LR		LR	00 23 24.9		
	comp=Z,212nm,19.2s,baz=232,slow=30									
TNA	**Tin City**	**81.55**	**2**		P		**P**	**23 54 13.6**	**+0.9**	
	baz=186,SNR=21									
SKAG	**Skagway**	**81.55**	**19**		P		**P**	**23 54 14.3**	**+1.5**	
SKAG	**Skagway**	**81.55**	**19**		P		**P**	**23 54 15.5**	**+2.7**	
	baz=217									
ANMO	**Albuquerque**	**81.59**	**50**		P		**P**	**23 54 15.2**	**+1.3**	
ANMO					IAmb		IAmb	23 54 16.6		
	comp=Z,116nm,1.1s									
ANMO	**Albuquerque**	**81.59**	**50**		P		**P**	**23 54 15.2**	**+1.3**	
	baz=244									
ANMO	**Albuquerque**	**81.59**	**50**		P		**P**	**23 54 15.4**	**+1.4**	
	baz=244									
ANMO	**Albuquerque**	**81.59**	**50**	*d*	*i*	P	**P**	**23 54 15.2**	**+1.3**	
ANMO					*i*	*PP	**pP**	**23 54 54.2**	**+4.0**	
ANMO					pmax		pmax			
	comp=Z,146nm,1.3s									
ANMO	**Albuquerque**	**81.59**	**50**		LR		LR	00 25 40.1		
	comp=Z,301nm,18.0s,baz=333,slow=32									
P30M	**Million Dollar**	**81.60**	**18**		P		**P**	**23 54 14.0**	**+0.8**	
	baz=216									
DHY	**Denali Highway**	**81.60**	**12**		IAmb		IAmb	23 54 14.7		
	comp=Z,71nm,0.8s									
DHY	**Denali Highway**	**81.60**	**12**		P		**P**	**23 54 13.4**	**+0.2**	
	baz=206,SNR=42									
GCSA	**Galena City Sc**	**81.65**	**7**		P		**P**	**23 54 14.7**	**+1.5**	
	baz=197									
DLV	**T Lat**	**81.70**	**285**		IAmb		IAmb	23 54 17.2		
	comp=Z,245nm,1.3s									
DLV	**T Lat**	**81.70**	**285**		P		**P**	**23 54 16.4**	**+1.5**	
G16K	**Koyuk River**	**81.72**	**5**		IAmb		IAmb	23 54 16.0		
	comp=Z,225nm,1.3s									
G16K	**Koyuk River**	**81.72**	**5**		P		**P**	**23 54 14.7**	**+1.1**	
	baz=191									
S34M	**Telegraph Cree**	**81.74**	**21**		P		**P**	**23 54 15.9**	**+2.0**	
	baz=221,SNR=18									
DSRI	**Dabo**	**81.77**	**272**		P		**P**	**23 54 15.5**	**+0.4**	
	comp=Z,225nm,1.1s									
YUK8	**Steele Glacier**	**81.78**	**16**		P		**P**	**23 54 15.2**	**+0.8**	
	baz=213,SNR=16									
ALPN	**Alpine**	**81.81**	**55**		IAmb		IAmb	23 54 17.6		
	comp=Z,157nm,0.8s									
F15K	**North Star Dit**	**81.87**	**4**		IAmb		IAmb	23 54 16.5		
	comp=Z,249nm,1.4s									
F15K	**North Star Dit**	**81.87**	**4**		P		**P**	**23 54 15.4**	**+1.0**	
	baz=189									
H18K	**Honhosa River**	**81.87**	**7**		IAmb		IAmb	23 54 16.2		
	comp=Z,159nm,1.2s									
H18K	**Honhosa River**	**81.87**	**7**		P		**P**	**23 54 15.2**	**+0.8**	
	baz=195									
YUK6	**Outpost Mounta**	**81.87**	**17**		P		**P**	**23 54 15.9**	**+1.0**	
	baz=214									
BPAW	**Bear Paw Mtn.**	**81.88**	**10**		P		**P**	**23 54 13.8**	**-0.7**	
	baz=202,SNR=42									
PAX	**Paxson**	**81.89**	**13**		P		**P**	**23 54 14.9**	**+0.2**	
	baz=208,SNR=35									
MCK	**McKinley**	**81.90**	**11**		P		**P**	**23 54 15.0**	**+0.4**	
	baz=204,SNR=250									
M26K	**Nabesna, AK**	**81.94**	**14**		IAmb		IAmb	23 54 18.4		
	comp=Z,198nm,1.0s									
M26K	**Nabesna, AK**	**81.94**	**14**		P		**P**	**23 54 15.8**	**+0.9**	
	baz=210									
G17K	**Kiwalik Mounta**	**81.98**	**6**		P		**P**	**23 54 15.9**	**+1.0**	
	baz=193									
I20K	**Naaghedeneel**	**82.01**	**8**		P		**P**	**23 54 16.2**	**+1.2**	
	baz=199,SNR=33									
HYT	**Haines Junctio**	**82.02**	**17**		IAmb		IAmb	23 54 19.4		
	comp=Z,130nm,1.3s									
HYT	**Haines Junctio**	**82.02**	**17**		P		**P**	**23 54 16.8**	**+1.4**	
	baz=215,SNR=15									
YUK3	**Moose Creek**	**82.02**	**15**		P		**P**	**23 54 16.4**	**+0.8**	
	baz=212,SNR=26									
PECS	**Pecos**	**82.04**	**54**		IAmb		IAmb	23 54 18.5		
	comp=Z,82nm,1.2s									
YUK4	**Talbot Arm**	**82.13**	**16**		P		**P**	**23 54 17.3**	**+1.2**	
	baz=214,SNR=6.2									
Q32M	**Nakina River**	**82.14**	**20**		P		**P**	**23 54 17.5**	**+1.2**	
	baz=220									
P32M	**Atlin**	**82.16**	**19**		P		**P**	**23 54 17.4**	**+1.3**	
	baz=219									
M27K	**Edge Creek, AK**	**82.17**	**14**		IAmb		IAmb	23 54 20.1		
	comp=Z,188nm,1.1s									
M27K	**Edge Creek, AK**	**82.17**	**14**		P		**P**	**23 54 17.1**	**+1.0**	
	baz=211									
TPRI	**Tanjung Pinang**	**82.20**	**273**		P		**P**	**23 54 18.0**	**+0.7**	
	comp=Z,203nm,1.2s,comp=Z,2µm									
MENT	**Mentasta**	**82.24**	**13**		IAmb		IAmb	23 54 18.6		
	comp=Z,104nm,0.8s									
MENT	**Mentasta**	**82.24**	**13**		P		**P**	**23 54 17.4**	**+0.9**	
MNAI	**Manna**	**82.27**	**268**		P		**P**	**23 54 16.4**	**-1.3**	
MNAI	**Manna**	**82.27**	**268**		P		**P**	**23 54 17.4**	**-0.3**	
MNAI	**Manna**	**82.27**	**268**		P		**P**	**23 54 17.5**	**-0.3**	
	comp=Z,1µm,0.8s,comp=Z,12µm									
JMBI	**JAMBI**	**82.35**	**271**		P		**P**	**23 54 19.4**	**+1.3**	
	comp=Z,316nm,0.9s,comp=Z,4µm									
O30N	**Mendenhall**	**82.38**	**18**		P		**P**	**23 54 17.7**	**+0.5**	
O30N	**Mendenhall**	**82.38**	**18**		P		**P**	**23 54 18.2**	**+1.0**	
	baz=216,SNR=19									
CLNB	**Carlsbad**	**82.39**	**53**		P		**P**	**23 54 19.1**	**+1.0**	
L26K	**Log Cabin Wild**	**82.40**	**14**		IAmb		IAmb	23 54 19.4		
	comp=Z,94nm,0.8s									
L26K	**Log Cabin Wild**	**82.40**	**14**		P		**P**	**23 54 18.3**	**+1.0**	
	baz=210,SNR=61									
H19K	**Roundabout Mou**	**82.45**	**7**		IAmb		IAmb	23 54 19.9		
	comp=Z,202nm,0.9s									
H19K	**Roundabout Mou**	**82.45**	**7**		P		**P**	**23 54 18.8**	**+1.5**	
	baz=197									
BVCY	**Beaver Creek**	**82.46**	**15**		P		**P**	**23 54 18.5**	**+0.9**	
	baz=212,SNR=24									
MSO	**Missoula**	**82.51**	**37**		IAmb		IAmb	23 55 00.1		
	comp=Z,175nm,1.8s									
MSO	**Missoula**	**82.51**	**37**		P		**P**	**23 54 18.5**	**+0.2**	
	baz=237,SNR=29									
CLN7	**Carlsbad 7**	**82.51**	**53**		P		**P**	**23 54 19.5**	**+0.9**	
DLBC	**Dease Lake**	**82.52**	**22**		P		**P**	**23 54 19.5**	**+1.5**	
DLBC	**Dease Lake**	**82.52**	**22**		P		**P**	**23 54 20.0**	**+2.0**	
	baz=222									
DLBC	**Dease Lake**	**82.52**	**22**		LR		LR	00 27 30.1		
	comp=Z,145nm,18.1s,baz=262,slow=33									
TPAW	**Teton Pass**	**82.56**	**41**		P		**P**	**23 54 19.7**	**+0.8**	
TPAW					IAmb		IAmb	23 54 21.1		
	comp=Z,70nm,0.8s									
G18K	**Tagagawik**	**82.56**	**6**		IAmb		IAmb	23 54 19.9		
	comp=Z,174nm,1.0s									
G18K	**Tagagawik**	**82.56**	**6**		P		**P**	**23 54 18.8**	**+0.8**	
	baz=195									
S22A	**4UR Ranch, Cre**	**82.57**	**47**		P		**P**	**23 54 20.2**	**+1.1**	
S22A					IAmb		IAmb	23 54 22.5		
	comp=Z,191nm,0.9s									
S22A	**4UR Ranch, Cre**	**82.57**	**47**		P		**P**	**23 54 20.6**	**+1.6**	
	baz=243,SNR=212									
K24K	**Donnelly Dome**	**82.57**	**12**		P		**P**	**23 54 19.1**	**+0.9**	
	baz=207,SNR=21									
FXWY	**Fox Creek**	**82.58**	**41**		P		**P**	**23 54 19.4**	**+0.5**	
FXWY					IAmb		IAmb	23 54 21.2		
	comp=Z,128nm,1.6s									
H20K	**Anotleneega Mo**	**82.62**	**8**		P		**P**	**23 54 19.7**	**+1.4**	
	baz=198									
WHY	**Whitehorse**	**82.64**	**18**		P		**P**	**23 54 19.3**	**+0.6**	
WHY	**Whitehorse**	**82.64**	**18**		P		**P**	**23 54 19.8**	**+1.1**	
	baz=218,SNR=8.4									
N30M	**Aishikik Lake**	**82.65**	**17**		P		**P**	**23 54 19.6**	**+1.0**	
	baz=216									
NEA2	**Nenana**	**82.67**	**11**		IAmb		IAmb	23 54 20.9		
	comp=Z,134nm,1.0s									
NEA2	**Nenana**	**82.67**	**11**		P		**P**	**23 54 18.2**	**-0.4**	
	baz=204,SNR=102									
SNOW	**Snow King Moun**	**82.67**	**41**		IAmb		IAmb	23 54 21.6		
	comp=Z,104nm,0.9s									
HTMS	**Hat Mesa**	**82.67**	**53**		P		**P**	**23 54 20.3**	**+0.8**	
O20A	**White River Ci**	**82.69**	**45**		IAmb		IAmb	23 54 21.7		
	comp=Z,110nm,1.2s									
O20A	**White River Ci**	**82.69**	**45**		P		**P**	**23 54 20.6**	**+1.0**	
	baz=242,SNR=30									
RIDG	**Independent Ri**	**82.71**	**13**		IAmb		IAmb	23 54 20.6		
	comp=Z,128nm,0.8s									
RIDG	**Independent Ri**	**82.71**	**13**		P		**P**	**23 54 19.3**	**+0.4**	
	baz=208									
CPRX	**Cap Rock**	**82.72**	**53**		P		**P**	**23 54 20.6**	**+0.8**	
I21K	**Tanana**	**82.73**	**9**		IAmb		IAmb	23 54 20.5		
	comp=Z,101nm,0.9s									
I21K	**Tanana**	**82.73**	**9**		P		**P**	**23 54 19.2**	**+0.3**	
	baz=201									
QIZ	**Qiongzhong**	**82.77**	**292**		P		**P**	**23 54 20.9**	**+0.8**	
QIZ					pP		pP	23 54 48.8	-7.5	
QIZ					sP		**pwP**	**23 55 00.1**	**+1.1**	
QIZ					S		**SKSac**	**00 04 29.9**	**+1.7**	
QIZ					sS		pS	00 05 19.5	+8.2	
QIZ					pmax		pmax			
	comp=Z,49nm,1.3s									
QIZ					pmax		pmax			
	comp=Z,680nm,3.0s									
IMW	**Indian Meadow**	**82.77**	**40**		IAmb		IAmb	23 54 22.2		
	comp=Z,78nm,0.8s									
L27K	**Beaver Creek,**	**82.78**	**14**		P		**P**	**23 54 20.2**	**+0.9**	
	baz=211									
MLY	**Manley**	**82.79**	**10**		IAmb		IAmb	23 54 20.3		
	comp=Z,151nm,0.9s									
MLY	**Manley**	**82.79**	**10**		P		**P**	**23 54 19.2**	**-0.1**	
	baz=202,SNR=138									
LRM	**Limekiln Ridge**	**82.84**	**38**		P		**P**	**23 54 20.6**	**+0.3**	
SAND	**Sanderson**	**82.85**	**56**		P		**P**	**23 54 21.0**	**+0.6**	
SAND					IAmb		IAmb	23 54 22.5		
	comp=Z,92nm,1.0s									
F17K	**Baldwin Pennin**	**82.85**	**5**		P		**P**	**23 54 20.5**	**+1.1**	
	baz=192									
HDA	**Harding Lake**	**82.89**	**11**		P		**P**	**23 54 20.2**	**+0.5**	
	baz=206,SNR=196									
HDA					P		**P**	**23 54 20.2**	**+0.5**	
	baz=206,SNR=196									
MNHN	**Monahans**	**82.89**	**55**		P		**P**	**23 54 21.0**	**+0.5**	
MNHN					IAmb		IAmb	23 54 22.7		
	comp=Z,109nm,0.9s									
R33M	**Jennings River**	**82.91**	**21**		P		**P**	**23 54 21.3**	**+1.2**	
	baz=221									
P33M	**Teslin, Yukon**	**82.93**	**19**		P		**P**	**23 54 21.1**	**+1.0**	
	baz=220,SNR=8.6									
QLMT	**Earthquake Lak**	**82.94**	**39**		P		**P**	**23 54 21.8**	**+1.1**	
G19K	**Purcell Mounta**	**82.97**	**7**		P		**P**	**23 54 21.3**	**+1.1**	
	baz=196									
FLWY	**Flagg Ranch**	**83.01**	**40**		P		**P**	**23 54 21.9**	**+0.8**	
FLWY					IAmb		IAmb	23 54 23.6		
	comp=Z,107nm,0.8s									
N31M	**Braeburn, Yuko**	**83.04**	**17**		IAmb		IAmb	23 54 32.7		
	comp=Z,77nm,1.0s									
N31M	**Braeburn, Yuko**	**83.04**	**17**		P		**P**	**23 54 21.6**	**+1.0**	
	baz=217,SNR=14									
H21K	**Melozitna Rive**	**83.06**	**9**		IAmb		IAmb	23 54 22.9		
	comp=Z,157nm,1.1s									
H21K	**Melozitna Rive**	**83.06**	**9**		P		**P**	**23 54 21.7**	**+1.1**	
	baz=200,SNR=124									
BW06	**Boulder Array**	**83.08**	**42**		IAmb		IAmb	23 54 23.1		
	comp=Z,70nm,0.8s									
BW06	**Boulder Array**	**83.08**	**42**		P		**P**	**23 54 21.9**	**+0.3**	
	baz=241,SNR=102									
PD31	**Pinedale Array**	**83.08**	**42**		IAmb		IAmb	23 54 23.1		
	comp=Z,62nm,0.8s									
PDAR	**Pinedale Array**	**83.08**	**42**		P		**P**	**23 54 22.2**	**+0.7**	
	comp=Z,65nm,0.8s,baz=212,slow=3.0,SNR=415									
PDAR					PKKPbc		**PKKPbc**	**00 12 42.8**	**-1.4**	
	comp=Z,3.0nm,0.8s,baz=91,slow=3.8,SNR=14									
PDAR					PKPPKP		**P'P'df**	**00 20 41.1**	**-6.1**	
	comp=Z,3.5nm,1.3s,baz=116,slow=3.4,SNR=3.7									
PDAR					LR		LR	00 26 14.4		
	comp=Z,384nm,18.2s,baz=245,slow=32									
	comp=Z,65nm,0.8s									
SEY	**Seymchan**	**83.09**	**345**	*ce*	P		**P**	**23 54 20.8**	**0.0**	
SEY					pmax		pmax			
	comp=Z,355nm,1.0s									
SEY	**Seymchan**	**83.09**	**345**		LR		LR	00 26 27.1		
	comp=Z,111nm,20.2s,baz=178,slow=32									
M29M	**Somme Creek**	**83.09**	**16**		P		**P**	**23 54 21.8**	**+0.9**	
	baz=214									
MYKOM	**Kota Tinggi**	**83.10**	**274**		P		**P**	**23 54 22.1**	**+0.2**	
SCRK	**Sand Creek**	**83.10**	**13**		IAmb		IAmb	23 54 24.1		
	comp=Z,124nm,0.9s									
SCRK	**Sand Creek**	**83.10**	**13**		P		**P**	**23 54 21.8**	**+0.8**	
	baz=209,SNR=156									
YFT	**Old Faithful**	**83.11**	**40**		P		**P**	**23 54 22.7**	**+1.0**	
SMCO	**Snowmass**	**83.12**	**46**		IAmb		IAmb	23 54 24.3		
	comp=Z,88nm,0.9s									
I23K	**Minto, Yukon-K**	**83.12**	**10**		IAmb		IAmb	23 54 22.3		
	comp=Z,196nm,1.1s									
I23K	**Minto, Yukon-K**	**83.12**	**10**		P		**P**	**23 54 21.0**	**+0.2**	
	baz=204,SNR=95									
COLA	**College**	**83.14**	**11**		P		**P**	**23 54 21.2**	**+0.3**	
COLA	**College**	**83.14**	**11**		P		**P**	**23 54 21.0**	**+0.1**	
COLA	**College**	**83.14**	**11**		P		**P**	**23 54 21.4**	**+0.5**	
	baz=205									
COLA	**College**	**83.14**	**11**	*c i*	P		**P**	**23 54 23.3**	**+2.4**	
COLA					pmax		pmax			
	comp=Z,137nm,1.4s									
YMR	**Madison River**	**83.14**	**40**		P		**P**	**23 54 23.0**	**+1.2**	
YMR					IAmb		IAmb	23 54 24.6		
	comp=Z,94nm,0.7s									
BOZ	**Bozeman (W)**	**83.22**	**39**		P		**P**	**23 54 22.8**	**+0.8**	
	baz=239,SNR=60									
IL31		**83.22**	**11**		IAmb		IAmb	23 54 22.9		
	comp=Z,205nm,1.2s									
ILAR	**Eielson Array**	**83.22**	**11**		P		**P**	**23 54 21.6**	**+0.2**	
	comp=Z,52nm,0.7s,baz=207,slow=5.2,SNR=372									
ILAR					PKKPbc		**PKKPbc**	**00 12 40.7**	**-4.0**	
	comp=Z,0.5nm,0.6s,baz=353,slow=2.6,SNR=6.3									
ILAR					PKPPKP		P'P'df	00 20 36.4	-8.5	
	comp=Z,0.6nm,0.9s,baz=348,slow=4.1,SNR=6.1									
ILAR					LR		LR	00 28 19.6		
	comp=Z,105nm,18.4s,baz=218,slow=33									
	comp=Z,52nm,0.7s									
IL03	**Eielson Array**	**83.23**	**11**		P		**P**	**23 54 21.7**	**+0.2**	
H17A	**Grant Village**	**83.25**	**40**		IAmb		IAmb	23 54 25.6		
	comp=Z,66nm,0.7s									
H17A	**Grant Village**	**83.25**	**40**		P		**P**	**23 54 24.7**	**+2.3**	
	baz=240,SNR=75									
YHH	**Holmes Hill**	**83.28**	**40**		P		**P**	**23 54 23.9**	**+1.4**	
YNM	**Yellowstone No**	**83.33**	**40**		P		**P**	**23 54 24.2**	**+1.5**	
YNM					IAmb		IAmb	23 54 32.9		
	comp=Z,52nm,0.7s									
TIA	**Tai'an**	**83.34**	**311**	⇑	P		**P**	**23 54 22.8**	**+0.1**	
TIA					sP		**sP**	**23 55 11.5**	**-2.8**	
TIA					pmax		pmax			
	comp=Z,93nm,1.3s									
TIA					pmax		pmax			
	comp=Z,880nm,4.5s									
TIA					LR		LR			
	comp=Z,160nm,12.7s									
TIA

comp=Z,109nm,0.8s
DAWY Dawson 84.22 14 P P 23 54 27.7 +1.1
baz=213,SNR=82
E19K Redstone River 84.22 6 P P 23 54 27.7 +1.2
baz=196,SNR=230
Q24A Divide 84.29 47 IAmb IAmb 23 55 11.9
comp=Z,130nm,1.4s
Q24A Divide 84.29 47 P P 23 54 28.8 +0.9
baz=244,SNR=27
RDOG Red Dog Mine 84.31 4 IAmb IAmb 23 54 29.1
comp=Z,148nm,0.8s
RDOG Red Dog Mine 84.31 4 P P 23 54 28.0 +1.1
baz=191,SNR=33
KRJI Kerinci 84.32 269 P P 23 54 28.3 0.0
comp=Z,325nm,1.2s
ISCO Idaho Springs 84.33 46 P P 23 54 28.4 +0.3
ISCO Idaho Springs 84.33 46 P P 23 54 29.0 +0.9
baz=244,SNR=15
ISCO Idaho Springs 84.33 46 P P 23 54 28.8 +0.7
baz=244
ISCO Idaho Springs 84.33 46 P P 23 54 28.4 +0.3
ISCO pmax pmax
comp=Z,68nm,1.6s
FARO Faro, Yukon 84.34 18 P P 23 54 28.0 +0.8
baz=219,SNR=7.8
C16K Lisburne Hills 84.38 3 IAmb IAmb 23 54 29.1
comp=Z,152nm,0.9s
C16K Lisburne Hills 84.38 3 P P 23 54 27.8 +0.6
baz=188,SNR=20
SGCY Sterling City 84.40 55 IAmb IAmb 23 54 30.1
comp=Z,344nm,1.6s
EGAK Eagle 84.41 13 IAmb IAmb 23 54 29.5
comp=Z,135nm,0.9s
EGAK Eagle 84.41 13 P P 23 54 28.4 +0.9
baz=212,SNR=86
RLMT Red Lodge 84.42 40 P P 23 54 28.9 +0.6
baz=241,SNR=42
G22K Bettles 84.43 9 P P 23 54 28.7 +1.2
baz=202
I26K Coal Creek Min 84.44 12 IAmb IAmb 23 54 29.8
comp=Z,132nm,0.8s
I26K Coal Creek Min 84.44 12 P P 23 54 28.6 +1.0
baz=210
833A Chaparral WMA, 84.44 59 P P 23 54 29.0 +0.5
833A IAmb IAmb 23 54 30.6
comp=Z,64nm,0.8s
833A Chaparral WMA, 84.44 59 P P 23 54 29.2 +0.8
baz=248
833A Chaparral WMA, 84.44 59 P P 23 54 29.4 +1.0
baz=248,SNR=16
F21K Alatna River 84.44 8 IAmb IAmb 23 54 29.6
comp=Z,154nm,0.8s
F21K Alatna River 84.44 8 P P 23 54 28.6 +1.0
baz=200
G23K Bananza Creek 84.46 9 P P 23 54 28.5 +0.8
baz=203
GULI GuiLin 84.46 298 ⇑P P 23 54 30.9 +2.3
GULI S S 00 04 43.8 +0.7
GULI LR LR
comp=Z,190nm,14.1s
GULI LR LR
comp=Z,240nm,14.1s
GULI LR LR
comp=Z,220nm,15.2s
K29M Barlow Dome 84.49 15 IAmb IAmb 23 54 30.4
comp=Z,63nm,0.8s
K29M Barlow Dome 84.49 15 P P 23 54 29.2 +1.2
baz=215
CMIG Matias Romero 84.53 71 LR LR 00 25 23.3
comp=Z,416nm,18.3s,baz=220,slow=31
MG04 Isla Riesco 84.53 143 P P 23 54 29.4 +0.9
MG04 IAmb IAmb 23 54 36.6
comp=Z,106nm,0.9s
POST Post 84.55 53 IAmb IAmb 23 54 30.7
comp=Z,241nm,0.9s
HBVL Hebbronville 84.58 60 IAmb IAmb 23 54 32.5
comp=Z,104nm,0.9s
N23A Red Feather La 84.59 45 P P 23 54 30.1 +0.8
baz=243,SNR=37
LIRD Liard River Hi 84.63 22 P P 23 54 29.7 +1.0
baz=226,SNR=16
C17K DeLong Mountai 84.71 4 P P 23 54 29.7 +0.8
baz=190
MAYO Mayo, Yukon 84.71 16 P P 23 54 30.2 +1.2
MAYO IAmb IAmb 23 54 32.7
comp=Z,100nm,0.7s
MAYO Mayo, Yukon 84.71 16 P P 23 54 30.1 +1.0
baz=216
BRLDA Berland Lookou 84.83 30 P P 23 54 31.1 +1.1
BRLDA IAmb IAmb 23 54 33.9
comp=Z,137nm,1.1s
G24K Hadweenzic Riv 84.86 10 P P 23 54 29.6 -0.2
baz=206
F22K John River 84.89 8 P P 23 54 30.7 +0.9
baz=201
JCT Junction City 84.90 56 P P 23 54 31.2 +0.5
baz=248,SNR=23
JCT Junction City 84.90 56 P P 23 54 31.1 +0.3
baz=248,SNR=23
COLD Coldfoot 84.91 9 P P 23 54 30.9 +1.0
COLD Coldfoot 84.91 9 P P 23 54 31.3 +1.4
baz=203,SNR=91
SN01 Snyder 1 84.95 54 P P 23 54 31.0 0.0
SN01 IAmb IAmb 23 54 32.6
comp=Z,218nm,0.8s
RTBA Rita Blanca 84.96 50 IAmb IAmb 23 54 33.0
comp=Z,47nm,1.0s
HNDO Hondo 84.97 57 P P 23 54 32.1 +1.0
HNDO IAmb IAmb 23 54 34.4
comp=Z,164nm,1.0s
K22A Casper 85.00 43 P P 23 54 31.4 +0.2
baz=243,SNR=9.8
K22A Casper 85.00 43 P P 23 54 32.0 +0.9
baz=243
C18K Utukok River 85.02 5 IAmb IAmb 23 54 32.2
comp=Z,84nm,0.8s
C18K Utukok River 85.02 5 P P 23 54 30.9 +0.4
baz=192
I27K Kandik River 85.02 13 P P 23 54 31.3 +0.7
baz=211
PHWY Pilot Hill 85.11 45 P P 23 54 32.0 +0.1
E20K Nigu River 85.11 7 P P 23 54 32.0 +1.0
baz=197
AMTX Amarillo 85.13 52 IAmb IAmb 23 54 34.2
comp=Z,121nm,0.8s
AMTX Amarillo 85.13 52 P P 23 54 32.0 +0.1
baz=247
AMTX Amarillo 85.13 52 P P 23 54 32.3 +0.5
baz=247
D19K Kuna River 85.14 6 P P 23 54 31.8 +0.8
baz=195
BILL Bilibino 85.16 353 P P 23 54 30.4 -0.7
BILL Bilibino 85.16 353 *i* P P 23 54 31.2 +0.1
G25K Bearman Lake 85.16 11 P P 23 54 31.4 +0.3
baz=207
H03S2 Juan Fernandez 85.17 124 T T 01 28 18.0
baz=249,slow=75,SNR=12
H03S1 Juan Fernandez 85.19 124 T T 01 28 26.7
baz=249,slow=75,SNR=9.8
H03S3 Juan Fernandez 85.19 124 T T 01 28 27.1
baz=249,slow=75,SNR=9.6
DKNS Dickens 85.23 53 P P 23 54 33.1 +0.7
DKNS IAmb IAmb 23 54 35.0
comp=Z,63nm,0.9s
I28M Miner Creek 85.25 14 IAmb IAmb 23 54 33.5
comp=Z,92nm,0.7s
I28M Miner Creek 85.25 14 P P 23 54 32.4 +0.6
baz=213
H03N2 Juan Fernandez 85.28 123 T T 01 28 27.3
baz=244,SNR=7.5
H03N3 Juan Fernandez 85.28 123 T T 01 28 27.3
baz=244
H03N1 Juan Fernandez 85.29 123 T T 01 28 26.7
baz=244
GO08 Villa O'Higgin 85.38 139 P P 23 54 33.2 +0.4
BKNI Bangkinang 85.39 272 P P 23 54 33.6 +0.1
BKNI Bangkinang 85.39 272 P P 23 54 34.0 +0.5
BKNI Bangkinang 85.39 272 P P 23 54 33.7 +0.2
comp=Z,613nm,1.0s,comp=Z,11µm
J30M Hart River 85.39 15 P P 23 54 33.3 +0.7
baz=216
KVTX Kingsville 85.40 60 P P 23 54 33.3 0.0
KVTX IAmb IAmb 23 54 36.9
comp=Z,139nm,0.8s
D20K Etivluk River 85.50 6 P P 23 54 34.0 +1.1
baz=197
E22K Anaktuvuk Pass 85.52 8 P P 23 54 34.0 +1.0
baz=201,SNR=190
PPSI Pulau Pagai 85.53 268 P P 23 54 34.9 +0.6
comp=Z,453nm,0.8s,comp=Z,6µm
E21K Killik River 85.54 7 P P 23 54 33.0 0.0
E21K PcP 23 54 33.5 -2.3
E21K Killik River 85.54 7 P P 23 54 33.6 +0.5
baz=199
F24K Squaw Lake 85.54 10 P P 23 54 34.1 +1.0
F24K IAmb IAmb 23 54 35.5
comp=Z,129nm,1.1s
F24K Squaw Lake 85.54 10 P P 23 54 34.3 +1.2
baz=205,SNR=93
EGMT Eagleton 85.56 37 P P 23 54 34.1 +0.4
EGMT Eagleton 85.56 37 P P 23 54 33.9 +0.2
baz=240,SNR=12
I29M Ogilvie Camp, 85.56 14 IAmb IAmb 23 54 34.8
comp=Z,91nm,0.8s
I29M Ogilvie Camp, 85.56 14 P P 23 54 33.8 +0.6
baz=214,SNR=82
EF01 Eagle Ford 01 85.56 58 P P 23 54 35.2 +1.2
EF01 IAmb IAmb 23 54 36.5
comp=Z,330nm,0.9s
H27K Steamboat Moun 85.58 13 P P 23 54 34.4 +1.1
baz=211
HNS HongShan 85.59 311 ⇑P P 23 54 34.9 +0.9
HNS PP PP 23 57 52.1 -3.0
HNS SKS SKSac 00 04 45.2 -0.4
HNS S S 00 04 54.6 +0.9
HNS pmax pmax
comp=Z,130nm,1.4s
HNS pmax pmax
comp=Z,910nm,4.2s
HNS LR LR
comp=Z,300nm,14.3s
HNS LR LR
comp=Z,340nm,22.1s
C19K Lookout Ridge 85.60 5 P P 23 54 33.9 +0.5
C19K Lookout Ridge 85.60 5 P P 23 54 34.3 +0.9
baz=194
PDSI Padang 85.60 270 P P 23 54 33.0 -1.6
comp=Z,182nm,0.9s,comp=Z,2µm
BJT Baijiatuau 85.64 314 P P 23 54 34.3 +0.1
BJT IAmb IAmb 23 54 36.2
comp=Z,245nm,1.4s
BJT Baijiatuau 85.64 314 P P 23 54 34.4 +0.3
BJT Baijiatuau 85.64 314 P P 23 54 34.3 +0.1
BJT pmax pmax
comp=Z,245nm,1.4s
BJI Beijing 85.64 314 P P 23 54 34.8 +0.7
BJI pP pP 23 55 02.3 -8.4
BJI PP PP 23 57 51.0 -4.4
BJI S S 00 04 58.7 +4.7
BJI pmax pmax
comp=Z,64nm,1.3s
BJI pmax pmax
comp=Z,500nm,4.1s
B18K Kokolik River 85.68 4 P P 23 54 34.5 +0.9
baz=192
APMT Aspermont 85.72 54 IAmb IAmb 23 54 36.5
comp=Z,182nm,1.0s
G26K Porcupine Rive 85.75 11 P P 23 54 35.4 +1.3
baz=209,SNR=208
E23K Chandalar 85.77 9 P P 23 54 35.1 +0.9
baz=203
ZEA Zeya 85.81 329 *ce*P P 23 54 34.7 +0.1
ZEA *e*S S 00 04 56.0 +0.9
ZEA pmax pmax
comp=N,50nm,0.8s
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=Z,90nm,0.8s
ZEA pmax pmax
comp=Z,100nm,3.9s
ZEA smax smax
comp=N,300nm,7.4s
ABTX Abilene, Hawle 85.83 55 P P 23 54 36.2 +0.9
baz=248,SNR=159
ABTX Abilene, Hawle 85.83 55 P P 23 54 36.1 +0.7
baz=248
BRDY Brady 85.84 56 IAmb IAmb 23 54 37.3
comp=Z,123nm,1.0s
KOTAN Kotaneelee Air 85.88 23 P P 23 54 35.7 +0.9
baz=227
I30M Mount Dempster 85.91 15 IAmb IAmb 23 54 36.9
comp=Z,103nm,0.8s
I30M Mount Dempster 85.91 15 P P 23 54 35.9 +0.9
baz=216
735A Kenedy 85.93 59 P P 23 54 36.5 +0.6
735A Kenedy 85.93 59 P P 23 54 37.9 +2.1
baz=249,SNR=11
E24K Your Creek 85.95 9 IAmb IAmb 23 54 37.5
comp=Z,216nm,1.9s
E24K Your Creek 85.95 9 P P 23 54 36.1 +1.0
baz=204
F25K Christian Rive 85.99 10 P P 23 54 36.7 +1.3
baz=207
BMAR Burnt Mountain 86.03 11 P P 23 54 36.5 +1.0
COCO West Island 86.04 259 P P 23 54 36.2 -0.5
COCO IAmb IAmb 23 54 41.1
comp=Z,173nm,1.0s
COCO West Island 86.04 259 P P 23 54 36.2 -0.5
COCO pmax pmax
comp=Z,173nm,1.0s
G27K Doyon Strip 86.05 12 P P 23 54 36.7 +1.1
baz=211
KSCO Kaye Shedlock' 86.09 48 IAmb IAmb 23 55 17.9
comp=Z,108nm,1.5s
KSCO Kaye Shedlock' 86.09 48 P P 23 54 36.9 +0.3
baz=246
KSCO Kaye Shedlock' 86.09 48 P P 23 54 36.9 +0.3
baz=246
D22K Ayikyak River 86.11 8 P P 23 54 37.0 +1.2
baz=200
C21K Knifeblade Rid 86.12 7 P P 23 54 37.0 +1.2
baz=198,SNR=63
LYN LuoYang 86.14 307 ⇑*i*P P 23 54 37.7 +0.9
LYN PP PP 23 58 04.2 +4.6
LYN SKS SKSac 00 04 47.2 -2.0
LYN S ScS 00 05 05.5 -1.9
LYN pmax pmax
comp=Z,340nm,0.7s
LYN pmax pmax
comp=Z,2µm,6.0s
LYN LR LR
comp=Z,510nm,11.9s
LYN LR LR
comp=Z,450nm,14.7s
LYN LR LR
comp=Z,540nm,18.4s
H29M Whitestone 86.26 14 P P 23 54 37.3 +0.7
baz=214
SMWD Samnorwood 86.30 52 P P 23 54 38.2 +0.6
SMWD IAmb IAmb 23 54 42.1
comp=Z,43nm,1.1s
TOLK Toolik Lake Re 86.31 9 IAmb IAmb 23 54 39.1
comp=Z,74nm,0.9s
TOLK Toolik Lake Re 86.31 9 P P 23 54 37.8 +0.9
baz=203,SNR=69
EDM Edmonton 86.32 32 IAmb IAmb 23 54 39.9
comp=Z,96nm,0.8s
F26K Sheenjek River 86.34 11 P P 23 54 38.3 +1.3
baz=209
GO07 Milladeo Hill, 86.37 134 P P 23 54 38.2 +0.4
D23K Nanushuk River 86.45 8 P P 23 54 38.6 +1.1
baz=202
E25K Arctic Village 86.47 10 P P 23 54 38.5 +0.8
E25K IAmb IAmb 23 54 40.2
comp=Z,79nm,0.9s
E25K Arctic Village 86.47 10 P P 23 54 38.9 +1.2
baz=207,SNR=59
A19K Wainwright 86.56 4 P P 23 54 38.1 +0.2
baz=192
B21K Ikpikpuk River 86.58 7 IAmb IAmb 23 54 40.3
comp=Z,45nm,0.7s
B21K Ikpikpuk River 86.58 7 P P 23 54 38.9 +0.8
baz=199
AY01 Puyuhuapi 86.64 135 P P 23 54 40.1 +1.1
AY01 IAmb IAmb 23 54 46.4
comp=Z,58nm,1.0s
LL06 Loncomilla 86.68 133 P P 23 54 40.1 +0.7
LL06 IAmb IAmb 23 54 43.3
comp=Z,141nm,0.9s
B20K Meade River 86.69 6 IAmb IAmb 23 54 40.4
comp=Z,72nm,0.7s
B20K Meade River 86.69 6 P P 23 54 39.4 +0.8
baz=196
EPYK Eagle Plains 86.76 14 IAmb IAmb 23 54 40.9
comp=Z,64nm,0.8s
EPYK Eagle Plains 86.76 14 P P 23 54 39.8 +0.7
baz=216,SNR=29
CCIG Comitan 86.78 72 P P 23 54 41.9 +1.5
CCIG IAmb IAmb 23 54 44.0
comp=Z,98nm,1.0s
435B Jarrell 86.79 57 P P 23 54 40.9 +0.9
435B IAmb IAmb 23 54 42.3
comp=Z,128nm,0.8s
435B Jarrell 86.79 57 P P 23 54 40.9 +0.9
baz=249
435B Jarrell 86.79 57 P P 23 54 41.1 +1.0
baz=249,SNR=13
SISI Saibi 86.81 270 P P 23 54 41.0 +0.5
comp=Z,188nm,0.9s,comp=Z,3µm
H31M Peel River 86.88 15 IAmb IAmb 23 54 50.2
comp=Z,77nm,1.2s
H31M Peel River 86.88 15 P P 23 54 39.8 +0.1
baz=218
D24K Happy Valley 86.89 9 P P 23 54 40.4 +0.8
D24K IAmb IAmb 23 54 42.5
comp=Z,63nm,0.7s
D24K Happy Valley 86.89 9 P P 23 54 40.4 +0.8
baz=204
G29M Pine Creek 86.91 13 P P 23 54 40.1 +0.3
G29M IAmb IAmb 23 54 41.5
comp=Z,49nm,0.8s
G29M Pine Creek 86.91 13 P P 23 54 40.4 +0.6
baz=214
ENH Enshi 86.93 303 P P 23 54 40.8 0.0
ENH Enshi 86.93 303 P P 23 54 40.9 +0.1
PLPT Palo Pinto 86.94 55 IAmb IAmb 23 54 42.9
comp=Z,143nm,0.8s
MAW Mawson 86.98 199 P P 23 54 41.5 +1.3
comp=Z,178nm,1.0s,baz=139,slow=5.3,SNR=154
MAW PKKPbc PKKPbc 00 12 32.7 -1.9
comp=Z,1.6nm,0.6s,baz=315,slow=2.9,SNR=2.1
MAW LR LR 00 33 34.0
comp=Z,176nm,18.3s,baz=117,slow=35
comp=Z,178nm,1.0s
LAO LASA Array 87.03 40 P P 23 54 41.7 +0.8
LAO IAmb IAmb 23 55 24.4
comp=Z,218nm,1.6s
LAO LASA Array 87.03 40 P P 23 54 42.0 +1.1
baz=243,SNR=16
LAO LASA Array 87.03 40 P P 23 54 41.9 +1.1
baz=243,SNR=16
LL05 Los Muermos 87.05 132 P P 23 54 42.4 +1.3
F28M Old Crow 87.10 12 IAmb IAmb 23 54 44.3
comp=Z,46nm,0.8s
F28M Old Crow 87.10 12 P P 23 54 40.7 0.0
baz=213,SNR=65
KULM Kulim 87.14 276 IAmb IAmb 23 54 43.7
comp=Z,100nm,1.0s
WTFS Witchita Falls 87.17 54 P 23 54 42.6 +0.8
WTFS IAmb IAmb 23 55 25.5
comp=Z,121nm,1.3s
FW03 Perrin-Whitt E 87.22 55 P P 23 54 43.2 +1.2
FW03 IAmb IAmb 23 54 44.3
comp=Z,137nm,0.7s
E27K Coleen River 87.25 12 P P 23 54 41.9 +0.4
baz=211
C23K Itkillik River 87.27 8 IAmb IAmb 23 54 43.3
comp=Z,92nm,0.8s
C23K Itkillik River 87.27 8 P P 23 54 42.4 +1.0
baz=202
RSSD Black Hills 87.28 43 P P 23 54 42.2 -0.1
RSSD Black Hills 87.28 43 P P 23 54 41.7 -0.6
baz=245
RSSD Black Hills 87.28 43 P P 23 54 42.1 -0.3
baz=245
RSSD Black Hills 87.28 43 P P 23 54 42.2 -0.1
RSSD pmax pmax
comp=Z,27nm,1.0s
WMOK Wichita Mounta 87.28 53 P 23 54 42.4 +0.1
WMOK Wichita Mounta 87.28 53 P P 23 54 42.4 +0.1
WMOK pmax pmax
comp=Z,21nm,1.3s
ELIS Ellis County 87.29 51 P P 23 54 43.0 +0.7
ELIS IAmb IAmb 23 54 45.0
comp=Z,49nm,0.8s
OGNE Ogallala 87.30 46 P P 23 54 42.8 +0.4
baz=246
FW07 Weatherford 87.31 55 P P 23 54 42.7 +0.2
FW07 IAmb IAmb 23 55 26.4
comp=Z,120nm,1.3s
WHTX Lake Whitney, 87.32 56 P P 23 54 42.8 +0.2
WHTX IAmb IAmb 23 55 26.4
comp=Z,106nm,1.2s
WHTX Lake Whitney, 87.32 56 P P 23 54 43.1 +0.6
baz=249,SNR=9.7
WHTX Lake Whitney, 87.32 56 P P 23 54 43.3 +0.7
baz=249,SNR=9.7
XLT XiLinHaoTe 87.35 317 ⇑*i*P P 23 54 42.6 +0.1
XLT PP PP 23 58 08.4 -0.8
XLT S S 00 05 13.4 +2.8
XLT pmax pmax
comp=Z,100nm,1.1s
XLT pmax pmax
comp=Z,560nm,4.0s
XLT LR LR
comp=Z,36nm,22.1s
XLT LR LR
comp=Z,320nm,15.3s
XLT LR LR
comp=Z,180nm,20.8s
G30M tAoh Zraii Nji 87.38 14 IAmb IAmb 23 54 43.7
comp=Z,116nm,1.1s
G30M tAoh Zraii Nji 87.38 14 P P 23 54 42.5 +0.5
baz=216
TIY Taiyuan 87.38 310 P P 23 54 43.6 +0.8
TIY SKS SKSac 00 04 55.8 -1.0
TIY S S 00 05 13.0 +1.9
TIY pmax pmax
comp=Z,170nm,0.8s
TIY LR LR
comp=Z,280nm,5.6s
TIY LR LR
comp=Z,200nm,9.2s
TIY LR LR
comp=Z,180nm,12.4s
B22K Teshekpuk Lake 87.40 7 IAmb IAmb 23 54 43.6
comp=Z,93nm,0.8s
B22K Teshekpuk Lake 87.40 7 P P 23 54 42.5 +0.5
baz=200
D25K Kavik River 87.42 9 P P 23 54 42.3 +0.1
baz=206,SNR=42
C24K Franklin Bluff 87.43 9 P P 23 54 43.2 +1.0
baz=204
FW13 Cleburne 87.47 55 P P 23 54 44.3 +1.1
FW13 IAmb IAmb 23 55 27.1
comp=Z,214nm,1.5s
LL01 San Ignacio de 87.48 133 P P 23 54 43.9 +0.7
HIA Hailar 87.50 323 P P 23 54 42.8 -0.2
HIA IAmb IAmb 23 54 44.5
comp=Z,102nm,0.9s
HIA Hailar 87.50 323 P P 23 54 42.9 -0.2
HIA Hailar 87.50 323 *c i*P P 23 54 43.0 0.0
HIA pmax pmax
comp=Z,101nm,1.0s
FW06 Azle 87.59 55 P P 23 54 44.9 +1.1
FW06 IAmb IAmb 23 54 46.0
comp=Z,71nm,1.0s
LL02 Futaleuf 87.60 134 P P 23 54 44.9 +1.1
LL02 IAmb IAmb 23 54 47.5
comp=Z,88nm,0.8s
FW14 Alvarado 87.68 55 P P 23 54 44.9 +0.7
FW14 IAmb IAmb 23 54 47.4
comp=Z,65nm,1.1s
CSTR Hydro, Custer 87.68 52 P 23 54 44.6 +0.4
U32A Winter Ranch, 87.72 51 P P 23 54 44.8 +0.4
U32A IAmb IAmb 23 54 47.3
comp=Z,89nm,0.8s
U32A Winter Ranch, 87.72 51 P P 23 54 45.6 +1.2
baz=248
G31M Satah River 87.79 15 P P 23 54 44.4 +0.5
baz=218,SNR=62
A22K Sinclair Lake 87.86 6 P P 23 54 44.7 +0.5
baz=198
HKT Hockley 87.93 58 P P 23 54 45.8 +0.4
HKT IAmb IAmb 23 54 48.4
comp=Z,156nm,1.8s
HKT Hockley 87.93 58 P P 23 54 47.2 +1.8
baz=250
HKT Hockley 87.93 58 *de*P P 23 54 46.8 +1.4

HKT pmax pmax
comp=Z,35nm,1.3s
PBSI Pulau Batu 87.94 271 P **P** **23 54 46.6 +0.7**
comp=Z,127nm,0.8s
OK038 West end E0370 87.95 51 P **P** **23 54 45.7 +0.3**
OK038 IAmb IAmb 23 54 47.9
comp=Z,59nm,1.0s
Z35A Perchaven, San 87.95 55 IAmb IAmb 23 54 49.8
comp=Z,93nm,0.9s
Z35A Perchaven, San 87.95 55 P **P** **23 54 46.4 +0.9**
baz=249,SNR=16
F30M Barrier River 87.98 14 P **P** **23 54 45.5 +0.6**
baz=216
GYA Guiyang 87.99 298⇑*iP* **P** **23 54 47.3 +1.3**
GYA PP **PP** **23 58 11.9 -2.9**
GYA S **S** **00 05 18.0 +0.5**
GYA pmax pmax
comp=Z,230nm,1.1s
GYA pmax pmax
comp=Z,320nm,3.7s
E28M Babbage River 88.01 12 IAmb IAmb 23 54 48.6
comp=Z,60nm,0.8s
E28M Babbage River 88.01 12 P **P** **23 54 45.4 +0.5**
baz=213
A21K Barrow 88.01 5 P **P** **23 54 45.1 +0.3**
baz=197
OK035 E0210 Rd and N 88.06 51 **P** **23 54 46.1 +0.1**
CBKS Cedar Bluff 88.09 49 P **P** **23 54 46.4 +0.3**
CBKS IAmb IAmb 23 54 48.4
comp=Z,63nm,1.1s
CBKS Cedar Bluff 88.09 49 P **P** **23 54 45.7 -0.4**
baz=248,SNR=7.4
CBKS Cedar Bluff 88.09 49 P **P** **23 54 46.5 +0.4**
baz=248
CBKS Cedar Bluff 88.09 49 P **P** **23 54 46.4 +0.3**
CBKS pmax pmax
comp=Z,63nm,1.2s
E29M Blow River 88.16 13 P **P** **23 54 45.7 0.0**
baz=214
C26K Camden Bay 88.18 10 P **P** **23 54 46.7 +1.0**
baz=208
WRGLY Wrigley 88.19 20 P **P** **23 54 46.8 +0.9**
baz=226,SNR=8.4
LOOK Love County 88.25 54 **P** **23 54 46.6 -0.3**
LOOK IAmb IAmb 23 54 53.0
comp=Z,118nm,1.6s
D27M Malcolm River 88.28 11 P **P** **23 54 47.4 +1.1**
baz=212,SNR=25
F31M Tsiigehtchic 88.33 14 P **P** **23 54 47.1 +0.7**
baz=218,SNR=87
OK032 Salt Plains WL 88.46 51 **P** **23 54 47.7 -0.1**
OK032 IAmb IAmb 23 54 49.2
comp=Z,57nm,0.9s
NONG Nongkai 88.49 289 P **P** **23 54 49.0 +0.7**
HNVL Huntsville, TX 88.50 58 P **P** **23 54 49.3 +1.2**
HNVL IAmb IAmb 23 54 52.3
comp=Z,855nm,1.6s
FNO Franklin 88.52 53 **P** **23 54 48.7 +0.6**
FNO IAmb IAmb 23 54 50.9
comp=Z,104nm,1.0s
CROK Carrier 88.53 51 **P** **23 54 48.3 +0.1**
CROK IAmb IAmb 23 54 50.5
comp=Z,68nm,1.1s
OKCSW OKLAHOMA CITY 88.55 53 **P** **23 54 48.7 +0.4**
OKCSW IAmb IAmb 23 54 50.8
comp=Z,126nm,1.0s
237A Washetta, Mont 88.64 56 P **P** **23 54 49.9 +1.1**
237A Washetta, Mont 88.64 56 P **P** **23 54 50.1 +1.3**
baz=250,SNR=12
TREL Terrell 88.66 55 P **P** **23 54 50.1 +1.2**
TREL IAmb IAmb 23 55 33.2
comp=Z,170nm,1.2s
KAN10 Anthony SW Sta 88.67 51 **P** **23 54 48.7 -0.1**
R32A Long Quarter, 88.69 49 P **P** **23 54 49.1 +0.2**
R32A IAmb IAmb 23 54 50.8
comp=Z,103nm,1.0s
R32A Long Quarter, 88.69 49 P **P** **23 54 49.4 +0.5**
baz=248
XAN Xi'an 88.69 306⇑P **P** **23 54 49.7 +0.6**
XAN pP pP 23 55 21.4 -4.4
XAN SKS **SKSac** **00 05 04.7 -0.1**
XAN S **ScS** **00 05 27.4 -1.3**
XAN sS pS 00 06 17.5 +7.4
XAN pmax pmax
comp=Z,230nm,1.5s
XAN pmax pmax
comp=Z,1μm,4.9s
GC02 Grant County # 88.74 51 **P** **23 54 49.6 +0.4**
D28M Stokes Point 88.78 12 P **P** **23 54 49.0 +0.5**
baz=214,SNR=9.7
MTO3 Montecristo 88.78 75 P **P** **23 54 51.2 +1.1**
SLVN Son La 88.78 292 P **P** **23 54 50.0 +0.2**
KAN08 Anthony NE Sta 88.80 51 P **P** **23 54 49.9 +0.4**
KAN08 IAmb IAmb 23 54 51.9
comp=Z,59nm,1.1s
KAN12 Harper NE Stat 88.80 51 P **P** **23 54 50.2 +0.7**
KAN05 Bluff City Nor 88.83 51 P **P** **23 54 49.6 0.0**
KAN05 IAmb IAmb 23 54 58.4
comp=Z,56nm,1.2s
KAN17 Caldwell West 88.88 51 **P** **23 54 50.0 +0.2**
KAN17 IAmb IAmb 23 54 52.9
comp=Z,74nm,1.0s
KAN06 Argonia West S 88.89 51 P **P** **23 54 50.6 +0.7**
W35A Tecumseh 88.89 53 P **P** **23 54 50.6 +0.7**
W35A IAmb IAmb 23 54 53.9
comp=Z,55nm,0.9s
KAN01 Argonia South 88.93 51 P **P** **23 54 50.5 +0.4**
GSI Gunungsitoli 88.99 272 P **P** **23 54 51.4 +0.5**
GSI Gunungsitoli 88.99 272 P **P** **23 54 51.9 +1.1**
GSI Gunungsitoli 88.99 272 P **P** **23 54 51.0 +0.2**
comp=Z,714nm,1.1s,comp=Z,8μm
KAN09 Caldwell North 89.03 51 P **P** **23 54 51.2 +0.7**
KAN09 IAmb IAmb 23 54 53.7
comp=Z,62nm,0.9s
DGMT Dagmar 89.05 39 P **P** **23 54 51.4 +1.0**
DGMT IAmb IAmb 23 54 54.4
comp=Z,101nm,1.0s
DGMT Dagmar 89.05 39 P **P** **23 54 51.2 +0.8**
baz=244,SNR=21
DGMT Dagmar 89.05 39 P **P** **23 54 51.7 +1.4**
baz=244
INK Inuvik 89.06 14 IAmb IAmb 23 54 51.4
comp=Z,40nm,0.8s
INK Inuvik 89.06 14 P **P** **23 54 49.4 -0.5**
baz=218,SNR=54
INK Inuvik 89.06 14 LR LR 00 33 13.5
comp=Z,110nm,18.4s,baz=184,slow=34
NAYO Nakonayok 89.07 285 P **P** **23 54 52.1 +1.0**
KAN13 South Haven SW 89.09 51 IAmb IAmb 23 54 54.0
comp=Z,79nm,0.9s
GO06 Curarrehue 89.09 131 P **P** **23 54 51.5 +0.5**
GO06 IAmb IAmb 23 54 54.7
comp=Z,57nm,0.9s
OK033 Mehan 89.15 52 **P** **23 54 51.8 +0.7**
HHC Hu-ho-hao-te 89.19 313⇑*iP* **P** **23 54 52.3 +1.0**
HHC SKS **SKSac** **00 05 08.5 +0.9**
HHC S **ScS** **00 05 34.5 +1.9**
HHC sS pS 00 06 20.6 +5.9
HHC pmax pmax
comp=Z,260nm,1.2s
HHC pmax pmax
comp=Z,490nm,4.7s
SURA Surathani 89.20 280 P **P** **23 54 53.3 +1.5**
OK052 Battle Ridge R 89.24 52 **P** **23 54 51.6 +0.2**
OK048 Pawnee Station 89.28 52 **P** **23 54 51.5 -0.1**
PLCA Paso Flores 89.36 132 P **P** **23 54 53.8 +1.6**
PLCA Paso Flores 89.36 132 P **P** **23 54 53.8 +1.6**
PLCA pmax pmax
comp=Z,25nm,0.8s
PLCA Paso Flores 89.36 132 *eP* **P** **23 54 54.6 +2.4**
PLCA Paso Flores 89.36 132 P **P** **23 54 54.5 +2.4**
comp=Z,25nm,1.0s,baz=232,slow=4.2,SNR=25
PLCA PKKPbc **PKKPbc** **00 12 27.8 -0.2**
comp=Z,8.9nm,0.8s,baz=115,slow=1.8,SNR=12
PLCA LR LR 00 28 14.7
comp=Z,292nm,18.2s,baz=261,slow=31
comp=Z,25nm,1.0s
QUOK Quay 89.37 52 **P** **23 54 52.3 +0.1**
OK051 E0350 and S346 89.39 52 P **P** **23 54 52.4 +0.2**
KCSI Kotacane, Aceh 89.41 274 P **P** **23 54 53.0 +0.2**
comp=Z,226nm,1.2s,comp=Z,4μm
DEOK Depew 89.42 52 **P** **23 54 51.6 -0.7**
NATX Nacogdoches 89.48 57 P **P** **23 54 52.9 +0.2**
NATX IAmb IAmb 23 55 37.2
comp=Z,204nm,1.6s

NATX Nacogdoches 89.48 57 P **P** **23 54 53.1 +0.4**
baz=251
YAK Yakutsk 89.59 337 P **P** **23 54 51.5 -1.0**
YAK Yakutsk 89.59 337*c iP* **P** **23 54 51.0 -1.5**
YAK *e* 23 58 22.6
YAK *e**SS **S** **00 05 35.0 +4.3**
YAK *e*SS **SS** **00 11 35.3 +4.6**
YAK pmax pmax
comp=Z,216nm,0.9s
YAK pmax pmax
comp=E,38nm,1.1s
YAK pmax pmax
comp=N,23nm,1.0s
YAK pmax pmax
comp=Z,112nm,2.0s
YAK pmax pmax
comp=N,72nm,2.2s
YAK pmax pmax
comp=E,22nm,1.9s
K30B Basset 89.64 45 IAmb IAmb 23 54 55.4
comp=Z,142nm,1.1s
K30B Basset 89.64 45 P **P** **23 54 54.0 +0.8**
baz=248
Z38A Mt. Pleasant 89.72 55 P **P** **23 54 54.6 +0.8**
Z38A IAmb IAmb 23 55 38.5
comp=Z,79nm,1.3s
T35A Sooner Cattle 89.78 51 **P** **23 54 54.2 +0.1**
T35A IAmb IAmb 23 54 55.4
comp=Z,36nm,0.8s
T35B Sooner Cattle 89.78 51 P **P** **23 54 54.7 +0.7**
baz=250
X37A Clayton 89.86 54 P **P** **23 54 54.5 +0.1**
X37A Clayton 89.86 54 P **P** **23 54 54.7 +0.2**
baz=250,SNR=5.4
TUL3 Leonard 89.98 53 **P** **23 54 55.0 0.0**
TUL3 Leonard 89.98 53 P **P** **23 54 55.3 +0.3**
baz=250,SNR=9.4
TUL3 Leonard 89.98 53 P **P** **23 54 55.2 +0.3**
baz=250,SNR=9.4
BGNE Belgrade 90.18 47 P **P** **23 54 56.6 +0.8**
BGNE IAmb IAmb 23 55 01.4
comp=Z,49nm,0.8s
BGNE Belgrade 90.18 47 P **P** **23 54 56.0 +0.2**
baz=249
BTO Baotou 90.19 312⇑*iP* **P** **23 54 57.5 +1.5**
BTO PP **PP** **23 58 28.8 -3.2**
BTO SKS **SKSac** **00 05 13.9 +0.5**
BTO S **S** **00 05 36.6 -0.8**
BTO pmax pmax
comp=Z,230nm,1.1s
BTO pmax pmax
comp=Z,2μm,5.9s
BTO LR LR
comp=Z,370nm,8.2s
BTO LR LR
comp=Z,350nm,9.7s
BTO LR LR
comp=Z,510nm,17.2s
GO05 Huala 90.31 127 P **P** **23 54 57.5 +0.8**
GO05 IAmb IAmb 23 54 59.4
comp=Z,56nm,0.8s
E28A Huff 90.43 41 IAmb IAmb 23 55 39.8
comp=Z,68nm,1.5s
ML02 Panimavida 90.45 127 P **P** **23 54 57.9 +0.6**
CRIN San Cristobal 90.45 77 P **P** **23 54 58.4 +0.7**
KSU1 Kansas State U 90.46 49 P **P** **23 54 57.8 +0.6**
KSU1 IAmb IAmb 23 54 58.7
comp=Z,42nm,0.8s
KSU1 Kansas State U 90.46 49 P **P** **23 54 57.4 +0.3**
baz=250
KSU1 Kansas State U 90.46 49 P **P** **23 54 58.1 +1.0**
baz=250
TGUH Tegucigalpa,Un 90.62 76 P **P** **23 54 59.0 +0.4**
TGUH IAmb IAmb 23 55 01.2
comp=Z,81nm,0.9s
RLO Rose Lookout 90.65 53 **P** **23 54 58.1 0.0**
RLO IAmb IAmb 23 54 59.6
comp=Z,17nm,0.9s
LHMI Lhok Sumawe 90.67 275 P **P** **23 54 58.6 0.0**
LHMI Lhok Sumawe 90.67 275 P **P** **23 54 59.9 +1.2**
LHMI Lhok Sumawe 90.67 275 P **P** **23 54 59.2 +0.5**
comp=Z,119nm,0.8s,comp=Z,2μm
CNGN Cerro Negro 90.73 77 P **P** **23 54 59.4 +0.4**
CNGN IAmb IAmb 23 55 01.3
comp=Z,74nm,0.9s
YKA Yellowknife Ar 90.92 24 P **P** **23 54 59.8 +1.1**
comp=Z,15nm,0.9s,baz=239,slow=4.4,SNR=101
YKA PKKPbc **PKKPbc** **00 12 24.4 -1.3**
comp=Z,0.6nm,0.8s,baz=39,slow=2.1,SNR=4.8
YKA PKPPKP **P'P'df** **00 20 25.4 -5.6**
comp=Z,0.9nm,1.0s,baz=36,slow=3.0,SNR=6.0
YKA LR LR 00 31 24.1
comp=Z,160nm,19.3s,baz=302,slow=32
comp=Z,15nm,0.9s
MLSI Meulaboh, Aceh 90.92 274 P **P** **23 55 00.1 +0.2**
comp=Z,138nm,0.7s
KMI Kunming 90.94 296⇑P **P** **23 55 01.7 +1.7**
KMI PP **PP** **23 58 38.6 +0.2**
KMI SKS **SKSac** **00 05 20.1 +1.4**
KMI S **ScS** **00 05 49.7 +1.6**
KMI sS pS 00 06 36.0 +4.0
KMI pmax pmax
comp=Z,170nm,0.9s
KMI pmax pmax
comp=Z,790nm,4.1s
KMI LR LR
comp=Z,160nm,15.7s
KMI LR LR
comp=Z,230nm,24.3s
KMI LR LR
comp=Z,420nm,23.8s
SRDT SRDT 91.12 285 P **P** **23 55 02.2 +1.5**
BO01 Tunca 91.18 126 P **P** **23 55 00.5 -0.2**
BO01 IAmb IAmb 23 55 03.9
comp=Z,48nm,0.8s
VA01 Torpederas 91.21 125 P **P** **23 55 01.3 +0.4**
VA01 IAmb IAmb 23 55 04.2
comp=Z,65nm,0.9s
U38A Gravette 91.23 52 P **P** **23 55 01.2 +0.4**
baz=251,SNR=9.1
MT01 Popeta 91.23 126 P **P** **23 55 02.3 +1.3**
MIAR Mount Ida 91.24 54 P **P** **23 55 01.4 +0.5**
MIAR IAmb IAmb 23 55 02.8
comp=Z,44nm,1.1s
MIAR Mount Ida 91.24 54 P **P** **23 55 01.0 +0.2**
baz=251,SNR=11
MIAR Mount Ida 91.24 54 P **P** **23 55 01.8 +0.9**
baz=251,SNR=11
MIAR Mount Ida 91.24 54 P **P** **23 55 01.4 +0.5**
MIAR pmax pmax
comp=Z,44nm,1.2s
BO02 Sierra Bellavi 91.27 127 P **P** **23 55 01.5 +0.3**
BO02 IAmb IAmb 23 55 04.6
comp=Z,35nm,0.8s
ORTG Ortega, Santa 91.30 80 P **P** **23 55 01.4 -0.2**
ORTG IAmb IAmb 23 55 05.0
comp=Z,69nm,1.0s
WLAR White Oak Lake 91.33 55 P **P** **23 55 01.3 0.0**
ELIB Princess Elisa 91.39 185 *d*SKiKP **SKiKP** **00 03 13.8 +0.7**
ELIB *d*P **P** **23 55 01.8 +0.7**
comp=Z,104nm,0.9s
ELIB *dx* x 23 55 33.0
ELIB *dx* x 23 55 42.4
ELIB *d*SKS **SKSac** **00 05 20.5 +1.0**
ELIB *d*S **S** **00 05 47.5 0.0**
TEIG Tepich 91.44 69 P **P** **23 55 02.8 +0.7**
TEIG IAmb IAmb 23 55 05.1
comp=Z,51nm,0.9s
TEIG Tepich 91.44 69 LR LR 00 31 50.0
comp=Z,1μm,18.1s,baz=9.5,slow=33
Z41A Richland Creek 91.44 56 P **P** **23 55 02.6 +0.8**
Z41A Richland Creek 91.44 56 P **P** **23 55 03.2 +1.4**
baz=252,SNR=13
Z41A P **P** **23 55 03.2 +1.4**
baz=252,SNR=13
MT09 Talagante 91.47 126 P **P** **23 55 02.4 +0.2**
MT09 IAmb IAmb 23 55 05.4
comp=Z,57nm,0.8s
HHAR Hobbs 91.52 53 P **P** **23 55 01.8 -0.3**
MT02 Curacav 91.53 125 P **P** **23 55 02.3 -0.1**
MATN Matagalpa 91.57 77 P **P** **23 55 02.4 -0.5**
MATN IAmb IAmb 23 55 05.4
comp=Z,40nm,0.8s
MDND Maddock 91.61 40 P **P** **23 55 02.2 -0.1**
baz=248
CRAI Chiangrai 91.62 290 P **P** **23 55 02.8 -0.2**

CRAI IAmb IAmb 23 55 05.4
comp=Z,90nm,1.0s
BOAB BOACO BROADBAN 91.68 78 P **P** **23 55 02.9 -0.4**
BOAB IAmb IAmb 23 55 09.3
comp=Z,72nm,0.9s
BO04 La Punta 91.69 126 P **P** **23 55 03.0 -0.1**
ROC1 El Roble 91.72 125 P **P** **23 55 03.6 0.0**
ROC1 IAmb IAmb 23 55 13.7
comp=Z,58nm,0.9s
JTS Las Juntas de 91.76 80 P **P** **23 55 05.2 +1.4**
JTS IAmb IAmb 23 55 07.4
comp=Z,56nm,0.8s
JTS Las Juntas de 91.76 80*de*P **P** **23 55 05.6 +1.8**
MT05 Renca 91.80 125 P **P** **23 55 04.2 +0.5**
MT05 IAmb IAmb 23 55 07.2
comp=Z,88nm,1.0s
X40A Basin Creek Fa 91.80 55 P **P** **23 55 03.6 +0.1**
X40A IAmb IAmb 23 55 07.1
comp=Z,66nm,2.0s
CD2 Chengdu 91.81 302 *eP* **P** **23 55 03.0 -0.7**
PEL Peldehue 91.93 125 P **P** **23 55 04.6 +0.3**
PEL Peldehue 91.93 125 P **P** **23 55 04.6 +0.3**
PEL pmax pmax
comp=Z,94nm,0.8s
MT03 Universidad Ad 91.94 126 P **P** **23 55 04.9 +0.5**
MT03 IAmb IAmb 23 55 07.9
comp=Z,84nm,1.2s
ACON Acoyapa 92.01 78 P **P** **23 55 04.7 -0.1**
ACON IAmb IAmb 23 55 07.2
comp=Z,33nm,0.7s
MT13 San Alfonso 92.03 126 P **P** **23 55 05.6 +0.8**
MT13 IAmb IAmb 23 55 08.7
comp=Z,54nm,1.0s
LMEL Las Melosas 92.06 126 P **P** **23 55 04.1 -0.9**
TROLL Troll, Antarti 92.06 179⇑P **P** **23 55 05.3 +1.1**
comp=Z,2μm,1.1s
ECSD EROS Data Cent 92.07 45 IAmb IAmb 23 55 46.6
comp=Z,80nm,1.8s
ECSD EROS Data Cent 92.07 45 P **P** **23 55 03.6 -0.9**
baz=250
ECSD EROS Data Cent 92.07 45 P **P** **23 55 04.3 -0.2**
baz=250
C36M Paulatuk 92.16 16 IAmb IAmb 23 55 05.8
comp=Z,39nm,0.9s
C36M Paulatuk 92.16 16 P **P** **23 55 04.5 +0.2**
baz=227,SNR=28
VA03 San Esteban 92.17 125 P **P** **23 55 06.1 +0.6**
VA03 IAmb IAmb 23 55 08.9
comp=Z,56nm,1.0s
VNA3 Neumayer Olymp 92.19 175⇑P **P** **23 55 05.8 +1.1**
comp=Z,48nm,0.8s
PZH PanZhiHua 92.20 297 P **P** **23 55 06.4 +0.7**
PZH PP **PP** **23 58 48.9 +0.7**
PZH SKS **SKSac** **00 05 23.5 -2.0**
PZH S **ScS** **00 06 00.0 +1.7**
PZH pmax pmax
comp=Z,40nm,0.8s
PZH pmax pmax
comp=Z,480nm,6.0s
SNAA Sanae 92.22 177 P **P** **23 55 05.6 +0.8**
SNAA Sanae 92.22 177⇑P **P** **23 55 05.7 +0.8**
comp=Z,495nm,1.1s
SNAA Sanae 92.22 177 P **P** **23 55 05.7 +0.8**
comp=Z,25nm,1.0s,baz=213,slow=3.4,SNR=29
SNAA PKKPbc **PKKPdf** **00 12 17.0 -0.9**
comp=Z,5.1nm,0.9s,baz=50,slow=6.6,SNR=6.2
SNAA LR LR 00 34 30.1
comp=Z,53nm,18.1s,baz=178,slow=34
comp=Z,25nm,1.0s
CIT Chita 92.25 324 *eP* **P** **23 55 05.7 +0.5**
CIT pmax pmax
comp=Z,372nm,1.3s
UALR University of 92.28 55 P **P** **23 55 05.9 +0.3**
UALR IAmb IAmb 23 55 07.9
comp=Z,78nm,0.9s
CO02 Combarbal 92.35 123 P **P** **23 55 07.3 +1.0**
CO02 IAmb IAmb 23 55 10.9
comp=Z,40nm,0.8s
U40A Yellville 92.37 53 P **P** **23 55 06.0 0.0**
baz=252,SNR=22
U40A P **P** **23 55 06.0 0.0**
baz=252,SNR=22
143A Socs Landing, 92.39 57 P **P** **23 55 07.3 +1.1**
143A IAmb IAmb 23 55 09.0
comp=Z,62nm,1.1s
CM31 Chiang Mai Arr 92.42 288 P **P** **23 55 07.7 +1.0**
CM31 Chiang Mai Arr 92.42 288 P **P** **23 55 08.5 +1.8**
SNR=39
CMAR Chiang Mai Arr 92.42 288 P **P** **23 55 07.8 +1.1**
CMAR Chiang Mai Arr 92.42 288*ce*P **P** **23 55 06.0 -0.7**
CMAR pmax pmax
comp=Z,84nm,0.9s
CMAR Chiang Mai Arr 92.42 288 P **P** **23 55 07.7 +1.0**
comp=Z,81nm,0.9s,baz=102,slow=1.9,SNR=4.3
CMAR PP **PP** **23 58 47.2 -2.7**
comp=Z,4.6nm,0.9s,baz=109,slow=4.8,SNR=2.4
CMAR PKiKP **PKiKP** **23 59 56.0 +0.8**
comp=Z,7.5nm,0.9s,baz=121,slow=0.3,SNR=6.2
CMAR PKKPbc **PKKPbc** **00 12 20.7 +0.8**
comp=Z,0.9nm,0.3s,baz=282,slow=4.4,SNR=1.7
comp=Z,81nm,0.9s
S39A Bolivar 92.43 52 IAmb IAmb 23 55 07.7
comp=Z,58nm,1.4s
S39A Bolivar 92.43 52 P **P** **23 55 06.5 +0.1**
baz=252,SNR=17
CCAR Cane Creek 92.47 56 P **P** **23 55 07.6 +1.1**
CCAR Cane Creek 92.47 56 P **P** **23 55 08.0 +1.5**
baz=252,SNR=5.3
HDC Heredia 92.48 80 *eP* **P** **23 55 10.3 +3.1**
WHAR Wooly Hollow 92.48 54 P **P** **23 55 07.3 +0.7**
WHAR IAmb IAmb 23 55 08.6
comp=Z,67nm,0.9s
LCR2 La Lucha 2 92.51 81 P **P** **23 55 08.7 +1.3**
LCR2 IAmb IAmb 23 55 10.3
comp=Z,27nm,0.9s
CHTO Chiang Mai 92.52 289 P **P** **23 55 07.7 +0.5**
CHTO Chiang Mai 92.52 289 P **P** **23 55 08.1 +1.0**
CHTO Chiang Mai 92.52 289 P **P** **23 55 07.7 +0.5**
CHTO pmax pmax
comp=Z,145nm,1.0s
MCRA Macar, Loja 92.54 95 P **P** **23 55 08.0 +0.6**
RIMA Rio Macho 92.65 81 P **P** **23 55 08.7 +0.6**
RIMA IAmb IAmb 23 55 11.6
comp=Z,103nm,1.8s
VNA2 Neumayer--Watz 92.68 176⇑P **P** **23 55 08.3 +1.4**
comp=Z,30nm,0.6s,baz=189,slow=4.0
CO03 El Pedregal 92.73 123 P **P** **23 55 09.4 +1.3**
FCAR Ozark Folk Cen 92.79 54 IAmb IAmb 23 55 10.2
comp=Z,32nm,1.0s
GO04 Tololo Observa 92.87 122 P **P** **23 55 09.6 +0.7**
GO04 IAmb IAmb 23 55 11.9
comp=Z,70nm,0.9s
VNA1 Neumayer--Stat 92.88 175⇑P **P** **23 55 08.6 +0.8**
comp=Z,51nm,0.9s
P38A Dawn 92.89 50 P **P** **23 55 08.0 -0.4**
P38A IAmb IAmb 23 55 09.3
comp=Z,44nm,0.9s
P38A Dawn 92.89 50 P **P** **23 55 08.5 +0.2**
baz=252,SNR=14
FFC Flin Flon 92.93 34 P **P** **23 55 08.7 +0.5**
FFC Flin Flon 92.93 34 P **P** **23 55 08.7 +0.5**
FFC pmax pmax
comp=Z,23nm,1.4s
F33A 5 Mile Ranch, 93.01 43 P **P** **23 55 08.5 -0.2**
F33A IAmb IAmb 23 55 09.5
comp=Z,27nm,1.0s
F33A 5 Mile Ranch, 93.01 43 P **P** **23 55 08.7 0.0**
baz=250,SNR=8.7
ATAH Atahualpa 93.25 98 LR LR 00 28 48.2
comp=Z,601nm,19.1s,baz=248,slow=30
NVL N'lazarevskaya 93.25 182 *eP* **P** **23 55 07.3 -2.2**
NVL pmax pmax
comp=Z,49nm,1.5s
LZH Lanzhou 93.30 306⇑*iP* **P** **23 55 11.3 +0.8**
LZH SKS **SKSac** **00 05 30.4 -0.8**
LZH S **SKKSac** **00 05 55.6 +4.6**
LZH pmax pmax
comp=Z,140nm,1.0s
LZH pmax pmax
comp=Z,530nm,4.6s
NNA Nana 93.32 103 LR LR 00 28 27.7
comp=Z,90nm,19.8s,baz=230,slow=30
LCO Las Campanas 93.35 121 P **P** **23 55 12.3 +1.1**
LCO IAmb IAmb 23 55 14.6
comp=Z,43nm,0.9s
LCO Las Campanas 93.35 121 P **P** **23 55 12.3 +1.1**

LCO pmax pmax
comp=Z,43nm,1.0s
R40A Maddies Statio 93.41 51 P **P** **23 55 11.3 +0.5**
baz=252,SNR=36
N38A Joes South For 93.47 49 P **P** **23 55 10.9 -0.1**
N38A Joes South For 93.47 49 P **P** **23 55 11.2 +0.2**
baz=252,SNR=12
CO01 Juntas del Tor 93.51 122 P **P** **23 55 11.4 -0.5**
LCAR Lake Charles 93.59 54 P **P** **23 55 12.2 +0.6**
LCAR IAmb IAmb 23 55 13.1
comp=Z,39nm,0.9s
LCAR Lake Charles 93.59 54 P **P** **23 55 11.9 +0.2**
baz=253,SNR=31
A36M Sachs Harbour 93.69 14 P **P** **23 55 11.9 +0.7**
baz=226,SNR=257
COHC Cochancay 93.74 94 P **P** **23 55 12.7 -0.2**
HBAR Harrisburg 93.83 54 P **P** **23 55 12.8 0.0**
SCIA State Center 93.83 48 P **P** **23 55 12.7 +0.1**
SCIA IAmb IAmb 23 55 14.2
comp=Z,59nm,1.1s
SCIA State Center 93.83 48 P **P** **23 55 12.8 +0.1**
baz=252
P40A Paris 93.95 50 IAmb IAmb 23 55 14.2
comp=Z,55nm,0.9s
P40A Paris 93.95 50 P **P** **23 55 13.3 +0.1**
baz=252,SNR=18
ZON Zonda 94.08 124 P **P** **23 55 14.4 +0.2**
ZON Zonda 94.08 124 P **P** **23 55 14.5 +0.2**
ZON pmax pmax
comp=Z,10.0nm,0.9s
CCM Cathedral Cave 94.11 52 P **P** **23 55 13.9 -0.1**
CCM IAmb IAmb 23 55 15.7
comp=Z,34nm,1.0s
CCM Cathedral Cave 94.11 52 P **P** **23 55 13.6 -0.4**
baz=253
CCM Cathedral Cave 94.11 52 P **P** **23 55 13.7 -0.3**
baz=253,SNR=16
CCM Cathedral Cave 94.11 52 P **P** **23 55 13.9 -0.1**
CCM pmax pmax
comp=Z,34nm,1.0s
AGMN Agassiz Nation 94.11 41 IAmb IAmb 23 55 16.6
comp=Z,70nm,1.6s
AGMN Agassiz Nation 94.11 41 P **P** **23 55 13.7 -0.1**
baz=250
AGMN Agassiz Nation 94.11 41 P **P** **23 55 13.4 -0.4**
baz=250,SNR=6.7
Y45A Yeager Farm, C 94.22 56 P **P** **23 55 14.3 -0.3**
Y45A IAmb IAmb 23 59 03.1
comp=Z,128nm,1.8s
BOSC San Juan Bosco 94.28 94 P **P** **23 55 15.8 +0.3**
BOD Bodaibo 94.32 329 *e*P **P** **23 55 13.7 -0.8**
BOD pmax pmax
comp=Z,45nm,1.1s
I37A Lemond, Waseca 94.36 46 P **P** **23 55 15.4 +0.4**
I37B Waseca 94.36 46 P **P** **23 55 15.3 +0.3**
baz=252,SNR=20
PBMO Poplar Bluff 94.36 53 P **P** **23 55 15.3 +0.2**
PBMO IAmb IAmb 23 55 16.4
comp=Z,44nm,1.1s
PBMO Poplar Bluff 94.36 53 P **P** **23 55 15.7 +0.5**
baz=253,SNR=11
K38A Parkersburg 94.37 47 P **P** **23 55 14.9 -0.2**
K38A Parkersburg 94.37 47 P **P** **23 55 15.1 0.0**
baz=252,SNR=9.0
CHSH Refugio Sur-Vo 94.38 93 P **P** **23 55 17.6 +1.0**
CHSH IAmb IAmb 23 55 20.8
comp=Z,50nm,1.0s
CFA Coronel Fontan 94.41 124 LR LR 00 28 30.9
comp=Z,398nm,20.9s,baz=270,slow=29
OXF Oxford 94.51 56 P **P** **23 55 15.8 -0.1**
baz=254
TNCH TengChong 94.59 295 ⇑P **P** **23 55 18.0 +1.3**
TNCH PP **PP** **23 59 05.4 -1.5**
TNCH SKS **SKSac** **00 05 35.3 -3.4**
TNCH S **ScS** **00 06 22.9 +4.5**
TNCH SS **SS** **00 12 46.6 +2.2**
TNCH pmax pmax
comp=Z,110nm,1.3s
TNCH pmax pmax
comp=Z,550nm,3.6s
ULN Ulaanbaatar 94.67 318 P **P** **23 55 16.2 -0.3**
ULN IAmb IAmb 23 55 17.1
comp=Z,23nm,0.9s
ULN Ulaanbaatar 94.67 318 P **P** **23 55 16.9 +0.3**
ULN Ulaanbaatar 94.67 318*c i*P **P** **23 55 16.3 -0.3**
ULN pmax pmax
comp=Z,23nm,1.0s
FVM French Village 94.71 52 P **P** **23 55 16.8 0.0**
FVM IAmb IAmb 23 55 18.1
comp=Z,36nm,0.9s
FVM French Village 94.71 52 P **P** **23 55 16.8 0.0**
baz=253,SNR=14
FVM French Village 94.71 52 P **P** **23 55 16.8 0.0**
FVM pmax pmax
comp=Z,37nm,0.9s
ULM Lac du Bonnet 94.76 39 IAmb IAmb 23 55 58.3
comp=Z,42nm,1.4s
ULM Lac du Bonnet 94.76 39 P **P** **23 55 16.8 +0.1**
comp=Z,11nm,0.8s,baz=268,slow=5.5,SNR=17
ULM PKKPbc **PKKPdf** **00 12 12.1 -2.8**
comp=Z,1.6nm,0.8s,baz=90,slow=1.0,SNR=1.9
ULM LR LR 00 33 11.6
comp=Z,361nm,18.6s,baz=257,slow=32
comp=Z,11nm,0.8s
F36A Milaca 94.84 44 IAmb IAmb 23 55 22.0
comp=Z,31nm,0.9s
F36A Milaca 94.84 44 P **P** **23 55 17.4 +0.2**
baz=252,SNR=21
PARMO Parma 94.85 53 P **P** **23 55 18.0 +0.6**
SONM Songino Array 95.08 318 P **P** **23 55 18.1 -0.3**
comp=Z,8.8nm,0.8s,baz=128,slow=3.7,SNR=42
SONM PP PP 23 58 56.3 -14
comp=Z,3.6nm,1.0s,baz=111,slow=6.5,SNR=3.9
SONM PKiKP **PKiKP** **00 00 00.0 +1.0**
comp=Z,1.8nm,0.6s,baz=92,slow=0.3,SNR=1.6
SONM LR LR 00 34 00.9
comp=Z,107nm,21.1s,baz=111,slow=33
comp=Z,8.8nm,0.8s
CGM3 Cape Girardeau 95.10 53 P **P** **23 55 18.4 -0.1**
CGM3 IAmb IAmb 23 55 19.8
comp=Z,41nm,0.9s
GLAT Glass 95.10 54 P **P** **23 55 18.1 -0.4**
PB14 IPOC Station P 95.11 117 P **P** **23 55 19.8 +0.4**
PB14 IAmb IAmb 23 55 23.0
comp=Z,64nm,1.4s
SPMN Marine on St. 95.13 44 P **P** **23 55 18.8 +0.3**
SPMN IAmb IAmb 23 55 20.2
comp=Z,48nm,0.9s
SPMN Marine on St. 95.13 44 P **P** **23 55 18.5 0.0**
baz=252
SPMN Marine on St. 95.13 44 P **P** **23 55 18.8 +0.3**
baz=252,SNR=13
N41A Harden Midland 95.17 49 P **P** **23 55 18.4 -0.3**
N41A Harden Midland 95.17 49 P **P** **23 55 19.3 +0.5**
baz=253,SNR=7.2
HICK Hickman 95.22 54 P **P** **23 55 19.7 +0.6**
OTAV Otavalo 95.26 91 P **P** **23 55 20.1 -0.3**
OTAV Otavalo 95.26 91 P **P** **23 55 20.1 -0.3**
OTAV pmax pmax
comp=Z,7.0nm,1.1s
OTAV Otavalo 95.26 91 *e*P **P** **23 55 23.1 +2.7**
L40A Anamosa 95.29 48 P **P** **23 55 19.3 0.0**
baz=253,SNR=16
UTMT University of 95.45 54 P **P** **23 55 21.2 +1.0**
BRAL Brewton 95.51 59 P **P** **23 55 20.7 +0.2**
baz=255
S44A Carbondale 95.52 53 P **P** **23 55 20.5 0.0**
S44A IAmb IAmb 23 59 13.9
comp=Z,35nm,1.1s
S44A Carbondale 95.52 53 P **P** **23 55 21.2 +0.7**
baz=254,SNR=5.3
SIUC Southern Illin 95.55 52 P **P** **23 55 20.6 0.0**
SIUC IAmb IAmb 23 59 14.0
comp=Z,48nm,1.2s
TIXI Tiksi 95.57 344 P **P** **23 55 19.4 -0.5**
TIXI IAmb IAmb 23 55 21.7
comp=Z,56nm,1.1s
TIXI Tiksi 95.57 344*ce*P **P** **23 55 19.2 -0.7**
PLAL Pickwick Lake 95.70 55 IAmb IAmb 23 55 22.5
comp=Z,20nm,0.7s
P43A Skaggs, Pawnee 95.85 51 P **P** **23 55 22.0 +0.1**
P43A IAmb IAmb 23 55 23.9
comp=Z,40nm,0.9s
P43A Skaggs, Pawnee 95.85 51 P **P** **23 55 22.2 +0.3**
baz=254,SNR=9.0
MND Mandalay 95.93 291 P **P** **23 55 23.2 +0.5**

Q44A Meyer Farm, Va 96.03 51 P **P** **23 55 23.7 +1.0**
baz=254
LRAL Lakeview Retre 96.05 58 P **P** **23 55 23.5 +0.5**
baz=255
WVT Waverly 96.19 54 P **P** **23 55 23.4 -0.2**
WVT IAmb IAmb 23 55 26.8
comp=Z,26nm,1.4s
WVT Waverly 96.19 54 P **P** **23 55 22.8 -0.8**
baz=255
WVT Waverly 96.19 54 P **P** **23 55 24.0 +0.5**
baz=255
WVT Waverly 96.19 54 P **P** **23 55 23.4 -0.2**
WVT pmax pmax
comp=Z,26nm,1.4s
JFWS Jewell Farm 96.23 47 P **P** **23 55 23.5 0.0**
JFWS Jewell Farm 96.23 47 P **P** **23 55 23.2 -0.3**
baz=254,SNR=11
JFWS Jewell Farm 96.23 47 P **P** **23 55 23.7 +0.1**
baz=254,SNR=11
JFWS Jewell Farm 96.23 47 P **P** **23 55 23.5 0.0**
JFWS pmax pmax
comp=Z,56nm,0.8s
I40A Norwalk 96.24 46 P **P** **23 55 23.8 +0.2**
baz=254,SNR=12
HDIL Hopedale 96.27 50 P **P** **23 55 23.9 +0.1**
HDIL IAmb IAmb 23 55 24.9
comp=Z,38nm,0.9s
HDIL Hopedale 96.27 50 P **P** **23 55 23.3 -0.5**
baz=254,SNR=5.2
HDIL Hopedale 96.27 50 P **P** **23 55 24.5 +0.7**
baz=254,SNR=5.2
E38A The Farm, Brul 96.37 43 IAmb IAmb 23 55 24.8
comp=Z,19nm,0.9s
E38A The Farm, Brul 96.37 43 P **P** **23 55 23.6 -0.6**
baz=253
X48A Hartselle 96.38 56 P **P** **23 55 24.7 +0.2**
baz=255
L42A Oliver, Polo 96.39 48 P **P** **23 55 23.7 -0.6**
L42A IAmb IAmb 23 55 25.7
comp=Z,51nm,1.1s
L42A Oliver, Polo 96.39 48 P **P** **23 55 23.8 -0.6**
baz=254,SNR=8.1
EYMN Ely 96.79 42 P **P** **23 55 25.8 -0.3**
EYMN Ely 96.79 42 P **P** **23 55 25.7 -0.3**
baz=254
G40A Rib Lake 96.91 45 P **P** **23 55 26.4 -0.1**
G40A IAmb IAmb 23 55 28.1
comp=Z,27nm,0.9s
G40A Rib Lake 96.91 45 P **P** **23 55 26.2 -0.4**
baz=254,SNR=6.2
T47A Sharon Grove 96.98 54 P **P** **23 55 26.8 -0.3**
T47A IAmb IAmb 23 55 29.8
comp=Z,18nm,0.7s
T47A Sharon Grove 96.98 54 P **P** **23 55 27.8 +0.7**
baz=255
LVC Limon Verde 97.10 116 P **P** **23 55 28.2 -0.3**
LVC IAmb IAmb 23 56 09.6
comp=Z,24nm,0.6s
LVC Limon Verde 97.10 116 P **P** **23 55 28.2 -0.3**
LVC pmax pmax
comp=Z,24nm,0.6s
LVC Limon Verde 97.10 116 *e*P Pdif 23 55 32.8 +4.2
LVC Limon Verde 97.10 116 LR LR 00 29 46.0
comp=Z,390nm,21.0s,baz=242,slow=29
GTA Gaotai 97.28 309 ⇑P Pdif 23 55 28.7 0.0
GTA SKS **SKSac** **00 05 49.7 -2.5**
GTA S **ScS** **00 06 42.4 +2.3**
GTA pmax pmax
comp=Z,20nm,1.2s
GTA LR LR
comp=Z,170nm,16.4s
GTA LR LR
comp=Z,190nm,19.6s
GTA LR LR
comp=Z,290nm,21.8s
I42A Draeger Farm, 97.42 47 IAmb IAmb 23 55 30.2
comp=Z,26nm,0.9s
PB11 IPOC Station P 97.43 113 P **P** **23 55 29.3 -0.5**
PB11 IAmb IAmb 23 55 34.3
comp=Z,30nm,1.2s
SWET Sewanee 97.46 56 P **P** **23 55 28.8 -0.5**
SWET IAmb IAmb 23 55 30.1
comp=Z,17nm,0.9s
FPAL Fort Paine 97.55 56 P **P** **23 55 29.5 -0.3**
FPAL IAmb IAmb 23 55 32.2
comp=Z,20nm,1.0s
P46A Rosedale 97.57 51 Pdif 23 55 30.6 +0.8
P46A IAmb IAmb 23 56 58.5
comp=Z,26nm,1.2s
L44A Lake County Fo 97.70 48 P **P** **23 55 30.0 -0.2**
baz=255
ZAK Zakamensk 97.79 320 *e*P **P** **23 55 28.9 -1.6**
ZAK pmax pmax
comp=Z,14nm,1.3s
SFIN Lafayette 97.84 50 P **P** **23 55 30.5 -0.4**
baz=256
U49A Red Boiling Sp 97.89 54 IAmb IAmb 23 55 32.3
comp=Z,17nm,0.7s
U49A Red Boiling Sp 97.89 54 P Pdif 23 55 32.2 +1.0
baz=256
WCI Wyandotte Cave 97.92 53 Pdiff Pdif 23 55 31.6 +0.3
baz=256
PB16 IPOC Station P 98.05 112 P Pdif 23 55 33.0 -0.1
PB16 IAmb IAmb 23 55 38.6
comp=Z,49nm,1.9s
FCC Fort Churchill 98.42 31 IAmb IAmb 23 56 27.1
comp=Z,32nm,1.7s
F42A Maple Grove Fa 98.44 45 P **P** **23 55 33.2 -0.3**
F42A IAmb IAmb 23 55 34.7
comp=Z,24nm,1.0s
F42A Maple Grove Fa 98.44 45 P Pdif 23 55 33.8 +0.4
baz=256
TIGA Tifton 98.45 60 Pdiff Pdif 23 55 34.0 +0.1
baz=256
D41A Chassel 98.47 44 P Pdif 23 55 33.9 +0.3
P48A Milroy 98.87 52 P Pdif 23 55 36.3 +0.8
P48A IAmb IAmb 23 55 38.1
comp=Z,24nm,1.0s
O48B Farmland 99.25 51 Pdiff **Pdif** **23 55 37.5 +0.3**
baz=257
TKL Tuckaleechee C 99.27 56 LR LR 00 35 38.2
comp=Z,212nm,18.5s,baz=246,slow=32
P49A Miami Univ. Ec 99.42 52 Pdiff **Pdif** **23 55 38.2 +0.3**
baz=257
TZTN Tazewell 99.65 55 Pdiff **Pdif** **23 55 39.3 +0.2**
baz=257
GOMU GeErMu 100.39 305 P **Pdif** **23 55 43.7 +0.9**
AAM Ann Arbor 100.80 49 Pdiff **Pdif** **23 55 44.6 +0.6**
baz=258
ACSO Alum Creek Sta 100.87 51 Pdiff **Pdif** **23 55 44.5 0.0**
baz=258
KMSC Kings Mountain 101.11 57 Pdiff **Pdif** **23 55 46.4 +0.8**
baz=258
P52A Corning 101.39 52 Pdiff **Pdif** **23 55 46.4 -0.4**
baz=259
NHSC New Hope 101.63 59 Pdiff **Pdif** **23 55 47.9 0.0**
baz=258
O53A New Philadelph 102.20 51 Pdiff **Pdif** **23 55 51.5 +1.1**
baz=259
MCWV Mont Chateau 103.13 52 Pdiff **Pdif** **23 55 54.5 0.0**
baz=260
ERPA Erie 103.44 50 Pdiff **Pdif** **23 55 56.1 +0.3**
baz=260
TAPN Taplejung 104.57 295 *e*P **Pdif** **23 56 06.9 +5.4**
comp=Z,24nm,1.1s
TAPN Taplejung 104.57 295 *e*P **PKiKP** **00 00 17.8 +0.9**
comp=Z,73nm,1.3s
CPUP Villa Corida 105.28 124 PKKPbc PKKPbc 00 11 42.2 -1.8
comp=Z,4.9nm,1.0s,baz=64,slow=4.8,SNR=6.1
RAMN Ramite 105.47 294 *e*P **Pdif** **23 55 59.9 -5.6**
comp=Z,58nm,1.5s
RAMN Ramite 105.47 294 *e*P **PKiKP** **00 00 18.6 +0.1**
comp=Z,34nm,0.9s
JIRN Jiri 105.95 295 *e*P **Pdif** **23 56 06.9 -0.9**
comp=Z,9.4nm,0.2s
JIRN Jiri 105.95 295 *e*P **PKiKP** **00 00 19.6 +0.1**
comp=Z,361nm,2.1s
GUN Gumba 106.26 295 *e*P **PKiKP** **00 00 20.0 -0.1**
PKI Pulchoki 106.62 294 *e*P **PKiKP** **00 00 20.1 -0.6**
comp=Z,154nm,1.6s
PKIN Phulchoki 106.63 294 *e*P **PKiKP** **00 00 20.2 -0.4**
comp=Z,19nm,0.5s
DMN Daman 106.89 294 *e*P **PKiKP** **00 00 20.7 -0.4**
comp=Z,167nm,1.3s
GKN Gorkha 107.36 295 *e*P **Pdif** **23 56 06.9 -6.9**
comp=Z,5.3nm,0.3s
GKN Gorkha 107.36 295 *e*P **PKiKP** **00 00 21.4 -0.5**

comp=Z,53nm,1.1s
PAL Palisades 107.81 52 PKiKP **PKiKP** **00 00 22.4 +0.3**
baz=264
DANN Dangsing 108.18 295 *e*P **PKiKP** **00 00 23.0 -0.6**
comp=Z,45nm,0.7s
PYUN Piuthan 108.82 295 *e*P PKPpre 23 56 06.9
comp=Z,102nm,2.3s
PYUN Piuthan 108.82 295 *e*P **PKiKP** **00 00 24.1 -0.5**
comp=Z,34nm,0.7s
L61B Northampton 108.86 50 PKiKP **PKiKP** **00 00 23.9 -0.1**
baz=265
ZSN Zaisan 109.28 315 *e*Pdif **Pdif** **23 56 20.3 -1.4**
baz=315
ZSN *i* PKiKP **PKiKP** **00 00 24.3 -0.4**
baz=315
ZSN Zaisan 109.28 315 *e*P **Pdif** **23 56 20.3 -1.4**
ZALV Zalesovo Beam 109.52 322 Pdiff **Pdif** **23 56 22.1 -0.4**
comp=Z,5.7nm,1.1s,baz=83,slow=3.6,SNR=13
ZALV PKiKP **PKiKP** **00 00 24.2 -0.6**
comp=Z,6.0nm,0.6s,baz=111,slow=0.6,SNR=19
ZALV PP **PP** **00 00 53.9 -3.9**
comp=Z,5.9nm,0.8s,baz=87,slow=7.7,SNR=5.9
LBNH Lisbon 109.54 48 PKiKP **PKiKP** **00 00 25.0 -0.3**
baz=266
SALM Salem 110.21 277 *e*P **PKiKP** **00 00 26.9 -0.4**
KOD Kodaikanal 110.59 275⇓*e*P **PKiKP** **00 00 27.9 -0.6**
MK31 Makanchi Array 111.01 314*c i*PKiKP **PKiKP** **00 00 27.7 -0.3**
MKAR Makanchi Array 111.01 314 Pdiff **Pdif** **23 56 29.3 -0.1**
comp=Z,1.8nm,0.7s,baz=89,slow=4.3,SNR=7.5
MKAR PKiKP **PKiKP** **00 00 27.4 -0.5**
comp=Z,20nm,0.6s,baz=170,slow=0.7,SNR=106
MKAR PKKPab **PKKPab** **00 11 36.5 +1.6**
comp=Z,2.8nm,0.9s,baz=246,slow=6.1,SNR=6.6
LGTI Lohaghat 111.38 296 *e*P **PKiKP** **00 00 28.2 -0.9**
PTH Pithoragarh 111.42 296⇓*e*P **PKiKP** **00 00 28.2 -1.3**
PTH *e*P **PKiKP** **00 00 29.4 -0.1**
NEEM North Greenlan 112.52 11 *i* P **PKiKP** **00 00 29.7 -0.7**
SHLS Shalkode 112.95 310 *i* PKiKP **PKiKP** **00 00 31.1 -0.9**
baz=310
SHLS Shalkode 112.95 310 *i* PKiKP **PKiKP** **00 00 31.0 -0.9**
BHPL Bhopal 113.08 289 *e*P **PKiKP** **00 00 31.7 -0.9**
UZB Uzynbulak 113.27 310⇑*i*PKiKP **PKiKP** **00 00 32.2 -0.3**
baz=310
UZB Uzynbulak 113.27 310*c i*PKiKP **PKiKP** **00 00 32.2 -0.3**
UPNV Upernavik 113.35 17 *i* P **PKiKP** **00 00 31.1 -0.5**
KURK Kurchatov 113.39 319*c i*PKiKP **PKiKP** **00 00 31.5 -0.8**
KURBB Kurchatov Arra 113.45 319 Pdiff **Pdif** **23 56 43.3 +3.3**
comp=Z,0.4nm,0.3s,baz=86,slow=4.7,SNR=1.7
KURBB PKiKP **PKiKP** **00 00 32.0 -0.4**
comp=Z,21nm,0.8s,baz=90,slow=1.9,SNR=72
KURBB PP **PP** **00 01 19.5 -6.5**
comp=Z,9.0nm,0.9s,baz=90,slow=6.7,SNR=10
KURBB PKKPbc **PKKPbc** **00 11 18.8 0.0**
comp=Z,0.9nm,0.2s,baz=264,slow=4.1,SNR=7.1
KPKS Kokpek 113.52 311 *i* PKiKP **PKiKP** **00 00 32.5 -0.4**
baz=311
KPKS Kokpek 113.52 311 *i* PKIKP **PKiKP** **00 00 32.5 -0.4**
ZHN Zhinishke 113.70 310 *e*PKiKP **PKiKP** **00 00 33.2 -0.2**
baz=310
ZHN Zhinishke 113.70 310 *i* PKiKP **PKiKP** **00 00 33.1 -0.2**
MNGI Mangalore 113.71 277⇓*e*P **PKiKP** **00 00 32.6 -1.3**
TDK Taldyqorghan 113.72 312 *e*PKiKP **PKiKP** **00 00 32.2 -1.0**
baz=312
TDK Taldyqorghan 113.72 312 *i* PKIKP **PKiKP** **00 00 32.2 -1.0**
SATY Saty 113.72 310 *i* PKiKP **PKiKP** **00 00 33.1 -0.3**
baz=310
SATY Saty 113.72 310 *i* PKIKP **PKiKP** **00 00 33.1 -0.3**
NOR Nord 113.77 4 *i* P **PKiKP** **00 00 30.9 -1.3**
SMLA Simla 114.20 297 *e*P PKPdf 00 00 31.7 -2.8
KUDL Kundal 114.52 294⇑*e*P PKPdf 00 00 34.3 -0.8
MDOK Medeo 114.72 310 *i* PKP PKPdf 00 00 34.8 -0.6
baz=310
MDOK Medeo 114.72 310 *i* PKIKP PKPdf 00 00 34.7 -0.6
CHKK Chushkaly 114.75 311 *e*PKP PKPdf 00 00 34.4 -0.8
baz=311
CHKK Chushkaly 114.75 311 *e*PKiKP PKPdf 00 00 34.3 -0.9
TNSS Tian-Shan 114.79 310 *e*PKP PKPdf 00 00 35.6 -0.2
baz=310
TNSS Tian-Shan 114.79 310 *e*PKIKP PKPdf 00 00 35.6 -0.2
AAA Alma-Ata 114.81 310 *e*PKP PKPdf 00 00 34.9 -0.5
baz=310
DHRM DHARAMSHALA 115.02 298 *e*P **PKPdf** **00 00 35.9 -0.5**
KAD Karad 115.15 282⇓*e*P **PKPdf** **00 00 35.1 -1.6**
GOA Goa 115.16 280 *e*P **PKPdf** **00 00 35.0 -1.7**
KUU Kurty 115.22 311 *e*PKP **PKiKP** **00 00 35.0 -1.2**
baz=311
KUU Kurty 115.22 311 *e*PKiKP **PKiKP** **00 00 34.9 -1.2**
ULHL Ulahol 115.33 309 P **PKPdf** **00 00 36.9 +0.2**
SNR=17
THN Thein Dam 115.53 299 *e*P **PKPdf** **00 00 36.0 -0.9**
KSH Kashi 115.55 306 PKP **PKiKP** **00 00 38.1 +1.1**
POO Poona 115.67 283 *e*P **PKPdf** **00 00 37.6 -0.1**
TKM2 Tokmak 2 115.79 310 P **PKPdf** **00 00 37.0 -0.4**
SNR=22
AJM Ajmer 115.98 292⇓*e*P **PKPdf** **00 00 31.7 -6.4**
KZA Kyzart 116.07 309 P **PKiKP** **00 00 38.7 +0.4**
SNR=15
KBK Karagaybulak 116.27 310 P **PKPdf** **00 00 38.2 -0.1**
SNR=18
CHMS Chumysh 116.40 310 P **PKPdf** **00 00 38.1 -0.3**
SNR=16
SGDS Sogindy 116.47 311 *i* PKP **PKPdf** **00 00 38.0 -0.7**
baz=311
SGDS Sogindy 116.47 311 *i* PKIKP **PKPdf** **00 00 37.9 -0.7**
USP Ospenovka 116.58 311 P **PKPdf** **00 00 38.3 -0.5**
SNR=27
AAK Ala-Archa 116.61 310 P **PKPdf** **00 00 38.8 -0.2**
SNR=15
AAK Ala-Archa 116.61 310 **PKPdf** **00 00 38.7 -0.3**
AAK Ala-Archa 116.61 310 *i* P **PKPdf** **00 00 38.7 -0.3**
SNR=16
AAK Ala-Archa 116.61 310 P **PKPdf** **00 00 38.8 -0.2**
AAK Ala-Archa 116.61 310*c* iPKiKP **PKPdf** **00 00 38.4 -0.6**
AAK pmax pmax
comp=Z,21nm,1.3s
AAK Ala-Archa 116.61 310 PKP **PKPdf** **00 00 38.8 -0.2**
comp=Z,12nm,0.8s,baz=143,slow=3.1,SNR=36
UCH Uchtor 116.61 309 P **PKiKP** **00 00 39.5 0.0**
SNR=22
BTLS Baital 116.80 313 *i* PKP **PKPdf** **00 00 38.6 -0.5**
baz=313
BTLS Baital 116.80 313 *i* PKIKP **PKPdf** **00 00 38.6 -0.5**
KBS Kingsbay 117.10 359 *e*PKPdf **PKiKP** **00 00 39.5 +0.8**
KBS Kingsbay 117.10 359*d i*PKiKP **PKiKP** **00 00 39.5 +0.8**
KBS pmax pmax
comp=Z,99nm,2.5s
KBS Kingsbay 117.10 359 *i* P **PKPdf** **00 00 38.7 0.0**
EKS2 Erkin-Say 117.13 310 P **PKiKP** **00 00 40.0 0.0**
SNR=16
AML Almayashu 117.22 309 P **PKiKP** **00 00 40.6 +0.1**
SNR=25
BRZS Berezniki 117.24 318 *i* PKP **PKPdf** **00 00 39.1 -0.8**
baz=318
BRZS Berezniki 117.24 318 *i* PKIKP **PKPdf** **00 00 39.0 -0.8**
NIL Nilore 117.65 300 **PKPdf** **00 00 40.3 -0.8**
NIL Nilore 117.65 300 P **PKPdf** **00 00 40.4 -0.8**
NIL Nilore 117.65 300 PKiKP **PKPdf** **00 00 40.3 -0.8**
SPA0 Spitsbergen Ar 117.71 358 *e*PKPdf **PKiKP** **00 00 40.2 +0.2**
SPITS Spitsbergen Ar 117.71 358 PKP **PKiKP** **00 00 40.2 +0.2**
comp=Z,39nm,0.6s,baz=69,slow=4.7,SNR=73
BDFB Brasilia 117.92 118 PKKPbc PKKPbc 00 11 01.7 -0.8
comp=Z,6.1nm,0.9s,baz=60,slow=5.7,SNR=8.3
SUMG Summit 117.98 14 **PKiKP** **00 00 41.2 +0.1**
SUMG Summit 117.98 14 PKIKP **PKiKP** **00 00 41.2 +0.1**
SUMG Summit 117.98 14 *i* P **PKPdf** **00 00 40.0 -1.1**
DAG Danmarks Havn 117.99 6 *i* P **PKPdf** **00 00 38.3 -2.2**
BVAR Borovoye Array 118.17 322 Pdiff **Pdif** **23 57 01.1 +0.1**
comp=Z,0.4nm,0.7s,baz=76,slow=6.1,SNR=2.0
BVAR PKP **PKPdf** **00 00 41.5 0.0**
comp=Z,36nm,0.6s,baz=70,slow=1.1,SNR=112
BRVK Borovoye 118.23 322 **PKPdf** **00 00 40.8 -0.8**
BRVK Borovoye 118.23 322 P **PKiKP** **00 00 41.6 +0.1**
BRVK Borovoye 118.23 322*c* iPKiKP **PKPdf** **00 00 41.3 -0.3**
BRVK pmax pmax
comp=Z,72nm,1.3s
RER Riviere de l'E 118.85 234 P **PKPdf** **00 00 43.5 -0.4**
DZA Taraz 118.92 310 *e*PKP **PKPdf** **00 00 42.9 -0.4**
baz=310
DZA Taraz 118.92 310 *e*PKIKP **PKPdf** **00 00 42.9 -0.4**
DY2G Dye2 119.21 21 *i* P **PKPdf** **00 00 42.0 -1.4**
JASL Jaisalmer 119.36 292 *e*P **PKPdf** **00 00 43.9 -0.7**
ICESG Greenland Ices 119.87 17 *i* P **PKPdf** **00 00 43.0 -1.8**
DBG Daneborg 119.99 8 *i* P **PKPdf** **00 00 43.0 -1.3**
CHM Chimkent 120.24 310 *e*PKP **PKPdf** **00 00 45.4 -0.5**
baz=310

CHM	Chimkent	120.24	310	*e*	PKIKP	PKPdf	00 00 45.3	-0.5
MCPB	Macapa, AP	120.31	100	*e*	P	PKiKP	00 00 48.1	+1.2
PRPB	Parauapebas	120.36	107	*e*	P	PKiKP	00 00 49.3	+2.3
KBL	Kabul	121.14	301			PKPdf	00 00 48.0	0.0
KBL	Kabul	121.14	301		P	PKiKP	00 00 48.8	+0.6
	SNR=37							
KBL	Kabul	121.14	301		PKIKP	PKPdf	00 00 48.0	0.0
JANB	Januaria	121.33	119	*e*	P	PKiKP	00 00 52.8	+4.0
ISOG	Isortoq, Green	122.21	20	*i*	P	PKPdf	00 00 47.7	-1.1
SVE	Sverdlovsk	122.50	328	*e*	PKIKP	PKPdf	00 00 49.6	0.0
SVE					pmax	pmax		
	comp=Z,65nm,1.0s							
SCO	Scoresbysund	123.01	11	*i*	P	PKPdf	00 00 49.7	-0.5
TMAB	Tom-Au,PA,Br	123.36	104	*e*	P	PKiKP	00 00 56.3	+3.5
ARU	Arti	123.71	328			PKPdf	00 00 51.3	-0.7
ARU	Arti	123.71	328	*c*	*i* PKIKP	PKPdf	00 00 51.8	-0.2
ARU					pmax	pmax		
	comp=Z,111nm,1.3s							
ARU	Arti	123.71	328		PKP	PKPdf	00 00 52.0	0.0
	comp=Z,54nm,0.7s,baz=82,slow=1.0,SNR=83							
ARU					PP	PP	00 02 32.8	-3.6
	comp=Z,5.5nm,0.6s,baz=100,slow=5.4,SNR=5.9							
ARU					PKKPbc	PKKPbc	00 10 41.5	-0.2
	comp=Z,3.1nm,0.7s,baz=220,slow=5.6,SNR=3.8							
VADS	Vadso	124.15	351	*e*	PKPdf	PKiKP	00 00 52.7	0.0
HAMF	Hammerfest	124.45	353	*e*	PKPdf	PKPdf	00 00 52.6	-0.4
KEV	Kevo	124.83	351			PKPdf	00 00 53.9	+0.1
KEV	Kevo	124.83	351		PKIKP	PKPdf	00 00 53.9	+0.1
LVZ	Lovozero	125.10	347			PKPdf	00 00 54.4	-0.1
LVZ	Lovozero	125.10	347	*d*	*i* PKIKP	PKPdf	00 00 54.3	-0.1
LVZ					pmax	pmax		
	comp=Z,78nm,0.7s							
VOI	Vohitsoka	125.10	228			PKiKP	00 00 56.8	+0.5
VOI	Vohitsoka	125.10	228		PKP	PKiKP	00 00 56.9	+0.7
VOI	Vohitsoka	125.10	228		P	PKiKP	00 00 56.6	+0.4
ARA0	ARCESS Array S	125.25	352	*e*	PKPdf	PKiKP	00 00 54.8	-0.2
ARCES	ARCESS Array B	125.25	352		PKIKP	PKiKP	00 00 55.0	0.0
ARCES	ARCESS Array B	125.25	352		PKP	PKiKP	00 00 55.0	0.0
	comp=Z,109nm,0.5s,baz=22,slow=1.0,SNR=387							
ARCES					PKKPbc	PKKPbc	00 10 35.1	-1.0
	comp=Z,4.7nm,0.9s,baz=246,slow=2.4,SNR=4.5							
APA	Apatity	125.63	348	⇓	*i* PKIKP	PKPdf	00 00 54.5	-0.8
APA					*i* *PP	pPKPdf	00 01 32.0	-2.3
APA					pmax	pmax		
	comp=Z,93nm,0.6s							
JETT	Jettan, Norway	125.84	354	*e*	PKPdf	PKiKP	00 00 56.0	-0.2
TRO	Tromso	125.91	355	*e*	PKPdf	PKiKP	00 00 56.1	-0.2
KTK1	Kautokeino	126.04	352	*e*	PKPdf	PKiKP	00 00 55.9	-0.2
AKTO	Aktyubinsk	126.27	321		PKP	PKPdf	00 00 57.1	0.0
	comp=Z,32nm,0.9s,baz=72,slow=2.2,SNR=50							
PRGR	Permogore	126.63	338	⇓	*i* PKIKP	PKPdf	00 00 57.2	-0.2
PRGR					*e*		00 02 54.9	
PRGR					pmax	pmax		
	comp=Z,113nm,0.8s							
HRA	Herat	126.76	301			PKPdf	00 00 58.7	-0.1
ROSB	Rosrio	126.85	106	*e*	P	PKiKP	00 01 01.6	+1.8
KIRV	Kirov	126.98	333	*c*	*i* PKIKP	PKPdf	00 00 58.0	-0.1
KIRV	Kirov	126.98	333		PKP	PKPdf	00 00 58.3	+0.2
	comp=Z,105nm,0.7s,baz=76,slow=0.5,SNR=51							
MSEY	Mahe Island	127.02	251			PKiKP	00 01 00.6	+0.4
MSEY	Mahe Island	127.02	251		P	PKiKP	00 01 00.9	+0.7
MSEY	Mahe Island	127.02	251		P	PKiKP	00 01 00.4	+0.2
MSEY	Mahe Island	127.02	251		PKIKP	PKiKP	00 01 00.6	+0.4
GRHM	Grahamstown, E	127.22	201		PKPpre	PKPpre	00 00 49.4	
SBV	Sambava	127.70	238		P	PKiKP	00 01 01.2	-0.2
LOF	Lofoten	127.80	357	*e*	PKPdf	PKPdf	00 00 59.4	0.0
STEI	Steigen	127.88	356	*e*	PKPdf	PKPdf	00 00 59.4	-0.2
SOE	Somerset East	128.02	201		PKPpre	PKPpre	00 00 49.0	
NGCH	Negor - Chabah	128.06	290		P	PKiKP	00 01 03.5	+1.6
	SNR=5.0							
FAUS	Fauske	128.42	356	*e*	PKPdf	PKPdf	00 01 00.2	-0.4
KLMR	Klimovskoe	129.31	340	*e*	PKPdf	PKPdf	00 01 01.1	-1.5
KLMR					AMP		00 01 04.2	
	comp=Z,190nm,1.4s							
KLMR				*ep*	PKPdf	pPKPdf	00 01 45.4	+3.9
KLMR				*e*	PP	PP	00 03 07.2	-5.7
KLMR	Klimovskoe	129.31	340	*e*	PKIKP	PKPdf	00 01 01.0	-1.5
KLMR				*e*			00 01 45.4	
KLMR					pmax	pmax		
	comp=Z,190nm,1.4s							
KONS	Konsvik	129.44	356	*e*	PKPdf	PKPdf	00 01 02.7	+0.1
JLN	Jalan Bani Buh	129.53	286		P	PKPdf	00 01 04.3	+0.1
	SNR=12							
GEYT	Alibeck	129.58	306		PKPdf	PKiKP	00 01 04.9	+0.3
GEYT	Alibeck	129.58	306		PKIKP	PKPdf	00 01 04.1	+0.3
GEYT	Alibeck	129.58	306		PKhKP	PKPpre	00 00 51.8	
	comp=Z,7.5nm,0.8s,baz=225,slow=4.0,SNR=8.2							
GEYT					PKP	PKPdf	00 01 04.1	+0.3
	comp=Z,23nm,0.8s,baz=107,slow=1.5,SNR=19							
GEYT					PP	PP	00 03 13.9	-2.0
	comp=Z,12nm,1.1s,baz=90,slow=3.3,SNR=5.6							
GYA0B	ALIBECK ARRAY	129.58	306		PKPdf	PKiKP	00 01 04.3	-0.3
STOK	Stokkvaagen	129.61	356	*e*	PKPdf	PKiKP	00 01 03.9	+0.2
MOR8	Moi Rana	129.68	356	*e*	PKPdf	PKPdf	00 01 03.1	0.0
SUR	Sutherland	129.78	196		PKPpre	PKPpre	00 00 52.7	
SUR						PKiKP	00 01 05.6	+0.1
SUR	Sutherland	129.78	196		P	PKiKP	00 01 05.9	+0.4
WBK	Wadi Bani Khal	129.95	286		P	PKiKP	00 01 05.7	-0.1
	SNR=7.1							
WSAR	Wadi Sarin	130.29	287		P	PKPdf	00 01 05.8	+0.2
	SNR=12							
WSAR	Wadi Sarin	130.29	287		PKP	PKPdf	00 01 05.9	+0.3
	comp=Z,39nm,1.1s,baz=134,slow=1.5,SNR=22							
JMDO	Jabal Madar	130.75	286		P	PKPdf	00 01 06.5	0.0
	SNR=7.7							
BIDO	Bidbid	130.76	287		P	PKiKP	00 01 06.9	-0.4
	SNR=16							
MHTO	MHTO	130.80	284		P	PKPdf	00 01 06.8	+0.3
	SNR=13							
SMDO	Samad	130.82	287		P	PKPdf	00 01 06.5	-0.2
	SNR=16							
JASK	Jask - Hormozg	131.01	290		P	PKiKP	00 01 08.0	+0.2
	SNR=5.2							
NSS	Namsos	131.47	357	*e*	PKPdf	PKPdf	00 01 05.8	-0.8
HOQ	Hoqain	131.51	287		P	PKPdf	00 01 07.5	-0.4
	SNR=9.9							
BSY	Bisya	131.59	286		P	PKPdf	00 01 07.7	-0.4
	SNR=14							
BOSA	Boshof	131.85	203		PKIKP	PKiKP	00 01 09.6	-0.1
BOSA	Boshof	131.85	203		PKP	PKiKP	00 01 09.6	-0.1
	comp=Z,13nm,0.7s,baz=160,slow=3.0,SNR=19							
BOSA					PP	PP	00 03 29.0	-0.4
	comp=Z,6.2nm,0.9s,baz=185,slow=8.2,SNR=3.2							
SOHO	SOHO	132.23	288	*i*	P	PKPdf	00 01 08.9	-0.3
	SNR=23							
SOHO	SOHO	132.23	288		P	PKPdf	00 01 09.3	+0.1
ARQ	Araqi	132.23	287		P	PKiKP	00 01 10.0	-0.3
	SNR=10							
UOSS	Minazif	132.53	289			PKPdf	00 01 09.0	-0.7
UOSS	Minazif	132.53	289	*i*	P	PKPdf	00 01 09.5	-0.3
	SNR=7.2							
UOSS	Minazif	132.53	289		P	PKPdf	00 01 09.4	-0.3
FINES	FINESS Array B	132.54	347		PKIKP	PKPdf	00 01 08.8	+0.2
FINES	FINESS Array B	132.54	347		PKhKP	PKPpre	00 00 50.1	
	comp=Z,2.8nm,0.6s,baz=3.1,slow=2.1,SNR=15							
FINES					PKP	PKPdf	00 01 08.8	+0.2
	comp=Z,66nm,0.6s,baz=33,slow=3.3,SNR=39							
MASF	Masafi	132.56	290		P	PKPdf	00 01 10.2	+0.3
	SNR=5.2							
MSFE	Esma-Masafi	132.56	290	*i*	P	PKPdf	00 01 09.5	-0.4
	SNR=17							
SHME	Shamm	132.56	291		P	PKPdf	00 01 09.8	0.0
SHME	Shamm	132.56	291		P	PKiKP	00 01 10.9	0.0
HATD	Hatta, Dubai	132.59	289	*i*	P	PKPdf	00 01 09.7	-0.2
	SNR=34							
HATD	Hatta, Dubai	132.59	289		P	PKPdf	00 01 10.2	+0.3
	SNR=11							
ASHO	Ashiyiah	132.66	289	*i*	P	PKPdf	00 01 10.0	-0.1
	SNR=9.1							
ASHO	Ashiyiah	132.66	289		P	PKPdf	00 01 10.0	-0.1
	SNR=8.0							
SHAO	Shalim	132.77	280		P	PKiKP	00 01 11.3	-0.2
SHAO	Shalim	132.77	280		P	PKiKP	00 01 11.4	-0.1
	SNR=10							
TBLU	Trondheim	132.82	357	*e*	PKPdf	PKPdf	00 01 09.0	-0.1
ALNE	Al Ain	132.94	288	*i*	P	PKPdf	00 01 10.5	0.0
	SNR=11							
ALNE	Al Ain	132.94	288		P	PKPdf	00 01 10.4	-0.2
	SNR=7.5							
PUL	Pulkovo	132.97	344	*d*	*i* PKIKP	PKiKP	00 01 10.8	+0.1
PUL					pmax	pmax		
	comp=Z,86nm,0.7s							
NAZ	Nazwa, Dubai	133.02	289	*i*	P	PKPdf	00 01 10.5	-0.2
	SNR=17							
NAZ	Nazwa, Dubai	133.02	289		P	PKPdf	00 01 10.5	-0.2
RCBR	Riachuelo	133.02	114	*e*	P	PKiKP	00 01 14.6	+2.3
FAQ	Al Faqa, Dubai	133.08	289	*i*	P	PKPdf	00 01 10.7	-0.2
	SNR=7.3							
FAQ	Al Faqa, Dubai	133.08	289		P	PKPdf	00 01 10.6	-0.2
ASUD	Al Ashush, Dub	133.32	289	*i*	P	PKiKP	00 01 12.0	-0.5
	SNR=10							
ASUD	Al Ashush, Dub	133.32	289		P	PKPdf	00 01 11.8	+0.6
	SNR=10							
DMTO	DMTO	133.39	279		P	PKPdf	00 01 11.0	-0.5
	SNR=11							
AJN	Ajban	133.64	289		P	PKPdf	00 01 12.3	+0.4
MOS	Moscow	133.72	336	*e*	PKIKP	PKPdf	00 01 09.9	-1.1
MOS				*e*			00 01 57.8	
MOS				*e*			00 03 43.2	
MOS				*e*			00 04 26.3	
MOS				*e*			00 08 01.0	
MOS					pmax	pmax		
	comp=Z,75nm,0.9s							
AKN	Aaknes	133.99	359	*e*	PKPdf	PKiKP	00 01 12.1	-0.7
MEF	Metsahovi	134.00	347	*e*	P	PKiKP	00 01 12.3	-0.5
RBK	Rabkut	134.07	279		P	PKPdf	00 01 13.0	+0.1
	SNR=9.5							
DOMB	Dombas	134.08	358	*e*	PKPdf	PKPdf	00 01 11.9	+0.3
WHFO	Wadi Hawf	134.52	279		P	PKPdf	00 01 13.6	-0.1
	SNR=6.5							
FOO	Floro	134.57	1	*e*	PKPdf	PKiKP	00 01 13.3	-0.5
OBN	Obninsk	134.59	336	⇑	P	PKPdf	00 01 12.4	-0.2
OBN	Obninsk	134.59	336			PKPdf	00 01 13.1	+0.4
OBN	Obninsk	134.59	336	⇑	*i* PKIKP	PKPdf	00 01 12.7	+0.1
OBN					*i*		00 01 13.9	
OBN					*i*		00 01 18.0	
OBN							00 01 46.0	
OBN					*e*		00 02 00.7	
OBN					*e*		00 03 45.1	
OBN					*e*		00 08 02.1	
OBN					*e*		00 08 53.9	
OBN					*e*SS	SS	00 21 27.7	+1.8
OBN					pmax	pmax		
	comp=Z,31nm,0.7s							
OBN					pmax	pmax		
	comp=Z,79nm,0.7s							
OBN	Obninsk	134.59	336		PKP	PKPdf	00 01 12.9	+0.2
	comp=Z,62nm,0.5s,baz=187,slow=1.3,SNR=19							
OBN					PP	PP	00 03 44.4	-2.4
	comp=Z,11nm,0.8s,baz=326,slow=3.6,SNR=2.0							
NC303	NORSAR Array S	134.79	356		PKPdf	PKiKP	00 01 13.9	-0.5
ABTO	Aybut	134.92	279		P	PKPdf	00 01 14.8	+0.3
VRH	Novokhopyorsk	134.93	329	*e*	PKIKP	PKPdf	00 01 12.5	-0.9
VRH					pmax	pmax		
	comp=Z,40nm,0.7s							
NB2	NORSAR Subarra1	134.99	357		PKPdf	PKPpre	00 00 57.9	
	comp=Z,30nm,1.0s,baz=6.6,slow=1.8							
NB2	NORSAR Subarra1	134.99	357	*e*		PKPpre	00 00 57.9	
	baz=6.6,slow=1.8							
NOA	NORSAR Array B	134.99	357		PKIKP	PKPdf	00 01 13.6	+0.3
NOA	NORSAR Array B	134.99	357		PKhKP	PKPpre	00 00 58.1	
	comp=Z,1.7nm,0.6s,baz=3.7,slow=2.7,SNR=6.4							
NOA					PKP	PKPdf	00 01 13.6	+0.3
	comp=Z,25nm,0.8s,baz=14,slow=4.0,SNR=28							
NOA					PP	PP	00 03 44.1	-5.0
	comp=Z,4.5nm,1.0s,baz=5.6,slow=6.3,SNR=4.3							
HYA	Hoyanger	135.01	360	*e*	PKPdf	PKPdf	00 01 13.7	+0.5
MZR	Muzera	135.03	287	*i*	P	PKiKP	00 01 15.3	-0.7
	SNR=6.6							
MZR	Muzera	135.03	287		P	PKiKP	00 01 16.6	+0.6
VSU	Vasula	135.04	345	*e*	P	PKiKP	00 01 14.2	-0.7
SUE	Sulen	135.10	1	*e*	PKPdf	PKPdf	00 01 13.7	+0.3
NC602	NORSAR Array S	135.27	356	*e*	PKPdf	PKPdf	00 01 14.3	+0.5
LPSR	Galich'ya Gora	135.35	332	*e*	PKIKP	PKPdf	00 01 12.9	-1.3
LPSR					pmax	pmax		
	comp=Z,60nm,0.9s							
SKAR	Skarslia	135.47	358	*e*	PKPdf	PKPdf	00 01 14.7	+0.4
JRN	Qarnain Island	135.57	289		P	PKPdf	00 01 15.7	+0.3
ASK	Askoy	135.69	1	*e*	PKPdf	PKiKP	00 01 15.5	-0.6
HFS	Hagfors	135.70	355		PKIKP	PKPdf	00 01 15.3	+0.7
HFS	Hagfors	135.70	355		PKhKP	PKPpre	00 00 59.6	
	comp=Z,13nm,0.6s,baz=64,slow=3.4,SNR=42							
HFS					PKP	PKPdf	00 01 15.3	+0.7
	comp=Z,44nm,0.6s,baz=112,slow=1.6,SNR=25							
BER	Bergen	135.79	1	*e*	PKPdf	PKiKP	00 01 15.7	-0.7
VORR	Voronezh	135.84	331	*e*	PKIKP	PKPdf	00 01 12.4	-2.7
VORR					pmax	pmax		
	comp=Z,50nm,1.3s							
OSL	Oslo	136.11	357	*e*	PKPdf	PKPdf	00 01 16.0	+0.7
VSR	Storozhevoye	136.16	330	*e*	PKIKP	PKPdf	00 01 14.4	-1.3
VSR					pmax	pmax		
	comp=Z,60nm,1.2s							
ODD1	Odda	136.26	360	*e*	PKPdf	PKPdf	00 01 16.4	+0.6
VORD	Divnogorie	136.27	330	*e*	PKIKP	PKPdf	00 01 14.0	-1.9
VORD					pmax	pmax		
	comp=Z,30nm,0.8s							
KONO	Kongsberg	136.46	357	*e*	PKPdf	PKPdf	00 01 16.2	+0.2
KONO	Kongsberg	136.46	357	⇑	*i* PKIKP	PKPdf	00 01 16.7	+0.7
KONO					pmax	pmax		
	comp=Z,84nm,1.3s							
LKRN	Lenkeran, Azer	136.47	310		PKIKP	PKPdf	00 01 17.2	+0.5
SEKA	Sheki	136.71	314		PKIKP	PKPdf	00 01 17.4	+0.2
BLS5	Blasjo	136.75	360	*e*	PKPdf	PKiKP	00 01 19.0	+0.5
ZKTA	Zakatala	136.94	315		PKIKP	PKPdf	00 01 18.0	+0.4
KMY	Karmoy	136.96	1	*e*	PKPdf	PKiKP	00 01 19.3	+0.5
MNGR	Mingechevir, A	136.96	313		PKIKP	PKPdf	00 01 18.0	+0.4
TRNA	Turayna	137.06	289		P	PKPdf	00 01 19.1	+0.9
SHMA	Al-Shehemyia	137.22	291		P	PKPdf	00 01 18.9	+0.4
SMRA	Abu-Samra	137.42	289		P	PKiKP	00 01 20.4	-0.4
GANJ	Ganja	137.54	313		PKIKP	PKPdf	00 01 19.1	+0.4
GOF	Gofitskoye	137.68	321	*e*	PKIKP	PKiKP	00 01 21.2	+0.4
ISAL	Salakas	137.74	343	*e*	P	PKPdf	00 01 12.4	-6.1
IDID	Didziasalis	137.79	343	*e*	P	PKPdf	00 01 10.3	-8.3
SNART	Snartemo	137.84	359	*e*	PKPdf	PKiKP	00 01 19.7	-0.9
HOMB	Homborsund	137.88	358	*e*	PKPdf	PKiKP	00 01 21.4	+0.7
MNK	Minsk	138.14	341	*i*	PKHKP	PKPpre	00 01 12.1	
MNK				*i*			00 01 45.3	
MNK				*i*			00 01 59.0	
MNK				*i*	PS	PS	00 14 40.8	+0.9
MNK				*i*	SSS	SSS	00 26 52.1	
MNK					pmax	pmax		
	comp=Z,22nm,1.0s							
MNK					pmax	pmax		
	comp=N,17nm,1.0s							
MNK					pmax	pmax		
	comp=E,10.0nm,1.0s							
ZEI	Tsey	138.26	317	*e*	PKHKP	PKPpre	00 01 11.5	
ZEI					pmax	pmax		
	comp=Z,25nm,1.2s							
PABE	Paberze	138.37	345		PKPdf	PKiKP	00 01 20.9	-0.9
PABE	Paberze	138.37	345	*e*	P	PKPpre	00 01 08.4	
KBZ	Khabaz	138.44	319	⇑	*i* PKIKP	PKiKP	00 01 23.0	+0.7
KBZ	Khabaz	138.44	319		PKhKP	PKPpre	00 01 12.3	
	comp=Z,6.4nm,0.8s,baz=132,slow=3.2,SNR=12							
KBZ					PP	PP	00 04 12.4	+0.9
	comp=Z,10nm,1.0s,baz=85,slow=7.9,SNR=4.9							
KVAR	Kislovodsk Arr	138.46	320		PKhKP	PKPpre	00 01 11.6	
	comp=Z,3.7nm,0.9s,baz=45,slow=8.6,SNR=2.2							
KIV	Kislovodsk	138.46	320			PKPdf	00 01 17.7	-2.7
KIV	Kislovodsk	138.46	320	*e*	PKIKP	PKPdf	00 01 18.9	-1.5
KIV				*i*			00 01 21.3	
KIV				*e*			00 04 09.4	
KIV				*e*SS		SS	00 22 09.2	-4.2
KIV				*e*SSS		SSS	00 27 17.4	
KIV					pmax	pmax		
	comp=Z,35nm,1.1s							
NAX	Nakhchivan	138.70	312		PKIKP	PKPdf	00 01 21.2	+0.2
GNI	Garni	138.85	313		P	PKPdf	00 01 22.2	+0.9
GNI	Garni	138.85	313	⇑	*i* PKIKP	PKiKP	00 01 22.8	-0.7
GNI					pmax	pmax		
	comp=Z,52nm,1.3s							
GNI	Garni	138.85	313		PKhKP	PKPpre	00 01 18.7	
	comp=Z,39nm,1.0s,baz=291,slow=3.1,SNR=5.1							
CLDR	Caldiran	139.84	312	*e*	P	PKPpre	00 01 17.5	
SUW	Suwalki	139.91	344	*e*	PKPdf	PKPpre	00 01 15.8	
EKA	Eskdalemuir Ar	140.21	8		PKhKP	PKPpre	00 01 15.3	
	comp=Z,8.1nm,0.5s,baz=333,slow=2.9,SNR=31							
AGRB	Hanur-Agry	140.31	313	*e*	P	PKPpre	00 01 17.1	
SOC	Sochi	140.49	321	*i*	PKIKP	PKiKP	00 01 25.9	-0.6
SOC				*e*			00 04 21.1	
SOC				*e*PPP		PPP	00 07 26.4	
SOC				*e*SS		SS	00 22 41.1	+4.4
SOC				*e*SSS		SSS	00 27 53.3	
SOC					pmax	pmax		
	comp=Z,58nm,0.8s							
CUKT	Cukurca	140.81	310	*e*	P	PKPpre	00 01 18.3	
AKASG	Malin Array Be	140.82	337		PKhKP	PKPpre	00 01 16.8	
	comp=Z,24nm,0.5s,baz=39,slow=4.2,SNR=134							
AKASG					PP	PP	00 04 19.3	-6.2
	comp=Z,5.2nm,0.8s,baz=33,slow=6.0,SNR=7.6							
AKASG					SKPbc	SKiKP	00 04 49.1	-0.3
	comp=Z,9.7nm,1.0s,baz=29,slow=2.8,SNR=8.0							
KIEV	Kiev	140.83	337	⇑	P	PKPpre	00 01 16.4	
KIEV	Kiev	140.83	337			PKPpre	00 01 16.1	
KIEV	Kiev	140.83	337		PKHKP	PKPpre	00 01 16.1	
AKDM	Akdamar-Van	140.84	312	*e*	P	PKPpre	00 01 19.2	
GURO	Guroymak-BITLI	141.43	313	*e*	P	PKPpre	00 01 20.9	
GKP	Gorka Klasztor	141.91	349	*e*	PKPdf	PKPpre	00 01 20.5	
LSZ	Lusaka	141.97	216			PKPpre	00 01 21.9	
LSZ	Lusaka	141.97	216		PKHKP	PKPpre	00 01 21.9	
BNGB	Bingl	142.18	314	*e*	P	PKPpre	00 01 23.5	
SVAN	Silvan-Diyarba	142.19	312	*e*	P	PKPpre	00 01 23.1	
BEL	Belsk	142.50	345	*e*	PKPdf	PKPpre	00 01 24.0	
MAZI	Mazidag	143.03	312	*e*	P	PKPbc	00 01 25.3	-0.8
DYBB	Diyarbakir	143.03	313	*e*	P	PKPbc	00 01 25.7	-0.3
PTK	Pertek	143.11	315	*e*	P	PKPbc	00 01 27.1	+0.7
TSUM	Tsumeb	143.15	198			PKPbc	00 01 26.9	0.0
SORM	Soroca	143.22	335	⇓	P	PKPbc	00 01 25.6	-0.4
SORM	Soroca	143.22	335	⇓	PKIKP	PKPbc	00 01 25.6	-0.4
LVV	L'vov	143.38	341	*e*	PKIKP	PKPbc	00 01 26.5	0.0
ILIC	ilic-Erzincan	143.40	316	*e*	P	PKPbc	00 01 27.7	+0.7
KIBK	Kibwezi	143.53	243			PKPbc	00 01 28.7	+0.6
KIBK	Kibwezi	143.53	243		P	PKPbc	00 01 29.1	+1.0
	SNR=70							
RSDY	Resadiye-TOKAT	143.72	318	*e*	P	PKPbc	00 01 28.5	+0.7
ARPR	Arapgir-MALATY	143.73	316	*e*	P	PKPbc	00 01 28.3	+0.3
PURM	Purcari	143.81	332	⇑	P	PKPbc	00 01 27.5	-0.3
KIS	Kishinev	143.92	333	⇑	*i* P	PKPab	00 01 27.0	-0.4
	comp=Z,20nm,1.1s							
KIS	Kishinev	143.92	333	⇑	P	PKPab	00 01 27.1	-0.3
KIS	Kishinev	143.92	333	*c*	*i* PKIKP	PKPab	00 01 27.0	-0.4
KIS					pmax	pmax		
	comp=Z,20nm,1.1s							
KWP	Kalwaria Pacla	143.96	342	*e*	PKPdf	PKPbc	00 01 28.1	-0.1
MILM	Milestii Mici	143.98	333	*e*	PKP	PKPab	00 01 26.0	-1.7
	comp=Z,140nm,0.9s							
MILM	Milestii Mici	143.98	333	⇓	P	PKPdf	00 01 30.4	+0.3
MILM	Milestii Mici	143.98	333	*e*	PKHKP	PKPpre	00 01 26.0	
MILM					pmax	pmax		
	comp=Z,140nm,0.9s							
ATD	Arta Tunnel	144.11	267		P	PKPdf	00 01 31.7	+0.5
	SNR=11							
KVT	Kavak	144.14	320	*e*	P	PKPbc	00 01 29.5	+0.4
SVSK	Karacayir	144.19	318	*e*	P	PKPbc	00 01 29.8	+0.7
URFA	Urfa	144.19	313	*e*	P	PKPbc	00 01 29.7	+0.3
OJC	Ojcow	144.23	345	*e*	PKPdf	PKPbc	00 01 29.0	0.0
TOK	Tokat	144.26	319	*e*	P	PKPbc	00 01 32.5	+0.1
DIKM	Dikmen	144.29	321	⇓	P	PKPdf	00 01 32.1	+1.4
DIKM	Dikmen	144.29	321	*e*	P	PKPbc	00 01 29.3	-0.1
KSP	Ksiaz	144.41	349	*e*	PKPdf	PKPbc	00 01 29.7	+0.3
CLL	Collm	144.46	353	⇑	*i* PKPbc	PKPbc	00 01 29.6	0.0
	comp=Z,154nm,0.8s							
CLL				*i*	PKiKP	PKiKP	00 01 34.5	+0.1
CLL				*ep*	PKPdf	pPKPdf	00 02 13.0

MEM Membach 145.59 0 dPKP PKPab 00 01 33.6 0.0
MEM Membach 145.59 0 PKP2 PKPab 00 01 33.9 +0.3
JURR Jurilovca 145.60 331 ⇑P PKPab 00 01 33.8 -0.1
BSTI Sart Tilman 145.61 1 dPKP PKPab 00 01 34.0 +0.3
BTNL Ternell 145.61 0 dPKP PKPdf 00 01 32.8 0.0
ARCR ARCALIA 145.62 338 ⇑P PKPab 00 01 34.0 +0.1
CFR Carcaliu 145.63 332 ⇓P PKPab 00 01 34.9 +1.0
KECS Kecovo 145.64 343 ePKP2 PKPab 00 01 34.4 +0.5
KURC Kurucasile-Bar 145.64 324 eP PKPbc 00 01 33.5 -0.1
ODBI Odobesti 145.64 334 ⇓P PKPab 00 01 34.6 +0.7
VRI Vrincioaia 145.70 334 ⇑P PKPab 00 01 34.1 -0.1
VRI Vrincioaia 145.70 334 eP PKPdf 00 01 33.3 +0.2
VRI Vrincioaia 145.70 334 ⇑PKP2 PKPab 00 01 34.1 -0.1
PLOR Plostina 145.74 334 ⇑P PKPab 00 01 34.2 -0.2
PLOR Plostina 145.74 334 ⇑PKP2 PKPab 00 01 34.2 -0.2
TPGR Topolog 145.74 331 ⇓P PKPab 00 01 34.5 +0.1
BCLA Clavier 145.77 1 dPKP PKPbc 00 01 33.8 +0.1
BGES Gesves 145.80 1 dPKP PKPbc 00 01 33.6 -0.2
VRAC Vranov 145.81 348 ⇑P PKPab 00 01 34.6 +0.1
VRAC Vranov 145.81 348 eP PKPab 00 01 34.7 +0.1
VRAC Vranov 145.81 348 PKP2 PKPab 00 01 34.5 0.0
VRAC Vranov 145.81 348 PKPbc PKPab 00 01 34.5 0.0
comp=Z,209nm,1.0s,baz=4.6,slow=1.9,SNR=96
TURR Turia 145.84 335 ⇑P PKPab 00 01 35.3 +0.5
BHOU Houvegnez 145.84 0 dPKPbc PKPdf 00 01 32.9 -0.3
BHOU dPKP PKPbc 00 01 33.8 -0.2
BMRD Maredsous 145.88 2 dPKP PKPdf 00 01 33.4 +0.2
OZUR 145.90 335 ⇑P PKPab 00 01 34.9 -0.1
COVR Voineasa-Covas 145.93 335 ⇓P PKPab 00 01 35.3 +0.1
KOZK Kozakli-Nevseh 145.95 318 eP PKPab 00 01 35.2 -0.3
BOSR Bodos 145.97 335 ⇑P PKPab 00 01 35.2 0.0
GRER 145.98 333 ⇓P PKPab 00 01 35.7 +0.5
JAVC Velka Javorina 146.01 346 ePKP PKPab 00 01 36.3 +1.0
TGMR Targu Mures 146.03 337 ⇑P PKPab 00 01 35.6 +0.2
RCHB Rochefort 146.03 1 dPKP PKPbc 00 01 34.1 -0.4
TIRR Tirgusor 146.05 331 ⇑P PKPbc 00 01 34.9 +0.2
TIRR Tirgusor 146.05 331 eP PKPbc 00 01 34.2 -0.5
TIRR Tirgusor 146.05 331 ⇑PKP2 PKPbc 00 01 34.9 +0.2
MESR Meseseni 146.06 339 ⇓P PKPab 00 01 36.3 +0.8
VYHS Vyhne 146.07 345 ePKP2 PKPdf 00 01 34.1 +0.5
DOU Dourbes 146.08 2 dPKP PKPdf 00 01 33.8 +0.2
DOU Dourbes 146.08 2 PKP2 PKPab 00 01 35.3 -0.2
GIVF Givet 146.08 2 PKP2 PKPbc 00 01 34.5 -0.2
KRUC Moravsky 146.09 348 ePKP PKPab 00 01 35.3 -0.3
HARR Harsova 146.09 332 ⇑P PKPbc 00 01 34.8 -0.1
HARR Harsova 146.09 332 ⇑PKP2 PKPbc 00 01 34.8 -0.1
BAIF Baives 146.10 2 PKP2 PKPbc 00 01 34.8 +0.1
ZVC Zvikov 146.10 355 ePKP PKPbc 00 01 34.6 -0.2
TLBR Topaliu 146.15 331 ⇑P PKPab 00 01 35.9 0.0
TSCT Constanta Port 146.16 330 ⇑P PKPab 00 01 36.1 +0.1
DOPR Dopca 146.16 336 ⇓P PKPab 00 01 35.8 -0.1
CBBR Cluj-Babes-Bol 146.18 338 ⇓P PKPdf 00 01 31.8 -2.0
LTVH Ltavrtes, Hu 146.20 341 ⇓P PKPab 00 01 36.0 -0.1
CJR Cluj-Napoca 146.21 338 ⇓P PKPab 00 01 37.0 +0.8
EFOR EFORIE 146.23 330 ⇑P PKPbc 00 01 35.6 +0.3
NEHR Nehoiu 146.23 334 ⇓P PKPbc 00 01 35.5 +0.1
KOZT Kozan 146.25 315 eP PKPdf 00 01 34.5 +0.2
GRF Grafenberg Arr 146.25 354 PKP2 PKPbc 00 01 35.2 0.0
GRFO Grafenberg 146.26 354 PKPbc 00 01 35.5 +0.3
GRFO Grafenberg 146.26 354 PKP2 PKPbc 00 01 35.5 +0.3
MFTR Murfatlar 146.26 331 ⇑P PKPab 00 01 36.3 0.0
CVDA Cernavoda 146.32 331 ⇓P PKPab 00 01 36.5 -0.1
PSZ Piszkesteto 146.32 343 ⇓P PKPbc 00 01 36.1 +0.5
PSZ Piszkesteto 146.32 343 ⇓PKP2 PKPbc 00 01 36.1 +0.5
MLR Muntele Rosu 146.33 335 ⇑P PKPab 00 01 37.0 +0.2
MLR Muntele Rosu 146.33 335 eP PKPab 00 01 35.3 -0.4
MLR Muntele Rosu 146.33 335 ⇑PKP2 PKPab 00 01 37.0 +0.2
PGOR Pogoanele 146.35 333 ⇑P PKPbc 00 01 35.5 -0.1
ISR Istrita 146.37 334 ⇓P PKPab 00 01 37.0 +0.1
SMOL Smolenice 146.39 346 ePKP2 PKPab 00 01 36.8 +0.1
MDB Medias 146.41 337 ⇑P PKPab 00 01 36.4 -0.5
MDB Medias 146.41 337 ⇑PKP2 PKPab 00 01 36.4 -0.5
MARR Marisel-Cluj 146.41 339 ⇓P PKPbc 00 01 35.8 -0.2
AMRR Amara 146.43 332 ⇑P PKPbc 00 01 35.9 0.0
AMRR Amara 146.43 332 ⇑PKP2 PKPbc 00 01 35.9 0.0
BR131 Keskin Array S 146.43 320 P PKPab 00 01 36.9 -0.5
SNR=267
BR131 Keskin Array S 146.43 320 c iPKP2 PKPbc 00 01 36.3 +0.1
BRTR Keskin Array B 146.43 320 PKPdf 00 01 34.5 -0.2
BRTR Keskin Array B 146.43 320 PKP2 PKPbc 00 01 36.7 +0.5
BRTR Keskin Array B 146.43 320 PKPbc PKPbc 00 01 36.7 +0.5
comp=Z,307nm,0.8s,baz=122,slow=1.6,SNR=359
MANR Mangalia 146.45 330 ⇑P PKPbc 00 01 36.5 +0.6
BORR Bors 146.50 341 ⇓P PKPbc 00 01 36.3 +0.3
KHC Kasperske Hory 146.51 351 ePKP PKPdf 00 01 34.8 +0.4
KHC ex x 00 01 36.9
KHC ex x 00 02 18.5
KHC Kasperske Hory 146.51 351 c iPKP2 PKPab 00 01 36.8 -0.5
WLF Walferdange 146.53 360 PKPbc 00 01 35.7 -0.4
WLF Walferdange 146.53 360 dPKP PKPbc 00 01 36.5 +0.5
WLF Walferdange 146.53 360 PKP2 PKPab 00 01 37.4 +0.1
CEYT Ceyhan 146.54 314 eP PKPbc 00 01 36.5 +0.1
MODS Modra-Piesok 146.55 346 ePKP2 PKPbc 00 01 35.7 -0.5
TAHT Tahtakopru-Hat 146.56 313 eP PKPdf 00 01 35.3 +0.5
KAMT Kaman 146.59 319 eP PKPdf 00 01 34.2 -0.7
ICOR Ion Corvin 146.59 331 ⇑P PKPbc 00 01 36.2 -0.1
CKRC Cesky Krumlov 146.70 350 ePKP PKPdf 00 01 35.2 +0.5
CKRC ex x 00 01 37.2
CKRC Cesky Krumlov 146.70 350 ePKIKP PKPdf 00 01 35.2 +0.5
CKRC e 00 01 37.2
CMRD Camardi-Nigde 146.72 316 eP PKPdf 00 01 35.7 +0.5
VOIR 146.73 335 ⇓P PKPbc 00 01 37.2 +0.3
VOIR 146.73 335 ⇓PKP2 PKPbc 00 01 37.2 +0.3
PLAR PLOIESTI 146.76 334 ⇑P PKPbc 00 01 37.0 +0.2
LEHL Lehliu 146.76 333 ⇓P PKPbc 00 01 36.8 0.0
BSZH Besenyszg 146.78 342 ⇓P PKPbc 00 01 36.6 -0.2
GERES GERESS Array B 146.78 351 PKP2 PKPdf 00 01 35.7 +0.8
GERES GERESS Array B 146.78 351 PKP PKPdf 00 01 35.7 +0.8
comp=Z,147nm,0.8s,baz=11,slow=2.9,SNR=186
GERES PKPbc PKPbc 00 01 37.3 +0.5
comp=Z,145nm,0.8s,baz=90,slow=1.3,SNR=225
YAYX Yaylak 146.78 319 eP PKPbc 00 01 36.8 -0.4
SRO Srobarova 146.83 345 ePKP2 PKPab 00 01 38.0 -0.5
KALB Balgarevo 146.84 330 ⇓P PKPbc 00 01 36.8 -0.2
GULA Gulagac 146.85 317 eP PKPbc 00 01 37.7 +0.3
SULR 146.85 333 ⇓P PKPbc 00 01 37.3 +0.2
ANTO Ankara 146.86 321 ⇑P PKPdf 00 01 35.7 +0.4
ANTO Ankara 146.86 321 eP PKPbc 00 01 37.4 0.0
ANTO Ankara 146.86 321 PKPdf 00 01 36.0 +0.7
ANTO Ankara 146.86 321 P PKPbc 00 01 36.4 -0.9
ANTO Ankara 146.86 321 PKP2 PKPdf 00 01 36.0 +0.7
KARA Karaisali 146.89 315 eP PKPdf 00 01 35.4 0.0
MTUR Matau 146.90 335 ⇑P PKPbc 00 01 37.2 -0.1
MTUR Matau 146.90 335 ⇑PKP2 PKPbc 00 01 37.2 -0.1
SERE Sereflikochisa 146.93 319 eP PKPdf 00 01 35.6 +0.1
AFSR Afar-Bala (An 146.94 320 eP PKPdf 00 01 35.8 +0.3
ROSF Rostrenen 146.94 12 PKP2 PKPbc 00 01 36.7 -0.5
ARR Arges 146.96 338 ⇓P PKPbc 00 01 37.6 +0.4
DEV Deva 147.17 338 ⇓P PKPbc 00 01 37.6 -0.3
DEV Deva 147.17 338 ⇓PKP2 PKPbc 00 01 37.6 -0.3
YUVA Yuva-Kibriscik 147.19 323 eP PKPdf 00 01 36.4 +0.5
LDF La Druitiere 147.20 8 PKIKP PKPdf 00 01 35.1 -0.4
LOT Lotru 147.22 337 ⇓P PKPbc 00 01 38.0 -0.3
LOT Lotru 147.22 337 eP PKPbc 00 01 37.5 -0.8
SIRR Siria 147.26 340 ⇑P PKPbc 00 01 37.8 -0.4
CONA Conrad Observa 147.28 348 i PKP PKPdf 00 01 36.3 +0.5
comp=Z,54nm,1.4s,SNR=84
CONA i PKP PKPab 00 01 39.3 -1.0
comp=Z,232nm,0.6s
SGRR Singureni 147.33 333 ⇓P PKPbc 00 01 38.2 -0.2
QUIF Quistinic 147.37 12 PKP2 PKPbc 00 01 37.9 -0.5
SULT Sultanhani-AKS 147.40 318 eP PKPdf 00 01 36.9 +0.6
RONA Rosalia, Austr 147.41 347 i PKP PKPdf 00 01 36.4 +0.5
comp=Z,46nm,1.4s,SNR=80
RONA i PKP PKPbc 00 01 39.6 +1.0
comp=Z,271nm,1.0s
BEIL Beino 147.41 310 eP PKPbc 00 01 39.7 +0.7
MDUB Mudurnu 147.42 323 eP PKPdf 00 01 36.6 +0.3
YESY Yesilyurt 147.48 317 eP PKPbc 00 01 38.5 -0.7
HUMR Humele 147.51 335 ⇑P PKPbc 00 01 37.8 -1.1
SURR Surduc 147.56 339 ⇑P PKPbc 00 01 39.3 +0.3
RAZG Razgrad 147.61 332 ⇑P PKPbc 00 01 38.7 -0.5
GZR Gura Zlata 147.64 338 ⇓P PKPbc 00 01 39.1 -0.2
GZR Gura Zlata 147.64 338 ⇓PKIKP PKPbc 00 01 39.1 -0.2
MOA Molln 147.65 350 i PKP PKPdf 00 01 36.5 +0.2
comp=Z,25nm,1.7s
MOA i PKP PKPbc 00 01 40.0 +0.8
comp=Z,135nm,0.7s,SNR=30
HWQ Hawqa 147.71 310 eP PKPbc 00 01 40.3 +0.3
LOZB Loznitsa 147.73 332 ⇓P PKPbc 00 01 38.8 -0.7
SAUV Serdivan-Sakar 147.74 324 eP PKPbc 00 01 39.3 -0.3
BFO Black Forest 147.82 357 PKPdf 00 01 36.8 +0.2
BFO Black Forest 147.82 357 PKIKP PKPdf 00 01 36.8 +0.2
SILT Sile 147.83 326 eP PKPdf 00 01 37.7 +0.9
GULT Gulveren 147.84 324 eP PKiKP 00 01 41.5 -0.4
BZS Buzias 147.85 339 ⇑P PKPbc 00 01 39.5 -0.3
BZS Buzias 147.85 339 eP PKPdf 00 01 36.9 +0.2
BZS Buzias 147.85 339 ⇑PKP2 PKPbc 00 01 39.5 -0.3
ASF Jabal al Asfar 147.86 305 PKIKP PKPdf 00 01 37.7 +0.5
ASF 00 01 40.8
ASF Jabal al Asfar 147.86 305 PKP PKPdf 00 01 37.7 +0.5
comp=Z,170nm,0.8s,baz=119,slow=0.8,SNR=23
ASF PKPbc PKPbc 00 01 40.8 +0.5
comp=Z,170nm,0.8s,baz=86,slow=2.2,SNR=113
TIM Timisoara 147.88 340 ⇓P PKPbc 00 01 39.9 +0.1
TIM Timisoara 147.88 340 ⇓PKP2 PKPbc 00 01 39.9 +0.1
SVRH Sivrihisar-ESK 147.89 321 eP PKPbc 00 01 39.6 -0.6
BIOA Bad Ischl, Aus 147.91 350 ePKP PKPdf 00 01 36.6 -0.2
comp=Z,27nm,1.7s,SNR=39
BIOA i PKP PKPbc 00 01 40.3 +0.4
comp=Z,66nm,0.5s
KIZK Mersin 147.92 315 eP PKPdf 00 01 37.2 +0.1
ZAHL Zahle 147.94 309 eP PKPbc 00 01 41.4 +0.8
ARSA Arzberg 147.99 348 i PKP PKPdf 00 01 36.8 -0.1
comp=Z,25nm,1.6s
ARSA i PKP PKPbc 00 01 40.6 +0.4
comp=Z,173nm,1.1s,SNR=17
KIZT Kizilcal 148.02 320 eP PKPbc 00 01 40.5 -0.1
SRCK Saricakaya, Es 148.03 323 eP PKPbc 00 01 40.0 -0.5
HRT Hereke 148.05 325 eP PKPbc 00 01 40.0 -0.5
KLYT Kilyos 148.09 326 eP PKPbc 00 01 39.8 -0.7
BHL Bhannes 148.09 309 eP PKPbc 00 01 41.5 +0.6
SRE Strehaia 148.10 337 ⇑P PKPbc 00 01 40.3 -0.2
SRE Strehaia 148.10 337 ⇑PKP2 PKPbc 00 01 40.3 -0.2
LADK Ladik-KONYA 148.13 319 eP PKPbc 00 01 40.3 -0.6
SILI Silifke-Mersin 148.13 315 eP PKPbc 00 01 40.9 +0.1
RCY Rachaya 148.13 308 eP PKPbc 00 01 41.9 +0.8
KRMN Karaman 148.14 316 eP PKPbc 00 01 40.5 -0.5
VLAD Vladila 148.18 335 ⇓P PKPbc 00 01 39.2 -1.5
ISK Istanbul-Kandi 148.21 326 eP PKPdf 00 01 37.8 +0.4
ISK Istanbul-Kandi 148.21 326 P PKPdf 00 01 34.9 -2.5
KAVV Kandilli-Istan 148.21 326 eP PKPbc 00 01 40.1 -0.8
CIFT Cifteler, Eski 148.22 322 eP PKPdf 00 01 37.7 +0.1
QRWL Qaraoun 148.23 309 eP PKiKP 00 01 42.2 -0.7
DQRL Deir Qamar 148.24 309 eP PKiKP 00 01 42.2 -0.7
SHBL Chebaa 148.27 308 eP PKiKP 00 01 42.4 -0.7
ADVT Abdulvahap 148.27 324 eP PKPbc 00 01 40.2 -0.9
BGKT Bogazkoy 148.28 326 eP PKPbc 00 01 40.7 -0.3
KONT Konya--Tatoy 148.28 318 eP PKPbc 00 01 40.6 -0.6
LESA Schwarzleotal 148.31 352 ePKP PKPdf 00 01 37.8 +0.3
comp=Z,24nm,1.3s
LESA i PKP PKPbc 00 01 41.3 +0.3
comp=Z,39nm,0.6s
DJES Djerdap 148.35 337 ⇓P PKPbc 00 01 40.8 -0.4
IKL Isikli 148.36 315 eP PKPdf 00 01 37.7 -0.1
CAVI Cavuskoy 148.37 324 eP PKPbc 00 01 41.6 +0.2
CTKS Kestanelik-??a 148.38 327 eP PKPbc 00 01 40.8 -0.5
YLV Yalova 148.38 325 eP PKPbc 00 01 40.8 -0.6
EREN Erenkoy 148.39 313 eP PKPbc 00 01 41.2 -0.3
ELND Elena 148.40 332 ⇓P PKPbc 00 01 40.2 -1.1
RETA Reutte 148.48 354 i PKP PKPdf 00 01 37.8 +0.1
comp=Z,23nm,2.3s
RETA i PKP PKPbc 00 01 42.1 +0.7
comp=Z,174nm,0.9s,SNR=28
AKKU Akkuyu-Mersin 148.50 315 eP PKPbc 00 01 41.6 -0.2
PUNG Punghina 148.53 337 ⇓P PKPbc 00 01 40.9 -0.7
WATA Wadersalm 148.54 353 i PKP PKPdf 00 01 37.9 0.0
comp=Z,35nm,1.4s,SNR=61
WATA i PKP PKPbc 00 01 42.2 +0.5
comp=Z,94nm,0.5s
MDVR Moldovita 148.54 339 ⇓P PKPbc 00 01 40.8 -0.9
KBA Koelnbreinsper 148.55 351 ePKP PKPdf 00 01 37.5 -0.5
comp=Z,14nm,1.1s
KBA i PKP PKPbc 00 01 41.7 0.0
comp=Z,91nm,0.5s
BAIL Bailesti 148.59 336 ⇓P PKPbc 00 01 40.9 -0.8
MOTA Moosalm 148.59 354 i PKP PKPdf 00 01 38.1 0.0
comp=Z,36nm,1.1s,SNR=42
MOTA i PKP PKPbc 00 01 42.4 +0.5
comp=Z,241nm,1.0s
KOGS Kog 148.60 347 i PKPbc PKPbc 00 01 41.6 -0.1
WTTA Wattenberg 148.61 353 i PKP PKPdf 00 01 38.4 +0.3
comp=Z,34nm,1.2s,SNR=127
WTTA i PKP PKiKP 00 01 42.7 -0.6
comp=Z,375nm,0.6s
BERE Bereket-Mersin 148.62 315 eP PKPdf 00 01 38.4 0.0
LODK Lodwar 148.63 249 PKPdf 00 01 39.8 +0.8
LODK PKPab PKiKP 00 01 44.2 -0.1
LODK Lodwar 148.63 249 P PKPdf 00 01 40.1 +1.1
SNR=60
SOKA Soboth 148.64 348 i PKP PKPdf 00 01 37.9 -0.2
comp=Z,26nm,1.2s,SNR=32
SOKA i PKP PKPbc 00 01 42.1 +0.2
comp=Z,169nm,0.9s
PERS Pernice 148.66 348 i PKPdf PKPdf 00 01 37.8 -0.3
PERS i PKPbc PKPbc 00 01 41.8 -0.1
ARMT Armutlu 148.66 326 eP PKPbc 00 01 40.6 -1.5
MMAI Mount Meron Ar 148.67 308 PKPbc PKiKP 00 01 43.3 -0.5
comp=Z,315nm,0.7s,baz=54,slow=5.7,SNR=496
SQTA Sankt Quirin 148.70 353 i PKP PKPdf 00 01 38.3 +0.2
comp=Z,25nm,1.1s,SNR=43
SQTA i PKP PKiKP 00 01 42.8 -0.7
comp=Z,153nm,0.7s
DAVA Damuels 148.76 355 i PKP PKiKP 00 01 43.0 -0.6
comp=Z,244nm,0.7s,SNR=36
HDMB Hadim 148.77 317 eP PKPbc 00 01 42.0 -0.7
MDNY Mudanya-Bursa 148.79 325 eP PKPbc 00 01 40.8 -1.6
EDRB Edirne 148.82 329 eP PKPbc 00 01 42.2 -0.2
EDRB Edirne 148.82 329 P PKPbc 00 01 42.0 -0.4
FRGS Fruska Gora 148.84 341 ⇓P PKPbc 00 01 41.4 -1.0
FRGS Fruska Gora 148.84 341 ⇑P PKPbc 00 01 42.8 +0.4
CRLT Corlu 148.86 327 eP PKPbc 00 01 42.9 +0.4
OBKA Obir 148.89 349 ePKP PKPdf 00 01 38.7 +0.2
comp=Z,14nm,1.2s
OBKA i PKP PKPbc 00 01 42.5 0.0
comp=Z,75nm,0.8s
OBKA Obir 148.89 349 ⇑iP PKPbc 00 01 42.0 -0.6
SEYD Seydisehir-KON 148.94 318 eP PKPbc 00 01 43.4 +0.4
MYKA Terra Mystica 148.94 350 ePKP PKPdf 00 01 38.1 -0.5
comp=Z,13nm,1.1s
MYKA i PKP PKPbc 00 01 42.5 -0.1
comp=Z,139nm,0.6s,SNR=22
FETA Feichten 148.95 354 i PKP PKPdf 00 01 39.1 +0.4
comp=Z,11nm,0.8s,SNR=58
FETA i PKP PKiKP 00 01 43.6 -0.4
comp=Z,189nm,0.9s
LFK Lefkose 148.97 313 eP PKPdf 00 01 38.8 -0.1
ABTA Abfaltersbach 149.00 351 i PKP PKPdf 00 01 38.4 -0.3
comp=Z,32nm,0.9s,SNR=100
ABTA i PKP PKPbc 00 01 42.9 +0.1
comp=Z,287nm,0.7s
SHUT Suhut-Afyon 149.04 321 eP PKPdf 00 01 39.3 +0.3
SSF Saint Saulge 149.06 4 PKIKP PKPdf 00 01 38.6 0.0
TVSB Tavsanli 149.09 323 eP PKPdf 00 01 39.3 +0.3
PRED Cave del Predi 149.13 350 PKPbc PKPbc 00 01 43.0 -0.1
PRED PKPab PKPab 00 01 47.6 -0.3
KCTX Karacabey (Bur 149.15 326 eP PKPbc 00 01 43.3 0.0
MFF Saint Martin d 149.15 8 PKHKP PKPpre 00 01 38.5
BLKB Belogradchik 149.18 336 ⇓P PKPbc 00 01 41.3 -2.0
CLUD Cludinico 149.23 351 PKPbc PKPbc 00 01 43.4 0.0
DAVOX Davos/Dischmat 149.26 355 PKHKP PKPpre 00 01 40.2
DAVOX 00 01 44.6
DAVOX Davos/Dischmat 149.26 355 PKP PKPdf 00 01 40.2 +1.0
comp=Z,293nm,0.6s,baz=293,slow=1.9,SNR=480
DAVOX PKPbc PKiKP 00 01 44.6 -0.1
comp=Z,293nm,0.6s,baz=216,slow=4.8,SNR=199
CSS Mathiatis 149.27 313 eP PKPbc 00 01 43.5 -0.3
CSS Mathiatis 149.27 313 PKPdf 00 01 39.5 +0.2
CSS PKPbc PKiKP 00 01 44.5 -0.4
GAZI Gazipasa 149.29 316 eP PKPbc 00 01 43.0 -0.8
AVF Avril sur Loir 149.32 4 PKHKP PKPpre 00 01 38.6
LJU Ljubljana 149.34 349 i PKPdf PKPdf 00 01 38.8 -0.3
LJU i PKPbc PKPbc 00 01 43.9 +0.3
EDC Edincik 149.36 326 eP PKPbc 00 01 43.1 -0.7
CRES Cresnjev 149.37 347 ⇑iP PKPbc 00 01 43.6 -0.1
FUORN Ofenpass-Fuorn 149.39 354 PKPbc PKiKP 00 01 45.6 +0.5
GEDZ Gediz 149.40 323 eP PKPbc 00 01 44.2 +0.2
UKOP Uzunkopru-Edir 149.42 329 eP PKPbc 00 01 44.4 +0.5
CIMO Cimolais 149.44 351 PKPbc PKPbc 00 01 44.2 +0.4
TEKS Tekeris 149.48 341 ⇑iP PKPbc 00 01 44.1 +0.1
SMF Signal de Mont 149.50 3 PKHKP PKPpre 00 01 39.2
LEF Lefka 149.50 313 eP PKPdf 00 01 39.5 -0.2
ISP Isparta 149.51 320 eP PKPbc 00 01 43.5 -0.9
ISP Isparta 149.51 320 PKPdf PKPdf 00 01 38.9 -0.9
ISP Isparta 149.51 320 c iPKP2 PKPbc 00 01 44.1 -0.3
ISP pmax pmax
comp=Z,170nm,0.6s
BGF Bois d'Agland 149.52 4 PKHKP PKPpre 00 01 39.2
PLD Plovdiv 149.53 332 eP PKPbc 00 01 43.7 -0.5
BOVS Bovan 149.54 337 ⇑P PKPbc 00 01 43.0 -1.1
SABO M.te Sabotino 149.57 350 PKPbc PKPbc 00 01 44.6 +0.4
TUE Stuetta 149.61 356 PKPbc PKiKP 00 01 46.0 +0.5
SIMA Simav-Kutahya 149.62 323 eP PKPbc 00 01 44.3 -0.3
KRBG Karabiga-Canak 149.62 327 eP PKPbc 00 01 44.0 -0.4
CEY Cerknica 149.66 348 ⇑iP PKPbc 00 01 44.7 +0.3
KDZ Kurdzhali 149.66 331 eP PKPdf 00 01 39.3 -0.4
BOJS Bojanci 149.72 347 ⇑iP PKiKP 00 01 45.1 -0.3
BOJS Bojanci 149.72 347 i PKPbc PKiKP 00 01 45.2 -0.2
DIVS Divibare 149.73 340 PKPbc PKiKP 00 01 45.7 0.0
DIVS Divibare 149.73 340 ⇑iP PKiKP 00 01 45.2 -0.5
DOB Doboj 149.74 343 eP PKiKP 00 01 45.5 0.0
BASM Basmaki-Afyon 149.75 321 eP PKPbc 00 01 44.6 -0.3
ERIK Erikli-Kesan 149.82 328 eP PKPbc 00 01 44.6 -0.3
BALB Balikesir 149.85 325 eP PKPbc 00 01 44.8 -0.2
PRIJ Prijedor 149.88 345 ⇑iP PKiKP 00 01 45.5 -0.3
ALN Alexandroupoli 149.89 329 eP PKPbc 00 01 44.0 -1.1
ALN Alexandroupoli 149.89 329 P PKPbc 00 01 43.9 -1.1
LPK Lapseki 149.92 328 eP PKPbc 00 01 45.0 -0.2
SKDS Skadanscina 149.92 349 ⇑iP PKPbc 00 01 44.8 -0.2
RDO Rodhopi 149.94 330 eP PKPbc 00 01 44.1 -1.1
RDO Rodhopi 149.94 330 PKPbc PKPbc 00 01 45.4 +0.3
RDO Rodhopi 149.94 330 P PKPbc 00 01 43.3 -1.9
BLY Banja Luka 149.97 344 ⇑iP PKPbc 00 01 45.5 +0.4
CANM Can-anakkale 150.03 327 eP PKiKP 00 01 46.9 +0.6
GELI Tayfur-Gelibol 150.04 328 eP PKPbc 00 01 44.6 -0.9
HAPS Han Pijesak,Bl 150.07 341 ⇑iP PKiKP 00 01 46.5 +0.1
KORT Korkueli 150.13 319 eP PKPdf 00 01 40.7 -0.1
KULA Kula-Manisa 150.19 323 eP PKPdf 00 01 40.9 +0.1
KULA Kula-Manisa 150.19 323 P PKPbc 00 01 44.6 -1.4
COMU Canakkale 150.27 328 eP PKPbc 00 01 45.8 -0.2
MGRS Mrkonjic Grad 150.31 344 ⇑iP PKiKP 00 01 46.5 -0.2
RUDO Rudo 150.36 340 eP PKPbc 00 01 45.9 -0.3
A050A Klekovaca 150.39 345 ⇑iP PKPbc 00 01 46.2 -0.1
SMTH Samothraki Isl 150.46 329 P PKPbc 00 01 44.6 -1.9
TEOL Teolo 150.47 352 PKPbc PKiKP 00 01 47.0 0.0
SJES Sjenica 150.48 339 ⇑iP PKiKP 00 01 47.3 0.0
APMY Acipayam-Deniz 150.49 321 eP PKPbc 00 01 46.5 -0.2
KAVA Kavala 150.54 331 P PKPbc 00 01 45.9 -0.7
EZN Ezine 150.55 327 eP PKPbc 00 01 46.3 -0.3
EZN Ezine 150.55 327 P PKPbc 00 01 45.9 -0.8
NVR Nevrokopi 150.56 332 P PKPbc 00 01 45.9 -0.8
ELL Elmali 150.56 319 PKPbc PKiKP 00 01 48.1 +0.4
ELL Elmali 150.56 319 PKIKP PKiKP 00 01 48.1 +0.4
RFT1 Sazli 150.70 327 eP PKPbc 00 01 46.7 -0.4
THAS Thassos island 150.75 330 P PKPbc 00 01 47.1 0.0
DKL Dikili 150.79 326 eP PKPbc 00 01 46.8 -0.4
RFT7 Candarli 150.86 325 eP PKPbc 00 01 46.9 -0.5
SRS Serrai 150.87 332 eP PKPbc 00 01 46.0 -1.5
SRS Serrai 150.87 332 P PKPbc 00 01 45.9 -1.5
SSB Saint Sauveur 150.89 2 PKPbc PKiKP 00 01 48.5 +0.6
SSB Saint Sauveur 150.89 2 PKIKP PKiKP 00 01 48.6 +0.6
LFF La Frestale 150.90 8 PKIKP PKPdf 00 01 41.4 -0.1
KOKK Kokkinochori, 150.93 331 P PKPbc 00 01 46.5 -1.0
PRK Paraskevi 151.00 327 P PKPbc 00 01 47.1 -0.6
STIP Stip 151.00 335 i P PKPdf 00 01 41.5 -0.3
NEVS Nevesinje 151.05 342 eP PKPbc 00 01 48.0 +0.2
SKO Skopje 151.06 336 i P PKPdf 00 01 42.2 +0.3
LIA Limnos Island 151.07 329 eP PKPbc 00 01 47.5 -0.4
LIA Limnos Island 151.07 329 P PKPbc 00 01 47.1 -0.8
KSL Kastellorizon 151.14 318 P PKPbc 00 01 47.1 -1.1
KNT Kendrikon 151.14 333 eP PKPbc 00 01 47.4 -0.7
BNI Bardonecchia 151.15 359 PKPbc PKiKP 00 01 49.5 +0.9
BNI Bardonecchia 151.15 359 PKIKP PKiKP 00 01 49.5 +0.9
VAY Valandovo 151.15 334 i P PKPdf 00 01 41.7 -0.4
FETY Fethiye 151.15 319 eP PKPbc 00 01 48.1 -0.1
BLCB Balcova 151.20 324 eP PKPdf 00 01 42.7 +0.5
BLCB Balcova 151.20 324 P PKPbc 00 01 47.1 -1.1
SIGR SIGRI 151.24 327 eP PKPbc 00 01 47.9 -0.4
BRY Bratogost 151.27 341 ⇑iP PKPbc 00 01 48.3 -0.2
ORIF Oris-en-Rattie 151.28 0 PKIKP PKPdf 00 01 42.4 +0.1
DALY Dalyan (Mula) 151.30 320 eP PKPbc 00 01 48.5 0.0
OUR Ouranopolis 151.32 331 eP PKPbc 00 01 47.6 -0.8
OUR Ouranopolis 151.32 331 P PKPbc 00 01 45.9 -2.5
SACV Santiago Islan 151.32 88 PKPab 00 01 58.3 +0.5
VIVF Saint-Julien-l 151.32 2 PKIKP PKPdf 00 01 42.6 +0.3
YER Yerkesik 151.32 321 eP PKPbc 00 01 48.4 -0.2
YER Yerkesik 151.32 321 P PKPbc 00 01 48.4 +1.2
PGAV Gavieira, Arco 151.40 23 ePKPdf PKPdf 00 01 43.1 +0.5
PGAV Gavieira, Arco 151.40 23 ePKPbc PKPbc 00 01 48.7 -0.1
PGAV Gavieira, Arco 151.40 23 ePKPab PKPab 00 01 57.7 +0.3
PDG Podgorica 151.46 339 ⇓P PKPbc 00 01 48.1 -0.6
PDG Podgorica 151.46 339 ⇑iP PKPbc 00 01 48.7 0.0
URLA Izmir 151.46 325 eP PKPbc 00 01 48.7 -0.2
MBDF Montbardon 151.47 359 PKIKP PKPdf 00 01 42.6 0.0
TREB Trebinje 151.50 341 ⇑iP PKPbc 00 01 48.3 -0.5
HORT Hortiatis 151.51 332 P PKPbc 00 01 47.1 -1.9
MLSB Milas 151.52 322 eP PKPdf 00 01 43.3 +0.5
GRG Griva 151.52 334 eP PKPdf 00 01 41.2 -1.5
GRG Griva 151.52 334 P PKPbc 00 01 46.5 -2.5
STON Ston 151.56 342 ⇑iP PKPbc 00 01 48.3 -0.6
GCAM G?zelcaml? 151.56 323 eP PKPbc 00 01 49.0 -0.1
TURN Turunc 151.58 321 eP PKPdf 00 01 43.1 +0.3
HCV Herceg Novi 151.70 341 ⇑iP PKiKP 00 01 49.1 -0.2
DRME Dracevica, Mon 151.70 339 ⇑iP PKiKP 00 01 49.5 -0.2
CHOS Chios island 151.74 326 P PKPbc 00 01 47.1 -2.5
SMG Samos 151.78 324 P PKPbc 00 01 47.5 -2.1
BODT Bodrum 151.95 322 eP PKPdf 00 01 43.0 -0.4
BODT Bodrum 151.95 322 P PKPbc 00 01 48.5 -1.5
PTO Porto 151.99 24 ePKPbc PKiKP 00 01 50.4 +0.1
PTO Porto 151.99 24 ePKPab PKPab 00 02 01.5 +1.8
ARG Arkhangelos 152.01 320 eP PKPdf 00 01 46.3 +2.8
ARG Arkhangelos 152.01 320 PKPbc PKiKP 00 01 50.6 +0.1
ARG Arkhangelos 152.01 320 P PKPbc 00 01 48.9 -1.3
ARG Arkhangelos 152.01 320 PKIKP PKiKP 00 01 50.6 +0.1
DAT Datca 152.01 321 eP PKPbc 00 01 49.4 -0.9
DAT Datca 152.01 321 P PKPbc 00 01 49.0 -1.3
RFTB Kemer-Bodrum 152.04 322 eP PKPbc 00 01 49.9 -0.3
PBRG Braganca 152.09 21 ePKPdf PKPdf 00 01 43.5 0.0
PBRG Braganca 152.09 21 ePKPbc PKiKP 00 01 50.9 +0.4
POLO Lamas de Olo 152.09 23 ePKPdf PKPdf 00 01 45.0 +1.4
POLO Lamas de Olo 152.09 23 ePKPbc PKiKP 00 01 51.3 +0.7
FNA Florina 152.09 335 PKPbc PKPbc 00 01 50.3 0.0
FNA Florina 152.09 335 P PKPbc 00 01 48.9 -1.4
FNA Florina 152.09 335 PKIKP PKPbc 00 01 50.3 0.0
TIR Tirane 152.20 337 ⇑P PKPbc 00 01 49.6 -0.8
TIR Tirane 152.20 337 eP PKiKP 00 01 50.7 0.0
TIR Tirane 152.20 337

PACT	**Alcochete**	**153.88**	**27**	*e*PKPdf	**PKPdf**	**00 01 47.5**	**+1.4**
PACT	**Alcochete**	**153.88**	**27**	*e*PKPbc	**PKiKP**	**00 01 55.3**	**+1.1**
MATE	**Matera**	**153.89**	**342**	⇑P	**PKPbc**	**00 01 52.8**	**-1.3**
MATE	**Matera**	**153.89**	**342**	*e*P	**PKPbc**	**00 01 53.8**	**-0.3**
PMTG	**Montargil**	**153.89**	**26**	*e*PKPdf	**PKPdf**	**00 01 47.1**	**+1.0**
PMTG	**Montargil**	**153.89**	**26**	*e*PKPbc	**PKiKP**	**00 01 54.6**	**+0.3**
PMRV	**Marv??o**	**153.93**	**24**	*e*PKPdf	**PKPdf**	**00 01 47.5**	**+1.3**
PMRV	**Marv??o**	**153.93**	**24**	*e*PKPbc	**PKiKP**	**00 01 55.1**	**+0.7**
PMRV	**Marv??o**	**153.93**	**24**	*e*PKPab	**PKPab**	**00 02 09.0**	**+1.0**
LKD2	**Lefkada island**	**154.07**	**333**	*e*P	**PKiKP**	**00 01 54.7**	**0.0**
PESTR	**Estremoz**	**154.33**	**25**	*e*PKPdf	**PKPdf**	**00 01 47.7**	**+0.9**
PESTR	**Estremoz**	**154.33**	**25**	*e*PKPbc	**PKiKP**	**00 01 55.9**	**+0.7**
PESTR	**Estremoz**	**154.33**	**25**	*e*PKPab	**PKPab**	**00 02 10.0**	**+0.3**
EVO	**Evora**	**154.43**	**26**	*e*PKPdf	**PKPdf**	**00 01 48.3**	**+1.4**
EVO	**Evora**	**154.43**	**26**	*e*PKPbc	**PKiKP**	**00 01 56.5**	**+1.1**
EVO	**Evora**	**154.43**	**26**	*e*PKPab	**PKPab**	**00 02 12.0**	**+1.8**
PNCL	**Nicolau / Gran**	**154.55**	**28**	*e*PKPdf	**PKPdf**	**00 01 48.6**	**+1.5**
PNCL	**Nicolau / Gran**	**154.55**	**28**	*e*PKPbc	**PKiKP**	**00 01 56.6**	**+0.9**
PNCL	**Nicolau / Gran**	**154.55**	**28**	*e*PKPab	**PKPab**	**00 02 12.3**	**+1.6**
IDI	**Anoyia**	**154.59**	**322**	⇓P	**PKPdf**	**00 01 50.0**	**+2.7**
IDI	**Anoyia**	**154.59**	**322**	P	**PKPdf**	**00 01 46.5**	**-0.8**
IDI	**Anoyia**	**154.59**	**322**	PKP	**PKPdf**	**00 01 48.0**	**+0.7**
IDI	comp=Z,44nm,0.9s,baz=203,slow=2.1,SNR=13			PKPbc	**PKiKP**	**00 01 56.7**	**+0.8**
CUC	**Castrocuco**	**154.76**	**342**	PKPdf	**PKPdf**	**00 01 46.9**	**-0.5**
PAB	**San Pablo**	**154.91**	**19**		**PKPdf**	**00 01 48.6**	**+0.9**
PAB				PKPbc	**PKiKP**	**00 01 58.1**	**+1.6**
PAB	**San Pablo**	**154.91**	**19**	PKIKP	**PKPdf**	**00 01 48.6**	**+0.9**
PAB						00 01 58.1	
MESJ	**Messejana**	**154.92**	**28**	*e*PKPdf	**PKPdf**	**00 01 46.4**	**-1.2**
MESJ	**Messejana**	**154.92**	**28**	*e*PKPbc	**PKiKP**	**00 01 57.4**	**+1.0**
MESJ	**Messejana**	**154.92**	**28**	*e*PKPdf	**PKPdf**	**00 01 49.1**	**+1.4**
PBEJ	**Beja**	**154.92**	**27**	*e*PKPdf	**PKPdf**	**00 01 49.6**	**+2.0**
PBEJ	**Beja**	**154.92**	**27**	*e*PKPbc	**PKiKP**	**00 01 57.5**	**+1.1**
ESDC	**Sonseca Array**	**154.92**	**19**	PKP	**PKPdf**	**00 01 48.7**	**+1.1**
ESDC	comp=Z,6.7nm,0.9s,baz=335,slow=2.3,SNR=41			PKPbc	**PKiKP**	**00 01 57.1**	**+0.6**
ESDC	comp=Z,7.1nm,0.7s,baz=328,slow=2.3,SNR=20			PKPab	**PKPab**	**00 02 13.5**	**+1.3**
ESDC	comp=Z,34nm,0.8s,baz=329,slow=3.5,SNR=30			PP	**PP**	**00 05 46.3**	**-1.4**
IMMV	**Iera Moni Meta**	**155.00**	**324**	*e*P	PKPdf	00 01 57.1	+9.3
RODP	**Rodopos**	**155.05**	**324**	*e*P	PKPdf	00 01 58.6	+11
PBAR	**Barrancos**	**155.14**	**25**	*e*PKPdf	**PKPdf**	**00 01 48.9**	**+1.0**
PBAR	**Barrancos**	**155.14**	**25**	*e*PKPbc	PKPdf	00 01 58.0	+10
PBAR	**Barrancos**	**155.14**	**25**	*e*PKPab	**PKPab**	**00 02 14.9**	**+1.7**
MORF	**Marmelete**	**155.16**	**29**	*e*PKPdf	**PKPdf**	**00 01 46.8**	**-1.2**
MORF	**Marmelete**	**155.16**	**29**	*e*PKPbc	**PKPdf**	**00 01 50.2**	**+2.2**
MORF	**Marmelete**	**155.16**	**29**	*e*PKPdf	**PKPdf**	**00 01 49.3**	**+1.2**
PCVE	**Castro Verde**	**155.17**	**28**	*e*PKPdf	**PKPdf**	**00 01 49.5**	**+1.5**
PCVE	**Castro Verde**	**155.17**	**28**	*e*PKPbc	PKPdf	00 01 58.5	+11
PCVE	**Castro Verde**	**155.17**	**28**	*e*PKPab	**PKPab**	**00 02 15.2**	**+1.9**
PFVI	**Vila Bisbo**	**155.21**	**30**	*e*PKPdf	**PKPdf**	**00 01 49.3**	**+1.3**
PFVI	**Vila Bisbo**	**155.21**	**30**	*e*PKPbc	PKPdf	00 01 58.4	+10
PVAQ	**Vaqueiros**	**155.50**	**27**	*e*PKPdf	**PKPdf**	**00 01 51.0**	**+2.6**
PVAQ	**Vaqueiros**	**155.50**	**27**	*e*PKPbc	PKPdf	00 01 58.9	+10
PBDV	**Barranco-do-Ve**	**155.54**	**28**	*e*PKPdf	**PKPdf**	**00 01 50.4**	**+1.9**
VAE	**Valguarnera**	**157.50**	**343**	PKP	**PKPdf**	**00 01 51.9**	**+0.8**
	comp=Z,2.3nm,0.5s,baz=82,slow=7.1,SNR=3.1						
CLTB	**Caltabellotta**	**157.72**	**345**		**PKPdf**	**00 01 51.0**	**-0.4**
KEST	**Kesra**	**160.25**	**352**		**PKPab**	**00 02 36.1**	**+0.7**
KEST	**Kesra**	**160.25**	**352**	PKP	**PKPdf**	**00 01 55.2**	**+0.8**
	comp=Z,11nm,0.9s,baz=330,slow=3.4,SNR=9.2						
KEST				PKPab	**PKPab**	**00 02 35.3**	**-0.1**
	comp=Z,39nm,0.9s,baz=298,slow=2.9,SNR=13						
KEST				PP	**PP**	**00 06 15.1**	**-1.6**
	comp=Z,3.9nm,0.8s,baz=250,slow=4.6,SNR=3.1						
MDT	**Midelt**	**160.73**	**28**	PKP	**PKPdf**	**00 01 56.5**	**+1.5**
	comp=Z,12nm,0.9s,baz=343,slow=1.9,SNR=21						
MDT				PKPab	**PKPab**	**00 02 37.9**	**+0.2**
	comp=Z,12nm,0.8s,baz=18,slow=4.4,SNR=11						
MDT				PP	**PP**	**00 06 23.3**	**+3.5**
	comp=Z,4.0nm,0.8s,baz=335,slow=5.2,SNR=5.1						
LIC	**Lamto**	**165.29**	**131**	⇑*e*PKIKP	**PKPdf**	**00 01 59.7**	**-0.1**
	comp=Z,39nm,0.8s						
TIC	**Toumodi**	**165.57**	**129**	⇑*i*PKIKP	**PKPdf**	**00 01 59.9**	**-0.2**
	comp=Z,3.7nm,0.2s						
KIC	**Kosan Boka**	**165.59**	**131**	⇑*i*PKIKP	**PKPdf**	**00 01 59.9**	**-0.2**
	comp=Z,43nm,1.0s						
DBIC	**Dimbokro**	**165.71**	**130**	PKPab	**PKPab**	**00 03 00.2**	**+0.2**
DBIC	**Dimbokro**	**165.71**	**130**	PKIKP	**PKPdf**	**00 02 00.0**	**-0.2**
DBIC						00 03 01.0	
DBIC	**Dimbokro**	**165.71**	**130**	PKP	**PKPdf**	**00 01 60.0**	**-0.2**
	comp=Z,29nm,1.2s,baz=338,slow=1.7,SNR=7.9						
DBIC				PKPab	**PKPab**	**00 03 01.0**	**+1.1**
	comp=Z,27nm,0.9s,baz=230,slow=5.8,SNR=11						
DBIC				PP	**PP**	**00 06 46.1**	**-0.7**
	comp=Z,7.7nm,1.1s,baz=254,slow=12,SNR=4.5						
TOA0	**Torodi Ar. Sit**	**174.78**	**124**		**PKPdf**	**00 02 04.4**	**-0.8**
TOA0	**Torodi Ar. Sit**	**174.78**	**124**	P	**PKPdf**	**00 02 04.6**	**-0.6**
	SNR=10						
TORD	**Torodi Ar. Bea**	**174.78**	**124**	PKPab	**PKPab**	**00 03 41.1**	**+1.0**
TORD	**Torodi Ar. Bea**	**174.78**	**124**	PKP	**PKPdf**	**00 02 04.5**	**-0.7**
	comp=Z,23nm,1.1s,baz=0.8,slow=2.9,SNR=56						
TORD				PKPab	**PKPab**	**00 03 40.7**	**+0.5**
	comp=Z,8.7nm,0.8s,baz=257,slow=3.1,SNR=11						
TORD				PP	**PP**	**00 07 31.0**	**-1.4**
	comp=Z,4.9nm,1.1s,baz=311,slow=2.5,SNR=7.0						

*IDC **08** 23:42:29.0±1.8, 9.°03S×114.°07E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=104.8km s-min=20.9km az=48.0.*
*DJA **08** 23:42:34.1±0.4, 9.°S±4.°×11.°4E±.°, h10km, M4.1/12, MLv4.1/12*

ISC 08 23:42:31.3±1.0, **9.°18S**±0.°07×**114.°02E**±0.°06, **h10**km, **n19, σ1s70/17, mb3.8/6, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**0.71**	**10**	P	**Pg**	**23 42 45.5**	**+0.5**
JAGI				S	**Sb**	**23 42 54.7**	**-0.9**
IGBI	**Denpasar**	**1.16**	**72**	P	**Pb**	**23 42 54.2**	**+0.7**
DNP	**Denpasar**	**1.27**	**67**	P	**Pg**	**23 42 57.3**	**+1.6**
ABJI	**Asem Bagus**	**1.39**	**9**	P	**Pb**	**23 42 58.4**	**+1.1**
BLJI	**Banyuglugur**	**1.48**	**343**	P	**Pb**	**23 43 00.0**	**+1.1**
SRBI	**Singaraja**	**1.60**	**47**	P	**Pn**	**23 43 01.1**	**+1.5**
KMMI	**Kalianget**	**2.11**	**358**	P	**Pn**	**23 43 08.5**	**+1.8**
TWSI	**Taliwang, Sumb**	**2.86**	**81**	P	**Pn**	**23 43 17.6**	**+0.7**
UGM	**Wanagama**	**3.68**	**290**	P	**Pn**	**23 43 31.4**	**+3.1**
PLAI	**Plampang**	**3.72**	**85**	P	**Pn**	**23 43 31.4**	**+2.5**
WRA	**Warramunga Arr**	**22.36**	**121**	P	**P**	**23 47 29.8**	**0.0**
	0.6nm,0.6s,baz=294,slow=12,SNR=4.6 0.6nm,0.6s						
ASAR	**Alice Springs**	**23.85**	**130**	P	**P**	**23 47 44.7**	**-0.3**
	0.5nm,0.4s,baz=301,slow=8.9,SNR=10 0.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**31.23**	**332**	P	**P**	**23 48 51.6**	**+0.3**
	0.8nm,0.3s,baz=166,slow=8.7,SNR=4.5 0.8nm,0.3s						
H08S2	**Diego Garcia H**	**41.10**	**269**	T	T	00 34 00.2	
	baz=95,slow=76,SNR=5.8						
H08S3	**Diego Garcia H**	**41.11**	**269**	T	T	00 34 01.5	
	baz=95,slow=76,SNR=9.4						
H08S1	**Diego Carcia H**	**41.12**	**269**	T	T	00 34 02.0	
	baz=95,slow=76,SNR=3.5						
SONM	**Songino Array**	**57.16**	**354**	P	**P**	**23 52 15.9**	**-2.5**
	0.3nm,0.4s,baz=171,slow=9.5,SNR=2.5 0.3nm,0.4s						
MKAR	**Makanchi Array**	**62.49**	**336**	P	**P**	**23 52 53.0**	**-2.0**
	0.7nm,0.6s,baz=149,slow=7.3,SNR=7.7 0.7nm,0.6s						
BRTR	**Keskin Array B**	**88.49**	**310**	P	**P**	**23 55 23.1**	**-1.3**
	0.7nm,0.8s,baz=110,slow=6.7,SNR=4.4 0.7nm,0.8s						

*IDC **09** 00:05:27.8±30.0, 22.°05S×176.°46W, h189km±222km, mb3.4/3, mbtmp3.9/3, Error ellipse: s-maj=306.9km s-min=60.8km az=139.0*

ISC 09 00:05:25.2±6.4, **22.°S**±2.°×**176.°W**±.°, **h171**km, **n6**, **σ1s72/6, mb3.6/3, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.62**	**258**	P	**P**	**00 13 30.0**	**+1.3**
	1.5nm,0.8s,baz=95,slow=7.5,SNR=15 1.5nm,0.8s						
WRA	**Warramunga Arr**	**45.88**	**263**	P	**P**	**00 13 30.5**	**-0.3**
	0.8nm,0.6s,baz=100,slow=8.4,SNR=7.4 0.8nm,0.6s						
ILAR	**Eielson Array**	**89.68**	**12**	P	**P**	**00 18 04.6**	**+1.4**
	1.1nm,1.2s,baz=216,slow=5.3,SNR=4.1 1.1nm,1.2s						
AKASG	**Malin Array Be**	**145.26**	**331**	PKPbc	**PKPbc**	**00 24 40.5**	**-1.8**
	1.2nm,0.4s,baz=46,slow=3.9,SNR=8.8						
BRTR	**Keskin Array B**	**149.12**	**311**	PKPbc	**PKPbc**	**00 24 52.4**	**-1.2**
	0.4nm,0.6s,baz=62,slow=3.4,SNR=2.4						
MMAI	**Mount Meron Ar**	**149.98**	**298**	PKPbc	**PKPbc**	**00 24 55.2**	**-0.6**
	0.4nm,0.5s,baz=74,slow=6.4,SNR=5.8						

IDC 09 01:11:51.9±1.8, **15.°28S×166.°29E, h0km, mb3.7/4, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=43.3km s-min=29.7km az=98.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.76**	**179**	Pn	Pn	01 13 31.4	-1.1
	2.5nm,0.3s,baz=16,slow=19,SNR=21						
DZM				Sn	Sn	01 14 54.1	+3.8
	1.0nm,0.3s,baz=314,slow=20,SNR=1.7 8.5nm,0.3s						
WRA	**Warramunga Arr**	**30.77**	**257**	P	P	01 18 09.1	-0.3
	0.2nm,0.5s,baz=86,slow=9.0,SNR=2.7 0.2nm,0.5s						
ASAR	**Alice Springs**	**31.59**	**250**	P	P	01 18 16.0	-0.6
	0.3nm,0.4s,baz=73,slow=9.2,SNR=6.2 0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**74.31**	**295**	P	P	01 23 32.9	+1.1
	0.8nm,0.3s,baz=125,slow=4.3,SNR=4.5 0.8nm,0.3s						
ILAR	**Eielson Array**	**87.34**	**18**	P	P	01 24 40.0	-0.4
	0.4nm,0.8s,baz=226,slow=4.9,SNR=4.3 0.4nm,0.8s						

*IDC **09** 01:15:20.3±1.3, 15.°68S×167.°83E, h121km±10km, mb4.6/21, mbtmp4.9/22, MS3.4/13, Error ellipse: s-maj=15.0km s-min=10.2km az=87.0*
*NOU **09** 01:15:21.0, 15.°60S×167.°68E, h130km, MLv5.0/13, Vanuatu Islands*
*GCMT **09** 01:15:21.1±0.4, 15.°68S±0.°03×167.°76E±0.°03, h128km±4km, MW5.0/91, Moment Tensor Solution. s20,c21; s91,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.93±.14; $M_{\theta\theta}$1.52±.20; $M_{\phi\phi}$-4.45±.20; $M_{r\theta}$-0.64±.13; $M_{\theta\phi}$0.93±.27; $M_{\phi r}$-1.36±.15; Best double couple: M_o4.14800×10^{16} NP1:ϕ_s192.00000°, δ58.00000°, λ118.00000°. NP2: ϕ_s327.00000°, δ41.00000°, λ53.00000°. Principal axes: T 3.5000, Plg64.0000°, Azm153.0000°; N 1.2950, Plg24.0000°, Azm357.0000°; P -4.7950, Plg9.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **09** 01:15:22.2, 15.°11S×167.°87E, h134km, mb5.1/63, mB5.2/34*
*NEIC **09** 01:15:22.1±1.5, 15.°69S±0.°09×167.°8E±0.°1, h133km±5km, mb4.8/85, Error ellipse: s-maj=17.4km s-min=13.6km az=93.0*

ISC 09 01:15:21.9±0.4, **15.°68S**±0.°05×**167.°78E**±0.°06, **h138**km±2km, **h138**km:**pP-P, n374, σ1s21/398, mb4.9/89, 30C-39D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.07**	**169**	P	**Pn**	**01 15 57.3**	**+0.2**
DVP	**Devils Point**	**2.07**	**169**	P	**Pn**	**01 15 57.7**	**+0.6**
RTV	**Rentapao**	**2.19**	**164**	P	**Pn**	**01 15 58.6**	**0.0**
LIFNC	**LIFOU**	**5.09**	**186**	Pn	**Pn**	**01 16 35.1**	**-1.2**
LIFNC	**LIFOU**	**5.09**	**186**	P	**Pn**	**01 16 35.5**	**-0.8**
MARNC	**Mare, Loyalty**	**5.77**	**178**		**Pn**	**01 16 44.1**	**-1.3**
MARNC	**Mare, Loyalty**	**5.77**	**178**	P	**Pn**	**01 16 44.7**	**-0.7**
KOUNC	**Koumac, New Ca**	**5.87**	**214**	Pn	**Pn**	**01 16 47.1**	**+0.4**
KOUNC	**Koumac, New Ca**	**5.87**	**214**	P	**Pn**	**01 16 47.4**	**+0.7**
KOUNC	**Koumac, New Ca**	**5.87**	**214**	P	**Pn**	**01 16 46.2**	**-0.5**
DZM	**Mont Dzumac**	**6.48**	**191**	Pn	**Pn**	**01 16 56.0**	**+1.0**
DZM	**Mont Dzumac**	**6.48**	**191**	P	**Pn**	**01 16 55.5**	**+0.5**
DZM	**Mont Dzumac**	**6.48**	**191**	P	**Pn**	**01 16 55.1**	**+0.1**
DZM	**Mont Dzumac**	**6.48**	**191**	P	**Pn**	**01 16 55.2**	**+0.2**
	147nm,0.8s,baz=52,slow=18,SNR=54						
DZM				S	**Sn**	**01 18 06.8**	**-1.0**
	62nm,0.6s,baz=122,slow=20,SNR=2.5						
DZM				LR	LR	01 18 14.4	
	comp=Z,157nm,21.8s,baz=67,slow=27						
NOUC	**Port Laguerre**	**6.53**	**192**	P	**Pn**	**01 16 57.3**	**+1.7**
NOUC	**Port Laguerre**	**6.53**	**192**	P	**Pn**	**01 16 56.5**	**+0.9**
ONTNC	**Ouen Toro**	**6.71**	**191**	Pn	**Pn**	**01 16 59.3**	**+1.4**
ONTNC	**Ouen Toro**	**6.71**	**191**	P	**Pn**	**01 16 59.9**	**+1.9**
ONTNC	**Ouen Toro**	**6.71**	**191**	P	**Pn**	**01 16 58.8**	**+0.8**
OUENC	**Ouen Island, N**	**6.76**	**187**	Pn	**Pn**	**01 16 59.9**	**+1.3**
OUENC	**Ouen Island, N**	**6.76**	**187**	P	**Pn**	**01 17 00.0**	**+1.3**
PINNC	**Pines Island,**	**6.90**	**183**		**Pn**	**01 17 00.7**	**+0.2**
PINNC	**Pines Island,**	**6.90**	**183**	P	**Pn**	**01 17 01.2**	**+0.7**
HNR	**Honiara**	**9.85**	**308**	P	**Pn**	**01 17 40.2**	**0.0**
	4μm,0.8s,baz=205,slow=5.2,SNR=7.5						
HNR				S	**Sn**	**01 19 29.4**	**+0.2**
	2μm,0.7s,baz=65,slow=17,SNR=2.0						
HNR				LR	LR	01 21 12.4	
	comp=Z,8μm,21.6s,baz=148,slow=36						
EIDS	**Eidsvold**	**18.35**	**236**	P	**Pn**	**01 19 27.3**	**-0.2**
EIDS	**Eidsvold**	**18.35**	**236**	P	**Pn**	**01 19 28.3**	**+0.7**
AUAYR	**Ayr State High**	**19.79**	**256**	P	**Pn**	**01 19 43.8**	**-0.7**
ARMA	**Armidale**	**20.84**	**222**	P	**P**	**01 19 52.9**	**0.0**
ARMA				IAmb	IAmb	01 20 06.0	
	comp=Z,39nm,1.4s						
ARMA	**Armidale**	**20.84**	**222**	P	**P**	**01 19 54.1**	**+1.2**
CTA	**Charters Tower**	**20.94**	**255**	P	**P**	**01 19 55.0**	**+1.0**
CTA	**Charters Tower**	**20.94**	**255**	P	**P**	**01 19 54.6**	**+0.7**
	comp=Z,12nm,0.7s,baz=86,slow=11,SNR=8.9 comp=Z,12nm,0.7s						
CTAO	**Charters Tower**	**20.94**	**255**	P	**P**	**01 19 54.2**	**+0.2**
CTAO				IAmb	IAmb	01 20 01.7	
	comp=Z,27nm,0.8s						
CTAO	**Charters Tower**	**20.94**	**255**	P	**P**	**01 19 55.0**	**+1.0**
PMG	**Port Moresby**	**21.06**	**285**	P	**P**	**01 19 54.9**	**-0.4**
PMG				IAmb	IAmb	01 20 11.9	
	comp=Z,44nm,0.9s						
PMG	**Port Moresby**	**21.06**	**285**	P	**P**	**01 19 56.2**	**+1.0**
PMG	**Port Moresby**	**21.06**	**285**	P	**P**	**01 19 56.3**	**+1.0**
PMG	**Port Moresby**	**21.06**	**285**	P	**P**	**01 19 56.1**	**+1.0**
	comp=Z,45nm,0.9s,baz=105,slow=7.9,SNR=14 comp=Z,45nm,0.9s						
TOZ	**Tahuroa Road**	**23.00**	**164**	P	**P**	**01 20 15.5**	**+0.8**
TOZ				IAmb	IAmb	01 20 18.5	
	comp=Z,50nm,1.0s						
COEN	**Coen**	**23.84**	**271**	P	**P**	**01 20 23.0**	**+0.4**
COEN				IAmb	IAmb	01 20 25.0	
	comp=Z,28nm,0.8s						
COEN	**Coen**	**23.84**	**271**	P	**P**	**01 20 23.2**	**+0.6**
URZ	**Urewera**	**23.95**	**162**	LR	LR	01 28 53.3	
	comp=Z,54nm,18.3s,baz=224,slow=34						
AUDCS	**Dubbo College**	**23.96**	**223**	P	**P**	**01 20 25.1**	**+1.5**
QLP	**Quilpie**	**24.45**	**240**	P	**P**	**01 20 29.9**	**+1.9**
BKZ	**Black Stump Fm**	**24.61**	**164**	P	**P**	**01 20 30.9**	**+1.5**
QRZ	**Quartz Range**	**25.39**	**172**	P	**P**	**01 20 38.4**	**+2.0**
CNB	**Canberra Magne**	**25.57**	**217**	P	**P**	**01 20 39.8**	**+1.6**
CMSA	**Cobar Meteorol**	**25.58**	**228**	P	**P**	**01 20 39.2**	**+0.9**
CAN	**Canberra**	**25.79**	**217**	P	**P**	**01 20 40.5**	**+0.4**
CAN				IAmb	IAmb	01 20 41.6	
	comp=Z,22nm,1.2s						
QIS	**Mount Isa**	**27.19**	**256**	P	**P**	**01 20 54.1**	**+1.3**
LTZ	**Lake Taylor**	**27.28**	**173**	P	**P**	**01 20 54.2**	**+0.8**
INKA	**Innaminka**	**27.76**	**240**	P	**P**	**01 20 59.9**	**+2.1**
RPZ	**Rata Peaks**	**28.08**	**175**	LR	LR	01 31 19.1	
	comp=Z,84nm,18.4s,baz=267,slow=34						
STKA	**Stephens Creek**	**28.77**	**231**	P	**P**	**01 21 06.9**	**+0.2**
STKA				PcP	**PcP**	**01 24 13.0**	**-0.4**
STKA	**Stephens Creek**	**28.77**	**231**	P	**P**	**01 21 08.6**	**+1.9**
STKA	**Stephens Creek**	**28.77**	**231**	P	**P**	**01 21 07.4**	**+0.7**
	comp=Z,10nm,0.8s,baz=40,slow=8.7,SNR=14						
STKA				PcP	**PcP**	**01 24 13.9**	**+0.5**
	comp=Z,9.6nm,0.9s,baz=360,slow=3.2,SNR=8.1						
STKA				LR	LR	01 32 42.1	
	comp=Z,80nm,19.3s,baz=108,slow=36 comp=Z,10nm,0.8s						
TOO	**Toolangi**	**29.39**	**218**	P	**P**	**01 21 12.9**	**+0.7**
TOO				IAmb	IAmb	01 21 15.1	
	comp=Z,23nm,1.1s						
TOO	**Toolangi**	**29.39**	**218**	P	**P**	**01 21 15.0**	**+2.8**
LCRK	**Leigh Creek**	**30.79**	**236**	P	**P**	**01 21 27.0**	**+2.4**
HTT	**Hallett**	**31.48**	**231**	P	**P**	**01 21 31.6**	**+0.9**
SMPI	**Sarmi**	**31.71**	**293**	P	**P**	**01 21 31.0**	**-1.8**
	comp=Z,32nm,0.9s,comp=Z,6μm						
WR0	**Warramunga Arr**	**31.89**	**257**	P	**P**	**01 21 33.4**	**-1.0**
	comp=Z,11nm,0.6s						
WB0	**Warramunga Arr**	**32.03**	**258**	IAmb	IAmb	01 21 37.7	
OOD	**Oodnadatta**	**32.05**	**242**	P	**P**	**01 21 36.9**	**+1.2**
WB2	**Warramunga Arr**	**32.07**	**257**	P	**P**	**01 21 34.8**	**-1.2**
WB2				IAmb	IAmb	01 21 46.2	
	comp=Z,13nm,1.1s						
WB2				PcP	**PcP**	**01 24 22.1**	**-0.3**
WRA	**Warramunga Arr**	**32.08**	**257**	P	**P**	**01 21 34.7**	**-1.3**
WRA				PcP	**PcP**	**01 24 21.8**	**-0.6**
WRA	**Warramunga Arr**	**32.08**	**257**	P	**P**	**01 21 34.8**	**-1.3**
	comp=Z,4.7nm,0.6s,baz=85,slow=8.8,SNR=34						
WRA				PcP	**PcP**	**01 24 22.6**	**+0.2**
	comp=Z,5.1nm,0.8s,baz=86,slow=2.6,SNR=15						
WRA				S	**S**	**01 26 32.3**	**-6.0**
	comp=Z,1.9nm,0.8s,baz=82,slow=14,SNR=7.9						
WRA				ScP	**ScP**	**01 27 55.7**	**+2.5**
	comp=Z,1.4nm,0.8s,baz=82,slow=3.4,SNR=6.5						
WRA				PKiKP	**PKiKP**	**01 31 48.6**	**-1.9**
	comp=Z,1.2nm,0.7s,baz=90,slow=0.8,SNR=11 comp=Z,4.7nm,0.6s						
AS31	**Alice Springs**	**32.80**	**251**	P	**P**	**01 21 41.8**	**-0.5**
ASAR	**Alice Springs**	**32.81**	**251**	P	**P**	**01 21 41.5**	**-0.8**
ASAR				PcP	**PcP**	**01 24 23.8**	**-0.5**
ASAR	**Alice Springs**	**32.81**	**251**	P	**P**	**01 21 41.8**	**-0.6**
	comp=Z,12nm,0.6s,baz=79,slow=9.1,SNR=81						
ASAR				PcP	**PcP**	**01 24 24.5**	**+0.1**
	comp=Z,5.6nm,0.7s,baz=87,slow=2.7,SNR=13						
ASAR				S	**S**	**01 26 46.4**	**-3.1**
	comp=Z,0.3nm,0.5s,baz=59,slow=4.2,SNR=4.8						
ASAR				ScP	**ScP**	**01 27 57.3**	**+1.5**
	comp=Z,2.5nm,0.8s,baz=78,slow=3.2,SNR=11						
ASAR				PKiKP	**PKiKP**	**01 31 49.2**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=107,slow=1.3,SNR=7.4						
ASAR				LR	LR	01 35 10.8	
	comp=Z,147nm,18.2s,baz=93,slow=36 comp=Z,12nm,0.6s						
BBOO	**Buckleboo**	**33.40**	**234**	P	**P**	**01 21 47.3**	**-0.1**
BBOO				IAmb	IAmb	01 21 48.8	
	comp=Z,20nm,0.9s						
BBOO	**Buckleboo**	**33.40**	**234**	P	**P**	**01 21 48.2**	**+0.8**
MULG	**Mulgathing**	**34.12**	**239**	P	**P**	**01 21 54.0**	**+0.3**
KNRA	**Kununurra**	**37.53**	**265**	P	**P**	**01 22 22.2**	**-0.6**
KNRA	**Kununurra**	**37.53**	**265**	P	**P**	**01 22 22.6**	**-0.2**
WRKA	**Warakurna**	**38.05**	**249**	P	**P**	**01 22 27.1**	**-0.1**
FORT	**Forrest**	**39.24**	**240**	P	**P**	**01 22 36.7**	**-0.4**
FORT	**Forrest**	**39.24**	**240**	P	**P**	**01 22 38.5**	**+1.5**
FITZ	**Fitzroy Crossi**	**40.33**	**260**	P	**P**	**01 22 46.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**40.33**	**260**	P	**P**	**01 22 46.6**	**+0.4**
BATI	**Baumata**	**43.28**	**272**	LR	LR	01 41 22.8	
	comp=Z,117nm,18.6s,baz=132,slow=36						
SANI	**Sanana**	**43.34**	**284**	P	**P**	**01 23 10.4**	**-0.3**
	comp=Z,28nm,0.8s						
KMBL	**Kambalda**	**44.55**	**241**	P	**P**	**01 23 20.4**	**+0.2**
EDFI	**Ende, Flores**	**45.49**	**273**	P	**P**	**01 23 27.2**	**-0.7**
	comp=Z,17nm,0.9s						
PSA00	**Pilbara Seismi**	**45.66**	**255**	P	**P**	**01 23 28.6**	**-0.5**
MBWA	**Marble Bar**	**45.77**	**256**	P	**P**	**01 23 30.0**	**+0.1**
MBWA				IAmb	IAmb

comp=Z,33nm,0.9s
ENH Enshi 72.35 309 P P 01 26 33.2 +0.2
LYN LuoYang 72.49 315 ⇑*iP* **P 01 26 34.6 +0.9**
LYN pmax pmax
comp=Z,91nm,0.9s
HNS HongShan 72.64 318 ⇑P **P 01 26 35.4 +1.0**
HNS pP **pP 01 27 12.1 +4.0**
HNS pmax pmax
comp=Z,40nm,0.9s
BJT Baijiatuau 73.30 321 P P 01 26 38.6 +0.2
BJT IAmb IAmb 01 26 40.2
comp=Z,23nm,0.7s
BJT Baijiatuau 73.30 321 P P 01 26 39.2 +0.9
BJI Beijing 73.31 321 P P 01 26 39.0 +0.6
BJI pmax pmax
comp=Z,16nm,0.8s
MLSI Meulaboh, Aceh 73.32 279 P P 01 26 38.9 -0.1
TIY Taiyuan 74.29 317 P P 01 26 45.9 +1.6
TIY pmax pmax
comp=Z,51nm,0.6s
QSPA South Pole Qui 74.35 180 P P 01 26 45.0 +0.8
QSPA South Pole Qui 74.35 180 P P 01 26 45.1 +0.8
comp=Z,62nm,0.8s,baz=8.0,slow=1.6,SNR=157
comp=Z,62nm,0.8s
HEH HeiHe 74.62 334 *eP* **P 01 26 45.9 +0.1**
HEH pmax pmax
comp=Z,24nm,0.8s
HEH pmax pmax
comp=Z,260nm,4.9s
XAN Xi'an 74.69 313 ⇑P **P 01 26 47.3 +0.7**
XAN pP pwP 01 27 22.3 +2.0
XAN pmax pmax
comp=Z,45nm,0.8s
CRAI Chiangrai 75.21 296 P P 01 26 50.6 +0.7
CRAI IAmb IAmb 01 26 51.9
comp=Z,22nm,0.9s
KMI Kunming 75.22 302 ⇑P **P 01 26 51.4 +1.3**
KMI pmax pmax
comp=Z,25nm,0.8s
XLT XiLinHaoTe 75.76 324 ⇑*iP* **P 01 26 53.7 +1.1**
XLT pmax pmax
comp=Z,55nm,0.8s
XLT pmax pmax
comp=Z,140nm,3.6s
CMAR Chiang Mai Arr 75.78 294 P P 01 26 53.8 +0.7
CMAR Chiang Mai Arr 75.78 294 P P 01 26 54.7 +1.6
comp=Z,9.9nm,0.8s,baz=133,slow=4.5,SNR=42
CMAR LR LR 01 58 53.1
comp=Z,11nm,21.9s,baz=335,slow=34
comp=Z,9.9nm,0.8s
CHTO Chiang Mai 75.92 294 P P 01 26 54.9 +1.0
MA2 Magadan 76.26 351 LR LR 01 52 55.1
comp=Z,25nm,21.5s,baz=30,slow=30
PZH PanZhiHua 76.62 303 P P 01 26 58.1 +0.2
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,4.2s
HHC Hu-ho-hao-te 76.63 320 *eP* **P 01 26 59.1 +1.5**
HHC pmax pmax
comp=Z,55nm,1.3s
HHC pmax pmax
comp=Z,130nm,5.1s
HIA Hailar 77.35 330 P P 01 27 01.0 -0.3
HIA IAmb IAmb 01 27 02.9
comp=Z,23nm,0.9s
HIA Hailar 77.35 330 P P 01 27 02.2 +0.9
BTO Baotou 77.46 319 *eP* **P 01 27 04.2 +2.0**
BTO pP **pP 01 27 35.1 -1.2**
BTO sP **sP 01 27 49.8 -1.1**
BTO PP **PP 01 29 59.8 +0.8**
BTO S **S 01 36 43.3 +1.4**
BTO pmax pmax
comp=Z,26nm,0.7s
BTO pmax pmax
comp=Z,320nm,4.8s
BTO LR LR
comp=Z,340nm,8.8s
BTO LR LR
comp=Z,440nm,6.7s
BTO LR LR
comp=Z,330nm,5.3s
LZH Lanzhou 79.32 312 *eP* **P 01 27 14.5 +1.9**
LZH pP pP 01 27 48.7 +1.9
LZH sP sP 01 28 07.3 +6.0
LZH pmax pmax
comp=Z,46nm,1.0s
MAW Mawson 81.19 202 P P 01 27 22.3 +0.5
MAW Mawson 81.19 202 P P 01 27 22.7 +0.8
comp=Z,18nm,1.1s,baz=89,slow=8.9,SNR=12
comp=Z,18nm,1.1s
K17K Iditarod 82.53 15 IAmb IAmb 01 27 34.0
comp=Z,39nm,1.5s
L19K White Mountain 83.00 17 IAmb IAmb 01 27 34.1
comp=Z,29nm,1.7s
YAK Yakutsk 83.08 343 P P 01 27 32.5 +0.9
ULN Ulaanbaatar 83.19 324 P P 01 27 33.0 +0.2
TTA Tatalina 83.30 16 IAmb IAmb 01 27 34.7
comp=Z,28nm,1.6s
TTA Tatalina 83.30 16 P P 01 27 33.5 +0.6
SONM Songino Array 83.55 323 P P 01 27 34.6 0.0
SONM Songino Array 83.55 323 P P 01 27 35.2 +0.6
comp=Z,27nm,0.8s,baz=143,slow=5.6,SNR=88
comp=Z,27nm,0.8s
SUA Susitna One 83.63 19 IAmb IAmb 01 27 37.0
comp=Z,22nm,1.1s
RC01 Rabbit Creek A 83.66 19 IAmb IAmb 01 27 36.9
comp=Z,34nm,1.3s
GTA Gaotai 83.68 314 ⇑P **P 01 27 36.3 +0.9**
GTA pP pwP 01 28 13.0 +0.7
GTA pmax pmax
comp=Z,28nm,1.3s
K20K Telida 84.16 16 IAmb IAmb 01 27 38.9
comp=Z,16nm,1.3s
PMR Palmer 84.23 19 IAmb IAmb 01 27 38.6
comp=Z,111nm,1.0s
J19K Poorman 84.27 15 P P 01 27 39.0 +1.3
SHL Shillong 84.45 298 P P 01 27 39.1 -0.6
CAST Castle Rocks 84.76 17 P P 01 27 39.4 -0.8
CAST IAmb IAmb 01 27 50.5
comp=Z,7.7nm,0.7s
J20K Nowinta River 84.80 16 IAmb IAmb 01 27 44.8
comp=Z,31nm,1.9s
H19K Roundabout Mou 85.34 14 IAmb IAmb 01 27 45.4
comp=Z,13nm,1.1s
G19K Purcell Mounta 85.70 14 IAmb IAmb 01 27 57.0
comp=Z,10nm,0.9s
BELA Belgrano 2 85.74 175 P P 01 27 44.5 -0.5
YBH Yreka Blue Hor 85.75 45 P P 01 27 46.1 +0.4
AFDM Forest Hills D 85.80 48 P P 01 27 46.4 +0.4
AFDM IAmb IAmb 01 27 48.0
comp=Z,16nm,1.6s
CMB Columbia Colle 85.86 49 P P 01 27 46.9 +0.6
F19K Shaleruckik Mo 86.13 13 IAmb IAmb 01 27 58.0
comp=Z,9.3nm,0.9s
I21K Tanana 86.17 16 IAmb IAmb 01 27 49.9
comp=Z,9.8nm,1.0s
ISA Isabella, Lake 86.36 52 P P 01 27 49.9 +1.1
WAKR Walker 86.73 49 IAmb IAmb 01 27 57.8
comp=Z,19nm,1.8s
E19K Redstone River 86.77 13 IAmb IAmb 01 27 52.7
comp=Z,17nm,1.2s
PNTR Pine Nut 86.84 48 P P 01 27 52.2 +0.9
MDM Murphy Dome 87.03 17 P P 01 27 51.1 -0.2
MDM IAmb IAmb 01 27 51.9
comp=Z,9.2nm,1.1s
COLA College 87.07 17 P P 01 27 51.3 -0.2
ILAR Eielson Array 87.28 18 P P 01 27 51.6 -0.9
ILAR Eielson Array 87.28 18 P P 01 27 51.1 -1.4
comp=Z,3.4nm,0.7s,baz=238,slow=5.2,SNR=48
ILAR LR LR 02 02 44.9
comp=Z,46nm,18.9s,baz=272,slow=33
comp=Z,3.4nm,0.7s
RYN Ryan 87.44 49 P P 01 27 54.3 +0.2
RYN IAmb IAmb 01 27 56.1
comp=Z,21nm,1.9s
NVAR Mina Array Bea 87.52 49 P P 01 27 55.5 +0.9
NVAR pP **pP 01 28 27.9 -1.6**
NVAR Mina Array Bea 87.52 49 P P 01 27 56.0 +1.4
comp=Z,1.0nm,0.6s,baz=229,slow=7.9,SNR=11
NVAR PKKPbc **PKKPbc 01 45 45.0 +0.7**
comp=Z,0.5nm,0.7s,baz=77,slow=3.1,SNR=4.8
comp=Z,1.0nm,0.6s
J25K Salcha River, 87.62 18 IAmb IAmb 01 27 55.3
comp=Z,14nm,1.3s
KVN Kaiserville 87.90 49 IAmb IAmb 01 27 58.3
comp=Z,16nm,1.7s
E21K Killik River 88.28 13 IAmb IAmb 01 28 08.7
comp=Z,6.6nm,1.1s
B21K Ikpikpuk River 89.10 12 IAmb IAmb 01 28 03.7
comp=Z,6.0nm,0.8s
ELIB Princess Elisa 89.37 190 *dP* **P 01 28 02.8 +0.1**
comp=Z,15nm,1.0s
PRN Pahroc Range 89.55 51 P P 01 28 03.7 -0.3
PRN IAmb IAmb 01 28 14.0
comp=Z,16nm,1.9s
PRN pP **pP 01 28 38.0 -1.2**
TIXI Tiksi 91.00 349 P P 01 28 09.7 -0.1
TIXI IAmb IAmb 01 28 10.2
comp=Z,12nm,1.1s
TROLL Troll, Antarti 91.95 185 ⇑P **P 01 28 14.8 +0.2**
comp=Z,2µm,0.8s
SNAA Sanae 92.63 183 P P 01 28 17.3 -0.3
SNAA Sanae 92.63 183 ⇑P **P 01 28 17.4 -0.3**
comp=Z,380nm,0.6s
SNAA Sanae 92.63 183 P P 01 28 17.4 -0.3
comp=Z,16nm,0.7s,baz=198,slow=4.3,SNR=60
comp=Z,16nm,0.7s
VNA3 Neumayer Olymp 93.27 181 ⇑P **P 01 28 20.1 -0.5**
comp=Z,38nm,0.7s
VNA2 Neumayer--Watz 93.55 182 ⇑P **P 01 28 21.6 -0.2**
comp=Z,36nm,0.6s,baz=185,slow=5.0
WMQ Urumqi 93.74 314 *eP* **P 01 28 24.0 +0.8**
WMQ sP sP 01 29 15.3 +3.1
WMQ pmax pmax
comp=Z,19nm,0.7s
VNA1 Neumayer--Stat 93.84 181 ⇑P **P 01 28 22.8 -0.3**
comp=Z,26nm,0.9s
PDAR Pinedale Array 95.23 47 PKKPbc PKKPbc 01 45 22.2 -2.6
comp=Z,0.7nm,0.9s,baz=69,slow=4.9,SNR=3.7
TXAR Lajitas Array 96.30 61 P P 01 28 34.9 -0.4
comp=Z,0.3nm,0.6s,baz=229,slow=5.5,SNR=4.4
comp=Z,0.3nm,0.6s
A36M Sachs Harbour 97.94 17 P Pdif 01 28 42.3 +0.7
A36M IAmb IAmb 01 28 43.5
comp=Z,3.5nm,0.8s
YKA Yellowknife Ar 98.17 27 P P 01 28 42.6 -0.1
YKA Yellowknife Ar 98.17 27 P P 01 28 42.1 -0.6
comp=Z,2.6nm,0.9s,baz=258,slow=4.8,SNR=23
YKA PKKPbc **PKKPbc 01 45 13.4 -3.9**
comp=Z,0.6nm,0.8s,baz=61,slow=2.6,SNR=6.7
comp=Z,2.6nm,0.9s
MKAR Makanchi Array 98.23 316 P Pdif 01 28 43.7 +0.2
MKAR Makanchi Array 98.23 316 P P 01 28 43.2 -0.3
comp=Z,2.6nm,0.8s,baz=91,slow=5.7,SNR=13
MKAR PKiKP **PKiKP 01 33 15.4 -0.1**
comp=Z,1.0nm,0.7s,baz=190,slow=0.8,SNR=7.0
comp=Z,2.6nm,0.8s
ZAA0 Zalesovo Array 98.45 324 P P 01 28 43.8 -0.4
ZALV Zalesovo Beam 98.45 324 P P 01 28 42.7 -1.5
ZALV Zalesovo Beam 98.45 324 P P 01 28 43.8 -0.4
comp=Z,7.2nm,0.8s,baz=113,slow=4.5,SNR=33
comp=Z,7.2nm,0.8s
KURBB Kurchatov Arra 101.48 319 P Pdif 01 28 58.0 +0.2
comp=Z,0.8nm,0.7s,baz=99,slow=4.3,SNR=7.5
KURBB PKiKP **PKiKP 01 33 20.8 -0.3**
comp=Z,2.1nm,0.8s,baz=110,slow=1.6,SNR=19
KURBB PKKPbc **PKKPbc 01 45 04.5 -2.9**
comp=Z,0.1nm,0.3s,baz=294,slow=3.4,SNR=5.0
BVAR Borovoye Array 106.79 321 Pdiff Pdif 01 29 22.6 +1.2
comp=Z,0.6nm,0.5s,baz=102,slow=5.2,SNR=4.5
BVAR PKiKP **PKiKP 01 33 30.7 -0.1**
comp=Z,3.1nm,0.7s,baz=37,slow=0.7,SNR=10
GEYT Alibeck 114.88 305 PKP **PKiKP 01 33 46.8 +0.1**
comp=Z,4.8nm,0.7s,baz=172,slow=5.4,SNR=9.8
ARCES ARCESS Array B 121.29 345 PKP **PKiKP 01 33 58.1 -0.1**
comp=Z,8.8nm,0.7s,baz=73,slow=1.9,SNR=33
KLMR Klimovskoe 121.75 333 *e*PKPdf **PKPdf 01 33 54.6 -4.5**
KLMR AMP 01 34 00.8
comp=Z,29nm,1.1s
BOSA Boshof 122.96 220 PKP **PKPdf 01 34 02.7 0.0**
comp=Z,6.4nm,0.8s,baz=126,slow=2.7,SNR=9.7
KBZ Khabaz 125.76 313 PKP **PKiKP 01 34 07.9 +0.2**
comp=Z,7.5nm,0.8s,baz=117,slow=6.5,SNR=15
OBN Obninsk 125.77 328 ⇑P **PKPdf 01 34 07.1 +0.2**
FINES FINESS Array B 126.79 338 PKP **PKiKP 01 34 09.1 -0.1**
comp=Z,6.2nm,0.6s,baz=105,slow=3.8,SNR=31
MEF Metsahovi 128.22 338 *eP* **PKiKP 01 34 12.3 +0.2**
KMBO Kilima Mbogo 128.35 256 PKP **PKiKP 01 34 15.3 +1.2**
comp=Z,5.2nm,1.1s,baz=87,slow=2.4,SNR=6.1
VSU Vasula 128.48 335 *eP* **PKiKP 01 34 13.1 +0.4**
RAF Rauna 128.58 340 *eP* **PKiKP 01 34 12.5 -0.3**
MNK Minsk 130.38 330 *i* PKP **PKPdf 01 34 14.6 -1.2**
comp=E,8.0nm,1.0s
MNK *i* PKP **PKPdf 01 34 14.6 -1.2**
comp=N,9.0nm,0.8s
MNK *i* PKP **PKPdf 01 34 14.6 -1.2**
comp=Z,21nm,0.8s,baz=234
MNK *i* pPKP **pPKPdf 01 34 49.4 -2.5**
MNK *i* PP **PP 01 36 29.7 -1.4**
MNK *i* PPP PPP 01 39 18.5
MNK *i* SKS **SKSac 01 41 08.3 -4.1**
MNK *i* PS **PS 01 40 42.3 -2.5**
MNK *i* SS **SS 01 53 47.3 +0.2**
MNK *i* SSS SSS 01 58 37.7
MNK *i* LRM MLR 02 31 03.9
MNK *i* LRM MLR 02 31 14.2
MNK *i* LRM MLR 02 31 51.5
comp=Z,80nm,7.4s
IDID Didziasalis 130.44 332 *eP* **PKiKP 01 34 16.4 -0.3**
ISAL Salakas 130.55 332 *eP* **PKiKP 01 34 18.4 +1.5**
NACGM Naroch 130.66 331 *e*PKP **PKPdf 01 34 12.0 -4.3**
comp=E,2µm,0.8s
PABE Paberze 131.54 333 *eP* **PKPdf 01 34 18.2 +0.3**
NB2 NORSAR Subarra 131.67 345 PKPdf **PKiKP 01 34 18.7 -0.4**
comp=Z,5.5nm,0.6s,baz=31,slow=1.9
NOA NORSAR Array B 131.67 345 PKP **PKiKP 01 34 18.9 -0.2**
comp=Z,2.5nm,0.7s,baz=32,slow=2.0,SNR=7.5
HFS Hagfors 131.77 343 PKP **PKPdf 01 34 18.2 0.0**
comp=Z,6.4nm,0.8s,baz=106,slow=3.2,SNR=7.1
AKASG Malin Array Be 131.79 326 PKP **PKPdf 01 34 18.7 +0.1**
comp=Z,7.7nm,0.6s,baz=49,slow=2.2,SNR=24
AKASG SKPbc **SKPab 01 37 32.6 0.0**
comp=Z,4.9nm,0.8s,baz=45,slow=4.4,SNR=19
KIEV Kiev 131.81 326 ⇓P **PKPdf 01 34 18.8 +0.2**
VIKU Vikbolandet 132.17 340 *eP* **PKiKP 01 34 20.5 +0.5**
PURM Purcari 133.46 320 ⇑P **PKiKP 01 34 22.6 -0.5**
BRTR Keskin Array B 133.50 310 PKP **PKPdf 01 34 22.3 -0.1**
comp=Z,8.0nm,0.9s,baz=135,slow=3.5,SNR=28
BRTR SKPbc **SKPab 01 37 41.5 +0.9**
comp=Z,1.0nm,0.7s,baz=104,slow=3.1,SNR=4.7
SORM Soroca 133.60 323 ⇓P **PKPdf 01 34 22.1 +0.1**
MMAI Mount Meron Ar 133.72 301 PKP **PKiKP 01 34 24.8 +0.7**
comp=Z,6.2nm,0.6s,baz=74,slow=6.2,SNR=18
MMAI SKPbc **SKPab 01 37 41.0 -0.7**
comp=Z,3.0nm,0.8s,baz=97,slow=4.3,SNR=3.7
MILM Milestii Mici 133.92 321 ⇓*i*PKP **PKiKP 01 34 23.7 -0.3**
comp=Z,26nm,0.6s
VASR Vaslui 134.67 321 ⇓P **PKiKP 01 34 25.3 -0.3**
TLCR 134.73 319 ⇑P **PKPdf 01 34 24.4 +0.1**
JURR Jurilovca 134.88 319 ⇓P **PKiKP 01 34 26.8 +0.8**
BIR Birlad 134.95 321 ⇓P **PKPdf 01 34 25.2 +0.6**
SCTR Scanteiesti 135.01 320 ⇓P **PKiKP 01 34 26.0 -0.2**
TPGR Topolog 135.13 319 ⇓P **PKiKP 01 34 27.0 +0.4**
CFR Carcaliu 135.16 319 ⇓P **PKiKP 01 34 26.5 -0.1**
GHRR 135.19 321 ⇓P **PKiKP 01 34 29.0 +2.3**
TESR Tescani 135.41 322 ⇓P **PKPdf 01 34 24.7 -0.9**
MFTR Murfatlar 135.43 318 ⇑P **PKiKP 01 34 26.8 -0.3**
MANR Mangalia 135.49 318 ⇑P **PKiKP 01 34 27.9 +0.6**
TLBR Topalu 135.51 319 ⇑P **PKiKP 01 34 26.9 -0.4**
HARR Harsova 135.51 319 ⇓P **PKiKP 01 34 28.6 +1.3**
BURAR Bucovina Array 135.67 324 ⇓P **PKiKP 01 34 27.9 +0.2**
VRI Vrincioaia 135.69 321 ⇓P **PKPdf 01 34 26.3 +0.2**
KWP Kalwaria Pacla 135.86 328 *e*PKPdf **PKiKP 01 34 28.2 +0.3**
COVR Voineasa-Covas 136.02 321 ⇓P **PKiKP 01 34 28.3 -0.1**
TURR Turia 136.03 322 ⇓P **PKPdf 01 34 26.9 +0.1**
OZUR 136.14 322 ⇑P **PKPdf 01 34 26.6 -0.3**
NEHR Nehoiu 136.18 321 ⇓P **PKPdf 01 34 27.1 +0.1**
BOSR Bodos 136.23 322 ⇓P **PKiKP 01 34 28.6 -0.2**
MLR Muntele Rosu 136.36 321 ⇑P **PKiKP 01 34 29.0 -0.3**
DOPR Dopca 136.45 322 ⇓P **PKiKP 01 34 30.7 +1.5**
BMR Baia Mare 136.60 325 ⇑P **PKPdf 01 34 27.9 +0.2**
STHS Stebnicka Huta 136.74 328 *e*PKP **PKiKP 01 34 29.2 -0.5**
VOIR 136.93 321 ⇑P **PKPdf 01 34 28.5 0.0**
OJC Ojcow 136.93 330 *e*PKPdf **PKPdf 01 34 28.7 +0.4**
RAZG Razgrad 136.94 318 ⇓P **PKiKP 01 34 30.9 +0.6**
CRVS Cervenica-Dubn 136.95 328 *e*PKP **PKPdf 01 34 28.8 +0.5**
MESR Meseseni 137.20 325 ⇑P **PKiKP 01 34 31.8 +1.1**
ARR Arges 137.21 322 ⇑P **PKiKP 01 34 30.0 -0.9**
MARR Marisel-Cluj 137.38 324 ⇑P **PKPdf 01 34 28.6 -0.7**
HUMR Humele 137.43 320 ⇓P **PKPdf 01 34 29.5 +0.2**
LTVH Ltavrtes, Hu 137.64 326 ⇑P **PKiKP 01 34 33.2 +1.6**
ELND Elena 137.65 318 ⇓P **PKiKP 01 34 33.9 +2.1**
LOT Lotru 137.68 322 ⇓P **PKiKP 01 34 31.4 -0.5**
LANS Liptovska Anna 137.80 329 *e*PKP **PKiKP 01 34 33.5 +1.6**
DEV Deva 137.95 323 ⇑P **PKPdf 01 34 30.0 -0.2**
KSP Ksiaz 138.10 333 *e*PKPdf **PKiKP 01 34 31.5 -0.9**
PLVB Pleven 138.23 319 ⇓P **PKiKP 01 34 32.4 -0.5**
GZR Gura Zlata 138.30 323 ⇓P **PKPdf 01 34 31.4 +0.4**
MORC Moravsky Berou 138.30 331 ⇑P **PKiKP 01 34 32.8 -0.1**
MORC Moravsky Berou 138.30 331 *e*PKP **PKPdf 01 34 31.2 +0.4**
OSTC Ostas 138.35 333 *e*PKPDF **PKPdf 01 34 30.3 -0.6**
SIRR Siria 138.44 324 ⇑P **PKPdf 01 34 25.6 -5.6**
DPC Dobruska-Polom 138.45 333 *e*PKPDF **PKiKP 01 34 32.4 -0.8**
MAUC Maruska 138.45 330 *e*PKPDF **PKiKP 01 34 32.2 -1.0**
SURR Surduc 138.47 323 ⇓P **PKPdf 01 34 30.8 -0.4**
UPC Upice 138.47 333 *e*PKPDF **PKiKP 01 34 32.3 -0.9**
VYHS Vyhne 138.54 329 *e*PKP **PKPdf 01 34 32.2 +0.9**
BZS Buzias 138.84 324 ⇓P **PKPdf 01 34 32.4 +0.5**
JAVC Velka Javorina 138.87 330 *e*PKP **PKiKP 01 34 33.7 -0.4**
VRAC Vranov 139.07 331 *e*PKP **PKPdf 01 34 32.4 +0.2**
BRG Berggiesshubel 139.08 335 *e*PKP **PKPdf 01 34 30.5 -1.7**
BRG Amp 01 34 33.2
comp=Z,14nm,1.1s
PVCC Panska Ves 139.08 334 *e*PKPDF **PKiKP 01 34 35.2 +0.8**
CLL Collm 139.12 336 *i* PKPdf **PKiKP 01 34 33.8 -0.7**
comp=Z,8.0nm,0.6s
MDVR Moldovita 139.26 322 ⇓P **PKPdf 01 34 32.5 -0.3**
RICC Richard 139.26 334 *e*PKPDF **PKiKP 01 34 35.5 +0.7**
KRUC Moravsky 139.33 331 *e*PKP **PKPdf 01 34 33.0 +0.3**
MODS Modra-Piesok 139.39 330 *e*PKP **PKiKP 01 34 34.4 -0.8**
GOPC GO Pecny, Ondr 139.44 333 *e*PKPDF **PKPdf 01 34 33.8 +0.9**
PRU Pruhonice 139.49 333 *e*PKPDF **PKiKP 01 34 35.4 +0.1**
EKA Eskdalemuir Ar 139.82 352 PKhKP PKPpre 01 34 25.5
comp=Z,2.9nm,0.8s,baz=358,slow=2.2,SNR=6.6
BOVS Bovan 139.91 321 ⇓P **PKPdf 01 34 33.3 -0.6**
ZVC Zvikov 140.05 333 *e*PKPDF **PKPdf 01 34 28.8 -5.2**
MORH Mrgy, Hungar 140.12 326 ⇓P **PKPdf 01 34 33.9 -0.3**
FRGS Fruska Gora 140.14 324 ⇑P **PKPdf 01 34 35.3 +1.0**
RONA Rosalia, Austr 140.34 330 *i* PKiKP **PKiKP 01 34 38.0 +0.8**
comp=Z,9.7nm,0.6s
CONA Conrad Observa 140.39 330 *i* PKiKP **PKiKP 01 34 38.2 +0.9**
comp=Z,7.6nm,0.5s
KHC Kasperske Hory 140.55 333 *e*PKPDF **PKPdf 01 34 35.7 +0.8**
GERES GERESS Array B 140.71 333 PKhKP PKPpre 01 34 29.3
comp=Z,2.7nm,0.7s,baz=20,slow=4.3,SNR=3.8
GERES PKP **PKPdf 01 34 36.1 +0.8**
comp=Z,4.5nm,0.7s,baz=48,slow=2.0,SNR=12
GERES SKPbc **SKPbc 01 38 00.2 +1.0**
comp=Z,1.2nm,0.8s,baz=25,slow=3.5,SNR=4.1
MOA Molln 141.19 331 *i* PKiKP **PKiKP 01 34 39.3 +0.4**
comp=Z,3.5nm,0.5s
MEM Membach 142.18 341 *d*PKPdf **PKPdf 01 34 36.9 -0.9**
MEM *d*PKiKP **PKiKP 01 34 40.7 -0.1**
MEM *dp*PKPdf **pPKPdf 01 35 13.3 -0.7**
MEM *dp*PKiKP **pPKiKP 01 35 16.2 -0.6**
LESA Schwarzleotal 142.23 332 *i* PKP **PKPdf 01 34 34.9 -3.2**
comp=Z,12nm,1.0s
WATA Walderalm 142.79 333 *i* PKP **PKPdf 01 34 36.6 -2.5**
comp=Z,14nm,1.1s
ABTA Abfaltersbach 142.81 332 *e*PKP **PKPdf 01 34 35.1 -4.1**
comp=Z,16nm,0.8s
WTTA Wattenberg 142.81 333 *i* PKP **PKPdf 01 34 37.0 -2.3**
comp=Z,9.9nm,1.3s
WLF Walferdange 142.96 340 *d*PKPdf **PKPdf 01 34 36.8 -2.4**
WLF *d*PKiKP **PKiKP 01 34 40.7 -1.7**
MOTA Moosalm 142.98 333 *e*PKP **PKPdf 01 34 36.3 -3.2**
comp=Z,25nm,1.1s,SNR=5.2
RETA Reutte 143.02 334 *i* PKP PKPbc 01 34 36.6 0.0
comp=Z,11nm,1.2s
SQTA Sankt Quirin 143.03 333 *i* PKP PKPbc 01 34 36.9 +0.1
comp=Z,42nm,1.8s
BFO Black Forest 143.32 337 PKPdf PKPbc 01 34 38.3 +1.0
FETA Feichten 143.40 333 *i* PKP PKPbc 01 34 38.4 +0.6
comp=Z,33nm,1.1s,SNR=6.6
DAVA Damuels 143.55 334 *i* PKP PKPbc 01 34 38.7 +0.5
comp=Z,8.7nm,0.7s
CTI Castel Tesino 143.73 332 PKPdf PKPbc 01 34 39.3 +0.6
FUORN Ofenpass-Fuorn 143.91 333 PKPdf **PKPdf 01 34 40.7 -0.6**
TEOL Teolo 144.24 331 PKPdf **PKPdf 01 34 41.0 -0.6**
SALO Salr 144.57 332 PKPdf PKPbc 01 34 41.5 +0.4
FDMO Fiordimonte 145.20 327 PKPbc **PKPbc 01 34 42.6 -0.6**
NRCA Norcia 145.32 326 PKPdf 01 34 42.8 -0.8
INTR Introdacqua 145.45 325 PKPdf 01 34 43.0 -0.8
TIP Timpagrande 145.48 318 ⇓P **PKPab 01 34 45.5 +0.9**
TIP Timpagrande 145.48 318 PKPdf 01 34 43.1 -0.9
CESX Cesi 145.76 327 PKPbc **PKPdf 01 34 44.4 +0.1**
SSB Saint Sauveur 147.29 338 PKPbc **PKPbc 01 34 48.3 -1.1**
RAFF Raffo Rosso 148.15 317 PKPbc **PKPbc 01 34 51.3 -0.6**
VSL Villasalto 149.67 326 PKPbc **PKPdf 01 34 53.0 +2.1**
KEST Kesra 152.25 320 PKPbc **PKiKP 01 35 02.8 +0.7**
comp=Z,57nm,0.7s,baz=166,slow=0.3,SNR=96
PBRG Braganca 153.54 351 *e*PKPbc **PKiKP 01 35 05.0 +0.5**
PBRG Braganca 153.54 351 *e*PKPab **PKPab 01 35 17.8 +0.5**
POLO Lamas de Olo 154.12 352 *e*PKPbc **PKiKP 01 35 06.3 +0.5**
POLO Lamas de Olo 154.12 352 *e*PKPab **PKPab 01 35 21.4 +1.6**
PVRL Vila Real 154.20 352 *e*PKPbc **PKiKP 01 35 06.6 +0.7**
PVRL Vila Real 154.20 352 *e*PKPab **PKPab 01 35 21.6 +1.5**
MVO Moncorvo 154.21 351 *e*PKPbc **PKPbc 01 35 05.5 -0.4**
MVO Moncorvo 154.21 351 *e*PKPab **PKPab 01 35 21.2 +1.0**
PVIS Viseu 154.78 352 *e*PKPab **PKPab 01 35 23.7 +1.2**
ESDC Sonseca Array 155.03 345 PKP **PKPdf 01 34 59.0 +0.2**
comp=Z,0.7nm,0.9s,baz=23,slow=2.3,SNR=2.6
ESDC PKPbc PKPbc 01 35 08.3
comp=Z,1.5nm,0.8s,baz=16,slow=2.9,SNR=10.0
ESDC PKPab **PKPab 01 35 24.5 +0.8**
comp=Z,4.8nm,0.9s,baz=20,slow=3.5,SNR=15
ESDC PP PP 01 38 51.1 -8.1
comp=Z,1.4nm,0.8s,baz=19,slow=5.4,SNR=3.6
MTE Manteigas 155.04 352 *e*PKPab **PKPab 01 35 24.7 +1.0**
PCBR Castelo Branco 155.58 351 *e*PKPab **PKPab 01 35 26.9 +1.0**
PMRV Marv??o 155.97 351 *e*PKPab **PKPab 01 35 28.6 +1.0**
PESTR Estremoz 156.55 351 *e*PKPab **PKPab 01 35 31.0 +0.9**
EVO Evora 156.94 352 *e*PKPab **PKPab 01 35 32.5 +0.7**
PBAR Barrancos 157.13 349 *e*PKPab **PKPab 01 35 33.8 +1.2**
PBEJ Beja 157.41 351 *e*PKPab **PKPab 01 35 35.5 +1.6**
PNCL Nicolau / Gran 157.42 352 *e*PKPab **PKPab 01 35 35.8 +1.9**
MESJ Messejana 157.65 352 *e*PKPab **PKPab 01 35 36.3 +1.4**
PCVE Castro Verde 157.83 351 *e*PKPab **PKPab 01 35 36.2 +0.6**
MORF Marmelete 158.23 352 *e*PKPab **PKPab 01 35 39.6 +2.1**
TORD Torodi Ar. Bea 166.28 261 PKP **PKPdf 01 35 11.0 -0.6**
comp=Z,2.7nm,0.6s,baz=6.9,slow=1.7,SNR=19
TORD PKPab **PKPab 01 36 12.7 -0.9**
comp=Z,4.2nm,0.9s,baz=87,slow=5.3,SNR=12
DBIC Dimbokro 168.49 220 PKP **PKPdf 01 35 12.1 -1.2**
comp=Z,4.2nm,0.8s,baz=220,slow=4.2,SNR=4.2
DBIC PKPab **PKPab 01 36 23.4 +0.3**
comp=Z,3.6nm,0.8s,baz=178,slow=10.0,SNR=3.1

*IDC **09** 01:38:33.9±1.6, 23°.78N×93°.84E, h0km, mb3.7/7, mbtmp3.7/8, ML4.2/1, Error ellipse: s-maj=74.4km s-min=19.2km az=62.0*

ISC 09 01:38:42.2±1.6, 23.8N±0.3×94.0E±0.4, h68km, n8, σ1s 41/8, mb3.5/7, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.00**	**138**			Pn	**Pn**	**01 40 21.1**	**-1.0**
	1.1nm,0.3s,baz=317,slow=14,SNR=7.7								
	1.8nm,0.3s								
MKAR	**Makanchi Array**	**24.84**	**341**			P	**P**	**01 43 57.4**	**-0.6**
	0.8nm,0.7s,baz=143,slow=13,SNR=5.5								
	0.8nm,0.7s								
SONM	**Songino Array**	**25.97**	**19**			P	**P**	**01 44 08.4**	**-0.1**
	0.5nm,0.4s,baz=207,slow=8.6,SNR=6.7								
	0.5nm,0.4s								
KURBB	**Kurchatov Arra**	**29.39**	**340**			P	**P**	**01 44 37.8**	**-1.0**
	0.2nm,0.3s,baz=146,slow=8.6,SNR=4.2								
	0.2nm,0.3s								
ZALV	**Zalesovo Beam**	**30.93**	**349**			P	**P**	**01 44 52.1**	**-0.2**
	0.7nm,0.4s,baz=153,slow=11,SNR=3.5								
	0.7nm,0.4s								
WRA	**Warramunga Arr**	**58.58**	**134**			P	**P**	**01 48 34.8**	**+2.6**
	0.3nm,0.7s,baz=325,slow=7.6,SNR=2.1								
	0.3nm,0.7s								
ARCES	**ARCESS Array B**	**60.45**	**338**			P	**P**	**01 48 45.0**	**+0.6**
	5.9nm,1.1s,baz=103,slow=7.5,SNR=1.4								
	5.9nm,1.1s								
ASAR	**Alice Springs**	**61.01**	**138**			P	**P**	**01 48 48.4**	**-0.5**
	0.2nm,0.6s,baz=326,slow=6.9,SNR=1.6								
	0.2nm,0.6s								

*SNET **09** 01:58:12.5±0.8, 12°.91N×88°.86W, h42km, ML3.7*

*CATAC **09** 01:58:13.9±0.4, 13°.03N×88°.81W, h31km±3km, ML3.7*
ISC 09 01:58:13.8±1.5, **12°.98N**±0°.08×**88°.84W**±0°.04, **h48**km±14km, **n62**, σ0°**61**/83, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.43**	**38**	*eP*	**Pn**	**01 58 23.4**	**-0.7**
ALJI				*eS*	**Sn**	**01 58 32.3**	**+0.8**
ALJI	**Alcalda de J**	**0.43**	**38**	*i* P	**Pn**	**01 58 23.4**	**-0.7**
ALJI				*i* S	**Sn**	**01 58 32.0**	**+0.5**
ALJI				IAML		01 58 32.9	
	comp=Z,5µm,1.0s						
TECO	**Alcaldia de Te**	**0.55**	**6**	*i* P	**Pn**	**01 58 25.2**	**-0.4**
TECO				*eS*	**Sn**	**01 58 34.6**	**+0.5**
TECO	**Alcaldia de Te**	**0.55**	**6**	*i* P	**Pn**	**01 58 25.3**	**-0.4**
TECO				IAML		01 58 37.9	
	comp=Z,4µm,1.0s						
COEB	**Comit de Eme**	**0.59**	**31**	*eP*	**Pn**	**01 58 26.0**	**-0.2**
COEB				*eS*	**Sn**	**01 58 35.7**	**+0.6**
TECA	**Tecapa**	**0.61**	**33**	*i* P	**Pn**	**01 58 26.2**	**-0.2**
COEG	**Centro de Oper**	**0.63**	**357**	*eP*	**Pn**	**01 58 26.2**	**-0.5**
COEG				*eS*	**Sn**	**01 58 36.3**	**+0.3**
COEG	**Centro de Oper**	**0.63**	**357**	*i* P	**Pn**	**01 58 26.2**	**-0.5**
COEG				*i* S	**Sn**	**01 58 36.2**	**+0.3**
COEG				IAML		01 58 39.4	
	comp=Z,3µm,1.0s						
JUCU	**Jucuarɨn**	**0.64**	**65**	*eP*	**Pn**	**01 58 26.0**	**-0.7**
JUCU				*eS*	**Sn**	**01 58 36.0**	**0.0**
UESV	**Universidad de**	**0.65**	**5**	*i* P	**Pn**	**01 58 26.7**	**-0.2**
UESV				*i* S	**Sn**	**01 58 37.0**	**+0.7**
UESV				IAML		01 58 38.4	
	comp=Z,7µm,1.0s						
LFRS	**El Faro**	**0.67**	**341**	*eP*	**Pn**	**01 58 26.8**	**-0.4**
PQSS	**Presa 15 de Se**	**0.69**	**23**	*i* P	**Pn**	**01 58 27.6**	**+0.2**
PQSS				IAML		01 58 40.3	
	comp=Z,8µm,1.0s						
PACA	**Pacayal**	**0.70**	**46**	*eP*	**Pn**	**01 58 27.5**	**-0.1**
PACA	**Pacayal**	**0.70**	**46**	*i* P	**Pn**	**01 58 27.1**	**-0.5**
PACA				IAML		01 58 40.1	
	comp=Z,20µm,1.0s						
PANCS	**Alcalda de**	**0.71**	**332**	*i* P	**Pn**	**01 58 28.4**	**+0.8**
PANCS				IAML		01 58 38.5	
	comp=Z,4µm,1.0s						
SCLA	**Alcaldia de Sa**	**0.72**	**9**	*eP*	**Pn**	**01 58 27.8**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.72**	**9**	*i* P	**Pn**	**01 58 27.7**	**-0.1**
SCLA				IAML		01 58 41.6	
	comp=Z,1µm,1.0s						
LOMA	**Loma Larga**	**0.73**	**334**	*eP*	**Pn**	**01 58 27.5**	**-0.6**
LOMA	**Loma Larga**	**0.73**	**334**	*i* P	**Pn**	**01 58 27.4**	**-0.6**
LOMA				*i* S	**Sn**	**01 58 38.4**	**+0.1**
LOMA				IAML		01 58 39.4	
	comp=Z,2µm,1.0s						
PAVA	**Las Pavas**	**0.73**	**353**	*eP*	**Pn**	**01 58 27.7**	**-0.3**
PAVA	**Las Pavas**	**0.73**	**353**	*i* P	**Pn**	**01 58 27.9**	**-0.1**
PAVA				*i* S	**Sn**	**01 58 38.7**	**+0.4**
PAVA				IAML		01 58 40.5	
	comp=Z,7µm,1.0s						
IGN	**Direccin Gen**	**0.79**	**336**	*i* P	**Pn**	**01 58 28.5**	**-0.3**
IGN				*i* S	**Sn**	**01 58 39.8**	**+0.2**
IGN				IAML		01 58 44.1	
	comp=Z,9µm,1.0s						
UTEC	**Universidad Te**	**0.79**	**334**	*i* P	**Pn**	**01 58 28.7**	**-0.1**
UTEC				*i* S	**Sn**	**01 58 39.9**	**+0.2**
UTEC				IAML		01 58 40.9	
	comp=Z,2µm,1.0s						
SNET	**Serv Nac Est T**	**0.80**	**332**	*i* P	**Pn**	**01 58 29.2**	**+0.4**
SNET				IAML		01 58 42.9	
	comp=Z,4µm,1.0s						
LFU	**La Fuente**	**0.81**	**341**	*eP*	**Pn**	**01 58 28.7**	**-0.2**
SEMO	**Seminario San**	**0.81**	**333**	*i* P	**Pn**	**01 58 29.7**	**+0.8**
SEMO				IAML		01 59 16.5	
	comp=Z,8µm,1.0s						
CNRM	**Centro Naciona**	**0.82**	**53**	*i* P	**Pn**	**01 58 28.5**	**-0.5**
CNRM				IAML		01 59 01.5	
	comp=Z,4µm,1.0s						
MAGS	**Ministerio de**	**0.82**	**328**	*i* P	**Pn**	**01 58 29.7**	**+0.5**
MAGS				*i* S	**Sn**	**01 58 40.5**	**+0.2**
MAGS				IAML		01 58 43.7	
	comp=Z,830nm,1.0s						
UEES	**Universidad Ev**	**0.82**	**332**	*i* P	**Pn**	**01 58 29.0**	**-0.2**
UEES				*i* S	**Sn**	**01 58 40.2**	**-0.2**
UEES				IAML		01 58 43.8	
	comp=Z,1µm,1.0s						
PMON	**Piamonte**	**0.86**	**328**	*i* P	**Pn**	**01 58 29.8**	**+0.1**
PMON				IAML		01 58 46.1	
	comp=Z,2µm,1.0s						
JAYA	**Jayaque - finc**	**0.89**	**319**	*eP*	**Pn**	**01 58 29.5**	**-0.6**
JAYA	**Jayaque - finc**	**0.89**	**319**	*i* P	**Pn**	**01 58 29.7**	**-0.4**
JAYA				IAML		01 58 43.9	
	comp=Z,3µm,1.0s						
QUEZ	**Alcaldia de Qu**	**0.94**	**334**	*i* P	**Pn**	**01 58 31.2**	**+0.4**
QUEZ				IAML		01 58 47.5	
	comp=Z,4µm,1.0s						
CEDA	**San Andres**	**0.98**	**327**	*i* P	**Pn**	**01 58 31.7**	**+0.5**
CEDA				*i* S	**Sn**	**01 58 44.6**	**+0.6**
CEDA				IAML		01 58 47.8	
	comp=Z,2µm,1.0s						
LCND	**La Caada**	**0.98**	**71**	*i* P	**Pn**	**01 58 30.9**	**-0.3**
LCND	**La Caada**	**0.98**	**71**	*i* P	**Pn**	**01 58 30.7**	**-0.5**
LCND				*i* S	**Sn**	**01 58 44.1**	**0.0**
LCND				IAML		01 58 48.5	
	comp=Z,1µm,1.0s						
CNCH	**Conchagua**	**1.02**	**73**	*eP*	**Pn**	**01 58 31.1**	**-0.7**
CNCH	**Conchagua**	**1.02**	**73**	*i* P	**Pn**	**01 58 31.2**	**-0.7**
CNCH				*i* S	**Sn**	**01 58 45.0**	**-0.3**
CNCH				IAML		01 58 50.5	
	comp=Z,2µm,1.0s						
CEVE	**Cerro Verde**	**1.13**	**318**	*eP*	**Pn**	**01 58 33.7**	**+0.2**
CEVE	**Cerro Verde**	**1.13**	**318**	*i* P	**Pn**	**01 58 33.8**	**+0.3**
CEVE				*i* S	**Sn**	**01 58 49.0**	**+0.9**
CEVE				IAML		01 58 57.3	
	comp=Z,1µm,1.0s						
SNJE	**San Jose**	**1.15**	**320**	*eP*	**Pn**	**01 58 33.4**	**-0.3**
LLGN	**La Laguna**	**1.18**	**355**	*i* P	**Pn**	**01 58 34.3**	**+0.3**
LLGN				IAML		01 58 52.3	
	comp=Z,600nm,1.0s						
AMPH	**Amapala**	**1.19**	**75**	*i* P	**Pn**	**01 58 33.9**	**-0.1**
UNIC	**Universidad Ca**	**1.21**	**325**	*i* P	**Pn**	**01 58 34.1**	**-0.2**
UNIC				IAML		01 58 51.0	
	comp=Z,380nm,1.0s						
CSGN	**Cosiguina Volc**	**1.25**	**90**	*i* P	**Pn**	**01 58 34.2**	**-0.7**
CSGN				IAML		01 58 56.8	
	comp=Z,3µm,1.0s						
NUBE	**Las Nubes**	**1.29**	**315**	*i* P	**Pn**	**01 58 36.0**	**+0.4**
NUBE				*i* S	**Sn**	**01 58 51.5**	**-0.3**
NUBE				IAML		01 58 53.1	
	comp=Z,760nm,1.0s						
MTO3	**Montecristo**	**1.50**	**340**	*i* P	**Pn**	**01 58 38.1**	**-0.3**
MTO3	**Montecristo**	**1.50**	**340**	*i* P	**Pn**	**01 58 38.1**	**-0.3**
MTO3				*i* S	**Sn**	**01 58 56.9**	**0.0**
MTO3				IAML		01 59 03.3	
	comp=Z,100nm,1.0s						
ESQI	**Esquipulas**	**1.64**	**343**	*i* P	**Pn**	**01 58 39.7**	**-0.6**
ESQI				IAML		01 59 04.6	
	comp=Z,190nm,1.0s						
CRIN	**San Cristobal**	**1.77**	**99**	*i* P	**Pn**	**01 58 42.0**	**0.0**
CRIN				*i* S	**Sn**	**01 59 03.9**	**+0.5**
CRIN				IAML		01 59 07.3	
	comp=Z,1µm,1.0s						
SARH	**Santa Rosa de**	**1.78**	**3**	*i* P	**Pn**	**01 58 42.6**	**+0.4**
PKGN	**Cerro Pekin**	**1.85**	**100**	*i* P	**Pn**	**01 58 43.3**	**+0.3**
PKGN				IAML		01 59 06.7	
	comp=Z,1µm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.86**	**55**	*i* P	**Pn**	**01 58 43.1**	**-0.2**
TGUH				IAML		01 58 43.2	
	comp=Z,210nm,1.0s						
COMHN	**El Horno**	**1.92**	**41**	*i* P	**Pn**	**01 58 43.3**	**-0.8**
ROCN	**Rota Cerro Neg**	**2.10**	**102**	*i* P	**Pn**	**01 58 44.4**	**-2.1**
CNGA	**Al SSO del Vol**	**2.14**	**103**	*i* P	**Pn**	**01 58 47.6**	**+0.5**
CNGA				IAML		01 59 16.6	
	comp=Z,370nm,1.0s						
CNGN	**Cerro Negro**	**2.15**	**103**	*i* P	**Pn**	**01 58 47.6**	**+0.4**
CNGN				IAML		01 59 19.2	
	comp=Z,310nm,1.0s						
GUNB	**GUNB**	**2.17**	**318**	*i* P	**Pn**	**01 58 45.3**	**-2.4**
YUSH	**Yuscaran**	**2.17**	**63**	*i* P	**Pn**	**01 58 47.4**	**-0.2**
SOMN	**Somoto**	**2.21**	**78**	*i* P	**Pn**	**01 58 48.8**	**+0.6**
SOMN				IAML		01 59 59.9	
	comp=Z,120nm,1.0s						
MOMN	**Momotombo**	**2.32**	**104**	*i* P	**Pn**	**01 58 51.2**	**+1.7**
MOMN				IAML		01 59 19.4	
	comp=Z,8.0nm,1.0s						
LIMN	**Finca el Limon**	**2.41**	**88**	*i* P	**Pn**	**01 58 50.3**	**-0.6**
LIMN				IAML		01 59 21.7	
	comp=Z,70nm,1.0s						

UPA 09 02:04:06.5±0.9, **7°.57N**×**81°.96W**, **h0**km±4km, **MW4.1, 1D, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMAL	**Guarumal, Vera**	**0.74**	**75**	*eP*	Pg	02 04 21.5	+0.8
CACAO	**El Cacao, Vera**	**1.11**	**102**	*eP*	Pb	02 04 28.2	-0.3
CACAO				*eS*	Sb	02 04 44.4	+0.8
BCO2	**Palmira**	**1.27**	**334**	*eP*	Pg	02 04 30.7	-0.2
BCO2				*eS*	Sn	02 04 50.1	+0.4
CDITO	**Canoas**	**1.35**	**318**	*eP*	Pg	02 04 31.7	-0.7
CHGR2	**Aguacate**	**1.37**	**352**	*eP*	Pg	02 04 31.7	-1.1
CHGR2				*eS*	Sb	02 04 51.1	-0.1
BRU2	**Volcan**	**1.42**	**329**	*eP*	Pn	02 04 33.1	-0.6
BRU2				*eS*	Sn	02 04 53.9	+0.7
CHIT3	**Chitre**	**1.57**	**76**	*eP*	Pn	02 04 34.9	-0.8
CHIT3				*eS*	Sn	02 04 56.6	-0.2
AZU	**Azuero**	**1.68**	**82**	*eP*	Pn	02 04 36.4	-0.8
AZU				*eS*	Sb	02 04 60.0	-0.1
BCIP	**Isla Barro Col**	**2.63**	**53**	*eP*	Pn	02 04 49.6	-0.6

*TEH **09** 02:08:44.7, 27°.65N×54°.73E, h13km±53km, ML3.1*
*OMAN **09** 02:08:50.4±1.1, 27°.63N×55°.26E, h20km, ml2.6/6, Error ellipse: s-maj=16.4km s-min=7.9km az=68.0*
ISC 09 02:08:45.9±1.8, **27°.63N**±0°.05×**54°.77E**±0°.06, **h11**km±14km, **n27**, σ1°**59**/38, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.35**	**277**	Pg	Pg	02 08 51.7	-1.3
GENO	**Geno**	**1.27**	**100**	Pg	**Pg**	**02 09 10.3**	**-0.1**
JHRM	**Jahrom**	**1.37**	**310**	Pg	**Pn**	**02 09 11.4**	**+0.4**
LMD1	**Lamerd**	**1.45**	**259**	Pg	**Pn**	**02 09 12.8**	**+0.7**
IBND	**Bandar-abas**	**1.59**	**96**	Pg	**Pg**	**02 09 16.6**	**+0.2**
QIR1	**Qir**	**1.74**	**299**	Pg	**Pn**	**02 09 17.6**	**+1.5**
SHME	**Shamm**	**2.00**	**142**	P	**Pb**	**02 09 20.7**	**-1.5**
MASF	**Masafi**	**2.57**	**151**	P	**Pn**	**02 09 28.5**	**+0.9**
MASF				S	**Sn**	**02 09 57.9**	**-0.9**
NGRK	**Negar Kerman**	**2.65**	**40**	Pn	**Pn**	**02 09 29.9**	**+1.0**
NAZ	**Nazwa, Dubai**	**2.75**	**163**	P	**Pn**	**02 09 32.0**	**+2.1**
NAZ				S	**Sn**	**02 10 05.1**	**+2.0**
FAQ	**Al Faqa, Dubai**	**2.96**	**165**	P	**Pn**	**02 09 35.5**	**+2.6**
FAQ				S	**Sn**	**02 10 09.7**	**+1.3**
UOSS	**Minazif**	**2.97**	**154**	P	**Pn**	**02 09 35.6**	**+2.6**
UOSS				S	**Sn**	**02 10 08.1**	**-0.5**
HATD	**Hatta, Dubai**	**3.05**	**156**	P	**Pn**	**02 09 36.1**	**+2.1**
HATD				S	**Sn**	**02 10 11.2**	**+0.6**
KHGB	**Koh Gabri**	**3.12**	**28**	Pn	**Pn**	**02 09 37.6**	**+2.3**
ASHO	**Ashiyiah** SNR=7.2	**3.15**	**158**	P	**Pn**	**02 09 36.3**	**+0.7**
ASHO				S	**Sn**	**02 10 14.9**	**+1.7**
KBAM	**BAM**	**3.58**	**64**	Pn	**Pn**	**02 09 43.5**	**+2.0**
IMEH	**Mehriz**	**3.75**	**358**	Pn	**Pn**	**02 09 45.3**	**+1.3**
SOHO	**SOHO**	**3.83**	**155**	P	**Pn**	**02 09 44.7**	**-0.1**
SOHO				S	**Sn**	**02 10 29.5**	**-0.2**
IBAF	**Bafgh**	**4.01**	**10**	Pn	**Pn**	**02 09 48.2**	**+0.7**
ARQ	**Araqi**	**4.56**	**159**	P	**Pn**	**02 09 57.4**	**+2.5**
ARQ				S	**Sn**	**02 10 47.0**	**-0.9**
HOQ	**Hoqain**	**4.64**	**150**	P	**Pn**	**02 09 55.8**	**-0.1**
HOQ				S	**Sn**	**02 10 48.5**	**-1.3**
IRAM	**Ramesheh**	**4.65**	**334**	Pn	**Pn**	**02 09 57.2**	**+0.8**
BSY	**Bisya**	**5.34**	**155**	P	**Pn**	**02 10 06.6**	**+1.0**
BSY				S	**Sn**	**02 11 05.2**	**-1.9**
SMDO	**Samad**	**5.43**	**146**	P	**Pn**	**02 10 07.8**	**+0.8**
SMDO				S	**Sn**	**02 11 09.5**	**-0.1**
WSAR	**Wadi Sarin**	**5.59**	**140**	P	**Pn**	**02 10 10.8**	**+1.7**
WSAR				S	**Sn**	**02 11 11.1**	**-2.3**
JMDO	**Jabal Madar**	**6.05**	**149**	S	**Sn**	**02 11 21.3**	**-3.3**
MHTO	**MHTO** SNR=9.4	**7.23**	**155**	P	**Pn**	**02 10 31.6**	**+0.1**

*IDC **09** 02:08:47.8±0.9, 10°.12N×140°.25E, h0km, mb3.8/9, mbtmp3.8/10, ML4.6/1, MS3.3/9, Error ellipse: s-maj=26.9km s-min=19.8km az=113.0*
ISC 09 02:08:51.8±0.9, **10°.1N**±0°.2×**140°.3E**±0°.1, **h26**km, **n22**, σ0°**82**/11, **mb3.9**/9, **MS3.2**/8, **Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.69**	**52**	Pn	**Pn**	**02 10 15.2**	**+0.4**
	18nm,0.3s,baz=191,slow=7.0,SNR=6.3						
GUMO					**Sn**	**02 11 18.7**	**-0.7**
	8.4nm,0.3s,baz=260,slow=23,SNR=1.7						
GUMO				LR	LR	02 12 43.5	
	comp=Z,125nm,20.2s,baz=206,slow=42						
	76nm,0.4s						
BATI	**Batmata**	**26.07**	**220**	LR	LR	02 23 42.4	
	comp=Z,84nm,20.6s,baz=52,slow=34						
H11S3	**WAKE ISLAND Hy 26.91**	**69**		T	T	02 42 41.4	
	baz=255,slow=75,SNR=780						
H11S1	**WAKE ISLAND Hy 26.93**	**69**		T	T	02 42 45.1	
	baz=255,slow=75,SNR=326						
H11S2	**WAKE ISLAND Hy 26.93**	**69**		T	T	02 42 41.7	
	baz=255,slow=75,SNR=706						
H11N1	**WAKE ISLAND Hy 27.42**	**67**		T	T	02 43 19.7	
	baz=253,slow=74,SNR=219						
H11N2	**WAKE ISLAND Hy 27.43**	**66**		T	T	02 43 22.2	
	baz=253,slow=74,SNR=157						
H11N3	**WAKE ISLAND Hy 27.44**	**67**		T	T	02 43 23.2	
	baz=253,slow=74,SNR=173						
HNR	**Honiara**	**27.58**	**134**	LR	LR	02 24 39.9	
	comp=Z,372nm,20.6s,baz=350,slow=34						
WRA	**Warramunga Arr**	**30.42**	**191**	P	**P**	**02 15 01.4**	**-0.9**
	0.7nm,0.8s,baz=10.0,slow=9.5,SNR=4.8						
	0.7nm,0.8s						
ASAJ	**Asahikawa**	**33.95**	**3**	LR	LR	02 29 23.7	
	comp=Z,23nm,18.1s,baz=150,slow=36						
ASAR	**Alice Springs**	**34.13**	**190**	P	**P**	**02 15 34.9**	**0.0**
	0.6nm,0.6s,baz=18,slow=12,SNR=15						
ASAR				LR	LR	02 29 19.8	
	comp=Z,68nm,18.2s,baz=360,slow=36						
	0.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**40.81**	**287**	P	**P**	**02 16 32.2**	**+0.7**
	1.2nm,0.4s,baz=91,slow=6.8,SNR=6.3						
CMAR				LR	LR	02 32 00.1	
	comp=Z,22nm,21.4s,baz=295,slow=34						
	1.2nm,0.4s						
MA2	**Magadan**	**50.00**	**7**	LR	LR	02 36 15.1	
	comp=Z,20nm,21.3s,baz=138,slow=33						
SHEM	**Shemya Is, Ala**	**50.53**	**26**	LR	LR	02 34 57.0	
	comp=Z,22nm,21.7s,baz=93,slow=31						
MKAR	**Makanchi Array**	**60.95**	**318**	P	**P**	**02 19 02.7**	**-0.1**
	0.7nm,0.8s,baz=103,slow=12,SNR=1.8						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**64.44**	**322**	P	**P**	**02 19 25.5**	**-0.5**
	0.4nm,0.7s,baz=116,slow=5.9,SNR=3.3						
	0.4nm,0.7s						
KDAK	**Kodiak Island**	**69.40**	**32**	LR	LR	02 49 11.8	
	comp=Z,27nm,19.1s,baz=269,slow=35						
BVAR	**Borovoye Array**	**69.90**	**323**	P	**P**	**02 19 60.0**	**-0.6**
	0.7nm,0.5s,baz=107,slow=7.9,SNR=4.4						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**73.63**	**25**	P	**P**	**02 20 21.8**	**-1.0**
	0.6nm,0.7s,baz=250,slow=4.9,SNR=8.4						
	0.6nm,0.7s						
YKA	**Yellowknife Ar**	**88.00**	**27**	P	**P**	**02 21 40.1**	**+0.6**
	0.4nm,0.7s,baz=287,slow=5.4,SNR=5.4						
	0.4nm,0.7s						
NVAR	**Mina Array Bea**	**92.61**	**50**	P	**P**	**02 22 03.2**	**+1.3**
	0.5nm,0.8s,baz=268,slow=5.4,SNR=2.7						
	0.5nm,0.8s						

*IDC **09** 02:13:38.4±2.5, 27°.42N×54°.73E, h0km, mb3.8/9, mbtmp3.8/9, Error ellipse: s-maj=57.9km s-min=24.6km az=156.0*
*TEH **09** 02:13:41.0, 27°.65N×54°.71E, h11km±47km, ML3.4*
*DSN **09** 02:13:43.0±1.1, 27°.84N×55°.07E, h33km, ML3.0/5, Error ellipse: s-maj=40.5km s-min=9.8km az=75.0*
*OMAN **09** 02:13:44.6±0.2, 27°.53N×54°.66E, h20km, mb3.5/3, ml3.2/12, Error ellipse: s-maj=4.7km s-min=2.7km az=22.0*
ISC 09 02:13:42.7±1.2, **27.62N**±0°.05×**54.67E**±0°.05, **h16**km±8km, **n54**, σ1°**21**/70, **mb3.7**/9, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.27**	**280**	Pg	**Pg**	**02 13 47.9**	**-0.7**
LAR1				Sg	**Sg**	**02 13 52.5**	**-0.2**
JHRM	**Jahrom**	**1.31**	**312**	Pg	**Pb**	**02 14 07.7**	**+0.7**
GENO	**Geno**	**1.35**	**99**	Pg	**Pn**	**02 14 06.9**	**-0.1**
LMD1	**Lamerd**	**1.37**	**258**	Pg	**Pg**	**02 14 09.1**	**0.0**
IBND	**Bandar-abas**	**1.67**	**96**	Pg	**Pn**	**02 14 12.9**	**+1.8**
QIR1	**Qir**	**1.67**	**301**	Pg	**Pb**	**02 14 14.0**	**+0.9**
SHME	**Shamm**	**2.04**	**140**	P	**Pn**	**02 14 17.2**	**+0.8**
SHME				S	**Sn**	**02 14 42.4**	**+0.9**
MASF	**Masafi** SNR=7.1	**2.61**	**149**	P	**Pn**	**02 14 25.1**	**+0.9**
MASF				S	**Sn**	**02 14 55.6**	**+0.1**
MSFE	**Esma-Masafi**	**2.62**	**149**	P	**Pn**	**02 14 24.2**	**-0.1**
NGRK	**Negar Kerman**	**2.71**	**41**	Pn	**Pn**	**02 14 26.4**	**+0.6**
NAZ	**Nazwa, Dubai**	**2.77**	**161**	P	**Pn**	**02 14 26.9**	**+0.3**
NAZ				S	**Sn**	**02 15 01.5**	**+2.1**
FAQ	**Al Faqa, Dubai**	**2.98**	**164**	P	**Pn**	**02 14 29.9**	**+0.7**
FAQ	**Al Faqa, Dubai**	**2.98**	**164**	P	**Pn**	**02 14 31.1**	**+1.8**
FAQ				S	**Sn**	**02 15 06.4**	**+1.7**
TVBK	**TV Kerman**	**2.98**	**37**	Pn	**Pn**	**02 14 31.3**	**+1.7**
UOSS	**Minazif**	**3.00**	**152**	P	**Pn**	**02 14 28.8**	**-0.7**
UOSS	**Minazif**	**3.00**	**152**	P	**Pn**	**02 14 31.1**	**+1.6**
UOSS				S	**Sn**	**02 15 07.1**	**+1.9**
ASUD	**Al Ashush, Dub** SNR=14	**3.04**	**169**	P	**Pn**	**02 14 31.6**	**+1.5**
HATD	**Hatta, Dubai**	**3.08**	**154**	P	**Pn**	**02 14 30.8**	**+0.2**
HATD	**Hatta, Dubai**	**3.08**	**154**	P	**Pn**	**02 14 31.8**	**+1.2**
HATD				S	**Sn**	**02 15 07.9**	**+0.8**
KHGB	**Koh Gabri**	**3.17**	**30**	Pn	**Pn**	**02 14 33.5**	**+1.4**
ASHO	**Ashiyiah**	**3.18**	**157**	P	**Pn**	**02 14 32.4**	**+0.3**
ASHO				S	**Sn**	**02 15 10.7**	**+1.0**
ASHO	**Ashiyiah** SNR=15	**3.18**	**157**	P	**Pn**	**02 14 33.1**	**+1.0**
ASHO				S	**Sn**	**02 15 11.7**	**+2.0**
	SNR=5.9						
KBAM	**BAM**	**3.66**	**65**	Pn	**Pn**	**02 14 40.4**	**+1.7**
SOHO	**SOHO**	**3.86**	**154**	P	**Pn**	**02 14 40.2**	**-1.1**
SOHO	**SOHO**	**3.86**	**154**	P	**Pn**	**02 14 41.6**	**+0.3**
SOHO				S	**Sn**	**02 15 26.4**	**+0.1**
IBAF	**Bafgh**	**4.03**	**11**	Pn	**Pn**	**02 14 45.2**	**+1.3**
TRNA	**Turayna** SNR=21	**4.24**	**228**	P	**Pn**	**02 14 47.4**	**+0.9**
ISAD	**Sadrabad**	**4.36**	**349**	Pn	**Pn**	**02 14 50.3**	**+1.8**
SMRA	**Abu-Samra**	**4.49**	**231**	P	**Pn**	**02 14 49.7**	**-0.4**
SMRA				S	**Sn**	**02 15 42.6**	**+0.7**
ARQ	**Araqi** SNR=18	**4.58**	**158**	P	**Pn**	**02 14 53.0**	**+1.7**
ARQ				S	**Sn**	**02 15 44.6**	**+0.3**
IRAM	**Ramesheh**	**4.62**	**335**	Pn	**Pn**	**02 14 53.8**	**+1.7**
HOQ	**Hoqain**	**4.67**	**149**	P	**Pn**	**02 14 54.2**	**+1.6**
HOQ				S	**Sn**	**02 15 44.0**	**-2.5**
MZR	**Muzera**	**4.73**	**193**	P	**Pn**	**02 14 53.7**	**+0.4**
MZR				S	**Sn**	**02 15 48.1**	**+0.4**
BSY	**Bisya**	**5.37**	**154**	P	**Pn**	**02 15 03.4**	**+1.2**
SMDO	**Samad**	**5.47**	**145**	P	**Pn**	**02 15 04.8**	**+1.1**
SMDO				S	**Sn**	**02 16 06.3**	**0.0**
IZEF	**Zefreh**	**5.63**	**339**	Pn	**Pn**	**02 15 07.6**	**+1.6**
WSAR	**Wadi Sarin** SNR=6.3	**5.64**	**140**	P	**Pn**	**02 15 06.3**	**+0.4**
JMDO	**Jabal Madar** SNR=5.6	**6.08**	**148**	P	**Pn**	**02 15 14.0**	**+2.0**
WBK	**Wadi Bani Khal**	**6.33**	**141**	P	**Pn**	**02 15 16.7**	**+1.3**
WBK				S	**Sn**	**02 16 24.6**	**-2.7**
JLN	**Jalan Bani Buh**	**6.94**	**141**	P	**Pn**	**02 15 24.2**	**+0.5**
ISFB	**Sefidab**	**7.03**	**343**	Pn	**Pn**	**02 15 27.1**	**+2.1**
MHTO	**MHTO** SNR=24	**7.26**	**155**	P	**Pn**	**02 15 28.0**	**0.0**
WHFO	**Wadi Hawf** SNR=38	**9.69**	**185**	P	**Pn**	**02 16 01.0**	**-0.6**
DMTO	**DMTO**	**9.86**	**178**	P	**Pn**	**02 16 03.9**	**+0.1**
ABTO	**Aybut**	**10.30**	**187**	P	**Pn**	**02 16 09.0**	**-0.8**
BRTR	**Keskin Array B** 1.2nm,0.6s,baz=130,slow=13,SNR=10 1.2nm,0.6s	**21.20**	**310**	P	**P**	**02 18 27.9**	**+0.2**
BVAR	**Borovoye Array** 0.3nm,0.4s,baz=201,slow=7.7,SNR=2.4 0.3nm,0.4s	**27.93**	**20**	P	**P**	**02 19 31.5**	**-0.5**
MKAR	**Makanchi Array** 0.9nm,0.9s,baz=233,slow=11,SNR=1.4 0.9nm,0.9s	**28.92**	**41**	P	**P**	**02 19 40.8**	**-0.1**
ZALV	**Zalesovo Beam** 1.0nm,0.5s,baz=233,slow=8.9,SNR=5.6 1.0nm,0.5s	**34.36**	**32**	P	**P**	**02 20 27.9**	**-0.7**
FINES	**FINESS Array B** 2.3nm,0.7s,baz=133,slow=9.6,SNR=4.5 2.3nm,0.7s	**38.85**	**338**	P	**P**	**02 21 06.0**	**-0.7**
ARCES	**ARCESS Array B** 5.0nm,1.1s,baz=140,slow=8.9,SNR=1.4 5.0nm,1.1s	**45.23**	**346**	P	**P**	**02 21 59.5**	**+0.8**
ESDC	**Sonseca Array** 0.1nm,0.

MT03				IAML			02 16 35.2	
	comp=N,4μm,0.2s							
FCH	**Farellones**	**1.19**	**130**	⇑*iP*		**Pb**	**02 16 18.8**	**-0.1**
FCH				*eS*		**Sb**	**02 16 34.8**	**+0.6**
FCH				IAML			02 16 35.8	
	comp=E,945nm,0.2s							
MT09	**Talagante**	**1.25**	**165**	⇓*iP*		**Pb**	**02 16 20.0**	**+0.1**
MT09				*eS*		**Sn**	**02 16 36.5**	**+0.2**
MT09				IAML			02 16 39.5	
	comp=N,923nm,0.1s							
MT15	**Las Vizcachas**	**1.26**	**145**	*eP*		**Pn**	**02 16 19.7**	**+0.1**
MT15				*eS*		**Sb**	**02 16 35.8**	**-0.3**
MT15				IAML			02 16 38.6	
	comp=N,1μm,0.1s							
MT01	**Popeta**	**1.30**	**176**	*eP*		**Pn**	**02 16 19.5**	**-0.6**
MT01				*eP*		**Pn**	**02 16 20.1**	**-0.1**
MT01				*eS*		**Sb**	**02 16 37.3**	**+0.1**
MT01				*eS*		**Sb**	**02 16 37.7**	**+0.5**
MT01				IAML			02 16 39.5	
	comp=Z,295nm,0.4s							
MT01	**Popeta**	**1.30**	**176**	⇓*iP*		**Pn**	**02 16 20.2**	**0.0**
MT01				*eS*		**Sb**	**02 16 37.3**	**+0.1**
MT04	**Ro Olivares**	**1.33**	**129**	*eP*		**Pn**	**02 16 20.9**	**+0.1**
MT04				*eS*		**Sn**	**02 16 38.9**	**+0.5**
MT12	**Pirque**	**1.35**	**150**	⇓*iP*		**Pn**	**02 16 21.2**	**+0.3**
MT12				*eS*		**Sb**	**02 16 38.4**	**-0.4**
MT12				IAML			02 16 45.5	
	comp=E,825nm,0.3s							
CO02	**Combarbal**	**1.39**	**13**	*eP*		**Pn**	**02 16 20.1**	**-1.4**
CO02				*eS*		**Sn**	**02 16 38.9**	**-0.8**
CO02				IAML			02 16 41.9	
	comp=Z,1μm,0.3s							
MT08	**Bocatoma Ro**	**1.44**	**128**	*eP*		**Pn**	**02 16 22.3**	**+0.1**
MT08				*eS*		**Sn**	**02 16 41.4**	**+0.4**
MT13	**San Alfonso**	**1.49**	**143**	*eP*		**Pn**	**02 16 23.2**	**+0.4**
MT13				*eS*		**Sn**	**02 16 42.6**	**+0.6**
MT13				IAML			02 16 43.4	
	comp=N,845nm,0.2s							
LMEL	**Las Melosas**	**1.61**	**143**	*eP*		**Pn**	**02 16 25.3**	**+0.7**
LMEL				*eS*		**Sn**	**02 16 45.3**	**+0.1**
LMEL				IAML			02 16 47.4	
	comp=N,991nm,0.1s							
CO03	**El Pedregal**	**1.81**	**19**	*eP*		**Pn**	**02 16 26.4**	**-0.9**
CO03				*eS*		**Sn**	**02 16 51.2**	**+1.1**
CO03				IAML			02 16 54.8	
	comp=Z,253nm,0.2s							
BO01	**Tunca**	**1.84**	**173**	*eP*		**Pn**	**02 16 26.7**	**-0.8**
BO01				*eS*		**Sn**	**02 16 50.2**	**-0.4**
BO01				IAML			02 16 55.8	
	comp=Z,126nm,0.2s							
RTLS	**Leoncito**	**1.92**	**67**	*eP*		**Pb**	**02 16 30.5**	**-0.8**
RTLS				*eS*		**Sg**	**02 16 57.1**	**-1.1**
RTLS				IAML			02 16 59.6	
	comp=Z,305nm,0.6s							
ARCO	**CERRO ARCO**	**2.07**	**98**	*eP*		**Pb**	**02 16 33.5**	**-0.5**
ARCO				*eS*		**Sn**	**02 16 48.6**	**-8.0**
ARCO				IAML			02 16 48.7	
	comp=Z,85nm,0.3s							
ASAL	**Salagasta**	**2.14**	**91**	*eP*		**Pb**	**02 16 34.4**	**-0.6**
ASAL				*eS*		**Sn**	**02 17 00.2**	**+2.1**
AAGR	**Agrelo**	**2.20**	**104**	*eP*		**Pb**	**02 16 53.2**	**-0.7**
AAGR				*eS*		**Sn**	**02 16 53.6**	**-6.1**
BO02	**Sierra Bellavi**	**2.28**	**168**	*eP*		**Pn**	**02 16 33.2**	**-0.4**
BO02				*eS*		**Sn**	**02 16 58.2**	**-3.3**
BO02				IAML			02 17 11.4	
	comp=Z,197nm,0.2s							
GO04	**Tololo Observa**	**2.43**	**12**	*eP*		**Pn**	**02 16 34.7**	**-1.2**
GO04				*eS*		**Sn**	**02 17 07.7**	**+2.2**
ZON	**Zonda**	**2.50**	**67**	*eP*		**Pn**	**02 16 38.1**	**+1.4**
ZON				IAML			02 17 29.1	
	comp=Z,62nm,0.7s							
DOCA	**Reserva Natura**	**2.53**	**51**	*eP*		**Pn**	**02 16 38.5**	**+1.2**
RTLL	**Cerro Villicun**	**2.75**	**64**	*eP*		**Pn**	**02 16 41.4**	**+1.2**
RTLL				*eS*		Sn	02 17 02.0	-11
ACCO	**Cerro Coronel**	**2.78**	**46**	*eP*		**Pn**	**02 16 42.2**	**+1.4**
CO01	**Juntas del Tor**	**2.80**	**23**	*eP*		**Pn**	**02 16 40.1**	**-0.8**
CO01				*eS*		**Sb**	**02 17 22.7**	**+2.1**
CO01				IAML			02 17 31.6	
	comp=Z,73nm,0.7s							
CFA	**Coronel Fontan**	**2.83**	**71**	*eP*		**Pn**	**02 16 42.2**	**+1.1**
CFA				*eS*		Sn	02 17 02.5	-12
AROD	**Rodeo**	**2.89**	**35**	*eP*		**Pn**	**02 16 43.5**	**+1.3**
AROD				*eS*		**Sg**	**02 17 31.2**	**+1.9**
RFA	**San Rafael**	**3.27**	**133**	*eP*		**Pn**	**02 16 48.5**	**+1.2**
RFA				*eS*		Sn	02 17 11.3	-15
LCO	**Las Campanas**	**3.59**	**9**	*eP*		**Pn**	**02 16 50.2**	**-1.6**
LCO				*eS*		**Sn**	**02 17 33.2**	**-0.9**
LCO				*eS*		**Sb**	**02 17 44.2**	**+1.0**
LCO				IAML			02 17 52.7	
	comp=Z,218nm,0.5s							
AC05	**El Transito**	**3.83**	**15**	*eP*		**Pn**	**02 16 53.3**	**-1.8**
AC05				*eS*		**Sb**	**02 17 53.7**	**+3.5**
AC05				IAML			02 18 00.3	
	comp=Z,46nm,0.9s							
AVFE	**Valle Fertil**	**3.84**	**61**	*eP*		Pn	02 16 50.2	-4.9
AVFE				*eS*		**Sb**	**02 17 51.2**	**+0.8**
AVFE				*eS*		**Sg**	**02 17 59.5**	**-0.4**
AC04	**Llanos de Chal**	**4.35**	**3**	*eP*		**Pn**	**02 16 59.6**	**-2.5**
AC04				IAML			02 18 15.3	
	comp=Z,33nm,0.6s							
ACLC	**CERRO LA CRUZ**	**4.92**	**52**	IAML			02 18 30.9	
	comp=Z,16nm,0.4s							

*SJA **09** 02:21:33.6±1.0,24°.06S×66°.77W,h226km±6km, ML4.7, MW4.3*
*IDC **09** 02:21:34.8±0.9,23°.96S×66°.52W,h188km±8km, mb3.9/13, mbtmp4.4/19, MS3.4/3, Error ellipse: s-maj=11.2km s-min=9.7km az=72.0*
*NEIC **09** 02:21:35.1±1.7,24°.09S±0°.06×66°.68W±0°.09,h195km±6km, mb4.5/92, Error ellipse: s-maj=11.6km s-min=9.3km az=82.0*
*GUC **09** 02:21:36.8±0.5,23°.91S×67°.10W,h247km±4km, ML4.9*
*VAO **09** 02:21:37.6±0.4,23°.75S×66°.64W,h204km±4km, mb4.1*
ISC 09 02:21:35.3±0.5,**24°.04S**±0°.03×**66°.78W**±0°.03,**h203**km±5km, **n267**,σ1$**36**/265,**mb4.5**/58,**4C-1D**,**Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.34**	**121**	*iP*	**Pn**	**02 22 09.1**	**+1.0**
SLA				*iS*	**S**	**02 22 34.8**	**+1.5**
SLA				IAML		02 22 35.2	
	comp=Z,1μm,0.7s						
AZAP	**Zapla**	**1.57**	**97**	*iP*	**Pn**	**02 22 10.5**	**+0.3**
AZAP				*iS*	**S**	**02 22 39.0**	**+2.2**
AF01	**San Pedro de A**	**1.68**	**310**		**Pn**	**02 22 13.2**	**+1.9**
AF01			Sn		**S**	**02 22 41.7**	**+3.0**
AF01	**San Pedro de A**	**1.68**	**310**	*eP*	**Pn**	**02 22 13.6**	**+2.3**
AF01				*eS*	**S**	**02 22 42.0**	**+3.3**
ASTB	**Santa Barbara**	**2.12**	**88**	*iP*	**Pn**	**02 22 15.7**	**+0.2**
YJA	**Yavi**	**2.19**	**32**	*iP*	**Pn**	**02 22 17.7**	**+1.2**
LVC	**Limon Verde**	**2.42**	**305**		**Pn**	**02 22 20.5**	**+1.5**
LVC			Sn		**S**	**02 22 52.9**	**+0.6**
LVC	**Limon Verde**	**2.42**	**305**	*iP*	**Pn**	**02 22 19.8**	**+0.8**
LVC	**Limon Verde**	**2.42**	**305**	*eP*	**Pn**	**02 22 20.3**	**+1.4**
LVC	**Limon Verde**	**2.42**	**305**	P	**Pn**	**02 22 20.5**	**+1.5**
	comp=Z,135nm,0.3s,baz=135,slow=7.1,SNR=289						
LVC				S	**S**	**02 22 53.7**	**+1.4**
	comp=Z,382nm,0.3s,baz=209,slow=22,SNR=42						
LVC				LR	LR	02 23 37.7	
	comp=Z,148nm,18.1s,baz=71,slow=48						
LVC	**Limon Verde**	**2.42**	**305**	⇓*iP*	**Pn**	**02 22 20.4**	**+1.5**
LVC				*eS*	**S**	**02 22 53.6**	**+1.4**
LVC				IAML		02 22 57.6	
	comp=Z,3μm,0.4s						
ALOL	**LOMAS DE OLMED**	**2.56**	**86**	*iP*	**Pn**	**02 22 20.2**	**+0.1**
ALOL				*iS*	**S**	**02 22 55.1**	**+0.7**
PB15	**IPOC Station P**	**2.61**	**288**		**Pn**	**02 22 22.2**	**+1.4**
PB15			Sn		**S**	**02 22 56.1**	**+0.5**
PB15	**IPOC Station P**	**2.61**	**288**	*iP*	**Pn**	**02 22 22.0**	**+1.2**
PB15				*iS*	**S**	**02 22 56.8**	**+1.1**
PB15	**IPOC Station P**	**2.61**	**288**	*eP*	**Pn**	**02 22 22.1**	**+1.2**
PB15				*iS*	**S**	**02 22 56.6**	**+1.0**
GO02	**Mina Guanaco**	**2.80**	**246**		**Pn**	**02 22 24.0**	**+1.0**
GO02	**Mina Guanaco**	**2.80**	**246**	*iP*	**Pn**	**02 22 23.4**	**+0.3**
PB06	**IPOC Station P**	**2.89**	**297**		**Pn**	**02 22 25.1**	**+1.1**
PB06	**IPOC Station P**	**2.89**	**297**	*iP*	**Pn**	**02 22 24.7**	**+0.6**
PB06				IAML		02 23 04.4	
	comp=Z,1μm,0.2s						
PB06	**IPOC Station P**	**2.89**	**297**	*eP*	**Pn**	**02 22 25.1**	**+1.1**
PB06				*eS*	**S**	**02 23 01.5**	**+0.1**
PB06				IAML		02 23 03.7	
	comp=E,3μm,0.2s						
AHML	**Horco Molle**	**3.03**	**155**	*iP*	**Pn**	**02 22 25.4**	**0.0**
AHML				*iS*	**S**	**02 23 03.6**	**-0.6**
PB09	**IPOC Station P**	**3.19**	**314**		**Pn**	**02 22 28.7**	**+1.2**
PB09	**IPOC Station P**	**3.19**	**314**	*iP*	**Pn**	**02 22 28.5**	**+1.0**
PB09				IAML		02 23 12.5	
	comp=Z,737nm,0.2s						
PB09	**IPOC Station P**	**3.19**	**314**	⇓*eP*	**Pn**	**02 22 28.9**	**+1.4**
PB09				*eS*	**S**	**02 23 08.2**	**+0.5**
PB09				IAML		02 23 12.7	
	comp=E,888nm,0.3s						
PB05	**IPOC Station P**	**3.36**	**290**		**Pn**	**02 22 30.2**	**+0.6**
PB05	**IPOC Station P**	**3.36**	**290**	*iP*	**Pn**	**02 22 29.6**	**+0.1**
PB05				IAML		02 23 15.4	
	comp=Z,590nm,0.3s						
PB05	**IPOC Station P**	**3.36**	**290**	*eP*	**Pn**	**02 22 30.0**	**+0.5**
PB05				*iS*	**S**	**02 23 09.8**	**-1.5**
PB14	**IPOC Station P**	**3.36**	**259**		**Pn**	**02 22 30.3**	**+0.6**
PB14	**IPOC Station P**	**3.36**	**259**	*iP*	**Pn**	**02 22 29.9**	**+0.2**
PB14				*iS*	**S**	**02 23 10.9**	**-0.7**
PB14				IAML		02 23 14.4	
	comp=Z,2μm,0.3s						
PB04	**IPOC Station P**	**3.54**	**298**		**Pn**	**02 22 32.6**	**+0.9**
PB04	**IPOC Station P**	**3.54**	**298**	*iP*	**Pn**	**02 22 32.2**	**+0.5**
PB04				IAML		02 23 22.0	
	comp=Z,884nm,0.2s						
PB04	**IPOC Station P**	**3.54**	**298**	*eP*	**Pn**	**02 22 32.7**	**+0.9**
PB04				*iS*	**S**	**02 23 13.8**	**-1.5**
PB07	**IPOC Station P**	**3.68**	**308**		**Pn**	**02 22 33.7**	**+0.3**
PB07	**IPOC Station P**	**3.68**	**308**	*iP*	**Pn**	**02 22 33.2**	**-0.2**
PB07				IAML		02 23 20.2	
	comp=Z,1μm,0.2s						
PB07	**IPOC Station P**	**3.68**	**308**	*eP*	**Pn**	**02 22 33.9**	**+0.4**
PB07				*iS*	**S**	**02 23 16.8**	**-1.6**
PB01	**IPOC Station P**	**3.90**	**319**		**Pn**	**02 22 36.4**	**+0.3**
PB01	**IPOC Station P**	**3.90**	**319**	*iP*	**Pn**	**02 22 35.9**	**-0.1**
PB01				IAML		02 23 25.5	
	comp=Z,962nm,0.2s						
PB01	**IPOC Station P**	**3.90**	**319**	*eP*	**Pn**	**02 22 36.4**	**+0.3**
PB01				*iS*	**S**	**02 23 21.8**	**-1.3**
PB02	**IPOC Station P**	**3.95**	**313**		**Pn**	**02 22 37.1**	**+0.4**
PB02	**IPOC Station P**	**3.95**	**313**	*iP*	**Pn**	**02 22 36.5**	**-0.2**
PB02				IAML		02 23 29.8	
	comp=Z,2μm,0.3s						
PB02	**IPOC Station P**	**3.95**	**313**	*eP*	**Pn**	**02 22 36.8**	**0.0**
PB02				*iS*	**S**	**02 23 22.4**	**-2.0**
AC01	**Pan de Azucar**	**4.05**	**238**	Pn	**Pn**	**02 22 37.5**	**-0.3**
AC01	**Pan de Azucar**	**4.05**	**238**	*iP*	**Pn**	**02 22 37.6**	**-0.2**
AC01				*iS*	**S**	**02 23 24.3**	**-2.1**
AC01				IAML		02 23 24.8	
	comp=Z,765nm,0.5s						
AC01	**Pan de Azucar**	**4.05**	**238**	*eP*	**Pn**	**02 22 37.2**	**-0.6**
AC01				*iS*	**S**	**02 23 24.4**	**-2.1**
TINO	**Tinogasta**	**4.07**	**190**	*iP*	**Pn**	**02 22 39.5**	**+1.4**
PB08	**IPOC Station P**	**4.46**	**330**		**Pn**	**02 22 44.2**	**+0.8**
PB08	**IPOC Station P**	**4.46**	**330**	*iP*	**Pn**	**02 22 43.9**	**+0.5**
PB08				IAML		02 23 40.8	
	comp=Z,362nm,0.5s						
PB08	**IPOC Station P**	**4.46**	**330**	*eP*	**Pn**	**02 22 44.2**	**+0.8**
PB08				*iS*	**S**	**02 23 36.3**	**-0.1**
PATCX	**Punta Patache**	**4.47**	**315**		**Pn**	**02 22 42.8**	**-0.4**
PATCX	**Punta Patache**	**4.47**	**315**	*iP*	**Pn**	**02 22 42.6**	**-0.6**
PATCX				IAML		02 23 39.2	
	comp=Z,406nm,0.3s						
PATCX	**Punta Patache**	**4.47**	**315**	*eP*	**Pn**	**02 22 42.9**	**-0.3**
PATCX				*iS*	**S**	**02 23 33.0**	**-3.2**
AC06	**Mina Casimiro**	**4.62**	**224**	Pn	**Pn**	**02 22 44.0**	**-0.9**
AC06	**Mina Casimiro**	**4.62**	**224**	*eP*	**Pn**	**02 22 44.2**	**-0.8**
AC06				*iS*	**S**	**02 23 38.0**	**-1.4**
TA01	**Diego Aracena**	**4.68**	**317**	Pn	**Pn**	**02 22 45.9**	**+0.2**
TA01	**Diego Aracena**	**4.68**	**317**	*iP*	**Pn**	**02 22 45.5**	**-0.2**
TA01				IAML		02 23 44.3	
	comp=Z,168nm,0.4s						
TA01	**Diego Aracena**	**4.68**	**317**	*eP*	**Pn**	**02 22 44.9**	**-0.8**
TA01				*iS*	**S**	**02 23 38.1**	**-2.6**
GO03	**Copiap**	**4.72**	**221**		**Pn**	**02 22 45.5**	**-0.7**
GO03	**Copiap**	**4.72**	**221**	*iP*	**Pn**	**02 22 45.1**	**-1.1**
GO03	**Copiap**	**4.72**	**221**	*eP*	**Pn**	**02 22 45.3**	**-0.9**
GO03				*iS*	**S**	**02 23 40.1**	**-1.6**
HMBC	**Humberstone**	**4.72**	**322**	*iP*	**Pn**	**02 22 46.2**	**-0.2**
HMBC				IAML		02 23 44.4	
	comp=Z,791nm,0.5s						
HMBC	**Humberstone**	**4.72**	**322**	*eP*	**Pn**	**02 22 45.5**	**-1.0**
HMBC				*iS*	**S**	**02 23 39.0**	**-3.0**
VCA	**Vinchina**	**4.85**	**195**	*iP*	**Pn**	**02 22 49.0**	**+1.0**
TA02	**Huaiquique**	**4.87**	**320**		**Pn**	**02 22 49.0**	**+0.8**
GO01	**Chusmiza**	**4.89**	**332**		**Pn**	**02 22 49.0**	**0.0**
GO01	**Chusmiza**	**4.89**	**332**	*iP*	**Pn**	**02 22 48.9**	**0.0**
GO01	**Chusmiza**	**4.89**	**332**	*eP*	**Pn**	**02 22 49.1**	**0.0**
GO01				*iS*	**S**	**02 23 45.3**	**-1.2**
PB11	**IPOC Station P**	**5.03**	**327**	Pn	**Pn**	**02 22 49.4**	**-0.9**
PB11	**IPOC Station P**	**5.03**	**327**	*iP*	**Pn**	**02 22 49.8**	**-0.6**
PB11				*iS*	**S**	**02 23 45.8**	**-3.2**
PB11				IAML		02 23 51.2	
	comp=Z,422nm,0.7s						
PB11	**IPOC Station P**	**5.03**	**327**	*eP*	**Pn**	**02 22 49.3**	**-1.0**
PB11				*iS*	**S**	**02 23 46.4**	**-2.7**
ACLC	**CERRO LA CRUZ**	**5.37**	**182**	*iP*	**Pn**	**02 22 54.4**	**-0.2**
AC04	**Llanos de Chal**	**5.67**	**222**	Pn	**Pn**	**02 22 57.3**	**-1.1**
AC05	**El Transito**	**5.71**	**213**	Pn	**Pn**	**02 22 58.3**	**-0.7**
LCO	**Las Campanas**	**6.07**	**215**	Pn	**Pn**	**02 23 02.4**	**-1.4**
PB16	**IPOC Station P**	**6.22**	**335**	Pn	**Pn**	**02 23 05.8**	**-0.3**
CO01	**Juntas del Tor**	**6.61**	**206**		**Pn**	**02 23 10.7**	**0.0**
PB18	**Visviri**	**6.90**	**338**		**Pn**	**02 23 15.3**	**+0.5**
CO05	**La Serena**	**7.08**	**213**		**Pn**	**02 23 14.4**	**-2.1**
GO04	**Tololo Observa**	**7.08**	**210**		**Pn**	**02 23 14.9**	**-1.9**
CO03	**El Pedregal**	**7.61**	**206**	Pn	**Pn**	**02 23 21.8**	**-1.7**
CFA	**Coronel Fontan**	**7.65**	**189**	P	**Pn**	**02 23 23.1**	**-0.9**
	comp=Z,101nm,0.3s,baz=348,slow=13,SNR=214						
CFA				S	**S**	**02 24 44.0**	**-6.4**
	comp=Z,48nm,0.3s,baz=142,slow=15,SNR=7.3						
ZON	**Zonda**	**7.67**	**192**		**Pn**	**02 23 22.9**	**-1.3**
LPAZ	**La Paz**	**7.81**	**350**		**Pn**	**02 23 27.2**	**+0.4**
CO02	**Combarbal**	**8.06**	**207**	Pn	**Pn**	**02 23 27.3**	**-2.1**
SCCA	**San Cayetano,**	**8.13**	**117**	*eP*	**Pn**	**02 23 32.2**	**+2.0**
MURT	**Porto Murtinho**	**8.78**	**76**	*eP*	**Pn**	**02 23 37.3**	**-1.4**
CPUP	**Villa Florida**	**8.85**	**107**	Pn	**Pn**	**02 23 38.4**	**-1.2**
CPUP	**Villa Florida**	**8.85**	**107**	*eP*	**Pn**	**02 23 40.2**	**+0.6**
CPUP	**Villa Florida**	**8.85**	**107**	P	**Pn**	**02 23 36.3**	**-3.3**
	comp=Z,1.6nm,0.6s,baz=302,slow=11,SNR=4.6						
BBSD	**Serra de San D**	**8.93**	**41**	*eP*	**Pn**	**02 23 39.6**	**-1.2**
VA03	**San Esteban**	**9.31**	**200**		**Pn**	**02 23 44.4**	**-1.2**
SIV	**San Ignacio**	**9.63**	**35**	P	**Pn**	**02 23 47.8**	**-2.1**
	comp=Z,420nm,0.7s,baz=216,slow=12,SNR=258						
ROC1	**El Roble**	**9.65**	**202**		**Pn**	**02 23 48.8**	**-1.4**
PEL	**Peldehue**	**9.70**	**200**		**Pn**	**02 23 49.3**	**-1.3**
MT08	**Bocatoma Ro**	**9.79**	**196**		**Pn**	**02 23 52.7**	**+0.7**
MT05	**Renca**	**9.95**	**200**		**Pn**	**02 23 52.4**	**-1.4**
BDQN	**Bodoquena, MS**	**9.95**	**71**	*eP*	**Pn**	**02 23 52.2**	**-1.7**
MT02	**Curacav**	**9.95**	**202**	Pn	**Pn**	**02 23 51.4**	**-2.5**
MT03	**Universidad Ad**	**9.97**	**198**		**Pn**	**02 23 53.4**	**-0.8**
ANTJ	**Antonio Joao (**	**10.12**	**81**	*eP*	**Pn**	**02 23 55.8**	**-0.4**
MT13	**San Alfonso**	**10.15**	**197**		**Pn**	**02 23 56.5**	**0.0**
LMEL	**Las Melosas**	**10.22**	**196**		**Pn**	**02 23 57.6**	**+0.1**
MT09	**Talagante**	**10.38**	**200**		**Pn**	**02 23 57.1**	**-2.4**
BO04	**La Punta**	**10.47**	**198**	Pn	**Pn**	**02 23 59.0**	**-1.5**
VA05	**Santo Domingo**	**10.48**	**203**		**Pn**	**02 24 00.1**	**-0.5**
MT01	**Popeta**	**10.54**	**201**		**Pn**	**02 24 00.4**	**-1.1**
AQDB	**Aquidauana**	**10.85**	**73**	*eP*	**Pn**	**02 24 05.1**	**-0.4**
BO01	**Tunca**	**10.98**	**199**		**Pn**	**02 24 04.3**	**-2.7**
PTLB	**Pontes e Lacer**	**11.16**	**41**		**Pn**	**02 24 07.9**	**-1.6**
PTLB	**Pontes e Lacer**	**11.16**	**41**	*eP*	**Pn**	**02 24 08.4**	**-1.1**
BO02	**Sierra Bellavi**	**11.27**	**197**	Pn	**Pn**	**02 24 09.5**	**-1.3**
GO05	**Huala**	**11.81**	**201**		**Pn**	**02 24 14.9**	**-2.8**
RODS	**Rosario do Sul**	**12.06**	**124**	*eP*	**P**	**02 24 24.8**	**-0.6**
RVDE	**Rio Verde (Bra**	**12.09**	**68**	*eP*	**Pn**	**02 24 21.1**	**-0.3**
ML02	**Panimavida**	**12.36**	**198**	Pn	**Pn**	**02 24 23.0**	**-1.5**
FRBT	**Francisco Belt**	**12.58**	**102**	*eP*	**P**	**02 24 29.6**	**-1.7**
VILB	**Vilhena**	**12.66**	**31**		**Pn**	**02 24 28.0**	**-0.7**
VILB	**Vilhena**	**12.66**	**31**	*eP*	**Pn**	**02 24 28.2**	**-0.4**
PP1B	**Ponte de Pedra**	**12.83**	**62**	*eP*	**Pn**	**02 24 29.1**	**-1.6**
SALV	**Santo Antonio**	**13.19**	**54**	*eP*	**Pn**	**02 24 33.4**	**-1.7**
ALGR	**Alto Alegre (B**	**13.20**	**114**	*eP*	**P**	**02 24 38.6**	**+0.5**
PTGB	**Pitanga**	**13.42**	**96**	*eP*	**P**	**02 24 40.3**	**-0.4**
CPSB	**Cacapava Do Su**	**13.45**	**121**	*eP*	**P**	**02 24 40.8**	**0.0**
ITAB	**Concordia**	**13.59**	**107**	*eP*	**P**	**02 24 41.9**	**-0.5**
PLTB	**Pedras Altas**	**13.95**	**126**	Pn	**Pn**	**02 24 42.9**	**-1.7**
PLTB	**Pedras Altas**	**13.95**	**126**	*eP*	**P**	**02 24 47.4**	**+1.0**
ETMB	**Extrema**	**14.15**	**2**		**Pn**	**02 24 45.5**	**-1.6**
ETMB	**Extrema**	**14.15**	**2**	*eP*	**Pn**	**02 24 45.5**	**-1.6**
LDASE	**Londrina, Braz**	**14.36**	**91**	*eP*	**P**	**02 24 51.2**	**+0.2**
TRQA	**Tornquist**	**14.56**	**165**		**Pn**	**02 24 50.0**	**-2.0**
SAML	**Samuel**	**15.39**	**13**		**P**	**02 25 01.1**	**-1.4**
SAML	**Samuel**	**15.39**	**13**	*eP*	**P**	**02 25 01.5**	**-1.0**
PDRB	**Porto dos Gac**	**15.62**	**39**	*eP*	**P**	**02 25 04.6**	**-0.4**
FRTB	**Fartura**	**15.78**	**91**	*eP*	**Pn**	**02 25 09.2**	**+2.1**
ITRB	**Iturama**	**15.83**	**77**	*eP*	**Pn**	**02 25 09.0**	**+1.4**
GO06	**Curarrehue**	**16.00**	**193**	P	**P**	**02 25 08.1**	**-1.0**
CLDB	**Colider**	**16.75**	**40**	*eP*	**Pn**	**02 25 17.8**	**-0.9**
PLCA	**Paso Flores**	**16.95**	**190**	P	**P**	**02 25 19.5**	**+0.1**
PLCA	**Paso Flores**	**16.95**	**190**	P	**P**	**02 25 20.5**	**+1.0**
	comp=Z,4.5nm,0.6s,baz=14,slow=11,SNR=19						
PLCA				S	**S**	**02 28 30.8**	**+5.1**
	comp=Z,2.4nm,1.1s,baz=195,slow=14,SNR=1.6						
BB19B	**Bebedouro**	**17.11**	**84**	*eP*	**Pn**	**02 25 22.7**	**-0.2**
CZSB	**Cruzeiro do Su**	**17.18**	**340**	P	**P**	**02 25 21.2**	**-1.0**
CZSB	**Cruzeiro do Su**	**17.18**	**340**	*eP*	**P**	**02 25 21.3**	**-0.9**
SPB	**Sao Paulo**	**17.71**	**92**	*eP*	**Pn**	**02 25 29.6**	**-0.2**
RCLB	**Rio Claro- Sao**	**17.76**	**89**	*eP*	**Pn**	**02 25 29.7**	**-0.8**
PET01	**Itanhaem-SP**	**17.80**	**95**	*eP*	**Pn**	**02 25 29.3**	**-1.6**
VAO	**Valinhos**	**18.20**	**91**	*eP*	**Pn**	**02 25 34.2**	**-1.5**
IPMB	**Ipameri, GO**	**18.34**	**74**	*eP*	**Pn**	**02 25 35.4**	**-1.9**
LL01	**San Ignacio de**	**18.88**	**193**	P	**P**	**02 25 40.4**	**0.0**
LL01				IAmb	IAmb	02 25 45.5	
	comp=Z,16nm,0.7s						
SNDB	**Serra Nova Dou**	**18.97**	**53**	*eP*	**P**	**02 25 41.1**	**-0.5**
PARB	**Paraibuna**	**19.39**	**92**	*eP*	**P**	**02 25 46.0**	**-0.1**
BDFB	**Brasilia**	**19.51**	**68**	P	**P**	**02 25 46.9**	**-0.6**
BDFB	**Brasilia**	**19.51**	**68**	P	**P**	**02 25 46.4**	**-1.1**
	comp=Z,6.3nm,0.8s,baz=230,slow=12,SNR=8.4						
BDFB				S	**S**	**02 29 13.8**	**-3.3**
	comp=Z,0.7nm,0.4s,baz=314,slow=26,SNR=1.4						
PMNB	**Patos De Minas**	**19.72**	**78**	*eP*	**P**	**02 25 50.0**	**+0.3**
NPGB	**Novo Progresso**	**20.14**	**35**	*eP*	**P**	**02 25 51.5**	**-2.6**
TEFE	**Tefe**	**20.51**	**6**	*eP*	**P**	**02 25 57.0**	**-1.1**
BSCB	**Bom Sucesso**	**20.55**	**86**	*eP*	**P**	**02 25 58.7**	**+0.2**
VAS01	**Vassouras-RJ**	**21.52**	**90**	*eP*	**P**	**02 26 09.6**	**+0.9**
MACA	**Manacapuru-AM**	**21.57**	**17**	P	**P**	**02 26 06.7**	**-2.5**
MACA	**Manacapuru-AM**	**21.57**	**17**	*eP*	**P**	**02 26 07.5**	**-1.7**
ITTB	**Itaituba**	**22.27**	**30**	*eP*	**P**	**02 26 14.1**	**-1.9**
DIAM	**Diamantina, MG**	**22.27**	**80**	*eP*	**P**	**02 26 16.2**	**0.0**
DUB01	**Friburgo-RJ**	**22.53**	**90**	*eP*	**P**	**02 26 18.4**	**0.0**
JANB	**Januaria**	**22.95**	**71**	*eP*	**P**	**02 26 21.5**	**-0.7**
MCRA	**Macar, Loja

SCHQ	Schefferville	78.55	360	P		P		02 33 14.3	+0.5
	comp=Z,2.2nm,0.6s,baz=151,slow=19,SNR=1.5								
	comp=Z,2.2nm,0.6s								
OMMB	Old Mammoth Mi	78.55	320	P		P		02 33 16.0	+1.3
OMMB				IAmb		IAmb		02 33 17.7	
	comp=Z,7.0nm,0.5s								
MDPB	Devils Postpil	78.61	320	P		P		02 33 16.9	+1.9
MDPB				IAmb		IAmb		02 33 23.2	
	comp=Z,3.3nm,0.4s								
NVAR	Mina Array Bea	78.70	321	P		P		02 33 17.4	+2.1
	comp=Z,1.2nm,0.8s,baz=151,slow=6.8,SNR=5.1								
	comp=Z,1.2nm,0.8s								
IMW	Indian Meadow	78.80	329	IAmb		IAmb		02 33 19.0	
	comp=Z,6.4nm,0.8s								
FLWY	Flagg Ranch	78.83	329	IAmb		IAmb		02 33 19.3	
	comp=Z,10nm,1.1s								
LAO	LASA Array	78.92	334	IAmb		IAmb		02 33 18.7	
	comp=Z,8.5nm,0.8s								
RLMT	Red Lodge	78.98	331	IAmb		IAmb		02 33 19.2	
	comp=Z,5.0nm,0.8s								
KVN	Kaiserville	79.01	322	IAmb		IAmb		02 33 19.8	
	comp=Z,5.3nm,0.8s								
YMR	Madison River	79.40	330	IAmb		IAmb		02 33 22.7	
	comp=Z,11nm,0.9s								
PNTR	Pine Nut	79.89	321	IAmb		IAmb		02 33 25.2	
	comp=Z,9.9nm,0.9s								
PAHR	Pah Rah Range	80.18	322	IAmb		IAmb		02 33 26.6	
	comp=Z,8.9nm,0.9s								
HLID	Hailey	80.23	327	IAmb		IAmb		02 33 27.0	
	comp=Z,12nm,0.9s								
MCMT	McKenzie Canyo	80.40	329	P		P		02 33 26.2	+1.8
MAW	Mawson	81.34	163	P		P		02 33 30.4	+1.7
	comp=Z,9.2nm,0.8s,baz=195,slow=5.0,SNR=12								
	comp=Z,9.2nm,0.8s								
EGMT	Eagleton	81.44	332	IAmb		IAmb		02 33 31.8	
	comp=Z,6.6nm,1.0s								
PLID	Pearl Lake	82.12	327	IAmb		IAmb		02 33 36.2	
	comp=Z,10nm,0.8s								
J08A	Circle Bar Ran	82.17	325	P		P		02 33 35.3	+1.7
J08A				IAmb		IAmb		02 33 36.7	
	comp=Z,5.8nm,0.8s								
K05A	Summer Lake	83.05	323	IAmb		IAmb		02 33 41.4	
	comp=Z,10nm,0.8s								
PINE	Pine Mountain	83.78	324	IAmb		IAmb		02 33 45.2	
	comp=Z,7.0nm,0.9s								
D08A	Wollman Farm,	84.95	327	IAmb		IAmb		02 33 50.7	
	comp=Z,15nm,1.4s								
ESDC	Sonseca Array	86.28	43	P		P		02 33 55.0	+0.7
ESDC	Sonseca Array	86.28	43	P		P		02 33 55.1	+0.9
	comp=Z,1.5nm,0.8s,baz=238,slow=4.1,SNR=9.7								
	comp=Z,1.5nm,0.8s								
YKA	Yellowknife Ar	94.23	340	P		P		02 34 31.8	+1.1
	comp=Z,2.7nm,0.8s,baz=133,slow=4.1,SNR=39								
	comp=Z,7nm,0.8s								
ASAR	Alice Springs	128.51	204	PKP		PKiKP		02 40 19.6	+0.1
	comp=Z,3.0nm,0.7s,baz=150,slow=2.3,SNR=32								
WRA	Warramunga Arr	131.69	207	PKP		PKiKP		02 40 25.6	-0.3
	comp=Z,1.4nm,0.5s,baz=166,slow=1.6,SNR=22								
BVAR	Borovoye Array	136.70	37	PKP		PKiKP		02 40 34.5	-0.4
	comp=Z,2.3nm,0.9s,baz=264,slow=1.5,SNR=7.5								
KURBB	Kurchatov Arra	142.29	36	PKhKP		PKPpre		02 40 40.3	
	comp=Z,1.0nm,0.7s,baz=303,slow=2.7,SNR=4.9								
KURBB				PKP		PKiKP		02 40 45.2	-1.2
	comp=Z,1.8nm,0.9s,baz=296,slow=2.7,SNR=9.6								
ZAA0	Zalesovo Array	143.33	28	PKPdf		PKPdf		02 40 43.6	-1.5
ZALV	Zalesovo Beam	143.33	28	PKPdf		PKPdf		02 40 44.4	-0.7
ZALV	Zalesovo Beam	143.33	28	PKP		PKPdf		02 40 43.9	-1.2
	comp=Z,6.9nm,0.8s,baz=299,slow=4.2,SNR=25								
NIL	Nilore	143.89	65	PKPdf		PKPbc		02 40 44.7	-0.4
NRN	Naryn	144.53	52	PKPdf		PKPdf		02 40 48.0	-0.1
KSH	Kashi	145.05	55	PKP		PKPdf		02 40 49.5	+0.8
PRZ	Przheval'sk	145.87	49	PKPbc		PKPbc		02 40 50.5	-0.6
MKAR	Makanchi Array	146.42	40	PKPbc		PKPbc		02 40 51.5	-0.9
MKAR	Makanchi Array	146.42	40	PKPbc		PKPbc		02 40 52.2	-0.2
	comp=Z,8.4nm,0.7s,baz=322,slow=2.1,SNR=30								
KLR	Kul'dur	150.95	335	PKPbc		PKiKP		02 41 04.8	+0.4
	comp=Z,5.5nm,0.8s,baz=51,slow=2.9,SNR=14								
SONM	Songino Array	155.64	11	PKP		PKPdf		02 41 06.2	+1.4
	comp=Z,0.4nm,0.4s,baz=6.1,slow=19,SNR=3.9								
SONM				PKPab		PKPab		02 41 32.9	+1.0
	comp=Z,0.8nm,0.7s,baz=284,slow=1.7,SNR=3.6								
CMAR	Chiang Mai Arr	165.58	110	PKPab		PKPab		02 42 16.6	+0.5
	comp=Z,1.3nm,0.6s,baz=238,slow=5.1,SNR=5.8								
PZH	PanZhiHua	169.32	74	PKP		PKPdf		02 41 19.3	+0.4

REN ***09*** *02:27:47.6±1.9, 37.°55N±0.°02×118.°81W±0.°01, h5km±3km, Error ellipse: s-maj=2.4km s-min=1.6km az=199.0*

ANF ***09*** *02:27:47.3±0.2, 37.°51N×118.°82W, h2km±2km, ML3.4/22, ML3.5/22, Error ellipse: s-maj=1.9km s-min=1.4km az=82.0*

NCEDC ***09*** *02:27:47.5±1.6, 37.°550N±0.°009×118.°81W±0.°01, h4km±3km, Mwr3.5/3, ML3.1/90(NEIC), Mwr3.5(REN), Error ellipse: s-maj=1.7km s-min=1.3km az=111.0*

NEIC ***09*** *02:27:48.3±2.4, 37.°53N±0.°01×118.°81W±0.°01, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.1km az=348.0*

ISC 09 02:27:47.8±0.8, 37.°55N±0.°02×118.°81W±0.°01, h8km±5km, n202, σ0s99/207, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MCVM	Convict Lake	0.04	339			Pg	02 27 49.0	-0.8
EXSG	Experiment Sta	0.07	345			Pg	02 27 49.5	-0.4
MLAC	Mammoth, Mammo	0.08	346			Pg	02 27 51.6	+1.5
MLAC	Mammoth, Mammo	0.08	346	P		Pg	02 27 49.8	-0.3
	baz=164,SNR=1000							
MLAC				S		Pg	02 27 51.6	+1.5
	baz=164							
MDRNC	Doe Ridge	0.09	347			Pg	02 27 50.0	-0.2
RCCR	Rock Creek Can	0.09	132			Pg	02 27 49.7	-0.5
MLCM	Laurel Creek C	0.10	307			Pg	02 27 50.1	-0.3
MCBM	Casa Benchmark	0.12	324			Pg	02 27 50.5	-0.1
MCBM						Sg	02 27 52.7	+0.1
MLHM	Little Hot Cre	0.13	358			Pg	02 27 50.8	0.0
MCSM	Casa Diablo Ho	0.13	324			Pg	02 27 50.7	-0.1
ORC	Owens River	0.15	55			Pg	02 27 50.8	-0.2
MEMM	East Mammoth H	0.15	318			Pg	02 27 51.1	0.0
OMMB	Old Mammoth Mi	0.16	293			Pg	02 27 51.1	-0.3
OMMB				IAML			02 27 53.9	
	comp=N,7μm,0.3s							
OMMB	Old Mammoth Mi	0.16	293			Sg	02 27 53.6	-0.3
MMLB	Mammoth Lakes	0.17	309			Pg	02 27 51.5	0.0
WMD		0.17	129			Pg	02 27 51.2	-0.2
MMPM	Mammoth Pass	0.18	289			Pg	02 27 51.5	-0.2
MLIM	Lincoln Peak	0.19	298			Pg	02 27 51.8	+0.1
MDYM	Dry Creek	0.19	304			Pg	02 27 51.9	+0.1
MRDM	Red Cones	0.20	284			Pg	02 27 51.9	-0.1
CASR	Casa Diablo Mo	0.21	83			Pg	02 27 52.0	-0.1
SCHCA	Scheelite	0.21	153			Pg	02 27 51.9	-0.3
MINS	Minaret Summit	0.23	298			Pg	02 27 52.2	-0.2
MINS						Sg	02 27 55.3	-0.2
MDPB	Devils Postpil	0.23	291			Sg	02 27 55.7	+0.1
MDPB	Devils Postpil	0.23	291	Pg		Pg	02 27 52.3	-0.1
MDPB	Devils Postpil	0.23	291	IAML			02 27 55.9	
	comp=E,7μm,0.4s							
MDPB				IAML			02 27 56.2	
	comp=N,7μm,0.5s							
MDCM	Deadman Creek	0.24	311			Pg	02 27 52.6	-0.2
BENR	Benton	0.25	49			Pg	02 27 52.5	-0.3
MRCM	Red Rock Canyo	0.27	63			Pg	02 27 53.1	-0.1
MTUM	Tungsten Hills	0.28	135			Pg	02 27 53.1	-0.2
MGNR	McGee Canyon	0.28	19			Pg	02 27 53.4	0.0
MCDM	Chidago Canyon	0.29	90			Pg	02 27 53.6	+0.1
MFBM	Five Bridges	0.33	112			Pg	02 27 54.5	+0.2
BHPR	Bishop	0.36	134			Pg	02 27 54.8	-0.1
MLNR	Milner Canyon	0.37	83			Pg	02 27 55.1	-0.1
BCKR	Birch Creek	0.38	67			Pg	02 27 55.3	+0.1
ANTCA	Antelope Range	0.41	28			Pg	02 27 55.7	-0.3
POCCA	Poleta Canyon	0.46	114			Pg	02 27 56.7	-0.1
KCC	Kaiser Creek	0.46	241			Pg	02 27 56.5	-0.3
TIN	Tinemaha, Big	0.68	137			Pg	02 28 00.7	-0.1
TIN	Tinemaha, Big	0.68	137	P		Pg	02 28 00.7	-0.1
	baz=317,SNR=41							
TIN				S		Sg	02 28 09.9	+0.3
	baz=317							
LHV	Little Huntoon	0.74	19			Pg	02 28 01.9	-0.2
LHV						Sb	02 28 12.6	-0.7
LHV	Little Huntoon	0.74	19	IAML			02 28 15.8	
	comp=E,1μm,0.5s							
LHV				IAML			02 28 17.4	
	comp=N,1μm,0.5s							
MMIM	Miami Mountain	0.75	260			Pg	02 28 01.9	-0.4
TVH1	TV Hill, Hawth	0.91	2			Pg	02 28 05.0	-0.3
NV08	Mina Array Sit	0.94	24			Pg	02 28 05.3	-0.5
NV09	Mina Array Sit	0.96	23			Pg	02 28 05.7	-0.5
MHDM	Hidden Dam	0.97	244			Pg	02 28 05.7	-0.6
NV11	Mina Array Sit	1.02	30			Pg	02 28 06.7	-0.7
NV11	Mina Array Sit	1.02	30	IAML			02 28 25.6	
	comp=E,558nm,0.8s							
NV11				IAML			02 28 26.0	
	comp=N,353nm,1.2s							
WAKR	Walker	1.07	333			Pg	02 28 08.1	-0.3
WAKR						Sb	02 28 23.4	+0.4
RYN	Ryan	1.10	12			Pg	02 28 08.4	-0.5
RYN	Ryan	1.10	12	IAML			02 28 25.4	
	comp=N,436nm,0.3s							
RYN				IAML			02 28 28.3	
	comp=E,500nm,0.9s							
MZP	Montezuma Peak	1.14	82			Pg	02 28 09.1	-0.6
MZP				Sg		Sg	02 28 24.3	-0.3
MZP				IAML			02 28 28.9	
	comp=N,531nm,0.7s							
MZP				IAML			02 28 29.6	
	comp=E,376nm,0.7s							
CWC	Cottonwood Cre	1.25	152			Pg	02 28 11.0	-0.8
CWC	Cottonwood Cre	1.25	152	P		Pg	02 28 10.8	-1.0
	baz=333							
CWC				S		Sg	02 28 27.0	-1.1
	baz=333							
GMN	Gold Mountain	1.26	101			Pg	02 28 11.3	-0.7
GMN	Gold Mountain	1.26	101	IAML			02 28 32.8	
	comp=E,368nm,0.7s							
GMN				IAML			02 28 33.1	
	comp=N,368nm,0.6s							
GRAC	Grapevine Rang	1.28	115	Pg		Pg	02 28 11.9	-0.3
GRAC				IAML			02 28 39.3	
	comp=E,587nm,0.6s							
GRAC	Grapevine Rang	1.28	115	P		Pg	02 28 12.0	-0.3
	baz=296,SNR=303							
GRAC				S		Sn	02 28 29.4	+0.1
	baz=296							
MRHM	Rocky Hill	1.28	190			Pg	02 28 10.9	-1.4
MYLM	Yosemite Lake	1.29	263			Pn	02 28 11.7	-0.5
VOG	Valley Oaks Go	1.31	201			Pn	02 28 11.8	-0.5
VOG	Valley Oaks Go	1.31	201	P		Pn	02 28 11.9	-0.5
	baz=20,SNR=8.4							
VOG				S		Sg	02 28 29.6	-0.3
	baz=20							
CMB	Columbia Colle	1.34	292			Pn	02 28 11.8	-1.0
CMB	Columbia Colle	1.34	292			Pn	02 28 12.0	-0.9
CMB				IAML			02 28 33.9	
	comp=N,386nm,0.7s							
CMB				IAML			02 28 36.1	
	comp=E,395nm,0.6s							
SPG2	Springville 2	1.35	178			Pn	02 28 12.2	-0.7
TPH	Tonopah	1.36	67			Pn	02 28 13.2	-0.1
YERR	Yerington	1.47	347			Pn	02 28 14.9	+0.1
YERR	Yerington	1.47	347	IAML			02 28 20.9	
	comp=N,141nm,0.6s							
YERR				IAML			02 28 39.4	
	comp=E,166nm,0.4s							
MCUB	Copperopolis B	1.50	287			Pn	02 28 14.9	0.0
SGV	South Grapevin	1.53	111			Pb	02 28 16.1	-0.3
PWMM	Westland Maint	1.58	226			Pb	02 28 17.3	+0.1
KVN	Kaiserville	1.60	20			Pn	02 28 16.7	+0.2
KVN	Kaiserville	1.60	20	IAML			02 28 40.4	
	comp=E,236nm,0.7s							
KVN				IAML			02 28 42.0	
	comp=N,332nm,0.5s							
PNTR	Pine Nut	1.66	338			Pn	02 28 17.9	+0.5
PNTR	Pine Nut	1.66	338	IAML			02 28 49.1	
	comp=N,151nm,0.7s							
PNTR				IAML			02 28 55.2	
	comp=E,149nm,0.8s							
VES	Vestal, Richgr	1.72	187			Pn	02 28 19.0	+0.9
VES	Vestal, Richgr	1.72	187	Pb		Pn	02 28 18.9	+0.9
	baz=7.3,SNR=117							
VES				Sb		Sb	02 28 42.0	+0.7
	baz=7.3							
PDRM	Domengine Ranc	1.74	226			Pb	02 28 19.7	-0.3
EMB	Emerald Bay	1.75	325			Pb	02 28 20.0	-0.2
EMB	Emerald Bay	1.75	325	IAML			02 29 01.4	
	comp=N,258nm,0.7s							
EMB				IAML			02 29 02.0	
	comp=E,160nm,0.4s							
PKEM	Kettleman Hill	1.81	215			Pb	02 28 21.1	-0.2
WASM	Alta Sierra Ca	1.82	174			Pb	02 28 20.9	-0.5
MPMC	Manual Prospec	1.83	144	P		Pn	02 28 19.9	+0.2
	baz=325,SNR=56							
MPMC				Sb		Sg	02 28 46.0	-0.5
	baz=325							
SCKWR	San Luis Creek	1.84	259			Pb	02 28 21.5	-0.1
WNMM	Nine Mile Cany	1.85	157			Pb	02 28 21.7	-0.2
FURC	Furnace Creek,	1.90	124	Pg		Pg	02 28 23.3	-0.8
	baz=306							
WCT	Wildcat Mounta	1.90	113	IAML			02 28 52.4	
	comp=E,143nm,0.5s							
ISA	Isabella, Lake	1.90	172			Pb	02 28 22.4	-0.4
ISA	Isabella, Lake	1.90	172	Pb		Pb	02 28 22.4	-0.4
	baz=352,SNR=182							
ISA				Sb		Sb	02 28 47.4	+0.6
	baz=352							
WORM	Onyx Ranch	1.91	166			Pb	02 28 22.5	-0.4
PJUM	Juniper Ridge	1.95	228			Pb	02 28 23.1	-0.4
SLD	San Luis Dam	1.98	257			Pn	02 28 23.0	+1.4
MPK	Martis Peak	1.99	332	IAML			02 29 04.8	
	comp=N,219nm,1.0s							
MPK				IAML			02 29 13.6	
	comp=E,125nm,0.9s							
BAVM	Antelope Valle	1.99	244			Pb	02 28 23.3	-1.0
MTOS	Mt Oso, Westle	2.00	269			Pb	02 28 23.5	-0.9
CMPM	Mikes Peak	2.00	265			Pb	02 28 23.6	-0.9
HPCM	Pacheco Lake	2.03	257			Pn	02 28 23.7	+1.4
CTM	Castle Mountai	2.03	218			Pb	02 28 24.1	-0.8
BBGB	Big Mountain B	2.03	242			Pb	02 28 24.1	-0.9
BEMM	Emmet	2.03	245			Pb	02 28 24.3	-0.7
PACP	Pacheco Peak	2.05	255			Pb	02 28 24.4	-0.9
PSMM	Smith Mountain	2.06	225			Pn	02 28 24.1	+1.3
PSRM	Scobie Ranch	2.06	215			Pn	02 28 24.2	+1.5
PMPB	Monarch Peak	2.08	231			Pn	02 28 24.6	+1.6
LRV	Little Rabbit	2.10	238			Pb	02 28 25.2	-0.8
PHFM	Heflinger Ranc	2.10	218			Pn	02 28 24.5	+1.3
PMRM	Maxey Ranch	2.10	213			Pn	02 28 24.6	+1.3
PPTM	Peach Tree Val	2.10	227			Pn	02 28 24.5	+1.2
PSTM	Stockdale Moun	2.12	221			Pn	02 28 24.8	+1.2
GHC	Gold Hill	2.12	216			Pn	02 28 24.6	+1.1
PKD	Bear Valley Ra	2.12	221			Pn	02 28 24.7	+1.1
PSNM	Stone Corral	2.13	215			Pn	02 28 24.7	+1.1
PHPM	Hope Ranch	2.13	223			Pn	02 28 24.9	+1.2
TPNV	Topopah Spring	2.13	106			Pn	02 28 24.1	+0.2
TPNV				IAML			02 29 02.3	
	comp=E,130nm,1.2s							
TPNV				IAML			02 29 03.2	
	comp=E,132nm,1.1s							
TPNV	Topopah Spring	2.13	106	P		Pn	02 28 24.1	+0.2
	baz=287,SNR=74							
TPNV				Sb		Sg	02 28 55.3	-0.9
	baz=287							
PHAM	Harlan Ranch	2.13	217			Pn	02 28 25.1	+1.3
PVCM	Vineyard Canyo	2.13	221			Pn	02 28 24.9	+1.1
CMMM	Mount Mocho	2.14	268			Pn	02 28 25.3	+1.4
CSTL	Corral Hollow	2.14	273			Pb	02 28 25.7	-1.0
BVL	Bear Valley	2.14	244			Pn	02 28 25.4	+1.6
GHS	Gilroy Hot Spr	2.15	259			Pb	02 28 25.8	-1.2
PKLM	Kerr Lake	2.16	215			Pn	02 28 25.4	+1.3
BPIM	Pinnacles	2.16	241			Pn	02 28 25.8	+1.6
ARN	Arnold Ranch	2.18	266			Pn	02 28 25.9	+1.6
GWY	Greenwater Val	2.19	128			Pn	02 28 24.3	-0.4
CDC	Canada Road	2.20	257			Pb	02 28 26.5	-1.2
PAHR	Pah Rah Range	2.20	348			Pn	02 28 25.3	+0.5
AFDM	Forest Hills D	2.20	310			Pn	02 28 26.1	+1.4
BJOM	Mount Johnson	2.20	246			Pb	02 28 26.6	-1.3
PWKM	Work Ranch	2.21	219			Pn	02 28 26.0	+1.3
TRAM	Private Proper	2.21	213			Pn	02 28 26.4	+1.6
PBPM	Bitterwater Pu	2.22	208			Pn	02 28 26.5	+1.6
PPO	Portuguese Can	2.22	221			Pn	02 28 26.3	+1.4
QSM	Queen of Sheba	2.22	135			Pn	02 28 25.1	+0.1
PEAR	Peavine Mounta	2.24	337			Pn	02 28 26.5	+1.0
SAO	San Andreas Ge	2.25	250			Pn	02 28 26.9	+1.6
TCHL	Shandon	2.26	215			Pn	02 28 25.7	+0.3
LRMC	Laurel Mtn Rad	2.26	156	Pb		Pb	02 28 28.2	-0.7
	baz=337,SNR=55							
LRMC				Sb		Sb	02 28 58.0	+1.0
	baz=337							
PSAM	San Ardo	2.26	228			Pn	02 28 27.0	+1.6
TRAY	Twisselman Ran	2.26	208			Pn	02 28 26.8	+1.3
CMLM	Mount Lewis	2.26	269			Pn	02 28 27.4	+1.8
BSGM	Shirttail Gulc	2.26	241			Pn	02 28 27.0	+1.6
CBSNC	Byron Hot Spri	2.26	278			Pb	02 28 27.7	-1.2
MHC	Mount Hamilton	2.26	266			Pb	02 28 27.6	-1.3
SCZ	Santa Cruz	2.28	246			Pn	02 28 27.1	+1.4
FRP	Fremont Peak	2.28	250			Pn	02 28 27.3	+1.4
BJCM	Johnson Can.	2.29	245			Pn	02 28 27.4	+1.5
HLPM	Lions Peak	2.31	258			Pn	02 28 27.6	+1.6
TEJ	El Tejon	2.32	178			Pb	02 28 29.3	-0.5
WENL	Wente Vineyard	2.34	273			Pb	02 28 28.8	-1.4
TSCN	Private Proper	2.35	212			Pb	02 28 28.9	-1.6
HCBM	Chamberlain	2.36	256			Pn	02 28 28.6	+1.9
JLAB	Laurel Hill	2.36	261			Pb	02 28 29.2	-1.4
HTUM	Tustin Road	2.37	253			Pn	02 28 28.4	+1.4
CALM	Calaveras Res.	2.38	269			Pn	02 28 28.9	+1.8
LOY	Loyalton	2.38	332			Pn	02 28 31.1	0.0
PCCM	Crazy Canyon	2.38	233			Pn	02 28 29.1	+1.9
CARC	Carrizo Plain	2.39	201			Pn	02 28 29.0	+1.8
BSMM	Soledad Missio	2.40	242			Pn	02 28 29.1	+1.7
ARVC	Arvin	2.42	180			Pb	02 28 30.9	-0.6
ARVC	Arvin	2.42	180	Pb		Pb	02 28 30.7	-0.8
	baz=0.4,SNR=38							
ARVC				Sb		Sb	02 29 02.9	+1.4
	baz=0.4							
CRGC	Crocker Grade	2.42	198			Pb	02 28 30.4	-1.3
SMMC	Simmler	2.43	204			Pn	02 28 29.4	+1.6
SMMC	Simmler	2.43	204	P		Pn	02 28 27.7	-0.1
	baz=23							
SMMC				S		Sn	02 28 58.7	+1.0
	baz=23							
S11A	Rachel	2.44	87			Pb	02 28 32.8	+0.9
PANM	San Antonio Re	2.44	224			Pn	02 28 29.6	+1.6
CCAC	Calif City Air	2.48	165			Pb	02 28 32.4	-0.2
HAST	Hastings Reser	2.48	243			Pn	02 28 29.8	+1.3
RAMR	Ramage Ranch	2.53	222			Pn	02 28 30.7	+1.5
JJOM	Saint Joseph's	2.55	263			Pn	02 28 31.1	+1.7
BEKR	Beckworth	2.61	333			Pn	02 28 31.8	+1.3
BCW	Bitter Crk WRg	2.65	191			Pn	02 28 31.4	+0.5
R11B	Troy Canyon, C	2.67	72			Pn	02 28 31.5	+0.2
R11B	Troy Canyon, C	2.67	72	Pb		Pb	02 28 35.8	-0.2
	baz=254,SNR=69							
R11B				Sb		Sb	02 29 11.1	+2.2
	baz=254							
EDW2	Edwards Air Fo	2.74	166	Pb		Pb	02 28 37.2	+0.1
	baz=346,SNR=48							
EDW2				Sb		Sb	02 29 13.2	+2.2
	baz=346							
GSC	Goldstone, Bar	2.77	144			Pn	02 28 33.0	+0.5
GSC				IAML			02 29 25.4	
	comp=E,74nm,1.0s							
ORV	Oroville	2.91	314	Pn		Pn	02 28 35.0	+0.6
ORV				IAML			02 29 28.2	
	comp=E,64nm,0.8s							
OSI	Osito Audit: C	2.93	179	Sb		Sb	02 29 16.7	+0.4
	baz=359							
PRN	Pahroc Range	2.99	92	IAML			02 29 31.5	
	comp=N,81nm,1.0s							
PRN				IAML			02 29 40.4	
	comp=E,98nm,1.0s							
SHPR	Sheep Range	3.10	109			Pn	02 28 37.9	+0.7
BMN	Battle Mountai	3.13	23			Pn	02 28 37.8	+0.2
MCCM	Marconi Confer	3.28	282			Pn	02 28 39.9	+0.5
MCCM				IAML			02 29 41.2	
	comp=E,69nm,1.1s							
MCCM				IAML			02 29 46.7	
	comp=N,56nm,1.2s							
DECC	Green Verdugo	3.31	173	Pg		Pg	02 28 50.0	-1.3
	baz=354							
HEC	Hector,Ludlow	3.37	143	Pg		Pg	02 28 51.7	-0.7
	baz=324							
PASC	Pasadena Art C	3.41	171			Pb	02 28 50.2	+1.8
PASC				IAML			02 29 38.1	
	comp=E,65nm,0.6s							
PASC				IAML			02 29 40.6	
	comp=N,71nm,0.9s							
GMRC	Granite Mounta	3.76	136	P		Pn	02 28 45.5	-0.6
	baz=318							
ELS	Elsinore Mount	4.05	163			Pn	02 28 50.6	+0.4
ELS				IAML			02 29 59.4	
	comp=N,26nm,1.2s							
ELS				IAML			02 30 05.3	
	comp=E,25nm,0.9s							
ELK	Elko	4.23	40	Pn		Pn	02 28 53.4	+0.7
PMD	Palm Desert	4.37	152	IAML			02 30 22.7	
	comp=N

CRY						Sg	02 51 40.4	+0.1
BAR	**Barrett**	**0.50**	**200**	Pg		**Pg**	**02 51 34.1**	**-0.1**
BAR	**Barrett**	**0.50**	**200**			**Sg**	**02 51 40.8**	**-0.1**
CRR	**Carrizo Plain**	**0.50**	**121**			**Pg**	**02 51 34.3**	**0.0**
CRR						**Sb**	**02 51 41.3**	**-0.2**
PMD	**Palm Desert**	**0.50**	**9**			**Pg**	**02 51 34.1**	**-0.3**
PMD				IAML			02 51 41.1	
	comp=E,370nm,0.1s							
PMD	**Palm Desert**	**0.50**	**9**			**Sg**	**02 51 40.3**	**-0.9**
GVDA	**Garner Valley**	**0.55**	**342**			**Pg**	**02 51 35.1**	**-0.1**
GVDA						**Sg**	**02 51 42.4**	**-0.2**
ERRC	**Elmore Ranch**	**0.55**	**93**			**Pg**	**02 51 35.3**	**0.0**
ERRC						**Sb**	**02 51 44.1**	**+1.2**
SDRC	**San Diego Road**	**0.57**	**224**			**Pg**	**02 51 35.3**	**-0.3**
SDRC						**Sg**	**02 51 42.9**	**-0.4**
IKP	**In-Ko-Pah, Jac**	**0.58**	**148**			**Pg**	**02 51 35.7**	**-0.2**
IKP						**Sg**	**02 51 43.4**	**-0.3**
IKP	**In-Ko-Pah, Jac**	**0.58**	**148**	P		**Pg**	**02 51 35.7**	**-0.2**
	baz=328,SNR=54							
IKP				S		**Sg**	**02 51 43.4**	**-0.3**
	baz=328							
MTRP	**Mission Trails**	**0.59**	**236**			**Pg**	**02 51 35.7**	**-0.3**
MTRP						**Sg**	**02 51 43.5**	**-0.3**
TKX	**Tecate**	**0.59**	**191**			**Pg**	**02 51 35.5**	**-0.4**
TKX						**Sg**	**02 51 43.3**	**-0.6**
TKX	**Tecate**	**0.59**	**191**	IAML			02 51 44.4	
	comp=E,724nm,0.1s							
TKX				IAML			02 51 45.5	
	comp=N,470nm,0.2s							
109C	**Camp Elliot, M**	**0.59**	**244**			**Pg**	**02 51 35.8**	**-0.2**
109C	**Camp Elliot, M**	**0.59**	**244**	P		**Pg**	**02 51 35.8**	**-0.2**
	baz=64,SNR=74							
109C				S		**Sg**	**02 51 43.6**	**-0.2**
	baz=64							
CPE	**Camp Elliot**	**0.59**	**244**			**Pg**	**02 51 35.8**	**-0.2**
CPE						**Sg**	**02 51 43.8**	**-0.1**
DUZA	**Dulzura**	**0.60**	**205**			**Pg**	**02 51 35.7**	**-0.4**
DUZA						**Sg**	**02 51 43.8**	**-0.3**
SWSC	**Sam W. Stewart**	**0.60**	**110**			**Pg**	**02 51 36.1**	**-0.1**
SWSC						**Sg**	**02 51 44.4**	**+0.2**
SWSC	**Sam W. Stewart**	**0.60**	**110**	P		**Pg**	**02 51 36.1**	**-0.1**
	baz=290,SNR=96							
SWSC				S		**Sg**	**02 51 44.3**	**0.0**
	baz=290							
GORC	**Green Oak Ranc**	**0.63**	**271**			**Pg**	**02 51 36.5**	**-0.3**
RMX	**La Rumorosa**	**0.64**	**148**			**Pn**	**02 51 37.9**	**-0.8**
RMX						**Sb**	**02 51 46.9**	**+1.2**
RMX	**La Rumorosa**	**0.64**	**148**	IAML			02 51 47.7	
	comp=N,289nm,0.2s							
RMX				IAML			02 51 47.8	
	comp=E,528nm,0.2s							
CTCC	**Cactus City**	**0.65**	**39**			**Pg**	**02 51 36.9**	**-0.1**
CTCC						**Sb**	**02 51 46.3**	**+0.4**
POB	**Polly Butte**	**0.66**	**325**			**Pg**	**02 51 37.0**	**-0.2**
POB						**Sg**	**02 51 45.6**	**-0.4**
BOMB	**Bombay Beach**	**0.66**	**71**			**Pg**	**02 51 37.2**	**-0.1**
BACC	**Bachelor Mtn.**	**0.66**	**314**			**Pg**	**02 51 37.1**	**-0.2**
OLP	**Otay Lakes Par**	**0.66**	**216**			**Pg**	**02 51 36.9**	**-0.4**
OLP						**Sg**	**02 51 45.5**	**-0.6**
SDMC	**San Diego Miss**	**0.67**	**237**			**Pg**	**02 51 37.1**	**-0.3**
SDMC						**Sg**	**02 51 46.0**	**-0.2**
DGR	**Domenigoni Val**	**0.67**	**318**			**Pg**	**02 51 37.3**	**-0.2**
DGR						**Sg**	**02 51 46.0**	**-0.5**
YUH	**Yuha Desert**	**0.68**	**137**			**Pg**	**02 51 37.5**	**-0.1**
YUH	**Yuha Desert**	**0.68**	**137**			**Pb**	**02 51 37.7**	**0.0**
YUH				Sg		**Sg**	**02 51 46.3**	**-0.4**
YUH				IAML			02 51 46.9	
	comp=E,794nm,0.1s							
YUH				IAML			02 51 47.1	
	comp=N,838nm,0.1s							
COK2	**Cook Ranch 2**	**0.69**	**115**			**Pb**	**02 51 37.9**	**0.0**
COK2						**Sb**	**02 51 48.3**	**+1.1**
HMTC	**Hemet**	**0.71**	**322**			**Pb**	**02 51 37.9**	**-0.4**
HMTC						**Sg**	**02 51 47.1**	**-0.7**
CTW	**Cottonwood Mou**	**0.73**	**44**			**Pb**	**02 51 38.3**	**-0.2**
CTW						**Sb**	**02 51 48.0**	**-0.2**
WESC	**Westside Schoo**	**0.73**	**122**			**Pb**	**02 51 38.6**	**0.0**
WESC						**Sg**	**02 51 49.4**	**+1.0**
CLI2	**Calipatria 2**	**0.75**	**92**			**Pg**	**02 51 39.5**	**+0.5**
MURC	**Murrieta**	**0.75**	**307**			**Pb**	**02 51 38.6**	**-0.3**
MURC	**Murrieta**	**0.75**	**307**	P		**Pb**	**02 51 38.6**	**-0.3**
	baz=127,SNR=52							
MURC				S		**Sg**	**02 51 48.9**	**-0.1**
	baz=127							
WEMD	**Westmorland, C**	**0.76**	**98**			**Pb**	**02 51 38.8**	**-0.1**
WEMD						**Sn**	**02 51 50.9**	**-0.2**
DEVC	**Devers**	**0.79**	**354**			**Pg**	**02 51 39.7**	**0.0**
DEVC						**Sb**	**02 51 50.0**	**0.0**
EW2	**E Wide Canyon**	**0.79**	**4**			**Pb**	**02 51 39.6**	**0.0**
EW2						**Sg**	**02 51 50.7**	**+0.5**
TJX	**Tijuana**	**0.80**	**218**			**Pb**	**02 51 39.7**	**0.0**
TJX						**Sg**	**02 51 50.6**	**+0.1**
IMPE	**Imperial**	**0.81**	**108**			**Pb**	**02 51 39.9**	**+0.1**
IMPE						**Sn**	**02 51 52.4**	**0.0**
CBX	**Cerro Bola**	**0.85**	**191**			**Pb**	**02 51 40.2**	**-0.4**
CBX						**Sg**	**02 51 52.4**	**+0.3**
CBX	**Cerro Bola**	**0.85**	**191**	IAML			02 51 57.6	
	comp=E,185nm,0.6s							
HAY	**Hayfield**	**0.86**	**50**			**Pg**	**02 51 41.3**	**+0.2**
HAY						**Sg**	**02 51 53.0**	**+0.5**
BBSC	**Beaumont Base**	**0.88**	**331**			**Pg**	**02 51 41.3**	**-0.1**
BBSC						**Sg**	**02 51 53.1**	**0.0**
BLAC	**Blackrock camp**	**0.92**	**4**			**Pb**	**02 51 41.8**	**0.0**
BLAC						**Sg**	**02 51 54.3**	**-0.1**
PEC	**Perris**	**0.94**	**322**			**Pb**	**02 51 41.9**	**-0.2**
BELC	**Belle Mtn. Jos**	**0.94**	**25**			**Pb**	**02 51 42.0**	**-0.1**
BELC						**Sb**	**02 51 54.6**	**+0.3**
BELC	**Belle Mtn. Jos**	**0.94**	**25**	P		**Pb**	**02 51 42.0**	**-0.1**
	baz=205,SNR=54							
BELC				S		**Sb**	**02 51 54.6**	**+0.3**
	baz=205							
ELS	**Elsinore Mount**	**0.94**	**302**			**Pb**	**02 51 41.5**	**-0.7**
ELS	**Elsinore Mount**	**0.94**	**302**			**Sb**	**02 51 53.7**	**-0.6**
ELS	**Elsinore Mount**	**0.94**	**302**			**Pb**	**02 51 41.6**	**-0.5**
BC3	**Big Chuckawall**	**0.99**	**59**	P		**Pb**	**02 51 42.3**	**-0.8**
	baz=239,SNR=19							
TPC	**Twentynine Pal**	**1.02**	**20**			**Pb**	**02 51 43.1**	**-0.4**
GTM	**Goat Mountain**	**1.15**	**5**			**Pb**	**02 51 45.8**	**+0.1**
BBRC	**Big Bear Solar**	**1.17**	**342**			**Pb**	**02 51 46.5**	**+0.3**
BBRC	**Big Bear Solar**	**1.17**	**342**	Pg		**Pb**	**02 51 46.5**	**+0.3**
	baz=162							
BBRC				S		**Sn**	**02 52 01.6**	**-0.2**
	baz=162							
COA	**Coachella**	**1.17**	**104**			**Pn**	**02 51 44.5**	**-1.3**
ESJX	**Sierra Juarez**	**1.22**	**159**			**Pb**	**02 51 47.1**	**+0.1**
ESJX				IAML			02 52 03.3	
	comp=N,198nm,0.3s							
ESJX				IAML			02 52 03.3	
	comp=E,261nm,0.2s							
CPBX	**Cerro Prieto**	**1.23**	**126**			**Pg**	**02 51 47.7**	**-0.3**
SIL	**Silver Peak**	**1.23**	**346**			**Pb**	**02 51 47.5**	**+0.3**
RUN	**Ruthven**	**1.27**	**98**			**Pn**	**02 51 45.8**	**-1.4**
CCX	**Cicese**	**1.29**	**187**			**Pb**	**02 51 47.8**	**-0.2**
CCX				IAML			02 52 07.5	
	comp=E,146nm,0.3s							
CCX				IAML			02 52 07.5	
	comp=N,162nm,0.4s							
GLA	**Glamis**	**1.39**	**94**	P		**Pn**	**02 51 47.6**	**-1.2**
	baz=274							
PSRC	**Puddingstone R**	**1.46**	**311**			**Pb**	**02 51 51.1**	**+0.2**
BFSC	**Mount Baldy Ra**	**1.47**	**318**	Pb		**Pb**	**02 51 50.9**	**-0.3**
	baz=138							
BFSC				Sb		**Sb**	**02 52 09.8**	**+0.2**
	baz=138							
IRM	**Iron Mountain**	**1.50**	**47**			**Pn**	**02 51 49.9**	**-0.5**
IRM	**Iron Mountain**	**1.50**	**47**	P		**Pn**	**02 51 49.8**	**-0.5**
	baz=228,SNR=16							
IRM				Sb		**Sb**	**02 52 11.1**	**+0.7**
	baz=228							
PEM	**Pine Mountain**	**1.54**	**311**			**Pb**	**02 51 52.4**	**0.0**
FMP	**Fort Macarthur**	**1.62**	**291**	P		**Pn**	**02 51 51.8**	**-0.2**
	baz=110							
FMP				Sb		**Sb**	**02 52 14.8**	**+0.9**
	baz=110							
CIAC	**Catalina I. Ai**	**1.64**	**279**			**Pn**	**02 51 52.6**	**+0.2**
CIS	**Catalina Islan**	**1.65**	**279**	P		**Pn**	**02 51 52.3**	**-0.1**
	baz=98,SNR=14							
CIS				S		**Sn**	**02 52 13.6**	**+0.4**
	baz=98							
HEC	**Hector,Ludlow**	**1.68**	**4**	Pg		**Pb**	**02 51 55.7**	**+0.9**
	baz=184,SNR=31							
BLYC	**Blythe**	**1.74**	**69**			**Pn**	**02 51 53.2**	**-0.5**
BLYC				IAML			02 52 24.2	
	comp=N,56nm,0.6s							
BLYC				IAML			02 52 24.6	
	comp=E,54nm,0.5s							
PASC	**Pasadena Art C**	**1.75**	**306**			**Pn**	**02 51 54.7**	**+0.8**
PASC				IAML			02 52 19.1	
	comp=N,65nm,0.5s							
PASC				IAML			02 52 22.8	
	comp=E,53nm,0.3s							
GMRC	**Granite Mounta**	**1.77**	**22**	Pg		**Pb**	**02 51 57.0**	**+0.8**
	baz=203,SNR=25							
GMRC				Sb		**Sb**	**02 52 19.5**	**+1.3**
	baz=203							
RRX	**Edison Barstow**	**1.78**	**346**	Pg		**Pg**	**02 51 57.5**	**-0.9**
	baz=166							
RRX				Sb		**Sg**	**02 52 20.3**	**-1.2**
	baz=166							
GR2C	**Griffith Obs.**	**1.80**	**303**			**Pn**	**02 51 53.9**	**-0.7**
VTX	**Valle De La Tr**	**1.85**	**161**			**Pb**	**02 51 57.5**	**-0.1**
DECC	**Green Verdugo**	**1.90**	**306**	Sb		**Sb**	**02 52 23.5**	**+1.5**
	baz=125							
EDW2	**Edwards Air Fo**	**2.14**	**324**	Pb		**Pb**	**02 52 02.9**	**+0.3**
	baz=144,SNR=11							
EDW2				Sb		**Sb**	**02 52 30.7**	**+1.9**
	baz=144							
GSC	**Goldstone, Bar**	**2.17**	**353**			**Pn**	**02 51 59.9**	**+0.3**
GSC				IAML			02 52 37.7	
	comp=E,43nm,0.8s							
GSC	**Goldstone, Bar**	**2.17**	**353**	Pg		**Pg**	**02 52 04.6**	**-1.3**
	baz=173,SNR=22							
NEE2	**Needles Airpor**	**2.23**	**43**	Sb		**Sb**	**02 52 33.6**	**+2.1**
	baz=224							
113A	**Mohawk Valley,**	**2.31**	**99**	Pn		**Pn**	**02 52 01.1**	**-0.3**
TUQ	**Turquoise Moun**	**2.33**	**11**	Pg		**Pg**	**02 52 07.7**	**-1.2**
	baz=191,SNR=16							
CCAC	**Calif City Air**	**2.37**	**328**			**Pn**	**02 52 03.2**	**+0.8**
CCAC				IAML			02 52 39.8	
	comp=E,71nm,0.6s							
OSI	**Osito Audit: C**	**2.37**	**309**	Sb		**Sb**	**02 52 37.4**	**+1.7**
	baz=128							
QSM	**Queen of Sheba**	**2.83**	**354**			**Pn**	**02 52 09.7**	**+1.0**
W13A	**Hualapai Mount**	**2.90**	**47**	Pn		**Pn**	**02 52 10.7**	**+0.9**
V12A	**Nelson**	**2.90**	**27**	Pg		**Pg**	**02 52 18.5**	**-1.4**
ISA	**Isabella, Lake**	**3.00**	**327**	Pn		**Pn**	**02 52 12.0**	**+0.8**
BCW	**Bitter Crk WRg**	**3.02**	**307**	Pn		**Pn**	**02 52 13.0**	**+1.5**
BCW				IAML			02 53 06.4	
	comp=E,27nm,0.5s							
BCW				IAML			02 53 07.3	
	comp=N,31nm,1.0s							
GWY	**Greenwater Val**	**3.03**	**357**	Pn		**Pn**	**02 52 12.2**	**+0.6**
SHPR	**Sheep Range**	**3.52**	**18**	Pg		**Pg**	**02 52 29.6**	**-2.1**
WCT	**Wildcat Mounta**	**3.64**	**358**	Pn		**Pn**	**02 52 21.5**	**+1.7**
TPNV	**Topopah Spring**	**3.80**	**3**	Pn		**Pn**	**02 52 23.8**	**+1.7**
TPNV				IAML			02 52 58.0	
	comp=N,9.0nm,4.0s							
TPNV				IAML			02 53 10.1	
	comp=N,11nm,4.5s							
GRAC	**Grapevine Rang**	**3.91**	**349**	Pn		**Pn**	**02 52 24.9**	**+1.4**
GRAC				IAML			02 53 31.3	
	comp=N,18nm,1.8s							
GRAC				IAML			02 53 45.2	
	comp=E,17nm,4.5s							
PRN	**Pahroc Range**	**4.41**	**15**	Pn		**Pn**	**02 52 31.9**	**+1.5**
S11A	**Rachel**	**4.53**	**7**	Pn		**Pn**	**02 52 32.5**	**+0.4**
LCMT	**Little Creek M**	**4.68**	**34**	Pn		**Pn**	**02 52 35.4**	**+1.2**
OMMB	**Old Mammoth Mi**	**4.91**	**336**			**Sg**	**02 53 59.7**	**-2.2**
MDPB	**Devils Postpil**	**4.95**	**335**			**Sg**	**02 54 00.8**	**-2.5**
CMB	**Columbia Colle**	**5.82**	**328**			Lg	02 54 28.8	

*SOME **09** 03:02:53.3,41.62N×83.23E,h15km*
*NNC **09** 03:02:55.9±1.8,41.66N×83.07E,h0km,mb3.8,mpv3.5,*
Error ellipse: s-maj=12.8km s-min=8.8km az=159.0
ISC 09 03:01:01.5±3.3,41.9N±0.2×82.8E±0.1,h10km,n24,
σ2s10/26,3C,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.40**	**311**	*e*Pg	**Pb**	**03 03 44.9**	**+0.2**
	7.6nm,0.2s						
KTMS				*e*Lg	Lg	03 04 22.1	
	7.3nm,0.2s						
KTMS	**Ketmen**	**2.40**	**311**	Pg	**Pb**	**03 03 44.9**	**+0.2**
	7.6nm,0.2s						
KTMS				Lg	Lg	03 04 22.1	
	7.3nm,0.2s						
SHLS	**Shalkode**	**2.79**	**298**	*e*Pg	**Pn**	**03 03 47.0**	**+0.7**
	12nm,0.2s						
SHLS				*e*Lg	Lg	03 04 25.6	
	32nm,0.4s						
SHLS	**Shalkode**	**2.79**	**298**	Pg	**Pn**	**03 03 47.0**	**+0.7**
	12nm,0.2s						
SHLS				Lg	Lg	03 04 25.6	
	32nm,0.4s						
PDGK	**Podgornoye**	**2.85**	**302**	Pg	**Pb**	**03 03 52.7**	**+0.2**
	2.4nm,0.4s						
PDGK				Lg	Lg	03 04 35.6	
	8.3nm,0.3s						
PDGK	**Podgornoye**	**2.85**	**302**	Pn	**Pn**	**03 03 47.5**	**+0.4**
	2.7nm,0.5s						
PDGK				⇑Pg	**Pb**	**03 03 53.8**	**+1.4**
	3.6nm,0.5s						
PDGK				⇑Lg	Lg	03 04 35.8	
	15nm,0.6s						
UZB	**Uzumbulak**	**3.08**	**295**	*e*Pg	**Pb**	**03 03 56.0**	**-0.4**
	5.7nm,0.1s						
UZB				*e*Lg	Lg	03 04 41.1	
	9.8nm,0.4s						
UZB	**Uzynbulak**	**3.08**	**295**	Pg	**Pb**	**03 03 56.0**	**-0.4**
	5.7nm,0.1s						
UZB				Lg	Lg	03 04 41.2	
	9.8nm,0.4s						
DJR	**Jarkent**	**3.30**	**319**	*e*Pg	**Pb**	**03 04 00.5**	**+0.4**
	4.5nm,0.4s						
DJR				*e*Lg	Lg	03 04 48.8	
	7.5nm,0.5s						
DJR	**Jarkent**	**3.30**	**319**	Pg	**Pb**	**03 04 00.5**	**+0.4**
	4.5nm,0.4s						
DJR				Lg	Lg	03 04 48.8	
	7.5nm,0.5s						
KNOS	**Konyrlen**	**3.63**	**314**	Pg	**Pb**	**03 04 07.3**	**+1.4**
	6.8nm,0.4s						
KNOS				Lg	Lg	03 05 00.6	
	4.7nm,0.2s						
KAPS	**Kapalarasan**	**4.23**	**325**	*e*Pg	**Pb**	**03 04 17.8**	**+1.9**
	2.8nm,0.3s						
KAPS				*e*Lg	Lg	03 05 18.6	
	5.5nm,0.6s						
KAPS	**Kapalarasan**	**4.23**	**325**	Pg	**Pb**	**03 04 17.8**	**+1.9**
	2.8nm,0.3s						
KAPS				Lg	Lg	03 05 18.6	
	5.5nm,0.6s						
ARXS	**Arharly**	**4.33**	**304**	*e*Pg	**Pb**	**03 04 19.9**	**+2.2**
	4.2nm,0.4s						
ARXS				*e*Lg	Lg	03 05 22.4	
	5.8nm,0.4s						
ARXS	**Arharly**	**4.33**	**304**	Pg	**Pb**	**03 04 19.9**	**+2.2**
	4.2nm,0.4s						
ARXS				Lg	Lg	03 05 22.4	
	5.8nm,0.4s						
MDOK	**Medeo**	**4.45**	**289**	*e*Pg	**Pb**	**03 04 21.3**	**+1.5**
	2.2nm,0.2s						
MDOK				*e*Lg	Lg	03 05 24.6	
	5.7nm,0.3s						
MDOK	**Medeo**	**4.45**	**289**	Pg	**Pb**	**03 04 21.3**	**+1.5**
	2.2nm,0.2s						
MDOK				Lg	Lg	03 05 24.7	
	5.7nm,0.3s						
TNSS	**Tian-Shan**	**4.49**	**287**	*e*Pg	**Pb**	**03 04 22.8**	**+2.1**
	1.7nm,0.2s						
TNSS				*e*Lg	Lg	03 05 27.4	
	3.4nm,0.5s						
TNSS	**Tian-Shan**	**4.49**	**287**	Pg	**Pb**	**03 04 22.8**	**+2.1**
	1.7nm,0.2s						
TNSS				Lg	Lg	03 05 27.4	
	3.4nm,0.5s						
KTBS	**Karatobe**	**4.87**	**294**	*e*Pg	**Pg**	**03 04 31.6**	**-3.1**
	1.8nm,0.3s						
KTBS				*e*Lg	Lg	03 05 42.3	
	8.9nm,0.3s						
KTBS	**Karatobe**	**4.87**	**294**	Pg	**Pg**	**03 04 31.6**	**-3.1**
	1.8nm,0.3s						
KTBS				Lg	Lg	03 05 42.3	
	8.9nm,0.3s						
MK31	**Makanchi Array**	**4.92**	**356**	⇑Pg	**Pg**	**03 04 31.1**	**-4.6**
	13nm,1.2s,baz=169,slow=16,SNR=4.3						
MK31				Sn	**Sn**	**03 05 17.0**	**+4.5**
	1.4nm,0.6s,baz=176,slow=26,SNR=5.0						
MK31				Lg	Lg	03 05 40.9	
	3.9nm,0.6s,baz=169,slow=27,SNR=3.5						
ZSN	**Zaisan**	**5.75**	**14**	*e*Pg	**Pb**	**03 04 43.0**	**+1.2**
	2.6nm,0.2s						
ZSN				*e*Lg	Lg	03 06 01.8	
	8.1nm,0.5s						
ZSN	**Zaisan**	**5.75**	**14**	Pg	**Pb**	**03 04 43.0**	**+1.2**
	2.6nm,0.2s						
ZSN				Lg	Lg	03 06 01.8	
	8.1nm,0.5s						

*IDC **09** 03:19:14.6±1.1,1.03N×97.16E,h0km,mb4.1/12,*
mbtmp4.1/13,ML4.8/1,MS3.4/5,Error ellipse:
s-maj=38.9km s-min=16.4km az=56.0
*DJA **09** 03:19:18.7±1.1,1.1N×4.9×7E°,h22km±7km,M4.5/9,*
mb4.8/3,mB5.1/1,MLv4.4/9,Mw(mB)4.4/1
*NEIC **09** 03:19:20.8±1.0,1.14N±0.09×97.30E±0.10,h37km±6km,*
mb4.3/15,Error ellipse: s-maj=15.1km s-min=11.5km
az=52.0
ISC 09 03:19:19.9±0.6,1.11N±0.06×97.30E±0.09,h35km,n65,
σ0s72/51,mb4.3/23,MS3.6/4,1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.34**	**55**	Pn	**Pn**	**03 19 29.3**	**+0.9**
GSI	**Gunungsitoli**	**0.34**	**55**	P	**Pn**	**03 19 29.0**	**+0.6**
PBSI	**Pulau Batu**	**1.52**	**139**	P	**Pn**	**03 19 44.9**	**+0.3**
KCSI	**Kotacane, Aceh**	**2.45**	**11**	P	**Pn**	**03 19 57.7**	**+0.3**
SISI	**Saibi**	**3.01**	**143**	P	**Pn**	**03 20 06.0**	**+0.9**
MLSI	**Meulaboh, Aceh**	**3.27**	**344**	P	**Pn**	**03 20 10.0**	**+1.3**
PDSI	**Padang**	**3.75**	**122**	P	**Pn**	**03 20 15.7**	**+0.4**
BKNI	**Bangkinang**	**3.82**	**102**	Pn	**Pn**	**03 20 17.4**	**+1.1**
BKNI	**Bangkinang**	**3.82**	**102**	P	**Pn**	**03 20 17.6**	**+1.3**
LHMI	**Lhok Sumawe**	**4.11**	**355**	Pn	**Pn**	**03 20 21.5**	**+1.2**
PPSI	**Pulau Pagai**	**4.70**	**145**	P	**Pn**	**03 20 28.3**	**-0.2**
KULM	**Kulim**	**5.34**	**39**		**Pn**	**03 20 36.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**17.32**	**5**		**Pn**	**03 23 19.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**17.32**	**5**	P	**Pn**	**03 23 18.0**	**-1.2**
	1.1nm,0.3s,baz=196,slow=12,SNR=11						
CMAR				LR	LR	03 30 50.0	
	comp=Z,77nm,18.5s,baz=150,slow=40						
	1.7nm,0.3s						
PALK	**Pallekele**	**17.64**	**291**	LR	LR	03 30 26.6	
	comp=Z,102nm,18.1s,baz=221,slow=38						
CHTO	**Chiang Mai**	**17.67**	**5**	Pn	**Pn**	**03 23 21.9**	**-1.6**
SLVN	**Son La**	**21.11**	**17**	P	**P**	**03 24 01.2**	**-0.6**
SLVN				IAmb	IAmb	03 24 06.4	
	comp=Z,12nm,1.0s						
KMI	**Kunming**	**24.45**	**12**	⇓P	**P**	**03 24 37.8**	**+1.9**
KMI				pmax	pmax		
	comp=Z,22nm,1.0s						
KMI				LR	LR		
	comp=N,310nm,15.5s						
KMI				LR	LR		
	comp=E,240nm,14.9s						
KMI				LR	LR		
	comp=Z,280nm,14.4s						
SHL	**Shillong**	**24.87**	**348**	P	**P**	**03 24 39.2**	**-0.4**
PZH	**PanZhiHua**	**25.61**	**9**	P	**P**	**03 24 47.1**	**+0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
H08S2	**Diego Garcia H**	**26.22**	**250**	T	T	03 51 47.3	
	baz=72,slow=75,SNR=278						
H08S3	**Diego Garcia H**	**26.22**	**250**	T	T	03 51 56.9	
	baz=72,slow=75,SNR=931						
H08S1	**Diego Garcia H**	**26.24**	**250**	T	T	03 51 48.6	
	baz=72,slow=75,SNR=91						
XAN	**Xi'an**	**34.52**	**17**	P	**P**	**03 26 04.7**	**-0.4**
XAN				pP	pP	03 26 11.6	-3.7
XAN				pmax	pmax		
	comp=Z,11nm,0.9s						
GTA	**Gaotai**	**38.19**	**3**	*e*P	**P**	**03 26 36.1**	**-0.3**
GTA				pP	pP	03 26 40.2	-6.5
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
H01W3	**Cape Leeuwin H**	**39.12**	**158**	T	T	04 08 07.8	
	baz=333,slow=76,SNR=16						
H01W2	**Cape Leeuwin H**	**39.13**	**158**	T	T	04 08 08.8	
	baz=333,slow=76,SNR=13						
H01W1	**Cape Leeuwin H**	**39.14**	**158**	T	T	04 08 05.2	
	baz=333,slow=76,SNR=16						
WRA	**Warramunga Arr**	**41.90**	**122**	P	**P**	**03 27 07.2**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=299,slow=9.2,SNR=11						
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**43.26**	**127**	P	**P**	**03 27 18.3**	**-0.1**
ASAR	**Alice Springs**	**43.26**	**127**	P	**P**	**03 27 18.7**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=296,slow=7.3,SNR=10						
	comp=Z,1.1nm,0.9s						
NRN	**Naryn**	**44.51**	**337**	P	**P**	**03 27 28.0**	**-0.5**
NRN				IAmb	IAmb	03 27 30.0	
	comp=Z,3.4nm,0.9s						
BTK	**Batken**	**45.64**	**331**	P	**P**	**03 27 37.5**	**+0.3**
BTK				IAmb	IAmb	03 27 46.7	
	comp=Z,9.5nm,1.2s						
ARSB	**Arslanbob**	**45.66**	**334**	P	**P**	**03 27 38.0**	**+0.5**
KSAR	**Wonju Array Be**	**45.84**	**34**	P	**P**	**03 27 37.6**	**-1.1**
KSRS	**Korea Array**	**45.87**	**34**	P	**P**	**03 27 39.6**	**+0.6**
	comp=Z,4.6nm,0.8s,baz=212,slow=9.7,SNR=8.8						
KSRS				LR	LR	03 49 38.7	
	comp=Z,19nm,18.3s,baz=330,slow=40					

comp=Z,40nm,20.3s,baz=242,slow=36
GERES GERESS Array B 84.95 319 P **P** **03 31 52.3 +0.6**
comp=Z,1.0nm,0.9s,baz=82,slow=5.5,SNR=1.7
comp=Z,1.0nm,0.9s

*DNK **09** 03:31:09.8±1.3, 63°.92N×4°.96E, h0km, ML2.5(UPP), Suspected explosion*
*IDC **09** 03:31:12.1±3.1, 63°.93N×5°.52E, h0km, mbtmp3.3/4, ML2.5/4, Error ellipse: s-maj=33.9km s-min=15.3km az=72.0*
*NAO **09** 03:31:13.0±12.0, 63°.98N×5°.12E, h23km±117km, ML3.2*
*BER **09** 03:31:13.6±2.9, 63°.99N×4°.99E, h22km±17km, ML2.5, ML3.2(NAO), Confirmed Earthquake*
*UPP **09** 03:31:14.0±5.4, 63°.97N×4°.67E, h41km±84km, ML2.5*
ISC 09 03:31:08.2±1.5**, 63°.98N**±0°.04×**5°.12E**±0°.07**, h0km, n60,**
σ2**9**/109**, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MOL	**Molde**	**1.79**	**141**	*e*P		**Pn**	**03 31 41.9**	**+1.7**
MOL				*e*S		**Sn**	**03 32 02.6**	**-1.0**
MOL				IAML			03 32 03.6	
	comp=Z,71nm,0.3s							
MOL	**Molde**	**1.79**	**141**	Pn		**Pn**	**03 31 41.8**	**+1.6**
MOL				Sn		**Sn**	**03 32 02.8**	**-0.8**
AKN	**Aaknes**	**2.00**	**154**	Pn		**Pn**	**03 31 45.1**	**+2.0**
AKN				Sn		**Sn**	**03 32 08.1**	**-0.7**
AKN	**Aaknes**	**2.00**	**154**	Pn		**Pn**	**03 31 45.1**	**+2.0**
AKN				Sn		**Sn**	**03 32 08.1**	**-0.7**
FOO	**Floro**	**2.39**	**181**	*e*P		**Pn**	**03 31 50.9**	**+2.5**
FOO				*e*S		**Sn**	**03 32 17.3**	**-1.0**
FOO				IAML			03 32 19.6	
	comp=Z,88nm,0.2s							
FOO	**Floro**	**2.39**	**181**	Pn		**Pn**	**03 31 50.3**	**+1.9**
FOO				Sn		**Sn**	**03 32 17.8**	**-0.5**
TBLU	**Trondheim**	**2.41**	**105**	*e*P		**Pb**	**03 31 52.0**	**-0.3**
TBLU				*e*S		**Sb**	**03 32 20.1**	**-2.3**
TBLU				IAML			03 32 22.7	
	comp=Z,32nm,0.1s							
TBLU	**Trondheim**	**2.41**	**105**	Pn		**Pb**	**03 31 52.0**	**-0.3**
TBLU				Sn		**Sb**	**03 32 20.3**	**-2.2**
DOMB	**Dombas**	**2.64**	**135**	*e*P		**Pn**	**03 31 54.1**	**+2.1**
DOMB				*e*S		**Sn**	**03 32 25.0**	**+0.2**
DOMB				IAML			03 32 27.3	
	comp=Z,33nm,0.3s							
DOMB	**Dombas**	**2.64**	**135**	Pn		**Pn**	**03 31 54.4**	**+2.3**
DOMB				Sn		**Sn**	**03 32 25.1**	**+0.3**
HYA	**Hoyanger**	**2.86**	**170**	*e*P		**Pn**	**03 31 57.4**	**+2.4**
HYA				*e*S		**Sn**	**03 32 27.9**	**-2.1**
HYA				IAML			03 32 37.0	
	comp=Z,40nm,0.4s							
HYA	**Hoyanger**	**2.86**	**170**	Pn		**Pn**	**03 31 57.6**	**+2.6**
HYA				Sn		**Sn**	**03 32 30.4**	**+0.3**
NSS	**Namsos**	**3.04**	**76**	*e*P		**Pn**	**03 31 59.4**	**+2.0**
NSS				*e*S		**Sn**	**03 32 34.3**	**-0.2**
NSS				IAML			03 32 37.9	
	comp=Z,44nm,0.1s							
ASK	**Askoy**	**3.50**	**179**	*e*P		**Pn**	**03 32 06.9**	**+3.0**
ASK				*e*S		**Sn**	**03 32 44.4**	**-1.6**
ASK				IAML			03 32 47.4	
	comp=Z,42nm,0.2s							
SKAR	**Skarslia**	**3.62**	**154**	*e*P		**Pn**	**03 32 07.3**	**+1.7**
SKAR				*e*S		**Sn**	**03 32 46.5**	**-2.5**
SKAR				IAML			03 32 50.4	
	comp=Z,19nm,0.2s							
NC2	**NORSAR Subarra**	**3.78**	**133**	Pn		**Pn**	**03 32 10.3**	**+2.7**
NC2				Sn		**Sn**	**03 32 53.5**	**+0.7**
NBO	**NORSAR Subarra**	**3.95**	**136**	Pn		**Pn**	**03 32 11.8**	**+1.8**
NBO				Sn		**Sn**	**03 32 55.6**	**-1.4**
NC3	**NORSAR Subarra**	**3.98**	**130**	Pn		**Pn**	**03 32 12.8**	**+2.4**
NC3				Sn		**Sn**	**03 32 57.7**	**0.0**
NB2	**NORSAR Subarra**	**4.08**	**133**	Pn		**Pn**	**03 32 13.6**	**+1.8**
	baz=318,slow=14							
NB2				Sn		**Sn**	**03 33 00.8**	**+0.6**
	baz=312,slow=28							
NB2	**NORSAR Subarra**	**4.08**	**133**	Pn		**Pn**	**03 32 13.6**	**+1.8**
	baz=318,slow=14							
NB2				Sn		**Sn**	**03 33 00.8**	**+0.6**
	baz=312,slow=28							
NOA	**NORSAR Array B**	**4.08**	**133**	Pn		**Pn**	**03 32 12.8**	**+1.0**
	baz=322,slow=11,SNR=1.4							
NOA				Sn		**Sn**	**03 32 59.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=200,slow=9.8,SNR=3.5							
NOA				Lg		Lg	03 33 14.7	
	comp=Z,0.4nm,0.3s,baz=112,slow=17,SNR=4.3							
	comp=Z,0.3nm,0.3s							
STOK	**Stokkvaagen**	**4.09**	**51**	*e*P		**Pn**	**03 32 13.4**	**+1.6**
NAO	**NORSAR Subarra**	**4.13**	**137**	Pn		**Pn**	**03 32 14.2**	**+1.8**
NAO				Sn		**Sn**	**03 32 59.8**	**-1.6**
ODD1	**Odda**	**4.14**	**169**	*e*P		**Pn**	**03 32 15.6**	**+3.0**
ODD1				*e*S		**Sn**	**03 32 57.8**	**-3.8**
KONS	**Konsvik**	**4.21**	**49**	*e*P		**Pn**	**03 32 14.8**	**+1.3**
KONS				IAML			03 33 04.0	
	comp=Z,19nm,0.3s							
KONS	**Konsvik**	**4.21**	**49**	Pn		**Pn**	**03 32 14.8**	**+1.3**
KONS				Sn		**Sn**	**03 32 59.1**	**-4.2**
NC4	**NORSAR Subarra**	**4.22**	**131**	Pn		**Pn**	**03 32 15.1**	**+1.4**
NC4				Sn		**Sn**	**03 33 03.1**	**-0.4**
NOD	**Norderasen**	**4.36**	**93**	P		**Pn**	**03 32 18.6**	**+2.9**
NOD				S		**Sn**	**03 33 08.9**	**+1.8**
NOD	**Norderasen**	**4.36**	**93**	P		**Pn**	**03 32 18.6**	**+2.9**
NOD				S		**Sn**	**03 33 08.9**	**+1.8**
NC6	**NORSAR Subarra**	**4.38**	**135**	Pn		**Pn**	**03 32 17.6**	**+1.7**
NC6				Sn		**Sn**	**03 33 06.3**	**-1.2**
NRA0	**NORESS Array S**	**4.42**	**134**	Pn		**Pn**	**03 32 17.5**	**+1.2**
	baz=328,slow=14							
NRA0				Sn		**Sn**	**03 33 06.7**	**-1.8**
	baz=318,slow=22							
NRA0	**NORESS Array S**	**4.42**	**134**	Pn		**Pn**	**03 32 17.5**	**+1.2**
	baz=328,slow=14							
NRA0				Sn		**Sn**	**03 33 06.7**	**-1.8**
	baz=318,slow=22							
MOR8	**Moi Rana**	**4.52**	**57**	*e*P		**Pn**	**03 32 22.0**	**+4.3**
MOR8				*e*S		**Sn**	**03 33 12.5**	**+1.6**
MOR8				IAML			03 33 19.8	
	comp=Z,22nm,0.1s							
MOR8	**Moi Rana**	**4.52**	**57**	Pn		**Pn**	**03 32 21.5**	**+3.7**
MOR8				Sn		**Sn**	**03 33 13.1**	**+2.1**
BLS5	**Blasjo**	**4.61**	**171**	*e*P		**Pn**	**03 32 21.6**	**+2.5**
BLS5				*e*S		**Sn**	**03 33 09.6**	**-3.7**
BLS5				IAML			03 33 13.1	
	comp=Z,9.5nm,0.4s							
KONO	**Kongsberg**	**4.83**	**152**	*e*P		**Pn**	**03 32 23.2**	**+1.2**
KONO				*e*S		**Sn**	**03 33 15.8**	**-2.8**
LOF	**Lofoten**	**5.40**	**36**	*e*P		**Pn**	**03 32 29.9**	**+0.1**
LOF				*e*S		Sn	03 33 24.1	-8.4
LOF				IAML			03 33 31.6	
	comp=Z,7.1nm,0.3s							
FAUS	**Fauske**	**5.41**	**46**	*e*P		**Pn**	**03 32 31.8**	**+1.7**
FAUS				*e*S		**Sn**	**03 33 28.8**	**-4.2**
FAUS				IAML			03 33 33.2	
	comp=Z,17nm,0.2s							
SOLU	**Sollefteaa**	**5.46**	**92**	P		**Pn**	**03 32 33.5**	**+2.8**
SOLU				S		**Sn**	**03 33 33.5**	**-0.6**
SOLU	**Sollefteaa**	**5.46**	**92**	P		**Pn**	**03 32 33.5**	**+2.8**
SOLU				S		**Sn**	**03 33 33.5**	**-0.6**
HASU	**Hassela**	**5.53**	**104**	P		**Pn**	**03 32 35.0**	**+3.3**
HASU				S		**Sn**	**03 33 36.4**	**+0.5**
HASU	**Hassela**	**5.53**	**104**	P		**Pn**	**03 32 35.0**	**+3.3**
HASU				S		**Sn**	**03 33 36.4**	**+0.5**
ROTU	**Roteberg**	**5.55**	**113**	P		**Pn**	**03 32 34.7**	**+2.8**
ROTU				S		**Sn**	**03 33 36.8**	**+0.6**
ROTU	**Roteberg**	**5.55**	**113**	P		**Pn**	**03 32 34.7**	**+2.8**
ROTU				S		**Sn**	**03 33 36.8**	**+0.6**
HFS	**Hagfors**	**5.57**	**130**	Pn		**Pn**	**03 32 34.1**	**+1.8**
	baz=328,slow=14							
HFS				Sn		**Sn**	**03 33 34.0**	**-3.0**
	baz=322,slow=22							
HFS	**Hagfors**	**5.57**	**130**	Pn		**Pn**	**03 32 33.7**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=318,slow=12,SNR=11							
HFS				Sn		**Sn**	**03 33 34.1**	**-2.8**
	comp=Z,1.4nm,0.3s,baz=313,slow=20,SNR=10							
HFS				Lg		Lg	03 34 03.3	
	comp=Z,1.4nm,0.3s,baz=322,slow=28,SNR=2.5							
	comp=Z,5.9nm,1.0s							
HFS	**Hagfors**	**5.57**	**130**	Pn		**Pn**	**03 32 34.1**	**+1.8**
	baz=328,slow=14							
HFS				Sn		**Sn**	**03 33 34.0**	**-3.0**
	baz=322,slow=22							
UDD	**Uddeholm**	**5.58**	**130**	P		**Pn**	**03 32 33.6**	**+1.3**
UDD				S		**Sn**	**03 33 35.6**	**-1.4**
UDD	**Uddeholm**	**5.58**	**130**	P		**Pn**	**03 32 33.6**	**+1.3**
UDD				S		**Sn**	**03 33 35.6**	**-1.4**
STEI	**Steigen**	**5.73**	**42**	*e*P		**Pn**	**03 32 35.2**	**+0.8**
FINU	**Finntorp**	**5.77**	**139**	P		**Pn**	**03 32 36.7**	**+1.8**
FINU	**Finntorp**	**5.77**	**139**	P		**Pn**	**03 32 36.7**	**+1.8**
HEF	**Hetta**	**8.69**	**51**	*e*P		**Pn**	**03 33 16.7**	**+1.7**
HEF				*e*S		Sn	03 34 46.2	-7.4
ARA0	**ARCESS Array S**	**9.76**	**46**	Pn		**Pn**	**03 33 30.5**	**+0.9**
	baz=234,slow=12							
ARA0				Sn		Sn	03 35 12.2	-7.5
	baz=237,slow=22							
ARA0	**ARCESS Array S**	**9.76**	**46**	Pn		**Pn**	**03 33 30.5**	**+0.9**
	baz=234,slow=12							
ARA0				Sn		Sn	03 35 12.2	-7.5
	baz=237,slow=22							
ARCES	**ARCESS Array B**	**9.76**	**46**	Pn		**Pn**	**03 33 30.6**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=240,slow=13,SNR=13							
ARCES				Sn		Sn	03 35 09.0	-11
	comp=Z,0.3nm,0.3s,baz=237,slow=20,SNR=6.5							
	comp=Z,0.5nm,0.2s							
FIA0	**FINESS Array S**	**9.94**	**95**	Pn		**Pn**	**03 33 33.4**	**+1.3**
	baz=299,slow=12							
FIA0				Sn		**Sn**	**03 35 20.1**	**-4.0**
	baz=305,slow=28							
FIA0	**FINESS Array S**	**9.94**	**95**	Pn		**Pn**	**03 33 33.4**	**+1.3**
	baz=299,slow=12							
FIA0				Sn		**Sn**	**03 35 20.1**	**-4.0**
	baz=305,slow=28							
FINES	**FINESS Array B**	**9.94**	**95**	Pn		**Pn**	**03 33 33.5**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=299,slow=12,SNR=19							
FINES				Sn		**Sn**	**03 35 19.8**	**-4.3**
	comp=Z,0.6nm,0.3s,baz=301,slow=19,SNR=6.8							
	comp=Z,1.0nm,0.3s							
KEV	**Kevo**	**10.33**	**46**	*e*P		**Pn**	**03 33 38.2**	**+0.9**

*IDC **09** 03:36:07.5±0.8, 53°.77N×160°.53E, h0km, mb3.8/18, mbtmp3.8/19, ML3.4/1, MS2.8/3, Error ellipse: s-maj=22.3km s-min=14.3km az=144.0*
*KRSC **09** 03:36:11.0±0.9, 53°.55N×160°.88E, h47km±17km, Ml4.2*
ISC 09 03:36:10.4±1.1**, 53°.75N**±0°.03×**160°.69E**±0°.04**, h18**km±4km**,**
n64, σ1**9**21/77**, mb3.9**/19**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SPN	**Mys Shipunski**	**0.77**	**212**	*e*P		**Pg**	**03 36 25.9**	**+0.6**
SPN				*e*S		**Sb**	**03 36 35.3**	**+0.2**
KII	**Karymskiy**	**0.79**	**292**	*e*P		**Pn**	**03 36 29.5**	**+2.9**
KII				*e*S		**Sn**	**03 36 41.6**	**+3.5**
NLC	**Nalytchevo**	**0.99**	**235**	*e*P		**Pg**	**03 36 31.3**	**+1.6**
NLC				*e*S		**Sn**	**03 36 43.3**	**+0.5**
MKZ	**Mys Kozlova**	**1.01**	**37**	*e*P		**Pg**	**03 36 32.0**	**+1.9**
MKZ				*e*S		**Sn**	**03 36 45.7**	**+2.3**
SDLR	**Sedlovina**	**1.18**	**247**	*e*P		**Pb**	**03 36 33.2**	**+0.9**
SDLR				*e*S		**Sb**	**03 36 48.3**	**+1.1**
SMAR	**Somma**	**1.23**	**247**	*e*P		**Pg**	**03 36 34.3**	**+0.1**
UGLR	**Uglovaya**	**1.24**	**245**	*e*P		**Pg**	**03 36 34.5**	**+0.1**
KRER	**Koryakskii**	**1.24**	**250**	*e*P		**Pg**	**03 36 35.0**	**+0.5**
KRER				*e*S		**Sn**	**03 36 50.6**	**+1.2**
AVH	**Avacha**	**1.26**	**248**	*e*P		**Pg**	**03 36 34.9**	**+0.1**
AVH				*e*S		**Sn**	**03 36 50.2**	**+0.5**
KRX	**Arik**	**1.28**	**253**	*e*P		**Pg**	**03 36 35.2**	**0.0**
KOK	**Koryaka**	**1.31**	**250**	*e*P		**Pb**	**03 36 35.4**	**+0.9**
KOK				*e*S		**Sn**	**03 36 51.8**	**+0.9**
DALK	**Dalny**	**1.36**	**239**	*e*P		**Pb**	**03 36 35.4**	**0.0**
DALK				*e*S		**Sn**	**03 36 51.8**	**-0.2**
PET	**Petropavlovsk**	**1.42**	**240**	*e*P		**Pb**	**03 36 36.4**	**+0.1**
PET				*e*S		**Sn**	**03 36 52.8**	**-0.6**
INSR	**Institute**	**1.42**	**242**	*e*P		**Pb**	**03 36 36.8**	**+0.5**
INSR				*e*S		**Sn**	**03 36 54.3**	**+0.8**
TUMD	**Tumrok D**	**1.47**	**353**	*e*P		**Pg**	**03 36 39.9**	**+1.2**
TUMD				*e*S		**Sg**	**03 36 58.9**	**+1.0**
TUMR	**Tumrok**	**1.57**	**349**	*e*P		**Pg**	**03 36 42.3**	**+1.6**
KRMR	**Karymshinskiy**	**1.79**	**240**	*e*P		**Pn**	**03 36 41.9**	**+1.5**
KRMR				*e*S		**Sn**	**03 37 02.4**	**-0.2**
PETK	**Petropavlovsk-**	**1.90**	**252**	Pn		**Pn**	**03 36 42.1**	**+0.2**
	38nm,0.3s,baz=78,slow=20,SNR=141							
PETK				Sn		**Sn**	**03 37 06.5**	**+1.2**
	37nm,0.3s,baz=79,slow=39,SNR=4.2							
MTVR	**Mutnovka**	**1.97**	**231**	*e*P		**Pn**	**03 36 44.0**	**+1.0**
MTVR				*e*S		**Sn**	**03 37 07.2**	**-0.1**
GRL	**Gorelyy**	**1.98**	**234**	*e*P		**Pn**	**03 36 44.7**	**+1.6**
GRL				*e*S		**Sn**	**03 37 09.0**	**+1.5**
KMNR	**Kamenistaya**	**2.03**	**353**	*e*P		**Pg**	**03 36 49.2**	**-0.2**
ASAK	**Asacha**	**2.17**	**232**	*e*P		**Pn**	**03 36 47.3**	**+1.6**
ASAK				*e*S		**Sn**	**03 37 13.7**	**+1.6**
BZP	**Bezymyannyi-Pe**	**2.17**	**358**	*e*P		**Pg**	**03 36 51.0**	**-1.1**
BZMR	**Bezymyannaya**	**2.19**	**357**	*e*P		**Pg**	**03 36 51.0**	**-1.6**
BZGR	**Bezymyannyi-Gr**	**2.20**	**0**	*e*P		**Pg**	**03 36 51.6**	**-1.0**
BZGR				*e*S		**Sg**	**03 37 20.1**	**-1.0**
KIRR	**Kirishev**	**2.22**	**355**	*e*P		**Pg**	**03 36 51.9**	**-1.1**
BZWR	**Bezymyannyi-We**	**2.22**	**357**	*e*P		**Pg**	**03 36 52.0**	**-1.1**
APC	**Apacha**	**2.27**	**250**	*e*P		**Pb**	**03 36 49.6**	**-1.2**
APC				*e*S		**Sb**	**03 37 18.4**	**-0.2**
KOZ	**Kozyrevsk**	**2.36**	**349**	*e*P		**Pb**	**03 36 53.2**	**+0.8**
KOZ				*e*S		**Sg**	**03 37 24.2**	**-2.1**
ESO	**Esso**	**2.47**	**333**	*e*P		**Pb**	**03 36 55.3**	**+1.1**
KDTR	**Khodutka, Kamc**	**2.51**	**220**	*e*P		**Pn**	**03 36 51.5**	**+1.3**
KDTR				*e*S		**Sn**	**03 37 20.6**	**+0.3**
SRDR	**Sredinnyy**	**2.63**	**348**	*e*P		**Pb**	**03 36 56.6**	**-0.5**
KBG	**Krutoberegovo**	**2.77**	**24**	*e*P		**Pb**	**03 36 58.3**	**-0.9**
BKI	**Bering**	**3.41**	**63**	*e*P		**Pn**	**03 37 04.7**	**+2.2**
BKI				*e*S		**Sn**	**03 37 40.8**	**-1.6**
MA2	**Magadan**	**7.99**	**321**	LR		LR	03 41 27.0	
	comp=Z,50nm,20.2s,baz=120,slow=40							
SHEM	**Shemya Is, Ala**	**8.11**	**92**	LR		LR	03 40 53.1	
	comp=Z,45nm,21.6s,baz=266,slow=35							
KLR	**Kul'dur**	**18.51**	**268**	P		**P**	**03 40 24.6**	**-0.8**
	0.1nm,0.3s,baz=139,slow=18,SNR=2.1							
	0.9nm,0.7s							
MJAR	**Matsushiro Arr**	**23.24**	**231**	P		**P**	**03 41 16.5**	**+0.1**
	1.3nm,0.6s,baz=18,slow=11,SNR=2.5							
	1.3nm,0.6s							
ILAR	**Eielson Array**	**28.10**	**46**	P		**P**	**03 42 01.4**	**+0.8**
	0.3nm,0.7s,baz=263,slow=7.7,SNR=5.2							
	0.3nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**34.29**	**170**	T		T	04 19 16.7	
	baz=354,slow=76,SNR=172							
H11N3	**WAKE ISLAND Hy**	**34.30**	**170**	T		T	04 19 17.7	
	baz=354,slow=76,SNR=173							
H11N1	**WAKE ISLAND Hy**	**34.31**	**170**	T		T	04 19 17.9	
	baz=354,slow=76,SNR=225							
H11S1	**WAKE ISLAND Hy**	**35.48**	**170**	T		T	04 20 46.7	
	baz=352,slow=76,SNR=7.7							
H11S3	**WAKE ISLAND Hy**	**35.49**	**170**	T		T	04 20 49.9	
	baz=352,slow=76,SNR=23							
H11S2	**WAKE ISLAND Hy**	**35.50**	**170**	T		T	04 20 51.5	
	baz=352,slow=76,SNR=11							
JOW	**Kunigami**	**35.98**	**235**	LR		LR	03 58 46.1	
	comp=Z,37nm,19.3s,baz=100,slow=38							
YKA	**Yellowknife Ar**	**42.44**	**43**	P		**P**	**03 44 04.2**	**+0.7**
	0.3nm,0.7s,baz=298,slow=8.0,SNR=3.5							
	0.3nm,0.7s							
SPITS	**Spitsbergen Ar**	**46.55**	**350**	P		**P**	**03 44 36.2**	**0.0**
	7.8nm,0.8s,baz=51,slow=17,SNR=2.1							
KURBB	**Kurchatov Arra**	**47.80**	**302**	P		**P**	**03 44 43.9**	**-2.3**
	0.9nm,0.7s,baz=57,slow=7.8,SNR=4.4							
	0.9nm,0.7s							
MKAR	**Makanchi Array**	**48.20**	**295**	P		**P**	**03 44 47.2**	**-2.2**
	0.7nm,0.9s,baz=64,slow=6.6,SNR=1.6							
	0.7nm,0.9s							
ARCES	**ARCESS Array B**	**52.77**	**342**	P		**P**	**03 45 23.0**	**-0.7**
	4.6nm,1.0s,baz=44,slow=8.0,SNR=1.5							
	4.6nm,1.0s							
PDAR	**Pinedale Array**	**56.89**	**62**	P		**P**	**03 45 55.4**	**+1.2**
	0.5nm,0.8s,baz=318,slow=3.9,SNR=2.5							
	0.5nm,0.8s							
CMAR	**Chiang Mai Arr**	**58.67**	**258**	P		**P**	**03 46 06.8**	**+0.2**
	0.7nm,0.3s,baz=27,slow=6.7,SNR=1.5							
	0.7nm,0.3s							
FINES	**FINESS Array B**	**59.66**	**337**	P		**P**	**03 46 12.6**	**-0.3**
	0.9nm,0.4s,baz=44,slow=7.5,SNR=11							
	0.9nm,0.4s							
NB2	**NORSAR Subarra**	**63.01**	**344**	P		**P**	**03 46 35.1**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=20,slow=6.9							
NOA	**NORSAR Array B**	**63.01**	**344**	P		**P**	**03 46 35.2**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=21,slow=6.6,SNR=3.9							
	comp=Z,1.3nm,0.7s							
HFS	**Hagfors**	**63.44**	**342**	P		**P**	**03 46 37.8**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=79,slow=7.5,SNR=5.5							
	comp=Z,0.9nm,0.4s							
AKASG	**Malin Array Be**	**68.23**	**329**	P		**P**	**03 47 07.7**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=26,slow=7.5,SNR=3.2							
	comp=Z,0.3nm,0.4s							
KBZ	**Khabaz**	**69.31**	**317**	P		**P**	**03 47 16.3**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=228,slow=20,SNR=1.3							
	comp=Z,1.2nm,0.9s							
TXAR	**Lajitas Array**	**70.05**	**68**	P		**P**	**03 47 21.9**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=308,slow=5.3,SNR=5.9							
	comp=Z,0.3nm,0.5s							
MLR	**Muntele Rosu**	**73.88**	**329**	P		**P**	**03 47 44.4**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=219,slow=8.7,SNR=4.0							
	comp=Z,2.0nm,0.6s							
WRA	**Warramunga Arr**	**76.83**	**205**	P		**P**	**03 47 59.3**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=20,slow=6.3,SNR=2.8							
	comp=Z,0.3nm,0.6s							
ASAR	**Alice Springs**	**80.50**	**205**	P		**P**	**03 48 20.4**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=16,slow=5.5,SNR=7.9							
	comp=Z,0.4nm,0.6s							
ESDC	**Sonseca Array**	**86.01**	**348**	P		**P**	**03 48 49.8**	**+0.3**
	comp=Z,1.0nm,1.1s,baz=353,slow=5.7,SNR=1.9							
	comp=Z,1.0nm,1.1s							

*TRN **09** 03:43:43.7, 11°.07N×62°.07W, h113km, MD3.2*
*FUNV **09** 03:43:44.1, 11°.00N×62°.13W, h107km, MW3.5*
ISC 09 03:43:39.8±1.6**, 10°.99N**±0°.06×**62°.16W**±0°.05**,**
h136km±13km**, n11,** σ2**9**11/21**, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TRN	**Trinidad (W)**	**0.81**	**115**	*e*P		**Pn**	**03 44 03.5**	**+1.8**
TRN				*e*S		**Sn**	**03 44 16.9**	**-1.3**
CRUV	**Carupano**	**1.11**	**254**	*e*P		**Pn**	**03 44 05.7**	**+1.5**
CRUV				*e*S		**Sn**	**03 44 21.5**	**-1.3**
GRGR	**Grenville**	**1.24**	**23**	*e*P		**Pn**	**03 44 06.5**	**+0.9**
GRGR				*e*S		**Sn**	**03 44 23.5**	**-1.7**
GRHS	**Sauteurs**	**1.33**	**22**	*e*P		**Pn**	**03 44 07.3**	**+0.9**
GRHS				*e*S		**Sn**	**03 44 25.1**	**-1.7**
GCMP	**Grenada, Carri**	**1.65**	**26**	*e*P		**Pn**	**03 44 11.2**	**+1.2**
GCMP				*e*S		**Sn**	**03 44 31.6**	**-1.6**
PCRV	**Puerto La Cruz**	**2.57**	**252**	*e*P		**Pn**	**03 44 23.5**	**+2.3**
PCRV				*e*S		**Sn**	**03 44 52.8**	**-0.2**
TACV	**Tcata**	**4.86**	**260**	*e*P		**Pn**	**03 44 53.7**	**+2.5**
TACV				*e*S		**Sn**	**03 45 45.6**	**-1.2**
LUEV	**Luepa**	**5.16**	**172**	*e*P		**Pn**	**03 44 57.9**	**+2.6**
LUEV				*e*S		**Sn**	**03 45 51.8**	**-2.3**
BENV	**Beln**	**5.45**	**260**	*e*P		**Pn**	**03 45 01.6**	**+2.5**
BENV				*e*S		**Sn**	**03 45 59.0**	**-1.9**
CACV	**CAICARA DEL OR**	**5.50**	**232**	*e*P		**Pn**	**03 44 56.8**	**-2.9**
CACV				*e*S		Sn	03 45 51.3	-11
BAUV	**El Baul**	**6.14**	**251**	*e*P		**Pn**	**03 45 10.2**	**+1.9**
BAUV				*e*S		**Sn**	**03 46 14.7**	**-2.8**

*IDC **09** 03:56:10.7±2.6, 3°.04S×129°.75E, h0km, mb3.7/2, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=181.9km s-min=28.4km az=70.0*
*DJA **09** 03:56:14.7±0.4, 4°.S±4°×12°.8E±°, h10km, M4.0/8, mb3.9/3, MLv4.1/8*
ISC 09 03:56:17.0±1.1**, 4°.13S**±0°.08×**127°.8E**±0°.1**, h35**km**, n9,**
σ0**8**27/7**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SANI	**Sanana**	**2.76**	**318**	P		**Pn**	**03 56 59.0**	**+0.2**
LBMI	**Labuha**	**3.48**	**355**	P		**Pn**	**03 57 08.4**	**-0.3**
SWI	**Sorong**	**4.72**	**47**	P		**Pn**	**03 57 25.9**	**+0.2**
SAUI	**Saumlaki**	**5.16**	**138**	P		**Pn**	**03 57 31.8**	**+0.1**
GTOI	**Gorontalo**	**6.75**	**314**	P		Pn	03 57 56.7	+3.1
	6.6nm,0.8s,0.0nm							
EDFI	**Ende, Flores**	**7.63**	**233**	P		**Pn**	**03 58 06.1**	**+0.2**
WRA	**Warramunga Arr**	**16.

JACO	**JACO, Garabito**	**1.87**	**299**	*i* P	**Pn**	**04 11 42.3**	**+0.6**
JACO				IAML		04 11 56.4	
	comp=Z,84nm,1.0s						
TRT2	**Tortugero**	**1.94**	**338**	*i* P	**Pn**	**04 11 43.9**	**+1.2**
TRT2				IAML		04 11 51.0	
	comp=Z,160nm,1.0s						
CPMI	**Catarata Coope**	**2.05**	**319**	*i* P	**Pn**	**04 11 46.2**	**+1.9**
CPMI				IAML		04 11 58.4	
	comp=Z,80nm,1.0s						
SFRA3	**San Francisco,**	**2.07**	**103**	*e*P	**Pn**	**04 11 44.5**	**0.0**
SOCE	**Pocosol**	**2.28**	**316**	*i* P	**Pn**	**04 11 49.5**	**+2.2**
SOCE				IAML		04 12 00.0	
	comp=Z,180nm,1.0s						
COVE	**Coope Vega, Sa**	**2.40**	**325**	*i* P	**Pn**	**04 11 50.9**	**+1.9**
COVE				IAML		04 12 38.2	
	comp=Z,110nm,1.0s						
JTS	**Las Juntas de**	**2.46**	**309**	*e*P	**Pn**	**04 11 52.1**	**+2.3**
CHIT3	**Chitre**	**2.68**	**107**	*e*P	**Pn**	**04 11 52.7**	**0.0**
CHIT3				*e*S	**Sn**	**04 12 23.7**	**-0.5**
INDI	**Punta indio, G**	**2.71**	**295**	*i* P	**Pn**	**04 11 55.1**	**+2.0**
INDI				IAML		04 14 02.8	
	comp=Z,70nm,1.0s						
AZU	**Azuero**	**2.87**	**109**	*e*P	**Pn**	**04 11 55.5**	**+0.2**
AZU			⇑	*e*S	**Sn**	**04 12 28.1**	**-0.7**
BCIP	**Isla Barro Col**	**3.16**	**82**⇑	*e*P	**Pn**	**04 11 59.7**	**+0.3**
BCIP	**Isla Barro Col**	**3.16**	**82**	*i* P	**Pn**	**04 12 01.4**	**+2.0**
BCIP				IAML		04 13 49.8	
	comp=Z,89nm,1.0s						

*IDC **09** 04:33:54.0±2.0, 14°.98N×94°.50W, h0km, mb3.6/5, mbtmp3.6/8, ML3.6/3, MS2.9/2, Error ellipse: s-maj=51.7km s-min=20.2km az=41.0*
*NEIC **09** 04:33:58.9±2.7, 15°.10N±0°.05×94°.09W±0°.04, h10km±2km, mb4.1/19, Md4.3/51(MEX), Error ellipse: s-maj=9.4km s-min=6.3km az=157.0*
*MEX **09** 04:33:59.2±0.7, 15°.08N×94°.30W, h16km±999km, MD4.4*
*CATAC **09** 04:34:05.1±0.8, 15°.07N×93°.79W, h10km, mb4.7, ML4.2*

ISC 09 04:33:57.3±1.6, 15°.10N±0°.05×94°.20W±0°.04, h14km±10km, n101, σ1§97/117, mb3.9/8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.12**	**58**		**Pg**	**04 34 18.5**	**-0.4**
PCIG					**Sg**	**04 34 32.1**	**-1.4**
PCIG		**1.12**	**58**	*i* P	**Pg**	**04 34 18.5**	**-0.4**
PCIG				*i* S	**Sg**	**04 34 32.1**	**-1.4**
CARR	**Arriaga**	**1.17**	**13**	*i* P	**Pb**	**04 34 19.4**	**0.0**
CARR				*e*S	**Sb**	**04 34 34.2**	**-0.1**
NILT	**Santiago Nilte**	**1.51**	**344**	*i* P	**Pn**	**04 34 23.4**	**-0.5**
NILT				*e*S	**Sn**	**04 34 41.9**	**-1.5**
THIG		**1.88**	**96**		**Pn**	**04 34 28.1**	**-0.9**
THIG					**Sn**	**04 34 49.7**	**-2.7**
THIG		**1.88**	**96**	*e*P	**Pn**	**04 34 28.1**	**-0.9**
THIG				*e*S	**Sn**	**04 34 49.7**	**-2.7**
PATR	**El Naranjo**	**1.90**	**89**	*e*P	**Pn**	**04 34 28.9**	**-0.6**
PATR				*e*S	**Sn**	**04 34 52.7**	**-0.6**
PAVE	**Pavencul**	**1.95**	**87**	*i* P	**Pn**	**04 34 29.7**	**-0.5**
PAVE				*e*S	**Sb**	**04 34 55.3**	**-1.8**
HUIG	**Huatulco**	**1.96**	**290**		Pn	04 34 27.6	-2.5
HUIG					Sn	04 34 48.2	-6.3
HUIG	**Huatulco**	**1.96**	**290**	*e*P	Pn	04 34 27.6	-2.5
HUIG				*e*S	Sn	04 34 48.2	-6.3
TGIG		**1.96**	**32**		**Pn**	**04 34 32.2**	**+2.0**
TGIG					**Sb**	**04 34 57.9**	**+0.7**
TGIG		**1.96**	**32**	*i* P	**Pn**	**04 34 32.2**	**+2.0**
TGIG				*e*S	**Sb**	**04 34 57.9**	**+0.7**
CHUJ	**Union Juarez**	**2.02**	**90**	*i* P	**Pn**	**04 34 30.7**	**-0.4**
CHUJ				*e*S	**Sn**	**04 34 56.6**	**+0.3**
SMCA	**Catarina**	**2.06**	**97**	*i* P	**Pb**	**04 34 34.3**	**-0.3**
SMCA				*i* S	**Sn**	**04 34 55.1**	**-2.1**
SMCA				IAML		04 35 07.4	
	comp=Z,1μm,1.0s						
CMIG	**Matias Romero**	**2.08**	**342**		**Pn**	**04 34 32.2**	**+0.4**
CMIG					**Sn**	**04 34 55.5**	**-2.2**
CMIG	**Matias Romero**	**2.08**	**342**	Pn	**Pn**	**04 34 32.3**	**+0.4**
	comp=Z,69nm,0.3s,baz=166,slow=12,SNR=284						
CMIG				Sn	**Sn**	**04 34 54.0**	**-3.6**
	comp=Z,35nm,0.3s,baz=229,slow=3.6,SNR=5.8						
CMIG				LR	LR	04 35 11.0	
	comp=Z,64nm,21.5s,baz=71,slow=36						
	comp=Z,142nm,0.3s						
CMIG	**Matias Romero**	**2.08**	**342**	*i* P	**Pn**	**04 34 32.2**	**+0.4**
CMIG				*e*S	**Sn**	**04 34 55.5**	**-2.2**
CCIG	**Comitan**	**2.30**	**59**		**Pn**	**04 34 36.7**	**+1.7**
CCIG	**Comitan**	**2.30**	**59**	*i* P	**Pb**	**04 34 37.7**	**-1.0**
CCIG				*e*S	**Sb**	**04 35 06.6**	**-0.6**
CCIG	**Comitan**	**2.30**	**59**	*i* P	**Pb**	**04 34 38.7**	**-0.1**
CCIG				IAML		04 35 13.3	
	comp=Z,2μm,1.0s						
SMSP	**San Marcos**	**2.34**	**93**	*i* P	**Pb**	**04 34 38.7**	**-0.7**
SMSP				*i* S	**Sn**	**04 35 03.5**	**-0.8**
SMSP				IAML		04 35 11.7	
	comp=Z,2μm,1.0s						
RTAL	**Retalhuleu**	**2.49**	**103**		**Pn**	**04 34 37.3**	**-0.1**
RTAL	**Retalhuleu**	**2.49**	**103**	*i* P	**Pb**	**04 34 40.4**	**-1.4**
RTAL				IAML		04 35 19.9	
	comp=Z,580nm,1.0s						
HUEH	**Huehuetenango**	**2.61**	**85**		**Pn**	**04 34 40.8**	**+1.5**
HUEH	**Huehuetenango**	**2.61**	**85**	*i* P	**Pn**	**04 34 40.4**	**+1.2**
HUEH				*e*S	**Sb**	**04 35 13.3**	**-2.7**
HUEH	**Huehuetenango**	**2.61**	**85**	*i* P	**Pn**	**04 34 41.9**	**+2.6**
HUEH				IAML		04 35 26.5	
	comp=Z,4μm,1.0s						
SOKI	**Kika Raxquin**	**2.71**	**96**	*i* P	**Pn**	**04 34 43.5**	**+2.6**
SOKI				IAML		04 35 31.3	
	comp=Z,670nm,1.0s						
PEIG	**Puerto Escondi**	**2.98**	**288**		Pn	04 34 42.0	-2.2
PEIG					Sn	04 35 12.1	-7.6
PEIG	**Puerto Escondi**	**2.98**	**288**	*e*P	Pn	04 34 42.0	-2.2
PEIG				*e*S	Sn	04 35 12.1	-7.6
QUIS	**Sacapulas**	**3.00**	**86**	*i* P	**Pn**	**04 34 47.7**	**+3.1**
QUIS				*i* S	**Sn**	**04 35 20.4**	**-0.1**
QUIS				IAML		04 35 43.9	
	comp=Z,860nm,1.0s						
NEUV	**Arroyo Zacate**	**3.02**	**330**	*e*P	**Pn**	**04 34 45.0**	**+0.3**
OXIG	**Oaxaca**	**3.13**	**309**		**Pn**	**04 34 47.8**	**+1.4**
OXIG					**Sn**	**04 35 20.7**	**-2.9**
VHO	**Vista Hermosa**	**3.13**	**309**	*e*P	**Pn**	**04 34 47.8**	**+1.4**
VHO				*e*S	**Sn**	**04 35 20.7**	**-2.9**
PMUV	**Sontecomapan**	**3.54**	**346**	*e*P	**Pn**	**04 34 50.9**	**-1.0**
PMUV				*i* S	**Sn**	**04 35 33.0**	**-0.5**
YOIG	**Yosondua**	**3.66**	**299**	*e*P	Pn	04 34 52.2	-1.6
YOIG				*e*S	**Sn**	**04 35 33.7**	**-3.3**
GUNB	**GUNB**	**3.76**	**97**	*i* P	**Pn**	**04 34 56.9**	**+1.7**
GUNB				IAML		04 35 03.2	
	comp=Z,240nm,1.0s						
PNIG	**Pinotepa**	**4.00**	**289**		Pn	04 34 56.8	-1.4
PNIG					Sn	04 35 35.3	-10
PNIG	**Pinotepa**	**4.00**	**289**	*e*P	Pn	04 34 56.8	-1.4
PNIG				*e*S	Sn	04 35 35.3	-10
TXIG	**Tlaxiaco**	**4.04**	**302**		**Pn**	**04 35 00.5**	**+1.4**
TXIG					Sn	04 35 38.3	-8.1
TXIG	**Tlaxiaco**	**4.04**	**302**	*e*P	**Pn**	**04 35 00.5**	**+1.4**
TXIG				*i* S	Sn	04 35 38.3	-8.1
HLIG	**Huajuapan de L**	**4.40**	**309**		**Pn**	**04 35 05.7**	**+1.9**
HLIG					**Sn**	**04 35 52.9**	**-2.1**
HLIG	**Huajuapan de L**	**4.40**	**309**	*e*P	**Pn**	**04 35 05.7**	**+1.9**
HLIG				*i* S	**Sn**	**04 35 52.9**	**-2.1**
NUBE	**Las Nubes**	**4.44**	**105**	*i* P	**Pn**	**04 35 06.3**	**+1.9**
NUBE				IAML		04 36 10.8	
	comp=Z,130nm,1.0s						
TPIG	**Tehuac#an**	**4.48**	**318**		Pn	04 35 11.5	+6.6
TPIG					**Sn**	**04 35 56.3**	**-0.7**
TPIG	**Tehuac#an**	**4.48**	**318**	*e*P	Pn	04 35 11.5	+6.6
TPIG				*e*S	**Sn**	**04 35 56.3**	**-0.7**
PETF	**Flores**	**4.54**	**66**		**Pn**	**04 35 07.4**	**+1.8**
CEVE	**Cerro Verde**	**4.61**	**105**	*i* P	**Pn**	**04 35 08.9**	**+2.1**
CEVE				IAML		04 36 25.5	
	comp=Z,230nm,1.0s						
FTIG	**Fresnillo de T**	**4.69**	**307**		**Pn**	**04 35 09.8**	**+1.9**
FTIG					Sn	04 35 57.0	-5.3
FTIG	**Fresnillo de T**	**4.69**	**307**	*e*P	**Pn**	**04 35 09.8**	**+1.9**
FTIG				*i* S	Sn	04 35 57.0	-5.3
MTO3	**Montecristo**	**4.73**	**98**		**Pn**	**04 35 09.8**	**+1.3**
MTO3	**Montecristo**	**4.73**	**98**	*i* P	**Pb**	**04 35 21.4**	**+1.2**
SCIG	**Sabancuy**	**4.80**	**36**	*e*P	**Pn**	**04 35 11.3**	**+2.1**
SCIG				*i* S	Sn	04 35 55.4	-9.3
JAYA	**Jayaque - finc**	**4.82**	**107**	*i* P	**Pn**	**04 35 12.4**	**+2.7**
JAYA				IAML		04 36 27.4	
	comp=Z,220nm,1.0s						
TLIG	**Tlapa**	**4.86**	**301**		**Pn**	**04 35 11.6**	**+1.5**
TLIG	**Tlapa**	**4.86**	**301**	*e*P	**Pn**	**04 35 11.7**	**+1.6**
TLIG				*i* S	Sn	04 35 57.4	-8.8
PMON	**Piamonte**	**4.93**	**106**	*i* P	**Pn**	**04 35 15.7**	**+4.6**
PMON				IAML		04 36 42.7	
	comp=Z,150nm,1.0s						
CRIG	**Cruz Grande**	**5.02**	**290**		**Pn**	**04 35 11.1**	**-1.1**
CRIG					Sn	04 35 59.5	-11
CRIG	**Cruz Grande**	**5.02**	**290**	*e*P	**Pn**	**04 35 11.1**	**-1.1**
CRIG				*e*S	Sn	04 35 59.5	-11
SARH	**Santa Rosa de**	**5.26**	**93**	*i* P	**Pn**	**04 35 18.7**	**+3.0**
SCLA	**Alcaldia de Sa**	**5.48**	**104**	*i* P	**Pn**	**04 35 20.6**	**+2.0**
SCLA				IAmb	IAmb	04 35 31.4	
	comp=Z,20nm,0.6s						
SCLA				IAML		04 36 54.2	
	comp=Z,51nm,1.0s						
DAIG	**Los Arroyos**	**5.58**	**291**	*e*P	Pn	04 35 16.9	-3.0
DAIG				*e*S	Sn	04 36 13.6	-10
MEIG	**Mezcala**	**5.91**	**299**		Pn	04 35 23.0	-1.5
MEIG					Sn	04 36 21.5	-11
MEIG	**Mezcala**	**5.91**	**299**	*e*P	Pn	04 35 23.0	-1.5
MEIG				*e*S	Sn	04 36 21.5	-11
PACA	**Pacayal**	**5.92**	**105**	*i* P	**Pn**	**04 35 27.2**	**+2.4**
PACA				IAmb	IAmb	04 35 52.6	
	comp=Z,160nm,0.7s						
PACA				IAML		04 37 03.6	
	comp=Z,380nm,1.0s						
YAIG	**Yautepec**	**5.97**	**309**		**Pn**	**04 35 28.5**	**+3.0**
YAIG					Sn	04 36 25.8	-8.1
YAIG	**Yautepec**	**5.97**	**309**	*e*P	**Pn**	**04 35 28.5**	**+3.0**
YAIG				*i* S	Sn	04 36 25.8	-8.1
PLIG	**Platanillo**	**6.04**	**303**	*e*P	**Pn**	**04 35 28.4**	**+2.0**
PLIG				*e*S	Sn	04 36 29.4	-6.1
ARIG	**Puente Sto Nin**	**6.69**	**299**	*e*P	**Pn**	**04 35 36.2**	**+1.0**
ARIG				*e*S	Sn	04 36 46.1	-5.2
TGUH	**Tegucigalpa,Un**	**6.78**	**98**	Pn	**Pn**	**04 35 36.1**	**-0.6**
TEIG	**Tepich**	**7.60**	**47**		**Pn**	**04 35 47.7**	**0.0**
TEIG	**Tepich**	**7.60**	**47**	Pn	**Pn**	**04 35 49.8**	**+2.1**
	comp=Z,107nm,0.3s,baz=82,slow=0.5,SNR=52						
TEIG				Sn	**Sn**	**04 37 12.9**	**-0.8**
	comp=Z,48nm,0.3s,baz=159,slow=20,SNR=5.9						
CNGN	**Cerro Negro**	**7.73**	**109**	Pn	**Pn**	**04 35 48.7**	**-0.8**
MATN	**Matagalpa**	**8.31**	**104**		**Pn**	**04 35 53.9**	**-3.7**
JTS	**Las Juntas de**	**10.21**	**117**	Pn	**Pn**	**04 36 26.1**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=300,slow=22,SNR=1.8						
JTS				Sn	**Sn**	**04 38 21.7**	**+3.8**
	baz=109,slow=23						
	comp=Z,1.9nm,0.5s						
833A	**Chaparral WMA,**	**14.01**	**341**	Pn	**Pn**	**04 37 16.6**	**+1.1**
HPIG		**15.90**	**320**	Pn	**Pn**	**04 37 44.4**	**+3.4**
435B	**Jarrell**	**15.91**	**349**	Pn	**Pn**	**04 37 42.0**	**+1.1**
435B				IAmb	IAmb	04 37 50.3	
	comp=Z,12nm,0.8s						
TXAR	**Lajitas Array**	**16.64**	**330**	Pn	**Pn**	**04 37 50.8**	**+0.5**
	baz=152,slow=12,SNR=3.8						
	comp=Z,0.1nm,0.5s						
BRDY	**Brady**	**16.70**	**346**		**P**	**04 37 55.1**	**+1.9**
BRDY				IAmb	IAmb	04 38 09.0	
	comp=Z,5.1nm,0.7s						
OZNA	**Ozona**	**16.98**	**339**		**P**	**04 37 58.7**	**+2.3**
OZNA				IAmb	IAmb	04 38 07.7	
	comp=Z,7.0nm,0.5s						
WHTX	**Lake Whitney,**	**17.07**	**351**		**Pn**	**04 37 58.5**	**+2.9**
WHTX				IAmb	IAmb	04 38 05.4	
	comp=Z,11nm,0.9s						
ALPN	**Alpine**	**17.50**	**332**		**Pn**	**04 38 03.7**	**+2.5**
ALPN				IAmb	IAmb	04 38 07.4	
	comp=Z,3.2nm,0.8s						
SGCY	**Sterling City**	**17.89**	**340**		**Pn**	**04 38 07.2**	**+1.3**
SGCY				IAmb	IAmb	04 38 14.6	
	comp=Z,9.0nm,0.8s						
MNHN	**Monahans**	**17.96**	**336**		**P**	**04 38 10.2**	**+3.0**
MNHN				IAmb	IAmb	04 38 18.2	
	comp=Z,6.4nm,0.8s						
ODSA	**Odessa**	**18.57**	**337**	P	**P**	**04 38 16.4**	**+2.3**
ODSA				IAmb	IAmb	04 38 23.0	
	comp=Z,15nm,0.9s						
FNO	**Franklin**	**20.27**	**352**	P	**P**	**04 38 34.7**	**+2.2**
SMWD	**Samnorwood**	**20.64**	**346**	P	**P**	**04 38 40.0**	**+3.4**
SMWD				IAmb	IAmb	04 38 46.1	
	comp=Z,8.4nm,0.6s						
AMTX	**Amarillo**	**20.82**	**342**	P	**P**	**04 38 41.4**	**+2.9**
AMTX				IAmb	IAmb	04 38 54.0	
	comp=Z,7.4nm,0.7s						
HHAR	**Hobbs**	**21.09**	**1**	P	**P**	**04 38 44.2**	**+2.8**
HHAR				IAmb	IAmb	04 38 46.1	
	comp=Z,14nm,1.4s						
QUOK	**Quay**	**21.10**	**354**	P	**P**	**04 38 44.0**	**+2.6**
121A	**Cookes Peak, D**	**21.30**	**327**	P	**P**	**04 38 46.6**	**+2.7**
121A				IAmb	IAmb	04 38 51.0	
	comp=Z,5.9nm,0.8s						
CROK	**Carrier**	**21.58**	**352**	P	**P**	**04 38 48.8**	**+2.1**
GC02	**Grant County #**	**21.90**	**352**	P	**P**	**04 38 51.9**	**+1.8**
OK032	**Salt Plains WL**	**21.91**	**351**	P	**P**	**04 38 53.1**	**+2.9**
ROSC	**El Rosal**	**22.05**	**116**	P	**P**	**04 38 53.6**	**+1.3**
	comp=Z,1.5nm,0.4s,baz=288,slow=20,SNR=1.4						
	comp=Z,1.5nm,0.4s						
RTBA	**Rita Blanca**	**22.57**	**342**	P	**P**	**04 39 00.3**	**+2.8**
RTBA				IAmb	IAmb	04 39 07.1	
	comp=Z,4.8nm,0.6s						
NVAR	**Mina Array Bea**	**31.49**	**322**	P	**P**	**04 40 17.5**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=132,slow=8.8,SNR=4.3						
	comp=Z,0.4nm,0.6s						
ULM	**Lac du Bonnet**	**35.08**	**358**	P	**P**	**04 40 48.9**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=170,slow=11,SNR=4.7						
	comp=Z,1.1nm,0.4s						
YBH	**Yreka Blue Hor**	**36.20**	**323**	LR	LR	04 56 53.0	
	comp=Z,74nm,18.3s,baz=160,slow=38						
YKA	**Yellowknife Ar**	**49.48**	**348**	P	**P**	**04 42 46.0**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=155,slow=7.0,SNR=5.5						
	comp=Z,0.3nm,0.7s						
ILAR	**Eielson Array**	**61.00**	**337**	P	**P**	**04 44 08.5**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=148,slow=4.4,SNR=7.6						
	comp=Z,0.4nm,0.7s						

*IDC **09** 04:33:59.6±0.9, 10°.26N×140°.27E, h0km, mb3.6/10, mbtmp3.6/11, ML4.4/1, MS3.1/8, Error ellipse: s-maj=27.8km s-min=20.9km az=104.0*

ISC 09 04:34:01.2±0.8, 10°.2N±0°.1×140°.3E±0°.1, h10km, n23, σ1§28/12, mb3.8/10, MS3.1/8, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.61**	**53**	Pn	**Pn**	**04 35 22.6**	**-2.0**
	10.0nm,0.3s,baz=15,slow=20,SNR=2.3						
GUMO				Sn	**Sn**	**04 36 31.0**	**+1.8**
	3.9nm,0.3s,baz=252,slow=20,SNR=1.5						
	18nm,0.3s						
JOW	**Kunigami**	**20.02**	**327**	LR	LR	04 44 06.7	
	comp=Z,38nm,21.2s,baz=350,slow=30						
MJAR	**Matsushiro Arr**	**26.25**	**356**	LR	LR	04 49 51.1	
	comp=Z,52nm,18.1s,baz=208,slow=36						
H11S3	**WAKE ISLAND Hy**	**26.86**	**69**	T	T	05 07 55.2	
	baz=255,slow=75,SNR=402						
H11S1	**WAKE ISLAND Hy**	**26.87**	**69**	T	T	05 08 18.3	
	baz=255,slow=75,SNR=139						
H11S2	**WAKE ISLAND Hy**	**26.87**	**69**	T	T	05 07 57.4	
	baz=255,slow=75,SNR=323						
H11N1	**WAKE ISLAND Hy**	**27.36**	**67**	T	T	05 08 33.5	
	baz=254,slow=75,SNR=113						
H11N2	**WAKE ISLAND Hy**	**27.37**	**67**	T	T	05 08 34.9	
	baz=254,slow=75,SNR=98						
H11N3	**WAKE ISLAND Hy**	**27.38**	**67**	T	T	05 08 35.4	
	baz=254,slow=75,SNR=126						
WRA	**Warramunga Arr**	**30.55**	**191**	P	**P**	**04 40 16.1**	**+1.0**
	0.6nm,0.9s,baz=13,slow=9.9,SNR=1.7						
	0.6nm,0.9s						
CTA	**Charters Tower**	**30.71**	**169**	LR	LR	04 51 27.5	
	comp=Z,30nm,19.6s,baz=268,slow=34						
ASAR	**Alice Springs**	**34.26**	**190**	P	**P**	**04 40 46.9**	**-0.8**
	0.3nm,0.8s,baz=16,slow=14,SNR=2.7						
ASAR				LR	LR	04 54 23.0	
	comp=Z,58nm,19.9s,baz=350,slow=36						
	0.3nm,0.8s						
KLR	**Kul'dur**	**39.51**	**351**	LR	LR	04 54 22.9	
	comp=Z,38nm,21.1s,baz=95,slow=31						
CMAR	**Chiang Mai Arr**	**40.78**	**286**	P	**P**	**04 41 42.5**	**-0.5**
	0.7nm,0.3s,baz=103,slow=7.5,SNR=0.9						
CMAR				LR	LR	04 57 40.3	
	comp=Z,9.3nm,20.3s,baz=95,slow=35						
	0.7nm,0.3s						
SHEM	**Shemya Is, Ala**	**50.40**	**26**	LR	LR	05 02 50.1	
	comp=Z,16nm,19.6s,baz=282,slow=34						
MKAR	**Makanchi Array**	**60.86**	**318**	P	**P**	**04 44 15.5**	**+1.5**
	0.8nm,1.0s,baz=103,slow=10,SNR=1.2						
	0.8nm,1.0s						
ZALV	**Zalesovo Beam**	**61.81**	**326**	P	**P**	**04 44 19.7**	**-0.5**
	0.4nm,0.3s,baz=108,slow=9.3,SNR=1.7						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**64.34**	**322**	P	**P**	**04 44 37.1**	**0.0**
	0.3nm,0.6s,baz=104,slow=7.3,SNR=2.2						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**69.80**	**323**	P	**P**	**04 45 10.7**	**-1.1**
	0.4nm,0.5s,baz=64,slow=3.4,SNR=1.6						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**73.51**	**25**	P	**P**	**04 45 33.8**	**-0.1**
	0.2nm,0.7s,baz=266,slow=5.7,SNR=8.6						
	0.2nm,0.7s						
YKA	**Yellowknife Ar**	**87.88**	**27**	P	**P**	**04 46 52.0**	**+1.2**
	0.1nm,0.7s,baz=287,slow=4.7,SNR=2.1						
	0.1nm,0.7s						
YBH	**Yreka Blue Hor**	**88.46**	**48**	LR	LR	05 17 56.5	
	comp=Z,36nm,20.9s,baz=14,slow=30						
VNDA	**Vanda**	**88.47**	**175**	P	**P**	**04 46 53.3**	**+0.1**
	0.4nm,0.7s,baz=126,slow=4.4,SNR=2.9						
	0.4nm,0.7s						

SJA 09 04:52:07.7±0.7, 22°.97S×66°.47W, h246km±4km, ML3.5, MW3.4, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.19**	**48**	*e*P	Pn	04 52 44.7	+0.6
YJA				*e*S	S	04 53 11.9	-0.6
AZAP	**Zapla**	**1.79**	**134**	*e*P	Pn	04 52 48.7	+0.4
SLA	**San Lorenzo**	**1.96**	**153**	*e*P	Pn	04 52 53.2	+3.6
LVC	**Limon Verde**	**2.28**	**279**	*e*P	Pn	04 52 53.6	+0.7
LVC				*e*S	S	04 53 27.7	-0.7
ALOL	**LOMAS DE OLMED**	**2.44**	**111**	*e*P	Pn	04 52 54.4	+0.3
PB15	**IPOC Station P**	**2.77**	**265**	*e*P	Pn	04 52 58.7	+1.0
PB15				*e*S	S	04 53 35.5	-1.7
PB09	**IPOC Station P**	**2.82**	**294**	*e*P	Pn	04 52 59.1	+0.9
PB09				*e*S	S	04 53 37.8	-0.3
PB09				IAML		04 53 39.6	
	comp=Z,49nm,0.3s						
PB06	**IPOC Station P**	**2.87**	**275**	*e*P	Pn	04 52 59.3	+0.6
PB06				*e*S	S	04 53 37.0	-2.0
PB06				IAML		04 53 42.3	
	comp=Z,74nm,0.3s						
PB01	**IPOC Station P**	**3.39**	**304**	*e*P	Pn	04 53 04.7	+0.2
PB01				*e*S	S	04 53 47.4	-2.0
PB01				IAML		04 53 49.0	
	comp=Z,58nm,0.1s						
PB07	**IPOC Station P**	**3.39**	**291**	*e*P	Pn	04 53 04.8	+0.2
PB07				*e*S	S	04 53 47.0	-2.5
PB07				IAML		04 53 48.0	
	comp=Z,76nm,0.2s						
PB05	**IPOC Station P**	**3.44**	**271**	*e*P	Pn	04 53 05.2	+0.2
PB04	**IPOC Station P**	**3.46**	**280**	*e*P	Pn	04 53 06.3	+1.1
PB04				*e*S	S	04 53 48.4	-2.3
PB04				IAML		04 53 49.9	
	comp=Z,75nm,0.5s						
PB02	**IPOC Station P**	**3.57**	**297**	*e*P	Pn	04 53 06.7	+0.2
PB02				*e*S	S	04 53 49.9	-3.1
PB02				IAML		04 53 53.5	
	comp=Z,148nm,0.2s						
GO02	**Mina Guanaco**	**3.59**	**232**	*e*P	Pn	04 53 07.8	+0.9
GO02				*e*S	S	04 53 53.6	-0.1
PB08	**IPOC Station P**	**3.76**	**318**	*e*P	Pn	04 53 09.4	+0.4
PB08				*e*S	S	04 53 56.5	-1.0
PB08				IAML		04 54 00.5	
	comp=Z,20nm,0.5s						
PB14	**IPOC Station P**	**3.96**	**245**	*e*P	Pn	04 53 11.8	+0.6
PB14				*e*S	S	04 53 58.7	-2.8
PB14				IAML		04 54 02.8	
	comp=Z,84nm,0.3s						
PATCX	**Punta Patache**	**4.03**	**301**	*e*P	Pn	04 53 12.3	+0.5
PATCX				*e*S	S	04 53 59.7	-3.0
GO01	**Chusmiza**	**4.15**	**322**	*e*P	Pn	04 53 14.2	+0.5
GO01				*e*S	S	04 54 07.2	+1.3
PB11	**IPOC Station P**	**4.36**	**317**	*e*P	Pn	04 53 15.1	-0.8
PB11				*e*S	S	04 54 06.2	-3.7
PB11				IAML		04 54 09.7	
	comp=Z,26nm,0.2s						
AC01	**Pan de Azucar**	**4.91**	**229**	*e*P	Pn	04 53 22.0	-0.3
AC01				*e*S	S	04 54 17.9	-3.7
AC01				IAML		04 54 21.2	
	comp=Z,22nm,0.6s						

*IDC **09** 04:54:48.9±0.6, 33°.22N×137°.70E, h336km±5km, mb3.7/22, mbtmp4.4/28, Error ellipse: s-maj=9.8km s-min=9.0km az=

JNU S **S** **04 57 28.3 +0.9**
33nm,1.1s,baz=37,slow=22,SNR=2.5
JTU Tsushima 7.08 283 P **Pn** **04 56 32.9 +1.3**
JCJ Chichijima 7.19 147 P **Pn** **04 56 31.0 -2.1**
JCJ Chichijima 7.19 147 P Pn 04 56 25.4 -7.6
282nm,0.4s,baz=286,slow=21,SNR=19
JCJ S S 04 57 46.5 -11
212nm,0.4s,baz=138,slow=22,SNR=9.5
KSRS Korea Array 9.09 301 P **Pn** **04 56 56.9 +1.2**
74nm,1.0s,baz=112,slow=12,SNR=111
KSAR Wonju Array Be 9.11 300 P **Pn** **04 56 56.3 +0.4**
KSAR Wonju Array Be 9.11 300 P **Pn** **04 56 56.3 +0.4**
TJN Taejon 9.12 293⇑*e*P **Pn** **04 56 55.8 -0.2**
KS19 Wonju Array Si 9.15 301 P **Pn** **04 56 55.7 -0.7**
ERM Erimo 9.79 24 P **Pn** **04 57 04.5 +0.5**
ERM Erimo 9.79 24⇑*e*P **Pn** **04 57 04.0 0.0**
JEM Erimo 9.79 24 P **Pn** **04 57 04.6 +0.6**
INCN Inchon 10.04 298 P **Pn** **04 57 07.8 +0.6**
INCN Inchon 10.04 298 P **P** **04 57 10.0 +0.8**
INCN Inchon 10.04 298 P **Pn** **04 57 07.8 +0.6**
MSHR Mys Shultsa 10.72 333*ce*P **Pn** **04 57 15.2 +0.1**
MSHR pmax pmax
comp=Z,58nm,0.8s
ASAJ Asahikawa 11.54 18 P **Pn** **04 57 23.7 -1.3**
comp=Z,5.0nm,0.4s,baz=217,slow=14,SNR=4.8
ASAJ S S 04 59 24.0 -10
comp=Z,3.9nm,0.6s,baz=306,slow=27,SNR=1.3
USA0B Ussuriysk Arra 11.87 339 P **P** **04 57 28.8 -0.5**
USA0B Ussuriysk Arra 11.87 339 P **P** **04 57 28.8 -0.5**
USRK Ussuriysk Ar. 11.87 339 P **Pn** **04 57 28.6 -0.3**
comp=Z,60nm,0.6s,baz=157,slow=11,SNR=106
MDJ Mudanjiang 13.05 333 **P** **04 57 41.5 -0.8**
MDJ Mudanjiang 13.05 333 P **P** **04 57 41.8 -0.6**
MDJ pmax pmax
comp=Z,12nm,0.8s
MDJ pmax pmax
comp=Z,180nm,4.6s
YSS Yuzh-Sakhalins 14.26 14 *e*P **Pn** **04 57 57.0 -0.2**
YSS *e*S **S** **05 00 29.4 -1.4**
YSS pmax pmax
comp=Z,40nm,0.4s
YSS pmax pmax
comp=Z,300nm,3.2s
YSS smax smax
comp=E,30nm,0.8s
BNX BinXian 14.84 331 ⇓P **P** **04 58 01.2 -0.9**
BNX pmax pmax
comp=Z,33nm,0.7s
BNX pmax pmax
comp=Z,190nm,5.2s
KLR Kul'dur 16.64 346⇑*e*P **P** **04 58 20.6 -0.9**
KLR pmax pmax
comp=Z,12nm,1.0s
KLR Kul'dur 16.64 346 P **P** **04 58 20.8 -0.8**
comp=Z,9.3nm,0.6s,baz=156,slow=8.8,SNR=34
TIA Tai'an 17.23 286 ⇓P **P** **04 58 27.7 -0.4**
TIA pmax pmax
comp=Z,29nm,1.1s
BJT Baijiatuau 18.60 298 P **P** **04 58 41.9 -0.8**
BJT Baijiatuau 18.60 298 P **P** **04 58 41.9 -0.8**
BJT pmax pmax
comp=Z,90nm,1.4s
HEH HeiHe 18.68 339 *e*P **P** **04 58 41.8 -1.6**
HEH pmax pmax
comp=Z,25nm,0.8s
HEH pmax pmax
comp=Z,400nm,4.6s
HNS HongShan 19.26 289 ⇓P **P** **04 58 47.6 -2.2**
HNS pmax pmax
comp=Z,28nm,0.8s
XLT XiLinHaoTe 19.98 309 *e*P **P** **04 58 54.2 -3.1**
XLT pmax pmax
comp=Z,14nm,0.7s
XLT pmax pmax
comp=Z,220nm,6.3s
WHN Wuhan 20.05 269 ⇑P **P** **04 58 57.6 -0.4**
WHN pmax pmax
comp=Z,48nm,0.7s
HIA Hailar 20.92 325 **P** **04 59 04.8 -1.2**
HIA Hailar 20.92 325 P **P** **04 59 04.8 -1.2**
HIA pmax pmax
comp=Z,19nm,0.6s
LYN LuoYang 21.03 281 *e*P **P** **04 59 05.3 -1.8**
LYN pmax pmax
comp=Z,52nm,0.8s
ZEA Zeya 21.86 343 *e*P **P** **04 59 14.7 +0.3**
ZEA pmax pmax
comp=N,10.0nm,0.4s
ZEA pmax pmax
comp=Z,20nm,0.8s
HHC Hu-ho-hao-te 22.21 298 *e*P **P** **04 59 17.4 -0.5**
HHC pmax pmax
comp=Z,37nm,1.3s
HHC pmax pmax
comp=Z,370nm,5.1s
XAN Xi'an 24.00 280 ⇓P **P** **04 59 33.6 -0.5**
XAN pP pP 05 00 33.1 +2.2
XAN pmax pmax
comp=Z,92nm,0.8s
ENH Enshi 24.19 271 P **P** **04 59 34.7 -1.2**
ULN Ulaanbaatar 27.34 312 P **P** **05 00 04.0 +0.1**
ULN Ulaanbaatar 27.34 312*d i*P **P** **05 00 04.3 +0.4**
ULN pmax pmax
comp=Z,28nm,1.0s
SONM Songino Array 27.74 311 P **P** **05 00 07.3 -0.1**
SONM IAmb IAmb 05 00 11.6
comp=Z,15nm,0.8s
SONM Songino Array 27.74 311 P **P** **05 00 07.3 -0.1**
SONM pmax pmax
comp=Z,15nm,0.8s
SONM Songino Array 27.74 311 P **P** **05 00 07.8 +0.4**
comp=Z,20nm,0.7s,baz=120,slow=9.9,SNR=35
comp=Z,20nm,0.7s
LZH Lanzhou 27.97 286 *e*P **P** **05 00 09.6 0.0**
LZH pmax pmax
comp=Z,19nm,1.1s
YAK Yakutsk 29.31 352*ce*P **P** **05 00 20.6 -0.3**
YAK pmax pmax
comp=Z,9.0nm,1.0s
GTA Gaotai 31.04 292 *e*P **P** **05 00 35.3 -1.1**
GTA pmax pmax
comp=Z,3.0nm,1.2s
KMI Kunming 31.51 264 ⇑P **P** **05 00 40.7 -0.1**
KMI pmax pmax
comp=Z,13nm,0.7s
PZH PanZhiHua 31.83 268 P **P** **05 00 42.8 -0.7**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,4.7s
CMAR Chiang Mai Arr 37.66 257 P **P** **05 01 32.9 0.0**
comp=Z,2.9nm,0.5s,baz=48,slow=8.0,SNR=12
comp=Z,2.9nm,0.5s
BILL Bilibino 38.55 17 P **P** **05 01 40.5 +0.9**
BILL IAmb IAmb 05 01 42.3
comp=Z,22nm,1.4s
BILL Bilibino 38.55 17 *e*P **P** **05 01 41.0 +1.4**
TIXI Tiksi 38.81 356 P **P** **05 01 41.1 -0.5**
TIXI Tiksi 38.81 356*ce*P **P** **05 01 41.5 -0.1**
WMQ Urumqi 40.04 300 *e*P **P** **05 01 53.9 +1.7**
DGZ Jazzator, Alta 40.36 309*de*P **P** **05 01 55.1 +0.3**
DGZ pmax pmax
comp=Z,10.0nm,0.8s
ZAA0 Zalesovo Array 42.42 316 P **P** **05 02 10.1 -1.0**
ZALV Zalesovo Beam 42.42 316 *i* P **P** **05 02 10.8 -0.3**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 42.42 316 P **P** **05 02 10.4 -0.7**
comp=Z,2.8nm,0.6s,baz=94,slow=6.2,SNR=15
ZALV PcP **PcP** **05 03 57.1 -0.1**
comp=Z,0.9nm,0.5s,baz=97,slow=4.3,SNR=3.8
comp=Z,2.8nm,0.6s
NIKH Nikolski High 42.58 46 P **P** **05 02 10.5 -1.9**
baz=264
GAMB Gambell 43.54 30 P **P** **05 02 19.3 -0.5**
baz=250
ODAN Odare 43.72 276 *e*P **P** **05 02 21.7 -0.5**
comp=Z,30nm,0.4s
MKAR Makanchi Array 43.74 305*ce*P **P** **05 02 21.6 -0.2**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 43.74 305 P **P** **05 02 21.2 -0.6**
comp=Z,3.1nm,0.5s,baz=86,slow=9.6,SNR=54
comp=Z,3.1nm,0.5s
UNV Unalaska Valle 44.06 45 P **P** **05 02 23.6 -0.5**
baz=265
RAMN Ramite 44.35 276 *e*Pg **P** **05 02 26.7 -0.5**
JIRN Jiri 44.44 277 *e*P **P** **05 02 28.1 +0.1**
comp=Z,57nm,0.4s
GUN Gumba 44.62 278 *e*P **P** **05 02 29.1 -0.2**
comp=Z,16nm,0.5s
PKI Pulchoki 45.12 277 *e*P **P** **05 02 32.7 -0.6**
comp=Z,16nm,0.6s
M11K Mekoryuk 45.12 36 P **P** **05 02 31.7 -0.6**
PKIN Phulchoki 45.13 277 *e*P **P** **05 02 32.6 -0.7**
comp=Z,14nm,0.5s
DMN Daman 45.36 278 *e*P **P** **05 02 34.9 -0.2**
GKN Gorkha 45.62 278 *e*P **P** **05 02 36.3 -0.6**
comp=Z,28nm,0.6s
KURK Kurchatov 46.05 311 P **P** **05 02 38.4 -1.3**
KURK IAmb IAmb 05 02 39.9
comp=Z,14nm,0.7s
KURK Kurchatov 46.05 311*d i*P **P** **05 02 38.9 -0.8**
KURK pmax pmax
comp=Z,25nm,1.3s
KURBB Kurchatov Arra 46.10 311 P **P** **05 02 39.7 -0.5**
comp=Z,7.5nm,0.4s,baz=88,slow=6.6,SNR=48
comp=Z,7.5nm,0.4s
DANN Dangsing 46.22 279 *e*P **P** **05 02 41.8 0.0**
comp=Z,43nm,0.6s
F14K Arctic Creek 46.27 29 P **P** **05 02 41.9 +0.7**
baz=254
ANM Nome 46.42 30 P **P** **05 02 42.6 +0.3**
baz=256
M13K Dall Lake 46.52 36 P **P** **05 02 45.1 +2.0**
baz=262
J14K Nanvaranak Lak 46.82 33 P **P** **05 02 46.1 +0.7**
baz=259
PYUN Piuthan 46.95 279 *e*P **P** **05 02 47.1 -0.1**
comp=Z,28nm,0.4s
L14K Kuka Creek 46.98 35 P **P** **05 02 48.7 +2.0**
baz=261
F15K North Star Dit 47.00 29 P **P** **05 02 48.4 +1.6**
baz=255
G15K Niukluk 47.08 30 P **P** **05 02 49.4 +2.0**
baz=257
M14K Bethel 47.25 36 P **P** **05 02 50.7 +2.0**
baz=263
C16K Lisburne Hills 47.45 25 P **P** **05 02 51.6 +1.4**
baz=252
L15K Ungalak Mounta 47.60 34 P **P** **05 02 51.8 +0.3**
baz=262
K15K Wolf Creek Mou 47.67 33 P **P** **05 02 52.9 +1.0**
baz=262
H16K Elim 47.75 30 P **P** **05 02 53.6 +1.0**
baz=259
M15K Kasigluk River 47.86 36 P **P** **05 02 54.7 +1.2**
baz=264
N15K Kwethluk River 48.11 36 P **P** **05 02 56.5 +1.2**
baz=265
D17K Noatak River 48.11 26 P **P** **05 02 56.2 +1.0**
baz=255
CHNA Chernabura Isl 48.14 44 P **P** **05 02 55.9 +0.3**
baz=270
O15K Ungalikthiuk R 48.16 38 P **P** **05 02 56.8 +1.1**
baz=266
I17K Unalakleet 48.28 31 P **P** **05 02 58.3 +1.7**
baz=261
E17K Hotham Inlet 48.43 27 P **P** **05 02 58.8 +1.2**
baz=257
F17K Baldwin Pennin 48.52 28 IAmb IAmb 05 03 01.1
comp=Z,14nm,0.8s
F17K Baldwin Pennin 48.52 28 P **P** **05 03 00.0 +1.8**
baz=258
L16K Owhat River 48.56 34 P **P** **05 03 00.3 +1.7**
baz=264
G17K Kiwalik Mounta 48.58 29 P **P** **05 03 00.5 +1.7**
baz=260
M16K Timber Creek 48.74 35 P **P** **05 03 01.0 +1.0**
baz=265
H17K Granite Mounta 48.79 30 P **P** **05 03 01.4 +1.0**
baz=261
N16K Nishlik Lake 48.79 36 P **P** **05 03 01.8 +1.3**
baz=266
E18K Tukpahlearik C 48.97 27 P **P** **05 03 03.2 +1.5**
baz=258
B18K Kokolik River 48.99 24 P **P** **05 03 03.7 +1.9**
baz=255
C18K Utukok River 49.03 25 P **P** **05 03 03.7 +1.5**
baz=256
O16K Kokwok River B 49.07 37 P **P** **05 03 03.8 +1.2**
baz=267
P16K Nushagak River 49.10 38 P **P** **05 03 03.9 +1.1**
baz=268
L17K Donlin 49.15 34 P **P** **05 03 04.5 +1.3**
baz=265
K17K Iditarod 49.21 33 P **P** **05 03 05.2 +1.7**
baz=264
GSI Gunungsitoli 49.25 238 P **P** **05 03 03.9 -0.7**
KSH Kashi 49.31 296 P **P** **05 03 08.5 +3.6**
KSH pmax pmax
comp=Z,10.0nm,0.6s
A19K Wainwright 49.45 23 P **P** **05 03 06.7 +1.4**
baz=255
G18K Tagagawik 49.46 29 IAmb IAmb 05 03 07.8
comp=Z,11nm,0.9s
G18K Tagagawik 49.46 29 P **P** **05 03 06.7 +1.3**
baz=261
H18K Honhosa River 49.47 30 P **P** **05 03 07.1 +1.5**
baz=262
M17K Holitna River 49.50 35 P **P** **05 03 06.8 +0.9**
baz=266
N17K Nushagak Hills 49.57 36 P **P** **05 03 07.4 +1.1**
baz=267
O17K Koliganek Bris 49.59 37 P **P** **05 03 07.2 +0.7**
baz=268
C19K Lookout Ridge 49.70 25 IAmb IAmb 05 03 10.2
comp=Z,6.4nm,0.7s
C19K Lookout Ridge 49.70 25 P **P** **05 03 08.4 +1.2**
baz=258
Q16K King Salmon 49.78 39 P **P** **05 03 09.3 +1.4**
baz=269
P17K Kvichak River 49.90 38 P **P** **05 03 09.8 +1.0**
baz=269
L18K Granite Mounta 49.91 34 P **P** **05 03 10.8 +2.0**
baz=266
F19K Shaleruckik Mo 49.95 28 P **P** **05 03 10.9 +1.8**
baz=261
J18K Innoko River 49.99 32 P **P** **05 03 10.8 +1.3**
baz=265
D19K Kuna River 50.10 26 P **P** **05 03 11.4 +1.2**
baz=260
Q17K Contact Creek 50.19 39 P **P** **05 03 11.1 0.0**
baz=270
N18K Kilae Creek 50.22 36 P **P** **05 03 12.1 +0.9**
baz=268
E19K Redstone River 50.26 27 P **P** **05 03 13.0 +1.7**
baz=261
TTA Tatalina 50.27 33 P **P** **05 03 13.2 +1.5**
baz=266
M18K Stony River 50.28 35 P **P** **05 03 12.5 +0.9**
baz=268
H19K Roundabout Mou 50.31 30 P **P** **05 03 13.2 +1.5**
baz=264
J19K Porcupine 50.52 32 P **P** **05 03 14.8 +1.4**
baz=266
P18K Big Mountain, 50.53 38 P **P** **05 03 14.6 +1.1**
baz=270
O18K Koktuh Hills 50.54 37 P **P** **05 03 15.4 +1.8**
baz=270
Q18K Katmai Hardscr 50.64 39 P **P** **05 03 15.6 +1.1**
baz=271
D20K Etivluk River 50.68 25 P **P** **05 03 15.7 +1.2**
baz=261
B20K Meade River 50.72 24 P **P** **05 03 15.2 +0.5**
baz=259
E20K Nigu River 50.77 26 P **P** **05 03 16.6 +1.4**
baz=262
L19K White Mountain 50.77 34 P **P** **05 03 16.3 +1.0**
baz=268
F20K Avaraart Lake 50.78 28 P **P** **05 03 16.1 +0.9**
baz=263
N19K Bonanza Creek 50.91 36 P **P** **05 03 17.5 +1.1**
baz=269
H20K Anotleneega Mo 50.96 30 P **P** **05 03 17.5 +0.9**
baz=265
O19K Port Alsworth 50.99 37 P **P** **05 03 18.6 +1.7**
baz=270
BVAR Borovoye Array 51.01 314 P **P** **05 03 16.9 -0.2**
comp=Z,2.7nm,0.4s,baz=94,slow=7.4,SNR=15
comp=Z,2.7nm,0.4s
BRVK Borovoye 51.07 314 P **P** **05 03 16.6 -0.9**
BRVK Borovoye 51.07 314⇑*e*P **P** **05 03 17.5 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,1.3s
I20K Naaghedeneel 51.08 31 P **P** **05 03 19.3 +1.9**
baz=266
ARSB Arslanbob 51.13 299 P **P** **05 03 17.6 -0.8**
ARSB Arslanbob 51.13 299 P **P** **05 03 17.6 -0.8**
ARSB pmax pmax
comp=Z,3.0nm,1.4s
K20K Telida 51.17 32 IAmb IAmb 05 03 21.2
comp=Z,10nm,0.7s
K20K Telida 51.17 32 P **P** **05 03 19.9 +1.7**
baz=268
J20K Nowinta River 51.18 31 IAmb IAmb 05 03 21.6
comp=Z,11nm,0.9s
J20K Nowinta River 51.18 31 P **P** **05 03 20.3 +2.1**
baz=267
L20K Farewell, AK 51.23 34 P **P** **05 03 20.6 +1.9**
baz=268
Q19K Cape Douglas, 51.35 38 P **P** **05 03 20.9 +1.3**
baz=272
C21K Knifeblade Rid 51.40 25 P **P** **05 03 21.4 +1.7**
baz=262
IMAR Indian Mountai 51.47 29 P **P** **05 03 20.2 -0.1**
B21K Ikpikpuk River 51.52 24 IAmb IAmb 05 03 23.4
comp=Z,7.8nm,0.7s
B21K Ikpikpuk River 51.52 24 P **P** **05 03 22.5 +1.8**
baz=262
P19K Oil Pt 51.54 37 P **P** **05 03 22.4 +1.4**
baz=271
M20K Styx River 51.57 34 P **P** **05 03 23.0 +1.7**
baz=270
G21K Allakaket 51.60 28 P **P** **05 03 22.3 +0.9**
baz=266
E21K Killik River 51.61 26 IAmb IAmb 05 03 23.6
comp=Z,7.4nm,0.8s
E21K Killik River 51.61 26 P **P** **05 03 22.3 +0.9**
baz=264
A22K Sinclair Lake 51.61 23 P **P** **05 03 22.9 +1.6**
baz=261
F21K Alatna River 51.67 28 P **P** **05 03 22.7 +0.9**
baz=265
H21K Melozitna Rive 51.83 30 P **P** **05 03 24.4 +1.4**
baz=267
KDAK Kodiak Island 51.96 40 P **P** **05 03 24.2 +0.2**
baz=273
CHUM Lake Minchumin 51.98 32 P **P** **05 03 26.1 +2.1**
baz=269
N20K Mount Spurr 52.02 35 P **P** **05 03 25.9 +1.4**
baz=271
PPLA Purkeypile 52.02 33 P **P** **05 03 26.0 +1.4**
baz=270
B22K Teshekpuk Lake 52.03 24 P **P** **05 03 25.7 +1.4**
baz=263
CAST Castle Rocks 52.07 32 P **P** **05 03 26.2 +1.4**
baz=269
D22K Ayikyak River 52.12 25 IAmb IAmb 05 03 27.8
comp=Z,13nm,1.0s
D22K Ayikyak River 52.12 25 P **P** **05 03 27.2 +2.1**
baz=264
I21K Tanana 52.16 30 P **P** **05 03 27.1 +1.7**
baz=268
F22K John River 52.20 27 P **P** **05 03 27.2 +1.6**
baz=266
E22K Anaktuvuk Pass 52.38 26 P **P** **05 03 28.3 +1.3**
baz=266,SNR=7.5
G22K Bettles 52.42 28 P **P** **05 03 28.3 +1.1**
baz=267
H22K Ishtalitna Cre 52.43 29 P **P** **05 03 29.4 +2.0**
baz=268
KK31 Karatay Array 52.52 302 P **P** **05 03 27.6 -0.8**
KK31 Karatay Array 52.52 302 P **P** **05 03 27.6 -0.8**
KK31 pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 52.52 302 P **P** **05 03 27.6 -0.8**
KKAR Karatay Array 52.52 302 P **P** **05 03 27.6 -0.8**
KKAR pmax pmax
comp=Z,7.0nm,0.9s
BPAW Bear Paw Mtn. 52.56 32 P **P** **05 03 29.7 +1.3**
baz=270
MLY Manley 52.68 30 P **P** **05 03 29.6 +0.3**
MLY Manley 52.68 30 P **P** **05 03 30.5 +1.3**
baz=269,SNR=5.7
SUA Susitna One 52.72 35 P **P** **05 03 30.2 +0.5**
baz=272
BRSE Bradley Lake S 52.80 37 P **P** **05 03 32.0 +1.9**
baz=273
D23K Nanushuk River 52.85 25 P **P** **05 03 31.9 +1.5**
baz=266
TRF Thorofare Moun 52.88 32 P **P** **05 03 32.3 +1.5**
baz=271
C23K Itkillik River 52.93 24 P **P** **05 03 31.8 +0.9**
baz=266
WRA Warramunga Arr 52.94 184 P **P** **05 03 31.8 +0.2**
WRA Warramunga Arr 52.94 184 P **P** **05 03 31.8 +0.2**
WRA Warramunga Arr 52.94 184 P **P** **05 03 31.6 0.0**
comp=Z,1.9nm,0.3s,baz=360,slow=7.6,SNR=7.1
comp=Z,1.9nm,0.3s
WR0 Warramunga Arr 52.95 184 P **P** **05 03 31.4 -0.2**
WR0 IAmb IAmb 05 03 32.1
comp=Z,6.3nm,0.7s
COLD Coldfoot 52.95 28 P **P** **05 03 32.6 +1.5**
baz=268
G23K Bananza Creek 53.00 28 P **P** **05 03 33.2 +1.7**
baz=269
M22K Willow 53.01 35 P **P** **05 03 33.1 +1.6**
baz=272
E23K Chandalar 53.20 27 P **P** **05 03 35.2 +2.2**
baz=268
RC01 Rabbit Creek A 53.22 35 P **P** **05 03 33.6 +0.4**
baz=273
TOLK Toolik Lake Re 53.24 26 P **P** **05 03 33.3 +0.1**
TOLK Toolik Lake Re 53.24 26 P **P** **05 03 34.6 +1.4**
baz=268
I23K Minto, Yukon-K 53.26 30 P **P** **05 03 34.2 +0.8**
baz=270
NEA2 Nenana 53.39 31 P **P** **05 03 34.5 +0.2**
NEA2 IAmb IAmb 05 03 36.8
comp=Z,14nm,0.9s
NEA2 Nenana 53.39 31 P **P** **05 03 35.6 +1.2**
baz=271,SNR=5.4
SEW Seward 53.42 37 P **P** **05 03 35.0 +0.5**
baz=274
MCK McKinley 53.48 32 P **P** **05 03 35.5 +0.5**
baz=272
PMR Palmer 53.48 35 P **P** **05 03 35.6 +0.6**
baz=273
D24K Happy Valley 53.53 25 IAmb IAmb 05 03 37.9
comp=Z,15nm,0.9s
D24K Happy Valley 53.53 25 P **P** **05 03 36.5 +1.3**
baz=268
C24K Franklin Bluff 53.59 25 P **P** **05 03 37.0 +1.3**
baz=268
E24K Your Creek 53.62 27 P **P** **05 03 37.7 +1.6**
baz=269
WAT1 Susitna Watana 53.69 33 P **P** **05 03 36.7 +0.1**
baz=273
KNK Knik Glacier 53.82 35 P **P** **05 03 38.0 +0.5**
baz=274
F24K Squaw Lake 53.85 27 P **P** **05 03 38.3 +0.7**
F24K Squaw Lake 53.85 27 P **P** **05 03 39.3 +1.7**
baz=270,SNR=6.2
SML Sawmill 53.85 34 P **P** **05 03 38.4 +0.7**
baz=274
H24K Noodor Dome 53.87 29 P **P** **05 03 39.3 +1.5**
baz=271
PWL Port Wells 53.92 36 P **P** **05 03 38.7 +0.5**
baz=275
G24K Hadweenzic Riv 54.02 28 P **P** **05 03 40.4 +1.6**
baz=271
WAT6 Susitna Watana 54.08 33 P **P** **05 03 40.5 +1.0**
baz=274
POKR Poker Plat Res 54.08 30 P **P** **05 03 40.3 +1.0**
POKR IAmb IAmb 05 03 41.9
comp=Z,19nm,1.2s
POKR Poker Plat Res 54.08 30 P **P** **05 03 41.1 +1.9**
baz=272,SNR=7.1
M23K Glacier View 54.14 34 P **P** **05 03 41.1 +1.3**
baz=274
DHY Denali Highway 54.21 33 P **P** **05 03 41.5 +1.1**
baz=274
HDA Harding Lake 54.32 31 P **P** **05 03 40.7 -0.3**
HDA IAmb IAmb 05 03 42.3
comp=Z,9.6nm,0.9s
HDA Harding Lake 54.32 31 P **P** **05 03 41.6 +0.6**
baz=273,SNR=6.8
HDA P **P** **05 03 41.6 +0.6**
baz=273,SNR=6.8
SCM Sheep Creek Mo 54.32 34 P **P** **05 03 42.3 +1.1**

baz=275
IL31 54.33 31 P P 05 03 40.9 -0.1
ILAR Eielson Array 54.33 31 P P 05 03 41.4 +0.3
comp=Z,2.9nm,0.8s,baz=263,slow=4.8,SNR=41
comp=Z,2.9nm,0.8s
D25K Kavik River 54.40 25 IAmb IAmb 05 03 44.1
comp=Z,7.0nm,0.8s
D25K Kavik River 54.40 25 P P 05 03 43.4 +1.9
baz=270
GLI Glacier Island 54.52 35 P P 05 03 43.6 +1.1
baz=276
G25K Bearman Lake 54.56 28 P P 05 03 44.3 +1.7
baz=272
F25K Christian Rive 54.71 27 P P 05 03 45.5 +1.7
baz=272
E25K Arctic Village 54.72 27 P P 05 03 44.3 +0.5
E25K Arctic Village 54.72 27 P P 05 03 45.8 +2.0
baz=272
M24K Tolsona, Glenn 54.84 34 P P 05 03 45.8 +1.0
baz=276
PRP Porcupine Dome 54.86 30 P P 05 03 46.2 +1.3
baz=274
K24K Donnelly Dome 54.87 32 P P 05 03 46.0 +1.0
baz=275
C26K Camden Bay 54.91 24 P P 05 03 47.3 +2.2
baz=271
J25K Salcha River, 54.99 31 P P 05 03 46.4 +0.6
baz=274
KLU Klutina 55.02 35 P P 05 03 47.7 +1.5
baz=276
PAX Paxson 55.09 33 P P 05 03 47.9 +1.3
baz=276
F26K Sheenjek River 55.27 27 P P 05 03 49.6 +1.9
baz=273
HARP HAARP 55.29 34 P P 05 03 49.5 +1.6
baz=276
RIDG Independent Ri 55.29 32 IAmb IAmb 05 03 54.0
comp=Z,15nm,1.3s
RIDG Independent Ri 55.29 32 P P 05 03 49.0 +1.0
baz=276
G26K Porcupine Rive 55.46 28 P P 05 03 50.6 +1.6
baz=274
N25K Chitina, Valde 55.64 34 P P 05 03 51.9 +1.4
baz=277
SCRK Sand Creek 55.65 32 IAmb IAmb 05 03 52.2
comp=Z,11nm,0.8s
SCRK Sand Creek 55.65 32 P P 05 03 51.4 +0.9
baz=276,SNR=11
BMRM Bremner River 55.72 35 P P 05 03 51.9 +0.9
baz=278
J26L Joseph Creek 55.77 31 IAmb IAmb 05 03 53.1
comp=Z,8.8nm,0.8s
J26L Joseph Creek 55.77 31 P P 05 03 52.0 +0.6
baz=276
I26K Coal Creek Min 55.86 30 P P 05 03 51.9 0.0
baz=276
MENT Mentasta 55.88 33 P P 05 03 52.6 +0.5
L26K Log Cabin Wild 56.04 33 IAmb IAmb 05 03 55.9
comp=Z,10nm,0.8s
L26K Log Cabin Wild 56.04 33 P P 05 03 55.2 +2.0
baz=277,SNR=8.3
E27K Coleen River 56.20 26 P P 05 03 56.0 +1.7
baz=275
M26K Nabesna, AK 56.28 33 IAmb IAmb 05 03 57.2
comp=Z,7.6nm,0.8s
M26K Nabesna, AK 56.28 33 P P 05 03 56.3 +1.3
baz=278
D27M Malcolm River 56.33 25 P P 05 03 56.7 +1.5
baz=275
MCARA McCarthy VSAT 56.42 35 P P 05 03 57.0 +1.2
baz=279
H27K Steamboat Moun 56.43 29 P P 05 03 57.7 +1.8
baz=277
I27K Kandik River 56.47 29 P P 05 03 57.5 +1.2
baz=277
K27K Chicken 56.48 31 IAmb IAmb 05 03 59.2
comp=Z,14nm,1.2s
K27K Chicken 56.48 31 P P 05 03 57.7 +1.5
baz=278
ASAR Alice Springs 56.66 184 P P 05 03 58.4 +0.3
comp=Z,1.7nm,0.6s,baz=14,slow=9.6,SNR=7.8
comp=Z,1.7nm,0.6s
L27K Beaver Creek, 56.72 32 P P 05 03 59.7 +1.7
baz=279
BCAR Beaver Creek A 56.74 32 P P 05 03 58.6 +0.4
EGAK Eagle 56.77 30 P P 05 03 58.8 +0.5
baz=278
M27K Edge Creek, AK 56.81 33 IAmb IAmb 05 04 01.7
comp=Z,11nm,0.9s
M27K Edge Creek, AK 56.81 33 P P 05 04 00.3 +1.6
baz=279
F28M Old Crow 56.91 27 P P 05 04 01.1 +1.9
baz=277
E28M Babbage River 56.91 26 P P 05 04 01.2 +2.0
baz=277
D28M Stokes Point 57.11 25 P P 05 04 02.2 +1.7
baz=277
MESA MESA 57.14 36 P P 05 04 02.3 +1.1
baz=280
I28M Miner Creek 57.18 30 IAmb IAmb 05 04 03.5
comp=Z,8.2nm,0.7s
I28M Miner Creek 57.18 30 P P 05 04 02.9 +1.6
baz=279
ARU Arti 57.29 320⇑ eP P 05 04 01.5 -0.5
ARU pmax pmax
comp=Z,6.0nm,0.7s
E29M Blow River 57.54 26 P P 05 04 05.4 +1.9
baz=279
YUK3 Moose Creek 57.56 34 P P 05 04 05.5 +1.5
baz=280
DAWY Dawson 57.64 31 P P 05 04 05.7 +1.3
baz=280
H29M Whitestone 57.70 28 P P 05 04 06.5 +1.9
baz=280
G29M Pine Creek 57.72 28 P P 05 04 06.3 +1.5
baz=279
I29M Ogilvie Camp, 57.87 29 P P 05 04 07.2 +1.3
baz=280
ABKAR Akbulak array 58.15 311 P 05 04 07.3 -0.8
EPYK Eagle Plains 58.33 28 P P 05 04 10.4 +1.4
baz=281,SNR=6.3
M29M Somme Creek 58.36 33 P P 05 04 11.5 +2.1
baz=282
L29M L29M 58.37 32 IAmb IAmb 05 04 13.3
comp=Z,13nm,1.1s
L29M L29M 58.37 32 P P 05 04 12.0 +2.6
baz=282
G30M tAoh Zraii Nji 58.41 27 P P 05 04 11.1 +1.5
baz=281
F30M Barrier River 58.45 27 P P 05 04 11.8 +2.0
baz=281
K29M Barlow Dome 58.49 31 P P 05 04 12.1 +1.8
baz=282
YUK4 Talbot Arm 58.50 34 P P 05 04 11.8 +1.3
baz=282
I30M Mount Dempster 58.69 29 IAmb IAmb 05 04 14.4
comp=Z,7.2nm,0.8s
I30M Mount Dempster 58.69 29 P P 05 04 13.2 +1.6
baz=282
O29M Mount Kennedy 58.76 35 P P 05 04 13.4 +1.2
baz=283
J30M Hart River 58.85 30 P P 05 04 14.2 +1.4
baz=282
M30M Minto, Yukon 59.08 33 P P 05 04 15.6 +1.3
baz=283
INK Inuvik 59.15 26 P P 05 04 15.9 +1.3
baz=282
HYT Haines Junctio 59.16 35 P P 05 04 16.6 +1.7
baz=284
G31M Satah River 59.17 27 P P 05 04 15.3 +0.7
baz=283
F31M Tsiigehtchic 59.26 27 P P 05 04 16.2 +0.9
baz=283
P29M Windy Craggy 59.33 36 P P 05 04 16.8 +0.9
baz=284
H31M Peel River 59.39 29 IAmb IAmb 05 04 18.7
comp=Z,12nm,0.9s
H31M Peel River 59.39 29 P P 05 04 17.2 +0.9
baz=283
P30M Million Dollar 59.59 35 P P 05 04 18.8 +1.0
baz=284
N31M Braeburn, Yuko 59.81 34 P P 05 04 20.3 +1.1
baz=284
M31M Drury Creek, Y 60.26 33 P P 05 04 23.1 +0.9
baz=285
WHY Whitehorse 60.45 34 P P 05 04 24.1 +0.5
baz=286
FARO Faro, Yukon 60.72 32 P P 05 04 26.1 +0.7
baz=286
A36M Sachs Harbour 60.92 21 P P 05 04 27.0 +0.7
A36M IAmb IAmb 05 04 28.6
comp=Z,6.9nm,0.8s
A36M Sachs Harbour 60.92 21 P P 05 04 27.8 +1.5
baz=288
N32M Quiet Lake 61.15 34 P P 05 04 29.5 +1.3
baz=287
KIRV Kirov 61.52 323⇓ eP P 05 04 30.9 +0.3
P33M Teslin, Yukon 61.55 35 P P 05 04 32.4 +1.5
baz=288
C36M Paulatuk 62.15 23 P P 05 04 34.3 -0.3
C36M Paulatuk 62.15 23 P P 05 04 35.7 +1.1
baz=290
U33K Whale Pass 62.70 39 P P 05 04 38.9 +0.5
baz=289
WTLY Watson Lake, Y 63.49 34 P P 05 04 44.6 +1.0
baz=291
DLBC Dease Lake 63.49 36 P P 05 04 44.0 +0.3
baz=291
T35M Bob Quinn 63.90 38 P P 05 04 47.2 +0.9
baz=291
U35K Hyder 64.40 39 P P 05 04 50.7 +1.2
baz=292
WRGLY Wrigley 64.67 30 P P 05 04 52.4 +1.4
baz=294
STKA Stephens Creek 64.83 176 P P 05 04 52.9 +0.5
comp=Z,2.6nm,0.5s,baz=348,slow=8.7,SNR=4.6
comp=Z,2.6nm,0.5s
LIRD Liard River Hi 65.02 34 P P 05 04 55.4 +2.0
baz=293,SNR=9.8
ARCES ARCESS Array B 66.52 339 P P 05 05 02.7 0.0
comp=Z,2.5nm,0.4s,baz=65,slow=8.7,SNR=32
comp=Z,2.5nm,0.4s
YKA Yellowknife Ar 68.61 28 i P P 05 05 16.3 +0.5
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 68.61 28 P P 05 05 16.2 +0.5
comp=Z,1.4nm,0.7s,baz=296,slow=6.2,SNR=19
comp=Z,1.4nm,0.7s
FINES FINESS Array B 70.79 332 P P 05 05 28.7 -0.2
comp=Z,3.1nm,0.5s,baz=59,slow=5.5,SNR=39
comp=Z,3.1nm,0.5s
KBZ Khabaz 71.10 310⇓ eP P 05 05 30.9 -0.2
KBZ pmax pmax
comp=Z,8.0nm,1.8s
KBZ Khabaz 71.10 310 P P 05 05 30.9 -0.2
comp=Z,3.0nm,0.8s,baz=63,slow=4.5,SNR=6.3
comp=Z,3.0nm,0.8s
KEBM Edson Butte 73.47 49 P P 05 05 45.9 +0.7
HOOD Mount Hood Mea 73.89 46 P P 05 05 48.4 +0.7
MNK Minsk 73.96 325 i P P 05 05 46.8 -0.9
comp=E,10.0nm,0.7s
MNK i P P 05 05 46.8 -0.9
comp=N,16nm,0.8s
MNK i P P 05 05 46.8 -0.9
comp=Z,5.0nm,0.6s,baz=235
MNK i pP pP 05 07 01.3 -2.3
MNK i PP PP 05 08 36.6 -0.7
MNK i PPP PPP 05 10 23.6
MNK i S S 05 14 51.7 +0.3
MNK i sS sS 05 17 04.3 -0.9
MNK i SS SS 05 19 44.9 +2.0
MNK i SSS SSS 05 23 08.6
MNK i LR LR 05 38 23.9
MNK i LRM MLR 05 39 39.3
comp=E,34nm,7.7s
MNK i LRM MLR 05 39 40.6
comp=Z,80nm,7.4s
MNK i LRM MLR 05 39 46.8
comp=N,92nm,7.7s
MNK Minsk 73.96 325 i P P 05 05 46.7 -0.9
MNK i 05 05 59.9
MNK i *PP pP 05 07 01.2 -2.3
MNK i 05 08 36.5
MNK i PPP PPP 05 10 23.5
MNK i S S 05 14 51.7 +0.3
MNK i 05 15 24.6
MNK i SS SS 05 19 44.8 +2.0
MNK i SSS SSS 05 23 08.6
MNK pmax pmax
comp=E,10.0nm,0.7s
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK MLR MLR
comp=E,34nm,8.0s
MNK MLR MLR
comp=Z,80nm,7.0s
MNK MLR MLR
comp=N,92nm,8.0s
EDM Edmonton 74.21 36 P P 05 05 49.7 +0.5
EDM Edmonton 74.21 36 P P 05 05 49.7 +0.5
EDM pmax pmax
comp=Z,15nm,1.1s
C09A Chrisman Ranch 74.58 43 P P 05 05 51.8 +0.4
C09A IAmb IAmb 05 05 53.5
comp=Z,6.2nm,0.8s
NEW Newport 74.97 42 P P 05 05 54.0 +0.3
NEW IAmb IAmb 05 05 55.8
comp=Z,5.4nm,0.9s
NEW Newport 74.97 42 P P 05 05 55.4 +1.7
baz=303,SNR=5.3
NEW Newport 74.97 42 P P 05 05 54.0 +0.3
NEW pmax pmax
comp=Z,5.0nm,0.9s
YBH Yreka Blue Hor 75.08 50 IAmb IAmb 05 05 57.4
comp=Z,4.1nm,0.8s
PINE Pine Mountain 75.12 47 P P 05 05 55.9 +1.1
E09A Wood Farm, Sta 75.34 44 IAmb IAmb 05 05 58.1
comp=Z,6.2nm,0.9s
AKASG Malin Array Be 75.46 321 P P 05 05 55.5 -0.8
comp=Z,1.4nm,0.4s,baz=51,slow=5.4,SNR=15
comp=Z,1.4nm,0.4s
F10A Beach Ranch, E 76.17 44 P P 05 06 01.5 +1.0
F10A IAmb IAmb 05 06 08.8
comp=Z,5.2nm,1.1s
HFS Hagfors 76.31 335 P P 05 06 00.2 -0.7
comp=Z,1.3nm,0.4s,baz=60,slow=6.8,SNR=6.5
comp=Z,1.3nm,0.4s
NOA NORSAR Array B 76.52 336 P P 05 06 01.8 -0.3
comp=Z,0.4nm,0.4s,baz=60,slow=6.2,SNR=1.5
comp=Z,0.4nm,0.4s
BMO Blue Mountains 76.75 45 IAmb IAmb 05 06 05.6
comp=Z,4.0nm,0.8s
ORV Oroville 77.01 51 IAmb IAmb 05 06 06.9
comp=Z,4.9nm,1.0s
WVOR Wild Horse Val 77.27 48 IAmb IAmb 05 06 09.4
comp=Z,8.1nm,1.2s
MSO Missoula 77.56 42 P P 05 06 08.8 +0.6
baz=306
EMB Emerald Bay 78.24 51 P P 05 06 11.1 -1.2
MFID Camas Ranch 78.43 46 IAmb IAmb 05 06 14.9
comp=Z,3.2nm,0.8s
PNTR Pine Nut 78.50 51 IAmb IAmb 05 06 16.0
comp=Z,6.1nm,0.9s
BR131 Keskin Array S 79.10 310⇑ eP P 05 06 16.8 0.0
BRTR Keskin Array B 79.10 310 P P 05 06 17.0 +0.2
comp=Z,1.2nm,0.6s,baz=114,slow=4.9,SNR=7.9
comp=Z,1.2nm,0.6s
EGMT Eagleton 79.13 39 P P 05 06 17.7 +1.0
baz=308
HLID Hailey 79.19 45 P P 05 06 18.1 +0.8
baz=306
KVN Kaiserville 79.49 50 IAmb IAmb 05 06 21.2
comp=Z,4.7nm,0.7s
BOZ Bozeman (W) 79.59 42 IAmb IAmb 05 06 21.3
comp=Z,3.4nm,0.8s
BOZ Bozeman (W) 79.59 42 P P 05 06 20.0 +0.7
baz=307,SNR=5.9
NVAR Mina Array Bea 79.71 51 P P 05 06 21.3 +1.1
comp=Z,1.5nm,0.6s,baz=288,slow=5.4,SNR=14
comp=Z,1.5nm,0.6s
YHL Hebgen Lake 80.29 42 P P 05 06 23.7 +0.5
YHL IAmb IAmb 05 06 26.2
comp=Z,5.8nm,1.1s
ELK Elko 80.33 47 IAmb IAmb 05 06 25.4
comp=Z,1.8nm,0.6s
VES Vestal, Richgr 80.64 53 P P 05 06 25.3 +0.4
baz=304
PKM Mcpherson Peak 80.68 54 P P 05 06 25.9 +0.5
baz=304
H17A Grant Village 80.91 42 P P 05 06 28.9 +2.4
baz=308,SNR=6.5
IMW Indian Meadow 81.01 43 IAmb IAmb 05 06 29.9
comp=Z,3.9nm,1.0s
FXWY Fox Creek 81.12 43 P P 05 06 28.3 +0.8
FXWY IAmb IAmb 05 06 30.4
comp=Z,4.6nm,1.3s
ISA Isabella, Lake 81.16 53 P P 05 06 27.6 0.0
baz=305
RLMT Red Lodge 81.19 41 P P 05 06 29.1 +1.2
baz=309
ARVC Arvin 81.22 54 P P 05 06 27.9 0.0
baz=304
HVU Hansel Valley 81.22 46 IAmb IAmb 05 06 30.1
comp=Z,4.1nm,0.6s
R11B Troy Canyon, C 81.51 50 IAmb IAmb 05 06 31.4
comp=Z,2.6nm,0.7s
R11B Troy Canyon, C 81.51 50 P P 05 06 30.5 +0.9
baz=306,SNR=5.2
MPMC Manual Prospec 81.59 52 P P 05 06 30.2 +0.2
baz=305
MMAI Mount Meron Ar 81.67 304 P P 05 06 30.4 0.0
comp=Z,0.3nm,0.4s,baz=70,slow=6.7,SNR=1.3
comp=Z,0.3nm,0.4s
DGMT Dagmar 81.70 36 P P 05 06 30.7 +0.5
baz=312
FURC Furnace Creek, 81.77 52 P P 05 06 31.4 +0.7
baz=305
LAO LASA Array 81.83 39 P P 05 06 31.5 +0.6
baz=310
TPNV Topopah Spring 81.89 51 P P 05 06 32.2 +0.6
baz=306
SPR3 Spring Creek 3 81.92 48 IAmb IAmb 05 06 35.4
comp=Z,5.3nm,1.4s
EDW2 Edwards Air Fo 81.92 54 P P 05 06 32.4 +0.8
baz=305
HWUT Hardware Ranch 82.04 45 IAmb IAmb 05 06 35.0
comp=Z,6.1nm,1.0s
QSM Queen of Sheba 82.05 52 IAmb IAmb 05 06 34.3
comp=Z,7.4nm,1.2s
GWY Greenwater Val 82.06 52 IAmb IAmb 05 06 33.8
comp=Z,5.8nm,1.1s
DUG Dugway, Tooele 82.15 47 IAmb IAmb 05 06 35.8
comp=Z,4.0nm,0.8s
DUG Dugway, Tooele 82.15 47 P P 05 06 34.3 +1.5
baz=307,SNR=5.7
CIS Catalina Islan 82.48 55 P P 05 06 34.0 -0.5
baz=305
GSC Goldstone, Bar 82.48 53 IAmb IAmb 05 06 36.5
comp=Z,3.2nm,0.9s
GSC Goldstone, Bar 82.48 53 P P 05 06 34.8 +0.3
baz=306
BW06 Boulder Array 82.50 43 P P 05 06 35.2 +0.5
baz=309
PDAR Pinedale Array 82.50 43 P P 05 06 34.7 0.0
PDAR Pinedale Array 82.50 43 P P 05 06 35.6 +0.9
comp=Z,1.3nm,0.7s,baz=278,slow=2.8,SNR=15
comp=Z,1.3nm,0.7s
BFSC Mount Baldy Ra 82.52 54 P P 05 06 34.6 -0.2
baz=305
MPU Maple Canyon 82.97 46 P P 05 06 36.6 -0.6
MPU IAmb IAmb 05 06 39.4
comp=Z,5.0nm,1.0s
MURC Murrieta 83.20 54 P P 05 06 38.2 0.0
baz=306
GMRC Granite Mounta 83.54 53 P P 05 06 40.9 +0.9
baz=306
PFO Pinyon Flats O 83.69 54 P P 05 06 41.4 +0.6
baz=306
TPFO Pinon Flats 83.70 54 P P 05 06 41.3 +0.5
baz=306
PMD Palm Desert 83.72 54 IAmb IAmb 05 06 42.3
comp=Z,4.4nm,0.8s
BELC Belle Mtn. Jos 83.78 53 P P 05 06 41.0 -0.2
baz=306
MTPU Mount Pierson 83.84 48 IAmb IAmb 05 06 44.1
comp=Z,2.2nm,0.7s
KNB Kanab 84.06 49 IAmb IAmb 05 06 44.8
comp=Z,4.5nm,0.7s
MONP2 Monument Peak 84.14 54 P P 05 06 43.1 0.0
baz=306
IRM Iron Mountain 84.25 53 P P 05 06 44.4 +0.9
baz=306
K22A Casper 84.30 42 P P 05 06 43.4 -0.3
baz=311
BC3 Big Chuckawall 84.34 53 P P 05 06 44.3 +0.3
baz=306
MDND Maddock 84.37 35 P P 05 06 44.6 +0.8
baz=315
IKP In-Ko-Pah, Jac 84.49 55 P P 05 06 45.1 +0.4
baz=306
SWSC Sam W. Stewart 84.53 54 P P 05 06 45.9 +1.1
baz=306
RSSD Black Hills 84.69 40 P P 05 06 46.0 +0.3
baz=312
U15A North Rim 84.75 50 IAmb IAmb 05 06 51.5
comp=Z,4.7nm,1.3s
HMU Henry Mountain 84.80 48 IAmb IAmb 05 06 49.2
comp=Z,2.3nm,0.7s
PDMCI Parker Dam,Lak 84.83 52 P P 05 06 46.9 +0.6
baz=307
O20A White River Ci 84.93 45 P P 05 06 47.8 +0.8
baz=310
ISCO Idaho Springs 86.68 44 P P 05 06 56.5 +0.9
baz=312
S22A 4UR Ranch, Cre 87.31 46 P P 05 06 59.2 +0.6
baz=311
EYMN Ely 87.97 31 P P 05 07 01.4 +0.3
baz=321
SDCO Great Sand Dun 88.11 45 P P 05 07 02.5 +0.1
baz=312
TUC Tucson 88.28 52 P P 05 07 03.7 +0.7
baz=309
ECSD EROS Data Cent 88.78 36 P P 05 07 05.1 +0.1
baz=317
T25A Trinidad 89.16 45 P P 05 07 07.1 0.0
baz=312
ANMO Albuquerque 89.37 48 P P 05 07 09.0 +0.8
baz=311
Y22D IRIS PASSCAL I 89.64 49 P P 05 07 10.0 +0.6
baz=311
Y22F Passcal Instru 89.64 49 P P 05 07 10.1 +0.7
baz=311
MNTX Cornudas Mount 92.18 50 P P 05 07 21.1 +0.1
baz=312
L44A Lake County Fo 94.07 32 P P 05 07 29.7 +0.3
baz=323
TXAR Lajitas Array 94.86 50 P P 05 07 33.3 -0.1
TXAR Lajitas Array 94.86 50 P P 05 07 34.4 +1.0
comp=Z,1.3nm,0.8s,baz=304,slow=3.5,SNR=14
comp=Z,1.3nm,0.8s
CCM Cathedral Cave 95.72 37 P P 05 07 36.9 -0.2
baz=321
TORD Torodi Ar. Bea 117.71 310 PKP PKPdf 05 12 54.7 -1.2
comp=Z,0.3nm,0.6s,baz=11,slow=1.9,SNR=1.9
SOCE Pocosol 120.79 51 PKPdf 05 13 01.7 -0.2
QSPA South Pole Qui 122.95 180 PKP PKPdf 05 13 04.4 0.0
comp=Z,1.6nm,0.6s,baz=336,slow=0.6,SNR=6.5
ETMB Extrema 147.93 49 PKPbc PKPdf 05 13 52.6 +0.8
SAML Samuel 149.08 43 PKPbc PKPbc 05 13 56.1 -2.1
SAML Samuel 149.08 43 PKHKP PKPpre 05 13 56.1

TEH 09 04:56:17.7, 30.74N×57.26E, h9km↓42km, ML3.8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.66	290	Pg	Pb	04 56 31.9	+0.3
KHGB	Koh Gabri	0.76	242	Pg	Pb	04 56 34.0	+0.7
KHGB				Sg	Sb	04 56 44.1	+0.1
TVBK	TV Kerman	0.86	210	Pg	Pn	04 56 36.1	-0.3
NGRK	Negar Kerman	1.18	203	Pg	Pn	04 56 42.0	+1.2
NGRK				Sg	Sn	04 56 58.7	+1.5
IBAF	Bafgh	1.68	301	Pg	Pg	04 56 50.7	+0.7
KBAM	BAM	1.91	147	Pn	Pb	04 56 53.0	+0.3
BSRN	Basiran	2.01	52	Pn	Pb	04 56 54.4	-0.2
IKOO	Kooshah	2.25	41	Pn	Pb	04 56 58.0	-0.7
TPRV	Parvadeh(Tabas	2.33	348	Pn	Pb	04 56 59.4	-0.6
IMEH	Mehriz	2.36	287	Pn	Pb	04 57 00.2	-0.3
ITEG	Tejag	2.50	30	Pn	Pb	04 57 01.5	-1.5
KHNJ	Kahnooj	2.81	172	Pn	Pb	04 57 06.3	-1.7
ICHK	Chekchek	2.86	302	Pn	Pb	04 57 07.5	-1.6
TKDS	Koohdasht(Taba	2.87	358	Pn	Pn	04 57 06.5	+2.7
TKDS	Koohdasht(Taba	2.87	358	Pn	Pb	04 57 06.6	-2.6
AFRZ	Afriz	3.07	29	Pn	Pn	04 57 09.0	+2.5
TNSJ	Nastanj	3.26	351	Pn	Pn	04 57 12.1	+3.0
ISAD	Sadrabad	3.27	292	Pn	Pb	04 57 13.2	-3.0
ANAR	Anarak	3.87	310	Pn	Pn	04 57 20.6	+3.1
TBJM	Torbat-e-JAM	5.20	29	Pn	Pn	04 57 39.2	+3.2

TEH 09 04:56:19.1, 36°.15N×55°.55E, h9km, ML2.8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**1.11**	**354**	Pg	Pg	04 56 39.7	-0.7
IGLO	**Ghaloghah**	**1.44**	**285**	Pg	Pb	04 56 46.2	0.0
MRVT	**Maraveh tapeh**	**1.57**	**16**	Pg	Pg	04 56 49.5	+0.3
IALA	**Alasht**	**2.22**	**269**	Pn	Pg	04 57 02.0	+0.3

*NEIC **09** 04:57:23.6±2.8, 9°.12S±0°.06×121°.9E±0°.1, h90km±9km, mb4.1/10, Error ellipse: s-maj=17.0km s-min=8.2km az=77.0*
*DJA **09** 04:57:24.1±0.8, 9°.S±3°×12°.2E±°, h23km±8km, M4.6/15, mB5.3/5, mb4.6/10, MLv4.5/15, Mw(mB)4.8/5*
*IDC **09** 04:57:26.6±1.1, 8°.89S×122°.39E, h113km±10km, mb3.9/8, mbtmp4.3/10, MS2.8/4, Error ellipse: s-maj=49.5km s-min=9.3km az=53.0*

ISC 09 04:57:24.8±0.5, 9°.19S±0°.05×122°.00E±0°.06, h100km, n77, σ1°.9 71/71, mb4.2/11, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.53**	**326**	P	**Pn**	**04 57 38.0**	**-3.0**
MMRI	**Maumere**	**0.60**	**23**		**Pn**	**04 57 38.7**	**-2.7**
MMRI					**Sn**	**04 57 49.4**	**-4.5**
MMRI	**Maumere**	**0.60**	**23**	P	**Pn**	**04 57 38.9**	**-2.6**
MMRI	**Maumere**	**0.60**	**23**	P	**Pn**	**04 57 38.8**	**-2.7**
BASI	**Baing, Sumba**	**1.73**	**234**	P	**Pn**	**04 57 52.8**	**-1.2**
BATI	**Baumata** 767nm,0.4s,baz=267,slow=4.5,SNR=23	**1.93**	**122**	P	**Pn**	**04 57 57.4**	**+0.9**
BATI	677nm,0.5s,baz=63,slow=7.6,SNR=6.6			S	**Sn**	**04 58 21.0**	**+0.3**
SOEI	**Soe**	**2.31**	**104**		**Pn**	**04 58 02.5**	**+0.9**
SOEI	**Soe**	**2.31**	**104**	P	**Pn**	**04 58 02.6**	**+1.0**
BBSI	**Bau Bau**	**3.73**	**9**	P	**Pn**	**04 58 22.1**	**+1.7**
PLAI	**Plampang**	**4.18**	**275**	P	**Pn**	**04 58 27.8**	**+1.3**
PLAI	**Plampang**	**4.18**	**275**	P	**Pn**	**04 58 27.3**	**+0.8**
BKSI	**Bulukumba**	**4.27**	**334**	P	**Pn**	**04 58 28.5**	**+0.8**
KAPI	**Kappang**	**4.71**	**332**		**Pn**	**04 58 34.7**	**+1.0**
KAPI	**Kappang**	**4.71**	**332**	P	Pn	04 58 36.8	+3.1
KAPI	**Kappang** 113nm,0.8s,baz=157,slow=9.3,SNR=32	**4.71**	**332**	P	**Pn**	**04 58 35.4**	**+1.8**
KAPI	14nm,0.7s,baz=245,slow=22,SNR=6.3			S	**Sn**	**04 59 29.3**	**+2.1**
KAPI	comp=Z,67nm,20.1s,baz=198,slow=34			LR	LR	05 00 05.0	
TWSI	**Taliwang, Sumb** 83nm,0.4s,2µm0.6nm	**5.07**	**275**	P	**Pn**	**04 58 39.4**	**+0.8**
SPSI	**Sidrap Palu** 26nm,0.9s,0.2nm	**5.65**	**337**	P	**Pn**	**04 58 48.0**	**+1.6**
TTSI	**Tana Toraja** 22nm,0.8s,0.1nm	**6.48**	**340**	P	Pn	04 59 00.5	+2.8
IGBI	**Denpasar** 79nm,0.9s,2µm0.5nm	**6.78**	**273**	P	**Pn**	**04 59 01.5**	**-0.2**
NLAI	**Namlea** 43nm,0.9s,7µm0.1nm	**7.79**	**41**	P	Pn	04 59 19.4	+3.8
SANI	**Sanana** 30nm,1.2s	**8.13**	**29**	P	**Pn**	**04 59 22.4**	**+2.2**
LUWI	**Luwuk**	**8.13**	**5**	Pn	**Pn**	**04 59 19.0**	**-1.2**
KNRA	**Kununurra**	**9.23**	**135**	Pn	**Pn**	**04 59 33.2**	**-1.9**
KNRA	**Kununurra**	**9.23**	**135**	P	**Pn**	**04 59 32.8**	**-2.3**
SAUI	**Saumlaki**	**9.28**	**83**	Pn	**Pn**	**04 59 34.0**	**-1.8**
SAUI	**Saumlaki** 159nm,0.9s	**9.28**	**83**	P	**Pn**	**04 59 39.3**	**+3.5**
FITZ	**Fitzroy Crossi**	**9.53**	**159**	Pn	**Pn**	**04 59 37.6**	**-1.6**
FITZ	**Fitzroy Crossi**	**9.53**	**159**	P	**Pn**	**04 59 37.9**	**-1.3**
MTN	**Manton Dam**	**9.68**	**113**	Pn	**Pn**	**04 59 39.7**	**-1.4**
MTN	**Manton Dam**	**9.68**	**113**	P	**Pn**	**04 59 40.1**	**-1.1**
GTOI	**Gorontalo**	**9.82**	**6**	P	Pn	04 59 47.2	+4.1
KDU	**Kakadu**	**10.86**	**110**	P	**Pn**	**04 59 56.7**	**-0.6**
UGM	**Wanagama** 95nm,1.6s	**11.42**	**276**	P	Pn	05 00 08.7	+3.8
MBWA	**Marble Bar**	**12.10**	**190**	Pn	**Pn**	**05 00 13.2**	**-0.6**
MBWA	**Marble Bar**	**12.10**	**190**	P	**Pn**	**05 00 12.3**	**-1.5**
PSA00	**Pilbara Seismi**	**12.48**	**189**	Pn	**Pn**	**05 00 17.4**	**-1.5**
PSA00	**Pilbara Seismi** 8.0nm,0.8s	**12.48**	**189**	P	**Pn**	**05 00 18.8**	**-0.1**
BBJI	**Bungbulang** 31nm,0.6s	**14.30**	**276**	P	**P**	**05 00 47.5**	**+0.5**
GIRL	**Giralia**	**15.31**	**208**	P	**Pn**	**05 00 55.3**	**-0.2**
WB0	**Warramunga Arr**	**15.94**	**133**	Pn	**Pn**	**05 01 01.9**	**-1.7**
WB0	comp=Z,7.4nm,0.8s			IAmb	IAmb	05 01 31.5	
WRA	**Warramunga Arr**	**16.02**	**133**	Pn	**Pn**	**05 01 02.4**	**-2.0**
WRA	**Warramunga Arr** comp=Z,1.5nm,0.4s,baz=306,slow=14,SNR=23	**16.02**	**133**	P	**Pn**	**05 01 00.7**	**-3.7**
WRA	comp=Z,11nm,0.9s,baz=304,slow=24,SNR=11			S	Sn	05 03 46.2	-16
WR0	**Warramunga Ar**	**16.17**	**133**		**Pn**	**05 01 06.1**	**-0.3**
WR0	comp=Z,7.1nm,0.8s			IAmb	IAmb	05 01 10.3	
MEEK	**Meekatharra**	**17.64**	**190**	P	**Pn**	**05 01 26.5**	**+2.2**
AS31	**Alice Springs**	**18.35**	**143**		**Pn**	**05 01 32.8**	**-0.1**
AS31	comp=Z,4.0nm,0.4s			IAmb	IAmb	05 01 54.9	
ASAR	**Alice Springs**	**18.35**	**143**	P	**Pn**	**05 01 32.5**	**-0.4**
ASAR	**Alice Springs** comp=Z,3.5nm,0.4s,baz=319,slow=12,SNR=71	**18.35**	**143**	P	**Pn**	**05 01 33.0**	**0.0**
ASAR	comp=Z,5.4nm,0.9s,baz=317,slow=23,SNR=9.7			S	S	05 04 46.2	-10
AS01	**Alice Springs** comp=Z,9.0nm,0.8s	**18.38**	**143**	P	**Pn**	**05 01 34.3**	**+1.1**
QIS	**Mount Isa**	**20.40**	**126**	P	Pn	05 01 56.1	-0.9
MORW	**Morawa**	**20.55**	**195**	P	Pn	05 01 59.4	+0.8
COEN	**Coen**	**21.28**	**105**	P	**P**	**05 02 04.2**	**+0.7**
COEN	comp=Z,7.4nm,0.7s			IAmb	IAmb	05 02 22.8	
COEN	**Coen**	**21.28**	**105**	P	**P**	**05 02 06.7**	**+3.3**
FORT	**Forrest**	**22.21**	**166**	P	**P**	**05 02 13.4**	**+0.3**
FORT	**Forrest**	**22.21**	**166**	P	**P**	**05 02 15.9**	**+2.7**
OOD	**Oodnadatta**	**22.57**	**147**	P	**P**	**05 02 19.3**	**+2.4**
MULG	**Mulgathing**	**23.82**	**153**	P	**P**	**05 02 31.3**	**+2.6**
NWAO	**Narrogin (SRO)**	**24.02**	**190**	P	**P**	**05 02 31.6**	**+1.0**
NWAO	**Narrogin (SRO)** comp=Z,41nm,18.7s,baz=7.5,slow=37	**24.02**	**190**	LR	LR	05 12 30.3	
CTA	**Charters Tower** comp=Z,25nm,20.9s,baz=268,slow=35	**25.81**	**118**	LR	LR	05 12 21.4	
BBOO	**Buckleboo**	**26.86**	**153**	P	**P**	**05 02 56.6**	**+0.4**
BBOO	comp=Z,12nm,1.2s			IAmb	IAmb	05 03 36.3	
STKA	**Stephens Creek**	**28.99**	**144**	P	**P**	**05 03 15.4**	**+0.3**
STKA	**Stephens Creek** comp=Z,2.1nm,0.5s,baz=309,slow=9.3,SNR=7.7 comp=Z,2.1nm,0.5s	**28.99**	**144**	P	**P**	**05 03 17.3**	**+2.1**
CMAR	**Chiang Mai Arr** comp=Z,1.3nm,0.3s,baz=146,slow=6.9,SNR=4.2	**35.67**	**320**	P	**P**	**05 04 14.9**	**+1.2**
CMAR	comp=Z,9.7nm,20.5s,baz=305,slow=42 comp=Z,1.3nm,0.3s			LR	LR	05 22 43.4	
MJAR	**Matsushiro Arr** comp=Z,1.6nm,0.4s,baz=192,slow=8.3,SNR=4.3 comp=Z,1.6nm,0.4s	**47.98**	**18**	P	**P**	**05 05 52.2**	**-1.5**
GUN	**Gumba** comp=Z,18nm,0.9s	**50.81**	**318**	*eP*	**P**	**05 06 15.9**	**+0.2**
PKI	**Pulchoki** comp=Z,6.2nm,0.3s	**50.90**	**317**	*eP*	**P**	**05 06 16.6**	**+0.2**
DANN	**Dangsing** comp=Z,24nm,0.7s	**52.52**	**317**	*eP*	**P**	**05 06 27.8**	**-0.6**
PYUN	**Piuthan** comp=Z,6.0nm,0.5s	**52.88**	**316**	*eP*	**P**	**05 06 31.0**	**0.0**
SONM	**Songino Array** comp=Z,1.2nm,0.7s,baz=180,slow=7.2,SNR=3.1 comp=Z,1.2nm,0.7s	**58.44**	**348**	P	**P**	**05 07 08.7**	**-1.6**
MK31	**Makanchi Array**	**66.01**	**331**	P	**P**	**05 07 58.4**	**-2.3**
MK31	comp=Z,4.3nm,0.9s			IAmb	IAmb	05 08 02.9	
MKAR	**Makanchi Array** comp=Z,2.2nm,0.5s,baz=141,slow=7.9,SNR=14 comp=Z,2.2nm,0.5s	**66.01**	**331**	P	**P**	**05 08 00.2**	**-0.5**
ZALV	**Zalesovo Beam**	**70.31**	**338**	P	**P**	**05 08 25.7**	**-1.7**
ZALV	**Zalesovo Beam** comp=Z,2.4nm,0.6s,baz=136,slow=7.9,SNR=9.3 comp=Z,2.4nm,0.6s	**70.31**	**338**	P	**P**	**05 08 25.9**	**-1.5**
KURBB	**Kurchatov Arra** comp=Z,2.1nm,0.2s,baz=148,slow=5.4,SNR=4.5 comp=Z,2.1nm,0.2s	**70.48**	**332**	P	**P**	**05 08 27.6**	**-1.0**
BVAR	**Borovoye Array** comp=Z,0.6nm,0.4s,baz=111,slow=7.0,SNR=3.8 comp=Z,0.6nm,0.4s	**75.88**	**331**	P	**P**	**05 08 59.9**	**-0.4**
ABKAR	**Akbulak array**	**79.44**	**324**	P	**P**	**05 09 19.6**	**-0.5**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.8s,baz=97,slow=1.9,SNR=5.2	**121.41**	**280**	PKP	**PKiKP**	**05 16 08.5**	**+0.9**

*IDC **09** 05:20:05.6±1.0, 10°.01N×140°.32E, h0km, mb3.6/9, mbtmp3.7/10, ML4.4/1, MS3.2/16, Error ellipse: s-maj=28.7km s-min=20.2km az=104.0*

ISC 09 05:20:09.7±0.9, 10°.0N±0°.2×140°.3E±0°.1, h26km, n29, σ0°.44/11, mb3.6/9, MS3.1/14, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 10nm,0.3s,baz=126,slow=8.3,SNR=2.3	**5.72**	**51**	Pn	**Pn**	**05 21 33.6**	**+0.6**
GUMO	5.1nm,0.3s,baz=210,slow=23,SNR=1.1			Sn	**Sn**	**05 22 37.6**	**-0.3**
GUMO	comp=Z,76nm,18.2s,baz=38,slow=42 125nm,1.0s			LR	LR	05 24 05.9	
DAV	**Davao City (W)** comp=Z,48nm,18.4s,baz=36,slow=40	**14.86**	**260**	LR	LR	05 29 57.5	
JOW	**Kunigami** comp=Z,25nm,19.9s,baz=132,slow=35	**20.27**	**327**	LR	LR	05 31 48.9	
JNU	**Nakatsue** comp=Z,61nm,19.3s,baz=168,slow=33	**24.62**	**341**	LR	LR	05 33 42.4	
MJAR	**Matsushiro Arr** comp=Z,59nm,19.1s,baz=188,slow=34	**26.52**	**356**	LR	LR	05 35 11.4	
H11S3	**WAKE ISLAND Hy** baz=251,slow=75	**26.90**	**69**	T	T	05 53 57.4	
H11S1	**WAKE ISLAND Hy** baz=251,slow=75	**26.91**	**69**	T	T	05 54 04.1	
H11S2	**WAKE ISLAND Hy** baz=251,slow=75	**26.91**	**69**	T	T	05 53 59.1	
H11N1	**WAKE ISLAND Hy** baz=262,slow=75	**27.41**	**66**	T	T	05 54 37.4	
H11N2	**WAKE ISLAND Hy** baz=262,slow=75	**27.42**	**66**	T	T	05 54 42.3	
H11N3	**WAKE ISLAND Hy** baz=262,slow=75	**27.43**	**66**	T	T	05 54 45.2	
KSRS	**Korea Array** comp=Z,46nm,21.0s,baz=135,slow=33	**29.56**	**340**	LR	LR	05 36 13.3	
WRA	**Warramunga Arr** 0.8nm,0.8s,baz=12,slow=9.7,SNR=5.6 0.8nm,0.8s	**30.31**	**191**	P	**P**	**05 26 18.9**	**-0.2**
CTA	**Charters Tower** comp=Z,45nm,18.1s,baz=265,slow=36	**30.44**	**169**	LR	LR	05 38 10.1	
ASAR	**Alice Springs** 0.4nm,0.7s,baz=18,slow=12,SNR=11	**34.02**	**191**	P	**P**	**05 26 51.7**	**+0.1**
ASAR	comp=Z,76nm,21.5s,baz=7.0,slow=35 0.4nm,0.7s			LR	LR	05 39 54.8	
ASAJ	**Asahikawa** comp=Z,43nm,18.2s,baz=82,slow=36	**34.07**	**3**	LR	LR	05 40 39.8	
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=95,slow=7.1,SNR=4.8	**40.91**	**287**	P	**P**	**05 27 50.3**	**+0.1**
CMAR	comp=Z,13nm,20.1s,baz=300,slow=35 0.6nm,0.3s			LR	LR	05 43 59.3	
MA2	**Magadan** comp=Z,19nm,19.9s,baz=104,slow=33	**50.12**	**7**	LR	LR	05 47 32.8	
SHEM	**Shemya Is, Ala** comp=Z,19nm,20.9s,baz=194,slow=32	**50.61**	**26**	LR	LR	05 47 10.6	
PALK	**Pallekele** comp=Z,15nm,19.3s,baz=169,slow=36	**58.94**	**273**	LR	LR	05 55 54.6	
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=103,slow=4.6,SNR=1.5 0.2nm,0.6s	**61.09**	**318**	P	**P**	**05 30 22.0**	**+0.4**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=110,slow=11,SNR=1.8 0.4nm,0.4s	**62.06**	**327**	P	**P**	**05 30 27.2**	**-0.7**
KURBB	**Kurchatov Arra** 0.3nm,0.6s,baz=106,slow=5.4,SNR=2.0 0.3nm,0.6s	**64.58**	**322**	P	**P**	**05 30 44.1**	**-0.5**
RAR	**Ratonga** comp=Z,22nm,19.4s,baz=182,slow=32	**66.49**	**118**	LR	LR	05 55 53.8	
BVAR	**Borovoye Array** 0.5nm,0.3s,baz=92,slow=7.2,SNR=1.6 0.5nm,0.3s	**70.04**	**323**	P	**P**	**05 31 19.1**	**-0.2**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=256,slow=4.6,SNR=3.8 0.4nm,0.8s	**73.72**	**25**	P	**P**	**05 31 40.6**	**-0.5**
YKA	**Yellowknife Ar** 0.2nm,0.8s,baz=288,slow=5.4,SNR=2.0 0.2nm,0.8s	**88.08**	**27**	P	**P**	**05 32 57.7**	**0.0**
YBH	**Yreka Blue Hor** comp=Z,36nm,21.0s,baz=26,slow=29	**88.59**	**48**	LR	LR	06 03 31.6	
ARCES	**ARCESS Array B** comp=Z,77nm,18.3s,baz=212,slow=39	**89.10**	**341**	LR	LR	06 18 22.8	

*IDC **09** 05:30:06.4±0.9, 39°.02N×71°.57E, h0km, mb3.7/10, mbtmp3.8/17, ML3.3/6, Error ellipse: s-maj=16.3km s-min=11.3km az=142.0*
*KRNET **09** 05:30:07.9±0.1, 39°.24N×71°.50E, h15km, mb4.0*
*SOME **09** 05:30:07.6, 39°.35N×71°.55E, h5km*
*NNC **09** 05:30:08.6±1.8, 39°.13N×71°.29E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=14.0km s-min=9.9km az=7.0*

ISC 09 05:30:08.1±1.5, 39°.22N±0°.05×71°.45E±0°.03, h2km±9km, n75, σ2°.35/99, mb3.6/10, 42C-13D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk** baz=44	**0.38**	**45**	⇑*eP*	**Pg**	**05 30 14.8**	**-0.6**
DRK	baz=44			⇑*eS*	**Sg**	**05 30 19.5**	**-0.9**
GAR	**Garm** baz=56	**0.91**	**257**	⇑*iP*	**Pb**	**05 30 25.8**	**-0.9**
GAR	baz=56			⇑*iS*	**Sb**	**05 30 39.0**	**-0.4**
BTK	**Batken** baz=27	**0.97**	**330**	⇑*iP*	**Pb**	**05 30 26.4**	**-1.4**
BTK	baz=27			⇑*iS*	**Sb**	**05 30 39.7**	**-1.5**
SFK	**Sufi-Kurgan** baz=63	**1.77**	**63**	⇑*eP*	**Pn**	**05 30 39.7**	**-0.4**
SFK	baz=63			⇑*iS*	**Sb**	**05 31 03.0**	**-1.3**
CHGR	**Chuyangaron** baz=53	**1.88**	**253**	⇑*iP*	**Pn**	**05 30 43.2**	**+1.9**
CHGR	baz=53			⇑*iS*	**Sn**	**05 31 08.9**	**+3.3**
TRKS	**Terek-Say** baz=54	**2.33**	**354**	⇑*iP*	**Pn**	**05 30 47.8**	**+0.2**
TRKS	baz=54			⇑*iS*	**Sn**	**05 31 16.8**	**0.0**
ARSB	**Arslanbob** baz=28	**2.41**	**29**	⇓*eP*	**Pn**	**05 30 49.5**	**+0.8**
ARSB	baz=28			⇓*iS*	**Sn**	**05 31 20.0**	**+1.1**
ARK	**Arkit** baz=8.0	**2.61**	**8**	⇑*iP*	**Pn**	**05 30 52.5**	**+1.0**
ARK	baz=8.0			⇑*iS*	**Sn**	**05 31 25.0**	**+1.2**
AML	**Almayashu** SNR=68	**3.38**	**30**	P	**Pn**	**05 31 05.7**	**+3.5**
AML	**Almayashu** baz=29	**3.38**	**30**	⇑*eP*	**Pn**	**05 31 03.2**	**+1.0**
AML	baz=29			⇑*iS*	**Sn**	**05 31 43.5**	**+0.4**
AML	**Almayashu** 4.9nm,0.6s	**3.38**	**30**	⇓Pn	**Pn**	**05 31 04.9**	**+2.6**
AML	16nm,0.6s			⇑Sn	**Sb**	**05 31 49.1**	**-1.5**
CHM	**Chimkent** 53nm,0.2s	**3.40**	**336**	*ePg*	**Pb**	**05 31 09.9**	**+0.7**
CHM	298nm,0.2s			*eLg*	Lg	05 31 55.0	
ARLS	**Aral** baz=39	**3.43**	**39**	⇑*eP*	**Pn**	**05 31 03.6**	**+0.8**
ARLS	baz=39			⇑*iS*	**Sn**	**05 31 44.5**	**+0.4**
DZA	**Taraz** 67nm,0.2s	**3.67**	**359**	*ePg*	Pn	05 31 11.6	+5.6
DZA	327nm,0.5s			*eLg*	Lg	05 31 57.6	
DZA	**Taraz** 55nm,0.1s	**3.67**	**359**	Pg	**Pn**	**05 31 07.7**	**+1.7**
DZA	299nm,0.4s			Lg	Lg	05 31 53.0	
MRKS	**Merke** 25nm,0.5s	**3.77**	**20**	*ePg*	Pn	05 31 12.4	+4.9
MRKS	78nm,0.6s			*eLg*	Lg	05 31 58.1	
MRKS	**Merke** 48nm,0.6s	**3.77**	**20**	Pg	**Pn**	**05 31 10.8**	**+3.4**
MRKS	59nm,0.2s			Lg	Lg	05 31 58.6	
UCH	**Uchtor** SNR=38	**3.80**	**37**	P	**Pn**	**05 31 11.2**	**+3.0**
UCH	**Uchtor** baz=37	**3.80**	**37**	⇑*eP*	**Pn**	**05 31 09.1**	**+0.9**
UCH	baz=37			⇑*iS*	**Sn**	**05 31 53.7**	**0.0**
EKS2	**Erkin-Say** SNR=18	**3.87**	**26**	P	**Pn**	**05 31 13.1**	**+4.3**
EKS2	**Erkin-Say** baz=26	**3.87**	**26**	⇑*eP*	**Pn**	**05 31 09.9**	**+1.2**
EKS2	baz=26			⇑*eS*	**Sn**	**05 31 54.9**	**+0.1**
KK31	**Karatay Array** 18nm,0.5s,baz=166,slow=11,SNR=234	**3.95**	**350**	⇑Pn	**Pn**	**05 31 11.8**	**+2.0**
KK31	62nm,0.6s,baz=183,slow=24,SNR=8.0			⇓Sn	**Sn**	**05 32 02.0**	**+5.3**
KKAR	**Karatay Array** baz=49	**3.95**	**350**	⇑*eP*	**Pn**	**05 31 11.3**	**+1.5**
KKAR	baz=49			⇑*iS*	**Sn**	**05 31 57.4**	**+0.7**
KZA	**Kyzart** SNR=114	**4.06**	**44**	P	**Pn**	**05 31 14.9**	**+3.2**
KZA	**Kyzart** baz=44	**4.06**	**44**	⇑*iP*	**Pn**	**05 31 12.8**	**+1.1**
KZA	baz=44			⇑*iS*	**Sn**	**05 32 00.0**	**-0.1**
AAK	**Ala-Archa** SNR=31	**4.12**	**33**	P	**Pn**	**05 31 15.6**	**+3.3**
AAK	**Ala-Archa** baz=33	**4.12**	**33**	⇑*iP*	**Pn**	**05 31 13.3**	**+1.0**
AAK	baz=33			⇑*eS*	**Sn**	**05 32 01.1**	**-0.1**
AAK	**Ala-Archa** 6.9nm,0.3s,baz=207,slow=6.0,SNR=44	**4.12**	**33**	Pn	**Pn**	**05 31 16.5**	**+4.3**
AAK	4.9nm,0.3s,baz=44,slow=11,SNR=4.5 20nm,0.4s			Sn	**Sb**	**05 32 07.7**	**-4.1**
KBK	**Karagaybulak** SNR=23	**4.34**	**36**	P	**Pn**	**05 31 19.0**	**+3.8**
KBK	**Karagaybulak** baz=36	**4.34**	**36**	⇑*eP*	**Pn**	**05 31 16.3**	**+1.0**
KBK	baz=36			⇑*iS*	**Sn**	**05 32 06.3**	**-0.2**
CHMS	**Chumysh** SNR=26	**4.53**	**32**	P	**Pn**	**05 31 21.4**	**+3.7**
CHMS	**Chumysh** baz=32	**4.53**	**32**	⇑*iP*	**Pn**	**05 31 18.9**	**+1.2**
CHMS	baz=32			⇑*iS*	**Sn**	**05 32 10.5**	**-0.4**
CHMS	**Chumysh** 26nm,0.6s	**4.53**	**32**	⇓Pn	**Pn**	**05 31 20.8**	**+3.1**
CHMS	65nm,1.1s			⇑Sn	**Sn**	**05 32 14.7**	**+3.8**
USP	**Ospenovka** SNR=15	**4.65**	**29**	P	**Pn**	**05 31 22.6**	**+3.1**
USP	**Ospenovka** baz=28	**4.65**	**29**	⇑*eP*	**Pn**	**05 31 20.7**	**+1.2**
USP	baz=28			⇑*iS*	**Sn**	**05 32 13.8**	**-0.3**
TKM2	**Tokmak 2** SNR=29	**4.85**	**39**	P	**Pn**	**05 31 25.5**	**+3.2**
TKM2	**Tokmak 2** baz=39	**4.85**	**39**	⇓*iP*	**Pn**	**05 31 23.4**	**+1.1**
TKM2	baz=39			⇓*iS*	**Sn**	**05 32 18.5**	**-0.6**
TKM2	**Tokmak 2** 14nm,0.6s	**4.85**	**39**	⇓Pn	**Pn**	**05 31 25.3**	**+2.9**
TKM2	30nm,0.8s			⇑Sn	**Sn**	**05 32 23.3**	**+4.1**
SGDS	**Sogindy** 19nm,0.3s	**4.86**	**28**	Pg	**Pn**	**05 31 25.1**	**+2.8**
SGDS	22nm,0.3s			Lg	Lg	05 32 23.3	
KST	**Kastek** 6.5nm,0.5s	**5.12**	**40**	*ePg*	**Pb**	**05 31 40.9**	**+2.4**
KST	31nm,0.6s			*eLg*	Lg	05 32 48.6	
KST	**Kastek** 8.8nm,0.7s	**5.12**	**40**	Pg	**Pn**	**05 31 29.2**	**+3.2**
KST	49nm,0.4s			Lg	Lg	05 32 30.0	
DGS	**Degeres** 10nm,0.7s	**5.17**	**38**	*ePg*	**Pb**	**05 31 42.5**	**+3.1**
DGS	30nm,0.9s			*eLg*	Lg	05 32 50.9	
DGS	**Degeres** 30nm,0.4s	**5.17**	**38**	Pg	**Pn**	**05 31 30.4**	**+3.7**
DGS	30nm,0.5s			Lg	Lg	05 32 32.1	
MTBS	**Maitube** 4.6nm,0.3s	**5.42**	**42**	*ePg*	**Pb**	**05 31 45.8**	**+2.2**
MTBS	9.3nm,0.3s			*eLg*	Lg	05 32 56.0	
MTBS	**Maitube** 12nm,0.6s	**5.42**	**42**	Pg	**Pn**	**05 31 33.8**	**+3.7**
MTBS	19nm,0.3s			Lg	Lg	05 32 37.8	
TNSS	**Tian-Shan** 4.8nm,0.4s	**5.64**	**46**	*ePg*	**Pb**	**05 31 50.2**	**+2.7**
TNSS	7.0nm,0.3s			*eLg*	Lg	05 33 04.5	
TNSS	**Tian-Shan** 10nm,0.3s	**5.64**	**46**	Pg	**Pn**	**05 31 36.1**	**+2.8**
TNSS	7.0nm,0.3s			Lg	Lg	05 32 42.0	
MDOK	**Medeo** 3.9nm,0.4s	**5.78**	**45**	*ePg*	**Pb**	**05 31 51.1**	**+1.5**
MDOK	10nm,0.4s			*eLg*	Lg	05 33 06.5	
MDOK	**Medeo** 6.5nm,0.7s	**5.78**	**45**	Pg	**Pn**	**05 31 38.6**	**+3.6**
MDOK	10nm,0.4s			Lg	Lg	05 32 46.1	
KOTS	**Kotyrbulak** 15nm,0.3s	**5.86**	**45**	Pg	**Pn**	**05 31 39.8**	**+3.7**
KOTS	24nm,0.4s			Lg	Lg	05 32 48.3	
KUU	**Kurty** 6.0nm,0.3s	**5.94**	**37**	Pg	**Pn**	**05 31 40.7**	**+3.6**
KUU	7.8nm,0.4s			Lg	Lg	05 32 49.8	
KTBS	**Karatobe** 11nm,0.4s	**5.97**	**39**	Pg	**Pn**	**05 31 40.6**	**+3.1**
KTBS	14nm,0.5s			Lg	Lg	05 32 49.8	
BTLS	**Baital** 1.4nm,0.2s	**6.13**	**17**	Pg	**Pn**	**05 31 42.9**	**+3.2**
BTLS	6.9nm,0.5s			Lg	Lg	05 32 53.7	
SHLS	**Shalkode** 5.3nm,0.2s	**7.21**	**54**	Pg	Pn	05 32 01.3	+6.6
SHLS	13nm,0.6s			Lg	Lg	05 33 25.0	
PDGK	**Podgornoye** 5.5nm,0.7s	**7.32**	**53**	⇓Pn	**Pn**	**05 31 59.9**	**+3.8**
PDGK	13nm,1.1s			⇑Pg	Pg	05 32 23.8	-4.4
PDGK	24nm,0.9s			⇓Lg	Lg	05 34 07.4	
DJR	**Jarkent** 3.0nm,0.8s	**8.06**	**48**	Pg	**Pn**	**05 32 09.7**	**+3.4**
DJR	4.1nm,0.6s			Lg	Lg	05 33 39.4	
OTUK	**Ortayu** 4.7nm,1.1s	**9.05**	**4**	⇑Pn	**Pn**	**05 32 20.7**	**+0.9**
OTUK	15nm,0.8s			⇑Lg	Lg	05 35 01.7	
GEYT	**Alibeck** 3.0nm,0.5s,baz=125,slow=7.4,SNR=4.1	**10.52**	**267**	Pn	**Pn**	**05 32 41.0**	**+1.0**
GEYT	0.8nm,0.3s,baz=241,slow=4.6,SNR=1.9			Sn	**Sn**	**05 34 41.4**	**+3.0**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=232,slow=12,SNR=7.9 2.8nm,0.9s	**10.96**	**43**	Pn	**Pn**	**05 32 48.6**	**+2.6**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=214,slow=13,SNR=5.1	**12.45**	**21**	Pn	**Pn**	**05 33 05.0**	**-1.2**
KURBB	baz=182,slow=30,SNR=5.2 0.4nm,0.6s			Lg	Lg	05 36 39.0	
AB31	**Akbulak array** 1.8nm,0.5s,baz=141,slow=12,SNR=72	**12.98**	**324**	⇓Pn	**Pn**	**05 33 12.7**	**-0.8**
AB31	4.5nm,0.7s,baz=137,slow=24,SNR=14			⇑Sn	**Sn**	**05 35 40.4**	**+2.0**
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=156,slow=40,SNR=2.7	**13.83**	**357**	Pn	Pn	05 33 21.9	-3.3
BVAR	baz=164,slow=23,SNR=5.6			Sn	**Sn**	**05 35 55.1**	**-4.1**
BVAR	baz=162,slow=30 0.5nm,0.4s			Lg	Lg	05 37 26.7	
AKTO	**Aktyubinsk** 0.5nm,0.3s,baz=140,slow=12,SNR=4.7	**14.70**	**324**	Pn	Pn	05 33 34.6	-2.4

AKTO				Sn		**Sn**	05 36 17.7	-2.6
	0.3nm,0.3s,baz=324,slow=22,SNR=5.4							
	1.6nm,0.4s							
AKTO	**Aktyubinsk**	**14.70**	**324**	⇓Pn		**Pn**	05 33 35.7	-1.2
	3.7nm,0.7s							
AKTO				⇓Sn		**Sn**	05 36 22.2	+1.9
	2.7nm,0.7s							
ZALV	**Zalesovo Beam**	**17.32**	**27**	P		**Pn**	05 34 10.3	-0.6
	0.8nm,0.3s,baz=206,slow=10,SNR=14							
	2.1nm,0.4s							
KBZ	**Khabaz**	**21.81**	**291**	P		**P**	05 35 02.6	+1.1
	1.8nm,0.9s,baz=153,slow=14,SNR=2.7							
	1.8nm,0.9s							
BRTR	**Keskin Array B**	**29.06**	**283**	P		**P**	05 36 09.8	-0.2
	0.2nm,0.4s,baz=79,slow=7.5,SNR=2.4							
	0.2nm,0.4s							
FINES	**FINESS Array B**	**35.47**	**324**	P		**P**	05 37 05.9	+0.3
	4.3nm,0.9s,baz=115,slow=13,SNR=4.2							
	4.3nm,0.9s							
ARCES	**ARCESS Array B**	**38.79**	**336**	P		**P**	05 37 34.3	+0.5
	3.3nm,1.0s,baz=104,slow=7.5,SNR=1.5							
	3.3nm,1.0s							
HFS	**Hagfors**	**41.19**	**320**	P		**P**	05 37 53.9	+0.1
	3.1nm,0.7s,baz=93,slow=10,SNR=6.7							
	3.1nm,0.7s							
ESDC	**Sonseca Array**	**56.54**	**296**	P		**P**	05 39 52.0	0.0
	0.4nm,0.8s,baz=61,slow=6.8,SNR=5.2							
	0.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**66.16**	**268**	P		**P**	05 40 56.0	-1.4
	0.7nm,0.8s,baz=47,slow=6.4,SNR=7.2							
	0.7nm,0.8s							
YKA	**Yellowknife Ar**	**78.52**	**3**	P		**P**	05 42 10.0	-0.5
	0.3nm,0.6s,baz=349,slow=5.6,SNR=6.1							
	0.3nm,0.6s							
WRA	**Warramunga Arr**	**83.13**	**122**	P		**P**	05 42 33.7	-2.0
	0.3nm,0.7s,baz=327,slow=4.7,SNR=2.9							
	0.3nm,0.7s							
ASAR	**Alice Springs**	**85.52**	**125**	P		**P**	05 42 45.3	-2.5
	0.2nm,0.7s,baz=318,slow=3.7,SNR=2.3							
	0.2nm,0.7s							

*JMA **09** 05:57:00.9±0.2,43.6˝N±0.5˝×14.6E±˝, h76km±1km, MV3.1/34, NEAR KUNASHIRI ISLAND*
*SKHL **09** 05:57:01.0±0.1,43.60N×146.50E, h70km±4km, mb4.5/3*
ISC 09 05:57:00.6±1.7, 43.65N±0.08×146.54E±0.07, h72km±11km, n14, σ0.52/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.31**	**44**	*i* P	**Pn**	**05 57 12.2**	**+0.1**
SHO				AMB	AMB	05 57 12.5	
	160nm,0.2s						
SHO				*e*S	**Sn**	**05 57 20.5**	**0.0**
SHO				A	A	05 57 21.4	
	4μm,0.3s						
SHO				A	A	05 57 21.4	
	2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.62**	**308**	*i* P	**Pn**	**05 57 14.5**	**-0.3**
YUK				AMB	AMB	05 57 15.2	
	280nm,0.2s						
YUK				*e*S	**Sn**	**05 57 24.6**	**-0.7**
YUK				A	A	05 57 26.9	
	1μm,0.3s						
YUK				A	A	05 57 26.9	
	2μm,0.3s						
NEM2	**Nemuro 2**	**0.64**	**244**	*e*P	**Pn**	**05 57 15.3**	**+0.2**
NEM2				*e*S	**Sn**	**05 57 26.0**	**+0.3**
JRA	**Rausu**	**1.06**	**286**	*e*P	**Pn**	**05 57 20.2**	**+0.2**
JRA				*e*S	**Sn**	**05 57 35.0**	**+0.6**
JNSB	**Nemuroshibetsu**	**1.12**	**277**	*e*P	**Pn**	**05 57 21.1**	**+0.4**
JNSB				*e*S	**Sn**	**05 57 36.2**	**+0.5**
JKHN	**Kushirohamanak**	**1.15**	**241**	*e*P	**Pn**	**05 57 21.4**	**+0.3**
JKHN				*e*S	**Sn**	**05 57 36.3**	**-0.2**
JNK	**Nakash**	**1.32**	**268**	*e*P	**Pn**	**05 57 23.1**	**-0.2**
JNK				*e*S	**Sn**	**05 57 39.9**	**-0.5**
JAK	**Akkeshi**	**1.49**	**245**	*e*P	**Pn**	**05 57 25.7**	**+0.1**
JAK				*e*S	**Sn**	**05 57 43.9**	**-0.4**
KUR	**Kuril'sk**	**1.85**	**31**	*i* P	**Pn**	**05 57 30.4**	**+0.2**
KUR				AMB	AMB	05 57 30.9	
	110nm,0.3s						
KUR				*i* S	**Sn**	**05 57 52.5**	**-0.2**
KUR				A	A	05 57 53.9	
	190nm,0.3s						
KUR				A	A	05 57 53.9	
	120nm,0.3s						
JTKR	**Abashiri--Toko**	**1.93**	**280**	*e*P	**Pn**	**05 57 31.6**	**+0.2**
JAR	**Ashorobuto**	**2.05**	**261**	*e*S	**Sn**	**05 57 57.7**	**+0.2**
JOB	**Onbets**	**2.11**	**250**	*e*P	**Pn**	**05 57 34.4**	**+0.6**
JOB				*e*S	**Sn**	**05 57 58.8**	**-0.3**
JMP	**Maruseppu**	**2.33**	**280**	*e*P	**Pn**	**05 57 37.1**	**+0.4**
JCH	**Churui**	**2.54**	**247**	*e*P	**Pn**	**05 57 39.8**	**+0.2**
JCH				*e*S	**Sn**	**05 58 07.9**	**-1.7**

*IDC **09** 06:03:35.5±0.7,10.09N×140.20E, h0km, mb4.0/11, mbtmp4.0/12, ML4.2/1, MS3.0/5, Error ellipse: s-maj=25.6km s-min=17.1km az=98.0*
*NEIC **09** 06:03:38.1±1.9,9.99N±0.10×140.30E±0.04, h10km±1km, mb4.5/15, Error ellipse: s-maj=16.9km s-min=6.6km az=192.0*
ISC 09 06:03:39.7±0.6, 9.99N±0.08×140.26E±0.09, h26km, n41, σ0.91/35, mb4.2/20, MS2.9/3, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.76**	**51**	Pn	**Pn**	**06 05 04.6**	**+1.1**
GUMO	**Guam**	**5.76**	**51**	Pn	**Pn**	**06 05 03.7**	**+0.2**
	6.6nm,0.3s,baz=208,slow=20,SNR=1.6						
GUMO				Sn	**Sn**	**06 06 08.2**	**-0.7**
	4.9nm,0.3s,baz=8.6,slow=20,SNR=2.4						
GUMO				LR	LR	06 07 36.5	
	comp=Z,54nm,18.5s,baz=169,slow=42						
	97nm,0.7s						
DAV	**Davao City (W)**	**14.80**	**260**	LR	LR	06 11 45.3	
	comp=Z,57nm,20.3s,baz=164,slow=33						
PMG	**Port Moresby**	**20.46**	**160**	P	**P**	**06 08 15.3**	**-0.2**
TPUB	**Ta-pu**	**22.95**	**308**	P	**P**	**06 08 42.4**	**+0.2**
TPUB				IAmb	IAmb	06 08 52.7	
	comp=Z,67nm,1.3s						
JHJ2	**Mitsune**	**23.01**	**359**	P	**P**	**06 08 41.3**	**-1.4**
MTN	**Manton Dam**	**24.43**	**202**	P	**P**	**06 08 55.7**	**-0.7**
MTN				IAmb	IAmb	06 09 05.5	
	comp=Z,16nm,1.2s						
KAPI	**Kappang**	**25.29**	**235**	LR	LR	06 18 44.6	
	comp=Z,34nm,18.4s,baz=38,slow=36						
H11S3	**WAKE ISLAND Hy**	**26.95**	**69**	T	T	06 37 29.9	
	baz=255,slow=75,SNR=223						
H11S1	**WAKE ISLAND Hy**	**26.96**	**69**	T	T	06 37 29.8	
	baz=255,slow=75,SNR=128						
H11S2	**WAKE ISLAND Hy**	**26.96**	**69**	T	T	06 37 32.0	
	baz=255,slow=75,SNR=314						
H11N1	**WAKE ISLAND Hy**	**27.46**	**66**	T	T	06 38 11.4	
	baz=254,slow=77						
H11N2	**WAKE ISLAND Hy**	**27.47**	**66**	T	T	06 38 10.9	
	baz=254,slow=77						
H11N3	**WAKE ISLAND Hy**	**27.48**	**66**	T	T	06 38 13.5	
	baz=254,slow=77						
WB0	**Warramunga Arr**	**30.13**	**191**	P	**P**	**06 09 46.8**	**-0.7**
WB0				IAmb	IAmb	06 10 00.9	
	comp=Z,5.4nm,1.2s						
WRA	**Warramunga Arr**	**30.31**	**191**	P	**P**	**06 09 48.2**	**-1.0**
WRA	**Warramunga Arr**	**30.31**	**191**	P	**P**	**06 09 48.8**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=10,slow=9.6,SNR=20						
WRA				PcP	**PcP**	**06 12 50.5**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=2.5,slow=2.9,SNR=3.3						
	comp=Z,2.2nm,0.8s						
AS31	**Alice Springs**	**34.02**	**190**	P	**P**	**06 10 21.6**	**-0.2**
ASAR	**Alice Springs**	**34.02**	**190**	P	**P**	**06 10 21.5**	**-0.2**
ASAR	**Alice Springs**	**34.02**	**190**	P	**P**	**06 10 21.9**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=17,slow=12,SNR=42						
ASAR				PcP	**PcP**	**06 13 00.7**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=29,slow=2.8,SNR=6.1						
	comp=Z,1.3nm,0.6s						
KLR	**Kul'dur**	**39.75**	**351**	P	**P**	**06 11 09.9**	**-0.2**
	comp=Z,5.9nm,0.7s,baz=157,slow=9.8,SNR=4.2						
	comp=Z,5.9nm,0.7s						
CM31	**Chiang Mai Arr**	**40.84**	**287**	P	**P**	**06 11 19.7**	**0.0**
CM31				IAmb	IAmb	06 11 31.4	
	comp=Z,8.5nm,1.1s						
CMAR	**Chiang Mai Arr**	**40.84**	**287**	P	**P**	**06 11 20.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**40.84**	**287**	P	**P**	**06 11 19.6**	**0.0**
	comp=Z,0.7nm,0.3s,baz=92,slow=6.7,SNR=1.6						
CMAR				LR	LR	06 26 38.5	
	comp=Z,17nm,21.8s,baz=105,slow=34						
	comp=Z,0.7nm,0.3s						

PINNC	**Pines Island,**	**41.95**	**141**	P	**P**	**06 11 28.6**	**0.0**
FORT	**Forrest**	**42.20**	**196**	P	**P**	**06 11 30.3**	**-0.2**
FORT				IAmb	IAmb	06 11 40.9	
	comp=Z,17nm,1.1s						
HIA	**Hailar**	**42.73**	**340**	P	**P**	**06 11 35.9**	**+1.2**
HIA				IAmb	IAmb	06 12 10.8	
	comp=Z,10nm,1.3s						
MK31	**Makanchi Array**	**61.04**	**318**	P	**P**	**06 13 51.8**	**+0.5**
MK31				IAmb	IAmb	06 14 01.2	
	comp=Z,9.0nm,1.2s						
MKAR	**Makanchi Array**	**61.04**	**318**	P	**P**	**06 13 52.5**	**+1.2**
MKAR	**Makanchi Array**	**61.04**	**318**	P	**P**	**06 13 49.7**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=99,slow=9.3,SNR=2.2						
	comp=Z,0.6nm,0.7s						
ZAA0	**Zalesovo Array**	**62.01**	**327**	P	**P**	**06 13 58.8**	**+1.2**
ZAA0				IAmb	IAmb	06 14 17.1	
	comp=Z,1.9nm,1.0s						
ZALV	**Zalesovo Beam**	**62.01**	**327**	P	**P**	**06 13 55.5**	**-2.1**
	comp=Z,0.7nm,0.5s,baz=91,slow=6.2,SNR=3.6						
	comp=Z,0.7nm,0.5s						
KURK	**Kurchatov**	**64.50**	**322**	P	**P**	**06 14 13.3**	**-0.9**
KURK				IAmb	IAmb	06 14 18.8	
	comp=Z,4.7nm,0.8s						
KURBB	**Kurchatov Arra**	**64.53**	**322**	P	**P**	**06 14 13.4**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=103,slow=6.8,SNR=10						
	comp=Z,1.5nm,0.7s						
KKAR	**Karatay Array**	**68.46**	**312**	P	**P**	**06 14 39.4**	**-0.3**
F17K	**Baldwin Pennin**	**68.61**	**22**	P	**P**	**06 14 41.4**	**+1.3**
BVAR	**Borovoye Array**	**69.99**	**323**	P	**P**	**06 14 48.6**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=106,slow=7.6,SNR=8.0						
	comp=Z,2.4nm,0.7s						
ILAR	**Eielson Array**	**73.73**	**25**	P	**P**	**06 15 10.1**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=247,slow=5.8,SNR=10.0						
	comp=Z,0.4nm,0.6s						
YKA	**Yellowknife Ar**	**88.09**	**27**	P	**P**	**06 16 28.1**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=289,slow=5.2,SNR=5.2						
	comp=Z,0.4nm,0.7s						
NVAR	**Mina Array Bea**	**92.68**	**50**	P	**P**	**06 16 50.0**	**0.0**
	comp=Z,0.2nm,0.5s,baz=282,slow=6.3,SNR=2.3						
	comp=Z,0.2nm,0.5s						
ELK	**Elko**	**94.32**	**48**	LR	LR	06 52 16.8	
	comp=Z,24nm,20.3s,baz=30,slow=31						

*REY **09** 06:19:36.6,64.62N×17.45W, h4km*
*IDC **09** 06:19:37.2±0.7,64.60N×17.50W, h0km, mb3.7/12, mbtmp3.7/14, ML4.0/1, MS3.5/5, Error ellipse: s-maj=22.4km s-min=10.1km az=12.0*
ISC 09 06:19:38.0±0.5, 64.62N±0.02×17.45W±0.02, h10km, n47, σ1.81/63, mb3.8/12, MS3.3/4, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKIS	**Kista**	**0.07**	**317**	P	**Pg**	**06 19 38.4**	**-2.0**
	baz=317						
IDJK	**Dyngjujokull**	**0.15**	**142**	P	**Pg**	**06 19 39.9**	**-1.5**
	baz=142						
IDJK				S	**Sg**	**06 19 43.2**	**-0.6**
	baz=142						
IGRF	**Grimsfjall**	**0.23**	**160**	P	**Pg**	**06 19 41.2**	**-1.5**
	baz=160						
IGRF				S	**Sg**	**06 19 45.0**	**-0.9**
	baz=160						
IURH	**Urdarhals**	**0.24**	**32**	P	**Pg**	**06 19 41.5**	**-1.3**
	baz=32						
IURH				S	**Sg**	**06 19 45.9**	**-0.3**
	baz=32						
IBJK	**Bruarjokull**	**0.34**	**117**	P	**Pg**	**06 19 43.0**	**-1.7**
	baz=116						
IBJK				S	**Sg**	**06 19 48.5**	**-0.7**
	baz=116						
IHUS	**Husbondi**	**0.34**	**196**	P	**Pg**	**06 19 43.3**	**-1.4**
	baz=196						
IHUS				S	**Sg**	**06 19 48.9**	**-0.4**
	baz=196						
ISKR	**Skrokkalda**	**0.41**	**262**	P	**Pg**	**06 19 44.2**	**-1.8**
	baz=262						
ISKR				S	**Sg**	**06 19 49.5**	**-2.0**
	baz=262						
IJOK	**Jokulheimar**	**0.46**	**228**	P	**Pg**	**06 19 44.9**	**-1.9**
	baz=228						
IJOK				S	**Sg**	**06 19 52.0**	**-0.9**
	baz=228						
THOR	**Thorvaldshraun**	**0.46**	**46**	P	**Pg**	**06 19 45.2**	**-1.7**
	baz=46						
THOR				S	**Sg**	**06 19 52.2**	**-0.7**
	baz=46						
IKRE	**Kreppuhraun**	**0.48**	**70**	P	**Pg**	**06 19 45.5**	**-1.9**
	baz=70						
IKRE				S	**Sg**	**06 19 52.6**	**-1.2**
	baz=70						
IMKO	**Mokollar**	**0.59**	**52**	P	**Pg**	**06 19 47.5**	**-2.0**
	baz=52						
IMKO				S	**Sg**	**06 19 55.7**	**-1.6**
	baz=52						
IIEY	**Innrieyrar**	**0.60**	**210**	P	**Pg**	**06 19 47.5**	**-2.1**
	baz=210						
IKSK	**Karasker**	**0.62**	**137**	P	**Pg**	**06 19 47.4**	**-2.6**
	baz=137						
IKSK				S	**Sg**	**06 19 56.4**	**-1.8**
	baz=137						
IKAL	**Kalfafell**	**0.68**	**189**	S	**Sg**	**06 19 58.7**	**-1.4**
	baz=189						
IKAL				P	**Pg**	**06 19 49.0**	**-2.1**
	baz=189						
IFAL	**Falljokull**	**0.72**	**158**	P	**Pg**	**06 19 49.3**	**-2.5**
	baz=158						
IFAL				S	**Sg**	**06 19 59.6**	**-1.6**
	baz=158						
ISVA	**Svartarkot**	**0.72**	**6**	P	**Pg**	**06 19 49.5**	**-2.4**
	baz=6.3						
ISVA				S	**Sg**	**06 20 00.3**	**-1.1**
	baz=6.3						
IVSH	**V-Sauoahnukur**	**0.76**	**75**	P	**Pg**	**06 19 50.0**	**-2.6**
	baz=75						
IVSH				S	**Sg**	**06 20 01.0**	**-1.6**
	baz=75						
IVAT	**Vatnsfell**	**0.77**	**236**	P	**Pg**	**06 19 50.7**	**-2.1**
	baz=236						
IKVI	**Kvisker**	**0.78**	**145**	P	**Pg**	**06 19 50.1**	**-2.8**
	baz=145						
IKVI				S	**Sg**	**06 20 01.2**	**-1.8**
	baz=145						
IHOX	**Haoxl**	**0.80**	**153**	P	**Pg**	**06 19 50.9**	**-2.4**
	baz=153						
IHOX				S	**Sg**	**06 20 02.2**	**-1.5**
	baz=153						
IFAG	**Fagurholsmyri**	**0.82**	**155**	P	**Pg**	**06 19 51.3**	**-2.6**
	baz=155						
IFAG				S	**Sg**	**06 20 02.7**	**-1.8**
	baz=155						
IADA	**Aoalbol**	**0.89**	**63**	P	**Pg**	**06 19 52.3**	**-2.9**
	baz=63						
IADA				S	**Sg**	**06 20 04.5**	**-2.3**
	baz=63						
ISTE	**Stelbrattur**	**0.97**	**285**	P	**Pg**	**06 19 53.3**	**-3.2**
	baz=285						
IMEL	**Melhnausar**	**1.01**	**19**	P	**Pg**	**06 19 54.1**	**-3.2**
	baz=19						
ISNB	**Snabyli**	**1.03**	**211**	P	**Pg**	**06 19 54.6**	**-3.1**
	baz=211						
BORG	**Borgarnes**	**1.67**	**276**	Pg	**Pn**	**06 20 05.3**	**-1.9**
	16nm,0.3s,baz=92,slow=7.1,SNR=30						
BORG				Lg	Lg	06 20 29.9	
	13nm,0.3s,baz=230,slow=23,SNR=9.3						
SCO	**Scoresbysund**	**6.13**	**346**	*i* P	**Pn**	**06 21 07.0**	**-1.5**
EKA	**Eskdalemuir Ar**	**11.71**	**136**	Pn	**Pn**	**06 22 24.6**	**-0.3**
	baz=324,slow=13						
	3.0nm,0.6s						
SFJD	**Kangerlussuaq**	**13.71**	**295**	LR	LR	06 27 52.5	
	comp=Z,182nm,18.7s,baz=74,slow=36						
FINES	**FINESS Array B**	**19.69**	**79**	P	**Pn**	**06 24 07.2**	**-1.2**
	1.8nm,0.8s,baz=310,slow=11,SNR=1.2						
BRG	**Berggiesshubel**	**21.37**	**115**	*e*P	**P**	**06 24 24.6**	**-0.6**
BRG				Amp		06 24 25.1	
	comp=Z,5.0nm,0.9s						
KHC	**Kasperske Hory**	**22.63**	**118**	*e*P	**P**	**06 24 40.0**	**+1.2**
GERES	**GERESS Array B**	**22.91**	**119**	P	**P**	**06 24 42.6**	**+0.8**
	comp=Z,1.4nm,1.0s,baz=304,slow=7.0,SNR=2.7						
	comp=Z,1.4nm,1.0s						
ESDC	**Sonseca Array**	**26.20**	**156**	P	**P**	**06 25 13.3**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=347,slow=9.1,SNR=6.7						
	comp=Z,1.2nm,0.9s						
AKASG	**Malin Array Be**	**27.81**	**98**	P	**P**	**06 25 26.5**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=308,slow=10,SNR=2.4						
	comp=Z,0.3nm,0.3s						
KEST	**Kesra**	**33.11**	**138**	LR	LR	06 39 58.3	
	comp=Z,68nm,18.9s,baz=265,slow=37						

BRTR	**Keskin Array B**	**38.45**	**105**	P	**P**	**06 27 02.2**	**+2.6**
	comp=Z,1.5nm,0.8s,baz=333,slow=7.7,SNR=6.5						
	comp=Z,1.5nm,0.8s						
YKA	**Yellowknife Ar**	**39.26**	**313**	P	**P**	**06 27 07.4**	**+1.3**
	comp=Z,0.4nm,0.9s,baz=43,slow=9.2,SNR=2.8						
	comp=Z,0.4nm,0.9s						
BVAR	**Borovoye Array**	**43.20**	**62**	P	**P**	**06 27 39.2**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=274,slow=11,SNR=4.9						
	comp=Z,0.6nm,0.3s						
ILAR	**Eielson Array**	**45.74**	**332**	P	**P**	**06 27 59.6**	**+0.9**
	comp=Z,0.5nm,0.9s,baz=26,slow=6.7,SNR=5.7						
ILAR				PcP	**PcP**	**06 29 37.5**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=7.8,slow=3.7,SNR=4.4						
ILAR				LR	LR	06 48 37.0	
	comp=Z,31nm,18.2s,baz=356,slow=38						
	comp=Z,0.5nm,0.9s						
ZALV	**Zalesovo Beam**	**47.64**	**51**	P	**P**	**06 28 14.3**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=308,slow=7.1,SNR=1.6						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**48.16**	**58**	P	**P**	**06 28 18.1**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=321,slow=7.8,SNR=6.7						
	comp=Z,1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**53.09**	**156**	P	**P**	**06 28 55.5**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=342,slow=8.3,SNR=4.1						
	comp=Z,1.1nm,0.9s						
PDAR	**Pinedale Array**	**53.22**	**293**	P	**P**	**06 28 56.1**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=49,slow=5.7,SNR=8.6						
	comp=Z,0.8nm,0.7s						
MA2	**Magadan**	**55.80**	**7**	LR	LR	06 50 45.1	
	comp=Z,22nm,20.1s,baz=96,slow=34						
NVAR	**Mina Array Bea**	**60.34**	**297**	LR	LR	06 56 05.6	
	comp=Z,102nm,19.5s,baz=12,slow=36						
TXAR	**Lajitas Array**	**62.31**	**280**	P	**P**	**06 30 02.5**	**+2.3**
	comp=Z,0.7nm,1.0s,baz=19,slow=5.7,SNR=3.6						
	comp=Z,0.7nm,1.0s						

*NNC **09** 06:21:05.0±0.6,44.28N×81.59E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=5.4km s-min=2.7km az=122.0*
*SOME **09** 06:21:04.8,44.28N×81.58E, h15km*
ISC 09 06:21:02.2±1.5, 44.22N±0.04×81.74E±0.05, h4km±11km, n52, σ1.93/65, 14C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.27**	**233**	*e*P	**Pn**	**06 21 27.6**	**+0.6**
	29nm,0.2s						
KTMS				*e*S	**Sg**	**06 21 44.0**	**+0.9**
	62nm,0.2s						
KTMS	**Ketmen**	**1.27**	**233**	P	**Pn**	**06 21 27.5**	**+0.6**
	29nm,0.2s						
KTMS				S	**Sg**	**06 21 43.9**	**+0.9**
	62nm,0.2s						
DJR	**Jarkent**	**1.41**	**275**	*e*P	**Pg**	**06 21 29.9**	**+0.7**
	42nm,0.2s						
DJR				*e*S	**Sn**	**06 21 47.8**	**0.0**
	58nm,0.1s						
DJR	**Jarkent**	**1.41**	**275**	P	**Pg**	**06 21 29.9**	**+0.7**
	42nm,0.2s						
DJR				S	**Sn**	**06 21 47.8**	**0.0**
	58nm,0.1s						
KNOS	**Konyrlen**	**1.85**	**275**	P	**Pg**	**06 21 37.3**	**-0.3**
	126nm,0.1s						
KNOS				S	**Sg**	**06 22 00.6**	**-0.9**
	214nm,0.3s						
PDGK	**Podgornoye**	**1.86**	**242**	P	**Pb**	**06 21 38.0**	**+1.1**
	15nm,0.1s						
PDGK				S	**Sb**	**06 22 01.8**	**+1.2**
	57nm,0.3s						
PDGK	**Podgornoye**	**1.86**	**242**	⇓P	**Pb**	**06 21 37.1**	**+0.3**
	15nm,0.5s						
PDGK				⇑S	**Sb**	**06 22 01.3**	**+0.7**
	89nm,0.6s						
SHLS	**Shalkode**	**1.97**	**238**	*e*P	**Pn**	**06 21 35.7**	**-0.8**
	52nm,0.2s						
SHLS				*e*S	**Sn**	**06 21 57.7**	**-4.0**
	309nm,0.2s						
SHLS	**Shalkode**	**1.97**	**238**	P	**Pn**	**06 21 35.7**	**-0.8**
	52nm,0.2s						
SHLS				S	**Sn**	**06 21 57.7**	**-4.0**
	309nm,0.2s						
KAPS	**Kapalarasan**	**2.01**	**303**	*e*P	**Pg**	**06 21 39.8**	**-0.9**
	74nm,0.2s						
KAPS				*e*S	**Sg**	**06 22 04.9**	**-1.7**
	179nm,0.2s						
KAPS	**Kapalarasan**	**2.01**	**303**	P	**Pg**	**06 21 39.8**	**-0.9**
	74nm,0.2s						
KAPS				S	**Sg**	**06 22 04.9**	**-1.7**
	179nm,0.2s						
UZB	**Uzynbulak**	**2.25**	**242**	*e*Pg	**Pb**	**06 21 44.8**	**+1.3**
	16nm,0.2s						
UZB				*e*Lg	Lg	06 22 13.5	
	32nm,0.2s						
UZB	**Uzynbulak**	**2.25**	**242**	Pg	**Pb**	**06 21 44.8**	**+1.3**
	16nm,0.2s						
UZB				Lg	Lg	06 22 13.5	
	32nm,0.2s						
TDK	**Taldyqorghan**	**2.51**	**289**	*e*Pg	**Pg**	**06 21 49.0**	**-1.3**
	90nm,0.5s						
TDK				*e*Lg	Lg	06 22 20.8	
	252nm,0.3s						
TDK	**Taldyqorghan**	**2.51**	**289**	Pg	**Pg**	**06 21 49.0**	**-1.3**
	90nm,0.5s						
TDK				Lg	Lg	06 22 20.8	
	252nm,0.3s						
MAKZ	**Makanchi**	**2.59**	**4**	⇑Pg	**Pg**	**06 21 52.4**	**+0.5**
	9.5nm,0.9s						
MAKZ				⇓Lg	Lg	06 22 24.1	
	12nm,0.3s						
MK31	**Makanchi Array**	**2.60**	**8**	⇑Pn	**Pb**	**06 21 49.1**	**-0.4**
MK31				⇑Pg	**Pg**	**06 21 52.0**	**-0.1**
	6.2nm,0.3s,baz=186,slow=13,SNR=110						
MK31				Lg	Lg	06 22 24.5	
	6.7nm,0.3s,baz=188,slow=28,SNR=13						
ZHN	**Zhinishke**	**2.62**	**247**	*e*Pg	**Pb**	**06 21 51.4**	**+1.6**
	16nm,0.1s						
ZHN				*e*Lg	Lg	06 22 25.0	
	79nm,0.2s						

	6.7nm,0.2s								
TNSS				*e*Lg	Lg	06 22 57.5			
	8.8nm,0.2s								
TNSS	**Tian-Shan**	**3.68**	**253**	Pg	**Pb**	**06 22 10.4**	**+2.3**		
	6.7nm,0.2s								
TNSS				Lg	Lg	06 22 57.5			
	8.8nm,0.2s								
KTBS	**Karatobe**	**3.69**	**264**	*e*Pg	**Pb**	**06 22 10.0**	**+2.0**		
	10nm,0.2s								
KTBS				*e*Lg	Lg	06 22 56.8			
	61nm,0.3s								
KTBS	**Karatobe**	**3.69**	**264**	Pg	**Pb**	**06 22 10.0**	**+2.0**		
	10nm,0.2s								
KTBS				Lg	Lg	06 22 56.8			
	61nm,0.3s								
ZSN	**Zaisan**	**3.90**	**33**	*e*Pg	**Pb**	**06 22 12.1**	**+0.5**		
	4.5nm,0.3s								
ZSN				*e*Lg	Lg	06 23 00.2			
	34nm,0.4s								
ZSN	**Zaisan**	**3.90**	**33**	Pg	**Pb**	**06 22 12.1**	**+0.5**		
	4.5nm,0.3s								
ZSN				Lg	Lg	06 23 00.2			
	34nm,0.4s								
KUU	**Kurty**	**3.91**	**267**	*e*Pg	**Pb**	**06 22 13.2**	**+1.5**		
	7.5nm,0.2s								
KUU				*e*Lg	Lg	06 23 02.5			
	36nm,0.3s								
KUU	**Kurty**	**3.91**	**267**	Pg	**Pb**	**06 22 13.2**	**+1.5**		
	7.5nm,0.2s								
KUU				Lg	Lg	06 23 02.5			
	36nm,0.3s								
MTBS	**Maitube**	**4.01**	**256**	*e*Pg	**Pb**	**06 22 16.4**	**+3.0**		
	9.2nm,0.2s								
MTBS				*e*Lg	Lg	06 23 07.7			
	22nm,0.2s								
MTBS	**Maitube**	**4.01**	**256**	Pg	**Pb**	**06 22 16.4**	**+3.0**		
	9.2nm,0.2s								
MTBS				Lg	Lg	06 23 07.7			
	22nm,0.2s								
KST	**Kastek**	**4.36**	**256**	*e*Pg	**Pb**	**06 22 23.0**	**+3.5**		
	8.6nm,0.5s								
KST				*e*Lg	Lg	06 23 19.2			
	18nm,0.2s								
KST	**Kastek**	**4.36**	**256**	Pg	**Pb**	**06 22 23.0**	**+3.5**		
	8.6nm,0.5s								
KST				Lg	Lg	06 23 19.2			
	18nm,0.2s								
DGS	**Degeres**	**4.44**	**259**	*e*Pg	**Pb**	**06 22 23.9**	**+3.1**		
	8.3nm,0.2s								
DGS				*e*Lg	Lg	06 23 20.8			
	22nm,0.4s								
DGS	**Degeres**	**4.44**	**259**	Pg	**Pb**	**06 22 23.9**	**+3.1**		
	8.3nm,0.2s								
DGS				Lg	Lg	06 23 20.8			
	22nm,0.4s								
TKM2	**Tokmak 2**	**4.65**	**256**	⇑Pg	**Pb**	**06 22 27.6**	**+3.1**		
	3.9nm,0.6s								
TKM2				⇑Lg	Lg	06 23 30.3			
	15nm,0.8s								
SGDS	**Sogindy**	**5.20**	**264**	Pg	**Pg**	**06 22 38.4**	**-3.5**		
	4.8nm,0.8s								
SGDS				Lg	Lg	06 23 45.8			
	9.5nm,0.4s								
BTLS	**Baital**	**5.55**	**281**	*e*Pg	**Pg**	**06 22 46.4**	**-2.2**		
	2.4nm,0.4s								
BTLS				*e*Lg	Lg	06 23 59.5			
	4.4nm,0.5s								
BTLS	**Baital**	**5.55**	**281**	Pg	**Pg**	**06 22 46.4**	**-2.2**		
	2.4nm,0.4s								
BTLS				Lg	Lg	06 23 59.5			
	4.4nm,0.5s								
AML	**Almayashu**	**6.25**	**253**	⇑Pg	**Pg**	**06 22 59.0**	**-2.9**		
	0.7nm,0.8s								
AML				⇑Lg	Lg	06 24 21.1			
	0.8nm,0.7s								
KURBB	**Kurchatov Arra**	**6.76**	**342**	⇑Pn	**Pn**	**06 22 44.2**	**+1.9**		
	1.3nm,0.7s								
KURBB				⇑Sn	**Sn**	**06 23 58.6**	**-1.1**		
	8.5nm,0.7s								
KURBB				⇑Lg	Lg	06 24 34.2			
	12nm,0.7s								
KURK	**Kurchatov**	**6.83**	**343**	⇓Sn	**Sn**	**06 24 00.2**	**-1.2**		
	3.6nm,0.7s								
KURK				⇑Lg	Lg	06 24 37.3			
	6.9nm,0.6s								
OTUK	**Ortayu**	**7.66**	**305**	⇓Lg	Lg	06 25 02.8			
	12nm,1.0s								
KK31	**Karatay Array**	**8.22**	**266**	⇓Lg	Lg	06 25 20.7			
	0.9nm,0.5s,baz=77,slow=27,SNR=3.9								

KRSC 09 06:35:41.5±1.6,**48.72N**×**156.13E**,**h7**km±19km,**MI4.1,**
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.96**	**360**	*e*P		Pn	06 36 15.3	+0.1
SKR				*e*S		Sn	06 36 40.6	+0.6
PAU	**Pauzhetka**	**2.78**	**9**	*e*S		Sb	06 37 04.5	-1.2
KDTR	**Khodutka, Kamc**	**3.33**	**21**	*e*S		Sb	06 37 18.1	-3.6
ASAK	**Asacha**	**3.83**	**16**	*e*P		Pn	06 36 44.6	+3.6
MTVR	**Mutnovka**	**3.99**	**18**	*e*P		Pn	06 36 46.4	+3.3
MTVR				*e*S		Sn	06 37 35.2	+5.0
GRL	**Gorelyy**	**4.03**	**17**	*e*P		Pn	06 36 47.8	+4.1
GRL				*e*S		Sb	06 37 37.1	-4.7

IDC ***09*** *06:44:08.3±1.9,41.93S×173.53E,h0km,mb3.2/2,*
mbtmp3.4/4,ML3.2/2,MS2.8/1,Error ellipse: s-maj=48.6km
s-min=23.0km az=133.0
NOU ***09*** *06:44:11.2,42.41S×173.73E,h16km,MLv4.3/14,South*
Island, New Zealand
WEL ***09*** *06:44:11.4±0.3,42.2°S×2.2°×17.4E±°,h10km±3km,M4.1/14,*
ML4.2/14,MLv4.1/14,Error ellipse: s-maj=0.0km
s-min=0.0km az=111.4,confirmed
WEL ***09*** *06:44:11.2,42.255S×173.60E,h17km,ML4.2,Mw3.8,*
Moment Tensor Solution. s5 Moment tensor: Mrr14.60;
Mθθ33.33; Mϕϕ-47.93; Mrθ-3.89; Mrϕ56.62; Mθϕ11.31; Fault
plane solution: NP1:ϕs72.00000°,δ83.00000°,
λ-176.00000°. NP2:ϕs342.00000°,δ86.00000°,
λ-7.00000°. Principal axes: T -78.4900, Plg2.0000°,
Azm27.0000°; N 62.4500, Plg82.0000°, Azm132.0000°; P
16.0400, Plg8.0000°, Azm297.0000°; SOUTH ISLAND

ISC 09 06:44:11.2±0.8,**42.24S**±0.02×**173.59E**±0.03,**h20**km±2km,
n137,σ1**$44**/155,**South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.18**	**192**	P		**Pb**	**06 44 16.4**	**-0.4**
KHZ	**Kahutara**	**0.18**	**192**	P		**Pb**	**06 44 16.4**	**-0.4**
KHZ				S		**Sb**	**06 44 20.0**	**-0.8**
KIKS	**Kaikoura**	**0.20**	**160**	P		**Pb**	**06 44 17.4**	**+0.5**
KIKS				S		**Sb**	**06 44 21.8**	**+1.0**
MOLW	**Molesworth Sta**	**0.29**	**301**	P		**Pb**	**06 44 16.7**	**-1.1**
MOLW				S		**Sb**	**06 44 20.7**	**-1.7**
KEKS	**Kekerengu Vall**	**0.41**	**46**	P		**Pb**	**06 44 20.2**	**+0.6**
KEKS				S		**Sb**	**06 44 26.7**	**+1.4**
BSWZ	**Blackbirch Sta**	**0.56**	**22**	P		**Pb**	**06 44 22.8**	**+0.3**
BSWZ				S		**Sb**	**06 44 31.6**	**+1.4**
WDFS	**Ward Fire Stat**	**0.58**	**45**	P		**Pn**	**06 44 23.8**	**-0.5**
CECS	**Cheviot Emerge**	**0.62**	**202**	P		**Pn**	**06 44 24.7**	**-0.2**
CECS				S		**Sn**	**06 44 35.2**	**+1.0**
HSES	**Hanmer Springs**	**0.63**	**243**	P		**Pb**	**06 44 23.5**	**-0.2**
WVFS	**Wairau Valley**	**0.64**	**344**	P		**Pb**	**06 44 22.5**	**-1.3**
WVFS				S		**Sb**	**06 44 30.8**	**-1.6**
SEDS	**Seddon Fire St**	**0.67**	**33**	P		**Pn**	**06 44 25.4**	**-0.1**
SEDS				S		**Sn**	**06 44 36.5**	**+1.1**
CMWZ	**Cape Campbell**	**0.68**	**44**	P		**Pn**	**06 44 25.6**	**0.0**
THZ	**Tophouse**	**0.70**	**313**	P		**Pb**	**06 44 24.4**	**-0.4**
THZ				S		**Sb**	**06 44 33.2**	**-0.8**
GVZ	**Greta Valley S**	**0.84**	**209**	P		**Pn**	**06 44 28.4**	**+0.5**
GVZ				S		**Sn**	**06 44 41.2**	**+1.7**
TUWZ	**Tuamarina**	**0.85**	**18**	P		**Pb**	**06 44 27.7**	**+0.4**
TUWZ				S		**Sn**	**06 44 40.0**	**+0.1**
NNZ	**Nelson**	**1.03**	**351**	P		**Pb**	**06 44 30.5**	**+0.1**
NNZ				S		**Sb**	**06 44 43.4**	**-0.1**
MRNZ	**Matariki Terra**	**1.05**	**323**	P		**Pn**	**06 44 30.8**	**+0.1**
MRNZ				S		**Sn**	**06 44 45.1**	**+0.4**
LTZ	**Lake Taylor**	**1.12**	**241**	P		**Pn**	**06 44 31.8**	**+0.1**
LTZ				S		**Sb**	**06 44 45.9**	**-0.1**
TCW	**Tory Channel**	**1.15**	**27**	P		**Pb**	**06 44 32.7**	**+0.4**
TCW				S		**Sn**	**06 44 48.7**	**+1.4**
AMCZ	**Amberley**	**1.17**	**216**	P		**Pb**	**06 44 32.8**	**+0.1**
SNZO	**South Karori**	**1.25**	**42**	P		**Pb**	**06 44 34.4**	**+0.4**
BHW	**Baring Head**	**1.27**	**49**	P		**Pb**	**06 44 34.3**	**0.0**
TKNZ	**Takaka Hill**	**1.29**	**338**	P		**Pb**	**06 44 35.0**	**+0.1**
TKNZ				S		**Sb**	**06 44 51.8**	**+0.8**
WEL	**Wellington**	**1.30**	**43**	P		**Pb**	**06 44 35.1**	**+0.2**
PLWZ	**Palliser**	**1.41**	**62**	P		**Pn**	**06 44 35.9**	**+0.1**
DSZ	**Denniston Nort**	**1.42**	**290**	P		**Pb**	**06 44 37.2**	**+0.1**
DSZ				S		**Sb**	**06 44 56.3**	**+1.6**
DUWZ	**D'Urville Isla**	**1.46**	**10**	P		**Pb**	**06 44 37.3**	**-0.4**
OKCZ	**Okains Bay**	**1.53**	**195**	P		**Pn**	**06 44 37.5**	**+0.1**
OXZ	**Oxford**	**1.58**	**226**	P		**Pn**	**06 44 37.5**	**-0.5**
CAW	**Cannon Point**	**1.58**	**45**	P		**Pn**	**06 44 38.6**	**+0.5**
PAWZ	**Paruwai Farm**	**1.62**	**59**	P		**Pn**	**06 44 38.5**	**-0.1**
MQZ	**McQueen's Vall**	**1.62**	**205**	P		**Pn**	**06 44 37.7**	**-0.9**
QRZ	**Quartz Range**	**1.62**	**330**	P		**Pb**	**06 44 40.5**	**+0.1**
QRZ	**Quartz Range**	**1.62**	**330**	P		**Pb**	**06 44 40.4**	**-0.1**
INZ	**Inchbonnie**	**1.66**	**252**	P		**Pn**	**06 44 40.0**	**+0.8**
KIW	**Kapiti Island**	**1.70**	**36**	P		**Pn**	**06 44 40.6**	**+0.9**
AKCZ	**Akaroa Harbour**	**1.71**	**197**	P		**Pn**	**06 44 39.4**	**-0.4**
TRWZ	**Traveller**	**1.78**	**62**	P		**Pn**	**06 44 40.5**	**-0.3**
MTW	**Mount Morrison**	**1.79**	**54**	P		**Pn**	**06 44 40.8**	**-0.2**
RACZ	**Rakaia**	**1.83**	**215**	P		**Pn**	**06 44 40.9**	**-0.6**
OGWZ	**Otaki Gorge**	**1.85**	**40**	P		**Pn**	**06 44 42.4**	**+0.6**
HOWZ	**Holdsworth Sta**	**1.97**	**48**	P		**Pn**	**06 44 43.4**	**0.0**
MHCZ	**Mount Hutt**	**1.97**	**228**	P		**Pn**	**06 44 42.9**	**-0.6**
TMWZ	**Te Maipa**	**2.06**	**57**	P		**Pn**	**06 44 44.2**	**-0.5**
WACZ	**Wakanui South**	**2.13**	**216**	P		**Pn**	**06 44 45.0**	**-0.6**
MRZ	**Mangatainoka R**	**2.17**	**44**	P		**Pn**	**06 44 46.3**	**+0.1**
WVZ	**Waitaha Valley**	**2.27**	**247**	P		**Pn**	**06 44 48.4**	**+1.0**
RPZ	**Rata Peaks**	**2.38**	**231**	P		**Pn**	**06 44 48.9**	**-0.1**
RPZ	**Rata Peaks**	**2.38**	**231**	Pn		**Pn**	**06 44 48.7**	**-0.4**
	24nm,0.3s,baz=306,slow=0.6,SNR=85							
RPZ				Sn		**Sb**	**06 45 24.2**	**+2.0**
	23nm,0.3s,baz=0.1,slow=22,SNR=6.4							
RPZ				LR		LR	06 46 10.0	
	comp=Z,193nm,19.4s,baz=292,slow=48							
	114nm,0.4s							
RPZ	**Rata Peaks**	**2.38**	**231**	P		**Pn**	**06 44 48.6**	**-0.4**
OHWZ	**Ohakea**	**2.41**	**33**	P		**Pn**	**06 44 51.8**	**+2.3**
PRWZ	**Pori Road**	**2.46**	**48**	P		**Pn**	**06 44 49.6**	**-0.5**
ARCZ	**Arundel**	**2.46**	**225**	P		**Pn**	**06 44 49.7**	**-0.5**
POWZ	**Post Office Ro**	**2.47**	**42**	P		**Pn**	**06 44 50.3**	**0.0**
BFZ	**Birch Farm**	**2.53**	**53**	P		**Pn**	**06 44 50.2**	**-0.9**
BFZ	**Birch Farm**	**2.53**	**53**	P		**Pn**	**06 44 50.2**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**2.63**	**245**	P		**Pn**	**06 44 53.6**	**+1.1**
WAZ	**Wanganui**	**2.70**	**23**	P		**Pn**	**06 44 56.0**	**+2.6**
DVHZ	**Dannevirke**	**2.74**	**46**	P		**Pn**	**06 44 53.2**	**-0.9**
ANWZ	**Angora Road**	**2.81**	**52**	P		**Pn**	**06 44 54.7**	**-0.2**
TSZ	**Takapari Road**	**2.82**	**40**	P		**Pn**	**06 44 54.9**	**-0.3**
LREZ	**Lake Rotokare**	**2.84**	**13**	P		**Pb**	**06 45 00.6**	**-0.6**
TMZ	**Timaru**	**2.85**	**220**	P		**Pn**	**06 44 55.3**	**-0.4**
PREZ	**Palmer Road**	**2.93**	**9**	P		**Pb**	**06 45 01.0**	**-1.7**
KHEZ	**Kahui Hut**	**2.96**	**6**	P		**Pb**	**06 45 01.2**	**-2.1**
KHEZ	**Kahui Hut**	**2.96**	**6**	P		**Pb**	**06 45 01.0**	**-2.3**
NBEZ	**Newall Road No**	**2.98**	**4**	P		**Pb**	**06 45 01.4**	**-2.1**
NEZ	**North Egmont**	**2.99**	**8**	P		**Pb**	**06 45 02.0**	**-1.8**
PNHZ	**Pukenui**	**3.05**	**41**	P		**Pn**	**06 44 57.7**	**-0.6**
PKE	**Pukeiti**	**3.06**	**6**	P		**Pb**	**06 45 02.3**	**-2.6**
WPHZ	**Waipukurau**	**3.06**	**46**	P		**Pn**	**06 44 59.8**	**+1.4**
FOZ	**Fox Glacier**	**3.06**	**244**	P		**Pb**	**06 44 59.5**	**+1.1**
DREZ	**Durhead Road**	**3.08**	**9**	P		**Pb**	**06 45 02.9**	**-2.5**
MHEZ	**Mangahewa**	**3.21**	**10**	P		**Pb**	**06 45 05.2**	**-2.3**
PKVZ	**Pokaka**	**3.23**	**25**	P		**Pn**	**06 45 02.6**	**+1.7**
VRZ	**Vera Road**	**3.24**	**16**	P		**Pn**	**06 45 03.6**	**+2.7**
MOVZ	**Moawhango**	**3.27**	**31**	P		**Pn**	**06 45 02.0**	**+0.6**
LBZ	**Lake Benmore**	**3.28**	**228**	P		**Pn**	**06 45 01.4**	**-0.1**
WNVZ	**Wahianoa**	**3.28**	**28**	P		**Pn**	**06 45 03.2**	**+1.5**
TRVZ	**Turoa**	**3.29**	**27**	P		**Pn**	**06 45 03.4**	**+1.6**
PXZ	**Pawanui**	**3.31**	**49**	P		**Pn**	**06 45 04.3**	**+2.4**
WHVZ	**Whangaehu Hut**	**3.32**	**28**	P		**Pn**	**06 45 03.9**	**+1.7**
BHHZ	**Black Hill Sta**	**3.33**	**35**	P		**Pn**	**06 45 02.5**	**+0.4**
FWVZ	**Far West T-bar**	**3.33**	**27**	P		**Pn**	**06 45 04.0**	**+1.6**
KRHZ	**Kereru**	**3.34**	**40**	P		**Pn**	**06 45 01.5**	**-0.8**
TUVZ	**Tukino**	**3.36**	**28**	P		**Pn**	**06 45 04.4**	**+1.8**
COVZ	**Chateau Observ**	**3.38**	**27**	P		**Pn**	**06 45 04.6**	**+1.7**
NGZ	**Ngauruhoe**	**3.42**	**27**	P		**Pn**	**06 45 05.0**	**+1.4**
SNVZ	**South Ngauruho**	**3.42**	**28**	P		**Pn**	**06 45 05.0**	**+1.4**
OTVZ	**Oturere**	**3.45**	**28**	P		**Pn**	**06 45 05.3**	**+1.3**
TWVZ	**Taurewa**	**3.46**	**25**	P		**Pn**	**06 45 05.4**	**+1.4**
NNVZ	**North Ngauruho**	**3.46**	**27**	P		**Pn**	**06 45 05.6**	**+1.4**
WTVZ	**West Tongariro**	**3.47**	**27**	P		**Pn**	**06 45 05.5**	**+1.3**
KAHZ	**Kahuranaki**	**3.48**	**47**	P		**Pn**	**06 45 02.8**	**-1.5**
ETVZ	**East Tongariro**	**3.49**	**28**	P		**Pn**	**06 45 05.7**	**+1.2**
KRVZ	**Karewarewa**	**3.51**	**27**	P		**Pn**	**06 45 05.9**	**+1.3**
TMVZ	**Te Maari**	**3.51**	**28**	P		**Pn**	**06 45 06.0**	**+1.3**
NTVZ	**North Tongarir**	**3.52**	**27**	P		**Pn**	**06 45 06.2**	**+1.4**
ODZ	**Otahua Downs**	**3.53**	**216**	P		**Pn**	**06 45 03.9**	**-0.9**
ODZ	**Otahua Downs**	**3.53**	**216**	P		**Pn**	**06 45 03.9**	**-0.9**
KWHZ	**Kaweka Forest**	**3.54**	**38**	P		**Pn**	**06 45 04.2**	**-0.9**
BKZ	**Black Stump Fm**	**3.78**	**37**	P		**Pn**	**06 45 09.7**	**+1.3**
HIZ	**Hauiti**	**3.84**	**15**	P		**Pn**	**06 45 11.6**	**+2.4**
HIZ	**Hauiti**	**3.84**	**15**	P		**Pn**	**06 45 11.7**	**+2.5**
JCZ	**Jackson Bay**	**3.96**	**241**	P		**Pn**	**06 45 11.7**	**+0.7**
NMHZ	**Naumai**	**3.98**	**39**	P		**Pn**	**06 45 10.0**	**-1.1**
MRHZ	**Matea Rd**	**4.07**	**39**	P		**Pn**	**06 45 10.3**	**-0.8**
TLZ	**Tolley Road**	**4.18**	**22**	P		**Pn**	**06 45 15.2**	**+1.4**
WKZ	**Wanaka**	**4.21**	**231**	P		**Pn**	**06 45 13.6**	**-0.7**
HHSZ	**Highcliff Hill**	**4.24**	**210**	P		**Pn**	**06 45 14.0**	**-0.6**
PRRZ	**Plateau Road**	**4.30**	**31**	P		**Pn**	**06 45 20.3**	**+4.8**
EAZ	**Earnscleugh**	**4.31**	**225**	P		**Pn**	**06 45 15.0**	**-0.6**
TUZ	**Tuapeka**	**4.68**	**216**	P		**Pn**	**06 45 20.1**	**-0.6**
TOZ	**Tahuroa Road**	**4.74**	**19**	P		**Pn**	**06 45 22.7**	**+1.3**
URZ	**Urewera**	**4.80**	**35**	P		**Pn**	**06 45 22.3**	**0.0**
URZ	**Urewera**	**4.80**	**35**	Pn		Pn	06 45 16.7	-5.6
	0.3nm,0.3s,baz=23,slow=22,SNR=2.1							
URZ				Sn		**Sn**	**06 46 14.4**	**-2.9**
	3.3nm,0.3s,baz=6.5,slow=11,SNR=1.4							
	9.2nm,0.9s							
MLZ	**Mavora Lakes**	**5.05**	**230**	P		**Pn**	**06 45 25.2**	**-0.6**
AWAZ	**Awhitu Peninsu**	**5.23**	**9**	P		**Pn**	**06 45 30.5**	**+2.3**
MKAZ	**Moumakai**	**5.27**	**14**	P		**Pn**	**06 45 30.2**	**+1.4**
RUGZ	**Raukumara Rang**	**5.29**	**38**	P		**Pn**	**06 45 27.7**	**-1.5**
SYZ	**Scrubby Hill**	**5.35**	**215**	P		**Pn**	**06 45 29.6**	**-0.2**
SYZ	**Scrubby Hill**	**5.35**	**215**	P		**Pn**	**06 45 29.7**	**-0.2**
WTAZ	**Waiatarua**	**5.35**	**8**	P		**Pn**	**06 45 32.5**	**+2.5**
ETAZ	**East Tamaki Re**	**5.38**	**11**	P		**Pn**	**06 45 32.5**	**+2.2**
HAZ	**Te Kaha**	**5.51**	**37**	P		**Pn**	**06 45 30.7**	**-1.4**
RVAZ	**Riverhead Bore**	**5.51**	**8**	P		**Pn**	**06 45 35.8**	**+3.6**
PKGZ	**Pakihiroa**	**5.54**	**40**	P		**Pn**	**06 45 31.5**	**-1.1**
WIAZ	**Waiheke Island**	**5.57**	**13**	P		**Pn**	**06 45 31.5**	**+2.2**
KUZ	**Kuaotunu**	**5.73**	**17**	P		**Pn**	**06 45 39.1**	**+4.0**
WCZ	**Waipu Caves**	**6.32**	**6**	P		**Pn**	**06 45 47.3**	**+4.1**
OUZ	**Omahuta**	**7.01**	**0**	P		**Pn**	**06 45 56.3**	**+3.6**
OUZ	**Omahuta**	**7.01**	**0**	P		**Pn**	**06 45 56.4**	**+3.8**
CTZ	**Chatham Island**	**7.33**	**105**	P		**Pn**	**06 45 56.6**	**-0.5**
CTZ	**Chatham Island**	**7.33**	**105**	P		**Pn**	**06 45 56.6**	**-0.5**
ASAR	**Alice Springs**	**37.69**	**287**	P		**P**	**06 51 24.5**	**-0.9**
	0.2nm,0.6s,baz=125,slow=8.0,SNR=4.3							
	0.2nm,0.6s							
WRA	**Warramunga Arr**	**39.82**	**292**	P		**P**	**06 51 42.1**	**-1.0**
	0.4nm,0.9s,baz=129,slow=7.6,SNR=3.3							
	0.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**150.17**	**196**	PKPbc		**PKiKP**	**07 04 03.1**	**+1.4**
	0.5nm,0.9s,baz=183,slow=2.0,SNR=2.2							

CATAC 09 06:55:23.9±0.2,**11.63N**×**86.13W**,**h10**km±2km,**ML4.0,**
Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ADRN	**Diriamba**	**0.25**	**334**	*i* P		Pb	06 55 30.0	-0.6
ADRN				*i* S		Sb	06 55 34.5	-0.6
ADRN				IAML			06 55 36.8	
	comp=Z,60μm,1.0s							
GRNN	**Granada**	**0.34**	**30**	*i* P		Pb	06 55 32.0	-0.1
GRNN				*i* S		Sb	06 55 37.8	+0.2
GRNN				IAML			06 55 41.6	
	comp=Z,15μm,1.0s							
AMYN	**Masaya**	**0.35**	**4**	*i* P		Pb	06 55 32.0	-0.3
AMYN				*i* S		Sb	06 55 37.7	-0.3
AMYN				IAML			06 55 42.6	
	comp=Z,14μm,1.0s							
MASN	**Masaya**	**0.36**	**356**	*i* P		Pb	06 55 31.9	-0.5
MASN				IAML			06 55 45.6	
	comp=Z,4μm,1.0s							
CRUN	**El Crucero**	**0.39**	**334**	*i* P		Pb	06 55 32.9	-0.1
CRUN				IAML			06 55 55.5	
	comp=Z,44nm,1.0s							
MAS3	**Al N del Volca**	**0.40**	**353**	*i* P		Pb	06 55 32.4	-0.7
MAS3				IAML			06 55 42.8	
	comp=Z,8μm,1.0s							
CONN	**Concepcion**	**0.49**	**97**	*i* P		Pb	06 55 34.4	-0.3
CONN				IAML			06 55 50.2	
	comp=Z,65μm,1.0s							
ENAN	**Enatrel Managu**	**0.50**	**345**	*i* P		Pb	06 55 34.6	-0.2
ENAN				IAML			06 55 34.9	
	comp=Z,28μm,1.0s							
ENAN				*i* S		Sb	06 55 41.9	-0.3
OMEN	**Al SSO del Vol**	**0.50**	**104**	*i* P		Pg	06 55 33.5	-0.2
OMEN				IAML			06 55 46.7	
	comp=Z,12μm,1.0s							
AERN	**Aeropuerto Man**	**0.51**	**356**	*i* P		Pb	06 55 35.0	0.0
AERN				IAML			06 55 39.4	
	comp=Z,7μm,1.0s							
ABCN	**Banco Central**	**0.52**	**340**	*i* P		Pb	06 55 35.0	-0.2
ABCN				IAML			06 55 36.7	
	comp=Z,19μm,1.0s							
MGA1	**Managua**	**0.53**	**347**	*i* P		Pb	06 55 35.0	-0.3
MGA1				IAML			06 55 35.4	
	comp=Z,11μm,1.0s							
WILN	**Americas 2**	**0.53**	**354**	*i* P		Pb	06 55 35.0	-0.3
WILN				*i* S		Sb	06 55 43.4	+0.3
WILN				IAML			06 56 21.0	
	comp=Z,4μm,1.0s							
ALLN	**Telcor Managua**	**0.54**	**345**	*i* P		Pb	06 55 35.4	-0.1
ALLN				IAML			06 55 35.6	
	comp=Z,29μm,1.0s							
TIPN	**Tipitapa**	**0.56**	**3**	*i* P		Pb	06 55 35.6	-0.3
TIPN				IAML			06 55 59.5	
	comp=Z,8μm,1.0s							
APQN	**BB Volcan Apoy**	**0.61**	**344**	*i* P		Pg	06 55 36.2	+0.4
APYN	**Apoyeque**	**0.64**	**340**	*i* P		Pg	06 55 36.3	0.0
APYN				IAML			06 55 56.9	
	comp=Z,4μm,1.0s							
HUGN	**San Franciso L**	**0.66**	**355**	*i* P		Pb	06 55 37.2	-0.4
HUGN				IAML			06 56 10.3	
	comp=Z,6μm,1.0s							
AMTN	**Mateare**	**0.67**	**334**	*i* P		Pg	06 55 37.2	+0.2
AMTN				IAML			06 56 04.4	
	comp=Z,15μm,1.0s							
BC86	**Nagarote**	**0.76**	**326**	*i* P		Pb	06 55 39.1	-0.2
BC86				*i* S		Sg	06 55 49.1	+0.5
BC86				IAML			06 56 10.8	
	comp=Z,8μm,1.0s							
BC84	**Volcan Momotom**	**0.86**	**332**	*i* P		Pb	06 55 40.8	-0.2
BC84				*i* S		Sb	06 55 52.4	-0.2
BC84				IAML			06 56 10.3	
	comp=Z,5μm,1.0s							
MOMN	**Momotombo**	**0.87**	**332**	*i* P		Pg	06 55 40.6	-0.2
MOMN				IAML			06 55 41.2	
	comp=Z,180nm,1.0s							
MOMN				*i* S		Sb	06 55 52.6	-0.4
MOM2	**El Cardon**	**0.88**	**337**	*i* P		Pg	06 55 40.6	-0.2
MOM2				IAML			06 55 41.3	
	comp=Z,2μm,1.0s							
MOM2				*i* S		Sb	06 55 52.8	-0.2
BC87	**San Francisco**	**0.89**	**350**	*i* P		Pg	06 55 40.7	-0.3
BC87				IAML			06 55 46.2	
	comp=Z,5μm,1.0s							
LEVN	**Ruinas Leon Vi**	**0.91**	**328**	*i* P		Pg	06 55 41.3	-0.1
LEVN				*i* S		Sb	06

OCHAL				IAML			06 57 45.3	
	comp=Z,14nm,1.0s							
LCR2	La Lucha 2	0.55	19	*e*P		Pg	06 57 34.4	+0.1
LCR2	La Lucha 2	0.55	19	*i* P		Pg	06 57 34.3	0.0
LCR2				IAML			06 57 35.8	
	comp=Z,2µm,1.0s							
LCR2				*i* S		Sg	06 57 41.8	+0.1
ACOS	Acosta	0.57	2	*e*P		Pg	06 57 34.8	+0.1
RIMA	Rio Macho	0.63	30	*e*P		Pg	06 57 35.6	-0.2
RIMA	Rio Macho	0.63	30	*i* P		Pg	06 57 35.6	-0.2
RIMA				IAML			06 57 36.2	
	comp=Z,2µm,1.0s							
RIMA				*i* S		Sg	06 57 44.0	-0.2
JACO	JACO, Garabito	0.64	313	*e*P		Pb	06 57 36.6	+0.4
JACO	JACO, Garabito	0.64	313	*i* P		Pb	06 57 36.5	+0.2
JACO				IAML			06 57 36.9	
	comp=Z,2µm,1.0s							
JACO				*i* S		Sb	06 57 45.9	+0.9
REPA	Paraso	0.68	27	*e*P		Pb	06 57 37.5	+0.5
AMPA	Desamparados	0.68	10	*e*P		Pg	06 57 36.4	-0.4
TAGO	Cartago	0.69	22	*e*P		Pg	06 57 36.9	0.0
OCM	Ochomogo	0.71	18	*e*P		Pg	06 57 36.8	-0.5
OCM	Ochomogo	0.71	18	*i* P		Pg	06 57 36.7	-0.5
OCM				*i* S		Sg	06 57 46.0	-0.6
OCM				IAML			06 57 47.2	
	comp=Z,2µm,1.0s							
LUJA	Lujan	0.71	9	*e*P		Pb	06 57 38.1	+0.5
SJS3	Mercedes San J	0.73	11	*e*P		Pg	06 57 37.5	-0.1
SJS	Escuela Geolog	0.73	10	*e*P		Pg	06 57 37.3	-0.3
TRB2	Turrubares	0.74	340	*e*P		Pg	06 57 37.5	-0.2
BELE	Belen	0.75	0	*e*P		Pb	06 57 38.7	+0.4
DOMI	Santo Domingo	0.76	7	*e*P		Pg	06 57 38.3	0.0
EDPN	Palmar Norte	0.77	109	*e*P		Pg	06 57 38.5	+0.3
CORON	Coronado	0.77	14	*e*P		Pg	06 57 38.4	0.0
HDC	Heredia	0.78	5	*e*P		Pg	06 57 38.3	-0.3
HDC3	Heredia 3	0.78	6	*e*P		Pg	06 57 38.7	+0.1
HDC3	Heredia 3	0.78	6	*i* P		Pg	06 57 38.3	-0.3
HDC3				*i* S		Sg	06 57 48.7	-0.3
HDC3				IAML			06 57 53.1	
	comp=Z,2µm,1.0s							
PCAYA	Pacayas	0.79	28	*e*P		Pb	06 57 39.6	+0.7
VINA	Juan Vinas	0.80	33	*e*P		Pg	06 57 38.6	-0.4
HAYA	Volcan Irazu	0.83	24	*i* P		Pg	06 57 39.1	-0.5
HAYA				*i* S		Sg	06 57 49.8	-0.8
HAYA				IAML			06 57 51.6	
	comp=Z,3µm,1.0s							
ICR3	Volcano Irazu	0.83	25	*e*P		Pg	06 57 39.2	-0.4
VICA	Volcano Irazu	0.83	24	*e*P		Pg	06 57 39.2	-0.4
CVIMO	Finca Echandi	0.84	17	*e*P		Pg	06 57 39.4	-0.3
TURIB	Turrialba	0.84	36	*e*P		Pb	06 57 40.2	+0.4
VERB	Verbena	0.87	34	*e*P		Pg	06 57 39.9	-0.4
VTRT	Volcan Turrial	0.87	27	*e*P		Pg	06 57 39.8	-0.5
SARCI	Sarchi	0.88	350	*e*P		Pb	06 57 40.4	0.0
VTLA	Turrialba Volc	0.88	28	*e*P		Pg	06 57 40.1	-0.4
CVTQ	Turrialba Volc	0.88	28	*e*P		Pg	06 57 40.1	-0.5
VTCV	VTCV, Calle Va	0.89	31	*e*P		Pb	06 57 40.1	-0.5
CVTV	Tajo	0.89	29	*e*P		Pg	06 57 40.4	-0.4
NARAN	Naranjo de Ala	0.89	348	*e*P		Pg	06 57 40.9	+0.1
ARZA	Esparza	0.90	328	*e*P		Pn	06 57 41.7	+0.2
EDBA	Buenos Aires	0.90	93	*e*P		Pb	06 57 41.0	+0.3
RAMO	San Ramon	0.91	342	*e*P		Pb	06 57 40.6	-0.3
SRA1	San Ramn	0.91	342	*e*P		Pb	06 57 40.5	-0.3
RVSTA	Santa Teresita	0.92	35	*e*P		Pb	06 57 40.7	-0.4
VTLO	VTLO	0.94	29	*e*P		Pb	06 57 40.9	-0.6
VPTE	Poasito	0.95	359	*e*P		Pb	06 57 41.5	-0.2
VPTE	Poasito	0.95	359	*i* P		Pb	06 57 41.4	-0.2
VPTE				*i* S		Sb	06 57 53.7	-0.4
CBL1	Cabuya	0.96	292	*e*P		Pb	06 57 41.1	-0.7
VPS6	Volcano Poas	0.97	357	*e*P		Pb	06 57 41.6	-0.4
POA5	Crater Von Fra	0.98	358	*e*P		Pb	06 57 41.7	-0.5
LCOCO	El Coco	1.06	36	*e*P		Pb	06 57 43.0	-0.4
POTG	Potrero Grande	1.07	99	*e*P		Pb	06 57 43.6	0.0
POTG	Potrero Grande	1.07	99	*i* P		Pb	06 57 43.6	0.0
POTG				*i* S		Sg	06 57 58.4	+0.4
POTG				IAML			06 58 00.4	
	comp=Z,1µm,1.0s							
CPMI	Catarata Coope	1.07	350	*e*P		Pb	06 57 43.3	-0.5
CPMI	Catarata Coope	1.07	350	*i* P		Pb	06 57 43.2	-0.6
CPMI				*i* S		Sb	06 57 57.1	-0.6
CPMI				IAML			06 57 58.4	
	comp=Z,2µm,1.0s							
RIFO	Rio Frio, Sara	1.12	13	*e*P		Pb	06 57 44.0	-0.5
RIFO	Rio Frio, Sara	1.12	13	*i* S		Sb	06 57 58.6	-0.3
EDAD	Golfito	1.16	119	*e*P		Pn	06 57 44.5	-0.6
PIRO	Carate, Puerto	1.17	134	*e*P		Pb	06 57 45.7	+0.5
CARI	Cariari	1.22	21	*e*P		Pg	06 57 46.8	-0.1
ITAL	Pital	1.23	356	*e*P		Pn	06 57 45.9	-0.1
SOCE	Pocosol	1.23	340	*e*P		Pn	06 57 46.3	+0.2
SOCE	Pocosol	1.23	340	*i* P		Pn	06 57 46.1	0.0
SOCE				*i* S		Sg	06 58 03.2	0.0
SOCE				IAML			06 58 06.7	
	comp=Z,2µm,1.0s							
SARA	Sarapiqu	1.24	8	*e*P		Pn	06 57 45.7	-0.4
JUNT	Juntas	1.30	324	*e*P		Pn	06 57 46.6	-0.4
JTS	Las Juntas de	1.30	325	*e*P		Pn	06 57 46.5	-0.6
CASO	Castillo	1.32	336	⇑*i*P		Pb	06 57 48.0	+0.1
FORC	Fortuna	1.33	339	⇓*i*P		Pn	06 57 47.8	+0.4
FORC				*e*S		Sn	06 58 05.4	+0.6
VACR	Volcan Arenal	1.34	339	*e*P		Pn	06 57 47.9	+0.4
VACR	Volcan Arenal	1.34	339	*i* P		Pn	06 57 47.8	+0.3
VACR				*i* S		Sb	06 58 05.6	+0.5
VACR				IAML			06 58 08.4	
	comp=Z,1µm,1.0s							
CEDE	Laguna Cedeo	1.36	338	⇑*i*P		Pn	06 57 48.3	+0.4
CEDE				*e*S		Sg	06 58 09.1	+1.8
BRIBI	Bribri	1.38	73	*e*P		Pg	06 57 50.0	+0.1
TABAC	Tabacon	1.39	336	*e*P		Pb	06 57 49.1	-0.1
TABAC				*e*S		Sg	06 58 09.8	+1.4
TRT2	Tortugero	1.40	19	*i* P		Pn	06 57 48.0	-0.4
TRT2				*i* S		Sn	06 58 06.6	0.0
TRT2				IAML			06 58 10.0	
	comp=Z,1µm,1.0s							
INDI	Punta indio, G	1.45	297	*e*P		Pn	06 57 47.4	-1.6
CDITO	Canoas	1.45	116	*i* P		Pn	06 57 48.9	-0.1
CDITO				*i* S		Sg	06 58 10.0	-0.1
CDITO				IAML			06 58 26.3	
	comp=Z,310nm,1.0s							
CMARA	Lajas Hojancha	1.46	303	*e*P		Pn	06 57 47.7	-1.5
COVE	Coope Vega, Sa	1.51	352	*e*P		Pn	06 57 50.0	+0.2
COVE	Coope Vega, Sa	1.51	352	*i* P		Pn	06 57 49.8	0.0
COVE				IAML			06 57 50.8	
	comp=Z,2µm,1.0s							
COVE				*i* S		Sb	06 58 10.0	0.0
COTE	Lago Cote	1.53	332	*e*P		Pn	06 57 50.6	+0.5
COTE				*e*S		Sg	06 58 11.7	-0.9
PLVR	Palo Verde	1.60	314	*e*P		Pn	06 57 51.1	-0.3
JUD3	Juan Diaz 3	1.63	305	*e*P		Pn	06 57 50.8	-0.9
ACAL	Aguas Claras	1.64	329	⇓*i*P		Pn	06 57 52.0	+0.3
ACAL				*e*S		Sb	06 58 13.7	0.0
BAGA	Bagaces	1.68	321	*e*P		Pb	06 57 53.6	-0.4
PTEN	Parque Tenorio	1.68	332	*e*P		Pn	06 57 53.0	+0.7
MOTZ	Rio Naranjo	1.70	329	*e*P		Pn	06 57 52.9	+0.4
MOTZ				*e*S		Sb	06 58 16.8	+1.3
CUI	Cuipilapa	1.72	326	*e*P		Pn	06 57 53.0	+0.2
COLC	Colonia	1.75	325	*e*P		Pn	06 57 53.7	+0.5
COLC				*e*S		Sb	06 58 17.0	0.0
VERA	Finca Concepci	1.76	338	*e*P		Pn	06 57 52.6	-0.7
LIM1	Limonal	1.81	325	*e*P		Pn	06 57 54.5	+0.5
MESS	Mesas	1.81	327	*e*P		Pn	06 57 54.5	+0.5
CANAL	Canalete	1.82	332	*e*P		Pn	06 57 54.4	+0.3
VMAR	Armenia, Volca	1.83	330	*e*P		Pb	06 57 55.9	-0.6
CLARA	Aguas Claras	1.83	328	*e*P		Pb	06 57 56.3	-0.4
LCHIL	Los Chiles	1.88	344	*e*P		Pn	06 57 55.8	+0.8
GP77	Hacienda Santa	1.90	324	*e*P		Pn	06 57 56.4	+1.1
GPS3	Bodega del ICE	1.92	323	*e*P		Pn	06 57 56.9	+1.4
LAPC	Finca la Perla	1.97	322	⇓*i*P		Pn	06 57 57.6	+1.4
BUEV	Buena Vista	1.98	323	*e*P		Pn	06 57 57.6	+1.2
GBS3	Finca Las Img	1.99	321	*e*P		Pn	06 57 57.9	+1.4
GBS3				*e*S		Sb	06 58 23.8	-0.2

*IDC **09** 07:04:56.4±7.5, 37.°18N×135.°47E, h379km±116km, mbtmp3.6/4, Error ellipse: s-maj=85.8km s-min=30.1km az=166.0*
*JMA **09** 07:04:57.9±0.2, 37°N±2°×13°5E±°, h359km, MV2.9/38, NW OFF HOKURIKU DISTRICT*
ISC 09 07:04:56.9±1.4, 37°.3N±0°.1×135°.5E±0°.1, h365km, n10, σ1§09/11, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYTA	Yamagatataniai	1.94	149	P	Pn	07 05 49.4	+0.1
JWT	Wachi	1.99	183	*e*P	Pn	07 05 49.6	-0.1
JNG	Nsakai	2.24	112	*e*P	Pn	07 05 52.5	+1.0
MAT	Matsushiro	2.27	108	*e*P	Pn	07 05 52.4	+0.8
MJAR	Matsushiro Arr	2.27	108	P	Pn	07 05 52.6	+1.0
	16nm,0.6s,baz=285,slow=9.2,SNR=48						
JAG	Ashikaga	3.26	104	*e*P	Pn	07 06 01.0	+1.2
JFK	Kawauchi	4.27	87	*e*P	Pn	07 06 10.6	+1.1
JFK				*e*S	S	07 07 06.3	-1.9
KSRS	Korea Array	6.06	274	P	Pn	07 06 28.7	-0.1
	1.8nm,0.6s,baz=90,slow=12,SNR=5.4						
USRK	Ussuriysk Ar.	7.42	340	P	P	07 06 45.3	-0.2
	1.6nm,0.5s,baz=150,slow=13,SNR=3.1						
ASAJ	Asahikawa	8.69	36	P	Pn	07 06 59.9	+0.6
	5.0nm,0.4s,baz=229,slow=13,SNR=7.6						

*OSPL **09** 07:33:29.6±1.8, 17.°95N×62.°17W, h80km, ML4.6*
*TRN **09** 07:33:31.5, 17.°58N×62.°69W, h171km, MD4.4*
*IDC **09** 07:33:32.6±0.7, 17.°13N×62.°98W, h150km±8km, mb3.3/8, mbtmp3.9/11, Error ellipse: s-maj=18.1km s-min=8.3km az=32.0*
*NEIC **09** 07:33:33.6±1.5, 17.°37N±0.°10×62.°8W±0.°1, h164km±6km, mb4.0/10, Error ellipse: s-maj=18.9km s-min=7.6km az=46.0*
ISC 09 07:33:33.5±0.6, 17°.32N±0°.06×62°.91W±0°.06, h161km±6km, n74, σ1§29/87, mb3.8/13, 2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SABA	Saba	0.44	314		Pn	07 33 56.5	+0.6
SABA	Saba	0.44	314	‖*e*P	Pn	07 33 56.7	+0.8
SMRT	St. Maarten	0.74	348		Pn	07 33 57.4	-0.1
SMRT	St. Maarten	0.74	348	‖*e*P	Pn	07 33 58.1	+0.5
MBFL	Flemmings, Mon	0.88	130	*e*P	Pn	07 33 58.7	+0.3
MBFL				*e*S	Sn	07 34 19.2	+1.7
MLYT	Lee's Yard	0.91	131	*e*P	Pn	07 33 59.7	+1.0
MLYT				*e*S	Sn	07 34 19.1	+1.1
ANBD	Bethesda, Anti	1.13	104	*e*P	Pn	07 34 00.4	0.0
ANBD	Bethesda, Anti	1.13	104	*e*	Pn	07 34 08.7	+8.2
ANBD				*e*S	Sn	07 34 19.8	-1.2
ABD	La Joyeuse, An	1.60	121	Pn	Pn	07 34 04.5	-0.5
ABD	La Joyeuse, An	1.60	121	*i* P	Pn	07 34 04.7	-0.2
ABD				*e*S	Sn	07 34 28.1	-1.1
CBE	Ff, Capester	1.76	135		Pn	07 34 06.6	-0.2
CBE	Ff, Capester	1.76	135	*e*P	Pn	07 34 07.1	+0.3
CBE				*e*S	Sn	07 34 33.2	+0.9
TDBA	Terre de Bas,	1.91	140	*e*P	Pn	07 34 08.6	+0.3
GDSD	La Dsirade Is	2.03	119		Pn	07 34 08.8	-0.9
H05N1	Guadeloupe/Mar	2.04	119	P	Pn	07 34 09.0	-0.8
H05N1				S	Sn	07 34 35.2	-2.5
	SNR=240						
MAGL	Barre de l'ile	2.07	131		Pn	07 34 09.8	-0.4
MAGL	Barre de l'ile	2.07	131	*i* P	Pn	07 34 10.2	0.0
MAGL				*e*S	Sn	07 34 37.7	-0.8
PCM	Pelee Case Pet	2.98	146	*e*P	Pn	07 34 21.1	0.0
BAMF	Morne Balai	3.01	145	*e*P	Pn	07 34 22.0	+0.4
GBMF	Grand Be	3.02	146	*e*P	Pn	07 34 23.6	+1.9
PML	Morne Lenard	3.02	146	*e*P	Pn	07 34 23.6	+2.0
FDF	Fort de France	3.08	146		Pn	07 34 21.8	-0.6
SJG	San Juan	3.19	285		Pn	07 34 23.7	+0.1
SJG	San Juan	3.19	285	*e*P	Pn	07 34 24.2	+0.6
SJG	San Juan	3.19	285	P	Pn	07 34 23.6	0.0
	88nm,0.4s,baz=79,slow=4.8,SNR=52						
SJG				S	Sn	07 35 00.3	-2.3
	35nm,0.4s,baz=268,slow=18,SNR=2.0						
ILAM	Ilet Lapin Mar	3.20	142		Pn	07 34 23.1	-0.7
ZAM	Aeronautique	3.28	146	*e*P	Pn	07 34 25.1	+0.3
BIM	Bigot	3.30	147		Pn	07 34 25.1	-0.1
BIM	Bigot	3.30	147	*e*P	Pn	07 34 25.3	+0.1
BIM				*e*S	Sn	07 35 07.1	+1.8
LPMF	Morne Lapointe	3.31	145	*e*P	Pn	07 34 25.1	-0.1
MVM	Montagne Vaucl	3.36	144	*e*P	Pn	07 34 26.1	+0.2
MPOM	Morne Pois Mar	3.47	145		Pn	07 34 27.1	-0.2
MPOM	Morne Pois Mar	3.47	145	*e*P	Pn	07 34 27.4	+0.1
MPOM				*e*S	Sn	07 35 09.0	-0.2
H05S1	Guadeloupe/Mar	3.50	145	P	Pn	07 34 27.6	0.0
	SNR=50						
H05S1				S	Sn	07 35 09.5	-0.3
SLBI	Saint Lucia, B	3.77	150	*e*P	Pn	07 34 31.0	-0.1
SLBI	Saint Lucia, B	3.77	150	*e*S	Sn	07 35 16.9	+0.9
GCMP	Grenada, Carri	5.01	163	*e*P	Pn	07 34 48.8	+1.5
GRHS	Sauteurs	5.21	166	*e*S	Sn	07 35 49.7	-0.1
BCHC	Barbados, Cave	5.23	142	*e*P	Pn	07 34 50.9	+0.8
BCHC	Barbados, Cave	5.23	142	*e*S	Sn	07 35 49.0	-1.1
BBGH	Gun Hill	5.26	142	*e*P	Pn	07 34 50.9	+0.3
BBGH	Gun Hill	5.26	142	*e*S	Sn	07 35 48.8	-2.2
GRGR	Grenville	5.30	167		Pn	07 34 54.7	+3.6
GRGR	Grenville	5.30	167	*e*P	Pn	07 34 53.1	+2.0
TRN	Trinidad (W)	6.79	167	*e*P	Pn	07 35 12.7	+1.9
PCRV	Puerto La Cruz	7.29	193	P	Pn	07 35 18.3	+0.7
	12nm,0.8s,baz=1.7,slow=12,SNR=2.0						
SC01	Santiago de lo	7.71	287	*i* P	Pn	07 35 22.6	-0.5
SC01				*e*S	Sn	07 36 44.3	-5.1
SDDR	Presa de Saban	8.13	283		Pn	07 35 27.9	-0.8
SDDR	Presa de Saban	8.13	283	*e*P	Pn	07 35 28.5	-0.2
SDDR	Presa de Saban	8.13	283	*i* P	Pn	07 35 28.9	+0.2
SDDR				*e*S	Sn	07 36 57.4	-2.2
SDDR				IAML		07 36 59.8	
	comp=Z,31nm,0.5s						
LOPE2	Hotel El Peder	8.45	276	*i* P	Pn	07 35 33.8	+0.9
PAPH	Port-au-Prince	9.02	279	Pn	Pn	07 35 40.4	0.0
BAUV	El Baul	9.71	212	Pn	Pn	07 35 49.5	0.0
SDV	Santo Domingo	11.26	223	P	Pn	07 36 10.2	+0.2
	comp=Z,5.3nm,1.0s,baz=71,slow=16,SNR=3.1						
BOAV	Boa Vista	15.01	171	Pn	Pn	07 36 56.2	-1.5
BOAV				IAmb	IAmb	07 37 14.6	
	comp=Z,7.1nm,1.3s						
MDP	Montagnes des	15.77	139	P	Pn	07 37 05.9	-1.0
	comp=Z,5.4nm,0.5s,baz=325,slow=16,SNR=10						
ROSC	El Rosal	16.69	223	P	P	07 37 17.3	-0.8
	comp=Z,7.1nm,0.5s,baz=82,slow=21,SNR=3.4						
BCIP	Isla Barro Col	18.35	246	P	P	07 37 36.1	+0.3
LCR2	La Lucha 2	21.83	253	P	P	07 38 15.6	+2.1
LCR2				IAmb	IAmb	07 38 31.0	
	comp=Z,14nm,1.3s						
OTAV	Otavalo	22.85	224	P	P	07 38 24.2	+0.6
KMSC	Kings Mountain	24.18	321	P	P	07 38 34.1	-0.9
KMSC				pP	pwP	07 39 09.1	+2.5
CHSH	Refugio Sur-Vo	24.43	222	P	P	07 38 39.1	+1.1
CHSH				IAmb	IAmb	07 38 41.1	
	comp=Z,6.4nm,0.7s						
SAML	Samuel	26.10	181	P	P	07 38 52.5	0.0
SAML				IAmb	IAmb	07 38 54.8	
	comp=Z,3.7nm,1.4s						
ETMB	Extrema	27.16	187	P	P	07 39 00.5	-1.4
ETMB				IAmb	IAmb	07 39 01.6	
	comp=Z,2.6nm,1.2s						
MCRA	Macar, Loja	27.34	220	P	P	07 39 03.3	-0.4
PLAL	Pickwick Lake	28.50	313	P	P	07 39 15.1	+1.4
PLAL				IAmb	IAmb	07 39 52.4	
	comp=Z,3.9nm,1.1s						
SIV	San Ignacio	33.15	177	P	P	07 39 53.6	-1.1
	comp=Z,1.1nm,0.5s,baz=2.8,slow=8.2,SNR=11						
	comp=Z,1.1nm,0.5s						
TXAR	Lajitas Array	39.10	295	P	P	07 40 45.7	+0.3
	comp=Z,0.1nm,0.6s,baz=95,slow=10.0,SNR=2.6						
	comp=Z,0.1nm,0.6s						
LVC	Limon Verde	40.11	189	P	P	07 40 51.3	-2.6
	comp=Z,1.9nm,0.5s,baz=341,slow=9.4,SNR=1.9						
	comp=Z,1.9nm,0.5s						
ULM	Lac du Bonnet	42.15	329	P	P	07 41 10.6	+0.6
	comp=Z,1.2nm,0.3s,baz=127,slow=9.2,SNR=5.1						
	comp=Z,1.2nm,0.3s						
CPUP	Villa Florida	43.72	173	P	P	07 41 20.8	-2.0
	comp=Z,7.nm,0.4s,baz=2.5,slow=6.5,SNR=5.5						
	comp=Z,0.7nm,0.4s						
PDAR	Pinedale Array	46.92	313	P	P	07 41 49.3	+1.2
	comp=Z,0.4nm,0.4s,baz=123,slow=10.0,SNR=8.0						
	comp=Z,0.4nm,0.4s						
YKA	Yellowknife Ar	57.52	334	P	P	07 43 06.7	+1.0
	comp=Z,0.3nm,0.5s,baz=131,slow=9.1,SNR=10						
	comp=Z,0.3nm,0.5s						
ILAR	Eielson Array	71.92	333	P	P	07 44 40.2	+1.3
	comp=Z,0.1nm,0.4s,baz=89,slow=4.6,SNR=7.1						
	comp=Z,0.1nm,0.4s						

*IDC **09** 07:39:13.7±3.4, 10.°90N×124.°79E, h57km±33km, mb3.9/15, mbtmp4.2/16, ML4.7/1, MS3.7/35, Error ellipse: s-maj=32.9km s-min=12.1km az=71.0*
*DJA **09** 07:39:13.3±1.0, 11.°N±7.°×12.°5E±°, h54km±7km, M5.0/17, mB5.6/2, mb4.7/17, MLv5.2/2, Mw(mB)5.1/2*
*NEIC **09** 07:39:13.6±1.5, 10.°93N±0.°08×125.°0E±0.°1, h51km±8km, mb4.7/22, Error ellipse: s-maj=17.2km s-min=11.3km az=78.0*
ISC 09 07:39:13.8±0.6, 10°.84N±0°.05×124°.89E±0°.09, h57km±4km, h57km:pP-P, n103, σ1§90/92, mb4.5/35, MS3.8/38, 2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.81	170	Pn	Pn	07 40 11.4	+1.3
DAV	Davao City (W)	3.81	170	P	Pn	07 40 12.0	+2.0
	54nm,0.3s,baz=321,slow=6.5,SNR=8.3						
	231nm,0.4s						
MYLDM	Lahad Datu	8.46	229	Pn	Pn	07 41 16.4	+2.6
TNTI	Ternate	10.30	166		Pn	07 41 39.7	+0.7
TNTI	Ternate	10.30	166	P	Pn	07 41 39.5	+0.5
	71nm,1.0s						
GTOI	Gorontalo	10.31	191	P	Pn	07 41 38.9	-0.2
	14nm,1.2s						
LUWI	Luwuk	11.99	190	Pn	Pn	07 42 05.1	+3.0
SSLB	Suanglung	13.41	344	Pn	Pn	07 42 20.0	-1.4
NACB	Ninganchiao	13.62	347	Pn	Pn	07 42 24.0	-0.3
YOJ	Yonaguni jima	13.66	353	Pn	Pn	07 42 23.2	-1.6
SBUM	Sibu	15.09	237		P	07 42 48.4	+0.7
SBUM				IAmb	IAmb	07 42 51.6	
	comp=Z,22nm,1.1s						
JOW	Kunigami	16.22	11	LR	LR	07 48 14.9	
	comp=Z,175nm,20.4s,baz=156,slow=33						
KAPI	Kappang	16.56	198	LR	LR	07 50 55.7	
	comp=Z,111nm,18.7s,baz=18,slow=42						
QIZ	Qiongzhong	16.65	301	P	Pn	07 43 03.0	-0.5
QIZ				S	Sn	07 46 08.3	+0.6
QIZ				LR	LR		
	comp=N,160nm,7.6s						
QIZ				LR	LR		
	comp=E,370nm,8.0s						
QIZ				LR	LR		
	comp=Z,300nm,7.8s						
SMPI	Sarmi	18.75	132	P	Pn	07 43 29.5	+0.2
	comp=Z,41nm,1.6s						
GUMO	Guam	19.72	80	LR	LR	07 49 30.8	
	comp=Z,146nm,20.5s,baz=224,slow=31						
SAUI	Saumlaki	19.76	161	P	P	07 43 40.1	+0.8
BATI	Baumata	20.95	183	LR	LR	07 54 57.1	
	comp=Z,153nm,18.2s,baz=3.5,slow=45						
NJ2	Nanjing	21.83	346	*e*P	P	07 44 02.9	+1.5
NJ2				pP	pP	07 44 13.2	-1.0
NJ2				sP	sP	07 44 20.4	-1.0
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,180nm,7.6s						
JNU	Nakatsue	22.85	13	LR	LR	07 52 26.4	
	comp=Z,72nm,21.9s,baz=180,slow=35						
MTN	Manton Dam	24.34	165	P	P	07 44 26.3	-0.2
MTN				IAmb	IAmb	07 44 38.4	
	comp=Z,32nm,1.2s						
LEM	Lembang	24.57	225	LR	LR	07 55 19.3	
	comp=Z,148nm,18.5s,baz=226,slow=39						
CMAR	Chiang Mai Arr	26.19	290	P	P	07 44 42.6	-0.8
CMAR	Chiang Mai Arr	26.19	290	P	P	07 44 42.2	-1.2
	comp=Z,1.2nm,0.3s,baz=98,slow=6.8,SNR=5.4						
CMAR				LR	LR	07 56 20.4	
	comp=Z,67nm,19.3s,baz=100,slow=39						
	comp=Z,1.2nm,0.3s						
KNRA	Kununurra	26.63	172	P	P	07 44 47.0	-0.2
KNRA				IAmb	IAmb	07 44 54.4	
	comp=Z,36nm,1.4s						
KSRS	Korea Array	26.64	5	P	P	07 44 45.7	-1.4
	comp=Z,2.0nm,0.7s,baz=180,slow=10.0,SNR=5.6						
KSRS				LR	LR	07 54 10.9	
	comp=Z,104nm,21.6s,baz=190,slow=34						
	comp=Z,2.0nm,0.7s						
PZH	PanZhiHua	26.82	309	P	P	07 44 50.3	+1.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,130nm,5.3s						

comp=E,270nm,17.4s
GTA LR LR
comp=Z,390nm,16.7s
ASAJ Asahikawa 36.52 22 LR LR 08 01 56.4
comp=Z,49nm,19.2s,baz=176,slow=37
KLR Kul'dur 38.69 7 P **P 07 46 32.9 +0.8**
comp=Z,1.3nm,0.8s,baz=205,slow=12,SNR=3.1
KLR LR LR 08 05 28.9
comp=Z,91nm,18.1s,baz=196,slow=41
comp=Z,1.3nm,0.8s
JIRN Jiri 39.97 300 *e*P **P 07 46 42.8 -0.7**
comp=Z,52nm,1.2s
HNR Honiara 40.27 119 LR LR 08 01 24.2
comp=Z,464nm,21.1s,baz=323,slow=33
GUN Gumba 40.31 301 *e*P **P 07 46 45.3 -0.9**
comp=Z,24nm,0.9s
PKI Pulchoki 40.61 300 *e*P **P 07 46 48.4 -0.3**
comp=Z,11nm,0.7s
FORT Forrest 41.49 176 P **P 07 46 55.5 0.0**
DANN Dangsing 42.23 300 *e*P **P 07 47 01.7 -0.2**
comp=Z,29nm,1.0s
PYUN Piuthan 42.81 300 *e*P **P 07 47 06.9 +0.3**
comp=Z,36nm,0.9s
PALK Pallekele 43.75 269 LR LR 08 05 04.5
comp=Z,69nm,21.5s,baz=187,slow=36
NWAO Narrogin (SRO) 44.13 189 LR LR 08 08 56.2
comp=Z,33nm,19.4s,baz=222,slow=40
BBOO Buckleboo 44.70 167 P **P 07 47 21.8 +0.4**
BBOO IAmb IAmb 07 47 22.7
comp=Z,15nm,0.9s
STKA Stephens Creek 45.39 160 P **P 07 47 27.2 +0.3**
STKA Stephens Creek 45.39 160 P **P 07 47 27.4 +0.5**
comp=Z,4.5nm,0.8s,baz=344,slow=8.3,SNR=8.1
comp=Z,4.5nm,0.8s
WMQ Urumqi 45.94 322 *e*P **P 07 47 33.0 +1.8**
WMQ LR LR
comp=N,440nm,21.1s
WMQ LR LR
comp=Z,240nm,23.1s
MK31 Makanchi Array 50.75 323 P **P 07 48 07.3 -0.9**
MK31 IAmb IAmb 07 48 24.2
comp=Z,18nm,1.4s
MKAR Makanchi Array 50.75 323 P **P 07 48 07.0 -1.1**
MKAR Makanchi Array 50.75 323 P **P 07 48 07.8 -0.3**
comp=Z,2.4nm,0.7s,baz=130,slow=8.1,SNR=8.0
comp=Z,2.4nm,0.7s
DZM Mont Dzumac 52.26 129 *e*LR LR 08 03 15.4
comp=Z,66nm,26.6s
DZM Mont Dzumac 52.26 129 LR LR 08 13 29.4
comp=Z,23nm,18.1s,baz=215,slow=39
ZALV Zalesovo Beam 53.48 332 P **P 07 48 26.5 -1.7**
comp=Z,0.8nm,0.5s,baz=134,slow=8.5,SNR=5.4
ZALV LR LR 08 11 50.9
comp=Z,110nm,19.4s,baz=105,slow=37
comp=Z,0.8nm,0.5s
AAK Ala-Archa 53.97 315 LR LR 08 14 13.3
comp=Z,97nm,19.3s,baz=96,slow=39
KURK Kurchatov 54.83 326 **P 07 48 37.3 -0.8**
KURBB Kurchatov Arra 54.83 326 P **P 07 48 37.5 -0.6**
comp=Z,4.7nm,0.9s,baz=125,slow=6.9,SNR=17
comp=Z,4.7nm,0.9s
GAR Garm 55.88 310 P **P 07 48 46.4 +0.3**
KKAR Karatay Array 56.88 315 **P 07 48 54.6 +1.6**
BVAR Borovoye Array 60.43 326 P **P 07 49 16.8 -0.6**
comp=Z,3.7nm,0.9s,baz=111,slow=8.4,SNR=8.9
BVAR LR LR 08 16 17.9
comp=Z,55nm,19.1s,baz=115,slow=37
comp=Z,3.7nm,0.9s
BRVK Borovoye 60.50 326 **P 07 49 17.2 -0.7**
BRVK IAmb IAmb 07 49 18.7
comp=Z,8.4nm,1.1s
GEYT Alibeck 65.11 307 LR LR 08 20 53.3
comp=Z,73nm,19.0s,baz=48,slow=38
ABKAR Akbulak array 65.56 319 **P 07 49 51.0 -0.5**
AKTO Aktyubinsk 67.02 320 P **P 07 49 59.4 -1.5**
comp=Z,2.5nm,1.0s,baz=84,slow=7.4,SNR=3.5
AKTO LR LR 08 20 26.3
comp=Z,114nm,18.1s,baz=243,slow=37
comp=Z,2.5nm,1.0s
ARU Arti 68.00 327 LR LR 08 22 36.4
comp=Z,116nm,18.3s,baz=117,slow=38
KIRV Kirov 73.24 328 LR LR 08 24 26.0
comp=Z,114nm,18.2s,baz=100,slow=37
C19K Lookout Ridge 74.78 21 P **P 07 50 48.8 +1.1**
C19K IAmb IAmb 07 51 00.5
comp=Z,12nm,1.4s
BPAW Bear Paw Mtn. 77.76 27 P **P 07 51 03.2 -1.4**
BPAW IAmb IAmb 07 51 28.9
comp=Z,17nm,1.4s
C23K Itkillik River 78.00 21 P **P 07 51 04.9 -0.9**
C23K IAmb IAmb 07 51 10.5
comp=Z,6.6nm,1.2s
KLMR Klimovskoe 78.36 330 *e*P **P 07 51 08.8 +0.9**
KLMR AMP 07 51 20.3
comp=Z,22nm,1.6s
F24K Squaw Lake 79.00 23 P **P 07 51 11.3 -0.1**
D25K Kavik River 79.49 21 P **P 07 51 13.3 -0.8**
ILAR Eielson Array 79.52 26 LR LR 08 26 43.0
comp=Z,23nm,20.0s,baz=330,slow=36
BMAR Burnt Mountain 80.28 23 P **P 07 51 18.4 +0.1**
RIDG Independent Ri 80.48 27 P **P 07 51 20.0 +0.5**
RIDG IAmb IAmb 07 51 37.9
comp=Z,11nm,1.4s
RAR Rarotonga 80.52 114 LR LR 08 20 14.9
comp=Z,62nm,20.3s,baz=176,slow=39
ARCES ARCESS Array B 83.19 340 P **P 07 51 32.4 -1.1**
comp=Z,8.9nm,1.1s,baz=90,slow=6.8,SNR=5.9
ARCES LR LR 08 30 26.3
comp=Z,84nm,19.0s,baz=236,slow=37
comp=Z,8.9nm,1.1s
MMAI Mount Meron Ar 83.75 302 LR LR 08 31 55.5
comp=Z,20nm,19.1s,baz=13,slow=38
EIL Elat 84.66 299 LR LR 08 34 08.5
comp=Z,22nm,18.5s,baz=271,slow=39
FINES FINESS Array B 84.74 332 LR LR 08 35 31.0
comp=Z,177nm,19.1s,baz=225,slow=40
AKASG Malin Array Be 85.26 321 P **P 07 51 44.1 -0.3**
comp=Z,0.3nm,0.5s,baz=71,slow=3.9,SNR=2.7
comp=Z,0.3nm,0.5s
MNK Minsk 85.30 324 *i* P **P 07 51 41.3 -3.2**
comp=E,6.0nm,0.8s
MNK *i* P **P 07 51 41.3 -3.2**
comp=N,13nm,0.8s
MNK *i* P **P 07 51 41.3 -3.2**
comp=Z,10.0nm,0.9s,baz=258
MNK *i* pP **pP 07 51 55.9 -5.0**
MNK *i* PP **PP 07 54 59.2 -3.5**
MNK *i* PPP PPP 07 56 52.4
MNK *i* S **SKSac 08 02 00.9 -3.7**
MNK *i* sS **pS 08 02 26.9 -4.3**
MNK *i* SS **SS 08 07 44.2 -1.4**
MNK *i* SSS SSS 08 11 15.4
MNK *i* LQ LQ 08 25 42.0
MNK *i* LR LR 08 31 13.9
MNK *i* LRM MLR 08 32 16.9
comp=E,73nm,13.2s
MNK *i* LRM MLR 08 32 17.1
comp=Z,70nm,7.8s
MNK *i* LRM MLR 08 32 22.9
comp=N,79nm,9.0s
KMBO Kilima Mbogo 87.89 268 LR LR 08 27 13.6
comp=N,25nm,19.0s,baz=89,slow=33
PPT2 Papeete2 89.04 108 *e*LR LR 08 20 31.5
comp=N,32nm,24.5s
TBI Tubuai 90.30 114 *e*LR LR 08 21 05.4
comp=N,238nm,25.8s
VNDA Vanda 90.67 172 P **P 07 52 10.8 +1.2**
VNDA IAmb IAmb 07 52 11.5
comp=Z,4.9nm,1.1s
VNDA Vanda 90.67 172 P **P 07 52 09.8 +0.2**
comp=Z,3.4nm,1.0s,baz=304,slow=5.1,SNR=13
VNDA LR LR 08 34 38.8
comp=Z,22nm,18.9s,baz=310,slow=37
comp=Z,3.4nm,1.0s
HFS Hagfors 90.91 332 LR LR 08 38 44.2
comp=Z,118nm,19.7s,baz=306,slow=39
NOA NORSAR Array B 91.64 334 LR LR 08 35 39.2
comp=Z,96nm,18.0s,baz=285,slow=37
IDI Anoyia 91.84 306 LR LR 08 37 43.9
comp=Z,29nm,18.3s,baz=48,slow=38
VRAC Vranov 93.47 321 LR LR 08 39 25.1
comp=Z,106nm,18.1s,baz=65,slow=39
TAOE Nuku Hiva Isla 96.47 98 *e*LR LR 08 23 52.3
comp=Z,83nm,26.0s

*IDC **09** 07:42:56.8±1.2,30°.51N×57°.32E,h0km,mb3.9/9,*

mbtmp3.8/11,ML3.3/2,MS2.8/1, Error ellipse:
s-maj=26.4km s-min=20.3km az=130.0
*TEH **09** 07:42:59.3,30°.78N×57°.40E,h8km±46km,ML4.2*
ISC 09 07:43:00.7±0.6,**30°.73N**±0°.03×**57°.37E**±0°.04,**h15**km,**n49,**
σ1§47/52,mb3.8/9,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
ZRDN	**Zarand Kerman**	**0.76**	**289**	Pg	**Pg**	**07 43 13.9**	**-1.5**
ZRDN				Sg	**Sg**	**07 43 25.7**	**+0.3**
KHGB	**Koh Gabri**	**0.84**	**246**	Pg	**Pg**	**07 43 15.8**	**-1.3**
CHMN	**Cheshme madani**	**0.88**	**170**	Pg	**Pg**	**07 43 16.8**	**-1.0**
TVBK	**TV Kerman**	**0.91**	**216**	Pg	**Pg**	**07 43 17.8**	**-0.6**
NGRK	**Negar Kerman**	**1.21**	**207**	Pg	**Pn**	**07 43 23.4**	**0.0**
NGRK				Sg	**Sg**	**07 43 40.7**	**+0.7**
IBAF	**Bafgh**	**1.77**	**300**	Pg	**Pn**	**07 43 32.0**	**+1.1**
KBAM	**BAM**	**1.84**	**149**	Pn	**Pn**	**07 43 32.8**	**+0.9**
BSRN	**Basiran**	**1.94**	**50**	Pn	**Pn**	**07 43 33.3**	**0.0**
IKOO	**Kooshah**	**2.19**	**39**	Pn	**Pn**	**07 43 37.3**	**+0.4**
TPRV	**Parvadeh(Tabas**	**2.37**	**346**	Pn	**Pn**	**07 43 39.8**	**+0.7**
NHDN	**Nehbandan**	**2.40**	**73**	Pn	**Pn**	**07 43 40.9**	**+1.4**
IMEH	**Mehriz**	**2.46**	**286**	Pn	**Pn**	**07 43 41.8**	**+1.4**
ITEG	**Tejag**	**2.46**	**28**	Pn	**Pn**	**07 43 40.4**	**-0.1**
KHNJ	**Kahnooj**	**2.79**	**174**	Pn	**Pn**	**07 43 47.2**	**+2.5**
TKDS	**Koohdasht(Taba**	**2.88**	**356**	Pn	**Pn**	**07 43 46.1**	**-0.1**
IDAH	**Dahanechah**	**2.92**	**46**	Pn	**Pn**	**07 43 48.2**	**+1.3**
ICHK	**Chekchek**	**2.95**	**302**	Pn	**Pn**	**07 43 48.7**	**+1.5**
AFRZ	**Afriz**	**3.03**	**27**	Pn	**Pn**	**07 43 48.9**	**+0.6**
ZHDN	**Zahedan**	**3.26**	**113**	Pn	**Pn**	**07 43 53.2**	**+1.7**
TNSJ	**Nastanj**	**3.29**	**349**	Pn	**Pn**	**07 43 52.2**	**+0.4**
ISAD	**Sadrabad**	**3.37**	**292**	Pn	**Pn**	**07 43 54.5**	**+1.5**
GENO	**Geno**	**3.48**	**198**	Pn	**Pn**	**07 43 57.4**	**+3.0**
ANAR	**Anarak**	**3.95**	**309**	Pn	**Pn**	**07 44 02.1**	**+1.2**
IRAM	**Ramesheh**	**4.40**	**285**	Pn	**Pn**	**07 44 08.9**	**+1.7**
IZEF	**Zefreh**	**4.80**	**298**	Pn	**Pn**	**07 44 14.4**	**+1.7**
JASK	**Jask - Hormozg**	**4.86**	**175**	Pn	**Pn**	**07 44 15.8**	**+2.5**
KLNJ	**Kolanjah**	**4.97**	**275**	Pn	**Pn**	**07 44 17.5**	**+2.4**
SRVN	**Saravan**	**5.51**	**126**	Pn	**Pn**	**07 44 25.2**	**+2.9**
IMOG	**Moghan**	**5.61**	**17**	Pn	**Pn**	**07 44 24.7**	**+0.9**
ISFB	**Sefidab**	**5.64**	**311**	Pn	**Pn**	**07 44 25.1**	**+1.1**
SBZV	**Sabzevar**	**5.65**	**2**	Pn	**Pn**	**07 44 24.7**	**+0.4**
JRKH	**Jarkhoshk**	**5.74**	**25**	Pn	**Pn**	**07 44 26.4**	**+1.0**
IPAY	**Payeh**	**5.87**	**13**	Pn	**Pn**	**07 44 28.6**	**+1.2**
IFIR	**Firoozkooh**	**6.24**	**323**	Pn	**Pn**	**07 44 33.2**	**+0.7**
IDMV	**Damavand**	**6.59**	**319**	Pn	**Pn**	**07 44 38.5**	**+1.2**
MRVT	**Maraveh tapeh**	**7.00**	**352**	Pn	**Pn**	**07 44 42.7**	**0.0**
GEYT	**Alibeck**	**7.21**	**5**	Pn	**Pn**	**07 44 46.5**	**+0.9**
	0.3nm,0.3s,baz=200,slow=17,SNR=2.1						
GEYT				Sn	**Sn**	**07 46 11.7**	**+4.5**
	0.1nm,0.3s,baz=140,slow=51,SNR=1.5						
GEYT				Lg	Lg	07 46 50.3	
	0.3nm,0.3s,baz=196,slow=42,SNR=1.9						
	1.0nm,0.3s						
WSAR	**Wadi Sarin**	**7.54**	**171**	Pn	**Pn**	**07 44 51.1**	**+1.0**
	1.2nm,0.3s,baz=19,slow=10,SNR=3.4						
WSAR				Sn	**Sn**	**07 46 15.7**	**+0.3**
	baz=229,slow=4.8						
EIL	**Elat**	**19.40**	**273**	LR	LR	07 56 08.2	
	comp=Z,26nm,18.3s,baz=100,slow=41						
AKTO	**Aktyubinsk**	**19.69**	**1**	P	**P**	**07 47 29.9**	**+0.6**
	0.2nm,0.3s,baz=193,slow=9.1,SNR=3.1						
	1.2nm,0.6s						
BRTR	**Keskin Array B**	**21.31**	**301**	P	**P**	**07 47 47.5**	**+0.4**
	1.6nm,0.9s,baz=108,slow=12,SNR=6.1						
	1.6nm,0.9s						
BVAR	**Borovoye Array**	**24.22**	**19**	P	**P**	**07 48 17.1**	**+0.5**
	1.2nm,0.6s,baz=198,slow=8.0,SNR=5.3						
	1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**25.39**	**32**	P	**P**	**07 48 27.9**	**+0.7**
	1.0nm,0.6s,baz=230,slow=8.9,SNR=7.0						
	1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**30.48**	**32**	P	**P**	**07 49 13.4**	**+0.6**
	1.9nm,0.5s,baz=239,slow=9.8,SNR=9.3						
	1.9nm,0.5s						
FINES	**FINESS Array B**	**36.92**	**335**	P	**P**	**07 50 08.9**	**+0.2**
	8.0nm,1.1s,baz=122,slow=6.9,SNR=5.0						
	8.0nm,1.1s						
GERES	**GERESS Array B**	**37.52**	**311**	P	**P**	**07 50 13.5**	**-0.5**
	1.5nm,0.8s,baz=123,slow=7.1,SNR=2.7						
	1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**53.99**	**264**	P	**P**	**07 52 21.7**	**-2.7**
	1.8nm,0.7s,baz=52,slow=8.0,SNR=13						
	1.8nm,0.7s						
YKA	**Yellowknife Ar**	**86.88**	**356**	P	**P**	**07 55 43.8**	**-0.6**
	0.3nm,1.0s,baz=346,slow=4.4,SNR=3.7						
	0.3nm,1.0s						
WRA	**Warramunga Arr**	**89.41**	**114**	P	**P**	**07 55 55.5**	**-1.7**
	0.4nm,0.7s,baz=316,slow=4.1,SNR=6.0						
	0.4nm,0.7s						

*ANF **09** 07:45:30.9±0.1,62°.13N×141°.60W,h2km±1km,ML3.5/56,*
Error ellipse: s-maj=0.8km s-min=0.7km az=35.0
*AEIC **09** 07:45:30.8±2.6,62°.15N±0°.02×141°.56W±0°.04,h14km±3km,*
ML2.9,ML3.2(OTT),ML3.1/84(NEIC),Error ellipse:
s-maj=3.1km s-min=1.9km az=65.0
*PGC **09** 07:45:32.1±0.0,62°.16N×141°.55W,h4km,ML2.8,ML3.2/31,*
237km southwest of Dawson, Yt Central Alaska
*NEIC **09** 07:45:32.1±2.4,62°.16N±0°.01×141°.61W±0°.03,h10km±1km,*
Error ellipse: s-maj=2.7km s-min=2.3km az=296.0
ISC 09 07:45:31.5±1.0,**62°.15N**±0°.01×**141°.57W**±0°.01,**h6**km±9km,
n279,σ1§03/364,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
M27K	**Edge Creek, AK**	**0.25**	**325**		**Pg**	**07 45 36.2**	**-0.3**
M27K				IAML		07 45 40.9	
	comp=E,3µm,0.4s						
M27K	**Edge Creek, AK**	**0.25**	**325**	P	**Pg**	**07 45 36.5**	**0.0**
	baz=145,SNR=1000						
M27K				S	**Sg**	**07 45 40.0**	**+0.1**
	baz=145						
M27K	**Edge Creek, AK**	**0.25**	**325**	P	**Pg**	**07 45 36.5**	**0.0**
M27K				S	**Sg**	**07 45 39.9**	**+0.1**
BVCY	**Beaver Creek**	**0.42**	**51**		**Pg**	**07 45 39.7**	**0.0**
BVCY					**Sg**	**07 45 45.3**	**+0.2**
BVCY	**Beaver Creek**	**0.42**	**51**		**Pg**	**07 45 39.7**	**0.0**
BVCY					**Sg**	**07 45 45.4**	**+0.2**
BVCY	**Beaver Creek**	**0.42**	**51**	P	**Pg**	**07 45 39.7**	**0.0**
	baz=230,SNR=1000						
BVCY				S	**Sg**	**07 45 45.4**	**+0.2**
	baz=230						
BVCY	**Beaver Creek**	**0.42**	**51**	P	**Pg**	**07 45 39.7**	**0.0**
BVCY				S	**Sg**	**07 45 45.4**	**+0.2**
YUK2	**White River**	**0.50**	**137**		**Pg**	**07 45 41.0**	**-0.1**
YUK2					**Sg**	**07 45 48.0**	**+0.3**
YUK2	**White River**	**0.50**	**137**		**Pg**	**07 45 41.0**	**-0.1**
YUK2					**Sg**	**07 45 48.0**	**+0.3**
YUK2	**White River**	**0.50**	**137**	P	**Pg**	**07 45 41.0**	**-0.1**
YUK2				S	**Sg**	**07 45 48.0**	**+0.3**
YUK3	**Moose Creek**	**0.65**	**125**		**Pg**	**07 45 43.4**	**-0.5**
YUK3					**Sg**	**07 45 52.0**	**-0.2**
YUK3	**Moose Creek**	**0.65**	**125**		**Pg**	**07 45 43.4**	**-0.5**
YUK3					**Sg**	**07 45 52.1**	**-0.2**
YUK3	**Moose Creek**	**0.65**	**125**	P	**Pg**	**07 45 43.4**	**-0.5**
	baz=306,SNR=1000						
YUK3				S	**Sg**	**07 45 52.4**	**+0.1**
	baz=306						
YUK3	**Moose Creek**	**0.65**	**125**	P	**Pg**	**07 45 43.4**	**-0.5**
YUK3				S	**Sg**	**07 45 52.1**	**-0.2**
M26K	**Nabesna, AK**	**0.71**	**291**		**Pg**	**07 45 44.8**	**-0.4**
M26K					**Sg**	**07 45 55.0**	**+0.6**
M26K	**Nabesna, AK**	**0.71**	**291**	P	**Pg**	**07 45 44.6**	**-0.5**
	baz=110						
M26K				S	**Sg**	**07 45 54.1**	**-0.4**
	baz=110						
L27K	**Beaver Creek,**	**0.92**	**353**		**Pg**	**07 45 48.6**	**-0.5**
L27K				IAML		07 46 03.6	
	comp=E,481nm,0.7s						
L27K	**Beaver Creek,**	**0.92**	**353**	P	**Pg**	**07 45 48.8**	**-0.4**
	baz=172						
L27K				Sb	**Sn**	**07 46 03.5**	**-1.2**
	baz=172						
L27K	**Beaver Creek,**	**0.92**	**353**	P	**Pg**	**07 45 48.9**	**-0.4**
BCAR	**Beaver Creek A**	**0.92**	**354**		**Pg**	**07 45 48.5**	**-0.7**
MCARA	**McCarthy VSAT**	**1.04**	**223**		**Pg**	**07 45 50.8**	**-0.5**
MCARA	**McCarthy VSAT**	**1.04**	**223**		**Sg**	**07 46 05.5**	**+0.8**
MCARA	**McCarthy VSAT**	**1.04**	**223**	IAML		07 46 06.2	
	comp=N,497nm,0.5s						
MCARA				IAML		07 46 07.5	
	comp=E,473nm,0.4s						
MCARA	**McCarthy VSAT**	**1.04**	**223**	P	**Pg**	**07 45 50.9**	**-0.5**
	baz=42						
MCARA				Sb	**Sg**	**07 46 05.5**	**+0.8**
PTPK	**Patty Peak**	**1.06**	**204**		**Pg**	**07 45 51.6**	**-0.2**
PTPK					**Sg**	**07 46 05.7**	**+0.3**
PTPK	**Patty Peak**	**1.06**	**204**	P	**Pg**	**07 45 51.6**	**-0.2**
PTPK				S	**Sg**	**07 46 05.7**	**+0.3**
BARN	**Barnard Glacie**	**1.10**	**182**		**Pg**	**07 45 52.1**	**-0.4**
BARN				IAML		07 46 10.1	
	comp=N,289nm,0.6s						
BARN	**Barnard Glacie**	**1.10**	**182**		**Sg**	**07 46 06.8**	**+0.1**
CTG	**Chitna Glacier**	**1.20**	**175**	P	**Pb**	**07 45 53.5**	**-1.1**
	baz=355,SNR=264						
CTG				S	**Sb**	**07 46 09.9**	**-0.5**
	baz=355						
CTGM	**Chitina Glacie**	**1.20**	**175**	Pn	**Pb**	**07 45 53.3**	**-1.3**
CTGM	**Chitina Glacie**	**1.20**	**175**		**Sb**	**07 46 09.9**	**-0.5**
CTGM	**Chitina Glacie**	**1.20**	**175**	IAML		07 46 12.4	
	comp=N,185nm,0.7s						
CTGM				IAML		07 46 15.3	
	comp=E,414nm,0.5s						
CTGM	**Chitina Glacie**	**1.20**	**175**	P	**Pb**	**07 45 53.5**	**-1.1**
CTGM				S	**Sb**	**07 46 09.9**	**-0.5**
L26K	**Log Cabin Wild**	**1.20**	**318**	Pn	**Pb**	**07 45 53.1**	**-1.6**
L26K	**Log Cabin Wild**	**1.20**	**318**	P	**Pb**	**07 45 53.8**	**-1.0**
	baz=136,SNR=644						
L26K				S	**Sb**	**07 46 10.1**	**-0.4**
	baz=136						
YUK8	**Steele Glacier**	**1.22**	**135**		**Pb**	**07 45 53.8**	**-1.3**
YUK8	**Steele Glacier**	**1.22**	**135**		**Pb**	**07 45 54.0**	**-1.2**
YUK8					**Sg**	**07 46 11.8**	**+1.1**
YUK8	**Steele Glacier**	**1.22**	**135**	P	**Pb**	**07 45 53.9**	**-1.3**
	baz=316,SNR=907						
YUK8				S	**Sg**	**07 46 11.5**	**+0.8**
	baz=316						
YUK8	**Steele Glacier**	**1.22**	**135**	P	**Pb**	**07 45 54.0**	**-1.2**
YUK8				S	**Sg**	**07 46 11.8**	**+1.1**
WASW	**Wrangell South**	**1.25**	**261**		**Pn**	**07 45 54.6**	**-1.1**
MENT	**Mentasta**	**1.27**	**309**		**Pn**	**07 45 55.2**	**-0.6**
GLB	**Gilahina Butte**	**1.28**	**237**		**Pn**	**07 45 54.5**	**-1.5**
GLB	**Gilahina Butte**	**1.28**	**237**		**Sb**	**07 46 12.3**	**-0.5**
GLB	**Gilahina Butte**	**1.28**	**237**	IAML		07 46 15.1	
	comp=N,136nm,0.6s						
GLB				IAML		07 46 16.6	
	comp=E,86nm,0.5s						
KIAG	**Kiagna River**	**1.29**	**197**		**Pn**	**07 45 55.5**	**-0.7**
KIAG					**Sb**	**07 46 12.5**	**-0.6**
KIAG	**Kiagna River**	**1.29**	**197**	P	**Pn**	**07 45 55.5**	**-0.7**
KIAG				S	**Sb**	**07 46 12.5**	**-0.6**
VRDI	**Verde Repeater**	**1.29**	**225**	Pn	**Pn**	**07 45 55.4**	**-0.8**
VRDI	**Verde Repeater**	**1.29**	**225**		**Sb**	**07 46 12.7**	**-0.5**
WACK	**Wrangell Chich**	**1.31**	**264**		**Pn**	**07 45 55.9**	**-0.7**
WACK					**Sb**	**07 46 14.1**	**+0.3**
LOGN	**Logan Glacier**	**1.36**	**168**		**Pn**	**07 45 56.5**	**-0.6**
LOGN	**Logan Glacier**	**1.36**	**168**		**Sb**	**07 46 15.4**	**+0.3**
LOGN	**Logan Glacier**	**1.36**	**168**	IAML		07 46 18.1	
	comp=E,163nm,0.4s						
LOGN				IAML		07 46 18.3	
	comp=N,318nm,0.4s						
LOGN	**Logan Glacier**	**1.36**	**168**	Pn	**Pn**	**07 45 56.6**	**-0.5**
LOGN				Sg	**Sb**	**07 46 15.4**	**+0.3**
M29M	**Somme Creek**	**1.48**	**77**		**Pn**	**07 45 58.4**	**-0.4**
M29M				IAML		07 46 22.8	
	comp=E,178nm,0.7s						
M29M	**Somme Creek**	**1.48**	**77**	Pn	**Pn**	**07 45 58.3**	**-0.4**
M29M				Sg	**Sb**	**07 46 18.8**	**+0.3**
M29M	**Somme Creek**	**1.48**	**77**	P	**Pn**	**07 45 58.4**	**-0.4**
	baz=260						
M29M				S	**Sg**	**07 46 19.3**	**+0.3**
	baz=260						
M29M	**Somme Creek**	**1.48**	**77**	Pn	**Pn**	**07 45 58.3**	**-0.4**
M29M				Sg	**Sb**	**07 46 18.8**	**+0.3**
N25K	**Chitina, Valde**	**1.54**	**250**		**Pn**	**07 45 59.4**	**-0.2**
N25K	**Chitina, Valde**	**1.54**	**250**	P	**Pn**	**07 45 59.3**	**-0.2**
	baz=68						
N25K				S	**Sn**	**07 46 20.0**	**+0.1**
	baz=68						
CRQE	**Cirque**	**1.58**	**208**	P	**Pn**	**07 46 00.0**	**-0.2**
	baz=27						
CRQE				S	**Sb**	**07 46 21.5**	**-0.1**
	baz=27						
CRQM	**Cirque**	**1.59**	**209**		**Pn**	**07 46 00.3**	**-0.1**
CRQM	**Cirque**	**1.59**	**209**	IAML		07 46 22.8	
	comp=N,331nm,0.4s						
CRQM				IAML		07 46 24.2	
	comp=E,273nm,0.5s						
ISLE	**Juniper Island**	**1.60**	**194**		**Pn**	**07 46 00.6**	**+0.2**
ISLE				IAML		07 46 26.4	
	comp=N,310nm,0.7s						
YUK4	**Talbot Arm**	**1.61**	**119**	Pn	**Pn**	**07 46 00.4**	**-0.2**
YUK4				Sg	**Sg**	**07 46 23.3**	**+0.2**
YUK4	**Talbot Arm**	**1.61**	**119**	P	**Pn**	**07 46 00.3**	**-0.3**
	baz=298,SNR=362						
YUK4				S	**Sb**	**07 46 22.8**	**+0.5**
	baz=298						
YUK4	**Talbot Arm**	**1.61**	**119**	Pn	**Pn**	**07 46 00.4**	**-0.2**
YUK4				Sg	**Sg**	**07 46 23.3**	**+0.2**
BAGL	**Bagley Icefiel**	**1.69**	**189**		**Pn**	**07 46 02.1**	**+0.6**
HARP	**HAARP**	**1.70**	**280**		**Pn**	**07 46 02.0**	**+0.4**
HARP	**HAARP**	**1.70**	**280**	P	**Pn**	**07 46 01.4**	**-0.3**
	baz=97						
HARP				Sb	**Sb**	**07 46 25.6**	**+0.9**
	baz=97						
TABL	**Table Mountain**	**1.73**	**173**		**Pn**	**07 46 03.2**	**+0.9**
TABL	**Table Mountain**	**1.73**	**173**	IAML		07 46 31.9	
	comp=N,140nm,0.9s						
TABL				IAML		07 46 32.4	
	comp=E,141nm,1.0s						
TABL	**Table Mountain**	**1.73**	**173**	Pn	**Pn**	**07 46 03.2**	**+0.9**
TABL				Sg	**Sb**	**07 46 26.6**	**+0.8**
WAX	**Waxell Ridge**	**1.82**	**201**		**Pb**	**07 46 04.6**	**-0.5**
L29M	**L29M**	**1.86**	**57**		**Pb**	**07 46 05.6**	**-0.3**
L29M				Sg	**Sb**	**07 46 29.0**	**-0.3**
L29M	**L29M**	**1.86**	**57**	P	**Pn**	**07 46 03.9**	**0.0**
	baz=240						
L29M				S	**Sb**	**07 46 29.2**	**-0.1**
	baz=240						
L29M	**L29M**	**1.86**	**57**	Pn	**Pn**	**07 46 04.0**	**+0.1**
L29M				Pg	**Pb**	**07 46 05.6**	**-0.3**
L29M				Sg	**Sb**	**07 46 29.0**	**-0.3**
BMRM	**Bremner River**	**1.88**	**232**		**Pn**	**07 46 04.5**	**+0.3**
BMRM	**Bremner River**	**1.88**	**232**	P	**Pn**	**07 46 03.8**	**-0.3**
	baz=50						
KHIT	**Khitrov Hills**	**1.90**	**206**		**Pb**	**07 46 06.0**	**-0.5**
K27K	**Chicken**	**1.90**	**353**	Pg	**Pb**	**07 46 06.3**	**-0.2**
K27K				Sg	**Sb**	**07 46 31.3**	**+0.7**
K27K	**Chicken**	**1.90**	**353**	IAML		07 46 31.8	
	comp=E,125nm,1.0s						
K27K	**Chicken**	**1.90**	**353**	P	**Pn**	**07 46 03.8**	**-0.6**
	baz=173						
K27K				S	**Sb**	**07 46 30.6**	**+0.1**
	baz=173						
K27K	**Chicken**	**1.90**	**353**	Pn	**Pn**	**07 46 04.1**	**-0.4**
K27K				Pg	**Pb**	**07 46 06.3**	**-0.2**
K27K				Sg	**Sb**	**07 46 31.3**	**+0.7**

YUK5			Sg	Sb	07 46 35.6	+0.8
YUK5	**Granite Creek**	**2.04 118**	Pn	Pn	07 46 06.4	-0.2
YUK5			Pg	Pb	07 46 08.5	-0.6
YUK5			Sg	Sb	07 46 35.6	+0.8
GRIN	**Grindle Hills**	**2.06 205**		Pb	07 46 09.0	-0.2
SAMH	**Samovar Hills**	**2.06 169**	Pg	Pb	07 46 09.6	+0.2
SAMH	**Samovar Hills**	**2.06 169**	Pg	Pb	07 46 09.6	+0.2
SAMH			Sg	Sg	07 46 38.4	+0.7
SCRK	**Sand Creek**	**2.14 330**		Pn	07 46 07.6	-0.3
SCRK			IAML		07 46 42.3	
	comp=E,87nm,0.4s					
SCRK	**Sand Creek**	**2.14 330**	P	Pn	07 46 07.5	-0.3
	baz=148,SNR=61					
SCRK			Sb	Sb	07 46 38.8	+1.3
	baz=148					
PCA	**Pinnacle**	**2.16 162**	Pg	Pb	07 46 11.8	+0.9
PCA	**Pinnacle**	**2.16 162**	Pg	Pb	07 46 11.8	+0.9
PCA			Sg	Sg	07 46 41.0	+0.4
PINM	**Pinnacle**	**2.16 162**	Pg	Pb	07 46 11.8	+0.9
	baz=344					
PINM			Sb	Sg	07 46 40.3	-0.4
	baz=344					
DAWY	**Dawson**	**2.16 26**		Pn	07 46 08.2	+0.1
DAWY			IAML		07 46 38.9	
	comp=E,162nm,0.5s					
DAWY	**Dawson**	**2.16 26**	Pn	Pn	07 46 07.9	-0.2
DAWY			Sg	Sb	07 46 37.9	-0.2
DAWY	**Dawson**	**2.16 26**	P	Pn	07 46 07.9	-0.2
	baz=208,SNR=46					
DAWY			S	Sb	07 46 37.9	-0.2
	baz=208					
DAWY	**Dawson**	**2.16 26**	Pn	Pn	07 46 07.9	-0.2
DAWY			Sg	Sb	07 46 37.9	-0.2
M24K	**Tolsona, Glenn**	**2.17 271**	Pg	Pn	07 46 09.6	+1.5
M24K			IAML		07 47 13.2	
	comp=N,87nm,4.5s					
M24K	**Tolsona, Glenn**	**2.17 271**	Pb	Pb	07 46 10.4	-0.7
	baz=87					
KLU	**Klutina**	**2.17 254**		Pn	07 46 09.1	+0.9
KLU	**Klutina**	**2.17 254**	Pb	Pn	07 46 10.0	+1.7
	baz=71					
KLU			Sb	Sb	07 46 39.4	+1.0
	baz=71					
RIDG	**Independent Ri**	**2.19 318**		Pn	07 46 08.9	+0.5
RIDG			IAML		07 46 42.7	
	comp=N,146nm,0.7s					
RIDG	**Independent Ri**	**2.19 318**	P	Pn	07 46 08.6	+0.1
	baz=135,SNR=89					
RIDG			Sb	Sb	07 46 40.5	+1.6
	baz=135					
GOAT	**Goat Mountain**	**2.19 225**		Pb	07 46 10.5	-1.1
N30M	**Aishikik Lake**	**2.24 106**	Pn	Pn	07 46 08.9	-0.2
N30M			Sg	Sb	07 46 41.6	+1.3
N30M	**Aishikik Lake**	**2.24 106**	P	Pn	07 46 09.3	+0.2
	baz=290					
N30M			Sb	Sb	07 46 42.0	+1.7
	baz=290					
N30M	**Aishikik Lake**	**2.24 106**	Pn	Pn	07 46 08.9	-0.2
N30M			Sg	Sb	07 46 41.6	+1.3
DIV	**Divide**	**2.25 245**		Pn	07 46 10.7	+1.3
DIV	**Divide**	**2.25 245**	Pn	Pn	07 46 10.7	+1.3
M30M	**Minto, Yukon**	**2.27 77**	Pg	Pb	07 46 12.6	-0.2
M30M			Sg	Sb	07 46 41.6	+0.6
M30M	**Minto, Yukon**	**2.27 77**	Pb	Pb	07 46 12.7	-0.2
	baz=261,SNR=83					
M30M			S	Sn	07 46 39.2	+1.5
	baz=261					
M30M	**Minto, Yukon**	**2.27 77**	Pg	Pb	07 46 12.6	-0.2
M30M			Sg	Sb	07 46 41.6	+0.6
YUK7	**Dusty Glacier**	**2.32 133**		Pn	07 46 11.9	+1.6
YUK7	**Dusty Glacier**	**2.32 133**	Pn	Pn	07 46 12.0	+1.6
YUK7			Sg	Sb	07 46 44.7	+2.0
YUK7	**Dusty Glacier**	**2.32 133**	Pn	Pn	07 46 12.0	+1.6
YUK7			Sg	Sb	07 46 44.7	+2.0
O29M	**Mount Kennedy**	**2.35 141**	Pn	Pn	07 46 11.3	+0.5
O29M	**Mount Kennedy**	**2.35 141**	Pb	Pb	07 46 13.8	-0.5
	baz=323					
O29M	**Mount Kennedy**	**2.35 141**	Pn	Pn	07 46 11.3	+0.5
O29M			Sg	Sg	07 46 46.1	-0.8
HYT	**Haines Junctio**	**2.36 123**		Pn	07 46 11.9	+1.0
HYT			IAML		07 46 48.8	
	comp=E,99nm,0.6s					
HYT			IAML		07 46 52.2	
	comp=N,85nm,0.7s					
HYT	**Haines Junctio**	**2.36 123**	Pn	Pn	07 46 11.6	+0.7
HYT			Sg	Sb	07 46 45.3	+1.5
HYT	**Haines Junctio**	**2.36 123**	P	Pn	07 46 11.2	+0.3
	baz=306,SNR=113					
HYT			Sb	Sb	07 46 45.4	+1.5
	baz=306					
HYT	**Haines Junctio**	**2.36 123**	Pn	Pn	07 46 11.6	+0.7
HYT			Sg	Sb	07 46 45.3	+1.5
K29M	**Barlow Dome**	**2.51 46**	Pn	Pn	07 46 13.3	+0.4
K29M			Sg	Sb	07 46 49.0	+0.8
K29M	**Barlow Dome**	**2.51 46**	P	Pn	07 46 12.9	0.0
	baz=229					
K29M			Sb	Sb	07 46 49.6	+1.5
	baz=229					
K29M	**Barlow Dome**	**2.51 46**	Pn	Pn	07 46 13.3	+0.4
K29M			Sg	Sb	07 46 49.0	+0.8
J26L	**Joseph Creek**	**2.53 340**		Pn	07 46 13.2	0.0
J26L	**Joseph Creek**	**2.53 340**	IAML		07 46 53.0	
	comp=E,103nm,0.4s					
J26L			IAML		07 46 57.8	
	comp=N,73nm,0.6s					
J26L	**Joseph Creek**	**2.53 340**	P	Pn	07 46 12.9	-0.2
	baz=158					
J26L			Sb	Sb	07 46 50.5	+1.9
	baz=158					
K24K	**Donnelly Dome**	**2.54 313**		Pn	07 46 13.9	+0.7
K24K	**Donnelly Dome**	**2.54 313**	Sb	Sb	07 46 51.0	+2.1
	baz=129					
EYAK	**Cordova Ski Ar**	**2.58 233**		Pn	07 46 16.1	+2.4
EGAK	**Eagle**	**2.64 4**		Pn	07 46 15.0	+0.4
EGAK			IAML		07 46 55.7	
	comp=N,103nm,0.7s					
EGAK	**Eagle**	**2.64 4**	P	Pn	07 46 15.1	+0.4
	baz=184,SNR=176					
EGAK			Sb	Sb	07 46 53.9	+2.1
	baz=184					
EGAK	**Eagle**	**2.64 4**	Pn	Pn	07 46 15.2	+0.5
SCM	**Sheep Creek Mo**	**2.74 266**	Pb	Pb	07 46 19.1	-1.7
	baz=81					
SCM			Sb	Sb	07 46 56.2	+1.5
	baz=81					
FID	**Port Fidalgo**	**2.75 241**		Pb	07 46 18.9	-2.1
FID			IAML		07 47 12.2	
	comp=E,46nm,4.1s					
N31M	**Braeburn, Yuko**	**2.83 101**	P	Pn	07 46 17.9	+0.7
	baz=286,SNR=22					
N31M			Sb	Sg	07 47 00.0	-2.1
	baz=286					
N31M	**Braeburn, Yuko**	**2.83 101**	Pn	Pn	07 46 17.9	+0.7
N31M			Sg	Sg	07 47 00.4	-1.7
DHY	**Denali Highway**	**2.84 292**		Pn	07 46 18.5	+1.0
DHY	**Denali Highway**	**2.84 292**	Pb	Pb	07 46 21.8	-0.9
	baz=107					
DHY			Sb	Sb	07 46 58.5	+0.7
	baz=107					
WAT6	**Susitna Watana**	**2.91 281**		Pn	07 46 20.8	+2.3
WAT6	**Susitna Watana**	**2.91 281**	Pb	Pb	07 46 22.1	-1.7
	baz=96					
WAT6			Sb	Sb	07 47 00.4	+0.7
	baz=96					
M23K	**Glacier View**	**2.93 266**		Pn	07 46 20.8	+2.2
GLI	**Glacier Island**	**2.94 247**		Pn	07 46 20.3	+1.6
GLI			IAML		07 47 06.0	
	comp=E,48nm,4.7s					
GLI			IAML		07 47 56.5	
	comp=N,42nm,4.2s					
O30N	**Mendenhall**	**2.97 115**		Pn	07 46 19.7	+0.5
O30N			IAML		07 47 10.0	
	comp=E,44nm,0.6s					
O30N			IAML		07 47 13.1	
	comp=N,69nm,0.5s					
O30N	**Mendenhall**	**2.97 115**	P	Pn	07 46 19.1	-0.1
	baz=300,SNR=30					
MAYO	**Mayo, Yukon**	**2.98 58**	Sg	Sb	07 47 04.0	+2.5
J25K	**Salcha River,**	**3.01 327**		Pn	07 46 19.8	0.0
J25K	**Salcha River,**	**3.01 327**	IAML		07 47 09.5	
	comp=E,46nm,0.7s					
J25K			IAML		07 47 13.2	
	comp=N,41nm,0.3s					
J25K	**Salcha River,**	**3.01 327**	P	Pn	07 46 19.7	0.0
	baz=144					
J25K			S	Sn	07 46 55.8	-0.2
	baz=144					
P30M	**Million Dollar**	**3.02 130**	Pg	Pb	07 46 25.7	0.0
P30M	**Million Dollar**	**3.02 130**	Pg	Pb	07 46 25.7	0.0
P29M	**Windy Craggy**	**3.15 142**	Pg	Pb	07 46 28.6	+0.8
P29M	**Windy Craggy**	**3.15 142**	Pb	Pb	07 46 27.8	0.0
	baz=325					
P29M	**Windy Craggy**	**3.15 142**	Pg	Pb	07 46 28.6	+0.8
SML	**Sawmill**	**3.21 267**		Pn	07 46 24.3	+1.8
SML			IAML		07 47 26.8	
	comp=E,38nm,3.0s					
I26K	**Coal Creek Min**	**3.25 348**		Pn	07 46 23.6	+0.6
I26K	**Coal Creek Min**	**3.25 348**	P	Pn	07 46 23.7	+0.8
	baz=167					
WAT1	**Susitna Watana**	**3.31 285**		Pn	07 46 26.2	+2.3
HDA	**Harding Lake**	**3.32 315**	P	Pn	07 46 23.5	-0.5
	baz=131,SNR=32					
HDA			P	Pn	07 46 23.5	-0.5
	baz=131,SNR=32					
M31M	**Drury Creek, Y**	**3.37 86**	Pg	Pb	07 46 32.6	+1.0
M31M	**Drury Creek, Y**	**3.37 86**	Pb	Pb	07 46 32.4	+0.9
	baz=272					
M31M	**Drury Creek, Y**	**3.37 86**	Pg	Pb	07 46 32.6	+1.0
I28M	**Miner Creek**	**3.39 12**	P	Pn	07 46 24.9	-0.1
	baz=193					
I28M	**Miner Creek**	**3.39 12**	Pn	Pn	07 46 24.9	-0.1
J30M	**Hart River**	**3.39 42**	P	Pn	07 46 25.6	+0.5
	baz=226					
J30M	**Hart River**	**3.39 42**	Pn	Pn	07 46 25.5	+0.5
J30M			Sg	Sb	07 47 16.0	+2.6
WAT7	**Susitna Watana**	**3.45 285**		Pn	07 46 27.1	+1.3
I27K	**Kandik River**	**3.47 360**		Pn	07 46 26.4	+0.4
I27K	**Kandik River**	**3.47 360**	Pn	Pn	07 46 26.2	+0.2
I27K	**Kandik River**	**3.47 360**	P	Pn	07 46 26.4	+0.4
	baz=180					
I27K	**Kandik River**	**3.47 360**	Pn	Pn	07 46 26.2	+0.2
PWL	**Port Wells**	**3.49 251**		Pn	07 46 28.3	+2.0
PWL			IAML		07 46 50.5	
	comp=E,34nm,4.1s					
PWL			IAML		07 46 52.7	
	comp=N,34nm,4.9s					
GHO	**Glory Hole Cre**	**3.50 267**		Pn	07 46 28.6	+2.2
GHO			IAML		07 48 42.5	
	comp=E,31nm,4.2s					
I29M	**Ogilvie Camp,**	**3.53 23**	Pn	Pn	07 46 26.7	-0.2
I29M			IAML		07 47 28.6	
	comp=E,69nm,0.7s					
I29M	**Ogilvie Camp,**	**3.53 23**	Pn	Pn	07 46 27.1	+0.3
I29M	**Ogilvie Camp,**	**3.53 23**	Pn	Pn	07 46 27.1	+0.3
WHY	**Whitehorse**	**3.55 112**	Pn	Pn	07 46 26.6	-0.5
WHY	**Whitehorse**	**3.55 112**	Pn	Pn	07 46 26.6	-0.5
WHY			Sg	Sb	07 47 21.6	+3.7
IL31		**3.55 320**		Pn	07 46 26.1	-0.9
ILAR	**Eielson Array**	**3.55 320**	Pn	Pn	07 46 26.7	-0.4
MCK	**McKinley**	**3.72 298**	Pb	Pb	07 46 37.8	+0.2
	baz=112					
PRP	**Porcupine Dome**	**3.81 334**	P	Pn	07 46 31.3	+0.5
	baz=151					
FARO	**Faro, Yukon**	**3.85 85**	Pn	Pn	07 46 32.2	+0.9
FARO	**Faro, Yukon**	**3.85 85**	Pn	Pn	07 46 32.2	+0.9
I30M	**Mount Dempster**	**3.85 35**	P	Pn	07 46 32.1	+0.8
	baz=219					
I30M	**Mount Dempster**	**3.85 35**	Pn	Pn	07 46 31.7	+0.3
COLA	**College**	**3.92 317**	P	Pn	07 46 31.5	-0.7
	baz=131					
POKR	**Poker Plat Res**	**3.96 321**	P	Pn	07 46 31.8	-1.0
	baz=136					
H27K	**Steamboat Moun**	**4.10 0**		Pn	07 46 34.9	+0.3
H27K	**Steamboat Moun**	**4.10 0**	Pn	Pn	07 46 34.7	+0.1
H27K	**Steamboat Moun**	**4.10 0**	P	Pn	07 46 34.7	+0.1
	baz=180					
H27K	**Steamboat Moun**	**4.10 0**	Pn	Pn	07 46 34.7	+0.1
N32M	**Quiet Lake**	**4.17 100**	Pn	Pn	07 46 35.8	+0.2
N32M	**Quiet Lake**	**4.17 100**	P	Pn	07 46 36.0	+0.4
	baz=288					
N32M	**Quiet Lake**	**4.17 100**	Pn	Pn	07 46 35.8	+0.2
N32M			Sg	Sg	07 47 42.5	-2.7
NEA2	**Nenana**	**4.17 309**	P	Pn	07 46 35.4	-0.3
	baz=123					
H29M	**Whitestone**	**4.32 17**	P	Pn	07 46 37.1	-0.5
	baz=200,SNR=77					
H29M	**Whitestone**	**4.32 17**	Pn	Pn	07 46 37.1	-0.5
I23K	**Minto, Yukon-K**	**4.59 314**	P	Pn	07 46 40.6	-0.8
	baz=127					
P32M	**Atlin**	**4.62 120**	Sg	Sg	07 47 56.8	-2.8
H24K	**Noodor Dome**	**4.63 326**	P	Pn	07 46 42.1	+0.2
	baz=140					
P33M	**Teslin, Yukon**	**4.66 111**	Pn	Pn	07 46 40.7	-1.8
P33M			Pg	Pb	07 46 55.5	+1.9
P33M	**Teslin, Yukon**	**4.66 111**	Pn	Pn	07 46 40.7	-1.8
P33M			Pg	Pb	07 46 55.5	+1.9
P33M			Sg	Sg	07 47 57.4	-3.6
G27K	**Doyon Strip**	**4.68 360**	Pn	Pn	07 46 43.0	+0.4
G27K	**Doyon Strip**	**4.68 360**	P	Pn	07 46 43.0	+0.4
	baz=179					
G27K	**Doyon Strip**	**4.68 360**	Pn	Pn	07 46 43.0	+0.4
EPYK	**Eagle Plains**	**4.73 24**	Sg	Sb	07 47 54.7	+2.8
H31M	**Peel River**	**4.85 38**	Pn	Pn	07 46 44.5	-0.5
H31M	**Peel River**	**4.85 38**	P	Pn	07 46 45.0	0.0
	baz=224					
H31M	**Peel River**	**4.85 38**	Pn	Pn	07 46 44.5	-0.5
STLK	**Strandline Lak**	**4.91 267**		Pn	07 46 47.8	+2.0
G26K	**Porcupine Rive**	**4.91 350**		Pn	07 46 46.4	+0.6
G26K	**Porcupine Rive**	**4.91 350**	P	Pn	07 46 46.2	+0.4
	baz=168					
MLY	**Manley**	**5.01 309**		Pn	07 46 46.6	-0.6
MLY	**Manley**	**5.01 309**	IAML		07 47 48.4	
	comp=N,14nm,4.3s					
MLY			IAML		07 48 41.4	
	comp=E,15nm,4.6s					
MLY	**Manley**	**5.01 309**	P	Pn	07 46 47.2	0.0
	baz=121					
G29M	**Pine Creek**	**5.02 16**	Pn	Pn	07 46 46.4	-0.8
G29M	**Pine Creek**	**5.02 16**	P	Pn	07 46 46.4	-0.8
	baz=199					
G29M	**Pine Creek**	**5.02 16**	Pn	Pn	07 46 46.4	-0.8
G25K	**Bearman Lake**	**5.03 339**	P	Pn	07 46 47.9	+0.5
	baz=155					
G24K	**Hadweenzic Riv**	**5.23 333**	Pn	Pn	07 46 50.8	+0.6
G24K			IAML		07 48 28.3	
	comp=N,18nm,1.0s					
G24K	**Hadweenzic Riv**	**5.23 333**	P	Pn	07 46 50.9	+0.7
	baz=148					
G30M	**tAoh Zraii Nji**	**5.37 23**	Pn	Pn	07 46 50.5	-1.5
G30M	**tAoh Zraii Nji**	**5.37 23**	P	Pn	07 46 51.6	-0.5
	baz=208					
G30M	**tAoh Zraii Nji**	**5.37 23**	Pn	Pn	07 46 50.5	-1.5
BMAR	**Burnt Mountain**	**5.45 348**	Pn	Pn	07 46 53.7	+0.4
F28M	**Old Crow**	**5.53 7**	Pn	Pn	07 46 51.8	-2.5
F28M	**Old Crow**	**5.53 7**	Pn	Pn	07 46 51.8	-2.5
Q32M	**Nakina River**	**5.59 121**	Sg	Sg	07 48 27.8	-3.0
F26K	**Sheenjek River**	**5.67 350**	P	Pn	07 46 56.4	+0.1
	baz=168					
H22K	**Ishtalitna Cre**	**5.71 315**		Pn	07 46 56.6	-0.2
H22K	**Ishtalitna Cre**	**5.71 315**	P	Pn	07 46 56.9	+0.1
	baz=127					
G31M	**Satah River**	**5.73 30**		Pn	07 46 56.2	-0.8
G31M	**Satah River**	**5.73 30**	P	Pn	07 46 56.0	-1.0
	baz=217,SNR=18					
F25K	**Christian Rive**	**5.73 344**		Pn	07 46 58.0	+0.8
F25K	**Christian Rive**	**5.73 344**	P	Pn	07 46 57.2	+0.1
	baz=160					
G23K	**Bananza Creek**	**5.86 325**	P	Pn	07 46 59.0	+0.2
	baz=137					
R33M	**Jennings River**	**5.88 113**	Sg	Sg	07 48 34.2	-6.0
F30M	**Barrier River**	**6.01 22**	P	Pn	07 47 01.2	+0.3
	baz=207					
F24K	**Squaw Lake**	**6.02 336**	P	Pn	07 47 01.7	+0.7
	baz=150					
E27K	**Coleen River**	**6.06 360**	P	Pn	07 47 01.8	+0.2
	baz=180					
E27K	**Coleen River**	**6.06 360**	Pn	Pn	07 47 01.8	+0.2
H21K	**Melozitna Rive**	**6.08 310**	P	Pn	07 47 01.8	0.0
	baz=120					
E25K	**Arctic Village**	**6.23 346**	P	Pn	07 47 04.5	+0.7
	baz=162					
F31M	**Tsiigehtchic**	**6.27 29**	Pn	Pn	07 47 03.2	-1.2
F31M	**Tsiigehtchic**	**6.27 29**	P	Pn	07 47 03.8	-0.6
	baz=216					
F31M	**Tsiigehtchic**	**6.27 29**	Pn	Pn	07 47 03.2	-1.2
COLD	**Coldfoot**	**6.29 328**	Pn	Pn	07 47 05.7	+1.0
COLD	**Coldfoot**	**6.29 328**	P	Pn	07 47 05.4	+0.6
	baz=140					
COLD	**Coldfoot**	**6.29 328**	Pn	Pn	07 47 05.7	+1.0
E29M	**Blow River**	**6.45 12**	P	Pn	07 47 06.8	-0.1
	baz=195					
E28M	**Babbage River**	**6.54 7**	P	Pn	07 47 07.8	-0.3
	baz=188					
E24K	**Your Creek**	**6.62 337**	P	Pn	07 47 10.1	+0.8
	baz=151					
G21K	**Allakaket**	**6.78 315**	P	Pn	07 47 12.1	+0.7
	baz=125					
E23K	**Chandalar**	**6.83 334**	P	Pn	07 47 13.2	+1.1
	baz=146					
F22K	**John River**	**7.02 325**	P	Pn	07 47 15.1	+0.4
	baz=135					
INK	**Inuvik**	**7.04 25**	Pn	Pn	07 47 12.4	-2.5
INK	**Inuvik**	**7.04 25**	Pn	Pn	07 47 12.4	-2.5
D27M	**Malcolm River**	**7.13 2**	P	Pn	07 47 16.0	-0.2
	baz=182,SNR=9.8					
F21K	**Alatna River**	**7.20 320**	P	Pn	07 47 16.8	-0.4
	baz=129					
D28M	**Stokes Point**	**7.30 8**	P	Pn	07 47 18.7	+0.2
	baz=190					
TOLK	**Toolik Lake Re**	**7.32 336**	P	Pn	07 47 20.0	+1.2
	baz=149					
E22K	**Anaktuvuk Pass**	**7.39 329**	P	Pn	07 47 20.1	+0.3
	baz=140					
D25K	**Kavik River**	**7.47 347**	P	Pn	07 47 21.6	+0.7
	baz=162					
F20K	**Avaraaart Lake**	**7.81 315**	P	Pn	07 47 26.0	+0.5
	baz=122					
C36M	**Paulatuk**	**10.15 37**	Pn	Pn	07 47 55.6	-1.9
C36M	**Paulatuk**	**10.15 37**	Pn	Pn	07 47 55.6	-1.9

*NNC **09** 08:11:10.7±0.6, 51°.73N×75°.44E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=16.3km s-min=4.0km az=25.0, Suspected Mining explosion.*
*IDC **09** 08:11:14.1±1.0, 51°.58N×75°.40E, h0km, mbtmp2.8/3, ML1.9/3, Error ellipse: s-maj=37.5km s-min=7.9km az=28.0*

ISC 09 08:11:13.4±1.2, 51°.7N±0°.1×75°.42E±0°.06, h0km, n11, σ1s 31/9, 7C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.21**	**116**	Pg		Pb		08 11 53.7	-0.5
	0.6nm,0.3s,baz=301,slow=18,SNR=7.4								
KURBB				Lg		Lg		08 12 23.2	
	0.4nm,0.3s,baz=307,slow=30,SNR=12								
KURBB	**Kurchatov Arra**	**2.21**	**116**	↑Pg		Pn		08 11 51.0	-0.3
	4.6nm,0.6s								
KURBB				↓Lg		Lg		08 12 23.1	
	33nm,0.6s								
KURK	**Kurchatov**	**2.22**	**114**	↑Pg		Pn		08 11 51.2	-0.3
	7.2nm,1.0s								
KURK				↑Lg		Lg		08 12 23.5	
	18nm,0.8s								
BVA0	**Borovoye Array**	**3.38**	**296**	↓Pg		Pb		08 12 12.9	-1.2
	2.5nm,0.7s,baz=109,slow=15,SNR=14								
BVA0				↑Lg		Lg		08 12 57.0	
	18nm,0.8s,baz=115,slow=28,SNR=11								
BVAR	**Borovoye Array**	**3.38**	**296**			Pn		08 12 08.5	+1.1
	baz=110,slow=12,SNR=4.3								
BVAR				Pg		Pb		08 12 13.6	-0.5
	0.1nm,0.3s,baz=117,slow=17,SNR=16								
BVAR				Lg		Lg		08 12 56.8	
	0.2nm,0.3s,baz=114,slow=21,SNR=15								
	0.6nm,0.4s								
BRVK	**Borovoye**	**3.45**	**296**	↓Pg		Pb		08 12 13.0	-2.3
	3.9nm,0.9s								
BRVK				↑Lg		Lg		08 12 58.5	
	22nm,0.8s								
OTUK	**Ortayu**	**3.94**	**211**	↑Lg		Lg		08 13 19.0	
	14nm,1.1s								
I46RU	**ZALESOVO INFRA**	**6.15**	**64**	I		I		08 48 00.0	
	baz=249,slow=314,SNR=5.7								
ZALV	**Zalesovo Beam**	**6.15**	**64**	Pn		Pn		08 12 46.5	+1.1
	0.3nm,0.3s,baz=256,slow=14,SNR=5.4								
	0.9nm,0.5s								
MK31	**Makanchi Array**	**6.62**	**135**	↑Lg		Lg		08 14 40.6	
	1.8nm,0.5s,baz=321,slow=28,SNR=3.7								
MKAR	**Makanchi Array**	**6.62**	**135**			Pn		08 12 52.5	+0.6
	baz=316,slow=10,SNR=1.7								
MKAR				Lg		Lg		08 14 41.1	
	0.3nm,0.3s,baz=317,slow=27,SNR=6.1								
	1.0nm,0.8s								

*TRN **09** 08:47:09.9, 18°.71N×64°.55W, h9km, M3.6*
*RSPR **09** 08:47:12.0, 19°.01N×64°.47W, h97km±11km, MD3.6/8*
*NEIC **09** 08:47:12.8±1.6, 19°.0N±0°.1×64°.49W±0°.05, h35km±2km, ML3.7/22, Md3.6/8(RSPR), Error ellipse: s-maj=22.3km s-min=6.5km az=12.0*

ISC 09 08:47:12.2±2.9, 19°.0N±0°.2×64°.48W±0°.05, h27km±24km, n42, σ0s 84/52, 18C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**1.62**	**124**	eS		Sb		08 48 01.3	-0.2
SMRT	**St. Maarten**	**1.62**	**124**			Pn		08 47 38.9	-0.1
SMRT						Sn		08 47 58.7	-0.3
SMRT					IAML			08 48 04.5	
	comp=E,800nm,0.3s								
SMRT					IAML			08 48 05.7	
	comp=N,828nm,0.2s								
SMRT	**St. Maarten**	**1.62**	**124**	eS		Sb		08 48 01.3	-0.2
SABA	**Saba**	**1.78**	**139**	eP		Pn		08 47 40.8	-0.5
SABA	**Saba**	**1.78**	**139**			Pn		08 47 39.9	-1.4
SABA					IAML			08 48 16.2	
	comp=N,627nm,0.3s								
SABA					IAML			08 48 19.0	
	comp=E,907nm,0.6s								
SABA	**Saba**	**1.78**	**139**	↑eP		Pn		08 47 40.8	-0.5
SJG	**San Juan**	**1.80**	**242**	↑eP		Pn		08 47 40.5	-1.0
SJG	**San Juan**	**1.80**	**242**			Pn		08 47 40.1	-1.4
SJG	**San Juan**	**1.80**	**242**	↑eP		Pn		08 47 40.5	-1.0
SJG				eS		Sn		08 48 02.3	-1.2
EMPR	**Esperanza - Ma**	**2.00**	**256**	↑eP		Pn		08 47 44.0	-0.3
EMPR	**Esperanza - Ma**	**2.00**	**256**	eS		Sn		08 48 09.2	+0.8
EMPR	**Esperanza - Ma**	**2.00**	**256**			Pn		08 47 44.0	-0.3
EMPR	**Esperanza - Ma**	**2.00**	**256**			Sn		08 48 07.0	-1.5
EMPR					IAML			08 48 12.3	
	comp=N,558nm,1.0s								
EMPR					IAML			08 48 15.3	
	comp=E,688nm,0.6s								
OBIP	**Obispado Ponce**	**2.22**	**246**	↑eP		Pn		08 47 47.1	-0

PCDR	**Punta Cana, DR**	**3.72**	**264**	*eP*	**Pn**	**08 48 08.2**	**+0.2**
CBE	**Ff, Capester**	**3.98**	**136**	Pn	**Pn**	**08 48 11.7**	**+0.1**
GDSD	**La Dsirade Is**	**4.19**	**129**	Pn	**Pn**	**08 48 14.2**	**-0.2**
GDSD				IAML		08 49 04.4	
	comp=E,103nm,2.7s						
ILAM	**Ilet Lapin Mar**	**5.41**	**140**	Pn	**Pn**	**08 48 32.3**	**+1.1**
SDDR	**Presa de Saban**	**6.44**	**271**	Pn	**Pn**	**08 48 44.6**	**-0.8**
BAUV	**El Baul**	**10.54**	**200**	Pn	**Pn**	**08 49 42.6**	**+0.9**

*IDC **09** 09:09:29.3±1.9,55˚.09N×165˚.51E,h0km,mb3.3/3, mbtmp3.3/4,ML2.2/1,Error ellipse: s-maj=110.8km s-min=25.3km az=154.0*

*KRSC **09** 09:09:30.1±1.6,55˚.09N×165˚.43E,h43km±15km,Ml3.6*

ISC 09 09:09:32.9±1.1,55˚.12N±0˚.05×165˚.46E±0˚.07,h27km±10km, n41,σ1°53/55,mb3.2/3,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.30**	**74**	*eP*	**Pb**	**09 09 39.9**	**-0.2**
BKI				*eS*	**Sb**	**09 09 45.1**	**+0.1**
KBTR	**Krutoberegovo**	**1.85**	**307**	*eP*	**Pn**	**09 10 00.8**	**-2.1**
KBTR				*eS*	**Sn**	**09 10 22.5**	**-2.9**
KBG	**Krutoberegovo**	**1.93**	**307**	*eP*	**Pn**	**09 10 02.0**	**-1.9**
KBG				*eS*	**Sn**	**09 10 24.3**	**-2.9**
SMKR	**Semkarok**	**2.69**	**305**	*eP*	**Pn**	**09 10 14.1**	**-0.3**
SMKR				*eS*	**Sn**	**09 10 46.7**	**+0.7**
BDR	**Baidarnaya**	**2.80**	**303**	*eS*	**Sn**	**09 10 50.1**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**2.83**	**289**	*eP*	**Pn**	**09 10 17.4**	**+1.0**
BZGR				*eS*	**Sn**	**09 10 50.1**	**+0.5**
CIRR	**Tsirk**	**2.85**	**292**	*eP*	**Pn**	**09 10 18.0**	**+1.2**
CIRR				*eS*	**Sn**	**09 10 51.1**	**+0.8**
TUMD	**Tumrok D**	**2.91**	**274**	*eS*	**Sn**	**09 10 51.6**	**+0.2**
BZP	**Bezymyannyi-Pe**	**2.91**	**288**	*eP*	**Pn**	**09 10 17.5**	**-0.1**
BZP				*eS*	**Sn**	**09 10 51.0**	**-0.7**
BZMR	**Bezymyannaya**	**2.94**	**288**	*eP*	**Pn**	**09 10 19.0**	**+1.0**
BZMR				*eS*	**Sn**	**09 10 53.5**	**+1.0**
KLY	**Klyuchi**	**2.97**	**296**	*eP*	**Pn**	**09 10 17.1**	**-1.1**
KLY				*eS*	**Sn**	**09 10 50.6**	**-2.3**
KRSR	**Krestovskiy**	**2.98**	**294**	*eP*	**Pn**	**09 10 17.1**	**-1.4**
KRSR				*eS*	**Sn**	**09 10 52.4**	**-1.0**
KMNR	**Kamenistaya**	**3.04**	**284**	*eP*	**Pn**	**09 10 20.8**	**+1.4**
KMNR				*eS*	**Sn**	**09 10 55.9**	**+0.9**
TUMR	**Tumrok**	**3.05**	**275**	*eP*	**Pn**	**09 10 20.4**	**+1.0**
TUMR				*eS*	**Sn**	**09 10 56.0**	**+0.9**
KOZ	**Kozyrevsk**	**3.31**	**289**	*eP*	**Pn**	**09 10 24.5**	**+1.6**
SRDR	**Sredinnyy**	**3.46**	**293**	*eP*	**Pn**	**09 10 26.1**	**+1.1**
SRDR				*eS*	**Sn**	**09 11 06.0**	**+0.8**
SPN	**Mys Shipunski**	**3.79**	**240**	*eS*	**Sn**	**09 11 09.4**	**-3.7**
NLC	**Nalytchevo**	**4.09**	**244**	*eS*	**Sn**	**09 11 19.5**	**-1.0**
SDLR	**Sedlovina**	**4.28**	**247**	*eP*	**Pn**	**09 10 36.9**	**+0.5**
SDLR				*eS*	**Sn**	**09 11 23.4**	**-2.1**
SMAR	**Somma**	**4.33**	**247**	*eP*	**Pn**	**09 10 37.9**	**+0.8**
SMAR				*eS*	**Sn**	**09 11 24.2**	**-2.6**
OSSR	**Ossora**	**4.34**	**343**	*eP*	**Pn**	**09 10 36.8**	**-0.2**
AVH	**Avacha**	**4.36**	**248**	*eP*	**Pn**	**09 10 38.7**	**+1.3**
AVH				*eS*	**Sn**	**09 11 26.1**	**-1.4**
KRX	**Arik**	**4.37**	**249**	*eP*	**Pn**	**09 10 38.6**	**+1.0**
KRX				*eS*	**Sn**	**09 11 26.7**	**-1.0**
KOK	**Koryaka**	**4.41**	**248**	*eP*	**Pn**	**09 10 39.3**	**+1.3**
DALK	**Dalny**	**4.47**	**245**	*eS*	**Sn**	**09 11 28.9**	**-1.0**
PET	**Petropavlovsk**	**4.53**	**245**	*eP*	**Pn**	**09 10 41.1**	**+1.5**
PET				*eS*	**Sn**	**09 11 28.5**	**-2.8**
KRMR	**Karymshinskiy**	**4.90**	**245**	*eS*	**Sn**	**09 11 38.9**	**-1.5**
PETK	**Petropavlovsk-** 0.5nm,0.3s,baz=69,slow=14,SNR=7.2	**4.99**	**249**	Pn	**Pn**	**09 10 46.2**	**+0.2**
PETK				Sn	**Sn**	**09 11 43.4**	**+0.6**
	0.5nm,0.3s,baz=308,slow=24,SNR=1.5 8.1nm,1.0s						
MTVR	**Mutnovka**	**5.06**	**241**	*eP*	**Pn**	**09 10 47.9**	**+0.9**
MTVR				*eS*	**Sn**	**09 11 40.9**	**-3.7**
GRL	**Gorelyy**	**5.08**	**243**	*eP*	**Pn**	**09 10 48.5**	**+1.2**
ASAK	**Asacha**	**5.26**	**242**	*eP*	**Pn**	**09 10 51.0**	**+1.2**
TILK	**Tilichiki**	**5.35**	**4**	*eP*	**Pn**	**09 10 52.2**	**+1.4**
ILAR	**Eielson Array** 0.8nm,0.8s,baz=252,slow=9.1,SNR=7.5 0.8nm,0.8s	**25.12**	**48**	P	**P**	**09 14 55.0**	**-0.1**
H11N2	**WAKE ISLAND Hy** baz=359,slow=76,SNR=48	**35.35**	**178**	T	T	09 53 57.1	
H11N3	**WAKE ISLAND Hy** baz=359,slow=76,SNR=71	**35.36**	**178**	T	T	09 53 58.6	
H11N1	**WAKE ISLAND Hy** baz=359,slow=76,SNR=88	**35.37**	**178**	T	T	09 54 00.4	
H11S1	**WAKE ISLAND Hy** baz=344,slow=74	**36.56**	**178**	T	T	09 55 29.7	
H11S3	**WAKE ISLAND Hy** baz=344	**36.57**	**178**	T	T	09 55 37.6	
H11S2	**WAKE ISLAND Hy** baz=344,slow=74	**36.58**	**178**	T	T	09 55 31.8	
YKA	**Yellowknife Ar** 0.4nm,0.7s,baz=297,slow=8.3,SNR=5.3 0.4nm,0.7s	**39.50**	**46**	P	**P**	**09 17 01.0**	**+0.3**
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=296,slow=4.4,SNR=4.4 0.1nm,0.5s	**66.96**	**72**	P	**P**	**09 20 24.0**	**+0.9**

*AEIC **09** 09:28:18.9±2.3,53˚.45N±0˚.05×165˚.81W±0˚.08,h32km±6km, ML3.4,mb3.6/23(NEIC),ML3.9/8(NEIC),Error ellipse: s-maj=9.3km s-min=4.8km az=142.0*

*NEIC **09** 09:28:19.7±2.3,53˚.53N±0˚.05×165˚.89W±0˚.07, h39km±18km,Error ellipse: s-maj=9.2km s-min=4.5km az=146.0*

ISC 09 09:28:18.1±1.5,53˚.4N±0˚.1×165˚.76W±0˚.07,h44km±20km, n122,σ1°11/129,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.63**	**315**		**Pn**	**09 28 30.6**	**0.0**
UNV	**Unalaska Valle**	**0.63**	**315**		**Sn**	**09 28 39.7**	**+0.1**
UNV	**Unalaska Valle**	**0.63**	**315**	P	**Pn**	**09 28 30.7**	**+0.1**
ZRO	**Akutan Zero**	**0.70**	**350**		**Pn**	**09 28 31.8**	**+0.1**
AKBBA	**Akutan Broad B**	**0.70**	**352**		**Pn**	**09 28 31.7**	**0.0**
AKBBA					**Sn**	**09 28 41.4**	**-0.1**
AHB	**Akutan Harbor**	**0.71**	**357**		**Pn**	**09 28 31.9**	**+0.1**
MNAT	**Makushin Natee**	**0.73**	**312**		**Pn**	**09 28 32.3**	**+0.3**
MNAT					**Sn**	**09 28 42.4**	**+0.3**
AKUT	**Akutan**	**0.73**	**360**		**Pn**	**09 28 32.1**	**+0.1**
AKUT					**Sn**	**09 28 42.1**	**0.0**
AKUT	**Akutan**	**0.73**	**360**	P	**Pn**	**09 28 32.1**	**+0.1**
AKV	**Akutan Volcano**	**0.73**	**351**		**Pn**	**09 28 32.2**	**0.0**
AKV					**Sn**	**09 28 41.8**	**-0.6**
AKSA	**Akutan Strait**	**0.73**	**3**		**Pn**	**09 28 31.9**	**-0.2**
AKRB	**Akutan Reef Bi**	**0.75**	**346**		**Pn**	**09 28 32.4**	**+0.1**
AKLV	**Akutan Long Va**	**0.77**	**351**		**Pn**	**09 28 32.5**	**-0.1**
MGOD	**Makushin Gods**	**0.77**	**301**		**Pn**	**09 28 32.6**	**0.0**
MGOD					**Sn**	**09 28 43.7**	**+0.6**
LVA	**Lava Point**	**0.78**	**348**		**Pn**	**09 28 32.1**	**-0.5**
LVA					**Sn**	**09 28 43.8**	**+0.5**
MTBL	**Makushin Table**	**0.79**	**317**		**Pn**	**09 28 33.3**	**+0.4**
MSW	**Makushin Switc**	**0.80**	**311**		**Pn**	**09 28 33.1**	**+0.2**
AKGG	**Akutan Green G**	**0.81**	**350**		**Pn**	**09 28 33.4**	**+0.3**
MAPS	**Pakushin South**	**0.81**	**300**		**Pn**	**09 28 33.4**	**+0.2**
WECS	**Westdahl Cape**	**1.27**	**27**		**Pn**	**09 28 40.7**	**+1.3**
WECS					**Sn**	**09 28 58.6**	**+3.3**
OKFG	**Magazine Ridge**	**1.29**	**271**		**Pn**	**09 28 40.1**	**+0.6**
WEBT	**Westdahl Beart**	**1.33**	**26**		**Pn**	**09 28 41.4**	**+1.2**
OKER	**Okmok East Rim**	**1.37**	**273**		**Pn**	**09 28 41.7**	**+0.9**
OKNC	**Okmok New Cone**	**1.41**	**273**		**Pn**	**09 28 42.1**	**+0.8**
OKCE	**Okmok Cone E**	**1.44**	**272**		**Pn**	**09 28 42.7**	**+1.0**
SSLS	**Shishaldin Sou**	**1.67**	**38**		**Pn**	**09 28 46.5**	**+1.5**
SSBA	**Shishaldin**	**1.68**	**34**		**Pn**	**09 28 46.4**	**+1.4**
BRPK	**Brown Peak**	**1.72**	**43**		**Pn**	**09 28 47.0**	**+1.4**
SSLN	**Shishaldin Nor**	**1.75**	**36**		**Pn**	**09 28 47.1**	**+1.0**
ISLZ	**Isanotski Laza**	**1.79**	**42**		**Pn**	**09 28 47.9**	**+1.3**
ISNN	**Isanotski Nort**	**1.85**	**38**		**Pn**	**09 28 49.2**	**+2.0**
NIKH	**Nikolski High**	**1.91**	**258**		**Pn**	**09 28 48.8**	**+0.7**
NIKH	**Nikolski High**	**1.91**	**258**	P	**Pn**	**09 28 48.9**	**+0.7**
FALS	**False Pass**	**2.01**	**43**		**Pn**	**09 28 49.6**	**+0.2**
FALS	**False Pass**	**2.01**	**43**	P	**Pn**	**09 28 51.4**	**+2.0**
CLCO	**Concord Point,**	**2.47**	**257**		**Pn**	**09 28 57.4**	**+1.6**
DT1	**Dutton Round H**	**2.66**	**49**		**Pn**	**09 29 00.3**	**+1.9**
PN7A	**Pavlof North-7**	**3.00**	**46**		**Pn**	**09 29 04.8**	**+1.7**
PS1A	**Pavlof South-1**	**3.10**	**48**		**Pn**	**09 29 06.4**	**+2.0**
SDPT	**Sand Point**	**3.65**	**56**	Pn	**Pn**	**09 29 12.9**	**+0.9**
SDPT				IAML		09 30 06.1	
	comp=E,194nm,1.9s						
SDPT				IAML		09 30 10.7	
	comp=N,142nm,1.3s						
SDPT	**Sand Point**	**3.65**	**56**	P	**Pn**	**09 29 13.6**	**+1.6**
CHGN	**Chignik**	**5.14**	**53**		**Pn**	**09 29 33.9**	**+1.5**
ATKA	**Atka Island**	**5.26**	**260**		**Pn**	**09 29 34.4**	**+0.3**
ATKA				IAML		09 30 17.0	
	comp=N,78nm,1.8s						
ATKA				IAML		09 30 41.9	
	comp=E,94nm,1.8s						
ATKA	**Atka Island**	**5.26**	**260**	P	**Pn**	**09 29 35.5**	**+1.5**
O14K	**Tigyukauivet M**	**6.37**	**21**		**Pn**	**09 29 49.2**	**-0.1**
O15K	**Ungalikthiuk R**	**6.66**	**27**		**Pn**	**09 29 55.0**	**+1.7**
N14K	**Kuskokwak Cree**	**6.91**	**17**		**Pn**	**09 29 58.7**	**+2.0**
M13K	**Dall Lake**	**7.15**	**10**		**Pn**	**09 30 00.0**	**+0.1**
N15K	**Kwethluk River**	**7.46**	**22**	Pn	**Pn**	**09 30 03.3**	**-0.9**
O16K	**Kokwok River B**	**7.51**	**31**		**Pn**	**09 30 05.7**	**+0.7**
M14K	**Bethel**	**7.65**	**14**	Pn	**Pn**	**09 30 06.9**	**+0.1**
OHAK	**Old Harbor**	**8.08**	**57**	Pn	**Pn**	**09 30 12.7**	**0.0**
OHAK	**Old Harbor**	**8.08**	**57**	P	**Pn**	**09 30 12.4**	**-0.2**
L14K	**Kuka Creek**	**8.13**	**11**	Pn	**Pn**	**09 30 13.8**	**+0.4**
M16K	**Timber Creek**	**8.48**	**23**	Pn	**Pn**	**09 30 18.1**	**0.0**
N17K	**Nushagak Hills**	**8.53**	**30**	Pn	**Pn**	**09 30 19.2**	**+0.3**
KDAK	**Kodiak Island**	**8.65**	**54**	Pn	**Pn**	**09 30 19.7**	**-0.8**
O18K	**Koktuh Hills**	**8.69**	**38**	Pn	**Pn**	**09 30 23.1**	**+2.0**
Q19K	**Cape Douglas,**	**8.73**	**46**	Pn	**Pn**	**09 30 23.2**	**+1.6**
L16K	**Owhat River**	**8.98**	**20**	Pn	**Pn**	**09 30 26.1**	**+1.1**
N18K	**Kilae Creek**	**9.05**	**32**	Pn	**Pn**	**09 30 26.6**	**+0.5**
SYI	**Shuyak Island**	**9.12**	**50**	Pn	**Pn**	**09 30 27.1**	**+0.2**
M17K	**Holitna River**	**9.18**	**26**	Pn	**Pn**	**09 30 28.5**	**+0.7**
K15K	**Wolf Creek Mou**	**9.19**	**12**	Pn	**Pn**	**09 30 28.8**	**+0.8**
SVW2	**Sparrevohn**	**9.47**	**31**	Pn	**Pn**	**09 30 33.0**	**+1.3**
SVW2	**Sparrevohn**	**9.47**	**31**	P	**Pn**	**09 30 33.8**	**+2.0**
N19K	**Bonanza Creek**	**9.62**	**35**	Pn	**Pn**	**09 30 33.5**	**-0.4**
CNPM	**China Poot**	**10.10**	**47**	Pn	**Pn**	**09 30 40.3**	**0.0**
J16K	**Anvik River**	**10.27**	**13**	Pn	**Pn**	**09 30 42.3**	**-0.3**
BRLK	**Bradley Lake**	**10.37**	**46**	Pn	**Pn**	**09 30 42.1**	**-2.0**
L19K	**White Mountain**	**10.54**	**29**	Pn	**Pn**	**09 30 46.9**	**+0.6**
TTA	**Tatalina**	**10.84**	**24**	Pn	**Pn**	**09 30 50.0**	**-0.4**
J18K	**Innoko River**	**11.13**	**21**	Pn	**Pn**	**09 30 54.7**	**+0.3**
O22K	**Cooper Landing**	**11.25**	**45**	Pn	**Pn**	**09 30 55.4**	**-0.6**
SUA	**Susitna One**	**11.41**	**39**	Pn	**Pn**	**09 30 58.3**	**0.0**
PWL	**Port Wells**	**12.03**	**45**	Pn	**Pn**	**09 31 05.2**	**-1.5**
J20K	**Nowinta River**	**12.34**	**24**	Pn	**Pn**	**09 31 10.9**	**0.0**
HIN	**Hinchinbrook I**	**12.61**	**49**	Pn	**Pn**	**09 31 13.5**	**-1.1**
TRF	**Thorofare Moun**	**12.88**	**33**	Pn	**Pn**	**09 31 19.9**	**+1.4**
SCM	**Sheep Creek Mo**	**12.95**	**42**	Pn	**Pn**	**09 31 17.8**	**-1.5**
RND	**Reindeer**	**13.33**	**35**	Pn	**Pn**	**09 31 24.5**	**0.0**
KLU	**Klutina**	**13.36**	**45**	Pn	**Pn**	**09 31 23.1**	**-1.8**
M24K	**Tolsona, Glenn**	**13.56**	**42**	Pn	**Pn**	**09 31 26.1**	**-1.5**
H21K	**Melozitna Rive**	**13.89**	**23**	Pn	**Pn**	**09 31 33.7**	**+1.6**
N25K	**Chitina, Valde**	**13.97**	**46**	Pn	**Pn**	**09 31 31.7**	**-1.6**
GLB	**Gilahina Butte**	**14.24**	**47**	Pn	**Pn**	**09 31 35.4**	**-1.5**
CRQM	**Cirque**	**14.28**	**50**	Pn	**Pn**	**09 31 34.4**	**-3.1**
WAX	**Waxell Ridge**	**14.30**	**51**	Pn	**Pn**	**09 31 36.1**	**-1.6**
VRDI	**Verde Repeater**	**14.31**	**48**	Pn	**Pn**	**09 31 36.0**	**-1.9**
I23K	**Minto, Yukon-K**	**14.39**	**29**	Pn	**Pn**	**09 31 39.0**	**+0.3**
F20K	**Avaraart Lake**	**14.54**	**16**	Pn	**Pn**	**09 31 41.2**	**+0.5**
MDM	**Murphy Dome**	**14.59**	**31**	Pn	**Pn**	**09 31 40.9**	**-0.5**
ISLE	**Juniper Island**	**14.60**	**51**	Pn	**Pn**	**09 31 40.0**	**-1.6**
E19K	**Redstone River**	**14.69**	**13**	Pn	**Pn**	**09 31 41.4**	**-1.4**
IL31		**14.88**	**33**	Pn	**Pn**	**09 31 46.3**	**+1.0**
RIDG	**Independent Ri**	**14.96**	**38**	Pn	**Pn**	**09 31 45.8**	**-0.5**
M26K	**Nabesna, AK**	**15.01**	**44**	Pn	**Pn**	**09 31 45.2**	**-1.8**
BARN	**Barnard Glacie**	**15.06**	**50**	Pn	**Pn**	**09 31 48.0**	**+0.2**
CTGM	**Chitina Glacie**	**15.18**	**50**	Pn	**Pn**	**09 31 48.8**	**-0.6**
SCRK	**Sand Creek**	**15.41**	**38**	Pn	**Pn**	**09 31 51.6**	**-0.7**
SCRK				IAmb	IAmb	09 32 02.7	
	comp=Z,6.4nm,1.5s						
G23K	**Bananza Creek**	**15.41**	**24**	Pn	**Pn**	**09 31 51.5**	**-0.7**
G23K				IAmb	IAmb	09 32 07.6	
	comp=Z,4.5nm,1.4s						
M27K	**Edge Creek, AK**	**15.46**	**45**	Pn	**Pn**	**09 31 52.1**	**-0.8**
L27K	**Beaver Creek,**	**15.79**	**43**	Pn	**Pn**	**09 31 57.5**	**+0.5**
L27K				IAmb	IAmb	09 32 09.4	
	comp=Z,4.9nm,1.5s						
BCAR	**Beaver Creek A**	**15.80**	**43**	Pn	**Pn**	**09 31 57.0**	**-0.3**
J26L	**Joseph Creek**	**15.85**	**37**	Pn	**Pn**	**09 31 58.2**	**+0.2**
O29M	**Mount Kennedy**	**16.30**	**54**	Pn	**Pn**	**09 32 04.6**	**+0.9**
I26K	**Coal Creek Min**	**16.46**	**35**	Pn	**Pn**	**09 32 05.0**	**-0.5**
I26K				IAmb	IAmb	09 32 06.4	
	comp=Z,5.7nm,1.5s						
DAWY	**Dawson**	**17.21**	**41**	P	**P**	**09 32 15.3**	**-0.8**
N30M	**Aishikik Lake**	**17.29**	**51**	P	**Pn**	**09 32 15.8**	**-0.2**
L29M	**L29M**	**17.34**	**45**	P	**Pn**	**09 32 15.9**	**-0.7**
L29M				IAmb	IAmb	09 32 33.0	
	comp=Z,6.8nm,1.3s						
BMAR	**Burnt Mountain**	**17.38**	**28**	P	**P**	**09 32 16.2**	**-1.7**
I28M	**Miner Creek**	**17.66**	**37**	P	**P**	**09 32 22.3**	**+1.2**
K29M	**Barlow Dome**	**17.87**	**43**	P	**Pn**	**09 32 22.5**	**-0.7**
K29M				IAmb	IAmb	09 32 23.9	
	comp=Z,9.2nm,1.4s						
C23K	**Itkillik River**	**17.89**	**17**	P	**Pn**	**09 32 24.0**	**+0.7**
C23K				IAmb	IAmb	09 32 42.0	
	comp=Z,9.1nm,1.5s						
H29M	**Whitestone**	**18.61**	**36**	P	**Pn**	**09 32 30.6**	**-1.5**
G29M	**Pine Creek**	**19.09**	**34**	P	**Pn**	**09 32 37.3**	**-0.5**
G29M				IAmb	IAmb	09 32 59.8	
	comp=Z,2.5nm,1.0s						
P33M	**Teslin, Yukon**	**19.12**	**56**	P	**Pn**	**09 32 39.0**	**+0.7**
P33M				IAmb	IAmb	09 32 52.2	
	comp=Z,6.4nm,1.2s						
FARO	**Faro, Yukon**	**19.20**	**50**	P	**Pn**	**09 32 39.7**	**+0.6**
FARO				IAmb	IAmb	09 33 01.5	
	comp=Z,7.2nm,1.4s						
G30M	**tAoh Zraii Nji**	**19.74**	**35**	P	**Pn**	**09 32 44.1**	**-1.4**
G30M				IAmb	IAmb	09 33 01.7	
	comp=Z,3.5nm,1.2s						
H31M	**Peel River**	**19.89**	**39**	P	**P**	**09 32 44.0**	**-1.5**
H31M				IAmb	IAmb	09 33 02.6	
	comp=Z,6.1nm,1.5s						
E29M	**Blow River**	**19.94**	**31**	P	**Pn**	**09 32 45.8**	**-2.1**
INK	**Inuvik**	**21.28**	**33**	P	**P**	**09 32 59.2**	**-1.1**
INK				IAmb	IAmb	09 33 13.4	
	comp=Z,2.7nm,1.2s						

KRSC 09 10:07:26.1±1.1,49˚.54N×158˚.83E,h52km±39km,Ml3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.09**	**304**	*eP*	**Pn**	**10 08 00.5**	**+1.9**
SKR				*eS*	**Sn**	**10 08 26.0**	**+2.9**
PAU	**Pauzhetka**	**2.32**	**327**	*eS*	**Sn**	**10 08 32.3**	**+3.1**
KDTR	**Khodutka, Kamc**	**2.33**	**348**	*eS*	**Sn**	**10 08 32.7**	**+3.5**
ASAK	**Asacha**	**2.91**	**349**	*eP*	**Pn**	**10 08 13.4**	**+3.4**
ASAK				*eS*	**Sn**	**10 08 47.6**	**+3.9**
MTVR	**Mutnovka**	**2.98**	**352**	*eP*	**Pn**	**10 08 14.1**	**+3.1**
MTVR				*eS*	**Sn**	**10 08 49.1**	**+3.6**
GRL	**Gorelyy**	**3.06**	**351**	*eP*	**Pn**	**10 08 15.7**	**+3.7**
GRL				*eS*	**Sn**	**10 08 51.6**	**+4.2**
KRMR	**Karymshinskiy**	**3.33**	**353**	*eP*	**Pn**	**10 08 19.7**	**+4.1**
KRMR				*eS*	**Sn**	**10 08 58.8**	**+4.9**
PET	**Petropavlovsk**	**3.49**	**358**	*eS*	**Sn**	**10 09 01.3**	**+3.4**
DALK	**Dalny**	**3.50**	**359**	*eP*	**Pn**	**10 08 21.2**	**+3.2**
DALK				*eS*	**Sn**	**10 09 01.3**	**+3.2**
SMAR	**Somma**	**3.73**	**360**	*eP*	**Pn**	**10 08 25.1**	**+3.7**
SDLR	**Sedlovina**	**3.75**	**0**	*eP*	**Pn**	**10 08 24.3**	**+2.9**
KOK	**Koryaka**	**3.76**	**358**	*eP*	**Pn**	**10 08 25.6**	**+4.0**
KRX	**Arik**	**3.83**	**358**	*eP*	**Pn**	**10 08 25.9**	**+3.2**
TUMR	**Tumrok**	**5.81**	**7**	*eP*	**Pn**	**10 08 54.2**	**+4.4**

IDC 09 10:09:49.2±7.3,12˚.01N×140˚.46E,h0km,mb3.8/5, mbtmp3.8/5,Error ellipse: s-maj=330.6km s-min=32.2km az=80.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,1.0s,baz=10,slow=8.9,SNR=1.9 0.3nm,1.0s	**32.32**	**191**	P	P	10 16 20.1	-0.1
MKAR	**Makanchi Array** 0.8nm,0.6s,baz=104,slow=7.7,SNR=4.1 0.8nm,0.6s	**59.69**	**317**	P	P	10 19 56.3	+0.7
ZALV	**Zalesovo Beam** 0.7nm,0.4s,baz=106,slow=8.2,SNR=4.0 0.7nm,0.4s	**60.45**	**326**	P	P	10 20 00.2	-0.4
KURBB	**Kurchatov Arra** 0.8nm,0.7s,baz=114,slow=6.0,SNR=6.1 0.8nm,0.7s	**63.09**	**321**	P	P	10 20 18.6	+0.2
BVAR	**Borovoye Array** 0.7nm,0.5s,baz=73,slow=9.9,SNR=3.7 0.7nm,0.5s	**68.52**	**322**	P	P	10 20 53.0	-0.5

*JMA **09** 10:26:42.2±0.5,33˚.N±2˚.×13˚.8E±˚,h368km±4km,MV3.3/35, FAR S OFF SHIZUOKA PREF*

*IDC **09** 10:26:43.8±0.7,33˚.39N×137˚.67E,h343km±6km,mb3.2/10, mbtmp3.8/15,Error ellipse: s-maj=16.5km s-min=10.5km az=86.0*

ISC 09 10:26:44.4±0.8,33˚.46N±0˚.08×137˚.69E±0˚.06,h348km±6km, n38,σ0°80/48,mb3.4/10,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO3	**TONANKAI O.B.S**	**0.47**	**329**	*eP*	**Pn**	**10 27 29.1**	**+1.0**
TK02	**Tokai 2**	**0.49**	**7**	P	**Pn**	**10 27 28.8**	**+0.7**
TTO4	**TONANKAI O.B.S**	**0.56**	**347**	*eP*	**Pn**	**10 27 28.9**	**+0.7**
TTO2	**TONANKAI O.B.S**	**0.62**	**297**	*eP*	**Pn**	**10 27 29.2**	**+0.9**
TTO1	**TONANKAI O.B.S**	**0.77**	**283**	*eP*	**Pn**	**10 27 29.5**	**+0.8**
TTO5	**TONANKAI O.B.S**	**0.80**	**2**	*eP*	**Pn**	**10 27 29.8**	**+0.9**
JIE	**Ise**	**1.24**	**319**	P	**Pn**	**10 27 31.3**	**+0.4**
JIE				S	**S**	**10 28 08.1**	**-0.1**
JTNC	**Tanabenakahech**	**1.77**	**282**	P	**Pn**	**10 27 34.0**	**0.0**
JHJ	**Hachijo jima 2** 52nm,0.3s,baz=270,slow=22,SNR=1.5	**1.79**	**100**	P	**Pn**	**10 27 34.2**	**+0.1**
JHJ				S	**S**	**10 28 13.1**	**-0.9**
	54nm,0.2s,baz=130,slow=22,SNR=1.4						
JHJ2	**Mitsune**	**1.81**	**100**	*eP*	**Pn**	**10 27 34.9**	**+0.7**
JWY	**Kouya**	**1.90**	**294**	P	**Pn**	**10 27 35.3**	**+0.4**
JWY				*eS*	**S**	**10 28 14.6**	**-0.8**
JOD2	**Odawara 2**	**2.14**	**32**	P	**Pn**	**10 27 36.5**	**0.0**
JOD2				*eS*	**S**	**10 28 20.0**	**+1.7**
JYN	**Shimob**	**2.16**	**19**	P	**Pn**	**10 27 36.7**	**+0.1**
JYTA	**Yamagatataniai**	**2.27**	**340**	P	**Pn**	**10 27 37.6**	**+0.2**
JYTA				*eS*	**S**	**10 28 19.9**	**-0.2**
JWT	**Wachi**	**2.63**	**315**	P	**Pn**	**10 27 40.5**	**+0.2**
JWT				*eS*	**S**	**10 28 24.0**	**-1.2**
JAI	**Aioi**	**2.72**	**278**	P	**Pn**	**10 27 41.0**	**-0.2**
JRY	**Ryogami san**	**2.74**	**21**	P	**Pn**	**10 27 41.4**	**+0.2**
JRY				*eS*	**S**	**10 28 26.7**	**-0.3**
BSO1	**Boso 1**	**2.98**	**65**	P	**Pn**	**10 27 41.3**	**-1.5**
BSO1				*eS*	**S**	**10 28 27.4**	**-2.4**
MJAR	**Matsushiro Arr** 44nm,0.8s,baz=191,slow=9.8,SNR=164	**3.11**	**8**	P	**Pn**	**10 27 43.6**	**-0.9**
MJAR				S	**S**	**10 28 32.4**	**-0.5**
	5.1nm,0.7s,baz=183,slow=16,SNR=4.5						
MAT	**Matsushiro**	**3.11**	**8**	P	**Pn**	**10 27 44.3**	**-0.2**
MAT				*eS*	**S**	**10 28 32.4**	**-0.5**
JMN	**Monobe**	**3.19**	**276**	P	**Pn**	**10 27 45.4**	**0.0**
JAG	**Ashikaga**	**3.30**	**26**	P	**Pn**	**10 27 44.6**	**-1.7**
JHS	**Saijyo**	**4.09**	**293**	*eP*	**Pn**	**10 27 54.4**	**+0.2**
JTO	**Tosashimizu**	**4.14**	**263**	*eP*	**Pn**	**10 27 54.4**	**-0.4**
JNU	**Nakatsue** 4.5nm,0.5s,baz=100,slow=6.1,SNR=7.6	**5.71**	**269**	P	**Pn**	**10 28 11.9**	**0.0**
KSRS	**Korea Array** 2.2

comp=E,170nm,0.4s
PYUN Piuthan 7.46 133 *e*Pn **Pn 10 44 54.5 +0.2**
PYUN *e*Sn **Sn 10 46 17.6 -1.0**
comp=E,650nm,0.6s
GAR Garm 7.70 318 **Pn 10 44 56.6 -1.0**
DANN Dangsing 7.77 128 *e*Pn **Pn 10 44 59.5 +0.8**
DANN *e*Sn **Sn 10 46 26.1 -0.4**
comp=E,145nm,0.4s
NRN Naryn 8.06 355 **Pn 10 45 01.9 -0.8**
NRN Naryn 8.06 355 P **Pn 10 45 01.9 -0.8**
KOLN Koldanda 8.07 132 *e*Pn **Pn 10 45 03.3 +0.6**
KOLN *e*Sn **Sn 10 46 33.2 -0.5**
comp=E,494nm,0.7s
CHGR Chuyangaron 8.16 312 **Pn 10 45 03.1 -0.8**
CHGR Chuyangaron 8.16 312 P **Pn 10 45 03.1 -0.8**
BTK Batken 8.23 326 Pn **Pn 10 45 05.3 +0.4**
BTK Batken 8.23 326 P **Pn 10 45 05.3 +0.4**
TARG Taragay, Kyrgy 8.36 5 Pn **Pn 10 45 05.7 -1.1**
TARG Taragay, Kyrgy 8.36 5 P **Pn 10 45 05.7 -1.1**
ARSB Arslanbob 8.50 340 Pn **Pn 10 45 08.6 0.0**
ARSB Arslanbob 8.50 340 P **Pn 10 45 08.6 0.0**
GKN Gorkha 8.58 127 *e*Pn **Pn 10 45 10.5 +0.8**
GKN *e*Sn **Sn 10 46 44.5 -1.7**
comp=E,155nm,0.3s
KZA Kyzart 8.77 352 P **Pn 10 45 15.3 +2.9**
SNR=13
UCH Uchtor 9.01 349 P **Pn 10 45 18.1 +2.2**
SNR=34
AML Almayashu 9.08 345 P **Pn 10 45 18.4 +1.6**
SNR=24
AML Almayashu 9.08 345 ⇓P **Pn 10 45 17.4 +0.7**
comp=E,4.7nm,1.1s
AML ⇑S **Sn 10 46 54.5 -4.2**
comp=E,5.2nm,0.7s
ALBI Allahabad 9.13 151 *e*P **Pn 10 45 17.6 +0.4**
ALBI IAML 10 46 58.8
comp=N,77nm,0.5s
DMN Daman 9.15 127 *e*Pn **Pn 10 45 18.5 +0.9**
DMN *e*Sn **Sn 10 46 58.7 -1.7**
comp=N,102nm,0.4s
KKN Kakani 9.15 125 *e*Pn **Pn 10 45 17.9 +0.3**
KKN *e*Sn **Sn 10 46 57.6 -2.7**
comp=N,530nm,0.8s
PKIN Phulchoki 9.37 126 *e*Pn **Pn 10 45 20.9 +0.3**
PKIN *e*Sn **Sn 10 47 04.3 -1.4**
comp=N,206nm,0.5s
KBK Karagaybulak 9.37 351 P **Pn 10 45 22.7 +2.2**
SNR=11
PKI Pulchoki 9.38 126 *e*Pn **Pn 10 45 21.0 +0.2**
PKI *e*Sn **Sn 10 47 04.2 -1.9**
comp=N,65nm,0.3s
AAK Ala-Archa 9.42 349 Pn **Pn 10 45 20.4 -0.7**
AAK Ala-Archa 9.42 349 *i* P **Pn 10 45 23.5 +2.3**
AAK Ala-Archa 9.42 349 Pn **Pn 10 45 23.3 +2.2**
comp=N,1.9nm,0.3s,baz=145,slow=7.6,SNR=16
AAK Sn **Sn 10 47 05.7 -1.0**
comp=N,0.3nm,0.3s,baz=67,slow=12,SNR=2.7
AAK LR LR 10 49 13.4
comp=N,92nm,19.0s,baz=175,slow=39
comp=N,4.2nm,0.4s
GUN Gumba 9.49 123 *e*Pn **Pn 10 45 22.6 +0.2**
GUN *e*Sn **Sn 10 47 06.6 -2.3**
comp=N,82nm,0.4s
TKM2 Tokmak 2 9.57 354 P **Pn 10 45 26.9 +3.6**
SNR=14
TKM2 Tokmak 2 9.57 354 ⇓P **Pn 10 45 26.0 +2.7**
comp=N,5.7nm,0.5s
EKS2 Erkin-Say 9.57 346 P **Pn 10 45 22.8 -0.4**
SNR=8.5
CHMS Chumysh 9.73 351 ⇑P **Pn 10 45 28.2 +2.8**
comp=N,6.0nm,0.7s
MDOK Medeo 9.76 1 ⇓P **Pn 10 45 29.0 +3.2**
comp=N,16nm,0.7s
JIRN Jiri 9.86 123 *e*Pn **Pn 10 45 28.1 +0.6**
JIRN *e*Sn **Sn 10 47 15.5 -2.5**
comp=N,193nm,0.5s
BHPL Bhopal 10.13 177 *e*P **Pn 10 45 30.8 0.0**
BHPL *e*S **Sn 10 47 19.0 -5.1**
BHPL IAML 10 47 27.5
comp=N,95nm,0.3s
PDGK Podgornoye 10.13 11 ⇓P **Pn 10 45 33.0 +2.1**
comp=N,20nm,0.5s
RAMN Ramite 10.59 125 *e*Pn **Pn 10 45 37.5 +0.2**
RAMN *e*Sn **Sn 10 47 33.2 -2.5**
comp=N,135nm,0.6s
KK31 Karatay Array 10.90 335 Pn **Pn 10 45 41.2 -0.2**
KK31 Karatay Array 10.90 335 P **Pn 10 45 41.2 -0.2**
KK31 Karatay Array 10.90 335 P **Pn 10 45 40.7 -0.7**
comp=N,22nm,0.7s,baz=141,slow=11,SNR=112
KK31 ⇑S **Sn 10 47 38.4 -4.6**
comp=N,9.6nm,0.5s,baz=171,slow=24,SNR=5.0
KKAR Karatay Array 10.90 335 Pn **Pn 10 45 41.2 -0.1**
KKAR Karatay Array 10.90 335 Pn **Pn 10 45 40.3 -1.1**
KKAR Karatay Array 10.90 335 P **Pn 10 45 40.3 -1.1**
TAPN Taplejung 11.13 120 *e*Pn **Pn 10 45 44.7 -0.1**
TAPN *e*Sn **Sn 10 47 46.7 -2.3**
comp=N,142nm,0.8s
ODAN Odare 11.19 123 *e*Pn **Pn 10 45 45.9 +0.3**
ODAN *e*Sn **Sn 10 47 47.8 -2.7**
comp=N,164nm,0.5s
BOK Bokaro 12.41 138 *e*S **Sn 10 48 13.5 -6.5**
AKL Akola 12.64 179 *e*P **Pn 10 46 04.1 -1.2**
AKL *e*S **Sn 10 48 18.9 -6.8**
WMQ Urumqi 13.41 36 *e*P **Pn 10 46 15.1 -0.5**
WMQ sP P 10 46 28.7 +3.7
WMQ pmax pmax
comp=Z,25nm,0.7s
WMQ LR LR
comp=Z,120nm,21.7s
MAKZ Makanchi 13.95 15 Pn **Pn 10 46 22.8 -0.2**
MAKZ Makanchi 13.95 15 P **Pn 10 46 22.8 -0.2**
MK31 Makanchi Array 14.01 16 Pn **Pn 10 46 22.6 -1.2**
MK31 Makanchi Array 14.01 16 P **Pn 10 46 22.6 -1.2**
MK31 Makanchi Array 14.01 16 ⇓P **Pn 10 46 24.4 +0.6**
comp=Z,3.5nm,0.5s,baz=195,slow=12,SNR=81
MKAR Makanchi Array 14.01 16 Pn **Pn 10 46 22.6 -1.2**
MKAR Makanchi Array 14.01 16 *ce*P **Pn 10 46 23.3 -0.5**
MKAR pmax pmax
comp=Z,3.0nm,0.3s
MKAR Makanchi Array 14.01 16 Pn **Pn 10 46 23.2 -0.6**
comp=Z,1.3nm,0.3s,baz=199,slow=12,SNR=32
MKAR Sn **Sn 10 48 51.5 -7.4**
comp=Z,1.3nm,0.3s,baz=196,slow=24,SNR=7.8
MKAR LR LR 10 52 31.0
comp=Z,97nm,18.2s,baz=206,slow=40
comp=Z,3.1nm,0.3s
SHL Shillong 15.21 117 **Pn 10 46 37.9 -2.5**
SHL IAmb IAmb 10 46 48.3
comp=Z,18nm,0.6s
SHL Shillong 15.21 117 P **Pn 10 46 37.9 -2.5**
SHL pmax pmax
comp=Z,18nm,0.6s
OTUK Ortayu 15.22 348 ⇑P **Pn 10 46 40.6 +0.3**
comp=Z,7.7nm,0.6s
GEYT Alibeck 15.89 292 **Pn 10 46 47.2 -1.8**
GEYT Alibeck 15.89 292 P **Pn 10 46 47.3 -1.8**
GEYT pmax pmax
comp=Z,6.0nm,0.8s
GEYT Alibeck 15.89 292 Pn **Pn 10 46 43.8 -5.2**
comp=Z,0.6nm,0.3s,baz=106,slow=11,SNR=4.8
GEYT LR LR 10 53 31.3
comp=Z,70nm,19.8s,baz=330,slow=40
GYA0B ALIBECK ARRAY 15.89 292 Pn **Pn 10 46 47.4 -1.7**
HYB Hyderabad 15.98 174 *e*P **P 10 46 55.3 +1.6**
KURBB Kurchatov Arra 17.26 4 P **Pn 10 47 05.2 -1.1**
comp=Z,0.3nm,0.3s,baz=191,slow=11,SNR=26
KURBB S **S 10 50 22.8 -3.8**
comp=Z,1.2nm,0.9s,baz=184,slow=21,SNR=3.8
comp=Z,4.5nm,0.8s
KURBB Kurchatov Arra 17.26 4 ⇓P **Pn 10 47 06.6 +0.4**
comp=Z,12nm,0.8s
KURK Kurchatov 17.36 4 P **Pn 10 47 07.3 -0.1**
KURK Kurchatov 17.36 4 *ce*P **P 10 47 09.0 +0.3**
KURK pmax pmax
comp=Z,15nm,0.8s
DGZ Jazzator, Alta 18.08 23 *i* P **P 10 47 17.7 +0.8**
DGZ pmax pmax
comp=Z,9.0nm,0.6s
WSAR Wadi Sarin 18.95 242 LR LR 10 55 11.9
comp=Z,49nm,20.9s,baz=50,slow=38
GTA Gaotai 19.40 65 P **Pn 10 47 33.5 +0.9**
GTA sP sP 10 47 46.3 +6.2
GTA pmax pmax
comp=Z,10.0nm,1.0s
BVA0 Borovoye Array 20.17 349 P **P 10 47 40.2 +0.7**
comp=Z,9.3nm,0.6s,baz=155,slow=11,SNR=53
BVAR Borovoye Array 20.17 349 P **P 10 47 40.1 +0.5**
comp=Z,10nm,0.6s,baz=158,slow=10,SNR=42
comp=Z,10nm,0.6s
BRVK Borovoye 20.22 348 P **P 10 47 40.9 +0.8**
BRVK IAmb IAmb 10 47 47.2
comp=Z,18nm,0.7s
BRVK Borovoye 20.22 348 *ce*P Pn 10 47 41.3 -0.8
BRVK pmax pmax
comp=Z,15nm,0.6s
AB31 Akbulak array 20.24 327 P **P 10 47 40.3 -0.1**
comp=Z,6.5nm,0.7s,baz=128,slow=12,SNR=79
ABKAR Akbulak array 20.24 327 P **P 10 47 40.2 -0.2**
ABKAR Akbulak array 20.24 327 P **P 10 47 40.3 -0.1**
ABKAR IAmb IAmb 10 47 42.3
comp=Z,9.5nm,0.9s
TNCH TengChong 20.63 108 P Pn 10 47 47.0 -0.3
TNCH pP sP 10 47 54.8 +1.0
TNCH pmax pmax
comp=Z,46nm,1.1s
ZAA0 Zalesovo Array 21.31 13 P **P 10 47 50.8 -1.1**
ZALV Zalesovo Beam 21.31 13 P **P 10 47 51.1 -0.8**
ZALV Zalesovo Beam 21.31 13 *i* P **P 10 47 51.9 0.0**
ZALV pmax pmax
comp=Z,4.0nm,0.4s
ZALV Zalesovo Beam 21.31 13 P **P 10 47 51.5 -0.4**
comp=Z,4.3nm,0.5s,baz=201,slow=9.5,SNR=22
ZALV S **S 10 51 44.3 -3.6**
comp=Z,0.7nm,0.7s,baz=198,slow=18,SNR=1.7
ZALV LR LR 10 55 36.4
comp=Z,29nm,21.4s,baz=220,slow=35
comp=Z,4.3nm,0.5s
AKTO Aktyubinsk 21.96 326 P **P 10 47 59.1 +0.2**
comp=Z,20nm,0.7s,baz=119,slow=9.5,SNR=44
AKTO S **S 10 51 59.2 -1.4**
comp=Z,1.1nm,0.6s,baz=117,slow=18,SNR=2.2
AKTO LR LR 10 57 03.9
comp=Z,173nm,19.0s,baz=156,slow=38
comp=Z,20nm,0.7s
AKTO Aktyubinsk 21.96 326 ⇓P **P 10 47 58.8 -0.1**
comp=Z,12nm,0.7s
LZH Lanzhou 22.31 75 *e*P **P 10 48 05.5 +2.5**
LZH pP sP 10 48 13.7 +1.9
LZH sP pP 10 48 17.9 +9.1
LZH pmax pmax
comp=Z,20nm,1.0s
PZH PanZhiHua 22.59 101 P **P 10 48 07.7 +1.7**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,200nm,5.0s
KMI Kunming 23.98 103 ⇑P **P 10 48 21.1 +1.0**
KMI pmax pmax
comp=Z,31nm,0.7s
CHTO Chiang Mai 24.50 121 P **P 10 48 24.8 +0.1**
CHTO IAmb IAmb 10 48 29.3
comp=Z,14nm,0.8s
CHTO Chiang Mai 24.50 121 P **P 10 48 24.8 +0.1**
CHTO pmax pmax
comp=Z,14nm,0.8s
CRAI Chiangrai 24.67 116 P **P 10 48 26.8 +0.6**
CRAI IAmb IAmb 10 48 34.2
comp=Z,14nm,1.0s
CM31 Chiang Mai Arr 24.73 121 P **P 10 48 26.9 +0.1**
CMAR Chiang Mai Arr 24.73 121 *ce*P **P 10 48 28.5 +1.7**
CMAR pmax pmax
comp=Z,19nm,0.6s
CMAR Chiang Mai Arr 24.73 121 P **P 10 48 27.7 +1.0**
comp=Z,19nm,0.6s,baz=310,slow=11,SNR=68
comp=Z,19nm,0.6s
MAK Makhachkala 24.87 301 *e*P **P 10 48 27.7 -0.1**
MAK *e* 10 48 59.8
MAK *e*S **S 10 52 49.8 -0.3**
MAK *e*SS **SnSn 10 53 38.5 +0.6**
MAK pmax pmax
comp=Z,186nm,1.3s
MAK MLR MLR
comp=Z,135nm,15.0s
SVE Sverdlovsk 25.95 339 *e*P **P 10 48 41.3 +3.9**
SVE pmax pmax
comp=Z,22nm,1.1s
ARU Arti 26.27 337 *i* P **P 10 48 42.0 +1.7**
ARU pmax pmax
comp=Z,8.0nm,0.7s
ARU Arti 26.27 337 LR LR 11 00 15.4
comp=Z,98nm,18.5s,baz=253,slow=39
SONM Songino Array 26.46 48 P **P 10 48 44.1 +1.7**
comp=Z,3.4nm,0.6s,baz=243,slow=9.8,SNR=12
comp=Z,3.4nm,0.6s
GNI Garni 26.50 294 *i* P **P 10 48 44.1 +1.2**
GNI pmax pmax
comp=Z,7.0nm,0.8s
GNI Garni 26.50 294 LR LR 11 01 06.5
comp=Z,60nm,19.1s,baz=91,slow=41
XAN Xi'an 26.62 80 *e*P **P 10 48 48.3 +4.5**
XAN pmax pmax
comp=Z,8.0nm,1.0s
GYA Guiyang 26.67 97 *e*P **P 10 48 46.3 +1.8**
GYA pmax pmax
comp=Z,8.0nm,0.5s
ULN Ulaanbaatar 26.88 48 *i* P **P 10 48 48.7 +2.5**
ULN pmax pmax
comp=Z,5.0nm,1.2s
BTO Baotou 27.32 65 *e*P **P 10 48 50.2 0.0**
BTO pP **pP 10 48 54.8 -1.7**
BTO sP **sP 10 48 57.8 -1.5**
BTO PP **PnPn 10 49 39.6 +5.5**
BTO S **S 10 53 30.3 +1.1**
BTO SS **SnSn 10 54 41.4 +3.4**
BTO pmax pmax
comp=Z,10.0nm,0.8s
BTO pmax pmax
comp=Z,320nm,6.6s
BTO LR LR
comp=N,410nm,14.1s
BTO LR LR
comp=E,490nm,9.6s
BTO LR LR
comp=Z,310nm,10.0s
KBZ Khabaz 28.32 301 LR LR 11 02 51.2
comp=Z,98nm,18.1s,baz=62,slow=42
KIV Kislovodsk 28.51 302 *e*P **P 10 49 01.3 +0.6**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,62nm,15.0s
HHC Hu-ho-hao-te 28.51 65 *e*P **P 10 49 02.3 +1.5**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,330nm,5.5s
KIRV Kirov 31.18 332 LR LR 11 02 46.7
comp=Z,158nm,19.5s,baz=125,slow=38
MMAI Mount Meron Ar 34.53 281 LR LR 11 05 23.4
comp=Z,36nm,18.9s,baz=65,slow=39
BR131 Keskin Array S 35.03 293 *i* P **P 10 49 59.8 +1.7**
BRTR Keskin Array B 35.03 293 *ce*P **P 10 49 59.7 +1.7**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 35.03 293 P **P 10 49 58.7 +0.6**
comp=Z,2.4nm,0.8s,baz=87,slow=10,SNR=10
comp=Z,2.4nm,0.8s
NJ2 Nanjing 35.18 80 *e*P **P 10 49 59.5 +0.3**
NJ2 pP **pP 10 50 04.5 -1.3**
NJ2 sP **sP 10 50 08.8 +0.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,270nm,5.4s
EIL Elat 35.75 276 LR LR 11 06 54.9
comp=Z,87nm,19.1s,baz=82,slow=40
ELL Elmali 38.28 289 P **P 10 50 26.2 +0.5**
ELL Elmali 38.28 289 P **P 10 50 26.3 +0.5**
ELL pmax pmax
comp=Z,76nm,0.7s
AKASG Malin Array Be 38.63 311 *ce*P **P 10 50 30.3 +1.9**
AKASG Malin Array Be 38.63 311 P **P 10 50 28.6 +0.2**
comp=Z,0.4nm,0.4s,baz=104,slow=9.8,SNR=4.7
AKASG LR LR 11 08 06.6
comp=Z,86nm,18.2s,baz=30,slow=39
comp=Z,0.4nm,0.4s
KIEV Kiev 38.64 311 P **P 10 50 28.8 +0.4**
KIEV Kiev 38.64 311 P **P 10 50 28.8 +0.4**
KIEV pmax pmax
comp=Z,4.0nm,1.1s
MNK Minsk 40.08 317 *i* P **P 10 50 39.4 -1.0**
comp=E,9.0nm,1.0s
MNK *i* P **P 10 50 39.4 -1.0**
comp=N,11nm,0.8s
MNK *i* P **P 10 50 39.4 -1.0**
comp=Z,6.0nm,0.5s,baz=281
MNK *i* PP **PP 10 52 11.9 -0.6**
MNK *i* PPP PPP 10 52 36.4
MNK *i* S **S 10 56 43.6 -2.0**
MNK *i* SS **SS 10 59 42.6 -0.3**
MNK *i* SSS SSS 11 00 05.2
MNK *i* LQ LQ 11 04 19.1
MNK *i* LR LR 11 07 21.9
MNK *i* LRM MLR 11 09 49.5
comp=E,28nm,8.8s
MNK *i* LRM MLR 11 09 56.4
comp=Z,82nm,9.5s
MNK *i* LRM MLR 11 10 12.0
comp=N,102nm,13.1s
MNK Minsk 40.08 317 *i* P **P 10 50 39.4 -1.0**
MNK *i* 10 52 11.8
MNK *i* PPP PPP 10 52 36.4
MNK *i* S **S 10 56 43.5 -2.0**
MNK *i* SS **SS 10 59 42.5 -0.3**
MNK *i* SSS SSS 11 00 05.1
MNK pmax pmax
comp=Z,6.0nm,0.5s
MNK pmax pmax
comp=E,9.0nm,1.0s
MNK pmax pmax
comp=N,11nm,0.9s
MNK MLR MLR
comp=E,28nm,9.0s
MNK MLR MLR
comp=Z,82nm,10.0s
MNK MLR MLR
comp=N,102nm,13.0s
MLR Muntele Rosu 40.51 303 P **P 10 50 42.6 -1.7**
MLR Muntele Rosu 40.51 303 P **P 10 50 42.6 -1.7**
MLR pmax pmax
comp=Z,10.0nm,1.0s
KARP Karpathos 40.69 287 P **P 10 50 45.8 0.0**
BURAR Bucovina Array 41.01 306 P **P 10 50 48.4 +0.1**
IDI Anoyia 42.55 288 P **P 10 51 00.4 -0.7**
IDI IAmb IAmb 10 51 03.3
comp=Z,35nm,1.4s
FIA1 FINESS Array S 42.73 327 P **P 10 51 01.0 -1.1**
FINES FINESS Array B 42.73 327 P **P 10 51 02.2 +0.1**
FINES FINESS Array B 42.73 327 *i* P **P 10 51 03.4 +1.3**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 42.73 327 P **P 10 51 02.6 +0.5**
comp=Z,2.1nm,0.5s,baz=101,slow=9.9,SNR=12
FINES LR LR 11 09 38.0
comp=Z,191nm,19.1s,baz=48,slow=37
comp=Z,2.1nm,0.5s
KLR Kul'dur 43.19 52 *ce*P **P 10 51 08.3 +2.3**
KLR pmax pmax
comp=Z,3.0nm,0.8s
MNAI Manna 44.94 142 P **P 10 51 18.9 -1.5**
ARCES ARCESS Array B 45.85 337 P **P 10 51 27.1 +0.1**
ARCES ARCESS Array B 45.85 337 P **P 10 51 27.1 +0.1**
ARCES pmax pmax
comp=Z,35nm,1.5s
ARCES ARCESS Array B 45.85 337 P **P 10 51 27.8 +0.9**
comp=Z,1.7nm,0.4s,baz=110,slow=8.1,SNR=20
comp=Z,1.7nm,0.4s
VRAC Vranov 46.71 309 LR LR 11 13 29.9
comp=Z,117nm,18.8s,baz=326,slow=39
TIXI Tiksi 46.94 20 P **P 10 51 36.3 +0.8**
TIXI IAmb IAmb 10 51 57.1
comp=Z,5.9nm,1.1s
TIXI Tiksi 46.94 20 P **P 10 51 36.3 +0.8**
TIXI pmax pmax
comp=Z,6.0nm,1.2s
HFS Hagfors 48.45 323 P **P 10 51 48.0 +0.7**
comp=Z,4.0nm,0.6s,baz=99,slow=9.3,SNR=14
comp=Z,4.0nm,0.6s
GERES GERESS Array B 48.64 308 P **P 10 51 50.8 +1.6**
comp=Z,0.7nm,0.5s,baz=90,slow=13,SNR=2.6
comp=Z,0.7nm,0.5s
MJAR Matsushiro Arr 49.62 68 P **P 10 51 57.7 +1.0**
comp=Z,1.0nm,0.6s,baz=288,slow=7.8,SNR=2.8
comp=Z,1.0nm,0.6s
NB2 NORSAR Subarra 49.73 324 P **P 10 51 58.5 +1.3**
comp=Z,9.5nm,0.9s,baz=93,slow=7.9
NOA NORSAR Array B 49.73 324 P **P 10 51 57.5 +0.3**
comp=Z,2.2nm,0.7s,baz=93,slow=7.5,SNR=8.4
NOA LR LR 11 13 55.3
comp=Z,87nm,19.2s,baz=300,slow=37
comp=Z,2.2nm,0.7s
JTM Tenmabayashi 50.73 62 P **P 10 52 04.0 -1.0**
SPITS Spitsbgen Ar 51.61 347 P **P 10 52 12.7 +1.6**
comp=Z,8.4nm,1.0s,baz=105,slow=17,SNR=1.6
comp=Z,8.4nm,1.0s
JHJ Hachijo jima 2 51.86 72 LR LR 11 18 45.9
comp=Z,53nm,18.2s,baz=124,slow=41
SENIN Lac Senin/Sane 53.31 306 P **P 10 52 25.4 +0.9**
BNI Bardonecchia 54.03 305 P **P 10 52 30.0 +0.4**
BNI Bardonecchia 54.03 305 P **P 10 52 30.0 +0.4**
BNI pmax pmax
comp=Z,24nm,1.5s
SEY Seymchan 54.35 33 LR LR 11 18 08.6
comp=Z,54nm,18.3s,baz=0.0,slow=39
ESDC Sonseca Array 63.18 301 P **P 10 53 33.5 +0.1**
comp=Z,2.6nm,0.7s,baz=53,slow=6.9,SNR=24
comp=Z,2.6nm,0.7s
BORG Borgarnes 63.66 332 LR LR 11 19 13.5
comp=Z,18nm,22.0s,baz=69,slow=34
C19K Lookout Ridge 69.79 19 IAmb IAmb 10 54 22.2
comp=Z,5.5nm,0.8s
TORD Torodi Ar. Bea 70.59 273 P **P 10 54 19.4 -1.4**
comp=Z,1.6nm,0.6s,baz=39,slow=5.9,SNR=11
comp=Z,1.6nm,0.6s
E18K Tukpahlearik C 70.64 20 IAmb IAmb 10 54 24.3
comp=Z,10nm,1.0s
B21K Ikpikpuk River 70.70 17 IAmb IAmb 10 54 24.5
comp=Z,6.9nm,0.9s
E19K Redstone River 71.56 19 IAmb IAmb 10 54 30.8
comp=Z,4.6nm,0.8s
E21K Killik River 71.72 18 IAmb IAmb 10 54 30.2
comp=Z,8.2nm,1.0s
G19K Purcell Mounta 72.53 20 IAmb IAmb 10 54 35.6
comp=Z,5.3nm,0.9s
TOLK Toolik Lake Re 72.63 16 IAmb IAmb 10 54 35.8
comp=Z,11nm,1.2s
H19K Roundabout Mou 73.15 20 IAmb IAmb 10 54 39.5
comp=Z,9.6nm,1.1s
E24K Your Creek 73.33 16 IAmb IAmb 10 54 39.7
comp=Z,6.1nm,1.1s
A36M Sachs Harbour 73.77 7 IAmb IAmb 10 54 42.6
comp=Z,4.9nm,0.8s
H21K Melozitna Rive 74.09 19 IAmb IAmb 10 54 45.0
comp=Z,7.4nm,1.1s
J19K Poorman 74.51 21 IAmb IAmb 10 54 47.7
comp=Z,12nm,1.1s
G24K Hadweenzic Riv 74.66 17 IAmb IAmb 10 54 48.3
comp=Z,6.7nm,0.9s
J20K Nowinta River 74.81 21 IAmb IAmb 10 54 49.4
comp=Z,7.0nm,1.0s
MLY Manley 75.13 19 IAmb IAmb 10 55 04.1
comp=Z,7.8nm,1.2s
BPAW Bear Paw Mtn. 75.78 20 IAmb IAmb 10 54 54.2
comp=Z,10nm,1.1s
MDM Murphy Dome 75.86 18 P **P 10 54 52.1 +0.9**
MDM IAmb IAmb 10 54 56.9
comp=Z,13nm,1.4s
NEA2 Nenana 75.92 19 P **P 10 54 52.3 +0.7**
NEA2 IAmb IAmb 10 54 55.0
comp=Z,11nm,0.9s
POKR Poker Plat Res 75.94 18 IAmb IAmb 10 54 55.6
comp=Z,8.2nm,0.8s
INK Inuvik 76.10 11 P **P 10 54 53.3 +0.9**
INK Inuvik 76.10 11 P **P 10 54 53.3 +0.9**
INK pmax pmax
comp=Z,4.0nm,1.0s
WB0 Warramunga Arr 76.18 125 P **P 10 54 53.4 -0.2**
WB0 IAmb IAmb 10 54 57.8
comp=Z,5.7nm,0.9s
WRA Warramunga Arr 76.26 125 P **P 10 54 53.8 -0.3**
WRA Warramunga Arr 76.26 125 *i* P **P 10 54 55.0 +0.9**
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA Warramunga Arr 76.26 125 P **P 10 54 54.3 +0.2**
comp=Z,3.9nm,0.9s,baz=316,slow=6.7,SNR=42
comp=Z,3.9nm,0.9s
WRAB Tennant Creek 76.26 125 P **P 10 54 52.9 -1.2**
WRAB IAmb IAmb 10 54 56.2

comp=Z,13nm,1.4s
WRAB **Tennant Creek** **76.26** **125** P **P** **10 54 52.9** **-1.2**
WRAB pmax pmax
comp=Z,13nm,1.4s
WB2 **Warramunga Arr** **76.27** **125** P **P** **10 54 54.0** **-0.1**
ILAR **Eielson Array** **76.35** **18** P **P** **10 54 54.5** **+0.5**
comp=Z,2.9nm,0.9s,baz=312,slow=4.8,SNR=34
comp=Z,2.9nm,0.9s
C36M **Paulatuk** **76.41** **7** P **P** **10 54 53.9** **-0.3**
C36M IAmb IAmb 10 54 56.1
comp=Z,6.3nm,0.9s
TSUM **Tsumeb** **77.01** **236** LR LR 11 33 14.5
comp=Z,35nm,18.3s,baz=329,slow=39
J26L **Joseph Creek** **77.40** **17** IAmb IAmb 10 55 03.8
comp=Z,6.5nm,0.8s
I28M **Miner Creek** **77.42** **15** IAmb IAmb 10 55 05.2
comp=Z,5.3nm,1.0s
I30M **Mount Dempster** **78.35** **14** IAmb IAmb 10 55 08.3
comp=Z,9.9nm,1.4s
AS31 **Alice Springs** **78.54** **128** P **P** **10 55 07.2** **+0.5**
ASAR **Alice Springs** **78.54** **128** P **P** **10 55 06.2** **-0.6**
ASAR **Alice Springs** **78.54** **128** P **P** **10 55 05.8** **-1.0**
comp=Z,3.8nm,0.7s,baz=325,slow=5.2,SNR=36
comp=Z,3.8nm,0.7s
BOSA **Boshof** **78.71** **225** P **P** **10 55 07.9** **+0.2**
BOSA IAmb IAmb 10 55 32.8
comp=Z,19nm,1.5s
BOSA **Boshof** **78.71** **225** P **P** **10 55 07.9** **+0.2**
BOSA pmax pmax
comp=Z,19nm,1.5s
BOSA **Boshof** **78.71** **225** P **P** **10 55 08.4** **+0.7**
comp=Z,1.6nm,0.6s,baz=45,slow=1.4,SNR=3.7
comp=Z,1.6nm,0.6s
DAWY **Dawson** **78.73** **15** P **P** **10 55 08.0** **+0.6**
DAWY IAmb IAmb 10 55 10.1
comp=Z,9.4nm,1.3s
J30M **Hart River** **78.94** **14** IAmb IAmb 10 55 12.5
comp=Z,3.8nm,0.8s
K29M **Barlow Dome** **79.34** **15** IAmb IAmb 10 55 14.8
comp=Z,5.2nm,0.8s
DBIC **Dimbokro** **79.47** **271** LR LR 11 35 55.7
comp=Z,35nm,18.8s,baz=16,slow=40
M29M **Somme Creek** **80.36** **16** IAmb IAmb 10 55 21.4
comp=Z,4.9nm,0.8s
YKA **Yellowknife Ar** **84.00** **5** *i* P **P** **10 55 35.5** **+0.3**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA **Yellowknife Ar** **84.00** **5** P **P** **10 55 35.7** **+0.5**
comp=Z,1.9nm,0.7s,baz=343,slow=5.3,SNR=29
comp=Z,1.9nm,0.7s
TXAR **Lajitas Array** **117.61** **1** PKP **PKiKP** **11 01 52.8** **+1.0**
comp=Z,0.4nm,1.1s,baz=27,slow=1.6,SNR=3.5
VNDA **Vanda** **121.25** **165** PKP **PKiKP** **11 01 58.6** **+1.5**
comp=Z,0.4nm,0.8s,baz=305,slow=1.9,SNR=1.2
QSPA **South Pole Qui** **123.19** **180** PKP **PKiKP** **11 02 02.1** **+0.9**
comp=Z,1.7nm,1.0s,baz=298,slow=3.4,SNR=2.4
PLCA **Paso Flores** **153.10** **245** PKPbc **PKiKP** **11 03 04.0** **+1.1**
comp=Z,2.2nm,0.8s,baz=90,slow=3.0,SNR=5.3

ASRS 09 10:51:06.9±0.3, 51°N±3°×9°8E±°, h5km, MLh3.6/5, Error ellipse: s-maj=6.3km s-min=2.6km az=19.1, confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOY	**Mondy**	**1.91**	**67**	Pg	Pg	10 51 46.8	+3.3
MOY				Sg	Sg	10 52 09.0	+0.7
ZAK	**Zakamensk**	**3.31**	**98**	Pg	Pg	10 52 12.3	+2.1
ZAK				Sg	Sg	10 52 55.0	+2.0
IRK	**Irkutsk**	**4.02**	**69**	Sg	Sg	10 53 14.9	-1.0
CERR	**Cheremushki**	**4.59**	**297**	Pg	Pg	10 52 33.5	-1.3
CERR				Sg	Sg	10 53 38.4	+4.2
MINR	**Mina**	**4.62**	**330**	Pg	Pg	10 52 40.2	+4.8
MINR				Sg	Sg	10 53 42.2	+7.0
DJO	**Djoy, Khakassi**	**4.68**	**296**	Pg	Pg	10 52 39.0	+2.6
DJO				Sg	Sg	10 53 40.3	+3.4
GZLN	**Zheleznogorsk**	**6.03**	**336**	Sg	Sg	10 54 23.5	+3.2
CUR	**Chagan-Uzun**	**6.32**	**266**	Sg	Sg	10 54 34.7	+5.1
ULN	**Ulaanbaatar**	**6.57**	**115**	Pg	Pg	10 53 12.9	+0.2
ULN				Sg	Sg	10 54 41.4	+3.6
AKAR	**Aktash**	**6.74**	**269**	Sg	Sg	10 54 45.5	+2.4

*IDC **09** 11:00:41.5±1.4, 51°67N×176°18W, h0km, mb3.8/8, mbtmp3.8/9, ML4.1/1, MS2.6/1, Error ellipse: s-maj=42.6km s-min=18.3km az=1.0*
*AEIC **09** 11:00:46.3±1.8, 51°38N±0°07×176°08W±0°05, h26km±7km, Error ellipse: s-maj=10.5km s-min=4.5km az=173.0*
*NEIC **09** 11:00:49.2±2.0, 51°7N±0°1×176°15W±0°05, h47km±13km, mb4.0/67, ML3.9(AEIC), Error ellipse: s-maj=18.5km s-min=2.5km az=168.0*
ISC 09 11:00:48.2±1.5, 51°5N±0°1×176°12W±0°04, h52km±11km, n125, σ1§14/123, mb4.0/20, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSCK	**Great Sitkin C**	**0.48**	**357**		**Pn**	**11 00 59.1**	**-0.3**
ADK	**Adak**	**0.50**	**315**		**Pn**	**11 00 58.5**	**-1.1**
ADK					**Sn**	**11 01 07.5**	**-0.3**
GSMY	**Great Sitkin M**	**0.52**	**4**		**Pn**	**11 00 59.6**	**-0.2**
GSTD	**Great Sitkin T**	**0.53**	**358**		**Pn**	**11 00 59.5**	**-0.5**
GSTD					**Sn**	**11 01 09.3**	**+0.9**
KIWB	**Kanaga Island**	**0.72**	**297**		**Pn**	**11 01 01.5**	**-0.8**
KIWB	**Kanaga Island**	**0.72**	**297**		**Sn**	**11 01 11.8**	**-0.8**
KIMD	**Kanaga Island**	**0.73**	**289**		**Pn**	**11 01 01.3**	**-1.2**
KIMD					**Sn**	**11 01 12.0**	**-0.9**
TAPA	**Tanaga Point A**	**1.09**	**286**		**Pn**	**11 01 06.7**	**-0.6**
TAFL	**Tanaga Flats**	**1.13**	**282**		**Pn**	**11 01 07.0**	**-0.8**
TAFP	**Tanaga Falls P**	**1.22**	**288**		**Pn**	**11 01 08.5**	**-0.4**
TAFP					**Sn**	**11 01 24.7**	**+0.3**
ATKA	**Atka Island**	**1.37**	**60**		**Pn**	**11 01 09.3**	**-1.6**
ATKA					**Sn**	**11 01 28.6**	**+0.7**
KOKL	**Mount Kliuchef**	**1.43**	**55**		**Pn**	**11 01 11.5**	**-0.3**
KOFP	**Korovin Flat P**	**1.46**	**58**		**Pn**	**11 01 11.5**	**-0.7**
GAEA	**Gareloi East**	**1.66**	**280**		**Pn**	**11 01 15.0**	**+0.1**
GAEA					**Sn**	**11 01 35.8**	**+0.8**
GALAA	**Gareloi Lava P**	**1.67**	**279**		**Pn**	**11 01 15.1**	**0.0**
GANO	**Gareloi North**	**1.70**	**281**		**Pn**	**11 01 15.5**	**0.0**
CESW	**Semis' Southwe**	**2.71**	**280**		**Pn**	**11 01 29.2**	**-0.1**
AMKA	**Amchitka**	**2.87**	**269**		**Pn**	**11 01 30.9**	**-0.5**
LSSE	**Little Sitkin**	**3.33**	**279**		**Pn**	**11 01 38.7**	**+0.9**
LSNW	**Little Sitkin**	**3.37**	**280**		**Pn**	**11 01 39.3**	**+1.1**
CLCO	**Concord Point,**	**4.13**	**70**		**Pn**	**11 01 50.4**	**+1.7**
NIKH	**Nikolski High**	**4.69**	**69**		**Pn**	**11 01 58.3**	**+1.9**
MGOD	**Makushin Gods**	**6.06**	**64**		**Pn**	**11 02 16.1**	**+0.9**
SHEM	**Shemya Is, Ala**	**6.14**	**285**	LR	LR	11 04 25.2	
	comp=Z,57nm,21.4s,baz=114,slow=37						
MNAT	**Makushin Natee**	**6.20**	**64**		**Pn**	**11 02 18.2**	**+1.1**
UNV	**Unalaska Valle**	**6.29**	**65**		**Pn**	**11 02 19.4**	**+1.2**
O14K	**Tigyukauivet M**	**11.43**	**42**	Pn	**Pn**	**11 03 31.3**	**+2.7**
K13K	**Kusilvak Mount**	**12.15**	**27**	Pn	**Pn**	**11 03 39.6**	**+1.2**
L14K	**Kuka Creek**	**12.30**	**32**	Pn	**Pn**	**11 03 42.4**	**+2.1**
N15K	**Kwethluk River**	**12.46**	**40**	Pn	**Pn**	**11 03 45.5**	**+2.9**
O16K	**Kokwok River B**	**12.97**	**45**	Pn	**Pn**	**11 03 52.6**	**+3.0**
J14K	**Nanvaranak Lak**	**13.12**	**26**	Pn	**Pn**	**11 03 53.8**	**+2.3**
Q19K	**Cape Douglas,**	**14.75**	**51**	P	**Pn**	**11 04 15.7**	**+2.1**
SVW2	**Sparrevohn**	**14.82**	**42**	P	**P**	**11 04 19.5**	**+0.3**
KDAK	**Kodiak Island**	**14.94**	**56**	Pn	**Pn**	**11 04 12.8**	**-3.2**
	0.7nm,0.3s,baz=306,slow=8.7,SNR=23						
KDAK				Sn	**Sn**	**11 06 55.5**	**-4.5**
	0.1nm,0.3s,baz=307,slow=16,SNR=2.9						
	6.6nm,0.7s						
L18K	**Granite Mounta**	**15.01**	**37**	P	**Pn**	**11 04 19.1**	**+2.3**
N19K	**Bonanza Creek**	**15.14**	**44**	P	**Pn**	**11 04 20.8**	**+2.2**
N19K				IAmb	IAmb	11 04 25.7	
	comp=Z,8.4nm,0.8s						
G16K	**Koyuk River**	**15.59**	**22**	P	**P**	**11 04 26.8**	**-0.9**
G16K				IAmb	IAmb	11 04 35.8	
	comp=Z,6.7nm,1.0s						
TTA	**Tatalina**	**15.69**	**36**	P	**P**	**11 04 29.2**	**+0.3**
TTA				IAmb	IAmb	11 04 31.4	
	comp=Z,13nm,1.4s						
L19K	**White Mountain**	**15.69**	**39**	P	**P**	**11 04 30.3**	**+1.5**
L19K				IAmb	IAmb	11 04 32.7	
	comp=Z,14nm,1.1s						
J18K	**Innoko River**	**15.78**	**33**	P	**P**	**11 04 31.0**	**+1.3**
H17K	**Granite Mounta**	**15.84**	**26**	P	**P**	**11 04 31.9**	**+1.5**
CNPM	**China Poot**	**16.12**	**51**	P	**Pn**	**11 04 31.7**	**+0.6**
M20K	**Styx River**	**16.23**	**41**	P	**Pn**	**11 04 33.8**	**+1.2**
BRLK	**Bradley Lake**	**16.36**	**50**	P	**Pn**	**11 04 33.8**	**-0.4**
K20K	**Telida**	**16.65**	**36**	P	**P**	**11 04 39.3**	**-0.2**
G18K	**Tagagawik**	**16.92**	**25**	P	**Pn**	**11 04 41.1**	**0.0**
SUA	**Susitna One**	**17.06**	**45**	P	**P**	**11 04 44.0**	**-0.1**
O22K	**Cooper Landing**	**17.15**	**48**	P	**Pn**	**11 04 42.7**	**-1.3**
CAST	**Castle Rocks**	**17.43**	**38**	P	**P**	**11 04 49.2**	**+1.1**
KTH	**Kantishna Hill**	**17.95**	**38**	P	**Pn**	**11 04 54.4**	**+0.6**
GHO	**Glory Hole Cre**	**17.98**	**45**	P	**P**	**11 04 54.2**	**0.0**
GHO				IAmb	IAmb	11 04 58.5	
	comp=Z,11nm,1.3s						
KNK	**Knik Glacier**	**18.06**	**46**	P	**P**	**11 04 53.1**	**-1.9**
KNK				IAmb	IAmb	11 04 55.3	
	comp=Z,14nm,1.2s						
TRF	**Thorofare Moun**	**18.14**	**39**	P	**Pn**	**11 04 57.2**	**+0.9**
TRF				IAmb	IAmb	11 05 21.0	
	comp=Z,10nm,1.1s						
BPAW	**Bear Paw Mtn.**	**18.21**	**37**	P	**Pn**	**11 04 58.5**	**+1.6**
BPAW				IAmb	IAmb	11 05 03.1	
	comp=Z,11nm,1.4s						
SML	**Sawmill**	**18.25**	**45**	P	**P**	**11 04 56.6**	**-0.6**
SML				IAmb	IAmb	11 05 02.8	
	comp=Z,19nm,1.4s						
IMAR	**Indian Mountai**	**18.39**	**30**	P	**P**	**11 04 58.9**	**+0.3**
H21K	**Melozitna Rive**	**18.48**	**31**	P	**Pn**	**11 05 00.9**	**+0.7**
E19K	**Redstone River**	**18.49**	**23**	P	**Pn**	**11 05 00.7**	**+0.5**
C18K	**Utukok River**	**18.61**	**17**	P	**Pn**	**11 05 03.6**	**+1.8**
C18K				IAmb	IAmb	11 05 13.2	
	comp=Z,12nm,1.2s						
RND	**Reindeer**	**18.69**	**40**	P	**P**	**11 05 02.2**	**+0.2**
SCM	**Sheep Creek Mo**	**18.71**	**45**	P	**P**	**11 05 00.9**	**-1.3**
FID	**Port Fidalgo**	**18.76**	**49**	P	**P**	**11 05 01.2**	**-1.5**
MLY	**Manley**	**18.80**	**34**	P	**P**	**11 05 04.0**	**+0.8**
MLY				IAmb	IAmb	11 05 09.0	
	comp=Z,3.9nm,0.6s						
D19K	**Kuna River**	**19.10**	**20**	P	**Pn**	**11 05 07.9**	**+0.2**
D19K				IAmb	IAmb	11 05 12.9	
	comp=Z,6.4nm,1.1s						
DHY	**Denali Highway**	**19.16**	**42**	P	**P**	**11 05 07.1**	**-0.1**
NEA2	**Nenana**	**19.18**	**37**	P	**P**	**11 05 07.5**	**+0.3**
NEA2				IAmb	IAmb	11 05 09.3	
	comp=Z,3.6nm,0.4s						
KLU	**Klutina**	**19.23**	**47**	P	**P**	**11 05 08.2**	**+0.2**
F21K	**Alatna River**	**19.31**	**27**	P	**Pn**	**11 05 09.9**	**-0.1**
M24K	**Tolsona, Glenn**	**19.32**	**45**	P	**P**	**11 05 09.5**	**+0.7**
I23K	**Minto, Yukon-K**	**19.36**	**35**	P	**P**	**11 05 09.9**	**+0.8**
I23K				IAmb	IAmb	11 05 11.7	
	comp=Z,5.8nm,0.9s						
MDM	**Murphy Dome**	**19.67**	**36**	P	**P**	**11 05 12.7**	**+0.1**
CCB	**Clear Creek Bu**	**19.68**	**37**	P	**P**	**11 05 12.0**	**-0.7**
CCB				IAmb	IAmb	11 05 16.4	
	comp=Z,16nm,1.5s						
N25K	**Chitina, Valde**	**19.87**	**47**	P	**P**	**11 05 15.3**	**+0.4**
N25K				IAmb	IAmb	11 05 42.5	
	comp=Z,10nm,1.3s						
HDA	**Harding Lake**	**19.90**	**38**	P	**P**	**11 05 14.7**	**-0.3**
IL31		**20.09**	**38**	P	**P**	**11 05 17.2**	**+0.2**
IL31				IAmb	IAmb	11 05 20.5	
	comp=Z,4.2nm,0.5s						
ILAR	**Eielson Array**	**20.09**	**38**	P	**P**	**11 05 17.9**	**+0.7**
ILAR	**Eielson Array**	**20.09**	**38**	P	**P**	**11 05 15.6**	**-1.6**
	comp=Z,1.4nm,0.5s,baz=235,slow=9.8,SNR=53						
	comp=Z,1.4nm,0.5s						
GLB	**Gilahina Butte**	**20.19**	**48**	P	**P**	**11 05 18.8**	**+0.5**
GLB				IAmb	IAmb	11 05 50.1	
	comp=Z,14nm,1.4s						
H24K	**Noodor Dome**	**20.25**	**34**	P	**P**	**11 05 19.6**	**+0.7**
H24K				IAmb	IAmb	11 05 21.4	
	comp=Z,4.8nm,0.8s						
RIDG	**Independent Ri**	**20.46**	**41**	P	**P**	**11 05 21.3**	**0.0**
J25K	**Salcha River,**	**20.60**	**39**	P	**P**	**11 05 21.5**	**-1.3**
D22K	**Ayikyak River**	**20.69**	**24**	P	**P**	**11 05 25.0**	**+1.4**
B21K	**Ikpikpuk River**	**20.77**	**21**	P	**P**	**11 05 25.0**	**+0.6**
B21K				IAmb	IAmb	11 05 28.8	
	comp=Z,4.7nm,0.6s						
L26K	**Log Cabin Wild**	**20.85**	**44**		**P**	**11 05 25.8**	**+0.3**
L26K				IAmb	IAmb	11 05 50.2	
	comp=Z,10nm,1.3s						
SCRK	**Sand Creek**	**20.91**	**41**	P	**P**	**11 05 26.2**	**0.0**
PRP	**Porcupine Dome**	**20.94**	**36**	P	**P**	**11 05 26.5**	**0.0**
PRP				IAmb	IAmb	11 06 04.6	
	comp=Z,7.3nm,1.4s						
F24K	**Squaw Lake**	**21.17**	**30**	P	**P**	**11 05 30.2**	**+1.4**
J26L	**Joseph Creek**	**21.27**	**40**	P	**P**	**11 05 29.9**	**-0.2**
L27K	**Beaver Creek,**	**21.52**	**44**	P	**P**	**11 05 32.5**	**-0.1**
BCAR	**Beaver Creek A**	**21.54**	**44**	P	**P**	**11 05 32.5**	**-0.3**
B22K	**Teshekpuk Lake**	**21.59**	**21**	P	**P**	**11 05 33.3**	**+0.2**
B22K				IAmb	IAmb	11 05 57.8	
	comp=Z,7.3nm,1.1s						
K27K	**Chicken**	**21.71**	**42**	P	**P**	**11 05 35.6**	**+1.0**
K27K				IAmb	IAmb	11 05 37.1	
	comp=Z,8.4nm,1.1s						
I26K	**Coal Creek Min**	**21.75**	**38**	P	**P**	**11 05 34.3**	**-0.7**
I26K				IAmb	IAmb	11 05 51.1	
	comp=Z,6.4nm,1.2s						
C23K	**Itkillik River**	**21.88**	**24**	P	**P**	**11 05 36.7**	**+0.4**
C23K				IAmb	IAmb	11 05 41.9	
	comp=Z,4.6nm,0.7s						
BMAR	**Burnt Mountain**	**22.20**	**32**	P	**P**	**11 05 39.5**	**-0.4**
EGAK	**Eagle**	**22.34**	**40**	P	**P**	**11 05 41.7**	**+0.4**
EGAK				IAmb	IAmb	11 05 44.0	
	comp=Z,4.0nm,0.6s						
D25K	**Kavik River**	**22.69**	**27**	P	**P**	**11 05 45.1**	**0.0**
DAWY	**Dawson**	**22.85**	**43**		**P**	**11 05 47.4**	**+0.6**
I28M	**Miner Creek**	**23.05**	**39**	P	**P**	**11 05 48.3**	**-0.6**
I28M				IAmb	IAmb	11 06 06.1	
	comp=Z,7.3nm,1.4s						
L29M	**L29M**	**23.17**	**45**	P	**P**	**11 05 50.0**	**0.0**
L29M				IAmb	IAmb	11 06 24.2	
	comp=Z,6.8nm,1.3s						
K29M	**Barlow Dome**	**23.60**	**44**		**P**	**11 05 54.5**	**+0.4**
K29M				IAmb	IAmb	11 05 55.5	
	comp=Z,4.2nm,0.6s						
H29M	**Whitestone**	**23.92**	**38**	P	**P**	**11 05 56.2**	**-0.8**
J30M	**Hart River**	**24.27**	**42**		**P**	**11 06 01.4**	**+1.0**
J30M				IAmb	IAmb	11 06 02.4	
	comp=Z,3.8nm,0.7s						
I30M	**Mount Dempster**	**24.41**	**41**	P	**P**	**11 06 01.8**	**+0.2**
I30M				IAmb	IAmb	11 06 03.3	
	comp=Z,4.9nm,0.9s						
G30M	**tAoh Zrail Nji**	**24.98**	**37**	P	**P**	**11 06 05.5**	**-0.1**
G30M				IAmb	IAmb	11 06 15.4	
	comp=Z,5.4nm,1.1s						
H31M	**Peel River**	**25.38**	**40**	P	**P**	**11 06 10.8**	**+0.5**
H31M				IAmb	IAmb	11 06 30.6	
	comp=Z,7.1nm,1.2s						
INK	**Inuvik**	**26.38**	**34**	P	**P**	**11 06 18.7**	**-0.5**
INK				IAmb	IAmb	11 06 56.8	
	comp=Z,4.4nm,1.4s						
YKA	**Yellowknife Ar**	**33.91**	**47**	P	**P**	**11 07 24.7**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=289,slow=8.4,SNR=6.1			PcP	**PcP**		
YKA						**11 10 03.5**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=282,slow=3.2,SNR=7.1						
	comp=Z,0.2nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**34.43**	**209**	T	T	11 44 01.7	
	baz=18,slow=76,SNR=50						
H11N3	**WAKE ISLAND Hy**	**34.44**	**209**	T	T	11 44 07.2	
	baz=18,slow=76,SNR=42						
H11N1	**WAKE ISLAND Hy**	**34.45**	**209**	T	T	11 44 03.1	
	baz=18,slow=76,SNR=46						
H11S1	**WAKE ISLAND Hy**	**35.64**	**209**	T	T	11 45 39.7	
	baz=18,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**35.66**	**209**	T	T	11 45 33.6	
	baz=18,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**35.66**	**209**	T	T	11 45 34.9	
	baz=18,slow=76,SNR=9.4						
NVAR	**Mina Array Bea**	**41.87**	**85**	P	**P**	**11 08 34.0**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=286,slow=7.8,SNR=4.5						
	comp=Z,0.5nm,0.7s						
PDAR	**Pinedale Array**	**44.66**	**74**	P	**P**	**11 08 56.4**	**+0.5**
	comp=Z,2.7nm,0.6s,baz=309,slow=3.8,SNR=32						
	comp=Z,2.7nm,0.6s						
TXAR	**Lajitas Array**	**56.97**	**83**	P	**P**	**11 10 28.6**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=303,slow=6.3,SNR=27						
	comp=Z,1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**60.22**	**315**	P	**P**	**11 10 50.5**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=43,slow=6.5,SNR=5.7						
	comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**61.24**	**310**	P	**P**	**11 10 56.3**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=45,slow=5.9,SNR=4.6						
	comp=Z,0.3nm,0.4s						
BVAR	**Borovoye Array**	**61.84**	**321**	P	**P**	**11 11 02.2**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=16,slow=7.1,SNR=2.7						
	comp=Z,0.5nm,0.4s						
H03N2	**Juan Fernandez**	**119.58**	**107**	T	T	13 31 13.5	
	baz=317,slow=77,SNR=7.1						
H03N1	**Juan Fernandez**	**119.59**	**107**	T	T	13 31 17.5	
	baz=317,slow=77,SNR=7.7						
H03N3	**Juan Fernandez**	**119.59**	**107**	T	T	13 31 16.5	
	baz=317,slow=77,SNR=8.0						
BOSA	**Boshof**	**152.07**	**317**	PKPbc	**PKPbc**	**11 20 37.5**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=315,slow=4.3,SNR=2.0						

*IDC **09** 11:02:30.9±0.8, 25°45N×96°69E, h0km, mb3.9/11, mbtmp3.9/12, ML4.0/1, MS3.3/9, Error ellipse: s-maj=32.3km s-min=13.2km az=62.0*
*NDI **09** 11:02:32.1±2.5, 25°44N×96°82E, h10km, ML3.9, mb4.4(NEIC)*
*NEIC **09** 11:02:34.0±1.8, 25°61N±0°03×96°35E±0°08, h10km±1km, mb4.4/19, Error ellipse: s-maj=12.2km s-min=5.9km az=93.0*
ISC 09 11:02:34.2±0.6, 25°36N±0°06×96°57E±0°05, h25km, n68, σ1§69/66, mb4.2/21, MS3.4/8, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOKO	**MOKOCHONG**	**2.09**	**298**	*e*P	**Pb**	**11 03 11.4**	**-0.1**
MOKO				*e*S	**Sb**	**11 03 39.1**	**+2.0**
MOKO				IAML		11 03 43.2	
	comp=E,3μm,0.5s						
MOKO				IAML		11 03 43.8	
	comp=N,4μm,0.5s						
KOHI	**KOHIMA**	**2.26**	**280**	*e*P	**Pb**	**11 03 12.8**	**-1.6**
KOHI				*e*S	**Sb**	**11 03 44.2**	**+2.3**
KOHI				IAML		11 03 49.3	
	comp=E,2μm,0.8s						
KOHI				IAML		11 03 50.8	
	comp=N,1μm,0.8s						
IMP	**Imphal**	**2.44**	**258**	*e*P	**Pb**	**11 03 16.1**	**-1.3**
IMP				*e*S	**Sb**	**11 03 47.4**	**+0.3**
IMP				IAML		11 03 51.0	
	comp=N,209nm,0.7s						
IMP				IAML		11 03 55.2	
	comp=E,242nm,0.7s						
JORH	**JORHAT**	**2.50**	**304**	IAML		11 03 51.5	
	comp=N,1μm,0.7s						
ITAN	**ITANAGAR**	**3.12**	**305**	*e*P	**Pn**	**11 03 18.8**	**-3.0**
ITAN				*e*S	**Sn**	**11 04 00.0**	**+1.7**
ITAN				IAML		11 04 04.4	
	comp=E,760nm,0.6s						
ZIRO	**ZIRO**	**3.26**	**312**	*e*P	**Pn**	**11 03 24.7**	**+0.8**
ZIRO				*e*S	**Sn**	**11 04 03.6**	**+1.6**
MND	**Mandalay**	**3.35**	**187**	Pn	**Pb**	**11 03 29.6**	**-3.3**
TEZP	**TEZPUR**	**3.62**	**291**	*e*S	**Sn**	**11 04 12.1**	**+1.5**
SHL	**Shillong**	**4.25**	**274**		**Pn**	**11 03 36.2**	**-1.2**
SHL	**Shillong**	**4.25**	**274**	*e*P	**Pn**	**11 03 38.4**	**+1.0**
SHL				*e*S	**Sn**	**11 04 28.6**	**+2.2**
SHL				IAML		11 04 34.5	
	comp=E,98nm,0.9s						
SAIH	**SAIHA**	**4.35**	**230**	*e*P	**Pn**	**11 03 41.4**	**+2.6**
SAIH				IAML		11 04 55.8	
	comp=E,125nm,0.6s						
CRAI	**Chiangrai**	**6.19**	**145**	Pn	Pn	11 04 10.4	+6.3
LSA	**Lhasa**	**6.47**	**313**		**Pn**	**11 04 04.9**	**-3.4**
CHTO	**Chiang Mai**	**6.87**	**161**	Pn	Pn	11 04 18.7	+5.3
CMAR	**Chiang Mai Arr**	**7.21**	**162**	Pn	Pn	11 04 23.7	+5.7
CMAR	**Chiang Mai Arr**	**7.21**	**162**	Pn	**Pn**	**11 04 19.4**	**+1.4**
	comp=E,0.7nm,0.3s,baz=335,slow=11,SNR=1.5						
CMAR				Pg	Pb	11 04 43.8	+5.1
	comp=E,0.2nm,0.3s,baz=325,slow=15,SNR=4.4						
CMAR				Lg	Lg	11 06 21.6	
	comp=E,0.5nm,0.3s,baz=344,slow=32,SNR=4.7						
CMAR				LR	LR	11 07 33.3	
	comp=E,135nm,21.4s,baz=340,slow=42						
	comp=E,0.9nm,0.3s						
GTK	**Tadong**	**7.42**	**287**	*e*S	**Sn**	**11 05 43.6**	**-0.8**
SLVN	**Son La**	**7.83**	**119**	Pn	Pn	11 04 32.0	+5.3
TAPN	**Taplejung**	**8.20**	**286**	*e*Sn	**Sn**	**11 06 05.6**	**+1.8**
RAMN	**Ramite**	**9.10**	**282**	*e*Pn	**Pn**	**11 04 44.0**	**-0.2**
JIRN	**Jiri**	**9.58**	**286**	*e*Pn	**Pn**	**11 04 51.2**	**+0.3**
JIRN				*e*Sn	**Sn**	**11 06 37.3**	**-0.7**
	comp=E,66nm,0.7s						
GUN	**Gumba**	**9.90**	**287**	*e*Pn	**Pn**	**11 04 55.7**	**+0.4**
GUN				*e*Sn	**Sn**	**11 06 45.2**	**-0.6**
	comp=E,79nm,0.7s						
PKI	**Pulchoki**	**10.24**	**285**	*e*Pn	**Pn**	**11 04 59.6**	**-0.4**
PKIN	**Phulchoki**	**10.26**	**285**	*e*Pn	**Pn**	**11 04 59.7**	**-0.4**
PKIN				*e*Sn	**Sn**	**11 06 51.8**	**-2.6**
	comp=E,62nm,0.8s						
DMN	**Daman**	**10.52**	**285**	*e*Pn	**Pn**	**11 05 02.5**	**-1.1**
GKN	**Gorkha**	**11.00**	**286**	*e*Sn	**Sn**	**11 07 09.0**	**-3.4**
	comp=E,143nm,0.9s						
PYUN	**Piuthan**	**12.45**	**286**	*e*Sn	**Sn**	**11 07 42.6**	**-5.4**
	comp=E,67nm,0.7s						
NIL	**Nilore**	**21.88**	**298**	P	**P**	**11 07 23.6**	**-1.7**
NIL				IAmb	IAmb	11 07 38.1	
	comp=Z,18nm,0.8s						
PALK	**Pallekele**	**23.52**	**223**	LR

GERES	**GERESS Array B**	**66.80**	**315**	P	**P**	**11 13 23.7**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=51,slow=7.0,SNR=3.6 comp=Z,1.2nm,0.6s						
B22K	**Teshekpuk Lake**	**72.78**	**19**	P	**P**	**11 14 00.0**	**0.0**
B22K				IAmb	IAmb	11 14 07.4	
	comp=Z,3.6nm,1.1s						
C23K	**Itkillik River**	**73.87**	**19**	P	**P**	**11 14 06.8**	**+0.4**
C23K				IAmb	IAmb	11 14 18.1	
	comp=Z,6.8nm,1.5s						
F21K	**Alatna River**	**74.21**	**22**	P	**P**	**11 14 08.7**	**+0.2**
F21K				IAmb	IAmb	11 14 13.7	
	comp=Z,3.5nm,1.1s						
IMAR	**Indian Mountai**	**74.70**	**24**	P	**P**	**11 14 11.1**	**-0.3**
BMAR	**Burnt Mountain**	**77.03**	**20**	P	**P**	**11 14 25.2**	**+0.4**
BCAR	**Beaver Creek A**	**80.62**	**23**	P	**P**	**11 14 44.8**	**+0.3**

*KOLA **09** 11:12:40.5, 67˚.60N×30˚.64E, h0km, ML2.1, Error ellipse: s-maj=11.0km s-min=3.5km az=10.0, Murmansk region, Kovdor district*

HEL 09 11:12:37.9±0.5, 67˚.59N×30˚.47E, h0km, ML1.6, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**0.36**	**296**	PG	Pg	11 12 44.4	-0.4
VRF				SG	Sg	11 12 48.5	-1.0
APA0	**Apatity Array**	**0.97**	**88**	P	Pg	11 12 55.7	-0.7
APA0				S	Sg	11 13 08.3	-0.7
APA0	**Apatity Array**	**0.97**	**88**	P	Pn	11 12 58.3	-0.4
APA0				S	Sb	11 13 10.6	-0.2
APA	**Apatity**	**1.13**	**90**	P	Pn	11 13 02.1	+1.2
APA				S	Sn	11 13 17.3	+0.3
OLKF	**Oulanka, Finla**	**1.35**	**199**	PG	Pg	11 13 01.6	-2.0
OLKF				MSG		11 13 18.6	
	comp=Z,5.4nm,0.2s						
OLKF				SN	Sn	11 13 22.4	0.0
SGF	**Sodankyl**	**1.52**	**266**	PN	Pn	11 13 05.7	-0.6
SGF				SN	Sn	11 13 27.4	+0.6
KU6	**Riekki**	**1.59**	**189**	PG	Pn	11 13 06.2	-1.1
KU6				MSG		11 13 25.6	
	comp=Z,2.9nm,0.2s						
KU6				SN	Sg	11 13 29.9	+0.9
LVZ	**Lovozero**	**1.62**	**77**	S	Sg	11 13 30.7	+0.7
MSF	**Maaselka**	**1.78**	**199**	PG	Pn	11 13 09.6	-0.3
RNF	**Rovaniemi**	**2.00**	**242**	PG	Pn	11 13 13.3	+0.4
RNF				SG	Sb	11 13 40.4	-0.1
KEV	**Kevo**	**2.51**	**331**	*eP*	Pn	11 13 20.1	+0.2
KEV	**Kevo**	**2.51**	**331**	PB	Pn	11 13 21.2	+1.3
KEV				MSG		11 13 52.0	
	comp=Z,2.5nm,0.2s						
KEV				SG	Sb	11 13 54.9	-0.3
KLF	**Kolari**	**2.54**	**265**	MSG		11 13 52.8	
	comp=Z,2.7nm,0.2s						
KLF				SG	Sb	11 13 56.9	+1.0
VADS	**Vadso**	**2.57**	**352**	P	Pb	11 13 23.1	-1.7
VADS				S	Sn	11 13 54.0	+1.4
ARCES	**ARCESS Array B**	**2.67**	**319**	P	Pn	11 13 24.1	+2.0
ARCES				S	Sn	11 13 57.0	+1.9
HEF	**Hetta**	**2.69**	**291**	*eP*	Pn	11 13 24.1	+1.7
HEF	**Hetta**	**2.69**	**291**	MSG		11 13 57.2	
	comp=Z,2.5nm,0.2s						
HEF				SG	Sb	11 14 02.0	+1.7
PAJU	**Pajala**	**2.91**	**262**	SG	Sb	11 14 05.7	-1.0
LANU	**Lannavaara**	**3.25**	**282**	PG	Pb	11 13 34.7	-1.7
ERTU	**Ertsjaerv**	**3.40**	**256**	PB	Pb	11 13 35.6	-3.4
FAUS	**Fauske**	**5.83**	**275**	S	Sn	11 15 12.8	-0.2

*UPA **09** 11:24:56.8±1.0, 8˚.67N×83˚.12W, h37km±7km, MW2.8*
*CATAC **09** 11:24:59.1±0.5, 8˚.90N×82˚.93W, h36km±8km, ML2.7*

ISC 09 11:24:56.0±1.2, 8˚.54N±0˚.06×83˚.19W±0˚.04, h26km±12km, n23, σ1§13/32, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDITO	**Canoas**	**0.31**	**85**	*eP*	**Pn**	**11 25 04.6**	**-0.2**
CDITO				*eS*	**Sb**	**11 25 09.4**	**+1.1**
CDITO	**Canoas**	**0.31**	**85**	*i* P	**Sb**	**11 25 09.5**	**+1.1**
CDITO				IAML		11 25 13.4	
	comp=Z,1μm,1.0s						
PTPM	**Petroterminale**	**0.45**	**138**	*i* P	**Pn**	**11 25 07.5**	**+0.6**
PTPM				*eS*	**Sn**	**11 25 16.1**	**+1.9**
POTG	**Potrero Grande**	**0.51**	**7**	*i* P	**Pn**	**11 25 07.7**	**0.0**
POTG				IAML		11 25 18.9	
	comp=Z,590nm,1.0s						
BRU2	**Volcan**	**0.55**	**63**	*eP*	**Pb**	**11 25 07.0**	**-0.2**
BRU2				*eS*	**Sb**	**11 25 14.8**	**0.0**
BRU2	**Volcan**	**0.55**	**63**	*i* P	**Pb**	**11 25 06.9**	**-0.4**
BRU2				*i* S	**Sb**	**11 25 15.0**	**+0.1**
BRU2				IAML		11 25 18.6	
	comp=Z,230nm,1.0s						
BCO2	**Palmira**	**0.67**	**75**	*eP*	**Pb**	**11 25 08.8**	**-0.5**
BCO2				*eS*	**Sb**	**11 25 17.7**	**-0.7**
PTAR3	**Potrerillos Ar**	**0.70**	**78**	*eP*	**Pb**	**11 25 09.4**	**-0.3**
PTAR3				*eS*	**Sb**	**11 25 17.7**	**-1.3**
DVD	**David**	**0.73**	**98**	*eP*	**Pb**	**11 25 09.6**	**-0.7**
DVD				*eS*	**Sb**	**11 25 20.6**	**+0.6**
PEDE3	**Pedregal, Chir**	**0.77**	**102**	*eP*	**Pb**	**11 25 09.8**	**-1.0**
LNBQ3	**Los Naranjos,**	**0.78**	**72**	*eP*	**Pb**	**11 25 10.0**	**-1.0**
LNBQ3				*eS*	**Sb**	**11 25 20.3**	**-1.0**
GUAL3	**Gualaca, Chiri**	**0.88**	**91**	*eP*	**Pb**	**11 25 11.5**	**-1.2**
GUAL3				*eS*	**Sb**	**11 25 23.0**	**-1.0**
CDM	**Cerro de Muert**	**1.15**	**330**	*i* P	**Pb**	**11 25 17.5**	**-0.1**
CDM				IAML		11 25 18.7	
	comp=Z,54nm,1.0s						
RIMA	**Rio Macho**	**1.39**	**331**	*i* P	**Pb**	**11 25 21.2**	**-0.3**
RIMA				IAML		11 25 24.5	
	comp=Z,71nm,1.0s						
LCR2	**La Lucha 2**	**1.44**	**326**	*i* P	**Pb**	**11 25 21.8**	**-0.5**
LCR2				IAML		11 25 42.7	
	comp=Z,61nm,1.0s						
HAYA	**Volcan Irazu**	**1.57**	**336**	*i* P	**Pb**	**11 25 24.4**	**-0.3**
HAYA				IAML		11 25 49.6	
	comp=Z,120nm,1.0s						
JACO	**JACO, Garabito**	**1.83**	**307**	*i* P	**Pb**	**11 25 28.0**	**-0.9**
JACO				*i* S	**Pb**	**11 25 30.4**	**+1.5**
JACO				IAML		11 25 31.4	
	comp=Z,54nm,1.0s						
TRT2	**Tortugero**	**2.07**	**345**	*i* P	**Pn**	**11 25 29.4**	**+0.3**
TRT2				IAML		11 26 02.0	
	comp=Z,45nm,1.0s						
SOCE	**Pocosol**	**2.31**	**322**	*i* P	**Pb**	**11 25 37.7**	**+0.6**
SOCE				IAML		11 25 38.2	
	comp=Z,140nm,1.0s						
VACR	**Volcan Arenal**	**2.42**	**323**	*i* P	**Pb**	**11 25 40.1**	**+1.2**
INDI	**Punta indio, G**	**2.64**	**300**	*i* P	**Pb**	**11 25 39.7**	**-2.9**
INDI				IAML		11 26 06.1	
	comp=Z,51nm,1.0s						
ORTG	**Ortega, Santa**	**2.88**	**309**	*i* P	**Pb**	**11 25 44.4**	**-2.4**
ORTG				IAML		11 27 51.8	
	comp=Z,39nm,1.0s						
BRAN	**Las Pilas**	**5.19**	**323**	*i* P	Pn	11 25 59.4	-13
BRAN				IAML		11 26 04.1	
	comp=Z,2μm,1.0s						

*IDC **09** 11:51:14.1±1.4, 22˚.16S×170˚.36E, h0km, mb3.8/6, mbtmp3.9/7, ML4.3/1, MS3.2/6, Error ellipse: s-maj=34.5km s-min=28.1km az=153.0*
*NOU **09** 11:51:16.3, 22˚.29S×170˚.26E, h0km, MLv4.3/12, Southeast of Loyalty Islands*

ISC 09 11:51:19.9±1.1, 22˚.3S±0˚.1×170˚.3E±0˚.1, h35km, n23, σ0§64/19, mb3.9/6, MS3.2/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**2.24**	**291**	P	**Pn**	**11 51 53.6**	**-0.9**
PINNC	**Pines Island,**	**2.64**	**263**	P	**Pn**	**11 51 59.2**	**-0.7**
OUENC	**Ouen Island, N**	**3.18**	**267**	P	**Pn**	**11 52 07.2**	**-0.3**
LIFNC	**LIFOU**	**3.21**	**298**	P	**Pn**	**11 52 07.2**	**-0.6**
ONTNC	**Ouen Toro**	**3.54**	**269**	P	**Pn**	**11 52 12.6**	**+0.2**
DZM	**Mont Dzumac**	**3.56**	**273**	P	**Pn**	**11 52 12.7**	**0.0**
DZM	**Mont Dzumac**	**3.56**	**273**	Pn	**Pn**	**11 52 12.8**	**0.0**
DZM	23nm,0.3s,baz=125,slow=14,SNR=281			Sn	**Sn**	**11 52 54.6**	**+0.9**
	18nm,0.3s,baz=270,slow=16,SNR=6.6 56nm,0.3s						
NOUC	**Port Laguerre**	**3.69**	**272**	P	**Pn**	**11 52 14.3**	**-0.1**
RTV	**Rentapao**	**4.81**	**338**	P	**Pn**	**11 52 30.6**	**+0.8**
DVP	**Devils Point**	**4.95**	**336**	P	**Pn**	**11 52 31.6**	**-0.2**
KOUNC	**Koumac, New Ca**	**5.85**	**286**	P	**Pn**	**11 52 44.8**	**+0.7**
URZ	**Urewera**	**16.96**	**161**	LR	LR	12 00 46.7	
	comp=Z,82nm,18.0s,baz=5.0,slow=34						
RPZ	**Rata Peaks**	**21.37**	**178**	LR	LR	12 02 00.8	
	comp=Z,40nm,19.1s,baz=272,slow=30						
CTA	**Charters Tower**	**22.50**	**271**	LR	LR	12 03 51.7	
	comp=Z,52nm,18.6s,baz=80,slow=34						
STKA	**Stephens Creek**	**27.19**	**243**	P	**P**	**11 57 01.3**	**+1.0**
	2.2nm,0.8s,baz=104,slow=12,SNR=3.2						
STKA				LR	LR	12 07 31.0	
	comp=Z,57nm,18.9s,baz=25,slow=36 2.2nm,0.8s						
ASAR	**Alice Springs**	**33.46**	**260**	P	**P**	**11 57 55.7**	**-0.2**
	0.5nm,0.6s,baz=85,slow=9.1,SNR=7.0 0.5nm,0.6s						
WRA	**Warramunga Arr**	**33.56**	**267**	P	**P**	**11 57 56.0**	**-0.7**
	0.3nm,0.5s,baz=99,slow=8.3,SNR=7.4 0.3nm,0.5s						
VNDA	**Vanda**	**55.43**	**182**	LR	LR	12 20 32.3	
	comp=Z,40nm,20.0s,baz=338,slow=32						
MJAR	**Matsushiro Arr**	**65.89**	**332**	P	**P**	**12 02 01.2**	**-1.0**
	1.1nm,0.6s,baz=165,slow=6.0,SNR=6.3 1.1nm,0.6s						
QSPA	**South Pole Qui**	**67.77**	**180**	P	**P**	**12 02 14.4**	**+0.5**
	1.7nm,1.1s,baz=47,slow=2.5,SNR=2.7 1.7nm,1.1s						
ASAJ	**Asahikawa**	**70.79**	**339**	LR	LR	12 28 56.6	
	comp=Z,14nm,21.7s,baz=102,slow=32						
SONM	**Songino Array**	**90.23**	**323**	P	**P**	**12 04 16.9**	**0.0**
	0.3nm,0.4s,baz=115,slow=6.5,SNR=2.7 0.3nm,0.4s						
EKA	**Eskdalemuir Ar**	**146.65**	**353**	PKPbc	**PKPdf**	**12 10 55.9**	**0.0**
	1.2nm,0.4s,baz=5.5,slow=2.9,SNR=11						

*IDC **09** 11:52:46.8±0.9, 9˚.64N×140˚.86E, h0km, mb3.8/9, mbtmp3.8/9, ML5.0/1, MS3.0/7, Error ellipse: s-maj=28.3km s-min=17.8km az=94.0*

ISC 09 11:52:51.5±0.7, 9.6N±0˚.1×140.9E±0˚.1, h35km, n23, σ1§40/12, mb3.8/10, MS2.8/5, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.54**	**44**	Pn	**Pn**	**11 54 12.1**	**+0.6**
	41nm,0.3s,baz=23,slow=3.1,SNR=20						
GUMO				Sn	**Sn**	**11 55 14.6**	**+0.7**
	18nm,0.3s,baz=354,slow=19,SNR=1.9						
GUMO				LR	LR	11 56 36.9	
	comp=Z,101nm,21.3s,baz=259,slow=41						
DAV	**Davao City (W)**	**15.36**	**262**	LR	LR	12 02 26.9	
	comp=Z,35nm,18.6s,baz=110,slow=38						
JOW	**Kunigami**	**20.86**	**327**	LR	LR	12 03 26.6	
	comp=Z,33nm,21.6s,baz=284,slow=31						
JNU	**Nakatsue**	**25.13**	**340**	LR	LR	12 05 56.0	
	comp=Z,32nm,20.9s,baz=130,slow=31						
H11S3	**WAKE ISLAND Hy**	**26.50**	**68**	T	T	12 26 36.2	
	baz=255,slow=75,SNR=1123						
H11S1	**WAKE ISLAND Hy**	**26.51**	**68**	T	T	12 26 37.5	
	baz=255,slow=75,SNR=467						
H11S2	**WAKE ISLAND Hy**	**26.51**	**68**	T	T	12 26 39.5	
	baz=255,slow=75,SNR=1117						
H11N1	**WAKE ISLAND Hy**	**27.04**	**65**	T	T	12 27 17.0	
	baz=254,slow=75,SNR=319						
H11N2	**WAKE ISLAND Hy**	**27.05**	**65**	T	T	12 27 13.9	
	baz=254,slow=75,SNR=213						
H11N3	**WAKE ISLAND Hy**	**27.05**	**65**	T	T	12 27 15.2	
	baz=254,slow=75,SNR=184						
KSRS	**Korea Array**	**30.07**	**339**	LR	LR	12 09 10.0	
	comp=Z,26nm,21.4s,baz=350,slow=33						
WRA	**Warramunga Arr**	**30.09**	**192**	P	**P**	**11 58 58.2**	**+0.3**
	1.6nm,0.7s,baz=11,slow=10.0,SNR=12 1.6nm,0.7s						
ASAR	**Alice Springs**	**33.79**	**192**	P	**P**	**11 59 30.8**	**+0.3**
	1.0nm,0.6s,baz=17,slow=12,SNR=25 1.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**35.29**	**349**	LR	LR	12 13 10.1	
	comp=Z,31nm,18.8s,baz=186,slow=35						
DZM	**Mont Dzumac**	**40.26**	**142**	LR	LR	12 16 24.4	
	comp=Z,35nm,18.6s,baz=134,slow=35						
STKA	**Stephens Creek**	**41.28**	**179**	P	**P**	**12 00 33.8**	**+0.2**
	1.4nm,0.7s,baz=287,slow=7.8,SNR=4.0 1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**41.54**	**287**	P	**P**	**12 00 35.6**	**-0.4**
	0.5nm,0.3s,baz=95,slow=6.1,SNR=5.1 0.5nm,0.3s						
SONM	**Songino Array**	**47.90**	**329**	P	**P**	**12 01 27.1**	**+0.6**
	0.2nm,0.3s,baz=116,slow=6.6,SNR=2.2 0.2nm,0.3s						
MKAR	**Maanshi Array**	**61.72**	**318**	P	**P**	**12 03 06.8**	**+0.3**
	0.5nm,0.5s,baz=95,slow=9.0,SNR=5.5 0.5nm,0.5s						
BVAR	**Borovoye Array**	**70.65**	**323**	P	**P**	**12 04 04.3**	**+0.7**
	1.0nm,0.5s,baz=113,slow=8.9,SNR=6.3 1.0nm,0.5s						
ILAR	**Eielson Array**	**73.78**	**25**	P	**P**	**12 04 18.4**	**-3.7**
	0.3nm,0.5s,baz=247,slow=5.5,SNR=7.9						
YKA	**Yellowknife Ar**	**88.13**	**27**	P	**P**	**12 05 39.7**	**+1.3**
	0.1nm,0.6s,baz=295,slow=5.2,SNR=2.3 0.1nm,0.6s						
NVAR	**Mina Array Bea**	**92.42**	**51**	P	**P**	**12 05 58.9**	**-0.4**
	0.2nm,0.5s,baz=280,slow=5.3,SNR=2.2 0.2nm,0.5s						

CATAC 09 11:54:44.7±1.1, 9˚.38N×84˚.59W, h7km±10km, ML1.9, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACO	**JACO, Garabito**	**0.29**	**347**	*i* P	Pg	11 54 50.7	+0.3
JACO				*i* S	Sb	11 54 55.9	-1.4
JACO				IAML		11 54 55.9	
	comp=Z,160nm,1.0s						
JACO	**JACO, Garabito**	**0.29**	**347**	*i* P	Pg	11 54 50.7	+0.3
JACO				*i* S	Sb	11 54 55.9	-1.4
JACO				IAML		11 54 55.9	
	comp=Z,160nm,1.0s						
LCR2	**La Lucha 2**	**0.68**	**58**	*i* P	Pg	11 54 57.8	-0.1
LCR2				IAML		11 55 09.7	
	comp=Z,32nm,1.0s						
LCR2	**La Lucha 2**	**0.68**	**58**	*i* P	Pg	11 54 57.8	-0.1
LCR2				*i* S	Sg	11 55 07.7	+0.9
LCR2				IAML		11 55 09.7	
	comp=Z,32nm,1.0s						
RIMA	**Rio Macho**	**0.82**	**62**	*i* P	Pg	11 55 00.1	-0.3
RIMA				IAML		11 55 43.6	
	comp=Z,27nm,1.0s						
RIMA	**Rio Macho**	**0.82**	**62**	*i* P	Pg	11 55 00.1	-0.3
RIMA				*i* S	Sg	11 55 11.7	+0.6
RIMA				IAML		11 55 43.6	
	comp=Z,27nm,1.0s						
CDM	**Cerro de Muert**	**0.84**	**78**	*i* P	Pg	11 55 00.7	-0.2
CDM				IAML		11 55 03.5	
	comp=Z,50nm,1.0s						
CDM	**Cerro de Muert**	**0.84**	**78**	*i* P	Pg	11 55 00.7	-0.2
CDM				IAML		11 55 03.5	
	comp=Z,50nm,1.0s						
CDM				*i* S	Sb	11 55 14.3	+0.8
APQN	**BB Volcan Apoy**	**3.28**	**329**	*i* P	Pn	11 55 38.7	+2.1
APQN	**BB Volcan Apoy**	**3.28**	**329**	*i* P	Pn	11 55 38.7	+2.1

*IDC **09** 12:21:37.9±1.1, 19˚.63N×106˚.24W, h0km, mb3.8/9, mbtmp3.9/13, ML3.6/4, MS3.7/35, Error ellipse: s-maj=32.3km s-min=18.5km az=59.0*
*MEX **09** 12:21:40.8±1.0, 19˚.58N×106˚.25W, h18km±110km, MD4.5*
*NEIC **09** 12:21:42.8±1.8, 19˚.81N±0˚.07×106˚.02W±0˚.06, h18km±6km, mb4.5/70, Md4.9/46(MEX), Error ellipse: s-maj=11.2km s-min=7.2km az=216.0*

ISC 09 12:21:39.2±3.0, 19.64N±0˚.04×106˚.09W±0˚.06, h5km±19km, n164, σ1§39/165, mb4.5/31, MS3.7/31, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**1.00**	**98**	*i* P	**Pb**	**12 21 58.2**	**-0.7**
CJM				*eS*	**Sb**	**12 22 12.0**	**-0.4**
PUVA	**Puert Vallarta**	**1.28**	**40**		**Pn**	**12 22 01.4**	**-2.3**
PUVA					**Sb**	**12 22 17.9**	**-2.6**
PUVA	**Puert Vallarta**	**1.28**	**40**	*eP*	**Pn**	**12 22 01.4**	**-2.3**
PUVA				*eS*	**Sb**	**12 22 17.9**	**-2.6**
CIHU	**Emiliano Zapat**	**1.33**	**106**	*eP*	**Pn**	**12 22 02.7**	**-1.8**
CIHU				*eS*	**Sn**	**12 22 20.1**	**-2.5**
ANIG	**Ahuacatlan**	**2.04**	**46**		**Pn**	**12 22 13.1**	**-1.2**
ANIG					**Sn**	**12 22 38.9**	**-1.3**
ANIG	**Ahuacatlan**	**2.04**	**46**	*eP*	**Pn**	**12 22 13.1**	**-1.2**
ANIG				*eS*	**Sn**	**12 22 38.9**	**-1.3**
CDAR	**Ciudad de Arme**	**2.09**	**109**	*eP*	**Pn**	**12 22 13.6**	**-1.2**
CDAR				*eS*	**Sn**	**12 22 38.2**	**-3.0**
CEGR	**Campo Tres**	**2.12**	**96**	*eP*	**Pn**	**12 22 15.5**	**0.0**
CEGR				*eS*	**Sn**	**12 22 41.6**	**-0.8**
TEPI	**Tepic**	**2.17**	**30**	*eP*	Pn	12 22 12.1	-4.0
TEPI				*i* S	**Sn**	**12 22 40.1**	**-3.4**
COMA	**Comala**	**2.22**	**98**	*eP*	**Pn**	**12 22 16.3**	**-0.5**
COMA				*i* S	**Sn**	**12 22 43.9**	**-0.7**
COIG	**Colima**	**2.31**	**101**	*eP*	**Pn**	**12 22 18.0**	**0.0**
COIG				*eS*	**Sn**	**12 22 46.1**	**-0.9**
SOMAC	**Volcano de Col**	**2.33**	**92**	*eP*	**Pn**	**12 22 19.6**	**+1.1**
SOMAC				*eS*	**Sn**	**12 22 48.7**	**+1.1**
MNGA	**Volcan de Coli**	**2.34**	**94**	*eP*	**Pn**	**12 22 19.7**	**+1.2**
MNGA				*eS*	**Sn**	**12 22 49.6**	**+1.8**
INCO	**Volcan de Coli**	**2.35**	**92**	*eP*	**Pn**	**12 22 19.9**	**+1.1**
INCO				*eS*	**Sn**	**12 22 49.5**	**+1.2**
EZ5V		**2.35**	**93**		**Pn**	**12 22 19.9**	**+1.2**
EZ5V		**2.35**	**93**	*eP*	**Pn**	**12 22 19.9**	**+1.2**
EZ5V				*eS*	**Sn**	**12 22 49.2**	**+1.0**
JUBC	**Volcan de Coli**	**2.38**	**93**	*eP*	**Pn**	**12 22 20.5**	**+1.4**
JUBC				*eS*	**Sn**	**12 22 49.2**	**+0.3**
MMIG	**Aquila**	**2.93**	**117**		**Pn**	**12 22 25.4**	**-1.0**
MMIG					**Sn**	**12 22 59.0**	**-2.9**
MMIG	**Aquila**	**2.93**	**117**	*eP*	**Pn**	**12 22 25.4**	**-1.0**
MMIG				*eS*	**Sn**	**12 22 59.0**	**-2.9**
MAIG	**Mazatlaan**	**3.55**	**355**		Pn	12 22 30.6	-4.2
MAIG					Sn	12 23 06.2	-11
MAIG	**Mazatlaan**	**3.55**	**355**	*eP*	Pn	12 22 30.6	-4.2
MAIG				*eS*	Sn	12 23 06.2	-11
AAIG	**Aguscalientes**	**4.18**	**56**		**Pn**	**12 22 43.8**	**0.0**
AAIG					**Sn**	**12 23 34.5**	**+1.4**
AAIG	**Aguscalientes**	**4.18**	**56**	*eP*	**Pn**	**12 22 43.8**	**0.0**
AAIG				*eS*	**Sn**	**12 23 34.5**	**+1.4**
ZAIG	**Zacatecas**	**4.53**	**46**		**Pn**	**12 22 48.4**	**-0.3**
ZAIG	**Zacatecas**	**4.53**	**46**	*eP*	**Pn**	**12 22 47.9**	**-0.8**
ZAIG				*eS*	**Sn**	**12 23 43.3**	**+1.4**
MOIG	**Morelia**	**4.62**	**89**		**Pn**	**12 22 51.3**	**+1.4**
MOIG	**Morelia**	**4.62**	**89**	*eP*	**Pn**	**12 22 49.8**	**-0.1**
MOIG				*eS*	**Sn**	**12 23 38.9**	**-5.3**
ZIIG	**Zihuatanejo**	**4.83**	**114**		**Pn**	**12 22 51.6**	**-1.0**
ZIIG					**Sn**	**12 23 44.1**	**-4.8**
ZIIG	**Zihuatanejo**	**4.83**	**114**	*eP*	**Pn**	**12 22 51.6**	**-1.0**
ZIIG				*eS*	**Sn**	**12 23 44.1**	**-4.8**
SLBS	**Sierra La Lagu**	**5.39**	**319**	Pn	**Pn**	**12 22 58.5**	**-1.9**
ARIG	**Puente Sto Nin**	**5.60**	**103**		**Pn**	**12 23 05.4**	**+2.2**
ARIG					**Sn**	**12 24 08.0**	**0.0**
ARIG	**Puente Sto Nin**	**5.60**	**103**	*eP*	**Pn**	**12 23 05.4**	**+2.2**
ARIG				*eS*	**Sn**	**12 24 08.0**	**0.0**
CAIG	**El Cayaco**	**6.10**	**114**		**Pn**	**12 23 11.3**	**+1.2**
CAIG					**Sn**	**12 24 19.5**	**-0.8**
CAIG	**El Cayaco**	**6.10**	**114**	*i* P	**Pn**	**12 23 11.3**	**+1.2**
CAIG				*eS*	**Sn**	**12 24 19.5**	**-0.8**
HPIG		**7.27**	**3**		**Pn**	**12 23 26.4**	**+0.1**
TLIG	**Tlapa**	**7.43**	**105**		**Pn**	**12 23 30.7**	**+2.3**
TX31	**Lajitas Ar. Si**	**9.90**	**12**		**Pn**	**12 24 02.3**	**0.0**
TXAR	**Lajitas Array**	**9.90**	**12**	Pn	**Pn**	**12 24 02.4**	**+0.1**
	0.1nm,0.3s,baz=196,slow=16,SNR=16						
TXAR				LR	LR	12 27 50.6	
	comp=Z,51nm,18.6s,baz=191,slow=38 2.7nm,1.0s						
CMIG	**Matias Romero**	**10.94**	**102**	Pn	**Pn**	**12 24 18.1**	**+1.7**
	2.3nm,0.3s,baz=280,slow=12,SNR=24						
CMIG				LR	LR	12 27 47.0	
	comp=Z,174nm,19.7s,baz=282,slow=33 16nm,0.5s						
319A	**Douglas**	**12.04**	**347**	Pn	**Pn**	**12 24 32.5**	**+1.0**
OZNA	**Ozona**	**12.10**	**21**		**Pn**	**12 24 32.9**	**+0.6**
121A	**Cookes Peak, D**	**12.93**	**354**		**Pn**	**12 24 44.9**	**+1.1**
DUN6	**Lazy B Ranch**	**13.14**	**349**	Pn	**Pn**	**12 24 47.1**	**+0.5**
TUC	**Tucson**	**13.30**	**342**	Pn	**Pn**	**12 24 48.9**	**+0.1**
214A	**Organ Pipe Nat**	**13.67**	**335**	Pn	**Pn**	**12 24 54.7**	**+0.9**
HKT	**Hockley**	**13.85**	**40**	Pn	**Pn**	**12 24 57.1**	**+0.9**
POST	**Post**	**13.99**	**16**		**Pn**	**12 24 58.8**	**+0.6**
MSTX	**Muleshoe**	**14.58**	**11**		**Pn**	**12 25 05.8**	**-0.5**
APMT	**Aspermont**	**14.64**	**20**		**Pn**	**12 25 06.8**	**-0.2**
DKNS	**Dickens**	**14.71**	**17**		**Pn**	**12 25 07.7**	**-0.4**
113A	**Mohawk Valley,**	**14.77**	**334**	Pn	**Pn**	**12 25 09.5**	**+0.7**
X18A	**Snowflake**	**15.22**	**348**		**Pn**	**12 25 13.3**	**-1.8**
ANMO	**Albuquerque**	**15.25**	**359**		**Pn**	**12 25 13.2**	**-2.2**
ANMO	**Albuquerque**	**15.25**	**359**	Pn	**Pn**	**12 25 15.7**	**+0.3**
	0.1nm,0.3s,baz=233,slow=20,SNR=2.1						
ANMO				LR	LR	12 31 05.0	
	comp=Z,179nm,18.2s,baz=264,slow=37 1.2nm,1.0s						
FW06	**Azle**	**15.32**	**28**		**Pn**	**12 25 14.2**	**-1.8**
FW06				IAmb	IAmb	12 25 21.9	
	comp=Z,21nm,0.9s						
237A	**Washetta, Mont**	**15.39**	**35**		**Pn**	**12 25 16.1**	**-1.0**
237A				IAmb	IAmb	12 25 36.3	
	comp=Z,21nm,0.8s						
Y14A	**Wickenburg**	**15.51**	**338**	Pn	**P

comp=Z,102nm,21.0s,baz=156,slow=34
comp=Z,2.9nm,1.0s
Y49A Blount Mountai 22.52 47 P **P** **12 26 38.7 -1.2**
Y49A IAmb IAmb 12 26 41.0
comp=Z,36nm,0.9s
BMN Battle Mountai 22.81 338 P **P** **12 26 43.1 0.0**
BMN IAmb IAmb 12 26 48.6
comp=Z,15nm,1.5s
P40A Paris 23.23 28 P **P** **12 26 46.0 -1.2**
P40A IAmb IAmb 12 26 48.1
comp=Z,34nm,1.1s
PDAR Pinedale Array 23.24 354 P **P** **12 26 47.1 -0.5**
comp=Z,0.5nm,0.7s,baz=181,slow=7.8,SNR=5.6
PDAR LR LR 12 35 48.0
comp=Z,159nm,19.1s,baz=172,slow=37
comp=Z,0.5nm,0.7s
FPAL Fort Paine 23.45 47 P **P** **12 26 47.9 -1.7**
N38A Joes South For 23.78 25 P **P** **12 26 51.4 -1.3**
CLTN Cedars of Leba 23.88 43 P **P** **12 26 52.4 -1.3**
T47A Sharon Grove 23.97 40 P **P** **12 26 53.6 -0.9**
W50A Signal Mountai 24.02 46 P **P** **12 26 53.9 -1.2**
Q44A Meyer Farm, Va 24.22 34 P **P** **12 26 55.7 -1.2**
USIN University of 24.30 37 P **P** **12 26 56.4 -1.2**
GOGA Godfrey 24.39 51 P **P** **12 26 56.9 -1.5**
CPCT Cooper Cave 24.69 46 P **P** **12 27 00.6 -0.7**
W52A Murphy 24.91 47 P **P** **12 27 01.6 -1.6**
TKL Tuckaleechee C 25.32 46 LR LR 12 39 41.1
comp=Z,183nm,18.0s,baz=244,slow=43
HDIL Hopedale 25.33 31 P **P** **12 27 05.5 -1.4**
ULM Lac du Bonnet 31.61 13 P **P** **12 28 01.9 -1.0**
comp=Z,2.8nm,0.9s,baz=186,slow=9.2,SNR=2.8
ULM LR LR 12 41 59.5
comp=Z,82nm,18.5s,baz=286,slow=39
comp=Z,2.8nm,0.9s
SADO Sadowa 33.60 36 LR LR 12 42 48.6
comp=Z,160nm,18.5s,baz=226,slow=38
BOSC San Juan Bosco 35.33 127 P **P** **12 28 37.8 +1.9**
BOSC IAmb IAmb 12 28 49.8
comp=Z,5.2nm,1.5s
SDV Santo Domingo 35.91 102 P **P** **12 28 41.9 +1.0**
SDV IAmb IAmb 12 28 46.2
comp=Z,6.3nm,0.8s
SDV Santo Domingo 35.91 102 LR LR 12 43 56.7
comp=Z,175nm,19.9s,baz=306,slow=37
BBB Bella Bella 36.75 337 LR LR 12 44 10.6
comp=Z,69nm,18.8s,baz=180,slow=37
TRQ Mont Tremblant 37.04 37 P **P** **12 28 48.3 -1.8**
SJG San Juan 37.77 86 LR LR 12 43 50.1
comp=Z,129nm,20.3s,baz=283,slow=35
ATAH Atahualpa 38.10 132 LR LR 12 41 39.7
comp=Z,81nm,18.8s,baz=337,slow=32
G62A West of Eustis 38.90 41 P **P** **12 29 05.3 -0.4**
G62A IAmb IAmb 12 29 23.9
comp=Z,15nm,1.4s
D62A Allapoint, All 40.71 39 P **P** **12 29 20.1 -0.6**
D62A IAmb IAmb 12 29 21.1
comp=Z,16nm,0.9s
DLBC Dease Lake 42.50 342 P **P** **12 29 37.2 +1.8**
DLBC IAmb IAmb 12 29 53.6
comp=Z,12nm,1.2s
BATG Bathurst New B 42.60 40 P **P** **12 29 35.9 -0.4**
NNA Nana 42.63 135 LR LR 12 43 39.8
comp=Z,48nm,20.6s,baz=322,slow=31
YKA Yellowknife Ar 43.22 354 P **P** **12 29 41.5 +0.5**
YKA Yellowknife Ar 43.22 354 P **P** **12 29 39.8 -1.2**
comp=Z,0.5nm,0.7s,baz=166,slow=8.1,SNR=7.2
YKA LR LR 12 50 16.1
comp=Z,118nm,18.7s,baz=280,slow=40
comp=Z,0.5nm,0.7s
SCHQ Schefferville 45.99 31 P **P** **12 30 04.0 +0.7**
SCHQ IAmb IAmb 12 30 12.1
comp=Z,8.6nm,0.9s
SCHQ Schefferville 45.99 31 P **P** **12 30 03.0 -0.3**
comp=Z,7.5nm,0.9s,baz=264,slow=5.4,SNR=3.5
SCHQ LR LR 12 50 14.6
comp=Z,156nm,18.1s,baz=222,slow=37
comp=Z,7.5nm,0.9s
BOAV Boa Vista 47.69 105 P **P** **12 30 20.4 +3.3**
BOAV IAmb IAmb 12 30 22.2
comp=Z,4.5nm,0.6s
K29M Barlow Dome 49.01 342 P **P** **12 30 27.8 +1.0**
K29M IAmb IAmb 12 31 02.3
comp=Z,9.1nm,1.5s
DAWY Dawson 49.72 342 P **P** **12 30 32.4 +0.3**
G31M Satah River 50.61 346 P **P** **12 30 39.5 +0.8**
G31M IAmb IAmb 12 31 04.2
comp=Z,7.2nm,1.3s
FRB Frobisher Bay 50.83 20 LR LR 12 51 41.2
comp=Z,250nm,18.9s,baz=211,slow=35
SAML Samuel 50.92 120 P **P** **12 30 43.4 +1.6**
SAML IAmb IAmb 12 30 48.2
comp=Z,4.1nm,0.9s
G29M Pine Creek 51.50 345 P **P** **12 30 47.0 +1.6**
F28M Old Crow 52.51 344 P **P** **12 30 54.5 +1.6**
F28M IAmb IAmb 12 31 04.6
comp=Z,3.5nm,0.8s
ILAR Eielson Array 52.58 339 P **P** **12 30 54.5 +1.0**
ILAR Eielson Array 52.58 339 P **P** **12 30 52.8 -0.8**
comp=Z,0.4nm,0.7s,baz=156,slow=6.4,SNR=8.2
ILAR LR LR 12 55 36.8
comp=Z,69nm,18.8s,baz=61,slow=39
comp=Z,0.4nm,0.7s
TRF Thorofare Moun 52.98 337 P **P** **12 30 57.1 +0.4**
TRF IAmb IAmb 12 31 00.4
comp=Z,10nm,1.3s
E28M Babbage River 53.17 345 P **P** **12 30 59.0 +1.2**
A36M Sachs Harbour 53.52 353 P **P** **12 31 01.0 +0.7**
A36M IAmb IAmb 12 31 08.8
comp=Z,5.1nm,1.0s
BMAR Burnt Mountain 53.63 343 P **P** **12 31 01.1 -0.1**
MDP Montagnes des 53.94 98 LR LR 12 55 29.5
comp=Z,67nm,19.3s,baz=316,slow=38
D27M Malcolm River 54.00 345 P **P** **12 31 04.2 +0.2**
D27M IAmb IAmb 12 31 15.3
comp=Z,2.8nm,0.9s
J20K Nowinta River 54.81 337 P **P** **12 31 09.7 -0.2**
J20K IAmb IAmb 12 31 33.8
comp=Z,5.4nm,1.2s
LVC Limon Verde 55.52 137 LR LR 12 50 02.4
comp=Z,34nm,19.6s,baz=256,slow=31
IMAR Indian Mountai 55.62 338 P **P** **12 31 15.9 +0.2**
TOLK Toolik Lake Re 55.85 342 P **P** **12 31 17.9 +0.5**
TOLK IAmb IAmb 12 31 46.8
comp=Z,9.7nm,1.4s
C23K Itkillik River 56.88 343 P **P** **12 31 24.8 +0.2**
C23K IAmb IAmb 12 31 35.7
comp=Z,4.9nm,1.0s
B21K Ikpikpuk River 57.89 342 P **P** **12 31 32.6 +0.9**
B21K IAmb IAmb 12 31 49.0
comp=Z,9.2nm,1.4s
SFJD Kangerlussuaq 58.86 22 LR LR 12 59 59.9
comp=Z,203nm,19.5s,baz=239,slow=39
CPUP Villa Florida 65.78 132 P **P** **12 32 25.6 +0.1**
comp=Z,1.5nm,0.3s,baz=341,slow=5.5,SNR=5.1
comp=Z,1.5nm,0.3s
RAR Rarotonga 66.38 235 LR LR 12 52 37.7
comp=Z,119nm,20.5s,baz=20,slow=28
NOA NORSAR Array B 85.33 26 LR LR 13 16 37.8
comp=Z,57nm,18.5s,baz=275,slow=39
ESDC Sonseca Array 86.58 49 P **P** **12 34 24.5 +0.7**
comp=Z,0.3nm,0.6s,baz=285,slow=6.0,SNR=1.6
ESDC LR LR 13 15 32.0
comp=Z,38nm,18.1s,baz=302,slow=37
comp=Z,0.3nm,0.6s
HFS Hagfors 86.85 26 LR LR 13 12 33.6
comp=Z,75nm,18.2s,baz=288,slow=35
MDT Midelt 88.73 56 LR LR 13 15 35.1
comp=Z,28nm,19.2s,baz=342,slow=36
URZ Urewera 92.09 230 LR LR 13 07 19.4
comp=Z,55nm,21.8s,baz=210,slow=30
DAVOX Davos/Dischmat 92.35 38 LR LR 13 15 39.0
comp=Z,76nm,19.4s,baz=263,slow=35
KLR Kul'dur 94.39 326 LR LR 13 15 13.0
comp=Z,14nm,18.0s,baz=20,slow=34
VRAC Vranov 94.62 34 LR LR 13 16 55.6
comp=Z,66nm,18.3s,baz=314,slow=35
DZM Mont Dzumac 94.94 248 LR LR 13 10 17.4
comp=Z,44nm,19.0s,baz=44,slow=31
HNR Honiara 96.81 262 LR LR 13 08 16.7
comp=Z,290nm,21.6s,baz=134,slow=29
JHJ Hachijo jima 2 98.14 309 LR LR 13 10 34.8
comp=Z,26nm,20.1s,baz=58,slow=30
DBIC Dimbokro 98.27 80 LR LR 13 13 40.8
comp=Z,30nm,22.0s,baz=264,slow=32
WRA Warramunga Arr 123.42 259 PKP **PKPdf** **12 40 36.0 -2.3**
comp=Z,0.3nm,0.7s,baz=81,slow=2.5,SNR=5.2
ASAR Alice Springs 124.44 254 PKP **PKiKP** **12 40 40.4 -0.1**
comp=Z,0.5nm,0.9s,baz=105,slow=1.4,SNR=3.2

*NNC **09** 12:55:15.5±0.5, 42.°91N×78.°45E, h0km, mb2.6, mpv3.0, Error ellipse: s-maj=3.5km s-min=1.8km az=171.0*
*KRNET **09** 12:55:15.6±0.1, 42.°91N×78.°45E, h14km, mb2.7*
*SOME **09** 12:55:16.0, 42.°93N×78.°43E, h5km*

ISC 09 12:55:15.6±1.0, 42°90N±0'.02×78°45E±0'.02, h6km±11km, n30, σ0s33/60, 8C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**0.16**	**349**	*e*P	**Pg**	**12 55 19.0**	**0.0**
	baz=47						
SATY				*e*S	**Sg**	**12 55 21.4**	**+0.2**
	baz=47						
SATY	**Saty**	**0.16**	**349**	*e*P	**Pg**	**12 55 18.9**	**0.0**
	68nm,0.1s						
SATY				*e*S	**Sg**	**12 55 21.3**	**+0.1**
	124nm,0.1s						
SATY	**Saty**	**0.16**	**349**	P	**Pg**	**12 55 18.9**	**0.0**
SATY				S	**Sg**	**12 55 21.3**	**+0.1**
ZHN	**Zhinishke**	**0.27**	**358**	*e*P	**Pg**	**12 55 20.8**	**-0.1**
	baz=57						
ZHN				*e*S	**Sg**	**12 55 24.5**	**+0.1**
	baz=57						
ZHN	**Zhinishke**	**0.27**	**358**	*e*P	**Pg**	**12 55 20.8**	**-0.1**
	29nm,0.1s						
ZHN				*e*S	**Sg**	**12 55 24.6**	**+0.1**
	117nm,0.1s						
ZHN	**Zhinishke**	**0.27**	**358**	P	**Pg**	**12 55 20.8**	**-0.1**
	29nm,0.1s						
ZHN				S	**Sg**	**12 55 24.6**	**+0.1**
	117nm,0.1s						
PRZ	**Przheval'sk**	**0.42**	**185**↑	*e*P	**Pg**	**12 55 23.9**	**+0.1**
	baz=85						
PRZ				↑*e*S	**Sg**	**12 55 29.1**	**-0.2**
	baz=85						
UZB	**Uzunbulak**	**0.49**	**60**	*e*P	**Pg**	**12 55 25.0**	**-0.1**
	baz=60						
UZB				*e*S	**Sg**	**12 55 31.6**	**+0.2**
	baz=60						
UZB	**Uzunbulak**	**0.49**	**60**	*e*P	**Pg**	**12 55 25.0**	**-0.1**
	5.2nm,0.1s						
UZB				*e*S	**Sg**	**12 55 31.6**	**+0.2**
	11nm,0.1s						
UZB	**Uzunbulak**	**0.49**	**60**	P	**Pg**	**12 55 25.0**	**-0.1**
	5.2nm,0.1s						
UZB				S	**Sg**	**12 55 31.6**	**+0.2**
	11nm,0.1s						
KURS	**Kuram**	**0.62**	**341**	*e*P	**Pg**	**12 55 27.4**	**-0.2**
	baz=40						
KURS				*e*S	**Sg**	**12 55 35.8**	**0.0**
	baz=40						
KURS	**Kuram**	**0.62**	**341**	*e*P	**Pg**	**12 55 27.4**	**-0.2**
	1.1nm,0.1s						
KURS				*e*S	**Sg**	**12 55 35.7**	**0.0**
	2.7nm,0.2s						
KURS	**Kuram**	**0.62**	**341**	P	**Pg**	**12 55 27.4**	**-0.2**
	1.1nm,0.1s						
KURS				S	**Sg**	**12 55 35.7**	**0.0**
	2.7nm,0.2s						
PDGK	**Podgornoye**	**0.87**	**60**	P	**Pg**	**12 55 32.4**	**-0.1**
	0.9nm,0.1s						
PDGK				S	**Sg**	**12 55 44.1**	**+0.4**
	1.7nm,0.3s						
KOTS	**Kotyrbulak**	**1.03**	**289**	*e*P	**Pg**	**12 55 35.3**	**-0.2**
	baz=89						
KOTS				*e*S	**Sg**	**12 55 49.3**	**+0.4**
	baz=89						
KOTS	**Kotyrbulak**	**1.03**	**289**	*e*P	**Pg**	**12 55 35.3**	**-0.2**
	2.4nm,0.1s						
KOTS				*e*S	**Sg**	**12 55 49.3**	**+0.4**
	4.6nm,0.1s						
KOTS	**Kotyrbulak**	**1.03**	**289**	P	**Pg**	**12 55 35.3**	**-0.2**
	2.4nm,0.1s						
KOTS				S	**Sg**	**12 55 49.3**	**+0.4**
	4.6nm,0.1s						
TNSS	**Tian-Shan**	**1.11**	**277**	*e*P	**Pg**	**12 55 36.9**	**-0.1**
	baz=77						
TNSS				*e*S	**Sg**	**12 55 51.9**	**+0.4**
	baz=77						
TNSS	**Tian-Shan**	**1.11**	**277**	*e*P	**Pg**	**12 55 36.9**	**-0.1**
	1.2nm,0.1s						
TNSS				*e*S	**Sg**	**12 55 51.8**	**+0.4**
	1.9nm,0.1s						
TNSS	**Tian-Shan**	**1.11**	**277**	P	**Pg**	**12 55 36.9**	**-0.1**
	1.2nm,0.1s						
TNSS				S	**Sg**	**12 55 51.8**	**+0.4**
	1.9nm,0.1s						
TARG	**Taragay, Kyrgy**	**1.27**	**202**↑	*i*P	**Pg**	**12 55 39.5**	**-0.4**
	baz=3.0						
TARG				↑*i*S	**Sg**	**12 55 56.7**	**+0.3**
	baz=3.0						
KTBS	**Karatobe**	**1.52**	**303**	*e*P	**Pb**	**12 55 44.1**	**-0.2**
	baz=2.0						
KTBS				*e*S	**Sg**	**12 56 04.3**	**-0.3**
	baz=2.0						
KTBS	**Karatobe**	**1.52**	**303**	*e*P	**Pb**	**12 55 44.1**	**-0.2**
	1.4nm,0.2s						
KTBS				*e*S	**Sg**	**12 56 04.3**	**-0.3**
	5.7nm,0.2s						
KTBS	**Karatobe**	**1.52**	**303**	P	**Pb**	**12 55 44.1**	**-0.2**
	1.4nm,0.2s						
KTBS				S	**Sg**	**12 56 04.3**	**-0.3**
	5.7nm,0.2s						
KNOS	**Konyrlen**	**1.55**	**20**	P	**Pb**	**12 55 44.5**	**-0.4**
	3.2nm,0.1s						
KNOS				S	**Sg**	**12 56 05.1**	**-0.4**
	4.4nm,0.2s						
ULHL	**Ulahol**	**1.76**	**249**↑	*i*P	**Pb**	**12 55 48.4**	**0.0**
	baz=49						
ULHL				↑*i*S	**Sb**	**12 56 11.6**	**+0.8**
	baz=49						
KUU	**Kurty**	**1.83**	**304**	*e*P	**Pb**	**12 55 49.4**	**-0.1**
	baz=3.0						
KUU				*e*S	**Sb**	**12 56 13.4**	**+0.7**
	baz=3.0						
KUU	**Kurty**	**1.83**	**304**	*e*P	**Pb**	**12 55 49.4**	**-0.1**
	1.3nm,0.1s						
KUU				*e*S	**Sb**	**12 56 13.4**	**+0.7**
	12nm,0.2s						
KUU	**Kurty**	**1.83**	**304**	P	**Pb**	**12 55 49.4**	**-0.1**
	1.3nm,0.1s						
KUU				S	**Sb**	**12 56 13.4**	**+0.7**
	12nm,0.2s						
TKM2	**Tokmak 2**	**2.10**	**271**↑	*i*P	**Pb**	**12 55 53.1**	**-1.1**
	baz=71						
TKM2				↑*i*S	**Sb**	**12 56 20.2**	**-0.3**
	baz=71						

*IDC **09** 13:01:12.5±6.9, 26.°00S×178.°76W, h369km±71km, mb3.1/6, mbtmp4.0/8, Error ellipse: s-maj=34.4km s-min=26.7km az=34.0*

ISC 09 13:01:14.2±0.9, 26°2S±0'.1×178°8W±0'.2, h389km, n9, σ0s96/10, mb3.3/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**12.52**	**195**	P	**P**	**13 03 59.7**	**-0.1**
	19nm,0.5s,baz=184,slow=1.5,SNR=26						
URZ				S	**S**	**13 06 15.5**	**-1.4**
	9.1nm,0.5s,baz=112,slow=21,SNR=1.7						
DZM	**Mont Dzumac**	**14.09**	**284**	P	**P**	**13 04 17.7**	**+0.3**
	6.1nm,0.7s,baz=118,slow=19,SNR=5.0						
ASAR	**Alice Springs**	**42.79**	**263**	P	**P**	**13 08 36.5**	**+0.8**
	0.4nm,0.6s,baz=90,slow=7.1,SNR=6.9						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**43.39**	**268**	P	**P**	**13 08 40.1**	**-0.3**
	1.0nm,0.7s,baz=103,slow=8.2,SNR=11						
	1.0nm,0.7s						
QSPA	**South Pole Qui**	**63.90**	**180**	P	**P**	**13 11 08.3**	**+1.6**
	1.4nm,1.0s,baz=324,slow=2.5,SNR=2.6						
	1.4nm,1.0s						
MJAR	**Matsushiro Arr**	**74.40**	**325**	P	**P**	**13 12 09.8**	**-0.9**
	1.5nm,0.8s,baz=155,slow=5.2,SNR=3.1						
	1.5nm,0.8s						
NVAR	**Mina Array Bea**	**85.65**	**43**	P	**P**	**13 13 10.2**	**-0.1**
	0.4nm,0.6s,baz=216,slow=8.3,SNR=5.3						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**90.72**	**58**	P	**P**	**13 13 34.1**	**-0.1**
	0.3nm,0.9s,baz=211,slow=3.2,SNR=1.9						
	0.3nm,0.9s						
HFS	**Hagfors**	**144.99**	**349**	PKP	**PKPdf**	**13 20 04.6**	**-0.5**
	1.7nm,0.6s,baz=50,slow=4.5,SNR=7.2						

*IDC **09** 13:19:34.0±1.1, 8.°86N×84.°01W, h0km, mb3.8/6, mbtmp3.8/6, MS3.4/10, Error ellipse: s-maj=48.0km s-min=20.0km az=56.0*
*UCR **09** 13:19:34.0±1.2, 8.°66N×84.°33W, h18km±6km, MW4.8, MB4.2(NEIC)*
*CATAC **09** 13:19:34.8±1.4, 8.°63N×84.°28W, h22km±19km, ML4.3*
*NEIC **09** 13:19:36.6±2.7, 9.°18N±0'.04×83.°83W±0'.07, h10km±2km, mb4.2/5, Error ellipse: s-maj=13.2km s-min=3.1km az=242.0*

ISC 09 13:19:34.4±1.3, 8.°73N±0'.04×84.°23W±0'.03, h13km±8km, n100, σ1s71/97, mb4.0/8, MS3.2/6, 2C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVQ2	**Quepos**	**0.70**	**5**	*e*P	**Pb**	**13 19 48.3**	**-0.2**
SVQ2				*e*S	**Sb**	**13 19 59.3**	**+1.3**
LLNJ	**Naranjito**	**0.75**	**10**‖	*e*P	**Pb**	**13 19 49.3**	**0.0**
LLNJ				*e*S	**Sb**	**13 20 01.2**	**+1.7**
EDPN	**Palmar Norte**	**0.80**	**73**	*e*P	**Pb**	**13 19 50.3**	**+0.1**
EDPN				*e*S	**Sb**	**13 20 01.5**	**+0.6**
JIME	**Puerto Jimenez**	**0.92**	**102**	*e*P	**Pb**	**13 19 52.4**	**+0.2**
JIME				*e*S	**Sg**	**13 20 06.6**	**+2.4**
CDM	**Cerro de Muert**	**0.94**	**29**	*e*P	**Pb**	**13 19 52.3**	**-0.5**
CDM				*e*S	**Sb**	**13 20 06.9**	**+1.5**
CDM	**Cerro de Muert**	**0.94**	**29**	*i* S	**Sn**	**13 20 09.6**	**+2.4**
PIRO	**Carate, Puerto**	**0.94**	**110**	*e*P	**Pb**	**13 19 52.3**	**-0.3**
PIRO				*e*S	**Sb**	**13 20 06.6**	**+1.5**
BUS1	**Rivas**	**0.95**	**30**	*e*P	**Pb**	**13 19 52.3**	**-0.6**
ABE2	**San Pablo**	**0.98**	**10**‖	*i*P	Pb	13 19 47.5	-6.0
ABE2				*e*P	**Pn**	**13 19 53.2**	**-0.9**
ABE2				*e*P	**Pg**	**13 19 53.4**	**-0.1**
ABE2				*e*S	**Sn**	**13 20 08.9**	**+0.8**
SRBA	**San Rafael, Bu**	**1.00**	**60**		**Pn**	**13 19 53.4**	**-0.8**
SRBA	**San Rafael, Bu**	**1.00**	**60**	*e*P	**Pn**	**13 19 53.4**	**-0.8**
SRBA				*e*S	**Sb**	**13 20 08.1**	**+1.5**
SRBA	**San Rafael, Bu**	**1.00**	**60**	*i* P	**Pn**	**13 19 53.5**	**-0.7**
SRBA				IAML		13 20 09.3	
	comp=Z,6μm,1.0s						
JACO	**JACO, Garabito**	**1.02**	**336**	Pg	**Pb**	**13 19 52.3**	**-1.6**
JACO	**JACO, Garabito**	**1.02**	**336**	*i* P	**Pg**	**13 19 54.6**	**+0.5**
JACO				IAML		13 20 22.1	
	comp=Z,3μm,1.0s						
LCR2	**La Lucha 2**	**1.03**	**13**		Pn	13 19 47.2	-7.6
LCR2	**La Lucha 2**	**1.03**	**13**	*i* P	Pn	13 19 47.0	-7.7
EDBA	**Buenos Aires**	**1.04**	**65**	*e*P	**Pn**	**13 19 53.8**	**-0.9**
EDBA				*e*S	**Sb**	**13 20 09.4**	**+1.5**
EDAD	**Golfito**	**1.06**	**94**	*e*P	**Pn**	**13 19 53.8**	**-1.2**
EDAD				*e*S	**Sb**	**13 20 08.4**	**0.0**
FITO	**Golfito**	**1.07**	**95**	*e*P	**Pn**	**13 19 54.4**	**-0.7**
FITO				*e*S	**Sb**	**13 20 08.9**	**+0.2**
RIMA	**Rio Macho**	**1.09**	**19**	Pg	Pn	13 19 49.2	-6.4
POTG	**Potrero Grande**	**1.15**	**74**	*e*P	**Pn**	**13 19 56.1**	**-0.1**
POTG	**Potrero Grande**	**1.15**	**74**	*i* P	**Pn**	**13 19 56.2**	**0.0**
POTG				IAML		13 20 16.0	
	comp=Z,9μm,1.0s						
VITO	**San Vito**	**1.25**	**86**	*e*P	**Pn**	**13 19 58.2**	**+0.5**
HDC	**Heredia**	**1.27**	**5**		**Pn**	**13 19 53.6**	**-4.3**
HAYA	**Volcan Irazu**	**1.30**	**17**	*i* P	Pn	13 19 51.7	-6.9
VERB	**Verbena**	**1.32**	**24**	*e*P	**Pg**	**13 20 03.7**	**+3.9**
VTCV	**VTCV, Calle Va**	**1.34**	**22**	*e*P	**Pn**	**13 19 58.8**	**-0.2**
CDITO	**Canoas**	**1.35**	**96**	Pn	**Pn**	**13 19 58.9**	**-0.1**
CDITO	**Canoas**	**1.35**	**96**	*e*P	**Pn**	**13 19 58.7**	**-0.3**
RVSTA	**Santa Teresita**	**1.37**	**25**	*e*P	**Pn**	**13 19 59.3**	**0.0**
VPTE	**Poasito**	**1.43**	**1**	*i* P	**Pn**	**13 20 00.0**	**-0.3**
VPTE				*i* S	**Sb**	**13 20 20.3**	**+0.9**
VPTE				IAML		13 20 29.3	
	comp=Z,4μm,1.0s						
LCOCO	**El Coco**	**1.50**	**26**↑	*e*P	**Pn**	**13 20 01.6**	**+0.5**
BRU2	**Volcan**	**1.53**	**87**	Pn	**Pn**	**13 19 57.8**	**-3.7**
BRU2	**Volcan**	**1.53**	**87**	*e*P	**Pn**	**13 20 01.6**	**+0.1**
BRU2				*e*S	**Sn**	**13 20 22.4**	**+1.1**
BRU2	**Volcan**	**1.53**	**87**	*i* P	**Pn**	**13 20 02.3**	**+0.8**
BRU2				IAML		13 20 30.4	
	comp=Z,6μm,1.0s						
RIFO	**Rio Frio, Sara**	**1.61**	**11**	*i* S	**Sb**	**13 20 25.2**	**+1.1**
BRIBI	**Bribri**	**1.63**	**57**	*e*P	**Pb**	**13 20 04.6**	**+0.3**
INDI	**Punta indio, G**	**1.69**	**312**	*i* P	**Pb**	**13 20 04.2**	**-1.1**
INDI				IAML		13 21 00.9	
	comp=Z,770nm,1.0s						
JTS	**Las Juntas de**	**1.71**	**335**	Pn	**Pn**	**13 20 03.0**	**-0.9**
JTS	**Las Juntas de**	**1.71**	**335**	Pn	**Pb**	**13 20 04.5**	**-1.2**
	comp=Z,26nm,0.3s,baz=278,slow=3.3,SNR=28						
JTS				Sn	**Sg**	**13 20 28.7**	**-0.7**
	comp=Z,19nm,0.3s,baz=109,slow=22,SNR=5.6						
CASO	**Castillo**	**1.76**	**344**	*e*P	**Pn**	**13 20 04.1**	**-0.6**
VACR	**Volcan Arenal**	**1.79**	**346**	*i* P	Pn	13 19 58.7	-6.3
CEDE	**Laguna Cedeo**	**1.81**	**345**	*e*P	**Pb**	**13 20 06.3**	**-1.1**
COVE	**Coope Vega, Sa**	**1.98**	**355**	Pn	**Pn**	**13 20 04.4**	**-3.2**
ORTG	**Ortega, Santa**	**2.02**	**323**	Pn	**Pn**	**13 20 08.0**	**-0.2**
ACAL	**Aguas Claras**	**2.05**	**337**	*e*P	**Pb**	**13 20 10.5**	**-1.1**
PTEN	**Parque Tenorio**	**2.11**	**339**	*e*P	**Pb**	**13 20 12.6**	**0.0**
MOTZ	**Rio Naranjo**	**2.11**	**337**	*e*P	**Pb**	**13 20 11.2**	**-1.4**
CUI	**Cuipilapa**	**2.12**	**334**	*e*P	**Pb**	**13 20 11.5**	**-1.3**
COLC	**Colonia**	**2.15**	**334**	*e*P	**Pb**	**13 20 12.0**	**-1.2**
CAMAV	**Centro de Prod**	**2.17**	**334**	*e*P	**Pg**	**13 20 18.7**	**+2.5**
LIM1	**Limonal**	**2.20**	**333**	*e*P	**Pb**	**13 20 12.9**	**-1.2**
VERA	**Finca Concepci**	**2.20**	**344**	*e*P	**Pg**	**13 20 16.5**	**-0.1**
MESS	**Mesas**	**2.21**	**335**	*e*P	**Pn**	**13 20 10.9**	**+0.1**
CANAL	**Canalete**	**2.24**	**339**	*e*P	**Pb**	**13 20 13.4**	**-1.4**
GP77	**Hacienda Santa**	**2.29**	**332**	*e*P	**Pb**	**13 20 14.3**	**-1.3**
GPS2	**Hotel Rincn d**	**2.29**	**331**	*e*P	**Pb**	**13 20 14.7**	**-0.9**
GPS3	**Bodega del ICE**	**2.30**	**331**	*e*P	**Pb**	**13 20 14.3**	**-1.5**
GPS1	**Guardaparques**	**2.31**	**332**	*e*P	**Pb**	**13 20 13.9**	**-2.1**
LAPC	**Finca la Perla**	**2.34**	**330**	*e*P	**Pb**	**13 20 15.1**	**-1.4**
BUEV	**Buena Vista**	**2.36**	**331**	*e*P	**Pb**	**13 20 15.1**	**-1.7**
GBS3	**Finca Las Img**	**2.37**	**330**	*e*P	**Pn**	**13 20 14.2**	**+1.3**
GB1A	**Borinquen Arri**	**2.37**	**331**	*e*P	**Pb**	**13 20 15.8**	**-1.3**
HZTE	**Horizontes, Gu**	**2.38**	**326**		**Pb**	**13 20 15.5**	**-1.7**
ACON	**Acoyapa**	**3.35**	**344**		**Pn**	**13 20 26.9**	**+0.5**
ESPN	**Las Esperanzas**	**3.44**	**359**	Pn	**Pn**	**13 20 24.2**	**-3.5**
BOAB	**BOACO BROADBAN**	**3.96**	**339**		**Pn**	**13 20 34.5**	**-0.2**
BCIP	**Isla Barro Col**	**4.37**	**84**	Pn	**Pn**	**13 20 37.6**	**-2.8**
MATN	**Matagalpa**	**4.49**	**338**		**Pn**	**13 20 42.0**	**-0.3**
CRIN	**San Cristobal**	**4.82**	**325**	Pn	**Pn**	**13 20 49.1**	**+2.3**
MTO3	**Montecristo**	**7.55**	**319**		**Pn**	**13 21 25.9**	**+1.5**
ESQI	**Esquipulas**	**7.65**	**320**	Pn	**Pn**	**13 21 28.7**	**+2.9**
ROSC	**El Rosal**	**10.57**	**111**	LR	LR	13 25 52.7	
	comp=Z,78nm,21.0s,baz=193,slow=36						
TEIG	**Tepich**	**12.08**	**342**	LR	LR	13 26 41.8	
	comp=Z,1μm,19.0s,baz=166,slow=36						
COHC	**Cochancay**	**12.18**	**156**	Pn	P	13 22 34.3	-6.0
BOSC	**San Juan Bosco**	**13.12**	**154**	Pn	**P**	**13 22 46.8**	**-4.1**
SDV	**Santo Domingo**	**13.44**	**88**	Pn	**Pn**	**13 22 42.3**	**-2.9**
SOR	**Soroa**	**14.03**	**5**	Pn	Pn	13 22 44.7	-8.3
SDDR	**Presa de Saban**	**16.17**	**50**	Pn	**Pn**	**13 23 15.1**	**-6.5**
SDDR				IAmb	IAmb	13 23 33.8	
	comp=

comp=Z,0.7nm,0.7s,baz=145,slow=4.0,SNR=12
comp=Z,0.4nm,0.8s

SFJD	**Kangerlussuaq**	**62.47**	**14**	LR	LR	13 58 30.9		
	comp=Z,94nm,18.3s,baz=130,slow=38							
ILAR	**Eielson Array**	**70.68**	**336**	P	**P**	**13 30 51.0**	**+1.4**	
	comp=Z,0.9nm,0.7s,baz=118,slow=4.2,SNR=20							
	comp=Z,0.9nm,0.7s							
ESDC	**Sonseca Array**	**77.01**	**51**	P	**P**	**13 31 28.3**	**+1.0**	
	comp=Z,1.1nm,0.8s,baz=276,slow=6.7,SNR=7.7							
	comp=Z,1.1nm,0.8s							
ASAR	**Alice Springs**	**140.63**	**243**	PKhKP	PKPpre	13 38 58.7		
	comp=Z,0.1nm,0.6s,baz=121,slow=2.5,SNR=1.4							
WRA	**Warramunga Arr**	**141.10**	**249**	PKhKP	PKPpre	13 39 00.1		
	comp=Z,0.4nm,0.9s,baz=101,slow=2.4,SNR=2.4							
CMAR	**Chiang Mai Arr**	**152.80**	**353**	PKPbc	**PKiKP**	**13 39 33.2**	**+0.9**	
	comp=Z,0.3nm,0.4s,baz=343,slow=2.8,SNR=2.1							

IDC 09 13:20:11.6±9.1, 5.91°S×150.24°E, h73km±66km, mb3.3/2, mbtmp3.6/3, ML1.2/1, MS3.0/1, Error ellipse: s-maj=105.7km s-min=59.3km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.62**	**221**	P	Pn	13 21 18.8	-0.2
	0.9nm,0.3s,baz=58,slow=18,SNR=1.5						
PMG				S	Sn	13 22 12.1	+0.7
	10nm,0.3s,baz=89,slow=15,SNR=6.8						
	2.6nm,0.3s						
WRA	**Warramunga Arr**	**20.82**	**226**	P	P	13 24 47.4	+0.1
	1.6nm,0.5s,baz=50,slow=10,SNR=14						
	1.6nm,0.5s						
DZM	**Mont Dzumac**	**22.43**	**137**	LR	LR	13 32 12.1	
	comp=Z,38nm,18.6s,baz=270,slow=32						
ASAR	**Alice Springs**	**23.64**	**220**	P	P	13 25 16.4	-0.1
	0.8nm,0.7s,baz=57,slow=8.4,SNR=13						
	0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.19**	**285**	PKPbc	PKPbc	13 39 49.7	-0.5
	0.3nm,0.5s,baz=56,slow=3.5,SNR=4.1						

*CATAC **09** 13:27:06.8±0.8, 13.89N×91.34W, h20km±6km, ML3.4*
*SNET **09** 13:27:08.0±1.1, 13.97N×91.30W, h60km±17km, ML3.3*
*GCG **09** 13:27:11.5±0.8, 14.27N×91.24W, h46km±17km, MD3.2*
ISC 09 13:27:07.8±1.9, 13.89N±0.09×91.35W±0.06, h55km±18km, n22, σ0°75/34, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SULM	**Suchitepequez,**	**0.46**	**333**	*eP*	**Pn**	**13 27 20.5**	**+1.5**
SULM				*eS*	**Sn**	**13 27 26.9**	**-0.2**
ESSG	**Sabana Grande**	**0.70**	**46**	*i P*	**Pn**	**13 27 20.9**	**-1.0**
ESSG				*i S*	**Sn**	**13 27 31.2**	**-1.0**
ESSG				IAML		13 27 36.7	
	comp=Z,3μm,1.0s						
RTAL	**Retalhuleu**	**0.72**	**332**	*i P*	**Pn**	**13 27 21.8**	**-0.3**
RTAL				*eS*	**Sn**	**13 27 32.8**	**+0.4**
RTAL	**Retalhuleu**	**0.72**	**332**	*i P*	**Pn**	**13 27 21.6**	**-0.4**
RTAL				IAML		13 27 21.7	
	comp=Z,1μm,1.0s						
RTAL				*i S*	**Sn**	**13 27 31.6**	**-0.8**
FUG	**Fuego 3**	**0.74**	**41**	*eP*	**Pn**	**13 27 22.7**	**+0.2**
STG3	**Santiaguito 3,**	**0.84**	**345**	*eP*	**Pn**	**13 27 23.7**	**-0.2**
PCG	**Pacaya**	**0.87**	**55**	*eP*	**Pn**	**13 27 24.8**	**+0.5**
SOKI	**Kika Raxquin**	**0.93**	**357**	*i P*	**Pn**	**13 27 24.5**	**-0.7**
SOKI				*i S*	**Sn**	**13 27 37.4**	**-0.4**
SOKI				IAML		13 27 40.7	
	comp=Z,1μm,1.0s						
NBG	**Las Nubes**	**1.19**	**54**	*eP*	**Pn**	**13 27 28.0**	**-0.5**
SMCA	**Catarina**	**1.19**	**324**	*i P*	**Pn**	**13 27 27.6**	**-0.7**
SMCA				IAML		13 27 27.9	
	comp=Z,530nm,1.0s						
GUNB	**GUNB**	**1.20**	**54**	*i P*	**Pn**	**13 27 28.4**	**-0.2**
GUNB				IAML		13 27 28.7	
	comp=Z,740nm,1.0s						
GUNB				*i S*	**Sn**	**13 27 44.1**	**0.0**
QUIS	**Sacapulas**	**1.41**	**10**	*i P*	**Pn**	**13 27 33.2**	**+1.8**
QUIS				*i S*	**Sn**	**13 27 49.8**	**+0.7**
QUIS				IAML		13 27 51.1	
	comp=Z,410nm,1.0s						
HUEH	**Huehuetenango**	**1.43**	**354**	*eS*	**Sn**	**13 27 50.1**	**+0.6**
NUBE	**Las Nubes**	**1.52**	**89**	*eP*	**Pn**	**13 27 32.9**	**+0.1**
NUBE				*eS*	**Sn**	**13 27 51.2**	**-0.5**
NUBE				IAML		13 27 54.3	
	comp=Z,130nm,0.4s						
NUBE	**Las Nubes**	**1.52**	**89**	*i P*	**Pn**	**13 27 33.0**	**+0.1**
NUBE				IAML		13 27 53.9	
	comp=Z,390nm,1.0s						
LOAL	**Lomas de Alarc**	**1.52**	**86**	*i P*	**Pn**	**13 27 34.3**	**+1.5**
SLOZ	**Alcaldia de Sa**	**1.52**	**85**	*eP*	**Pn**	**13 27 32.9**	**+0.1**
SLOZ				*eS*	**Sn**	**13 27 51.7**	**+0.2**
CEVE	**Cerro Verde**	**1.67**	**92**	*eP*	**Pn**	**13 27 35.3**	**+0.3**
CEVE				*eS*	**Sn**	**13 27 56.1**	**+0.6**
CEVE				IAML		13 28 01.6	
	comp=Z,780nm,0.3s						
JAYA	**Jayaque - finc**	**1.86**	**97**	*eP*	**Pn**	**13 27 37.6**	**+0.1**
JAYA				*eS*	**Sn**	**13 27 59.9**	**-0.1**
PMON	**Piamonte**	**1.98**	**95**	*eP*	**Pn**	**13 27 38.9**	**-0.2**
MTO3	**Montecristo**	**1.99**	**75**	*i P*	**Pn**	**13 27 38.2**	**-1.1**
MTO3				IAML		13 27 45.3	
	comp=Z,85nm,1.0s						
COEG	**Centro de Oper**	**2.41**	**96**	*eP*	**Pn**	**13 27 44.1**	**-0.9**
COEG				*eS*	**Sn**	**13 28 14.3**	**+1.0**

*TRN **09** 13:49:29.8, 16.06N×60.78W, h31km, MD4.1*
*IDC **09** 13:49:31.9±11.0, 17.15N×60.98W, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=327.6km s-min=43.4km az=6.0*
ISC 09 13:49:31.0±1.7, 16.07N±0.05×60.76W±0.08, h31km±13km, n29, σ0°80/35, mb3.6/3, 1C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAGL	**Barre de l'ile**	**0.52**	**257**	*eP*	**Pn**	**13 49 42.4**	**+0.1**
MAGL				*eS*	**Sn**	**13 49 50.9**	**+0.8**
ABD	**La Joyeuse, An**	**0.81**	**300**	*eP*	**Pn**	**13 49 46.1**	**-0.2**
ABD				*eS*	**Sn**	**13 49 57.5**	**+0.3**
CBE	**Ff, Capester**	**0.81**	**270**	*eP*	**Pb**	**13 49 46.8**	**+0.1**
CBE				*eS*	**Sn**	**13 49 59.6**	**+2.1**
TDBA	**Terre de Bas,**	**0.87**	**256**	*eP*	**Pn**	**13 49 47.3**	**+0.2**
SVN	**Savane Anatole**	**1.28**	**198**	*eP*	**Pn**	**13 49 52.6**	**-0.3**
ILAM	**Ilet Lapin Mar**	**1.29**	**185**	*eP*	**Pn**	**13 49 53.5**	**+0.5**
BAMF	**Morne Balai**	**1.30**	**197**	*eP*	**Pn**	**13 49 53.1**	**-0.1**
CXM	**Morne La Croix**	**1.31**	**198**	*eP*	**Pn**	**13 49 53.5**	**+0.1**
PCM	**Pelee Case Pet**	**1.32**	**199**	*eP*	**Pn**	**13 49 53.1**	**-0.3**
GBMF	**Grand Be**	**1.32**	**197**	*eP*	**Pn**	**13 49 53.1**	**-0.3**
PML	**Morne Lenard**	**1.34**	**198**	*eP*	**Pn**	**13 49 53.6**	**-0.1**
ANBD	**Bethesda, Anti**	**1.37**	**315**	*eP*	**Pn**	**13 49 54.4**	**+0.4**
ANBD				*eS*	**Sb**	**13 50 12.8**	**-0.3**
FDF	**Fort de France**	**1.38**	**196**	*eP*	**Pn**	**13 49 54.0**	**-0.2**
LPMF	**Morne Lapointe**	**1.50**	**188**	*eP*	**Pn**	**13 49 55.5**	**-0.3**
ZAM	**Aeronautique**	**1.51**	**190**	*eP*	**Pn**	**13 49 55.8**	**-0.2**
MVM	**Montagne Vaucl**	**1.51**	**185**	*eP*	**Pn**	**13 49 56.2**	**+0.2**
MLYT	**Lee's Yard**	**1.52**	**295**	*e*	**Pb**	**13 49 58.4**	**-0.1**
MLYT	**Lee's Yard**	**1.52**	**295**	*e*	**Sn**	**13 50 15.9**	**+1.0**
MBFL	**Flemmings, Mon**	**1.55**	**296**	*eP*	**Pn**	**13 49 57.2**	**+0.7**
MBFL				*eS*	**Sn**	**13 50 15.3**	**-0.3**
BIM	**Bigot**	**1.57**	**191**	*eP*	**Pn**	**13 49 57.4**	**+0.5**
BIM				*eS*	**Sn**	**13 50 16.6**	**+0.4**
MPOM	**Morne Pois Mar**	**1.62**	**183**	*eP*	**Pn**	**13 49 57.8**	**+0.4**
MPOM				*eS*	**Sn**	**13 50 17.4**	**+0.1**
SLBI	**Saint Lucia, B**	**2.04**	**186**	*eP*	**Pn**	**13 50 04.4**	**+1.1**
SLBI				*eS*	**Sn**	**13 50 27.9**	**+0.1**
SVB	**Belmont**	**2.82**	**190**	*eP*	**Pn**	**13 50 14.9**	**+0.9**
SVB				*eS*	**Sn**	**13 50 46.7**	**-0.3**
PDAR	**Pinedale Array**	**49.27**	**313**	P	**P**	**13 58 16.0**	**-1.3**
	0.5nm,0.5s,baz=119,slow=8.5,SNR=6.2						
	0.5nm,0.5s						
H10N3	**ASCENSION HYDR**	**51.59**	**114**	T	T	14 54 24.0	
	baz=298,slow=75,SNR=16						
H10N2	**ASCENSION HYDR**	**51.59**	**114**	T	T	14 54 24.5	
	baz=298,slow=75,SNR=15						
H10N1	**ASCENSION HYDR**	**51.61**	**114**	T	T	14 54 25.7	
	baz=298,slow=75,SNR=18						
ESDC	**Sonseca Array**	**54.46**	**53**	P	**P**	**13 58 58.0**	**+2.1**
	0.4nm,0.8s,baz=268,slow=4.9,SNR=2.0						
	0.4nm,0.8s						
YKA	**Yellowknife Ar**	**59.54**	**334**	P	**P**	**13 59 29.4**	**-1.8**
	0.3nm,0.7s,baz=103,slow=7.2,SNR=7.8						
	0.3nm,0.7s						

JMA 09 15:02:42.2±0.3, 37.7N±1.1°×14.5E±1.1°, h36km, MV3.6/30, FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.80**	**291**	P	Pn	15 03 26.2	+1.8
JIKH				S	Sn	15 03 59.0	+2.1
JIO	**Ouri**	**2.93**	**293**	P	Pn	15 03 28.2	+1.9
JIO				S	Sn	15 04 02.5	+2.3
JKMT	**Kesennumamotoy**	**2.99**	**300**	P	Pn	15 03 29.1	+2.0
JKMT				S	Sn	15 04 03.8	+2.1
OFUJ	**Ofunato**	**3.00**	**306**	*eP*	Pn	15 03 29.1	+1.9
OFUJ				S	Sn	15 04 04.1	+2.2
JMK	**Ichinoseki**	**3.23**	**301**	P	Pn	15 03 32.6	+2.2
JMK				S	Sn	15 04 10.0	+2.3
JOU	**Okura**	**3.41**	**289**	P	Pn	15 03 35.8	+2.9
JOU				S	Sn	15 04 15.3	+3.2
JYK	**Kaneyama**	**3.82**	**296**	P	Pn	15 03 41.3	+2.8
JRG	**Rokugo**	**3.85**	**303**	P	Pn	15 03 41.9	+3.1
JRG				*eS*	Sn	15 04 26.3	+3.5
JRY	**Ryogami san**	**4.91**	**256**	P	Pn	15 03 54.5	+1.1
JRY				*eS*	Sn	15 04 49.2	+0.3
JOD2	**Odawara 2**	**5.04**	**247**	*eP*	Pn	15 03 57.4	+2.0
JOD2				*eS*	Sn	15 04 53.3	+1.0
JCH	**Churui**	**5.37**	**349**	*eP*	Pn	15 03 59.5	-0.3
JCH				*eS*	Sn	15 04 58.3	-2.1
NEM2	**Nemuro 2**	**6.06**	**7**	P	Pn	15 04 06.0	-3.2
NEM2				*eS*	Sn	15 05 10.1	-7.1
JTKR	**Abashiri--Toko**	**6.65**	**355**	*eP*	Pn	15 04 16.9	-0.4
JTKR				*eS*	Sn	15 05 28.7	-3.1

*BJI **09** 15:14:18.9, 9.80N×140.69E, h5km, mb5.3/93, mB5.9/86, Ms6.1/99, Ms7 5.9/95*
*MOS **09** 15:14:22.9±1.1, 10.02N×140.21E, h12km, mb5.7/73, MS5.9/38, Error ellipse: s-maj=7.3km s-min=4.1km az=111.8*
*IDC **09** 15:14:23.3±0.3, 10.05N×140.19E, h0km, mb5.1/40, mbtmp5.1/41, ML6.0/1, MS5.8/72, Error ellipse: s-maj=14.2km s-min=8.2km az=85.0*
*NEIC **09** 15:14:24.8, 10.14N×140.20E, h12km*
*IPGP **09** 15:14:24.0, 10.09N×140.21E, h11km, Mw6.1, Fault plane solution: NP1:φs49.00000°, δ88.00000°, λ-173.00000°. NP2:φs319.00000°, δ83.00000°, λ-2.00000°.*
*NEIC **09** 15:14:24.8±2.4, 10.09N±0.07×140.20E±0.09, h10km±1km, mb5.7/309, Ms_20 6.0/1203, Mwb6.0/73, Mww6.1/55, Error ellipse: s-maj=14.2km s-min=11.9km az=258.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr-0.09; Mθθ 1.06; Mφφ-0.97; Mrθ-0.56; Mθφ-0.01; Mφr-0.16; Fault plane solution: M₀ 1.18000×10¹⁸ NP1: φs224.49000°, δ82.80000°, λ155.54000°. NP2: φs317.76000°, δ65.74000°, λ7.90000°. Principal axes: T 1.2939, Plg22.0000°, Azm179.0000°; N -0.2864, Plg65.0000°, Azm29.0000°; P -1.0075, Plg12.0000°, Azm273.0000°;*
*NEIC **09** 15:14:24.8, 10.14N×140.20E, h10km*
*NEIC **09** 15:14:24.8, 10.14N×140.20E, h12km, Moment Tensor Solution. Duration: 5s5 Moment tensor: Scale 10¹⁸Nm; Mrr-0.03; Mθθ 1.44; Mφφ-1.40; Mrθ 0.24; Mθφ-0.16; Mφr-0.52; Fault plane solution: M₀ 1.54000×10¹⁸ NP1: φs317.43000°, δ84.65000°, λ-20.53000°. NP2:φs49.43000°, δ69.56000°, λ-174.29000°. Principal axes: T 1.4964, Plg10.0000°, Azm5.0000°; N 0.0825, Plg69.0000°, Azm123.0000°; P -1.5789, Plg18.0000°, Azm272.0000°;*
*DJA **09** 15:14:25.6±0.8, 10.1N±2.2°×14.0E±1.1°, h15km±5km, M5.8/124, mb5.6/124, mB6.2/102, MLv6.2/1, Mlw6.1/143, Mw(mB)5.9/102, MwMwp5.7/83, Mwp5.8/83*
*GCMT **09** 15:14:27.8±0.1, 10.03N×140.17E, h12km, MW6.1/164, Moment Tensor Solution. s148,c313; s164,c565; Duration: 2s6 Moment tensor: Scale 10¹⁸Nm; Mrr-0.09±.01; Mθθ 1.50±.01; Mφφ-1.41±.01; Mrθ-0.12±.02; Mθφ-0.25±.01; Mφr-0.41±.02; Best double couple: M₀ 1.54100×10¹⁸ NP1:φs51.00000°, δ81.00000°, λ-166.00000°. NP2:φs319.00000°, δ76.00000°, λ-9.00000°. Principal axes: T 1.5270, Plg3.0000°, Azm184.0000°; N 0.0280, Plg73.0000°, Azm84.0000°; P -1.5550, Plg16.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=50s. Triangular moment-rate function*
ISC 09 15:14:25.6±0.4, 10.00N±0.03×140.25E±0.03, h16km±1km, h17km:pP-P, n1783, σ1572/1294, mb5.6/329, MS6.0/717, 81C-28D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.76**	**51**	Pn	**Pn**	**15 15 50.0**	**-0.5**
GUMO	**Guam**	**5.76**	**51**	P	**Pn**	**15 15 50.8**	**+0.3**
GUMO	**Guam**	**5.76**	**51**	↑P	**Pn**	**15 15 49.7**	**-0.8**
GUMO	**Guam**	**5.76**	**51**	Pn	**Pn**	**15 15 50.3**	**-0.2**
	410nm,0.3s,baz=209,slow=7.8,SNR=180						
GUMO				Sn	**Sn**	**15 16 53.2**	**-3.2**
	499nm,0.3s,baz=61,slow=20,SNR=4.4						
GUMO				LR	LR	15 18 17.9	
	comp=Z,50μm,20.0s,baz=32,slow=41						
SMPI	**Sarmi**	**12.01**	**187**	P	**Pn**	**15 17 16.2**	**0.0**
	471nm,1.4s,16μm90μm						
JAY	**Jayapura**	**12.44**	**178**	P	**Pn**	**15 17 21.3**	**-0.9**
	195nm,0.9s,9μm70μm						
GENI	**Genyem**	**12.51**	**180**	P	**Pn**	**15 17 27.1**	**+4.0**
GENI	**Genyem**	**12.51**	**180**	P	**Pn**	**15 17 23.0**	**-0.1**
	752nm,0.8s,15μm87μm						
GENI	**Genyem**	**12.51**	**180**	↑P	**Pn**	**15 17 24.6**	**+1.6**
MANU	**Manus Island**	**13.90**	**149**	Pn	**Pn**	**15 17 44.1**	**+1.9**
MANU	**Manus Island**	**13.90**	**149**	P	**Pn**	**15 17 44.3**	**+2.1**
MANU	**Manus Island**	**13.90**	**149**	↑P	**Pn**	**15 17 44.1**	**+1.9**
SWI	**Sorong**	**14.02**	**220**	P	**Pn**	**15 17 43.3**	**-0.4**
	317nm,2.8s,10μm29μm						
SWI	**Sorong**	**14.02**	**220**	P	**Pn**	**15 17 45.1**	**+1.4**
DAV	**Davao City (W)**	**14.79**	**260**	P	**P**	**15 17 58.0**	**-2.2**
DAV	**Davao City (W)**	**14.79**	**260**	Pn	**Pn**	**15 17 55.1**	**+0.8**
	111nm,0.4s,baz=77,slow=4.5,SNR=19						
DAV				LR	LR	15 22 38.0	
	comp=Z,36μm,21.6s,baz=68,slow=34						
KMPI	**Kaimana, Papua**	**15.05**	**206**	P	**Pn**	**15 17 57.8**	**0.0**
	303nm,0.8s,10μm45μm						
TABU	**Tabubil**	**15.20**	**176**	P	**Pn**	**15 18 01.6**	**+1.8**
TNTI	**Ternate**	**15.75**	**235**		**Pn**	**15 18 08.6**	**+1.6**
TNTI	**Ternate**	**15.75**	**235**	P	**Pn**	**15 18 09.1**	**+2.1**
TNTI	**Ternate**	**15.75**	**235**	P	**Pn**	**15 18 07.4**	**+0.4**
	253nm,1.8s,8μm8μm						
TNTI	**Ternate**	**15.75**	**235**	↓P	**Pn**	**15 18 08.0**	**+1.0**
SGSI	**Sangihe**	**15.90**	**248**	P	**Pn**	**15 18 08.1**	**-0.7**
	479nm,2.5s,14μm45μm						
KAVG	**Kavieng**	**16.33**	**139**	P	**P**	**15 18 16.8**	**-0.5**
LBMI	**Labuha**	**16.51**	**231**	P	**Pn**	**15 18 15.8**	**-0.9**
	1μm,1.8s,24μm						
JCJ	**Chichijima**	**17.11**	**6**		**Pn**	**15 18 23.7**	**-0.4**
JCJ				IAmb	IAmb	15 18 26.9	
	comp=Z,1μm,1.3s						
JCJ	**Chichijima**	**17.11**	**6**	P	**Pn**	**15 18 24.5**	**+0.4**
JCJ	**Chichijima**	**17.11**	**6**	P	**Pn**	**15 18 19.6**	**-4.6**
	comp=Z,316nm,0.9s,baz=167,slow=6.8,SNR=8.8						
JCJ				LR	LR	15 24 06.8	
	comp=Z,23μm,19.0s,baz=172,slow=34						
BNDI	**Bandanaira**	**17.73**	**216**	P	**Pn**	**15 18 32.0**	**+0.1**
	comp=Z,956nm,2.1s,comp=Z,23μmcomp=Z,26μm						
BNDI	**Bandanaira**	**17.73**	**216**	↑P	**Pn**	**15 18 31.4**	**-0.5**
JMZ	**Minamidaito 2**	**17.91**	**333**		**Pn**	**15 18 30.9**	**-3.2**
JMZ				IAmb	IAmb	15 18 41.7	
	comp=Z,1μm,1.4s						
JMZ	**Minamidaito 2**	**17.91**	**333**	P	**P**	**15 18 37.3**	**+2.6**
MMPI	**Merauke**	**18.34**	**180**	P	**Pn**	**15 18 40.1**	**+0.6**
	comp=Z,590nm,1.8s,comp=Z,21μm						
RABL	**Rabaul**	**18.43**	**139**		**P**	**15 18 39.0**	**-1.5**
RABL				IAmb	IAmb	15 18 43.6	
	comp=Z,599nm,1.5s						
RABL	**Rabaul**	**18.43**	**139**	P	**Pn**	**15 18 42.9**	**+2.3**
RABL	**Rabaul**	**18.43**	**139**	↑P	**Pn**	**15 18 42.6**	**+2.0**
NLAI	**Namlea**	**18.56**	**226**	P	**Pn**	**15 18 42.8**	**+0.7**
	comp=Z,198nm,2.6s,comp=Z,7μmcomp=Z,489μm						
SANI	**Sanana**	**18.57**	**231**	P	**P**	**15 18 40.1**	**-1.9**
SANI	**Sanana**	**18.57**	**231**	P	**P**	**15 18 39.9**	**-2.2**
	comp=Z,320nm,2.2s,comp=Z,11μmcomp=Z,13μm						
SANI	**Sanana**	**18.57**	**231**	P	**P**	**15 18 40.3**	**-1.7**
SANI	**Sanana**	**18.57**	**231**	↑P	**P**	**15 18 39.8**	**-2.2**
KMSI	**Cibinong**	**18.69**	**241**	P	**Pn**	**15 18 44.0**	**+0.2**
	comp=Z,1μm,1.2s,comp=Z,23μmcomp=Z,24μm						
GTOI	**Gorontalo**	**19.50**	**243**	P	**Pn**	**15 18 53.9**	**+0.3**
	comp=Z,160nm,1.4s,comp=Z,7μmcomp=Z,11μm						
SAUI	**Saumlaki**	**19.96**	**207**	P	**P**	**15 18 58.0**	**+0.7**
SAUI	**Saumlaki**	**19.96**	**207**	P	**P**	**15 18 58.3**	**+1.0**
	comp=Z,660nm,2.0s,comp=Z,18μmcomp=Z,36μm						
SAUI	**Saumlaki**	**19.96**	**207**	↑↑P	**P**	**15 18 58.5**	**+1.2**
JOW	**Kunigami**	**20.21**	**328**	P	**P**	**15 19 00.4**	**+0.5**
JOW				IAmb	IAmb	15 19 13.8	
	comp=Z,607nm,1.6s						
JOW	**Kunigami**	**20.21**	**328**	P	Pn	15 19 01.5	-0.3
JOW	**Kunigami**	**20.21**	**328**	P	Pn	15 19 01.9	0.0
JOW	**Kunigami**	**20.21**	**328**	↑P	Pn	15 19 01.8	-0.1
JOW	**Kunigami**	**20.21**	**328**	P	**P**	**15 19 00.1**	**+0.2**
	comp=Z,92nm,1.0s,baz=141,slow=12,SNR=10						
JOW				S	**S**	**15 22 35.7**	**-11**
	comp=Z,14nm,0.7s,baz=12,slow=24,SNR=2.4						
JOW				LR	LR	15 25 07.5	
	comp=Z,31μm,21.2s,baz=154,slow=32						
	comp=Z,92nm,1.0s						
PMG	**Port Moresby**	**20.47**	**160**	P	**P**	**15 19 02.6**	**-0.2**
PMG				IAmb	IAmb	15 19 13.6	
	comp=Z,581nm,1.1s						
PMG	**Port Moresby**	**20.47**	**160**	IAMs_20	IAMs_20	15 26 39.7	
	comp=Z,69μm,18.0s						
PMG	**Port Moresby**	**20.47**	**160**	P	**P**	**15 19 03.2**	**+0.4**
PMG	**Port Moresby**	**20.47**	**160**	↑P	**P**	**15 19 02.5**	**-0.2**
PMG	**Port Moresby**	**20.47**	**160**	*c iP*	**P**	**15 19 02.5**	**-0.2**
PMG				pmax	pmax		
	comp=Z,871nm,2.5s						
PMG				MLR	MLR		
	comp=Z,60μm,16.0s						
PMG	**Port Moresby**	**20.47**	**160**	P	**P**	**15 19 02.7**	**-0.1**
	comp=Z,178nm,1.1s,baz=345,slow=9.7,SNR=58						
PMG				LR	LR	15 26 50.7	
	comp=Z,65μm,18.0s,baz=340,slow=36						
	comp=Z,178nm,1.1s						
MRSI	**Marisa**	**20.52**	**244**	P	Pn	15 19 04.9	-0.7
	comp=Z,2μm,2.0s,comp=Z,41μmcomp=Z,27μm						
LUWI	**Luwuk**	**20.56**	**239**	P	**P**	**15 19 03.9**	**+0.1**
LUWI	**Luwuk**	**20.56**	**239**	P	**P**	**15 19 03.9**	**+0.1**
	comp=Z,1μm,1.0s,comp=Z,22μmcomp=Z,17μm						
LUWI	**Luwuk**	**20.56**	**239**	P	**P**	**15 19 02.4**	**-1.4**
LUWI	**Luwuk**	**20.56**	**239**	↑P	**P**	**15 19 03.3**	**-0.5**
JAM	**Amami Oshima**	**20.87**	**333**	P	Pn	15 19 08.7	-0.8
TOLI2	**Tolitoli**	**21.27**	**247**	P	**P**	**15 19 11.9**	**+0.4**
TOLI2	**Tolitoli**	**21.27**	**247**	P	**P**	**15 19 12.8**	**+1.3**
YOJ	**Yonaguni jima**	**21.82**	**313**	P	**P**	**15 19 21.0**	**+3.7**
MYLDM	**Lahad Datu**	**22.07**	**259**	P	**P**	**15 19 21.5**	**+1.3**
MYLDM	**Lahad Datu**	**22.07**	**259**	↓P	**P**	**15 19 22.2**	**+2.0**
TWG	**Pinlang**	**22.34**	**307**	P	**P**	**15 19 23.9**	**+0.9**
TWG				IAmb	IAmb	15 19 39.5	
	comp=Z,871nm,2.0s						
MPSI	**Mapaga**	**22.40**	**246**	P	**P**	**15 19 23.8**	**+0.2**
	comp=Z,286nm,1.4s,comp=Z,7μmcomp=Z,21μm						
YULB	**Yu-li**	**22.47**	**309**	P	**P**	**15 19 26.2**	**+1.9**
YULB				IAmb	IAmb	15 19 42.0	
	comp=Z,308nm,1.3s						
YULB	**Yu-li**	**22.47**	**309**	P	**P**	**15 19 26.1**	**+1.7**
NACB	**Ninganchiao**	**22.69**	**311**	P	**P**	**15 19 25.1**	**-1.4**
NACB	**Ninganchiao**	**22.69**	**311**	P	**P**	**15 19 28.7**	**+2.1**
TPUB	**Ta-pu**	**22.94**	**308**	P	**P**	**15 19 29.2**	**-0.1**
TPUB				IAmb	IAmb	15 19 47.0	
	comp=Z,239nm,1.0s						
TPUB	**Ta-pu**	**22.94**	**308**	P	**P**	**15 19 28.4**	**-0.9**
SSLB	**Suanglung**	**22.95**	**309**	P	**P**	**15 19 28.4**	**-1.0**
SSLB				IAmb	IAmb	15 19 42.1	
	comp=Z,246nm,1.0s						
SSLB	**Suanglung**	**22.95**	**309**	P	**P**	**15 19 30.6**	**+1.2**
JHJ2	**Mitsune**	**23.01**	**359**	IAMs_20	IAMs_20	15 26 06.7	
	comp=Z,70μm,22.0s						
JHJ	**Hachijo jima 2**	**23.02**	**359**	LR	LR	15 26 28.0	
	comp=Z,66μm,20.7s,baz=200,slow=32						
YHNB	**Yeheng**	**23.14**	**312**	P	**P**	**15 19 30.8**	**-0.6**
YHNB				IAmb	IAmb	15 19 41.3	
	comp=Z,258nm,1.0s						
YHNB	**Yeheng**	**23.14**	**312**	P	**P**	**15 19 32.6**	**+1.2**
TATO	**Taipei**	**23.23**	**312**	P	**P**	**15 19 34.0**	**+1.8**
TATO	**Taipei**	**23.23**	**312**	P	**P**	**15 19 34.3**	**+2.1**
BBSI	**Bau Bau**	**23.38**	**230**	P	**P**	**15 19 34.3**	**+0.5**
	comp=Z,479nm,1.2s,comp=Z,13μmcomp=Z,7μm						
KDU	**Kakadu**	**23.82**	**199**	P	**P**	**15 19 37.1**	**-1.0**
	baz=24,SNR=86						
KDU	**Kakad

comp=Z,251nm,1.0s,baz=116,slow=1.5,SNR=50
comp=Z,251nm,1.0s
JYT Yasato 26.11 360 P **P** **15 19 57.1 -1.7**
EDFI Ende, Flores 26.23 225 P **P** **15 19 58.5 -1.7**
comp=Z,323nm,2.5s,comp=Z,9μmcomp=Z,6μm
MJAR Matsushiro Arr 26.49 356 P **P** **15 19 59.9 -2.3**
comp=Z,11nm,0.8s,baz=178,slow=10,SNR=23
MJAR ScP **ScP** **15 27 07.5 +1.0**
comp=Z,4.5nm,1.2s,baz=132,slow=1.9,SNR=4.1
MJAR LR LR 15 30 29.5
comp=Z,27μm,18.6s,baz=154,slow=36
comp=Z,11nm,0.8s
MAJO Matsushiro 26.49 356 P **P** **15 20 00.2 -2.0**
MAJO Matsushiro 26.49 356 P **P** **15 20 00.0 -2.2**
MAJO Matsushiro 26.49 356 ⇑P **P** **15 20 00.0 -2.2**
MAJO Matsushiro 26.49 356 *c i*P **P** **15 20 00.4 -1.9**
MAJO pmax pmax
comp=Z,59nm,1.7s
MAJO MLR MLR
comp=Z,24μm,18.0s
MJB9 Matsu-Tunnel 26.49 356 P **P** **15 20 00.4 -1.9**
H11S3 WAKE ISLAND Hy 26.95 69 T T 15 48 15.1
baz=255,slow=75
H11S1 WAKE ISLAND Hy 26.97 69 T T 15 48 15.3
baz=255,slow=75
H11S2 WAKE ISLAND Hy 26.97 69 T T 15 48 15.8
baz=255,slow=75
WAKE Wake Island 27.13 67 P **P** **15 20 10.2 +2.0**
SSE Sheshan 27.46 323 P **P** **15 20 10.6 -0.4**
SSE S **S** **15 24 52.0 +0.9**
SSE pmax pmax
comp=Z,33nm,1.0s
SSE pmax pmax
comp=Z,750nm,6.7s
SSE LR LR
comp=Z,7μm,16.7s
H11N1 WAKE ISLAND Hy 27.47 66 T T 15 48 50.7
baz=253,slow=75
MTKI Muara Teweh, K 27.47 248 P **P** **15 20 11.3 0.0**
comp=Z,55nm,1.2s,comp=Z,7μmcomp=Z,7μm
H11N2 WAKE ISLAND Hy 27.48 66 T T 15 48 52.1
baz=253,slow=75
H11N3 WAKE ISLAND Hy 27.48 66 T T 15 48 54.6
baz=253,slow=75
HNR Honiara 27.51 134 P **P** **15 20 10.1 -1.5**
HNR Honiara 27.51 134 P **P** **15 20 10.1 -1.5**
HNR pmax pmax
comp=Z,310nm,1.1s
HNR MLR MLR
comp=Z,13μm,18.0s
HNR Honiara 27.51 134 LR LR 15 30 37.9
comp=Z,156μm,18.6s,baz=304,slow=35
JMM Marumori 27.75 1 P **P** **15 20 12.6 -0.9**
JMM IAmb IAmb 15 20 20.2
comp=Z,358nm,1.7s
JMM Marumori 27.75 1 P **P** **15 20 12.5 -1.0**
JMM Marumori 27.75 1 ⇑P **P** **15 20 14.8 +1.3**
KNRA Kununurra 27.93 204 P **P** **15 20 15.1 -0.2**
baz=28,SNR=71
KNRA Kununurra 27.93 204 P **P** **15 20 14.3 -1.0**
KNRA Kununurra 27.93 204 P **P** **15 20 15.2 -0.1**
BASI Baing, Sumba 28.04 225 P **P** **15 20 12.5 -3.9**
comp=Z,367nm,1.4s,comp=Z,4μmcomp=Z,4μm
MTSU Mount Surprise 28.24 172 P **P** **15 20 19.6 +1.5**
baz=28,SNR=8.4
BBKI Banjar Baru 28.62 243 P **P** **15 20 23.6 +2.0**
comp=Z,75nm,1.3s,comp=Z,4μm
TJN Taejon 28.74 338 *ce*P **P** **15 20 22.7 +0.3**
GZH Guangzhou 28.82 300 P **P** **15 20 24.2 +1.0**
GZH S **S** **15 25 11.1 -1.6**
GZH SS **SnSn** **15 26 40.8 +6.2**
GZH pmax pmax
comp=Z,17nm,1.2s
GZH pmax pmax
comp=Z,2μm,3.2s
GZH LR LR
comp=Z,6μm,11.4s
GZH LR LR
comp=Z,5μm,11.2s
GZH LR LR
comp=Z,4μm,15.7s
SBUM Sibu 28.83 257 P **P** **15 20 23.5 +0.1**
SBUM Sibu 28.83 257 ⇑P **P** **15 20 24.1 +0.7**
PLAI Plampang 29.16 231 P **P** **15 20 28.8 +2.5**
PLAI Plampang 29.16 231 P **P** **15 20 23.1 -3.2**
comp=Z,58nm,1.2s,comp=Z,1μmcomp=Z,3μm
KSRS Korea Array 29.51 340 P **P** **15 20 29.1 -0.1**
comp=Z,24nm,1.0s,baz=160,slow=10.0,SNR=44
KSRS PcP **PcP** **15 23 37.2 +2.8**
comp=Z,3.6nm,1.0s,baz=183,slow=3.2,SNR=2.2
KSRS ScP **ScP** **15 27 17.9 +2.1**
comp=Z,5.4nm,1.1s,baz=142,slow=3.6,SNR=7.4
KSRS LR LR 15 30 32.5
comp=Z,29μm,21.4s,baz=155,slow=33
comp=Z,24nm,1.0s
KSAR Wonju Array Be 29.51 340 P **P** **15 20 26.9 -2.3**
KSAR Wonju Array Be 29.51 340 P **P** **15 20 26.9 -2.3**
NJ2 Nanjing 29.55 321 *e*P **P** **15 20 30.1 +0.5**
NJ2 sP **pwP** **15 20 37.2 +0.8**
NJ2 S **S** **15 25 19.5 -4.5**
NJ2 pmax pmax
comp=Z,17nm,1.5s
NJ2 pmax pmax
comp=Z,1μm,7.6s
NJ2 LR LR
comp=Z,31μm,20.8s
NJ2 LR LR
comp=Z,42μm,19.9s
NJ2 LR LR
comp=Z,25μm,20.4s
KS19 Wonju Array Si 29.57 340 P **P** **15 20 28.0 -1.8**
TWSI Taliwang, Sumb 29.79 232 P **P** **15 20 31.1 -0.8**
comp=Z,37nm,0.8s,comp=Z,1μmcomp=Z,3μm
WB0 Warramunga Arr 30.13 191 P **P** **15 20 35.0 +0.1**
WB0 IAmb IAmb 15 20 56.4
comp=Z,205nm,1.2s
STKI Sintang 30.27 253 P **P** **15 20 36.6 +0.3**
comp=Z,55nm,1.6s,comp=Z,5μm
WR0 Warramunga Arr 30.30 191 P **P** **15 20 36.0 -0.3**
WRAB Tennant Creek 30.30 191 P **P** **15 20 35.1 -1.3**
WRAB Tennant Creek 30.30 191 P **P** **15 20 35.1 -1.3**
WRAB pmax pmax
comp=Z,294nm,1.5s
WRAB MLR MLR
comp=Z,3μm,20.0s
WB2 Warramunga Arr 30.31 191 P **P** **15 20 35.6 -0.9**
WB2 PcP **PcP** **15 23 38.5 +1.7**
WRA Warramunga Arr 30.32 191 P **P** **15 20 34.3 -2.2**
WRA Warramunga Arr 30.32 191 *i* P **P** **15 20 35.0 -1.5**
WRA pmax pmax
comp=Z,51nm,1.0s
WRA Warramunga Arr 30.32 191 P **P** **15 20 36.6 +0.1**
comp=Z,53nm,1.1s,baz=8.5,slow=10,SNR=72
WRA LR LR 15 32 43.3
comp=Z,70μm,20.2s,baz=7.5,slow=36
comp=Z,53nm,1.1s
QIS Mount Isa 30.37 181 P **P** **15 20 37.9 +0.9**
baz=30,SNR=17
QIS Mount Isa 30.37 181 P **P** **15 20 37.5 +0.5**
CTA Charters Tower 30.48 169 P **P** **15 20 38.5 +0.6**
comp=Z,14nm,0.8s,baz=345,slow=8.2,SNR=21
CTA LR LR 15 32 30.3
comp=Z,27μm,18.8s,baz=341,slow=36
comp=Z,14nm,0.8s
CTAO Charters Tower 30.48 169 P **P** **15 20 38.3 +0.4**
CTAO IAmb IAmb 15 21 02.9
comp=Z,130nm,1.4s
CTAO Charters Tower 30.48 169 IAMs_20 IAMs_20 15 32 18.3
comp=Z,27μm,19.0s
CTAO Charters Tower 30.48 169 P **P** **15 20 39.6 +1.7**
CTAO Charters Tower 30.48 169 ⇑P **P** **15 20 38.7 +0.8**
CTAO Charters Tower 30.48 169 P **P** **15 20 38.3 +0.4**
CTAO pmax pmax
comp=Z,130nm,1.4s
CTAO MLR MLR
comp=Z,27μm,19.0s
SRBI Singaraja 30.73 235 P **P** **15 20 40.1 -0.1**
comp=Z,63nm,1.1s,comp=Z,2μm
QIZ Qiongzhong 30.73 290 P **P** **15 20 39.0 -1.2**
QIZ PP **PP** **15 21 48.0 -1.7**
QIZ S **S** **15 25 42.8 0.0**
QIZ pmax pmax
comp=Z,30nm,1.3s
QIZ pmax pmax
comp=Z,970nm,6.9s
QIZ LR LR
comp=Z,13μm,16.2s
QIZ LR LR
comp=Z,7μm,16.7s
QIZ LR LR
comp=Z,10μm,15.5s
HJU Haeju 30.83 337 P **P** **15 20 42.6 +1.7**
HJU AmB
comp=Z,565nm,2.5s
HJU AMS AMS
comp=Z,10μm,12.2s
DLV T Lat 31.23 277 P **P** **15 20 45.8 +0.9**
ABJI Asem Bagus 31.36 237 P **P** **15 20 46.5 +0.7**
comp=Z,105nm,2.2s,comp=Z,4μmcomp=Z,7μm
CNSH ChangSha 31.39 309 ⇓P P 15 20 52.0 +6.0
CNSH S **S** **15 25 57.1 +4.1**
CNSH pmax pmax
comp=Z,53nm,1.4s
CNSH LR LR
comp=Z,18μm,16.4s
CNSH LR LR
comp=Z,7μm,17.3s
CNSH LR LR
comp=Z,6μm,14.5s
FITZ Fitzroy Crossi 31.42 207 P **P** **15 20 45.9 -0.4**
baz=32,SNR=57
FITZ Fitzroy Crossi 31.42 207 P **P** **15 20 44.8 -1.5**
FITZ Fitzroy Crossi 31.42 207 ⇓P **P** **15 20 45.9 -0.4**
WHN Wuhan 31.60 314 ⇓P **P** **15 20 49.9 +2.1**
WHN PP **PnPn** **15 21 52.1 +0.6**
WHN S **S** **15 25 59.1 +2.9**
WHN pmax pmax
comp=Z,130nm,1.3s
WHN pmax pmax
comp=Z,2μm,4.7s
WHN LR LR
comp=Z,20μm,13.5s
WHN LR LR
comp=Z,17μm,13.7s
WHN LR LR
comp=Z,21μm,15.6s
PYAG Pyongyang 31.70 338 P **P** **15 20 49.7 +1.2**
PYAG S **S** **15 25 58.6 +1.1**
PYAG AmB
comp=Z,811nm,3.4s
PYAG AMS AMS
comp=Z,11μm,15.9s
JAGI Jajag, Banyuwa 31.80 236 P **P** **15 20 47.6 -2.1**
JAGI IAmb IAmb 15 20 57.3
comp=Z,107nm,1.4s
JAGI PcP **PcP** **15 23 38.6 -2.3**
JAGI Jajag, Banyuwa 31.80 236 P **P** **15 20 48.0 -1.7**
JAGI Jajag, Banyuwa 31.80 236 P **P** **15 20 47.3 -2.4**
comp=Z,60nm,1.3s,comp=Z,1μmcomp=Z,4μm
JAGI Jajag, Banyuwa 31.80 236 ⇑P **P** **15 20 48.4 -1.4**
BLJI Banyuglugur 31.86 237 P **P** **15 20 50.8 +0.6**
comp=Z,71nm,1.5s,comp=Z,5μmcomp=Z,5μm
HHU Hamhung 31.88 341 P **P** **15 20 51.9 +1.8**
HHU S **S** **15 26 02.9 +2.6**
HHU AmB
comp=Z,2μm,5.9s
HHU AMS AMS
comp=Z,8μm,14.5s
GULI GuiLin 32.17 302 ⇑P **P** **15 20 55.8 +2.9**
GULI sP **pwP** **15 21 02.7 +3.1**
GULI S **S** **15 26 01.3 -4.0**
GULI pmax pmax
comp=Z,30nm,1.9s
GULI pmax pmax
comp=Z,1μm,10.3s
GULI LR LR
comp=Z,15μm,24.9s
GULI LR LR
comp=Z,7μm,22.6s
GULI LR LR
comp=Z,11μm,21.8s
SUJ Sinuiju 33.09 338 P **P** **15 21 02.2 +1.5**
SUJ S **S** **15 26 21.2 +2.1**
SUJ AmB
comp=Z,2μm,4.0s
SUJ AMS AMS
comp=Z,16μm,12.9s
DL2 Dalian 33.26 333 P **P** **15 21 04.8 +2.6**
DL2 S **S** **15 26 23.0 +1.2**
DL2 pmax pmax
comp=Z,61nm,1.2s
DL2 pmax pmax
comp=Z,1μm,6.6s
DL2 LR LR
comp=Z,24μm,22.5s
DL2 LR LR
comp=Z,27μm,22.2s
DL2 LR LR
comp=Z,18μm,22.4s
NGJI Ngawi 33.46 240 P **P** **15 21 05.7 +1.5**
comp=Z,90nm,1.9s
TIA Tai'an 33.48 325 ⇓P P **15 20 59.5 -4.7**
TIA S **S** **15 26 27.8 +2.5**
TIA pmax pmax
comp=Z,16nm,1.4s
TIA pmax pmax
comp=Z,1μm,8.3s
TIA LR LR
comp=N,20μm,15.2s
TIA LR LR
comp=E,18μm,13.7s
TIA LR LR
comp=Z,20μm,17.6s
AS01 Alice Springs 34.02 190 P **P** **15 21 09.9 +0.9**
comp=Z,58nm,0.8s
AS31 Alice Springs 34.03 190 P **P** **15 21 08.8 -0.3**
ASAR Alice Springs 34.03 190 P **P** **15 21 08.2 -0.9**
ASAR Alice Springs 34.03 190 P **P** **15 21 09.1 0.0**
comp=Z,17nm,0.7s,baz=25,slow=5.7,SNR=117
ASAR PcP **PcP** **15 23 48.2 +1.3**
comp=Z,18nm,1.1s,baz=23,slow=2.9,SNR=4.8
ASAR LR LR 15 34 59.6
comp=Z,47μm,19.9s,baz=13,slow=36
comp=Z,17nm,0.7s
ASAJ Asahikawa 34.05 3 P **P** **15 21 08.5 -0.5**
comp=Z,8.2nm,0.8s,baz=212,slow=10,SNR=1.8
ASAJ LR LR 15 33 54.2
comp=Z,11μm,20.1s,baz=202,slow=34
comp=Z,8.2nm,0.8s
YUK Yuzh-Kuril'sk 34.26 7 *e*P **P** **15 21 09.2 -1.6**
YUK *e* 15 22 21.5
YUK *e*PPP PPP 15 22 37.7
YUK *e*S **S** **15 26 35.1 -2.0**
YUK *e*SSS SSS 15 29 08.3
YUK pmax pmax
comp=E,242nm,1.1s
YUK pmax pmax
comp=Z,347nm,1.1s
YUK pmax pmax
comp=N,11μm,19.0s
UGM Wanagama 34.53 240 P **P** **15 21 13.8 +0.2**
UGM Wanagama 34.53 240 P **P** **15 21 13.8 +0.2**
comp=N,192nm,1.9s
USA0B Ussuriysk Arra 34.82 350 P **P** **15 21 14.4 -1.3**
USA0B PcP **PcP** **15 23 46.1 -2.7**
USA0B Ussuriysk Arra 34.82 350 P **P** **15 21 14.4 -1.3**
USA0B 15 23 46.1
USA0B pmax pmax
comp=Z,52nm,1.2s
USRK Ussuriysk Ar. 34.82 350 P **P** **15 21 15.0 -0.7**
USRK Ussuriysk Ar. 34.82 350 P **P** **15 21 15.8 +0.1**
comp=Z,14nm,0.8s,baz=174,slow=8.9,SNR=23
USRK LR LR 15 33 32.7
comp=Z,27μm,20.1s,baz=164,slow=33
comp=Z,14nm,0.8s
SNY Shenyang 34.93 338 ⇓P **P** **15 21 17.4 +0.7**
SNY S **S** **15 26 40.6 -6.9**
SNY pmax pmax
comp=Z,40nm,1.3s
SNY pmax pmax
comp=Z,2μm,4.7s
SNY LR LR
comp=Z,11μm,21.1s
SNY LR LR
comp=Z,16μm,18.4s
SNY LR LR
comp=Z,29μm,19.0s
ENH Enshi 35.04 310 P **P** **15 21 13.9 -3.9**
ENH IAmb IAmb 15 21 33.4
comp=Z,191nm,1.2s
ENH PcP **PcP** **15 23 49.3 -0.5**
TEY Ternei 35.05 356 ⇓*e*P **P** **15 21 17.3 -0.3**
TEY pmax pmax
comp=N,20nm,1.2s
TEY pmax pmax
comp=Z,30nm,1.2s
LYN LuoYang 35.24 318 ⇑P **P** **15 21 20.0 +0.5**
LYN sP sP 15 21 24.7 -1.1
LYN S **S** **15 26 52.6 0.0**
LYN pmax pmax
comp=Z,73nm,1.3s
LYN pmax pmax
comp=Z,3μm,4.4s
LYN LR LR
comp=Z,25μm,13.8s
LYN LR LR
comp=Z,17μm,19.9s
LYN LR LR
comp=Z,32μm,19.6s
KPJI Karang Pucung 35.62 242 P **P** **15 21 22.5 -0.5**
comp=Z,126nm,1.0s,comp=Z,3μm
HNS HongShan 35.70 324 ⇑P **P** **15 21 23.9 +0.6**
HNS PP **PnPn** **15 22 41.1 -2.0**
HNS S **S** **15 26 53.5 -5.9**
HNS pmax pmax
comp=Z,48nm,1.2s
HNS pmax pmax
comp=Z,2μm,5.7s
HNS LR LR
comp=Z,27μm,15.6s
HNS LR LR
comp=Z,37μm,16.0s
HNS LR LR
comp=Z,22μm,20.2s
MDJ Mudanjiang 35.70 347 P **P** **15 21 20.3 -3.0**
MDJ IAMs_20 IAMs_20 15 33 11.5
comp=Z,36μm,22.0s
MDJ Mudanjiang 35.70 347 P **P** **15 21 22.4 -0.9**
MDJ PP **PnPn** **15 22 40.7 -2.4**
MDJ S **S** **15 26 58.7 -0.6**
MDJ sS sS 15 27 05.3 -1.5
MDJ pmax pmax
comp=Z,18nm,1.9s
MDJ pmax pmax
comp=Z,2μm,8.1s
MDJ LR LR
comp=Z,21μm,22.7s
MDJ LR LR
comp=Z,18μm,17.2s
MDJ LR LR
comp=Z,43μm,22.0s
GYA Guiyang 35.70 302 ⇓P **P** **15 21 24.9 +1.2**
GYA PP **PP** **15 22 44.5 -0.4**
GYA S **S** **15 27 00.3 +0.2**
GYA pmax pmax
comp=Z,28nm,1.2s
GYA pmax pmax
comp=Z,2μm,5.5s
GYA LR LR
comp=Z,6μm,12.8s
GYA LR LR
comp=Z,6μm,13.3s
GYA LR LR
comp=Z,9μm,18.8s
JCJI Jatiwangi 35.82 244 P **P** **15 21 25.8 +1.2**
comp=Z,503nm,2.2s,comp=Z,12μm
CN2 Changchun 36.05 342 *e*P **P** **15 21 26.0 -0.3**
CN2 PP **PP** **15 22 47.2 -1.1**
CN2 *e*S **S** **15 27 05.4 +0.7**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 pmax pmax
comp=Z,2μm,10.0s
CN2 LR LR
comp=Z,10μm,17.0s
CN2 LR LR
comp=Z,11μm,17.0s
CN2 LR LR
comp=Z,12μm,19.2s
CMJI Cimerak 36.26 242 P **P** **15 21 25.9 -2.5**
comp=Z,77nm,1.3s,comp=Z,4μm
LEM Lembang 36.55 244 P **P** **15 21 30.9 -0.2**
comp=Z,195nm,0.8s,comp=Z,4μmcomp=Z,4μm
LEM Lembang 36.55 244 LR LR 15 35 42.2
comp=Z,8μm,20.9s,baz=57,slow=35
QLP Quilpie 36.57 174 P **P** **15 21 31.6 +0.7**
baz=37,SNR=9.5
QLP Quilpie 36.57 174 ⇑P **P** **15 21 30.7 -0.1**
SLVN Son La 36.67 292 P **P** **15 21 31.4 -0.6**
EIDS Eidsvold 36.70 163 P **P** **15 21 31.8 -0.3**
WRKA Warakurna 36.72 198 P **P** **15 21 32.1 -0.2**
baz=37,SNR=61
WRKA Warakurna 36.72 198 P **P** **15 21 31.9 -0.4**
WRKA Warakurna 36.72 198 ⇑P **P** **15 21 32.1 -0.2**
BJT Baijiatuao 36.76 328 P **P** **15 21 31.1 -1.3**
BJT IAmb IAmb 15 21 46.9
comp=Z,213nm,1.4s
BJT Baijiatuao 36.76 328 P **P** **15 21 31.2 -1.3**
BJT pmax pmax
comp=Z,213nm,1.4s
BJI Beijing 36.78 328 P **P** **15 21 33.1 +0.6**
BJI sP **pP** **15 21 37.4 +0.4**
BJI S **S** **15 27 19.4 +3.5**
BJI pmax pmax
comp=Z,37nm,1.3s
BJI pmax pmax
comp=Z,970nm,4.4s
BJI LR LR
comp=Z,11μm,18.3s
BJI LR LR
comp=Z,9μm,16.0s
BJI LR LR
comp=Z,10μm,19.0s
BBJI Bungbulang 36.81 243 P **P** **15 21 31.0 -2.2**
NONG Nongkai 36.82 287 P **P** **15 21 34.5 +1.3**
YSS Yuzh-Sakhalins 36.89 3 IAMs_20 IAMs_20 15 35 19.7
comp=Z,25μm,19.0s
YSS Yuzh-Sakhalins 36.89 3 *e*P **P** **15 21 33.1 -0.3**
YSS *e* 15 23 00.5
YSS *e*S **S** **15 27 18.5 +1.1**
YSS pmax pmax
comp=Z,70nm,1.2s
YSS pmax pmax
comp=Z,2μm,6.6s
MBWA Marble Bar 36.95 213 P **P** **15 21 30.9 -3.2**
MBWA IAmb IAmb 15 21 35.6
comp=Z,212nm,1.6s
MBWA Marble Bar 36.95 213 P **P** **15 21 32.7 -1.5**
MBWA Marble Bar 36.95 213 ⇑P **P** **15 21 32.0 -2.2**
DSRI Dabo 36.99 256 P **P** **15 21 33.2 -1.5**
comp=Z,57nm,1.2s,comp=Z,4μm
CBJI Citeko 37.05 245 P **P** **15 21 34.8 -0.4**
comp=Z,266nm,0.9s
CNJI Cibinong 37.20 244 P **P** **15 21 34.5 -1.9**
comp=Z,134nm,1.1s,comp=Z,1μm
DBJI Dramaga 37.20 245 P **P** **15 21 36.0 -0.5**
comp=Z,260nm,1.2s,comp=Z,11μmcomp=Z,4μm
RMQ Roma 37.20 167 P **P** **15 21 38.6 +2.4**
baz=37,SNR=4.2
PSA00 Pilbara Seismi 37.22 212 P **P** **15 21 34.9 -1.6**
PSA00 IAmb IAmb 15 21 38.0
comp=Z,212nm,1.6s
PSA00 Pilbara Seismi 37.22 212 P **P** **15 21 34.5 -2.1**
PSA00 IAmb IAmb 15 21 38.0
comp=Z,462nm,1.8s
PSA00 IAMs_20 IAMs_20 15 36 10.8
comp=Z,13μm,22.0s
TIY Taiyuan 37.25 322 ⇑P **P** **15 21 37.5 +0.8**
TIY S **S** **15 27 23.1 -0.3**
TIY pmax pmax
comp=Z,38nm,0.9s
TIY pmax pmax
comp=Z,2μm,6.4s
TIY LR LR
comp=Z,28μm,17.9s
TIY LR LR
comp=Z,31μm,20.6s
TIY LR LR
comp=Z,12μm,20.6s
BNX BinXian 37.28 345 ⇓P **P** **15 21 36.6 -0.1**
BNX pP **pP** **15 21 39.5 -1.7**
BNX sP **sP** **15 21 40.8 -2.2**
BNX PP **PnPn** **15 23 03.3 +0.9**
BNX S **S** **15 27 24.1 +0.7**
BNX sS **sS** **15 27 31.1 +0.1**
BNX pmax pmax
comp=Z,210nm,1.3s
BNX pmax pmax

comp=Z,2µm,6.5s
BNX LR LR
comp=Z,20µm,20.1s
BNX LR LR
comp=Z,14µm,14.6s
BNX LR LR
comp=Z,25µm,22.8s
XAN Xi'an 37.36 315 ⇑P **P** **15 21 38.3 +0.6**
XAN pP sP 15 21 43.0 -1.0
XAN S **S** **15 27 24.0 -1.1**
XAN PcS **PcS** **15 27 47.4 +2.2**
XAN pmax pmax
comp=Z,82nm,1.2s
XAN pmax pmax
comp=Z,3µm,5.7s
XAN LR LR
comp=Z,40µm,23.7s
XAN LR LR
comp=Z,26µm,23.7s
XAN LR LR
comp=Z,30µm,20.0s
INKA Innaminka 37.52 179 P **P** **15 21 39.4 +0.5**
SBJI Serang 37.57 246 P **P** **15 21 40.0 +0.4**
comp=Z,138nm,1.2s,comp=Z,17µm
OOD Oodnadatta 37.83 187 P **P** **15 21 42.1 +0.6**
CGJI Cibinong 38.17 246 P **P** **15 21 42.3 -2.4**
comp=Z,225nm,1.1s,comp=Z,2µm
KLI Kotabumi 38.22 249 P **P** **15 21 44.7 -0.4**
comp=Z,505nm,0.7s,comp=Z,7µm
KOUNC Koumac, New Ca 38.48 142 P **P** **15 21 45.6 -1.6**
KOUNC IAmb IAmb 15 21 50.7
comp=Z,217nm,1.4s
KOUNC Koumac, New Ca 38.48 142 P **P** **15 21 49.6 +2.5**
KOUNC Koumac, New Ca 38.48 142 ⇑P **P** **15 21 48.5 +1.3**
KMI Kunming 38.63 298 ⇓P **P** **15 21 50.2 +1.4**
KMI sP pwP 15 21 55.3 -0.2
KMI SS SS 15 30 32.0 -3.3
KMI pmax pmax
comp=Z,42nm,1.4s
KMI pmax pmax
comp=Z,1µm,6.7s
KMI LR LR
comp=Z,13µm,14.7s
KMI LR LR
comp=Z,14µm,20.4s
KMI LR LR
comp=Z,20µm,18.5s
KASI Kota Agung 38.81 248 P **P** **15 21 48.9 -1.1**
comp=Z,114nm,1.0s,comp=Z,2µm
UGL Uglegorsk 38.98 2 *e*P **P** **15 21 51.3 +0.3**
UGL *e*S **S** **15 27 52.7 +3.6**
UGL pmax pmax
comp=Z,2µm,6.0s
UGL pmax pmax
comp=E,2µm,3.0s
UGL pmax pmax
comp=N,3µm,5.0s
UGL smax smax
comp=E,4µm,14.0s
DVP Devils Point 38.99 135 P **P** **15 21 53.3 +1.8**
LWLI Liwa 39.01 249 P **P** **15 21 50.4 -1.5**
comp=E,284nm,1.0s,comp=E,4µmcomp=E,4µm
KULM Kulim 39.50 266 P **P** **15 21 53.6 -2.3**
KULM Kulim 39.50 266 ⇑P **P** **15 21 55.5 -0.4**
KLR Kul'dur 39.75 351 *c i*P **P** **15 21 58.1 +0.7**
KLR pmax pmax
comp=Z,259nm,1.4s
KLR MLR MLR
comp=Z,6µm,15.0s
KLR Kul'dur 39.75 351 P **P** **15 21 57.2 -0.2**
comp=Z,112nm,1.0s,baz=157,slow=7.3,SNR=173
KLR LR LR 15 38 26.5
comp=Z,6µm,18.2s,baz=163,slow=36
comp=Z,112nm,1.0s
XLT XiLinHaoTe 39.75 332 ⇓*i*P **P** **15 21 57.9 +0.2**
XLT pP pP 15 22 02.5 +0.3
XLT S **S** **15 28 00.9 -0.1**
XLT pmax pmax
comp=Z,100nm,1.2s
XLT pmax pmax
comp=Z,2µm,4.6s
XLT LR LR
comp=Z,2µm,18.2s
XLT LR LR
comp=Z,10µm,18.7s
XLT LR LR
comp=Z,20µm,20.6s
CD2 Chengdu 39.75 307 P **P** **15 21 58.7 +0.9**
CD2 S **S** **15 28 03.1 +1.8**
CD2 pmax pmax
comp=Z,100nm,1.0s
CD2 pmax pmax
comp=Z,2µm,6.5s
CD2 LR LR
comp=Z,7µm,13.7s
CD2 LR LR
comp=Z,5µm,14.5s
MNAI Manna 39.79 251 P **P** **15 21 55.6 -2.7**
MNAI Manna 39.79 251 P **P** **15 21 58.1 -0.2**
comp=Z,347nm,1.4s
HHC Hu-ho-hao-te 39.83 325 *e*P **P** **15 21 59.6 +1.2**
HHC sP pwP 15 22 07.1 +1.8
HHC PP **PnPn** **15 23 37.2 +3.9**
HHC S **S** **15 28 01.1 -1.3**
HHC pmax pmax
comp=Z,49nm,1.1s
HHC pmax pmax
comp=Z,3µm,5.9s
HHC LR LR
comp=Z,27µm,17.6s
HHC LR LR
comp=Z,26µm,15.7s
HHC LR LR
comp=Z,34µm,16.7s
PZH PanZhiHua 39.89 300 P **P** **15 21 59.6 +0.5**
PZH sP **sP** **15 22 04.9 -0.6**
PZH PcS **PcS** **15 27 47.6 -7.7**
PZH S **S** **15 28 05.9 +2.3**
PZH pmax pmax
comp=Z,40nm,0.9s
PZH pmax pmax
comp=Z,1µm,7.3s
PZH LR LR
comp=Z,11µm,17.7s
PZH LR LR
comp=Z,12µm,19.7s
PZH LR LR
comp=Z,14µm,21.0s
BKNI Bangkinang 40.16 259 P **P** **15 22 00.9 -0.5**
comp=Z,168nm,1.2s,comp=Z,2µmcomp=Z,4µm
BKNI Bangkinang 40.16 259 P **P** **15 21 58.7 -2.6**
LCRK Leigh Creek 40.26 183 P **P** **15 22 02.7 +0.8**
KRJI Kerinci 40.44 255 P **P** **15 22 03.5 -0.3**
comp=Z,161nm,0.6s,comp=Z,5µmcomp=Z,4µm
MULG Mulgathing 40.49 188 P **P** **15 22 04.5 +0.7**
LIFNC LIFOU 40.49 139 P **P** **15 22 04.7 +0.7**
BTO Baotou 40.55 324 *e*P **P** **15 22 06.5 +2.1**
BTO pP **pwP** **15 22 10.8 -0.5**
BTO sP **sP** **15 22 13.7 +3.0**
BTO PP **PnPn** **15 23 41.4 -0.4**
BTO S **S** **15 28 18.1 +5.0**
BTO SS **SS** **15 31 15.1 +2.0**
BTO pmax pmax
comp=Z,120nm,1.2s
BTO pmax pmax
comp=Z,4µm,4.6s
BTO LR LR
comp=Z,31µm,15.5s
BTO LR LR
comp=Z,13µm,12.8s
BTO LR LR
comp=Z,20µm,16.5s
GRNR Gornyy 40.77 356 ⇓*i*P **P** **15 22 06.1 +0.2**
GRNR pmax pmax
comp=N,10.0nm,1.0s
GRNR pmax pmax
comp=Z,20nm,1.1s
TYV Tymovskoe 40.79 2 *e*P **P** **15 22 07.0 +1.0**
TYV *e*S **S** **15 28 21.5 +5.4**
TYV pmax pmax
comp=Z,61nm,1.4s
TYV pmax pmax
comp=Z,1µm,4.0s
TYV smax smax
comp=N,4µm,7.9s
TYV smax smax

comp=E,4µm,7.9s
CM31 Chiang Mai Arr 40.83 287 P **P** **15 22 08.0 +1.1**
CM31 IAmb IAmb 15 22 10.8
comp=Z,123nm,0.8s
CM31 Chiang Mai Arr 40.83 287 P **P** **15 22 08.3 +1.4**
SNR=58
CMAR Chiang Mai Arr 40.83 287 P **P** **15 22 06.7 -0.2**
CMAR Chiang Mai Arr 40.83 287 P **P** **15 22 06.7 -0.2**
CMAR Chiang Mai Arr 40.83 287 P **P** **15 22 08.0 +1.1**
comp=Z,74nm,0.8s,baz=96,slow=6.5,SNR=172
CMAR LR LR 15 38 10.9
comp=Z,6µm,20.1s,baz=100,slow=35
comp=Z,74nm,0.8s
CHTO Chiang Mai 40.87 287 P **P** **15 22 07.7 +0.5**
CHTO Chiang Mai 40.87 287 P **P** **15 22 08.5 +1.3**
CHTO Chiang Mai 40.87 287 P **P** **15 22 07.7 +0.5**
CHTO Chiang Mai 40.87 287 ⇓P **P** **15 22 07.6 +0.4**
CHTO Chiang Mai 40.87 287 P **P** **15 22 07.7 +0.5**
CHTO pmax pmax
comp=Z,49nm,1.0s
CHTO MLR MLR
comp=Z,10µm,19.0s
DZM Mont Dzumac 40.94 141 P **P** **15 22 06.6 -1.1**
DZM IAmb IAmb 15 22 11.0
comp=Z,351nm,1.5s
DZM Mont Dzumac 40.94 141 P **P** **15 22 09.9 +2.1**
DZM Mont Dzumac 40.94 141 ⇑P **P** **15 22 09.2 +1.4**
DZM Mont Dzumac 40.94 141 *e*P **P** **15 22 07.2 -0.6**
comp=Z,452nm,1.4s
DZM *e*S **S** **15 28 15.3 -3.9**
comp=Z,2µm,25.3s
DZM *e*SS **SnSn** **15 31 29.1 +0.4**
comp=Z,11µm,25.9s
DZM *e*LR LR 15 33 15.2
comp=Z,23µm,23.9s
DZM Mont Dzumac 40.94 141 P **P** **15 22 09.4 +1.6**
comp=Z,73nm,0.9s,baz=348,slow=7.5,SNR=43
DZM LR LR 15 36 59.1
comp=Z,12µm,21.9s,baz=325,slow=33
comp=Z,73nm,0.9s
PDSI Padang 41.05 257 P **P** **15 22 06.3 -2.5**
comp=Z,79nm,0.8s,comp=Z,1µmcomp=Z,4µm
ONTNC Ouen Toro 41.12 142 P **P** **15 22 08.3 -0.8**
GIRL Giralia 41.26 218 P **P** **15 22 11.9 +1.7**
baz=41,SNR=4.5
GIRL Giralia 41.26 218 P **P** **15 22 09.8 -0.4**
GIRL Giralia 41.26 218 P **P** **15 22 11.7 +1.5**
OUENC Ouen Island, N 41.44 141 P **P** **15 22 12.1 +0.3**
HEH HeiHe 41.52 348 *e*P **P** **15 22 11.5 -0.5**
HEH sP **pwP** **15 22 19.3 +0.3**
HEH ScP **ScP** **15 27 58.9 -0.1**
HEH S **S** **15 28 26.4 -0.5**
HEH ScS **ScS** **15 32 13.7 -1.4**
HEH pmax pmax
comp=Z,150nm,1.4s
HEH pmax pmax
comp=Z,3µm,6.3s
HEH LR LR
comp=Z,18µm,20.0s
HEH LR LR
comp=Z,16µm,21.8s
HEH LR LR
comp=Z,35µm,20.5s
CMSA Cobar Meteorol 41.63 173 P **P** **15 22 14.3 +1.2**
baz=42,SNR=11
CMSA Cobar Meteorol 41.63 173 P **P** **15 22 14.6 +1.5**
ARMA Armidale 41.65 165 P **P** **15 22 11.7 -1.7**
ARMA IAMs_20 IAMs_20 15 38 18.3
comp=Z,18µm,21.0s
ARMA Armidale 41.65 165 ⇓P **P** **15 22 14.2 +0.8**
PSI Prapat 41.65 263 P **P** **15 22 13.2 -0.6**
PSI Prapat 41.65 263 P **P** **15 22 12.5 -1.3**
PSI pmax pmax
comp=Z,96nm,0.9s
PSI MLR MLR
comp=Z,3µm,20.0s
STKA Stephens Creek 41.66 178 P **P** **15 22 13.9 +0.6**
baz=42,SNR=11
STKA Stephens Creek 41.66 178 P **P** **15 22 13.2 -0.2**
STKA Stephens Creek 41.66 178 P **P** **15 22 14.0 +0.6**
STKA Stephens Creek 41.66 178 P **P** **15 22 13.2 -0.2**
STKA pmax pmax
comp=Z,14nm,1.2s
STKA MLR MLR
comp=Z,3µm,22.0s
STKA Stephens Creek 41.66 178 P **P** **15 22 14.0 +0.6**
comp=Z,15nm,0.8s,baz=354,slow=8.8,SNR=28
STKA LR LR 15 39 49.5
comp=Z,14µm,21.7s,baz=348,slow=37
comp=Z,15nm,0.8s
RPSI Rantau Prapat 41.67 263 P **P** **15 22 12.4 -1.4**
RPSI IAmb IAmb 15 22 21.2
comp=Z,96nm,0.9s
PINNC Pines Island, 41.96 141 P **P** **15 22 16.7 +0.7**
PINNC IAMs_20 IAMs_20 15 37 18.4
comp=Z,18µm,19.0s
LZH Lanzhou 41.98 314 ⇑*i*P **P** **15 22 17.9 +1.6**
LZH sP pwP 15 22 24.3 +1.1
LZH PcP **PcP** **15 24 11.3 -0.2**
LZH S **S** **15 28 29.7 -5.0**
LZH sS sS 15 28 48.2 +6.2
LZH pmax pmax
comp=Z,83nm,1.2s
LZH pmax pmax
comp=Z,2µm,5.3s
LZH LR LR
comp=Z,4µm,15.8s
LZH LR LR
comp=Z,15µm,17.5s
LZH LR LR
comp=Z,18µm,19.4s
MEEK Meekatharra 42.05 210 P **P** **15 22 16.3 -0.4**
baz=42,SNR=9.1
MEEK Meekatharra 42.05 210 P **P** **15 22 16.7 0.0**
FORT Forrest 42.20 196 P **P** **15 22 18.9 +1.1**
baz=42,SNR=19
FORT Forrest 42.20 196 P **P** **15 22 15.6 -2.2**
FORT IAMs_20 IAMs_20 15 40 03.3
comp=Z,18µm,20.0s
FORT Forrest 42.20 196 P **P** **15 22 19.3 +1.5**
FORT Forrest 42.20 196 ⇑P **P** **15 22 18.6 +0.8**
TNCH TengChong 42.31 296 ⇓P **P** **15 22 18.8 -0.4**
TNCH pP pP 15 22 22.0 -1.8
TNCH sP sP 15 22 24.7 -0.9
TNCH PP **PP** **15 23 59.9 +2.6**
TNCH S **S** **15 28 39.2 -0.7**
TNCH SS **SS** **15 31 43.1 -5.5**
TNCH ScS **ScS** **15 32 17.1 -4.3**
TNCH pmax pmax
comp=Z,43nm,1.4s
TNCH pmax pmax
comp=Z,1µm,9.3s
TNCH LR LR
comp=Z,12µm,19.1s
TNCH LR LR
comp=Z,6µm,20.2s
TNCH LR LR
comp=Z,9µm,28.4s
SISI Saibi 42.48 257 P **P** **15 22 18.2 -2.3**
comp=Z,195nm,1.1s,comp=Z,3µm
KCSI Kotacane, Aceh 42.63 264 P **P** **15 22 19.9 -1.8**
comp=Z,323nm,1.1s,comp=Z,4µm
HIA Hailar 42.72 340 P **P** **15 22 19.8 -2.1**
HIA Hailar 42.72 340 IAMs_20 IAMs_20 15 38 10.3
comp=Z,18µm,20.0s
HIA Hailar 42.72 340 P **P** **15 22 19.8 -2.1**
HIA pmax pmax
comp=Z,53nm,1.1s
BBOO Buckleboo 42.76 185 P **P** **15 22 23.1 +0.8**
baz=43,SNR=11
BBOO Buckleboo 42.76 185 P **P** **15 22 22.1 -0.2**
BBOO IAMs_20 IAMs_20 15 40 36.3
comp=Z,24µm,19.0s
BBOO Buckleboo 42.76 185 P **P** **15 22 22.9 +0.6**
FUNA Funafuti 42.92 114 P **P** **15 22 25.0 +1.0**
FUNA IAmb IAmb 15 22 26.3
comp=Z,265nm,1.4s
FUNA Funafuti 42.92 114 IAMs_20 IAMs_20 15 35 57.9
comp=Z,19µm,21.0s
NKL Nikolayevsk 43.03 0 *e*P **P** **15 22 22.1 -2.2**
NKL *e* 15 24 12.6
NKL *e*S **S** **15 28 49.3 +0.1**
NKL pmax pmax
comp=N,233nm,1.6s
NKL pmax pmax
comp=Z,326nm,1.4s

NKL pmax pmax
comp=E,40nm,0.7s
NKL pmax pmax
comp=Z,1µm,5.1s
NKL smax smax
comp=N,767nm,5.0s
NKL smax smax
comp=E,531nm,5.0s
NKL MLR MLR
comp=E,22µm,15.0s
NKL MLR MLR
comp=N,13µm,16.0s
NKL MLR MLR
comp=Z,17µm,16.0s
LHMI Lhok Sumawe 43.15 267 P **P** **15 22 22.8 -3.1**
HTT Hallett 43.20 182 P **P** **15 22 27.0 +1.0**
baz=43,SNR=5.3
HTT Hallett 43.20 182 P **P** **15 22 26.9 +0.9**
HTT Hallett 43.20 182 ⇑P **P** **15 22 26.4 +0.4**
GSI Gunungsitoli 43.28 261 P **P** **15 22 24.5 -2.5**
GSI IAmb IAmb 15 22 37.4
comp=Z,334nm,1.5s
GSI Gunungsitoli 43.28 261 P **P** **15 22 25.4 -1.6**
GSI Gunungsitoli 43.28 261 P **P** **15 22 25.3 -1.7**
comp=Z,136nm,0.9s,comp=Z,2µmcomp=Z,4µm
GSI Gunungsitoli 43.28 261 ⇑P **P** **15 22 25.3 -1.7**
MLSI Meulaboh, Aceh 43.84 266 P **P** **15 22 30.6 -0.9**
comp=Z,70nm,1.0s
MND Mandalay 43.92 291 P **P** **15 22 29.1 -2.9**
MND IAmb IAmb 15 22 43.7
comp=Z,125nm,1.1s
MND IAMs_20 IAMs_20 15 39 13.2
comp=Z,10µm,21.0s
KMBL Kambalda 44.74 203 P **P** **15 22 39.6 +1.3**
baz=45,SNR=20
KMBL Kambalda 44.74 203 P **P** **15 22 39.2 +0.9**
ZEA Zeya 44.85 349 *e*P **P** **15 22 39.2 +0.2**
ZEA *e*S **S** **15 29 19.7 +3.9**
ZEA pmax pmax
comp=N,50nm,1.2s
ZEA pmax pmax
comp=Z,90nm,1.5s
ZEA pmax pmax
comp=Z,900nm,7.3s
ZEA smax smax
comp=E,2µm,14.6s
PEA0B Petropavlovsk- 45.24 15 *c e*P **P** **15 22 44.2 +2.1**
PETK Petropavlovsk- 45.24 15 P **P** **15 22 38.7 -3.3**
PETK Petropavlovsk- 45.24 15 P **P** **15 22 41.8 -0.2**
comp=E,23nm,1.0s,baz=264,slow=5.7,SNR=13
PETK LR LR 15 39 13.1
comp=E,10µm,21.4s,baz=197,slow=33
comp=E,23nm,1.0s
MORW Morawa 45.32 210 P **P** **15 22 44.1 +1.1**
baz=46,SNR=9.2
MORW Morawa 45.32 210 P **P** **15 22 42.8 -0.3**
MORW Morawa 45.32 210 ⇑P **P** **15 22 42.1 -1.0**
PET Petropavlovsk 45.41 16 *e*P **P** **15 22 46.3 +2.9**
PET *e* 15 24 27.5
PET *e*S **S** **15 29 26.3 +2.5**
PET *e*SS **SS** **15 32 44.8 -2.5**
PET *e*SSS SSS 15 33 42.2
PET pmax pmax
comp=Z,142nm,1.6s
PET pmax pmax
comp=Z,2µm,7.0s
PET pmax pmax
comp=Z,2µm,7.1s
PET MLR MLR
comp=Z,7µm,16.0s
CAN Canberra 45.83 170 P **P** **15 22 45.0 -1.9**
CAN IAmb IAmb 15 22 49.9
comp=Z,198nm,1.5s
CAN IAMs_20 IAMs_20 15 42 39.8
comp=Z,19µm,18.0s
CAN Canberra 45.83 170 P **P** **15 22 48.6 +1.6**
CAN Canberra 45.83 170 ⇑P **P** **15 22 48.1 +1.2**
CAN Canberra 45.83 170 P **P** **15 22 45.1 -1.9**
CAN pmax pmax
comp=Z,198nm,1.5s
CAN MLR MLR
comp=Z,19µm,18.0s
CNB Canberra Magne 45.88 170 P **P** **15 22 49.1 +1.7**
baz=46,SNR=7.1
CNB Canberra Magne 45.88 170 P **P** **15 22 49.1 +1.7**
MOKO MOKOCHONG 46.12 297 *e*P **P** **15 22 50.4 +0.8**
BLDU Ballidu 46.28 208 P **P** **15 22 50.6 0.0**
baz=46,SNR=30
BLDU Ballidu 46.28 208 P **P** **15 22 50.4 -0.2**
IMP Imphal 46.34 295 *e*P **P** **15 22 51.4 +0.1**
IMP IAmb IAmb 15 23 04.4
comp=Z,63nm,0.8s
KOHI KOHIMA 46.36 296 *e*P **P** **15 22 51.4 -0.2**
KOHI IAmb IAmb 15 23 17.2
comp=Z,71nm,0.9s
GTA Gaotai 46.38 316 ⇑P **P** **15 22 52.4 +1.0**
GTA pP sP 15 22 56.7 -1.2
GTA S **S** **15 29 39.4 +0.9**
GTA SS **SS** **15 33 01.2 -3.1**
GTA pmax pmax
comp=Z,33nm,1.2s
GTA pmax pmax
comp=Z,630nm,5.6s
GTA LR LR
comp=Z,7µm,16.0s
GTA LR LR
comp=Z,9µm,16.7s
GTA LR LR
comp=Z,10µm,18.2s
ARPS Mount Arapiles 46.54 178 P **P** **15 22 54.7 +2.2**
baz=47,SNR=16
KLBR Kellerberrin 46.63 207 P **P** **15 22 53.4 +0.2**
baz=47,SNR=12
KLBR Kellerberrin 46.63 207 P **P** **15 22 54.7 +1.4**
comp=Z,205nm,0.9s
SAIH SAIHA 46.85 291 *e*P **P** **15 22 56.4 +1.0**
SAIH IAmb IAmb 15 23 07.2
comp=Z,153nm,0.8s
ZIRO ZIRO 46.95 298 *e*P **P** **15 22 57.7 +1.5**
ZIRO IAmb IAmb 15 23 09.2
comp=Z,102nm,0.9s
ULN Ulaanbaatar 46.96 330 P **P** **15 22 53.7 -2.1**
ULN IAmb IAmb 15 23 11.0
comp=Z,103nm,1.4s
ULN Ulaanbaatar 46.96 330 P **P** **15 22 56.3 +0.4**
ULN Ulaanbaatar 46.96 330 ⇑P **P** **15 22 57.0 +1.1**
ULN Ulaanbaatar 46.96 330 ⇑*i*P **P** **15 22 56.9 +1.1**
ULN pmax pmax
comp=Z,143nm,2.1s
ITAN ITANAGAR 46.98 298 *e*P **P** **15 22 58.4 +2.2**
ITAN IAmb IAmb 15 23 11.6
comp=Z,306nm,1.1s
DGTI Dogotuki 47.01 123 P **P** **15 22 58.1 +1.6**
CIT Chita 47.20 338 *e*P **P** **15 22 59.0 +1.4**
CIT *e* 15 24 47.6
CIT pmax pmax
comp=Z,488nm,2.1s
SONM Songino Array 47.27 329 P **P** **15 22 56.4 -1.9**
SONM IAmb IAmb 15 23 12.6
comp=Z,77nm,1.2s
SONM Songino Array 47.27 329 P **P** **15 22 56.4 -1.9**
SONM pmax pmax
comp=Z,77nm,1.2s
SONM Songino Array 47.27 329 P **P** **15 22 59.4 +1.1**
comp=Z,30nm,1.1s,baz=139,slow=7.6,SNR=69
SONM LR LR 15 44 43.7
comp=Z,7µm,19.0s,baz=126,slow=39
comp=Z,30nm,1.1s
SILR SILCHAR 47.36 294 *e*P **P** **15 23 01.1 +2.0**
MILA Mila 47.55 170 P **P** **15 23 02.9 +2.5**
baz=48,SNR=4.7
TOO Toolangi 47.57 174 P **P** **15 23 02.9 +2.3**
baz=48,SNR=11
TOO Toolangi 47.57 174 P **P** **15 23 01.9 +1.3**
TOO Toolangi 47.57 174 P **P** **15 23 03.1 +2.5**
TOO Toolangi 47.57 174 ⇑P **P** **15 23 01.9 +1.3**
TOO Toolangi 47.57 174 P **P** **15 23 01.9 +1.3**
TOO pmax pmax
comp=Z,306nm,1.6s
TOO MLR MLR
comp=Z,30µm,18.0s
MUN Mundaring 47.66 208 P **P** **15 23 01.4 +0.2**
baz=48,SNR=28
MUN Mundaring 47.66 208 P **P** **15 23 01.8 +0.5**
TEZP TEZPUR 47.69 297 *e*P **P** **15 23 03.1 +1.4**
TEZP IAmb IAmb 15 23 13.6

comp=Z,64nm,0.8s
NWAO Narrogin (SRO) 48.00 206 P **P** **15 23 05.0 +1.1**
baz=48,SNR=15
NWAO P **P** **15 23 05.0 +1.1**
baz=48,SNR=15
NWAO Narrogin (SRO) 48.00 206 P **P** **15 23 04.2 +0.2**
NWAO Narrogin (SRO) 48.00 206 P **P** **15 23 04.0 +0.1**
NWAO IAmb IAmb 15 23 06.1
comp=Z,270nm,1.3s
NWAO Narrogin (SRO) 48.00 206 P **P** **15 23 04.5 +0.6**
NWAO Narrogin (SRO) 48.00 206 P **P** **15 23 03.8 -0.2**
NWAO Narrogin (SRO) 48.00 206 P **P** **15 23 04.0 +0.1**
NWAO pmax pmax
comp=Z,270nm,1.3s
NWAO Narrogin (SRO) 48.00 206 P **P** **15 23 04.9 +1.0**
comp=Z,120nm,1.2s,baz=16,slow=8.9,SNR=22
NWAO LR LR 15 44 17.1
comp=Z,12µm,18.6s,baz=11,slow=37
comp=Z,120nm,1.2s
SHL Shillong 48.31 295 P **P** **15 23 06.0 -0.7**
SHL IAmb IAmb 15 23 18.9
comp=Z,59nm,0.9s
SHL Shillong 48.31 295 P **P** **15 23 07.0 +0.3**
SNR=12
SHL Shillong 48.31 295 P **P** **15 23 06.1 -0.7**
SHL pmax pmax
comp=Z,59nm,0.9s
SHL Shillong 48.31 295 *eP* **P** **15 23 08.1 +1.4**
SHL IAmb IAmb 15 23 16.1
comp=Z,37nm,0.7s
COCO West Island 48.44 244 P **P** **15 23 05.5 -2.1**
COCO ScP **ScP** **15 28 25.5 -2.7**
COCO West Island 48.44 244 P **P** **15 23 05.5 -2.1**
COCO pmax pmax
comp=Z,333nm,1.6s
AGT Agartala 48.62 293 *eP* **P** **15 23 12.5 +3.5**
AGT IAmb IAmb 15 23 23.4
comp=Z,125nm,1.0s
GOMU GeErMu 48.66 310 P **P** **15 23 11.6 +2.1**
GOMU pP sP 15 23 15.1 -0.9
GOMU sP pwP 15 23 18.6 +2.2
GOMU S **S** **15 30 13.2 +1.6**
GOMU pmax pmax
comp=Z,19nm,0.8s
GOMU LR LR
comp=Z,8µm,17.9s
GOMU LR LR
comp=Z,6µm,17.5s
GOMU LR LR
comp=Z,7µm,17.7s
RKGY Rocky Gully 49.55 205 P **P** **15 23 18.5 +2.7**
baz=50,SNR=5.3
LSA Lhasa 49.74 300 P **P** **15 23 17.1 -1.0**
LSA IAmb IAmb 15 23 37.5
comp=Z,74nm,1.2s
LSA Lhasa 49.74 300 *i* P **P** **15 23 19.3 +1.2**
SNR=9.4
LSA Lhasa 49.74 300 P **P** **15 23 17.1 -1.0**
LSA pmax pmax
comp=Z,74nm,1.2s
LSA Lhasa 49.74 300 P **P** **15 23 18.8 +0.7**
LSA pmax pmax
comp=Z,29nm,1.1s
LSA LR LR
comp=Z,7µm,20.6s
LSA LR LR
comp=Z,4µm,20.6s
LSA LR LR
comp=Z,7µm,21.4s
MA2 Magadan 50.11 7 P **P** **15 23 19.8 +0.1**
MA2 IAmb IAmb 15 23 21.3
comp=Z,188nm,1.4s
MA2 ScP **ScP** **15 28 31.7 -2.8**
MA2 Magadan 50.11 7 ⇓P **P** **15 23 20.2 +0.4**
MA2 Magadan 50.11 7 *c i*P **P** **15 23 19.4 -0.3**
MA2 pmax pmax
comp=Z,172nm,1.5s
MA2 Magadan 50.11 7 P **P** **15 23 19.8 +0.1**
comp=Z,32nm,0.9s,baz=171,slow=7.0,SNR=5.6
MA2 LR LR 15 43 00.1
comp=Z,7µm,21.6s,baz=207,slow=34
comp=Z,32nm,0.9s
ZAK Zakamensk 50.48 330 *eP* **P** **15 23 23.5 +0.6**
ZAK pmax pmax
comp=Z,82nm,1.5s
SHEM Shemya Is, Ala 50.62 26 P **P** **15 23 24.5 +0.7**
comp=Z,135nm,1.1s,baz=259,slow=10,SNR=2.7
SHEM LR LR 15 41 08.6
comp=Z,14µm,21.9s,baz=228,slow=32
comp=Z,135nm,1.1s
IRK Irkutsk 51.23 332 *eP* **P** **15 23 26.4 -2.0**
IRK pmax pmax
comp=Z,233nm,2.9s
GTK Tadong 51.50 297 *eP* **P** **15 23 32.7 +1.7**
GTK IAmb IAmb 15 23 43.5
comp=Z,81nm,1.1s
BOD Bodaibo 51.79 342 *eP* **P** **15 23 33.0 +0.6**
BOD pmax pmax
comp=Z,70nm,1.9s
AMKA Amchitka 52.13 30 P **P** **15 23 33.9 -1.2**
TAPN Taplejung 52.28 297 *eP* **P** **15 23 38.7 +1.7**
comp=Z,287nm,1.1s
MOY Mondy 52.41 330 *eP* **P** **15 23 38.6 +1.3**
MOY pmax pmax
comp=Z,215nm,3.1s
ODAN Odare 52.49 296 *eP* **P** **15 23 40.8 +2.3**
YAK Yakutsk 52.51 354 P **P** **15 23 36.2 -1.5**
YAK Yakutsk 52.51 354 IAMs_20 IAMs_20 15 43 15.2
comp=Z,17µm,21.0s
YAK Yakutsk 52.51 354 ⇑P **P** **15 23 37.3 -0.4**
YAK Yakutsk 52.51 354 *c i*P **P** **15 23 37.7 0.0**
YAK *e**PP **pP** **15 23 41.1 -1.2**
YAK *e* 15 24 51.4
YAK *e* 15 25 35.2
YAK *e*S **S** **15 31 04.2 +0.8**
YAK *e**SS **sS** **15 31 11.9 +0.7**
YAK *e* 15 33 28.5
YAK *e*SS **SS** **15 34 43.1 +1.5**
YAK pmax pmax
comp=Z,154nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.5s
YAK pmax pmax
comp=N,92nm,1.3s
YAK pmax pmax
comp=Z,66nm,1.6s
YAK smax smax
comp=E,678nm,3.5s
YAK smax smax
comp=N,191nm,3.4s
YAK MLR MLR
comp=Z,10µm,17.0s
YAK MLR MLR
comp=N,7µm,16.0s
YAK MLR MLR
comp=E,5µm,14.0s
YAK Yakutsk 52.51 354 P **P** **15 23 38.0 +0.3**
comp=E,5.1nm,0.8s,baz=166,slow=2.0,SNR=64
YAK LR LR 15 45 44.0
comp=E,496nm,18.0s,baz=162,slow=36
TAU Tasmania Unive 53.05 173 P **P** **15 23 44.5 +2.6**
AFI Afiamalu 53.19 116 IAMs_20 IAMs_20 15 43 04.3
comp=Z,18µm,18.0s
RAMN Ramite 53.21 296 *eP* **P** **15 23 45.3 +1.5**
comp=Z,298nm,1.3s
BOK Bokaro 53.49 292 *eP* **P** **15 23 47.9 +2.3**
BOK IAmb IAmb 15 23 56.1
comp=Z,66nm,1.0s
SEY Seymchan 53.56 7 *ceP* **P** **15 23 46.9 +1.4**
SEY pmax pmax
comp=Z,175nm,1.3s
SEY Seymchan 53.56 7 P **P** **15 23 46.0 +0.5**
comp=Z,55nm,1.0s,baz=182,slow=6.7,SNR=59
SEY LR LR 15 44 57.6
comp=Z,11µm,21.9s,baz=200,slow=34
comp=Z,55nm,1.0s
JIRN Jiri 53.66 297 *eP* **P** **15 23 48.2 +0.9**
comp=Z,203nm,0.9s
KIWB Kanaga Island 54.20 31 P **P** **15 23 49.5 -0.8**
PKI Pulchoki 54.34 297 *eP* **P** **15 23 52.8 +0.6**
comp=Z,192nm,1.1s
PKIN Phulchoki 54.35 297 *eP* **P** **15 23 52.7 +0.5**
comp=Z,179nm,1.1s
ADK Adak 54.45 31 P **P** **15 23 53.1 +1.0**
KKN Kakani 54.48 297 *e*Pg **P** **15 23 54.1 +1.0**
DMN Daman 54.61 297 *eP* **P** **15 23 54.6 +0.5**
comp=Z,388nm,1.1s
OUZ Omahuta 54.92 147 IAMs_20 IAMs_20 15 45 00.8
comp=Z,12µm,20.0s
OUZ Omahuta 54.92 147 P **P** **15 23 58.3 +2.5**
GKN Gorkha 55.07 297 *eP* **P** **15 23 57.2 -0.1**
comp=Z,271nm,1.2s
VIS Vishakhapatnam 55.62 285 *eP* **P** **15 24 03.0 +1.9**
DANN Dangsing 55.89 297 *eP* **P** **15 24 03.4 +0.1**
comp=Z,205nm,1.0s
ATKA Atka Island 55.91 32 IAMs_20 IAMs_20 15 44 27.9
comp=Z,12µm,20.0s
ATKA Atka Island 55.91 32 P **P** **15 24 05.4 +2.7**
comp=Z,127nm,0.9s
KOLN Koldanda 55.96 297 *eP* **P** **15 24 03.7 0.0**
comp=Z,672nm,2.3s
RAO Raoul Island 56.12 135 LR LR 15 46 20.0
comp=Z,8µm,18.8s,baz=323,slow=34
WMQ Urumqi 56.46 316 ⇑P **P** **15 24 08.0 +1.1**
WMQ PcP **PcP** **15 25 04.4 +0.7**
WMQ S **S** **15 31 58.5 +1.0**
WMQ pmax pmax
comp=Z,130nm,1.1s
WMQ pmax pmax
comp=Z,1µm,4.9s
WMQ LR LR
comp=Z,11µm,20.1s
WMQ LR LR
comp=Z,6µm,13.5s
WMQ LR LR
comp=Z,6µm,15.7s
PYUN Piuthan 56.53 297 *eP* **P** **15 24 07.8 0.0**
comp=Z,292nm,0.9s
BLSP Bilaspur 56.84 290 *eP* **P** **15 24 11.6 +1.8**
ALBI Allahabad 57.32 294 *eP* **P** **15 24 14.5 +1.3**
TOZ Tahuroa Road 57.82 147 P **P** **15 24 15.5 -0.8**
TOZ IAmb IAmb 15 24 19.6
comp=Z,106nm,1.5s
HIZ Hauiti 58.06 148 P **P** **15 24 18.2 +0.1**
VJD Vijayawada 58.20 283 *eP* **P** **15 24 21.5 +2.0**
CLES Cleveland East 58.50 33 IAMs_20 IAMs_20 15 46 42.4
comp=Z,13µm,20.0s
QRZ Quartz Range 58.69 152 P **P** **15 24 20.9 -1.5**
QRZ Quartz Range 58.69 152 P **P** **15 24 24.3 +1.9**
MDRS Chennai 58.76 279 *eP* **P** **15 24 25.4 +2.0**
MDRS IAmb IAmb 15 24 32.8
comp=Z,69nm,1.1s
DGZ Jazzator, Alta 58.82 323 *i* P **P** **15 24 24.4 +0.9**
DGZ pmax pmax
comp=Z,74nm,1.8s
DGZ MLR MLR
comp=Z,13µm,19.0s
PALK Pallekele 58.87 272 P **P** **15 24 23.1 -1.2**
PALK IAmb IAmb 15 24 27.4
comp=Z,100nm,1.5s
PALK Pallekele 58.87 272 P **P** **15 24 23.7 -0.6**
PALK Pallekele 58.87 272 ⇑P **P** **15 24 25.5 +1.2**
PALK Pallekele 58.87 272 P **P** **15 24 23.1 -1.2**
PALK pmax pmax
comp=Z,100nm,1.5s
PALK Pallekele 58.87 272 LR LR 15 48 28.0
comp=Z,5µm,21.8s,baz=183,slow=35
MALK Mahakanadarawa 58.89 274 P **P** **15 24 23.2 -1.1**
TKNZ Takaka Hill 59.06 152 P **P** **15 24 24.8 -0.2**
URZ Urewera 59.07 147 P **P** **15 24 26.5 +1.4**
URZ Urewera 59.07 147 P **P** **15 24 26.3 +1.2**
comp=Z,42nm,1.2s,baz=298,slow=4.9,SNR=7.4
URZ LR LR 15 48 12.3
comp=Z,6µm,20.0s,baz=42,slow=34
comp=Z,42nm,1.2s
LGTI Lohaghat 59.07 298 *eP* **P** **15 24 26.7 +1.3**
DSZ Denniston Nort 59.09 153 IAMs_20 IAMs_20 15 49 43.0
comp=Z,9µm,18.0s
MXZ Matakaoa Point 59.23 145 P **P** **15 24 23.2 -3.0**
MRNZ Matariki Terra 59.25 152 P **P** **15 24 25.4 -0.9**
RTZ Ruatahuna 59.26 147 P **P** **15 24 26.1 -0.4**
BKZ Black Stump Fm 59.40 148 P **P** **15 24 26.4 -1.1**
BKZ IAmb IAmb 15 24 29.3
comp=Z,122nm,1.5s
ZSN Zaisan 59.57 320 *eP* **P** **15 24 29.1 +0.6**
baz=320
ZSN *e*S **S** **15 32 39.9 +1.9**
baz=320
ZSN Zaisan 59.57 320 *eP* **P** **15 24 29.1 +0.6**
ZSN *e*S **S** **15 32 39.8 +1.9**
INZ Inchbonnie 59.72 154 IAMs_20 IAMs_20 15 48 05.6
comp=Z,10µm,18.0s
TCW Tory Channel 59.82 151 P **P** **15 24 29.3 -0.9**
TUWZ Tuamarina 59.83 151 P **P** **15 24 28.8 -1.5**
MRZ Mangatainoka R 60.04 149 P **P** **15 24 31.5 -0.2**
MRZ IAMs_20 IAMs_20 15 46 35.2
comp=Z,12µm,20.0s
SNZO South Karori 60.10 151 P **P** **15 24 31.5 -0.6**
SNZO South Karori 60.10 151 IAMs_20 IAMs_20 15 46 48.9
comp=Z,12µm,20.0s
SNZO South Karori 60.10 151 P **P** **15 24 32.9 +0.7**
LTZ Lake Taylor 60.13 153 P **P** **15 24 32.4 0.0**
LTZ IAmb IAmb 15 24 33.9
comp=Z,115nm,1.4s
LTZ IAMs_20 IAMs_20 15 50 24.4
comp=Z,12µm,18.0s
HYB Hyderabad 60.18 284 *eP* **P** **15 24 34.9 +1.6**
HYB IVmB_BB 15 24 42.5
comp=Z,741nm,1.6s
HYB *e*PcP **PcP** **15 25 17.8 -1.0**
HYB *e*PP **PP** **15 26 45.1 -1.0**
HYB *e*S **S** **15 32 47.3 +0.6**
HYB IVMs_BB IVMs_BB 15 48 09.3
comp=Z,2µm,16.8s
KIP Kipapa 60.19 71 *ceP* **P** **15 24 35.3 +2.1**
KIP pmax pmax
comp=Z,68nm,1.7s
BHW Baring Head 60.26 151 IAMs_20 IAMs_20 15 46 53.0
comp=Z,12µm,20.0s
RPZ Rata Peaks 60.35 155 P **P** **15 24 33.8 0.0**
RPZ IAMs_20 IAMs_20 15 47 58.4
comp=Z,11µm,20.0s
RPZ Rata Peaks 60.35 155 P **P** **15 24 34.2 +0.3**
RPZ Rata Peaks 60.35 155 LR LR 15 47 59.0
comp=Z,9µm,21.6s,baz=323,slow=33
BFZ Birch Farm 60.39 149 P **P** **15 24 34.4 +0.2**
BFZ IAMs_20 IAMs_20 15 49 26.5
comp=Z,16µm,19.0s
BFZ Birch Farm 60.39 149 P **P** **15 24 34.8 +0.6**
KHZ Kahutara 60.41 152 IAMs_20 IAMs_20 15 50 43.0
comp=Z,10µm,18.0s
OXZ Oxford 60.46 154 P **P** **15 24 33.1 -1.5**
OXZ IAmb IAmb 15 24 35.4
comp=Z,107nm,1.3s
OXZ IAMs_20 IAMs_20 15 48 48.3
comp=Z,10µm,18.0s
SPIA Saint Paul Isl 60.46 28 P **P** **15 24 35.3 +0.9**
baz=240
BILL Bilibino 60.48 11 P **P** **15 24 33.6 -0.7**
BILL Bilibino 60.48 11 *i* P **P** **15 24 34.4 0.0**
LBZ Lake Benmore 60.54 156 P **P** **15 24 34.7 -0.5**
LBZ IAmb IAmb 15 24 36.7
comp=Z,115nm,1.2s
LBZ ScP **ScP** **15 29 24.7 +4.3**
MLZ Mavora Lakes 60.56 158 P **P** **15 24 35.5 +0.3**
UNV Unalaska Valle 60.78 33 P **P** **15 24 38.2 +1.6**
UNV Unalaska Valle 60.78 33 P **P** **15 24 37.0 +0.4**
baz=245
SALM Salem 60.86 278 *eP* **P** **15 24 39.6 +1.7**
MK31 Makanchi Array 61.03 318 P **P** **15 24 38.3 -0.3**
MK31 IAmb IAmb 15 25 04.5
comp=Z,102nm,1.6s
MK31 Makanchi Array 61.03 318 *i* P **P** **15 24 38.6 0.0**
MK31 pmax pmax
comp=Z,38nm,1.0s
MKAR Makanchi Array 61.03 318 P **P** **15 24 37.6 -1.0**
MKAR Makanchi Array 61.03 318 P **P** **15 24 38.7 +0.1**
comp=Z,12nm,0.7s,baz=98,slow=8.7,SNR=72
MKAR LR LR 15 50 56.8
comp=Z,7µm,21.5s,baz=110,slow=36
MKAR PKPPKP **P'P'df** **15 53 56.9 -1.4**
comp=Z,3.0nm,1.1s,baz=297,slow=3.8,SNR=6.2
comp=Z,12nm,0.7s
MQZ McQueen's Vall 61.03 154 P **P** **15 24 38.0 -0.4**
BHPL Bhopal 61.22 291 *eP* **P** **15 24 41.2 +0.9**
BHPL IAmb IAmb 15 24 49.6
comp=Z,44nm,1.0s
MAKZ Makanchi 61.24 318 P **P** **15 24 39.7 -0.3**
MAKZ IAmb IAmb 15 24 54.3
comp=Z,80nm,1.1s
MAKZ IAMs_20 IAMs_20 15 50 51.9
comp=Z,10µm,20.0s
MAKZ Makanchi 61.24 318 ⇑P **P** **15 24 40.5 +0.5**
MAKZ Makanchi 61.24 318 P **P** **15 24 39.7 -0.3**
MAKZ pmax pmax
comp=Z,80nm,1.1s
MAKZ MLR MLR
comp=Z,10µm,20.0s
ODZ Otahua Downs 61.27 156 P **P** **15 24 40.2 +0.1**
ODZ IAmb IAmb 15 24 41.9
comp=Z,52nm,1.3s
AKUT Akutan 61.29 33 IAMs_20 IAMs_20 15 50 14.2
comp=Z,9µm,19.0s
NDI New Delhi 61.65 297 *eP* **P** **15 24 43.5 +0.5**
KOD Kodaikanal 61.71 276 *eP* **P** **15 24 45.2 +1.2**
HLK Haleakala 61.83 72 P **P** **15 24 41.4 -3.3**
SMLA Simla 61.89 300 *eP* **P** **15 24 45.9 +1.3**
SMLA IAmb IAmb 15 24 50.5
comp=Z,235nm,1.4s
ZAA0 Zalesovo Array 62.00 327 P **P** **15 24 43.1 -1.8**
ZALV Zalesovo Beam 62.00 327 P **P** **15 24 43.1 -1.8**
ZALV Zalesovo Beam 62.00 327 P **P** **15 24 44.4 -0.5**
comp=Z,12nm,0.7s,baz=109,slow=7.1,SNR=26
ZALV LR LR 15 50 34.3
comp=Z,6µm,21.8s,baz=110,slow=35
ZALV PKPPKP **P'P'df** **15 53 54.4 -1.9**
comp=Z,0.5nm,0.4s,baz=262,slow=4.0,SNR=3.7
comp=Z,12nm,0.7s
TIXI Tiksi 62.00 356 P **P** **15 24 44.6 -0.1**
TIXI IAmb IAmb 15 24 57.6
comp=Z,31nm,0.9s
TIXI Tiksi 62.00 356 IAMs_20 IAMs_20 15 48 50.6
comp=Z,11µm,22.0s
TIXI Tiksi 62.00 356 ⇑P **P** **15 24 44.7 +0.1**
TIXI Tiksi 62.00 356 *ceP* **P** **15 24 44.5 -0.1**
TIXI Tiksi 62.00 356 P **P** **15 24 44.2 -0.4**
comp=Z,0.7nm,0.8s,baz=166,slow=4.3,SNR=27
TIXI LR LR 15 51 16.5
comp=Z,295nm,19.2s,baz=175,slow=36
SHLS Shalkode 62.01 314 *eP* **P** **15 24 43.4 -2.0**
comp=Z,58nm,1.5s,baz=314
SHLS Shalkode 62.01 314 *eP* **P** **15 24 43.4 -2.0**
SHLS pmax pmax
comp=Z,58nm,1.5s
PDGK Podgornoye 62.02 314 P **P** **15 24 45.3 -0.2**
KUDL Kundal 62.25 296 *eP* **P** **15 24 48.6 +1.5**
UZB Uzynbulak 62.32 314 *eP* **P** **15 24 47.7 +0.2**
comp=Z,69nm,1.7s,baz=314
UZB *e*S **S** **15 33 14.7 +1.2**
baz=314
UZB Uzynbulak 62.32 314 *eP* **P** **15 24 47.7 +0.2**
UZB *e*S **S** **15 33 14.6 +1.2**
UZB pmax pmax
comp=Z,69nm,1.7s
TRD Trivandrum 62.40 274 *eP* **P** **15 24 50.0 +1.7**
TRD IAmb IAmb 15 24 51.6
comp=Z,52nm,0.7s
BHK Bhakra 62.56 300 *eP* **P** **15 24 50.8 +1.7**
KPKS Kokpek 62.63 314 *eP* **P** **15 24 49.4 -0.2**
baz=314
KPKS *e*S **S** **15 33 18.3 +1.1**
baz=314
KPKS Kokpek 62.63 314 *eP* **P** **15 24 49.3 -0.2**
KPKS *e*S **S** **15 33 18.3 +1.1**
DHRM DHARAMSHALA 62.73 301 *eP* **P** **15 24 51.5 +0.9**
SATY Saty 62.74 313 *eP* **P** **15 24 50.5 +0.2**
comp=Z,86nm,1.9s,baz=313
SATY Saty 62.74 313 *eP* **P** **15 24 50.5 +0.2**
SATY pmax pmax
comp=Z,86nm,1.9s
ZHN Zhinishke 62.74 313 *eP* **P** **15 24 50.2 -0.1**
baz=314
ZHN Zhinishke 62.74 313 *eP* **P** **15 24 50.2 -0.1**
WRMHI West Rim 62.75 73 IAMs_20 IAMs_20 15 46 30.6
comp=Z,9µm,20.0s
SDHHI Sand Hill 62.75 73 IAMs_20 IAMs_20 15 46 31.7
comp=Z,9µm,20.0s
UWE Uwekahuna 62.75 73 IAMs_20 IAMs_20 15 46 41.8
comp=Z,10µm,21.0s
OBL Observatory Le 62.76 73 IAMs_20 IAMs_20 15 46 28.0
comp=Z,9µm,19.0s
NPH North Pit 62.77 73 IAMs_20 IAMs_20 15 46 41.0
comp=Z,9µm,20.0s
RIM Rim 62.77 73 IAMs_20 IAMs_20 15 46 31.2
comp=Z,10µm,20.0s
SBLHI Steaming Bluff 62.78 73 IAMs_20 IAMs_20 15 46 29.4
comp=Z,9µm,19.0s
KKO Keanakako`i 62.78 73 IAMs_20 IAMs_20 15 46 31.4
comp=Z,10µm,20.0s
HATHI Halema'uma'u T 62.78 73 IAMs_20 IAMs_20 15 46 34.5
comp=Z,9µm,19.0s
BYL Byron's Ledge 62.78 73 IAMs_20 IAMs_20 15 46 42.6
comp=Z,10µm,21.0s
PUH Pauahi 62.83 73 IAMs_20 IAMs_20 15 46 41.7
comp=Z,9µm,18.0s
FALS False Pass 62.84 33 P **P** **15 24 50.7 +0.2**
baz=247
TARG Taragay, Kyrgy 62.90 312 P **P** **15 24 48.2 -3.5**
TARG PcP **PcP** **15 25 31.4 +1.5**
TARG IAmb IAmb 15 25 32.4
comp=Z,62nm,1.2s
TARG Taragay, Kyrgy 62.90 312 P **P** **15 24 48.2 -3.5**
TARG 15 25 31.4
TARG pmax pmax
comp=Z,62nm,1.2s
TDK Taldyqorghan 63.17 315 *eP* **P** **15 24 53.2 +0.2**
comp=Z,154nm,1.6s,baz=316
TDK *e*S **S** **15 33 25.6 +1.8**
baz=316
TDK LR LR 15 51 13.3
comp=Z,3µm,17.8s,baz=316
TDK Taldyqorghan 63.17 315 *eP* **P** **15 24 53.1 +0.2**
TDK *e*S **S** **15 33 25.6 +1.8**
TDK pmax pmax
comp=Z,154nm,1.6s
TDK MLR MLR
comp=Z,3µm,18.0s
THN Thein Dam 63.24 301 *eP* **P** **15 24 54.8 +1.3**
SEM Semipalatinsk 63.40 322 *eP* **P** **15 24 54.8 +0.2**
baz=322
SEM LR LR 15 51 07.4
comp=Z,3µm,16.1s,baz=322
SEM Semipalatinsk 63.40 322 *eP* **P** **15 24 54.8 +0.2**
SEM MLR MLR
comp=Z,3µm,16.0s
GAMB Gambell 63.44 22 P **P** **15 24 55.3 +1.0**
baz=235
MDOK Medeo 63.73 313 *eP* **P** **15 24 56.7 -0.2**
baz=313
MDOK *e*S **S** **15 33 32.4 +1.2**
baz=313
MDOK LR LR 15 52 00.7
baz=313
MDOK Medeo 63.73 313 *eP* **P** **15 24 56.7 -0.2**
MDOK *e*S **S** **15 33 32.4 +1.2**
TNSS Tian-Shan 63.78 313 *eP* **P** **15 24 57.6 0.0**
baz=313
TNSS Tian-Shan 63.78 313 *eP* **P** **15 24 57.5 0.0**
AJM Ajmer 63.82 295 *eP* **P** **15 24 58.1 +0.4**
AAA Alma-Ata 63.84 313 *eP* **P** **15 24 57.4 -0.1**
comp=Z,75nm,1.3s,baz=313
AAA Alma-Ata 63.84 313 *eP* **P** **15 24 57.3 -0.1**
AAA pmax pmax
comp=Z,75nm,1.3s
M11K Mekoryuk 63.87 26 P **P** **15 24 58.2 +1.0**
baz=242
KSH Kashi 63.89 309 P **P** **15 25 01.1 +3.1**
KSH sP pwP 15 25 09.0 +4.0
KSH S **S** **15 33 39.6 +6.4**
KSH SS **SS** **15 37 51.0 +9.4**
KSH pmax pmax
comp=Z,23nm,1.2s
KSH pmax pmax
comp=Z,1µm,5.8s
KSH LR LR
comp=Z,6µm,18.2s
KSH LR LR
comp=Z,3µm,14.1s
KSH LR LR
comp=Z,9µm,18.6s
CHKK Chushkaly 63.91 314 *eP* **P** **15 24 57.9 0.0**
baz=314
CHKK Chushkaly 63.91 314 *eP* **P** **15 24 57.8 -0.1**
NRN Naryn 64.18 311 P **P** **15 25 00.3 +0.2**
NRN Naryn 64.18 311 P **P** **15 25 00.3 +0.2**
NRN pmax pmax
comp=Z,34nm,1.1s

KAD Karad 64.36 284 eP P 15 25 01.9 +0.7
KUU Kurty 64.38 314 eP P 15 25 01.1 +0.1
comp=Z,95nm,1.4s,baz=314
KUU eS S 15 33 40.0 +1.0
baz=314
KUU LR LR 15 49 50.4
comp=Z,6µm,18.1s,baz=314
KUU Kurty 64.38 314 eP P 15 25 01.1 +0.1
KUU eS S 15 33 39.9 +1.0
KUU pmax pmax
comp=Z,95nm,1.4s
KUU MLR MLR
comp=Z,6µm,18.0s
KURK Kurchatov 64.49 322 P P **15 25 00.8 -0.7**
KURK IAmb IAmb 15 25 06.9
comp=Z,68nm,0.9s
KURK Kurchatov 64.49 322 IAMs_20 IAMs_20 15 53 10.7
comp=Z,10µm,21.0s
KURK Kurchatov 64.49 322 P P **15 25 00.7 -0.7**
KURK Kurchatov 64.49 322 ⇑P P **15 25 00.9 -0.7**
KURK Kurchatov 64.49 322 *d iP* P **15 25 01.1 -0.4**
KURK pmax pmax
comp=Z,93nm,1.3s
KURK MLR MLR
comp=Z,9µm,20.0s
KURBB Kurchatov Arra 64.52 322 P P **15 25 01.1 -0.6**
KURBB Kurchatov Arra 64.52 322 P P **15 25 01.3 -0.4**
comp=Z,15nm,0.6s,baz=105,slow=6.7,SNR=93
KURBB LR LR 15 53 15.6
comp=Z,9µm,21.9s,baz=110,slow=36
KURBB PKPPKP **P'P'df** **15 53 53.0 +0.7**
comp=Z,2.0nm,0.2s,baz=285,slow=3.7,SNR=21
comp=Z,15nm,0.6s
SDPT Sand Point 64.59 33 IAMs_20 IAMs_20 15 50 10.5
comp=Z,9µm,21.0s
SDPT Sand Point 64.59 33 P P **15 25 03.9 +1.8**
SDPT Sand Point 64.59 33 P P **15 25 01.9 -0.1**
baz=250
POO Poona 64.62 286 *eP* P **15 25 02.9 -0.1**
POO IAmb IAmb 15 25 05.4
comp=Z,94nm,1.0s
TKM2 Tokmak 2 64.73 313 P P **15 25 04.3 +0.7**
SNR=20
TKM2 Tokmak 2 64.73 313 *i* P P **15 25 03.5 0.0**
TKM2 pmax pmax
comp=Z,30nm,1.2s
KZA Kyzart 64.84 312 P P **15 25 07.1 +2.5**
SNR=33
CNBA Chernabura Isl 64.89 34 IAMs_20 IAMs_20 15 46 03.5
comp=Z,9µm,21.0s
CHNA Chernabura Isl 64.90 34 P P **15 25 03.9 -0.1**
baz=251
M13K Dall Lake 65.15 27 P P **15 25 04.0 -1.6**
M13K Dall Lake 65.15 27 P P **15 25 05.5 0.0**
baz=245
KBK Karagaybulak 65.16 312 P P **15 25 07.0 +0.7**
SNR=20
CHMS Chumysh 65.36 313 P P **15 25 08.8 +1.4**
SNR=26
NIL Nilore 65.40 302 P P **15 25 04.1 -3.8**
NIL Nilore 65.40 302 P P **15 25 04.1 -3.8**
NIL pmax pmax
comp=Z,136nm,0.9s
NIL MLR MLR
comp=Z,4µm,20.0s
UCH Uchtor 65.41 312 P P **15 25 09.5 +1.2**
SNR=41
S14K Fog Glacier 65.41 32 P P **15 25 07.8 +0.3**
baz=250
AAK Ala-Archa 65.49 312 P P **15 25 09.9 +1.5**
SNR=13
AAK Ala-Archa 65.49 312 P P **15 25 08.5 +0.1**
AAK Ala-Archa 65.49 312 *i* P P **15 25 09.2 +0.8**
SNR=21
AAK Ala-Archa 65.49 312 P P **15 25 09.1 +0.8**
AAK Ala-Archa 65.49 312 ⇑P P **15 25 09.0 +0.6**
AAK Ala-Archa 65.49 312 *ceP* P **15 25 09.3 +0.9**
AAK pmax pmax
comp=Z,41nm,1.6s
AAK MLR MLR
comp=Z,6µm,19.0s
AAK Ala-Archa 65.49 312 LR LR 15 55 59.9
comp=Z,5µm,19.3s,baz=89,slow=38
SGDS Sogindy 65.52 313 *eP* P **15 25 08.2 -0.3**
baz=313
SGDS Sogindy 65.52 313 *eP* P **15 25 08.1 -0.3**
USP Ospenovka 65.58 313 P P **15 25 10.2 +1.3**
SNR=14
O14K Tigyukauivet M 65.64 29 IAMs_20 IAMs_20 15 48 48.6
comp=Z,12µm,21.0s
O14K Tigyukauivet M 65.64 29 P P **15 25 09.0 +0.3**
baz=247
N14K Kuskokwak Cree 65.71 28 P P **15 25 09.7 +0.5**
baz=247
TNA Tin City 65.79 21 P P **15 25 10.3 +0.7**
baz=238
L14K Kuka Creek 65.84 26 P P **15 25 09.6 -0.4**
L14K IAmb IAmb 15 25 25.8
comp=Z,68nm,0.9s
L14K Kuka Creek 65.84 26 P P **15 25 10.5 +0.4**
baz=245
M14K Bethel 65.92 27 P P **15 25 08.4 -2.2**
M14K IAmb IAmb 15 25 26.7
comp=Z,98nm,1.3s
M14K Bethel 65.92 27 P P **15 25 11.3 +0.7**
baz=246
AML Almayashu 65.99 312 P P **15 25 12.7 +0.8**
SNR=17
AML Almayashu 65.99 312 P P **15 25 12.4 +0.4**
EKS2 Erkin-Say 66.01 312 P P **15 25 12.6 +0.9**
SNR=17
J14K Nanvaranak Lak 66.09 25 P P **15 25 09.3 -2.3**
J14K PcP **PcP** **15 25 41.0 -0.9**
J14K IAmb IAmb 15 25 41.5
comp=Z,97nm,1.4s
J14K IAMs_20 IAMs_20 15 50 32.2
comp=Z,12µm,20.0s
J14K Nanvaranak Lak 66.09 25 P P **15 25 12.5 +0.9**
baz=244
BTLS Baital 66.21 315 *eP* P **15 25 12.6 -0.2**
comp=Z,62nm,1.8s,baz=315
BTLS Baital 66.21 315 *eP* P **15 25 12.5 -0.2**
BTLS pmax pmax
comp=Z,62nm,1.8s
ANM Nome 66.21 23 P P **15 25 11.1 -1.3**
ANM IAmb IAmb 15 25 22.0
comp=Z,42nm,1.0s
ANM Nome 66.21 23 P P **15 25 13.3 +0.9**
baz=241
ANM Nome 66.21 23 P P **15 25 11.1 -1.3**
ANM pmax pmax
comp=Z,42nm,1.0s
O15K Ungalikthiuk R 66.30 29 P P **15 25 13.9 +0.9**
baz=249
F14K Arctic Creek 66.31 21 P P **15 25 13.9 +0.9**
baz=240
ARSB Arslanbob 66.41 311 P P **15 25 14.5 +0.1**
ARSB Arslanbob 66.41 311 P P **15 25 14.5 +0.1**
ARSB pmax pmax
comp=Z,29nm,1.3s
ARSB MLR MLR
comp=Z,2µm,19.0s
M15K Kasigluk River 66.47 27 P P **15 25 14.3 +0.2**
baz=247
L15K Ungalak Mounta 66.50 26 P P **15 25 14.5 +0.1**
baz=246
N15K Kwethluk River 66.54 28 P P **15 25 13.5 -1.1**
N15K IAmb IAmb 15 25 39.3
comp=Z,57nm,1.1s
N15K Kwethluk River 66.54 28 P P **15 25 15.1 +0.5**
baz=248
RAR Rarotonga 66.56 118 IAMs_20 IAMs_20 15 47 48.5
comp=Z,8µm,20.0s
RAR Rarotonga 66.56 118 LR LR 15 50 02.2
comp=Z,5µm,19.4s,baz=287,slow=32
K15K Wolf Creek Mou 66.74 26 IAMs_20 IAMs_20 15 49 51.8
comp=Z,10µm,22.0s
K15K Wolf Creek Mou 66.74 26 P P **15 25 16.3 +0.5**
baz=246
R16K Pilot Point 66.86 31 P P **15 25 17.3 +0.7**
baz=251
G15K Niukluk 66.92 22 P P **15 25 18.0 +1.1**
baz=242
F15K North Star Dit 67.04 22 P P **15 25 15.9 -1.8**
F15K North Star Dit 67.04 22 P P **15 25 18.4 +0.7**
baz=241,SNR=9.5
P16K Nushagak River 67.13 30 P P **15 25 18.9 +0.6**
baz=250
N16K Nishlik Lake 67.26 28 P P **15 25 20.0 +0.7**
baz=249
O16K Kokwok River B 67.27 29 IAMs_20 IAMs_20 15 52 07.8
comp=Z,8µm,18.0s
O16K Kokwok River B 67.27 29 P P **15 25 19.9 +0.7**
baz=250
CHIR Chirikof Island 67.36 33 P P **15 25 20.2 +0.4**
baz=254
M16K Timber Creek 67.37 27 IAMs_20 IAMs_20 15 49 41.5
comp=Z,11µm,20.0s
M16K Timber Creek 67.37 27 P P **15 25 20.4 +0.5**
baz=249
L16K Owhat River 67.40 27 P P **15 25 20.1 +0.1**
L16K IAmb IAmb 15 25 49.6
comp=Z,64nm,1.4s
L16K IAMs_20 IAMs_20 15 50 37.3
comp=Z,9µm,22.0s
L16K Owhat River 67.40 27 P P **15 25 20.3 +0.2**
baz=248,SNR=6.2
H16K Elim 67.45 23 P P **15 25 20.9 +0.6**
baz=244
R17K Ugashik Creek 67.49 31 IAMs_20 IAMs_20 15 53 45.7
comp=Z,12µm,20.0s
R17K Ugashik Creek 67.49 31 P P **15 25 21.2 +0.5**
baz=252
J16K Anvik River 67.53 25 IAMs_20 IAMs_20 15 52 17.7
comp=Z,11µm,20.0s
J16K Anvik River 67.53 25 P P **15 25 22.0 +1.2**
baz=246
Q16K King Salmon 67.67 30 P P **15 25 21.2 -0.6**
baz=252
G16K Koyuk River 67.74 22 P P **15 25 22.2 +0.2**
G16K Koyuk River 67.74 22 P P **15 25 22.4 +0.3**
baz=244
I17K Unalakleet 67.74 24 IAmb IAmb 15 25 35.9
comp=Z,76nm,1.2s
I17K IAMs_20 IAMs_20 15 52 14.2
comp=Z,8µm,20.0s
I17K Unalakleet 67.74 24 P P **15 25 22.5 +0.4**
baz=246,SNR=10
O17K Koliganek Bris 67.81 29 P P **15 25 23.4 +0.8**
baz=251,SNR=8.0
DZA Taraz 67.83 312 *eP* P **15 25 23.4 +0.3**
baz=312
DZA Taraz 67.83 312 *eP* P **15 25 23.4 +0.3**
OTUK Ortayu 67.92 318 P P **15 25 23.2 -0.4**
Q17K Contact Creek 67.93 31 P P **15 25 24.1 +0.5**
baz=253
P17K Kvichak River 67.94 30 P P **15 25 24.1 +0.7**
baz=252
BRZS Berezniki 68.01 320 *eP* P **15 25 23.1 -1.1**
baz=320
BRZS Berezniki 68.01 320 *eP* P **15 25 23.9 -0.3**
N17K Nushagak Hills 68.02 28 IAMs_20 IAMs_20 15 51 49.7
comp=Z,13µm,20.0s
C16K Lisburne Hills 68.07 19 P P **15 25 24.4 +0.3**
C16K IAmb IAmb 15 25 33.6
comp=Z,88nm,1.1s
C16K PcP **PcP** **15 25 56.7 +6.6**
C16K Lisburne Hills 68.07 19 P P **15 25 24.8 +0.7**
baz=240,SNR=6.9
L17K Donlin 68.07 26 P P **15 25 25.3 +1.0**
baz=249
GAR Garm 68.19 308 P P **15 25 25.6 0.0**
GAR IAMs_20 IAMs_20 15 56 55.7
comp=Z,11µm,21.0s
M17K Holitna River 68.20 27 P P **15 25 22.6 -2.5**
M17K IAmb IAmb 15 25 41.2
comp=Z,49nm,0.9s
M17K IAMs_20 IAMs_20 15 50 18.2
comp=Z,9µm,21.0s
M17K Holitna River 68.20 27 P P **15 25 26.0 +0.9**
baz=250,SNR=6.4
K17K Iditarod 68.28 26 P P **15 25 25.4 -0.2**
K17K IAmb IAmb 15 25 39.4
comp=Z,81nm,1.1s
K17K IAMs_20 IAMs_20 15 50 50.6
comp=Z,10µm,21.0s
K17K Iditarod 68.28 26 P P **15 25 26.5 +0.9**
baz=249
SII Sitkinak Islan 68.33 33 P P **15 25 27.0 +1.0**
baz=255
G17K Kiwalik Mounta 68.43 23 P P **15 25 26.8 +0.4**
baz=245
KK31 Karatay Array 68.45 312 IAmb IAmb 15 25 33.1
comp=Z,55nm,1.3s
KK31 Karatay Array 68.45 312 *i* P P **15 25 27.1 0.0**
KKAR Karatay Array 68.45 312 IAmb IAmb 15 25 33.1
comp=Z,55nm,1.3s
KKAR Karatay Array 68.45 312 ⇑P P **15 25 27.4 +0.3**
R18K Karluk 68.46 32 P P **15 25 28.0 +1.2**
baz=254
H17K Granite Mounta 68.48 23 P P **15 25 27.7 +0.9**
baz=246
Q18K Katmai Hardscr 68.48 31 P P **15 25 26.7 -0.3**
baz=253
D17K Noatak River 68.53 20 P P **15 25 27.8 +0.8**
baz=242
P18K Big Mountain, 68.59 30 P P **15 25 27.7 +0.1**
baz=253
F17K Baldwin Pennin 68.61 22 P P **15 25 28.4 +0.9**
baz=244,SNR=14
N18K Kilae Creek 68.67 28 P P **15 25 26.7 -1.4**
N18K IAmb IAmb 15 25 44.7
comp=Z,63nm,1.4s
N18K IAMs_20 IAMs_20 15 53 10.8
comp=Z,14µm,20.0s
N18K Kilae Creek 68.67 28 P P **15 25 29.0 +0.9**
baz=252
E17K Hotham Inlet 68.68 21 P P **15 25 29.2 +1.2**
baz=244,SNR=16
O18K Koktuh Hills 68.74 29 IAmb IAmb 15 25 56.8
comp=Z,54nm,1.1s
O18K Koktuh Hills 68.74 29 P P **15 25 29.1 +0.6**
baz=253,SNR=5.4
RDOG Red Dog Mine 68.76 20 P P **15 25 29.3 +0.8**
baz=242,SNR=7.6
L18K Granite Mounta 68.81 27 P P **15 25 28.4 -0.4**
L18K IAmb IAmb 15 25 59.3
comp=Z,65nm,1.4s
L18K IAMs_20 IAMs_20 15 51 20.4
comp=Z,10µm,21.0s
L18K Granite Mounta 68.81 27 P P **15 25 30.1 +1.2**
baz=250
KBU Kabul Universi 68.86 303 P P **15 25 29.8 -0.2**
C17K DeLong Mountai 68.87 19 P P **15 25 29.8 +0.6**
baz=242,SNR=6.0
KBL Kabul 68.94 303 P P **15 25 30.7 +0.2**
KBL IAmb IAmb 15 25 50.9
comp=Z,41nm,1.1s
KBL Kabul 68.94 303 P P **15 25 31.1 +0.6**
SNR=18
KBL Kabul 68.94 303 P P **15 25 30.7 +0.2**
KBL pmax pmax
comp=Z,41nm,1.1s
KBL MLR MLR
comp=Z,5µm,22.0s
SVW2 Sparrevohn 68.95 28 IAmb IAmb 15 25 45.6
comp=Z,33nm,0.8s
SVW2 IAMs_20 IAMs_20 15 52 49.7
comp=Z,12µm,20.0s
SVW2 Sparrevohn 68.95 28 P P **15 25 31.4 +1.6**
M18K Stony River 68.96 28 P P **15 25 30.6 +0.8**
baz=252
OHAK Old Harbor 68.98 32 IAMs_20 IAMs_20 15 52 58.4
comp=Z,11µm,20.0s
OHAK Old Harbor 68.98 32 P P **15 25 30.5 +0.5**
baz=255
CHGR Chuyangaron 69.07 308 IAMs_20 IAMs_20 15 57 04.9
comp=Z,13µm,20.0s
H18K Honhosa River 69.17 23 P P **15 25 30.3 -0.7**
H18K IAmb IAmb 15 25 40.5
comp=Z,58nm,1.1s
H18K Honhosa River 69.17 23 P P **15 25 31.7 +0.7**
baz=248
J18K Innoko River 69.22 25 P P **15 25 31.0 -0.5**
J18K IAMs_20 IAMs_20 15 49 57.2
comp=Z,11µm,22.0s
J18K Innoko River 69.22 25 P P **15 25 31.8 +0.3**
baz=250
Q19K Cape Douglas, 69.24 30 IAMs_20 IAMs_20 15 51 04.2
comp=Z,10µm,22.0s
Q19K Cape Douglas, 69.24 30 P P **15 25 31.8 +0.1**
baz=254
E18K Tukpahlearik C 69.26 21 P P **15 25 31.0 -0.5**
E18K Tukpahlearik C 69.26 21 P P **15 25 32.9 +1.3**
baz=245
O19K Port Alsworth 69.27 29 IAmb IAmb 15 25 47.8
comp=Z,65nm,1.4s
O19K IAMs_20 IAMs_20 15 51 02.7
comp=Z,9µm,21.0s
O19K Port Alsworth 69.27 29 P P **15 25 32.3 +0.5**
baz=253
G18K Tagagawik 69.34 23 P P **15 25 32.3 +0.1**
G18K IAmb IAmb 15 25 41.8
comp=Z,91nm,1.1s
G18K Tagagawik 69.34 23 P P **15 25 32.7 +0.6**
baz=247
TTA Tatalina 69.34 26 IAMs_20 IAMs_20 15 51 34.5
comp=Z,9µm,22.0s
TTA Tatalina 69.34 26 P P **15 25 33.3 +1.0**
TTA Tatalina 69.34 26 P P **15 25 32.7 +0.4**
baz=251,SNR=9.0
TTA Tatalina 69.34 26 ⇓P P **15 25 33.2 +1.0**
N19K Bonanza Creek 69.37 28 IAMs_20 IAMs_20 15 53 02.3
comp=Z,12µm,20.0s
N19K Bonanza Creek 69.37 28 P P **15 25 33.6 +1.1**
baz=253,SNR=5.1
KDAK Kodiak Island 69.49 32 P P **15 25 33.6 +0.5**
baz=256
KDAK Kodiak Island 69.49 32 LR LR 15 53 07.4
comp=Z,5µm,20.7s,baz=266,slow=34
C18K Utukok River 69.59 19 IAmb IAmb 15 25 43.2
comp=Z,69nm,1.1s
C18K Utukok River 69.59 19 P P **15 25 34.1 +0.4**
baz=244,SNR=22
GCSA Galena City Sc 69.61 24 P P **15 25 34.4 +0.7**
baz=249,SNR=14
L19K White Mountain 69.61 27 P P **15 25 33.3 -0.6**
L19K IAmb IAmb 15 25 50.4
comp=Z,73nm,1.3s
L19K IAMs_20 IAMs_20 15 51 12.6
comp=Z,11µm,21.0s
L19K White Mountain 69.61 27 P P **15 25 34.7 +0.8**
baz=252
P19K Oil Pt 69.64 30 IAMs_20 IAMs_20 15 55 32.7
comp=Z,9µm,20.0s
P19K Oil Pt 69.64 30 P P **15 25 33.7 -0.5**
baz=255
B18K Kokolik River 69.72 19 P P **15 25 35.1 +0.8**
baz=243
ILSW Illamna Southw 69.78 29 IAMs_20 IAMs_20 15 50 45.2
comp=Z,9µm,21.0s
Q20K Shuyak Island 69.79 31 P P **15 25 35.0 0.0**
baz=256
SYI Shuyak Island 69.79 31 IAMs_20 IAMs_20 15 54 12.6
comp=Z,9µm,19.0s
J19K Poorman 69.86 25 IAmb IAmb 15 25 48.9
comp=Z,36nm,0.9s
J19K IAMs_20 IAMs_20 15 50 39.3
comp=Z,11µm,22.0s
J19K Poorman 69.86 25 P P **15 25 36.0 +0.7**
baz=251
BVA0 Borovoye Array 69.98 323 *i* P P **15 25 34.8 -1.5**
BVAR Borovoye Array 69.98 323 P P **15 25 36.0 -0.3**
comp=Z,36nm,0.8s,baz=105,slow=7.7,SNR=67
BVAR LR LR 15 57 23.7
comp=Z,5µm,19.3s,baz=95,slow=37
comp=Z,36nm,0.8s
G19K Purcell Mounta 70.03 23 P P **15 25 36.1 -0.3**
G19K Purcell Mounta 70.03 23 P P **15 25 37.2 +0.8**
baz=249
F19K Shaleruckik Mo 70.03 22 P P **15 25 36.7 +0.4**
baz=248
BRVK Borovoye 70.05 323 P P **15 25 35.8 -0.9**
BRVK IAmb IAmb 15 25 48.9
comp=Z,46nm,0.8s
BRVK Borovoye 70.05 323 IAMs_20 IAMs_20 15 56 02.7
comp=Z,7µm,19.0s
BRVK Borovoye 70.05 323 P P **15 25 36.6 -0.1**
BRVK Borovoye 70.05 323 ⇑P P **15 25 36.8 +0.1**
BRVK Borovoye 70.05 323 *i* P P **15 25 36.6 -0.1**
BRVK pmax pmax
comp=Z,49nm,0.8s
BRVK MLR MLR
comp=Z,7µm,19.0s
O20K Slope Mountain 70.05 29 P P **15 25 36.6 -0.1**
baz=255
H19K Roundabout Mou 70.05 23 P P **15 25 36.1 -0.4**
H19K Roundabout Mou 70.05 23 P P **15 25 37.5 +1.1**
baz=250
L20K Farewell, AK 70.14 27 P P **15 25 37.6 +0.5**
baz=253
M20K Styx River 70.30 28 P P **15 25 38.2 0.0**
M20K IAmb IAmb 15 26 17.4
comp=Z,122nm,1.4s
M20K IAMs_20 IAMs_20 15 51 36.1
comp=Z,13µm,21.0s
M20K Styx River 70.30 28 P P **15 25 39.2 +1.0**
baz=254
K20K Telida 70.32 26 IAMs_20 IAMs_20 15 52 14.1
comp=Z,9µm,22.0s
K20K Telida 70.32 26 P P **15 25 39.0 +0.8**
baz=252
C19K Lookout Ridge 70.32 19 IAMs_20 IAMs_20 15 56 09.9
comp=Z,9µm,20.0s
C19K Lookout Ridge 70.32 19 P P **15 25 39.2 +1.1**
baz=245,SNR=28
A19K Wainwright 70.33 18 P P **15 25 39.0 +0.9**
baz=243
HOM Homer 70.42 30 P P **15 25 38.7 -0.2**
baz=256
E19K Redstone River 70.46 21 P P **15 25 40.0 +1.0**
baz=248
J20K Nowinta River 70.53 25 IAMs_20 IAMs_20 15 53 30.8
comp=Z,7µm,19.0s
J20K Nowinta River 70.53 25 P P **15 25 40.8 +1.3**
baz=252
N20K Mount Spurr 70.54 28 P P **15 25 40.2 +0.5**
baz=255
D19K Kuna River 70.56 20 IAMs_20 IAMs_20 15 54 03.3
comp=Z,7µm,20.0s
D19K Kuna River 70.56 20 P P **15 25 40.6 +1.0**
baz=247
I20K Naaghedeneel 70.59 24 IAMs_20 IAMs_20 15 54 21.5
comp=Z,8µm,19.0s
I20K Naaghedeneel 70.59 24 P P **15 25 41.0 +1.3**
baz=252
H20K Anotleneega Mo 70.66 24 P P **15 25 41.3 +1.1**
baz=251
F20K Avaraart Lake 70.86 22 IAmb IAmb 15 25 51.6
comp=Z,71nm,1.1s
F20K Avaraart Lake 70.86 22 P P **15 25 42.4 +1.0**
baz=250,SNR=30
BRSE Bradley Lake S 70.89 30 P P **15 25 41.7 0.0**
baz=257
CAPN Captain Cook N 70.93 29 P P **15 25 41.8 -0.2**
baz=256
PPLA Purkeypile 71.00 27 P P **15 25 43.0 +0.4**
baz=254
E20K Nigu River 71.13 21 P P **15 25 44.1 +0.9**
baz=249
D20K Etivluk River 71.15 20 P P **15 25 43.7 +0.5**
baz=248
CAST Castle Rocks 71.19 26 IAmb IAmb 15 26 01.2
comp=Z,39nm,0.8s
CAST IAMs_20 IAMs_20 15 52 42.3
comp=Z,9µm,22.0s
CAST Castle Rocks 71.19 26 P P **15 25 43.9 +0.4**
baz=254,SNR=24
CHUM Lake Minchumin 71.22 26 P P **15 25 44.5 +0.9**
baz=254,SNR=14
SUA Susitna One 71.29 28 IAMs_20 IAMs_20 15 54 03.2
comp=Z,8µm,20.0s
SUA Susitna One 71.29 28 P P **15 25 44.3 0.0**
baz=256,SNR=11
B20K Meade River 71.46 19 P P **15 25 46.1 +1.1**
baz=247,SNR=22
FIS Fire Island 71.46 29 IAMs_20 IAMs_20 15 53 18.7
comp=Z,9µm,20.0s
G21K Allakaket 71.52 23 P P **15 25 46.2 +0.8**
baz=252
H21K Melozitna Rive 71.53 24 IAMs_20 IAMs_20 15 55 01.9
comp=Z,8µm,19.0s
H21K Melozitna Rive 71.53 24 P P **15 25 46.7 +1.2**
baz=253
O22K Cooper Landing 71.55 29 IAMs_20 IAMs_20 15 56 54.1
comp=Z,8µm,20.0s
O22K Cooper Landing 71.55 29 P P **15 25 45.7 0.0**
baz=258
SEW Seward 71.60 30 P P **15 25 46.1 +0.2**
baz=258
M22K Willow 71.65 28 IAMs_20 IAMs_20 15 54 24.6
comp=Z,8µm,20.0s

M22K	**Willow** baz=257,SNR=10	71.65	28	P	P		15 25 45.7	-0.5	
RC01	**Rabbit Creek A** comp=Z,12µm,21.0s	71.68	29	IAMs_20	IAMs_20		15 54 09.4		
RC01	**Rabbit Creek A** baz=257,SNR=10.0	71.68	29	P	P		15 25 46.5	0.0	
I21K	**Tanana** comp=Z,9µm,20.0s	71.72	24	IAMs_20	IAMs_20		15 54 37.2		
I21K	**Tanana** baz=254,SNR=29	71.72	24	P	P		15 25 47.6	+1.0	
KTH	**Kantishna Hill** comp=Z,67nm,1.0s	71.73	26	IAmb	IAmb		15 25 51.7		
KTH	comp=Z,9µm,21.0s			IAMs_20	IAMs_20		15 52 57.5		
CUT	**Chulitna** comp=Z,13µm,22.0s	71.74	27	IAMs_20	IAMs_20		15 52 19.9		
CUT	**Chulitna** baz=256	71.74	27	P	P		15 25 46.5	-0.3	
F21K	**Alatna River** baz=252,SNR=21	71.75	22	P	P		15 25 47.3	+0.5	
BPAW	**Bear Paw Mtn.** comp=Z,55nm,1.0s	71.84	26	IAmb	IAmb		15 25 52.2		
BPAW	comp=Z,8µm,22.0s			IAMs_20	IAMs_20		15 51 28.5		
BPAW	**Bear Paw Mtn.** baz=255,SNR=37	71.84	26	P	P		15 25 47.8	+0.3	
C21K	**Knifeblade Rid** baz=250	71.93	20	P	P		15 25 49.1	+1.2	
E21K	**Killik River** baz=251	71.96	21	P	P		15 25 49.1	+1.0	
TRF	**Thorofare Moun** comp=Z,48nm,0.8s	71.98	26	IAmb	IAmb		15 26 10.6		
TRF	comp=Z,10µm,21.0s			IAMs_20	IAMs_20		15 51 13.2		
TRF	**Thorofare Moun** baz=256,SNR=16	71.98	26	P	P		15 25 48.0	-0.5	
PMR	**Palmer** comp=Z,35nm,0.8s	72.08	28	IAmb	IAmb		15 26 02.0		
PMR	comp=Z,10µm,22.0s			IAMs_20	IAMs_20		15 52 42.9		
PMR	**Palmer** baz=258,SNR=12	72.08	28	P	P		15 25 48.6	-0.2	
A21K	**Barrow** baz=248	72.14	18	P	P		15 25 49.3	+0.3	
B21K	**Ikpikpuk River** comp=Z,81nm,1.1s	72.14	20	IAmb	IAmb		15 25 59.7		
B21K	**Ikpikpuk River** baz=250,SNR=20	72.14	20	P	P		15 25 49.8	+0.7	
H22K	**Ishtalitna Cre** baz=254,SNR=28	72.16	24	P	P		15 25 50.4	+1.1	
MLY	**Manley** comp=Z,63nm,1.1s	72.19	25	IAmb	IAmb		15 25 54.5		
MLY	**Manley** baz=255,SNR=43	72.19	25	P	P		15 25 50.1	+0.6	
GHO	**Glory Hole Cre** comp=Z,44nm,0.9s	72.21	28	IAmb	IAmb		15 25 53.8		
GHO	comp=Z,11µm,22.0s			IAMs_20	IAMs_20		15 52 47.4		
PWL	**Port Wells** comp=Z,11µm,21.0s	72.30	29	IAMs_20	IAMs_20		15 54 27.9		
PWL	**Port Wells** baz=259,SNR=17	72.30	29	P	P		15 25 50.5	+0.3	
F22K	**John River** baz=253	72.31	22	P	P		15 25 51.7	+1.5	
KNK	**Knik Glacier** comp=Z,12µm,20.0s	72.35	29	IAMs_20	IAMs_20		15 55 00.2		
KNK	**Knik Glacier** baz=258,SNR=15	72.35	29	P	P		15 25 50.9	+0.3	
G22K	**Bettles** baz=254	72.40	23	P	P		15 25 51.7	+1.0	
SML	**Sawmill** comp=Z,11µm,22.0s	72.49	28	IAMs_20	IAMs_20		15 52 56.9		
SML	**Sawmill** baz=258,SNR=13	72.49	28	P	P		15 25 51.6	+0.2	
BWN	**Browne** comp=Z,8µm,21.0s	72.51	26	IAMs_20	IAMs_20		15 51 49.9		
A22K	**Sinclair Lake** baz=249	72.52	18	P	P		15 25 52.6	+1.3	
D22K	**Ayikyak River** comp=Z,8µm,20.0s	72.55	20	IAMs_20	IAMs_20		15 55 57.0		
D22K	**Ayikyak River** baz=252,SNR=22	72.55	20	P	P		15 25 52.7	+1.1	
P23K	**Montague Islan** baz=260	72.59	30	P	P		15 25 52.5	+0.6	
RND	**Reindeer** comp=Z,62nm,1.2s	72.60	26	IAmb	IAmb		15 26 11.3		
RND	comp=Z,9µm,22.0s			IAMs_20	IAMs_20		15 53 48.4		
WAT1	**Susitna Watana** baz=258	72.61	27	P	P		15 25 51.6	-0.5	
E22K	**Anaktuvuk Pass** baz=253,SNR=42	72.63	21	P	P		15 25 53.1	+1.0	
MCK	**McKinley** baz=257,SNR=24	72.63	26	P	P		15 25 52.2	0.0	
M23K	**Glacier View** baz=259,SNR=11	72.77	28	P	P		15 25 53.5	+0.4	
NEA2	**Nenana** baz=257,SNR=19	72.77	25	P	P		15 25 53.3	+0.4	
B22K	**Teshekpuk Lake** comp=Z,104nm,1.2s	72.78	19	IAmb	IAmb		15 26 03.3		
B22K	**Teshekpuk Lake** baz=251,SNR=34	72.78	19	P	P		15 25 53.3	+0.5	
I23K	**Minto, Yukon-K** comp=Z,12µm,22.0s	72.78	25	IAMs_20	IAMs_20		15 52 18.1		
I23K	**Minto, Yukon-K** baz=256,SNR=38	72.78	25	P	P		15 25 53.6	+0.6	
GLI	**Glacier Island** comp=Z,12µm,21.0s	72.90	29	IAMs_20	IAMs_20		15 55 29.7		
GLI	**Glacier Island** baz=260	72.90	29	P	P		15 25 54.2	+0.4	
G23K	**Bananza Creek** comp=Z,8µm,22.0s	72.91	23	IAMs_20	IAMs_20		15 52 23.6		
G23K	**Bananza Creek** baz=255	72.91	23	P	P		15 25 55.0	+1.2	
WAT6	**Susitna Watana** baz=259,SNR=34	72.92	27	P	P		15 25 53.9	-0.1	
SCM	**Sheep Creek Mo** comp=Z,10µm,21.0s	72.96	28	IAMs_20	IAMs_20		15 53 11.4		
SCM	**Sheep Creek Mo** baz=259,SNR=20	72.96	28	P	P		15 25 55.3	+1.0	
COLD	**Coldfoot** baz=255,SNR=68	72.97	22	P	P		15 25 55.5	+1.4	
Q23K	**Middleton Isla** baz=261	73.02	31	P	P		15 25 55.0	+0.5	
HIN	**Hinchinbrook I** comp=Z,10µm,20.0s	73.10	30	IAMs_20	IAMs_20		15 58 13.2		
DHY	**Denali Highway** comp=Z,11µm,21.0s	73.18	27	IAMs_20	IAMs_20		15 54 10.0		
DHY	**Denali Highway** baz=259,SNR=19	73.18	27	P	P		15 25 55.8	+0.1	
MDM	**Murphy Dome** comp=Z,7µm,20.0s	73.20	25	IAMs_20	IAMs_20		15 55 33.5		
D23K	**Nanushuk River** baz=254	73.27	21	P	P		15 25 56.2	+0.4	
CCB	**Clear Creek Bu** comp=Z,11µm,22.0s	73.31	25	IAMs_20	IAMs_20		15 52 35.4		
COLA	**College** comp=Z,7µm,21.0s	73.34	25	IAMs_20	IAMs_20		15 53 44.0		
COLA	**College**	73.34	25	P	P		15 25 56.1	-0.2	
COLA	**College** baz=258	73.34	25	P	P		15 25 55.9	-0.4	
COLA	**College**	73.34	25	⇑P	P		15 25 55.9	-0.4	
COLA	**College**	73.34	25	P	P		15 25 55.9	-0.4	
E23K	**Chandalar** baz=255,SNR=143	73.40	22	P	P		15 25 57.9	+1.1	
EYAK	**Cordova Ski Ar**	73.50	30	P	P		15 25 59.2	+1.9	
EYAK	**Cordova Ski Ar** baz=261	73.50	30	P	P		15 25 58.0	+0.7	
C23K	**Itkillik River** comp=Z,7µm,20.0s	73.54	20	IAMs_20	IAMs_20		15 57 34.0		
C23K	**Itkillik River** baz=254	73.54	20	P	P		15 25 58.4	+1.0	
H24K	**Noodor Dome** comp=Z,6µm,19.0s	73.54	24	IAMs_20	IAMs_20		15 55 53.1		
H24K	**Noodor Dome** baz=258	73.54	24	P	P		15 25 58.2	+0.6	
M24K	**Tolsona, Glenn** comp=Z,77nm,0.9s	73.55	28	IAmb	IAmb		15 26 50.0		
M24K	comp=Z,11µm,22.0s			IAMs_20	IAMs_20		15 53 30.7		
M24K	**Tolsona, Glenn** baz=260,SNR=9.6	73.55	28	P	P		15 25 58.6	+0.9	
KLU	**Klutina** comp=Z,10µm,21.0s	73.56	29	IAMs_20	IAMs_20		15 55 19.2		
KLU	**Klutina** baz=261,SNR=19	73.56	29	P	P		15 25 58.6	+0.8	
POKR	**Poker Plat Res** comp=Z,10µm,22.0s	73.57	25	IAMs_20	IAMs_20		15 52 43.0		
POKR	**Poker Plat Res** baz=258,SNR=13	73.57	25	P	P		15 25 57.9	+0.2	
TOLK	**Toolik Lake Re** comp=Z,46nm,0.8s	73.57	21	IAmb	IAmb		15 26 13.7		
TOLK	comp=Z,8µm,21.0s			IAMs_20	IAMs_20		15 54 55.7		
TOLK	**Toolik Lake Re** baz=258,SNR=28	73.57	21	P	P		15 25 58.7	+1.0	
HDA	**Harding Lake** comp=Z,8µm,22.0s	73.63	26	IAMs_20	IAMs_20		15 53 18.7		
HDA	**Harding Lake** baz=259	73.63	26	P	P		15 25 57.2	-0.8	
HDA	baz=259			P	P		15 25 57.2	-0.8	
ILAR	**Eielson Array** comp=Z,18nm,0.8s,baz=246,slow=5.8,SNR=135	73.73	25	P	P		15 25 57.2	-1.3	
ILAR	comp=Z,6µm,21.9s,baz=244,slow=32 comp=Z,18nm,0.8s			LR	LR		15 54 07.3		
E24K	**Your Creek** baz=256	73.82	22	P	P		15 25 59.9	+0.8	
G24K	**Hadweenzic Riv** baz=258	73.89	23	P	P		15 26 00.8	+1.3	
F24K	**Squaw Lake** baz=257	73.91	22	P	P		15 26 00.8	+1.1	
D24K	**Happy Valley** baz=256,SNR=52	73.96	21	P	P		15 26 01.0	+1.1	
RAGM	**Ragged Mountai** comp=Z,11µm,22.0s	74.00	30	IAMs_20	IAMs_20		15 53 43.7		
PAX	**Paxson** baz=261,SNR=27	74.02	27	P	P		15 26 00.7	+0.3	
K24K	**Donnelly Dome** baz=260,SNR=20	74.02	26	P	P		15 26 00.5	+0.1	
KAIM	**Kayak Island** baz=262	74.06	30	P	P		15 26 01.5	+0.9	
HARP	**HAARP** baz=261,SNR=19	74.07	28	P	P		15 26 01.5	+0.9	
BMRM	**Bremner River** baz=262,SNR=24	74.11	29	P	P		15 26 01.6	+0.6	
C24K	**Franklin Bluff** baz=256,SNR=30	74.15	20	P	P		15 26 01.9	+1.0	
HMT	**Hamilton** comp=Z,10µm,22.0s	74.19	30	IAMs_20	IAMs_20		15 53 36.9		
J25K	**Salcha River,** comp=Z,7µm,21.0s	74.34	26	IAMs_20	IAMs_20		15 52 55.4		
J25K	**Salcha River,** baz=260	74.34	26	P	P		15 26 01.9	-0.3	
SUCK	**Suckling Hills** comp=Z,10µm,21.0s	74.40	30	IAMs_20	IAMs_20		15 54 42.4		
RIDG	**Independent Ri** comp=Z,10µm,22.0s	74.42	26	IAMs_20	IAMs_20		15 54 45.6		
RIDG	**Independent Ri** baz=261,SNR=29	74.42	26	P	P		15 26 03.2	+0.5	
PRP	**Porcupine Dome** comp=Z,7µm,19.0s	74.43	25	IAMs_20	IAMs_20		15 56 09.8		
PRP	**Porcupine Dome** baz=260,SNR=11	74.43	25	P	P		15 26 03.4	+0.5	
G25K	**Bearman Lake** baz=259	74.44	23	P	P		15 26 04.0	+1.3	
PPT	**Papeete** comp=Z,71nm,1.1s,baz=329,slow=4.3,SNR=4.5	74.52	111	P	P		15 26 06.7	+2.6	
PPT	comp=Z,9µm,21.2s,baz=259,slow=30 comp=Z,71nm,1.1s			LR	LR		15 51 46.4		
PPT2	**Papeete2** comp=Z,595nm,14.2s	74.53	111	*e*PKIKP	P		15 26 00.3	-3.9	
PPT2	comp=Z,3µm,27.5s			*e*S	S		15 35 37.7	-1.6	
PPT2	comp=Z,2µm,26.2s			*e*SS	SS		15 40 34.2	+7.7	
PPT2	comp=Z,9µm,26.8s			eLQ	LQ		15 45 47.2		
PPT2	comp=Z,26µm,24.2s			eLR	LR		15 48 39.7		
PPT2	comp=Z,20µm,28.2s			eLR	LR		15 48 48.8		
PPTF	**Pamatai, Papee** comp=Z,10µm,20.0s	74.54	111	IAMs_20	IAMs_20		15 52 26.6		
HRA	**Herat** comp=Z,53nm,1.1s	74.56	303	IAmb	IAmb		15 26 10.5		
GLB	**Gilahina Butte** comp=Z,66nm,1.1s	74.56	29	IAmb	IAmb		15 26 05.7		
GLB	comp=Z,10µm,20.0s			IAMs_20	IAMs_20		15 57 14.5		
VRDI	**Verde Repeater** comp=Z,9µm,20.0s	74.70	29	IAMs_20	IAMs_20		15 57 17.3		
F25K	**Christian Rive** baz=259	74.77	22	P	P		15 26 06.1	+1.4	
CRQM	**Cirque** comp=Z,10µm,22.0s	74.80	30	IAMs_20	IAMs_20		15 53 59.4		
MENT	**Mentasta** comp=Z,8µm,22.0s	74.80	27	IAMs_20	IAMs_20		15 54 49.8		
CRQE	**Cirque** baz=263	74.82	30	P	P		15 26 05.9	+0.7	
SCRK	**Sand Creek** baz=262,SNR=20	74.83	26	P	P		15 26 05.6	+0.4	
D25K	**Kavik River** baz=258	74.85	21	P	P		15 26 06.0	+0.9	
SNH	**Sunshine Point** comp=Z,10µm,22.0s	74.88	30	IAMs_20	IAMs_20		15 54 34.1		
E25K	**Arctic Village** comp=Z,118nm,1.2s	74.90	22	IAmb	IAmb		15 26 16.6		
E25K	**Arctic Village** baz=259,SNR=38	74.90	22	P	P		15 26 06.6	+1.2	
WAX	**Waxell Ridge** comp=Z,7µm,22.0s	74.90	30	IAMs_20	IAMs_20		15 55 00.7		
MCARA	**McCarthy VSAT** comp=Z,7µm,20.0s	74.93	29	IAMs_20	IAMs_20		15 57 25.3		
MCARA	**McCarthy VSAT** baz=263,SNR=11	74.93	29	P	P		15 26 06.2	+0.5	
TGL	**Tana Glacier** comp=Z,10µm,21.0s	74.95	30	IAMs_20	IAMs_20		15 54 02.8		
L26K	**Log Cabin Wild** comp=Z,10µm,22.0s	74.98	27	IAMs_20	IAMs_20		15 54 55.6		
L26K	**Log Cabin Wild** baz=262,SNR=23	74.98	27	P	P		15 26 06.7	+0.7	
M26K	**Nabesna, AK** baz=263	75.06	28	P	P		15 26 07.2	+0.7	
J26L	**Joseph Creek** comp=Z,7µm,21.0s	75.09	26	IAMs_20	IAMs_20		15 54 05.3		
J26L	**Joseph Creek** baz=262	75.09	26	P	P		15 26 07.3	+0.7	
ISLE	**Juniper Island** comp=Z,7µm,22.0s	75.17	30	IAMs_20	IAMs_20		15 54 57.8		
MESA	**MESA** baz=264	75.32	30	P	P		15 26 08.7	+0.5	
F26K	**Sheenjek River** baz=260,SNR=81	75.35	22	P	P		15 26 09.4	+1.3	
I26K	**Coal Creek Min** comp=Z,8µm,22.0s	75.38	25	IAMs_20	IAMs_20		15 53 47.1		
I26K	**Coal Creek Min** baz=262	75.38	25	P	P		15 26 08.1	-0.1	
GRNC	**Granite Creek** comp=Z,7µm,19.0s	75.47	30	IAMs_20	IAMs_20		15 59 40.6		
C26K	**Camden Bay** baz=259,SNR=57	75.47	20	P	P		15 26 10.3	+1.7	
BARN	**Barnard Glacie** comp=Z,8µm,20.0s	75.55	29	IAMs_20	IAMs_20		15 57 03.7		
M27K	**Edge Creek, AK** comp=Z,11µm,21.0s	75.58	28	IAMs_20	IAMs_20		15 55 51.3		
M27K	**Edge Creek, AK** baz=264	75.58	28	P	P		15 26 10.5	+0.9	
K27K	**Chicken** comp=Z,6µm,19.0s	75.67	26	IAMs_20	IAMs_20		15 58 18.7		
K27K	**Chicken** baz=263	75.67	26	P	P		15 26 11.5	+1.6	
L27K	**Beaver Creek,** comp=Z,10µm,20.0s	75.68	27	IAMs_20	IAMs_20		15 57 01.9		
L27K	**Beaver Creek,** baz=264	75.68	27	P	P		15 26 11.2	+1.3	
CTG	**Chitna Glacier** baz=265,SNR=11	75.69	30	P	P		15 26 11.5	+1.2	
CTGM	**Chitina Glacie** comp=Z,63nm,0.8s	75.70	30	IAmb	IAmb		15 26 22.6		
CTGM	comp=Z,9µm,21.0s			IAMs_20	IAMs_20		15 57 19.6		
TABL	**Table Mountain** comp=Z,7µm,19.0s	75.75	30	IAMs_20	IAMs_20		16 00 47.9		
LOGN	**Logan Glacier** comp=Z,7µm,20.0s	75.85	30	IAMs_20	IAMs_20		15 59 52.6		
NGCH	**Negor - Chabah**	76.00	294	P	P		15 26 15.2	+2.6	
SVE	**Sverdlovsk**	76.01	326	*e*P	P		15 26 12.2	+0.3	
SVE				*e*S	S		15 35 54.8	+0.4	
SVE	comp=Z,39nm,1.4s			pmax	pmax				
SVE	comp=E,11µm,20.0s			MLR	MLR				
SVE				MLR	MLR				
	comp=Z,14µm,20.0s								
I27K	**Kandik River** baz=263	76.05	25	P	P		15 26 13.0	+0.9	
BVCY	**Beaver Creek** baz=265,SNR=21	76.06	28	P	P		15 26 13.0	+0.9	
EGAK	**Eagle** baz=264,SNR=20	76.15	26	P	P		15 26 13.2	+0.6	
EGAK	**Eagle**	76.15	26	⇑P	P		15 26 13.2	+0.6	
PINM	**Pinnacle** baz=266	76.16	30	P	P		15 26 13.9	+1.1	
H27K	**Steamboat Moun** baz=263	76.16	24	P	P		15 26 14.0	+1.3	
AB31	**Akbulak array**	76.17	318	*i* P	P		15 26 10.9	-2.1	
ABKAR	**Akbulak array**	76.17	318	⇓P	P		15 26 12.4	-0.6	
G27K	**Doyon Strip** baz=263,SNR=13	76.18	24	P	P		15 26 13.8	+1.0	
YUK3	**Moose Creek** baz=265,SNR=29	76.19	29	P	P		15 26 14.3	+1.2	
TBI	**Tubuai** comp=Z,1µm,25.2s	76.27	117	*e*P	P		15 26 07.3	-6.7	
TBI	comp=Z,9µm,34.2s			*e*S	S		15 35 51.7	-6.7	
TBI	comp=Z,7µm,26.8s			*e*SS	SS		15 40 46.8	-5.9	
TBI	comp=Z,43µm,27.5s			eLQ	LQ		15 46 38.0		
TBI	comp=Z,105µm,32.5s			eLR	LR		15 49 44.0		
TBI	comp=Z,19µm,31.8s			eLR	LR		15 49 48.1		
E27K	**Coleen River** baz=263	76.38	22	P	P		15 26 15.2	+1.3	
BCPM	**Bancas Point** comp=Z,7µm,20.0s	76.46	31	IAMs_20	IAMs_20		15 58 43.9		
YUK8	**Steele Glacier** baz=266,SNR=18	76.48	29	P	P		15 26 16.1	+1.2	
PNL	**Peninsula** comp=Z,91nm,2.0s	76.56	31	P	P		15 26 16.3	+1.2	
PNL	**Peninsula** baz=267	76.56	31	P	P		15 26 16.4	+1.3	
I28M	**Miner Creek** comp=Z,41nm,0.8s	76.73	25	IAmb	IAmb		15 26 32.8		
I28M	comp=Z,11µm,22.0s			IAMs_20	IAMs_20		15 54 29.9		
I28M	**Miner Creek** baz=265,SNR=39	76.73	25	P	P		15 26 17.0	+1.0	
D27M	**Malcolm River** baz=263	76.74	21	P	P		15 26 17.1	+1.2	
DAWY	**Dawson** comp=Z,84nm,1.2s	76.85	26	IAmb	IAmb		15 26 26.7		
DAWY	**Dawson** baz=266,SNR=39	76.85	26	P	P		15 26 17.8	+1.1	
F28M	**Old Crow** comp=Z,61nm,0.9s	76.96	23	IAmb	IAmb		15 26 34.7		
F28M	**Old Crow** baz=265,SNR=41	76.96	23	P	P		15 26 18.5	+1.3	
O29M	**Mount Kennedy** baz=267	77.01	30	P	P		15 26 19.0	+1.3	
YUK4	**Talbot Arm** baz=267,SNR=15	77.03	29	P	P		15 26 19.9	+2.0	
ARU	**Arti**	77.14	326	P	P		15 26 18.2	-0.1	
ARU	**Arti**	77.14	326	*ce*P	P		15 26 18.1	-0.2	
ARU	comp=Z,36nm,1.3s			pmax	pmax				
ARU	comp=Z,13µm,20.0s			MLR	MLR				
ARU	**Arti** comp=Z,13µm,21.4s,baz=86,slow=36	77.14	326	LR	LR		16 01 04.3		
YUK6	**Outpost Mounta** baz=268,SNR=8.1	77.14	30	P	P		15 26 19.8	+1.2	
M29M	**Somme Creek**	77.17	28	P	P		15 26 16.9	-1.7	
M29M	comp=Z,80nm,1.1s			IAmb	IAmb		15 26 30.8		
M29M	comp=Z,9µm,21.0s			IAMs_20	IAMs_20		15 56 51.4		
M29M	**Somme Creek** baz=267	77.17	28	P	P		15 26 20.0	+1.5	
E28M	**Babbage River** comp=Z,138nm,1.6s	77.18	22	IAmb	IAmb		15 26 28.7		
E28M	**Babbage River** baz=265,SNR=53	77.18	22	P	P		15 26 19.4	+1.0	
L29M	**L29M**	77.36	27	P	P		15 26 20.2	+0.7	
L29M	comp=Z,87nm,1.2s			IAmb	IAmb		15 26 22.7		
L29M	comp=Z,8µm,22.0s			IAMs_20	IAMs_20		15 56 18.6		
L29M	**L29M** baz=267	77.36	27	P	P		15 26 21.0	+1.4	
P29M	**Windy Craggy** baz=268,SNR=11	77.40	31	P	P		15 26 21.0	+1.2	
I29M	**Ogilvie Camp,** comp=Z,54nm,1.1s	77.41	25	IAmb	IAmb		15 26 29.6		
I29M	comp=Z,9µm,21.0s			IAMs_20	IAMs_20		15 57 34.5		
I29M	**Ogilvie Camp,** baz=266,SNR=24	77.41	25	P	P		15 26 20.7	+1.0	
AKTO	**Aktyubinsk**	77.42	320	P	P		15 26 18.5	-1.6	
AKTO	**Aktyubinsk** comp=Z,5µm,20.0s,baz=86,slow=37	77.42	320	LR	LR		16 01 31.0		
H29M	**Whitestone** comp=Z,9µm,21.0s	77.44	24	IAMs_20	IAMs_20		15 58 36.4		
H29M	**Whitestone** baz=266	77.44	24	P	P		15 26 20.9	+1.1	
D28M	**Stokes Point** baz=265	77.53	21	P	P		15 26 21.2	+1.0	
HYT	**Haines Junctio** comp=Z,51nm,0.9s	77.56	30	IAmb	IAmb		15 26 33.5		
HYT	comp=Z,6µm,21.0s			IAMs_20	IAMs_20		15 55 46.9		
HYT	**Haines Junctio** baz=268,SNR=21	77.56	30	P	P		15 26 22.0	+1.2	
G29M	**Pine Creek**	77.62	24	P	P		15 26 21.7	+0.8	
G29M	comp=Z,75nm,0.9s			IAmb	IAmb		15 26 38.6		
G29M	comp=Z,7µm,19.0s			IAMs_20	IAMs_20		15 59 59.3		
G29M	**Pine Creek** baz=266	77.62	24	P	P		15 26 22.2	+1.3	
K29M	**Barlow Dome** comp=Z,53nm,0.9s	77.67	27	IAmb	IAmb		15 26 35.3		
K29M	comp=Z,8µm,21.0s			IAMs_20	IAMs_20		15 57 52.4		
K29M	**Barlow Dome** baz=268,SNR=39	77.67	27	P	P		15 26 22.4	+1.1	
GEYT	**Alibeck**	77.75	307	P	P		15 26 22.6	+0.4	
GEYT	**Alibeck**	77.75	307	P	P		15 26 22.6	+0.4	
GEYT	comp=Z,164nm,1.4s			pmax	pmax				
GEYT	**Alibeck** comp=Z,14nm,0.9s,baz=90,slow=3.1,SNR=30	77.75	307	P	P		15 26 23.1	+0.9	
GEYT	comp=Z,3µm,19.6s,baz=104,slow=39 comp=Z,14nm,0.9s			LR	LR		16 04 49.1		
E29M	**Blow River** baz=266,SNR=14	77.77	22	P	P		15 26 22.4	+0.7	
N30M	**Aishikik Lake** comp=Z,10µm,20.0s	77.78	29	IAMs_20	IAMs_20		15 58 15.7		
N30M	**Aishikik Lake** baz=268,SNR=18	77.78	29	P	P		15 26 23.1	+1.2	
P30M	**Million Dollar** baz=269	77.81	31	P	P		15 26 23.4	+1.3	
JLN	**Jalan Bani Buh**	77.87	291	P	P		15 26 23.5	+0.4	
M30M	**Minto, Yukon** comp=Z,55nm,1.2s	77.95	28	IAmb	IAmb		15 26 25.7		
M30M	comp=Z,9µm,22.0s			IAMs_20	IAMs_20		15 56 06.0		
M30M	**Minto, Yukon** baz=268,SNR=18	77.95	28	P	P		15 26 23.9	+1.1	
EPYK	**Eagle Plains** comp=Z,70nm,1.2s	78.11	24	IAmb	IAmb		15 26 34.3		
EPYK	comp=Z,10µm,22.0s			IAMs_20	IAMs_20		15 55 35.0		
EPYK	**Eagle Plains** baz=268,SNR=16	78.11	24	P	P		15 26 24.4	+0.8	
S31K	**Pelican** baz=270	78.16	33	P	P		15 26 24.1	+0.1	
I30M	**Mount Dempster** comp=Z,53nm,1.2s	78.21	25	P	P		15 26 23.1	-1.2	
I30M	comp=Z,6µm,20.0s			IAmb	IAmb		15 26 34.2		
I30M	**Mount Dempster** baz=268	78.21	25	P	P		15 26 25.0	+0.7	
J30M	**Hart River** comp=Z,7µm,20.0s	78.21	26	IAMs_20	IAMs_20		16 00 05.8		
J30M	**Hart River** baz=268,SNR=29	78.21	26	P	P		15 26 25.6	+1.3	
WBK	**Wadi Bani Khal**	78.23	291	P	P		15 26 24.2	-0.9	

O30N	Mendenhall	78.25	30	P	P	15 26 24.4	-0.2		
O30N	Mendenhall	78.25	30	P	P	15 26 25.0	+0.5		
	baz=270,SNR=8.1								
G30M	tAoh Zraii Nji	78.33	24	IAMs_20	IAMs_20	16 06 10.1			
	comp=Z,6µm,18.0s								
G30M	tAoh Zraii Nji	78.33	24	P	P	15 26 25.1	+0.2		
	baz=268								
MAYO	Mayo, Yukon	78.38	27	IAMs_20	IAMs_20	15 59 05.4			
	comp=Z,6µm,20.0s								
MAYO	Mayo, Yukon	78.38	27	P	P	15 26 26.3	+1.1		
	baz=269,SNR=12								
N31M	Braeburn, Yuko	78.41	29	IAmb	IAmb	15 26 38.2			
	comp=Z,89nm,1.1s								
N31M	Braeburn, Yuko	78.41	29	P	P	15 26 26.3	+1.0		
	baz=270,SNR=14								
R31K	City Hall, Gus	78.42	32	P	P	15 26 25.1	-0.3		
	baz=270								
WSAR	Wadi Sarin	78.48	292	P	P	15 26 27.6	+1.1		
WSAR	Wadi Sarin	78.48	292	LR	LR	16 02 13.9			
	comp=Z,1µm,21.8s,baz=106,slow=37								
F30M	Barrier River	78.52	23	P	P	15 26 26.7	+0.8		
	baz=268,SNR=16								
SKAG	Skagway	78.63	31	IAmb	IAmb	15 26 52.5			
	comp=Z,91nm,1.3s								
SKAG	Skagway	78.63	31	P	P	15 26 28.8	+2.3		
SKAG	Skagway	78.63	31	P	P	15 26 27.5	+0.9		
	baz=270,SNR=11								
SKAG	Skagway	78.63	31	⇓P	P	15 26 28.2	+1.7		
SIT	Sitka	78.66	34	P	P	15 26 27.4	+0.7		
	baz=271								
WHY	Whitehorse	78.84	30	IAmb	IAmb	15 26 42.0			
	comp=Z,69nm,1.1s								
WHY	Whitehorse	78.84	30	P	P	15 26 28.8	+1.0		
	baz=271,SNR=14								
JASK	Jask - Hormozg	78.90	294	P	P	15 26 31.3	+2.5		
BIDO	Bidbid	78.91	292	P	P	15 26 29.6	+0.8		
	SNR=8.3								
SMDO	Samad	79.03	292	P	P	15 26 31.0	+1.4		
JMDO	Jabal Madar	79.05	291	P	P	15 26 30.7	+1.0		
S32K	Killisnoo	79.05	33	P	P	15 26 29.6	+0.7		
	baz=272								
M31M	Drury Creek, Y	79.06	28	P	P	15 26 28.6	-0.4		
M31M	Drury Creek, Y	79.06	28	P	P	15 26 29.6	+0.6		
	baz=271,SNR=21								
R32K	Eaglecrest	79.07	32	P	P	15 26 29.5	+0.5		
R32K				IAmb	IAmb	15 28 58.7			
	comp=Z,133nm,1.5s								
R32K	Eaglecrest	79.07	32	P	P	15 26 29.5	+0.5		
	baz=271								
H31M	Peel River	79.07	25	P	P	15 26 29.8	+0.9		
H31M				IAmb	IAmb	15 26 45.5			
	comp=Z,111nm,1.6s								
H31M				IAMs_20	IAMs_20	15 56 02.6			
	comp=Z,10µm,22.0s								
G31M	Satah River	79.10	24	IAMs_20	IAMs_20	15 59 47.3			
	comp=Z,6µm,20.0s								
G31M	Satah River	79.10	24	P	P	15 26 29.4	+0.4		
	baz=270,SNR=41								
JIS	Juneau Island	79.14	32	P	P	15 26 31.4	+2.1		
CASY	Casey	79.14	192	P	P	15 26 28.8	-0.3		
CASY				IAmb	IAmb	15 26 31.2			
	comp=Z,103nm,1.3s								
F31M	Tsiigehtchic	79.31	23	P	P	15 26 30.5	+0.4		
	baz=270,SNR=13								
MHTO	MHTO	79.33	290	P	P	15 26 31.8	+0.6		
	SNR=22								
INK	Inuvik	79.38	22	P	P	15 26 30.3	-0.2		
	baz=270,SNR=20								
INK	Inuvik	79.38	22	⇑P	P	15 26 30.3	-0.2		
INK	Inuvik	79.38	22	LR	LR	16 00 52.2			
	comp=Z,2µm,20.6s,baz=247,slow=35								
P32M	Atlin	79.45	31	IAMs_20	IAMs_20	15 57 53.0			
	comp=Z,7µm,20.0s								
P32M	Atlin	79.45	31	P	P	15 26 31.6	+0.5		
	baz=272,SNR=5.8								
FARO	Faro, Yukon	79.55	28	P	P	15 26 32.4	+0.7		
FARO	Faro, Yukon	79.55	28	P	P	15 26 32.1	+0.5		
	baz=272,SNR=13								
HOQ	Hoqain	79.64	292	P	P	15 26 33.8	+1.0		
	SNR=16								
N32M	Quiet Lake	79.71	29	P	P	15 26 33.7	+1.1		
	baz=272								
BSY	Bisya	79.84	291	P	P	15 26 33.9	0.0		
DQM	DQM	79.86	289	P	P	15 26 34.6	+0.5		
	SNR=10								
P33M	Teslin, Yukon	79.88	30	P	P	15 26 33.3	-0.2		
P33M				IAMs_20	IAMs_20	16 00 08.3			
	comp=Z,9µm,20.0s								
P33M	Teslin, Yukon	79.88	30	P	P	15 26 34.2	+0.7		
	baz=272,SNR=7.2								
U33K	Whale Pass	79.90	35	P	P	15 26 34.2	+0.6		
	baz=273								
CRAG	Craig	79.94	35	P	P	15 26 34.6	+0.9		
	baz=273								
T33K	Petersburg	79.96	34	P	P	15 26 34.7	+0.9		
	baz=273								
Q32M	Nakina River	80.22	32	P	P	15 26 36.1	+0.6		
	baz=273								
SOHO	SOHO	80.29	293	*i* P	P	15 26 36.7	+0.4		
	SNR=12								
SOHO	SOHO	80.29	293	P	P	15 26 37.1	+0.8		
WRAK	Wrangell Islan	80.32	34	P	P	15 26 36.9	+1.1		
	baz=274								
ARQ	Araqi	80.39	292	P	P	15 26 36.9	-0.1		
	SNR=17								
SHME	Shamm	80.42	295	P	P	15 26 38.4	+1.4		
MASF	Masafi	80.48	294	P	P	15 26 39.5	+2.0		
	SNR=10								
MSFE	Esma-Masafi	80.49	294	*i* P	P	15 26 38.5	+1.1		
	SNR=9.0								
UOSS	Minazif	80.49	294	P	P	15 26 35.0	-2.5		
UOSS	Minazif	80.49	294	P	P	15 26 38.1	+0.6		
UOSS	Minazif	80.49	294	P	P	15 26 36.1	-1.3		
UOSS	Minazif	80.49	294	⇑P	P	15 26 37.9	+0.5		
HATD	Hatta, Dubai	80.57	294	*i* P	P	15 26 38.9	+1.0		
	SNR=6.9								
HATD	Hatta, Dubai	80.57	294	P	P	15 26 39.1	+1.2		
	SNR=8.0								
ASHO	Ashiyiah	80.66	293	*i* P	P	15 26 39.5	+1.1		
	SNR=6.1								
ASHO	Ashiyiah	80.66	293	P	P	15 26 38.9	+0.5		
	SNR=7.3								
V35K	Ketchikan	80.80	35	P	P	15 26 39.4	+0.9		
	baz=274								
R33M	Jennings River	80.86	31	P	P	15 26 40.0	+1.1		
	baz=274								
S34M	Telegraph Cree	80.88	33	P	P	15 26 39.7	+0.9		
	baz=274,SNR=9.3								
NAZ	Nazwa, Dubai	80.98	294	P	P	15 26 41.2	+1.2		
NAZ	Nazwa, Dubai	80.98	294	P	P	15 26 41.6	+1.6		
ALNE	Al Ain	81.01	293	*i* P	P	15 26 41.2	+1.0		
	SNR=10								
ALNE	Al Ain	81.01	293	P	P	15 26 41.0	+0.8		
	SNR=16								
FAQ	Al Faqa, Dubai	81.07	294	P	P	15 26 41.1	+0.6		
FAQ	Al Faqa, Dubai	81.07	294	P	P	15 26 41.3	+0.8		
ASUD	Al Ashush, Dub	81.32	294	P	P	15 26 38.4	-3.5		
TAOE	Nuku Hiva Isla	81.42	101	IAMs_20	IAMs_20	15 55 19.4			
	comp=Z,8µm,21.0s								
TAOE	Nuku Hiva Isla	81.42	101	*e*PKIKP	P	15 26 30.8	-12		
	comp=Z,349nm,24.9s								
TAOE	Nuku Hiva Isla	81.42	101	*e*S	S	15 36 46.3	-7.6		
	comp=Z,2µm,41.1s								
TAOE				*e*SS	SS	15 42 21.0	+10		
	comp=Z,1µm,23.4s								
TAOE				*e*LQ	LQ	15 48 28.1			
	comp=Z,6µm,21.8s								
TAOE				*e*LR	LR	15 52 10.1			
	comp=Z,13µm,24.3s								
DLBC	Dease Lake	81.42	32	IAmb	IAmb	15 26 57.8			
	comp=Z,108nm,1.6s								
DLBC	Dease Lake	81.42	32	P	P	15 26 42.9	+1.1		
	baz=275,SNR=18								
DLBC	Dease Lake	81.42	32	LR	LR	15 59 48.9			
	comp=Z,4µm,21.7s,baz=290,slow=34								
T35M	Bob Quinn	81.43	34	P	P	15 26 43.1	+1.3		
	baz=275								
AJN	Ajban	81.64	293	P	P	15 26 44.6	+1.1		
U35K	Hyder	81.65	35	IAMs_20	IAMs_20	16 06 36.6			
	comp=Z,6µm,19.0s								
U35K	Hyder	81.65	35	P	P	15 26 44.2	+1.3		
	baz=276								
WTLY	Watson Lake, Y	81.89	30	P	P	15 26 45.2	+1.0		
WTLY				IAmb	IAmb	15 26 47.0			
	comp=Z,91nm,1.2s								
WTLY				IAMs_20	IAMs_20	16 01 29.5			
	comp=Z,7µm,20.0s								
WTLY	Watson Lake, Y	81.89	30	P	P	15 26 45.4	+1.2		
	baz=276,SNR=25								
GRNB	Grenville Isla	81.89	37	IAMs_20	IAMs_20	15 58 10.2			
	comp=Z,6µm,18.0s								
A36M	Sachs Harbour	81.96	18	P	P	15 26 44.6	+0.4		
	baz=278,SNR=39								
KIRV	Kirov	81.98	328	*d* P	P	15 26 45.4	+0.8		
KIRV	Kirov	81.98	328	LR	LR	16 04 15.4			
	comp=Z,7µm,21.9s,baz=80,slow=36								
DMTO	DMTO	82.58	287	P	P	15 26 50.0	+1.4		
C36M	Paulatuk	82.72	21	IAmb	IAmb	15 26 57.2			
	comp=Z,54nm,1.2s								
C36M	Paulatuk	82.72	21	P	P	15 26 48.0	-0.2		
	baz=279,SNR=24								
BBB	Bella Bella	83.19	38	LR	LR	15 58 11.7			
	comp=Z,10µm,20.3s,baz=281,slow=32								
RBK	Rabkut	83.31	287	P	P	15 26 52.2	-0.2		
LIRD	Liard River Hi	83.33	31	P	P	15 26 52.7	+1.0		
	baz=278,SNR=19								
HOLB	Holberg	83.38	40	IAMs_20	IAMs_20	15 57 21.0			
	comp=Z,10µm,20.0s								
PRGR	Permogore	83.47	331	*e*P	P	15 26 52.3	0.0		
PRGR				pmax	pmax				
	comp=Z,42nm,0.9s								
WHFO	Wadi Hawf	83.66	287	P	P	15 26 54.5	+0.3		
WRGLY	Wrigley	83.98	27	IAmb	IAmb	15 27 31.0			
	comp=Z,47nm,1.2s								
WRGLY				IAMs_20	IAMs_20	16 00 05.3			
	comp=Z,6µm,22.0s								
WRGLY	Wrigley	83.98	27	P	P	15 26 55.6	+0.8		
	baz=280,SNR=11								
ABTO	Aybut	84.19	287	P	P	15 26 58.3	+1.3		
KOTAN	Kotaneelee Air	84.24	30	P	P	15 26 57.2	+0.9		
	baz=280								
FLDN	Fort Liard	84.50	30	P	P	15 26 58.4	+0.8		
	baz=280								
LKRN	Lenkeran, Azer	84.97	308	P	P	15 27 00.0	-0.4		
MAK	Makhachkala	85.27	313	*e*P	P	15 26 57.2	-4.6		
MAK				*e*		15 30 13.7			
MAK				*e*PPP	PPP	15 32 08.7			
MAK				*e*		15 37 19.1			
MAK				*e*SSS	SSS	15 46 35.9			
MAK				pmax	pmax				
	comp=Z,325nm,1.3s								
MSEY	Mahe Island	85.67	265	P	P	15 27 03.9	-0.5		
MSEY				IAmb	IAmb	15 27 07.4			
	comp=Z,103nm,1.2s								
MSEY	Mahe Island	85.67	265	P	P	15 27 04.5	0.0		
MSEY	Mahe Island	85.67	265	P	P	15 27 04.1	-0.3		
MSEY	Mahe Island	85.67	265	P	P	15 27 03.9	-0.5		
MSEY				pmax	pmax				
	comp=Z,103nm,1.3s								
SEKA	Sheki	85.78	311	P	P	15 27 03.4	-1.1		
MNGR	Mingechevir, A	85.93	311	P	P	15 27 04.7	-0.5		
C03A	Quillayute Air	86.11	42	IAMs_20	IAMs_20	15 59 26.5			
	comp=Z,7µm,19.0s								
ZKTA	Zakatala	86.13	311	P	P	15 27 05.7	-0.5		
CLRS	Cowichan Lake	86.23	41	IAmb	IAmb	15 27 43.7			
	comp=Z,67nm,1.4s								
CLRS				IAMs_20	IAMs_20	15 59 32.6			
	comp=Z,6µm,20.0s								
KLMR	Klimovskoe	86.52	331	*e*P	P	15 27 03.7	-3.9		
KLMR				*e*P	P	15 27 03.7	-3.9		
KLMR				*e*P	P	15 27 03.7	-3.9		
KLMR				AMP		15 27 12.0			
	comp=Z,46nm,1.6s								
KLMR				S	SKSac	15 37 28.0	-5.5		
KLMR				S	SKSac	15 37 28.0	-5.5		
KLMR				LQ	LQ	15 57 40.9			
KLMR				LQ	LQ	15 57 40.9			
KLMR				LR	LR	16 03 50.5			
KLMR				AMP		16 07 44.1			
	comp=Z,8µm,18.7s								
KLMR	Klimovskoe	86.52	331	*e*P	P	15 27 03.7	-3.9		
KLMR				S	SKSac	15 37 27.9	-5.5		
KLMR				pmax	pmax				
	comp=Z,46nm,1.6s								
KLMR				MLR	MLR				
	comp=Z,8µm,19.0s								
GANJ	Ganja	86.52	310	P	P	15 27 07.6	-0.6		
NLWA	Neilton Lookou	86.68	43	P	P	15 27 09.4	+0.6		
NLWA				IAmb	IAmb	15 27 21.2			
	comp=Z,88nm,1.2s								
NLWA	Neilton Lookou	86.68	43	⇑P	P	15 27 10.3	+1.6		
PGC	Sidney	86.71	41	IAmb	IAmb	15 27 43.8			
	comp=Z,41nm,1.1s								
B04A	Port Angeles	86.79	42	P	P	15 27 09.5	+0.3		
B04A				IAmb	IAmb	15 27 46.8			
	comp=Z,112nm,1.5s								
SPITS	Spitsbergen Ar	86.81	350	P	P	15 27 09.3	+0.5		
	comp=Z,31nm,1.1s,baz=72,slow=4.7,SNR=2.9								
SPITS				LR	LR	16 06 47.4			
	comp=Z,7µm,20.0s,baz=11,slow=36								
	comp=Z,31nm,1.1s								
E03A	Lebam	87.05	43	P	P	15 27 11.7	+1.1		
E03A				IAMs_20	IAMs_20	16 00 33.4			
	comp=Z,5µm,20.0s								
KBS	Kingsbay	87.06	351	IAMs_20	IAMs_20	16 06 37.3			
	comp=Z,7µm,19.0s								
APA	Apatity	87.15	338	⇓*i* P	P	15 27 17.7	+7.1		
APA				*i* PPP	PPP	15 32 35.0			
APA				*i* SS	SS	15 43 38.0	+5.9		
APA				pmax	pmax				
	comp=Z,12nm,0.9s								
F03A	Seaside	87.17	44	IAMs_20	IAMs_20	15 57 17.8			
	comp=Z,6µm,22.0s								
HEBO	Mount Hebo	87.18	45	IAMs_20	IAMs_20	15 58 10.0			
	comp=Z,7µm,21.0s								
KEBM	Edson Butte	87.22	47	IAMs_20	IAMs_20	15 57 27.4			
	comp=Z,7µm,22.0s								
GNW	Green Mountain	87.34	42	IAmb	IAmb	15 27 48.8			
	comp=Z,54nm,1.1s								
GNW				IAMs_20	IAMs_20	15 58 14.0			
	comp=Z,6µm,21.0s								
NAX	Nakhchivan	87.42	309	P	P	15 27 12.0	-0.6		
KBO	Bosley Butte	87.42	48	IAMs_20	IAMs_20	15 58 40.9			
	comp=Z,6µm,21.0s								
J01E	Myrtle Point	87.45	47	IAMs_20	IAMs_20	15 57 45.6			
	comp=Z,6µm,22.0s								
G03D	McMinnville, O	87.52	45	IAMs_20	IAMs_20	15 58 31.0			
	comp=Z,7µm,22.0s								
VRH	Novokhopyorsk	87.58	321	*e*P	P	15 27 08.8	-4.2		
VRH				pmax	pmax				
	comp=Z,30nm,1.4s								
K02D	Willamette Mer	87.73	47	IAMs_20	IAMs_20	16 00 31.1			
	comp=Z,6µm,20.0s								
KSXB	Camp Six Broad	87.75	48	IAmb	IAmb	15 27 30.8			
	comp=Z,102nm,1.7s								
KSXB				IAMs_20	IAMs_20	16 04 10.7			
	comp=Z,6µm,19.0s								
I03D	Drain, OR	87.76	46	P	P	15 27 14.4	+0.4		
I03D				IAMs_20	IAMs_20	15 58 29.7			
	comp=Z,7µm,21.0s								
KRPM	Rodgers	87.78	49	IAMs_20	IAMs_20	16 00 29.4			
	comp=Z,5µm,20.0s								
KRMB	Red Mountain	87.79	48	IAMs_20	IAMs_20	15 57 55.7			
	comp=Z,7µm,22.0s								
GNI	Garni	87.80	310	P	P	15 27 11.9	-2.6		
GNI	Garni	87.80	310	P	P	15 27 14.0	-0.6		
GNI	Garni	87.80	310	*i* P	P	15 27 14.4	-0.2		
GNI				pmax	pmax				
	comp=Z,101nm,1.6s								
GNI				MLR	MLR				
	comp=Z,3µm,19.0s								
GNI	Garni	87.80	310	LR	LR	16 10 13.8			
	comp=Z,2µm,20.1s,baz=82,slow=38								
JCC	Jacoby Creek,	87.84	49	IAMs_20	IAMs_20	15 57 45.0			
	comp=Z,8µm,22.0s								
KMPM	Mount Pierce	87.85	49	IAMs_20	IAMs_20	15 57 45.4			
	comp=Z,8µm,20.0s								
NOR	Nord	87.86	357	*i* P	P	15 27 12.8	-1.0		
NOR				IAmb	IAmb	15 27 23.3			
	comp=Z,43nm,1.5s								
ZEI	Tsey	87.90	313	*e*P	P	15 27 13.2	-1.8		
ZEI				pmax	pmax				
	comp=Z,58nm,1.4s								
BUCK	Buck Mountain	87.92	46	P	P	15 27 15.0	+0.1		
BUCK				IAmb	IAmb	15 27 52.8			
	comp=Z,68nm,1.1s								
BUCK				IAMs_20	IAMs_20	16 00 48.7			
	comp=Z,6µm,20.0s								
L02F	Cave Junction	87.92	48	IAMs_20	IAMs_20	15 58 22.0			
	comp=Z,8µm,22.0s								
F04A	Amboy	87.95	44	P	P	15 27 14.6	-0.3		
DBO	Dodson Butte	87.95	47	IAMs_20	IAMs_20	15 58 13.8			
	comp=Z,8µm,21.0s								
B06A	Marblemount	88.01	41	IAMs_20	IAMs_20	15 59 21.7			
	comp=Z,6µm,21.0s								
H04D	Lebanon	88.02	45	IAMs_20	IAMs_20	15 58 26.5			
	comp=Z,6µm,22.0s								
KHMM	Horse Mountain	88.05	49	IAmb	IAmb	15 27 34.7			
	comp=Z,48nm,1.2s								
KHMM				IAMs_20	IAMs_20	15 57 40.6			
	comp=Z,8µm,22.0s								
YKAW3	Yellowknife Wh	88.07	27	IAMs_20	IAMs_20	16 08 53.4			
	comp=Z,4µm,20.0s								
YKA	Yellowknife Ar	88.09	27	P	P	15 27 15.4	+0.2		
	comp=Z,11nm,0.7s,baz=289,slow=5.4,SNR=84								
YKA				LR	LR	16 07 59.2			
	comp=Z,3µm,19.4s,baz=284,slow=36								
	comp=Z,11nm,0.7s								
YKAW1	Yellowknife Wh	88.15	27	IAMs_20	IAMs_20	16 01 38.6			
	comp=Z,6µm,22.0s								
LON	Longmire	88.19	43	IAMs_20	IAMs_20	15 59 49.5			
	comp=Z,7µm,21.0s								
KMRM	Mail Ridge	88.19	50	IAmb	IAmb	15 27 45.1			
	comp=Z,56nm,1.4s								
VNDA	Vanda	88.23	175	P	P	15 27 15.2	-0.3		
VNDA				IAmb	IAmb	15 27 19.1			
	comp=Z,51nm,1.6s								
VNDA				IAMs_20	IAMs_20	16 05 11.1			
	comp=Z,6µm,21.0s								
VNDA	Vanda	88.23	175	P	P	15 27 15.2	-0.3		
VNDA				pmax	pmax				
	comp=Z,51nm,1.7s								
VNDA				MLR	MLR				
	comp=Z,6µm,21.0s								
VNDA	Vanda	88.23	175	P	P	15 27 16.8	+1.3		
	comp=Z,4.3nm,1.0s,baz=336,slow=4.6,SNR=18								
VNDA				LR	LR	16 05 21.0			
	comp=Z,6µm,20.3s,baz=348,slow=35								
	comp=Z,4.3nm,1.0s								
ONI	Oni	88.27	313	IAmb	IAmb	15 27 31.1			
	comp=Z,37nm,1.1s								
H04A	Detroit Lake	88.38	45	P	P	15 27 17.0	0.0		
H04A				IAmb	IAmb	15 27 31.8			
	comp=Z,56nm,1.3s								
KCPM	Cahto Peak	88.39	50	IAMs_20	IAMs_20	16 00 53.0			
	comp=Z,6µm,20.0s								
I04A	Tendick Farm,	88.41	46	P	P	15 27 16.6	-0.6		
I04A				IAmb	IAmb	15 27 42.7			
	comp=Z,88nm,1.7s								
KBZ	Khabaz	88.43	314	*i* P	P	15 27 17.5	+0.3		
KBZ				pmax	pmax				
	comp=Z,19nm,1.5s								
KBZ				MLR	MLR				
	comp=Z,3µm,18.0s								
KBZ	Khabaz	88.43	314	P	P	15 27 16.8	-0.4		
	comp=Z,1.6nm,0.8s,baz=99,slow=9.7,SNR=4.2								
KBZ				LR	LR	16 10 42.1			
	comp=Z,4µm,19.3s,baz=60,slow=38								
	comp=Z,1.6nm,0.8s								
AKH	Akhalkalaki	88.48	312	P	P	15 27 16.7	-1.1		
AKH	Akhalkalaki	88.48	312	P	P	15 27 16.7	-1.1		
AKH				pmax	pmax				
	comp=Z,90nm,1.0s								
KIV	Kislovodsk	88.53	314	*e*P	P	15 27 18.2	+0.4		
KIV				*e*		15 37 46.9			
KIV				*e*SS	SS	15 43 54.4	+0.7		
KIV				pmax	pmax				
	comp=Z,10.0nm,1.0s								
HOOD	Mount Hood Mea	88.61	44	P	P	15 27 17.4	-0.8		
HOOD				IAmb	IAmb	15 27 30.0			
	comp=Z,37nm,0.9s								
YBH	Yreka Blue Hor	88.62	48	IAMs_20	IAMs_20	15 58 00.8			
	comp=Z,7µm,22.0s								
YBH	Yreka Blue Hor	88.62	48	LR	LR	16 00 32.1			
	comp=Z,5µm,20.3s,baz=276,slow=31								
L04D	Klamath Falls	88.82	47	IAMs_20	IAMs_20	15 59 01.8			
	comp=Z,8µm,22.0s								
MOS	Moscow	88.82	326	*e*P	P	15 27 16.2	-2.6		
MOS				*e*		15 30 43.8			
MOS				*e*		15 37 40.0			
MOS				*e*S	S	15 38 09.2	+3.6		
MOS				*e*PS	PnS	15 39 01.9	-8.2		
MOS				pmax	pmax				
	comp=Z,35nm,0.8s								
MOS				MLR	MLR				
	comp=N,6µm,21.0s								
MOS				MLR	MLR				
	comp=E,8µm,21.0s								
MOS				MLR	MLR				
	comp=Z,12µm,21.0s								
LTY	Liberty	88.83	42	IAMs_20	IAMs_20	16 00 44.6			
	comp=Z,7µm,20.0s								
HOPS	Hopland Field	88.92	51	P	P	15 27 19.3	-0.4		
HOPS				IAmb	IAmb	15 27 35.1			
	comp=Z,39nm,1.3s								
HOPS				IAMs_20	IAMs_20	16 04 26.0			
	comp=Z,5µm,19.0s								
LPSR	Galich'ya Gora	88.92	323	*e*P	P	15 27 15.2	-4.1		
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
KARS	Kars	88.95	311	P	P	15 27 19.6	-0.3		
KARS	Kars	88.95	311	P	P	15 27 19.6	-0.3		
KARS				pmax	pmax				
	comp=Z,198nm,1.2s								
KARS				MLR	MLR				
	comp=Z,13µm,20.0s								
SBA	Scott Base	88.96	175	P	P	15 27 20.4	+1.5		
SBA				IAmb	IAmb	15 27 24.0			
	comp=Z,99nm,1.6s								
SBA	Scott Base	88.96	175	IAMs_20	IAMs_20	16 05 03.4			
	comp=Z,6µm,20.0s								
SBA	Scott Base	88.96	175	P	P	15 27 20.4	+1.5		
SBA				pmax	pmax				
	comp=Z,99nm,1.6s								
VORR	Voronezh	89.00	322	*e*P	P	15 27 16.2	-3.5		
VORR				pmax	pmax				
	comp=Z,21nm,1.5s								
RES	Resolute Bay	89.04	13	LR	LR	16 09 49.7			

comp=Z,7µm,22.0s
HAWA Hanford 89.80 43 ⇓P **P** **15 27 25.1 +1.4**
ORV Oroville 90.00 50 P **P** **15 27 23.7 -1.0**
ORV IAmb IAmb 15 27 39.7
comp=Z,54nm,1.4s
ORV Oroville 90.00 50 P **P** **15 27 23.7 -1.0**
ORV pmax pmax
comp=Z,54nm,1.4s
D08A Wollman Farm, 90.04 42 IAmb IAmb 15 28 01.3
comp=Z,47nm,1.5s
D08A IAMs_20 IAMs_20 16 01 40.4
comp=Z,5µm,20.0s
E08A Dider Farm, El 90.09 43 IAmb IAmb 15 27 41.0
comp=Z,51nm,1.5s
E08A IAMs_20 IAMs_20 15 59 16.8
comp=Z,6µm,22.0s
SIRT Sirnak 90.11 308 IAMs_20 IAMs_20 16 15 57.8
comp=Z,9µm,20.0s
C09A Chrisman Ranch 90.27 41 IAMs_20 IAMs_20 16 00 31.5
comp=Z,6µm,22.0s
I07A Izee 90.39 45 IAMs_20 IAMs_20 16 04 22.0
comp=Z,6µm,20.0s
G08A Pilot Rock 90.46 44 IAMs_20 IAMs_20 16 00 58.8
comp=Z,5µm,22.0s
AFDM Forest Hills D 90.53 50 IAmb IAmb 15 27 42.6
comp=Z,35nm,1.2s
SAO San Andreas Ge 90.66 53 IAMs_20 IAMs_20 16 05 18.2
comp=Z,6µm,20.0s
E09A Wood Farm, Sta 90.69 43 IAmb IAmb 15 27 43.9
comp=Z,42nm,1.3s
E09A IAMs_20 IAMs_20 16 02 00.8
comp=Z,6µm,21.0s
SOC Sochi 90.70 314 *e*P **P** **15 27 24.8 -3.1**
SOC *e* 15 31 02.3
SOC *e*S **SKSac** **15 37 55.8 -3.4**
NEW Newport 90.89 41 IAMs_20 IAMs_20 16 02 32.8
comp=Z,9µm,21.0s
NEW Newport 90.89 41 P **P** **15 27 29.0 +0.3**
baz=286
NEW Newport 90.89 41 ⇑P **P** **15 27 29.4 +0.6**
NEW ⇑P **pP** **15 27 32.4 -1.2**
NEW Newport 90.89 41 LR LR 16 02 33.8
comp=Z,9µm,20.3s,baz=287,slow=32
BBGB Big Mountain B 91.02 53 IAMs_20 IAMs_20 16 05 28.8
comp=Z,5µm,20.0s
CMB Columbia Colle 91.19 51 IAmb IAmb 15 27 45.6
comp=Z,35nm,1.1s
CMB IAMs_20 IAMs_20 16 02 06.1
comp=Z,6µm,20.0s
PLTX Planet X, Gerl 91.24 48 IAMs_20 IAMs_20 15 59 57.1
comp=Z,7µm,22.0s
PMPB Monarch Peak 91.29 53 IAMs_20 IAMs_20 15 59 29.0
comp=Z,5µm,21.0s
WVOR Wild Horse Val 91.41 47 IAMs_20 IAMs_20 16 00 50.3
comp=Z,7µm,22.0s
WVOR Wild Horse Val 91.41 47 ⇑P **P** **15 27 32.3 +0.9**
WVOR ⇓P **PcP** **15 27 32.9 +0.6**
F10A Beach Ranch, E 91.45 43 IAMs_20 IAMs_20 16 00 40.9
comp=Z,5µm,21.0s
PNTR Pine Nut 91.54 50 IAmb IAmb 15 27 47.9
comp=Z,39nm,1.0s
PAHR Pah Rah Range 91.55 49 IAMs_20 IAMs_20 16 00 16.3
comp=Z,6µm,22.0s
EDM Edmonton 91.69 35 IAmb IAmb 15 27 43.6
comp=Z,38nm,1.1s
EDM IAMs_20 IAMs_20 16 09 15.1
comp=Z,6µm,19.0s
BMO Blue Mountains 91.71 44 IAmb IAmb 15 28 09.0
comp=Z,34nm,1.2s
BMO IAMs_20 IAMs_20 16 02 49.8
comp=Z,6µm,20.0s
BMO Blue Mountains 91.71 44 ⇑P **P** **15 27 33.2 +0.6**
WAKR Walker 91.80 51 IAMs_20 IAMs_20 16 06 21.2
comp=Z,6µm,18.0s
ANN Anapa 91.97 316 *e*P **P** **15 27 33.6 -0.1**
ANN *e*PS **PS** **15 39 43.8 -2.8**
ANN pmax pmax
comp=Z,76nm,1.0s
ANN MLR MLR
comp=Z,8µm,23.0s
SMMC Simmler 92.14 54 P **P** **15 27 35.7 +0.9**
baz=284
VOG Valley Oaks Go 92.38 53 P **P** **15 27 36.9 +1.1**
baz=284
PKM Mcpherson Peak 92.38 54 P **P** **15 27 36.9 +0.8**
baz=284
FINES FINESS Array B 92.44 334 P **P** **15 27 34.5 -1.0**
comp=Z,2.1nm,0.5s,baz=64,slow=4.4,SNR=12
FINES LR LR 16 12 19.6
comp=Z,4µm,18.2s,baz=66,slow=38
comp=Z,2.1nm,0.5s
RYN Ryan 92.47 50 IAmb IAmb 15 27 51.9
comp=Z,31nm,1.3s
MLAC Mammoth, Mammo 92.48 51 P **P** **15 27 36.5 -0.1**
baz=285
DAG Danmarks Havn 92.51 355 ⇑P **P** **15 27 34.9 -0.7**
DAG Danmarks Havn 92.51 355 *i* P **P** **15 27 34.0 -1.6**
DAG IAmb IAmb 15 28 02.2
comp=Z,5.2nm,1.2s
SBC Santa Barbara 92.57 55 P **P** **15 27 37.3 +0.6**
baz=284
LHV Little Huntoon 92.58 51 IAMs_20 IAMs_20 16 03 03.7
comp=Z,7µm,20.0s
KVN Kaiserville 92.68 50 IAmb IAmb 15 27 52.7
comp=Z,27nm,1.2s
NVAR Mina Array Bea 92.68 50 P **P** **15 27 38.5 +1.0**
comp=Z,8.6nm,0.7s,baz=266,slow=5.0,SNR=51
NVAR LR LR 16 07 23.1
comp=Z,4µm,18.1s,baz=284,slow=34
comp=Z,8.6nm,0.7s
BCW Bitter Crk WRg 92.69 54 IAMs_20 IAMs_20 16 12 17.2
comp=Z,7µm,18.0s
VES Vestal, Richgr 92.73 53 P **P** **15 27 37.8 +0.4**
baz=284
NV11 Mina Array Sit 92.79 50 IAMs_20 IAMs_20 16 08 49.5
comp=Z,5µm,19.0s
BMN Battle Mountai 92.96 48 IAMs_20 IAMs_20 16 04 37.7
comp=Z,7µm,20.0s
SNCC San Nicolas Is 93.01 56 IAMs_20 IAMs_20 16 03 53.9
comp=Z,5µm,20.0s
ARVC Arvin 93.11 54 P **P** **15 27 40.0 +0.8**
baz=285
MFID Camas Ranch 93.13 45 IAmb IAmb 15 27 54.5
comp=Z,22nm,0.9s
ISA Isabella, Lake 93.25 53 IAMs_20 IAMs_20 16 00 18.0
comp=Z,5µm,21.0s
ISA Isabella, Lake 93.25 53 P **P** **15 27 40.3 +0.3**
baz=285
OSI Osito Audit: C 93.32 54 P **P** **15 27 40.6 +0.4**
baz=285
CWC Cottonwood Cre 93.36 52 P **P** **15 27 40.9 +0.3**
baz=285
MSO Missoula 93.38 41 IAmb IAmb 15 28 15.8
comp=Z,45nm,2.0s
MSO IAMs_20 IAMs_20 16 03 17.6
comp=Z,5µm,21.0s
MSO Missoula 93.38 41 P **P** **15 27 40.7 +0.3**
baz=288
DECC Green Verdugo 93.72 54 P **P** **15 27 42.6 +0.5**
baz=285
GRAC Grapevine Rang 93.77 52 P **P** **15 27 43.5 +1.2**
baz=286
EDW2 Edwards Air Fo 93.83 54 P **P** **15 27 43.3 +0.7**
baz=285
PASC Pasadena Art C 93.86 54 IAMs_20 IAMs_20 16 12 13.3
comp=Z,5µm,19.0s
PTCN Pitcairn Islan 93.86 115 IAMs_20 IAMs_20 16 01 51.7
comp=Z,8µm,20.0s
CIS Catalina Islan 93.87 55 P **P** **15 27 43.5 +0.7**
baz=285
FMP Fort Macarthur 93.89 55 P **P** **15 27 43.6 +0.8**
baz=285
LRMC Laurel Mtn Rad 93.92 53 P **P** **15 27 43.9 +0.7**
baz=285
MPMC Manual Prospec 93.93 53 P **P** **15 27 43.2 -0.1**
baz=285
HLID Hailey 94.07 45 IAMs_20 IAMs_20 16 04 17.4
comp=Z,5µm,20.0s
HLID Hailey 94.07 45 P **P** **15 27 44.4 +0.7**
baz=288
HLID Hailey 94.07 45 ⇑P **P** **15 27 44.5 +0.8**
SIM Simferopol' 94.18 317 *e*P **P** **15 27 47.7 +3.8**
SIM *e* 15 38 12.0
SIM S **S** **15 38 59.0 +4.4**
SIM *e*PS **PS** **15 40 13.0 +1.9**
SIM pmax pmax
comp=Z,220nm,7.6s
BFSC Mount Baldy Ra 94.27 54 P **P** **15 27 45.4 +0.7**
baz=285
FURC Furnace Creek, 94.30 52 P **P** **15 27 45.5 +0.8**
baz=286
ELK Elko 94.33 48 IAMs_20 IAMs_20 16 03 15.6
comp=Z,6µm,21.0s
ELK Elko 94.33 48 ⇑P **P** **15 27 45.8 +0.8**
ELK Elko 94.33 48 LR LR 16 03 37.0
comp=Z,6µm,20.7s,baz=284,slow=31
WCT Wildcat Mounta 94.40 52 IAmb IAmb 15 28 00.6
comp=Z,27nm,1.3s
MAW Mawson 94.41 202 P **P** **15 27 45.7 +1.4**
baz=94,SNR=9.6
MAW Mawson 94.41 202 P **P** **15 27 45.0 +0.8**
MAW Mawson 94.41 202 P **P** **15 27 45.1 +0.8**
MAW pmax pmax
comp=Z,8.0nm,1.1s
MAW Mawson 94.41 202 P **P** **15 27 44.7 +0.4**
comp=Z,24nm,1.0s,baz=62,slow=6.5,SNR=14
MAW PP **PP** **15 31 33.0 +1.2**
comp=Z,7.6nm,1.0s,baz=50,slow=9.6,SNR=3.9
MAW LR LR 16 07 36.9
comp=Z,6µm,19.4s,baz=71,slow=34
comp=Z,24nm,1.0s
MNK Minsk 94.50 327 *i* P **P** **15 27 43.7 -1.5**
comp=E,7.0nm,0.9s
MNK *i* P **P** **15 27 43.7 -1.5**
comp=N,20nm,1.0s
MNK *i* P **P** **15 27 43.7 -1.5**
comp=Z,14nm,0.8s,baz=246
MNK *i* PP **PP** **15 31 31.2 -1.2**
MNK *i* PPP PPP 15 33 32.4
MNK *i* S **SKSac** **15 38 18.7 -1.1**
MNK *i* PS **PS** **15 40 13.6 -0.6**
MNK *i* SS **SS** **15 45 20.2 +1.5**
MNK *i* SSS SSS 15 49 02.1
MNK *i* LQ LQ 16 02 13.2
MNK *i* LR LR 16 09 57.1
MNK *i* LRM MLR 16 13 18.9
comp=E,3µm,19.5s
MNK *i* LRM MLR 16 13 19.7
comp=Z,11µm,18.7s
MNK *i* LRM MLR 16 13 28.2
comp=N,5µm,18.7s
MNK Minsk 94.50 327 *i* P **P** **15 27 43.6 -1.5**
MNK *i* 15 31 31.1
MNK *i* PPP PPP 15 33 32.4
MNK *i* S **SKSac** **15 38 18.7 -1.1**
MNK *i* PS **PS** **15 40 13.6 -0.6**
MNK *i* SS **SS** **15 45 20.2 +1.5**
MNK *i* SSS SSS 15 49 02.0
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=N,20nm,1.0s
MNK pmax pmax
comp=Z,14nm,0.9s
MNK MLR MLR
comp=E,3µm,20.0s
MNK MLR MLR
comp=Z,11µm,19.0s
MNK MLR MLR
comp=N,5µm,19.0s
GWY Greenwater Val 94.53 52 IAmb IAmb 15 28 45.1
comp=Z,35nm,1.4s
ELS Elsinore Mount 94.61 55 IAMs_20 IAMs_20 16 12 07.0
comp=Z,6µm,18.0s
TPNV Topopah Spring 94.65 51 P **P** **15 27 46.5 0.0**
TPNV Topopah Spring 94.65 51 P **P** **15 27 47.5 +1.0**
baz=286,SNR=12
TPNV Topopah Spring 94.65 51 P **P** **15 27 46.5 0.0**
TPNV pmax pmax
comp=Z,20nm,1.1s
GSC Goldstone, Bar 94.66 53 IAMs_20 IAMs_20 16 14 01.3
comp=Z,5µm,18.0s
GSC Goldstone, Bar 94.66 53 P **P** **15 27 47.4 +0.9**
baz=286,SNR=9.2
R11B Troy Canyon, C 94.76 50 IAMs_20 IAMs_20 16 04 39.5
comp=Z,5µm,20.0s
R11B Troy Canyon, C 94.76 50 P **P** **15 27 47.1 +0.2**
baz=287,SNR=5.2
BNN Bunyan 94.79 311 IAMs_20 IAMs_20 16 15 07.4
comp=Z,7µm,20.0s
MURC Murrieta 94.80 55 P **P** **15 27 47.5 +0.4**
baz=285
S11A Rachel 94.84 51 IAMs_20 IAMs_20 16 06 56.6
comp=Z,6µm,19.0s
BBRC Big Bear Solar 94.85 54 P **P** **15 27 48.0 +0.4**
baz=286
NACGM Naroch 94.92 328 *e*P **P** **15 27 51.2 +4.2**
comp=Z,13nm,0.9s,baz=65
DBG Daneborg 94.97 355 *i* P **P** **15 27 46.4 -0.6**
DBG IAmb IAmb 15 28 25.8
comp=Z,3.6nm,1.1s
109C Camp Elliot, M 95.06 56 IAMs_20 IAMs_20 16 04 44.3
comp=Z,5µm,19.0s
109C Camp Elliot, M 95.06 56 P **P** **15 27 49.0 +0.7**
baz=285
Q12A Willow Creek R 95.13 49 IAMs_20 IAMs_20 16 08 35.0
comp=Z,7µm,20.0s
HEC Hecor, Ludlow 95.16 53 P **P** **15 27 49.6 +0.8**
baz=286
ATD Arta Tunnel 95.17 283 LR LR 16 07 56.0
comp=Z,31nm,20.4s,baz=60,slow=34
TJX Tijuana 95.20 56 IAMs_20 IAMs_20 16 04 45.0
comp=Z,4µm,20.0s
AKASG Malin Array Be 95.25 323 P **P** **15 27 47.5 -1.2**
comp=Z,1.7nm,0.8s,baz=54,slow=4.2,SNR=6.0
AKASG PP **PP** **15 31 42.0 +3.6**
comp=Z,1.1nm,0.7s,baz=57,slow=6.5,SNR=4.4
AKASG LR LR 16 12 44.2
comp=Z,3µm,21.6s,baz=64,slow=37
comp=Z,1.7nm,0.8s
BOZ Bozeman (W) 95.30 42 IAMs_20 IAMs_20 16 02 08.5
comp=Z,5µm,22.0s
BOZ Bozeman (W) 95.30 42 P **P** **15 27 49.9 +0.6**
baz=290,SNR=8.2
BOZ Bozeman (W) 95.30 42 ⇑P **P** **15 27 49.8 +0.6**
TUQ Turquoise Moun 95.32 53 P **P** **15 27 50.2 +0.6**
baz=286
PFO Pinyon Flats O 95.39 55 IAMs_20 IAMs_20 16 13 06.0
comp=Z,6µm,18.0s
PFO Pinyon Flats O 95.39 55 P **P** **15 27 50.6 +0.7**
baz=286
PFO Pinyon Flats O 95.39 55 LR LR 16 11 48.6
comp=Z,2µm,18.0s,baz=280,slow=36
TPFO Pinon Flats 95.40 55 P **P** **15 27 50.6 +0.6**
baz=286
PRN Pahroc Range 95.44 51 IAMs_20 IAMs_20 16 07 12.4
comp=Z,5µm,20.0s
PMD Palm Desert 95.45 55 IAMs_20 IAMs_20 16 12 51.3
comp=Z,5µm,18.0s
BAR Barrett 95.47 56 IAMs_20 IAMs_20 16 13 21.1
comp=Z,5µm,19.0s
SPR3 Spring Creek 3 95.51 49 IAMs_20 IAMs_20 16 09 03.1
comp=Z,6µm,18.0s
MONP2 Monument Peak 95.62 55 P **P** **15 27 51.5 +0.4**
baz=286
EGMT Eagleton 95.64 39 IAmb IAmb 15 28 21.1
comp=Z,19nm,1.1s
EGMT IAMs_20 IAMs_20 16 04 16.2
comp=Z,8µm,21.0s
EGMT Eagleton 95.64 39 P **P** **15 27 51.3 +0.6**
baz=292
BELC Belle Mtn. Jos 95.66 54 P **P** **15 27 51.6 +0.5**
baz=286
CCX Cicese 95.69 56 IAMs_20 IAMs_20 16 13 25.0
comp=Z,5µm,18.0s
GMRC Granite Mounta 95.71 53 P **P** **15 27 51.5 +0.2**
baz=286,SNR=5.9
HVU Hansel Valley 95.78 46 IAMs_20 IAMs_20 16 06 00.8
comp=Z,5µm,20.0s
YHL Hebgen Lake 95.85 43 IAMs_20 IAMs_20 16 07 59.2
comp=Z,4µm,20.0s
BGU Big Grassy Mou 95.87 47 IAMs_20 IAMs_20 16 05 26.3
comp=Z,5µm,20.0s
IKP In-Ko-Pah, Jac 95.94 56 P **P** **15 27 53.1 +0.8**
baz=286
RMX La Rumorosa 95.97 56 IAMs_20 IAMs_20 16 05 04.8
comp=Z,5µm,20.0s
YMR Madison River 96.06 43 IAMs_20 IAMs_20 16 05 50.7
comp=Z,6µm,21.0s
YUH Yuha Desert 96.09 55 IAMs_20 IAMs_20 16 05 16.4
comp=Z,5µm,19.0s
SPUT South Promonto 96.16 46 IAMs_20 IAMs_20 16 05 44.0
comp=Z,5µm,20.0s
BRTR Keskin Array B 96.16 312 P **P** **15 27 51.5 -1.8**
comp=Z,0.6nm,0.6s,baz=75,slow=5.2,SNR=7.3
BRTR LR LR 16 16 29.2
comp=Z,2µm,20.1s,baz=52,slow=39
comp=Z,0.6nm,0.6s
BC3 Big Chuckawall 96.19 54 P **P** **15 27 54.1 +0.6**
baz=286
YNM Yellowstone No 96.21 43 IAMs_20 IAMs_20 16 06 05.8
comp=Z,4µm,20.0s
YNR Norris Junctio 96.23 43 IAMs_20 IAMs_20 16 06 07.3
comp=Z,5µm,20.0s
ESJX Sierra Juarez 96.24 56 IAMs_20 IAMs_20 16 13 35.6
comp=Z,6µm,18.0s
DUG Dugway, Tooele 96.25 47 IAmb IAmb 15 28 20.6
comp=Z,30nm,1.6s
DUG IAMs_20 IAMs_20 16 06 14.7
comp=Z,4µm,20.0s
DUG Dugway, Tooele 96.25 47 P **P** **15 27 54.6 +0.8**
baz=289
IRM Iron Mountain 96.29 54 P **P** **15 27 54.4 +0.5**
baz=287
IMW Indian Meadow 96.34 44 IAmb IAmb 15 28 17.2
comp=Z,31nm,1.8s
H17A Grant Village 96.41 43 P **P** **15 27 54.3 -0.2**
baz=291
UABX UABC, Campus M 96.48 55 IAMs_20 IAMs_20 16 15 12.8
comp=Z,4µm,18.0s
JMIC Jan Mayen 96.49 350 LR LR 16 11 10.3
comp=Z,2µm,21.6s,baz=56,slow=35
VTX Valle De La Tr 96.54 57 IAMs_20 IAMs_20 16 13 41.6
comp=Z,5µm,19.0s
CCUT Cedar City 96.67 50 IAMs_20 IAMs_20 16 08 51.2
comp=Z,4µm,19.0s
HWUT Hardware Ranch 96.69 46 IAMs_20 IAMs_20 16 04 09.9
comp=Z,5µm,21.0s
MMAI Mount Meron Ar 96.80 305 LR LR 16 16 43.0
comp=Z,3µm,20.0s,baz=44,slow=39
CTU Camp Tracy 96.86 47 IAMs_20 IAMs_20 16 05 56.6
comp=Z,6µm,20.0s
NLU North Lily Min 96.87 48 IAMs_20 IAMs_20 16 04 46.9
comp=Z,5µm,20.0s
KIS Kishinev 96.92 320 *e*P **P** **15 27 54.0 -2.4**
KIS *e*L L 16 02 08.0
KIS LQM 16 05 58.0
comp=Z,2µm,19.5s
KIS LRM MLR 16 15 45.0
comp=Z,2µm,20.0s
KIS Kishinev 96.92 320 *e*P **P** **15 27 54.0 -2.4**
MILM Milestii Mici 96.96 320 *e*P **P** **15 27 54.0 -2.5**
MILM *e*L L 16 00 34.0
MILM LQM 16 05 51.0
comp=Z,6µm,20.0s
MILM LRM MLR 16 15 46.0
comp=Z,2µm,17.0s
MILM Milestii Mici 96.96 320 *e*P **P** **15 27 54.0 -2.5**
TCUT Toone Canyon 96.96 46 IAMs_20 IAMs_20 16 03 56.2
comp=Z,6µm,22.0s
W13A Hualapai Mount 97.01 53 IAMs_20 IAMs_20 16 15 25.5
comp=Z,5µm,18.0s
RLMT Red Lodge 97.02 42 IAMs_20 IAMs_20 16 04 21.1
comp=Z,5µm,21.0s
RLMT Red Lodge 97.02 42 P **P** **15 27 56.8 -0.4**
baz=292
TCRU Three Creeks R 97.03 49 IAMs_20 IAMs_20 16 10 00.4
comp=Z,7µm,19.0s
PDMCI Parker Dam,Lak 97.05 53 P Pdif 15 27 57.9 +0.6
baz=287
MPU Maple Canyon 97.17 47 IAMs_20 IAMs_20 16 05 06.8
comp=Z,6µm,20.0s
FFC Flin Flon 97.22 31 P Pdif 15 27 57.7 +0.1
FFC Flin Flon 97.22 31 IAMs_20 IAMs_20 16 07 26.0
comp=Z,8µm,22.0s
FFC Flin Flon 97.22 31 P Pdif 15 27 57.7 0.0
FFC pmax pmax
comp=Z,9.0nm,1.0s
KNB Kanab 97.25 51 IAMs_20 IAMs_20 16 08 40.5
comp=Z,4µm,20.0s
MTPU Mount Pierson 97.41 49 IAMs_20 IAMs_20 16 08 30.4
comp=Z,4µm,19.0s
PKCU Pink Cliffs 97.50 50 IAMs_20 IAMs_20 16 06 16.1
comp=Z,5µm,21.0s
SUMG Summit 97.60 360 *i* P **P** **15 27 59.3 -0.1**
SUMG IAmb IAmb 15 28 06.5
comp=Z,4.1nm,1.0s
BSUT Blindstream Ca 97.62 47 IAMs_20 IAMs_20 16 07 01.7
comp=Z,6µm,20.0s
BW06 Boulder Array 97.68 44 P **P** **15 27 59.6 -0.6**
baz=291
PDAR Pinedale Array 97.68 44 P Pdif 15 28 00.9 +0.6
comp=Z,0.7nm,0.6s,baz=285,slow=1.7,SNR=7.4
PDAR LR LR 16 06 51.4
comp=Z,1µm,21.0s,baz=313,slow=32
comp=Z,0.7nm,0.6s
U15A North Rim 97.84 51 IAMs_20 IAMs_20 16 11 32.1
comp=Z,4µm,19.0s
Q16A Castle Valley 97.87 48 IAMs_20 IAMs_20 16 04 23.5
comp=Z,5µm,20.0s
P17A Butcher Ranch, 98.00 48 IAMs_20 IAMs_20 16 04 39.9
comp=Z,7µm,22.0s
Y14A Wickenburg 98.06 54 IAMs_20 IAMs_20 16 14 39.2
comp=Z,6µm,18.0s
EIL Elat 98.12 302 LR LR 16 17 16.6
comp=Z,2µm,19.6s,baz=60,slow=38
SRU San Rafael Swe 98.28 48 IAMs_20 IAMs_20 16 04 36.3
comp=Z,7µm,22.0s
HFS Hagfors 98.30 336 LR LR 16 14 44.2
comp=Z,7µm,20.7s,baz=50,slow=37
LAO LASA Array 98.37 40 IAMs_20 IAMs_20 16 05 39.5
comp=Z,8µm,22.0s
LAO LASA Array 98.37 40 P **P** **15 28 02.5 -0.5**
baz=294
PIX Pinacate 98.40 56 IAMs_20 IAMs_20 16 14 48.7
comp=Z,4µm,18.0s
RDMU Red Mountain 98.46 46 IAMs_20 IAMs_20 16 05 06.9
comp=Z,6µm,21.0s
214A Organ Pipe Nat 98.81 55 IAMs_20 IAMs_20 16 15 23.5
comp=Z,5µm,18.0s
214A Organ Pipe Nat 98.81 55 Pdiff P **15 28 04.6 -0.7**
baz=288
WUAZ Wupatki 98.84 52 IAMs_20 IAMs_20 16 09 09.6
comp=Z,5µm,19.0s
WUAZ Wupatki 98.84 52 Pdiff P **15 28 04.8 -0.7**
baz=289
DGMT Dagmar 98.86 37 Pdiff P **15 28 04.2 -0.9**
baz=296
X16A Lo Mia Camp, P 99.14 53 IAMs_20 IAMs_20 16 16 32.7
comp=Z,5µm,18.0s
MLR Muntele Rosu 99.35 319 LR LR 16 16 46.5
comp=Z,6µm,18.8s,baz=56,slow=38
KWP Kalwaria Pacla 99.50 324 *e*P **Pdif** **15 28 08.4 +0.5**
KWP *e*L L 16 09 07.2
comp=Z,8µm,26.8s
KWP Kalwaria Pacla 99.50 324 IAMs_20 IAMs_20 16 13 17.9
comp=Z,7µm,20.0s
O20A White River Ci 99.56 46 IAMs_20 IAMs_20 16 05 30.1
comp=Z,6µm,22.0s
O20A White River Ci 99.56 46 Pdiff **Pdif** **15 28 08.0 -0.7**
baz=292
K22A Casper 99.80 43 IAMs_20 IAMs_20 16 08 43.8
comp=Z,5µm,20.0s
QSPA South Pole Qui 99.86 180 LR LR 16 12 15.9
comp=Z,13µm,20.8s,baz=9.5,slow=35
KONO Kongsberg 100.21 337 IAMs_20 IAMs_20 16 18 02.1
comp=Z,6µm,20.0s
W18A Petrified Fore 100.23 52 IAMs_20 IAMs_20 16 22 59.5
comp=Z,5µm,18.0s
X18A Snowflake 100.26 52 IAMs_20 IAMs_20 16 21 54.5
comp=Z,5µm,18.0s
TUC Tucson 100.33 54 IAMs_20 IAMs_20 16 17 43.7
comp=Z,4µm,19.0s
TUC Tucson 100.33 54 Pdiff **Pdif** **15 28 11.8 -0.3**
baz=289
MVCO Mesa Verde 100.44 49 IAMs_20 IAMs_20 16 19 05.9
comp=Z,4µm,18.0s
MVCO Mesa Verde 100.44 49 Pdiff **Pdif** **15 28 12.7 0.0**
baz=291
CRVS Cervenica-Dubn 100.57 324 *e*PDIFF **Pdif** **15 28 15.6 +2.9**
CRVS Cervenica-Dubn 100.57 324 *e*P **Pdif** **15 28 15.6 +2.9**
SRIG Santa Rosalia 100.66 60 IAMs_20 IAMs_20 16 10 57.1
comp=Z,5µm,19.0s
RSSD Black Hills 100.85 41 IAMs_20 IAMs_20 16 06 54.2
comp=Z,4µm,21.0s
OJC Ojcow 100.86 326 *e*P **Pdif** **15 28 14.6 +0.6**
OJC *e*L L 16 15 45.2
comp=Z,10µm,20.7s
N23A Red Feather La 100.89 45 Pdiff **Pdif** **15 28 15.2 +0.6**
baz=294
PHWY Pilot Hill 101.07 44 IAMs_20 IAMs_20 16 08 38.5
comp=Z,4µm,21.0s

HSIG		101.23	58	IAMs_20	IAMs_20	16 04 23.1	
	comp=Z,5µm,21.0s						
S22A	4UR Ranch, Cre	101.48	48	IAMs_20	IAMs_20	16 08 27.0	
	comp=Z,7µm,20.0s						
S22A	4UR Ranch, Cre	101.48	48	Pdiff	Pdif	15 28 18.0	+0.7
	baz=292						
ISCO	Idaho Springs	101.56	46	IAMs_20	IAMs_20	16 09 44.8	
	comp=Z,5µm,21.0s						
319A	Douglas	101.85	55	IAMs_20	IAMs_20	16 08 55.9	
	comp=Z,5µm,20.0s						
OKC	Ostrava-Krasne	101.97	326	AMS	AMS	16 17 40.0	
	comp=Z,8µm,17.6s						
VYHS	Vyhne	102.28	324	ePDIFF	Pdif	15 28 22.5	+2.2
VYHS	Vyhne	102.28	324	eP	Pdif	15 28 22.5	+2.2
KIBK	Kibwezi	102.42	270	PP	PP	15 32 30.0	-4.6
KSP	Ksiaz	102.44	327	eP	Pdif	15 28 08.3	-13
KSP				eL	L	16 17 15.7	
	comp=Z,12µm,21.6s						
SDCO	Great Sand Dun	102.45	48	IAMs_20	IAMs_20	16 09 11.7	
	comp=Z,6µm,20.0s						
SDCO	Great Sand Dun	102.45	48	Pdiff	Pdif	15 28 22.6	+0.9
	baz=293						
KRLC	Kraliky	102.59	327	AMS	AMS	16 17 40.0	
	comp=Z,7µm,16.8s						
OSTC	Ostas	102.64	327	AMS	AMS	16 16 40.0	
	comp=Z,9µm,18.3s						
121A	Cookes Peak, D	102.65	53	IAMs_20	IAMs_20	16 11 34.8	
	comp=Z,5µm,18.0s						
121A	Cookes Peak, D	102.65	53	Pdiff	Pdif	15 28 23.8	+1.3
	baz=291						
DPC	Dobruska-Polom	102.69	327	AMS	AMS	16 16 40.0	
	comp=Z,7µm,19.6s						
CHVC	Chvalec	102.71	327	AMS	AMS	16 16 50.0	
	comp=Z,10µm,20.5s						
UPC	Upice	102.77	327	AMS	AMS	16 17 00.0	
	comp=Z,10µm,20.0s						
ANMO	Albuquerque	102.81	51	IAMs_20	IAMs_20	16 06 57.6	
	comp=Z,4µm,20.0s						
T25A	Trinidad	103.49	48	IAMs_20	IAMs_20	16 10 03.2	
	comp=Z,5µm,20.0s						
PVCC	Panska Ves	103.53	328	AMS	AMS	16 17 40.0	
	comp=Z,12µm,18.5s						
BRG	Berggiesshubel	103.65	328	ePKP	PKiKP	15 32 58.5	+14
BRG					Amp	15 33 02.2	
	comp=Z,9.5nm,1.2s						
TREC	Trest	103.73	326	AMS	AMS	16 18 30.0	
	comp=Z,9µm,17.4s						
GOPC	GO Pecny, Ondr	103.76	327	AMS	AMS	16 17 40.0	
	comp=Z,8µm,18.2s						
RICC	Richard	103.76	328	AMS	AMS	16 18 00.0	
	comp=Z,14µm,19.6s						
DIVS	Divibare	103.77	320	IAMs_20	IAMs_20	16 19 20.8	
	comp=Z,6µm,20.0s						
PRU	Pruhonice	103.85	327	AMS	AMS	16 17 40.0	
	comp=Z,9µm,19.0s						
PRA	Prague	103.86	327	AMS	AMS	16 17 50.0	
	comp=Z,10µm,19.6s						
CLL	Collm	103.88	329	IAMs_20	IAMs_20	16 17 42.9	
	comp=Z,5µm,19.0s						
CLL	Collm	103.88	329	ex	x	15 32 37.0	
CLL				ePP	PKiKP	15 32 47.0	+2.0
CLL				e(SKSac)		15 39 00.0	
CLL				eSKKSac	SKKSac	15 39 54.0	+4.8
CLL				eSdif	Sdif	15 40 18.0	+1.4
CLL				ex	x	15 41 06.0	
CLL				ePS	PS	15 41 51.0	-4.2
CLL				ePPS	PPS	15 42 49.0	
CLL				eSS	SS	15 47 30.0	+0.1
CLL				eSSS	SSS	15 51 36.0	
CLL				ex	x	15 57 17.0	
CLL				AMS	AMS	16 10 00.0	
	comp=N,19µm,21.4s						
CLL				AMS	AMS	16 10 00.0	
	comp=E,12µm,21.0s						
CLL				AMS	AMS	16 18 00.0	
	comp=Z,4µm,21.8s						
EPT	El Paso	103.93	54	IAMs_20	IAMs_20	16 12 30.8	
	comp=Z,4µm,18.0s						
SUSD	Miller	103.94	39	IAMs_20	IAMs_20	16 09 45.8	
	comp=Z,8µm,22.0s						
KSCO	Kaye Shedlock'	103.99	46	IAMs_20	IAMs_20	16 10 17.1	
	comp=Z,4µm,20.0s						
HSKC	Hora Svate Kat	104.07	328	AMS	AMS	16 17 30.0	
	comp=Z,13µm,19.6s						
ZVC	Zvikov	104.34	327	AMS	AMS	16 16 30.0	
	comp=Z,8µm,17.8s						
CKRC	Cesky Krumlov	104.63	326	AMS	AMS	16 19 10.0	
	comp=Z,10µm,18.8s						
NKC	Novy Kostel	104.80	328	AMS	AMS	16 17 50.0	
	comp=Z,10µm,20.8s						
MNTX	Cornudas Mount	104.85	53	Pdiff	Pdif	15 28 31.8	-0.3
	baz=292						
KHC	Kasperske Hory	104.85	327	AMS	AMS	16 16 40.0	
	comp=Z,9µm,20.1s						
ECSD	EROS Data Cent	105.75	39	IAMs_20	IAMs_20	16 11 12.8	
	comp=Z,5µm,21.0s						
BGNE	Belgrade	105.94	42	IAMs_20	IAMs_20	16 15 35.1	
	comp=Z,4µm,20.0s						
MSTX	Muleshoe	105.99	50	IAMs_20	IAMs_20	16 19 43.8	
	comp=Z,5µm,18.0s						
CBKS	Cedar Bluff	106.10	45	IAMs_20	IAMs_20	16 25 13.8	
	comp=Z,3µm,19.0s						
HPIG		106.33	58	IAMs_20	IAMs_20	16 08 47.1	
	comp=Z,6µm,20.0s						
AMTX	Amarillo	106.43	49	IAMs_20	IAMs_20	16 16 27.3	
	comp=Z,5µm,20.0s						
SABO	M.te Sabotino	106.64	324	IAMs_20	IAMs_20	16 19 04.7	
	comp=Z,9µm,22.0s						
N33A	J Bar K, Exete	106.73	42	IAMs_20	IAMs_20	16 14 24.1	
	comp=Z,4µm,21.0s						
L34A	Svendsen Farm,	106.81	41	IAMs_20	IAMs_20	16 15 38.0	
	comp=Z,4µm,19.0s						
TXAR	Lajitas Array	107.11	55	PKKPbc	PKKPbc	15 44 08.9	-0.1
	comp=Z,0.5nm,0.8s,baz=124,slow=5.8,SNR=4.6						
CIMO	Cimolais	107.11	325	IAMs_20	IAMs_20	16 19 39.7	
	comp=Z,7µm,19.0s						
STU	Stuttgart	107.37	328	IAMs_20	IAMs_20	16 20 28.3	
	comp=Z,5µm,20.0s						
ELIS	Ellis County	107.58	47	IAMs_20	IAMs_20	16 10 16.3	
	comp=Z,6µm,20.0s						
ELIB	Princess Elisa	107.63	197	dPKP	PKiKP	15 32 51.4	-0.1
OK035	E0210 Rd and N	107.79	46	IAMs_20	IAMs_20	16 12 45.8	
	comp=Z,5µm,20.0s						
N35A	Tabor	107.85	41	IAMs_20	IAMs_20	16 16 17.6	
	comp=Z,5µm,20.0s						
BFO	Black Forest	108.10	329	IAMs_20	IAMs_20	16 20 20.5	
	comp=Z,6µm,21.0s						
KSU1	Kansas State U	108.10	43	IAMs_20	IAMs_20	16 20 42.6	
	comp=Z,4µm,20.0s						
OK032	Salt Plains WL	108.10	46	IAMs_20	IAMs_20	16 13 05.0	
	comp=Z,6µm,21.0s						
TIP	Timpagrande	108.30	317	IAMs_20	IAMs_20	16 23 00.1	
	comp=Z,5µm,21.0s						
CROK	Carrier	108.40	46	IAMs_20	IAMs_20	16 13 05.0	
	comp=Z,7µm,21.0s						
GUMA	Gualdo di Mace	108.43	322	IAMs_20	IAMs_20	16 22 49.1	
	comp=Z,6µm,21.0s						
CUC	Castrocucco	108.51	318	IAMs_20	IAMs_20	16 22 13.6	
	comp=Z,5µm,21.0s						
FDMO	Fiordimonte	108.60	322	IAMs_20	IAMs_20	16 23 03.5	
	comp=Z,6µm,20.0s						
WMOK	Wichita Mounta	108.64	48	IAMs_20	IAMs_20	16 22 13.6	
	comp=Z,4µm,20.0s						
PAOL	Paolisi	108.77	320	IAMs_20	IAMs_20	16 23 28.4	
	comp=Z,5µm,19.0s						
SCIA	State Center	108.84	39	IAMs_20	IAMs_20	16 12 07.5	
	comp=Z,6µm,22.0s						
ABTX	Abilene, Hawle	108.93	51	IAMs_20	IAMs_20	16 20 57.7	
	comp=Z,4µm,18.0s						
OK029	Liberty Lake	109.11	47	IAMs_20	IAMs_20	16 13 35.9	
	comp=Z,7µm,21.0s						
OK048	Pawnee Station	109.18	46	IAMs_20	IAMs_20	16 13 46.6	
	comp=Z,5µm,20.0s						
T35A	Sooner Cattle	109.24	45	IAMs_20	IAMs_20	16 16 30.1	
	comp=Z,4µm,20.0s						
CEL	Celeste	109.34	316	IAMs_20	IAMs_20	16 24 54.8	
	comp=Z,6µm,20.0s						
OK033	Mehan	109.36	46	IAMs_20	IAMs_20	16 14 04.5	
	comp=Z,6µm,20.0s						
FNO	Franklin	109.41	47	IAMs_20	IAMs_20	16 11 51.7	
	comp=Z,6µm,22.0s						
OSSC	Osservatorio P	109.42	323	IAMs_20	IAMs_20	16 20 52.2	
	comp=Z,7µm,22.0s						
N38A	Joes South For	109.44	40	IAMs_20	IAMs_20	16 17 42.4	
	comp=Z,4µm,20.0s						
JCT	Junction City	109.72	53	IAMs_20	IAMs_20	16 18 16.1	
	comp=Z,5µm,18.0s						
W35A	Tecumseh	109.83	47	IAMs_20	IAMs_20	16 24 59.1	
	comp=Z,6µm,19.0s						
P38A	Dawn	109.88	41	IAMs_20	IAMs_20	16 17 36.2	
	comp=Z,4µm,19.0s						
FW03	Perrin-Whitt E	109.94	49	IAMs_20	IAMs_20	16 29 19.2	
	comp=Z,3µm,18.0s						
JFWS	Jewell Farm	110.08	37	Pdiff	PKiKP	15 32 56.8	0.0
	baz=306						
FW07	Weatherford	110.30	50	IAMs_20	IAMs_20	16 11 36.8	
	comp=Z,5µm,21.0s						
FW06	Azle	110.35	49	IAMs_20	IAMs_20	16 11 49.1	
	comp=Z,4µm,21.0s						
Z35A	Perchaven, San	110.41	49	IAMs_20	IAMs_20	16 24 11.6	
	comp=Z,4µm,20.0s						
ZAIG	Zacatecas	110.43	61	IAMs_20	IAMs_20	16 13 39.1	
	comp=Z,4µm,19.0s						
RLO	Rose Lookout	110.66	45	IAMs_20	IAMs_20	16 12 06.4	
	comp=Z,5µm,21.0s						
WHTX	Lake Whitney,	110.87	50	IAMs_20	IAMs_20	16 19 41.0	
	comp=Z,4µm,20.0s						
DSB	Dublin	110.88	339	IAMs_20	IAMs_20	16 23 28.2	
	comp=Z,5µm,21.0s						
P40A	Paris	110.89	41	IAMs_20	IAMs_20	16 17 53.0	
	comp=Z,4µm,20.0s						
833A	Chaparral WMA,	110.95	55	IAMs_20	IAMs_20	16 15 32.7	
	comp=Z,4µm,20.0s						
U38A	Gravette	110.96	45	IAMs_20	IAMs_20	16 18 17.5	
	comp=Z,3µm,20.0s						
S39A	Bolivar	111.04	43	IAMs_20	IAMs_20	16 15 27.3	
	comp=Z,5µm,22.0s						
X37A	Clayton	111.19	47	IAMs_20	IAMs_20	16 13 06.9	
	comp=Z,6µm,20.0s						
E46A	Sault Ste Mari	111.20	31	IAMs_20	IAMs_20	16 16 03.7	
	comp=Z,6µm,21.0s						
435B	Jarrell	111.31	51	IAMs_20	IAMs_20	16 17 53.0	
	comp=Z,4µm,20.0s						
HHAR	Hobbs	111.35	45	IAMs_20	IAMs_20	16 17 34.8	
	comp=Z,4µm,21.0s						
R40A	Maddies Statio	111.42	42	IAMs_20	IAMs_20	16 27 26.3	
	comp=Z,4µm,19.0s						
735A	Kenedy	111.98	53	IAMs_20	IAMs_20	16 23 12.1	
	comp=Z,5µm,19.0s						
MGMO	Mountain Grove	112.04	43	IAMs_20	IAMs_20	16 20 19.7	
	comp=Z,4µm,19.0s						
GLMI	Grayling	112.06	33	IAMs_20	IAMs_20	16 17 52.8	
	comp=Z,5µm,20.0s						
Z38A	Mt. Pleasant	112.12	48	IAMs_20	IAMs_20	16 24 20.6	
	comp=Z,5µm,19.0s						
CCM	Cathedral Cave	112.23	42	IAMs_20	IAMs_20	16 28 16.5	
	comp=Z,3µm,18.0s						
M44A	Midewin, Midew	112.31	37	IAMs_20	IAMs_20	16 15 49.9	
	comp=Z,6µm,22.0s						
P43A	Skaggs, Pawnee	112.44	40	IAMs_20	IAMs_20	16 14 41.7	
	comp=Z,5µm,21.0s						
KVTX	Kingsville	112.48	55	IAMs_20	IAMs_20	16 25 18.3	
	comp=Z,5µm,18.0s						
SLM	Saint Louis	112.56	41	IAMs_20	IAMs_20	16 19 03.1	
	comp=Z,5µm,21.0s						
MOIG	Morelia	112.71	64	IAMs_20	IAMs_20	16 23 09.4	
	comp=Z,5µm,18.0s						
FVM	French Village	112.80	42	IAMs_20	IAMs_20	16 14 51.7	
	comp=Z,4µm,22.0s						
FCAR	Ozark Folk Cen	112.81	44	IAMs_20	IAMs_20	16 19 06.3	
	comp=Z,4µm,20.0s						
VSL	Villasalto	112.92	321	IAMs_20	IAMs_20	16 25 41.0	
	comp=Z,4µm,19.0s						
WHAR	Wooly Hollow	113.01	45	IAMs_20	IAMs_20	16 14 14.8	
	comp=Z,5µm,22.0s						
HKT	Hockley	113.04	52	IAMs_20	IAMs_20	16 23 20.4	
	comp=Z,6µm,19.0s						
X40A	Basin Creek Fa	113.05	46	IAMs_20	IAMs_20	16 17 08.0	
	comp=Z,5µm,20.0s						
NATX	Nacogdoches	113.08	49	IAMs_20	IAMs_20	16 18 49.4	
	comp=Z,5µm,19.0s						
Q44A	Meyer Farm, Va	113.18	40	IAMs_20	IAMs_20	16 26 12.5	
	comp=Z,4µm,19.0s						
VLDQ	Val d'Or	113.22	26	IAMs_20	IAMs_20	16 22 28.4	
	comp=Z,5µm,21.0s						
UALR	University of	113.25	45	IAMs_20	IAMs_20	16 18 58.1	
	comp=Z,5µm,21.0s						
LCAR	Lake Charles	113.38	44	IAMs_20	IAMs_20	16 19 01.2	
	comp=Z,4µm,22.0s						
PBMO	Poplar Bluff	113.47	43	IAMs_20	IAMs_20	16 28 06.7	
	comp=Z,4µm,19.0s						
SFIN	Lafayette	113.49	38	Pdiff	PKiKP	15 33 03.8	+0.4
	baz=308						
S44A	Carbondale	113.73	41	IAMs_20	IAMs_20	16 16 02.2	
	comp=Z,3µm,20.0s						
SIUC	Southern Illin	113.74	41	IAMs_20	IAMs_20	16 16 02.5	
	comp=Z,3µm,20.0s						
OLIL	Olney	113.86	40	IAMs_20	IAMs_20	16 16 55.5	
	comp=Z,5µm,22.0s						
PARMO	Parma	113.99	42	IAMs_20	IAMs_20	16 18 49.3	
	comp=Z,4µm,21.0s						
HBAR	Harrisburg	113.99	44	IAMs_20	IAMs_20	16 20 19.7	
	comp=Z,4µm,20.0s						
PVMO	Portageville	114.16	43	IAMs_20	IAMs_20	16 28 54.9	
	comp=Z,4µm,20.0s						
GNAR	Gosnell	114.20	43	IAMs_20	IAMs_20	16 20 25.0	
	comp=Z,4µm,20.0s						
PEBM	Pemiscott Bayo	114.22	43	IAMs_20	IAMs_20	16 24 19.6	
	comp=Z,3µm,19.0s						
SNAA	Sanae	114.38	192	PKP	PKPdf	15 33 04.6	+0.4
	comp=Z,4.1nm,1.1s,baz=63,slow=4.4,SNR=3.8						
HICK	Hickman	114.41	42	IAMs_20	IAMs_20	16 19 34.3	
	comp=Z,4µm,21.0s						
LNXT	Lenox	114.48	43	IAMs_20	IAMs_20	16 24 36.3	
	comp=Z,4µm,19.0s						
T45A	Paducah	114.52	42	IAMs_20	IAMs_20	16 22 17.1	
	comp=Z,3µm,20.0s						
GLAT	Glass	114.52	43	IAMs_20	IAMs_20	16 25 57.3	
	comp=Z,4µm,20.0s						
USIN	University of	114.59	40	IAMs_20	IAMs_20	16 17 43.9	
	comp=Z,5µm,22.0s						
UNM	Universidad Na	114.61	63	IAMs_20	IAMs_20	16 14 12.2	
	comp=Z,4µm,20.0s						
HALT	Halls	114.69	43	IAMs_20	IAMs_20	16 25 54.8	
	comp=Z,3µm,18.0s						
UTMT	University of	114.76	42	IAMs_20	IAMs_20	16 19 43.5	
	comp=Z,5µm,20.0s						
KEST	Kesra	115.11	317	IAMs_20	IAMs_20	16 27 47.6	
	comp=Z,4µm,20.0s						
OXF	Oxford	115.42	44	IAMs_20	IAMs_20	16 23 19.5	
	comp=Z,4µm,20.0s						
T47A	Sharon Grove	115.53	41	IAMs_20	IAMs_20	16 19 37.8	
	comp=Z,4µm,20.0s						
WVT	Waverly	115.56	42	IAMs_20	IAMs_20	16 20 26.9	
	comp=Z,4µm,20.0s						
TLIG	Tlapa	115.78	65	IAMs_20	IAMs_20	16 22 26.4	
	comp=Z,4µm,19.0s						
DELO	Deloro Mine	115.83	29	IAMs_20	IAMs_20	16 21 04.0	
	comp=Z,4µm,21.0s						
TRQ	Mont Tremblant	115.94	26	IAMs_20	IAMs_20	16 25 06.5	
	comp=Z,5µm,21.0s						
PLAL	Pickwick Lake	116.06	43	IAMs_20	IAMs_20	16 21 48.3	
	comp=Z,4µm,21.0s						
SOE	Somerset East	116.08	239	IAMs_20	IAMs_20	16 32 53.9	
	comp=Z,6µm,22.0s						
J54A	Appleton	116.24	31	IAMs_20	IAMs_20	16 23 19.1	
	comp=Z,5µm,21.0s						
ERPA	Erie	116.37	32	IAMs_20	IAMs_20	16 18 50.7	
	comp=Z,5µm,21.0s						
V48A	Smith Brothers	116.45	42	IAMs_20	IAMs_20	16 21 10.4	
	comp=Z,3µm,20.0s						
CLTN	Cedars of Leba	116.57	41	IAMs_20	IAMs_20	16 23 55.3	
	comp=Z,4µm,20.0s						
U49A	Red Boiling Sp	116.67	40	IAMs_20	IAMs_20	16 20 10.8	
	comp=Z,4µm,21.0s						
WVNY	West Valley, N	116.89	31	IAMs_20	IAMs_20	16 26 44.2	
	comp=Z,4µm,19.0s						
MNTQ	Montreal, Queb	116.91	26	IAMs_20	IAMs_20	16 22 44.0	
	comp=Z,5µm,21.0s						
O53A	New Philadelph	117.00	35	Pdiff	PKiKP	15 33 10.4	+0.3
	baz=313						
X48A	Hartselle	117.06	43	IAMs_20	IAMs_20	16 17 22.7	
	comp=Z,4µm,20.0s						
Z47A	Carrollton	117.08	45	IAMs_20	IAMs_20	16 31 53.5	
	comp=Z,4µm,18.0s						
346A	Big Creek Wild	117.09	47	IAMs_20	IAMs_20	16 30 33.0	
	comp=Z,4µm,18.0s						
LONY	Lake Ozonia	117.17	27	IAMs_20	IAMs_20	16 24 43.4	
	comp=Z,5µm,21.0s						
LONY	Lake Ozonia	117.17	27	Pdiff	PKPdf	15 33 10.2	-0.1
	baz=321						
S51A	Beattyville	117.33	38	IAMs_20	IAMs_20	16 17 46.0	
	comp=Z,6µm,21.0s						
SWET	Sewanee	117.35	42	IAMs_20	IAMs_20	16 24 24.1	
	comp=Z,3µm,20.0s						
J57A	Williamstown	117.44	29	IAMs_20	IAMs_20	16 22 12.5	
	comp=Z,6µm,21.0s						
FRNY	Flat Rock	117.45	27	IAMs_20	IAMs_20	16 25 50.4	
	comp=Z,4µm,20.0s						
M55A	Ridgway	117.48	32	IAMs_20	IAMs_20	16 22 11.0	
	comp=Z,5µm,21.0s						
L56A	Greenwood	117.62	31	IAMs_20	IAMs_20	16 28 10.4	
	comp=Z,5µm,18.0s						
E62A	Clayton Lake	117.67	23	IAMs_20	IAMs_20	16 23 40.7	
	comp=Z,5µm,20.0s						
W50A	Signal Mountai	117.77	41	IAMs_20	IAMs_20	16 18 46.0	
	comp=Z,4µm,22.0s						
J58A	Remsen	117.82	29	IAMs_20	IAMs_20	16 22 43.3	
	comp=Z,5µm,20.0s						
Y49A	Blount Mountai	117.83	43	IAMs_20	IAMs_20	16 23 00.2	
	comp=Z,5µm,21.0s						
NCB	Newcomb	117.84	28	IAMs_20	IAMs_20	16 25 47.8	
	comp=Z,4µm,20.0s						
LRAL	Lakeview Retre	117.91	44	IAMs_20	IAMs_20	16 32 03.3	
	comp=Z,4µm,18.0s						
LRAL	Lakeview Retre	117.91	44	Pdiff	PKPdf	15 33 11.8	-0.3
	baz=305						
FPAL	Fort Paine	117.97	42	IAMs_20	IAMs_20	16 23 48.5	
	comp=Z,4µm,21.0s						
TZTN	Tazewell	118.05	39	IAMs_20	IAMs_20	16 16 51.3	
	comp=Z,6µm,20.0s						
TZTN	Tazewell	118.05	39	Pdiff	PKPdf	15 33 11.7	-0.6
	baz=310						
F62A	Pittston Farm,	118.10	23	IAMs_20	IAMs_20	16 23 14.1	
	comp=Z,6µm,21.0s						
J59A	Piesco	118.10	28	IAMs_20	IAMs_20	16 24 21.8	
	comp=Z,5µm,20.0s						
CPCT	Cooper Cave	118.12	41	IAMs_20	IAMs_20	16 19 41.4	
	comp=Z,5µm,22.0s						
VT1	Waterbury	118.21	26	IAMs_20	IAMs_20	16 25 29.8	
	comp=Z,4µm,20.0s						
M57A	Sunshine Farm,	118.42	31	IAMs_20	IAMs_20	16 28 36.8	
	comp=Z,5µm,19.0s						
X51A	Calhoun	118.45	42	IAMs_20	IAMs_20	16 21 11.1	
	comp=Z,4µm,21.0s						
V52A	Sevierville	118.47	40	IAMs_20	IAMs_20	16 24 00.4	
	comp=Z,5µm,20.0s						
SSPA	Standing Stone	118.54	32	IAMs_20	IAMs_20	16 21 35.0	
	comp=Z,4µm,21.0s						
SSPA	Standing Stone	118.54	32	Pdiff	PKPdf	15 33 12.9	-0.2
	baz=316						
ACCN	Adirondack Com	118.55	28	IAMs_20	IAMs_20	16 25 45.6	
	comp=Z,4µm,20.0s						
F63A	Nahmakanta, Br	118.59	23	IAMs_20	IAMs_20	16 24 52.2	
	comp=Z,4µm,21.0s						
LBNH	Lisbon	118.64	26	IAMs_20	IAMs_20	16 25 53.1	
	comp=Z,4µm,20.0s						
W52A	Murphy	118.72	41	IAMs_20	IAMs_20	16 22 18.3	
	comp=Z,6µm,21.0s						
F64A	Sherman	118.75	22	IAMs_20	IAMs_20	16 22 47.2	
	comp=Z,5µm,21.0s						
L59A	Walton	118.82	29	IAMs_20	IAMs_20	16 22 54.1	
	comp=Z,5µm,22.0s						
PKME	Peaks-Kenny Pk	118.89	23	IAMs_20	IAMs_20	16 24 32.3	
	comp=Z,5µm,22.0s						
HNH	Hanover	118.91	26	IAMs_20	IAMs_20	16 23 46.1	
	comp=Z,4µm,20.0s						
KSPA	Keystone Colle	118.94	30	IAMs_20	IAMs_20	16 25 29.4	
	comp=Z,5µm,20.0s						
DRLN	Deer Lake	118.97	13	IAMs_20	IAMs_20	16 24 25.1	
	comp=Z,5µm,21.0s						
Z51A	Franklin	118.99	43	IAMs_20	IAMs_20	16 23 33.6	
	comp=Z,5µm,20.0s						
N58A	Sunbury	119.00	31	IAMs_20	IAMs_20	16 29 13.0	
	comp=Z,5µm,18.0s						
250A	Grady	119.02	45	IAMs_20	IAMs_20	16 32 28.9	
	comp=Z,5µm,18.0s						
TRY	Troy	119.06	28	IAMs_20	IAMs_20	16 25 08.1	
	comp=Z,5µm,21.0s						
J61A	Chester	119.08	27	IAMs_20	IAMs_20	16 27 12.6	
	comp=Z,3µm,20.0s						
I62A	Tamworth	119.19	26	IAMs_20	IAMs_20	16 19 44.3	
	comp=Z,5µm,22.0s						
WVL	Waterville	119.32	24	IAMs_20	IAMs_20	16 23 42.5	
	comp=Z,5µm,21.0s						
I63A	Otisfield	119.37	25	IAMs_20	IAMs_20	16 22 50.9	
	comp=Z,6µm,21.0s						
Y52A	Lilburn	119.39	42	IAMs_20	IAMs_20	16 24 48.2	
	comp=Z,5µm,20.0s						
G65A	Princeton	119.60	22	IAMs_20	IAMs_20	16 25 41.8	
	comp=Z,4µm,20.0s						
152A	Waverly Hall	119.68	43	IAMs_20	IAMs_20	16 24 07.0	
	comp=Z,5µm,20.0s						
L61B	Northampton	119.73	28	IAMs_20	IAMs_20	16 24 53.9	
	comp=Z,5µm,21.0s						
K62A	Royalston	119.76	27	IAMs_20	IAMs_20	16 22 17.6	
	comp=Z,4µm,20.0s						
MVL	Millersville	119.81	32	IAMs_20	IAMs_20	16 22 56.5	
	comp=Z,4µm,21.0s						
LUPA	Lehigh Univers	119.86	31	IAMs_20	IAMs_20	16 30 25.8	
	comp=Z,4µm,19.0s						
ODNJ	Ogdensburg	119.88	30	IAMs_20	IAMs_20	16 26 16.0	
	comp=Z,5µm,20.0s						
SDMD	Soldier's Deli	119.98	33	IAMs_20	IAMs_20	16 23 38.1	
	comp=Z,3µm,20.0s						
QUA2	Belchertown	120.02	28	IAMs_20	IAMs_20	16 25 12.4	
	comp=Z,4µm,20.0s						
TRNY	Table Rock, Ra	120.02	30	IAMs_20	IAMs_20	16 25 14.7	
	comp=Z,5µm,21.0s						
EMMW	East Machias	120.06	23	IAMs_20	IAMs_20	16 26 05.9	
	comp=Z,4µm,22.0s						
GOGA	Godfrey	120.06	42	IAMs_20	IAMs_20	16 25 07.0	
	comp=Z,5µm,21.0s						
HRV	Adam Dziewonsk	120.19	27	IAMs_20	IAMs_20	16 22 51.9	
	comp=Z,3µm,20.0s						
HRV	Adam Dziewonsk	120.19	27	Pdiff	PKPdf	15 33 15.4	-0.8
	baz=323						
WUPA	West Chester U	120.24	31	IAMs_20	IAMs_20	16 27 08.9	
	comp=Z,3µm,20.0s						
PAULI	Pauline	120.24	40	IAMs_20	IAMs_20	16 21 55.2	
	comp=Z,6µm,22.0s						
352A	Blakely	120.24	45	IAMs_20	IAMs_20	16 33 07.1	
	comp=Z,5µm,18.0s						
PAL	Palisades	120.28	29	IAMs_20	IAMs_20	16 26 56.5	
	comp=Z,4µm,20.0s						
PAL	Palisades	120.28	29	Pdiff	PKPdf	15 33 15.7	-0.6
	baz=320						
CART	Cartagena	120.36	325	IAMs_20	IAMs_20	16 27 06.4	
	comp=Z,5µm,21.0s						
WES	Weston	120.39	27	IAMs_20	IAMs_20	16 20 39.3	
	comp=Z,4µm,21.0s						
WSPT	Westport, CT	120.43	29	IAMs_20	IAMs_20	16 24 12.5	
	comp=Z,5µm,20.0s						
UCCT	U. Connecticut	120.45	28	IAMs_20	IAMs_20	16 25 25.1	
	comp=Z,5µm,21.0s						
ESDC	Sonseca Array	120.46	328	PKP	PKiKP	15 33 17.8	+0.8
	comp=Z,0.3nm,0.6s,baz=7.2,slow=2.8,SNR=1.6						
BCX	Boston College	120.50	27	IAMs_20	IAMs_20	16 26 49.1	
	comp=Z,3µm,20.0s						
YLE	Yale	120.50	29	IAMs_20	IAMs_20	16 26 48.4	
	comp=Z,5µm,21.0s						
N62A	Caumsett State	120.55	29	IAMs_20	IAMs_20	16 27 41.6	
	comp=Z,4µm,20.0s						
BRYW	Bryant College	120.67	27	IAMs_20	IAMs_20	16 22 53.7	
	comp=Z,4µm,20.0s						
PGAV	Gavieira, Arco	120.77	333	eLR	LR	16 14 05.5	
	comp=Z,6µm,18.0s						
MVO	Moncorvo	120.83	332	ePKPdf	PKiKP	15 33 23.8	+6.1
MVO	Moncorvo	120.83	332	eLR	LR	16 16 45.2	
	comp=Z,5µm,22.0s						
M63A	Gales Ferry	120.85	28	IAMs_20	IAMs_20	16 25 25.4	
	comp=Z,4µm,20.0s						
P61A	Hammonton	120.85	31	IAMs_20	IAMs_20	16 32 12.9	
	comp=Z,4µm,20.0s						
JSC	Jenkinsville	120.94	40	IAMs_20	IAMs_20	16 19 16.7	
	comp=Z,6µm,22.0s						
L64A	Middleborough	120.97	27	IAMs_20	IAMs_20	16 20 57.5	
	comp=Z,3µm,20.0s						
POLO	Lamas de Olo	121.02	332	ePKPdf	PKiKP	15 33 25.5	+7.4
M65A	Busby, Falmout	121.35	27	IAMs_20	IAMs_20	16 23 36.7	
	comp=Z,4µm,20.0s						
PVIS	Viseu	121.59	332	ePKPdf	PKiKP	15 33 24.3	+5.1
MTE	Manteigas	121.68	331	ePKPdf	PKiKP	15 33 20.0	+0.6
MTE	Manteigas	121.68	331	eLR	LR	16 17 15.3	
	comp=Z,5µm,20.0s						
MTE	Manteigas	121.68	331	IAMs_20	IAMs_20	16 28 18.4	
	comp=Z,6µm,22.0s						
PCBR	Castelo Branco	122.08	331	ePKPdf	PKiKP	15 33 21.0	+0.9
PMRV	Marv??o	122.36	331	eLR	LR	16 17 45.1	
	comp=Z,5µm,22.0s						
PCAS	Casmilo, Conde	122.40	332	ePKPdf	PKiKP	15 33 23.4	+2.7
PMTG	Montargil	123.05	331	ePKPdf	PKiKP	15 33 23.2	+1.2
PBAR	Barrancos	123.16	329	ePKPdf	PKPdf	15 33 21.7	-0.3

TEIG	**Tepich**	**123.60**	**58**	IAMs_20	IAMs_20	16 21 49.4			
	comp=Z,3µm,19.0s								
PBEJ	**Beja**	**123.69**	**330**	*e*PKPdf	**PKiKP**	**15 33 30.8**	**+7.5**		
PETF	**Flores**	**123.70**	**62**	IAMs_20	IAMs_20	16 29 42.7			
	comp=Z,3µm,19.0s								
LIS	**Lisbon**	**123.76**	**331**	*e*PP	**PP**	**15 35 05.6**	**+0.8**		
LIS				IAMs_20	IAMs_20	16 24 47.3			
	comp=Z,9µm,23.8s								
PNCL	**Nicolau / Gran**	**123.95**	**330**	*e*PKPdf	**PKPdf**	**15 33 21.4**	**-2.1**		
MESJ	**Messejana**	**124.01**	**330**	IAMs_20	IAMs_20	16 28 45.3			
	comp=Z,6µm,22.0s								
MESJ	**Messejana**	**124.01**	**330**	*e*PP	**PP**	**15 35 07.3**	**+0.7**		
MESJ				IAMs_20	IAMs_20	16 23 10.5			
	comp=Z,7µm,27.2s								
ESQI	**Esquipulas**	**125.11**	**64**	IAMs_20	IAMs_20	16 21 36.7			
	comp=Z,3µm,19.0s								
IFR	**Ifrane**	**125.61**	**324**	PKP	**PKiKP**	**15 33 30.2**	**+2.7**		
CAMR	**Camarioca**	**127.67**	**51**	IAMs_20	IAMs_20	16 28 50.8			
	comp=Z,4µm,20.0s								
BOAB	**BOACO BROADBAN**	**129.23**	**65**	IAMs_20	IAMs_20	16 35 24.0			
	comp=Z,4µm,19.0s								
JTS	**Las Juntas de**	**130.73**	**67**	IAMs_20	IAMs_20	16 20 24.9			
	comp=Z,3µm,20.0s								
BBSR	**BB Station**	**131.60**	**29**	IAMs_20	IAMs_20	16 32 01.1			
	comp=Z,3µm,20.0s								
HDC	**Heredia**	**131.60**	**67**	IAMs_20	IAMs_20	16 21 17.0			
	comp=Z,3µm,20.0s								
TORD	**Torodi Ar. Bea**	**132.86**	**298**	PKP	**PKPdf**	**15 33 41.3**	**+0.2**		
	comp=Z,4.3nm,1.0s,baz=38,slow=3.2,SNR=14								
TORD				PP	**PP**	**15 36 10.6**	**+4.6**		
	comp=Z,1.5nm,0.8s,baz=48,slow=5.9,SNR=3.6								
MTDJ	**Mount Denham**	**133.34**	**53**	IAMs_20	IAMs_20	16 33 12.6			
	comp=Z,3µm,22.0s								
BRU2	**Volcan**	**133.36**	**68**	IAMs_20	IAMs_20	16 21 30.8			
	comp=Z,3µm,20.0s								
GTBY	**Guantanamo Bay**	**134.22**	**49**	IAMs_20	IAMs_20	16 35 09.2			
	comp=Z,3µm,20.0s								
AY01	**Puyuhuapi**	**135.48**	**146**	IAMs_20	IAMs_20	16 31 48.6			
	comp=Z,3µm,18.0s								
BCIP	**Isla Barro Col**	**135.79**	**66**	IAMs_20	IAMs_20	16 22 58.9			
	comp=Z,4µm,20.0s								
EFI	**East Falkland**	**135.83**	**164**	IAMs_20	IAMs_20	16 35 32.5			
	comp=Z,4µm,20.0s								
LL07	**Hotel Espejo d**	**136.01**	**144**	IAMs_20	IAMs_20	16 23 23.0			
	comp=Z,3µm,20.0s								
LL06	**Loncomilla**	**136.30**	**143**	IAMs_20	IAMs_20	16 33 10.7			
	comp=Z,4µm,19.0s								
LL02	**Futaleuf**	**136.71**	**145**	IAMs_20	IAMs_20	16 26 38.4			
	comp=Z,4µm,20.0s								
LL05	**Los Muermos**	**136.88**	**142**	IAMs_20	IAMs_20	16 26 30.1			
	comp=Z,3µm,20.0s								
LL01	**San Ignacio de**	**136.91**	**144**	IAMs_20	IAMs_20	16 26 46.7			
	comp=Z,3µm,21.0s								
SDDR	**Presa de Saban**	**137.62**	**47**	IAMs_20	IAMs_20	16 32 32.9			
	comp=Z,4µm,20.0s								
LL03	**Petrohue**	**137.69**	**143**	IAMs_20	IAMs_20	16 23 44.4			
	comp=Z,3µm,22.0s								
SALI	**Salinas**	**138.31**	**82**	IAMs_20	IAMs_20	16 34 05.8			
	comp=Z,3µm,18.0s								
PLCA	**Paso Flores**	**139.03**	**144**	IAMs_20	IAMs_20	16 32 59.9			
	comp=Z,3µm,18.0s								
PLCA	**Paso Flores**	**139.03**	**144**	PKhKP	PKPpre	15 33 49.1			
	comp=Z,6.8nm,1.0s,baz=185,slow=1.1,SNR=3.1								
ARNL	**Arenillas**	**139.49**	**84**	IAMs_20	IAMs_20	16 23 22.3			
	comp=Z,2µm,20.0s								
BI05	**Punta Hualpn**	**139.73**	**137**	IAMs_20	IAMs_20	16 34 17.9			
	comp=Z,2µm,19.0s								
TULM	**Tulcn-Chalpat**	**140.68**	**76**	IAMs_20	IAMs_20	16 24 33.1			
	comp=Z,4µm,21.0s								
ML02	**Panimavida**	**141.46**	**137**	IAMs_20	IAMs_20	16 25 06.9			
	comp=Z,3µm,21.0s								
DBIC	**Dimbokro**	**141.50**	**294**	PKhKP	PKPpre	15 33 54.1			
	comp=Z,12nm,0.9s,baz=57,slow=3.8,SNR=7.2								
KIC	**Kosan Boka**	**141.52**	**294**⇑	*e*P	**PKPdf**	**15 33 52.1**	**-5.0**		
	comp=Z,43nm,1.0s								
GO05	**Huala**	**141.53**	**135**	IAMs_20	IAMs_20	16 23 12.7			
	comp=Z,4µm,22.0s								
TIC	**Toumodi**	**141.66**	**294**⇑	*e*P	**PKPdf**	**15 33 54.6**	**-2.8**		
	comp=Z,5.9nm,0.3s								
ATAH	**Atahualpa**	**141.70**	**89**	PKhKP	PKPpre	15 33 55.2			
	comp=Z,6.0nm,0.8s,baz=258,slow=2.4,SNR=7.6								
SJG	**San Juan**	**141.80**	**43**	IAMs_20	IAMs_20	16 33 20.9			
	comp=Z,4µm,22.0s								
LIC	**Lamto**	**141.84**	**294**⇓	*e*P	**PKPdf**	**15 33 52.7**	**-5.0**		
	comp=Z,44nm,0.9s								
BO02	**Sierra Bellavi**	**142.44**	**136**	PKPdf	**PKPdf**	**15 33 59.3**	**+1.0**		
BO02				IAMs_20	IAMs_20	16 24 04.7			
	comp=Z,4µm,22.0s								
VA05	**Santo Domingo**	**142.46**	**134**	IAMs_20	IAMs_20	16 24 40.6			
	comp=Z,3µm,22.0s								
MT01	**Popeta**	**142.61**	**134**	IAMs_20	IAMs_20	16 30 01.5			
	comp=Z,3µm,19.0s								
VA01	**Torpederas**	**142.76**	**133**	IAMs_20	IAMs_20	16 25 16.9			
	comp=Z,3µm,21.0s								
MT09	**Talagante**	**142.84**	**134**	IAMs_20	IAMs_20	16 31 02.6			
	comp=Z,2µm,19.0s								
BO04	**La Punta**	**142.99**	**135**	PKPdf	**PKPdf**	**15 33 59.3**	**0.0**		
BO04				IAMs_20	IAMs_20	16 29 16.6			
	comp=Z,3µm,18.0s								
MT02	**Curacav**	**143.01**	**134**	IAMs_20	IAMs_20	16 24 34.1			
	comp=Z,4µm,22.0s								
MT05	**Renca**	**143.22**	**134**	IAMs_20	IAMs_20	16 24 50.8			
	comp=Z,4µm,21.0s								
MT03	**Universidad Ad**	**143.33**	**134**	IAMs_20	IAMs_20	16 31 24.6			
	comp=Z,3µm,19.0s								
MT13	**San Alfonso**	**143.35**	**135**	IAMs_20	IAMs_20	16 48 26.1			
	comp=Z,3µm,19.0s								
LMEL	**Las Melosas**	**143.35**	**135**	IAMs_20	IAMs_20	16 29 29.0			
	comp=Z,3µm,19.0s								
PEL	**Peldehue**	**143.39**	**134**	IAMs_20	IAMs_20	16 24 46.5			
	comp=Z,4µm,22.0s								
NNA	**Nana**	**143.56**	**97**	IAMs_20	IAMs_20	16 41 35.0			
	comp=Z,3µm,18.0s								
NNA	**Nana**	**143.56**	**97**	PKP	PKPbc	15 33 58.9	+0.8		
	comp=Z,25nm,1.1s,baz=299,slow=2.8,SNR=5.4								
HATO	**Hato, Curacao**	**143.56**	**53**	IAMs_20	IAMs_20	16 35 53.6			
	comp=Z,3µm,22.0s								
MT08	**Bocatoma Ro**	**143.70**	**135**	IAMs_20	IAMs_20	16 40 42.4			
	comp=Z,3µm,20.0s								
SDV	**Santo Domingo**	**143.99**	**60**	IAMs_20	IAMs_20	16 44 56.0			
	comp=Z,3µm,21.0s								
CO02	**Combarbal**	**144.15**	**131**	PKPdf	PKPbc	15 34 00.3	+0.8		
CO02				IAMs_20	IAMs_20	16 25 35.5			
	comp=Z,3µm,21.0s								
CO03	**El Pedregal**	**144.56**	**130**	PKPdf	PKPbc	15 34 01.2	+0.4		
LCO	**Las Campanas**	**145.40**	**128**		**PKPab**	**15 34 04.8**	**+0.8**		
LCO	**Las Campanas**	**145.40**	**128**	IAMs_20	IAMs_20	16 28 37.1			
	comp=Z,3µm,20.0s								
LCO	**Las Campanas**	**145.40**	**128**	PKIKP	**PKPab**	**15 34 04.8**	**+0.8**		
LCO				MLR	MLR				
	comp=Z,3µm,20.0s								
AC04	**Llanos de Chal**	**145.46**	**126**		**PKPab**	**15 34 04.2**	**+0.3**		
TRQA	**Tornquist**	**145.66**	**148**	IAMs_20	IAMs_20	16 42 56.9			
	comp=Z,4µm,21.0s								
ZON	**Zonda**	**145.68**	**133**	IAMs_20	IAMs_20	16 25 25.7			
	comp=Z,4µm,21.0s								
AC05	**El Transito**	**145.82**	**128**		**PKPab**	**15 34 05.6**	**+0.3**		
AC05				IAMs_20	IAMs_20	16 27 03.0			
	comp=Z,3µm,21.0s								
AC06	**Mina Casimiro**	**146.40**	**125**	IAMs_20	IAMs_20	16 27 26.6			
	comp=Z,3µm,20.0s								
AC01	**Pan de Azucar**	**146.69**	**123**	IAMs_20	IAMs_20	16 30 08.5			
	comp=Z,3µm,19.0s								
GO02	**Mina Guanaco**	**147.91**	**122**	IAMs_20	IAMs_20	16 26 15.9			
	comp=Z,4µm,22.0s								
PCRV	**Puerto La Cruz**	**148.15**	**52**	PKPbc	**PKPbc**	**15 34 11.0**	**-0.8**		
	comp=Z,11nm,0.7s,baz=288,slow=6.4,SNR=1.8								
PB05	**IPOC Station P**	**148.20**	**117**	IAMs_20	IAMs_20	16 29 40.9			
	comp=Z,4µm,20.0s								
PB15	**IPOC Station P**	**148.72**	**119**	IAMs_20	IAMs_20	16 30 47.6			
	comp=Z,3µm,19.0s								
PB06	**IPOC Station P**	**148.80**	**118**	IAMs_20	IAMs_20	16 28 49.7			
	comp=Z,4µm,20.0s								
PB07	**IPOC Station P**	**148.82**	**116**	IAMs_20	IAMs_20	16 55 01.5			
	comp=Z,3µm,21.0s								
PATCX	**Punta Patache**	**148.84**	**114**	IAMs_20	IAMs_20	16 30 37.0			
	comp=Z,2µm,20.0s								
TA01	**Diego Aracena**	**148.88**	**113**		**PKiKP**	**15 34 14.3**	**-0.6**		
TA01				IAMs_20	IAMs_20	16 55 37.1			
	comp=Z,3µm,20.0s								
PB02	**IPOC Station P**	**148.93**	**115**	IAMs_20	IAMs_20	16 55 14.4			
	comp=Z,3µm,21.0s								
GRGR	**Grenville**	**149.06**	**45**	IAMs_20	IAMs_20	16 40 48.8			
	comp=Z,4µm,22.0s								
PB12	**IPOC Station P**	**149.20**	**110**		**PKPdf**	**15 34 11.2**	**+0.9**		
PB12				IAMs_20	IAMs_20	16 27 48.7			
	comp=Z,3µm,21.0s								
AP01	**Chacalluta**	**149.24**	**109**	IAMs_20	IAMs_20	16 30 27.7			
	comp=Z,3µm,20.0s								
PB09	**IPOC Station P**	**149.38**	**116**	IAMs_20	IAMs_20	16 29 35.1			
	comp=Z,3µm,21.0s								
PB01	**IPOC Station P**	**149.38**	**115**	IAMs_20	IAMs_20	16 54 50.2			
	comp=Z,2µm,20.0s								
LVC	**Limon Verde**	**149.41**	**118**	IAMs_20	IAMs_20	16 28 57.8			
	comp=Z,4µm,20.0s								
PB11	**IPOC Station P**	**149.56**	**112**		**PKPdf**	**15 34 11.9**	**+1.0**		
PB11				IAMs_20	IAMs_20	16 30 50.2			
	comp=Z,2µm,20.0s								
PB08	**IPOC Station P**	**149.92**	**113**	IAMs_20	IAMs_20	16 53 55.7			
	comp=Z,2µm,21.0s								
AF01	**San Pedro de A**	**149.93**	**119**	IAMs_20	IAMs_20	16 30 57.5			
	comp=Z,4µm,20.0s								
GO01	**Chusmiza**	**150.01**	**112**	IAMs_20	IAMs_20	16 25 38.0			
	comp=Z,2µm,22.0s								
PB16	**IPOC Station P**	**150.02**	**109**		**PKPdf**	**15 34 13.6**	**+1.5**		
PB16				IAMs_20	IAMs_20	16 28 15.4			
	comp=Z,3µm,21.0s								
SACV	**Santiago Islan**	**150.48**	**327**	IAMs_20	IAMs_20	16 39 21.8			
	comp=Z,2µm,22.0s								
ASCN	**Ascension**	**154.84**	**273**	IAMs_20	IAMs_20	16 59 55.1			
	comp=Z,2µm,20.0s								
CPUP	**Villa Florida**	**156.75**	**137**	IAMs_20	IAMs_20	16 50 50.7			
	comp=Z,3µm,20.0s								
CPUP	**Villa Florida**	**156.75**	**137**	PKP	**PKPdf**	**15 34 20.6**	**-0.3**		
	comp=Z,2.7nm,0.9s,baz=236,slow=3.6,SNR=5.1								
CPUP				PKPab	**PKPab**	**15 34 49.8**	**-0.5**		
	comp=Z,8.1nm,1.1s,baz=221,slow=4.9,SNR=5.5								

*IDC **09** 15:19:38.3±6.3, 20.57°S×178.42°W, h579km±67km, mb3.3/8, mbtmp4.2/8, Error ellipse: s-maj=59.7km s-min=27.3km az=145.0*

ISC 09 15:19:38.5±1.5, **20.6°S**±0.4×**178.5°W**±0.2, **h587km**, **n13**, **σ0.88/13**, **mb3.8/8**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.07**	**257**	P	**P**	**15 26 56.6**	**+0.7**
	1.5nm,0.5s,baz=88,slow=8.3,SNR=13						
	1.5nm,0.5s						
WRA	**Warramunga Arr**	**44.16**	**262**	P	**P**	**15 26 57.0**	**+0.3**
	0.6nm,0.3s,baz=97,slow=7.2,SNR=26						
	0.6nm,0.3s						
PETK	**Petropavlovsk-**	**76.30**	**345**	P	**P**	**15 30 28.0**	**+0.3**
	4.8nm,0.9s,baz=135,slow=7.6,SNR=5.5						
	4.8nm,0.9s						
SEY	**Seymchan**	**86.42**	**347**	P	**P**	**15 31 19.6**	**+0.5**
	3.7nm,0.7s,baz=178,slow=15,SNR=7.9						
	3.7nm,0.7s						
TXAR	**Lajitas Array**	**87.49**	**57**	P	**P**	**15 31 26.2**	**+1.1**
	0.7nm,0.9s,baz=207,slow=5.3,SNR=3.6						
	0.7nm,0.9s						
ILAR	**Eielson Array**	**88.55**	**13**	P	**P**	**15 31 28.6**	**-0.4**
	0.7nm,0.4s,baz=216,slow=5.4,SNR=12						
	0.7nm,0.4s						
PDAR	**Pinedale Array**	**89.36**	**43**	P	**P**	**15 31 33.4**	**-0.2**
	0.8nm,0.7s,baz=214,slow=4.1,SNR=3.9						
	0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.77**	**290**	P	**P**	**15 31 35.3**	**-0.5**
	0.9nm,0.9s,baz=134,slow=3.9,SNR=3.0						
	0.9nm,0.9s						
BVAR	**Borovoye Array**	**118.92**	**320**	PKP	**PKPdf**	**15 37 20.9**	**0.0**
	0.9nm,0.5s,baz=86,slow=4.3,SNR=4.2						
ARCES	**ARCESS Array B**	**128.99**	**349**	PKP	**PKPdf**	**15 37 39.1**	**-0.6**
	5.0nm,1.0s,baz=350,slow=3.7,SNR=4.3						
AKASG	**Malin Array Be**	**142.93**	**331**	PKP	**PKPdf**	**15 38 04.0**	**-1.9**
	4.1nm,0.5s,baz=42,slow=4.4,SNR=31						
BRTR	**Keskin Array B**	**146.62**	**312**	PKPbc	**PKPbc**	**15 38 16.4**	**+0.9**
	1.1nm,0.6s,baz=141,slow=5.3,SNR=5.5						
MMAI	**Mount Meron Ar**	**147.52**	**299**	PKPbc	**PKiKP**	**15 38 19.0**	**-0.5**
	2.1nm,0.5s,baz=69,slow=4.6,SNR=6.8						

JMA 09 15:23:46.2±0.0, **33.0°N**±0.1×**131.1°E**±0.1, **h11km**, **MV2.6/20**, **1C, NE KUMAMOTO PREF, Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.23**	**306**	*i* P	Pg	15 23 51.2	+0.1
JNU				S	Sg	15 23 54.5	+0.1
JNU	**Nakatsue**	**0.23**	**306**	⇑S	Pg	15 23 51.1	0.0
JTA	**Tamana**	**0.48**	**267**	*i* P	Pg	15 23 55.6	0.0
JTA				S	Sg	15 24 01.9	0.0
JIU3	**Izumi3**	**0.50**	**209**	*i* P	Pg	15 23 56.1	+0.1
JUS	**Usuki**	**0.55**	**82**	*i* P	Pg	15 23 56.6	-0.4
JUS				S	Sg	15 24 04.7	+0.4

*IDC **09** 15:29:52.4±0.7, 9.40°N×78.85°W, h60km±4km, mb4.1/9, mbtmp4.5/11, MS4.5/2, Error ellipse: s-maj=20.6km s-min=12.5km az=12.0*

*CATAC **09** 15:29:53.3±0.4, 9.97°N×79.08°W, h0km, MB5.3, mb5.0, ML4.9*

*NEIC **09** 15:29:54.1±2.8, 9.64°N±0.08°×78.96°W±0.06, h56km±11km, mb4.5/78, Error ellipse: s-maj=12.4km s-min=8.5km az=177.0*

*UPA **09** 15:29:54.7±1.0, 9.39°N×78.95W, h55km±3km, MW4.6, Fault plane solution: NP1:φs=0.00000°, δ=37.00000°, λ=-142.00000°.*

*UCR **09** 15:30:00.3±1.1, 9.80°N×79.64W, h0km±129km, MW4.2, MB4.5(NEIC)*

ISC 09 15:29:53.0±0.5, **9.55N**±0.03×**78.89W**±0.03, **h60**km±4km, **n555**, **σ1.9/14/599**, **mb4.5**/45, **20C-22D, Panama**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNTA3	**Canitas, Panam**	**0.33**	**180**⇓	*i* P	**Pn**	**15 30 02.8**	**-0.5**
CNTA3				S	**Sn**	**15 30 09.2**	**-1.6**
CNTA3	**Canitas, Panam**	**0.33**	**180**⇓	P	**Pn**	**15 30 02.8**	**-0.5**
CNTA3				*i* S	**Sn**	**15 30 09.8**	**-1.0**
CHPO	**Chepo, Panama**	**0.44**	**211**	*e* P	**Pn**	**15 30 03.7**	**-0.7**
CHPO				*e* S	**Sn**	**15 30 11.3**	**-1.2**
CHPO	**Chepo, Panama**	**0.44**	**211**	⇓*i* P	**Pn**	**15 30 03.7**	**-0.7**
CHPO				*e* S	**Sn**	**15 30 11.3**	**-1.2**
TOTI	**Torti**	**0.84**	**137**	*e* P	**Pn**	**15 30 09.4**	**+0.4**
TOTI				*e* S	**Sn**	**15 30 20.9**	**+0.1**
TOTI	**Torti**	**0.84**	**137**	⇑*i* P	**Pn**	**15 30 09.2**	**+0.2**
TOTI				*e* S	**Sn**	**15 30 20.9**	**+0.1**
UPA	**Univ. de Panam**	**0.85**	**228**	*e* P	**Pn**	**15 30 08.7**	**-0.5**
UPA				*e* S	**Sn**	**15 30 19.5**	**-1.5**
UPA	**Univ. de Panam**	**0.85**	**228**	⇑*i* P	**Pn**	**15 30 08.4**	**-0.8**
UPA				*e* S	**Sn**	**15 30 19.5**	**-1.5**
ARRA3	**Arraijan, Pana**	**0.96**	**233**	⇑*i* P	**Pn**	**15 30 10.1**	**-0.4**
ARRA3				*i* S	**Sn**	**15 30 21.4**	**-2.0**
TABO3	**Taboga, Panama**	**1.00**	**221**	⇓*i* P	**Pn**	**15 30 10.2**	**-0.9**
TABO3				*e* S	**Sn**	**15 30 22.1**	**-2.3**
BCIP	**Isla Barro Col**	**1.01**	**248**	Pn	**Pn**	**15 30 10.9**	**-0.3**
BCIP				Sn	**Sn**	**15 30 23.4**	**-1.3**
BCIP	**Isla Barro Col**	**1.01**	**248**	*e* P	**Pn**	**15 30 11.0**	**-0.3**
BCIP				*e* S	**Sn**	**15 30 23.0**	**-1.7**
BCIP	**Isla Barro Col**	**1.01**	**248**	⇑*i* P	**Pn**	**15 30 10.9**	**-0.3**
BCIP				*e* P	**Pn**	**15 30 11.0**	**-0.2**
BCIP	**Isla Barro Col**	**1.01**	**248**	*i* P	**Pn**	**15 30 10.9**	**-0.3**
BCIP				*i* S	**Sn**	**15 30 23.1**	**-1.6**
BCIP				IAML		15 30 26.7	
	comp=Z,11µm,1.0s						
UPD2	**Meteti**	**1.32**	**139**	*e* P	**Pn**	**15 30 15.8**	**+0.4**
UPD2				*e* S	**Sn**	**15 30 32.5**	**+0.6**
UPD2	**Meteti**	**1.32**	**139**	⇑*i* P	**Pn**	**15 30 15.7**	**+0.4**
UPD2				*e* S	**Sn**	**15 30 32.5**	**+0.6**
PNME	**Penonome**	**1.77**	**233**	*e* P	**Pn**	**15 30 19.9**	**-0.5**
PNME				*e* S	**Sn**	**15 30 41.1**	**-1.8**
PNME	**Penonome**	**1.77**	**233**	⇑*i* P	**Pn**	**15 30 20.9**	**-0.5**
PNME				*e* S	**Sn**	**15 30 41.1**	**-1.8**
CRIS3	**El Cristo, Coc**	**2.14**	**233**	⇓*i* P	**Pn**	**15 30 25.7**	**-0.7**
CRIS3				*i* S	**Sn**	**15 30 49.2**	**-2.7**
CHIT3	**Chitre**	**2.19**	**224**	*e* P	**Pn**	**15 30 26.1**	**-1.0**
CHIT3				*e* S	**Sn**	**15 30 50.2**	**-2.9**
CHIT3	**Chitre**	**2.19**	**224**	⇑*e* P	**Pn**	**15 30 26.1**	**-1.0**
CHIT3				*e* S	**Sn**	**15 30 50.2**	**-2.9**
AZU	**Azuero**	**2.22**	**218**	*e* P	**Pn**	**15 30 26.4**	**-1.1**
AZU				*e* S	**Sn**	**15 30 51.3**	**-2.6**
AZU	**Azuero**	**2.22**	**218**	⇓*i* P	**Pn**	**15 30 26.4**	**-1.1**
AZU				*i* S	**Sn**	**15 30 50.8**	**-3.1**
AZU				*e* S	**Sn**	**15 30 51.3**	**-2.6**
PCRI3	**Pocri, Los San**	**2.24**	**213**	*e* P	**Pn**	**15 30 27.3**	**-0.5**
PCRI3				*e* S	**Sn**	**15 30 51.4**	**-2.8**
PCRI3	**Pocri, Los San**	**2.24**	**213**	⇓*e* P	**Pn**	**15 30 27.1**	**-0.7**
PCRI3				*e* S	**Sn**	**15 30 51.4**	**-2.8**
CALO3	**Calobre, Verag**	**2.29**	**238**	⇑*e* P	**Pn**	**15 30 28.0**	**-0.4**
SFRA3	**San Francisco,**	**2.43**	**238**	*e* P	**Pn**	**15 30 30.1**	**-0.3**
SFRA3				*e* S	**Sn**	**15 30 57.5**	**-1.5**
SFRA3	**San Francisco,**	**2.43**	**238**⇑	*e* P	**Pn**	**15 30 30.0**	**-0.3**
SFRA3				*e* S	**Sn**	**15 30 57.5**	**-1.5**
ACHO3	**Achotines, Los**	**2.48**	**211**⇓	*i* P	**Pn**	**15 30 30.5**	**-0.4**
STIA3	**Santiago, Vera**	**2.52**	**235**	*e* P	**Pn**	**15 30 30.8**	**-0.7**
STIA3				*e* S	Sn	15 30 47.6	-13
STIA3	**Santiago, Vera**	**2.52**	**235**⇑	*e* P	**Pn**	**15 30 30.8**	**-0.7**
LCBC	**Los crdobas,**	**2.58**	**105**⇑	*e* P	**Pn**	**15 30 34.5**	**+2.1**
LCBC				*e* S	**Sn**	**15 31 00.9**	**-1.7**
PTAC	**Punta Ardita,**	**2.62**	**156**	*e* P	**Pn**	**15 30 31.3**	**-1.6**
PTAC				*e* S	**Sn**	**15 30 59.7**	**-3.8**
PTAC	**Punta Ardita,**	**2.62**	**156**⇑	*i* P	**Pn**	**15 30 31.4**	**-1.6**
PTAC				*e* S	**Sn**	**15 30 59.7**	**-3.8**
RSUS3	**Rio de Jesus,**	**2.73**	**235**	*e* P	**Pn**	**15 30 33.9**	**-0.6**
RSUS3				*e* S	**Sn**	**15 31 04.0**	**-2.4**
RSUS3	**Rio de Jesus,**	**2.73**	**235**⇑	*e* P	**Pn**	**15 30 33.9**	**-0.6**
RSUS3				*e* S	**Sn**	**15 31 04.0**	**-2.4**
MARI3	**Mariato, Verag**	**2.81**	**228**	*e* P	**Pn**	**15 30 34.4**	**-1.2**
MARI3				*e* S	**Sn**	**15 31 05.2**	**-3.1**
MARI3	**Mariato, Verag**	**2.81**	**228**⇓	*e* P	**Pn**	**15 30 34.8**	**-0.7**
MARI3				*e* S	**Sn**	**15 31 05.2**	**-3.1**
GMAL	**Guarumal, Vera**	**2.92**	**233**	*i* Pg	**Pn**	**15 30 36.3**	**-0.8**
GMAL				*e* S	**Sn**	**15 31 08.6**	**-2.5**
CACAO	**El Cacao, Vera**	**2.94**	**222**	*e* P	**Pn**	**15 30 37.1**	**-0.2**
CACAO	**El Cacao, Vera**	**2.94**	**222**⇓	*e* P	**Pn**	**15 30 36.9**	**-0.4**
NANC3	**Nancito, Chiri**	**3.10**	**245**	*e* P	**Pn**	**15 30 39.3**	**-0.2**
NANC3				*e* S	**Sn**	**15 31 13.4**	**-2.0**
NANC3	**Nancito, Chiri**	**3.10**	**245**⇓	*e* P	**Pn**	**15 30 39.5**	**0.0**
NANC3				*e* S	**Sn**	**15 31 13.4**	**-2.0**
CHGR2	**Aguacate**	**3.27**	**260**⇓	*e* P	**Pn**	**15 30 42.2**	**+0.3**
GUAL3	**Gualaca, Chiri**	**3.52**	**254**	*e* P	**Pn**	**15 30 46.4**	**+1.2**
LNBQ3	**Los Naranjos,**	**3.59**	**258**⇓	*e* P	**Pn**	**15 30 47.1**	**+0.8**
PTAR3	**Potrerillos Ar**	**3.66**	**257**	*e* P	**Pn**	**15 30 48.6**	**+1.3**
LOCO3	**Loma Colorada,**	**3.67**	**252**	*e* P	**Pn**	**15 30 48.2**	**+0.9**
RGM0	**Gandoca**	**3.67**	**271**	Pn	**Pn**	**15 30 47.6**	**+0.3**
SJCC	**San Jacinto, C**	**3.67**	**84**⇑	*i* P	**Pn**	**15 30 49.2**	**+1.8**
SJCC				*e* S	**Sn**	**15 31 30.2**	**+0.7**
BCO2	**Palmira**	**3.69**	**257**⇓	*i* P	**Pn**	**15 30 48.2**	**+0.5**
BC3P	**Paso Ancho**	**3.75**	**259**⇓	*e* P	**Pn**	**15 30 49.4**	**+0.8**
UREC	**San Jos de Ur**	**3.77**	**118**	*e* P	**Pn**	**15 30 49.2**	**+0.5**
UREC				*e* S	**Sn**	**15 31 32.6**	**+0.8**
UREC	**San Jos de Ur**	**3.77**	**118**⇑	*e* P	**Pn**	**15 30 49.1**	**+0.5**

comp=Z,110nm,1.0s
RCPN Sur Rio San Ju 8.09 300 *i* P **Pn 15 31 48.0 0.0**
RCPN IAmb IAmb 15 31 50.1
comp=Z,0.2nm,0.4s
RCPN IAML 15 31 50.2
comp=Z,0.7nm,1.0s
RCPN IVmB_BB 15 31 50.2
comp=Z,13nm,1.0s
LIMN Finca el Limon 8.12 296 *i* P **Pn 15 31 49.1 +0.7**
LIMN IVmB_BB 15 31 57.1
comp=Z,2µm,1.0s
LIMN IAML 15 31 57.4
comp=Z,210nm,1.0s
LIMN IAmb IAmb 15 31 57.5
comp=Z,170nm,0.7s
SDV Santo Domingo 8.18 94 Pn **Pn 15 31 49.3 +0.1**
SDV Santo Domingo 8.18 94 *i* P **Pn 15 31 49.9 +0.7**
SDV eS **Sn 15 33 17.0 -3.3**
SDV Santo Domingo 8.18 94 P **Pn 15 31 50.0 +0.8**
comp=Z,110nm,0.6s,baz=270,slow=8.3,SNR=137
SDV S **Sn 15 33 16.5 -3.8**
comp=Z,180nm,0.4s,baz=294,slow=11,SNR=20
SDV LR LR 15 36 23.3
comp=Z,92nm,19.2s,baz=272,slow=48
ILCN San Idelfonso 8.24 292 *i* P **Pn 15 31 50.9 +1.0**
ILCN IAmb IAmb 15 31 51.8
comp=Z,51nm,0.5s
ILCN IAML 15 31 51.9
comp=Z,76nm,1.0s
ROCN Rota Cerro Neg 8.26 292 *i* P **Pn 15 31 49.6 -0.6**
ROCN IAML 15 31 49.9
comp=Z,110nm,1.0s
ROCN IVmB_BB 15 31 49.9
comp=Z,1µm,1.0s
ROCN IAmb IAmb 15 31 50.0
comp=Z,68nm,0.6s
PKGN Cerro Pekin 8.52 292 *i* P **Pn 15 31 54.9 +1.1**
PKGN IAmb IAmb 15 32 01.6
comp=Z,150nm,0.6s
PKGN IVmB_BB 15 32 50.9
comp=Z,88µm,1.0s
CRIN San Cristobal 8.60 292 Pn 15 31 56.3 +1.4
MTDJ Mount Denham 8.72 9 Pn **Pn 15 31 56.1 -0.5**
YUSH Yuscaran 8.93 300 *i* P **Pn 15 32 00.3 +0.8**
OTAV Otavalo 9.26 177 Pn **Pn 15 32 06.8 +2.4**
OTAV Otavalo 9.26 177 *i* P **Pn 15 32 06.5 +2.1**
OTAV IAmb IAmb 15 32 34.4
comp=Z,10.0nm,0.9s
BAUV El Baul 10.72 92 Pn **Pn 15 32 22.3 -1.6**
GTBY Guantanamo Bay 10.94 19 Pn **Pn 15 32 30.1 +3.2**
PAPH Port-au-Prince 10.97 35 Pn **Pn 15 32 26.7 -0.5**
CHSH Refugio Sur-Vo 10.97 180 Pn **Pn 15 32 29.6 +1.7**
SDDR Presa de Saban 11.92 37 Pn **Pn 15 32 42.1 +1.8**
COHC Cochancay 11.95 182 Pn **Pn 15 32 42.1 +1.5**
TEIG Tepich 13.95 321 LR LR 15 39 19.5
comp=Z,517nm,19.0s,baz=186,slow=40
PCRV Puerto La Cruz 14.06 86 P **Pn 15 33 08.4 -0.9**
comp=Z,20nm,0.5s,baz=226,slow=6.4,SNR=15
CBE Ff, Capester 18.05 67 P **P 15 33 58.3 -1.3**
SVN Savane Anatole 18.10 71 P **P 15 33 57.5 -2.6**
BIM Bigot 18.11 72 P **P 15 33 57.4 -2.9**
DWPF Disney Wildern 18.62 353 P **P 15 34 04.9 -0.8**
baz=172
GDSD La Dsirade Is 18.62 67 P **P 15 34 01.8 -3.9**
BOAV Boa Vista 19.59 110 Pn 15 34 18.2 -0.1
BOAV IAmb IAmb 15 34 22.2
comp=Z,33nm,1.4s
TIGA Tifton 22.21 349 P **P 15 34 44.2 -0.3**
baz=168
BRAL Brewton 22.81 342 P **P 15 34 50.5 -0.4**
baz=159
NHSC New Hope 23.47 357 P **P 15 34 57.4 +0.1**
baz=177
GOGA Godfrey 24.12 351 P **P 15 35 04.2 +0.9**
GOGA IAmb IAmb 15 35 06.7
comp=Z,14nm,0.9s
GOGA Godfrey 24.12 351 P **P 15 35 04.3 +1.1**
baz=169
LRAL Lakeview Retre 24.54 343 P **P 15 35 08.5 +1.5**
baz=161
VBMS Vicksburg 25.00 336 P **P 15 35 12.6 +1.3**
baz=152
Y49A Blount Mountai 25.16 345 P **P 15 35 14.4 +1.7**
NATX Nacogdoches 26.50 329 P **P 15 35 25.1 +0.2**
baz=143
OXF Oxford 26.65 340 P **P 15 35 26.8 +0.6**
baz=156
833A Chaparral WMA, 26.84 317 P **P 15 35 28.3 +0.2**
833A Chaparral WMA, 26.84 317 P **P 15 35 29.1 +1.1**
baz=130
BLA Blacksburg 27.57 357 P **P 15 35 34.9 +0.4**
baz=177
WVT Waverly 27.68 344 P **P 15 35 35.7 +0.3**
baz=161
WHTX Lake Whitney, 28.19 325 P **P 15 35 41.0 +0.9**
baz=138
JCT Junction City 28.53 320 P **P 15 35 43.7 +0.5**
baz=133
BRDY Brady 28.58 322 P **P 15 35 43.1 -0.5**
BRDY IAmb IAmb 15 35 45.0
comp=Z,7.2nm,0.8s
USIN University of 29.37 346 P **P 15 35 49.4 -1.1**
ABTX Abilene, Hawle 29.91 323 P **P 15 35 56.5 +1.1**
baz=136
MCWV Mont Chateau 29.99 359 P **P 15 35 56.6 +0.7**
baz=178
P52A Corning 30.09 355 P **P 15 35 57.7 +0.8**
baz=174
P49A Miami Univ. Ec 30.31 351 P **P 15 35 58.7 0.0**
baz=169
TUL3 Leonard 30.42 332 P **P 15 36 00.1 +0.3**
baz=146
TXAR Lajitas Array 30.43 314 P **P 15 36 01.2 +1.1**
comp=Z,2.6nm,0.5s,baz=131,slow=9.3,SNR=37
comp=Z,2.6nm,0.5s
TX31 Lajitas Ar. Si 30.43 314 P **P 15 36 00.1 +0.1**
CCM Cathedral Cave 30.48 341 P **P 15 36 01.0 +0.7**
CCM Cathedral Cave 30.48 341 P **P 15 36 01.3 +1.0**
baz=156
O53A New Philadelph 30.64 357 P **P 15 36 02.5 +0.8**
baz=176
ACSO Alum Creek Sta 30.77 354 P **P 15 36 03.5 +0.7**
baz=172
SSPA Standing Stone 30.97 1 P **P 15 36 05.0 +0.5**
baz=182
WMOK Wichita Mounta 30.98 327 P **P 15 36 04.9 +0.1**
WMOK Wichita Mounta 30.98 327 P **P 15 36 05.1 +0.3**
baz=140
MNHN Monahans 31.01 318 P **P 15 36 03.6 -1.5**
MNHN IAmb IAmb 15 36 06.3
comp=Z,6.5nm,0.9s
PAL Palisades 31.64 7 P **P 15 36 10.1 -0.3**
baz=190
BINY Binghamton 32.62 4 P **P 15 36 19.5 +0.5**
baz=185
M65A Busby, Falmout 32.70 11 P **P 15 36 20.8 +1.1**
baz=195
MSTX Muleshoe 32.73 322 P **P 15 36 20.1 -0.2**
baz=132
AAM Ann Arbor 32.89 353 P **P 15 36 22.4 +1.0**
baz=172
MNTX Cornudas Mount 33.00 316 P **P 15 36 22.4 -0.1**
baz=126,SNR=12
L61B Northampton 33.22 8 P **P 15 36 24.5 +0.3**
baz=191
KSU1 Kansas State U 33.43 335 P **P 15 36 26.2 +0.1**
baz=147
HRV Adam Dziewonsk 33.45 10 P **P 15 36 27.1 +0.9**
baz=193
SCIA State Center 34.61 341 P **P 15 36 36.2 -0.1**
baz=155
CBKS Cedar Bluff 34.61 331 P **P 15 36 37.0 +0.5**
baz=142
JFWS Jewell Farm 34.69 345 P **P 15 36 37.7 +0.7**
baz=160
LBNH Lisbon 35.08 9 P **P 15 36 41.4 +1.0**
baz=192
LONY Lake Ozonia 35.14 5 P **P 15 36 41.5 +0.6**
baz=188
121A Cookes Peak, D 35.15 315 P **P 15 36 42.1 +0.8**
121A IAmb IAmb 15 36 44.0
comp=Z,7.5nm,0.8s
121A Cookes Peak, D 35.15 315 P **P 15 36 43.0 +1.6**
baz=124
Y22D IRIS PASSCAL I 35.45 318 P **P 15 36 43.6 -0.3**
baz=127
Y22F Passcal Instru 35.45 318 P **P 15 36 42.8 -1.1**
baz=127
GLMI Grayling 35.49 353 P **P 15 36 44.7 +0.8**
baz=170
ANMO Albuquerque 35.68 319 P **P 15 36 47.1 +1.2**
ANMO Albuquerque 35.68 319 P **P 15 36 47.4 +1.5**
baz=129
T25A Trinidad 35.87 324 P **P 15 36 48.8 +1.3**
baz=134
BGNE Belgrade 36.00 335 P **P 15 36 48.8 +0.5**
baz=146
KSCO Kaye Shedlock' 36.22 328 P **P 15 36 50.5 +0.2**
baz=138
PKME Peaks-Kenny Pk 36.53 11 P **P 15 36 54.0 +1.3**
baz=196
SDCO Great Sand Dun 36.91 324 P **P 15 36 58.3 +1.8**
SDCO Great Sand Dun 36.91 324 P **P 15 36 57.9 +1.4**
baz=133,SNR=9.5
TUC Tucson 37.18 312 P **P 15 36 59.4 +0.8**
baz=120
OGNE Ogallala 37.38 331 P **P 15 37 00.3 +0.1**
baz=140
ECSD EROS Data Cent 37.38 339 P **P 15 36 59.6 -0.5**
baz=150
SPMN Marine on St. 37.51 344 P **P 15 37 01.2 +0.1**
baz=157
Q24A Divide 37.55 326 P **P 15 37 01.6 -0.3**
baz=134
S22A 4UR Ranch, Cre 37.70 323 P **P 15 37 03.5 +0.3**
S22A IAmb IAmb 15 37 06.1
comp=Z,6.6nm,0.7s
S22A 4UR Ranch, Cre 37.70 323 P **P 15 37 04.6 +1.4**
baz=131,SNR=8.0
W18A Petrified Fore 37.95 317 P **P 15 37 03.6 -1.5**
W18A Petrified Fore 37.95 317 P **P 15 37 07.6 +2.4**
baz=125,SNR=7.3
MVCO Mesa Verde 38.38 321 P **P 15 37 09.9 +1.1**
baz=128
ISCO Idaho Springs 38.39 326 P **P 15 37 11.0 +2.0**
baz=135,SNR=5.7
214A Organ Pipe Nat 38.51 310 P **P 15 37 10.4 +0.7**
baz=118
X16A Lo Mia Camp, P 38.73 315 IAmb IAmb 15 37 14.3
comp=Z,3.8nm,0.7s
SUSD Miller 38.86 337 P **P 15 37 12.6 +0.1**
baz=148
WUAZ Wupatki 39.28 316 P **P 15 37 17.2 +0.9**
WUAZ Wupatki 39.28 316 P **P 15 37 17.3 +1.0**
baz=123,SNR=11
N23A Red Feather La 39.34 327 P **P 15 37 17.1 +0.3**
baz=135
EYMN Ely 39.72 347 P **P 15 37 19.5 -0.1**
baz=160
O20A White River Ci 40.10 324 P **P 15 37 23.5 +0.4**
O20A IAmb IAmb 15 37 25.7
comp=Z,7.6nm,0.8s
O20A White River Ci 40.10 324 P **P 15 37 24.3 +1.2**
baz=132
U15A North Rim 40.40 317 P **P 15 37 26.9 +1.1**
U15A IAmb IAmb 15 37 28.4
comp=Z,8.5nm,1.2s
PDMCI Parker Dam,Lak 40.60 313 P **P 15 37 28.0 +0.9**
baz=119
RSSD Black Hills 40.77 332 P **P 15 37 29.5 +1.0**
baz=140
K22A Casper 40.89 328 P **P 15 37 29.9 +0.3**
baz=136
KNB Kanab 41.08 317 P **P 15 37 32.2 +1.0**
NEE2 Needles Airpor 41.17 313 P **P 15 37 31.7 -0.1**
baz=119
AGMN Agassiz Nation 41.18 343 P **P 15 37 32.1 +0.5**
baz=154
SWSC Sam W. Stewart 41.21 310 P **P 15 37 32.3 +0.3**
baz=116
MTPU Mount Pierson 41.23 319 P **P 15 37 31.8 -0.9**
BC3 Big Chuckawall 41.26 311 P **P 15 37 32.7 0.0**
baz=117
IRM Iron Mountain 41.27 312 P **P 15 37 33.1 +0.5**
baz=118
IKP In-Ko-Pah, Jac 41.31 309 P **P 15 37 32.7 -0.4**
baz=115
MONP2 Monument Peak 41.66 310 P **P 15 37 36.6 +0.6**
baz=115
BELC Belle Mtn. Jos 41.82 311 P **P 15 37 37.6 +0.3**
baz=117
BSUT Blindstream Ca 41.83 323 P **P 15 37 37.3 -0.2**
BSUT IAmb IAmb 15 37 40.5
comp=Z,11nm,1.3s
GMRC Granite Mounta 41.93 312 P **P 15 37 39.8 +1.6**
baz=118
TPFO Pinon Flats 41.99 310 P **P 15 37 39.4 +0.8**
baz=116
MDND Maddock 41.99 339 P **P 15 37 38.5 +0.2**
baz=149
PFO Pinyon Flats O 41.99 310 P **P 15 37 40.0 +1.3**
baz=116
SHPR Sheep Range 42.41 315 P **P 15 37 41.7 -0.4**
TUQ Turquoise Moun 42.43 313 P **P 15 37 42.0 -0.3**
baz=118
HEC Hector,Ludlow 42.45 312 P **P 15 37 42.8 +0.5**
baz=117
MURC Murrieta 42.54 310 P **P 15 37 44.2 +1.1**
baz=115
TCUT Toone Canyon 42.58 323 P **P 15 37 42.9 -0.5**
BW06 Boulder Array 42.59 326 IAmb IAmb 15 37 45.7
comp=Z,5.4nm,0.8s
BW06 Boulder Array 42.59 326 P **P 15 37 44.9 +1.4**
baz=132,SNR=7.7
PDAR Pinedale Array 42.59 326 P **P 15 37 44.7 +1.2**
comp=Z,3.8nm,0.7s,baz=127,slow=10,SNR=36
PDAR PcP **PcP 15 39 33.8 -1.1**
comp=Z,0.5nm,0.6s,baz=146,slow=5.0,SNR=4.2
comp=Z,3.8nm,0.7s
PSUT Pine Spring 42.59 318 IAmb IAmb 15 37 46.0
comp=Z,5.9nm,0.9s
DUG Dugway, Tooele 42.87 321 P **P 15 37 46.6 +0.9**
DUG IAmb IAmb 15 37 48.1
comp=Z,5.1nm,0.8s
DUG Dugway, Tooele 42.87 321 P **P 15 37 47.3 +1.6**
baz=126,SNR=6.4
ULM Lac du Bonnet 42.95 344 P **P 15 37 45.7 -0.3**
comp=Z,3.8nm,0.5s,baz=145,slow=8.5,SNR=13
ULM pP **pwP 15 38 02.8 -0.4**
comp=Z,2.6nm,0.7s,baz=129,slow=6.5,SNR=2.7
comp=Z,3.8nm,0.5s
HWUT Hardware Ranch 42.98 324 P **P 15 37 47.2 +0.6**
HWUT IAmb IAmb 15 37 48.4
comp=Z,5.1nm,0.8s
GSC Goldstone, Bar 43.01 313 P **P 15 37 48.2 +1.3**
baz=117
SPR3 Spring Creek 3 43.16 319 P **P 15 37 49.4 +1.1**
TPNV Topopah Spring 43.39 315 P **P 15 37 51.8 +1.8**
baz=120
BGU Big Grassy Mou 43.44 322 P **P 15 37 49.6 -0.7**
AHID Auburn Hatcher 43.44 325 IAmb IAmb 15 37 52.0
comp=Z,6.9nm,0.7s
FURC Furnace Creek, 43.59 314 P **P 15 37 52.2 +0.9**
baz=118
R11B Troy Canyon, C 43.64 317 P **P 15 37 51.9 -0.1**
R11B Troy Canyon, C 43.64 317 P **P 15 37 52.6 +0.6**
baz=121
EDW2 Edwards Air Fo 43.69 311 P **P 15 37 52.7 +0.4**
baz=116
LAO LASA Array 43.72 333 P **P 15 37 53.7 +1.4**
baz=139
LOHW Long Hollow 43.72 326 IAmb IAmb 15 37 54.7
comp=Z,5.9nm,0.8s
CCAC Calif City Air 43.83 312 IAmb IAmb 15 37 55.5
comp=Z,11nm,0.7s
MPMC Manual Prospec 43.85 313 P **P 15 37 53.6 -0.1**
baz=117
RLMT Red Lodge 44.04 329 P **P 15 37 55.8 +0.7**
baz=134
IMW Indian Meadow 44.09 327 IAmb IAmb 15 37 57.5
comp=Z,7.3nm,0.7s
DGMT Dagmar 44.24 336 P **P 15 37 57.3 +0.9**
baz=143
ISA Isabella, Lake 44.38 312 P **P 15 37 58.5 +0.6**
baz=116
ARVC Arvin 44.41 311 P **P 15 37 58.3 +0.3**
baz=115
CWC Cottonwood Cre 44.45 313 P **P 15 37 59.0 +0.5**
baz=117
YHL Hebgen Lake 44.85 327 P **P 15 38 03.4 +1.6**
NVAR Mina Array Bea 45.53 316 P **P 15 38 08.4 +1.3**
comp=Z,2.2nm,0.7s,baz=125,slow=6.5,SNR=16
NVAR PcP **PcP 15 39 45.5 +0.4**
comp=Z,0.9nm,0.6s,baz=129,slow=4.7,SNR=4.7
comp=Z,2.2nm,0.7s
BOZ Bozeman (W) 45.58 328 P **P 15 38 08.0 +0.6**
baz=132,SNR=5.4
LHV Little Huntoon 45.59 315 IAmb IAmb 15 38 14.2
comp=Z,5.9nm,1.0s
KVN Kaiserville 45.69 317 IAmb IAmb 15 38 10.0
comp=Z,5.0nm,1.0s
BMN Battle Mountai 45.81 319 IAmb IAmb 15 38 10.5
comp=Z,5.4nm,0.6s
HLID Hailey 45.84 324 P **P 15 38 10.3 +0.9**
HLID IAmb IAmb 15 38 11.3
comp=Z,5.3nm,0.8s
HLID Hailey 45.84 324 P **P 15 38 10.6 +1.2**
baz=127,SNR=11
EGMT Eagleton 46.33 332 P **P 15 38 13.4 +0.4**
baz=136
YERR Yerington 46.44 316 IAmb IAmb 15 38 16.2
comp=Z,5.4nm,0.9s
MFID Camas Ranch 46.58 323 IAmb IAmb 15 38 17.4
comp=Z,7.4nm,0.9s
PNTR Pine Nut 46.74 316 IAmb IAmb 15 38 18.6
comp=Z,3.8nm,0.7s
MSO Missoula 47.60 328 P **P 15 38 23.2 +0.1**
baz=130
PLID Pearl Lake 47.66 325 IAmb IAmb 15 38 25.3
comp=Z,5.2nm,1.2s
WVOR Wild Horse Val 47.76 320 P **P 15 38 24.6 +0.2**
WVOR IAmb IAmb 15 38 25.9
comp=Z,8.3nm,0.9s
NEW Newport 50.18 327 P **P 15 38 43.0 +0.2**
baz=128
YKA Yellowknife Ar 58.81 342 P **P 15 39 44.8 -0.2**
comp=Z,5.8nm,0.7s,baz=133,slow=7.1,SNR=13
YKA pP **pP 15 40 00.9 +0.4**
comp=Z,0.3nm,0.5s,baz=240,slow=5.0,SNR=2.9
comp=Z,5.8nm,0.7s
FLDN Fort Laird 60.44 336 P **P 15 39 56.3 0.0**
baz=127
KOTAN Kotaneelee Air 60.61 336 P **P 15 39 57.8 +0.4**
baz=127
U35K Hyder 61.01 330 P **P 15 39 59.9 -0.3**
baz=119
LIRD Liard River Hi 61.03 335 P **P 15 39 59.0 -1.3**
baz=124
V35K Ketchikan 61.53 329 P **P 15 40 02.2 -1.5**
baz=117
T35M Bob Quinn 61.63 331 P **P 15 40 03.4 -1.0**
baz=119
DLBC Dease Lake 62.24 332 P **P 15 40 08.0 -0.6**
baz=120
WRGLY Wrigley 62.28 339 P **P 15 40 08.4 -0.1**
WRGLY Wrigley 62.28 339 P **P 15 40 08.9 +0.3**
baz=129
CRAG Craig 62.37 329 P **P 15 40 09.1 -0.2**
baz=116
WRAK Wrangell Islan 62.39 330 P **P 15 40 09.0 -0.4**
baz=117
S34M Telegraph Cree 62.50 332 P **P 15 40 09.8 -0.4**
baz=118
WTLY Watson Lake, Y 62.56 334 P **P 15 40 11.1 +0.5**
baz=122
U33K Whale Pass 62.65 329 P **P 15 40 10.4 -0.7**
baz=116
R33M Jennings River 63.14 333 P **P 15 40 14.1 -0.5**
baz=119
Q32M Nakina River 63.52 332 P **P 15 40 15.8 -1.4**
baz=118
S32K Killisnoo 63.95 330 P **P 15 40 19.2 -0.5**
baz=115
SIT Sitka 64.15 330 P **P 15 40 20.1 -0.9**
baz=114
R32K Eaglecrest 64.27 331 P **P 15 40 20.3 -1.6**
baz=115
P33M Teslin, Yukon 64.35 333 P **P 15 40 21.7 -0.8**
baz=118
P32M Atlin 64.47 333 P **P 15 40 21.6 -1.6**
baz=117
N32M Quiet Lake 64.91 334 P **P 15 40 24.9 -1.1**
baz=118
R31K City Hall, Gus 64.91 331 P **P 15 40 24.1 -1.9**
baz=114
S31K Pelican 64.96 330 P **P 15 40 25.2 -1.1**
baz=114
SKAG Skagway 65.15 332 P **P 15 40 26.1 -1.5**
baz=115
WHY Whitehorse 65.47 333 P **P 15 40 27.7 -2.1**
baz=116
FARO Faro, Yukon 65.53 335 P **P 15 40 27.9 -2.2**
baz=118
M31M Drury Creek, Y 65.95 335 P **P 15 40 30.8 -1.9**
baz=117
O30N Mendenhall 66.06 333 P **P 15 40 31.8 -1.6**
baz=115
P30M Million Dollar 66.18 332 P **P 15 40 32.9 -1.4**
baz=114
N31M Braeburn, Yuko 66.22 334 P **P 15 40 32.9 -1.6**
baz=116
P29M Windy Craggy 66.34 332 P **P 15 40 33.1 -2.2**
baz=113
C36M Paulatuk 66.37 344 P **P 15 40 34.2 -1.1**
baz=130
N30M Aishikik Lake 66.78 334 P **P 15 40 38.0 -0.2**
baz=114
O29M Mount Kennedy 66.99 332 P **P 15 40 38.9 -0.6**
baz=112
M30M Minto, Yukon 67.12 335 P **P 15 40 40.3 +0.1**
baz=115
PNL Peninsula 67.14 331 P **P 15 40 39.8 -0.6**
baz=111
YUK6 Outpost Mounta 67.14 333 P **P 15 40 39.6 -1.1**
baz=113
MAYO Mayo, Yukon 67.19 336 P **P 15 40 40.7 +0.1**
baz=116
YUK4 Talbot Arm 67.42 333 P **P 15 40 42.5 +0.2**
baz=113
H31M Peel River 67.62 338 P **P 15 40 44.3 +1.0**
baz=119
PINM Pinnacle 67.70 332 P **P 15 40 43.7 -0.3**
baz=111
M29M Somme Creek 67.78 334 P **P 15 40 44.6 +0.1**
baz=113
J30M Hart River 67.80 337 P **P 15 40 44.9 +0.3**
baz=116
L29M L29M 67.90 335 P **P 15 40 45.4 +0.2**
baz=114
YUK8 Steele Glacier 67.90 333 P **P 15 40 46.0 +0.6**
baz=112
K29M Barlow Dome 67.95 336 P **P 15 40 45.8 +0.3**
baz=115
I30M Mount Dempster 68.11 337 P **P 15 40 46.0 -0.5**
I30M IAmb IAmb 15 40 47.7
comp=Z,4.1nm,0.8s
I30M Mount Dempster 68.11 337 P **P 15 40 47.6 +1.1**
baz=116
G31M Satah River 68.14 340 P **P 15 40 46.7 +0.3**
G31M IAmb IAmb 15 40 47.7
comp=Z,7.3nm,0.9s
G31M Satah River 68.14 340 P **P 15 40 47.0 +0.6**
baz=119,SNR=5.1
F31M Tsiigehtchic 68.21 340 P **P 15 40 47.8 +0.9**
baz=120
A36M Sachs Harbour 68.38 346 P **P 15 40 47.2 -0.7**
baz=130,SNR=15
YUK3 Moose Creek 68.39 333 P **P 15 40 48.7 +0.2**
baz=111
CTG Chitna Glacier 68.50 332 P **P 15 40 48.7 -0.3**
baz=110
MESA MESA 68.52 331 P **P 15 40 48.9 -0.4**
baz=109
INK Inuvik 68.58 341 P **P 15 40 49.7 +0.6**
baz=120,SNR=6.0
EPYK Eagle Plains 68.74 339 P **P 15 40 50.2 -0.2**
baz=116
BVCY Beaver Creek 68.80 334 P **P 15 40 50.4 -0.4**
baz=111
DAWY Dawson 68.80 336 P **P 15 40 50.6 -0.2**
baz=113
G30M tAoh Zraii Nji 68.84 339 P **P 15 40 50.9 -0.1**
baz=117
I29M Ogilvie Camp, 68.90 337 P **P 15 40 52.2 +0.9**
baz=114
F30M Barrier River 68.98 340 P **P 15 40 52.8 +1.0**
baz=118
M27K Edge Creek, AK 69.22 334 P **P 15 40 53.5 -0.1**
baz=110
CRQE Cirque 69.24 332 P **P 15 40 53.8 +0.1**
baz=108
H29M Whitestone 69.28 338 P **P 15 40 54.4 +0.8**
baz=115

MCARA	McCarthy VSAT	69.41	332	P	P	15 40 55.0	+0.4
	baz=109						
L27K	Beaver Creek,	69.44	334	P	P	15 40 55.2	+0.4
	baz=110						
G29M	Pine Creek	69.45	339	IAmb	IAmb	15 40 56.0	
	comp=Z,5.9nm,0.8s						
G29M	Pine Creek	69.45	339	P	P	15 40 54.9	+0.2
	baz=115						
I28M	Miner Creek	69.56	337	P	P	15 40 56.1	+0.6
	baz=113						
KAIM	Kayak Island	69.62	331	P	P	15 40 56.1	+0.3
	baz=107						
M26K	Nabesna, AK	69.73	333	P	P	15 40 56.9	+0.4
	baz=109						
EGAK	Eagle	69.78	336	P	P	15 40 57.3	+0.6
EGAK				IAmb	IAmb	15 41 05.8	
	comp=Z,4.6nm,0.8s						
EGAK	Eagle	69.78	336	P	P	15 40 57.9	+1.1
	baz=112						
K27K	Chicken	69.89	335	P	P	15 40 58.3	+0.9
	baz=110						
BMRM	Bremner River	70.02	332	P	P	15 40 58.8	+0.5
	baz=107						
E29M	Blow River	70.05	340	IAmb	IAmb	15 40 59.5	
	comp=Z,6.2nm,1.0s						
E29M	Blow River	70.05	340	P	P	15 40 59.1	+0.8
	baz=116						
L26K	Log Cabin Wild	70.08	334	P	P	15 40 58.3	-0.4
	baz=109						
I27K	Kandik River	70.26	337	P	P	15 41 00.4	+0.7
	baz=111						
F28M	Old Crow	70.39	339	P	P	15 41 01.2	+0.7
	baz=114						
Q23K	Middleton Isla	70.43	330	P	P	15 41 00.2	-0.5
	baz=105						
EYAK	Cordova Ski Ar	70.44	331	P	P	15 41 00.6	-0.1
	baz=106						
H27K	Steamboat Moun	70.46	338	P	P	15 41 01.5	+0.6
	baz=112						
J26L	Joseph Creek	70.66	336	P	P	15 41 02.6	+0.4
	baz=109						
SCRK	Sand Creek	70.66	335	P	P	15 41 03.2	+0.9
	baz=109						
E28M	Babbage River	70.68	340	P	P	15 41 01.7	-0.5
E28M				IAmb	IAmb	15 41 03.1	
	comp=Z,6.4nm,0.8s						
E28M	Babbage River	70.68	340	P	P	15 41 02.2	0.0
	baz=114						
G27K	Doyon Strip	70.72	338	P	P	15 41 01.8	-0.7
	baz=112						
D28M	Stokes Point	70.73	341	P	P	15 41 02.8	+0.4
	baz=115						
I26K	Coal Creek Min	70.76	336	P	P	15 41 03.0	+0.3
	baz=110						
KLU	Klutina	70.78	332	P	P	15 41 02.9	-0.1
	baz=106						
RIDG	Independent Ri	70.95	335	P	P	15 41 05.0	+1.0
	baz=108						
PAX	Paxson	70.99	334	P	P	15 41 04.0	-0.3
	baz=107						
M24K	Tolsona, Glenn	71.06	333	P	P	15 41 04.5	-0.1
	baz=106						
P23K	Montague Islan	71.09	330	P	P	15 41 04.8	0.0
	baz=104						
GLI	Glacier Island	71.16	331	P	P	15 41 04.4	-0.8
	baz=105						
E27K	Coleen River	71.22	339	P	P	15 41 05.6	+0.1
	baz=112						
K24K	Donnelly Dome	71.36	334	P	P	15 41 06.2	-0.3
	baz=107						
D27M	Malcolm River	71.42	341	P	P	15 41 06.3	-0.4
	baz=113						
J25K	Salcha River,	71.43	335	P	P	15 41 07.1	+0.2
	baz=108						
SCM	Sheep Creek Mo	71.51	332	P	P	15 41 06.9	-0.5
	baz=105						
G26K	Porcupine Rive	71.56	338	P	P	15 41 07.4	-0.1
	baz=110						
M23K	Glacier View	71.69	332	P	P	15 41 08.2	-0.2
	baz=104						
PWL	Port Wells	71.75	331	P	P	15 41 08.2	-0.6
	baz=104						
PRP	Porcupine Dome	71.77	336	P	P	15 41 09.3	+0.4
PRP				IAmb	IAmb	15 41 10.3	
	comp=Z,6.1nm,0.9s						
PRP	Porcupine Dome	71.77	336	P	P	15 41 09.1	+0.1
	baz=108						
DHY	Denali Highway	71.85	334	P	P	15 41 09.0	-0.6
	baz=105						
WAT6	Susitna Watana	71.89	333	P	P	15 41 09.2	-0.6
	baz=105						
KNK	Knik Glacier	71.93	332	P	P	15 41 09.3	-0.6
	baz=104						
F26K	Sheenjek River	71.94	339	P	P	15 41 10.0	+0.1
	baz=110						
SML	Sawmill	71.97	332	P	P	15 41 10.2	+0.1
	baz=104						
HDA	Harding Lake	72.03	335	P	P	15 41 10.4	0.0
	baz=106						
HDA				P	P	15 41 10.4	0.0
	baz=106						
ILAR	Eielson Array	72.10	335	P	P	15 41 10.8	0.0
	comp=Z,1.7nm,0.9s,baz=102,slow=4.4,SNR=17						
ILAR				pP	pP	15 41 27.4	+0.8
	comp=Z,0.6nm,0.8s,baz=107,slow=5.9,SNR=3.9						
	comp=Z,1.7nm,0.9s						
SEW	Seward	72.12	330	P	P	15 41 11.7	+0.8
	baz=102						
PMR	Palmer	72.29	332	P	P	15 41 12.4	+0.4
	baz=103						
G25K	Bearman Lake	72.37	337	P	P	15 41 13.5	+1.2
	baz=108						
ESDC	Sonseca Array	72.37	51	P	P	15 41 13.4	+0.4
	comp=Z,0.7nm,0.8s,baz=283,slow=4.8,SNR=4.7						
ESDC				pP	PcP	15 41 30.6	-0.1
	comp=Z,0.9nm,0.7s,baz=264,slow=5.7,SNR=5.0						
	comp=Z,0.7nm,0.8s						
POKR	Poker Plat Res	72.42	336	P	P	15 41 12.9	+0.2
	baz=106						
F25K	Christian Rive	72.45	338	P	P	15 41 13.2	+0.2
	baz=108						
RC01	Rabbit Creek A	72.46	331	P	P	15 41 13.4	+0.4
	baz=102						
E25K	Arctic Village	72.59	339	P	P	15 41 13.9	+0.2
	baz=108						
BRSE	Bradley Lake S	72.68	330	P	P	15 41 15.5	+1.1
	baz=101						
MCK	McKinley	72.70	334	P	P	15 41 14.8	+0.4
	baz=104						
M22K	Willow	72.78	332	P	P	15 41 14.9	0.0
	baz=102						
H24K	Noodor Dome	72.79	336	P	P	15 41 15.6	+0.6
	baz=106						
G24K	Hadweenzic Riv	72.87	337	P	P	15 41 16.0	+0.7
	baz=106						
C26K	Camden Bay	72.95	341	P	P	15 41 16.9	+1.2
	baz=110						
NEA2	Nenana	72.96	335	P	P	15 41 16.4	+0.4
	baz=104						
CUT	Chulitna	72.99	333	P	P	15 41 15.9	-0.2
	baz=102						
SUA	Susitna One	73.02	332	P	P	15 41 16.4	0.0
	baz=102						
CAPN	Captain Cook N	73.08	331	P	P	15 41 16.8	+0.2
	baz=101						
I23K	Minto, Yukon-K	73.22	335	P	P	15 41 18.1	+0.7
	baz=104						
TRF	Thorofare Moun	73.22	334	P	P	15 41 18.5	+0.8
	baz=102						
D25K	Kavik River	73.25	340	P	P	15 41 17.6	0.0
D25K				IAmb	IAmb	15 41 18.6	
	comp=Z,5.9nm,0.7s						
D25K	Kavik River	73.25	340	P	P	15 41 17.8	+0.3
	baz=108						
F24K	Squaw Lake	73.25	338	P	P	15 41 18.8	+1.1
	baz=106						
KDAK	Kodiak Island	73.29	328	P	P	15 41 19.1	+1.1
	baz=99						
Q20K	Shuyak Island	73.32	328	P	P	15 41 19.3	+1.2
	baz=99						
OHAK	Old Harbor	73.58	327	P	P	15 41 20.6	+0.9
	baz=98						
E24K	Your Creek	73.62	338	P	P	15 41 20.5	+0.6
	baz=106						
N20K	Mount Spurr	73.66	331	P	P	15 41 20.9	+0.7
	baz=100						
BPAW	Bear Paw Mtn.	73.67	334	P	P	15 41 20.7	+0.6
	baz=102						
O20K	Slope Mountain	73.67	330	P	P	15 41 19.5	-0.8
	baz=99						
MLY	Manley	73.76	335	P	P	15 41 21.0	+0.4
	baz=103						
G23K	Bananza Creek	73.86	337	P	P	15 41 21.6	+0.4
	baz=104						
P19K	Oil Pt	73.91	329	P	P	15 41 21.7	0.0
	baz=99						
PPLA	Purkeypile	73.96	333	P	P	15 41 21.0	-1.0
	baz=101						
CAST	Castle Rocks	74.01	333	P	P	15 41 21.7	-0.4
	baz=101						
Q19K	Cape Douglas,	74.01	329	P	P	15 41 21.7	-0.6
	baz=98						
E23K	Chandalar	74.03	338	P	P	15 41 23.0	+0.8
	baz=104						
D24K	Happy Valley	74.03	340	P	P	15 41 23.1	+0.9
	baz=106						
COLD	Coldfoot	74.05	337	P	P	15 41 23.1	+0.9
	baz=104						
C24K	Franklin Bluff	74.15	340	P	P	15 41 23.3	+0.6
	baz=106						
TOLK	Toolik Lake Re	74.16	339	P	P	15 41 23.4	+0.4
	baz=105						
CHUM	Lake Minchumin	74.20	334	P	P	15 41 24.4	+1.3
	baz=101						
H22K	Ishlitna Cre	74.20	336	P	P	15 41 23.6	+0.4
	baz=102						
M20K	Styx River	74.21	332	P	P	15 41 23.5	0.0
	baz=100						
I21K	Tanana	74.31	335	P	P	15 41 24.4	+0.7
	baz=102						
G22K	Bettles	74.47	337	P	P	15 41 24.7	0.0
	baz=102						
O19K	Port Alsworth	74.53	330	P	P	15 41 24.5	-0.7
	baz=98						
D23K	Nanushuk River	74.63	339	P	P	15 41 26.7	+1.1
	baz=104						
L20K	Farewell, AK	74.65	332	P	P	15 41 26.0	+0.1
	baz=99						
N19K	Bonanza Creek	74.69	331	P	P	15 41 25.6	-0.6
	baz=98						
H21K	Melozitna Rive	74.73	336	P	P	15 41 25.7	-0.6
	baz=101						
C23K	Itkillik River	74.82	340	P	P	15 41 25.6	-1.0
C23K				IAmb	IAmb	15 41 27.8	
	comp=Z,8.8nm,1.0s						
C23K	Itkillik River	74.82	340	P	P	15 41 27.2	+0.5
	baz=104						
E22K	Anaktuvuk Pass	74.85	338	P	P	15 41 27.4	+0.4
	baz=102						
F22K	John River	74.85	338	P	P	15 41 27.6	+0.6
	baz=102						
K20K	Telida	74.88	333	P	P	15 41 27.2	0.0
	baz=99						
P18K	Big Mountain,	74.88	329	P	P	15 41 26.7	-0.6
	baz=97						
O18K	Koktuh Hills	74.93	329	P	P	15 41 26.6	-0.9
	baz=97						
J20K	Nowinta River	75.04	334	P	P	15 41 27.6	-0.4
	baz=99						
L19K	White Mountain	75.06	332	P	P	15 41 27.6	-0.6
	baz=98						
Q17K	Coot Creek	75.09	328	P	P	15 41 27.8	-0.8
	baz=96						
G21K	Allakaket	75.17	336	P	P	15 41 30.0	+1.2
	baz=100						
I20K	Naaghedeneel	75.28	335	P	P	15 41 29.4	0.0
	baz=99						
F21K	Alatna River	75.29	337	P	P	15 41 30.1	+0.6
F21K				IAmb	IAmb	15 41 31.1	
	comp=Z,5.1nm,0.9s						
F21K	Alatna River	75.29	337	P	P	15 41 30.1	+0.6
	baz=101						
D22K	Ayikyak River	75.32	339	P	P	15 41 30.3	+0.7
	baz=102						
N18K	Kilae Creek	75.36	330	P	P	15 41 30.5	+0.5
	baz=97						
M18K	Stony River	75.43	331	P	P	15 41 30.7	+0.4
	baz=97						
P17K	Kvichak River	75.48	329	P	P	15 41 30.9	+0.3
	baz=96						
Q16K	King Salmon	75.54	328	P	P	15 41 30.9	-0.1
	baz=96						
H20K	Anotleneega Mo	75.56	335	P	P	15 41 30.8	-0.2
	baz=99						
J19K	Poorman	75.66	334	P	P	15 41 31.3	-0.3
	baz=98						
TTA	Tatalina	75.69	333	P	P	15 41 31.4	-0.5
	baz=97						
E21K	Killik River	75.70	338	P	P	15 41 32.2	+0.4
	baz=100						
O17K	Koliganek Bris	75.87	329	P	P	15 41 32.8	0.0
	baz=95						
B22K	Teshekpuk Lake	75.87	340	P	P	15 41 33.4	+0.8
	baz=102						
L18K	Granite Mounta	75.92	332	P	P	15 41 33.3	+0.1
	baz=96						
R16K	Pilot Point	75.93	327	P	P	15 41 33.3	+0.1
	baz=94						
N17K	Nushagak Hills	75.98	330	P	P	15 41 33.4	-0.1
	baz=96						
J18K	Innoko River	76.07	333	P	P	15 41 33.5	-0.5
	baz=97						
C21K	Knifeblade Rid	76.11	339	P	P	15 41 33.2	-1.0
	baz=100						
F20K	Avaraart Lake	76.13	337	P	P	15 41 34.5	+0.3
	baz=98						
B21K	Ikpikpuk River	76.14	340	P	P	15 41 34.3	+0.1
B21K				IAmb	IAmb	15 41 35.4	
	comp=Z,13nm,1.1s						
B21K	Ikpikpuk River	76.14	340	P	P	15 41 34.3	+0.1
	baz=100						
M17K	Holitna River	76.19	331	P	P	15 41 35.0	+0.3
	baz=96						
H19K	Roundabout Mou	76.21	335	P	P	15 41 34.7	0.0
	baz=97						
P16K	Nushagak River	76.26	328	P	P	15 41 36.0	+0.9
	baz=94						
O16K	Kokwok River B	76.36	329	P	P	15 41 37.8	+2.1
	baz=94						
E20K	Nigu River	76.48	338	P	P	15 41 36.9	+0.6
	baz=98						
A22K	Sinclair Lake	76.50	341	P	P	15 41 37.0	+0.8
	baz=100						
G19K	Purcell Mounta	76.55	336	P	P	15 41 37.4	+0.8
	baz=97						
L17K	Donlin	76.66	332	P	P	15 41 38.3	+0.9
	baz=95						
D20K	Etivluk River	76.70	338	P	P	15 41 38.5	+1.0
	baz=98						
K17K	Iditarod	76.71	332	P	P	15 41 38.6	+1.0
	baz=95						
N16K	Nishlik Lake	76.76	330	P	P	15 41 38.6	+0.7
	baz=94						
E19K	Redstone River	76.77	337	P	P	15 41 38.7	+0.8
	baz=97						
M16K	Timber Creek	76.89	330	P	P	15 41 39.6	+0.9
	baz=94						
CHNA	Chernabura Isl	76.90	324	P	P	15 41 39.6	+0.8
	baz=92						
F19K	Shaleruckik Mo	76.90	337	P	P	15 41 39.4	+0.9
	baz=96						
H18K	Honhosa River	76.97	335	P	P	15 41 40.2	+1.2
	baz=96						
B20K	Meade River	77.07	340	P	P	15 41 40.2	+0.7
	baz=98						
G18K	Tagagawik	77.16	336	P	P	15 41 40.8	+0.8
	baz=96						
L16K	Owhat River	77.19	331	P	P	15 41 40.7	+0.4
	baz=94						
D19K	Kuna River	77.22	338	P	P	15 41 41.0	+0.6
	baz=96						
N15K	Kwethluk River	77.40	330	P	P	15 41 41.8	+0.3
	baz=93						
SDPT	Sand Point	77.42	325	P	P	15 41 41.9	+0.2
	baz=91						
H17K	Granite Mounta	77.60	334	P	P	15 41 42.9	+0.3
	baz=94						
M15K	Kasigluk River	77.72	330	P	P	15 41 44.2	+0.9
	baz=92						
C19K	Lookout Ridge	77.81	339	P	P	15 41 44.7	+1.0
	baz=95						
I17K	Unalakleet	77.88	333	P	P	15 41 45.5	+1.4
	baz=93						
G17K	Kiwalik Mounta	77.95	335	P	P	15 41 45.7	+1.2
	baz=94						
L15K	Ungalak Mounta	78.14	331	P	P	15 41 46.9	+1.3
	baz=92						
N14K	Kuskokwak Cree	78.19	329	P	P	15 41 46.7	+0.9
	baz=91						
F17K	Baldwin Pennin	78.25	336	P	P	15 41 46.9	+0.8
	baz=93						
M14K	Bethel	78.34	330	P	P	15 41 47.4	+0.7
	baz=91						
C18K	Utukok River	78.36	338	P	P	15 41 47.1	+0.3
	baz=94						
E17K	Hotham Inlet	78.51	337	P	P	15 41 48.3	+0.8
	baz=93						
H16K	Elim	78.58	334	P	P	15 41 48.3	+0.3
	baz=92						
B18K	Kokolik River	78.62	339	P	P	15 41 49.2	+1.1
	baz=93						
G16K	Koyuk River	78.66	335	P	P	15 41 49.3	+0.9
	baz=92						
L14K	Kuka Creek	78.71	331	P	P	15 41 48.4	-0.3
	baz=91						
RDOG	Red Dog Mine	78.97	338	P	P	15 41 50.4	+0.4
	baz=92						
D17K	Noatak River	79.02	337	P	P	15 41 50.5	+0.2
	baz=92						
C17K	DeLong Mountai	79.08	338	P	P	15 41 51.4	+0.8
	baz=92						
G15K	Niukluk	79.36	334	P	P	15 41 52.3	+0.1
	baz=90						
C16K	Lisburne Hills	79.88	338	P	P	15 41 56.4	+1.4
	baz=90						
ANM	Nome	79.93	334	P	P	15 41 56.7	+1.3
	baz=89						
F14K	Arctic Creek	80.32	335	P	P	15 41 58.6	+1.2
	baz=88						
UNV	Unalaska Valle	80.96	323	P	P	15 42 02.2	+1.1
	baz=86						
NIKH	Nikolski High	82.44	322	P	P	15 42 10.4	+1.5
	baz=84						
GAMB	Gambell	82.75	333	P	P	15 42 11.6	+1.4
	baz=83						
SPIA	Saint Paul Isl	82.79	327	P	P	15 42 11.6	+1.0
	baz=84						
ARCES	ARCESS Array B	86.09	20	P	P	15 42 26.8	-0.3
	comp=Z,5.9nm,0.9s,baz=260,slow=3.7,SNR=8.1						
	comp=Z,5.9nm,0.9s						
SNAA	Sanae	94.66	162	P	P	15 43 06.8	-0.3
	comp=Z,2.5nm,1.0s,baz=284,slow=12,SNR=2.8						
	comp=Z,2.5nm,1.0s						
TSUM	Tsumeb	99.15	108	LR	LR	16 29 43.4	
	comp=Z,725nm,18.2s,baz=84,slow=36						
WMQ	Urumqi	125.50	12	eP	PKiKP	15 48 50.0	+1.8
KSRS	Korea Array	126.92	333		PKPdf	15 48 49.3	-1.3
KSRS	Korea Array	126.92	333	PKP	PKPdf	15 48 49.3	-1.3
	comp=Z,0.8nm,0.6s,baz=8.0,slow=1.9,SNR=4.1						
HHC	Hu-ho-hao-te	128.93	350	eP	PKiKP	15 48 56.8	+1.6
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
HHC				pmax	pmax		
	comp=Z,2μm,5.6s						
NJ2	Nanjing	135.29	338	eP	PKiKP	15 49 07.9	-0.2
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.8s						
STKA	Stephens Creek	136.46	233	PKP	PKPdf	15 49 07.9	-0.9
	comp=Z,1.2nm,0.8s,baz=135,slow=4.3,SNR=3.0						
ASAR	Alice Springs	145.69	242	PKPbc	PKPdf	15 49 24.7	-0.9
	comp=Z,5.9nm,0.7s,baz=115,slow=3.8,SNR=60						
ASAR				pPKPbc	pPKPdf	15 49 41.4	-1.9
	comp=Z,3.0nm,0.9s,baz=117,slow=2.9,SNR=6.4						
WRA	Warramunga Arr	146.31	248	PKPbc	PKPdf	15 49 26.6	-0.2
	comp=Z,3.4nm,0.8s,baz=104,slow=2.1,SNR=29						
WRA				pPKPbc	pPKPdf	15 49 43.3	-1.0
	comp=Z,1.8nm,0.9s,baz=94,slow=2.5,SNR=5.8						
CMAR	Chiang Mai Arr	152.09	4	PKPbc	PKPbc	15 49 41.9	-0.8
	comp=Z,2.4nm,0.6s,baz=328,slow=3.2,SNR=7.7						

UPA ***09*** *15:42:27.3±1.6,9°.31N×78°.93W,h54km±5km,MW3.9*

ISC 09 15:42:24.7±1.3,9°.47N±0°.07×78°.93W±0°.03,h66km±8km,
n36,σ1°52/63,2C-6D,Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
CNTA3	Canitas, Panam	0.25	171	⇓iP	Pn	15 42 34.9	-0.2
CNTA3				i S	Sn	15 42 41.3	-1.4
CHPO	Chepo, Panama	0.35	211	⇓iP	Pn	15 42 36.0	+0.2
CHPO				i S	Sn	15 42 43.3	-0.5
UPA	Univ. de Panam	0.77	231	⇓iP	Pn	15 42 40.7	+0.6
UPA				i S	Sn	15 42 51.0	-0.5
UPA	Univ. de Panam	0.77	231	eP	Pn	15 42 40.7	+0.6
UPA				eS	Sn	15 42 51.2	-0.3
UPA				i		15 42 52.7	
	comp=Z,8μm,0.1s						
TOTI	Torti	0.81	131	iP	Pn	15 42 41.3	+0.7
TOTI				i S	Sn	15 42 52.1	-0.4
ARRA3	Arraijan, Pana	0.88	235	iP	Pn	15 42 42.8	+1.4
ARRA3				eS	Sn	15 42 53.4	-0.4
TABO3	Taboga, Panama	0.91	223	eP	Pn	15 42 45.6	+3.7
TABO3				eS	Sn	15 42 54.1	-0.5
BCIP	Isla Barro Col	0.95	251	⇑iP	Pn	15 42 43.0	+0.8
BCIP				i S	Sn	15 42 55.9	+0.5
BCIP	Isla Barro Col	0.95	251	⇑iP	Pn	15 42 43.1	+0.8
BCIP				eS	Sn	15 42 56.1	+0.7
BCIP				i		15 42 57.6	
	comp=Z,163nm,0.3s						
UPD2	Meteti	1.29	135	⇓iP	Pn	15 42 48.0	+1.3
UPD2	Meteti	1.29	135	eP	Pn	15 42 47.7	+1.0
UPD2				eS	Sn	15 43 04.3	+1.0
UPD2				i		15 43 08.7	
	comp=Z,134nm,0.3s						
PNME	Penonome	1.69	235	eP	Pn	15 42 53.9	+1.8
PNME				eS	Sn	15 43 11.0	-1.9
CAPC	Capurgana	1.77	118	eP	Pn	15 42 53.2	+0.1
CAPC				eS	Sn	15 43 13.8	-0.8
CAPC				i		15 43 22.8	
	comp=Z,36nm,0.2s						
CRIS3	El Cristo, Coc	2.06	234	eP	Pn	15 42 56.6	-0.5
CRIS3				eS	Sn	15 43 21.4	-0.3
CHIT3	Chitre	2.10	224	eP	Pn	15 42 58.2	+0.6
CHIT3				i S	Sn	15 43 22.2	-0.6
AZU	Azuero	2.13	219	⇓iP	Pn	15 42 58.6	+0.5
AZU				i S	Sn	15 43 21.9	-1.7
AZU	Azuero	2.13	219	⇓iP	Pn	15 42 58.5	+0.5
AZU				eS	Sn	15 43 22.8	-0.7
AZU				i		15 43 24.3	
	comp=Z,111nm,0.2s						
STIA3	Santiago, Vera	2.44	236	eP	Pn	15 43 03.3	+1.1
STIA3				eS	Sn	15 43 25.3	-5.6
PTAC	Punta Ardita,	2.56	154	eP	Pn	15 43 03.3	-0.6
LCBC	Los crdobas,	2.60	103	iP	Pn	15 43 06.8	+2.3
LCBC	Los crdobas,	2.60	103	eP	Pn	15 43 05.9	+1.4
LCBC				eS	Sn	15 43 36.1	+1.1
LCBC				i		15 43 40.5	
	comp=Z,51nm,0.2s						
APAC	Apartado, Choc	2.80	124	eP	Pn	15 43 07.4	+0.3
GMAL	Guarumal, Vera	2.84	233	eP	Pn	15 43 09.7	+2.0
GMAL				i S	Sn	15 43 40.0	-0.8
CACAO	El Cacao, Vera	2.85	222	eP	Pn	15 43 09.4	+1.6
DBBC	Dabeiba	3.63	132	eP	Pn	15 43 19.0	+0.4
BC3P	Paso Ancho	3.69	260	eP	Pn	15 43 16.4	-3.2
SJCC	San Jacinto, C	3.72	83	eP	Pn	15 43 21.2	+1.4
SJCC				eS	Sn	15 44 02.0	-0.4
SJCC				i		15 44 05.4	
	comp=Z,27nm,0.4s						
UREC	San Jos de Ur	3.77	117	eP	Pn	15 43 21.2	+0.8
UREC	San Jos de Ur	3.77	117	eP	Pn	15 43 21.8	+1.4
UREC				eS	Sn	15 44 03.0	-0.5
UREC				i		15 44 06.2	
	comp=Z,6.9nm,0.1s						
ZARC	Zaragoza, Cauc	4.48	116	eP	Pn	15 43 31.8	+1.6
ZARC				eS	Sn	15 44 20.0	-1.1
ZARC				i		15 44 20.9	
	comp=Z,10nm,0.3s						
ARGC	Ariguani, Magd	4.63	85	eP	Pn	15 43 33.6	+1.4
ARGC				eS	Sn	15 44 25.4	+0.7
ARGC				i		15 44 29.5	
	comp=Z,9.4nm,0.3s						
PTBC	PUERTO BERRIO,	5.30	123	eP	Pn	15 43 42.8	+1.4
PTBC				eS	Sn	15 44 40.0	-1.2
PTBC				i		15 44 44.5	
	comp=Z,0.9nm,0.6s						
LL6C	La Loma 6 Bece	5.59	87	eP	Pn	15 43 46.7	+1.4
LL6C				eS	Sn	15 44 48.9	+0.7
LL6C				i		15 44 56.8	
	comp=Z,12nm,0.6s						
OCAC	Ocana	5.68	102	eP	Pn	15 43 47.3	+0.7
OCAC				eS	Sn	15 44 50.6	0.0

OCAC				*i*				15 44 52.6	
	comp=Z,41nm,0.4s								
CRJC	**Cerrejon, Guaj**	**6.15**	**75**	*e*P		**Pn**		**15 43 52.3**	**-0.7**
CRJC				*e*S		**Sn**		**15 44 57.2**	**-4.9**
CRJC				*i*				15 44 58.0	
	comp=Z,21nm,0.3s								
PAMC	**Pamplona, Colo**	**6.52**	**108**	*e*P		**Pn**		**15 43 58.7**	**+0.3**
PAMC				*e*S		**Sn**		**15 45 08.8**	**-2.8**
PAMC				*i*				15 45 18.8	
	comp=Z,3.5nm,0.6s								

UPA 09 15:43:05.9±0.8, 8°.91N×82°.81W, h20km±7km, MD2.7, ML2.6, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MLIR3	**Monte Lirio, C**	**0.12**	**188**	*e*P	Pb	15 43 10.6		-0.5
BRU2	**Volcan**	**0.16**	**136**	*e*P	Pb	15 43 11.1		-0.2
BRU2				AMP		15 43 11.3		
	comp=Z,875nm,0.1s							
BRU2				*i* S	Sb	15 43 15.7		+0.7
BC3P	**Paso Ancho**	**0.22**	**117**	*e*P	Pb	15 43 11.8		0.0
BCO2	**Palmira**	**0.34**	**125**	*i* P	Pb	15 43 13.8		+0.6
BCO2				AMP		15 43 15.8		
	comp=Z,961nm,0.1s							
BCO2				*i* S	Sb	15 43 19.8		+1.5
PTAR3	**Potrerillos Ar**	**0.38**	**125**	*e*P	Pb	15 43 13.9		0.0
LNBQ3	**Los Naranjos,**	**0.38**	**109**	*e*P	Pb	15 43 14.8		+0.8
LNBQ3				*i* S	Sb	15 43 20.8		+1.3
CHGR2	**Aguacate**	**0.65**	**88**	*e*P	Pb	15 43 18.1		-0.6

*NOU **09** 15:47:41.8, 34°.74S×176°.08W, h0km, mb4.4/7, South of Kermadec Islands*
*WEL **09** 15:48:19.9±1.2, 36°S±6°×17°9W±1°1, h12km, M3.9/12, mb3.8/1, ML4.1/15, MLv3.9/12, Mw(mB)2.8/1, Error ellipse: s-maj=0.0km s-min=0.0km az=109.7, confirmed*
ISC 09 15:48:17.7±4.0, 35°.8S±0°.1×179°.1W±0°.2, h10km, n27, σ1♀34/39, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MXZ	**Matakaoa Point**	**2.74**	**228**	P	**Pn**	**15 49 02.6**		**+0.9**
MXZ	**Matakaoa Point**	**2.74**	**228**	S	**Sn**	**15 49 02.0**		**+0.3**
MXZ				S	**Sn**	15 49 34.5		-0.4
WMGZ	**Waiomatatini S**	**2.85**	**223**	P	**Pn**	**15 49 04.2**		**+0.9**
WMGZ				S	**Sn**	**15 49 39.4**		**+1.7**
PKGZ	**Pakihiroa**	**3.09**	**226**	P	**Pn**	**15 49 07.3**		**+0.7**
PKGZ				S	**Sn**	**15 49 43.8**		**+0.1**
PUZ	**Puketiti**	**3.12**	**222**	P	**Pn**	**15 49 07.3**		**+0.3**
PUZ				S	**Sn**	**15 49 44.4**		**+0.1**
HAZ	**Te Kaha**	**3.18**	**230**	P	**Pn**	**15 49 09.0**		**+1.2**
HAZ				S	**Sn**	**15 49 46.9**		**+1.1**
TWGZ	**Tauwhareparae**	**3.34**	**223**	P	**Pn**	**15 49 10.7**		**+0.6**
TWGZ				S	**Sn**	**15 49 51.3**		**+1.3**
RUGZ	**Raukumara Rang**	**3.38**	**228**	P	**Pn**	**15 49 11.8**		**+1.1**
RUGZ				S	**Sn**	**15 49 51.1**		**+0.2**
CNGZ	**Carnagh Statio**	**3.45**	**217**	P	**Pn**	**15 49 12.2**		**+0.6**
TKGZ	**Te Karaka**	**3.61**	**221**	P	**Pn**	**15 49 14.0**		**+0.4**
TKGZ				S	**Sn**	**15 49 56.4**		**+0.1**
MWZ	**Matawai**	**3.71**	**225**	P	**Pn**	**15 49 15.0**		**-0.1**
MWZ				S	**Sn**	**15 49 58.1**		**-0.8**
RAGZ	**Rawiri**	**3.88**	**224**	P	**Pn**	**15 49 17.9**		**+0.4**
RAGZ				S	**Sn**	**15 50 02.4**		**-1.0**
URZ	**Urewera**	**3.91**	**229**	P	**Pn**	**15 49 18.1**		**+0.3**
KUZ	**Kuaotunu**	**4.28**	**255**	P	**Pn**	**15 49 23.4**		**+0.5**
WIAZ	**Waiheke Island**	**4.75**	**256**	P	**Pn**	**15 49 29.9**		**+0.5**
MKAZ	**Moumakai**	**4.80**	**252**	P	**Pn**	**15 49 30.9**		**+0.8**
MKAZ				S	**Sn**	**15 50 21.9**		**-3.8**
BKZ	**Black Stump Fm**	**4.87**	**224**	P	**Pn**	**15 49 30.9**		**-0.2**
MBAZ	**Motutapu North**	**4.94**	**257**	P	**Pn**	**15 49 32.5**		**+0.6**
ETAZ	**East Tamaki Re**	**4.95**	**254**	P	**Pn**	**15 49 32.4**		**+0.3**
ABAZ	**Army Bay**	**4.96**	**259**	P	**Pn**	**15 49 32.9**		**+0.7**
RVAZ	**Riverhead Bore**	**5.19**	**257**	P	**Pn**	**15 49 37.3**		**+1.9**
WCZ	**Waipu Caves**	**5.31**	**266**	P	**Pn**	**15 49 37.7**		**+0.6**
HIZ	**Hauiti**	**5.54**	**239**	P	**Pn**	**15 49 43.9**		**+3.7**
OUZ	**Omahuta**	**5.96**	**273**	P	**Pn**	**15 49 46.3**		**+0.2**
OUZ	**Omahuta**	**5.96**	**273**	P	**Pn**	**15 49 46.2**		**+0.1**
BFZ	**Birch Farm**	**6.12**	**215**	P	**Pn**	**15 49 45.7**		**-2.5**
WAZ	**Wanganui**	**6.14**	**228**	P	**Pn**	**15 49 49.5**		**+1.1**
WAZ				S	**Sn**	**15 50 55.6**		**-3.1**

*IDC **09** 15:53:32.2±1.0, 10°.04N×140°.39E, h0km, mb3.5/7, mbtmp3.6/8, ML4.3/1, Error ellipse: s-maj=32.5km s-min=21.8km az=104.0*
ISC 09 15:53:35.9±0.9, 10°.1N±0°.2×140°.5E±0°.1, h26km, n14, σ1♀59/9, mb3.5/7, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
GUMO	**Guam**	**5.53**	**50**	Pn	**Pn**	**15 54 55.5**		**-1.2**
	9.3nm,0.3s,baz=201,slow=13,SNR=2.3							
GUMO				Sn	**Sn**	**15 55 59.2**		**-0.3**
	1.9nm,0.3s,baz=184,slow=22,SNR=1.7 31nm,0.3s							
H11S3	**WAKE ISLAND Hy**	**26.70**	**69**	T	T	16 27 45.5		
	baz=255,slow=75							
H11S1	**WAKE ISLAND Hy**	**26.71**	**69**	T	T	16 27 46.4		
	baz=255,slow=75							
H11S2	**WAKE ISLAND Hy**	**26.71**	**69**	T	T	16 27 46.7		
	baz=255,slow=75							
H11N1	**WAKE ISLAND Hy**	**27.21**	**66**	T	T	16 28 23.5		
	baz=253,slow=75							
H11N2	**WAKE ISLAND Hy**	**27.22**	**66**	T	T	16 28 25.6		
	baz=253,slow=75							
H11N3	**WAKE ISLAND Hy**	**27.23**	**66**	T	T	16 28 22.8		
	baz=253,slow=75							
WRA	**Warramunga Arr**	**30.42**	**192**	P	**P**	**15 59 46.2**		**-0.2**
	0.3nm,0.7s,baz=13,slow=10,SNR=2.7 0.3nm,0.7s							
ASAR	**Alice Springs**	**34.12**	**191**	P	**P**	**16 00 18.4**		**-0.5**
	0.4nm,0.6s,baz=17,slow=12,SNR=16 0.4nm,0.6s							
CMAR	**Chiang Mai Arr**	**41.06**	**287**	P	**P**	**16 01 16.8**		**-0.9**
	0.4nm,0.4s,baz=86,slow=6.4,SNR=4.8 0.4nm,0.4s							
MKAR	**Makanchi Array**	**61.16**	**318**	P	**P**	**16 03 49.6**		**+1.3**
	0.1nm,0.4s,baz=116,slow=9.5,SNR=1.3 0.1nm,0.4s							
KURBB	**Kurchatov Arra**	**64.63**	**322**	P	**P**	**16 04 09.2**		**-2.0**
	0.4nm,0.2s,baz=112,slow=6.0,SNR=1.5 0.4nm,0.2s							
ILAR	**Eielson Array**	**73.57**	**25**	P	**P**	**16 05 07.2**		**+0.7**
	0.3nm,0.7s,baz=250,slow=5.2,SNR=7.9 0.3nm,0.7s							
YKA	**Yellowknife Ar**	**87.93**	**27**	P	**P**	**16 06 25.7**		**+2.5**
	0.2nm,0.7s,baz=294,slow=5.4,SNR=1.2 0.2nm,0.7s							

IDC 09 16:17:12.1±2.9, 30°.16S×177°.58W, h0km, mb3.4/2, mbtmp3.6/3, ML3.0/1, Error ellipse: s-maj=61.4km s-min=22.1km az=95.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
RAO	**Raoul Island**	**0.95**	**342**	Pn	Pn	16 17 33.4		+0.6
	91nm,0.3s,baz=89,slow=22,SNR=1.5							
RAO				Sn	Sn	16 17 48.5		+1.4
	375nm,0.3s,baz=190,slow=22,SNR=7.5							
URZ	**Urewera**	**9.20**	**207**	Pn	Pn	16 19 28.1		+2.1
	0.2nm,0.3s,baz=262,slow=17,SNR=1.5							
URZ				Sn	Sn	16 21 00.3		-10
	0.6nm,0.3s,baz=250,slow=17,SNR=2.0 8.7nm,1.0s							
ASAR	**Alice Springs**	**43.49**	**266**	P	P	16 25 16.9		-0.5
	0.1nm,0.4s,baz=101,slow=7.3,SNR=8.6 0.1nm,0.4s							
WRA	**Warramunga Arr**	**44.46**	**272**	P	P	16 25 24.9		-0.4
	0.4nm,0.4s,baz=110,slow=8.1,SNR=10 0.4nm,0.4s							
FINES	**FINESS Array B**	**145.05**	**340**	PKPbc	PKPbc	16 36 48.9		-1.2
	1.8nm,0.6s,baz=43,slow=2.9,SNR=6.5							

IDC 09 16:49:24.6±36.0, 19°.92S×179°.09W, h651km±335km, mb2.5/2, mbtmp3.6/2, Error ellipse: s-maj=343.2km s-min=152.0km az=117.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
ASAR	**Alice Springs**	**43.66**	**256**	P	P	16 56 34.6		-0.2
	0.5nm,0.5s,baz=93,slow=7.7,SNR=18							
ASAR				PcP	PcP	16 58 06.6		-0.2
	0.2nm,0.6s,baz=98,slow=3.7,SNR=4.6 0.5nm,0.5s							
WRA	**Warramunga Arr**	**43.67**	**262**	P	P	16 56 35.3		+0.3
	0.2nm,0.3s,baz=97,slow=7.4,SNR=14 0.2nm,0.3s							
AKASG	**Malin Array Be**	**142.01**	**331**	PKP	PKPdf	17 07 43.7		-0.5
	0.3nm,0.5s,baz=40,slow=3.9,SNR=4.4							

IDC 09 17:02:20.4±8.3, 25°.72S×29°.32E, h0km, mbtmp3.1/1, ML2.3/1, Error ellipse: s-maj=86.7km s-min=56.4km az=141.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
LBTB	**Lobatse**	**3.44**	**281**	*i* P	Pb	17 03 21.5		-0.8
LBTB				*i* S	Sb	17 04 02.6		-2.0
LBTB	**Lobatse**	**3.44**	**281**	*i* P	Pb	17 03 21.5		-0.8
LBTB				*i* S	Sb	17 04 02.6		-2.0
MUSN	**Musina, Limpop**	**3.45**	**8**	*i* P	Pb	17 03 20.1		-2.3
MUSN				*i* S	Sb	17 04 02.6		-2.3
MUSN	**Musina, Limpop**	**3.45**	**8**	*i* P	Pb	17 03 20.1		-2.3
MUSN				*i* S	Sb	17 04 02.6		-2.3
BOSA	**Boshof**	**4.63**	**231**	*i* P	Pn	17 03 35.6		+3.8
BOSA				*i* S	Sn	17 04 27.8		+1.4
BOSA	**Boshof**	**4.63**	**231**	Pn	Pn	17 03 30.6		-1.1
	0.1nm,0.3s,baz=47,slow=15,SNR=2.1							
BOSA				Pg	Pg	17 03 46.7		-2.5
	1.2nm,0.3s,baz=52,slow=16,SNR=20							
BOSA				Sn	Sn	17 04 26.6		+0.3
	1.0nm,0.3s,baz=201,slow=14,SNR=2.2							
BOSA				Lg	Lg	17 04 47.6		
	9.4nm,0.3s,baz=141,slow=10,SNR=15 4.3nm,1.0s							
BOSA	**Boshof**	**4.63**	**231**	*i* P	Pn	17 03 35.6		+3.8
BOSA				*i* S	Sn	17 04 27.8		+1.4
I47ZA	**BOSHOF INFRASO**	**4.65**	**231**	I	I	17 32 10.0		
	0.1nm,0.6s,baz=54,slow=312,SNR=2.0							
I35NA	**TSUMEB INFRASO**	**12.64**	**299**	I	I	18 13 18.6		
	baz=126,slow=312,SNR=1.6							

*IDC **09** 17:02:29.9±1.1, 10°.01N×140°.34E, h0km, mb3.5/6, mbtmp3.6/7, ML4.3/1, MS4.0/1, Error ellipse: s-maj=34.5km s-min=22.8km az=108.0*
ISC 09 17:02:33.7±0.9, 10°.0N±0°.2×140°.4E±0°.1, h26km, n14, σ0♀88/8, mb3.5/6, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
GUMO	**Guam**	**5.65**	**50**	Pn	**Pn**	**17 03 57.1**		**+0.9**
	8.6nm,0.3s,baz=145,slow=18,SNR=7.3							
GUMO				Sn	**Sn**	**17 04 59.2**		**-1.1**
	8.9nm,0.3s,baz=51,slow=14,SNR=1.2 32nm,0.3s							
H11S3	**WAKE ISLAND Hy**	**26.82**	**69**	T	T	17 36 19.4		
	baz=255,slow=75							
H11S1	**WAKE ISLAND Hy**	**26.84**	**69**	T	T	17 36 18.6		
	baz=255,slow=75							
H11S2	**WAKE ISLAND Hy**	**26.84**	**69**	T	T	17 36 20.4		
	baz=255,slow=75							
H11N1	**WAKE ISLAND Hy**	**27.34**	**66**	T	T	17 36 56.0		
	baz=253,slow=75							
H11N2	**WAKE ISLAND Hy**	**27.35**	**66**	T	T	17 36 59.3		
	baz=253,slow=75							
H11N3	**WAKE ISLAND Hy**	**27.36**	**66**	T	T	17 36 59.2		
	baz=253,slow=75							
WRA	**Warramunga Arr**	**30.35**	**191**	P	**P**	**17 08 42.8**		**-0.8**
	0.4nm,9s,baz=9.9,slow=9.6,SNR=2.1 0.4nm,0.9s							
ASAR	**Alice Springs**	**34.06**	**191**	P	**P**	**17 09 16.6**		**+0.5**
	0.4nm,0.8s,baz=17,slow=12,SNR=12 0.4nm,0.8s							
DZM	**Mont Dzumac**	**40.86**	**141**	LR	LR	17 26 31.7		
	comp=Z,167nm,18.3s,baz=91,slow=35							
CMAR	**Chiang Mai Arr**	**40.96**	**287**	P	**P**	**17 10 14.4**		**-0.3**
	0.7nm,0.8s,baz=88,slow=6.8,SNR=5.0 0.7nm,0.8s							
MKAR	**Makanchi Array**	**61.12**	**318**	P	**P**	**17 12 46.0**		**+0.2**
	0.4nm,0.7s,baz=101,slow=7.5,SNR=2.9 0.4nm,0.7s							
ILAR	**Eielson Array**	**73.67**	**25**	P	**P**	**17 14 04.3**		**-0.6**
	0.9nm,1.1s,baz=251,slow=6.3,SNR=3.8 0.9nm,1.1s							
YKA	**Yellowknife Ar**	**88.03**	**27**	P	**P**	**17 15 22.1**		**+0.6**
	0.2nm,0.8s,baz=289,slow=5.3,SNR=1.9 0.2nm,0.8s							

*IDC **09** 17:19:19.9±1.2, 10°.03N×140°.18E, h0km, mb3.3/5, mbtmp3.3/5, ML4.8/1, Error ellipse: s-maj=34.5km s-min=24.3km az=104.0*
ISC 09 17:19:25.0±1.0, 10°.0N±0°.2×140°.2E±0°.1, h35km, n12, σ0♀78/7, mb3.2/5, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
GUMO	**Guam**	**5.78**	**52**	Pn	**Pn**	**17 20 49.3**		**+1.0**
	25nm,0.3s,baz=349,slow=1.2,SNR=15							
GUMO				Sn	**Sn**	**17 21 52.7**		**-0.7**
	24nm,0.3s,baz=336,slow=22,SNR=6.4							
H11S3	**WAKE ISLAND Hy**	**26.99**	**69**	T	T	17 53 15.9		
	baz=255,slow=75,SNR=831							
H11S1	**WAKE ISLAND Hy**	**27.00**	**69**	T	T	17 53 18.7		
	baz=255,slow=75,SNR=214							
H11S2	**WAKE ISLAND Hy**	**27.00**	**69**	T	T	17 53 15.5		
	baz=255,slow=75,SNR=343							
H11N1	**WAKE ISLAND Hy**	**27.50**	**66**	T	T	17 53 55.0		
	baz=254,slow=75,SNR=165							
H11N2	**WAKE ISLAND Hy**	**27.51**	**66**	T	T	17 53 54.4		
	baz=254,slow=75,SNR=132							
H11N3	**WAKE ISLAND Hy**	**27.52**	**66**	T	T	17 53 57.9		
	baz=254,slow=75,SNR=105							
WRA	**Warramunga Arr**	**30.33**	**191**	P	**P**	**17 25 33.1**		**-0.4**
	0.2nm,0.7s,baz=25,slow=10.0,SNR=1.0 0.2nm,0.7s							
ASAR	**Alice Springs**	**34.05**	**190**	P	**P**	**17 26 06.2**		**+0.2**
	0.2nm,0.6s,baz=20,slow=12,SNR=9.0 0.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**40.78**	**287**	P	**P**	**17 27 03.6**		**+0.5**
	0.5nm,0.4s,baz=94,slow=6.9,SNR=5.9 0.5nm,0.4s							
MKAR	**Makanchi Array**	**60.98**	**318**	P	**P**	**17 29 34.5**		**-0.3**
	0.2nm,0.8s,baz=94,slow=8.8,SNR=1.8 0.2nm,0.8s							
ILAR	**Eielson Array**	**73.72**	**25**	P	**P**	**17 30 54.5**		**-0.6**
	0.2nm,0.8s,baz=256,slow=6.5,SNR=1.5 0.2nm,0.8s							

*RSNC **09** 17:35:15.7±2.2, 9°.01N×77°.42W, h15km±6km, ML3.4, Mw4.0*
*IDC **09** 17:35:16.3±2.6, 8°.84N×77°.37W, h41km±27km, mb3.2/2, mbtmp3.8/5, ML3.1/3, MS3.7/2, Error ellipse: s-maj=25.4km s-min=18.9km az=36.0*
*UPA **09** 17:35:16.2±1.8, 8°.93N×77°.45W, h20km±12km, MD4.3, MW4.6*
ISC 09 17:35:15.0±1.1, 8°.97N±0°.04×77°.44W±0°.02, h23km±9km, n59, σ1♀63/85, 1C-3D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CAPC	**Capurgana**	**0.35**	**166**	*e*P	**Pb**	**17 35 21.9**		**-0.8**
CAPC				*e*S	**Sb**	**17 35 27.6**		**-0.3**
UPD2	**Meteti**	**0.71**	**233**	*i*P	**Pb**	**17 35 28.5**		**-0.2**
UPD2				*i* S	**Sb**	**17 35 38.2**		**+0.1**
UPD2	**Meteti**	**0.71**	**233**	*e*P	**Pb**	**17 35 28.5**		**-0.2**
UPD2				*e*S	**Sb**	**17 35 38.8**		**+0.8**
TOTI	**Torti**	**0.86**	**267**	*i*P	**Pb**	**17 35 30.9**		**-0.4**
TOTI				*i* S	**Sb**	**17 35 42.2**		**-0.3**
LCBC	**Los crdobas,**	**1.06**	**96**	*i*P	**Pb**	**17 35 35.3**		**+0.6**
LCBC				*i* S	**Sn**	**17 35 48.6**		**+0.1**
LCBC	**Los crdobas,**	**1.06**	**96**	*e*P	**Pb**	**17 35 35.4**		**+0.6**
LCBC				*e*S	**Sn**	**17 35 48.8**		**+0.3**
LCBC				*i*		17 36 04.0		
	comp=Z,2μm,0.4s							
APAC	**Apartado, Choc**	**1.36**	**141**	*e*P	**Pb**	**17 35 39.5**		**-0.4**
APAC				*e*S	**Sb**	**17 35 59.2**		**+2.3**
APAC				*i*		17 36 12.4		
	comp=Z,517nm,0.4s							
CNTA3	**Canitas, Panam**	**1.45**	**280**	*i* P	**Pn**	**17 35 39.9**		**+0.1**
CNTA3				*i* S	**Sn**	**17 35 58.4**		**+0.3**
CHPO	**Chepo, Panama**	**1.67**	**277**	*i* P	**Pn**	**17 35 42.7**		**0.0**
CHPO				*i* S	**Sn**	**17 36 02.6**		**-0.8**
PTAC	**Punta Ardita,**	**1.85**	**191**	*i* P	**Pn**	**17 35 45.8**		**+0.4**
PTAC				*i* S	**Sn**	**17 36 06.9**		**-1.1**
PTAC	**Punta Ardita,**	**1.85**	**191**	*e*P	**Pn**	**17 35 45.7**		**+0.4**
PTAC				*e*S	**Sn**	**17 36 09.7**		**+1.7**
PTAC				*i*		17 36 10.8		
	comp=Z,312nm,0.2s							
UPA	**Univ. de Panam**	**2.07**	**270**	*i* P	**Pn**	**17 35 49.5**		**+1.2**
UPA	**Univ. de Panam**	**2.07**	**270**	*e*P	**Pn**	**17 35 49.5**		**+1.2**
UPA				*e*S	**Sn**	**17 36 14.6**		**+1.2**
ARRA3	**Arraijan, Pana**	**2.19**	**270**	*e*P	**Pn**	**17 35 51.2**		**+1.2**
UREC	**San Jos de Ur**	**2.24**	**123**	*e*P	**Pn**	**17 35 50.6**		**-0.1**
UREC				*e*S	**Sn**	**17 36 14.9**		**-2.8**
UREC	**San Jos de Ur**	**2.24**	**123**	*e*P	**Pn**	**17 35 50.6**		**-0.1**
UREC				*e*S	**Sn**	**17 36 17.2**		**-0.5**
UREC				*i*		17 36 21.7		
	comp=Z,137nm,0.2s							
DBBC	**Dabeiba**	**2.29**	**148**	*e*P	**Pn**	**17 35 52.0**		**+0.5**
DBBC				*e*S	**Sb**	**17 36 23.7**		**0.0**
DBBC				*i*		17 36 29.8		
	comp=Z,107nm,0.4s							
BCIP	**Isla Barro Col**	**2.38**	**275**	*i* P	**Pn**	**17 35 53.5**		**+0.9**
BCIP				*i* S	**Sb**	**17 36 27.6**		**+1.6**
BCIP	**Isla Barro Col**	**2.38**	**275**	*e*P	**Pn**	**17 35 53.4**		**+0.9**
BCIP				*e*S	**Sn**	**17 36 22.8**		**+1.8**
BCIP				*i*		17 36 36.9		
	comp=Z,181nm,0.4s							
SJCC	**San Jacinto, C**	**2.41**	**67**	*e*P	**Pn**	**17 35 53.1**		**0.0**
SJCC				*e*S	**Sn**	**17 36 21.4**		**-0.5**
PNME	**Penonome**	**2.90**	**261**	*e*P	**Pn**	**17 36 00.8**		**+1.1**
PNME				*i* S	**Sn**	**17 36 27.2**		**-6.6**
ZARC	**Zaragoza, Cauc**	**2.95**	**120**	*e*P	**Pn**	**17 36 00.7**		**+0.2**
ZARC				*e*S	**Sn**	**17 36 32.9**		**-2.3**
ZARC				*i*		17 36 34.5		
	comp=Z,220nm,0.5s							
PCRI3	**Pocri, Los San**	**2.96**	**244**	*e*P	**Pn**	**17 36 01.5**		**+1.0**
AZU	**Azuero**	**3.04**	**247**	*i* P	**Pn**	**17 36 02.4**		**+0.7**
AZU				*i* S	**Sn**	**17 36 34.5**		**-2.8**
AZU	**Azuero**	**3.04**	**247**	*e*P	**Pn**	**17 36 02.2**		**+0.6**
AZU				*i*		17 36 52.1		
	comp=Z,145nm,0.7s							
CHIT3	**Chitre**	**3.12**	**251**	*i* P	**Pn**	**17 36 03.6**		**+0.9**
ACHO3	**Achotines, Los**	**3.12**	**240**	*e*P	**Pn**	**17 36 05.2**		**+2.5**
CRIS3	**El Cristo, Coc**	**3.22**	**257**	*e*P	**Pn**	**17 36 05.7**		**+1.5**
ARGC	**Ariguani, Magd**	**3.27**	**74**	*e*P	**Pn**	**17 36 06.0**		**+1.1**
CBOC	**Ciudad Bolivar**	**3.40**	**155**	*e*P	**Pn**	**17 36 09.4**		**+2.7**
CBOC				*i*		17 37 08.0		
	comp=Z,46nm,0.6s							
CALO3	**Calobre, Verag**	**3.43**	**259**	*e*P	**Pn**	**17 36 08.6**		**+1.6**
MARI3	**Mariato, Verag**	**3.75**	**250**	*e*P	**Pb**	**17 36 19.2**		**-1.4**
CACAO	**El Cacao, Vera**	**3.75**	**245**	*e*P	**Pn**	**17 36 13.8**		**+2.3**
CACAO	**El Cacao, Vera**	**3.75**	**245**	*e*P	**Pb**	**17 36 17.4**		**-3.2**
CACAO				*i*		17 37 18.8		
	comp=Z,36nm,0.6s							
PTBC	**PUERTO BERRIO,**	**3.82**	**129**	*e*P	**Pn**	**17 36 12.0**		**-0.4**
PTBC				*e*S	**Sn**	**17 36 57.1**		**+0.4**
PTBC				*i*		17 37 14.8		
	comp=Z,39nm,0.6s							
OCAC	**Ocana**	**4.14**	**100**	*e*P	**Pn**	**17 36 16.6**		**-0.3**
OCAC				*e*S	**Sn**	**17 37 04.5**		**-0.2**
NORC	**Norcasia**	**4.24**	**143**	*e*P	**Pn**	**17 36 19.4**		**+1.2**
GUY2C	**Guyana, Caldas**	**4.26**	**151**	*e*P	**Pn**	**17 36 20.6**		**+1.8**
GUY2C				*e*S	**Sn**	**17 37 10.7**		**+2.7**
CHGR2	**Aguacate**	**4.65**	**270**	*e*P	Pn	17 36 29.1		+5.3
BARC	**Barichara**	**4.84**	**119**	*e*P	**Pn**	**17 36 27.6**		**+1.0**
BARC				*i*		17 37 27.2		
	comp=Z,59nm,0.5s							
ANIL	**Santa Ana**	**4.89**	**155**	*e*P	**Pn**	**17 36 29.0**		**+1.6**
PAMC	**Pamplona, Colo**	**4.96**	**109**	*e*P	**Pn**	**17 36 28.7**		**+0.2**
PAMC				*e*S	**Sn**	**17 37 24.2**		**-1.3**
PAMC				*i*		17 37 33.0		
	comp=Z,63nm,0.5s							
YOTC	**Yotoco, Valle**	**5.08**	**168**	*e*P	**Pn**	**17 36 30.2**		**+0.4**
YOTC				*e*S	**Sn**	**17 37 28.6**		**+0.8**
ROSC	**El Rosal**	**5.14**	**143**	P	**Pn**	**17 36 29.8**		**-1.1**
	comp=Z,3.3nm,0.3s,baz=37,slow=20,SNR=2.3							
ROSC				S	**Sn**	**17 37 26.0**		**-3.8**
	comp=Z,11nm,0.4s,baz=290,slow=11,SNR=3.7 comp=Z,6.1nm,0.4s							
BRU2	**Volcan**	**5.19**	**268**	*e*P	Pb	17 36 40.8		-4.5
ORTC	**Ortega, Tolima**	**5.48**	**156**	*e*P	Pn	17 36 40.7		+5.4
CHIC	**Chingaza**	**5.67**	**139**	*e*P	**Pn**	**17 36 41.2**		**+2.9**
CHIC				*e*S	**Sn**	**17 37 40.7**		**-2.2**
CHIC				*i*		17 38 01.1		
	comp=Z,11nm,0.7s							
TAMC	**Tame, Arauca**	**6.14**	**114**	*e*P	**Pn**	**17 36 45.8**		**+1.4**
TAMC				*i*		17 38 35.1		
	comp=Z,21nm,0.5s							
POPC	**Popayan, Colom**	**6.44**	**173**	*e*P	**Pn**	**17 36 52.6**		**+4.0**
SDV	**Santo Domingo**	**6.72**	**90**	*e*P	**Pn**	**17 36 51.8**		**-0.7**
SDV				*e*S	**Sn**	**17 38 06.9**		**-1.7**
SDV				*i*		17 38 08.5		
	comp=Z,23nm,0.5s							
SDV	**Santo Domingo**	**6.72**	**90**	P	**Pn**	**17 36 51.9**		**-0.7**
	comp=Z,3.3nm,0.3s,baz=328,slow=16,SNR=20							
SDV	

DBBC					*i*			17 39 18.1	
	comp=Z,7.4nm,0.3s								
BCIP	**Isla Barro Col**	**2.38**	**275**	*e*P		**Pn**		**17 38 42.0**	**+0.8**
BCIP				*i* S		**Sn**		**17 39 11.9**	**+2.0**
BCIP	**Isla Barro Col**	**2.38**	**275**	*e*P		**Pn**		**17 38 41.5**	**+0.3**
BCIP				*e*S		**Sn**		**17 39 11.5**	**+1.6**
BCIP				*i*				17 39 13.8	
	comp=Z,13nm,0.4s								
SJCC	**San Jacinto, C**	**2.42**	**67**	*e*P		**Pn**		**17 38 42.8**	**+0.9**
SJCC				*e*S		**Sn**		**17 39 11.1**	**+0.1**
ZARC	**Zaragoza, Cauc**	**2.94**	**119**	*e*P		**Pn**		**17 38 48.6**	**-0.4**
ZARC				*e*S		**Sn**		**17 39 23.2**	**-0.6**
ZARC				*i*				17 39 23.7	
	comp=Z,29nm,0.3s								
PAMC	**Pamplona, Colo**	**4.96**	**109**	*e*P		**Pn**		**17 39 17.6**	**+0.3**
PAMC				*e*S		**Sn**		**17 40 14.1**	**-0.3**
PAMC				*i*				17 40 17.9	
	comp=Z,5.4nm,0.2s								

*IDC **09** 17:50:57.9±6.7, 15°.22S×167°.44E, h135km±48km, mb3.5/5, mbtmp3.9/6, Error ellipse: s-maj=56.8km s-min=31.2km az=46.0*
*NEIC **09** 17:50:57.5±2.2, 15°.3S±0°.1×167°.5E±0°.1, h128km±10km, mb4.0/12, Error ellipse: s-maj=18.8km s-min=13.8km az=117.0*

ISC 09 17:50:56.8±0.8, **15°.23S**±0°.07×**167°.5E**±0°.1, **h129**km, **n24,** σ1§**40**/29, **mb3.9**/9, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**5.52**	**183**	**Pn**	**Pn**	**17 52 16.6**	**-0.3**
LIFNC				Sn	**Sn**	**17 53 14.9**	**-4.4**
KOUNC	**Koumac, New Ca**	**6.12**	**210**	Pn	**Pn**	**17 52 25.8**	**+0.8**
KOUNC				Sn	**Sn**	**17 53 32.3**	**-1.6**
DZM	**Mont Dzumac**	**6.88**	**188**	Pn	**Pn**	**17 52 37.1**	**+1.8**
DZM				Sn	**Sn**	**17 53 51.3**	**-0.9**
DZM	**Mont Dzumac**	**6.88**	**188**	P	**Pn**	**17 52 37.1**	**+1.8**
	2.5nm,0.3s,baz=110,slow=20,SNR=18						
DZM				S	**Sn**	**17 53 53.2**	**+0.9**
	7.4nm,0.3s,baz=146,slow=22,SNR=7.1						
ONTNC	**Ouen Toro**	**7.11**	**188**	Pn	**Pn**	**17 52 40.0**	**+1.7**
ONTNC				Sn	**Sn**	**17 53 58.6**	**+0.9**
OUENC	**Ouen Island, N**	**7.18**	**185**	Pn	**Pn**	**17 52 40.3**	**+1.1**
PINNC	**Pines Island,**	**7.34**	**181**	Pn	**Pn**	**17 52 43.3**	**+2.0**
RTZ	**Ruatahuna**	**24.74**	**162**	P	**P**	**17 56 06.2**	**-0.1**
RTZ				IAmb	IAmb	17 56 19.2	
	comp=Z,12nm,1.0s						
STKA	**Stephens Creek**	**28.87**	**230**	P	**P**	**17 56 43.7**	**+0.3**
STKA	**Stephens Creek**	**28.87**	**230**	P	**P**	**17 56 44.6**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=52,slow=8.1,SNR=7.2						
	comp=Z,1.4nm,0.3s						
WB0	**Warramunga Arr**	**31.89**	**257**	P	**P**	**17 57 08.6**	**-1.6**
WB0				IAmb	IAmb	17 57 19.6	
	comp=Z,4.3nm,1.4s						
WRA	**Warramunga Arr**	**31.95**	**257**	P	**P**	**17 57 09.0**	**-1.8**
WRA	**Warramunga Arr**	**31.95**	**257**	P	**P**	**17 57 09.8**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=84,slow=8.4,SNR=8.3						
	comp=Z,0.5nm,0.5s						
AS31	**Alice Springs**	**32.73**	**250**	P	**P**	**17 57 16.7**	**-0.8**
AS31				IAmb	IAmb	17 57 17.9	
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**32.74**	**250**	P	**P**	**17 57 16.9**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=76,slow=9.2,SNR=46						
	comp=Z,2.4nm,0.6s						
BBOO	**Buckleboo**	**33.48**	**233**	P	**P**	**17 57 24.5**	**+0.7**
SAUI	**Saumlaki**	**36.17**	**277**	P	**P**	**17 57 46.9**	**-0.3**
KNRA	**Kununurra**	**37.34**	**264**	P	**P**	**17 57 56.4**	**-0.6**
XMAS	**Kiritimati**	**38.67**	**67**	P	**P**	**17 58 07.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**40.17**	**260**	P	**P**	**17 58 20.6**	**-0.1**
FITZ				IAmb	IAmb	17 58 27.1	
	comp=Z,1.9nm,1.4s						
MIDW	**Midway**	**45.60**	**19**	P	**P**	**17 59 03.9**	**-0.3**
VNDA	**Vanda**	**62.37**	**181**	P	**P**	**18 01 05.5**	**+0.2**
VNDA				IAmb	IAmb	18 01 07.8	
	comp=Z,4.2nm,1.5s						
VNDA	**Vanda**	**62.37**	**181**	P	**P**	**18 01 05.3**	**0.0**
	comp=Z,0.4nm,0.5s,baz=3.5,slow=5.0,SNR=5.3						
	comp=Z,0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**75.39**	**294**	P	**P**	**18 02 27.3**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=136,slow=4.5,SNR=4.3						
	comp=Z,0.3nm,0.6s						

*NAO **09** 18:12:46.2, 34°.27N×26°.05E, h33km, mb4.0*
*IDC **09** 18:12:47.9±1.3, 34°.68N×23°.51E, h0km, mb4.1/10, mbtmp4.0/16, ML3.8/5, Error ellipse: s-maj=26.0km s-min=15.6km az=178.0*
*ISK **09** 18:12:56.5, 34°.73N×23°.92E, h41km±1km, ML3.7/13*
*THE **09** 18:12:57.4, 34°.71N×23°.73E, h21km±1km, ML3.6/6, Error ellipse: s-maj=2.3km s-min=1.0km az=43.0*
*ATH **09** 18:12:57.5, 34°.69N×23°.76E, h28km±2km, ML4.0/3, Error ellipse: s-maj=4.9km s-min=2.1km az=60.0*
*AFAD **09** 18:13:02.0±0.0, 34°.86N×24°.36E, h93km, MW3.9*

ISC 09 18:12:52.9±1.0, **34°.54N**±0°.07×**23°.78E**±0°.05, **h36**km±1km, **n70,** σ2§**48**/92, **mb4.0**/11, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.40**	**40**	Pg	**Pn**	**18 13 03.2**	**+1.3**
GVD				Sg	**Sn**	**18 13 09.7**	**+1.2**
GVD	**Gavdhos**	**0.40**	**40**	P	**Pn**	**18 13 04.3**	**+2.4**
GVD				S	**Sn**	**18 13 10.4**	**+1.8**
	51μm,0.3s						
GVD	**Gavdhos**	**0.40**	**40**	P	**Pn**	**18 13 04.3**	**+2.4**
GVD				S	**Sn**	**18 13 10.4**	**+1.8**
GVD				AML	AML	18 13 10.9	
GVD				AML	AML	18 13 11.9	
	comp=E,78452μm,0.3s						
GVDS	**Gavdos**	**0.40**	**40**	Pg	**Pn**	**18 13 03.9**	**+2.0**
GVDS				Sg	**Sn**	**18 13 09.5**	**+0.9**
GVDS	**Gavdos**	**0.40**	**40**	P	**Pn**	**18 13 03.7**	**+1.8**
GVDS				S	**Sn**	**18 13 09.7**	**+1.1**
	comp=E,46μm,0.3s						
IMMV	**Iera Moni Meta**	**0.94**	**10**	Pg	**Pn**	**18 13 10.9**	**+1.4**
IMMV				Sg	**Sn**	**18 13 21.5**	**-0.3**
IMMV	**Iera Moni Meta**	**0.94**	**10**	P	**Pn**	**18 13 11.6**	**+2.0**
IMMV				S	**Sn**	**18 13 22.4**	**+0.6**
	comp=E,9μm,0.6s						
IMMV	**Iera Moni Meta**	**0.94**	**10**	P	**Pn**	**18 13 11.5**	**+2.0**
IMMV				S	**Sn**	**18 13 22.4**	**+0.6**
IMMV				AML	AML	18 13 23.2	
	comp=N,18431μm,0.8s						
IMMV				AML	AML	18 13 25.0	
	comp=E,17059μm,0.4s						
TMBK	**Timbaki Herakl**	**0.97**	**56**	P	**Pn**	**18 13 13.9**	**+3.9**
TMBK	**Timbaki Herakl**	**0.97**	**56**	P	**Pn**	**18 13 13.9**	**+3.9**
CHAN	**Chania**	**1.00**	**12**	P	**Pn**	**18 13 12.6**	**+2.1**
CHAN				S	**Sn**	**18 13 24.6**	**+1.2**
CHAN				AML	AML	18 13 27.4	
	comp=N,10361μm,0.4s						
CHAN				AML	AML	18 13 30.4	
	comp=E,18456μm,0.5s						
RODP	**Rodopos**	**1.02**	**359**	Pg	**Pn**	**18 13 12.8**	**+2.0**
RODP				Sg	**Sn**	**18 13 24.0**	**+0.2**
RODP	**Rodopos**	**1.02**	**359**	P	**Pn**	**18 13 12.7**	**+2.0**
RODP				S	**Sn**	**18 13 24.8**	**+1.0**
	comp=E,995nm,0.4s						
IDI	**Anoyia**	**1.18**	**50**	Pg	**Pn**	**18 13 14.8**	**+1.9**
IDI	**Anoyia**	**1.18**	**50**	P	**Pn**	**18 13 16.3**	**+3.4**
IDI				S	**Sn**	**18 13 31.8**	**+4.0**
	comp=E,985nm,0.4s						
IDI	**Anoyia**	**1.18**	**50**	Pn	**Pn**	**18 13 15.3**	**+2.4**
	comp=E,75nm,0.3s,baz=244,slow=9.2,SNR=598						
IDI				Sn	**Sn**	**18 13 31.0**	**+3.2**
	comp=E,103nm,0.3s,baz=323,slow=18,SNR=13						
IDI				LR	LR	18 13 51.8	
	comp=E,113nm,18.5s,baz=279,slow=50						
IDI	**Anoyia**	**1.18**	**50**	P	**Pn**	**18 13 16.3**	**+3.4**
IACM	**Heraklion**	**1.31**	**54**	P	**Pn**	**18 13 19.0**	**+4.4**
IACM	**Heraklion**	**1.31**	**54**	P	**Pn**	**18 13 19.0**	**+4.4**
HRKL	**Heraklei o**	**1.33**	**54**	Pn	**Pn**	**18 13 16.5**	**+1.6**
ANKY	**Antikythira Is**	**1.39**	**344**	P	**Pn**	**18 13 18.3**	**+2.6**
ANKY				S	**Sn**	**18 13 35.0**	**+2.3**
	comp=E,1μm,0.7s						
ANKY	**Antikythira Is**	**1.39**	**344**	P	**Pn**	**18 13 18.3**	**+2.6**
SNT5	**Nea Kammeni, S**	**2.28**	**35**	P	**Pn**	**18 13 30.3**	**+2.3**
VLI	**Veliai**	**2.28**	**343**	P	**Pn**	**18 13 31.2**	**+3.2**
VLI	**Veliai**	**2.28**	**343**	P	**Pn**	**18 13 32.2**	**+4.1**
SANT	**Santorini**	**2.29**	**36**	Pn	**Pn**	**18 13 29.9**	**+1.8**
SANT	**Santorini**	**2.29**	**36**	P	**Pn**	**18 13 30.5**	**+2.4**
APE	**Apeiranthos**	**2.90**	**29**	Pn	**Pn**	**18 13 37.6**	**+1.0**
KARP	**Karpathos**	**2.95**	**69**	Pn	**Pn**	**18 13 40.2**	**+3.0**
KARP	**Karpathos**	**2.95**	**69**	P	**Pn**	**18 13 41.6**	**+4.4**
RFTB	**Kemer-Bodrum**	**3.73**	**49**	Pn	**Pn**	**18 13 50.4**	**+2.5**
DAT	**Datca**	**3.79**	**54**	Pn	**Pn**	**18 13 51.5**	**+2.7**
BODT	**Bodrum**	**3.82**	**48**	Pn	**Pn**	**18 13 51.4**	**+2.3**
ARG	**Arkhangelos**	**3.93**	**63**	Pn	**Pn**	**18 13 54.2**	**+3.6**
TURN	**Turunc**	**4.27**	**57**	P	**Pn**	**18 13 57.8**	**+2.6**
TURN				S	**Sn**	**18 14 40.7**	**-3.1**
TURN				*i* AML	AML	18 14 46.0	
	comp=E,46nm,0.3s						
TURN				*i* AML	AML	18 14 48.0	
	comp=E,60nm,0.3s						
IZZE	**Mula-Seydike**	**4.83**	**65**	P	**Pn**	**18 14 05.8**	**+2.8**
IZZE				S	**Sn**	**18 14 54.8**	**-2.9**
IZZE				*i* AML	AML	18 15 01.0	
	comp=E,123nm,0.5s						
IZZE				*i* AML	AML	18 15 02.0	
	comp=E,94nm,0.3s						
TAVA	**DENIZLI_Tavas**	**5.08**	**53**	P	**Pn**	**18 14 09.2**	**+2.5**
TAVA				S	**Sn**	**18 15 00.6**	**-3.5**
TAVA				*i* AML	AML	18 15 10.0	
	comp=E,11nm,0.7s						
TAVA				*i* AML	AML	18 15 17.0	
	comp=E,12nm,0.9s						
CAEL	**Denizli, Camel**	**5.19**	**59**	P	**Pn**	**18 14 11.5**	**+3.5**
CAEL				S	**Sn**	**18 15 05.8**	**-1.0**
DNIZ	**Denizli-Tavas-**	**5.26**	**53**	P	**Pn**	**18 14 12.2**	**+3.2**
DNIZ				S	**Sn**	**18 15 08.2**	**-0.1**
GOLH	**Golhisar**	**5.41**	**58**	P	**Pn**	**18 14 13.9**	**+2.8**
GOLH				S	**Sn**	**18 15 08.6**	**-3.5**
AKUM	**Antalya-Kumluc**	**5.65**	**70**	P	**Pn**	**18 14 16.5**	**+2.3**
AKUM				S	**Sn**	**18 15 14.4**	**-3.4**
AKUM				*i* AML	AML	18 15 19.0	
	comp=E,48nm,0.4s						
AKUM				*i* AML	AML	18 15 21.0	
	comp=E,50nm,0.3s						
VAE	**Valguarnera**	**8.14**	**294**	Pn	**Pn**	18 14 42.6	-5.9
	comp=E,1.3nm,0.3s,baz=131,slow=23,SNR=1.5						
VAE				Sn	**Sn**	**18 16 15.0**	**-4.3**
	comp=E,3.0nm,0.3s,baz=154,slow=22,SNR=2.4						
	comp=E,6.4nm,0.3s						
BRTR	**Keskin Array B**	**9.42**	**54**	Pn	**Pn**	**18 15 06.7**	**+0.6**
	comp=E,0.6nm,0.6s,baz=245,slow=16,SNR=2.7						
MMAI	**Mount Meron Ar**	**9.79**	**96**	Pn	**Pn**	**18 15 11.9**	**+0.7**
	comp=E,2.2nm,0.3s,baz=297,slow=11,SNR=12						
MMAI				Sn	**Sn**	**18 16 57.0**	**-2.9**
	comp=E,3.3nm,0.3s,baz=261,slow=26,SNR=2.9						
	comp=E,1.0nm,0.3s						
EIL	**Elat**	**10.64**	**114**	Sn	**Sn**	**18 17 17.7**	**-2.9**
	comp=E,1.5nm,0.3s,baz=354,slow=10,SNR=7.8						
ASF	**Jabal al Asfar**	**11.22**	**98**	Sn	**Sn**	**18 17 31.9**	**-3.1**
	comp=E,0.3nm,0.3s,baz=211,slow=5.9,SNR=1.9						
ARSA	**Arzberg**	**14.14**	**336**	*i* Pn	**P**	**18 16 15.5**	**-2.1**
	comp=E,1.3nm,0.5s						
CONA	**Conrad Observa**	**14.63**	**338**	*i* P	**P**	**18 16 22.5**	**-0.7**
	comp=E,0.8nm,0.3s						
MOA	**Molln**	**15.09**	**335**	*i* P	**P**	**18 16 30.4**	**+2.3**
	comp=E,2.0nm,0.4s						
LESA	**Schwarzleotal**	**15.34**	**330**	*i* P	**P**	**18 16 34.0**	**+3.0**
	comp=E,2.9nm,0.4s						
SQTA	**Sankt Quirin**	**15.81**	**327**	*i* P	**P**	**18 16 39.6**	**+3.3**
	comp=E,2.0nm,0.4s						
MOTA	**Moosalm**	**15.96**	**327**	*i* P	**P**	**18 16 39.6**	**+1.7**
	comp=E,0.3nm,0.2s						
GERES	**GERESS Array B**	**16.14**	**335**	Pn	**Pn**	**18 16 34.0**	**-2.9**
	comp=E,0.2nm,0.3s,baz=149,slow=14,SNR=2.0						
	comp=E,0.9nm,0.7s						
RETA	**Reutte**	**16.22**	**327**	*i* P	**P**	**18 16 44.4**	**+3.7**
	comp=E,1.9nm,0.3s						
KHC	**Kasperske Hory**	**16.42**	**336**	*e*P	**Pn**	**18 16 40.5**	**0.0**
KHC				*ex*	x	18 16 44.5	
DAVA	**Damuels**	**16.48**	**325**	*i* P	**P**	**18 16 46.0**	**+2.3**
	comp=E,1.1nm,0.4s						
AKASG	**Malin Array Be**	**16.64**	**12**	Pn	**Pn**	**18 16 40.5**	**-2.6**
	comp=E,1.0nm,0.3s,baz=204,slow=10.0,SNR=2.9						
	comp=E,0.2nm,0.3s						
KBZ	**Khabaz**	**17.41**	**53**	P	**Pn**	**18 16 53.8**	**+0.9**
	comp=E,0.2nm,0.3s,baz=249,slow=8.3,SNR=7.1						
	comp=E,2.8nm,0.7s						
HFS	**Hagfors**	**26.45**	**349**	P	**P**	**18 18 24.8**	**-1.3**
	comp=E,2.7nm,0.4s,baz=157,slow=11,SNR=31						
	comp=E,2.7nm,0.4s						
FINES	**FINESS Array B**	**26.97**	**2**	P	**P**	**18 18 29.8**	**-1.0**
	comp=E,4.2nm,0.9s,baz=170,slow=9.8,SNR=9.2						
	comp=E,4.2nm,0.9s						
NB2	**NORSAR Subarra**	**27.73**	**347**	P	**P**	**18 18 37.5**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=154,slow=9.3						
NOA	**NORSAR Array B**	**27.73**	**347**	P	**P**	**18 18 36.4**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=153,slow=9.0,SNR=7.2						
	comp=Z,0.7nm,0.6s						
EKA	**Eskdalemuir Ar**	**27.91**	**326**	P	**P**	**18 18 39.9**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=114,slow=13,SNR=1.6						
TORD	**Torodi Ar. Bea**	**29.22**	**229**	P	**P**	**18 18 51.4**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=35,slow=9.6,SNR=2.7						
	comp=Z,0.9nm,0.6s						
BVAR	**Borovoye Array**	**37.60**	**46**	P	**P**	**18 20 03.7**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=287,slow=6.0,SNR=3.7						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**42.39**	**50**	P	**P**	**18 20 44.5**	**+0.9**
	comp=Z,1.8nm,0.5s,baz=274,slow=8.6,SNR=28						
	comp=Z,1.8nm,0.5s						
SPITS	**Spitsbergen Ar**	**43.86**	**358**	P	**P**	**18 20 54.8**	**-0.3**
	comp=Z,5.8nm,0.8s,baz=162,slow=14,SNR=1.4						
	comp=Z,5.8nm,0.8s						
MKAR	**Makanchi Array**	**45.06**	**56**	P	**P**	**18 21 06.4**	**+1.2**
	comp=Z,3.1nm,0.4s,baz=267,slow=7.7,SNR=80						
	comp=Z,3.1nm,0.4s						
ZALV	**Zalesovo Beam**	**46.25**	**46**	P	**P**	**18 21 14.8**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=270,slow=8.3,SNR=9.1						
	comp=Z,1.2nm,0.4s						
SONM	**Songino Array**	**60.76**	**50**	P	**P**	**18 23 01.3**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=303,slow=4.1,SNR=3.0						
	comp=Z,0.5nm,0.5s						

*IDC **09** 18:16:10.3±4.8, 36°.22N×136°.84E, h276km±113km, mb3.0/2, mbtmp3.7/2, Error ellipse: s-maj=368.7km s-min=57.8km az=72.0*
*JMA **09** 18:16:10.6±0.3, 36°.N±1°.×13°.7E±°, h283km±2km, MV2.8/22, NORTHERN GIFU PREF*

ISC 09 18:16:09.3±1.3, **36°.3N**±0°.2×**136°.9E**±0°.2, **h300**km, **n10,** σ2§**18**/12, **Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKG	**Kaga**	**0.45**	**270**	P	**Pn**	**18 16 47.2**	**-0.6**
JYTA	**Yamagatataniai**	**0.69**	**190**	P	**Pn**	**18 16 47.4**	**-1.2**
JYTA				*e*S	**S**	**18 17 15.9**	**-3.9**
MAT	**Matsushiro**	**1.09**	**76**	P	**Pn**	**18 16 49.4**	**-0.8**
MJAR	**Matsushiro Arr**	**1.10**	**76**	P	**Pn**	**18 16 49.7**	**-0.5**
	2.6nm,0.3s,baz=253,slow=5.5,SNR=40						
MJAR				S	**S**	**18 17 19.9**	**-2.8**
	1.7nm,0.6s,baz=259,slow=12,SNR=5.8						
JWT	**Wachi**	**1.56**	**231**	P	**Pn**	**18 16 52.2**	**-0.8**
JIE	**Ise**	**1.89**	**185**	P	**Pn**	**18 16 54.7**	**-0.7**
JSD	**Sado**	**2.07**	**32**	P	**Pn**	**18 16 56.9**	**+0.3**
JWY	**Kouya**	**2.31**	**208**	P	**Pn**	**18 16 58.4**	**-0.5**
WRA	**Warramunga Arr**	**55.97**	**183**	P	**P**	**18 25 19.7**	**+2.6**
	0.5nm,0.3s,baz=359,slow=7.6,SNR=15						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**59.69**	**183**	P	**P**	**18 25 45.8**	**+3.0**
	0.2nm,0.3s,baz=357,slow=5.6,SNR=8.4						
	0.2nm,0.3s						

*IDC **09** 18:33:52.2±1.2, 43°.79N×105°.52W, h0km, mbtmp3.1/3, ML3.1/3, Error ellipse: s-maj=25.9km s-min=10.1km az=150.0*
*NEIC **09** 18:33:53.2±1.7, 43°.62N±0°.06×105°.22W±0°.07, h0km±2km, ML2.9/80, Error ellipse: s-maj=10.0km s-min=7.9km az=330.0*

ISC 09 18:33:52.4±1.0, **43°.62N**±0°.05×**105°.25W**±0°.05, **h0**km, **n60,** σ1§**17**/60, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.01**	**60**		**Pg**	**18 34 11.7**	**-0.1**
K22A	**Casper**	**1.34**	**224**		**Pg**	**18 34 17.6**	**-0.6**
K22A				IAML		18 34 38.3	
	comp=E,151nm,0.3s						
K22A				IAML		18 34 43.1	
PHWY	**Pilot Hill**	**2.32**	**184**		**Pn**	**18 34 32.9**	**+0.8**
PHWY				IAML		18 35 06.5	
	comp=N,81nm,0.4s						
RWWY	**Rawlins**	**2.41**	**217**		**Pn**	**18 34 34.1**	**+0.7**
RWWY				IAML		18 35 08.3	
	comp=N,63nm,0.8s						
RWWY				IAML		18 35 09.6	
	comp=N,89nm,0.6s						
N23A	**Red Feather La**	**2.77**	**191**		**Pn**	**18 34 39.8**	**+1.5**
N23A				IAML		18 35 21.0	
	comp=N,56nm,0.5s						
N23A				IAML		18 35 26.5	
	comp=E,46nm,0.5s						
BRIGG	**Briggsdale**	**3.12**	**167**	Pn	**Pn**	**18 34 43.5**	**+0.6**
RLMT	**Red Lodge**	**3.25**	**299**		**Pn**	**18 34 46.0**	**+1.2**
RLMT				IAML		18 35 45.7	
	comp=E,22nm,0.4s						
RLMT				IAML		18 35 46.5	
	comp=E,27nm,0.4s						
BW06	**Boulder Array**	**3.26**	**256**		**Pn**	**18 34 45.9**	**+0.9**
PD31	**Pinedale Array**	**3.26**	**256**		**Pn**	**18 34 45.9**	**+0.9**
PDAR	**Pinedale Array**	**3.26**	**256**		**Pn**	**18 34 46.0**	**+1.0**
PDAR	**Pinedale Array**	**3.26**	**256**	Pn	**Pn**	**18 34 46.1**	**+1.1**
	comp=E,1.7nm,0.3s,baz=78,slow=13,SNR=34						
PDAR				Lg	Lg	18 35 29.3	
	comp=E,4.1nm,0.3s,baz=74,slow=17,SNR=1.7						
	comp=E,2.1nm,0.4s						
OGNE	**Ogallala**	**3.59**	**137**		**Pn**	**18 34 49.5**	**+0.2**
YMP	**Mirror Lake Pl**	**3.70**	**289**		**Pn**	**18 34 52.6**	**+1.5**
YMP				IAML		18 35 52.5	
	comp=N,26nm,0.4s						
YMP				IAML		18 36 00.6	
	comp=E,31nm,0.6s						
ISCO	**Idaho Springs**	**3.83**	**184**		**Pn**	**18 34 54.2**	**+1.4**
LOHW	**Long Hollow**	**3.88**	**272**		**Pn**	**18 34 55.2**	**+1.6**
LOHW				IAML		18 36 14.5	
	comp=E,13nm,3.8s						
H17A	**Grant Village**	**3.92**	**283**		**Pn**	**18 34 55.6**	**+1.6**
FLWY	**Flagg Ranch**	**3.97**	**279**		**Pn**	**18 34 55.5**	**+0.9**
MOOW	**Moose Ponds**	**3.98**	**274**		**Pn**	**18 34 55.8**	**+0.8**
SNOW	**Snow King Moun**	**4.00**	**270**		**Pn**	**18 34 55.7**	**+0.4**
SNOW				IAML		18 36 25.5	
	comp=E,21nm,3.9s						
SNOW				IAML		18 37 16.1	
	comp=E,26nm,4.5s						
REDW	**Red Top Meadow**	**4.08**	**268**		**Pn**	**18 34 57.7**	**+1.4**
YFT	**Old Faithful**	**4.11**	**284**		**Pn**	**18 34 57.7**	**+1.0**
YFT				IAML		18 35 53.1	
	comp=N,11nm,4.9s						
YFT				IAML		18 37 39.3	
	comp=E,12nm,4.0s						
IMW	**Indian Meadow**	**4.13**	**276**		**Pn**	**18 34 59.1**	**+2.1**
IMW				IAML		18 35 50.2	
	comp=E,13nm,0.6s						
IMW				IAML		18 36 12.3	
	comp=E,18nm,0.6s						
O20A	**White River Ci**	**4.14**	**214**		**Pn**	**18 34 57.8**	**+0.8**
TPAW	**Teton Pass**	**4.14**	**270**		**Pn**	**18 34 58.7**	**+1.5**
TPAW				IAML		18 35 36.6	
	comp=E,16nm,4.4s						
YHH	**Holmes Hill**	**4.19**	**288**	Pn	**Pn**	**18 34 58.7**	**+0.9**
FXWY	**Fox Creek**	**4.19**	**272**		**Pn**	**18 34 58.7**	**+0.9**
K30B	**Basset**	**4.23**	**101**	Pn	**Pn**	**18 34 59.4**	**+1.2**
YMR	**Madison River**	**4.24**	**286**	Pn	**Pn**	**18 35 00.6**	**+2.1**
YMR				IAML		18 36 39.8	
	comp=E,17nm,4.6s						
AHID	**Auburn Hatcher**	**4.36**	**261**		**Pn**	**18 35 00.6**	**+0.5**
AHID				IAML		18 36 16.7	
	comp=E,10nm,0.6s						
AHID				IAML		18 36 23.8	
	comp=E,13nm,2.2s						
E28A	**Huff**	**4.38**	**46**		**Pn**	**18 35 00.5**	**+0.4**
RDMU	**Red Mountain**	**4.43**	**228**		**Pn**	**18 35 00.7**	**-0.3**
RDMU				IAML		18 36 16.1	
	comp=N,15nm,4.4s						
RDMU				IAML		18 36 41.7	
	comp=E,13nm,3.9s						
YHL	**Hebgen Lake**	**4.43**	**288**		**Pn**	**18 35 00.8**	**-0.4**
YHL				IAML		18 36 43.4	
	comp=E,12nm,3.6s						
YHL				IAML		18 37 26.1	
	comp=N,11nm,3.7s						
SMCO	**Snowmass**	**4.62**	**197**		**Pn**	**18 35 04.4**	**+0.5**
SMCO				IAML		18 35 53.3	
	comp=N,14nm,3.8s						
SMCO				IAML		18 36 36.9	
	comp=N,14nm,4.8s						
Q24A	**Divide**	**4.65**	**179**	Pn	**Pn**	**18 35 05.8**	**+1.6**
Q24A				IAML		18 36 21.0	
	comp=E,15nm,0.6s						
DGMT	**Dagmar**	**4.91**	**8**		**Pn**	**18 35 09.1**	**+1.7**
BOZ	**Bozeman (W)**	**4.96**	**296**		**Pn**	**18 35 08.4**	**+0.1**
BOZ				IAML		18 35 46.3	
	comp=E,8.7nm,3.9s						
BOZ				IAML		18 37 59.6	
	comp=E,7.7nm,5.0s						
HWUT	**Hardware Ranch**	**5.07**	**249**	Pn	**Pn**	**18 35 09.0**	**-0.8**
BSUT	**Blindstream Ca**	**5.13**	**235**		**

ATKA					IAML		18 38 00.6	
	comp=N,33µm,0.9s							
ATKA					IAML		18 38 00.8	
	comp=E,39µm,0.8s							
ATKA	**Atka Island**	**0.76**	**45**	P		**Pn**	**18 37 49.6**	**-0.7**
GSTD	**Great Sitkin T**	**0.77**	**301**			**Pn**	**18 37 50.0**	**-0.5**
GSTD						**Sn**	**18 38 03.6**	**+2.4**
KOKL	**Mount Kliuchef**	**0.85**	**39**			**Pn**	**18 37 50.9**	**-0.7**
KOKL						**Sn**	**18 38 04.9**	**+1.8**
KOFP	**Korovin Flat P**	**0.85**	**44**			**Pn**	**18 37 50.9**	**-0.7**
ADK	**Adak**	**1.02**	**283**	Pn		**Pn**	**18 37 53.2**	**-0.5**
ADK				Sn		**Sn**	**18 38 04.6**	**-2.5**
ADK				IAML			18 38 11.9	
	comp=E,41µm,0.4s							
ADK	**Adak**	**1.02**	**283**	P		**Pn**	**18 37 53.4**	**-0.4**
KIWB	**Kanaga Island**	**1.30**	**279**			**Pn**	**18 37 57.1**	**-0.4**
KICM	**Kanaga Island**	**1.34**	**282**			**Pn**	**18 37 57.9**	**-0.2**
KIMD	**Kanaga Island**	**1.35**	**275**			**Pn**	**18 37 57.6**	**-0.5**
TAPA	**Tanaga Point A**	**1.71**	**276**			**Pn**	**18 38 03.3**	**+0.1**
TAFP	**Tanaga Falls P**	**1.82**	**278**			**Pn**	**18 38 05.2**	**+0.6**
TANO	**Tanaga North**	**1.91**	**279**			**Pn**	**18 38 06.8**	**+1.0**
GAEA	**Gareloi East**	**2.29**	**274**			**Pn**	**18 38 11.9**	**+0.9**
GALAA	**Gareloi Lava P**	**2.30**	**274**			**Pn**	**18 38 12.3**	**+1.1**
CEAP	**Semis' Anvil P**	**3.34**	**278**			**Pn**	**18 38 26.9**	**+1.6**
CEAP						**Sn**	**18 39 06.9**	**+3.2**
CESW	**Semis' Southwe**	**3.34**	**276**			**Pn**	**18 38 26.5**	**+1.1**
CLES	**Cleveland East**	**3.38**	**68**	Pn		**Pn**	**18 38 27.9**	**+2.0**
CLES				Sn		**Sn**	**18 39 06.5**	**+1.7**
CLES				IAML			18 39 17.2	
	comp=E,3µm,0.3s							
CLCO	**Concord Point,**	**3.47**	**69**			**Pn**	**18 38 27.4**	**+0.2**
CLCO						**Sn**	**18 39 08.8**	**+1.8**
AMKA	**Amchitka**	**3.53**	**267**	Pn		**Pn**	**18 38 28.0**	**0.0**
AMKA				Sn		**Sn**	**18 39 06.1**	**-2.3**
LSPA	**Little Sitkin**	**3.95**	**277**			**Pn**	**18 38 35.1**	**+1.3**
LSSE	**Little Sitkin**	**3.96**	**276**			**Pn**	**18 38 35.4**	**+1.5**
LSNW	**Little Sitkin**	**3.99**	**277**			**Pn**	**18 38 35.6**	**+1.3**
NIKH	**Nikolski High**	**4.03**	**69**			**Pn**	**18 38 34.3**	**-0.5**
NIKH	**Nikolski High**	**4.03**	**69**			**Sn**	**18 39 21.1**	**+0.3**
NIKH	**Nikolski High**	**4.03**	**69**	P		**Pn**	**18 38 35.7**	**+0.8**
NIKH	**Nikolski High** baz=251	**4.03**	**69**	P		**Pn**	**18 38 35.6**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**4.62**	**65**			**Pn**	**18 38 43.9**	**+0.9**
OKFG	**Magazine Ridge**	**4.71**	**65**			**Pn**	**18 38 44.9**	**+0.8**
MAPS	**Pakushin South**	**5.38**	**63**			**Pn**	**18 38 54.4**	**+1.0**
MGOD	**Makushin Gods**	**5.42**	**64**			**Pn**	**18 38 54.6**	**+0.8**
MSW	**Makushin Switc**	**5.51**	**63**			**Pn**	**18 38 56.2**	**+1.1**
UNV	**Unalaska Valle**	**5.64**	**64**			**Pn**	**18 38 58.0**	**+1.1**
UNV	**Unalaska Valle**	**5.64**	**64**	P		**Pn**	**18 38 58.6**	**+1.7**
UNV	**Unalaska Valle** baz=249	**5.64**	**64**	P		**Pn**	**18 38 58.4**	**+1.6**
AKRB	**Akutan Reef Bi**	**5.98**	**62**			**Pn**	**18 39 03.0**	**+1.4**
ZRO	**Akutan Zero**	**6.02**	**63**			**Pn**	**18 39 02.7**	**+0.7**
AKBBA	**Akutan Broad B**	**6.04**	**63**			**Pn**	**18 39 04.2**	**+1.8**
AKUT	**Akutan**	**6.14**	**63**			**Pn**	**18 39 05.9**	**+2.1**
AKUT	**Akutan**	**6.14**	**63**	P		**Pn**	**18 39 06.0**	**+2.2**
SPIA	**Saint Paul Isl** baz=208	**6.19**	**25**	P		**Pn**	**18 39 04.5**	**0.0**
SHEM	**Shemya Is, Ala**	**6.74**	**283**	Pn		**Pn**	**18 39 08.9**	**-3.1**
	comp=E,3.4nm,0.3s,baz=12,slow=7.1,SNR=3.0							
SHEM				Sn		**Sn**	**18 40 26.6**	**-0.7**
	comp=E,3.5nm,0.3s,baz=106,slow=17,SNR=1.7							
SHEM				Lg		Lg	18 40 59.5	
	comp=E,12nm,0.3s,baz=119,slow=19,SNR=2.3							
	comp=E,184nm,1.0s							
WECS	**Westdahl Cape**	**6.83**	**61**			**Pn**	**18 39 14.6**	**+1.4**
SSBA	**Shishaldin**	**7.27**	**60**			**Pn**	**18 39 20.4**	**+1.1**
ISLZ	**Isanotski Laza**	**7.48**	**61**			**Pn**	**18 39 23.4**	**+1.3**
FALS	**False Pass**	**7.68**	**61**			**Pn**	**18 39 25.6**	**+0.7**
FALS	**False Pass** baz=249	**7.68**	**61**	P		**Pn**	**18 39 26.0**	**+1.2**
PN7A	**Pavlof North-7**	**8.65**	**59**			**Pn**	**18 39 40.0**	**+1.9**
SDPT	**Sand Point**	**9.44**	**61**	Pn		**Pn**	**18 39 47.2**	**-1.7**
SDPT	**Sand Point** baz=252	**9.44**	**61**	P		**Pn**	**18 39 49.6**	**+0.7**
CNBA	**Chernabura Isl**	**9.80**	**65**	Pn		**Pn**	**18 39 51.9**	**-1.9**
CHNA	**Chernabura Isl** baz=256	**9.80**	**65**	P		**Pn**	**18 39 53.8**	**-0.1**
M11K	**Mekoryuk** baz=213	**10.04**	**26**	P		**Pn**	**18 39 56.7**	**-0.3**
S14K	**Fog Glacier** baz=249	**10.24**	**57**	P		**Pn**	**18 40 00.8**	**+0.9**
CHGN	**Chignik**	**10.84**	**58**	Pn		**Pn**	**18 40 07.5**	**-0.5**
CHGN	**Chignik** baz=251	**10.84**	**58**	P		**Pn**	**18 40 08.9**	**+0.9**
O14K	**Tigyukauivet M**	**10.90**	**40**	Pn		**Pn**	**18 40 11.6**	**+2.8**
O14K	**Tigyukauivet M** baz=231	**10.90**	**40**	P		**Pn**	**18 40 09.0**	**+0.3**
M13K	**Dall Lake**	**10.93**	**32**			**Pn**	**18 40 08.8**	**-0.3**
M13K	**Dall Lake** baz=221	**10.93**	**32**	P		**Pn**	**18 40 09.0**	**-0.1**
N14K	**Kuskokwak Cree** baz=227	**11.17**	**37**	P		**Pn**	**18 40 14.0**	**+1.6**
O15K	**Ungalikthiuk R** baz=235,SNR=6.8	**11.45**	**43**	P		**Pn**	**18 40 18.6**	**+2.3**
M14K	**Bethel**	**11.64**	**34**			**Pn**	**18 40 21.0**	**+2.1**
M14K	**Bethel** baz=224	**11.64**	**34**	P		**Pn**	**18 40 21.3**	**+2.4**
L14K	**Kuka Creek**	**11.84**	**30**	Pn		**Pn**	**18 40 24.1**	**+2.5**
L14K	**Kuka Creek** baz=220	**11.84**	**30**	P		**Pn**	**18 40 24.0**	**+2.3**
N15K	**Kwethluk River**	**11.93**	**39**	Pn		**Pn**	**18 40 25.8**	**+2.9**
N15K	**Kwethluk River** baz=230,SNR=10	**11.93**	**39**	P		**Pn**	**18 40 25.8**	**+2.9**
M15K	**Kasigluk River** baz=227	**12.05**	**36**	P		**Pn**	**18 40 27.5**	**+3.0**
P16K	**Nushagak River** baz=239	**12.17**	**46**	P		**Pn**	**18 40 28.9**	**+2.7**
CHIR	**Chirikof Islan**	**12.23**	**63**	Pn		**Pn**	**18 40 24.4**	**-2.5**
R17K	**Ugashik Creek**	**12.34**	**54**	Pn		**Pn**	**18 40 27.9**	**-0.6**
R17K	**Ugashik Creek** baz=248	**12.34**	**54**	P		**Pn**	**18 40 30.3**	**+1.9**
O16K	**Kokwok River B**	**12.42**	**44**			**Pn**	**18 40 30.2**	**+0.6**
O16K	**Kokwok River B** baz=237	**12.42**	**44**	P		**Pn**	**18 40 32.0**	**+2.5**
L15K	**Ungalak Mounta** baz=222,SNR=7.6	**12.47**	**31**	P		**Pn**	**18 40 32.6**	**+2.3**
Q16K	**King Salmon** baz=243	**12.62**	**49**	P		**Pn**	**18 40 34.3**	**+2.1**
N16K	**Nishlik Lake** baz=232	**12.64**	**39**	P		**Pn**	**18 40 35.3**	**+2.7**
J14K	**Nanvaranak Lak**	**12.71**	**25**	Pn		**Pn**	**18 40 34.1**	**+0.6**
J14K	**Nanvaranak Lak** baz=214	**12.71**	**25**	P		**Pn**	**18 40 35.8**	**+2.4**
Q17K	**Contact Creek** baz=246	**12.82**	**52**	P		**Pn**	**18 40 37.3**	**+2.2**
M16K	**Timber Creek**	**12.91**	**37**			**Pn**	**18 40 35.6**	**-0.6**
M16K	**Timber Creek** baz=230	**12.91**	**37**	P		**Pn**	**18 40 38.0**	**+1.8**
K15K	**Wolf Creek Mou**	**12.92**	**29**	Pn		**Pn**	**18 40 36.3**	**0.0**
K15K	**Wolf Creek Mou** baz=220,SNR=9.2	**12.92**	**29**	P		**Pn**	**18 40 39.8**	**+3.4**
O17K	**Koliganek Bris** baz=238	**12.95**	**44**	P		**Pn**	**18 40 39.4**	**+2.7**
P17K	**Kvichak River** baz=242	**12.95**	**47**	P		**Pn**	**18 40 40.2**	**+3.4**
SII	**Sitkinak Islan**	**13.17**	**60**	Pn		**Pn**	**18 40 42.3**	**+2.4**
L16K	**Owhat River**	**13.18**	**34**	Pn		**Pn**	**18 40 41.5**	**+1.6**
L16K	**Owhat River** baz=227,SNR=7.9	**13.18**	**34**	P		**Pn**	**18 40 43.4**	**+3.6**
N17K	**Nushagak Hills**	**13.31**	**41**			**Pn**	**18 40 44.5**	**+2.8**
N17K	**Nushagak Hills** baz=235,SNR=6.9	**13.31**	**41**	P		**Pn**	**18 40 45.1**	**+3.4**
Q18K	**Katmai Hardscr** baz=246	**13.39**	**51**	P		**Pn**	**18 40 45.3**	**+2.3**
P18K	**Big Mountain,** baz=243	**13.60**	**48**	P		**Pn**	**18 40 48.4**	**+2.7**
M17K	**Holitna River**	**13.72**	**38**			**Pn**	**18 40 48.0**	**+0.6**
M17K	**Holitna River** baz=232,SNR=5.8	**13.72**	**38**	P		**Pn**	**18 40 50.0**	**+2.7**
OHAK	**Old Harbor** baz=255	**13.81**	**58**	P		**P**	**18 40 53.0**	**-2.5**
O18K	**Koktuh Hills**	**13.82**	**46**			**Pn**	**18 40 49.1**	**+0.5**
O18K	**Koktuh Hills** baz=242	**13.82**	**46**	P		**Pn**	**18 40 52.0**	**+3.3**
L17K	**Donlin** baz=228,SNR=7.7	**13.87**	**34**	P		**P**	**18 40 54.9**	**-1.3**
ANM	**Nome**	**13.88**	**18**			**Pn**	**18 40 48.2**	**-1.3**
ANM	**Nome** baz=205,SNR=6.4	**13.88**	**18**	P		**P**	**18 40 54.0**	**-2.3**
N18K	**Kilae Creek**	**13.93**	**42**			**Pn**	**18 40 52.7**	**+2.6**
N18K	**Kilae Creek** baz=238	**13.93**	**42**	P		**P**	**18 40 54.0**	**-2.8**
J16K	**Anvik River**	**13.96**	**28**	P		**Pn**	**18 40 51.2**	**+0.8**
	baz=220,SNR=7.4							
Q19K	**Cape Douglas,**	**14.16**	**51**			**Pn**	**18 40 51.6**	**-1.6**
Q19K	**Cape Douglas,** baz=248	**14.16**	**51**	P		**Pn**	**18 40 54.3**	**+1.1**
K17K	**Iditarod**	**14.27**	**33**			**Pn**	**18 40 56.7**	**+2.1**
K17K	**Iditarod** baz=226	**14.27**	**33**	P		**Pn**	**18 40 56.0**	**+1.4**
SVW2	**Sparrevohn**	**14.28**	**41**			**Pn**	**18 40 54.5**	**-0.4**
SVW2	**Sparrevohn**	**14.28**	**41**	P		**Pn**	**18 40 57.6**	**+2.7**
KDAK	**Kodiak Island**	**14.32**	**56**			**Pn**	**18 40 55.3**	**0.0**
KDAK	**Kodiak Island** baz=254	**14.32**	**56**	P		**Pn**	**18 40 57.1**	**+1.7**
KDAK	**Kodiak Island**	**14.32**	**56**	Pn		**Pn**	**18 40 52.6**	**-2.7**
	comp=E,2.2nm,0.3s,baz=307,slow=9.0,SNR=4.0							
KDAK				LR		LR	18 47 21.4	
	comp=E,3µm,19.5s,baz=262,slow=41							
	comp=E,5.4nm,0.4s							
O19K	**Port Alsworth**	**14.37**	**45**	Pn		**Pn**	**18 40 56.5**	**+0.6**
O19K	**Port Alsworth** baz=242,SNR=8.8	**14.37**	**45**	P		**Pn**	**18 40 57.7**	**+1.8**
I17K	**Unalakleet**	**14.40**	**26**			**Pn**	**18 40 55.6**	**-0.7**
I17K	**Unalakleet** baz=218	**14.40**	**26**	P		**Pn**	**18 40 56.8**	**+0.5**
M18K	**Stony River** baz=235	**14.40**	**39**	P		**Pn**	**18 40 57.3**	**+0.8**
L18K	**Granite Mounta**	**14.51**	**36**			**Pn**	**18 40 58.5**	**+0.8**
L18K	**Granite Mounta** baz=231,SNR=6.4	**14.51**	**36**	P		**Pn**	**18 40 57.7**	**0.0**
G15K	**Niukluk** baz=208	**14.53**	**19**	P		**Pn**	**18 40 59.6**	**+1.6**
F14K	**Arctic Creek** baz=202	**14.55**	**15**	P		**Pn**	**18 40 57.8**	**-0.6**
N19K	**Bonanza Creek**	**14.59**	**43**	P		**Pn**	**18 41 00.7**	**+1.7**
N19K	**Bonanza Creek** baz=240,SNR=9.6	**14.59**	**43**	P		**Pn**	**18 40 57.9**	**-1.1**
H16K	**Elim** baz=213	**14.61**	**22**	P		**Pn**	**18 40 58.5**	**-0.7**
P19K	**Oil Pt**	**14.63**	**48**	Pn		**Pn**	**18 40 58.3**	**-1.1**
P19K	**Oil Pt** baz=246	**14.63**	**48**	P		**Pn**	**18 40 58.1**	**-1.4**
Q20K	**Shuyak Island** baz=251	**14.66**	**53**	P		**Pn**	**18 40 59.0**	**-0.8**
SYI	**Shuyak Island**	**14.66**	**53**	Pn		**Pn**	**18 40 57.8**	**-2.0**
ILSW	**Iliamna Southw**	**14.81**	**47**	P		**P**	**18 41 05.5**	**-1.2**
F15K	**North Star Dit**	**15.05**	**17**	P		**P**	**18 41 08.4**	**-0.8**
F15K	**North Star Dit** baz=205	**15.05**	**17**	P		**Pn**	**18 41 01.8**	**-3.0**
O20K	**Slope Mountain** baz=245	**15.09**	**47**	P		**Pn**	**18 41 03.6**	**-1.8**
L19K	**White Mountain**	**15.18**	**38**	P		**P**	**18 41 10.9**	**+0.3**
L19K				IAmb		IAmb	18 41 13.8	
	comp=Z,44nm,1.1s							
L19K	**White Mountain** baz=235,SNR=17	**15.18**	**38**	P		**Pn**	**18 41 04.8**	**-1.7**
RSO	**Redoubt South**	**15.19**	**46**			**Pn**	**18 41 05.1**	**-1.7**
TTA	**Tatalina**	**15.20**	**35**			**Pn**	**18 41 05.3**	**-1.6**
TTA	**Tatalina**	**15.20**	**35**	P		**P**	**18 41 10.3**	**-0.7**
TTA	**Tatalina** baz=230,SNR=13	**15.20**	**35**	P		**Pn**	**18 41 05.2**	**-1.6**
G16K	**Koyuk River** baz=211	**15.23**	**21**	P		**Pn**	**18 41 05.6**	**-1.5**
J18K	**Innoko River** baz=227,SNR=12	**15.30**	**32**	P		**Pn**	**18 41 07.0**	**-1.2**
HOM	**Homer**	**15.38**	**50**	Pn		**Pn**	**18 41 07.3**	**-1.8**
HOM				IAmb		IAmb	18 41 07.6	
	comp=Z,109nm,1.0s							
H17K	**Granite Mounta** baz=217,SNR=12	**15.44**	**25**	P		**Pn**	**18 41 09.0**	**-0.8**
CNPM	**China Poot**	**15.53**	**50**			**Pn**	**18 41 09.7**	**-1.3**
CNPM				IAmb		IAmb	18 41 15.2	
	comp=Z,104nm,1.3s							
M20K	**Styx River** baz=239	**15.70**	**41**	P		**Pn**	**18 41 12.8**	**-0.5**
G17K	**Kiwalik Mounta** baz=214	**15.71**	**23**	P		**Pn**	**18 41 12.1**	**-1.3**
L20K	**Farewell, AK** baz=236,SNR=16	**15.72**	**38**	P		**Pn**	**18 41 12.6**	**-0.9**
N20K	**Mount Spurr** baz=242	**15.75**	**44**	P		**Pn**	**18 41 13.0**	**-1.1**
BRLK	**Bradley Lake**	**15.78**	**50**			**Pn**	**18 41 12.9**	**-1.4**
BRSE	**Bradley Lake S** baz=249	**15.84**	**50**	P		**Pn**	**18 41 14.3**	**-0.7**
H18K	**Honhosa River** comp=Z,139nm,1.7s	**16.02**	**26**	IAmb		IAmb	18 41 24.9	
H18K	**Honhosa River** baz=220,SNR=11	**16.02**	**26**	P		**Pn**	**18 41 16.3**	**-1.0**
J19K	**Poorman** baz=228,SNR=21	**16.02**	**32**	P		**Pn**	**18 41 15.8**	**-1.6**
GCSA	**Galena City Sc** baz=224	**16.14**	**29**	P		**Pn**	**18 41 17.9**	**-0.9**
K20K	**Telida**	**16.16**	**35**	P		**P**	**18 41 21.1**	**-0.4**
K20K	**Telida** baz=233	**16.16**	**35**	P		**Pn**	**18 41 18.2**	**-0.9**
F17K	**Baldwin Pennin** baz=211,SNR=9.2	**16.36**	**20**	P		**Pn**	**18 41 20.3**	**-1.3**
SKT	**Skwentna**	**16.40**	**42**	P		**P**	**18 41 23.4**	**-0.8**
SKT				IAmb		IAmb	18 41 29.5	
	comp=Z,118nm,1.7s							
SKT	**Skwentna** baz=241	**16.40**	**42**	P		**Pn**	**18 41 21.2**	**-1.0**
SUA	**Susitna One** baz=244	**16.50**	**44**	P		**Pn**	**18 41 22.4**	**-1.1**
G18K	**Tagagawik** baz=218	**16.52**	**24**	P		**Pn**	**18 41 21.9**	**-1.7**
SEW	**Seward** baz=250	**16.57**	**49**	P		**Pn**	**18 41 22.5**	**-1.7**
O22K	**Cooper Landing**	**16.57**	**48**			**Pn**	**18 41 22.9**	**-1.3**
O22K				IAmb		IAmb	18 41 31.7	
	comp=Z,50nm,0.8s							
O22K	**Cooper Landing** baz=248	**16.57**	**48**	P		**Pn**	**18 41 21.9**	**-2.4**
PPLA	**Purkeypile** baz=237,SNR=13	**16.60**	**39**	P		**Pn**	**18 41 21.9**	**-2.9**
J20K	**Nowinta River**	**16.64**	**33**			**Pn**	**18 41 24.0**	**-1.0**
J20K	**Nowinta River** baz=230	**16.64**	**33**	P		**Pn**	**18 41 22.7**	**-2.4**
PEA0B	**Petropavlovsk-**	**16.65**	**286**	Pn		**Pn**	**18 41 24.2**	**-1.1**
PEA0B				IAmb		IAmb	18 41 32.3	
	comp=Z,175nm,1.6s							
PETK	**Petropavlovsk-**	**16.65**	**286**	Pn		**Pn**	**18 41 24.4**	**-0.9**
PETK	**Petropavlovsk-**	**16.65**	**286**	Pn		**Pn**	**18 41 25.7**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=81,slow=14,SNR=3.8							
PETK				LR		LR	18 47 24.5	
	comp=Z,632nm,20.0s,baz=100,slow=35							
	comp=Z,4.4nm,0.7s							
RC01	**Rabbit Creek A**	**16.80**	**46**	Pn		**Pn**	**18 41 25.5**	**-1.5**
RC01	**Rabbit Creek A** baz=247	**16.80**	**46**	P		**P**	**18 41 28.5**	**-0.1**
E17K	**Hotham Inlet** baz=205,SNR=5.1	**16.80**	**18**	P		**Pn**	**18 41 24.5**	**-2.6**
H19K	**Roundabout Mou** baz=223,SNR=13	**16.84**	**27**	P		**P**	**18 41 29.7**	**+0.7**
M22K	**Willow** baz=244	**16.90**	**44**	P		**P**	**18 41 29.4**	**-0.2**
CAST	**Castle Rocks**	**16.93**	**37**	P		**P**	**18 41 29.4**	**-0.6**
CAST	**Castle Rocks** baz=236,SNR=13	**16.93**	**37**	P		**P**	**18 41 30.1**	**+0.1**
I20K	**Naaghedeneel** baz=226	**16.93**	**31**	P		**P**	**18 41 29.4**	**-0.6**
CHUM	**Lake Minchumin** baz=234	**17.10**	**36**	P		**P**	**18 41 32.9**	**+1.0**
D17K	**Noatak River** baz=206	**17.12**	**16**	P		**P**	**18 41 31.6**	**-0.5**
G19K	**Purcell Mounta**	**17.12**	**25**	P		**Pn**	**18 41 31.1**	**0.0**
G19K	**Purcell Mounta** baz=220,SNR=10	**17.12**	**25**	P		**P**	**18 41 33.2**	**+1.0**
H20K	**Anotleneega Mo** baz=226	**17.27**	**29**	P		**P**	**18 41 34.7**	**+0.9**
C16K	**Lisburne Hills**	**17.31**	**12**			**Pn**	**18 41 33.4**	**0.0**
C16K	**Lisburne Hills** baz=200,SNR=6.8	**17.31**	**12**	P		**P**	**18 41 36.4**	**+2.2**
E18K	**Tukpahlearik C**	**17.33**	**19**	P		**Pn**	**18 41 33.4**	**-0.3**
E18K	**Tukpahlearik C** baz=211	**17.33**	**19**	P		**P**	**18 41 35.7**	**+1.3**
GHO	**Glory Hole Cre**	**17.42**	**44**	P		**Pn**	**18 41 35.1**	**+0.2**
KTH	**Kantishna Hill**	**17.44**	**38**			**P**	**18 41 36.3**	**+0.5**
KTH				IAmb		IAmb	18 41 40.5	
	comp=Z,58nm,1.0s							
RDOG	**Red Dog Mine**	**17.47**	**15**			**Pn**	**18 41 34.9**	**-0.5**
RDOG	**Red Dog Mine** baz=206,SNR=6.8	**17.47**	**15**	P		**P**	**18 41 38.2**	**+2.2**
F19K	**Shaleruckik Mo** baz=218	**17.48**	**23**	P		**P**	**18 41 37.4**	**+1.3**
TRF	**Thorofare Moun**	**17.63**	**38**	P		**P**	**18 41 38.0**	**+0.1**
TRF				IAmb		IAmb	18 41 43.8	
	comp=Z,79nm,1.3s							
TRF	**Thorofare Moun**	**17.63**	**38**	P		**P**	**18 41 39.0**	**+1.1**
	baz=239,SNR=16							
SML	**Sawmill**	**17.70**	**45**	P		**Pn**	**18 41 38.2**	**0.0**
SML	**Sawmill** baz=247	**17.70**	**45**	P		**P**	**18 41 39.4**	**+0.8**
BPAW	**Bear Paw Mtn.**	**17.71**	**36**	P		**P**	**18 41 38.5**	**-0.1**
BPAW	**Bear Paw Mtn.** baz=236,SNR=11	**17.71**	**36**	P		**P**	**18 41 40.6**	**+1.9**
C17K	**DeLong Mountai** baz=204	**17.81**	**14**	P		**P**	**18 41 40.7**	**+0.9**
Q23K	**Middleton Isla**	**17.89**	**53**	P		**Pn**	**18 41 39.3**	**-1.3**
MID	**Middleton Isla**	**17.90**	**53**	P		**Pn**	**18 41 39.7**	**-0.9**
IMAR	**Indian Mountai**	**17.95**	**29**	P		**P**	**18 41 41.8**	**+0.5**
M23K	**Glacier View** baz=248,SNR=6.6	**17.96**	**45**	P		**Pn**	**18 41 40.9**	**-0.5**
I21K	**Tanana**	**17.99**	**32**	P		**Pn**	**18 41 43.1**	**+1.4**
I21K	**Tanana** baz=232,SNR=29	**17.99**	**32**	P		**Pn**	**18 41 42.5**	**+0.8**
H21K	**Melozitna Rive**	**18.02**	**31**	P		**P**	**18 41 41.6**	**-0.6**
H21K	**Melozitna Rive** baz=229,SNR=17	**18.02**	**31**	P		**Pn**	**18 41 43.7**	**+1.5**
WAT1	**Susitna Watana** baz=243	**18.03**	**41**	P		**Pn**	**18 41 43.1**	**+0.9**
E19K	**Redstone River** baz=217,SNR=14	**18.10**	**22**	P		**Pn**	**18 41 44.6**	**+1.4**
SCM	**Sheep Creek Mo**	**18.15**	**45**	P		**P**	**18 41 42.6**	**-0.9**
SCM	**Sheep Creek Mo** baz=248	**18.15**	**45**	P		**Pn**	**18 41 43.7**	**-0.1**
F20K	**Avaraart Lake** baz=221	**18.16**	**25**	P		**Pn**	**18 41 44.6**	**+0.9**
RND	**Reindeer**	**18.17**	**40**	P		**P**	**18 41 42.7**	**-1.1**
FID	**Port Fidalgo**	**18.18**	**49**	P		**P**	**18 41 41.0**	**-2.8**
WAT6	**Susitna Watana** baz=245	**18.26**	**43**	P		**P**	**18 41 44.8**	**-0.1**
C18K	**Utukok River** baz=208,SNR=17	**18.29**	**16**	P		**P**	**18 41 45.1**	**+0.1**
MCK	**McKinley** baz=240,SNR=14	**18.29**	**39**	P		**P**	**18 41 44.8**	**-0.3**
BWN	**Browne**	**18.31**	**37**	P		**Pn**	**18 41 45.7**	**+0.1**
BWN				IAmb		IAmb	18 41 50.9	
	comp=Z,86nm,1.2s							
MLY	**Manley**	**18.32**	**34**	P		**Pn**	**18 41 46.0**	**+0.2**
MLY	**Manley** baz=234,SNR=13	**18.32**	**34**	P		**Pn**	**18 41 46.1**	**+0.2**
G21K	**Allakaket** baz=226,SNR=12	**18.39**	**28**	P		**Pn**	**18 41 47.0**	**+0.4**
EYAK	**Cordova Ski Ar** baz=254	**18.46**	**50**	P		**Pn**	**18 41 48.6**	**+1.1**
DHY	**Denali Highway**	**18.62**	**42**	P		**P**	**18 41 48.2**	**-0.6**
DHY	**Denali Highway** baz=244,SNR=10	**18.62**	**42**	P		**P**	**18 41 49.0**	**+0.2**
H22K	**Ishtalitna Cre** baz=231,SNR=18	**18.63**	**31**	P		**Pn**	**18 41 49.4**	**-0.1**
KLU	**Klutina**	**18.66**	**47**	P		**P**	**18 41 49.3**	**+0.1**
KLU	**Klutina** baz=251	**18.66**	**47**	P		**Pn**	**18 41 49.7**	**-0.3**
NEA2	**Nenana**	**18.68**	**36**	P		**P**	**18 41 48.9**	**-0.4**
NEA2	**Nenana** baz=238,SNR=13	**18.68**	**36**	P		**Pn**	**18 41 50.0**	**-0.1**
D19K	**Kuna River** comp=Z,57nm,1.1s	**18.75**	**20**	IAmb		IAmb	18 41 58.4	
D19K	**Kuna River** baz=214,SNR=21	**18.75**	**20**	P		**Pn**	**18 41 51.0**	**+0.1**
M24K	**Tolsona, Glenn**	**18.75**	**45**	P		**P**	**18 41 50.5**	**+0.3**
M24K	**Tolsona, Glenn** baz=249	**18.75**	**45**	P		**P**	**18 41 50.1**	**-0.1**
BILL	**Bilibino**	**18.76**	**338**	P		**P**	**18 41 48.5**	**-1.6**
BILL				IAmb		IAmb	18 41 58.2	
	comp=Z,88nm,1.2s							
B18K	**Kokolik River** baz=206,SNR=32	**18.83**	**15**	P		**Pn**	**18 41 51.6**	**-0.2**
I23K	**Minto, Yukon-K**	**18.87**	**35**	P		**Pn**	**18 41 52.0**	**-0.4**
I23K	**Minto, Yukon-K** baz=236,SNR=17	**18.87**	**35**	P		**Pn**	**18 41 51.9**	**-0.4**
F21K	**Alatna River**	**18.89**	**26**	P		**P**	**18 41 51.9**	**+0.3**
F21K	**Alatna River** baz=225,SNR=32	**18.89**	**26**	P		**Pn**	**18 41 52.8**	**+0.2**
RAGM	**Ragged Mountai**	**18.94**	**51**	P		**P**	**18 41 52.3**	**+0.1**
KAIM	**Kayak Island**	**18.96**	**52**	P		**Pn**	**18 41 53.5**	**0.0**
KAIM	**Kayak Island** baz=257	**18.96**	**52**	P		**Pn**	**18 41 54.3**	**+0.9**
C19K	**Lookout Ridge**	**18.98**	**17**			**Pn**	**18 41 53.3**	**-0.4**
C19K				IAmb		IAmb	18 42 01.9	
	comp=Z,145nm,1.3s							
C19K	**Lookout Ridge** baz=210,SNR=43	**18.98**	**17**	P		**Pn**	**18 41 53.5**	**-0.2**
E20K	**Nigu River** baz=218	**18.98**	**22**	P		**Pn**	**18 41 53.8**	**0.0**
WRH	**Wood River Hil**	**18.98**	**37**	P		**P**	**18 41 52.9**	**+0.3**
BMRM	**Bremner River** baz=254	**19.12**	**49**	P		**Pn**	**18 41 55.8**	**+0.4**
CCB	**Clear Creek Bu**	**19.18**	**37**	P		**P**	**18 41 53.7**	**-1.0**
MDM	**Murphy Dome**	**19.18**	**36**	P		**P**	**18 41 54.1**	**-0.6**
D20K	**Etiviluk River** baz=216,SNR=12	**19.25**	**21**	P		**Pn**	**18 41 56.5**

MENT Mentasta 20.11 44 P Pn 18 42 07.2 +0.1
ISLE Juniper Island 20.11 51 P **P** **18 42 05.1 0.0**
B20K Meade River 20.20 18 IAmb IAmb 18 42 09.0
comp=Z,33nm,1.0s
B20K Meade River 20.20 18 P **P** **18 42 05.9 +0.1**
baz=213
MESA MESA 20.22 52 P **P** **18 42 06.0 -0.4**
MESA MESA 20.22 52 P **P** **18 42 06.6 +0.3**
baz=259
M26K Nabesna, AK 20.26 46 P Pn 18 42 07.8 -1.1
baz=252
D22K Ayikyak River 20.30 23 P Pn 18 42 08.7 -0.5
D22K IAmb IAmb 18 42 22.0
comp=Z,73nm,1.4s
D22K Ayikyak River 20.30 23 P **P** **18 42 07.8 +1.0**
baz=223,SNR=17
L26K Log Cabin Wild 20.30 44 P **P** **18 42 06.8 -0.2**
L26K IAmb IAmb 18 42 17.2
comp=Z,48nm,1.4s
L26K Log Cabin Wild 20.30 44 P **P** **18 42 07.7 +0.7**
baz=250,SNR=8.6
SCRK Sand Creek 20.37 41 IAmb IAmb 18 42 09.3
comp=Z,116nm,1.1s
SCRK Sand Creek 20.37 41 P **P** **18 42 07.6 -0.3**
baz=247,SNR=98
G24K Hadweenzic Riv 20.38 32 IAmb IAmb 18 42 23.7
comp=Z,60nm,1.4s
G24K Hadweenzic Riv 20.38 32 P **P** **18 42 07.4 -0.4**
baz=236,SNR=26
B21K Ikpikpuk River 20.41 21 IAmb IAmb 18 42 13.8
comp=Z,57nm,0.9s
B21K Ikpikpuk River 20.41 21 P **P** **18 42 08.4 +0.4**
baz=218
PRP Porcupine Dome 20.44 36 P **P** **18 42 07.4 -1.3**
PRP Porcupine Dome 20.44 36 P **P** **18 42 09.4 +0.7**
baz=241,SNR=8.9
BARN Barnard Glacie 20.53 50 P **P** **18 42 09.4 -0.3**
E23K Chandalar 20.55 27 P **P** **18 42 10.6 +0.9**
baz=229
SEY Seymchan 20.63 316 P **P** **18 42 10.7 +0.3**
comp=Z,6.7nm,0.9s,baz=97,slow=12,SNR=5.7
SEY LR LR 18 50 40.7
comp=Z,1μm,18.2s,baz=118,slow=38
comp=Z,6.7nm,0.9s
MA2 Magadan 20.65 306 P **P** **18 42 09.0 -1.7**
MA2 IAmb IAmb 18 42 24.5
comp=Z,100nm,1.2s
MA2 Magadan 20.65 306 P **P** **18 42 09.2 -1.5**
comp=Z,15nm,0.9s,baz=127,slow=20,SNR=1.9
MA2 LR LR 18 49 28.0
comp=Z,723nm,21.8s,baz=110,slow=35
comp=Z,15nm,0.9s
TABL Table Mountain 20.66 52 P **P** **18 42 10.7 -0.4**
CTG Chitna Glacier 20.66 50 P **P** **18 42 11.3 +0.3**
baz=258
CTGM Chitina Glacie 20.67 50 P **P** **18 42 10.7 -0.4**
F24K Squaw Lake 20.73 30 IAmb IAmb 18 42 20.3
comp=Z,64nm,1.3s
F24K Squaw Lake 20.73 30 P **P** **18 42 11.9 +0.4**
baz=233
M27K Edge Creek, AK 20.75 46 P **P** **18 42 12.1 +0.2**
baz=254,SNR=6.7
J26L Joseph Creek 20.75 40 IAmb IAmb 18 42 29.2
comp=Z,60nm,0.8s
J26L Joseph Creek 20.75 40 P **P** **18 42 11.5 -0.4**
baz=246
LOGN Logan Glacier 20.80 51 P **P** **18 42 11.7 -0.8**
D23K Nanushuk River 20.87 25 P **P** **18 42 12.7 -0.3**
baz=226,SNR=23
G25K Bearman Lake 20.88 33 P **P** **18 42 13.6 +0.5**
baz=237,SNR=6.4
E24K Your Creek 20.89 28 IAmb IAmb 18 42 16.5
comp=Z,34nm,1.0s
E24K Your Creek 20.89 28 P **P** **18 42 13.6 +0.3**
baz=231
TOLK Toolik Lake Re 20.94 26 P **P** **18 42 14.9 +1.0**
TOLK IAmb IAmb 18 42 17.6
comp=Z,52nm,1.1s
TOLK Toolik Lake Re 20.94 26 P **P** **18 42 14.8 +1.0**
baz=228,SNR=33
L27K Beaver Creek, 20.97 44 P **P** **18 42 14.9 +0.6**
baz=252
BCAR Beaver Creek A 20.99 44 P **P** **18 42 14.8 +0.3**
PINM Pinnacle 21.05 53 P **P** **18 42 16.7 +1.6**
baz=261
FYU Fort Yukon 21.07 34 P **P** **18 42 14.7 -0.4**
FYU IAmb IAmb 18 42 33.9
comp=Z,44nm,1.1s
K27K Chicken 21.18 42 IAmb IAmb 18 42 21.7
comp=Z,69nm,1.1s
K27K Chicken 21.18 42 P **P** **18 42 17.3 +0.9**
baz=249
BVCY Beaver Creek 21.22 46 P **P** **18 42 18.1 +1.2**
baz=255
B22K Teshekpuk Lake 21.23 20 IAmb IAmb 18 42 21.6
comp=Z,33nm,1.1s
B22K Teshekpuk Lake 21.23 20 P **P** **18 42 17.2 +0.4**
baz=219
I26K Coal Creek Min 21.24 38 P **P** **18 42 15.5 -1.5**
I26K Coal Creek Min 21.24 38 P **P** **18 42 18.0 +1.0**
baz=245,SNR=11
YUK3 Moose Creek 21.25 48 P **P** **18 42 17.5 0.0**
baz=257
PNL Peninsula 21.42 54 P **P** **18 42 20.1 +1.0**
baz=263
A22K Sinclair Lake 21.44 18 P **P** **18 42 19.2 +0.1**
baz=216
F25K Christian Rive 21.48 31 P **P** **18 42 20.0 +0.4**
baz=236,SNR=12
YUK8 Steele Glacier 21.48 50 P **P** **18 42 20.8 +0.9**
baz=259
D24K Happy Valley 21.49 26 IAmb IAmb 18 42 24.3
comp=Z,52nm,0.9s
D24K Happy Valley 21.49 26 P **P** **18 42 19.8 +0.2**
baz=228
C23K Itkillik River 21.50 23 IAmb IAmb 18 42 38.9
comp=Z,132nm,1.1s
C23K Itkillik River 21.50 23 P **P** **18 42 20.3 +0.6**
baz=224,SNR=34
BMAR Burnt Mountain 21.73 32 P **P** **18 42 22.3 0.0**
G26K Porcupine Rive 21.76 33 P **P** **18 42 23.9 +1.4**
baz=240,SNR=17
E25K Arctic Village 21.79 30 P **P** **18 42 24.0 +1.0**
E25K IAmb IAmb 18 42 27.5
comp=Z,36nm,1.1s
E25K Arctic Village 21.79 30 P **P** **18 42 23.3 +0.4**
baz=235,SNR=34
EGAK Eagle 21.81 40 P **P** **18 42 22.9 -0.2**
EGAK IAmb IAmb 18 42 43.7
comp=Z,50nm,0.7s
EGAK Eagle 21.81 40 P **P** **18 42 23.2 0.0**
baz=249,SNR=31
C24K Franklin Bluff 21.90 25 P **P** **18 42 24.0 0.0**
baz=228
O29M Mount Kennedy 21.91 53 P **P** **18 42 25.1 +0.7**
baz=263
I27K Kandik River 21.95 38 P **P** **18 42 25.7 +1.0**
baz=246,SNR=12
F26K Sheenjek River 22.01 32 P **P** **18 42 26.2 +0.8**
baz=238
YUK4 Talbot Arm 22.02 50 P **P** **18 42 26.9 +1.3**
baz=260
YUK6 Outpost Mounta 22.09 51 P **P** **18 42 25.4 -1.1**
baz=261
H27K Steamboat Moun 22.23 36 P **P** **18 42 27.7 -0.1**
baz=245
P29M Windy Craggy 22.26 54 IAmb IAmb 18 42 46.2
comp=Z,30nm,0.8s
P29M Windy Craggy 22.26 54 P **P** **18 42 27.8 -0.3**
baz=265
D25K Kavik River 22.27 27 IAmb IAmb 18 42 30.8
comp=Z,36nm,0.9s
D25K Kavik River 22.27 27 P **P** **18 42 27.5 -0.6**
baz=232
DAWY Dawson 22.31 43 P **P** **18 42 28.1 -0.4**
DAWY Dawson 22.31 43 P **P** **18 42 27.5 -1.1**
baz=253,SNR=13
M29M Somme Creek 22.31 47 P **P** **18 42 27.4 -1.3**
baz=258
G27K Doyon Strip 22.44 35 P **P** **18 42 28.5 -1.4**
baz=244
HYT Haines Junctio 22.49 51 P **P** **18 42 31.3 +0.6**
HYT Haines Junctio 22.49 51 P **P** **18 42 29.6 -1.1**
baz=262
I28M Miner Creek 22.54 39 IAmb IAmb 18 42 49.5
comp=Z,24nm,0.9s
I28M Miner Creek 22.54 39 P **P** **18 42 30.8 -0.3**
baz=249,SNR=19
L29M L29M 22.61 45 P **P** **18 42 32.0 +0.2**
L29M L29M 22.61 45 P **P** **18 42 31.6 -0.2**
baz=256,SNR=8.0
P30M Million Dollar 22.69 53 P **P** **18 42 32.9 +0.3**
baz=265
N30M Aishikik Lake 22.78 50 P **P** **18 42 33.8 +0.2**
baz=261
S31K Pelican 22.99 59 P **P** **18 42 36.1 +0.3**
S31K IAmb IAmb 18 42 49.6
comp=Z,80nm,1.2s
S31K Pelican 22.99 59 P **P** **18 42 36.0 +0.3**
baz=270
C26K Camden Bay 23.04 26 P **P** **18 42 36.0 0.0**
baz=233,SNR=28
K29M Barlow Dome 23.05 44 IAmb IAmb 18 42 38.3
comp=Z,20nm,0.7s
K29M Barlow Dome 23.05 44 P **P** **18 42 36.3 -0.1**
baz=255
E27K Coleen River 23.09 32 P **P** **18 42 37.1 +0.4**
baz=241,SNR=15
M30M Minto, Yukon 23.10 47 P **P** **18 42 36.5 -0.3**
I29M Ogilvie Camp, 23.15 40 P **P** **18 42 36.8 -0.5**
I29M IAmb IAmb 18 42 38.7
comp=Z,30nm,1.0s
I29M Ogilvie Camp, 23.15 40 P **P** **18 42 38.0 +0.8**
baz=251,SNR=6.2
O30N Mendenhall 23.18 52 P **P** **18 42 37.3 -0.3**
O30N Mendenhall 23.18 52 P **P** **18 42 38.1 +0.5**
baz=264
N31M Braeburn, Yuko 23.40 50 P **P** **18 42 39.9 +0.1**
N31M Braeburn, Yuko 23.40 50 P **P** **18 42 39.1 -0.7**
baz=263
H29M Whitestone 23.41 38 IAmb IAmb 18 42 58.5
comp=Z,33nm,1.1s
H29M Whitestone 23.41 38 P **P** **18 42 38.8 -1.0**
baz=249,SNR=9.1
F28M Old Crow 23.41 34 P **P** **18 42 39.3 -0.4**
F28M Old Crow 23.41 34 P **P** **18 42 39.6 -0.2**
baz=244,SNR=12
SKAG Skagway 23.47 55 P **P** **18 42 40.0 -0.3**
SKAG Skagway 23.47 55 P **P** **18 42 40.4 +0.1**
baz=268
SIT Sitka 23.52 61 P **P** **18 42 39.6 -1.2**
baz=273
MAYO Mayo, Yukon 23.70 45 P **P** **18 42 41.9 -0.6**
baz=258
J30M Hart River 23.73 42 P **P** **18 42 42.4 -0.5**
baz=255
G29M Pine Creek 23.79 36 IAmb IAmb 18 43 01.9
comp=Z,31nm,1.1s
G29M Pine Creek 23.79 36 P **P** **18 42 43.7 +0.4**
baz=248,SNR=8.9
D27M Malcolm River 23.82 30 P **P** **18 42 43.2 -0.3**
baz=240
I30M Mount Dempster 23.88 41 IAmb IAmb 18 43 12.5
comp=Z,27nm,0.9s
I30M Mount Dempster 23.88 41 P **P** **18 42 43.4 -0.9**
baz=254,SNR=19
R32K Eaglecrest 23.89 58 P **P** **18 42 44.4 +0.1**
R32K IAmb IAmb 18 43 02.6
comp=Z,36nm,1.1s
R32K Eaglecrest 23.89 58 P **P** **18 42 43.9 -0.4**
baz=271
S32K Killisnoo 23.90 60 P **P** **18 42 43.3 -1.0**
baz=273
E28M Babbage River 23.96 32 IAmb IAmb 18 43 04.8
comp=Z,76nm,1.7s
E28M Babbage River 23.96 32 P **P** **18 42 44.8 -0.1**
baz=243,SNR=18
JIS Juneau Island 23.97 58 P **P** **18 42 45.2 +0.3**
JIS IAmb IAmb 18 42 57.6
comp=Z,35nm,1.2s
EPYK Eagle Plains 24.09 38 P **P** **18 42 44.9 -1.2**
EPYK IAmb IAmb 18 43 14.3
comp=Z,32nm,1.1s
EPYK Eagle Plains 24.09 38 P **P** **18 42 44.8 -1.3**
baz=251,SNR=8.6
M31M Drury Creek, Y 24.14 48 P **P** **18 42 45.9 -0.7**
M31M Drury Creek, Y 24.14 48 P **P** **18 42 47.1 +0.5**
baz=262
P32M Atlin 24.30 55 P **P** **18 42 47.9 -0.1**
baz=269
E29M Blow River 24.42 33 IAmb IAmb 18 43 07.2
comp=Z,27nm,0.9s
E29M Blow River 24.42 33 P **P** **18 42 49.3 +0.4**
baz=245
G30M tAoh Zraii Nji 24.48 37 P **P** **18 42 49.9 +0.3**
baz=250,SNR=6.1
D28M Stokes Point 24.55 30 P **P** **18 42 50.6 +0.4**
baz=242,SNR=5.7
FARO Faro, Yukon 24.63 48 P **P** **18 42 50.7 -0.4**
baz=264
N32M Quiet Lake 24.67 51 P **P** **18 42 51.0 -0.4**
N32M Quiet Lake 24.67 51 P **P** **18 42 51.3 -0.1**
baz=266
P33M Teslin, Yukon 24.76 53 P **P** **18 42 52.8 +0.5**
P33M Teslin, Yukon 24.76 53 P **P** **18 42 52.9 +0.6**
baz=268,SNR=6.1
U33K Whale Pass 24.83 63 P **P** **18 42 52.6 -0.1**
baz=277
F30M Barrier River 24.85 35 P **P** **18 42 52.9 -0.1**
baz=249,SNR=8.8
H31M Peel River 24.86 40 IAmb IAmb 18 42 59.2
comp=Z,53nm,1.2s
H31M Peel River 24.86 40 P **P** **18 42 53.0 0.0**
baz=255
CRAG Craig 24.92 65 P **P** **18 42 53.9 +0.3**
baz=278
Q32M Nakina River 25.05 56 P **P** **18 42 54.1 -0.9**
baz=272
G31M Satah River 25.19 37 P **P** **18 42 55.6 -0.3**
G31M Satah River 25.19 37 P **P** **18 42 54.9 -1.0**
baz=253
WRAK Wrangell Islan 25.21 62 P **P** **18 42 55.7 -0.6**
baz=277
F31M Tsiigehtchic 25.54 36 P **P** **18 42 58.8 -0.3**
F31M Tsiigehtchic 25.54 36 P **P** **18 42 57.5 -1.7**
baz=252,SNR=7.1
R33M Jennings River 25.70 55 P **P** **18 42 59.2 -1.7**
baz=272
S34M Telegraph Cree 25.71 59 P **P** **18 43 01.1 +0.3**
S34M IAmb IAmb 18 43 38.3
comp=Z,78nm,1.9s
S34M Telegraph Cree 25.71 59 P **P** **18 42 59.3 -1.5**
baz=275
V35K Ketchikan 25.79 65 P **P** **18 43 02.5 +1.0**
V35K IAmb IAmb 18 43 05.6
comp=Z,48nm,0.9s
V35K Ketchikan 25.79 65 P **P** **18 43 00.1 -1.4**
baz=280
INK Inuvik 25.89 34 P **P** **18 43 02.8 +0.4**
INK Inuvik 25.89 34 P **P** **18 43 01.0 -1.3**
baz=251,SNR=8.7
DLBC Dease Lake 26.25 57 P **P** **18 43 04.3 -1.4**
baz=274
DLBC Dease Lake 26.25 57 LR LR 18 54 20.2
comp=Z,528nm,19.0s,baz=289,slow=38
T35M Bob Quinn 26.29 61 IAmb IAmb 18 43 44.2
comp=Z,49nm,1.5s
T35M Bob Quinn 26.29 61 P **P** **18 43 05.6 -0.5**
baz=277
YSS Yuzh-Sakhalins 27.61 277 P **P** **18 43 19.4 +1.4**
YSS IAmb IAmb 18 43 21.2
comp=Z,56nm,1.0s
BBB Bella Bella 28.57 70 LR LR 18 52 40.6
comp=Z,301nm,21.8s,baz=284,slow=32
ASAJ Asahikawa 29.03 272 LR LR 18 54 12.6
comp=Z,277nm,21.7s,baz=70,slow=34
WRGLY Wrigley 29.22 47 P **P** **18 43 33.0 +0.8**
baz=271
C36M Paulatuk 29.48 34 P **P** **18 43 34.9 +0.6**
baz=259
A36M Sachs Harbour 29.71 29 IAmb IAmb 18 43 38.9
comp=Z,15nm,0.8s
A36M PcP **PcP** **18 46 39.0 0.0**
A36M Sachs Harbour 29.71 29 P **P** **18 43 36.3 0.0**
baz=254,SNR=19
YAK Yakutsk 30.98 311 P **P** **18 43 46.6 -1.0**
YAK IAmb IAmb 18 43 49.6
comp=Z,12nm,0.7s
YAK **PcP** **18 46 42.9 +0.5**
YAK Yakutsk 30.98 311 LR LR 18 56 27.0
comp=Z,38nm,20.0s,baz=98,slow=37
YAK Yakutsk 30.98 311 P **P** **18 43 46.8 -0.8**
YAK pP **pP** **18 43 59.3 -1.5**
YAK sP **sP** **18 44 04.6 -2.2**
YAK PcP **PcP** **18 46 43.1 +0.7**
TIXI Tiksi 31.54 330 P **P** **18 43 51.7 -0.8**
TIXI PcP **PcP** **18 46 44.0 +0.2**
TIXI Tiksi 31.54 330 LR LR 18 57 21.7
comp=Z,21nm,20.8s,baz=132,slow=38
KLR Kul'dur 33.33 287 LR LR 18 57 37.0
comp=Z,398nm,21.6s,baz=74,slow=36
YKA Yellowknife Ar 33.33 47 P **P** **18 44 07.6 -0.7**
comp=Z,2.4nm,0.9s,baz=277,slow=9.6,SNR=18
YKA PcP **PcP** **18 46 48.5 -0.4**
comp=Z,3.6nm,0.9s,baz=286,slow=2.7,SNR=14
YKA ScP **ScP** **18 50 29.6 +0.9**
comp=Z,0.5nm,0.8s,baz=290,slow=3.1,SNR=4.4
comp=Z,2.4nm,0.9s
GNW Green Mountain 33.50 76 P **P** **18 44 10.5 +0.6**
GNW IAmb IAmb 18 44 33.9
comp=Z,20nm,1.1s
H11N2 WAKE ISLAND Hy 34.88 211 T T 19 21 33.6
baz=18,slow=76,SNR=554
H11N3 WAKE ISLAND Hy 34.88 211 T T 19 21 25.7
baz=18,slow=76,SNR=542
H11N1 WAKE ISLAND Hy 34.89 211 T T 19 21 14.9
baz=18,slow=76,SNR=490
LTY Liberty 34.94 75 IAmb IAmb 18 44 41.7
comp=Z,13nm,1.1s
B08A Colville Reser 35.23 73 IAmb IAmb 18 44 26.9
comp=Z,9.2nm,0.9s
H04A Detroit Lake 35.28 80 P **P** **18 44 26.4 +1.1**
H04A IAmb IAmb 18 44 44.3
comp=Z,50nm,1.3s
K02D Willamette Mer 35.41 84 P **P** **18 44 27.3 +0.7**
K02D IAmb IAmb 18 44 45.8
comp=Z,14nm,1.1s
HEH HeiHe 35.45 291 *eP* **P** **18 44 26.0 -0.7**
HEH PcP **PcP** **18 46 54.2 -1.0**
HEH pmax pmax
comp=Z,20nm,0.8s
HEH LR LR
comp=Z,290nm,17.3s
HEH LR LR
comp=Z,340nm,15.7s
HEH LR LR
comp=Z,550nm,16.1s
USA0B Ussuriysk Arra 35.56 279 P **P** **18 44 27.2 -0.6**
USA0B IAmb IAmb 18 44 30.6
comp=Z,29nm,0.9s
USRK Ussuriysk Ar. 35.56 279 P **P** **18 44 27.4 -0.3**
USRK Ussuriysk Ar. 35.56 279 P **P** **18 44 28.4 +0.6**
comp=Z,26nm,0.8s,baz=58,slow=7.5,SNR=16
USRK PcP **PcP** **18 46 57.5 +1.8**
comp=Z,1.5nm,0.6s,baz=53,slow=7.4,SNR=3.3
USRK LR LR 18 58 09.1
comp=Z,481nm,21.2s,baz=56,slow=35
comp=Z,26nm,0.8s
I04A Tendick Farm, 35.60 82 P **P** **18 44 28.2 0.0**
I04A IAmb IAmb 18 44 48.7
comp=Z,19nm,0.9s
KSXB Camp Six Broad 35.75 85 **P** **18 44 30.8 +1.2**
KSXB IAmb IAmb 18 44 48.9
comp=Z,14nm,1.0s
I05D Terrebonne, OR 35.97 80 P **P** **18 44 32.5 +1.2**
I05D IAmb IAmb 18 44 50.4
comp=Z,29nm,1.1s
HAWA Hanford 36.04 76 P **P** **18 44 32.5 +0.7**
HAWA IAmb IAmb 18 44 51.4
comp=Z,24nm,1.0s
F07A Phinny Hill Vi 36.04 77 P **P** **18 44 32.4 +0.5**
F07A IAmb IAmb 18 45 11.1
comp=Z,19nm,1.2s
H11S1 WAKE ISLAND Hy 36.08 210 T T 19 23 34.4
baz=20,slow=76,SNR=1343
D08A Wollman Farm, 36.09 75 P **P** **18 44 31.8 -0.5**
D08A IAmb IAmb 18 44 51.4
comp=Z,22nm,1.1s
H11S2 WAKE ISLAND Hy 36.10 210 T T 19 23 35.5
baz=20,slow=76,SNR=570
H11S3 WAKE ISLAND Hy 36.10 210 T T 19 23 11.8
baz=20,slow=76,SNR=101
C09A Chrisman Ranch 36.12 73 IAmb IAmb 18 44 55.7
comp=Z,24nm,1.1s
MJAR Matsushiro Arr 36.13 264 P **P** **18 44 33.6 +0.9**
comp=Z,4.5nm,0.9s,baz=55,slow=7.4,SNR=10
MJAR PcP **PcP** **18 46 57.7 +0.2**
comp=Z,3.6nm,1.0s,baz=26,slow=3.3,SNR=5.1
MJAR LR LR 18 58 18.5
comp=Z,360nm,20.6s,baz=60,slow=34
comp=Z,4.5nm,0.9s
MAJO Matsushiro 36.13 264 P **P** **18 44 33.5 +0.7**
MAJO IAmb IAmb 18 44 36.5
comp=Z,31nm,1.2s
MAJO Matsushiro 36.13 264 P **P** **18 44 34.0 +1.2**
MAJO Matsushiro 36.13 264 P **P** **18 44 34.6 +1.9**
MAJO pP **pwP** **18 44 48.3 +0.5**
MAJO sP **sP** **18 44 54.1 +2.8**
MJB9 Matsu-Tunnel 36.13 264 P **P** **18 44 31.7 -1.1**
MJB9 IAmb IAmb 18 44 36.5
comp=Z,31nm,1.2s
E08A Dider Farm, El 36.28 76 P **P** **18 44 34.3 +0.5**
E08A IAmb IAmb 18 44 53.2
comp=Z,27nm,1.2s
YBH Yreka Blue Hor 36.53 85 P **P** **18 44 36.7 +0.5**
YBH IAmb IAmb 18 44 55.7
comp=Z,11nm,0.9s
YBH Yreka Blue Hor 36.53 85 LR LR 18 56 08.6
comp=Z,393nm,21.3s,baz=310,slow=31
NEW Newport 36.59 72 P **P** **18 44 37.0 +0.4**
NEW IAmb IAmb 18 44 38.6
comp=Z,32nm,1.2s
NEW Newport 36.59 72 P **P** **18 44 36.5 -0.1**
baz=298,SNR=13
NEW Newport 36.59 72 LR LR 18 57 04.5
comp=Z,292nm,20.3s,baz=302,slow=32
J05D Fort Rock, OR 36.59 81 P **P** **18 44 38.0 +1.2**
J05D IAmb IAmb 18 44 55.6
comp=Z,25nm,1.2s
MDJ Mudanjiang 36.81 281 P **P** **18 44 37.7 -0.7**
MDJ pP pP 18 44 47.9 -3.6
MDJ S **S** **18 50 17.6 -1.2**
MDJ PcS **PcS** **18 50 45.6 -1.8**
MDJ ScS **ScS** **18 54 47.9 -0.7**
MDJ pmax pmax
comp=Z,7.0nm,1.0s
MDJ pmax pmax
comp=Z,230nm,5.7s
MDJ LR LR
comp=Z,600nm,16.5s
MDJ LR LR
comp=Z,660nm,20.3s
MDJ LR LR
comp=Z,1μm,20.6s
MDJ Mudanjiang 36.81 281 P **P** **18 44 38.6 +0.1**
E09A Wood Farm, Sta 36.81 75 IAmb IAmb 18 44 57.6
comp=Z,46nm,1.4s
G08A Pilot Rock 36.94 77 IAmb IAmb 18 44 58.8
comp=Z,9.9nm,1.2s
K05A Summer Lake 37.11 82 P **P** **18 44 42.3 +1.1**
K05A IAmb IAmb 18 45 00.7
comp=Z,38nm,1.2s
I07A Izee 37.23 79 IAmb IAmb 18 45 17.1
comp=Z,22nm,1.3s
JHJ Hachijo jima 2 37.43 258 LR LR 18 57 18.2
comp=Z,216nm,20.1s,baz=88,slow=32
BNX BinXian 37.56 284 pP **P** **18 44 44.2 -0.6**
BNX pmax pmax
comp=Z,25nm,0.7s
BNX pmax pmax
comp=Z,370nm,4.9s
F10A Beach Ranch, E 37.64 75 IAmb IAmb 18 45 12.0
comp=Z,14nm,1.2s
BMO Blue Mountains 38.17 77 IAmb IAmb 18 45 09.4
comp=Z,28nm,1.6s
GDXM Geysers 38.18 89 P **P** **18 44 51.9 +1.7**
GDXM IAmb IAmb 18 45 14.5
comp=Z,9.7nm,0.9s
RES Resolute Bay 38.51 25 PcP **PcP** **18 47 05.0 +0.9**
RES Resolute Bay 38.51 25 LR LR 19 05 40.2
comp=Z,287nm,18.3s,baz=268,slow=44
WVOR Wild Horse Val 38.66 81 IAmb IAmb 18 45 12.4
comp=Z,20nm,0.9s
MSO Missoula 39.17 72 IAmb IAmb 18 45 21.8
comp=Z,17nm,1.0s
MSO Missoula 39.17 72 P **P** **18 44 57.8 -0.7**
baz=300,SNR=12
CHMT Chamberlain Mo 39.53 72 P **P** **18 45 01.3 -0.3**
BPMT Black Pine Rid 39.66 72 P **P** **18 45 02.5 -0.1**
PAHR Pah Rah Range 39.77 85 IAmb IAmb 18 45 22.3

comp=Z,17nm,1.0s
CN2 Changchun 39.77 283 *e*P **P 18 45 03.0 -0.3**
CN2 *e*S **S 18 50 54.9 -8.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,600nm,16.0s
CN2 LR LR
comp=Z,600nm,16.0s
CN2 LR LR
comp=Z,900nm,19.0s
MFID Camas Ranch 39.84 78 IAmb IAmb 18 45 22.4
comp=Z,11nm,1.1s
PNTR Pine Nut 40.00 86 P **P 18 45 06.0 +0.4**
PNTR IAmb IAmb 18 45 25.8
comp=Z,17nm,0.8s
CMB Columbia Colle 40.15 88 P **P 18 45 07.0 +0.4**
JCJ Chichijima 40.34 249 LR LR 19 02 09.4
comp=Z,80nm,19.0s,baz=44,slow=36
WAKR Walker 40.45 87 IAmb IAmb 18 45 55.5
comp=Z,20nm,1.5s
HLID Hailey 40.61 77 P **P 18 45 11.1 +0.6**
HLID IAmb IAmb 18 45 29.9
comp=Z,25nm,1.2s
HLID Hailey 40.61 77 P **P 18 45 10.3 -0.2**
baz=303,SNR=13
BMN Battle Mountai 40.67 83 IAmb IAmb 18 45 29.1
comp=Z,12nm,1.0s
RYN Ryan 40.95 86 P **P 18 45 13.8 +0.5**
RYN IAmb IAmb 18 45 33.6
comp=Z,12nm,0.9s
EGMT Eagleton 41.02 68 IAmb IAmb 18 45 36.5
comp=Z,64nm,1.6s
EGMT Eagleton 41.02 68 P **P 18 45 13.7 0.0**
baz=300
BOZ Bozeman (W) 41.18 73 IAmb IAmb 18 45 16.4
comp=Z,11nm,0.8s
BOZ Bozeman (W) 41.18 73 P **P 18 45 14.8 -0.3**
baz=302,SNR=13
NVAR Mina Array Bea 41.20 86 P **P 18 45 16.1 +0.6**
comp=Z,0.7nm,0.5s,baz=292,slow=8.8,SNR=9.5
NVAR PcP **PcP 18 47 14.2 +0.5**
comp=Z,5.7nm,1.2s,baz=283,slow=3.2,SNR=3.8
NVAR ScP **ScP 18 51 00.2 +1.2**
comp=Z,0.5nm,0.6s,baz=293,slow=3.0,SNR=4.4
NVAR LR LR 19 01 16.0
comp=Z,165nm,18.4s,baz=291,slow=34
comp=Z,0.7nm,0.5s
ELK Elko 41.71 81 P **P 18 45 19.8 +0.2**
ELK Elko 41.71 81 LR LR 19 01 43.8
comp=Z,290nm,18.1s,baz=312,slow=35
YHL Hebgen Lake 41.85 73 IAmb IAmb 18 45 39.8
comp=Z,32nm,1.2s
ALE Alert 41.92 10 P **P 18 45 21.4 +0.8**
ALE pP **pP 18 45 34.9 +0.8**
ALE PcP **PcP 18 47 15.8 +0.8**
KSRS Korea Array 41.95 273 P **P 18 45 22.7 +1.4**
comp=Z,17nm,0.9s,baz=60,slow=7.7,SNR=36
KSRS PcP **PcP 18 47 16.3 +0.5**
comp=Z,0.2nm,0.3s,baz=56,slow=8.5,SNR=1.9
KSRS LR LR 19 02 21.8
comp=Z,123nm,20.5s,baz=55,slow=35
comp=Z,17nm,0.9s
KS19 Wonju Array Si 41.96 273 IAmb IAmb 18 45 27.1
comp=Z,64nm,1.4s
KSAR Wonju Array Be 41.99 273 P **P 18 45 20.5 -1.1**
SNY Shenyang 42.01 281 ⇑P **P 18 45 23.4 +1.7**
SNY pP **pP 18 45 38.8 +3.8**
SNY sP **sP 18 45 45.1 +4.2**
SNY pmax pmax
comp=Z,74nm,1.1s
SNY pmax pmax
comp=Z,160nm,3.5s
SNY LR LR
comp=Z,330nm,18.2s
SNY LR LR
comp=Z,310nm,11.0s
SNY LR LR
comp=Z,410nm,23.2s
FFC Flin Flon 42.07 56 P **P 18 45 21.6 -0.4**
FFC IAmb IAmb 18 45 58.1
comp=Z,41nm,1.8s
FFC Flin Flon 42.07 56 P **P 18 45 22.7 +0.7**
FFC PcP **PcP 18 47 17.3 +1.4**
YMR Madison River 42.08 73 IAmb IAmb 18 45 41.6
comp=Z,45nm,1.4s
YHH Holmes Hill 42.08 73 P **P 18 45 23.3 +0.6**
TPH Tonopah 42.09 85 IAmb IAmb 18 45 41.4
comp=Z,68nm,1.2s
YNR Norris Junctio 42.22 73 IAmb IAmb 18 45 43.4
comp=Z,44nm,1.3s
YFT Old Faithful 42.27 74 IAmb IAmb 18 45 51.0
comp=Z,26nm,1.3s
H17A Grant Village 42.46 73 P **P 18 45 26.4 +0.6**
H17A IAmb IAmb 18 45 46.8
comp=Z,26nm,1.1s
H17A Grant Village 42.46 73 P **P 18 45 25.5 -0.2**
baz=304,SNR=11
PKM Mcpherson Peak 42.50 91 P **P 18 45 26.4 +0.3**
baz=311
YMP Mirror Lake Pl 42.52 73 IAmb IAmb 18 45 46.2
comp=Z,19nm,1.0s
IMW Indian Meadow 42.52 74 IAmb IAmb 18 45 45.0
comp=Z,29nm,1.6s
GMN Gold Mountain 42.55 86 P **P 18 45 27.0 +0.5**
FLWY Flagg Ranch 42.56 74 IAmb IAmb 18 45 45.4
comp=Z,49nm,1.6s
CWC Cottonwood Cre 42.58 88 P **P 18 45 26.9 +0.3**
baz=309
FXWY Fox Creek 42.61 75 IAmb IAmb 18 45 46.6
comp=Z,29nm,2.0s
HVU Hansel Valley 42.62 78 IAmb IAmb 18 45 45.5
comp=Z,14nm,1.0s
GRAC Grapevine Rang 42.68 87 P **P 18 45 26.6 -0.7**
baz=309
TPAW Teton Pass 42.74 75 IAmb IAmb 18 45 51.7
comp=Z,30nm,1.4s
ISA Isabella, Lake 42.84 89 P **P 18 45 27.8 -0.9**
baz=310
RLMT Red Lodge 42.84 72 P **P 18 45 28.7 0.0**
RLMT IAmb IAmb 18 45 31.1
comp=Z,27nm,0.9s
RLMT Red Lodge 42.84 72 P **P 18 45 26.8 -1.9**
baz=303,SNR=18
SBC Santa Barbara 42.86 91 P **P 18 45 28.4 -0.2**
baz=311
LOHW Long Hollow 42.88 74 IAmb IAmb 18 46 04.1
comp=Z,26nm,1.9s
JNU Nakatsue 42.92 266 P **P 18 45 28.4 -0.8**
JNU IAmb IAmb 18 45 55.5
comp=Z,64nm,1.4s
JNU Nakatsue 42.92 266 P **P 18 45 30.6 +1.3**
JNU Nakatsue 42.92 266 LR LR 19 01 55.2
comp=Z,360nm,21.7s,baz=88,slow=34
R11B Troy Canyon, C 42.94 84 P **P 18 45 29.1 -0.5**
R11B IAmb IAmb 18 45 47.9
comp=Z,18nm,1.1s
R11B Troy Canyon, C 42.94 84 P **P 18 45 29.1 -0.5**
baz=308
BGU Big Grassy Mou 42.96 79 IAmb IAmb 18 45 48.2
comp=Z,14nm,1.2s
TJN Taejon 42.98 272 P **P 18 45 29.6 -0.1**
TJN Taejon 42.98 272 P **P 18 45 32.0 +2.3**
AHID Auburn Hatcher 43.06 76 IAmb IAmb 18 45 49.2
comp=Z,29nm,1.4s
MPMC Manual Prospec 43.20 88 P **P 18 45 31.9 +0.2**
baz=310
WCT Wildcat Mounta 43.27 86 P **P 18 45 33.4 +1.3**
FURC Furnace Creek, 43.32 87 P **P 18 45 33.6 +1.1**
baz=309
OSI Osito Audit: C 43.36 90 P **P 18 45 34.2 +1.4**
baz=311
TPNV Topopah Spring 43.40 86 IAmb IAmb 18 45 53.1
comp=Z,14nm,0.8s
TPNV Topopah Spring 43.40 86 P **P 18 45 34.0 +0.7**
baz=309
HWUT Hardware Ranch 43.45 77 P **P 18 45 32.4 -1.3**
DUG Dugway, Tooele 43.53 80 IAmb IAmb 18 45 53.0
comp=Z,29nm,1.0s
DUG Dugway, Tooele 43.53 80 P **P 18 45 34.1 -0.2**
baz=307,SNR=7.5
EDW2 Edwards Air Fo 43.64 90 P **P 18 45 36.2 +1.1**
baz=311
LAO LASA Array 43.76 68 P **P 18 45 36.0 +0.1**
baz=303

TCUT Toone Canyon 43.84 78 IAmb IAmb 18 46 02.9
comp=Z,16nm,0.9s
PRN Pahroc Range 43.86 85 IAmb IAmb 18 45 55.7
comp=Z,38nm,1.0s
CTU Camp Tracy 43.88 79 IAmb IAmb 18 45 55.5
comp=Z,19nm,1.1s
PSUT Pine Spring 43.90 82 IAmb IAmb 18 45 55.6
comp=Z,15nm,0.9s
DGMT Dagmar 43.96 65 P **P 18 45 36.7 -0.8**
DGMT IAmb IAmb 18 45 39.4
comp=Z,40nm,1.1s
DGMT Dagmar 43.96 65 P **P 18 45 37.4 -0.1**
baz=302
BW06 Boulder Array 43.99 75 IAmb IAmb 18 45 56.9
comp=Z,41nm,1.2s
BW06 Boulder Array 43.99 75 P **P 18 45 36.2 -1.9**
baz=305,SNR=22
PD31 Pinedale Array 43.99 75 IAmb IAmb 18 45 56.9
comp=Z,37nm,1.2s
PDAR Pinedale Array 43.99 75 P **P 18 45 38.1 +0.1**
comp=Z,15nm,0.8s,baz=311,slow=4.0,SNR=88
PDAR LR LR 19 01 30.5
comp=Z,299nm,21.5s,baz=314,slow=33
comp=Z,15nm,0.8s
GSC Goldstone, Bar 44.11 88 IAmb IAmb 18 46 00.3
comp=Z,11nm,0.8s
GSC Goldstone, Bar 44.11 88 P **P 18 45 39.3 +0.4**
baz=310
NLU North Lily Min 44.12 80 IAmb IAmb 18 45 57.6
comp=Z,18nm,1.1s
BFSC Mount Baldy Ra 44.27 90 P **P 18 45 40.9 +0.7**
baz=311
CIS Catalina Islan 44.35 92 P **P 18 45 41.5 +0.7**
baz=312
BSUT Blindstream Ca 44.58 78 IAmb IAmb 18 46 09.1
comp=Z,20nm,1.3s
HEC Hector,Ludlow 44.71 88 P **P 18 45 43.8 +0.2**
baz=311
CCUT Cedar City 44.81 83 IAmb IAmb 18 46 02.7
comp=Z,19nm,1.4s
MVU Marysvale 44.93 81 P **P 18 45 45.9 +0.3**
MURC Murrieta 44.98 90 P **P 18 45 45.6 -0.1**
baz=312
TMUT Trail Mountain 45.06 80 IAmb IAmb 18 46 05.4
comp=Z,19nm,1.0s
GMRC Gite Mounta 45.16 88 P **P 18 45 47.6 +0.3**
baz=311
LCMT Little Creek M 45.23 84 IAmb IAmb 18 46 06.7
comp=Z,16nm,1.1s
P17A Butcher Ranch, 45.23 79 IAmb IAmb 18 46 06.6
comp=Z,16nm,1.0s
RDMU Red Mountain 45.28 77 P **P 18 45 48.7 +0.4**
RDMU IAmb IAmb 18 46 07.0
comp=Z,38nm,1.1s
Q16A Castle Valley 45.31 80 IAmb IAmb 18 46 07.4
comp=Z,26nm,1.1s
PFO Pinyon Flats O 45.43 90 P **P 18 45 49.4 -0.1**
baz=312
PFO Pinyon Flats O 45.43 90 LR LR 19 01 00.1
comp=Z,334nm,21.9s,baz=296,slow=31
TPFO Pinon Flats 45.44 90 P **P 18 45 48.8 -0.7**
baz=312
BELC Belle Mtn. Jos 45.46 89 P **P 18 45 48.8 -0.9**
baz=311
KNB Kanab 45.48 83 IAmb IAmb 18 46 08.9
comp=Z,18nm,1.2s
SRU San Rafael Swe 45.59 80 IAmb IAmb 18 46 10.2
comp=Z,20nm,1.0s
K22A Casper 45.88 73 P **P 18 45 52.9 -0.1**
K22A IAmb IAmb 18 46 11.4
comp=Z,23nm,1.1s
K22A Casper 45.88 73 P **P 18 45 51.1 -1.8**
baz=306
IRM Iron Mountain 45.89 88 P **P 18 45 51.7 -1.3**
baz=311
MONP2 Monument Peak 45.93 90 P **P 18 45 52.4 -1.2**
baz=312
BC3 Big Chuckawall 46.03 89 P **P 18 45 52.6 -1.5**
baz=312
W13A Hualapai Mount 46.05 86 P **P 18 45 55.6 +1.1**
W13A IAmb IAmb 18 46 30.4
comp=Z,15nm,1.5s
HMU Henry Mountain 46.19 81 IAmb IAmb 18 46 14.1
comp=Z,43nm,1.2s
U15A North Rim 46.19 84 IAmb IAmb 18 46 14.4
comp=Z,23nm,1.1s
O20A White River Ci 46.35 77 IAmb IAmb 18 46 14.8
comp=Z,40nm,1.1s
O20A White River Ci 46.35 77 P **P 18 45 55.4 -1.4**
baz=308,SNR=9.3
PDMCI Parker Dam,Lak 46.42 87 P **P 18 45 57.7 +0.7**
baz=311
NOR Nord 46.47 4 *i* P **P 18 45 55.1 -1.8**
NOR IAmb IAmb 18 46 15.8
comp=Z,2.1nm,1.0s
RSSD Black Hills 46.48 70 P **P 18 45 57.0 -0.8**
RSSD IAmb IAmb 18 45 59.2
comp=Z,20nm,1.4s
RSSD Black Hills 46.48 70 P **P 18 45 57.3 -0.4**
baz=306
RSSD Black Hills 46.48 70 P **P 18 45 58.3 +0.6**
MDND Maddock 46.88 63 P **P 18 46 00.1 -0.4**
baz=304,SNR=6.6
N23A Red Feather La 47.28 75 IAmb IAmb 18 46 23.2
comp=Z,23nm,1.0s
N23A Red Feather La 47.28 75 P **P 18 46 05.2 +1.2**
baz=308,SNR=6.3
WUAZ Wupatki 47.34 84 IAmb IAmb 18 46 22.6
comp=Z,16nm,0.9s
WUAZ Wupatki 47.34 84 P **P 18 46 05.3 +0.8**
baz=310
Y14A Wickenburg 47.36 87 **P 18 46 05.2 +0.7**
ULM Lac du Bonnet 47.56 59 P **P 18 46 05.7 0.0**
comp=Z,6.6nm,0.9s,baz=290,slow=8.5,SNR=11
ULM LR LR 19 06 37.6
comp=Z,286nm,19.3s,baz=284,slow=37
comp=Z,6.6nm,0.9s
BJI Beijing 47.58 284 P **P 18 46 07.8 +1.8**
BJI pmax pmax
comp=Z,10.0nm,0.9s
BJT Baijiatuau 47.59 284 IAmb IAmb 18 46 08.9
comp=Z,17nm,1.0s
BJT Baijiatuau 47.59 284 P **P 18 46 08.8 +2.6**
BJT Baijiatuau 47.59 284 P **P 18 46 08.4 +2.3**
SMCO Snowmass 47.71 77 IAmb IAmb 18 46 27.4
comp=Z,16nm,1.4s
MVCO Mesa Verde 48.02 80 IAmb IAmb 18 46 57.0
comp=Z,13nm,1.1s
MVCO Mesa Verde 48.02 80 P **P 18 46 09.9 0.0**
baz=310
ISCO Idaho Springs 48.15 76 IAmb IAmb 18 46 30.1
comp=Z,22nm,1.3s
ISCO Idaho Springs 48.15 76 P **P 18 46 10.4 -0.5**
baz=308
ULN Ulaanbaatar 48.20 298 P **P 18 46 09.8 -1.1**
ULN IAmb IAmb 18 47 39.8
comp=Z,11nm,1.1s
SONM Songino Array 48.58 298 P **P 18 46 13.4 -0.4**
comp=Z,2.0nm,1.0s,baz=72,slow=9.5,SNR=4.3
SONM PcP **PcP 18 47 40.0 +1.2**
comp=Z,8.5nm,1.0s,baz=84,slow=2.0,SNR=12
SONM ScP **ScP 18 51 28.6 -0.5**
comp=Z,1.4nm,0.9s,baz=336,slow=3.3,SNR=5.3
SONM LR LR 19 07 58.8
comp=Z,405nm,19.5s,baz=62,slow=38
comp=Z,2.0nm,1.0s
W18A Petrified Fore 48.62 83 P **P 18 46 14.4 +0.1**
baz=311
AGMN Agassiz Nation 48.68 61 P **P 18 46 13.6 -0.9**
baz=305,SNR=17
S22A 4UR Ranch, Cre 48.70 79 IAmb IAmb 18 46 36.0
comp=Z,44nm,1.6s
S22A 4UR Ranch, Cre 48.70 79 P **P 18 46 14.3 -0.8**
baz=310
214A Organ Pipe Nat 48.81 89 P **P 18 46 15.8 0.0**
baz=313
Q24A Divide 48.95 76 P **P 18 46 17.2 +0.2**
baz=309
SUSD Miller 49.23 67 P **P 18 46 17.8 -1.0**
baz=307
TIA Tai'an 49.42 280 ⇑P **P 18 46 21.4 +1.1**
TIA pmax pmax
comp=Z,60nm,1.1s
TIA LR LR
comp=Z,230nm,18.1s
TIA LR LR
comp=Z,350nm,22.1s
TIA LR LR

comp=Z,270nm,21.1s
SDCO Great Sand Dun 49.51 78 IAmb IAmb 18 46 40.0
comp=Z,17nm,1.1s
SDCO Great Sand Dun 49.51 78 P **P 18 46 21.1 -0.2**
baz=310,SNR=6.8
OGNE Ogallala 49.58 72 P **P 18 46 20.6 -0.9**
baz=308
HHC Hu-ho-hao-te 49.83 288 *e*P **P 18 46 23.7 +0.2**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,310nm,5.3s
HHC LR LR
comp=Z,210nm,14.1s
HHC LR LR
comp=Z,340nm,14.7s
HHC LR LR
comp=Z,600nm,16.2s
TUC Tucson 49.84 87 P **P 18 46 23.3 -0.3**
TUC IAmb IAmb 18 46 41.5
comp=Z,9.9nm,1.1s
TUC Tucson 49.84 87 P **P 18 46 24.3 +0.8**
baz=313
TUC Tucson 49.84 87 P **P 18 46 24.1 +0.5**
F33A 5 Mile Ranch, 49.90 64 IAmb IAmb 18 46 24.6
comp=Z,32nm,1.1s
HNS HongShan 50.13 282 ⇑P **P 18 46 27.7 +2.1**
HNS sP **sP 18 46 43.8 -1.2**
HNS *e*S **S 18 53 35.0 +1.7**
HNS pmax pmax
comp=Z,80nm,1.1s
HNS pmax pmax
comp=Z,320nm,4.3s
HNS LR LR
comp=Z,180nm,10.9s
HNS LR LR
comp=Z,520nm,20.2s
HNS LR LR
comp=Z,460nm,24.5s
SPITS Spitsbergen Ar 50.23 357 P **P 18 46 26.2 +0.4**
comp=Z,19nm,0.9s,baz=51,slow=5.9,SNR=16
SPITS LR LR 19 08 02.5
comp=Z,395nm,20.1s,baz=330,slow=36
comp=Z,19nm,0.9s
T25A Trinidad 50.57 77 P **P 18 46 29.9 +0.6**
baz=310,SNR=15
ANMO Albuquerque 50.75 81 P **P 18 46 30.9 +0.3**
baz=311
ANMO Albuquerque 50.75 81 LR LR 19 06 57.9
comp=Z,184nm,19.8s,baz=42,slow=35
BTO Baotou 50.90 289 *e*P **P 18 46 31.1 -0.4**
BTO pP **pP 18 46 43.3 -1.8**
BTO sP **sP 18 46 48.9 -2.0**
BTO S **S 18 53 44.2 0.0**
BTO pmax pmax
comp=Z,10.0nm,0.6s
BTO pmax pmax
comp=Z,580nm,5.3s
BTO LR LR
comp=Z,780nm,11.6s
BTO LR LR
comp=Z,640nm,12.0s
BTO LR LR
comp=Z,680nm,11.2s
DAG Danmarks Havn 50.95 7 *i* P **P 18 46 31.0 -0.3**
DAG IAmb IAmb 18 47 47.7
comp=Z,2.4nm,0.8s
ECSD EROS Data Cent 51.00 66 P **P 18 46 31.1 -1.0**
ECSD IAmb IAmb 18 46 32.9
comp=Z,21nm,1.1s
ECSD EROS Data Cent 51.00 66 P **P 18 46 31.9 -0.3**
baz=308,SNR=7.4
Y22D IRIS PASSCAL I 51.04 82 P **P 18 46 31.4 -1.4**
baz=312
Y22F Passcal Instru 51.04 82 P **P 18 46 31.2 -1.6**
baz=312
NJ2 Nanjing 51.12 274 *e*P **P 18 46 33.6 +0.5**
NJ2 pP **pP 18 46 45.0 -1.8**
NJ2 sP **sP 18 46 51.0 -1.7**
NJ2 pmax pmax
comp=Z,23nm,0.9s
NJ2 pmax pmax
comp=Z,250nm,4.7s
EYMN Ely 51.24 59 P **P 18 46 32.5 -1.4**
baz=307,SNR=8.2
TIY Taiyuan 51.31 284 P **P 18 46 37.0 +2.4**
TIY pmax pmax
comp=Z,15nm,0.6s
TIY LR LR
comp=Z,220nm,18.5s
TIY LR LR
comp=Z,370nm,17.2s
TIY LR LR
comp=Z,390nm,18.6s
F36A Milaca 51.42 62 IAmb IAmb 18 46 36.1
comp=Z,16nm,0.9s
FRB Frobisher Bay 51.54 33 LR LR 19 11 32.3
comp=Z,621nm,18.5s,baz=300,slow=40
121A Cookes Peak, D 51.55 84 P **P 18 46 35.3 -1.3**
baz=313
BGNE Belgrade 51.57 69 P **P 18 46 35.3 -1.1**
baz=309
SPMN Marine on St. 52.21 62 IAmb IAmb 18 46 42.4
comp=Z,32nm,1.2s
SPMN Marine on St. 52.21 62 P **P 18 46 40.1 -1.0**
baz=308
CBKS Cedar Bluff 52.30 73 P **P 18 46 41.1 -0.9**
baz=310
SUMG Summit 52.43 15 *i* P P 18 46 31.4 -11
SUMG IAmb IAmb 18 47 20.7
comp=Z,3.6nm,1.0s
DBG Daneborg 53.17 8 *i* P **P 18 46 45.7 -2.0**
DBG IAmb IAmb 18 47 56.1
comp=Z,2.7nm,1.0s
LYN LuoYang 53.37 281 ⇑P **P 18 46 51.5 +1.7**
LYN pmax pmax
comp=Z,120nm,1.0s
LYN LR LR
comp=Z,360nm,16.9s
LYN LR LR
comp=Z,390nm,15.6s
LYN LR LR
comp=Z,450nm,20.6s
MNTX Cornudas Mount 53.60 83 P **P 18 46 51.3 -0.3**
baz=313
MSTX Muleshoe 53.66 79 P **P 18 46 50.8 -1.4**
baz=312
AMTX Amarillo 53.72 78 P **P 18 46 53.2 +0.8**
AMTX IAmb IAmb 18 47 10.7
comp=Z,14nm,0.8s
AMTX Amarillo 53.72 78 P **P 18 46 51.3 -1.2**
baz=312
KSU1 Kansas State U 53.96 71 P **P 18 46 52.8 -1.3**
baz=311
SCIA State Center 54.09 66 P **P 18 46 53.2 -1.8**
baz=310
SMWD Samnorwood 54.44 77 IAmb IAmb 18 47 16.0
comp=Z,28nm,0.9s
425A Indio Mountain 54.48 84 IAmb IAmb 18 47 16.1
comp=Z,17nm,1.1s
SFJD Kangerlussuaq 54.48 23 LR LR 19 13 41.0
comp=Z,245nm,19.5s,baz=314,slow=40
WHN Wuhan 54.95 276 ⇑P **P 18 47 02.1 +0.8**
WHN sP **sP 18 47 18.6 -2.3**
WHN pmax pmax
comp=Z,52nm,1.3s
WHN LR LR
comp=Z,400nm,17.6s
DKNS Dickens 55.00 78 P **P 18 47 01.7 -0.1**
DKNS IAmb IAmb 18 47 19.9
comp=Z,23nm,1.0s
JFWS Jewell Farm 55.10 63 P **P 18 47 00.5 -1.9**
baz=311
P38A Dawn 55.41 68 IAmb IAmb 18 47 21.3
comp=Z,40nm,1.2s
MNHN Monahans 55.47 82 IAmb IAmb 18 47 22.8
comp=Z,26nm,1.2s
ZALV Zalesovo Beam 55.49 315 P **P 18 47 05.2 +0.3**
comp=Z,0.5nm,0.3s,baz=52,slow=7.9,SNR=5.9
ZALV PcP **PcP 18 48 05.9 +1.5**
comp=Z,7.2nm,0.8s,baz=31,slow=3.5,SNR=16
ZALV ScP **ScP 18 52 00.5 +1.8**
comp=Z,1.1nm,1.0s,baz=76,slow=0.6,SNR=1.9
ZALV LR LR 19 12 31.7
comp=Z,339nm,19.1s,baz=40,slow=38
comp=Z,0.5nm,0.3s
WMOK Wichita Mounta 55.57 76 P **P 18 47 05.5 -0.4**

WMOK IAmb IAmb 18 47 24.0
comp=Z,22nm,1.1s
ALPN Alpine 55.60 83 IAmb IAmb 18 47 23.4
comp=Z,11nm,1.0s
SSLB Suanglung 55.66 266 P **P** **18 47 05.8 -0.7**
SSLB Suanglung 55.66 266 P **P** **18 47 08.0 +1.4**
APMT Aspermont 55.72 78 IAmb IAmb 18 47 25.8
comp=Z,106nm,1.9s
XAN Xi'an 55.88 283 ⇑P **P** **18 47 09.0 +0.9**
XAN pP pP 18 47 22.6 +0.8
XAN pmax pmax
comp=Z,47nm,1.3s
XAN LR LR
comp=Z,450nm,19.9s
XAN LR LR
comp=Z,430nm,22.7s
XAN LR LR
comp=Z,700nm,22.7s
XAN Xi'an 55.88 283 P **P** **18 47 08.9 +0.9**
XAN pP **pP** **18 47 22.4 +0.6**
OK052 Battle Ridge R 55.91 73 **P** **18 47 07.9 -0.4**
LPIG La Paz 55.92 94 LR LR 19 08 46.7
comp=Z,146nm,18.0s,baz=230,slow=34
TX31 Lajitas Ar. Si 56.31 84 IAmb IAmb 18 47 29.3
comp=Z,31nm,1.0s
TXAR Lajitas Array 56.31 84 P **P** **18 47 10.3 -0.9**
comp=Z,2.2nm,0.8s,baz=291,slow=5.4,SNR=18
comp=Z,2.2nm,0.8s
P40A Paris 56.32 67 IAmb IAmb 18 47 12.6
comp=Z,26nm,0.9s
WTFS Witchita Falls 56.43 77 P **P** **18 47 11.8 -0.1**
WTFS IAmb IAmb 18 47 29.9
comp=Z,25nm,1.1s
W35A Tecumseh 56.44 74 IAmb IAmb 18 47 30.1
comp=Z,26nm,0.9s
ABTX Abilene, Hawle 56.49 78 P **P** **18 47 11.2 -1.3**
baz=314
TUL3 Leonard 56.57 73 P **P** **18 47 11.5 -1.4**
baz=313
L44A Lake County Fo 56.88 62 P **P** **18 47 13.0 -2.1**
baz=312
GLMI Grayling 56.90 58 P **P** **18 47 15.3 +0.2**
GLMI Grayling 56.90 58 P **P** **18 47 12.9 -2.2**
baz=312,SNR=5.2
LOOK Love County 57.05 75 P **P** **18 47 15.9 -0.4**
PLPT Palo Pinto 57.17 77 IAmb IAmb 18 47 35.3
comp=Z,48nm,1.1s
HDIL Hopedale 57.20 65 P **P** **18 47 14.9 -2.4**
baz=312
LZH Lanzhou 57.52 288 *e*P **P** **18 47 21.1 +1.3**
LZH pP pP 18 47 31.8 -1.7
LZH sP sP 18 47 39.0 -0.2
LZH PcP **PcP** **18 48 13.6 +0.8**
LZH pmax pmax
comp=Z,13nm,1.0s
LZH LR LR
comp=Z,420nm,15.3s
LZH LR LR
comp=Z,470nm,16.0s
LZH LR LR
comp=Z,660nm,19.4s
GTA Gaotai 57.60 294 *e*P **P** **18 47 22.3 +2.0**
GTA pP sP 18 47 37.6 -2.5
GTA PcP **PcP** **18 48 14.6 +1.5**
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA LR LR
comp=Z,270nm,17.1s
GTA LR LR
comp=Z,190nm,17.8s
GTA LR LR
comp=Z,390nm,17.1s
CCM Cathedral Cave 57.78 68 P **P** **18 47 20.6 -0.8**
CCM Cathedral Cave 57.78 68 P **P** **18 47 20.0 -1.4**
baz=313
CCM Cathedral Cave 57.78 68 P **P** **18 47 21.4 0.0**
CCM pP **pP** **18 47 35.0 -0.4**
MGMO Mountain Grove 57.80 70 IAmb IAmb 18 47 37.5
comp=Z,24nm,1.2s
BRDY Brady 57.81 79 IAmb IAmb 18 47 39.5
comp=Z,15nm,1.0s
JCT Junction City 57.89 80 **P** **18 47 22.2 -0.1**
JCT IAmb IAmb 18 47 40.2
comp=Z,20nm,1.2s
JCT Junction City 57.89 80 P **P** **18 47 20.9 -1.4**
baz=315
DRIO Del Rio 58.13 82 P **P** **18 47 23.4 -0.6**
DRIO IAmb IAmb 18 47 40.9
comp=Z,7.0nm,0.9s
ENH Enshi 58.14 280 P **P** **18 47 24.8 +0.7**
comp=Z,39nm,0.8s
ENH Enshi 58.14 280 P **P** **18 47 24.5 +0.4**
ARCES ARCESS Array B 58.17 352 P **P** **18 47 24.1 +0.4**
comp=Z,7.2nm,1.0s,baz=0.4,slow=8.2,SNR=6.7
ARCES LR LR 19 16 28.9
comp=Z,114nm,18.3s,baz=18,slow=40
comp=Z,7.2nm,1.0s
WHTX Lake Whitney, 58.26 77 P **P** **18 47 23.4 -1.4**
baz=314
SCHQ Schefferville 58.30 40 P **P** **18 47 24.0 -0.9**
comp=Z,3.8nm,0.8s,baz=277,slow=7.5,SNR=4.0
SCHQ LR LR 19 13 40.8
comp=Z,247nm,18.9s,baz=328,slow=37
comp=Z,3.8nm,0.8s
SFIN Lafayette 58.55 63 P **P** **18 47 25.2 -1.6**
baz=313
FCAR Ozark Folk Cen 58.75 70 IAmb IAmb 18 47 44.1
comp=Z,20nm,0.9s
AAM Ann Arbor 59.12 60 P **P** **18 47 29.2 -1.5**
baz=313
X40A Basin Creek Fa 59.30 72 IAmb IAmb 18 47 48.8
comp=Z,13nm,1.1s
833A Chaparral WMA, 59.66 82 P **P** **18 47 34.0 -0.6**
baz=316
WLAR White Oak Lake 59.70 73 **P** **18 47 34.5 -0.2**
O48B Farmland 59.71 62 P **P** **18 47 33.4 -1.4**
O48B Farmland 59.71 62 P **P** **18 47 32.8 -2.1**
baz=314
SADO Sadowa 59.78 55 LR LR 19 14 58.0
comp=Z,288nm,18.3s,baz=279,slow=38
ZSN Zaisan 59.95 309 *e*P **P** **18 47 37.1 +0.7**
comp=Z,9.8nm,1.0s,baz=309
P49A Miami Univ. Ec 60.46 63 IAmb IAmb 18 47 40.2
comp=Z,33nm,1.2s
P49A Miami Univ. Ec 60.46 63 P **P** **18 47 38.5 -1.4**
baz=314
KURK Kurchatov 60.48 315 P **P** **18 47 40.4 +0.5**
KURK IAmb IAmb 18 47 42.3
comp=Z,16nm,0.8s
KURK PcP **PcP** **18 48 23.6 -0.5**
KURK Kurchatov 60.48 315 P **P** **18 47 41.1 +1.3**
KURK PcP **PcP** **18 48 25.6 +1.5**
WCI Wyandotte Cave 60.49 65 P **P** **18 47 38.8 -1.4**
baz=314
WCI Wyandotte Cave 60.49 65 P **P** **18 47 39.9 -0.2**
KURBB Kurchatov Arra 60.58 315 P **P** **18 47 40.5 0.0**
comp=Z,20nm,0.9s,baz=39,slow=6.8,SNR=50
KURBB PcP **PcP** **18 48 25.0 +0.4**
comp=Z,6.1nm,0.8s,baz=43,slow=4.4,SNR=8.3
KURBB LR LR 19 15 43.8
comp=Z,415nm,18.4s,baz=173,slow=38
comp=Z,20nm,0.9s
HKT Hockley 60.69 78 P **P** **18 47 41.0 -0.5**
HKT IAmb IAmb 18 48 01.2
comp=Z,29nm,1.6s
ACSO Alum Creek Sta 60.92 61 P **P** **18 47 41.4 -1.7**
baz=314
WVT Waverly 61.08 67 P **P** **18 47 43.6 -0.6**
baz=315
WVT Waverly 61.08 67 P **P** **18 47 44.0 -0.2**
WMQ Urumqi 61.11 305 *e*P **P** **18 47 44.2 -0.2**
WMQ PcP **PcP** **18 48 28.3 +1.4**
WMQ pmax pmax
comp=Z,18nm,0.9s
WMQ LR LR
comp=Z,290nm,12.7s
WMQ LR LR
comp=Z,200nm,17.1s
WMQ LR LR
comp=Z,330nm,15.7s
CD2 Chengdu 61.18 284 *e*P **P** **18 47 43.0 -2.0**
ERPA Erie 61.20 58 P **P** **18 47 43.8 -1.1**
baz=315
OXF Oxford 61.30 70 P **P** **18 47 43.7 -2.0**
baz=315
M53A WI Miller and 61.32 59 P **P** **18 47 44.4 -1.3**
baz=315,SNR=7.5

ALLY Alegheny Colle 61.45 58 P **P** **18 47 46.7 +0.1**
MK31 Makanchi Array 61.65 310 P **P** **18 47 46.9 -1.0**
MK31 IAmb IAmb 18 47 49.6
comp=Z,5.0nm,0.8s
MKAR Makanchi Array 61.65 310 P **P** **18 47 47.3 -0.6**
comp=Z,2.8nm,0.3s,baz=47,slow=6.5,SNR=108
MKAR LR LR 19 14 55.2
comp=Z,347nm,21.0s,baz=42,slow=36
comp=Z,2.8nm,0.3s
MAKZ Makanchi 61.79 311 P **P** **18 47 47.9 -1.0**
MAKZ IAmb IAmb 18 48 36.6
comp=Z,5.7nm,1.1s
MAKZ Makanchi 61.79 311 P **P** **18 47 49.4 +0.5**
P52A Corning 61.81 61 P **P** **18 47 48.3 -0.8**
baz=315
O53A New Philadelph 61.87 60 P **P** **18 47 47.8 -1.7**
baz=315
BVAR Borovoye Array 62.14 322 P **P** **18 47 52.1 +1.0**
comp=Z,11nm,0.6s,baz=49,slow=7.4,SNR=48
BVAR PcP **PcP** **18 48 32.1 +1.2**
comp=Z,5.8nm,0.8s,baz=72,slow=4.8,SNR=5.9
BVAR LR LR 19 17 21.9
comp=Z,609nm,19.0s,baz=43,slow=38
comp=Z,11nm,0.6s
BRVK Borovoye 62.16 322 P **P** **18 47 51.6 +0.4**
BRVK IAmb IAmb 18 47 53.7
comp=Z,9.9nm,0.9s
BRVK Borovoye 62.16 322 P **P** **18 47 53.0 +1.8**
BRVK PcP **PcP** **18 48 32.3 +1.5**
LONY Lake Ozonia 62.18 53 P **P** **18 47 50.3 -1.2**
baz=316
VBMS Vicksburg 62.27 72 P **P** **18 47 51.6 -0.7**
baz=316
GYA Guiyang 62.59 279 ⇑P **P** **18 47 55.7 +1.1**
GYA pmax pmax
comp=Z,56nm,1.2s
GYA pmax pmax
comp=Z,300nm,5.2s
146A Union 62.84 71 P **P** **18 47 56.0 -0.1**
MCWV Mont Chateau 63.03 60 P **P** **18 47 56.2 -1.0**
baz=316,SNR=7.0
BINY Binghamton 63.22 55 P **P** **18 47 57.3 -1.2**
baz=316,SNR=12
TZTN Tazewell 63.22 64 P **P** **18 47 57.8 -0.7**
baz=316
SSPA Standing Stone 63.37 58 P **P** **18 47 59.8 +0.4**
SSPA Standing Stone 63.37 58 P **P** **18 47 58.3 -1.1**
baz=316
SSPA Standing Stone 63.37 58 P **P** **18 48 00.1 +0.7**
ARU Arti 63.55 330 P **P** **18 48 00.6 +0.2**
ARU IAmb IAmb 18 48 03.0
comp=Z,7.0nm,1.0s
ARU Arti 63.55 330 LR LR 19 19 18.3
comp=Z,289nm,19.7s,baz=18,slow=39
ARU Arti 63.55 330 P **P** **18 48 02.0 +1.7**
BRZS Berezniki 63.56 318 *e*P **P** **18 48 01.0 +0.5**
comp=Z,8.6nm,1.1s,baz=318
TKL Tuckaleechee C 63.73 65 LR LR 19 14 33.3
comp=Z,284nm,21.1s,baz=334,slow=35
LBNH Lisbon 63.76 51 P **P** **18 48 00.3 -1.7**
baz=317
LRAL Lakeview Retre 63.76 69 P **P** **18 48 01.4 -0.8**
baz=316
KSPA Keystone Colle 63.80 56 P **P** **18 48 02.6 +0.3**
Q56A Snyder Ridge, 63.83 60 IAmb IAmb 18 48 04.3
comp=Z,32nm,1.1s
P57A Homestead Farm 64.13 59 P **P** **18 48 04.3 -0.2**
PKME Peaks-Kenny Pk 64.26 49 P **P** **18 48 04.1 -1.0**
baz=318
KIRV Kirov 64.29 336 LR LR 19 18 12.5
comp=Z,127nm,21.8s,baz=24,slow=38
BLA Blacksburg 64.48 62 P **P** **18 48 06.0 -0.8**
baz=316
HNR Honiara 64.56 207 LR LR 19 10 35.9
comp=Z,2μm,21.3s,baz=22,slow=31
L61B Northampton 64.71 53 P **P** **18 48 07.7 -0.5**
baz=318
ODNJ Ogdensburg 64.74 55 P **P** **18 48 08.2 -0.2**
TDK Taldygorghan 64.80 311 *e*P **P** **18 48 09.3 +0.5**
comp=Z,5.5nm,0.9s,baz=311
SDMD Soldier's Deli 64.81 58 IAmb IAmb 18 48 10.6
comp=Z,27nm,1.0s
S57A Dark Hollow, R 64.88 61 P **P** **18 48 09.6 +0.2**
WUPA West Chester U 65.07 57 IAmb IAmb 18 48 12.7
comp=Z,22nm,1.1s
BRAL Brewton 65.08 71 P **P** **18 48 10.3 -0.5**
baz=317
PAL Palisades 65.16 55 P **P** **18 48 10.6 -0.5**
baz=318,SNR=5.4
HRV Adam Dziewonsk 65.22 52 P **P** **18 48 09.7 -1.8**
baz=318
CBN Corbin Frederi 65.41 59 P **P** **18 48 12.0 -0.8**
baz=317
KMSC Kings Mountain 65.48 64 P **P** **18 48 12.6 -0.7**
baz=317
GOGA Godfrey 65.53 67 P **P** **18 48 12.4 -1.2**
baz=317
PZH PanZhiHua 65.58 282 P **P** **18 48 15.4 +1.2**
PZH S **S** **18 56 55.2 -0.6**
PZH pmax pmax
comp=Z,100nm,1.0s
PZH pmax pmax
comp=Z,190nm,5.1s
PZH LR LR
comp=Z,210nm,20.0s
PZH LR LR
comp=Z,190nm,21.0s
PZH LR LR
comp=Z,250nm,19.6s
SHLS Shalkode 65.69 309 *e*P **P** **18 48 14.0 -0.7**
comp=Z,10.0nm,0.9s,baz=309
KPKS Kokpek 65.83 310 *e*P **P** **18 48 16.0 +0.4**
baz=310
FINES FINESS Array B 65.98 349 P **P** **18 48 15.9 -0.2**
comp=Z,2.9nm,0.9s,baz=23,slow=10,SNR=1.5
FINES LR LR 19 21 53.3
comp=Z,173nm,18.1s,baz=34,slow=40
comp=Z,2.9nm,0.9s
KMI Kunming 65.98 281 ⇑P **P** **18 48 18.3 +1.4**
KMI sP sP 18 48 34.4 -2.3
KMI pmax pmax
comp=Z,25nm,0.9s
KMI pmax pmax
comp=Z,150nm,3.5s
KMI LR LR
comp=Z,230nm,19.0s
KMI LR LR
comp=Z,130nm,19.7s
KMI LR LR
comp=Z,330nm,27.0s
KMI Kunming 65.98 281 P **P** **18 48 18.7 +1.8**
SATY Saty 66.27 310 *e*P **P** **18 48 20.0 +1.5**
baz=310
KUU Kurty 66.61 312 *e*P **P** **18 48 20.1 -0.4**
baz=312
BTLS Baital 66.77 314 *e*P **P** **18 48 22.8 +1.4**
baz=314
MDOK Medeo 66.83 311 *e*P **P** **18 48 22.8 +0.8**
baz=311
TIGA Tifton 66.90 68 P **P** **18 48 20.9 -1.6**
baz=317
TAOE Nuku Hiva Isla 67.36 142 *e*LR LR 19 08 38.3
comp=Z,290nm,22.4s
TAOE Nuku Hiva Isla 67.36 142 *e*T T 20 01 54.7
comp=Z,20nm,0.2s
NB2 NORSAR Subarra 67.53 357 P **P** **18 48 25.7 -0.3**
comp=Z,2.1nm,0.7s,baz=1.2,slow=6.5
NOA NORSAR Array B 67.53 357 P **P** **18 48 25.9 -0.1**
comp=Z,4.7nm,0.9s,baz=1.8,slow=6.3,SNR=9.8
NOA LR LR 19 18 09.5
comp=Z,97nm,20.1s,baz=0.0,slow=36
comp=Z,4.7nm,0.9s
TABU Tabubil 67.86 228 P **P** **18 48 29.6 +0.9**
SLVN Son La 68.06 277 P **P** **18 48 30.5 +0.5**
SLVN IAmb IAmb 18 48 33.7
comp=Z,19nm,1.0s
HFS Hagfors 68.33 355 P **P** **18 48 30.6 -0.4**
comp=Z,4.5nm,0.7s,baz=315,slow=0.6,SNR=14
HFS LR LR 19 19 58.7
comp=Z,145nm,19.9s,baz=13,slow=37
comp=Z,4.5nm,0.7s
AAK Ala-Archa 68.43 312 P **P** **18 48 31.8 -0.3**
AAK Ala-Archa 68.43 312 LR LR 19 20 52.4
comp=Z,257nm,19.7s,baz=32,slow=38
AAK Ala-Archa 68.43 312 P **P** **18 48 34.2 +2.1**
AAK PcP **PcP** **18 48 59.0 +1.7**
TNCH TengChong 68.62 284 ⇑P **P** **18 48 35.6 +2.0**

TNCH sP sP 18 48 50.5 -2.9
TNCH PP **PP** **18 51 05.6 +0.4**
TNCH S **S** **18 57 27.1 -5.4**
TNCH pmax pmax
comp=Z,60nm,1.0s
TNCH pmax pmax
comp=Z,170nm,5.4s
TNCH LR LR
comp=Z,140nm,4.3s
TNCH LR LR
comp=Z,190nm,5.5s
TNCH LR LR
comp=Z,160nm,13.8s
AKTO Aktyubinsk 68.76 327 LR LR 19 21 12.5
comp=Z,325nm,20.8s,baz=66,slow=38
SWI Sorong 69.07 240 P **P** **18 48 36.7 +0.5**
comp=Z,92nm,1.0s
ABKAR Akbulak array 69.08 325 P **P** **18 48 35.5 -0.3**
LSA Lhasa 69.51 292 IAmb IAmb 18 48 44.2
comp=Z,15nm,0.9s
LSA Lhasa 69.51 292 P **P** **18 48 42.6 +3.2**
LSA PcP **PcP** **18 49 05.5 +3.1**
DZA Taraz 69.67 314 *e*P **P** **18 48 40.8 +1.1**
baz=314
KKAR Karatay Array 69.87 315 P **P** **18 48 40.6 -0.2**
KKAR Karatay Array 69.87 315 P **P** **18 48 40.3 -0.6**
KKAR IAmb IAmb 18 48 43.7
comp=Z,5.8nm,0.9s
ARSB Arslanbob 70.16 312 P **P** **18 48 42.6 -0.3**
KSH Kashi 70.16 309 P **P** **18 48 47.2 +4.3**
KSH pmax pmax
comp=Z,12nm,1.4s
OBN Obninsk 70.38 341 LR LR 19 26 03.6
comp=Z,111nm,18.6s,baz=358,slow=41
PMOR Pomariorio Ree 70.48 152 *e*T T 20 05 53.9
comp=Z,10nm,0.2s
DWPF Disney Wildern 70.62 69 P **P** **18 48 44.8 -0.8**
baz=319
CMIG Matias Romero 70.73 87 LR LR 19 15 16.3
comp=Z,249nm,21.9s,baz=308,slow=32
NONG Nongkai 70.98 275 P **P** **18 48 49.6 +1.6**
comp=Z,31nm,1.5s
CRAI Chiangrai 71.07 279 P **P** **18 48 49.5 +1.0**
MYLDM Lahad Datu 71.45 254 P **P** **18 48 51.7 +0.9**
MYLDM IAmb IAmb 18 48 54.7
comp=Z,39nm,1.1s
KMSI Cibinong 71.93 247 P **P** **18 48 54.6 +1.0**
comp=Z,109nm,0.9s
BTK Batken 72.16 313 P **P** **18 48 53.7 -1.2**
BTK IAmb IAmb 18 49 35.3
comp=Z,10nm,1.1s
SHL Shillong 72.19 289 P **P** **18 48 55.0 -0.3**
MND Mandalay 72.33 283 P **P** **18 48 56.9 +0.9**
TEIG Tepich 72.45 80 LR LR 19 20 57.2
comp=Z,639nm,19.9s,baz=127,slow=36
PPT Papeete 72.45 154 LR LR 19 14 40.6
comp=Z,320nm,20.9s,baz=346,slow=31
PPT2 Papeete2 72.47 154 *e*S **SKiKP** **18 58 31.8 +4.8**
comp=Z,173nm,26.8s
PPT2 *e*SS **SS** **19 02 51.1 -5.9**
comp=Z,117nm,26.0s
PPT2 *e*LR LR 19 10 51.9
comp=Z,348nm,22.2s
PPT2 *e*LR LR 19 11 16.3
comp=Z,408nm,21.2s
MNK Minsk 72.48 346 *i* P **P** **18 48 55.8 -0.5**
comp=E,8.0nm,1.0s
MNK *i* P **P** **18 48 55.8 -0.5**
comp=N,15nm,0.9s
MNK *i* P **P** **18 48 55.8 -0.5**
comp=Z,12nm,0.9s,baz=195
MNK *i* pP **pP** **18 49 10.1 -0.7**
MNK *i* PP **PP** **18 51 37.0 -0.2**
MNK *i* PPP PPP 18 53 23.2
MNK *i* S **S** **18 58 16.3 +0.1**
MNK *i* sS **sS** **18 58 40.8 +0.4**
MNK *i* SS **SS** **19 02 56.4 +2.2**
MNK *i* SSS SSS 19 06 11.1
MNK *i* LQ LQ 19 14 06.0
MNK *i* LR LR 19 20 52.2
MNK *i* LRM MLR 19 22 28.9
comp=E,57nm,17.8s
MNK *i* LRM MLR 19 22 33.1
comp=N,225nm,15.3s
MNK *i* LRM MLR 19 22 34.0
comp=Z,223nm,15.3s
TIAR Tiarei 72.50 154 *e*T T 20 08 23.3
comp=Z,1.4nm,0.2s
BNDI Bandanaira 72.87 239 P **P** **18 49 01.8 +2.6**
BNDI Bandanaira 72.87 239 P **P** **18 48 59.6 +0.4**
comp=Z,62nm,1.0s,comp=Z,2μm
SANI Sanana 72.94 244 P **P** **18 49 00.4 +0.7**
comp=Z,42nm,1.1s
SANI Sanana 72.94 244 P **P** **18 48 59.2 -0.5**
comp=Z,42nm,1.1s
CHTO Chiang Mai 73.02 279 P **P** **18 49 00.1 -0.1**
CHTO IAmb IAmb 18 49 02.5
comp=Z,21nm,1.2s
CHTO Chiang Mai 73.02 279 P **P** **18 49 01.2 +1.1**
EKA Eskdalemuir Ar 73.15 5 P **P** **18 49 00.8 +0.5**
comp=Z,3.4nm,0.7s,baz=359,slow=5.1,SNR=9.5
comp=Z,3.4nm,0.7s
MRSI Marisa 73.18 249 P **P** **18 49 01.5 +0.4**
comp=Z,72nm,1.1s
GAR Garm 73.24 312 P **P** **18 49 00.6 -0.7**
GAR IAmb IAmb 18 49 52.3
comp=Z,23nm,1.1s
TAPN Taplejung 73.26 293 *e*P **P** **18 49 03.0 +1.1**
comp=Z,63nm,0.9s
CMAR Chiang Mai Arr 73.28 279 P **P** **18 49 01.6 -0.2**
CMAR Chiang Mai Arr 73.28 279 P **P** **18 49 01.9 +0.1**
comp=Z,9.9nm,0.9s,baz=26,slow=6.6,SNR=55
CMAR LR LR 19 24 05.8
comp=Z,86nm,19.3s,baz=60,slow=38
comp=Z,9.9nm,0.9s
CM31 Chiang Mai Arr 73.29 279 P **P** **18 49 00.7 -1.0**
CM31 IAmb IAmb 18 49 04.6
comp=Z,37nm,1.4s
TOLI2 Tolitoli 73.35 250 P **P** **18 49 01.6 -0.4**
TOLI2 IAmb IAmb 18 49 03.7
comp=Z,46nm,1.2s
TOLI2 Tolitoli 73.35 250 P **P** **18 49 03.5 +1.4**
comp=Z,35nm,1.3s
RAR Rarotonga 73.80 165 LR LR 19 14 44.0
comp=Z,388nm,19.4s,baz=344,slow=30
GUN Gumba 73.88 295 *e*P **P** **18 49 07.1 +1.5**
JIRN Jiri 73.90 294 *e*P **P** **18 49 07.0 +1.3**
comp=Z,91nm,0.9s
LUWI Luwuk 73.94 247 P **P** **18 49 04.6 -1.0**
LUWI Luwuk 73.94 247 P **P** **18 49 05.2 -0.3**
comp=Z,131nm,0.9s,comp=Z,6μm
CHGR Chuyangaron 74.05 313 P **P** **18 49 05.5 -0.6**
CHGR IAmb IAmb 18 49 46.2
comp=Z,25nm,0.9s
RAMN Ramite 74.20 293 *e*P **P** **18 49 08.6 +1.3**
comp=Z,68nm,0.8s
KKN Kakani 74.31 295 *e*P **P** **18 49 09.0 +1.1**
PKI Pulchoki 74.41 295 *e*P **P** **18 49 09.3 +0.7**
comp=Z,54nm,1.0s
PKIN Phulchoki 74.41 295 *e*P **P** **18 49 09.3 +0.8**
comp=Z,43nm,0.9s
MPSI Mapaga 74.49 250 P **P** **18 49 09.1 +0.4**
comp=Z,55nm,1.3s,comp=Z,527nm
GKN Gorkha 74.51 295 *e*P **P** **18 49 09.9 +0.9**
DMN Daman 74.55 295 *e*P **P** **18 49 10.3 +1.0**
DANN Dangsing 74.73 296 *e*P **P** **18 49 11.2 +0.7**
comp=Z,71nm,0.9s
SAUI Saumlaki 75.06 236 P **P** **18 49 12.6 +0.7**
SAUI Saumlaki 75.06 236 P **P** **18 49 13.8 +1.8**
SAUI Saumlaki 75.06 236 P **P** **18 49 12.8 +0.8**
comp=Z,111nm,1.2s,comp=Z,5μm
DZM Mont Dzumac 75.19 198 *e*S **SKiKP** **18 58 35.4 +4.3**
comp=Z,110nm,29.9s
DZM Mont Dzumac 75.19 198 *e*LR LR 19 12 43.8
comp=Z,253nm,29.1s
DZM Mont Dzumac 75.19 198 LR LR 19 17 28.3
comp=Z,148nm,19.5s,baz=20,slow=32
KOLN Koldanda 75.27 296 *e*P **P** **18 49 14.5 +1.1**
PYUN Piuthan 75.36 297 *e*P **P** **18 49 14.5 +0.6**
comp=Z,77nm,0.9s
AKASG Malin Array Be 75.94 344 P **P** **18 49 14.9 -1.7**
comp=Z,1.5nm,0.6s,baz=17,slow=5.7,SNR=7.5
AKASG LR LR 19 25 52.8
comp=Z,171nm,20.1s,baz=30,slow=38
comp=Z,1.5nm,0.6s
SRDT SRDT 76.30 276 P **P** **18 49 21.5 +2.3**

TTSI	**Tana Toraja**	**77.26 248**	P	**P**	**18 49 25.5**	**+1.0**
	comp=Z,49nm,1.2s						
KBL	**Kabul**	**77.46 310**	P	**P**	**18 49 25.3**	**-0.4**
KBL			IAmb	IAmb	18 50 27.4		
	comp=Z,12nm,1.1s						
BRG	**Berggiesshubel**	**77.55 354**	*e*P	P	18 49 20.3	-5.4
BRG			Amp		18 49 21.4		
	comp=Z,3.9nm,1.2s						
BRG	**Berggiesshubel**	**77.55 354**	P	**P**	**18 49 23.4**	**-2.3**
BRG			Amp		18 49 25.4		
	comp=Z,10nm,1.1s						
BBSI	**Bau Bau**	**77.69 245**	P	**P**	**18 49 28.0**	**+1.1**
	comp=Z,27nm,0.9s						
DPC	**Dobruska-Polom**	**77.90 353**	*e*P	**P**	**18 49 27.8**	**+0.1**
TBI	**Tubuai**	**78.01 156**	*e*S	**S**	**18 59 12.3**	**-5.7**
	comp=Z,513nm,40.2s						
TBI			*e*SS	**SS**	**19 04 18.5**	**-2.3**
	comp=Z,380nm,27.0s						
TBI			*e*LR	LR	19 13 27.2		
	comp=Z,1µm,22.5s						
TBI	**Tubuai**	**78.01 156**	*e*T	T	20 15 20.8		
	comp=Z,11nm,0.2s						
SPSI	**Sidrap Palu**	**78.04 248**	P	**P**	**18 49 29.4**	**+0.5**
	comp=Z,23nm,1.1s,comp=Z,505nm						
MTKI	**Muara Teweh, K**	**78.47 254**	P	**P**	**18 49 30.4**	**-0.9**
	comp=Z,26nm,1.1s,comp=Z,1µm						
KDU	**Kakadu**	**78.49 232**	P	**P**	**18 49 31.8**	**+0.6**
	comp=Z,24nm,1.1s						
KAPI	**Kappang**	**78.90 247**	P	**P**	**18 49 33.4**	**-0.2**
KAPI			IAmb	IAmb	18 49 37.6		
	comp=Z,16nm,0.9s						
KAPI	**Kappang**	**78.90 247**	LR	LR	19 23 09.2		
	comp=Z,27nm,19.1s,baz=31,slow=35						
VRAC	**Vranov**	**78.91 352**	LR	LR	19 26 21.7		
	comp=Z,134nm,20.1s,baz=6.0,slow=37						
BKSI	**Bulukumba**	**78.94 247**	P	**P**	**18 49 34.5**	**+0.7**
	comp=Z,58nm,1.1s,comp=Z,528nm						
ZVC	**Zvikov**	**78.96 354**	*e*P	**P**	**18 49 34.1**	**+0.6**
CTA	**Charters Tower**	**79.06 217**	LR	LR	19 19 20.8		
	comp=Z,51nm,20.9s,baz=4.5,slow=32						
CTAO	**Charters Tower**	**79.06 217**	P	**P**	**18 49 34.1**	**-0.1**
CTAO			IAmb	IAmb	18 49 52.3		
	comp=Z,20nm,1.1s						
CTAO	**Charters Tower**	**79.06 217**	P	**P**	**18 49 36.5**	**+2.2**
MTN	**Manton Dam**	**79.28 233**	P	**P**	**18 49 35.9**	**+0.3**
MTN			IAmb	IAmb	18 49 37.1		
	comp=Z,33nm,0.8s						
MTN	**Manton Dam**	**79.28 233**	P	**P**	**18 49 36.4**	**+0.8**
	comp=Z,46nm,1.0s						
KVAR	**Kislovodsk Arr**	**79.30 333**	LR	LR	19 31 04.4		
	comp=Z,118nm,18.4s,baz=238,slow=40						
KHC	**Kasperske Hory**	**79.31 354**	P	**P**	**18 49 35.4**	**0.0**
KHC			IAmb	IAmb	18 49 38.8		
	comp=Z,16nm,1.6s						
KHC	**Kasperske Hory**	**79.31 354**	*e*P	**P**	**18 49 36.0**	**+0.5**
KHC	**Kasperske Hory**	**79.31 354**	*e*P	**P**	**18 49 36.4**	**+0.9**
GEYT	**Alibeck**	**79.41 320**	P	**P**	**18 49 35.8**	**-0.4**
	comp=Z,4.6nm,0.9s,baz=53,slow=17,SNR=5.1						
GEYT			LR	LR	19 29 20.9		
	comp=Z,208nm,19.1s,baz=44,slow=39						
	comp=Z,4.6nm,0.9s						
KBZ	**Khabaz**	**79.45 333**	P	**P**	**18 49 35.5**	**-0.8**
	comp=Z,2.8nm,1.0s,baz=56,slow=11,SNR=3.6						
KBZ			LR	LR	19 29 30.9		
	comp=Z,171nm,19.7s,baz=20,slow=39						
	comp=Z,2.8nm,1.0s						
VYHS	**Vyhne**	**79.51 351**	*e*P	**P**	**18 49 39.3**	**+2.8**
CKRC	**Cesky Krumlov**	**79.57 354**	*e*P	**P**	**18 49 38.1**	**+1.2**
MMRI	**Maumere**	**80.46 243**	P	**P**	**18 49 42.1**	**+0.1**
	comp=Z,27nm,1.7s						
RAO	**Raoul Island**	**80.61 183**	LR	LR	19 18 26.9		
	comp=Z,628nm,20.5s,baz=136,slow=30						
BIOA	**Bad Ischl, Aus**	**80.74 354**	*i* P	**P**	**18 49 44.7**	**+1.5**
	comp=Z,6.7nm,1.3s						
EDFI	**Ende, Flores**	**80.85 243**	P	**P**	**18 49 42.9**	**-1.4**
	comp=Z,28nm,1.2s,comp=Z,368nm						
BATI	**Baumata**	**80.97 241**	P	**P**	**18 49 45.6**	**+0.8**
	comp=Z,49nm,0.8s						
BATI	**Baumata**	**80.97 241**	LR	LR	19 21 33.5		
	comp=Z,50nm,19.7s,baz=40,slow=33						
ARSA	**Arzberg**	**81.04 353**	*i* PcP	**PcP**	**18 49 48.1**	**-3.0**
	comp=Z,7.2nm,1.1s						
LESA	**Schwarzleotal**	**81.06 355**	*i* PcP	**P**	**18 49 46.8**	**+1.8**
	comp=Z,9.3nm,1.7s						
WATA	**Walderalm**	**81.21 355**	*i* PcP	**P**	**18 49 47.4**	**+1.6**
	comp=Z,9.6nm,1.3s						
MOTA	**Moosalm**	**81.22 356**	*e*PcP	**P**	**18 49 47.4**	**+1.5**
	comp=Z,8.9nm,1.4s						
WTTA	**Wattenberg**	**81.28 355**	*i* PcP	**P**	**18 49 47.9**	**+1.6**
	comp=Z,9.4nm,1.3s						
MLR	**Muntele Rosu**	**81.53 345**	LR	LR	19 28 36.9		
	comp=Z,202nm,22.0s,baz=29,slow=38						
FETA	**Feichten**	**81.56 356**	*i* PcP	**P**	**18 49 49.5**	**+1.7**
	comp=Z,6.8nm,1.1s						
SOKA	**Soboth**	**81.65 353**	*i* PcP	**P**	**18 49 49.7**	**+1.6**
	comp=Z,9.8nm,1.3s						
ABTA	**Abfaltersbach**	**81.75 355**	*i* PcP	**P**	**18 49 49.1**	**+0.5**
	comp=Z,8.8nm,1.3s						
JTS	**Las Juntas de**	**82.09 84**	LR	LR	19 25 58.9		
	comp=Z,62nm,21.5s,baz=314,slow=35						
QIS	**Mount Isa**	**82.11 222**	P	**P**	**18 49 52.2**	**+1.5**
GNI	**Garni**	**82.19 330**	LR	LR	19 31 37.4		
	comp=Z,96nm,19.9s,baz=46,slow=40						
EIDS	**Eidsvold**	**82.27 211**	P	**P**	**18 49 51.3**	**0.0**
EIDS			IAmb	IAmb	18 50 07.8		
	comp=Z,21nm,1.2s						
BASI	**Baing, Sumba**	**82.68 243**	P	**P**	**18 49 53.6**	**-0.1**
WB0	**Warramunga Arr**	**83.70 227**	P	**P**	**18 49 58.1**	**-0.7**
WB0			IAmb	IAmb	18 50 17.1		
	comp=Z,14nm,1.1s						
WB2	**Warramunga Arr**	**83.87 227**	P	**P**	**18 49 58.3**	**-1.5**
WB2			IAmb	IAmb	18 50 16.6		
	comp=Z,19nm,1.2s						
WRA	**Warramunga Arr**	**83.88 227**	P	**P**	**18 49 58.8**	**-1.0**
WRA	**Warramunga Arr**	**83.88 227**	P	**P**	**18 49 59.3**	**-0.5**
	comp=Z,3.6nm,0.8s,baz=37,slow=5.8,SNR=21						
	comp=Z,3.6nm,0.8s						
PSI	**Prapat**	**85.34 269**	P	**P**	**18 50 10.7**	**+3.2**
RPSI	**Rantau Prapat**	**85.42 269**	P	**P**	**18 50 07.1**	**-0.7**
RPSI			IAmb	IAmb	18 50 27.9		
	comp=Z,16nm,0.8s						
BR131	**Keskin Array S**	**85.59 338**	P	**P**	**18 50 08.0**	**-0.5**
BRTR	**Keskin Array B**	**85.59 338**	P	**P**	**18 50 08.0**	**-0.5**
BRTR	**Keskin Array B**	**85.59 338**	P	**P**	**18 50 07.6**	**-0.9**
	comp=Z,2.3nm,1.0s,baz=5.7,slow=2.5,SNR=8.4						
BRTR			LR	LR	19 31 23.5		
	comp=Z,120nm,21.9s,baz=40,slow=38						
	comp=Z,2.3nm,1.0s						
QLP	**Quilpie**	**85.72 216**	P	**P**	**18 50 11.1**	**+2.2**
BNN	**Bunyan**	**85.89 336**	P	**P**	**18 50 09.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**86.51 235**	P	**P**	**18 50 13.2**	**+0.3**
FITZ			IAmb	IAmb	18 50 15.0		
	comp=Z,5.3nm,0.9s						
FITZ	**Fitzroy Crossi**	**86.51 235**	P	**P**	**18 50 14.0**	**+1.1**
ARMA	**Armidale**	**86.82 208**	P	**P**	**18 50 14.8**	**+0.4**
AS01	**Alice Springs**	**87.29 225**	P	**P**	**18 50 17.7**	**+1.0**
	comp=Z,11nm,1.1s						
AS31	**Alice Springs**	**87.31 226**	P	**P**	**18 50 16.1**	**-0.7**
ASAR	**Alice Springs**	**87.31 226**	P	**P**	**18 50 16.3**	**-0.5**
	comp=Z,5.4nm,0.9s,baz=32,slow=4.6,SNR=41						
ASAR			LR	LR	19 25 32.6		
	comp=Z,119nm,20.2s,baz=20,slow=33						
	comp=Z,5.4nm,0.9s						
LEM	**Lembang**	**87.51 256**	LR	LR	19 26 39.4		
	comp=Z,43nm,21.4s,baz=220,slow=34						
INKA	**Innaminka**	**88.08 218**	P	**P**	**18 50 22.4**	**+2.1**
ESDC	**Sonseca Array**	**88.70 7**	P	**P**	**18 50 22.1**	**-1.3**
	comp=Z,2.1nm,1.0s,baz=350,slow=4.1,SNR=8.3						
ESDC			LR	LR	19 28 31.6		
	comp=Z,76nm,22.0s,baz=352,slow=34						
	comp=Z,2.1nm,1.0s						
TOZ	**Tahuroa Road**	**89.41 187**	P	**P**	**18 50 26.5**	**+0.3**
AUDCS	**Dubbo College**	**89.42 210**	P	**P**	**18 50 28.8**	**+2.3**
	comp=Z,28nm,1.4s						
URZ	**Urewera**	**89.82 186**	LR	LR	19 23 00.1		
	comp=Z,182nm,21.9s,baz=26,slow=30						
OOD	**Oodnadatta**	**90.16 222**	P	**P**	**18 50 31.5**	**+1.5**
VAE	**Valguarnera**	**90.84 352**	LR	LR	19 32 31.0		
	comp=Z,58nm,21.4s,baz=329,slow=36						
WRKA	**Warakurna**	**91.06 229**	P	**P**	**18 50 36.2**	**+1.8**
	comp=Z,9.4nm,1.2s						
STKA	**Stephens Creek**	**91.48 216**	P	**P**	**18 50 36.2**	**+0.1**
STKA	**Stephens Creek**	**91.48 216**	P	**P**	**18 50 38.1**	**+2.0**
	comp=Z,2.8nm,1.0s						
STKA	**Stephens Creek**	**91.48 216**	P	**P**	**18 50 36.0**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=357,slow=7.0,SNR=7.5						
STKA			LR	LR	19 26 38.2		
	comp=Z,160nm,20.4s,baz=26,slow=32						
	comp=Z,3.1nm,0.7s						
MMAI	**Mount Meron Ar**	**91.53 335**	LR	LR	19 38 11.3		
	comp=Z,62nm,18.2s,baz=354,slow=40						
IDI	**Anoyia**	**91.66 344**	LR	LR	19 34 31.6		
	comp=Z,74nm,21.4s,baz=22,slow=37						
WSAR	**Wadi Sarin**	**91.84 312**	LR	LR	19 35 52.7		
	comp=Z,132nm,20.7s,baz=52,slow=38						
SDV	**Santo Domingo**	**91.91 73**	LR	LR	19 33 05.2		
	comp=Z,68nm,21.4s,baz=322,slow=36						
PALK	**Pallekele**	**93.06 286**	LR	LR	19 35 45.3		
	comp=Z,68nm,20.9s,baz=139,slow=38						
EIL	**Elat**	**94.81 334**	LR	LR	19 41 22.7		
	comp=Z,86nm,18.2s,baz=67,slow=40						
MDT	**Midelt**	**95.46 8**	LR	LR	19 36 30.5		
	comp=Z,55nm,18.3s,baz=352,slow=37						
RPZ	**Rata Peaks**	**95.76 190**	LR	LR	19 29 51.9		
	comp=Z,205nm,19.3s,baz=338,slow=33						
TORD	**Torodi Ar. Bea**	**115.39 3**	PKP	**PKiKP**	**18 56 11.1**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=360,slow=2.7,SNR=6.9						
H03N2	**Juan Fernandez**	**119.00 108**	T	T	21 06 27.7		
	baz=318,slow=78,SNR=89						
H03N1	**Juan Fernandez**	**119.01 108**	T	T	21 06 29.5		
	baz=318,slow=78,SNR=73						
H03N3	**Juan Fernandez**	**119.02 108**	T	T	21 06 52.5		
	baz=318,slow=78,SNR=79						
KMBO	**Kilima Mbogo**	**122.78 321**	PKP	**PKiKP**	**18 56 26.8**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=34,slow=7.2,SNR=4.3						
CPUP	**Villa Florida**	**127.25 86**	PKP	**PKPdf**	**18 56 33.4**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=288,slow=13,SNR=2.9						
PLCA	**Paso Flores**	**128.85 109**		**PKPdf**	**18 56 36.3**	**-0.6**
PLCA	**Paso Flores**	**128.85 109**	PKP	**PKPdf**	**18 56 35.5**	**-1.4**
	comp=Z,5.6nm,1.0s,baz=216,slow=1.3,SNR=7.0						
MAW	**Mawson**	**148.14 218**	PKPbc	**PKiKP**	**18 57 15.1**	**-0.8**
	comp=Z,18nm,0.8s,baz=68,slow=3.3,SNR=17						
BOSA	**Boshof**	**152.40 319**	PKPbc	**PKiKP**	**18 57 26.6**	**+0.4**
	comp=Z,7.1nm,0.7s,baz=43,slow=1.5,SNR=17						
BOSA			PKPab	**PKPab**	**18 57 35.2**	**-0.9**
	comp=Z,4.1nm,0.5s,baz=306,slow=8.0,SNR=3.9						
ELIB	**Princess Elisa**	**158.07 195**	*d*PKP	**PKPab**	**18 57 58.3**	**-0.9**
ELIB			*dp*PKP	**pPKPab**	**18 58 13.2**	**+0.3**

IDC 09 18:50:17.6±1.5, 9.49N×140.97E, h0km, mb3.5/4, mbtmp3.5/4, ML4.8/1, MS2.5/1, Error ellipse: s-maj=40.0km s-min=25.9km az=90.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.58**	**43**	Pn	Pn	18 51 42.2	+0.2
	26nm,0.3s,baz=164,slow=23,SNR=12						
GUMO				Sn	Sn	18 52 44.3	-2.6
	6.0nm,0.3s,baz=180,slow=20,SNR=1.5						
GUMO				LR	LR	18 54 01.8	
	comp=Z,44nm,20.8s,baz=160,slow=40						
WRA	**Warramunga Arr**	**29.97**	**193**	P	P	18 56 27.4	-0.5
	0.5nm,0.7s,baz=19,slow=8.2,SNR=2.7						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**33.67**	**192**	P	P	18 57 00.8	+0.3
	0.3nm,0.5s,baz=19,slow=12,SNR=12						
	0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.65**	**287**	P	P	18 58 07.7	-0.4
	0.7nm,0.7s,baz=91,slow=6.8,SNR=7.2						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**61.87**	**318**	P	P	19 00 39.0	+0.2
	0.5nm,0.9s,baz=120,slow=7.2,SNR=2.9						
	0.5nm,0.9s						

*NEIC **09** 18:50:48.3±1.0, 19°.21N±0°.02×155°.41W±0°.01, h38km±3km, Error ellipse: s-maj=3.4km s-min=1.6km az=169.0*

HVO 09 18:50:49.9±1.1, 19°.20N±0°.05×155°.40W±0°.02, h33km±7km, ML2.9/39, ML3.1/54(NEIC), **Error ellipse: s-maj=8.0km s-min=1.8km az=160.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.04**	**6**		Pb	18 50 55.1	-0.4
HLP	**Hilina Pali**	**0.13**	**44**		Pb	18 50 55.5	-0.5
HLP					Sb	18 50 58.5	-1.6
HLP				IAML		18 50 59.9	
	comp=N,2µm,0.3s						
HLP				IAML		18 51 06.2	
	comp=E,2µm,0.7s						
HPO	**Honuapo**	**0.18**	**232**		Pn	18 50 55.6	-0.4
KHU	**Kahuku**	**0.21**	**282**		Pn	18 50 55.9	-0.7
KHU					Sn	18 51 00.1	0.0
KHU				IAML		18 51 00.5	
	comp=N,2µm,0.5s						
SDHHI	**Sand Hill**	**0.21**	**29**	Pg	Pn	18 50 55.9	-0.7
SDHHI				Sg	Sn	18 51 00.4	+0.2
WRMHI	**West Rim**	**0.22**	**25**		Pn	18 50 55.9	-0.9
WRMHI				Sg	Sn	18 51 00.5	-0.1
RIM	**Rim**	**0.23**	**32**		Pn	18 50 56.0	-0.9
RIM				Sg	Sn	18 51 00.6	-0.1
RIM				IAML		18 51 01.0	
	comp=E,2µm,0.6s						
RIM				IAML		18 51 06.2	
	comp=N,2µm,0.4s						
KKO	**Keanakako`i**	**0.23**	**33**		Pn	18 50 56.0	-1.0
KKO				Sg	Sn	18 51 00.0	-0.9
KKO				IAML		18 51 04.5	
	comp=E,2µm,0.6s						
KKO				IAML		18 51 05.2	
	comp=N,3µm,0.5s						
NPH	**North Pit**	**0.24**	**29**	Pg	Pb	18 50 54.0	-3.0
NPH					Sn	18 51 00.5	-0.6
UWE	**Uwekahuna**	**0.24**	**25**		Pb	18 50 56.1	-1.0
UWE	**Uwekahuna**	**0.24**	**25**	Sg	Sn	18 51 00.7	-0.4
UWE				IAML		18 51 05.0	
	comp=E,3µm,0.4s						
UWE				IAML		18 51 09.2	
	comp=N,2µm,0.5s						
OBL	**Observatory Le**	**0.24**	**27**		Pb	18 50 56.1	-1.0
OBL					Sn	18 51 00.6	-0.6
OBL	**Observatory Le**	**0.24**	**27**	IAML		18 51 03.0	
	comp=N,4µm,0.5s						
OBL				IAML		18 51 03.1	
	comp=E,3µm,0.5s						
PUH	**Pauahi**	**0.24**	**46**		Pb	18 50 56.1	-1.0
PUH				Sg	Sn	18 51 00.5	-0.8
PUH				IAML		18 51 01.0	
	comp=E,1µm,0.5s						
PUH				IAML		18 51 02.4	
	comp=N,1µm,0.2s						
BYL	**Byron's Ledge**	**0.25**	**33**		Sn	18 51 00.8	-0.6
BYL	**Byron's Ledge**	**0.25**	**33**		Pb	18 50 56.2	-1.0
BYL				IAML		18 51 05.6	
	comp=E,1µm,0.4s						
BYL				IAML		18 51 09.2	
	comp=N,1µm,0.6s						
UWB	**Uwekahuna B**	**0.25**	**28**		Pb	18 50 56.1	-1.1
UWB					Sn	18 51 00.6	-0.9
HATHI	**Halema`uma`u T**	**0.26**	**31**		Pb	18 50 56.2	-1.1
HATHI				Sg	Sn	18 51 00.8	-1.0
HATHI				IAML		18 51 01.2	
	comp=E,2µm,0.3s						
HATHI				IAML		18 51 01.3	
	comp=N,1µm,0.5s						
SBLHI	**Steaming Bluff**	**0.26**	**29**		Pb	18 50 56.1	-1.1
SBLHI	**Steaming Bluff**	**0.26**	**29**		Sn	18 51 00.5	-1.4
SBLHI				IAML		18 51 01.1	
	comp=E,2µm,0.3s						
SBLHI				IAML		18 51 01.1	
	comp=N,2µm,0.3s						
KNHH	**Kane Nui o Ham**	**0.28**	**51**		Pb	18 50 56.6	-0.9
RSD	**Rainshed**	**0.28**	**24**		Pb	18 50 56.4	-1.2
RSD				Sg	Sn	18 51 01.2	-1.6
MLH	**Mauna Loa**	**0.29**	**3**		Pb	18 50 56.9	-0.9
MLH				Sg	Sn	18 51 02.0	-1.0
MLH				IAML		18 51 02.4	
	comp=N,3µm,0.3s						
STCH	**Steam Cracks**	**0.32**	**55**		Pb	18 50 56.9	-1.1
STCH				Sg	Sb	18 51 02.0	-1.5
NPOC	**North of Pu`u**	**0.33**	**55**		Pb	18 50 57.1	-1.1
NPOC					Sb	18 51 02.4	-1.4
JCUZ	**Jacuzzi**	**0.34**	**57**	Pg	Pb	18 50 57.0	-1.2
JCUZ					Sb	18 51 02.5	-1.4
JCUZ				IAML		18 51 02.9	
	comp=N,1µm,0.5s						
MWH	**Moku`aweowe**	**0.34**	**327**		Pb	18 50 57.3	-1.4
MWH					Sb	18 51 02.9	-1.7
MLOA	**Mauna Loa Obse**	**0.37**	**334**		Pb	18 50 57.6	-1.4
MLOA				Sg	Sb	18 51 03.1	-2.1
MLOA				IAML		18 51 04.0	
	comp=E,982nm,0.1s						
HMH	**Humu`ula Sheep**	**0.41**	**349**		Sb	18 51 04.4	-1.4
HMH	**Humu`ula Sheep**	**0.41**	**349**		Pb	18 50 58.3	-1.1
HMH	**Humu`ula Sheep**	**0.41**	**349**	IAML		18 51 04.8	
	comp=N,4µm,0.2s						
HMH				IAML		18 51 04.8	
	comp=E,1µm,0.4s						
ALEP	**Alea Permanent**	**0.41**	**326**		Pb	18 50 57.8	-1.6
ALEP					Sb	18 51 03.7	-2.2
JOKA	**Jonika Flow**	**0.44**	**58**		Pb	18 50 58.3	-1.4
JOKA					Sb	18 51 04.5	-1.9
CPH	**Captain Cook**	**0.56**	**300**		Pb	18 50 59.5	-2.1
POHA	**Pohakuloa**	**0.57**	**347**		Pb	18 50 59.8	-2.0
POHA				Sg	Sb	18 51 06.9	-3.0
POHA				IAML		18 51 13.4	
	comp=E,1µm,0.2s						
POHA				IAML		18 51 15.6	
	comp=E,984nm,0.3s						
KHLU	**Kahalu`u**	**0.60**	**310**		Pb	18 51 00.2	-2.1
KHLU				Sg	Sb	18 51 07.9	-2.9
KHLU				IAML		18 51 08.1	
	comp=N,1µm,0.3s						
KHLU				IAML		18 51 11.8	
	comp=E,750nm,0.2s						
HUH	**Hualalai**	**0.63**	**320**		Sb	18 51 09.3	-2.3
HUH	**Hualalai**	**0.63**	**320**		Pn	18 51 00.9	-1.9
HUH	**Hualalai**	**0.63**	**320**	IAML		18 51 15.8	
	comp=N,1µm,0.2s						
HUH				IAML		18 51 19.4	
	comp=E,1µm,0.3s						
HPAH	**Hawaii Prepara**	**0.87**	**341**		Pn	18 51 03.6	-2.3
HPAH					Sn	18 51 13.5	-4.1
HPAH				IAML		18 51 14.4	
	comp=E,632nm,0.1s						
HPAH				IAML		18 51 14.5	
	comp=N,609nm,0.1s						
MHA	**Mahukona**	**1.09**	**334**	Pn	Pn	18 51 06.7	-2.2
HLK	**Haleakala**	**1.74**	**333**	Pn	Pn	18 51 15.4	-2.8
HLK				Sn	Sn	18 51 34.3	-5.0
KHLH	**Kahului Airpor**	**1.94**	**330**	Pn	Pn	18 51 18.3	-2.3
KHLH				Sn	Sn	18 51 40.1	-3.8
HON	**Honolulu**	**3.23**	**311**	Pn	Pn	18 51 36.5	-1.8
HON				Sn	Sn	18 52 10.4	-5.2
KIP	**Kipapa**	**3.30**	**312**	Pn	Pn	18 51 36.4	-2.9
OPA	**Opana**	**3.48**	**316**	Pn	Pn	18 51 40.4	-1.3

*IDC **09** 19:01:45.0±1.7, 8°.64S×134°.44E, h0km, mb3.5/2, mbtmp4.0/5, ML4.1/3, Error ellipse: s-maj=47.7km s-min=20.8km az=77.0*

*NEIC **09** 19:01:49.0±2.6, 8°.62S±0°.06×134°.00E±0°.07, h10km±2km, mb4.3/6, Error ellipse: s-maj=15.1km s-min=6.6km az=50.0*

*DJA **09** 19:01:50.5±1.1, 8°.5±2°×13°.4E±°, h25km±10km, M4.6/25, mb4.3/25, mB5.1/4, MLv4.8/7, Mw(mB)4.4/4, MwMwp4.9/1, Mwp5.2/1*

ISC 09 19:01:48.0±0.6, 8°.65S±0°.05×133°.95E±0°.06, h10km, n47, σ2≥30/52, mb4.2/5, Arafura Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.71**	**284**	Pn	**Pn**	**19 02 34.4**	**+2.8**
SAUI				Sn	**Sn**	**19 03 07.5**	**+3.1**
SAUI	**Saumlaki**	**2.71**	**284**	P	**Pn**	**19 02 33.8**	**+2.2**
KMPI	**Kaimana, Papua**	**4.96**	**357**	P	**Pn**	**19 03 02.5**	**-0.1**
KMPI				S	**Sn**	**19 03 53.2**	**-6.9**
MTN	**Manton Dam**	**5.01**	**213**	Pn	**Pn**	**19 03 05.8**	**+2.5**
BNDI	**Bandanaira**	**5.74**	**315**	P	**Pn**	**19 03 11.7**	**-1.6**
	93nm,0.6s,1µm0.9nm						
BNDI				S	**Sn**	**19 04 15.0**	**-4.3**
	93nm,0.6s,1µm0.9nm						
SMPI	**Sarmi**	**8.13**	**36**	P	**Pn**	**19 03 45.0**	**-1.2**
	7.5nm,0.7s						
SWI	**Sorong**	**8.18**	**341**	P	**Pn**	**19 03 45.5**	**-1.4**
	18nm,0.7s,0.2nm						
GENI	**Genyem**	**8.63**	**46**	P	**Pn**	**19 03 53.3**	**+0.3**
	24nm,0.7s						
KNRA	**Kununurra**	**8.63**	**215**	Pn	**Pn**	**19 03 55.1**	**+2.1**
NLAI	**Namlea**	**8.68**	**308**	P	**Pn**	**19 03 51.7**	**-2.0**
	6.4nm,0.8s						
JAY	**Jayapura**	**9.07**	**48**	P	**Pn**	**19 04 00.7**	**+1.6**
	13nm,1.2s						
SOEI	**Soe**	**9.62**	**263**	Pn	**Pn**	**19 04 07.6**	**+0.8**
SOEI	**Soe**	**9.62**	**263**	P	**Pn**	**19 04 06.9**	**+0.1**
	14nm,0.7s						
LBMI	**Labuha**	**10.23**	**321**	P	**Pn**	**19 04 13.8**	**-1.2**
	26nm,1.3s						
BATI	**Baumata**	**10.27**	**261**	P	**Pn**	**19 04 17.8**	**+2.2**
	15nm,0.6s						
BATI	**Baumata**	**10.27**	**261**	Pn	**Pn**	**19 04 18.2**	**+2.6**
	2.1nm,0.3s,baz=99,slow=6.0,SNR=2.7						
BATI				Sn	**Sn**	**19 06 06.1**	**-4.7**
	2.1nm,0.3s,baz=162,slow=21,SNR=2.1						
	14nm,0.4s						
SANI	**Sanana**	**10.28**	**309**	P	**Pn**	**19 04 13.7**	**-2.1**
	13nm,0.6s						
COEN	**Coen**	**10.47**	**121**	Pn	**Pn**	**19 04 19.8**	**+1.5**
WB0	**Warramunga Arr**	**11.06**	**178**	Pn	**Pn**	**19 04 26.5**	**+0.1**
WRA	**Warramunga Arr**	**11.24**	**178**		**Pn**	**19 04 27.5**	**-1.3**
WRA	**Warramunga Arr**	**11.24**	**178**	Pn	**Pn**	**

s-min=21.5km az=125.0

ISC 09 19:27:04.7±0.8,**6°5S**±0°.1×**155°2E**±0°.1,**h10**km,**n11,**
σ1§**07/13,mb3.7/7,Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.53**	**122**	LR	LR	19 30 44.0	
	comp=Z,1μm,18.5s,baz=176,slow=40						
PMG	**Port Moresby**	**8.49**	**249**	Pn	**Pn**	**19 29 06.6**	**-1.2**
	1.7nm,0.3s,baz=91,slow=6.1,SNR=3.3						
PMG				Sn	**Sn**	**19 30 45.6**	**+1.8**
	0.8nm,0.3s,baz=327,slow=18,SNR=2.4						
	2.4nm,0.4s						
DZM	**Mont Dzumac**	**18.92**	**146**	P	**Pn**	**19 31 26.9**	**+0.5**
	0.3nm,0.3s,baz=336,slow=20,SNR=1.5						
	2.3nm,0.8s						
WRA	**Warramunga Arr**	**24.29**	**235**	P	**P**	**19 32 22.1**	**-0.4**
	0.7nm,0.4s,baz=59,slow=9.7,SNR=16						
WRA				PcP	**PcP**	**19 36 02.1**	**-0.5**
	0.5nm,0.5s,baz=60,slow=2.3,SNR=10						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**26.67**	**228**	P	**P**	**19 32 43.0**	**-1.1**
	0.3nm,0.4s,baz=57,slow=9.1,SNR=12						
ASAR				PcP	**PcP**	**19 36 07.1**	**-0.9**
	0.5nm,0.8s,baz=69,slow=2.9,SNR=4.2						
	0.3nm,0.4s						
STKA	**Stephens Creek**	**28.29**	**205**	P	**P**	**19 32 59.1**	**+0.7**
	0.6nm,0.5s,baz=16,slow=12,SNR=1.8						
	0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**60.76**	**295**	P	**P**	**19 37 17.9**	**+0.6**
	2.4nm,0.8s,baz=115,slow=5.1,SNR=19						
	2.4nm,0.8s						
SONM	**Songino Array**	**69.02**	**327**	P	**P**	**19 38 10.6**	**-0.1**
	0.3nm,0.4s,baz=102,slow=7.4,SNR=2.5						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**82.82**	**21**	P	**P**	**19 39 29.3**	**+0.3**
	0.3nm,0.8s,baz=246,slow=4.2,SNR=2.0						
	0.3nm,0.8s						
YKA	**Yellowknife Ar**	**95.78**	**28**	P	**P**	**19 40 31.7**	**+0.8**
	0.4nm,0.8s,baz=270,slow=4.4,SNR=5.8						
	0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**153.09**	**286**	PKPbc	**PKPbc**	**19 47 02.1**	**-1.6**
	0.8nm,0.7s,baz=72,slow=2.3,SNR=5.2						

*IDC **09** 19:32:05.8±0.9, 10°.04N×140°.49E, h0km, mb3.6/9, mbtmp3.7/10, ML4.6/1, MS2.8/3, Error ellipse: s-maj=28.5km s-min=19.0km az=105.0*

ISC 09 19:32:09.7±0.9,**10°0N**±0°.1×**140°5E**±0°.1,**h26**km,**n18,**
σ0§**89/11,mb3.7/9,Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.60**	**50**	Pn	**Pn**	**19 33 31.6**	**+0.2**
	18nm,0.3s,baz=216,slow=3.5,SNR=8.8						
GUMO				Sn	**Sn**	**19 34 35.2**	**+0.4**
	baz=237,slow=22						
	33nm,0.3s						
DAV	**Davao City (W)**	**14.99**	**260**	LR	LR	19 41 50.7	
	comp=Z,23nm,19.5s,baz=16,slow=39						
JCJ	**Chichijima**	**17.07**	**5**	LR	LR	19 40 55.6	
	comp=Z,99nm,21.7s,baz=127,slow=31						
H11S3	**WAKE ISLAND Hy**	**26.76**	**69**	T	T	20 05 54.7	
	baz=255,slow=75,SNR=130						
H11S1	**WAKE ISLAND Hy**	**26.77**	**69**	T	T	20 05 59.0	
	baz=255,slow=75,SNR=32						
H11S2	**WAKE ISLAND Hy**	**26.77**	**69**	T	T	20 05 54.4	
	baz=255,slow=75,SNR=56						
H11N1	**WAKE ISLAND Hy**	**27.28**	**66**	T	T	20 06 29.4	
	baz=257,slow=72,SNR=6.8						
H11N2	**WAKE ISLAND Hy**	**27.29**	**66**	T	T	20 06 34.3	
	baz=257,slow=72,SNR=27						
H11N3	**WAKE ISLAND Hy**	**27.29**	**66**	T	T	20 06 38.0	
	baz=257,slow=72,SNR=27						
WRA	**Warramunga Arr**	**30.37**	**191**	P	**P**	**19 38 19.6**	**-0.2**
	0.8nm,0.9s,baz=10,slow=9.9,SNR=4.7						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**34.08**	**191**	P	**P**	**19 38 53.0**	**+0.7**
	0.4nm,0.5s,baz=18,slow=12,SNR=17						
	0.4nm,0.5s						
KLR	**Kul'dur**	**39.76**	**351**	P	**P**	**19 39 40.2**	**-0.1**
	1.4nm,0.7s,baz=146,slow=6.2,SNR=5.9						
	1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**41.02**	**287**	P	**P**	**19 39 50.8**	**-0.4**
	0.9nm,0.3s,baz=87,slow=6.7,SNR=5.9						
CMAR				LR	LR	19 54 25.8	
	comp=Z,9.9nm,21.1s,baz=160,slow=33						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**61.15**	**318**	P	**P**	**19 42 23.4**	**+1.3**
	0.6nm,0.8s,baz=108,slow=9.4,SNR=3.5						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**64.63**	**322**	P	**P**	**19 42 46.4**	**+1.4**
	0.4nm,0.7s,baz=105,slow=7.2,SNR=2.4						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**70.09**	**323**	P	**P**	**19 43 18.8**	**-0.8**
	0.8nm,0.7s,baz=101,slow=7.7,SNR=4.8						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**73.62**	**25**	P	**P**	**19 43 40.0**	**-0.7**
	0.3nm,0.7s,baz=260,slow=6.2,SNR=5.0						
	0.3nm,0.7s						
YKA	**Yellowknife Ar**	**87.99**	**27**	P	**P**	**19 44 56.5**	**-0.8**
	0.2nm,0.8s,baz=284,slow=5.3,SNR=2.6						
	0.2nm,0.8s						

*NEIC **09** 19:40:43.6±1.8, 46°.17N±0°.04×87°.85W±0°.06, h0km±2km, ML2.3/6, mb_Lg2.6(OTT), Error ellipse: s-maj=7.3km s-min=6.4km az=322.0*

*OTT **09** 19:40:47.3±0.3, 46°.43N×87°.54W, h0km, MN2.6/8, Blast, Michigan, U.S. 247km west from Sault Ste. Marie, On Mining explosion.*

ISC 09 19:40:41.1±0.8,**46°23N**±0°.04×**87°72W**±0°.03,**h0**km,**n30,**
σ1§**74/51,Michigan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
E43A	**Lone Tree Farm**	**0.52**	**73**	Pg	**Pn**	**19 40 55.8**	**0.0**
E43A				Sg	**Sn**	**19 41 04.2**	**-1.2**
E43A				IAML		19 41 07.8	
	comp=E,97nm,0.3s						
F42A	**Maple Grove Fa**	**0.55**	**212**	Pg	**Pg**	**19 40 51.9**	**+0.3**
F42A				IAML		19 41 04.0	
	comp=E,232nm,0.5s						
F42A				IAML		19 41 05.8	
	comp=N,275nm,0.5s						
D41A	**Chassel**	**1.02**	**325**	Pg	**Pb**	**19 41 01.6**	**0.0**
D41A				IAML		19 41 16.4	
	comp=E,79nm,0.1s						
H43A	**Windswept, Lux**	**1.76**	**181**	Pn	**Pn**	**19 41 14.3**	**+1.6**
G45A	**Suttons Bay**	**1.87**	**129**	Pn	**Pg**	**19 41 18.1**	**+1.2**
G40A	**Rib Lake**	**1.99**	**242**	Pn	**Pn**	**19 41 16.5**	**+0.6**
E46A	**Sault Ste Mari**	**2.37**	**85**	Pn	**Pb**	**19 41 25.0**	**+0.4**
E46A	**Sault Ste Mari**	**2.37**	**85**	PN	**Pb**	**19 41 25.2**	**+0.7**
E46A				SN	**Sb**	**19 41 53.3**	**-1.0**
E46A				Trac		19 42 01.2	
	comp=E,12nm,0.2s						
I42A	**Draeger Farm,**	**2.48**	**200**	Pn	**Pn**	**19 41 23.6**	**+0.9**
PNPO	**Pukaskwa Natio**	**2.56**	**22**	Pn	**Pb**	**19 41 26.7**	**-1.3**
PNPO				Sn	**Sn**	**19 41 55.6**	**-0.1**
PNPO	**Pukaskwa Natio**	**2.56**	**22**	PN	**Pb**	**19 41 26.7**	**-1.3**
PNPO				SN	**Sn**	**19 41 55.6**	**-0.1**
PNPO				Trac		19 42 05.9	
	comp=E,5.1nm,0.1s						
TBO	**Thunder Bay**	**2.68**	**335**	Pn	**Pb**	**19 41 29.9**	**-0.1**
TBO				Sn	**Sb**	**19 42 01.3**	**-2.1**
TBO	**Thunder Bay**	**2.68**	**335**	PN	**Pb**	**19 41 29.9**	**-0.1**
TBO				SN	**Sb**	**19 42 01.3**	**-2.1**
TBO				Trac		19 42 06.6	
	comp=E,6.8nm,0.2s						
EYMN	**Ely**	**3.10**	**305**	Pn	**Pn**	**19 41 32.5**	**+1.2**
EYMN	**Ely**	**3.10**	**305**	PN	**Pb**	**19 41 35.1**	**-2.0**
EYMN				SN	**Sb**	**19 42 14.2**	**-1.4**
EYMN				Trac		19 42 17.6	
	comp=E,0.0nm,0.2s						
GTO	**Geraldton**	**3.56**	**8**	Pn	**Pn**	**19 41 40.6**	**+3.0**
GTO				Sn	**Sn**	**19 42 20.1**	**-0.2**
GTO	**Geraldton**	**3.56**	**8**	PN	**Pn**	**19 41 40.6**	**+3.0**
GTO				SN	**Sn**	**19 42 20.1**	**-0.2**
GTO				Trac		19 42 39.6	
	comp=E,0.9nm,0.0s						
GTOO	**Geraldton**	**3.56**	**8**	Pn	**Pb**	**19 41 45.8**	**+0.9**
GTOO				Sn	**Sn**	**19 42 20.1**	**-0.2**
GTOO	**Geraldton**	**3.56**	**8**	PN	**Pb**	**19 41 45.8**	**+0.9**
GTOO				SN	**Sn**	**19 42 20.1**	**-0.2**
GTOO				Trac		19 42 36.5	
	comp=E,0.6nm,0.0s						
ATKO	**Atikokan Iron**	**3.70**	**316**	Pn	**Pb**	**19 41 44.9**	**-2.4**
ATKO				Sn	**Sn**	**19 42 26.8**	**+3.1**
ATKO	**Atikokan Iron**	**3.70**	**316**	PN	**Pb**	**19 41 44.9**	**-2.4**
ATKO				SN	**Sn**	**19 42 26.8**	**+3.1**
ATKO				Trac		19 42 35.1	
	comp=E,3.4nm,0.2s						
F36A	**Milaca**	**4.06**	**267**	Pn	**Pn**	**19 41 44.8**	**+0.3**
KAPO	**Kapuskasing**	**4.76**	**45**	Pn	**Pn**	**19 41 54.2**	**+0.1**
KAPO				Sn	**Sn**	**19 42 48.2**	**-1.8**
KAPO	**Kapuskasing**	**4.76**	**45**	PN	**Pn**	**19 41 54.2**	**+0.1**
KAPO				SN	**Sn**	**19 42 48.2**	**-1.8**
KAPO				Trac		19 43 15.8	
	comp=E,32nm,0.7s						
SOLO	**Sioux Lookout**	**4.79**	**324**	Pn	**Pn**	**19 41 57.6**	**+3.1**
SOLO				Sn	**Sn**	**19 42 49.7**	**-1.0**
SOLO	**Sioux Lookout**	**4.79**	**324**	PN	**Pn**	**19 41 57.6**	**+3.1**
SOLO				SN	**Sn**	**19 42 49.7**	**-1.0**
SOLO				Trac		19 43 11.2	
	comp=E,2.0nm,0.2s						
EPLO	**Experimental L**	**5.31**	**313**	Pn	**Pn**	**19 42 05.0**	**+3.4**
EPLO				Sn	**Sn**	**19 43 02.8**	**-0.7**
EPLO	**Experimental L**	**5.31**	**313**	PN	**Pn**	**19 42 05.0**	**+3.4**
EPLO				SN	**Sn**	**19 43 02.8**	**-0.7**
EPLO				Trac		19 43 42.2	
	comp=E,239nm,2.4s						
PKLO	**Pickle Lake**	**5.56**	**343**	Pn	**Pn**	**19 42 06.4**	**+1.4**
PKLO				Sn	**Sn**	**19 43 07.2**	**-2.3**
PKLO	**Pickle Lake**	**5.56**	**343**	PN	**Pn**	**19 42 06.4**	**+1.4**
PKLO				SN	**Sn**	**19 43 07.2**	**-2.3**
PKLO				Trac		19 43 34.6	
	comp=E,232nm,2.6s						
PKLO				LG	Lg	19 43 35.3	

*IDC **09** 20:01:01.2±0.9, 10°.11N×140°.27E, h0km, mb3.6/9, mbtmp3.6/9, ML4.8/1, MS3.2/6, Error ellipse: s-maj=27.9km s-min=20.2km az=97.0*

ISC 09 20:01:05.2±0.9,**10°1N**±0°.1×**140°3E**±0°.1,**h26**km,**n18,**
σ1§**07/12,mb3.7/9,MS3.2/4,Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.63**	**52**	Pn	**Pn**	**20 02 28.4**	**+1.2**
	29nm,0.3s,baz=208,slow=18,SNR=14						
GUMO				Sn	**Sn**	**20 03 29.4**	**-1.6**
	12nm,0.3s,baz=195,slow=20,SNR=1.5						
GUMO				LR	LR	20 04 56.9	
	comp=Z,89nm,20.0s,baz=302,slow=42						
DAV	**Davao City (W)**	**14.90**	**260**	LR	LR	20 08 52.3	
	comp=Z,77nm,19.9s,baz=34,slow=32						
JHJ	**Hachijo jima 2**	**22.91**	**359**	LR	LR	20 13 50.9	
	comp=Z,66nm,18.0s,baz=298,slow=34						
H11S3	**WAKE ISLAND Hy**	**26.83**	**69**	T	T	20 34 56.5	
	baz=255,slow=75,SNR=536						
H11S1	**WAKE ISLAND Hy**	**26.85**	**69**	T	T	20 34 53.1	
	baz=255,slow=75,SNR=204						
H11S2	**WAKE ISLAND Hy**	**26.85**	**69**	T	T	20 34 51.4	
	baz=255,slow=75,SNR=418						
KSRS	**Korea Array**	**29.45**	**340**	LR	LR	20 18 52.3	
	comp=Z,28nm,18.6s,baz=150,slow=36						
WRA	**Warramunga Arr**	**30.43**	**191**	P	**P**	**20 07 15.4**	**-0.3**
	0.2nm,0.4s,baz=8.8,slow=10,SNR=5.3						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**34.15**	**191**	P	**P**	**20 07 48.4**	**+0.1**
	0.5nm,0.5s,baz=18,slow=12,SNR=17						
ASAR				LR	LR	20 21 03.1	
	comp=Z,55nm,20.5s,baz=358,slow=35						
	0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**40.89**	**286**	P	**P**	**20 08 45.7**	**+0.2**
	1.7nm,0.7s,baz=90,slow=6.8,SNR=16						
	1.7nm,0.7s						
SONM	**Songino Array**	**47.22**	**329**	P	**P**	**20 09 36.8**	**+0.7**
	0.3nm,0.7s,baz=150,slow=10,SNR=2.6						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**61.01**	**318**	P	**P**	**20 11 15.4**	**-1.1**
	0.1nm,0.5s,baz=88,slow=7.8,SNR=2.9						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**64.49**	**322**	P	**P**	**20 11 38.6**	**-1.0**
	0.6nm,0.7s,baz=108,slow=6.7,SNR=4.2						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**69.95**	**323**	P	**P**	**20 12 13.9**	**-0.3**
	0.3nm,0.4s,baz=73,slow=6.5,SNR=1.8						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**73.60**	**25**	P	**P**	**20 12 36.0**	**+0.1**
	0.4nm,0.6s,baz=244,slow=5.7,SNR=7.6						
	0.4nm,0.6s						
PPT	**Papeete**	**74.47**	**111**	LR	LR	20 39 27.1	
	comp=Z,28nm,21.2s,baz=180,slow=31						
YKA	**Yellowknife Ar**	**87.96**	**27**	P	**P**	**20 13 53.8**	**+1.2**
	0.3nm,0.6s,baz=292,slow=5.4,SNR=4.2						
	0.3nm,0.6s						
SADO	**Sadowa**	**114.78**	**30**	PKP	**PKiKP**	**20 19 42.4**	**-1.3**
	11nm,1.1s,baz=342,slow=3.2,SNR=3.3						

*IDC **09** 20:01:09.2±0.7, 7°.40S×122°.47E, h548km±10km, mb2.8/6, mbtmp3.6/10, Error ellipse: s-maj=52.6km s-min=12.2km az=55.0*

*DJA **09** 20:01:10.6±0.7, 7°.5S×12°.2E±°, h513km±8km, M4.1/13, mb4.3/4, mB4.5/3, MLv4.1/13, Mw(mB)3.7/3*

ISC 09 20:01:08.4±0.8,**7°42S**±0°.10×**122°5E**±0°.1,**h550**km,**n22,**
σ1§**61/26,mb3.3/6,Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.23**	**192**	P	**P**	**20 02 14.8**	**-0.5**
MMRI				S	**S**	**20 03 07.5**	**-2.2**
EDFI	**Ende, Flores**	**1.54**	**211**	P	**P**	**20 02 15.7**	**-0.7**
EDFI				S	**S**	**20 03 08.6**	**-3.0**
SOEI	**Soe**	**2.91**	**143**	P	**P**	**20 02 24.4**	**+1.4**
BATI	**Baumata**	**3.00**	**157**	P	**P**	**20 02 25.3**	**+1.8**
BATI	**Baumata**	**3.00**	**157**	P	**P**	**20 02 25.1**	**+1.6**
	64nm,0.4s,baz=307,slow=1.1,SNR=41						
BATI				S	**S**	**20 03 24.9**	**+0.4**
	88nm,0.6s,baz=38,slow=24,SNR=25						
BASI	**Baing, Sumba**	**3.36**	**214**	P	**P**	**20 02 24.0**	**-1.7**
KAPI	**Kappang**	**3.62**	**311**	P	**P**	**20 02 28.9**	**+1.3**
	3.0nm,0.3s,baz=197,slow=11,SNR=3.9						
KAPI				S	**S**	**20 03 33.5**	**+1.5**
	2.4nm,0.5s,baz=230,slow=23,SNR=1.1						
PLAI	**Plampang**	**4.87**	**253**	P	**P**	**20 02 37.8**	**+0.6**
TWSI	**Taliwang, Sumb**	**5.70**	**256**	P	**P**	**20 02 44.9**	**+0.5**
NLAI	**Namlea**	**6.19**	**48**	P	**P**	**20 02 49.1**	**+0.3**
	56nm,0.5s,0.4nm						
LUWI	**Luwuk**	**6.35**	**3**	P	**P**	**20 02 48.0**	**-2.3**
	23nm,0.5s,0.2nm						
SANI	**Sanana**	**6.38**	**33**	P	**P**	**20 02 49.3**	**-1.2**
	40nm,0.8s,0.2nm						
KMSI	**Cibinong**	**8.08**	**11**	P	**P**	**20 03 07.0**	**0.0**
SWI	**Sorong**	**10.90**	**54**	P	**P**	**20 03 32.9**	**-2.8**
WRA	**Warramunga Arr**	**16.94**	**138**	P	**P**	**20 04 39.0**	**+2.4**
	0.4nm,0.3s,baz=312,slow=11,SNR=12						
ASAR	**Alice Springs**	**19.52**	**147**	P	**P**	**20 05 01.7**	**+1.5**
	0.2nm,0.3s,baz=310,slow=7.9,SNR=7.8						
CMAR	**Chiang Mai Arr**	**34.66**	**318**	P	**P**	**20 07 11.1**	**-1.5**
	0.3nm,0.3s,baz=191,slow=4.3,SNR=1.6						
	0.3nm,0.3s						
USRK	**Usuriysk Ar.**	**52.10**	**9**	P	**P**	**20 09 28.1**	**+0.6**
	0.7nm,0.5s,baz=197,slow=6.5,SNR=6.0						
	0.7nm,0.3s						
SONM	**Songino Array**	**56.83**	**347**	P	**P**	**20 10 01.3**	**+0.4**
	0.3nm,0.4s,baz=165,slow=8.2,SNR=2.4						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**64.71**	**331**	P	**P**	**20 10 54.0**	**+1.4**
	0.4nm,0.5s,baz=134,slow=7.1,SNR=8.2						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**68.87**	**337**	P	**P**	**20 11 18.4**	**+0.4**
	0.4nm,0.4s,baz=106,slow=4.7,SNR=1.9						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**69.16**	**332**	P	**P**	**20 11 21.1**	**+1.3**
	0.1nm,0.3s,baz=76,slow=11,SNR=2.1						
	0.1nm,0.3s						

*NEIC **09** 20:03:31.2±2.3, 58°.33N±0°.04×137°.33W±0°.04, h1km±7km, Error ellipse: s-maj=6.4km s-min=2.6km az=191.0*

*AEIC **09** 20:03:32.2±1.9, 58°.36N±0°.04×137°.36W±0°.08, h0km±6km, ML2.4, ML2.8(OTT), ML2.7/44(NEIC), Error ellipse: s-maj=6.1km s-min=5.3km az=219.0*

*PGC **09** 20:03:33.2±8.4, 58°.49N×137°.19W, h1km, ML2.8, ML2.8/19, 132km Wsw of Haines, Ak Southeastern Alaska*

ISC 09 20:03:31.1±1.2,**58°36N**±0°.04×**137°33W**±0°.05,**h10**km,**n58,**
σ1§**83/75,Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S31K	**Pelican**	**0.71**	**124**		**Pb**	**20 03 45.8**	**+0.3**
R31K	**City Hall, Gus**	**0.84**	**86**		**Pb**	**20 03 47.6**	**0.0**
P29M	**Windy Craggy**	**1.29**	**351**	Pg	**Pn**	**20 03 53.7**	**-1.5**
P29M	**Windy Craggy**	**1.29**	**351**	P	**Pn**	**20 03 53.5**	**-1.6**
BESE	**Bessie Mountai**	**1.32**	**79**		**Pn**	**20 03 55.1**	**-0.4**
BESE	**Bessie Mountai**	**1.32**	**79**	P	**Pn**	**20 03 54.5**	**-1.1**
BESE				S	**Sb**	**20 04 10.9**	**-2.0**
R32K	**Eaglecrest**	**1.49**	**92**	Pn	**Pb**	**20 03 58.6**	**-0.2**
R32K				IAML		20 04 52.9	
	comp=N,171nm,3.7s						
SKAG	**Skagway**	**1.51**	**42**		**Pn**	**20 03 57.8**	**-0.3**
SKAG				IAML		20 04 19.9	
	comp=E,73nm,0.8s						
JIS	**Juneau Island**	**1.56**	**92**	Pn	**Pn**	**20 03 59.0**	**+0.3**
JIS				IAML		20 04 22.8	
	comp=E,72nm,0.7s						
JIS				IAML		20 04 27.4	
	comp=N,72nm,0.9s						
SIT	**Sitka**	**1.69**	**140**	Pn	**Pg**	**20 04 02.5**	**-1.0**
SIT				IAML		20 04 37.6	
	comp=E,58nm,1.9s						
S32K	**Killisnoo**	**1.72**	**120**		**Pb**	**20 04 02.4**	**-0.4**
P30M	**Million Dollar**	**1.77**	**6**		**Pn**	**20 04 02.2**	**+0.4**
P30M				IAML		20 04 29.2	
	comp=E,56nm,0.7s						
P30M	**Million Dollar**	**1.77**	**6**	Pn	**Pn**	**20 04 01.9**	**0.0**
P30M				Sn	**Sn**	**20 04 24.6**	**+0.1**
O29M	**Mount Kennedy**	**2.05**	**342**	Pn	**Pn**	**20 04 06.5**	**+0.8**
O29M				IAML		20 04 41.5	
	comp=N,57nm,0.8s						
O29M				IAML		20 04 42.9	
	comp=E,88nm,0.7s						
O29M	**Mount Kennedy**	**2.05**	**342**	Pn	**Pn**	**20 04 06.8**	**+1.1**
O29M				Sn	**Sn**	**20 04 33.0**	**+1.7**
YUK7	**Dusty Glacier**	**2.21**	**350**	Pn	**Pn**	**20 04 10.0**	**+2.0**
YUK7	**Dusty Glacier**	**2.21**	**350**	Pn	**Pn**	**20 04 10.0**	**+2.0**
P32M	**Atlin**	**2.24**	**55**	Pn	**Pn**	**20 04 10.0**	**+1.8**
P32M				IAML		20 04 40.9	
	comp=E,34nm,0.8s						
P32M				IAML		20 04 41.8	
	comp=N,41nm,0.8s						
P32M	**Atlin**	**2.24**	**55**		**Sn**	**20 04 37.9**	**+2.0**
P32M	**Atlin**	**2.24**	**55**	Pn	**Pn**	**20 04 08.7**	**+0.4**
P32M				Sg	**Sn**	**20 04 37.9**	**+2.0**
HYT	**Haines Junctio**	**2.47**	**358**		**Pn**	**20 04 13.0**	**+1.5**
HYT	**Haines Junctio**	**2.47**	**358**		**Sb**	**20 04 46.2**	**+0.1**
HYT	**Haines Junctio**	**2.47**	**358**	Pn	**Pn**	**20 04 13.3**	**+1.8**
HYT				Sg	**Sb**	**20 04 46.2**	**+0.1**
O30N	**Mendenhall**	**2.50**	**14**	Pn	**Pn**	**20 04 14.1**	**+2.3**
O30N				IAML		20 04 54.0	
	comp=N,33nm,0.7s						
WHY	**Whitehorse**	**2.62**	**27**	Pn	**Pn**	**20 04 15.1**	**+1.5**
WHY				IAML		20 04 51.0	
	comp=E,41nm,1.4s						
WHY				IAML		20 04 54.2	
	comp=N,34nm,0.6s						
WHY	**Whitehorse**	**2.62**	**27**		**Sb**	**20 04 50.0**	**-0.4**
WHY	**Whitehorse**	**2.62**	**27**	Pn	**Pn**	**20 04 15.0**	**+1.5**
WHY				Pg	**Pb**	**20 04 17.5**	**-0.6**
WHY				Sg	**Sb**	**20 04 50.0**	**-0.4**
YUK6	**Outpost Mounta**	**2.64**	**349**	Pn	**Pn**	**20 04 16.0**	**+2.1**
YUK6	**Outpost Mounta**	**2.64**	**349**	Pn	**Pn**	**20 04 16.0**	**+2.1**
Q32M	**Nakina River**	**2.71**	**75**	Pg	**Pb**	**20 04 20.1**	**+0.4**
Q32M				Sg	**Sb**	**20 04 54.0**	**+1.0**
Q32M	**Nakina River**	**2.71**	**75**	Pg	**Pb**	**20 04 20.1**	**+0.4**
Q32M				Sg	**Sb**	**20 04 54.0**	**+1.0**
YUK5	**Granite Creek**	**2.79**	**355**	Pn	**Pn**	**20 04 17.0**	**+1.1**
YUK5	**Granite Creek**	**2.79**	**355**	Pn	**Pn**	**20 04 17.0**	**+1.1**
P33M	**Teslin, Yukon**	**2.97**	**49**		**Pn**	**20 04 19.6**	**+1.3**
P33M				IAML		20 05 16.0	
	comp=E,20nm,4.0s						
P33M				IAML		20 05 59.6	
	comp=N,19nm,3.8s						
P33M	**Teslin, Yukon**	**2.97**	**49**		**Sb**	**20 04 59.6**	**-0.7**
P33M	**Teslin, Yukon**	**2.97**	**49**	Pg	**Pb**	**20 04 24.1**	**+0.1**
P33M				Sg	**Sb**	**20 04 59.6**	**-0.7**
YUK4	**Talbot Arm**	**3.06**	**348**	Pn	**Pn**	**20 04 22.4**	**+2.7**
YUK4	**Talbot Arm**	**3.06**	**348**	Pn	**Pn**	**20 04 22.4**	**+2.7**
N30M	**Aishikik Lake**	**3.11**	**2**	Pn	**Pn**	**20 04 21.8**	**+1.6**
N30M				IAML		20 05 16.5	
	comp=N,20nm,4.6s						
N30M				IAML		20 05 44.6	
	comp=E,17nm,3.3s						
N30M	**Aishikik Lake**	**3.11**	**2**	Pg	**Pb**	**20 04 26.2**	**-0.2**
N31M	**Braeburn, Yuko**	**3.23**	**13**	Pn	**Pn**	**20 04 24.5**	**+2.7**
N31M	**Braeburn, Yuko**	**3.23**	**13**	IAML		20 05 12.6	
	comp=N,48nm,0.9s						
N31M				IAML		20 05 20.1	
	comp=E,47nm,0.8s						
N31M	**Braeburn, Yuko**	**3.23**	**13**	Pg	**Pb**	**20 04 28.1**	**-0.4**
N31M				Sg	**Sb**	**20 05 09.1**	**+1.3**
R33M	**Jennings River**	**3.46**	**70**		**Pn**	**20 04 26.9**	**+1.8**
R33M				IAML		20 05 27.4	
	comp=N,24nm,0.8s						
R33M				IAML		20 05 39.7	
	comp=E,25nm,4.6s						
R33M	**Jennings River**	**3.46**	**70**	Pn	**Pn**	**20 04 26.1**	**+1.0**
R33M				Pg	**Pb**	**20 04 34.1**	**+1.6**
N32M	**Quiet L

PDAR	**Pinedale Array**	**3.19**	**256**	Pn		**Pn**	**20 09 27.1**	**+2.3**
	comp=E,2.2nm,0.3s,baz=81,slow=16,SNR=18							
PDAR				Lg		Lg	20 10 10.3	
	comp=E,7.8nm,0.3s,baz=67,slow=23,SNR=10							
PDAR				LR		LR	20 10 40.9	
	comp=E,151nm,18.4s,baz=92,slow=41							
	comp=E,2.4nm,0.4s							
YMP	**Mirror Lake Pl**	**3.62**	**289**			**Pn**	**20 09 32.3**	**+1.5**
OGNE	**Ogallala**	**3.65**	**136**	Pn		**Pn**	**20 09 31.8**	**+0.8**
LOHW	**Long Hollow**	**3.81**	**271**			**Pn**	**20 09 34.7**	**+1.4**
LOHW				IAML			20 10 50.6	
	comp=E,31nm,0.8s							
LOHW				IAML			20 11 41.3	
	comp=E,23nm,4.8s							
ISCO	**Idaho Springs**	**3.84**	**183**	Pn		**Pn**	**20 09 34.7**	**+0.9**
H17A	**Grant Village**	**3.84**	**283**			**Pn**	**20 09 35.0**	**+1.3**
H17A				IAML			20 10 42.8	
	comp=E,22nm,1.1s							
H17A				IAML			20 10 51.5	
	comp=N,27nm,1.9s							
SNOW	**Snow King Moun**	**3.93**	**269**			**Pn**	**20 09 35.1**	**+0.1**
SNOW				IAML			20 10 48.3	
	comp=N,43nm,1.1s							
SNOW				IAML			20 10 53.2	
	comp=N,34nm,1.6s							
REDW	**Red Top Meadow**	**4.01**	**268**			**Pn**	**20 09 37.7**	**+1.7**
O20A	**White River Ci**	**4.11**	**213**			**Pn**	**20 09 37.0**	**-0.4**
YHH	**Holmes Hill**	**4.11**	**288**			**Pn**	**20 09 38.8**	**+1.3**
FXWY	**Fox Creek**	**4.11**	**272**			**Pn**	**20 09 37.5**	**0.0**
YHL	**Hebgen Lake**	**4.36**	**288**			**Pn**	**20 09 42.4**	**+1.5**
YHL				IAML			20 11 11.7	
	comp=N,31nm,1.4s							
BSUT	**Blindstream Ca**	**5.07**	**234**			**Pn**	**20 09 51.9**	**+1.1**
BSUT				IAML			20 11 01.4	
	comp=N,17nm,4.4s							
BSUT				IAML			20 12 15.0	
	comp=E,18nm,4.1s							
EGMT	**Eagleton**	**5.36**	**327**			**Pn**	**20 09 55.1**	**+0.7**
SPUT	**South Promonto**	**5.74**	**249**	Pn		**Pn**	**20 10 01.3**	**+1.5**
ELMT	**Elliston**	**5.82**	**302**			**Pn**	**20 10 02.0**	**+1.1**
SRU	**San Rafael Swe**	**5.96**	**222**			**Pn**	**20 10 03.2**	**+0.4**
S22A	**4UR Ranch, Cre**	**5.99**	**191**			**Pn**	**20 10 03.5**	**+0.1**
ECSD	**EROS Data Cent**	**6.34**	**86**			**Pn**	**20 10 08.8**	**+0.9**
DUG	**Dugway, Tooele**	**6.54**	**241**	Pn		**Pn**	**20 10 11.5**	**+0.8**
HMU	**Henry Mountain**	**7.00**	**217**			**Pn**	**20 10 17.8**	**+0.5**
MVU	**Marysvale**	**7.28**	**228**	Pn		**Pn**	**20 10 22.5**	**+1.4**
RTBA	**Rita Blanca**	**7.46**	**164**	Pn		**Pn**	**20 10 24.1**	**+0.7**
ELK	**Elko**	**7.88**	**252**	Pn		**Pn**	**20 10 30.8**	**+1.6**
	comp=E,0.1nm,0.3s,baz=66,slow=12,SNR=1.6							
ELK				Lg		Lg	20 12 37.5	
	comp=E,0.1nm,0.3s,baz=51,slow=13,SNR=1.9							
ELK				LR		LR	20 13 50.8	
	comp=E,169nm,19.9s,baz=62,slow=41							
	comp=E,0.2nm,0.3s							
ANMO	**Albuquerque**	**8.72**	**186**	Lg		Lg	20 13 06.9	
	baz=240,slow=1.3,SNR=2.0							
ANMO				LR		LR	20 14 11.0	
	comp=E,82nm,19.9s,baz=120,slow=40							
I10CA	**LAC DU BONNET**	**9.16**	**41**	I		I	21 11 20.0	
	baz=221,slow=328,SNR=2.0							
ULM	**Lac du Bonnet**	**9.26**	**41**	Pn		**Pn**	**20 10 46.4**	**-1.5**
	comp=E,1.0nm,0.3s,baz=228,slow=11,SNR=10							
ULM				Lg		Lg	20 13 22.2	
	comp=E,0.1nm,0.3s,baz=313,slow=18,SNR=1.9							
	comp=E,1.9nm,0.3s							
NVAR	**Mina Array Bea**	**11.07**	**246**	Pn		**Pn**	**20 11 13.6**	**+0.7**
	baz=57,slow=13,SNR=1.8							
	comp=E,0.2nm,0.5s							
PFO	**Pinyon Flats O**	**13.23**	**225**	LR		LR	20 17 04.8	
	comp=E,102nm,21.7s,baz=25,slow=39							
TXAR	**Lajitas Array**	**14.34**	**174**	Pg		Pg	20 12 49.3	
	baz=355,slow=16,SNR=1.9							
TXAR				Lg		Lg	20 15 51.6	
	baz=9.2,slow=34,SNR=2.1							
TKL	**Tuckaleechee C**	**18.40**	**108**	LR		LR	20 20 14.3	
	comp=E,99nm,20.7s,baz=312,slow=38							
YKA	**Yellowknife Ar**	**19.65**	**347**	P		**Pn**	**20 13 04.5**	**-0.1**
	baz=154,slow=11,SNR=1.6							
	comp=E,0.1nm,0.6s							
LPIG	**La Paz**	**19.91**	**193**	LR		LR	20 22 01.8	
	comp=E,75nm,18.3s,baz=22,slow=41							
ARCES	**ARCESS Array B**	**61.53**	**18**	P		**P**	**20 18 51.3**	**-0.1**
	comp=E,5.5nm,0.9s,baz=330,slow=10,SNR=2.2							
	comp=E,5.5nm,0.9s							
FINES	**FINESS Array B**	**68.15**	**23**	P		**P**	**20 19 34.6**	**0.0**
	comp=E,2.8nm,0.9s,baz=172,slow=15,SNR=1.5							
	comp=E,2.8nm,0.9s							
KSRS	**Korea Array**	**85.93**	**320**	LR		LR	21 05 31.6	
	comp=E,11nm,19.1s,baz=155,slow=40							

*SJA **09** 20:15:30.3±0.7,21°.84S×70°.30W,h60km±4km, ML3.3, MW3.5*
*GUC **09** 20:15:33.3±0.6,21°.78S×70°.15W,h41km±1km, ML3.3*
ISC 09 20:15:32.4±1.1,21°.80S±0.02×70°.26W±0.05,h30km±9km, n34,σ1§43/68,2C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB07	**IPOC Station P**	**0.35**	**78**	*eP*	**Pn**	**20 15 42.3**	**+0.6**
PB07				IAML		20 15 53.4	
	comp=Z,1μm,0.3s						
PB07	**IPOC Station P**	**0.35**	**78**	*iP*	**Pb**	**20 15 40.8**	**+0.1**
PB07				*eS*	**Sb**	**20 15 46.6**	**+0.2**
PB07				IAML		20 15 46.9	
	comp=N,8μm,0.1s						
PB04	**IPOC Station P**	**0.54**	**169**	*eP*	**Pb**	**20 15 43.8**	**+0.2**
PB04				*eP*	**Pb**	**20 15 43.8**	**+0.2**
PB04				*eS*	**Sn**	**20 15 53.0**	**+0.5**
PB04				IAML		20 15 56.9	
	comp=Z,2μm,0.1s						
PB04	**IPOC Station P**	**0.54**	**169**	*iP*	**Pb**	**20 15 44.1**	**+0.5**
PB04				*eS*	**Sn**	**20 15 52.4**	**0.0**
PB04				IAML		20 15 56.2	
	comp=E,2μm,0.2s						
PB02	**IPOC Station P**	**0.59**	**35**	*eP*	**Pb**	**20 15 43.8**	**-0.5**
PB02				*eS*	**Sb**	**20 15 51.9**	**-0.5**
PB02	**IPOC Station P**	**0.59**	**35**	*i P*	**Pb**	**20 15 43.9**	**-0.4**
PB02				*eS*	**Sb**	**20 15 51.8**	**-0.6**
PB09	**IPOC Station P**	**0.94**	**90**	*eP*	Pn	20 15 43.8	-6.0
PB09				*eP*	**Pn**	**20 15 49.1**	**-0.7**
PB09				*eS*	**Sn**	**20 16 01.4**	**-1.1**
PB09				IAML		20 16 01.4	
	comp=Z,1μm,0.3s						
PB09	**IPOC Station P**	**0.94**	**90**	*iP*	**Pn**	**20 15 49.1**	**-0.7**
PB09				*eS*	**Sn**	**20 16 00.7**	**-1.7**
PB09				IAML		20 16 01.6	
	comp=N,2μm,0.3s						
PATCX	**Punta Patache**	**0.98**	**6**	*eP*	**Pn**	**20 15 49.5**	**-0.8**
PATCX				IAML		20 16 04.0	
	comp=Z,573nm,0.3s						
PATCX				*eS*	**Sb**	**20 16 04.1**	**+0.6**
PATCX	**Punta Patache**	**0.98**	**6**	*eP*	**Pn**	**20 15 49.5**	**-0.8**
PATCX				*eS*	**Sn**	**20 16 02.2**	**-1.0**
PB01	**IPOC Station P**	**1.04**	**44**	*i P*	**Pn**	**20 15 50.0**	**-1.1**
PB01				*eS*	**Sn**	**20 16 02.9**	**-1.9**
PB01				IAML		20 16 06.1	
	comp=N,1μm,0.2s						
PB06	**IPOC Station P**	**1.10**	**145**	*eP*	**Pn**	**20 15 51.2**	**-0.7**
PB06				*eS*	**Sn**	**20 16 05.9**	**-0.3**
PB06				IAML		20 16 06.5	
	comp=Z,646nm,0.2s						
PB06	**IPOC Station P**	**1.10**	**145**	*eP*	**Pn**	**20 15 51.4**	**-0.6**
PB06				*eS*	**Sn**	**20 16 05.4**	**-0.9**
PB06				IAML		20 16 06.5	
	comp=E,1μm,0.2s						
TA01	**Diego Aracena**	**1.23**	**3**	*eP*	**Pn**	**20 15 53.3**	**-0.4**
TA01				*eS*	**Sb**	**20 16 10.7**	**0.0**
TA01				IAML		20 16 12.8	
	comp=Z,355nm,0.4s						
TA01	**Diego Aracena**	**1.23**	**3**	*eP*	**Pn**	**20 15 53.2**	**-0.4**
TA01				*eS*	**Sn**	**20 16 08.5**	**-0.8**
TA01				IAML		20 16 10.9	
	comp=N,852nm,0.3s						
LVC	**Limon Verde**	**1.48**	**123**	*eP*	**Pn**	**20 15 57.0**	**-0.4**
LVC				*eS*	**Sn**	**20 16 16.5**	**+0.4**
LVC	**Limon Verde**	**1.48**	**123**	*eP*	**Pn**	**20 15 57.4**	**0.0**
LVC				*eS*	**Sn**	**20 16 15.5**	**-0.5**
LVC				IAML		20 16 16.7	
	comp=N,2μm,0.4s						
HMBC	**Humberstone**	**1.56**	**13**	*eP*	**Pn**	**20 15 58.0**	**-0.3**
HMBC				*eS*	**Sb**	**20 16 19.8**	**-0.2**
HMBC				IAML		20 16 24.7	
	comp=Z,442nm,0.3s						
HMBC	**Humberstone**	**1.56**	**13**	*eP*	**Pn**	**20 15 57.8**	**-0.4**
HMBC				*eS*	**Sn**	**20 16 17.2**	**-0.2**
HMBC				IAML		20 16 22.9	
	comp=N,443nm,0.3s						
PB15	**IPOC Station P**	**1.58**	**153**	*eP*	**Pn**	**20 15 58.5**	**0.0**
PB15				*eS*	**Sb**	**20 16 20.2**	**-0.5**
PB15				IAML		20 16 22.9	
	comp=Z,1μm,0.2s						
PB15	**IPOC Station P**	**1.58**	**153**	*i P*	**Pn**	**20 15 59.0**	**+0.4**
PB15				*eS*	**Sn**	**20 16 19.3**	**+1.2**
PB08	**IPOC Station P**	**1.95**	**32**	*eP*	**Pn**	**20 16 04.0**	**+0.2**
PB08				*eS*	**Sn**	**20 16 29.2**	**+1.6**
PB08				IAML		20 16 32.3	
	comp=Z,185nm,0.2s						
PB08	**IPOC Station P**	**1.95**	**32**	*i P*	**Pn**	**20 16 04.4**	**+0.6**
PB08				*i S*	**Sn**	**20 16 27.6**	**+0.1**
PB08				IAML		20 16 33.4	
	comp=N,300nm,0.5s						
PB11	**IPOC Station P**	**2.11**	**16**	*eS*	**Sn**	**20 16 30.9**	**-0.3**
PB11				IAML		20 16 36.2	
	comp=N,354nm,0.2s						
AF01	**San Pedro de A**	**2.24**	**121**	*eP*	**Pn**	**20 16 09.9**	**+2.2**
AF01				*eS*	**Sn**	**20 16 35.8**	**+1.2**
GO01	**Chusmiza**	**2.34**	**25**	*eP*	**Pn**	**20 16 10.3**	**+1.0**
GO01				*eS*	**Sb**	**20 16 40.9**	**-2.1**
GO01				IAML		20 16 41.4	
	comp=Z,238nm,0.4s						
GO01	**Chusmiza**	**2.34**	**25**	*eP*	**Pn**	**20 16 09.9**	**+0.5**
GO01				*eS*	**Sn**	**20 16 39.4**	**+1.9**
GO01				IAML		20 16 43.8	
	comp=N,579nm,0.2s						
PB14	**IPOC Station P**	**2.81**	**183**	*eP*	**Pn**	**20 16 15.0**	**-0.7**
PB14				*eS*	**Sn**	**20 16 47.3**	**-1.5**
PB14				IAML		20 17 01.7	
	comp=Z,68nm,0.3s						
PB12	**IPOC Station P**	**3.17**	**359**	*eP*	**Pn**	**20 16 20.2**	**-0.2**
PB12				*eP*	**Pn**	**20 16 20.6**	**+0.1**
PB12				*eS*	**Sb**	**20 17 14.5**	**+8.1**
PB12				IAML		20 17 18.1	
	comp=Z,45nm,0.3s						
PB12	**IPOC Station P**	**3.17**	**359**	*eP*	**Pn**	**20 16 20.0**	**-0.5**
PB12				*i S*	**Sn**	**20 16 53.9**	**-3.5**
PB12				IAML		20 17 12.6	
	comp=E,101nm,0.4s						
GO02	**Mina Guanaco**	**3.40**	**170**	*eP*	**Pn**	**20 16 24.2**	**+0.5**
GO02				*eS*	**Sn**	**20 17 04.4**	**+1.2**
PB16	**IPOC Station P**	**3.52**	**12**	*eP*	**Pn**	**20 16 25.3**	**-0.3**
PB16				*eS*	**Sb**	**20 17 15.6**	**-1.4**
PB16				IAML		20 17 26.4	
	comp=Z,47nm,0.4s						
PB16	**IPOC Station P**	**3.52**	**12**	*eP*	**Pn**	**20 16 26.5**	**+0.9**
PB16				*eS*	**Sn**	**20 17 08.4**	**+1.8**
PB16				IAML		20 17 27.7	
	comp=N,39nm,0.6s						
AC01	**Pan de Azucar**	**4.34**	**184**	*eP*	**Pn**	**20 16 34.9**	**-1.5**
AC01				*eS*	**Sn**	**20 17 24.1**	**-1.9**
AC01				IAML		20 17 51.3	
	comp=Z,31nm,0.4s						

*NEIC **09** 20:32:39.0±1.1,43°.77N±0°.05×105°.38W±0°.04,h0km±2km, ML3.0/44, Error ellipse: s-maj=9.8km s-min=4.1km az=338.0*
*IDC **09** 20:32:40.9±1.9,43°.92N×105°.63W,h0km, mbtmp3.2/3, ML3.4/3, Error ellipse: s-maj=53.6km s-min=9.1km az=147.0*
ISC 09 20:32:38.6±1.0,43°.77N±0°.05×105°.41W±0°.05,h0km,n27, σ0§75/27,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.06**	**70**		**Pg**	**20 32 58.8**	**0.0**
K22A	**Casper**	**1.38**	**216**		**Pg**	**20 33 04.2**	**-0.7**
RWWY	**Rawlins**	**2.46**	**213**		**Pn**	**20 33 20.8**	**+0.6**
RWWY				IAML		20 33 56.0	
	102nm,0.6s						
PHWY	**Pilot Hill**	**2.46**	**181**		**Pn**	**20 33 20.3**	**+0.1**
PHWY				IAML		20 33 57.7	
	59nm,0.3s						
N23A	**Red Feather La**	**2.90**	**188**	Pn	**Pn**	**20 33 26.7**	**+0.6**
N23A				IAML		20 34 08.4	
	comp=E,60nm,0.5s						
N23A				IAML		20 34 08.6	
	comp=N,64nm,0.4s						
LAO	**LASA Array**	**2.98**	**349**	Pn	**Pn**	**20 33 27.5**	**+0.4**
LAO				IAML		20 34 16.5	
	comp=N,56nm,0.9s						
LAO				IAML		20 34 22.9	
	comp=N,52nm,1.0s						
PD31	**Pinedale Array**	**3.19**	**253**		**Pn**	**20 33 32.1**	**+1.9**
PDAR	**Pinedale Array**	**3.19**	**253**		**Pn**	**20 33 30.1**	**-0.1**
PDAR	**Pinedale Array**	**3.19**	**253**	Pn	**Pb**	**20 33 35.6**	**-0.5**
	comp=N,3.0nm,0.3s,baz=73,slow=16,SNR=56						
PDAR				Lg	Lg	20 34 14.6	
	comp=N,8.9nm,0.3s,baz=73,slow=21,SNR=2.2						
	comp=N,3.7nm,0.3s						
BRIGG	**Briggsdale**	**3.29**	**165**		**Pn**	**20 33 32.1**	**+0.7**
OGNE	**Ogallala**	**3.77**	**137**		**Pn**	**20 33 38.0**	**-0.1**
H17A	**Grant Village**	**3.77**	**281**		**Pn**	**20 33 38.3**	**+0.1**
H17A				IAML		20 34 43.9	
	comp=N,19nm,0.4s						
H17A				IAML		20 34 45.7	
	comp=E,20nm,0.7s						
FLWY	**Flagg Ranch**	**3.83**	**277**		**Pn**	**20 33 38.6**	**-0.4**
FLWY				IAML		20 34 48.4	
	comp=E,24nm,2.5s						
FLWY				IAML		20 34 54.5	
	comp=E,25nm,3.1s						
MOOW	**Moose Ponds**	**3.86**	**272**		**Pn**	**20 33 39.5**	**+0.1**
SNOW	**Snow King Moun**	**3.89**	**267**	Pn	**Pn**	**20 33 40.2**	**+0.4**
SNOW				IAML		20 34 48.1	
	comp=E,24nm,2.1s						
ISCO	**Idaho Springs**	**3.97**	**182**		**Pn**	**20 33 41.7**	**+0.8**
TPAW	**Teton Pass**	**4.03**	**268**		**Pn**	**20 33 41.7**	**-0.1**
TPAW				IAML		20 35 02.8	
	comp=E,15nm,0.6s						
TPAW				IAML		20 35 34.5	
	comp=E,17nm,3.9s						
O20A	**White River Ci**	**4.20**	**211**		**Pn**	**20 33 44.7**	**+0.7**
DGMT	**Dagmar**	**4.78**	**10**	Pn	**Pn**	**20 33 52.8**	**+1.0**
BOZ	**Bozeman (W)**	**4.80**	**295**	Pn	**Pn**	**20 33 52.9**	**+0.7**
BOZ				IAML		20 35 18.3	
	comp=E,12nm,3.0s						
BOZ				IAML		20 35 46.7	
	comp=E,10nm,4.9s						
Q24A	**Divide**	**4.80**	**178**	Pn	**Pn**	**20 33 51.8**	**-0.6**
BSUT	**Blindstream Ca**	**5.12**	**233**	Pn	**Pn**	**20 33 58.0**	**+1.2**
BSUT				IAML		20 35 33.9	
	comp=E,12nm,4.0s						
KSCO	**Kaye Shedlock'**	**5.19**	**155**	Pn	**Pn**	**20 33 57.4**	**-0.2**
SDCO	**Great Sand Dun**	**6.01**	**181**	Pn	**Pn**	**20 34 10.1**	**+1.1**
SRU	**San Rafael Swe**	**6.03**	**221**	Pn	**Pn**	**20 34 09.3**	**+0.2**
ULM	**Lac du Bonnet**	**9.19**	**42**	Pn	**Pn**	**20 34 51.3**	**-0.9**
	comp=E,2.1nm,0.3s,baz=232,slow=11,SNR=19						
ULM				Lg	Lg	20 37 25.2	
	comp=E,0.3nm,0.3s,baz=326,slow=21,SNR=1.7						
	comp=E,3.3nm,0.3s						
YKA	**Yellowknife Ar**	**19.52**	**347**	P	**Pn**	**20 37 09.2**	**+0.9**
	comp=E,0.1nm,0.3s,baz=158,slow=11,SNR=4.2						
	comp=E,0.1nm,0.3s						

*ANF **09** 20:45:23.4±0.2,33°.49N×116°.79W,h9km±1km, ML3.5/29, Error ellipse: s-maj=1.4km s-min=1.3km az=0.0*
*PAS **09** 20:45:24.1±1.2,33°.50N±0°.02×116°.801W±0°.010, h5km±6km, ML3.5/295, ML3.3/93(NEIC), Error ellipse: s-maj=2.4km s-min=1.2km az=181.0*
*NEIC **09** 20:45:24.1±1.7,33°.49N±0°.02×116°.812W±0°.010, h12km±4km, Error ellipse: s-maj=2.8km s-min=1.2km az=186.0*
ISC 09 20:45:24.5±0.8,33°.49N±0°.01×116°.80W±0°.01,h17km±4km, n124,σ1§11/174,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRY	**Cary Ranch**	**0.09**	**35**		**Pg**	**20 45 27.3**	**-0.7**
BZNA	**Buzz No.'s Pla**	**0.11**	**88**		**Pg**	**20 45 28.3**	**+0.1**
PLM	**Palomar**	**0.14**	**201**		**Pg**	**20 45 27.8**	**-0.9**
PLM					**Sg**	**20 45 30.1**	**-1.4**
DNR	**Dunn Ranch,Anz**	**0.16**	**61**		**Pg**	**20 45 29.7**	**+0.8**
FRD	**Ford Ranch, An**	**0.17**	**88**		**Pg**	**20 45 29.8**	**+1.0**
FRD	**Ford Ranch, An**	**0.17**	**88**		**Pg**	**20 45 29.7**	**+0.8**
SNDA	**J Saunders Pla**	**0.17**	**68**		**Pg**	**20 45 27.6**	**-1.4**
SNDA					**Sg**	**20 45 30.1**	**-1.9**
GVDA	**Garner Valley**	**0.21**	**30**		**Pg**	**20 45 28.0**	**-1.5**
GVDA					**Sg**	**20 45 30.8**	**-2.2**
POB	**Polly Butte**	**0.22**	**333**		**Pg**	**20 45 31.2**	**+1.5**
BACC	**Bachelor Mtn.**	**0.23**	**302**		**Pg**	**20 45 31.8**	**+1.9**
DGR	**Domenigoni Val**	**0.24**	**313**		**Pg**	**20 45 28.7**	**-1.3**
DGR					**Sg**	**20 45 31.7**	**-1.9**
HMTC	**Hemet**	**0.28**	**322**		**Pb**	**20 45 32.7**	**+1.6**
PFO	**Pinyon Flats O**	**0.31**	**67**		**Pg**	**20 45 30.0**	**-1.2**
PFO				Sg	**Sg**	**20 45 34.1**	**-1.7**
PFO				IAML		20 45 34.4	
	5μm,0.7s						
PFO	**Pinyon Flats O**	**0.31**	**67**		**Pg**	**20 45 30.0**	**-1.2**
PFO	**Pinyon Flats O**	**0.31**	**67**	P	**Pg**	**20 45 30.0**	**-1.2**
	baz=248,SNR=1000						
PFO				S	**Sg**	**20 45 34.1**	**-1.7**
	baz=248						
XPFO	**Pion Flat**	**0.31**	**67**		**Pn**	**20 45 33.9**	**-0.5**
MATG	**Mataguay Scout**	**0.32**	**156**		**Pg**	**20 45 30.7**	**-0.5**
MURC	**Murrieta**	**0.35**	**289**		**Pg**	**20 45 30.9**	**-0.9**
MURC					**Sg**	**20 45 35.7**	**-1.1**
MURC	**Murrieta**	**0.35**	**289**	P	**Pg**	**20 45 30.8**	**-0.9**
	baz=107,SNR=1000						
MURC				S	**Sg**	**20 45 35.9**	**-0.8**
	baz=107						
PMD	**Palm Desert**	**0.39**	**66**	Pg	**Pg**	**20 45 31.3**	**-1.2**
PMD				Sg	**Sg**	**20 45 36.0**	**-1.8**
PMD				IAML		20 45 36.4	
	comp=N,3μm,0.5s						
PMD				IAML		20 45 36.4	
	comp=E,4μm,0.2s						
BORC	**Borrego Spring**	**0.39**	**124**		**Pg**	**20 45 31.9**	**-0.6**
BORC					**Sg**	**20 45 37.2**	**-0.7**
JUEM	**Julian Eagle M**	**0.44**	**157**		**Pg**	**20 45 32.9**	**-0.5**
JUEM					**Sg**	**20 45 38.9**	**-0.6**
BBSC	**Beaumont Base**	**0.46**	**341**		**Sg**	**20 45 39.2**	**-0.7**
DEVC	**Devers**	**0.48**	**23**		**Pg**	**20 45 33.3**	**-0.9**
DEVC					**Sg**	**20 45 39.7**	**-1.0**
GORC	**Green Oak Ranc**	**0.49**	**227**		**Pg**	**20 45 33.5**	**-0.8**
GORC					**Sg**	**20 45 40.1**	**-0.8**
PEC	**Perris**	**0.50**	**323**		**Pg**	**20 45 33.3**	**-1.3**
PEC					**Sg**	**20 45 39.8**	**-1.6**
DPP	**Dos Picos Cty**	**0.50**	**194**		**Pg**	**20 45 33.7**	**-0.9**
DPP					**Sg**	**20 45 40.5**	**-0.8**
SLH	**Sleepy Hollow**	**0.55**	**123**		**Pg**	**20 45 35.0**	**-0.3**
ELS	**Elsinore Mount**	**0.55**	**287**		**Pg**	**20 45 34.3**	**-1.0**
ELS				Sg	**Sg**	**20 45 41.5**	**-1.2**
ELS				IAML		20 45 42.0	
	comp=N,1μm,0.5s						
ELS				IAML		20 45 44.4	
	comp=E,1μm,0.5s						
EW2	**E Wide Canyon**	**0.56**	**36**		**Sg**	**20 45 41.6**	**-1.4**
CFT	**Crafton Hills**	**0.60**	**335**		**Sg**	**20 45 43.7**	**-0.8**
109C	**Camp Elliot, M**	**0.65**	**203**		**Pg**	**20 45 36.2**	**-1.0**
109C				Sg	**Sg**	**20 45 44.9**	**-1.0**
109C	**Camp Elliot, M**	**0.65**	**203**	P	**Pg**	**20 45 36.3**	**-1.0**
	baz=23,SNR=149						
109C				S	**Sg**	**20 45 45.1**	**-0.9**
	baz=23						
CPE	**Camp Elliot**	**0.65**	**203**		**Pg**	**20 45 36.2**	**-1.0**
CPE					**Sg**	**20 45 44.9**	**-1.0**
RSBC	**Riverside Bore**	**0.65**	**318**		**Pg**	**20 45 35.9**	**-1.4**
RSBC					**Sg**	**20 45 44.1**	**-1.9**
RSBC	**Riverside Bore**	**0.65**	**318**		**Pg**	**20 45 36.0**	**-1.4**
RSBC					**Sg**	**20 45 44.3**	**-1.7**
SVD	**Seven Oaks Dam**	**0.66**	**338**		**Sg**	**20 45 45.4**	**-1.0**
BLAC	**Blackrock camp**	**0.67**	**31**		**Sg**	**20 45 45.2**	**-1.5**
MONP2	**Monument Peak**	**0.67**	**152**		**Sg**	**20 45 45.8**	**-1.0**
MONP2	**Monument Peak**	**0.67**	**152**	P	**Pg**	**20 45 37.2**	**-0.6**
	baz=332,SNR=265						
MONP2				S	**Sg**	**20 45 46.1**	**-0.6**
	baz=332						
RVR	**Riverside**	**0.69**	**317**		**Sg**	**20 45 45.4**	**-1.9**
MTRP	**Mission Trails**	**0.70**	**198**		**Sg**	**20 45 46.4**	**-1.0**
SALN	**Salton City**	**0.71**	**107**		**Pg**	**20 45 38.1**	**-0.4**
SALN					**Sb**	**20 45 48.0**	**0.0**
HLNC	**Highland**	**0.72**	**331**		**Pg**	**20 45 37.5**	**-1.1**
HLNC					**Sg**	**20 45 47.1**	**-1.1**
CFSC	**Central Fire S**	**0.73**	**327**		**Pg**	**20 45 38.0**	**-0.9**
CLTC	**Calectric**	**0.74**	**325**		**Pg**	**20 45 38.1**	**-0.8**
CRNC	**Corona**	**0.74**	**302**		**Pg**	**20 45 37.8**	**-1.2**
CRNC					**Sg**	**20 45 47.1**	**-1.7**
SDMC	**San Diego Miss**	**0.76**	**202**		**Pg**	**20 45 38.1**	**-1.1**
SDMC					**Sg**	**20 45 48.6**	**-0.6**
SDRC	**San Diego Road**	**0.76**	**189**		**Pg**	**20 45 38.0**	**-1.3**
SDRC					**Sg**	**20 45 48.2**	**-1.2**
BBRC	**Big Bear Solar**	**0.78**	**353**	P	**Pg**	**20 45 38.6**	**-1.2**
	baz=172,SNR=25						
BBRC				S	**Sg**	**20 45 49.1**	**-1.0**
	baz=172						
CTW	**Cottonwood Mou**	**0.80**	**76**		**Sg**	**20 45 49.3**	**-1.3**
FON	**Fontana**	**0.81**	**319**		**Pg**	**20 45 38.9**	**-1.4**
FON					**Sg**	**20 45 49.1**	**-1.8**
BAR	**Barrett**	**0.81**	**172**		**Pg**	**20 45 39.0**	**-1.3**
BAR				Sg	**Sg**	**20 45 49.8**	**-1.3**
BELC	**Belle Mtn. Jos**	**0.84**	**52**	P	**Pg**	**20 45 39.6**	**-1.3**
	baz=233,SNR=476						
BELC				S	**Sg**	**20 45 50.6**	**-1.4**
	baz=233						
DUZA	**

GMRC				Sb	**Sb**	**20 46 14.7**	**+1.0**
	baz=217						
CCX	**Cicese**	**1.62**	**176**		**Pn**	**20 45 52.9**	**+0.7**
ESJX	**Sierra Juarez**	**1.65**	**154**	Pn	**Pn**	**20 45 53.9**	**+1.1**
CPBX	**Cerro Prieto**	**1.65**	**130**		**Pn**	**20 45 52.9**	**+0.2**
EDW2	**Edwards Air Fo**	**1.71**	**325**	P	**Pn**	**20 45 54.0**	**+0.5**
	baz=144,SNR=243						
EDW2				S	**Sn**	**20 46 16.5**	**+1.5**
	baz=144						
GLA	**Glamis**	**1.71**	**104**		**Pn**	**20 45 54.3**	**+0.7**
GLA	**Glamis**	**1.71**	**104**	P	**Pn**	**20 45 53.0**	**-0.5**
	baz=286						
GSC	**Goldstone, Bar**	**1.81**	**360**		**Pn**	**20 45 55.1**	**+0.2**
GSC				IAML		20 46 23.0	
	comp=N,235nm,0.6s						
GSC				IAML		20 46 23.6	
	comp=E,452nm,0.5s						
GSC	**Goldstone, Bar**	**1.81**	**360**	P	**Pn**	**20 45 55.2**	**+0.2**
	baz=180,SNR=162						
GSC				Sb	**Sb**	**20 46 21.2**	**+1.5**
	baz=180						
BLYC	**Blythe**	**1.92**	**82**		**Pn**	**20 45 56.0**	**-0.4**
BLYC				IAML		20 46 28.4	
	comp=N,359nm,1.1s						
BLYC				IAML		20 46 30.8	
	comp=E,270nm,0.7s						
CCAC	**Calif City Air**	**1.94**	**329**		**Pn**	**20 45 57.3**	**+0.5**
CCAC				IAML		20 46 28.7	
	comp=E,328nm,0.4s						
OSI	**Osito Audit: C**	**1.95**	**306**	P	**Pn**	**20 45 57.0**	**+0.1**
	baz=124,SNR=34						
OSI				Sb	**Sb**	**20 46 25.2**	**+1.5**
	baz=124						
TUQ	**Turquoise Moun**	**2.07**	**20**	Sb	**Sg**	**20 46 29.4**	**-1.8**
	baz=201						
LRMC	**Laurel Mtn Rad**	**2.12**	**340**	Sb	**Sb**	**20 46 30.1**	**+1.6**
	baz=160						
VTX	**Valle De La Tr**	**2.26**	**157**		**Pn**	**20 46 03.4**	**+2.3**
VTX				IAML		20 46 35.7	
	comp=E,288nm,0.7s						
VTX				IAML		20 46 36.5	
	comp=N,228nm,0.4s						
SNCC	**San Nicolas Is**	**2.29**	**265**	Pn	**Pn**	**20 46 02.1**	**+0.6**
SNCC				IAML		20 46 39.3	
	comp=N,123nm,1.0s						
ARVC	**Arvin**	**2.34**	**315**	P	**Pn**	**20 46 02.8**	**+0.5**
	baz=134,SNR=11						
ISA	**Isabella, Lake**	**2.57**	**328**	Pn	**Pn**	**20 46 05.7**	**+0.3**
ISA				IAML		20 46 47.1	
	comp=E,88nm,0.6s						
ISA	**Isabella, Lake**	**2.57**	**328**	P	**Pn**	**20 46 05.9**	**+0.4**
	baz=147,SNR=34						
BCW	**Bitter Crk WRg**	**2.60**	**305**		**Pn**	**20 46 06.7**	**+0.7**
BCW				IAML		20 46 50.1	
	comp=E,191nm,0.8s						
MPMC	**Manual Prospec**	**2.62**	**348**	P	**Pn**	**20 46 06.5**	**+0.2**
	baz=167,SNR=12						
GWY	**Greenwater Val**	**2.69**	**2**	Pn	**Pn**	**20 46 07.5**	**+0.3**
GWY				IAML		20 46 58.8	
	comp=N,198nm,0.6s						
V12A	**Nelson**	**2.75**	**35**	Pn	**Pn**	**20 46 07.9**	**0.0**
V12A				IAML		20 46 59.8	
	comp=N,69nm,0.9s						
V12A				IAML		20 47 03.0	
	comp=E,68nm,0.9s						
PKM	**Mcpherson Peak**	**2.86**	**300**	P	**Pn**	**20 46 09.7**	**+0.2**
	baz=118,SNR=18						
W13A	**Hualapai Mount**	**2.90**	**56**		**Pn**	**20 46 10.7**	**+0.6**
VES	**Vestal, Richgr**	**3.01**	**322**	P	**Pn**	**20 46 12.1**	**+0.7**
	baz=141,SNR=7.7						
WTNK	**Soaring Height**	**3.07**	**28**	Pn	**Pn**	**20 46 12.6**	**+0.2**
CWC	**Cottonwood Cre**	**3.13**	**341**	P	**Pn**	**20 46 13.8**	**+0.7**
	baz=160						
Y14A	**Wickenburg**	**3.20**	**81**	Pn	**Pn**	**20 46 14.4**	**+0.4**
Y14A				IAML		20 47 11.7	
	comp=E,73nm,0.8s						
Y14A				IAML		20 47 12.0	
	comp=N,79nm,0.8s						
SMMC	**Simmler**	**3.21**	**305**	P	**Pn**	**20 46 13.9**	**-0.3**
	baz=124						
SHPR	**Sheep Range**	**3.30**	**24**	Pn	**Pn**	**20 46 15.8**	**+0.3**
WCT	**Wildcat Mounta**	**3.30**	**2**	Pn	**Pn**	**20 46 15.9**	**+0.4**
WCT				IAML		20 47 11.7	
	comp=E,73nm,0.6s						
PIX	**Pinacate**	**3.42**	**123**		**Pn**	**20 46 16.7**	**-0.2**
TPNV	**Topopah Spring**	**3.48**	**7**		**Pn**	**20 46 18.7**	**+0.6**
TPNV				IAML		20 47 15.2	
	comp=E,72nm,0.6s						
TPNV				IAML		20 47 24.0	
	comp=E,99nm,0.8s						
TPNV	**Topopah Spring**	**3.48**	**7**	P	**Pn**	**20 46 19.0**	**+0.9**
	baz=188,SNR=18						
214A	**Organ Pipe Nat**	**3.69**	**113**		**Pn**	**20 46 21.6**	**+0.7**
GMN	**Gold Mountain**	**3.82**	**355**		**Pn**	**20 46 24.0**	**+1.2**
GMN				IAML		20 47 38.3	
	comp=N,31nm,0.7s						
MZP	**Montezuma Peak**	**4.23**	**354**		**Pn**	**20 46 29.8**	**+1.4**
PMPB	**Monarch Peak**	**4.27**	**311**		**Pn**	**20 46 28.6**	**-0.1**
PMPB				IAML		20 47 38.8	
	comp=E,38nm,4.8s						
PMPB				IAML		20 47 50.6	
	comp=N,32nm,1.1s						
X16A	**Lo Mia Camp, P**	**4.55**	**77**		**Pn**	**20 46 33.5**	**+0.8**
X16A				IAML		20 47 53.7	
	comp=N,20nm,1.1s						
X16A				IAML		20 47 55.1	
	comp=E,18nm,0.8s						
LCMT	**Little Creek M**	**4.56**	**39**		**Pn**	**20 46 33.7**	**+0.8**
BBGB	**Big Mountain B**	**4.65**	**313**		**Pn**	**20 46 34.9**	**+0.9**
BBGB				IAML		20 47 48.7	
	comp=N,41nm,1.3s						
BBGB				IAML		20 47 56.6	
	comp=E,40nm,0.9s						
KNB	**Kanab**	**4.79**	**42**	Pn	**Pn**	**20 46 36.4**	**+0.3**
KNB				IAML		20 48 04.7	
	comp=E,19nm,1.1s						
KNB				IAML		20 48 08.1	
	comp=N,20nm,0.9s						
WUAZ	**Wupatki**	**4.92**	**64**		**Pn**	**20 46 39.4**	**+1.6**
WUAZ				IAML		20 48 24.3	
	comp=N,21nm,1.6s						
WUAZ				IAML		20 48 28.9	
	comp=N,18nm,1.1s						
R11B	**Troy Canyon, C**	**4.95**	**11**		**Pn**	**20 46 39.1**	**+0.9**
NVAR	**Mina Array Bea**	**5.08**	**347**		**Pn**	**20 46 41.4**	**+1.3**
CMB	**Columbia Colle**	**5.39**	**328**	Pn	**Pn**	**20 46 45.5**	**+1.3**
CMB				IAML		20 48 30.6	
	comp=E,8.4nm,3.7s						

*IDC **09** 21:02:30.0±1.0, 44.°05N×105.°64W, h0km, mbtmp3.2/5, ML3.2/5, Error ellipse: s-maj=23.8km s-min=8.8km az=145.0*
*NEIC **09** 21:02:30.8±0.9, 43.°78N±0.°05×105.°32W±0.°06, h0km±2km, ML3.3/64, Error ellipse: s-maj=8.9km s-min=7.6km az=338.0*

ISC 09 21:02:29.5±0.9, 43.°79N±0.°05×105.°35W±0.°06, h0km, n46, σ1s43/45, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.01**	**71**	Pg	**Pg**	**21 02 49.1**	**+0.3**
K22A	**Casper**	**1.43**	**217**		**Pg**	**21 02 56.2**	**-0.7**
K22A				IAML		21 03 20.6	
	comp=E,380nm,0.6s						
K22A				IAML		21 03 21.1	
	comp=N,509nm,0.3s						
PHWY	**Pilot Hill**	**2.49**	**182**		**Pn**	**21 03 12.5**	**+0.9**
PHWY				IAML		21 03 55.2	
	comp=N,120nm,0.6s						
RWWY	**Rawlins**	**2.51**	**214**		**Pn**	**21 03 12.7**	**+0.9**
N23A	**Red Feather La**	**2.93**	**189**		**Pn**	**21 03 18.9**	**+1.3**
N23A				IAML		21 04 02.2	
	comp=N,87nm,0.5s						
N23A				IAML		21 04 08.5	
	comp=E,77nm,0.7s						
LAO	**LASA Array**	**2.96**	**348**		**Pn**	**21 03 19.7**	**+1.9**
RLMT	**Red Lodge**	**3.10**	**297**		**Pn**	**21 03 21.4**	**+1.4**
RLMT				IAML		21 04 14.0	
	comp=E,63nm,0.4s						
RLMT				IAML		21 04 14.4	
	comp=E,61nm,0.7s						
PD31	**Pinedale Array**	**3.24**	**253**		**Pn**	**21 03 22.8**	**+1.0**
PDAR	**Pinedale Array**	**3.24**	**253**		**Pn**	**21 03 22.8**	**+1.0**
PDAR	**Pinedale Array**	**3.24**	**253**	Pn	**Pn**	**21 03 23.2**	**+1.4**
	comp=E,3.4nm,0.3s,baz=71,slow=16,SNR=62						
PDAR				Lg	Lg	21 04 07.9	
	comp=E,9.3nm,0.3s,baz=70,slow=35,SNR=2.3						
	comp=E,3.9nm,0.3s						
BW06	**Boulder Array**	**3.24**	**253**		**Pn**	**21 03 22.7**	**+0.9**
BW06				IAML		21 04 19.5	
	comp=E,49nm,0.7s						
BRIGG	**Briggsdale**	**3.30**	**166**	Pn	**Pn**	**21 03 23.7**	**+1.1**
YMP	**Mirror Lake Pl**	**3.58**	**287**		**Pn**	**21 03 27.9**	**+1.3**
YMP				IAML		21 04 31.6	
	comp=N,67nm,0.7s						
YMP				IAML		21 04 38.0	
	comp=E,76nm,0.9s						
OGNE	**Ogallala**	**3.76**	**138**		**Pn**	**21 03 30.1**	**+1.3**
H17A	**Grant Village**	**3.81**	**281**		**Pn**	**21 03 32.4**	**+2.7**
LOHW	**Long Hollow**	**3.81**	**269**		**Pn**	**21 03 30.8**	**+1.1**
FLWY	**Flagg Ranch**	**3.87**	**276**		**Pn**	**21 03 31.6**	**+1.1**
FLWY				IAML		21 04 37.5	
	comp=E,30nm,1.5s						
FLWY				IAML		21 04 49.2	
	comp=E,35nm,1.4s						
ISCO	**Idaho Springs**	**4.00**	**183**		**Pn**	**21 03 33.5**	**+1.2**
REDW	**Red Top Meadow**	**4.02**	**266**		**Pn**	**21 03 34.1**	**+1.5**
YMR	**Madison River**	**4.13**	**284**		**Pn**	**21 03 35.5**	**+1.5**
YMR				IAML		21 05 06.0	
	comp=N,37nm,1.2s						
YMR				IAML		21 05 09.1	
	comp=E,43nm,0.9s						
O20A	**White River Ci**	**4.24**	**211**		**Pn**	**21 03 37.3**	**+1.7**
O20A				IAML		21 05 03.1	
	comp=N,39nm,3.6s						
O20A				IAML		21 05 34.4	
	comp=E,37nm,3.7s						
E28A	**Huff**	**4.31**	**48**		**Pn**	**21 03 38.0**	**+1.6**
AHID	**Auburn Hatcher**	**4.32**	**258**		**Pn**	**21 03 38.4**	**+1.7**
AHID				IAML		21 04 49.9	
	comp=E,34nm,0.7s						
AHID				IAML		21 04 54.5	
	comp=E,37nm,0.8s						
DGMT	**Dagmar**	**4.75**	**9**		**Pn**	**21 03 43.6**	**+1.3**
BOZ	**Bozeman (W)**	**4.83**	**294**		**Pn**	**21 03 44.0**	**+0.5**
BOZ				IAML		21 05 06.8	
	comp=E,16nm,1.2s						
BOZ				IAML		21 05 07.8	
	comp=E,19nm,0.7s						
Q24A	**Divide**	**4.83**	**178**		**Pn**	**21 03 44.4**	**+0.7**
Q24A				IAML		21 05 08.1	
	comp=E,27nm,0.8s						
Q24A				IAML		21 06 02.5	
	comp=N,17nm,4.5s						
HWUT	**Hardware Ranch**	**5.07**	**247**		**Pn**	**21 03 48.2**	**+1.2**
KSCO	**Kaye Shedlock'**	**5.20**	**156**		**Pn**	**21 03 49.1**	**+0.5**
TCUT	**Toone Canyon**	**5.22**	**241**		**Pn**	**21 03 49.4**	**+0.4**
EGMT	**Eagleton**	**5.23**	**326**		**Pn**	**21 03 50.3**	**+1.3**
ELMT	**Elliston**	**5.74**	**301**		**Pn**	**21 03 57.3**	**+1.1**
HVU	**Hansel Valley**	**5.82**	**252**		**Pn**	**21 03 59.0**	**+1.7**
P17A	**Butcher Ranch,**	**5.91**	**225**		**Pn**	**21 03 59.6**	**+1.2**
SDCO	**Great Sand Dun**	**6.04**	**181**	Pn	**Pn**	**21 04 01.6**	**+1.2**
S22A	**4UR Ranch, Cre**	**6.14**	**191**		**Pn**	**21 04 03.1**	**+1.3**
OVMT	**Ovando**	**6.29**	**304**	Pn	**Pn**	**21 04 04.3**	**+0.6**
BPMT	**Black Pine Rid**	**6.31**	**298**		**Pn**	**21 04 05.2**	**+1.2**
ECSD	**EROS Data Cent**	**6.33**	**88**	Pn	**Pn**	**21 04 04.7**	**+0.7**
CBKS	**Cedar Bluff**	**6.53**	**138**	Pn	**Pn**	**21 04 07.3**	**+0.5**
HLID	**Hailey**	**6.58**	**271**	Pn	**Pn**	**21 04 10.1**	**+2.5**
DUG	**Dugway, Tooele**	**6.62**	**240**		**Pn**	**21 04 09.2**	**+1.0**
I10CA	**LAC DU BONNET**	**9.03**	**42**	I	I	21 55 30.0	
	baz=220,slow=333,SNR=1.9						
ULM	**Lac du Bonnet**	**9.14**	**42**	Pn	**Pn**	**21 04 40.0**	**-2.6**
	comp=N,1.2nm,0.3s,baz=227,slow=12,SNR=13						
ULM				Lg	Lg	21 07 11.5	
	comp=N,0.5nm,0.3s,baz=225,slow=4.3,SNR=1.6						
	comp=N,2.7nm,0.3s						
NVAR	**Mina Array Bea**	**11.14**	**246**	Pn	**Pn**	**21 05 13.2**	**+3.0**
	comp=N,0.1nm,0.3s,baz=58,slow=12,SNR=3.6						
	comp=N,0.3nm,0.5s						
TXAR	**Lajitas Array**	**14.49**	**174**	Pn	**P**	**21 06 01.9**	**-1.0**
	baz=353,slow=14,SNR=2.4						
	comp=N,0.2nm,0.7s						
YKA	**Yellowknife Ar**	**19.50**	**347**	P	**P**	**21 06 56.4**	**-1.5**
	baz=158,slow=12,SNR=5.3						
	comp=N,0.2nm,0.6s						

JMA 09 21:39:27.8±0.1, 36.°1N±0.°3×140.°1E±0.°4, h63km, MV0.6/20, SOUTHERN IBARAKI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.18**	**39**	P	Pn	21 39 37.6	+0.1
JYT				*e*S	Sn	21 39 44.9	+0.4
JAG	**Ashikaga**	**0.59**	**305**	P	Pn	21 39 41.2	+0.2
JAG				*e*S	Sn	21 39 50.9	+0.2
JRY	**Ryogami san**	**0.94**	**266**	*e*P	Pn	21 39 45.3	+0.1

*NEIC **09** 21:45:01.9±0.3, 19.°23N±0.°03×155.°41W±0.°03, h41km±5km, Error ellipse: s-maj=4.2km s-min=2.9km az=221.0*
HVO 09 21:45:03.5±0.9, 19.°20N±0.°08×155.°40W±0.°05, h32km±8km, ML2.4/11, ML2.5/46(NEIC), Error ellipse: s-maj=12.4km s-min=6.6km az=168.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.04**	**8**		Pb	21 45 08.7	-0.3
HLP	**Hilina Pali**	**0.13**	**43**		Sn	21 45 13.3	+0.3
HLP	**Hilina Pali**	**0.13**	**43**		Pn	21 45 09.0	-0.4
HLP				IAML		21 45 13.4	
	comp=N,492nm,0.2s						
HLP				IAML		21 45 13.5	
	comp=E,486nm,0.7s						
HPO	**Honuapo**	**0.18**	**232**		Pb	21 45 09.1	-0.7
KHU	**Kahuku**	**0.20**	**283**		Pb	21 45 09.4	-0.9
SDHHI	**Sand Hill**	**0.21**	**29**		Sb	21 45 13.9	-1.0
SDHHI	**Sand Hill**	**0.21**	**29**		Pb	21 45 09.4	-0.9
SDHHI				IAML		21 45 14.3	
	comp=E,2μm,0.3s						
SDHHI				IAML		21 45 14.5	
	comp=N,1μm,0.4s						
WRMHI	**West Rim**	**0.23**	**25**		Pb	21 45 09.5	-1.0
RIM	**Rim**	**0.23**	**32**		Sb	21 45 14.1	-1.1
KKO	**Keanakako`i**	**0.23**	**33**		Pb	21 45 09.5	-1.0
KKO				IAML		21 45 20.3	
	comp=E,525nm,1.3s						
UWE	**Uwekahuna**	**0.24**	**25**		Pb	21 45 09.2	-1.5
OBL	**Observatory Le**	**0.24**	**27**		Pb	21 45 08.5	-2.2
PUH	**Pauahi**	**0.25**	**46**		Sb	21 45 14.2	-1.3
PUH	**Pauahi**	**0.25**	**46**		Pb	21 45 09.6	-1.1
PUH				IAML		21 45 14.5	
	comp=E,231nm,0.4s						
PUH				IAML		21 45 17.2	
	comp=N,277nm,0.7s						
BYL	**Byron's Ledge**	**0.25**	**33**		Pb	21 45 09.6	-1.1
BYL				IAML		21 45 12.2	
	comp=N,546nm,1.0s						
BYL				IAML		21 45 16.9	
	comp=E,442nm,1.0s						
UWB	**Uwekahuna B**	**0.25**	**28**		Pb	21 45 09.6	-1.2
UWB					Sb	21 45 13.9	-1.7
UWB				IAML		21 45 20.8	
	comp=N,334nm,1.4s						
HATHI	**Halema'uma'u T**	**0.26**	**31**		Sb	21 45 14.5	-1.3
HATHI	**Halema'uma'u T**	**0.26**	**31**		Pb	21 45 09.7	-1.1
HATHI				IAML		21 45 12.3	
	comp=E,421nm,0.7s						
HATHI				IAML		21 45 23.1	
	comp=N,380nm,0.9s						
SBLHI	**Steaming Bluff**	**0.26**	**29**		Pb	21 45 09.5	-1.3
SBLHI				IAML		21 45 12.4	
	comp=N,448nm,0.9s						
SBLHI				IAML		21 45 15.1	
	comp=E,464nm,1.0s						
KNHH	**Kane Nui o Ham**	**0.28**	**51**		Pb	21 45 10.1	-1.0
RSD	**Rainshed**	**0.29**	**24**		Sb	21 45 14.8	-1.6
RSD	**Rainshed**	**0.29**	**24**		Pb	21 45 09.8	-1.4
RSD				IAML		21 45 15.8	
	comp=E,217nm,1.2s						
RSD				IAML		21 45 21.5	
	comp=N,212nm,1.3s						
MLH	**Mauna Loa**	**0.29**	**3**		Pb	21 45 10.4	-0.9
MLH				IAML		21 45 15.7	
	comp=E,520nm,0.3s						
MLH				IAML		21 45 17.5	
	comp=N,386nm,0.1s						
STCH	**Steam Cracks**	**0.32**	**55**		Sb	21 45 15.6	-1.4
STCH	**Steam Cracks**	**0.32**	**55**		Pb	21 45 10.4	-1.1
STCH				IAML		21 45 16.4	
	comp=E,242nm,0.3s						
STCH				IAML		21 45 17.6	
	comp=N,283nm,0.6s						
MWH	**Moku'aweowe**	**0.34**	**327**		Pb	21 45 10.8	-1.4
MWH				IAML		21 45 16.7	
	comp=E,444nm,0.5s						
MWH				IAML		21 45 16.8	
	comp=N,488nm,0.2s						
NPOC	**North of Pu'u**	**0.34**	**55**		Pb	21 45 10.6	-1.1
NPOC				IAML		21 45 15.4	
	comp=E,315nm,0.9s						
NPOC				IAML		21 45 28.6	
	comp=N,288nm,0.8s						
MLOA	**Mauna Loa Obse**	**0.37**	**334**		Pb	21 45 11.1	-1.5
HMH	**Humu'ula Sheep**	**0.41**	**349**		Pb	21 45 11.9	-1.1
HMH				IAML		21 45 18.7	
	comp=E,282nm,0.4s						
ALEP	**Alea Permanent**	**0.41**	**326**		Pb	21 45 11.3	-1.7
JOKA	**Jonika Flow**	**0.44**	**58**		Pb	21 45 11.8	-1.4
POHA	**Pohakuloa**	**0.57**	**348**		Pb	21 45 13.4	-2.0
POHA				IAML		21 45 21.7	
	comp=E,232nm,0.1s						
POHA				IAML		21 45 26.7	
	comp=E,236nm,0.4s						
KHLU	**Kahalu`u**	**0.60**	**310**		Pb	21 45 13.7	-2.1
KHLU				IAML		21 45 21.6	
	comp=N,222nm,0.3s						
HUH	**Hualalai**	**0.63**	**320**	Pn	Pb	21 45 14.6	-1.9
HUH				IAML		21 45 25.9	
	comp=N,217nm,0.1s						
HUH				IAML		21 45 29.7	
	comp=E,239nm,1.4s						
HPAH	**Hawaii Prepara**	**0.87**	**341**	Pn	Pn	21 45 17.2	-2.5
HPAH				IAML		21 45 27.9	
	comp=E,151nm,0.1s						
HPAH				IAML		21 45 28.0	
	comp=N,131nm,0.2s						
MHA	**Mahukona**	**1.09**	**334**	Pn	Pn	21 45 20.3	-2.2

IDC 09 21:53:32.9±5.1, 26.°94S×67.°43E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=141.3km s-min=40.5km az=58.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H04N2	**CROZET ISLANDS**	**22.85**	**209**	T	T	22 23 06.5	
	baz=39,slow=74,SNR=434						
H04N1	**CROZET ISLANDS**	**22.86**	**209**	T	T	22 23 02.4	
	baz=39,slow=74,SNR=401						
H04N3	**CROZET ISLANDS**	**22.87**	**209**	T	T	22 23 04.4	
	baz=39,slow=74,SNR=473						
H01W2	**Cape Leeuwin H**	**40.55**	**113**	T	T	22 44 13.9	
	baz=268,slow=74,SNR=8.0						
H01W3	**Cape Leeuwin H**	**40.55**	**113**	T	T	22 44 10.9	
	baz=268						
H01W1	**Cape Leeuwin H**	**40.56**	**113**	T	T	22 44 13.0	
	baz=268,slow=74,SNR=4.7						
CMAR	**Chiang Mai Arr**	**54.51**	**38**	P	P	22 03 02.7	-0.1
	0.8nm,0.6s,baz=224,slow=6.4,SNR=6.4						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**59.56**	**103**	P	P	22 03 38.6	-0.1
	1.1nm,0.8s,baz=252,slow=6.5,SNR=16						
	1.1nm,0.8s						
WRA	**Warramunga Arr**	**61.17**	**99**	P	P	22 03 49.9	+0.1
	0.6nm,0.7s,baz=251,slow=7.1,SNR=4.5						
	0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**81.95**	**10**	P	P	22 05 54.1	0.0
	0.6nm,0.5s,baz=177,slow=5.9,SNR=4.8						
	0.6nm,0.5s						

*UCR **09** 21:58:00.8±0.6, 9.°24N×85.°43W, h30km±3km, MW3.8*
*CATAC **09** 21:58:02.8±1.3, 9.°38N×85.°24W, h10km, ML3.5*
ISC 09 21:58:02.9±1.9, 9.°36N±0.°10×85.°27W±0.°07, h22km, n38, σ0s73/40, 4C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBL1	**Cabuya**	**0.29**	**38**	*e*P	**Pb**	**21 58 09.6**	**0.0**
CBL1				*e*S	**Sn**	**21 58 17.7**	**+0.1**
MONTE	**Monteverde**	**1.05**	**26**	*e*P	**Pn**	**21 58 21.3**	**-1.1**
SRA1	**San Ramn**	**1.06**	**47**	*e*P	**Pn**	**21 58 22.7**	**+0.1**
SOCE	**Pocosol**	**1.21**	**32**	*e*P	**Pn**	**21 58 24.4**	**-0.1**
SOCE	**Pocosol**	**1.21**	**32**	*i* P	**Pn**	**21 58 24.4**	**-0.1**
SOCE				IAML		21 58 29.7	
	comp=Z,900nm,1.0s						
ABE2	**San Pablo**	**1.25**	**74**	*e*P	**Pn**	**21 58 24.8**	**-0.5**
CEDE	**Laguna Cedeo**	**1.25**	**27**	*e*P	**Pn**	**21 58 25.4**	**+0.2**
COTE	**Lago Cote**	**1.26**	**16**	*e*P	**Pn**	**21 58 25.1**	**-0.2**
ACAL	**Aguas Claras**	**1.29**	**10**	*e*P	**Pn**	**21 58 25.4**	**-0.3**
CUI	**Cuipilapa**	**1.30**	**5**	*e*P	**Pn**	**21 58 25.4**	**-0.4**
LCR2	**La Lucha 2**	**1.31**	**73**	*e*P	**Pn**	**21 58 25.4**	**-0.7**
LCR2	**La Lucha 2**	**1.31**	**73**	*i* P	**Pn**	**21 58 25.2**	**-0.8**
LCR2				IAML		21 58 32.0	
	comp=Z,130nm,1.0s						
LIM1	**Limonal**	**1.33**	**1**	*e*P	**Pn**	**21 58 25.7**	**-0.5**
MOTZ	**Rio Naranjo**	**1.33**	**9**	*i* P	**Pn**	**21 58 26.1**	**-0.2**
MESS	**Mesas**	**1.38**	**3**	*e*P	**Pn**	**21 58 26.5**	**-0.4**
GPS2	**Hotel Rincn d**	**1.39**	**357**	*e*P	**Pn**	**21 58 26.3**	**-0.7**
GPS3	**Bodega del ICE**	**1.39**	**356**	*e*P	**Pn**	**21 58 26.6**	**-0.5**
GP77	**Hacienda Santa**	**1.40**	**358**	*e*P	**Pn**	**21 58 26.8**	**-0.4**
GP03	**Hacienda Santa**	**1.41**	**357**	*e*P	**Pn**	**21 58 26.8**	**-0.5**
LAPC	**Finca la Perla**	**1.41**	**354**	*e*P	**Pn**	**21 58 26.6**	**-0.7**
GPS1	**Guardaparques**	**1.41**	**357**	*e*P	**Pn**	**21 58 27.0**	**-0.4**
CLARA	**Aguas Claras**	**1.42**	**4**	*e*P	**Pn**	**21 58 27.1**	**-0.3**
GBS3	**Finca Las Img**	**1.43**	**353**	*e*P	**Pn**	**21 58 25.7**	**-1.8**
BUEV	**Buena Vista**	**1.44**	**355**	*i* P	**Pn**	**21 58 27.3**	**-0.5**
GB1A	**Borinquen Arri**	**1.46**	**355**	*e*P	**Pn**	**21 58 27.5**	**-0.5**
GB1A				*e*S	**Sn**	**21 58 46.9**	**+0.4**
ITAL	**Pital**	**1.47**	**42**	*e*P	**Pb**	**21 58 29.8**	**+0.3**
CANAL	**Canalete**	**1.48**	**8**	*e*P	**Pn**	**21 58 27.9**	**-0.3**
BUAI	**Buenos Aires**	**1.51**	**358**	*e*P	**Pn**	**21 58 28.7**	**0.0**
BUS1	**Rivas**	**1.52**	**83**	*e*P	**Pn**	**21 58 28.9**	**-0.3**
VERA	**Finca Concepci**	**1.54**	**15**	*e*P	**Pn**	**21 58 29.4**	**+0.4**
VICA	**Volcano Irazu**	**1.54**	**66**	*e*P	**Pn**	**21 58 29.2**	**-0.2**
VERB	**Verbena**	**1.66**

PDAR	**Pinedale Array**	**3.22**	**254**	Pn		**Pn**	**22 11 06.1**	**+0.6**
PDAR	**Pinedale Array**	**3.22**	**254**	Pn		**Pn**	**22 11 06.8**	**+1.3**
	comp=N,4.2nm,0.3s,baz=79,slow=16,SNR=48							
PDAR				Lg		Lg	22 11 49.4	
	comp=N,8.8nm,0.3s,baz=79,slow=30,SNR=8.4							
	comp=N,4.5nm,0.3s							
BRIGG	**Briggsdale**	**3.25**	**166**			**Pn**	**22 11 06.3**	**+0.5**
YMP	**Mirror Lake Pl**	**3.59**	**288**			**Pn**	**22 11 11.7**	**+1.0**
YMP				IAML			22 12 11.0	
	comp=E,77nm,0.6s							
YMP				IAML			22 12 11.7	
	comp=N,64nm,0.8s							
OGNE	**Ogallala**	**3.72**	**137**			**Pn**	**22 11 13.2**	**+0.9**
LOHW	**Long Hollow**	**3.81**	**270**			**Pn**	**22 11 13.9**	**+0.3**
H17A	**Grant Village**	**3.82**	**282**			**Pn**	**22 11 16.0**	**+2.3**
H17A				IAML			22 12 20.1	
	comp=N,35nm,1.4s							
FLWY	**Flagg Ranch**	**3.88**	**277**			**Pn**	**22 11 15.5**	**+1.0**
FLWY				IAML			22 12 31.3	
	comp=N,42nm,1.9s							
FLWY				IAML			22 12 32.7	
	comp=N,56nm,1.5s							
MOOW	**Moose Ponds**	**3.91**	**272**	Pn		**Pn**	**22 11 16.7**	**+1.8**
ISCO	**Idaho Springs**	**3.94**	**183**			**Pn**	**22 11 16.4**	**+0.9**
REDW	**Red Top Meadow**	**4.01**	**267**			**Pn**	**22 11 16.9**	**+0.5**
IMW	**Indian Meadow**	**4.04**	**274**			**Pn**	**22 11 17.5**	**+0.6**
IMW				IAML			22 12 25.8	
	comp=N,25nm,1.1s							
IMW				IAML			22 12 29.0	
	comp=N,26nm,0.9s							
TPAW	**Teton Pass**	**4.07**	**268**			**Pn**	**22 11 17.4**	**+0.2**
TPAW				IAML			22 13 07.5	
	comp=N,34nm,0.7s							
TPAW				IAML			22 13 08.0	
	comp=N,54nm,1.3s							
YHH	**Holmes Hill**	**4.08**	**287**			**Pn**	**22 11 17.4**	**0.0**
FXWY	**Fox Creek**	**4.12**	**271**			**Pn**	**22 11 18.7**	**+0.9**
YMR	**Madison River**	**4.14**	**285**			**Pn**	**22 11 19.3**	**+1.2**
YMR				IAML			22 12 31.3	
	comp=E,39nm,1.1s							
O20A	**White River Ci**	**4.20**	**212**			**Pn**	**22 11 19.2**	**+0.4**
AHID	**Auburn Hatcher**	**4.31**	**259**			**Pn**	**22 11 20.9**	**+0.5**
AHID				IAML			22 12 37.4	
	comp=E,37nm,1.1s							
AHID				IAML			22 12 40.1	
	comp=E,40nm,1.3s							
YHL	**Hebgen Lake**	**4.33**	**287**			**Pn**	**22 11 21.9**	**+1.1**
YHL				IAML			22 12 43.2	
	comp=E,43nm,1.4s							
YHL				IAML			22 12 54.3	
	comp=N,33nm,1.3s							
E28A	**Huff**	**4.35**	**48**			**Pn**	**22 11 21.8**	**+1.0**
RDMU	**Red Mountain**	**4.45**	**226**			**Pn**	**22 11 23.7**	**+1.3**
RDMU				IAML			22 12 38.5	
	comp=N,40nm,1.1s							
RDMU				IAML			22 12 41.6	
	comp=E,40nm,1.1s							
Q24A	**Divide**	**4.77**	**178**			**Pn**	**22 11 27.4**	**+0.5**
Q24A				IAML			22 12 42.5	
	comp=N,19nm,1.3s							
DGMT	**Dagmar**	**4.80**	**9**			**Pn**	**22 11 28.6**	**+1.6**
BOZ	**Bozeman (W)**	**4.84**	**295**			**Pn**	**22 11 28.1**	**+0.3**
BOZ				IAML			22 12 48.1	
	comp=N,19nm,1.9s							
BOZ				IAML			22 12 48.7	
	comp=N,13nm,0.9s							
HWUT	**Hardware Ranch**	**5.05**	**247**			**Pn**	**22 11 30.9**	**+0.3**
HWUT				IAML			22 12 52.1	
	comp=N,24nm,1.2s							
BSUT	**Blindstream Ca**	**5.14**	**233**			**Pn**	**22 11 32.6**	**+0.7**
BSUT				IAML			22 13 01.2	
	comp=E,18nm,2.9s							
BSUT				IAML			22 13 27.4	
	comp=N,16nm,3.1s							
KSCO	**Kaye Shedlock'**	**5.15**	**156**			**Pn**	**22 11 31.8**	**-0.1**
TCUT	**Toone Canyon**	**5.19**	**242**			**Pn**	**22 11 32.1**	**-0.5**
EGMT	**Eagleton**	**5.27**	**326**			**Pn**	**22 11 33.6**	**+0.1**
SDCO	**Great Sand Dun**	**5.99**	**181**	Pn		**Pn**	**22 11 44.4**	**+0.8**
S22A	**4UR Ranch, Cre**	**6.09**	**191**	Pn		**Pn**	**22 11 45.5**	**+0.5**
ECSD	**EROS Data Cent**	**6.33**	**87**	Pn		**Pn**	**22 11 47.9**	**-0.2**
CBKS	**Cedar Bluff**	**6.49**	**137**	Pn		**Pn**	**22 11 50.2**	**0.0**
DUG	**Dugway, Tooele**	**6.59**	**240**	Pn		**Pn**	**22 11 52.4**	**+0.7**
F33A	**5 Mile Ranch,**	**6.78**	**69**			**Pn**	**22 11 53.3**	**-0.9**
MVCO	**Mesa Verde**	**6.95**	**201**	Pn		**Pn**	**22 11 57.4**	**+0.7**
ULM	**Lac du Bonnet**	**9.18**	**42**	Pn		**Pn**	**22 12 24.7**	**-2.4**
	comp=N,1.3nm,0.3s,baz=228,slow=13,SNR=15							
ULM				Lg		Lg	22 15 00.0	
	comp=N,0.4nm,0.3s,baz=322,slow=20,SNR=3.7							
	comp=N,2.4nm,0.3s							
NVAR	**Mina Array Bea**	**11.12**	**246**	Pn		**Pn**	**22 12 55.3**	**+1.5**
	baz=58,slow=14,SNR=1.8							
	comp=N,0.1nm,0.4s							

IDC 09 22:24:59.0±2.0, 7°01N×126°17E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=360.7km s-min=34.3km az=73.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.97**	**163**	P	P	22 30 52.7	+1.2
	0.4nm,0.5s,baz=344,slow=9.4,SNR=3.1						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**31.41**	**166**	P	P	22 31 21.1	-1.0
	0.3nm,0.6s,baz=346,slow=6.6,SNR=6.8						
	0.3nm,0.6s						
ARCES	**ARCESS Array B**	**87.19**	**340**	P	P	22 37 46.9	0.0
	4.0nm,0.8s,baz=78,slow=5.7,SNR=3.5						
	4.0nm,0.8s						

*NEIC **09** 22:25:53.4±0.4, 36°03N±0°01×97°907W±0°009, h2km±7km, Error ellipse: s-maj=1.8km s-min=1.1km az=177.0*

TUL 09 22:25:52.9±0.5, 36°031N±0°010×97°91W±0°01, h6km±6km, ML2.7, mb_Lg2.8/44(NEIC), ML2.9/66(NEIC), Error ellipse: s-maj=1.9km s-min=1.1km az=56.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.44**	**122**	Pg	Pg	22 26 01.5	+0.2
OK029				Sg	Sg	22 26 07.8	+0.8
OK029				IAML		22 26 08.1	
	689nm,0.3s						
OK029				IAML		22 26 08.1	
	1μm,0.4s						
CROK	**Carrier**	**0.48**	**353**	Pg	Pg	22 26 02.3	+0.2
CROK				IAML		22 26 09.5	
	comp=E,912nm,0.3s						
CROK				Sg	Sg	22 26 09.0	+0.6
CROK				IAML		22 26 18.2	
	comp=N,910nm,0.3s						
ADOK	**Arcadia Dam**	**0.58**	**131**	Pg	Pg	22 26 04.3	+0.2
ADOK				Sg	Sg	22 26 12.3	+0.7
OKCSW	**OKLAHOMA CITY**	**0.73**	**148**	Pg	Pg	22 26 06.8	-0.2
OKCSW				IAML		22 26 19.8	
	comp=E,455nm,0.5s						
OK033	**Mehan**	**0.79**	**89**	Pg	Pg	22 26 07.9	-0.1
OK032	**Salt Plains WL**	**0.81**	**343**	Pg	Pg	22 26 08.2	-0.3
OK032				IAML		22 26 19.5	
	comp=E,741nm,0.4s						
OK032				IAML		22 26 25.6	
	comp=E,558nm,0.2s						
OK038	**West end E0370**	**0.81**	**304**		Pg	22 26 08.2	-0.2
GC02	**Grant County #**	**0.82**	**3**	Pg	Pg	22 26 08.4	-0.3
OK048	**Pawnee Station**	**0.87**	**63**	Pg	Pg	22 26 09.3	-0.3
FNO	**Franklin**	**0.88**	**152**	Pg	Pg	22 26 09.3	-0.4
FNO				IAML		22 26 23.1	
	comp=E,400nm,0.1s						
OK052	**Battle Ridge R**	**0.90**	**92**	Pg	Pg	22 26 09.8	-0.3
OK052				IAML		22 26 29.1	
	comp=E,274nm,0.2s						
BLOK	**Blackwell**	**0.92**	**37**	Pg	Pg	22 26 10.3	-0.2
BLOK				IAML		22 26 26.0	
	comp=N,548nm,0.3s						
OK030	**Cody Creek RV**	**0.92**	**96**		Pg	22 26 10.1	-0.4
OK030				IAML		22 26 30.3	
	comp=N,311nm,0.2s						
OK030				IAML		22 26 31.8	
	comp=N,333nm,0.3s						
KAN14	**Manchester OK**	**0.93**	**357**	Pg	Pg	22 26 10.2	-0.5
OK035	**E0210 Rd and N**	**0.94**	**316**	Pg	Pg	22 26 11.0	+0.1
U32A	**Winter Ranch,**	**0.95**	**292**	Pg	Pg	22 26 10.7	-0.4
U32A				IAML		22 26 32.0	
	comp=E,342nm,0.2s						
QUOK	**Quay**	**0.98**	**81**	Pg	Pg	22 26 11.4	-0.4
QUOK				IAML		22 26 29.7	
	comp=N,314nm,0.2s						
QUOK				IAML		22 26 33.5	
	comp=E,377nm,0.3s						
OK051	**E0350 and S346**	**0.99**	**61**		Pg	22 26 11.4	-0.4
OK051				IAML		22 26 29.7	
	comp=E,493nm,0.4s						
OK051				IAML		22 26 29.7	
	comp=E,413nm,0.4s						
KAN17	**Caldwell West**	**1.02**	**6**	Pg	Pg	22 26 12.0	-0.5
KAN17				IAML		22 26 30.2	
	comp=N,582nm,0.2s						
KAN13	**South Haven SW**	**1.04**	**19**		Pg	22 26 12.4	-0.5
KAN05	**Bluff City Nor**	**1.08**	**2**		Pg	22 26 13.1	-0.5
KAN05				IAML		22 26 29.3	
	comp=N,280nm,0.2s						
KAN05				IAML		22 26 32.3	
	comp=E,339nm,0.2s						
KAN10	**Anthony SW Sta**	**1.10**	**352**		Pg	22 26 13.5	-0.5
KAN10				IAML		22 26 32.6	
	comp=N,187nm,0.4s						
KAN01	**Argonia South**	**1.13**	**6**		Pg	22 26 13.9	-0.6
KAN01				IAML		22 26 29.6	
	comp=E,220nm,0.1s						
KAN09	**Caldwell North**	**1.13**	**12**		Pg	22 26 14.0	-0.6
DEOK	**Depew**	**1.16**	**99**	Pg	Pg	22 26 14.3	-0.9
DEOK				IAML		22 26 35.0	
	comp=E,215nm,0.2s						
DEOK				IAML		22 26 37.9	
	comp=N,201nm,0.3s						
KAN08	**Anthony NE Sta**	**1.19**	**358**		Pg	22 26 14.8	-1.0
KAN06	**Argonia West S**	**1.22**	**2**		Pg	22 26 15.6	-0.7
KAN06				IAML		22 26 32.2	
	comp=N,192nm,0.3s						
KAN06				IAML		22 26 35.5	
	comp=E,202nm,0.2s						
W35A	**Tecumseh**	**1.22**	**136**		Pg	22 26 15.3	-0.9
W35A				IAML		22 26 36.7	
	comp=N,397nm,0.3s						
ELIS	**Ellis County**	**1.22**	**272**		Pg	22 26 15.7	-0.7
KAN12	**Harper NE Stat**	**1.27**	**357**		Pn	22 26 16.2	-0.9
KAN12				IAML		22 26 43.3	
	comp=N,361nm,0.4s						
KAN12				IAML		22 26 54.7	
	comp=E,328nm,0.4s						
KS21	**Milan North St**	**1.27**	**9**	IAML		22 26 34.2	
	comp=E,270nm,0.2s						
KS21				IAML		22 26 37.1	
	comp=E,206nm,0.5s						
KS21	**Milan North St**	**1.27**	**9**		Pn	22 26 16.4	-0.7
T35A	**Sooner Cattle**	**1.43**	**51**		Pn	22 26 19.2	-0.2
WMOK	**Wichita Mounta**	**1.48**	**209**		Pn	22 26 19.3	-0.7
TUL3	**Leonard**	**1.72**	**93**		Pn	22 26 23.6	+0.2
TUL3				IAmb_Lg		22 26 49.5	
	comp=E,62nm,0.9s						
SMWD	**Samnorwood**	**2.12**	**245**		Pn	22 26 29.3	+0.4
LOOK	**Love County**	**2.12**	**163**		Pn	22 26 29.6	+0.8
WTFS	**Witchita Falls**	**2.31**	**192**	Pn	Pn	22 26 32.6	+1.2
RLO	**Rose Lookout**	**2.34**	**86**		Pn	22 26 31.8	-0.1
R32A	**Long Quarter,**	**2.47**	**345**	IAmb_Lg		22 27 15.9	
	comp=E,23nm,0.8s						
X37A	**Clayton**	**2.52**	**124**		Pn	22 26 35.9	+1.5
X37A				IAmb_Lg		22 27 11.3	
	comp=E,19nm,0.7s						
FW03	**Perrin-Whitt E**	**2.99**	**183**		Pn	22 26 41.4	+0.6
FW03				IAmb_Lg		22 27 32.1	
	comp=E,8.8nm,0.8s						
FW06	**Azle**	**3.06**	**174**		Pn	22 26 42.4	+0.6
FW06				IAmb_Lg		22 27 37.0	
	comp=E,11nm,0.9s						
CBKS	**Cedar Bluff**	**3.14**	**333**	Pn	Pn	22 26 43.1	+0.2
PLPT	**Palo Pinto**	**3.23**	**186**		Pn	22 26 44.6	+0.5
PLPT				IAmb_Lg		22 27 37.7	
	comp=E,9.7nm,0.7s						
APMT	**Aspermont**	**3.26**	**215**		Pn	22 26 44.8	+0.3
AMTX	**Amarillo**	**3.29**	**251**		Pn	22 26 44.9	-0.1
AMTX				IAmb_Lg		22 27 36.1	
	comp=E,28nm,0.7s						
DKNS	**Dickens**	**3.42**	**227**		Pn	22 26 47.9	+1.0
DKNS				IAmb_Lg		22 27 49.8	
	comp=E,18nm,0.8s						
Z38A	**Mt. Pleasant**	**3.67**	**138**	IAmb_Lg		22 27 53.5	
	comp=E,33nm,0.9s						
ABTX	**Abilene, Hawle**	**3.69**	**203**		Pn	22 26 50.7	+0.2
RTBA	**Rita Blanca**	**3.92**	**277**		Pn	22 26 54.1	+0.3
S39A	**Bolivar**	**4.03**	**64**		Pn	22 26 54.9	-0.3
WHTX	**Lake Whitney,**	**4.05**	**175**	Pn	Pn	22 26 55.8	+0.4
POST	**Post**	**4.19**	**226**	IAmb_Lg		22 28 12.3	
	comp=E,30nm,0.8s						
X40A	**Basin Creek Fa**	**4.43**	**109**	IAmb_Lg		22 28 16.6	
	comp=E,16nm,0.8s						
WHAR	**Wooly Hollow**	**4.63**	**98**		Pn	22 27 03.1	-0.3
MGMO	**Mountain Grove**	**4.67**	**74**	IAmb_Lg		22 28 23.8	
	comp=E,19nm,1.0s						
KSCO	**Kaye Shedlock'**	**4.79**	**310**	IAmb_Lg		22 28 37.0	
	comp=E,23nm,0.8s						
BRDY	**Brady**	**4.82**	**191**		Pn	22 27 06.6	+0.6
BRDY				IAmb_Lg		22 28 37.2	
	comp=E,7.4nm,0.8s						
SGCY	**Sterling City**	**4.90**	**214**	IAmb_Lg		22 28 37.7	
	comp=E,46nm,1.3s						
P38A	**Dawn**	**4.99**	**43**	IAmb_Lg		22 28 38.7	
	comp=E,17nm,0.9s						
R40A	**Maddies Statio**	**5.04**	**62**	IAmb_Lg		22 28 31.9	
	comp=E,17nm,0.8s						
T25A	**Trinidad**	**5.35**	**284**	IAmb_Lg		22 28 42.3	
	comp=E,17nm,0.8s						
CCM	**Cathedral Cave**	**5.70**	**67**	IAmb_Lg		22 29 01.0	
	comp=E,14nm,0.8s						
OZNA	**Ozona**	**5.76**	**209**	IAmb_Lg		22 29 08.4	
	comp=E,15nm,1.0s						
MNHN	**Monahans**	**6.18**	**222**	IAmb_Lg		22 29 17.1	
	comp=E,8.0nm,0.7s						
Q24A	**Divide**	**6.46**	**299**	IAmb_Lg		22 29 22.4	
	comp=E,12nm,0.9s						
HNDO	**Hondo**	**6.59**	**190**	IAmb_Lg		22 29 30.3	
	comp=E,10nm,0.8s						
PECS	**Pecos**	**6.80**	**229**	IAmb_Lg		22 29 28.6	
	comp=E,11nm,0.8s						
DRIO	**Del Rio**	**6.97**	**200**	IAmb_Lg		22 29 34.0	
	comp=E,9.3nm,1.0s						
SAND	**Sanderson**	**7.02**	**211**	IAmb_Lg		22 29 50.5	
	comp=E,16nm,1.1s						
ALPN	**Alpine**	**7.41**	**222**	IAmb_Lg		22 29 49.3	
	comp=E,7.9nm,0.9s						
N23A	**Red Feather La**	**7.96**	**310**	IAmb_Lg		22 30 12.5	
	comp=E,12nm,0.9s						

*IDC **09** 22:26:31.4±2.1, 26°32N×125°77E, h111km±20km, mb3.7/16, mbtmp4.0/20, Error ellipse: s-maj=22.0km s-min=13.7km az=60.0*

*NIED **09** 22:26:32.1, 26°25N×125°74E, h122km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.67; $M_{\theta\theta}$-3.19; $M_{\phi\phi}$1.52; $M_{r\theta}$-5.28; $M_{\theta\phi}$-5.93; $M_{r\phi}$0.97; Fault plane solution: $M_0$8.45000×10^{14} NP1: ϕ_s277.00000°, δ82.00000°, λ138.00000°. NP2: ϕ_s13.00000°, δ49.00000°, λ10.00000°.*

*JMA **09** 22:26:32.1±0.2, 26°N±2°×12°6E±°, h122km±3km, MV3.7/28, NW OFF MIYAKOJIMA ISLAND*

*NEIC **09** 22:26:32.2±2.8, 26°22N±0°09×125°80E±0°07, h111km±8km, mb4.3/16, Error ellipse: s-maj=13.0km s-min=8.7km az=164.0*

ISC 09 22:26:32.3±0.7, 26°23N±0°06×125°77E±0°05, h119km±7km, n86, σ1°911/109, mb4.0/24, Northeast of Taiwan

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.92**	**84**	*i*	P	**Pn**	**22 26 54.1**	**+0.8**
JKE					S	**Sn**	**22 27 10.1**	**+0.7**
JAGN	**Aguni-jima**	**1.37**	**75**		P	**Pn**	**22 26 58.9**	**+0.8**
JAGN					S	**Sn**	**22 27 18.4**	**+0.6**
JIKM	**Ikemajima**	**1.39**	**200**		P	**Pn**	**22 26 58.9**	**+0.6**
JIKM					S	**Sn**	**22 27 18.7**	**+0.6**
JIRB	**Irabujima**	**1.50**	**201**		P	**Pn**	**22 26 60.0**	**+0.4**
JIRB					S	**Sn**	**22 27 19.7**	**-0.7**
JOGS	**Gusukube**	**1.50**	**193**		P	**Pn**	**22 27 00.6**	**+0.9**
JOGS					S	**Sn**	**22 27 20.9**	**+0.4**
JMJ2	**Miyako jima3**	**1.54**	**195**		P	**Pn**	**22 27 00.8**	**+0.7**
JMJ2					S	**Sn**	**22 27 22.0**	**+0.7**
JJT3	**Tamagusuku3**	**1.81**	**92**		P	**Pn**	**22 27 04.6**	**+1.2**
JJT3					S	**Sn**	**22 27 28.6**	**+1.5**
JTJ	**Tarama**	**1.86**	**212**		P	**Pn**	**22 27 04.1**	**+0.2**
JTJ					S	**Sn**	**22 27 27.2**	**-0.8**
JNTH	**Nagotoyohara**	**2.04**	**82**		P	**Pn**	**22 27 06.8**	**+0.7**
JNTH					S	**Sn**	**22 27 31.2**	**-0.9**
JISG	**Ishigakijimahi**	**2.10**	**219**		P	**Pn**	**22 27 07.1**	**+0.1**
JISG					S	**Sn**	**22 27 32.3**	**-1.2**
JIH	**Iheya**	**2.12**	**67**	*i*	P	**Pn**	**22 27 08.0**	**+0.8**
JIH					S	**Sn**	**22 27 34.0**	**0.0**
JOW	**Kunigami**	**2.32**	**75**			**Pn**	**22 27 10.1**	**+0.4**
JOW					Sn	**Sn**	**22 27 36.7**	**-1.9**
JOW	**Kunigami**	**2.32**	**75**		P	**Pn**	**22 27 10.4**	**+0.7**
JOW	**Kunigami**	**2.32**	**75**	*i*	P	**Pn**	**22 27 10.1**	**+0.4**
JOW					S	**Sn**	**22 27 37.3**	**-1.2**
JOW	**Kunigami**	**2.32**	**75**		P	**Pn**	**22 27 09.7**	**0.0**
	66nm,0.2s,baz=151,slow=14,SNR=135							
JOW					S	**Sn**	**22 27 36.6**	**-1.9**
	108nm,0.3s,baz=244,slow=12,SNR=9.8							
JIJ	**Ishigaki jima**	**2.37**	**219**	*i*	P	**Pn**	**22 27 10.0**	**-0.4**
JIJ					S	**Sn**	**22 27 37.2**	**-2.4**
JYRO	**Yoronjima**	**2.53**	**71**	*i*	P	**Pn**	**22 27 12.6**	**+0.2**
JYRO				*e*	S	**Sn**	**22 27 41.8**	**-1.4**
JKRS	**Kuro-shima**	**2.55**	**219**		P	**Pn**	**22 27 12.5**	**-0.1**
JKRS					S	**Sn**	**22 27 42.3**	**-1.3**
IRIF	**Iriomote-Funau**	**2.64**	**225**		P	**Pn**	**22 27 13.6**	**-0.2**
IRIF					S	**Sn**	**22 27 44.7**	**-1.1**
JOKE	**Okinoerabujima**	**2.75**	**65**		P	**Pn**	**22 27 15.2**	**0.0**
HATJ	**Hateruma jima**	**2.80**	**220**		S	**Sn**	**22 27 48.5**	**-1.1**
YOJ	**Yonaguni jima**	**3.06**	**235**	Pn		**Pn**	**22 27 19.8**	**+0.5**
YOJ	**Yonaguni jima**	**3.06**	**235**		P	**Pn**	**22 27 20.2**	**+0.9**
YOJ	**Yonaguni jima**	**3.06**	**235**		P	**Pn**	**22 27 20.2**	**+0.9**
YOJ					S	**Sn**	**22 27 56.6**	**+1.1**
JYNG	**Yonagunijimaku**	**3.11**	**236**		S	**Sn**	**22 27 57.8**	**+1.0**
JTK	**Tokunoshima**	**3.23**	**61**		S	**Sn**	**22 27 58.3**	**-1.4**
JAMN	**Amaminishikomi**	**3.63**	**56**		P	**Pn**	**22 27 26.5**	**-0.4**
JAM	**Amami Oshima**	**4.04**	**57**		P	**Pn**	**22 27 31.9**	**-0.5**
TATO	**Taipei**	**4.06**	**253**			**Pn**	**22 27 33.9**	**+1.3**
TATO	**Taipei**	**4.06**	**253**		P	**Pn**	**22 27 34.6**	**+2.0**
YHNB	**Yeheng**	**4.26**	**250**			**Pn**	**22 27 36.8**	**+1.4**
YHNB	**Yeheng**	**4.26**	**250**		P	**Pn**	**22 27 37.9**	**+2.5**
NACB	**Ninganchiao**	**4.30**	**242**			**Pn**	**22 27 35.5**	**-0.3**
NACB	**Ninganchiao**	**4.30**	**242**		P	**Pn**	**22 27 35.6**	**-0.2**
JMZ	**Minamidaito 2**	**4.92**	**94**	Pn		**Pn**	**22 27 43.5**	**-0.6**
JMZ	**Minamidaito 2**	**4.92**	**94**		P	**Pn**	**22 27 43.7**	**-0.5**
YULB	**Yu-li**	**4.95**	**236**			**Pn**	**22 27 42.7**	**-1.9**
YULB	**Yu-li**	**4.95**	**236**		P	**Pn**	**22 27 42.7**	**-1.9**
SSLB	**Suanglung**	**5.00**	**242**			**Pn**	**22 27 44.8**	**-0.5**
SSLB	**Suanglung**	**5.00**	**242**		P	**Pn**	**22 27 44.9**	**-0.4**
TWGBT	**Beinan**	**5.46**	**232**		P	**Pn**	**22 27 49.3**	**-2.1**
TWG	**Pinlang**	**5.46**	**233**	Pn		**Pn**	**22 27 49.1**	**-2.3**
TPUB	**Ta-pu**	**5.51**	**239**			**Pn**	**22 27 51.8**	**-0.3**
TPUB	**Ta-pu**	**5.51**	**239**		P	**Pn**	**22 27 52.4**	**+0.3**
JNU	**Nakatsue**	**8.18**	**32**	Pn		**Pn**	**22 28 28.9**	**+0.8**
JNU	**Nakatsue**	**8.18**	**32**		P	**Pn**	**22 28 26.8**	**-1.3**
	5.7nm,1.0s,baz=159,slow=23,SNR=2.0							
JMN	**Monobe**	**10.26**	**41**	Pn		**Pn**	**22 28 53.1**	**-3.0**
KSRS	**Korea Array**	**11.34**	**9**	P		**Pn**	**22 29 08.9**	**-1.7**
	0.9nm,0.6s,baz=181,slow=39,SNR=2.1							
USRK	**Ussuriysk Ar.**	**18.62**	**14**	P		**P**	**22 30 40.4**	**0.0**
	0.9nm,0.5s,baz=194,slow=7.8,SNR=4.0							
ULN	**Ulaanbaatar**	**26.12**	**331**	P		**P**	**22 31 57.9**	**+2.7**
ULN				IAmb		IAmb	22 31 59.1	
	comp=Z,3.8nm,0.8s							
SONM	**Songino Array**	**26.39**	**330**	P		**P**	**22 31 59.7**	**+2.1**
SONM	**Songino Array**	**26.39**	**330**	P		**P**	**22 31 57.9**	**+0.3**
	comp=Z,3.2nm,0.4s,baz=148,slow=11,SNR=46							
	comp=Z,3.2nm,0.4s							
SBUM	**Sibu**	**26.99**	**211**	P		**P**	**22 32 04.6**	**+1.5**
SBUM				IAmb		IAmb	22 32 07.6	
	comp=Z,9.7nm,0.9s							
MTN	**Manton Dam**	**39.19**	**172**	P		**P**	**22 33 48.5**	**-0.2**
MTN				IAmb		IAmb	22 33 53.5	
	comp=Z,8.9nm,1.1s							
MK31	**Makanchi Array**	**39.89**	**313**	P		**P**	**22 33 53.9**	**-0.6**
MKAR	**Makanchi Array**	**39.89**	**313**	P		**P**	**22 33 53.9**	**-0.6**
MKAR	**Makanchi Array**	**39.89**	**313**	P		**P**	**22 33 53.4**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=97,slow=10.0,SNR=31							
MKAR				PcP		**PcP**	**22 35 58.5**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=102,slow=1.6,SNR=5.6							
	comp=Z,1.0nm,0.4s							
ZAA0	**Zalesovo Array**	**40.92**	**324**	P		**P**	**22 34 02.1**	**-0.6**
ZAA0				IAmb		IAmb	22 34 02.9	
	comp=Z,1.7nm,0.6s							
ZALV	**Zalesovo Beam**	**40.92**	**324**	P		**P**	**22 34 02.3**	**-0.4**
ZALV	**Zalesovo Beam**	**40.92**	**324**	P		**P**	**22 34 02.0**	**-0.7**
	comp=Z,1.8nm,0.4s,baz=120,slow=8.9,SNR=8.8							
ZALV				PcP		**PcP**	**22 36 00.1**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=104,slow=6.7,SNR=2.9							
	comp=Z,1.8nm,0.4s							
KNRA	**Kununurra**	**41.76**	**176**	P		**P**	**22 34 09.8**	**-0.1**
KURK	**Kurchatov**	**43.31**	**317**	P		**P**	**22 34 21.5**	**-0.6**
KURBB	**Kurchatov Arra**	**43.34**	**317**	P		**P

1.0nm,0.5s,baz=88,slow=8.5,SNR=25
1.0nm,0.5s
TXAR Lajitas Array 80.78 56 P P 23 12 07.9 +0.1
0.9nm,1.0s,baz=207,slow=5.2,SNR=4.3
0.9nm,1.0s
BRTR Keskin Array B 146.41 321 PKPbc PKPdf 23 19 34.4 +0.3
1.0nm,0.8s,baz=60,slow=1.8,SNR=6.5

DJA 09 23:37:23.2±0.7, 1°S×5°×12°4E±°, h14km±7km, M3.7/6, mb3.8/1, MLv3.7/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.89**	**240**	P	Pb	23 37 40.3	-0.1
LUWI				S	Sn	23 37 53.0	-0.9
KMSI	**Cibinong**	**1.25**	**21**	P	Pn	23 37 45.0	-1.2
MRSI	**Marisa**	**1.92**	**304**	P	Pn	23 37 54.8	-0.7
MRSI				S	Sn	23 38 19.8	+0.2
SANI	**Sanana**	**2.84**	**120**	P	Pn	23 38 03.2	-5.0
LBMI	**Labuha**	**3.96**	**91**	P	Pn	23 38 23.9	+0.3
BKSI	**Bulukumba**	**5.80**	**216**	P	Pn	23 38 48.3	-0.6

*IDC **09** 23:57:44.3±2.1, 8°24S×125°07E, h0km, mb3.4/1, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=190.3km s-min=32.8km az=59.0*
*DJA **09** 23:57:54.4±0.4, 9°S±3°×12°4E±°, h94km±5km, M4.0/10, mb4.2/3, mB4.8/1, MLv3.8/10, Mw(mB)4.1/1*
ISC 09 23:57:53.1±1.3, 8°9S±0°.1×124°5E±0°.1, h100km, n10, σ2§79/14, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.84**	**194**	P	**Pn**	**23 58 14.4**	**+2.3**
SOEI				S	**Sn**	**23 58 28.0**	**+1.7**
BATI	**Baumata**	**1.50**	**212**	P	**Pn**	**23 58 21.3**	**+1.9**
BATI				S	**Sn**	**23 58 39.7**	**+0.4**
MMRI	**Maumere**	**2.23**	**277**	P	**Pn**	**23 58 27.9**	**-0.8**
EDFI	**Ende, Flores**	**2.76**	**274**	P	**Pn**	**23 58 34.6**	**-1.2**
BASI	**Baing, Sumba**	**4.05**	**251**	P	**Pn**	**23 58 51.3**	**-1.7**
PLAI	**Plampang**	**6.62**	**270**	P	**Pn**	**23 59 27.9**	**0.0**
	12nm,0.6s,0.1nm						
TWSI	**Taliwang, Sumb**	**7.50**	**271**	P	**Pn**	**23 59 39.9**	**0.0**
	18nm,0.9s,0.1nm						
WRA	**Warramunga Arr**	**14.52**	**140**	Pn	**Pn**	**00 01 14.0**	**+0.2**
	0.4nm,0.3s,baz=320,slow=14,SNR=13						
WRA				Sn	**Sn**	**00 03 49.0**	**-5.0**
	0.9nm,0.3s,baz=315,slow=24,SNR=9.3						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**17.21**	**149**	P	**Pn**	**00 01 49.9**	**+2.5**
	0.1nm,0.3s,baz=322,slow=11,SNR=17						
ASAR				S	**Sn**	**00 04 53.0**	**-5.8**
	0.7nm,0.6s,baz=328,slow=26,SNR=7.2						
	1.3nm,0.4s						
MKAR	**Makanchi Array**	**66.99**	**330**	P	**P**	**00 08 37.1**	**+1.8**
	0.2nm,0.6s,baz=131,slow=7.9,SNR=2.0						
	0.2nm,0.6s						

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*IDC **10** 00:03:08.4±7.0, 18°.34N×146°.40E, h88km±51km, mb3.6/7, mbtmp4.0/8, ML4.2/1, MS2.7/1, Error ellipse: s-maj=106.6km s-min=22.4km az=84.0*
ISC 10 00:03:05.4±2.2, 18°.4N±0°.1×146°.7E±0°.5, h64km, n9, σ0§88/9, mb3.8/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.12**	**200**	P	**Pn**	**00 04 20.4**	**+0.9**
	9.3nm,0.3s,baz=205,slow=21,SNR=1.5						
GUMO				S	**Sn**	**00 05 17.0**	**-0.3**
	36nm,0.4s,baz=338,slow=22,SNR=1.6						
	22nm,0.3s						
KSRS	**Korea Array**	**25.09**	**323**	LR	LR	00 18 06.2	
	comp=Z,18nm,19.3s,baz=25,slow=36						
WRA	**Warramunga Arr**	**40.01**	**198**	P	**P**	**00 10 33.2**	**-0.9**
	0.6nm,0.5s,baz=17,slow=9.2,SNR=4.9						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**43.66**	**197**	P	**P**	**00 11 03.6**	**-0.3**
	0.3nm,0.7s,baz=22,slow=9.7,SNR=5.7						
	0.3nm,0.7s						
SONM	**Songino Array**	**43.93**	**321**	P	**P**	**00 11 06.4**	**+0.4**
	0.2nm,0.4s,baz=126,slow=7.3,SNR=2.4						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**58.79**	**322**	P	**P**	**00 12 56.1**	**-0.8**
	0.5nm,0.6s,baz=122,slow=10,SNR=2.6						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**67.27**	**320**	P	**P**	**00 13 53.2**	**0.0**
	1.1nm,0.5s,baz=89,slow=7.4,SNR=12						
	1.1nm,0.5s						
ARCES	**ARCESS Array B**	**83.03**	**342**	P	**P**	**00 15 24.7**	**+1.2**
	4.4nm,0.9s,baz=68,slow=8.1,SNR=5.9						
	4.4nm,0.9s						
FINES	**FINESS Array B**	**87.51**	**336**	P	**P**	**00 15 45.1**	**-0.8**
	6.0nm,1.0s,baz=90,slow=3.8,SNR=7.3						
	6.0nm,1.0s						

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*IDC **10** 00:18:03.1±8.0, 29°.57S×71°.39W, h0km, mb3.7/1, mbtmp3.5/2, ML3.8/1, MS3.1/1, Error ellipse: s-maj=586.9km s-min=49.6km az=176.0*
*GUC **10** 00:18:06.1±0.6, 30°.63S×71°.64W, h38km±2km, ML3.9*
ISC 10 00:18:06.0±1.5, 30°.59S±0°.03×71°.61W±0°.07, h32km±11km, n43, σ1§73/57, 1C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**0.74**	**26**	*e*P	**Pb**	**00 18 20.5**	**0.0**
CO05				*e*S	**Sn**	**00 18 31.7**	**+1.3**
CO05				IAML		00 18 34.8	
	comp=E,4μm,0.4s						
CO02	**Combarbal**	**0.81**	**140**	⇓*i*P	**Pb**	**00 18 21.1**	**-0.6**
CO02				*e*S	**Sn**	**00 18 32.2**	**-0.1**
CO02				IAML		00 18 37.4	
	comp=N,8μm,0.2s						
GO04	**Tololo Observa**	**0.82**	**60**	⇓*i*P	**Pn**	**00 18 22.2**	**+0.7**
GO04				*e*S	**Sn**	**00 18 33.3**	**+0.6**
CO03	**El Pedregal**	**0.83**	**108**	⇓*i*P	**Pn**	**00 18 22.1**	**+0.4**
CO03				*e*S	**Sn**	**00 18 33.0**	**+0.1**
CO03				IAML		00 18 37.0	
	comp=E,4μm,0.3s						
CO01	**Juntas del Tor**	**1.45**	**66**	*e*P	**Pb**	**00 18 32.4**	**-0.2**
CO01				*e*S	**Sb**	**00 18 51.4**	**+0.7**
AC05	**El Transito**	**2.10**	**34**	⇑*i*P	**Pn**	**00 18 41.3**	**+2.2**
AC05				*e*S	**Sb**	**00 19 08.1**	**-1.1**
AC05				IAML		00 19 18.0	
	comp=N,851nm,0.3s						
VA03	**San Esteban**	**2.35**	**158**	*e*P	**Pn**	**00 18 44.0**	**+1.5**
VA03				*e*S	**Sn**	**00 19 12.9**	**+2.5**
VA03				IAML		00 19 21.4	
	comp=E,620nm,0.3s						
AC04	**Llanos de Chal**	**2.42**	**11**	⇓*i*P	**Pn**	**00 18 43.8**	**+0.4**
AC04				IAML		00 19 28.6	
	comp=N,467nm,0.7s						
ROCH	**El Roble**	**2.43**	**168**	*e*P	Pb	00 18 44.2	-5.0
ROCH				*e*P	**Pn**	**00 18 44.2**	**+0.5**
ROCH				*e*S	**Sn**	**00 19 13.8**	**+1.3**
ROCH				IAML		00 19 29.5	
	comp=N,465nm,0.5s						
ROCH				IAML		00 19 30.5	
	comp=N,531nm,0.5s						
PEL	**Peldehue**	**2.67**	**163**	*e*P	**Pn**	**00 18 47.9**	**+1.1**
PEL				*e*S	**Sn**	**00 19 18.8**	**+0.7**
PEL				IAML		00 19 33.9	
	comp=E,400nm,0.7s						
MT02	**Curacav**	**2.69**	**171**	*e*P	**Pn**	**00 18 47.9**	**+0.7**
MT10	**Hacienda Santa**	**2.83**	**161**	*e*P	**Pn**	**00 18 50.5**	**+1.3**
MT10				*e*S	**Sn**	**00 19 24.6**	**+2.3**
MT10				IAML		00 19 37.1	
	comp=N,890nm,0.7s						
MT05	**Renca**	**2.89**	**165**	*e*P	**Pn**	**00 18 51.4**	**+1.4**
MT05				*e*S	**Sn**	**00 19 25.2**	**+1.5**
MT05				IAML		00 19 37.3	
	comp=E,666nm,0.7s						
MT14	**Cerro Cal¡n**	**2.95**	**162**	*e*P	**Pn**	**00 18 51.5**	**+0.8**
MT14				*i* S	**Sn**	**00 19 26.0**	**+1.0**
MT14				IAML		00 19 45.8	
	comp=E,612nm,0.6s						
FCH	**Farellones**	**2.95**	**158**	*e*P	**Pn**	**00 18 52.8**	**+1.7**
FCH				*e*S	**Sn**	**00 19 29.3**	**+3.7**
MT03	**Universidad Ad**	**3.04**	**162**	*e*P	**Pn**	**00 18 53.3**	**+1.2**
MT03				*e*S	**Sn**	**00 19 29.2**	**+1.7**
MT03				IAML		00 19 41.3	
	comp=N,407nm,0.5s						
CFA	**Coronel Fontan**	**3.07**	**110**	LR	LR	00 20 23.6	

comp=N,249nm,19.4s,baz=205,slow=41
MT04 Ro Olivares 3.08 156 *i* P **Pn** **00 18 55.5 +2.8**
MT04 *e*S **Sn** **00 19 30.4 +1.9**
MT04 IAML 00 19 44.0
comp=E,209nm,0.4s
MT15 Las Vizcachas 3.15 163 *e*P **Pn** **00 18 54.3 +0.9**
MT15 *e*S **Sn** **00 19 31.5 +1.6**
MT15 IAML 00 19 44.2
comp=E,454nm,0.7s
MT08 Bocatoma Ro 3.15 155 *e*P **Pn** **00 18 57.3 +3.6**
MT08 IAML 00 19 51.1
comp=N,281nm,0.7s
GO03 Copiap 3.22 22 *e*P **Pn** **00 18 55.7 +1.3**
GO03 *e*S **Sn** **00 19 35.4 +3.7**
GO03 IAML 00 19 51.5
comp=E,322nm,0.3s
MT09 Talagante 3.22 171 ⇓*e*P **Pn** **00 18 55.3 +0.8**
MT09 *e*S **Sn** **00 19 33.3 +1.4**
MT09 IAML 00 19 51.4
comp=E,199nm,0.4s
MT12 Pirque 3.26 164 *e*P **Pn** **00 18 56.0 +1.0**
MT12 *e*S **Sn** **00 19 34.0 +1.2**
MT12 IAML 00 19 50.5
comp=E,464nm,0.4s
MT01 Popeta 3.28 175 *e*P **Pn** **00 18 55.5 +0.3**
MT01 *e*S **Sn** **00 19 29.4 -3.8**
MT01 IAML 00 19 49.9
comp=E,132nm,0.5s
MT13 San Alfonso 3.34 161 *e*P **Pn** **00 18 57.2 +1.1**
MT13 *e*S **Sn** **00 19 36.3 +1.5**
MT13 IAML 00 19 50.9
comp=N,154nm,0.2s
AC06 Mina Casimiro 3.40 19 *e*P **Pn** **00 18 57.0 +0.1**
AC06 *e*S **Sn** **00 19 39.1 +2.9**
LMEL Las Melosas 3.46 160 *e*P **Pn** **00 18 59.1 +1.3**
LMEL IAML 00 19 58.3
comp=N,137nm,0.3s
BO04 La Punta 3.50 166 *e*P **Pn** **00 18 59.1 +0.9**
BO04 *e*S **Sn** **00 19 39.2 +0.6**
BO04 IAML 00 19 58.2
comp=E,138nm,0.5s
BO01 Tunca 3.82 173 *e*P **Pn** **00 19 02.8 +0.1**
BO02 Sierra Bellavi 4.25 171 *e*P **Pn** **00 19 09.4 +0.8**
BO02 *e*S **Sn** **00 19 57.4 +0.2**
AC01 Pan de Azucar 4.51 12 ⇓*i*P **Pn** **00 19 10.9 -1.3**
H03N1 Juan Fernandez 6.82 243 T T 00 26 35.8
baz=72,slow=72,SNR=4148
H03N3 Juan Fernandez 6.83 243 T T 00 26 33.9
baz=72,slow=72,SNR=3348
H03N2 Juan Fernandez 6.83 244 T T 00 26 32.0
baz=72,slow=72,SNR=3579
CPUP Villa Florida 13.26 75 Pn Pn 00 21 05.9 -6.2
comp=E,0.1nm,0.3s,baz=258,slow=9.3,SNR=1.4
CPUP Sn **Sn** **00 23 33.7 -4.8**
baz=226,slow=17,SNR=1.6
comp=E,0.4nm,0.4s
TORD Torodi Ar. Bea 82.71 70 P **P** **00 30 26.7 -0.3**
comp=E,0.4nm,0.6s,baz=239,slow=5.2,SNR=2.8
comp=E,0.4nm,0.6s
H11S2 WAKE ISLAND Hyl 26.12 271 T T 02 55 47.3
baz=115,slow=75,SNR=20
H11S1 WAKE ISLAND Hyl 26.13 271 T T 02 55 45.7
baz=115,slow=75,SNR=18
H11S3 WAKE ISLAND Hyl 26.13 271 T T 02 55 44.0
baz=115,slow=75,SNR=17
H11N3 WAKE ISLAND Hyl 26.44 273 T T 02 56 16.5
baz=117
H11N1 WAKE ISLAND Hyl 26.46 273 T T 02 56 12.3
baz=117
H11N2 WAKE ISLAND Hyl 26.46 273 T T 02 56 20.0
baz=117
ZALV Zalesovo Beam 151.12 29 PKPbc **PKPbc** **00 37 55.0 -0.4**
comp=E,2.4nm,0.8s,baz=307,slow=4.4,SNR=11

IDC 10 00:39:38.8±1.3, 13°.65N×143°.97E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=53.3km s-min=30.7km az=101.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**38.38**	**195**	P	P	00 47 01.8	-0.1
	0.1nm,0.3s,baz=12,slow=9.7,SNR=4.3						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**64.01**	**320**	P	P	00 50 14.1	0.0
	1.0nm,0.2s,baz=102,slow=6.6,SNR=1.1						
	1.0nm,0.2s						
ILAR	**Eielson Array**	**68.89**	**25**	P	P	00 50 45.0	-0.1
	0.4nm,0.7s,baz=249,slow=5.1,SNR=5.5						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**69.33**	**322**	P	P	00 50 48.2	+0.1
	0.4nm,0.4s,baz=109,slow=8.8,SNR=4.7						
	0.4nm,0.4s						
YKA	**Yellowknife Ar**	**83.20**	**27**	P	P	00 52 06.9	+0.1
	0.2nm,0.7s,baz=289,slow=5.7,SNR=2.6						
	0.2nm,0.7s						

IDC 10 00:44:54.6±1.6, 2°.21N×125°.87E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=176.0km s-min=23.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.53**	**160**	P	P	00 50 06.6	-0.1
	0.6nm,0.4s,baz=338,slow=10,SNR=6.2						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**26.88**	**164**	P	P	00 50 37.8	+0.3
	0.3nm,0.7s,baz=343,slow=6.9,SNR=5.4						
ASAR				PcP	PcP	00 53 59.2	-0.9
	0.1nm,0.5s,baz=350,slow=1.8,SNR=4.5						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**58.32**	**326**	P	P	00 54 52.0	+0.5
	0.2nm,0.5s,baz=127,slow=8.6,SNR=2.3						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**62.56**	**328**	P	P	00 55 20.0	-0.3
	0.3nm,0.6s,baz=126,slow=4.6,SNR=2.5						
	0.3nm,0.6s						

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*BUG **10** 00:47:27.9, 51°.59N×6°.86E, h2km±1km, MD2.7/13, ML2.9/8*
*BNS **10** 00:47:28.8±0.8, 51°.56N×6°.85E, h1km±11km, ML2.3*
*LDG **10** 00:47:28.4±0.2, 51°.57N×6°.82E, h1km, Md3.0/1, Ml2.9/21, Error ellipse: s-maj=3.3km s-min=2.6km az=129.0, Suspected Mining induced.*
*BGR **10** 00:47:28.8±0.3, 51°.55N×6°.89E, h1km, ML2.6/8, Error ellipse: s-maj=3.3km s-min=2.2km az=104.0*
*PRU **10** 00:47:28.2, 51°.42N×6°.78E, h0km*
*UCC **10** 00:47:29.7, 51°.57N×6°.94E, h10km, ML2.7*
*VIE **10** 00:47:30.9±1.1, 51°.37N×7°.09E, h2km, mb2.8/3, ml2.2/4, ms3.6/1, Error ellipse: s-maj=10.4km s-min=6.8km az=145.0 10 km SSE of Essen Suspected Mining induced.*
ISC 10 00:47:26.7±0.7, 51°.55N±0°.02×6°.76E±0°.02, h0km, n89, σ1§41/139, 1C-11D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BZER	**HInxe**	**0.10**	**42**	Pg	**Pg**	**00 47 29.1**	**+0.5**
BZER				Sg	**Sg**	**00 47 29.6**	**-0.3**
LAUG	**Laupendahl**	**0.23**	**150**	⇓*e*Pg	**Pg**	**00 47 33.0**	**+2.0**
HES	**Velbert-Hesper**	**0.25**	**136**	⇓*e*Pg	**Pg**	**00 47 33.2**	**+1.7**
HES				*e*Sg	**Sg**	**00 47 36.8**	**+2.1**
	162nm,0.3s						
BAVN	**Auguste-Victor**	**0.29**	**49**	Pg	**Pg**	**00 47 33.3**	**+0.9**
BULI	**Ruhr-Universit**	**0.32**	**106**	Pg	**Pg**	**00 47 34.1**	**+1.2**
BKLB	**Ruhr-Universit**	**0.33**	**108**	Pg	**Pg**	**00 47 34.2**	**+1.1**
BUG	**Bochum--Univer**	**0.33**	**108**	Pg	**Pg**	**00 47 34.3**	**+1.2**
BUG				Sg	**Sg**	**00 47 39.0**	**+1.6**
BTEZ	**Ruhr-Universit**	**0.34**	**107**	Pg	**Pg**	**00 47 34.3**	**+1.1**
WTSB	**Winterswijk**	**0.42**	**3**	*e*Pg	**Pg**	**00 47 36.3**	**+1.6**
WTSB				*e*Sg	**Sg**	**00 47 41.9**	**+1.6**
ENTS	**Ennepetalsperr**	**0.51**	**127**	*e*Pg	**Pg**	**00 47 37.7**	**+1.3**
ENTS				*e*Sg	**Sg**	**00 47 44.2**	**+1.2**
RODG	**Roetgen-Dahlhe**	**0.54**	**222**	*e*Pg	**Pb**	**00 47 40.2**	**+1.1**
PLH	**Pulheim**	**0.54**	**176**	*e*Pg	**Pb**	**00 47 39.7**	**+0.6**
PLH				*e*Sg	**Sb**	**00 47 47.5**	**+0.1**
HMES	**Hamm, Michael-**	**0.61**	**79**	Pg	**Pg**	**00 47 39.0**	**+0.6**
HOBG	**Hohbusch**	**0.67**	**147**	*e*Pg	**Pg**	**00 47 41.4**	**+0.1**
SORT	**Sorpetalsperre**	**0.78**	**104**	*e*Pg	**Pg**	**00 47 42.2**	**+0.6**
SORT				*e*Sg	**Sg**	**00 47 52.0**	**+0.2**
	91nm,0.3s						
WBS	**Wahnbachtalspe**	**0.81**	**156**	*e*Pg	**Pb**	**00 47 44.0**	**+0.4**
WBS				*e*Sg	**Sb**	**00 47 54.9**	**-0.2**
	58nm,0.3s						
GSH	**Grosshau**	**0.85**	**197**	*e*Pg	**Pn**	**00 47 45.7**	**-0.2**
GSH				*e*Sg	**Sb**	**00 47 57.8**	**+1.6**
	55nm,0.3s						
KLL	**Kalltalsperre**	**0.94**	**198**	*e*Pg	**Pn**	**00 47 47.7**	**+0.5**
DREG	**Dreilaegerbach**	**0.94**	**201**	*e*Pg	**Pn**	**00 47 47.7**	**+0.5**
STB	**Steinbach**	**0.95**	**177**	*e*Pg	**Pn**	**00 47 47.4**	**+0.1**
STB				*e*Sg	**Sn**	**00 48 00.8**	**-0.9**
	66nm,0.2s						
IBBS	**Ibbenbueren So**	**0.96**	**39**	Pg	**Pb**	**00 47 46.9**	**+0.7**
TDN	**Todenfeld**	**0.98**	**173**	*e*Pg	**Pn**	**00 47 47.8**	**0.0**
TDN				*e*Sg	**Sn**	**00 48 01.4**	**-0.9**
	117nm,0.3s						
IBBN	**Ibbenburen**	**0.98**	**39**	Pg	**Pg**	**00 47 45.1**	**-0.4**
IBBN				Sg	**Sg**	**00 47 58.0**	**-0.2**
IBBE	**Ibbenbueren Ea**	**0.99**	**40**	Pg	**Pg**	**00 47 45.8**	**+0.1**
MEM	**Membach**	**1.05**	**207**	*d*P	**Pn**	**00 47 49.6**	**+0.9**
MEM	**Membach**	**1.05**	**207**	*e*Pg	**Pn**	**00 47 49.2**	**+0.5**
MEM				*e*Sg	**Sn**	**00 48 04.0**	**0.0**
BIW	**Bindweide**	**1.06**	**140**	*e*Pg	**Pb**	**00 47 48.4**	**+0.5**
KASTN	**Kahler Asten**	**1.09**	**108**	Pg	**Pg**	**00 47 48.2**	**+0.6**
KASTN				Sg	**Sg**	**00 48 02.3**	**+0.5**
BDSL	**Dessel**	**1.11**	**253**	*d*P	**Pn**	**00 47 53.0**	**+3.4**
BLCH	**La Chartreuse**	**1.17**	**219**	*d*P	**Pn**	**00 47 51.7**	**+1.5**
LAGB	**Langenfeld Gru**	**1.21**	**170**	*e*Pg	**Pn**	**00 47 51.6**	**+0.8**
BHE	**Schloss Buerre**	**1.22**	**167**	*e*Pg	**Pn**	**00 47 51.8**	**+0.8**
BHE				*e*Sg	**Sn**	**00 48 08.6**	**+0.3**
	45nm,0.4s						
HILG	**Hillesheim**	**1.26**	**182**	*e*Pg	**Pn**	**00 47 52.9**	**+1.3**
OCHT	**Ochtendung**	**1.27**	**162**	*e*Pg	**Pn**	**00 47 52.4**	**+0.8**
KOE	**Koeppel**	**1.28**	**151**	⇑*e*Pg	**Pn**	**00 47 52.3**	**+0.5**
BHOU	**Houvegnez**	**1.29**	**202**	*d*P	**Pn**	**00 47 53.4**	**+1.4**
BLI	**Bleialf**	**1.35**	**193**	*e*Pg	**Pn**	**00 47 54.2**	**+1.4**
LOH	**Wallersheim-Lo**	**1.37**	**186**	*e*Pg	**Pb**	**00 47 54.5**	**+1.2**
LOH				*e*Sg	**Sn**	**00 48 13.1**	**+1.0**
	60nm,0.2s						
BGG	**Burgeitz**	**1.39**	**165**	*e*Pg	**Pb**	**00 47 54.2**	**+0.6**
BCLA	**Clavier**	**1.46**	**220**	*d*P	**Pb**	**00 47 56.0**	**+1.3**
LKLB	**Kalborn**	**1.51**	**196**	*d*P	**Pb**	**00 47 57.6**	**+2.1**
BGES	**Gesves**	**1.57**	**223**	*d*P	**Pg**	**00 47 58.0**	**+1.1**
TNS	**Taunus Mts**	**1.70**	**140**	Pn	**Pn**	**00 47 58.2**	**+0.5**
TNS				*e*Pg	**Pb**	**00 47 59.2**	**+0.3**
TNS				Sn	**Sn**	**00 48 19.3**	**-0.9**
TNS				*e*Sg	**Sb**	**00 48 20.9**	**+0.1**
ABH	**Alteburg**	**1.74**	**163**	*e*Pn	**Pn**	**00 47 59.3**	**+1.0**
ABH				*e*Pg	**Pg**	**00 48 01.2**	**+1.1**
ABH				*e*Sg	**Sg**	**00 48 22.7**	**+0.1**
BMRD	**Maredsous**	**1.77**	**226**	*d*P	**Pg**	**00 48 03.5**	**+2.9**
RIVT	**Riveris**	**1.84**	**180**	*e*Pn	**Pb**	**00 48 01.4**	**+0.2**
GIVF	**Givet**	**1.90**	**221**	*e*Pn	**Pn**	**00 48 00.7**	**+0.4**
GIVF	**Givet**	**1.90**	**221**	*e*Pg	**Pg**	**00 48 04.0**	**+0.9**
GIVF				*e*Sg	**Sg**	**00 48 28.2**	**+0.6**
	35nm,0.3s						
WLF	**Walferdange**	**1.92**	**192**	*d*P	**Pg**	**00 48 05.3**	**+1.8**
WLF	**Walferdange**	**1.92**	**192**	*e*Pg	**Pg**	**00 48 04.9**	**+1.4**
WLF				*e*Sg	**Sg**	**00 48 29.7**	**+1.2**
BAIF	**Baives**	**2.20**	**228**	*e*Pn	**Pn**	**00 48 05.5**	**+1.0**
BAIF	**Baives**	**2.20**	**228**	*e*Pg	**Pg**	**00 48 10.1**	**+1.2**
BAIF				*e*Sg	**Sg**	**00 48 37.4**	**0.0**
	14nm,0.3s						
CLZ	**Clausthal**	**2.27**	**81**	*e*Pn	**Pn**	**00 48 04.8**	**-0.6**
CLZ				*e*Pg	**Pb**	**00 48 08.9**	**+0.4**
CLZ				*e*Sg	**Sb**	**00 48 37.4**	**+0.3**
MILB	**Miltenberg**	**2.35**	**136**	*e*Pn	**Pn**	**00 48 08.1**	**+1.5**
MILB				*e*Sg	**Sg**	**00 48 41.1**	**-1.2**
CHRS	**Christianenhau**	**2.53**	**87**	*e*Pn	**Pn**	**00 48 08.1**	**-1.0**
PAGF	**Fort de Pagny**	**3.07**	**193**	*e*Pn	**Pn**	**00 48 16.1**	**-0.3**
PAGF	**Fort de Pagny**	**3.07**	**193**	*e*Pg	**Pg**	**00 48 25.4**	**-0.1**
PAGF				*e*Sg	**Sg**	**00 49 04.9**	**-0.3**
	18nm,0.5s						
SAVF	**Savonnieres en**	**3.12**	**200**	*e*Pg	**Pg**	**00 48 26.2**	**-0.2**
SAVF				*e*Sg	**Sg**	**00 49 06.7**	**-0.1**
	9.4nm,0.4s						
CDF	**Champ du Feu**	**3.15**	**174**	*e*Pn	**Pn**	**00 48 17.9**	**+0.2**
CDF				*e*Sg	**Sg**	**00 49 07.3**	**-0.7**
	9.3nm,0.5s						
MOX	**Moxa**	**3.19**	**105**	*e*Pn	**Pn**	**00 48 19.0**	**+0.9**
MOX				*e*Sg	**Sg**	**00 49 08.5**	**-0.6**
MEZF	**Maizieres J'vi**	**3.24**	**201**	*e*Pn	**Pn**	**00 48 18.5**	**-0.3**
MEZF				*e*Sg	**Sg**	**00 49 10.5**	**-0.3**
	11nm,0.4s						
BFO	**Black Forest**	**3.38**	**162**	Pn	**Pn**	**00 48 21.4**	**+0.7**
SFTF	**Sexfontaines**	**3.52**	**199**	*e*Sg	**Sg**	**00 49 19.6**	**-0.3**
	8.6nm,0.3s						
HAU	**Haudompre**	**3.55**	**184**	*e*Pn	**Pn**	**00 48 22.5**	**-0.6**
HAU				*e*Sg	**Sg**	**00 49 20.1**	**-0.7**
	5.3nm,0.3s						
HINF	**Hinteralfeld**	**3.73**	**179**	*e*Sg	**Sg**	**00 49 25.5**	**-1.1**
	5.9nm,0.5s						
NKC	**Novy Kostel**	**3.83**	**108**	*e*SG	**Sg**	**00 49 28.4**	**-1.3**
	comp=Z,7.5nm,0.9s						
HSKC	**Hora Svate Kat**	**4.31**	**100**	*e*SG	**Sg**	**00 49 44.5**	**-0.6**
BRG	**Berggiesshubel**	**4.56**	**96**	Sg	**Sb**	**00 49 48.1**	**+5.0**
BRG				Amp		00 49 53.1	
	comp=Z,2.1nm,0.5s						
LOR	**Lormes**	**4.68**	**205**	*e*Pn	**Pn**	**00 48 38.3**	**-0.3**
	baz=24						
LOR				*e*Sn	**Sn**	**00 49 30.2**	**-3.4**
LOR				*e*Sg	**Sg**	**00 49 56.0**	**-1.0**
	comp=Z,4.0nm,0.3s						
CABF	**La Chapelle**	**4.96**	**185**	*e*Pn	**Pn**	**00 48 41.9**	**-0.6**
CABF				*e*Sg	**Sg**	**00 50 03.9**	**-2.0**
	comp=Z,70nm,1.3s						
SSF	**Saint Saulge**	**4.97**	**207**	*e*Pn	**Pn**	**00 48 42.6**	**+0.1**
SSF				*e*Sn	**Sn**	**00 49 37.2**	**-3.4**
SSF				*e*Sg	**Sg**	**00 50 04.9**	**-1.3**
	comp=Z,5.9nm,0.5s						
KHC	**Kasperske Hory**	**4.99**	**116**	*e*PN	**Pn**	**00 48 43.0**	**+0.1**
KHC				*e*SG	**Sg**	**00 50 04.6**	**-2.3**
MOTA	**Moosalm**	**5.07**	**144**	*e*Pn	**Pn**	**00 48 44.7**	**+0.7**
	comp=Z,0.7nm,0.4s						
ZVC	**Zvikov**

CAPC				*i*			01 03 18.2	
	comp=Z,177nm,0.2s							
UPD2	**Meteti**	**0.69**	**236**	⇑*iP*		**Pb**	**01 03 18.4**	**+0.4**
UPD2				*i* S		**Sb**	**01 03 28.2**	**+1.0**
UPD2	**Meteti**	**0.69**	**236**	⇑*iP*		**Pb**	**01 03 18.4**	**+0.4**
UPD2				*e*S		**Sn**	**01 03 28.6**	**-1.3**
UPD2				*i*			01 03 30.3	
	comp=Z,46nm,0.2s							
TOTI	**Torti**	**0.86**	**270**	*e*P		**Pg**	**01 03 20.3**	**-0.8**
TOTI				*e*S		**Sb**	**01 03 31.8**	**-0.5**
LCBC	**Los crdobas,**	**1.06**	**94**	*e*P		**Pn**	**01 03 25.4**	**+0.7**
LCBC				*e*S		**Sg**	**01 03 38.5**	**-0.3**
LCBC	**Los crdobas,**	**1.06**	**94**	*e*P		**Pn**	**01 03 26.2**	**+1.5**
LCBC				*e*S		**Sb**	**01 03 39.1**	**+1.1**
LCBC				*i*			01 03 45.9	
	comp=Z,23nm,0.7s							
BCIP	**Isla Barro Col**	**2.38**	**276**	*e*P		**Pn**	**01 03 44.0**	**+1.2**
ZARC	**Zaragoza, Cauc**	**2.93**	**119**	*e*P		**Pn**	**01 03 50.7**	**+0.4**
ZARC				*e*S		**Sn**	**01 04 22.3**	**-3.0**
ZARC				*i*			01 04 26.4	
	comp=Z,2.8nm,0.1s							

*CATAC **10** 01:06:08.5±0.4, 12°.67N×88°.60W, h34km±6km, ML3.4*
*SNET **10** 01:06:08.7±0.8, 12°.68N×88°.64W, h32km, ML3.7*
ISC 10 01:06:08.2±1.5**, 12°.65N**±0°.06×**88°.62W**±0°.04**, h32**km±12km**, n37**, σ0s**41/70, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.67**	**4**	*e*P	**Pn**	**01 06 21.1**	**-0.4**
ALJI				*e*S	**Sn**	**01 06 31.7**	**+0.8**
ALJI	**Alcalda de J**	**0.67**	**4**	*i* P	**Pn**	**01 06 21.1**	**-0.4**
ALJI				IAML		01 06 21.6	
	comp=Z,920nm,1.0s						
ALJI				*i* S	**Sn**	**01 06 31.2**	**+0.3**
PACA	**Pacayal**	**0.86**	**19**	*e*P	**Pb**	**01 06 24.9**	**+0.1**
PACA	**Pacayal**	**0.86**	**19**	*i* P	**Pb**	**01 06 25.0**	**+0.2**
PACA				*i* S	**Sb**	**01 06 37.2**	**+1.1**
PACA				IAML		01 06 39.1	
	comp=Z,10μm,1.0s						
TECO	**Alcaldia de Te**	**0.90**	**350**	*e*P	**Pn**	**01 06 24.5**	**0.0**
TECO				*e*S	**Sb**	**01 06 36.8**	**-0.1**
TECO	**Alcaldia de Te**	**0.90**	**350**	*i* P	**Pn**	**01 06 24.6**	**0.0**
TECO				*i* S	**Sb**	**01 06 36.9**	**-0.1**
TECO				IAML		01 06 43.5	
	comp=Z,480nm,1.0s						
LCND	**La Caada**	**0.96**	**47**	*e*P	**Pn**	**01 06 25.5**	**+0.1**
LCND				*e*S	**Sb**	**01 06 39.0**	**+0.2**
LCND	**La Caada**	**0.96**	**47**	*i* P	**Pn**	**01 06 25.6**	**+0.1**
LCND				*i* S	**Sb**	**01 06 38.8**	**-0.1**
LCND				IAML		01 06 40.5	
	comp=Z,1μm,1.0s						
PQSS	**Presa 15 de Se**	**0.97**	**3**	*e*P	**Pn**	**01 06 26.0**	**+0.5**
PQSS				*e*S	**Sb**	**01 06 39.3**	**+0.3**
PQSS	**Presa 15 de Se**	**0.97**	**3**	*i* P	**Pn**	**01 06 26.0**	**+0.5**
PQSS				*i* S	**Sb**	**01 06 38.8**	**-0.2**
PQSS				IAML		01 06 39.4	
	comp=Z,2μm,1.0s						
CNCH	**Conchagua**	**0.98**	**51**	*e*P	**Pb**	**01 06 26.7**	**-0.1**
CNCH	**Conchagua**	**0.98**	**51**	*i* P	**Pn**	**01 06 26.5**	**+0.6**
CNCH				*i* S	**Sn**	**01 06 38.7**	**0.0**
CNCH				IAML		01 06 42.8	
	comp=Z,2μm,1.0s						
UESV	**Universidad de**	**0.99**	**350**	*i* P	**Pn**	**01 06 26.1**	**+0.2**
UESV				IAML		01 06 26.5	
	comp=Z,760nm,1.0s						
UESV				*i* S	**Sn**	**01 06 38.8**	**-0.1**
COEG	**Centro de Oper**	**1.00**	**345**	*i* P	**Pn**	**01 06 26.0**	**0.0**
COEG				*i* S	**Sb**	**01 06 39.3**	**-0.6**
COEG				IAML		01 06 45.2	
	comp=Z,740nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.05**	**354**	*i* P	**Pn**	**01 06 27.3**	**+0.6**
SCLA				IAML		01 06 27.8	
	comp=Z,380nm,1.0s						
SCLA				*i* S	**Sb**	**01 06 41.3**	**-0.1**
CSGN	**Cosiguina Volc**	**1.08**	**72**	*i* P	**Pn**	**01 06 26.4**	**-0.8**
CSGN				IAML		01 06 44.6	
	comp=Z,4μm,1.0s						
PAVA	**Las Pavas**	**1.10**	**344**	*e*P	**Pn**	**01 06 27.9**	**+0.4**
PAVA	**Las Pavas**	**1.10**	**344**	*i* P	**Pn**	**01 06 27.7**	**+0.2**
PAVA				*i* S	**Sb**	**01 06 42.2**	**-0.7**
PAVA				IAML		01 06 43.1	
	comp=Z,2μm,1.0s						
AMPH	**Amapala**	**1.13**	**56**	*i* P	**Pn**	**01 06 27.0**	**-0.7**
AMPH				*i* S	**Sn**	**01 06 42.4**	**+0.3**
PMON	**Piamonte**	**1.25**	**327**	*i* P	**Pn**	**01 06 29.8**	**+0.2**
PMON				*i* S	**Sb**	**01 06 46.8**	**-0.5**
PMON				IAML		01 06 50.5	
	comp=Z,790nm,1.0s						
JAYA	**Jayaque - finc**	**1.29**	**321**	*e*P	**Pn**	**01 06 30.1**	**+0.1**
JAYA				*e*S	**Sn**	**01 06 45.9**	**-0.4**
JAYA	**Jayaque - finc**	**1.29**	**321**	*i* P	**Pn**	**01 06 30.1**	**+0.1**
JAYA				*i* S	**Sn**	**01 06 46.1**	**-0.2**
JAYA				IAML		01 06 47.6	
	comp=Z,3μm,1.0s						
CRIN	**San Cristobal**	**1.53**	**88**	*i* P	**Pn**	**01 06 33.6**	**+0.3**
CRIN				*i* S	**Sn**	**01 06 52.8**	**+0.7**
CRIN				IAML		01 06 57.6	
	comp=Z,2μm,1.0s						
NUBE	**Las Nubes**	**1.68**	**318**	*e*P	**Pn**	**01 06 36.0**	**+0.5**
NUBE				*e*S	**Sn**	**01 06 56.5**	**+0.4**
NUBE	**Las Nubes**	**1.68**	**318**	*i* P	**Pn**	**01 06 36.2**	**+0.7**
NUBE				*i* S	**Sn**	**01 06 55.5**	**-0.6**
NUBE				IAML		01 06 58.3	
	comp=Z,750nm,1.0s						
CNGA	**Al SSO del Vol**	**1.88**	**95**	*i* P	**Pn**	**01 06 38.4**	**+0.3**
CNGA				*i* S	**Sn**	**01 07 00.5**	**-0.2**
CNGA				IAML		01 07 07.8	
	comp=Z,550nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.91**	**43**	*i* P	**Pn**	**01 06 38.4**	**-0.3**
TGUH				IAML		01 06 56.1	
	comp=Z,210nm,1.0s						
TGUH				*i* S	**Sn**	**01 07 01.2**	**-0.5**
MOMN	**Momotombo**	**2.04**	**97**	*i* P	**Pn**	**01 06 40.9**	**+0.6**
MOMN				*i* S	**Sn**	**01 07 04.4**	**-0.4**
MOMN				IAML		01 07 10.3	
	comp=Z,12nm,1.0s						
MOM2	**El Cardon**	**2.09**	**96**	*i* P	**Pn**	**01 06 40.8**	**-0.2**
MOM2				*i* S	**Sn**	**01 07 05.8**	**-0.1**
MOM2				IAML		01 07 18.6	
	comp=Z,120nm,1.0s						
SARH	**Santa Rosa de**	**2.12**	**356**	*i* P	**Pn**	**01 06 41.6**	**+0.2**
SARH				*i* S	**Sn**	**01 07 06.0**	**-0.7**
YUSH	**Yuscaran**	**2.16**	**53**	*i* P	**Pn**	**01 06 41.4**	**-0.6**
YUSH				*i* S	**Sn**	**01 07 07.6**	**+0.1**
LIMN	**Finca el Limon**	**2.23**	**79**	*i* P	**Pn**	**01 06 43.3**	**+0.3**
LIMN				*i* S	**Sn**	**01 07 09.6**	**+0.1**
LIMN				IAML		01 07 13.5	
	comp=Z,140nm,1.0s						
APYN	**Apoyeque**	**2.25**	**100**	*i* P	**Pn**	**01 06 43.0**	**-0.2**
APYN				*i* S	**Sn**	**01 07 09.8**	**-0.1**
APYN				IAML		01 07 14.2	
	comp=Z,260nm,1.0s						
RCPN	**Sur Rio San Ju**	**2.61**	**70**	*i* P	**Pn**	**01 06 48.3**	**+0.1**
RCPN				*i* S	**Sn**	**01 07 19.3**	**+0.5**
RCPN				IAML		01 07 22.1	
	comp=Z,0.9nm,1.0s						
MATN	**Matagalpa**	**2.64**	**84**	*i* P	**Pn**	**01 06 49.3**	**+0.7**
MATN				IAML		01 06 52.1	
	comp=Z,38nm,1.0s						
MATN				*i* S	**Sn**	**01 07 19.7**	**+0.1**
BOAB	**BOACO BROADBAN**	**2.89**	**94**	*i* P	**Pn**	**01 06 51.5**	**-0.4**
BOAB				*i* S	**Sn**	**01 07 25.3**	**-0.3**
BOAB				IAML		01 07 55.8	
	comp=Z,58nm,1.0s						
JUTIH	**Juticalpa Olan**	**3.08**	**49**	*i* P	**Pn**	**01 06 54.3**	**-0.3**
JUTIH				*i* S	**Sn**	**01 07 30.3**	**0.0**

*TEH **10** 01:28:04.7, 28°.12N×59°.04E, h12km±28km, ML3.5*
*OMAN **10** 01:28:09.4±0.4, 27°.82N×59°.15E, h11km, ml3.2/4, Error ellipse: s-maj=6.1km s-min=4.9km az=19.0*
ISC 10 01:28:04.2±1.0**, 28°.09N**±0°.04×**59°.17E**±0°.06**, h10**km**, n30, σ2s12/44, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBAM	**BAM**	**1.22**	**329**	Pg	**Pn**	**01 28 25.5**	**-1.9**
KBAM				Sg	**Sb**	**01 28 40.4**	**-2.9**
KHNJ	**Kahnooj**	**1.31**	**264**	Pg	**Pn**	**01 28 26.3**	**-2.3**
KHNJ				Sg	**Sb**	**01 28 41.9**	**-3.9**
ZHDN	**Zahedan**	**1.94**	**47**	Pn	**Pb**	**01 28 41.4**	**+1.5**
CHMN	**Cheshme madani**	**2.27**	**321**	Pn	**Pn**	**01 28 43.1**	**+0.9**
IBND	**Bandar-abas**	**2.42**	**255**	Pn	**Pn**	**01 28 45.2**	**+1.3**
JASK	**Jask - Hormozg**	**2.50**	**208**	P	**Pn**	**01 28 47.1**	**+2.1**
	SNR=10						
JASK	**Jask - Hormozg**	**2.50**	**208**	Pn	**Pn**	**01 28 47.0**	**+2.0**
NGRK	**Negar Kerman**	**2.65**	**306**	Pn	**Pn**	**01 28 49.0**	**+1.6**
CHBR	**Chabahar**	**2.75**	**155**	Pn	**Pb**	**01 28 52.3**	**-1.1**
GENO	**Geno**	**2.75**	**256**	Pn	**Pn**	**01 28 50.6**	**+2.1**
NGCH	**Negor - Chabah**	**3.24**	**147**	P	**Pb**	**01 28 58.9**	**-2.9**
KHGB	**Koh Gabri**	**3.28**	**315**	Pn	**Pn**	**01 28 58.0**	**+2.1**
NHDN	**Nehbandan**	**3.38**	**13**	Pn	**Pn**	**01 28 59.8**	**+2.6**
SHME	**Shamm**	**3.38**	**234**	P	**Pn**	**01 29 00.3**	**+3.2**
SHME				S	**Sn**	**01 29 38.9**	**+1.6**
MASF	**Masafi**	**3.82**	**226**	P	**Pn**	**01 29 07.2**	**+4.0**
MASF				S	**Sn**	**01 29 47.3**	**-0.9**
UOSS	**Minazif**	**4.11**	**221**	P	**Pn**	**01 29 08.8**	**+1.7**
HATD	**Hatta, Dubai**	**4.24**	**221**	P	**Pn**	**01 29 10.6**	**+1.6**
HATD				S	**Sn**	**01 29 58.0**	**-0.6**
IKOO	**Kooshah**	**4.32**	**358**	Pn	**Pn**	**01 29 12.2**	**+1.9**
ASHO	**Ashiyiah**	**4.39**	**220**	P	**Pn**	**01 29 13.4**	**+2.3**
ASHO				S	**Sn**	**01 30 04.6**	**+2.3**
SOHO	**SOHO**	**4.60**	**212**	P	**Pn**	**01 29 13.4**	**-0.4**
SOHO				S	**Sn**	**01 30 07.0**	**-0.3**
BIDO	**Bidbid**	**4.65**	**192**	P	**Pn**	**01 29 15.8**	**+1.3**
HOQ	**Hoqain**	**4.79**	**201**	P	**Pn**	**01 29 16.5**	**0.0**
	SNR=6.7						
HOQ				S	**Sn**	**01 30 11.0**	**-1.1**
ITEG	**Tejag**	**4.81**	**356**	Pn	**Pn**	**01 29 18.8**	**+1.9**
WSAR	**Wadi Sarin**	**4.85**	**186**	P	**Pn**	**01 29 19.1**	**+1.7**
	SNR=37						
WSAR				S	**Sn**	**01 30 14.1**	**+0.4**
ASUD	**Al Ashush, Dub**	**4.88**	**226**	P	**Pn**	**01 29 20.1**	**+2.4**
ASUD				S	**Sn**	**01 30 17.7**	**+3.5**
SMDO	**Samad**	**5.11**	**192**	S	**Sn**	**01 30 20.8**	**+0.7**
ARQ	**Araqi**	**5.30**	**207**	P	**Pn**	**01 29 26.0**	**+2.5**
	SNR=12						
ARQ				S	**Sn**	**01 30 27.0**	**+2.3**
WBK	**Wadi Bani Khal**	**5.46**	**182**	P	**Pn**	**01 29 27.0**	**+1.3**
	SNR=26						
WBK				S	**Sn**	**01 30 28.9**	**+0.3**
BSY	**Bisya**	**5.61**	**199**	P	**Pn**	**01 29 30.3**	**+2.4**
BSY				S	**Sn**	**01 30 35.5**	**+3.1**
JLN	**Jalan Bani Buh**	**5.92**	**178**	P	**Pn**	**01 29 32.5**	**+0.5**
JLN				S	**Sn**	**01 30 38.6**	**-1.3**

*SJA **10** 01:28:45.6±0.7, 24°.18S×67°.00W, h213km±6km, ML4.1, MW3.9*
*IDC **10** 01:28:46.8±1.1, 24°.11S×66°.90W, h183km±13km, mb3.6/6, mbtmp4.1/11, Error ellipse: s-maj=19.9km s-min=14.7km az=96.0*
*NEIC **10** 01:28:47.4±1.4, 24°.21S±0°.07×67°.1W±0°.1, h201km±6km, mb4.2/13, Error ellipse: s-maj=14.2km s-min=9.7km az=90.0*
*VAO **10** 01:28:48.9±0.4, 23°.94S×67°.22W, h232km±4km, mb4.0*
*GUC **10** 01:28:48.7±0.6, 24°.15S×67°.31W, h216km±6km, ML4.3*
ISC 10 01:28:46.7±0.6**, 24°.18S**±0°.03×**67°.08W**±0°.05**, h196**km±6km**, n161, σ1s51/199, mb4.0/10, 4C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.54**	**111**	*e*P	**Pn**	**01 29 20.9**	**+0.3**
AF01	**San Pedro de A**	**1.58**	**320**		**Pn**	**01 29 22.6**	**+1.4**
AF01	**San Pedro de A**	**1.58**	**320**	*e*P	**Pn**	**01 29 22.9**	**+1.6**
AF01				*e*S	**Sn**	**01 29 49.2**	**+1.3**
AZAP	**Zapla**	**1.84**	**92**	*e*P	**Pn**	**01 29 23.4**	**-0.2**
LVC	**Limon Verde**	**2.29**	**313**		**Pn**	**01 29 30.0**	**+1.5**
LVC	**Limon Verde**	**2.29**	**313**	*e*P	**Pn**	**01 29 29.9**	**+1.4**
LVC				*e*S	**Sn**	**01 30 02.1**	**+1.2**
LVC				IAML		01 30 05.3	
	comp=Z,195nm,0.8s						
LVC	**Limon Verde**	**2.29**	**313**	*e*P	**Pn**	**01 29 30.0**	**+1.5**
LVC	**Limon Verde**	**2.29**	**313**	P	**Pn**	**01 29 29.9**	**+1.4**
	comp=Z,30nm,0.2s,baz=150,slow=6.5,SNR=216						
LVC				S	**Sn**	**01 30 01.1**	**+0.1**
	comp=Z,105nm,0.3s,baz=11,slow=23,SNR=46						
LVC	**Limon Verde**	**2.29**	**313**	*e*P	**Pn**	**01 29 29.9**	**+1.4**
LVC				*i* S	**Sn**	**01 30 01.0**	**0.0**
PB15	**IPOC Station P**	**2.39**	**293**		**Pn**	**01 29 31.0**	**+1.5**
PB15	**IPOC Station P**	**2.39**	**293**	*e*P	**Pn**	**01 29 30.8**	**+1.5**
PB15				*e*S	**Sn**	**01 30 03.4**	**+0.7**
PB15				IAML		01 30 07.0	
	comp=Z,2μm,0.2s						
PB15	**IPOC Station P**	**2.39**	**293**	*e*P	**Pn**	**01 29 30.7**	**+1.3**
PB15				*i* S	**Sn**	**01 30 02.6**	**-0.1**
YJA	**Yavi**	**2.46**	**36**	*e*P	**Pn**	**01 29 31.0**	**+0.5**
GO02	**Mina Guanaco**	**2.48**	**246**		**Pn**	**01 29 32.1**	**+1.5**
GO02	**Mina Guanaco**	**2.48**	**246**	*e*P	**Pn**	**01 29 32.0**	**+1.5**
GO02				*e*S	**Sn**	**01 30 06.1**	**+1.5**
GO02	**Mina Guanaco**	**2.48**	**246**	*e*P	**Pn**	**01 29 31.9**	**+1.5**
GO02				*i* S	**Sn**	**01 30 05.5**	**+0.9**
PB06	**IPOC Station P**	**2.71**	**302**		**Pn**	**01 29 34.6**	**+1.5**
PB06	**IPOC Station P**	**2.71**	**302**	*e*P	**Pn**	**01 29 34.4**	**+1.4**
PB06				*e*S	**Sn**	**01 30 09.2**	**+0.1**
PB06				IAML		01 30 11.6	
	comp=Z,656nm,0.3s						
PB06	**IPOC Station P**	**2.71**	**302**	⇑*iP*	**Pn**	**01 29 34.4**	**+1.4**
PB06				*i* S	**Sn**	**01 30 08.7**	**-0.5**
PB06				IAML		01 30 12.0	
	comp=N,935nm,0.3s						
ALOL	**LOMAS DE OLMED**	**2.86**	**83**	*e*P	**Pn**	**01 29 34.2**	**-0.4**
PB14	**IPOC Station P**	**3.06**	**261**		**Pn**	**01 29 38.1**	**+0.9**
PB14	**IPOC Station P**	**3.06**	**261**	*e*P	**Pn**	**01 29 38.1**	**+0.9**
PB14				*e*S	**Sn**	**01 30 16.5**	**-0.1**
PB14				IAML		01 30 18.6	
	comp=Z,181nm,0.2s						
PB14	**IPOC Station P**	**3.06**	**261**	*e*P	**Pn**	**01 29 38.2**	**+0.9**
PB14				*i* S	**Sn**	**01 30 15.3**	**-1.3**
PB09	**IPOC Station P**	**3.09**	**320**		**Pn**	**01 29 39.4**	**+1.8**
PB09	**IPOC Station P**	**3.09**	**320**	*e*P	**Pn**	**01 29 39.2**	**+1.7**
PB09				*e*S	**Sn**	**01 30 17.6**	**+0.4**
PB09				IAML		01 30 20.1	
	comp=Z,320nm,0.3s						
PB09	**IPOC Station P**	**3.09**	**320**	*e*P	**Pn**	**01 29 39.2**	**+1.7**
PB09				*i* S	**Sn**	**01 30 17.0**	**-0.2**
PB09				IAML		01 30 18.7	
	comp=N,444nm,0.5s						
PB05	**IPOC Station P**	**3.15**	**294**		**Pn**	**01 29 39.2**	**+1.1**
PB05	**IPOC Station P**	**3.15**	**294**	*e*P	**Pn**	**01 29 39.1**	**+0.9**
PB05				*e*S	**Sn**	**01 30 19.6**	**+1.3**
PB05				IAML		01 30 24.9	
	comp=Z,183nm,0.3s						
PB05	**IPOC Station P**	**3.15**	**294**	⇑*iP*	**Pn**	**01 29 39.0**	**+0.8**
PB05				*i* S	**Sn**	**01 30 16.7**	**-1.6**
PB05				IAML		01 30 21.9	
	comp=N,321nm,0.3s						
PB04	**IPOC Station P**	**3.36**	**302**		**Pn**	**01 29 41.8**	**+1.0**
PB04	**IPOC Station P**	**3.36**	**302**	*e*P	**Pn**	**01 29 41.8**	**+1.0**
PB04				*e*S	**Sn**	**01 30 21.8**	**-1.2**
PB04				IAML		01 30 26.3	
	comp=Z,508nm,0.4s						
PB04	**IPOC Station P**	**3.36**	**302**	*e*P	**Pn**	**01 29 41.6**	**+0.8**
PB04				*i* S	**Sn**	**01 30 21.4**	**-1.5**
PB07	**IPOC Station P**	**3.55**	**313**		**Pn**	**01 29 44.0**	**+0.9**
PB07	**IPOC Station P**	**3.55**	**313**	*e*P	**Pn**	**01 29 43.7**	**+0.6**
PB07				*e*S	**Sn**	**01 30 23.0**	**-4.2**
PB07				IAML		01 30 26.6	
	comp=Z,628nm,0.6s						
PB07	**IPOC Station P**	**3.55**	**313**	*e*P	**Pn**	**01 29 44.0**	**+0.9**
PB07				*i* S	**Sn**	**01 30 25.4**	**-1.8**
AC01	**Pan de Azucar**	**3.74**	**238**		**Pn**	**01 29 45.3**	**+0.1**
AC01	**Pan de Azucar**	**3.74**	**238**	*e*S	**Sn**	**01 30 29.1**	**-1.9**
AC01				IAML		01 30 30.4	
	comp=Z,221nm,0.4s						
AC01	**Pan de Azucar**	**3.74**	**238**	*e*P	**Pn**	**01 29 45.3**	**+0.1**
AC01				*i* S	**Sn**	**01 30 29.2**	**-1.9**
PB01	**IPOC Station P**	**3.83**	**324**		**Pn**	**01 29 46.5**	**+0.1**
PB01	**IPOC Station P**	**3.83**	**324**	*e*P	**Pn**	**01 29 46.8**	**+0.4**
PB01				*e*S	**Sn**	**01 30 32.4**	**-0.8**
PB01				IAML		01 30 35.0	
	comp=Z,170nm,0.2s						
PB01	**IPOC Station P**	**3.83**	**324**	*e*P	**Pn**	**01 29 46.9**	**+0.5**
PB01				*i* S	**Sn**	**01 30 31.2**	**-2.0**
PB02	**IPOC Station P**	**3.85**	**317**		**Pn**	**01 29 47.4**	**+0.7**
PB02	**IPOC Station P**	**3.85**	**317**	*e*P	**Pn**	**01 29 47.7**	**+1.0**
PB02				*e*S	**Sn**	**01 30 31.2**	**-2.4**
PB02				IAML		01 30 43.5	
	comp=Z,517nm,0.3s						
PB02	**IPOC Station P**	**3.85**	**317**	*e*P	**Pn**	**01 29 47.3**	**+0.7**
PB02				*i* S	**Sn**	**01 30 31.0**	**-2.7**
AC06	**Mina Casimiro**	**4.33**	**222**		**Pn**	**01 29 52.7**	**+0.2**
AC06	**Mina Casimiro**	**4.33**	**222**	⇑*iP*	**Pn**	**01 29 52.3**	**-0.2**
AC06				*i* S	**Sn**	**01 30 41.6**	**-2.6**
PATCX	**Punta Patache**	**4.38**	**319**		**Pn**	**01 29 54.5**	**+1.1**
PATCX	**Punta Patache**	**4.38**	**319**	*e*P	**Pn**	**01 29 54.0**	**+0.6**
PATCX				*e*S	**Sn**	**01 30 42.4**	**-3.3**
PATCX	**Punta Patache**	**4.38**	**319**	⇓*eP*	**Pn**	**01 29 51.7**	**-1.6**
GO03	**Copiap**	**4.43**	**219**		**Pn**	**01 29 54.0**	**+0.1**
GO03	**Copiap**	**4.43**	**219**	*e*P	**Pn**	**01 29 54.0**	**+0.1**
GO03				*e*S	**Sn**	**01 30 45.1**	**-1.6**
GO03	**Copiap**	**4.43**	**219**	⇑*iP*	**Pn**	**01 29 53.5**	**-0.4**
GO03				*i* S	**Sn**	**01 30 43.6**	**-3.1**
PX03	**IPOC Station P**	**4.43**	**327**	*e*S	**Sn**	**01 30 43.5**	**-3.3**
PB08	**IPOC Station P**	**4.45**	**334**		**Pn**	**01 29 55.7**	**+1.2**
PB08	**IPOC Station P**	**4.45**	**334**	*e*P	**Pn**	**01 29 55.5**	**+1.0**
PB08				*e*S	**Sn**	**01 30 47.5**	**-0.2**
PB08				IAML		01 30 49.1	
	comp=Z,75nm,0.5s						
PB08	**IPOC Station P**	**4.45**	**334**	*e*P	**Pn**	**01 29 55.4**	**+0.9**
PB08				*i* S	**Sn**	**01 30 46.6**	**-1.1**
TA01	**Diego Aracena**	**4.60**	**321**		**Pn**	**01 29 57.4**	**+1.4**
TA01	**Diego Aracena**	**4.60**	**321**	*e*P	**Pn**	**01 29 56.5**	**+0.5**
TA01				*e*S	**Sn**	**01 30 44.9**	**-5.5**
TA01				IAML		01 31 09.7	
	comp=Z,71nm,0.5s						
VCA	**Vinchina**	**4.65**	**192**	*e*P	**Pn**	**01 29 59.3**	**+2.5**
VCA				*e*S	**Sn**	**01 30 54.8**	**+2.9**
HMBC	**Humberstone**	**4.67**	**326**	*e*S	**Sn**	**01 30 49.1**	**-3.2**
HMBC	**Humberstone**	**4.67**	**326**	*e*P	**Pn**	**01 29 56.0**	**-1.0**
HMBC				*i* S	**Sn**	**01 30 47.2**	**-5.1**
TA02	**Huaiquique**	**4.80**	**323**		**Pn**	**01 30 00.1**	**+1.5**
GO01	**Chusmiza**	**4.90**	**336**		**Pn**	**01 30 00.8**	**+0.5**
GO01	**Chusmiza**	**4.90**	**336**	*e*P	**Pn**	**01 30 00.7**	**+0.5**
GO01				*e*S	**Sn**	**01 30 56.3**	**-1.8**
PB11	**IPOC Station P**	**5.00**	**331**		**Pn**	**01 30 01.2**	**-0.1**
PB11	**IPOC Station P**	**5.00**	**331**	*e*P	**Pn**	**01 30 00.6**	**-0.7**
PB11				*e*S	**Sn**	**01 30 57.2**	**-2.8**
PB11				IAML		01 31 00.1	
	comp=Z,93nm,0.3s						
PB11	**IPOC Station P**	**5.00**	**331**	⇓*eP*	**Pn**	**01 30 00.5**	**-0.7**
PB11				*i* S	**Sn**	**01 30 56.3**	**-3.7**
ACLC	**CERRO LA CRUZ**	**5.23**	**179**	*e*P	**Pn**	**01 30 04.4**	**+0.2**
ACLC				*e*S	**Sn**	**01 31 04.6**	**-0.6**
ACLC				IAML		01 31 06.4	
	comp=Z,22nm,0.4s						
AC04	**Llanos de Chal**	**5.38**	**221**		**Pn**	**01 30 05.7**	**-0.2**
AC04	**Llanos de Chal**	**5.38**	**221**	*i* P	**Pn**	**01 30 05.0**	**-0.9**
AC04				*i* S	**Sn**	**01 31 05.2**	**-3.3**
AC05	**El Transito**	**5.45**	**211**		**Pn**	**01 30 07.2**	**+0.2**
AC05	**El Transito**	**5.45**	**211**	*i* P	**Pn**	**01 30 07.0**	**+0.1**
LCO	**Las Campanas**	**5.80**	**213**		**Pn**	**01 30 12.0**	**+0.4**
PB16	**IPOC Station P**	**6.24**	**338**		**Pn**	**01 30 17.4**	**-0.2**
PB12	**IPOC Station P**	**6.31**	**331**		**Pn**	**01 30 17.4**	**-0.7**
VACA	**Villa Angela C**	**6.70**	**122**	*e*P	Pn	01 30 28.7	+5.7
GO04	**Tololo Observa**	**6.83**	**208**	Pn	**Pn**	**01 30 24.3**	**-0.6**
PB18	**Visviri**	**6.93**	**341**		**Pn**	**01 30 27.8**	**+1.2**
CO03	**El Pedregal**	**7.37**	**205**	Pn	**Pn**	**01 30 31.5**	**-0.3**
CFA	**Coronel Fontan**	**7.47**	**188**	P	**Pn**	**01 30 32.6**	**-0.5**
	comp=Z,6.2nm,0.3s,baz=7.5,slow=14,SNR=63						
CFA				S	**Sn**	**01 31 52.5**	**-5.0**
	comp=Z,9.1nm,0.3s,baz=270,slow=20,SNR=14						
ZON	**Zonda**	**7.48**	**191**	Pn	**Pn**	**01 30 34.0**	**+0.8**
CO02	**Combarbal**	**7.81**	**206**	Pn	**Pn**	**01 30 38.0**	**+0.4**
LPAZ	**La Paz**	**7.91**	**353**		**Pn**	**01 30 39.9**	**+0.4**
BBRB	**Robore, Bolivi**	**8.97**	**51**	*e*P	**Pn**	**01 30 54.4**	**+1.7**
VA03	**San Esteban**	**9.08**	**199**	Pn	**Pn**	**01 30 55.5**	**+1.3**
CPUP	**Villa Florida**	**9.09**	**106**	*e*P	Pn	01 30 58.6	+4.5
BBSD	**Serra de San D**	**9.22**	**42**	*e*P	**Pn**	**01 30 55.0**	**-1.0**
SIV	**San Ignacio**	**9.91**	**36**	P	**Pn**	**01 31 02.9**	**-2.1**
	comp=Z

comp=Z,0.8nm,0.4s
BOSA Boshof 80.72 117 P **P** **01 40 39.1 +0.5**
comp=Z,2.8nm,1.0s,baz=252,slow=3.2,SNR=1.7
comp=Z,2.8nm,1.0s
YKA Yellowknife Ar 94.26 340 P **P** **01 41 43.8 +0.8**
comp=Z,0.2nm,0.6s,baz=134,slow=4.5,SNR=2.5
comp=Z,0.2nm,0.6s
WRA Warramunga Arr 131.44 207 SKPbc **SKPab** **01 50 46.4 +2.4**
comp=Z,0.2nm,0.5s,baz=153,slow=3.5,SNR=5.4
BVAR Borovoye Array 136.98 37 PKP **PKPdf** **01 47 46.1 +0.3**
comp=Z,0.2nm,0.5s,baz=333,slow=1.9,SNR=1.6
ZALV Zalesovo Beam 143.58 28 PKP **PKPdf** **01 47 58.0 +0.3**
comp=Z,1.4nm,0.6s,baz=298,slow=3.6,SNR=7.6
MKAR Makanchi Array 146.71 40 PKPbc **PKPbc** **01 48 06.2 +0.8**
comp=Z,2.0nm,0.6s,baz=321,slow=2.7,SNR=19

IDC ***10*** *01:50:03.1±1.9,31˚.60N×49˚.49E,h0km,mb3.8/6, mbtmp3.7/10,ML3.2/4,MS3.1/3,Error ellipse: s-maj=47.9km s-min=18.8km az=164.0*
TEH ***10*** *01:50:05.4,31˚.46N×49˚.58E,h14km±22km,ML3.6*
ISC 10 01:50:05.3±0.7,31˚.36N±0˚.06×49˚.48E±0˚.05,h25km,n45, σ1§**79/45,mb3.7/6,Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AMIS	**Naft Sefid**	**0.34**	**331**	Pg		**Pb**	**01 50 11.4**	**-1.6**
AMIS				Sg		**Sb**	**01 50 17.8**	**-0.5**
AHWZ	**Ahwaz**	**0.72**	**268**	Pg		**Pn**	**01 50 21.0**	**+1.2**
ABEH	**Behbahan**	**1.01**	**139**	Pg		**Pn**	**01 50 25.6**	**+1.8**
JHBN	**Jahan bin**	**1.33**	**49**	Pg		**Pn**	**01 50 27.3**	**-1.3**
ZNGN	**Zangian**	**1.39**	**57**	Pg		**Pn**	**01 50 29.3**	**-0.1**
IBRJ	**Brojen**	**1.61**	**70**	Pg		**Pn**	**01 50 33.4**	**+1.0**
IPIR	**Pirpir**	**1.78**	**42**	Pg		**Pn**	**01 50 35.9**	**+1.1**
KLNJ	**Kolanjah**	**1.84**	**100**	Pg		**Pb**	**01 50 37.3**	**-1.2**
IGAR	**Gharneh**	**2.42**	**64**	Pn		**Pn**	**01 50 45.0**	**+1.6**
IRAM	**Ramesheh**	**2.52**	**79**	Pn		**Pn**	**01 50 46.7**	**+1.9**
IKFM	**Kafar-mosalman**	**2.56**	**328**	Pn		**Pn**	**01 50 47.7**	**+2.5**
IKLH	**Kolahrood**	**2.64**	**42**	Pn		**Pn**	**01 50 48.0**	**+1.5**
IZEF	**Zefreh**	**2.86**	**57**	Pn		**Pn**	**01 50 51.2**	**+1.6**
QAMS	**Qamsar**	**2.87**	**34**	Pn		**Pn**	**01 50 51.2**	**+1.5**
IKOM	**Komasi**	**3.26**	**330**	Pn		**Pn**	**01 50 57.5**	**+2.6**
HAGD	**Aghdareh**	**3.46**	**355**	Pn		**Pn**	**01 50 59.6**	**+1.8**
KCHF	**Cheshme Sefid,**	**3.56**	**325**	Pn		**Pn**	**01 51 01.6**	**+2.6**
ILBA	**Ilam Banvizeh**	**3.57**	**310**	Pn		**Pn**	**01 51 01.2**	**+2.1**
ISAD	**Sadrabad**	**3.63**	**80**	Pn		**Pn**	**01 51 01.4**	**+1.3**
IQOM	**Qom**	**3.72**	**21**	Pn		**Pn**	**01 51 02.8**	**+1.5**
ISFB	**Sefidab**	**3.78**	**37**	Pn		**Pn**	**01 51 03.9**	**+1.8**
IGHG	**Ghaleghazi**	**3.84**	**321**	Pn		**Pn**	**01 51 05.4**	**+2.3**
ANAR	**Anarak**	**4.03**	**62**	Pn		**Pn**	**01 51 07.0**	**+1.4**
IVRN	**Varamin**	**4.08**	**27**	Pn		**Pn**	**01 51 07.5**	**+1.3**
ILIN	**Lien**	**4.13**	**330**	Pn		**Pn**	**01 51 09.3**	**+2.3**
IDHR	**Dehrash**	**4.22**	**323**	Pn		**Pn**	**01 51 10.6**	**+2.3**
ICHK	**Chekchek**	**4.29**	**77**	Pn		**Pn**	**01 51 10.5**	**+1.4**
IMEH	**Mehriz**	**4.39**	**88**	Pn		**Pn**	**01 51 12.3**	**+1.7**
KGS1	**Ghasr-e-Shirin**	**4.53**	**315**	Pn		**Pn**	**01 51 14.5**	**+2.2**
IDMV	**Damavand**	**4.71**	**26**	Pn		**Pn**	**01 51 16.2**	**+1.2**
ILAS	**Lasjerd**	**4.96**	**35**	Pn		**Pn**	**01 51 19.4**	**+1.1**
IFIR	**Firoozkooh**	**5.07**	**32**	Pn		**Pn**	**01 51 21.1**	**+1.2**
GEYT	**Alibeck**	**9.67**	**45**	Pn		**Pn**	**01 52 21.7**	**-1.1**
	0.2nm,0.3s,baz=214,slow=10,SNR=6.5 4.4nm,0.7s							
ASF	**Jabal al Asfar**	**10.74**	**278**	Pn		**Pn**	**01 52 37.5**	**-0.1**
	0.5nm,0.3s,baz=90,slow=12,SNR=6.5							
ASF				Sn		**Sn**	**01 54 32.1**	**-4.9**
	0.3nm,0.3s,baz=40,slow=2.9,SNR=3.5							
ASF				Lg		Lg	01 55 43.7	
	0.2nm,0.3s,baz=117,slow=21,SNR=2.0 1.9nm,0.4s							
WSAR	**Wadi Sarin**	**11.47**	**133**	Pn		**Pn**	**01 52 46.4**	**-1.1**
	0.5nm,0.3s,baz=328,slow=5.4,SNR=7.2							
MMAI	**Mount Meron Ar**	**12.04**	**282**	LR		LR	01 58 53.4	
	comp=Z,61nm,18.1s,baz=79,slow=44							
EIL	**Elat**	**12.64**	**266**	Pn		**Pn**	**01 53 03.3**	**-0.2**
	0.2nm,0.3s,baz=170,slow=14,SNR=2.9							
EIL				LR		LR	01 59 11.6	
	comp=Z,44nm,20.8s,baz=90,slow=43 3.2nm,0.8s							
BRTR	**Keskin Array B**	**15.34**	**307**	Pn		**Pn**	**01 53 41.3**	**+1.0**
	baz=127,slow=11,SNR=1.6 0.3nm,0.7s							
BVAR	**Borovoye Array**	**26.44**	**29**	P		**P**	**01 55 40.8**	**+0.8**
	0.6nm,0.8s,baz=248,slow=7.6,SNR=3.1 0.6nm,0.8s							
KURBB	**Kurchatov Arra**	**28.89**	**40**	P		**P**	**01 56 02.2**	**+0.4**
	0.5nm,0.8s,baz=241,slow=9.2,SNR=4.4 0.5nm,0.8s							
FINES	**FINESS Array B**	**33.76**	**340**	P		**P**	**01 56 44.0**	**-0.5**
	6.9nm,1.1s,baz=137,slow=7.9,SNR=8.5 6.9nm,1.1s							
TORD	**Torodi Ar. Bea**	**47.39**	**259**	P		**P**	**01 58 41.1**	**+3.4**
	0.4nm,0.4s,baz=60,slow=8.1,SNR=3.7 0.4nm,0.4s							
KSRS	**Korea Array**	**63.26**	**61**	P		**P**	**02 00 31.2**	**-0.5**
	1.1nm,0.5s,baz=294,slow=6.7,SNR=3.3 1.1nm,0.5s							
MJAR	**Matsushiro Arr**	**71.20**	**58**	LR		LR	02 33 31.8	
	comp=Z,37nm,21.5s,baz=92,slow=37							
YKA	**Yellowknife Ar**	**85.60**	**353**	P		**P**	**02 02 40.9**	**-0.2**
	0.3nm,0.8s,baz=8.8,slow=5.6,SNR=3.5 0.3nm,0.8s							

IDC 10 01:52:48.2±9.6,18˚.58S×172˚.51W,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=765.0km s-min=32.3km az=151.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**50.01**	**254**	P		P	02 01 44.6	-0.1
	0.3nm,0.6s,baz=90,slow=7.7,SNR=12 0.3nm,0.6s							
NVAR	**Mina Array Bea**	**76.14**	**41**	P		P	02 04 38.7	+0.4
	0.1nm,0.3s,baz=209,slow=5.2,SNR=3.8 0.1nm,0.3s							
PDAR	**Pinedale Array**	**84.07**	**41**	P		P	02 05 20.9	-0.3
	0.3nm,0.7s,baz=183,slow=3.0,SNR=4.3 0.3nm,0.7s							

NEIC ***10*** *02:09:29.2,36˚.06S×73˚.04W,h23km*
NEIC ***10*** *02:09:30.4±1.7,36˚.03S±0˚.03×73˚.01W±0˚.07,h31km±4km, mb5.0/110,Mwr4.5/55,Error ellipse: s-maj=8.5km s-min=3.5km az=117.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr5.65; Mθθ-4.02; Mφφ-1.63; Mrθ0.30; Mθφ3.73; Mφr2.82; Fault plane solution: Mo6.88000×10¹⁵ NP1:φs327.58000°,δ55.75000°, λ117.72000°. NP2:φs104.54000°,δ42.96000°,λ55.66000°. Principal axes: T 6.8457, Plg66.0000°, Azm292.0000°; N 0.0714, Plg23.0000°, Azm131.0000°; P -6.9171, Plg7.0000°, Azm38.0000°;*
GUC ***10*** *02:09:30.4±0.8,36˚.03S×72˚.97W,h34km±5km,ML4.6*
IDC ***10*** *02:09:33.2±2.4,36˚.03S×72˚.73W,h50km±21km,mb4.1/12, mbtmp4.3/16,ML4.1/4,MS3.7/23,Error ellipse: s-maj=22.9km s-min=13.2km az=93.0*
ISC 10 02:09:28.3±1.0,36˚.01S±0˚.04×72˚.96W±0˚.05,h15km±5km, n356, σ1§**08/303,mb5.0/67,MS3.8/19,5C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**0.76**	**194**	Pn		**Pn**	**02 09 44.2**	**-0.3**
BI05				Sn		**Sb**	**02 09 53.7**	**+0.3**
BI05	**Punta Hualpn**	**0.76**	**194**	*e*P		**Pn**	**02 09 44.1**	**-0.3**
BI05				*i* S		**Sb**	**02 09 53.7**	**+0.3**
BI05				IAML			02 09 55.1	
	comp=E,92μm,0.2s							
CCSP	**San Pedro de C**	**0.84**	**188**	*e*P		**Pn**	**02 09 45.3**	**-0.3**
CCSP				*i* S		**Sb**	**02 09 55.7**	**0.0**
CCSP				IAML			02 09 59.2	
	comp=E,48μm,0.4s							
ML02	**Panimavida**	**1.28**	**79**			**Pn**	**02 09 52.6**	**+1.1**
ML02				Sn		**Sg**	**02 10 08.7**	**-0.8**
ML02	**Panimavida**	**1.28**	**79**	*e*P		**Pn**	**02 09 52.7**	**+1.1**
ML02				*e*S		**Sg**	**02 10 08.2**	**-1.3**
ML02				IAML			02 10 12.6	
	comp=E,26μm,0.7s							
GO05	**Huala**	**1.30**	**41**	Pn		**Pg**	**02 09 52.6**	**-0.8**
GO05				Sn		**Sn**	**02 10 11.6**	**+2.5**
GO05	**Huala**	**1.30**	**41**	*e*P		**Pg**	**02 09 52.6**	**-0.8**
GO05				*i* S		**Sg**	**02 10 09.9**	**-0.5**
BO03	**Pichilemu**	**1.72**	**29**	*e*P		**Pn**	**02 09 58.5**	**+0.9**
BO03				IAML			02 10 28.1	
	comp=N,7μm,0.6s							
BO02	**Sierra Bellavi**	**2.15**	**56**	Pn		**Pn**	**02 10 04.8**	**+1.1**
BO01	**Tunca**	**2.23**	**44**			**Pn**	**02 10 05.8**	**+1.1**
BO01	**Tunca**	**2.23**	**44**	*e*P		**Pn**	**02 10 05.8**	**+1.1**
BO01				IAML			02 10 46.6	
	comp=N,3μm,0.5s							
MT01	**Popeta**	**2.56**	**34**			**Pn**	**02 10 09.9**	**+0.7**
MT01	**Popeta**	**2.56**	**34**	*e*P		**Pn**	**02 10 10.2**	**+1.0**
MT01				IAML			02 10 58.9	
	comp=E,2μm,0.3s							
VA05	**Santo Domingo**	**2.59**	**26**			**Pn**	**02 10 10.1**	**+0.4**
VA05	**Santo Domingo**	**2.59**	**26**	*e*P		**Pn**	**02 10 10.1**	**+0.4**
VA05				IAML			02 10 55.3	
	comp=E,4μm,0.4s							
MT09	**Talagante**	**2.75**	**37**			**Pn**	**02 10 13.1**	**+1.1**
MT09	**Talagante**	**2.75**	**37**	*e*P		**Pn**	**02 10 13.2**	**+1.1**
MT09				*e*S		**Sn**	**02 10 46.6**	**+1.5**
MT09				IAML			02 11 03.8	
	comp=N,4μm,0.3s							
BO04	**La Punta**	**2.79**	**44**	Pn		**Pn**	**02 10 13.5**	**+1.0**
LC02	**Puerto Saavedr**	**2.80**	**187**			**Pn**	**02 10 13.3**	**+0.9**
MT12	**Pirque**	**3.02**	**42**	*e*P		**Pn**	**02 10 16.5**	**+1.0**
LMEL	**Las Melosas**	**3.13**	**47**			**Pn**	**02 10 18.6**	**+1.5**
LMEL	**Las Melosas**	**3.13**	**47**	*e*P		**Pn**	**02 10 18.9**	**+1.7**
LMEL				*i* S		**Sn**	**02 10 56.0**	**+1.6**
MT02	**Curacav**	**3.13**	**29**	Pn		**Pn**	**02 10 17.4**	**+0.4**
MT02	**Curacav**	**3.13**	**29**	*e*P		**Pn**	**02 10 17.4**	**+0.4**
MT13	**San Alfonso**	**3.15**	**45**	*e*P		**Pn**	**02 10 19.2**	**+1.7**
MT13				*i* S		**Sn**	**02 10 56.3**	**+1.4**
VA01	**Torpederas**	**3.17**	**20**	Pn		**Pn**	**02 10 18.2**	**+0.7**
VA01	**Torpederas**	**3.17**	**20**	*e*P		**Pn**	**02 10 18.2**	**+0.7**
VA01				*i* S		**Sn**	**02 10 53.3**	**-1.8**
MT05	**Renca**	**3.19**	**36**			**Pn**	**02 10 19.3**	**+1.4**
MT03	**Universidad Ad**	**3.22**	**40**			**Pn**	**02 10 19.5**	**+1.1**
MT10	**Hacienda Santa**	**3.38**	**37**	*e*P		**Pn**	**02 10 22.1**	**+1.4**
MT10				*i* S		**Sn**	**02 11 01.6**	**+1.0**
PEL	**Peldehue**	**3.42**	**34**			**Pn**	**02 10 22.1**	**+1.0**
ROC1	**El Roble**	**3.43**	**29**			**Pn**	**02 10 22.7**	**+1.3**
ROCH	**El Roble**	**3.43**	**29**	*e*P		**Pn**	**02 10 22.5**	**+1.1**
ROCH				*i* S		**Sn**	**02 11 03.1**	**+1.2**
MT08	**Bocatoma Ro**	**3.52**	**44**			**Pn**	**02 10 24.1**	**+1.4**
GO06	**Curarrehue**	**3.76**	**162**			**Pn**	**02 10 26.0**	**+0.2**
PLCA	**Paso Flores**	**5.08**	**159**			**Pn**	**02 10 44.0**	**0.0**
PLCA	**Paso Flores**	**5.08**	**159**	P		**Pn**	**02 10 45.5**	**+1.5**
	comp=N,1.5nm,0.3s,baz=332,slow=11,SNR=49							
PLCA				LR		LR	02 12 49.3	
	comp=N,822nm,18.6s,baz=342,slow=39 comp=N,11nm,0.5s							
LL03	**Petrohue**	**5.14**	**175**			**Pn**	**02 10 44.6**	**-0.1**
H03S1	**Juan Fernandez**	**5.34**	**292**	T		T	02 16 18.7	
	baz=113,slow=76,SNR=1076							
H03S3	**Juan Fernandez**	**5.35**	**292**	T		T	02 16 20.1	
	baz=113,slow=76,SNR=1334							
H03S2	**Juan Fernandez**	**5.36**	**292**	T		T	02 16 18.9	
	baz=113,slow=76,SNR=1193							
VA04	**Juan Fernndez**	**5.37**	**294**			**Pn**	**02 10 47.9**	**0.0**
LL05	**Los Muermos**	**5.40**	**184**			**Pn**	**02 10 47.5**	**-0.8**
CO03	**El Pedregal**	**5.49**	**21**			**Pn**	**02 10 50.5**	**+0.8**
H03N1	**Juan Fernandez**	**5.53**	**296**	T		T	02 16 36.8	
	baz=109,slow=76,SNR=22							
H03N3	**Juan Fernandez**	**5.53**	**296**	T		T	02 16 36.2	
	baz=109,slow=76,SNR=32							
H03N2	**Juan Fernandez**	**5.54**	**296**	T		T	02 16 37.2	
	baz=109,slow=76,SNR=12							
ZON	**Zonda**	**5.70**	**40**			**Pn**	**02 10 53.0**	**+0.5**
CFA	**Coronel Fontan**	**5.89**	**43**	P		**Pn**	**02 10 56.2**	**+1.1**
	comp=N,6.4nm,0.3s,baz=214,slow=11,SNR=140							
CFA				S		**Sn**	**02 12 02.3**	**-0.1**
	comp=N,62nm,0.5s,baz=265,slow=12,SNR=2.2							
CFA				LR		LR	02 13 25.2	
	comp=N,632nm,20.9s,baz=253,slow=40 comp=N,14nm,0.3s							
CO01	**Juntas del Tor**	**6.48**	**23**			**Pn**	**02 11 03.5**	**+0.1**
LL02	**Futaleuf**	**7.22**	**174**	Pn		**Pn**	**02 11 12.9**	**-0.4**
LCO	**Las Campanas**	**7.23**	**16**			**Pn**	**02 11 13.9**	**+0.2**
AC05	**El Transito**	**7.50**	**18**			**Pn**	**02 11 17.5**	**+0.2**
AY01	**Puyuhuapi**	**8.41**	**178**	Pn		**Pn**	**02 11 30.0**	**+0.6**
GO03	**Copiap**	**8.70**	**16**			**Pn**	**02 11 32.8**	**-0.9**
AC06	**Mina Casimiro**	**8.91**	**15**			**Pn**	**02 11 35.1**	**-1.3**
TRQA	**Tornquist**	**9.02**	**106**			**Pn**	**02 11 38.2**	**+0.3**
AY02	**Valle Explorad**	**10.47**	**181**	Pn		**Pn**	**02 11 56.7**	**-1.0**
GO02	**Mina Guanaco**	**11.19**	**16**			**Pn**	**02 12 07.9**	**-0.1**
PB15	**IPOC Station P**	**13.11**	**14**			**Pn**	**02 12 33.8**	**-0.4**
PB05	**IPOC Station P**	**13.33**	**11**	Pn		**Pn**	**02 12 37.7**	**+0.6**
PB06	**IPOC Station P**	**13.58**	**13**	Pn		**Pn**	**02 12 39.3**	**-1.2**
AF01	**San Pedro de A**	**13.66**	**19**	Pn		**Pn**	**02 12 40.6**	**-1.1**
LVC	**Limon Verde**	**13.81**	**16**	Pn		**Pn**	**02 12 43.7**	**-0.1**
LVC	**Limon Verde**	**13.81**	**16**	P		**Pn**	**02 12 45.7**	**+1.9**
	comp=N,0.5nm,0.3s,baz=210,slow=11,SNR=3.6							
LVC				LR		LR	02 18 49.9	
	comp=N,225nm,19.8s,baz=210,slow=40 comp=N,3.0nm,0.5s							
PB01	**IPOC Station P**	**15.22**	**12**	Pn		**Pn**	**02 13 02.0**	**-0.8**
PB08	**IPOC Station P**	**16.16**	**13**	Pn		**Pn**	**02 13 14.0**	**-1.2**
PB11	**IPOC Station P**	**16.45**	**11**	Pn		**Pn**	**02 13 16.9**	**-1.8**
CPUP	**Villa Florida**	**16.48**	**59**	Pn		**Pn**	**02 13 19.7**	**+0.8**
CPUP	**Villa Florida**	**16.48**	**59**	P		**Pn**	**02 13 19.9**	**+1.0**
	comp=N,0.2nm,0.3s,baz=219,slow=10,SNR=4.6							
CPUP				LR		LR	02 20 13.3	
	comp=N,418nm,20.1s,baz=237,slow=39 comp=N,1.9nm,0.7s							
GO01	**Chusmiza**	**16.61**	**13**	P		**Pn**	**02 13 21.3**	**+0.2**
PB16	**IPOC Station P**	**17.87**	**11**	Pn		**Pn**	**02 13 35.7**	**-1.2**
PB18	**Visviri**	**18.61**	**10**	P		**P**	**02 13 43.6**	**-2.1**
PB18				IAmb		IAmb	02 14 09.6	
	comp=Z,130nm,1.4s							
ITAB	**Concordia**	**19.75**	**70**	P		**P**	**02 13 57.4**	**-0.2**
LPAZ	**La Paz**	**20.11**	**14**	P		**P**	**02 13 59.5**	**-2.7**
AQDB	**Aquidauana**	**21.64**	**49**	P		**P**	**02 14 17.8**	**-0.3**
AQDB				IAmb		IAmb	02 14 19.0	
	comp=Z,51nm,0.8s							
PTLB	**Pontes e Lacer**	**23.91**	**35**	P		**P**	**02 14 40.7**	**-0.8**
NNA	**Nana**	**24.17**	**351**	LR		LR	02 21 58.8	
	comp=Z,143nm,20.1s,baz=181,slow=31							
VILB	**Vilhena**	**25.67**	**30**	P		**P**	**02 14 58.0**	**+0.3**
VILB				IAmb		IAmb	02 15 09.9	
	comp=Z,20nm,0.9s							
ETMB	**Extrema**	**26.79**	**15**	P		**P**	**02 15 07.8**	**+0.1**
CZSB	**Cruzeiro do Su**	**28.15**	**1**	P		**P**	**02 15 20.4**	**+0.4**
ATAH	**Atahualpa**	**29.16**	**349**	LR		LR	02 24 32.7	
	comp=Z,82nm,20.6s,baz=196,slow=31							
BDFB	**Brasilia**	**30.11**	**54**	P		**P**	**02 15 36.2**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=183,slow=21,SNR=2.0							
BDFB				LR		LR	02 28 47.1	
	comp=Z,256nm,18.7s,baz=162,slow=38 comp=Z,1.3nm,0.5s							
TBTG	**Tabatinga, AM**	**31.79**	**6**	P		**P**	**02 15 52.8**	**+0.6**
RPN	**Rapa Nui**	**32.08**	**276**	LR		LR	02 25 07.4	
	comp=Z,165nm,19.7s,baz=95,slow=29							
MCRA	**Macar, Loja**	**32.14**	**347**	P		**P**	**02 15 55.2**	**-0.1**
ARNL	**Arenillas**	**32.96**	**347**	P		**P**	**02 16 01.9**	**-0.5**
ARNL				IAmb		IAmb	02 16 06.9	
	comp=Z,18nm,0.8s							
BOSC	**San Juan Bosco**	**33.09**	**350**	P		**P**	**02 16 03.2**	**-0.6**
COHC	**Cochancay**	**33.88**	**349**	P		**P**	**02 16 10.8**	**+0.3**
CHSH	**Refugio Sur-Vo**	**34.78**	**350**	P		**P**	**02 16 18.4**	**-0.5**
CHSH				IAmb		IAmb	02 16 23.6	
	comp=Z,11nm,0.7s							
SLOR	**San Lorenzo -**	**35.48**	**350**	P		**P**	**02 16 24.6**	**-0.2**
OTAV	**Otavalo**	**36.42**	**351**	P		**P**	**02 16 32.5**	**-0.4**
TULM	**Tulcn-Chalpat**	**36.81**	**352**	P		**P**	**02 16 34.5**	**-1.7**
ROSC	**El Rosal**	**40.65**	**358**	LR		LR	02 33 31.2	
	comp=Z,129nm,18.2s,baz=224,slow=35							
SDV	**Santo Domingo**	**44.71**	**3**	LR		LR	02 35 28.6	
	comp=Z,76nm,18.0s,baz=276,slow=35							
BAUV	**El Baul**	**44.95**	**7**	P		**P**	**02 17 41.5**	**-1.2**
BAUV				IAmb		IAmb	02 17 43.8	
	comp=Z,14nm,0.8s							
JTS	**Las Juntas de**	**47.42**	**344**	LR		LR	02 33 51.5	
	comp=Z,52nm,19.2s,baz=357,slow=31							
VNA3	**Neumayer Olymp**	**47.80**	**157**	⇑P		**P**	**02 18 05.0**	**+0.4**
	comp=Z,4.3nm,0.6s							
VNA1	**Neumayer--Stat**	**48.14**	**156**	⇑P		**P**	**02 18 07.8**	**+0.6**
	comp=Z,7.3nm,0.8s							
VNA2	**Neumayer--Watz**	**48.47**	**156**	⇑P		**P**	**02 18 10.0**	**+0.2**
	comp=Z,4.8nm,0.5s,baz=281,slow=8.0							
SNAA	**Sanae**	**50.02**	**157**	P		**P**	**02 18 21.3**	**-0.4**
SNAA				IAmb		IAmb	02 18 34.2	
	comp=Z,8.5nm,1.1s							
SNAA	**Sanae**	**50.02**	**157**	⇑P		**P**	**02 18 21.9**	**+0.2**
	comp=Z,43nm,0.4s							
SNAA	**Sanae**	**50.02**	**157**	P		**P**	**02 18 21.9**	**+0.2**
	comp=Z,2.4nm,0.4s,baz=256,slow=8.0,SNR=27							
SNAA				PcP		**PcP**	**02 19 40.3**	**-1.1**
	comp=Z,2.0nm,0.6s,baz=301,slow=5.8,SNR=1.6 comp=Z,2.4nm,0.4s							
TROLL	**Troll, Antarti**	**51.72**	**157**	⇑P		**P**	**02 18 34.9**	**+0.3**
	comp=Z,252nm,0.5s							
QSPA	**South Pole Qui**	**54.23**	**180**	P		**P**	**02 18 52.5**	**-0.7**
QSPA				IAmb		IAmb	02 19 04.6	
	comp=Z,10nm,1.1s							
QSPA	**South Pole Qui**	**54.23**	**180**	P		**P**	**02 18 53.7**	**+0.5**
	comp=Z,3.1nm,0.6s,baz=150,slow=3.9,SNR=11 comp=Z,3.1nm,0.6s							
CMIG	**Matias Romero**	**56.74**	**335**	LR		LR	02 37 38.7	
	comp=Z,35nm,19.2s,baz=180,slow=30							
VNDA	**Vanda**	**61.99**	**192**	P		**P**	**02 19 48.5**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=121,slow=9.9,SNR=1.8 comp=Z,0.7nm,0.8s							
TBI	**Tubuai**	**66.13**	**258**	*e*LR		LR	02 39 55.3	
	comp=Z,379nm,25.0s							
TIGA	**Tifton**	**67.83**	**350**	P		**P**	**02 20 26.0**	**+0.4**
	baz=171							
MEH	**Mehetia**	**67.85**	**264**	*e*T		T	03 33 53.9	
	comp=Z,17nm,0.2s							
BRAL	**Brewton**	**68.12**	**347**	P		**P**	**02 20 29.3**	**+1.9**
	baz=168							
833A	**Chaparral WMA,**	**68.66**	**335**	P		**P**	**02 20 30.1**	**-0.8**
833A	**Chaparral WMA,**	**68.66**	**335**	P		**P**	**02 20 32.7**	**+1.8**
	baz=157							
TIAR	**Tiarei**	**69.05**	**263**	*e*T		T	03 35 29.7	
	comp=Z,1.6nm,0.3s							
NHSC	**New Hope**	**69.09**	**354**	P		**P**	**02 20 35.3**	**+1.9**
	baz=174							
PPT2	**Papeete2**	**69.22**	**263**	*e*LR		LR	02 41 42.0	
	comp=Z,80nm,24.0s							
PPT	**Papeete**	**69.23**	**263**	LR		LR	02 42 37.8	
	comp=Z,70nm,18.1s,baz=160,slow=29							
LPIG	**La Paz**	**69.43**	**324**	LR		LR	02 44 40.9	
	comp=Z,39nm,18.2s,baz=44,slow=30							
HNDO	**Hondo**	**69.73**	**336**	IAmb		IAmb	02 20 39.9	
	comp=Z,21nm,0.7s							
GOGA	**Godfrey**	**69.75**	**351**	P		**P**	**02 20 37.8**	**+0.3**
	baz=171							
HPIG		**69.80**	**329**	IAmb		IAmb	02 20 40.7	
	comp=Z,9.6nm,1.0s							
LRAL	**Lakeview Retre**	**69.93**	**347**	P		**P**	**02 20 40.4**	**+1.7**
	baz=168							
DRIO	**Del Rio**	**70.09**	**334**	P		**P**	**02 20 39.5**	**-0.3**
DRIO				IAmb		IAmb	02 20 42.5	
	comp=Z,5.1nm,0.7s							
435B	**Jarrell**	**70.35**	**338**	IAmb		IAmb	02 20 43.5	
	comp=Z,14nm,0.9s							
435B	**Jarrell**	**70.35**	**338**	P		**P**	**02 20 43.1**	**+1.9**
	baz=159							
NATX	**Nacogdoches**	**70.42**	**340**	P		**P**	**02 20 43.7**	**+2.1**
	baz=162							
JCT	**Junction City**	**70.78**	**336**	P		**P**	**02 20 45.6**	**+1.6**
	baz=157							
SAND	**Sanderson**	**71.11**	**333**	P		**P**	**02 20 46.2**	**+0.2**
SAND				IAmb		IAmb	02 20 48.3	
	comp=Z,17nm,0.9s							
TX31	**Lajitas Ar. Si**	**71.13**	**332**	IAmb		IAmb	02 20 48.0	
	comp=Z,14nm,0.7s							
TXAR	**Lajitas Aray**	**71.13**	**332**	P		**P**	**02 20 47.5**	**+1.3**
	comp=Z,6.2nm,0.7s,baz=156,slow=9.1,SNR=77							
TXAR				LR		LR	02 46 46.0	
	comp=Z,48nm,21.0s,baz=112,slow=31 comp=Z,6.2nm,0.7s							
KMSC	**Kings Mountain**	**71.22**	**353**	P		**P**	**02 20 46.6**	**+0.2**
	baz=173							
BRDY	**Brady**	**71.26**	**337**	P		**P**	**02 20 46.6**	**-0.3**
BRDY				IAmb		IAmb	02 20 48.4	
	comp=Z,8.6nm,0.8s							
X48A	**Hartselle**	**71.32**	**348**	IAmb

baz=152
CCM **Cathedral Cave** 75.61 345 P P 02 21 11.4 -0.9
CCM **Cathedral Cave** 75.61 345 P P 02 21 12.8 +0.5
baz=165
P51A **Williamsport** 75.69 352 IAmb IAmb 02 21 13.3
comp=Z,22nm,0.9s
S39A **Bolivar** 75.72 343 IAmb IAmb 02 21 14.0
comp=Z,8.7nm,0.9s
P52A **Corning** 75.74 353 P P 02 21 12.8 -0.2
baz=172
T35A **Sooner Cattle** 75.78 341 IAmb IAmb 02 21 14.9
comp=Z,18nm,0.9s
P49A **Miami Univ. Ec** 75.95 351 P P 02 21 13.6 -0.6
baz=170
R40A **Maddies Statio** 76.06 344 P P 02 21 13.7 -1.1
R40A IAmb IAmb 02 21 16.0
comp=Z,16nm,0.9s
O53A **New Philadelph** 76.26 354 P P 02 21 16.3 +0.3
baz=173
SSPA **Standing Stone** 76.41 356 P P 02 21 17.1 +0.4
baz=176
ACSO **Alum Creek Sta** 76.43 352 P P 02 21 17.2 +0.3
baz=172
DBIC **Dimbokro** 76.54 71 P P 02 21 17.9 -0.3
comp=Z,2.7nm,0.6s,baz=208,slow=3.5,SNR=9.0
DBIC LR LR 02 51 26.0
comp=Z,64nm,21.1s,baz=184,slow=33
comp=Z,2.7nm,0.6s
TUC **Tucson** 76.64 328 P P 02 21 19.6 +1.2
TUC **Tucson** 76.64 328 P P 02 21 20.1 +1.6
baz=149
O48B **Farmland** 76.72 350 P P 02 21 18.6 +0.1
baz=170
ANMO **Albuquerque** 77.19 332 P P 02 21 21.9 +0.3
ANMO **Albuquerque** 77.19 332 P P 02 21 23.4 +1.8
baz=153
ANMO **Albuquerque** 77.19 332 LR LR 02 50 30.9
comp=Z,61nm,19.2s,baz=228,slow=32
214A **Organ Pipe Nat** 77.24 326 P P 02 21 23.7 +2.0
baz=148
P38A **Dawn** 77.61 344 IAmb IAmb 02 21 24.4
comp=Z,18nm,0.8s
BINY **Binghamton** 77.88 358 P P 02 21 27.3 +2.3
baz=178
T25A **Trinidad** 78.41 335 P P 02 21 28.7 +0.3
T25A IAmb IAmb 02 21 31.1
comp=Z,13nm,0.9s
T25A **Trinidad** 78.41 335 P P 02 21 30.5 +2.1
baz=155,SNR=10
CBKS **Cedar Bluff** 78.45 339 IAmb IAmb 02 21 30.2
comp=Z,16nm,0.8s
CBKS **Cedar Bluff** 78.45 339 P P 02 21 29.7 +1.4
baz=158
W18A **Petrified Fore** 78.63 330 P P 02 21 31.8 +2.3
baz=150
GLA **Glamis** 79.08 325 P P 02 21 33.5 +1.6
baz=147
SDCO **Great Sand Dun** 79.34 334 P P 02 21 33.5 0.0
SDCO **Great Sand Dun** 79.34 334 P P 02 21 34.9 +1.4
baz=154,SNR=6.2
IKP **In-Ko-Pah, Jac** 79.35 324 P P 02 21 35.7 +2.3
baz=146
TSUM **Tsumeb** 79.39 106 LR LR 02 51 19.4
comp=Z,44nm,18.2s,baz=246,slow=32
SWSC **Sam W. Stewart** 79.45 324 P P 02 21 35.8 +2.0
baz=146
KSCO **Kaye Shedlock'** 79.52 337 P P 02 21 36.3 +2.0
baz=156
WUAZ **Wupatki** 79.64 329 P P 02 21 36.2 +1.1
WUAZ IAmb IAmb 02 21 38.2
comp=Z,7.9nm,1.1s
WUAZ **Wupatki** 79.64 329 P P 02 21 36.2 +1.1
baz=149
MONP2 **Monument Peak** 79.70 324 P P 02 21 37.3 +1.8
baz=146
BOSA **Boshof** 79.81 118 P P 02 21 35.8 -0.5
comp=Z,8.6nm,0.8s,baz=251,slow=4.6,SNR=11
comp=Z,8.6nm,0.8s
S22A **4UR Ranch, Cre** 79.81 333 P P 02 21 37.3 +1.2
baz=153
BC3 **Big Chuckawall** 79.87 325 P P 02 21 37.7 +1.4
baz=146,SNR=5.1
MVCO **Mesa Verde** 79.96 332 P P 02 21 38.4 +1.5
baz=152
JFWS **Jewell Farm** 80.12 347 P P 02 21 38.4 +1.1
baz=166
IRM **Iron Mountain** 80.15 326 P P 02 21 39.4 +1.7
baz=147
TPFO **Pinon Flats** 80.30 324 P P 02 21 40.3 +1.6
baz=146,SNR=5.7
Q24A **Divide** 80.31 335 P P 02 21 39.9 +1.1
baz=154
PFO **Pinyon Flats O** 80.31 324 P P 02 21 40.6 +1.9
baz=146,SNR=5.4
BELC **Belle Mtn. Jos** 80.41 325 P P 02 21 40.6 +1.3
baz=146
BGNE **Belgrade** 80.43 341 P P 02 21 40.4 +1.4
baz=160
MURC **Murrieta** 80.65 324 P P 02 21 42.0 +1.6
baz=145
ELS **Elsinore Mount** 80.80 324 P P 02 21 41.6 +0.4
GMRC **Granite Mounta** 80.91 326 P P 02 21 43.1 +1.2
baz=146,SNR=6.0
PKME **Peaks-Kenny Pk** 80.97 3 P P 02 21 43.5 +1.8
baz=183
CIS **Catalina Islan** 81.08 323 P P 02 21 44.4 +1.7
baz=144
ISCO **Idaho Springs** 81.21 335 P P 02 21 45.2 +1.6
baz=154
HEC **Hector,Ludlow** 81.25 325 P P 02 21 44.1 +0.5
baz=146
V12A **Nelson** 81.32 327 P P 02 21 44.1 +0.1
BFSC **Mount Baldy Ra** 81.39 324 P P 02 21 45.8 +1.4
baz=145
TUQ **Turquoise Moun** 81.56 326 P P 02 21 46.3 +1.0
baz=146
RRX **Edison Barstow** 81.60 325 P P 02 21 46.2 +0.8
baz=145
GSC **Goldstone, Bar** 81.86 325 P P 02 21 47.2 +0.4
GSC IAmb IAmb 02 21 49.9
comp=Z,6.0nm,0.8s
GSC **Goldstone, Bar** 81.86 325 P P 02 21 47.9 +1.0
baz=146,SNR=6.2
EDW2 **Edwards Air Fo** 82.08 324 P P 02 21 49.7 +1.7
baz=145
SZCU **Shurtz Canyon** 82.13 329 P P 02 21 49.2 +0.8
SZCU IAmb IAmb 02 21 51.5
comp=Z,11nm,1.4s
LBTB **Lobatse** 82.15 115 LR LR 02 55 29.7
comp=Z,25nm,19.3s,baz=198,slow=34
ECSD **EROS Data Cent** 82.23 343 P P 02 21 48.2 -0.3
ECSD IAmb IAmb 02 21 49.8
comp=Z,16nm,0.8s
ECSD **EROS Data Cent** 82.23 343 P P 02 21 49.7 +1.2
baz=161
LRMC **Laurel Mtn Rad** 82.42 325 P P 02 21 50.8 +0.9
baz=145
O20A **White River Ci** 82.44 333 P P 02 21 50.6 +0.7
baz=152
MPMC **Manual Prospec** 82.80 325 P P 02 21 52.3 +0.4
baz=145
PRN **Pahroc Range** 82.81 327 P P 02 21 52.8 +0.9
PRN IAmb IAmb 02 21 55.2
comp=Z,11nm,0.9s
SPMN **Marine on St.** 82.83 346 P P 02 21 53.2 +1.7
baz=164
ISA **Isabella, Lake** 82.94 324 P P 02 21 53.6 +1.1
baz=144
PKM **Mcpherson Peak** 82.96 323 P P 02 21 53.3 +0.6
baz=144
TPNV **Topopah Spring** 82.96 326 P P 02 21 53.8 +1.1
baz=146,SNR=5.6
VES **Vestal, Richgr** 83.37 324 P P 02 21 55.1 +0.5
baz=144
CWC **Cottonwood Cre** 83.38 325 P P 02 21 55.9 +1.0
baz=145
SMMC **Simmler** 83.39 323 P P 02 21 55.5 +0.7
baz=144
SUSD **Miller** 83.48 342 P P 02 21 56.2 +1.2
baz=159
GRAC **Grapevine Rang** 83.51 326 P P 02 21 55.8 +0.5
baz=145
R11B **Troy Canyon, C** 83.83 328 P P 02 21 59.3 +2.1
baz=147,SNR=10.0
SPR3 **Spring Creek 3** 83.84 329 P P 02 21 57.5 +0.2
SPR3 IAmb IAmb 02 21 59.7
comp=Z,7.1nm,0.9s
TIN **Tinemaha, Big** 83.95 325 P P 02 21 59.6 +1.9
baz=145
K22A **Casper** 84.07 336 P P 02 21 59.6 +1.4
baz=153
DUG **Dugway, Tooele** 84.23 330 P P 02 22 00.7 +1.6
baz=149,SNR=6.7
TPH **Tonopah** 84.33 326 P P 02 22 00.0 +0.3
RSSD **Black Hills** 84.60 338 P P 02 22 02.3 +1.4
baz=155
NV11 **Mina Array Sit** 85.04 326 P P 02 22 02.8 -0.4
NVAR **Mina Array Bea** 85.11 326 P P 02 22 05.4 +1.7
comp=Z,3.8nm,0.7s,baz=153,slow=6.1,SNR=35
comp=Z,3.8nm,0.7s
EYMN **Ely** 85.21 348 P P 02 22 03.8 +0.2
baz=165
BW06 **Boulder Array** 85.22 334 P P 02 22 04.3 +0.2
baz=151
PDAR **Pinedale Array** 85.22 334 P P 02 22 04.5 +0.4
comp=Z,0.7nm,0.6s,baz=149,slow=6.4,SNR=6.5
comp=Z,0.7nm,0.6s
TORD **Torodi Ar. Bea** 85.60 70 P P 02 22 05.8 -0.6
TORD **Torodi Ar. Bea** 85.60 70 P P 02 22 05.3 -1.1
comp=Z,1.4nm,0.9s,baz=187,slow=3.3,SNR=6.8
comp=Z,1.4nm,0.9s
ELK **Elko** 85.68 329 P P 02 22 06.8 +0.3
ELK IAmb IAmb 02 22 08.8
comp=Z,6.0nm,1.2s
AGMN **Agassiz Nation** 86.39 345 P P 02 22 09.8 +0.3
baz=162
MDND **Maddock** 86.82 342 P P 02 22 12.6 +1.0
baz=159
H17A **Grant Village** 87.00 334 P P 02 22 15.3 +2.4
baz=150
RLMT **Red Lodge** 87.18 335 P P 02 22 14.2 +0.5
baz=151
YMR **Madison River** 87.38 334 P P 02 22 15.4 +0.7
YMR IAmb IAmb 02 22 17.1
comp=Z,7.7nm,1.1s
HLID **Hailey** 87.72 331 P P 02 22 17.5 +1.2
baz=148
ULM **Lac du Bonnet** 88.24 346 P P 02 22 18.0 -0.4
comp=Z,5.7nm,0.8s,baz=164,slow=3.1,SNR=12
comp=Z,5.7nm,0.8s
BOZ **Bozeman (W)** 88.41 334 P P 02 22 20.2 +0.6
baz=150
DGMT **Dagmar** 88.60 340 P P 02 22 21.4 +1.3
baz=155
J08A **Circle Bar Ran** 89.20 329 P P 02 22 23.5 +0.3
EGMT **Eagleton** 89.88 336 P P 02 22 27.4 +1.2
baz=151
LSZ **Lusaka** 89.89 109 LR LR 02 57 27.6
comp=Z,56nm,21.9s,baz=205,slow=32
MSO **Missoula** 90.30 333 P P 02 22 29.7 +1.4
baz=148
MDT **Midelt** 93.66 52 LR LR 03 04 22.6
comp=Z,75nm,19.4s,baz=238,slow=35
R33M **Jennings River** 106.44 333 P PKiKP 02 27 52.8 +1.0
baz=134
S32K **Killisnoo** 106.51 330 P PKiKP 02 27 52.2 +0.4
baz=132
SIT **Sitka** 106.54 330 P PKiKP 02 27 52.2 +0.4
baz=132
Q32M **Nakina River** 106.63 332 P PKiKP 02 27 52.5 +0.3
baz=133
SII **Sitkinak Islan** 114.77 323 P PKPdf 02 28 07.6 +0.1
baz=118
Q20K **Shuyak Island** 114.89 325 P PKPdf 02 28 08.2 +0.6
baz=119
ASAR **Alice Springs** 115.44 207 PKP PKiKP 02 28 07.9 -2.0
comp=Z,0.3nm,0.5s,baz=134,slow=2.1,SNR=4.7
ASAR PKKPbc PKKPbc 02 38 41.6 -1.2
comp=Z,0.3nm,0.5s,baz=353,slow=2.2,SNR=2.6
MCK **McKinley** 115.90 331 P PKPdf 02 28 09.9 +0.5
baz=119
SDPT **Sand Point** 117.41 320 P PKPdf 02 28 12.8 +0.3
baz=114
P16K **Nushagak River** 117.69 324 P PKPdf 02 28 13.1 +0.2
baz=114
D25K **Kavik River** 117.71 337 P PKPdf 02 28 13.3 +0.5
baz=119
H22K **Ishtalitna Cre** 117.83 333 P PKPdf 02 28 13.7 +0.6
baz=116
N17K **Nushagak Hills** 117.93 326 P PKPdf 02 28 14.3 +0.9
baz=114
H21K **Melozitna Rive** 118.25 332 P PKPdf 02 28 14.5 +0.6
baz=115
D24K **Happy Valley** 118.40 337 P PKPdf 02 28 15.0 +1.0
baz=117
TOLK **Toolik Lake Re** 118.41 336 P PKPdf 02 28 14.8 +0.7
baz=116
WRA **Warramunga Arr** 118.64 209 PKP PKPdf 02 28 15.0 -1.2
comp=Z,6.6nm,0.4s,baz=165,slow=1.6,SNR=14
F22K **John River** 118.81 334 P PKPdf 02 28 15.4 +0.4
baz=115
G21K **Allakaket** 118.87 333 P PKPdf 02 28 15.6 +0.5
baz=114
J18K **Innoko River** 118.90 329 P PKPdf 02 28 15.2 +0.1
baz=113
M16K **Timber Creek** 118.92 326 P PKPdf 02 28 15.6 +0.3
baz=112
E22K **Anaktuvuk Pass** 118.94 335 P PKPdf 02 28 15.3 +0.1
baz=115
F21K **Alatna River** 119.15 334 P PKPdf 02 28 15.4 -0.2
baz=114
C23K **Itkillik River** 119.27 337 P PKPdf 02 28 15.6 -0.1
baz=115
K17K **Iditarod** 119.28 328 P PKPdf 02 28 16.0 0.0
baz=112
O14K **Tigyukauivet M** 119.33 324 P PKPdf 02 28 16.3 +0.2
baz=112
N14K **Kuskokwak Cree** 119.77 325 P PKPdf 02 28 16.5 -0.4
baz=111
E21K **Killik River** 119.81 335 P PKPdf 02 28 16.6 -0.3
baz=113
F20K **Avaraart Lake** 119.89 333 P PKPdf 02 28 17.8 +0.8
baz=112
C21K **Knifeblade Rid** 120.35 336 P PKPdf 02 28 18.8 +1.0
baz=112
B22K **Teshekpuk Lake** 120.35 337 P PKPdf 02 28 18.8 +1.1
baz=112
E20K **Nigu River** 120.50 335 P PKPdf 02 28 18.3 +0.1
baz=111
F19K **Shaleruckik Mo** 120.57 333 P PKPdf 02 28 18.6 +0.4
baz=110
G18K **Tagagawik** 120.57 332 P PKiKP 02 28 19.9 +1.5
baz=110
E19K **Redstone River** 120.59 334 P PKPdf 02 28 19.4 +1.1
baz=110
G17K **Kiniik Mounta** 121.22 331 P PKPdf 02 28 19.4 -0.2
baz=109
D19K **Kuna River** 121.25 335 P PKPdf 02 28 19.3 -0.3
baz=109
B20K **Meade River** 121.43 336 P PKPdf 02 28 20.5 +0.7
baz=109
J14K **Nanvaranak Lak** 121.56 327 P PKPdf 02 28 20.9 +0.6
baz=108
H16K **Elim** 121.59 330 P PKPdf 02 28 20.7 +0.5
baz=108
A21K **Barrow** 121.68 338 P PKPdf 02 28 21.3 +1.0
baz=109
F17K **Baldwin Pennin** 121.75 332 P PKPdf 02 28 21.6 +1.1
baz=108
C19K **Lookout Ridge** 121.95 335 P PKPdf 02 28 21.8 +0.8
baz=108
M11K **Mekoryuk** 122.06 324 P PKPdf 02 28 22.1 +0.8
baz=107
MMAI **Mount Meron Ar** 122.14 70 PKP PKPdf 02 28 21.8 -0.7
comp=Z,1.2nm,0.6s,baz=230,slow=1.1,SNR=1.4
E17K **Hotham Inlet** 122.16 332 P PKPdf 02 28 21.4 +0.1
baz=107
C18K **Utukok River** 122.38 334 P PKPdf 02 28 22.2 +0.4
baz=106
G15K **Niukluk** 122.43 330 P PKPdf 02 28 22.5 +0.6
baz=106
A19K **Wainwright** 122.76 336 P PKPdf 02 28 22.4 0.0
baz=106
B18K **Kokolik River** 122.78 335 P PKPdf 02 28 22.7 +0.3
baz=105
BRTR **Keskin Array B** 123.45 62 PKP PKPdf 02 28 23.8 -1.1
comp=Z,0.6nm,0.8s,baz=211,slow=1.7,SNR=3.2
H11S2 **WAKE ISLAND Hyl** 124.97 268 T T 04 46 14.3
baz=122
H11S1 **WAKE ISLAND Hyl** 124.98 268 T T 04 46 07.3
baz=122
H11S3 **WAKE ISLAND Hyl** 124.98 268 T T 04 46 16.7
baz=122
GAMB **Gambell** 125.39 327 P PKiKP 02 28 29.4 +1.4
baz=101
H11N3 **WAKE ISLAND Hyl** 125.43 270 T T 04 46 34.6
baz=122,slow=76,SNR=6.4
H11N1 **WAKE ISLAND Hyl** 125.44 270 T T 04 46 36.2
baz=122,slow=76,SNR=8.3
H11N2 **WAKE ISLAND Hyl** 125.45 270 T T 04 46 36.4
baz=122,slow=76,SNR=8.2
TIXI **Tiksi** 142.52 349 PKPdf PKPdf 02 28 59.0 -0.4
ABKAR **Akbulak array** 143.50 54 PKPdf PKPab 02 28 58.6 +0.4
GSI **Gunungsitoli** 144.37 164 PKPdf PKPab 02 29 02.1 -0.4
MYKOM **Kota Tinggi** 145.82 174 PKPdf PKPdf 02 29 03.8 -3.1
HYB **Hyderabad** 148.71 119 *e*P PKPbc 02 29 15.1 -0.3
BVAR **Borovoye Array** 149.25 45 PKPbc PKPbc 02 29 15.9 +0.2
comp=Z,1.6nm,0.6s,baz=337,slow=3.3,SNR=7.9
CHGR **Chuyangaron** 149.90 73 PKPbc PKPdf 02 29 15.7 +2.6
ZALV **Zalesovo Beam** 156.32 34 PKP PKPdf 02 29 21.1 -0.6
comp=Z,0.3nm,0.3s,baz=328,slow=5.1,SNR=4.3
ZALV PKPbc sPKPdf 02 29 30.8 +2.2
comp=Z,0.3nm,0.4s,baz=292,slow=4.5,SNR=2.7
ZALV PKPab PKPab 02 29 50.0 +0.1
comp=Z,1.6nm,0.6s,baz=311,slow=3.2,SNR=6.3
MKAR **Makanchi Array** 158.62 52 PKP PKPdf 02 29 23.9 -0.9
comp=Z,1.5nm,0.9s,baz=67,slow=4.1,SNR=4.6
MKAR PKPab PKPab 02 29 60.0 -0.2
comp=Z,1.3nm,1.0s,baz=266,slow=3.7,SNR=3.8
SONM **Songino Array** 168.17 2 PKPab PKPab 02 30 42.5 +0.4
comp=Z,0.9nm,0.7s,baz=337,slow=1.9,SNR=4.3
PZH **PanZhiHua** 169.50 153 PKP PKPdf 02 29 33.7 -1.8

NNC ***10*** *02:16:46.8±4.9, 38°.71N×70°.16E, h0km, mb3.9, mpv3.3, Error ellipse: s-maj=54.2km s-min=23.2km az=160.0*
SOME ***10*** *02:16:50.7, 39°.08N×73°.32E, h5km*
ISC 10 02:16:47.3±3.2, 38°.7N±0°.2×70°.0E±0°.1, h10km, n13, σ1s03/15, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.46**	**38**	P		**Pn**	**02 17 54.4**	**-1.0**
	SNR=14							
AML	**Almayashu**	**4.46**	**38**	⇑Pn		**Pn**	**02 17 54.1**	**-1.2**
	2.1nm,0.8s							
AML				⇑Sn		**Sn**	**02 18 47.3**	**-0.2**
	4.5nm,0.7s							
KK31	**Karatay Array**	**4.47**	**4**	Pn		**Pn**	**02 17 56.3**	**+1.2**
	5.1nm,0.5s,baz=172,slow=11,SNR=68							
KK31				⇑Sn		**Sn**	**02 18 47.1**	**+0.1**
	9.5nm,0.5s,baz=185,slow=23,SNR=3.6							
MRKS	**Merke**	**4.76**	**30**	*e*Pg		**Pn**	**02 17 59.0**	**-0.1**
	5.8nm,0.2s							
MRKS				*e*Lg		Lg	02 18 53.7	
	32nm,0.3s							
EKS2	**Erkin-Say**	**4.92**	**34**	P		**Pn**	**02 18 01.9**	**+0.6**
	SNR=8.6							
UCH	**Uchtor**	**4.94**	**42**	P		**Pn**	**02 18 01.3**	**-0.7**
	SNR=5.2							
AAK	**Ala-Archa**	**5.23**	**39**	P		**Pn**	**02 18 06.3**	**+0.6**
	SNR=21							
KZA	**Kyzart**	**5.25**	**48**	P		**Pn**	**02 18 07.7**	**+1.5**
	SNR=7.6							
KBK	**Karagaybulak**	**5.47**	**41**	P		**Pn**	**02 18 11.1**	**+2.1**
	SNR=50							
CHMS	**Chumysh**	**5.63**	**38**	P		**Pn**	**02 18 11.5**	**+0.5**
	SNR=10							
KUU	**Kurty**	**7.07**	**40**	*e*Pg		**Pn**	**02 18 30.6**	**-0.1**
	4.1nm,0.3s							
KUU				*e*Lg		Lg	02 19 50.5	
	4.0nm,4.5s							
AB31	**Akbulak array**	**12.85**	**329**	P		**Pn**	**02 19 49.9**	**0.0**
	2.2nm,0.5s,baz=161,slow=10,SNR=90							
AKTO	**Aktyubinsk**	**14.55**	**328**	⇓P		**Pn**	**02 20 12.2**	**-0.9**
	2.0nm,0.8s							

IDC ***10*** *02:23:14.3±1.3, 55°.41S×27°.46W, h0km, mb4.0/5, mbtmp3.9/6, ML3.1/1, Error ellipse: s-maj=44.7km s-min=26.0km az=93.0*
ISC 10 02:23:15.2±1.4, 55°.4S±0°.2×27°.6W±0°.3, h10km, n7, σ0s90/7, mb3.9/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.46**	**157**	P		**P**	**02 27 41.1**	**-0.6**
	0.1nm,0.3s,baz=312,slow=14,SNR=1.9							
	0.7nm,0.6s							
QSPA	**South Pole Qui**	**34.88**	**180**	P		**P**	**02 30 05.5**	**-1.0**
	1.3nm,0.7s,baz=193,slow=5.3,SNR=4.7							
	1.3nm,0.7s							
MAW	**Mawson**	**40.85**	**144**	P		**P**	**02 30 56.7**	**+0.2**
	3.0nm,1.1s,baz=232,slow=12,SNR=2.0							
	3.0nm,1.1s							
BOSA	**Boshof**	**46.06**	**77**	P		**P**	**02 31 39.5**	**+0.3**
	5.4nm,1.1s,baz=272,slow=12,SNR=2.3							
	5.4nm,1.1s							
VNDA	**Vanda**	**47.24**	**183**	P		**P**	**02 31 48.9**	**+1.3**
	0.9nm,0.8s,baz=162,slow=5.2,SNR=2.7							
	0.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**72.59**	**30**	P		**P**	**02 34 42.1**	**-0.4**
	0.7nm,0.8s,baz=212,slow=7.8,SNR=2.6							
	0.7nm,0.8s							
ILAR	**Eielson Array**	**149.47**	**313**	PKPbc		**PKiKP**	**02 43 04.1**	**0.0**
	1.0nm,0.7s,baz=113,slow=3.4,SNR=17							

IDC ***10*** *02:28:53.9±1.6, 6°.67S×129°.17E, h0km, mb3.8/3, mbtmp3.8/6, ML3.7/3, Error ellipse: s-maj=50.2km s-min=27.8km az=80.0*
ISC 10 02:29:07.1±1.2, 7°.5S±0°.1×129°.0E±0°.2, h131km, n6, σ3s27/8, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.88**	**243**	Pn		**Pn**	**02 30 32.1**	**-0.1**
	10nm,0.3s,baz=116,slow=1.6,SNR=20							
BATI				Sn		Sn	02 31 33.4	-5.1
	7.4nm,0.3s,baz=98,slow=16,SNR=4.8							
	32nm,0.4s							
WRA	**Warramunga Arr**	**13.41**	**158**	Pn		**Pn**	**02 32 14.4**	**+2.1**
	0.2nm,0.3s,baz=336,slow=14,SNR=7.9							
WRA				Sn		**Sn**	**02 34 37.5**	**-3.0**
	0.5nm,0.3s,baz=341,slow=23,SNR=2.1							
	0.3nm,0.4s							
ASAR	**Alice Springs**	**16.75**	**164**	P		**Pn**	**02 32 59.4**	**+5.3**
	0.2nm,0.3s,baz=338,slow=10,SNR=14							
ASAR				S		**Sn**	**02 35 57.8**	**-3.1**
	0.1nm,0.4s,baz=327,slow=15,SNR=1.8							
	0.5nm,0.4s							
MKAR	**Makanchi Array**	**68.09**	**327**	P		**P**	**02 39 51.9**	**-0.8**
	0.9nm,0.8s,baz=119,slow=8.0,SNR=5.3							
	0.9nm,0.8s							
KURBB	**Kurchatov Arra**	**72.41**	**329**	P		**P**	**02 40 17.5**	**-1.4**
	0.4nm,0.3s,baz=127,slow=4.7,SNR=4.4							
	0.4nm,0.3s							
BVAR	**Borovoye Array**	**77.95**	**328**	P		**P**	**02 40 51.0**	**+0.4**
	0.3nm,0.5s,baz=111,slow=7.9,SNR=2.1							
	0.3nm,0.5s							

IDC ***10*** *02:45:29.2±1.0, 36°.83N×140°.56E, h0km, mb3.5/6, mbtmp3.6/8, ML3.3/2, Error ellipse: s-maj=21.1km s-min=13.3km az=158.0*
NIED ***10*** *02:45:30.7, 36°.80N×140°.59E, h6km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr-1.67; Mθθ0.74; Mφφ0.93; Mrθ-0.14; Mθφ-0.67; Mφr0.86; Fault plane solution: M0 1.81000×10^14 NP1: φs152.00000°, δs59.00000°, λs-77.00000°. NP2: φs309.00000°, δs33.00000°, λs-110.00000°.*
JMA ***10*** *02:45:30.7±0.0, 36°.8N±0°.1×140°.6E±0°.2, h6km, MV3.5/20, NORTHERN IBARAKI PREF*
JMA Felt II J1 at NORTHERN IBARAKI PREF .
ISC 10 02:45:30.5±1.0, 36°.81N±0°.03×140°.56E±0°.04, h8km±7km, n24, σ0s77/28, mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.20**	**179**	P		**Pg**	**02 45 34.5**	**0.0**
JHO				*e*S		**Sg**	**02 45 37.4**	**+0.2**
JFFD	**Fukushimafurud**	**0.28**	**360**	*i* P		**Pg**	**02 45 36.4**	**+0.3**
JFFD				S		**Sg**	**02 45 40.3**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.35**	**33**	*i* P		**Pg**	**02 45 37.4**	**+0.1**
ONAJ				*e*S		**Sg**	**02 45 42.5**	**+0.5**
JSB	**Shiboa**	**0.54**	**287**	*i* P		**Pb**	**02 45 42.1**	**-0.1**
JSB				S		**Sb**	**02 45 50.2**	**+0.1**
JFK	**Kawauchi**	**0.61**	**24**	*i* P		**Pg**	**02 45 42.1**	**-0.2**
JFK				S		**Sg**	**02 45 50.4**	**+0.2**
JYT	**Yasato**	**0.65**	**207**	*i* P		**Pg**	**02 45 43.0**	**0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JYT				S	Sg	02 45 52.0	+0.4
JOTO	OTAMA OYAMA	0.77	346	i P	Pb	02 45 45.7	-0.4
JOTO				S	Sb	02 45 56.1	-0.7
JFY	Yanaizu	0.91	311	P	Pb	02 45 48.6	+0.1
JAG	Ashikaga	0.97	247	i P	Pg	02 45 48.6	-0.5
JAG				S	Sg	02 46 02.0	+0.3
MJAR	Matsushiro Arr	1.91	263	Pg	Pn	02 46 04.4	+1.1
	2.6nm,0.3s,baz=93,slow=16,SNR=22						
MJAR				Lg	Lg	02 46 29.9	
	3.1nm,0.3s,baz=83,slow=28,SNR=17						
MJAR				LR	LR	02 46 48.0	
	comp=Z,33nm,19.3s,baz=46,slow=41						
JHJ	Hachijo jima 2	3.74	190	Pn	Pn	02 46 28.5	+0.1
	6.1nm,0.3s,baz=16,slow=11,SNR=1.6						
JHJ				Sn	Sn	02 47 13.9	+1.3
	5.3nm,0.3s,baz=263,slow=21,SNR=1.8						
	25nm,0.4s						
ASAJ	Asahikawa	7.46	11	Pn	Pn	02 47 18.9	-0.6
	0.5nm,0.3s,baz=25,slow=20,SNR=1.5						
ASAJ				Sn	Sn	02 48 46.0	+1.7
	0.2nm,0.3s,baz=86,slow=26,SNR=3.0						
	19nm,1.2s						
SONM	Songino Array	27.35	305	P	P	02 51 14.3	-1.7
	0.2nm,0.4s,baz=96,slow=5.8,SNR=2.1						
	0.2nm,0.4s						
H11N2	WAKE ISLAND Hy	28.62	119	T	T	03 21 11.4	
	baz=312,slow=75,SNR=23						
H11N1	WAKE ISLAND Hy	28.63	119	T	T	03 21 11.9	
	baz=312,slow=75,SNR=28						
H11N3	WAKE ISLAND Hy	28.64	119	T	T	03 21 13.0	
	baz=312,slow=75,SNR=28						
H11S1	WAKE ISLAND Hy	29.32	121	T	T	03 22 02.2	
	baz=314,slow=75,SNR=49						
H11S3	WAKE ISLAND Hy	29.32	121	T	T	03 22 01.8	
	baz=314,slow=75,SNR=33						
H11S2	WAKE ISLAND Hy	29.33	121	T	T	03 22 05.4	
	baz=314,slow=75,SNR=31						
KURBB	Kurchatov Arra	45.60	308	P	P	02 53 50.0	-0.9
	0.6nm,0.7s,baz=84,slow=8.3,SNR=4.1						
	0.6nm,0.7s						
ILAR	Eielson Array	50.05	32	P	P	02 54 24.9	-0.2
	0.3nm,0.7s,baz=249,slow=4.7,SNR=1.8						
	0.3nm,0.7s						
WRA	Warramunga Arr	56.75	187	P	P	02 55 14.2	-0.7
	0.2nm,0.4s,baz=1.7,slow=7.4,SNR=5.0						
	0.2nm,0.4s						
NVAR	Mina Array Bea	75.67	53	P	P	02 57 17.8	+1.3
	0.3nm,0.6s,baz=282,slow=4.9,SNR=4.6						
	0.3nm,0.6s						
TXAR	Lajitas Array	90.80	52	P	P	02 58 35.2	+0.6
	0.2nm,0.6s,baz=315,slow=3.3,SNR=3.6						
	0.2nm,0.6s						

IDC 10 02:49:46.2±6.6,**6°.67S×149°.09E,h54**km±49km,**mb3.5**/2,**mbtmp3.7**/4,**ML3.8**/1,**Error ellipse: s-maj=110.8km s-min=31.2km az=110.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.33	215	P	Pn	02 50 37.3	+1.6
	15nm,0.3s,baz=346,slow=4.6,SNR=7.1						
PMG				S	Sn	02 51 14.5	+0.4
	62nm,0.4s,baz=139,slow=22,SNR=13						
WRA	Warramunga Arr	19.48	226	P	P	02 54 08.5	-0.3
	0.3nm,0.3s,baz=52,slow=11,SNR=19						
	1.3nm,0.6s						
ASAR	Alice Springs	22.33	219	P	P	02 54 39.4	-0.2
	1.5nm,0.6s,baz=53,slow=9.2,SNR=31						
	1.5nm,0.6s						
MJAR	Matsushiro Arr	44.17	347	P	P	02 57 49.4	-0.4
	1.2nm,0.6s,baz=181,slow=9.7,SNR=2.5						
	1.2nm,0.6s						
TORD	Torodi Ar. Bea	147.27	284	PKPbc	PKPbc	03 09 24.1	-0.6
	1.1nm,0.5s,baz=64,slow=2.7,SNR=9.7						

*LDG **10** 02:52:29.0±0.4,49°.95N×18°.31E,h10km,Ml3.8/8,Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*IDC **10** 02:52:30.7±0.8,49°.74N×18°.30E,h0km,mbtmp3.5/8,ML3.2/8,Error ellipse: s-maj=13.8km s-min=6.7km az=154.0*
*BGR **10** 02:52:31.8±0.3,49°.96N×18°.18E,h1km,ML3.8/8,Error ellipse: s-maj=5.6km s-min=4.4km az=10.0*
*PRU **10** 02:52:32.9,49°.87N×18°.26E,h3km,Tectonic Event Hlucin-felt In Silesia And N Moravia*
*IPEC **10** 02:52:32.1±0.0,49°.89N×18°.20E,h15km,MB-1.0,ML3.5/11,MS-1.0,Error ellipse: s-maj=0.2km s-min=0.2km az=177.0*
*DNK **10** 02:52:33.0±2.3,50°.09N×17°.84E,h0km,ML2.6,Suspected explosion*
*UPP **10** 02:52:36.4±3.0,50°.24N×17°.54E,h0km,ML2.7*
ISC 10 02:52:31.1±0.6,**49°.89N**±0°.02×**18°.22E**±0°.02,**h0**km,**n148**,σ1**s.91**/208,**17C-6D,Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.07	221	ePG	Pg	02 52 34.9	+2.4
OKC				eSG	Sg	02 52 36.9	+3.4
	comp=Z,8µm,0.2s						
OKC	Ostrava-Krasne	0.07	221	ePg	Pg	02 52 35.0	+2.4
OKC				eSg	Sg	02 52 36.9	+3.4
RAC	Raciborz	0.19	354	⇓iPG	Pg	02 52 36.8	+2.0
RAC				eSG	Sg	02 52 39.5	+2.2
MORC	Moravsky Berou	0.46	255	⇑P	Pg	02 52 40.7	+0.8
MORC				⇑S	Sg	02 52 46.9	+1.2
MORC	Moravsky Berou	0.46	255	ePG	Pg	02 52 40.7	+0.8
MORC				eSG	Sg	02 52 47.1	+1.4
MORC	Moravsky Berou	0.46	255	⇑iPg	Pg	02 52 40.6	+0.8
	baz=255						
MORC				eSg	Sg	02 52 46.9	+1.2
	2µm,0.2s,baz=255						
MORC	Moravsky Berou	0.46	255	ePg	Pg	02 52 40.7	+0.8
MORC				eSg	Sg	02 52 47.3	+1.6
ANAC	Anensky vrch	0.57	289	⇑iPg	Pg	02 52 42.7	+0.6
	baz=289						
ANAC				eSg	Sg	02 52 50.2	+0.6
	2µm,0.3s,baz=289						
MAUC	Maruska	0.59	206	ePG	Pg	02 52 43.5	+1.1
MAUC				eSG	Sg	02 52 52.0	+2.1
LOSC	Losov	0.62	244	⇑iPg	Pg	02 52 43.4	+0.5
	baz=244						
LOSC				eSg	Sg	02 52 51.7	+0.8
	2µm,0.3s,baz=244						
MUVC	Mutkov	0.62	262	⇑iPg	Pg	02 52 43.4	+0.4
	baz=262						
MUVC				eSg	Sg	02 52 51.5	+0.5
	1µm,0.2s,baz=262						
LIPC	Lipinka	0.76	267	ePg	Pg	02 52 46.2	+0.5
	baz=267						
LIPC				eSg	Sg	02 52 55.8	+0.3
	2µm,0.2s,baz=267						
LUKC	Luka	0.84	254	⇑iPg	Pg	02 52 47.5	+0.2
	baz=254						
LUKC				eSg	Sg	02 52 58.5	+0.3
	900nm,0.3s,baz=254						
SUPC	Skalka u Prost	0.84	234	⇑iPg	Pg	02 52 47.8	+0.5
	baz=234						
SUPC				eSg	Sg	02 52 58.5	+0.3
	703nm,0.4s,baz=234						
KRLC	Kraliky	0.95	282	ePG	Pg	02 52 49.0	-0.3
KRLC				eSG	Sg	02 53 00.7	-0.9
	comp=Z,1µm,0.5s						
OJC	Ojcow	1.07	72	ePg	Pg	02 52 51.1	-0.4
OJC				eSg	Sg	02 53 05.4	0.0
OJC	Ojcow	1.07	72	ePg	Pg	02 52 51.2	-0.4
OJC				eSg	Sg	02 53 05.3	0.0
JAVC	Velka Javorina	1.10	199	ePG	Pg	02 52 53.3	+1.1
JAVC	Velka Javorina	1.10	199	⇓iPg	Pg	02 52 53.2	+1.1
LANS	Liptovska Anna	1.10	132	ePG	Pg	02 52 52.9	+0.7
LANS				eSG	Sg	02 53 07.4	+1.0
LANS				eLG	Lg	02 53 13.3	
VRAC	Vranov	1.21	242	⇑P	Pg	02 52 54.2	-0.1
VRAC				⇓S	Sg	02 53 09.6	-0.3
VRAC	Vranov	1.21	242	ePG	Pg	02 52 54.0	-0.4
VRAC				eSG	Sg	02 53 09.7	-0.3
VRAC	Vranov	1.21	242	Pg	Pg	02 52 53.9	-0.4
	44nm,0.3s,baz=65,slow=15,SNR=707						
VRAC				Lg	Lg	02 53 09.3	
	172nm,0.3s,baz=336,slow=21,SNR=27						
VRAC	Vranov	1.21	242	⇑iPg	Pg	02 52 53.9	-0.4
	baz=242						
VRAC				eSg	Sg	02 53 09.0	-1.0
	640nm,0.3s,baz=242						
DPC	Dobruska-Polom	1.31	291	ePG	Pg	02 52 55.5	-0.6
DPC				eSG	Sg	02 53 12.5	-0.6
	comp=Z,1µm,0.3s						
DPC	Dobruska-Polom	1.31	291	ePg	Pg	02 52 55.7	-0.5
DPC				eSg	Sg	02 53 12.8	-0.3
NIE	Niedzica	1.43	109	ePb	Pg	02 52 57.8	-0.8
NIE				ePg	Pn	02 52 58.8	+0.4
NIE				eSg	Sn	02 53 18.9	+1.0
OSTC	Ostas	1.45	298	ePG	Pn	02 52 58.0	-0.6
OSTC				eSG	Sg	02 53 16.5	-1.2
	comp=Z,509nm,0.2s						
KRUC	Moravsky	1.45	236	ePn	Pn	02 52 56.9	-1.7
KRUC	Moravsky	1.45	236	ePg	Pn	02 52 57.9	-0.7
KRUC				eSg	Sg	02 53 16.9	-0.9
VYHS	Vyhne	1.46	164	ePN	Pn	02 52 57.3	-1.4
VYHS				ePG	Pg	02 52 59.7	+0.7
VYHS				eSG	Sg	02 53 17.0	-0.9
UPC	Upice	1.55	294	ePG	Pn	02 52 59.9	-0.1
UPC				eSG	Sn	02 53 20.2	-0.6
	comp=Z,394nm,0.5s						
CHVC	Chvalec	1.56	297	ePG	Pn	02 52 59.7	-0.4
CHVC				eSG	Sn	02 53 20.4	-0.6
	comp=Z,299nm,0.3s						
KSP	Ksiaz	1.56	308	i Pg	Pn	02 52 58.7	-1.4
KSP				eSg	Sn	02 53 18.9	-2.1
KSP	Ksiaz	1.56	308	ePn	Pn	02 52 58.7	-1.4
KSP				eSg	Sn	02 53 20.5	-0.5
MODS	Modra-Piesok	1.64	203	ePN	Pn	02 53 00.4	-0.9
MODS				eSG	Sn	02 53 22.1	-1.0
MODS				eLG	Lg	02 53 29.4	
ZST	Bratislava	1.85	204	ePN	Pn	02 53 03.6	-0.5
ZST				eSN	Sn	02 53 27.4	-0.8
TREC	Trest	1.88	252	ePN	Pn	02 53 03.3	-1.2
TREC				ePG	Pb	02 53 05.1	-1.2
TREC				eSG	Sn	02 53 29.5	+0.6
	comp=Z,211nm,0.2s						
STHS	Stebnicka Huta	2.02	103	ePN	Pn	02 53 05.2	-1.2
STHS				ePG	Pb	02 53 09.1	+0.4
KECS	Kecovo	2.05	133	ePN	Pn	02 53 05.8	-1.0
KECS				eSN	Sn	02 53 30.5	-2.5
KECS				eLG	Lg	02 53 35.8	
SRO	Srobarova	2.08	178	ePN	Pn	02 53 06.8	-0.5
GOPC	GO Pecny, Ondr	2.22	272	ePN	Pn	02 53 06.9	-2.3
GOPC				ePG	Pb	02 53 10.7	-1.4
GOPC				eSG	Sn	02 53 39.7	+2.3
	comp=Z,166nm,0.3s						
PSZ	Piszkesteto	2.26	150	⇑P	Pn	02 53 09.5	-0.3
CRVS	Cervenica-Dubn	2.34	114	ePN	Pn	02 53 10.8	0.0
PRU	Pruhonice	2.38	274	ePN	Pn	02 53 09.3	-2.1
PRU				ePG	Pb	02 53 13.5	-1.3
PRU				eSG	Sn	02 53 44.7	+3.5
	comp=Z,103nm,0.6s						
PVCC	Panska Ves	2.43	287	ePN	Pn	02 53 10.6	-1.5
PVCC				ePG	Pb	02 53 15.2	-0.5
PVCC				eSG	Sn	02 53 46.7	+4.2
PRA	Prague	2.45	276	ePG	Pn	02 53 14.4	+2.0
PRA				eSG	Sb	02 53 48.4	+1.6
	comp=Z,139nm,0.3s						
CONA	Conrad Observa	2.51	219	ePn	Pn	02 53 12.0	-1.2
	0.7nm,0.1s,SNR=18						
CONA				ePg	Pb	02 53 19.6	+2.5
	17nm,0.2s						
CONA				Sn	Sn	02 53 42.3	-2.3
	17nm,0.3s						
BEL	Belsk	2.53	39	eP	Pn	02 53 13.9	+0.4
BEL				eS	Sn	02 53 45.1	0.0
RONA	Rosalia, Austr	2.54	211	ePn	Pn	02 53 12.6	-1.0
	1.9nm,0.2s,SNR=26						
RONA				eSn	Sn	02 53 44.4	-0.8
	32nm,0.3s						
ZVC	Zvikov	2.66	262	ePN	Pn	02 53 13.8	-1.4
ZVC				ePG	Pb	02 53 18.5	-1.1
ZVC				eSG	Sb	02 53 54.3	+1.6
	comp=Z,106nm,0.2s						
RICC	Richard	2.73	285	ePG	Pn	02 53 20.2	+4.0
RICC				eSG	Sb	02 53 56.6	+1.9
	comp=Z,227nm,0.3s						
CKRC	Cesky Krumlov	2.77	249	ePN	Pn	02 53 15.6	-1.2
CKRC				ePG	Pb	02 53 21.2	-0.4
CKRC				eSG	Sb	02 53 58.3	+2.2
BRG	Berggiesshubel	2.91	291	Pn	Pn	02 53 15.8	-2.8
BRG				Pg	Pb	02 53 21.2	-2.6
BRG				Sg	Sn	02 53 58.5	+4.2
BRG				Amp		02 54 01.2	
	comp=Z,206nm,0.4s						
KHC	Kasperske Hory	3.12	258	ePN	Pn	02 53 20.1	-1.5
KHC				ePG	Pb	02 53 26.3	-1.2
KHC				eSG	Sb	02 54 08.7	+2.6
	comp=Z,105nm,0.4s						
GEC2	GERESS Array S	3.14	252	ePn	Pn	02 53 20.8	-1.1
GEC2				ePg	Pb	02 53 29.5	+1.7
GEC2				eSg	Sb	02 54 08.1	+1.5
GERES	GERESS Array B	3.14	252	Pn	Pn	02 53 20.8	-1.1
	comp=Z,2.7nm,0.3s,baz=68,slow=16,SNR=16						
GERES				Pg	Pb	02 53 29.1	+1.3
	comp=Z,17nm,0.3s,baz=70,slow=17,SNR=35						
GERES				Lg	Lg	02 54 06.6	
	comp=Z,12nm,0.3s,baz=75,slow=25,SNR=5.0						
	comp=Z,2.9nm,0.3s						
HSKC	Hora Svate Kat	3.16	285	ePN	Pn	02 53 21.8	-0.3
HSKC				ePG	Pb	02 53 28.9	+0.8
HSKC				eSG	Sb	02 54 10.6	+3.5
	comp=Z,210nm,0.4s						
ARSA	Arzberg	3.19	215	i Pn	Pn	02 53 21.5	-1.1
	comp=Z,2.0nm,0.3s						
ARSA				Pg	Pg	02 53 33.0	+0.7
	comp=Z,9.3nm,0.3s						
FBE	Freiberg	3.28	290	ePn	Pn	02 53 23.9	+0.2
FBE				eSg	Sb	02 54 13.7	+3.1
MOA	Molln	3.32	233	i Pn	Pn	02 53 22.9	-1.4
	comp=Z,1.5nm,0.2s,SNR=11						
WET	Wettzell	3.56	260	ePn	Pn	02 53 26.3	-1.4
CLL	Collm	3.62	295	ePn	Pn	02 53 27.0	-1.3
CLL				ePg	Pb	02 53 39.0	+3.2
CLL				ex	x	02 53 42.0	
CLL				eSg	Sb	02 54 23.0	+2.8
	comp=Z,116nm,0.6s						
CLL	Collm	3.62	295	ePn	Pn	02 53 27.5	-0.9
CLL				ePg	Pb	02 53 39.0	+3.2
CLL				eSg	Sb	02 54 23.6	+3.4
MORH	Mrgy, Hungar	3.69	175	⇓P	Pn	02 53 27.9	-1.5
NKC	Novy Kostel	3.74	277	ePN	Pn	02 53 29.4	-0.6
NKC				ePG	Pb	02 53 39.0	+1.0
NKC				eSG	Sb	02 54 29.2	+5.4
	comp=Z,119nm,0.6s						
TANN	Tannenbergstha	3.74	280	ePn	Pn	02 53 28.2	-1.9
TANN				ePg	Pb	02 53 40.1	+2.0
TANN				eSg	Sb	02 54 27.4	+3.4
BIOA	Bad Ischl, Aus	3.75	236	i Pn	Pn	02 53 29.0	-1.2
	comp=Z,3.3nm,0.2s,SNR=9.4						
OBKA	Obir	4.18	217	i Pn	Pn	02 53 35.8	-0.5
	comp=Z,0.2nm,0.1s						
KBA	Koelnbreinsper	4.30	231	i Pn	Pn	02 53 37.5	-0.4
	comp=Z,0.5nm,0.2s						
SIRR	Siria	4.30	146	⇑P	Pn	02 53 36.8	-0.9
MOX	Moxa	4.30	283	ePn	Pn	02 53 36.7	-1.1
MOX				eSg	Sg	02 54 47.8	-1.5
LESA	Schwarzleotal	4.43	238	i Pn	Pn	02 53 38.3	-1.3
	comp=Z,0.4nm,0.1s						
MYKA	Terra Mystica	4.47	225	i Pn	Pn	02 53 40.6	+0.4
	comp=Z,1.3nm,0.4s						
GRF	Grafenberg Arr	4.54	270	ePn	Pn	02 53 40.1	-0.9
MARR	Marisel-Cluj	4.59	133	⇑P	Pn	02 53 41.9	+0.2
BZS	Buzias	4.85	151	⇑P	Pn	02 53 44.4	-0.9
FRGS	Fruska Gora	4.86	167	⇓P	Pn	02 53 44.7	-0.7
SURR	Surduc	4.90	146	⇑P	Pn	02 53 45.2	-0.8
ABTA	Abfaltersbach	4.94	233	i Pn	Pn	02 53 47.6	+0.9
	comp=Z,0.2nm,0.1s						
WATA	Walderalm	5.10	242	i Pn	Pn	02 53 47.3	-1.6
	comp=Z,0.3nm,0.1s						
WTTA	Wattenberg	5.10	241	i Pn	Pn	02 53 47.3	-1.6
	comp=Z,0.3nm,0.2s						
SUW	Suwalki	5.14	35	eP	Pn	02 53 48.8	-0.4
BURAR	Bucovina Array	5.16	114	⇑P	Pn	02 53 49.2	-0.4
MOTA	Moosalm	5.37	244	i Pn	Pn	02 53 51.6	-0.9
	comp=Z,0.6nm,0.1s						
SQTA	Sankt Quirin	5.37	243	i Pn	Pn	02 53 52.0	-0.6
	comp=Z,0.3nm,0.1s						
GZR	Gura Zlata	5.45	144	⇓P	Pn	02 53 54.3	+0.6
RETA	Reutte	5.50	247	i Pn	Pn	02 53 53.4	-0.9
	comp=Z,0.6nm,0.2s,SNR=7.0						
BSD	Bornholm Skovb	5.61	340	eP	Pn	02 53 52.8	-2.8
BSD	Bornholm Skovb	5.61	340	i P	Pn	02 53 53.3	-2.4
BSD				i S	Sn	02 54 50.4	-10
BSD				IAML		02 55 09.4	
	comp=Z,3.7nm,0.2s						
FETA	Feichten	5.75	243	i Pn	Pn	02 53 58.7	+0.9
	comp=Z,0.1nm,0.1s						
DAVA	Damuels	6.12	248	i Pn	Pn	02 54 01.2	-1.6
	comp=Z,2.1nm,0.3s						
DAVOX	Davos/Dischmat	6.37	244	Pn	Pn	02 54 05.3	-1.1
	comp=Z,0.7nm,0.3s,baz=54,slow=15,SNR=5.5						
DAVOX				Pg	Pb	02 54 28.1	+5.1
	comp=Z,0.8nm,0.3s,baz=83,slow=23,SNR=2.8						
DAVOX				Sn	Sn	02 55 16.5	-3.5
	comp=Z,0.7nm,0.3s,baz=354,slow=21,SNR=1.3						
DAVOX				Lg	Lg	02 55 53.5	
	comp=Z,2.6nm,0.3s,baz=161,slow=21,SNR=3.8						
	comp=Z,2.1nm,0.3s						
LUNU	Lund	6.44	335	P	Pn	02 54 04.2	-2.8
LUNU	Lund	6.44	335	i P	Pn	02 54 04.0	-3.0
LUNU				P	Pn	02 54 04.2	-2.8
LUNU				i S	Sn	02 55 11.9	-9.3
PBUR	Paburge	6.54	19	eP	Pn	02 54 08.4	0.0
BLEU	Blekinge	6.58	348	P	Pn	02 54 06.7	-2.3
BLEU				S	Sn	02 55 15.3	-9.5
BLEU	Blekinge	6.58	348	i P	Pn	02 54 06.7	-2.3
BLEU				P	Pn	02 54 06.7	-2.3
BLEU				S	Sn	02 55 15.3	-9.5
BLEU				i S	Sn	02 55 15.9	-8.9
PABE	Paberze	6.62	30	eP	Pn	02 54 09.6	+0.1
SORM	Soroca	6.89	101	⇑P	Pn	02 54 11.7	-1.6
BJUU	Bjuv	6.94	335	P	Pn	02 54 10.1	-3.9
BJUU				S	Sn	02 55 23.4	-10
BJUU	Bjuv	6.94	335	P	Pn	02 54 10.1	-3.9
BJUU				i P	Pn	02 54 11.7	-2.2
BJUU				S	Sn	02 55 23.4	-10
DEL	Delary	7.09	340	P	Pn	02 54 13.4	-2.6
DEL				S	Sn	02 55 27.6	-10
DEL	Delary	7.09	340	eP	Pn	02 54 12.4	-3.5
DEL	Delary	7.09	340	P	Pn	02 54 13.4	-2.6
DEL				i P	Pn	02 54 13.6	-2.4
DEL				S	Sn	02 55 27.6	-10
AKASG	Malin Array Be	7.09	79	Pn	Pn	02 54 12.7	-3.4
	comp=Z,1.3nm,0.3s,baz=261,slow=13,SNR=5.0						
AKASG				Pg	Pb	02 54 38.5	+3.4
	comp=Z,1.8nm,0.3s,baz=270,slow=16,SNR=5.1						
AKASG				Sn	Sn	02 55 30.4	-7.0
	comp=Z,2.4nm,0.3s,baz=257,slow=38,SNR=5.0						
AKASG				Lg	Lg	02 56 10.0	
	comp=Z,2.0nm,0.3s,baz=259,slow=25,SNR=2.0						
	comp=Z,0.2nm,0.3s						
NACGM	Naroch	7.25	43	eP	Pn	02 54 25.5	+7.3
	comp=Z,12nm,1.0s,baz=231						
VXJU	Vaexsjoe	7.31	346	P	Pn	02 54 16.8	-2.2
VXJU				S	Sn	02 55 32.8	-10
VXJU	Vaexsjoe	7.31	346	P	Pn	02 54 16.8	-2.2
VXJU				S	Sn	02 55 32.8	-10
CDF	Champ du Feu	7.33	263	eP	Pn	02 54 20.2	+0.7
CDF				eSg	Sg	02 56 20.0	-6.4
	comp=Z,30nm,0.7s						
OSKU	Oskarshamn	7.42	351	P	Pn	02 54 18.4	-2.2
OSKU				S	Sn	02 55 37.8	-7.6
OSKU	Oskarshamn	7.42	351	P	Pn	02 54 18.4	-2.2
OSKU				S	Sn	02 55 37.8	-7.6
ISAL	Salakas	7.44	37	eP	Pn	02 54 22.1	+1.3
BYXU	Byxelkrok	7.45	355	P	Pn	02 54 18.5	-2.3
BYXU	Byxelkrok	7.45	355	P	Pn	02 54 18.5	-2.3
IDID	Didziasalis	7.50	40	eP	Pn	02 54 22.4	+0.7
HINF	Hinteralfeld	7.78	259	eSg	Sg	02 56 34.2	-6.7
	comp=Z,6.8nm,0.4s						
HAU	Haudompre	8.04	261	ePg	Pb	02 55 00.2	+8.9
HAU				eSg	Sg	02 56 42.6	-6.7
	comp=Z,11nm,0.4s						
SLIT	Slitere, Latvi	8.12	16	eP	Pn	02 54 27.0	-3.0
ONAU	Onsala	8.39	336	i P	Pn	02 54 31.9	-2.0
BORU	Boraas	8.40	340	i P	Pn	02 54 31.6	-2.4
VIKU	Vikbolandet	8.67	355	eP	Pn	02 54 34.5	-3.2
CABF	La Chapelle	8.74	253	eP	Pn	02 54 37.6	-1.1
CABF				eSg	Sg	02 57 06.0	-5.5
	comp=Z,17nm,0.6s						
LPG	La Plagne	8.90	245	eP	Pn	02 54 41.1	0.0
LPL	La Plagne	8.90	245	eP	Pn	02 54 41.8	+0.7
TJOU	Tjoern	9.03	337	i P	Pn	02 54 41.1	-1.4
MBDF	Montbardon	9.34	241	eP	Pn	02 54 47.6	+0.6
MTSE	Matsula	9.42	18	eP	Pn	02 54 45.4	-2.5
PGF	Pioggiola	9.73	224	eP	Pn	02 54 54.3	+1.9
ORIF	Oris-en-Rattie	9.73	244	eP	Pn	02 54 52.2	-0.2
LOR	Lormes	9.88	260	eP	Pn	02 54 55.1	+0.8
LOR				eSg	Sn	02 57 39.7	+54
	comp=Z,2.9nm,0.3s						
VSU	Vasula	9.92	27	eP	Pn	02 54 52.5	-2.3
STRU	Stroemstad	10.03	339	i P	Pn	02 54 53.4	-2.8
SMF	Signal de Mont	10.12	257	eSg	Sn	02 57 47.2	+55
	comp=Z,3.2nm,0.6s						
SSF	Saint Saulge	10.18	259	eP	Pn	02 54 59.2	+0.8
SSF	Saint Saulge	10.18	259	ePg	Pn	02 55 38.9	+41
SSF				eSg	Sn	02 57 48.7	+56
	comp=Z,6.9nm,0.7s						
SMRF	Simiane la Rot	10.47	240	ePn	Pn	02 54 58.9	-3.6
VIVF	Saint-Julien-l	10.48	246	ePn	Pn	02 54 58.1	-4.4
HFS	Hagfors	10.58	348	Pn	Pn	02 55 00.9	-2.9
	comp=Z,0.3nm,0.3s,baz=161,slow=14,SNR=9.5						
	comp=Z,0.8nm,0.3s						
BGF	Bois d'Agland	10.79	258	eSg	Sn	02 58 07.3	+59
	comp=Z,12nm,0.7s						
MEF	Metsahovi	10.93	16	eP	Pn	02 55 05.6	-3.0
RAF	Rauma	11.33	9	eP	Pn	02 55 10.2	-3.8
LASF	Ste Croix	11.40	245	eP	Pn	02 55 14.5	-0.6
NOA	NORSAR Array B	11.85	343	Pn	Pn	02 55 17.1	-4.1
	baz=161,slow=11,SNR=8.3						
	comp=Z,0.7nm,0.7s						
FINES	FINESS Array B	12.38	18	Pn	Pn	02 55 24.4	-4.0
	comp=Z,0.6nm,0.3s,baz=198,slow=12,SNR=28						
	comp=Z,1.1nm,0.3s						
MTLF	Montolieu	12.79	245	eP	Pn	02 55 35.4	+1.2
EKA	Eskdalemuir Ar	14.06	301	Pn	Pn	02 55 50.5	-0.8
	baz=108,slow=14						
	comp=Z,1.2nm,0.8s						
BRTR	Keskin Array B	14.91	127	Pn	Pn	02 56 01.7	-1.4
	baz=306,slow=12,SNR=3.0						
	comp=Z,0.7nm,0.9s						

*IDC **10** 02:58:42.5±0.5,52°.07N×167°.22W,h0km,mb4.6/37,mbtmp4.6/37,MS3.6/39,Error ellipse: s-maj=16.3km s-min=10.2km az=179.0*
*GCMT **10** 02:58:45.5±0.4,52°.08N±0°.04×166°.89W±0°.07,h23km±1km,MW4.9/84,Moment Tensor Solution. s16,c16; s84,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.59±.23; $M_{\theta\theta}$1.92±.15; $M_{\phi\phi}$0.67±.13; $M_{r\theta}$0.00±.22; $M_{\theta\phi}$0.88±.06; $M_{\phi r}$-0.31±.21; Best double couple: $M_0$2.50100×10^{16} NP1:ϕ_s57.00000°,δ47.00000°,λ-98.00000°. NP2: ϕ_s248.00000°,δ44.00000°,λ-82.00000°. Principal axes: T 2.3810, Plg2.0000°, Azm152.0000°; N 0.2410, Plg6.0000°, Azm62.0000°; P -2.6210, Plg84.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*AEIC **10** 02:58:46.7±2.2,52°.12N±0°.06×167°.13W±0°.07,h27km±4km Error ellipse: s-maj=9.5km s-min=5.7km az=163.0*
*NEIC **10** 02:58:46.5±1.8,52°.17N±0°.06×167°.17W±0°.06,h24km±4km,mb4.9/409,ML4.3/10,ML4.2(AEIC),Error ellipse: s-maj=9.5km s-min=4.0km az=160.0*
ISC 10 02:58:45.8±0.6,**52°.15N**±0°.05×**167°.12W**±0°.04,**h20**km±2km,**h20**km**:pP-P,n861**,σ1**s.17**/725,**mb4.8**/235,**MS3.6**/41,**10C-10D,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.34	309		Pn	02 59 08.3	-1.1
NIKH					Sn	02 59 24.8	-1.9
NIKH	Nikolski High	1.34	309	P	Pn	02 59 08.5	-0.9
NIKH	Nikolski High	1.34	309	P	Pn	02 59 08.5	-0.9
	baz=128,SNR=149						
OKFG	Magazine Ridge	1.35	340		Pn	02 59 08.8	-0.8
OKFG					Sn	02 59 26.4	-0.6
OKER	Okmok East Rim	1.43	337		Pn	02 59 10.2	-0.5
OKCE	Okmok Cone E	1.43	334		Pn	02 59 10.1	-0.6
OKNC	Okmok New Cone	1.45	336		Pn	02 59 10.4	-0.5
OKNC					Sn	02 59 29.2	0.0
MGOD	Makushin Gods	1.66	5		Pn	02 59 13.0	-0.8
MGOD					Sn	02 59 34.2	-0.4
MAPS	Pakushin South	1.67	4		Pn	02 59 13.1	-0.8
MAPS					Sn	02 59 34.3	-0.4

CLCO	Concord Point,	1.71	293			Pn	02 59 13.4	-1.1
CLCO						Sn	02 59 35.4	-0.4
UNV	Unalaska Valle	1.74	12			Pn	02 59 13.7	-1.2
UNV						Sn	02 59 36.6	+0.2
UNV	Unalaska Valle	1.74	12	P		Pn	02 59 14.1	-0.8
UNV	Unalaska Valle baz=193,SNR=22	1.74	12	P		Pn	02 59 14.5	-0.4
MNAT	Makushin Natee	1.76	8			Sn	02 59 36.3	-0.7
CLES	Cleveland East	1.83	293			Sn	02 59 37.5	-1.1
CLES	Cleveland East	1.83	293			Pn	02 59 15.0	-1.0
CLES	Cleveland East comp=E,10µm,0.4s	1.83	293	IAML			02 59 38.2	
CLES	comp=N,9µm,0.6s			IAML			02 59 49.0	
AKRB	Akutan Reef Bi	2.09	17			Sn	02 59 45.0	0.0
AKLV	Akutan Long Va	2.14	19			Pn	02 59 19.7	-0.7
AKUT	Akutan	2.15	22			Pn	02 59 19.8	-0.7
AKUT	Akutan comp=E,3µm,0.7s	2.15	22	IAML			02 59 47.0	
AKUT	comp=N,1µm,0.8s			IAML			02 59 51.1	
AKUT	Akutan	2.15	22	P		Pn	02 59 20.4	-0.1
AKGG	Akutan Green G	2.17	18			Pn	02 59 20.5	-0.2
WECS	Westdahl Cape	2.77	30			Pn	02 59 28.5	-0.6
WEBT	Westdahl Beart	2.83	29			Pn	02 59 29.6	-0.3
SSBA	Shishaldin	3.18	33			Pn	02 59 34.9	+0.1
ISLZ	Isanotski Laza	3.29	37			Pn	02 59 35.9	-0.4
ISNN	Isanotski Nort	3.35	35			Pn	02 59 37.8	+0.8
FALS	False Pass	3.50	38			Pn	02 59 39.2	+0.1
FALS	False Pass	3.50	38	P		Pn	02 59 41.3	+2.2
FALS	False Pass baz=221	3.50	38	P		Pn	02 59 39.3	+0.2
DT1	Dutton Round H	4.13	42			Pn	02 59 47.8	+0.1
KOFP	Korovin Flat P	4.29	274			Pn	02 59 50.4	+0.4
ATKA	Atka Island	4.36	274	Pn		Pn	02 59 50.3	-0.5
ATKA	comp=N,344nm,0.4s			IAML			03 00 39.9	
ATKA	comp=E,268nm,0.8s			IAML			03 00 39.9	
ATKA	Atka Island	4.36	274	P		Pn	02 59 50.5	-0.3
KOKL	Mount Kliuchef	4.36	275			Pn	02 59 51.2	+0.3
PN7A	Pavlof North-7	4.48	41			Pn	02 59 52.8	+0.2
PS1A	Pavlof South-1	4.58	42			Pn	02 59 54.2	+0.3
SDPT	Sand Point	5.08	48			Pn	03 00 00.8	0.0
SDPT	comp=E,169nm,0.6s			IAML			03 01 08.3	
SDPT	comp=N,185nm,3.5s			IAML			03 01 37.7	
SDPT	Sand Point	5.08	48	P		Pn	03 00 01.0	+0.2
SDPT	Sand Point baz=234	5.08	48	P		Pn	03 00 00.8	0.0
CNBA	Chernabura Isl	5.24	56	Pn		Pn	03 00 02.3	-0.5
CHNA	Chernabura Isl baz=242,SNR=6.5	5.24	56	P		Pn	03 00 02.6	-0.4
SPIA	Saint Paul Isl	5.36	341			Pn	03 00 05.0	+0.5
SPIA	Saint Paul Isl	5.36	341	P		Pn	03 00 06.4	+1.9
SPIA	Saint Paul Isl baz=159	5.36	341	P		Pn	03 00 05.3	+0.7
GSTR	Great Sitkin T	5.51	273			Pn	03 00 06.9	+0.3
GSCK	Great Sitkin C	5.58	272			Pn	03 00 07.4	-0.2
ADK	Adak	5.91	271	Pn		Pn	03 00 11.5	-0.7
ADK	Adak	5.91	271	P		Pn	03 00 11.9	-0.3
S14K	Fog Glacier baz=230	6.07	44	P		Pn	03 00 15.5	+1.1
VNFG	Fog Glacier, M	6.07	44			Pn	03 00 14.9	+0.4
KIWB	Kanaga Island	6.20	271	Pn		Pn	03 00 16.6	+0.4
KIMD	Kanaga Island	6.26	270			Pn	03 00 17.0	0.0
CHGN	Chignik	6.58	47			Pn	03 00 21.8	+0.4
CHGN	Chignik baz=235	6.58	47	P		Pn	03 00 22.2	+0.8
TAPA	Tanaga Point A	6.61	271			Pn	03 00 21.6	-0.3
GAEA	Gareloi East	7.19	272			Pn	03 00 30.9	+1.1
O14K	Tigyukauivet M baz=208	7.85	23	P		Pn	03 00 39.8	+1.0
O15K	Ungalikthiuk R baz=214	8.16	27	P		Pn	03 00 44.1	+1.1
M11K	Mekoryuk baz=184	8.28	3	P		Pn	03 00 44.2	-0.4
R17K	Ugashik Creek	8.28	44			Pn	03 00 46.5	+1.9
R17K	Ugashik Creek baz=233	8.28	44	P		Pn	03 00 44.7	+0.2
N14K	Kuskokwak Cree baz=204	8.37	19	P		Pn	03 00 46.1	+0.3
AMKA	Amchitka	8.46	270	Pn		Pn	03 00 46.8	-0.3
SII	Sitkinak Islan	8.75	55	Pn		Pn	03 00 50.8	-0.3
SII	Sitkinak Islan	8.75	55	P		Pn	03 00 50.2	-0.9
SII	Sitkinak Islan baz=245	8.75	55	P		Pn	03 00 50.2	-0.9
Q17K	Contact Creek baz=231,SNR=5.4	8.87	42	P		Pn	03 00 52.7	-0.1
N15K	Kwethluk River baz=209	8.94	23	P		Pn	03 00 54.0	+0.3
O16K	Kokwok River B baz=218	9.02	31	P		Pn	03 00 55.7	+0.9
M14K	Bethel baz=201	9.08	16	P		Pn	03 00 55.9	+0.3
M15K	Kasigluk River baz=206	9.28	20	P		Pn	03 00 58.4	+0.2
P17K	Kvichak River	9.28	36			Pn	03 01 00.5	+2.1
P17K	Kvichak River baz=225	9.28	36	P		Pn	03 00 57.8	-0.5
Q18K	Katmai Hardscr baz=232,SNR=5.1	9.47	42	P		Pn	03 00 59.9	-1.2
O17K	Koliganek Bris	9.48	32			Pn	03 01 03.0	+1.9
O17K	Koliganek Bris baz=221	9.48	32	P		Pn	03 00 59.1	-1.9
OHAK	Old Harbor	9.48	52	Pn		Pn	03 01 00.5	-0.6
OHAK	Old Harbor baz=244	9.48	52	P		Pn	03 00 59.9	-1.2
L14K	Kuka Creek baz=197	9.53	13	P		Pn	03 01 00.3	-1.5
N16K	Nishlik Lake baz=213	9.54	26	P		Pn	03 01 00.7	-1.2
P18K	Big Mountain,	9.87	38	Pn		Pn	03 01 04.3	-2.1
P18K	Big Mountain, baz=228,SNR=9.3	9.87	38	P		Pn	03 01 05.6	-0.8
M16K	Timber Creek baz=210	9.96	24	P		Pn	03 01 06.1	-1.6
L15K	Ungalak Mounta baz=200	10.04	16	P		Pn	03 01 07.0	-1.6
N17K	Nushagak Hills baz=218	10.04	29	P		Pn	03 01 07.7	-1.0
KDAK	Kodiak Island	10.08	50	Pn		Pn	03 01 08.6	-0.7
KDAK	Kodiak Island baz=242	10.08	50	P		Pn	03 01 07.6	-1.6
KDAK	Kodiak Island comp=N,6.5nm,0.3s,baz=219,slow=4.7,SNR=72	10.08	50	Pn		Pn	03 01 07.2	-2.1
KDAK	comp=N,0.1nm,0.3s,baz=344,slow=18,SNR=0.9			Sn		Sn	03 02 54.2	-7.3
O18K	Koktuh Hills	10.19	36	Pn		Pn	03 01 13.6	+2.7
O18K	Koktuh Hills baz=226,SNR=5.9	10.19	36	P		Pn	03 01 11.1	+0.2
Q19K	Cape Douglas, baz=234	10.21	43	P		Pn	03 01 11.0	-0.1
L16K	Owhat River baz=207	10.45	20	P		Pn	03 01 14.6	+0.2
N18K	Kilae Creek baz=221	10.56	32	P		Pn	03 01 16.3	+0.4
Q20K	Shuyak Island baz=239	10.57	46	P		Pn	03 01 15.7	-0.3
K15K	Wolf Creek Mou	10.61	14			Pn	03 01 19.6	+3.1
K15K	Wolf Creek Mou baz=199	10.61	14	P		Pn	03 01 16.5	-0.1
M17K	Holitna River baz=214	10.68	26	P		Pn	03 01 16.8	-0.7
J14K	Nanvaranak Lak baz=192	10.80	9	P		Pn	03 01 18.5	-0.6
P19K	Oil Pt baz=232	10.81	41	P		Pn	03 01 18.0	-1.4
SVW2	Sparrevohn	10.98	31	P		Pn	03 01 23.3	+1.7
L17K	Donlin baz=210	11.09	22	P		Pn	03 01 22.2	-0.8
N19K	Bonanza Creek baz=224	11.13	34	P		Pn	03 01 23.5	-0.2
M18K	Stony River baz=218	11.21	29	P		Pn	03 01 24.1	-0.5
O20K	Slope Mountain baz=232	11.32	40	P		Pn	03 01 24.3	-2.0
HOM	Homer baz=236	11.47	43	P		Pn	03 01 27.7	-0.6
L18K	Granite Mounta baz=214	11.56	25	P		Pn	03 01 29.7	+0.2
CNPM	China Poot	11.57	44	Pn		Pn	03 01 29.0	-0.7
K17K	Iditarod baz=208	11.60	21	P		Pn	03 01 29.6	-0.4
J16K	Anvik River baz=200	11.69	15	P		Pn	03 01 31.4	+0.1
BRSE	Bradley Lake S baz=238	11.90	44	P		Pn	03 01 32.7	-1.5
L19K	White Mountain baz=219	12.04	29	P		Pn	03 01 34.8	-1.3
N20K	Mount Spurr baz=229	12.20	36	P		Pn	03 01 37.0	-1.3
TTA	Tatalina	12.32	24	Pn		Pn	03 01 44.1	+4.1
TTA	Tatalina	12.32	24	P		Pn	03 01 39.6	-0.4
TTA	Tatalina baz=214	12.32	24	P		Pn	03 01 38.2	-1.8
M20K	Styx River baz=224	12.35	32	P		Pn	03 01 41.1	+0.7
ANM	Nome baz=185	12.49	3	P		Pn	03 01 42.8	+0.6
L20K	Farewell, AK baz=221,SNR=10	12.56	29	P		Pn	03 01 43.4	+0.3
J18K	Innoko River baz=211,SNR=6.5	12.61	22	P		Pn	03 01 43.9	0.0
SEW	Seward baz=239	12.64	44	P		Pn	03 01 42.9	-1.4
O22K	Cooper Landing	12.73	42			Pn	03 01 44.6	-0.9
O22K	Cooper Landing baz=237	12.73	42	P		Pn	03 01 44.5	-0.9
H16K	Elim baz=194	12.78	10	P		Pn	03 01 44.0	-2.2
SUA	Susitna One	12.91	37			Pn	03 01 47.9	-0.2
SUA	Susitna One baz=231	12.91	37	P		Pn	03 01 47.5	-0.5
SKT	Skwentna	12.96	34			Pn	03 01 48.3	-0.4
SKT	Skwentna baz=228	12.96	34	P		Pn	03 01 48.9	+0.2
G15K	Niukluk baz=189	12.98	6	P		Pn	03 01 47.1	-1.8
RC01	Rabbit Creek A	13.07	40	Pn		Pn	03 01 48.6	-1.5
RC01	Rabbit Creek A baz=235	13.07	40	P		Pn	03 01 49.5	-0.7
K20K	Telida baz=218	13.19	27	P		Pn	03 01 51.3	-0.4
J19K	Poorman baz=212	13.31	22	P		Pn	03 01 53.4	-0.1
M22K	Willow baz=232	13.32	37	P		Pn	03 01 53.6	+0.1
H17K	Granite Mounta baz=200	13.35	13	P		Pn	03 01 54.7	+0.8
PPLA	Purkeypile baz=223,SNR=6.9	13.39	31	P		Pn	03 01 55.9	+1.3
TNA	Tin City baz=178	13.46	359	P		Pn	03 01 56.1	+0.7
P23K	Montague Islan baz=243	13.49	47	P		Pn	03 01 55.0	-0.8
G16K	Koyuk River baz=193	13.51	9	P		Pn	03 01 55.8	-0.3
F15K	North Star Dit baz=187	13.66	4	P		Pn	03 01 55.7	-2.5
CUT	Chultina baz=229	13.69	35	P		Pn	03 01 58.2	-0.3
GCSA	Galena City Sc baz=208,SNR=5.9	13.70	19	P		Pn	03 01 57.3	-1.3
Q23K	Middleton Isla baz=247	13.73	50	P		Pn	03 01 59.3	+0.2
KNK	Knik Glacier	13.76	40			Pn	03 01 57.6	-1.9
KNK	Knik Glacier baz=236	13.76	40	P		Pn	03 01 58.7	-0.9
G17K	Kiwalik Mounta baz=197	13.79	11	P		Pn	03 01 59.6	-0.3
H18K	Honhosa River baz=203	13.79	16	P		Pn	03 02 00.6	+0.6
CAST	Castle Rocks baz=222,SNR=13	13.81	29	P		Pn	03 02 01.5	+1.3
J20K	Nowinta River baz=215	13.83	24	P		Pn	03 02 01.0	+0.6
SML	Sawmill	14.04	39	Pn		Pn	03 02 01.8	-1.6
SML	Sawmill baz=235	14.04	39	P		Pn	03 02 02.4	-1.0
GLI	Glacier Island baz=240	14.04	44	P		Pn	03 02 02.3	-1.1
HIN	Hinchinbrook I	14.07	46	Pn		Pn	03 02 01.4	-2.4
CHUM	Lake Minchumin baz=220	14.09	28	P		Pn	03 02 04.3	+0.3
I20K	Naaghedeneel baz=213	14.26	22	P		Pn	03 02 05.2	-1.1
KTH	Kantishna Hill	14.26	30	Pn		Pn	03 02 06.6	+0.1
M23K	Glacier View baz=226,SNR=8.3	14.26	40	P		Pn	03 02 05.0	-1.5
TRF	Thorofare Moun baz=226	14.39	32	P		Pn	03 02 07.6	-0.7
G18K	Tagagawik baz=201	14.44	14	P		Pn	03 02 08.5	-0.4
SCM	Sheep Creek Mo	14.44	40			Pn	03 02 07.7	-1.3
SCM	Sheep Creek Mo baz=237,SNR=9.2	14.44	40	P		Pn	03 02 07.5	-1.5
EYAK	Cordova Ski Ar baz=244	14.47	46	P		Pn	03 02 07.1	-2.1
H19K	Roundabout Mou baz=207	14.48	18	P		Pn	03 02 08.3	-1.0
WAT1	Susitna Watana baz=231	14.57	36	P		Pn	03 02 09.3	-1.4
F17K	Baldwin Pennin baz=194,SNR=8.0	14.64	9	P		Pn	03 02 10.9	-0.6
BPAW	Bear Paw Mtn.	14.64	29	Pn		Pn	03 02 09.9	-1.7
BPAW	Bear Paw Mtn. baz=223	14.64	29	P		Pn	03 02 11.8	+0.2
WAT6	Susitna Watana baz=234	14.71	37	P		Pn	03 02 11.6	-1.1
H20K	Anotleneega Mo baz=211	14.76	20	P		Pn	03 02 11.7	-1.6
KLU	Klutina	14.84	43			Pn	03 02 11.0	-3.3
KLU	Klutina baz=240,SNR=11	14.84	43	P		Pn	03 02 11.6	-2.7
G19K	Purcell Mounta baz=205,SNR=12	14.92	16	P		Pn	03 02 13.5	-1.8
MCK	McKinley baz=228	15.03	32	P		Pn	03 02 15.4	-1.4
M24K	Tolsona, Glenn	15.05	40	Pn		Pn	03 02 15.2	-2.0
M24K	Tolsona, Glenn baz=238	15.05	40	P		Pn	03 02 15.1	-2.0
DHY	Denali Highway	15.14	36			Pn	03 02 18.4	-0.1
DHY	Denali Highway baz=233	15.14	36	P		Pn	03 02 16.6	-1.9
BMRM	Bremner River baz=244	15.16	46	P		Pn	03 02 16.9	-1.7
I21K	Tanana comp=Z,31nm,0.8s	15.19	25	IAmb	IAmb		03 02 38.8	
I21K	Tana baz=218,SNR=7.8	15.19	25	P		Pn	03 02 19.4	+0.5
E17K	Hotham Inlet baz=193,SNR=8.2	15.21	8	P		Pn	03 02 18.7	-0.5
H21K	Melozitna Rive comp=Z,77nm,1.0s	15.37	23	IAmb	IAmb		03 02 43.1	
H21K	Melozitna Rive baz=215,SNR=25	15.37	23	P		Pn	03 02 22.1	+0.8
MLY	Manley baz=221,SNR=11	15.41	27	P		Pn	03 02 22.8	+1.0
BGLC	Bering Glacier baz=249	15.43	50	P		Pn	03 02 20.9	-1.1
F19K	Shaleruckik Mo comp=Z,46nm,0.8s	15.45	14	IAmb	IAmb		03 02 42.5	
F19K	Shaleruckik Mo baz=202	15.45	14	P		Pn	03 02 23.7	+1.5
NEA2	Nenana baz=225	15.58	30	P		Pn	03 02 22.9	-1.1
HARP	HAARP baz=239	15.61	40	P		Pn	03 02 23.3	-1.1
E18K	Tukpahlearik C baz=195	15.65	9	P		Pn	03 02 24.1	-0.8
GLB	Gilahina Butte comp=Z,32nm,0.7s	15.71	45	IAmb	IAmb		03 02 47.2	
D17K	Noatak River baz=189	15.73	6	P		Pn	03 02 25.5	-0.4
CRQM	Cirque comp=Z,71nm,0.7s	15.73	47	IAmb	IAmb		03 02 48.8	
WAX	Waxell Ridge comp=Z,55nm,0.8s	15.75	49	IAmb	IAmb		03 02 34.0	
CRQE	Cirque baz=248	15.75	47	P		Pn	03 02 25.2	-1.2
VRDI	Verde Repeater	15.78	46	Pn		Pn	03 02 24.8	-2.0
PAX	Paxson baz=237	15.79	38	P		Pn	03 02 26.5	-0.4
TGL	Tana Glacier comp=Z,68nm,0.8s	15.87	48	IAmb	IAmb		03 02 52.0	
I23K	Minto, Yukon-K	15.89	28			Pn	03 02 26.7	-1.3
I23K	Minto, Yukon-K baz=223,SNR=9.1	15.89	28	P		Pn	03 02 27.7	-0.3
H22K	Ishtalitna Cre baz=218	15.91	24	P		Pn	03 02 28.5	+0.1
G21K	Allakaket baz=212	15.93	20	P		Pn	03 02 29.3	+0.7
F20K	Avaraart Lake baz=206	15.97	16	P		Pn	03 02 29.9	+0.8
CCB	Clear Creek Bu	16.01	31			Pn	03 02 27.0	-2.6
MCARA	McCarthy VSAT baz=246	16.03	45	P		Pn	03 02 29.8	0.0
RDOG	Red Dog Mine baz=190	16.09	6	P		Pn	03 02 30.9	+0.3
E19K	Redstone River baz=202	16.11	14	P		Pn	03 02 32.0	+1.3
HDA	Harding Lake	16.13	33			Pn	03 02 30.1	-1.0
HDA	Harding Lake baz=230	16.13	33	P		Pn	03 02 30.0	-1.1
HDA	baz=230			P		Pn	03 02 30.0	-1.1
COLA	College	16.15	30	Pn		Pn	03 02 28.8	-2.5
COLA	College baz=227	16.15	30	P		Pn	03 02 30.1	-1.1
C16K	Lisburne Hills baz=184	16.20	2	P		Pn	03 02 31.7	-0.2
GRNC	Granite Creek comp=Z,122nm,1.7s	16.35	48	IAmb	IAmb		03 02 54.8	
IL31		16.39	32			Pn	03 02 33.6	-0.7
ILAR	Eielson Array comp=Z,0.3nm,0.3s,baz=229,slow=11,SNR=19	16.39	32	Pn		Pn	03 02 31.1	-3.3
ILAR	baz=209,slow=7.5			Sn		Sn	03 05 27.8	-7.7
ILAR	comp=Z,237nm,18.4s,baz=236,slow=40			LR		LR	03 09 38.8	
POKR	Poker Plat Res baz=227	16.45	30	P		Pn	03 02 33.6	-1.5
RIDG	Independent Ri baz=236	16.46	37	P		Pn	03 02 33.6	-1.7
M26K	Nabesna, AK	16.49	42	Pn		Pn	03 02 34.5	-1.3
M26K	comp=Z,141nm,1.9s			IAmb	IAmb		03 02 53.9	
M26K	Nabesna, AK baz=243	16.49	42	P		Pn	03 02 34.4	-1.3
F21K	Alatna River baz=211,SNR=18	16.55	19	P		Pn	03 02 37.0	+0.6
CTG	Chitna Glacier baz=250	16.63	48	P		Pn	03 02 37.1	-0.5
L26K	Log Cabin Wild baz=240,SNR=9.1	16.65	40	P		Pn	03 02 37.6	-0.1
G22K	Bettles baz=215,SNR=14	16.71	22	P		P	03 02 39.8	-0.9
J25K	Salcha River, baz=232	16.79	34	P		Pn	03 02 38.2	-1.3
C18K	Utukok River baz=193	16.80	8	P		Pn	03 02 39.8	+0.2
H24K	Noodor Dome	16.82	28	Pn		Pn	03 02 39.1	-0.8
H24K	Noodor Dome baz=225	16.82	28	P		Pn	03 02 39.2	-0.6
PINM	Pinnacle baz=254	16.86	51	P		Pn	03 02 40.7	+0.2
G23K	Bananza Creek baz=219,SNR=22	16.90	24	P		Pn	03 02 41.4	+0.6
SCRK	Sand Creek baz=236,SNR=5.6	16.91	37	P		Pn	03 02 41.1	0.0
M27K	Edge Creek, AK baz=244	16.94	43	P		Pn	03 02 41.6	+0.2
D19K	Kuna River baz=199	16.96	11	P		Pn	03 02 42.5	+0.9
E20K	Nigu River baz=204	17.00	14	P		Pn	03 02 42.7	+0.5
F22K	John River baz=213,SNR=7.4	17.05	20	P		Pn	03 02 43.4	+0.6
COLD	Coldfoot baz=217,SNR=14	17.26	22	P		P	03 02 46.5	-0.3
L27K	Beaver Creek,	17.27	41			Pn	03 02 43.7	-1.9
L27K	Beaver Creek, baz=242	17.27	41	P		Pn	03 02 45.2	-0.4
YUK3	Moose Creek baz=248	17.31	46	P		Pn	03 02 46.2	-0.1
J26L	Joseph Creek baz=236,SNR=9.5	17.36	35	P		Pn	03 02 46.9	+0.3
D20K	Etivluk River baz=202	17.36	13	P		Pn	03 02 47.1	+0.5
C19K	Lookout Ridge baz=196,SNR=19	17.39	9	P		Pn	03 02 47.1	+0.2
BVCY	Beaver Creek baz=246	17.39	44	P		Pn	03 02 46.5	-0.5
YUK8	Steele Glacier baz=251	17.45	48	P		Pn	03 02 48.0	0.0
B18K	Kokolik River baz=191	17.46	6	P		Pn	03 02 46.7	-1.0
E21K	Killik River baz=208	17.52	16	P		Pn	03 02 49.1	+0.5
G24K	Hadweenzic Riv	17.55	26	Pn		Pn	03 02 47.1	-1.9
G24K	Hadweenzic Riv baz=223,SNR=8.2	17.55	26	P		Pn	03 02 48.9	-0.1
K27K	Chicken baz=239	17.65	38	P		Pn	03 02 49.7	-0.5
E22K	Anaktuvuk Pass baz=212,SNR=16	17.66	19	P		P	03 02 51.0	-0.2
O29M	Mount Kennedy baz=255	17.72	51	P		Pn	03 02 50.8	-0.4
I26K	Coal Creek Min baz=234	17.96	34	P		Pn	03 02 53.5	-0.5
P29M	Windy Craggy baz=258	17.98	54	P		P	03 02 55.4	+0.6
G25K	Bearman Lake baz=226,SNR=5.4	17.98	27	P		Pn	03 02 53.7	-0.5
YUK4	Talbot Arm baz=252	17.98	48	P		P	03 02 55.5	+0.5
YUK6	Outpost Mounta baz=254	18.00	49	P		Pn	03 02 54.5	-0.2
C21K	Knifeblade Rid baz=205,SNR=41	18.04	14	P		P	03 02 55.5	+0.2
F24K	Squaw Lake	18.05	24			Pn	03 02 55.2	0.0
F24K	Squaw Lake baz=221,SNR=12	18.05	24	P		Pn	03 02 55.0	-0.2
E23K	Chandalar baz=217	18.07	21	P		Pn	03 02 55.1	-0.2
D22K	Ayikyak River baz=210,SNR=14	18.14	17	P		Pn	03 02 56.4	+0.3
A19K	Wainwright baz=192	18.34	7	P		Pn	03 02 58.2	-0.3
E24K	Your Creek baz=219	18.34	22	P		Pn	03 02 58.7	0.0
HYT	Haines Junctio	18.37	50			P	03 02 58.7	-0.4
HYT	comp=Z,51nm,0.8s			IAmb	IAmb		03 03 22.4	
HYT	Haines Junctio baz=255,SNR=10	18.37	50	P		P	03 02 59.1	-0.1
EGAK	Eagle	18.38	37			P	03 02 56.8	-2.3
EGAK	Eagle baz=239	18.38	37	P		P	03 02 58.6	-0.5
M29M	Somme Creek	18.43	45	P		P	03 02 58.1	-1.7
M29M	comp=Z,65nm,1.0s			IAmb	IAmb		03 03 20.3	
M29M	Somme Creek baz=249,SNR=7.0	18.43	45	P		P	03 02 59.7	-0.1
P30M	Million Dollar baz=258	18.47	53	P		Pn	03 03 00.6	+0.3
B21K	Ikpikpuk River	18.48	14	P		P	03 02 60.0	-0.2
B21K	comp=Z,75nm,0.7s			IAmb	IAmb		03 03 15.5	
B21K	Ikpikpuk River baz=205,SNR=49	18.48	14	P		P	03 03 00.2	0.0
B20K	Meade River baz=200	18.51	11	P		P	03 03 00.3	-0.2
S31K	Pelican baz=265	18.52	60	P		P	03 03 00.6	0.0
TOLK	Toolik Lake Re	18.55	20			P	03 03 00.1	-0.8
TOLK	Toolik Lake Re baz=216,SNR=13	18.55	20	P		P	03 03 01.1	+0.1
D23K	Nanushuk River baz=213	18.59	19	P		Pn	03 03 01.8	+0.1
I27K	Kandik River baz=236	18.66	34	P		P	03 03 02.2	0.0
F25K	Christian Rive baz=225	18.70	26	P		P	03 03 02.6	0.0
DAWY	Dawson	18.70	40	P		Pn	03 03 03.1	0.0
DAWY	comp=Z,46nm,0.8s			IAmb	IAmb		03 03 20.8	
DAWY	Dawson baz=243,SNR=28	18.70	40	P		Pn	03 03 03.9	+0.8
N30M	Aishikik Lake	18.73	48	P		P	03 03 03.5	+0.4
N30M	comp=Z,30nm,0.6s			IAmb	IAmb		03 03 22.7	
N30M	Aishikik Lake baz=254	18.73	48	P		P	03 03 03.0	-0.1
G26K	Porcupine Rive baz=229	18.78	29	P		P	03 03 03.3	-0.2
R31K	City Hall, Gus baz=264	18.82	58	P		Pn	03 03 04.6	+0.1

L29M	**L29M**	**18.82**	**43**	P	**Pn**	**03 03 05.5**	**+0.9**
L29M				IAmb	IAmb	03 03 22.3	
	comp=Z,37nm,0.7s						
L29M	**L29M**	**18.82**	**43**	P	**Pn**	**03 03 05.3**	**+0.7**
	baz=248						
BMAR	**Burnt Mountain**	**18.87**	**27**	P	**P**	**03 03 04.2**	**-0.3**
SIT	**Sitka**	**18.95**	**62**	P	**Pn**	**03 03 06.7**	**+0.6**
	baz=269						
O30N	**Mendenhall**	**19.03**	**51**	P	**Pn**	**03 03 07.5**	**+0.4**
O30N				IAmb	IAmb	03 03 11.1	
	comp=Z,70nm,1.1s						
O30N	**Mendenhall**	**19.03**	**51**	P	**Pn**	**03 03 08.5**	**+1.4**
	baz=257,SNR=17						
H27K	**Steamboat Moun**	**19.05**	**32**	P	**Pn**	**03 03 08.0**	**+0.7**
	baz=235,SNR=16						
E25K	**Arctic Village**	**19.09**	**25**	P	**Pn**	**03 03 08.7**	**+0.9**
	baz=224,SNR=15						
D24K	**Happy Valley**	**19.12**	**20**	IAmb	IAmb	03 03 22.4	
	comp=Z,34nm,0.8s						
D24K	**Happy Valley**	**19.12**	**20**	P	**Pn**	**03 03 08.3**	**+0.2**
	baz=216						
SKAG	**Skagway**	**19.16**	**55**		**Pn**	**03 03 08.3**	**-0.3**
SKAG				IAmb	IAmb	03 03 11.2	
	comp=Z,52nm,0.8s						
SKAG	**Skagway**	**19.16**	**55**	P	**Pn**	**03 03 09.3**	**+0.7**
SKAG	**Skagway**	**19.16**	**55**	P	**Pn**	**03 03 09.3**	**+0.7**
	baz=262,SNR=15						
I28M	**Miner Creek**	**19.17**	**36**	P	**P**	**03 03 08.3**	**+0.5**
	baz=239						
F26K	**Sheenjek River**	**19.18**	**27**	P	**P**	**03 03 08.5**	**+0.6**
	baz=227						
M30M	**Minto, Yukon**	**19.21**	**45**	P	**Pn**	**03 03 09.3**	**+0.1**
M30M	**Minto, Yukon**	**19.21**	**45**	P	**Pn**	**03 03 09.5**	**+0.3**
	baz=251,SNR=15						
B22K	**Teshekpuk Lake**	**19.31**	**14**	IAmb	IAmb	03 03 26.5	
	comp=Z,54nm,0.8s						
B22K	**Teshekpuk Lake**	**19.31**	**14**	P	**P**	**03 03 08.9**	**-0.4**
	baz=206						
C23K	**Itkillik River**	**19.34**	**17**	IAmb	IAmb	03 03 11.2	
	comp=Z,75nm,0.7s						
C23K	**Itkillik River**	**19.34**	**17**	P	**P**	**03 03 09.6**	**+0.1**
	baz=212						
N31M	**Braeburn, Yuko**	**19.35**	**49**	IAmb	IAmb	03 03 40.9	
	comp=Z,64nm,0.9s						
N31M	**Braeburn, Yuko**	**19.35**	**49**	P	**Pn**	**03 03 10.6**	**-0.3**
	baz=255,SNR=6.6						
G27K	**Doyon Strip**	**19.35**	**31**	P	**P**	**03 03 10.0**	**+0.3**
	baz=233						
K29M	**Barlow Dome**	**19.36**	**41**	IAmb	IAmb	03 03 37.3	
	comp=Z,55nm,1.1s						
K29M	**Barlow Dome**	**19.36**	**41**	P	**Pn**	**03 03 11.2**	**+0.1**
	baz=247						
S32K	**Killisnoo**	**19.37**	**61**	P	**Pn**	**03 03 12.1**	**+1.0**
S32K				IAmb	IAmb	03 03 14.0	
	comp=Z,36nm,0.8s						
S32K	**Killisnoo**	**19.37**	**61**	P	**Pn**	**03 03 10.9**	**-0.3**
	baz=268						
R32K	**Eaglecrest**	**19.45**	**59**	IAmb	IAmb	03 03 09.6	
	comp=Z,149nm,1.4s						
JIS	**Juneau Island**	**19.52**	**59**	IAmb	IAmb	03 03 14.7	
	comp=Z,50nm,1.0s						
WHY	**Whitehorse**	**19.59**	**52**	IAmb	IAmb	03 03 30.3	
	comp=Z,49nm,0.8s						
WHY	**Whitehorse**	**19.59**	**52**	P	**P**	**03 03 13.0**	**+0.5**
	baz=259,SNR=12						
C24K	**Franklin Bluff**	**19.61**	**19**	P	**P**	**03 03 12.9**	**+0.4**
	baz=216						
A22K	**Sinclair Lake**	**19.71**	**12**	P	**P**	**03 03 13.1**	**-0.4**
	baz=203						
I29M	**Ogilvie Camp,**	**19.72**	**37**	P	**P**	**03 03 14.5**	**+0.8**
	baz=242						
D25K	**Kavik River**	**19.80**	**22**	P	**P**	**03 03 12.9**	**-1.7**
D25K	**Kavik River**	**19.80**	**22**	P	**P**	**03 03 15.0**	**+0.4**
	baz=220,SNR=28						
MAYO	**Mayo, Yukon**	**19.94**	**43**	P	**Pn**	**03 03 17.9**	**0.0**
	baz=250,SNR=36						
P32M	**Atlin**	**19.99**	**55**	P	**Pn**	**03 03 18.2**	**-0.4**
	baz=263						
H29M	**Whitestone**	**20.12**	**35**	IAmb	IAmb	03 03 37.2	
	comp=Z,43nm,0.7s						
H29M	**Whitestone**	**20.12**	**35**	P	**P**	**03 03 19.2**	**+1.1**
	baz=240						
J30M	**Hart River**	**20.13**	**40**	P	**P**	**03 03 18.8**	**+0.4**
	baz=246						
M31M	**Drury Creek, Y**	**20.17**	**47**	P	Pn	03 03 20.4	-0.2
	baz=255,SNR=29						
U33K	**Whale Pass**	**20.18**	**65**	P	Pn	03 03 20.2	-0.6
	baz=273						
E27K	**Coleen River**	**20.23**	**28**	P	**P**	**03 03 19.9**	**+0.6**
	baz=230						
CRAG	**Craig**	**20.23**	**67**	P	Pn	03 03 21.6	+0.3
CRAG	**Craig**	**20.23**	**67**	P	**P**	**03 03 20.3**	**+1.0**
	baz=275						
I30M	**Mount Dempster**	**20.38**	**38**	P	**P**	**03 03 22.2**	**+1.1**
	baz=245						
F28M	**Old Crow**	**20.39**	**30**	P	**P**	**03 03 20.9**	**-0.2**
F28M	**Old Crow**	**20.39**	**30**	P	Pn	03 03 22.4	-0.7
	baz=234,SNR=6.8						
BILL	**Bilibino**	**20.45**	**331**	P	**P**	**03 03 20.4**	**-1.2**
BILL				IAmb	IAmb	03 03 40.8	
	comp=Z,89nm,1.6s						
P33M	**Teslin, Yukon**	**20.52**	**53**	P	Pn	03 03 24.3	-0.5
P33M				IAmb	IAmb	03 03 43.7	
	comp=Z,30nm,0.9s						
P33M	**Teslin, Yukon**	**20.52**	**53**	P	**P**	**03 03 23.9**	**+1.2**
	baz=262,SNR=8.7						
N32M	**Quiet Lake**	**20.54**	**51**	P	**P**	**03 03 23.5**	**+0.7**
	baz=259						
C26K	**Camden Bay**	**20.58**	**22**	P	**P**	**03 03 23.6**	**+0.5**
	baz=222						
G29M	**Pine Creek**	**20.59**	**33**	IAmb	IAmb	03 03 39.3	
	comp=Z,42nm,0.8s						
G29M	**Pine Creek**	**20.59**	**33**	P	**P**	**03 03 23.1**	**-0.2**
	baz=238,SNR=23						
FARO	**Faro, Yukon**	**20.65**	**48**	IAmb	IAmb	03 03 42.1	
	comp=Z,50nm,0.6s						
FARO	**Faro, Yukon**	**20.65**	**48**	P	**P**	**03 03 24.7**	**+0.8**
	baz=256,SNR=24						
Q32M	**Nakina River**	**20.67**	**57**	P	**P**	**03 03 25.2**	**+0.8**
	baz=266						
EPYK	**Eagle Plains**	**20.77**	**35**	P	**P**	**03 03 25.0**	**-0.2**
EPYK				IAmb	IAmb	03 03 27.4	
	comp=Z,73nm,1.2s						
EPYK	**Eagle Plains**	**20.77**	**35**	P	**P**	**03 03 25.2**	**0.0**
	baz=242,SNR=26						
E28M	**Babbage River**	**21.09**	**28**	P	**P**	**03 03 29.5**	**+0.9**
	baz=232						
D27M	**Malcolm River**	**21.09**	**26**	P	**P**	**03 03 28.6**	**0.0**
	baz=229						
V35K	**Ketchikan**	**21.10**	**67**	P	**P**	**03 03 29.3**	**+0.6**
	baz=276						
S34M	**Telegraph Cree**	**21.23**	**60**	P	**P**	**03 03 31.3**	**+1.1**
S34M				IAmb	IAmb	03 03 59.2	
	comp=Z,87nm,1.6s						
S34M	**Telegraph Cree**	**21.23**	**60**	P	**P**	**03 03 31.0**	**+0.8**
	baz=270						
G30M	**tAoh Zraii Nji**	**21.24**	**34**	IAmb	IAmb	03 03 45.7	
	comp=Z,42nm,0.8s						
PETK	**Petropavlovsk-**	**21.25**	**287**	P	**P**	**03 03 30.2**	**-0.2**
PETK	**Petropavlovsk-**	**21.25**	**287**	P	**P**	**03 03 28.6**	**-1.9**
	comp=Z,11nm,0.5s,baz=86,slow=14,SNR=67						
PETK				LR	LR	03 12 54.7	
	comp=Z,71nm,19.4s,baz=88,slow=40						
	comp=Z,11nm,0.5s						
R33M	**Jennings River**	**21.37**	**56**	P	**P**	**03 03 32.9**	**+1.1**
	baz=266						
E29M	**Blow River**	**21.45**	**30**	P	**P**	**03 03 32.6**	**+0.2**
	baz=235						
F30M	**Barrier River**	**21.70**	**33**	P	**P**	**03 03 35.0**	**-0.2**
	baz=240						
T35M	**Bob Quinn**	**21.73**	**63**	IAmb	IAmb	03 03 56.2	
	comp=Z,29nm,1.0s						
T35M	**Bob Quinn**	**21.73**	**63**	P	**P**	**03 03 35.9**	**+0.3**
	baz=273						
D28M	**Stokes Point**	**21.76**	**27**	P	**P**	**03 03 36.0**	**+0.3**
	baz=232						
DLBC	**Dease Lake**	**21.82**	**59**	P	**P**	**03 03 38.0**	**+1.5**
DLBC				IAmb	IAmb	03 03 55.4	
	comp=Z,40nm,1.4s						
DLBC	**Dease Lake**	**21.82**	**59**	P	**P**	**03 03 37.4**	**+0.8**
	baz=270						
DLBC	**Dease Lake**	**21.82**	**59**	P	**P**	**03 03 37.4**	**+0.8**
	comp=Z,9.9nm,0.9s,baz=262,slow=14,SNR=8.7						
	comp=Z,9.9nm,0.9s						
G31M	**Satah River**	**21.89**	**35**	IAmb	IAmb	03 03 59.6	
	comp=Z,19nm,0.7s						
G31M	**Satah River**	**21.89**	**35**	P	**P**	**03 03 36.4**	**-0.8**
	baz=244,SNR=10.0						
F31M	**Tsiigehtchic**	**22.31**	**34**	P	**P**	**03 03 40.9**	**-0.8**
	baz=243,SNR=11						
WTLY	**Watson Lake, Y**	**22.51**	**54**	P	**P**	**03 03 42.8**	**-1.2**
	baz=266						
INK	**Inuvik**	**22.79**	**32**	P	**P**	**03 03 45.9**	**-0.8**
INK				IAmb	IAmb	03 04 04.1	
	comp=Z,42nm,0.7s						
INK	**Inuvik**	**22.79**	**32**	P	**P**	**03 03 45.2**	**-1.4**
	baz=242,SNR=44						
INK	**Inuvik**	**22.79**	**32**	LR	LR	03 13 40.0	
	comp=Z,238nm,18.4s,baz=192,slow=39						
SEY	**Seymchan**	**23.84**	**313**	P	**P**	**03 03 56.5**	**-0.7**
	comp=Z,4.1nm,0.4s,baz=124,slow=9.4,SNR=5.3						
SEY				LR	LR	03 13 12.6	
	comp=Z,113nm,20.4s,baz=111,slow=36						
	comp=Z,4.1nm,0.4s						
LIRD	**Liard River Hi**	**23.86**	**56**	P	**P**	**03 03 58.3**	**+0.8**
	baz=270						
MA2	**Magadan**	**24.41**	**304**	P	**P**	**03 04 02.7**	**+0.1**
	comp=Z,11nm,0.6s,baz=79,slow=12,SNR=7.9						
	comp=Z,11nm,0.6s						
KOTAN	**Kotaneelee Air**	**24.89**	**54**	P	**P**	**03 04 07.6**	**+0.7**
	baz=271						
WRGLY	**Wrigley**	**25.30**	**47**	IAmb	IAmb	03 04 27.0	
	comp=Z,45nm,0.9s						
WRGLY	**Wrigley**	**25.30**	**47**	P	**P**	**03 04 11.5**	**+0.9**
	baz=265,SNR=16						
C36M	**Paulatuk**	**26.35**	**33**	IAmb	IAmb	03 04 37.4	
	comp=Z,43nm,1.2s						
C36M	**Paulatuk**	**26.35**	**33**	P	**P**	**03 04 21.1**	**+1.0**
	baz=251,SNR=15						
A36M	**Sachs Harbour**	**26.97**	**27**	P	**P**	**03 04 26.1**	**+0.5**
A36M					PcP	**03 07 46.5**	**-0.1**
A36M	**Sachs Harbour**	**26.97**	**27**	P	**P**	**03 04 26.6**	**+1.0**
	baz=245,SNR=10						
GNW	**Green Mountain**	**28.58**	**81**	P	**P**	**03 04 40.6**	**+0.4**
D05A	**Emmonak**	**29.25**	**82**	IAmb	IAmb	03 04 49.8	
	comp=Z,21nm,0.9s						
YKA	**Yellowknife Ar**	**29.35**	**49**	P	**P**	**03 04 47.7**	**+0.8**
	comp=Z,6.3nm,0.8s,baz=272,slow=8.1,SNR=82						
YKA				PcP	**PcP**	**03 07 52.6**	**0.0**
	comp=Z,2.7nm,0.8s,baz=281,slow=2.6,SNR=11						
YKA				LR	LR	03 17 48.2	
	comp=Z,123nm,20.7s,baz=343,slow=39						
	comp=Z,6.3nm,0.8s						
BRLDA	**Beland Lookou**	**29.41**	**66**	IAmb	IAmb	03 05 03.0	
	comp=Z,21nm,0.8s						
F04A	**Amboy**	**29.57**	**84**	IAmb	IAmb	03 05 06.1	
	comp=Z,26nm,0.8s						
H04D	**Lebanon**	**30.07**	**87**	P	**P**	**03 04 54.6**	**+1.1**
H04D				IAmb	IAmb	03 05 10.0	
	comp=Z,22nm,0.9s						
K02D	**Willamette Mer**	**30.47**	**91**	IAmb	IAmb	03 05 13.4	
	comp=Z,18nm,1.2s						
I04A	**Tendick Farm,**	**30.65**	**88**	IAmb	IAmb	03 05 16.0	
	comp=Z,33nm,1.1s						
L02F	**Cave Junction**	**30.85**	**91**	IAmb	IAmb	03 05 17.3	
	comp=Z,20nm,1.2s						
I05D	**Terrebonne, OR**	**31.03**	**86**	P	**P**	**03 05 02.7**	**+0.7**
F07A	**Phinny Hill Vi**	**31.12**	**83**	IAmb	IAmb	03 05 28.2	
	comp=Z,19nm,1.1s						
HAWA	**Hanford**	**31.12**	**81**	IAmb	IAmb	03 05 19.4	
	comp=Z,14nm,0.7s						
C09A	**Chrisman Ranch**	**31.23**	**78**	IAmb	IAmb	03 05 06.1	
	comp=Z,22nm,1.4s						
KHMM	**Horse Mountain**	**31.46**	**94**	IAmb	IAmb	03 05 23.5	
	comp=Z,15nm,1.0s						
KMPM	**Mount Pierce**	**31.49**	**95**	IAmb	IAmb	03 05 23.7	
	comp=Z,24nm,0.9s						
L04D	**Klamath Falls**	**31.57**	**90**	IAmb	IAmb	03 05 10.1	
	comp=Z,33nm,1.4s						
YBH	**Yreka Blue Hor**	**31.60**	**91**	P	**P**	**03 05 08.1**	**+1.0**
YBH				IAmb	IAmb	03 05 13.9	
	comp=Z,9.9nm,1.0s						
YBH	**Yreka Blue Hor**	**31.60**	**91**	LR	LR	03 14 56.6	
	comp=Z,108nm,19.1s,baz=278,slow=31						
J05D	**Fort Rock, OR**	**31.65**	**88**	P	**P**	**03 05 09.2**	**+1.6**
NEW	**Newport**	**31.72**	**77**	IAmb	IAmb	03 05 10.3	
	comp=Z,10.0nm,1.1s						
NEW	**Newport**	**31.72**	**77**	P	**P**	**03 05 08.7**	**+0.7**
	baz=296,SNR=7.4						
NEW	**Newport**	**31.72**	**77**	LR	LR	03 16 21.8	
	comp=Z,79nm,19.6s,baz=302,slow=33						
KMRM	**Mi Ridge**	**31.86**	**95**	IAmb	IAmb	03 05 12.9	
	comp=Z,13nm,0.8s						
E09A	**Wood Farm, Sta**	**31.91**	**80**	IAmb	IAmb	03 05 25.4	
	comp=Z,8.5nm,0.9s						
K05A	**Summer Lake**	**32.16**	**88**	P	**P**	**03 05 13.9**	**+1.7**
KCPM	**Cahto Peak**	**32.26**	**95**	IAmb	IAmb	03 05 30.0	
	comp=Z,17nm,0.9s						
I07A	**Izee**	**32.29**	**85**	IAmb	IAmb	03 05 28.8	
	comp=Z,23nm,1.0s						
F10A	**Beach Ranch, E**	**32.72**	**81**	IAmb	IAmb	03 05 33.2	
	comp=Z,6.6nm,0.8s						
BMO	**Blue Mountains**	**33.24**	**82**	IAmb	IAmb	03 05 39.4	
	comp=Z,19nm,1.7s						
J08A	**Circle Bar Ran**	**33.31**	**86**	IAmb	IAmb	03 05 24.9	
	comp=Z,24nm,1.1s						
TIXI	**Tiksi**	**33.64**	**329**	P	**P**	**03 05 24.1**	**-0.4**
TIXI				IAmb	IAmb	03 05 25.5	
	comp=Z,9.0nm,0.8s						
TIXI				PcP	**PcP**	**03 08 03.4**	**-0.6**
TIXI	**Tiksi**	**33.64**	**329**	LR	LR	03 21 20.6	
	comp=Z,4.5nm,19.0s,baz=100,slow=40						
ASAJ	**Asahikawa**	**33.91**	**277**	LR	LR	03 18 38.8	
	comp=Z,92nm,19.9s,baz=134,slow=35						
MSO	**Missoula**	**34.30**	**77**	IAmb	IAmb	03 05 33.2	
	comp=Z,17nm,1.1s						
MSO	**Missoula**	**34.30**	**77**	P	**P**	**03 05 31.4**	**+0.8**
	baz=299,SNR=7.2						
MPK	**Martis Peak**	**34.68**	**93**	IAmb	IAmb	03 05 50.7	
	comp=Z,20nm,1.0s						
PAHR	**Pah Range**	**34.83**	**92**	P	**P**	**03 05 36.3**	**+0.9**
MFID	**Camas Ranch**	**34.90**	**84**	IAmb	IAmb	03 05 38.0	
	comp=Z,7.4nm,0.8s						
HLID	**Hailey**	**35.69**	**82**	IAmb	IAmb	03 05 46.2	
	comp=Z,20nm,1.7s						
HLID	**Hailey**	**35.69**	**82**	P	**P**	**03 05 42.7**	**-0.1**
	baz=303,SNR=6.4						
BMN	**Battle Mountai**	**35.73**	**89**	IAmb	IAmb	03 06 00.0	
	comp=Z,20nm,1.1s						
RES	**Resolute Bay**	**35.98**	**26**	P	**P**	**03 05 44.7**	**+0.1**
RYN	**Ryan**	**36.02**	**92**	IAmb	IAmb	03 05 48.3	
	comp=Z,17nm,0.9s						
KVN	**Kaiserville**	**36.02**	**92**	IAmb	IAmb	03 05 48.3	
	comp=Z,15nm,1.0s						
EGMT	**Eagleton**	**36.21**	**73**	P	**P**	**03 05 47.7**	**+0.6**
	baz=299,SNR=17						
LHV	**Little Huntoon**	**36.26**	**93**	IAmb	IAmb	03 06 11.6	
	comp=Z,24nm,1.1s						
NVAR	**Mina Array Bea**	**36.28**	**93**	P	**P**	**03 05 49.5**	**+1.6**
	comp=Z,14nm,0.8s,baz=295,slow=8.4,SNR=48						
NVAR				PcP	**PcP**	**03 08 12.6**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=311,slow=2.6,SNR=4.0						
NVAR				LR	LR	03 18 54.1	
	comp=Z,58nm,18.9s,baz=304,slow=33						
	comp=Z,14nm,0.8s						
MDPB	**Devils Postpil**	**36.30**	**94**	P	**P**	**03 05 49.0**	**+0.9**
MDPB				IAmb	IAmb	03 05 51.1	
	comp=Z,18nm,0.9s						
BOZ	**Bozeman (W)**	**36.30**	**78**	IAmb	IAmb	03 05 49.7	
	comp=Z,9.8nm,0.9s						
BOZ	**Bozeman (W)**	**36.30**	**78**	P	**P**	**03 05 47.9**	**0.0**
	baz=301,SNR=13						
OMMB	**Old Mammoth Mi**	**36.36**	**94**	IAmb	IAmb	03 05 51.8	
	comp=Z,17nm,1.1s						
NV11	**Mina Array Sit**	**36.37**	**92**	IAmb	IAmb	03 05 51.2	
	comp=Z,9.3nm,0.8s						
MLAC	**Mammoth, Mammo**	**36.45**	**94**	P	**P**	**03 05 51.1**	**+1.7**
	baz=309						
ELK	**Elko**	**36.77**	**87**	IAmb	IAmb	03 05 54.5	
	comp=Z,8.8nm,0.8s						
ELK	**Elko**	**36.77**	**87**	LR	LR	03 18 49.9	
	comp=Z,149nm,18.8s,baz=314,slow=33						
VOG	**Valley Oaks Go**	**36.95**	**96**	P	**P**	**03 05 55.3**	**+2.0**
	baz=311						
YHL	**Hebgen Lake**	**36.96**	**79**	IAmb	IAmb	03 05 55.7	
	comp=Z,15nm,1.0s						
YMR	**Madison River**	**37.19**	**79**	IAmb	IAmb	03 05 57.7	
	comp=Z,17nm,0.9s						
TIN	**Tinemaha, Big**	**37.19**	**94**	P	**P**	**03 05 57.5**	**+2.0**
	baz=310						
YHH	**Holmes Hill**	**37.19**	**78**	P	**P**	**03 05 56.4**	**+0.7**
SMMC	**Simmler**	**37.24**	**98**	P	**P**	**03 05 58.1**	**+2.2**
	baz=312						
YNR	**Norris Junctio**	**37.34**	**78**	IAmb	IAmb	03 06 00.0	
	comp=Z,28nm,1.0s						
VES	**Vestal, Richgr**	**37.45**	**96**	P	**P**	**03 05 59.2**	**+1.6**
	baz=311,SNR=6.5						
H17A	**Grant Village**	**37.57**	**79**	IAmb	IAmb	03 06 02.3	
	comp=Z,22nm,1.2s						
H17A	**Grant Village**	**37.57**	**79**	P	**P**	**03 05 59.8**	**+1.0**
	baz=303,SNR=13						
IMW	**Indian Meadow**	**37.62**	**80**	IAmb	IAmb	03 06 01.8	
	comp=Z,11nm,0.9s						
GMN	**Gold Mountain**	**37.63**	**93**	IAmb	IAmb	03 06 02.0	
	comp=Z,13nm,0.8s						
PKM	**Mcpherson Peak**	**37.63**	**98**	P	**P**	**03 06 00.6**	**+1.2**
	baz=312						
YMP	**Mirror Lake Pl**	**37.64**	**78**	IAmb	IAmb	03 06 01.8	
	comp=Z,17nm,1.0s						
CWC	**Cottonwood Cre**	**37.67**	**95**	P	**P**	**03 06 01.0**	**+1.2**
	baz=311						
FXWY	**Fox Creek**	**37.71**	**80**	IAmb	IAmb	03 06 02.5	
	comp=Z,36nm,1.9s						
GRAC	**Grapevine Rang**	**37.76**	**94**	P	**P**	**03 06 02.4**	**+2.1**
GRAC				IAmb	IAmb	03 06 20.1	
	comp=Z,24nm,1.1s						
GRAC	**Grapevine Rang**	**37.76**	**94**	P	**P**	**03 06 02.1**	**+1.8**
	baz=310						
KLR	**Kul'dur**	**37.83**	**291**	P	**P**	**03 05 59.4**	**-1.3**
	comp=Z,2.4nm,0.5s,baz=66,slow=8.1,SNR=10						
KLR				LR	LR	03 23 40.3	
	comp=Z,83nm,18.9s,baz=65,slow=40						
	comp=Z,2.4nm,0.5s						
BCW	**Bitter Crk WRg**	**37.84**	**98**	IAmb	IAmb	03 06 27.5	
	comp=Z,34nm,1.6s						
ISA	**Isabella, Lake**	**37.94**	**96**	IAmb	IAmb	03 06 03.8	
	comp=Z,17nm,1.2s						
ISA	**Isabella, Lake**	**37.94**	**96**	P	**P**	**03 06 01.7**	**-0.2**
	baz=311,SNR=10.0						
SNOW	**Snow King Moun**	**37.97**	**80**	IAmb	IAmb	03 06 20.1	
	comp=Z,29nm,1.6s						
RLMT	**Red Lodge**	**37.97**	**77**	IAmb	IAmb	03 06 04.5	
	comp=Z,29nm,1.0s						
RLMT	**Red Lodge**	**37.97**	**77**	P	**P**	**03 06 02.5**	**+0.3**
	baz=302,SNR=19						
R11B	**Troy Canyon, C**	**38.00**	**90**	IAmb	IAmb	03 06 17.3	
	comp=Z,19nm,1.1s						
R11B	**Troy Canyon, C**	**38.00**	**90**	P	**P**	**03 06 02.4**	**-0.1**
	baz=308,SNR=29						
ARVC	**Arvin**	**38.08**	**97**	P	**P**	**03 06 03.1**	**+0.1**
	baz=312						
AHID	**Auburn Hatcher**	**38.15**	**81**	P	**P**	**03 06 04.4**	**+0.7**
AHID				IAmb	IAmb	03 06 08.7	
	comp=Z,9.7nm,0.8s						
MPMC	**Manual Prospec**	**38.29**	**95**	P	**P**	**03 06 05.8**	**+0.8**
	baz=311,SNR=12						
S11A	**Rachel**	**38.34**	**91**	IAmb	IAmb	03 06 25.6	
	comp=Z,20nm,0.9s						
SCZ2	**Santa Cruz Isl**	**38.35**	**99**	P	**P**	**03 06 05.6**	**+0.4**
	baz=313						
FURC	**Furnace Creek,**	**38.41**	**94**	P	**P**	**03 06 06.0**	**+0.3**
	baz=310,SNR=18						
TPNV	**Topopah Spring**	**38.47**	**93**	P	**P**	**03 06 07.0**	**+0.5**
	baz=310,SNR=35						
OSI	**Osito Audit: C**	**38.48**	**98**	P	**P**	**03 06 06.9**	**+0.4**
	baz=312						
LRMC	**Laurel Mtn Rad**	**38.55**	**96**	P	**P**	**03 06 07.7**	**+0.6**
	baz=311						
DUG	**Dugway, Tooele**	**38.59**	**86**	P	**P**	**03 06 07.9**	**+0.6**
	baz=307,SNR=10						
GWY	**Greenwater Val**	**38.71**	**94**	IAmb	IAmb	03 06 23.9	
	comp=Z,18nm,1.1s						
EDW2	**Edwards Air Fo**	**38.75**	**97**	P	**P**	**03 06 09.6**	**+0.9**
	baz=312						
TCUT	**Toone Canyon**	**38.90**	**84**	IAmb	IAmb	03 06 14.7	
	comp=Z,19nm,1.3s						
PRN	**Pahroc Range**	**38.92**	**91**	IAmb	IAmb	03 06 27.5	
	comp=Z,31nm,0.8s						
PSUT	**Pine Spring**	**38.95**	**89**	IAmb	IAmb	03 06 25.6	
	comp=Z,14nm,0.8s						
LAO	**LASA Array**	**38.96**	**73**	P	**P**	**03 06 11.0**	**+0.6**
	baz=301						
DECC	**Green Verdugo**	**38.96**	**98**	P	**P**	**03 06 11.7**	**+1.2**
	baz=313						
BW06	**Boulder Array**	**39.08**	**80**	IAmb	IAmb	03 06 13.5	
	comp=Z,16nm,0.9s						
BW06	**Boulder Array**	**39.08**	**80**	P	**P**	**03 06 12.6**	**+0.9**
	baz=304,SNR=21						
PD31	**Pinedale Array**	**39.08**	**80**	IAmb	IAmb	03 06 13.5	
	comp=Z,14nm,0.9s						
PDAR	**Pinedale Array**	**39.08**	**80**	P	**P**	**03 06 12.3**	**+0.7**
	comp=Z,16nm,1.0s,baz=308,slow=4.4,SNR=70						
PDAR				PcP	**PcP**	**03 08 20.5**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=2.9,slow=3.6,SNR=1.2						
PDAR				LR	LR	03 20 49.5	
	comp=Z,71nm,18.8s,baz=308,slow=34						
	comp=Z,16nm,1.0s						
GSC	**Goldstone, Bar**	**39.20**	**95**	IAmb	IAmb	03 06 14.8	
	comp=Z,24nm,0.9s						
GSC	**Goldstone, Bar**	**39.20**	**95**	P	**P**	**03 06 13.6**	**+1.1**
	baz=312,SNR=23						
H11S1	**WAKE ISLAND Hy**	**39.35**	**221**	T	T	03 48 38.4	
	baz=22,slow=74						
H11S2	**WAKE ISLAND Hy**	**39.37**	**221**	T	T	03 48 40.8	
	baz=22						
RRX	**Edison Barstow**	**39.37**	**96**	P	**P**	**03 06 14.9**	**+1.1**
	baz=312						
H11S3	**WAKE ISLAND Hy**	**39.37**	**221**	T	T	03 48 34.5	
	baz=22,slow=74						
BFSC	**Mount Baldy Ra**	**39.

MJAR PcP **PcP** **03 08 26.8 -0.5**
comp=Z,2.4nm,0.9s,baz=59,slow=4.7,SNR=4.8
MJAR LR LR 03 23 51.4
comp=Z,62nm,19.9s,baz=52,slow=37
comp=Z,1.7nm,0.7s
W13A Hualapai Mount **41.13 93** IAmb IAmb 03 06 30.6
comp=Z,17nm,0.8s
BC3 Big Chuckawall **41.13 96** P **P** **03 06 29.4 +0.9**
baz=313
RWWY Rawlins **41.13 80** P **P** **03 06 28.0 -0.6**
RWWY IAmb IAmb 03 06 29.9
comp=Z,14nm,0.9s
HMU Henry Mountain **41.24 87** IAmb IAmb 03 06 44.4
comp=Z,21nm,0.8s
U15A North Rim **41.24 90** IAmb IAmb 03 06 45.2
comp=Z,23nm,0.9s
SWSC Sam W. Stewart **41.40 97** P **P** **03 06 31.9 +1.3**
baz=314
IKP In-Ko-Pah, Jac **41.41 98** P **P** **03 06 32.3 +1.4**
baz=314,SNR=7.7
O20A White River Ci **41.42 83** P **P** **03 06 31.3 +0.3**
baz=307,SNR=19
MDJ Mudanjiang **41.49 286** P **P** **03 06 33.4 +2.2**
MDJ pP pP 03 06 35.3 -0.6
MDJ sP sP 03 06 36.8 -0.3
MDJ PcP PcP 03 08 39.6 +11
MDJ ScP ScP 03 12 28.7 +12
MDJ PcS PcS 03 12 31.1 +11
MDJ S S 03 12 35.6 -10
MDJ SS SS 03 15 27.7 -22
MDJ pmax pmax
comp=Z,18nm,1.2s
MDJ pmax pmax
comp=Z,360nm,6.2s
PDMCI Parker Dam,Lak **41.50 94** P **P** **03 06 31.8 +0.4**
baz=312,SNR=15
YUH Yuha Desert **41.53 97** IAmb IAmb 03 06 47.4
comp=Z,14nm,0.9s
BLYC Blythe **41.64 95** IAmb IAmb 03 06 34.5
comp=Z,28nm,0.8s
RSSD Black Hills **41.65 75** P **P** **03 06 32.9 +0.2**
RSSD Black Hills **41.65 75** P **P** **03 06 32.5 -0.3**
baz=304
ESJX Sierra Juarez **41.96 98** IAmb IAmb 03 06 51.4
comp=Z,14nm,0.9s
BNX BinXian **42.15 288** ⇓P **P** **03 06 36.1 -0.5**
BNX pmax pmax
comp=Z,9.0nm,0.8s
BNX pmax pmax
comp=Z,300nm,4.9s
MDND Maddock **42.20 68** P **P** **03 06 37.1 +0.1**
baz=302,SNR=5.1
N23A Red Feather La **42.37 80** IAmb IAmb 03 06 40.6
comp=Z,23nm,1.0s
N23A Red Feather La **42.37 80** P **P** **03 06 39.1 +0.4**
baz=307,SNR=11
WUAZ Wupatki **42.40 90** IAmb IAmb 03 06 53.9
comp=Z,20nm,0.8s
WUAZ Wupatki **42.40 90** P **P** **03 06 39.3 +0.3**
baz=311,SNR=17
PHWY Pilot Hill **42.42 79** IAmb IAmb 03 06 54.3
comp=Z,30nm,1.9s
SMCO Snowmass **42.78 83** P **P** **03 06 42.9 +0.6**
ULM Lac du Bonnet **43.03 63** P **P** **03 06 43.4 -0.3**
comp=Z,8.6nm,0.9s,baz=287,slow=8.1,SNR=13
comp=Z,8.6nm,0.9s
MVCO Mesa Verde **43.08 86** P **P** **03 06 44.8 +0.3**
baz=310
X16A Lo Mia Camp, P **43.09 92** IAmb IAmb 03 07 00.1
comp=Z,15nm,0.8s
ISCO Idaho Springs **43.23 81** P **P** **03 06 46.4 +0.6**
baz=308
BRIGG Briggsdale **43.54 80** IAmb IAmb 03 06 50.6
comp=Z,38nm,1.4s
W18A Petrified Fore **43.67 90** P **P** **03 06 49.5 +0.2**
baz=311
S22A 4UR Ranch, Cre **43.77 85** IAmb IAmb 03 06 53.4
comp=Z,20nm,1.4s
S22A 4UR Ranch, Cre **43.77 85** P **P** **03 06 51.0 +0.9**
baz=309,SNR=9.0
214A Organ Pipe Nat **43.91 95** IAmb IAmb 03 07 06.6
comp=Z,25nm,1.1s
214A Organ Pipe Nat **43.91 95** P **P** **03 06 51.7 +0.6**
baz=314,SNR=8.0
X18A Snowflake **43.93 90** IAmb IAmb 03 07 06.3
comp=Z,12nm,1.1s
Q24A Divide **44.03 82** IAmb IAmb 03 07 09.3
comp=Z,18nm,1.6s
Q24A Divide **44.03 82** P **P** **03 06 52.5 +0.2**
baz=309
AGMN Agassiz Nation **44.07 65** IAmb IAmb 03 06 52.6
comp=Z,19nm,0.9s
AGMN Agassiz Nation **44.07 65** P **P** **03 06 51.8 -0.3**
baz=303,SNR=8.5
CN2 Changchun **44.40 287** *e*P **P** **03 06 54.0 -0.8**
CN2 *e*S **S** **03 13 27.7 -0.4**
CN2 *es*S sS 03 13 35.1 -0.9
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 LR LR
comp=N,370nm,14.0s
CN2 LR LR
comp=E,320nm,14.0s
CN2 LR LR
comp=Z,140nm,16.0s
SUSD Miller **44.46 72** P **P** **03 06 55.0 -0.3**
baz=305
SDCO Great Sand Dun **44.58 84** IAmb IAmb 03 06 58.6
comp=Z,10nm,1.1s
SDCO Great Sand Dun **44.58 84** P **P** **03 06 57.3 +0.6**
baz=310,SNR=13
OGNE Ogallala **44.70 78** P **P** **03 06 56.9 -0.5**
OGNE Ogallala **44.70 78** P **P** **03 06 58.1 +0.7**
baz=308
NEEM North Greenlan **44.82 16** *i*P **P** **03 06 59.2 +1.1**
NEEM IAmb IAmb 03 07 16.9
comp=Z,13nm,0.8s
TUC Tucson **44.91 93** P **P** **03 07 00.1 +1.0**
TUC IAmb IAmb 03 07 14.3
comp=Z,15nm,1.0s
TUC Tucson **44.91 93** P **P** **03 07 00.4 +1.3**
baz=314
JCJ Chichijima **45.19 257** LR LR 03 21 27.8
comp=Z,45nm,20.9s,baz=67,slow=30
KSCO Kaye Shedlock' **45.53 80** P **P** **03 07 04.8 +0.7**
baz=309,SNR=6.4
NOR Nord **45.56 6** *i*P **P** **03 07 02.6 -0.9**
NOR IAmb IAmb 03 07 29.3
comp=Z,1.6nm,0.8s
T25A Trinidad **45.63 83** P **P** **03 07 05.3 +0.4**
baz=310,SNR=15
ANMO Albuquerque **45.81 87** P **P** **03 07 07.2 +0.9**
ANMO Albuquerque **45.81 87** P **P** **03 07 07.6 +1.3**
baz=312
ANMO Albuquerque **45.81 87** LR LR 03 24 51.3
comp=Z,19nm,18.3s,baz=43,slow=34
Y22D IRIS PASSCAL I **46.10 89** P **P** **03 07 09.6 +1.1**
baz=312
Y22F Passcal Instru **46.10 89** P **P** **03 07 10.0 +1.4**
baz=312
ECSD EROS Data Cent **46.24 71** P **P** **03 07 07.8 -1.6**
ECSD IAmb IAmb 03 07 22.6
comp=Z,14nm,1.1s
ECSD EROS Data Cent **46.24 71** P **P** **03 07 08.6 -0.9**
baz=307,SNR=8.2
121A Cookes Peak, D **46.61 91** P **P** **03 07 12.6 0.0**
baz=313
UPNV Upernavik **46.67 22** *i*P **P** **03 07 12.7 +0.3**
UPNV IAmb IAmb 03 07 15.9
comp=Z,9.5nm,0.8s
EYMN Ely **46.70 63** IAmb IAmb 03 07 13.5
comp=Z,16nm,0.9s
EYMN Ely **46.70 63** P **P** **03 07 12.4 -0.5**
baz=305
BGNE Belgrade **46.74 75** P **P** **03 07 12.5 -0.9**
baz=308
F36A Milaca **46.77 67** IAmb IAmb 03 07 14.8
comp=Z,7.7nm,0.8s
KSRS Korea Array **46.80 279** P **P** **03 07 14.1 +0.2**
comp=Z,4.6nm,0.8s,baz=56,slow=7.6,SNR=12
KSRS LR LR 03 28 07.3
comp=Z,25nm,19.3s,baz=50,slow=38
comp=Z,4.6nm,0.8s
KSAR Wonju Array Be **46.83 279** P **P** **03 07 13.7 -0.4**
RTBA Rita Blanca **47.11 83** P **P** **03 07 16.3 -0.2**
RTBA IAmb IAmb 03 07 17.7
comp=Z,24nm,1.0s

CBKS Cedar Bluff **47.41 78** P **P** **03 07 18.2 -0.4**
baz=310,SNR=6.6
SPMN Marine on St. **47.55 67** P **P** **03 07 19.7 +0.1**
baz=307
JNU Nakatsue **47.85 272** P **P** **03 07 21.6 -0.5**
comp=Z,5.7nm,0.8s,baz=110,slow=23,SNR=1.6
JNU LR LR 03 27 41.4
comp=Z,31nm,20.3s,baz=21,slow=36
comp=Z,5.7nm,0.8s
R32A Long Quarter, **48.28 78** P **P** **03 07 25.6 +0.2**
FRB Frobisher Bay **48.35 36** LR LR 03 31 05.3
comp=Z,152nm,18.5s,baz=2.5,slow=40
MNTX Cornudas Mount **48.66 90** P **P** **03 07 29.1 +0.8**
baz=314,SNR=8.6
MSTX Muleshoe **48.72 85** IAmb IAmb 03 07 44.0
comp=Z,16nm,0.8s
MSTX Muleshoe **48.72 85** P **P** **03 07 28.5 -0.4**
baz=312,SNR=6.1
AMTX Amarillo **48.78 84** IAmb IAmb 03 07 44.9
comp=Z,14nm,0.9s
AMTX Amarillo **48.78 84** P **P** **03 07 28.4 -0.9**
baz=312
KSU1 Kansas State U **49.11 76** IAmb IAmb 03 07 44.7
comp=Z,13nm,0.8s
KSU1 Kansas State U **49.11 76** P **P** **03 07 30.7 -1.0**
baz=310
KBS Kingsbay **49.19 0** *i*P **P** **03 07 30.3 -1.5**
SCIA State Center **49.34 71** P **P** **03 07 33.0 -0.4**
baz=309
ELIS Ellis County **49.38 81** P **P** **03 07 33.5 -0.4**
SMWD Samnorwood **49.51 83** IAmb IAmb 03 07 36.2
comp=Z,24nm,0.9s
425A Indio Mountain **49.54 90** IAmb IAmb 03 07 50.5
comp=Z,21nm,1.2s
XLT XiLinHaoTe **49.76 293** *e*P **P** **03 07 40.7 +4.0**
XLT sP pwP 03 07 51.2 +3.4
XLT pmax pmax
comp=Z,16nm,0.9s
XLT pmax pmax
comp=Z,290nm,5.5s
DAG Danmarks Havn **49.80 9** *i*P **P** **03 07 36.0 -0.4**
DAG IAmb IAmb 03 07 52.6
comp=Z,8.6nm,0.7s
SPITS Spitsbergen Ar **49.92 359** P **P** **03 07 36.7 -0.7**
comp=Z,2.3nm,0.5s,baz=52,slow=4.5,SNR=5.8
SPITS PcP **PcP** **03 08 57.8 +0.4**
comp=Z,26nm,1.1s,baz=9.5,slow=1.8,SNR=3.5
comp=Z,2.3nm,0.5s
CROK Carrier **49.96 80** **P** **03 07 38.2 -0.1**
DKNS Dickens **50.06 84** IAmb IAmb 03 07 53.3
comp=Z,12nm,0.8s
POST Post **50.11 85** IAmb IAmb 03 07 40.5
comp=Z,20nm,0.8s
JFWS Jewell Farm **50.42 68** P **P** **03 07 39.9 -1.7**
baz=309
MNHN Monahans **50.52 88** IAmb IAmb 03 07 43.4
comp=Z,8.4nm,0.7s
SUMG Summit **50.58 18** P **P** **03 07 43.4 +0.5**
SUMG Summit **50.58 18** *i*P **P** **03 07 43.0 +0.1**
SUMG IAmb IAmb 03 07 46.4
comp=Z,18nm,0.8s
T35A Sooner Cattle **50.58 78** IAmb IAmb 03 07 56.4
comp=Z,10nm,0.7s
P38A Dawn **50.60 73** IAmb IAmb 03 07 42.7
comp=Z,16nm,0.8s
SN01 Snyder 1 **50.63 85** IAmb IAmb 03 07 56.9
comp=Z,11nm,0.8s
WMOK Wichita Mounta **50.65 82** P **P** **03 07 43.5 0.0**
baz=312
ALPN Alpine **50.65 90** IAmb IAmb 03 07 44.8
comp=Z,5.7nm,0.7s
OK029 Liberty Lake **50.75 80** **P** **03 07 43.1 -1.1**
APMT Aspermont **50.78 84** IAmb IAmb 03 07 45.3
comp=Z,26nm,1.3s
QUOK Quay **50.95 79** IAmb IAmb 03 07 46.1
comp=Z,14nm,0.9s
SGCY Sterling City **51.13 86** IAmb IAmb 03 08 01.2
comp=Z,19nm,0.8s
TXAR Lajitas Array **51.37 91** P **P** **03 07 49.3 +0.3**
comp=Z,8.7nm,0.8s,baz=297,slow=5.5,SNR=86
TXAR PcP **PcP** **03 09 03.5 0.0**
comp=Z,0.8nm,0.6s,baz=318,slow=1.2,SNR=1.0
TXAR LR LR 03 28 12.1
comp=Z,51nm,18.2s,baz=328,slow=34
comp=Z,8.7nm,0.8s
W35A Tecumseh **51.53 80** IAmb IAmb 03 07 51.0
comp=Z,25nm,1.0s
ABTX Abilene, Hawle **51.56 84** IAmb IAmb 03 07 52.3
comp=Z,34nm,1.6s
ABTX Abilene, Hawle **51.56 84** P **P** **03 07 49.5 -0.8**
baz=314,SNR=5.2
TUL3 Leonard **51.68 79** P **P** **03 07 50.1 -1.1**
baz=312
OZNA Ozona **51.82 87** IAmb IAmb 03 07 53.1
comp=Z,17nm,1.4s
DBG Daneborg **51.88 11** *i*P **P** **03 07 51.6 -0.5**
DBG IAmb IAmb 03 08 06.2
comp=Z,16nm,1.1s
S39A Bolivar **51.98 75** IAmb IAmb 03 08 05.8
comp=Z,43nm,1.9s
U38A Gravette **52.18 77** IAmb IAmb 03 08 07.4
comp=Z,9.8nm,0.8s
R40A Maddies Statio **52.22 74** IAmb IAmb 03 08 07.4
comp=Z,15nm,0.7s
ULN Ulaanbaatar **52.23 302** P **P** **03 07 55.5 +0.2**
ULN IAmb IAmb 03 08 10.1
comp=Z,16nm,0.8s
FW03 Perrin-Whitt E **52.24 83** P **P** **03 07 55.2 -0.2**
FW03 IAmb IAmb 03 08 09.4
comp=Z,18nm,0.9s
PLPT Palo Pinto **52.24 83** IAmb IAmb 03 07 56.3
comp=Z,40nm,1.2s
HDIL Hopedale **52.48 70** P **P** **03 07 56.2 -0.8**
baz=311,SNR=8.4
Z35A Perchaven, San **52.53 82** IAmb IAmb 03 08 12.9
comp=Z,15nm,0.8s
HHAR Hobbs **52.55 77** IAmb IAmb 03 08 10.3
comp=Z,33nm,1.7s
SONM Songino Array **52.59 302** P **P** **03 07 57.7 -0.2**
SONM IAmb IAmb 03 08 13.2
comp=Z,21nm,1.5s
SONM Songino Array **52.59 302** P **P** **03 07 57.8 -0.2**
comp=Z,4.4nm,0.7s,baz=65,slow=4.5,SNR=17
SONM PcP **PcP** **03 09 08.4 +0.4**
comp=Z,3.1nm,0.8s,baz=78,slow=2.1,SNR=4.2
SONM LR LR 03 33 05.6
comp=Z,66nm,18.2s,baz=8.5,slow=39
comp=Z,4.4nm,0.7s
X37A Clayton **52.82 80** IAmb IAmb 03 08 00.2
comp=Z,12nm,0.8s
BRDY Brady **52.87 85** IAmb IAmb 03 08 00.6
comp=Z,12nm,0.7s
JCT Junction City **52.94 86** IAmb IAmb 03 08 14.2
comp=Z,15nm,0.7s
JCT Junction City **52.94 86** P **P** **03 08 00.1 -0.6**
baz=315,SNR=5.0
MGMO Mountain Grove **52.97 75** IAmb IAmb 03 08 12.8
comp=Z,9.3nm,0.8s
CCM Cathedral Cave **52.98 74** P **P** **03 07 59.6 -1.2**
CCM IAmb IAmb 03 08 24.0
comp=Z,9.0nm,0.8s
CCM Cathedral Cave **52.98 74** P **P** **03 07 58.9 -1.8**
baz=312
ICESG Greenland Ices **53.09 21** *i*P **P** **03 08 01.2 -0.4**
ICESG IAmb IAmb 03 08 17.0
comp=Z,5.2nm,0.6s
DRIO Del Rio **53.18 88** IAmb IAmb 03 08 15.6
comp=Z,10nm,0.7s
WHTX Lake Whitney, **53.33 83** P **P** **03 08 03.7 +0.3**
baz=314,SNR=5.6
DY2G Dye2 **53.52 25** *i*P **P** **03 08 04.5 -0.2**
DY2G IAmb IAmb 03 08 23.0
comp=Z,6.9nm,0.7s
SFIN Lafayette **53.86 69** P **P** **03 08 06.3 -0.9**
baz=311
FCAR Ozark Folk Cen **53.90 76** IAmb IAmb 03 08 06.6
comp=Z,16nm,0.9s
435B Jarrell **54.09 85** IAmb IAmb 03 08 23.3
comp=Z,14nm,0.7s
435B Jarrell **54.09 85** P **P** **03 08 09.0 0.0**
baz=315
HHC Hu-ho-hao-te **54.28 293** *e*P **P** **03 08 09.6 -0.9**
HHC pmax pmax
comp=Z,23nm,0.5s
HHC pmax pmax
comp=Z,220nm,5.7s
OLIL Olney **54.37 71** P **P** **03 08 09.9 -1.1**
AAM Ann Arbor **54.54 65** P **P** **03 08 10.0 -2.1**

baz=311
SCHQ Schefferville **54.64 44** P **P** **03 08 11.4 -1.3**
comp=Z,5.5nm,0.8s,baz=292,slow=9.8,SNR=4.3
comp=Z,5.5nm,0.8s
833A Chaparral WMA, **54.72 88** P **P** **03 08 12.5 -1.1**
baz=316
HNS HongShan **54.77 287** ⇓P **P** **03 08 14.7 +0.9**
HNS pmax pmax
comp=Z,18nm,1.0s
O48B Farmland **55.05 68** P **P** **03 08 14.4 -1.5**
baz=312,SNR=6.8
SCO Scoresbysund **55.13 14** *i*P **P** **03 08 15.3 -0.7**
SCO IAmb IAmb 03 08 17.8
comp=Z,5.1nm,0.7s
NATX Nacogdoches **55.20 82** P **P** **03 08 15.9 -1.1**
baz=314
BTO Baotou **55.32 293** *e*P **P** **03 08 17.6 -0.4**
BTO pP **pP** **03 08 21.9 -0.9**
BTO sP **sP** **03 08 24.5 +0.5**
BTO PP **PP** **03 10 14.9 -6.5**
BTO S **S** **03 16 02.1 +1.2**
BTO Baotou **55.32 293** SS **SS** **03 19 41.5 -3.3**
BTO pmax pmax
comp=Z,19nm,0.6s
BTO pmax pmax
comp=Z,390nm,4.8s
BTO LR LR
comp=N,850nm,6.1s
BTO LR LR
comp=E,700nm,5.7s
BTO LR LR
comp=Z,210nm,6.4s
HNVL Huntsville, TX **55.41 83** IAmb IAmb 03 08 34.0
comp=Z,45nm,1.0s
HKT Hockley **55.75 84** P **P** **03 08 20.0 -0.9**
HKT IAmb IAmb 03 08 23.4
comp=Z,24nm,1.6s
WCI Wyandotte Cave **55.76 70** P **P** **03 08 19.8 -1.2**
baz=313
P49A Miami Univ. Ec **55.78 68** P **P** **03 08 19.8 -1.4**
baz=312
NJ2 Nanjing **55.95 280** *e*P **P** **03 08 22.9 +0.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,88nm,4.0s
WVT Waverly **56.29 73** P **P** **03 08 24.3 -0.5**
WVT IAmb IAmb 03 08 38.2
comp=Z,19nm,0.9s
WVT Waverly **56.29 73** P **P** **03 08 24.5 -0.3**
baz=313
ACSO Alum Creek Sta **56.30 66** P **P** **03 08 23.8 -1.1**
baz=313
OXF Oxford **56.46 75** P **P** **03 08 25.6 -0.5**
baz=314,SNR=7.0
ERPA Erie **56.69 63** P **P** **03 08 25.2 -2.4**
baz=313
M53A WI Miller and **56.77 64** P **P** **03 08 26.7 -1.5**
baz=313
PLAL Pickwick Lake **56.93 74** IAmb IAmb 03 08 42.8
comp=Z,14nm,0.8s
P52A Corning **57.18 66** P **P** **03 08 29.7 -1.4**
baz=313
O53A New Philadelph **57.28 65** P **P** **03 08 30.5 -1.3**
baz=313
LONY Lake Ozonia **57.87 57** P **P** **03 08 34.8 -1.1**
baz=314
LYN LuoYang **58.04 286** ⇑P **P** **03 08 37.7 +0.5**
LYN sP sP 03 08 41.8 -1.4
LYN pmax pmax
comp=Z,22nm,0.7s
LYN pmax pmax
comp=Z,190nm,4.9s
ARCES ARCESS Array B **58.28 355** P **P** **03 08 38.3 -0.1**
comp=Z,5.3nm,0.8s,baz=23,slow=6.9,SNR=14
ARCES PcP **PcP** **03 09 29.7 +0.4**
comp=Z,5.6nm,0.8s,baz=0.0,slow=5.4,SNR=2.1
ARCES LR LR 03 36 45.8
comp=Z,53nm,18.0s,baz=355,slow=39
comp=Z,5.3nm,0.8s
MCWV Mont Chateau **58.45 65** P **P** **03 08 38.8 -1.2**
baz=314
TZTN Tazewell **58.50 70** P **P** **03 08 39.3 -1.2**
baz=314
ZALV Zalesovo Beam **58.51 319** P **P** **03 08 40.3 +0.1**
ZALV Zalesovo Beam **58.51 319** P **P** **03 08 39.5 -0.7**
comp=Z,1.7nm,0.6s,baz=34,slow=6.8,SNR=5.2
ZALV PcP **PcP** **03 09 30.3 -0.2**
comp=Z,2.9nm,0.7s,baz=25,slow=4.8,SNR=2.3
ZALV LR LR 03 35 29.0
comp=Z,47nm,19.4s,baz=30,slow=38
comp=Z,1.7nm,0.6s
BINY Binghamton **58.80 60** P **P** **03 08 41.4 -1.1**
baz=314
SSPA Standing Stone **58.86 63** P **P** **03 08 42.4 -0.4**
baz=314
LRAL Lakeview Retre **58.93 75** P **P** **03 08 43.1 -0.4**
baz=315
LBNH Lisbon **59.51 56** P **P** **03 08 46.6 -0.7**
baz=315
WHN Wuhan **59.74 282** ⇑P **P** **03 08 49.2 +0.2**
BLA Blacksburg **59.83 67** P **P** **03 08 48.7 -0.9**
baz=315
PKME Peaks-Kenny Pk **60.11 54** P **P** **03 08 51.1 -0.3**
baz=315
BRAL Brewton **60.22 77** P **P** **03 08 52.4 +0.1**
baz=316
L61B Northampton **60.38 58** P **P** **03 08 52.2 -1.1**
baz=315
XAN Xi'an **60.48 288** P **P** **03 08 54.4 +0.2**
XAN pP pP 03 08 58.5 -0.6
XAN pmax pmax
comp=Z,18nm,0.9s
PAL Palisades **60.75 60** P **P** **03 08 54.7 -1.1**
baz=315
GOGA Godfrey **60.75 72** P **P** **03 08 55.0 -0.9**
baz=316
KMSC Kings Mountain **60.77 69** P **P** **03 08 55.1 -0.9**
baz=315
CBN Corbin Frederi **60.84 64** P **P** **03 08 55.0 -1.5**
baz=315
352A Blakely **61.27 75** P **P** **03 08 57.4 -2.0**
GTA Gaotai **61.80 299** *e*P **P** **03 09 02.8 -0.4**
GTA sP pwP 03 09 15.4 +1.0
GTA pmax pmax
comp=Z,3.0nm,0.7s
LZH Lanzhou **61.95 293** *e*P **P** **03 09 05.2 +1.0**
LZH pP sP 03 09 12.1 +1.8
LZH pmax pmax
comp=Z,11nm,1.0s
TIGA Tifton **62.09 74** P **P** **03 09 04.0 -1.0**
baz=316
CNNC Cliffs of the **62.67 67** P **P** **03 09 07.3 -1.5**
baz=316
ENH Enshi **62.84 285** P **P** **03 09 09.6 -0.5**
NHSC New Hope **62.89 70** P **P** **03 09 08.9 -1.4**
baz=316
KURK Kurchatov **63.45 320** P **P** **03 09 13.3 -0.5**
KURK IAmb IAmb 03 09 29.6
comp=Z,8.4nm,0.8s
KURBB Kurchatov Arra **63.56 320** P **P** **03 09 14.8 +0.3**
comp=Z,3.9nm,0.7s,baz=46,slow=7.3,SNR=24
KURBB PcP **PcP** **03 09 50.6 -0.3**
comp=Z,1.3nm,0.6s,baz=32,slow=5.7,SNR=1.6
KURBB LR LR 03 38 51.9
comp=Z,86nm,19.7s,baz=158,slow=38
comp=Z,3.9nm,0.7s
BVAR Borovoye Array **64.68 326** P **P** **03 09 22.8 +0.9**
comp=Z,11nm,0.6s,baz=53,slow=6.7,SNR=54
BVAR LR LR 03 39 10.6
comp=Z,75nm,18.5s,baz=38,slow=38
comp=Z,11nm,0.6s
BRVK Borovoye **64.69 326** P **P** **03 09 22.5 +0.6**
BRVK IAmb IAmb 03 09 37.3
comp=Z,11nm,0.9s
WMQ Urumqi **64.75 309** *e*P **P** **03 09 25.0 +2.5**
WMQ pP pwP 03 09 30.5 -3.3
WMQ sP sP 03 09 32.1 +2.8
WMQ PcP **PcP** **03 10 01.5 +5.5**
WMQ pmax pmax
comp=Z,16nm,0.7s
MKAR Makanchi Array **64.95 315** P **P** **03 09 23.3 -0.5**
comp=Z,3.9nm,0.7s,baz=64,slow=7.6,SNR=11
MKAR LR LR 03 39 30.2
comp=Z,65nm,18.1s,baz=52,slow=38
comp=Z,3.9nm,0.7s
TAOE Nuku Hiva Isla **65.02 150** *e*LR LR 03 28 49.2

comp=Z,156nm,28.3s
KLMR Klimovskoe 65.35 346 *e*P **P 03 09 25.2 -0.8**
KLMR AMP 03 09 26.9
comp=Z,16nm,1.5s
ARU Arti 65.44 334 P **P 03 09 27.1 +0.4**
ARU Arti 65.44 334 LR LR 03 44 05.3
comp=Z,48nm,18.8s,baz=4.5,slow=42
KIRV Kirov 65.70 340 P **P 03 09 29.4 +1.1**
comp=Z,26nm,0.8s,baz=331,slow=2.7,SNR=8.6
KIRV LR LR 03 39 42.4
comp=Z,53nm,21.7s,baz=15,slow=37
comp=Z,26nm,0.8s
FINES FINESS Array B 66.27 353 P **P 03 09 32.3 +0.3**
comp=Z,5.3nm,0.6s,baz=11,slow=6.2,SNR=45
FINES LR LR 03 39 51.6
comp=Z,36nm,19.5s,baz=28,slow=37
comp=Z,5.3nm,0.6s
GOMU GeErMu 66.85 299 P **P 03 09 36.1 -0.5**
GOMU pP pP 03 09 39.9 -1.6
GOMU sP sP 03 09 43.4 +0.8
GOMU pmax pmax
comp=Z,1.0nm,0.6s
NB2 NORSAR Subarra 67.16 1 P **P 03 09 38.3 +0.6**
comp=Z,1.3nm,0.6s,baz=359,slow=6.2
NOA NORSAR Array B 67.16 1 P **P 03 09 38.3 +0.6**
comp=Z,2.2nm,0.6s,baz=360,slow=6.2,SNR=6.2
comp=Z,2.2nm,0.6s
MEF Metsahovi 67.61 354 *e*P **P 03 09 41.4 +1.0**
HFS Hagfors 68.07 360 P **P 03 09 43.7 +0.2**
comp=Z,6.3nm,0.6s,baz=20,slow=3.3,SNR=23
comp=Z,6.3nm,0.6s
VSU Vasula 69.17 352 *e*P **P 03 09 51.2 +0.9**
VIKU Vikbolandet 69.67 358 *e*P **P 03 09 54.1 +0.8**
PZH PanZhiHua 70.21 288 P **P 03 09 57.7 +0.3**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,160nm,5.9s
SLIT Slitere, Latvi 70.31 355 *e*P **P 03 09 58.3 +1.0**
DAV Davao City (W) 70.59 256 LR LR 03 37 49.6
comp=Z,52nm,20.3s,baz=134,slow=33
AKTO Aktyubinsk 70.88 331 LR LR 03 45 25.4
comp=Z,52nm,22.0s,baz=253,slow=40
PPT Papeete 71.08 162 LR LR 03 35 24.0
comp=Z,63nm,22.0s,baz=344,slow=31
PPT2 Papeete2 71.10 162 *e*LR LR 03 31 34.2
comp=Z,146nm,27.8s
OBN Obninsk 71.31 346 P **P 03 10 03.3 -0.1**
ABKAR Abkulak array 71.34 330 P **P 03 10 03.8 +0.1**
ABKAR IAmb IAmb 03 10 19.5
comp=Z,10.0nm,0.9s
AAK Ala-Archa 71.62 317 P **P 03 10 05.5 -0.2**
AAK IAmb IAmb 03 10 21.7
comp=Z,10nm,0.8s
DEL Delary 71.74 359 *e*P **P 03 10 07.2 +1.2**
NRN Naryn 71.96 315 P **P 03 10 08.2 +0.2**
NRN IAmb IAmb 03 10 24.2
comp=Z,7.5nm,1.1s
EKA Eskdalemuir Ar 72.06 10 P **P 03 10 09.1 +1.1**
comp=Z,5.3nm,0.8s,baz=343,slow=4.1,SNR=11
comp=Z,5.3nm,0.8s
PABE Paberze 72.32 353 *e*P **P 03 10 10.3 +0.8**
NACGM Naroch 72.69 352 *e*P **P 03 10 10.2 -1.6**
comp=Z,16nm,0.9s,baz=9.0
KK31 Karatay Array 72.86 320 P **P 03 10 12.7 -0.3**
KK31 IAmb IAmb 03 10 28.5
comp=Z,16nm,0.9s
KKAR Karatay Array 72.86 320 P **P 03 10 12.4 -0.6**
KKAR IAmb IAmb 03 10 28.5
comp=Z,16nm,0.9s
MNK Minsk 72.99 351 *i* P **P 03 10 12.9 -0.6**
comp=E,9.0nm,1.5s
MNK *i* P **P 03 10 12.9 -0.6**
comp=N,15nm,1.1s
MNK *i* P **P 03 10 12.9 -0.6**
comp=Z,14nm,1.1s,baz=9.6
MNK *i* PP **PP 03 12 53.6 -1.6**
MNK *i* PPP PPP 03 14 39.0
MNK *i* S **S 03 19 41.9 +3.0**
MNK *i* SS **SS 03 24 24.4 +6.2**
MNK *i* SSS SSS 03 27 42.9
MNK *i* LQ LQ 03 37 25.8
MNK *i* LR LR 03 42 41.7
MNK *i* LRM MLR 03 44 27.6
comp=Z,56nm,12.5s
MNK *i* LRM MLR 03 44 35.9
comp=N,125nm,13.4s
MNK *i* LRM MLR 03 45 00.2
comp=E,40nm,13.7s
RAR Rarotonga 73.33 173 LR LR 03 38 30.8
comp=E,59nm,19.7s,baz=190,slow=33
ARSB Arslanbob 73.34 317 P **P 03 10 16.3 +0.3**
KSH Kashi 73.53 314 P **P 03 10 19.0 +1.8**
KSH PcP **PcP 03 10 33.6 +0.5**
KSH pmax pmax
comp=Z,12nm,0.8s
LSA Lhasa 73.78 297 P **P 03 10 19.1 -0.2**
LSA IAmb IAmb 03 10 46.5
comp=Z,9.2nm,1.0s
SUW Suwalki 73.86 354 *e*P **P 03 10 18.9 +0.3**
SUW *e*PcP **pwP 03 10 30.9 +0.6**
SUW Suwalki 73.86 354 *e*P **P 03 10 19.5 +0.9**
CRAI Chiangrai 75.79 285 IAmb IAmb 03 10 44.9
comp=Z,15nm,1.0s
SHL Shillong 76.59 294 IAmb IAmb 03 10 49.8
comp=Z,14nm,1.1s
AKASG Malin Array Be 76.60 349 P **P 03 10 34.0 -0.4**
comp=Z,19nm,0.6s,baz=13,slow=5.8,SNR=72
AKASG LR LR 03 51 14.6
comp=Z,39nm,18.2s,baz=348,slow=41
comp=Z,19nm,0.6s
KIEV Kiev 76.60 349 ⇑P **P 03 10 34.3 -0.2**
KIEV Kiev 76.60 349 P **P 03 10 33.9 -0.6**
AK05 Malin Array Si 76.68 349 P **P 03 10 34.9 -0.1**
TBI Tubuai 76.75 163 *e*LR LR 03 34 16.7
comp=Z,386nm,29.8s
CLL Collm 76.92 360 *e*P **P 03 10 37.0 +0.7**
CLL *i* x x 03 10 50.3
comp=Z,7.0nm,0.8s
CHGR Chuyangaron 77.17 318 P **P 03 10 38.6 +0.6**
KSP Ksiaz 77.34 358 *e*P **P 03 10 40.0 +1.3**
CHVC Chvalec 77.61 358 *e*P **P 03 10 42.7 +2.5**
HSKC Hora Svate Kat 77.62 360 *e*P **P 03 10 41.1 +0.8**
OSTC Ostas 77.63 358 *e*P **P 03 10 43.4 +3.1**
UPC Upice 77.69 358 *e*P **P 03 10 43.0 +2.4**
UPC *e*pP **sP 03 10 47.5 +0.1**
PVCC Panska Ves 77.69 359 *e*P **P 03 10 41.7 +1.1**
PVCC *ex* x 03 10 55.0
DPC Dobruska-Polom 77.84 358 *e*P **P 03 10 42.6 +1.1**
DPC *es*P **pwP 03 10 55.6 +2.5**
OJC Ojcow 77.84 355 *e*P **P 03 10 41.6 +0.1**
NKC Novy Kostel 78.00 0 *e*P **P 03 10 43.4 +1.0**
CMAR Chiang Mai Arr 78.01 285 P **P 03 10 43.0 +0.2**
comp=Z,4.6nm,0.6s,baz=25,slow=6.0,SNR=25
CMAR LR LR 03 48 20.9
comp=Z,16nm,19.4s,baz=110,slow=38
comp=Z,4.6nm,0.6s
GUN Gumba 78.03 300 *e*P **P 03 10 44.1 +0.7**
JIRN Jiri 78.07 300 *e*P **P 03 10 43.6 0.0**
PRU Pruhonice 78.23 359 *e*P **P 03 10 44.2 +0.6**
KWP Kalwaria Pacla 78.25 353 *e*P **P 03 10 43.2 -0.6**
OKC Ostrava-Krasne 78.29 357 *e*P **P 03 10 45.8 +1.8**
MORC Moravsky Berou 78.38 357 ⇑P **P 03 10 45.8 +1.3**
MORC Moravsky Berou 78.38 357 IAmb IAmb 03 11 01.3
comp=Z,19nm,1.6s
MORC Moravsky Berou 78.38 357 *e*P **P 03 10 45.3 +0.8**
RAMN Ramite 78.41 299 *e*P **P 03 10 45.2 -0.1**
comp=Z,23nm,0.9s
PKI Pulchoki 78.56 300 *e*P **P 03 10 46.2 0.0**
NIE Niedzica 78.61 355 *e*P **P 03 10 46.5 +0.7**
MAUC Maruska 78.78 357 *e*P **P 03 10 47.8 +1.1**
MAUC *ex* x 03 11 01.1
ZVC Zvikov 78.78 359 *e*P **P 03 10 47.7 +1.0**
ZVC *ex* x 03 11 00.6
DANN Dangsing 78.80 302 *e*P **P 03 10 47.4 -0.1**
VRAC Vranov 78.87 358 ⇓P **P 03 10 48.5 +1.3**
VRAC Vranov 78.87 358 *e*P **P 03 10 48.3 +1.1**
LANS Liptovska Anna 78.92 356 *e*P **P 03 10 49.6 +2.1**
CRVS Cervenica-Dubn 79.06 354 *e*P **P 03 10 51.5 +3.2**
KHC Kasperske Hory 79.10 360 P **P 03 10 47.8 -0.7**
KHC IAmb IAmb 03 10 53.7
comp=Z,24nm,1.6s
KHC Kasperske Hory 79.10 360 *e*P **P 03 10 49.8 +1.3**
KHC *es*P **pwP 03 11 02.3 +2.2**
KRUC Moravsky 79.12 358 *e*P **P 03 10 49.4 +0.8**
SORM Soroca 79.22 350 ⇑P **P 03 10 49.6 +0.5**
JAVC Velka Javorina 79.29 357 *e*P **P 03 10 51.6 +2.1**
GERES GERESS Array B 79.38 359 P **P 03 10 50.7 +0.6**
GERES GERESS Array B 79.38 359 P **P 03 10 50.5 +0.4**
comp=Z,2.3nm,0.8s,baz=1.4,slow=5.3,SNR=7.8
comp=Z,2.3nm,0.8s
CKRC Cesky Krumlov 79.40 359 *e*P **P 03 10 51.1 +1.0**
CKRC *ex* x 03 11 05.5
PYUN Piuthan 79.41 302 *e*P **P 03 10 50.3 -0.4**
VYHS Vyhne 79.61 356 *e*P **P 03 10 52.7 +1.5**
NIL Nilore 79.61 313 P **P 03 10 51.3 -0.2**
NIL IAmb IAmb 03 11 07.7
comp=Z,22nm,1.1s
MODS Modra-Piesok 79.79 357 *e*P **P 03 10 54.3 +2.1**
BUR08 Bucovina Ar. S 80.03 352 IAmb IAmb 03 10 56.7
comp=Z,6.0nm,0.7s
BURAR Bucovina Array 80.06 352 ⇓P **P 03 10 54.7 +0.9**
BURAR Bucovina Array 80.06 352 P **P 03 10 53.5 -0.3**
BURAR IAmb IAmb 03 10 57.0
comp=Z,5.9nm,0.7s
PSZ Piszkesteto 80.13 355 ⇓P **P 03 10 55.9 +1.7**
PSZ Piszkesteto 80.13 355 IAmb IAmb 03 11 11.3
comp=Z,9.5nm,1.0s
CONA Conrad Observa 80.27 358 *e*pP **P 03 10 56.5 +1.5**
comp=Z,10.0nm,1.2s,SNR=8.3
MILM Milestii Mici 80.37 349 ⇓P **P 03 10 57.0 +1.7**
MOA Molln 80.38 359 *e*pP **P 03 10 57.1 +1.7**
comp=Z,2.8nm,0.8s
RONA Rosalia, Austr 80.49 358 *e*pP **P 03 10 57.7 +1.7**
comp=Z,1.8nm,0.6s
ARCR ARCALIA 80.66 352 ⇑P **P 03 10 58.6 +1.7**
KBL Kabul 80.72 316 P **P 03 10 57.9 +0.2**
KBL IAmb IAmb 03 11 10.5
comp=Z,12nm,0.8s
RETA Reutte 80.73 1 *e*pP **P 03 10 58.5 +1.2**
comp=Z,6.4nm,1.4s
MOTA Moosalm 80.88 1 *e*pP **P 03 10 59.6 +1.4**
comp=Z,8.3nm,1.0s,SNR=5.6
WATA Walderalm 80.89 1 *e*pP **P 03 10 59.5 +1.1**
comp=Z,5.5nm,0.8s
ARSA Arzberg 80.95 358 *i* pP **P 03 10 59.8 +1.3**
comp=Z,4.2nm,0.8s
WTTA Wattenberg 80.96 1 *e*pP **P 03 11 00.2 +1.5**
comp=Z,6.6nm,0.7s
SQTA Sankt Quirin 81.00 1 *i* pP **P 03 11 00.3 +1.4**
comp=Z,9.6nm,0.8s,SNR=7.7
KBZ Khabaz 81.04 338 P **P 03 10 59.4 +0.4**
comp=Z,7.4nm,1.0s,baz=37,slow=2.2,SNR=8.3
comp=Z,7.4nm,1.0s
KBA Koelnbreinsper 81.15 360 *e*pP **P 03 11 01.5 +1.8**
comp=Z,17nm,0.8s
FETA Feichten 81.19 1 *e*pP **P 03 11 01.3 +1.4**
comp=Z,8.4nm,0.9s
ABTA Abfaltersbach 81.48 0 *e*pP **P 03 11 02.4 +0.9**
comp=Z,8.1nm,1.3s
VLDR Vladesti 81.52 349 ⇓P **P 03 11 03.0 +1.5**
SOKA Soboth 81.54 358 *e*pP **P 03 11 03.1 +1.4**
comp=Z,6.8nm,0.9s
FUORN Ofenpass-Fuorn 81.59 2 P **P 03 11 02.6 +0.4**
FUORN IAmb IAmb 03 11 17.3
comp=Z,15nm,1.4s
DOPR Dopca 81.67 351 ⇓P **P 03 11 03.2 +0.8**
OBKA Obir 81.71 359 *e*pP **P 03 11 03.9 +1.3**
comp=Z,7.1nm,0.8s
TUE Stuetta 81.71 2 P **P 03 11 02.7 -0.1**
TUE IAmb IAmb 03 11 20.0
comp=Z,6.5nm,0.7s
PRED Cave del Predi 81.79 360 IAmb IAmb 03 11 21.6
comp=Z,6.4nm,0.7s
GEYT Alibeck 82.01 325 P **P 03 11 06.3 +2.0**
comp=Z,5.4nm,0.7s,baz=292,slow=7.8,SNR=8.1
comp=Z,5.4nm,0.7s
GYA0B ALIBECK ARRAY 82.01 325 P **P 03 11 03.7 -0.6**
GYA0B IAmb IAmb 03 11 18.9
comp=Z,12nm,0.8s
SURR Surduc 82.15 353 ⇑P **P 03 11 05.8 +1.0**
VOIR 82.23 351 ⇑P **P 03 11 06.7 +1.3**
BZS Buzias 82.33 354 ⇓P **P 03 11 06.5 +0.8**
ARR Arges 82.34 352 ⇑P **P 03 11 07.0 +1.1**
GZR Gura Zlata 82.47 353 ⇑P **P 03 11 07.4 +0.9**
HRA Herat 83.63 321 P **P 03 11 13.4 +0.4**
HRA IAmb IAmb 03 11 26.6
comp=Z,5.4nm,0.8s
GNI Garni 83.99 336 LR LR 03 52 02.6
comp=Z,32nm,21.6s,baz=7.5,slow=38
BR131 Keskin Array S 86.73 344 P **P 03 11 29.0 +0.6**
BR131 IAmb IAmb 03 11 33.0
comp=Z,9.5nm,0.8s
BRTR Keskin Array B 86.73 344 P **P 03 11 29.6 +1.3**
comp=Z,7.8nm,0.7s,baz=30,slow=2.6,SNR=38
BRTR LR LR 03 54 54.5
comp=Z,44nm,18.8s,baz=349,slow=39
comp=Z,7.8nm,0.7s
BORA Eskisehir 87.08 347 P **P 03 11 30.1 +0.2**
ESDC Sonseca Array 87.39 13 P **P 03 11 31.4 0.0**
comp=Z,2.9nm,0.9s,baz=347,slow=4.6,SNR=13
comp=Z,2.9nm,0.9s
MARD Mardin 87.64 338 P **P 03 11 33.6 +0.9**
WB0 Warramunga Arr 87.79 233 P **P 03 11 32.3 -1.1**
WB0 IAmb IAmb 03 11 32.5
comp=Z,6.1nm,0.8s
WRA Warramunga Arr 87.96 233 P **P 03 11 32.9 -1.3**
comp=Z,9.1nm,0.9s,baz=34,slow=6.0,SNR=65
comp=Z,9.1nm,0.9s
BAUV El Baul 88.54 77 P **P 03 11 36.6 -0.6**
TULM Tulcn-Chalpat 89.03 90 P **P 03 11 40.2 +0.2**
CHSH Refugio Sur-Vo 90.09 92 P **P 03 11 44.4 -0.8**
CHSH IAmb IAmb 03 11 48.1
comp=Z,7.4nm,1.0s
AS31 Alice Springs 91.33 232 P **P 03 11 49.1 -0.8**
AS31 IAmb IAmb 03 12 03.7
comp=Z,3.1nm,0.7s
ASAR Alice Springs 91.33 232 P **P 03 11 49.1 -0.7**
comp=Z,10nm,0.7s,baz=32,slow=4.6,SNR=168
comp=Z,10nm,0.7s
MMAI Mount Meron Ar 92.93 341 LR LR 04 02 25.3
comp=Z,12nm,18.1s,baz=330,slow=41
STKA Stephens Creek 94.93 222 P **P 03 12 06.7 +0.4**
comp=Z,1.3nm,0.7s,baz=84,slow=14,SNR=3.0
comp=Z,1.3nm,0.7s
EIL Elat 96.26 341 LR LR 03 59 39.1
comp=Z,16nm,18.4s,baz=66,slow=38
TORD Torodi Ar. Bea 114.26 12 PKP **PKiKP 03 17 22.9 -1.1**
comp=Z,1.2nm,0.8s,baz=347,slow=2.7,SNR=6.3
TORD PKKPbc **PKKPbc 03 28 01.3 -0.6**
comp=Z,0.3nm,0.5s,baz=134,slow=2.5,SNR=2.6
DBIC Dimbokro 119.48 20 PKP **PKPdf 03 17 32.9 -1.3**
comp=Z,1.5nm,0.5s,baz=286,slow=1.3,SNR=4.5
PLCA Paso Flores 124.44 114 PKP **PKPdf 03 17 41.2 -1.6**
comp=Z,2.0nm,0.9s,baz=132,slow=3.3,SNR=3.1
KMBO Kilima Mbogo 125.21 330 PKP **PKiKP 03 17 46.5 +0.7**
comp=Z,3.3nm,1.0s,baz=28,slow=3.5,SNR=6.0
TSUM Tsumeb 146.92 352 PKPbc **PKPbc 03 18 26.2 -0.6**
BELA Belgrano 2 149.07 162 PKPbc **PKPdf 03 18 28.7 +2.0**
MAW Mawson 151.55 218 PKPbc **PKPbc 03 18 36.2 -0.7**
comp=Z,11nm,0.8s,baz=104,slow=3.3,SNR=12
ELIB Princess Elisa 159.59 189 *d*PKP **PKPab 03 19 18.1 -2.0**

NEIC 10 03:09:27.4±1.9, 37.72N±0.04×108.16W±0.05, h5km±2km, ML2.9/82, Error ellipse: s-maj=8.0km s-min=6.3km az=328.0, Colorado

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MVCO	**Mesa Verde**	**0.57**	**208**	Pg	Pn	03 09 41.2	-1.1
MVCO				Sg	Sb	03 09 48.7	+0.1
S22A	**4UR Ranch, Cre**	**1.06**	**88**	Pg	Pg	03 09 47.0	-0.7
S22A				Sg	Sg	03 09 59.2	-2.1
SMCO	**Snowmass**	**1.73**	**32**		Pb	03 09 59.4	-0.5
HMU	**Henry Mountain**	**2.06**	**277**	Pn	Pb	03 10 05.6	+0.2
SDCO	**Great Sand Dun**	**2.11**	**88**	Pn	Pb	03 10 05.5	-0.8
SRU	**San Rafael Swe**	**2.32**	**308**	Pn	Pb	03 10 08.6	-1.2
O20A	**White River Ci**	**2.42**	**359**		Pb	03 10 10.1	-1.4
O20A				IAML		03 10 42.3	
comp=N,84nm,0.9s							
Q24A	**Divide**	**2.68**	**61**		Pn	03 10 12.0	+0.6
TMUT	**Trail Mountain**	**2.87**	**304**	Pn	Pn	03 10 16.0	+2.0
ISCO	**Idaho Springs**	**2.88**	**43**		Pn	03 10 15.4	+1.2
T25A	**Trinidad**	**3.04**	**100**		Pn	03 10 18.2	+1.8
RDMU	**Red Mountain**	**3.06**	**339**	Pn	Pn	03 10 18.7	+2.2
RDMU				IAML		03 10 59.6	
comp=N,53nm,0.5s							
MTPU	**Mount Pierson**	**3.20**	**277**	Pn	Pn	03 10 21.3	+2.6
MTPU				IAML		03 11 10.5	
comp=N,23nm,0.4s							
MTPU				IAML		03 11 21.2	
comp=E,18nm,2.3s							
MSU	**Marysvale**	**3.27**	**285**	Pn	Pn	03 10 22.1	+2.6
MVU	**Marysvale**	**3.29**	**285**	Pn	Pn	03 10 21.5	+1.7
PKCU	**Pink Cliffs**	**3.31**	**267**	Pn	Pn	03 10 21.6	+1.5
BSUT	**Blindstream Ca**	**3.47**	**325**	Pn	Pn	03 10 22.2	-0.1
BSUT				IAML		03 11 14.3	
comp=N,30nm,0.6s							
BSUT				IAML		03 11 30.0	
comp=E,26nm,0.8s							
X18A	**Snowflake**	**3.49**	**205**	Pn	Pn	03 10 23.7	+1.2
X18A				IAML		03 11 24.8	
comp=E,13nm,0.8s							
X18A				IAML		03 11 26.0	
comp=N,17nm,1.0s							
TCRU	**Three Creeks R**	**3.50**	**286**	Pn	Pn	03 10 23.6	+1.0
TCRU				IAML		03 10 53.6	
comp=E,34nm,0.4s							
TCRU				IAML		03 11 32.2	
comp=N,27nm,1.2s							
U15A	**North Rim**	**3.54**	**250**	Pn	Pn	03 10 24.6	+1.2
U15A				IAML		03 11 30.8	
comp=E,20nm,1.3s							
U15A				IAML		03 11 31.3	
comp=N,22nm,0.8s							
MPU	**Maple Canyon**	**3.55**	**311**		Pn	03 10 25.6	+2.2
MPU				IAML		03 11 25.1	
comp=E,13nm,1.3s							
MPU				IAML		03 11 31.3	
comp=N,15nm,1.2s							
KNB	**Kanab**	**3.78**	**261**	Pn	Pn	03 10 28.6	+2.1
KNB				IAML		03 11 31.9	
comp=N,18nm,0.6s							
KNB				IAML		03 11 34.5	
comp=E,21nm,0.7s							
NLU	**North Lily Min**	**3.79**	**307**	Pn	Pn	03 10 27.0	+0.4
NLU				IAML		03 11 33.4	
comp=N,20nm,0.8s							
NLU				IAML		03 11 33.9	
comp=E,16nm,0.8s							
SZCU	**Shurtz Canyon**	**3.91**	**270**	Pn	Pn	03 10 31.2	+2.9
SZCU				IAML		03 11 37.1	
comp=N,27nm,0.5s							
SZCU				IAML		03 11 41.4	
comp=E,23nm,0.5s							
CTU	**Camp Tracy**	**4.08**	**318**	Pn	Pn	03 10 31.4	+0.9
CTU				IAML		03 11 40.5	
comp=E,20nm,1.0s							
CTU				IAML		03 11 45.5	
comp=N,14nm,1.2s							
LCMT	**Little Creek M**	**4.11**	**262**	Pn	Pn	03 10 32.1	+1.1
LCMT				IAML		03 11 40.4	
comp=E,13nm,0.6s							
LCMT				IAML		03 11 41.0	
comp=N,19nm,0.6s							
CCUT	**Cedar City**	**4.13**	**269**	Pn	Pn	03 10 32.1	+0.7
CCUT				IAML		03 11 44.7	
comp=N,10nm,1.9s							
CCUT				IAML		03 11 45.5	
comp=E,11nm,3.8s							
TCUT	**Toone Canyon**	**4.23**	**324**	Pn	Pn	03 10 33.5	+0.8
X16A	**Lo Mia Camp, P**	**4.23**	**220**	Pn	Pn	03 10 34.1	+1.5
X16A				IAML		03 11 48.7	
comp=N,16nm,0.9s							
X16A				IAML		03 11 50.7	
comp=E,14nm,0.7s							
DUG	**Dugway, Tooele**	**4.39**	**306**	Pn	Pn	03 10 36.4	+1.5
DUG				IAML		03 11 21.8	
comp=E,9.1nm,4.1s							
DUG				IAML		03 11 44.9	
comp=E,8.7nm,4.9s							
RTBA	**Rita Blanca**	**4.52**	**105**	Pn	Pn	03 10 37.0	+0.4
PSUT	**Pine Spring**	**4.56**	**282**	Pn	Pn	03 10 38.8	+1.5
PSUT				IAML		03 11 15.2	
comp=E,8.4nm,4.0s							
PSUT				IAML		03 11 56.3	
comp=N,5.7nm,4.9s							
HWUT	**Hardware Ranch**	**4.69**	**327**	Pn	Pn	03 10 40.4	+1.4
SPUT	**South Promonto**	**4.89**	**319**	Pn	Pn	03 10 41.8	+0.1
SPUT				IAML		03 12 14.3	
comp=E,18nm,4.5s							
SPUT				IAML		03 13 31.4	
comp=N,12nm,4.5s							
PD31	**Pinedale Array**	**5.16**	**348**	Pn	Pn	03 10 46.1	+0.7
HVU	**Hansel Valley**	**5.40**	**320**	Pn	Pn	03 10 48.2	-0.4
SHPR	**Sheep Range**	**5.72**	**260**	Pn	Pn	03 10 54.2	+1.0
R11B	**Troy Canyon, C**	**5.90**	**278**	Pn	Pn	03 10 57.6	+2.1
SNOW	**Snow King Moun**	**6.07**	**342**	Pn	Pn	03 11 00.5	+2.5
IMW	**Indian Meadow**	**6.52**	**342**	Pn	Pn	03 11 06.2	+1.9

IDC 10 03:11:32.4±5.0, 63.91S×174.43E, h0km, mb3.9/4, mbtmp4.0/5, ML4.7/1, MS3.7/12, Error ellipse: s-maj=191.0km s-min=24.4km az=68.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.23**	**191**	Pn	Pn	03 14 53.8	-1.0
2.9nm,0.3s,baz=29,slow=17,SNR=213							
VNDA				LR	LR	03 19 08.5	
comp=Z,226nm,19.0s,baz=16,slow=32							
7.3nm,0.3s							
RPZ	**Rata Peaks**	**20.32**	**353**	LR	LR	03 22 21.8	
comp=Z,132nm,20.9s,baz=173,slow=32							
URZ	**Urewera**	**25.73**	**5**	LR	LR	03 25 43.9	
comp=Z,74nm,20.7s,baz=206,slow=33							
QSPA	**South Pole Qui**	**26.18**	**180**	P	P	03 17 08.0	-0.3
7.1nm,1.0s,baz=28,slow=4.2,SNR=6.9							
QSPA				LR	LR	03 26 15.4	
comp=Z,123nm,18.2s,baz=52,slow=34							
7.1nm,1.0s							
MAW	**Mawson**	**39.99**	**214**	LR	LR	03 35 20.4	
comp=Z,141nm,18.7s,baz=188,slow=36							
SNAA	**Sanae**	**44.68**	**181**	P	P	03 19 46.7	+0.5
3.3nm,0.9s,baz=191,slow=9.3,SNR=5.1							
SNAA				LR	LR	03 37 34.6	
comp=Z,98nm,18.1s,baz=183,slow=35							
3.3nm,0.9s							
H01W1	**Cape Leeuwin H**	**46.29**	**279**	T	T	04 10 05.4	
baz=148,slow=76,SNR=24							
H01W2	**Cape Leeuwin H**	**46.30**	**279**	T	T	04 10 05.8	
baz=148,slow=76,SNR=18							
H01W3	**Cape Leeuwin H**	**46.31**	**279**	T	T	04 10 06.7	
baz=148,slow=76,SNR=15							
NWAO	**Narrogin (SRO)**	**46.63**	**283**	LR	LR	03 33 18.4	
comp=Z,21nm,20.4s,baz=244,slow=28							
CTA	**Charters Tower**	**47.73**	**323**	LR	LR	03 36 54.0	
comp=Z,60nm,19.9s,baz=84,slow=32							
ASAR	**Alice Springs**	**48.23**	**307**	P	P	03 20 14.9	+0.3
0.5nm,0.9s,baz=160,slow=8.5,SNR=3.1							
0.5nm,0.9s							
WRA	**Warramunga Arr**	**51.51**	**309**	P	P	03 20 39.1	-0.5
0.6nm,0.9s,baz=157,slow=6.6,SNR=4.7							
0.6nm,0.9s							
HNR	**Honiara**	**55.36**	**343**	LR	LR	03 40 23.3	
comp=Z,681nm,21.6s,baz=61,slow=31							
H03S2	**Juan Fernandez**	**66.94**	**120**	T	T	04 35 48.3	
baz=205,slow=74,SNR=4.0							
H03S1	**Juan Fernandez**	**66.94**	**120**	T	T	04 35 45.1	
baz=205,slow=74,SNR=3.3							
H03S3	**Juan Fernandez**	**66.96**	**120**	T	T	04 35 48.3	
baz=205,slow=74,SNR=5.2							
H03N3	**Juan Fernandez**	**67.28**	**120**	T	T	04 36 24.3	
baz=207,slow=80,SNR=3.1							
H03N2	**Juan Fernandez**	**67.29**	**120**	T	T	04 36 19.5	
baz=207,slow=80,SNR=5.1							
H03N1	**Juan Fernandez**	**67.30**	**120**	T	T	04 36 22.4	
baz=207,slow=80,SNR=2.7							
SUR	**Sutherland**	**81.79**	**202**	LR	LR	03 58 05.6	
comp=Z,49nm,19.1s,baz=182,slow=34							
BOSA	**Boshof**	**84.64**	**207**	LR	LR	04 00 33.7	
comp=Z,63nm,18.0s,baz=196,slow=35							
TSUM	**Tsumeb**	**95.22**	**202**	LR	LR	04 06 18.3	
comp=Z,73nm,19.1s,baz=162,slow=34							
H02S1	**DAWSON INLET TI**	**23.83**	**35**	T	T	05 46 26.9	
SNR=3.1							

*IDC **10** 03:26:14.8±13.0, 57.38S×26.38W, h138km±113km, mb3.5/3, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=118.0km s-min=31.0km az=102.0*

ISC 10 03:26:15.0±1.4, 57.4S±0.2×26.9W±0.4, h150km, n11, σ1.9 67/10, 5C, South Sandwich Islands region

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

VNA1	**Neumayer--Stat**	**15.47**	**156**	⇑P		**Pn**	**03 29 43.2 -1.5**
	comp=Z,0.7nm,0.2s						
VNA3	**Neumayer Olymp**	**15.65**	**159**	⇑P		**Pn**	**03 29 45.0 -2.0**
	comp=Z,0.5nm,0.2s						
VNA2	**Neumayer--Watz**	**15.87**	**156**	⇑P		**Pn**	**03 29 48.0 -1.6**
	comp=Z,0.5nm,0.2s,baz=322,slow=11						
SNAA	**Sanae**	**17.43**	**154**	⇑P		**Pn**	**03 30 09.2 +0.6**
	comp=Z,6.7nm,0.2s						
SNAA	**Sanae**	**17.43**	**154**	P		**P**	**03 30 07.3 -0.3**
	comp=Z,0.1nm,0.3s,baz=316,slow=15,SNR=9.9						
	comp=Z,0.9nm,0.6s						
TROLL	**Troll, Antarti**	**18.95**	**152**	⇑P		**Pn**	**03 30 29.3 +2.7**
	comp=Z,11nm,0.2s						
VNDA	**Vanda**	**45.21**	**183**	P		**P**	**03 34 17.6 +1.3**
	comp=Z,0.8nm,0.8s,baz=193,slow=8.4,SNR=2.2						
	comp=Z,0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**74.18**	**29**	P		**P**	**03 37 35.0 +0.1**
	comp=Z,0.8nm,0.5s,baz=201,slow=6.0,SNR=12						
	comp=Z,0.8nm,0.5s						
ASAR	**Alice Springs**	**97.63**	**162**	P		Pdif	03 39 32.7 +0.2
	comp=Z,0.1nm,0.6s,baz=191,slow=3.7,SNR=1.4						
	comp=Z,0.1nm,0.6s						
YKA	**Yellowknife Ar**	**137.29**	**317**	PKP		**PKiKP**	**03 45 19.8 -1.0**
	comp=Z,0.4nm,0.7s,baz=131,slow=2.0,SNR=9.0						
SONM	**Songino Array**	**150.63**	**89**	PKPbc		**PKiKP**	**03 45 48.6 -0.3**
	comp=Z,0.7nm,0.4s,baz=231,slow=3.8,SNR=6.0						

NEIC 10 03:42:01.8±1.1, 37°.81N±0°.01×108°.11W±0°.05, h5km±2km, ML3.1/100, Error ellipse: s-maj=7.4km s-min=3.0km az=287.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVCO	**Mesa Verde**	**0.67**	**208**	Pg	Pg	03 42 15.4	+0.7
MVCO				Sg	Sg	03 42 24.4	+0.9
S22A	**4UR Ranch, Cre**	**1.01**	**93**	Pg	Pg	03 42 20.9	-0.3
S22A				Sg	Sg	03 42 34.7	+0.3
SMCO	**Snowmass**	**1.63**	**33**	Pg	Pb	03 42 32.4	-0.2
SMCO					Sn	03 42 52.5	-0.6
SDCO	**Great Sand Dun**	**2.06**	**91**		Pb	03 42 39.7	-0.2
HMU	**Henry Mountain**	**2.09**	**274**		Pb	03 42 39.5	-0.8
SRU	**San Rafael Swe**	**2.30**	**305**		Pn	03 42 42.0	+1.5
O20A	**White River Ci**	**2.33**	**357**		Pb	03 42 43.1	-1.2
O20A				IAML		03 43 16.4	
	comp=E,103nm,0.4s						
O20A				IAML		03 43 18.8	
	comp=N,70nm,0.8s						
Q24A	**Divide**	**2.59**	**63**		Pn	03 42 46.4	+1.7
P17A	**Butcher Ranch,**	**2.65**	**310**		Pn	03 42 46.8	+1.5
Q16A	**Castle Valley**	**2.65**	**296**		Pn	03 42 47.0	+1.6
ISCO	**Idaho Springs**	**2.78**	**44**	Pn	Pn	03 42 48.7	+1.5
TMUT	**Trail Mountain**	**2.85**	**302**		Pn	03 42 49.9	+1.7
RDMU	**Red Mountain**	**2.98**	**338**		Pn	03 42 51.7	+1.7
RDMU				IAML		03 43 36.3	
	comp=N,44nm,0.8s						
W18A	**Petrified Fore**	**2.99**	**207**	Pn	Pn	03 42 50.6	+0.6
W18A				IAML		03 43 38.8	
	comp=N,81nm,0.6s						
W18A				IAML		03 43 41.3	
	comp=E,97nm,0.6s						
T25A	**Trinidad**	**3.01**	**102**		Pn	03 42 50.8	+0.4
ANMO	**Albuquerque**	**3.15**	**155**		Pn	03 42 53.6	+1.4
ANMO				IAML		03 43 40.8	
	comp=E,30nm,0.6s						
MTPU	**Mount Pierson**	**3.23**	**275**		Pn	03 42 54.4	+0.9
MTPU				IAML		03 43 47.5	
	comp=E,32nm,1.3s						
MTPU				IAML		03 43 47.8	
	comp=N,30nm,1.4s						
MSU	**Marysvale**	**3.29**	**284**		Pn	03 42 55.7	+1.6
MVU	**Marysvale**	**3.31**	**283**		Pn	03 42 56.0	+1.6
PKCU	**Pink Cliffs**	**3.36**	**265**		Pn	03 42 56.8	+1.6
BSUT	**Blindstream Ca**	**3.42**	**324**		Pn	03 42 56.8	+0.8
BSUT				IAML		03 43 49.4	
	comp=E,32nm,0.7s						
BSUT				IAML		03 43 58.4	
	comp=N,30nm,1.7s						
WUAZ	**Wupatki**	**3.48**	**230**		Pn	03 42 58.2	+1.5
TCRU	**Three Creeks R**	**3.51**	**284**		Pn	03 42 57.8	+0.5
TCRU				IAML		03 44 01.2	
	comp=E,42nm,1.3s						
TCRU				IAML		03 44 06.2	
	comp=N,37nm,1.1s						
MPU	**Maple Canyon**	**3.53**	**310**		Pn	03 42 58.6	+1.2
X18A	**Snowflake**	**3.60**	**205**	Pn	Pn	03 42 59.4	+1.1
X18A				IAML		03 44 00.4	
	comp=E,30nm,0.7s						
X18A				IAML		03 44 07.5	
	comp=N,30nm,0.9s						
U15A	**North Rim**	**3.62**	**249**	Pn	Pn	03 42 59.9	+1.2
U15A				IAML		03 44 02.3	
	comp=N,37nm,0.9s						
U15A				IAML		03 44 04.8	
	comp=E,32nm,0.7s						
NLU	**North Lily Min**	**3.77**	**306**		Pn	03 43 02.0	+1.3
NLU				IAML		03 44 07.5	
	comp=N,27nm,1.0s						
NLU				IAML		03 44 08.2	
	comp=E,19nm,1.4s						
KNB	**Kanab**	**3.84**	**260**	Pg	Pb	03 43 12.6	+2.6
KNB				IAML		03 44 05.7	
	comp=N,31nm,0.5s						
KNB				IAML		03 44 05.8	
	comp=E,32nm,1.3s						
SZCU	**Shurtz Canyon**	**3.96**	**268**	Pn	Pn	03 43 05.3	+2.0
SZCU				IAML		03 44 07.7	
	comp=E,34nm,0.3s						
SZCU				IAML		03 44 11.2	
	comp=N,41nm,0.5s						
CTU	**Camp Tracy**	**4.04**	**317**	Pn	Pn	03 43 06.1	+1.8
CTU				IAML		03 44 14.6	
	comp=N,19nm,1.3s						
CTU				IAML		03 44 14.7	
	comp=E,27nm,0.9s						
LCMT	**Little Creek M**	**4.17**	**261**		Pn	03 43 07.6	+1.5
LCMT				IAML		03 44 15.1	
	comp=E,27nm,0.4s						
LCMT				IAML		03 44 15.6	
	comp=N,30nm,0.7s						
CCUT	**Cedar City**	**4.18**	**268**	Pg	Pb	03 43 18.3	+2.4
CCUT				IAML		03 44 17.7	
	comp=N,14nm,2.2s						
CCUT				IAML		03 44 18.5	
	comp=E,13nm,1.2s						
TCUT	**Toone Canyon**	**4.18**	**323**		Pn	03 43 07.9	+1.5
X16A	**Lo Mia Camp, P**	**4.33**	**220**	Pn	Pn	03 43 10.2	+1.8
X16A					Pb	03 43 20.7	+2.3
X16A				IAML		03 44 22.8	
	comp=N,32nm,0.7s						
X16A				IAML		03 44 25.0	
	comp=E,30nm,0.5s						
DUG	**Dugway, Tooele**	**4.37**	**304**	Pn	Pn	03 43 10.5	+1.5
DUG				IAML		03 44 22.5	
	comp=E,13nm,4.3s						
DUG				IAML		03 44 37.5	
	comp=E,12nm,3.4s						
PSUT	**Pine Spring**	**4.59**	**281**	Pn	Pn	03 43 14.1	+2.1
PSUT				Pg	Pg	03 43 26.6	-3.1
PSUT				IAML		03 44 32.5	
	comp=E,9.4nm,3.6s						
HWUT	**Hardware Ranch**	**4.64**	**326**		Pn	03 43 14.3	+1.7
HWUT				Pg	Pg	03 43 27.2	-3.4
SPUT	**South Promonto**	**4.85**	**318**	Pn	Pn	03 43 17.1	+1.7
SPUT				IAML		03 44 31.3	
	comp=N,15nm,4.3s						
SPUT				IAML		03 44 52.7	
	comp=E,13nm,3.7s						
SPR3	**Spring Creek 3**	**5.03**	**286**	Pn	Pn	03 43 20.2	+2.1
SPR3				IAML		03 44 52.6	
	comp=E,7.0nm,4.5s						
SPR3				IAML		03 46 31.8	
	comp=N,7.1nm,4.7s						
BW06	**Boulder Array**	**5.08**	**348**		Pn	03 43 20.5	+1.8
BW06				IAML		03 44 54.9	
	comp=N,12nm,1.0s						
BW06				IAML		03 46 06.0	
	comp=N,10nm,4.4s						
PD31	**Pinedale Array**	**5.08**	**348**		Pn	03 43 20.4	+1.7
PDAR	**Pinedale Array**	**5.08**	**348**	Pn	Pn	03 43 20.8	+2.1
121A	**Cookes Peak, D**	**5.27**	**177**	Pn	Pn	03 43 22.1	+0.8
HVU	**Hansel Valley**	**5.35**	**319**	Pn	Pn	03 43 23.7	+1.2
HVU				IAML		03 44 54.5	
	comp=E,11nm,0.7s						
HVU				IAML		03 44 57.4	
	comp=N,12nm,4.4s						

Q12A	**Willow Creek R**	**5.42**	**285**		Pn	03 43 24.9	+1.6
SHPR	**Sheep Range**	**5.78**	**259**		Pn	03 43 29.6	+1.2
R11B	**Troy Canyon, C**	**5.93**	**278**		Pn	03 43 31.2	+0.9
REDW	**Red Top Meadow**	**5.93**	**340**	Pn	Pn	03 43 31.3	+0.9
TPAW	**Teton Pass**	**6.07**	**340**		Pn	03 43 31.8	-0.7
LOHW	**Long Hollow**	**6.10**	**343**	Pn	Pn	03 43 33.4	+0.6
IMW	**Indian Meadow**	**6.45**	**341**		Pn	03 43 39.2	+1.5

*PGC **10** 03:59:49.8±3.8, 58°.51N×137°.14W, h1km, ML2.8/14, 128km Wsw of Haines, Ak Southeastern Alaska*
*NEIC **10** 03:59:49.6±1.3, 58°.38N±0°.06×137°.07W±0°.08, h17km±7km, ML2.7/47, ML2.8(OTT), Error ellipse: s-maj=10.3km s-min=2.4km az=213.0*

ISC 10 03:59:46.2±1.2, 58°.31N±0°.05×137°.29W±0°.05, h10km, n52, σ1s75/68, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S31K	**Pelican**	**0.66**	**121**		**Pn**	**04 00 01.8**	**+0.3**
BESE	**Bessie Mountai**	**1.31**	**77**		**Pn**	**04 00 10.2**	**-0.4**
BESE					**Sb**	**04 00 26.8**	**-0.9**
BESE	**Bessie Mountai**	**1.31**	**77**	P	**Pn**	**04 00 10.2**	**-0.4**
BESE				S	**Sb**	**04 00 26.8**	**-0.9**
P29M	**Windy Craggy**	**1.35**	**350**		**Pn**	**04 00 09.2**	**-1.9**
P29M	**Windy Craggy**	**1.35**	**350**	P	**Pn**	**04 00 09.3**	**-1.9**
R32K	**Eaglecrest**	**1.46**	**90**	Pn	**Pb**	**04 00 13.3**	**-0.1**
R32K				IAML		04 00 37.3	
	comp=N,98nm,1.0s						
R32K				IAML		04 01 01.5	
	comp=E,120nm,1.3s						
JIS	**Juneau Island**	**1.53**	**90**		**Pg**	**04 00 15.9**	**+0.3**
JIS				IAML		04 00 43.1	
	comp=N,79nm,0.9s						
SKAG	**Skagway**	**1.54**	**40**	Pn	**Pb**	**04 00 14.5**	**-0.3**
SKAG				IAML		04 00 38.2	
	comp=E,77nm,0.7s						
SIT	**Sitka**	**1.64**	**139**	Pn	**Pg**	**04 00 17.4**	**-0.2**
S32K	**Killisnoo**	**1.67**	**119**	Pn	**Pn**	**04 00 16.2**	**+0.8**
P30M	**Million Dollar**	**1.83**	**5**	Pn	**Pn**	**04 00 18.5**	**+0.7**
P30M				Sg	**Sn**	**04 00 40.4**	**-0.6**
O29M	**Mount Kennedy**	**2.11**	**342**	Pn	**Pn**	**04 00 21.2**	**-0.4**
O29M				IAML		04 00 57.5	
	comp=N,54nm,0.8s						
O29M				IAML		04 00 58.6	
	comp=E,90nm,0.7s						
O29M	**Mount Kennedy**	**2.11**	**342**	Pn	**Pn**	**04 00 23.2**	**+1.5**
O29M				Sg	**Sn**	**04 00 49.4**	**+1.5**
P32M	**Atlin**	**2.25**	**54**	Pn	**Pn**	**04 00 24.8**	**+1.2**
P32M				IAML		04 00 56.4	
	comp=N,43nm,0.8s						
P32M				IAML		04 00 57.0	
	comp=E,34nm,0.7s						
P32M	**Atlin**	**2.25**	**54**	Pn	**Pn**	**04 00 25.1**	**+1.6**
P32M				Sg	**Sb**	**04 00 53.8**	**-1.2**
YUK7	**Dusty Glacier**	**2.27**	**349**	Pn	**Pb**	**04 00 26.0**	**-1.5**
YUK7	**Dusty Glacier**	**2.27**	**349**	Pn	**Pb**	**04 00 26.0**	**-1.5**
HYT	**Haines Junctio**	**2.53**	**358**	Pn	**Pn**	**04 00 27.3**	**-0.1**
HYT				IAML		04 01 06.7	
	comp=E,26nm,1.4s						
HYT				IAML		04 01 07.1	
	comp=N,30nm,0.9s						
HYT	**Haines Junctio**	**2.53**	**358**	Pn	**Pb**	**04 00 30.3**	**-1.4**
HYT				Sg	**Sb**	**04 01 01.3**	**-1.6**
O30N	**Mendenhall**	**2.55**	**13**	Pn	**Pn**	**04 00 28.5**	**+0.9**
O30N				IAML		04 01 10.0	
	comp=N,35nm,0.8s						
WHY	**Whitehorse**	**2.66**	**26**	Pn	**Pn**	**04 00 30.3**	**+1.1**
WHY				IAML		04 01 07.0	
	comp=E,45nm,0.7s						
WHY				IAML		04 01 10.2	
	comp=N,34nm,0.6s						
WHY	**Whitehorse**	**2.66**	**26**	Pg	**Pb**	**04 00 33.3**	**-0.7**
WHY				Sg	**Sb**	**04 01 06.1**	**-0.5**
Q32M	**Nakina River**	**2.70**	**74**	Pn	**Pn**	**04 00 29.9**	**0.0**
Q32M				IAML		04 01 15.8	
	comp=N,42nm,1.8s						
Q32M				IAML		04 01 19.4	
	comp=E,39nm,0.9s						
Q32M	**Nakina River**	**2.70**	**74**	Pg	**Pb**	**04 00 36.2**	**+1.5**
Q32M				Sg	**Sb**	**04 01 09.8**	**+1.8**
YUK5	**Granite Creek**	**2.85**	**354**	Pn	**Pb**	**04 00 34.9**	**-2.3**
YUK5	**Granite Creek**	**2.85**	**354**	Pn	**Pb**	**04 00 34.9**	**-2.3**
P33M	**Teslin, Yukon**	**2.99**	**48**	Pn	**Pn**	**04 00 35.3**	**+1.7**
P33M				IAML		04 01 18.3	
	comp=E,27nm,4.3s						
P33M	**Teslin, Yukon**	**2.99**	**48**	Pg	**Pb**	**04 00 40.3**	**+0.8**
P33M				Sg	**Sb**	**04 01 15.9**	**-0.1**
N30M	**Aishikik Lake**	**3.17**	**2**	Pn	**Pn**	**04 00 35.6**	**-0.5**
N30M				IAML		04 01 28.4	
	comp=E,15nm,1.4s						
N30M				IAML		04 01 51.5	
	comp=N,17nm,3.8s						
N30M	**Aishikik Lake**	**3.17**	**2**	Pg	**Pb**	**04 00 42.4**	**-0.1**
N30M				Sg	**Sb**	**04 01 22.3**	**+1.2**
N31M	**Braeburn, Yuko**	**3.28**	**13**	Pn	**Pn**	**04 00 35.7**	**-1.9**
N31M	**Braeburn, Yuko**	**3.28**	**13**	Pn	**Pn**	**04 00 36.3**	**-1.3**
N31M				Pg	**Pb**	**04 00 44.0**	**-0.4**
N31M				Sg	**Sb**	**04 01 25.2**	**+0.8**
S34M	**Telegraph Cree**	**3.29**	**94**	Pn	**Pn**	**04 00 38.8**	**+1.0**
S34M				IAML		04 02 11.2	
	comp=N,23nm,4.7s						
S34M				IAML		04 02 39.0	
	comp=E,23nm,4.3s						
R33M	**Jennings River**	**3.46**	**69**	Pn	**Pn**	**04 00 41.3**	**+1.1**
R33M				IAML		04 01 43.5	
	comp=N,23nm,0.7s						
R33M				IAML		04 02 25.3	
	comp=E,22nm,4.7s						
R33M	**Jennings River**	**3.46**	**69**	Pn	**Pn**	**04 00 42.5**	**+2.3**
R33M				Pg	**Pg**	**04 00 50.2**	**-2.2**
R33M				Sg	**Sb**	**04 01 32.2**	**+2.5**
N32M	**Quiet Lake**	**3.56**	**35**	Pn	**Pn**	**04 00 42.4**	**+0.9**
N32M	**Quiet Lake**	**3.56**	**35**	Pg	**Pb**	**04 00 50.9**	**+1.7**
N32M				Sg	**Sb**	**04 01 35.6**	**+3.2**
DLBC	**Dease Lake**	**3.83**	**85**	Pn	**Pn**	**04 00 45.4**	**+0.3**
DLBC				IAML		04 01 58.4	
	comp=N,22nm,3.3s						
DLBC	**Dease Lake**	**3.83**	**85**	Pg	**Pg**	**04 00 57.5**	**-1.9**
DLBC				Sg	**Sg**	**04 01 44.6**	**-4.3**
M31M	**Drury Creek, Y**	**4.17**	**19**	Pn	**Pn**	**04 00 50.8**	**+1.0**
M31M				IAML		04 02 19.6	
	comp=N,14nm,4.4s						
M29M	**Somme Creek**	**4.19**	**352**	Pn	**Pn**	**04 00 51.5**	**+1.3**
M29M				IAML		04 03 24.5	
	comp=E,14nm,4.4s						
M29M	**Somme Creek**	**4.19**	**352**	Pn	**Pn**	**04 00 53.0**	**+2.8**
M30M	**Minto, Yukon**	**4.29**	**3**	Sg	**Sb**	**04 01 57.0**	**+3.5**
FARO	**Faro, Yukon**	**4.40**	**25**	Pn	**Pn**	**04 00 52.5**	**-0.4**
FARO	**Faro, Yukon**	**4.40**	**25**	Pg	**Pb**	**04 01 05.8**	**+2.3**
L29M	**L29M**	**4.84**	**355**	Pn	**Pn**	**04 01 00.9**	**+1.8**
DAWY	**Dawson**	**5.87**	**351**	Pn	**Pn**	**04 01 15.4**	**+2.3**
DAWY	**Dawson**	**5.87**	**351**	Pn	**Pn**	**04 01 15.7**	**+2.5**
J30M	**Hart River**	**6.31**	**4**	Sg	**Sb**	**04 02 57.2**	**+5.7**
EGAK	**Eagle**	**6.75**	**346**	Pn	**Pn**	**04 01 26.6**	**+1.4**
I30M	**Mount Dempster**	**6.96**	**3**	Pn	**Pn**	**04 01 29.2**	**+1.1**
I28M	**Miner Creek**	**7.28**	**351**	Pn	**Pn**	**04 01 34.8**	**+2.3**

*IDC **10** 04:40:58.1±2.3, 2°.75S×101°.34E, h0km, mb3.9/7, mbtmp3.9/7, MS4.0/2, Error ellipse: s-maj=113.2km s-min=17.9km az=56.0*

ISC 10 04:41:03.8±2.1, 2°.6S±0°.4×101°.5E±0°.6, h35km, n9, σ1s13/8, mb4.0/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.38**	**121**	P	**P**	**04 48 04.1**	**-0.9**
	0.3nm,0.5s,baz=303,slow=9.2,SNR=11						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**37.67**	**126**	P	**P**	**04 48 16.6**	**+0.6**
	1.4nm,0.5s,baz=301,slow=8.1,SNR=27						
ASAR				PcP	**PcP**	**04 50 31.6**	**-1.5**
	0.1nm,0.5s,baz=310,slow=2.7,SNR=1.6						
	1.4nm,0.5s						
PMG	**Port Moresby**	**45.87**	**100**	LR	LR	05 11 45.1	
	comp=Z,273nm,19.1s,baz=358,slow=40						
STKA	**Stephens Creek**	**47.61**	**132**	P	**P**	**04 49 37.5**	**+0.9**
	0.6nm,0.5s,baz=302,slow=9.5,SNR=2.8						
	0.6nm,0.5s						
SONM	**Songino Array**	**50.45**	**4**	P	**P**	**04 49 58.7**	**+0.6**
	1.7nm,0.6s,baz=188,slow=9.7,SNR=9.1						
	1.7nm,0.6s						

MKAR	**Makanchi Array**	**52.06**	**343**	P		**P**	**04 50 10.9 +0.8**
	0.6nm,0.4s,baz=158,slow=9.0,SNR=11						
	0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**58.08**	**348**	P		**P**	**04 50 52.4 -1.0**
	0.9nm,0.5s,baz=148,slow=4.7,SNR=4.9						
	0.9nm,0.5s						
BVAR	**Borovoye Array**	**61.30**	**339**	P		**P**	**04 51 15.6 -0.1**
	0.4nm,0.3s,baz=151,slow=9.1,SNR=2.1						
	0.4nm,0.3s						
VNDA	**Vanda**	**81.25**	**169**	LR	LR	05 25 36.2	
	comp=Z,60nm,20.6s,baz=155,slow=33						

*IDC **10** 04:52:31.9±0.8, 41°.84N×88°.49E, h0km, mb3.7/12, mbtmp3.7/17, ML3.1/5, MS2.4/2, Error ellipse: s-maj=25.5km s-min=15.3km az=48.0*
*NNC **10** 04:52:38.1±3.5, 41°.93N×88°.09E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=26.1km s-min=21.8km az=107.0*

ISC 10 04:52:33.5±0.8, 41°.84N±0°.08×88°.41E±0°.07, h10km, n23, σ1s95/29, mb3.8/12, 8C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**6.62**	**321**	⇑Pn	**Pn**	**04 54 13.9**	**+3.1**
	6.9nm,0.3s,baz=135,slow=15,SNR=228						
MK31				⇑Sn	**Sn**	**04 55 29.1**	**+2.7**
	3.4nm,0.3s						
MK31				⇑Lg	Lg	04 56 04.4	
	11nm,0.6s,baz=131,slow=26,SNR=5.5						
MKAR	**Makanchi Array**	**6.62**	**321**	Pn	**Pn**	**04 54 13.3**	**+2.4**
	8.6nm,0.3s,baz=133,slow=13,SNR=206						
MKAR				Sn	**Sn**	**04 55 25.9**	**-0.4**
	2.5nm,0.3s,baz=130,slow=16,SNR=3.5						
MKAR				Lg	Lg	04 56 01.4	
	2.8nm,0.3s,baz=101,slow=12,SNR=1.7						
MKAR				LR	LR	04 56 27.1	
	comp=Z,19nm,18.7s,baz=84,slow=35						
PDGK	**Podgornoye**	**6.75**	**286**	⇑Pn	**Pn**	**04 54 15.7**	**+2.8**
	4.0nm,0.5s						
PDGK				⇓Sn	**Sn**	**04 55 31.1**	**+1.3**
	15nm,0.5s						
PDGK				⇓Lg	Lg	04 56 08.7	
	64nm,0.8s						
MAKZ	**Makanchi**	**6.78**	**319**	⇑Pn	**Pn**	**04 54 16.2**	**+3.1**
	6.2nm,0.3s						
MAKZ				⇑Sn	**Sn**	**04 55 29.9**	**-0.4**
	7.3nm,0.5s						
MAKZ				⇑Lg	Lg	04 56 11.3	
	23nm,0.8s						
TKM2	**Tokmak 2**	**9.55**	**281**	⇓Pn	**Pn**	**04 54 52.9**	**+1.7**
	5.4nm,0.5s						
TKM2				⇑Sn	**Sn**	**04 56 38.7**	**0.0**
	3.3nm,0.3s						
AAK	**Ala-Archa**	**10.36**	**279**	Pn	**Pn**	**04 55 02.8**	**+0.6**
	0.2nm,0.3s,baz=135,slow=16,SNR=2.0						
AAK				Sn	**Sn**	**04 56 54.0**	**-4.4**
	0.3nm,0.3s,baz=73,slow=21,SNR=1.3						
AAK				Lg	Lg	04 57 58.5	
	baz=354,slow=22,SNR=1.4						
AAK				LR	LR	04 58 26.1	
	comp=Z,24nm,18.9s,baz=104,slow=34						
	0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**11.13**	**325**	Pn	Pn	04 55 10.0	-2.6
	0.2nm,0.3s,baz=128,slow=14,SNR=2.1						
KURBB				Sn	**Sn**	**04 57 12.6**	**-4.3**
	0.2nm,0.3s,baz=212,slow=32,SNR=2.3						
KURBB				Lg	Lg	04 58 21.5	
	baz=160,slow=29,SNR=4.8						
	0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**12.35**	**350**	Pn	**Pn**	**04 55 29.1**	**-0.2**
	0.8nm,0.3s,baz=150,slow=12,SNR=9.1						
ZALV				Sn	Sn	04 57 37.5	-9.4
	0.1nm,0.3s,baz=330,slow=43,SNR=2.0						
	0.9nm,0.4s						
SONM	**Songino Array**	**14.08**	**59**	Pn	**Pn**	**04 55 53.1**	**0.0**
	0.1nm,0.3s,baz=249,slow=12,SNR=2.1						
SONM				Lg	Lg	04 59 51.9	
	0.1nm,0.3s,baz=233,slow=39,SNR=1.9						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**16.50**	**319**	Pn	**Pn**	**04 56 21.6**	**-3.3**
	baz=125,slow=12,SNR=3.9						
BVAR				Lg	Lg	05 01 10.8	
	baz=278,slow=40,SNR=1.5						
	0.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**24.98**	**156**	P	**P**	**04 57 57.7**	**+0.3**
	0.7nm,0.3s,baz=335,slow=9.3,SNR=1.2						
	0.7nm,0.3s						
BRTR	**Keskin Array B**	**40.94**	**286**	P	**P**	**05 00 17.6**	**+1.3**
	0.6nm,0.8s,baz=87,slow=8.8,SNR=2.6						
	0.6nm,0.8s						
FINES	**FINESS Array B**	**41.45**	**320**	P	**P**	**05 00 20.1**	**+0.1**
	6.4nm,1.1s,baz=74,slow=10,SNR=2.1						
	6.4nm,1.1s						
ARCES	**ARCESS Array B**	**42.12**	**332**	P	**P**	**05 00 24.9**	**-0.5**
	3.9nm,1.1s,baz=129,slow=0.8,SNR=5.2						
	3.9nm,1.1s						
HFS	**Hagfors**	**47.63**	**319**	P	**P**	**05 01 09.1**	**-0.4**
	0.9nm,0.6s,baz=90,slow=7.9,SNR=5.3						
	0.9nm,0.6s						
NB2	**NORSAR Subarra**	**48.62**	**321**	P	**P**	**05 01 17.0**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=76,slow=7.9						
NOA	**NORSAR Array B**	**48.62**	**321**	P	**P**	**05 01 16.7**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=77,slow=7.7,SNR=4.1						
	comp=Z,0.4nm,0.4s						
ILAR	**Eielson Array**	**65.28**	**23**	P	**P**	**05 03 15.1**	**0.0**
	comp=Z,0.3nm,0.6s,baz=315,slow=4.4,SNR=8.3						
	comp=Z,0.3nm,0.6s						
ESDC	**Sonseca Array**	**66.50**	**303**	P	**P**	**05 03 24.1**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=51,slow=6.9,SNR=5.6						
	comp=Z,0.3nm,0.6s						
YKA	**Yellowknife Ar**	**74.38**	**11**	P	**P**	**05 04 10.7**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=338,slow=5.8,SNR=6.5						
	comp=Z,0.4nm,0.8s						
WRA	**Warramunga Arr**	**74.71**	**136**	P	**P**	**05 04 13

comp=Z,56nm,0.2s
GUY2C **Guyana, Caldas** 2.72 234 eP Pn 05 10 33.2 +0.3
GUY2C eS Sn 05 11 08.6 +1.8
GUY2C i 05 11 12.8
comp=Z,64nm,0.3s
VILC **Villavicencio,** 2.75 191 eP Pn 05 10 32.4 -0.7
VILC eS Sn 05 11 06.7 -0.4
VILC i 05 11 09.4
comp=Z,125nm,0.5s
PTGC **Puerto Gaitan,** 2.80 159⇑iP Pn 05 10 31.8 -1.9
PTGC eS Sn 05 11 05.2 -2.8
PTGC i 05 11 07.1
comp=Z,82nm,0.3s
LL6C **La Loma 6 Bece** 2.89 358 eP Pn 05 10 33.8 -0.9
LL6C eS Sn 05 11 08.9 -1.2
LL6C i 05 11 14.6
comp=Z,46nm,0.4s
NIZA **Niza - Manizal** 2.90 233 eP Pn 05 10 38.1 +2.9
NIZA eS Sn 05 11 12.9 +2.3
CBOC **Ciudad Bolivar** 3.00 252 eP Pn 05 10 36.5 +0.2
CBOC eS Sn 05 11 11.2 -1.5
CBOC i 05 11 18.2
comp=Z,22nm,0.5s
DBBC **Dabeiba** 3.04 274 eP Pn 05 10 36.1 -0.6
DBBC eS Sn 05 11 11.9 -1.7
DBBC i 05 11 14.3
comp=Z,49nm,0.2s
ARGC **Ariguani, Magd** 3.20 340 eP Pn 05 10 38.8 +0.1
ARGC eS Sn 05 11 17.4 +0.3
ARGC i 05 11 28.8
comp=Z,26nm,0.3s
SDV **Santo Domingo** 3.23 50 eP Pn 05 10 38.2 -1.0
SDV eS Sn 05 11 16.2 -1.9
SDV i 05 11 18.2
comp=Z,23nm,0.3s
PRAC **Prado** 3.54 209 eP Pn 05 10 42.8 -0.4
PRAC eS Sn 05 11 24.3 -0.9
PRAC i 05 11 28.8
comp=Z,57nm,0.7s
APAC **Apartado, Choc** 3.56 288 eP Pn 05 10 42.5 -0.9
APAC eS Sn 05 11 23.1 -2.4
APAC i 05 11 29.4
comp=Z,38nm,0.4s
ORTC **Ortega, Tolima** 3.57 216 eP Pn 05 10 43.0 -0.5
ORTC eS Sn 05 11 25.3 -0.5
ORTC i 05 11 30.0
comp=Z,41nm,0.3s
SJCC **San Jacinto, C** 3.65 327⇓iP Pn 05 10 42.8 -1.8
SJCC eS Sn 05 11 23.9 -3.8
SJCC i 05 11 31.4
comp=Z,24nm,0.5s
PLMC **San Jos del P** 3.65 239 eP Pn 05 10 44.2 -0.4
PLMC eS Sn 05 11 28.2 +0.5
PLMC i 05 11 32.6
comp=Z,26nm,0.8s
LCBC **Los crdobas,** 3.77 303 eS Sn 05 11 30.2 -0.2
LCBC i 05 11 33.3
comp=Z,40nm,0.3s
CRJC **Cerrejon, Guaj** 4.17 4 eP Pn 05 10 48.6 -2.9
CRJC eS Sn 05 11 36.0 -4.0
CRJC i 05 11 43.7
comp=Z,45nm,0.4s
SMRC **Santa Marta, M** 4.44 346 eP Pn 05 10 54.1 -0.8
SMRC eS Sn 05 11 41.9 -4.2
SMRC i 05 11 45.0
comp=Z,18nm,0.2s
CAPC **Capurgana** 4.53 294 eP Pn 05 10 52.4 -3.7
CAPC eS Sn 05 11 41.0 -7.4
CAPC i 05 11 46.5
comp=Z,12nm,0.3s
URIC **Uribia, Colomb** 4.98 13 eP Pn 05 10 59.4 -2.6
URIC eS Sn 05 11 59.0 0.0
GARC **Garzon, Huila** 5.17 207 eP Pn 05 11 02.4 -2.4
GARC eS Sn 05 11 56.6 -7.2

WEL 10 05:10:17.7±0.8, 45°S±4′×16°8E±°, h89km±6km, M3.4/11, ML3.5/14, MLv3.4/11, Error ellipse: s-maj=0.0km s-min=0.0km az=119.9, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.35**	**46**	P	Pn	05 10 33.0	+1.7
MSZ				S	Sn	05 10 44.0	+2.5
TAFS	**Te Anau Fire S**	**0.51**	**168**	P	Pn	05 10 32.8	+0.3
TAFS				S	Sn	05 10 44.2	+0.8
MLZ	**Mavora Lakes**	**0.59**	**139**	P	Pn	05 10 34.4	+1.2
MLZ				S	Sn	05 10 46.4	+1.6
QTPS	**Queenstown Pol**	**0.78**	**99**	P	Pn	05 10 36.6	+1.6
QTPS				S	Sn	05 10 49.8	+1.9
MOSS	**Mossburn Schoo**	**0.88**	**148**	P	Pn	05 10 37.3	+1.2
MOSS				S	Sn	05 10 52.0	+2.2
WHZ	**Wether Hill Ro**	**1.01**	**165**	P	Pn	05 10 38.1	+0.7
WHZ				S	Sn	05 10 53.0	+0.7
WKZ	**Wanaka**	**1.03**	**85**	P	Pn	05 10 39.2	+1.5
WKZ				S	Sn	05 10 54.9	+2.1
WNPS	**Wanaka Nationa**	**1.14**	**79**	P	Pn	05 10 39.6	+0.6
WNPS				S	Sn	05 10 56.0	+1.0
JCZ	**Jackson Bay**	**1.21**	**46**	P	Pn	05 10 40.7	+0.7
JCZ				S	Sn	05 10 57.2	+0.5
EAZ	**Earnscleugh**	**1.27**	**105**	P	Pn	05 10 41.6	+1.0
EAZ				S	Sn	05 10 58.1	+0.4
MECS	**Makarora Emerg**	**1.37**	**60**	P	Pn	05 10 43.1	+1.3
PYZ	**Puysegur Point**	**1.40**	**206**	S	Sn	05 11 01.0	+0.5
GODC	**Gore District**	**1.53**	**141**	P	Pn	05 10 43.4	-0.2
TUZ	**Tuapeka**	**1.78**	**126**	P	Pn	05 10 47.7	+0.7
TUZ				S	Sn	05 11 08.3	-1.0
APZ	**The Paps**	**1.94**	**171**	P	Pn	05 10 49.3	+0.2
LBZ	**Lake Benmore**	**1.94**	**75**	P	Pn	05 10 48.9	-0.2
LBZ				S	Sn	05 11 12.2	-0.8
SYZ	**Scrubby Hill**	**1.96**	**146**	P	Pn	05 10 49.7	+0.5
FOZ	**Fox Glacier**	**2.13**	**50**	P	Pn	05 10 51.2	-0.3
ODZ	**Otahua Downs**	**2.19**	**94**	P	Pn	05 10 52.2	-0.1
HHSZ	**Highcliff Hill**	**2.34**	**115**	P	Pn	05 10 54.9	+0.6
TMZ	**Timaru**	**2.51**	**79**	P	Pn	05 10 55.8	-0.8
GCSZ	**Gaunt Creek Bo**	**2.55**	**52**	P	Pn	05 10 56.4	-0.8
ARCZ	**Arundel**	**2.76**	**71**	P	Pn	05 10 58.7	-1.3
RPZ	**Rata Peaks**	**2.77**	**65**	P	Pn	05 10 59.1	-1.0
WVZ	**Waitaha Valley**	**2.94**	**52**	P	Pn	05 11 01.3	-1.0
MHCZ	**Mount Hutt**	**3.19**	**66**	P	Pn	05 11 04.2	-1.6
WACZ	**Wakanui South**	**3.21**	**74**	P	Pn	05 11 06.6	+0.7
RACZ	**Rakaia**	**3.49**	**72**	P	Pn	05 11 10.1	+0.4
INZ	**Inchbonnie**	**3.56**	**53**	P	Pn	05 11 09.6	-1.1
OXZ	**Oxford**	**3.59**	**65**	P	Pn	05 11 09.1	-2.0
MQZ	**McQueen's Vall**	**3.84**	**73**	P	Pn	05 11 13.1	-1.5
AKCZ	**Akaroa Harbour**	**3.97**	**77**	P	Pn	05 11 15.4	-0.8
LTZ	**Lake Taylor**	**4.01**	**59**	P	Pn	05 11 15.0	-1.9
OKCZ	**Okains Bay**	**4.12**	**75**	P	Pn	05 11 18.2	-0.1
DSZ	**Denniston Nort**	**4.43**	**46**	P	Pn	05 11 21.2	-1.3
THZ	**Tophouse**	**5.01**	**53**	P	Pn	05 11 28.7	-1.7
TKNZ	**Takaka Hill**	**5.54**	**47**	P	Pn	05 11 36.8	-0.9

*NEIC **10** 05:27:28.5±0.6, 19°.22N±0°.02×155°.43W±0°.02, h39km±2km, Error ellipse: s-maj=4.1km s-min=2.1km az=131.0*

HVO 10 05:27:30.0±0.9, 19°.20N±0°.06×155°.40W±0°.04, h33km±7km, ML2.5/15, ML2.6/40(NEIC), Error ellipse: s-maj=10.6km s-min=2.5km az=150.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.04**	**7**		Pb	05 27 35.2	-0.4
HLP	**Hilina Pali**	**0.13**	**43**	Pg	Pb	05 27 35.5	-0.6
HLP				IAML		05 27 37.7	
	comp=E,566nm,3.8s						
HLP				IAML		05 27 39.9	
	comp=N,712nm,0.3s						
HPO	**Honuapo**	**0.18**	**232**		Pn	05 27 35.6	+0.3
KHU	**Kahuku**	**0.21**	**283**	Pg	Pn	05 27 35.9	-0.3
SDHHI	**Sand Hill**	**0.21**	**29**		Pn	05 27 36.0	-0.3
WRMHI	**West Rim**	**0.23**	**25**	Pg	Pn	05 27 36.2	-0.4
KKO	**Keanakako`i**	**0.23**	**33**		Pn	05 27 36.2	-0.6
UWE	**Uwekahuna**	**0.24**	**25**	Pg	Pn	05 27 36.5	-0.5
UWE				IAML		05 27 50.2	
	comp=E,833nm,0.8s						
UWE				IAML		05 27 50.3	
	comp=N,794nm,0.7s						
PUH	**Pauahi**	**0.25**	**46**	Pg	Pn	05 27 36.3	-0.7
BYL	**Byron's Ledge**	**0.25**	**33**	Pg	Pn	05 27 36.3	-0.8
BYL					Sn	05 27 41.0	+0.3
BYL				IAML		05 27 42.3	
	comp=N,708nm,1.0s						
BYL				IAML		05 27 42.5	
	comp=E,698nm,0.6s						
UWB	**Uwekahuna B**	**0.25**	**28**		Pn	05 27 36.1	-1.0
UWB					Sn	05 27 40.8	-0.4
HATHI	**Halema'uma'u T**	**0.26**	**31**		Pn	05 27 36.3	-0.9
SBLHI	**Steaming Bluff**	**0.26**	**29**	Pg	Pn	05 27 36.6	-0.6
SBLHI				IAML		05 27 39.8	
	comp=E,508nm,1.0s						
SBLHI					Sn	05 27 41.1	-0.3
SBLHI				IAML		05 27 47.6	
	comp=N,583nm,0.7s						
KNHH	**Kane Nui o Ham**	**0.28**	**51**		Pb	05 27 36.7	-1.0
MLH	**Mauna Loa**	**0.29**	**3**	Pg	Pb	05 27 37.0	-0.9
MLH				IAML		05 27 42.3	
	comp=E,729nm,0.2s						
MLH				IAML		05 27 44.1	
	comp=N,574nm,0.1s						
STCH	**Steam Cracks**	**0.32**	**55**	Pg	Pb	05 27 37.0	-1.1
STCH					Sn	05 27 37.2	-6.3
JCUZ	**Jacuzzi**	**0.34**	**57**	Pg	Pb	05 27 37.3	-1.0
JCUZ				IAML		05 27 43.1	
	comp=E,385nm,0.8s						
MWH	**Moku'aweowe**	**0.34**	**327**	Pg	Pb	05 27 37.5	-1.3
MWH				IAML		05 27 43.3	
	comp=E,594nm,0.6s						
MLOA	**Mauna Loa Obse**	**0.37**	**334**	Pg	Pb	05 27 37.8	-1.3
MLOA				IAML		05 27 43.6	
	comp=N,635nm,0.3s						
HMH	**Humu'ula Sheep**	**0.41**	**349**		Pb	05 27 38.5	-1.0
HMH				IAML		05 27 44.9	
	comp=E,452nm,0.1s						
ALEP	**Alea Permanent**	**0.41**	**326**		Pb	05 27 37.9	-1.6
ALEP					Pn	05 27 44.0	+4.0
JOKA	**Jonika Flow**	**0.44**	**58**		Pb	05 27 38.3	-1.4
JOKA					Pn	05 27 44.5	+4.4
CPH	**Captain Cook**	**0.56**	**301**		Pb	05 27 39.5	-2.1
POHA	**Pohakuloa**	**0.57**	**348**		Pb	05 27 40.0	-1.9
POHA				IAML		05 27 48.3	
	comp=E,312nm,0.1s						
POHA				IAML		05 27 53.3	
	comp=E,272nm,0.4s						
KHLU	**Kahalu`u**	**0.60**	**310**		Pn	05 27 40.3	-2.0
KHLU				IAML		05 27 46.8	
	comp=E,223nm,3.5s						
KHLU					Sb	05 27 48.2	-2.7
KHLU				IAML		05 27 48.3	
	comp=N,280nm,0.1s						
HPAH	**Hawaii Prepara**	**0.87**	**341**		Pn	05 27 43.8	-2.2
HPAH				IAML		05 27 54.1	
	comp=N,209nm,0.1s						
HPAH				IAML		05 27 54.4	
	comp=E,227nm,0.1s						
MHA	**Mahukona**	**1.09**	**334**	Pn	Pn	05 27 46.9	-2.0
HLK	**Haleakala**	**1.74**	**333**	Pn	Pn	05 27 55.7	-2.5
KHLH	**Kahului Airpor**	**1.94**	**330**	Pn	Pn	05 27 59.3	-1.4

*IDC **10** 05:33:07.5±0.7, 6°.74N×72°.95W, h151km±9km, mb3.5/7, mbtmp4.1/11, Error ellipse: s-maj=21.9km s-min=7.6km az=133.0*

*VAO **10** 05:33:09.1±0.4, 6°.64N×72°.97W, h134km, mb4.1*

*NEIC **10** 05:33:09.1±1.7, 6°.77N±0°.08×73°.01W±0°.08, h151km±11km, mb4.3/36, Error ellipse: s-maj=13.4km s-min=7.9km az=136.0*

*RSNC **10** 05:33:09.2±1.6, 6°.86N×73°.15W, h145km±6km, ML3.9, Mw4.2*

ISC 10 05:33:07.9±0.6, 6°.87N±0°.03×73°.10W±0°.04, h150km±6km, n145, σ1$84/205, mb4.3/24, 9C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.29**	**197**	⇓iP	Pn	**05 33 29.1**	**+0.3**
BARC				eS	Sn	**05 33 43.8**	**-0.8**
BARC				i		05 33 44.7	
	comp=Z,3μm,0.3s						
PAMC	**Pamplona, Colo**	**0.61**	**40**	⇑iP	Pn	**05 33 31.9**	**+1.4**
PAMC				eS	Sn	**05 33 48.5**	**+0.9**
PAMC				i		05 33 50.9	
	comp=Z,4μm,0.4s						
TAMC	**Tame, Arauca**	**1.37**	**108**	⇓iP	Pn	**05 33 37.5**	**+1.3**
TAMC				eS	Sn	**05 33 58.7**	**+1.0**
TAMC				i		05 34 00.1	
	comp=Z,504nm,0.3s						
OCAC	**Ocana**	**1.38**	**351**	⇑iP	Pn	**05 33 37.3**	**+0.9**
OCAC				eS	Sn	**05 33 58.9**	**+0.7**
PTBC	**PUERTO BERRIO,**	**1.39**	**256**	eP	Pn	**05 33 36.2**	**-0.2**
PTBC				eS	Sn	**05 33 56.7**	**-1.4**
PTBC				i		05 33 59.8	
	comp=Z,938nm,0.2s						
SPBC	**San Pablo de B**	**1.55**	**219**	⇑iP	Pn	**05 33 38.0**	**-0.1**
SPBC				eS	Sn	**05 33 60.0**	**-1.3**
SPBC				i		05 34 06.0	
	comp=Z,1μm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	eP	Pn	**05 33 41.7**	**+0.3**
ZARC				eS	Sn	**05 34 07.8**	**+0.8**
ZARC				i		05 34 13.8	
	comp=Z,1μm,0.3s						
CHIC	**Chingaza**	**2.31**	**196**	eP	Pn	**05 33 47.5**	**+0.2**
CHIC				eS	Sn	**05 34 16.4**	**-1.1**
CHIC				i		05 34 20.2	
	comp=Z,420nm,0.5s						
ROSC	**El Rosal**	**2.36**	**211**		Pn	**05 33 49.1**	**+1.4**
ROSC				Sn	Sn	**05 34 17.5**	**-0.8**
ROSC	**El Rosal**	**2.36**	**211**	⇑iP	Pn	**05 33 49.1**	**+1.4**
ROSC				eS	Sn	**05 34 18.5**	**+0.2**
ROSC				i		05 34 23.0	
	comp=Z,737nm,0.4s						
ROSC	**El Rosal**	**2.36**	**211**	P	Pn	**05 33 48.9**	**+1.2**
	comp=Z,348nm,0.3s,baz=89,slow=8.7,SNR=219						
ROSC				S	Sn	**05 34 16.9**	**-1.3**
	comp=Z,476nm,0.4s,baz=111,slow=18,SNR=5.1						
CVER	**Cruz Verde, Cu**	**2.53**	**203**	⇑iP	Pn	**05 33 50.7**	**+0.8**
CVER				eS	Sn	**05 34 21.9**	**-0.3**
CVER				i		05 34 30.5	
	comp=Z,475nm,0.4s						
MEDEC	**Medellin, Ant**	**2.55**	**257**	eP	Pn	**05 33 51.6**	**+1.8**
MEDEC				eS	Sn	**05 34 21.0**	**-1.0**
UREC	**San Jos de Ur**	**2.57**	**290**	⇑iP	Pn	**05 33 49.3**	**-0.6**
UREC				eS	Sn	**05 34 20.8**	**-1.6**
UREC				i		05 34 22.7	
	comp=Z,749nm,0.4s						
GUY2C	**Guyana, Caldas**	**2.79**	**234**	eP	Pn	**05 33 53.7**	**+0.6**
GUY2C				eS	Sn	**05 34 27.1**	**-0.8**
GUY2C				i		05 34 38.7	
	comp=Z,416nm,0.6s						
VILC	**Villavicencio,**	**2.80**	**192**	eP	Pn	**05 33 52.9**	**-0.1**
VILC				eS	Sn	**05 34 26.9**	**-0.9**
VILC				i		05 34 36.5	
	comp=Z,556nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.82**	**160**	⇓iP	Pn	**05 33 52.3**	**-0.8**
PTGC				eS	Sn	**05 34 25.5**	**-2.5**
PTGC				i		05 34 28.3	
	comp=Z,694nm,0.4s						
LL6C	**La Loma 6 Bece**	**2.85**	**357**	⇑iP	Pn	**05 33 53.8**	**+0.3**
LL6C				eS	Sn	**05 34 28.8**	**+0.1**
LL6C				i		05 34 36.4	
	comp=Z,148nm,0.3s						
LL5C	**La Loma 5 El P**	**2.93**	**348**	eP	Pn	**05 33 55.7**	**+1.3**
LL5C				eS	Sn	**05 34 34.0**	**+3.6**
LL5C				i		05 34 36.9	
	comp=Z,319nm,0.4s						
RECRC	**Villamaria, Ca**	**2.94**	**230**	eP	Pn	**05 33 57.8**	**+2.7**
RECRC				eS	Sn	**05 34 32.7**	**+1.3**
NIZA	**Niza - Manizal**	**2.97**	**233**	eP	Pn	**05 33 58.1**	**+2.9**
NIZA				eS	Sn	**05 34 31.1**	**-0.6**
CBOC	**Ciudad Bolivar**	**3.07**	**251**	eP	Pn	**05 33 57.2**	**+0.9**
CBOC				eS	Sn	**05 34 33.4**	**-0.3**
CBOC				i		05 34 37.2	
	comp=Z,194nm,0.5s						
DBBC	**Dabeiba**	**3.10**	**273**	eP	Pn	**05 33 57.1**	**+0.5**
DBBC				eS	Sn	**05 34 33.2**	**-1.0**
DBBC				i		05 34 36.4	
	comp=Z,269nm,0.2s						
SDV	**Santo Domingo**	**3.16**	**50**	⇑iP	Pn	**05 33 58.6**	**+1.2**
SDV				eS	Sn	**05 34 35.5**	**-0.3**
SDV				i		05 34 38.3	
	comp=Z,236nm,0.3s						
SDV	**Santo Domingo**	**3.16**	**50**	eP	Pn	**05 33 58.4**	**+0.9**
SDV	**Santo Domingo**	**3.16**	**50**	P	Pn	**05 33 58.7**	**+1.2**
	comp=Z,294nm,0.3s,baz=133,slow=2.9,SNR=332						
SDV				S	Sn	**05 34 34.9**	**-0.9**
	comp=Z,301nm,0.4s,baz=112,slow=22,SNR=18						
ARGC	**Ariguani, Magd**	**3.18**	**339**	eP	Pn	**05 33 59.4**	**+1.7**
ARGC				eS	Sn	**05 34 39.0**	**+2.9**
ARGC				i		05 34 48.4	
	comp=Z,144nm,0.3s						
ANIL	**Santa Ana**	**3.29**	**224**	eP	Pn	**05 34 00.1**	**+0.7**
ANIL				eS	Sn	**05 34 40.4**	**+1.3**
ARMEC	**Armenia, Quind**	**3.43**	**228**	eP	Pn	**05 34 03.1**	**+2.0**
ARMEC				eS	Sn	**05 34 46.2**	**+4.0**
APAC	**Apartado, Choc**	**3.60**	**287**	⇓iP	Pn	**05 34 03.5**	**+0.5**
APAC				eS	Sn	**05 34 44.2**	**-1.6**
APAC				i		05 34 50.2	
	comp=Z,198nm,0.4s						
PRAC	**Prado**	**3.61**	**210**	eP	Pn	**05 34 03.1**	**-0.1**
PRAC				eS	Sn	**05 34 45.4**	**-0.6**
PRAC				i		05 34 50.5	
	comp=Z,424nm,0.6s						
ORTC	**Ortega, Tolima**	**3.64**	**216**	eP	Pn	**05 34 03.7**	**+0.1**
ORTC				eS	Sn	**05 34 46.7**	**0.0**
ORTC				i		05 34 53.9	
	comp=Z,286nm,0.5s						
SJCC	**San Jacinto, C**	**3.65**	**326**	eP	Pn	**05 34 03.3**	**-0.4**
SJCC				eS	Sn	**05 34 44.9**	**-2.0**
SJCC				i		05 34 48.6	
	comp=Z,569nm,0.5s						
PLMC	**San Jos del P**	**3.72**	**239**	eP	Pn	**05 34 05.3**	**+0.6**
PLMC				eS	Sn	**05 34 46.6**	**-2.1**
PLMC				i		05 34 54.0	
	comp=Z,226nm,0.3s						
LCBC	**Los crdobas,**	**3.80**	**302**	eP	Pn	**05 34 05.0**	**-0.6**
LCBC				eS	Sn	**05 34 50.0**	**-0.3**
LCBC				i		05 34 54.1	
	comp=Z,182nm,0.2s						
CRJC	**Cerrejon, Guaj**	**4.13**	**3**	⇑iP	Pn	**05 34 09.5**	**-0.5**
CRJC				eS	Sn	**05 34 56.7**	**-1.5**
CRJC				i		05 35 06.4	
	comp=Z,176nm,0.5s						
YOTC	**Yotoco, Valle**	**4.32**	**229**	eP	Pn	**05 34 12.3**	**-0.2**
YOTC				eS	Sn	**05 35 03.1**	**+0.3**
YOTC				i		05 35 09.6	
	comp=Z,46nm,0.4s						
SOLC	**Bahia Solano**	**4.33**	**262**	eP	Pn	**05 34 12.4**	**-0.1**
SOLC				eS	Sn	**05 34 59.1**	**-3.7**
SMRC	**Santa Marta, M**	**4.41**	**345**	eP	Pn	**05 34 13.8**	**+0.2**
SMRC				eS	Sn	**05 35 02.7**	**-2.0**
SMRC				i		05 35 08.1	
	comp=Z,98nm,0.3s						
CAPC	**Capurgana**	**4.57**	**293**	eP	Pn	**05 34 14.1**	**-1.6**
CAPC				eS	Sn	**05 35 02.5**	**-5.9**
CAPC				i		05 35 09.3	
	comp=Z,80nm,0.1s						
PIZC	**Pizarro, Choco**	**4.64**	**246**	eP	Pn	**05 34 18.5**	**+1.8**
PIZC				eS	Sn	**05 35 10.6**	**+0.4**
PTAC	**Punta Ardita,**	**4.69**	**274**	eP	Pn	**05 34 17.2**	**0.0**
PTAC				eS	Sn	**05 35 07.7**	**-3.5**
PTAC				i		05 35 18.2	
	comp=Z,43nm,0.2s						
BETC	**Betania**	**4.77**	**209**	eP	Pn	**05 34 17.9**	**-0.6**
BETC				eS	Sn	**05 35 10.8**	**-2.6**
BETC				i		05 35 17.4	
	comp=Z,74nm,0.5s						
URIC	**Uribia, Colomb**	**4.92**	**13**	eP	Pn	**05 34 19.6**	**-0.8**
URIC				eS	Sn	**05 35 14.5**	**-2.4**
URIC				i		05 35 17.9	
	comp=Z,45nm,0.5s						
MALC	**Bahia Malaga**	**5.09**	**236**	eP	Pn	**05 34 24.0**	**+1.4**
MALC				eS	Sn	**05 35 17.5**	**-3.2**
MALC				i		05 35 29.4	
	comp=Z,41nm,0.5s						
JAMC	**Jamundi, Valle**	**5.09**	**225**	eP	Pn	**05 34 22.5**	**-0.3**
JAMC				eS	Sn	**05 35 18.6**	**-2.5**
JAMC				i		05 35 25.5	
	comp=Z,31nm,0.3s						
UPD2	**Meteti**	**5.15**	**289**	eP	Pn	**05 34 22.6**	**-0.9**
UPD2				eS	Sn	**05 35 15.6**	**-6.7**
UPD2				i		05 35 24.9	
	comp=Z,100nm,0.5s						
GARC	**Garzon, Huila**	**5.23**	**207**	eP	Pn	**05 34 23.6**	**-1.1**
GARC				eS	Sn	**05 35 18.3**	**-6.3**
GARC				i		05 35 24.3	
	comp=Z,100nm,0.2s						
BAUV	**El Baul**	**5.41**	**67**	Pn	Pn	**05 34 25.4**	**-1.5**
POPC	**Popayan, Colom**	**5.59**	**220**	⇓iP	Pn	**05 34 29.4**	**0.0**
POPC				eS	Sn	**05 35 30.8**	**-2.3**
POPC				i		05 35 38.2	
	comp=Z,24nm,0.6s						
FLOC	**Florencia**	**5.84**	**206**	eP	Pn	**05 34 32.0**	**-0.6**
FLOC				eS	Sn	**05 35 34.9**	**-3.9**
FLOC				i		05 35 43.5	
	comp=Z,33nm,0.8s						
BBAC	**Balboa, Cauca**	**6.35**	**221**	eP	Pn	**05 34 40.4**	**+0.8**
BBAC				eS	Sn	**05 35 47.5**	**-3.7**
BBAC				i		05 35 54.8	
	comp=Z,23nm,0.3s						
CRUC	**La Cruz**	**6.52**	**216**	eP	Pn	**05 34 44.0**	**+2.0**
CRUC				eS	Sn	**05 35 53.4**	**-2.1**
PTLC	**Puerto Leguiza**	**6.87**	**194**	eP	Pn	**05 34 49.8**	**+3.5**
PTLC				eS	Sn	05 36 28.2	+25
GCUF	**Volcan Galeras**	**7.03**	**217**	eP	Pn	**05 34 49.8**	**+0.9**
GCUF				eS	Sn	**05 36 05.6**	**-2.3**
GCUF				i		05 36 13.8	
	comp=Z,20nm,0.4s						
BCIP	**Isla Barro Col**	**7.05**	**289**	Pn	Pn	**05 34 47.5**	**-1.3**
BCIP	**Isla Barro Col**	**7.05**	**289**	eP	Pn	**05 34 47.0**	**-1.8**
BCIP				eS	Sn	**05 36 04.9**	**-3.0**
AZU	**Azuero**	**7.18**	**278**	eP	Pn	**05 34 49.9**	**-0.5**
AZU				eS	Sn	**05 36 05.1**	**-5.7**
AZU				i		05 36 11.4	
	comp=Z,14nm,0.6s						
TULM	**Tulcn-Chalpat**	**7.70**	**218**		Pn	**05 34 58.0**	**+0.1**
TULM	**Tulcn-Chalpat**	**7.70**	**218**	eP	Pn	**05 34 58.7**	**+0.9**
TULM				eS	Sn	**05 36 21.9**	**-2.1**
BONI	**La Bonita**	**7.76**	**215**	eP	Pn	**05 34 59.3**	**+0.8**
IMBA	**Imbabura, San**	**8.29**	**218**		Pn	**05 35 04.9**	**-0.9**
CUSE	**Cuicocha Este**	**8.40**	**219**	eP	Pn	**05 36 08.8**	**-0.3**
CUSE				eS	Sn	**05 36 38.1**	**-2.8**
CUSE				i		05 36 48.3	
	comp=Z,13nm,0.3s						
OTAV	**Otavalo**	**8.48**	**219**	Pn	Pn	**05 35 05.7**	**-2.6**
OTAV	**Otavalo**	**8.48**	**219**	eP	Pn	**05 35 07.1**	**-1.2**
OTAV				eS	Sn	**05 36 41.8**	**-1.1**
OTAV	**Otavalo**	**8.48**	**219**	eP	Pn	**05 35 06.9**	**-1.4**
PAC1	**Pacto, Paraso**	**8.68**	**221**	eP	Pn	**05 35 08.2**	**-2.4**
PAC1				eS	Sn	05 36 36.9	-10
PULU	**Pululahua**	**8.68**	**219**		Pn	**05 35 09.8**	**-1.1**
PCRV	**Puerto La Cruz**	**8.99**	**68**	P	Pn	**05 35 13.6**	**-1.0**
	comp=Z,7.5nm,0.5s,baz=287,slow=2.0,SNR=20						
PCRV				S	Sn	**05 36 51.7**	**-2.8**
	comp=Z,7.2nm,0.5s,baz=169,slow=20,SNR=1.7						
SGCB	**SEo Gabriel d**	**9.21**	**139**	eP	Pn	**05 35 14.6**	**-3.0**
SLOR	**San Lorenzo -**	**9.28**	**216**		Pn	**05 35 19.1**	**+0.2**
COHC	**Cochancay**	**11.13**	**214**		Pn	**05 35 41.7**	**-1.2**
BOSC	**San Juan Bosco**	**11.32**	**209**		Pn	**05 35 47.0**	**+1.4**
TBTG	**Tabatinga, AM**	**11.44**	**164**	eP	Pn	**05 35 45.8**	**-1.2**
SDD	**Santo Domingo**	**11.93**	**15**	Pn	Pn	**05 35 53.9**	**+0.5**
MTDJ	**Mount Denham**	**12.09**	**339**	Pn	Pn	**05 35 59.0**	**+3.4**
MTDJ	**Mount Denham**	**12.09**	**339**	eP	Pn	**05 35 58.9**	**+3.4**
MTD

LPAZ	**La Paz**	**23.53**	**168**	P	**P**	**05 38 04.8**	**-0.6**
PDRB	**Porto dos Gac**	**24.54**	**138**	*e*P	**P**	**05 38 13.3**	**-0.7**
GO01	**Chusmiza**	**26.65**	**172**	P	**P**	**05 38 32.1**	**-1.3**
GO01				IAmb	IAmb	05 38 47.2	
	comp=Z,12nm,1.5s						
PB01	**IPOC Station P**	**27.96**	**173**	P	**P**	**05 38 44.1**	**-0.6**
Y49A	**Blount Mountai**	**29.55**	**337**	P	**P**	**05 39 00.5**	**+1.9**
Z47A	**Carrollton**	**29.66**	**334**	P	**P**	**05 39 02.0**	**+2.5**
FPAL	**Fort Paine**	**29.86**	**339**	P	**P**	**05 39 03.0**	**+1.6**
FPAL				IAmb	IAmb	05 39 04.2	
	comp=Z,16nm,1.4s						
X48A	**Hartselle**	**30.32**	**337**	P	**P**	**05 39 07.8**	**+2.4**
X48A				IAmb	IAmb	05 39 08.0	
	comp=Z,4.2nm,0.8s						
W50A	**Signal Mountai**	**30.35**	**340**	P	**P**	**05 39 08.3**	**+2.6**
W50A				IAmb	IAmb	05 39 31.0	
	comp=Z,14nm,1.5s						
V52A	**Sevierville**	**30.40**	**343**	P	**P**	**05 39 08.2**	**+2.2**
Y45A	**Yeager Farm, C**	**30.88**	**333**	P	**P**	**05 39 13.1**	**+2.9**
V48A	**Smith Brothers**	**31.37**	**338**	P	**P**	**05 39 17.0**	**+2.4**
CLTN	**Cedars of Leba**	**31.51**	**339**	P	**P**	**05 39 18.0**	**+2.3**
HBVL	**Hebbronville**	**31.52**	**313**	P	**P**	**05 39 17.6**	**+1.6**
HBVL				IAmb	IAmb	05 39 19.6	
	comp=Z,18nm,1.3s						
AQDB	**Aquidauana**	**32.11**	**148**	*e*P	**P**	**05 39 20.3**	**-0.8**
T47A	**Sharon Grove**	**32.59**	**339**	P	**P**	**05 39 27.1**	**+1.9**
T47A				IAmb	IAmb	05 39 27.4	
	comp=Z,5.4nm,0.6s						
WHAR	**Wooly Hollow**	**33.34**	**331**	P	**P**	**05 39 32.9**	**+1.1**
WHAR				IAmb	IAmb	05 40 00.1	
	comp=Z,8.8nm,1.3s						
LCAR	**Lake Charles**	**33.44**	**333**	P	**P**	**05 39 34.4**	**+1.8**
LCAR				IAmb	IAmb	05 39 42.7	
	comp=Z,5.2nm,1.2s						
FCAR	**Ozark Folk Cen**	**33.74**	**332**	P	**P**	**05 39 36.1**	**+0.9**
FCAR				IAmb	IAmb	05 39 37.0	
	comp=Z,5.5nm,0.9s						
AMBA	**Amambai (Brazi**	**34.51**	**150**	*e*P	**P**	**05 39 43.0**	**+1.1**
PLPT	**Palo Pinto**	**34.86**	**321**	P	**P**	**05 39 46.3**	**+1.4**
PLPT				IAmb	IAmb	05 39 46.8	
	comp=Z,4.6nm,0.8s						
HHAR	**Hobbs**	**34.94**	**330**	P	**P**	**05 39 46.4**	**+0.8**
Q44A	**Meyer Farm, Va**	**34.98**	**338**	P	**P**	**05 39 47.7**	**+1.8**
Q44A				IAmb	IAmb	05 40 13.0	
	comp=Z,8.5nm,1.0s						
CCM	**Cathedral Cave**	**35.14**	**335**	P	**P**	**05 39 48.6**	**+1.4**
RLO	**Rose Lookout**	**35.40**	**329**	P	**P**	**05 39 50.4**	**+0.9**
RLO				IAmb	IAmb	05 39 50.6	
	comp=Z,6.6nm,0.7s						
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**05 39 59.8**	**+1.1**
	comp=Z,0.9nm,0.4s,baz=124,slow=8.9,SNR=28						
TXAR				PcP	**PcP**	**05 42 20.9**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=132,slow=6.2,SNR=2.8						
	comp=Z,0.9nm,0.4s						
TX31	**Lajitas Ar. Si**	**36.45**	**312**	P	**P**	**05 39 60.0**	**+1.3**
TX31				IAmb	IAmb	05 40 00.1	
	comp=Z,3.3nm,0.7s						
POST	**Post**	**37.07**	**318**	P	**P**	**05 40 05.2**	**+1.4**
POST				IAmb	IAmb	05 40 05.8	
	comp=Z,5.6nm,0.8s						
SMWD	**Samnorwood**	**37.59**	**322**	P	**P**	**05 40 09.2**	**+1.0**
SMWD				IAmb	IAmb	05 40 09.8	
	comp=Z,5.8nm,0.6s						
MNTQ	**Montreal, Queb**	**38.49**	**359**	P	**P**	**05 40 16.5**	**+1.1**
MNTQ				IAmb	IAmb	05 40 39.9	
	comp=Z,6.2nm,1.0s						
WUAZ	**Wupatki**	**45.20**	**315**	P	**P**	**05 41 11.9**	**+1.6**
ULM	**Lac du Bonnet**	**47.25**	**340**	P	**P**	**05 41 25.9**	**0.0**
	comp=Z,2.5nm,0.4s,baz=147,slow=6.6,SNR=9.8						
	comp=Z,2.5nm,0.4s						
PDAR	**Pinedale Array**	**48.05**	**324**	P	**P**	**05 41 33.1**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=127,slow=9.5,SNR=9.2						
	comp=Z,0.7nm,0.5s						
SCHQ	**Schefferville**	**48.09**	**5**	P	**P**	**05 41 33.4**	**+1.1**
	comp=Z,1.7nm,0.5s,baz=185,slow=6.4,SNR=6.7						
	comp=Z,1.7nm,0.5s						
TCUT	**Toone Canyon**	**48.20**	**321**	P	**P**	**05 41 35.4**	**+1.7**
TCUT				IAmb	IAmb	05 41 35.7	
	comp=Z,5.3nm,0.6s						
BGU	**Big Grassy Mou**	**49.12**	**320**	P	**P**	**05 41 41.9**	**+1.3**
BGU				IAmb	IAmb	05 41 42.4	
	comp=Z,2.6nm,0.6s						
REDW	**Red Top Meadow**	**49.17**	**324**	P	**P**	**05 41 42.3**	**+1.3**
LOHW	**Long Hollow**	**49.17**	**324**	P	**P**	**05 41 42.8**	**+1.7**
NVAR	**Mina Array Bea**	**51.47**	**315**	P	**P**	**05 41 59.1**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=123,slow=7.0,SNR=5.2						
	comp=Z,0.5nm,0.6s						
MFID	**Camas Ranch**	**52.20**	**321**	P	**P**	**05 42 04.9**	**+1.3**
YERR	**Yerington**	**52.37**	**315**	P	**P**	**05 42 06.5**	**+1.5**
BPMT	**Black Pine Rid**	**52.47**	**326**	P	**P**	**05 42 06.9**	**+1.1**
YKA	**Yellowknife Ar**	**63.23**	**340**	P	**P**	**05 43 20.4**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=133,slow=6.2,SNR=50						
	comp=Z,1.3nm,0.6s						
ILAR	**Eielson Array**	**76.93**	**335**	P	**P**	**05 44 43.8**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=113,slow=4.9,SNR=6.1						
	comp=Z,0.2nm,0.6s						
PZH	**PanZhiHua**	**146.45**	**8**	PKPbc	**PKPdf**	**05 52 31.3**	**+0.4**
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	**PKPbc**	**05 52 38.6**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=120,slow=3.2,SNR=9.7						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPbc**	**05 52 41.6**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=108,slow=2.8,SNR=26						

IDC 10 05:43:34.1±4.2, 5.73S×149.90E, h0km, mb2.9/2, mbtmp3.2/3, ML1.7/1, MS3.2/1, Error ellipse: s-maj=154.6km s-min=47.5km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.55**	**216**	Pn	Pn	05 44 45.8	+1.5
	2.7nm,0.3s,baz=22,slow=15,SNR=3.0						
PMG				Sn	Sn	05 45 32.6	-5.4
	2.0nm,0.3s,baz=16,slow=23,SNR=4.0						
	8.1nm,0.3s						
WRA	**Warramunga Arr**	**20.70**	**226**	P	P	05 48 15.2	-1.0
	0.3nm,0.4s,baz=52,slow=11,SNR=6.2						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**23.56**	**219**	P	P	05 48 46.5	0.0
	0.3nm,0.9s,baz=54,slow=9.3,SNR=2.1						
ASAR				LR	LR	05 57 49.8	
	comp=Z,47nm,18.2s,baz=138,slow=36						
	0.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**147.80**	**286**	PKPbc	PKPbc	06 03 21.6	-0.6
	0.3nm,0.5s,baz=60,slow=3.2,SNR=2.0						

*MOS **10** 05:57:56.7±1.1, 48.15S×104.60E, h10km, mb5.4/19, MS4.8/4, Error ellipse: s-maj=18.4km s-min=9.8km az=76.3*

*IDC **10** 05:57:56.4±0.5, 48.17S×104.57E, h0km, mb4.6/14, mbtmp4.6/15, ML1.9/1, MS4.6/39, Error ellipse: s-maj=21.9km s-min=11.3km az=120.0*

*NEIC **10** 05:57:58.4, 47.90S×104.44E, h12km, Moment Tensor Solution. Duration: 3s0 Moment tensor: Scale 10^{16} Nm; M_{rr}=2.11; $M_{\theta\theta}$=7.95; $M_{\phi\phi}$=-5.84; $M_{r\theta}$=-0.57; $M_{\theta\phi}$=-6.32; $M_{\phi r}$=1.30; Fault plane solution: M_0=9.51000×10^{16} NP1: ϕ_s=66.93000°, δ=81.51000°, λ=-171.03000°. NP2: ϕ_s=335.60000°, δ=81.13000°, λ=-8.59000°. Principal axes: T 10.4143, Plg0.0000°, Azm201.0000°; N -1.8044, Plg78.0000°, Azm110.0000°; P -8.6099, Plg12.0000°, Azm291.0000°;*

*NEIC **10** 05:57:58.4±1.5, 48.16S±0.09×104.4E±0.2, h10km±1km, mb5.3/69, Ms_20 4.9/65, Mww5.3/17 Error ellipse: s-maj=18.8km s-min=15.1km az=295.0*

*NEIC **10** 05:57:58.4, 48.20S×104.44E, h12km*

*GCMT **10** 05:58:01.4±0.1, 48.13S±0.01×104.68E±0.01, h12km, MW5.3/141, Moment Tensor Solution. s82,c117; s141,c244; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.22±.02; $M_{\theta\theta}$=0.95±.02; $M_{\phi\phi}$=-0.73±.02; $M_{r\theta}$=0.00±.04; $M_{\theta\phi}$=-0.74±.01; $M_{\phi r}$=0.25±.05; Best double couple: M_0=1.15500×10^{17} NP1:ϕ_s=335.00000°, δ=82.00000°, λ=-13.00000°. NP2:ϕ_s=66.00000°, δ=77.00000°, λ=-172.00000°. Principal axes: T 1.2380, Plg3.0000°, Azm21.0000°; N -0.1650, Plg74.0000°, Azm123.0000°; P -1.0720, Plg15.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 05:57:59.3±0.8, 48.28S±0.05×104.50E±0.06, h15km±4km, n476, σ1§59/430, mb5.2/86, MS4.8/82, 4C-4D, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.17**	**32**	T	T	06 16 54.6	
	baz=205,slow=74,SNR=577						
H01W1	**Cape Leeuwin H**	**15.18**	**32**	T	T	06 16 54.0	
	baz=205,slow=74,SNR=827						
H01W3	**Cape Leeuwin H**	**15.18**	**32**	T	T	06 16 53.9	
	baz=205,slow=74,SNR=524						
RKGY	**Rocky Gully**	**16.52**	**39**	P	**Pn**	**06 01 48.9**	**-1.5**
	baz=16,SNR=5.2						
AUALB	**St Joseph's Co**	**16.59**	**42**	P	**P**	**06 01 52.8**	**-0.9**
NWAO	**Narrogin (SRO)**	**18.09**	**37**	P	**Pn**	**06 02 08.5**	**-1.5**
	baz=18,SNR=4.2						
NWAO				P	**Pn**	**06 02 08.5**	**-1.5**
	baz=18,SNR=4.2						
NWAO	**Narrogin (SRO)**	**18.09**	**37**		**Pn**	**06 02 05.6**	**-4.3**
NWAO	**Narrogin (SRO)**	**18.09**	**37**	P	**P**	**06 02 09.6**	**-0.7**
NWAO	**Narrogin (SRO)**	**18.09**	**37**	P	**P**	**06 02 09.7**	**-0.6**
NWAO	**Narrogin (SRO)**	**18.09**	**37**	P	**Pn**	**06 02 05.6**	**-4.3**
NWAO				pmax	pmax		
	comp=Z,47nm,1.3s						
NWAO	**Narrogin (SRO)**	**18.09**	**37**	P	**Pn**	**06 02 07.5**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=209,slow=12,SNR=5.6						
NWAO				S	**Sn**	**06 05 29.6**	**-1.9**
	comp=Z,4.6nm,1.0s,baz=216,slow=3.1,SNR=1.9						
NWAO				LR	LR	06 07 17.7	
	comp=Z,6μm,21.7s,baz=204,slow=31						
	comp=Z,20nm,1.1s						
CASY	**Casey**	**18.32**	**172**	P	**P**	**06 02 13.4**	**+0.8**
MUN	**Mundaring**	**18.54**	**33**	P	**P**	**06 02 14.1**	**-1.2**
	baz=18,SNR=7.5						
MUN	**Mundaring**	**18.54**	**33**	P	**P**	**06 02 14.1**	**-1.2**
KLBR	**Kellerberrin**	**19.47**	**36**	P	**P**	**06 02 25.0**	**-0.5**
	baz=19,SNR=7.0						
BLDU	**Ballidu**	**19.96**	**32**	P	**P**	**06 02 30.6**	**-0.2**
	baz=20,SNR=8.9						
BLDU	**Ballidu**	**19.96**	**32**	P	**P**	**06 02 30.2**	**-0.6**
MORW	**Morawa**	**21.15**	**29**	P	**P**	**06 02 43.3**	**-0.4**
	baz=21,SNR=21						
MORW	**Morawa**	**21.15**	**29**	P	**P**	**06 02 42.8**	**-0.8**
MORW	**Morawa**	**21.15**	**29**	P	**P**	**06 02 42.9**	**-0.8**
KMBL	**Kambalda**	**21.45**	**44**	P	**P**	**06 02 45.8**	**-1.0**
	baz=21,SNR=18						
KMBL	**Kambalda**	**21.45**	**44**	P	**P**	**06 02 45.5**	**-1.4**
MEEK	**Meekatharra**	**24.26**	**32**	P	**P**	**06 03 14.4**	**-1.4**
	baz=24,SNR=20						
MEEK	**Meekatharra**	**24.26**	**32**	P	**P**	**06 03 14.7**	**-1.0**
FORT	**Forrest**	**25.05**	**54**	P	**P**	**06 03 24.1**	**+1.3**
	baz=25,SNR=6.2						
FORT	**Forrest**	**25.05**	**54**	P	**P**	**06 03 21.8**	**-1.1**
FORT				IAmb	IAmb	06 03 33.9	
	comp=Z,88nm,1.2s						
FORT	**Forrest**	**25.05**	**54**	P	**P**	**06 03 24.5**	**+1.6**
GIRL	**Giralia**	**26.73**	**20**	P	**P**	**06 03 33.9**	**-4.2**
BBOO	**Buckleboo**	**28.28**	**68**	P	**P**	**06 03 51.9**	**0.0**
	baz=28,SNR=11						
BBOO	**Buckleboo**	**28.28**	**68**	P	**P**	**06 03 51.2**	**-0.7**
BBOO				IAmb	IAmb	06 03 58.4	
	comp=Z,159nm,1.6s						
BBOO	**Buckleboo**	**28.28**	**68**	P	**P**	**06 03 51.8**	**-0.1**
MAW	**Mawson**	**28.52**	**212**	P	**P**	**06 03 53.5**	**-0.1**
MAW	**Mawson**	**28.52**	**212**	P	**P**	**06 03 53.5**	**-0.1**
MAW				pmax	pmax		
	comp=Z,7.0nm,1.6s						
MAW	**Mawson**	**28.52**	**212**	P	**P**	**06 03 53.6**	**-0.1**
	comp=Z,4.3nm,1.1s,baz=38,slow=9.0,SNR=2.8						
MAW				LR	LR	06 13 21.4	
	comp=Z,3μm,18.4s,baz=40,slow=32						
	comp=Z,4.3nm,1.1s						
MULG	**Mulgathing**	**28.84**	**62**	P	**P**	**06 03 56.6**	**-0.3**
WHYH	**Whyalla**	**29.08**	**71**	P	**P**	**06 04 00.0**	**+1.0**
PSA00	**Pilbara Seismi**	**29.35**	**30**	P	**P**	**06 03 59.7**	**-1.8**
ARPS	**Mount Arapiles**	**29.54**	**81**	P	**P**	**06 04 04.0**	**+0.9**
	baz=30,SNR=13						
ARPS	**Mount Arapiles**	**29.54**	**81**	P	**P**	**06 04 04.4**	**+1.3**
	comp=Z,74nm,1.3s						
HTT	**Hallett**	**29.67**	**73**	P	**P**	**06 04 04.1**	**-0.3**
	baz=30,SNR=3.2						
HTT	**Hallett**	**29.67**	**73**	P	**P**	**06 04 04.2**	**-0.2**
MBWA	**Marble Bar**	**29.70**	**30**	P	**P**	**06 04 03.0**	**-1.6**
MBWA				IAmb	IAmb	06 04 05.1	
	comp=Z,130nm,1.9s						
MBWA	**Marble Bar**	**29.70**	**30**	IAMs_20	IAMs_20	06 13 42.1	
	comp=Z,3μm,22.0s						
MBWA	**Marble Bar**	**29.70**	**30**	P	**P**	**06 04 03.8**	**-0.8**
WRKA	**Warakurna**	**29.81**	**47**	P	**P**	**06 04 05.4**	**-0.2**
	baz=30,SNR=4.8						
WRKA	**Warakurna**	**29.81**	**47**	P	**P**	**06 04 05.3**	**-0.4**
LCRK	**Leigh Creek**	**31.23**	**68**	P	**P**	**06 04 17.9**	**-0.2**
TOO	**Toolangi**	**31.52**	**86**	P	**P**	**06 04 20.4**	**-0.2**
	baz=32,SNR=5.2						
TOO	**Toolangi**	**31.52**	**86**	P	**P**	**06 04 21.0**	**+0.4**
TOO				IAmb	IAmb	06 04 24.2	
	comp=Z,48nm,1.4s						
TOO	**Toolangi**	**31.52**	**86**	P	**P**	**06 04 22.4**	**+1.8**
TOO	**Toolangi**	**31.52**	**86**	P	**P**	**06 04 21.0**	**+0.4**
TOO				pmax	pmax		
	comp=Z,48nm,1.4s						
OOD	**Oodnadatta**	**31.63**	**61**	P	**P**	**06 04 20.8**	**-0.8**
STKA	**Stephens Creek**	**32.39**	**73**	P	**P**	**06 04 27.8**	**-0.5**
	baz=32,SNR=15						
STKA	**Stephens Creek**	**32.39**	**73**	P	**P**	**06 04 27.5**	**-0.8**
STKA	**Stephens Creek**	**32.39**	**73**	P	**P**	**06 04 28.1**	**-0.2**
STKA	**Stephens Creek**	**32.39**	**73**	P	**P**	**06 04 27.5**	**-0.8**
STKA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
STKA	**Stephens Creek**	**32.39**	**73**	P	**P**	**06 04 26.9**	**-1.4**
	comp=Z,16nm,1.0s,baz=224,slow=4.9,SNR=23						
STKA				PcP	**PcP**	**06 07 14.0**	**-1.6**
	comp=Z,2.4nm,0.8s,baz=196,slow=0.7,SNR=2.6						
	comp=Z,16nm,1.0s						
ASAR	**Alice Springs**	**33.84**	**54**	P	**P**	**06 04 40.2**	**-0.8**
ASAR	**Alice Springs**	**33.84**	**54**	P	**P**	**06 04 40.2**	**-0.8**
ASAR	**Alice Springs**	**33.84**	**54**	P	**P**	**06 04 40.0**	**-1.1**
	comp=Z,4.3nm,0.7s,baz=210,slow=8.4,SNR=51						
ASAR				PcP	**PcP**	**06 07 18.5**	**-1.3**
	comp=Z,1.3nm,0.9s,baz=198,slow=1.8,SNR=3.0						
ASAR				LR	LR	06 16 40.6	
	comp=Z,2μm,20.1s,baz=214,slow=33						
ASAR				P3KP		06 37 05.2	
	comp=Z,0.2nm,0.9s,baz=357,slow=1.9,SNR=1.7						
	comp=Z,4.3nm,0.7s						
AS31	**Alice Springs**	**33.84**	**54**	P	**P**	**06 04 39.9**	**-1.1**
AS01	**Alice Springs**	**33.86**	**54**	P	**P**	**06 04 40.5**	**-0.8**
	comp=Z,16nm,1.4s						
AUSMG	**Snowy Mountain**	**34.23**	**86**	P	**P**	**06 04 46.6**	**+2.2**
FITZ	**Fitzroy Crossi**	**34.68**	**37**	P	**P**	**06 04 48.3**	**+0.1**
	baz=35,SNR=9.1						
FITZ	**Fitzroy Crossi**	**34.68**	**37**	P	**P**	**06 04 47.5**	**-0.7**
INKA	**Innaminka**	**34.71**	**67**	P	**P**	**06 04 48.9**	**+0.4**
CAN	**Canberra**	**35.12**	**85**	P	**P**	**06 04 52.0**	**-0.1**
CAN				IAmb	IAmb	06 04 55.4	
	comp=Z,57nm,1.6s						
CAN	**Canberra**	**35.12**	**85**	P	**P**	**06 04 52.0**	**-0.1**
CAN				pmax	pmax		
	comp=Z,57nm,1.6s						
CMSA	**Cobar Meteorol**	**35.26**	**77**	P	**P**	**06 04 55.0**	**+1.8**
	baz=35,SNR=7.6						
CMSA	**Cobar Meteorol**	**35.26**	**77**	P	**P**	**06 04 53.6**	**+0.4**
VNDA	**Vanda**	**36.41**	**162**	P	**P**	**06 05 02.8**	**+0.1**
VNDA	**Vanda**	**36.41**	**162**	P	**P**	**06 05 02.8**	**+0.1**
VNDA				pmax	pmax		
	comp=Z,14nm,1.1s						
VNDA	**Vanda**	**36.41**	**162**	P	**P**	**06 05 02.6**	**0.0**
	comp=Z,7.3nm,1.0s,baz=291,slow=9.1,SNR=15						
VNDA				LR	LR	06 18 41.5	
	comp=Z,2μm,19.9s,baz=289,slow=34						
	comp=Z,7.3nm,1.0s						
AUDCS	**Dubbo College**	**36.74**	**81**	P	**P**	**06 05 08.0**	**+2.1**
WRA	**Warramunga Arr**	**37.11**	**51**	P	**P**	**06 05 08.3**	**-0.9**
WRA	**Warramunga Arr**	**37.11**	**51**	P	**P**	**06 05 08.3**	**-0.9**
WRA				pmax	pmax		
	comp=Z,5.0nm,1.7s						
WRA	**Warramunga Arr**	**37.11**	**51**	P	**P**	**06 05 08.2**	**-1.0**
	comp=Z,9.4nm,1.0s,baz=213,slow=8.2,SNR=32						
WRA				PcP	**PcP**	**06 07 28.0**	**-1.4**
	comp=Z,0.9nm,1.0s,baz=218,slow=3.0,SNR=2.1						
	comp=Z,9.4nm,1.0s						
WB2	**Warramunga Arr**	**37.12**	**51**	P	**P**	**06 05 07.7**	**-1.5**
WB2				IAmb	IAmb	06 05 10.9	
	comp=Z,63nm,1.4s						
WRAB	**Tennant Creek**	**37.13**	**51**	P	**P**	**06 05 08.5**	**-0.8**
WRAB				IAmb	IAmb	06 05 11.0	
	comp=Z,51nm,1.4s						
WRAB				IAMs_20	IAMs_20	06 18 15.7	
	comp=Z,2μm,21.0s						
WRAB	**Tennant Creek**	**37.13**	**51**	P	**P**	**06 05 08.5**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,51nm,1.4s						
WR0	**Warramunga Arr**	**37.20**	**51**	P	**P**	**06 05 08.6**	**-1.4**
WB0	**Warramunga Arr**	**37.29**	**51**	P	**P**	**06 05 09.8**	**-0.9**
QLP	**Quilpie**	**37.70**	**69**	P	**P**	**06 05 15.0**	**+0.9**
	baz=38,SNR=9.2						
QLP	**Quilpie**	**37.70**	**69**	P	**P**	**06 05 15.0**	**+0.9**
AULRC	**Lightning Ridg**	**38.13**	**76**	P	**P**	**06 05 18.9**	**+1.2**
KNRA	**Kununurra**	**38.14**	**40**	P	**P**	**06 05 17.6**	**-0.3**
KNRA				IAmb	IAmb	06 05 19.5	
	comp=Z,60nm,1.8s						
AUPHS	**Peel High Scho**	**38.95**	**81**	P	**P**	**06 05 26.9**	**+2.3**
QIS	**Mount Isa**	**39.48**	**58**	P	**P**	**06 05 28.7**	**-0.5**
	baz=40,SNR=9.8						
QIS	**Mount Isa**	**39.48**	**58**	P	**P**	**06 05 28.6**	**-0.5**
ARMA	**Armidale**	**39.87**	**81**	P	**P**	**06 05 30.5**	**-1.9**
	baz=40,SNR=11						
ARMA	**Armidale**	**39.87**	**81**	P	**P**	**06 05 33.0**	**+0.6**
ARMA				IAmb	IAmb	06 05 36.1	
	comp=Z,68nm,1.2s						
ARMA	**Armidale**	**39.87**	**81**	P	**P**	**06 05 34.0**	**+1.6**
BASI	**Baing, Sumba**	**40.27**	**25**	P	**P**	**06 05 37.2**	**+1.5**
	comp=Z,96nm,1.1s						
RMQ	**Roma**	**40.63**	**74**	P	**P**	**06 05 37.8**	**-0.8**
	baz=41,SNR=4.7						
BBJI	**Bungbulang**	**40.76**	**5**	P	**P**	**06 05 39.4**	**-0.4**
TWSI	**Taliwang, Sumb**	**40.77**	**19**	P	**P**	**06 05 39.7**	**-0.1**
	comp=Z,59nm,1.2s						
PLAI	**Plampang**	**40.89**	**20**	P	**P**	**06 05 42.2**	**+1.4**
	comp=Z,20nm,0.9s						
CNJI	**Cibinong**	**40.89**	**4**	P	**P**	**06 05 40.8**	**+0.1**
	comp=Z,58nm,1.5s,comp=Z,2μm						
BATI	**Baumata**	**41.22**	**29**	LR	LR	06 21 21.5	
	comp=Z,2μm,21.9s,baz=222,slow=34						
LEM	**Lembang**	**41.39**	**5**	P	**P**	**06 05 45.9**	**+0.8**
	comp=Z,88nm,1.7s						
LEM	**Lembang**	**41.39**	**5**	LR	LR	06 18 55.8	
	comp=Z,2μm,22.0s,baz=190,slow=30						
CGJI	**Cibinong**	**41.53**	**2**	P	**P**	**06 05 46.9**	**+0.9**
	comp=Z,62nm,1.3s						
DBJI	**Dramaga**	**41.62**	**3**	P	**P**	**06 05 48.3**	**+1.5**
	comp=Z,70nm,0.8s,comp=Z,16μm						
MTN	**Manton Dam**	**41.69**	**41**	P	**P**	**06 05 47.0**	**-0.4**
	baz=42,SNR=5.3						
MTN	**Manton Dam**	**41.69**	**41**	P	**P**	**06 05 46.6**	**-0.8**
MTN	**Manton Dam**	**41.69**	**41**	P	**P**	**06 05 47.0**	**-0.4**
SOEI	**Soe**	**41.85**	**30**	P	**P**	**06 05 48.5**	**-0.3**
SOEI	**Soe**	**41.85**	**30**	P	**P**	**06 05 49.8**	**+1.0**
	comp=Z,43nm,1.2s						
QSPA	**South Pole Qui**	**41.86**	**180**	P	**P**	**06 05 48.7**	**+0.2**
	comp=Z,11nm,0.9s,baz=140,slow=1.0,SNR=24						
QSPA				LR	LR	06 22 09.2	
	comp=Z,2μm,19.2s,baz=8.0,slow=35						
	comp=Z,11nm,0.9s						
EDFI	**Ende, Flores**	**41.99**	**26**	P	**P**	**06 05 48.9**	**-1.0**
	comp=Z,44nm,1.6s,comp=Z,517nm						
MMRI	**Maumere**	**42.26**	**27**	P	**P**	**06 05 51.6**	**-0.4**
MMRI				IAmb	IAmb	06 06 10.2	
	comp=Z,68nm,1.1s						
ELIB	**Princess Elisa**	**42.35**	**207**	*d*P	**P**	**06 05 52.6**	**+0.3**
	comp=Z,15nm,1.4s						
KDU	**Kakadu**	**42.43**	**43**	P	**P**	**06 05 52.8**	**-0.6**
	baz=42,SNR=6.9						
KDU	**Kakadu**	**42.43**	**43**	P	**P**	**06 05 52.7**	**-0.6**
KASI	**Kota Agung**	**42.60**	**360**	P	**P**	**06 05 55.3**	**+0.5**
	comp=Z,77nm,1.6s,comp=Z,1μm						
EIDS	**Eidsvold**	**42.91**	**75**	P	**P**	**06 05 57.0**	**-0.2**
EIDS	**Eidsvold**	**42.91**	**75**	P	**P**	**06 05 57.9**	**+0.7**
LWLI	**Liwa**	**43.11**	**359**	P	**P**	**06 05 59.9**	**+0.9**
	comp=Z,118nm,0.9s,comp=Z,16μm						
CTA	**Charters Tower**	**43.74**	**65**	P	**P**	**06 06 03.9**	**-0.1**
CTA	**Charters Tower**	**43.74**	**65**	LR	LR	06 22 29.9	
	comp=Z,855nm,21.4s,baz=216,slow=34						
CTAO	**Charters Tower**	**43.74**	**65**	P	**P**	**06 06 03.5**	**-0.5**
CTAO				IAmb	IAmb	06 06 06.3	
	comp=Z,46nm,1.1s						
CTAO	**Charters Tower**	**43.74**	**65**	IAMs_20	IAMs_20	06 22 05.3	
	comp=Z,1μm,18.0s						
CTAO	**Charters Tower**	**43.74**	**65**	P	**P**	**06 06 04.0**	**-0.1**
CTAO	**Charters Tower**	**43.74**	**65**	P	**P**	**06 06 03.5**	**-0.5**
CTAO				pmax	pmax		
	comp=

RPSI Rantau Prapat 51.00 353 P **P** **06 06 59.1 -1.4**
RPSI IAmb IAmb 06 07 02.6
comp=Z,79nm,1.6s
BKZ Black Stump Fm 51.05 108 P **P** **06 07 00.8 0.0**
BKZ IAmb IAmb 06 07 08.1
comp=Z,58nm,1.0s
BKZ Black Stump Fm 51.05 108 P **P** **06 07 02.7 +1.9**
PSI Prapat 51.10 353 P **P** **06 07 01.9 +0.5**
PSI Prapat 51.10 353 P **P** **06 06 59.1 -2.3**
PSI pmax pmax
comp=Z,79nm,1.6s
GTOI Gorontalo 51.30 24 P P 06 07 16.0 +13
NFK Norfolk Island 51.61 92 P **P** **06 07 03.7 -1.4**
baz=52,SNR=5.3
BELA Belgrano 2 51.64 190 P **P** **06 07 04.5 -0.2**
BELA IAmb IAmb 06 07 13.8
comp=Z,26nm,0.9s
RTZ Ruatahuna 51.68 108 P **P** **06 07 05.6 +0.1**
URZ Urewera 51.97 107 LR LR 06 26 04.9
comp=Z,1μm,19.6s,baz=22,slow=32
VNA3 Neumayer Olymp 52.00 202 ⇑P **P** **06 07 07.7 +0.3**
comp=Z,12nm,0.8s
PMG Port Moresby 52.73 57 P **P** **06 07 12.1 -1.3**
PMG IAmb IAmb 06 07 16.4
comp=Z,32nm,1.1s
PMG Port Moresby 52.73 57 IAMs_20 IAMs_20 06 29 10.3
comp=Z,827nm,20.0s
PMG Port Moresby 52.73 57 P **P** **06 07 12.1 -1.3**
PMG pmax pmax
comp=Z,33nm,1.2s
PMG MLR MLR
comp=Z,800nm,20.0s
PMG Port Moresby 52.73 57 LR LR 06 28 48.7
comp=Z,643nm,18.3s,baz=238,slow=35
KULM Kulim 53.45 355 IAmb IAmb 06 07 20.4
comp=Z,75nm,1.4s
KULM IAMs_20 IAMs_20 06 25 06.8
comp=Z,1μm,22.0s
ABPO Ambohimpanom 54.36 282 IAMs_20 IAMs_20 06 24 53.0
comp=Z,1μm,21.0s
KOUNC Koumac, New Ca 54.92 82 IAMs_20 IAMs_20 06 25 51.9
comp=Z,870nm,18.0s
KOUNC Koumac, New Ca 54.92 82 P **P** **06 07 31.6 +2.2**
DZM Mont Dzumac 55.29 85 IAmb IAmb 06 07 39.8
comp=Z,58nm,1.5s
DZM Mont Dzumac 55.29 85 P **P** **06 07 34.4 +2.2**
DZM Mont Dzumac 55.29 85 *e*P P 06 07 39.3 +7.1
comp=Z,47nm,24.4s
DZM *e*S **S** **06 15 09.6 -6.0**
comp=Z,134nm,29.3s
DZM *e*LR LR 06 23 40.9
comp=Z,834nm,25.2s
DZM Mont Dzumac 55.29 85 LR LR 06 26 19.1
comp=Z,340nm,21.7s,baz=190,slow=31
OUENC Ouen Island, N 55.31 85 P **P** **06 07 34.6 +2.3**
SURA Surathani 57.36 354 P **P** **06 07 46.8 0.0**
DAV Davao City (W) 58.15 25 LR LR 06 29 29.9
comp=Z,304nm,21.9s,baz=176,slow=33
PALK Pallekele 59.15 332 P **P** **06 07 58.9 -0.6**
PALK IAmb IAmb 06 08 00.6
comp=Z,38nm,1.4s
PALK Pallekele 59.15 332 P **P** **06 07 58.9 -0.6**
PALK pmax pmax
comp=Z,38nm,1.4s
PALK Pallekele 59.15 332 LR LR 06 27 48.0
comp=Z,700nm,19.9s,baz=265,slow=30
DLV T Lat 60.06 4 IAMs_20 IAMs_20 06 29 35.3
comp=Z,1μm,22.0s
MSEY Mahe Island 60.21 300 IAMs_20 IAMs_20 06 27 50.5
comp=Z,1μm,21.0s
HNR Honiara 60.33 69 LR LR 06 33 50.1
comp=Z,4μm,18.1s,baz=232,slow=36
NAYO Nakonayok 62.38 357 P **P** **06 08 21.8 +0.6**
SRDT SRDT 62.53 354 P **P** **06 08 23.1 +0.8**
SUR Sutherland 62.70 251 LR LR 06 28 50.2
comp=Z,553nm,21.8s,baz=132,slow=30
NONG Nongkai 66.05 359 P **P** **06 08 45.9 +0.6**
YSA Yasawairara 66.49 89 P **P** **06 08 50.7 +2.3**
CM31 Chiang Mai Arr 66.62 354 P **P** **06 08 48.2 -0.7**
CMAR Chiang Mai Arr 66.62 354 P **P** **06 08 47.5 -1.5**
CMAR Chiang Mai Arr 66.62 354 P **P** **06 08 49.0 0.0**
CMAR Chiang Mai Arr 66.62 354 P **P** **06 08 49.0 0.0**
comp=Z,12nm,0.9s,baz=193,slow=5.5,SNR=49
CMAR LR LR 06 36 24.1
comp=Z,285nm,18.1s,baz=185,slow=35
comp=Z,12nm,0.9s
PMSA Palmer Station 66.93 185 LR LR 06 38 20.3
comp=Z,1μm,18.6s,baz=164,slow=36
CHTO Chiang Mai 66.97 354 P **P** **06 08 49.7 -1.5**
CHTO IAmb IAmb 06 09 02.6
comp=Z,50nm,1.7s
CHTO Chiang Mai 66.97 354 IAMs_20 IAMs_20 06 38 44.1
comp=Z,626nm,19.0s
CHTO Chiang Mai 66.97 354 P **P** **06 08 51.3 +0.1**
CHTO Chiang Mai 66.97 354 P **P** **06 08 49.7 -1.5**
CHTO pmax pmax
comp=Z,50nm,1.7s
CHTO MLR MLR
comp=Z,600nm,19.0s
QIZ Qiongzhong 67.17 5 IAMs_20 IAMs_20 06 35 00.5
comp=Z,823nm,21.0s
QIZ Qiongzhong 67.17 5 P **P** **06 08 54.8 +2.4**
QIZ S **S** **06 17 50.7 +4.4**
QIZ LR LR
comp=Z,580nm,15.2s
QIZ LR LR
comp=Z,310nm,15.7s
QIZ LR LR
comp=Z,830nm,23.0s
SLVN Son La 69.29 359 P **P** **06 09 03.3 -2.5**
SLVN IAmb IAmb 06 09 07.8
comp=Z,41nm,1.8s
SLVN IAMs_20 IAMs_20 06 36 05.5
comp=Z,1μm,21.0s
HYB Hyderabad 69.39 333 *e*P **P** **06 09 05.8 -0.7**
HYB *e*PP **PP** **06 11 39.6 -0.5**
HYB *e*S **S** **06 18 12.6 -0.3**
LSZ Lusaka 69.67 270 P **P** **06 09 07.4 -1.1**
LSZ Lusaka 69.67 270 P **P** **06 09 07.4 -1.1**
LSZ pmax pmax
comp=Z,13nm,1.1s
MND Mandalay 70.37 352 P **P** **06 09 11.9 -0.4**
GUMO Guam 71.27 42 LR LR 06 40 56.4
comp=Z,210nm,18.4s,baz=193,slow=36
KIBK Kibwezi 72.74 286 P **P** **06 09 25.4 -1.6**
KIBK IAMs_20 IAMs_20 06 33 44.6
comp=Z,571nm,22.0s
KMI Kunming 73.08 358 ⇓P **P** **06 09 29.7 +0.8**
KMI sP pwP 06 09 35.8 -1.1
KMI S **S** **06 18 55.0 -0.7**
KMI SS **SS** **06 23 34.3 -3.2**
KMI pmax pmax
comp=Z,26nm,1.1s
KMI pmax pmax
comp=Z,290nm,4.5s
KMI LR LR
comp=Z,680nm,19.3s
KMI LR LR
comp=Z,330nm,18.2s
KMI LR LR
comp=Z,800nm,20.1s
TNCH TengChong 73.17 354 P **P** **06 09 30.3 +1.0**
TNCH pP pwP 06 09 35.4 -2.1
TNCH sP sP 06 09 37.2 +2.5
TNCH pmax pmax
comp=Z,130nm,1.6s
SSLB Suanglung 73.24 16 IAMs_20 IAMs_20 06 40 07.6
comp=Z,499nm,20.0s
SSLB Suanglung 73.24 16 P **P** **06 09 30.6 +1.0**
KMBO Kilima Mbogo 74.17 287 *i* P **P** **06 09 36.0 +0.3**
KMBO pmax pmax
comp=Z,3.0nm,0.6s
KMBO Kilima Mbogo 74.17 287 P **P** **06 09 35.3 -0.3**
comp=Z,2.7nm,0.7s,baz=147,slow=5.1,SNR=5.8
KMBO LR LR 06 34 50.1
comp=Z,410nm,21.8s,baz=96,slow=30
comp=Z,2.7nm,0.7s
SHL Shillong 74.37 348 IAmb IAmb 06 09 45.3
comp=Z,32nm,1.1s
GYA Guiyang 74.42 2 *e*P **P** **06 09 38.6 +2.0**
GYA S **S** **06 19 15.7 +5.1**
GYA pmax pmax
comp=Z,27nm,1.0s
GYA pmax pmax
comp=Z,190nm,3.8s
GYA LR LR
comp=Z,340nm,18.0s
GYA LR LR
comp=Z,420nm,19.3s
GYA LR LR
comp=Z,400nm,19.5s
PZH PanZhiHua 74.48 357 P **P** **06 09 36.9 0.0**
PZH S **S** **06 19 16.7 +5.4**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,160nm,4.4s
PZH LR LR
comp=Z,370nm,19.6s
PZH LR LR
comp=Z,290nm,18.6s
PZH LR LR
comp=Z,380nm,20.1s
ODAN Odare 76.36 344 *e*P **P** **06 09 47.2 -0.6**
RAMN Ramite 76.59 344 *e*P **P** **06 09 48.8 -0.4**
JIRN Jiri 77.36 343 *e*P **P** **06 09 52.6 -1.0**
comp=Z,142nm,1.5s
PKI Pulchoki 77.42 343 *e*P **P** **06 09 52.8 -1.2**
comp=Z,94nm,1.5s
PKIN Phulchoki 77.43 343 *e*P **P** **06 09 52.7 -1.2**
comp=Z,60nm,1.1s
DMN Daman 77.52 342 *e*P **P** **06 09 53.4 -1.0**
GUN Gumba 77.66 343 *e*P **P** **06 09 54.3 -1.0**
comp=Z,165nm,1.3s
KKN Kakani 77.66 343 *e*P **P** **06 09 54.3 -0.8**
JOW Kunigami 77.75 22 LR LR 06 46 31.8
comp=Z,91nm,18.3s,baz=122,slow=38
KOLN Koldanda 77.99 341 *e*P **P** **06 09 55.0 -2.0**
GKN Gorkha 78.00 342 *e*P **P** **06 09 55.6 -1.3**
RAR Rarotonga 78.14 108 LR LR 06 38 15.1
comp=Z,201nm,19.5s,baz=192,slow=31
ENH Enshi 78.32 4 IAMs_20 IAMs_20 06 44 07.0
comp=Z,485nm,20.0s
ENH Enshi 78.32 4 P **P** **06 09 59.4 +0.9**
PYUN Piuthan 78.44 341 *e*P **P** **06 09 57.9 -1.6**
comp=Z,133nm,1.5s
DANN Dangsing 78.52 341 *e*P **P** **06 09 58.3 -1.7**
comp=Z,125nm,1.3s
LSA Lhasa 78.54 348 P **P** **06 09 59.4 -0.9**
LSA IAmb IAmb 06 10 09.1
comp=Z,28nm,1.3s
LSA Lhasa 78.54 348 P **P** **06 09 59.4 -0.9**
LSA pmax pmax
comp=Z,28nm,1.3s
LSA MLR MLR
comp=Z,300nm,19.0s
CD2 Chengdu 78.83 359 *e*P **P** **06 10 03.0 +1.7**
WHN Wuhan 78.96 9 ⇑P **P** **06 10 03.1 +1.2**
WHN sP **PcP** **06 10 11.1 +0.6**
WHN pmax pmax
comp=Z,44nm,1.1s
WHN LR LR
comp=Z,790nm,20.4s
NJ2 Nanjing 81.00 12 *e*P **P** **06 10 14.6 +1.7**
NJ2 pP **PcP** **06 10 17.7 -1.6**
NJ2 sP **pwP** **06 10 20.6 -0.4**
NJ2 pmax pmax
comp=Z,12nm,0.6s
NJ2 pmax pmax
comp=Z,200nm,4.6s
FURI Furi 81.03 294 IAMs_20 IAMs_20 06 39 21.2
comp=Z,381nm,20.0s
XAN Xi'an 82.04 4 P **P** **06 10 18.9 +0.4**
XAN pP PcP 06 10 23.9 -0.1
XAN pmax pmax
comp=Z,24nm,1.4s
XAN LR LR
comp=Z,720nm,19.2s
XAN LR LR
comp=Z,450nm,22.0s
XAN LR LR
comp=Z,1μm,24.0s
WSAR Wadi Sarin 82.19 318 LR LR 06 41 58.5
comp=Z,282nm,18.0s,baz=178,slow=32
JCJ Chichijima 82.29 33 LR LR 06 46 57.8
comp=Z,92nm,18.5s,baz=72,slow=36
TBI Tubuai 82.90 117 *e*LR LR 06 35 58.7
comp=Z,1μm,32.2s
TBI *e*LR LR 06 36 11.1
comp=Z,6μm,33.0s
LZH Lanzhou 83.99 359 *e*P **P** **06 10 29.8 +1.1**
LZH sP pwP 06 10 37.4 +0.6
LZH S **S** **06 20 53.8 +1.7**
LZH pmax pmax
comp=Z,16nm,1.1s
LZH pmax pmax
comp=Z,110nm,4.1s
LZH LR LR
comp=Z,730nm,15.1s
LZH LR LR
comp=Z,470nm,14.9s
LZH LR LR
comp=Z,990nm,18.7s
JNU Nakatsue 84.41 22 LR LR 06 46 46.9
comp=Z,213nm,21.2s,baz=178,slow=35
JMN Monobe 85.77 24 P **P** **06 10 39.2 +1.7**
HNS HongShan 85.78 8 ⇓P **P** **06 10 38.3 +0.9**
HNS *e*S **S** **06 21 11.1 +1.7**
HNS pmax pmax
comp=Z,32nm,1.5s
HNS LR LR
comp=Z,420nm,22.7s
HNS LR LR
comp=Z,430nm,21.9s
HNS LR LR
comp=Z,420nm,21.1s
NIL Nilore 86.22 334 P **P** **06 10 38.4 -1.4**
NIL Nilore 86.22 334 IAMs_20 IAMs_20 06 44 48.4
comp=Z,391nm,19.0s
NIL Nilore 86.22 334 P **P** **06 10 38.4 -1.4**
NIL pmax pmax
comp=Z,86nm,1.0s
JHJ Hachijo jima 2 86.97 29 LR LR 06 47 10.4
comp=Z,100nm,21.6s,baz=246,slow=34
PPT2 Papeete2 87.21 113 *e*S **S** **06 21 18.4 -6.2**
comp=Z,144nm,25.2s
PPT2 Papeete2 87.21 113 *e*LR LR 06 38 21.0
comp=Z,457nm,22.8s
PPT2 *e*LR LR 06 38 25.3
comp=Z,486nm,31.0s
PPT Papeete 87.22 113 LR LR 06 41 49.2
comp=Z,202nm,21.3s,baz=204,slow=30
GTA Gaotai 87.41 356 ⇓P **P** **06 10 45.4 -0.2**
GTA sP pwP 06 10 53.6 -0.2
GTA pmax pmax
comp=Z,13nm,1.7s
GTA LR LR
comp=Z,490nm,21.8s
GTA LR LR
comp=Z,280nm,20.0s
GTA LR LR
comp=Z,720nm,21.1s
KSAR Wonju Array Be 87.85 18 P **P** **06 10 47.8 +0.3**
KSAR Wonju Array Be 87.85 18 P **P** **06 10 47.8 +0.3**
KSRS Korea Array 87.87 18 P **P** **06 10 46.2 -1.4**
comp=Z,0.6nm,0.4s,baz=186,slow=3.6,SNR=2.1
KSRS LR LR 06 53 48.5
comp=Z,64nm,18.5s,baz=195,slow=38
comp=Z,0.6nm,0.4s
KBL Kabul 88.33 331 P **P** **06 10 49.6 -0.5**
KBL Kabul 88.33 331 P **P** **06 10 49.7 -0.5**
KBL pmax pmax
comp=Z,54nm,1.1s
BJT Baijiatuau 88.52 9 IAMs_20 IAMs_20 06 49 12.1
comp=Z,449nm,21.0s
BJI Beijing 88.55 9 P **P** **06 10 54.5 +3.8**
BJI sP **pwP** **06 11 01.3 +2.4**
BJI SKS **SKSac** **06 21 24.0 +5.2**
BJI S **ScS** **06 21 42.4 +0.9**
BJI pmax pmax
comp=Z,2.0nm,1.2s
BJI LR LR
comp=Z,250nm,19.1s
BJI LR LR
comp=Z,120nm,17.7s
BJI LR LR
comp=Z,270nm,21.2s
BTO Baotou 88.64 4 *e*P **P** **06 10 55.4 +4.1**
BTO pP **pwP** **06 11 00.2 +0.7**
BTO sP 06 11 02.7 +5.9
BTO S **S** **06 21 45.1 +8.1**
BTO pmax pmax
comp=Z,10.0nm,0.6s
BTO pmax pmax
comp=Z,410nm,3.9s
BTO LR LR
comp=Z,1μm,15.3s
BTO LR LR
comp=Z,570nm,10.6s
BTO LR LR
comp=Z,2μm,19.6s
HHC Hu-ho-hao-te 88.97 5 *e*P **P** **06 10 53.3 +0.4**
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,280nm,7.6s
HHC LR LR
comp=Z,630nm,21.4s
HHC LR LR
comp=Z,460nm,21.4s
HHC LR LR
comp=Z,890nm,21.9s
MJAR Matsushiro Arr 89.64 27 P **P** **06 10 53.7 -2.4**
comp=Z,0.6nm,0.4s,baz=201,slow=4.5,SNR=6.9
MJAR LR LR 06 49 08.3
comp=Z,169nm,21.9s,baz=196,slow=34
comp=Z,0.6nm,0.4s
HRA Herat 90.55 326 IAmb IAmb 06 11 07.2
comp=Z,12nm,0.8s
KSH Kashi 91.01 338 P **P** **06 11 00.7 -1.8**
KSH pP sP 06 11 06.3 -1.7
KSH pmax pmax
comp=Z,7.0nm,1.3s
PLCA Paso Flores 91.26 184 P **P** **06 11 02.8 -1.2**
comp=Z,2.1nm,0.9s,baz=104,slow=6.3,SNR=2.8
PLCA LR LR 06 52 13.9
comp=Z,1μm,18.3s,baz=174,slow=36
comp=Z,2.1nm,0.9s
GAR Garm 92.06 334 IAmb IAmb 06 11 13.6
comp=Z,19nm,1.0s
NRN Naryn 92.82 339 IAmb IAmb 06 11 16.9
comp=Z,9.3nm,1.2s
WMQ Urumqi 92.90 348 *e*P **P** **06 11 13.5 +2.4**
WMQ LR LR
comp=Z,200nm,17.9s
WMQ LR LR
comp=Z,420nm,19.3s
WMQ LR LR
comp=Z,330nm,24.7s
CN2 Changchun 93.53 15 *e*P **P** **06 11 15.6 +1.7**
CN2 SKS **SKSac** **06 21 46.8 -0.4**
CN2 LR LR
comp=Z,1μm,23.0s
CN2 LR LR
comp=Z,1μm,23.0s
CN2 LR LR
comp=Z,280nm,23.0s
AAK Ala-Archa 94.32 338 P **P** **06 11 18.2 +0.4**
AAK IAmb IAmb 06 11 24.0
comp=Z,14nm,1.3s
AAK Ala-Archa 94.32 338 *i* P **P** **06 11 17.1 -0.7**
AAK pmax pmax
comp=Z,14nm,1.3s
AAK Ala-Archa 94.32 338 LR LR 06 49 41.7
comp=Z,398nm,20.2s,baz=164,slow=33
MDJ Mudanjiang 95.10 18 P **P** **06 11 25.0 +4.0**
MDJ sP pwP 06 11 29.7 +0.5
MDJ PP **PP** **06 15 09.6 -1.7**
MDJ S **S** **06 22 36.2 +1.3**
MDJ SS **SS** **06 28 59.2 -2.8**
MDJ pmax pmax
comp=Z,14nm,2.1s
MDJ pmax pmax
comp=Z,460nm,5.3s
USRK Ussuriysk Ar. 95.21 19 LR LR 06 51 51.6
comp=Z,153nm,21.7s,baz=175,slow=34
GEYT Alibeck 95.23 325 P **P** **06 11 21.2 -0.7**
GEYT IAmb IAmb 06 11 31.1
comp=Z,15nm,1.2s
GEYT Alibeck 95.23 325 P **P** **06 11 21.2 -0.7**
GEYT pmax pmax
comp=Z,15nm,1.3s
GEYT Alibeck 95.23 325 P **P** **06 11 19.9 -2.0**
comp=Z,1.8nm,0.4s,baz=150,slow=6.7,SNR=4.3
comp=Z,1.8nm,0.4s
SONM Songino Array 95.75 1 P **P** **06 11 22.7 -1.4**
comp=Z,2.4nm,1.0s,baz=163,slow=5.7,SNR=7.1
SONM PP **PP** **06 15 14.9 -1.6**
comp=Z,1.6nm,1.0s,baz=240,slow=2.9,SNR=4.8
SONM LR LR 06 53 30.3
comp=Z,196nm,22.0s,baz=175,slow=35
comp=Z,2.4nm,1.0s
ULN Ulaanbaatar 95.79 2 P **P** **06 11 23.8 -0.6**
ULN IAmb IAmb 06 11 29.7
comp=Z,7.7nm,1.1s
ULN Ulaanbaatar 95.79 2 IAMs_20 IAMs_20 06 56 25.2
comp=Z,610nm,18.0s
ULN Ulaanbaatar 95.79 2 *i* P **P** **06 11 22.7 -1.6**
ULN pmax pmax
comp=Z,8.0nm,1.2s
KKAR Karatay Array 95.80 336 P **P** **06 11 22.7 -1.6**
KKAR Karatay Array 95.80 336 P **P** **06 11 22.7 -1.6**
ASAJ Asahikawa 97.91 27 LR LR 06 54 42.5
comp=Z,118nm,21.5s,baz=206,slow=35
DGZ Jazzator, Alta 98.70 349 *i* P Pdif 06 11 37.9 +0.4
DGZ pmax pmax
comp=Z,8.0nm,2.2s
RPN Rapa Nui 99.03 150 LR LR 06 47 04.4
comp=Z,97nm,20.8s,baz=189,slow=30
EIL Elat 99.40 304 LR LR 06 49 08.7
comp=Z,183nm,20.1s,baz=243,slow=31
TAOE Nuku Hiva Isla 99.72 115 *e*LR LR 06 43 56.6
comp=Z,793nm,30.2s
KLR Kul'dur 99.94 18 LR LR 06 58 43.7
comp=Z,139nm,19.5s,baz=184,slow=36
KURBB Kurchatov Arra 101.02 343 P **Pdif** **06 11 47.4 -0.1**
comp=Z,0.2nm,0.3s,baz=172,slow=2.0,SNR=2.2
KURBB PP **PP** **06 15 53.7 -2.9**
comp=Z,0.1nm,0.3s,baz=153,slow=6.3,SNR=1.5
KURK Kurchatov 101.09 344 P **Pdif** **06 11 47.4 -0.4**
ZALV Zalesovo Beam 103.21 348 PP **PP** **06 16 12.6 -0.4**
comp=Z,0.2nm,0.3s,baz=189,slow=4.4,SNR=1.7
MAK Makhachkala 103.78 321 *i* P **Pdif** **06 11 53.3 -6.7**
MAK *i* 06 16 13.1
MAK *e* 06 22 33.7
MAK *e*SSS SSS 06 34 56.2
MAK pmax pmax
comp=Z,138nm,1.1s
ARPR Arapgir-MALATY 104.91 313 IAMs_20 IAMs_20 06 54 06.6
comp=Z,302nm,20.0s
KBZ Khabaz 106.40 318 Pdiff **Pdif** **06 12 11.2 -0.4**
comp=Z,2.0nm,0.9s,baz=142,slow=4.5,SNR=2.7
TORD Torodi Ar. Bea 108.21 269 PP **PP** **06 16 50.1 -0.2**
comp=Z,1.3nm,1.3s,baz=162,slow=2.4,SNR=1.9
OBN Obninsk 117.70 323 *e*PKIKP **PKiKP** **06 16 45.1 +1.4**
OBN *e*PPP PPP 06 20 26.0
OBN pmax pmax
comp=Z,6.0nm,1.2s
OBN MLR MLR
comp=Z,173nm,16.0s
AKASG Malin Array Be 117.80 316 PKP **PKPdf** **06 16 42.5 -1.5**
comp=Z,0.2nm,0.3s,baz=119,slow=1.6,SNR=1.6
CRVS Cervenica-Dubn 120.38 311 *e*PKP **PKiKP** **06 16 54.9 +5.7**
CRVS Cervenica-Dubn 120.38 311 *e*PKIKP **PKiKP** **06 16 54.9 +5.7**
TIXI Tiksi 120.87 9 *i* PKIKP **PKiKP** **06 16 52.1 +2.7**
VYHS Vyhne 121.47 309 *e*PKP **PKiKP** **06 16 54.1 +2.7**
VYHS Vyhne 121.47 309 *e*PKIKP **PKiKP** **06 16 54.1 +2.7**
NACGM Naroch 121.70 318 *e*PKP **PKiKP** **06 16 51.4 -0.2**
comp=Z,19nm,0.9s,baz=130
SOKA Soboth 122.37 305 *e*pPKP pPKPdf 06 16 56.4 -0.8
comp=Z,6.1nm,0.9s
ARSA Arzberg 122.46 306 *e*PKiKP **PKiKP** **06 16 56.2 +2.8**
comp=Z,9.0nm,1.1s
CLUD Cludinico 123.42 304 PKPdf **PKPdf** **06 16 54.1 -1.0**
KRLC Kraliky 123.50 309 *e*PKP **PKiKP** **06 16 58.2 +2.8**
KRLC Kraliky 123.50 309 *e*PKIKP **PKiKP** **06 16 58.2 +2.8**
KBA Koelnbreinsper 123.54 305 *e*PKiKP **PKiKP** **06 16 57.6 +1.9**
comp=Z,9.8nm,1.0s
ABTA Abfaltersbach 123.80 304 *e*PKiKP **PKiKP** **06 16 57.8 +1.6**
comp=Z,6.8nm,1.0s
DPC Dobruska-Polom 123.91 310 *e*PKP **PKiKP** **06 16 58.4 +2.2**
DPC Dobruska-Polom 123.91 310 *e*PKIKP **PKiKP** **06 16 58.4 +2.2**
CKRC Cesky Krumlov 124.05 307 *e*PKP **PKiKP** **06 16 56.8 +0.3**
CKRC Cesky Krumlov 124.05 307 *e*PKIKP **PKiKP** **06 16 56.8 +0.3**
OSTC Ostas 124.08 310 *e*PKP **PKiKP** **06 16 59.9 +3.4**
OSTC Ostas 124.08 310 *e*PKIKP **PKiKP** **06 16 59.9 +3.4**
LESA Schwarzleotal 124.11 305 *e*pPKP pPKPdf 06 16 59.6 -1.0
comp=Z,7.8nm,1.1s

GERES	**GERESS Array B**	124.39	307	PKP		PKPdf	06 16 56.3	-0.7	
	comp=Z,1.1nm,0.8s,baz=131,slow=2.7,SNR=3.4								
WTTA	**Wattenberg**	124.59	304	*e*PKiKP		PKiKP	06 17 00.2	+2.4	
	comp=Z,7.5nm,0.9s								
BILL	**Bilibino**	124.80	24	*i* PKIKP		PKiKP	06 16 58.7	+1.4	
SQTA	**Sankt Quirin**	124.80	304	*e*PKiKP		PKiKP	06 16 59.9	+1.8	
	comp=Z,9.9nm,1.0s								
MOTA	**Moosalm**	124.93	304	*e*PKiKP		PKiKP	06 17 00.8	+2.4	
	comp=Z,7.6nm,1.0s								
FETA	**Feichten**	124.95	304	*e*pPKP		pPKPdf	06 17 01.4	-0.9	
	comp=Z,7.6nm,1.0s								
CLL	**Collm**	126.18	309	*i* PKPdf		PKiKP	06 17 01.0	+0.5	
CLL				*i* x		x	06 17 06.4		
	comp=Z,7.0nm,1.0s								
CLL	**Collm**	126.18	309	*i* PKIKP		PKiKP	06 17 01.0	+0.5	
CLL				*i*			06 17 06.4		
ESDC	**Sonseca Array**	129.53	288	PKP		PKiKP	06 17 07.4	-0.3	
	comp=Z,0.9nm,1.1s,baz=141,slow=2.6,SNR=2.4								
NOA	**NORSAR Array B**	131.97	319	PKP		PKiKP	06 17 11.1	-0.8	
	comp=Z,0.3nm,0.7s,baz=103,slow=1.9,SNR=0.8								
C19K	**Lookout Ridge**	136.00	31	P		PKiKP	06 17 19.0	-0.9	
	baz=253								
G19K	**Purcell Mounta**	136.02	35	P		PKiKP	06 17 19.3	-0.6	
	baz=252								
H19K	**Roundabout Mou**	136.08	36	P		PKPdf	06 17 18.7	+0.3	
	baz=252								
M20K	**Styx River**	136.31	42	P		PKPdf	06 17 19.7	+0.6	
	baz=251								
E19K	**Redstone River**	136.36	34	P		PKiKP	06 17 20.3	-0.3	
	baz=253								
K20K	**Telida**	136.38	40	P		PKiKP	06 17 20.3	-0.5	
	baz=252								
N20K	**Mount Spurr**	136.51	43	P		PKiKP	06 17 20.2	-0.9	
	baz=251								
EKA	**Eskdalemuir Ar**	136.60	308	PKP		PKiKP	06 17 20.5	-1.0	
	comp=Z,1.5nm,0.8s,baz=90,slow=1.4,SNR=1.9								
I20K	**Naaghedeneel**	136.65	38	P		PKiKP	06 17 20.5	-0.7	
	baz=253								
H20K	**Anotleneega Mo**	136.69	37	P		PKiKP	06 17 20.5	-0.9	
	baz=253								
F20K	**Avaraart Lake**	136.80	34	P		PKPdf	06 17 20.0	+0.3	
	baz=254								
CAPN	**Captain Cook N**	136.85	44	P		PKiKP	06 17 21.0	-0.8	
	baz=251								
D20K	**Etivluk River**	136.92	32	P		PKiKP	06 17 21.1	-0.7	
	baz=255								
E20K	**Nigu River**	136.96	33	P		PKiKP	06 17 21.2	-0.7	
	baz=255								
G21K	**Allakaket**	137.51	35	P		PKPdf	06 17 21.6	+0.5	
	baz=255								
M22K	**Willow**	137.63	43	P		PKPdf	06 17 22.2	+0.8	
	baz=253								
E21K	**Killik River**	137.80	33	P		PKPdf	06 17 22.4	+0.8	
	baz=257								
A22K	**Sinclair Lake**	138.00	29	P		PKiKP	06 17 23.3	-0.5	
	baz=259								
TRF	**Thorofare Moun**	138.03	40	P		PKPdf	06 17 23.0	+0.7	
	baz=255								
H22K	**Ishtalitna Cre**	138.20	37	P		PKiKP	06 17 23.6	-0.8	
	baz=256								
MLY	**Manley**	138.25	38	P		PKiKP	06 17 23.6	-1.0	
	baz=256								
F22K	**John River**	138.25	34	P		PKiKP	06 17 23.8	-0.7	
	baz=258								
D22K	**Ayikyak River**	138.35	32	P		PKiKP	06 17 24.2	-0.4	
	baz=259								
B22K	**Teshekpuk Lake**	138.38	30			PKPdf	06 17 22.4	-0.2	
B22K	**Teshekpuk Lake**	138.38	30	P		PKPdf	06 17 24.1	-0.5	
	baz=260								
G22K	**Bettles**	138.38	35	P		PKiKP	06 17 24.1	-0.6	
	baz=257								
P23K	**Montague Islan**	138.38	46	P		PKPdf	06 17 23.3	+0.5	
	baz=253								
E22K	**Anaktuvuk Pass**	138.52	33	P		PKiKP	06 17 24.2	-0.8	
	baz=258								
MCK	**McKinley**	138.69	40	P		PKPdf	06 17 23.3	-0.1	
	baz=256								
COLD	**Coldfoot**	138.94	35	P		PKiKP	06 17 24.7	-1.2	
	baz=259								
D23K	**Nanushuk River**	139.08	32	P		PKiKP	06 17 24.9	-1.2	
	baz=260								
DHY	**Denali Highway**	139.22	41	P		PKPdf	06 17 25.0	+0.5	
	baz=256								
C23K	**Itkillik River**	139.24	31	P		PKPdf	06 17 25.0	+0.8	
	baz=262								
E23K	**Chandalar**	139.32	34	P		PKPdf	06 17 24.8	+0.3	
	baz=260								
TOLK	**Toolik Lake Re**	139.43	33	P		PKPdf	06 17 24.9	+0.3	
	baz=261								
H24K	**Noodor Dome**	139.59	37	P		PKPdf	06 17 25.2	+0.3	
	baz=259								
HDA	**Harding Lake**	139.69	40	P		PKPdf	06 17 25.0	-0.2	
	baz=258								
HDA				P		PKPdf	06 17 25.0	-0.2	
	baz=258								
E24K	**Your Creek**	139.74	34	P		PKPdf	06 17 25.1	-0.1	
	baz=261								
F24K	**Squaw Lake**	139.88	35	P		PKPdf	06 17 25.7	+0.3	
	baz=261								
C26K	**Camden Bay**	141.21	31	P		PKPdf	06 17 27.8	+0.1	
	baz=267								
I28M	**Miner Creek**	142.80	39	P		PKPdf	06 17 28.7	-2.2	
	baz=265								
DAWY	**Dawson**	142.90	41	P		PKPdf	06 17 28.8	-2.1	
	baz=264								
F28M	**Old Crow**	142.95	35	P		PKPdf	06 17 28.9	-2.0	
	baz=268								
E28M	**Babbage River**	143.09	33	P		PKPbc	06 17 28.5	+0.4	
	baz=270								
G29M	**Pine Creek**	143.65	36	P		PKPbc	06 17 30.8	+1.0	
	baz=269								
E29M	**Blow River**	143.69	34			PKPbc	06 17 30.1	+0.3	
E29M	**Blow River**	143.69	34	P		PKPbc	06 17 30.4	+0.6	
	baz=271								
K29M	**Barlow Dome**	143.70	41	P		PKPdf	06 17 31.5	-1.0	
	baz=265								
M30M	**Minto, Yukon**	143.91	44	P		PKPbc	06 17 30.9	+0.2	
	baz=264								
O30N	**Mendenhall**	144.03	47	P		PKPbc	06 17 31.7	+0.6	
	baz=262								
EPYK	**Eagle Plains**	144.16	37	P		PKPbc	06 17 32.0	+0.6	
	baz=270								
J30M	**Hart River**	144.27	40	PKPdf		PKPdf	06 17 32.5	-0.9	
J30M	**Hart River**	144.27	40	P		PKPdf	06 17 32.6	-0.8	
	baz=267								
N31M	**Braeburn, Yuko**	144.27	46	P		PKPdf	06 17 32.6	-0.8	
	baz=264								
I30M	**Mount Dempster**	144.28	39	P		PKPdf	06 17 32.7	-0.8	
	baz=268								
G30M	**tAoh Zraii Nji**	144.36	36	P		PKPbc	06 17 32.5	+0.5	
	baz=271								
MAYO	**Mayo, Yukon**	144.41	42	P		PKPbc	06 17 32.7	+0.6	
	baz=266								
F30M	**Barrier River**	144.51	35	P		PKPab	06 17 31.7	-0.4	
	baz=272								
SAO	**San Andreas Ge**	144.73	92			PKPab	06 17 32.8	-1.1	
SAO	**San Andreas Ge**	144.73	92	PKIKP		PKPab	06 17 32.8	-1.1	
PKM	**Mcpherson Peak**	144.75	96	P		PKPab	06 17 32.9	-1.3	
	baz=234								
SMMC	**Simmler**	144.88	95	P		PKPab	06 17 33.5	-0.9	
	baz=234								
M31M	**Drury Creek, Y**	145.00	44	P		PKPab	06 17 33.8	-0.2	
	baz=266								
P32M	**Atlin**	145.05	49	P		PKPbc	06 17 34.0	-0.3	
	baz=262								
G31M	**Satah River**	145.13	36			PKPbc	06 17 32.9	-1.3	
G31M	**Satah River**	145.13	36	P		PKPdf	06 17 34.6	-0.1	
	baz=272								
WRAK	**Wrangell Islan**	145.25	55	P		PKPdf	06 17 35.1	-0.1	
	baz=259								
F31M	**Tsiigehtchic**	145.31	35			PKPbc	06 17 33.6	-1.2	
F31M	**Tsiigehtchic**	145.31	35	P		PKPdf	06 17 35.5	+0.6	
	baz=274								
OSI	**Osito Audit: C**	145.31	97	P		PKPbc	06 17 35.3	-0.7	
	baz=233								
INK	**Inuvik**	145.32	34	P		PKPdf	06 17 35.8	+0.8	
	baz=275								
109C	**Camp Elliot, M**	145.33	101	P		PKPbc	06 17 36.1	+0.1	
	baz=231								
DECC	**Green Verdugo**	145.35	98	P		PKPdf	06 17 35.8	-0.4	
	baz=233								
V35K	**Ketchikan**	145.44	57	P		PKPab	06 17 36.0	+0.2	
	baz=258								
FARO	**Faro, Yukon**	145.49	44	P		PKPab	06 17 36.4	+0.5	
	baz=266								
N32M	**Quiet Lake**	145.53	46	P		PKPab	06 17 36.8	+0.7	
	baz=265								
ARVC	**Arvin**	145.54	96	P		PKPab	06 17 37.4	+0.5	
	baz=234								
P33M	**Teslin, Yukon**	145.57	48	P		PKPab	06 17 37.0	+0.7	
	baz=264								
MONP2	**Monument Peak**	145.78	101	P		PKPbc	06 17 37.7	0.0	
	baz=231,SNR=17								
VES	**Vestal, Richgr**	145.78	95	P		PKPbc	06 17 37.4	+0.1	
	baz=235								
BFSC	**Mount Baldy Ra**	145.79	98	P		PKPdf	06 17 37.4	+0.3	
	baz=233								
IKP	**In-Ko-Pah, Jac**	145.83	102	P		PKPbc	06 17 37.9	+0.2	
	baz=231								
ISA	**Isabella, Lake**	146.09	96	P		PKPdf	06 17 38.0	+0.6	
	baz=235,SNR=12								
S34M	**Telegraph Cree**	146.16	52	P		PKPbc	06 17 37.8	0.0	
	baz=262								
SWSC	**Sam W. Stewart**	146.22	102	P		PKPdf	06 17 37.9	+0.3	
	baz=231								
R33M	**Jennings River**	146.42	50	P		PKPbc	06 17 38.2	-0.5	
	baz=264								
YBH	**Yreka Blue Hor**	146.42	83	PKPdf		PKPdf	06 17 38.3	+0.5	
YBH	**Yreka Blue Hor**	146.42	83	PKP2		PKPdf	06 17 38.3	+0.5	
LRMC	**Laurel Mtn Rad**	146.51	97	P		PKPdf	06 17 36.4	-1.9	
	baz=234								
CWC	**Cottonwood Cre**	146.79	95	P		PKPbc	06 17 40.7	+0.2	
	baz=236								
A36M	**Sachs Harbour**	147.30	26	PKPdf		PKPdf	06 17 39.1	+0.9	
214A	**Organ Pipe Nat**	147.52	106	P		PKPbc	06 17 42.5	0.0	
	baz=229								
WTLY	**Watson Lake, Y**	147.57	48	P		PKPbc	06 17 42.1	+0.3	
	baz=267								
GRAC	**Grapevine Rang**	147.58	95	P		PKPbc	06 17 42.6	+0.1	
	baz=236								
PAHR	**Pah Rah Range**	147.66	89			PKiKP	06 17 44.7	-0.2	
RYN	**Ryan**	147.69	91			PKiKP	06 17 44.4	-0.6	
NVAR	**Mina Array Bea**	147.73	92	PKPbc		PKPbc	06 17 43.9	+0.7	
	comp=Z,5.3nm,0.7s,baz=226,slow=4.4,SNR=39								
TPNV	**Topopah Spring**	148.30	96	P		PKPbc	06 17 43.2	-1.4	
	baz=236,SNR=10.0								
HPIG		148.31	121	PKPab		PKPab	06 17 47.8	-0.3	
C36M	**Paulatuk**	148.49	31	P		PKPbc	06 17 43.6	-0.3	
	baz=287								
GNW	**Green Mountain**	148.67	73			PKPdf	06 17 41.7	+0.5	
LIRD	**Liard River Hi**	148.91	50	P		PKPbc	06 17 45.8	+0.5	
	baz=268								
TUC	**Tucson**	149.04	108			PKiKP	06 17 48.9	+1.0	
TUC				PKPab		PKPab	06 17 53.8	+3.0	
TUC	**Tucson**	149.04	108	P		PKPbc	06 17 47.0	+0.5	
	baz=228								
TUC	**Tucson**	149.04	108	PKP2		PKPab	06 17 53.8	+3.0	
R11B	**Troy Canyon, C**	149.50	94	P		PKPbc	06 17 48.3	+0.6	
	baz=238								
B06A	**Marblemount**	149.82	72			PKPdf	06 17 42.4	-0.6	
KOTAN	**Kotaneelee Air**	149.94	49	P		PKiKP	06 17 49.3	+0.6	
	baz=271								
WRGLY	**Wrigley**	150.00	42	P		PKiKP	06 17 48.7	+0.1	
	baz=277								
G08A	**Pilot Rock**	150.38	79			PKiKP	06 17 51.4	+1.1	
SUMG	**Summit**	150.49	338			PKiKP	06 17 49.3	-0.7	
SUMG	**Summit**	150.49	338	PKIKP		PKiKP	06 17 49.3	-0.7	
WUAZ	**Wupatki**	150.69	102	P		PKPbc	06 17 50.5	-0.1	
	baz=233								
D08A	**Wollman Farm,**	151.02	76			PKiKP	06 17 51.6	+0.2	
121A	**Cookes Peak, D**	151.08	111	P		PKPbc	06 17 51.9	+0.3	
	baz=227								
TX31	**Lajitas Ar. Si**	151.27	121			PKiKP	06 17 53.3	+0.8	
TX31				PKPab		PKPab	06 18 00.6	+0.5	
TXAR	**Lajitas Array**	151.27	121	PKPdf		PKPdf	06 17 46.5	+0.4	
TXAR				PKPab		PKPab	06 18 00.7	+0.6	
TXAR	**Lajitas Array**	151.27	121	PKPbc		PKPbc	06 17 52.1	+0.1	
	comp=Z,3.3nm,0.8s,baz=187,slow=3.5,SNR=25								
E09A	**Wood Farm, Sta**	151.34	77			PKPbc	06 17 51.6	+0.1	
W18A	**Petrified Fore**	151.51	105	P		PKPbc	06 17 52.8	+0.3	
	baz=232								
MNTX	**Cornudas Mount**	151.98	115	P		PKiKP	06 17 54.0	+0.1	
	baz=225								
RES	**Resolute Bay**	152.23	11			PKiKP	06 17 53.6	+0.7	
RES	**Resolute Bay**	152.23	11	PKIKP		PKiKP	06 17 53.7	+0.7	
DUG	**Dugway, Tooele**	152.29	93	IAMs_20		IAMs_20	07 12 23.0		
	comp=Z,288nm,20.0s								
DUG	**Dugway, Tooele**	152.29	93	P		PKiKP	06 17 54.5	+0.1	
	baz=240								
NEW	**Newport**	152.54	74	P		PKiKP	06 17 55.1	+0.6	
	baz=254								
ANMO	**Albuquerque**	153.50	109			PKiKP	06 17 58.2	+1.1	
ANMO	**Albuquerque**	153.50	109	PKIKP		PKiKP	06 17 58.2	+1.1	
HILA	**High Level**	153.62	51			PKiKP	06 17 56.8	+0.5	
YKA	**Yellowknife Ar**	154.13	42	PKPbc		PKPbc	06 17 55.0	-2.2	
	comp=Z,1.6nm,1.0s,baz=293,slow=2.5,SNR=7.5								
YKA				PP		PP	06 21 50.0	+3.5	
	comp=Z,0.3nm,0.9s,baz=285,slow=3.1,SNR=3.4								
JCT	**Junction City**	154.31	125			PKPbc	06 17 58.5	-0.2	
JCT	**Junction City**	154.31	125	PKIKP		PKPbc	06 17 58.5	-0.2	
LOHW	**Long Hollow**	155.29	88			PKPab	06 18 19.1	+2.2	
PDAR	**Pinedale Array**	155.64	90	PKPbc		PKPdf	06 17 57.7	+5.5	
	comp=Z,0.7nm,0.8s,baz=132,slow=2.2,SNR=6.4								
T25A	**Trinidad**	156.15	107	PKPab		PKPab	06 18 22.2	+1.4	

IDC ***10*** *05:58:19.8±1.4, 56.66S×141.41W, h0km, mb3.9/4, mbtmp3.9/4, MS4.4/17, Error ellipse: s-maj=48.3km s-min=37.5km az=36.0*

GCMT ***10*** *05:58:26.0±0.1, 57.03S±0.01×141.23W±0.01, h26km, MW5.3/130, Moment Tensor Solution. s86,c121; s130,c206; Duration: 1!1 Moment tensor: Scale 10^17 Nm; Mrr=0.12±.02; Mθθ 0.94±.02; Mϕϕ -0.81±.02; Mrθ 0.25±.05; Mθϕ 0.84±.02; Mϕr -0.08±.04; Best double couple: M0 1.24100×10^17 NP1: ϕ=293.00000°, δ 89.00000°, λ=-12.00000°. NP2: ϕ 23.00000°, δ 78.00000°, λ=-179.00000°. Principal axes: T 1.3050, Plg 8.0000°, Azm 339.0000°; N -0.1270, Plg 78.0000°, Azm 110.0000°; P -1.1780, Plg 9.0000°, Azm 247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 10 05:58:23.1±0.8, 57.05S±0.1×141.18W±0.2, h10km, n46, σ 1!74/15, mb 4.2/6, MS 4.5/17, 2C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	33.12	180	P	P		06 05 00.6	+1.6
	3.7nm,1.0s,baz=103,slow=4.2,SNR=7.2							
	3.7nm,1.0s							
TBI	**Tubuai**	34.10	347	*e*P	P		06 05 08.8	+1.1
	427nm,30.5s							
TBI				*e*S	S		06 10 13.8	-20
	1μm,28.8s							
TBI				*e*LR	LR		06 13 43.4	
	12μm,27.8s							
TBI				*e*LR	LR		06 13 53.6	
	3μm,28.8s							
TBI	**Tubuai**	34.10	347	*e*T	T		06 40 16.0	
	38nm,0.3s							
PMSA	**Palmer Station**	36.29	135	LR	LR		06 15 58.0	
	comp=Z,1μm,21.6s,baz=236,slow=29							
RPN	**Rapa Nui**	37.75	51	LR	LR		06 17 12.6	
	comp=Z,724nm,21.5s,baz=206,slow=30							
RAR	**Rarotonga**	38.13	332	LR	LR		06 16 31.2	
	comp=Z,777nm,20.1s,baz=168,slow=29							
MEH	**Mehetia**	39.37	351	*e*T	T		06 46 50.0	
	17nm,0.2s							
TVO	**Taravao**	39.58	349	*e*T	T		06 47 11.4	
	2.5nm,0.3s							
PAE	**Paea**	39.73	348	*e*T	T		06 47 21.3	
	1.8nm,0.3s							
PPT2	**Papeete2**	39.80	348	*e*P	P		06 05 53.4	-2.9
	150nm,38.8s							
PPT2				*e*S	S		06 11 39.4	-21
	414nm,27.0s							
PPT2				*e*LR	LR		06 16 27.0	
	3μm,28.8s							
PPT2				*e*LR	LR		06 16 34.2	
	2μm,29.2s							
PPT2	**Papeete2**	39.80	348	*e*T	T		06 47 18.9	
	3.3nm,0.3s							
PPT	**Papeete**	39.82	348	LR	LR		06 18 10.3	
	comp=Z,590nm,18.1s,baz=170,slow=30							
PMOR	**Pomariorio Ree**	42.20	351	*e*T	T		06 50 37.2	
	2.6nm,0.2s							
H03S2	**Juan Fernandez**	47.84	89	T	T		06 58 01.7	
	baz=219,slow=74,SNR=16							
H03S1	**Juan Fernandez**	47.84	89	T	T		06 57 58.3	
	baz=219,slow=74,SNR=28							
H03S3	**Juan Fernandez**	47.85	89	T	T		06 58 03.5	
	baz=219,slow=74,SNR=23							
TAOE	**Nuku Hiva Isla**	48.08	2	*e*S	S		06 14 03.2	+2.0
	319nm,25.6s							
TAOE				*e*SS	SS		06 17 31.8	+1.5
	247nm,28.2s							
TAOE				*e*LR	LR		06 20 24.2	
	1μm,28.5s							
H03N3	**Juan Fernandez**	48.12	89	T	T		06 58 24.2	
	baz=222,slow=72,SNR=126							
H03N2	**Juan Fernandez**	48.13	89	T	T		06 58 23.4	
	baz=222,slow=72,SNR=156							
H03N1	**Juan Fernandez**	48.14	89	T	T		06 58 17.9	
	baz=222,slow=72,SNR=126							
VNA2	**Neumayer--Watz**	48.33	162	⇑P	P		06 07 02.6	-1.4
	comp=Z,29nm,0.8s,baz=212,slow=7.0							
VNA1	**Neumayer--Stat**	48.41	161	⇑P	P		06 07 05.9	+1.2
	comp=Z,37nm,1.0s							
DZM	**Mont Dzumac**	51.17	291	*e*P	P		06 07 16.9	-9.4
	comp=Z,54nm,24.1s							
DZM				*e*S	S		06 14 25.4	-19
	comp=Z,134nm,29.3s							
DZM				*e*LR	LR		06 21 29.5	
	comp=Z,834nm,25.2s							
MAW	**Mawson**	54.33	191	LR	LR		06 28 15.3	
	comp=Z,409nm,20.8s,baz=158,slow=33							
STKA	**Stephens Creek**	56.76	262	P	P		06 08 08.9	+1.9
	comp=Z,1.4nm,0.7s,baz=135,slow=2.9,SNR=2.0							
STKA				LR	LR		06 27 43.9	
	comp=Z,404nm,20.7s,baz=138,slow=31							
	comp=Z,1.4nm,0.7s							
ASAR	**Alice Springs**	67.39	261	P	P		06 09 18.3	-0.3
	comp=Z,0.6nm,0.8s,baz=133,slow=6.5,SNR=3.8							
	comp=Z,0.6nm,0.8s							
H01W1	**Cape Leeuwin H**	68.40	239	T	T		07 25 11.4	
	baz=144,slow=76,SNR=100							
H01W2	**Cape Leeuwin H**	68.41	239	T	T		07 25 12.0	
	baz=144,slow=76,SNR=61							
H01W3	**Cape Leeuwin H**	68.42	239	T	T		07 25 09.9	
	baz=144,slow=76,SNR=76							
NWAO	**Narrogin (SRO)**	68.54	243	LR	LR		06 33 54.2	
	comp=Z,265nm,18.8s,baz=183,slow=31							
WRA	**Warramunga Arr**	70.17	264	P	P		06 09 35.8	-0.1
	comp=Z,0.5nm,0.8s,baz=146,slow=5.9,SNR=3.1							
	comp=Z,0.5nm,0.8s							
CMIG	**Matias Romero**	83.55	45	LR	LR		06 39 56.0	
	comp=Z,84nm,19.7s,baz=202,slow=30							
BATI	**Baumata**	83.96	261	LR	LR		06 44 12.3	
	comp=Z,386nm,21.3s,baz=144,slow=33							
SUR	**Sutherland**	89.73	165	LR	LR		06 49 36.9	
	comp=Z,139nm,18.2s,baz=173,slow=34							
KAPI	**Kappang**	90.40	260	LR	LR		06 48 51.7	
	comp=Z,273nm,21.2s,baz=148,slow=33							
PFO	**Pinyon Flats O**	92.81	21	LR	LR		06 43 57.0	
	comp=Z,230nm,19.9s,baz=212,slow=30							
BOSA	**Boshof**	94.00	169	LR	LR		06 52 35.3	
	comp=Z,218nm,18.1s,baz=183,slow=34							
LEM	**Lembang**	95.26	249	LR	LR		06 51 45.5	
	comp=Z,112nm,18.0s,baz=103,slow=34							
LBTB	**Lobatse**	97.59	169	LR	LR		06 51 49.8	
	comp=Z,147nm,20.2s,baz=177,slow=33							
YBH	**Yreka Blue Hor**	99.71	14	LR	LR		06 46 22.8	
	comp=Z,269nm,21.8s,baz=229,slow=29							
ELK	**Elko**	99.96	20	LR	LR		06 47 16.5	
	comp=Z,132nm,21.3s,baz=232,slow=30							
ILAR	**Eielson Array**	121.54	357	PKP	PKPdf		06 17 13.7	-1.5
	comp=Z,0.4nm,0.8s,baz=190,slow=2.7,SNR=3.0							
ESDC	**Sonseca Array**	147.72	104	PKPbc	PKPdf		06 18 04.5	0.0
	comp=Z,0.7nm,1.0s,baz=206,slow=4.0,SNR=1.5							
MKAR	**Makanchi Array**	151.40	268	PKPbc	PKPbc		06 18 14.6	-1.5
	comp=Z,1.0nm,0.9s,baz=117,slow=4.5,SNR=2.9							
KURBB	**Kurchatov Arra**	155.61	272	PKPab	PKPab		06 18 40.9	-1.2
	comp=Z,0.6nm,0.2s,baz=113,slow=4.7,SNR=4.4							
BVAR	**Borovoye Array**	161.20	271	PKPab	PKPab		06 19 04.2	-2.1
	comp=Z,0.2nm,0.4s,baz=130,slow=4.5,SNR=1.6							

AEIC ***10*** *06:05:13.3±1.1, 51.36N±0.09×168.45W±0.09, h20km±9km, Error ellipse: s-maj=13.9km s-min=8.1km az=167.0*

NEIC 10 06:05:11.6±0.9, 51.42N±0.07×168.52W±0.06, h10km±2km, ML 3.5/8, ML 3.0 (AEIC), Error ellipse: s-maj=12.3km s-min=6.2km az=191.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	1.56	332			Pn	06 05 39.5	+0.1
CLCO						Sn	06 05 59.4	-0.2
NIKH	**Nikolski High**	1.57	353			Pn	06 05 39.1	-0.5
NIKH	**Nikolski High**	1.57	353			Sn	06 05 59.8	-0.1
CLES	**Cleveland East**	1.64	330			Pn	06 05 40.5	-0.1
CLES				Sn		Sn	06 06 01.9	+0.2
CLES				IAML			06 06 15.1	
	comp=E,497nm,1.5s							
CLES				IAML			06 06 25.4	
	comp=N,668nm,1.9s							
OKTU	**Okmok Mt. Tuli**	1.99	8			Pn	06 05 45.4	0.0
OKFG	**Magazine Ridge**	2.03	10			Pn	06 05 46.2	+0.4
OKFG						Sn	06 06 11.3	+0.1
MAPS	**Pakushin South**	2

FORC	**Fortuna**	**1.07 355**	⇑	*e*P	Pb	06 30 08.2	-0.5
FORC				*e*S	Sg	06 30 23.1	0.0
VACR	**Volcan Arenal**	**1.08 355**		*e*P	Pb	06 30 08.3	-0.5
RVSTA	**Santa Teresita**	**1.09 58**		*e*P	Pb	06 30 07.8	-1.2
CEDE	**Laguna Cedeo**	**1.10 354**		*e*P	Pb	06 30 08.7	-0.4
ITAL	**Pital**	**1.10 16**		*e*P	Pb	06 30 08.2	-0.9
TABAC	**Tabacon**	**1.12 351**		*e*P	Pb	06 30 08.9	-0.6
TABAC				*e*S	Sn	06 30 25.0	+0.1
NICO	**Nicoya**	**1.13 311**		*e*P	Pb	06 30 08.8	-0.8
EDPN	**Palmar Norte**	**1.19 111**		*e*P	Pn	06 30 09.1	-1.4
LCOCO	**El Coco**	**1.22 56**		*e*P	Pn	06 30 10.2	-0.8
LCOCO				*e*S	Sn	06 30 27.4	0.0
CARI	**Cariari**	**1.27 41**		*e*P	Pb	06 30 12.2	+0.1
EDBA	**Buenos Aires**	**1.31 100**		*e*P	Pn	06 30 11.3	-0.9
EDBA				*e*S	Sn	06 30 29.7	+0.2
ACAL	**Aguas Claras**	**1.31 340**		*e*P	Pn	06 30 12.0	-0.4
ACAL				*e*S	Sb	06 30 29.4	-0.2
MOTZ	**Rio Naranjo**	**1.38 339**		*e*P	Pn	06 30 12.8	-0.4
CUI	**Cuipilapa**	**1.38 335**		*e*P	Pn	06 30 13.0	-0.3
CUI				*e*S	Sb	06 30 31.7	+0.1
MESS	**Mesas**	**1.47 336**		*e*P	Pn	06 30 13.6	-0.9
MESS				*e*S	Sb	06 30 34.6	+0.5
CANAL	**Canalete**	**1.51 342**		*e*P	Pn	06 30 15.2	+0.2
EDAD	**Golfito**	**1.58 118**		*e*P	Pn	06 30 14.2	-1.7
EDAD				*e*S	Sg	06 30 38.8	-0.4
LAPC	**Finca la Perla**	**1.60 329**		*e*P	Pn	06 30 16.5	+0.3

IDC ***10*** *06:33:12.2±2.4, 24.°56S×179.°70E, h572km±26km, mb3.1/8, mbtmp4.0/9, Error ellipse: s-maj=23.1km s-min=13.9km az=169.0*

ISC 10 06:33:09.1±0.7, 24.°7S±0.°1×179.°8E±0.°1, h550km, n15, σ1§53/18, mb3.6/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.55**	**279**	P	**P**	**06 35 55.0**	**+1.4**
	15nm,0.7s,baz=81,slow=17,SNR=12						
URZ	**Urewera**	**13.74**	**189**	P	**P**	**06 36 04.6**	**-0.8**
	8.4nm,1.0s,baz=280,slow=19,SNR=1.6						
URZ				S	**S**	**06 38 28.6**	**-1.9**
	3.9nm,0.6s,baz=223,slow=6.0,SNR=1.6						
RPZ	**Rata Peaks**	**20.30**	**199**	P	**P**	**06 37 09.1**	**+1.3**
	10nm,0.7s,baz=6.6,slow=11,SNR=2.5						
	10nm,0.7s						
STKA	**Stephens Creek**	**34.28**	**249**	P	**P**	**06 39 10.4**	**+0.4**
	1.1nm,0.6s,baz=104,slow=18,SNR=3.5						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**41.75**	**262**	P	**P**	**06 40 12.2**	**+1.3**
	0.6nm,0.3s,baz=95,slow=7.9,SNR=14						
ASAR				S	**S**	**06 45 47.7**	**-1.1**
	0.4nm,1.0s,baz=86,slow=12,SNR=2.4						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**42.19**	**267**	P	**P**	**06 40 15.3**	**+0.9**
	1.3nm,0.6s,baz=98,slow=8.2,SNR=24						
WRA				S	**S**	**06 45 53.4**	**-1.8**
	0.9nm,1.1s,baz=107,slow=12,SNR=5.5						
	1.3nm,0.6s						
QSPA	**South Pole Qui**	**65.41**	**180**	P	**P**	**06 42 60.0**	**+2.4**
	1.4nm,0.7s,baz=47,slow=0.8,SNR=8.5						
	1.4nm,0.7s						
NVAR	**Mina Array Bea**	**85.42**	**44**	P	**P**	**06 44 48.3**	**-0.9**
	0.3nm,0.6s,baz=243,slow=2.9,SNR=2.3						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**90.98**	**58**	P	**P**	**06 45 16.8**	**+1.6**
	1.1nm,0.9s,baz=224,slow=6.0,SNR=9.2						
	1.1nm,0.9s						
ILAR	**Eielson Array**	**92.82**	**14**	P	**P**	**06 45 22.4**	**-0.3**
	0.3nm,1.0s,baz=204,slow=8.8,SNR=1.6						
	0.3nm,1.0s						
HFS	**Hagfors**	**143.27**	**348**	PKP	**PKPdf**	**06 51 38.7**	**-1.7**
	3.7nm,0.4s,baz=72,slow=4.7,SNR=36						
AKASG	**Malin Array Be**	**145.53**	**327**	PKPbc	**PKPbc**	**06 51 45.2**	**-0.8**
	0.6nm,0.4s,baz=45,slow=3.8,SNR=6.2						
MMAI	**Mount Meron Ar**	**147.86**	**293**	PKPbc	**PKPab**	**06 51 55.2**	**-2.4**
	1.1nm,0.4s,baz=97,slow=6.0,SNR=3.6						
BRTR	**Keskin Array B**	**147.90**	**306**	PKPbc	**PKiKP**	**06 51 54.2**	**-0.1**
	0.7nm,0.5s,baz=90,slow=1.4,SNR=4.5						
EKA	**Eskdalemuir Ar**	**149.30**	**3**	PKPbc	**PKiKP**	**06 51 55.5**	**-1.0**
	0.4nm,0.4s,baz=352,slow=3.1,SNR=6.5						

NNC 10 07:07:52.7±7.3, 36.°92N×70.°13E, h0km, mb3.8, mpv3.1, 3C-3D, Error ellipse: s-maj=82.3km s-min=41.1km az=145.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.89**	**27**	⇑P	Pn	07 09 21.7	+0.1
	0.6nm,0.6s						
AML				⇑S	Sn	07 10 30.3	+0.3
	2.2nm,0.6s						
KK31	**Karatay Array**	**6.18**	**3**	⇓P	Pn	07 09 27.1	+1.8
	1.2nm,0.4s,baz=184,slow=13,SNR=22						
KK31				⇓S	Sn	07 10 39.5	+2.8
	0.7nm,0.3s,baz=85,slow=17,SNR=5.9						
AB31	**Akbulak array**	**14.38**	**332**	⇑P	Pn	07 11 15.4	-2.1
	4.6nm,0.8s,baz=159,slow=12,SNR=51						
AKTO	**Aktyubinsk**	**16.07**	**331**	⇓P	Pn	07 11 38.1	-1.8
	2.3nm,1.2s						

DJA ***10*** *07:08:57.1±0.8, 2.°S±15.°×14.°0E±°, h10km, M3.1/3, MLv3.1/3*
IDC ***10*** *07:09:01.4±4.6, 2.°92S×139.°05E, h0km, mb3.6/2, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=126.4km s-min=36.0km az=112.0*

ISC 10 07:08:58.4±1.5, 2.°4S±0.°2×139.°59E±0.°07, h27km, n6, σ1§26/8, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.61**	**110**	P	**Pn**	**07 09 10.9**	**-0.5**
GENI				S	**Sb**	**07 09 19.4**	**+0.4**
SMPI	**Sarmi**	**0.96**	**294**	P	**Pn**	**07 09 15.6**	**-0.6**
JAY	**Jayapura**	**1.12**	**97**	P	**Pn**	**07 09 17.5**	**-0.9**
WRA	**Warramunga Arr**	**18.19**	**196**	P	**P**	**07 13 09.5**	**+0.2**
	0.2nm,0.3s,baz=15,slow=12,SNR=14						
WRA				S	Sn	07 16 22.9	-8.7
	0.2nm,0.9s,baz=13,slow=24,SNR=1.7						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**21.86**	**194**	P	**P**	**07 13 49.9**	**+0.7**
	0.9nm,0.7s,baz=22,slow=9.9,SNR=21						
ASAR				S	**S**	**07 17 47.6**	**-2.1**
	0.1nm,0.3s,baz=16,slow=28,SNR=1.4						
	0.9nm,0.7s						
STKA	**Stephens Creek**	**29.40**	**177**	P	**P**	**07 15 00.8**	**+1.2**
	0.9nm,0.6s,baz=340,slow=12,SNR=3.3						
	0.9nm,0.6s						

IDC 10 07:52:23.9±2.6, 16.°94N×118.°65E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=82.3km s-min=26.9km az=83.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**3.58**	**142**	Pn	Pn	07 53 22.5	+1.7
	baz=195,slow=0.0						
TGY				Sn	Sn	07 54 04.1	+0.3
	baz=236,slow=0.0						
KSRS	**Korea Array**	**22.01**	**20**	P	P	07 57 19.7	-0.2
	1.5nm,0.9s,baz=189,slow=12,SNR=3.7						
	1.5nm,0.9s						
WRA	**Warramunga Arr**	**39.76**	**157**	P	P	07 59 57.7	-0.9
	1.0nm,0.8s,baz=338,slow=9.2,SNR=7.5						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**43.02**	**159**	P	P	08 00 25.7	+0.2
	0.7nm,0.7s,baz=338,slow=7.8,SNR=10.0						
	0.7nm,0.7s						

NOU ***10*** *08:52:08.3, 21.°48S×168.°92E, h0km, MLv4.0/8, Loyalty Islands*
IDC ***10*** *08:52:10.2±2.1, 22.°23S×168.°78E, h0km, mb3.8/2, mbtmp3.8/3, ML3.4/1, Error ellipse: s-maj=74.5km s-min=30.7km az=166.0*
NEIC ***10*** *08:52:13.9±1.5, 21.°69S±0.°06×168.°52E±0.°04, h10km±1km, mb4.2/15, Error ellipse: s-maj=11.5km s-min=4.6km az=23.0*

ISC 10 08:52:14.5±1.1, 21.°53S±0.°08×168.°5E±0.°1, h20km, n36, σ1§15/36, mb4.1/8, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**0.44**	**277**		**Pb**	**08 52 23.6**	**-0.1**
MARNC	**Mare, Loyalty**	**0.44**	**277**	P	**Pb**	**08 52 24.2**	**+0.5**
LIFNC	**LIFOU**	**1.40**	**302**		**Pn**	**08 52 36.9**	**-2.1**
LIFNC	**LIFOU**	**1.40**	**302**	P	**Pn**	**08 52 38.5**	**-0.4**
PINNC	**Pines Island,**	**1.46**	**222**		**Pn**	**08 52 37.9**	**-1.8**
PINNC	**Pines Island,**	**1.46**	**222**	P	**Pn**	**08 52 39.8**	**+0.1**
OUENC	**Ouen Island, N**	**1.78**	**240**		**Pn**	**08 52 44.0**	**-0.1**
OUENC	**Ouen Island, N**	**1.78**	**240**	P	**Pn**	**08 52 45.1**	**+1.0**
DZM	**Mont Dzumac**	**1.99**	**254**		**Pn**	**08 52 46.8**	**-0.4**
DZM	**Mont Dzumac**	**1.99**	**254**	P	**Pn**	**08 52 48.4**	**+1.3**
DZM	**Mont Dzumac**	**1.99**	**254**	Pn	**Pn**	**08 52 48.3**	**+1.1**
	12nm,0.3s,baz=113,slow=15,SNR=174						
	41nm,0.4s						
ONTNC	**Ouen Toro**	**2.05**	**248**		**Pn**	**08 52 47.7**	**-0.2**
ONTNC	**Ouen Toro**	**2.05**	**248**	P	**Pn**	**08 52 49.0**	**+1.1**
NOUC	**Port Laguerre**	**2.12**	**254**	P	**Pb**	**08 52 50.6**	**-1.7**
KOUNC	**Koumac, New Ca**	**4.06**	**283**		**Pn**	**08 53 17.0**	**+1.5**
KOUNC	**Koumac, New Ca**	**4.06**	**283**	P	**Pn**	**08 53 17.2**	**+1.7**
ARMA	**Armidale**	**17.55**	**236**	P	**Pn**	**08 56 16.8**	**-1.3**
PMG	**Port Moresby**	**23.80**	**297**	P	**P**	**08 57 24.4**	**-1.9**
TOO	**Toolangi**	**25.52**	**226**	P	**P**	**08 57 40.9**	**-0.9**
TOO				IAmb	IAmb	08 58 06.4	
	comp=Z,8.4nm,1.1s						
STKA	**Stephens Creek**	**26.09**	**241**	P	**P**	**08 57 46.0**	**-1.0**
WR0	**Warramunga Arr**	**31.77**	**267**	P	**P**	**08 58 38.0**	**+0.3**
WB0	**Warramunga Arr**	**31.93**	**267**	P	**P**	**08 58 39.3**	**+0.1**
WB0				IAmb	IAmb	08 58 40.0	
	comp=Z,3.0nm,1.1s						
WRA	**Warramunga Arr**	**31.95**	**267**	P	**P**	**08 58 39.5**	**+0.1**
WRA	**Warramunga Arr**	**31.95**	**267**	P	**P**	**08 58 39.2**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=99,slow=8.2,SNR=12						
	comp=Z,0.6nm,0.5s						
AS31	**Alice Springs**	**31.97**	**260**	P	**P**	**08 58 39.5**	**0.0**
ASAR	**Alice Springs**	**31.97**	**260**	P	**P**	**08 58 39.5**	**0.0**
ASAR	**Alice Springs**	**31.97**	**260**	P	**P**	**08 58 40.0**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=93,slow=8.8,SNR=17						
	comp=Z,1.6nm,0.8s						
MTN	**Manton Dam**	**36.66**	**277**	P	**P**	**08 59 21.0**	**+0.9**
FORT	**Forrest**	**37.28**	**247**	P	**P**	**08 59 26.0**	**+0.6**
KNRA	**Kununurra**	**38.04**	**272**	P	**P**	**08 59 32.4**	**+0.6**
KNRA				IAmb	IAmb	08 59 58.2	
	comp=Z,9.0nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.38**	**267**	P	**P**	**08 59 52.8**	**+1.4**
FITZ				IAmb	IAmb	09 00 18.6	
	comp=Z,2.2nm,0.9s						
VNDA	**Vanda**	**56.13**	**182**	P	**P**	**09 01 55.3**	**+3.2**
VNDA				IAmb	IAmb	09 02 16.8	
	comp=Z,1.1nm,1.1s						
QSPA	**South Pole Qui**	**68.53**	**180**	P	**P**	**09 03 14.6**	**-0.9**
QSPA				IAmb	IAmb	09 03 43.5	
	comp=Z,2.2nm,1.0s						
BELA	**Belgrano 2**	**79.88**	**175**	P	**P**	**09 04 20.9**	**-0.5**
EKA	**Eskdalemuir Ar**	**145.67**	**352**	PKPbc	**PKPbc**	**09 11 51.4**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=360,slow=1.9,SNR=5.5						
GERES	**GERESS Array B**	**146.15**	**330**	PKPbc	**PKPab**	**09 11 54.3**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=64,slow=2.5,SNR=3.1						

IDC 10 08:52:19.4±1.7, 2.°69N×128.°58E, h0km, mb3.5/5, mbtmp3.6/5, Error ellipse: s-maj=141.2km s-min=20.9km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.19**	**166**	P	P	08 57 28.5	+0.5
	0.6nm,0.5s,baz=346,slow=11,SNR=11						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**26.70**	**169**	P	P	08 57 59.7	-0.9
	0.2nm,0.5s,baz=350,slow=9.7,SNR=1.9						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**36.53**	**161**	P	P	08 59 26.8	-0.1
	0.7nm,0.3s,baz=339,slow=12,SNR=5.2						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**59.46**	**325**	P	P	09 02 24.6	+0.3
	0.4nm,0.6s,baz=114,slow=8.5,SNR=4.2						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**63.61**	**327**	P	P	09 02 52.0	-0.1
	0.3nm,0.3s,baz=134,slow=6.1,SNR=4.1						
	0.3nm,0.3s						

IDC ***10*** *08:52:38.7±3.1, 21.°11S×168.°35E, h0km, mb4.1/4, mbtmp4.1/5, ML4.2/1, Error ellipse: s-maj=108.5km s-min=26.9km az=140.0*
NEIC ***10*** *08:52:40.8±1.7, 21.°98S±0.°05×168.°51E±0.°08, h10km±2km, mb4.3/8, Error ellipse: s-maj=12.6km s-min=7.9km az=63.0*

ISC 10 08:52:42.1±1.2, 21.°85S±0.°10×168.°7E±0.°1, h35km, n24, σ1§34/25, mb4.2/8, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**0.73**	**301**	Pg	**Pn**	**08 52 52.7**	**-3.2**
PINNC	**Pines Island,**	**1.39**	**237**	Pn	**Pn**	**08 53 02.7**	**-2.3**
LIFNC	**LIFOU**	**1.73**	**308**	Pn	**Pn**	**08 53 10.8**	**+1.1**
OUENC	**Ouen Island, N**	**1.81**	**252**	Pn	**Pn**	**08 53 09.2**	**-1.6**
DZM	**Mont Dzumac**	**2.11**	**264**	Pn	**Pn**	**08 53 14.0**	**-1.0**
DZM	**Mont Dzumac**	**2.11**	**264**	Pn	**Pn**	**08 53 16.2**	**+1.3**
	81nm,0.3s,baz=136,slow=23,SNR=9.9						
DZM				Sn	**Sn**	**08 53 41.0**	**+1.0**
	98nm,0.3s,baz=139,slow=22,SNR=9.8						
	183nm,0.4s						
DZM	**Mont Dzumac**	**2.11**	**264**	Sn	**Pn**	**08 53 14.4**	**-0.5**
	81nm,0.3s,baz=97,slow=20,SNR=15						
ONTNC	**Ouen Toro**	**2.13**	**257**	Pn	**Pn**	**08 53 15.5**	**+0.3**
KOUNC	**Koumac, New Ca**	**4.32**	**287**	Pn	**Pn**	**08 53 44.6**	**-0.7**
COEN	**Coen**	**25.50**	**284**	P	**P**	**08 58 07.3**	**-0.1**
STKA	**Stephens Creek**	**26.10**	**242**	P	**P**	**08 58 14.1**	**+1.4**
	1.9nm,0.8s,baz=78,slow=15,SNR=3.2						
	1.9nm,0.8s						
BBOO	**Buckleboo**	**30.87**	**242**	P	**P**	**08 58 57.0**	**+1.7**
WR0	**Warramunga Arr**	**31.93**	**267**	P	**P**	**08 59 03.3**	**-1.5**
WR0				IAmb	IAmb	08 59 06.3	
	comp=Z,4.2nm,1.1s						
AS31	**Alice Springs**	**32.09**	**260**	P	**P**	**08 59 06.8**	**+0.7**
ASAR	**Alice Springs**	**32.09**	**260**	P	**P**	**08 59 05.9**	**-0.3**
ASAR	**Alice Springs**	**32.09**	**260**	P	**P**	**08 59 05.7**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=83,slow=9.2,SNR=13						
	comp=Z,2.6nm,0.8s						
WB0	**Warramunga Arr**	**32.10**	**267**	P	**P**	**08 59 05.7**	**-0.5**
WB0				IAmb	IAmb	08 59 09.0	
	comp=Z,4.3nm,1.1s						
WRA	**Warramunga Arr**	**32.12**	**267**	P	**P**	**08 59 05.6**	**-0.8**
WRA	**Warramunga Arr**	**32.12**	**267**	P	**P**	**08 59 04.4**	**-2.0**
	comp=Z,0.7nm,0.4s,baz=99,slow=7.7,SNR=11						
	comp=Z,0.7nm,0.4s						
MTN	**Manton Dam**	**36.88**	**278**	P	**P**	**08 59 46.7**	**-0.9**
MTN				IAmb	IAmb	09 00 05.3	
	comp=Z,4.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**79.13**	**295**	P	**P**	**09 04 43.7**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=138,slow=4.3,SNR=4.2						
	comp=Z,1.0nm,0.3s						
BELA	**Belgrano 2**	**79.55**	**175**	P	**P**	**09 04 46.0**	**+1.1**
BELA				IAmb	IAmb	09 04 47.4	
	comp=Z,3.8nm,1.0s						
EKA	**Eskdalemuir Ar**	**146.02**	**352**	PKPbc	**PKPdf**	**09 12 16.3**	**-0.8**
	comp=Z,4.7nm,1.0s,baz=18,slow=2.5,SNR=5.7						
GERES	**GERESS Array B**	**146.52**	**330**	PKPbc	**PKPbc**	**09 12 19.3**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=72,slow=3.2,SNR=2.6						

IDC ***10*** *08:54:47.1±2.4, 21.°05S×168.°28E, h0km, mb4.1/4, mbtmp4.1/4, MS3.3/4, Error ellipse: s-maj=88.3km s-min=26.6km az=141.0*
NEIC ***10*** *08:54:47.1±0.8, 21.°50S±0.°07×168.°66E±0.°04, h10km±1km, mb4.3/16, Error ellipse: s-maj=11.5km s-min=6.0km az=4.0*

ISC 10 08:54:48.3±0.8, 21.°45S±0.°09×168.°59E±0.°09, h20km, n39, σ0§72/36, mb4.3/11, MS3.3/4, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**0.52**	**267**	Pg	**Pb**	**08 54 58.4**	**-0.4**
MARNC				Sg	**Sn**	**08 55 07.7**	**-1.1**
LIFNC	**LIFOU**	**1.43**	**298**	Pn	**Pn**	**08 55 13.4**	**+0.4**
PINNC	**Pines Island,**	**1.57**	**222**		**Pn**	**08 55 14.2**	**-0.7**
OUENC	**Ouen Island, N**	**1.89**	**239**	Pn	**Pn**	**08 55 19.9**	**+0.5**
DZM	**Mont Dzumac**	**2.09**	**252**	Pn	**Pn**	**08 55 23.0**	**+0.8**
DZM	**Mont Dzumac**	**2.09**	**252**	Pn	**Pn**	**08 55 22.3**	**+0.1**
	7.3nm,0.3s,baz=68,slow=19,SNR=1.5						
DZM				Sn	**Sn**	**08 55 49.2**	**+1.5**
	50nm,0.3s,baz=60,slow=20,SNR=7.3						
DZM				LR	LR	08 55 59.1	
	comp=Z,142nm,21.3s,baz=42,slow=36						
ONTNC	**Ouen Toro**	**2.16**	**246**	Pn	**Pn**	**08 55 23.4**	**+0.3**
KOUNC	**Koumac, New Ca**	**4.12**	**282**	Pn	**Pn**	**08 55 50.5**	**+0.4**
CTA	**Charters Tower**	**20.93**	**270**	LR	LR	09 06 52.6	
	comp=Z,89nm,18.3s,baz=84,slow=35						
CTAO	**Charters Tower**	**20.93**	**270**	P	**P**	**08 59 28.0**	**-1.9**
CTAO				IAmb	IAmb	08 59 37.2	
	comp=Z,14nm,1.1s						
RPZ	**Rata Peaks**	**22.30**	**175**	LR	LR	09 07 27.4	
	comp=Z,59nm,20.3s,baz=347,slow=34						
COEN	**Coen**	**25.31**	**283**	P	**P**	**09 00 12.3**	**-1.5**
COEN				IAmb	IAmb	09 00 16.9	
	comp=Z,8.0nm,0.9s						
STKA	**Stephens Creek**	**26.20**	**241**	P	**P**	**09 00 23.4**	**+1.7**
	comp=Z,1.7nm,0.9s,baz=81,slow=17,SNR=2.4						
	comp=Z,1.7nm,0.9s						
MANU	**Manus Island**	**28.27**	**310**	P	**P**	**09 00 40.6**	**+0.2**
BBOO	**Buckleboo**	**30.96**	**242**	P	**P**	**09 01 04.5**	**+0.3**
BBOO				IAmb	IAmb	09 01 05.5	
	comp=Z,4.6nm,0.8s						
WR0	**Warramunga Arr**	**31.85**	**266**	P	**P**	**09 01 12.1**	**-0.1**
WB0	**Warramunga Arr**	**32.02**	**267**	P	**P**	**09 01 13.4**	**-0.2**
WB0				IAmb	IAmb	09 01 14.6	
	comp=Z,2.8nm,0.9s						
WRA	**Warramunga Arr**	**32.04**	**266**	P	**P**	**09 01 13.6**	**-0.2**
WRA	**Warramunga Arr**	**32.04**	**266**	P	**P**	**09 01 13.2**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=100,slow=7.8,SNR=10						
	comp=Z,1.7nm,0.9s						
AS31	**Alice Springs**	**32.06**	**259**	P	**P**	**09 01 14.1**	**0.0**
ASAR	**Alice Springs**	**32.06**	**259**	P	**P**	**09 01 13.9**	**-0.1**
ASAR	**Alice Springs**	**32.06**	**259**	P	**P**	**09 01 14.2**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=82,slow=9.2,SNR=17						
ASAR				PcP	**PcP**	**09 04 03.6**	**+0.1**
	comp=Z,0.6nm,1.0s,baz=96,slow=3.7,SNR=2.8						
ASAR				LR	LR	09 13 11.1	
	comp=Z,68nm,18.2s,baz=129,slow=35						
	comp=Z,3.5nm,0.8s						
MTN	**Manton Dam**	**36.72**	**277**	P	**P**	**09 01 54.4**	**-0.1**
KNRA	**Kununurra**	**38.11**	**272**	P	**P**	**09 02 06.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**40.46**	**267**	P	**P**	**09 02 26.2**	**+0.4**
MBWA	**Marble Bar**	**45.37**	**261**	P	**P**	**09 03 06.0**	**+0.5**
SBA	**Scott Base**	**56.46**	**180**	P	**P**	**09 04 28.5**	**+0.3**
SBA				IAmb	IAmb	09 04 45.5	
	comp=Z,3.4nm,1.0s						
CASY	**Casey**	**57.86**	**204**	P	**P**	**09 04 38.7**	**+0.4**
CASY				IAmb	IAmb	09 04 45.1	
	comp=Z,4.2nm,1.1s						
QSPA	**South Pole Qui**	**68.61**	**180**	P	**P**	**09 05 49.9**	**+0.1**
QSPA				IAmb	IAmb	09 06 03.4	
	comp=Z,2.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**78.86**	**295**	P	**P**	**09 06 49.8**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=126,slow=4.6,SNR=1.7						
	comp=Z,1.2nm,0.3s						
BELA	**Belgrano 2**	**79.96**	**175**	P	**P**	**09 06 55.0**	**-0.5**
BELA				IAmb	IAmb	09 07 00.8	
	comp=Z,2.5nm,1.0s						
H03S2	**Juan Fernandez**	**95.45**	**129**	T	T	10 56 03.6	
	baz=242,slow=74,SNR=10						
H03S1	**Juan Fernandez**	**95.46**	**129**	T	T	10 56 07.0	
	baz=242,slow=74,SNR=10						
H03S3	**Juan Fernandez**	**95.47**	**129**	T	T	10 56 08.6	
	baz=242,slow=74,SNR=9.2						
TXAR	**Lajitas Array**	**98.35**	**62**	LR	LR	09 45 47.5	
	comp=Z,14nm,18.2s,baz=321,slow=31						
EKA	**Eskdalemuir Ar**	**145.61**	**352**	PKPbc	**PKPdf**	**09 14 25.0**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=21,slow=2.0,SNR=6.0						
CKRC	**Cesky Krumlov**	**145.85**	**329**	*e*PKP	**PKPab**	**09 14 26.8**	**+0.3**
KHC	**Kasperske Hory**	**145.97**	**330**	*e*PKP	**PKiKP**	**09 14 29.8**	**-0.1**
GERES	**GERESS Array B**	**146.12**	**330**	PKPbc	**PKPab**	**09 14 28.4**	**+0.8**
	comp=Z,2.0nm,0.9s,baz=35,slow=3.6,SNR=4.2						

NEIC ***10*** *09:07:21.6±2.3, 21.°41S±0.°07×168.°70E±0.°05, h10km±1km, mb4.4/14, Error ellipse: s-maj=12.0km s-min=8.0km az=358.0*
NOU ***10*** *09:07:22.2, 21.°57S×168.°58E, h0km, MLv3.8/6, Loyalty Islands*
IDC ***10*** *09:07:23.9±3.2, 21.°01S×168.°13E, h0km, mb4.0/5, mbtmp4.0/5, MS3.4/2, Error ellipse: s-maj=104.2km s-min=24.7km az=135.0*

ISC 10 09:07:23.8±0.9, 21.°43S±0.°08×168.°59E±0.°09, h20km, n38, σ1§33/37, mb4.3/12, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**0.53**	**265**		**Pb**	**09 07 33.3**	**-1.1**
LIFNC	**LIFOU**	**1.42**	**297**		**Pn**	**09 07 46.2**	**-2.3**
PINNC	**Pines Island,**	**1.58**	**222**		**Pn**	**09 07 48.5**	**-2.2**
PINNC	**Pines Island,**	**1.58**	**222**	P	**Pn**	**09 07 49.2**	**-1.6**
OUENC	**Ouen Island, N**	**1.90**	**239**	

ellipse: s-maj=3.5km s-min=2.6km az=150.0
ISC 10 09:38:06.2±1.0,**41.41N**±0.03×**76.11E**±0.02,**h8**km±7km,
n92,σ1**18**/144,**54C-34D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**0.09**	**288**	⇑*i*P	**Pg**	**09 38 08.8**	**+0.1**
	baz=75						
NRN				⇑*i*S	**Sg**	**09 38 10.7**	**+0.3**
	baz=75						
ULHL	**Ulahol**	**0.84**	**7**	⇓P	**Pb**	**09 38 22.6**	**-0.7**
	68nm,0.1s,SNR=337						
ULHL				⇓S	**Sg**	**09 38 34.0**	**+0.5**
	531nm,0.2s						
ULHL	**Ulahol**	**0.84**	**7**	⇓*i*P	**Pb**	**09 38 22.3**	**-1.0**
	baz=6.0						
ULHL				⇓*i*S	**Sb**	**09 38 33.7**	**-1.2**
	baz=6.0						
KZA	**Kyzart**	**0.93**	**316**	⇓P	**Pb**	**09 38 24.1**	**-0.8**
	52nm,0.2s,SNR=55						
KZA				⇑S	**Sg**	**09 38 37.1**	**+0.9**
	179nm,0.2s						
KZA	**Kyzart**	**0.93**	**316**	⇓*i*P	**Pb**	**09 38 24.0**	**-0.9**
	baz=16						
KZA				⇓*i*S	**Sg**	**09 38 37.0**	**+0.8**
	baz=16						
BOOM	**Boomskoye usch**	**1.09**	**353**	⇑*i*P	**Pn**	**09 38 26.9**	**-1.1**
	baz=53						
BOOM				⇑*e*S	**Sn**	**09 38 41.7**	**-1.7**
	baz=53						
TARG	**Taragay, Kyrgy**	**1.31**	**75**	⇓*i*P	**Pb**	**09 38 30.5**	**-0.9**
	baz=75						
TARG				⇓*e*S	**Sg**	**09 38 48.2**	**-0.3**
	baz=75						
ARLS	**Aral**	**1.41**	**289**	⇓*i*P	**Pb**	**09 38 32.6**	**-0.4**
	baz=89						
ARLS				⇓*i*S	**Sg**	**09 38 51.8**	**+0.1**
	baz=89						
UCH	**Uchtor**	**1.45**	**305**	⇑P	**Pb**	**09 38 33.5**	**-0.3**
	14nm,0.2s,SNR=46						
UCH				⇓S	**Sg**	**09 38 53.2**	**+0.3**
	92nm,0.2s						
UCH	**Uchtor**	**1.45**	**305**	⇑*i*P	**Pb**	**09 38 33.4**	**-0.3**
	baz=5.0						
UCH				⇑*i*S	**Sg**	**09 38 53.1**	**+0.3**
	baz=5.0						
KBK	**Karagaybulak**	**1.52**	**326**	⇓P	**Pg**	**09 38 35.0**	**-0.4**
	49nm,0.1s,SNR=23						
KBK				⇓S	**Sg**	**09 38 55.0**	**-0.1**
	168nm,0.2s						
KBK	**Karagaybulak**	**1.52**	**326**	⇑*i*P	**Pb**	**09 38 34.5**	**-0.3**
	baz=25						
KBK				⇑*i*S	**Sg**	**09 38 54.9**	**-0.2**
	baz=25						
TKM2	**Tokmak 2**	**1.56**	**346**	⇓P	**Pg**	**09 38 35.9**	**-0.3**
	78nm,0.2s,SNR=51						
TKM2				⇑S	**Sg**	**09 38 57.1**	**+0.7**
	68nm,0.1s						
TKM2	**Tokmak 2**	**1.56**	**346**	⇑*i*P	**Pb**	**09 38 35.2**	**-0.3**
	baz=46						
TKM2				⇑*i*S	**Sg**	**09 38 56.1**	**-0.3**
	baz=46						
TKM2	**Tokmak 2**	**1.56**	**346**	⇓P	**Pg**	**09 38 35.7**	**-0.4**
	15nm,0.2s						
TKM2				⇑S	**Sg**	**09 38 56.8**	**+0.4**
	84nm,0.7s						
KST	**Kastek**	**1.64**	**356**	*e*P	**Pg**	**09 38 37.3**	**-0.4**
	28nm,0.1s						
KST				*e*S	**Sg**	**09 38 59.0**	**+0.1**
	36nm,0.1s						
KST	**Kastek**	**1.64**	**356**	P	**Pg**	**09 38 37.3**	**-0.4**
	27nm,0.2s						
KST				S	**Sg**	**09 38 59.8**	**+0.9**
	36nm,0.3s						
IZV	**Izvestkoviy**	**1.67**	**13**	*e*P	**Pg**	**09 38 38.2**	**-0.1**
	6.7nm,0.1s						
IZV				*e*S	**Sg**	**09 39 00.6**	**+0.7**
	74nm,0.1s						
IZV	**Izvestkoviy**	**1.67**	**13**	P	**Pg**	**09 38 38.2**	**-0.1**
	6.7nm,0.1s						
IZV				S	**Sg**	**09 39 00.6**	**+0.7**
	74nm,0.2s						
AAK	**Ala-Archa**	**1.72**	**316**	⇓P	**Pg**	**09 38 38.7**	**-0.5**
	26nm,0.2s,SNR=37						
AAK				⇓S	**Sg**	**09 39 01.2**	**-0.4**
	51nm,0.2s						
AAK	**Ala-Archa**	**1.72**	**316**	⇑*i*P	**Pb**	**09 38 38.2**	**0.0**
	baz=16						
AAK				⇑*i*S	**Sg**	**09 39 01.3**	**-0.3**
	baz=16						
MTBS	**Maitube**	**1.74**	**8**	*e*P	**Pg**	**09 38 39.1**	**-0.4**
	15nm,0.1s						
MTBS				*e*S	**Sg**	**09 39 02.5**	**+0.4**
	81nm,0.3s						
MTBS	**Maitube**	**1.74**	**8**	P	**Pg**	**09 38 39.1**	**-0.4**
	11nm,0.2s						
MTBS				S	**Sg**	**09 39 02.5**	**+0.4**
	81nm,0.3s						
TNSS	**Tian-Shan**	**1.74**	**21**	*e*P	**Pg**	**09 38 39.0**	**-0.7**
	19nm,0.1s						
TNSS				*e*S	**Sg**	**09 39 02.1**	**-0.3**
	91nm,0.3s						
TNSS	**Tian-Shan**	**1.74**	**21**	P	**Pg**	**09 38 39.0**	**-0.7**
	19nm,0.2s						
TNSS				S	**Sg**	**09 39 02.1**	**-0.3**
	91nm,0.3s						
FRU1	**Bishkek**	**1.78**	**322**	⇑*i*P	**Pg**	**09 38 39.6**	**-0.8**
	baz=22						
FRU1				⇑*i*S	**Sg**	**09 39 03.6**	**+0.1**
	baz=22						
ANVS	**Anan'yevo**	**1.80**	**40**	⇑*e*P	**Pb**	**09 38 39.5**	**-0.1**
	baz=39						
ANVS				⇑*e*S	**Sg**	**09 39 03.2**	**-0.8**
	baz=39						
DGS	**Degeres**	**1.85**	**352**	*e*P	**Pg**	**09 38 41.4**	**-0.3**
	20nm,0.2s						
DGS				*e*S	**Sg**	**09 39 06.1**	**+0.3**
	42nm,0.2s						
DGS	**Degeres**	**1.85**	**352**	P	**Pg**	**09 38 41.2**	**-0.5**
	15nm,0.2s						
DGS				S	**Sg**	**09 39 06.2**	**+0.5**
	41nm,0.2s						
KASK	**Kaskelen**	**1.85**	**12**	⇓P	**Pn**	**09 38 37.4**	**-1.0**
KASK				⇓S	**Sg**	**09 39 06.6**	**+0.9**
CHMS	**Chumysh**	**1.88**	**328**	⇓P	**Pg**	**09 38 41.4**	**-0.9**
	17nm,0.1s,SNR=15						
CHMS				⇓S	**Sg**	**09 39 06.1**	**-0.6**
	84nm,0.2s						
CHMS	**Chumysh**	**1.88**	**328**	⇑*i*P	**Pb**	**09 38 40.8**	**-0.1**
	baz=28						
CHMS				⇑*i*S	**Sg**	**09 39 06.1**	**-0.6**
	baz=28						
CHMS	**Chumysh**	**1.88**	**328**	⇓P	**Pg**	**09 38 41.5**	**-0.9**
	6.1nm,0.3s						
CHMS				⇑S	**Sg**	**09 39 06.2**	**-0.6**
	37nm,0.5s						
MDOK	**Medeo**	**1.89**	**21**	*e*P	**Pg**	**09 38 41.7**	**-0.7**
	29nm,0.3s						
MDOK				*e*S	**Sg**	**09 39 06.7**	**-0.2**
	115nm,0.3s						
MDOK	**Medeo**	**1.89**	**21**	⇑P	**Pg**	**09 38 41.4**	**-1.0**
	14nm,0.4s						
MDOK				Pg	**Pg**	**09 38 41.7**	**-0.7**
	29nm,0.3s						
MDOK				Lg	Lg	09 39 06.7	
	115nm,0.3s						
MDOK				⇓S	**Sg**	**09 39 07.2**	**+0.3**
	74nm,0.5s						
AAA	**Alma-Ata**	**1.90**	**18**	*e*P	**Pg**	**09 38 42.4**	**-0.2**
	78nm,0.2s						
AAA				*e*S	**Sg**	**09 39 07.7**	**+0.5**
	238nm,0.1s						
KNDC	**Almaty**	**1.92**	**19**	⇑P	**Pg**	**09 38 42.4**	**-0.6**
	57nm,0.5s						
KNDC				⇓S	**Sg**	**09 39 09.1**	**+1.2**
	284nm,0.4s						
AML	**Almayashu**	**1.95**	**293**	⇓P	**Pb**	**09 38 42.5**	**+0.3**
	31nm,0.2s,SNR=50						
AML				⇑S	**Sg**	**09 39 08.9**	**+0.1**
	108nm,0.3s						
AML	**Almayashu**	**1.95**	**293**	⇑*i*P	**Pb**	**09 38 42.3**	**+0.1**
	baz=92						
AML				⇑*i*S	**Sg**	**09 39 08.3**	**-0.5**
	baz=92						
AML	**Almayashu**	**1.95**	**293**	⇓P	**Pb**	**09 38 42.6**	**+0.3**
AML				⇑S	**Sg**	**09 39 08.1**	**-0.8**
KOTS	**Kotyrbulak**	**1.97**	**22**	*e*Pg	**Pg**	**09 38 43.5**	**-0.6**
	53nm,0.2s						
KOTS				*e*Lg	Lg	09 39 09.6	
	352nm,0.2s						
KOTS	**Kotyrbulak**	**1.97**	**22**	Pg	**Pg**	**09 38 43.5**	**-0.6**
	46nm,0.4s						
KOTS				Lg	Lg	09 39 09.9	
	352nm,0.4s						
PRZ	**Przheval'sk**	**2.02**	**57**	⇑*e*P	**Pb**	**09 38 43.1**	**-0.2**
	baz=57						
PRZ				⇑*e*S	**Sg**	**09 39 09.7**	**-1.4**
	baz=57						
EKS2	**Erkin-Say**	**2.14**	**307**	⇓P	**Pg**	**09 38 46.3**	**-1.0**
	14nm,0.2s,SNR=38						
EKS2				⇑S	**Sg**	**09 39 15.2**	**+0.2**
	29nm,0.3s						
EKS2	**Erkin-Say**	**2.14**	**307**	⇑*i*P	**Pb**	**09 38 44.6**	**-0.8**
	baz=6.0						
EKS2				⇑*i*S	**Sb**	**09 39 12.5**	**+0.3**
	baz=6.0						
USP	**Ospenovka**	**2.21**	**328**	⇓P	**Pb**	**09 38 47.2**	**+0.7**
	46nm,0.2s,SNR=32						
USP				⇓S	**Sg**	**09 39 16.3**	**-0.9**
	91nm,0.2s						
USP	**Ospenovka**	**2.21**	**328**	⇑*i*P	**Pb**	**09 38 45.3**	**-1.2**
	baz=28						
USP				⇑*i*S	**Sb**	**09 39 13.9**	**-0.1**
	baz=28						
SGDS	**Sogindy**	**2.32**	**332**	Pg	**Pg**	**09 38 49.5**	**-1.2**
	76nm,0.3s						
SGDS				Lg	Lg	09 39 20.1	
	60nm,0.3s						
KTBS	**Karatobe**	**2.34**	**10**	*e*Pg	**Pg**	**09 38 50.2**	**-0.9**
	107nm,0.1s						
KTBS				*e*Lg	Lg	09 39 21.1	
	181nm,0.2s						
ARSB	**Arslanbob**	**2.36**	**269**	⇑*i*P	**Pb**	**09 38 47.6**	**-1.4**
	baz=69						
ARSB				⇑*i*S	**Sb**	**09 39 17.8**	**-0.5**
	baz=69						
SATY	**Saty**	**2.37**	**45**	*e*Pg	**Pb**	**09 38 50.0**	**+0.7**
	36nm,0.2s						
SATY				*e*Lg	Lg	09 39 21.0	
	540nm,0.2s						
SATY	**Saty**	**2.37**	**45**	Pg	**Pb**	**09 38 50.0**	**+0.7**
	36nm,0.2s						
SATY				Lg	Lg	09 39 21.4	
	540nm,0.2s						
SFK	**Sufi-Kurgan**	**2.42**	**236**	⇑*i*P	**Pb**	**09 38 48.7**	**-1.5**
	baz=36						
SFK				⇑*i*S	**Sb**	**09 39 19.4**	**-0.9**
	baz=36						
ZHN	**Zhinishke**	**2.46**	**44**	*e*Pg	**Pb**	**09 38 51.2**	**+0.4**
	47nm,0.1s						
ZHN				*e*Lg	Lg	09 39 22.9	
	748nm,0.1s						
ZHN	**Zhinishke**	**2.46**	**44**	Pg	**Pb**	**09 38 51.2**	**+0.4**
	47nm,0.3s						
ZHN				Lg	Lg	09 39 23.5	
	405nm,0.4s						
KUU	**Kurty**	**2.49**	**4**	*e*Pg	**Pg**	**09 38 52.3**	**-1.6**
	93nm,0.3s						
KUU				*e*Lg	Lg	09 39 24.9	
	157nm,0.3s						
KUU	**Kurty**	**2.49**	**4**	Pg	**Pg**	**09 38 52.3**	**-1.6**
	93nm,0.5s						
KUU				Lg	Lg	09 39 25.2	
	157nm,0.3s						
MRKS	**Merke**	**2.53**	**303**	*e*Pg	**Pb**	**09 38 53.0**	**+1.1**
	34nm,0.2s						
MRKS				*e*Lg	Lg	09 39 26.0	
	83nm,0.1s						
MRKS	**Merke**	**2.53**	**303**	Pg	**Pb**	**09 38 53.0**	**+1.1**
	31nm,0.3s						
MRKS				Lg	Lg	09 39 26.5	
	86nm,0.4s						
CHKK	**Chushkaly**	**2.53**	**15**	*e*Pg	**Pg**	**09 38 53.2**	**-1.5**
	20nm,0.1s						
CHKK				*e*Lg	Lg	09 39 26.4	
	241nm,0.3s						
CHKK	**Chushkaly**	**2.53**	**15**	Pg	**Pg**	**09 38 53.2**	**-1.5**
	20nm,0.4s						
CHKK				Lg	Lg	09 39 26.7	
	241nm,0.3s						
KURS	**Kuram**	**2.58**	**36**	*e*Pg	**Pg**	**09 38 53.9**	**-1.8**
	19nm,0.3s						
KURS				*e*Lg	Lg	09 39 27.3	
	98nm,0.4s						
KURS	**Kuram**	**2.58**	**36**	Pg	**Pg**	**09 38 53.9**	**-1.8**
	19nm,0.3s						
KURS				Lg	Lg	09 39 27.8	
	98nm,0.4s						
OHH	**Osh**	**2.67**	**252**	⇑*i*P	**Pb**	**09 38 51.9**	**-2.4**
	baz=52						
OHH				⇑*i*S	**Sb**	**09 39 25.4**	**-1.8**
	baz=52						
UZB	**Uzynbulak**	**2.77**	**50**	*e*Pg	**Pb**	**09 38 55.5**	**-0.6**
	15nm,0.2s						
UZB				*e*Lg	Lg	09 39 30.3	
	122nm,0.2s						
UZB	**Uzynbulak**	**2.77**	**50**	Pg	**Pb**	**09 38 55.5**	**-0.6**
	15nm,0.2s						
UZB				Lg	Lg	09 39 30.5	
	122nm,0.3s						
KPKS	**Kokpek**	**2.80**	**42**	*e*Pg	**Pb**	**09 38 56.9**	**+0.3**
	19nm,0.1s						
KPKS				*e*Lg	Lg	09 39 32.7	
	453nm,0.2s						
KPKS	**Kokpek**	**2.80**	**42**	Pg	**Pb**	**09 38 57.1**	**+0.5**
	20nm,0.2s						
KPKS				Lg	Lg	09 39 32.7	
	454nm,0.7s						
SHLS	**Shalkode**	**3.04**	**54**	*e*Pg	**Pg**	**09 39 04.7**	**+0.2**
	43nm,0.2s						
SHLS				*e*Lg	Lg	09 39 46.2	
	136nm,0.2s						
SHLS	**Shalkode**	**3.04**	**54**	Pg	**Pg**	**09 39 04.7**	**+0.2**
	43nm,0.2s						
SHLS				Lg	Lg	09 39 46.2	
	139nm,0.5s						
ARXS	**Arharly**	**3.08**	**24**	*e*Pg	**Pb**	**09 39 01.7**	**+0.4**
	8.4nm,0.2s						
ARXS				*e*Lg	Lg	09 39 40.9	
	69nm,0.3s						
ARXS	**Arharly**	**3.08**	**24**	Pg	**Pb**	**09 39 01.3**	**0.0**
	8.4nm,0.5s						
ARXS				Lg	Lg	09 39 40.9	
	58nm,0.4s						
ARK	**Arkit**	**3.13**	**279**	⇑*i*P	**Pb**	**09 38 58.5**	**-3.8**
	baz=78						
ARK				⇑*i*S	**Sb**	**09 39 36.4**	**-4.3**
	baz=78						
PDGK	**Podgornoye**	**3.16**	**51**	Pg	**Pb**	**09 39 01.9**	**-0.7**
	3.7nm,0.4s						
PDGK				Lg	Lg	09 39 40.9	
	105nm,0.7s						
PDGK	**Podgornoye**	**3.16**	**51**	⇑Pn	**Pb**	**09 39 00.2**	**-2.5**
	15nm,0.7s						
PDGK				⇑Sn	**Sb**	**09 39 41.1**	**-0.2**
	200nm,0.7s						
KNOS	**Konyrlen**	**3.71**	**36**	Pg	**Pb**	**09 39 13.7**	**+1.5**
	4.6nm,0.3s						
KNOS				Lg	Lg	09 40 01.5	
	30nm,0.4s						
TRKS	**Terek-Say**	**3.74**	**274**	⇑*i*P	**Pn**	**09 39 06.5**	**+2.1**
	baz=72						
TRKS				⇑*i*S	**Sn**	**09 39 50.3**	**+1.6**
	baz=72						
KTMS	**Ketmen**	**3.74**	**56**	*e*Pg	**Pb**	**09 39 13.7**	**+1.1**
	2.1nm,0.2s						
KTMS				*e*Lg	Lg	09 40 01.5	
	20nm,0.5s						
KTMS	**Ketmen**	**3.74**	**56**	Pg	**Pb**	**09 39 13.7**	**+1.1**
	1.8nm,0.2s						
KTMS				Lg	Lg	09 40 01.5	
	20nm,0.5s						
BTLS	**Baital**	**3.93**	**338**	*e*Pg	**Pg**	**09 39 18.5**	**-3.1**
	4.7nm,0.1s						
BTLS				*e*Lg	Lg	09 40 09.7	
	17nm,0.5s						
BTLS	**Baital**	**3.93**	**338**	Pg	**Pg**	**09 39 18.5**	**-3.1**
	4.7nm,0.2s						
BTLS				Lg	Lg	09 40 09.7	
	17nm,0.5s						
DJR	**Jarkent**	**3.98**	**42**	*e*Pg	**Pb**	**09 39 18.4**	**+1.7**
	2.8nm,0.1s						
DJR				*e*Lg	Lg	09 40 09.7	
	37nm,0.2s						
DJR	**Jarkent**	**3.98**	**42**	Pg	**Pb**	**09 39 18.4**	**+1.7**
	2.8nm,0.3s						
DJR				Lg	Lg	09 40 09.7	
	37nm,0.4s						
BTK	**Batken**	**4.24**	**253**	⇑*e*P	**Pn**	**09 39 13.9**	**+2.7**
	baz=53						
BTK				⇑*i*S	**Sn**	**09 40 03.0**	**+2.0**
	baz=53						
KK31	**Karatay Array**	**4.49**	**294**	⇑Pg	**Pb**	**09 39 28.4**	**+3.1**
	0.7nm,0.3s,baz=121,slow=14,SNR=25						
KK31				Lg	Lg	09 40 25.7	
	7.5nm,0.6s,baz=112,slow=24,SNR=6.9						
KKAR	**Karatay Array**	**4.49**	**294**	⇓*i*P	**Pn**	**09 39 17.0**	**+2.4**
	baz=94						
KKAR				⇓*i*S	**Sn**	**09 40 08.7**	**+1.7**
	baz=94						
KAPS	**Kapalarasan**	**4.54**	**30**	*e*Pg	**Pb**	**09 39 28.2**	**+1.9**
	2.0nm,0.3s						
KAPS				*e*Lg	Lg	09 40 26.4	
	17nm,0.2s						
KAPS	**Kapalarasan**	**4.54**	**30**	Pg	**Pb**	**09 39 28.2**	**+1.9**
	2.0nm,0.3s						
GAR	**Garm**	**5.04**	**243**	⇑*i*P	**Pn**	**09 39 24.8**	**+2.5**
	baz=43						
GAR				⇑*i*S	**Sn**	**09 40 22.1**	**+1.2**
	baz=43						
MK31	**Makanchi Array**	**6.98**	**37**	⇑Lg	Lg	09 41 42.1	
	2.4nm,0.7s,baz=219,slow=30,SNR=5.7						
OTUK	**Ortayu**	**7.34**	**340**	⇓Lg	Lg	09 41 53.5	
	5.7nm,0.7s						
KURK	**Kurchatov**	**9.47**	**10**	⇓Lg	Lg	09 43 05.5	
	6.6nm,0.9s						

*NOU **10** 09:43:11.4,21.°50S×168.°92E,h0km,MLv3.5/7, Loyalty Islands*
*IDC **10** 09:43:13.6±2.8,21.°66S×168.°71E,h0km,mb3.6/3, mbtmp3.6/4,ML3.5/1,MS2.3/1, Error ellipse: s-maj=110.7km s-min=34.3km az=156.0*
ISC 10 09:43:16.0±1.9,**21.°5S**±0.°1×**168.°7E**±0.°1,**h20**km,**n15,** σ0**59**/13,**mb3.5/3, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.63**	**271**	P	**Pb**	**09 43 27.3**	**-1.0**
LIFNC	**LIFOU**	**1.55**	**297**	P	**Pn**	**09 43 42.2**	**-0.2**
PINNC	**Pines Island,**	**1.61**	**226**	P	**Pn**	**09 43 42.7**	**-0.6**
OUENC	**Ouen Island, N**	**1.96**	**242**	P	**Pn**	**09 43 48.2**	**+0.1**
DZM	**Mont Dzumac**	**2.18**	**254**	P	**Pn**	**09 43 51.5**	**+0.3**
DZM	**Mont Dzumac**	**2.18**	**254**	Pn	**Pn**	**09 43 51.2**	**0.0**
	15nm,0.3s,baz=58,slow=18,SNR=284						
DZM				LR	LR	09 44 16.1	
	comp=Z,63nm,18.1s,baz=253,slow=29						
DZM				Sn	**Sn**	**09 44 18.5**	**+0.8**
	16nm,0.3s,baz=283,slow=16,SNR=10						
	38nm,0.4s						
ONTNC	**Ouen Toro**	**2.24**	**249**	P	**Pn**	**09 43 52.2**	**+0.2**
NOUC	**Port Laguerre**	**2.31**	**255**	P	**Pn**	**09 43 53.5**	**+0.5**
STKA	**Stephens Creek**	**26.27**	**241**	P	**P**	**09 48 49.8**	**-0.3**
	0.5nm,0.4s,baz=74,slow=18,SNR=1.4						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**32.15**	**266**	P	**P**	**09 49 42.5**	**+0.1**
	0.4nm,0.6s,baz=99,slow=7.7,SNR=6.7						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**32.16**	**259**	P	**P**	**09 49 43.4**	**+0.8**
	0.9nm,0.9s,baz=79,slow=9.5,SNR=7.4						
	0.9nm,0.9s						
H03S2	**Juan Fernandez**	**95.34**	**129**	T	T	11 42 30.9	
	baz=242,slow=75,SNR=19						
H03S1	**Juan Fernandez**	**95.35**	**129**	T	T	11 42 32.0	
	baz=242,slow=75,SNR=20						
H03S3	**Juan Fernandez**	**95.35**	**129**	T	T	11 42 26.3	
	baz=242,slow=75,SNR=17						
EKA	**Eskdalemuir Ar**	**145.67**	**352**	PKPbc	**PKPab**	**10 02 53.7**	**+0.4**
	1.7nm,0.7s,baz=15,slow=2.9,SNR=3.6						

IDC 10 09:54:51.9±1.6,**32.°68S**×**57.°37E,h0**km,**mb3.6**/4, **mbtmp3.6**/4,**MS3.4**/11,**Error ellipse: s-maj=82.1km s-min=32.1km az=23.0,Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**14.13**	**196**	T	T	10 11 15.8	
	baz=18,slow=74,SNR=48						
H04N1	**CROZET ISLANDS**	**14.13**	**196**	T	T	10 11 21.9	
	baz=18,slow=74,SNR=49						
H04N3	**CROZET ISLANDS**	**14.15**	**196**	T	T	10 11 15.2	
	baz=18,slow=74,SNR=64						
LBTB	**Lobatse**	**28.78**	**277**	LR	LR	10 09 47.8	
	comp=Z,25nm,18.7s,baz=170,slow=31						
MAW	**Mawson**	**35.11**	**176**	LR	LR	10 12 08.5	
	comp=Z,60nm,19.3s,baz=284,slow=30						
KMBO	**Kilima Mbogo**	**36.65**	**325**	LR	LR	10 14 43.3	
	comp=Z,68nm,21.6s,baz=87,slow=32						
TSUM	**Tsumeb**	**37.98**	**281**	LR	LR	10 15 53.1	
	comp=Z,44nm,18.1s,baz=144,slow=33						
VNDA	**Vanda**	**61.41**	**166**	LR	LR	10 30 20.4	
	comp=Z,81nm,18.0s,baz=183,slow=35						
CMAR	**Chiang Mai Arr**	**64.55**	**44**	P	P	10 05 30.7	-0.3
	0.4nm,0.3s,baz=218,slow=6.9,SNR=1.3						
CMAR				LR	LR	10 29 36.8	
	comp=Z,13nm,20.9s,baz=90,slow=32						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**66.77**	**104**	P	P	10 05 45.5	+0.1
	0.3nm,0.8s,baz=246,slow=4.6,SNR=4.7						
	0.3nm,0.8s						
MMAI	**Mount Meron Ar**	**68.55**	**340**	LR	LR	10 32 46.3	
	comp=Z,54nm,19.2s,baz=82,slow=33						
WRA	**Warramunga Arr**	**68.84**	**101**	P	P	10 05 58.3	-0.2
	0.8nm,0.9s,baz=238,slow=5.4,SNR=6.4						
	0.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**70.01**	**301**	P	P	10 06 05.1	-0.6
	0.3nm,0.7s,baz=154,slow=8.0,SNR=1.8						
	0.3nm,0.7s						
IDI	**Anoyia**	**74.16**	**333**	LR	LR	10 39 55.5	
	comp=Z,18nm,18.5s,baz=56,slow=36						
AKASG	**Malin Array Be**	**86.66**	**343**	LR	LR	10 45 25.7	
	comp=Z,23nm,18.3s,baz=31,slow=35						
MDT	**Midelt**	**87.48**	**312**	LR	LR	10 47 13.2	
	comp=Z,33nm,18.2s,baz=268,slow=36						
ARU	**Arti**	**88.76**	**1**	LR	LR	10 47 33.8	
	comp=Z,33nm,18.1s,baz=348,slow=36						
ILAR	**Eielson Array**	**144.59**	**18**	PKP	PKPdf	10 14 29.2	-0.3
	0.8nm,0.9s,baz=311,slow=4.0,SNR=6.4						
YKA	**Yellowknife Ar**	**145.73**	**353**	PKPbc	PKPbc	10 14 43.1	+0.2
	1.6nm,0.9s,baz=4.8,slow=1.9,SNR=21						

*DJA **10** 09:59:33.0±0.4,8.°S±4.°×10.°8E±.°,h10km,M4.0/10, MLv4.0/10*
*IDC **10** 09:59:38.5±2.2,8.°06S×107.°96E,h85km±16km,mb3.4/7, mbtmp3.7/7,MS3.0/2,Error ellipse: s-maj=58.8km s-min=16.4km az=57.0*
ISC 10 09:59:36.7±0.8,**8.°17S**±0.°10×**107.°88E**±0.°07,**h70**km,**n21,** σ1**29**/18,**mb3.7/7,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.68**	**56**	P	**Pn**	**09 59 48.5**	**-2.9**
CNJI	**Cibinong**	**1.14**	**319**	P	**Pn**	**09 59 55.0**	**-1.9**
KPJI	**Karang Pucung**	**1.33**	**51**	P	**Pn**	**09 59 58.5**	**-0.9**
LEM	**Lembang**	**1.36**	**349**	P	**Pn**	**09 59 59.9**	**-0.1**
LEM	**Lembang**	**1.36**	**349**	P	**Pn**	**10 00 00.1**

MKAR **Makanchi Array** 59.28 340 P P 10 09 29.9 -1.1
0.3nm,0.5s,baz=152,slow=8.5,SNR=4.9
0.3nm,0.5s
H04N2 **CROZET ISLANDS** 60.95 221 T T 11 16 08.4
baz=66,slow=79
H04N1 **CROZET ISLANDS** 60.97 221 T T 11 16 07.8
baz=66,slow=79
H04N3 **CROZET ISLANDS** 60.97 221 T T 11 16 12.4
baz=66,slow=79
BVAR **Borovoye Array** 68.78 337 P P 10 10 32.5 -0.7
1.1nm,0.7s,baz=123,slow=10,SNR=3.3
1.1nm,0.7s
QSPA **South Pole Qui** 81.82 180 P P 10 11 49.8 +1.8
0.8nm,0.8s,baz=339,slow=1.9,SNR=2.3
0.8nm,0.8s

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*IDC **10** 10:31:43.3±1.1,53°.04N×172°.49E,h0km,mb3.5/6, mbtmp3.5/6,Error ellipse: s-maj=32.9km s-min=19.7km az=8.0*
*NEIC **10** 10:31:43.6±2.9,52°.2N±0°.2×173°.1E±0°.1,h31km±12km, mb4.0/27,Error ellipse: s-maj=30.9km s-min=12.1km az=173.0*
ISC 10 10:31:44.7±0.8,52°.9N±0°.1×172°.50E±0°.07,h10km,n45, σ1§47/37,mb3.9/16,Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEM	**Shemya Is, Ala**	0.99	102	Pn	Pb	10 32 04.3	+0.3
	104nm,0.3s,baz=344,slow=0.9,SNR=14						
SHEM				Sn	Sb	10 32 17.5	+0.3
	324nm,0.3s,baz=62,slow=4.1,SNR=28						
KIWB	**Kanaga Island**	6.43	96	Pn	Pn	10 33 09.2	-10
GSTR	**Great Sitkin T**	7.04	92	Pn	Pn	10 33 18.3	-9.4
PEA0B	**Petropavlovsk-**	8.92	277	Pn	Pn	10 33 56.0	+2.4
ANM	**Nome**	16.24	36	Pn	Pn	10 35 32.6	0.0
F17K	**Baldwin Pennin**	18.72	34		Pn	10 36 04.1	+0.7
F17K				IAmb	IAmb	10 36 15.3	
	comp=Z,14nm,1.4s						
H18K	**Honhosa River**	19.11	39	P	P	10 36 07.0	-0.4
H18K				IAmb	IAmb	10 36 30.3	
	comp=Z,14nm,1.4s						
E19K	**Redstone River**	20.60	34	P	P	10 36 22.0	-1.6
E19K				IAmb	IAmb	10 36 58.7	
	comp=Z,6.6nm,1.3s						
C19K	**Lookout Ridge**	20.78	28	P	P	10 36 26.0	+0.4
C19K				IAmb	IAmb	10 36 27.2	
	comp=Z,9.0nm,1.2s						
D19K	**Kuna River**	20.86	31	P	P	10 36 25.8	-0.7
D19K				IAmb	IAmb	10 36 46.7	
	comp=Z,13nm,1.4s						
IMAR	**Indian Mountai**	21.20	39	P	P	10 36 28.8	-1.3
H21K	**Melozitna Rive**	21.45	40	P	P	10 36 34.4	+1.6
H21K				IAmb	IAmb	10 36 51.9	
	comp=Z,10.0nm,1.5s						
B20K	**Meade River**	22.01	28	P	P	10 36 38.2	-0.4
B20K				IAmb	IAmb	10 36 51.8	
	comp=Z,13nm,1.4s						
KNK	**Knik Glacier**	22.48	52	P	P	10 36 43.1	-0.8
ERM	**Erimo**	22.48	253	P	P	10 36 40.4	-3.6
B21K	**Ikpikpuk River**	22.53	30	P	P	10 36 45.4	+1.1
B21K				IAmb	IAmb	10 36 54.9	
	comp=Z,6.0nm,1.4s						
D22K	**Ayikyak River**	22.78	32	P	P	10 36 45.8	-1.1
D22K				IAmb	IAmb	10 37 22.5	
	comp=Z,6.3nm,1.4s						
MDM	**Murphy Dome**	23.11	43	P	P	10 36 50.7	+0.3
CCB	**Clear Creek Bu**	23.22	44	P	P	10 36 51.4	-0.1
ILAR	**Eielson Array**	23.63	44	P	P	10 36 54.7	-0.9
	comp=Z,0.6nm,0.6s,baz=251,slow=8.3,SNR=15						
	comp=Z,0.6nm,0.6s						
TOLK	**Toolik Lake Re**	23.71	34	P	P	10 36 54.4	-2.0
TOLK				IAmb	IAmb	10 36 56.5	
	comp=Z,5.9nm,1.2s						
C23K	**Itkillik River**	23.86	31	P	P	10 36 56.1	-1.7
J25K	**Salcha River,**	24.25	45	P	P	10 36 58.3	-3.2
RIDG	**Independent Ri**	24.36	47	P	P	10 36 55.8	-6.8
SCRK	**Sand Creek**	24.77	46	P	P	10 37 05.4	-0.9
SCRK				IAmb	IAmb	10 37 48.6	
	comp=Z,4.2nm,1.3s						
E25K	**Arctic Village**	24.93	36	P	P	10 37 07.2	-0.5
E25K				IAmb	IAmb	10 37 14.8	
	comp=Z,5.9nm,1.5s						
J26L	**Joseph Creek**	25.00	45	P	P	10 37 07.4	-1.0
D25K	**Kavik River**	25.03	34	P	P	10 37 08.2	-0.4
D25K				IAmb	IAmb	10 37 16.1	
	comp=Z,5.3nm,1.4s						
BMAR	**Burnt Mountain**	25.12	38	P	P	10 37 09.3	-0.1
ISLE	**Juniper Island**	25.45	55	P	P	10 37 09.9	-2.6
EGAK	**Eagle**	26.06	45	P	P	10 37 16.1	-1.8
EGAK				IAmb	IAmb	10 37 25.2	
	comp=Z,9.9nm,1.5s						
LOGN	**Logan Glacier**	26.09	54	P	P	10 37 15.7	-2.7
I28M	**Miner Creek**	26.64	43	P	P	10 37 22.4	-0.8
H29M	**Whitestone**	27.34	42	P	P	10 37 28.5	-0.9
H29M				IAmb	IAmb	10 37 35.3	
	comp=Z,6.1nm,1.4s						
H11N2	**WAKE ISLAND Hy**	33.43	190	T	T	11 13 49.9	
	baz=6.3,slow=76,SNR=42						
H11N3	**WAKE ISLAND Hy**	33.44	190	T	T	11 13 50.8	
	baz=6.3,slow=76,SNR=54						
H11N1	**WAKE ISLAND Hy**	33.45	190	T	T	11 13 51.3	
	baz=6.3,slow=76,SNR=43						
H11S1	**WAKE ISLAND Hy**	34.66	190	T	T	11 15 21.0	
	baz=6.3,slow=76,SNR=62						
H11S3	**WAKE ISLAND Hy**	34.68	190	T	T	11 15 17.9	
	baz=6.3,slow=76,SNR=47						
H11S2	**WAKE ISLAND Hy**	34.68	190	T	T	11 15 23.5	
	baz=6.3,slow=76,SNR=39						
YKA	**Yellowknife Ar**	38.03	46	P	P	10 39 03.0	+0.4
	comp=Z,0.4nm,0.8s,baz=288,slow=8.1,SNR=5.6						
	comp=Z,0.4nm,0.8s						
KURBB	**Kurchatov Arra**	54.05	308	P	P	10 41 08.1	-0.8
	comp=Z,0.5nm,0.7s,baz=52,slow=7.2,SNR=4.2						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	54.77	303	P	P	10 41 13.2	-1.0
	comp=Z,0.4nm,0.7s,baz=54,slow=7.3,SNR=1.8						
	comp=Z,0.4nm,0.7s						
TXAR	**Lajitas Array**	63.59	76	P	P	10 42 15.9	+0.2
	comp=Z,0.4nm,0.5s,baz=303,slow=5.3,SNR=17						
	comp=Z,0.4nm,0.5s						
WRA	**Warramunga Arr**	79.76	216	P	P	10 43 54.4	+1.7
	comp=Z,0.4nm,1.0s,baz=28,slow=5.7,SNR=2.9						
	comp=Z,0.4nm,1.0s						

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*HEL **10** 10:42:40.8±0.3,67°.61N×20°.88E,h0km,ML1.4,Suspected explosion*
*IDC **10** 10:42:43.4±2.1,67°.62N×21°.73E,h0km,mbtmp2.9/2, ML1.8/2,Error ellipse: s-maj=30.3km s-min=9.7km az=104.0*
ISC 10 10:42:42.3±1.1,67°.66N±0°.02×21°.38E±0°.06,h0km,n22, σ1§25/33,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	0.46	30	PG	Pg	10 42 51.5	+0.5
LANU				SG	Sb	10 42 59.9	-0.7
PAJU	**Pajala**	0.92	133	PG	Pg	10 42 59.6	-0.3
	baz=302						
PAJU				SB	Sb	10 43 13.6	-0.3
KLF	**Kolari**	1.08	112	PG	Pb	10 43 03.5	-0.3
KLF				MSG		10 43 18.6	
	comp=Z,2.8nm,0.2s						
KLF				SB	Sn	10 43 20.1	-0.2
HEF	**Hetta**	1.14	48	eP	Pg	10 43 04.3	+0.2
HEF	**Hetta**	1.14	48	PG	Pg	10 43 04.0	-0.2
HEF				MSG		10 43 20.5	
	comp=Z,2.9nm,0.2s						
HEF				SG	Sn	10 43 21.9	0.0
ERTU	**Ertsjaerv**	1.15	164	PG	Pg	10 43 02.4	-1.8
ERTU				SB	Sg	10 43 18.9	-0.2
KIF	**Kilpisjarvi**	1.37	351	MSG		10 43 24.1	
	comp=Z,3.8nm,0.2s						
KIF				SN	Sn	10 43 28.9	+1.5
KTK1	**Kautokeino**	1.53	26	eP	Pn	10 43 11.1	+0.3
KTK1	**Kautokeino**	1.53	26	PG	Pn	10 43 10.9	+0.2
KTK1				SN	Sn	10 43 32.9	+1.6
I37NO	**I37NO**	1.76	325	I	I	10 54 00.0	
	comp=Z,0.1nm,0.8s,baz=145,slow=324,SNR=7.1						
TOF	**Tornio**	1.96	142	PG	Pn	10 43 17.6	+0.9
	baz=317						
TOF				MSG		10 43 42.0	
	comp=Z,3.1nm,0.2s						
TOF				SG	Sb	10 43 44.0	+0.2
KALU	**Kalix**	1.97	156	PG	Pn	10 43 17.2	+0.4
	baz=334						
KALU				SG	Sb	10 43 44.3	+0.4
SGF	**Sodankyl**	1.99	94	PG	Pb	10 43 18.5	-0.7
SGF				SG	Sg	10 43 47.1	+1.1
RNF	**Rovaniemi**	2.09	118	PG	Pb	10 43 20.4	-0.6
RNF				SG	Sg	10 43 49.2	-0.1
TRO	**Tromso**	2.18	337	SG	Sn	10 43 48.7	+1.3
ARA0	**ARCESS Array S**	2.42	37	PG	Pb	10 43 25.7	-0.9
	baz=220						
ARA0				SG	Sg	10 43 58.3	-1.6
ARCES	**ARCESS Array B**	2.42	37	Pn	Pn	10 43 23.7	+0.7
	comp=Z,0.2nm,0.3s,baz=214,slow=14,SNR=17						
ARCES				Lg	Lg	10 43 57.9	
	comp=Z,0.6nm,0.3s,baz=214,slow=28,SNR=12						
	comp=Z,0.4nm,0.3s						
KEV	**Kevo**	2.94	42	PN	Pn	10 43 31.6	+1.4
KEV				SN	Sb	10 44 09.2	-2.8
KEV				MSG		10 44 12.0	
	comp=Z,0.8nm,0.2s						
VRF	**Varrio**	3.14	85	SG	Sg	10 44 21.0	-1.9
OLKF	**Oulanka, Finla**	3.42	109	PN	Pn	10 43 39.1	+2.3
KU6	**Riekki**	3.74	112	PN	Pn	10 43 44.1	+3.0
FINES	**FINESS Array B**	6.55	160	Pn	Pn	10 44 20.7	+1.0
	comp=Z,0.1nm,0.3s,baz=350,slow=12,SNR=1.2						
FINES				Lg	Lg	10 46 06.8	
	comp=Z,0.1nm,0.3s,baz=352,slow=25,SNR=1.9						
	comp=Z,4.3nm,0.9s						

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*JMA **10** 10:47:27.0±0.1,24°.0N±0°.7×122°.2E±0°.3,h32km±2km, MV2.7/16,TAIWAN REGION*
*TAP **10** 10:47:27.3,23°.99N×122°.26E,h28km,ML3.1,C*
ISC 10 10:47:27.1±0.9,23°.99N±0°.02×122°.25E±0°.02,h32km±6km, n125,σ0§71/217,6C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	0.14	24	*i* P	Pb	10 47 32.3	-0.3
	baz=24						
EOS4				*i* S	Sb	10 47 36.3	0.0
	baz=24						
EOS3	**EOS3**	0.30	11	⇑P	Pb	10 47 34.3	-0.3
	baz=10.0						
EOS3				S	Sb	10 47 39.6	-0.1
	baz=10.0						
EOS2	**EOS2**	0.43	357	⇓P	Pb	10 47 36.3	-0.1
	baz=357						
EOS2				S	Sb	10 47 43.1	+0.3
	baz=357						
HWA	**Hwalien**	0.59	269	eS	Sn	10 47 49.1	+1.2
	baz=268						
ETL	**Fush Village**	0.60	286	P	Pb	10 47 39.1	-0.2
	baz=286						
ETL				S	Sb	10 47 47.7	+0.1
	baz=286						
TWD	**Chiawan**	0.61	279	⇑*i* P	Pb	10 47 39.0	-0.4
	baz=278						
TWD				S	Sb	10 47 47.7	-0.1
	baz=278						
EWUT	**Wuta**	0.63	316	*i* P	Pb	10 47 39.5	-0.2
	baz=316						
EWUT				S	Sn	10 47 49.0	+0.2
	baz=316						
NACB	**Ninganchiao**	0.63	287	P	Pb	10 47 39.3	-0.4
NACB	**Ninganchiao**	0.63	287	⇓P	Pb	10 47 39.4	-0.4
	baz=286						
NACB				S	Sb	10 47 48.3	-0.1
	baz=286						
ENA	**Nanau**	0.64	313	P	Pb	10 47 39.6	-0.4
	baz=313						
ENA				S	Sb	10 47 49.0	+0.3
	baz=313						
ETM	**Tongmen**	0.70	268	*i* P	Pb	10 47 40.4	-0.4
	baz=267						
ETM				eS	Sb	10 47 49.8	-0.4
	baz=267						
TEGC	**Jichi Village**	0.71	247	S	Sn	10 47 51.4	+0.6
	baz=246						
TWC	**Suao**	0.72	329	eP	Pb	10 47 40.2	-1.1
	baz=329						
TWC				eS	Sb	10 47 48.7	-2.2
	baz=329						
ETLH	**Xiulin Townshi**	0.74	287	*i* P	Pb	10 47 41.2	-0.4
	baz=286						
ETLH				*i* S	Sb	10 47 51.5	0.0
	baz=286						
LXIB	**Xiulin Townshi**	0.77	273	P	Pn	10 47 41.6	-0.3
	baz=272						
LXIB				S	Sb	10 47 51.9	-0.5
	baz=272						
ESL	**Shilin**	0.77	257	P	Pn	10 47 40.9	-0.9
	baz=256						
ESL				S	Sb	10 47 51.8	-0.5
	baz=256						
JYNG	**Yonagunijimaku**	0.78	54	P	Pn	10 47 41.9	-0.1
JYNG				eS	Sb	10 47 52.3	-0.3
NDS	**Dongshan**	0.81	323	P	Pn	10 47 42.0	-0.4
	baz=322						
NDS				S	Sb	10 47 53.1	-0.2
	baz=322						
EGFH	**Guangfu**	0.82	247	P	Pn	10 47 42.3	-0.2
	baz=247						
EGFH				S	Sn	10 47 54.0	+0.4
	baz=247						
YOJ	**Yonaguni jima**	0.84	56	P	Pn	10 47 42.8	+0.1
YOJ	**Yonaguni jima**	0.84	56	P	Pn	10 47 42.7	+0.1
YOJ				eS	Sb	10 47 54.2	+0.1
YOJ	**Yonaguni jima**	0.84	56	P	Pn	10 47 42.8	+0.1
	baz=55						
YOJ				S	Sb	10 47 54.3	+0.2
	baz=55						
WARBT	**Fenglin Townsh**	0.84	251	P	Pn	10 47 42.6	-0.2
	baz=251						
WARBT				eS	Sb	10 47 53.6	-0.7
	baz=251						
LATG	**Datong**	0.86	309	P	Pn	10 47 42.7	-0.5
	baz=309						
LATG				*i* S	Sb	10 47 54.6	-0.3
	baz=309						
EGS		0.90	341	*i* P	Pn	10 47 43.5	-0.1
	baz=341						
EGS				eS	Sn	10 47 54.2	-1.3
	baz=341						
ENTT	**Nioudou**	0.90	316	P	Pb	10 47 44.2	-0.1
	baz=316						
ENTT				S	Sn	10 47 55.7	+0.1
	baz=316						
HGSD	**Ruisui**	0.91	237	P	Pn	10 47 43.6	-0.1
	baz=236						
HGSD				*i* S	Sb	10 47 56.4	+0.3
	baz=236						
NNSB	**Datong**	0.91	299	P	Pn	10 47 43.7	-0.1
	baz=298						
NNSB				S	Sn	10 47 55.5	-0.4
	baz=298						
NDT	**Datong Townshi**	0.91	312	P	Pb	10 47 44.2	-0.2
	baz=311						
NDT				S	Sn	10 47 55.5	-0.3
	baz=311						
WHF	**Hehuan Shan**	0.92	280	*i* P	Pn	10 47 44.3	+0.1
	baz=279						
WHF				S	Sn	10 47 56.3	-0.2
	baz=279						
NNS	**Nan Shan**	0.92	299	P	Pn	10 47 44.2	+0.2
	baz=299						
NNS				*i* S	Sn	10 47 55.8	-0.4
	baz=299						
FUSB	**Fushanzhiwuyua**	0.98	322	P	Pn	10 47 45.0	+0.2
	baz=321						
FUSB				S	Sn	10 47 57.5	-0.1
	baz=321						
EHY	**Hungye**	0.98	241	P	Pn	10 47 44.6	-0.1
	baz=240						
EHY				S	Sn	10 47 57.5	0.0
	baz=240						
OWD	**Renai**	0.99	268	*i* P	Pn	10 47 45.3	+0.4
	baz=267						
OWD				S	Sn	10 47 57.5	-0.3
	baz=267						
CHGB	**Renai**	0.99	274	P	Pn	10 47 45.2	+0.1
	baz=273						
CHGB				S	Sn	10 47 58.2	+0.1
	baz=273						
ECBN	**Changbin**	0.99	228	P	Pb	10 47 45.4	-0.5
	baz=227						
ECBN				S	Sb	10 47 58.3	-0.4
	baz=227						
TDCB	**Techi**	1.03	285	*i* P	Pn	10 47 45.6	0.0
	baz=284						
TDCB				S	Sn	10 47 58.9	-0.2
	baz=284						
WUSB	**Renai**	1.04	270	⇑P	Pn	10 47 46.0	+0.4
	baz=270						
WUSB				S	Sn	10 47 59.2	0.0
	baz=270						
NWLT	**Wulai**	1.04	319	P	Pn	10 47 45.8	+0.2
	baz=318						
NWLT				S	Sn	10 47 59.3	+0.2
	baz=318						
VWDT	**VWDT**	1.04	257	P	Pb	10 47 46.2	-0.5
	baz=256						
VWDT				S	Sb	10 48 00.4	+0.3
	baz=256						
YHNB	**Yeheng**	1.05	310	P	Pb	10 47 46.4	-0.4
YHNB	**Yeheng**	1.05	310	P	Pn	10 47 46.0	+0.3
	baz=310						
YHNB				S	Sn	10 47 58.8	-0.5
	baz=310						
TIPB	**Shuangxi**	1.05	338	*i* P	Pn	10 47 45.8	+0.1
	baz=338						
TIPB				eS	Sn	10 47 58.7	-0.6
	baz=338						
YULB	**Yu-li**	1.06	236	P	Pn	10 47 46.0	+0.1
YULB	**Yu-li**	1.06	236	⇑P	Pn	10 47 45.9	+0.1
	baz=235						
YULB				S	Sn	10 47 59.8	+0.3
	baz=235						
NSK	**Sanguang**	1.06	310	P	Pn	10 47 46.3	+0.3
	baz=309						
NSK				eS	Sn	10 47 58.9	-0.8
	baz=309						
EYUL	**Yuli**	1.07	233	P	Pb	10 47 46.5	-0.6
	baz=233						
EYUL				eS	Sb	10 48 01.3	+0.6
	baz=233						
TWF1	**Yuli**	1.08	234	P	Pn	10 47 46.4	+0.2
	baz=233						
TWF1				S	Sn	10 48 00.3	+0.2
	baz=233						
SXI1	**Grass Mountain**	1.15	343	⇑P	Pn	10 47 46.6	-0.5
	baz=342						
SXI1				eS	Sn	10 48 01.1	-0.8
	baz=342						
NWF	**Wu-fen Shan**	1.16	338	eP	Pb	10 47 49.1	+0.5
	baz=338						
NWF				S	Sn	10 48 01.7	-0.4
	baz=338						
TWA	**Mucha**	1.16	328	P	Pb	10 47 48.3	-0.3
	baz=328						
TWA				S	Sn	10 48 02.6	+0.6
	baz=328						
WFSB	**Wu-fen Shan**	1.16	338	P	Pn	10 47 47.5	+0.3
	baz=338						
WFSB				eS	Sn	10 48 01.4	-0.6
	baz=338						
NHDH	**Xindian Distri**	1.18	326	P	Pb	10 47 48.5	-0.4
	baz=325						
NHDH				S	Sn	10 48 02.9	+0.6
	baz=325						
FULB	**Fuli**	1.18	228	P	Pn	10 47 47.4	-0.1
	baz=228						
FULB				eS	Sn	10 48 02.0	-0.5
	baz=228						
CHKT	**Chengkung**	1.20	223	eP	Pn	10 47 47.3	-0.5
	baz=222						
CHKT				eS	Sn	10 48 01.9	-1.2
	baz=222						
TATO	**Taipei**	1.20	325	P	Pb	10 47 49.3	-0.1
SSLB	**Suanglung**	1.21	261	P	Pb	10 47 48.9	-0.5
SSLB	**Suanglung**	1.21	261	P	Pn	10 47 48.6	+0.7
	baz=260						
SSLB				S	Sn	10 48 03.7	+0.6
	baz=260						
NFF	**Wufeng Townshi**	1.22	302	P	Pn	10 47 48.8	+0.7
	baz=301						
NFF				S	Sn	10 48 04.3	+0.8
	baz=301						
WCS	**Beigang Elemen**	1.23	273	P	Pn	10 47 48.8	+0.6
	baz=273						
WCS				eS	Sb	10 48 05.8	+0.5
	baz=273						
WHP	**Taichung City**	1.23	284	eP	Pb	10 47 50.7	+0.9
	baz=283						
WHP				S	Sb	10 48 04.8	-0.6
	baz=283						
TNOU	**National Taiwa**	1.23	339	P	Pb	10 47 49.3	-0.6
	baz=339						
TNOU				S	Sn	10 48 03.3	-0.5
	baz=339						
SMLT	**Sun Moon Lake**	1.24	265	P	Pb	10 47 49.3	-0.8
	baz=264						
SMLT				S	Sn	10 48 04.8	+0.6
	baz=264						
EHD	**Haiduan**	1.27	229	eP	Pn	10 47 48.9	+0.1
	baz=228						
EHD				eS	Sn	10 48 04.7	-0.1
	baz=228						
TYC	**Yuchr**	1.28	266	eP	Pn	10 47 49.3	+0.5
	baz=266						
TYC				eS	Sb	10 48 06.1	-0.7
	baz=266						
ECS	**Chishang**	1.30	227	eP	Pn	10 47 49.8	+0.6
	baz=226						
ECS				eS	Sb	10 48 07.4	0.0
	baz=226						
LIOB	**Emei**	1.30	300	eP	Pb	10 47 50.9	-0.2
	baz=300						
LIOB				eS	Sb	10 48 07.0	-0.5
	baz=300						
NSTT	**Nanjuang**	1.31	299	eP	Pb	10 47 50.9	-0.3
	baz=299						
NSTT				eS	Sb	10 48 07.1	-0.5
	baz=299						
YM01	**YM01**	1.31	332	eP	Pb	10 47 50.9	-0.3
	baz=331						
YM01				S	Sn	10 48 06.7	+0.9
	baz=331						
WHYT	**Xinyi Township**	1.31	257	P	Pb	10 47 50.8	-0.5
	baz=257						
WHYT				eS	Sb	10 48 08.8	+1.0
	baz=257						
EDH	**Donghe**	1.34	221	eP	Pn	10 47 48.2	-1.4
	baz=220						
EDH				eS	Sn	10 48 04.3	-2.0
	baz=220						
YM08	**YM08**	1.34	333	eP	Pn	10 47 50.3	+0.7
	baz=333						
YM08				eS	Sn	10 48 06.8	+0.5
	baz=333						
TWS1	**Kuangyinshan**	1.34	326	P	Pn	10 47 50.1	+0.4
	baz=325						
TWS1				eS	Sb	10 48 07.8	-0.8
	baz=325						
NTST	**Danshui**	1.38	328	eS	Sb	10 48 09.1	-0.6
	baz=327						
ELDTW	**Lidau**	1.39	235	P	Pn	10 47 50.4	0.0
	baz=234						
IRIF	**Iriomote-Funau**	1.39	75	P	Pn	10 47 51.0	+0.7
IRIF				eS	Sb	10 48 09.2	-0.8
TWQ1	**Liyutan**	1.40	285	eP	Pb	10 47 52.4	-0.3
	baz=284						
TWQ1				eS	Sb	10 48 10.3	+0.2
	baz=284						
WJS	**Zhushan**	1.41	263	eP	Pb	10 47 52.8	0.0
	baz=263						
ALS	**Alishan**	1.41	251	P	Pb	10 47 52.0	-1.0
	baz=250						
ALS				eS	Sb	10 48 09.9	-0.9
	baz=250						
TWY	**Chenhua**	1.41	335	eP	Pb	10 47 52.3	-0.6
	baz=335						
TWY				eS	Sb	10 48 10.1	-0.5
	baz=335						
HATJ	**Hateruma jima**	1.42	87	eS	Sn	10 48 09.4	+1.0
NSY	**Sanyi**	1.43	288	eP	Pb	10 47 53.6	+0.4
	baz=287						
WNT	**Mingjian**	1.44	266	eP	Pb	10 47 53.8	+0.4
	baz=265						
WNT				eS	Sb	10 48 11.4	+0.1
	baz=265						
NMLH	**Miaoli**	1.44	293	eP	Pb	10 47 53.8	+0.4
	baz=292						
NMLH				eS	Sb	10 48 11.9	+0.5
	baz=292						

TCU	**Taichung** baz=276	**1.45**	**277**	*e*P		**Pb**	**10 47 53.7**	**+0.1**
LONT	**Longtian** baz=223	**1.49**	**224**	*e*P		**Pn**	**10 47 52.1**	**+0.3**
LONT	baz=223			*e*S		**Sn**	**10 48 10.9**	**+0.7**
CHN5	**Tsauling** baz=254	**1.50**	**255**	*e*P		**Pb**	**10 47 54.1**	**-0.2**
CHN5	baz=254			*e*S		**Sb**	**10 48 13.6**	**+0.6**
LDUT	**Ludao** baz=208	**1.50**	**209**	*e*P		**Pn**	**10 47 51.5**	**-0.3**
LDUT	baz=208			*e*S		**Sn**	**10 48 09.3**	**-0.9**
WDJ	**Dajia District** baz=283	**1.52**	**284**	*e*P		**Pn**	**10 47 50.7**	**-1.4**
WDJ	baz=283			*e*S		**Sb**	**10 48 13.4**	**-0.1**
WGK	**Gukeng** baz=258	**1.58**	**259**	*e*P		**Pb**	**10 47 56.5**	**+0.8**
STYH	**Taoyuan** baz=239	**1.58**	**239**	*e*P		**Pb**	**10 47 54.4**	**-1.4**
STYH	baz=239			*e*S		**Sb**	**10 48 14.9**	**-0.5**
TWGBT	**Beinan** baz=222	**1.59**	**223**	*e*P		**Pn**	**10 47 53.2**	**+0.1**
TWGBT	baz=222			*e*S		**Sn**	**10 48 11.1**	**-1.5**
TWG	**Pinlang** baz=222	**1.59**	**223**	*e*P		**Pn**	**10 47 52.7**	**-0.4**
TWG	baz=222			*e*S		**Sn**	**10 48 11.5**	**-1.1**
WDLH	**Douliu** baz=259	**1.60**	**260**	*e*P		**Pb**	**10 47 55.4**	**-0.6**
WDLH	baz=259			*e*S		**Sb**	**10 48 15.9**	**0.0**
WCKO	**Fanlu** baz=250	**1.61**	**250**	*e*P		**Pb**	**10 47 56.2**	**0.0**
JKRS	**Kuro-shima**	**1.62**	**81**	P		**Pn**	**10 47 55.1**	**+1.5**
JKRS				*e*S		**Sb**	**10 48 15.7**	**-0.9**
TPUB	**Ta-pu** baz=245	**1.64**	**246**	*e*P		**Pb**	**10 47 56.2**	**-0.5**
TPUB	baz=245			*e*S		**Sb**	**10 48 17.0**	**-0.1**
CHN4	**Tsaushan** baz=247	**1.65**	**248**	*e*P		**Pb**	**10 47 56.4**	**-0.5**
WTP	**Ta-pu** baz=243	**1.68**	**244**	*e*P		**Pb**	**10 47 57.1**	**-0.3**
WRL	**Guolierlin Hig** baz=267	**1.72**	**267**⇓	*e*P		**Pb**	**10 47 57.3**	**-0.8**
WRL	baz=267			*e*S		**Sb**	**10 48 19.0**	**-0.3**
WTK	**Tuku** baz=259	**1.73**	**260**	*e*P		**Pb**	**10 47 58.0**	**-0.4**
JIJ	**Ishigaki jima**	**1.77**	**77**	P		**Pn**	**10 47 55.9**	**+0.4**
JIJ				*e*S		**Sn**	**10 48 16.6**	**-0.3**
TWK	**Hsinying** baz=245	**1.77**	**246**	*e*P		**Pb**	**10 47 58.4**	**-0.7**
CHN1	**Nanshi** baz=243	**1.77**	**244**	*e*P		**Pb**	**10 47 58.4**	**-0.7**
SLGT	**Liugui** baz=236	**1.78**	**236**	*e*P		**Pb**	**10 47 57.9**	**-1.2**
SGST	**Jiashian** baz=239	**1.78**	**240**	*e*P		**Pb**	**10 47 57.9**	**-1.2**
SNST	**Tainan City** baz=244	**1.78**	**245**	*e*P		**Pb**	**10 47 58.6**	**-0.5**
ICHU	**Yijhu** baz=250	**1.92**	**251**	*e*P		**Pb**	**10 47 59.5**	**-1.9**
SCST	**Cishan** baz=235	**1.95**	**236**	*e*P		**Pb**	**10 48 01.8**	**-0.3**
TSMG	**Majia** baz=229	**1.95**	**229**	*e*P		**Pb**	**10 48 01.9**	**-0.1**
JISG	**Ishigakijimahi**	**1.97**	**72**	P		**Pn**	**10 47 58.7**	**+0.4**
JISG				*e*S		**Sn**	**10 48 21.4**	**-0.5**
SHHT	**Tainan City** baz=241	**2.00**	**242**	*e*P		**Pb**	**10 48 02.6**	**-0.2**
MASBT	**Mashibuluo** baz=227	**2.02**	**228**	*e*P		**Pn**	**10 48 00.4**	**+1.3**
EAST	**Anshuo** baz=218	**2.06**	**219**	*e*S		**Sn**	**10 48 24.6**	**+0.5**
TAWH	**Dawu Township** baz=217	**2.07**	**218**	*e*P		**Pb**	**10 48 03.6**	**-0.4**
TAWH	baz=217			S		**Sn**	**10 48 25.2**	**+0.8**
LYUB	**Lan-yu** baz=197	**2.07**	**197**	*e*P		**Pn**	**10 47 59.5**	**-0.3**
TSCK	**Chigu Township** baz=247	**2.16**	**248**	*e*P		**Pn**	**10 48 03.1**	**+2.2**
TSCK	baz=247			*e*S		**Sb**	**10 48 30.1**	**-1.8**
JTJ	**Tarama**	**2.33**	**73**	P		**Pn**	**10 48 04.3**	**+1.1**
JTJ				*e*S		**Sn**	**10 48 30.7**	**0.0**
WDGT	**Dungji** baz=252	**2.49**	**254**	*e*P		**Pn**	**10 48 07.6**	**+2.2**
WDGT	baz=252			S		**Sn**	**10 48 35.9**	**+1.2**
PHUB	**P'eng-hu** baz=258	**2.50**	**260**	P		**Pn**	**10 48 06.9**	**+1.3**
PHUB	baz=258			S		**Sn**	**10 48 36.7**	**+1.6**
PNG	**Penghu** baz=260	**2.51**	**261**	P		**Pn**	**10 48 07.0**	**+1.3**
PNG	baz=260			*e*S		**Sn**	**10 48 37.2**	**+2.0**
VCHM	**Qimei** baz=253	**2.70**	**254**	P		**Pn**	**10 48 09.9**	**+1.5**
VCHM	baz=253			S		**Sn**	**10 48 41.6**	**+1.5**
VWUC	**VWUC** baz=291	**2.74**	**292**	*e*P		**Pn**	**10 48 09.0**	**0.0**
VWUC	baz=291			*e*S		**Sn**	**10 48 39.7**	**-1.4**
JMJ2	**Miyako jima3**	**2.90**	**74**	P		**Pn**	**10 48 13.0**	**+1.8**
ZPLA	**Ao Xicun** baz=269	**4.12**	**270**	*e*P		**Pn**	**10 48 28.5**	**+0.6**

*IDC **10** 10:51:18.6±1.0, 18°.24N×119°.19E, h0km, mb3.7/7, mbtmp3.7/7, MS3.7/2, Error ellipse: s-maj=138.2km s-min=17.2km az=64.0*

ISC 10 10:51:22.1±1.1, 18°.6N±0°.4×119°.9E±0°.8, h24km, n9, σ1s11/9, mb3.7/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array** 0.2nm,0.3s,baz=146,slow=8.0,SNR=2.0 0.2nm,0.3s	**31.16**	**342**	P	**P**	**10 57 39.5**	**+0.3**
WRA	**Warramunga Arr** 0.7nm,0.7s,baz=332,slow=10,SNR=16	**40.85**	**159**	P	**P**	**10 59 00.7**	**-1.5**
WRA	0.3nm,1.0s,baz=352,slow=3.7,SNR=1.4 0.7nm,0.7s			PcP	**PcP**	**11 01 04.6**	**+1.8**
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=107,slow=9.0,SNR=1.6 0.1nm,0.4s	**41.69**	**321**	P	**P**	**10 59 09.4**	**+0.5**
ASAR	**Alice Springs** 0.6nm,0.4s,baz=338,slow=6.9,SNR=23	**44.19**	**161**	P	**P**	**10 59 28.7**	**-0.6**
ASAR	0.1nm,0.5s,baz=342,slow=3.8,SNR=1.4 0.6nm,0.4s			PcP	**PP**	**11 01 13.7**	**+1.0**
KURBB	**Kurchatov Arra** 0.8nm,0.6s,baz=119,slow=8.9,SNR=4.5 0.8nm,0.6s	**45.73**	**324**	P	**P**	**10 59 41.3**	**0.0**
CTA	**Charters Tower** comp=Z,22nm,19.3s,baz=83,slow=39	**46.35**	**145**	LR	LR	11 21 18.8	
BVAR	**Borovoye Array** 0.3nm,0.3s,baz=128,slow=9.5,SNR=1.4 0.3nm,0.3s	**51.33**	**324**	P	**P**	**11 00 23.9**	**-0.4**
ASF	**Jabal al Asfar** comp=Z,196nm,21.6s,baz=289,slow=41	**74.55**	**299**	LR	LR	11 41 31.2	
FINES	**FINESS Array B** 7.3nm,1.1s,baz=80,slow=3.4,SNR=6.2 7.3nm,1.1s	**75.64**	**330**	P	**P**	**11 03 04.3**	**-0.6**

*IDC **10** 11:02:59.5±0.9, 14°.70N×92°.48E, h0km, mb3.7/9, mbtmp3.7/10, ML3.7/1, Error ellipse: s-maj=24.2km s-min=20.5km az=53.0*

ISC 10 11:03:01.2±0.9, 14°.8N±0°.1×92°.33E±0°.09, h10km, n18, σ1s88/19, mb3.6/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=247,slow=14,SNR=1.5	**7.30**	**59**	Pn	**Pn**	**11 04 47.5**	**-0.6**
CMAR	0.2nm,0.3s,baz=246,slow=28,SNR=2.2			Sn	**Sn**	**11 06 12.6**	**+1.5**
TAPN	**Taplejung** 7.5nm,0.2s	**13.20**	**342**	*e*P	**Pn**	**11 06 07.9**	**-1.2**
RAMN	**Ramite** 14nm,0.3s	**13.21**	**337**	*e*P	**Pn**	**11 06 07.7**	**-1.5**
JIRN	**Jiri**	**14.01**	**337**	*e*P	**Pn**	**11 06 18.1**	**-2.0**
PKI	**Pulchoki** 6.8nm,0.3s	**14.24**	**334**	*e*P	**Pn**	**11 06 20.8**	**-2.5**
PKIN	**Phulchoki** 12nm,0.3s	**14.25**	**334**	*e*P	**Pn**	**11 06 21.5**	**-1.9**
KOLN	**Koldanda**	**15.24**	**329**	*e*P	**Pn**	**11 06 34.1**	**-2.6**
DANN	**Dangsing** 9.7nm,0.3s	**15.64**	**331**	*e*P	**Pn**	**11 06 39.4**	**-2.8**
PYUN	**Piuthan** 6.4nm,0.3s	**15.81**	**328**	*e*P	**Pn**	**11 06 41.4**	**-2.9**
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=163,slow=8.4,SNR=6.3 0.5nm,0.5s	**32.98**	**347**	P	**P**	**11 09 36.9**	**+0.7**
SONM	**Songino Array** 0.2nm,0.4s,baz=216,slow=4.6,SNR=1.7 0.2nm,0.4s	**34.94**	**17**	P	**P**	**11 09 54.3**	**+1.0**
KURBB	**Kurchatov Arra** 0.5nm,0.4s,baz=164,slow=8.4,SNR=5.4 0.5nm,0.4s	**37.43**	**346**	P	**P**	**11 10 14.9**	**+0.4**
ZALV	**Zalesovo Beam** 0.9nm,0.6s,baz=187,slow=10,SNR=4.8 0.9nm,0.6s	**39.49**	**353**	P	**P**	**11 10 31.8**	**0.0**
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=298,slow=11,SNR=2.2 0.4nm,0.8s	**53.84**	**129**	P	**P**	**11 12 22.9**	**-1.9**
ASAR	**Alice Springs** 0.4nm,0.6s,baz=310,slow=6.7,SNR=9.0 0.4nm,0.6s	**55.80**	**133**	P	**P**	**11 12 37.3**	**-1.7**
BRTR	**Keskin Array B** 0.7nm,0.7s,baz=107,slow=4.8,SNR=1.6 0.7nm,0.7s	**56.68**	**308**	P	**P**	**11 12 47.0**	**+1.8**
KMBO	**Kilima Mbogo** 2.4nm,0.4s,baz=72,slow=20,SNR=6.6 2.4nm,0.4s	**56.73**	**259**	P	**P**	**11 12 46.8**	**+0.8**
TORD	**Torodi Ar. Bea** 0.5nm,0.8s,baz=84,slow=3.5,SNR=2.2 0.5nm,0.8s	**87.31**	**283**	P	**P**	**11 15 50.4**	**+1.4**

DJA 10 11:18:23.7±0.5, 8°S±2°×107°8E±°, h12km±4km, M3.9/11, mb4.4/1, mB5.2/1, MLv3.7/11, Mw(mB)4.6/1, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.75**	**54**	P	Pb	11 18 38.9	+0.2
CMJI				S	Sg	11 18 48.4	+0.4
CNJI	**Cibinong**	**1.16**	**322**	P	Pb	11 18 45.4	-0.2
CNJI				S	Sb	11 18 59.2	-1.4
KPJI	**Karang Pucung**	**1.40**	**51**	P	Pn	11 18 49.2	+0.1
KPJI				S	Sn	11 19 06.8	-0.7
LEM	**Lembang**	**1.41**	**351**	P	Pb	11 18 50.3	+0.2
LEM				S	Sg	11 19 09.4	+0.1
SKJI	**Sukabumi**	**1.76**	**314**	P	Pb	11 18 55.1	-0.9
SKJI				S	Sn	11 19 15.1	-1.3
DBJI	**Dramaga**	**1.99**	**327**	P	Pn	11 18 58.2	+1.0
DBJI				S	Sn	11 19 22.4	+0.4
CGJI	**Cibinong**	**2.67**	**307**	P	Pn	11 19 07.3	+0.8
CGJI				S	Sn	11 19 35.3	-3.5
UGM	**Wanagama**	**2.68**	**83**	P	Pn	11 19 06.2	-0.5

*SOME **10** 11:32:52.9, 44°.22N×81°.57E, h5km*
*NNC **10** 11:32:54.9±1.7, 44°.24N×81°.50E, h0km, mb2.4, mpv2.6, Error ellipse: s-maj=15.0km s-min=9.9km az=143.0*

ISC 10 11:32:51.6±2.7, 44°.21N±0°.07×81°.6E±0°.1, h1km±27km, n8, σ0s76/14, 1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent** 2.5nm,0.3s	**1.34**	**276**	*e*P	**Pb**	**11 33 17.0**	**-0.5**
DJR	1.9nm,0.2s			*e*S	**Sg**	**11 33 35.0**	**+0.5**
DJR	**Jarkent** 2.5nm,0.3s	**1.34**	**276**	P	**Pb**	**11 33 17.0**	**-0.5**
DJR	1.8nm,0.2s			S	**Sg**	**11 33 35.0**	**+0.5**
KNOS	**Konyrlen** 4.1nm,0.2s	**1.77**	**276**	P	**Pg**	**11 33 25.0**	**-0.6**
KNOS	1.6nm,0.3s			S	**Sg**	**11 33 48.7**	**+0.1**
PDGK	**Podgornoye** 0.7nm,0.2s	**1.79**	**241**	P	**Pg**	**11 33 26.0**	**+0.1**
PDGK	2.1nm,0.3s			S	**Sg**	**11 33 50.5**	**+1.4**
KAPS	**Kapalarasan** 2.3nm,0.1s	**1.95**	**304**	*e*P	**Pg**	**11 33 28.8**	**-0.2**
KAPS	6.9nm,0.2s			*e*S	**Sg**	**11 33 55.2**	**+0.9**
KPKS	**Kokpek** 2.0nm,0.1s	**2.27**	**252**	*e*Pg	**Pg**	**11 33 34.1**	**-0.9**
KPKS	6.3nm,0.1s			*e*Lg	Lg	11 34 04.4	
KPKS	**Kokpek** 1.5nm,0.1s	**2.27**	**252**	Pg	**Pb**	**11 33 33.1**	**-0.2**
KPKS	5.8nm,0.2s			Lg	Lg	11 34 03.0	
MK31	**Makanchi Array** 0.2nm,0.3s,baz=195,slow=14,SNR=16	**2.62**	**10**	⇓Pn	**Pb**	**11 33 39.1**	**-0.4**
MK31	0.4nm,0.4s,baz=193,slow=28,SNR=6.8			Sn	**Sb**	**11 34 12.9**	**+0.7**

*ATH **10** 11:33:25.8, 37°.83N×20°.11E, h11km±4km, ML3.3/4, Error ellipse: s-maj=5.0km s-min=2.3km az=52.0*
*THE **10** 11:33:26.3, 37°.86N×20°.12E, h10km±2km, ML3.6/6, Error ellipse: s-maj=2.6km s-min=0.8km az=61.0*
*IDC **10** 11:33:27.6±1.8, 37°.70N×20°.10E, h43km±36km, mb3.5/7, mbtmp3.6/10, ML3.2/3, MS3.1/1, Error ellipse: s-maj=38.2km s-min=11.3km az=20.0*

ISC 10 11:33:26.8±1.2, 37°.88N±0°.05×20°.18E±0°.05, h25km±8km, n43, σ0s68/53, mb3.5/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF3	**Kipouria, Keph**	**0.35**	**22**	P	**Pb**	**11 33 34.3**	**-0.3**
KEF3				S	**Sb**	**11 33 39.8**	**-0.1**
KEF3	**Kipouria, Keph** 16μm,0.3s	**0.35**	**22**	P	**Pb**	**11 33 34.4**	**-0.2**
LXR1	**Lixouri, Cepha**	**0.38**	**32**	P	**Pb**	**11 33 35.0**	**-0.1**
LXR1	17μm,0.3s			S	**Sb**	**11 33 41.2**	**+0.5**
LXRA	**Lixouri, Kepha**	**0.38**	**32**	P	**Pb**	**11 33 34.8**	**-0.3**
LXRA				S	**Sb**	**11 33 41.3**	**+0.6**
LXRA	comp=E,16685μm,0.5s			AML	AML	11 33 45.1	
LXRA	comp=N,18253μm,0.4s			AML	AML	11 33 46.2	
DMLN	**Damoulianata-K**	**0.39**	**23**	P	**Pb**	**11 33 34.8**	**-0.5**
DMLN	comp=N,6μm,0.3s			S	**Sb**	**11 33 41.0**	**0.0**
DMLN	**Damoulianata-K**	**0.39**	**23**	P	**Pb**	**11 33 34.8**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.40**	**53**	P	**Pb**	**11 33 34.7**	**-0.6**
PSDA	comp=N,6μm,0.2s			S	**Sb**	**11 33 41.2**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.40**	**53**	P	**Pb**	**11 33 34.8**	**-0.6**
KEF4	**Livadi, Kephal**	**0.43**	**27**	P	**Pb**	**11 33 35.3**	**-0.5**
KEF4	comp=N,22μm,0.2s			S	**Sb**	**11 33 42.6**	**+0.7**
KEF4	**Livadi, Kephal**	**0.43**	**27**	P	**Pb**	**11 33 35.4**	**-0.5**
VLS	**Valsamata**	**0.44**	**47**	P	**Pb**	**11 33 35.4**	**-0.7**
VLS	comp=N,4μm,0.2s			S	**Sb**	**11 33 42.5**	**+0.1**
VLS	**Valsamata**	**0.44**	**47**	P	**Pb**	**11 33 35.7**	**-0.4**
VLS				S	**Sb**	**11 33 42.7**	**+0.3**
VLS				AML	AML	11 33 42.9	
VLS	comp=E,7129μm,0.1s			AML	AML	11 33 44.7	
LTHK	**Lithakia**	**0.55**	**108**	P	**Pb**	**11 33 37.2**	**-0.6**
LTHK				S	**Sn**	**11 33 46.4**	**-0.9**
LTHK	**Lithakia**	**0.55**	**108**	P	**Pb**	**11 33 37.2**	**-0.6**
LTHK	comp=E,11589μm,0.5s			AML	AML	11 33 50.6	
LTHK	comp=N,17091μm,0.5s			AML	AML	11 33 50.7	
KRI1	**kERI**	**0.55**	**113**	P	**Pb**	**11 33 37.5**	**-0.3**
FSK	**Fiskardo**	**0.65**	**27**	P	**Pb**	**11 33 39.0**	**-0.6**
FSK	**Fiskardo**	**0.65**	**27**	P	**Pb**	**11 33 39.3**	**-0.3**
EVGI	**Lefkada island**	**0.83**	**27**	P	**Pb**	**11 33 42.2**	**-0.4**
EVGI	**Lefkada island**	**0.83**	**27**	P	**Pb**	**11 33 42.5**	**-0.1**
DRAG	**Dragano-Lefkad**	**0.86**	**21**	P	**Pb**	**11 33 42.7**	**-0.4**
DRAG	**Dragano-Lefkad**	**0.86**	**21**	P	**Pb**	**11 33 43.1**	**-0.1**
NYDR	**Nydri-Lefkada**	**0.93**	**26**	P	**Pn**	**11 33 44.4**	**+0.2**
AST1	**Astakos**	**0.98**	**47**	P	**Pn**	**11 33 45.4**	**+0.5**
LKD2	**Lefkada island**	**0.98**	**22**	P	**Pn**	**11 33 45.8**	**+0.7**
LKD2	**Lefkada island**	**0.98**	**22**	P	**Pn**	**11 33 45.7**	**+0.7**
RLS	**Riolos of Patr**	**1.03**	**80**	P	**Pb**	**11 33 46.7**	**+0.7**
RLS	**Riolos of Patr**	**1.03**	**80**	P	**Pb**	**11 33 46.1**	**+0.1**
RLS				AML	AML	11 34 06.6	
RLS	comp=N,1306μm,0.3s			AML	AML	11 34 09.1	
IDI	**Anoyia** comp=E,0.3nm,0.3s,baz=22,slow=8.3,SNR=1.5	**4.59**	**123**	P	**Pn**	**11 34 35.7**	**+1.1**
IDI	comp=E,13nm,0.3s,baz=267,slow=4.6,SNR=5.0 comp=E,8.9nm,0.8s			S	**Sn**	**11 35 25.4**	**-1.7**
VAE	**Valguarnera** comp=E,1.2nm,0.3s,baz=62,slow=21,SNR=1.6	**4.59**	**267**	P	**Pn**	**11 34 35.9**	**+1.2**
VAE	comp=E,7.6nm,0.5s,baz=113,slow=6.5,SNR=2.4 comp=E,4.0nm,0.4s			S	**Sn**	**11 35 25.8**	**-1.5**
OBKA	**Obir** comp=E,0.8nm,0.2s	**9.58**	**336**	*e*Pn	**Pn**	**11 35 41.6**	**-1.5**
SOKA	**Soboth** comp=E,2.4nm,0.4s	**9.58**	**338**	*e*Pn	**Pn**	**11 35 42.0**	**-1.2**
ABTA	**Abfaltersbach** comp=E,1.1nm,0.4s	**10.52**	**330**	*e*Pn	**Pn**	**11 35 55.6**	**-0.4**
MOA	**Molln** comp=E,2.4nm,0.4s	**10.87**	**338**	*e*Pn	**Pn**	**11 36 01.1**	**+0.5**
LESA	**Schwarzleotal** comp=E,0.8nm,0.3s	**11.02**	**332**	*e*Pn	**Pn**	**11 36 02.6**	**-0.2**
GERES	**GERESS Array B** comp=E,0.2nm,0.3s,baz=159,slow=15,SNR=2.3 comp=E,0.6nm,0.5s	**11.93**	**339**	P	**Pn**	**11 36 14.9**	**-0.3**
HFS	**Hagfors** comp=E,3.1nm,0.5s,baz=178,slow=9.7,SNR=14 comp=E,3.1nm,0.5s	**22.66**	**352**	P	**P**	**11 38 26.9**	**+1.1**
EKA	**Eskdalemuir Ar** comp=E,0.6nm,0.6s,baz=131,slow=8.9,SNR=3.8 comp=E,0.6nm,0.6s	**23.52**	**325**	P	**P**	**11 38 35.0**	**+0.3**
NOA	**NORSAR Array B** comp=E,1.3nm,0.8s,baz=162,slow=8.9,SNR=3.3 comp=E,1.3nm,0.8s	**23.86**	**349**	P	**P**	**11 38 38.2**	**+0.2**
FINES	**FINESS Array B** comp=E,2.8nm,0.8s,baz=188,slow=8.4,SNR=5.2 comp=E,2.8nm,0.8s	**23.88**	**7**	P	**P**	**11 38 37.7**	**-0.3**
WSAR	**Wadi Sarin** comp=E,27nm,19.0s,baz=244,slow=40	**35.91**	**103**	LR	LR	11 57 44.2	
BVAR	**Borovoye Array** comp=E,0.3nm,0.5s,baz=284,slow=7.3,SNR=2.3 comp=E,0.3nm,0.5s	**37.52**	**50**	P	**P**	**11 40 39.3**	**+0.9**
MKAR	**Makanchi Array** comp=E,0.3nm,0.5s,baz=278,slow=8.0,SNR=5.7 comp=E,0.3nm,0.5s	**45.69**	**58**	P	**P**	**11 41 44.9**	**-0.6**
ZALV	**Zalesovo Beam** comp=E,0.9nm,0.5s,baz=284,slow=8.2,SNR=5.6 comp=E,0.9nm,0.5s	**46.09**	**48**	P	**P**	**11 41 47.9**	**-0.6**

*GUC **10** 11:41:02.1±0.8, 31°.52S×69°.63W, h191km±6km, ML3.8*
*SJA **10** 11:41:02.0±0.7, 31°.52S×69°.01W, h108km±2km, ML3.5, MW3.5*

ISC 10 11:41:02.9±1.2, 31°.54S±0°.02×69°.02W±0°.03, h108km±7km, n58, σ1s49/103, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.29**	**91**	*e*P	**Pn**	**11 41 18.2**	**-0.3**
ZON	comp=Z,563nm,0.5s			IAML		11 41 32.0	
RTLS	**Leoncito**	**0.35**	**222**	*e*P	**Pn**	**11 41 18.8**	**-0.2**
RTLS				*e*S	**Sn**	**11 41 28.7**	**-2.5**
RTLS	comp=Z,6μm,0.2s			IAML		11 41 31.2	
SJA	**San Juan**	**0.40**	**88**	*e*P	**Pn**	**11 41 19.0**	**0.0**
SJA	comp=Z,692nm,0.3s			IAML		11 41 33.5	
RTLL	**Cerro Villicun**	**0.52**	**66**	*e*P	**Pn**	**11 41 19.3**	**-0.4**
RTLL				*e*S	**Sn**	**11 41 31.9**	**-0.4**
RTLL	comp=Z,1μm,0.2s			IAML		11 41 32.5	
RTCV	**Cerro Valdivia**	**0.52**	**128**	*e*P	**Pn**	**11 41 19.7**	**0.0**
RTCV				*e*S	**Sn**	**11 41 32.6**	**+0.2**
DOCA	**Reserva Natura**	**0.59**	**355**	*e*P	**Pn**	**11 41 20.1**	**-0.5**
DOCA				*e*S	**Sn**	**11 41 33.5**	**-0.4**
CFA	**Coronel Fontan**	**0.68**	**96**	*e*P	**Pn**	**11 41 20.7**	**-0.2**
CFA				*e*S	**Sn**	**11 41 34.3**	**-0.2**
CFA	comp=Z,745nm,0.2s			IAML		11 41 35.8	
ACCO	**Cerro Coronel**	**0.95**	**358**	*e*P	**Pn**	**11 41 23.9**	**+0.1**
ACCO				*e*S	**Sn**	**11 41 38.3**	**-1.2**
ACCO	comp=Z,651nm,0.6s			IAML		11 41 42.6	
ASAL	**Salagasta**	**1.06**	**171**	*e*P	**Pn**	**11 41 25.2**	**+0.5**
ASAL				*e*S	**Sn**	**11 41 38.9**	**-2.2**
ASAL	comp=Z,381nm,0.2s			IAML		11 41 43.8	
ARCO	**CERRO ARCO**	**1.30**	**177**	*e*P	**Pn**	**11 41 28.0**	**+0.6**
ARCO				*e*S	**Sn**	**11 41 47.6**	**+1.7**
ARCO	comp=Z,582nm,0.3s			IAML		11 41 50.4	
ACDV	**Cuesta del Vie**	**1.37**	**357**	*e*P	**Pn**	**11 41 28.4**	**+0.2**
ACDV				*e*S	**Sn**	**11 41 48.2**	**+0.9**
ACDV	comp=Z,339nm,0.5s			IAML		11 41 48.5	
AROD	**Rodeo**	**1.42**	**344**	*e*P	**Pn**	**11 41 29.5**	**+0.5**
AROD				*e*S	**Sn**	**11 41 49.4**	**+0.6**
AAGR	**Agrelo**	**1.55**	**174**	*e*P	**Pn**	**11 41 30.7**	**+0.4**
AAGR				*e*S	**Sn**	**11 41 55.0**	**+3.9**
AAGR	comp=Z,394nm,1.2s			IAML		11 41 55.5	
CO03	**El Pedregal**	**1.59**	**296**	*e*P	**Pn**	**11 41 31.1**	**+0.4**
CO03				*e*S	**Sn**	**11 41 54.6**	**+2.6**
CO03	comp=Z,366nm,0.3s			IAML		11 41 55.4	
CO03	**El Pedregal**	**1.59**	**296**	*e*P	**Pn**	**11 41 31.1**	**+0.4**
CO03				*i* S	**Sn**	**11 41 53.1**	**+1.2**
CO03	comp=E,1μm,0.1s			IAML		11 41 54.1	
AVFE	**Valle Fertil**	**1.61**	**57**	*e*P	**Pn**	**11 41 30.9**	**-0.1**
AVFE				*e*S	**Sn**	**11 41 52.5**	**+0.2**
AVFE	comp=Z,270nm,0.3s			IAML		11 41 54.4	
CO02	**Combarbal**	**1.72**	**281**	*e*P	**Pn**	**11 41 32.2**	**-0.3**
CO02				*e*S	**Sn**	**11 41 56.5**	**+1.6**
CO02	comp=Z,541nm,0.2s			IAML		11 41 57.4	
CO02	**Combarbal**	**1.72**	**281**	*e*P	**Pn**	**11 41 32.1**	**-0.3**
CO02				*i* S	**Sn**	**11 41 54.8**	**-0.1**
CO02	comp=N,2μm,0.3s			IAML		11 42 00.7	
CO01	**Juntas del Tor**	**1.81**	**329**	*e*P	**Pn**	**11 41 34.3**	**+0.6**
CO01	**Juntas del Tor**	**1.81**	**329**	*e*P	**Pn**	**11 41 34.9**	**+1.2**
CO01				*i* S	**Sn**	**11 41 59.0**	**+1.9**
AVIZ	**Vizcacheras**	**1.98**	**168**	*e*P	**Pn**	**11 41 36.2**	**+0.6**
AVIZ				*e*S	**Sn**	**11 42 01.0**	**+0.5**
GO04	**Tololo Observa**	**2.05**	**311**	*e*P	**Pn**	**11 41 36.3**	**-0.4**
GO04				*e*S	**Sn**	**11 42 03.4**	**+1.0**
GO04	**Tololo Observa**	**2.05**	**311**	*e*P	**Pn**	**11 41 36.2**	**-0.4**
GO04				*i* S	**Sn**	**11 42 01.9**	**-0.4**
ACHE	**Chepes**	**2.06**	**80**	*e*P	**Pn**	**11 41 36.7**	**+0.1**
MT08	**Bocatoma Ro**	**2.08**	**204**	*e*P	**Pn**	**11 41 39.0**	**+2.0**
MT08				*i* S	**Sn**	**11 42 07.1**	**+4.1**
FCH	**Farellones**	**2.08**	**211**	*e*P	**Pn**	**11 41 38.5**	**+1.4**
FCH				*i* S	**Sn**	**11 42 06.3**	**+3.1**
MT04	**Ro Olivares**	**2.08**	**207**	*e*P	**Pn**	**11 41 38.8**	**+1.7**
AGUA	**GUANDACOL**	**2.10**	**13**	*e*P	**Pn**	**11 41 37.8**	**+0.6**
AGUA				*e*S	**Sn**	**11 42 06.1**	**+2.7**
AGUA	comp=Z,239nm,0.2s			IAML		11 42 08.7	
PEL	**Peldehue**	**2.13**	**221**	*e*P	**Pn**	**11 41 37.6**	**+0.2**
PEL				*e*S	**Sn**	**11 42 06.2**	**+2.3**
PEL	**Peldehue**	**2.13**	**221**	*e*P	**Pn**	**11 41 37.5**	**0.0**
PEL				*i* S	**Sn**	**11 42 04.3**	**+0.3**
MT10	**Hacienda Santa**	**2.15**	**216**	*e*P	**Pn**	**11 41 38.5**	**+0.7**
MT10				*i* S	**Sn**	**11 42 06.0**	**+1.4**
MT10	comp=E,367nm,0.5s			IAML		11 42

MT14				IAML			11 42 10.1	
	comp=E,404nm,0.7s							
MT03	**Universidad Ad**	**2.32**	**212**	*e*P		**Pn**	**11 41 40.9**	**+1.0**
MT03				*e*S		**Sn**	**11 42 11.2**	**+2.9**
MT03				IAML			11 42 12.2	
	comp=Z,139nm,0.3s							
MT03	**Universidad Ad**	**2.32**	**212**	*e*P		**Pn**	**11 41 40.5**	**+0.6**
MT03				*i* S		**Sn**	**11 42 09.9**	**+1.5**
MT03				IAML			11 42 11.7	
	comp=N,359nm,0.2s							
MT05	**Renca**	**2.35**	**218**	*e*P		**Pn**	**11 41 40.8**	**+0.5**
MT05				*e*S		**Sn**	**11 42 10.6**	**+1.6**
MT05				IAML			11 42 11.7	
	comp=Z,163nm,0.2s							
MT05	**Renca**	**2.35**	**218**	*e*P		**Pn**	**11 41 40.5**	**+0.2**
MT05				*i* S		**Sn**	**11 42 09.7**	**+0.7**
MT05				IAML			11 42 12.6	
	comp=E,566nm,0.4s							
MT15	**Las Vizcachas**	**2.40**	**211**	*e*P		**Pn**	**11 41 41.5**	**+0.5**
MT15				*i* S		**Sn**	**11 42 11.4**	**+1.1**
APLL	**PUNTA DE LOS L**	**2.43**	**63**	*e*P		**Pn**	**11 41 41.5**	**+0.1**
MT02	**Curacav**	**2.48**	**226**	*e*P		**Pn**	**11 41 41.0**	**-0.9**
MT02	**Curacav**	**2.48**	**226**	*e*P		**Pn**	**11 41 40.8**	**-1.1**
MT02				*i* S		**Sn**	**11 42 09.8**	**-2.1**
CO05	**La Serena**	**2.50**	**310**	*e*P		**Pn**	**11 41 41.1**	**-1.1**
CO05				*i* S		**Sn**	**11 42 09.6**	**-2.8**
CO05				IAML			11 42 11.3	
	comp=E,495nm,0.3s							
MT12	**Pirque**	**2.54**	**210**	*e*P		**Pn**	**11 41 43.1**	**+0.3**
MT12				*i* S		**Sn**	**11 42 14.2**	**+0.8**
ACLC	**CERRO LA CRUZ**	**2.76**	**41**	*e*P		**Pn**	**11 41 45.7**	**-0.2**
ACLC				*e*S		Sn	11 42 01.6	-17
MT09	**Talagante**	**2.78**	**216**	*e*P		**Pn**	**11 41 45.2**	**-0.8**
MT09				*i* S		**Sn**	**11 42 17.4**	**-1.8**
VCA	**Vinchina**	**2.88**	**14**	*e*P		**Pn**	**11 41 48.2**	**+0.7**
VCA				*e*S		**Sn**	**11 42 23.7**	**+2.0**
AC05	**El Transito**	**2.90**	**338**	*e*S		**Sn**	**11 42 24.2**	**+2.0**
AC05	**El Transito**	**2.90**	**338**	*e*P		**Pn**	**11 41 48.4**	**+0.7**
AC05				*i* S		**Sn**	**11 42 22.3**	**+0.1**
LCO	**Las Campanas**	**2.91**	**330**	*e*P		**Pn**	**11 41 47.4**	**-0.5**
LCO				IAML			11 42 22.0	
	comp=E,617nm,0.9s							
LCO	**Las Campanas**	**2.91**	**330**	*e*P		**Pn**	**11 41 47.0**	**-0.9**
LCO				*i* S		**Sn**	**11 42 21.0**	**-1.5**
MT01	**Popeta**	**2.98**	**218**	*e*P		**Pn**	**11 41 47.0**	**-1.5**
MT01	**Popeta**	**2.98**	**218**	*e*P		**Pn**	**11 41 47.2**	**-1.4**
MT01				*i* S		**Sn**	**11 42 21.3**	**-2.5**
RFA	**San Rafael**	**3.26**	**172**	*e*P		**Pn**	**11 41 51.8**	**-0.5**
RFA				*e*S		**Sn**	**11 42 30.0**	**-0.4**
RFA				IAML			11 42 31.4	
	comp=Z,64nm,0.6s							
RFA				IAML			11 42 31.4	
	comp=Z,64nm,0.6s							
RFA				IAML			11 42 31.4	
	comp=Z,64nm,0.6s							
RFA				IAML			11 42 31.4	
	comp=Z,64nm,0.6s							
BO01	**Tunca**	**3.33**	**211**	*e*P		**Pn**	**11 41 52.0**	**-1.2**
BO01				*e*S		**Sn**	**11 42 25.4**	**-6.7**
BO02	**Sierra Bellavi**	**3.56**	**204**	*e*P		**Pn**	**11 41 56.4**	**0.0**
AC04	**Llanos de Chal**	**3.77**	**331**	*e*P		**Pn**	**11 41 58.8**	**-0.4**
TCA	**Tanti**	**3.79**	**88**	*e*P		**Pn**	**11 41 58.8**	**-0.7**
TCA				*e*S		**Sn**	**11 42 41.5**	**-1.8**
TCA				IAML			11 42 58.0	
	comp=Z,84nm,1.2s							
GO03	**Copiap**	**4.07**	**345**	*e*P		**Pn**	**11 42 02.6**	**-0.6**
GO03				*e*S		**Sn**	**11 42 49.4**	**-0.6**

*SJA **10** 11:47:28.8±0.8,20.0°00S×69.2°22W,h95km±3km,ML3.6, MW3.7*
*GUC **10** 11:47:30.2±0.8,20.0°03S×69.2°15W,h90km±3km,ML3.6*
ISC 10 11:47:30.3±1.3,**20.0°00S**±0.0°03×**69.2°23W**±0.0°05,**h89**km±7km, **n31**,σ1°**20**/54,**2C-4D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PB08	**IPOC Station P**	**0.16**	**155**	⇓*i*P		**Pn**	**11 47 43.1**	**-0.5**
PB08				*i* S		**Sn**	**11 47 53.8**	**+0.4**
PB08				IAML			11 47 55.1	
	comp=E,6μm,0.1s							
GO01	**Chusmiza**	**0.33**	**5**	*e*P		**Pn**	**11 47 44.1**	**-0.4**
GO01				*e*S		**Sn**	**11 47 55.8**	**+0.9**
GO01				IAML			11 47 56.6	
	comp=Z,2μm,0.1s							
GO01	**Chusmiza**	**0.33**	**5**	⇓*i*P		**Pn**	**11 47 44.1**	**-0.4**
GO01				*i* S		**Sn**	**11 47 55.5**	**+0.6**
PB11	**IPOC Station P**	**0.47**	**300**	*e*P		**Pn**	**11 47 44.5**	**-0.5**
PB11				*e*S		**Sn**	**11 47 57.0**	**+1.1**
PB11				IAML			11 47 59.5	
	comp=Z,1μm,0.2s							
PB11	**IPOC Station P**	**0.47**	**300**	⇑*i*P		**Pn**	**11 47 44.6**	**-0.3**
PB11				*i* S		**Sn**	**11 47 56.1**	**+0.3**
PB11				IAML			11 47 57.5	
	comp=E,2μm,0.5s							
HMBC	**Humberstone**	**0.68**	**246**	*e*P		**Pn**	**11 47 46.2**	**-0.5**
HMBC				*e*S		**Sn**	**11 48 00.1**	**+1.0**
HMBC				IAML			11 48 01.6	
	comp=Z,3μm,0.3s							
HMBC	**Humberstone**	**0.68**	**246**	*e*P		**Pn**	**11 47 45.5**	**-1.3**
HMBC				*e*S		**Sn**	**11 47 59.5**	**+0.5**
HMBC				IAML			11 48 01.3	
	comp=E,4μm,0.4s							
TA02	**Huaiquique**	**0.89**	**252**	*e*S		**Sn**	**11 48 04.4**	**+1.8**
TA02				IAML			11 48 06.7	
	comp=Z,2μm,0.1s							
TA01	**Diego Aracena**	**1.06**	**238**	*e*P		**Pn**	**11 47 48.0**	**-2.7**
TA01				*e*S		**Sn**	**11 48 06.4**	**+0.4**
TA01				IAML			11 48 08.2	
	comp=Z,465nm,0.1s							
PB01	**IPOC Station P**	**1.07**	**193**	*e*P		**Pn**	**11 47 49.5**	**-1.4**
PB01				*e*S		**Sn**	**11 48 06.5**	**+0.1**
PB01				IAML			11 48 09.3	
	comp=Z,817nm,0.2s							
PB01	**IPOC Station P**	**1.07**	**193**	*i* P		**Pn**	**11 47 50.0**	**-0.9**
PB01				*i* S		**Sn**	**11 48 06.0**	**-0.3**
PB01				IAML			11 48 06.7	
	comp=N,2μm,0.3s							
PATCX	**Punta Patache**	**1.20**	**227**	⇑*i*P		**Pn**	**11 47 51.5**	**-0.9**
PATCX				*i* S		**Sn**	**11 48 08.8**	**-0.1**
PATCX				IAML			11 48 16.9	
	comp=E,1μm,0.3s							
PX02	**IPOC Station P**	**1.38**	**318**	*e*P		**Pn**	**11 47 53.2**	**-1.5**
PB02	**IPOC Station P**	**1.46**	**205**	*e*P		**Pn**	**11 47 55.7**	**0.0**
PB02				*e*S		**Sn**	**11 48 16.1**	**+1.3**
PB02				IAML			11 48 20.6	
	comp=Z,1μm,0.3s							
PB02	**IPOC Station P**	**1.46**	**205**	*i* P		**Pn**	**11 47 54.7**	**-1.0**
PB02				*i* S		**Sn**	**11 48 14.4**	**-0.3**
PB02				IAML			11 48 21.2	
	comp=E,2μm,0.3s							
PB16	**IPOC Station P**	**1.67**	**351**	*e*P		**Pn**	**11 47 59.1**	**+0.2**
PB16				*e*S		**Sn**	**11 48 18.8**	**-1.6**
PB16	**IPOC Station P**	**1.67**	**351**	⇓*i*P		**Pn**	**11 47 59.6**	**+0.7**
PB16				*i* S		**Sn**	**11 48 22.9**	**+2.5**
PB16				IAML			11 48 24.7	
	comp=N,218nm,0.3s							
PB12	**IPOC Station P**	**1.73**	**323**	*e*P		**Pn**	**11 47 58.6**	**-0.5**
PB12				*e*S		**Sn**	**11 48 21.3**	**+0.4**
PB12				*e*S			11 48 24.4	
PB12				IAML			11 48 27.0	
	comp=Z,486nm,0.6s							
PB12	**IPOC Station P**	**1.73**	**323**	*e*P		**Pn**	**11 47 58.2**	**-0.9**
PB12				*i* S		**Sn**	**11 48 22.0**	**+1.2**
PB12				IAML			11 48 27.1	
	comp=N,889nm,0.6s							
PB09	**IPOC Station P**	**1.79**	**181**	*e*P		**Pn**	**11 47 59.9**	**-0.1**
PB09				*e*S		**Sn**	**11 48 23.8**	**+1.3**
PB09				IAML			11 48 26.1	
	comp=Z,444nm,0.7s							
PB09	**IPOC Station P**	**1.79**	**181**	⇓*i*P		**Pn**	**11 47 59.3**	**-0.7**
PB09				*i* S		**Sn**	**11 48 22.1**	**-0.4**
PB07	**IPOC Station P**	**1.83**	**200**	*e*P		**Pn**	**11 48 00.1**	**-0.4**
PB07				*e*S		**Sn**	**11 48 24.4**	**+1.0**
PB07				IAML			11 48 29.1	
	comp=Z,616nm,0.4s							
PB07	**IPOC Station P**	**1.83**	**200**	*e*P		**Pn**	**11 47 59.8**	**-0.7**
PB07				*e*S		**Sn**	**11 48 23.1**	**-0.3**
PB07				IAML			11 48 28.9	
	comp=E,883nm,0.3s							
AP01	**Chacalluta**	**1.93**	**327**	*e*P		**Pn**	**11 48 01.6**	**0.0**
AP01				*e*S		**Sn**	**11 48 28.5**	**+3.1**
AP01				IAML			11 48 35.6	
	comp=Z,756nm,0.1s							
PB04	**IPOC Station P**	**2.48**	**200**	*i* P		**Pn**	**11 48 09.3**	**+0.2**
PB04				IAML			11 48 49.3	
	comp=E,424nm,0.2s							
LVC	**Limon Verde**	**2.62**	**174**	*e*P		**Pn**	**11 48 11.2**	**+0.1**
PB06	**IPOC Station P**	**2.72**	**187**	*e*P		**Pn**	**11 48 12.6**	**+0.4**
PB06				*e*S		Sn	11 48 33.3	-11
PB06				IAML			11 48 51.7	
	comp=Z,261nm,0.2s							
PB06	**IPOC Station P**	**2.72**	**187**	*i* P		**Pn**	**11 48 11.4**	**-0.8**
PB06				*i* S		**Sn**	**11 48 43.9**	**-0.4**
PB06				IAML			11 48 50.9	
	comp=N,326nm,0.4s							
PB05	**IPOC Station P**	**2.98**	**198**	*e*P		**Pn**	**11 48 17.6**	**+1.9**
PB05				*e*S		Sn	11 48 35.8	-15
PB05				IAML			11 49 05.3	
	comp=Z,119nm,0.4s							
LPAZ	**La Paz**	**3.83**	**16**	*e*P		**Pn**	**11 48 23.8**	**-3.9**
LPAZ				*e*P			11 48 29.4	
YJA	**Yavi**	**4.09**	**123**	*e*P		**Pn**	**11 48 31.7**	**+0.7**

*TUL **10** 11:50:46.9±0.4,36.°50N±0.°01×98.°47W±0.°02,h6km±3km, ML3.3,mb_Lg3.0/71(NEIC),ML3.3/20(NEIC), Error ellipse: s-maj=2.2km s-min=1.6km az=137.0*
*ANF **10** 11:50:46.9±1.4,36.°50N×98.°48W,h9km±10km,ML4.0/11, Error ellipse: s-maj=4.1km s-min=3.5km az=101.0*
*NEIC **10** 11:50:47.5±0.3,36.°50N±0.°02×98.°46W±0.°02,h5km±1km, Error ellipse: s-maj=3.1km s-min=2.7km az=310.0*
ISC 10 11:50:47.1±1.1,**36.°50N**±0.°02×**98.°46W**±0.°02,**h8**km±9km, **n102**,σ0°**50**/80,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
OK038	**West end E0370**	**0.23**	**266**			**Pg**	**11 50 51.7**	**0.0**
OK038				Sg		**Sg**	**11 50 55.0**	**+0.3**
OK038				IAML			11 50 57.0	
	8μm,0.4s							
OK038				IAML			11 50 58.2	
	9μm,0.3s							
OK032	**Salt Plains WL**	**0.37**	**33**	Pg		**Pg**	**11 50 54.4**	**+0.1**
OK032				Sg		**Sg**	**11 50 59.2**	**0.0**
OK032				IAML			11 51 01.6	
	4μm,0.2s							
OK032				IAML			11 51 02.5	
	3μm,0.2s							
CROK	**Carrier**	**0.38**	**88**	Pg		**Pg**	**11 50 54.8**	**+0.2**
CROK				Sg		**Sg**	**11 51 00.1**	**+0.4**
CROK				IAML			11 51 01.0	
	comp=N,4μm,0.4s							
CROK				IAML			11 51 02.2	
	comp=E,2μm,0.3s							
U32A	**Winter Ranch,**	**0.45**	**255**	Pg		**Pg**	**11 50 55.7**	**-0.1**
U32A				IAML			11 51 02.8	
	comp=E,1μm,0.1s							
U32A	**Winter Ranch,**	**0.45**	**255**	P		**Pg**	**11 50 55.7**	**-0.1**
	baz=74,SNR=138							
U32A				S		**Sg**	**11 51 02.2**	**+0.4**
	baz=74							
GC02	**Grant County #**	**0.60**	**53**	Pg		**Pg**	**11 50 58.4**	**-0.3**
KAN14	**Manchester OK**	**0.61**	**41**	Pg		**Pg**	**11 50 58.6**	**-0.2**
KAN10	**Anthony SW Sta**	**0.69**	**25**			**Pg**	**11 51 00.1**	**-0.3**
KAN17	**Caldwell West**	**0.78**	**45**	Pg		**Pg**	**11 51 01.9**	**-0.3**
KAN08	**Anthony NE Sta**	**0.83**	**28**			**Pg**	**11 51 02.6**	**-0.4**
KAN01	**Argonia South**	**0.86**	**40**	Pg		**Pg**	**11 51 03.3**	**-0.4**
CSTR	**Hydro, Custer**	**0.87**	**192**	Pg		**Pg**	**11 51 03.6**	**-0.2**
KAN12	**Harper NE Stat**	**0.88**	**25**			**Pg**	**11 51 03.6**	**-0.5**
KAN06	**Argonia West S**	**0.89**	**32**			**Pg**	**11 51 03.8**	**-0.4**
KAN09	**Caldwell North**	**0.93**	**46**			**Pg**	**11 51 04.4**	**-0.6**
KAN13	**South Haven SW**	**0.94**	**56**			**Pg**	**11 51 04.8**	**-0.4**
BLOK	**Blackwell**	**1.03**	**75**			**Pg**	**11 51 06.4**	**-0.6**
BLOK				IAML			11 51 25.8	
	comp=N,1μm,0.2s							
OK029	**Liberty Lake**	**1.07**	**130**			**Pg**	**11 51 06.9**	**-0.7**
OK029				IAML			11 51 22.6	
	comp=N,1μm,0.2s							
ADOK	**Arcadia Dam**	**1.22**	**133**	Pg		**Pg**	**11 51 09.4**	**-1.0**
OK048	**Pawnee Station**	**1.22**	**93**			**Pg**	**11 51 09.6**	**-0.9**
OK051	**E0350 and S346**	**1.31**	**89**			**Pn**	**11 51 11.1**	**-0.6**
OKCSW	**OKLAHOMA CITY**	**1.37**	**142**			**Pn**	**11 51 11.8**	**-0.7**
OK052	**Battle Ridge R**	**1.43**	**110**	Pg		**Pn**	**11 51 13.3**	**-0.1**
QUOK	**Quay**	**1.45**	**102**			**Pn**	**11 51 13.4**	**-0.3**
OK030	**Cody Creek RV**	**1.47**	**112**			**Pn**	**11 51 13.8**	**-0.1**
FNO	**Franklin**	**1.50**	**145**			**Pn**	**11 51 14.3**	**-0.1**
T35A	**Sooner Cattle**	**1.62**	**74**			**Pn**	**11 51 16.3**	**+0.2**
T35B	**Sooner Cattle**	**1.62**	**74**	P		**Pn**	**11 51 16.2**	**+0.2**
	baz=256,SNR=198							
T35B				S		**Sb**	**11 51 38.4**	**+0.5**
	baz=256							
DEOK	**Depew**	**1.71**	**112**			**Pn**	**11 51 17.2**	**-0.1**
WMOK	**Wichita Mounta**	**1.77**	**189**	Pn		**Pn**	**11 51 18.1**	**0.0**
WMOK	**Wichita Mounta**	**1.77**	**189**	P		**Pn**	**11 51 17.9**	**-0.2**
	baz=8.2							
WMOK				S		**Sb**	**11 51 41.9**	**-0.4**
	baz=8.2							
WMOK	**Wichita Mounta**	**1.77**	**189**	P		**Pn**	**11 51 17.9**	**-0.2**
	baz=8.2,SNR=16							
WMOK				S		**Sb**	**11 51 41.8**	**-0.5**
	baz=8.2							
R32A	**Long Quarter,**	**1.93**	**354**			**Pn**	**11 51 20.8**	**+0.4**
R32A	**Long Quarter,**	**1.93**	**354**	P		**Pn**	**11 51 20.9**	**+0.5**
	baz=174,SNR=58							
R32A				S		**Sb**	**11 51 46.3**	**-0.6**
	baz=174							
SMWD	**Samnorwood**	**2.01**	**227**			**Pn**	**11 51 22.4**	**+1.0**
TUL3	**Leonard**	**2.23**	**104**			**Pn**	**11 51 24.4**	**0.0**
TUL3	**Leonard**	**2.23**	**104**	P		**Pn**	**11 51 24.4**	**0.0**
	baz=286							
TUL3				S		**Sn**	**11 51 53.2**	**+0.9**
	baz=286							
TUL3	**Leonard**	**2.23**	**104**	P		**Pn**	**11 51 24.5**	**0.0**
	baz=286,SNR=85							
TUL3				S		**Sn**	**11 51 53.7**	**+1.4**
	baz=286							
CBKS	**Cedar Bluff**	**2.53**	**337**			**Pn**	**11 51 28.6**	**+0.1**
CBKS	**Cedar Bluff**	**2.53**	**337**	P		**Pn**	**11 51 28.3**	**-0.2**
	baz=156							
CBKS				S		**Sn**	**11 52 00.1**	**+0.5**
	baz=156							
CBKS	**Cedar Bluff**	**2.53**	**337**	P		**Pn**	**11 51 28.5**	**-0.1**
	baz=156,SNR=18							
LOOK	**Love County**	**2.71**	**157**			**Pn**	**11 51 31.4**	**+0.4**
WTFS	**Witchita Falls**	**2.72**	**180**			**Pn**	**11 51 32.2**	**+1.0**
KSU1	**Kansas State U**	**2.98**	**29**			**Pn**	**11 51 34.9**	**+0.1**
KSU1				IAmb_Lg			11 52 27.1	
	comp=Z,62nm,0.7s							
KSU1	**Kansas State U**	**2.98**	**29**	P		**Pn**	**11 51 34.6**	**-0.2**
	baz=210							
KSU1				S		**Sn**	**11 52 10.8**	**0.0**
	baz=210							
KSU1	**Kansas State U**	**2.98**	**29**	S		**Sn**	**11 52 11.8**	**+1.0**
	baz=210							
AMTX	**Amarillo**	**3.08**	**239**	P		**Pn**	**11 51 35.2**	**-0.9**
	baz=57							
AMTX				S		**Sn**	**11 52 13.6**	**+0.4**
	baz=57							
X37A	**Clayton**	**3.16**	**126**			**Pn**	**11 51 37.5**	**+0.4**
X37A	**Clayton**	**3.16**	**126**	P		**Pn**	**11 51 37.2**	**+0.1**
	baz=308,SNR=23							
U38A	**Gravette**	**3.28**	**90**	IAmb_Lg			11 52 38.1	
	comp=Z,37nm,0.7s							
U38A	**Gravette**	**3.28**	**90**	P		**Pn**	**11 51 39.5**	**+0.6**
	baz=272							
Z35A	**Perchaven, San**	**3.31**	**162**	P		**Pn**	**11 51 39.4**	**+0.2**
	baz=343							
APMT	**Aspermont**	**3.44**	**204**	IAmb_Lg			11 52 41.5	
	comp=Z,46nm,1.1s							
RTBA	**Rita Blanca**	**3.45**	**270**	IAmb_Lg			11 52 40.2	
	comp=Z,14nm,0.8s							
FW03	**Perrin-Whitt E**	**3.46**	**175**	IAmb_Lg			11 52 44.9	
	comp=Z,28nm,0.9s							
FW06	**Azle**	**3.59**	**168**	IAmb_Lg			11 52 49.9	
	comp=Z,19nm,0.9s							
HHAR	**Hobbs**	**3.65**	**92**	P		**Pn**	**11 51 44.2**	**+0.2**
	baz=275							
PLPT	**Palo Pinto**	**3.68**	**178**	IAmb_Lg			11 52 52.7	
	comp=Z,21nm,0.7s							
FW07	**Weatherford**	**3.82**	**171**	IAmb_Lg			11 52 53.4	
	comp=Z,11nm,0.8s							
ABTX	**Abilene, Hawle**	**3.98**	**195**	IAmb_Lg			11 52 52.7	
	comp=Z,34nm,1.0s							
ABTX	**Abilene, Hawle**	**3.98**	**195**	P		**Pn**	**11 51 48.5**	**-0.1**
	baz=14							
ABTX	**Abilene, Hawle**	**3.98**	**195**	P		**Pn**	**11 51 48.5**	**-0.1**
	baz=14							
SN01	**Snyder 1**	**4.14**	**210**	IAmb_Lg			11 52 59.8	
	comp=Z,54nm,0.9s							
KSCO	**Kaye Shedlock'**	**4.15**	**308**	IAmb_Lg			11 52 59.9	
	comp=Z,43nm,0.8s							
KSCO	**Kaye Shedlock'**	**4.15**	**308**	P		**Pn**	**11 51 50.8**	**-0.1**
	baz=126							
KSCO				S		**Sn**	**11 52 39.7**	**0.0**
	baz=126							
FW14	**Alvarado**	**4.22**	**165**	IAmb_Lg			11 53 11.2	
	comp=Z,16nm,0.8s							
TREL	**Terrell**	**4.23**	**152**	IAmb_Lg			11 53 04.8	
	comp=Z,34nm,0.9s							
POST	**Post**	**4.24**	**217**	IAmb_Lg			11 53 08.1	
	comp=Z,51nm,0.9s							
S39A	**Bolivar**	**4.28**	**72**	IAmb_Lg			11 53 01.6	
	comp=Z,29nm,0.8s							
S39A	**Bolivar**	**4.28**	**72**	P		**Pn**	**11 51 52.1**	**-0.4**
	baz=255,SNR=11							
N33B	**J Bar K, Exete**	**4.31**	**10**	P		**Pn**	**11 51 52.1**	**-0.9**
	baz=191,SNR=7.2							
N33A	**J Bar K, Exete**	**4.31**	**10**	IAmb_Lg			11 53 14.3	
	comp=Z,45nm,0.8s							
Z38A	**Mt. Pleasant**	**4.31**	**137**	IAmb_Lg			11 53 08.6	
	comp=Z,48nm,0.8s							
MSTX	**Muleshoe**	**4.34**	**236**	P		**Pn**	**11 51 52.8**	**-0.7**
	baz=53							
U40A	**Yellville**	**4.52**	**90**	P		**Pn**	**11 51 55.8**	**-0.1**
	baz=274,SNR=15							
U40A				P		**Pn**	**11 51 55.8**	**-0.1**
	baz=274,SNR=15							
WHTX	**Lake Whitney,**	**4.57**	**169**	P		**Pn**	**11 51 56.4**	**-0.2**
	baz=350							
WHTX	**Lake Whitney,**	**4.57**	**169**	P		**Pn**	**11 51 56.5**	**-0.2**
	baz=350,SNR=8.6							
T25A	**Trinidad**	**4.82**	**279**	P		**Pn**	**11 51 59.6**	**-0.6**
	baz=96							
BGNE	**Belgrade**	**4.91**	**3**	P		**Pn**	**11 52 01.0**	**-0.3**
	baz=183							
P38A	**Dawn**	**4.99**	**50**	IAmb_Lg			11 53 27.8	
	comp=Z,22nm,0.7s							
237A	**Washetta, Mont**	**4.99**	**153**	IAmb_Lg			11 53 32.6	
	comp=Z,20nm,0.8s							
X40A	**Basin Creek Fa**	**5.01**	**112**	IAmb_Lg			11 53 34.5	
	comp=Z,27nm,0.8s							
X40A	**Basin Creek Fa**	**5.01**	**112**	P		**Pn**	**11 52 03.5**	**+0.9**
	baz=295							
X40A				P		**Pn**	**11 52 03.5**	**+0.9**
	baz=295							
MGMO	**Mountain Grove**	**5.01**	**81**	IAmb_Lg			11 53 28.6	
	comp=Z,31nm,1.2s							
SGCY	**Sterling City**	**5.08**	**207**	IAmb_Lg			11 53 36.4	
	comp=Z,35nm,0.8s							
FCAR	**Ozark Folk Cen**	**5.16**	**95**	IAmb_Lg			11 53 38.0	
	comp=Z,21nm,0.7s							
BRDY	**Brady**	**5.22**	**185**	IAmb_Lg			11 53 34.3	
	comp=Z,21nm,1.0s							
R40A	**Maddies Statio**	**5.25**	**68**	IAmb_Lg			11 53 36.9	
	comp=Z,18nm,0.8s							
ODSA	**Odessa**	**5.52**	**219**	IAmb_Lg			11 53 46.1	
	comp=Z,12nm,0.8s							
Z41A	**Richland Creek**	**5.66**	**123**	IAmb_Lg			11 53 56.1	
	comp=Z,21nm,0.8s							
435B	**Jarrell**	**5.74**	**172**	IAmb_Lg			11 54 02.9	
	comp=Z,18nm,0.8s							
Q24A	**Divide**	**5.85**	**297**	IAmb_Lg			11 53 57.1	
	comp=Z,22nm,0.7s							
LCAR	**Lake Charles**	**5.92**	**92**	IAmb_Lg			11 53 57.4	
	comp=Z,25nm,1.1s							
CCM	**Cathedral Cave**	**5.96**	**73**	IAmb_Lg			11 53 58.3	
	comp=Z,21nm,0.9s							
CCAR	**Cane Creek**	**6.05**	**113**	IAmb_Lg			11 54 14.8	
	comp=Z,30nm,0.8s							
K30B	**Basset**	**6.24**	**352**	IAmb_Lg			11 54 13.9	
	comp=Z,25nm,0.8s							
ISCO	**Idaho Springs**	**6.53**	**302**	IAmb_Lg			11 54 16.0	
	comp=Z,23nm,0.9s							
PHWY	**Pilot Hill**	**7.27**	**313**	IAmb_Lg			11 54 46.8	
	comp=Z,14nm,0.9s							
N23A	**Red Feather La**	**7.32**	**309**	IAmb_Lg			11 54 41.2	
	comp=Z,24nm,0.8s							
EF01	**Eagle Ford 01**	**7.35**	**179**	IAmb_Lg			11 54 57.9	
	comp=Z,15nm,0.8s							
K22A	**Casper**	**8.75**	**317**	IAmb_Lg			11 55 36.4	
	comp=Z,18nm,0.9s							
JFWS	**Jewell Farm**	**9.00**	**42**	IAmb_Lg			11 55 43.4	
	comp=Z,18nm,0.7s							

*ANF **10** 12:02:45.0±0.3,36.°72N×98.°45W,h5km,ML4.3/12, Error ellipse: s-maj=4.4km s-min=3.2km az=91.0*
*TUL **10** 12:02:45.1±0.6,36.°70N±0.°02×98.°43W±0.°02,h5km±5km, ML3.5,mb_Lg3.3/109(NEIC),ML3.5/30(NEIC), Error ellipse: s-maj=3.4km s-min=1.0km az=142.0*
*NEIC **10** 12:02:45.9±0.5,36.°68N±0.°02×98.°41W±0.°02,h5km±1km, Error ellipse: s-maj=3.6km s-min=2.9km az=316.0*
ISC 10 12:02:45.3±1.1,**36.°71N**±0.°02×**98.°43W**±0.°02,**h6**km±8km, **n122**,σ0°**73**/94,**Oklahoma**

| Code | Station Name | Δ° | AZ° | Phase ID | | | Time | Res |
|

OK030	Cody Creek RV	1.54	120			Pn	12 03 12.7	-0.6
T35B	Sooner Cattle	1.55	82	P		Pn	12 03 13.7	+0.2
	baz=263							
T35B				S		Sb	12 03 34.5	+0.1
	baz=263							
FNO	Franklin	1.67	150			Pn	12 03 14.4	-0.7
R32A	Long Quarter,	1.73	353	P		Pb	12 03 16.9	-0.6
	baz=172,SNR=92							
R32A				S		Sg	12 03 40.2	-0.6
	baz=172							
DEOK	Depew	1.78	118			Pn	12 03 16.4	-0.2
WMOK	Wichita Mounta	1.99	188	P		Pn	12 03 20.0	+0.6
	baz=8.2							
WMOK				S		Sn	12 03 45.4	+0.7
	baz=8.2							
WMOK	Wichita Mounta	1.99	188	P		Pn	12 03 20.1	+0.6
	baz=8.2,SNR=13							
WMOK				S		Sb	12 03 46.4	-0.5
	baz=8.2							
SMWD	Samnorwood	2.17	223	IAmb_Lg			12 03 53.4	
	comp=Z,87nm,0.7s							
TUL3	Leonard	2.27	110	IAmb_Lg			12 03 59.5	
	comp=Z,140nm,0.8s							
TUL3	Leonard	2.27	110	P		Pn	12 03 23.4	0.0
	baz=291							
TUL3				S		Sn	12 03 52.2	+0.5
	baz=291							
TUL3	Leonard	2.27	110	P		Pn	12 03 23.4	0.0
	baz=291,SNR=47							
TUL3				S		Sn	12 03 52.8	+1.1
	baz=291							
CBKS	Cedar Bluff	2.34	334	P		Pn	12 03 24.1	-0.3
	baz=154							
CBKS				S		Sn	12 03 54.5	+1.0
	baz=154							
CBKS	Cedar Bluff	2.34	334	P		Pn	12 03 24.9	+0.5
	baz=154,SNR=40							
CBKS				S		Sb	12 03 57.8	+0.6
	baz=154							
KSU1	Kansas State U	2.79	31			Pn	12 03 30.0	-0.5
KSU1	Kansas State U	2.79	31	P		Pn	12 03 30.3	-0.2
	baz=212							
KSU1				S		Sn	12 04 05.5	+1.0
	baz=212							
KSU1	Kansas State U	2.79	31	S		Sg	12 04 12.7	-2.2
	baz=212							
LOOK	Love County	2.90	159	IAmb_Lg			12 04 23.4	
	comp=Z,59nm,1.0s							
AMTX	Amarillo	3.21	236	P		Pn	12 03 34.7	-1.6
	baz=54							
AMTX				S		Sn	12 04 15.8	+0.9
	baz=54							
U38A	Gravette	3.27	94	Pn		Pn	12 03 36.2	-0.9
U38A				IAmb_Lg			12 04 34.4	
	comp=Z,64nm,0.9s							
U38A	Gravette	3.27	94	P		Pn	12 03 37.4	+0.3
	baz=276,SNR=21							
X37A	Clayton	3.27	129			Pn	12 03 36.7	-0.3
X37A				IAmb_Lg			12 04 37.2	
	comp=Z,80nm,1.1s							
X37A	Clayton	3.27	129	P		Pn	12 03 37.2	+0.2
	baz=311,SNR=51							
RTBA	Rita Blanca	3.48	267			Pn	12 03 40.6	+0.5
RTBA				IAmb_Lg			12 04 39.4	
	comp=Z,22nm,0.7s							
Z35A	Perchaven, San	3.50	164	P		Pn	12 03 40.0	-0.3
	baz=344,SNR=6.6							
Z35A				Sb		Sb	12 04 33.3	+2.8
	baz=344							
HHAR	Hobbs	3.64	95	P		Pn	12 03 42.6	+0.4
	baz=278							
APMT	Aspermont	3.65	203	IAmb_Lg			12 04 45.1	
	comp=Z,51nm,0.8s							
FW03	Perrin-Whitt E	3.67	175	IAmb_Lg			12 04 45.9	
	comp=Z,35nm,0.8s							
FW06	Azle	3.80	169			Pn	12 03 44.5	+0.2
FW06				IAmb_Lg			12 04 49.9	
	comp=Z,32nm,0.7s							
PLPT	Palo Pinto	3.89	179	IAmb_Lg			12 04 56.2	
	comp=Z,40nm,0.7s							
FW07	Weatherford	4.03	172	IAmb_Lg			12 04 59.1	
	comp=Z,27nm,0.8s							
KSCO	Kaye Shedlock'	4.04	306	IAmb_Lg			12 04 52.4	
	comp=Z,64nm,0.8s							
KSCO	Kaye Shedlock'	4.04	306	P		Pn	12 03 47.7	-0.1
	baz=124							
KSCO				S		Sn	12 04 34.5	-1.0
	baz=124							
N33B	J Bar K, Exete	4.09	10	P		Pn	12 03 47.9	-0.6
	baz=191							
N33A	J Bar K, Exete	4.10	10	IAmb_Lg			12 05 01.2	
	comp=Z,91nm,0.8s							
S39A	Bolivar	4.19	75	P		Pn	12 03 49.7	-0.1
	baz=258,SNR=18							
ABTX	Abilene, Hawle	4.20	194	IAmb_Lg			12 04 57.4	
	comp=Z,58nm,1.1s							
ABTX	Abilene, Hawle	4.20	194	P		Pn	12 03 49.7	-0.2
	baz=13							
ABTX				S		Sn	12 04 40.3	+1.1
	baz=13							
SN01	Snyder 1	4.34	209	IAmb_Lg			12 05 06.3	
	comp=Z,93nm,0.8s							
FW16	Waxahatchie	4.40	163	IAmb_Lg			12 05 15.4	
	comp=Z,44nm,0.8s							
TREL	Terrell	4.41	153	IAmb_Lg			12 05 14.8	
	comp=Z,42nm,0.8s							
FW14	Alvarado	4.42	166	IAmb_Lg			12 05 11.9	
	comp=Z,17nm,0.8s							
FW13	Cleburne	4.42	169	IAmb_Lg			12 05 08.8	
	comp=Z,20nm,0.7s							
POST	Post	4.42	216	IAmb_Lg			12 05 13.3	
	comp=Z,47nm,0.9s							
Z38A	Mt. Pleasant	4.45	140	IAmb_Lg			12 05 17.0	
	comp=Z,54nm,0.7s							
MSTX	Muleshoe	4.48	234	IAmb_Lg			12 05 08.1	
	comp=Z,41nm,0.9s							
MSTX	Muleshoe	4.48	234	P		Pn	12 03 53.3	-0.5
	baz=51							
MSTX				S		Sn	12 04 47.1	+0.8
	baz=51							
U40A	Yellville	4.50	93	P		Pn	12 03 54.2	+0.2
	baz=276							
U40A				P		Pn	12 03 54.2	+0.2
	baz=276							
BGNE	Belgrade	4.70	3	IAmb_Lg			12 05 23.7	
	comp=Z,85nm,0.8s							
BGNE	Belgrade	4.70	3	P		Pn	12 03 56.7	-0.1
	baz=183							
BGNE				S		Sn	12 04 51.5	-0.1
	baz=183							
BGNE	Belgrade	4.70	3	P		Pn	12 03 57.0	+0.2
	baz=183,SNR=8.9							
WHTX	Lake Whitney,	4.77	170	P		Pn	12 03 57.5	-0.3
	baz=351							
WHTX				S		Sn	12 04 55.0	+1.6
	baz=351							
WHTX	Lake Whitney,	4.77	170	P		Pn	12 03 57.4	-0.3
	baz=351							
T25A	Trinidad	4.81	277	P		Pn	12 03 58.9	+0.4
	baz=93							
T25A				S		Sn	12 04 54.3	-0.3
	baz=93							
P38A	Dawn	4.83	51	IAmb_Lg			12 05 27.0	
	comp=Z,40nm,0.8s							
P38A	Dawn	4.83	51	P		Pn	12 03 58.7	+0.1
	baz=234,SNR=7.5							
X40A	Basin Creek Fa	5.07	114	IAmb_Lg			12 05 34.4	
	comp=Z,45nm,0.7s							
OGNE	Ogallala	5.08	327	P		Pn	12 04 02.7	+0.6
	baz=145							
OGNE				S		Sn	12 05 02.5	+1.4
	baz=145							
R40A	Maddies Statio	5.15	70	IAmb_Lg			12 05 33.9	
	comp=Z,40nm,0.7s							
FCAR	Ozark Folk Cen	5.16	97	IAmb_Lg			12 05 43.5	
	comp=Z,41nm,1.1s							
237A	Washetta, Mont	5.17	154	P		Pn	12 04 02.6	-0.6
	baz=336,SNR=12							
WHAR	Wooly Hollow	5.18	104	IAmb_Lg			12 05 34.7	
	comp=Z,67nm,1.1s							
SGCY	Sterling City	5.28	206	IAmb_Lg			12 05 39.4	
	comp=Z,76nm,0.9s							
WLAR	White Oak Lake	5.29	123	IAmb_Lg			12 05 43.3	
	comp=Z,66nm,0.8s							
UALR	University of	5.31	109	IAmb_Lg			12 05 37.0	
	comp=Z,48nm,0.7s							
BRDY	Brady	5.43	185	IAmb_Lg			12 05 39.1	
	comp=Z,27nm,0.9s							
ODSA	Odessa	5.70	218	IAmb_Lg			12 05 58.1	
	comp=Z,30nm,1.2s							
SDCO	Great Sand Dun	5.74	283	P		Pn	12 04 11.3	+0.1
	baz=98							
SDCO				S		Sn	12 05 17.6	0.0
	baz=98							
N38A	Joes South For	5.75	43	P		Pn	12 04 11.0	-0.2
	baz=226							
Z41A	Richland Creek	5.76	125	IAmb_Lg			12 06 02.7	
	comp=Z,41nm,0.8s							
P40A	Paris	5.76	59	IAmb_Lg			12 05 50.1	
	comp=Z,68nm,0.8s							
Q24A	Divide	5.78	295	P		Pn	12 04 12.0	+0.2
	baz=111							
Q24A				S		Sn	12 05 18.0	-0.5
	baz=111							
NATX	Nacogdoches	5.84	147	IAmb_Lg			12 05 58.6	
	comp=Z,30nm,0.8s							
CCM	Cathedral Cave	5.88	75	IAmb_Lg			12 05 54.0	
	comp=Z,52nm,0.9s							
LCAR	Lake Charles	5.90	94	P		Pn	12 04 12.8	-0.5
	baz=278,SNR=6.2							
435B	Jarrell	5.95	173	IAmb_Lg			12 05 57.4	
	comp=Z,45nm,0.7s							
K30B	Basset	6.03	352	IAmb_Lg			12 06 01.2	
	comp=Z,38nm,0.8s							
K30B	Basset	6.03	352	P		Pn	12 04 16.5	+1.5
	baz=171,SNR=6.2							
JCT	Junction City	6.32	191	IAmb_Lg			12 06 14.3	
	comp=Z,60nm,0.9s							
PBMO	Poplar Bluff	6.42	87	IAmb_Lg			12 06 15.3	
	comp=Z,34nm,0.9s							
ISCO	Idaho Springs	6.44	301	IAmb_Lg			12 06 17.1	
	comp=Z,31nm,0.7s							
ISCO	Idaho Springs	6.44	301	P		Pn	12 04 20.2	-0.7
	baz=116							
FVM	French Village	6.50	76	IAmb_Lg			12 06 23.0	
	comp=Z,31nm,0.7s							
143A	Socs Landing,	7.03	123	IAmb_Lg			12 06 39.6	
	comp=Z,33nm,0.8s							
CGM3	Cape Girardeau	7.04	83	IAmb_Lg			12 06 25.2	
	comp=Z,28nm,0.9s							
ECSD	EROS Data Cent	7.15	11	IAmb_Lg			12 06 33.3	
	comp=Z,39nm,1.0s							
S44A	Carbondale	7.39	80	IAmb_Lg			12 06 38.7	
	comp=Z,29nm,0.8s							
SIUC	Southern Illin	7.42	79	IAmb_Lg			12 06 42.8	
	comp=Z,33nm,0.7s							
EF01	Eagle Ford 01	7.56	180	IAmb_Lg			12 06 46.3	
	comp=Z,25nm,0.7s							
P43A	Skaggs, Pawnee	7.60	65	IAmb_Lg			12 07 00.9	
	comp=Z,39nm,0.7s							
OXF	Oxford	7.67	104	IAmb_Lg			12 06 53.6	
	comp=Z,30nm,0.9s							
Y45A	Yeager Farm, C	7.80	109	IAmb_Lg			12 07 14.0	
	comp=Z,19nm,0.8s							
RWWY	Rawlins	8.44	309	IAmb_Lg			12 07 21.0	
	comp=Z,21nm,0.8s							
RSSD	Black Hills	8.55	332	IAmb_Lg			12 07 18.4	
	comp=Z,16nm,0.8s							
K22A	Casper	8.61	316	IAmb_Lg			12 07 33.6	
	comp=Z,27nm,0.8s							
JFWS	Jewell Farm	8.83	43	IAmb_Lg			12 07 28.7	
	comp=Z,36nm,0.8s							

NIED ***10*** *12:51:45.8,23.97N×123.59E,h33km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.07; Mθθ-1.10; Mϕϕ0.03; Mrθ1.26; Mθϕ-0.63; Mϕr0.99; Fault plane solution: M₀2.03000×10¹⁵ NP1:ϕs54.00000°, δ72.00000°, λ,80.00000°. NP2:ϕs263.00000°, δ21.00000°, λ118.00000°.*

JMA ***10*** *12:51:45.8±0.2,24.0N±0.7×123.6E±0.4,h33km±1km, MD4.0/10,MV3.8/10,NEAR ISHIGAKIJIMA ISLAND*

JMA Felt I J1 at NEAR ISHIGAKIJIMA ISLAND.

IDC ***10*** *12:51:46.7±4.6,24.11N×123.66E,h44km±47km,mb3.5/12, mbtmp3.8/13,ML2.7/1,MS3.4/10,Error ellipse: s-maj=33.6km s-min=17.4km az=67.0*

ISC 10 12:51:45.2±1.0,23.94N±0.07×123.60E±0.03,h33km±3km, n45,σ0s80/38,mb3.7/12,MS3.5/8,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°		Phase	ID	ISC	Time	Res
						Op		h m s	ISC
HATJ	Hateruma jima	0.22	59	*i*	P		Pn	12 51 52.3	+0.8
HATJ					S		Sb	12 51 57.1	+0.5
HATJ	Hateruma jima	0.22	59		A		A	12 51 52.3	
	comp=E,42nm,0.6s,comp=N,52nm,1.8s								
IRIF	Iriomote-Funau	0.41	17	*i*	P		Pb	12 51 54.4	0.0
IRIF					S		Sb	12 52 00.6	-0.1
IRIF	Iriomote-Funau	0.41	17		A		A	12 51 54.4	
	comp=E,29nm,0.4s,comp=N,32nm,0.4s								
JKRS	Kuro-shima	0.47	52	*i*	P		Pb	12 51 55.9	+0.5
JKRS					S		Sb	12 52 03.0	+0.6
JKRS	Kuro-shima	0.47	52		A		A	12 51 55.9	
	comp=E,26nm,0.9s,comp=N,26nm,4.2s								
JIJ	Ishigaki jima	0.65	50	*i*	P		Pn	12 51 58.0	0.0
JIJ					S		Sb	12 52 06.8	-0.2
JIJ	Ishigaki jima	0.65	50		A		A	12 51 58.0	
	comp=E,5.0nm,0.5s,comp=N,10.0nm,1.4s								
YOJ	Yonaguni jima	0.75	314		P		Pn	12 51 59.6	+0.2
YOJ	Yonaguni jima	0.75	314	*i*	P		Pn	12 51 59.5	+0.2
YOJ					S		Sb	12 52 10.3	+0.6
YOJ	Yonaguni jima	0.75	314		A		A	12 51 59.5	
	comp=E,5.0nm,1.4s,comp=N,6.0nm,1.5s								
JYNG	Yonagunijimaku	0.78	310	*i*	P		Pn	12 52 00.1	+0.2
JYNG					S		Sn	12 52 10.7	+0.2
JYNG	Yonagunijimaku	0.78	310		A		A	12 52 00.1	
	comp=E,6.0nm,1.3s,comp=N,9.0nm,2.7s								
JISG	Ishigakijimahi	0.91	45	*i*	P		Pn	12 52 02.0	+0.4
JISG					S		Sn	12 52 14.0	+0.4
JISG	Ishigakijimahi	0.91	45		A		A	12 52 02.0	
	comp=E,9.0nm,1.7s,comp=N,12nm,1.4s								
JTJ	Tarama	1.22	55		P		Pn	12 52 07.2	+1.3
JTJ					S		Sb	12 52 23.6	+0.4
JTJ	Tarama	1.22	55		A		A	12 52 07.2	
	comp=E,6.0nm,2.1s,comp=N,7.0nm,1.9s								
JMJ	Miyako jima 2	1.77	60		P		Pb	12 52 16.7	-0.3
JOGS	Gusukube	1.83	63		A		A	12 52 16.2	
	comp=E,6.0nm,2.4s,comp=N,8.0nm,3.2s								
NACB	Ninganchiao	1.85	278		P		Pn	12 52 14.9	+0.3
YHNB	Yeheng	2.16	290		P		Pn	12 52 20.6	+1.7
TATO	Taipei	2.18	298		P		Pn	12 52 20.9	+1.7
YULB	Yu-li	2.18	256		P		Pn	12 52 19.2	0.0
SSLB	Suanglung	2.43	267		P		Pn	12 52 22.9	+0.3
TWGBT	Beinan	2.57	245		P		Pn	12 52 24.5	-0.1
JOW	Kunigami	5.11	55		P		Pn	12 52 59.7	+0.3
	comp=N,0.7nm,0.3s,baz=276,slow=19,SNR=1.7								
JOW					S		Sn	12 53 55.6	-1.8
	comp=N,6.8nm,0.6s,baz=279,slow=14,SNR=1.3 comp=N,9.9nm,0.8s								
JNU	Nakatsue	11.15	33		LR		LR	12 59 03.8	
	comp=N,61nm,18.9s,baz=198,slow=40								
KSRS	Korea Array	13.97	14		LR		LR	13 00 25.2	
	comp=N,50nm,20.6s,baz=200,slow=38								
GUMO	Guam	22.59	113		LR		LR	13 03 38.5	
	comp=N,28nm,21.1s,baz=150,slow=32								
CMAR	Chiang Mai Arr	23.61	261		LR		LR	13 07 08.6	
	comp=N,38nm,19.2s,baz=75,slow=39								
SONM	Songino Array	27.49	334		LR		LR	13 09 41.4	
	comp=N,115nm,19.9s,baz=26,slow=39								
MKAR	Makanchi Array	40.06	315		P		P	12 59 16.9	-0.4
	comp=N,0.9nm,0.6s,baz=102,slow=8.7,SNR=8.4 comp=N,0.9nm,0.6s								
ZALV	Zalesovo Beam	41.66	326		P		P	12 59 28.7	-1.6
	comp=N,0.9nm,0.5s,baz=117,slow=7.0,SNR=6.4								
ZALV					LR		LR	13 18 11.8	
	comp=N,71nm,18.6s,baz=94,slow=38 comp=N,0.9nm,0.5s								
KURBB	Kurchatov Arra	43.72	319		P		P	12 59 46.0	-1.1
	comp=N,0.4nm,0.4s,baz=112,slow=9.0,SNR=4.5 comp=N,0.4nm,0.4s								
PALK	Pallekele	44.30	255		LR		LR	13 19 04.1	
	comp=N,36nm,19.4s,baz=183,slow=37								
WRA	Warramunga Arr	44.86	166		P		P	12 59 57.3	+0.8
	comp=N,0.9nm,0.8s,baz=348,slow=9.4,SNR=7.0 comp=N,0.9nm,0.8s								
ASAR	Alice Springs	48.37	167		P		P	13 00 25.5	+1.5
	comp=N,0.3nm,0.6s,baz=358,slow=14,SNR=8.3 comp=N,0.3nm,0.6s								
BVAR	Borovoye Array	49.26	320		P		P	13 00 30.7	+0.1
	comp=N,0.7nm,0.5s,baz=96,slow=9.1,SNR=3.9 comp=N,0.7nm,0.5s								
KIRV	Kirov	61.68	325		LR		LR	13 31 06.2	
	comp=N,93nm,18.6s,baz=65,slow=38								
FINES	FINESS Array B	72.76	330		P		P	13 03 09.7	-0.2
	comp=N,2.1nm,0.8s,baz=90,slow=4.2,SNR=5.1								
FINES					LR		LR	13 38 21.7	
	comp=N,68nm,19.6s,baz=4.0,slow=38 comp=N,2.1nm,0.8s								
AKASG	Malin Array Be	74.51	319		P		P	13 03 20.0	-0.4
	comp=N,0.2nm,0.3s,baz=74,slow=0.8,SNR=1.8 comp=N,0.2nm,0.3s								
BRTR	Keskin Array B	75.09	307		P		P	13 03 24.7	+0.6
	comp=N,0.8nm,0.7s,baz=78,slow=8.1,SNR=4.3 comp=N,0.8nm,0.7s								
HFS	Hagfors	78.84	331		P		P	13 03 44.4	-0.3
	comp=N,0.5nm,0.4s,baz=78,slow=9.0,SNR=1.3								
HFS					LR		LR	13 41 41.6	
	comp=N,76nm,19.1s,baz=332,slow=38 comp=N,0.5nm,0.4s								
NOA	NORSAR Array B	79.46	333		P		P	13 03 47.6	-0.5
	comp=N,1.0nm,0.7s,baz=60,slow=5.2,SNR=2.4 comp=N,1.0nm,0.7s								
YKA	Yellowknife Ar	82.32	23		P		P	13 04 02.5	-0.8
	comp=N,0.2nm,0.6s,baz=304,slow=5.8,SNR=4.3 comp=N,0.2nm,0.6s								

IDC ***10*** *12:55:23.8±1.2,9.89N×140.42E,h0km,mb3.5/5, mbtmp3.6/6,ML4.1/1,Error ellipse: s-maj=36.2km s-min=21.7km az=112.0*

ISC 10 12:55:27.6±1.0,9.9N±0.2×140.4E±0.2,h26km,n15, σ0s72/,mb3.5/5,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GUMO	Guam	5.72	49	Pn		Pn	12 56 50.2	-0.8
	5.8nm,0.3s,baz=170,slow=20,SNR=2.2							
GUMO				Sn		Sn	12 57 56.6	+0.8
	2.6nm,0.3s,baz=191,slow=14,SNR=1.9 28nm,0.5s							
H11S3	WAKE ISLAND Hy	26.85	68	T		T	13 29 12.8	
	baz=255,slow=75,SNR=159							
H11S1	WAKE ISLAND Hy	26.86	68	T		T	13 29 11.7	
	baz=255,slow=75,SNR=64							
H11S2	WAKE ISLAND Hy	26.86	68	T		T	13 29 12.8	
	baz=255,slow=75,SNR=135							
H11N1	WAKE ISLAND Hy	27.37	66	T		T	13 29 50.7	
	baz=253,slow=75,SNR=49							
H11N2	WAKE ISLAND Hy	27.38	66	T		T	13 29 50.8	
	baz=253,slow=75,SNR=37							
H11N3	WAKE ISLAND Hy	27.39	66	T		T	13 29 49.9	
	baz=253,slow=75,SNR=27							
WRA	Warramunga Arr	30.22	191	P		P	13 01 36.1	-0.3
	0.2nm,0.7s,baz=11,slow=8.8,SNR=1.7 0.2nm,0.7s							
ASAR	Alice Springs	33.93	191	P		P	13 02 09.6	+0.7
	0.2nm,0.5s,baz=22,slow=11,SNR=5.3 0.2nm,0.5s							
USRK	Ussuriysk Ar.	34.98	349	P		P	13 02 18.1	+0.4
	2.0nm,0.8s,baz=180,slow=8.6,SNR=2.4 2.0nm,0.8s							
CMAR	Chiang Mai Arr	41.02	287	P		P	13 03 08.9	-0.2
	0.4nm,0.4s,baz=94,slow=6.8,SNR=4.3 0.4nm,0.4s							
ILAR	Eielson Array	73.78	25	P		P	13 06 59.2	-0.2
	0.4nm,0.9s,baz=251,slow=5.6,SNR=2.2 0.4nm,0.9s							
H03S2	Juan Fernandez	136.78	130	T		T	15 45 17.1	
	baz=242,slow=74,SNR=111							
H03S1	Juan Fernandez	136.79	130	T		T	15 45 09.0	
	baz=242,slow=74,SNR=93							
H03S3	Juan Fernandez	136.80	130	T		T	15 45 13.8	
	baz=242,slow=74,SNR=111							

NIED ***10*** *13:23:45.7,39.97N×142.41E,h38km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.76; Mθθ-0.17; Mϕϕ-0.59; Mrθ0.42; Mθϕ-0.34; Mϕr0.93; Fault plane solution: M₀1.28000×10¹⁵ NP1:ϕs25.00000°, δ72.00000°, λ,87.00000°. NP2:ϕs213.00000°, δ19.00000°, λ98.00000°.*

JMA ***10*** *13:23:45.7±0.1,40.0N±0.3×142.4E±0.8,h38km±1km, MV3.8/40,E OFF IWATE PREF*

JMA Felt I J1 at E OFF IWATE PREF .

MOS ***10*** *13:23:46.0±1.1,39.99N×142.47E,h55km,mb4.4/12,Error ellipse: s-maj=9.4km s-min=6.2km az=90.5*

IDC ***10*** *13:23:47.2±1.8,39.94N×142.42E,h55km±15km,mb3.6/20, mbtmp3.9/25,ML3.3/5,MS3.1/12,Error ellipse: s-maj=18.7km s-min=10.4km az=100.0*

NEIC ***10*** *13:23:48.7±1.8,40.03N±0.05×142.29E±0.09,h52km±7km, mb4.3/43,Error ellipse: s-maj=9.9km s-min=7.9km az=95.0*

ISC 10 13:23:44.5±1.4,39.97N±0.03×142.43E±0.05,h25km±10km, n138,σ1s32/134,mb4.3/53,MS3.2/5,4C-24D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°		Phase	ID	ISC	Time	Res
						Op		h m s	ISC
JTH	Tanohata	0.43	267	⇓	*i*P		Pn	13 23 55.4	+0.3
JTH				⇓	S		Sn	13 24 02.1	-0.2
JKEN	Kujiedanarisaw	0.60	294	⇓	*i*P		Pn	13 23 57.4	-0.1
JKEN				⇓	S		Sn	13 24 05.6	-0.8
MIYJ	Miyakonagasawa	0.61	231	⇓	*i*P		Pn	13 23 57.6	+0.1
MIYJ				⇓	S		Sn	13 24 06.0	-0.6
JANG	Nango	0.81	300	⇓	*i*P		Pn	13 24 00.2	-0.1
JANG				⇓	S		Sn	13 24 10.4	-1.2
JKZ	Kuzumaki	0.84	272	⇓	P		Pn	13 24 01.6	+0.8
JKZ				⇓	S		Sn	13 24 12.4	-0.1
JOM	Ohasama	1.00	241	⇓	P		Pb	13 24 03.5	+0.3
JOM				⇓	S		Sn	13 24 16.4	+0.1
OFUJ	Ofunato	1.06	214	⇓	P		Pb	13 24 04.2	0.0
OFUJ				⇓	S		Sb	13 24 18.2	+0.6
JTM	Tenmabayashi	1.32	309				Pb	13 24 08.0	-0.7
JTM						Sn	Sb	13 24 24.2	-1.0
JTM	Tenmabayashi	1.32	309	⇓	P		Pb	13 24 08.2	-0.5
JTM				⇓	*e*S		Sb	13 24 24.2	-1.0
JMK	Ichinoseki	1.38	223	⇓	P		Pb	13 24 08.9	-0.7
JMK				⇓	*e*S		Sb	13 24 26.0	-0.8
JAH	Hinai	1.39	280	⇓	P		Pb	13 24 09.4	-0.5
JRG	Rokugo	1.50	248		P		Pb	13 24 11.1	-0.5
ERM	Erimo	2.12	15				Pn	13 24 19.7	+1.4
ERM	Erimo	2.12	15	*de*	P		Pn	13 24 20.7	+2.4
JMM	Marumori	2.45	212				Pb	13 24 25.1	-2.8
JKA	Kamikawa-asahi	4.15	2				Pn	13 24 48.0	+1.8
ASAJ	Asahikawa	4.15	2		P		Pn	13 24 48.3	+2.1
	1.5nm,0.3s,baz=201,slow=17,SNR=23								
ASAJ					S		Sn	13 25 34.7

comp=Z,199nm,1.1s,baz=51,slow=15,SNR=2.3
comp=Z,59nm,0.8s
JHJ2 Mitsune 7.16 198 Pn **Pn 13 25 29.1 +1.6**
USRK Ussuriysk Ar. 8.84 302 P **Pn 13 25 53.2 +2.6**
comp=Z,0.5nm,0.3s,baz=105,slow=13,SNR=7.5
USRK LR LR 13 29 01.4
comp=Z,122nm,19.9s,baz=119,slow=36
comp=Z,5.6nm,0.6s
JNU Nakatsue 11.52 237 LR LR 13 30 15.7
comp=Z,57nm,19.5s,baz=160,slow=34
KSRS Korea Array 11.61 262 P Pn 13 26 32.3 +3.8
comp=Z,0.2nm,0.3s,baz=76,slow=14,SNR=2.7
KSRS LR LR 13 30 34.8
comp=Z,61nm,19.7s,baz=75,slow=35
comp=Z,0.9nm,0.6s
KLR Kul'dur 11.98 324 LR LR 13 31 22.6
comp=Z,67nm,18.2s,baz=150,slow=38
PETK Petropavlovsk- 16.78 33 LR LR 13 34 07.3
comp=Z,88nm,20.3s,baz=100,slow=37
ZEA Zeya 17.20 328 *eP* **Pn 13 27 43.1 +0.3**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
MA2 Magadan 20.32 12 LR LR 13 37 02.3
comp=Z,78nm,20.6s,baz=112,slow=39
YAK Yakutsk 23.42 345⇓ *eP* **P 13 28 51.0 -0.3**
YAK pmax pmax
comp=Z,5.0nm,0.5s
YULB Yu-li 24.33 234 P **P 13 29 01.7 +1.4**
ULN Ulaanbaatar 26.50 299⇑ *eP* **P 13 29 20.3 +0.4**
ULN pmax pmax
comp=Z,4.0nm,1.4s
SONM Songino Array 26.93 299 *eP* **P 13 29 26.7 +2.9**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 26.93 299 P **P 13 29 24.1 +0.2**
comp=Z,0.7nm,0.5s,baz=94,slow=11,SNR=4.0
SONM LR LR 13 40 44.1
comp=Z,38nm,19.6s,baz=172,slow=38
comp=Z,0.7nm,0.5s
H11N2 WAKE ISLAND Hy 29.11 127 T T 14 00 24.9
baz=318,slow=75,SNR=162
H11N1 WAKE ISLAND Hy 29.12 127 T T 14 00 23.1
baz=318,slow=75,SNR=94
H11N3 WAKE ISLAND Hy 29.13 127 T T 14 00 24.7
baz=318,slow=75,SNR=90
H11S1 WAKE ISLAND Hy 29.92 129 T T 14 01 32.4
baz=320,slow=76,SNR=24
H11S3 WAKE ISLAND Hy 29.93 129 T T 14 01 36.0
baz=320,slow=76,SNR=11
H11S2 WAKE ISLAND Hy 29.94 129 T T 14 01 33.6
baz=320,slow=76,SNR=16
DGZ Jazzator, Alta 39.39 303⇑ *eP* **P 13 31 12.3 +0.2**
DGZ pmax pmax
comp=Z,3.0nm,0.6s
ZAA0 Zalesovo Array 40.59 310 P **P 13 31 20.9 -0.9**
ZALV Zalesovo Bsm 40.59 310 P **P 13 31 20.8 -1.0**
ZALV Zalesovo Beam 40.59 310 *eP* **P 13 31 21.3 -0.5**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 40.59 310 P **P 13 31 21.1 -0.7**
comp=Z,1.2nm,0.5s,baz=89,slow=9.7,SNR=6.3
ZALV LR LR 13 49 09.6
comp=Z,29nm,18.6s,baz=124,slow=38
comp=Z,1.2nm,0.5s
CRAI Chiangrai 40.91 254 P **P 13 31 25.2 +0.4**
E18K Tukpahlearik C 41.24 29 P **P 13 31 28.6 +1.5**
E18K IAmb IAmb 13 31 55.0
comp=Z,14nm,1.4s
G18K Tagagawik 41.73 32 P **P 13 31 32.3 +1.2**
G18K IAmb IAmb 13 31 50.7
comp=Z,5.1nm,1.1s
H18K Honhosa River 41.74 33 P **P 13 31 32.4 +1.2**
C19K Lookout Ridge 41.98 27 P **P 13 31 34.6 +1.4**
C19K IAmb IAmb 13 32 16.1
comp=Z,6.0nm,1.2s
D19K Kuna River 42.38 28 P **P 13 31 36.7 +0.4**
D19K IAmb IAmb 13 31 49.5
comp=Z,12nm,1.5s
E19K Redstone River 42.53 30 P **P 13 31 39.3 +1.7**
E19K IAmb IAmb 13 32 02.1
comp=Z,5.8nm,1.1s
H19K Roundabout Mou 42.59 33 P **P 13 31 39.5 +1.5**
B20K Meade River 43.01 26 P **P 13 31 41.9 +0.6**
B20K IAmb IAmb 13 32 19.0
comp=Z,12nm,1.4s
CMAR Chiang Mai Arr 43.06 253 *eP* **P 13 31 42.6 +0.1**
CMAR Chiang Mai Ar 43.06 253 P **P 13 31 40.8 -1.7**
comp=Z,0.4nm,0.3s,baz=46,slow=7.0,SNR=4.5
comp=Z,0.4nm,0.3s
MK31 Makanchi Array 43.30 300 P **P 13 31 43.2 -0.9**
MK31 Makanchi Array 43.30 300 P **P 13 31 43.2 -0.9**
MK31 pmax pmax
comp=Z,3.0nm,1.1s
MKAR Makanchi Array 43.30 300 P **P 13 31 43.0 -1.1**
MKAR Makanchi Array 43.30 300 *eP* **P 13 31 46.9 +2.8**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 43.30 300 P **P 13 31 43.3 -0.8**
comp=Z,0.6nm,0.5s,baz=82,slow=8.7,SNR=10.0
comp=Z,0.6nm,0.5s
IMAR Indian Mountai 43.74 32 P **P 13 31 48.3 +1.0**
B21K Ikpikpuk River 43.81 27 P **P 13 31 48.4 +0.5**
B21K IAmb IAmb 13 32 03.8
comp=Z,9.4nm,1.4s
E21K Killik River 43.88 29 P **P 13 31 50.0 +1.5**
E22K Anaktuvuk Pass 44.65 29 P **P 13 31 55.6 +1.0**
E22K IAmb IAmb 13 31 56.7
comp=Z,3.9nm,0.9s
KURK Kurchatov 44.80 306 P **P 13 31 55.0 -1.0**
KURK IAmb IAmb 13 31 56.2
comp=Z,5.3nm,0.9s
KURK Kurchatov 44.80 306 *de* **P 13 31 55.3 -0.8**
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURBB Kurchatov Arra 44.88 306 P **P 13 31 56.2 -0.5**
comp=Z,2.3nm,0.5s,baz=81,slow=8.4,SNR=12
comp=Z,2.3nm,0.5s
TOLK Toolik Lake Re 45.51 28 P **P 13 32 02.1 +0.6**
TOLK IAmb IAmb 13 32 31.0
comp=Z,3.4nm,1.1s
E24K Your Creek 45.89 29 P **P 13 32 05.9 +1.4**
E24K IAmb IAmb 13 32 37.3
comp=Z,3.7nm,1.1s
IL31 46.61 34 P **P 13 32 10.7 +0.6**
IL31 IAmb IAmb 13 32 32.4
comp=Z,7.1nm,1.3s
ILAR Eielson Array 46.61 34 P **P 13 32 10.8 +0.6**
ILAR Eielson Array 46.61 34 *eP* **P 13 32 10.5 +0.4**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 46.61 34 P **P 13 32 10.3 +0.2**
comp=Z,0.4nm,0.7s,baz=262,slow=5.7,SNR=11
comp=Z,0.4nm,0.7s
SCM Sheep Creek Mo 46.65 38 P **P 13 32 12.7 +2.1**
SCM Sheep Creek Mo 46.65 38 P **P 13 32 12.7 +2.1**
SCM pmax pmax
comp=Z,44nm,1.4s
D25K Kavik River 46.68 28 P **P 13 32 11.4 +0.7**
D25K IAmb IAmb 13 32 44.3
comp=Z,4.3nm,1.3s
SCRK Sand Creek 47.93 35 P **P 13 32 20.6 0.0**
HMT Hamilton 48.33 40 P **P 13 32 26.3 +2.7**
E27K Coleen River 48.47 29 P **P 13 32 26.6 +2.0**
E27K IAmb IAmb 13 32 53.0
comp=Z,4.7nm,1.4s
G27K Doyon Strip 48.58 31 P **P 13 32 28.3 +2.8**
BVAR Borovoye Array 49.23 311 P **P 13 32 29.7 -0.9**
comp=Z,1.3nm,0.6s,baz=90,slow=8.9,SNR=5.9
comp=Z,1.3nm,0.6s
BRVK Borovoye 49.28 311 P **P 13 32 30.4 -0.6**
BRVK IAmb IAmb 13 32 31.9
comp=Z,2.9nm,0.8s
BRVK Borovoye 49.28 311⇓ *eP* **P 13 32 30.1 -0.9**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
I28M Miner Creek 49.46 32 P **P 13 32 33.5 +1.2**
E29M Blow River 49.81 28 P **P 13 32 36.4 +1.6**
E29M IAmb IAmb 13 32 53.6
comp=Z,4.6nm,1.4s
DAWY Dawson 49.92 34 P **P 13 32 38.7 +3.0**
DAWY IAmb IAmb 13 32 40.2
comp=Z,6.1nm,1.5s
G29M Pine Creek 49.99 30 P **P 13 32 37.7 +1.5**
G29M IAmb IAmb 13 33 08.6
comp=Z,5.8nm,1.4s
G30M tAoh Zraii Nji 50.68 30 P **P 13 32 42.5 +1.1**

I30M Mount Dempster 50.97 32 P **P 13 32 45.1 +1.4**
I30M IAmb IAmb 13 32 46.3
comp=Z,2.4nm,0.8s
M30M Minto, Yukon 51.38 36 P **P 13 32 48.6 +1.8**
M30M IAmb IAmb 13 33 05.2
comp=Z,4.3nm,1.2s
ARSB Arslanbob 51.38 296 P **P 13 32 47.6 +0.3**
ARSB Arslanbob 51.38 296 P **P 13 32 47.6 +0.3**
ARSB pmax pmax
comp=Z,1.0nm,0.7s
INK Inuvik 51.42 28 P **P 13 32 48.0 +1.1**
INK IAmb IAmb 13 32 53.9
comp=Z,6.7nm,1.5s
INK Inuvik 51.42 28 P **P 13 32 48.0 +1.1**
INK pmax pmax
comp=Z,7.0nm,1.5s
INK Inuvik 51.42 28 LR LR 14 00 03.3
comp=Z,35nm,18.4s,baz=10,slow=42
KKAR Karatay Array 52.39 298 P **P 13 32 54.3 -0.3**
KKAR Karatay Array 52.39 298 P **P 13 32 54.3 -0.3**
ARU Arti 54.72 317 P **P 13 33 10.7 -0.7**
comp=Z,3.9nm,0.6s,baz=97,slow=3.6,SNR=9.3
ARU LR LR 14 01 10.9
comp=Z,39nm,18.3s,baz=46,slow=41
comp=Z,3.9nm,0.6s
CHGR Chuyangaron 55.16 294 P **P 13 33 13.9 -1.1**
CHGR Chuyangaron 55.16 294 P **P 13 33 13.9 -1.1**
CHGR pmax pmax
comp=Z,10.0nm,0.7s
ABKAR Akbulak array 56.69 309 P **P 13 33 24.6 -1.0**
KIRV Kirov 58.41 322 *ePP* **P 13 33 38.2 +0.7**
WB0 Warramunga Arr 59.89 189 P **P 13 33 47.4 -0.8**
WR0 Warramunga Arr 60.07 189 P **P 13 33 48.2 -1.2**
WR0 IAmb IAmb 13 34 25.5
comp=Z,4.4nm,1.3s
WRA Warramunga Arr 60.07 189 P **P 13 33 48.8 -0.7**
WRA Warramunga Arr 60.07 189 *eP* **P 13 33 47.0 -2.5**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 60.07 189 P **P 13 33 47.9 -1.6**
comp=Z,0.8nm,0.8s,baz=5.2,slow=6.8,SNR=8.9
comp=Z,0.8nm,0.8s
YKA Yellowknife Ar 60.88 31 *eP* **P 13 33 54.6 0.0**
YKA Yellowknife Ar 60.88 31 P **P 13 33 54.2 -0.4**
comp=Z,0.2nm,0.6s,baz=297,slow=5.9,SNR=4.1
comp=Z,0.2nm,0.6s
GEYT Alibeck 63.14 298 P **P 13 34 09.3 -0.8**
comp=Z,2.1nm,0.7s,baz=67,slow=11,SNR=3.7
comp=Z,2.1nm,0.7s
ASAR Alice Springs 63.80 189 P **P 13 34 14.2 -0.3**
ASAR Alice Springs 63.80 189 P **P 13 34 14.2 -0.3**
ASAR Alice Springs 63.80 189 P **P 13 34 13.2 -1.3**
comp=Z,0.4nm,0.9s,baz=5.2,slow=6.8,SNR=6.0
comp=Z,0.4nm,0.9s
E03A Lebam 64.79 50 P **P 13 34 22.6 +1.8**
OBN Obninsk 66.23 323 *eP* **P 13 34 30.5 +0.5**
OBN *e* 13 34 59.3
OBN *e*PPP PPP 13 38 33.0
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN MLR MLR
comp=Z,183nm,6.0s
FINES FINESS Array B 66.60 332 P **P 13 34 31.4 -0.9**
comp=Z,5.0nm,1.0s,baz=351,slow=7.5,SNR=4.1
comp=Z,5.0nm,1.0s
SUMG Summit 67.76 0 P **P 13 34 40.4 +0.5**
SUMG Summit 67.76 0 P **P 13 34 40.4 +0.5**
KIV Kislovodsk 69.60 311 *eP* **P 13 34 52.4 +0.9**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 69.61 310 P **P 13 34 51.2 -0.2**
comp=Z,2.0nm,0.8s,baz=337,slow=1.9,SNR=4.0
comp=Z,2.0nm,0.8s
HFS Hagfors 71.75 336 P **P 13 35 03.6 -0.6**
comp=Z,1.5nm,0.6s,baz=73,slow=11,SNR=4.8
comp=Z,1.5nm,0.6s
NOA NORSAR Array B 71.79 337 P **P 13 35 03.7 -0.8**
comp=Z,0.8nm,0.7s,baz=37,slow=6.2,SNR=3.5
comp=Z,0.8nm,0.7s
AKASG Malin Array Be 72.47 322 P **P 13 35 08.2 -0.5**
comp=Z,2.5nm,0.7s,baz=46,slow=5.8,SNR=10
comp=Z,2.5nm,0.7s
AKBB Malin Array Si 72.47 322⇑ *eP* **P 13 35 07.7 -1.0**
AKBB pmax pmax
comp=Z,15nm,1.5s
BUR08 Bucovina Ar. S 76.49 322 P **P 13 35 32.2 0.0**
BURAR Bucovina Array 76.51 322 P **P 13 35 32.2 -0.2**
P17A Butcher Ranch, 76.53 50 P **P 13 35 32.6 -0.1**
P17A IAmb IAmb 13 36 02.6
comp=Z,4.4nm,1.5s
BRTR Keskin Array B 77.50 312 P **P 13 35 36.2 -1.9**
comp=Z,0.2nm,0.3s,baz=94,slow=8.0,SNR=1.9
comp=Z,0.2nm,0.3s
EKA Eskdalemuir Ar 80.63 341 P **P 13 35 53.4 -1.3**
comp=Z,0.8nm,0.7s,baz=46,slow=6.1,SNR=1.7
comp=Z,0.8nm,0.7s
TXAR Lajitas Array 87.71 53 P **P 13 36 31.3 -0.1**
comp=Z,0.2nm,0.8s,baz=180,slow=0.1,SNR=2.3
comp=Z,0.2nm,0.8s
SNAA Samae 143.78 198 PKP PKPab 13 43 12.9 -0.3
comp=Z,1.3nm,1.1s,baz=186,slow=6.0,SNR=1.7

*JMA **10** 13:33:43.4±0.4,45.°N±1.°×14.°1E±.°, h277km±3km, MV3.0/29, NW OFF HOKKAIDO*
*IDC **10** 13:33:43.6±0.8, 44.°80N×140.°91E, h263km±9km, mb2.9/11, mbtmp3.5/12, Error ellipse: s-maj=19.4km s-min=14.5km az=105.0*
ISC 10 13:33:44.0±0.7, **44.°69N**±0.°06×**141.°04E**±0.°09, **h270**km±6km, **n29**, σ1^{s}**05**/37, **mb3.1**/11, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JRR	**Rishiri**	**0.49**	**23**	*eP*		**Pn**	**13 34 19.5**	**+0.5**
JRBN	**Rebuntou**	**0.74**	**1**	P		**Pn**	**13 34 19.6**	**-0.3**
JWK2	**Keihoku**	**0.88**	**44**	P		**Pn**	**13 34 20.5**	**+0.1**
JWK2				*eS*		**S**	**13 34 48.7**	**-0.6**
JHR	**Hokuryu**	**1.06**	**152**	*eP*		**Pn**	**13 34 22.4**	**+0.9**
JSE	**Soyaes**	**1.13**	**76**	P		**Pn**	**13 34 21.5**	**-0.2**
JSE				*eS*		**S**	**13 34 51.1**	**-0.5**
ASAJ	**Asahikawa**	**1.25**	**116**	*eP*		**Pn**	**13 34 22.8**	**+0.2**
ASAJ	**Asahikawa**	**1.25**	**116**	P		**Pn**	**13 34 22.8**	**+0.2**
	7.0nm,0.3s,baz=265,slow=7.4,SNR=78							
ASAJ				S		**S**	**13 34 53.0**	**-0.1**
	6.4nm,0.7s,baz=14,slow=29,SNR=1.8							
JISS	**Ishikarishitsu**	**1.44**	**169**	P		**Pn**	**13 34 24.9**	**+1.1**
JAB	**Ashibetsu**	**1.46**	**144**	*eP*		**Pn**	**13 34 25.0**	**+1.1**
JKK2	**Samakawa 2**	**1.47**	**123**	*eP*		**Pn**	**13 34 24.6**	**+0.5**
JEW	**Eniwo**	**1.87**	**171**	*eP*		**Pn**	**13 34 27.9**	**+0.8**
JTKR	**Abashiri--Toko**	**2.18**	**108**	*eP*		**Pn**	**13 34 30.8**	**+1.1**
JAR	**Ashorobuto**	**2.41**	**124**	*eP*		**Pn**	**13 34 32.9**	**+1.0**
JAR				*eS*		**S**	**13 35 11.8**	**+2.0**
JCH	**Churui**	**2.67**	**140**	*eP*		**Pn**	**13 34 33.6**	**-0.8**
JCH				*eS*		**S**	**13 35 11.8**	**-2.6**
JNBK	**Urakawa-nobuka**	**2.71**	**152**	*eP*		**Pn**	**13 34 35.6**	**+0.8**
JNBK				*eS*		**S**	**13 35 14.9**	**-0.2**
JAK	**Akkeshi**	**3.14**	**121**	*eP*		**Pn**	**13 34 38.5**	**-0.7**
JAK				*eS*		**S**	**13 35 20.9**	**-2.1**
JOT	**Ohata**	**3.30**	**180**	*eP*		**Pn**	**13 34 40.8**	**-0.2**
JOT				*eS*		**S**	**13 35 25.1**	**-1.2**
MJAR	**Matsushiro Arr**	**8.41**	**196**	P		**Pn**	**13 35 43.1**	**+0.4**
	0.5nm,0.6s,baz=12,slow=22,SNR=1.2							
SONM	**Songino Array**	**24.04**	**290**	P		**P**	**13 38 35.0**	**+0.2**
	0.5nm,0.6s,baz=96,slow=9.6,SNR=3.1							
	0.5nm,0.6s							
MKAR	**Makanchi Array**	**40.23**	**295**	P		**P**	**13 40 53.9**	**-0.7**
	0.5nm,0.8s,baz=76,slow=10,SNR=3.0							
	0.5nm,0.8s							
ILAR	**Eielson Array**	**43.34**	**36**	P		**P**	**13 41 19.1**	**-0.2**
	0.5nm,0.7s,baz=279,slow=8.5,SNR=8.7							
	0.5nm,0.7s							
YKA	**Yellowknife Ar**	**57.41**	**32**	P		**P**	**13 43 04.2**	**+0.1**
	0.3nm,0.6s,baz=305,slow=7.1,SNR=6.6							
	0.3nm,0.6s							
FINES	**FINESS Array B**	**61.97**	**330**	P		**P**	**13 43 34.1**	**-1.0**
	2.4nm,0.9s,baz=76,slow=8.6,SNR=5.0							
	2.4nm,0.9s							
WRA	**Warramunga Arr**	**64.60**	**187**	P		**P**	**13 43 53.0**	**+0.2**
	0.4nm,0.9s,baz=2.0,slow=7.0,SNR=7.3							
	0.4nm,0.9s							
HFS	**Hagfors**	**67.03**	**334**	P		**P**	**13 44 06.6**	**-1.2**
	0.6nm,0.3s,baz=46,slow=6.4,SNR=7.2							
	0.6nm,0.3s							
NOA	**NORSAR Array B**	**67.05**	**336**	P		**P**	**13 44 06.4**	**-1.5**
	0.3nm,0.5s,baz=27,slow=6.6,SNR=1.2							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**68.33**	**187**	P		**P**	**13 44 17.8**	**+1.5**
	0.5nm,0.8s,baz=358,slow=4.3,SNR=8.2							
	0.5nm,0.8s							
PDAR	**Pinedale Array**	**72.56**	**47**	P		**P**	**13 44 42.3**	**+0.3**
	0.1nm,0.4s,baz=304,slow=2.7,SNR=1.8							
	0.1nm,0.4s							
TXAR	**Lajitas Array**	**85.67**	**52**	P		**P**	**13 45 54.1**	**+1.4**
	0.1nm,0.5s,baz=310,slow=7.7,SNR=1.3							
	0.1nm,0.5s							

*VAO **10** 13:52:45.0±0.6, 21.°34S×68.°87W, h10km, mb4.3*
*SJA **10** 13:52:50.6±0.7, 21.°65S×68.°72W, h122km±4km, ML3.9, MW3.9*
*IDC **10** 13:52:51.5±1.4, 21.°54S×68.°54W, h100km±9km, mb3.5/4, mbtmp3.9/6, Error ellipse: s-maj=41.3km s-min=15.3km az=123.0*
*GUC **10** 13:52:52.8±0.7, 21.°66S×68.°68W, h108km±4km, ML3.9*
*NEIC **10** 13:52:52.5±1.2, 21.°66S±0.°04×68.°79W±0.°06, h114km±6km, mb4.4/9, Error ellipse: s-maj=9.3km s-min=4.1km az=57.0*
ISC 10 13:52:51.8±0.6, **21.°63S**±0.°03×**68.°69W**±0.°04, **h110**km±5km, **n109**, σ1^{s}**46**/147, **mb4.2**/6, **8C-5D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.54**	**252**			**Pn**	**13 53 09.8**	**+0.7**
PB09					Sn	**Sn**	**13 53 21.9**	**-0.2**
PB09	**IPOC Station P**	**0.54**	**252**	*eP*		**Pn**	**13 53 09.8**	**+0.7**
PB09				*eS*		**Sn**	**13 53 23.2**	**+1.1**
PB09				IAML			13 53 25.0	
	comp=Z,4μm,0.4s							
PB09	**IPOC Station P**	**0.54**	**252**⇑	*iP*		**Pn**	**13 53 09.9**	**+0.7**
PB09				*i* S		**Sn**	**13 53 22.6**	**+0.5**
PB09				IAML			13 53 23.7	
	comp=N,6μm,0.3s							
PB01	**IPOC Station P**	**0.94**	**308**			**Pn**	**13 53 12.7**	**+0.1**
PB01					Sn	**Sn**	**13 53 28.0**	**-0.2**
PB01	**IPOC Station P**	**0.94**	**308**	*eP*		**Pn**	**13 53 12.8**	**+0.3**
PB01				*eS*		**Sn**	**13 53 29.4**	**+1.3**
PB01				IAML			13 53 30.5	
	comp=Z,2μm,0.2s							
PB01	**IPOC Station P**	**0.94**	**308**⇓	*iP*		**Pn**	**13 53 12.8**	**+0.3**
PB01				*i* S		**Sn**	**13 53 28.7**	**+0.5**
PB01				IAML			13 53 30.7	
	comp=E,4μm,0.3s							
LVC	**Limon Verde**	**1.00**	**192**			**Pn**	**13 53 13.7**	**+0.3**
LVC					Sn	**Sn**	**13 53 29.5**	**-0.1**
LVC	**Limon Verde**	**1.00**	**192**	*eP*		**Pn**	**13 53 13.7**	**+0.3**
LVC				*eS*		**Sn**	**13 53 31.0**	**+1.4**
LVC	**Limon Verde**	**1.00**	**192**	P		**Pn**	**13 53 13.7**	**+0.3**
	comp=E,2μm,0.4s,baz=354,slow=8.0,SNR=3359							
LVC				S		**Sn**	**13 53 30.4**	**+0.8**
	comp=E,387nm,0.3s,baz=125,slow=20,SNR=26							
LVC	**Limon Verde**	**1.00**	**192**	*eP*		**Pn**	**13 53 13.1**	**-0.3**
LVC				*eS*		**Sn**	**13 53 30.1**	**+0.5**
LVC				IAML			13 53 31.1	
	comp=E,6μm,0.2s							
PB07	**IPOC Station P**	**1.12**	**265**			**Pn**	**13 53 14.7**	**+0.3**
PB07	**IPOC Station P**	**1.12**	**265**	*eP*		**Pn**	**13 53 14.5**	**+0.1**
PB07				*eS*		**Sn**	**13 53 32.3**	**+0.8**
PB07				IAML			13 53 33.0	
	comp=Z,2μm,0.2s							
PB07	**IPOC Station P**	**1.12**	**265**⇑	*iP*		**Pn**	**13 53 14.7**	**+0.3**
PB07				*i* S		**Sn**	**13 53 31.7**	**+0.2**
PB07				IAML			13 53 32.6	
	comp=N,6μm,0.3s							
PB02	**IPOC Station P**	**1.16**	**285**			**Pn**	**13 53 15.2**	**+0.3**
PB02	**IPOC Station P**	**1.16**	**285**	*eP*		**Pn**	**13 53 15.1**	**+0.2**
PB02				*eS*		**Sn**	**13 53 32.9**	**+0.6**
PB02				IAML			13 53 37.6	
	comp=Z,4μm,0.3s							
PB02	**IPOC Station P**	**1.16**	**285**⇓	*iP*		**Pn**	**13 53 15.2**	**+0.3**
PB02				*i* S		**Sn**	**13 53 32.5**	**+0.2**
PB02				IAML			13 53 34.4	
	comp=E,6μm,0.3s							
PB06	**IPOC Station P**	**1.35**	**217**			**Pn**	**13 53 16.9**	**-0.1**
PB06	**IPOC Station P**	**1.35**	**217**	*eP*		**Pn**	**13 53 16.7**	**-0.3**
PB06				*eS*		**Sn**	**13 53 37.4**	**+1.3**
PB06				IAML			13 53 43.7	
	comp=Z,541nm,0.3s							
PB06	**IPOC Station P**	**1.35**	**217**⇑	*iP*		**Pn**	**13 53 17.4**	**+0.4**
PB06				*i* S		**Sn**	**13 53 36.6**	**+0.5**
PB06				IAML			13 53 37.5	
	comp=E,1μm,0.2s							
AF01	**San Pedro de A**	**1.40**	**160**			**Pn**	**13 53 19.0**	**+1.3**
AF01	**San Pedro de A**	**1.40**	**160**⇑	*iP*		**Pn**	**13 53 19.2**	**+1.5**
AF01				*i* S		**Sn**	**13 53 40.2**	**+2.8**
AF01				IAML			13 53 54.9	
	comp=E,3μm,0.9s							
PB04	**IPOC Station P**	**1.52**	**242**			**Pn**	**13 53 18.8**	**-0.2**
PB04	**IPOC Station P**	**1.52**	**242**	*eP*		**Pn**	**13 53 19.1**	**0.0**
PB04				*eS*		**Sn**	**13 53 40.7**	**+0.9**
PB04				IAML			13 53 43.0	
	comp=Z,695nm,0.2s							
PB04	**IPOC Station P**	**1.52**	**242**⇑	*iP*		**Pn**	**13 53 19.1**	**0.0**
PB04				*i* S		**Sn**	**13 53 39.8**	**0.0**
PB04				IAML			13 53 44.3	
	comp=N,1μm,0.2s							
PB08	**IPOC Station P**	**1.54**	**344**			**Pn**	**13 53 20.8**	**+1.3**
PB08	**IPOC Station P**	**1.54**	**344**	*eP*		**Pn**	**13 53 20.4**	**+0.8**
PB08				*eS*		**Sn**	**13 53 37.4**	**-3.1**
PB08				*eS*			13 53 42.5	
PB08				IAML			13 53 43.2	
	comp=Z,680nm,0.4s							
PB08	**IPOC Station P**	**1.54**	**344**⇓	*iP*		**Pn**	**13 53 20.9**	**+1.4**
PB08				*i* S		**Sn**	**13 53 42.3**	**+1.7**
PB08				IAML			13 53 43.6	
	comp=E,2μm,0.7s							
PATCX	**Punta Patache**	**1.58**	**300**	Pn		**Pn**	**13 53 20.2**	**+0.5**
PATCX	**Punta Patache**	**1.58**	**300**	*eP*		**Pn**	**13 53 19.8**	**0.0**
PATCX				*eS*		**Sn**	**13 53 41.8**	**+0.8**
PATCX				IAML			13 53 43.6	
	comp=Z,1μm,1.1s							
PATCX	**Punta Patache**	**1.58**	**300**⇓	*iP*		**Pn**	**13 53 20.4**	**+0.7**
PATCX				*i* S		**Sn**	**13 53 41.0**	**+0.1**
PATCX				IAML			13 53 43.0	
	comp=E,3μm,0.3s							
PB15	**IPOC Station P**	**1.73**	**205**			**Pn**	**13 53 22.0**	**+0.4**
PB15	**IPOC Station P**	**1.73**	**205**	*eP*		**Pn**	**13 53 21.6**	**0.0**
PB15				*eS*		**Sn**	**13 53 46.8**	**+2.5**
PB15				IAML			13 53 49.3	
	comp=Z,4μm,0.3s							
PB15	**IPOC Station P**	**1.73**	**205**⇑	*iP*		**Pn**	**13 53 22.0**	**+0.4**
PB15				*i* S		**Sn**	**13 53 45.2**	**+0.9**
TA01	**Diego Aracena**	**1.75**	**307**			**Pn**	**13 53 21.7**	**+0.1**
TA01	**Diego Aracena**	**1.75**	**307**	*eP*		**Pn**	**13 53 21.9**	**+0.3**
TA01				*eS*		**Sn**	**13 53 45.4**	**+1.1**
TA01				IAML			13 53 46.4	
	comp=Z,620nm,0.7s							
TA01	**Diego Aracena**	**1.75**	**307**	*eP*		**Pn**	**13 53 21.9**	**+0.3**
TA01				*i* S		**Sn**	**13 53 44.0**	**-0.3**
TA01				IAML			13 53 45.7	
	comp=E,2μm,0.3s							
HMBC	**Humberstone**	**1.75**	**320**	*eP*		**Pn**	**13 53 21.9**	**+0.1**
HMBC				*eS*		**Sn**	**13 53 45.3**	**+0.7**
HMBC				IAML			13 53 46.3	
	comp=Z,2μm,0.4s							
HMBC	**Humberstone**	**1.75**	**320**⇓	*iP*		**Pn**	**13 53 21.9**	**+0.1**
HMBC				*i* S		**Sn**	**13 53 45.0**	**+0.4**
HMBC				IAML			13 53 47.8	
	comp=E,2μm,0.3s							
PB05	**IPOC Station P**	**1.86**	**229**			**Pn**	**13 53 22.8**	**-0.3**
PB05	**IPOC Station P**	**1.86**	**229**	*eP*		**Pn**	**13 53 23.0**	**-0.1**
PB05				*eS*		**Sn**	**13 53 48.5**	**+1.5**
PB05	**IPOC Station P**	**1.86**	**229**⇑	*iP*		**Pn**	**13 53 22.9**	**-0.3**
PB05				*i* S		**Sn**	**13 53 46.1**	**-0.8**
TA02	**Huaiquique**	**1.91**	**315**			**Pn**	**13 53 23.5**	**-0.1**
TA02	**Huaiquique**	**1.91**	**315**	*eP*		**Pn**	**13 53 23.7**	**+0.1**
TA02				*eS*		**Sn**	**13 53 49.6**	**+1.7**
TA02				IAML			13 53 52.2	
	comp=Z,471nm,0.4s							
TA02	**Huaiquique**	**1.91**	**315**	*eP*		**Pn**	**13 53 24.1**	**+0.5**
TA02				*eS*		**Sn**	**13 53 48.2**	**+0.3**
TA02				IAML			13 53 51.1	
	comp=N,950nm,0.2s							
GO01	**Chusmiza**	**2.01**	**346**			**Pn**	**13 53 26.2**	**+0.8**
GO01	**Chusmiza**	**2.01**	**346**	*eP*		**

GO01				*i* S		**Sn**	**13 53 52.7**	**+1.8**
GO01				IAML			13 53 57.2	
	comp=E,606nm,0.3s							
PB11	**IPOC Station P**	**2.07**	**334**			**Pn**	**13 53 26.1**	**+0.3**
PB11	**IPOC Station P**	**2.07**	**334**	*eP*		**Pn**	**13 53 25.6**	**-0.2**
PB11				*eS*		**Sn**	**13 53 52.3**	**+0.5**
PB11				IAML			13 53 57.4	
	comp=Z,680nm,0.6s							
PB11	**IPOC Station P**	**2.07**	**334**	*eP*		**Pn**	**13 53 26.2**	**+0.3**
PB11				*eS*		**Sn**	**13 53 52.1**	**+0.3**
PB11				IAML			13 53 58.0	
	comp=E,1μm,0.4s							
YJA	**Yavi**	**3.00**	**101**	*eP*		**Pn**	**13 53 40.7**	**+2.5**
YJA				*eS*		Sn	13 54 03.9	-10
PB16	**IPOC Station P**	**3.37**	**347**	Pn		**Pn**	**13 53 44.0**	**+0.7**
PB16	**IPOC Station P**	**3.37**	**347**	*eP*		**Pn**	**13 53 44.6**	**+1.3**
PB16				IAML			13 54 53.8	
	comp=Z,92nm,0.7s							
PB12	**IPOC Station P**	**3.37**	**333**	Pn		**Pn**	**13 53 41.6**	**-1.3**
PB12	**IPOC Station P**	**3.37**	**333**	*eP*		**Pn**	**13 53 41.9**	**-1.0**
PB12				*eS*		**Sn**	**13 54 25.4**	**+3.1**
PB12				IAML			13 54 39.5	
	comp=Z,164nm,0.7s							
PB14	**IPOC Station P**	**3.37**	**208**	Pn		**Pn**	**13 53 41.7**	**-1.4**
PB14	**IPOC Station P**	**3.37**	**208**	*eP*		**Pn**	**13 53 42.3**	**-0.8**
PB14				IAML			13 54 36.1	
	comp=Z,142nm,0.4s							
AP01	**Chacalluta**	**3.59**	**334**	Pn		**Pn**	**13 53 45.9**	**+0.2**
GO02	**Mina Guanaco**	**3.61**	**193**	Pn		**Pn**	**13 53 45.2**	**-1.0**
AC01	**Pan de Azucar**	**4.83**	**201**			**Pn**	**13 53 59.8**	**-2.4**
LPAZ	**La Paz**	**5.34**	**6**			**Pn**	**13 54 10.9**	**+1.1**
AC06	**Mina Casimiro**	**5.90**	**195**			**Pn**	**13 54 13.6**	**-3.2**
GO03	**Copiap**	**6.10**	**193**	Pn		**Pn**	**13 54 16.9**	**-2.7**
AC05	**El Transito**	**7.32**	**191**			**Pn**	**13 54 32.7**	**-3.4**
LCO	**Las Campanas**	**7.57**	**193**	Pn		**Pn**	**13 54 35.4**	**-4.3**
CO01	**Juntas del Tor**	**8.41**	**188**	Pn		**Pn**	**13 54 48.2**	**-2.8**
GO04	**Tololo Observa**	**8.72**	**192**	Pn		Pn	13 54 50.0	-5.2
BBSD	**Serra de San D**	**8.81**	**61**	*eP*		**Pn**	**13 54 53.4**	**-2.9**
BBRB	**Robore, Bolivi**	**8.99**	**70**	*eP*		**Pn**	**13 54 55.1**	**-3.7**
SIV	**San Ignacio**	**9.14**	**53**	P		**Pn**	**13 54 57.8**	**-3.0**
	comp=Z,6.5nm,0.5s,baz=241,slow=12,SNR=42							
SIV				S		**Sn**	**13 56 36.6**	**-5.3**
	comp=Z,0.6nm,0.5s,baz=142,slow=22,SNR=1.1							
MURT	**Porto Murtinho**	**10.31**	**92**	*eP*		**Pn**	**13 55 14.1**	**-2.5**
PTLB	**Pontes e Lacer**	**10.95**	**57**	*eP*		**Pn**	**13 55 23.0**	**-2.3**
PANT	**Pantanal (Braz**	**11.63**	**79**	*eP*		**Pn**	**13 55 31.5**	**-2.9**
ANTJ	**Antonio Joao (**	**11.79**	**94**	*eP*		**Pn**	**13 55 36.6**	**0.0**
VILB	**Vilhena**	**11.84**	**45**			**Pn**	**13 55 36.5**	**-0.6**
RVDE	**Rio Verde (Bra**	**13.16**	**81**	*eP*		**Pn**	**13 55 52.8**	**-1.7**
ITQB	**Itaqui**	**13.50**	**129**	P		**P**	**13 56 04.3**	**+0.1**
ITQB	**Itaqui**	**13.50**	**129**	*eP*		**Pn**	**13 56 00.8**	**+1.9**
SAML	**Samuel**	**13.68**	**24**	Pn		**Pn**	**13 56 03.2**	**+1.9**
CZSB	**Cruzeiro do Su**	**14.35**	**344**	P		**P**	**13 56 14.1**	**+0.4**
CRSM	**Crissiumal (Br**	**14.54**	**117**	*eP*		**P**	**13 56 15.8**	**+0.1**
RODS	**Rosario do Sul**	**14.91**	**128**	*eP*		**P**	**13 56 19.8**	**0.0**
FRBT	**Francisco Belt**	**14.94**	**110**	*eP*		**P**	**13 56 20.4**	**+0.1**
PTGB	**Pitanga**	**15.60**	**105**	*eP*		**P**	**13 56 28.6**	**+1.1**
ITAB	**Concordia**	**16.07**	**114**	Pn		**Pn**	**13 56 31.9**	**+0.4**
LDASE	**Londrina, Braz**	**16.33**	**99**	*eP*		**P**	**13 56 37.1**	**+1.5**
CLDB	**Colider**	**16.35**	**51**	*eP*		**Pn**	**13 56 35.4**	**+0.5**
PLTB	**Pedras Altas**	**16.82**	**130**	Pn		**Pn**	**13 56 39.1**	**-1.5**
PLTB				IAmb		IAmb	13 56 39.4	
	comp=Z,20nm,1.5s							
TRQA	**Tornquist**	**17.37**	**162**	P		**P**	**13 56 45.0**	**-2.0**
PLCA	**Paso Flores**	**19.11**	**184**	P		**P**	**13 57 06.0**	**-0.1**
PLCA	**Paso Flores**	**19.11**	**184**	*eP*		**Pn**	**13 57 11.0**	**+2.9**
PLCA	**Paso Flores**	**19.11**	**184**	P		**Pn**	**13 57 06.9**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=6,slow=13,SNR=3.1							
MACA	**Manacapuru-AM**	**19.94**	**24**	P		**P**	**13 57 13.1**	**-2.1**
MACA				IAmb		IAmb	13 57 17.0	
	comp=Z,35nm,0.8s							
MACA	**Manacapuru-AM**	**19.94**	**24**	*eP*		**P**	**13 57 13.9**	**-1.3**
SGCB	**S£o Gabriel d**	**21.44**	**5**	*eP*		**P**	**13 57 30.3**	**-1.0**
BOAV	**Boa Vista**	**25.18**	**19**	P		**P**	**13 58 07.4**	**+0.2**
BOAV				IAmb		IAmb	13 58 08.1	
	comp=Z,6.3nm,0.6s							
MCPB	**Macapa, AP**	**26.65**	**40**	*eP*		**P**	**13 58 23.6**	**+3.2**
GOGA	**Godfrey**	**56.52**	**345**	P		**P**	**14 02 23.7**	**+1.1**
BELA	**Belgrano 2**	**58.59**	**172**	P		**P**	**14 02 37.2**	**+0.6**
BELA				IAmb		IAmb	14 03 15.7	
	comp=Z,3.6nm,1.2s							
SNAA	**Sanae**	**62.09**	**161**	P		**P**	**14 03 01.4**	**+0.8**
SNAA				IAmb		IAmb	14 03 29.4	
	comp=Z,7.6nm,1.5s							
SNAA	**Sanae**	**62.09**	**161**	P		**P**	**14 03 01.5**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=275,slow=9.1,SNR=8.6							
	comp=Z,1.4nm,0.6s							
JFWS	**Jewell Farm**	**67.23**	**343**	P		**P**	**14 03 32.5**	**-1.6**
QSPA	**South Pole Qui**	**68.56**	**180**	P		**P**	**14 03 43.9**	**+1.5**
	comp=Z,1.2nm,0.5s,baz=79,slow=0.3,SNR=5.2							
	comp=Z,1.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**77.21**	**70**	P		**P**	**14 04 35.5**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=264,slow=5.1,SNR=6.8							
	comp=Z,0.5nm,0.5s							
YKA	**Yellowknife Ar**	**91.38**	**341**	P		**P**	**14 05 45.7**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=125,slow=6.1,SNR=1.6							
	comp=Z,0.1nm,0.4s							
ASAR	**Alice Springs**	**129.89**	**207**	PKP		**PKiKP**	**14 11 49.2**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=123,slow=1.6,SNR=6.4							
WRA	**Warramunga Arr**	**132.95**	**210**	PKP		**PKiKP**	**14 11 56.0**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=157,slow=2.1,SNR=6.0							
MKAR	**Makanchi Array**	**145.62**	**36**	PKPbc		**PKPdf**	**14 12 16.2**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=319,slow=4.8,SNR=3.7							
PZH	**PanZhiHua**	**170.00**	**59**	PKP		**PKPdf**	**14 12 45.0**	**-2.2**

IDC 10 13:56:38.0±2.3, 5°68.68S×128°36.66E, h0km, mb3.1/1, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=117.9km s-min=34.7km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.22**	**159**	Pn		Pn	14 00 14.2	-0.2
	0.2nm,0.3s,baz=338,slow=14,SNR=14							
WRA				Sn		Sn	14 02 55.8	-8.0
	0.2nm,0.3s,baz=340,slow=22,SNR=7.8							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**18.59**	**165**	Pn		Pn	14 00 57.2	+0.2
	0.4nm,0.3s,baz=345,slow=8.8,SNR=40							
ASAR				Sn		Sn	14 04 16.2	-9.3
	baz=342,slow=26,SNR=1.2							
	1.1nm,0.6s							
MKAR	**Makanchi Array**	**66.40**	**327**	P		P	14 07 29.0	0.0
	0.1nm,0.5s,baz=117,slow=7.3,SNR=2.0							
	0.1nm,0.5s							

*SJA **10** 14:12:53.0±0.7, 22°.82S×68°.81W, h114km±3km, ML4.0, MW4.0*
*NEIC **10** 14:12:54.5±1.9, 22°.83S±0°.06×68°.88W±0°.05, h110km±7km, mb4.0/3, Error ellipse: s-maj=8.2km s-min=6.3km az=180.0*
*IDC **10** 14:12:55.2±0.6, 22°.66S×68°.69W, h92km±5km, mb3.6/8, mbtmp3.9/11, Error ellipse: s-maj=19.9km s-min=18.4km az=88.0*
*GUC **10** 14:12:56.2±0.7, 22°.74S×68°.87W, h102km±3km, ML4.1*
*VAO **10** 14:12:57.5±0.4, 22°.31S×68°.35W, h10km, mb4.5*

ISC 10 14:12:55.3±0.6, 22°.73S±0°.03×68°.79W±0°.04, h102km±5km, n114, σ2s00/135, mb4.0/8, 9C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**0.16**	**319**			**Pn**	**14 13 10.0**	**-0.2**
LVC				Sn		**Sn**	**14 13 20.3**	**-1.0**
LVC	**Limon Verde**	**0.16**	**319**	*eP*		**Pn**	**14 13 10.0**	**-0.2**
LVC				*eS*		**Sn**	**14 13 22.4**	**+1.2**
LVC				IAML			14 13 23.7	
	comp=Z,4μm,0.4s							
LVC	**Limon Verde**	**0.16**	**319**	*eP*		**Pn**	**14 13 09.8**	**-0.4**
LVC	**Limon Verde**	**0.16**	**319**	P		**Pn**	**14 13 10.0**	**-0.2**
	comp=Z,7μm,0.4s,baz=148,slow=2.4							
LVC				S		**Sn**	**14 13 20.6**	**-0.6**
	comp=Z,4μm,0.4s,baz=343,slow=22,SNR=11							
LVC	**Limon Verde**	**0.16**	**319**	*eP*		**Pn**	**14 13 09.7**	**-0.5**
LVC				*eS*		**Sn**	**14 13 20.4**	**-0.9**
AF01	**San Pedro de A**	**0.61**	**111**			**Pn**	**14 13 13.3**	**+0.8**
AF01				Sn		**Sn**	**14 13 26.6**	**+1.2**
AF01	**San Pedro de A**	**0.61**	**111**	⇓*eP*		**Pn**	**14 13 13.5**	**+0.9**
AF01				*eS*		**Sn**	**14 13 26.6**	**+1.2**
PB06	**IPOC Station P**	**0.72**	**272**			**Pn**	**14 13 12.8**	**-0.5**
PB06				Sn		**Sn**	**14 13 25.8**	**-1.1**
PB06	**IPOC Station P**	**0.72**	**272**	*eP*		**Pn**	**14 13 12.8**	**-0.5**
PB06				*eS*		**Sn**	**14 13 26.7**	**-0.2**
PB06				IAML			14 13 29.1	
	comp=Z,4μm,0.2s							
PB06	**IPOC Station P**	**0.72**	**272**	⇑*iP*		**Pn**	**14 13 13.0**	**-0.3**
PB06				*i* S		**Sn**	**14 13 26.2**	**-0.6**
PB06				IAML			14 13 26.9	
	comp=E,11μm,0.1s							
PB15	**IPOC Station P**	**0.78**	**233**	Pn		**Pn**	**14 13 13.8**	**-0.1**
PB15				Sn		**Sn**	**14 13 27.7**	**-0.3**
PB15	**IPOC Station P**	**0.78**	**233**	*eP*		**Pn**	**14 13 13.2**	**-0.8**
PB15				*eS*		**Sn**	**14 13 27.9**	**-0.1**
PB15	**IPOC Station P**	**0.78**	**233**	⇑*iP*		**Pn**	**14 13 13.9**	**-0.1**
PB15				*i* S		**Sn**	**14 13 27.6**	**-0.4**
PB09	**IPOC Station P**	**1.02**	**336**			**Pn**	**14 13 17.3**	**+1.0**
PB09	**IPOC Station P**	**1.02**	**336**	*eP*		**Pn**	**14 13 16.6**	**+0.3**
PB09				*eS*		**Sn**	**14 13 34.0**	**+1.9**
PB09				IAML			14 13 34.9	
	comp=Z,6μm,0.3s							
PB09	**IPOC Station P**	**1.02**	**336**	⇑*iP*		**Pn**	**14 13 17.3**	**+1.0**
PB09				*i* S		**Sn**	**14 13 32.7**	**+0.6**
PB09				IAML			14 13 34.7	
	comp=N,5μm,0.7s							
PB05	**IPOC Station P**	**1.30**	**264**			**Pn**	**14 13 18.8**	**-0.7**
PB05	**IPOC Station P**	**1.30**	**264**	*eP*		**Pn**	**14 13 18.4**	**-1.1**
PB05				*eS*		**Sn**	**14 13 37.3**	**-0.5**
PB05				IAML			14 13 42.1	
	comp=Z,2μm,0.5s							
PB05	**IPOC Station P**	**1.30**	**264**	⇑*iP*		**Pn**	**14 13 19.1**	**-0.4**
PB05				*i* S		**Sn**	**14 13 36.5**	**-1.3**
PB05				IAML			14 13 44.6	
	comp=E,2μm,0.3s							
PB04	**IPOC Station P**	**1.31**	**287**			**Pn**	**14 13 19.3**	**-0.3**
PB04	**IPOC Station P**	**1.31**	**287**	*eP*		**Pn**	**14 13 19.5**	**-0.2**
PB04				*eS*		**Sn**	**14 13 38.3**	**+0.3**
PB04				IAML			14 13 42.5	
	comp=Z,3μm,0.4s							
PB04	**IPOC Station P**	**1.31**	**287**	⇑*iP*		**Pn**	**14 13 19.5**	**-0.2**
PB04				*i* S		**Sn**	**14 13 37.6**	**-0.4**
PB04				IAML			14 13 43.8	
	comp=E,4μm,0.5s							
PB07	**IPOC Station P**	**1.42**	**314**			**Pn**	**14 13 20.8**	**-0.2**
PB07	**IPOC Station P**	**1.42**	**314**	*eP*		**Pn**	**14 13 21.1**	**+0.2**
PB07				*eS*		**Sn**	**14 13 41.0**	**+0.6**
PB07				IAML			14 13 47.1	
	comp=Z,3μm,0.3s							
PB07	**IPOC Station P**	**1.42**	**314**	*i* S		**Sn**	**14 13 40.0**	**-0.3**
PB02	**IPOC Station P**	**1.74**	**324**			**Pn**	**14 13 25.0**	**+0.2**
PB02	**IPOC Station P**	**1.74**	**324**	*eP*		**Pn**	**14 13 24.5**	**-0.3**
PB02				*eS*		**Sn**	**14 13 48.2**	**+1.0**
PB02				IAML			14 13 51.2	
	comp=Z,4μm,0.2s							
PB02	**IPOC Station P**	**1.74**	**324**	⇑*iP*		**Pn**	**14 13 25.2**	**+0.4**
PB02				*i* S		**Sn**	**14 13 47.5**	**+0.3**
PB02				IAML			14 13 51.9	
	comp=E,4μm,0.3s							
PB01	**IPOC Station P**	**1.80**	**339**			**Pn**	**14 13 26.1**	**+0.5**
PB01	**IPOC Station P**	**1.80**	**339**	*eP*		**Pn**	**14 13 25.6**	**0.0**
PB01				*eS*		**Sn**	**14 13 50.1**	**+1.5**
PB01				IAML			14 13 54.4	
	comp=Z,2μm,0.2s							
PB01	**IPOC Station P**	**1.80**	**339**	⇑*iP*		**Pn**	**14 13 26.1**	**+0.5**
PB01				*i* S		**Sn**	**14 13 48.9**	**+0.3**
PB01				IAML			14 13 52.4	
	comp=E,4μm,0.2s							
PATCX	**Punta Patache**	**2.28**	**326**			**Pn**	**14 13 31.2**	**-0.6**
PATCX	**Punta Patache**	**2.28**	**326**	*eP*		**Pn**	**14 13 31.5**	**-0.3**
PATCX				*eS*		**Sn**	**14 13 53.8**	**-5.8**
PATCX				IAML			14 14 31.8	
	comp=Z,393nm,0.4s							
PATCX	**Punta Patache**	**2.28**	**326**	⇑*iP*		**Pn**	**14 13 31.3**	**-0.6**
PATCX				IAML			14 14 05.7	
	comp=E,801nm,0.3s							
PB14	**IPOC Station P**	**2.39**	**218**			**Pn**	**14 13 32.1**	**-1.3**
PB14	**IPOC Station P**	**2.39**	**218**	*eP*		**Pn**	**14 13 31.8**	**-1.6**
PB14				*eS*		**Sn**	**14 14 00.3**	**-2.3**
PB14				IAML			14 14 01.3	
	comp=Z,395nm,0.4s							
TA01	**Diego Aracena**	**2.51**	**329**			**Pn**	**14 13 33.6**	**-1.1**
GO02	**Mina Guanaco**	**2.53**	**197**			**Pn**	**14 13 34.6**	**-0.5**
GO02	**Mina Guanaco**	**2.53**	**197**	*eS*		**Sn**	**14 14 02.1**	**-3.6**
GO02				IAML			14 14 02.7	
	comp=Z,792nm,0.7s							
GO02	**Mina Guanaco**	**2.53**	**197**	*eP*		**Pn**	**14 13 34.9**	**-0.3**
PB08	**IPOC Station P**	**2.60**	**353**			**Pn**	**14 13 36.8**	**+0.6**
PB08	**IPOC Station P**	**2.60**	**353**	*eP*		**Pn**	**14 13 37.2**	**+1.0**
PB08				*eS*		**Sn**	**14 13 58.8**	**-8.7**
PB08				IAML			14 14 07.1	
	comp=Z,250nm,1.0s							
PB08	**IPOC Station P**	**2.60**	**353**	⇑*iP*		**Pn**	**14 13 37.2**	**+1.0**
HMBC	**Humberstone**	**2.65**	**337**	*eP*		**Pn**	**14 13 36.0**	**-0.6**
HMBC				*eS*		**Sn**	**14 14 06.5**	**-1.7**
HMBC				IAML			14 14 32.0	
	comp=Z,550nm,0.2s							
HMBC	**Humberstone**	**2.65**	**337**	*eP*		**Pn**	**14 13 35.9**	**-0.7**
TA02	**Huaiquique**	**2.75**	**333**			**Pn**	**14 13 36.3**	**-1.5**
TA02	**Huaiquique**	**2.75**	**333**	*eP*		**Pn**	**14 13 33.8**	**-4.0**
TA02				*eS*		Sn	14 13 59.8	-11
TA02				IAML			14 14 19.9	
	comp=Z,361nm,0.2s							
PB11	**IPOC Station P**	**3.06**	**345**			**Pn**	**14 13 41.6**	**-0.5**
PB11	**IPOC Station P**	**3.06**	**345**	*eP*		**Pn**	**14 13 41.8**	**-0.4**
PB11				*eS*		Sn	14 14 04.8	-13
PB11				IAML			14 14 46.6	
	comp=Z,397nm,0.4s							
GO01	**Chusmiza**	**3.07**	**353**			**Pn**	**14 13 43.0**	**+0.4**
GO01	**Chusmiza**	**3.07**	**353**	*eP*		**Pn**	**14 13 43.1**	**+0.6**
GO01				*eS*		Sn	14 14 06.8	-12
GO01				IAML			14 14 14.2	
	comp=Z,348nm,0.4s							
GO01	**Chusmiza**	**3.07**	**353**	*eP*		**Pn**	**14 13 43.0**	**+0.4**
YJA	**Yavi**	**3.08**	**80**	*eP*		**Pn**	**14 13 41.3**	**-1.4**
YJA				*eP*			14 13 47.8	
SLA	**San Lorenzo**	**3.61**	**124**	*eP*		**Pn**	**14 13 47.8**	**-1.6**
AZAP	**Zapla**	**3.73**	**114**	*eP*		**Pn**	**14 13 48.3**	**-2.8**
AC01	**Pan de Azucar**	**3.78**	**205**	Pn		**Pn**	**14 13 49.5**	**-2.1**
AC01	**Pan de Azucar**	**3.78**	**205**	*eP*		**Pn**	**14 13 49.5**	**-2.1**
AC01				*eS*		**Sn**	**14 13 39.8**	**+4.7**
AC01				IAML			14 14 45.5	
	comp=Z,168nm,0.8s							
PB12	**IPOC Station P**	**4.34**	**340**	Pn		**Pn**	**14 13 57.4**	**-1.9**
PB16	**IPOC Station P**	**4.43**	**351**	*eP*		**Pn**	**14 14 01.1**	**+0.2**
PB16				IAML			14 15 36.7	
	comp=Z,72nm,1.4s							
AC06	**Mina Casimiro**	**4.82**	**197**	Pn		**Pn**	**14 14 02.6**	**-3.0**
GO03	**Copiap**	**5.01**	**195**			**Pn**	**14 14 05.5**	**-2.8**
GO03	**Copiap**	**5.01**	**195**	*eP*		**Pn**	**14 14 06.0**	**-2.4**
PB18	**Visviri**	**5.16**	**353**	Pn		**Pn**	**14 14 09.3**	**-1.4**
AC04	**Llanos de Chal**	**5.83**	**200**	Pn		**Pn**	**14 14 14.8**	**-4.5**
AC05	**El Transito**	**6.22**	**192**	Pn		**Pn**	**14 14 21.8**	**-3.0**
LPAZ	**La Paz**	**6.44**	**6**			**Pn**	**14 14 28.0**	**-0.3**
LCO	**Las Campanas**	**6.48**	**195**	Pn		**Pn**	**14 14 24.4**	**-4.0**
CO01	**Juntas del Tor**	**7.31**	**189**			**Pn**	**14 14 37.1**	**-2.5**
GO04	**Tololo Observa**	**7.62**	**193**			**Pn**	**14 14 39.5**	**-4.4**
CO03	**El Pedregal**	**8.25**	**191**	Pn		**Pn**	**14 14 47.6**	**-4.6**
TICA	**Tres Isletas**	**8.48**	**117**	*eP*		**Pn**	**14 14 57.4**	**+2.1**
CO02	**Combarbal**	**8.66**	**193**	Pn		Pn	14 14 52.8	-5.2
BBSD	**Serra de San D**	**9.47**	**56**	*eP*		**Pn**	**14 15 06.8**	**-2.0**
BBRB	**Robore, Bolivi**	**9.51**	**64**	*eP*		**Pn**	**14 15 06.2**	**-3.3**
SIV	**San Ignacio**	**9.90**	**49**	P		**Pn**	**14 15 12.6**	**-2.2**
	comp=Z,5.2nm,0.5s,baz=233,slow=7.8,SNR=38							
SIV				S		**Sn**	**14 16 55.7**	**-8.3**
	comp=Z,1.0nm,0.3s,baz=141,slow=23,SNR=1.2							
SCCA	**San Cayetano,**	**10.38**	**120**	*eP*		**Pn**	**14 15 24.4**	**+3.2**
MURT	**Porto Murtinho**	**10.42**	**86**	*eP*		**Pn**	**14 15 20.7**	**-1.0**
MT02	**Curaguy**	**10.69**	**191**	Pn		Pn	14 15 18.4	-6.9
CPUP	**Villa Florida**	**11.03**	**111**	P		**Pn**	**14 15 30.1**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=322,slow=15,SNR=1.8							
MT09	**Talagante**	**11.17**	**189**	Pn		Pn	14 15 26.3	-5.7
MT01	**Popeta**	**11.30**	**190**	Pn		Pn	14 15 26.7	-6.9
BO04	**La Punta**	**11.33**	**188**	Pn		Pn	14 15 27.0	-7.0
PTLB	**Pontes e Lacer**	**11.65**	**53**	Pn		**Pn**	**14 15 36.1**	**-2.3**
AQDB	**Aquidauana**	**12.39**	**82**	*eP*		**Pn**	**14 15 48.5**	**+0.4**
GO05	**Huala**	**12.54**	**192**	Pn		Pn	14 15 42.0	-8.1
ETMB	**Extrema**	**13.08**	**11**			**Pn**	**14 15 54.3**	**-2.9**
RVDE	**Rio Verde (Bra**	**13.46**	**77**	*eP*		**Pn**	**14 16 03.0**	**+0.7**
CRSM	**Crissiumal (Br**	**14.18**	**113**	*eP*		**P**	**14 16 16.5**	**+0.7**
FRBT	**Francisco Belt**	**14.70**	**106**	*eP*		**P**	**14 16 22.5**	**+0.9**
SAML	**Samuel**	**14.72**	**22**	*eP*		**Pn**	**14 16 18.3**	**-0.3**
CZSB	**Cruzeiro do Su**	**15.38**	**345**	*eP*		**P**	**14 16 31.3**	**+2.1**
CZSB	**Chapadao do Su**	**15.44**	**78**	*eP*		**P**	**14 16 28.9**	**-0.9**
PTGB	**Pitanga**	**15.45**	**101**	*eP*		**P**	**14 16 32.1**	**+2.1**
ITAB	**Concordia**	**15.76**	**110**	Pn		**Pn**	**14 16 27.2**	**-4.2**
PDRB	**Porto dos Gac**	**15.96**	**48**	*eP*		**P**	**14 16 35.3**	**-0.3**
PCMB	**Pacaembu**	**16.28**	**89**	*eP*		**P**	**14 16 41.5**	**+2.3**
LDASE	**Londrina, Braz**	**16.28**	**96**	*eP*		**P**	**14 16 40.2**	**+0.9**
TRQA	**Tornquist**	**16.36**	**161**	P		**Pn**	**14 16 36.5**	**-2.3**
TRQA				IAmb		IAmb	14 16 45.7	
	comp=Z,6.3nm,0.8s							
CLDB	**Colider**	**17.13**	**49**	*eP*		**P**	**14 16 50.4**	**+1.8**
PLCA	**Paso Flores**	**18.01**	**184**	P		**Pn**	**14 17 00.8**	**+1.7**
	comp=Z,1.1nm,0.7s,baz=15,slow=9.0,SNR=3.5							
NPGB	**Novo Progresso**	**20.27**	**42**	*eP*		Pn	14 17 25.0	-0.7
BDFB	**Brasilia**	**20.84**	**74**	P		**P**	**14 17 29.3**	**+0.1**
BDFB				IAmb		IAmb	14 17 44.9	
	comp=Z,9.9nm,1.4s							
BDFB	**Brasilia**	**20.84**	**74**	P		**P**	**14 17 28.3**	**-0.8**
	comp=Z,3.0nm,0.5s,baz=234,slow=10,SNR=7.0							
	comp=Z,3.0nm,0.5s							
BOAV	**Boa Vista**	**26.25**	**19**	P		**P**	**14 18 22.5**	**+1.5**
BOAV				IAmb		IAmb	14 18 57.6	
	comp=Z,12nm,1.4s							
SNAA	**Sanae**	**61.09**	**161**	P		**P**	**14 22 58.1**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=271,slow=8.7,SNR=5.5							
	comp=Z,1.6nm,0.8s							
TXAR	**Lajitas Array**	**61.70**	**325**	P		**P**	**14 23 04.0**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=146,slow=12,SNR=1.6							
	comp=Z,0.1nm,0.5s							
QSPA	**South Pole Qui**	**67.47**	**180**	P		**P**	**14 23 41.7**	**+1.7**
	comp=Z,3.4nm,0.5s,baz=218,slow=0.7,SNR=18							
	comp=Z,3.4nm,0.5s							
PDAR	**Pinedale Array**	**75.23**	**330**	P		**P**	**14 24 27.7**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=152,slow=6.7,SNR=2.1							
	comp=Z,0.1nm,0.4s							
TORD	**Torodi Ar. Bea**	**77.67**	**70**	P		**P**	**14 24 41.6**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=260,slow=5.6,SNR=9.7							
	comp=Z,0.7nm,0.4s							
MAW	**Mawson**	**83.12**	**163**	P		**P**	**14 25 10.6**	**+1.1**
	comp=Z,2.9nm,1.1s,baz=116,slow=12,SNR=2.9							
	comp=Z,2.9nm,1.1s							
YKA	**Yellowknife Ar**	**92.38**	**341**	P		**P**	**14 25 54.9**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=134,slow=4.6,SNR=9.5							
	comp=Z,0.6nm,0.8s							
WRA	**Warramunga Arr**	**131.95**	**210**	PKP		**PKiKP**	**14 31 58.7**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=162,slow=1.8,SNR=7.7							
ZALV	**Zalesovo Beam**	**143.01**	**26**	PKP		PKPbc	14 32 15.2	+1.3
	comp=Z,0.4nm,0.4s,baz=343,slow=4.5,SNR=2.4							
MKAR	**Makanchi Array**	**146.56**	**37

IRAM	**Ramesheh**	**3.05**	**89**	Pn	**Pn**	**14 30 19.3**	**+2.5**
IZEF	**Zefreh**	**3.19**	**69**	Pn	**Pn**	**14 30 20.8**	**+2.2**
KRSH	**Karshahi**	**3.55**	**51**	Pn	**Pn**	**14 30 25.9**	**+2.3**
IQOM	**Qom**	**3.59**	**31**	Pn	**Pn**	**14 30 25.7**	**+1.5**
IRAZ	**Razeghan**	**3.73**	**14**	Pn	**Pn**	**14 30 27.7**	**+1.7**
ISFB	**Sefidab**	**3.86**	**48**	Pn	**Pn**	**14 30 29.4**	**+1.7**
IVRN	**Varamin**	**4.03**	**37**	Pn	**Pn**	**14 30 31.7**	**+1.6**
ISAD	**Sadrabad**	**4.16**	**87**	Pn	**Pn**	**14 30 34.0**	**+1.9**
ANAR	**Anarak**	**4.40**	**70**	Pn	**Pn**	**14 30 37.3**	**+2.1**
IDMV	**Damavand**	**4.64**	**35**	Pn	**Pn**	**14 30 39.6**	**+1.0**
IMEH	**Mehriz**	**4.98**	**93**	Pn	**Pn**	**14 30 45.2**	**+1.9**
IFIR	**Firoozkooh**	**5.06**	**40**	Pn	**Pn**	**14 30 45.7**	**+1.2**
MZPU	**Pul - Mazandar**	**5.17**	**26**	Pn	**Pn**	**14 30 48.4**	**+2.4**
NGRK	**Negar Kerman**	**7.16**	**105**	Pn	**Pn**	**14 31 15.6**	**+2.3**
SHME	**Shamm**	**8.61**	**130**	P	Pn	14 31 30.1	-2.8
MSFE	**Esma-Masafi**	**9.11**	**133**	P	Pn	14 31 36.8	-3.0
MSFE				S	**Sn**	**14 33 17.4**	**-4.4**
UOSS	**Minazif**	**9.44**	**134**	P	Pn	14 31 42.8	-1.5
HATD	**Hatta, Dubai**	**9.48**	**135**	P	Pn	14 31 43.3	-1.6
ASHO	**Ashiyiah**	**9.55**	**136**	P	Pn	14 31 44.3	-1.6
ASHO				S	**Sn**	**14 33 27.0**	**-5.6**
ALNE	**Al Ain**	**9.86**	**140**	P	Pn	14 31 49.8	-0.2

*IDC **10** 14:32:31.5±2.4,28°.34S×177°.12W,h0km,mb3.8/3, mbtmp3.8/3,Error ellipse: s-maj=65.3km s-min=24.5km az=121.0*
*NEIC **10** 14:32:35.3±2.5,28°.4S±0°.2×177°.1W±0°.4,h24km±13km, mb4.4/11,Error ellipse: s-maj=62.2km s-min=10.4km az=120.0*

ISC 10 14:32:32.1±1.1,28°.8S±0°.1×176°.5W±0°.1,h36km,n23, σ1§20/23,mb4.2/7,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.35**	**251**	Pn	**Pn**	**14 32 55.0**	**+0.6**
RAO	**Raoul Island**	**1.35**	**251**	Sn	**Sn**	**14 33 10.7**	**-0.3**
RAO	**Raoul Island**	**1.35**	**251**	Pn	**Pn**	**14 32 55.1**	**+0.7**
	141nm,0.3s,baz=279,slow=18,SNR=4.1						
RAO				Sn	**Sn**	**14 33 11.1**	**0.0**
	445nm,0.3s,baz=85,slow=22,SNR=7.9						
TUWZ	**Tuamarina**	**14.81**	**209**	Pn	**Pn**	**14 35 59.0**	**+0.2**
NNZ	**Nelson**	**14.89**	**211**	Pn	**P**	**14 36 03.0**	**-2.1**
BSWZ	**Blackbirch Sta**	**15.07**	**209**	Pn	**P**	**14 36 07.4**	**+0.2**
AFI	**Afiamalu**	**15.47**	**17**	Pn	**Pn**	**14 36 07.1**	**-0.6**
AMCZ	**Amberley**	**16.79**	**209**	Pn	**Pn**	**14 36 24.3**	**0.0**
ARMA	**Armidale**	**27.74**	**259**	P	**P**	**14 38 20.1**	**+2.6**
ARMA				IAmb	IAmb	14 39 02.8	
	comp=Z,11nm,0.8s						
EIDS	**Eidsvold**	**29.05**	**269**	P	**P**	**14 38 27.7**	**-1.4**
EIDS				IAmb	IAmb	14 39 11.1	
	comp=Z,11nm,1.2s						
HNR	**Honiara**	**29.38**	**306**	P	P	14 38 24.9	-7.0
CAN	**Canberra**	**29.88**	**249**	P	**P**	**14 38 38.5**	**+2.2**
STKA	**Stephens Creek**	**36.17**	**255**	P	**P**	**14 39 32.2**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=82,slow=9.3,SNR=3.0						
	comp=Z,1.0nm,0.5s						
AS31	**Alice Springs**	**44.56**	**265**	P	**P**	**14 40 41.0**	**+0.2**
ASAR	**Alice Springs**	**44.56**	**265**	P	**P**	**14 40 40.9**	**+0.1**
ASAR	**Alice Springs**	**44.56**	**265**	P	**P**	**14 40 41.0**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=105,slow=7.1,SNR=33						
	comp=Z,0.7nm,0.6s						
WR0	**Warramunga Arr**	**45.23**	**270**	P	**P**	**14 40 45.8**	**-0.3**
WR0				IAmb	IAmb	14 41 28.1	
	comp=Z,3.2nm,0.9s						
WRA	**Warramunga Arr**	**45.42**	**270**	P	**P**	**14 40 46.6**	**-1.0**
WRA	**Warramunga Arr**	**45.42**	**270**	P	**P**	**14 40 47.7**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=109,slow=7.8,SNR=11						
	comp=Z,0.4nm,0.4s						
WB0	**Warramunga Arr**	**45.43**	**270**	P	**P**	**14 40 46.0**	**-1.8**
WB0				IAmb	IAmb	14 41 29.7	
	comp=Z,5.7nm,0.8s						
JNU	**Nakatsue**	**79.30**	**317**	P	**P**	**14 44 33.7**	**-0.3**
HFS	**Hagfors**	**147.95**	**350**	PKPbc	**PKPab**	**14 52 15.9**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=23,slow=3.1,SNR=1.6						
AKASG	**Malin Array Be**	**150.82**	**326**	PKPbc	**PKiKP**	**14 52 23.1**	**+2.2**
	comp=Z,0.4nm,0.5s,baz=43,slow=3.7,SNR=4.9						

*IDC **10** 14:33:11.4±0.6,28°.58S×176°.83W,h0km,mb4.3/13, mbtmp4.2/13,MS4.0/4,Error ellipse: s-maj=26.8km s-min=15.1km az=143.0*
*NEIC **10** 14:33:15.9±2.1,28°.7S±0°.1×176°.7W±0°.1,h35km±2km, mb4.6/27,Error ellipse: s-maj=23.4km s-min=12.9km az=145.0*

ISC 10 14:33:16.1±0.4,28°.97S±0°.07×176°.71W±0°.07,h36km,n82, σ2§02/83,mb4.5/21,MS4.1/4,2C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.09**	**255**	Pn	**Pn**	**14 33 35.8**	**+0.9**
RAO	**Raoul Island**	**1.09**	**255**	Pn	**Pn**	**14 33 36.3**	**+1.4**
	898nm,0.3s,baz=108,slow=7.3,SNR=9.9						
RAO				LR	LR	14 33 51.7	
	comp=Z,1μm,20.4s,baz=114,slow=35						
RAO				Sn	**Sn**	**14 33 52.5**	**+3.7**
	4μm,0.3s,baz=82,slow=19,SNR=9.7						
URZ	**Urewera**	**10.60**	**207**	Pn	**Pn**	**14 35 44.1**	**-1.3**
	0.6nm,0.3s,baz=337,slow=7.1,SNR=6.4						
URZ				Sn	**Sn**	**14 37 43.8**	**+1.0**
	4.2nm,0.3s,baz=313,slow=22,SNR=7.1						
NIUE	**Niue**	**11.63**	**34**	Pn	Pn	14 35 51.5	-8.2
HIZ	**Hauiti**	**11.82**	**214**	Pn	**Pn**	**14 35 58.7**	**-3.4**
BFZ	**Birch Farm**	**13.03**	**204**	Pn	**Pn**	**14 36 14.7**	**-4.0**
OGWZ	**Otaki Gorge**	**13.56**	**207**	P	**Pn**	**14 36 24.4**	**-1.5**
TCW	**Tory Channel**	**14.26**	**209**	Pn	**Pn**	**14 36 34.0**	**-1.4**
TUWZ	**Tuamarina**	**14.58**	**209**	P	**Pn**	**14 36 39.9**	**+0.1**
NNZ	**Nelson**	**14.65**	**211**	P	**Pn**	**14 36 42.5**	**+1.8**
TKNZ	**Takaka Hill**	**14.70**	**212**	Pn	**Pn**	**14 36 39.6**	**-1.8**
TKNZ	**Takaka Hill**	**14.70**	**212**	P	**Pn**	**14 36 40.5**	**-0.9**
QRZ	**Quartz Range**	**14.74**	**214**	P	**Pn**	**14 36 42.0**	**0.0**
MRNZ	**Matariki Terra**	**15.08**	**212**	Pn	**Pn**	**14 36 44.7**	**-1.8**
MRNZ	**Matariki Terra**	**15.08**	**212**	P	**Pn**	**14 36 46.3**	**-0.2**
THZ	**Tophouse**	**15.30**	**211**	Pn	**Pn**	**14 36 46.8**	**-2.7**
THZ				IAmb	IAmb	14 37 01.0	
	comp=Z,54nm,1.4s						
THZ	**Tophouse**	**15.30**	**211**	P	**Pn**	**14 36 49.2**	**-0.2**
KHZ	**Kahutara**	**15.56**	**208**	Pn	**Pn**	**14 36 49.8**	**-2.9**
KHZ				IAmb	IAmb	14 37 24.5	
	comp=Z,60nm,1.3s						
KHZ	**Kahutara**	**15.56**	**208**	P	**Pn**	**14 36 49.9**	**-2.8**
DSZ	**Denniston Nort**	**15.80**	**213**	P	**Pn**	**14 36 54.6**	**-1.2**
GVZ	**Greta Valley S**	**16.23**	**208**	P	**Pn**	**14 36 58.9**	**-2.4**
LTZ	**Lake Taylor**	**16.40**	**210**	P	**Pn**	**14 37 02.4**	**-1.1**
DZM	**Mont Dzumac**	**16.68**	**290**		**Pn**	**14 37 07.0**	**-0.2**
DZM	**Mont Dzumac**	**16.68**	**290**	*e*P	**Pn**	**14 37 07.5**	**+0.3**
	comp=Z,63nm,1.4s						
DZM				*e*LR	LR	14 40 43.2	
	comp=Z,1μm,23.4s						
DZM	**Mont Dzumac**	**16.68**	**290**	Pn	**P**	**14 37 11.3**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=52,slow=14,SNR=5.3						
DZM				LR	LR	14 42 29.1	
	comp=Z,1μm,18.4s,baz=104,slow=34						
OXZ	**Oxford**	**16.94**	**209**		**Pn**	**14 37 07.0**	**-3.3**
OXZ				IAmb	IAmb	14 37 14.9	
	comp=Z,32nm,0.8s						
RAR	**Rarotonga**	**17.16**	**67**	Pn	**Pn**	**14 37 09.3**	**-3.9**
RAR				IAmb	IAmb	14 37 16.0	
	comp=Z,63nm,1.2s						
RPZ	**Rata Peaks**	**17.68**	**210**	P	**Pn**	**14 37 19.7**	**+0.2**
	comp=Z,6.8nm,0.6s,baz=34,slow=13,SNR=2.9						
RPZ				S	**Sn**	**14 40 25.0**	**-10**
	comp=Z,4.8nm,0.5s,baz=187,slow=18,SNR=2.5						
ODZ	**Otahua Downs**	**18.92**	**209**	P	**P**	**14 37 32.5**	**-1.2**
ODZ				IAmb	IAmb	14 37 48.9	
	comp=Z,28nm,1.3s						
HNR	**Honiara**	**29.28**	**307**	LR	LR	14 50 15.4	
	comp=Z,3μm,18.2s,baz=170,slow=35						
CAN	**Canberra**	**29.62**	**249**	P	**P**	**14 39 19.2**	**+1.1**
CAN				IAmb	IAmb	14 39 37.2	
	comp=Z,13nm,1.1s						
CTA	**Charters Tower**	**34.72**	**276**	P	**P**	**14 40 03.4**	**+0.5**
	comp=Z,5.4nm,0.5s,baz=110,slow=10.0,SNR=7.4						
	comp=Z,5.4nm,0.5s						
CTAO	**Charters Tower**	**34.72**	**276**	P	**P**	**14 40 01.4**	**-1.5**
CTAO				IAmb	IAmb	14 40 33.9	
	comp=Z,26nm,1.4s						
STKA	**Stephens Creek**	**35.91**	**255**	P	**P**	**14 40 11.7**	**-1.4**
STKA	**Stephens Creek**	**35.91**	**255**	P	**P**	**14 40 13.7**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=90,slow=12,SNR=7.9						
	comp=Z,4.0nm,0.8s						
PMG	**Port Moresby**	**39.05**	**293**	P	**P**	**14 40 38.3**	**-1.4**
PMG				IAmb	IAmb	14 40 55.2	
	comp=Z,15nm,1.1s						
PMG	**Port Moresby**	**39.05**	**293**	LR	LR	14 54 11.6	
	comp=Z,300nm,20.3s,baz=118,slow=32						
TAOE	**Nuku Hiva Isla**	**39.72**	**67**	*e*S	S	14 46 36.2	-11
	comp=Z,40nm,22.8s						
TAOE				*e*LR	LR	14 51 20.5	
	comp=Z,377nm,26.0s						
BBOO	**Buckleboo**	**40.45**	**252**	P	**P**	**14 40 50.5**	**-0.8**
PTCN	**Pitcairn Islan**	**41.51**	**96**	P	**P**	**14 41 00.0**	**0.0**
AS31	**Alice Springs**	**44.33**	**265**	P	**P**	**14 41 22.1**	**-0.8**
ASAR	**Alice Springs**	**44.33**	**265**	P	**P**	**14 41 21.9**	**-1.1**
ASAR	**Alice Springs**	**44.33**	**265**	P	**P**	**14 41 22.2**	**-0.7**
	comp=Z,3.3nm,0.6s,baz=97,slow=6.8,SNR=23						
ASAR				PcP	**PcP**	**14 43 07.8**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=116,slow=3.6,SNR=4.1						
	comp=Z,3.3nm,0.6s						
WR0	**Warramunga Arr**	**45.01**	**270**	P	**P**	**14 41 27.4**	**-0.9**
WR0				IAmb	IAmb	14 41 38.8	
	comp=Z,7.5nm,0.9s						
WRAB	**Tennant Creek**	**45.19**	**270**	P	**P**	**14 41 27.9**	**-1.9**
WRAB				IAmb	IAmb	14 41 40.1	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**45.19**	**270**	P	**P**	**14 41 28.7**	**-1.1**
WRA	**Warramunga Arr**	**45.19**	**270**	P	**P**	**14 41 28.9**	**-0.9**
	comp=Z,6.8nm,1.0s,baz=108,slow=7.8,SNR=16						
WRA				PcP	**PcP**	**14 43 10.2**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=114,slow=3.3,SNR=6.0						
	comp=Z,6.8nm,1.0s						
WB0	**Warramunga Arr**	**45.21**	**270**	P	**P**	**14 41 28.8**	**-1.1**
WB0				IAmb	IAmb	14 41 40.2	
	comp=Z,10nm,0.9s						
VNDA	**Vanda**	**49.63**	**186**	P	**P**	**14 42 03.7**	**+0.1**
VNDA				IAmb	IAmb	14 42 19.9	
	comp=Z,5.7nm,1.2s						
MTN	**Manton Dam**	**50.90**	**277**	P	**P**	**14 42 12.7**	**-1.2**
MTN				IAmb	IAmb	14 42 24.2	
	comp=Z,24nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.51**	**268**	P	**P**	**14 42 32.5**	**-0.8**
NWAO	**Narrogin (SRO)**	**55.96**	**248**	LR	LR	15 06 45.1	
	comp=Z,124nm,18.1s,baz=195,slow=36						
CASY	**Casey**	**56.92**	**207**	P	**P**	**14 42 57.7**	**+0.4**
CASY				IAmb	IAmb	14 43 10.1	
	comp=Z,12nm,0.8s						
MBWA	**Marble Bar**	**57.51**	**262**	P	**P**	**14 43 00.7**	**-1.5**
MORW	**Morawa**	**58.02**	**252**	P	**P**	**14 43 04.4**	**-1.3**
QSPA	**South Pole Qui**	**61.14**	**180**	P	**P**	**14 43 30.0**	**+3.3**
DAV	**Davao City (W)**	**66.07**	**293**	LR	LR	15 12 55.3	
	comp=Z,30nm,18.3s,baz=26,slow=36						
UGM	**Wanagama**	**71.15**	**271**	P	**P**	**14 44 30.6**	**-1.0**
MAW	**Mawson**	**74.03**	**200**	P	**P**	**14 44 50.8**	**+3.0**
MAW				IAmb	IAmb	14 45 05.3	
	comp=Z,6.5nm,1.4s						
MAW	**Mawson**	**74.03**	**200**	P	**P**	**14 44 50.2**	**+2.4**
	comp=Z,2.3nm,0.6s,baz=147,slow=8.2,SNR=8.3						
	comp=Z,2.3nm,0.6s						
MJAR	**Matsushiro Arr**	**77.72**	**324**	P	**P**	**14 45 08.2**	**-1.0**
	comp=Z,2.5nm,0.9s,baz=164,slow=5.1,SNR=4.4						
	comp=Z,2.5nm,0.9s						
SNAA	**Sanae**	**79.55**	**178**	P	**P**	**14 45 21.0**	**+2.1**
	comp=Z,1.7nm,0.9s,baz=307,slow=3.2,SNR=2.6						
	comp=Z,1.7nm,0.9s						
VNA3	**Neumayer Olymp**	**79.65**	**176**	⇑P	**P**	**14 45 21.2**	**+1.7**
VNA2	**Neumayer--Watz**	**80.10**	**176**	⇑P	**P**	**14 45 24.3**	**+2.5**
	baz=181,slow=4.0						
PEA0B	**Petropavlovsk-**	**84.72**	**345**	P	**P**	**14 45 45.6**	**-0.4**
PETK	**Petropavlovsk-**	**84.72**	**345**	P	**P**	**14 45 45.4**	**-0.6**
	comp=Z,9.1nm,0.9s,baz=129,slow=3.6,SNR=6.3						
	comp=Z,9.1nm,0.8s						
NVAR	**Mina Array Bea**	**86.43**	**42**	P	**P**	**14 45 56.2**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=206,slow=6.4,SNR=4.9						
	comp=Z,0.7nm,0.8s						
TXAR	**Lajitas Array**	**90.67**	**57**	P	**P**	**14 46 16.2**	**+0.9**
	comp=Z,0.8nm,1.1s,baz=206,slow=8.3,SNR=3.9						
	comp=Z,0.8nm,1.1s						
CMAR	**Chiang Mai Arr**	**94.00**	**289**	P	**P**	**14 46 31.4**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=193,slow=3.7,SNR=1.5						
	comp=Z,0.5nm,0.4s						
PDAR	**Pinedale Array**	**94.33**	**43**	P	**P**	**14 46 32.7**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=256,slow=3.6,SNR=1.7						
	comp=Z,0.1nm,0.5s						
ILAR	**Eielson Array**	**96.29**	**12**	P	**P**	**14 46 40.0**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=207,slow=5.8,SNR=1.7						
	comp=Z,0.2nm,0.7s						
MKAR	**Makanchi Array**	**117.71**	**310**	PKP	**PKPdf**	**14 51 57.6**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=196,slow=1.0,SNR=5.9						
KURBB	**Kurchatov Arra**	**120.91**	**314**	PKP	**PKPdf**	**14 52 03.7**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=113,slow=1.8,SNR=8.8						
BVAR	**Borovoye Array**	**126.15**	**316**	PKP	**PKPdf**	**14 52 14.2**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=114,slow=3.0,SNR=5.5						
FINES	**FINESS Array B**	**144.17**	**341**	PKP	**PKPab**	**14 52 44.9**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=63,slow=3.6,SNR=6.6						
NB2	**NORSAR Subarra1**	**147.49**	**353**	PKP	**PKPbc**	**14 52 55.1**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=38,slow=4.3						
NOA	**NORSAR Array B**	**147.49**	**353**	PKPbc	**PKPbc**	**14 52 55.0**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=14,slow=4.4,SNR=5.0						
HFS	**Hagfors**	**148.05**	**350**	PKPbc	**PKPbc**	**14 52 56.2**	**-1.0**
	comp=Z,4.6nm,0.7s,baz=85,slow=3.1,SNR=8.1						
AKASG	**Malin Array Be**	**150.81**	**325**	PKPbc	**PKPbc**	**14 53 03.9**	**-0.4**
	comp=Z,4.2nm,0.7s,baz=42,slow=3.2,SNR=12						
MMAI	**Mount Meron Ar**	**152.24**	**286**	PKPbc	**PKiKP**	**14 53 09.6**	**+0.9**
	comp=Z,3.6nm,0.5s,baz=84,slow=7.6,SNR=8.6						
MMAI				PKPab	**PKPab**	**14 53 17.2**	**-1.0**
	comp=Z,8.4nm,0.8s,baz=79,slow=5.2,SNR=7.2						
BRTR	**Keskin Array B**	**152.86**	**301**	PKPbc	**PKPbc**	**14 53 09.4**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=145,slow=5.4,SNR=4.7						
BRTR				PKPab	**pPKPbc**	**14 53 18.6**	**-1.3**
TORD	**Torodi Ar. Bea**	**164.19**	**174**	PKPab	**PKPab**	**14 54 13.7**	**+3.8**
	comp=Z,0.7nm,0.9s,baz=197,slow=4.7,SNR=2.4						

*IDC **10** 14:37:54.5±1.2,29°.85S×176°.38W,h0km,mb4.1/6, mbtmp4.1/7,ML3.8/1,Error ellipse: s-maj=49.5km s-min=25.2km az=173.0*
*NEIC **10** 14:37:57.6±1.3,30°.2S±0°.1×176°.9W±0°.2,h10km±1km, mb4.3/7,Error ellipse: s-maj=33.1km s-min=15.5km az=73.0*

ISC 10 14:37:59.2±0.8,30°.21S±0°.09×176°.9W±0°.1,h24km,n32, σ1§14/29,mb4.2/10,4C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.28**	**318**		**Pn**	**14 38 21.3**	**-0.3**
RAO	**Raoul Island**	**1.28**	**318**	Pn	**Pn**	**14 38 21.9**	**+0.3**
	779nm,0.3s,baz=96,slow=7.0,SNR=8.4						
RAO				Sn	**Sn**	**14 38 37.9**	**-0.1**
	2μm,0.3s,baz=65,slow=23,SNR=11						
KHZ	**Kahutara**	**14.39**	**210**	Pn	**Pn**	**14 41 19.6**	**-1.7**
INZ	**Inchbonnie**	**15.58**	**214**		**P**	**14 41 42.9**	**+1.6**
INZ				IAmb	IAmb	14 41 53.7	
	comp=Z,36nm,1.3s						
OXZ	**Oxford**	**15.78**	**211**	Pn	**Pn**	**14 41 37.6**	**-2.1**
OXZ				IAmb	IAmb	14 42 09.2	
	comp=Z,24nm,1.1s						
DZM	**Mont Dzumac**	**16.97**	**295**	P	**P**	**14 41 58.1**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=105,slow=17,SNR=2.4						
	comp=Z,2.7nm,0.6s						
KOUNC	**Koumac, New Ca**	**19.48**	**295**	P	**P**	**14 42 24.6**	**+0.1**
KOUNC				IAmb	IAmb	14 43 07.5	
	comp=Z,26nm,1.3s						
STKA	**Stephens Creek**	**35.42**	**256**	P	**P**	**14 44 52.6**	**-0.8**
STKA	**Stephens Creek**	**35.42**	**256**	P	P	14 44 57.7	+4.3
	comp=Z,1.4nm,0.7s,baz=108,slow=11,SNR=3.2						
	comp=Z,1.4nm,0.7s						
AS31	**Alice Springs**	**44.04**	**266**	P	**P**	**14 46 05.1**	**-0.2**
AS31				IAmb	IAmb	14 46 20.4	
	comp=Z,1.5nm,1.1s						
ASAR	**Alice Springs**	**44.04**	**266**	P	**P**	**14 46 04.6**	**-0.7**
ASAR	**Alice Springs**	**44.04**	**266**	P	**P**	**14 46 07.8**	**+2.5**
	comp=Z,1.2nm,0.5s,baz=97,slow=7.1,SNR=14						
	comp=Z,1.2nm,0.5s						
SBA	**Scott Base**	**48.30**	**185**	P	**P**	**14 46 38.5**	**+0.4**
MAW	**Mawson**	**72.81**	**200**	P	**P**	**14 49 26.7**	**+1.4**
MAW				IAmb	IAmb	14 49 36.9	
	comp=Z,3.0nm,1.4s						
TROLL	**Troll, Antarti**	**78.06**	**180**	⇑P	P	14 50 05.2	+10
	comp=Z,31nm,0.2s						
SNAA	**Sanae**	**78.32**	**178**	⇑P	P	14 50 05.5	+8.6
	comp=Z,26nm,0.8s						
VNA3	**Neumayer Olymp**	**78.43**	**176**	⇑P	P	14 50 06.5	+8.9
	comp=Z,3.8nm,0.7s						
MJAR	**Matsushiro Arr**	**78.61**	**325**	P	**P**	**14 49 58.6**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=165,slow=5.8,SNR=6.2						
	comp=Z,2.2nm,0.6s						
VNA2	**Neumayer--Watz**	**78.88**	**177**	⇑P	P	14 50 09.4	+9.5
	comp=Z,3.6nm,0.8s,baz=188,slow=5.0						

KSRS	**Korea Array**	**84.80**	**319**	P	**P**	**14 50 32.3**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=140,slow=5.7,SNR=2.1						
	comp=Z,1.4nm,0.9s						
NVAR	**Mina Array Bea**	**87.47**	**42**	P	P	14 50 41.0	-4.0
	comp=Z,0.8nm,0.8s,baz=220,slow=8.3,SNR=4.3						
	comp=Z,0.8nm,0.8s						
USRK	**Usuriysk Ar.**	**87.51**	**326**	P	**P**	**14 50 43.7**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=125,slow=12,SNR=4.9						
	comp=Z,1.7nm,0.7s						
MKAR	**Makanchi Array**	**118.35**	**310**	PKP	**PKiKP**	**14 56 44.7**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=206,slow=1.1,SNR=2.3						
KURBB	**Kurchatov Arra**	**121.62**	**314**	PKP	**PKPdf**	**14 56 49.3**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=103,slow=1.9,SNR=5.3						
BVAR	**Borovoye Array**	**126.91**	**316**	PKP	**PKPdf**	**14 57 00.2**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=170,slow=0.9,SNR=3.4						
FINES	**FINESS Array B**	**145.27**	**341**	PKPbc	**PKPbc**	**14 57 32.8**	**-1.1**
	comp=Z,2.8nm,0.8s,baz=72,slow=4.5,SNR=4.9						
NB2	**NORSAR Subarra1**	**148.69**	**352**	PKP	**PKPdf**	**14 57 40.5**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=15,slow=4.4						
NOA	**NORSAR Array B**	**148.69**	**352**	PKPbc	**PKPdf**	**14 57 40.4**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=2.2,slow=2.2,SNR=1.2						
HFS	**Hagfors**	**149.23**	**350**	PKPbc	**PKPbc**	**14 57 43.9**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=82,slow=3.1,SNR=7.7						
AKASG	**Malin Array Be**	**151.70**	**324**	PKPbc	**PKPbc**	**14 57 49.6**	**-1.6**
	comp=Z,1.8nm,0.7s,baz=43,slow=2.5,SNR=8.5						
AKASG				PKPab	**pPKPbc**	**14 57 58.3**	**+0.9**
	comp=Z,2.7nm,0.6s,baz=43,slow=3.0,SNR=10						
MMAI	**Mount Meron Ar**	**152.38**	**284**	PKPab	**PKPab**	**14 58 04.4**	**+0.7**
	comp=Z,5.5nm,0.6s,baz=69,slow=5.4,SNR=9.7						
BRTR	**Keskin Array B**	**153.31**	**299**	PKPbc	**PKiKP**	**14 57 56.5**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=41,slow=4.0,SNR=2.1						
BRTR				PKPab	**sPKPbc**	**14 58 05.2**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=113,slow=3.7,SNR=5.6						

*IDC **10** 14:42:57.6±0.8,7°.21S×131°.12E,h0km,mb4.2/9, mbtmp4.3/12,ML4.6/3,Error ellipse: s-maj=34.1km s-min=18.5km az=71.0*
*NEIC **10** 14:43:07.4±1.6,7°.7S±0°.1×131°.0E±0°.1,h84km±8km, mb4.6/27,Error ellipse: s-maj=15.4km s-min=14.9km az=81.0*

ISC 10 14:43:08.0±0.5,7°.73S±0°.06×130°.95E±0°.07,h100km,n72, σ1§56/75,mb4.4/22,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**0.43**	**127**		**Pn**	**14 43 21.9**	**-1.4**
SAUI	**Saumlaki**	**0.43**	**127**	P	**Pn**	**14 43 22.2**	**-1.2**
BNDI	**Bandanaira**	**3.35**	**342**	P	**Pn**	**14 43 55.2**	**-3.3**
MTN	**Manton Dam**	**5.09**	**178**		**Pn**	**14 44 23.7**	**+1.7**
MTN	**Manton Dam**	**5.09**	**178**	P	**Pn**	**14 44 25.8**	**+3.8**
KDU	**Kakadu**	**5.15**	**163**	P	**Pn**	**14 44 25.0**	**+2.1**
SOEI	**Soe**	**6.91**	**253**		**Pn**	**14 44 47.2**	**+0.4**
SOEI	**Soe**	**6.91**	**253**	P	**Pn**	**14 44 47.7**	**+0.8**
BATI	**Baumata**	**7.61**	**251**	Pn	**Pn**	**14 44 56.1**	**-0.2**
	13nm,0.3s,baz=106,slow=3.0,SNR=20				

G18K	**Tagagawik**	**89.15**	**23**	P	**P**	**14 55 52.5**	**+0.4**
G18K				IAmb	IAmb	14 56 33.9	
	comp=Z,5.6nm,1.3s						
G19K	**Purcell Mounta**	**89.84**	**23**	P	**P**	**14 55 56.0**	**+0.7**
G19K				IAmb	IAmb	14 55 57.9	
	comp=Z,5.0nm,1.1s						
C19K	**Lookout Ridge**	**89.99**	**20**	P	**P**	**14 55 56.9**	**+0.9**
C19K				IAmb	IAmb	14 56 36.5	
	comp=Z,10nm,1.5s						
ILAR	**Eielson Array**	**93.59**	**25**	P	**P**	**14 56 12.2**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=242,slow=5.2,SNR=7.2						
	comp=Z,0.3nm,0.7s						
TXAR	**Lajitas Array**	**124.48**	**60**	PKP	**PKiKP**	**15 02 00.0**	**+3.3**
	comp=Z,0.2nm,0.4s,baz=183,slow=3.3,SNR=7.9						
TORD	**Torodi Ar. Bea**	**129.88**	**281**	PKP	**PKiKP**	**15 02 10.0**	**+2.3**
	comp=Z,0.8nm,0.6s,baz=262,slow=0.6,SNR=5.7						
CPUP	**Villa Florida**	**145.21**	**167**	PKPbc	**PKiKP**	**15 02 37.4**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=182,slow=5.2,SNR=4.2						

*IDC **10** 15:15:57.9±3.7, 31°.45S×179°.88W, h324km±33km, mb3.2/5, mbtmp4.0/8, Error ellipse: s-maj=32.0km s-min=18.4km az=38.0*
*WEL **10** 15:16:03.8±0.5, 32°.5S×17°.9E±°, h33km, M4.3/37, mB4.9/23, ML5.0/40, MLv5.0/37, Mw(mB)4.2/23, Error ellipse: s-maj=0.0km s-min=0.0km az=111.1, confirmed*
*NOU **10** 15:16:34.8, 34°.12S×178°.05E, h305km, MLv4.4/10, South of Kermadec Islands*

ISC 10 15:15:59.5±0.6, 31°.67S±0°.07×179°.7W±0°.1, h350km, n88, σ2s20/114, mb3.9/8, 4C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
GLKZ	**Green Lake**	**2.84**	**33**	P			**Pn**	**15 16 56.1**	**-1.4**
GLKZ				S			**S**	**15 17 38.1**	**-6.0**
MXZ	**Matakaoa Point**	**6.11**	**195**	P			**Pn**	**15 17 35.2**	**+3.7**
MXZ	**Matakaoa Point**	**6.11**	**195**	P			**Pn**	**15 17 35.0**	**+3.6**
WMGZ	**Waiomatatini S**	**6.33**	**194**	P			**Pn**	**15 17 34.5**	**+0.5**
WMGZ				S			**S**	**15 18 49.6**	**-1.2**
HAZ	**Te Kaha**	**6.42**	**198**	P			**Pn**	**15 17 34.9**	**-0.2**
HAZ				S			**S**	**15 18 49.1**	**-3.5**
PKGZ	**Pakihiroa**	**6.47**	**196**	P			**Pn**	**15 17 35.6**	**-0.1**
PKGZ				S			**S**	**15 18 52.9**	**-1.0**
PUZ	**Puketiti**	**6.61**	**194**	P			**Pn**	**15 17 36.9**	**-0.4**
PUZ				S			**S**	**15 18 52.9**	**-3.8**
RUGZ	**Raukumara Rang**	**6.65**	**198**	P			**Pn**	**15 17 38.4**	**+0.6**
RUGZ				S			**S**	**15 18 53.4**	**-4.2**
OUZ	**Omahuta**	**6.65**	**236**	P			**Pn**	**15 17 39.4**	**+1.7**
TWGZ	**Tauwhareparae**	**6.77**	**196**	P			**Pn**	**15 17 42.8**	**+3.6**
TWGZ				S			**S**	**15 18 58.1**	**-2.1**
OPRZ	**Ohinepanea**	**6.90**	**206**	P			**Pn**	**15 17 44.5**	**+3.9**
MARZ	**Manawahe**	**6.98**	**205**	P			**Pn**	**15 17 45.5**	**+4.0**
CNGZ	**Carnagh Statio**	**7.02**	**194**	P			**Pn**	**15 17 42.5**	**+0.6**
MWZ	**Matawai**	**7.03**	**198**	P			**Pn**	**15 17 42.2**	**-0.1**
MWZ				S			**S**	**15 19 03.1**	**-2.7**
TKGZ	**Te Karaka**	**7.05**	**196**	P			**Pn**	**15 17 41.1**	**-1.3**
TKGZ				S			**S**	**15 19 04.1**	**-1.9**
URZ	**Urewera**	**7.08**	**201**	P			**Pn**	**15 17 43.0**	**+0.3**
URZ	**Urewera**	**7.08**	**201**	P			**Pn**	**15 17 41.6**	**-1.1**
	9.5nm,0.3s,baz=336,slow=9.6,SNR=29								
URZ				S			**S**	**15 19 02.4**	**-4.3**
	73nm,0.4s,baz=102,slow=18,SNR=25								
URZ	**Urewera**	**7.08**	**201**	P			**Pn**	**15 17 41.8**	**-0.9**
URZ				S			**S**	**15 19 05.1**	**-1.6**
RIGZ	**Rimuhau**	**7.33**	**196**	P			**Pn**	**15 17 44.9**	**-0.8**
RIGZ				S			**S**	**15 19 09.4**	**-2.7**
MUGZ	**Murupara**	**7.39**	**202**	P			**Pn**	**15 17 46.4**	**0.0**
MUGZ				S			**S**	**15 19 09.8**	**-3.6**
RTZ	**Ruatahuna**	**7.45**	**201**	P			**Pn**	**15 17 48.1**	**+0.9**
RTZ				S			**S**	**15 19 10.6**	**-4.1**
HRRZ	**Handcock Road**	**7.48**	**205**	P			**Pn**	**15 17 50.9**	**+3.5**
SNGZ	**Shannon Statio**	**7.50**	**198**	P			**Pn**	**15 17 46.9**	**-0.8**
SNGZ				S			**S**	**15 19 13.8**	**-2.1**
PRGZ	**Paritu Road**	**7.51**	**195**	P			**Pn**	**15 17 48.7**	**+0.9**
WPRZ	**Whakapapatarin**	**7.64**	**205**	P			**Pn**	**15 17 53.0**	**+3.7**
KNZ	**Kokohu**	**7.65**	**196**	P			**Pn**	**15 17 48.0**	**-1.3**
KNZ				S			**S**	**15 19 15.8**	**-3.0**
RAHZ	**Arahi**	**7.70**	**199**	P			**Pn**	**15 17 50.9**	**+0.9**
RAHZ				S			**S**	**15 19 16.8**	**-3.2**
MTHZ	**Maungataniwha**	**7.71**	**201**	P			**Pn**	**15 17 52.7**	**+2.5**
MTHZ				S			**S**	**15 19 18.4**	**-1.9**
TLZ	**Tolley Road**	**7.72**	**209**	P			**Pn**	**15 17 54.6**	**+4.4**
MHGZ	**Mahia Peninsul**	**7.72**	**194**	P			**Pn**	**15 17 52.6**	**+2.3**
MHGZ				S			**S**	**15 19 18.7**	**-1.8**
KUTZ	**Kaahu Road**	**7.74**	**207**	P			**Pn**	**15 17 54.1**	**+3.6**
WHHZ	**Waihua**	**7.81**	**198**	P			**Pn**	**15 17 52.6**	**+1.3**
MRHZ	**Matea Rd**	**7.83**	**203**	P			**Pn**	**15 17 52.3**	**+0.7**
MRHZ				S			**S**	**15 19 19.3**	**-3.6**
NMHZ	**Naumai**	**7.95**	**200**	P			**Pn**	**15 17 55.2**	**+2.2**
NMHZ				S			**S**	**15 19 22.2**	**-3.3**
ARHZ	**Aropaoanui**	**8.05**	**199**	P			**Pn**	**15 17 55.2**	**+1.1**
ARHZ				S			**S**	**15 19 26.9**	**-0.7**
BKZ	**Black Stump Fm**	**8.11**	**202**	P			**Pn**	**15 17 55.4**	**+0.5**
BKZ	**Black Stump Fm**	**8.11**	**202**	P			**Pn**	**15 17 55.7**	**+0.9**
BKZ				S			**S**	**15 19 25.4**	**-3.6**
HIZ	**Hauiti**	**8.17**	**212**	P			**P**	**15 18 00.4**	**+1.9**
MCHZ	**McNeill Hill**	**8.30**	**200**	P			**Pn**	**15 17 59.2**	**+2.1**
MCHZ				S			**S**	**15 19 31.5**	**-1.6**
TMVZ	**Te Maari**	**8.33**	**206**	P			**Pn**	**15 17 59.6**	**+2.0**
ETVZ	**East Tongariro**	**8.35**	**206**	P			**Pn**	**15 17 59.5**	**+1.7**
KWHZ	**Kaweka Forest**	**8.37**	**201**	P			**Pn**	**15 17 59.2**	**+1.3**
KWHZ				S			**S**	**15 19 32.0**	**-2.6**
WTVZ	**West Tongariro**	**8.37**	**206**	P			**Pn**	**15 17 59.9**	**+1.8**
NNVZ	**North Ngauruho**	**8.38**	**206**	P			**Pn**	**15 18 00.5**	**+2.3**
TWVZ	**Taurewa**	**8.39**	**207**	P			**Pn**	**15 18 00.4**	**+2.1**
CKHZ	**Cape Kidnapper**	**8.40**	**197**	P			**Pn**	**15 17 59.2**	**+1.0**
CKHZ				S			**S**	**15 19 31.2**	**-3.9**
SNVZ	**South Ngauruho**	**8.42**	**206**	P			**Pn**	**15 18 00.5**	**+1.8**
NGZ	**Ngauruhoe**	**8.42**	**206**	P			**Pn**	**15 18 00.4**	**+1.7**
TUVZ	**Tukino**	**8.48**	**205**	P			**Pn**	**15 18 00.8**	**+1.4**
BHHZ	**Black Hill Sta**	**8.54**	**203**	P			**Pn**	**15 17 59.8**	**-0.2**
WNVZ	**Wahianoa**	**8.56**	**205**	P			**Pn**	**15 18 00.9**	**+0.5**
MOVZ	**Moawhango**	**8.57**	**205**	P			**Pn**	**15 18 00.4**	**0.0**
KAHZ	**Kahuranaki**	**8.58**	**198**	P			**Pn**	**15 17 59.8**	**-0.6**
KRHZ	**Kereru**	**8.58**	**201**	P			**Pn**	**15 18 00.4**	**-0.1**
VRZ	**Vera Road**	**8.71**	**210**	P			**P**	**15 18 05.2**	**+0.6**
PXZ	**Pawanui**	**8.80**	**198**	P			**Pn**	**15 18 01.5**	**-1.6**
PNHZ	**Pukenui**	**8.88**	**201**	P			**Pn**	**15 18 03.3**	**-0.8**
WPHZ	**Waipukurau**	**8.95**	**200**	P			**Pn**	**15 18 05.5**	**+0.7**
DVHZ	**Dannevirke**	**9.25**	**200**	P			**Pn**	**15 18 08.3**	**-0.1**
BFZ	**Birch Farm**	**9.58**	**199**	P			**Pn**	**15 18 12.6**	**+0.3**
SNZO	**South Karori**	**10.63**	**204**	P			**Pn**	**15 18 24.8**	**0.0**
QRZ	**Quartz Range**	**11.09**	**212**	P			**Pn**	**15 18 28.6**	**-1.7**
KHZ	**Kahutara**	**12.01**	**205**	P			**P**	**15 18 38.9**	**-2.2**
RPZ	**Rata Peaks**	**14.08**	**209**	P			**P**	**15 19 03.9**	**0.0**
	6.9nm,0.9s,baz=18,slow=3.2,SNR=1.9								
RPZ				S			S	15 21 29.0	-7.7
	9.6nm,0.5s,baz=335,slow=19,SNR=12								
ODZ	**Otahua Downs**	**15.35**	**207**	P			**Pn**	**15 19 21.3**	**+1.1**
JCZ	**Jackson Bay**	**15.36**	**213**	P			**P**	**15 19 19.9**	**+1.9**
DZM	**Mont Dzumac**	**15.64**	**304**	P			**P**	**15 19 19.2**	**-2.1**
	2.5nm,0.6s,baz=139,slow=19,SNR=2.3								
STKA	**Stephens Creek**	**32.81**	**259**	P			**P**	**15 22 02.0**	**+0.5**
	0.9nm,0.4s,baz=90,slow=11,SNR=8.3								
	0.9nm,0.4s								
ASAR	**Alice Springs**	**41.63**	**269**	P			**P**	**15 23 13.9**	**-1.1**
	0.3nm,0.5s,baz=107,slow=7.4,SNR=16								
	0.3nm,0.5s								
WRA	**Warramunga Arr**	**42.74**	**274**	P			**P**	**15 23 22.4**	**-1.4**
	0.5nm,0.3s,baz=111,slow=8.1,SNR=24								
	0.5nm,0.3s								
SNAA	**Sanae**	**76.92**	**179**	⇑P			**P**	**15 27 15.8**	**+2.2**
	comp=Z,34nm,0.8s								
SNAA	**Sanae**	**76.92**	**179**	P			**P**	**15 27 15.9**	**+2.4**
	comp=Z,0.8nm,0.5s,baz=180,slow=15,SNR=5.8								
	comp=Z,0.8nm,0.5s								
VNA3	**Neumayer Olymp**	**77.13**	**177**	⇑P			**P**	**15 27 17.0**	**+2.4**
	comp=Z,12nm,0.9s								
VNA2	**Neumayer--Watz**	**77.55**	**177**	⇑P			**P**	**15 27 19.6**	**+2.6**
	comp=Z,5.4nm,0.6s,baz=183,slow=4.0								
VNA1	**Neumayer--Stat**	**77.78**	**177**	⇑P			**P**	**15 27 21.1**	**+2.9**
	comp=Z,7.8nm,0.9s								
PLCA	**Paso Flores**	**82.68**	**134**	P			**P**	**15 27 48.6**	**+3.8**
	comp=Z,2.3nm,0.8s,baz=266,slow=5.9,SNR=4.7								
	comp=Z,2.3nm,0.8s								
MKAR	**Makanchi Array**	**117.49**	**310**	PKP		**PKPdf**		**15 34 03.7**	**0.0**
	comp=Z,0.3nm,0.6s,baz=90,slow=1.4,SNR=3.7								
KURBB	**Kurchatov Arra**	**120.92**	**313**	PKP		**PKPdf**		**15 34 09.9**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=107,slow=2.1,SNR=11								
BVAR	**Borovoye Array**	**126.30**	**315**	PKP		**PKPdf**		**15 34 20.9**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=113,slow=3.2,SNR=8.0								
ARCES	**ARCESS Array B**	**139.51**	**347**	PKP		**PKiKP**		**15 34 47.3**	**+0.2**
	comp=Z,5.2nm,1.0s,baz=358,slow=3.6,SNR=5.5								
FINES	**FINESS Array B**	**145.82**	**338**	PKPbc		**PKPbc**		**15 34 57.4**	**+0.1**
	comp=Z,9.0nm,0.6s,baz=56,slow=4.0,SNR=65								
NB2	**NORSAR Subarra1**	**149.76**	**349**	PKP		**PKPdf**		**15 34 59.3**	**-3.3**
	comp=Z,1.3nm,0.5s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**149.76**	**349**	PKPbc		**PKPbc**		**15 35 08.2**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=49,slow=1.8,SNR=10								
HFS	**Hagfors**	**150.17**	**347**	PKPbc		**PKPbc**		**15 35 08.3**	**-0.3**
	comp=Z,2.5nm,0.5s,baz=25,slow=3.8,SNR=18								
MMAI	**Mount Meron Ar**	**150.42**	**282**	PKPbc		**PKiKP**		**15 35 11.3**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=15,slow=6.9,SNR=2.5								
AKASG	**Malin Array Be**	**151.40**	**320**	PKPbc		**PKPbc**		**15 35 12.2**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=43,slow=3.0,SNR=11								
BRTR	**Keskin Array B**	**151.90**	**296**	PKPbc		**PKPbc**		**15 35 13.7**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=89,slow=4.3,SNR=4.7								
TORD	**Torodi Ar. Bea**	**161.52**	**184**	PKPab		**PKPab**		**15 36 07.3**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=197,slow=2.9,SNR=4.4								

*NEIC **10** 15:20:04.8±1.0, 28°.6S±0°.2×176°.9W±0°.1, h32km±2km, mb4.5/17, Error ellipse: s-maj=26.1km s-min=11.2km az=146.0*
*IDC **10** 15:20:05.5±3.8, 28°.60S×176°.92W, h40km±30km, mb3.9/11, mbtmp4.1/12, ML3.1/1, MS3.9/21, Error ellipse: s-maj=27.6km s-min=25.2km az=132.0*

ISC 10 15:20:03.4±0.5, 28°.99S±0°.09×176°.60W±0°.07, h36km, n72, σ1s93/57, mb4.4/18, MS3.9/19, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
RAO	**Raoul Island**	**1.19**	**257**				**Pn**	**15 20 23.9**	**+0.4**
RAO					Sn		**Sn**	**15 20 38.1**	**-0.2**
RAO	**Raoul Island**	**1.19**	**257**	Pn			**Pn**	**15 20 24.4**	**+1.0**
	1μm,0.3s,baz=106,slow=8.1,SNR=17								
RAO					Sn		**Sn**	**15 20 39.5**	**+1.1**
	4μm,0.3s,baz=87,slow=20,SNR=11								
RAO					LR		LR	15 21 01.0	
	comp=Z,4μm,18.5s,baz=120,slow=51								
URZ	**Urewera**	**10.62**	**208**	Pn			Pn	15 22 29.1	-4.0
	0.4nm,0.3s,baz=114,slow=20,SNR=3.0								
URZ					Sn		**Sn**	**15 24 28.3**	**-2.4**
	5.2nm,0.3s,baz=311,slow=20,SNR=7.1								
RTZ	**Ruatahuna**	**10.98**	**207**	Pn			**Pn**	**15 22 35.1**	**-3.0**
BKZ	**Black Stump Fm**	**11.65**	**208**	Pn			**Pn**	**15 22 46.5**	**-0.7**
MRZ	**Mangatainoka R**	**13.29**	**207**	Pn			**Pn**	**15 23 07.5**	**-1.9**
KHZ	**Kahutara**	**15.59**	**208**	Pn			**Pn**	**15 23 37.5**	**-3.0**
KHZ					IAmb		IAmb	15 23 44.6	
	comp=Z,62nm,1.5s								
GVZ	**Greta Valley S**	**16.26**	**208**	Pn			**Pn**	**15 23 45.5**	**-3.5**
INZ	**Inchbonnie**	**16.76**	**212**	Pn			**Pn**	**15 23 52.9**	**-2.4**
INZ					IAmb		IAmb	15 23 58.9	
	comp=Z,41nm,1.3s								
DZM	**Mont Dzumac**	**16.78**	**290**	*eP*			**P**	**15 24 00.1**	**+2.5**
	comp=Z,35nm,1.3s								
DZM					*e*LR		LR	15 28 14.6	
	comp=Z,565nm,21.9s								
DZM	**Mont Dzumac**	**16.78**	**290**	Pn			**Pn**	**15 23 51.2**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=83,slow=8.6,SNR=1.8								
DZM					LR		LR	15 29 07.3	
	comp=Z,607nm,18.9s,baz=102,slow=33								
	comp=Z,2.7nm,0.9s								
RAR	**Rarotonga**	**17.08**	**67**	LR			LR	15 29 03.0	
	comp=Z,247nm,19.8s,baz=230,slow=31								
RPZ	**Rata Peaks**	**17.71**	**211**	P			**Pn**	**15 24 05.2**	**-1.9**
	comp=Z,2.7nm,0.4s,baz=61,slow=18,SNR=1.5								
RPZ					S		Sn	15 27 11.5	-12
	comp=Z,6.5nm,0.9s,baz=0.0,slow=20,SNR=2.2								
TBI	**Tubuai**	**24.96**	**83**	*e*S			**S**	**15 29 43.1**	**-1.9**
	comp=Z,336nm,28.2s								
TBI					*e*LR		LR	15 31 27.4	
	comp=Z,1μm,29.5s								
TBI					*e*LR		LR	15 31 29.8	
	comp=Z,934nm,29.2s								
PPT2	**Papeete2**	**27.22**	**71**	*e*S			**S**	**15 30 13.1**	**-7.8**
	comp=Z,39nm,23.5s								
PPT2					*e*LR		LR	15 32 25.9	
	comp=Z,282nm,24.8s								
PPT2					*e*LR		LR	15 32 34.3	
	comp=Z,274nm,27.0s								
PPT	**Papeete**	**27.23**	**71**	LR			LR	15 33 37.4	
	comp=Z,100nm,21.0s,baz=194,slow=30								
ARMA	**Armidale**	**27.59**	**259**	P			**P**	**15 25 46.1**	**-1.3**
ARMA					IAmb		IAmb	15 26 00.5	
	comp=Z,13nm,1.4s								
HNR	**Honiara**	**29.37**	**307**	LR			LR	15 36 44.3	
	comp=Z,1μm,18.5s,baz=154,slow=34								
CTA	**Charters Tower**	**34.82**	**276**	LR			LR	15 39 45.9	
	comp=Z,282nm,18.2s,baz=84,slow=34								
CTAO	**Charters Tower**	**34.82**	**276**	P			**P**	**15 26 51.8**	**+0.7**
STKA	**Stephens Creek**	**36.01**	**255**	P			**P**	**15 27 01.9**	**+0.8**
STKA	**Stephens Creek**	**36.01**	**255**	P			**P**	**15 27 02.0**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=104,slow=11,SNR=5.6								
STKA					LR		LR	15 40 08.9	
	comp=Z,164nm,19.2s,baz=38,slow=34								
	comp=Z,1.2nm,0.5s								
TAOE	**Nuku Hiva Isla**	**39.63**	**67**	*e*LR			LR	15 38 05.7	
	comp=Z,153nm,27.8s								
BBOO	**Buckleboo**	**40.54**	**252**	P			**P**	**15 27 39.6**	**+0.3**
BBOO					IAmb		IAmb	15 27 52.3	
	comp=Z,18nm,1.5s								
AS31	**Alice Springs**	**44.43**	**265**	P			**P**	**15 28 10.7**	**-0.4**
ASAR	**Alice Springs**	**44.43**	**265**	P			**P**	**15 28 10.4**	**-0.7**
ASAR	**Alice Springs**	**44.43**	**265**	P			**P**	**15 28 10.0**	**-1.0**
	comp=Z,2.4nm,0.6s,baz=96,slow=7.1,SNR=47								
ASAR				PcP			**PcP**	**15 29 55.7**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=114,slow=3.7,SNR=4.7								
ASAR					LR		LR	15 46 01.6	
	comp=Z,276nm,18.1s,baz=108,slow=35								
	comp=Z,2.4nm,0.6s								
WR0	**Warramunga Arr**	**45.11**	**270**	P			**P**	**15 28 15.8**	**-0.6**
WR0					IAmb		IAmb	15 28 27.5	
	comp=Z,9.0nm,1.5s								
WB2	**Warramunga Arr**	**45.28**	**270**	P			**P**	**15 28 17.2**	**-0.6**
WB2					IAmb		IAmb	15 28 19.4	
	comp=Z,6.8nm,0.9s								
WRA	**Warramunga Arr**	**45.29**	**270**	P			**P**	**15 28 16.1**	**-1.8**
WRA	**Warramunga Arr**	**45.29**	**270**	P			**P**	**15 28 16.6**	**-1.3**
	comp=Z,2.5nm,0.6s,baz=109,slow=8.1,SNR=26								
WRA				PcP			**PcP**	**15 29 59.0**	**+1.6**
	comp=Z,1.4nm,0.8s,baz=108,slow=3.5,SNR=6.0								
	comp=Z,2.5nm,0.6s								
WB0	**Warramunga Arr**	**45.31**	**270**	P			**P**	**15 28 16.7**	**-1.3**
WB0					IAmb		IAmb	15 28 29.1	
	comp=Z,5.7nm,1.1s								
FITZ	**Fitzroy Crossi**	**53.60**	**268**	P			**P**	**15 29 20.3**	**-1.0**
NWAO	**Narrogin (SRO)**	**56.05**	**248**	LR			LR	15 53 15.0	
	comp=Z,80nm,18.0s,baz=214,slow=36								
CASY	**Casey**	**56.95**	**207**	P			**P**	**15 29 47.4**	**+2.7**
CASY					IAmb		IAmb	15 30 00.8	
	comp=Z,6.7nm,0.9s								
MORW	**Morawa**	**58.11**	**252**	P			**P**	**15 29 52.8**	**-0.8**
MORW					IAmb		IAmb	15 30 06.9	
	comp=Z,8.3nm,1.1s								
RPN	**Rapa Nui**	**58.64**	**106**	LR			LR	15 50 59.0	
	comp=Z,28nm,18.4s,baz=57,slow=31								
BATI	**Baumata**	**58.70**	**276**	LR			LR	15 55 24.2	
	comp=Z,222nm,18.0s,baz=138,slow=36								
QSPA	**South Pole Qui**	**61.12**	**180**	P			P	15 30 19.0	+5.2
QSPA	**South Pole Qui**	**61.12**	**180**	P			**P**	**15 30 17.9**	**+4.1**
	comp=Z,3.4nm,1.0s,baz=4.3,slow=6.5								
	comp=Z,3.4nm,1.0s								
LEM	**Lembang**	**74.30**	**271**	LR			LR	16 05 46.7	
	comp=Z,54nm,18.1s,baz=56,slow=37								
MJAR	**Matsushiro Arr**	**77.80**	**324**	P			**P**	**15 31 55.7**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=170,slow=6.7,SNR=5.3								
	comp=Z,1.0nm,0.6s								
PLCA	**Paso Flores**	**82.56**	**133**	LR			LR	15 59 14.2	
	comp=Z,46nm,21.8s,baz=202,slow=28								
PFO	**Pinyon Flats O**	**84.35**	**47**	LR			LR	16 05 28.1	
	comp=Z,53nm,18.8s,baz=204,slow=32								
PEA0B	**Petropavlovsk-**	**84.77**	**345**	P			**P**	**15 32 33.0**	**-0.4**
PETK	**Petropavlovsk-**	**84.77**	**345**	P			**P**	**15 32 33.0**	**-0.5**
PETK	**Petropavlovsk-**	**84.77**	**345**	P			**P**	**15 32 33.8**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=101,slow=5.2,SNR=6.1								
	comp=Z,2.3nm,0.7s								
YBH	**Yreka Blue Hor**	**86.17**	**37**	LR			LR	16 10 15.5	
	comp=Z,26nm,18.0s,baz=349,slow=35								
NVAR	**Mina Array Bea**	**86.38**	**42**	P			**P**	**15 32 42.6**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=219,slow=7.0,SNR=2.6								
NVAR					LR		LR	16 08 18.3	
	comp=Z,79nm,18.0s,baz=260,slow=34								
	comp=Z,0.6nm,0.8s								
USRK	**Ussuriysk Ar.**	**86.67**	**326**	P			**P**	**15 32 42.5**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=72,slow=19,SNR=3.8								
	comp=Z,2.2nm,0.7s								
ELK	**Elko**	**89.68**	**42**	LR			LR	16 08 16.7	
	comp=Z,71nm,18.1s,baz=245,slow=32								
KLR	**Kul'dur**	**90.45**	**329**	P			**P**	**15 33 00.9**	**0.0**
	comp=Z,0.9nm,0.6s,baz=160,slow=6.3,SNR=4.4								
	comp=Z,0.9nm,0.6s								
TXAR	**Lajitas Array**	**90.60**	**57**	P			**P**	**15 33 04.3**	**+2.0**
	comp=Z,0.4nm,0.9s,baz=192,slow=7.1,SNR=3.0								
	comp=Z,0.4nm,0.9s								
CMIG	**Matias Romero**	**91.15**	**71**	LR			LR	16 05 51.1	
	comp=Z,1.8nm,18.7s,baz=53,slow=30								
ANMO	**Albuquerque**	**91.74**	**51**	LR			LR	16 13 36.2	
	comp=Z,32nm,18.1s,baz=342,slow=35								
NEW	**Newport**	**93.52**	**35**	LR			LR	16 13 50.7	
	comp=Z,31nm,18.0s,baz=256,slow=34								
ATAH	**Atahualpa**	**93.70**	**100**	LR			LR	16 05 47.7	
	comp=Z,27nm,19.3s,baz=222,slow=29								
PDAR	**Pinedale Array**	**94.27**	**43**	LR			LR	16 14 31.9	
	comp=Z,47nm,18.0s,baz=268,slow=35								
ILAR	**Eielson Array**	**96.29**	**12**	P			**P**	**15 33 27.5**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=224,slow=6.3,SNR=2.1								
	comp=Z,0.4nm,0.9s								
ZALV	**Zalesovo Beam**	**117.79**	**319**	PKP		**PKPdf**		**15 38 43.9**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=140,slow=7.0,SNR=1.5								
MKAR	**Makanchi Array**	**117.80**	**310**	PKP		**PKPdf**		**15 38 45.8**	**0.0**
	comp=Z,0.6nm,0.6s,baz=38,slow=7.3,SNR=7.4								
KURBB	**Kurchatov Arra**	**120.99**	**314**	PKP		**PKPdf**		**15 38 51.2**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=104,slow=2.1,SNR=11								
BVAR	**Borovoye Array**	**126.24**	**316**	PKP		**PKPdf**		**15 39 01.8**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=93,slow=3.0,SNR=7.0								
GEYT	**Alibeck**	**134.06**	**296**	PKP		**PKiKP**		**15 39 19.9**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=82,slow=2.0,SNR=2.5								
ARCES	**ARCESS Array B**	**137.46**	**349**	PKP		**PKiKP**		**15 39 24.9**	**+0.5**
	comp=Z,3.2nm,1.0s,baz=11,slow=0.9,SNR=6.8								
FINES	**FINESS Array B**	**144.22**	**342**	PKP		**PKPab**		**15 39 32.9**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=58,slow=3.1,SNR=9.1								
**NB2

WHF	**Hehuan Shan**	**1.19**	**245**	*eP*	**Pn**	**15 34 47.8 +0.6**
	baz=243					
WHF				*eS*	**Sn**	**15 35 03.7 -0.8**
	baz=243					
NFF	**Wufeng Townshi**	**1.20**	**269**	*eP*	**Pn**	**15 34 47.0 0.0**
	baz=268					
NFF				S	**Sn**	**15 35 03.9 -0.2**
	baz=268					
TWT	**Tachien**	**1.22**	**251**	P	**Pn**	**15 34 48.2 +0.9**
	baz=249					
TWT				S	**Sn**	**15 35 05.3 +0.6**
	baz=249					
IRIF	**Iriomote-Funau**	**1.22**	**105**	*eS*	**Sn**	**15 35 04.3 -0.1**
TDCB	**Techi**	**1.23**	**251**	P	**Pn**	**15 34 47.8 +0.4**
	baz=250					
TDCB				S	**Sn**	**15 35 04.2 -0.7**
	baz=250					
ESL	**Shilin**	**1.25**	**228**	*eP*	**Pn**	**15 34 46.6 -0.9**
	baz=225					
ESL				*eS*	**Sn**	**15 35 03.1 -1.8**
	baz=225					
LIOB	**Emei**	**1.29**	**270**	*eP*	**Pn**	**15 34 48.0 0.0**
	baz=269					
LIOB				*eS*	**Sn**	**15 35 06.2 +0.2**
	baz=269					
CHGB	**Renai**	**1.30**	**243**	P	**Pn**	**15 34 48.7 +0.4**
	baz=241					
CHGB				S	**Sn**	**15 35 05.8 -0.6**
	baz=241					
NSTT	**Nanjuang**	**1.31**	**269**	P	**Pn**	**15 34 48.1 0.0**
	baz=268					
NSTT				S	**Sn**	**15 35 06.2 -0.1**
	baz=268					
WARBT	**Fenglin Townsh**	**1.34**	**226**	P	**Pn**	**15 34 48.0 -0.6**
	baz=224					
WARBT				S	**Sn**	**15 35 05.2 -1.8**
	baz=224					
OWD	**Renai**	**1.35**	**239**	*eP*	**Pn**	**15 34 49.2 +0.4**
	baz=237					
EGFH	**Guangfu**	**1.35**	**223**	*eP*	**Pn**	**15 34 48.6 -0.1**
	baz=221					
EGFH				*eS*	**Sn**	**15 35 05.7 -1.5**
	baz=221					
WUSB	**Renai**	**1.38**	**241**	*eP*	**Pn**	**15 34 49.5 +0.5**
	baz=240					
WHP	**Taichung City**	**1.41**	**255**	*eP*	**Pn**	**15 34 50.1 +0.6**
	baz=253					
WHP				*eS*	**Sn**	**15 35 09.0 +0.4**
	baz=253					
HGSD	**Ruisui**	**1.49**	**219**	*eP*	**Pn**	**15 34 50.3 0.0**
	baz=217					
HGSD				*eS*	**Sn**	**15 35 09.5 -0.6**
	baz=217					
VWDT	**VWDT**	**1.49**	**233**	*eP*	**Pn**	**15 34 50.5 +0.2**
	baz=231					
VWDT				*eS*	**Sn**	**15 35 09.2 -0.9**
	baz=231					
JKRS	**Kuro-shima**	**1.49**	**106**	*eP*	**Pn**	**15 34 50.8 +0.4**
JKRS				*eS*	**Sn**	**15 35 10.4 +0.2**
WCS	**Beigang Elemen**	**1.52**	**247**	*eP*	**Pn**	**15 34 51.5 +0.8**
	baz=245					
WCS				*eS*	**Sn**	**15 35 11.9 +1.1**
	baz=245					
EHY	**Hungye**	**1.54**	**222**	*eP*	**Pn**	**15 34 51.0 +0.1**
	baz=220					
JIJ	**Ishigaki jima**	**1.58**	**100**	P	**Pn**	**15 34 51.3 -0.1**
JIJ				*eS*	**Sn**	**15 35 11.3 -0.8**
SMLT	**Sun Moon Lake**	**1.60**	**241**	*eP*	**Pn**	**15 34 53.5 +1.6**
	baz=240					
SSLB	**Suanglung**	**1.61**	**238**	*eP*	**Pn**	**15 34 53.1 +1.2**
	baz=236					
SSLB				*eS*	**Sn**	**15 35 13.7 +0.8**
	baz=236					
TYC	**Yuchr**	**1.63**	**243**	*eP*	**Pn**	**15 34 53.6 +1.6**
	baz=241					
TYC				*eS*	**Sn**	**15 35 14.4 +1.3**
	baz=241					
YULB	**Yu-li**	**1.64**	**220**	*eP*	**Pn**	**15 34 51.3 -1.0**
	baz=218					
TWF1	**Yuli**	**1.67**	**219**	*eP*	**Pn**	**15 34 51.6 -1.0**
	baz=217					
JISG	**Ishigakijimahi**	**1.71**	**92**	P	**Pn**	**15 34 53.1 +0.1**
WHYT	**Xinyi Township**	**1.74**	**237**	*eP*	**Pn**	**15 34 54.5 +1.1**
	baz=235					
FULB	**Fuli**	**1.79**	**216**	*eP*	**Pn**	**15 34 53.5 -0.7**
	baz=214					
ALS	**Alishan**	**1.88**	**233**	*eP*	**Pn**	**15 34 56.5 +0.9**
	baz=231					
ALS				*eS*	**Sn**	**15 35 20.6 +1.2**
	baz=231					
EHD	**Haiduan**	**1.88**	**217**	*eP*	**Pn**	**15 34 54.4 -0.9**
	baz=215					
ELDTW	**Lidau**	**1.96**	**222**	*eP*	**Pn**	**15 34 57.0 +0.6**
	baz=220					
JTJ	**Tarama**	**2.06**	**90**	*eP*	**Pn**	**15 34 57.9 +0.4**
JTJ				*eS*	**Sn**	**15 35 23.2 +0.1**
WCKO	**Fanlu**	**2.07**	**234**	*eP*	**Pn**	**15 34 58.5 +0.8**
	baz=233					

*IDC **10** 15:52:17.7±1.0, 10°.03N×140°.36E, h0^{km}, mb3.6/10, mbtmp3.7/11, ML4.5/1, MS3.4/15, Error ellipse: s-maj=30.3km s-min=22.1km az=95.0*

ISC 10 15:52:21.5±0.9, 10°.1N±0°.1×140°.4E±0°.1, h26^{km}, n30, σ0^{s}87/12, mb3.6/10, MS3.4/13, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.61**	**51**	P		Pn	**Pn**	**15 53 44.1**	**+0.9**
	13nm,0.3s,baz=225,slow=1.4,SNR=22								
GUMO				Sn			**Sn**	**15 54 45.6**	**-1.3**
	12nm,0.3s,baz=180,slow=20,SNR=5.7								
GUMO				LR			LR	15 56 32.2	
	comp=Z,149nm,18.9s,baz=227,slow=45								
	46nm,0.4s								
DAV	**Davao City (W)**	**14.96**	**260**	LR			LR	16 00 23.5	
	comp=Z,67nm,20.9s,baz=60,slow=33								
JHJ	**Hachijo jima 2**	**22.96**	**359**	LR			LR	16 04 27.9	
	comp=Z,136nm,20.6s,baz=284,slow=32								
BATI	**Baumata**	**26.12**	**220**	LR			LR	16 09 05.5	
	comp=Z,65nm,18.5s,baz=48,slow=39								
H11S3	**WAKE ISLAND Hy**	**26.79**	**69**	T			T	16 25 58.9	
	baz=255,slow=75,SNR=350								
H11S1	**WAKE ISLAND Hy**	**26.81**	**69**	T			T	16 26 04.9	
	baz=255,slow=75,SNR=79								
H11S2	**WAKE ISLAND Hy**	**26.81**	**69**	T			T	16 26 10.6	
	baz=255,slow=75,SNR=168								
H11N1	**WAKE ISLAND Hy**	**27.30**	**66**	T			T	16 26 41.6	
	baz=253,slow=76								
H11N2	**WAKE ISLAND Hy**	**27.31**	**66**	T			T	16 26 43.1	
	baz=253,slow=76								
H11N3	**WAKE ISLAND Hy**	**27.32**	**66**	T			T	16 26 53.3	
	baz=253,slow=76								
HNR	**Honiara**	**27.44**	**134**	LR			LR	16 07 38.2	
	comp=Z,732nm,19.9s,baz=256,slow=34								
KSRS	**Korea Array**	**29.51**	**340**	LR			LR	16 09 26.5	
	comp=Z,39nm,19.8s,baz=130,slow=35								
WRA	**Warramunga Arr**	**30.40**	**191**	P			**P**	**15 58 31.8**	**+0.1**
	0.6nm,0.9s,baz=8.7,slow=9.7,SNR=4.0								
	0.6nm,0.9s								
CTA	**Charters Tower**	**30.50**	**169**	LR			LR	16 09 35.3	
	comp=Z,67nm,19.3s,baz=36,slow=34								
ASAR	**Alice Springs**	**34.11**	**191**	P			**P**	**15 59 03.9**	**-0.3**
	0.3nm,0.9s,baz=20,slow=12,SNR=1.9								
	0.3nm,0.9s								
KLR	**Kul'dur**	**39.72**	**351**	LR			LR	16 15 02.8	
	comp=Z,51nm,18.4s,baz=92,slow=34								
DZM	**Mont Dzumac**	**40.89**	**142**	LR			LR	16 13 42.9	
	comp=Z,52nm,21.6s,baz=240,slow=31								
CMAR	**Chiang Mai Arr**	**40.96**	**287**	P			**P**	**16 00 01.7**	**-0.8**
	1.1nm,0.9s,baz=97,slow=5.6,SNR=3.5								
CMAR				LR			LR	16 16 05.4	
	comp=Z,25nm,21.1s,baz=105,slow=35								
	1.1nm,0.9s								
SONM	**Songino Array**	**47.30**	**329**	P			**P**	**16 00 52.5**	**-0.4**
	0.8nm,0.9s,baz=106,slow=4.8,SNR=4.5								
	0.8nm,0.9s								
NWAO	**Narrogin (SRO)**	**48.11**	**206**	LR			LR	16 20 48.8	
	comp=Z,25nm,20.5s,baz=74,slow=36								
MKAR	**Makanchi Array**	**61.09**	**318**	P			**P**	**16 02 33.3**	**-0.1**
	0.3nm,0.8s,baz=51,slow=7.8,SNR=2.2								
	0.3nm,0.8s								
ZALV	**Zalesovo Beam**	**62.04**	**326**	P			**P**	**16 02 41.4**	**+1.8**
	0.4nm,0.5s,baz=68,slow=8.0,SNR=1.3								
	0.4nm,0.5s								
KURBB	**Kurchatov Arra**	**64.57**	**322**	P			**P**	**16 02 56.7**	**+0.3**
	0.5nm,0.3s,baz=104,slow=6.6,SNR=5.8								
	0.5nm,0.3s								
KDAK	**Kodiak Island**	**69.36**	**32**	LR			LR	16 32 38.3	
	comp=Z,26nm,18.6s,baz=241,slow=35								
BVAR	**Borovoye Array**	**70.03**	**323**	P			**P**	**16 03 31.4**	**+0.4**
	0.7nm,0.7s,baz=101,slow=6.2,SNR=5.6								
	0.7nm,0.7s								
ILAR	**Eielson Array**	**73.61**	**25**	P			**P**	**16 03 52.2**	**-0.1**
	0.3nm,0.6s,baz=264,slow=5.7,SNR=4.4								
	0.3nm,0.6s								
PPT	**Papeete**	**74.40**	**111**	LR			LR	16 29 37.1	
	comp=Z,55nm,19.8s,baz=208,slow=30								
ARU	**Arti**	**77.18**	**326**	LR			LR	16 40 00.7	
	comp=Z,49nm,19.2s,baz=82,slow=37								
BBB	**Bella Bella**	**83.05**	**38**	LR			LR	16 32 07.8	
	comp=Z,28nm,21.6s,baz=128,slow=29								
YKA	**Yellowknife Ar**	**87.98**	**27**	P			**P**	**16 05 09.2**	**+0.1**
	0.3nm,0.9s,baz=283,slow=5.0,SNR=3.5								
	0.3nm,0.9s								

*IDC **10** 16:03:56.0±1.0, 37°.87N×21°.31E, h0^{km}, mb3.8/10, mbtmp3.7/14, ML3.1/4, MS3.1/5, Error ellipse: s-maj=19.3km s-min=17.5km az=6.0*
*THE **10** 16:03:58.9, 37°.84N×21°.41E, h16^{km}±1^{km}, ML3.8/10, Error ellipse: s-maj=1.2km s-min=0.5km az=205.0*
*NEIC **10** 16:04:01.4±1.4, 37°.96N±0°.06×21°.42E±0°.07, h31^{km}±6^{km}, mb4.3/9, Error ellipse: s-maj=9.0km s-min=6.9km az=216.0*
*NAO **10** 16:04:01.9, 37°.84N×21°.41E, h33^{km}, mb3.9*

ISC 10 16:03:58.9±1.0, 37°.86N±0°.03×21°.40E±0°.02, h17^{km}±7^{km}, n74, σ1^{s}01/84, mb3.8/12, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.20**	**14**	P		P	**Pb**	**16 04 03.9**	**-0.2**
RLS				S		S	**Sb**	**16 04 08.0**	**+0.4**
	40μm,0.5s								
LTHK	**Lithakia**	**0.47**	**251**	P		P	**Pg**	**16 04 08.3**	**-0.2**
LTHK				S		S	**Sb**	**16 04 16.0**	**+0.5**
	22μm,0.5s								
KRI1	**kERI**	**0.51**	**247**	P		P	**Pg**	**16 04 08.7**	**-0.4**
UPR	**University Cam**	**0.52**	**36**	P		P	**Pb**	**16 04 09.9**	**+0.4**
UPR				S		S	**Sb**	**16 04 17.3**	**+0.6**
LAKA	**Lakka**	**0.59**	**50**	P		P	**Pg**	**16 04 10.1**	**-0.5**
LAKA				S		S	**Sb**	**16 04 19.9**	**+1.1**
	21μm,0.8s								
KLV	**Kalavryta, Ach**	**0.62**	**73**	P		P	**Pg**	**16 04 10.3**	**-0.9**
KLV				S		S	**Sb**	**16 04 19.6**	**-0.1**
	4μm,0.5s								
ALIK	**Aliki, Aigiali**	**0.68**	**54**	P		P	**Pb**	**16 04 12.1**	**-0.3**
ALIK				S		S	**Sg**	**16 04 21.6**	**+0.1**
EFP	**Efpalio**	**0.69**	**35**	P		P	**Pb**	**16 04 11.7**	**-0.7**
EFP				S		S	**Sn**	**16 04 22.8**	**-1.3**
	3μm,0.5s								
PSDA	**Pessada-Kefalo**	**0.69**	**291**	P		P	**Pb**	**16 04 11.5**	**-1.0**
VLS	**Valsamata**	**0.71**	**296**	P		P	**Pb**	**16 04 12.0**	**-0.9**
VLS				S		S	**Sg**	**16 04 23.5**	**+1.0**
	3μm,0.5s								
AST1	**Astakos**	**0.72**	**340**	P		P	**Pb**	**16 04 13.0**	**0.0**
GUR	**Goura**	**0.75**	**84**	P		P	**Pb**	**16 04 12.3**	**-1.2**
GUR				S		S	**Sg**	**16 04 23.8**	**+0.3**
	8μm,0.5s								
PVO	**Paravola**	**0.76**	**7**	P		P	**Pb**	**16 04 13.5**	**-0.1**
PVO				S		S	**Sn**	**16 04 24.8**	**-1.0**
	14μm,0.6s								
ANX	**Ano Chora**	**0.83**	**29**	P		P	**Pb**	**16 04 14.4**	**-0.6**
ANX				S		S	**Sn**	**16 04 27.2**	**-0.7**
	5μm,0.5s								
FSK	**Fiskardo**	**0.89**	**312**	P		P	**Pb**	**16 04 15.1**	**-0.8**
FSK				S		S	**Sg**	**16 04 28.6**	**+0.6**
KEF3	**Kipouria, Keph**	**0.90**	**292**	P		P	**Pb**	**16 04 14.9**	**-1.1**
KEF3				S		S	**Sn**	**16 04 29.9**	**+0.6**
	11μm,0.6s								
KLMT	**Kalamata**	**0.96**	**147**	P		P	**Pb**	**16 04 17.0**	**0.0**
PYL	**PYLOS**	**1.00**	**164**	P		P	**Pb**	**16 04 16.7**	**-1.1**
LKD2	**Lefkada island**	**1.09**	**328**	P		P	**Pb**	**16 04 18.8**	**-0.6**
AGG	**Agios Georgios**	**1.37**	**32**				**Pb**	**16 04 23.5**	**-0.5**
KEK	**Kerkira**	**2.23**	**326**				**Pn**	**16 04 35.7**	**+0.6**
KBN	**Korca**	**2.80**	**350**				**Pn**	**16 04 42.3**	**-0.6**
FNA	**Florina**	**2.92**	**360**				**Pn**	**16 04 44.1**	**-0.5**
VLO	**Vlora**	**2.99**	**331**		Pn		**Pn**	**16 04 45.7**	**+0.1**
SCTE	**Santa Cesarea**	**3.18**	**315**				**Pn**	**16 04 48.6**	**+0.5**
VAY	**Valandovo**	**3.57**	**14**	*i*	Pn		**Pb**	**16 05 03.8**	**+2.3**
IDI	**Anoyia**	**3.81**	**131**		Pn		**Pn**	**16 04 59.3**	**+2.5**
IDI	**Anoyia**	**3.81**	**131**		Pn		**Pn**	**16 04 57.9**	**+1.1**
	0.8nm,0.3s,baz=283,slow=21,SNR=1.7								
IDI					Sn		**Sn**	**16 05 42.7**	**+1.5**
	4.2nm,0.3s,baz=307,slow=16,SNR=5.5								
	5.7nm,0.7s								
TIP	**Timpagrande**	**3.87**	**291**				**Pn**	**16 04 57.6**	**-0.1**
CEL	**Celeste**	**4.37**	**277**		Pn		**Pn**	**16 05 05.9**	**+1.4**
RDO	**Rodhopi**	**4.58**	**43**		Pn		**Pn**	**16 05 05.6**	**-1.7**
CUC	**Castrocucco**	**4.85**	**298**				**Pn**	**16 05 12.9**	**+1.8**
PDG	**Podgorica**	**4.85**	**341**				**Pn**	**16 05 10.0**	**-1.0**
ARG	**Arkhangelos**	**5.62**	**105**		Pn		**Pn**	**16 05 23.1**	**+1.4**
RAFF	**Raffo Rosso**	**5.63**	**266**		Pn		**Pn**	**16 05 21.6**	**-0.2**
SGRT	**San Giovanni R**	**5.84**	**313**		Pn		**Pn**	**16 05 24.9**	**+0.1**
WDD	**Wied Dalam**	**5.88**	**252**		Pn		**Pn**	**16 05 26.3**	**+1.2**
PAOL	**Paolisi**	**6.16**	**303**		Pn		**Pn**	**16 05 30.1**	**+1.0**
DIVS	**Divibare**	**6.32**	**351**				**Pn**	**16 05 31.0**	**-0.3**
INTR	**Introdacqua**	**7.09**	**308**				**Pn**	**16 05 43.8**	**+1.8**
FDMO	**Fiordimonte**	**8.18**	**312**		Pn		**Pn**	**16 05 58.1**	**+1.3**
MLR	**Muntele Rosu**	**8.34**	**23**		Pn		**Pn**	**16 06 02.3**	**+3.2**
	0.3nm,0.3s,baz=165,slow=22,SNR=2.2								
MLR					LR		LR	16 09 17.6	
	comp=Z,91nm,20.3s,baz=104,slow=38								
	1.1nm,0.4s								
BRTR	**Keskin Array B**	**9.73**	**75**		Pn		Pn	16 06 22.8	+4.6
	0.1nm,0.3s,baz=258,slow=12,SNR=2.7								
	0.7nm,0.5s								
SABO	**M.te Sabotino**	**9.97**	**327**		Pn		**Pn**	**16 06 21.0**	**-0.4**
CLUD	**Cludinico**	**10.66**	**326**		Pn		**Pn**	**16 06 30.4**	**-0.3**
CIMO	**Cimolais**	**10.74**	**325**		Pn		**Pn**	**16 06 32.2**	**+0.3**
CTI	**Castel Tesino**	**10.93**	**322**		Pn		**Pn**	**16 06 33.4**	**-1.1**
VRAC	**Vranov**	**11.96**	**345**		LR		LR	16 12 31.6	
	comp=Z,124nm,18.4s,baz=178,slow=43								
GERES	**GERESS Array B**	**12.31**	**335**		LR		LR	16 11 53.1	
	comp=Z,62nm,19.3s,baz=306,slow=39								
SENIN	**Lac Senin/Sane**	**13.46**	**314**		Pn		**Pn**	**16 07 09.5**	**+0.2**
SUW	**Suwalki**	**16.20**	**4**		P		**P**	**16 07 48.3**	**-0.2**
SUW					IAmb		IAmb	16 07 49.6	
	comp=Z,25nm,0.9s								
PABE	**Paberze**	**17.73**	**5**				**Pn**	**16 08 04.5**	**-0.3**
ESDC	**Sonseca Array**	**19.85**	**283**		P		**P**	**16 08 27.4**	**-1.5**
	baz=5,slow=9.4,SNR=5.5								
	comp=Z,1.5nm,0.9s								
HFS	**Hagfors**	**22.82**	**350**		P		**P**	**16 08 59.0**	**-1.8**
	comp=Z,2.5nm,0.7s,baz=165,slow=8.7,SNR=7.6								
	comp=Z,2.5nm,0.7s								
NC602	**NORSAR Array S**	**23.73**	**348**		P		**P**	**16 09 08.0**	**-1.8**
NC602					IAmb		IAmb	16 09 27.2	
	comp=Z,17nm,1.2s								
FINES	**FINESS Array B**	**23.78**	**6**		P		**P**	**16 09 10.3**	**0.0**
	comp=Z,3.9nm,1.0s,baz=161,slow=18,SNR=6.5								
	comp=Z,3.9nm,1.0s								
NB2	**NORSAR Subarra**	**24.07**	**348**		P		**P**	**16 09 12.8**	**-0.3**
	comp=Z,3.4nm,1.2s,baz=160,slow=9.3								
NOA	**NORSAR Array B**	**24.07**	**348**		P		**P**	**16 09 12.4**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=173,slow=11,SNR=5.6								
NOA					LR		LR	16 19 55.8	
	comp=Z,31nm,21.3s,baz=240,slow=40								
	comp=Z,0.9nm,0.6s								
EKA	**Eskdalemuir Ar**	**24.09**	**324**		P		**P**	**16 09 13.3**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=129,slow=9.5,SNR=10								
	comp=Z,2.1nm,0.6s								
EKB	**Eskdalemuir**	**24.10**	**324**		P		**P**	**16 09 13.2**	**-0.2**
NBO00	**NORSAR Array S**	**24.13**	**347**		P		**P**	**16 09 12.1**	**-1.6**
GEYT	**Alibeck**	**28.85**	**78**		P		**P**	**16 09 57.8**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=289,slow=14,SNR=2.6								
	comp=Z,1.2nm,0.8s								
TOA0	**Torodi Ar. Sit**	**30.24**	**221**		P		**P**	**16 10 08.8**	**0.0**
TOA0					IAmb		IAmb	16 10 09.2	
	comp=Z,4.9nm,1.4s								
TORD	**Torodi Ar. Bea**	**30.24**	**221**		P		**P**	**16 10 08.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**30.24**	**221**		P		**P**	**16 10 08.4**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=32,slow=10,SNR=9.5								
	comp=Z,1.6nm,0.8s								
BORG	**Borgarnes**	**36.73**	**331**		LR		LR	16 28 34.6	
	comp=Z,53nm,19.2s,baz=326,slow=40								
BVAR	**Borovoye Array**	**36.79**	**50**		P		**P**	**16 11 06.1**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=253,slow=4.5,SNR=4.4								
	comp=Z,0.6nm,0.6s								
KURBB	**Kurchatov Arra**	**41.86**	**53**		P		**P**	**16 11 46.6**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=281,slow=8.4,SNR=4.9								
	comp=Z,0.7nm,0.6s								
MKAR	**Makanchi Array**	**44.87**	**58**		P		**P**	**16 12 11.3**	**-0.9**
MKAR	**Makanchi Array**	**44.87**	**58**		P		**P**	**16 12 11.8**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=284,slow=6.2,SNR=10								
	comp=Z,0.8nm,0.6s								
ZALV	**Zalesovo Beam**	**45.38**	**48**		P		**P**	**16 12 15.6**	**-0.5**
ZALV	**Zalesovo Beam**	**45.38**	**48**		P		**P**	**16 12 15.3**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=267,slow=8.5,SNR=5.6								
	comp=Z,1.3nm,0.4s								
PEA0B	**Petropavlovsk-**	**81.80**	**25**		P		**P**	**16 16 17.6**	**+1.0**
PETK	**Petropavlovsk-**	**81.80**	**25**		P		**P**	**16 16 16.7**	**+0.1**

*IDC **10** 16:07:02.7±1.2, 37°.94N×21°.19E, h0^{km}, mb3.7/10, mbtmp3.6/15, ML3.6/5, Error ellipse: s-maj=20.8km s-min=18.7km az=21.0*
*THE **10** 16:07:05.5, 37°.85N×21°.42E, h20^{km}±2^{km}, ML3.6/9, Error ellipse: s-maj=2.7km s-min=0.6km az=349.0*

ISC 10 16:07:04.9±1.0, 37°.87N±0°.03×21°.36E±0°.03, h16^{km}±7^{km}, n34, σ1^{s}14/45, mb3.6/10, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.20**	**24**	P		P	**Pb**	**16 07 10.5**	**+0.2**
RLS				S		S	**Sg**	**16 07 14.2**	**+1.3**
	28μm,0.3s								
LTHK	**Lithakia**	**0.45**	**249**	P		P	**Pb**	**16 07 14.8**	**+0.4**
LTHK				S		S	**Sb**	**16 07 22.9**	**+2.0**
	13μm,0.2s								
KRI1	**kERI**	**0.48**	**244**	P		P	**Pb**	**16 07 15.2**	**+0.2**
KRI1				S		S	**Sb**	**16 07 23.8**	**+1.9**
	9μm,0.4s								
UPR	**University Cam**	**0.53**	**39**	P		P	**Pb**	**16 07 16.6**	**+0.7**
UPR				S		S	**Sb**	**16 07 24.7**	**+1.4**
LAKA	**Lakka**	**0.61**	**53**	P		P	**Pg**	**16 07 16.9**	**0.0**
LAKA				S		S	**Sg**	**16 07 25.0**	**-0.1**
	8μm,0.7s								
KLV	**Kalavryta, Ach**	**0.65**	**74**	P		P	**Pg**	**16 07 16.9**	**-0.7**
KLV				S		S	**Sg**	**16 07 26.0**	**-0.2**
	3μm,0.2s								
PSDA	**Pessada-Kefalo**	**0.66**	**292**	P		P	**Pb**	**16 07 18.1**	**0.0**
PSDA				S		S	**Sn**	**16 07 29.3**	**-0.4**
	6μm,0.5s								
VLS	**Valsamata**	**0.68**	**297**	P		P	**Pn**	**16 07 18.7**	**-1.3**
VLS				S		S	**Sn**	**16 07 30.0**	**-0.3**
	3μm,0.3s								
EFP	**Efpalio**	**0.70**	**37**	P		P	**Pb**	**16 07 18.5**	**-0.3**
EFP				S		S	**Sb**	**16 07 29.4**	**+1.2**
	4μm,0.2s								
AST1	**Astakos**	**0.70**	**342**	P		P	**Pn**	**16 07 19.5**	**-0.7**
ALIK	**Aliki, Aigiali**	**0.71**	**56**	P		P	**Pb**	**16 07 18.8**	**-0.1**
ALIK				S		S	**Sb**	**16 07 28.9**	**+0.5**
TRIZ	**Trizonia**	**0.75**	**48**	P		P	**Pg**	**16 07 19.2**	**-0.3**
PVO	**Paravola**	**0.76**	**10**	P		P	**Pn**	**16 07 20.2**	**-0.8**
GUR	**Goura**	**0.78**	**85**	P		P	**Pg**	**16 07 19.0**	**-1.1**
GUR				S		S	**Sg**	**16 07 29.7**	**-0.7**
	8μm,0.3s								
VSK1	**VASILIKIADES**	**0.83**	**311**	P		P	**Pn**	**16 07 21.4**	**-0.6**
ANX	**Ano Chora**	**0.84**	**31**	P		P	**Pg**	**16 07 21.0**	**-0.4**
EVGI	**Lefkada island**	**0.93**	**324**	P		P	**Pn**	**16 07 23.3**	**-0.1**
KLMT	**Kalamata**	**0.98**	**145**	P		P	**Pb**	**16 07 23.7**	**+0.2**
PYL	**PYLOS**	**1.02**	**163**	P		P	**Pb**	**16 07 23.1**	**-1.1**
IDI	**Anoyia**	**3.83**	**131**	Pn		Pn	**Pn**	**16 08 06.4**	**+3.0**
	0.6nm,0.3s,baz=336,slow=18,SNR=2.3								
IDI					Sn		**Sn**	**16 08 50.8**	**+2.7**
	2.9nm,0.3s,baz=290,slow=16,SNR=2.3								
	6.8nm,0.6s								
MLR	**Muntele Rosu**	**8.35**	**23**	Pn		Pn	**Pn**	**16 09 07.3**	**+1.9**
	0.2nm,0.3s,baz=281,slow=19,SNR=1.2								
	1.4nm,0.5s								
BRTR	**Keskin Array B**	**9.76**	**75**	Pn		Pn		16 09 31.0	+6.2
	0.1nm,0.3s,baz=256,slow=14,SNR=1.9								
	0.5nm,0.6s								
GERES	**GERESS Array B**	**12.30**	**336**	Pn			**Pn**	**16 09 57.5**	**-1.9**
	0.5nm,0.3s,baz=158,slow=17,SNR=5.5								
	1.2nm,0.6s								
ESDC	**Sonseca Array**	**19.81**	**283**	P		P	**P**	**16 11 32.0**	**-2.8**
	0.1nm,0.3s,baz=76,slow=9.9,SNR=2.2								
	0.8nm,0.9s								
HFS	**Hagfors**	**22.81**	**350**	P		P	**P**	**16 12 06.9**	**+0.1

MBWA Marble Bar 58.19 257 P P 16 36 11.5 +0.2
MBWA IAmb IAmb 16 36 17.1
comp=Z,22nm,1.4s
SBA Scott Base 58.21 184 P P 16 36 13.0 +2.7
VNDA Vanda 58.25 185 P P 16 36 12.5 +1.8
VNDA Vanda 58.25 185 P P 16 36 11.9 +1.2
comp=Z,0.7nm,0.7s,baz=57,slow=6.4,SNR=2.6
comp=Z,0.7nm,0.7s
QSPA South Pole Qui 69.89 180 P P 16 37 26.0 +0.8
QSPA IAmb IAmb 16 37 27.0
comp=Z,4.6nm,0.9s
MJAR Matsushiro Arr 70.12 323 P P 16 37 26.9 +0.1
comp=Z,1.3nm,0.9s,baz=141,slow=15,SNR=2.6
comp=Z,1.3nm,0.9s
PEA0B Petropavlovsk- 76.04 345 P P 16 37 59.0 -1.4
PEA0B IAmb IAmb 16 38 13.3
comp=Z,11nm,1.0s
USRK Ussuriysk Ar. 78.86 326 P P 16 38 16.0 0.0
comp=Z,8.8nm,0.9s,baz=166,slow=8.2,SNR=2.8
comp=Z,2.8nm,0.9s
BELA Belgrano 2 79.84 173 P P 16 38 20.8 +0.1
BELA IAmb IAmb 16 38 21.8
comp=Z,3.2nm,0.8s
NVAR Mina Array Bea 80.60 43 P P 16 38 24.2 -1.3
comp=Z,1.4nm,0.9s,baz=219,slow=10,SNR=5.7
comp=Z,1.4nm,0.9s
PMSA Palmer Station 81.47 157 P P 16 38 27.9 -1.4
K05A Summer Lake 81.54 39 P P 16 38 32.7 +2.3
J05D Fort Rock, OR 81.69 38 P P 16 38 32.9 +1.9
J05D IAmb IAmb 16 38 38.0
comp=Z,6.1nm,1.2s
MAW Mawson 81.96 200 P P 16 38 31.9 +0.1
MAW Mawson 81.96 200 P P 16 38 31.9 +0.1
comp=Z,1.5nm,0.7s,baz=150,slow=8.1,SNR=2.3
comp=Z,1.5nm,0.7s
BRLK Bradley Lake 82.62 13 P P 16 38 35.0 -0.1
L18K Granite Mounta 83.81 10 P 16 38 42.8 +1.8
L18K IAmb IAmb 16 39 19.6
comp=Z,8.5nm,1.3s
SCM Sheep Creek Mo 85.26 14 P P 16 38 49.1 +0.9
TXAR Lajitas Array 86.65 57 P 16 38 57.9 +2.2
TXAR Lajitas Array 86.65 57 P P 16 38 57.6 +1.9
comp=Z,0.8nm,0.7s,baz=220,slow=6.1,SNR=12
comp=Z,0.8nm,0.7s
CCB Clear Creek Bu 87.65 12 P P 16 38 59.1 -0.2
CCB IAmb IAmb 16 39 14.7
comp=Z,8.0nm,1.5s
IMAR Indian Mountai 87.80 10 P P 16 39 00.1 0.0
ILAR Eielson Array 87.94 13 P P 16 39 00.4 -0.5
comp=Z,0.3nm,0.6s,baz=212,slow=5.9,SNR=6.9
comp=Z,0.3nm,0.6s
SNAA Sanae 88.32 178 P P 16 39 02.2 -0.6
SNAA IAmb IAmb 16 39 39.2
comp=Z,6.4nm,1.3s
PDAR Pinedale Array 88.54 43 P 16 39 05.5 +1.0
PDAR Pinedale Array 88.54 43 P P 16 39 05.2 +0.8
comp=Z,0.5nm,0.6s,baz=189,slow=3.9,SNR=5.3
comp=Z,0.5nm,0.6s
M30M Minto, Yukon 88.58 18 P 16 39 04.8 +0.9
M30M IAmb IAmb 16 39 05.9
comp=Z,3.4nm,1.0s
DAWY Dawson 89.08 16 P 16 39 07.5 +1.3
E21K Killik River 90.05 9 P P 16 39 11.3 +0.7
E21K IAmb IAmb 16 39 43.0
comp=Z,4.4nm,1.4s
BVAR Borovoye Array 119.01 320 PKP PKPdf 16 44 55.9 -0.6
comp=Z,0.5nm,0.4s,baz=122,slow=1.9,SNR=4.8
AKASG Malin Array Be 142.87 332 PKP PKPdf 16 45 38.6 -2.6
comp=Z,1.1nm,0.6s,baz=46,slow=3.9,SNR=7.4
BRTR Keskin Array B 146.83 313 PKPbc PKPbc 16 45 51.7 +0.4
comp=Z,0.6nm,0.6s,baz=124,slow=3.7,SNR=2.0
CLL Collm 147.81 347 *i* PKPbc **PKiKP 16 45 54.2 -0.6**
MMAI Mount Meron Ar 147.90 300 PKPbc PKiKP 16 45 55.1 -0.5
comp=Z,0.3nm,0.3s,baz=72,slow=8.0,SNR=3.7
GERES GERESS Array B 149.97 345 PKPbc PKiKP 16 45 59.9 +0.5
comp=Z,0.4nm,0.4s,baz=15,slow=1.1,SNR=1.9

IDC ***10*** *16:40:58.5±2.5,39.22N×142.52E, h0km, mb3.5/3, mbtmp3.5/5, ML2.7/2, Error ellipse: s-maj=50.8km s-min=30.4km az=80.0*
JMA ***10*** *16:41:05.8±0.1, 38.9N±0.3×142.0E±0.7, h46km, MV3.2/40, KINKAZAN REGION*
JMA Felt I J1 at KINKAZAN REGION .
ISC 10 16:41:06.3±1.7, 38.88N±0.06×142.0E±0.1, h43km±11km, n21, σ0892/22, mb3.5/3, 11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.33**	**308**	⇓*i*P	**Pn**	**16 41 15.3**	**+0.1**
OFUJ				⇓S	**Sn**	**16 41 21.9**	**+0.4**
JKMT	**Kesennumamotoy**	**0.42**	**261**	⇓*i*P	**Pn**	**16 41 16.1**	**0.0**
JKMT				⇓S	**Sn**	**16 41 23.2**	**+0.1**
JMK	**Ichinoseki**	**0.62**	**277**	⇓*i*P	**Pn**	**16 41 18.7**	**0.0**
JMK				⇓S	**Sn**	**16 41 27.6**	**+0.1**
JIO	**Ouri**	**0.66**	**231**	⇓*i*P	**Pn**	**16 41 18.9**	**-0.4**
JIO				⇓S	**Sn**	**16 41 27.6**	**-1.0**
JOM	**Ohasama**	**0.81**	**317**	⇓*i*P	**Pn**	**16 41 21.4**	**+0.1**
JOM				⇓S	**Sn**	**16 41 32.6**	**+0.3**
JOU	**Okura**	**1.17**	**244**	*i* P	**Pn**	**16 41 26.0**	**-0.2**
JOU				S	**Sn**	**16 41 40.9**	**0.0**
JRG	**Rokugo**	**1.19**	**296**	P	**Pn**	**16 41 26.7**	**+0.3**
JYK	**Kaneyama**	**1.28**	**272**	⇓*i*P	**Pn**	**16 41 27.8**	**+0.1**
JMM	**Marumori**	**1.39**	**224**	P	**Pn**	**16 41 28.4**	**-0.7**
JMM				S	**Sn**	**16 41 45.0**	**-1.3**
JANG	**Nango**	**1.54**	**346**	*i* P	**Pn**	**16 41 31.0**	**-0.3**
MJAR	**Matsushiro Arr**	**3.81**	**233**	Pn	**Pn**	**16 42 04.8**	**+2.4**
	0.1nm,0.3s,baz=35,slow=12,SNR=16						
MJAR				Sn	Sn	16 42 59.2	+13
	0.1nm,0.3s,baz=71,slow=23,SNR=1.6						
	1.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**9.20**	**309**	Pn	**Pn**	**16 43 14.8**	**-1.5**
	0.2nm,0.3s,baz=126,slow=17,SNR=2.5						
	2.8nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**28.75**	**124**	T	T	17 17 22.7	
	baz=317,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**28.76**	**124**	T	T	17 17 23.6	
	baz=317,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy**	**28.77**	**124**	T	T	17 17 34.3	
	baz=317,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**29.52**	**126**	T	T	17 18 20.8	
	baz=318,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**29.52**	**126**	T	T	17 18 21.2	
	baz=318,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**29.54**	**126**	T	T	17 18 22.2	
	baz=318,slow=76,SNR=23						
MKAR	**Makanchi Array**	**43.56**	**301**	P	**P**	**16 49 05.0**	**-0.8**
	0.5nm,0.6s,baz=75,slow=9.3,SNR=4.3						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**45.26**	**307**	P	**P**	**16 49 18.3**	**-0.9**
	0.5nm,0.3s,baz=81,slow=8.1,SNR=4.7						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**58.95**	**188**	P	**P**	**16 51 02.5**	**+1.3**
	0.4nm,1.0s,baz=3.6,slow=6.9,SNR=2.3						
	0.4nm,1.0s						

IDC ***10*** *16:59:05.5±1.9, 17.63S×178.44W, h558km±21km, mb3.5/13, mbtmp4.4/14, Error ellipse: s-maj=22.1km s-min=12.7km az=153.0*
NEIC ***10*** *16:59:05.7±1.8, 17.8S±0.1×178.4W±0.1, h553km±7km, mb4.5/61, Error ellipse: s-maj=17.3km s-min=14.0km az=138.0*
NOU ***10*** *16:59:07.4, 17.60S×178.22W, h573km, MLv4.6/8, Fiji Islands Region*
ISC 10 16:59:07.0±0.4, 17.81S±0.10×178.43W±0.07, h579km, n125, σ1908/130, mb4.5/41, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVE	**Taveuni**	**1.79**	**308**	P	**P**	**17 00 19.2**	**+0.6**
DGTI	**Dogotuki**	**2.31**	**310**	P	**P**	**17 00 20.7**	**-0.1**
YSA	**Yasawairara**	**3.98**	**286**	P	**P**	**17 00 31.2**	**+0.4**
AFI	**Afiamalu**	**7.48**	**60**	P	**P**	**17 00 57.6**	**-3.2**
AFI	**Afiamalu**	**7.48**	**60**	P	**P**	**17 00 58.7**	**-2.1**
LIFNC	**LIFOU**	**13.85**	**255**	P	**P**	**17 02 02.6**	**-2.0**
PINNC	**Pines Island,**	**14.09**	**248**	P	**P**	**17 02 05.7**	**-1.4**
OUENC	**Ouen Island, N**	**14.57**	**249**	P	**P**	**17 02 11.2**	**-0.5**
DZM	**Mont Dzumac**	**14.84**	**251**	P	**P**	**17 02 15.5**	**+1.1**
DZM	**Mont Dzumac**	**14.84**	**251**	P	**P**	**17 02 17.0**	**+2.6**
DZM	**Mont Dzumac**	**14.84**	**251**	P	**P**	**17 02 14.4**	**0.0**
	4.0nm,0.4s,baz=90,slow=19,SNR=14						
DZM				S	**S**	**17 04 43.1**	**-4.9**
	2.7nm,0.8s,baz=112,slow=19,SNR=1.6						
ONTNC	**Ouen Toro**	**14.89**	**250**	P	**P**	**17 02 15.0**	**+0.2**
KOUNC	**Koumac, New Ca**	**16.56**	**258**	P	**P**	**17 02 31.9**	**+1.5**
KOUNC				IAmb	IAmb	17 03 03.4	
	comp=Z,26nm,1.2s						
KHZ	**Kahutara**	**25.47**	**194**	P	**P**	**17 03 50.0**	**-0.1**
GVZ	**Greta Valley S**	**26.11**	**194**	P	**P**	**17 03 54.1**	**-1.7**
LTZ	**Lake Taylor**	**26.12**	**196**	P	**P**	**17 03 54.9**	**-1.1**
LTZ				IAmb	IAmb	17 04 33.1	
	comp=Z,21nm,1.5s						
INZ	**Inchbonnie**	**26.29**	**197**	P	**P**	**17 03 57.3**	**-0.1**
INZ				IAmb	IAmb	17 04 08.6	
	comp=Z,25nm,1.3s						
OXZ	**Oxford**	**26.69**	**196**	P	**P**	**17 04 00.6**	**-0.3**
OXZ				IAmb	IAmb	17 04 30.1	
	comp=Z,36nm,1.4s						
PPT	**Papeete**	**27.48**	**94**	P	**P**	**17 04 08.0**	**-0.2**
	comp=Z,18nm,0.7s,baz=250,slow=15,SNR=2.5						
	comp=Z,18nm,0.7s						
FOZ	**Fox Glacier**	**27.50**	**199**	P	**P**	**17 04 07.7**	**-0.3**
LBZ	**Lake Benmore**	**28.18**	**197**	P	**P**	**17 04 12.7**	**-1.1**
WKZ	**Wanaka**	**28.92**	**199**	P	**P**	**17 04 19.9**	**-0.4**
EIDS	**Eidsvold**	**29.29**	**250**	P	**P**	**17 04 23.6**	**-0.2**
	baz=35,SNR=3.7						
EIDS	**Eidsvold**	**29.29**	**250**	P	**P**	**17 04 23.7**	**-0.1**
EIDS				IAmb	IAmb	17 04 45.8	
	comp=Z,29nm,1.4s						
ARMA	**Armidale**	**29.98**	**240**	P	**P**	**17 04 31.1**	**+1.3**
	baz=35,SNR=12						
ARMA	**Armidale**	**29.98**	**240**	P	**P**	**17 04 30.7**	**+0.9**
ARMA				IAmb	IAmb	17 04 31.4	
	comp=Z,9.8nm,0.7s						
MGCD	**Mangrove Creek**	**31.34**	**235**	P	**P**	**17 04 42.8**	**+1.5**
	baz=37,SNR=8.7						
CTAO	**Charters Tower**	**33.45**	**260**	P	**P**	**17 04 59.3**	**0.0**
CTAO				IAmb	IAmb	17 04 59.9	
	comp=Z,16nm,0.9s						
CNB	**Canberra Magne**	**33.47**	**232**	P	**P**	**17 05 00.8**	**+1.4**
	baz=39,SNR=38						
CAN	**Canberra**	**33.75**	**232**	P	**P**	**17 05 02.7**	**+1.0**
CAN				IAmb	IAmb	17 05 03.6	
	comp=Z,7.9nm,0.7s						
PMG	**Port Moresby**	**34.43**	**279**	P	**P**	**17 05 08.1**	**+0.6**
CMSA	**Cobar Meteorol**	**35.18**	**240**	P	**P**	**17 05 14.3**	**+0.7**
	baz=40,SNR=45						
MTSU	**Mount Surprise**	**35.40**	**264**	P	**P**	**17 05 15.5**	**-0.1**
	baz=41,SNR=10						
QLP	**Quilpie**	**35.55**	**249**	P	**P**	**17 05 16.7**	**0.0**
	baz=41,SNR=22						
COEN	**Coen**	**37.09**	**270**	P	**P**	**17 05 30.2**	**+0.6**
TOO	**Toolangi**	**37.22**	**231**	P	**P**	**17 05 31.7**	**+1.4**
	baz=42,SNR=8.2						
TOO	**Toolangi**	**37.22**	**231**	P	**P**	**17 05 31.5**	**+1.2**
TOO				IAmb	IAmb	17 05 32.5	
	comp=Z,18nm,0.8s						
STKA	**Stephens Creek**	**38.66**	**241**	P	**P**	**17 05 43.1**	**+1.1**
	baz=44,SNR=49						
STKA	**Stephens Creek**	**38.66**	**241**	P	**P**	**17 05 43.3**	**+1.2**
STKA				IAmb	IAmb	17 05 44.0	
	comp=Z,5.4nm,1.1s						
STKA	**Stephens Creek**	**38.66**	**241**	P	**P**	**17 05 43.0**	**+0.9**
	comp=Z,13nm,0.5s,baz=84,slow=7.2,SNR=54						
	comp=Z,13nm,0.5s						
QIS	**Mount Isa**	**39.66**	**259**	P	**P**	**17 05 50.9**	**+0.6**
	baz=45,SNR=5.0						
ARPS	**Mount Arapiles**	**39.70**	**233**	P	**P**	**17 05 51.1**	**+0.9**
	baz=45,SNR=5.6						
HTT	**Hallett**	**41.18**	**239**	P	**P**	**17 06 03.1**	**+0.9**
	baz=46,SNR=13						
BBOO	**Buckleboo**	**43.44**	**241**	P	**P**	**17 06 20.4**	**+0.6**
	baz=49,SNR=63						
BBOO	**Buckleboo**	**43.44**	**241**	P	**P**	**17 06 20.2**	**+0.3**
BBOO				IAmb	IAmb	17 06 21.1	
	comp=Z,25nm,0.9s						
WR0	**Warramunga Arr**	**44.44**	**259**	P	**P**	**17 06 26.9**	**-0.9**
WR0				IAmb	IAmb	17 06 29.9	
	comp=Z,6.2nm,0.8s						
WB0	**Warramunga Arr**	**44.60**	**260**	P	**P**	**17 06 28.1**	**-0.9**
WB0				IAmb	IAmb	17 06 29.1	
	comp=Z,15nm,0.6s						
WB2	**Warramunga Arr**	**44.62**	**259**	P	**P**	**17 06 28.5**	**-0.7**
WRAB	**Tennant Creek**	**44.62**	**259**	P	**P**	**17 06 28.4**	**-0.7**
WRAB				IAmb	IAmb	17 06 29.3	
	comp=Z,16nm,0.6s						
WRA	**Warramunga Arr**	**44.63**	**259**	P	**P**	**17 06 28.4**	**-0.8**
	comp=Z,12nm,0.5s,baz=94,slow=6.8,SNR=512						
WRA				PcP	**PcP**	**17 07 59.3**	**0.0**
	comp=Z,1.3nm,0.5s,baz=93,slow=3.2,SNR=2.0						
WRA				ScP	**ScP**	**17 10 59.1**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=91,slow=3.7,SNR=4.6						
	comp=Z,12nm,0.5s						
AS31	**Alice Springs**	**44.80**	**254**	P	**P**	**17 06 30.5**	**0.0**
ASAR	**Alice Springs**	**44.80**	**254**	P	**P**	**17 06 30.6**	**+0.1**
	comp=Z,105nm,0.5s,baz=88,slow=8.1,SNR=3915						
ASAR				PcP	**PcP**	**17 07 59.9**	**0.0**
	comp=Z,2.5nm,0.6s,baz=104,slow=4.0,SNR=4.3						
ASAR				ScP	**ScP**	**17 11 00.2**	**+2.6**
	comp=Z,0.4nm,0.5s,baz=99,slow=4.7,SNR=3.7						
KDU	**Kakadu**	**47.54**	**269**	P	**P**	**17 06 50.8**	**-0.5**
	baz=53,SNR=19						
GUMO	**Guam**	**47.80**	**308**	P	**P**	**17 06 53.7**	**+0.6**
MTN	**Manton Dam**	**48.78**	**268**	P	**P**	**17 06 59.7**	**-0.8**
	baz=54,SNR=11						
MTN	**Manton Dam**	**48.78**	**268**	P	**P**	**17 06 60.0**	**-0.5**
MTN				IAmb	IAmb	17 07 00.5	
	comp=Z,18nm,0.8s						
WRKA	**Warakurna**	**49.86**	**252**	P	**P**	**17 07 08.4**	**+0.1**
	baz=55,SNR=314						
FORT	**Forrest**	**50.03**	**245**	P	**P**	**17 07 09.6**	**+0.1**
	baz=55,SNR=11						
FORT	**Forrest**	**50.03**	**245**	P	**P**	**17 07 09.1**	**-0.4**
KNRA	**Kununurra**	**50.48**	**264**	P	**P**	**17 07 10.2**	**-2.7**
	baz=56,SNR=12						
KNRA	**Kununurra**	**50.48**	**264**	P	**P**	**17 07 12.5**	**-0.4**
KNRA				IAmb	IAmb	17 07 13.3	
	comp=Z,23nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.03**	**260**	P	**P**	**17 07 31.2**	**0.0**
	baz=58,SNR=11						
FITZ	**Fitzroy Crossi**	**53.03**	**260**	P	**P**	**17 07 31.3**	**+0.1**
PSA00	**Pilbara Seismi**	**57.92**	**255**	P	**P**	**17 08 04.4**	**-0.7**
PSA00				IAmb	IAmb	17 08 05.5	
	comp=Z,11nm,1.1s						
MBWA	**Marble Bar**	**58.08**	**256**	P	**P**	**17 08 05.8**	**-0.4**
MBWA				IAmb	IAmb	17 08 06.1	
	comp=Z,8.5nm,0.7s						
MMRI	**Maumere**	**58.28**	**271**	P	**P**	**17 08 06.7**	**-0.9**
MMRI				IAmb	IAmb	17 08 07.4	
	comp=Z,17nm,0.5s						
MEEK	**Meekatharra**	**58.45**	**249**	P	**P**	**17 08 08.0**	**-0.6**
	baz=64,SNR=6.2						
KLBR	**Kellerberrin**	**58.86**	**243**	P	**P**	**17 08 11.0**	**-0.2**
	baz=64,SNR=5.0						
NWAO	**Narrogin (SRO)**	**59.24**	**242**	P	**P**	**17 08 13.8**	**+0.1**
	baz=64,SNR=5.5						
NWAO				P	**P**	**17 08 13.8**	**+0.1**
	baz=64,SNR=5.5						
NWAO	**Narrogin (SRO)**	**59.24**	**242**	P	**P**	**17 08 13.6**	**-0.2**
NWAO				IAmb	IAmb	17 08 26.4	
	comp=Z,49nm,1.1s						
NWAO	**Narrogin (SRO)**	**59.24**	**242**	P	**P**	**17 08 13.7**	**-0.1**
NWAO				IAmb	IAmb	17 08 26.4	
	comp=Z,15nm,1.1s						
BLDU	**Ballidu**	**59.81**	**245**	P	**P**	**17 08 17.1**	**-0.5**
	baz=65,SNR=12						
MUN	**Mundaring**	**60.15**	**243**	P	**P**	**17 08 19.9**	**+0.1**
	baz=66,SNR=3.3						
MORW	**Morawa**	**60.51**	**246**	P	**P**	**17 08 22.0**	**-0.2**
	baz=66,SNR=6.6						
MORW	**Morawa**	**60.51**	**246**	P	**P**	**17 08 21.8**	**-0.4**
MORW				IAmb	IAmb	17 08 22.2	
	comp=Z,5.7nm,0.6s						
TOLI2	**Tolitoli**	**62.68**	**281**	P	**P**	**17 08 37.8**	**+1.2**
TOLI2				IAmb	IAmb	17 08 40.7	
	comp=Z,10nm,0.8s						
GIRL	**Giralia**	**62.91**	**253**	P	**P**	**17 08 39.0**	**+1.1**
	baz=68,SNR=4.7						
GIRL	**Giralia**	**62.91**	**253**	P	**P**	**17 08 38.9**	**+1.0**
JAGI	**Jajag, Banyuwa**	**66.03**	**268**	P	**P**	**17 08 56.2**	**-1.5**
MJAR	**Matsushiro Arr**	**67.82**	**323**	P	**P**	**17 09 06.8**	**-1.4**
	comp=Z,2.6nm,0.8s,baz=161,slow=5.8,SNR=7.4						
	comp=Z,2.6nm,0.8s						
UGM	**Wanagama**	**69.63**	**268**	P	**P**	**17 09 19.6**	**-0.1**
JKA	**Kamikawa-asahi**	**71.18**	**331**	P	**P**	**17 09 28.8**	**+0.8**
PETK	**Petropavlovsk-**	**73.58**	**345**	P	**P**	**17 09 40.5**	**-1.2**
	comp=Z,4.8nm,1.0s,baz=121,slow=6.9,SNR=1.7						
	comp=Z,4.8nm,1.0s						
KSRS	**Korea Array**	**74.62**	**318**	P	**P**	**17 09 48.2**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=128,slow=7.0,SNR=6.1						
	comp=Z,1.3nm,0.6s						
KMPM	**Mount Pierce**	**76.82**	**40**	P	**P**	**17 10 01.4**	**+1.4**
KMPM				IAmb	IAmb	17 10 30.9	
	comp=Z,12nm,1.3s						
YUH	**Yuha Desert**	**78.00**	**50**	P	**P**	**17 10 06.8**	**+0.2**
WAKR	**Walker**	**78.66**	**43**	P	**P**	**17 10 10.8**	**+0.6**
MPK	**Martis Peak**	**78.72**	**42**	P	**P**	**17 10 10.9**	**+0.3**
PNTR	**Pine Nut**	**78.88**	**43**	P	**P**	**17 10 11.5**	**+0.2**
NVAR	**Mina Array Bea**	**79.36**	**44**	P	**P**	**17 10 14.3**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=224,slow=9.0,SNR=9.8						
	comp=Z,1.1nm,0.7s						
KVN	**Kaiserville**	**79.83**	**43**	P	**P**	**17 10 16.5**	**+0.1**
K05A	**Summer Lake**	**80.13**	**39**	P	**P**	**17 10 18.1**	**+0.2**
J05D	**Fort Rock, OR**	**80.25**	**39**	P	**P**	**17 10 18.8**	**+0.4**
BMN	**Battle Mountai**	**81.15**	**43**	P	**P**	**17 10 24.1**	**+1.0**
L18K	**Granite Mounta**	**81.60**	**10**	P	**P**	**17 10 24.7**	**0.0**
L18K				IAmb	IAmb	17 10 58.6	
	comp=Z,20nm,1.5s						
K17K	**Iditarod**	**81.81**	**9**	P	**P**	**17 10 25.9**	**+0.2**
K17K				IAmb	IAmb	17 10 48.6	
	comp=Z,9.1nm,1.2s						
BELA	**Belgrano 2**	**82.27**	**173**	P	**P**	**17 10 28.6**	**+0.6**
PSUT	**Pine Spring**	**82.40**	**46**	P	**P**	**17 10 29.7**	**+0.1**
U15A	**North Rim**	**82.47**	**48**	P	**P**	**17 10 30.6**	**+0.6**
J18K	**Innoko River**	**82.76**	**10**	P	**P**	**17 10 30.3**	**-0.3**
J18K				IAmb	IAmb	17 10 31.5	
	comp=Z,10nm,1.4s						
KULM	**Kulim**	**83.00**	**278**	P	**P**	**17 10 33.6**	**+0.7**
KULM				IAmb	IAmb	17 11 00.5	
	comp=Z,26nm,1.4s						
MAW	**Mawson**	**83.95**	**200**	P	**P**	**17 10 37.5**	**+1.0**
MAW	**Mawson**	**83.95**	**200**	P	**P**	**17 10 37.3**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=152,slow=5.8,SNR=4.1						
	comp=Z,2.3nm,0.8s						
GSI	**Gunungsitoli**	**84.68**	**273**	P	**P**	**17 10 42.2**	**+1.1**
GSI				IAmb	IAmb	17 10 43.0	
	comp=Z,12nm,0.6s						
425A	**Indio Mountain**	**85.48**	**56**	P	**P**	**17 10 46.1**	**+1.3**
ILAR	**Eielson Array**	**85.79**	**13**	P	**P**	**17 10 43.7**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=222,slow=5.0,SNR=8.4						
	comp=Z,0.2nm,0.4s						
TX31	**Lajitas Ar. Si**	**85.96**	**58**	P	**P**	**17 10 48.0**	**+0.9**
TX31				IAmb	IAmb	17 10 49.2	
	comp=Z,9.6nm,1.1s						
TXAR	**Lajitas Array**	**85.96**	**58**	P	**P**	**17 10 48.0**	**+1.0**
TXAR	**Lajitas Array**	**85.96**	**58**	P	**P**	**17 10 48.2**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=219,slow=5.8,SNR=25						
	comp=Z,1.8nm,0.8s						
PDAR	**Pinedale Array**	**87.29**	**43**	P	**P**	**17 10 53.1**	**-0.1**
PDAR	**Pinedale Array**	**87.29**	**43**	P	**P**	**17 10 52.7**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=214,slow=3.3,SNR=8.1						
	comp=Z,0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**88.83**	**290**	P	**P**	**17 11 01.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**88.83**	**290**	P	**P**	**17 11 01.9**	**+1.2**
	comp=Z,1.9nm,0.9s,baz=106,slow=2.9,SNR=14						
	comp=Z,1.9nm,0.9s						
SNAA	**Sanae**	**90.70**	**179**	P	**P**	**17 11 08.4**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=210,slow=14,SNR=1.1						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**109.05**	**314**	PKiKP	**PKiKP**	**17 16 29.8**	**-1.7**
	comp=Z,0.3nm,0.5s,baz=124,slow=0.5,SNR=6.8						
BVAR	**Borovoye Array**	**116.76**	**321**	PKP	**PKPdf**	**17 16 44.9**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=110,slow=2.5,SNR=3.6						
EKA	**Eskdalemuir Ar**	**142.37**	**4**	PKP	**PKPdf**	**17 17 31.6**	**-2.5**
	comp=Z,1.4nm,0.7s,baz=40,slow=1.2,SNR=2.1						
BNN	**Bunyan**	**143.57**	**312**		PKPab	17 17 36.3	+0.5
BUR08	**Bucovina Ar. S**	**144.50**	**332**		**PKPdf**	**17 17 38.9**	**+0.6**
BR131	**Keskin Array S**	**144.70**	**315**		**PKPdf**	**17 17 39.2**	**+0.4**
BRTR	**Keskin Array B**	**144.70**	**315**	PKP	**PKPdf**	**17 17 38.8**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=145,slow=4.6,SNR=13						
CLL	**Collm**	**145.36**	**347**	*i* PKPbc	**PKPdf**	**17 17 40.3**	**+0.9**
	comp=Z,8.0nm,1.0s						
MMAI	**Mount Meron Ar**	**146.07**	**303**	PKPbc	**PKPbc**	**17 17 43.7**	**+0.3**
	comp=Z,3.0nm,0.4s,baz=69,slow=4.6,SNR=13						
GERES	**GERESS Array B**	**147.51**	**345**	PKPbc	**PKPbc**	**17 17 46.4**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=13,slow=2.7,SNR=4.5						
FNA	**Florina**	**151.45**	**327**		**PKPbc**	**17 17 55.5**	**-0.9**

IDC 10 17:03:47.1±5.5, 16.10S×175.40W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=191.3km s-min=109.3km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.02**	**240**	P	P	17 11 40.8	+0.3
	1.0nm,0.5s,baz=79,slow=10,SNR=2.1						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**47.81**	**258**	P	P	17 12 26.4	-0.5
	0.3nm,0.5s,baz=94,slow=7.6,SNR=6.0						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**48.07**	**253**	P	P	17 12 28.8	-0.1
	1.9nm,0.5s,baz=88,slow=8.3,SNR=35						
ASAR				PcP	PcP	17 13 56.5	-0.3
	0.2nm,0.9s,baz=93,slow=4.6,SNR=1.3						
	1.9nm,0.5s						

**IDC 10 17:11:47.3±2.6, 28.51S×176.96W, h0km, mb3.5/2, mbtmp3.5/

RIM	**Rim**	**0.23**	**32**		Pn	17 12 49.8	-0.5	
RIM					Sn	17 12 54.1	+0.7	
RIM	**Rim**	**0.23**	**32**	IAML		17 12 56.8		
	comp=N,1μm,1.3s							
RIM				IAML		17 12 59.0		
	comp=E,656nm,1.7s							
KKO	**Keanakako`i**	**0.23**	**33**		Pn	17 12 49.9	-0.5	
KKO					Sn	17 12 54.4	+0.6	
KKO	**Keanakako`i**	**0.23**	**33**	IAML		17 12 55.9		
	comp=E,913nm,1.3s							
KKO				IAML		17 12 57.0		
	comp=N,1μm,1.2s							
OBL	**Observatory Le**	**0.24**	**27**		Pn	17 12 49.9	-0.8	
OBL					Sn	17 12 54.2	+0.1	
OBL	**Observatory Le**	**0.24**	**27**	IAML		17 12 58.2		
	comp=N,1μm,0.6s							
OBL				IAML		17 13 00.5		
	comp=E,2μm,0.5s							
UWE	**Uwekahuna**	**0.24**	**25**		Pn	17 12 50.0	-0.7	
UWE	**Uwekahuna**	**0.24**	**25**	IAML		17 13 00.8		
	comp=N,912nm,1.0s							
PUH	**Pauahi**	**0.25**	**46**	Pg	Pn	17 12 48.6	-2.1	
PUH				IAML		17 13 01.7		
	comp=N,495nm,1.5s							
UWB	**Uwekahuna B**	**0.25**	**28**		Pn	17 12 49.8	-1.0	
UWB					Sn	17 12 54.3	-0.5	
HATHI	**Halema'uma'u T**	**0.26**	**31**	IAML		17 12 58.6		
	comp=N,563nm,0.5s							
HATHI				IAML		17 13 02.4		
	comp=E,794nm,1.4s							
HATHI	**Halema'uma'u T**	**0.26**	**31**		Pn	17 12 50.0	-0.9	
HATHI					Sn	17 12 54.8	-0.3	
SBLHI	**Steaming Bluff**	**0.26**	**29**		Pn	17 12 49.9	-1.0	
SBLHI					Sn	17 12 54.6	-0.5	
SBLHI	**Steaming Bluff**	**0.26**	**29**	IAML		17 12 57.3		
	comp=N,452nm,1.5s							
SBLHI				IAML		17 13 03.2		
	comp=E,521nm,1.3s							
KNHH	**Kane Nui o Ham**	**0.28**	**51**		Pb	17 12 50.4	-1.0	
RSD	**Rainshed**	**0.29**	**24**		Pn	17 12 55.2	+3.8	
RSD	**Rainshed**	**0.29**	**24**	IAML		17 12 55.4		
	comp=N,412nm,2.0s							
RSD				IAML		17 13 05.1		
	comp=E,350nm,1.8s							
MLH	**Mauna Loa**	**0.29**	**3**		Pb	17 12 50.7	-1.0	
MLH	**Mauna Loa**	**0.29**	**3**	IAML		17 12 56.0		
	comp=E,910nm,0.2s							
MLH				IAML		17 12 56.2		
	comp=N,964nm,0.3s							
STCH	**Steam Cracks**	**0.32**	**55**		Pb	17 12 50.7	-1.1	
STCH					Sn	17 12 56.0	-1.1	
STCH	**Steam Cracks**	**0.32**	**55**	IAML		17 12 56.1		
	comp=N,402nm,0.5s							
STCH				IAML		17 12 56.9		
	comp=E,401nm,0.2s							
NPOC	**North of Pu'u**	**0.34**	**55**		Pb	17 12 50.9	-1.1	
NPOC					Sn	17 12 56.2	-1.4	
NPOC	**North of Pu'u**	**0.34**	**55**	IAML		17 12 57.0		
	comp=E,431nm,0.7s							
NPOC				IAML		17 13 05.1		
	comp=N,403nm,0.8s							
MWH	**Moku'aweowe**	**0.34**	**327**		Pb	17 12 51.2	-1.3	
MWH	**Moku'aweowe**	**0.34**	**327**		Sn	17 12 56.6	-1.2	
MWH	**Moku'aweowe**	**0.34**	**327**	IAML		17 12 57.0		
	comp=E,739nm,0.5s							
MWH				IAML		17 12 57.0		
	comp=N,832nm,0.2s							
MLOA	**Mauna Loa Obse**	**0.37**	**334**		Pb	17 12 51.5	-1.3	
MLOA				IAML		17 12 57.8		
	comp=E,388nm,0.1s							
HMH	**Humu'ula Sheep**	**0.41**	**349**		Pb	17 12 52.2	-1.0	
HMH	**Humu'ula Sheep**	**0.41**	**349**		Sb	17 12 58.2	-1.5	
HMH	**Humu'ula Sheep**	**0.41**	**349**	IAML		17 12 58.5		
	comp=N,1μm,0.2s							
HMH				IAML		17 12 58.6		
	comp=E,576nm,0.3s							
ALEP	**Alea Permanent**	**0.41**	**326**		Pb	17 12 51.7	-1.6	
ALEP					Sb	17 12 57.6	-2.1	
JOKA	**Jonika Flow**	**0.44**	**58**		Pb	17 12 52.0	-1.4	
JOKA					Sb	17 12 58.2	-1.9	
CPH	**Captain Cook**	**0.56**	**300**		Pb	17 12 53.2	-2.1	
POHA	**Pohakuloa**	**0.57**	**347**		Pb	17 12 53.7	-1.9	
POHA				IAML		17 13 01.4		
	comp=E,379nm,0.2s							
POHA				IAML		17 13 02.0		
	comp=E,433nm,0.1s							
KHLU	**Kahalu`u**	**0.60**	**310**		Pn	17 12 54.0	-2.0	
KHLU	**Kahalu`u**	**0.60**	**310**	IAML		17 13 01.9		
	comp=E,222nm,0.1s							
KHLU				IAML		17 13 01.9		
	comp=N,367nm,0.1s							
HUH	**Hualalai**	**0.63**	**320**		Pn	17 12 54.8	-1.8	
HUH	**Hualalai**	**0.63**	**320**	IAML		17 13 06.1		
	comp=N,397nm,0.1s							
HUH				IAML		17 13 13.2		
	comp=E,402nm,0.3s							
HPAH	**Hawaii Prepara**	**0.87**	**341**	Pn	Pn	17 12 57.0	-2.7	
HPAH				IAML		17 13 07.8		
	comp=N,269nm,1.6s							
HPAH				IAML		17 13 08.1		
	comp=E,290nm,0.1s							
MHA	**Mahukona**	**1.09**	**334**	Pn	Pn	17 13 00.2	-2.4	
HLK	**Haleakala**	**1.74**	**333**	Pn	Pn	17 13 09.1	-2.8	
KHLH	**Kahului Airpor**	**1.94**	**330**	Pn	Pn	17 13 11.6	-2.7	

*IDC **10** 17:22:47.1±2.9,8.˙60S×111.˙96E,h0km,mb3.0/3, mbtmp3.1/3,Error ellipse: s-maj=157.5km s-min=30.1km az=49.0*

*DJA **10** 17:22:51.1±1.7,9.˚S±7.˚×11.˚2E±.˚,h34km±37km,M3.8/11, mb4.0/2,MLv3.7/11*

ISC 10 17:22:50.9±1.3,9.˚2S±0.˚1×111.˚50E±0.˚07,h35km,n14, σ1ᵍ01/14,mb2.8/3,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.59**	**322**	P	**Pn**	**17 23 17.4**	**+0.8**
UGM				S	**Sn**	**17 23 36.5**	**+0.6**
NGJI	**Ngawi**	**1.80**	**359**	P	**Pn**	**17 23 20.1**	**+0.6**
YOGI	**Yogyakarta**	**1.80**	**319**	P	Pn	17 23 13.3	-6.2
SMRI	**Semarang**	**2.36**	**334**	P	**Pn**	**17 23 27.6**	**+0.4**
BLJI	**Banyuglugur**	**2.52**	**56**	P	**Pn**	**17 23 28.7**	**-0.7**
JAGI	**Jajag, Banyuwa**	**2.72**	**75**	P	**Pn**	**17 23 32.0**	**-0.1**
KPJI	**Karang Pucung**	**3.13**	**306**	P	**Pn**	**17 23 37.1**	**-0.7**
CMJI	**Cimerak**	**3.32**	**294**	P	**Pn**	**17 23 39.8**	**-0.6**
SRBI	**Singaraja**	**3.83**	**74**	P	**Pn**	**17 23 45.9**	**-1.5**
TWSI	**Taliwang, Sumb** 17nm,1.1s,0.1nm	**5.34**	**86**	P	**Pn**	**17 24 09.6**	**+1.4**
PLAI	**Plampang**	**6.21**	**87**	P	**Pn**	**17 24 20.9**	**+0.7**
WRA	**Warramunga Arr** 0.3nm,0.9s,baz=292,slow=11,SNR=3.0	**24.52**	**118**	P	**P**	**17 28 07.2**	**-0.2**
	0.3nm,0.9s						
ASAR	**Alice Springs** 0.1nm,0.4s,baz=305,slow=9.2,SNR=9.7	**25.81**	**127**	P	**P**	**17 28 20.6**	**+1.5**
	0.1nm,0.4s						
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=147,slow=6.8,SNR=2.0	**61.51**	**338**	P	**P**	**17 33 03.3**	**-1.1**
	0.1nm,0.5s						

*IDC **10** 17:30:09.7±0.5,21.˚49S×168.˚67E,h0km,mb4.7/19, mbtmp4.8/21,ML5.0/2,MS4.5/30,Error ellipse: s-maj=17.0km s-min=13.5km az=101.0*

*MOS **10** 17:30:10.8±1.4,21.˚52S×168.˚54E,h10km,mb5.3/26,Error ellipse: s-maj=10.9km s-min=9.9km az=113.6*

*NEIC **10** 17:30:11.8±2.8,21.˚40S±0.˚06×168.˚51E±0.˚04,h10km±1km, mb5.2/64,Ms_20 5.0/49,Mww5.4/28,Error ellipse: s-maj=9.8km s-min=6.8km az=168.0*

*BJI **10** 17:30:12.8,21.˚36S×168.˚47E,h13km,mb4.8/42,mB5.6/30, Ms5.3/12,Ms7 4.7/13*

*NOU **10** 17:30:12.7,21.˚28S×168.˚54E,h0km,mb5.1/67,Loyalty Islands*

*NEIC **10** 17:30:14.2,21.˚55S×168.˚32E,h18km*

*NEIC **10** 17:30:14.2,21.˚45S×168.˚54E,h18km,Moment Tensor Solution. Duration: 28 Moment tensor: Scale 10¹⁷Nm; Mrr-1.56; Mθθ0.46; Mϕϕ1.10; Mrθ-0.43; Mϕθ-0.35; Mϕr0.10; Fault plane solution: M0 1.47000×10¹⁷ NP1: ϕs145.26000°,δ51.32000°,λ-102.66000°. NP2: ϕs345.03000°,δ40.39000°,λ-74.69000°. Principal axes: T 1.2840, Plg6.0000°, Azm244.0000°; N 0.3676, Plg10.0000°, Azm153.0000°; P -1.6515, Plg79.0000°, Azm3.0000°;*

*GCMT **10** 17:30:16.8±0.1,21.˚41S±0.˚01×168.˚54E±0.˚01,h12km, MW5.3/138,Moment Tensor Solution. s84,c120; s138,c243; Duration: 1ś1 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.99±.01; Mθθ0.17±.01; Mϕϕ0.81±.01; Mrθ-0.21±.03; Mϕθ-0.33±.01; Mϕr0.38±.03; Best double couple: M0 1.06600×10¹⁷ NP1:ϕs155.00000°,δ57.00000°, λ-92.00000°. NP2:ϕs339.00000°,δ33.00000°, λ-87.00000°. Principal axes: T 1.0490, Plg12.0000°, Azm246.0000°; N 0.0340, Plg2.0000°, Azm156.0000°; P -1.0830, Plg78.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 17:30:13.6±0.3,21.˚41S±0.˚04×168.˚61E±0.˚04,h20km,n407, σ1ᵍ85/381,mb5.1/86,MS4.8/56,7C-27D,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.54**	**262**		**Pb**	**17 30 20.0**	**-4.5**
LIFNC	**LIFOU**	**1.42**	**296**		**Pn**	**17 30 35.2**	**-3.1**
LIFNC	**LIFOU**	**1.42**	**296**	P	**Pn**	**17 30 36.7**	**-1.6**
PINNC	**Pines Island,**	**1.61**	**222**		**Pn**	**17 30 39.4**	**-1.6**
PINNC	**Pines Island,**	**1.61**	**222**	P	**Pn**	**17 30 40.2**	**-0.7**
OUENC	**Ouen Island, N**	**1.92**	**238**		**Pn**	**17 30 44.4**	**-0.8**
OUENC	**Ouen Island, N**	**1.92**	**238**	P	**Pn**	**17 30 45.7**	**+0.5**
DZM	**Mont Dzumac**	**2.12**	**251**		**Pn**	**17 30 46.8**	**-1.2**
DZM	**Mont Dzumac**	**2.12**	**251**	P	**Pn**	**17 30 48.1**	**+0.1**
DZM	**Mont Dzumac** 7μm,0.9s	**2.12**	**251**	*e*Pn	**Pn**	**17 30 47.4**	**-0.6**
DZM	31μm,1.1s			*e*Sn	**Sn**	**17 31 13.9**	**+0.1**
DZM	**Mont Dzumac** 110nm,0.3s,baz=72,slow=8.4,SNR=299	**2.12**	**251**	Pn	**Pn**	**17 30 47.4**	**-0.6**
DZM	comp=Z,13μm,18.6s,baz=159,slow=30			LR	LR	17 31 14.2	
DZM	930nm,0.3s,baz=349,slow=21,SNR=12 1μm,0.5s			Sn	**Sn**	**17 31 14.7**	**+0.9**
ONTNC	**Ouen Toro**	**2.19**	**246**		**Pn**	**17 30 47.9**	**-1.0**
ONTNC	**Ouen Toro**	**2.19**	**246**	P	**Pn**	**17 30 49.6**	**+0.7**
NOUC	**Port Laguerre**	**2.25**	**252**	P	**Pn**	**17 30 50.3**	**+0.6**
RTV	**Rentapao**	**3.60**	**357**	P	**Pn**	**17 31 07.8**	**-0.5**
DVP	**Devils Point**	**3.69**	**354**	P	**Pn**	**17 31 07.0**	**-2.4**
KOUNC	**Koumac, New Ca**	**4.13**	**281**	Pn	**Pn**	**17 31 15.4**	**-0.1**
NFK	**Norfolk Island** baz=7.8,SNR=15	**7.63**	**184**	P	**Pn**	**17 32 03.9**	**+0.4**
NFK	**Norfolk Island**	**7.63**	**184**	P	**Pn**	**17 32 04.5**	**+0.9**
YSA	**Yasawairara**	**9.69**	**63**	P	**Pn**	**17 32 34.8**	**+2.9**
DGTI	**Dogotuki**	**11.69**	**66**	P	**Pn**	**17 33 03.2**	**+3.8**
TAVE	**Taveuni**	**11.82**	**69**	P	**Pn**	**17 33 02.6**	**+1.5**
HNR	**Honiara**	**14.54**	**324**		**Pn**	**17 33 36.9**	**-1.3**
HNR	**Honiara** 30nm,0.3s,baz=164,slow=7.4,SNR=2.0	**14.54**	**324**	Pn	**Pn**	**17 33 39.4**	**+1.1**
HNR	comp=Z,12μm,20.1s,baz=156,slow=31 296nm,0.6s			LR	LR	17 37 39.4	
EIDS	**Eidsvold** baz=17,SNR=6.9	**16.57**	**253**	P	**P**	**17 34 06.2**	**-1.0**
EIDS	**Eidsvold**	**16.57**	**253**	P	**Pn**	**17 34 03.8**	**-1.0**
EIDS	**Eidsvold**	**16.57**	**253**	P	**Pn**	**17 34 05.8**	**+1.0**
TOZ	**Tahuroa Road**	**17.32**	**161**		**P**	**17 34 16.1**	**+0.6**
ARMA	**Armidale** baz=18,SNR=30	**17.70**	**236**	P	**P**	**17 34 21.6**	**+1.8**
ARMA	**Armidale**	**17.70**	**236**	P	**P**	**17 34 20.0**	**+0.2**
ARMA	**Armidale**	**17.70**	**236**	P	**P**	**17 34 22.3**	**+2.5**
AUPHS	**Peel High Scho**	**18.57**	**235**	P	**Pn**	**17 34 32.9**	**+3.2**
RMQ	**Roma** baz=19,SNR=5.9	**18.83**	**251**	P	**Pn**	**17 34 34.3**	**+1.5**
MGCD	**Mangrove Creek** baz=20,SNR=4.6	**19.46**	**229**	P	**Pn**	**17 34 41.7**	**+1.4**
RIV	**Riverview** baz=20,SNR=3.8	**19.77**	**228**	P	**Pn**	**17 34 45.4**	**+1.5**
AUAYR	**Ayr State High**	**19.94**	**271**	P	**Pn**	**17 34 47.1**	**+0.9**
MRZ	**Mangatainoka R** comp=Z,3μm,20.0s	**20.09**	**164**	IAMs_20	IAMs_20	17 41 40.4	
AULRC	**Lightning Ridg**	**20.25**	**243**	P	Pn	17 34 51.2	+1.4
TCW	**Tory Channel**	**20.32**	**168**	P	**P**	**17 34 44.8**	**-3.6**
TUWZ	**Tuamarina**	**20.46**	**168**	P	**P**	**17 34 50.8**	**+0.8**
SNZO	**South Karori**	**20.50**	**167**	P	**P**	**17 34 51.0**	**+0.7**
SNZO	comp=Z,131nm,1.2s			IAmb	IAmb	17 35 02.7	
THZ	**Tophouse**	**20.61**	**171**		Pn	17 34 54.9	+1.0
AUDCS	**Dubbo College**	**20.80**	**235**	P	Pn	17 34 55.9	-0.3
CTA	**Charters Tower**	**20.95**	**270**	P	**P**	**17 34 56.5**	**+1.1**
CTA	**Charters Tower** comp=Z,5.8nm,0.9s,baz=99,slow=12,SNR=2.0	**20.95**	**270**	P	**P**	**17 34 55.5**	**+0.2**
CTA	comp=Z,6μm,19.5s,baz=92,slow=36 comp=Z,5.8nm,0.9s			LR	LR	17 42 38.5	
CTAO	**Charters Tower**	**20.95**	**270**		**P**	**17 34 55.0**	**-0.4**
CTAO	comp=Z,92nm,1.2s			IAmb	IAmb	17 35 10.5	
CTAO	**Charters Tower** comp=Z,6μm,20.0s	**20.95**	**270**	IAMs_20	IAMs_20	17 42 25.6	
CTAO	**Charters Tower**	**20.95**	**270**	P	**P**	**17 34 56.4**	**+1.1**
CTAO	**Charters Tower**	**20.95**	**270**	P	**P**	**17 34 55.0**	**-0.4**
CTAO	comp=Z,92nm,1.3s			pmax	pmax		
CTAO	comp=Z,6μm,20.0s			MLR	MLR		
AUUHS	**Ulladulla High**	**21.11**	**225**	P	**P**	**17 35 00.4**	**+3.4**
KHZ	**Kahutara**	**21.35**	**170**		**P**	**17 35 04.4**	**+4.9**
KHZ	**Kahutara**	**21.35**	**170**	P	**P**	**17 35 01.4**	**+1.9**
INZ	**Inchbonnie**	**21.39**	**174**	P	**P**	**17 35 00.7**	**+0.8**
INZ	comp=Z,67nm,0.9s			IAmb	IAmb	17 35 06.8	
LTZ	**Lake Taylor**	**21.53**	**173**	P	**P**	**17 35 02.7**	**+1.2**
CNB	**Canberra Magne** baz=22,SNR=14	**21.83**	**226**	P	**P**	**17 35 07.4**	**+2.6**
CNB	**Canberra Magne**	**21.83**	**226**	P	**P**	**17 35 08.2**	**+3.4**
YNG	**Young**	**21.95**	**230**	P	**P**	**17 35 10.4**	**+4.3**
OXZ	**Oxford**	**22.04**	**173**	P	**P**	**17 35 02.9**	**-4.1**
OXZ	comp=Z,155nm,1.7s			IAmb	IAmb	17 35 20.7	
CAN	**Canberra**	**22.08**	**227**	P	**P**	**17 35 07.0**	**-0.5**
CAN	**Canberra**	**22.08**	**227**	P	**P**	**17 35 09.4**	**+2.0**
CAN	**Canberra**	**22.08**	**227**	P	**P**	**17 35 07.0**	**-0.5**
CAN	comp=Z,50nm,1.1s			pmax	pmax		
RPZ	**Rata Peaks** comp=Z,16nm,0.9s,baz=48,slow=6.5,SNR=5.8	**22.34**	**175**	P	**P**	**17 35 09.7**	**-0.4**
	comp=Z,16nm,0.9s						
CMSA	**Cobar Meteorol** baz=23,SNR=36	**22.82**	**239**	P	**P**	**17 35 16.7**	**+1.4**
CMSA	**Cobar Meteorol**	**22.82**	**239**	P	**P**	**17 35 17.5**	**+2.2**
QLP	**Quilpie** baz=23,SNR=17	**22.84**	**252**	P	**P**	**17 35 16.6**	**+1.0**
QLP	**Quilpie**	**22.84**	**252**	P	**P**	**17 35 19.6**	**+4.0**
AUSMG	**Snowy Mountain**	**22.96**	**225**	P	**P**	**17 35 19.7**	**+2.9**
MILA	**Mila** baz=23,SNR=5.4	**22.98**	**223**	P	**P**	**17 35 19.4**	**+2.3**
MILA	**Mila**	**22.98**	**223**	P	**P**	**17 35 20.1**	**+3.1**
MTSU	**Mount Surprise** baz=23,SNR=26	**23.08**	**274**	P	**P**	**17 35 19.2**	**+1.0**
RABL	**Rabaul**	**23.41**	**315**	P	**P**	**17 35 24.5**	**+3.0**
BULU	**Kimbe**	**23.73**	**309**	P	**P**	**17 35 25.0**	**+0.4**
PMG	**Port Moresby**	**23.84**	**297**	P	**P**	**17 35 27.4**	**+1.8**
PMG	**Port Moresby**	**23.84**	**297**	P	**P**	**17 35 27.2**	**+1.6**
PMG	**Port Moresby**	**23.84**	**297**	*d*P	**P**	**17 35 26.1**	**+0.5**
PMG	comp=Z,58nm,1.5s			pmax	pmax		
PMG	**Port Moresby** comp=Z,2μm,19.4s,baz=136,slow=33	**23.84**	**297**	LR	LR	17 43 15.6	
COEN	**Coen**	**25.32**	**283**	P	**P**	**17 35 37.4**	**-1.8**
COEN	**Coen**	**25.32**	**283**	P	**P**	**17 35 40.4**	**+1.2**
TOO	**Toolangi** baz=26,SNR=9.4	**25.67**	**226**	P	**P**	**17 35 44.2**	**+1.9**
TOO	**Toolangi**	**25.67**	**226**	P	**P**	**17 35 42.1**	**-0.2**
TOO	comp=Z,53nm,1.1s			IAmb	IAmb	17 35 49.1	
TOO	**Toolangi**	**25.67**	**226**	P	**P**	**17 35 44.5**	**+2.3**
TOO	**Toolangi**	**25.67**	**226**	P	**P**	**17 35 42.1**	**-0.2**
TOO	comp=Z,53nm,1.2s			pmax	pmax		
INKA	**Innaminka**	**26.08**	**250**	P	**P**	**17 35 48.1**	**+2.1**
STKA	**Stephens Creek** baz=26,SNR=14	**26.23**	**241**	P	**P**	**17 35 48.5**	**+1.1**
STKA	**Stephens Creek**	**26.23**	**241**	P	**P**	**17 35 48.0**	**+0.7**
STKA	**Stephens Creek**	**26.23**	**241**	P	**P**	**17 35 48.7**	**+1.3**
STKA	**Stephens Creek**	**26.23**	**241**	P	**P**	**17 35 48.0**	**+0.7**
STKA	comp=Z,9.0nm,1.2s			pmax	pmax		
STKA	**Stephens Creek**	**26.23**	**241**	P	**P**	**17 35 47.5**	**+0.2**
STKA	comp=Z,15nm,0.8s,baz=62,slow=7.8,SNR=20			LR	LR	17 46 08.0	
	comp=Z,3μm,18.6s,baz=74,slow=36 comp=Z,15nm,0.8s						
QIS	**Mount Isa** baz=27,SNR=6.8	**27.08**	**266**	P	**P**	**17 35 55.8**	**+0.8**
QIS	**Mount Isa**	**27.08**	**266**	P	**P**	**17 35 55.9**	**+0.8**
ARPS	**Mount Arapiles** baz=28,SNR=7.2	**27.83**	**231**	P	**P**	**17 36 05.5**	**+3.8**
LCRK	**Leigh Creek**	**28.70**	**245**	P	**P**	**17 36 12.2**	**+2.7**
HTT	**Hallett** baz=29,SNR=11	**28.84**	**239**	P	**P**	**17 36 11.8**	**+1.1**
HTT	**Hallett**	**28.84**	**239**	P	**P**	**17 36 13.5**	**+2.7**
OOD	**Oodnadatta**	**30.54**	**251**	P	**P**	**17 36 29.1**	**+3.3**
BBOO	**Buckleboo** baz=31,SNR=9.0	**31.00**	**242**	P	**P**	**17 36 31.8**	**+1.9**
BBOO	**Buckleboo**	**31.00**	**242**	P	**P**	**17 36 30.3**	**+0.4**
BBOO	comp=Z,17nm,0.8s			IAmb	IAmb	17 36 35.0	
BBOO	**Buckleboo**	**31.00**	**242**	P	**P**	**17 36 31.8**	**+1.9**
WR0	**Warramunga Arr**	**31.87**	**266**	P	**P**	**17 36 36.4**	**-1.2**
WR0	comp=Z,19nm,1.0s			IAmb	IAmb	17 36 46.8	
WB0	**Warramunga Arr**	**32.04**	**267**	P	**P**	**17 36 37.1**	**-2.0**
WB0	comp=Z,81nm,1.7s			IAmb	IAmb	17 36 48.9	
WB2	**Warramunga Arr**	**32.05**	**266**	P	**P**	**17 36 37.5**	**-1.7**
WB2	comp=Z,37nm,1.1s			IAmb	IAmb	17 36 49.0	
WRA	**Warramunga Arr**	**32.06**	**266**	P	**P**	**17 36 36.7**	**-2.6**
WRA				PcP	**PcP**	**17 39 30.6**	**+1.8**
WRA	**Warramunga Arr**	**32.06**	**266**	P	**P**	**17 36 36.7**	**-2.6**
WRA						17 39 30.6	
WRA	comp=Z,3.0nm,1.2s			pmax	pmax		
WRA	**Warramunga Arr** comp=Z,24nm,1.1s,baz=99,slow=7.8,SNR=56 comp=Z,24nm,1.1s	**32.06**	**266**	P	**P**	**17 36 37.6**	**-1.7**
AS31	**Alice Springs**	**32.09**	**259**	P	**P**	**17 36 38.5**	**-1.1**
ASAR	**Alice Springs**	**32.09**	**259**	P	**P**	**17 36 38.6**	**-1.0**
ASAR	**Alice Springs**	**32.09**	**259**	P	**P**	**17 36 38.6**	**-1.0**
ASAR	**Alice Springs** comp=Z,19nm,0.8s,baz=85,slow=8.8,SNR=117	**32.09**	**259**	P	**P**	**17 36 38.4**	**-1.2**
ASAR	comp=Z,2μm,18.7s,baz=99,slow=36 comp=Z,19nm,0.8s			LR	LR	17 49 25.4	
MULG	**Mulgathing**	**32.22**	**247**	P	**P**	**17 36 42.1**	**+1.5**
KDU	**Kakadu** baz=36,SNR=4.2	**35.55**	**278**	P	**P**	**17 37 10.2**	**+0.5**
KDU	**Kakadu**	**35.55**	**278**	P	**P**	**17 37 10.2**	**+0.5**
MTN	**Manton Dam** baz=37,SNR=4.8	**36.74**	**277**	P	**P**	**17 37 20.6**	**+0.8**
MTN	**Manton Dam**	**36.74**	**277**	P	**P**	**17 37 18.2**	**-1.6**
MTN	comp=Z,30nm,0.8s			IAmb	IAmb	17 37 28.9	
MTN	**Manton Dam**	**36.74**	**277**	P	**P**	**17 37 21.8**	**+2.0**
WRKA	**Warakurna** baz=37,SNR=15	**37.13**	**256**	P	**P**	**17 37 22.9**	**-0.2**
WRKA	**Warakurna**	**37.13**	**256**	P	**P**	**17 37 25.2**	**+2.0**
FORT	**Forrest** baz=38,SNR=8.0	**37.42**	**247**	P	**P**	**17 37 26.8**	**+1.3**
FORT	**Forrest**	**37.42**	**247**	P	**P**	**17 37 23.4**	**-2.2**
FORT	comp=Z,37nm,0.7s			IAmb	IAmb	17 37 28.2	
FORT	**Forrest**	**37.42**	**247**	P	**P**	**17 37 26.9**	**+1.3**
KNRA	**Kununurra** baz=38,SNR=17	**38.13**	**272**	P	**P**	**17 37 31.6**	**-0.1**
KNRA	**Kununurra**	**38.13**	**272**	P	**P**	**17 37 28.3**	**-3.4**
KNRA	comp=Z,50nm,1.0s			IAmb	IAmb	17 37 41.8	
KNRA	**Kununurra**	**38.13**	**272**	P	**P**	**17 37 32.9**	**+1.2**
TBI	**Tubuai** comp=Z,168nm,26.8s	**38.73**	**101**	*e*P	**P**	**17 37 38.1**	**+1.5**
TBI	comp=Z,2μm,27.2s			*e*S	**S**	**17 43 39.7**	**+6.9**
TBI	comp=Z,9μm,29.0s			*e*LQ	LQ	17 46 20.1	
TBI	comp=Z,8μm,27.5s			*e*LR	LR	17 48 27.1	
TBI	comp=Z,2μm,25.8s			*e*LR	LR	17 48 29.3	
PPT2	**Papeete2** comp=Z,79nm,29.2s	**39.52**	**92**	*e*P	**P**	**17 37 39.0**	**-4.4**
PPT2	comp=Z,484nm,25.0s			*e*S	**S**	**17 43 46.1**	**+1.1**
PPT2	comp=Z,1μm,25.2s			*e*LQ	LQ	17 47 09.4	
PPT2	comp=Z,2μm,29.8s			*e*LR	LR	17 48 25.7	
PPT2	comp=Z,3μm,27.2s			*e*LR	LR	17 48 52.0	
FITZ	**Fitzroy Crossi** baz=41,SNR=64	**40.48**	**267**	P	**P**	**17 37 51.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**40.48**	**267**	P	**P**	**17 37 51.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**40.48**	**267**	P	**P**	**17 37 51.6**	**+0.3**
BNDI	**Bandanaira**	**41.12**	**289**	P	**P**	**17 37 59.5**	**+2.9**
GUMO	**Guam** comp=Z,167nm,18.1s,baz=135,slow=36	**41.87**	**324**	LR	LR	17 55 14.8	
KMBL	**Kambalda** baz=43,SNR=12	**42.75**	**247**	P	**P**	**17 38 09.8**	**0.0**
KMBL	**Kambalda**	**42.75**	**247**	P	**P**	**17 38 09.9**	**+0.1**
SOEI	**Soe** comp=Z,2μm,19.0s	**44.11**	**278**	IAMs_20	IAMs_20	17 57 22.4	
SOEI	**Soe**	**44.11**	**278**	P	**P**	**17 38 21.9**	**+0.9**
SOEI	**Soe** comp=Z,68nm,1.1s,comp=Z,1μm	**44.11**	**278**	P	**P**	**17 38 23.3**	**+2.3**
BATI	**Baumata** comp=Z,37nm,1.0s,comp=Z,1μm	**44.51**	**277**	P	**P**	**17 38 25.1**	**+0.9**
BATI	**Baumata** comp=Z,2μm,19.7s,baz=135,slow=37	**44.51**	**277**	LR	LR	17 57 20.8	
PSA00	**Pilbara Seismi**	**45.22**	**260**	P	**P**	**17 38 27.9**	**-1.8**
PSA00	**Pilbara Seismi**	**45.22**	**260**	P	**P**	**17 38 30.2**	**+0.5**
MBWA	**Marble Bar**	**45.39**	**261**	P	**P**	**17 38 29.4**	**-1.7**
MBWA	**Marble Bar**	**45.39**	**261**	P	**P**	**17 38 32.2**	**+1.1**
SANI	**Sanana**	**45.72**	**289**	P	**P**	**17 38 33.5**	**-0.2**
SANI	**Sanana** comp=Z,56nm,1.0s,comp=Z,971nm	**45.72**	**289**	P	**P**	**17 38 33.9**	**+0.2**
MEEK	**Meekatharra** baz=46,SNR=12	**45

MPSI Mapaga 52.21 288 P **P** **17 39 23.0 -0.5**
comp=Z,26nm,0.9s,comp=Z,642nm
HPAH Hawaii Prepara 53.98 43 P **P** **17 39 34.0 -2.5**
VNDA Vanda 56.25 182 P **P** **17 39 51.1 -1.0**
VNDA IAmb IAmb 17 39 55.1
comp=Z,52nm,1.9s
VNDA Vanda 56.25 182 P **P** **17 39 51.1 -1.0**
VNDA pmax pmax
comp=Z,51nm,1.9s
VNDA Vanda 56.25 182 P **P** **17 39 50.8 -1.3**
comp=Z,3.5nm,1.1s,baz=354,slow=5.8,SNR=10
VNDA LR LR 18 02 00.4
comp=Z,191nm,18.4s,baz=12,slow=34
comp=Z,3.5nm,1.1s
SBA Scott Base 56.50 180 P **P** **17 39 53.7 -0.1**
SBA IAmb IAmb 17 39 57.9
comp=Z,36nm,1.1s
SBA Scott Base 56.50 180 P **P** **17 39 53.7 -0.1**
SBA pmax pmax
comp=Z,36nm,1.1s
CASY Casey 57.91 204 P **P** **17 40 02.2 -1.7**
CASY IAmb IAmb 17 40 06.3
comp=Z,21nm,0.8s
STKI Sintang 59.65 283 P P 17 40 28.4 +12
LEM Lembang 60.56 274 P **P** **17 40 19.9 -3.4**
comp=Z,50nm,1.2s
LEM Lembang 60.56 274 LR LR 18 08 10.1
comp=Z,834nm,19.3s,baz=107,slow=38
CBJI Citeko 61.41 274 P P 17 40 41.9 +13
DBJI Dramaga 61.46 274 P **P** **17 40 31.5 +2.3**
JOW Kunigami 61.85 319 LR LR 18 05 04.5
comp=Z,125nm,19.7s,baz=114,slow=34
CGJI Cibinong 62.42 274 P **P** **17 40 34.8 -0.9**
comp=Z,51nm,1.2s,comp=Z,817nm
KASI Kota Agung 63.92 274 P **P** **17 40 46.4 +0.8**
comp=Z,45nm,1.2s,comp=Z,705nm
MJAR Matsushiro Arr 64.40 333 P **P** **17 40 47.6 -0.7**
comp=Z,2.1nm,0.8s,baz=162,slow=7.1,SNR=6.4
MJAR LR LR 18 11 56.2
comp=Z,72nm,18.0s,baz=165,slow=39
comp=Z,2.1nm,0.8s
MAJO Matsushiro 64.40 333⇓ *e*P **P** **17 40 49.5 +1.2**
MAJO pmax pmax
comp=Z,27nm,1.5s
PMBI Palembang 64.61 277 IAMs_20 IAMs_20 18 10 51.8
comp=Z,784nm,19.0s
JTU Tsushima 66.96 325 P **P** **17 41 02.1 -2.7**
MYKOM Kota Tinggi 67.30 281 IAMs_20 IAMs_20 18 10 30.2
comp=Z,860nm,22.0s
KRJI Kerinci 67.99 277 P **P** **17 41 12.4 +0.4**
comp=Z,184nm,0.5s
QSPA South Pole Qui 68.66 180 P **P** **17 41 14.1 -1.2**
QSPA South Pole Qui 68.66 180 P **P** **17 41 13.9 -1.4**
comp=Z,16nm,0.8s,baz=17,slow=3.2,SNR=27
comp=Z,16nm,0.8s
BKNI Bangkinang 69.30 279 IAMs_20 IAMs_20 18 14 19.0
comp=Z,529nm,20.0s
JKA Kamikawa-asahi 69.42 340 P **P** **17 41 19.7 -0.4**
ASAJ Asahikawa 69.42 340 P **P** **17 41 19.7 -0.4**
ASAJ pmax pmax
comp=Z,247nm,2.0s
ASAJ Asahikawa 69.42 340 P **P** **17 41 21.2 +1.1**
comp=Z,19nm,0.9s,baz=244,slow=17,SNR=6.2
ASAJ LR LR 18 07 27.5
comp=Z,197nm,19.9s,baz=168,slow=32
comp=Z,19nm,0.9s
QIZ Qiongzhong 70.15 301 P **P** **17 41 26.6 +1.5**
QIZ S **S** **17 50 38.9 +3.1**
QIZ pmax pmax
comp=Z,270nm,3.3s
QIZ LR LR
comp=Z,280nm,26.9s
NJ2 Nanjing 71.36 317⇓P **P** **17 41 34.7 +2.5**
NJ2 pP **pP** **17 41 37.5 -0.6**
NJ2 sP **sP** **17 41 40.0 -0.2**
NJ2 pmax pmax
comp=Z,7.0nm,0.8s
NJ2 pmax pmax
comp=Z,240nm,3.8s
KULM Kulim 71.64 283 IAMs_20 IAMs_20 18 14 45.2
comp=Z,531nm,20.0s
YSS Yuzh-Sakhalins 71.94 342 *e*P **P** **17 41 31.8 -3.5**
YSS pmax pmax
comp=Z,50nm,1.1s
GSI Gunungsitoli 72.87 278 P **P** **17 41 38.4 -3.3**
GSI IAmb IAmb 17 41 51.1
comp=Z,28nm,1.1s
GSI Gunungsitoli 72.87 278 P **P** **17 41 42.6 +0.9**
comp=Z,28nm,1.0s
GULI GuiLin 73.16 306 P **P** **17 41 46.0 +2.9**
WHN Wuhan 73.38 313 P **P** **17 41 43.6 -0.7**
USRK Ussuriysk Ar. 73.39 333 P **P** **17 41 42.2 -1.8**
USRK Ussuriysk Ar. 73.39 333 P **P** **17 41 43.4 -0.7**
comp=Z,7.2nm,0.8s,baz=142,slow=2.7,SNR=8.1
comp=Z,7.2nm,0.8s
USA0B Ussuriysk Arra 73.39 333 P **P** **17 41 41.8 -2.3**
USA0B Ussuriysk Arra 73.39 333 P **P** **17 41 41.8 -2.3**
USA0B pmax pmax
comp=Z,109nm,1.6s
RPN Rapa Nui 73.78 113 LR LR 18 06 08.0
comp=Z,305nm,21.9s,baz=317,slow=29
SHEM Shemya Is, Ala 73.98 3 LR LR 18 07 44.8
comp=Z,405nm,20.4s,baz=172,slow=30
MDJ Mudanjiang 74.75 332 P **P** **17 41 54.3 +2.3**
MDJ pP pP 17 41 58.0 +0.1
MDJ ScS **ScS** **17 52 06.2 +3.7**
MDJ pmax pmax
comp=Z,42nm,1.8s
MDJ pmax pmax
comp=Z,660nm,4.3s
PEA0B Petropavlovsk- 74.81 353⇑ *e*P **P** **17 41 53.8 +1.7**
PETK Petropavlovsk- 74.81 353 P **P** **17 41 50.4 -1.7**
PETK Petropavlovsk- 74.81 353 P **P** **17 41 51.9 -0.3**
comp=Z,17nm,0.9s,baz=136,slow=5.6,SNR=10
PETK LR LR 18 08 55.6
comp=Z,231nm,22.0s,baz=168,slow=31
comp=Z,17nm,0.9s
CN2 Changchun 76.00 329 *e*P **P** **17 42 02.1 +2.9**
MAW Mawson 76.21 202 P **P** **17 41 58.5 -1.6**
MAW Mawson 76.21 202 P **P** **17 41 59.6 -0.6**
comp=Z,20nm,1.0s,baz=110,slow=9.0,SNR=15
comp=Z,20nm,1.0s
GYA Guiyang 76.58 306 *e*P **P** **17 42 05.3 +2.2**
GYA pmax pmax
comp=Z,12nm,0.7s
GYA pmax pmax
comp=Z,210nm,6.0s
BNX BinXian 76.59 332⇓P **P** **17 42 03.6 +1.1**
BNX pmax pmax
comp=Z,13nm,1.1s
BNX pmax pmax
comp=Z,440nm,3.5s
LYN LuoYang 77.08 315 *e*P P 17 42 14.6 +9.1
LYN pmax pmax
comp=Z,13nm,0.6s
HNS HongShan 77.42 319⇑P **P** **17 42 10.1 +2.7**
KLR Kul'dur 77.60 336⇓ *e*P **P** **17 42 09.7 +1.6**
KLR pmax pmax
comp=Z,44nm,2.4s
KLR Kul'dur 77.60 336 P **P** **17 42 08.8 +0.6**
comp=Z,4.2nm,0.8s,baz=148,slow=1.4,SNR=8.7
KLR LR LR 18 09 34.7
comp=Z,74nm,21.4s,baz=156,slow=30
comp=Z,4.2nm,0.8s
BJI Beijing 78.25 322 P **P** **17 42 14.3 +2.4**
BJI sP **pwP** **17 42 20.9 +0.2**
BJI S **S** **17 52 09.6 +3.7**
BJI sS **sS** **17 52 16.1 +1.2**
BJI pmax pmax
comp=Z,4.0nm,1.1s
BJI pmax pmax
comp=Z,180nm,4.2s
CRAI Chiangrai 78.48 297 P **P** **17 42 10.6 -3.0**
CRAI IAmb IAmb 17 42 17.6
comp=Z,21nm,1.1s
CM31 Chiang Mai Arr 78.86 295 P **P** **17 42 14.9 -1.0**
CM31 IAmb IAmb 17 42 26.6
comp=Z,34nm,1.3s
CMAR Chiang Mai Arr 78.86 295 P **P** **17 42 14.9 -0.9**
CMAR Chiang Mai Arr 78.86 295 *i* P **P** **17 42 17.2 +1.4**
CMAR pmax pmax
comp=Z,13nm,1.1s
CMAR Chiang Mai Arr 78.86 295 P **P** **17 42 16.6 +0.7**
comp=Z,12nm,1.1s,baz=132,slow=4.2,SNR=40
comp=Z,12nm,1.1s
KMI Kunming 78.92 303⇓P **P** **17 42 18.5 +2.2**
KMI S **S** **17 52 18.9 +4.7**
KMI pmax pmax
comp=Z,20nm,1.1s
KMI pmax pmax
comp=Z,310nm,5.7s
KMI LR LR
comp=Z,150nm,12.9s
KMI LR LR
comp=Z,210nm,17.0s
KMI LR LR
comp=Z,200nm,23.0s
CHTO Chiang Mai 79.02 295 P **P** **17 42 13.4 -3.2**
CHTO IAmb IAmb 17 42 27.2
comp=Z,28nm,1.2s
CHTO Chiang Mai 79.02 295 P **P** **17 42 13.5 -3.2**
CHTO pmax pmax
comp=Z,28nm,1.3s
XAN Xi'an 79.14 313 P **P** **17 42 19.4 +2.3**
XAN sP pwP 17 42 26.5 +0.6
XAN S **S** **17 52 24.2 +8.3**
XAN pmax pmax
comp=Z,17nm,1.8s
BELA Belgrano 2 80.00 175 P **P** **17 42 19.9 -1.2**
BELA IAmb IAmb 17 42 22.9
comp=Z,28nm,1.1s
HEH HeiHe 80.11 335 *e*P **P** **17 42 22.4 +0.6**
HEH pmax pmax
comp=Z,11nm,1.1s
HEH pmax pmax
comp=Z,780nm,5.8s
PZH PanZhiHua 80.39 303 P **P** **17 42 25.2 +1.1**
PZH S **S** **17 52 31.2 +1.7**
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,290nm,6.1s
PZH LR LR
comp=Z,200nm,19.0s
PZH LR LR
comp=Z,180nm,19.4s
PZH LR LR
comp=Z,200nm,20.0s
CD2 Chengdu 81.09 308 *e*P **P** **17 42 29.5 +1.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 81.48 320 *e*P **P** **17 42 32.6 +3.0**
HHC S **S** **17 52 38.1 -2.2**
HHC pmax pmax
comp=Z,35nm,0.6s
HHC pmax pmax
comp=Z,550nm,5.7s
HHC LR LR
comp=Z,590nm,19.8s
HHC LR LR
comp=Z,410nm,21.6s
MA2 Magadan 82.01 351 LR LR 18 11 35.3
comp=Z,100nm,20.0s,baz=124,slow=30
TNCH TengChong 82.23 301 P **P** **17 42 33.7 -0.3**
TNCH sP sP 17 42 40.9 -1.1
TNCH SKS **S** **17 52 45.3 -3.5**
TNCH S **SKSac** **17 52 52.1 -2.0**
TNCH pmax pmax
comp=Z,12nm,2.5s
TNCH pmax pmax
comp=Z,190nm,4.8s
TNCH LR LR
comp=Z,190nm,4.3s
TNCH LR LR
comp=Z,110nm,4.8s
TNCH LR LR
comp=Z,130nm,8.1s
BTO Baotou 82.27 319 *e*P **P** **17 42 37.4 +3.7**
BTO pP **sP** **17 42 41.6 -0.2**
BTO sP **pwP** **17 42 44.9 +2.3**
BTO S **S** **17 52 55.8 +7.4**
BTO pmax pmax
comp=Z,18nm,0.5s
BTO pmax pmax
comp=Z,690nm,4.1s
BTO LR LR
comp=Z,350nm,5.6s
BTO LR LR
comp=Z,380nm,6.3s
BTO LR LR
comp=Z,210nm,4.8s
LZH Lanzhou 83.74 313 *e*P **P** **17 42 44.1 +2.5**
LZH sP pwP 17 42 51.3 +0.9
LZH S **S** **17 53 08.3 +4.6**
LZH pmax pmax
comp=Z,14nm,1.2s
LZH pmax pmax
comp=Z,530nm,4.3s
ELIB Princess Elisa 83.91 190 *d*P **P** **17 42 41.2 -0.7**
comp=Z,8.9nm,1.3s
OHAK Old Harbor 84.59 20 P **P** **17 42 41.7 -3.3**
SEY Seymchan 85.03 353 LR LR 18 15 30.6
comp=Z,240nm,19.7s,baz=166,slow=32
PMSA Palmer Station 85.08 160 LR LR 18 14 26.5
comp=Z,354nm,19.3s,baz=258,slow=31
N15K Kwethluk River 85.19 15 P **P** **17 42 45.8 -2.3**
KDAK Kodiak Island 85.27 20 LR LR 18 15 47.7
comp=Z,295nm,18.6s,baz=227,slow=32
L14K Kuka Creek 85.64 13 P **P** **17 42 49.7 -0.5**
M16K Timber Creek 86.21 15 P **P** **17 42 52.2 -0.9**
M16K IAmb IAmb 17 45 36.5
comp=Z,39nm,1.4s
TROLL Troll, Antarti 86.34 184⇓P **P** **17 42 52.8 -1.2**
comp=Z,1μm,0.7s
NVL N'lazarevskaya 86.64 188 *e*P **P** **17 42 52.0 -3.3**
NVL *e*S **SKSac** **17 53 14.8 -5.9**
NVL pmax pmax
comp=Z,10.0nm,0.8s
NVL smax smax
comp=E,230nm,10.1s
SNAA Sanae 86.98 183 P **P** **17 42 55.4 -1.7**
SNAA IAMs_20 IAMs_20 18 16 34.6
comp=Z,420nm,22.0s
SNAA Sanae 86.98 183⇓P **P** **17 42 55.6 -1.5**
comp=Z,312nm,0.8s
SNAA Sanae 86.98 183 *ce*P **P** **17 42 55.7 -1.4**
SNAA pmax pmax
comp=Z,30nm,1.0s
SNAA Sanae 86.98 183 P **P** **17 42 55.2 -1.8**
comp=Z,21nm,1.0s,baz=209,slow=6.5,SNR=26
SNAA LR LR 18 20 17.0
comp=Z,119nm,18.5s,baz=187,slow=35
comp=Z,21nm,1.0s
VNA3 Neumayer Olymp 87.59 181⇓P **P** **17 42 58.2 -1.8**
comp=Z,17nm,0.7s
J16K Anvik River 87.82 13 P **P** **17 43 01.3 +0.4**
J16K IAmb IAmb 17 43 04.0
comp=Z,12nm,0.8s
VNA2 Neumayer--Watz 87.87 181⇓P **P** **17 42 59.8 -1.5**
comp=Z,21nm,0.6s,baz=178,slow=4.0
VNA1 Neumayer--Stat 88.17 181⇓P **P** **17 43 01.2 -1.5**
comp=Z,12nm,1.0s
GTA Gaotai 88.19 314 *e*P **P** **17 43 05.8 +2.4**
GTA pP sP 17 43 11.4 -0.1
GTA pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 88.25 324 P **P** **17 43 04.1 +0.6**
ULN IAmb IAmb 17 43 08.2
comp=Z,28nm,1.6s
ULN Ulaanbaatar 88.25 324⇓ *i* P **P** **17 43 04.6 +1.1**
ULN pmax pmax
comp=Z,28nm,2.5s
SONM Songino Array 88.60 323 P **P** **17 43 04.3 -0.9**
SONM Songino Array 88.60 323 P **P** **17 43 04.3 -0.9**
SONM pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 88.60 323 P **P** **17 43 04.0 -1.2**
comp=Z,4.2nm,0.9s,baz=140,slow=1.4,SNR=16
SONM LR LR 18 19 31.7
comp=Z,80nm,21.9s,baz=110,slow=33
comp=Z,4.2nm,0.9s
YAK Yakutsk 88.75 343 P **P** **17 43 03.6 -1.7**
YAK Yakutsk 88.75 343 *d* P **P** **17 43 05.5 +0.2**
YAK pmax pmax
comp=Z,38nm,1.1s
ORV Oroville 89.00 47 P **P** **17 43 06.7 -0.3**
ORV IAmb IAmb 17 43 09.7
comp=Z,16nm,1.4s
ORV Oroville 89.00 47 P **P** **17 43 06.7 -0.3**
ORV pmax pmax
comp=Z,16nm,1.4s
AFDM Forest Hills D 89.06 47 IAmb IAmb 17 43 09.9
comp=Z,15nm,1.3s
BILL Bilibino 89.20 359 P **P** **17 43 08.0 +0.6**
BILL IAmb IAmb 17 43 09.9
comp=Z,14nm,0.9s
BILL Bilibino 89.20 359 *i* P **P** **17 43 09.2 +1.9**
YBH Yreka Blue Hor 89.26 44 IAmb IAmb 17 43 11.7
comp=Z,12nm,1.4s
ISA Isabella, Lake 89.30 51 IAmb IAmb 17 43 11.4
comp=Z,19nm,1.4s
PFO Pinyon Flats O 89.87 54 P **P** **17 43 09.6 -1.9**
PFO Pinyon Flats O 89.87 54 P **P** **17 43 09.6 -1.9**
PFO pmax pmax
comp=Z,10.0nm,1.3s
NVAR Mina Array Bea 90.67 49 P **P** **17 43 14.4 -0.8**
comp=Z,2.2nm,0.8s,baz=225,slow=6.3,SNR=14
comp=Z,2.2nm,0.8s
PALK Pallekele 90.68 277 LR LR 18 28 00.8
comp=Z,294nm,18.1s,baz=224,slow=38
KVN Kaiserville 91.09 48 P **P** **17 43 17.0 -0.1**
KVN Kaiserville 91.09 48 P **P** **17 43 17.0 -0.1**
KVN pmax pmax
comp=Z,6.0nm,1.1s
WCT Wildcat Mounta 91.14 51 P **P** **17 43 16.8 -0.5**
WCT IAmb IAmb 17 43 19.8
comp=Z,14nm,1.4s
ZAK Zakamensk 91.70 324 *e*P **P** **17 43 18.8 -0.8**
ZAK pmax pmax
comp=Z,8.0nm,1.9s
SHPR Sheep Range 92.08 52 P **P** **17 43 20.3 -1.4**
SHPR IAmb IAmb 17 43 47.9
comp=Z,16nm,1.9s
ILAR Eielson Array 92.47 18 P **P** **17 43 21.6 -1.0**
comp=Z,0.9nm,0.6s,baz=234,slow=4.7,SNR=18
ILAR LR LR 18 22 59.5
comp=Z,246nm,18.1s,baz=238,slow=34
comp=Z,0.9nm,0.6s
E22K Anaktuvuk Pass 93.87 14 IAMs_20 IAMs_20 18 18 15.2
comp=Z,598nm,21.0s
BMO Blue Mountains 94.21 43 IAMs_20 IAMs_20 18 17 14.4
comp=Z,655nm,20.0s
DLBC Dease Lake 94.23 28 LR LR 18 16 56.0
comp=Z,536nm,21.9s,baz=268,slow=30
D22K Ayikyak River 94.28 13 P **P** **17 43 30.5 -0.4**
D22K IAmb IAmb 17 43 33.6
comp=Z,7.7nm,0.8s
DUG Dugway, Tooele 95.28 49 IAMs_20 IAMs_20 18 19 47.1
comp=Z,637nm,19.0s
HLID Hailey 95.54 45 IAMs_20 IAMs_20 18 19 11.9
comp=Z,536nm,20.0s
G30M tAoh Zraii Nji 97.14 19 P **P** **17 43 43.3 -0.7**
E28M Babbage River 97.26 17 P **P** **17 43 43.9 -0.6**
MVCO Mesa Verde 97.27 53 IAMs_20 IAMs_20 18 24 36.2
comp=Z,430nm,20.0s
PLCA Paso Flores 97.30 139 LR LR 18 20 33.2
comp=Z,71nm,19.6s,baz=224,slow=31
FXWY Fox Creek 97.83 46 IAMs_20 IAMs_20 18 17 10.7
comp=Z,477nm,20.0s
LOHW Long Hollow 98.11 46 IAMs_20 IAMs_20 18 20 23.0
comp=Z,372nm,21.0s
WMQ Urumqi 98.27 314 *e*P Pdif 17 43 52.2 +2.5
WMQ LR LR
comp=Z,170nm,25.7s
TXAR Lajitas Array 98.31 62 P **P** **17 43 49.5 -0.8**
comp=Z,0.5nm,0.9s,baz=224,slow=6.3,SNR=4.6
comp=Z,0.5nm,0.9s
INK Inuvik 98.78 19 LR LR 18 24 34.6
comp=Z,139nm,18.8s,baz=184,slow=33
SMCO Snowmass 99.08 52 IAMs_20 IAMs_20 18 17 18.1
comp=Z,450nm,19.0s
DGZ Jazzator, Alta 100.56 319⇑ *e*P **Pdif** **17 43 59.6 -0.3**
DGZ pmax pmax
comp=Z,1.0nm,1.1s
MKAR Makanchi Array 102.86 315 Pdiff **Pdif** **17 44 10.1 +0.1**
comp=Z,0.5nm,0.8s,baz=122,slow=4.4,SNR=3.6
MKAR PKiKP **PKiKP** **17 48 30.3 -0.1**
comp=Z,0.7nm,0.9s,baz=116,slow=3.4,SNR=3.7
MKAR PKPbc **PKKPbc** **18 00 07.3 -2.0**
comp=Z,0.9nm,0.7s,baz=290,slow=2.3,SNR=7.4
OK038 West end E0370 104.45 56 IAMs_20 IAMs_20 18 25 55.6
comp=Z,448nm,19.0s
OK035 E0210 Rd and N 104.54 56 IAMs_20 IAMs_20 18 33 18.9
comp=Z,638nm,21.0s
OK033 Mehan 105.74 57 IAMs_20 IAMs_20 18 24 56.7
comp=Z,635nm,20.0s
OK030 Cody Creek RV 105.83 57 IAMs_20 IAMs_20 18 17 57.1
comp=Z,314nm,22.0s
KURBB Kurchatov Arra 106.29 318 PKiKP **PKiKP** **17 48 36.5 0.0**
comp=Z,0.2nm,0.4s,baz=87,slow=2.2,SNR=5.6
KURBB PP **PP** **17 48 46.6 -3.2**
comp=Z,1.6nm,1.0s,baz=103,slow=7.0,SNR=6.1
BRVK Borovoye 111.76 320⇓ *i* PKiKP **PKiKP** **17 48 47.7 +1.0**
ARU Arti 118.63 324⇑ *i* PKiKP **PKPdf** **17 48 59.3 -0.5**
NEEM North Greenlan 120.73 9 *i* P **PKiKP** **17 49 03.8 0.0**
KIRV Kirov 123.17 327⇑ *i* PKiKP **PKiKP** **17 49 09.1 +0.5**
PRGR Permogore 124.13 331 *e*PKiKP **PKPdf** **17 49 07.8 -2.3**
PRGR pmax pmax
comp=Z,11nm,1.0s
DAG Danmarks Havn 124.47 2 *i* P **PKPdf** **17 49 09.2 -1.2**
SUMG Summit 126.59 10 *i* P **PKPdf** **17 49 13.4 -1.7**
MAK Makhachkala 126.86 308 *i* P **Pdif** **17 45 55.3 -1.4**
MAK *i* 17 49 12.3
MAK *e* 17 51 09.3
MAK *e*PPP PPP 17 53 53.2
MAK *e* 17 56 15.5
MAK *e*SS SS 18 08 14.2 -5.7
MAK *e*SSS SSS 18 12 56.8
DBG Daneborg 126.86 3 *i* P **PKPdf** **17 49 11.5 -3.6**
ARCES ARCESS Array B 127.00 345 PKP **PKPdf** **17 49 14.5 -1.0**
comp=Z,5.0nm,0.6s,baz=7.5,slow=1.0,SNR=18
KLMR Klimovskoe 127.16 332 *e*PKPdf **PKPdf** **17 49 14.5 -1.5**
KLMR AMP 17 49 25.3
comp=Z,33nm,1.6s
KLMR Klimovskoe 127.16 332 *e*PKiKP **PKPdf** **17 49 14.5 -1.5**
KLMR pmax pmax
comp=Z,33nm,1.6s
ATD Arta Tunnel 127.29 268 IAMs_20 IAMs_20 18 37 51.7
comp=Z,485nm,22.0s
BDFB Brasilia 128.56 133 PKP **PKPdf** **17 49 18.8 -1.4**
comp=Z,8.7nm,0.8s,baz=227,slow=0.9,SNR=11
DY2G Dye2 129.74 17 *i* P **PKPdf** **17 49 21.0 -0.1**
KIV Kislovodsk 130.23 310 *i* PKiKP **PKiKP** **17 49 25.4 +2.1**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,115nm,23.0s
FURI Furi 130.30 263 IAMs_20 IAMs_20 18 42 30.9
comp=Z,374nm,20.0s
OBN Obninsk 130.96 326 *e*PKiKP **PKiKP** **17 49 24.0 -0.3**
OBN *e* 17 51 37.5
OBN *e*PPP PPP 17 54 29.5
OBN pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 132.35 337 PKP **PKiKP** **17 49 27.0 +0.1**
comp=Z,5.1nm,0.8s,baz=140,slow=9.9,SNR=6.5
ARPR Arapgir-MALATY 134.16 304 IAMs_20 IAMs_20 18 50 20.1
comp=Z,248nm,22.0s
NACGM Naroch 136.00 329 *e*PKP **PKiKP** **17 49 33.8 -0.7**
comp=Z,32nm,1.1s,baz=56
AKASG Malin Array Be 136.88 323 PKP **PKPdf** **17 49 34.1 -0.5**
comp=Z,1.0nm,0.6s,baz=57,slow=2.2,SNR=6.9
AKBB Malin Array Si 136.88 323⇓ *e*PKiKP **PKPdf** **17 49 35.0 +0.4**
GHAJ Ghor Haditha 137.06 293 IAMs_20 IAMs_20 18 49 29.6
comp=Z,258nm,20.0s
NB2 NORSAR Subarra 137.37 344 PKPdf **PKiKP** **17 49 36.4 -0.8**
comp=Z,3.3nm,0.7s,baz=14,slow=1.8
NOA NORSAR Array B 137.37 344 PKP **PKPdf** **17 49 35.5 +0.2**
comp=Z,1.8nm,0.7s,baz=32,slow=2.0,SNR=6.1
BRTR Keskin Array B 137.64 306 PKP **PKPdf** **17 49 36.7 +0.1**
comp=Z,0.6nm,0.7s,baz=65,slow=2.1,SNR=2.1
ISP Isparta 140.42 304⇓ *i* PKiKP **PKiKP** **17 49 46.2 +1.9**
VYHS Vyhne 143.76 325 *e*PKP **PKPdf** **17 49 48.5 +1.3**
VYHS Vyhne 143.76 325 *e*PKiKP **PKPdf** **17 49 48.5 +1.3**
DPC Dobruska-Polom 143.82 330 *e*PKP **PKPdf** **17 49 47.7 +0.4**
DPC Dobruska-Polom 143.82 330 *e*PKiKP **PKPdf** **17 49 47.7 +0.4**
UPC Upice 143.85 330 *e*PKP **PKPdf** **17 49 48.0 +0.7**
UPC Upice 143.85 330 *e*PKiKP **PKPdf** **17 49 48.0 +0.7**
VRAC Vranov 144.38 328 *e*PKP **PKiKP** **17 49 50.9 -1.0**
PVCC Panska Ves 144.50 331 *e*PKP **PKPdf** **17 49 48.6 +0.2**
PVCC Panska Ves 144.50 331 *e*PKiKP **PKPdf** **17 49 48.6 +0.2**
BRG Berggiesshubel 144.53 332 *i* PKP **PKPab** **17 49 43.9 -2.9**
BRG Amp 17 49 46.6
comp=Z,55nm,1.2s
BRG Berggiesshubel 144.53 332 *i* PKHKP PKPpre 17 49 43.9
BRG pmax pmax
comp=Z,55nm,1.2s
CLL Collm 144.61 333 PKPdf PKPbc 17 49 47.2 -0.1

CLL	**Collm**	**144.61**	**333**	*i* PKPbc	PKPbc	17 49 47.4	+0.1	
	comp=Z,52nm,1.2s							
CLL				*i* x	x	17 49 55.7		
CLL				*e*PP	**PP**	**17 53 08.0**	**+3.3**	
CLL				*e*SS	SS	18 11 42.0	-8.7	
CLL	**Collm**	**144.61**	**333**	*e*PKHKP	PKPpre	17 49 44.0		
CLL				*i*		17 49 47.4		
CLL				*i*		17 49 55.7		
CLL				pmax	pmax			
	comp=Z,52nm,1.2s							
KRUC	**Moravsky**	**144.65**	**328**	*e*PKP	**PKPdf**	**17 49 48.3**	**-0.4**	
MODS	**Modra-Piesok**	**144.65**	**326**	*e*PKP	**PKiKP**	**17 49 50.7**	**-1.8**	
MODS	**Modra-Piesok**	**144.65**	**326**	*e*PKIKP	**PKiKP**	**17 49 50.7**	**-1.8**	
ZST	**Bratislava**	**144.85**	**326**	*e*PKP	**PKPdf**	**17 49 50.2**	**+1.2**	
ZST	**Bratislava**	**144.85**	**326**	*e*PKIKP	**PKPdf**	**17 49 50.3**	**+1.2**	
PRU	**Pruhonice**	**144.89**	**331**	*e*PKP	**PKPab**	**17 49 47.4**	**-0.8**	
PRU	**Pruhonice**	**144.89**	**331**	*e*PKIKP	**PKPab**	**17 49 47.4**	**-0.8**	
HSKC	**Hora Svate Kat**	**144.94**	**332**	*e*PKP	**PKPdf**	**17 49 49.4**	**+0.2**	
ZVC	**Zvikov**	**145.44**	**330**	*e*PKP	**PKPbc**	**17 49 49.4**	**-0.7**	
EKA	**Eskdalemuir Ar**	**145.57**	**352**	PKPbc	**PKPdf**	**17 49 49.7**	**-0.4**	
	comp=Z,38nm,0.9s,baz=346,slow=2.7,SNR=37							
DIVS	**Divibare**	**145.57**	**318**	PKPdf	**PKPab**	**17 49 51.3**	**+0.3**	
RONA	**Rosalia, Austr**	**145.58**	**326**	*e*PKP	**PKPab**	**17 49 51.9**	**+1.0**	
	comp=Z,25nm,1.0s,SNR=8.7							
ESK	**Eskdalemuir**	**145.59**	**352**	PKPdf	**PKPdf**	**17 49 49.6**	**-0.5**	
ESK	**Eskdalemuir**	**145.59**	**352**	PKP2	**PKPdf**	**17 49 49.6**	**-0.5**	
NKC	**Novy Kostel**	**145.64**	**333**	*e*PKP	**PKPab**	**17 49 51.7**	**+0.7**	
NKC	**Novy Kostel**	**145.64**	**333**	*e*PKP2	**PKPab**	**17 49 51.7**	**+0.7**	
CONA	**Conrad Observa**	**145.66**	**327**	*e*PKP	**PKPab**	**17 49 51.7**	**+0.5**	
	comp=Z,32nm,1.4s,SNR=10.0							
MOX	**Moxa**	**145.68**	**334**	PKP2	**PKPab**	**17 49 51.4**	**+0.3**	
CKRC	**Cesky Krumlov**	**145.82**	**329**	*e*PKP	**PKPab**	**17 49 51.7**	**0.0**	
CKRC	**Cesky Krumlov**	**145.82**	**329**	*e*PKP2	**PKPab**	**17 49 51.7**	**0.0**	
KHC	**Kasperske Hory**	**145.94**	**330**	*e*PKP	**PKPab**	**17 49 52.0**	**-0.2**	
KHC				*e*pPKP	pPKPab	17 49 57.8	-0.1	
GERES	**GERESS Array B**	**146.09**	**330**	PKPbc	**PKPdf**	**17 49 51.5**	**+0.2**	
	comp=Z,27nm,0.9s,baz=15,slow=5.5,SNR=22							
ARSA	**Arzberg**	**146.28**	**326**	*e*PKP	**PKiKP**	**17 49 55.2**	**-0.7**	
	comp=Z,18nm,1.6s							
MOA	**Molln**	**146.51**	**328**	*e*PKP	**PKiKP**	**17 49 56.0**	**-0.4**	
	comp=Z,37nm,1.9s,SNR=6.2							
SOKA	**Soboth**	**146.90**	**326**	*e*PKP	**PKPbc**	**17 49 54.7**	**+0.1**	
	comp=Z,21nm,1.2s							
BIOA	**Bad Ischl, Aus**	**146.93**	**328**	*e*PKP	**PKPab**	**17 49 56.4**	**+0.3**	
	comp=Z,9.1nm,0.9s							
KBA	**Koelnbreinsper**	**147.49**	**328**	*e*PKP	**PKPbc**	**17 49 56.1**	**-0.3**	
	comp=Z,25nm,1.1s							
LESA	**Schwarzleotal**	**147.58**	**329**	*e*PKP	**PKPbc**	**17 49 55.7**	**-0.8**	
	comp=Z,25nm,1.1s							
MYKA	**Terra Mystica**	**147.65**	**327**	*e*PKP	**PKPbc**	**17 49 55.5**	**-1.3**	
	comp=Z,11nm,1.0s							
BTNL	**Ternell**	**147.78**	**339**	*d*PKP	**PKPbc**	**17 49 56.5**	**-0.4**	
MEM	**Membach**	**147.81**	**339**	*d*PKP	**PKPbc**	**17 49 56.8**	**-0.1**	
BSTI	**Sart Tilman**	**147.97**	**339**	*d*PKP	**PKPbc**	**17 49 57.6**	**+0.3**	
BHOU	**Houvegnez**	**148.03**	**339**	*d*PKP	**PKiKP**	**17 49 58.4**	**-0.9**	
STU	**Stuttgart**	**148.13**	**334**		**PKPdf**	**17 49 55.2**	**+0.6**	
STU	**Stuttgart**	**148.13**	**334**	PKIKP	**PKPdf**	**17 49 55.2**	**+0.6**	
ABTA	**Abfaltersbach**	**148.13**	**328**	*e*PKP	**PKPbc**	**17 49 56.8**	**-1.2**	
	comp=Z,26nm,1.2s							
WATA	**Walderalm**	**148.17**	**330**	*e*PKP	**PKPbc**	**17 49 58.0**	**-0.2**	
	comp=Z,19nm,0.9s							
WTTA	**Wattenberg**	**148.19**	**330**	*e*PKP	**PKPbc**	**17 49 58.7**	**+0.4**	
	comp=Z,29nm,1.2s,SNR=5.1							
MOTA	**Moosalm**	**148.38**	**330**	*e*PKP	**PKPbc**	**17 49 58.7**	**0.0**	
	comp=Z,53nm,1.3s,SNR=8.2							
SQTA	**Sankt Quirin**	**148.42**	**330**	*e*pPKP	**PKPbc**	**17 49 58.6**	**-0.3**	
	comp=Z,41nm,0.8s,SNR=8.9							
RETA	**Reutte**	**148.43**	**331**	*i* pPKP	**PKPbc**	**17 49 58.6**	**-0.2**	
	comp=Z,14nm,1.2s							
RCHB	**Rochefort**	**148.45**	**339**	*d*PKP	**PKPbc**	**17 49 57.6**	**-1.0**	
BMRD	**Maredsous**	**148.47**	**340**	*d*PKP	**PKPbc**	**17 49 57.8**	**-0.9**	
WLF	**Walferdange**	**148.56**	**338**		**PKiKP**	**17 50 00.0**	**-0.4**	
WLF	**Walferdange**	**148.56**	**338**	*d*PKP	**PKPbc**	**17 49 59.5**	**+0.6**	
WLF	**Walferdange**	**148.56**	**338**	PKP2	**PKiKP**	**17 50 00.0**	**-0.4**	
DOU	**Dourbes**	**148.71**	**340**	*d*PKP	**PKPbc**	**17 49 59.0**	**-0.3**	
FETA	**Feichten**	**148.79**	**330**	*e*pPKP	**PKPbc**	**17 49 60.0**	**+0.2**	
	comp=Z,49nm,1.1s,SNR=9.4							
BFO	**Black Forest**	**148.83**	**334**		**PKPbc**	**17 49 59.8**	**+0.1**	
BFO	**Black Forest**	**148.83**	**334**	PKP2	**PKPbc**	**17 49 59.8**	**+0.1**	
DAVA	**Damuels**	**148.98**	**331**	*e*pPKP	**PKPbc**	**17 50 00.3**	**0.0**	
	comp=Z,14nm,0.9s							
FUORN	**Ofenpass-Fuorn**	**149.30**	**330**		**PKPbc**	**17 50 01.5**	**+0.3**	
TUE	**Stuetta**	**149.83**	**331**		**PKPbc**	**17 50 02.5**	**0.0**	
INTR	**Introdacqua**	**150.44**	**320**		**PKPbc**	**17 50 02.3**	**-1.6**	
ESDC	**Sonseca Array**	**160.72**	**342**	PKPab	**PKPab**	**17 50 53.9**	**-0.3**	
	comp=Z,4.6nm,1.0s,baz=12,slow=4.1,SNR=10							
LIC	**Lamto**	**163.70**	**203**	⇑*i* PKP1	**PKPab**	**17 51 08.7**	**+0.9**	
	comp=Z,45nm,1.0s							
KIC	**Kosan Boka**	**163.71**	**204**	⇓*i* PKP1	**PKPab**	**17 51 09.1**	**+1.2**	
	comp=Z,30nm,1.2s							
TIC	**Toumodi**	**164.08**	**204**	⇓*i* PKP1	**PKPab**	**17 51 09.8**	**+0.3**	
	comp=Z,7.8nm,0.4s							
TORD	**Torodi Ar. Bea**	**165.05**	**239**	PKP	**PKPdf**	**17 50 15.5**	**-1.7**	
	comp=Z,1.8nm,1.0s,baz=21,slow=2.6,SNR=6.1							
TORD				PKPab	**PKPab**	**17 51 12.3**	**-1.7**	
	comp=Z,1.1nm,0.7s,baz=85,slow=4.5,SNR=4.5							

*IDC **10** 17:32:13.7±1.5,29.85S×176.59W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=56.7km s-min=30.2km az=17.0*

ISC 10 17:32:17.5±1.4,**29.9S**±0.4×**176.7W**±0.2,**h24**km,**n6,** σ1=**12**/9,**mb3.9**/3,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.29**	**301**	Pn	**Pn**	**17 32 39.7**	**-0.3**
	259nm,0.3s,baz=279,slow=19,SNR=2.6						
RAO				Sn	**Sn**	**17 32 56.3**	**-0.2**
	1μm,0.3s,baz=90,slow=22,SNR=3.7						
ASAR	**Alice Springs**	**44.30**	**266**	P	**P**	**17 40 26.7**	**+1.0**
	0.7nm,0.5s,baz=107,slow=7.1,SNR=2.0						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**45.25**	**271**	P	**P**	**17 40 32.8**	**-0.5**
	1.2nm,0.7s,baz=109,slow=8.0,SNR=7.6						
	1.2nm,0.7s						
MJAR	**Matsushiro Arr**	**78.53**	**324**	P	**P**	**17 44 18.4**	**+1.7**
	1.5nm,0.8s,baz=164,slow=6.0,SNR=5.9						
	1.5nm,0.8s						
AKASG	**Malin Array Be**	**151.61**	**324**	PKPbc	**PKPbc**	**17 52 07.5**	**-1.8**
	0.8nm,0.7s,baz=45,slow=3.4,SNR=4.6						
AKASG				PKPab	**sPKPbc**	**17 52 17.0**	**-0.2**
	1.8nm,0.6s,baz=43,slow=3.0,SNR=7.7						
MMAI	**Mount Meron Ar**	**152.54**	**285**	PKPbc	**PKiKP**	**17 52 12.4**	**0.0**
	0.3nm,0.3s,baz=95,slow=4.8,SNR=1.7						
MMAI				PKPab	**PKPab**	**17 52 22.4**	**-0.2**
	4.5nm,0.7s,baz=73,slow=5.0,SNR=8.9						

WEL 10 17:33:34.4±0.8,**37°S**±4'×**17°9E**±', **h12**km, **M3.6**/20, **ML3.9**/22, **MLv3.6**/20, **Error ellipse: s-maj=0.0km s-min=0.0km az=102.9, confirmed, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.67**	**233**	P	Pg	17 33 47.2	-0.3
MXZ				S	Sg	17 33 56.1	-0.2
WMGZ	**Waiomatatini S**	**0.80**	**214**	P	Pn	17 33 51.6	+0.1
WMGZ				S	Sn	17 34 04.0	+0.6
PKGZ	**Pakihiroa**	**1.02**	**224**	P	Pb	17 33 54.0	-0.1
PKGZ				S	Sn	17 34 08.6	-0.3
PUZ	**Puketiti**	**1.08**	**212**	P	Pn	17 33 55.3	-0.1
PUZ				S	Sn	17 34 09.8	-0.5
HAZ	**Te Kaha**	**1.12**	**237**	P	Pn	17 33 54.4	-1.3
HAZ				S	Sn	17 34 11.7	+0.4
TWGZ	**Tauwhareparae**	**1.29**	**218**	P	Pb	17 33 58.5	-0.2
TWGZ				S	Sg	17 34 16.2	+0.2
RUGZ	**Raukumara Rang**	**1.31**	**232**	P	Pn	17 33 58.7	0.0
RUGZ				S	Sg	17 34 16.6	-0.1
CNGZ	**Carnagh Statio**	**1.46**	**204**	P	Pn	17 34 00.9	+0.3
CNGZ				S	Sg	17 34 21.0	-0.4
WIZ	**White Island**	**1.47**	**255**	P	Pn	17 34 00.8	0.0
TKGZ	**Te Karaka**	**1.56**	**215**	P	Pn	17 34 01.6	-0.4
TKGZ				S	Sn	17 34 21.7	-0.4
MWZ	**Matawai**	**1.64**	**224**	P	Pn	17 34 03.2	0.0
WHRZ	**Whale Island**	**1.74**	**246**	P	Pn	17 34 05.0	+0.5
RAGZ	**Rawiri**	**1.82**	**222**	P	Pn	17 34 06.0	+0.3
RAGZ				S	Sn	17 34 27.4	-1.4
RIGZ	**Rimuhau**	**1.82**	**211**	P	Pn	17 34 05.1	-0.5
URZ	**Urewera**	**1.84**	**233**	P	Pn	17 34 06.1	+0.2
URZ				S	Sn	17 34 28.0	-1.2
PRGZ	**Paritu Road**	**1.96**	**206**	P	Pn	17 34 06.8	-0.7
MARZ	**Manawahe**	**2.01**	**245**	P	Pb	17 34 10.0	-0.9
EDRZ	**Edgecumbe**	**2.01**	**241**	P	Pn	17 34 09.3	+1.0
OPRZ	**Ohinepanea**	**2.04**	**250**	P	Pn	17 34 08.5	-0.1
SNGZ	**Shannon Statio**	**2.08**	**218**	P	Pn	17 34 08.5	-0.6
SNGZ				S	Sn	17 34 34.0	-0.9
KNZ	**Kokohu**	**2.13**	**209**	P	Pn	17 34 08.6	-1.2
RTZ	**Ruatahuna**	**2.15**	**227**	P	Pn	17 34 10.1	-0.1
RTZ				S	Sn	17 34 37.1	+0.4
MHGZ	**Mahia Peninsul**	**2.16**	**203**	P	Pn	17 34 09.3	-1.0
MYRZ	**Mayor Island**	**2.19**	**266**	P	Pn	17 34 10.5	-0.2
MUGZ	**Murupara**	**2.19**	**232**	P	Pn	17 34 10.8	+0.1
TGRZ	**Tauranga**	**2.24**	**254**	P	Pn	17 34 11.5	+0.2
TARZ	**Mount Tarawera**	**2.24**	**240**	P	Pn	17 34 12.3	+0.9
OMRZ	**Omania**	**2.28**	**245**	P	Pn	17 34 12.8	+0.9
RRRZ	**Republican Roa**	**2.28**	**238**	P	Pn	17 34 13.2	+1.3
RAHZ	**Arahi**	**2.31**	**220**	P	Pn	17 34 12.0	-0.3
KARZ	**Kaharoa**	**2.34**	**248**	P	Pn	17 34 13.2	+0.5
WHHZ	**Waihua**	**2.36**	**215**	P	Pn	17 34 12.4	-0.5
MTHZ	**Maungataniwha**	**2.39**	**224**	P	Pn	17 34 13.4	0.0
MTHZ				S	Sn	17 34 42.4	-0.4
NMHZ	**Naumai**	**2.58**	**221**	P	Pn	17 34 16.1	-0.1
NMHZ				S	Sn	17 34 47.4	-0.2
ARHZ	**Aropaoanui**	**2.62**	**216**	P	Pn	17 34 15.8	-0.7
ARHZ				S	Sn	17 34 47.0	-1.3
MRHZ	**Matea Rd**	**2.62**	**230**	P	Pn	17 34 16.8	+0.1
KUZ	**Kuaotunu**	**2.64**	**278**	P	Pn	17 34 15.3	-1.5
BKZ	**Black Stump Fm**	**2.80**	**224**	P	Pn	17 34 18.7	-0.5
TOZ	**Tahuroa Road**	**2.83**	**257**	P	Pn	17 34 18.5	-0.9
MCHZ	**McNeill Hill**	**2.90**	**217**	P	Pn	17 34 19.6	-0.9
CKHZ	**Cape Kidnapper**	**2.91**	**210**	P	Pn	17 34 18.6	-2.0
GRZ	**Great Barrier**	**2.97**	**287**	P	Pn	17 34 22.0	+0.7
KWHZ	**Kaweka Forest**	**3.03**	**221**	P	Pn	17 34 21.1	-1.1
MKAZ	**Moumakai**	**3.05**	**270**	P	Pn	17 34 21.4	-1.0
RITZ	**Rihia Road**	**3.06**	**233**	P	Pn	17 34 23.2	+0.5
WIAZ	**Waiheke Island**	**3.10**	**276**	P	Pn	17 34 22.4	-0.8
KAHZ	**Kahuranaki**	**3.11**	**211**	P	Pn	17 34 21.4	-1.9
KATZ	**Kakaramea**	**3.16**	**234**	P	Pn	17 34 24.6	+0.5
KRHZ	**Kereru**	**3.22**	**219**	P	Pn	17 34 22.9	-1.9
KRHZ				S	Sn	17 34 59.9	-3.2
TMVZ	**Te Maari**	**3.24**	**232**	P	Pn	17 34 24.8	-0.4
TMVZ				S	Sn	17 35 00.9	-2.8
ETAZ	**East Tamaki Re**	**3.25**	**272**	P	Pn	17 34 24.9	-0.2
ETVZ	**East Tongariro**	**3.25**	**232**	P	Pn	17 34 24.8	-0.5
NTVZ	**North Tongarir**	**3.25**	**232**	P	Pn	17 34 25.0	-0.3
KRVZ	**Karewarewa**	**3.27**	**233**	P	Pn	17 34 25.5	0.0
MBAZ	**Motutapu North**	**3.29**	**276**	P	Pn	17 34 25.5	-0.3
OTVZ	**Oturere**	**3.29**	**231**	P	Pn	17 34 25.4	-0.6
NNVZ	**North Ngauruho**	**3.30**	**232**	P	Pn	17 34 26.1	-0.1
WTVZ	**West Tongariro**	**3.31**	**233**	P	Pn	17 34 26.6	+0.5
PXZ	**Pawanui**	**3.31**	**209**	P	Pn	17 34 23.7	-2.4
PXZ				S	Sn	17 35 01.2	-4.2
SNVZ	**South Ngauruho**	**3.32**	**231**	P	Pn	17 34 25.8	-0.5
NGZ	**Ngauruhoe**	**3.34**	**232**	P	Pn	17 34 26.1	-0.5
TUVZ	**Tukino**	**3.36**	**230**	P	Pn	17 34 26.6	-0.3
ABAZ	**Army Bay**	**3.37**	**278**	P	Pn	17 34 26.5	-0.3
TWVZ	**Taurewa**	**3.38**	**235**	P	Pn	17 34 27.3	+0.1
COVZ	**Chateau Observ**	**3.39**	**232**	P	Pn	17 34 27.5	+0.2
MOVZ	**Moawhango**	**3.39**	**228**	P	Pn	17 34 26.3	-0.9
EPAZ	**Eden Park BICE**	**3.40**	**273**	P	Pn	17 34 28.9	+1.7
WHVZ	**Whangaehu Hut**	**3.41**	**230**	P	Pn	17 34 27.3	-0.3
FWVZ	**Far West T-bar**	**3.42**	**231**	P	Pn	17 34 27.7	0.0
MAVZ	**Matarangi**	**3.42**	**231**	P	Pn	17 34 27.6	-0.3
WNVZ	**Wahianoa**	**3.43**	**230**	P	Pn	17 34 27.1	-0.8
TRVZ	**Turoa**	**3.44**	**231**	P	Pn	17 34 28.0	-0.1
AWAZ	**Awhitu Peninsu**	**3.47**	**270**	P	Pn	17 34 27.9	-0.3
WPHZ	**Waipukurau**	**3.52**	**214**	P	Pn	17 34 26.9	-2.0
WPHZ				S	Sn	17 35 07.4	-3.1
WTAZ	**Waiatarua**	**3.53**	**272**	P	Pn	17 34 29.1	0.0
RVAZ	**Riverhead Bore**	**3.54**	**275**	P	Pn	17 34 29.3	0.0
PKVZ	**Pokaka**	**3.56**	**232**	P	Pn	17 34 29.6	0.0
PRHZ	**Porangahau**	**3.60**	**210**	P	Pn	17 34 27.2	-2.9
PRHZ				S	Sn	17 35 07.6	-5.0
TSZ	**Takapari Road**	**3.74**	**218**	P	Pn	17 34 29.3	-2.7
VRZ	**Vera Road**	**3.86**	**238**	P	Pn	17 34 34.4	+0.8
WCZ	**Waipu Caves**	**3.92**	**287**	P	Pn	17 34 34.4	-0.1
WAZ	**Wanganui**	**4.07**	**229**	P	Pn	17 34 36.5	0.0
POWZ	**Post Office Ro**	**4.09**	**217**	P	Pn	17 34 34.5	-2.2
POWZ				S	Sn	17 35 19.4	-5.2
PRWZ	**Pori Road**	**4.12**	**214**	P	Pn	17 34 35.0	-2.3
NEZ	**North Egmont**	**4.39**	**240**	P	Pn	17 34 42.6	+1.7
PKE	**Pukeiti**	**4.43**	**241**	P	Pn	17 34 44.2	+2.7
OUZ	**Omahuta**	**4.76**	**292**	P	Pn	17 34 46.3	+0.3
CTZ	**Chatham Island**	**7.38**	**154**	P	Pn	17 35 21.2	-0.7

*NOU **10** 17:35:26.6,21.45S×168.91E, h0km, MLv4.1/6, Loyalty Islands*

*IDC **10** 17:35:28.3±1.1,21.64S×168.70E, h0km, mb4.2/5, mbtmp4.2/6, ML4.1/1, Error ellipse: s-maj=34.6km s-min=25.3km az=177.0*

ISC 10 17:35:31.9±1.0,**21.6S**±0.1×**168.61E**±0.0,**h20**km,**n19,** σ0=**83**/20,**mb4.2**/5,**4C, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**0.55**	**283**	P	**Pb**	**17 35 42.4**	**-0.5**
PINNC	**Pines Island,**	**1.47**	**227**	P	**Pb**	**17 35 58.2**	**-0.4**
OUENC	**Ouen Island, N**	**1.83**	**243**	P	**Pb**	**17 36 04.0**	**-0.6**
DZM	**Mont Dzumac**	**2.06**	**257**	P	**Pn**	**17 36 06.6**	**+1.1**
DZM	**Mont Dzumac**	**2.06**	**257**	Pn	**Pn**	**17 36 06.6**	**+1.1**
	58nm,0.3s,baz=110,slow=14,SNR=18						
DZM				Sn	**Sb**	**17 36 33.5**	**-0.5**
	127nm,0.3s,baz=175,slow=22,SNR=8.7						
	201nm,0.5s						
ONTNC	**Ouen Toro**	**2.12**	**250**	P	**Pn**	**17 36 07.4**	**+1.2**
NOUC	**Port Laguerre**	**2.20**	**257**	P	**Pn**	**17 36 08.5**	**+1.2**
WRA	**Warramunga Arr**	**32.05**	**267**	P	**P**	**17 41 55.8**	**-1.7**
	2.3nm,1.0s,baz=100,slow=8.2,SNR=3.8						
	2.3nm,1.0s						
ASAR	**Alice Springs**	**32.05**	**260**	P	**P**	**17 41 58.1**	**+0.6**
	2.5nm,0.7s,baz=82,slow=9.1,SNR=8.4						
	2.5nm,0.7s						
QSPA	**South Pole Qui**	**68.46**	**180**	P	**P**	**17 46 32.2**	**-0.2**
	3.3nm,0.9s,baz=307,slow=4.3,SNR=5.5						
	3.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**78.94**	**295**	P	**P**	**17 47 35.2**	**+0.7**
	0.7nm,0.7s,baz=119,slow=4.3,SNR=4.4						
	0.7nm,0.7s						
TROLL	**Troll, Antarti**	**86.14**	**184**	⇑P	**P**	**17 48 11.7**	**+0.4**
	comp=Z,124nm,0.6s						
SNAA	**Sanae**	**86.78**	**183**	⇑P	**P**	**17 48 14.4**	**0.0**
SNAA	**Sanae**	**86.78**	**183**	P	**P**	**17 48 13.9**	**-0.5**
	comp=Z,3.4nm,1.0s,baz=197,slow=11,SNR=5.9						
	comp=Z,3.4nm,1.0s						
VNA3	**Neumayer Olymp**	**87.39**	**181**	⇑P	**P**	**17 48 16.9**	**-0.4**
VNA2	**Neumayer--Watz**	**87.68**	**181**	⇑P	**P**	**17 48 18.5**	**-0.1**
	baz=168,slow=5.0						
ARCES	**ARCESS Array B**	**127.19**	**345**	PKP	**PKPdf**	**17 54 33.4**	**-0.7**
	comp=Z,3.8nm,0.8s,baz=29,slow=2.8,SNR=4.2						
EKA	**Eskdalemuir Ar**	**145.76**	**352**	PKPbc	**PKPdf**	**17 55 08.6**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=4.2,slow=2.6,SNR=7.2						
GERES	**GERESS Array B**	**146.26**	**330**	PKPbc	**PKPdf**	**17 55 10.4**	**+0.5**
	comp=Z,5.3nm,1.0s,baz=58,slow=4.4,SNR=6.5						

*IDC **10** 17:44:42.0±4.1,3.74S×139.69E, h109km±48km, mb3.2/3, mbtmp3.8/5, Error ellipse: s-maj=46.0km s-min=17.3km az=86.0*

ISC 10 17:44:40.8±1.2,**3.8S**±0.1×**139.7E**±0.1,**h100**km,**n14,** σ=**2**9**23**/14,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**1.29**	**23**	P	Pn	17 44 55.4	-9.1
TABU	**Tabubil**	**2.14**	**134**	P	**Pn**	**17 45 14.2**	**-1.0**
PMG	**Port Moresby**	**9.30**	**127**	P	**Pn**	**17 46 52.8**	**+0.8**
	8.6nm,0.7s,baz=315,slow=7.1,SNR=2.5						
COEN	**Coen**	**10.68**	**161**	P	**Pn**	**17 47 09.0**	**-1.9**
KDU	**Kakadu**	**11.35**	**218**	P	**Pn**	**17 47 17.7**	**-2.2**
MTN	**Manton Dam**	**12.34**	**223**	P	**Pn**	**17 47 30.9**	**-2.2**
QIS	**Mount Isa**	**16.67**	**180**	P	**Pn**	**17 48 29.8**	**+1.3**
WRA	**Warramunga Arr**	**16.88**	**198**	P	**Pn**	**17 48 28.1**	**-3.0**
	1.2nm,0.6s,baz=16,slow=13,SNR=15						
WRA				S	Sn	17 51 29.4	-9.2
	0.7nm,0.8s,baz=13,slow=23,SNR=2.2						
BATI	**Baumata**	**17.11**	**247**	P	**P**	**17 48 34.1**	**-0.1**
	1.5nm,0.3s,baz=106,slow=7.4,SNR=1.5						
AS01	**Alice Springs**	**20.52**	**195**	P	**P**	**17 49 14.2**	**+2.9**
	9.7nm,1.0s						
ASAR	**Alice Springs**	**20.53**	**195**	P	**P**	**17 49 13.1**	**+1.6**
	2.4nm,0.8s,baz=27,slow=9.6,SNR=30						
ASAR				S	**S**	**17 52 57.1**	**+1.4**
	0.4nm,0.7s,baz=10.0,slow=28,SNR=2.9						
	2.4nm,0.8s						
WRKA	**Warakurna**	**23.80**	**206**	P	**P**	**17 49 48.5**	**+3.9**
CMAR	**Chiang Mai Arr**	**45.80**	**300**	P	**P**	**17 52 53.4**	**+0.3**
	0.3nm,0.7s,baz=120,slow=6.2,SNR=5.1						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**71.22**	**322**	P	**P**	**17 55 48.9**	**-0.2**
	0.4nm,0.6s,baz=116,slow=7.4,SNR=5.6						
	0.4nm,0.6s						

*SSNC **10** 18:08:31.6±0.9, 18.38N×76.51W, h4km±5km, MD3.2, ML2.3*

*JSN **10** 18:08:31.7±0.7, 18.26N×76.45W, h0km±999km, MD2.5*

ISC 10 18:08:30.3±1.5,**18.39N**±0.07×**76.51W**±0.08,**h17**km±13km, **n11,** σ0=**42**/18,**1D, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GWJ	**Greenwich**	**0.37**	**213**	*i* P	**Pg**	**18 08 38.3**	**+0.2**
STH	**Stony Hill**	**0.42**	**222**	*i* P	**Pb**	**18 08 39.3**	**0.0**
STH				*i* S	**Sb**	**18 08 45.5**	**+0.1**
STH	**Stony Hill**	**0.42**	**222**	*e*P	**Pb**	**18 08 39.2**	**0.0**
STH				*e*S	**Sb**	**18 08 45.2**	**-0.1**
STH				IAML		18 08 46.0	
	comp=E,28μm,0.2s						
STH				IAML		18 08 46.1	
	comp=N,25μm,0.2s						
HOJ	**Hope**	**0.44**	**210**	*i* P	**Pb**	**18 08 39.8**	**+0.1**
HOJ				*i* S	**Sg**	**18 08 44.9**	**-0.6**
MTDJ	**Mount Denham**	**0.98**	**261**	*e*P	**Pb**	**18 08 48.9**	**-0.1**
LMGC	**Las Mercedes**	**1.73**	**345**	*e*P	**Pn**	**18 09 00.4**	**+0.8**
LMGC				*e*S	**Sn**	**18 09 20.6**	**-0.6**
LMGC				IAML		18 09 22.9	
	comp=N,5.3nm,0.1s						
LMGC				IAML		18 09 23.0	
	comp=E,5.6nm,0.1s						
RCC	**Rio Carpintero**	**1.77**	**26**	*e*P	**Pn**	**18 09 00.3**	**+0.1**
RCC				*e*S	**Sn**	**18 09 22.2**	**-0.1**
GTBY	**Guantanamo Bay**	**2.02**	**41**	*e*P	**Pn**	**18 09 04.0**	**+0.4**
GTBY				*e*S	**Sn**	**18 09 28.2**	**-0.3**
GTBY				IAML		18 09 34.0	
	comp=E,0.8nm,0.2s						
GTBY				IAML		18 09 34.7	
	comp=E,2.2nm,0.1s						
GTMO	**Guantanamo**	**2.12**	**37**	*e*P	**Pn**	**18 09 05.

MNAT Makushin Natee 1.14 31 Pn 18 28 13.7 -0.7
MNAT Sn 18 28 29.3 +0.4
UNV Unalaska Valle 1.17 36 Pn 18 28 14.1 -0.6
UNV Unalaska Valle 1.17 36 P Pn 18 28 15.0 +0.2
MTBL Makushin Table 1.21 29 Pn 18 28 15.4 -0.1
CLCO Concord Point, 1.25 265 Pn 18 28 15.0 -0.9
CLCO Sn 18 28 31.0 -0.6
CLES Cleveland East 1.35 267 Pn Pn 18 28 16.7 -0.6
AKRB Akutan Reef Bi 1.55 37 Pn 18 28 20.3 +0.3
AKRB Sn 18 28 40.9 +1.9
AKV Akutan Volcano 1.59 39 Pn 18 28 20.4 -0.1
AKLV Akutan Long Va 1.62 39 Pn 18 28 21.5 +0.6
AKGG Akutan Green G 1.63 37 Pn 18 28 21.6 +0.5
AHB Akutan Harbor 1.64 42 Pn 18 28 21.6 +0.4
AKUT Akutan 1.67 42 Pn Pn 18 28 20.9 -0.7
AKUT IAML 18 28 48.1
comp=E,1µm,0.7s
AKUT Akutan 1.67 42 P Pn 18 28 22.7 +1.1
AKSA Akutan Strait 1.70 43 Pn 18 28 22.0 0.0
WESE West Dahl East 2.41 48 Pn 18 28 32.2 +0.3
WEBT Westdahl Beart 2.42 45 Pn 18 28 32.3 +0.4
SSBA Shishaldin 2.81 47 Pn 18 28 37.9 +0.6
ISLZ Isanotski Laza 2.97 51 Pn 18 28 39.2 -0.2
ISNN Isanotski Nort 3.00 49 Pn 18 28 40.4 +0.5
FALS False Pass 3.18 51 Pn 18 28 42.7 +0.3
FALS False Pass 3.18 51 P Pn 18 28 45.4 +3.1
ATKA Atka Island 4.04 262 Pn Pn 18 28 55.1 +0.9
ATKA IAML 18 30 05.9
comp=E,169nm,1.2s
PN7A Pavlof North-7 4.18 51 Pn 18 28 56.6 +0.5
SPIA Saint Paul Isl 4.52 342 Pn 18 29 00.5 -0.2
SPIA Saint Paul Isl 4.52 342 P Pn 18 29 03.8 +3.1
SDPT Sand Point 4.88 57 Pn 18 29 05.7 +0.1
SDPT IAML 18 30 26.8
comp=E,185nm,1.0s
SDPT IAML 18 30 42.0
comp=N,139nm,1.3s
SDPT Sand Point 4.88 57 P Pn 18 29 08.0 +2.4
CNBA Chernabura Isl 5.15 65 Pn Pn 18 29 08.7 -0.7
CNBA IAML 18 31 02.6
comp=N,91nm,4.5s
CNBA IAML 18 31 45.5
comp=E,76nm,4.9s
GSMY Great Sitkin M 5.20 264 Pn 18 29 10.1 +0.1
GSCK Great Sitkin C 5.27 264 Pn 18 29 10.8 -0.1
ADK Adak 5.61 263 Pn Pn 18 29 18.0 +2.3
ADK Adak 5.61 263 P Pn 18 29 18.2 +2.5
VNFG Fog Glacier, M 5.80 51 Pn 18 29 20.8 +2.4
KIWB Kanaga Island 5.90 263 Pn Pn 18 29 22.3 +2.7
KIMD Kanaga Island 5.98 263 Pn 18 29 21.9 +1.2
CHGN Chignik 6.36 54 Pn Pn 18 29 28.5 +2.6
O14K Tigyukauivet M 7.29 27 Pn 18 29 40.8 +2.1
O15K Ungalikthiuk R 7.66 32 Pn 18 29 45.7 +2.0
N14K Kuskokwak Cree 7.77 23 Pn 18 29 48.0 +2.8
M13K Dall Lake 7.89 16 Pn 18 29 50.0 +3.2
R17K Ugashik Creek 7.99 49 Pn Pn 18 29 51.6 +3.4
N15K Kwethluk River 8.39 27 Pn 18 29 56.3 +2.7
M14K Bethel 8.46 19 Pn Pn 18 29 57.7 +3.1
O16K Kokwok River B 8.55 35 Pn 18 29 57.7 +1.8
M15K Kasigluk River 8.69 23 Pn 18 29 59.8 +2.1
ANCK Angle Creek 8.69 48 Pn 18 29 59.3 +1.4
L14K Kuka Creek 8.87 16 Pn 18 30 02.7 +2.4
P17K Kvichak River 8.89 40 Pn 18 30 02.4 +2.0
N16K Nishlik Lake 9.02 29 Pn 18 30 05.6 +3.3
OHAK Old Harbor 9.31 57 Pn Pn 18 30 05.2 -1.0
L15K Ungalak Mounta 9.40 18 Pn 18 30 10.2 +2.7
M16K Timber Creek 9.41 27 Pn 18 30 09.8 +2.1
N17K Nushagak Hills 9.55 33 Pn 18 30 11.5 +1.9
O18K Koktuh Hills 9.79 40 Pn Pn 18 30 16.5 +3.6
L16K Owhat River 9.86 23 Pn Pn 18 30 17.8 +4.0
KDAK Kodiak Island 9.87 54 Pn Pn 18 30 12.2 -1.7
comp=E,1.2nm,0.3s,baz=249,slow=5.3,SNR=6.2
KDAK Sn **Sn 18 31 56.3 -6.9**
baz=342,slow=16
Q19K Cape Douglas, 9.90 47 Pn Pn 18 30 16.6 +2.2
K15K Wolf Creek Mou 9.96 17 Pn 18 30 17.8 +2.6
N18K Kilae Creek 10.10 35 Pn Pn 18 30 18.8 +1.7
M17K Holitna River 10.15 29 Pn Pn 18 30 21.0 +3.3
SYI Shuyak Island 10.32 50 Pn Pn 18 30 23.5 +3.5
SVW2 Sparrevohn 10.51 34 Pn Pn 18 30 25.8 +3.1
SVW2 Sparrevohn 10.51 34 P Pn 18 30 26.5 +3.9
N19K Bonanza Creek 10.70 37 Pn Pn 18 30 28.8 +3.5
K17K Iditarod 11.01 23 Pn Pn 18 30 33.2 +3.7
L18K Granite Mounta 11.02 28 Pn Pn 18 30 33.3 +3.7
J16K Anvik River 11.04 17 Pn Pn 18 30 31.6 +1.7
M19K Big River Lodg 11.48 33 Pn Pn 18 30 39.3 +3.3
L19K White Mountain 11.54 31 Pn Pn 18 30 39.8 +3.1
ANM Nome 11.75 5 Pn Pn 18 30 40.4 +3.6
TTA Tatalina 11.78 27 Pn Pn 18 30 42.6 +2.6
TTA Tatalina 11.78 27 P Pn 18 30 43.2 +3.2
J18K Innoko River 12.03 24 Pn Pn 18 30 46.8 +3.3
O22K Cooper Landing 12.41 45 Pn Pn 18 30 49.6 +1.1
SUA Susitna One 12.52 40 Pn Pn 18 30 50.4 +0.2
SKT Skwentna 12.54 37 Pn Pn 18 30 53.3 +3.0
J19K Poorman 12.74 25 Pn Pn 18 30 56.4 +3.3
G16K Koyuk River 12.81 10 Pn Pn 18 30 57.9 +4.0
J20K Nowinta River 13.28 26 Pn Pn 18 31 02.6 +2.2
CAST Castle Rocks 13.31 32 Pn Pn 18 31 02.4 +1.4
KNK Knik Glacier 13.41 43 Pn Pn 18 31 01.2 -1.1
GHO Glory Hole Cre 13.41 41 Pn Pn 18 31 02.4 +0.1
G18K Tagagawik 13.78 16 Pn Pn 18 31 05.7 -1.6
KTH Kantishna Hill 13.78 33 Pn 18 31 07.7 +0.3
SCM Sheep Creek Mo 14.09 43 Pn Pn 18 31 09.7 -1.9
BPAW Bear Paw Mtn. 14.14 31 Pn Pn 18 31 10.5 -1.7
KLU Klutina 14.52 45 Pn 18 31 15.0 -2.2
H21K Melozitna Rive 14.80 25 Pn Pn 18 31 20.5 -0.4
IMAR Indian Mountai 14.84 23 Pn Pn 18 31 19.5 -1.9
N25K Chitina, Valde 15.14 46 Pn Pn 18 31 23.2 -2.2
I23K Minto, Yukon-K 15.38 30 Pn 18 31 29.9 +1.6
I23K IAmb IAmb 18 31 52.2
comp=E,16nm,1.4s
GLB Gilahina Butte 15.42 47 Pn Pn 18 31 28.0 -0.9
GLB IAmb IAmb 18 32 00.4
comp=Z,18nm,1.3s
SNH Sunshine Point 15.43 52 Pn Pn 18 31 28.0 -1.1
E19K Redstone River 15.45 15 Pn 18 31 29.6 +0.4
E19K IAmb IAmb 18 31 40.7
comp=Z,8.0nm,1.1s
C16K Lisburne Hills 15.46 3 Pn Pn 18 31 29.1 -0.1
C16K IAmb IAmb 18 31 55.4
comp=Z,17nm,1.2s
WAX Waxell Ridge 15.51 51 Pn Pn 18 31 29.0 -1.2
CCB Clear Creek Bu 15.54 33 Pn Pn 18 31 29.3 -1.1
MDM Murphy Dome 15.60 32 Pn Pn 18 31 31.1 -0.2
HDA Harding Lake 15.68 35 Pn Pn 18 31 30.8 -1.4
MCARA McCarthy VSAT 15.75 48 Pn Pn 18 31 32.4 -0.7
MCARA IAmb IAmb 18 31 43.6
comp=Z,16nm,1.0s
ILAR Eielson Array 15.92 34 Pn Pn 18 31 33.4 -1.9
comp=Z,0.1nm,0.3s,baz=226,slow=10,SNR=2.3
comp=Z,0.2nm,0.4s
GRNC Granite Creek 16.11 51 Pn 18 31 38.5 +0.5
GRNC IAmb IAmb 18 32 08.1
comp=Z,14nm,0.9s
M26K Nabesna, AK 16.16 44 Pn Pn 18 31 37.5 -0.9
M26K IAmb IAmb 18 31 50.1
comp=Z,21nm,1.4s
H24K Noodor Dome 16.31 30 Pn Pn 18 31 39.4 -0.8
H24K IAmb IAmb 18 31 49.1
comp=Z,6.0nm,0.7s
J25K Salcha River, 16.35 36 Pn Pn 18 31 40.8 0.0
J25K IAmb IAmb 18 31 48.5
comp=Z,13nm,1.4s
CTGM Chitina Glacie 16.38 50 P 18 31 42.9 -0.6
CTGM IAmb IAmb 18 31 47.8
comp=Z,12nm,0.7s
SCRK Sand Creek 16.50 39 Pn Pn 18 31 42.6 -0.2
M27K Edge Creek, AK 16.62 45 Pn 18 31 45.1 +0.8
M27K IAmb IAmb 18 32 01.9
comp=Z,9.8nm,0.9s
L27K Beaver Creek, 16.93 43 Pn Pn 18 31 47.2 -0.8
J26L Joseph Creek 16.94 37 Pn Pn 18 31 46.2 -2.0
J26L IAmb IAmb 18 31 55.8
comp=Z,7.0nm,0.6s
BCAR Beaver Creek A 16.95 43 Pn Pn 18 31 46.3 -1.9
K27K Chicken 17.26 40 Pn Pn 18 31 51.2 -0.9
D22K Ayikyak River 17.51 18 Pn Pn 18 31 52.2 -2.9
I26K Coal Creek Min 17.52 35 Pn 18 31 53.7 -1.6
EGAK Eagle 17.97 38 Pn 18 31 58.8 -2.0
M29M Somme Creek 18.14 47 P P 18 32 02.0 -0.8
M29M IAmb IAmb 18 32 10.7
comp=Z,6.2nm,0.7s

HYT Haines Junctio 18.15 52 P Pn 18 32 05.8 +2.6
DAWY Dawson 18.34 41 P P 18 32 03.6 -1.3
N30M Aishikik Lake 18.49 50 Pn 18 32 07.9 +0.6
N30M IAmb IAmb 18 32 13.3
comp=Z,13nm,0.9s
L29M L29M 18.50 45 Pn Pn 18 32 08.3 +1.0
D24K Happy Valley 18.52 21 P P 18 32 06.4 -0.5
D24K IAmb IAmb 18 32 14.8
comp=Z,5.3nm,0.7s
E25K Arctic Village 18.55 26 P Pn 18 32 09.0 +1.2
E25K IAmb IAmb 18 32 14.8
comp=Z,6.1nm,0.7s
B22K Teshekpuk Lake 18.66 15 P Pn 18 32 09.0 0.0
B22K IAmb IAmb 18 32 14.1
comp=Z,11nm,0.9s
C23K Itkillik River 18.71 18 P Pn 18 32 09.9 +0.2
C23K IAmb IAmb 18 32 12.2
comp=Z,6.4nm,0.7s
I28M Miner Creek 18.75 37 P P 18 32 09.8 +0.3
G27K Doyon Strip 18.87 32 P P 18 32 10.1 -0.7
M30M Minto, Yukon 18.92 47 P Pn 18 32 12.1 -0.3
K29M Barlow Dome 19.02 43 P Pn 18 32 13.3 -0.2
N31M Braeburn, Yuko 19.11 51 P 18 32 13.5 +0.1
D25K Kavik River 19.21 23 P 18 32 14.5 0.0
D25K IAmb IAmb 18 32 21.2
comp=Z,9.8nm,0.9s
I29M Ogilvie Camp, 19.31 38 P P 18 32 15.2 -0.4
I29M IAmb IAmb 18 32 31.5
comp=Z,8.0nm,1.1s
WHY Whitehorse 19.39 53 P Pn 18 32 18.2 +0.2
WHY IAmb IAmb 18 32 27.3
comp=Z,6.3nm,0.7s
H29M Whitestone 19.68 36 P P 18 32 19.4 -0.3
P32M Atlin 19.84 57 P P 18 32 21.0 -0.4
P32M IAmb IAmb 18 32 29.2
comp=Z,9.6nm,0.9s
F28M Old Crow 19.90 32 P P 18 32 21.6 -0.4
F28M IAmb IAmb 18 32 28.4
comp=Z,8.2nm,0.6s
M31M Drury Creek, Y 19.91 49 P P 18 32 21.6 -0.4
M31M IAmb IAmb 18 32 26.9
comp=Z,9.8nm,0.7s
I30M Mount Dempster 19.99 40 IAmb IAmb 18 32 31.5
comp=Z,4.9nm,0.5s
G29M Pine Creek 20.14 35 P P 18 32 24.2 -0.4
P33M Teslin, Yukon 20.35 55 P Pn 18 32 29.0 -0.3
P33M IAmb IAmb 18 32 35.3
comp=Z,18nm,1.4s
EPYK Eagle Plains 20.35 37 P P 18 32 26.2 -0.6
FARO Faro, Yukon 20.39 49 P Pn 18 32 28.9 -0.9
FARO IAmb IAmb 18 32 33.0
comp=Z,8.1nm,0.6s
D27M Malcolm River 20.55 27 P P 18 32 29.4 +0.3
D27M IAmb IAmb 18 32 38.3
comp=Z,7.4nm,1.0s
PETK Petropavlovsk- 20.72 284 P P 18 32 28.7 -2.3
comp=Z,2.4nm,0.8s,baz=345,slow=22,SNR=1.7
comp=Z,2.4nm,0.8s
G30M tAoh Zraii Nji 20.80 35 P P 18 32 30.3 -1.4
E29M Blow River 20.95 31 P P 18 32 32.1 -1.2
G31M Satah River 21.47 36 P P 18 32 36.9 -1.9
G31M IAmb IAmb 18 32 43.1
comp=Z,7.6nm,0.7s
F31M Tsiigehtchic 21.87 35 P P 18 32 41.4 -1.7
F31M IAmb IAmb 18 32 47.2
comp=Z,7.1nm,1.1s
INK Inuvik 22.32 33 P P 18 32 46.3 -1.6
WRGLY Wrigley 25.03 48 P P 18 33 16.0 +2.0
C36M Paulatuk 25.90 34 P P 18 33 21.8 +0.1
A36M Sachs Harbour 26.45 28 P P 18 33 27.3 +0.7
YKA Yellowknife Ar 29.10 50 P P 18 33 50.8 +0.3
YKA Yellowknife Ar 29.10 50 P P 18 33 51.3 +0.8
comp=Z,0.9nm,0.7s,baz=275,slow=8.4,SNR=17
YKA PcP **PcP 18 36 58.3 +1.2**
comp=Z,0.2nm,0.4s,baz=281,slow=3.1,SNR=6.8
comp=Z,0.9nm,0.7s
H11N2 WAKE ISLAND Hy 38.53 220 T T 19 16 13.9
baz=24,slow=76,SNR=136
H11N3 WAKE ISLAND Hy 38.54 220 T T 19 16 24.7
baz=24,slow=76,SNR=157
H11N1 WAKE ISLAND Hy 38.55 220 T T 19 16 29.3
baz=24,slow=76,SNR=127
PDAR Pinedale Array 39.29 81 P P 18 35 18.7 -0.4
comp=Z,0.3nm,0.6s,baz=290,slow=2.7,SNR=2.9
comp=Z,0.3nm,0.6s
H11S1 WAKE ISLAND Hy 39.72 220 T T 19 17 32.3
baz=24,slow=76,SNR=305
H11S2 WAKE ISLAND Hy 39.73 220 T T 19 17 33.3
baz=24,slow=76,SNR=222
H11S3 WAKE ISLAND Hy 39.73 220 T T 19 17 33.4
baz=24,slow=76,SNR=176
MJAR Matsushiro Arr 40.75 269 P P 18 35 29.9 -1.0
comp=Z,0.3nm,0.3s,baz=23,slow=5.5,SNR=1.5
comp=Z,0.3nm,0.3s
HMU Henry Mountain 41.54 88 P P 18 35 39.6 +1.9
NEEM North Greenlan 44.18 16 i P P 18 35 58.5 -0.1
NEEM IAmb IAmb 18 36 01.9
comp=Z,2.6nm,0.7s
DAG Danmarks Havn 49.09 9 i P P 18 36 36.0 -0.7
DAG IAmb IAmb 18 36 37.6
comp=Z,2.8nm,0.4s
SPITS Spitsbergen Ar 49.15 359 P P 18 36 36.8 -0.3
comp=Z,10nm,0.9s,baz=351,slow=8.0,SNR=2.0
comp=Z,10nm,0.9s
SUMG Summit 49.95 18 i P P 18 36 42.9 -0.8
SUMG IAmb IAmb 18 36 46.1
comp=Z,3.2nm,0.4s
DBG Daneborg 51.19 11 i P P 18 36 51.4 -1.1
DBG IAmb IAmb 18 36 53.2
comp=Z,2.4nm,0.5s
TXAR Lajitas Array 51.71 91 P P 18 36 56.9 -0.3
comp=Z,0.3nm,0.6s,baz=304,slow=5.5,SNR=4.3
comp=Z,0.3nm,0.6s
SCO Scoresbysund 54.46 13 i P P 18 37 16.7 +0.1
SCO IAmb IAmb 18 37 18.1
comp=Z,1.4nm,0.6s
ARCES ARCESS Array B 57.48 355 P P 18 37 37.9 -0.4
comp=Z,2.4nm,0.8s,baz=17,slow=6.5,SNR=8.1
ARCES PcP **PcP 18 38 31.4 0.0**
comp=Z,2.0nm,0.6s,baz=25,slow=5.2,SNR=9.5
comp=Z,2.4nm,0.8s
ZALV Zalesovo Beam 57.71 318 P P 18 37 39.9 -0.2
comp=Z,0.5nm,0.5s,baz=38,slow=6.2,SNR=2.6
comp=Z,0.5nm,0.5s
KURBB Kurchatov Arra 62.76 319 P P 18 38 14.6 -0.1
comp=Z,0.9nm,0.3s,baz=39,slow=6.5,SNR=1.5
comp=Z,0.9nm,0.3s
BVAR Borovoye Array 63.85 325 P P 18 38 22.0 +0.1
comp=Z,1.2nm,0.4s,baz=53,slow=6.5,SNR=11
comp=Z,1.2nm,0.4s
MKAR Makanchi Array 64.17 314 P P 18 38 24.1 0.0
comp=Z,0.3nm,0.3s,baz=56,slow=6.6,SNR=10
comp=Z,0.3nm,0.3s
FINES FINESS Array B 65.47 353 P P 18 38 32.2 0.0
comp=Z,2.0nm,0.3s,baz=9.7,slow=7.7,SNR=49
comp=Z,2.0nm,0.3s
NOA NORSAR Array B 66.39 1 P P 18 38 38.0 -0.2
comp=Z,0.8nm,0.8s,baz=0.2,slow=7.1,SNR=1.7
comp=Z,0.8nm,0.8s
HFS Hagfors 67.30 359 P P 18 38 43.9 -0.1
comp=Z,1.1nm,0.3s,baz=29,slow=3.4,SNR=16
comp=Z,1.1nm,0.3s
EKA Eskdalemuir Ar 71.36 9 P P 18 39 09.2 0.0
comp=Z,5.3nm,1.1s,baz=0.9,slow=5.2,SNR=5.0
comp=Z,5.3nm,1.1s
AKASG Malin Array Be 75.78 349 P P 18 39 34.9 -0.2
comp=Z,3.5nm,0.5s,baz=13,slow=5.7,SNR=26
comp=Z,3.5nm,0.5s
CMAR Chiang Mai Ar 77.50 284 P P 18 39 44.9 -0.5
comp=Z,1.9nm,1.1s,baz=26,slow=6.2,SNR=8.9
comp=Z,1.9nm,1.1s
GERES GERESS Array B 78.61 359 P P 18 39 51.1 -0.1
comp=Z,0.7nm,0.7s,baz=338,slow=9.5,SNR=2.2
comp=Z,0.7nm,0.7s
CONA Conrad Observa 79.49 358 eP P 18 39 57.4 +1.4
comp=Z,1.0nm,0.5s
RETA Reute 79.97 1 i P P 18 39 59.8 +1.3
comp=Z,0.7nm,0.4s
LESA Schwarzleotal 80.04 360 eP P 18 39 59.6 +0.6
comp=Z,0.8nm,0.3s
MOTA Moosalm 80.11 1 i P P 18 40 00.5 +1.0
comp=Z,1.2nm,0.4s
WATA Walderalm 80.13 1 i P P 18 40 00.5 +0.9
comp=Z,2.4nm,0.4s
ARSA Arzberg 80.18 358 eP P 18 40 01.0 +1.4
comp=Z,2.3nm,0.7s
WTTA Wattenberg 80.20 0 i P P 18 40 01.4 +1.4
comp=Z,1.6nm,0.3s
KBA Koelnbreinsper 80.38 359 eP P 18 40 02.7 +1.7
comp=Z,2.8nm,0.4s
FETA Feichten 80.43 1 eP P 18 40 03.0 +1.8
comp=Z,2.3nm,0.6s
SOKA Soboth 80.76 358 eP P 18 40 04.5 +1.6
comp=Z,1.6nm,0.4s
OBKA Obir 80.94 358 eP P 18 40 05.4 +1.6
comp=Z,2.3nm,0.4s
BRTR Keskin Array B 85.90 344 P P 18 40 30.6 +1.1
comp=Z,2.1nm,0.6s,baz=25,slow=2.4,SNR=9.0
comp=Z,2.1nm,0.6s
ESDC Sonseca Array 86.71 13 P P 18 40 34.5 +1.2
comp=Z,1.1nm,0.7s,baz=342,slow=5.1,SNR=7.7
comp=Z,1.1nm,0.7s
WRA Warramunga Arr 88.16 233 P P 18 40 40.4 +0.1
comp=Z,0.3nm,0.9s,baz=33,slow=5.9,SNR=1.8
comp=Z,0.3nm,0.9s
ASAR Alice Springs 91.54 231 P P 18 40 56.1 0.0
comp=Z,0.3nm,0.8s,baz=42,slow=4.3,SNR=1.8
comp=Z,0.3nm,0.8s

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*FUNV **10** 18:28:37.2, 8.59N×71.49W, h2km, MW3.0*
ISC 10 18:28:37.4±1.3, **8.62N**±0.04×**71.46W**±0.03, **h14**km±10km, **n14**, σ1**s49**/26, **Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.69**	**119**	*e*P		**Pg**	**18 28 51.1**	**+0.2**
SOCV				*e*S		**Sg**	**18 29 00.7**	**+0.8**
SDV	**Santo Domingo**	**0.86**	**72**	*e*P		**Pg**	**18 28 54.2**	**0.0**
SDV				*e*S		**Sg**	**18 29 05.9**	**+0.4**
CAPV	**Capacho**	**1.13**	**228**	*e*P		**Pb**	**18 28 57.3**	**-1.6**
CAPV				*e*S		**Sb**	**18 29 12.8**	**-0.8**
PAMC	**Pamplona, Colo**	**1.77**	**224**	*e*P		**Pn**	**18 29 09.5**	**+1.4**
PAMC				*e*S		**Sn**	**18 29 31.6**	**+0.9**
PAMC				*i*			18 29 35.2	
comp=Z,21nm,0.5s								
OCAC	**Ocana**	**1.88**	**258**	*e*P		**Pn**	**18 29 10.0**	**+0.7**
OCAC				*e*S		**Sn**	**18 29 33.6**	**+0.8**
OCAC				*i*			18 29 35.4	
comp=Z,159nm,0.4s								
CURV	**Curarigua**	**2.03**	**47**	*e*P		**Pn**	**18 29 12.7**	**+1.4**
CURV				*e*S		**Sn**	**18 29 38.7**	**+2.2**
LL6C	**La Loma 6 Bece**	**2.10**	**302**	*e*P		**Pn**	**18 29 12.4**	**+0.1**
LL6C				*e*S		**Sn**	**18 29 38.5**	**+0.2**
LL6C				*i*			18 29 42.2	
comp=Z,23nm,0.3s								
TAMC	**Tame, Arauca**	**2.20**	**189**	*e*P		**Pn**	**18 29 15.0**	**+1.4**
TAMC				*e*S		**Sb**	**18 29 44.1**	**0.0**
SIQV	**Siquisique**	**2.59**	**39**	*e*P		**Pn**	**18 29 19.8**	**+0.8**
SIQV				*e*S		**Sn**	**18 29 51.6**	**+1.2**
TEPV	**Terepaima**	**2.61**	**59**	*e*P		**Pn**	**18 29 20.7**	**+1.4**
TEPV				*e*S		**Sn**	**18 29 52.1**	**+1.3**
CRJC	**Cerrejon, Guaj**	**2.76**	**330**	*e*S		**Sn**	**18 29 54.9**	**+0.2**
BAUV	**El Baul**	**3.40**	**84**	*e*P		**Pn**	**18 29 31.1**	**+1.0**
BAUV				*e*S		**Sn**	**18 30 10.3**	**+0.1**
BENV	**Beln**	**4.04**	**70**	*e*P		**Pn**	**18 29 40.4**	**+1.4**
BENV				*e*S		**Sn**	**18 30 25.1**	**-1.1**
CACV	**CAICARA DEL OR**	**4.99**	**102**	*e*P		Pn	18 29 59.1	+7.2
CACV				*e*S		**Sb**	**18 30 59.7**	**-4.7**

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*NEIC **10** 18:46:49.5±0.2, 36.027N±0.008×97.915W±0.009, h4km±3km, Error ellipse: s-maj=1.5km s-min=0.6km az=139.0*
TUL 10 18:46:49.8±0.3, **36.03N**±0.01×**97.91W**±0.01, **h6**km±4km, **ML2.5, mb_Lg2.4**/7(NEIC), **ML2.6**/56(NEIC), **Error ellipse: s-maj=1.7km s-min=1.4km az=202.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.44**	**122**	Pg		Pg	18 46 58.4	+0.1
OK029				Sg		Sg	18 47 04.7	+0.7
OK029				IAML			18 47 05.0	
432nm,0.4s								
CROK	**Carrier**	**0.47**	**353**	Pg		Pg	18 46 59.2	+0.2
CROK				Sg		Sg	18 47 06.0	+0.7
CROK				IAML			18 47 06.3	
comp=E,451nm,0.3s								
CROK				IAML			18 47 14.9	
comp=N,295nm,0.3s								
OKCSW	**OKLAHOMA CITY**	**0.73**	**148**	Pg		Pg	18 47 03.7	-0.2
OKCSW				IAML			18 47 18.5	
comp=E,221nm,0.1s								
CSTR	**Hydro, Custer**	**0.74**	**239**	Pg		Pg	18 47 03.4	-0.6
OK033	**Mehan**	**0.79**	**89**	Pg		Pg	18 47 04.8	-0.1
OK032	**Salt Plains WL**	**0.81**	**343**	Pg		Pg	18 47 05.0	-0.3
OK032				IAML			18 47 16.5	
comp=E,278nm,0.2s								
OK038	**West end E0370**	**0.81**	**304**	Pg		Pg	18 47 05.2	-0.1
GC02	**Grant County #**	**0.82**	**3**	Pg		Pg	18 47 05.3	-0.2
OK048	**Pawnee Station**	**0.87**	**64**	Pg		Pg	18 47 06.2	-0.3
FNO	**Franklin**	**0.88**	**152**	Pg		Pg	18 47 06.3	-0.3
FNO				IAML			18 47 20.0	
comp=E,173nm,0.1s								
OK052	**Battle Ridge R**	**0.90**	**92**	Pg		Pg	18 47 06.8	-0.2
BLOK	**Blackwell**	**0.92**	**37**	Pg		Pg	18 47 07.2	-0.2
BLOK				IAML			18 47 27.3	
comp=N,247nm,0.2s								
OK030	**Cody Creek RV**	**0.92**	**96**			Pg	18 47 07.1	-0.3
OK030				IAML			18 47 21.8	
comp=N,152nm,0.1s								
OK030				IAML			18 47 22.2	
comp=N,190nm,0.1s								
KAN14	**Manchester OK**	**0.92**	**357**	Pg		Pg	18 47 07.0	-0.5
KAN14				IAML			18 47 21.9	
comp=E,143nm,0.1s								
KAN14				IAML			18 47 23.9	
comp=N,132nm,0.1s								
U32A	**Winter Ranch,**	**0.95**	**292**			Pg	18 47 07.7	-0.4
U32A				IAML			18 47 23.7	
comp=N,194nm,0.3s								
U32A				IAML			18 47 26.5	
comp=E,106nm,0.1s								
QUOK	**Quay**	**0.98**	**82**	Pg		Pg	18 47 08.3	-0.3
QUOK				IAML			18 47 26.4	
comp=E,143nm,0.2s								
QUOK				IAML			18 47 26.6	
comp=N,143nm,0.2s								
OK051	**E0350 and S346**	**0.99**	**61**	Pg		Pg	18 47 08.3	-0.4
KAN13	**South Haven SW**	**1.04**	**19**	Pg		Pg	18 47 09.2	-0.5
KAN10	**Anthony SW Sta**	**1.10**	**352**	Pg		Pg	18 47 10.3	-0.6
KAN10				IAML			18 47 26.1	
comp=E,153nm,0.1s								
KAN10				IAML			18 47 29.9	
comp=N,94nm,0.1s								
KAN01	**Argonia South**	**1.12**	**6**	Pg		Pg	18 47 10.5	-0.9
KAN01				IAML			18 47 26.5	
comp=E,134nm,0.1s								
KAN01				IAML			18 47 27.6	
comp=N,128nm,0.1s								
KAN09	**Caldwell North**	**1.13**	**12**	Pg		Pg	18 47 10.8	-0.6
DEOK	**Depew**	**1.16**	**99**			Pg	18 47 11.2	-0.9
DEOK				IAML			18 47 31.6	
comp=E,119nm,0.1s								
DEOK				IAML			18 47 31.9	
comp=N,88nm,0.1s								
KAN06	**Argonia West S**	**1.21**	**2**			Pg	18 47 12.2	-0.9
KAN06				IAML			18 47 29.7	
comp=N,95nm,0.1s								
KAN06				IAML			18 47 30.0	
comp=E,108nm,0.1s								
W35A	**Tecumseh**	**1.22**	**136**	Pg		Pg	18 47 12.2	-0.9
W35A				IAML			18 47 33.6	
comp=N,124nm,0.3s								
KS21	**Milan North St**	**1.27**	**9**	IAML			18 47 30.8	
comp=N,116nm,0.1s								
KS21	**Milan North St**	**1.27**	**9**	Pg		Pn	18 47 13.4	-0.6
T35A	**Sooner Cattle**	**1.43**	**51**			Pn	18 47 16.3	+0.1
WMOK	**Wichita Mounta**	**1.48**	**209**			Pn	18 47 16.3	-0.6
WMOK	**Wichita Mounta**	**1.48**	**209**	IAmb_Lg			18 47 37.9	
comp=Z,35nm,0.7s								
TUL3	**Leonard**	**1.72**	**93**			Pn	18 47 20.0	-0.2
SMWD	**Samnorwood**	**2.12**	**245**			Pb	18 47 27.2	-1.4
SMWD				IAmb_Lg			18 47 56.6	
comp=Z,10nm,0.8s								
RLO	**Rose Lookout**	**2.34**	**86**	Pn		Pn	18 47 29.4	+0.7
R32A	**Long Quarter,**	**2.47**	**345**	Pn		Pn	18 47 30.6	0.0
R32A				IAmb_Lg			18 48 13.4	
comp=Z,9.2nm,0.7s								
AMTX	**Amarillo**	**3.29**	**251**	IAmb_Lg			18 48 32.9	
comp=Z,8.7nm,0.7s								
DKNS	**Dickens**	**3.42**	**227**	IAmb_Lg			18 48 39.9	

comp=Z,15nm,1.1s
WHAR Wooly Hollow 4.63 98 Pn Pn 18 47 59.6 -0.7

*IDC **10** 18:55:11.7±0.7,15°.24S×173°.44W,h0km,mb4.2/12, mbtmp4.2/12,MS3.6/17,Error ellipse: s-maj=33.2km s-min=16.6km az=138.0*
*NEIC **10** 18:55:12.9±1.4,15°.26S±0°.08×173°.2W±0°.1,h11km±4km, mb4.9/39,Error ellipse: s-maj=17.9km s-min=10.9km az=111.0*
*NOU **10** 18:55:19.9,15°.11S×172°.72W,h103km,mb4.8/29,Samoa Islands Region*
ISC 10 18:55:17.0±0.4,15°27'S±0'.07×173°33'W±0'.09,h42km, n166,σ1§11/138,mb4.8/38,MS3.6/16,25C-3D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.02**	**48**		**Pn**	**18 55 46.3**	**-2.5**
AFI	**Afiamalu**	**2.02**	**48**	P	**Pn**	**18 55 46.4**	**-2.4**
NIUE	**Niue**	**4.99**	**140**		**Pn**	**18 56 26.9**	**-2.5**
NIUE	**Niue**	**4.99**	**140**	P	**Pn**	**18 56 27.5**	**-1.9**
TAVE	**Taveuni**	**6.48**	**256**	P	Pn	18 57 01.2	+11
DGTI	**Dogotuki**	**6.75**	**260**	P	Pn	18 57 04.7	+11
RAR	**Rarotonga**	**14.16**	**117**	LR	LR	19 02 51.2	
	comp=Z,66nm,21.5s,baz=344,slow=32						
MARNC	**Mare, Loyalty**	**18.73**	**248**	P	**P**	**18 59 31.7**	**-0.6**
PINNC	**Pines Island,**	**19.58**	**245**	P	**P**	**18 59 40.5**	**-1.2**
PINNC					IAmb	IAmb	18 59 49.6
	comp=Z,105nm,1.2s						
OUENC	**Ouen Island, N**	**20.05**	**246**	P	**P**	**18 59 45.9**	**-0.9**
OUENC					IAmb	IAmb	18 59 55.3
	comp=Z,99nm,0.9s						
DZM	**Mont Dzumac**	**20.31**	**248**	P	**P**	**18 59 49.1**	**-0.6**
DZM					IAmb	IAmb	18 59 58.5
	comp=Z,58nm,1.1s						
DZM	**Mont Dzumac**	**20.31**	**248**	*e*P	Pn	18 59 53.5	+1.5
DZM	comp=Z,122nm,1.1s						
	comp=Z,545nm,27.8s			*e*LR	LR	19 04 58.9	
DZM	**Mont Dzumac**	**20.31**	**248**	LR	LR	19 06 39.7	
	comp=Z,153nm,21.4s,baz=71,slow=34						
ONTNC	**Ouen Toro**	**20.36**	**247**	P	**P**	**18 59 50.8**	**+0.6**
NOUC	**Port Laguerre**	**20.44**	**248**	P	Pn	18 59 56.7	+3.3
PAE	**Paea**	**22.90**	**99**	*e*T	T	19 22 54.2	
	comp=Z,5.6nm,0.3s						
PPT	**Papeete**	**22.90**	**99**	LR	LR	19 06 39.4	
	comp=Z,50nm,20.7s,baz=340,slow=30						
PPT2	**Papeete2**	**22.90**	**99**	*e*LR	LR	19 05 42.6	
	comp=Z,284nm,25.0s						
PPT2				*e*LR	LR	19 05 50.0	
	comp=Z,159nm,23.0s						
PPT2	**Papeete2**	**22.90**	**99**	*e*T	T	19 22 55.7	
	comp=Z,6.5nm,0.3s						
OUZ	**Omahuta**	**23.07**	**208**	P	**P**	**19 00 22.0**	**+3.0**
KUZ	**Kuaotunu**	**23.50**	**202**	P	**P**	**19 00 25.1**	**+1.9**
TBI	**Tubuai**	**23.89**	**113**	*e*LR	LR	19 06 15.7	
	comp=Z,1μm,26.0s						
TBI				*e*LR	LR	19 06 17.5	
	comp=Z,816nm,29.2s						
TBI	**Tubuai**	**23.89**	**113**	*e*T	T	19 24 46.7	
	comp=Z,12nm,0.3s						
URZ	**Urewera**	**24.40**	**198**	P	**P**	**19 00 33.5**	**+2.0**
TOZ	**Tahuroa Road**	**24.46**	**202**	P	**P**	**19 00 32.4**	**+0.4**
TOZ					IAmb	IAmb	19 00 36.2
	comp=Z,31nm,0.9s						
RTZ	**Ruatahuna**	**24.77**	**198**	P	**P**	**19 00 35.3**	**+0.4**
HIZ	**Hauiti**	**25.39**	**202**	P	**P**	**19 00 41.0**	**+0.6**
HNR	**Honiara**	**26.73**	**279**	LR	LR	19 10 04.9	
	comp=Z,859nm,21.5s,baz=66,slow=34						
BFZ	**Birch Farm**	**26.89**	**198**	P	**P**	**19 00 54.7**	**+0.6**
BFZ					IAmb	IAmb	19 00 58.2
	comp=Z,43nm,1.0s						
QRZ	**Quartz Range**	**28.27**	**203**	P	**P**	**19 01 07.1**	**+0.7**
QRZ	**Quartz Range**	**28.27**	**203**	P	**P**	**19 01 07.7**	**+1.3**
TUWZ	**Tuamarina**	**28.30**	**200**	P	**P**	**19 01 06.5**	**-0.1**
THZ	**Tophouse**	**28.95**	**202**	P	**P**	**19 01 12.1**	**-0.4**
THZ					IAmb	IAmb	19 01 15.8
	comp=Z,32nm,1.3s						
KHZ	**Kahutara**	**29.32**	**200**	P	**P**	**19 01 14.5**	**-1.1**
KHZ					IAmb	IAmb	19 01 23.7
	comp=Z,47nm,1.4s						
KHZ	**Kahutara**	**29.32**	**200**	P	**P**	**19 01 16.5**	**+0.9**
DSZ	**Denniston Nort**	**29.34**	**203**	P	**P**	**19 01 15.3**	**-0.7**
LTZ	**Lake Taylor**	**30.07**	**201**	P	**P**	**19 01 20.9**	**-1.5**
LTZ					IAmb	IAmb	19 01 25.1
	comp=Z,12nm,0.6s						
INZ	**Inchbonnie**	**30.32**	**203**	P	**P**	**19 01 24.0**	**-0.5**
JCZ	**Jackson Bay**	**32.49**	**204**	P	**P**	**19 01 43.6**	**-0.1**
TAOE	**Nuku Hiva Isla**	**33.04**	**83**	*e*T	T	19 36 20.2	
	comp=Z,53nm,0.2s						
MLZ	**Mavora Lakes**	**33.83**	**204**	P	**P**	**19 01 54.2**	**-1.2**
WHZ	**Wether Hill Ro**	**34.34**	**203**	P	**P**	**19 02 00.1**	**+0.5**
ARMA	**Armidale**	**35.46**	**239**	P	**P**	**19 02 09.3**	**-0.5**
CTA	**Charters Tower**	**38.74**	**257**	P	**P**	**19 02 36.6**	**-0.9**
	comp=Z,6.5nm,1.0s,baz=76,slow=8.3,SNR=1.9						
CTA					LR	LR	19 16 31.2
	comp=Z,103nm,18.6s,baz=79,slow=33						
	comp=Z,6.5nm,1.0s						
CTAO	**Charters Tower**	**38.74**	**257**	P	**P**	**19 02 37.0**	**-0.6**
H11S2	**WAKE ISLAND Hy**	**38.89**	**329**	T	T	19 43 56.5	
	baz=149,SNR=19						
H11S3	**WAKE ISLAND Hy**	**38.90**	**329**	T	T	19 43 56.5	
	baz=149,slow=74,SNR=7.6						
H11S1	**WAKE ISLAND Hy**	**38.91**	**329**	T	T	19 44 01.0	
	baz=149,slow=74,SNR=7.7						
PMG	**Port Moresby**	**38.99**	**274**	LR	LR	19 16 53.7	
	comp=Z,85nm,20.1s,baz=114,slow=34						
CAN	**Canberra**	**39.16**	**232**	P	**P**	**19 02 40.1**	**-0.9**
CAN					IAmb	IAmb	19 03 02.6
	comp=Z,27nm,1.4s						
H11N3	**WAKE ISLAND Hy**	**39.84**	**330**	T	T	19 45 24.9	
	baz=154,slow=76						
H11N1	**WAKE ISLAND Hy**	**39.84**	**330**	T	T	19 45 16.3	
	baz=154,slow=76						
H11N2	**WAKE ISLAND Hy**	**39.85**	**330**	T	T	19 45 22.3	
	baz=154,slow=76						
CMSA	**Cobar Meteorol**	**40.68**	**239**	P	**P**	**19 02 53.2**	**-0.3**
COEN	**Coen**	**42.06**	**266**	P	**P**	**19 03 06.6**	**+1.5**
COEN					IAmb	IAmb	19 03 08.2
	comp=Z,17nm,0.8s						
COEN	**Coen**	**42.06**	**266**	P	**P**	**19 03 07.1**	**+2.0**
STKA	**Stephens Creek**	**44.16**	**240**	P	**P**	**19 03 21.9**	**0.0**
STKA	**Stephens Creek**	**44.16**	**240**	P	**P**	**19 03 22.5**	**+0.6**
STKA	**Stephens Creek**	**44.16**	**240**	P	**P**	**19 03 20.9**	**-1.0**
	comp=Z,5.2nm,0.6s,baz=81,slow=9.3,SNR=13						
STKA					LR	LR	19 19 37.1
	comp=Z,84nm,19.8s,baz=28,slow=33						
	comp=Z,5.2nm,0.6s						
INKA	**Innaminka**	**44.25**	**246**	P	**P**	**19 03 24.6**	**+1.9**
QIS	**Mount Isa**	**44.97**	**256**	P	**P**	**19 03 29.8**	**+1.2**
HTT	**Hallett**	**46.67**	**238**	P	**P**	**19 03 42.9**	**+1.1**
LCRK	**Leigh Creek**	**46.78**	**242**	P	**P**	**19 03 43.5**	**+0.8**
OOD	**Oodnadatta**	**48.72**	**246**	P	**P**	**19 03 58.4**	**+0.7**
BBOO	**Buckleboo**	**48.93**	**240**	P	**P**	**19 03 57.7**	**-1.6**
BBOO					IAmb	IAmb	19 04 06.9
	comp=Z,17nm,1.4s						
BBOO	**Buckleboo**	**48.93**	**240**	P	**P**	**19 03 59.3**	**0.0**
WR0	**Warramunga Arr**	**49.75**	**257**	P	**P**	**19 04 05.6**	**-0.1**
WR0					IAmb	IAmb	19 04 12.1
	comp=Z,4.6nm,0.4s						
WB0	**Warramunga Arr**	**49.90**	**257**	P	**P**	**19 04 06.6**	**-0.3**
WB0					IAmb	IAmb	19 04 07.4
	comp=Z,8.5nm,0.8s						
WB2	**Warramunga Arr**	**49.93**	**257**	P	**P**	**19 04 07.1**	**+0.1**
WB2					IAmb	IAmb	19 04 07.7
	comp=Z,12nm,0.8s						
WRAB	**Tennant Creek**	**49.93**	**257**	P	**P**	**19 04 06.7**	**-0.4**
WRAB					IAmb	IAmb	19 04 07.7
	comp=Z,9.3nm,0.8s						
WRA	**Warramunga Arr**	**49.94**	**257**	P	**P**	**19 04 06.9**	**-0.2**
WRA	**Warramunga Arr**	**49.94**	**257**	P	**P**	**19 04 06.4**	**-0.8**
	comp=Z,4.9nm,0.5s,baz=92,slow=6.7,SNR=178						
WRA				PcP	**PcP**	**19 05 28.1**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=90,slow=3.7,SNR=7.3						
	comp=Z,4.9nm,0.5s						
AS31	**Alice Springs**	**50.21**	**252**	P	**P**	**19 04 09.1**	**-0.2**
ASAR	**Alice Springs**	**50.21**	**252**	P	**P**	**19 04 09.0**	**-0.2**
	comp=Z,8.5nm,0.5s,baz=89,slow=8.0,SNR=350						
ASAR				PcP	**PcP**	**19 05 29.2**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=94,slow=6.0,SNR=4.1						
ASAR				LR	LR	19 23 43.9	
	comp=Z,161nm,21.8s,baz=98,slow=34						
	comp=Z,8.5nm,0.5s						
MULG	**Mulgathing**	**50.34**	**243**	P	**P**	**19 04 09.9**	**-0.1**
MTN	**Manton Dam**	**53.81**	**265**	P	**P**	**19 04 35.9**	**-0.2**
MTN					IAmb	IAmb	19 04 37.0
	comp=Z,9.2nm,0.9s						
WRKA	**Warakurna**	**55.30**	**250**	P	**P**	**19 04 47.4**	**+0.6**
FORT	**Forrest**	**55.53**	**243**	P	**P**	**19 04 46.9**	**-1.4**
FORT	**Forrest**	**55.53**	**243**	P	**P**	**19 04 48.0**	**-0.3**
SOEI	**Soe**	**61.00**	**267**	P	**P**	**19 05 26.7**	**-0.2**
BATI	**Baumata**	**61.49**	**267**	LR	LR	19 30 29.9	
	comp=Z,110nm,19.3s,baz=210,slow=34						
PSA00	**Pilbara Seismi**	**63.30**	**253**	P	**P**	**19 05 40.4**	**-1.8**
PSA00					IAmb	IAmb	19 05 55.3
	comp=Z,8.0nm,1.4s						
SBA	**Scott Base**	**63.38**	**185**	P	**P**	**19 05 41.9**	**+0.2**
SBA					IAmb	IAmb	19 05 45.4
	comp=Z,7.0nm,0.8s						
VNDA	**Vanda**	**63.51**	**186**	P	**P**	**19 05 43.1**	**+0.6**
VNDA					IAmb	IAmb	19 05 46.0
	comp=Z,5.1nm,0.9s						
VNDA	**Vanda**	**63.51**	**186**	P	**P**	**19 05 44.1**	**+1.6**
	comp=Z,3.8nm,0.9s,baz=17,slow=6.0,SNR=15						
VNDA					LR	LR	19 31 27.1
	comp=Z,26nm,18.9s,baz=158,slow=34						
	comp=Z,3.8nm,0.9s						
DAV	**Davao City (W)**	**64.47**	**286**	LR	LR	19 32 28.4	
	comp=Z,35nm,18.4s,baz=57,slow=35						
NWAO	**Narrogin (SRO)**	**64.74**	**241**	P	**P**	**19 05 50.5**	**-0.9**
NWAO	**Narrogin (SRO)**	**64.74**	**241**	LR	LR	19 31 56.3	
	comp=Z,38nm,21.1s,baz=239,slow=34						
KAPI	**Kappang**	**66.44**	**271**	LR	LR	19 33 51.6	
	comp=Z,28nm,18.2s,baz=42,slow=35						
MJAR	**Matsushiro Arr**	**68.89**	**320**	LR	LR	19 32 52.5	
	comp=Z,28nm,18.9s,baz=188,slow=33						
JSU	**Suzuyama**	**71.20**	**311**	P	**P**	**19 06 29.6**	**-2.3**
ASAJ	**Asahikawa**	**71.47**	**328**	LR	LR	19 32 41.8	
	comp=Z,39nm,21.1s,baz=2.0,slow=32						
CBX	**Cerro Bola**	**71.95**	**48**	P	P	19 06 31.4	-5.1
CBX					IAmb	IAmb	19 06 40.2
	comp=Z,9.2nm,0.5s						
PETK	**Petropavlovsk-**	**72.53**	**342**	P	**P**	**19 06 41.4**	**+2.0**
	comp=Z,7.0nm,0.9s,baz=141,slow=9.6,SNR=4.2						
	comp=Z,7.6nm,0.9s						
PFO	**Pinyon Flats O**	**72.79**	**47**	LR	LR	19 30 39.4	
	comp=Z,63nm,19.1s,baz=12,slow=29						
NVAR	**Mina Array Bea**	**74.19**	**42**	P	**P**	**19 06 52.0**	**+2.1**
	comp=Z,0.7nm,0.7s,baz=215,slow=9.5,SNR=4.6						
	comp=Z,0.7nm,0.7s						
QSPA	**South Pole Qui**	**74.77**	**180**	P	**P**	**19 06 53.1**	**+0.4**
QSPA					IAmb	IAmb	19 06 55.4
	comp=Z,16nm,0.9s						
MDJ	**Mudanjiang**	**78.97**	**322**	P	P	19 07 08.6	-7.8
MDJ					pmax	pmax	
	comp=Z,22nm,2.2s						
MDJ					pmax	pmax	
	comp=Z,400nm,3.6s						
NJ2	**Nanjing**	**80.14**	**307**	*e*P	**P**	**19 07 24.0**	**+0.9**
NJ2					pP	**pP**	**19 07 33.4**	**-1.5**
NJ2					sP	**sP**	**19 07 38.8**	**-0.5**
NJ2					pmax	pmax	
	comp=Z,10.0nm,0.7s						
NJ2					pmax	pmax	
	comp=Z,300nm,4.5s						
TXAR	**Lajitas Array**	**80.49**	**56**	P	**P**	**19 07 25.7**	**+0.6**
	comp=Z,0.7nm,1.0s,baz=207,slow=5.3,SNR=5.1						
	comp=Z,0.7nm,1.0s						
CCB	**Clear Creek Bu**	**82.03**	**11**	P	**P**	**19 07 32.1**	**-0.2**
PDAR	**Pinedale Array**	**82.13**	**42**	P	**P**	**19 07 34.0**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=227,slow=3.3,SNR=4.4						
	comp=Z,0.6nm,0.8s						
ILAR	**Eielson Array**	**82.31**	**11**	P	**P**	**19 07 34.2**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=230,slow=6.3,SNR=18						
	comp=Z,0.6nm,0.7s						
HHC	**Hu-ho-hao-te**	**88.99**	**313**	*e*P	**P**	**19 08 07.9**	**+0.2**
HHC					pmax	pmax	
	comp=Z,20nm,0.8s						
HHC					pmax	pmax	
	comp=Z,420nm,5.3s						
YKA	**Yellowknife Ar**	**89.95**	**23**	P	**P**	**19 08 11.6**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=246,slow=4.4,SNR=6.6						
	comp=Z,0.5nm,0.9s						
ELIB	**Princess Elisa**	**92.27**	**185**	*d*P	**P**	**19 08 23.5**	**+1.0**
	comp=Z,10.0nm,0.9s						
PZH	**PanZhiHua**	**92.28**	**297**	P	**P**	**19 08 22.2**	**-1.1**
PZH					pmax	pmax	
	comp=Z,10.0nm,0.6s						
PZH					pmax	pmax	
	comp=Z,100nm,4.7s						
CMAR	**Chiang Mai Arr**	**92.64**	**288**	P	**P**	**19 08 25.1**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=96,slow=3.0,SNR=5.2						
	comp=Z,0.4nm,0.4s						
TROLL	**Troll, Antarti**	**92.89**	**179**	⇑P	**P**	**19 08 26.3**	**+0.9**
	comp=Z,76nm,0.5s						
VNA3	**Neumayer Olymp**	**92.97**	**175**	⇑P	**P**	**19 08 27.1**	**+1.5**
	comp=Z,2.4nm,0.6s						
SNAA	**Sanae**	**93.03**	**177**	⇑P	**P**	**19 08 27.2**	**+1.3**
	comp=Z,30nm,0.9s						
SNAA	**Sanae**	**93.03**	**177**	LR	LR	19 45 57.7	
	comp=Z,42nm,19.4s,baz=6.0,slow=33						
LZH	**Lanzhou**	**93.20**	**306**	*e*P	**P**	**19 08 27.2**	**-0.3**
LZH					pP	pP	19 08 38.2	-1.3
LZH					sP	pwP	19 08 42.8	+0.2
LZH					pmax	pmax	
	comp=Z,7.0nm,1.1s						
VNA2	**Neumayer--Watz**	**93.47**	**175**	⇑P	**P**	**19 08 29.1**	**+1.3**
	comp=Z,2.7nm,0.8s,baz=192,slow=5.0						
VNA1	**Neumayer--Stat**	**93.67**	**175**	⇑P	**P**	**19 08 30.0**	**+1.2**
	comp=Z,5.1nm,0.9s						
SONM	**Songino Array**	**94.80**	**318**	PKiKP	**PKiKP**	**19 13 17.3**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=4.3,slow=5.8,SNR=1.9						
MKAR	**Makanchi Array**	**110.79**	**315**	PKiKP	**PKiKP**	**19 13 46.0**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=55,slow=0.7,SNR=5.4						
KURBB	**Kurchatov Arra**	**113.15**	**319**	PKiKP	**PKiKP**	**19 13 50.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=90,slow=1.8,SNR=5.2						
BVAR	**Borovoye Array**	**117.82**	**322**	PKP	**PKiKP**	**19 13 58.7**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=215,slow=1.8,SNR=5.1						
ARCES	**ARCES Array B**	**124.49**	**352**	PKP	**PKiKP**	**19 14 11.6**	**+0.1**
	comp=Z,4.4nm,0.9s,baz=320,slow=3.8,SNR=4.0						
NACGM	**Naroch**	**137.49**	**343**	*e*PKP	PKiKP	19 14 51.5	+14
	comp=Z,32nm,0.8s,baz=30						
CLL	**Collm**	**143.70**	**353**	*i* PKPdf	**PKPdf**	**19 14 46.8**	**-0.6**
DPC	**Dobruska-Polom**	**144.15**	**349**	*e*PKP	**PKPdf**	**19 14 48.5**	**+0.2**
BURAR	**Bucovina Array**	**144.28**	**338**	⇑P	**PKPdf**	**19 14 49.2**	**+0.5**
BURAR	**Bucovina Array**	**144.28**	**338**	PKPdf	**PKPdf**	**19 14 50.0**	**+1.2**
KIBK	**Kibwezi**	**144.36**	**243**	PKPdf	**PKPdf**	**19 14 50.8**	**+1.0**
TESR	**Tescani**	**144.66**	**336**	⇑P	**PKPdf**	**19 14 50.1**	**+0.8**
GHRR		**144.72**	**335**	⇑P	**PKPdf**	**19 14 50.2**	**+0.9**
PRU	**Pruhonice**	**144.79**	**351**	*e*PKP	**PKPdf**	**19 14 50.1**	**+0.7**
TLCR		**144.81**	**332**	⇑P	**PKPdf**	**19 14 50.7**	**+1.2**
ARCR	**ARCALIA**	**145.03**	**339**	⇑P	**PKPdf**	**19 14 51.6**	**+1.7**
ODBI	**Odobesti**	**145.11**	**335**	⇑P	**PKiKP**	**19 14 52.2**	**-1.7**
CFR	**Carcaliu**	**145.12**	**333**	⇑P	**PKPdf**	**19 14 50.3**	**+0.3**
VRI	**Vrincioaia**	**145.16**	**335**	⇑P	**PKPdf**	**19 14 49.9**	**-0.2**
PLOR	**Plostina**	**145.20**	**335**	⇑P	**PKPdf**	**19 14 51.3**	**+1.0**
TPGR	**Topolog**	**145.24**	**332**	⇑P	**PKiKP**	**19 14 52.2**	**-2.1**
TURR	**Turia**	**145.29**	**336**	⇑P	**PKiKP**	**19 14 52.6**	**-1.7**
OZUR		**145.34**	**336**	⇑P	**PKiKP**	**19 14 52.3**	**-2.1**
ZVC	**Zvikov**	**145.38**	**351**	*e*PKP	**PKPab**	**19 14 51.1**	**+0.6**
VYHS	**Vyhne**	**145.39**	**346**	*e*PKP	**PKPab**	**19 14 52.2**	**+1.6**
TIRR	**Tirgusor**	**145.56**	**332**	⇑P	**PKiKP**	**19 14 53.2**	**-1.7**
HARR	**Harsova**	**145.59**	**333**	⇑P	**PKiKP**	**19 14 53.3**	**-1.7**
DOPR	**Dopca**	**145.60**	**337**	⇑P	**PKiKP**	**19 14 53.8**	**-1.2**
KMBO	**Kilima Mbogo**	**145.65**	**244**	PKPbc	**PKPab**	**19 14 53.1**	**+0.2**
	comp=Z,4.4nm,0.9s,baz=228,slow=0.3,SNR=8.5						
TLBR	**Topalu**	**145.65**	**332**	⇑P	**PKiKP**	**19 14 53.8**	**-1.3**
KHC	**Kasperske Hory**	**145.76**	**352**	*e*PKP	**PKPab**	**19 14 53.1**	**+1.1**
MLR	**Muntele Rosu**	**145.78**	**336**	⇑P	**PKiKP**	**19 14 53.9**	**-1.6**
MLR	**Muntele Rosu**	**145.78**	**336**		**PKPab**	**19 14 52.4**	**+0.1**
MODS	**Modra-Piesok**	**145.85**	**347**	*e*PKP	**PKiKP**	**19 14 54.8**	**-0.6**
CKRC	**Cesky Krumlov**	**145.96**	**351**	*e*PKP	**PKPab**	**19 14 53.7**	**+1.0**
GERES	**GERESS Array B**	**146.03**	**352**	PKPbc	**PKPab**	**19 14 53.2**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=325,slow=2.7,SNR=4.1						
BR131	**Keskin Array S**	**146.10**	**321**		**PKiKP**	**19 14 55.0**	**-1.3**
BRTR	**Keskin Array B**	**146.10**	**321**		**PKiKP**	**19 14 55.3**	**-1.0**
BRTR	**Keskin Array B**	**146.10**	**321**	PKPbc	**PKPab**	**19 14 54.7**	**+1.0**
	comp=Z,11nm,0.9s,baz=95,slow=1.4,SNR=32						
VOIR		**146.18**	**336**	⇑P	**PKiKP**	**19 14 54.9**	**-1.4**
ARR	**Arges**	**146.39**	**337**	⇑P	**PKiKP**	**19 14 57.0**	**+0.3**
ANTO	**Ankara**	**146.52**	**322**	⇑P	**PKPdf**	**19 14 53.0**	**+0.2**
CONA	**Conrad Observa**	**146.56**	**349**	*e*PKiKP	**PKiKP**	**19 14 56.2**	**-0.8**
	comp=Z,3.9nm,0.8s						
SURR	**Surduc**	**146.95**	**340**	⇓P	**PKPab**	**19 14 56.6**	**0.0**
MORH	**Mrgy, Hungar**	**147.56**	**344**	⇓P	**PKPdf**	**19 14 53.0**	**-1.1**
RETA	**Reutte**	**147.70**	**355**	*e*PKP	**PKiKP**	**19 14 58.2**	**-1.1**
	comp=Z,0.4nm,0.3s						
MOTA	**Moosalm**	**147.81**	**354**	*e*PKiKP	**PKiKP**	**19 14 59.3**	**-0.3**
	comp=Z,2.4nm,0.6s						
WTTA	**Wattenberg**	**147.84**	**354**	*e*PKiKP	**PKiKP**	**19 14 59.1**	**-0.6**
	comp=Z,3.0nm,0.5s						
SOKA	**Soboth**	**147.92**	**349**	*e*PKiKP	**PKiKP**	**19 14 59.0**	**-0.9**
	comp=Z,2.6nm,0.7s						
ABTA	**Abfaltersbach**	**148.24**	**352**	*e*PKiKP	**PKiKP**	**19 14 59.8**	**-0.7**
	comp=Z,4.3nm,1.0s						
MMAI	**Mount Meron Ar**	**148.54**	**309**	PKPbc	**PKiKP**	**19 15 01.5**	**0.0**
	comp=Z,5.6nm,0.8s,baz=78,slow=3.4,SNR=11						

IDC 10 19:31:07.0±3.4,33°.00S×178°.98W,h0km,mb3.3/2, mbtmp3.5/3,ML3.7/1,MS2.9/1,Error ellipse: s-maj=74.1km s-min=47.4km az=112.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.13**	**210**	Pn	Pn	19 32 38.8	-0.2
	1.9nm,0.3s,baz=358,slow=4.5,SNR=15						
URZ				Sn	Sn	19 33 45.2	-4.6
	2.6nm,0.3s,baz=208,slow=21,SNR=8.1						
	3.8nm,0.3s						
DZM	**Mont Dzumac**	**16.88**	**307**	LR	LR	19 40 44.4	
	comp=Z,36nm,19.3s,baz=225,slow=34						
ASAR	**Alice Springs**	**42.21**	**270**	P	P	19 39 01.6	-0.4
	0.2nm,0.4s,baz=112,slow=8.0,SNR=5.9						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**43.43**	**275**	P	P	19 39 12.0	+0.1
	0.2nm,0.3s,baz=116,slow=7.6,SNR=6.7						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**147.26**	**338**	PKPbc	PKPbc	19 50 50.9	-0.7
	3.7nm,1.1s,baz=46,slow=6.0,SNR=1.6						

*IDC **10** 19:37:28.2±2.6,43°.83N×105°.11W,h0km,mbtmp2.9/3, ML2.9/3,Error ellipse: s-maj=64.3km s-min=10.5km az=149.0*
*NEIC **10** 19:37:31.3±1.9,44°.36N±0°.05×105°.39W±0°.03,h0km±2km, ML2.8/30,Error ellipse: s-maj=9.2km s-min=3.1km az=11.0*
ISC 10 19:37:30.5±1.2,44°32N±0°.06×105°38W±0°.07,h0km,n24, σ1§29/23,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.99**	**101**	Pg	**Pn**	**19 37 51.1**	**-0.6**
K22A	**Casper**	**1.87**	**207**	Pn	**Pb**	**19 38 05.5**	**-0.1**
K22A				IAML		19 38 35.3	
	comp=E,110nm,0.4s						
LAO	**LASA Array**	**2.44**	**346**	Pn	**Pn**	**19 38 10.2**	**-1.4**
RLMT	**Red Lodge**	**2.88**	**287**	Pn	**Pn**	**19 38 16.3**	**-1.6**
RLMT				IAML		19 39 08.1	
	comp=E,25nm,1.4s						
RLMT				IAML		19 39 09.7	
	comp=E,27nm,1.1s						
RWWY	**Rawlins**	**2.96**	**208**	Pn	**Pn**	**19 38 19.3**	**+0.4**
RWWY				IAML		19 39 12.5	
	comp=E,24nm,1.0s						
RWWY				IAML		19 39 48.8	
	comp=E,35nm,4.8s						
PHWY	**Pilot Hill**	**3.02**	**181**	Pn	**Pn**	**19 38 18.9**	**-0.9**
PHWY				IAML		19 39 19.0	
	comp=E,20nm,3.4s						
PHWY				IAML		19 39 24.8	
	comp=E,23nm,1.6s						
GCMT	**Greycliff**	**3.37**	**297**	Pn	**Pn**	**19 38 25.3**	**+0.7**
BW06	**Boulder Array**	**3.41**	**244**	Pn	**Pn**	**19 38 24.6**	**-0.6**
PD31	**Pinedale Array**	**3.41**	**244**	Pn	**Pn**	**19 38 25.3**	**+0.1**
PDAR	**Pinedale Array**	**3.41**	**244**		**Pn**	**19 38 25.9**	**+0.8**
PDAR	**Pinedale Array**	**3.41**	**244**	Pn	**Pn**	**19 38 26.2**	**+1.0**
	comp=E,0.8nm,0.3s,baz=65,slow=16,SNR=18						
PDAR				Lg	Lg	19 39 14.9	
	comp=E,4.0nm,0.3s,

IDC ***10*** *20:39:07.4±1.0, 34˚.03N×135˚.16E, h0km, mb3.5/6, mbtmp3.4/9, ML3.0/3, Error ellipse: s-maj=21.0km s-min=15.5km az=144.0*

NIED ***10*** *20:39:09.9, 34˚.04N×135˚.09E, h9km, MW3.5, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr0.57; Mθθ0.60; Mφφ-1.17; Mrθ-0.26; Mθφ0.01; Mφr-2.10; Fault plane solution: M₀2.29000×10¹⁴ NP1: φs188.00000°, δ79.00000°, λ96.00000°. NP2: φs339.00000°, δ12.00000°, λ62.00000°.*

JMA ***10*** *20:39:09.9±0.1, 34˚.0N±0˚.2×135˚.1E±0˚.2, h9km±1km, MV3.8/20, NW WAKAYAMA PREF*

JMA Felt III J1 at NW WAKAYAMA PREF .

ISC 10 20:39:09.2±1.3, 34˚03N±0˚.04×135˚12E±0˚.04, h11km±10km, n18, σ0°68/25, mb3.4/6, 12D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.27**	**132**	⇓*i*P		**Pb**	**20 39 15.9**	**-0.1**
JWM				⇓S		**Sb**	**20 39 19.8**	**-0.8**
JWY	**Kouya**	**0.44**	**65**	⇓*e*P		**Pb**	**20 39 18.5**	**-0.5**
JWY				⇓S		**Sb**	**20 39 25.4**	**-0.1**
JTNC	**Tanabenakahech**	**0.46**	**117**	⇓*i*P		**Pb**	**20 39 19.7**	**+0.4**
JTNC				⇓S		**Sb**	**20 39 26.1**	**-0.1**
JAWN	**Awajishima-nag**	**0.49**	**339**	*i*P		**Pb**	**20 39 19.2**	**-0.5**
JAWN				S		**Sg**	**20 39 25.6**	**+0.3**
JAI	**Aioi**	**0.60**	**247**	⇓*i*P		**Pb**	**20 39 21.1**	**-0.6**
JAI				⇓S		**Sg**	**20 39 29.3**	**+0.4**
JHE	**Heguri**	**0.78**	**37**	⇓*i*P		**Pb**	**20 39 24.9**	**+0.1**
JHE				⇓*e*S		**Sb**	**20 39 35.4**	**+0.1**
JKS	**Kasai**	**0.98**	**347**	*i*P		**Pb**	**20 39 28.1**	**0.0**
JKN2	**Miekihoku**	**0.98**	**77**	⇓*i*P		**Pb**	**20 39 28.0**	**-0.2**
JKN2				⇓S		**Sb**	**20 39 42.2**	**+1.1**
JJS	**Sakaide**	**1.04**	**290**	*i*P		**Pg**	**20 39 28.6**	**-0.6**
MJAR	**Matsushiro Arr**	**3.56**	**44**	Pn		**Pn**	**20 40 04.5**	**+0.2**
	0.2nm,0.3s,baz=241,slow=14,SNR=11							
MJAR				Lg		Lg	20 41 01.9	
	0.2nm,0.3s,baz=225,slow=28,SNR=5.1 2.4nm,0.6s							
JNU	**Nakatsue**	**3.65**	**257**	Pn		**Pn**	**20 40 06.5**	**+0.9**
	2.5nm,0.3s,baz=53,slow=20,SNR=2.4							
JNU				Lg		Lg	20 41 04.7	
	baz=242,slow=10.0 4.1nm,0.3s							
KSRS	**Korea Array**	**6.77**	**302**	Pn		**Pn**	**20 40 50.0**	**+1.5**
	0.5nm,0.3s,baz=121,slow=14,SNR=5.2 1.4nm,0.5s							
SONM	**Songino Array**	**25.53**	**311**	P		**P**	**20 44 38.1**	**+0.3**
	0.3nm,0.7s,baz=118,slow=9.1,SNR=2.4 0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**43.88**	**310**	P		**P**	**20 47 16.2**	**+0.8**
	0.3nm,0.8s,baz=89,slow=7.9,SNR=2.6 0.3nm,0.8s							
BVAR	**Borovoye Array**	**48.84**	**313**	P		**P**	**20 47 53.5**	**-0.9**
	0.6nm,0.6s,baz=71,slow=6.4,SNR=4.0 0.6nm,0.6s							
WRA	**Warramunga Arr**	**53.68**	**181**	P		**P**	**20 48 31.0**	**+0.1**
	1.4nm,0.8s,baz=356,slow=7.8,SNR=14 1.4nm,0.8s							
ASAR	**Alice Springs**	**57.39**	**181**	P		**P**	**20 48 57.9**	**+0.3**
	0.4nm,0.6s,baz=1.0,slow=6.6,SNR=4.0 0.4nm,0.6s							
YKA	**Yellowknife Ar**	**68.92**	**28**	P		**P**	**20 50 12.5**	**-1.2**
	0.1nm,0.7s,baz=305,slow=6.5,SNR=2.7 0.1nm,0.7s							

IDC ***10*** *20:52:24.4±0.5, 25˚.36S×175˚.81W, h0km, mb4.3/15, mbtmp4.2/17, ML3.7/2, MS3.6/18, Error ellipse: s-maj=21.8km s-min=16.8km az=108.0*

NEIC ***10*** *20:52:27.8±2.6, 25˚.0S±0˚.1×175˚.6W±0˚.1, h37km±7km, mb4.5/19, Error ellipse: s-maj=16.0km s-min=15.2km az=138.0*

ISC 10 20:52:29.4±0.5, 25˚36S±0˚.09×175˚9W±0˚.1, h31km, n78, σ1°03/56, mb4.4/25, MS3.6/16, 4D, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.35**	**43**	Pn		Pn	20 54 17.9	-10
URZ	**Urewera**	**14.16**	**203**	Pn		**Pn**	**20 55 45.7**	**-2.1**
	0.7nm,0.3s,baz=89,slow=8.6,SNR=2.3							
URZ				Sn		Sn	20 58 14.1	-10
	0.7nm,0.3s,baz=260,slow=22,SNR=3.1							
URZ				LR		LR	21 00 53.5	
	comp=Z,133nm,20.1s,baz=34,slow=36 3.1nm,0.4s							
RAR	**Rarotonga**	**15.38**	**78**	Pn		Pn	20 55 54.3	-10
RAR				IAmb		IAmb	20 55 56.2	
	comp=Z,26nm,0.6s							
RAR	**Rarotonga**	**15.38**	**78**	Pn		Pn	20 55 52.8	-11
	comp=Z,5.6nm,0.3s,baz=240,slow=8.5,SNR=6.6							
RAR				LR		LR	21 02 22.3	
	comp=Z,112nm,18.5s,baz=248,slow=39							
ONTNC	**Ouen Toro**	**16.43**	**277**	Pn		**Pn**	**20 56 16.8**	**-1.0**
DZM	**Mont Dzumac**	**16.50**	**278**			**P**	**20 56 21.8**	**+0.7**
DZM				IAmb		IAmb	20 56 45.1	
	comp=Z,23nm,1.0s							
DZM	**Mont Dzumac**	**16.50**	**278**	*e*P		**P**	**20 56 23.2**	**+2.1**
	comp=Z,59nm,1.1s							
DZM				*e*LR		LR	21 00 04.0	
	comp=Z,322nm,33.9s							
DZM	**Mont Dzumac**	**16.50**	**278**	Pn		**Pn**	**20 56 17.7**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=56,slow=20,SNR=3.5 comp=Z,3.3nm,1.1s							
MRZ	**Mangatainoka R**	**16.84**	**203**			**P**	**20 56 24.2**	**-0.4**
MRZ				IAmb		IAmb	20 56 32.0	
	comp=Z,23nm,1.1s							
MRNZ	**Matariki Terra**	**18.56**	**208**	P		**Pn**	**20 56 44.4**	**+0.3**
RPZ	**Rata Peaks**	**21.18**	**207**	P		**P**	**20 57 11.4**	**-0.8**
	comp=Z,6.3nm,1.0s,baz=95,slow=18,SNR=1.5 comp=Z,6.3nm,1.0s							
TBI	**Tubuai**	**24.15**	**91**	*e*LR		LR	21 03 26.3	
	comp=Z,796nm,25.5s							
PPT2	**Papeete2**	**25.65**	**78**	*e*LR		LR	21 03 40.6	
	comp=Z,186nm,31.5s							
PPT2				*e*LR		LR	21 04 03.5	
	comp=Z,195nm,25.5s							
PPT	**Papeete**	**25.66**	**78**	LR		LR	21 07 08.9	
	comp=Z,86nm,18.4s,baz=242,slow=35							
HNR	**Honiara**	**27.89**	**300**	LR		LR	21 09 20.8	
	comp=Z,762nm,18.1s,baz=157,slow=36							
EIDS	**Eidsvold**	**29.80**	**263**	P		**P**	**20 58 32.7**	**-0.9**
EIDS				IAmb		IAmb	20 58 37.2	
	comp=Z,11nm,0.8s							
CTA	**Charters Tower**	**35.23**	**271**	LR		LR	21 12 54.3	
	comp=Z,62nm,18.3s,baz=84,slow=35							
CTAO	**Charters Tower**	**35.23**	**271**	P		**P**	**20 59 18.7**	**-2.4**
STKA	**Stephens Creek**	**37.70**	**250**	P		**P**	**20 59 44.5**	**+2.3**
STKA	**Stephens Creek**	**37.70**	**250**	P		**P**	**20 59 42.4**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=89,slow=15,SNR=8.0							
STKA				LR		LR	21 13 41.1	
	comp=Z,59nm,19.0s,baz=26,slow=34 comp=Z,1.2nm,0.4s							
BBOO	**Buckleboo**	**42.35**	**248**	P		**P**	**21 00 20.5**	**-0.2**
BBOO				IAmb		IAmb	21 00 23.0	
	comp=Z,4.5nm,0.8s							
AS31	**Alice Springs**	**45.49**	**261**	P		**P**	**21 00 47.0**	**+0.9**
AS31				IAmb		IAmb	21 00 49.3	
	comp=Z,2.4nm,0.5s							
ASAR	**Alice Springs**	**45.49**	**261**	P		**P**	**21 00 45.5**	**-0.6**
ASAR	**Alice Springs**	**45.49**	**261**	P		**P**	**21 00 46.5**	**+0.3**
	comp=Z,4.4nm,0.5s,baz=90,slow=7.0,SNR=78							
ASAR				PcP		**PcP**	**21 02 26.4**	**+1.6**
	comp=Z,1.2nm,0.7s,baz=116,slow=4.0,SNR=6.0							
ASAR				LR		LR	21 19 13.8	
	comp=Z,56nm,18.4s,baz=141,slow=35 comp=Z,4.4nm,0.5s							
WB0	**Warramunga Arr**	**46.04**	**266**	P		**P**	**21 00 51.1**	**+0.6**
WB0				IAmb		IAmb	21 00 52.4	
	comp=Z,8.5nm,1.0s							
WRA	**Warramunga Arr**	**46.04**	**266**	P		**P**	**21 00 49.9**	**-0.6**
WRA	**Warramunga Arr**	**46.04**	**266**	P		**P**	**21 00 50.5**	**+0.1**
	comp=Z,4.8nm,1.0s,baz=104,slow=7.9,SNR=19							
WRA				PcP		**PcP**	**21 02 28.8**	**+2.0**
	comp=Z,1.9nm,0.9s,baz=102,slow=3.7,SNR=6.1 comp=Z,4.8nm,1.0s							
FORT	**Forrest**	**49.32**	**250**	P		**P**	**21 01 15.9**	**+0.1**
KNRA	**Kununurra**	**52.41**	**269**	P		**P**	**21 01 37.8**	**-1.4**
SBA	**Scott Base**	**53.19**	**185**	P		**P**	**21 01 44.0**	**-0.1**
SBA				IAmb		IAmb	21 01 48.4	
	comp=Z,8.1nm,1.0s							
VNDA	**Vanda**	**53.28**	**186**	P		**P**	**21 01 46.1**	**+1.3**
VNDA				IAmb		IAmb	21 02 02.6	
	comp=Z,3.3nm,1.0s							
VNDA	**Vanda**	**53.28**	**186**	P		**P**	**21 01 45.0**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=335,slow=5.2,SNR=4.5							
VNDA				LR		LR	21 21 53.6	
	comp=Z,30nm,20.1s,baz=105,slow=33 comp=Z,0.9nm,0.8s							
FITZ	**Fitzroy Crossi**	**54.44**	**265**	P		**P**	**21 01 53.9**	**-0.2**
BATI	**Baumata**	**59.05**	**273**	LR		LR	21 28 29.8	
	comp=Z,81nm,18.2s,baz=257,slow=37							
MORW	**Morawa**	**59.88**	**250**	P		**P**	**21 02 33.2**	**+0.7**
MORW				IAmb		IAmb	21 02 51.3	
	comp=Z,8.5nm,1.1s							
QSPA	**South Pole Qui**	**64.73**	**180**	P		**P**	**21 03 05.2**	**+0.7**
QSPA	**South Pole Qui**	**64.73**	**180**	P		**P**	**21 03 04.9**	**+0.4**
	comp=Z,5.7nm,0.8s,baz=28,slow=2.6,SNR=11 comp=Z,5.7nm,0.8s							
BELA	**Belgrano 2**	**74.51**	**172**	P		**P**	**21 04 04.2**	**-0.2**
BELA				IAmb		IAmb	21 04 04.9	
	comp=Z,3.4nm,0.8s							
LEM	**Lembang**	**74.92**	**270**	LR		LR	21 36 44.0	
	comp=Z,20nm,19.0s,baz=217,slow=36							
MJAR	**Matsushiro Arr**	**75.25**	**323**	P		**P**	**21 04 08.6**	**-0.6**
	comp=Z,2.8nm,0.9s,baz=154,slow=5.0,SNR=4.8 comp=Z,2.8nm,0.9s							
MAW	**Mawson**	**77.66**	**200**	P		**P**	**21 04 21.9**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=108,slow=9.6,SNR=2.8 comp=Z,1.6nm,0.7s							
LPIG	**La Paz**	**80.28**	**58**	LR		LR	21 34 40.1	
	comp=Z,42nm,18.1s,baz=214,slow=32							
PFO	**Pinyon Flats O**	**81.42**	**47**	LR		LR	21 36 25.7	
	comp=Z,77nm,18.2s,baz=206,slow=32							
PETK	**Petropavlovsk-**	**81.45**	**344**	P		**P**	**21 04 43.4**	**+0.3**
	comp=Z,10nm,1.0s,baz=148,slow=12,SNR=3.5 comp=Z,10nm,1.0s							
H03S2	**Juan Fernandez**	**81.68**	**123**	T		T	22 33 31.9	
	baz=242,slow=74,SNR=7.2							
H03S1	**Juan Fernandez**	**81.69**	**123**	T		T	22 33 35.0	
	baz=242,slow=74,SNR=6.5							
H03S3	**Juan Fernandez**	**81.70**	**123**	T		T	22 33 31.4	
	baz=242,slow=74,SNR=7.0							
KSRS	**Korea Array**	**81.79**	**318**	P		**P**	**21 04 45.8**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=122,slow=5.4,SNR=3.0 comp=Z,1.6nm,0.8s							
TROLL	**Troll, Antarti**	**82.89**	**180**	⇓P		**P**	**21 04 51.8**	**+1.1**
	comp=Z,152nm,0.7s							
SNAA	**Sanae**	**83.11**	**178**	⇓P		**P**	**21 04 52.8**	**+1.0**
	comp=Z,42nm,0.8s							
SNAA	**Sanae**	**83.11**	**178**	P		**P**	**21 04 52.1**	**+0.3**
	comp=Z,3.1nm,1.1s,baz=178,slow=13,SNR=5.4 comp=Z,3.1nm,1.1s							
VNA3	**Neumayer Olymp**	**83.18**	**176**	⇓P		**P**	**21 04 52.2**	**+0.1**
	comp=Z,3.5nm,0.7s							
NVAR	**Mina Array Bea**	**83.27**	**42**	P		**P**	**21 04 52.4**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=227,slow=9.2,SNR=8.8 comp=Z,2.0nm,0.9s							
VNA2	**Neumayer--Watz**	**83.64**	**176**	⇓P		**P**	**21 04 54.9**	**+0.5**
	comp=Z,3.8nm,0.8s,baz=163,slow=3.0							
USRK	**Ussuriysk Ar.**	**84.05**	**325**	P		**P**	**21 04 55.3**	**-1.5**
	comp=Z,2.1nm,0.8s,baz=236,slow=48,SNR=2.5 comp=Z,2.1nm,0.8s							
PLCA	**Paso Flores**	**84.55**	**133**	LR		LR	21 37 43.8	
	comp=Z,38nm,18.3s,baz=206,slow=32							
TXAR	**Lajitas Array**	**88.08**	**56**	P		**P**	**21 05 16.8**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=215,slow=7.6,SNR=6.6 comp=Z,0.6nm,0.9s							
ANMO	**Albuquerque**	**88.96**	**50**	LR		LR	21 41 42.4	
	comp=Z,42nm,18.1s,baz=23,slow=33							
CMIG	**Matias Romero**	**89.38**	**71**	LR		LR	21 37 44.1	
	comp=Z,20nm,18.3s,baz=34,slow=30							
ILAR	**Eielson Array**	**92.62**	**12**	P		**P**	**21 05 37.1**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=220,slow=5.0,SNR=13 comp=Z,0.8nm,0.7s							
NNA	**Nana**	**92.94**	**105**	LR		LR	21 37 44.5	
	comp=Z,20nm,20.2s,baz=217,slow=29							
CMAR	**Chiang Mai Arr**	**93.53**	**289**	P		**P**	**21 05 45.5**	**+2.8**
	comp=Z,3.5nm,0.8s,baz=130,slow=3.6,SNR=32							
ATAH	**Atahualpa**	**93.71**	**100**	LR		LR	21 39 27.6	
	comp=Z,20nm,19.2s,baz=249,slow=30							
LVC	**Limon Verde**	**94.67**	**118**	LR		LR	21 38 58.7	
	comp=Z,34nm,18.9s,baz=245,slow=30							
ZALV	**Zalesovo Beam**	**115.46**	**320**	PKP		**PKiKP**	**21 11 07.7**	**0.0**
	comp=Z,0.5nm,0.6s,baz=126,slow=2.0,SNR=3.5							
MKAR	**Makanchi Array**	**115.90**	**312**	PKP		**PKiKP**	**21 11 09.2**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=194,slow=0.6,SNR=7.9							
KURBB	**Kurchatov Arra**	**118.89**	**316**	PKP		**PKiKP**	**21 11 14.4**	**0.0**
	comp=Z,0.9nm,0.6s,baz=108,slow=2.1,SNR=7.2							
BVAR	**Borovoye Array**	**124.01**	**318**	PKP		**PKiKP**	**21 11 24.8**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=120,slow=3.0,SNR=10							
ARCES	**ARCESS Array B**	**134.03**	**350**	PKP		**PKPdf**	**21 11 43.1**	**+0.3**
	comp=Z,8.2nm,1.1s,baz=6.2,slow=2.5,SNR=9.4							
FINES	**FINESS Array B**	**140.96**	**343**	PKP		**PKPdf**	**21 11 55.8**	**0.0**
	comp=Z,1.7nm,0.8s,baz=64,slow=3.2,SNR=4.9							
NB2	**NORSAR Subarra**	**144.00**	**354**	PKP		PKPbc	21 11 59.9	+0.7
	comp=Z,0.7nm,0.6s,baz=12,slow=3.4							
NOA	**NORSAR Array B**	**144.00**	**354**	PKP		PKPbc	21 11 59.4	+0.2
	comp=Z,2.5nm,1.0s,baz=15,slow=2.4,SNR=4.4							
HFS	**Hagfors**	**144.61**	**352**	PKP		PKPbc	21 12 01.4	+0.3
	comp=Z,3.8nm,0.6s,baz=72,slow=4.7,SNR=23							
AKASG	**Malin Array Be**	**148.18**	**329**	PKPbc		**PKPbc**	**21 12 11.1**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=41,slow=3.8,SNR=14							
BRTR	**Keskin Array B**	**151.43**	**307**	PKPbc		**PKPbc**	**21 12 19.4**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=129,slow=3.0,SNR=9.7							
MMAI	**Mount Meron Ar**	**151.71**	**293**	PKPbc		**PKPbc**	**21 12 20.2**	**-1.0**
	comp=Z,3.0nm,0.6s,baz=78,slow=7.8,SNR=8.7							
CLL	**Collm**	**153.21**	**348**	*i* PKPbc		**PKiKP**	**21 12 24.7**	**+0.7**
	comp=Z,8.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**167.64**	**169**	PKPab		**PKPab**	**21 13 39.4**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=200,slow=1.6,SNR=5.5							

NEIC 10 21:11:01.8±0.4, 40˚.463N±0˚.009×104˚.67W±0˚.02, h8km±2km, ML2.1/32, Error ellipse: s-maj=2.2km s-min=1.1km az=109.0, Colorado

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BRIGG	**Briggsdale**	**0.29**	**66**	Pg		Pg	21 11 08.3	+0.6
BRIGG				Sg		Sg	21 11 12.6	+0.9
BRIGG				IAML			21 11 12.8	
	comp=E,289nm,0.2s							
BRIGG				IAML			21 11 12.9	
	comp=N,231nm,0.2s							
ISCO	**Idaho Springs**	**0.98**	**228**			Pg	21 11 20.3	-0.3
PHWY	**Pilot Hill**	**1.03**	**325**			Pg	21 11 21.4	-0.1
N23A	**Red Feather La**	**1.06**	**294**			Pb	21 11 22.5	0.0
N23A				IAML			21 11 37.0	
	comp=E,24nm,0.2s							
N23A				IAML			21 11 38.3	
	comp=N,25nm,0.6s							
Q24A	**Divide**	**1.54**	**194**			Pn	21 11 29.7	-0.1
SMCO	**Snowmass**	**2.19**	**235**			Pn	21 11 38.8	0.0

IDC 10 21:13:37.6±5.3, 23˚.35S×178˚.58W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=238.9km s-min=51.7km az=150.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.41**	**260**	P		P	21 21 42.0	-0.4
	0.6nm,0.5s,baz=91,slow=7.3,SNR=14 0.6nm,0.5s							
WRA	**Warramunga Arr**	**43.74**	**265**	P		P	21 21 44.9	-0.2
	0.4nm,0.5s,baz=105,slow=8.0,SNR=6.5 0.4nm,0.5s							
CMAR	**Chiang Mai Arr**	**90.56**	**290**	P		P	21 26 42.0	-0.2
	0.2nm,0.4s,baz=112,slow=3.2,SNR=4.8 0.2nm,0.4s							
AKASG	**Malin Array Be**	**145.19**	**329**	PKPbc		PKPbc	21 33 14.5	-2.1
	0.6nm,0.4s,baz=41,slow=4.0,SNR=4.9							
MMAI	**Mount Meron Ar**	**148.65**	**295**	PKPbc		PKiKP	21 33 28.5	-0.2
	0.5nm,0.4s,baz=83,slow=3.5,SNR=4.2							

NEIC ***10*** *21:23:36.5±1.5, 18˚.22N±0˚.09×146˚.0E±0˚.1, h140km±8km, mb4.4/72, Error ellipse: s-maj=20.0km s-min=13.1km az=101.0*

IDC ***10*** *21:23:44.7±5.3, 18˚.27N×145˚.68E, h227km±51km, mb3.4/12, mbtmp4.0/13, MS2.9/2, Error ellipse: s-maj=20.5km s-min=12.1km az=92.0*

ISC 10 21:23:36.9±0.5, 18˚21N±0˚.07×145˚9E±0˚.1, h150km, n100, σ0°79/87, mb4.4/48, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.69**	**192**	Pn		**Pn**	**21 24 46.3**	**0.0**
GUMO	**Guam**	**4.69**	**192**	LR		LR	21 26 28.0	
	comp=Z,67nm,19.7s,baz=306,slow=35							
JHJ	**Hachijo jima 2**	**15.82**	**341**	LR		LR	21 31 27.0	
	comp=Z,80nm,21.0s,baz=50,slow=30							
MJAR	**Matsushiro Arr**	**19.47**	**341**	P		**P**	**21 27 53.8**	**+1.7**
	1.7nm,0.7s,baz=174,slow=10,SNR=4.8							
H11S3	**WAKE ISLAND Hy**	**19.78**	**86**	T		T	21 48 48.3	
	baz=273							
H11S1	**WAKE ISLAND Hy**	**19.79**	**86**	T		T	21 48 44.3	
	baz=273							
H11S2	**WAKE ISLAND Hy**	**19.79**	**86**	T		T	21 48 56.4	
	baz=273							
H11N1	**WAKE ISLAND Hy**	**19.95**	**82**	T		T	21 49 04.7	
	baz=267							
H11N2	**WAKE ISLAND Hy**	**19.96**	**82**	T		T	21 49 08.3	
	baz=267							
H11N3	**WAKE ISLAND Hy**	**19.97**	**82**	T		T	21 49 04.9	
	baz=267							
YHNB	**Yeheng**	**23.66**	**290**	P		**P**	**21 28 35.4**	**+0.6**
SSLB	**Suanglung**	**23.89**	**288**	P		**P**	**21 28 37.3**	**+0.4**
COEN	**Coen**	**32.07**	**185**	P		**P**	**21 29 49.8**	**0.0**
MTN	**Manton Dam**	**34.10**	**206**	P		**P**	**21 30 07.3**	**-0.1**
MTN				IAmb		IAmb	21 30 12.0	
	comp=Z,9.0nm,1.1s							
KNRA	**Kununurra**	**37.65**	**208**	P		**P**	**21 30 37.5**	**-0.1**
WB0	**Warramunga Arr**	**39.38**	**197**	P		**P**	**21 30 51.9**	**-0.2**
WB0				IAmb		IAmb	21 30 53.0	
	comp=Z,13nm,1.4s							
WR0	**Warramunga Arr**	**39.52**	**197**	P		**P**	**21 30 52.9**	**-0.3**
WB2	**Warramunga Arr**	**39.56**	**197**	P		**P**	**21 30 54.0**	**+0.5**
WB2				IAmb		IAmb	21 31 06.1	
	comp=Z,9.2nm,1.2s							
WRA	**Warramunga Arr**	**39.56**	**197**	P		**P**	**21 30 51.7**	**-1.8**
WRA	**Warramunga Arr**	**39.56**	**197**	P		**P**	**21 30 53.3**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=14,slow=8.3,SNR=33							
WRA				PcP		**PcP**	**21 32 57.5**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=15,slow=3.6,SNR=2.0 comp=Z,1.7nm,0.5s							
FITZ	**Fitzroy Crossi**	**41.19**	**210**	P		**P**	**21 31 07.6**	**+0.6**
AS31	**Alice Springs**	**43.22**	**196**	P		**P**	**21 31 24.1**	**+0.7**
ASAR	**Alice Springs**	**43.23**	**196**	P		**P**	**21 31 22.8**	**-0.5**
ASAR	**Alice Springs**	**43.23**	**196**	P		**P**	**21 31 23.6**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=19,slow=6.7,SNR=29 comp=Z,1.2nm,0.5s							
SONM	**Songino Array**	**43.62**	**322**	P		**P**	**21 31 25.1**	**-1.4**
SONM	**Songino Array**	**43.62**	**322**	P		**P**	**21 31 24.7**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=127,slow=7.9,SNR=4.1 comp=Z,0.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**44.43**	**278**	P		**P**	**21 31 33.9**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=66,slow=6.2,SNR=16 comp=Z,1.2nm,0.7s							
KULM	**Kulim**	**45.95**	**260**	P		**P**	**21 31 46.7**	**+1.5**
MBWA	**Marble Bar**	**46.75**	**214**	P		**P**	**21 31 51.4**	**+0.1**
MBWA				IAmb		IAmb	21 32 14.9	
	comp=Z,16nm,1.2s							
PSA00	**Pilbara Seismi**	**47.03**	**214**	P		**P**	**21 31 53.2**	**-0.2**
PSA00				IAmb		IAmb	21 32 21.4	
	comp=Z,9.4nm,1.1s							
PSA00	**Pilbara Seismi**	**47.03**	**214**	P		**P**	**21 31 53.9**	**+0.4**
PSA00				IAmb		IAmb	21 32 20.3	
	comp=Z,3.0nm,1.1s							
GSI	**Gunungsitoli**	**50.25**	**256**	P		**P**	**21 32 19.1**	**+0.9**
AKUT	**Akutan**	**51.49**	**34**	P		**P**	**21 32 27.4**	**+0.6**
BBOO	**Buckleboo**	**51.59**	**191**	P		**P**	**21 32 28.7**	**+0.9**
BBOO				IAmb		IAmb	21 32 53.5	
	comp=Z,9.3nm,1.1s							
FORT	**Forrest**	**51.63**	**200**	P		**P**	**21 32 28.1**	**0.0**
MORW	**Morawa**	**55.12**	**212**	P		**P**	**21 32 53.5**	**-0.2**
ZALV	**Zalesovo Beam**	**58.49**	**323**	P		P	21 33 14.8	-2.3
	comp=Z,0.7nm,0.6s,baz=98,slow=8.9,SNR=2.5 comp=Z,0.7nm,0.6s							
MKAR	**Makanchi Array**	**58.91**	**314**	P		**P**	**21 33 18.9**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=90,slow=12,SNR=4.3 comp=Z,0.4nm,0.5s							
C18K	**Utukok River**	**60.08**	**20**	P		**P**	**21 33 28.0**	**+0.1**
H19K	**Roundabout Mou**	**60.40**	**24**	P		**P**	**21 33 30.6**	**+0.6**
H19K				IAmb		IAmb	21 33 53.8	
	comp=Z,11nm,1.5s							
K20K	**Telida**	**60.59**	**27**	P		**P**	**21 33 32.6**	**+1.2**
K20K				IAmb		IAmb	21 33 37.0	
	comp=Z,9.8nm,1.4s							
CNPM	**China Poot**	**60.80**	**31**	P		**P**	**21 33 32.0**	**-0.9**
C19K	**Lookout Ridge**	**60.81**	**20**	P		**P**	**21 33 33.6**	**+0.7**
J20K	**Nowinta River**	**60.83**	**26**	P		**P**	**21 33 32.3**	**-0.6**
J20K				IAmb		IAmb	21 34 06.6	
	comp=Z,11nm,1.5s							
D19K

D27M	**Malcolm River**	**67.15**	**22**	P	**P**	**21 34 15.1**	**+0.8**
D27M				IAmb	IAmb	21 34 46.5		
	comp=Z,7.4nm,1.5s							
F28M	**Old Crow**	**67.32**	**24**	P	**P**	**21 34 15.5**	**+0.2**
M29M	**Somme Creek**	**67.40**	**29**	P	**P**	**21 34 14.9**	**-1.1**
L29M	**L29M**	**67.60**	**29**	P	**P**	**21 34 18.2**	**+1.0**
L29M				IAmb	IAmb	21 34 19.6		
	comp=Z,4.7nm,0.8s							
H29M	**Whitestone**	**67.75**	**25**	P	**P**	**21 34 18.4**	**+0.4**
HYT	**Haines Junctio**	**67.77**	**31**	P	**P**	**21 34 17.9**	**-0.4**
HYT				IAmb	IAmb	21 34 33.8		
	comp=Z,10nm,1.2s							
G29M	**Pine Creek**	**67.95**	**24**	P	**P**	**21 34 20.0**	**+0.7**
G29M				IAmb	IAmb	21 34 21.2		
	comp=Z,4.5nm,1.0s							
N30M	**Aishikik Lake**	**68.00**	**30**	P	**P**	**21 34 21.4**	**+1.7**
N30M				IAmb	IAmb	21 34 53.9		
	comp=Z,5.5nm,1.1s							
I30M	**Mount Dempster**	**68.50**	**26**	P	**P**	**21 34 22.1**	**-0.7**
G31M	**Satah River**	**69.43**	**24**	P	**P**	**21 34 28.7**	**+0.4**
G31M				IAmb	IAmb	21 34 29.6		
	comp=Z,4.6nm,0.8s							
F31M	**Tsiigehtchic**	**69.65**	**24**	P	**P**	**21 34 29.6**	**-0.1**
F31M				IAmb	IAmb	21 34 45.8		
	comp=Z,8.7nm,1.5s							
INK	**Inuvik**	**69.76**	**23**	P	**P**	**21 34 29.8**	**-0.6**
A36M	**Sachs Harbour**	**72.49**	**19**	P	**P**	**21 34 46.8**	**0.0**
C36M	**Paulatuk**	**73.14**	**22**	P	**P**	**21 34 50.6**	**0.0**
ABKAR	**Akbulak array**	**73.80**	**317**	P	P	21 34 52.1	-2.7
ABKAR	**Akbulak array**	**73.80**	**317**	P	P	21 34 52.4	-2.4
ABKAR				IAmb	IAmb	21 34 58.4		
	comp=Z,2.3nm,1.3s							
YKA	**Yellowknife Ar**	**78.35**	**28**	P	**P**	**21 35 20.4**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=288,slow=5.8,SNR=16							
	comp=Z,1.0nm,0.7s							
ARCES	**ARCESS Array B**	**83.00**	**342**	P	P	21 35 43.2	-1.8	
	comp=Z,3.8nm,0.9s,baz=76,slow=7.9,SNR=2.1							
	comp=Z,3.8nm,0.9s							
NVAR	**Mina Array Bea**	**83.32**	**52**	P	**P**	**21 35 48.4**	**+0.8**	
	comp=Z,2.1nm,0.7s,baz=267,slow=6.0,SNR=16							
	comp=Z,2.1nm,0.7s							
FINES	**FINESS Array B**	**87.39**	**335**	P	P	21 36 02.8	-4.1	
	comp=Z,0.5nm,0.4s,baz=64,slow=4.4,SNR=7.2							

NOU 10 21:29:02.2, 21.81S×169.07E, h0km, MLv4.0/10, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**1.02**	**289**	P	Pg	21 29 22.2	+0.4
PINNC	**Pines Island,**	**1.70**	**242**	P	Pn	21 29 32.3	-0.9
PINNC	**Pines Island,**	**1.70**	**242**	P	Pn	21 29 32.2	-1.0
LIFNC	**LIFOU**	**1.99**	**301**	P	Pn	21 29 35.7	-1.4
LIFNC	**LIFOU**	**1.99**	**301**	P	Pn	21 29 35.4	-1.7
OUENC	**Ouen Island, N**	**2.15**	**253**	P	Pn	21 29 39.8	+0.4
DZM	**Mont Dzumac**	**2.45**	**263**	P	Pn	21 29 43.4	-0.2
ONTNC	**Ouen Toro**	**2.48**	**258**	P	Pn	21 29 45.3	+1.5
ONTNC	**Ouen Toro**	**2.48**	**258**	P	Pn	21 29 43.5	-0.3
NOUC	**Port Laguerre**	**2.58**	**263**	P	Pn	21 29 45.2	-0.1
NOUC	**Port Laguerre**	**2.58**	**263**	P	Pn	21 29 45.0	-0.3
DVP	**Devils Point**	**4.15**	**348**	P	Pn	21 30 08.1	+1.3
KOUNC	**Koumac, New Ca**	**4.64**	**285**	P	Pn	21 30 14.8	+1.3

*NDI **10** 21:36:54.0±3.7, 30.67N×95.66E, h20km, ML4.5, mb4.5(NEIC)*
*IDC **10** 21:37:01.0±0.7, 29.93N×95.03E, h0km, mb3.9/16, mbtmp3.9/19, ML3.8/3, MS2.7/4, Error ellipse: s-maj=25.5km s-min=13.7km az=48.0*
*MOS **10** 21:37:01.4±1.2, 29.91N×94.99E, h13km, mb4.5/13, Error ellipse: s-maj=10.6km s-min=6.5km az=107.1*
*NEIC **10** 21:37:05.1±1.6, 29.93N±0.07×95.07E±0.08, h24km±4km, mb4.5/36, Error ellipse: s-maj=10.9km s-min=9.5km az=162.0*

ISC 10 21:37:02.9±0.3, 29.93N±0.03×95.01E±0.03, h10km, n127, σ1§77/139, mb4.2/37, MS2.5/3, 5C-8D, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIRO	**ZIRO**	**2.60**	**203**	*e*P	**Pb**	**21 37 49.3**	**-0.5**
ZIRO				*e*S	**Sb**	**21 38 23.9**	**+1.9**
ZIRO				IAML		21 38 26.3		
	comp=E,10μm,0.4s							
ZIRO				IAML		21 38 31.9		
	comp=N,14μm,0.5s							
ITAN	**ITANAGAR**	**3.00**	**203**	*e*P	**Pb**	**21 37 53.6**	**-2.9**
ITAN				*e*S	**Sg**	**21 38 36.5**	**-2.9**
LSA	**Lhasa**	**3.36**	**267**	Pn	**Pn**	**21 37 58.5**	**+2.5**
LSA				Sn	**Sn**	**21 38 40.3**	**+4.1**
LSA	**Lhasa**	**3.36**	**267**	Pg	**Pb**	**21 37 59.8**	**-3.1**
LSA				Sg	**Sb**	**21 38 46.0**	**+1.9**
LSA				smax	smax			
	comp=N,250nm,0.5s							
LSA				smax	smax			
	comp=E,170nm,0.5s							
MOKO	**MOKOCHONG**	**3.62**	**187**	*e*P	**Pn**	**21 38 00.4**	**+1.1**
MOKO				*e*S	**Sb**	**21 38 48.5**	**-2.8**
MOKO				IAML		21 38 56.6		
	comp=E,3μm,0.5s							
MOKO				IAML		21 38 58.4		
	comp=N,3μm,0.5s							
TEZP	**TEZPUR**	**3.84**	**211**	*e*P	**Pn**	**21 38 03.9**	**+1.8**
TEZP				*e*S	**Sb**	**21 38 59.0**	**+1.7**
TEZP				IAML		21 38 59.7		
	comp=E,1μm,0.4s							
SHL	**Shillong**	**5.16**	**213**	Pn	**Pn**	**21 38 20.3**	**-0.1**
SHL	**Shillong**	**5.16**	**213**	P	**Pn**	**21 38 20.3**	**-0.1**
SHL	**Shillong**	**5.16**	**213**	*e*P	**Pn**	**21 38 20.4**	**-0.1**
SHL				IAML		21 39 42.9		
	comp=E,398nm,0.7s							
IMP	**Imphal**	**5.17**	**191**	*e*P	**Pn**	**21 38 20.9**	**+0.5**
IMP				*e*S	**Sn**	**21 39 27.3**	**+7.1**
IMP				IAML		21 39 46.7		
	comp=E,101nm,0.7s							
IMP				IAML		21 39 50.2		
	comp=N,103nm,0.6s							
SILR	**SILCHAR**	**5.49**	**201**	*e*P	**Pn**	**21 38 27.9**	**+3.1**
SILR				*e*S	**Sn**	**21 39 32.1**	**+4.0**
SILR				IAML		21 40 03.2		
	comp=E,1μm,0.6s							
TNCH	**TengChong**	**5.79**	**147**	Pn	**Pn**	**21 38 30.2**	**+1.1**
TNCH				Pg	**Pg**	**21 38 53.2**	**-0.7**
TNCH				Sn	**Sn**	**21 39 36.6**	**+0.8**
TNCH				Sg	**Sg**	**21 40 06.0**	**-3.0**
TNCH				smax	smax			
	comp=N,58nm,1.2s							
TNCH				smax	smax			
	comp=E,45nm,1.3s							
TNCH				LR	LR			
	comp=N,490nm,4.1s							
TNCH				LR	LR			
	comp=E,470nm,4.9s							
TNCH				LR	LR			
	comp=Z,140nm,8.1s							
GOMU	**GeErMu**	**6.25**	**359**	Pn	**Pn**	**21 38 38.3**	**+2.7**
GOMU				Pg	**Pb**	**21 38 48.8**	**-3.3**
GOMU				Sn	Sb	21 39 58.0	-9.1
GOMU				Sg	Sg	21 40 14.6	-9.1
GOMU				smax	smax			
	comp=N,3.0nm,0.4s							
GOMU				smax	smax			
	comp=E,3.0nm,0.4s							
GOMU				LR	LR			
	comp=N,520nm,5.7s							
GOMU				LR	LR			
	comp=E,200nm,5.8s							
GOMU				LR	LR			
	comp=Z,510nm,5.4s							
PZH	**PanZhiHua**	**6.85**	**118**	Pn	**Pn**	**21 38 47.2**	**+3.6**
PZH				Pg	**Pg**	**21 39 12.5**	**-1.6**
PZH				Sn	**Sn**	**21 40 07.6**	**+5.9**
PZH				Sg	**Sg**	**21 40 41.1**	**-1.8**
PZH				smax	smax			
	comp=N,20nm,1.0s							
PZH				smax	smax			
	comp=E,20nm,0.9s							
PZH				LR	LR			
	comp=N,530nm,7.7s							
PZH				LR	LR			
	comp=E,320nm,8.0s							
PZH				LR	LR			
	comp=Z,260nm,6.9s							
AGT	**Agartala**	**6.90**	**210**	*e*S	**Sn**	**21 40 07.7**	**+5.0**
AGT				IAML		21 40 42.6		
	comp=E,258nm,0.6s							
TAPN	**Taplejung**	**6.91**	**250**	*e*P	**Pn**	**21 38 45.0**	**+0.4**
	comp=E,39nm,0.4s							
ODAN	**Odare**	**7.38**	**247**	*e*P	**Pn**	**21 38 51.0**	**+0.1**
	comp=E,43nm,0.4s							
MND	**Mandalay**	**7.95**	**173**	Pn	**Pn**	**21 38 58.1**	**-0.4**
RAMN	**Ramite**	**7.98**	**250**	*e*P	**Pn**	**21 38 59.6**	**+0.4**
	comp=E,47nm,0.3s							
JIRN	**Jiri**	**8.06**	**256**	*e*P	**Pn**	**21 39 01.1**	**+0.6**
	comp=E,37nm,0.3s							
GUN	**Gumba**	**8.25**	**258**	*e*P	**Pn**	**21 39 02.9**	**-0.2**
	comp=E,17nm,0.2s							
PKI	**Pulchoki**	**8.75**	**257**	*e*P	**Pn**	**21 39 09.1**	**-0.8**
	comp=E,21nm,0.2s							
PKIN	**Phulchoki**	**8.76**	**257**	*e*P	**Pn**	**21 39 09.9**	**0.0**
	comp=E,39nm,0.3s							
KKN	**Kakani**	**8.80**	**258**	*e*P	**Pn**	**21 39 10.2**	**-0.2**
	comp=E,18nm,0.2s							
DMN	**Daman**	**9.00**	**258**	*e*P	**Pn**	**21 39 12.4**	**-0.8**
	comp=E,19nm,0.3s							
GKN	**Gorkha**	**9.29**	**261**	*e*P	**Pn**	**21 39 15.5**	**-1.6**
	comp=E,11nm,0.3s							
LZH	**Lanzhou**	**9.62**	**48**	⇑P	**Pn**	**21 39 23.3**	**+1.6**
LZH				sP		21 39 31.4		
LZH				S	**Sn**	**21 41 10.9**	**+1.0**
LZH				pmax	pmax			
	comp=Z,18nm,1.0s							
LZH				LR	LR			
	comp=N,470nm,9.4s							
LZH				LR	LR			
	comp=E,630nm,8.4s							
LZH				LR	LR			
	comp=Z,490nm,11.7s							
DANN	**Dangsing**	**9.96**	**264**	*e*P	**Pn**	**21 39 23.7**	**-2.8**
	comp=Z,51nm,0.4s							
KOLN	**Koldanda**	**10.23**	**261**	*e*P	**Pn**	**21 39 27.8**	**-2.3**
GTA	**Gaotai**	**10.25**	**21**	*e*P	**Pn**	**21 39 31.2**	**+1.0**
GTA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
GTA				LR	LR			
	comp=N,460nm,8.7s							
GTA				LR	LR			
	comp=E,210nm,6.5s							
GTA				LR	LR			
	comp=Z,480nm,8.4s							
PYUN	**Piuthan**	**10.68**	**263**	*e*P	**Pn**	**21 39 33.2**	**-3.0**
GYA	**Guiyang**	**10.85**	**106**	*e*P	Pn	21 39 31.5	-6.9
GYA				S	Sn	21 42 14.5	+35
GYA				pmax	pmax			
	comp=Z,12nm,1.0s							
GYA				pmax	pmax			
	comp=Z,160nm,4.8s							
CMAR	**Chiang Mai Arr**	**11.97**	**162**	*e*P	**Pn**	**21 39 55.1**	**+1.4**
CMAR	**Chiang Mai Arr**	**11.97**	**162**	Pn	**Pn**	**21 39 53.0**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=334,slow=13,SNR=12							
CMAR				LR	LR	21 44 39.7		
	comp=Z,26nm,20.0s,baz=30,slow=38							
	comp=Z,0.7nm,0.5s							
WHN	**Wuhan**	**16.73**	**83**	⇑*i*P	**Pn**	**21 40 58.1**	**+0.7**
HNS	**HongShan**	**17.99**	**60**	*e*P	**P**	**21 41 13.8**	**+0.2**
KSH	**Kashi**	**18.31**	**307**	P	**P**	**21 41 20.6**	**+3.3**
KSH				pmax	pmax			
	comp=Z,4.0nm,0.9s							
NIL	**Nilore**	**18.86**	**287**	P	**P**	**21 41 21.2**	**-2.1**
NIL	**Nilore**	**18.86**	**287**	P	**P**	**21 41 21.2**	**-2.1**
NIL				pmax	pmax			
	comp=Z,8.0nm,0.9s							
MK31	**Makanchi Array**	**19.52**	**333**	P	**P**	**21 41 30.5**	**+0.1**
MK31	**Makanchi Array**	**19.52**	**333**	⇓*e*P	**P**	**21 41 30.6**	**+0.1**
MKAR	**Makanchi Array**	**19.52**	**333**	P	**P**	**21 41 28.4**	**-2.0**
MKAR	**Makanchi Array**	**19.52**	**333**	*e*P	**P**	**21 41 31.0**	**+0.6**
MKAR	**Makanchi Array**	**19.52**	**333**	P	**P**	**21 41 29.6**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=136,slow=8.7,SNR=13							
	comp=Z,1.1nm,0.6s							
HYB	**Hyderabad**	**19.53**	**234**	*e*P	**Pn**	**21 41 31.4**	**-0.5**
HYB				*e*S	**S**	**21 45 12.0**	**+0.6**
MAKZ	**Makanchi**	**19.66**	**333**		**Pn**	**21 41 32.9**	**-0.4**
MAKZ	**Makanchi**	**19.66**	**333**	P	**Pn**	**21 41 32.9**	**-0.4**
MAKZ				pmax	pmax			
	comp=Z,5.0nm,1.0s							
SONM	**Songino Array**	**19.91**	**23**	P	**P**	**21 41 35.1**	**+0.3**
SONM	**Songino Array**	**19.91**	**23**	*e*P	**P**	**21 41 35.2**	**+0.4**
SONM	**Songino Array**	**19.91**	**23**	P	**P**	**21 41 34.3**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=198,slow=10,SNR=19							
SONM				LR	LR	21 50 02.3		
	comp=Z,107nm,20.1s,baz=293,slow=39							
	comp=Z,3.7nm,0.9s							
ULN	**Ulaanbaatar**	**20.17**	**24**		**P**	**21 41 37.5**	**-0.1**
ULN	**Ulaanbaatar**	**20.17**	**24**	⇓*i*P	**P**	**21 41 37.5**	**-0.1**
DGZ	**Jazzator, Alta**	**20.56**	**346**	⇓*e*P	**P**	**21 41 42.2**	**+0.3**
DGZ				pmax	pmax			
	comp=Z,10.0nm,2.1s							
AAK	**Ala-Archa**	**20.77**	**313**	⇑*e*P	Pn	21 41 49.2	+2.6	
AAK				pmax	pmax			
	comp=Z,4.0nm,0.9s							
AAK	**Ala-Archa**	**20.77**	**313**	P	**P**	**21 41 43.8**	**-0.5**	
	comp=Z,0.4nm,0.4s,baz=143,slow=7.9,SNR=2.2							
	comp=Z,0.4nm,0.4s							
ARSB	**Arslanbob**	**21.15**	**308**	P	**P**	**21 41 48.5**	**+0.2**	
ARSB	**Arslanbob**	**21.15**	**308**	P	**P**	**21 41 48.5**	**+0.2**	
ARSB				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ZAK	**Zakamensk**	**21.36**	**15**	*e*P	**P**	**21 41 49.6**	**-0.7**	
ZAK				pmax	pmax			
	comp=Z,10.0nm,1.0s							
BTK	**Batken**	**22.18**	**304**	P	**P**	**21 42 00.1**	**+0.8**	
BTK				IAmb	IAmb	21 42 04.9		
	comp=Z,7.9nm,0.9s							
BTK	**Batken**	**22.18**	**304**	P	**P**	**21 42 00.1**	**+0.8**	
BTK				pmax	pmax			
	comp=Z,8.0nm,0.9s							
GAR	**Garm**	**22.23**	**301**	P	**P**	**21 41 58.8**	**-1.0**	
GAR				IAmb	IAmb	21 42 10.6		
	comp=Z,9.2nm,0.7s							
KBL	**Kabul**	**22.42**	**289**	P	**P**	**21 42 01.7**	**-0.3**	
KBL				IAmb	IAmb	21 42 05.7		
	comp=Z,12nm,0.8s							
KBL	**Kabul**	**22.42**	**289**	P	**P**	**21 42 01.7**	**-0.3**	
KBL				pmax	pmax			
	comp=Z,12nm,0.8s							
CHGR	**Chuyangaron**	**23.01**	**299**	P	**P**	**21 42 08.8**	**+0.7**	
CHGR	**Chuyangaron**	**23.01**	**299**	P	**P**	**21 42 08.8**	**+0.7**	
CHGR				pmax	pmax			
	comp=Z,25nm,0.8s							
KURBB	**Kurchatov Arra**	**24.09**	**334**	P	**P**	**21 42 17.9**	**-0.6**	
	comp=Z,3.4nm,0.8s,baz=151,slow=9.1,SNR=16							
	comp=Z,3.4nm,0.8s							
KURK	**Kurchatov**	**24.13**	**334**	P	**P**	**21 42 18.6**	**-0.2**	
KURK				IAmb	IAmb	21 42 22.6		
	comp=Z,6.3nm,0.8s							
KURK	**Kurchatov**	**24.13**	**334**	⇑*e*P	**P**	**21 42 18.7**	**-0.1**	
KURK				pmax	pmax			
	comp=Z,6.0nm,0.8s							
ZAA0	**Zalesovo Array**	**25.11**	**346**	P	**P**	**21 42 27.3**	**-0.4**	
ZALV	**Zalesovo Beam**	**25.11**	**346**	P	**P**	**21 42 28.1**	**+0.4**	
ZALV	**Zalesovo Beam**	**25.11**	**346**	*e*P	**P**	**21 42 27.9**	**+0.1**	
ZALV				pmax	pmax			
	comp=Z,3.0nm,0.5s							
ZALV	**Zalesovo Beam**	**25.11**	**346**	P	**P**	**21 42 27.5**	**-0.3**	
	comp=Z,2.5nm,0.5s,baz=155,slow=8.5,SNR=15							
	comp=Z,2.5nm,0.5s							
KSRS	**Korea Array**	**28.29**	**66**	P	**P**	**21 42 55.2**	**-1.4**	
	comp=Z,0.9nm,0.6s,baz=252,slow=7.9,SNR=1.9							
KSRS				LR	LR	21 53 45.3		
	comp=Z,14nm,21.1s,baz=145,slow=36							
	comp=Z,0.9nm,0.6s							
GSI	**Gunungsitoli**	**28.58**	**175**	P	**P**	**21 42 58.6**	**-0.6**	
GSI				IAmb	IAmb	21 43 00.5		
	comp=Z,10nm,1.0s							
BVAR	**Borovoye Array**	**29.27**	**329**	P	**P**	**21 43 05.4**	**+0.3**	
	comp=Z,2.1nm,0.7s,baz=129,slow=12,SNR=12							
	comp=Z,2.1nm,0.7s							
BRVK	**Borovoye**	**29.34**	**329**	P	**P**	**21 43 06.5**	**+0.8**	
BRVK				IAmb	IAmb	21 43 10.4		
	comp=Z,6.0nm,1.3s							
BRVK	**Borovoye**	**29.34**	**329**	⇓*e*P	**P**	**21 43 07.7**	**+2.0**	
BRVK				pmax	pmax			
	comp=Z,5.0nm,1.4s							
GEYT	**Alibeck**	**31.48**	**295**	P	**P**	**21 43 24.0**	**-0.8**	
	comp=Z,2.5nm,0.8s,baz=76,slow=18,SNR=4.3							
	comp=Z,2.5nm,0.8s							
ABKAR	**Akbulak array**	**32.80**	**316**	P	**P**	**21 43 37.1**	**+0.8**	
ABKAR	**Akbulak array**	**32.80**	**316**	P	**P**	**21 43 35.4**	**-0.9**	
ZEA	**Zeya**	**33.33**	**35**	*e*P	**P**	**21 43 44.2**	**+3.4**	
MJAR	**Matsushiro Arr**	**36.49**	**68**	P	**P**	**21 44 08.1**	**-0.3**	
	comp=Z,1.6nm,0.9s,baz=263,slow=11,SNR=2.8							
	comp=Z,1.6nm,0.9s							
ARU	**Arti**	**36.80**	**327**	⇓*e*P	**P**	**21 44 13.6**	**+2.9**	
ARU				pmax	pmax			
	comp=Z,6.0nm,1.3s							
YAK	**Yakutsk**	**39.25**	**25**	⇓*e*P	**P**	**21 44 33.3**	**+2.0**	
YAK				pmax	pmax			
	comp=Z,8.0nm,1.0s							
YAK	**Yakutsk**	**39.25**	**25**	LR	LR	22 01 21.0		
	comp=Z,4.4nm,18.4s,baz=110,slow=37							
ASAJ	**Asahikawa**	**39.99**	**56**	P	**P**	**21 44 37.8**	**0.0**	
ASAJ				pmax	pmax			
	comp=Z,64nm,1.4s							
JKA	**Kamikawa-asahi**	**40.00**	**56**	P	**P**	**21 44 37.8**	**0.0**	
KIRV	**Kirov**	**42.18**	**326**	*e*P	**P**	**21 44 58.8**	**+3.3**	
TIXI	**Tiksi**	**45.63**	**14**	⇓*e*P	**P**	**21 45 22.5**	**-0.6**	
OBN	**Obninsk**	**48.14**	**319**	*e*P	**P**	**21 45 47.2**	**+4.3**	
OBN				*e*		21 47 09.3		
OBN				*e*		21 47 37.9		
OBN				pmax	pmax			
	comp=Z,4.0nm,0.5s							
OBN				MLR	MLR			
	comp=Z,41nm,16.0s							
LVZ	**Lovozero**	**51.54**	**335**	P	**P**	**21 46 09.0**	**+0.4**	
LVZ	**Lovozero**	**51.54**	**335**	⇑*e*P	**P**	**21 46 10.0**	**+1.3**	
LVZ				pmax	pmax			
	comp=Z,67nm,1.7s							
AKASG	**Malin Array Be**	**52.44**	**313**	P	**P**	**21 46 15.0**	**-0.6**	
	comp=Z,0.2nm,0.3s,baz=78,slow=6.5,SNR=5.4							
	comp=Z,0.2nm,0.3s							
ELL	**Elmali**	**53.90**	**296**	P	**P**	**21 46 25.9**	**-0.8**	
ELL	**Elmali**	**53.90**	**296**	P	**P**	**21 46 25.9**	**-0.8**	
ELL				pmax	pmax			
	comp=Z,19nm,0.8s							
FINES	**FINESS Array B**	**54.17**	**326**	*e*P	**P**	**21 46 31.9**	**+3.7**	
FINES				pmax	pmax			
	comp=Z,2.0nm,1.0s							
FINES	**FINESS Array B**	**54.17**	**326**	P	**P**	**21 46 28.2**	**0.0**	
	comp=Z,2.2nm,0.9s,baz=100,slow=7.8,SNR=1.3							
	comp=Z,2.2nm,0.9s							
ARCES	**ARCESS Array B**	**55.14**	**336**	P	**P**	**21 46 35.5**	**+0.4**	
	comp=Z,1.4nm,0.8s,baz=96,slow=8.3,SNR=1.0							
	comp=Z,1.4nm,0.8s							
BILL	**Bilibino**	**55.60**	**26**	*e*P	**P**	**21 46 40.4**	**+2.0**	
HFS	**Hagfors**	**60.30**	**325**	P	**P**	**21 47 11.4**	**-0.1**	
	comp=Z,1.4nm,0.7s,baz=82,slow=12,SNR=1.2							
	comp=Z,1.4nm,0.7s							
NOA	**NORSAR Array B**	**61.36**	**327**	*e*P	**P**	**21 47 21.8**	**+3.1**	
NOA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NOA	**NORSAR Array B**	**61.36**	**327**	P	**P**	**21 47 18.1**	**-0.6**	
	comp=Z,0.6nm,0.7s,baz=80,slow=6.8,SNR=3.6							
	comp=Z,0.6nm,0.7s							
MORW	**Morawa**	**62.01**	**159**	P	**P**	**21 47 22.7**	**-0.7**	
WB0	**Warramunga Arr**	**62.29**	**138**	P	**P**	**21 47 25.4**	**-0.1**	
WB0				IAmb	IAmb	21 47 37.6		
	comp=Z,5.5nm,1.2s							
WRA	**Warramunga Arr**	**62.40**	**138**	*e*P	**P**	**21 47 27.3**	**+1.1**	
WRA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**62.40**	**138**	P	**P**	**21 47 25.7**	**-0.5**	
	comp=Z,0.7nm,0.7s,baz=323,slow=7.8,SNR=9.1							
	comp=Z,0.7nm,0.7s							
CLL	**Collm**	**62.47**	**315**	*e*pP	pP	21 47 35.0	+4.3	
CLL	**Collm**	**62.47**	**315**	*e*P	P	21 47 35.0	+8.7	
GERES	**GERESS Array B**	**62.65**	**313**	P	**P**	**21 47 27.8**	**0.0**	
	comp=Z,1.0nm,0.7s,baz=82,slow=7.0,SNR=3.4							
	comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	**65.08**	**141**	P	**P**	**21 47 43.8**	**-0.1**	
	comp=Z,0.9nm,0.6s,baz=322,slow=6.4,SNR=14							
	comp=Z,0.9nm,0.6s							
NWAO	**Narrogin (SRO)**	**65.97**	**160**	P	**P**	**21 47 48.9**	**-0.5**	
NWAO	**Narrogin (SRO)**	**65.97**	**160**	P	**P**	**21 47 48.9**	**-0.5**	
NWAO				pmax	pmax			
	comp=Z,88nm,1.5s							
D19K	**Kuna River**	**68.37**	**22**	P	**P**	**21 48 03.5**	**-0.8**	
D19K				IAmb	IAmb	21 48 23.9		
	comp=Z,7.6nm,1.2s							
B22K	**Teshekpuk Lake**	**68.95**	**20**	P	**P**	**21 48 08.0**	**+0.2**	
B22K				IAmb	IAmb	21 48 19.2		
	comp=Z,7.5nm,1.4s							
F19K	**Shaleruckik Mo**	**69.25**	**24**	P	**P**	**21 48 08.9**	**-0.8**	
H18K	**Honhosa River**	**69.82**	**26**	P	**P**	**21 48 13.6**	**+0.3**	
C23K	**Itkillik River**	**70.04**	**20**	P	**P**	**21 48 14.3**	**-0.2**	
TOLK	**Toolik Lake Re**	**71.01**	**20**	P	**P**	**21 48 20.5**	**0.0**	
TOLK				IAmb	IAmb	21 48 29.8		
	comp=Z,7.3nm,1.4s							
J18K	**Innoko River**	**71.26**	**27**	P	**P**	**21 48 22.1**	**0.0**	
J18K				IAmb	IAmb	21 48 57.9		
	comp=Z,5.0nm,1.3s							
J19K	**Poorman**	**71.42**	**26**	P	**P**	**21 48 22.7**	**-0.3**	
J19K				IAmb	IAmb	21 48 34.5		
	comp=Z,6.5nm,1.4s							
BMAR	**Burnt Mountain**	**73.24**	**20**	P	**P**	**21 48 33.5**	**-0.4**	
INK	**Inuvik**	**75.69**	**17**	P	**P**	**21 48 47.1**	**-1.0**	
INK				IAmb	IAmb	21 49 28.6		
	comp=Z,6.9nm,1.5s							
INK	**Inuvik**	**75.69**	**17**	P	**P**	**21 48 47.1**	**-1.0**	
INK				pmax	pmax			
	comp=Z,7.0nm,1.5s							
BCAR	**Beaver Creek A**	**76.97**	**23**	P	**P**	**21 48 55.8**	**+0.3**	
LSZ	**Lusaka**	**78.48**	**245**	P	**P**	**21 49 03.6**	**-1.1**	
LSZ				IAmb	IAmb	21 49 04.8		
	comp=Z,6.9nm,1.5

AS31	**Alice Springs**	**18.02 158**	P	**P**	**21 55 01.8**	**+1.2**
AS31			IAmb	IAmb	21 55 04.7	
	comp=Z,4.2nm,0.4s					
ASAR	**Alice Springs**	**18.02 158**	P	**P**	**21 55 01.8**	**+1.2**
ASAR	**Alice Springs**	**18.02 158**	P	**P**	**21 55 01.4**	**+0.8**
	comp=Z,3.5nm,0.5s,baz=344,slow=14,SNR=60					
ASAR			S	**S**	**21 58 06.3**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=333,slow=21,SNR=1.8					
AS01	**Alice Springs**	**18.04 158**	P	**P**	**21 55 01.6**	**+0.8**
	comp=Z,9.2nm,0.5s					
WRKA	**Warakurna**	**18.07 175**	P	**P**	**21 55 02.4**	**+1.4**
QIS	**Mount Isa**	**18.44 139**	P	**P**	**21 55 06.4**	**+1.4**
MEEK	**Meekatharra**	**21.04 200**	P	**P**	**21 55 31.4**	**+1.9**
OOD	**Oodnadatta**	**22.43 159**	P	**P**	**21 55 44.0**	**+2.0**
	comp=Z,4.2nm,1.4s					
FORT	**Forrest**	**23.75 177**	P	**P**	**21 55 53.1**	**-0.8**
FORT			IAmb	IAmb	21 56 18.6	
	comp=Z,18nm,0.9s					
FORT	**Forrest**	**23.75 177**	P	**P**	**21 55 55.4**	**+1.5**
MORW	**Morawa**	**24.20 203**	P	**P**	**21 55 57.1**	**-0.8**
MORW			IAmb	IAmb	21 56 04.5	
	comp=Z,22nm,1.4s					
BBOO	**Buckleboo**	**27.18 163**	P	**P**	**21 56 24.6**	**+0.2**
BBOO			IAmb	IAmb	21 56 55.0	
	comp=Z,16nm,1.5s					
STKA	**Stephens Creek**	**28.45 153**	P	**P**	**21 56 36.1**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=333,slow=11,SNR=2.9					
	comp=Z,0.6nm,0.4s					
SONM	**Songino Array**	**57.40 344**	P	**P**	**22 00 23.4**	**-0.3**
SONM	**Songino Array**	**57.40 344**	P	**P**	**22 00 24.9**	**+1.2**
	comp=Z,2.0nm,0.5s,baz=169,slow=7.3,SNR=4.0					
	comp=Z,2.0nm,0.5s					
PETK	**Petropavlovsk-**	**65.34 20**	P	**P**	**22 01 15.4**	**-0.5**
PETK	**Petropavlovsk-**	**65.34 20**	P	**P**	**22 01 17.3**	**+1.4**
	comp=Z,7.0nm,1.0s,baz=183,slow=5.8,SNR=2.5					
	comp=Z,7.0nm,1.0s					
MKAR	**Makanchi Array**	**66.41 328**	P	**P**	**22 01 23.0**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=116,slow=6.6,SNR=3.9					
	comp=Z,0.4nm,0.7s					
ZALV	**Zalesovo Beam**	**70.11 335**	P	**P**	**22 01 43.7**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=116,slow=6.6,SNR=2.5					
	comp=Z,0.6nm,0.5s					
KURBB	**Kurchatov Arra**	**70.77 330**	P	**P**	**22 01 48.1**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=135,slow=5.0,SNR=6.1					
	comp=Z,0.4nm,0.6s					
MAW	**Mawson**	**73.82 201**	P	**P**	**22 02 04.3**	**-2.4**
KIP	**Kipapa**	**78.98 67**	P	**P**	**22 02 35.9**	**-0.4**
C16K	**Lisburne Hills**	**88.44 20**	P	**P**	**22 03 20.2**	**-2.4**
D19K	**Kuna River**	**91.03 21**	P	**P**	**22 03 35.3**	**+0.6**

*IDC **10** 21:59:24.2±0.8,0°.63S×133°.15E, h0km, mb4.1/10, mbtmp4.2/12, ML4.3/2, MS3.2/4, Error ellipse: s-maj=37.4km s-min=11.6km az=77.0*

*DJA **10** 21:59:28.9±1.4, 1°.5±7°×13°.3E±°, h18km±17km, M4.8/11, mb4.9/8, mB5.3/5, MLv4.7/11, Mw(mB)4.7/5*

*NEIC **10** 21:59:29.6±1.9, 0°.64S±0°.10×133°.1E±0°.1, h31km±6km, mb4.6/28, Error ellipse: s-maj=22.2km s-min=10.0km az=61.0*

ISC 10 21:59:29.4±0.5, 0°.68S±0°.06×133°.09E±0°.07, h32km, n61, σ1s67/64, mb4.5/24, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.84**	**264**	P	**Pn**	**21 59 59.8**	**+1.1**
SWI				S	**Sb**	**22 00 25.3**	**+0.3**
KMPI	**Kaimana, Papua**	**3.02**	**168**	P	**Pn**	**22 00 16.7**	**+1.6**
BNDI	**Bandanaira**	**4.97**	**220**	P	**Pn**	**22 00 42.8**	**+1.0**
LBMI	**Labuha**	**5.59**	**270**	P	**Pn**	**22 00 51.5**	**+1.1**
	85nm,0.8s,1µm0.3nm						
NLAI	**Namlea**	**6.50**	**247**	P	**Pn**	**22 01 02.6**	**-0.3**
	47nm,0.5s,0.2nm						
SANI	**Sanana**	**7.23**	**259**	P	**Pn**	**22 01 11.3**	**-1.6**
	18nm,0.7s,0.1nm						
SAUI	**Saumlaki**	**7.47**	**194**	P	**Pn**	**22 01 15.6**	**-0.6**
	62nm,0.6s,8µm0.5nm						
DAV	**Davao City (W)**	**10.74**	**316**	LR	LR	22 06 35.0	
	comp=Z,76nm,18.3s,baz=165,slow=40						
MTN	**Manton Dam**	**12.24**	**189**	Pn	**Pn**	**22 02 21.5**	**-0.2**
BATI	**Baumata**	**13.32**	**224**	P	**Pn**	**22 02 36.1**	**-0.3**
	29nm,1.0s						
BATI	**Baumata**	**13.32**	**224**	Pn	**Pn**	**22 02 36.3**	**-0.1**
	2.2nm,0.3s,baz=332,slow=7.0,SNR=1.7						
	9.4nm,0.4s						
KAPI	**Kappang**	**13.99**	**252**	LR	LR	22 08 35.3	
	comp=Z,46nm,18.5s,baz=52,slow=39						
KNRA	**Kununurra**	**15.50**	**196**	Pn	**Pn**	**22 03 03.6**	**-2.2**
KNRA				IAmb	IAmb	22 03 12.1	
	comp=Z,29nm,0.5s						
FITZ	**Fitzroy Crossi**	**18.79**	**203**		**P**	**22 03 44.6**	**-1.7**
WB0	**Warramunga Arr**	**19.01**	**176**		**Pn**	**22 03 49.1**	**-0.5**
WRAB	**Tennant Creek**	**19.17**	**176**	P	**Pn**	**22 03 50.3**	**-1.3**
WRAB				IAmb	IAmb	22 04 21.0	
	comp=Z,24nm,0.5s						
WRA	**Warramunga Arr**	**19.18**	**176**		**Pn**	**22 03 50.3**	**-1.4**
WRA	**Warramunga Arr**	**19.18**	**176**	P	**Pn**	**22 03 51.2**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=355,slow=11,SNR=39						
WRA				S	Sn	22 07 11.5	-14
	comp=Z,0.9nm,0.7s,baz=353,slow=22,SNR=3.5						
	comp=Z,1.6nm,0.3s						
WB2	**Warramunga Arr**	**19.18**	**176**	P	**Pn**	**22 03 51.9**	**+0.2**
WR0	**Warramunga Arr**	**19.21**	**176**	P	**Pn**	**22 03 52.2**	**+0.2**
AS31	**Alice Springs**	**22.86**	**178**	P	**P**	**22 04 31.5**	**+1.2**
AS31				IAmb	IAmb	22 04 33.0	
	comp=Z,3.6nm,0.3s						
ASAR	**Alice Springs**	**22.86**	**178**	P	**P**	**22 04 30.7**	**+0.4**
ASAR	**Alice Springs**	**22.86**	**178**	P	**P**	**22 04 31.0**	**+0.7**
	comp=Z,2.0nm,0.3s,baz=357,slow=12,SNR=48						
ASAR				S	**S**	**22 08 41.0**	**+3.0**
	comp=Z,2.6nm,1.0s,baz=0.9,slow=23,SNR=7.7						
	comp=Z,2.0nm,0.3s						
CTA	**Charters Tower**	**23.20**	**147**	P	**P**	**22 04 34.9**	**+1.1**
	comp=Z,4.0nm,0.7s,baz=335,slow=5.7,SNR=2.7						
CTA				LR	LR	22 15 06.0	
	comp=Z,85nm,19.5s,baz=270,slow=41						
	comp=Z,4.0nm,0.7s						
CTAO	**Charters Tower**	**23.20**	**147**	P	**P**	**22 04 35.2**	**+1.5**
CTAO				IAmb	IAmb	22 04 47.6	
	comp=Z,26nm,1.3s						
MBWA	**Marble Bar**	**24.17**	**212**	P	**P**	**22 04 45.0**	**+2.0**
MBWA				IAmb	IAmb	22 04 50.2	
	comp=Z,14nm,1.2s						
PSA00	**Pilbara Seismi**	**24.45**	**211**	P	**P**	**22 04 46.5**	**+0.9**
PSA00	**Pilbara Seismi**	**24.45**	**211**	P	**P**	**22 04 46.9**	**+1.3**
PSA00				IAmb	IAmb	22 04 48.5	
	comp=Z,11nm,0.8s						
FORT	**Forrest**	**30.31**	**189**	P	**P**	**22 05 36.0**	**-2.1**
FORT				IAmb	IAmb	22 06 18.9	
	comp=Z,13nm,0.9s						
STKA	**Stephens Creek**	**32.05**	**166**	P	**P**	**22 05 53.5**	**+0.1**
STKA	**Stephens Creek**	**32.05**	**166**	P	**P**	**22 05 53.2**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=331,slow=12,SNR=3.7						
STKA				LR	LR	22 19 48.8	
	comp=Z,55nm,19.0s,baz=20,slow=38						
	comp=Z,0.7nm,0.3s						
CMAR	**Chiang Mai Arr**	**38.57**	**301**	P	**P**	**22 06 49.4**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=117,slow=5.8,SNR=4.2						
	comp=Z,0.4nm,0.3s						
PZH	**PanZhiHua**	**40.53**	**314**	P	**P**	**22 07 06.3**	**+0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.2s						
CN2	**Changchun**	**44.81**	**352**	*e*P	**P**	**22 07 38.9**	**-1.4**
BTO	**Baotou**	**46.15**	**336**	*e*P	**P**	**22 07 53.6**	**+2.5**
BTO				pP	**pP**	**22 07 57.6**	**-3.2**
BTO				sP	**sP**	**22 08 00.5**	**-4.7**
BTO				PP	**PP**	**22 09 42.2**	**+2.4**
BTO				S	**S**	**22 14 43.3**	**+8.0**
BTO	**Baotou**	**46.15**	**336**	SS	SS	22 17 57.9	-3.0
BTO				pmax	pmax		
	comp=Z,11nm,0.7s						
BTO				pmax	pmax		
	comp=Z,300nm,7.2s						
BTO				LR	LR		
	comp=N,470nm,4.9s						
BTO				LR	LR		
	comp=E,300nm,4.9s						
BTO				LR	LR		
	comp=Z,320nm,4.8s						
SONM	**Songino Array**	**53.62**	**338**	P	**P**	**22 08 48.0**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=156,slow=6.2,SNR=4.1						
	comp=Z,0.6nm,0.6s						
BFZ	**Birch Farm**	**55.78**	**141**	P	**P**	**22 09 02.4**	**-1.1**
MK31	**Makanchi Array**	**64.81**	**324**	P	**P**	**22 10 05.7**	**+0.5**
MK31				IAmb	IAmb	22 10 06.3	
	comp=Z,2.8nm,0.8s						
MKAR	**Makanchi Array**	**64.81**	**324**	P	**P**	**22 10 05.6**	**+0.4**
MKAR	**Makanchi Array**	**64.81**	**324**	P	**P**	**22 10 05.3**	**+0.1**
	comp=Z,4.6nm,0.6s,baz=111,slow=8.4,SNR=63						
	comp=Z,4.6nm,0.6s						
MAKZ	**Makanchi**	**65.00**	**324**	P	**P**	**22 10 06.8**	**+0.4**
ZALV	**Zalesovo Beam**	**67.42**	**331**	P	**P**	**22 10 20.9**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=116,slow=6.8,SNR=7.2						
	comp=Z,1.9nm,0.9s						
KURK	**Kurchatov**	**68.88**	**326**	P	**P**	**22 10 31.3**	**+0.4**
KURK				IAmb	IAmb	22 10 32.0	
	comp=Z,6.2nm,0.8s						
KURBB	**Kurchatov Arra**	**68.89**	**326**	P	**P**	**22 10 30.9**	**-0.1**
	comp=Z,5.5nm,0.8s,baz=120,slow=5.9,SNR=44						
	comp=Z,5.5nm,0.8s						
KKAR	**Karatay Array**	**70.78**	**316**	P	**P**	**22 10 42.2**	**-0.7**
BVAR	**Borovoye Array**	**74.48**	**326**	P	**P**	**22 11 04.4**	**-0.3**
	comp=Z,4.9nm,0.7s,baz=121,slow=7.4,SNR=32						
	comp=Z,4.9nm,0.7s						
BRVK	**Borovoye**	**74.55**	**326**	P	**P**	**22 11 04.6**	**-0.4**
BRVK				IAmb	IAmb	22 11 06.0	
	comp=Z,4.5nm,0.7s						
ABKAR	**Akbulak array**	**79.57**	**320**	P	**P**	**22 11 32.8**	**-0.6**
ABKAR	**Akbulak array**	**79.57**	**320**	P	**P**	**22 11 33.0**	**-0.4**
ABKAR				IAmb	IAmb	22 11 33.7	
	comp=Z,4.2nm,1.2s						
G19K	**Purcell Mounta**	**82.56**	**23**	P	**P**	**22 11 48.4**	**-0.5**
G19K				IAmb	IAmb	22 12 22.4	
	comp=Z,8.5nm,1.4s						
H19K	**Roundabout Mou**	**82.61**	**23**	P	**P**	**22 11 49.0**	**-0.2**
H19K				IAmb	IAmb	22 12 15.1	
	comp=Z,9.9nm,1.4s						
E19K	**Redstone River**	**82.94**	**21**	P	**P**	**22 11 51.6**	**+0.7**
E19K				IAmb	IAmb	22 11 53.6	
	comp=Z,5.8nm,1.1s						
D19K	**Kuna River**	**82.97**	**20**	P	**P**	**22 11 51.4**	**+0.3**
J20K	**Nowinta River**	**83.16**	**25**	P	**P**	**22 11 52.5**	**+0.4**
SKT	**Skwentna**	**83.76**	**27**	P	**P**	**22 11 54.9**	**-0.3**
IMAR	**Indian Mountai**	**83.81**	**23**	P	**P**	**22 11 55.2**	**-0.2**
H21K	**Medozitna Rive**	**84.10**	**24**	P	**P**	**22 11 56.4**	**-0.5**
I21K	**Tanana**	**84.32**	**24**	P	**P**	**22 11 56.0**	**-2.0**
ILAR	**Eielson Array**	**86.36**	**25**	P	**P**	**22 12 06.5**	**-1.6**
	comp=Z,0.7nm,0.7s,baz=253,slow=4.6,SNR=12						
	comp=Z,0.7nm,0.7s						
ARCES	**ARCESS Array B**	**96.74**	**340**	P	**P**	**22 12 56.2**	**-0.2**
	comp=Z,6.3nm,1.0s,baz=61,slow=7.3,SNR=4.2						

*NNC **10** 22:05:03.3±1.1, 44°.83N×80°.92E, h0km, mb1.9, mpv2.5, Error ellipse: s-maj=7.7km s-min=6.9km az=115.0*

*SOME **10** 22:05:03.2, 44°.90N×80°.92E, h15km*

ISC 10 22:05:01.3±1.5, 44°.84N±0°.04×80°.98E±0°.06, h8km±12km, n16, σ0s75/27, 1C-2D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.99**	**239**	*e*P	**Pb**	**22 05 20.6**	**-0.2**
	0.4nm,0.1s						
DJR				*e*S	**Sg**	**22 05 33.0**	**-0.2**
	1.4nm,0.1s						
KAPS	**Kapalarasan**	**1.23**	**292**	*e*P	**Pn**	**22 05 25.4**	**+0.5**
	0.9nm,0.2s						
KAPS				*e*S	**Sn**	**22 05 41.2**	**-0.6**
	3.6nm,0.1s						
KNOS	**Konyrlen**	**1.37**	**250**	P	**Pg**	**22 05 28.9**	**+1.3**
KNOS				S	**Sg**	**22 05 46.9**	**+1.4**
KTMS	**Ketmen**	**1.47**	**198**	*e*P	**Pg**	**22 05 29.8**	**+0.4**
	0.3nm,0.1s						
KTMS				*e*S	**Sg**	**22 05 49.1**	**+0.7**
	3.0nm,0.2s						
KTMS	**Ketmen**	**1.47**	**198**	P	**Pg**	**22 05 29.8**	**+0.4**
	0.2nm,0.0s						
KTMS				S	**Sg**	**22 05 49.1**	**+0.7**
	3.0nm,0.2s						
PDGK	**Podgornoye**	**1.85**	**216**	P	**Pg**	**22 05 36.2**	**-0.6**
	0.2nm,0.2s						
PDGK				S	**Sg**	**22 06 00.6**	**-0.3**
	3.0nm,0.1s						
PDGK	**Podgornoye**	**1.85**	**216**	⇓Pn	**Pb**	**22 05 35.7**	**+0.2**
	0.2nm,0.4s						
PDGK				⇑Sn	**Sg**	**22 06 00.7**	**-0.3**
	0.7nm,0.2s						
BLB	**Baldybastay**	**1.94**	**248**	P	**Pg**	**22 05 38.1**	**-0.3**
	1.3nm,0.1s						
BLB				S	**Sg**	**22 06 03.7**	**+0.1**
	3.0nm,0.2s						
SHLS	**Shalkode**	**2.01**	**214**	*e*P	**Pb**	**22 05 37.1**	**-1.0**
	0.9nm,0.1s						
SHLS				*e*S	**Sn**	**22 06 01.4**	**+0.3**
	10nm,0.3s						
SHLS	**Shalkode**	**2.01**	**214**	P	**Pb**	**22 05 37.1**	**-1.0**
	0.9nm,0.1s						
SHLS				S	**Sn**	**22 06 01.4**	**+0.3**
	10nm,0.3s						
KPKS	**Kokpek**	**2.15**	**231**	*e*Pg	**Pg**	**22 05 41.7**	**-0.8**
	2.2nm,0.3s						
KPKS				*e*Lg	Lg	22 06 09.2	
	5.2nm,0.3s						
KPKS	**Kokpek**	**2.15**	**231**	Pg	**Pb**	**22 05 40.9**	**+0.3**
	0.9nm,0.1s						
KPKS				Lg	Lg	22 06 07.8	
	5.2nm,0.3s						
MK31	**Makanchi Array**	**2.16**	**25**	Pn	**Pb**	**22 05 40.2**	**-0.4**
	baz=206,slow=17,SNR=6.1						
MK31				⇓Sn	**Sb**	**22 06 07.8**	**+0.3**
	0.1nm,0.1s,baz=210,slow=27,SNR=8.8						
ARXS	**Arharly**	**2.34**	**256**	*e*Pg	**Pg**	**22 05 45.3**	**-0.9**
	1.7nm,0.3s						
ARXS				*e*Lg	Lg	22 06 15.4	
	2.3nm,0.1s						
SATY	**Saty**	**2.58**	**227**	*e*Pg	**Pg**	**22 05 49.4**	**-1.2**
	0.8nm,0.1s						
SATY				*e*Lg	Lg	22 06 22.6	
	5.6nm,0.2s						
SATY	**Saty**	**2.58**	**227**	Pg	**Pg**	**22 05 49.6**	**-1.0**
	0.7nm,0.1s						
SATY				Lg	Lg	22 06 22.7	
	5.6nm,0.2s						

IDC 10 22:32:14.8±1.9, 12°.23N×144°.20E, h0km, mb3.6/3, mbtmp3.6/3, MS3.1/5, Error ellipse: s-maj=177.7km s-min=18.0km az=113.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.50**	**26**	Pn	Pn	22 32 42.4	-0.5
	23nm,0.3s,baz=188,slow=6.7,SNR=6.4						
GUMO				Sn	Sg	22 33 02.6	-0.4
	52nm,0.3s,baz=359,slow=23,SNR=9.4						
GUMO				LR	LR	22 33 28.8	
	comp=Z,270nm,20.7s,baz=229,slow=49						
DAV	**Davao City (W)**	**19.05**	**256**	LR	LR	22 42 35.2	
	comp=Z,28nm,21.3s,baz=73,slow=33						
H11S3	**WAKE ISLAND Hy**	**22.55**	**71**	T	T	23 01 13.5	
	baz=253,slow=74						
H11S1	**WAKE ISLAND Hy**	**22.56**	**71**	T	T	23 01 09.6	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**22.57**	**71**	T	T	23 01 04.0	
	baz=253,slow=74						
H11N1	**WAKE ISLAND Hy**	**23.03**	**68**	T	T	23 01 36.7	
	baz=255,slow=75,SNR=10						
H11N2	**WAKE ISLAND Hy**	**23.04**	**68**	T	T	23 01 37.1	
	baz=255,slow=75,SNR=8.0						
H11N3	**WAKE ISLAND Hy**	**23.05**	**68**	T	T	23 01 38.3	
	baz=255,slow=75,SNR=9.2						
KAPI	**Kappang**	**29.74**	**236**	LR	LR	22 49 54.6	
	comp=Z,15nm,20.6s,baz=354,slow=36						
WRA	**Warramunga Arr**	**33.41**	**197**	P	P	22 38 54.8	-0.5
	1.4nm,0.7s,baz=20,slow=9.7,SNR=18						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**37.07**	**196**	P	P	22 39 26.7	-0.2
	0.6nm,0.8s,baz=23,slow=12,SNR=7.1						
	0.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**43.99**	**284**	LR	LR	22 56 31.4	
	comp=Z,21nm,21.8s,baz=80,slow=33						
NVAR	**Mina Array Bea**	**88.27**	**51**	P	P	22 45 10.2	+1.5
	0.1nm,0.3s,baz=266,slow=5.9,SNR=1.8						
	0.1nm,0.3s						
ELK	**Elko**	**89.96**	**48**	LR	LR	23 25 55.5	
	comp=Z,22nm,18.4s,baz=314,slow=36						
PDAR	**Pinedale Array**	**93.38**	**45**	LR	LR	23 25 15.8	
	comp=Z,17nm,18.2s,baz=1.5,slow=34						

WEL 10 22:52:43.9±0.8, 34°S±9°×17°9E±1°3, h290km±13km, M3.6/22, mB4.3/12, ML4.2/30, MLv4.0/22, Mw(mB)3.5/12, Error ellipse: s-maj=0.0km s-min=0.0km az=110.7, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.61**	**190**	P	Pn	22 53 45.5	+0.2
MXZ				S	S	22 54 33.3	-1.0
WMGZ	**Waiomatatini S**	**3.85**	**188**	P	Pn	22 53 47.4	-0.5
WMGZ				S	S	22 54 38.6	-0.5
HAZ	**Te Kaha**	**3.90**	**195**	P	Pn	22 53 48.2	-0.1
HAZ				S	S	22 54 38.6	-1.3
PKGZ	**Pakihiroa**	**3.97**	**191**	P	Pn	22 53 48.1	-1.1
PKGZ				S	S	22 54 41.7	+0.2
RUGZ	**Raukumara Rang**	**4.12**	**196**	P	Pn	22 53 50.9	-0.1
RUGZ				S	S	22 54 43.7	-1.0
PUZ	**Puketiti**	**4.12**	**189**	P	Pn	22 53 51.5	+0.6
PUZ				S	S	22 54 44.1	-0.5
TWGZ	**Tauwhareparae**	**4.27**	**192**	P	Pn	22 53 53.8	+1.2
TWGZ				S	S	22 54 47.7	+0.1
MWZ	**Matawai**	**4.51**	**196**	P	Pn	22 53 55.9	+0.6
MWZ				S	S	22 54 53.0	+0.5
CNGZ	**Carnagh Statio**	**4.53**	**189**	P	Pn	22 53 55.1	-0.5
URZ	**Urewera**	**4.54**	**200**	P	Pn	22 53 55.4	-0.3
URZ				S	S	22 54 54.2	+1.0
OUZ	**Omahuta**	**4.68**	**253**	P	Pn	22 53 56.8	-0.5
RIGZ	**Rimuhau**	**4.82**	**192**	P	Pn	22 53 59.5	+0.6
RIGZ				S	S	22 54 58.9	-0.1
MUGZ	**Murupara**	**4.84**	**202**	P	Pn	22 53 59.7	+0.5
RTZ	**Ruatahuna**	**4.91**	**199**	P	Pn	22 53 59.7	-0.3
RTZ				S	S	22 55 03.4	+2.4
SNGZ	**Shannon Statio**	**4.98**	**196**	P	Pn	22 54 01.2	+0.4
SNGZ				S	S	22 55 03.9	+1.5
PRGZ	**Paritu Road**	**5.01**	**191**	P	Pn	22 54 02.2	+1.1
PRGZ				S	S	22 55 06.6	+3.5
KNZ	**Kokohu**	**5.14**	**192**	P	Pn	22 54 02.4	-0.2
KNZ				S	S	22 55 05.4	-0.4
RAHZ	**Arahi**	**5.17**	**197**	P	Pn	22 54 01.8	-1.2
RAHZ				S	S	22 55 07.7	+1.3
MTHZ	**Maungataniwha**	**5.17**	**200**	P	Pn	22 54 03.4	+0.4
MTHZ				S	S	22 55 05.9	-0.7
MHGZ	**Mahia Peninsul**	**5.23**	**190**	P	Pn	22 54 03.7	0.0
MRHZ	**Matea Rd**	**5.28**	**203**	P	Pn	22 54 04.8	+0.5
NMHZ	**Naumai**	**5.41**	**199**	P	Pn	22 54 06.8	+0.9
NMHZ				S	S	22 55 14.6	+2.8
ARHZ	**Aropaoanui**	**5.52**	**197**	P	Pn	22 54 07.8	+0.7
BKZ	**Black Stump Fm**	**5.56**	**201**	P	Pn	22 54 08.2	+0.5
TMVZ	**Te Maari**	**5.78**	**207**	P	Pn	22 54 11.5	+1.1
ETVZ	**East Tongariro**	**5.80**	**207**	P	Pn	22 54 11.6	+1.0
KWHZ	**Kaweka Forest**	**5.82**	**201**	P	Pn	22 54 10.7	-0.1
KWHZ				S	S	22 55 20.9	+0.2
CKHZ	**Cape Kidnapper**	**5.87**	**195**	P	Pn	22 54 11.1	-0.2
CKHZ				S	S	22 55 22.6	+0.9
TUVZ	**Tukino**	**5.94**	**207**	P	Pn	22 54 13.2	+0.9
BHHZ	**Black Hill Sta**	**5.99**	**203**	P	Pn	22 54 12.9	+0.1
MOVZ	**Moawhango**	**6.02**	**205**	P	Pn	22 54 13.0	-0.2
MOVZ				S	S	22 55 24.3	-0.8
KRHZ	**Kereru**	**6.04**	**200**	P	Pn	22 54 12.8	-0.6
KRHZ				S	S	22 55 24.5	-0.9
KAHZ	**Kahuranaki**	**6.05**	**196**	P	Pn	22 54 13.8	+0.3
PKVZ	**Pokaka**	**6.07**	**208**	P	Pn	22 54 14.8	+1.0
PXZ	**Pawanui**	**6.28**	**196**	P	Pn	22 54 16.2	0.0
PXZ				S	S	22 55 29.6	-0.9
PNHZ	**Pukenui**	**6.34**	**200**	P	Pn	22 54 16.0	-1.0
TSZ	**Takapari Road**	**6.54**	**201**	P	Pn	22 54 18.7	-0.8
PRHZ	**Porangahau**	**6.55**	**197**	P	Pn	22 54 19.0	-0.6
BFZ	**Birch Farm**	**7.04**	**198**	P	Pn	22 54 24.8	-0.8
MRZ	**Mangatainoka R**	**7.21**	**202**	P	Pn	22 54 25.9	-1.7
OGWZ	**Otaki Gorge**	**7.48**	**203**	P	Pn	22 54 29.3	-1.6
KIW	**Kapiti Island**	**7.61**	**205**	P	Pn	22 54 30.8	-1.7

*IDC **10** 22:53:38.7±0.9, 34°.20N×78°.63E, h0km, mb3.8/10, mbtmp3.8/14, ML3.2/4, Error ellipse: s-maj=29.1km s-min=14.8km az=62.0*

*BJI **10** 22:53:44.6, 34°.34N×78°.70E, h40km, mb4.2/9, mB4.5/5, ML3.7/4*

ISC 10 22:53:44.8±0.8, 34°.31N±0°.08×78°.7E±0°.1, h35km, n26, σ1s23/29, mb3.9/10, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**5.65**	**338**	P	**Pn**	**22 55 06.2**	**-0.1**
KSH				S	**Sn**	**22 56 08.8**	**-1.2**
KSH				smax	smax		
	comp=N,160nm,1.2s						
KSH				smax	smax		
	comp=E,90nm,1.2s						
PYUN	**Piuhan**	**7.18**	**148**	*e*P	**Pn**	**22 55 27.8**	**+0.3**
	26nm,0.6s						
DANN	**Dangsing**	**7.33**	**143**	*e*P	**Pn**	**22 55 29.7**	**+0.1**
	15nm,0.4s						
KOLN	**Koldanda**	**7.74**	**146**	*e*P	**Pn**	**22 55 35.8**	**+0.7**
GKN	**Gorkha**	**8.07**	**140**	*e*P	**Pn**	**22 55 40.1**	**+0.5**
	25nm,0.5s						
GUN	**Gumba**	**8.84**	**134**	*e*P	**Pn**	**22 55 50.2**	**-0.2**
	17nm,0.4s						
AAK	**Ala-Archa**	**8.95**	**339**	Pn	**Pn**	**22 55 53.4**	**+1.8**
	0.5nm,0.3s,baz=181,slow=11,SNR=13

IDC ***10*** *22:58:49.8±0.6,34˚.23N×78˚.59E,h0km,mb4.2/23, mbtmp4.3/26,ML3.4/3,MS3.3/11,Error ellipse: s-maj=15.6km s-min=13.0km az=50.0*

BJI ***10*** *22:58:51.6,34˚.31N×78˚.68E,h10km,mb4.4/32,mB4.7/15, ML4.1/6,Ms4.0/2,Ms7 3.6/1*

MOS ***10*** *22:58:52.5±1.0,34˚.32N×78˚.51E,h25km,mb4.8/19,Error ellipse: s-maj=8.1km s-min=4.6km az=106.1*

NDI ***10*** *22:58:53.5±1.9,34˚.59N×78˚.81E,h40km,ML3.9, mb4.6(NEIC)*

NEIC ***10*** *22:58:55.7±1.0,34˚.32N±0˚.08×78˚.57E±0˚.08,h36km±6km, mb4.6/36,Error ellipse: s-maj=11.5km s-min=9.6km az=210.0*

ISC 10 22:58:55.4±0.3,34˚.32N±0˚.04×78˚.52E±0˚.04,h35km,n184, σ1§67/195,mb4.5/51,MS3.4/12,6C-10D,Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DHRM	**DHARAMSHALA**	**2.78**	**223**	*e*P		**Pn**	**22 59 39.8**	**+2.2**
DHRM				IAML			23 00 29.4	
	comp=E,885nm,0.9s							
DHRM				IAML			23 00 31.0	
	comp=N,591nm,1.3s							
THN	**Thein Dam**	**3.01**	**232**	*e*P		**Pn**	**22 59 43.2**	**+2.7**
THN				*e*S		**Sn**	**23 00 19.1**	**+3.8**
THN				IAML			23 00 38.5	
	comp=N,519nm,0.9s							
THN				IAML			23 00 39.3	
	comp=E,672nm,1.4s							
SMLA	**Simla**	**3.38**	**200**	*e*P		**Pn**	**22 59 49.8**	**+4.2**
SMLA				*e*S		**Sn**	**23 00 28.1**	**+3.7**
SMLA				IAML			23 00 40.0	
	comp=N,209nm,1.0s							
JMU	**Jammu**	**3.42**	**243**	*e*P		**Pn**	**22 59 49.2**	**+3.1**
DDI	**Dehra Dun**	**4.00**	**186**	*e*P		**Pn**	**22 59 57.5**	**+3.3**
NIL	**Nilore**	**4.43**	**263**			**Pn**	**23 00 00.3**	**+0.2**
NIL	**Nilore**	**4.43**	**263**	P		**Pn**	**23 00 00.3**	**+0.2**
PTH	**Pithoragarh**	**4.97**	**163**	*e*P		**Pn**	**23 00 07.5**	**-0.1**
LGTI	**Lohaghat**	**5.07**	**163**	*e*P		**Pn**	**23 00 10.3**	**+1.5**
KSH	**Kashi**	**5.58**	**339**	Pn		**Pn**	**23 00 16.8**	**+0.9**
KSH				Sn		**Sn**	**23 01 21.0**	**+2.1**
KSH				smax		smax		
	comp=N,200nm,1.4s							
KSH				smax		smax		
	comp=N,190nm,1.2s							
KUDL	**Kundal**	**6.39**	**196**	*e*P		**Pn**	**23 00 28.4**	**+1.4**
KHET	**Khetri**	**6.64**	**201**	*e*P		**Pn**	**23 00 30.6**	**+0.1**
PYUN	**Piuthan**	**7.28**	**147**	*e*P		**Pn**	**23 00 38.6**	**-0.9**
NRN	**Naryn**	**7.38**	**345**	Pn		**Pn**	**23 00 39.6**	**-1.3**
NRN	**Naryn**	**7.38**	**345**	P		**Pn**	**23 00 39.6**	**-1.3**
TARG	**Taragay, Kyrgy**	**7.42**	**356**			**Pn**	**23 00 41.4**	**-0.1**
TARG	**Taragay, Kyrgy**	**7.42**	**356**	P		**Pn**	**23 00 41.4**	**-0.1**
DANN	**Dangsing**	**7.45**	**142**	*e*P		**Pn**	**23 00 41.1**	**-0.7**
KBL	**Kabul**	**7.83**	**274**	Pn		**Pn**	**23 00 46.0**	**-1.0**
KBL	**Kabul**	**7.83**	**274**	P		**Pn**	**23 00 46.0**	**-1.0**
KOLN	**Koldanda**	**7.84**	**145**	*e*P		**Pn**	**23 00 46.1**	**-1.1**
KZA	**Kyzart**	**8.16**	**343**	P		**Pn**	**23 00 54.9**	**+3.1**
	SNR=14							
GKN	**Gorkha**	**8.19**	**139**	*e*P		**Pn**	**23 00 50.8**	**-1.1**
AJM	**Ajmer**	**8.50**	**204**	*e*P		**Pn**	**23 00 57.5**	**+1.5**
UCH	**Uchtor**	**8.50**	**339**	P		**Pn**	**23 00 59.2**	**+2.8**
	SNR=21							
CHGR	**Chuyangaron**	**8.69**	**303**			**Pn**	**23 01 00.6**	**+1.9**
CHGR	**Chuyangaron**	**8.69**	**303**	P		**Pn**	**23 01 00.6**	**+1.9**
KKN	**Kakani**	**8.71**	**136**	*e*P		**Pn**	**23 00 58.0**	**-1.1**
	comp=N,67nm,0.7s							
DMN	**Daman**	**8.75**	**138**	*e*P		**Pn**	**23 00 58.7**	**-1.0**
	comp=N,36nm,0.7s							
KBK	**Karagaybulak**	**8.78**	**342**	P		**Pn**	**23 01 03.4**	**+3.4**
	SNR=20							
AAK	**Ala-Archa**	**8.89**	**340**	P		Pn	23 01 07.0	+5.7
	SNR=18							
AAK	**Ala-Archa**	**8.89**	**340**	Pn		**Pn**	**23 01 01.2**	**-0.2**
AAK	**Ala-Archa**	**8.89**	**340**	*e*P		**Pn**	**23 01 03.3**	**+1.9**
AAK	**Ala-Archa**	**8.89**	**340**	Pn		**Pn**	**23 00 59.8**	**-1.5**
	comp=N,0.2nm,0.3s,baz=251,slow=21,SNR=3.1							
AAK				Sn		**Sn**	**23 02 46.7**	**+6.4**
	baz=274,slow=19							
AAK				LR		LR	23 05 01.7	
	comp=N,174nm,20.9s,baz=152,slow=41							
TKM2	**Tokmak 2**	**8.89**	**346**	P		**Pn**	**23 01 04.5**	**+3.0**
	SNR=6.7							
TKM2	**Tokmak 2**	**8.89**	**346**	P		**Pn**	**23 01 04.0**	**+2.5**
MDOK	**Medeo**	**8.91**	**353**	P		**Pn**	**23 01 04.0**	**+2.3**
PKIN	**Phulchoki**	**8.94**	**137**	*e*P		**Pn**	**23 01 01.3**	**-1.0**
	comp=N,62nm,0.7s							
PKI	**Pulchoki**	**8.95**	**137**	*e*P		**Pn**	**23 01 00.9**	**-1.6**
	comp=N,41nm,0.6s							
GUN	**Gumba**	**8.97**	**133**	*e*P		**Pn**	**23 01 01.2**	**-1.6**
	comp=N,87nm,0.9s							
FRU1	**Bishkek**	**9.01**	**341**	Pn		**Pn**	**23 01 03.2**	**+0.2**
FRU1	**Bishkek**	**9.01**	**341**	P		**Pn**	**23 01 03.2**	**+0.2**
PDGK	**Podgornoye**	**9.03**	**5**	P		**Pn**	**23 01 05.0**	**+1.7**
CHMS	**Chumysh**	**9.15**	**342**	P		**Pn**	**23 01 08.0**	**+3.0**
	SNR=12							
JIRN	**Jiri**	**9.34**	**133**	*e*P		**Pn**	**23 01 06.7**	**-1.2**
	comp=N,103nm,0.7s							
RAMN	**Ramite**	**10.11**	**134**	*e*P		**Pn**	**23 01 16.1**	**-2.2**
	comp=N,52nm,0.8s							
TAPN	**Taplejung**	**10.51**	**129**	*e*P		**Pn**	**23 01 21.0**	**-2.8**
ODAN	**Odare**	**10.65**	**132**	*e*P		**Pn**	**23 01 23.1**	**-2.7**
	comp=N,92nm,1.0s							
KK31	**Karatay Array**	**10.77**	**327**	Pn		**Pn**	**23 01 26.5**	**-0.5**
KK31	**Karatay Array**	**10.77**	**327**	P		**Pn**	**23 01 26.5**	**-0.5**
KKAR	**Karatay Array**	**10.77**	**327**	Pn		**Pn**	**23 01 26.5**	**-0.5**
KKAR	**Karatay Array**	**10.77**	**327**	Pn		**Pn**	**23 01 26.6**	**-0.5**
KKAR	**Karatay Array**	**10.77**	**327**	P		**Pn**	**23 01 26.6**	**-0.5**
GTK	**Tadong**	**11.12**	**126**	*e*P		**Pn**	**23 01 27.9**	**-4.1**
LSA	**Lhasa**	**11.66**	**110**	Pn		**Pn**	**23 01 39.0**	**-0.7**
LSA	**Lhasa**	**11.66**	**110**	P		**Pn**	**23 01 39.0**	**-0.7**
WMQ	**Urumqi**	**11.86**	**34**	*e*P		**Pn**	**23 01 41.6**	**-0.4**
WMQ				sP			23 01 54.8	
WMQ				S		**Sn**	**23 03 55.4**	**+2.3**
WMQ				pmax		pmax		
	comp=N,12nm,1.3s							
MAKZ	**Makanchi**	**12.75**	**11**			**Pn**	**23 01 52.7**	**-1.4**
MAKZ	**Makanchi**	**12.75**	**11**	P		**Pn**	**23 01 52.7**	**-1.4**
MK31	**Makanchi Array**	**12.79**	**12**	Pn		**Pn**	**23 01 54.5**	**-0.1**
MK31	**Makanchi Array**	**12.79**	**12**	*d*	*i*P	**Pn**	**23 01 55.1**	**+0.5**
MKAR	**Makanchi Array**	**12.79**	**12**			**Pn**	**23 01 54.2**	**-0.4**
MKAR	**Makanchi Array**	**12.79**	**12**	*i*	P	**Pn**	**23 01 54.7**	**+0.1**
MKAR				pmax		pmax		
	comp=Z,5.0nm,0.7s							
MKAR	**Makanchi Array**	**12.79**	**12**	Pn		**Pn**	**23 01 53.0**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=189,slow=13,SNR=18							
MKAR				Sn		**Sn**	**23 04 14.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=187,slow=20,SNR=4.3							
	comp=Z,4.9nm,0.7s							
HRA	**Herat**	**13.45**	**275**			**Pn**	**23 02 03.3**	**-0.7**
SHL	**Shillong**	**14.49**	**123**	Pn		Pn	23 02 12.4	-5.6
SHL	**Shillong**	**14.49**	**123**	P		Pn	23 02 12.4	-5.7
MOKO	**MOKOCHONG**	**15.93**	**116**	*e*P		**Pn**	**23 02 32.8**	**-4.3**
KURBB	**Kurchatov Arra**	**16.30**	**0**	Pn		**Pn**	**23 02 39.7**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=269,slow=28,SNR=30							
	comp=Z,6.7nm,0.8s							
KURK	**Kurchatov**	**16.39**	**0**	P		**P**	**23 02 44.0**	**-1.1**
KURK	**Kurchatov**	**16.39**	**0**	*d*	*i*P	**Pn**	**23 02 41.4**	**-1.1**
KURK				pmax		pmax		
	comp=Z,12nm,0.7s							
IMP	**Imphal**	**16.40**	**121**	*e*P		**Pn**	**23 02 38.8**	**-4.2**
DGZ	**Jazzator, Alta**	**16.72**	**20**	⇓*e*P		**Pn**	**23 02 47.6**	**+0.7**
HYB	**Hyderabad**	**16.83**	**180**	*e*P		**P**	**23 02 50.4**	**+0.2**
GEYT	**Ailbeck**	**16.87**	**288**	Pn		**Pn**	**23 02 44.8**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=99,slow=18,SNR=7.1							
GTA	**Gaotai**	**17.77**	**67**	*e*P		**Pn**	**23 02 58.8**	**-1.2**
GTA				pP		P	23 03 01.5	+0.9
GTA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
BVAR	**Borovoye Array**	**19.58**	**345**	P		**P**	**23 03 20.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=155,slow=11,SNR=36							
BVAR				LR		LR	23 11 22.4	
	comp=Z,126nm,18.5s,baz=162,slow=38							
	comp=Z,16nm,0.8s							
BRVK	**Borovoye**	**19.63**	**345**	P		**P**	**23 03 21.0**	**+0.2**
BRVK				IAmb		IAmb	23 03 27.8	
	comp=Z,22nm,0.8s							
BRVK	**Borovoye**	**19.63**	**345**	*de*P		**P**	**23 03 21.1**	**+0.3**
BRVK				pmax		pmax		
	comp=Z,22nm,0.8s							
TNCH	**TengChong**	**19.66**	**113**	P		**Pn**	**23 03 22.6**	**-0.5**
TNCH				pmax		pmax		
	comp=Z,54nm,0.9s							
TNCH				pmax		pmax		
	comp=Z,99nm,6.1s							
MND	**Mandalay**	**19.73**	**124**	P		**P**	**23 03 21.0**	**-1.1**
ZAA0	**Zalesovo Array**	**20.12**	**11**	P		**P**	**23 03 25.9**	**-0.2**
ZALV	**Zalesovo Beam**	**20.12**	**11**	P		**P**	**23 03 24.9**	**-1.2**
ZALV	**Zalesovo Beam**	**20.12**	**11**	*i*	P	**P**	**23 03 25.7**	**-0.4**
ZALV				pmax		pmax		
	comp=Z,7.0nm,0.8s							
ZALV	**Zalesovo Beam**	**20.12**	**11**	P		**P**	**23 03 25.4**	**-0.7**
	comp=Z,7.0nm,0.8s,baz=198,slow=9.4,SNR=23							
	comp=Z,7.0nm,0.8s							
ABKAR	**Akbulak array**	**20.28**	**323**	P		**P**	**23 03 28.0**	**+0.1**
ABKAR	**Akbulak array**	**20.28**	**323**	P		**P**	**23 03 27.7**	**-0.1**
ABKAR				IAmb		IAmb	23 03 34.5	
	comp=Z,9.4nm,0.8s							
WSAR	**Wadi Sarin**	**20.60**	**243**	P		**P**	**23 03 29.6**	**-1.9**
	comp=Z,13nm,1.1s,baz=103,slow=14,SNR=2.4							
	comp=Z,13nm,1.1s							
LZH	**Lanzhou**	**20.75**	**78**	*e*P		**P**	**23 03 33.2**	**-0.1**
LZH				pP		Pn	23 03 37.8	+2.0
LZH				pmax		pmax		
	comp=Z,10.0nm,1.1s							
PZH	**PanZhiHua**	**21.46**	**105**	P		**P**	**23 03 42.0**	**+1.1**
PZH				pmax		pmax		
	comp=Z,10.0nm,1.3s							
PZH				pmax		pmax		
	comp=Z,100nm,4.2s							
AKTO	**Aktyubinsk**	**22.00**	**323**	P		**P**	**23 03 46.5**	**+0.2**
	comp=Z,16nm,0.8s,baz=125,slow=8.7,SNR=19							
AKTO				LR		LR	23 12 52.8	
	comp=Z,87nm,19.4s,baz=68,slow=38							
	comp=Z,16nm,0.8s							
CHTO	**Chiang Mai**	**23.85**	**125**	P		**P**	**23 04 04.5**	**-1.0**
CHTO				IAmb		IAmb	23 04 05.3	
	comp=Z,13nm,1.0s							
CHTO	**Chiang Mai**	**23.85**	**125**	P		**P**	**23 04 04.4**	**-1.0**
CHTO	**Chiang Mai**	**23.85**	**125**	P		**P**	**23 04 04.5**	**-1.0**
CHTO				pmax		pmax		
	comp=Z,13nm,1.0s							
CRAI	**Chiangrai**	**23.89**	**120**	P		**P**	**23 04 04.5**	**-1.3**
CM31	**Chiang Mai Arr**	**24.10**	**126**	P		**P**	**23 04 07.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**24.10**	**126**	P		**P**	**23 04 07.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**24.10**	**126**	P		**P**	**23 04 06.5**	**-1.2**
	comp=Z,22nm,0.9s,baz=313,slow=10,SNR=140							
CMAR				LR		LR	23 15 33.7	
	comp=Z,31nm,18.3s,baz=320,slow=42							
	comp=Z,22nm,0.9s							
ZAK	**Zakamensk**	**24.18**	**41**	*e*P		**P**	**23 04 08.0**	**-0.4**
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.0s							
SONM	**Songino Array**	**24.82**	**49**	P		**P**	**23 04 15.4**	**+1.2**
	comp=Z,5.5nm,1.0s,baz=241,slow=8.4,SNR=19							
	comp=Z,5.5nm,1.0s							
XAN	**Xi'an**	**25.11**	**82**	P		**P**	**23 04 17.3**	**+0.3**
XAN				pP		pP	23 04 27.4	-1.2
XAN				pmax		pmax		
	comp=Z,11nm,1.0s							
ULN	**Ulaanbaatar**	**25.24**	**49**	P		**P**	**23 04 17.1**	**-1.0**
ULN				IAmb		IAmb	23 04 21.1	
	comp=Z,10nm,1.0s							
ULN	**Ulaanbaatar**	**25.24**	**49**	*de*P		**P**	**23 04 18.6**	**+0.5**
ULN				pmax		pmax		
	comp=Z,11nm,1.0s							
GYA	**Guiyang**	**25.45**	**100**	*e*P		**P**	**23 04 21.1**	**+0.9**
GYA				pmax		pmax		
	comp=Z,24nm,1.0s							
SVE	**Sverdlovsk**	**25.60**	**337**	*e*P		**P**	**23 04 22.4**	**+1.3**
SVE				pmax		pmax		
	comp=Z,14nm,1.0s							
MAK	**Makhachkala**	**25.60**	**299**	*e*P		**P**	**23 04 19.0**	**-2.2**
MAK				*e*S		**S**	**23 08 45.9**	**-1.0**
MAK				MLR		MLR		
	comp=Z,80nm,14.0s							
SLVN	**Son La**	**25.82**	**113**	P		**P**	**23 04 23.1**	**-0.4**
SLVN				IAmb		IAmb	23 04 26.3	
	comp=Z,12nm,1.1s							
ARU	**Arti**	**26.00**	**334**	P		**P**	**23 04 25.5**	**+0.8**
ARU				IAmb		IAmb	23 04 26.8	
	comp=Z,9.5nm,0.9s							
ARU	**Arti**	**26.00**	**334**	*ce*P		**P**	**23 04 25.3**	**+0.6**
ARU				pmax		pmax		
	comp=Z,11nm,1.0s							
ENH	**Enshi**	**26.43**	**90**	P		**P**	**23 04 32.3**	**+3.4**
HHC	**Hu-ho-hao-te**	**26.88**	**66**	*e*P		**P**	**23 04 33.8**	**+0.8**
HHC				pmax		pmax		
	comp=Z,13nm,0.6s							
HHC				pmax		pmax		
	comp=Z,420nm,5.3s							
PALK	**Pallekele**	**26.99**	**175**	LR		LR	23 15 40.2	
	comp=Z,83nm,18.1s,baz=118,slow=38							
SRDT	**SRDT**	**27.24**	**132**	P		**P**	**23 04 36.6**	**+0.4**
GNI	**Garni**	**27.41**	**292**	⇓*e*P		**P**	**23 04 40.1**	**+2.3**
GNI				pmax		pmax		
	comp=Z,10.0nm,1.0s							
GNI	**Garni**	**27.41**	**292**	P		**P**	**23 04 39.0**	**+1.2**
	comp=Z,3.1nm,0.7s,baz=63,slow=6.8,SNR=1.7							
	comp=Z,3.1nm,0.7s							
NCK	**Nalchik**	**28.51**	**299**	⇑*e*P		**P**	**23 04 50.9**	**+3.5**
NCK				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KIV	**Kislovodsk**	**29.22**	**300**	*e*P		**P**	**23 04 52.8**	**-1.0**
KIV				pmax		pmax		
	comp=Z,8.0nm,1.1s							
KIRV	**Kirov**	**31.04**	**330**	⇑*i*P		**P**	**23 05 10.5**	**+1.0**
KIRV	**Kirov**	**31.04**	**330**	LR		LR	23 18 46.3	
	comp=Z,71nm,18.9s,baz=114,slow=38							
ANN	**Anapa**	**33.05**	**301**	*e*P		**P**	**23 05 23.1**	**-4.3**
ANN				*e**PP		**pP**	**23 05 33.5**	**-5.7**
ANN				*e*S		**S**	**23 10 38.4**	**-5.3**
OBN	**Obninsk**	**35.61**	**319**	*e*P		**P**	**23 05 50.1**	**+0.7**
OBN				*e*			23 07 10.3	
OBN				*e*PPP		PPP	23 07 24.4	
OBN				pmax		pmax		
	comp=Z,21nm,1.7s							
OBN				MLR		MLR		
	comp=Z,60nm,17.0s							
BRTR	**Keskin Array B**	**35.95**	**292**	*i*	P	**P**	**23 05 54.2**	**+1.5**
BRTR				pmax		pmax		
	comp=Z,2.0nm,0.9s							
BRTR	**Keskin Array B**	**35.95**	**292**	P		**P**	**23 05 53.4**	**+0.7**
	comp=Z,2.1nm,0.9s,baz=100,slow=8.1,SNR=6.1							
	comp=Z,2.1nm,0.9s							
GSI	**Gunungsitoli**	**37.36**	**147**	P		**P**	**23 06 04.5**	**-0.3**
GSI	**Gunungsitoli**	**37.36**	**147**	P		**P**	**23 06 05.2**	**+0.4**
HEH	**HeiHe**	**38.77**	**51**	*e*P		**P**	**23 06 17.3**	**+1.0**
HEH				pmax		pmax		
	comp=Z,4.0nm,0.8s							
AKASG	**Malin Array Be**	**39.07**	**310**	P		**P**	**23 06 19.2**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=78,slow=8.2,SNR=5.4							
AKASG				LR		LR	23 25 27.8	
	comp=Z,47nm,19.0s,baz=30,slow=41							
	comp=Z,1.1nm,0.6s							
ELL	**Elmali**	**39.30**	**288**	P		**P**	**23 06 21.4**	**+0.3**
ELL	**Elmali**	**39.30**	**288**	P		**P**	**23 06 21.4**	**+0.3**
ELL				pmax		pmax		
	comp=Z,60nm,0.8s							
MNK	**Minsk**	**40.36**	**316**	*i*	P	**P**	**23 06 28.1**	**-1.4**
	comp=E,6.0nm,0.8s							
MNK				*i*	P	**P**	**23 06 28.1**	**-1.4**
	comp=N,14nm,1.2s							
MNK				*i*	P	**P**	**23 06 28.1**	**-1.4**
	comp=Z,7.0nm,0.8s,baz=99							
MNK				*i*	PP	**PP**	**23 08 00.6**	**-1.9**
MNK				*i*	PPP	PPP	23 08 26.7	
MNK				*i*	S	**S**	**23 12 34.3**	**-0.6**
MNK				*i*	SS	**SS**	**23 15 34.8**	**+0.6**
MNK				*i*	SSS	SSS	23 16 00.2	
MNK				*i*	LQ	LQ	23 20 09.0	
MNK				*i*	LR	LR	23 23 19.6	
MNK				*i*	LRM	MLR	23 25 49.9	
	comp=E,31nm,16.8s							
MNK				*i*	LRM	MLR	23 26 01.5	
	comp=N,94nm,15.5s							
MNK				*i*	LRM	MLR	23 26 19.6	
	comp=Z,62nm,12.2s							
MNK	**Minsk**	**40.36**	**316**	*i*	P	**P**	**23 06 28.1**	**-1.4**
MNK				*i*			23 08 00.6	
MNK				*i*	PPP	PPP	23 08 26.7	
MNK				*i*	S	**S**	**23 12 34.3**	**-0.6**
MNK				*i*	SS	**SS**	**23 15 34.7**	**+0.6**
MNK				*i*	SSS	SSS	23 16 00.2	
MNK				pmax		pmax		
	comp=N,14nm,1.2s							
MNK				pmax		pmax		
	comp=E,6.0nm,0.8s							
MNK				pmax		pmax		
	comp=Z,7.0nm,0.8s							
MNK				MLR		MLR		
	comp=E,31nm,17.0s							
MNK				MLR		MLR		
	comp=N,94nm,15.0s							
MNK				MLR		MLR		
	comp=Z,62nm,12.0s							
MLR	**Muntele Rosu**	**41.18**	**302**	P		**P**	**23 06 36.9**	**+0.4**
MLR	**Muntele Rosu**	**41.18**	**302**	P		**P**	**23 06 36.9**	**+0.4**
MLR				pmax		pmax		
	comp=Z,18nm,1.0s							
KLR	**Kul'dur**	**41.53**	**52**	⇑*i*P		**P**	**23 06 40.0**	**+0.8**
KLR				pmax		pmax		
	comp=Z,8.0nm,1.3s							
YAK	**Yakutsk**	**42.30**	**33**	*de*P		**P**	**23 06 46.0**	**+0.7**
YAK				pmax		pmax		
	comp=Z,9.0nm,0.6s							
FINES	**FINESS Array B**	**42.73**	**326**	*i*	P	**P**	**23 06 50.0**	**+1.2**
FINES				pmax		pmax		
	comp=Z,3.0nm,0.8s							
FINES	**FINESS Array B**	**42.73**	**326**	P		**P**	**23 06 49.2**	**+0.5**
	comp=Z,3.3nm,0.8s,baz=116,slow=8.7,SNR=9.4							
	comp=Z,3.3nm,0.8s							
ARCES	**ARCESS Array B**	**45.54**	**337**	P		**P**	**23 07 12.2**	**+1.1**
	comp=Z,6.8nm,0.9s,baz=100,slow=6.8,SNR=6.6							
	comp=Z,6.8nm,0.9s							
TIXI	**Tiksi**	**45.61**	**20**	⇑*e*P		**P**	**23 07 12.9**	**+1.2**
VRAC	**Vranov**	**47.22**	**308**	LR		LR	23 30 06.4	
	comp=Z,36nm,18.4s,baz=46,slow=40							
MAJO	**Matsushiro**	**48.00**	**69**	⇓*e*P		**P**	**23 07 31.9**	**+1.0**
HFS	**Hagfors**	**48.54**	**323**	P		**P**	**23 07 34.5**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=84,slow=13,SNR=1.7							
HFS				LR		LR	23 29 04.0	
	comp=Z,73nm,18.7s,baz=74,slow=37							
	comp=Z,2.5nm,0.7s							
TIP	**Timpagrande**	**48.89**	**295**	P		**P**	**23 07 38.4**	**+0.6**
GERES	**GERESS Array B**	**49.16**	**308**	P		**P**	**23 07 41.1**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=51,slow=9.3,SNR=2.5							
	comp=Z,0.6nm,0.6s							
KHC	**Kasperske Hory**	**49.20**	**308**	⇓*e*P		**P**	**23 07 40.9**	**+0.9**
KHC				pmax		pmax		
	comp=Z,21nm,1.7s							
CLL	**Collm**	**49.30**	**311**	*e*P		**P**	**23 07 41.0**	**+0.4**
CLL				*ep*P		**pP**	**23 07 51.0**	**-1.7**
CLL	**Collm**	**49.30**	**311**	*e*P		**P**	**23 07 41.0**	**+0.4**
CLL				*e**PP		**pP**	**23 07 49.0**	**-3.7**
NB2	**NORSAR Subarra**	**49.79**	**324**	P		**P**	**23 07 44.8**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=90,slow=7.9							
NOA	**NORSAR Array B**	**49.79**	**324**	P		**P**	**23 07 44.5**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=91,slow=7.5,SNR=8.0							
NOA				LR		LR	23 31 01.4	
	comp=Z,9.6nm,18.9s,baz=15,slow=39							
	comp=Z,3.1nm,0.8s							
LODK	**Lodwar**	**50.51**	**242**	P		**P**	**23 07 50.6**	**+0.2**
KMBO	**Kilima Mbogo**	**52.34**	**236**	P		**P**	**23 08 04.0**	**-0.3**
KMBO				IAmb		IAmb	23 08 06.6	
	comp=Z,7.6nm,1.1s							
KMBO	**Kilima Mbogo**	**52.34**	**236**	*i*	P	**P**	**23 08 06.8**	**+2.5**
KMBO				pmax		pmax		
	comp=Z,5.0nm,1.1s							
KMBO	**Kilima Mbogo**	**52.34**	**236**	P		**P**	**23 08 04.7**	**+0.4**
	comp=Z,3.7nm,0.8s,baz=29,slow=13,SNR=7.7							
	comp=Z,3.7nm,0.8s							
BFO	**Black Forest**	**52.76**	**308**	*i*	P	**P**	**23 08 06.3**	**-0.5**
EKA	**Eskdalemuir Ar**	**58.06**	**318**	P		**P**	**23 08 44.4**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=101,slow=7.3,SNR=3.8							
	comp=Z,1.3nm,0.8s							
ESDC	**Sonseca Array**	**63.87**	**302**	P		**P**	**23 09 24.1**	**-0.4**
	comp=Z,1.6nm,1.0s,baz=60,slow=5.1,SNR=3.6							
	comp=Z,1.6nm,1.0s							
KNRA	**Kununurra**	**68.95**	**127**	P		**P**	**23 09 56.7**	**-0.4**
E21K	**Killik River**	**70.42**	**18**	P		**P**	**23 10 05.8**	**+0.2**
E21K				IAmb		IAmb	23 10 07.6	
	comp=Z,7.2nm,0.9s							
TOLK	**Toolik Lake Re**	**71.36**	**17**	P		**P**	**23 10 11.8**	**+0.6**
TOLK				IAmb		IAmb	23 10 13.5	
	comp=Z,6.3nm,0.9s							
TORD	**Torodi Ar. Bea**	**71.91**	**274**	P		**P**	**23 10 15.0**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=36,slow=6.1,SNR=6.4							
	comp=Z,0.9nm,0.8s							
A36M	**Sachs Harbour**	**72.68**	**8**	P		**P**	**23 10 19.6**	**+0.6**
A36M				IAmb		IAmb	23 10 21.5	
	comp=Z,7.3nm,1.0s							
H21K	**Melozitna Rive**	**72.76**	**20**	P		**P**	**23 10 20.3**	**+0.6**
H21K				IAmb		I

SFK	**Sufi-Kurgan**	**1.10**	**115**	⇑*i*	P	**Pb**	**23 00 32.3**	**-0.1**
	baz=14							
SFK				⇑*i*	S	**Sb**	**23 00 47.0**	**+0.4**
	baz=14							
BTK	**Batken**	**1.14**	**249**	⇓*i*	P	**Pn**	**23 00 32.9**	**-0.3**
	baz=49							
BTK				⇓*i*	S	**Sn**	**23 00 48.1**	**-0.5**
	baz=49							
TRKS	**Terek-Say**	**1.32**	**323**	⇓*i*	P	**Pn**	**23 00 35.1**	**-0.7**
	baz=22							
TRKS				⇓*i*	S	**Sn**	**23 00 51.9**	**-1.3**
	baz=22							
ARK	**Arkit**	**1.33**	**352**	⇓*i*	P	**Pb**	**23 00 36.4**	**0.0**
	baz=53							
ARK				⇓*i*	S	**Sg**	**23 00 54.1**	**-0.6**
	baz=53							
AML	**Almayashu**	**2.00**	**34**	⇑*i*	P	**Pb**	**23 00 47.5**	**-0.4**
	baz=34							
AML				⇑*i*	S	**Sb**	**23 01 13.6**	**+0.9**
	baz=34							
GAR	**Garm**	**2.08**	**225**	⇓*e*	P	**Pb**	**23 00 48.2**	**-0.9**
	baz=25							
GAR				⇓*i*	S	**Sb**	**23 01 14.7**	**0.0**
	baz=25							
GAR	**Garm**	**2.08**	**225**			**Pb**	**23 00 48.6**	**-0.5**
ARLS	**Aral**	**2.11**	**48**	⇓*i*	P	**Pb**	**23 00 48.9**	**-0.8**
	baz=49							
ARLS				⇓*i*	S	**Sb**	**23 01 16.0**	**+0.2**
	baz=49							
UCH	**Uchtor**	**2.46**	**44**	⇑*i*	P	**Pb**	**23 00 54.1**	**-1.8**
	baz=44							
UCH				⇑*i*	S	**Sb**	**23 01 24.7**	**-1.5**
	baz=44							
EKS2	**Erkin-Say**	**2.48**	**28**	⇓*i*	P	**Pb**	**23 00 54.2**	**-1.8**
	baz=28							
EKS2				⇓*i*	S	**Sb**	**23 01 24.6**	**-1.7**
	baz=28							
KKAR	**Karatay Array**	**2.91**	**335**	⇑*i*	P	**Pn**	**23 01 00.0**	**+2.6**
	baz=35							
KKAR				⇑*i*	S	**Sn**	**23 01 34.9**	**+2.7**
	baz=35							

*TIR **10** 23:06:33.3, 41°.36N×21°.10E, h5km±2km, Md2.8, Ml2.0*
*SKO **10** 23:06:34.2, 41°.33N×21°.10E, h8km, ML2.0*
*BEO **10** 23:06:34.8±0.4, 41°.34N×21°.07E, h6km±4km, ML1.9/6*
*THE **10** 23:06:36.4, 41°.30N×21°.27E, h0km±5km, ML1.9/3, Error ellipse: s-maj=7.5km s-min=2.0km az=324.0*

ISC 10 23:06:34.5±1.1, **41°.35N**±0°.02×**21°.09E**±0°.02, **h5**km±10km, **n30**, σ0**s85**/54, **1C**, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
OHR	**Ohrid**	**0.33**	**223**	*e*Pg		**Pg**	**23 06 40.4**	**-0.5**
OHR				*e*Sg		**Sg**	**23 06 45.8**	**+0.6**
OHR	**Ohrid**	**0.33**	**223**	*i* Pg		**Pg**	**23 06 40.6**	**-0.3**
OHR				*i* Sg		**Sg**	**23 06 45.6**	**+0.4**
OHR				*e*Lg		Lg	23 06 45.7	
	comp=N,322nm,0.4s							
OHR				*e*Lg		Lg	23 06 45.9	
	comp=E,316nm,0.3s							
FNA	**Florina**	**0.61**	**159**	P		**Pg**	**23 06 45.7**	**-0.5**
	baz=159							
FNA				S		**Sg**	**23 06 54.8**	**+0.7**
	baz=159							
FNA	**Florina**	**0.61**	**159**	P		**Pg**	**23 06 45.6**	**-0.6**
FNA				S		**Sg**	**23 06 54.5**	**+0.5**
	comp=E,415nm,0.2s							
FNA	**Florina**	**0.61**	**159**	*e*Pg		**Pg**	**23 06 45.6**	**-0.6**
FNA				*e*Sg		**Sg**	**23 06 54.6**	**+0.5**
FNA	**Florina**	**0.61**	**159**	⇑*i* Pg		**Pg**	**23 06 45.7**	**-0.5**
FNA				*i* Sg		**Sg**	**23 06 54.6**	**+0.5**
SKO	**Skopje**	**0.67**	**23**	*e*Pg		**Pg**	**23 06 47.4**	**0.0**
SKO				*e*Sg		**Sb**	**23 06 57.5**	**-0.7**
SKO	**Skopje**	**0.67**	**23**	*i* Pg		**Pg**	**23 06 47.5**	**+0.2**
SKO				*i* Sg		**Sb**	**23 06 57.5**	**-0.7**
KBN	**Korca**	**0.77**	**198**	P		**Pg**	**23 06 48.5**	**-0.7**
	baz=198							
KBN				S		**Sb**	**23 07 00.4**	**-0.7**
	baz=198							
KBN				AMP				
	comp=N,0.2nm,0.4s,baz=198							
STIP	**Stip**	**0.89**	**67**	*i* Pg		**Pn**	**23 06 55.3**	**+1.7**
STIP				*i* Sg		**Sn**	**23 07 10.2**	**+3.4**
TIR	**Tirane**	**0.93**	**270**	P		**Pg**	**23 06 51.5**	**-0.7**
	baz=270							
TIR				S		**Sb**	**23 07 05.4**	**-0.1**
	baz=270							
TIR				AMP				
	comp=N,0.1nm,0.1s,baz=270							
GRG	**Griva**	**1.06**	**111**	P		**Pg**	**23 06 54.5**	**-0.4**
GRG	**Griva**	**1.06**	**111**	*i* Pg		**Pg**	**23 06 54.6**	**-0.4**
GRG				*i* Sg		**Sn**	**23 07 09.8**	**-1.4**
VAY	**Valandovo**	**1.11**	**91**	*e*Pg		**Pb**	**23 06 55.7**	**-0.5**
VAY				*e*Sg		**Sb**	**23 07 10.5**	**-0.5**
VAY	**Valandovo**	**1.11**	**91**	*i* Pg		**Pg**	**23 06 56.0**	**+0.2**
VAY				*i* Sg		**Sn**	**23 07 11.7**	**-0.7**
VAY				*e*Lg		Lg	23 07 12.2	
	comp=N,15nm,0.5s							
VAY				*e*Lg		Lg	23 07 12.8	
	comp=E,13nm,0.5s							
LSK	**Leskovik**	**1.26**	**197**	P		**Pg**	**23 06 58.7**	**+0.1**
	baz=198							
LSK				S		**Sn**	**23 07 17.1**	**+1.0**
	baz=198							
LSK				AMP				
	comp=N,0.4nm,0.5s,baz=198							
BCI	**Bajram Curri**	**1.27**	**323**	P		**Pn**	**23 06 58.5**	**-0.4**
	baz=323							
BCI				S		**Sn**	**23 07 17.0**	**+0.7**
	baz=323							
BCI				AMP				
	comp=E,0.2nm,0.5s,baz=323							
PRVS	**Prvonek**	**1.37**	**32**	*e*Pg		**Pn**	**23 07 00.0**	**-0.2**
PRVS				*e*Sg		**Sn**	**23 07 18.4**	**-0.3**
KNT	**Kendrikon**	**1.37**	**97**	P		**Pb**	**23 07 00.2**	**-0.5**
KNT				S		**Sb**	**23 07 16.8**	**-1.7**
	comp=E,15nm,0.6s							
KNT	**Kendrikon**	**1.37**	**97**	*i* Pg		**Pb**	**23 07 00.4**	**-0.2**
KNT				*i* Sg		**Sg**	**23 07 18.6**	**0.0**
KPRO	**Kipourio**	**1.41**	**172**	P		**Pb**	**23 07 00.9**	**-0.5**
KPRO				S		**Sg**	**23 07 21.6**	**+1.7**
	comp=E,40nm,0.6s							
PEHC	**Pehcevo**	**1.42**	**72**	*i* Pg		**Pg**	**23 07 02.3**	**+0.6**
BARS	**Barje**	**1.56**	**20**	*e*Pg		**Pn**	**23 07 03.0**	**+0.2**
BARS				*e*Sg		**Sg**	**23 07 24.9**	**+0.4**
BARS	**Barje**	**1.56**	**20**	*i* Pg		**Pb**	**23 07 04.0**	**+0.2**
KKB	**Krupnik**	**1.60**	**72**	*i* Pg		**Pb**	**23 07 04.1**	**-0.4**
SRN	**Sarande**	**1.69**	**210**	P		**Pg**	**23 07 06.7**	**-0.2**
	baz=210							
SRN				S		**Sg**	**23 07 30.4**	**+1.6**
	baz=210							
SRN				AMP				
	comp=N,0.1nm,0.5s,baz=210							
SELS	**Selova**	**1.86**	**1**	*e*Pg		**Pb**	**23 07 08.5**	**-0.5**
SELS				*e*Sg		**Sg**	**23 07 34.0**	**-0.4**
SRS	**Serrai**	**1.90**	**96**	*e*Pn		**Pn**	**23 07 07.1**	**-0.4**
IGT	**Igoumenitsa**	**1.91**	**198**	P		**Pb**	**23 07 10.1**	**+0.3**
	baz=199							
IGT				S		**Sg**	**23 07 36.4**	**+0.6**
	baz=199							
VTS	**Vitosha**	**2.04**	**51**	*e*Pn		**Pn**	**23 07 10.1**	**+0.5**

*IDC **10** 23:10:10.6±4.5, 6°.20S×126°.72E, h388km±58km, mb3.0/3, mbtmp3.8/6, Error ellipse: s-maj=96.6km s-min=16.4km az=56.0*
*NEIC **10** 23:10:10.7±2.4, 6°.3S±0°.2×125°.4E±0°.2, h482km±18km, mb4.1/7, Error ellipse: s-maj=43.0km s-min=14.2km az=220.0*

ISC 10 23:10:15.7±1.0, **6°.8S**±0°.1×**125°.7E**±0°.1, **h450**km, **n17**, σ1**s15**/20, **mb3.3**/3, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
SOEI	**Soe**	**3.24**	**207**	P		**P**	**23 11 26.2**	**+1.5**
SOEI				S		**S**	**23 12 21.6**	**+1.0**
MMRI	**Maumere**	**3.90**	**243**	P		**P**	**23 11 29.4**	**-0.5**
MMRI				S		**S**	**23 12 29.1**	**-1.2**
BATI	**Baumata**	**3.92**	**211**	P		**P**	**23 11 31.7**	**+1.5**
	226nm,0.3s,baz=20,slon=2.0,SNR=44							
BATI				S		**S**	**23 12 29.1**	**-1.6**
	68nm,0.4s,baz=270,slow=21,SNR=8.4							
KAPI	**Kappang**	**6.22**	**287**	P		**P**	**23 11 54.2**	**+1.9**
	5.7nm,0.5s,baz=91,slow=19,SNR=4.2							
KNRA	**Kununurra**	**9.27**	**162**	P		**P**	**23 12 27.0**	**+2.1**
FITZ	**Fitzroy Crossi**	**11.19**	**180**	P		**P**	**23 12 45.4**	**-0.4**
WB0	**Warramunga Arr**	**15.35**	**148**	P		**P**	**23 13 30.7**	**0.0**
WB0				IAmb		IAmb	23 13 33.3	
	comp=Z,4.8nm,1.1s							
WRA	**Warramunga Arr**	**15.47**	**148**	P		**P**	**23 13 33.6**	**+1.7**
WRA	**Warramunga Arr**	**15.47**	**148**	P		**P**	**23 13 31.4**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=338,slow=10,SNR=11							
WB2	**Warramunga Arr**	**15.48**	**148**	P		**P**	**23 13 32.6**	**+0.7**
WB2				IAmb		IAmb	23 14 02.9	
	comp=Z,10nm,1.2s							
WR0	**Warramunga Arr**	**15.59**	**148**	P		**P**	**23 13 33.4**	**+0.2**
WR0				IAmb		IAmb	23 13 36.2	
	comp=Z,4.5nm,0.4s							
AS31	**Alice Springs**	**18.48**	**156**	P		**P**	**23 14 03.1**	**-0.1**
AS31				IAmb		IAmb	23 14 04.1	
	comp=Z,1.3nm,0.6s							
ASAR	**Alice Springs**	**18.48**	**156**	P		**P**	**23 14 03.3**	**+0.1**
ASAR	**Alice Springs**	**18.48**	**156**	P		**P**	**23 14 02.9**	**-0.3**
	comp=Z,1.6nm,0.4s,baz=344,slow=15,SNR=28							
STKA	**Stephens Creek**	**28.98**	**151**	P		**P**	**23 15 36.8**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=312,slow=8.0,SNR=5.3							
	comp=Z,1.3nm,0.4s							
SONM	**Songino Array**	**57.06**	**345**	P		**P**	**23 19 17.2**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=165,slow=5.3,SNR=2.7							
	comp=Z,0.2nm,0.5s							
MKAR	**Makanchi Array**	**65.84**	**329**	P		**P**	**23 20 14.6**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=123,slow=6.8,SNR=4.7							
	comp=Z,0.4nm,0.5s							

*NEIC **10** 23:10:42.9±0.5, 19°.1S±0°.1×177°.4W±0°.3, h573km±26km, mb4.2/17, Error ellipse: s-maj=35.8km s-min=17.7km az=102.0*
*IDC **10** 23:10:44.8±5.0, 19°.06S×177°.67W, h574km±53km, mb3.0/7, mbtmp4.0/7, Error ellipse: s-maj=76.4km s-min=24.8km az=151.0*

ISC 10 23:10:43.2±0.7, **19°.1S**±0°.2×**177°.5W**±0°.1, **h570**km, **n35**, σ0**s77**/37, **mb4.0**/15, **1D**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
AFI	**Afiamalu**	**7.55**	**48**	P		**P**	**23 12 35.6**	**-1.7**
PINNC	**Pines Island,**	**14.47**	**253**	P		**P**	**23 13 47.4**	**+0.3**
DZM	**Mont Dzumac**	**15.30**	**256**	P		**P**	**23 13 56.1**	**+0.8**
DZM					IAmb	IAmb	23 14 17.9	
	comp=Z,18nm,1.4s							
ARMA	**Armidale**	**30.10**	**242**	P		**P**	**23 16 07.8**	**+0.3**
ARMA					IAmb	IAmb	23 16 33.2	
	comp=Z,14nm,1.4s							
CAN	**Canberra**	**33.67**	**234**	P		**P**	**23 16 37.8**	**0.0**
CTA	**Charters Tower**	**34.09**	**262**	P		**P**	**23 16 42.2**	**+0.7**
	comp=Z,7.1nm,1.1s,baz=85,slow=10,SNR=2.2							
	comp=Z,7.1nm,1.1s							
CTAO	**Charters Tower**	**34.09**	**262**	P		**P**	**23 16 41.6**	**+0.1**
PATS	**Pohnpei**	**35.08**	**315**	P		**P**	**23 16 49.5**	**-0.1**
TOO	**Toolangi**	**37.09**	**232**	P		**P**	**23 17 05.7**	**-0.3**
TOO					IAmb	IAmb	23 17 06.4	
	comp=Z,14nm,1.4s							
COEN	**Coen**	**37.96**	**272**	P		**P**	**23 17 13.6**	**+0.3**
COEN					IAmb	IAmb	23 17 23.1	
	comp=Z,10nm,1.1s							
STKA	**Stephens Creek**	**38.81**	**243**	P		**P**	**23 17 20.9**	**+0.9**
STKA	**Stephens Creek**	**38.81**	**243**	P		**P**	**23 17 20.5**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=63,slow=5.8,SNR=5.1							
	comp=Z,1.7nm,0.5s							
BBOO	**Buckleboo**	**43.58**	**242**	P		**P**	**23 17 57.4**	**-0.3**
BBOO					IAmb	IAmb	23 18 14.0	
	comp=Z,16nm,1.4s							
WB0	**Warramunga Arr**	**45.22**	**261**	P		**P**	**23 18 10.5**	**0.0**
WB0					IAmb	IAmb	23 18 11.3	
	comp=Z,5.5nm,1.3s							
WB2	**Warramunga Arr**	**45.24**	**261**	P		**P**	**23 18 10.0**	**-0.6**
WB2					IAmb	IAmb	23 18 11.4	
	comp=Z,11nm,1.4s							
WRA	**Warramunga Arr**	**45.25**	**261**	P		**P**	**23 18 10.5**	**-0.2**
WRA	**Warramunga Arr**	**45.25**	**261**	P		**P**	**23 18 10.6**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=98,slow=7.8,SNR=20							
WRA				PcP		**PcP**	**23 19 39.0**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=95,slow=3.4,SNR=1.8							
	comp=Z,1.2nm,0.4s							
AS31	**Alice Springs**	**45.28**	**255**	P		**P**	**23 18 11.2**	**+0.1**
ASAR	**Alice Springs**	**45.29**	**255**	P		**P**	**23 18 10.7**	**-0.3**
ASAR	**Alice Springs**	**45.29**	**255**	P		**P**	**23 18 11.1**	**+0.1**
	comp=Z,1.8nm,0.4s,baz=86,slow=8.2,SNR=30							
ASAR				PcP		**PcP**	**23 19 39.0**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=102,slow=3.8,SNR=6.7							
	comp=Z,1.8nm,0.4s							
FORT	**Forrest**	**50.27**	**246**	P		**P**	**23 18 47.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**53.66**	**261**	P		**P**	**23 19 12.9**	**+0.3**
PSA00	**Pilbara Seismi**	**58.42**	**256**	P		**P**	**23 19 44.9**	**-0.4**
PSA00					IAmb	IAmb	23 20 24.4	
	comp=Z,11nm,1.1s							
MBWA	**Marble Bar**	**58.60**	**256**	P		**P**	**23 19 46.2**	**-0.3**
MBWA					IAmb	IAmb	23 19 51.8	
	comp=Z,17nm,1.4s							
NVAR	**Mina Array Bea**	**79.70**	**43**	P		**P**	**23 21 54.8**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=231,slow=5.7,SNR=3.5							
	comp=Z,0.3nm,0.6s							
TXAR	**Lajitas Array**	**85.92**	**57**	P		**P**	**23 22 25.7**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=213,slow=6.9,SNR=4.1							
	comp=Z,0.3nm,0.6s							
ILAR	**Eielson Array**	**86.84**	**13**	P		**P**	**23 22 27.7**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=234,slow=5.0,SNR=7.9							
	comp=Z,0.2nm,0.5s							
ELIB	**Princess Elisa**	**88.09**	**186**	*d*PcP		**P**	**23 22 32.6**	**-0.8**
BVAR	**Borovoye Array**	**118.28**	**321**	PKP		**PKPdf**	**23 28 25.3**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=80,slow=1.5,SNR=6.1							
ARCES	**ARCESS Array B**	**127.61**	**350**	PKP		**PKiKP**	**23 28 44.0**	**-0.1**
	comp=Z,3.3nm,1.0s,baz=48,slow=1.8,SNR=5.7							
EKA	**Eskdalemuir Ar**	**143.56**	**5**	PKP		**PKPdf**	**23 29 12.5**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=4.8,slow=5.0,SNR=4.9							
BRTR	**Keskin Array B**	**146.20**	**314**	PKPbc		**PKPab**	**23 29 21.3**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=148,slow=5.0,SNR=7.2							
CLL	**Collm**	**146.79**	**348**	*e*PKPbc		**PKiKP**	**23 29 23.0**	**-0.7**
MMAI	**Mount Meron Ar**	**147.47**	**302**	PKPbc		**PKiKP**	**23 29 25.4**	**-0.4**
	comp=Z,1.8nm,0.4s,baz=68,slow=5.1,SNR=11							
GERES	**GERESS Array B**	**148.96**	**346**	PKPbc		**PKiKP**	**23 29 28.2**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=30,slow=4.5,SNR=2.9							

*CRAAG **10** 23:18:40.7, 36°.29N×2°.61E, Ml3.5, Algerie 08km SW Tamesguida*
*MDD **10** 23:18:43.4±0.6, 36°.41N×2°.65E, h7km±6km, Mb4.2/16, M_mb3.5/16, Error ellipse: s-maj=7.7km s-min=3.0km az=152.0*
*LDG **10** 23:18:43.5±0.1, 36°.33N×2°.67E, h10km, Ml3.1/11, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*CNRM **10** 23:18:44.3, 36°.34N×2°.31E, h0km, ml3.3*

ISC 10 23:18:42.3±0.9, **36°.44N**±0°.05×**2°.64E**±0°.04, **h18**km, **n47**, σ1**s59**/82, **15C**, **Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
ABKD	**Sidi Amar**	**0.28**	**289**	P		**Pg**	**23 18 48.8**	**+0.3**
ADOR	**Douera**	**0.31**	**46**	P		**Pg**	**23 18 50.0**	**+0.8**
EHRZ	**Djelida**	**0.49**	**240**	P		**Pg**	**23 18 51.3**	**-1.0**
EARB	**Arib**	**0.53**	**255**	P		**Pg**	**23 18 52.1**	**-0.8**
AKET	**Djebel Ketaf**	**1.08**	**111**	P		**Pb**	**23 19 02.2**	**-0.3**
EIBI	**Ibiza**	**2.78**	**339**	P		**Pn**	**23 19 28.3**	**+2.4**
EIBI				⇑*i* Vmb_V			23 19 29.7	
	774nm,SNR=1.3							
EIBI				S		**Sn**	**23 19 59.3**	**+0.4**
EIBI	**Ibiza**	**2.78**	**339**	Pn		**Pn**	**23 19 27.6**	**+1.7**
EIBI				Sn		**Sn**	**23 19 58.8**	**-0.1**
CART	**Cartagena**	**3.13**	**292**	Pn		**Pn**	**23 19 31.4**	**+0.8**
ETOS	**Mallorca**	**3.32**	**2**	P		**Pn**	**23 19 34.9**	**+1.5**
ETOS				⇑*i* Vmb_V			23 19 38.1	
	522nm,SNR=0.7							
ETOS				S		**Sn**	**23 20 12.0**	**-0.4**
ETOS	**Mallorca**	**3.32**	**2**	Sn		**Sn**	**23 20 11.9**	**-0.5**
ETOS				Pn		**Pn**	**23 19 34.8**	**+1.5**
EMUR	**La Murta**	**3.40**	**295**	P		**Pn**	**23 19 34.2**	**-0.3**
EMUR				⇑*i* Vmb_V			23 19 36.4	
	121nm,SNR=0.7							
EMUR				S		**Sn**	**23 20 14.7**	**+0.4**
EMUR	**La Murta**	**3.40**	**295**	Pn		**Pn**	**23 19 34.4**	**-0.1**
EMUR				Sn		**Sn**	**23 20 14.2**	**-0.1**
ENIJ	**Nijar**	**3.93**	**279**	P		**Pn**	**23 19 43.0**	**+1.2**
ENIJ				⇑*i* Vmb_V			23 19 44.3	
	158nm,SNR=0.6							
ENIJ				S		**Sn**	**23 20 26.6**	**-0.8**
ENIJ	**Nijar**	**3.93**	**279**	Pn		**Pn**	**23 19 42.9**	**+1.2**
ETOB	**Tobarra**	**3.99**	**305**	P		**Pn**	**23 19 44.2**	**+1.6**
ETOB				⇑*i* Vmb_V			23 19 45.7	
	308nm,SNR=1.6							
ETOB				S		**Sn**	**23 20 30.1**	**+1.2**
ETOB	**Tobarra**	**3.99**	**305**	Sn		**Sn**	**23 20 29.6**	**+0.7**
ETOB				Pn		**Pn**	**23 19 44.1**	**+1.6**
EVIV	**Cofrentes, Val**	**4.10**	**315**	P		**Pn**	**23 19 45.8**	**+1.8**
EVIV				⇑*i* Vmb_V			23 19 47.8	
	253nm,SNR=0.8							
EVIV				S		**Sn**	**23 20 30.8**	**-0.7**
ECHE	**Chera**	**4.24**	**319**	P		**Pn**	**23 19 48.0**	**+2.0**
ECHE				⇑*i* Vmb_V			23 19 49.0	
	263nm,SNR=1.2							
ECHE				S		**Sn**	**23 20 34.5**	**-0.6**
TAF	**Taforalt**	**4.42**	**250**	P		**Pn**	**23 19 49.2**	**+0.6**
TAF				S		**Sn**	**23 20 39.1**	**-0.6**
EBER	**Berja**	**4.47**	**277**	P		**Pn**	**23 19 50.0**	**+0.8**
EBER				⇑*i* Vmb_V			23 19 52.1	
	210nm,SNR=0.8							
EBER				S		**Sn**	**23 20 41.0**	**+0.1**
EBER	**Berja**	**4.47**	**277**	Pn		**Pn**	**23 19 49.7**	**+0.4**
EMOS	**Mosqueruela**	**4.61**	**329**	P		**Pn**	**23 19 53.3**	**+2.0**
EMOS				⇑*i* Vmb_V			23 19 54.8	
	188nm,SNR=0.7							
EMOS				S		**Sn**	**23 20 43.4**	**-1.0**
GOG	**Mont Gurugu**	**4.74**	**257**	P		**Pn**	**23 19 52.3**	**-0.5**
GOG				S		**Sn**	**23 20 46.2**	**-1.2**
EQES	**Quesada**	**4.76**	**288**	P		**Pn**	**23 19 55.2**	**+2.0**
EQES				⇑*i* Vmb_V			23 19 57.6	
	115nm,SNR=0.6							
EQES				S		**Sn**	**23 20 50.2**	**+2.2**
ERTA	**Horta de San J**	**4.85**	**339**	P		**Pn**	**23 19 56.2**	**+1.8**
ERTA				⇑*i* Vmb_V			23 19 58.1	
	238nm,SNR=0.9							
ERTA				S		**Sn**	**23 20 49.3**	**-0.8**
EQUE	**Quentar**	**4.94**	**281**	P		**Pn**	**23 19 56.3**	**+0.7**
EQUE				⇑*i* Vmb_V			23 19 58.5	
	120nm,SNR=0.9							
EQUE				S		**Sn**	**23 20 52.8**	**+0.5**
EPOB	**Poblet**	**5.05**	**347**	P		**Pn**	**23 19 58.9**	**+1.8**
EPOB				⇑*i* Vmb_V			23 20 02.7	
	113nm,SNR=0.5							
EPOB				S		**Sn**	**23 20 52.3**	**-2.8**
ELGU	**Los Guajares,**	**5.05**	**277**	P		**Pn**	**23 19 57.7**	**+0.4**
ELGU				⇑*i* Vmb_V			23 19 59.7	
	231nm,SNR=0.9							
ELGU				S		**Sn**	**23 20 54.5**	**-0.7**
ELGU	**Los Guajares,**	**5.05**	**277**	Pn		**Pn**	**23 19 57.8**	**+0.6**
FIGM	**Figuig**	**5.38**	**218**	P		**Pn**	**23 20 01.3**	**-0.4**
FIGM				S		**Sn**	**23 21 04.0**	**+0.8**
PSIM	**Granatula de C**	**5.60**	**297**	P		**Pn**	**23 20 05.7**	**+1.0**
PSIM				S		**Sn**	**23 21 06.6**	**-2.1**
EMIJ	**Mijas**	**5.97**	**273**	Pn		**Pn**	**23 20 09.3**	**-0.5**
EJON	**La Jonquera**	**6.00**	**2**	P		**Pn**	**23 20 12.0**	**+1.8**
EJON				⇑*i* Vmb_V			23 20 15.9	
	523nm,SNR=1.6							
EJON				S		**Sn**	**23 21 15.9**	**-2.5**
EJON	**La Jonquera**	**6.00**	**2**	Pn		**Pn**	**23 20 12.5**	**+2.4**
EJON				Sn		**Sn**	**23 21 16.8**	**-1.6**
VSL	**Villasalto**	**6.13**	**58**	P		**Pn**	**23 20 12.4**	**+0.4**
VSL				S		**Sn**	**23 21 18.6**	**-3.0**
EPF	**Esparros**	**6.81**	**346**	*e*Pn		**Pn**	**23 20 22.5**	**+1.2**
EPF				*e*Sn		**Sn**	**23 21 36.6**	**-1.9**
	1.7nm,0.3s							
MTLF	**Montolieu**	**6.90**	**357**	*e*Pn		**Pn**	**23 20 23.6**	**+1.2**
MTLF				*e*Sn		**Sn**	**23 21 38.5**	**-1.9**
	1.5nm,0.3s							
MDT	**Midelt**	**6.98**	**241**	P		**Pn**	**23 20 24.2**	**+0.4**
MDT				S		**Sn**	**23 21 42.6**	**-0.2**
MD31	**MD31**	**7.06**	**242**	P		**Pn**	**23 20 26.7**	**+1.9**
MD31				S		**Sn**	**23 21 44.0**	**-0.7**
LMR	**La Mourre**	**7.50**	**22**	*e*Pn		**Pn**	**23 20 31.6**	**+0.9**
LMR				*e*Sn		**Sn**	**23 21 52.1**	**-3.1**
	1.2nm,0.3s							
LASF	**Ste Croix**	**7.68**	**7**	*e*Pn		**Pn**	**23 20 35.1**	**+1.9**
LASF				*e*Sn		**Sn**	**23 21 56.9**	**-2.8**
	1.0nm,0.3s							
PGF	**Pioggiola**	**7.83**	**37**	*e*Pn		**Pn**	**23 20 35.9**	**+0.6**
PGF				*e*Sn		**Sn**	**23 22 00.5**	**-3.1**
	2.7nm,0.3s							
SMRF	**Simiane la Rot**	**7.85**	**16**	*e*Pn		**Pn**	**23 20 37.0**	**+1.4**
VIVF	**Saint-Julien-l**	**8.54**	**10**	*e*Pn		**Pn**	**23 20 47.5**	**+2.4**
VIVF				*e*Sn		**Sn**	**23 22 17.7**	**-3.3**
	0.7nm,0.3s							
MBDF	**Montbardon**	**8.85**	**20**	*e*Pn		**Pn**	**23 20 50.6**	**+1.2**
MBDF				*e*Sn		**Sn**	**23 22 25.1**	**-3.6**
	0.6nm,0.3s							
LPG	**La Plagne**

ASAR **Alice Springs** 55.22 135 P P 23 34 58.5 0.0
0.2nm,0.5s,baz=317,slow=7.0,SNR=4.4
0.2nm,0.5s

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*IDC **10** 23:31:53.1±0.9,30.98S×178.62W,h0km,mb4.3/4, mbtmp4.3/5,ML3.3/1,MS4.3/1,Error ellipse: s-maj=32.6km s-min=28.7km az=125.0*
*NEIC **10** 23:31:53.8±2.8,30.89S±0.08×178.4W±0.2,h10km±1km, mb4.6/23,Error ellipse: s-maj=23.2km s-min=11.7km az=110.0*
ISC 10 23:31:53.6±0.6,30.98S±0.08×178.5W±0.1,h10km,n49, σ1§23/48,mb4.7/17,3C,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	1.78	16	Pn	Pn	23 32 24.7	+0.3
URZ	**Urewera**	8.13	205	Pn	Pn	23 33 53.5	+1.9
	0.4nm,0.3s,baz=80,slow=2.0,SNR=8.9						
URZ				Sn	Sn	23 35 11.7	-12
	1.2nm,0.3s,baz=214,slow=5.3,SNR=3.6						
	7.6nm,0.9s						
BFZ	**Birch Farm**	10.59	202	Pn	Pn	23 34 29.1	+3.8
BHW	**Baring Head**	11.71	205	Pn	Pn	23 34 41.9	+1.2
TKNZ	**Takaka Hill**	12.20	212	Pn	Pn	23 34 46.5	-0.8
THZ	**Tophouse**	12.81	210	Pn	Pn	23 34 55.5	-0.3
KHZ	**Kahutara**	13.09	207	Pn	Pn	23 34 57.7	-1.8
ODZ	**Otahua Downs**	16.44	208		Pn	23 35 42.9	-1.4
FUNA	**Funafuti**	22.44	354	P	P	23 36 54.4	+1.7
FUNA				IAmb	IAmb	23 37 01.0	
	comp=Z,37nm,1.0s						
HNR	**Honiara**	29.38	312	LR	LR	23 47 31.8	
	comp=Z,524nm,18.2s,baz=64,slow=32						
PPTF	**Pamatai, Papee**	29.42	70	P	P	23 37 56.1	-1.4
PPTF				IAmb	IAmb	23 38 05.5	
	comp=Z,14nm,0.9s						
TOO	**Toolangi**	30.37	248	P	P	23 38 04.8	-0.9
TOO				IAmb	IAmb	23 38 13.0	
	comp=Z,5.0nm,1.1s						
CTAO	**Charters Tower**	33.50	280	P	P	23 38 34.0	+0.6
CTAO				IAmb	IAmb	23 38 40.6	
	comp=Z,4.0nm,0.7s						
STKA	**Stephens Creek**	33.96	258	P	P	23 38 37.3	0.0
STKA	**Stephens Creek**	33.96	258	P	P	23 38 37.3	0.0
	comp=Z,1.7nm,0.5s,baz=106,slow=11,SNR=5.3						
	comp=Z,1.7nm,0.5s						
BBOO	**Buckleboo**	38.43	255	P	P	23 39 13.9	-1.6
BBOO				IAmb	IAmb	23 39 14.8	
	comp=Z,6.5nm,0.8s						
PMG	**Port Moresby**	38.50	296	P	P	23 39 15.6	-0.5
PMG				IAmb	IAmb	23 39 32.2	
	comp=Z,11nm,1.0s						
COEN	**Coen**	39.05	287	P	P	23 39 23.6	+2.7
COEN				IAmb	IAmb	23 39 28.2	
	comp=Z,5.2nm,1.0s						
AS31	**Alice Springs**	42.68	268	P	P	23 39 50.5	-0.3
ASAR	**Alice Springs**	42.68	268	P	P	23 39 50.1	-0.7
ASAR	**Alice Springs**	42.68	268	P	P	23 39 50.5	-0.3
	comp=Z,8.9nm,0.7s,baz=104,slow=7.5,SNR=86						
	comp=Z,8.9nm,0.7s						
WR0	**Warramunga Arr**	43.54	273	P	P	23 39 58.0	+0.2
WR0				IAmb	IAmb	23 39 58.6	
	comp=Z,9.2nm,0.7s						
WB2	**Warramunga Arr**	43.71	273	P	P	23 39 59.3	+0.2
WRAB	**Tennant Creek**	43.72	273	P	P	23 39 58.9	-0.2
WRA	**Warramunga Arr**	43.72	273	P	P	23 39 59.2	0.0
WRA	**Warramunga Arr**	43.72	273	P	P	23 39 59.1	-0.1
	comp=Z,12nm,0.5s,baz=114,slow=7.7,SNR=92						
	comp=Z,12nm,0.5s						
WB0	**Warramunga Arr**	43.75	273	P	P	23 39 59.5	+0.1
FORT	**Forrest**	45.51	256	P	P	23 40 12.2	-1.2
FORT				IAmb	IAmb	23 40 18.9	
	comp=Z,14nm,0.9s						
SBA	**Scott Base**	47.44	184	P	P	23 40 29.6	+1.8
SBA				IAmb	IAmb	23 40 30.6	
	comp=Z,8.8nm,1.1s						
VNDA	**Vanda**	47.48	186	P	P	23 40 29.0	+0.8
VNDA	**Vanda**	47.48	186	P	P	23 40 30.5	+2.3
	comp=Z,0.3nm,0.5s,baz=26,slow=4.3,SNR=1.8						
	comp=Z,0.3nm,0.5s						
MTN	**Manton Dam**	49.68	280	P	P	23 40 46.5	+0.6
KNRA	**Kununurra**	50.35	275	P	P	23 40 49.8	-1.2
KNRA				IAmb	IAmb	23 40 52.1	
	comp=Z,7.4nm,0.7s						
FITZ	**Fitzroy Crossi**	51.96	271	P	P	23 41 02.2	-0.8
CASY	**Casey**	54.45	208	P	P	23 41 19.6	-1.1
CASY				IAmb	IAmb	23 41 22.0	
	comp=Z,5.4nm,0.8s						
PSA00	**Pilbara Seismi**	55.50	264	P	P	23 41 28.4	-0.6
PSA00				IAmb	IAmb	23 41 47.2	
	comp=Z,14nm,1.1s						
QSPA	**South Pole Qui**	59.14	180	P	P	23 41 55.0	+0.8
TROLL	**Troll, Antarti**	77.30	180	⇑P	P	23 43 47.2	-0.8
	comp=Z,124nm,0.6s						
VNA3	**Neumayer Olymp**	77.76	176	⇑P	P	23 43 48.9	-1.5
VNA2	**Neumayer--Watz**	78.19	177	⇑P	P	23 43 52.2	-0.5
	baz=153,slow=5.0						
MKAR	**Makanchi Array**	117.83	310	PKP	PKiKP	23 50 41.1	+1.1
	comp=Z,0.2nm,0.5s,baz=106,slow=0.3,SNR=4.3						
KURBB	**Kurchatov Arra**	121.19	313	PKP	PKiKP	23 50 47.2	+0.8
	comp=Z,0.7nm,0.4s,baz=101,slow=2.1,SNR=6.0						
BVAR	**Borovoye Array**	126.53	315	PKP	PKiKP	23 50 58.0	+1.0
	comp=Z,1.2nm,0.6s,baz=80,slow=3.3,SNR=5.5						
FINES	**FINESS Array B**	145.54	339	PKPbc	PKiKP	23 51 33.7	-1.6
	comp=Z,1.9nm,0.6s,baz=35,slow=5.3,SNR=16						
HFS	**Hagfors**	149.72	348	PKPbc	PKiKP	23 51 44.1	+0.1
	comp=Z,2.4nm,0.7s,baz=113,slow=3.7,SNR=8.0						
MMAI	**Mount Meron Ar**	151.27	283	PKPbc	PKPbc	23 51 47.2	-0.4
	comp=Z,2.5nm,0.6s,baz=83,slow=6.8,SNR=9.5						
AKASG	**Malin Array Be**	151.51	322	PKPbc	PKiKP	23 51 47.9	0.0
	comp=Z,0.2nm,0.4s,baz=37,slow=2.9,SNR=5.3						
BRTR	**Keskin Array B**	152.51	297	PKPbc	PKPbc	23 51 50.0	-0.3
	comp=Z,1.1nm,0.7s,baz=147,slow=3.7,SNR=5.1						
TORD	**Torodi Ar. Bea**	162.26	181	PKPab	PKPab	23 52 41.4	-1.5
	comp=Z,0.5nm,0.5s,baz=185,slow=2.1,SNR=6.8						

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*KRSC **10** 23:34:01.7±1.2,49.14N×156.14E,h37km±16km,Ml4.5*
*IDC **10** 23:34:03.7±4.5,49.45N×154.44E,h93km±49km,mb3.3/7, mbtmp3.6/8,MS3.4/3,Error ellipse: s-maj=140.6km s-min=22.7km az=127.0*
ISC 10 23:34:00.7±1.2,49.0N±0.1×155.5E±0.3,h51km,n26, σ1§45/21,mb3.6/7,MS3.4/3,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	1.71	14	eP	Pn	23 34 28.2	+0.1
SKR				eS	Sn	23 34 47.2	-1.5
PAU	**Pauzhetka**	2.59	19	eP	Pn	23 34 42.1	+2.0
PAU				eS	Sn	23 35 10.0	-0.3
KDTR	**Khodutka, Kamc**	3.25	30	eP	Pn	23 34 49.4	+0.3
KDTR				eS	Sn	23 35 23.9	-2.6
ASAK	**Asacha**	3.70	24	eP	Pn	23 34 56.5	+1.1
GRL	**Gorelyy**	3.90	24	eP	Pn	23 34 59.9	+1.8
GRL				eS	Sn	23 35 42.2	-0.5
PETK	**Petropavlovsk-**	4.32	18	P	Pn	23 35 05.4	+1.5
	7.8nm,0.6s,baz=184,slow=12,SNR=15						
DALK	**Dalny**	4.51	26	eS	Sn	23 35 57.0	-0.6
KOK	**Koryaka**	4.71	24	eP	Pn	23 35 12.3	+3.0
AVH	**Avacha**	4.72	25	eP	Pn	23 35 10.3	+1.0
SMAR	**Somma**	4.73	25	eP	Pn	23 35 10.8	+1.1
JOW	**Kunigami**	30.55	233	LR	LR	23 54 02.3	
	comp=Z,105nm,20.4s,baz=20,slow=40						
H11N2	**WAKE ISLAND Hy**	30.64	158	T	T	00 13 17.0	
	baz=346						
H11N1	**WAKE ISLAND Hy**	30.66	159	T	T	00 13 01.8	
	baz=346						
H11N3	**WAKE ISLAND Hy**	30.66	158	T	T	00 13 22.2	
	baz=346						
H11S1	**WAKE ISLAND Hy**	31.77	159	T	T	00 14 44.2	
	baz=346,slow=76,SNR=40						
H11S3	**WAKE ISLAND Hy**	31.78	159	T	T	00 14 39.9	
	baz=346,slow=76,SNR=50						
H11S2	**WAKE ISLAND Hy**	31.79	159	T	T	00 14 44.1	
	baz=346,slow=76,SNR=36						
ILAR	**Eielson Array**	33.78	41	P	P	23 40 36.4	-0.9
	0.6nm,0.8s,baz=264,slow=5.0,SNR=6.4						
	0.6nm,0.8s						
ZALV	**Zalesovo Beam**	42.59	305	LR	LR	00 01 34.0	
	comp=Z,28nm,20.3s,baz=56,slow=40						
MKAR	**Makanchi Array**	47.31	297	LR	LR	00 03 07.8	
	comp=Z,37nm,19.4s,baz=319,slow=38						
YKA	**Yellowknife Ar**	48.15	39	P	P	23 42 34.7	-0.5
	0.5nm,0.8s,baz=298,slow=7.5,SNR=7.1						
	0.5nm,0.8s						

NVAR **Mina Array Bea** 60.01 65 P P 23 44 03.4 +1.2
0.5nm,0.7s,baz=276,slow=7.3,SNR=3.6
0.5nm,0.7s

PDAR **Pinedale Array** 62.14 56 P P 23 44 17.4 +0.8
1.0nm,0.9s,baz=11,slow=1.5,SNR=6.5
1.0nm,0.9s

WRA **Warramunga Arr** 71.19 201 P P 23 45 12.5 -1.6
0.4nm,0.7s,baz=13,slow=5.8,SNR=3.4
0.4nm,0.7s

ASAR **Alice Springs** 74.88 200 P P 23 45 36.0 +0.1
0.2nm,0.5s,baz=23,slow=5.0,SNR=2.6
0.2nm,0.5s

TXAR **Lajitas Array** 75.02 63 P P 23 45 37.3 +0.4
0.6nm,0.6s,baz=291,slow=4.2,SNR=8.1
0.6nm,0.6s

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*IDC **11** 00:04:03.6±1.7,61.33N×150.80W,h0km,mb3.5/3, mbtmp3.4/5,ML2.9/2,Error ellipse: s-maj=27.5km s-min=20.5km az=116.0*
*AEIC **11** 00:04:04.9±2.4,61.587N±0.008×150.60W±0.02, h8km±5km,ML3.4,ML3.6/204(NEIC),Error ellipse: s-maj=1.8km s-min=0.8km az=58.0*
*NEIC **11** 00:04:05.2±2.5,61.58N±0.02×150.62W±0.03,h10km±1km, Error ellipse: s-maj=2.9km s-min=2.8km az=182.0*
ISC 11 00:04:05.6±0.8,61.58N±0.02×150.59W±0.02,h12km±5km, n312,σ1§05/310,mb3.8/3,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	0.14	212		Pg	00 04 08.7	-0.3
SUA				Sg	Sg	00 04 11.6	+0.2
SUA	**Susitna One**	0.14	212	P	Pg	00 04 08.9	-0.1
	baz=30						
SUA				S	Sg	00 04 11.7	+0.2
	baz=30						
M22K	**Willow**	0.28	52		Pg	00 04 11.0	-0.4
M22K				Sg	Sg	00 04 15.4	+0.1
M22K	**Willow**	0.28	52	P	Pg	00 04 11.0	-0.4
	baz=234						
M22K				S	Sg	00 04 15.5	+0.1
	baz=234						
FIS	**Fire Island**	0.47	157		Pg	00 04 14.6	-0.3
FIS				Sg	Sb	00 04 23.6	+0.9
STLK	**Strandline Lak**	0.60	263		Pg	00 04 16.4	-0.8
STLK					Sg	00 04 24.5	-0.7
SKT	**Skwentna**	0.60	312		Pg	00 04 16.3	-0.9
SKT				Sg	Sg	00 04 24.3	-0.8
SKT				IAML		00 04 24.7	
	comp=N,4μm,0.4s						
SKT				IAML		00 04 25.3	
	comp=E,3μm,0.4s						
SKT	**Skwentna**	0.60	312	P	Pg	00 04 16.4	-0.9
	baz=132						
SKT				S	Sg	00 04 24.4	-0.8
	baz=132						
RC01	**Rabbit Creek A**	0.64	140		Pg	00 04 17.5	-0.6
RC01				Sg	Sg	00 04 26.1	-0.3
RC01				IAML		00 04 29.9	
	comp=E,3μm,0.3s						
RC01				IAML		00 04 30.1	
	comp=N,3μm,0.3s						
RC01	**Rabbit Creek A**	0.64	140	P	Pg	00 04 17.4	-0.6
	baz=321						
RC01				S	Sg	00 04 26.2	-0.3
	baz=321						
PMR	**Palmer**	0.70	88		Pg	00 04 17.9	-1.2
PMR				Sg	Sg	00 04 27.6	-0.7
PMR	**Palmer**	0.70	88	P	Pg	00 04 17.9	-1.2
	baz=270						
PMR				S	Sg	00 04 27.8	-0.5
	baz=270						
SPCG	**Spurr Capps Gl**	0.74	248		Pg	00 04 19.1	-0.9
SPCG					Sg	00 04 29.0	-0.7
SPCP	**Crater Peak Br**	0.81	248		Sg	00 04 31.2	-0.8
GHO	**Glory Hole Cre**	0.82	76		Pg	00 04 20.1	-1.3
GHO				IAML		00 04 34.4	
	comp=N,2μm,0.4s						
GHO	**Glory Hole Cre**	0.82	76		Sg	00 04 31.8	-0.4
CUT	**Chulitna**	0.84	10		Pg	00 04 20.7	-1.2
CUT	**Chulitna**	0.84	10	P	Pg	00 04 20.7	-1.2
	baz=191						
SPCN	**Chakachatna No**	0.84	246		Sg	00 04 33.0	+0.1
CAPN	**Captain Cook N**	0.86	199		Pb	00 04 22.8	+0.4
CAPN	**Captain Cook N**	0.86	199	P	Pb	00 04 22.7	+0.4
	baz=18						
N20K	**Mount Spurr**	0.86	245	P	Pg	00 04 21.1	-1.2
	baz=63						
SPCR	**Spurr Chakacha**	0.86	245		Pg	00 04 21.1	-1.2
SPNN	**North Nagishla**	1.03	259		Pg	00 04 24.0	-1.4
KNK	**Knik Glacier**	1.04	98		Pg	00 04 24.2	-1.3
KNK	**Knik Glacier**	1.04	98		Sg	00 04 38.3	-0.8
KNK	**Knik Glacier**	1.04	98	IAML		00 04 39.1	
	comp=N,1μm,0.7s						
KNK				IAML		00 04 39.7	
	comp=E,1μm,0.2s						
KNK	**Knik Glacier**	1.04	98	P	Pg	00 04 24.2	-1.3
	baz=280						
KNK				S	Sg	00 04 38.3	-0.8
	baz=280						
SML	**Sawmill**	1.10	77		Pg	00 04 25.1	-1.7
SML				IAML		00 04 42.2	
	comp=E,1μm,0.4s						
SML	**Sawmill**	1.10	77	P	Pg	00 04 24.8	-2.0
	baz=259						
O22K	**Cooper Landing**	1.18	159		Pg	00 04 26.6	-1.7
O22K	**Cooper Landing**	1.18	159	P	Pg	00 04 26.5	-1.7
	baz=339						
M20K	**Styx River**	1.25	285		Pg	00 04 28.0	-1.5
M20K				IAML		00 04 45.0	
	comp=N,814nm,0.5s						
M20K				IAML		00 04 48.7	
	comp=E,860nm,0.6s						
M20K	**Styx River**	1.25	285	P	Pg	00 04 27.7	-1.8
	baz=103						
RDT	**Redoubt**	1.34	222		Pg	00 04 28.7	-2.6
M23K	**Glacier View**	1.38	80		Pn	00 04 29.7	-1.1
M23K					Sb	00 04 49.3	+0.3
M23K	**Glacier View**	1.38	80	P	Pn	00 04 29.8	-0.9
	baz=263						
M23K				S	Sb	00 04 49.3	+0.3
	baz=263						
RDJH	**Redoubt Jeurge**	1.46	228		Pn	00 04 30.8	-1.1
WAT7	**Susitna Watana**	1.50	32		Pn	00 04 31.5	-0.9
PPLA	**Purkeypile**	1.52	331		Pg	00 04 33.8	-0.9
PPLA	**Purkeypile**	1.52	331	P	Pn	00 04 32.3	-0.4
	baz=150						
NCT	**North Crescent**	1.53	229		Pn	00 04 31.8	-0.9
RSO	**Redoubt South**	1.54	224		Pn	00 04 32.5	-0.5
RED	**Redoubt Volcan**	1.57	223		Pn	00 04 32.7	-0.8
SCM	**Sheep Creek Mo**	1.58	79		Pn	00 04 31.5	-1.9
SCM				IAML		00 05 00.7	
	comp=E,718nm,0.5s						
SCM				IAML		00 05 00.8	
	comp=N,592nm,0.9s						
SCM	**Sheep Creek Mo**	1.58	79	P	Pn	00 04 32.7	-0.7
	baz=262						
WAT1	**Susitna Watana**	1.58	36		Pn	00 04 32.4	-1.0
WAT1	**Susitna Watana**	1.58	36	P	Pn	00 04 32.4	-1.0
	baz=218						
SEW	**Seward**	1.58	159		Pn	00 04 33.3	-0.1
SEW	**Seward**	1.58	159	P	Pn	00 04 32.6	-0.8
	baz=340						
WAT6	**Susitna Watana**	1.68	52		Pn	00 04 34.0	-0.9
WAT6	**Susitna Watana**	1.68	52	P	Pn	00 04 34.2	-0.7
	baz=235						
L20K	**Farewell, AK**	1.79	302		Pn	00 04 36.2	-0.1
L20K	**Farewell, AK**	1.79	302	P	Pn	00 04 36.2	-0.1
	baz=119						
O20K	**Slope Mountain**	1.80	214	P	Pn	00 04 37.0	+0.5
	baz=32						
BRLK	**Bradley Lake**	1.83	185		Pn	00 04 37.4	+0.6
GLI	**Glacier Island**	1.83	111		Pn	00 04 35.6	-1.3
GLI				IAML		00 05 03.8	
	comp=E,774nm,0.7s						
GLI				IAML		00 05 04.9	
	comp=N,700nm,0.3s						
GLI	**Glacier Island**	1.83	111	P	Pn	00 04 37.0	+0.2
	baz=294						
M19K	**Big River Lodg**	1.84	282		Pn	00 04 38.3	+1.4
M19K				IAML		00 05 04.0	
	comp=N,448nm,0.6s						
M19K	**Big River Lodg**	1.84	282	P	Pn	00 04 36.8	-0.1
	baz=98						
BRSE	**Bradley Lake S**	1.84	182		Pn	00 04 36.5	-0.5
	baz=2.1						
TRF	**Thorofare Moun**	1.88	4	Pn	Pn	00 04 37.2	-0.6
TRF				IAML		00 05 07.3	
	comp=E,562nm,0.5s						
TRF				IAML		00 05 12.1	
	comp=N,776nm,0.6s						
TRF	**Thorofare Moun**	1.88	4	P	Pn	00 04 38.4	+0.6
	baz=185						
ILW	**Iliamna West**	1.97	220		Pn	00 04 39.1	+0.3
CAST	**Castle Rocks**	1.97	340	Pn	Pb	00 04 41.1	-0.3
CAST				IAML		00 05 06.9	
	comp=E,426nm,0.7s						
CAST				IAML		00 05 07.6	
	comp=N,443nm,0.5s						
CAST	**Castle Rocks**	1.97	340	P	Pn	00 04 39.0	+0.1
	baz=159						
KTH	**Kantishna Hill**	1.99	356	Pn	Pn	00 04 37.4	-1.7
KTH				IAML		00 05 08.3	
	comp=E,359nm,0.7s						
KTH				IAML		00 05 15.2	
	comp=N,540nm,0.9s						
HOM	**Homer**	2.00	195		Pn	00 04 36.8	-2.3
RND	**Reindeer**	2.00	23	Pn	Pn	00 04 38.1	-1.2
RND				IAML		00 05 10.6	
	comp=E,387nm,0.8s						
RND				IAML		00 05 12.0	
	comp=N,560nm,0.9s						
ILSW	**Iliamna Southw**	2.03	219		Pn	00 04 41.0	+1.3
ILSW				IAML		00 05 10.3	
	comp=E,464nm,0.6s						
N19K	**Bonanza Creek**	2.03	250		Pb	00 04 41.8	-0.7
N19K				IAML		00 05 10.6	
	comp=N,597nm,0.6s						
N19K				IAML		00 05 12.1	
	comp=E,554nm,0.6s						
N19K	**Bonanza Creek**	2.03	250	P	Pn	00 04 40.0	+0.3
	baz=66						
CNPM	**China Poot**	2.08	189		Pn	00 04 38.9	-1.4
CNPM				IAML		00 05 18.1	
	comp=E,355nm,0.4s						
L19K	**White Mountain**	2.11	289	Pn	Pn	00 04 39.5	-1.2
L19K				IAML		00 05 12.6	
	comp=E,380nm,0.5s						
L19K	**White Mountain**	2.11	289	P	Pn	00 04 40.9	+0.2
	baz=105						
DHY	**Denali Highway**	2.12	44		Pn	00 04 39.6	-1.4
DHY				IAML		00 05 12.9	
	comp=N,388nm,0.8s						
DHY				IAML		00 05 18.6	
	comp=E,385nm,0.5s						
DHY	**Denali Highway**	2.12	44	P	Pn	00 04 41.1	+0.1
	baz=227						
FID	**Port Fidalgo**	2.16	111		Pn	00 04 41.9	+0.5
FID				IAML		00 05 12.7	
	comp=E,411nm,0.5s						
FID				IAML		00 05 14.3	
	comp=N,377nm,0.6s						
M24K	**Tolsona, Glenn**	2.16	74		Pb	00 04 44.4	-0.3
M24K	**Tolsona, Glenn**	2.16	74	P	Pn	00 04 42.4	+1.0
	baz=258						
P23K	**Montague Islan**	2.23	134		Pn	00 04 42.2	-0.1
P23K	**Montague Islan**	2.23	134	P	Pn	00 04 42.6	+0.3
	baz=317						
KLU	**Klutina**	2.24	90		Pn	00 04 42.7	+0.1
KLU				IAML		00 05 16.1	
	comp=N,359nm,0.4s						
KLU	**Klutina**	2.24	90	P	Pn	00 04 43.1	+0.6
	baz=274						
O19K	**Port Alsworth**	2.29	234	Pn	Pn	00 04 40.6	-2.5
O19K				Pg	Pb	00 04 46.3	-0.5
O19K	**Port Alsworth**	2.29	234	P	Pn	00 04 43.9	+0.8
	baz=51						
MCK	**McKinley**	2.29	19		Pn	00 04 41.7	-1.5
MCK	**McKinley**	2.29	19	P	Pn	00 04 44.4	+1.1
	baz=200						
HIN	**Hinchinbrook I**	2.32	119		Pn	00 04 44.5	+0.9
HIN				IAML		00 05 22.9	
	comp=N,402nm,1.1s						
HIN				IAML		00 05 30.8	
	comp=E,384nm,1.0s						
P19K	**Oil Pt**	2.33	215		Pn	00 04 44.8	+1.1
P19K	**Oil Pt**	2.33	215	P	Pn	00 04 45.1	+1.3
	baz=33						
DIV	**Divide**	2.37	99		Pn	00 04 42.3	-1.9
K20K	**Telida**	2.41	319		Pn	00 04 44.6	-0.1
K20K				IAML		00 05 22.8	
	comp=E,257nm,0.8s						
K20K	**Telida**	2.41	319	P	Pn	00 04 44.8	0.0
	baz=136						
CHUM	**Lake Minchumin**	2.44	342		Pn	00 04 45.2	-0.1
CHUM	**Lake Minchumin**	2.44	342	P	Pn	00 04 45.4	+0.1
	baz=160						
SVW2	**Sparrevohn**	2.45	261	Pn	Pn	00 04 45.2	-0.2
SVW2				IAML		00 05 23.0	
	comp=N,376nm,0.5s						
SVW2				IAML		00 05 26.0	
	comp=E,319nm,0.6s						
M18K	**Stony River**	2.51	270		Pn	00 04 45.9	-0.3
M18K	**Stony River**	2.51	270	P	Pn	00 04 45.8	-0.3
	baz=86						
BPAW	**Bear Paw Mtn.**	2.54	356	Pn	Pn	00 04 46.5	-0.1
BPAW	**Bear Paw Mtn.**	2.54	356	P	Pn	00 04 46.3	-0.3
	baz=176						
EYAK	**Cordova Ski Ar**	2.57	112	Pn	Pn	00 04 48.1	+1.1
EYAK	**Cordova Ski Ar**	2.57	112	P	Pn	00 04 47.4	+0.4
	baz=296						
BWN	**Browne**	2.65	11		Pg	00 04 55.1	-1.3
HARP	**HAARP**	2.69	70	P	Pn	00 04 51.4	+2.6
	baz=255						
N18K	**Kilae Creek**	2.72	253		Pn	00 04 49.0	-0.2
N18K	**Kilae Creek**	2.72	253	P	Pn	00 04 48.9	-0.2
	baz=68						
PAX	**Paxson**	2.77	58	Pg	Pb	00 04 53.2	-1.9
PAX	**Paxson**	2.77	58	P	Pn	00 04 51.0	+1.2
	baz=242						
O18K	**Koktuh Hills**	2.85	235		Pn	00 04 50.9	+0.1
O18K				IAML		00 05 35.2	
	comp=E,212nm,0.4s						
O18K				IAML		00 05 36.4	
	comp=N,287nm,0.8s						
O18K	**Koktuh Hills**	2.85	235	P	Pn	00 04 51.0	+0.1
	baz=50						
N25K	**Chitina, Valde**	2.87	87		Pn	00 04 51.9	+0.8
N25K	**Chitina, Valde**	2.87	87	P	Pn	00 04 52.1	+1.0
	baz=272						
TTA	**Tatalina**	2.87	301		Pn	00 04 51.0	-0.3
TTA				IAML		00 05 36.6	
	comp=E,213nm,0.7s						
TTA				IAML		00 05 38.6	
	comp=N,299nm,1.0s						
TTA	**Tatalina**	2.87	301	P	Pn	00 04 50.9	-0.3
	baz=116						
L18K	**Granite Mounta**	2.96	285		Pn	00 04 52.1	-0.1
L18K				IAML		00 05 43.8	
	comp=N,137nm,0.8s						
L18K	**Granite Mounta**	2.96	285	P	Pn	00 04 52.1	-0.1
	baz=100						
BMRM	**Bremner River**	2.96	99		Pn	00 04 52.8

P18K **Big Mountain,** 3.17 228 P Pn 00 04 56.0 +0.7
baz=44
GLB **Gilahina Butte** 3.25 89 Pn 00 04 58.9 +2.4
M17K **Holitna River** 3.29 270 Pn 00 04 56.9 +0.1
M17K **Holitna River** 3.29 270 P Pn 00 04 56.6 -0.2
baz=84
HDA **Harding Lake** 3.29 29 Pn 00 04 58.2 +1.3
HDA IAML 00 05 49.4
comp=E,179nm,0.8s
HDA **Harding Lake** 3.29 29 P Pn 00 04 58.0 +1.1
baz=212
HDA P Pn 00 04 58.0 +1.1
baz=212
CCB **Clear Creek Bu** 3.33 21 Pn 00 04 57.7 +0.3
J19K **Poorman** 3.35 319 Pn Pn 00 04 57.9 +0.2
J19K IAML 00 05 54.9
comp=E,129nm,0.8s
J19K IAML 00 05 58.1
comp=N,160nm,0.7s
J19K **Poorman** 3.35 319 P Pn 00 04 57.7 0.0
baz=134
N17K **Nushagak Hills** 3.38 255 Pn Pn 00 04 57.8 -0.3
N17K IAML 00 05 55.9
comp=E,140nm,0.6s
N17K IAML 00 05 59.7
comp=N,136nm,0.9s
N17K **Nushagak Hills** 3.38 255 P Pn 00 04 57.6 -0.4
baz=69
J18K **Innoko River** 3.41 306 Pn Pn 00 04 58.8 +0.3
J18K IAML 00 05 59.2
comp=N,93nm,0.7s
J18K **Innoko River** 3.41 306 P Pn 00 04 58.9 +0.3
baz=121
RIDG **Independent Ri** 3.42 48 Pn 00 05 01.9 +3.1
RIDG IAML 00 05 53.3
comp=N,176nm,1.2s
VRDI **Verde Repeater** 3.45 93 Pn 00 04 59.5 +0.2
KAIM **Kayak Island** 3.45 116 Pg Pg 00 05 09.9 -1.8
KAIM IAML 00 06 09.2
comp=E,113nm,1.3s
KAIM IAML 00 06 27.4
comp=N,132nm,1.4s
MLY **Manley** 3.47 359 Pn Pn 00 04 58.7 -0.7
MLY **Manley** 3.47 359 P Pn 00 04 59.7 +0.3
baz=179
MENT **Mentasta** 3.49 64 Pn 00 05 02.1 +2.4
COLA **College** 3.53 19 Pn 00 05 01.9 +1.8
MDM **Murphy Dome** 3.56 16 Pn Pn 00 05 01.4 +0.8
MDM IAML 00 06 02.2
comp=E,128nm,0.9s
BERG **Berg Lake** 3.56 106 Pn 00 05 02.5 +1.8
IL31 3.62 26 Pn 00 05 01.3 0.0
ILAR **Eielson Array** 3.62 26 Pn 00 05 01.8 +0.5
ILAR **Eielson Array** 3.62 26 Pn Pn 00 05 02.5 +1.1
comp=E,2.2nm,0.3s,baz=210,slow=15,SNR=106
ILAR Sn Sn 00 05 46.1 +2.1
comp=E,3.9nm,0.3s,baz=205,slow=17,SNR=5.6
comp=E,10nm,0.4s
IL03 **Eielson Array** 3.62 26 Pn Pn 00 05 02.4 +0.9
I23K **Minto, Yukon-K** 3.63 8 Pn 00 05 01.7 +0.3
I23K IAML 00 06 05.6
comp=N,156nm,0.7s
I23K **Minto, Yukon-K** 3.63 8 P Pn 00 05 01.6 +0.1
baz=189
MCARA **McCarthy VSAT** 3.64 90 Pn 00 05 04.1 +2.5
MCARA IAML 00 06 08.7
comp=E,155nm,0.9s
O17K **Koliganek Bris** 3.67 243 Pn 00 05 02.2 0.0
O17K **Koliganek Bris** 3.67 243 P Pn 00 05 02.2 0.0
baz=58
I20K **Naaghedeneel** 3.68 333 Pn 00 05 01.8 -0.3
I20K **Naaghedeneel** 3.68 333 P Pn 00 05 02.6 +0.4
baz=150
M26K **Nabesna, AK** 3.68 74 Pn 00 05 03.0 +0.7
M26K IAML 00 06 05.9
comp=N,141nm,0.5s
M26K IAML 00 06 07.1
comp=E,86nm,0.5s
L26K **Log Cabin Wild** 3.68 64 Pn Pn 00 05 03.8 +1.5
L26K IAML 00 06 01.6
comp=N,146nm,0.8s
L17K **Donlin** 3.69 282 Pn 00 05 02.2 -0.2
L17K **Donlin** 3.69 282 P Pn 00 05 02.2 -0.2
baz=95
CRQM **Cirque** 3.71 100 Pn 00 05 01.7 -1.1
CRQM IAML 00 06 04.6
comp=E,108nm,0.7s
CRQM IAML 00 06 10.6
comp=N,117nm,1.1s
CRQE **Cirque** 3.73 100 P Pn 00 05 04.4 +1.4
baz=286
KHIT **Khitrov Hills** 3.75 104 Pn 00 05 04.7 +1.3
P17K **Kvichak River** 3.76 233 Pn 00 05 04.4 +1.1
P17K **Kvichak River** 3.76 233 P Pn 00 05 04.4 +1.1
baz=48
K17K **Iditarod** 3.79 291 Pn Pn 00 05 02.2 -1.6
K17K **Iditarod** 3.79 291 P Pn 00 05 03.5 -0.2
baz=104
POKR **Poker Plat Res** 3.83 20 Pn 00 05 02.8 -1.5
POKR IAML 00 06 09.7
comp=N,80nm,0.7s
POKR IAML 00 06 12.3
comp=E,90nm,0.7s
POKR **Poker Plat Res** 3.83 20 P Pn 00 05 04.7 +0.5
baz=203
TGL **Tana Glacier** 3.85 99 Pn 00 05 02.7 -2.0
TGL IAML 00 06 03.8
comp=N,93nm,0.8s
TGL IAML 00 06 07.9
comp=E,94nm,0.5s
J25K **Salcha River,** 3.86 36 Pn 00 05 03.9 -0.9
J25K IAML 00 06 06.1
comp=N,73nm,0.8s
J25K IAML 00 06 10.5
comp=E,95nm,1.0s
J25K **Salcha River,** 3.86 36 P Pn 00 05 05.4 +0.6
baz=220
SCRK **Sand Creek** 3.87 49 Pn Pn 00 05 06.3 +1.3
SCRK IAML 00 06 09.8
comp=E,115nm,0.6s
SCRK IAML 00 06 09.8
comp=N,84nm,0.7s
SCRK **Sand Creek** 3.87 49 P Pn 00 05 06.7 +1.7
baz=235
PTPK **Patty Peak** 3.93 92 Pn 00 05 07.4 +1.5
WAX **Waxell Ridge** 3.94 103 Pn 00 05 06.1 +0.3
WAX IAML 00 06 21.4
comp=E,95nm,1.0s
KDAK **Kodiak Island** 3.94 196 Pn 00 05 03.7 -2.1
KAKN **Katmai Knife C** 3.99 216 Pn 00 05 08.2 +1.6
KIAG **Kiagna River** 4.03 96 Pn 00 05 07.6 +0.4
SNH **Sunshine Point** 4.04 107 Pn Pn 00 05 06.3 -0.9
SNH IAML 00 06 20.8
comp=E,57nm,1.2s
SNH IAML 00 06 28.1
comp=N,89nm,1.4s
KABU **Katmai Buttres** 4.07 217 Pn 00 05 09.3 +1.6
M16K **Timber Creek** 4.07 266 Pn Pn 00 05 06.9 -0.7
M16K IAML 00 06 17.7
comp=N,78nm,0.9s
M16K IAML 00 06 21.9
comp=E,79nm,1.4s
M16K **Timber Creek** 4.07 266 P Pn 00 05 07.6 -0.1
baz=78
N16K **Nishlik Lake** 4.13 258 Pn 00 05 08.7 +0.2
N16K **Nishlik Lake** 4.13 258 P Pn 00 05 08.7 +0.2
baz=71
M27K **Edge Creek, AK** 4.19 75 Pn 00 05 11.4 +2.1
M27K **Edge Creek, AK** 4.19 75 IAML 00 06 26.3
comp=N,55nm,1.2s
M27K **Edge Creek, AK** 4.19 75 P Pn 00 05 10.9 +1.6
baz=263
ANCK **Angle Creek** 4.19 218 Pn 00 05 11.0 +1.6
O16K **Kokwok River B** 4.20 245 Pn 00 05 09.6 +0.2
O16K **Kokwok River B** 4.20 245 IAML 00 06 21.8
comp=E,95nm,0.5s
O16K **Kokwok River B** 4.20 245 P Pn 00 05 09.6 +0.2
baz=58
H21K **Melozitna Rive** 4.21 347 Pn 00 05 09.8 +0.2
H21K **Melozitna Rive** 4.21 347 IAML 00 06 28.4
comp=N,59nm,0.8s
H21K IAML 00 06 29.1
comp=E,57nm,0.9s
H21K **Melozitna Rive** 4.21 347 P Pn 00 05 09.8 +0.2
baz=166
L16K **Owhat River** 4.24 276 Pn 00 05 09.7 -0.2
L16K **Owhat River** 4.24 276 IAML 00 06 23.5
comp=N,77nm,0.8s
L16K IAML 00 06 27.0
comp=E,59nm,1.2s
L16K **Owhat River** 4.24 276 P Pn 00 05 09.6 -0.2
baz=88
CNTC **Contact Creek** 4.26 221 Pn 00 05 11.1 +0.8
Q17K **Contact Creek** 4.26 221 P Pn 00 05 10.5 +0.2
baz=36
GCSA **Galena City Sc** 4.27 321 Pn 00 05 10.7 +0.4
GCSA **Galena City Sc** 4.27 321 P Pn 00 05 10.7 +0.4
baz=135
BARN **Barnard Glacie** 4.34 93 Pn 00 05 12.3 +0.9
BARN **Barnard Glacie** 4.34 93 IAML 00 06 18.3
comp=E,45nm,0.5s
J26L **Joseph Creek** 4.34 44 Pn 00 05 13.0 +1.6
J26L **Joseph Creek** 4.34 44 IAML 00 06 09.4
comp=E,76nm,0.8s
J26L **Joseph Creek** 4.34 44 P Pn 00 05 13.0 +1.6
baz=231
H22K **Ishtalitna Cre** 4.35 356 Pn 00 05 11.6 +0.2
H22K **Ishtalitna Cre** 4.35 356 P Pn 00 05 11.6 +0.2
baz=175
L27K **Beaver Creek,** 4.35 66 Pn 00 05 13.6 +2.1
L27K **Beaver Creek,** 4.35 66 P Pn 00 05 13.3 +1.8
baz=254
GRNC **Granite Creek** 4.37 97 Pn 00 05 12.8 +1.0
GRNC **Granite Creek** 4.37 97 IAML 00 06 27.6
comp=N,48nm,0.7s
H20K **Anotleneega Mo** 4.37 336 Pn 00 05 12.4 +0.7
H20K **Anotleneega Mo** 4.37 336 P Pn 00 05 12.4 +0.7
baz=152
H24K **Noodor Dome** 4.44 15 Pn 00 05 13.5 +0.7
H24K **Noodor Dome** 4.44 15 IAML 00 06 31.3
comp=E,52nm,1.1s
H24K **Noodor Dome** 4.44 15 P Pn 00 05 13.5 +0.7
baz=197
P16K **Nushagak River** 4.48 238 Pn 00 05 14.1 +0.9
P16K **Nushagak River** 4.48 238 P Pn 00 05 14.0 +0.9
baz=52
CTG **Chitina Glacier** 4.51 94 P Pn 00 05 14.8 +1.1
baz=282
CTGM **Chitina Glacie** 4.51 94 Pn 00 05 15.2 +1.4
CTGM **Chitina Glacie** 4.51 94 IAML 00 06 30.2
comp=N,44nm,1.4s
K27K **Chicken** 4.62 54 Pn 00 05 16.7 +1.6
K27K **Chicken** 4.62 54 IAML 00 06 33.1
comp=E,41nm,0.8s
K27K IAML 00 06 33.4
comp=N,47nm,0.8s
K27K **Chicken** 4.62 54 P Pn 00 05 16.7 +1.6
baz=242
YUK2 **White River** 4.65 83 Pn 00 05 17.3 +1.6
LOGN **Logan Glacier** 4.70 95 Pn 00 05 17.1 +0.7
LOGN **Logan Glacier** 4.70 95 IAML 00 06 31.1
comp=E,41nm,1.2s
H19K **Roundabout Mou** 4.75 329 Pn 00 05 17.2 +0.3
H19K **Roundabout Mou** 4.75 329 IAML 00 06 41.3
comp=N,63nm,0.8s
H19K IAML 00 06 43.8
comp=E,58nm,1.0s
H19K **Roundabout Mou** 4.75 329 P Pn 00 05 17.2 +0.3
baz=144
YUK3 **Moose Creek** 4.83 83 Pn 00 05 19.6 +1.3
YUK3 **Moose Creek** 4.83 83 P Pn 00 05 19.6 +1.3
baz=272
N15K **Kwethluk River** 4.85 257 Pn 00 05 18.6 +0.2
N15K **Kwethluk River** 4.85 257 P Pn 00 05 18.6 +0.2
baz=69
J16K **Anvik River** 4.95 295 Pn 00 05 19.8 +0.1
J16K **Anvik River** 4.95 295 IAML 00 06 45.5
comp=N,44nm,1.1s
J16K IAML 00 06 49.0
comp=E,35nm,1.0s
J16K **Anvik River** 4.95 295 P Pn 00 05 19.8 +0.1
baz=106
M15K **Kasigluk River** 4.97 264 Pn 00 05 19.9 0.0
M15K **Kasigluk River** 4.97 264 P Pn 00 05 19.9 0.0
baz=75
H18K **Honhosa River** 5.01 319 Pn 00 05 20.9 +0.4
H18K **Honhosa River** 5.01 319 IAML 00 06 49.8
comp=E,36nm,1.0s
H18K IAML 00 06 53.0
comp=N,40nm,1.4s
H18K **Honhosa River** 5.01 319 P Pn 00 05 20.9 +0.4
baz=132
I26K **Coal Creek Min** 5.01 39 Pn 00 05 22.0 +1.5
I26K **Coal Creek Min** 5.01 39 P Pn 00 05 21.6 +1.1
baz=225
G21K **Allakaket** 5.12 347 Pn 00 05 22.7 +0.7
G21K **Allakaket** 5.12 347 IAML 00 06 55.8
comp=N,35nm,0.7s
G21K IAML 00 07 03.1
comp=E,40nm,1.3s
G21K **Allakaket** 5.12 347 P Pn 00 05 22.7 +0.7
baz=164
O15K **Ungalikthiuk R** 5.17 246 Pn 00 05 23.2 +0.5
O15K **Ungalikthiuk R** 5.17 246 P Pn 00 05 23.2 +0.5
baz=58
I17K **Unalakleet** 5.19 301 Pn 00 05 23.4 +0.5
I17K **Unalakleet** 5.19 301 IAML 00 06 52.6
comp=N,26nm,1.1s
I17K **Unalakleet** 5.19 301 P Pn 00 05 23.4 +0.5
baz=112
L15K **Ungalak Mounta** 5.20 276 Pn 00 05 23.5 +0.4
L15K **Ungalak Mounta** 5.20 276 P Pn 00 05 23.6 +0.6
baz=86
K15K **Wolf Creek Mou** 5.21 283 Pn 00 05 23.4 +0.1
K15K **Wolf Creek Mou** 5.21 283 IAML 00 07 01.3
comp=N,25nm,1.0s
K15K IAML 00 07 01.8
comp=E,25nm,1.2s
K15K **Wolf Creek Mou** 5.21 283 P Pn 00 05 23.4 +0.1
baz=93
H17K **Granite Mounta** 5.39 313 Pn 00 05 26.2 +0.5
H17K **Granite Mounta** 5.39 313 IAML 00 07 10.7
comp=E,34nm,1.0s
H17K **Granite Mounta** 5.39 313 P Pn 00 05 26.2 +0.5
baz=124
G19K **Purcell Mounta** 5.40 331 Pn 00 05 26.5 +0.6
G19K **Purcell Mounta** 5.40 331 IAML 00 07 10.5
comp=E,29nm,0.9s
G19K **Purcell Mounta** 5.40 331 P Pn 00 05 26.5 +0.6
baz=145
G25K **Bearman Lake** 5.56 19 Pn 00 05 29.6 +1.5
G25K **Bearman Lake** 5.56 19 P Pn 00 05 29.6 +1.5
baz=203
M14K **Bethel** 5.56 266 Pn 00 05 28.4 +0.3
M14K **Bethel** 5.56 266 P Pn 00 05 28.4 +0.3
baz=76
BCPM **Bancas Point** 5.61 102 Pn 00 05 28.8 0.0
G18K **Tagagawik** 5.62 324 Pn 00 05 29.3 +0.5
G18K **Tagagawik** 5.62 324 P Pn 00 05 29.3 +0.5
baz=137
N14K **Kuskokwak Cree** 5.69 258 Pn 00 05 30.1 +0.4
N14K **Kuskokwak Cree** 5.69 258 P Pn 00 05 30.1 +0.4
baz=68
O14K **Tigyukauivet M** 5.78 251 Pn 00 05 31.8 +0.8
O14K **Tigyukauivet M** 5.78 251 P Pn 00 05 31.8 +0.8
baz=62
M29M **Somme Creek** 5.78 76 Pn 00 05 33.0 +1.9
M29M **Somme Creek** 5.78 76 P Pn 00 05 32.6 +1.4
baz=267
L14K **Kuka Creek** 5.80 273 Pn 00 05 32.3 +1.0
L14K **Kuka Creek** 5.80 273 P Pn 00 05 32.3 +1.0
baz=82
G17K **Kiwalik Mounta** 5.97 316 Pn 00 05 34.1 +0.4
G17K **Kiwalik Mounta** 5.97 316 P Pn 00 05 34.5 +0.8
baz=127
L29M **L29M** 6.00 70 Pn 00 05 35.4 +1.2
L29M **L29M** 6.00 70 P Pn 00 05 35.4 +1.2
baz=261
F17K **Baldwin Pennin** 6.76 321 Pn 00 05 45.2 +0.8
F17K **Baldwin Pennin** 6.76 321 P Pn 00 05 45.8 +1.4
baz=131
E25K **Arctic Village** 6.91 16 Pn Pn 00 05 48.1 +1.6
O30N **Mendenhall** 7.06 90 Pn Pn 00 05 49.1 +0.4
N31M **Braeburn, Yuko** 7.08 84 Pn Pn 00 05 48.3 -0.7
TOLK **Toolik Lake Re** 7.11 3 Pn Pn 00 05 52.3 +3.0
TOLK **Toolik Lake Re** 7.11 3 P Pn 00 05 51.1 +1.9
baz=184
ANM **Nome** 7.34 300 Pn Pn 00 05 53.5 +1.0
E17K **Hotham Inlet** 7.36 323 Pn 00 05 53.3 +0.7
E17K **Hotham Inlet** 7.36 323 P Pn 00 05 53.6 +0.9
baz=133
YKA **Yellowknife Ar** 16.77 71 Pn Pn 00 07 59.5 -0.4
baz=282,slow=11,SNR=2.4
comp=E,0.2nm,0.8s
PDAR **Pinedale Array** 30.70 109 P P 00 10 21.4 +1.1
comp=E,0.2nm,0.7s,baz=324,slow=4.5,SNR=2.0
comp=E,0.2nm,0.7s
SONM **Songino Array** 54.81 307 P P 00 13 35.6 +0.5
comp=E,0.9nm,0.8s,baz=30,slow=7.7,SNR=4.4
comp=E,0.9nm,0.8s
EKA **Eskdalemuir Ar** 60.64 21 P P 00 14 15.7 -0.1
comp=E,0.3nm,0.4s,baz=324,slow=5.6,SNR=4.6
comp=E,0.3nm,0.4s

OMAN 11 00:07:38.3±0.0, 24°.86N×60°.22E, h10km, ml2.4/1, Error ellipse: s-maj=1.1km s-min=0.7km az=311.0, Gulf of Oman

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NGCH	**Negor - Chabah** SNR=25	**0.96**	**59**	P	Pn	00 07 57.5	-0.4
NGCH				S	Sn	00 08 12.7	+1.1
WSAR	**Wadi Sarin**	**2.17**	**222**	P	Pn	00 08 15.5	+0.9
WSAR				S	Sn	00 08 40.6	-1.0
JASK	**Jask - Hormozg**	**2.35**	**296**	P	Pn	00 08 15.8	-1.2
WBK	**Wadi Bani Khal** SNR=10	**2.52**	**207**	P	Pn	00 08 21.1	+1.8
WBK				S	Sn	00 08 51.5	+1.4
SMDO	**Samad**	**2.68**	**228**	P	Pn	00 08 22.2	+0.6
SMDO				S	Sn	00 08 53.9	-0.2
JLN	**Jalan Bani Buh** SNR=8.2	**2.80**	**196**	P	Pn	00 08 24.7	+1.5
JLN				S	Sn	00 08 56.2	-0.9
JMDO	**Jabal Madar** SNR=8.7	**3.15**	**218**	P	Pn	00 08 27.3	-0.7
JMDO				S	Sn	00 09 04.5	-1.2
SOHO	**SOHO**	**3.44**	**259**	P	Pn	00 08 32.9	+1.0
SOHO				S	Sn	00 09 11.9	-0.8
BSY	**Bisya**	**3.48**	**233**	P	Pn	00 08 34.0	+1.4
BSY				S	Sn	00 09 14.8	+1.0
UOSS	**Minazif**	**3.65**	**272**	P	Pn	00 08 35.5	+0.6
ARQ	**Araqi**	**3.71**	**247**	P	Pn	00 08 36.9	+1.3
HATD	**Hatta, Dubai**	**3.72**	**270**	P	Pn	00 08 35.1	-0.7
ASHO	**Ashiyiah**	**3.79**	**268**	P	Pn	00 08 36.7	-0.2
ASHO				S	Sn	00 09 18.7	-2.8
SHME	**Shamm**	**3.87**	**289**	P	Pn	00 08 36.3	-1.6
SHME				S	Sn	00 09 22.6	-0.9
MHTO	**MHTO**	**4.38**	**209**	P	Pn	00 08 45.5	+0.6
MHTO				S	Sn	00 09 34.1	-1.9
ABTO	**Aybut**	**9.88**	**222**	P	Pn	00 10 01.5	+1.0
AAK	**Ala-Archa**	**21.28**	**30**	P	P	00 12 23.7	-1.4
KMBO	**Kilima Mbogo**	**34.10**	**224**	P	P	00 14 22.4	-1.3
FOMA	**Nahampoana Res**	**51.18**	**195**	P	P	00 16 40.7	-1.0

*NEIC **11** 00:13:34.3±0.7, 19°.52N±0°.02×154°.77W±0°.04, h10km±2km, Error ellipse: s-maj=7.0km s-min=3.1km az=288.0*

HVO 11 00:13:36.1±1.1, 19°.46N±0°.02×154°.88W±0°.03, h2km±9km, ML2.5/7, ML2.5/28(NEIC), Error ellipse: s-maj=4.3km s-min=2.0km az=126.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.02**	**339**		Pg	00 13 37.9	+1.1
JOKA	**Jonika Flow**	**0.12**	**257**		Pg	00 13 39.1	+0.6
JOKA					Sg	00 13 43.2	+3.1
JCUZ	**Jacuzzi**	**0.22**	**250**	Pg	Pg	00 13 40.1	-0.4
NPOC	**North of Pu'u**	**0.23**	**253**	Pg	Pg	00 13 40.2	-0.3
STCH	**Steam Cracks**	**0.24**	**252**	Pg	Pg	00 13 41.0	+0.2
PUH	**Pauahi**	**0.33**	**255**	Pg	Pg	00 13 42.5	0.0
PUH				IAML		00 13 52.0	
comp=N,416nm,1.4s							
RSD	**Rainshed**	**0.37**	**270**		Pg	00 13 43.7	+0.3
RSD					Sg	00 13 49.7	+1.5
RSD				IAML		00 13 51.5	
comp=E,535nm,0.4s							
RSD				IAML		00 13 52.0	
comp=N,447nm,0.2s							
HLP	**Hilina Pali**	**0.43**	**248**		Pg	00 13 45.1	+0.6
HLP				IAML		00 13 47.0	
comp=E,657nm,4.6s							
HLP				IAML		00 14 00.5	
comp=N,426nm,0.7s							
MLH	**Mauna Loa**	**0.48**	**274**		Pg	00 13 45.8	+0.4
MLH				IAML		00 13 53.6	
comp=E,265nm,0.3s							
MLH				IAML		00 13 56.8	
comp=N,324nm,0.9s							
HTC	**Hot Caves**	**0.54**	**246**		Pg	00 13 46.8	+0.4
HMH	**Humu'ula Sheep**	**0.58**	**284**		Pg	00 13 47.7	+0.3
MLOA	**Mauna Loa Obse**	**0.66**	**277**	Pg	Pg	00 13 47.6	-1.2
MLOA				IAML		00 14 08.0	
comp=N,194nm,2.6s							
MLOA				IAML		00 14 08.4	
comp=E,288nm,4.0s							
MWH	**Moku'aweowe**	**0.68**	**272**		Pg	00 13 49.0	-0.1
MWH				IAML		00 14 09.3	
comp=N,315nm,2.8s							
KHU	**Kahuku**	**0.72**	**253**		Pg	00 13 50.0	-0.1
KHU				IAML		00 14 07.2	
comp=N,244nm,3.5s							
HUH	**Hualalai**	**0.93**	**284**		Pg	00 13 53.9	-0.1
HPAH	**Hawaii Prepara**	**0.95**	**307**	Pg	Pg	00 13 52.0	-2.5
HPAH				IAML		00 13 59.7	
comp=E,171nm,4.0s							
HPAH				IAML		00 14 22.4	
comp=N,172nm,4.1s							
KHLU	**Kahalu`u**	**0.96**	**278**		Pg	00 13 54.5	-0.2
KHLU				IAML		00 14 28.0	
comp=N,181nm,3.4s							

*IDC **11** 00:14:27.9±0.8, 67°.20N×21°.00E, h0km, mbtmp3.4/6, ML2.5/5, Error ellipse: s-maj=13.2km s-min=6.2km az=112.0*

*UPP **11** 00:14:28.0±0.1, 67°.19N×20°.66E, h0km, ML2.6, Suspected explosion*

*HEL **11** 00:14:28.6±0.0, 67°.19N×20°.65E, h1km, ML2.4, ML2.6(UPP), Confirmed Induced event*

ISC 11 00:14:26.5±0.7, 67°.20N±0°.02×20°.75E±0°.03, h0km, n36, σ0s99/49, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.11**	**221**	P	**Pg**	**00 14 29.8**	**+1.2**
DUNU				S	**Sg**	**00 14 31.1**	**+1.1**
DUNU	**Dundret**	**0.11**	**221**	*i* P	**Pg**	**00 14 29.8**	**+1.2**
DUNU				*i* S	**Sg**	**00 14 31.1**	**+1.1**
MASU	**Masugnsbyn**	**0.55**	**62**	P	**Pb**	**00 14 39.3**	**+0.3**
MASU				S	**Sb**	**00 14 47.3**	**-0.1**
MASU	**Masugnsbyn**	**0.55**	**62**	*i* P	**Pb**	**00 14 39.3**	**+0.3**
MASU				*i* S	**Sb**	**00 14 47.3**	**-0.1**
KUA	**Kurravaara**	**0.77**	**348**	P	**Pb**	**00 14 42.4**	**-0.5**
KUA	**Kurravaara**	**0.77**	**348**	*i* P	**Pb**	**00 14 42.4**	**-0.5**
ERTU	**Ertsjaerv**	**0.86**	**138**	P	**Pb**	**00 14 44.1**	**-0.2**
ERTU	**Ertsjaerv**	**0.86**	**138**	*e*P	**Pb**	**00 14 44.2**	**-0.2**
ERTU				*e*S	**Sb**	**00 14 56.0**	**-0.5**
SALU	**Saltoluokta**	**0.89**	**283**	P	**Pg**	**00 14 44.1**	**+0.6**
SALU	**Saltoluokta**	**0.89**	**283**	*i* P	**Pg**	**00 14 44.1**	**+0.6**
PAJU	**Pajala**	**0.94**	**100**	P	**Pb**	**00 14 46.0**	**+0.3**
PAJU	**Pajala**	**0.94**	**100**	*e*P	**Pb**	**00 14 46.1**	**+0.3**
PAJU				*e*S	**Sb**	**00 14 59.6**	**+0.9**
LANU	**Lannavaara**	**0.97**	**29**	P	**Pb**	**00 14 46.5**	**+0.2**
LANU	**Lannavaara**	**0.97**	**29**	*e*P	**Pb**	**00 14 46.5**	**+0.2**
LANU				*e*S	**Sb**	**00 14 59.5**	**-0.2**
HARU	**Harads**	**1.05**	**175**	P	**Pg**	**00 14 46.8**	**+0.2**
HARU	**Harads**	**1.05**	**175**	*e*P	**Pg**	**00 14 46.8**	**+0.2**
KOVU	**Salmi**	**1.05**	**348**	P	**Pb**	**00 14 47.4**	**-0.2**
KOVU	**Salmi**	**1.05**	**348**	*e*P	**Pb**	**00 14 47.4**	**-0.2**
KLF	**Kolari**	**1.25**	**87**	*e*P	**Pn**	**00 14 51.7**	**+0.5**
KLF				*e*S	**Sn**	**00 15 08.4**	**-0.4**
HEF	**Hetta**	**1.64**	**41**	*e*P	**Pg**	**00 14 58.2**	**+0.3**
HEF	**Hetta**	**1.64**	**41**	*e*P	**Pg**	**00 14 58.1**	**+0.2**
HEF				*e*S	**Sg**	**00 15 19.2**	**+0.1**
KALU	**Kalix**	**1.71**	**141**	P	**Pg**	**00 14 58.9**	**-0.2**
KALU	**Kalix**	**1.71**	**141**	*e*P	**Pg**	**00 14 59.0**	**-0.2**
KALU				*e*SG	**Sg**	**00 15 21.4**	**+0.2**
SJUU	**Sjulsmark**	**1.74**	**168**	P	**Pb**	**00 14 59.2**	**-0.1**
SJUU	**Sjulsmark**	**1.74**	**168**	*e*P	**Pb**	**00 14 59.2**	**-0.1**
TOF	**Tornio**	**1.82**	**127**	*e*PN	**Pg**	**00 15 01.2**	**-0.1**
TOF				*e*SG	**Sg**	**00 15 25.4**	**+0.7**
TOF				MSG		00 15 27.5	
comp=Z,50nm,0.3s							

KTK1	**Kautokeino**	**2.04**	**26**	*e*PB		**Pb**		**00 15 05.1**	**+0.6**
KTK1				*e*SG		**Sg**		**00 15 32.4**	**+0.3**
RNF	**Rovaniemi**	**2.16**	**104**	MSG				00 15 37.2	
	comp=Z,21nm,0.3s								
SGF	**Sodankyl**	**2.25**	**81**	MSG				00 15 41.2	
	comp=Z,12nm,0.3s								
ARCES	**ARCESS Array B**	**2.93**	**35**	Pn		**Pn**		**00 15 16.3**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=214,slow=13,SNR=70								
ARCES				Sn		**Sn**		**00 15 50.8**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=221,slow=14,SNR=3.3								
ARCES				Lg		Lg		00 15 57.2	
	comp=Z,1.3nm,0.3s,baz=220,slow=28,SNR=2.8								
	comp=Z,1.1nm,0.3s								
KEV	**Kevo**	**3.45**	**39**	*e*P		**Pn**		**00 15 23.4**	**+2.1**
FINES	**FINESS Array B**	**6.23**	**156**	Pn		**Pn**		**00 16 01.1**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=348,slow=12,SNR=25								
FINES				Sn		**Sn**		**00 17 10.3**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=348,slow=24,SNR=7.2								
FINES				Lg		Lg		00 17 42.0	
	comp=Z,0.9nm,0.3s,baz=344,slow=28,SNR=8.2								
	comp=Z,1.4nm,0.3s								
NOA	**NORSAR Array B**	**7.45**	**218**	Pn		**Pn**		**00 16 17.5**	**+1.1**
	baz=26,slow=11,SNR=4.6								
NOA				Sn		**Sn**		**00 17 41.2**	**-0.4**
	baz=26,slow=20,SNR=3.8								
NOA				Lg		Lg		00 18 25.2	
	baz=42,slow=12,SNR=1.4								
	comp=Z,0.3nm,0.6s								
HFS	**Hagfors**	**7.75**	**207**	Pn		**Pn**		**00 16 20.1**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=28,slow=15,SNR=8.2								
HFS				Sn		**Sn**		**00 17 44.7**	**-4.2**
	comp=Z,0.3nm,0.3s,baz=28,slow=25,SNR=2.2								
HFS				Lg		Lg		00 18 32.6	
	comp=Z,0.3nm,0.3s,baz=27,slow=21,SNR=4.1								
	comp=Z,0.9nm,0.4s								
SPITS	**Spitsbergen Ar**	**11.11**	**355**	Pn		**Pn**		**00 17 04.4**	**-1.9**
	baz=138,slow=8.9								
	comp=Z,15nm,0.9s								
AKASG	**Malin Array Be**	**17.09**	**161**	Pn		Pn		00 18 18.8	-7.7
	comp=Z,0.3nm,0.2s,baz=333,slow=34,SNR=4.4								

IDC 11 00:17:17.3±29.0, 10°52.N×140°49.E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=645.3km s-min=81.9km az=144.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**26.54**	**70**	T	T	00 49 52.6	
	baz=255,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**26.56**	**70**	T	T	00 49 51.0	
	baz=255,slow=75,SNR=6.8						
H11S2	**WAKE ISLAND Hy**	**26.56**	**70**	T	T	00 49 50.0	
	baz=255,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**27.04**	**67**	T	T	00 50 29.2	
	baz=253,slow=74						
H11N2	**WAKE ISLAND Hy**	**27.05**	**67**	T	T	00 50 31.6	
	baz=253						
H11N3	**WAKE ISLAND Hy**	**27.06**	**67**	T	T	00 50 30.2	
	baz=253,slow=74						
CMAR	**Chiang Mai Arr**	**40.92**	**286**	P	P	00 25 01.8	0.0
	0.9nm,0.3s,baz=106,slow=6.7,SNR=5.1						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**60.80**	**318**	P	P	00 27 30.8	-0.5
	0.4nm,0.7s,baz=126,slow=5.1,SNR=4.2						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**61.70**	**326**	P	P	00 27 37.1	-0.1
	0.3nm,0.3s,baz=102,slow=6.1,SNR=2.2						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**64.26**	**321**	P	P	00 27 54.3	0.0
	0.7nm,0.3s,baz=108,slow=5.9,SNR=1.2						
	0.7nm,0.3s						
BVAR	**Borovoye Array**	**69.71**	**323**	P	P	00 28 29.3	+0.3
	0.6nm,0.6s,baz=120,slow=7.5,SNR=5.2						
	0.6nm,0.6s						

*VAO **11** 00:21:55.5±0.4, 18°.99S×70°.14W, h10km, mb4.5*
*SJA **11** 00:21:58.0±0.6, 19°.22S×70°.19W, h65km±4km, ML4.5, MW4.3*
*NEIC **11** 00:21:59.3, 19°.21S×70°.25W, h60km*
*IDC **11** 00:21:59.6±0.6, 19°.00S×69°.90W, h57km±5km, mb4.0/17, mbtmp4.3/21, MS3.3/17, Error ellipse: s-maj=19.0km s-min=8.9km az=78.0*
*NEIC **11** 00:21:59.4±1.9, 19°.24S±0°.03×70°.25W±0°.07, h62km±6km, mb4.3/12, Mwr4.7/40, Error ellipse: s-maj=9.0km s-min=4.5km az=87.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr0.44; Mθθ0.43; Mφφ-0.87; Mrθ0.30; Mrφ-0.32; Mθφ-1.37; Fault plane solution: Mo1.63000×10¹⁶, NP1:φ51.49000°, δ22.88000°, λ153.15000°. NP2:φ166.49000°, δ79.89000°, λ69.37000°. Principal axes: T 1.4780, Plg51.0000°, Azm53.0000°; N 0.2649, Plg20.0000°, Azm170.0000°; P -1.7429, Plg32.0000°, Azm274.0000°;*
*GUC **11** 00:22:01.1±0.8, 19°.16S×70°.06W, h42km±3km, ML4.4*

ISC 11 00:21:58.7±0.5, 19°18S±0°.02×70°14W±0°.05, h52km±4km, n188, σ1♀78/211, mb4.3/21, MS3.4/12, 6D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PX02	**IPOC Station P**	**0.22**	**344**	↓*i* P	**Pn**	**00 22 07.8**	**+0.1**
PX02				*e*S	**Sn**	**00 22 14.1**	**+0.1**
PX02				IAML		00 22 15.1	
	comp=N,46μm,0.4s						
PB12	**IPOC Station P**	**0.59**	**342**		**Pn**	**00 22 11.9**	**+0.6**
PB12				Sn	**Sn**	**00 22 22.0**	**+1.6**
PB12	**IPOC Station P**	**0.59**	**342**	*e*P	**Pn**	**00 22 12.7**	**+1.4**
PB12				*e*S	**Sn**	**00 22 23.3**	**+2.9**
PB12				IAML		00 22 25.4	
	comp=Z,18μm,0.2s						
PB12	**IPOC Station P**	**0.59**	**342**	↓*i* P	**Pn**	**00 22 12.8**	**+1.4**
PB12				*e*S	**Sn**	**00 22 22.0**	**+1.6**
PB12				IAML		00 22 22.9	
	comp=E,63μm,0.2s						
PB11	**IPOC Station P**	**0.74**	**142**		**Pn**	**00 22 14.3**	**+1.1**
PB11				Sn	**Sn**	**00 22 25.1**	**+1.3**
PB11	**IPOC Station P**	**0.74**	**142**	*e*P	**Pn**	**00 22 14.2**	**+0.9**
PB11				*e*S	**Sn**	**00 22 25.8**	**+2.0**
PB11				IAML		00 22 27.4	
	comp=Z,17μm,0.2s						
PB11	**IPOC Station P**	**0.74**	**142**	↓*i* P	**Pn**	**00 22 14.3**	**+1.1**
PB11				*e*S	**Sn**	**00 22 25.0**	**+1.3**
AP01	**Chacalluta**	**0.83**	**346**		**Pn**	**00 22 15.4**	**+1.2**
AP01				Sn	**Sn**	**00 22 28.0**	**+2.5**
AP01	**Chacalluta**	**0.83**	**346**	*e*P	**Pn**	**00 22 15.4**	**+1.2**
AP01				*e*S	**Sn**	**00 22 28.2**	**+2.6**
AP01				IAML		00 22 29.5	
	comp=Z,35μm,0.4s						
AP01	**Chacalluta**	**0.83**	**346**	↓*i* P	**Pn**	**00 22 16.0**	**+1.7**
AP01				*e*S	**Sn**	**00 22 27.9**	**+2.4**
GO01	**Chusmiza**	**1.01**	**119**		**Pn**	**00 22 18.6**	**+1.4**
GO01				Sn	**Sn**	**00 22 33.4**	**+2.7**
GO01	**Chusmiza**	**1.01**	**119**	*e*P	**Pn**	**00 22 18.8**	**+1.7**
GO01				*e*S	**Sn**	**00 22 33.6**	**+2.9**
GO01	**Chusmiza**	**1.01**	**119**	↓*i* P	**Pn**	**00 22 18.9**	**+1.7**
GO01				*e*S	**Sn**	**00 22 32.6**	**+1.9**
GO01				IAML		00 22 34.8	
	comp=N,44μm,0.1s						
PB16	**IPOC Station P**	**1.03**	**35**		**Pn**	**00 22 18.8**	**+1.3**
PB16				Sn	**Sn**	**00 22 33.3**	**+2.1**
PB16	**IPOC Station P**	**1.03**	**35**	*e*P	**Pn**	**00 22 19.2**	**+1.7**
PB16				*e*S	**Sn**	**00 22 33.9**	**+2.7**
PB16				IAML		00 22 39.5	
	comp=Z,5μm,0.5s						
PB16	**IPOC Station P**	**1.03**	**35**	↓*i* P	**Pn**	**00 22 19.2**	**+1.7**
PB16				*e*S	**Sn**	**00 22 32.9**	**+1.8**
TA02	**Huaiquique**	**1.09**	**180**		**Pn**	**00 22 18.0**	**+0.3**
TA02				Sn	**Sn**	**00 22 31.7**	**-0.1**
TA02	**Huaiquique**	**1.09**	**180**	*e*P	**Pn**	**00 22 18.1**	**+0.3**
TA02				*e*S	**Sn**	**00 22 32.6**	**+0.8**
TA02				IAML		00 22 34.4	
	comp=Z,15μm,0.1s						
HMBC	**Humberstone**	**1.12**	**168**	*e*P	**Pn**	**00 22 18.5**	**+0.2**
HMBC				*e*S	**Sn**	**00 22 34.0**	**+1.3**
HMBC	**Humberstone**	**1.12**	**168**	*i* P	**Pn**	**00 22 20.5**	**+2.2**
PB08	**IPOC Station P**	**1.33**	**136**		**Pn**	**00 22 22.2**	**+0.8**
PB08				Sn	**Sn**	**00 22 40.1**	**+1.8**
PB08	**IPOC Station P**	**1.33**	**136**	*e*P	**Pn**	**00 22 22.7**	**+1.3**
PB08				*e*S	**Sn**	**00 22 40.3**	**+2.0**
PB08				IAML		00 22 43.5	
	comp=Z,7μm,0.2s						
PB08	**IPOC Station P**	**1.33**	**136**	*i* P	**Pn**	**00 22 22.9**	**+1.5**
PB08				IAML		00 22 43.8	
	comp=E,9μm,0.2s						
TA01	**Diego Aracena**	**1.38**	**182**		**Pn**	**00 22 22.0**	**+0.3**
TA01				Sn	**Sn**	**00 22 39.1**	**+0.2**
TA01	**Diego Aracena**	**1.38**	**182**	*e*P	**Pn**	**00 22 22.1**	**+0.4**
TA01				*e*S	**Sn**	**00 22 40.3**	**+1.4**
TA01				IAML		00 22 42.0	
	comp=Z,6μm,0.5s						
PATCX	**Punta Patache**	**1.64**	**181**		**Pn**	**00 22 25.2**	**0.0**
PATCX				Sn	**Sn**	**00 22 46.4**	**+1.2**
PATCX	**Punta Patache**	**1.64**	**181**	*e*P	**Pn**	**00 22 25.4**	**+0.1**
PATCX	**Punta Patache**	**1.64**	**181**	*i* P	**Pn**	**00 22 27.1**	**+1.8**
PB18	**Visviri**	**1.70**	**22**		**Pn**	**00 22 30.1**	**+3.6**
PB18				Sn	**Sn**	**00 22 52.3**	**+5.0**
PB18	**Visviri**	**1.70**	**22**	*i* P	**Pn**	**00 22 30.6**	**+4.1**
PB18				*e*S	**Sn**	**00 22 50.3**	**+2.9**
PB18				IAML		00 23 03.7	
	comp=N,5μm,0.8s						
PB01	**IPOC Station P**	**1.95**	**162**		**Pn**	**00 22 30.2**	**+0.6**
PB01				Sn	**Sn**	**00 22 54.8**	**+1.8**
PB01	**IPOC Station P**	**1.95**	**162**	*e*P	**Pn**	**00 22 30.4**	**+0.9**
PB01				*e*S	**Sn**	**00 22 56.0**	**+3.0**
PB01				IAML		00 22 57.3	
	comp=Z,2μm,0.2s						
PB01	**IPOC Station P**	**1.95**	**162**	*i* P	**Pn**	**00 22 31.6**	**+2.1**
PB01				*e*S	**Sn**	**00 22 55.6**	**+2.6**
PB01				IAML		00 22 59.5	
	comp=E,3μm,0.2s						
PB02	**IPOC Station P**	**2.14**	**174**		**Pn**	**00 22 32.9**	**+0.7**
PB02				Sn	**Sn**	**00 22 59.5**	**+1.9**
PB02	**IPOC Station P**	**2.14**	**174**	*e*P	**Pn**	**00 22 32.7**	**+0.5**
PB02				*e*S	Sn	00 22 39.8	-18
PB02				IAML		00 23 13.4	
	comp=Z,4μm,0.4s						
PB02	**IPOC Station P**	**2.14**	**174**	*i* P	**Pn**	**00 22 34.1**	**+1.9**
PB02				*e*S	**Sn**	**00 23 00.4**	**+2.7**
PB02				IAML		00 23 05.5	
	comp=E,4μm,0.6s						
PB07	**IPOC Station P**	**2.55**	**175**		**Pn**	**00 22 38.0**	**+0.2**
PB07				Sn	**Sn**	**00 23 08.4**	**+0.7**
PB07	**IPOC Station P**	**2.55**	**175**	*e*P	Pn	00 22 27.8	-10
PB07				IAML		00 23 26.3	
	comp=Z,2μm,0.3s						
PB07	**IPOC Station P**	**2.55**	**175**	*i* P	**Pn**	**00 22 40.5**	**+2.7**
PB09	**IPOC Station P**	**2.74**	**162**		**Pn**	**00 22 41.8**	**+1.4**
PB09				Sn	**Sn**	**00 23 15.6**	**+3.2**
PB09	**IPOC Station P**	**2.74**	**162**	*e*P	**Pn**	**00 22 42.5**	**+2.1**
PB09				*e*S	Sn	00 23 24.4	+12
PB09				IAML		00 23 34.7	
	comp=Z,2μm,0.8s						
PB04	**IPOC Station P**	**3.14**	**180**		**Pn**	**00 22 45.5**	**-0.4**
PB04	**IPOC Station P**	**3.14**	**180**	*e*P	**Pn**	**00 22 46.6**	**+0.7**
PB04				IAML		00 23 40.6	
	comp=Z,912nm,0.3s						
PB04	**IPOC Station P**	**3.14**	**180**	*i* P	**Pn**	**00 22 49.7**	**+3.8**
LPAZ	**La Paz**	**3.45**	**34**		**Pn**	**00 22 55.1**	**+4.5**
PB06	**IPOC Station P**	**3.55**	**172**		**Pn**	**00 22 51.0**	**-0.5**
PB06	**IPOC Station P**	**3.55**	**172**	*e*P	**Pn**	**00 22 52.2**	**+0.6**
PB06				IAML		00 23 58.7	
	comp=Z,785nm,0.5s						
LVC	**Limon Verde**	**3.60**	**162**		**Pn**	**00 22 53.7**	**+1.3**
LVC				Sn	**Sn**	**00 23 38.0**	**+4.1**
LVC	**Limon Verde**	**3.60**	**162**	*e*P	**Pn**	**00 22 54.5**	**+2.0**
LVC				IAML		00 23 50.0	
	comp=Z,447nm,1.2s						
LVC	**Limon Verde**	**3.60**	**162**	*e*P	**Pn**	**00 22 54.3**	**+1.9**
LVC	**Limon Verde**	**3.60**	**162**	P	**Pn**	**00 22 54.4**	**+2.0**
	comp=Z,96nm,0.4s,baz=6.0,slow=8.4,SNR=76						
LVC				S	**Sn**	**00 23 39.0**	**+5.1**
	comp=Z,151nm,0.4s,baz=13,slow=14,SNR=19						
LVC				LR	LR	00 24 56.9	
	comp=Z,87nm,19.9s,baz=343,slow=48						
LVC	**Limon Verde**	**3.60**	**162**	*i* P	**Pn**	**00 22 54.4**	**+1.9**
PB05	**IPOC Station P**	**3.66**	**181**		**Pn**	**00 22 52.7**	**-0.3**
PB05	**IPOC Station P**	**3.66**	**181**	*e*P	**Pn**	**00 22 53.1**	**+0.1**
PB05				IAML		00 23 50.7	
	comp=Z,517nm,0.9s						
PB05	**IPOC Station P**	**3.66**	**181**	*i* P	**Pn**	**00 22 55.4**	**+2.5**
PB15	**IPOC Station P**	**4.06**	**171**	Pn	**Pn**	**00 22 58.5**	**-0.1**
AF01	**San Pedro de A**	**4.18**	**154**	Pn	**Pn**	**00 23 00.1**	**-0.2**
PB14	**IPOC Station P**	**5.43**	**183**	Pn	**Pn**	**00 23 15.9**	**-1.5**
PB14	**IPOC Station P**	**5.43**	**183**	*e*P	**Pn**	**00 23 15.7**	**-1.7**
PB14				IAML		00 24 59.6	
	comp=Z,124nm,0.6s						
GO02	**Mina Guanaco**	**5.98**	**175**	Pn	**Pn**	**00 23 24.2**	**-0.8**
AC01	**Pan de Azucar**	**6.95**	**183**	Pn	**Pn**	**00 23 35.9**	**-2.1**
AC06	**Mina Casimiro**	**8.14**	**181**	Pn	**Pn**	**00 23 52.3**	**-2.1**
GO03	**Copiap**	**8.38**	**181**	Pn	**Pn**	**00 23 55.0**	**-2.6**
AC04	**Llanos de Chal**	**9.03**	**185**	Pn	**Pn**	00 24 02.2	-4.3
SIV	**San Ignacio**	**9.21**	**71**	P	**Pn**	**00 24 09.8**	**+0.9**
	comp=Z,33nm,0.5s,baz=260,slow=9.4,SNR=255						
SIV				S	**Sn**	**00 25 48.1**	**-3.1**
	comp=Z,5.8nm,0.6s,baz=192,slow=14,SNR=1.2						
NNA	**Nana**	**9.63**	**317**	P	**Pn**	**00 24 15.5**	**+0.6**
	comp=Z,8.5nm,0.6s,baz=170,slow=5.8,SNR=5.4						
NNA				S	**Sn**	**00 26 08.6**	**+6.9**
	comp=Z,7.0nm,0.4s,baz=84,slow=16,SNR=2.4						
NNA				LR	LR	00 27 34.0	
	comp=Z,42nm,18.5s,baz=165,slow=35						
BBRB	**Robore, Bolivi**	**9.83**	**86**	*e*P	**Pn**	**00 24 15.9**	**-1.6**
ETMB	**Extrema**	**10.05**	**23**	Pn	**Pn**	**00 24 20.8**	**+0.3**
ETMB	**Extrema**	**10.05**	**23**	*e*P	**Pn**	**00 24 18.0**	**-2.5**
CO01	**Juntas del Tor**	**10.75**	**180**	Pn	**Pn**	**00 24 29.1**	**-1.2**
GO04	**Tololo Observa**	**10.96**	**183**	Pn	**Pn**	**00 24 30.5**	**-2.7**
PTLB	**Pontes e Lacer**	**11.14**	**72**	Pn	**Pn**	**00 24 36.9**	**+1.5**
PTLB	**Pontes e Lacer**	**11.14**	**72**	*e*P	**Pn**	**00 24 35.6**	**+0.2**
VILB	**Vilhena**	**11.38**	**59**	Pn	**Pn**	**00 24 40.2**	**+1.5**
CZSB	**Cruzeiro do Su**	**11.65**	**347**	*e*P	**Pn**	**00 24 39.5**	**-2.9**
MURT	**Porto Murtinho**	**12.00**	**104**	*e*P	**Pn**	**00 24 46.3**	**-0.8**
SAML	**Samuel**	**12.20**	**34**	Pn	**Pn**	**00 24 49.4**	**-0.4**
SAML	**Samuel**	**12.20**	**34**	*e*P	**Pn**	**00 24 48.2**	**-1.6**
ESFA	**Espinillo Form**	**12.23**	**120**	*e*P	**Pn**	**00 24 52.5**	**+2.2**
CFA	**Coronel Fontan**	**12.49**	**172**	P	**Pn**	**00 24 56.3**	**+2.4**
	comp=Z,1.4nm,0.3s,baz=344,slow=14,SNR=2.7						
CFA				LR	LR	00 31 26.7	
	comp=Z,81nm,18.2s,baz=342,slow=45						
BDQN	**Bodoquena, MS**	**12.66**	**98**	*e*P	**Pn**	**00 24 55.3**	**-0.9**
ANTJ	**Antonio Joao (**	**13.53**	**104**	*e*P	**Pn**	**00 25 08.8**	**+0.8**
VA03	**San Esteban**	**13.54**	**181**	Pn	**Pn**	**00 25 08.5**	**+0.4**
AQDB	**Aquidauana**	**13.65**	**98**	*e*P	**Pn**	**00 25 10.4**	**+0.8**
ROC1	**El Roble**	**13.77**	**183**	Pn	**Pn**	**00 25 11.8**	**+0.4**
CPUP	**Villa Florida**	**13.79**	**123**		**Pn**	**00 25 12.5**	**+1.0**
CPUP	**Villa Florida**	**13.79**	**123**	*e*P	**Pn**	**00 25 12.2**	**+0.7**
CPUP	**Villa Florida**	**13.79**	**123**	P	**Pn**	**00 25 11.4**	**-0.1**
	comp=Z,4.1nm,0.8s,baz=305,slow=12,SNR=8.9						
CPUP				LR	LR	00 31 43.5	
	comp=Z,70nm,20.8s,baz=312,slow=43						
MT02	**Curacav**	**14.05**	**183**	Pn	**Pn**	**00 25 15.6**	**+0.5**
SALV	**Santo Antonio**	**14.15**	**79**	*e*P	**Pn**	**00 25 15.5**	**-1.0**
ATAH	**Atahualpa**	**14.41**	**325**	P	**P**	**00 25 24.7**	**-1.2**
	comp=Z,1.9nm,0.5s,baz=112,slow=21,SNR=1.6						
ATAH				LR	LR	00 30 35.5	
	comp=Z,53nm,20.9s,baz=157,slow=36						
PP1B	**Ponte de Pedra**	**14.57**	**86**	*e*P	**Pn**	**00 25 22.7**	**+0.8**
AMBA	**Amambai (Brazi**	**14.62**	**107**	*e*P	**Pn**	**00 25 24.5**	**+1.9**
PDRB	**Porto dos Gac**	**14.95**	**62**	*e*P	**Pn**	**00 25 26.4**	**-0.5**
CLDB	**Colider**	**16.11**	**61**	*e*P	**Pn**	**00 25 42.0**	**0.0**
H03N1	**Juan Fernandez**	**16.23**	**207**	T	T	00 42 12.9	
	baz=32,slow=72,SNR=258						
H03N2	**Juan Fernandez**	**16.23**	**207**	T	T	00 42 05.6	
	baz=32,slow=72,SNR=301						
H03N3	**Juan Fernandez**	**16.24**	**207**	T	T	00 42 05.8	
	baz=32,slow=72,SNR=283						
TEFE	**Tefe**	**16.47**	**20**	*e*P	**Pn**	**00 25 44.2**	**-2.2**
CRSM	**Crissiumal (Br**	**16.93**	**122**	*e*P	**Pn**	**00 25 53.1**	**+1.1**
FRBT	**Francisco Belt**	**17.15**	**116**	*e*P	**P**	**00 25 58.3**	**+2.5**
PCMB	**Pacaembu**	**17.86**	**101**	*e*P	**Pn**	**00 26 03.6**	**0.0**
BOSC	**San Juan Bosco**	**17.90**	**332**	P	**Pn**	**00 26 03.4**	**-0.9**
LDASE	**Londrina, Braz**	**18.21**	**107**	*e*P	**Pn**	**00 26 09.1**	**+1.2**
ALGR	**Alto Alegre (B**	**18.31**	**125**	*e*P	**Pn**	**00 26 11.8**	**+2.7**
ARNL	**Arenillas**	**18.32**	**327**	P	**P**	**00 26 08.5**	**-0.2**
ITAB	**Concordia**	**18.38**	**119**	P	**Pn**	**00 26 10.5**	**+0.7**
ITAB	**Concordia**	**18.38**	**119**	*e*P	**Pn**	**00 26 11.6**	**+1.8**
MACA	**Manacapuru-AM**	**18.41**	**31**	P	**P**	**00 26 09.3**	**-0.3**
MACA	**Manacapuru-AM**	**18.41**	**31**	*e*P	**P**	**00 26 09.4**	**-0.3**
ITRB	**Iturama**	**18.66**	**95**	*e*P	**Pn**	**00 26 13.9**	**+0.5**
NPGB	**Novo Progresso**	**18.75**	**52**	*e*P	**P**	**00 26 12.8**	**-0.8**
CPSB	**Cacapava Do Su**	**18.81**	**130**	*e*P	**Pn**	**00 26 15.9**	**+0.8**
SGCB	**SÃo Gabriel d**	**19.18**	**9**	*e*P	**P**	**00 26 17.2**	**-1.0**
PLTB	**Pedras Altas**	**19.46**	**133**	*e*P	**Pn**	**00 26 22.5**	**-0.3**
SNDB	**Serra Nova Dou**	**19.50**	**71**	*e*P	**P**	**00 26 20.9**	**-0.9**
FRTB	**Fartura**	**19.61**	**106**	*e*P	**P**	**00 26 23.1**	**+0.2**
ITTB	**Itaituba**	**20.35**	**45**	*e*P	**P**	**00 26 30.2**	**-0.8**
GO06	**Curarrehue**	**20.37**	**183**		**P**	**00 26 32.5**	**+1.4**
GO06				IAmb	IAmb	00 26 33.3	
	comp=Z,21nm,0.8s						
OTAV	**Otavalo**	**20.95**	**336**	*e*P	**P**	**00 26 37.8**	**-0.1**
FLOC	**Florencia**	**21.33**	**345**	*e*P	**P**	**00 26 42.4**	**+0.8**
BDFB	**Brasilia**	**21.39**	**84**	P	**P**	**00 26 43.7**	**+1.4**
BDFB				IAmb	IAmb	00 26 47.7	
	comp=Z,6.3nm,0.6s						
BDFB	**Brasilia**	**21.39**	**84**	P	**P**	**00 26 41.2**	**-1.1**
	comp=Z,4.3nm,0.5s,baz=272,slow=4.7,SNR=18						
BDFB				LR	LR	00 34 55.4	
	comp=Z,89nm,20.2s,baz=335,slow=37						
	comp=Z,4.3nm,0.5s						
GCUF	**Volcan Galeras**	**21.48**	**340**	*e*P	**P**	**00 26 48.1**	**+4.5**
PLCA	**Paso Flores**	**21.49**	**181**	P	**P**	**00 26 43.9**	**+0.8**
PLCA	**Paso Flores**	**21.49**	**181**	*e*P	**P**	**00 26 46.4**	**+3.3**
PLCA	**Paso Flores**	**21.49**	**181**	P	**P**	**00 26 43.8**	**+0.7**
	comp=Z,4.9nm,0.7s,baz=4.5,slow=11,SNR=14						
PLCA				S	**S**	**00 30 39.7**	**+1.1**
	comp=Z,1.1nm,0.9s,baz=18,slow=20,SNR=1.9						
	comp=Z,4.9nm,0.7s						
VAO	**Valinhos**	**21.94**	**104**	*e*P	**P**	**00 26 49.4**	**+1.2**
BBAC	**Balboa, Cauca**	**22.20**	**341**	*e*P	**P**	**00 26 53.6**	**+2.6**
POPC	**Popayan, Colom**	**22.52**	**343**	*e*P	**P**	**00 26 58.7**	**+4.2**
JAMC	**Jamundi, Valle**	**23.16**	**343**	*e*P	**P**	**00 27 02.2**	**+1.1**
LL01	**San Ignacio de**	**23.21**	**184**	P	**P**	**00 27 00.5**	**-0.6**
LL01				IAmb	IAmb	00 27 23.6	
	comp=Z,8.5nm,0.7s						
BOAV	**Boa Vista**	**23.43**	**25**	P	**P**	**00 27 03.0**	**-0.5**
BOAV				IAmb	IAmb	00 27 23.8	
	comp=Z,16nm,1.2s						
BOAV	**Boa Vista**	**23.43**	**25**	*e*P	**P**	**00 27 02.4**	**-1.0**
BOAV	**Boa Vista**	**23.43**	**25**	*e*P	**P**	**00 27 03.0**	**-0.5**
ORTC	**Ortega, Tolima**	**23.49**	**347**	*e*P	**P**	**00 27 02.7**	**-1.4**
PRPB	**Paraupebas**	**23.63**	**59**	*e*P	**P**	**00 27 05.5**	**+0.2**
YOTC	**Yotoco, Valle**	**23.81**	**344**	*e*P	**P**	**00 27 08.5**	**+1.4**
CHIC	**Chingaza**	**23.92**	**351**	*e*P	**P**	**00 27 07.5**	**-0.9**
ROSC	**El Rosal**	**24.22**	**350**	P	**P**	**00 27 09.5**	**-1.7**
	comp=Z,3.5nm,0.5s,baz=138,slow=20,SNR=1.6						
	comp=Z,3.5nm,0.5s						
PLMC	**San Jos del P**	**24.68**	**345**	*e*P	**P**	**00 27 16.6**	**+1.5**
GUY2C	**Guyana, Caldas**	**24.79**	**347**	*e*P	**P**	**00 27 17.8**	**+1.4**
SDBA	**SAO DESIDERIO**	**25.18**	**78**	*e*P	**P**	**00 27 21.0**	**+1.5**
TAMC	**Tame, Arauca**	**25.50**	**356**	*e*P	**P**	**00 27 22.0**	**-0.4**
CBOC	**Ciudad Bolivar**	**25.55**	**346**	*e*P	**P**	**00 27 22.4**	**-0.6**
MCPB	**Macapa, AP**	**25.77**	**46**	*e*P	**P**	**00 27 25.9**	**+1.0**
BARC	**Barichara**	**25.78**	**353**	*e*P	**P**	**00 27 25.5**	**+0.3**
PTBC	**PUERTO BERRIO,**	**25.91**	**350**	*e*P	**P**	**00 27 24.1**	**-2.0**
PAMC	**Pamplona, Colo**	**26.47**	**354**	*e*P	**P**	**00 27 31.6**	**0.0**
ZARC	**Zaragoza, Cauc**	**26.91**	**350**	*e*P	**P**	**00 27 33.3**	**-1.8**
SDV	**Santo Domingo**	**27.89**	**359**	P	**P**	**00 27 42.4**	**-1.7**
	comp=Z,2.1nm,0.3s,baz=152,slow=21,SNR=2.0						
SDV				LR	LR	00 39 42.1	
	comp=Z,58nm,20.3s,baz=216,slow=38						
	comp=Z,2.1nm,0.3s						
BAUV	**El Baul**	**28.02**	**4**	P	**P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**6.85**	**301**	P	**Pn**	**00 37 48.5**	**0.0**
	0.6nm,0.3s,baz=123,slow=8.5,SNR=1.7						
NNA				S	**Sn**	**00 39 05.4**	**+0.1**
	2.4nm,0.3s,baz=51,slow=23,SNR=1.2						
NNA				LR	LR	00 40 41.4	
	comp=Z,140nm,18.5s,baz=143,slow=39 3.1nm,0.3s						
LVC	**Limon Verde**	**7.20**	**166**	P	**Pn**	**00 37 55.2**	**+1.7**
	0.4nm,0.3s,baz=284,slow=20,SNR=3.9						
LVC				S	**Sn**	**00 39 13.1**	**-1.1**
	5.5nm,0.9s,baz=49,slow=14,SNR=2.2 5.1nm,0.8s						
ETMB	**Extrema**	**7.32**	**39**	*eP*	**Pn**	**00 37 55.5**	**+0.6**
CZSB	**Cruzeiro do Su**	**8.04**	**347**	*eP*	**Pn**	**00 38 05.8**	**+1.0**
SIV	**San Ignacio**	**9.41**	**94**	P	**Pn**	**00 38 22.0**	**-1.6**
	0.1nm,0.3s,baz=278,slow=9.5,SNR=32						
SIV				LR	LR	00 42 41.1	
	comp=Z,111nm,18.6s,baz=286,slow=42 20nm,1.0s						
BBSD	**Serra de San D**	**9.94**	**100**	*eP*	**Pn**	**00 38 31.8**	**+0.8**
VILB	**Vilhena**	**10.65**	**77**	*eP*	**Pn**	**00 38 42.1**	**+1.5**
BBRB	**Robore, Bolivi**	**10.89**	**106**	*eP*	**Pn**	**00 38 43.6**	**-0.2**
PTLB	**Pontes e Lacer**	**11.28**	**91**	*eP*	**Pn**	**00 38 49.9**	**+0.7**
TBTG	**Tabatinga, AM**	**11.39**	**5**	*eP*	**Pn**	**00 38 52.1**	**+1.5**
MURT	**Porto Murtinho**	**13.91**	**118**	*eP*	**Pn**	**00 39 25.6**	**+0.6**
PDRB	**Porto dos Gac**	**14.28**	**76**	*eP*	**Pn**	**00 39 28.9**	**-1.2**
SALV	**Santo Antonio**	**14.59**	**93**	*eP*	**P**	**00 39 36.2**	**-3.2**
ANTJ	**Antonio Joao (**	**15.41**	**117**	*eP*	**Pn**	**00 39 45.3**	**+0.4**
SGCB	**SÃo Gabriel d**	**15.84**	**14**	*eP*	**Pn**	**00 39 51.3**	**+0.9**
MACA	**Manacapuru-AM**	**15.91**	**40**	*eP*	**P**	**00 39 52.2**	**-1.9**
CFA	**Coronel Fontan**	**16.10**	**172**	LR	LR	00 46 10.0	
	comp=Z,99nm,19.7s,baz=262,slow=37						
CPUP	**Villa Florida**	**16.51**	**132**	LR	LR	00 47 44.1	
	comp=Z,104nm,21.4s,baz=318,slow=42						
AMBA	**Amambai (Brazi**	**16.63**	**118**	*eP*	**P**	**00 40 00.8**	**-1.3**
NPGB	**Novo Progresso**	**17.39**	**62**	*eP*	**P**	**00 40 12.4**	**+1.8**
ITTB	**Itaituba**	**18.59**	**55**	*eP*	**Pn**	**00 40 25.5**	**+1.1**
SNDB	**Serra Nova Dou**	**19.32**	**82**	*eP*	**Pn**	**00 40 34.7**	**+1.5**
PCMB	**Pacaembu**	**19.48**	**111**	*eP*	**Pn**	**00 40 34.2**	**-0.9**
UNIS	**Unistalda (Bra**	**19.77**	**135**	*eP*	**Pn**	**00 40 38.4**	**-0.1**
PTGB	**Pitanga**	**19.80**	**120**	*eP*	**Pn**	**00 40 38.4**	**-0.5**
LDASE	**Londrina, Braz**	**20.13**	**116**	*eP*	Pn	00 40 41.4	-1.3
RODS	**Rosario do Sul**	**20.52**	**138**	*eP*	**P**	**00 40 45.3**	**+0.6**
BOAV	**Boa Vista**	**20.60**	**31**	*eP*	Pn	00 40 47.7	-0.6
ROSC	**El Rosal**	**20.61**	**350**	LR	LR	00 50 18.5	
	comp=Z,73nm,18.1s,baz=186,slow=41						
BDFB	**Brasilia**	**21.98**	**93**	P	**P**	**00 41 00.5**	**-0.2**
	2.3nm,0.9s,baz=187,slow=19,SNR=1.9						
BDFB				LR	LR	00 50 04.5	
	comp=Z,98nm,21.4s,baz=75,slow=38 2.3nm,0.9s						
PLTB	**Pedras Altas**	**22.48**	**139**	*eP*	**P**	**00 41 08.4**	**+2.6**
MCPB	**Macapa, AP**	**23.95**	**52**	*eP*	**P**	**00 41 22.8**	**+2.5**
PLCA	**Paso Flores**	**25.03**	**179**	*eP*	**P**	**00 41 33.9**	**+3.8**
PLCA	**Paso Flores**	**25.03**	**179**	P	**P**	**00 41 30.9**	**+0.8**
	3.7nm,1.0s,baz=336,slow=20,SNR=4.9 3.7nm,1.0s						
PCRV	**Puerto La Cruz**	**26.35**	**14**	LR	LR	00 52 25.8	
	comp=Z,101nm,21.0s,slow=37						
MDP	**Montagnes des**	**27.36**	**43**	LR	LR	00 52 43.4	
	comp=Z,50nm,18.3s,baz=320,slow=36						
RPN	**Rapa Nui**	**37.49**	**246**	LR	LR	00 55 07.0	
	comp=Z,66nm,18.4s,baz=52,slow=30						
TXAR	**Lajitas Array**	**54.78**	**325**	P	**P**	**00 45 35.8**	**+0.3**
	0.3nm,0.7s,baz=153,slow=8.1,SNR=2.7 0.3nm,0.7s						
PDAR	**Pinedale Array**	**68.12**	**330**	P	**P**	**00 47 04.8**	**-0.7**
	0.5nm,0.8s,baz=129,slow=7.1,SNR=3.1 0.5nm,0.8s						
SNAA	**Sanae**	**68.42**	**162**	P	**P**	**00 47 05.8**	**-1.1**
	1.9nm,1.1s,baz=273,slow=7.3,SNR=2.7 1.9nm,1.1s						
DBIC	**Dimbokro**	**68.98**	**76**	P	**P**	**00 47 09.6**	**-1.7**
	1.8nm,0.9s,baz=190,slow=6.1,SNR=1.9						
DBIC				LR	LR	01 16 18.6	
	comp=Z,31nm,18.4s,baz=168,slow=35 1.8nm,0.9s						
NVAR	**Mina Array Bea**	**69.75**	**322**	P	**P**	**00 47 15.6**	**-0.1**
	0.2nm,0.4s,baz=127,slow=5.6,SNR=2.2 0.2nm,0.4s						
QSPA	**South Pole Qui**	**74.55**	**180**	P	**P**	**00 47 41.8**	**-2.2**
	0.7nm,0.3s,baz=240,slow=5.0,SNR=2.9 0.7nm,0.3s						
TORD	**Torodi Ar. Bea**	**77.22**	**72**	P	**P**	**00 47 58.4**	**-1.5**
	0.5nm,0.7s,baz=283,slow=4.6,SNR=3.9 0.5nm,0.7s						
YKA	**Yellowknife Ar**	**85.05**	**341**	P	**P**	**00 48 39.4**	**-1.0**
	0.6nm,0.7s,baz=136,slow=4.9,SNR=11 0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**137.25**	**29**	PKP	**PKPdf**	**00 55 28.9**	**+0.6**
	0.4nm,0.8s,baz=301,slow=2.2,SNR=4.1						
ZALV	**Zalesovo Beam**	**137.28**	**21**	PKP	**PKPdf**	**00 55 29.0**	**+0.8**
	1.3nm,0.6s,baz=318,slow=2.0,SNR=8.7						
SONM	**Songino Array**	**147.79**	**3**	PKPbc	**PKPbc**	**00 55 49.9**	**-0.2**
	2.1nm,1.0s,baz=2.0,slow=1.0,SNR=6.4						

*SJA **11** 00:39:09.2±0.7,30.87S×71.59W,h73km±5km,ML3.2, MW3.5*
*GUC **11** 00:39:11.0±0.8,30.93S×71.39W,h57km±5km,ML3.3*
ISC 11 00:39:11.3±1.4,30.90S±0.03×71.59W±0.06,h53km,n45,
σ1s84/63,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.59**	**121**	*eP*	**Sn**	**00 39 30.4**	**-2.7**
CO02	**Combarbal**	**0.59**	**121**	*eP*	**Pn**	**00 39 22.1**	**-1.9**
CO02				*eS*	**Sn**	**00 39 30.2**	**-2.9**
CO03	**El Pedregal**	**0.78**	**86**	*eP*	**Sn**	**00 39 33.6**	**-3.6**
CO03	**El Pedregal**	**0.78**	**86**	*i* P	**Pn**	**00 39 23.9**	**-2.4**
CO03				*eS*	**Sn**	**00 39 33.4**	**-3.9**
CO03				IAML		00 39 33.8	
	comp=E,3µm,0.1s						
GO04	**Tololo Observa**	**1.00**	**43**	*eP*	**Sn**	**00 39 41.1**	**-1.5**
GO04				*eS*	**Sn**	**00 39 41.2**	**-1.5**
GO04	**Tololo Observa**	**1.00**	**43**	*i* P	**Pn**	**00 39 28.0**	**-1.4**
GO04				*eS*	**Sn**	**00 39 40.8**	**-1.9**
CO05	**La Serena**	**1.03**	**17**	*eP*	**Pn**	**00 39 29.3**	**-0.2**
CO05				*eS*	**Sn**	**00 39 43.2**	**+0.3**
CO05				IAML		00 39 45.0	
	comp=E,580nm,0.1s						
CO01	**Juntas del Tor**	**1.59**	**55**	*eP*	**Pn**	**00 39 36.5**	**-0.8**
CO01				*eS*	**Sn**	**00 39 55.2**	**-1.7**
AROD	**Rodeo**	**1.97**	**69**	*eP*	**Pn**	**00 39 43.1**	**+0.5**
AROD				*eS*	**Sn**	**00 40 07.0**	**+0.7**
LCO	**Las Campanas**	**2.04**	**23**	*eP*	**Pn**	**00 39 43.5**	**0.0**
VA03	**San Esteban**	**2.06**	**155**	*eP*	**Pn**	**00 39 43.4**	**-0.2**
VA03				*eS*	**Sn**	**00 40 09.4**	**+1.3**
VA03				IAML		00 40 12.6	
	comp=Z,144nm,0.1s						
VA03	**San Esteban**	**2.06**	**155**	*eP*	**Pn**	**00 39 43.2**	**-0.4**
VA03				IAML		00 40 13.7	
	comp=E,564nm,0.1s						
ROCH	**El Roble**	**2.12**	**167**	*eP*	**Pn**	**00 39 44.1**	**-0.5**
ROCH				IAML		00 40 18.7	
	comp=N,293nm,0.4s						
ROC1	**El Roble**	**2.12**	**167**	*eP*	**Pn**	**00 39 44.6**	**0.0**
ROC1				*eS*	**Sn**	**00 40 11.8**	**+1.8**
RTLS	**Leoncito**	**2.16**	**115**	*eP*	**Pn**	**00 39 45.5**	**+0.4**
RTLS				*eS*	**Sn**	**00 40 12.3**	**+1.4**
RTLS				IAML		00 40 16.4	
	comp=Z,251nm,1.0s						
ACCO	**Cerro Coronel**	**2.20**	**82**	*eP*	**Pn**	**00 39 46.4**	**+0.7**
ACCO				*eS*	**Sn**	**00 40 12.1**	**+0.2**
ACCO				IAML		00 40 17.0	
	comp=Z,118nm,0.4s						
ACDV	**Cuesta del Vie**	**2.25**	**72**	*eP*	**Pn**	**00 39 49.1**	**+2.8**
ACDV				IAML		00 41 12.5	
	comp=Z,94nm,0.2s						
AUSP	**Uspallata**	**2.30**	**126**	*eP*	**Pn**	**00 39 47.5**	**+0.5**
AUSP				*eS*	**Sn**	**00 40 17.6**	**+3.3**
AC05	**El Transito**	**2.36**	**29**	*eP*	**Pn**	**00 39 48.1**	**+0.4**
AC05				IAML		00 40 31.1	
	comp=N,158nm,0.6s						
PEL	**Peldehue**	**2.36**	**161**	*eP*	**Pn**	**00 39 48.4**	**+0.7**
PEL				*eS*	Sn	00 40 04.3	-11
PEL	**Peldehue**	**2.36**	**161**	*eP*	**Pn**	**00 39 47.0**	**-0.7**
PEL				IAML		00 40 21.2	
	comp=E,132nm,0.4s						
MT02	**Curacav**	**2.38**	**171**	*eP*	**Pn**	**00 39 47.1**	**-0.8**
MT10	**Hacienda Santa**	**2.53**	**160**	*eP*	**Pn**	**00 39 49.4**	**-0.7**
ZON	**Zonda**	**2.58**	**105**	*eP*	**Pn**	**00 39 51.3**	**+0.6**
ZON				*eS*	**Sn**	**00 40 21.7**	**+0.9**
ZON				IAML		00 40 28.1	
	comp=Z,48nm,0.2s						
MT14	**Cerro Calįn**	**2.64**	**160**	*eP*	**Pn**	**00 39 50.6**	**-1.0**
MT14				IAML		00 40 35.5	
	comp=E,245nm,0.3s						
FCH	**Farellones**	**2.66**	**156**	*eP*	**Pn**	**00 39 51.5**	**-0.5**
FCH				IAML		00 40 33.0	
	comp=E,113nm,0.4s						
RTLL	**Cerro Villicun**	**2.71**	**100**	*eP*	**Pn**	**00 39 52.4**	**-0.1**
RTLL				*eS*	**Sn**	**00 40 25.6**	**+1.6**
RTLL				IAML		00 40 29.2	
	comp=Z,70nm,0.3s						
AC04	**Llanos de Chal**	**2.73**	**10**	*eP*	**Pn**	**00 39 52.7**	**+0.1**
AC04				IAML		00 40 39.9	
	comp=E,90nm,0.3s						
MT03	**Universidad Ad**	**2.74**	**161**	*eP*	**Pn**	**00 39 52.6**	**-0.3**
MT03				IAML		00 40 38.2	
	comp=E,261nm,0.1s						
RTCV	**Cerro Valdivia**	**2.78**	**111**	*eP*	**Pn**	**00 39 56.0**	**+2.6**
RTCV				*eS*	Sn	00 40 12.4	-13
MT04	**Ro Olivares**	**2.78**	**154**	*eP*	**Pn**	**00 39 55.0**	**+1.4**
ASAL	**Salagasta**	**2.89**	**126**	*eP*	**Pn**	**00 39 55.3**	**+0.4**
MT09	**Talagante**	**2.91**	**170**	*eP*	**Pn**	**00 39 55.1**	**-0.2**
MT09				IAML		00 40 39.0	
	comp=E,166nm,0.3s						
CFA	**Coronel Fontan**	**2.96**	**105**	*eP*	**Pn**	**00 39 56.3**	**+0.5**
CFA				*eS*	**Sn**	**00 40 30.5**	**+0.4**
MT12	**Pirque**	**2.96**	**163**	*eP*	**Pn**	**00 39 55.5**	**-0.3**
MT01	**Popeta**	**2.97**	**174**	*eP*	**Pn**	**00 39 55.1**	**-0.8**
MT01				IAML		00 40 40.7	
	comp=E,126nm,0.2s						
ARCO	**CERRO ARCO**	**2.98**	**131**	*eP*	**Pn**	**00 39 58.2**	**+2.0**
ARCO				*eS*	**Sn**	**00 40 31.5**	**+0.7**
ARCO				IAML		00 40 40.7	
	comp=Z,59nm,0.8s						
AGUA	**GUANDACOL**	**3.03**	**63**	*eP*	**Pn**	**00 39 59.2**	**+2.2**
AGUA				IAML		00 40 46.4	
	comp=Z,91nm,0.5s						
AAGR	**Agrelo**	**3.20**	**134**	*eP*	**Pn**	**00 39 60.0**	**+0.7**
AAGR				*eS*	Sn	00 40 19.9	-16
AAGR				IAML		00 40 21.5	
	comp=Z,54nm,2.1s						
AVFE	**Valle Fertil**	**3.57**	**87**	*eP*	**Pn**	**00 40 03.8**	**-0.5**
AVFE				IAML		00 40 53.0	
	comp=Z,40nm,0.4s						
VCA	**Vinchina**	**3.65**	**55**	*eP*	**Pn**	**00 40 07.9**	**+2.4**
VCA				*eS*	**Sn**	**00 40 54.8**	**+7.4**
VCA				IAML		00 41 00.5	
	comp=Z,53nm,0.3s						
ACHE	**Chepes**	**4.24**	**95**	*eP*	**Pn**	**00 40 15.5**	**+2.0**
ACLC	**CERRO LA CRUZ**	**4.28**	**71**	*eP*	**Pn**	**00 40 14.1**	**0.0**
ACLC				*eS*	**Sn**	**00 41 01.9**	**-1.0**
ACLC				IAML		00 41 09.3	
	comp=Z,48nm,0.4s						
MRA	**San Martin**	**5.23**	**108**	*eP*	Pn	00 40 12.9	-14
MRA				IAML		00 41 47.9	
	comp=Z,45nm,0.5s						
TCA	**Tanti**	**6.02**	**96**	*eP*	**Pn**	**00 40 35.7**	**-2.1**
TCA				*eS*	**Sn**	**00 41 42.1**	**-3.3**
TCA				IAML		00 41 47.8	
	comp=Z,6.9nm,0.6s						

*IDC **11** 00:45:17.3±0.7,17.83S×172.88W,h0km,mb4.1/9, mbtmp4.0/10,ML3.5/1,MS3.6/6,Error ellipse: s-maj=37.4km s-min=17.5km az=145.0*
*NEIC **11** 00:45:19.1±2.4,17.83S±0.05×172.44W±0.07,h10km±1km, mb4.7/35,Error ellipse: s-maj=14.2km s-min=2.9km az=56.0*
ISC 11 00:45:18.4±0.5,17.88S±0.08×172.54W±0.08,h10km,n73,
σ1s46/64,mb4.5/28,MS3.7/5,1D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.75**	**116**	Pn	**Pn**	**00 46 01.6**	**-1.0**
NIUE				Sn	**Sn**	**00 46 32.0**	**-3.9**
AFI	**Afiamalu**	**4.02**	**11**	Pn	**Pn**	**00 46 18.5**	**-1.6**
RAR	**Rarotonga**	**12.48**	**107**	LR	LR	00 51 42.7	
	comp=Z,129nm,18.9s,baz=336,slow=30						
DZM	**Mont Dzumac**	**20.19**	**255**		**P**	**00 49 56.0**	**+2.5**
DZM	**Mont Dzumac**	**20.19**	**255**	P	**P**	**00 49 51.9**	**-1.6**
	0.1nm,0.3s,baz=170,slow=19,SNR=1.5						
DZM				LR	LR	00 56 03.4	
	comp=Z,41nm,20.1s,baz=348,slow=32 1.8nm,0.6s						
TOZ	**Tahuroa Road**	**22.39**	**206**		**P**	**00 50 19.1**	**+2.1**
RTZ	**Ruatahuna**	**22.59**	**202**		**P**	**00 50 20.4**	**+1.1**
BKZ	**Black Stump Fm**	**23.26**	**202**	P	**P**	**00 50 27.9**	**+1.8**
HIZ	**Hauiti**	**23.32**	**206**	P	**P**	**00 50 29.3**	**+2.6**
MRZ	**Mangatainoka R**	**24.91**	**202**	P	**P**	**00 50 43.2**	**+1.6**
MRZ				IAmb	IAmb	00 50 57.3	
	comp=Z,22nm,1.1s						
TCW	**Tory Channel**	**25.86**	**203**	P	**P**	**00 50 51.4**	**+1.1**
TUWZ	**Tuamarina**	**26.18**	**203**	P	**P**	**00 50 55.4**	**+2.3**
HNR	**Honiara**	**28.00**	**284**	LR	LR	01 00 28.6	
	comp=Z,408nm,20.9s,baz=166,slow=33						
FOZ	**Fox Glacier**	**29.60**	**207**	P	**P**	**00 51 25.9**	**+2.2**
KRVT	**Keravat (AS076**	**37.20**	**287**	LR	LR	01 05 46.5	
	comp=Z,244nm,21.0s,baz=79,slow=33						
CTAO	**Charters Tower**	**38.96**	**260**	P	**P**	**00 52 43.8**	**-1.3**
CTAO				IAmb	IAmb	00 52 54.3	
	comp=Z,15nm,1.3s						
TOO	**Toolangi**	**41.59**	**233**	P	**P**	**00 53 05.9**	**-0.8**
TOO				IAmb	IAmb	00 53 08.6	
	comp=Z,13nm,1.4s						
COEN	**Coen**	**42.70**	**269**	P	**P**	**00 53 14.0**	**-1.9**
COEN				IAmb	IAmb	00 53 16.6	
	comp=Z,6.9nm,0.8s						
STKA	**Stephens Creek**	**43.57**	**242**	P	**P**	**00 53 19.6**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=104,slow=16,SNR=1.5 comp=Z,0.4nm,0.3s						
BBOO	**Buckleboo**	**48.33**	**242**	P	**P**	**00 53 58.9**	**-1.5**
BBOO				IAmb	IAmb	00 54 08.9	
	comp=Z,7.7nm,1.1s						
WR0	**Warramunga Arr**	**49.94**	**259**	P	**P**	**00 54 10.9**	**-2.0**
WR0				IAmb	IAmb	00 54 16.6	
	comp=Z,9.5nm,1.4s						
WB0	**Warramunga Arr**	**50.10**	**259**	P	**P**	**00 54 12.4**	**-1.8**
WB0				IAmb	IAmb	00 54 14.2	
	comp=Z,4.1nm,0.7s						
WB2	**Warramunga Arr**	**50.12**	**259**	P	**P**	**00 54 12.7**	**-1.6**
WB2				IAmb	IAmb	00 54 14.7	
	comp=Z,4.3nm,0.8s						
WRA	**Warramunga Arr**	**50.13**	**259**	P	**P**	**00 54 12.7**	**-1.6**
WRA	**Warramunga Arr**	**50.13**	**259**	P	P	00 54 10.9	-3.5
	comp=Z,1.8nm,0.5s,baz=98,slow=6.6,SNR=53						
WRA				PcP	**PcP**	**00 55 33.4**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=87,slow=5.1,SNR=1.9 comp=Z,1.8nm,0.5s						
AS31	**Alice Springs**	**50.17**	**254**	P	**P**	**00 54 14.4**	**-0.3**
ASAR	**Alice Springs**	**50.17**	**254**	P	**P**	**00 54 13.1**	**-1.6**
ASAR	**Alice Springs**	**50.17**	**254**	P	**P**	**00 54 12.2**	**-2.6**
	comp=Z,7.2nm,0.6s,baz=86,slow=8.6,SNR=65						
ASAR				PcP	**PcP**	**00 55 34.3**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=88,slow=6.3,SNR=4.1 comp=Z,7.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**58.54**	**259**	P	**P**	**00 55 15.7**	**+0.1**
VNDA	**Vanda**	**61.01**	**186**	P	**P**	**00 55 34.3**	**+2.6**
VNDA	**Vanda**	**61.01**	**186**	P	**P**	**00 55 32.7**	**+1.1**
	comp=Z,1.4nm,1.0s,baz=50,slow=6.7,SNR=4.2 comp=Z,1.4nm,1.0s						
NVAR	**Mina Array Bea**	**75.63**	**41**	P	**P**	**00 57 06.1**	**+2.0**
	comp=Z,2.0nm,0.9s,baz=227,slow=8.8,SNR=9.3 comp=Z,2.0nm,0.9s						
Y14A	**Wickenburg**	**76.59**	**47**	P	**P**	**00 57 09.6**	**+0.1**
USRK	**Ussuriysk Ar.**	**79.85**	**323**	LR	LR	01 27 35.0	
	comp=Z,38nm,20.0s,baz=160,slow=32						
TXAR	**Lajitas Array**	**81.31**	**55**	P	**P**	**00 57 36.6**	**+1.1**
	comp=Z,0.6nm,1.0s,baz=209,slow=10.0,SNR=4.3 comp=Z,0.6nm,1.0s						
H03S2	**Juan Fernandez**	**83.15**	**123**	T	T	02 29 39.6	
	baz=242,slow=74,SNR=68						
H03S1	**Juan Fernandez**	**83.17**	**123**	T	T	02 29 39.4	
	baz=242,slow=74,SNR=68						
H03S3	**Juan Fernandez**	**83.17**	**123**	T	T	02 29 31.9	
	baz=242,slow=74,SNR=69						
H03N2	**Juan Fernandez**	**83.26**	**123**	T	T	02 29 48.0	
	baz=259,slow=73,SNR=14						
H03N3	**Juan Fernandez**	**83.26**	**123**	T	T	02 29 40.3	
	baz=259,slow=73,SNR=9.3						
H03N1	**Juan Fernandez**	**83.28**	**123**	T	T	02 29 44.9	
	baz=259,slow=73,SNR=15						
PDAR	**Pinedale Array**	**83.56**	**41**	P	**P**	**00 57 47.8**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=205,slow=3.1,SNR=7.8 comp=Z,1.0nm,0.9s						
O30N	**Mendenhall**	**83.68**	**17**	P	**P**	**00 57 48.1**	**+1.0**
O30N				IAmb	IAmb	00 57 50.5	
	comp=Z,7.9nm,1.3s						
R33M	**Jennings River**	**84.13**	**20**	P	**P**	**00 57 49.4**	**-0.1**
G18K	**Tagagawik**	**84.18**	**6**	P	**P**	**00 57 49.9**	**+0.4**
BCAR	**Beaver Creek A**	**84.20**	**14**	P	**P**	**00 57 51.3**	**+1.5**
I21K	**Tanana**	**84.28**	**9**	P	**P**	**00 57 50.8**	**+0.9**
MLY	**Manley**	**84.32**	**9**	P	**P**	**00 57 50.6**	**+0.3**
MLY				IAmb	IAmb	00 57 52.4	
	comp=Z,4.6nm,1.0s						
CCB	**Clear Creek Bu**	**84.44**	**10**	P	**P**	**00 57 51.7**	**+1.0**
CCB				IAmb	IAmb	00 57 52.8	
	comp=Z,6.8nm,1.0s						
M29M	**Somme Creek**	**84.45**	**15**	P	**P**	**00 57 51.9**	**+0.8**
M29M				IAmb	IAmb	00 58 01.9	
	comp=Z,8.8nm,1.5s						
SCRK	**Sand Creek**	**84.54**	**12**	P	**P**	**00 57 51.7**	**+0.2**
SCRK				IAmb	IAmb	00 57 54.5	
	comp=Z,5.3nm,1.1s						
G19K	**Purcell Mounta**	**84.58**	**6**	P	**P**	**00 57 51.7**	**+0.2**
G19K				IAmb	IAmb	00 58 10.3	
	comp=Z,10nm,1.4s						
H21K	**Melozitna Rive**	**84.62**	**8**	P	**P**	**00 57 52.0**	**+0.3**
H21K				IAmb	IAmb	00 57 55.7	
	comp=Z,9.1nm,1.2s						
COLA	**College**	**84.64**	**10**	P	**P**	**00 57 52.5**	**+0.7**
MDM	**Murphy Dome**	**84.65**	**10**	P	**P**	**00 57 52.4**	**+0.5**
MDM				IAmb	IAmb	00 57 55.0	
	comp=Z,10nm,1.3s						
ILAR	**Eielson Array**	**84.71**	**11**	P	**P**	**00 57 52.6**	**+0.4**
ILAR	**Eielson Array**	**84.71**	**11**	P	**P**	**00 57 51.8**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=228,slow=5.1,SNR=13 comp=Z,0.9nm,0.7s						
IL03	**Eielson Array**	**84.72**	**11**	P	**P**	**00 57 51.6**	**-0.6**
IMAR	**Indian Mountai**	**84.81**	**8**	P	**P**	**00 57 53.8**	**+1.2**
J25K	**Salcha River,**	**84.84**	**11**	P	**P**	**00 57 54.5**	**+1.5**
J25K				IAmb	IAmb	00 58 04.6	
	comp=Z,3.2nm,1.1s						
POKR	**Poker Plat Res**	**84.93**	**10**	P	**P**	**00 57 53.5**	**+0.1**
POKR				IAmb	IAmb	00 57 55.9	
	comp=Z,7.3nm,1.0s						
J26L	**Joseph Creek**	**85.10**	**12**	P	**P**	**00 57 55.4**	**+1.1**
J26L				IAmb	IAmb	00 57 58.0	
	comp=Z,6.9nm,0.9s						
L29M	**L29M**	**85.10**	**15**	P	**P**	**00 57 55.1**	**+0.9**
YKA	**Yellowknife Ar**	**92.04**	**23**	P	**P**	**00 58 27.4**	**+0.1**
	comp=Z,1.1nm,1.0s,baz=232,slow=4.3,SNR=10 comp=Z,1.1nm,1.0s						
LVC	**Limon Verde**	**95.20**	**116**	LR	LR	01 33 41.7	
	comp=Z,26nm,18.3s,baz=212,slow=30						
KURBB	**Kurchatov Arra**	**115.60**	**318**	PKP	**PKiKP**	**01 04 00.6**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=103,slow=2.0,SNR=5.4						
BVAR	**Borovoye Array**	**120.33**	**321**	PKP	**PKPdf**	**01 04 09.3**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=88,slow=4.7,SNR=4.7						
KMBO	**Kilima Mbogo**	**145.12**	**240**	PKP	**PKPdf**	**01 04 58.8**	**+1.2**
	comp=Z,3.1nm,0.9s,baz=24,slow=3.2,SNR=6.3						
CLL	**Collm**	**146.36**	**354**	⫛*i*PKPbc	**PKPab**	**01 05 01.4**	**+1.2**
	comp=Z,21nm,1.1s						
CLL				*ex*	x	01 05 12.0	
BRTR	**Keskin Array B**	**148.58**	**319**	PKPbc	**PKPbc**	**01 05 07.5**	**+1.3**
	comp=Z,1.9nm,0.9s,baz=125,slow=1.6,SNR=7.8						
GERES	**GERESS Array B**	**148.70**	**352**	PKPbc	**PKiKP**	**01 05 07.5**	**0.0**
	comp=Z,1.3nm,0.8s,baz=48,slow=2.0,SNR=5.1						
MMAI	**Mount Meron Ar**	**150.73**	**306**	PKPbc	**PKPbc**	**01 05 12.5**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=28,slow=5.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**172.72**	**129**	PKPab	**PKPab**	**01 06 55.1**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=272,slow=5.8,SNR=3.1						

IDC 11 01:10:47.8±70.0,22.00S×179.62W,h0km,mb4.5/3, mbtmp4.5/3,Error ellipse: s-maj=1260.0km s-min=164.0km az=84.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.79**	**246**	P	P	01 17 47.4	-1.5
	1.2nm,0.6s,baz=87,slow=11,SNR=3.7 1.2nm,0.6s						
ASAR	**Alice Springs**	**42.73**	**258**	P	P	01 18 47.0	0.0
	13nm,0.4s,baz=95,slow=7.6,SNR=9.0 13nm,0.4s						
WRA	**Warramunga Arr**	**42.92**	**264**	P	P	01 18 49.2	+0.7
	2.6nm

BVAR	**Borovoye Array**	**116.77**	**321**	PKP	**PKPdf**	**01 33 25.8**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=108,slow=4.7,SNR=2.3						
BUR08	**Bucovina Ar. S**	**144.53**	**332**	PKPdf	**PKPdf**	**01 34 17.7**	**-0.6**
BURAR	**Bucovina Array**	**144.55**	**332**		**PKPdf**	**01 34 18.1**	**-0.1**
BRTR	**Keskin Array B**	**144.71**	**315**		**PKPdf**	**01 34 19.8**	**+0.9**
BRTR	**Keskin Array B**	**144.71**	**315**	PKP	**PKPdf**	**01 34 19.4**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=101,slow=3.6,SNR=7.4						
CLL	**Collm**	**145.41**	**347**	*i* PKPbc	**PKPbc**	**01 34 21.4**	**+0.6**
MMAI	**Mount Meron Ar**	**146.06**	**303**	PKPbc	**PKPbc**	**01 34 24.2**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=60,slow=5.0,SNR=5.5						
GEC2	**GERESS Array S**	**147.56**	**345**	PKPbc	**PKPdf**	**01 34 25.8**	**+2.5**
GERES	**GERESS Array B**	**147.56**	**345**	PKPdf	**PKPdf**	**01 34 23.4**	**+0.1**
GERES				PKPbc	**PKPbc**	**01 34 26.7**	**-0.2**
GERES	**GERESS Array B**	**147.56**	**345**	PKPbc	**PKPbc**	**01 34 26.6**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=2.4,slow=2.4,SNR=2.6						
RDO	**Rodhopi**	**148.97**	**323**	PKPbc	**PKPbc**	**01 34 29.6**	**-0.9**
TORD	**Torodi Ar. Bea**	**175.30**	**182**	PKPab	**PKPab**	**01 36 31.8**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=246,slow=39,SNR=3.0						

*IDC **11** 01:34:56.8±0.7,28°.55S×176°.88W,h0km,mb3.9/6, mbtmp4.0/9,ML3.8/3,MS3.5/6,Error ellipse: s-maj=28.5km s-min=16.2km az=137.0*

ISC 11 01:35:02.3±0.7,28°.8S±0'.1×176°.9W±0'.1,h35km,n23, σ1s71/24,mb3.8/6,MS3.5/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.02**	**244**	Pn	**Pn**	**01 35 21.5**	**+1.3**
	534nm,0.3s,baz=28,slow=16,SNR=11						
RAO				Sn	**Sn**	**01 35 36.6**	**+3.3**
	2µm,0.3s,baz=281,slow=23,SNR=12						
URZ	**Urewera**	**10.69**	**206**	Pn	**Pn**	**01 37 32.4**	**-0.5**
	0.6nm,0.3s,baz=139,slow=11,SNR=1.4						
URZ				Sn	**Sn**	**01 39 27.2**	**-4.0**
	0.8nm,0.3s,baz=242,slow=20,SNR=1.4						
	1.8nm,0.3s						
DZM	**Mont Dzumac**	**16.49**	**290**	Pn	**Pn**	**01 38 47.8**	**-3.3**
	0.1nm,0.3s,baz=108,slow=18,SNR=2.1						
DZM				LR	LR	01 44 07.3	
	comp=Z,143nm,19.3s,baz=62,slow=34						
	4.1nm,1.0s						
RPZ	**Rata Peaks**	**17.76**	**210**	P	**P**	**01 39 07.4**	**+0.7**
	1.0nm,0.3s,baz=328,slow=4.7,SNR=6.0						
	5.4nm,0.6s						
PPT	**Papeete**	**27.40**	**72**	LR	LR	01 48 31.2	
	comp=Z,22nm,20.9s,baz=332,slow=30						
CTA	**Charters Tower**	**34.56**	**276**	LR	LR	01 54 45.4	
	comp=Z,97nm,18.8s,baz=85,slow=34						
STKA	**Stephens Creek**	**35.83**	**255**	P	**P**	**01 41 59.1**	**+0.5**
	0.9nm,0.4s,baz=70,slow=7.7,SNR=3.5						
STKA				LR	LR	01 54 36.8	
	comp=Z,56nm,19.4s,baz=24,slow=33						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**44.21**	**265**	P	**P**	**01 43 07.8**	**-0.4**
	0.7nm,0.6s,baz=100,slow=7.2,SNR=9.6						
ASAR				PcP	**PP**	**01 44 51.5**	**-0.2**
	0.3nm,0.5s,baz=114,slow=4.1,SNR=2.3						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**45.05**	**270**	P	**P**	**01 43 14.2**	**-0.9**
	0.6nm,0.4s,baz=109,slow=7.7,SNR=11						
WRA				PcP	**PcP**	**01 44 54.1**	**-1.4**
	0.7nm,0.8s,baz=116,slow=3.4,SNR=3.4						
	0.6nm,0.4s						
NWAO	**Narrogin (SRO)**	**55.90**	**248**	LR	LR	02 05 44.3	
	comp=Z,37nm,19.4s,baz=231,slow=33						
BATI	**Baumata**	**58.45**	**276**	LR	LR	02 10 05.2	
	comp=Z,148nm,18.6s,baz=132,slow=36						
QSPA	**South Pole Qui**	**61.31**	**180**	P	**P**	**01 45 15.6**	**+1.5**
	5.3nm,0.9s,baz=67,slow=2.0,SNR=11						
	5.3nm,0.9s						
NVAR	**Mina Array Bea**	**86.39**	**42**	P	**P**	**01 47 40.4**	**-0.8**
	0.5nm,0.8s,baz=224,slow=9.9,SNR=5.1						
	0.5nm,0.8s						
TXAR	**Lajitas Array**	**90.69**	**57**	P	**P**	**01 48 02.1**	**+0.4**
	0.2nm,0.8s,baz=216,slow=5.6,SNR=1.9						
	0.2nm,0.8s						
KURBB	**Kurchatov Arra**	**120.69**	**314**	PKP	**PKPdf**	**01 53 49.0**	**-1.1**
	0.2nm,0.3s,baz=101,slow=2.3,SNR=4.4						
BVAR	**Borovoye Array**	**125.94**	**317**	PKP	**PKPdf**	**01 53 59.5**	**-0.6**
	0.4nm,0.5s,baz=116,slow=3.4,SNR=2.4						
FINES	**FINESS Array B**	**143.96**	**341**	PKP	PKPab	01 54 30.3	-0.3
	6.0nm,1.1s,baz=73,slow=2.6,SNR=4.7						
NB2	**NORSAR Subarra**	**147.31**	**353**	PKP	**PKPdf**	**01 54 40.4**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=15,slow=4.4						
NOA	**NORSAR Array B**	**147.31**	**353**	PKPbc	**PKPdf**	**01 54 40.1**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=12,slow=4.6,SNR=2.0						
HFS	**Hagfors**	**147.86**	**350**	PKPbc	**PKPdf**	**01 54 41.7**	**+1.6**
	comp=Z,0.8nm,0.4s,baz=64,slow=3.4,SNR=7.3						
AKASG	**Malin Array Be**	**150.59**	**325**	PKPbc	**PKPbc**	**01 54 49.4**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=45,slow=2.7,SNR=6.4						
MMAI	**Mount Meron Ar**	**152.05**	**287**	PKPbc	**PKiKP**	**01 54 55.5**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=74,slow=6.2,SNR=4.4						
MMAI				PKPab	**PKPab**	**01 55 04.5**	**+0.7**
	comp=Z,3.0nm,0.6s,baz=81,slow=5.2,SNR=7.3						
BRTR	**Keskin Array B**	**152.65**	**302**	PKPbc	**PKPbc**	**01 54 54.9**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=131,slow=4.0,SNR=1.9						
BRTR				PKPab	**sPKPdf**	**01 55 04.7**	**+2.5**
	comp=Z,1.2nm,0.7s,baz=144,slow=4.9,SNR=6.4						

*NEIC **11** 01:43:02.3±0.9,0°.50N±0°.06×123°.55E±0°.10,h237km±5km, mb4.1/15, Error ellipse: s-maj=14.6km s-min=8.1km az=70.0*

*IDC **11** 01:43:03.7±5.8,0°.51N×123°.52E,h259km±61km,mb3.5/11, mbtmp4.1/11,MS3.3/1,Error ellipse: s-maj=40.9km s-min=14.0km az=65.0*

*DJA **11** 01:43:03.7±0.8,0°.N±5°×12°.4E±°,h223km±9km,M3.9/7, mb3.8/1,mB5.3/1,MLv3.9/7,Mw(mB)4.7/1*

ISC 11 01:43:02.2±0.6,0°.42N±0°.07×123°.52E±0°.06,h250km,n41, σ1s30/44,mb4.0/19,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.49**	**71**	P	**Pn**	**01 43 35.1**	**0.0**
MRSI	**Marisa**	**1.58**	**272**	P	**Pn**	**01 43 41.7**	**+0.5**
MRSI				S	**S**	**01 44 08.8**	**-3.0**
LUWI	**Luwuk**	**1.63**	**207**	Pn	**Pn**	**01 43 41.1**	**-0.4**
LUWI	**Luwuk**	**1.63**	**207**	P	**Pn**	**01 43 40.6**	**-1.0**
LUWI				S	**S**	**01 44 09.3**	**-3.3**
TOLI2	**Tolitoli**	**2.83**	**284**	Pn	**Pn**	**01 43 53.1**	**+0.3**
SANI	**Sanana**	**3.48**	**135**	P	**Pn**	**01 43 58.2**	**-1.8**
TNTI	**Ternate**	**3.86**	**85**	Pn	**Pn**	**01 44 03.2**	**-1.2**
TNTI	**Ternate**	**3.86**	**85**	P	**Pn**	**01 44 03.3**	**-1.2**
LBMI	**Labuha**	**4.12**	**105**	P	**Pn**	**01 44 06.4**	**-1.0**
NLAI	**Namlea**	**5.10**	**135**	P	**Pn**	**01 44 20.4**	**+1.2**
KNRA	**Kununurra**	**16.81**	**162**	P	**P**	**01 46 43.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**18.52**	**174**	P	**P**	**01 47 01.2**	**+0.7**
WB0	**Warramunga Arr**	**22.71**	**153**	P	**P**	**01 47 43.7**	**+0.8**
WRA	**Warramunga Arr**	**22.84**	**153**	P	**P**	**01 47 44.6**	**+0.5**
WRA	**Warramunga Arr**	**22.84**	**153**	P	**P**	**01 47 45.4**	**+1.3**
	3.3nm,0.3s,baz=329,slow=11,SNR=153						
	3.3nm,0.3s						
WB2	**Warramunga Arr**	**22.85**	**153**	P	**P**	**01 47 45.1**	**+1.0**
WR0	**Warramunga Arr**	**22.95**	**153**	P	**P**	**01 47 46.3**	**+1.2**
WR0				IAmb	IAmb	01 47 49.0	
	comp=Z,5.0nm,0.6s						
AS31	**Alice Springs**	**25.98**	**158**	P	**P**	**01 48 14.6**	**+2.2**
ASAR	**Alice Springs**	**25.98**	**158**	P	**P**	**01 48 14.0**	**+1.6**
ASAR	**Alice Springs**	**25.98**	**158**	P	**P**	**01 48 14.3**	**+1.9**
	comp=Z,0.8nm,0.4s,baz=329,slow=7.5,SNR=12						
ASAR				LR	LR	02 01 12.1	
	comp=Z,58nm,18.5s,baz=123,slow=42						
	comp=Z,0.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**30.07**	**308**	P	**P**	**01 48 47.3**	**-1.4**
	comp=Z,1.1nm,0.2s,baz=134,slow=7.8,SNR=1.4						
	comp=Z,1.1nm,0.2s						
FORT	**Forrest**	**31.32**	**172**	P	**P**	**01 49 00.5**	**+1.1**
FORT				IAmb	IAmb	01 49 03.0	
	comp=Z,15nm,1.1s						
BBOO	**Buckleboo**	**35.10**	**161**	P	**P**	**01 49 32.9**	**+0.8**
BBOO				IAmb	IAmb	01 49 34.3	
	comp=Z,6.2nm,0.9s						
USRK	**Ussuriysk Ar.**	**44.24**	**9**	P	**P**	**01 50 47.1**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=195,slow=7.1,SNR=4.8						
	comp=Z,0.8nm,0.4s						
SONM	**Songino Array**	**49.52**	**345**	P	**P**	**01 51 29.1**	**+1.3**
SONM				IAmb	IAmb	01 51 31.1	
	comp=Z,1.5nm,0.8s						
SONM	**Songino Array**	**49.52**	**345**	P	**P**	**01 51 28.0**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=160,slow=8.2,SNR=7.3						
	comp=Z,1.0nm,0.6s						
MK31	**Makanchi Array**	**58.54**	**328**	P	**P**	**01 52 33.3**	**+0.5**
MK31				IAmb	IAmb	01 52 35.9	
	comp=Z,1.6nm,0.9s						
MKAR	**Makanchi Array**	**58.54**	**328**	P	**P**	**01 52 33.3**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=124,slow=8.2,SNR=23						
MKAR				PcP	**PcP**	**01 53 20.9**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=134,slow=3.5,SNR=2.3						
	comp=Z,1.1nm,0.4s						
MAKZ	**Makanchi**	**58.71**	**328**	P	**P**	**01 52 34.3**	**+0.4**
MAKZ				IAmb	IAmb	01 52 36.5	
	comp=Z,2.2nm,0.8s						
ZALV	**Zalesovo Beam**	**62.15**	**335**	P	**P**	**01 52 56.3**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=125,slow=6.2,SNR=2.5						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**62.87**	**330**	P	**P**	**01 53 01.8**	**0.0**
	comp=Z,1.9nm,0.6s,baz=132,slow=5.9,SNR=28						
	comp=Z,1.9nm,0.6s						
KURK	**Kurchatov**	**62.88**	**330**	P	**P**	**01 53 01.9**	**+0.1**
KURK				IAmb	IAmb	01 53 04.2	
	comp=Z,5.9nm,0.6s						
BVAR	**Borovoye Array**	**68.40**	**329**	P	**P**	**01 53 36.7**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=148,slow=6.8,SNR=5.1						
	comp=Z,0.5nm,0.4s						
ABKAR	**Akbulak array**	**72.72**	**322**	P	**P**	**01 54 02.0**	**-1.1**
L16K	**Owhat River**	**83.48**	**28**	P	**P**	**01 55 04.5**	**+2.8**
L16K				IAmb	IAmb	01 55 21.9	
	comp=Z,2.9nm,0.9s						
C18K	**Utukok River**	**84.28**	**21**	P	**P**	**01 55 06.8**	**+1.1**
C18K				IAmb	IAmb	01 55 28.6	
	comp=Z,3.8nm,1.1s						
ILAR	**Eielson Array**	**89.45**	**25**	P	**P**	**01 55 28.7**	**-1.9**
	comp=Z,0.4nm,1.0s,baz=256,slow=3.6,SNR=1.8						
	comp=Z,0.4nm,1.0s						
ARCES	**ARCESS Array B**	**92.42**	**340**	P	**P**	**01 55 43.7**	**-0.6**
	comp=Z,3.7nm,0.9s,baz=90,slow=4.9,SNR=5.7						
	comp=Z,3.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**120.80**	**286**	PKPdf	**PKPdf**	**02 01 25.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**120.80**	**286**	PKP	**PKiKP**	**02 01 26.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=77,slow=3.2,SNR=5.4						

*JSO **11** 01:43:30,29°.75N×34°.44E,h10km,ML2.0/8,Mw2.1/8*
*HLW **11** 01:43:38.1,29°.72N×34°.31E,h2km±2km,Md2.4,Ml2.5*
*GII **11** 01:43:39.1±0.1,29°.74N×34°.44E,h9km,MD1.8/5,Mm2.1/4*

ISC 11 01:43:38.2±1.4,29°.75N±0°.03×34°.44E±0°.05,h14km±11km, n19,σ0s40/29,Egypt

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBRI	**Mt Berech**	**0.42**	**83**	Pg	**Pb**	**01 43 47.3**	**-0.2**
MBRI				Sg	**Sg**	**01 43 52.9**	**+0.6**
MBRI	**Mt Berech**	**0.42**	**83**	P	**Pb**	**01 43 47.5**	**0.0**
KRMI	**Paran Flat**	**0.45**	**34**	Pg	**Pb**	**01 43 47.8**	**-0.1**
KRMI				Sg	**Sb**	**01 43 54.4**	**-0.1**
EIL	**Elat**	**0.45**	**99**	Pg	**Pb**	**01 43 47.7**	**-0.3**
EIL				Sg	**Sb**	**01 43 54.3**	**-0.4**
AQBJ	**Aqaba**	**0.53**	**92**	P	**Pb**	**01 43 49.3**	**-0.1**
HBST	**Basata**	**0.59**	**154**	P	**Pb**	**01 43 50.4**	**+0.1**
	baz=143						
HBST				S	**Sb**	**01 43 59.2**	**+0.7**
	baz=143						
HRFI	**Mount Harif**	**0.60**	**61**	Pg	**Pb**	**01 43 50.3**	**-0.2**
HRFI				Sg	**Sb**	**01 43 58.4**	**-0.4**
HRFI	**Mount Harif**	**0.60**	**61**	P	**Pb**	**01 43 50.4**	**-0.1**
NUB	**Nuweibaa**	**0.74**	**166**	P	**Pb**	**01 43 53.3**	**+0.4**
	baz=158						
PRNI	**Paran**	**0.78**	**39**	Pg	**Pb**	**01 43 53.7**	**+0.1**
PRNI				Sg	**Sb**	**01 44 04.5**	**+0.4**
PRNI	**Paran**	**0.78**	**39**	P	**Pb**	**01 43 53.8**	**+0.1**
ZFRI	**Zfri**	**1.03**	**38**	Pg	**Pg**	**01 43 57.9**	**-0.2**
ZFRI				Sg	**Sb**	**01 44 12.0**	**+0.8**
HDHB	**Dhahab**	**1.03**	**171**	P	**Pg**	**01 43 57.9**	**-0.3**
	baz=164						
KZIT	**Kziot**	**1.16**	**358**	Pg	**Pb**	**01 44 00.3**	**+0.3**
KZIT				Sg	**Sn**	**01 44 16.4**	**+0.7**
HKAT	**Jabal Katrina**	**1.28**	**198**	P	**Pn**	**01 44 01.4**	**-0.5**
	baz=194						
HKAT				S	**Sb**	**01 44 18.5**	**-0.1**
	baz=194						
TR2	**Tor 2**	**1.49**	**205**	P	**Pn**	**01 44 04.2**	**-0.5**
	baz=202						
TR1	**Tor 1**	**1.78**	**194**	P	**Pn**	**01 44 08.7**	**0.0**
	baz=191						
AMAZ	**Amatzia**	**1.83**	**13**	Pn	**Pb**	**01 44 10.8**	**-0.7**
AMAZ				Sn	**Sn**	**01 44 32.2**	**-0.1**
DSI	**Dead Sea**	**1.99**	**24**	P	**Pn**	**01 44 11.5**	**0.0**

IDC 11 02:00:14.6±10.0,2°.93S×139°.79E,h0km,mb3.5/2, mbtmp3.4/3,ML3.2/1,MS3.2/1,Error ellipse: s-maj=154.1km s-min=62.9km az=18.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**17.57**	**245**	P	Pn	02 04 21.3	+0.1
	64nm,0.7s,baz=25,slow=8.1,SNR=6.4						
WRA	**Warramunga Arr**	**17.73**	**197**	P	Pn	02 04 22.5	-0.6
	0.1nm,0.3s,baz=15,slow=12,SNR=7.8						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**21.39**	**195**	P	P	02 05 04.3	+0.2
	0.2nm,0.3s,baz=27,slow=8.8,SNR=4.4						
	0.2nm,0.3s						
STKA	**Stephens Creek**	**28.85**	**177**	P	P	02 06 14.9	0.0
	0.9nm,0.5s,baz=4.4,slow=13,SNR=3.4						
	0.9nm,0.5s						
PETK	**Petropavlovsk-**	**57.83**	**13**	LR	LR	02 33 53.7	
	comp=Z,20nm,19.7s,baz=67,slow=35						

*IDC **11** 02:42:16.9±4.7,2°.82S×102°.77E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=260.6km s-min=24.7km az=52.0*

*DJA **11** 02:42:18.5±1.0,4°.S±6°×10°.2E±°,h13km±8km,M3.9/7, mb4.1/1,MLv3.8/7*

ISC 11 02:42:15.6±1.2,4°.0S±0°.2×101°.5E±0°.1,h10km,n11, σ2s16/11,mb3.5/4,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**1.48**	**105**	P	**Pn**	**02 42 43.6**	**+1.2**
MNAI				S	**Sn**	**02 43 01.1**	**-0.8**
PPSI	**Pulau Pagai**	**1.93**	**308**	P	**Pn**	**02 42 51.0**	**+2.5**
LHSI	**Lahat**	**2.00**	**86**	P	**Pn**	**02 42 52.3**	**+2.8**
KASI	**Kota Agung**	**3.34**	**118**	P	**Pn**	**02 43 10.9**	**+2.9**
SISI	**Saibi**	**3.58**	**317**	P	**Pn**	**02 43 12.7**	**+1.5**
PBSI	**Pulau Batu**	**5.06**	**320**	P	**Pn**	**02 43 33.9**	**+2.2**
WRA	**Warramunga Arr**	**35.70**	**119**	P	**P**	**02 49 13.6**	**-1.1**
	0.4nm,0.6s,baz=301,slow=9.4,SNR=5.3						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**36.88**	**125**	P	**P**	**02 49 24.1**	**-0.6**
	0.2nm,0.3s,baz=298,slow=8.3,SNR=4.2						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**53.33**	**344**	P	**P**	**02 51 33.0**	**-2.1**
	0.2nm,0.3s,baz=152,slow=8.6,SNR=4.9						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**59.38**	**349**	P	P	02 52 14.4	-3.7
	0.7nm,0.5s,baz=163,slow=8.3,SNR=3.6						
	0.7nm,0.5s						
YKA	**Yellowknife Ar**	**115.79**	**18**	PKP	**PKiKP**	**03 00 57.9**	**-0.3**
	0.1nm,0.8s,baz=302,slow=1.3,SNR=1.9						

*BJI **11** 03:00:58.0,31°.44N×141°.95E,h8km,mb4.6/55,mB5.0/31, Ms4.6/29,Ms7 4.3/31*

*IDC **11** 03:01:00.0±0.5,31°.50N×141°.80E,h0km,mb4.6/24, mbtmp4.5/31,ML3.7/8,MS3.8/39,Error ellipse: s-maj=16.1km s-min=12.4km az=63.0*

*MOS **11** 03:01:00.4±1.0,31°.50N×141°.88E,h15km,mb5.1/41,Error ellipse: s-maj=10.8km s-min=4.8km az=114.0*

*JMA **11** 03:01:01.8±0.4,32°.N±1°×14°.2E±°,h46km,MV4.4/37, NEAR TORISHIMA IS*

*NIED **11** 03:01:01.8,31°.57N×142°.06E,h46km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr5.87; Mθθ-0.51; Mφφ-5.36; Mrθ2.75; Mθφ-0.85; Mφr1.22; Fault plane solution: M₀6.36000×10¹⁵ NP1:φs29.00000°, δ56.00000°,λ112.00000°. NP2:φs174.00000°,δ39.00000°, λ61.00000°.*

*NEIC **11** 03:01:01.7±1.5,31°.55N±0°.06×141°.85E±0°.07,h10km±1km, mb4.9/178 Error ellipse: s-maj=13.7km s-min=4.1km az=225.0*

ISC 11 03:01:03.8±0.3,31°.45N±0°.04×141°.89E±0°.05,h29km,n605, σ1s38/554,mb4.9/151,MS3.9/43,13C-13D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**2.07**	**300**	*e*P	**Pn**	**03 01 36.7**	**0.0**
JHCJ	**Hachijojimakas**	**2.40**	**313**	*e*P	**Pn**	**03 01 39.9**	**-1.2**
JHJ2	**Mitsune**	**2.41**	**314**	Pn	**Pn**	**03 01 39.7**	**-1.6**
JHJ2	**Mitsune**	**2.41**	**314**	P	**Pn**	**03 01 40.0**	**-1.4**
JHJ2				*e*S	**Sn**	**03 02 07.7**	**-2.2**
JHJ	**Hachijo jima 2**	**2.44**	**314**	Pn	**Pn**	**03 01 37.9**	**-3.8**
	79nm,0.3s,baz=100,slow=21,SNR=24						
JHJ				Sn	**Sn**	**03 02 06.5**	**-4.0**
	148nm,0.3s,baz=230,slow=22,SNR=8.8						
JHJ				LR	LR	03 02 47.8	
	comp=Z,2µm,20.1s,baz=48,slow=46						
	201nm,0.3s						
BSO1	**Boso 1**	**3.28**	**347**	P	**Pn**	**03 01 51.6**	**-1.2**
BSO1				*e*S	**Sn**	**03 02 29.2**	**-1.4**
BSO3	**Boso 3**	**3.53**	**341**	*e*P	**Pn**	**03 01 54.6**	**-1.9**
BSO4	**Boso 4**	**3.76**	**340**	*e*P	**Pn**	**03 01 57.7**	**-2.1**
CBIJ	**Chichi jima**	**4.35**	**176**	*e*P	**Pn**	**03 02 07.6**	**-0.4**
CBIJ				*e*S	**Sn**	**03 02 58.7**	**+1.0**
JCJ	**Chichijima**	**4.35**	**176**	Pn	**Pn**	**03 02 06.7**	**-1.3**
JCJ	**Chichijima**	**4.35**	**176**	Pn	Pn	03 02 02.5	-5.5
	60nm,0.3s,baz=68,slow=18,SNR=42						
JCJ				Sn	**Sn**	**03 02 53.9**	**-3.8**
	43nm,0.3s,baz=295,slow=23,SNR=2.2						
JCJ				LR	LR	03 03 32.8	
	comp=Z,454nm,21.1s,baz=86,slow=35						
JOD2	**Odawara 2**	**4.46**	**329**	P	**Pn**	**03 02 10.5**	**+0.9**
JHU	**Hanno**	**4.90**	**334**	P	**Pn**	**03 02 14.1**	**-1.4**
JHU				*e*S	**Sn**	**03 03 08.8**	**-2.4**
JRY	**Ryogami san**	**5.19**	**332**	P	**Pn**	**03 02 19.7**	**+0.2**
JRY				*e*S	**Sn**	**03 03 17.0**	**-1.4**
JHO	**Hitachi**	**5.26**	**348**	P	**Pn**	**03 02 18.6**	**-1.9**
JAG	**Ashikaga**	**5.36**	**338**	P	**Pn**	**03 02 20.5**	**-1.3**
JAG				*e*S	**Sn**	**03 03 19.9**	**-2.6**
MJAR	**Matsushiro Arr**	**5.92**	**330**	Pn	**Pn**	**03 02 27.8**	**-1.8**
	0.9nm,0.3s,baz=146,slow=10,SNR=38						
MJAR				Sn	**Sn**	**03 03 34.3**	**-2.2**
	0.2nm,0.3s,baz=162,slow=11,SNR=4.2						
MJAR				LR	LR	03 04 45.9	
	comp=Z,807nm,18.7s,baz=136,slow=39						
	17nm,0.7s						
MAJO	**Matsushiro**	**5.92**	**330**	Pn	**Pn**	**03 02 29.2**	**-0.5**
MAJO	**Matsushiro**	**5.92**	**330**	*de*P	**Pn**	**03 02 30.6**	**+0.9**
MJB9	**Matsu-Tunnel**	**5.93**	**330**	Pn	**Pn**	**03 02 29.9**	**+0.2**
JFK	**Kawauchi**	**5.96**	**352**	P	**Pn**	**03 02 27.6**	**-2.6**
JMM	**Marumori**	**6.46**	**352**	Pn	**Pn**	**03 02 34.8**	**-2.2**
JMK	**Ichinoseki**	**7.50**	**356**	P	**Pn**	**03 02 49.2**	**-2.1**
JMK				S	**Sn**	**03 04 08.0**	**-7.4**
JTM	**Tenmabayashi**	**9.34**	**356**	Pn	**Pn**	**03 03 14.1**	**-2.4**
JNU	**Nakatsue**	**9.47**	**283**	Pn	**Pn**	**03 03 17.4**	**-0.9**
	0.3nm,0.3s,baz=106,slow=22,SNR=1.1						
JNU				LR	LR	03 07 01.3	
	comp=Z,492nm,18.3s,baz=147,slow=38						
	4.6nm,0.8s						
ERM	**Erimo**	**10.59**	**5**	Pn	**Pn**	**03 03 30.1**	**-3.5**
ERM	**Erimo**	**10.59**	**5**	*e*P	**Pn**	**03 03 32.3**	**-1.3**
ASAJ	**Asahikawa**	**12.65**	**2**	Pn	**Pn**	**03 04 00.2**	**-1.6**
	0.7nm,0.3s,baz=218,slow=19,SNR=1.2						
ASAJ				Sn	Sn	03 06 12.1	-10
	0.9nm,0.3s,baz=140,slow=21,SNR=2.7						
	12nm,0.6s						
JKA	**Kamikawa-asahi**	**12.65**	**2**	Pn	**Pn**	**03 03 58.7**	**-3.1**
JOW	**Kunigami**	**12.76**	**252**	LR	LR	03 08 46.2	
	comp=Z,331nm,19.7s,baz=102,slow=37						
KSRS	**Korea Array**	**12.98**	**301**	Pn	**Pn**	**03 04 05.4**	**-0.9**
	0.6nm,0.3s,baz=193,slow=22,SNR=3.3						
KSRS				LR	LR	03 09 12.0	
	comp=Z,574nm,18.4s,baz=120,slow=38						
USRK	**Ussuriysk Ar.**	**14.92**	**331**	Pn	**Pn**	**03 04 31.1**	**-1.5**
	0.1nm,0.3s,baz=145,slow=13,SNR=1.1						
USRK				LR	LR	03 10 16.4	
	comp=Z,218nm,18.6s,baz=146,slow=38						
	1.1nm,0.7s						
YSS	**Yuzh-Sakhalins**	**15.49**	**2**	*e*P	**Pn**	**03 04 37.8**	**-2.4**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
MDJ	**Mudanjiang**	**16.30**	**327**	P	**P**	**03 04 51.0**

comp=E,20nm,0.8s
ZEA pmax pmax
comp=N,30nm,1.0s
ZEA pmax pmax
comp=Z,50nm,0.9s
LYN LuoYang 24.83 285 *e*P **P 03 06 22.0 -1.6**
LYN S **S 03 10 43.9 -0.6**
LYN pmax pmax
comp=Z,15nm,0.6s
LYN pmax pmax
comp=Z,170nm,5.4s
LYN LR LR
comp=Z,340nm,10.6s
LYN LR LR
comp=Z,790nm,11.7s
LYN LR LR
comp=Z,770nm,14.4s
H11N2 WAKE ISLAND Hy 25.33 111 T T 03 33 06.6
baz=304,slow=74
H11N1 WAKE ISLAND Hy 25.34 111 T T 03 33 11.2
baz=304,slow=74
H11N3 WAKE ISLAND Hy 25.35 111 T T 03 33 14.1
baz=304,slow=74
H11S3 WAKE ISLAND Hy 25.85 114 T T 03 33 47.6
baz=305,slow=74,SNR=6.0
H11S1 WAKE ISLAND Hy 25.85 114 T T 03 33 56.5
baz=305
H11S2 WAKE ISLAND Hy 25.86 114 T T 03 34 04.3
baz=305,slow=74
HHC Hu-ho-hao-te 26.11 300 *e*P **P 03 06 34.8 -0.5**
HHC sP pP 03 06 41.2 -0.8
HHC *e*S **S 03 11 06.7 +1.7**
HHC SS **SnSn 03 12 10.4 +6.1**
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,370nm,4.9s
HHC LR LR
comp=Z,670nm,13.7s
HHC LR LR
comp=Z,1μm,13.7s
HHC LR LR
comp=Z,1μm,12.8s
BTO Baotou 27.22 299 *e*P **P 03 06 41.5 -3.8**
BTO pP **pP 03 06 45.8 -6.2**
BTO sP **sP 03 06 48.7 -5.9**
BTO S **S 03 11 19.3 -3.3**
BTO SS **SnSn 03 12 36.6 +5.2**
BTO pmax pmax
comp=Z,19nm,0.9s
BTO pmax pmax
comp=Z,540nm,4.7s
BTO LR LR
comp=Z,970nm,7.8s
BTO LR LR
comp=Z,1μm,12.3s
BTO LR LR
comp=Z,2μm,15.2s
XAN Xi'an 27.78 284 P **P 03 06 48.8 -1.5**
XAN S **S 03 11 34.5 +3.1**
XAN pmax pmax
comp=Z,29nm,1.1s
XAN pmax pmax
comp=Z,130nm,3.7s
XAN LR LR
comp=Z,350nm,15.8s
XAN LR LR
comp=Z,280nm,14.4s
XAN LR LR
comp=Z,450nm,14.4s
ULN Ulaanbaatar 31.10 312 P **P 03 07 20.2 +0.4**
ULN IAmb IAmb 03 07 25.1
comp=Z,15nm,0.8s
ULN Ulaanbaatar 31.10 312 *de*P **P 03 07 21.5 +1.7**
ULN pmax pmax
comp=Z,18nm,0.9s
SONM Songino Array 31.51 312 P **P 03 07 23.7 +0.3**
SONM IAmb IAmb 03 07 27.9
comp=Z,12nm,0.8s
SONM Songino Array 31.51 312 P **P 03 07 23.7 +0.3**
SONM pmax pmax
comp=Z,12nm,0.8s
SONM Songino Array 31.51 312 P **P 03 07 23.3 -0.1**
comp=Z,9.6nm,0.8s,baz=119,slow=8.3,SNR=37
SONM PcP **PcP 03 10 17.3 +1.6**
comp=Z,0.4nm,0.6s,baz=159,slow=4.3,SNR=2.3
SONM LR LR 03 20 39.3
comp=Z,238nm,18.5s,baz=83,slow=38
comp=Z,9.6nm,0.8s
YAK Yakutsk 31.60 349 P **P 03 07 22.8 -1.0**
YAK IAmb IAmb 03 07 34.5
comp=Z,15nm,0.8s
YAK Yakutsk 31.60 349‖ *e*P **P 03 07 25.0 +1.3**
YAK pmax pmax
comp=Z,19nm,0.8s
YAK Yakutsk 31.60 349 LR LR 03 20 33.6
comp=Z,7.4nm,18.3s,baz=123,slow=37
LZH Lanzhou 31.82 289 *e*P **P 03 07 27.4 +1.1**
LZH sP sP 03 07 36.4 +0.8
LZH pmax pmax
comp=Z,10.0nm,1.1s
LZH LR LR
comp=Z,390nm,12.7s
LZH LR LR
comp=Z,520nm,12.4s
LZH LR LR
comp=Z,400nm,14.1s
CD2 Chengdu 32.52 279 *e*P **P 03 07 31.2 -1.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
BOD Bodaibo 32.55 332 *e*P **P 03 07 32.2 0.0**
BOD pmax pmax
comp=Z,19nm,1.2s
ZAK Zakamensk 34.27 315 *e*P **P 03 07 49.3 +2.0**
ZAK pmax pmax
comp=Z,9.0nm,1.3s
GTA Gaotai 34.94 295 *e*P **P 03 07 53.7 +0.4**
GTA pP pP 03 07 58.8 -1.3
GTA pmax pmax
comp=Z,6.0nm,1.1s
PZH PanZhiHua 35.32 272 P **P 03 07 57.9 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.4s
PZH pmax pmax
comp=Z,160nm,4.8s
CRAI Chiangrai 38.79 263 P **P 03 08 25.6 -0.6**
GOMU GeErMu 39.09 290 P **P 03 08 28.9 -0.1**
GOMU pP pP 03 08 32.4 -3.4
GOMU sP sP 03 08 34.3 -4.0
GOMU pmax pmax
comp=Z,12nm,0.7s
BILL Bilibino 39.30 14‖ *e*P **P 03 08 30.1 +0.3**
CMAR Chiang Mai Arr 40.78 262 *ce*P **P 03 08 45.5 +2.8**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 40.78 262 P **P 03 08 41.2 -1.5**
comp=Z,1.2nm,0.4s,baz=56,slow=7.2,SNR=1.8
CMAR LR LR 03 27 03.9
comp=Z,94nm,18.5s,baz=65,slow=38
comp=Z,1.2nm,0.4s
TIXI Tiksi 40.87 354 P **P 03 08 41.7 -1.0**
TIXI Tiksi 40.87 354‖ *e*P **P 03 08 42.6 -0.1**
SPIA Saint Paul Isl 41.61 37 P **P 03 08 50.0 +1.0**
baz=253
KAPI Kappang 41.96 214 LR LR 03 26 04.6
comp=Z,29nm,19.8s,baz=44,slow=36
WMQ Urumqi 43.93 302 *e*P **P 03 09 09.2 +1.1**
WMQ pP pP 03 09 13.8 -1.1
WMQ sP sP 03 09 18.0 +0.4
WMQ pmax pmax
comp=Z,10.0nm,0.9s
WMQ LR LR
comp=Z,120nm,18.3s
DGZ Jazzator, Alta 44.15 311 *d i*P **P 03 09 11.1 +1.1**
DGZ pmax pmax
comp=Z,25nm,0.7s
HNR Honiara 44.18 154 LR LR 03 24 14.3
comp=Z,548nm,21.4s,baz=338,slow=32
COEN Coen 45.17 178 P **P 03 09 20.1 +2.0**
COEN IAmb IAmb 03 09 21.6
comp=Z,18nm,0.9s
MTN Manton Dam 45.23 195 P **P 03 09 19.6 +0.9**
MTN IAmb IAmb 03 09 22.0
comp=Z,14nm,1.1s
ZALV Zalesovo Beam 46.10 316 P **P 03 09 25.0 -0.1**
ZALV Zalesovo Beam 46.10 316 P **P 03 09 25.8 +0.7**
comp=Z,7.0nm,0.7s,baz=102,slow=7.9,SNR=25
ZALV PcP **PcP 03 11 01.4 +0.4**
comp=Z,3.4nm,0.7s,baz=92,slow=3.4,SNR=4.2
ZALV LR LR 03 29 34.5
comp=Z,151nm,18.6s,baz=77,slow=37
comp=Z,7.0nm,0.7s
F14K Arctic Creek 46.17 27 P **P 03 09 27.6 +2.0**
baz=249
ANM Nome 46.23 28 P **P 03 09 28.8 +2.8**
baz=250
J14K Nanvaranak Lak 46.44 31 P **P 03 09 29.8 +2.1**
baz=254
N14K Kuskokwak Cree 46.64 35 P **P 03 09 30.1 +0.9**
baz=258
M14K Bethel 46.68 34 P **P 03 09 30.5 +1.0**
baz=257
O14K Tigyukauivet M 46.72 36 P **P 03 09 31.5 +1.6**
baz=260
F15K North Star Dit 46.91 27 P **P 03 09 33.6 +2.3**
baz=250
G15K Niukluk 46.91 28 P **P 03 09 33.9 +2.6**
baz=252
K15K Wolf Creek Mou 47.23 32 P **P 03 09 36.0 +2.1**
baz=256
M15K Kasigluk River 47.28 34 P **P 03 09 36.1 +1.8**
baz=259
ODAN Odare 47.41 279 *e*P **P 03 09 36.3 +0.2**
O15K Ungalikthiuk R 47.44 36 P **P 03 09 37.3 +1.8**
baz=261
N15K Kwethluk River 47.47 35 P **P 03 09 37.4 +1.6**
baz=260
H16K Elim 47.54 29 P **P 03 09 38.1 +1.9**
baz=254
MK31 Makanchi Array 47.59 307 P **P 03 09 37.4 +0.5**
MK31 IAmb IAmb 03 09 40.5
comp=Z,8.6nm,0.9s
MK31 Makanchi Array 47.59 307 *d i*P **P 03 09 37.0 0.0**
MKAR Makanchi Array 47.59 307 P **P 03 09 37.1 +0.2**
MKAR Makanchi Array 47.59 307 *i* P **P 03 09 37.2 +0.2**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 47.59 307 P **P 03 09 36.8 -0.1**
comp=Z,6.4nm,0.6s,baz=91,slow=9.6,SNR=62
MKAR LR LR 03 30 29.4
comp=Z,130nm,18.7s,baz=94,slow=37
comp=Z,6.4nm,0.6s
C16K Lisburne Hills 47.59 24 IAmb IAmb 03 09 40.0
comp=Z,15nm,0.9s
C16K Lisburne Hills 47.59 24 P **P 03 09 38.5 +1.9**
baz=247
G16K Koyuk River 47.71 28 P **P 03 09 39.2 +1.7**
baz=253
MAKZ Makanchi 47.80 307 P **P 03 09 39.1 +0.5**
MAKZ IAmb IAmb 03 09 43.5
comp=Z,7.9nm,0.8s
MAKZ Makanchi 47.80 307 P **P 03 09 39.1 +0.5**
MAKZ pmax pmax
comp=Z,8.0nm,0.8s
CHGN Chignik 47.82 40 P **P 03 09 38.8 +0.2**
baz=265
I17K Unalakleet 47.99 30 P **P 03 09 39.6 -0.1**
I17K IAmb IAmb 03 09 44.1
comp=Z,16nm,1.0s
I17K Unalakleet 47.99 30 P **P 03 09 40.5 +0.8**
baz=256,SNR=5.4
RAMN Ramite 48.05 279 *e*P **P 03 09 41.6 +0.6**
comp=Z,24nm,0.7s
JIRN Jiri 48.16 280 *e*P **P 03 09 42.5 +0.4**
comp=Z,40nm,0.7s
N16K Nishlik Lake 48.17 35 P **P 03 09 43.0 +1.8**
baz=261
M16K Timber Creek 48.17 34 P **P 03 09 42.8 +1.6**
baz=260
GUN Gumba 48.35 281 *e*P **P 03 09 43.0 -0.5**
comp=Z,17nm,0.5s
RDOG Red Dog Mine 48.36 24 P **P 03 09 43.3 +0.8**
RDOG IAmb IAmb 03 09 46.4
comp=Z,16nm,1.0s
RDOG Red Dog Mine 48.36 24 P **P 03 09 44.4 +1.9**
baz=250
O16K Kokwok River B 48.37 36 P **P 03 09 44.1 +1.4**
baz=262
R16K Pilot Point 48.40 39 P **P 03 09 42.9 -0.1**
baz=264
C17K DeLong Mountai 48.41 24 P **P 03 09 44.4 +1.4**
baz=249
G17K Kiwalik Mounta 48.42 28 P **P 03 09 43.8 +0.7**
baz=254
E17K Hotham Inlet 48.43 26 P **P 03 09 44.1 +1.0**
baz=252
F17K Baldwin Pennin 48.45 27 IAmb IAmb 03 09 47.1
comp=Z,16nm,1.1s
F17K Baldwin Pennin 48.45 27 P **P 03 09 44.3 +1.0**
baz=253
H17K Granite Mounta 48.58 29 P **P 03 09 44.3 0.0**
baz=256
L17K Donlin 48.68 33 P **P 03 09 45.6 +0.5**
baz=260
K17K Iditarod 48.79 32 P **P 03 09 47.1 +1.1**
baz=259
O17K Koliganek Bris 48.90 36 P **P 03 09 47.7 +0.9**
baz=263
N17K Nushagak Hills 48.95 35 P **P 03 09 48.6 +1.3**
baz=262
M17K Holitna River 48.96 34 P **P 03 09 48.3 +1.0**
baz=261
E18K Tukpahlearik C 48.99 26 IAmb IAmb 03 09 50.9
comp=Z,12nm,1.1s
E18K Tukpahlearik C 48.99 26 P **P 03 09 48.5 +1.1**
baz=253
Q16K King Salmon 49.00 37 P **P 03 09 48.7 +1.1**
baz=264
C18K Utukok River 49.16 24 IAmb IAmb 03 09 51.8
comp=Z,17nm,1.2s
C18K Utukok River 49.16 24 P **P 03 09 50.1 +1.4**
baz=251
P17K Kvichak River 49.16 37 P **P 03 09 50.4 +1.6**
baz=264
H18K Honhosa River 49.27 29 IAmb IAmb 03 09 52.9
comp=Z,15nm,0.9s
H18K Honhosa River 49.27 29 P **P 03 09 51.4 +1.8**
baz=257
G18K Tagagawik 49.32 28 IAmb IAmb 03 09 52.5
comp=Z,16nm,0.9s
G18K Tagagawik 49.32 28 P **P 03 09 51.5 +1.5**
baz=256
Q17K Contact Creek 49.36 38 P **P 03 09 51.8 +1.3**
baz=265
L18K Granite Mounta 49.44 33 P **P 03 09 52.3 +1.3**
baz=261
N18K Kilae Creek 49.61 35 P **P 03 09 52.8 +0.5**
baz=263
J18K Innoko River 49.63 31 P **P 03 09 53.3 +0.9**
baz=260
A19K Wainwright 49.72 22 P **P 03 09 53.8 +0.9**
baz=250
M18K Stony River 49.74 34 P **P 03 09 53.7 +0.4**
baz=263
GCSA Galena City Sc 49.80 29 P **P 03 09 54.3 +0.7**
baz=259
KURK Kurchatov 49.82 312 P **P 03 09 53.0 -0.9**
KURK Kurchatov 49.82 312 *c i*P **P 03 09 54.3 +0.3**
KURK pmax pmax
comp=Z,25nm,1.0s
C19K Lookout Ridge 49.85 24 P **P 03 09 54.5 +0.4**
baz=253
O18K Koktuh Hills 49.86 36 P **P 03 09 53.7 -0.4**
baz=265
TTA Tatalina 49.86 32 P **P 03 09 54.4 +0.2**
baz=261
KURBB Kurchatov Arra 49.88 312 P **P 03 09 54.6 +0.2**
KURBB Kurchatov Arra 49.88 312 P **P 03 09 54.1 -0.3**
comp=Z,10nm,0.7s,baz=87,slow=7.7,SNR=95
KURBB LR LR 03 31 57.0
comp=Z,331nm,18.3s,baz=178,slow=37
comp=Z,10nm,0.7s
F19K Shaleruckik Mo 49.90 27 P **P 03 09 54.6 +0.3**
F19K IAmb IAmb 03 11 28.3
comp=Z,15nm,1.4s
F19K Shaleruckik Mo 49.90 27 P **P 03 09 54.9 +0.6**
baz=256
PDGK Podgornoye 49.91 302 P **P 03 09 55.3 +0.3**
DANN Dangsing 49.98 282 *e*P **P 03 09 55.8 -0.1**
G19K Purcell Mounta 50.00 28 P **P 03 09 55.9 +0.7**
baz=258
H19K Roundabout Mou 50.13 29 IAmb IAmb 03 10 02.0
comp=Z,22nm,1.1s
H19K Roundabout Mou 50.13 29 P **P 03 09 56.5 +0.4**
baz=259
D19K Kuna River 50.19 25 IAmb IAmb 03 10 02.9
comp=Z,12nm,0.9s
D19K Kuna River 50.19 25 P **P 03 09 57.2 +0.6**
baz=254
J19K Poorman 50.20 31 IAmb IAmb 03 10 00.6
comp=Z,11nm,1.1s
J19K Poorman 50.20 31 P **P 03 09 57.8 +1.1**
baz=261
E19K Redstone River 50.25 26 P **P 03 09 57.6 +0.6**
baz=256
L19K White Mountain 50.29 33 P **P 03 09 58.5 +1.1**
baz=263
N19K Bonanza Creek 50.31 35 P **P 03 09 58.2 +0.5**
baz=264
O19K Port Alsworth 50.33 36 P **P 03 09 57.6 -0.1**
baz=265
Q19K Cape Douglas, 50.58 37 P **P 03 10 00.3 +0.6**
baz=267
PYUN Piuthan 50.70 282 *e*P **P 03 10 00.4 -0.9**
comp=Z,41nm,0.6s
F20K Avaraart Lake 50.73 27 P **P 03 10 01.8 +1.2**
baz=258,SNR=7.1
H20K Anotleneega Mo 50.77 29 P **P 03 10 02.5 +1.6**
baz=260
D20K Etivluk River 50.78 24 P **P 03 10 02.5 +1.5**
baz=256
K20K Telida 50.79 32 IAmb IAmb 03 10 04.7
comp=Z,14nm,0.9s
K20K Telida 50.79 32 P **P 03 10 01.7 +0.5**
baz=263
I20K Naaghedeneel 50.82 30 P **P 03 10 02.0 +0.7**
baz=261
E20K Nigu River 50.82 25 P **P 03 10 02.1 +0.7**
baz=257
J20K Nowinta River 50.87 30 IAmb IAmb 03 10 04.7
comp=Z,15nm,0.9s
J20K Nowinta River 50.87 30 P **P 03 10 03.0 +1.2**
baz=262
B20K Meade River 50.93 23 P **P 03 10 03.1 +1.0**
baz=254
IMAR Indian Mountai 51.31 28 P **P 03 10 05.4 +0.4**
CTA Charters Tower 51.42 175 LR LR 03 30 18.3
comp=Z,27nm,21.3s,baz=288,slow=34
WB0 Warramunga Arr 51.43 189 P **P 03 10 06.9 +0.5**
N20K Mount Spurr 51.45 34 P **P 03 10 07.4 +1.2**
baz=266
GSI Gunungsitoli 51.46 243 P **P 03 10 05.7 -1.1**
A21K Barrow 51.47 21 P **P 03 10 07.5 +1.5**
baz=254
G21K Allakaket 51.49 28 IAmb IAmb 03 10 09.9
comp=Z,14nm,0.9s
G21K Allakaket 51.49 28 P **P 03 10 07.3 +0.9**
baz=261
C21K Knifeblade Rid 51.53 24 P **P 03 10 07.5 +0.9**
baz=257
PPLA Purkeypile 51.59 32 P **P 03 10 08.5 +1.1**
baz=265
WRAB Tennant Creek 51.60 189 P **P 03 10 06.6 -1.1**
WRAB IAmb IAmb 03 10 09.5
comp=Z,19nm,1.0s
WRAB Tennant Creek 51.60 189 P **P 03 10 06.6 -1.1**
WRAB pmax pmax
comp=Z,19nm,1.0s
WR0 Warramunga Arr 51.60 189 P **P 03 10 07.9 +0.2**
WB2 Warramunga Arr 51.61 189 P **P 03 10 08.5 +0.7**
WB2 IAmb IAmb 03 10 09.6
comp=Z,18nm,0.9s
WRA Warramunga Arr 51.61 189 P **P 03 10 08.1 +0.4**
comp=Z,12nm,0.8s,baz=8.5,slow=8.0,SNR=56
WRA S **S 03 17 23.1 -3.9**
comp=Z,2.2nm,1.0s,baz=7.2,slow=14,SNR=6.9
comp=Z,12nm,0.8s
F21K Alatna River 51.62 27 P **P 03 10 08.7 +1.3**
baz=260
CHUM Lake Minchumin 51.63 31 P **P 03 10 08.7 +1.2**
baz=264
HOM Homer 51.64 36 P **P 03 10 08.5 +0.9**
baz=268
H21K Melozitna Rive 51.65 29 IAmb IAmb 03 10 11.4
comp=Z,18nm,0.9s
H21K Melozitna Rive 51.65 29 P **P 03 10 08.9 +1.3**
baz=262
E21K Killik River 51.67 25 IAmb IAmb 03 10 11.4
comp=Z,21nm,1.0s
E21K Killik River 51.67 25 P **P 03 10 08.3 +0.7**
baz=259
FITZ Fitzroy Crossi 51.68 200 P **P 03 10 07.8 -0.4**
CAST Castle Rocks 51.69 32 P **P 03 10 09.2 +1.3**
CAST IAmb IAmb 03 10 10.8
comp=Z,15nm,1.0s
CAST Castle Rocks 51.69 32 P **P 03 10 09.7 +1.7**
baz=264,SNR=7.2
B21K Ikpikpuk River 51.69 24 P **P 03 10 08.5 +0.8**
baz=257
MDOK Medeo 51.70 302 P **P 03 10 08.6 +0.1**
SKT Skwentna 51.82 33 P **P 03 10 10.4 +1.5**
baz=266
A22K Sinclair Lake 51.90 22 P **P 03 10 10.5 +1.2**
baz=256
I21K Tanana 51.93 29 P **P 03 10 10.8 +1.3**
I21K Tanana 51.93 29 P **P 03 10 10.6 +1.0**
baz=263
CAPN Captain Cook N 51.93 35 P **P 03 10 10.7 +1.0**
baz=267
BRSE Bradley Lake S 52.10 36 P **P 03 10 12.1 +1.0**
baz=269
SUA Susitna One 52.16 34 P **P 03 10 11.9 +0.3**
baz=267
F22K John River 52.17 26 P **P 03 10 11.6 +0.2**
baz=261
D22K Ayikyak River 52.21 25 IAmb IAmb 03 10 14.6
comp=Z,19nm,0.9s
D22K Ayikyak River 52.21 25 P **P 03 10 11.9 +0.2**
baz=260
BPAW Bear Paw Mtn. 52.24 31 P **P 03 10 12.8 +0.8**
baz=265
B22K Teshekpuk Lake 52.25 23 IAmb IAmb 03 10 15.4
comp=Z,9.2nm,0.8s
B22K Teshekpuk Lake 52.25 23 P **P 03 10 12.9 +1.0**
baz=258
H22K Ishtalitna Cre 52.26 28 P **P 03 10 12.8 +0.6**
baz=263
G22K Bettles 52.34 27 P **P 03 10 12.9 +0.2**
baz=262,SNR=11
E22K Anaktuvuk Pass 52.40 26 P **P 03 10 13.4 +0.2**
baz=261
MLY Manley 52.43 30 P **P 03 10 13.7 +0.2**
MLY IAmb IAmb 03 10 16.8
comp=Z,13nm,1.0s
MLY Manley 52.43 30 P **P 03 10 14.5 +1.0**
baz=264,SNR=7.4
M22K Willow 52.48 34 P **P 03 10 14.7 +1.0**
baz=268
TRF Thorofare Moun 52.50 32 P **P 03 10 14.5 +0.4**
baz=266
SEW Seward 52.76 36 P **P 03 10 16.4 +0.5**
baz=269
NRN Naryn 52.78 300 P **P 03 10 15.3 -1.5**
NRN Naryn 52.78 300 P **P 03 10 15.3 -1.5**
NRN pmax pmax
comp=Z,6.0nm,1.0s
TKM2 Tokmak 2 52.79 302 P **P 03 10 17.0 +0.4**
COLD Coldfoot 52.89 27 P **P 03 10 17.0 +0.3**
baz=263
G23K Bananza Creek 52.90 28 IAmb IAmb 03 10 21.1
comp=Z,19nm,0.9s
G23K Bananza Creek 52.90 28 P **P 03 10 17.1 +0.3**
baz=264
BWN Browne 52.91 31 P **P 03 10 17.3 +0.4**
D23K Nanushuk River 52.94 25 P **P 03 10 17.9 +0.8**
baz=262,SNR=11
PMR Palmer 52.94 34 P **P 03 10 18.7 +1.6**
baz=269
I23K Minto, Yukon-K 53.02 30 P **P 03 10 18.1 +0.3**
baz=266
C23K Itkillik River 53.10 24 P **P 03 10 19.4 +1.2**
baz=261
NEA2 Nenana 53.11 30 P **P 03 10 18.3 -0.1**
NEA2 Nenana 53.11 30 P **P 03 10 19.4 +1.0**
baz=266,SNR=12
MCK McKinley 53.12 31 P **P 03 10 19.8 +1.3**
baz=267
RND Reindeer 53.14 32 P **P 03 10 18.8 +0.1**
RND IAmb IAmb 03 10 21.5
comp=Z,18nm,0.9s
RND Reindeer 53.14 32 P **P 03 10 18.8 +0.1**

RND pmax pmax
comp=Z,18nm,0.9s
E23K Chandalar 53.21 26 P **P** 03 10 20.1 +0.9
baz=263
KSH Kashi 53.21 298 P P 03 10 24.6 +4.9
KSH sP pwP 03 10 32.2 -2.7
KSH pmax pmax
comp=Z,9.0nm,0.8s
WAT1 Susitna Watana 53.25 32 P **P** 03 10 20.1 +0.6
baz=268
KNK Knik Glacier 53.26 34 P **P** 03 10 19.2 -0.4
KNK Knik Glacier 53.26 34 P **P** 03 10 19.8 +0.2
baz=269
TOLK Toolik Lake Re 53.30 25 P **P** 03 10 19.6 -0.2
TOLK IAmb IAmb 03 10 23.9
comp=Z,21nm,1.0s
TOLK Toolik Lake Re 53.30 25 P **P** 03 10 20.4 +0.6
baz=263,SNR=18
SML Sawmill 53.33 34 P **P** 03 10 20.2 +0.1
baz=269
MDM Murphy Dome 53.49 30 P **P** 03 10 21.5 +0.3
MDM IAmb IAmb 03 10 24.2
comp=Z,16nm,0.9s
M23K Glacier View 53.62 34 P **P** 03 10 23.0 +0.8
baz=270
WAT6 Susitna Watana 53.62 33 P **P** 03 10 22.7 +0.3
baz=269
D24K Happy Valley 53.63 25 P **P** 03 10 22.9 +0.8
baz=263
E24K Your Creek 53.63 26 P **P** 03 10 23.1 +0.8
baz=264
AAK Ala-Archa 53.64 302 P **P** 03 10 22.4 -0.5
AAK Ala-Archa 53.64 302 *d* iP **P** 03 10 23.1 +0.3
AAK pmax pmax
comp=Z,4.0nm,1.0s
AAK Ala-Archa 53.64 302 LR LR 03 33 59.2
comp=Z,78nm,18.8s,baz=71,slow=37
COLA College 53.65 30 P **P** 03 10 23.3 +1.0
COLA IAmb IAmb 03 10 25.8
comp=Z,25nm,1.2s
COLA College 53.65 30 P **P** 03 10 22.7 +0.4
baz=267
COLA College 53.65 30 P **P** 03 10 23.3 +1.0
COLA pmax pmax
comp=Z,25nm,1.2s
H24K Noodor Dome 53.69 29 IAmb IAmb 03 10 25.6
comp=Z,12nm,0.9s
H24K Noodor Dome 53.69 29 P **P** 03 10 23.9 +1.2
baz=267
C24K Franklin Bluff 53.74 24 P **P** 03 10 24.3 +1.4
baz=263
SCM Sheep Creek Mo 53.81 34 P **P** 03 10 24.0 +0.4
baz=270
F24K Squaw Lake 53.81 27 IAmb IAmb 03 10 26.4
comp=Z,11nm,0.7s
F24K Squaw Lake 53.81 27 P **P** 03 10 24.7 +1.2
baz=265,SNR=13
POKR Poker Plat Res 53.84 30 P **P** 03 10 24.6 +0.8
baz=268
G24K Hadweenzic Riv 53.91 28 IAmb IAmb 03 10 27.9
comp=Z,11nm,1.0s
G24K Hadweenzic Riv 53.91 28 P **P** 03 10 24.5 +0.3
baz=266
HDA Harding Lake 54.02 31 P **P** 03 10 24.5 -0.5
HDA IAmb IAmb 03 10 26.3
comp=Z,9.3nm,0.8s
HDA Harding Lake 54.02 31 P **P** 03 10 25.6 +0.5
baz=268,SNR=6.3
HDA P **P** 03 10 25.6 +0.5
baz=268,SNR=6.3
IL31 54.05 30 P **P** 03 10 25.1 -0.2
IL31 IAmb IAmb 03 10 27.1
comp=Z,14nm,1.0s
ILAR Eielson Array 54.05 30 P **P** 03 10 25.2 -0.1
ILAR Eielson Array 54.05 30 P **P** 03 10 25.9 +0.6
comp=Z,9.3nm,0.9s,baz=263,slow=6.1,SNR=69
comp=Z,9.3nm,0.9s
OTUK Ortayu 54.14 309 P **P** 03 10 26.6 +0.4
AML Almayashu 54.32 302 P **P** 03 10 29.5 +1.4
M24K Tolsona, Glenn 54.35 33 P **P** 03 10 28.0 +0.4
baz=271
G25K Bearman Lake 54.46 28 P **P** 03 10 28.5 +0.3
baz=268
KLU Klutina 54.48 34 P **P** 03 10 28.9 +0.4
baz=272
D25K Kavik River 54.51 24 IAmb IAmb 03 10 33.0
comp=Z,13nm,0.8s
D25K Kavik River 54.51 24 P **P** 03 10 29.5 +0.8
baz=265
PAX Paxson 54.66 32 P **P** 03 10 31.1 +1.1
baz=271
F25K Christian River 54.67 27 P **P** 03 10 30.4 +0.6
baz=267
J25K Salcha River, 54.70 30 P **P** 03 10 30.9 +0.7
baz=270
BVAR Borovoye Array 54.72 315 P **P** 03 10 30.6 +0.3
comp=Z,5.8nm,0.6s,baz=93,slow=7.9,SNR=22
BVAR LR LR 03 36 22.3
comp=Z,78nm,18.6s,baz=75,slow=39
comp=Z,5.8nm,0.6s
E25K Arctic Village 54.73 26 P **P** 03 10 31.4 +1.2
baz=267,SNR=19
BRVK Borovoye 54.77 315 P **P** 03 10 31.1 +0.4
BRVK IAmb IAmb 03 10 35.6
comp=Z,6.7nm,0.8s
BRVK Borovoye 54.77 315 *de*P **P** 03 10 31.6 +0.9
BRVK pmax pmax
comp=Z,8.0nm,0.8s
HARP HAARP 54.82 33 P **P** 03 10 31.3 +0.3
baz=272
RIDG Independent Ri 54.94 31 P **P** 03 10 32.3 +0.5
baz=271
C26K Camden Bay 55.07 24 P **P** 03 10 33.4 +0.8
baz=266,SNR=6.6
N25K Chitina, Valde 55.11 34 P **P** 03 10 32.7 -0.4
baz=273
BMRM Bremner River 55.14 35 P **P** 03 10 33.8 +0.5
baz=273
F26K Sheenjek River 55.25 27 P **P** 03 10 34.9 +0.9
baz=269
SCRK Sand Creek 55.31 31 P **P** 03 10 33.1 -1.5
SCRK IAmb IAmb 03 10 52.9
comp=Z,9.0nm,1.0s
SCRK Sand Creek 55.31 31 P **P** 03 10 35.2 +0.5
baz=271,SNR=6.1
ASAR Alice Springs 55.34 189 P **P** 03 10 34.9 -0.2
ASAR Alice Springs 55.34 189 P **P** 03 10 35.7 +0.6
comp=Z,3.9nm,0.5s,baz=12,slow=7.4,SNR=54
ASAR S **S** 03 18 17.6 +0.1
comp=Z,0.1nm,0.3s,baz=356,slow=8.9,SNR=5.0
ASAR LR LR 03 33 18.1
comp=Z,76nm,20.3s,baz=11,slow=35
comp=Z,3.9nm,0.5s
G26K Porcupine Rive 55.38 27 P **P** 03 10 35.5 +0.7
baz=270
J26L Joseph Creek 55.48 30 IAmb IAmb 03 10 38.1
comp=Z,10nm,0.8s
J26L Joseph Creek 55.48 30 P **P** 03 10 36.7 +0.9
baz=272
L26K Log Cabin Wild 55.63 32 P **P** 03 10 37.3 +0.5
L26K IAmb IAmb 03 10 42.5
comp=Z,22nm,1.4s
L26K Log Cabin Wild 55.63 32 P **P** 03 10 36.9 +0.1
baz=273
I26K Coal Creek Min 55.64 29 P **P** 03 10 36.6 -0.2
baz=271
M26K Nabesna, AK 55.83 33 P **P** 03 10 37.4 -0.9
baz=273
MCARA McCarthy VSAT 55.88 34 P **P** 03 10 39.7 +1.1
MCARA McCarthy VSAT 55.88 34 P **P** 03 10 38.1 -0.5
baz=274
CRQE Cirque 55.89 35 P **P** 03 10 38.4 -0.4
baz=274
K27K Chicken 56.15 31 IAmb IAmb 03 10 47.6
comp=Z,10nm,1.2s
K27K Chicken 56.15 31 P **P** 03 10 40.4 -0.1
baz=273
E27K Coleen River 56.22 26 IAmb IAmb 03 10 44.0
comp=Z,12nm,0.8s
E27K Coleen River 56.22 26 P **P** 03 10 41.0 +0.1
baz=271
G27K Doyon Strip 56.22 28 P **P** 03 10 40.7 -0.2
baz=272
I27K Kandik River 56.27 29 P **P** 03 10 41.7 +0.3
baz=272
H27K Steamboat Moun 56.29 28 P **P** 03 10 42.1 +0.7
baz=272

L27K Beaver Creek, 56.32 32 IAmb IAmb 03 10 45.4
comp=Z,12nm,0.8s
L27K Beaver Creek, 56.32 32 P **P** 03 10 42.0 +0.3
baz=274,SNR=8.6
BCAR Beaver Creek A 56.34 32 P **P** 03 10 42.7 +0.8
M27K Edge Creek, AK 56.35 33 P **P** 03 10 41.7 -0.4
baz=274
KK31 Karatay Array 56.40 304 P **P** 03 10 42.6 0.0
KK31 Karatay Array 56.40 304 *i* P **P** 03 10 42.9 +0.3
KKAR Karatay Array 56.40 304 P **P** 03 10 42.3 -0.3
KKAR Karatay Array 56.40 304 P **P** 03 10 42.3 -0.3
D27M Malcolm River 56.44 25 IAmb IAmb 03 10 46.4
comp=Z,14nm,0.9s
D27M Malcolm River 56.44 25 P **P** 03 10 42.4 -0.1
baz=271,SNR=7.7
MESA MESA 56.50 36 P **P** 03 10 42.9 -0.4
baz=276
EGAK Eagle 56.51 30 P **P** 03 10 42.7 -0.3
baz=273
CTG Chitna Glacier 56.73 35 P **P** 03 10 44.3 -0.5
baz=276
BVCY Beaver Creek 56.82 33 P **P** 03 10 45.5 +0.2
baz=275
F28M Old Crow 56.88 27 P **P** 03 10 46.8 +1.1
F28M IAmb IAmb 03 10 49.7
comp=Z,13nm,0.9s
F28M Old Crow 56.88 27 P **P** 03 10 45.7 0.0
baz=273,SNR=14
E28M Babbage River 56.97 25 IAmb IAmb 03 10 49.9
comp=Z,20nm,1.1s
E28M Babbage River 56.97 25 P **P** 03 10 47.2 +0.9
baz=272
I28M Miner Creek 56.98 29 IAmb IAmb 03 10 49.4
comp=Z,8.9nm,0.8s
I28M Miner Creek 56.98 29 P **P** 03 10 46.9 +0.5
baz=274
YUK3 Moose Creek 57.07 34 P **P** 03 10 47.6 +0.3
baz=276
PINM Pinnacle 57.36 36 P **P** 03 10 49.4 +0.2
baz=277
H29M Whitestone 57.57 28 P **P** 03 10 52.1 +1.6
baz=275
E29M Blow River 57.58 26 IAmb IAmb 03 10 55.4
comp=Z,16nm,1.0s
E29M Blow River 57.58 26 P **P** 03 10 53.3 +2.8
baz=274
G29M Pine Creek 57.65 27 P **P** 03 10 52.6 +1.6
baz=275
I29M Ogilvie Camp, 57.67 29 P **P** 03 10 51.1 -0.1
I29M IAmb IAmb 03 10 57.0
comp=Z,14nm,1.1s
I29M Ogilvie Camp, 57.67 29 P **P** 03 10 53.2 +1.9
baz=276,SNR=7.2
PNL Peninsula 57.84 36 P **P** 03 10 53.7 +1.2
baz=278
M29M Somme Creek 57.92 33 P **P** 03 10 54.5 +1.3
baz=277
YUK4 Talbot Arm 57.98 34 P **P** 03 10 54.9 +1.2
baz=278,SNR=5.1
L29M L29M 57.99 32 P **P** 03 10 55.6 +2.1
baz=277
O29M Mount Kennedy 58.16 35 P **P** 03 10 55.7 +0.8
baz=278,SNR=6.3
YUK6 Outpost Mounta 58.17 34 P **P** 03 10 56.0 +0.9
baz=278
K29M Barlow Dome 58.17 31 IAmb IAmb 03 10 57.9
comp=Z,8.7nm,0.8s
K29M Barlow Dome 58.17 31 P **P** 03 10 56.4 +1.5
baz=277
DZM Mont Dzumac 58.19 153 P **P** 03 10 55.5 0.0
DZM IAmb IAmb 03 11 00.2
comp=Z,18nm,1.1s
DZM Mont Dzumac 58.19 153 *e*P **P** 03 10 56.1 +0.7
comp=Z,41nm,1.2s
DZM Mont Dzumac 58.19 153 *e*LR LR 03 27 54.6
comp=Z,68nm,27.4s
DZM Mont Dzumac 58.19 153 LR LR 03 35 50.6
comp=Z,38nm,19.6s,baz=343,slow=36
EPYK Eagle Plains 58.22 28 P **P** 03 10 55.2 +0.2
EPYK Eagle Plains 58.22 28 P **P** 03 10 57.0 +1.9
baz=276,SNR=19
G30M tAoh Zraii Nji 58.34 27 P **P** 03 10 57.4 +1.4
baz=276
F30M Barrier River 58.44 26 P **P** 03 10 57.5 +0.9
baz=276
I30M Mount Dempster 58.49 29 IAmb IAmb 03 11 02.9
comp=Z,17nm,1.1s
I30M Mount Dempster 58.49 29 P **P** 03 10 57.9 +0.8
baz=277
CHGR Chuyangaron 58.55 299 P **P** 03 10 58.7 +0.7
CHGR pmax pmax
comp=Z,68nm,0.7s
J30M Hart River 58.59 30 IAmb IAmb 03 11 01.1
comp=Z,10nm,1.1s
J30M Hart River 58.59 30 P **P** 03 10 58.9 +1.1
baz=278
HYT Haines Junctio 58.60 34 P **P** 03 10 58.5 +0.6
HYT Haines Junctio 58.60 34 P **P** 03 10 59.0 +1.1
baz=279
M30M Minto, Yukon 58.67 32 P **P** 03 10 59.7 +1.4
baz=279,SNR=9.9
P29M Windy Craggy 58.68 36 P **P** 03 11 00.3 +1.9
baz=280
N30M Aishikik Lake 58.70 34 P **P** 03 11 00.4 +1.8
baz=279
P30M Million Dollar 58.98 35 P **P** 03 11 01.3 +0.8
baz=280
G31M Satah River 59.11 27 P **P** 03 11 01.8 +0.6
G31M IAmb IAmb 03 11 03.8
comp=Z,13nm,0.8s
G31M Satah River 59.11 27 P **P** 03 11 02.2 +1.0
baz=278,SNR=11
INK Inuvik 59.20 26 P **P** 03 11 02.2 +0.4
INK IAmb IAmb 03 11 05.2
comp=Z,12nm,0.9s
INK Inuvik 59.20 26 P **P** 03 11 02.7 +0.9
baz=278,SNR=12
INK Inuvik 59.20 26 P **P** 03 11 02.2 +0.4
INK pmax pmax
comp=Z,12nm,1.0s
F31M Tsiigehtchic 59.24 27 P **P** 03 11 02.7 +0.6
baz=278
O30N Mendenhall 59.30 34 P **P** 03 11 03.6 +0.9
baz=280
N31M Braeburn, Yuko 59.32 34 P **P** 03 11 04.4 +1.6
baz=280
SVE Sverdlovsk 59.65 321 *e*P **P** 03 11 06.6 +1.5
SVE pmax pmax
comp=Z,27nm,0.9s
S31K Pelican 59.76 38 P **P** 03 11 06.5 +0.7
baz=282
M31M Drury Creek, Y 59.84 33 P **P** 03 11 07.0 +0.6
baz=281,SNR=7.1
WHY Whitehorse 59.90 34 P **P** 03 11 07.5 +0.6
baz=281
R31K City Hall, Gus 59.92 37 P **P** 03 11 08.2 +1.3
baz=282
KBL Kabul 59.92 294 P **P** 03 11 06.7 -0.9
KBL IAmb IAmb 03 11 16.5
comp=Z,24nm,1.6s
KBL Kabul 59.92 294 P **P** 03 11 06.7 -0.9
KBL pmax pmax
comp=Z,24nm,1.6s
FARO Faro, Yukon 60.31 32 P **P** 03 11 09.8 +0.1
FARO IAmb IAmb 03 11 12.2
comp=Z,9.4nm,0.9s
FARO Faro, Yukon 60.31 32 P **P** 03 11 10.8 +1.2
baz=282
N32M Quiet Lake 60.66 34 P **P** 03 11 12.7 +0.7
baz=282
P32M Atlin 60.70 35 P **P** 03 11 12.8 +0.5
baz=283
ARU Arti 60.86 321 P **P** 03 11 13.0 -0.4
ARU Arti 60.86 321 *c* iP **P** 03 11 14.0 +0.6
ARU 03 11 54.6
ARU 03 13 28.9
ARU S **S** 03 19 34.4 +5.4
ARU SS **SS** 03 23 30.9 +3.1
ARU pmax pmax
comp=Z,31nm,1.0s
ARU Arti 60.86 321 LR LR 03 39 55.5
comp=Z,97nm,18.3s,baz=79,slow=38
P33M Teslin, Yukon 61.00 35 P **P** 03 11 14.0 -0.3
P33M Teslin, Yukon 61.00 35 P **P** 03 11 14.8 +0.4
baz=283
A36M Sachs Harbour 61.30 21 P **P** 03 11 17.1 +1.0
A36M Sachs Harbour 61.30 21 P **P** 03 11 17.0 +0.9

baz=283,SNR=17
U33K Whale Pass 61.84 39 P **P** 03 11 20.0 0.0
baz=285
AB31 Akbulak array 61.92 313 *i* P **P** 03 11 20.7 0.0
ABKAR Akbulak array 61.92 313 P **P** 03 11 20.3 -0.4
ABKAR IAmb IAmb 03 11 24.7
comp=Z,8.8nm,0.7s
CRAG Craig 62.01 40 P **P** 03 11 20.3 -0.8
baz=286
C36M Paulatuk 62.35 24 P **P** 03 11 23.5 +0.3
C36M Paulatuk 62.35 24 P **P** 03 11 22.5 -0.7
baz=286,SNR=13
S34M Telegraph Cree 62.41 37 P **P** 03 11 23.2 -0.6
baz=286
AKTO Aktyubinsk 62.77 314 P **P** 03 11 26.3 -0.1
DLBC Dease Lake 62.83 36 P **P** 03 11 26.6 -0.1
baz=286
V35K Ketchikan 62.88 40 P **P** 03 11 27.4 +0.4
baz=287
STKA Stephens Creek 62.99 180 P **P** 03 11 29.1 +1.2
comp=Z,2.1nm,0.8s,baz=316,slow=6.7,SNR=4.5
STKA LR LR 03 38 24.1
comp=Z,79nm,19.5s,baz=25,slow=36
comp=Z,2.1nm,0.8s
T35M Bob Quinn 63.13 38 P **P** 03 11 29.4 +0.7
baz=287
FORT Forrest 63.27 193 P **P** 03 11 29.2 -0.5
WRGLY Wrigley 64.44 30 P **P** 03 11 37.0 -0.1
WRGLY Wrigley 64.44 30 P **P** 03 11 37.7 +0.6
baz=289
LIRD Liard River Hi 64.48 34 P **P** 03 11 38.0 +0.5
baz=289,SNR=6.2
KIRV Kirov 64.97 325 ⇓ *i* P **P** 03 11 41.0 +0.3
KIRV Kirov 64.97 325 LR LR 03 42 22.9
comp=Z,124nm,19.0s,baz=63,slow=38
KOTAN Kotaneelee Air 65.22 33 P **P** 03 11 43.5 +1.2
baz=290
HRA Herat 65.23 296 P **P** 03 11 42.1 -0.9
PRGR Permogore 65.69 329 *e*P **P** 03 11 44.8 -0.4
PRGR pmax pmax
comp=Z,10.0nm,0.9s
SPITS Spitsbergen Ar 66.06 349 P **P** 03 11 47.7 +0.2
comp=Z,2.9nm,0.6s,baz=312,slow=5.3,SNR=1.2
comp=Z,2.9nm,0.6s
GEYT Alibeck 66.97 301 P **P** 03 11 54.4 +0.4
comp=Z,9.4nm,0.8s,baz=40,slow=2.5,SNR=11
comp=Z,9.4nm,0.8s
GYA0B ALIBECK ARRAY 66.97 301 IAmb IAmb 03 12 00.7
comp=Z,10nm,0.8s
RES Resolute Bay 67.90 14 P **P** 03 11 59.4 +0.2
RES IAmb IAmb 03 12 01.8
comp=Z,8.4nm,1.1s
RES Resolute Bay 67.90 14 P **P** 03 11 59.4 +0.2
RES pmax pmax
comp=Z,8.0nm,1.1s
YKA Yellowknife Ar 68.46 29 P **P** 03 12 01.6 -1.2
YKA Yellowknife Ar 68.46 29 *ce*P **P** 03 12 03.5 +0.7
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKA Yellowknife Ar 68.46 29 P **P** 03 12 03.1 +0.3
comp=Z,4.0nm,0.9s,baz=294,slow=6.2,SNR=46
comp=Z,4.0nm,0.9s
KLMR Klimovskoe 68.71 329 *e*P **P** 03 12 03.4 -1.0
KLMR AMP 03 12 12.4
comp=Z,28nm,1.9s
KLMR Klimovskoe 68.71 329 *e*P **P** 03 12 03.4 -1.0
KLMR pmax pmax
comp=Z,28nm,1.9s
ARCES ARCESS Array B 69.36 340 P **P** 03 12 09.1 +0.8
comp=Z,3.3nm,0.8s,baz=71,slow=7.8,SNR=3.7
ARCES LR LR 03 47 58.4
comp=Z,67nm,18.4s,baz=66,slow=41
comp=Z,3.3nm,0.8s
NEEM North Greenlan 71.07 3 *i* P P 03 12 24.3 +5.2
NEEM IAmb IAmb 03 12 43.9
comp=Z,5.5nm,0.8s
DAG Danmarks Havn 71.36 355 *i* P **P** 03 12 20.7 +0.3
DAG IAmb IAmb 03 12 32.0
comp=Z,18nm,1.8s
MOS Moscow 71.99 325 *e*P P 03 12 31.7 +7.1
MOS *e* 03 12 46.1
MAK Makhachkala 72.26 310 *e*P **P** 03 12 22.4 -4.0
MAK *e* 03 15 02.8
MAK *e*PPP PPP 03 16 48.5
MAK *e*S **S** 03 21 42.9 -4.6
MAK *e*SS **SS** 03 26 25.9 +1.0
MAK pmax pmax
comp=Z,299nm,1.5s
MAK MLR MLR
comp=Z,208nm,17.0s
OBN Obninsk 72.83 325 ⇑ *e*P **P** 03 12 31.3 +1.8
OBN *e* 03 12 51.6
OBN *e* 03 15 13.8
OBN pmax pmax
comp=Z,11nm,0.5s
OBN MLR MLR
comp=Z,157nm,19.0s
OBN Obninsk 72.83 325 LR LR 03 47 17.2
comp=Z,120nm,18.2s,baz=189,slow=38
YBH Yreka Blue Hor 73.50 51 LR LR 03 38 11.3
comp=Z,78nm,20.9s,baz=224,slow=30
NEW Newport 73.89 43 P **P** 03 12 36.7 +0.6
baz=299
FINES FINESS Array B 73.94 333 *i* P **P** 03 12 36.5 +0.5
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 73.94 333 P **P** 03 12 36.1 +0.1
comp=Z,2.9nm,0.5s,baz=74,slow=8.1,SNR=24
FINES LR LR 03 48 12.0
comp=Z,63nm,18.8s,baz=28,slow=38
comp=Z,2.9nm,0.5s
NCK Nalchik 74.55 312 ⇑ *e*P **P** 03 12 43.7 +3.7
NCK pmax pmax
comp=Z,30nm,2.0s
KBZ Khabaz 74.88 312 *d* iP **P** 03 12 43.5 +1.7
KBZ pmax pmax
comp=Z,15nm,0.9s
KBZ Khabaz 74.88 312 P **P** 03 12 42.2 +0.4
comp=Z,10nm,0.8s,baz=86,slow=4.6,SNR=12
comp=Z,10nm,0.8s
KIV Kislovodsk 74.90 312 P **P** 03 12 43.7 +1.6
KIV Kislovodsk 74.90 312 *e*P **P** 03 12 44.4 +2.3
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,75nm,18.0s
SUMG Summit 76.25 0 *i* P **P** 03 12 51.2 +1.5
SUMG IAmb IAmb 03 13 17.0
comp=Z,4.0nm,0.9s
MSO Missoula 76.48 43 P **P** 03 12 50.7 -0.4
baz=302
RAR Rarotonga 76.60 125 LR LR 03 39 52.8
comp=Z,39nm,21.5s,baz=356,slow=30
SOC Sochi 76.95 313 *e*P **P** 03 12 51.7 -1.9
SOC *e* 03 15 45.6
SOC *e*PPP PPP 03 17 32.8
SOC *e*S **S** 03 22 39.9 0.0
SOC *e*SS **SS** 03 27 39.5 +3.4
SOC pmax pmax
comp=Z,27nm,0.8s
SOC MLR MLR
comp=Z,72nm,20.0s
YERR Yerington 77.14 52 P **P** 03 12 54.7 -0.4
MNK Minsk 77.35 327 *i* P **P** 03 12 57.4 +1.7
comp=E,4.0nm,0.8s
MNK *i* P **P** 03 12 57.4 +1.7
comp=N,7.0nm,0.8s
MNK *i* P **P** 03 12 57.4 +1.7
comp=Z,12nm,0.8s,baz=53
MNK *i* PP **PP** 03 15 53.7 +4.2
MNK *i* PPP PPP 03 17 38.1
MNK *i* S **S** 03 22 46.5 +2.7
MNK *i* SS SS 03 27 54.5 +13
MNK *i* SSS SSS 03 31 10.3
MNK *i* LQ LQ 03 45 02.3
MNK *i* LR LR 03 48 19.6
MNK *i* LRM MLR 03 51 03.0
comp=N,153nm,19.4s
MNK *i* LRM MLR 03 51 04.2
comp=Z,147nm,17.6s
MNK *i* LRM MLR 03 51 14.6
comp=E,61nm,15.5s
MNK Minsk 77.35 327 *i* P **P** 03 12 57.3 +1.7
MNK *i* 03 15 53.7
MNK *i* PPP PPP 03 17 38.1
MNK *i* S **S** 03 22 46.5 +2.7

MNK					pmax	pmax		
	comp=N,7.0nm,0.8s							
MNK					pmax	pmax		
	comp=E,4.0nm,0.8s							
MNK					pmax	pmax		
	comp=Z,12nm,0.8s							
MNK					MLR	MLR		
	comp=N,153nm,19.0s							
MNK					MLR	MLR		
	comp=Z,147nm,18.0s							
MNK					MLR	MLR		
	comp=E,61nm,15.0s							
NACGM	**Naroch**	**77.61**	**328**	*e*P		**P**	**03 12 53.8**	**-3.4**
	comp=Z,30nm,0.9s,baz=52							
SCO	**Scoresbysund**	**77.69**	**355**	*i* P		**P**	**03 12 57.4**	**+0.1**
SCO				IAmb		IAmb	03 13 08.8	
	comp=Z,2.2nm,1.2s							
HLID	**Hailey**	**77.91**	**46**	P		**P**	**03 12 59.3**	**0.0**
	baz=302							
NVAR	**Mina Array Bea**	**78.05**	**52**	P		**P**	**03 13 01.1**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=293,slow=5.6,SNR=21							
NVAR				LR		LR	03 39 43.5	
	comp=Z,51nm,21.3s,baz=292,slow=30							
	comp=Z,2.0nm,0.7s							
FFC	**Flin Flon**	**78.20**	**32**	P		**P**	**03 13 00.1**	**-0.2**
FFC	**Flin Flon**	**78.20**	**32**	P		**P**	**03 13 00.2**	**-0.2**
FFC				pmax		pmax		
	comp=Z,6.0nm,0.9s							
BOZ	**Bozeman (W)**	**78.49**	**43**	IAmb		IAmb	03 14 13.1	
	comp=Z,27nm,2.0s							
BOZ	**Bozeman (W)**	**78.49**	**43**	P		**P**	**03 13 02.5**	**0.0**
	baz=303							
VES	**Vestal, Richgr**	**78.83**	**55**	P		**P**	**03 13 04.4**	**+0.1**
	baz=301							
ELK	**Elko**	**78.88**	**49**	LR		LR	03 41 04.5	
	comp=Z,48nm,20.4s,baz=299,slow=30							
TPH	**Tonopah**	**78.96**	**52**	P		**P**	**03 13 05.3**	**+0.1**
TPH				IAmb		IAmb	03 13 14.8	
	comp=Z,21nm,1.1s							
TPH	**Tonopah**	**78.96**	**52**	P		**P**	**03 13 05.3**	**+0.1**
TPH				pmax		pmax		
	comp=Z,21nm,1.1s							
AKASG	**Malin Array Be**	**78.97**	**323**	P		**P**	**03 13 04.9**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=47,slow=5.9,SNR=17							
AKASG				LR		LR	03 50 52.1	
	comp=Z,164nm,19.5s,baz=30,slow=38							
	comp=Z,1.2nm,0.4s							
AKBB	**Malin Array Si**	**78.97**	**323**	IAmb		IAmb	03 13 12.0	
	comp=Z,11nm,0.9s							
AKBB	**Malin Array Si**	**78.97**	**323**	⇑*i* P		**P**	**03 13 05.1**	**+0.4**
AKBB				pmax		pmax		
	comp=Z,12nm,0.9s							
KIEV	**Kiev**	**78.98**	**323**	P		**P**	**03 13 04.2**	**-0.6**
KIEV				IAmb		IAmb	03 13 12.0	
	comp=Z,10nm,0.9s							
KIEV	**Kiev**	**78.98**	**323**	P		**P**	**03 13 04.2**	**-0.6**
KIEV				pmax		pmax		
	comp=Z,10.0nm,1.0s							
SBC	**Santa Barbara**	**79.10**	**56**	P		**P**	**03 13 05.9**	**+0.1**
	baz=301							
YHL	**Hebgen Lake**	**79.17**	**44**	IAmb		IAmb	03 13 35.0	
	comp=Z,27nm,2.0s							
CWC	**Cottonwood Cre**	**79.22**	**54**	P		**P**	**03 13 06.6**	**0.0**
	baz=301							
HFS	**Hagfors**	**79.34**	**336**	P		**P**	**03 13 06.4**	**-0.1**
	comp=Z,7.9nm,0.9s,baz=87,slow=7.7,SNR=8.8							
HFS				LR		LR	03 50 26.4	
	comp=Z,55nm,19.4s,baz=62,slow=37							
	comp=Z,7.9nm,0.9s							
NB2	**NORSAR Subarra**	**79.48**	**338**	P		**P**	**03 13 07.6**	**+0.2**
	comp=Z,6.5nm,0.8s,baz=42,slow=5.3							
NB2	**NORSAR Subarra**	**79.48**	**338**	P		**P**	**03 13 07.0**	**-0.4**
NOA	**NORSAR Array B**	**79.48**	**338**	P		**P**	**03 13 07.5**	**+0.2**
	comp=Z,3.8nm,0.7s,baz=40,slow=5.3,SNR=17							
NOA				LR		LR	03 52 43.0	
	comp=Z,52nm,18.6s,baz=40,slow=39							
	comp=Z,3.8nm,0.7s							
NORES	**NORESS Array B**	**79.61**	**338**	P		**P**	**03 13 09.9**	**+1.9**
ICESG	**Greenland Ices**	**79.75**	**1**	*i* P		**P**	**03 13 09.0**	**-0.1**
ICESG				IAmb		IAmb	03 13 20.2	
	comp=Z,5.0nm,0.8s							
H17A	**Grant Village**	**79.78**	**44**	P		**P**	**03 13 09.9**	**+0.2**
	baz=304							
MPMC	**Manual Prospec**	**79.83**	**54**	P		**P**	**03 13 10.2**	**+0.3**
	baz=302							
R11B	**Troy Canyon, C**	**79.92**	**51**	P		**P**	**03 13 11.4**	**+1.0**
R11B	**Troy Canyon, C**	**79.92**	**51**	P		**P**	**03 13 11.1**	**+0.7**
	baz=302							
LRMC	**Laurel Mtn Rad**	**80.00**	**55**	P		**P**	**03 13 11.8**	**+1.0**
	baz=302							
FURC	**Furnace Creek,**	**80.05**	**53**	P		**P**	**03 13 11.9**	**+1.0**
	baz=302							
EDW2	**Edwards Air Fo**	**80.09**	**55**	P		**P**	**03 13 12.4**	**+1.1**
	baz=302							
RLMT	**Red Lodge**	**80.14**	**43**	IAmb		IAmb	03 13 21.4	
	comp=Z,20nm,1.6s							
RLMT	**Red Lodge**	**80.14**	**43**	P		**P**	**03 13 12.0**	**+0.5**
	baz=305							
TPNV	**Topopah Spring**	**80.21**	**53**	P		**P**	**03 13 13.4**	**+1.4**
	baz=302							
GWY	**Greenwater Val**	**80.33**	**54**	IAmb		IAmb	03 13 23.3	
	comp=Z,15nm,1.4s							
CIS	**Catalina Islan**	**80.56**	**57**	P		**P**	**03 13 15.3**	**+1.6**
	baz=302							
GSC	**Goldstone, Bar**	**80.70**	**54**	P		**P**	**03 13 15.3**	**+0.8**
	baz=302							
DUG	**Dugway, Tooele**	**80.73**	**48**	IAmb		IAmb	03 13 25.1	
	comp=Z,26nm,1.7s							
DUG	**Dugway, Tooele**	**80.73**	**48**	P		**P**	**03 13 15.0**	**+0.3**
	baz=304							
LAO	**LASA Array**	**80.95**	**40**	P		**P**	**03 13 15.7**	**+0.1**
	baz=307							
DGMT	**Dagmar**	**80.97**	**38**	P		**P**	**03 13 15.9**	**+0.3**
	baz=308							
SHPR	**Sheep Range**	**81.19**	**53**	P		**P**	**03 13 17.6**	**+0.4**
HEC	**Hector,Ludlow**	**81.28**	**55**	P		**P**	**03 13 18.5**	**+0.9**
	baz=302							
BW06	**Boulder Array**	**81.31**	**45**	P		**P**	**03 13 18.4**	**+0.6**
	baz=305							
PD31	**Pinedale Array**	**81.31**	**45**	IAmb		IAmb	03 13 44.1	
	comp=Z,17nm,2.0s							
PDAR	**Pinedale Array**	**81.31**	**45**	P		**P**	**03 13 17.9**	**0.0**
PDAR	**Pinedale Array**	**81.31**	**45**	P		**P**	**03 13 18.8**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=259,slow=1.7,SNR=17							
	comp=Z,1.3nm,0.6s							
MURC	**Murrieta**	**81.32**	**56**	P		**P**	**03 13 18.8**	**+1.0**
	baz=302							
NLU	**North Lily Min**	**81.34**	**48**	P		**P**	**03 13 18.2**	**+0.2**
MILM	**Milestii Mici**	**81.46**	**320**	*e*P		P	03 13 12.0	-6.2
	comp=Z,60nm,2.2s							
MILM	**Milestii Mici**	**81.46**	**320**	*e*P		P	03 13 12.0	-6.2
MILM				pmax		pmax		
	comp=Z,60nm,2.2s							
GMRC	**Granite Mounta**	**81.77**	**54**	P		**P**	**03 13 21.1**	**+0.8**
	baz=303							
PPT2	**Papeete2**	**81.82**	**116**	*e*LR		LR	03 38 41.4	
	comp=Z,78nm,27.0s							
PFO	**Pinyon Flats O**	**81.83**	**56**	P		**P**	**03 13 20.0**	**-0.6**
PFO				IAmb		IAmb	03 13 30.3	
	comp=Z,9.9nm,1.2s							
PFO	**Pinyon Flats O**	**81.83**	**56**	P		**P**	**03 13 21.7**	**+1.1**
	baz=302							
PFO	**Pinyon Flats O**	**81.83**	**56**	P		**P**	**03 13 20.0**	**-0.6**
PFO				pmax		pmax		
	comp=Z,10.0nm,1.2s							
PFO	**Pinyon Flats O**	**81.83**	**56**	LR		LR	03 46 29.5	
	comp=Z,40nm,20.1s,baz=291,slow=33							
TPFO	**Pinon Flats**	**81.84**	**56**	P		**P**	**03 13 21.5**	**+0.8**
	baz=302							
BELC	**Belle Mtn. Jos**	**81.95**	**55**	P		**P**	**03 13 21.6**	**+0.4**
	baz=303							
MONP2	**Monument Peak**	**82.25**	**56**	P		**P**	**03 13 23.1**	**+0.2**
	baz=303							
P17A	**Butcher Ranch,**	**82.46**	**48**	IAmb		IAmb	03 13 27.0	
	comp=Z,5.6nm,0.7s							
IRM	**Iron Mountain**	**82.46**	**55**	P		**P**	**03 13 24.3**	**+0.5**
	baz=303							
KNB	**Kanab**	**82.48**	**51**	IAmb		IAmb	03 13 36.0	
	comp=Z,16nm,1.2s							
Q16A	**Castle Valley**	**82.50**	**49**	IAmb		IAmb	03 13 27.8	
	comp=Z,27nm,1.9s							
BC3	**Big Chuckawall**	**82.52**	**55**	P		**P**	**03 13 24.4**	**+0.2**
	baz=303							
IKP	**In-Ko-Pah, Jac**	**82.60**	**56**	P		**P**	**03 13 25.0**	**+0.5**
	baz=303							
SWSC	**Sam W. Stewart**	**82.66**	**56**	P		**P**	**03 13 25.3**	**+0.6**
	baz=303							
P18A	**Preston Nutter**	**82.68**	**48**	IAmb		IAmb	03 13 39.9	
	comp=Z,6.0nm,0.9s							
SRU	**San Rafael Swe**	**82.80**	**48**	IAmb		IAmb	03 14 02.8	
	comp=Z,5.8nm,0.8s							
BR131	**Keskin Array S**	**82.87**	**312**	IAmb		IAmb	03 13 50.9	
	comp=Z,13nm,1.2s							
BR131	**Keskin Array S**	**82.87**	**312**	⇓*e*P		**P**	**03 13 27.1**	**+1.2**
BRTR	**Keskin Array B**	**82.87**	**312**	P		**P**	**03 13 25.6**	**-0.4**
BRTR	**Keskin Array B**	**82.87**	**312**	*e*P		**P**	**03 13 27.1**	**+1.2**
BRTR				pmax		pmax		
	comp=Z,3.0nm,0.7s							
BRTR	**Keskin Array B**	**82.87**	**312**	P		**P**	**03 13 26.6**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=118,slow=2.9,SNR=10.0							
	comp=Z,2.8nm,0.8s							
BUR08	**Bucovina Ar. S**	**82.94**	**322**	P		**P**	**03 13 25.1**	**-1.0**
BUR08				IAmb		IAmb	03 13 30.3	
	comp=Z,9.1nm,1.2s							
PDMCI	**Parker Dam,Lak**	**83.08**	**54**	P		**P**	**03 13 26.6**	**-0.3**
	baz=304							
K22A	**Casper**	**83.19**	**44**	P		**P**	**03 13 26.3**	**-1.4**
	baz=307							
VRI	**Vrincioaia**	**83.25**	**320**	P		P	03 13 31.9	+4.3
VRI				pmax		pmax		
	comp=Z,14nm,1.3s							
HMU	**Henry Mountain**	**83.33**	**49**	IAmb		IAmb	03 13 37.7	
	comp=Z,9.6nm,1.3s							
O20A	**White River Ci**	**83.65**	**47**	P		**P**	**03 13 29.8**	**-0.3**
	baz=306							
RSSD	**Black Hills**	**83.74**	**41**	P		**P**	**03 13 31.0**	**+0.6**
	baz=308							
OJC	**Ojcow**	**83.90**	**327**	*e*P		**P**	**03 13 31.3**	**+0.4**
OJC	**Ojcow**	**83.90**	**327**	P		**P**	**03 13 30.9**	**0.0**
OJC	**Ojcow**	**83.90**	**327**	P		**P**	**03 13 30.9**	**0.0**
OJC				pmax		pmax		
	comp=Z,22nm,1.2s							
MLR	**Muntele Rosu**	**83.91**	**320**	LR		LR	03 54 27.6	
	comp=Z,54nm,18.2s,baz=145,slow=38							
CRVS	**Cervenica-Dubn**	**84.00**	**325**	*e*P		**P**	**03 13 33.9**	**+2.5**
CRVS	**Cervenica-Dubn**	**84.00**	**325**	*e*P		**P**	**03 13 33.9**	**+2.5**
NIE	**Niedzica**	**84.21**	**326**	*e*P		**P**	**03 13 31.4**	**-1.1**
WUAZ	**Wupatki**	**84.29**	**52**	IAmb		IAmb	03 13 39.7	
	comp=Z,9.2nm,1.2s							
WUAZ	**Wupatki**	**84.29**	**52**	P		**P**	**03 13 34.1**	**+0.7**
	baz=305							
N23A	**Red Feather La**	**84.60**	**45**	P		**P**	**03 13 35.3**	**+0.3**
	baz=308							
SMCO	**Snowmass**	**85.00**	**47**	IAmb		IAmb	03 13 42.9	
	comp=Z,14nm,1.6s							
KSP	**Ksiaz**	**85.06**	**329**	*e*P		**P**	**03 13 37.6**	**+0.9**
MVCO	**Mesa Verde**	**85.20**	**49**	P		**P**	**03 13 38.2**	**+0.2**
	baz=306							
MORC	**Moravsky Berou**	**85.25**	**328**	*e*P		**P**	**03 13 38.0**	**+0.2**
AGMN	**Agassiz Nation**	**85.30**	**35**	P		**P**	**03 13 38.3**	**+0.4**
	baz=314							
214A	**Organ Pipe Nat**	**85.31**	**55**	P		**P**	**03 13 38.8**	**+0.4**
	baz=304							
TBI	**Tubuai**	**85.34**	**121**	*e*LR		LR	03 40 24.0	
	comp=Z,514nm,31.5s							
ISCO	**Idaho Springs**	**85.46**	**46**	P		**P**	**03 13 39.6**	**+0.3**
	baz=308							
MMAI	**Mount Meron Ar**	**85.53**	**306**	P		**P**	**03 13 39.7**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=0.0,slow=3.7,SNR=2.5							
	comp=Z,1.9nm,0.6s							
VYHS	**Vyhne**	**85.55**	**326**	*e*P		**P**	**03 13 40.4**	**+1.2**
VYHS	**Vyhne**	**85.55**	**326**	*e*P		**P**	**03 13 40.4**	**+1.2**
S22A	**4UR Ranch, Cre**	**85.95**	**48**	P		**P**	**03 13 42.1**	**+0.3**
	baz=307							
VRAC	**Vranov**	**86.02**	**328**	*e*P		**P**	**03 13 42.4**	**+0.9**
CLL	**Collm**	**86.13**	**331**	*e*P		**P**	**03 13 42.0**	**0.0**
	comp=Z,7.0nm,0.9s							
CLL	**Collm**	**86.13**	**331**	*e*P		**P**	**03 13 42.0**	**0.0**
CLL				pmax		pmax		
	comp=Z,7.0nm,0.9s							
Q24A	**Divide**	**86.26**	**46**	P		**P**	**03 13 43.1**	**-0.2**
	baz=308							
KRUC	**Moravsky**	**86.29**	**328**	*e*P		**P**	**03 13 43.4**	**+0.6**
TUC	**Tucson**	**86.52**	**54**	P		**P**	**03 13 44.2**	**-0.3**
	baz=305							
F33A	**5 Mile Ranch,**	**86.77**	**37**	IAmb		IAmb	03 13 48.9	
	comp=Z,9.3nm,1.1s							
SDCO	**Great Sand Dun**	**86.79**	**47**	P		**P**	**03 13 45.5**	**-0.4**
	baz=308							
EYMN	**Ely**	**87.61**	**33**	P		**P**	**03 13 48.5**	**-0.8**
	baz=317							
GERES	**GERESS Array B**	**87.66**	**329**	LR		LR	03 57 45.0	
	comp=Z,57nm,18.4s,baz=286,slow=39							
T25A	**Trinidad**	**87.84**	**47**	P		**P**	**03 13 50.4**	**-0.5**
	baz=309							
ANMO	**Albuquerque**	**87.88**	**50**	P		**P**	**03 13 50.9**	**-0.2**
	baz=308							
ANMO	**Albuquerque**	**87.88**	**50**	LR		LR	03 46 11.4	
	comp=Z,59nm,21.0s,baz=48,slow=31							
ECSD	**EROS Data Cent**	**88.05**	**38**	P		**P**	**03 13 50.8**	**-0.8**
	baz=313							
121A	**Cookes Peak, D**	**88.45**	**52**	P		**P**	**03 13 53.9**	**0.0**
	baz=307							
BGNE	**Belgrade**	**88.79**	**41**	P		**P**	**03 13 54.4**	**-0.7**
	baz=312							
SPMN	**Marine on St.**	**88.95**	**35**	P		**P**	**03 13 55.2**	**-0.5**
	baz=316							
CBKS	**Cedar Bluff**	**89.61**	**43**	P		**P**	**03 13 58.4**	**-0.6**
	baz=311							
MNTX	**Cornudas Mount**	**90.57**	**52**	P		**P**	**03 14 03.4**	**-0.2**
	baz=308							
SCHQ	**Schefferville**	**90.58**	**16**	LR		LR	03 57 42.2	
	comp=Z,11nm,20.8s,baz=324,slow=38							
LPIG	**La Paz**	**91.60**	**61**	LR		LR	03 56 42.1	
	comp=Z,41nm,18.5s,baz=268,slow=36							
GLMI	**Grayling**	**93.08**	**31**	P		**P**	**03 14 15.0**	**0.0**
	baz=322							
TXAR	**Lajitas Array**	**93.20**	**53**	P		**P**	**03 14 17.2**	**+1.3**
TXAR	**Lajitas Array**	**93.20**	**53**	P		**P**	**03 14 17.2**	**+1.3**
TXAR	**Lajitas Array**	**93.20**	**53**	P		**P**	**03 14 16.4**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=299,slow=2.8,SNR=48							
	comp=Z,3.1nm,0.7s							
L44A	**Lake County Fo**	**93.59**	**35**	P		**P**	**03 14 16.6**	**-0.8**
	baz=319							
ABTX	**Abilene, Hawle**	**93.74**	**48**	P		**P**	**03 14 16.8**	**-1.4**
	baz=311							
HDIL	**Hopedale**	**94.12**	**37**	P		**P**	**03 14 18.6**	**-1.2**
	baz=318							
JCT	**Junction City**	**95.04**	**50**	P		**P**	**03 14 23.5**	**-0.7**
	baz=311							
O48B	**Farmland**	**96.40**	**34**	P		**P**	**03 14 29.3**	**-0.9**
	baz=321							
833A	**Chaparral WMA,**	**96.72**	**51**	P		**P**	**03 14 31.0**	**-0.8**
	baz=311							
P49A	**Miami Univ. Ec**	**97.17**	**34**	P		Pdif	03 14 33.2	-0.6
	baz=321							
PKME	**Peaks-Kenny Pk**	**98.56**	**22**	P		**P**	**03 14 37.8**	**-1.9**
	baz=334							
TORD	**Torodi Ar. Bea**	**121.48**	**313**	PKP		**PKiKP**	**03 19 55.4**	**+0.1**
	comp=Z,1.1nm,1.0s,baz=20,slow=3.6,SNR=4.2							
PLCA	**Paso Flores**	**152.33**	**119**	PKPbc		**PKiKP**	**03 20 59.6**	**+2.3**
	comp=Z,2.4nm,0.9s,baz=256,slow=5.8,SNR=3.2							

***TEH* 11 03:22:36.2,30.69N×57.41E, *h*6km±98km, ML3.5,**
Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.80**	**291**	Pg	Pb	03 22 52.9	+0.3
CHMN	**Cheshme madani**	**0.83**	**172**	Pg	Pb	03 22 53.3	0.0
KHGB	**Koh Gabri**	**0.86**	**249**	Pg	Pb	03 22 53.8	+0.1
TVBK	**TV Kerman**	**0.90**	**219**	Pg	Pb	03 22 55.0	+0.6
NGRK	**Negar Kerman**	**1.20**	**210**	Pg	Pn	03 23 00.8	+1.0
KBAM	**BAM**	**1.79**	**149**	Pg	Pg	03 23 10.2	-0.4
IBAF	**Bafgh**	**1.82**	**300**	Pn	Pg	03 23 11.5	+0.4
BSRN	**Basiran**	**1.94**	**49**	Pn	Pg	03 23 13.3	-0.2
IKOO	**Kooshah**	**2.20**	**38**	Pn	Pb	03 23 16.6	+0.1
NHDN	**Nehbandan**	**2.37**	**72**	Pn	Pb	03 23 18.7	-0.8
TPRV	**Parvadeh(Tabas**	**2.41**	**345**	Pn	Pb	03 23 19.3	-0.8
ITEG	**Tejag**	**2.48**	**27**	Pn	Pb	03 23 20.1	-1.2
IMEH	**Mehriz**	**2.50**	**287**	Pn	Pb	03 23 20.8	-0.9
TKDS	**Koohdasht(Taba**	**2.93**	**355**	Pn	Pb	03 23 26.2	-2.6
AFRZ	**Afriz**	**3.05**	**26**	Pn	Pb	03 23 28.2	-2.8
ZHDN	**Zahedan**	**3.22**	**113**	Pn	Pn	03 23 30.2	+2.8
TNSJ	**Nastanj**	**3.33**	**348**	Pn	Pn	03 23 31.4	+2.4
ISAD	**Sadrabad**	**3.41**	**292**	Pn	Pn	03 23 33.3	+3.0
ANAR	**Anarak**	**4.00**	**310**	Pn	Pn	03 23 41.4	+3.3
IZEF	**Zefreh**	**4.85**	**298**	Pn	Pn	03 23 53.6	+3.5
TBJM	**Torbat-e-JAM**	**5.18**	**27**	Pn	Pn	03 23 58.0	+3.5

SFS **11** *03:22:45.3,36.66N×6.95W, h27km, ML2.8/10, ML3.0/6, MLv2.4/10*

INMG **11** *03:22:46.2±1.6,36.68N×6.93W, h37km, ML1.8, Error ellipse: s-maj=4.4km s-min=3.0km az=70.0*

IGIL **11** *03:22:47.2,36.68N×6.95W, h31km, ML1.6*

ISC 11 03:22:44.4±1.2,36.65N±0.04×6.94W±0.04, *h*35km, n30, σ1.125/50, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESPR	**Espera**	**0.90**	**75**	Sg	**Sn**	**03 23 13.6**	**+1.4**
ESPR				Pg	**Pn**	**03 23 01.8**	**+1.3**
PVAQ	**Vaqueiros**	**0.98**	**321**	*e*P	**Pn**	**03 23 02.5**	**+0.9**
PVAQ				*e*S	**Sn**	**03 23 14.2**	**-0.1**
PVAQ	**Vaqueiros**	**0.98**	**321**	Sg	**Sn**	**03 23 14.8**	**+0.5**
PVAQ				Pg	**Pn**	**03 23 02.3**	**+0.7**
EGRO	**El Granado**	**0.99**	**334**	Pn	**Pn**	**03 23 02.3**	**+0.6**
EGRO				Sn	**Sn**	**03 23 14.2**	**-0.3**
PBDV	**Barranco-do-Ve**	**0.99**	**307**	*e*P	**Pn**	**03 23 02.8**	**+0.9**
PBDV				*e*S	**Sn**	**03 23 14.8**	**+0.1**
PBDV				A	A	03 23 15.3	
	5.2nm,0.1s						
PCVE	**Castro Verde**	**1.32**	**318**	*e*P	**Pn**	**03 23 07.1**	**+0.8**
PCVE				*e*S	**Sn**	**03 23 21.8**	**-0.9**
PCVE				A	A	03 23 24.2	
	2.7nm,0.4s						
PCVE	**Castro Verde**	**1.32**	**318**	Pn	**Pn**	**03 23 06.6**	**+0.3**
MORF	**Marmelete**	**1.52**	**296**	*e*P	**Pn**	**03 23 09.9**	**+0.7**
MORF				*e*S	**Sn**	**03 23 27.6**	**-0.1**
MORF				A	A	03 23 28.4	
	7.4nm,1.1s						
MORF	**Marmelete**	**1.52**	**296**	*e*P	**Pn**	**03 23 09.8**	**+0.7**
PBAR	**Barrancos**	**1.53**	**357**	*e*P	**Pn**	**03 23 09.9**	**+0.7**
PBAR				*e*S	**Sn**	**03 23 27.0**	**-0.8**
PBAR				A	A	03 23 28.7	
	5.2nm,0.3s						
PBAR	**Barrancos**	**1.53**	**357**	Pn	**Pn**	**03 23 09.7**	**+0.5**
PBEJ	**Beja**	**1.56**	**332**	*e*S	**Sn**	**03 23 27.5**	**-1.2**
PBEJ				A	A	03 23 30.5	
	2.9nm,0.2s						
MESJ	**Messejana**	**1.57**	**320**	*e*P	**Pn**	**03 23 10.6**	**+0.8**
MESJ				*e*S	**Sn**	**03 23 28.0**	**-0.9**
MESJ				A	A	03 23 29.7	
	5.4nm,0.2s						
MESJ	**Messejana**	**1.57**	**320**	*e*P	**Pn**	**03 23 10.5**	**+0.7**
MESJ				*e*S	**Sn**	**03 23 27.6**	**-1.3**
MESJ				IAML		03 23 29.1	
	comp=N,6.4nm,0.2s						
PFVI	**Vila Bisbo**	**1.59**	**288**	*e*S	**Sn**	**03 23 29.1**	**-0.3**
PFVI				A	A	03 23 40.2	
	comp=N,16nm,0.6s						
ECAB	**El Cabril**	**1.87**	**40**	Pn	**Pn**	**03 23 14.0**	**0.0**
PNCL	**Nicolau / Gran**	**1.93**	**320**	*e*S	**Sn**	**03 23 37.2**	**-0.6**
PNCL				A	A	03 23 38.0	
	comp=N,5.6nm,0.3s						
EVO	**Evora**	**2.07**	**336**	*e*P	**Pn**	**03 23 16.8**	**+0.2**
EVO				*e*S	**Sn**	**03 23 40.3**	**-0.8**
EVO				A	A	03 23 41.0	
	comp=N,12nm,0.1s						
EVO	**Evora**	**2.07**	**336**	Sn	**Sn**	**03 23 40.5**	**-0.6**
PESTR	**Estremoz**	**2.27**	**347**	*e*P	**Pn**	**03 23 21.8**	**+2.3**
PESTR				*e*S	**Sn**	**03 23 44.6**	**-1.7**
PESTR				A	A	03 23 44.8	
	comp=N,2.4nm,1.1s						
PESTR	**Estremoz**	**2.27**	**347**	Pn	**Pn**	**03 23 20.4**	**+0.9**
PESTR				Sn	**Sn**	**03 23 45.7**	**-0.6**
PMTG	**Montargil**	**2.62**	**338**	*e*P	**Pn**	**03 23 26.1**	**+1.9**
PMTG				*e*S	**Sn**	**03 23 54.5**	**-0.3**
PMTG				A	A	03 23 55.6	
	comp=N,2.6nm,0.2s						
PMRV	**Marv??o**	**2.80**	**353**	*e*P	**Pn**	**03 23 27.4**	**+0.7**
PMRV				*e*S	**Sn**	**03 23 58.2**	**-1.0**
PMRV				A	A	03 23 59.0	
	comp=N,4.8nm,0.2s						
PSBE	**So Bento**	**3.21**	**333**	*e*S	**Sn**	**03 24 08.6**	**-0.9**
PCBR	**Castelo Branco**	**3.22**	**353**	*e*P	**Pn**	**03 23 33.2**	**+0.8**
PCBR				*e*S	**Sn**	**03 24 07.9**	**-1.6**
PCBR				A	A	03 24 09.4	
	comp=N,3.8nm,0.2s						
IFR	**Ifrane**	**3.46**	**154**	Sn	**Sn**	**03 24 14.1**	**-1.7**
IFR				Pn	**Pn**	**03 23 36.6**	**+0.7**
PCAS	**Casmilo, Conde**	**3.61**	**341**	*e*P	**Pn**	**03 23 40.4**	**+2.5**
PCAS				*e*S	**Sn**	**03 24 18.4**	**-0.9**
MVO	**Moncorvo**	**4.51**	**359**	*e*P	**Pn**	**03 23 51.3**	**+1.0**
MVO				*e*S	**Sn**	**03 24 38.2**	**-3.3**
MVO				A	A	03 24 40.5	
	comp=N,2.6nm,0.3s						
PVRL	**Vila Real**	**4.66**	**353**	*e*S	**Sn**	**03 24 43.2**	**-2.0**
TIO	**Tiouine**	**5.71**	**183**	Sn	**Sn**	**03 25 08.1**	**-3.2**
TIO				Pn	**Pn**	**03 24 08.0**	**+1.1**

IDC **11** *03:27:21.1±0.5,41.02S×44.18E, h0km, mb4.3/18, mbtmp4.3/19, ML3.3/1, MS3.8/39, Error ellipse: s-maj=19.0km s-min=14.6

comp=Z,112nm,0.9s
SNAA Sanae 38.33 202 P **P** **03 34 44.0 +0.9**
comp=Z,5.6nm,1.0s,baz=110,slow=8.2,SNR=12
SNAA LR LR 03 47 48.7
comp=Z,102nm,19.0s,baz=3.5,slow=32
comp=Z,5.6nm,1.0s
VNA2 Neumayer--Watz 39.37 204 ⇑P **P** **03 34 53.2 +1.5**
comp=Z,9.0nm,0.7s,baz=71,slow=7.0
VNA3 Neumayer Olymp 40.17 204 ⇑P **P** **03 34 59.3 +0.8**
comp=Z,5.7nm,0.8s
KMBO Kilima Mbogo 40.30 349 LR LR 03 49 07.0
comp=Z,95nm,21.5s,baz=96,slow=32
BELA Belgrano 2 47.83 196 P **P** **03 36 00.2 +0.4**
BELA IAmb IAmb 03 36 02.0
comp=Z,4.6nm,1.2s
QSPA South Pole Qui 49.08 180 P **P** **03 36 09.9 +0.1**
comp=Z,12nm,1.0s,baz=259,slow=4.7,SNR=20
QSPA LR LR 03 55 32.7
comp=Z,221nm,18.5s,baz=248,slow=34
comp=Z,12nm,1.0s
ATD Arta Tunnel 52.40 358 LR LR 03 56 27.2
comp=Z,5.3nm,19.9s,baz=138,slow=33
H01W2 Cape Leeuwin H 54.12 108 T T 04 35 02.0
baz=242,slow=75,SNR=40
H01W3 Cape Leeuwin H 54.13 108 T T 04 35 04.8
baz=242,slow=75,SNR=39
H01W1 Cape Leeuwin H 54.14 108 T T 04 35 03.4
baz=242,slow=75,SNR=90
VNDA Vanda 55.73 167 P **P** **03 36 58.5 -0.2**
VNDA Vanda 55.73 167 P **P** **03 36 58.9 +0.2**
comp=Z,0.9nm,0.9s,baz=234,slow=8.7,SNR=2.6
VNDA LR LR 04 00 32.5
comp=Z,92nm,18.6s,baz=222,slow=36
comp=Z,0.9nm,0.9s
NWAO Narrogin (SRO) 57.33 107 LR LR 03 55 29.9
comp=Z,50nm,21.3s,baz=116,slow=29
PALK Pallekele 58.67 44 LR LR 03 56 08.2
comp=Z,127nm,21.2s,baz=310,slow=30
DBIC Dimbokro 65.40 304 P **P** **03 38 05.8 +0.3**
DBIC Dimbokro 65.40 304 P **P** **03 38 05.0 -0.5**
comp=Z,4.2nm,0.8s,baz=124,slow=7.4,SNR=6.6
DBIC LR LR 04 03 07.7
comp=Z,58nm,21.6s,baz=152,slow=33
comp=Z,4.2nm,0.8s
WSAR Wadi Sarin 65.42 15 LR LR 04 02 07.2
comp=Z,138nm,20.6s,baz=227,slow=32
FORT Forrest 66.23 111 P **P** **03 38 11.5 +0.8**
TOA0 Torodi Ar. Sit 66.76 314 P **P** **03 38 14.1 -0.1**
TOA0 IAmb IAmb 03 38 15.4
comp=Z,3.8nm,0.8s
TORD Torodi Ar. Bea 66.76 314 P **P** **03 38 13.9 -0.2**
TORD IAmb IAmb 03 38 15.3
comp=Z,2.8nm,0.8s
TORD Torodi Ar. Bea 66.76 314 P **P** **03 38 12.9 -1.3**
comp=Z,2.9nm,0.8s,baz=129,slow=3.1,SNR=19
comp=Z,2.9nm,0.8s
BBOO Buckleboo 70.58 117 P **P** **03 38 38.4 +0.4**
FITZ Fitzroy Crossi 71.99 99 P **P** **03 38 46.3 -0.4**
MMAI Mount Meron Ar 74.22 352 P **P** **03 38 59.3 -0.1**
comp=Z,0.3nm,0.3s,baz=211,slow=4.7,SNR=2.0
comp=Z,0.3nm,0.3s
ASAR Alice Springs 74.64 108 P **P** **03 39 02.1 -0.1**
ASAR Alice Springs 74.64 108 P **P** **03 39 02.8 +0.5**
comp=Z,3.2nm,1.0s,baz=222,slow=5.6,SNR=16
comp=Z,3.2nm,1.0s
AS31 Alice Springs 74.64 108 P **P** **03 39 00.9 -1.4**
STKA Stephens Creek 74.84 119 P **P** **03 39 02.9 -0.4**
STKA Stephens Creek 74.84 119 P **P** **03 39 04.2 +0.8**
comp=Z,9.8nm,0.7s,baz=229,slow=11,SNR=3.2
STKA LR LR 04 04 49.2
comp=Z,63nm,19.7s,baz=207,slow=30
comp=Z,9.8nm,0.7s
TRQA Tornquist 76.34 231 P **P** **03 39 11.3 -0.5**
WRA Warramunga Arr 77.27 105 P **P** **03 39 17.4 +0.1**
WRA Warramunga Arr 77.27 105 P **P** **03 39 17.6 +0.3**
comp=Z,3.4nm,1.0s,baz=226,slow=4.7,SNR=21
comp=Z,3.4nm,1.0s
WR0 Warramunga Arr 77.41 105 P **P** **03 39 18.1 0.0**
WR0 IAmb IAmb 03 39 19.8
comp=Z,4.6nm,1.1s
WB0 Warramunga Arr 77.42 105 P **P** **03 39 18.3 +0.1**
WB0 IAmb IAmb 03 39 22.0
comp=Z,9.8nm,1.2s
CM31 Chiang Mai Arr 78.01 52 P **P** **03 39 21.0 -0.3**
CMAR Chiang Mai Arr 78.01 52 P **P** **03 39 21.1 -0.2**
CMAR Chiang Mai Arr 78.01 52 P **P** **03 39 21.6 +0.3**
comp=Z,2.0nm,0.4s,baz=227,slow=7.3,SNR=7.6
CMAR LR LR 04 07 27.5
comp=Z,38nm,21.8s,baz=225,slow=31
comp=Z,2.0nm,0.4s
PLCA Paso Flores 79.30 225 P **P** **03 39 29.3 +0.9**
PLCA IAmb IAmb 03 39 45.0
comp=Z,15nm,1.4s
PLCA Paso Flores 79.30 225 P **P** **03 39 29.0 +0.6**
comp=Z,3.6nm,1.0s,baz=103,slow=9.6,SNR=4.3
PLCA LR LR 04 11 52.1
comp=Z,82nm,18.2s,baz=154,slow=34
comp=Z,3.6nm,1.0s
GNI Garni 80.89 0 LR LR 04 14 37.3
comp=Z,36nm,19.8s,baz=166,slow=35
BR131 Keskin Array S 81.04 352 P **P** **03 39 37.0 -0.4**
BR131 IAmb IAmb 03 39 38.5
comp=Z,6.0nm,1.1s
BRTR Keskin Array B 81.04 352 P **P** **03 39 37.3 -0.2**
BRTR Keskin Array B 81.04 352 P **P** **03 39 36.9 -0.5**
comp=Z,2.6nm,0.9s,baz=183,slow=6.2,SNR=10
comp=Z,2.6nm,0.9s
CPUP Villa Florida 81.16 243 P **P** **03 39 38.7 +0.2**
CPUP IAmb IAmb 03 39 42.1
comp=Z,7.3nm,1.1s
CPUP Villa Florida 81.16 243 P **P** **03 39 39.1 +0.7**
comp=Z,4.4nm,1.0s,baz=118,slow=6.0,SNR=6.3
comp=Z,4.4nm,1.0s
BDFB Brasilia 81.52 257 P **P** **03 39 41.6 +1.0**
comp=Z,2.8nm,0.8s,baz=158,slow=11,SNR=4.8
BDFB LR LR 04 11 03.1
comp=Z,52nm,18.7s,baz=149,slow=32
comp=Z,2.8nm,0.8s
CHGR Chuyangaron 82.61 19 P **P** **03 39 45.6 0.0**
VAE Valguarnera 82.84 337 LR LR 04 16 44.6
comp=Z,101nm,20.0s,baz=144,slow=36
KEST Kesra 82.90 332 LR LR 04 16 57.0
comp=Z,145nm,20.6s,baz=262,slow=36
RPZ Rata Peaks 82.96 144 LR LR 04 08 49.5
comp=Z,54nm,21.9s,baz=240,slow=30
AQDB Aquidauana 83.91 248 P **P** **03 39 52.8 -0.1**
KBZ Khabaz 84.48 359 LR LR 04 18 48.5
comp=Z,64nm,18.3s,baz=164,slow=37
CFA Coronel Fontan 84.51 232 LR LR 04 14 21.9
comp=Z,48nm,19.4s,baz=127,slow=33
PZH PanZhiHua 85.85 49 P **P** **03 40 04.6 +2.1**
PZH pmax pmax
comp=Z,10.0nm,0.3s
PZH pmax pmax
comp=Z,100nm,5.7s
MDT Midelt 86.23 321 LR LR 04 18 58.5
comp=Z,112nm,19.0s,baz=158,slow=36
KK31 Karatay Array 87.14 19 P **P** **03 40 07.2 -1.1**
KK31 IAmb IAmb 03 40 31.2
comp=Z,3.1nm,0.9s
KKAR Karatay Array 87.14 19 P **P** **03 40 08.4 +0.2**
AAK Ala-Archa 87.76 22 LR LR 04 16 15.1
comp=Z,45nm,19.9s,baz=202,slow=34
GYA Guiyang 88.70 53 *e*P **P** **03 40 18.7 +2.4**
GYA pmax pmax
comp=Z,11nm,0.5s
BURAR Bucovina Array 89.95 347 P **P** **03 40 21.4 -0.1**
URZ Urewera 90.06 145 LR LR 04 16 30.1
comp=Z,36nm,18.4s,baz=37,slow=33
SIV San Ignacio 90.68 248 LR LR 04 14 59.2
comp=Z,61nm,19.5s,baz=208,slow=32
LVC Limon Verde 91.34 238 LR LR 04 14 18.9
comp=Z,38nm,21.4s,baz=186,slow=31
ESDC Sonseca Array 91.58 325 P **P** **03 40 29.5 +0.1**
comp=Z,2.7nm,1.0s,baz=134,slow=5.2,SNR=6.0
ESDC LR LR 04 22 31.6
comp=Z,76nm,21.0s,baz=160,slow=36
comp=Z,2.7nm,1.0s
PB06 IPOC Station P 91.70 238 P **P** **03 40 29.2 -1.5**
AKTO Aktyubinsk 91.98 9 LR LR 04 22 46.3
comp=Z,44nm,18.6s,baz=174,slow=36
AKASG Malin Array Be 92.38 351 P **P** **03 40 32.2 -0.4**
comp=Z,0.2nm,0.4s,baz=177,slow=4.6,SNR=4.0
comp=Z,0.2nm,0.4s
WMQ Urumqi 93.18 30 *e*P **P** **03 40 37.2 +0.6**
WMQ pmax pmax
comp=Z,17nm,0.7s
VRAC Vranov 93.28 342 LR LR 04 25 51.9
comp=Z,18nm,18.3s,baz=18,slow=38
PMG Port Moresby 93.49 106 LR LR 04 17 45.8
comp=Z,41nm,21.3s,baz=316,slow=32
MKAR Makanchi Array 93.87 25 LR LR 04 20 28.9
comp=Z,41nm,18.4s,baz=168,slow=34
OBN Obninsk 96.09 356 LR LR 04 24 48.6
comp=Z,27nm,18.9s,baz=183,slow=36
KURBB Kurchatov Arra 96.18 21 LR LR 04 23 27.2
comp=Z,36nm,18.8s,baz=168,slow=35
DZM Mont Dzumac 97.42 128 *e*LR LR 04 12 27.2
comp=Z,55nm,24.1s
DZM Mont Dzumac 97.42 128 LR LR 04 18 00.3
comp=Z,22nm,19.9s,baz=162,slow=31
ARU Arti 97.94 8 LR LR 04 25 31.8
comp=Z,48nm,21.0s,baz=198,slow=36
KIRV Kirov 99.44 3 LR LR 04 28 52.6
comp=Z,58nm,18.1s,baz=185,slow=37
NJ2 Nanjing 100.16 56 *e*P **Pdif** **03 41 10.2 +1.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
NJ2 pmax pmax
comp=Z,330nm,4.2s
ZALV Zalesovo Beam 100.93 23 P **Pdif** **03 41 11.1 -0.2**
comp=Z,0.6nm,0.4s,baz=205,slow=3.1,SNR=4.4
HHC Hu-ho-hao-te 101.91 46 *e*P **Pdif** **03 41 17.4 +1.2**
TBI Tubuai 114.62 166 *e*LR LR 04 20 32.6
comp=Z,444nm,31.2s
PPT2 Papeete2 120.21 165 *e*LR LR 04 22 47.9
comp=Z,147nm,26.5s
PPT2 *e*LR LR 04 23 08.4
comp=Z,114nm,25.5s
LCAR Lake Charles 145.03 277 **PKPbc** **03 46 58.4 -0.8**
FVM French Village 145.17 280 **PKPbc** **03 46 58.6 -1.1**
CCM Cathedral Cave 145.80 280 PKPdf **PKPdf** **03 47 01.7 +0.6**
HKT Hockley 145.88 264 PKPdf **PKPdf** **03 47 01.0 -0.4**
435B Jarrell 147.61 264 PKPbc **PKPbc** **03 47 06.9 -0.2**
FCC Fort Churchill 148.54 318 PKPbc **PKPbc** **03 47 08.7 +0.1**
A36M Sachs Harbour 148.62 354 PKPbc **PKPbc** **03 47 07.8 -0.6**
DRIO Del Rio 149.19 259 PKPdf **PKPdf** **03 47 05.1 -2.0**
T35A Sooner Cattle 149.36 275 PKPbc **PKPbc** **03 47 09.6 -1.9**
ULM Lac du Bonnet 150.95 302 PKPbc **PKPbc** **03 47 14.2 -0.7**
ULM Lac du Bonnet 150.95 302 PKPbc **PKPbc** **03 47 14.8 0.0**
comp=Z,15nm,0.8s,baz=64,slow=3.0,SNR=23
C36M Paulatuk 151.04 351 PKPbc **PKPbc** **03 47 13.5 -1.0**
ECSD EROS Data Cent 151.13 288 PKPbc **PKPbc** **03 47 14.2 -1.3**
D25K Kavik River 151.19 8 PKPbc **PKPbc** **03 47 13.9 -1.0**
TXAR Lajitas Array 151.39 256 PKP **PKPdf** **03 47 11.6 +1.0**
comp=Z,1.5nm,1.0s,baz=171,slow=2.4,SNR=10
TXAR PKPbc **PKiKP** **03 47 17.3 +0.1**
comp=Z,11nm,0.8s,baz=134,slow=5.1,SNR=82
TX31 Lajitas Ar. Si 151.39 256 PKPdf **PKPdf** **03 47 09.2 -1.4**
TX31 PKPbc **PKPbc** **03 47 16.6 -0.1**
MNHN Monahans 151.75 260 PKPdf **PKPdf** **03 47 10.3 -0.7**
MNHN PKPbc **PKPbc** **03 47 16.7 -0.7**
E27K Coleen River 152.70 5 PKPbc **PKPbc** **03 47 17.4 -0.9**
INK Inuvik 152.73 358 PKPbc **PKPbc** **03 47 18.0 -0.3**
EPYK Eagle Plains 154.70 1 PKPbc **PKPbc** **03 47 22.2 -0.5**
YKA Yellowknife Ar 155.13 336 PKP **PKPdf** **03 47 14.9 +0.1**
comp=Z,0.4nm,0.8s,baz=35,slow=1.7,SNR=5.3
YKA PKPab **PKPab** **03 47 39.4 -0.1**
comp=Z,1.3nm,0.8s,baz=34,slow=4.8,SNR=16
SMCO Snowmass 157.91 274 PKPab **PKPab** **03 47 53.5 +0.6**
PDAR Pinedale Array 160.43 284 PKP **PKPdf** **03 47 20.9 -1.4**
comp=Z,1.0nm,0.9s,baz=256,slow=0.6,SNR=5.8
NVAR Mina Array Bea 166.27 264 PKP **PKPdf** **03 47 28.5 +0.5**
comp=Z,0.7nm,0.9s,baz=214,slow=1.8,SNR=4.6

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*IDC **11** 03:35:11.8±0.6,25°.62N×90°.74E,h0^{km},mb4.2/19, mbtmp4.2/20,ML4.6/1,MS3.2/5,Error ellipse: s-maj=25.8km s-min=12.3km az=55.0*
*BJI **11** 03:35:12.6,25°.70N×90°.81E,h6^{km},mb4.3/36,mB4.9/13, ML4.2/1,Ms4.1/4,Ms7 3.7/4*
*MOS **11** 03:35:12.4±1.1,25°.50N×90°.70E,h18^{km},mb4.6/17,Error ellipse: s-maj=10.7km s-min=5.1km az=119.3*
*NEIC **11** 03:35:13.7±1.9,25°.7N±0°.1×90°.86E±0°.04,h10^{km}±1^{km}, mb4.6/49,Error ellipse: s-maj=17.8km s-min=4.6km az=191.0*
*DMN **11** 03:35:13.2±0.4,24°.90N×90°.65E,h40^{km},Ml5.1/9,Error ellipse: s-maj=22.7km s-min=7.8km az=32.0*
*NDI **11** 03:35:14.4±3.7,25°.76N×90°.70E,h10^{km},ML4.5, mb4.6(NEIC)*

ISC 11 03:35:12.2±1.0,25°.66N±0°.03×90°.69E±0°.03,h2^{km}±6^{km}, n181,σ1°75/201,mb4.5/57,MS3.0/5,19C-6D, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
SHL	**Shillong**	**1.08**	**95**		**Pg**	**03 35 32.4**	**-0.5**
SHL				Sn	**Sg**	**03 35 45.7**	**-1.2**
SHL	**Shillong**	**1.08**	**95**	P	**Pg**	**03 35 32.4**	**-0.5**
SHL						03 35 45.7	
SHL	**Shillong**	**1.08**	**95**	*e*P	**Pg**	**03 35 32.5**	**-0.4**
SHL				*e*S	**Sg**	**03 35 46.0**	**-0.8**
SHL				IAML		03 35 48.9	
	comp=E,23μm,0.3s						
SHL				IAML		03 35 49.0	
	comp=N,34μm,0.3s						
AGT	**Agartala**	**1.84**	**164**	*e*P	**Pb**	**03 35 47.2**	**+0.6**
AGT				*e*S	**Sg**	**03 36 12.7**	**+1.4**
AGT				IAML		03 36 14.7	
	comp=E,5μm,0.4s						
SILR	**SILCHAR**	**2.10**	**114**	*e*P	**Pb**	**03 35 50.1**	**-0.9**
SILR				*e*S	**Sg**	**03 36 19.5**	**-0.3**
SILR				IAML		03 36 27.8	
	comp=N,6μm,0.2s						
TEZP	**TEZPUR**	**2.12**	**63**	*e*P	**Pn**	**03 35 48.8**	**+0.1**
TEZP				*e*S	**Sb**	**03 36 15.9**	**-2.3**
TEZP				*e*S	**Sg**	**03 36 18.5**	**-1.9**
TEZP				IAML		03 36 19.0	
	comp=N,9μm,0.2s						
TEZP				IAML		03 36 19.7	
	comp=E,6μm,0.3s						
GTK	**Tadong**	**2.50**	**312**	*e*P	**Pb**	**03 35 56.8**	**-1.2**
GTK				*e*S	**Sn**	**03 36 26.7**	**+1.4**
GTK				IAML		03 36 33.9	
	comp=N,4μm,0.5s						
GTK				IAML		03 36 34.0	
	comp=E,3μm,0.4s						
IMP	**Imphal**	**3.06**	**105**	*e*P	**Pn**	**03 36 03.1**	**+1.4**
IMP				*e*S	**Sb**	**03 36 41.3**	**-4.0**
IMP				IAML		03 36 56.8	
	comp=E,661nm,0.6s						
IMP				IAML		03 36 57.5	
	comp=N,958nm,0.6s						
ITAN	**ITANAGAR**	**3.09**	**61**	*e*P	**Pn**	**03 36 02.8**	**+0.7**
ITAN				*e*S	**Sn**	**03 36 40.9**	**+1.2**
ITAN				IAML		03 36 56.2	
	comp=N,7μm,0.3s						
ITAN				IAML		03 36 57.1	
	comp=E,5μm,0.4s						
TAPN	**Taplejung**	**3.16**	**303**	*e*Pn	**Pn**	**03 36 05.4**	**+2.1**
TAPN				*e*Sg	**Sb**	**03 36 46.3**	**-2.1**
	comp=E,2μm,0.3s						
ODAN	**Odare**	**3.20**	**293**	*e*Pn	**Pn**	**03 36 05.2**	**+1.4**
ODAN				*e*Sn	**Sn**	**03 36 43.2**	**+0.6**
	comp=E,6μm,0.5s						
JORH	**JORHAT**	**3.37**	**71**	*e*S	**Sn**	**03 36 46.6**	**0.0**
ZIRO	**ZIRO**	**3.38**	**56**	*e*P	**Pn**	**03 36 07.0**	**+0.7**
ZIRO				*e*S	**Sn**	**03 36 43.4**	**-3.7**
ZIRO				IAML		03 37 05.3	
	comp=N,15μm,0.5s						
ZIRO				IAML		03 37 06.3	
	comp=E,11μm,0.4s						
MOKO	**MOKOCHONG**	**3.50**	**78**	*e*P	**Pn**	**03 36 07.9**	**+0.1**
MOKO				*e*S	**Sn**	**03 36 48.3**	**-1.7**
MOKO				IAML		03 37 06.1	
	comp=N,3μm,0.4s						
MOKO				IAML		03 37 09.0	
	comp=E,3μm,0.5s						
SAIH	**SAIHA**	**3.79**	**146**	*e*P	**Pn**	**03 36 14.0**	**+2.2**
SAIH				*e*P	Pb	03 36 14.0	-5.9
SAIH				*e*S	**Sn**	**03 36 58.9**	**+1.9**
SAIH				IAML		03 37 04.9	
	comp=N,294nm,0.3s						
RAMN	**Ramite**	**3.89**	**290**	*e*Pn	**Pn**	**03 36 13.4**	**+0.1**
LSA	**Lhasa**	**4.05**	**6**	Pn	**Pn**	**03 36 17.3**	**+1.7**
LSA	**Lhasa**	**4.05**	**6**	P	**Pn**	**03 36 17.3**	**+1.7**
JIRN	**Jiri**	**4.50**	**297**	*e*Pn	**Pn**	**03 36 23.1**	**+1.4**
BOK	**Bokaro**	**4.75**	**248**	*e*P	**Pn**	**03 36 25.6**	**+0.7**
BOK				*e*S	**Sn**	**03 37 18.9**	**-1.6**
BOK				IAML		03 37 26.8	
	comp=E,278nm,0.7s						
BOK				IAML		03 37 27.6	
	comp=N,398nm,0.3s						
GUN	**Gumba**	**4.85**	**299**	*e*Pn	**Pn**	**03 36 27.9**	**+1.3**
GUN				*e*Sn	**Sn**	**03 37 23.6**	**0.0**
	comp=N,544nm,0.4s						
PKI	**Pulchoki**	**5.10**	**293**	*e*Pn	**Pn**	**03 36 30.9**	**+0.9**
PKI				*e*Sn	**Sn**	**03 37 28.2**	**-1.5**
	comp=N,318nm,0.5s						
PKIN	**Phulchoki**	**5.11**	**293**	*e*Pn	**Pn**	**03 36 30.5**	**+0.4**
KKN	**Kakani**	**5.29**	**295**	*e*Pn	**Pn**	**03 36 34.9**	**+2.4**
KKN				*e*Sn	**Sn**	**03 37 33.2**	**-0.9**
	comp=N,236nm,0.2s						
DMN	**Daman**	**5.36**	**292**	*e*Pn	**Pn**	**03 36 35.7**	**+2.1**
GKN	**Gorkha**	**5.89**	**295**	*e*Pn	**Pn**	**03 36 41.4**	**+0.6**
GKN				*e*Sn	**Sn**	**03 37 46.6**	**-2.4**
	comp=N,480nm,0.3s						
MND	**Mandalay**	**6.15**	**125**	Pn	**Pn**	**03 36 43.1**	**-1.0**
KOLN	**Koldanda**	**6.68**	**290**	*e*Pn	**Pn**	**03 36 51.9**	**+0.2**
KOLN				*e*Sn	**Sn**	**03 38 04.8**	**-3.7**
	comp=N,219nm,0.3s						
DANN	**Dangsing**	**6.74**	**295**	*e*Pn	**Pn**	**03 36 52.1**	**-0.4**
DANN				*e*Sn	**Sn**	**03 38 07.4**	**-2.7**
	comp=N,224nm,0.4s						
PYUN	**Piuthan**	**7.30**	**291**	*e*Pn	**Pn**	**03 36 59.3**	**-0.8**
PYUN				*e*Sn	**Sn**	**03 38 18.6**	**-5.0**
	comp=N,180nm,0.5s						
JHSG	**JHARSUGUGA**	**7.43**	**240**	*e*P	**Pn**	**03 37 04.4**	**+2.6**
JHSG				*e*S	**Sn**	**03 38 22.7**	**-4.1**
RAGD	**RAYAGADA**	**9.24**	**228**	*e*P	**Pn**	**03 37 28.0**	**+1.3**
RAGD				*e*S	**Sn**	**03 39 06.9**	**-4.4**
PZH	**PanZhiHua**	**9.97**	**83**	P	**Pn**	**03 37 37.5**	**+0.8**
PZH				pmax	pmax		
	comp=N,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=N,110nm,5.3s						
PTH	**Pithoragarh**	**10.07**	**295**	*e*P	**Pn**	**03 37 37.9**	**-0.2**
PTH				*e*S	**Sn**	**03 39 24.4**	**-7.3**
CHTO	**Chiang Mai**	**10.23**	**130**	Pn	**Pn**	**03 37 38.1**	**-2.1**
CHTO	**Chiang Mai**	**10.23**	**130**	P	**Pn**	**03 37 38.1**	**-2.1**
CRAI	**Chiangrai**	**10.43**	**119**	Pn	**Pn**	**03 37 41.7**	**-1.1**
CMAR	**Chiang Mai Arr**	**10.48**	**132**	Pn	**Pn**	**03 37 42.3**	**-1.3**
CMAR	**Chiang Mai Arr**	**10.48**	**132**	Pn	**Pn**	**03 37 42.0**	**-1.5**
	comp=N,1.4nm,0.3s,baz=312,slow=14,SNR=14						
CMAR				LR	LR	03 42 16.7	
	comp=N,125nm,18.1s,baz=310,slow=41						
	comp=N,4.5nm,0.5s						
BHPL	**Bhopal**	**12.32**	**262**	*e*P	**Pn**	**03 38 05.6**	**-3.2**
BHPL				*e*S	Sn	03 40 15.7	-11
SMLA	**Simla**	**13.09**	**298**	*e*P	**Pn**	**03 38 17.7**	**-1.5**
SMLA				*e*S	Sn	03 40 33.1	-12
SMLA				IAML		03 40 41.5	
	comp=E,64nm,0.5s						
SMLA				IAML		03 40 42.1	
	comp=N,55nm,0.5s						
HYB	**Hyderabad**	**13.95**	**236**	*e*P	**Pn**	**03 38 33.7**	**+2.5**
HYB				*e*S	Sn	03 40 55.8	-11
AJM	**Ajmer**	**14.45**	**277**	*e*S	Sn	03 41 06.8	-12
LZH	**Lanzhou**	**15.33**	**44**	*e*P	**Pn**	**03 38 50.1**	**+0.2**
LZH				sP	pP	03 38 56.8	+1.4
LZH				pmax	pmax		
	comp=N,13nm,0.9s						
NIL	**Nilore**	**17.11**	**302**	Pn	**Pn**	**03 39 09.7**	**-2.9**
NIL				IAmb	IAmb	03 39 17.7	
	comp=Z,22nm,0.5s						
NIL	**Nilore**	**17.11**	**302**	P	**Pn**	**03 39 09.7**	**-2.9**
NIL				pmax	pmax		
	comp=Z,22nm,0.5s						
ENH	**Enshi**	**17.22**	**70**	Pn	**Pn**	**03 39 11.5**	**-2.6**
ENH				IAmb	IAmb	03 39 21.1	
	comp=Z,38nm,0.8s						
XAN	**Xi'an**	**17.86**	**58**	P	**Pn**	**03 39 18.5**	**-3.5**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ	**Urumqi**	**18.28**	**353**	*e*P	**P**	**03 39 29.7**	**+2.3**
KSH	**Kashi**	**18.53**	**322**	P	**Pn**	**03 39 32.7**	**+2.4**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.6s						
TARG	**Taragay, Kyrgy**	**19.25**	**330**	P	**P**	**03 39 38.3**	**0.0**
TARG	**Taragay, Kyrgy**	**19.25**	**330**	P	**P**	**03 39 38.3**	**0.0**
TARG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NRN	**Naryn**	**19.89**	**326**	P	**P**	**03 39 45.6**	**+0.4**
NRN	**Naryn**	**19.89**	**326**	P	**P**	**03 39 45.7**	**+0.4**
NRN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
PALK	**Pallekele**	**20.62**	**209**	P	**P**	**03 39 53.5**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=113,slow=13,SNR=2.4						
	comp=Z,3.8nm,0.8s						
KBL	**Kabul**	**20.69**	**300**	P	Pn	03 39 55.5	-0.7
KBL				IAmb	IAmb	03 39 57.0	
	comp=Z,13nm,0.8s						
KBL	**Kabul**	**20.69**	**300**	P	Pn	03 39 55.5	-0.7
KBL				pmax	pmax		
	comp=Z,13nm,0.8s						
BOOM	**Boomskoye usch**	**20.71**	**328**	P	Pn	03 39 55.7	-0.6
BOOM	**Boomskoye usch**	**20.71**	**328**	P	Pn	03 39 55.7	-0.7
BOOM				pmax	pmax		
	comp=Z,14nm,1.0s						
LYN	**LuoYang**	**20.79**	**60**	⇓P	Pn	03 39 56.8	-0.3
LYN				pmax	pmax		
	comp=Z,20nm,0.9s						
LYN				pmax	pmax		
	comp=Z,300nm,5.2s						
ARLS	**Aral**	**21.07**	**324**	P	**P**	**03 40 00.3**	**+2.4**
ARLS				pmax	pmax		
	comp=Z,20nm,1.1s						
WHN	**Wuhan**	**21.41**	**71**	P	**P**	**03 40 04.1**	**+2.6**
WHN				pmax	pmax		
	comp=Z,20nm,0.6s						
ARSB	**Arslanbob**	**21.44**	**321**	P	**P**	**03 40 02.6**	**+0.8**
ARSB	**Arslanbob**	**21.44**	**321**	P	**P**	**03 40 02.6**	**+0.8**
ARSB				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AAK	**Ala-Archa**	**21.54**	**326**	P	**P**	**03 40 03.5**	**+0.6**
AAK	**Ala-Archa**	**21.54**	**326**	⇓*e*P	**P**	**03 40 04.2**	**+1.3**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AAK	**Ala-Archa**	**21.54**	**326**	P	**P**	**03 40 02.9**	**0.0**
	comp=Z,1.1nm,0.2s,baz=180,slow=11,SNR=7.4						
	comp=Z,1.1nm,0.2s						
GAR	**Garm**	**21.70**	**313**	P	**P**	**03 40 05.1**	**+0.4**
GAR				IAmb	IAmb	03 40 09.7	
	comp=Z,23nm,0.9s						
BTO	**Baotou**	**21.93**	**42**	*e*P	**P**	**03 40 03.2**	**-3.9**
BTO				pmax	pmax		
	comp=Z,11nm,0.6s						
BTO				pmax	pmax		
	comp=Z,230nm,4.3s						
BTK	**Batken**	**21.95**	**316**	P	**P**	**03 40 08.4**	**+1.1**
BTK	**Batken**	**21.95**	**316**	P	**P**	**03 40 08.4**	**+1.1**
BTK				pmax	pmax		
	comp=Z,34nm,0.7s						
MK31	**Makanchi Array**	**22.13**	**345**	P	**P**	**03 40 09.7**	**+0.6**
MK31	**Makanchi Array**	**22.13**	**345**	*e*P	**P**	**03 40 10.5**	**+1.4**
MKAR	**Makanchi Array**	**22.13**	**345**	P	**P**	**03 40 09.4**	**+0.3**
MKAR	**Makanchi Array**	**22.13**	**345**	*e*P	**P**	**03 40 10.4**	**+1.3**
MKAR				pmax	pmax		
	comp=Z,14nm,0.8s						
MKAR	**Makanchi Array**	**22.13**	**345**	P	**P**	**03 40 09.0**	**-0.1**
	comp=Z,9.1nm,0.7s,baz=158,slow=12,SNR=44						
MKAR				LR	LR	03 50 31.8	
	comp=Z,41nm,21.7s,baz=178,slow=42						
	comp=Z,9.1nm,0.7s						
MAKZ	**Makanchi**	**22.22**	**344**	P	**P**	**03 40 11.4**	**+1.4**
MAKZ	**Makanchi**	**22.22**	**344**	P	**P**	**03 40 11.5**	**+1.4**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CHGR	**Chuyangaron**	**22.30**	**311**	P	**P**	**03 40 13.1**	**+2.0**
CHGR				IAmb	IAmb	03 40 31.9	
	comp=Z,19nm,1.0s						
CHGR	**Chuyangaron**	**22.30**	**311**	P	**P**	**03 40 13.1**	**+2.0**
CHGR				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC	**Hu-ho-hao-te**	**23.03**	**44**	*e*P	**P**	**03 40 18.3**	**-0.5**
HHC				pmax	pmax		
	comp

DGZ	**Jazzator, Alta**	**24.14**	**355**⇑	*eP*		**P**		**03 40 29.0**	**-0.7**
DGZ				pmax		pmax			
	comp=Z,6.0nm,0.7s								
SONM	**Songino Array**	**25.36**	**25**	P		**P**		**03 40 38.4**	**-2.4**
SONM	**Songino Array**	**25.36**	**25**	P		**P**		**03 40 41.6**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=208,slow=10,SNR=20								
SONM				LR		LR		03 51 14.4	
	comp=Z,41nm,18.2s,baz=84,slow=38								
	comp=Z,2.8nm,0.7s								
NJ2	**Nanjing**	**25.43**	**69**	*eP*		**P**		**03 40 40.0**	**-1.4**
NJ2				pP		**pP**		**03 40 44.3**	**+2.3**
NJ2				pmax		pmax			
	comp=Z,9.0nm,0.5s								
NJ2				pmax		pmax			
	comp=Z,230nm,3.6s								
ULN	**Ulaanbaatar**	**25.64**	**26**⇑	*iP*		**P**		**03 40 45.4**	**+2.0**
ULN				pmax		pmax			
	comp=Z,7.0nm,1.6s								
KURBB	**Kurchatov Arra**	**26.62**	**343**	P		**P**		**03 40 52.3**	**+0.2**
	comp=Z,5.1nm,0.2s,baz=162,slow=8.8,SNR=12								
	comp=Z,5.1nm,0.2s								
KURK	**Kurchatov**	**26.68**	**343**	P		**P**		**03 40 51.4**	**-1.2**
KURK	**Kurchatov**	**26.68**	**343**⇑	*eP*		**P**		**03 40 54.4**	**+1.8**
KURK				pmax		pmax			
	comp=Z,13nm,1.7s								
ZALV	**Zalesovo Beam**	**28.59**	**353**	P		**P**		**03 41 10.2**	**+0.6**
ZALV	**Zalesovo Beam**	**28.59**	**353**	*eP*		**P**		**03 41 12.7**	**+3.1**
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.4s								
KAAM	**Kaadhehdhoo**	**30.29**	**217**	P		**P**		**03 41 25.2**	**+0.1**
KAAM				IAmb		IAmb		03 41 56.6	
	comp=Z,8.5nm,0.7s								
BVAR	**Borovoye Array**	**31.30**	**336**	P		**P**		**03 41 34.1**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=142,slow=10,SNR=4.2								
	comp=Z,0.6nm,0.4s								
ABKAR	**Akbulak array**	**33.54**	**323**	P		**P**		**03 41 52.7**	**-0.6**
KSRS	**Korea Array**	**33.63**	**60**	LR		LR		03 57 20.9	
	comp=Z,26nm,20.9s,baz=150,slow=40								
AKTO	**Aktyubinsk**	**35.23**	**323**	LR		LR		03 58 57.6	
	comp=Z,87nm,19.0s,baz=340,slow=40								
HEH	**HeiHe**	**37.38**	**39**	*eP*		**P**		**03 42 28.3**	**+2.0**
ARU	**Arti**	**38.49**	**332**	*dP*		**P**		**03 42 37.2**	**+1.5**
ARU								03 44 04.9	
ARU				S		**S**		**03 48 35.8**	**+4.0**
ARU				SS		**SS**		**03 51 18.3**	**-2.5**
ARU				pmax		pmax			
	comp=Z,22nm,3.3s								
ZEA	**Zeya**	**39.00**	**34**	*eP*		**P**		**03 42 39.9**	**-0.1**
ZEA				pmax		pmax			
	comp=Z,20nm,0.5s								
NCK	**Nalchik**	**42.06**	**307**⇓	*eP*		**P**		**03 43 07.2**	**+1.8**
NCK				pmax		pmax			
	comp=Z,51nm,3.3s								
KIRV	**Kirov**	**43.77**	**330**⇑	*iP*		**P**		**03 43 20.6**	**+1.6**
OBN	**Obninsk**	**48.98**	**322**⇑	*eP*		**P**		**03 44 01.2**	**+1.2**
OBN				*e*				03 45 59.5	
OBN				pmax		pmax			
	comp=Z,35nm,2.8s								
OBN				MLR		MLR			
	comp=Z,32nm,15.0s								
BRTR	**Keskin Array B**	**49.26**	**301**	P		**P**		**03 44 03.3**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=101,slow=8.1,SNR=2.2								
	comp=Z,0.6nm,0.8s								
TIXI	**Tiksi**	**50.71**	**15**⇓	*iP*		**P**		**03 44 13.5**	**+0.5**
ELL	**Elmali**	**52.38**	**298**	P		**P**		**03 44 25.2**	**-1.0**
ELL	**Elmali**	**52.38**	**298**	P		**P**		**03 44 25.2**	**-1.0**
ELL				pmax		pmax			
	comp=Z,25nm,0.7s								
AKASG	**Malin Array Be**	**52.66**	**315**	*eP*		**P**		**03 44 26.8**	**-1.1**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**52.66**	**315**	P		**P**		**03 44 28.0**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=86,slow=6.1,SNR=9.7								
	comp=Z,0.6nm,0.5s								
AKBB	**Malin Array Si**	**52.66**	**315**⇑	*eP*		**P**		**03 44 27.7**	**-0.2**
AKBB				pmax		pmax			
	comp=Z,7.0nm,1.3s								
MILM	**Milestii Mici**	**52.76**	**311**	*eP*		**P**		**03 44 29.0**	**+0.3**
	comp=Z,15nm,0.6s								
MILM	**Milestii Mici**	**52.76**	**311**	*eP*		**P**		**03 44 29.0**	**+0.3**
MILM				pmax		pmax			
	comp=Z,15nm,0.6s								
MA2	**Magadan**	**53.14**	**33**⇑	*eP*		**P**		**03 44 33.3**	**+2.0**
MA2				pmax		pmax			
	comp=Z,71nm,1.3s								
VRI	**Vrincioaia**	**54.21**	**309**	⇑P		**P**		**03 44 41.5**	**+2.1**
VRI	**Vrincioaia**	**54.21**	**309**	⇑P		**P**		**03 44 41.5**	**+2.1**
PLOR	**Plostina**	**54.26**	**309**	⇑P		**P**		**03 44 40.6**	**+0.8**
PLOR	**Plostina**	**54.26**	**309**	⇑P		**P**		**03 44 40.6**	**+0.8**
MBWA	**Marble Bar**	**54.41**	**146**	P		**P**		**03 44 40.5**	**-0.5**
MBWA				IAmb		IAmb		03 44 53.3	
	comp=Z,13nm,1.4s								
COVR	**Voineasa-Covas**	**54.57**	**309**	⇑P		**P**		**03 44 46.5**	**+4.4**
TURR	**Turia**	**54.70**	**310**	⇑P		**P**		**03 44 45.0**	**+2.0**
MLR	**Muntele Rosu**	**54.77**	**309**	⇑P		**P**		**03 44 44.4**	**+0.8**
MLR	**Muntele Rosu**	**54.77**	**309**	⇑P		**P**		**03 44 44.4**	**+0.8**
SKR	**Severo-Kuril's**	**55.18**	**45**⇓	*eP*		**P**		**03 44 47.5**	**+1.3**
BURAR	**Bucovina Array**	**55.21**	**311**	⇑P		**P**		**03 44 46.2**	**-0.5**
BURAR	**Bucovina Array**	**55.21**	**311**	P		**P**		**03 44 47.6**	**+0.9**
BURAR	**Bucovina Array**	**55.21**	**311**	⇑P		**P**		**03 44 46.2**	**-0.5**
BUR08	**Bucovina Ar. S**	**55.22**	**311**	P		**P**		**03 44 47.8**	**+1.0**
BUR08				IAmb		IAmb		03 45 23.8	
	comp=Z,5.2nm,1.4s								
FINES	**FINESS Array B**	**55.70**	**328**	P		**P**		**03 44 49.6**	**-0.2**
FINES	**FINESS Array B**	**55.70**	**328**	P		**P**		**03 44 49.5**	**-0.3**
	comp=Z,3.4nm,0.6s,baz=121,slow=7.4,SNR=24								
	comp=Z,3.4nm,0.6s								
SANT	**Santorini**	**55.98**	**298**	P		**P**		**03 44 52.4**	**0.0**
PABE	**Paberze**	**56.15**	**321**	P		**P**		**03 44 52.2**	**-1.0**
GZR	**Gura Zlata**	**57.00**	**309**	⇑P		**P**		**03 44 57.5**	**-2.0**
ARCES	**ARCESS Array B**	**57.56**	**338**	*eP*		**P**		**03 45 06.4**	**+3.4**
ARCES				pmax		pmax			
	comp=Z,3.0nm,0.9s								
ARCES	**ARCESS Array B**	**57.56**	**338**	P		**P**		**03 45 02.6**	**-0.5**
	comp=Z,5.1nm,1.1s,baz=108,slow=4.0,SNR=5.7								
	comp=Z,5.1nm,1.1s								
AGG	**Agios Georgios**	**58.04**	**301**	P		**P**		**03 45 06.2**	**-0.7**
AGG				IAmb		IAmb		03 45 19.6	
	comp=Z,14nm,1.4s								
AGG	**Agios Georgios**	**58.04**	**301**	P		**P**		**03 45 06.3**	**-0.7**
AGG				pmax		pmax			
	comp=Z,14nm,1.4s								
FNA	**Florina**	**58.52**	**304**	P		**P**		**03 45 10.7**	**+0.5**
FNA				IAmb		IAmb		03 45 28.4	
	comp=Z,6.7nm,1.4s								
FNA	**Florina**	**58.52**	**304**	P		**P**		**03 45 10.7**	**+0.5**
FNA				pmax		pmax			
	comp=Z,7.0nm,1.4s								
HFS	**Hagfors**	**61.68**	**326**	P		**P**		**03 45 30.9**	**-0.6**
	comp=Z,4.5nm,0.6s,baz=94,slow=6.5,SNR=23								
	comp=Z,4.5nm,0.6s								
WB0	**Warramunga Arr**	**61.98**	**133**	P		**P**		**03 45 33.7**	**-0.4**
WB0				IAmb		IAmb		03 45 34.1	
	comp=Z,2.8nm,0.5s								
WRA	**Warramunga Arr**	**62.07**	**133**	*eP*		**P**		**03 45 34.3**	**-0.4**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.4s								
WRA	**Warramunga Arr**	**62.07**	**133**	P		**P**		**03 45 34.4**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=324,slow=6.9,SNR=38								
	comp=Z,1.6nm,0.5s								
WB2	**Warramunga Arr**	**62.08**	**133**	P		**P**		**03 45 34.1**	**-0.7**
WR0	**Warramunga Arr**	**62.22**	**133**	P		**P**		**03 45 35.1**	**-0.5**
WR0				IAmb		IAmb		03 45 36.8	
	comp=Z,5.8nm,1.2s								
NC405	**NORSAR Array S**	**62.60**	**328**	P		**P**		**03 45 37.4**	**-0.3**
NC405				IAmb		IAmb		03 45 39.0	
	comp=Z,1.8nm,0.5s								
NORES	**NORESS Array B**	**62.71**	**327**	P		**P**		**03 45 41.2**	**+2.8**
GERES	**GERESS Array B**	**62.77**	**314**	P		**P**		**03 45 40.2**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=50,slow=8.9,SNR=5.2								
	comp=Z,1.4nm,0.5s								
NB2	**NORSAR Subarra**	**62.84**	**327**	P		**P**		**03 45 39.8**	**+0.4**
	comp=Z,4.0nm,0.8s,baz=85,slow=6.5								
NB2	**NORSAR Subarra**	**62.84**	**327**	P		**P**		**03 45 40.0**	**+0.6**
NOA	**NORSAR Array B**	**62.84**	**327**	P		**P**		**03 45 39.9**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=86,slow=6.6,SNR=6.0								
	comp=Z,1.1nm,0.6s								
NC204	**NORSAR Array S**	**63.05**	**328**	P		**P**		**03 45 39.3**	**-1.4**
PRED	**Cave del Predi**	**63.25**	**311**	P		**P**		**03 45 42.9**	**+0.5**
ASAR	**Alice Springs**	**64.45**	**136**	P		**P**		**03 45 50.5**	**0.0**
	comp=Z,3.0nm,0.6s,baz=321,slow=6.6,SNR=39								
	comp=Z,3.0nm,0.6s								
FUORN	**Ofenpass-Fuorn**	**65.45**	**312**	P		**P**		**03 45 57.8**	**+0.8**
FUORN				IAmb		IAmb		03 46 03.5	
	comp=Z,10nm,1.4s								
SENIN	**Lac Senin/Sane**	**67.51**	**312**	P		**P**		**03 46 10.8**	**+0.6**
KEST	**Kesra**	**68.85**	**300**	P		**P**		**03 46 20.1**	**+1.5**
KEST	**Kesra**	**68.85**	**300**	P		**P**		**03 46 20.3**	**+1.7**
	comp=Z,2.7nm,0.5s,baz=16,slow=4.0,SNR=6.4								
	comp=Z,2.7nm,0.5s								
EKA	**Eskdalemuir Ar**	**71.41**	**323**	P		**P**		**03 46 33.1**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=79,slow=5.8,SNR=8.3								
	comp=Z,0.7nm,0.4s								
BBOO	**Buckleboo**	**72.44**	**141**	P		**P**		**03 46 39.4**	**-0.9**
BBOO				IAmb		IAmb		03 46 40.4	
	comp=Z,5.0nm,0.7s								
STKA	**Stephens Creek**	**75.05**	**137**	P		**P**		**03 46 54.2**	**-1.4**
STKA	**Stephens Creek**	**75.05**	**137**	*eP*		**P**		**03 46 56.2**	**+0.6**
STKA				pmax		pmax			
	comp=Z,1.0nm,0.4s								
STKA	**Stephens Creek**	**75.05**	**137**	P		**P**		**03 46 53.9**	**-1.7**
	comp=Z,3.0nm,0.7s,baz=317,slow=6.4,SNR=7.7								
	comp=Z,3.0nm,0.7s								
SUMG	**Summit**	**76.17**	**346**	P		**P**		**03 47 02.1**	**+0.2**
SUMG				IAmb		IAmb		03 47 06.3	
	comp=Z,8.8nm,1.2s								
SUMG	**Summit**	**76.17**	**346**	P		**P**		**03 47 02.2**	**+0.2**
SUMG				pmax		pmax			
	comp=Z,9.0nm,1.2s								
EIDS	**Eidsvold**	**77.30**	**126**	P		**P**		**03 47 08.6**	**+0.1**
EIDS				IAmb		IAmb		03 47 36.3	
	comp=Z,12nm,1.2s								
D27M	**Malcolm River**	**78.30**	**17**	P		**P**		**03 47 12.0**	**-1.6**
D27M				IAmb		IAmb		03 47 17.7	
	comp=Z,6.9nm,0.8s								
CAST	**Castle Rocks**	**78.53**	**24**	P		**P**		**03 47 12.7**	**-2.2**
CAST				IAmb		IAmb		03 47 17.2	
	comp=Z,7.2nm,1.2s								
BMAR	**Burnt Mountain**	**78.53**	**19**	P		**P**		**03 47 15.2**	**+0.3**
E28M	**Babbage River**	**79.12**	**17**	P		**P**		**03 47 16.7**	**-1.4**
E28M				IAmb		IAmb		03 47 18.5	
	comp=Z,4.9nm,1.0s								
ILAR	**Eielson Array**	**79.53**	**22**	*eP*		**P**		**03 47 21.7**	**+1.4**
ILAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
ILAR	**Eielson Array**	**79.53**	**22**	P		**P**		**03 47 21.1**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=308,slow=4.4,SNR=5.2								
	comp=Z,0.6nm,0.8s								
E29M	**Blow River**	**79.70**	**16**	P		**P**		**03 47 17.5**	**-3.7**
E29M				IAmb		IAmb		03 47 18.8	
	comp=Z,7.6nm,1.0s								
F28M	**Old Crow**	**79.73**	**17**	P		**P**		**03 47 19.1**	**-2.3**
F28M				IAmb		IAmb		03 47 21.2	
	comp=Z,5.8nm,0.9s								
G27K	**Doyon Strip**	**79.80**	**19**	P		**P**		**03 47 20.3**	**-1.5**
G27K				IAmb		IAmb		03 47 22.4	
	comp=Z,5.8nm,1.1s								
TXAR	**Lajitas Array**	**123.61**	**15**	PKP		**PKPdf**		**03 54 11.1**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=48,slow=1.5,SNR=4.6								
ROSC	**El Rosal**	**146.37**	**332**	PKPbc		**PKPab**		**03 54 56.6**	**-0.2**
	comp=Z,22nm,0.9s,baz=99,slow=2.4,SNR=13								
CPUP	**Villa Florida**	**151.29**	**262**	PKPbc		**PKPbc**		**03 55 06.4**	**-1.5**
	comp=Z,2.0nm,0.6s,baz=124,slow=1.8,SNR=8.0								

*IDC **11** 03:48:58.1±5.9, 9.°42N×84.°55W, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=145.2km s-min=109.3km az=44.0*
*CATAC **11** 03:48:59.3±0.6, 9.°41N×84.°83W, h3km±4km, ML4.0*
*UCR **11** 03:49:01.6±1.1, 9.°55N×84.°82W, h23km±2km, MW4.3*
ISC 11 03:49:00.6±1.2, 9.°47N±0.°04×84.°82W±0.°02, h11km±8km,
n134,σ1°9°02/141, mb3.0/3, **17C-27D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.24**	**40**	⇓*iP*		**Pb**	**03 49 06.3**	**-0.7**
JACO				*eS*		**Sg**	**03 49 10.3**	**+1.1**
JACO	**JACO, Garabito**	**0.24**	**40**	*iP*		**Pg**	**03 49 05.9**	**+0.2**
JACO				IAML			03 49 11.1	
	comp=Z,13μm,1.0s							
CBL1	**Cabuya**	**0.29**	**293**⇑	*eP*		**Pb**	**03 49 07.5**	**-0.3**
CBL1				*eS*		**Sb**	**03 49 12.8**	**+0.2**
RITA	**Parrita**	**0.48**	**84**	*eP*		**Pb**	**03 49 11.1**	**-0.1**
ARZA	**Esparza**	**0.54**	**16**	⇓*iP*		**Pb**	**03 49 11.9**	**-0.1**
TRB2	**Turrubares**	**0.57**	**40**	⇓*eP*		**Pg**	**03 49 11.6**	**-0.1**
SVQ2	**Quepos**	**0.65**	**94**	*eP*		**Pb**	**03 49 14.1**	**+0.2**
NYURE	**Nandayure**	**0.67**	**321**	*eP*		**Pn**	**03 49 15.8**	**-0.3**
SRA1	**San Ramn**	**0.69**	**29**	⇓*iP*		**Pg**	**03 49 13.5**	**-0.6**
RAMO	**San Ramon**	**0.70**	**30**	*eP*		**Pg**	**03 49 13.7**	**-0.5**
LLNJ	**Naranjito**	**0.71**	**90**⇑	*eP*		**Pb**	**03 49 15.2**	**+0.2**
ACOS	**Acosta**	**0.72**	**64**	*eP*		**Pb**	**03 49 14.5**	**-0.8**
NARAN	**Naranjo de Ala**	**0.76**	**35**	*eP*		**Pg**	**03 49 11.8**	**-3.5**
TCS1	**Tacares**	**0.76**	**42**	⇓*iP*		**Pg**	**03 49 15.3**	**-0.1**
TCS1	**Tacares**	**0.76**	**42**	*iP*		**Pb**	**03 49 15.6**	**-0.3**
TCS1				IAML			03 49 34.3	
	comp=Z,18μm,1.0s							
SARCI	**Sarchi**	**0.77**	**37**	*eP*		**Pg**	**03 49 15.3**	**-0.2**
SANTA	**Santa Ana**	**0.78**	**54**	*eP*		**Pg**	**03 49 15.2**	**-0.4**
INDI	**Punta indio, G**	**0.78**	**300**⇑	*eP*		**Pg**	**03 49 15.3**	**-0.3**
INDI	**Punta indio, G**	**0.78**	**300**	*iP*		**Pg**	**03 49 15.3**	**-0.3**
INDI				IAML			03 49 30.0	
	comp=Z,6μm,1.0s							
GREC	**Grecia**	**0.78**	**40**	⇓*iP*		**Pg**	**03 49 15.6**	**-0.1**
ABE2	**San Pablo**	**0.79**	**73**	*eP*		**Pb**	**03 49 15.7**	**-0.8**
BELE	**Belen**	**0.80**	**51**	*eP*		**Pb**	**03 49 16.6**	**0.0**
CMARA	**Lajas Hojancha**	**0.80**	**312**	*eP*		**Pg**	**03 49 15.8**	**-0.4**
RAZU	**San Marcos de**	**0.81**	**77**	*eP*		**Pb**	**03 49 16.2**	**-0.5**
JUNT	**Juntas**	**0.81**	**350**	⇓*iP*		**Pg**	**03 49 15.4**	**-0.9**
MTEVE	**Monteverde**	**0.84**	**360**	*eP*		**Pg**	**03 49 13.5**	**-3.3**
LCR2	**La Lucha 2**	**0.85**	**72**	⇓*iP*		**Pg**	**03 49 16.3**	**-0.7**
LCR2	**La Lucha 2**	**0.85**	**72**	*iP*		**Pg**	**03 49 15.8**	**-1.2**
LCR2				IAML			03 49 44.7	
	comp=Z,1μm,1.0s							
AMPA	**Desamparados**	**0.86**	**61**	*eP*		**Pb**	**03 49 17.0**	**-0.6**
MEXI	**Barrio Mexico**	**0.86**	**57**	*eP*		**Pb**	**03 49 16.9**	**-0.7**
LUJA	**Lujan**	**0.86**	**59**	*eP*		**Pb**	**03 49 17.9**	**+0.2**
HDC	**Heredia**	**0.87**	**53**	⇓*iP*		**Pg**	**03 49 16.9**	**-0.5**
HDC3	**Heredia 3**	**0.87**	**53**	⇓*iP*		**Pg**	**03 49 16.9**	**-0.6**
HDC3	**Heredia 3**	**0.87**	**53**	*iP*		**Pb**	**03 49 17.3**	**-0.6**
HDC3				IAML			03 49 39.9	
	comp=Z,3μm,1.0s							
DOMI	**Santo Domingo**	**0.88**	**55**	*eP*		**Pb**	**03 49 17.4**	**-0.6**
TIBA	**Tibas**	**0.88**	**57**	*eP*		**Pb**	**03 49 17.5**	**-0.5**
SJS	**Escuela Geolog**	**0.89**	**59**	*eP*		**Pg**	**03 49 17.0**	**-0.7**
SJS3	**Mercedes San J**	**0.89**	**59**	⇓*eP*		**Pg**	**03 49 17.2**	**-0.5**
NICO	**Nicoya**	**0.90**	**317**	⇓*eP*		**Pg**	**03 49 17.6**	**-0.3**
CPMI	**Catarata Coope**	**0.91**	**28**	⇓*eP*		**Pg**	**03 49 17.3**	**-0.9**
CPMI	**Catarata Coope**	**0.91**	**28**	*iP*		**Pg**	**03 49 17.7**	**-0.5**
CPMI				IAML			03 49 40.7	
	comp=Z,3μm,1.0s							
TRIO	**Tres Rios**	**0.92**	**62**	*eP*		**Pg**	**03 49 17.3**	**-1.1**
SOCE	**Pocosol**	**0.93**	**12**	⇓*eP*		**Pg**	**03 49 17.8**	**-0.7**
SOCE	**Pocosol**	**0.93**	**12**	*iP*		**Pg**	**03 49 16.8**	**-1.6**
SOCE				IAML			03 49 32.9	
	comp=Z,5μm,1.0s							
VPTE	**Poasito**	**0.93**	**41**	⇓*iP*		**Pg**	**03 49 18.1**	**-0.4**
VPTE	**Poasito**	**0.93**	**41**	*iP*		**Pg**	**03 49 17.9**	**-0.6**
VPTE				IAML			03 49 32.3	
	comp=Z,5μm,1.0s							
CASO	**Castillo**	**0.96**	**5**	⇓*eP*		**Pg**	**03 49 18.3**	**-0.8**
TAGO	**Cartago**	**0.97**	**66**	*eP*		**Pg**	**03 49 18.4**	**-0.9**
JUD3	**Juan Diaz 3**	**0.99**	**314**	*eP*		**Pg**	**03 49 18.8**	**-0.8**
RIMA	**Rio Macho**	**0.99**	**73**	*eP*		**Pg**	**03 49 18.9**	**-0.8**
RIMA	**Rio Macho**	**0.99**	**73**	*iP*		**Pg**	**03 49 18.7**	**-1.0**
RIMA				IAML			03 49 38.1	
	comp=Z,700nm,1.0s							
FORC	**Fortuna**	**1.00**	**9**	*eP*		**Pg**	**03 49 19.1**	**-0.7**
SGBR	**La Fortuna**	**1.00**	**3**	*eP*		**Pg**	**03 49 19.1**	**-0.8**
REPA	**Paraso**	**1.00**	**69**	*eP*		**Pn**	**03 49 20.2**	**-0.5**
VACR	**Volcan Arenal**	**1.00**	**8**	*iP*		**Pg**	**03 49 19.1**	**-0.8**
VACR				IAML			03 49 42.2	
	comp=Z,3μm,1.0s							
CEDE	**Laguna Cedeo**	**1.01**	**7**	⇓*iP*		**Pg**	**03 49 19.5**	**-0.6**
PLVR	**Palo Verde**	**1.01**	**329**	*eP*		**Pg**	**03 49 18.7**	**-1.5**
TABAC	**Tabacon**	**1.02**	**3**	⇓*eP*		**Pg**	**03 49 19.6**	**-0.6**
CVIMO	**Finca Echandi**	**1.02**	**58**	⇓*iP*		**Pg**	**03 49 19.9**	**-0.5**
CDM	**Cerro de Muert**	**1.05**	**86**	⇑*iP*		**Pb**	**03 49 20.7**	**-0.3**
CDM	**Cerro de Muert**	**1.05**	**86**	*iP*		**Pb**	**03 49 20.4**	**-0.6**
CDM				IAML			03 49 21.3	
	comp=Z,2μm,1.0s							
SAJU	**San Juanillo,**	**1.06**	**304**	*eP*		Pn	03 49 26.5	+5.2
BUS1	**Rivas**	**1.06**	**86**⇑	*eP*		**Pb**	**03 49 20.7**	**-0.6**
ORTG	**Ortega, Santa**	**1.08**	**325**	*eP*		**Pg**	**03 49 20.3**	**-1.1**
ORTG	**Ortega, Santa**	**1.08**	**325**	*iP*		**Pg**	**03 49 19.8**	**-1.7**
ORTG				IAML			03 49 40.3	
	comp=Z,2μm,1.0s							
SACU	**Santa Cruz**	**1.09**	**316**	*eP*		**Pg**	**03 49 20.5**	**-1.0**
PCAYA	**Pacayas**	**1.09**	**66**⇑	*eP*		**Pn**	**03 49 22.0**	**0.0**
VICA	**Volcano Irazu**	**1.09**	**62**	⇓*iP*		**Pg**	**03 49 20.3**	**-1.3**
ICR3	**Volcano Irazu**	**1.10**	**63**	*eP*		**Pg**	**03 49 20.7**	**-1.1**
COTE	**Lago Cote**	**1.10**	**355**⇑	*eP*		**Pg**	**03 49 20.7**	**-1.1**
ZELE	**Perez Zeledon**	**1.10**	**95**	*eP*		**Pn**	**03 49 23.7**	**+1.7**
ITAL	**Pital**	**1.11**	**29**	*eP*		**Pg**	**03 49 20.7**	**-1.3**
BAGA	**Bagaces**	**1.13**	**338**	⇓*eP*		**Pg**	**03 49 21.0**	**-1.4**
VINA	**Juan Vinas**	**1.14**	**68**	⇓*iP*		**Pg**	**03 49 21.1**	**-1.4**
VTRT	**Volcan Turrial**	**1.14**	**63**	*eP*		**Pg**	**03 49 21.8**	**-0.8**
CVTQ	**Turrialba Volc**	**1.17**	**63**	⇑*iP*		**Pg**	**03 49 22.2**	**-0.8**
ACAL	**Aguas Claras**	**1.17**	**350**⇑	*eP*		**Pg**	**03 49 21.8**	**-1.3**
CVTR	**Volcan Turrial**	**1.18**	**63**	⇑*iP*		**Pg**	**03 49 22.6**	**-0.8**
CVTV	**Tajo**	**1.18**	**63**	⇑*iP*		**Pg**	**03 49 22.1**	**-1.3**
VTCV	**VTCV, Calle Va**	**1.19**	**65**	*eP*		**Pg**	**03 49 22.6**	**-1.0**
TURIB	**Turrialba**	**1.20**	**69**	⇓*eP*		**Pn**	**03 49 23.2**	**-0.1**
VERB	**Verbena**	**1.20**	**67**	*eP*		**Pb**	**03 49 23.0**	**-0.5**
DELF	**Filadelfia**	**1.21**	**323**	*eP*		**Pg**	**03 49 22.1**	**-1.7**
RIFO	**Rio Frio, Sara**	**1.22**	**46**	*eP*		**Pg**	**03 49 22.2**	**-1.8**
RIFO	**Rio Frio, Sara**	**1.22**	**46**	*iP*		**Pg**	**03 49 22.4**	**-1.6**
RIFO				*iS*		**Sg**	**03 49 39.8**	**-0.1**
RIFO				IAML			03 49 46.8	
	comp=Z,2μm,1.0s							
VTLO	**VTLO**	**1.22**	**62**	*eP*		**Pg**	**03 49 23.0**	**-1.0**
OCHAL	**Ojochal**	**1.22**	**108**	*iP*		**Pg**	**03 49 22.0**	**-2.0**
OCHAL				IAML			03 49 25.0	
	comp=Z,7.6nm,1.0s							
CUI	**Cuipilapa**	**1.22**	**344**	*eP*		**Pg**	**03 49 22.5**	**-1.6**
MOTZ	**Rio Naranjo**	**1.23**	**348**	⇑*iP*		**Pg**	**03 49 23.0**	**-1.2**
COLC	**Colonia**	**1.24**	**342**	*eP*		**Pg**	**03 49 22.8**	**-1.7**
PTEM	**Parque Tenorio**	**1.24**	**352**	⇓*eP*		**Pg**	**03 49 23.1**	**-1.4**
RVSTA	**Santa Teresita**	**1.26**	**67**	*eP*		**Pn**	**03 49 24.4**	**+0.2**
CAMAV	**Centro de Prod**	**1.27**	**343**	*eP*		**Pg**	**03 49 23.4**	**-1.7**
HORNC	**Hornillas**	**1.28**	**344**	*eP*		**Pg**	**03 49 23.1**	**-2.1**
LIBE	**Liberia**	**1.29**	**331**	*iP*		**Pn**	**03 49 24.5**	**-0.1**
LIBE				IAML			03 49 42.7	
	comp=Z,2μm,1.0s							
COVE	**Coope Vega, Sa**	**1.30**	**

LCR2					*i* S		**Sb**	**04 03 14.7**	**+0.7**
AMPA	**Desamparados**	**0.85**	**62**	*e*P			**Pg**	**04 03 02.6**	**-0.3**
MEXI	**Barrio Mexico**	**0.85**	**59**	*e*P			**Pg**	**04 03 02.4**	**-0.5**
LUJA	**Lujan**	**0.86**	**60**	*e*P			**Pb**	**04 03 03.7**	**+0.8**
HDC	**Heredia**	**0.86**	**55**	*e*P			**Pg**	**04 03 02.6**	**-0.5**
HDC					*e*S		**Sg**	**04 03 14.6**	**+0.1**
HDC3	**Heredia 3**	**0.87**	**55**	⇑*i*P			**Pg**	**04 03 02.5**	**-0.7**
HDC3	**Heredia 3**	**0.87**	**55**	*i* P			**Pg**	**04 03 02.4**	**-0.7**
HDC3					*i* S		**Sb**	**04 03 15.1**	**+0.6**
HDC3					IAML			04 03 22.6	
	comp=Z,1μm,1.0s								
DOMI	**Santo Domingo**	**0.87**	**56**	*e*P			**Pg**	**04 03 02.9**	**-0.3**
NICO	**Nicoya**	**0.88**	**316**	*e*P			**Pb**	**04 03 03.5**	**+0.4**
SJS	**Escuela Geolog**	**0.88**	**60**	*e*P			**Pg**	**04 03 03.2**	**-0.2**
SJS					*e*S		**Sb**	**04 03 16.2**	**+1.4**
SJS3	**Mercedes San J**	**0.88**	**60**	*e*P			**Pg**	**04 03 03.2**	**-0.2**
SJS3					*e*S		**Sn**	**04 03 16.4**	**-0.3**
CPMI	**Catarata Coope**	**0.90**	**30**	*e*P			**Pg**	**04 03 03.0**	**-0.6**
CPMI					*e*S		**Sg**	**04 03 15.4**	**-0.1**
CPMI	**Catarata Coope**	**0.90**	**30**	*i* P			**Pg**	**04 03 02.9**	**-0.8**
CPMI					*i* S		**Sg**	**04 03 15.5**	**-0.1**
CPMI					IAML			04 03 18.4	
	comp=Z,1μm,1.0s								
SOCE	**Pocosol**	**0.90**	**13**	*e*P			**Pb**	**04 03 03.2**	**-0.4**
SOCE	**Pocosol**	**0.90**	**13**	*i* P			**Pb**	**04 03 02.9**	**-0.7**
SOCE					*i* S		**Sn**	**04 03 17.1**	**0.0**
SOCE					IAML			04 03 18.2	
	comp=Z,3μm,1.0s								
VPTE	**Poasito**	**0.91**	**43**	*e*P			**Pb**	**04 03 04.3**	**+0.5**
VPTE	**Poasito**	**0.91**	**43**	*i* P			**Pg**	**04 03 03.1**	**-0.9**
VPTE					*i* S		**Sg**	**04 03 16.1**	**0.0**
VPTE					IAML			04 03 19.0	
	comp=Z,4μm,1.0s								
POA5	**Crater Von Fra**	**0.92**	**40**	*e*P			**Pg**	**04 03 04.0**	**-0.1**
TRIO	**Tres Rios**	**0.92**	**64**	*e*P			**Pb**	**04 03 03.5**	**-0.3**
TRIO					*e*S		**Sn**	**04 03 17.6**	**-0.1**
CORON	**Coronado**	**0.94**	**60**	*e*P			**Pb**	**04 03 04.5**	**+0.1**
JUD3	**Juan Diaz 3**	**0.96**	**314**	*e*P			**Pb**	**04 03 04.9**	**+0.3**
JUD3					*e*S		**Sn**	**04 03 18.9**	**+0.3**
FORC	**Fortuna**	**0.97**	**9**	*e*P			**Pb**	**04 03 04.5**	**-0.3**
FORC					*e*S		**Sb**	**04 03 17.7**	**+0.2**
SGBR	**La Fortuna**	**0.97**	**4**	*e*P			**Pb**	**04 03 04.4**	**-0.4**
VACR	**Volcan Arenal**	**0.98**	**9**	*e*P			**Pb**	**04 03 04.5**	**-0.4**
VACR	**Volcan Arenal**	**0.98**	**9**	*i* P			**Pb**	**04 03 04.0**	**-0.9**
VACR					*i* S		**Sn**	**04 03 19.5**	**+0.5**
VACR					IAML			04 03 29.3	
	comp=Z,1μm,1.0s								
TUNA	**La Fortuna**	**0.98**	**11**	*e*P			**Pn**	**04 03 05.6**	**+0.2**
PLVR	**Palo Verde**	**0.99**	**329**	*e*P			**Pb**	**04 03 04.4**	**-0.7**
PLVR					*e*S		**Sg**	**04 03 18.7**	**+0.3**
RIMA	**Rio Macho**	**0.99**	**74**	*e*P			**Pb**	**04 03 04.3**	**-0.8**
RIMA	**Rio Macho**	**0.99**	**74**	*i* P			**Pb**	**04 03 04.4**	**-0.8**
RIMA					IAML			04 03 05.2	
	comp=Z,470nm,1.0s								
CEDE	**Laguna Cedeo**	**0.99**	**7**	*e*P			**Pb**	**04 03 05.2**	**+0.1**
CEDE					*e*S		**Sb**	**04 03 19.4**	**+0.4**
TABAC	**Tabacon**	**1.00**	**4**	*e*P			**Pb**	**04 03 04.9**	**-0.3**
TABAC					*e*S		**Sg**	**04 03 19.2**	**+0.6**
REPA	**Paraso**	**1.00**	**71**	*e*P			**Pg**	**04 03 05.8**	**+0.2**
CVIMO	**Finca Echandi**	**1.02**	**59**	⇑*i*P			**Pb**	**04 03 05.7**	**0.0**
CDM	**Cerro de Muert**	**1.05**	**87**	*e*P			**Pb**	**04 03 06.2**	**-0.2**
CDM	**Cerro de Muert**	**1.05**	**87**	*i* P			**Pb**	**04 03 06.0**	**-0.4**
CDM					IAML			04 03 06.6	
	comp=Z,2μm,1.0s								
CDM					*i* S		**Sn**	**04 03 21.7**	**+0.3**
ORTG	**Ortega, Santa**	**1.06**	**324**	⇓*e*P			**Pb**	**04 03 05.7**	**-0.5**
ORTG					*e*S		**Sn**	**04 03 21.1**	**+0.1**
ORTG	**Ortega, Santa**	**1.06**	**324**	*i* P			**Pb**	**04 03 05.5**	**-0.8**
ORTG					*i* S		**Sg**	**04 03 20.8**	**+0.2**
ORTG					IAML			04 03 29.0	
	comp=Z,460nm,1.0s								
SACU	**Santa Cruz**	**1.06**	**316**	*e*P			**Pb**	**04 03 06.0**	**-0.3**
BUS1	**Rivas**	**1.07**	**87**	*e*P			**Pb**	**04 03 06.2**	**-0.5**
BUS1					*e*S		**Sn**	**04 03 22.0**	**+0.2**
COTE	**Lago Cote**	**1.07**	**355**	⇑*i*P			**Pb**	**04 03 06.2**	**-0.3**
COTE					*e*S		**Sb**	**04 03 19.5**	**-0.9**
VICA	**Volcano Irazu**	**1.08**	**63**	*e*P			**Pb**	**04 03 06.3**	**-0.6**
PCAYA	**Pacayas**	**1.09**	**67**	*e*P			**Pg**	**04 03 07.6**	**+0.3**
ICR3	**Volcano Irazu**	**1.09**	**64**	*e*P			**Pb**	**04 03 06.1**	**-1.0**
ITAL	**Pital**	**1.09**	**30**	⇓*e*P			**Pb**	**04 03 06.2**	**-0.6**
BAGA	**Bagaces**	**1.11**	**338**	*e*P			**Pb**	**04 03 06.5**	**-0.5**
VTRT	**Volcan Turrial**	**1.14**	**64**	*e*P			**Pb**	**04 03 07.5**	**-0.3**
VINA	**Juan Vinas**	**1.14**	**70**	*e*P			**Pb**	**04 03 07.3**	**-0.3**
ACAL	**Aguas Claras**	**1.15**	**350**	*e*P			**Pb**	**04 03 07.1**	**-0.7**
ACAL					*e*S		**Sb**	**04 03 22.4**	**-0.1**
VTLA	**Turrialba Volc**	**1.15**	**64**	*e*P			**Pb**	**04 03 07.8**	**-0.2**
CVTQ	**Turrialba Volc**	**1.16**	**64**	*e*P			**Pb**	**04 03 08.2**	**0.0**
CVTR	**Volcan Turrial**	**1.18**	**64**	*e*P			**Pb**	**04 03 08.0**	**-0.4**
CVTV	**Tajo**	**1.18**	**65**	*e*P			**Pb**	**04 03 08.0**	**-0.5**
DELF	**Filadelfia**	**1.18**	**323**	*e*P			**Pn**	**04 03 08.5**	**+0.3**
VTCV	**VTCV, Calle Va**	**1.19**	**66**	*e*P			**Pn**	**04 03 08.1**	**-0.3**
CUI	**Cuipilapa**	**1.20**	**344**	*e*S			**Sn**	**04 03 24.9**	**+0.4**
CUI					*e*P		**Pn**	**04 03 07.7**	**-0.7**
TURIB	**Turrialba**	**1.20**	**70**	⇓*i*P			**Pg**	**04 03 09.4**	**0.0**
MOTZ	**Rio Naranjo**	**1.20**	**349**	⇑*i*P			**Pn**	**04 03 08.4**	**-0.1**
MOTZ					*e*S		**Sn**	**04 03 24.8**	**+0.3**
VERB	**Verbena**	**1.20**	**68**	*e*P			**Pn**	**04 03 08.4**	**-0.2**
RIFO	**Rio Frio, Sara**	**1.21**	**48**	*e*P			**Pn**	**04 03 08.7**	**+0.1**
RIFO					*e*S		**Sg**	**04 03 26.2**	**+0.9**
RIFO	**Rio Frio, Sara**	**1.21**	**48**	*i* P			**Pn**	**04 03 08.5**	**0.0**
RIFO					*i* S		**Sb**	**04 03 24.8**	**+0.6**
RIFO					IAML			04 03 31.0	
	comp=Z,910nm,1.0s								
COLC	**Colonia**	**1.22**	**342**	*e*P			**Pn**	**04 03 08.1**	**-0.6**
PTEN	**Parque Tenorio**	**1.22**	**353**	⇓*i*P			**Pn**	**04 03 08.4**	**-0.3**
PTEN					*e*S		**Sn**	**04 03 25.4**	**+0.5**
OCHAL	**Ojochal**	**1.23**	**109**	*i* P			**Pn**	**04 03 07.8**	**-1.1**
OCHAL					IAML			04 03 08.2	
	comp=Z,5.1nm,1.0s								
OCHAL					*i* S		**Sg**	**04 03 26.3**	**+0.1**
SARA	**Sarapiqu**	**1.24**	**40**	*e*P			**Pn**	**04 03 08.8**	**-0.1**
HORNC	**Hornillas**	**1.25**	**344**	*e*P			**Pn**	**04 03 08.8**	**-0.4**
HORNC					*e*S		**Sb**	**04 03 25.8**	**+0.3**
RVSTA	**Santa Teresita**	**1.26**	**68**	*e*P			**Pn**	**04 03 09.6**	**+0.3**
COVE	**Coope Vega, Sa**	**1.28**	**19**	*e*P			**Pn**	**04 03 08.8**	**-0.8**
COVE	**Coope Vega, Sa**	**1.28**	**19**	*i* P			**Pn**	**04 03 09.1**	**-0.5**
COVE					IAML			04 03 30.9	
	comp=Z,1μm,1.0s								
MESS	**Mesas**	**1.29**	**344**	⇓*i*P			**Pn**	**04 03 09.4**	**-0.2**
MESS					*e*S		**Sn**	**04 03 27.3**	**+0.6**
CLARA	**Aguas Claras**	**1.32**	**345**	*e*P			**Pn**	**04 03 10.1**	**0.0**
VMAR	**Armenia, Volca**	**1.34**	**348**	⇓*i*P			**Pb**	**04 03 10.3**	**-0.6**
VMAR					⇓*i*P		**Pn**	**04 03 10.2**	**-0.1**
VMAR					*e*S		**Sg**	**04 03 29.3**	**-0.1**
VMAR	**Armenia, Volca**	**1.34**	**348**	*i* P			**Pn**	**04 03 10.0**	**-0.3**
VMAR					*i* S		**Sn**	**04 03 28.8**	**+1.0**
VMAR					IAML			04 03 41.6	
	comp=Z,1μm,1.0s								
ELI1	**Hacienda Flor**	**1.34**	**328**	*e*P			**Pn**	**04 03 10.9**	**+0.5**
CANAL	**Canalete**	**1.34**	**351**	*e*P			**Pn**	**04 03 10.4**	**0.0**
CANAL					*e*S		**Sg**	**04 03 29.7**	**-0.1**
GP77	**Hacienda Santa**	**1.35**	**339**	*e*P			**Pb**	**04 03 11.3**	**+0.1**
VERA	**Finca Concepci**	**1.35**	**358**	⇓*i*P			**Pb**	**04 03 10.3**	**-0.1**
VERA					*e*S		**Sg**	**04 03 29.3**	**-0.5**
GPS2	**Hotel Rincn d**	**1.35**	**338**	*e*P			**Pn**	**04 03 10.5**	**0.0**
GPS3	**Bodega del ICE**	**1.36**	**337**	*e*P			**Pn**	**04 03 10.4**	**-0.2**
CARI	**Cariari**	**1.38**	**51**	*e*P			**Pg**	**04 03 12.5**	**-0.3**
LCOCO	**El Coco**	**1.38**	**65**	*e*P			**Pn**	**04 03 11.6**	**+0.7**
VRLE	**La Escondida,**	**1.39**	**338**	*i* P			**Pn**	**04 03 11.5**	**+0.4**
VRLE					IAML			04 03 36.9	
	comp=Z,380nm,1.0s								
BUEV	**Buena Vista**	**1.41**	**336**	*e*P			**Pn**	**04 03 12.0**	**+0.6**
GBS3	**Finca Las Img**	**1.42**	**334**	*e*P			**Pn**	**04 03 11.1**	**-0.3**
HZTE	**Horizontes, Gu**	**1.42**	**328**	*e*P			**Pn**	**04 03 11.7**	**+0.2**
GB1A	**Borinquen Arri**	**1.43**	**337**	*e*P			**Pn**	**04 03 11.7**	**+0.1**
IRES	**Siquirres**	**1.44**	**65**	*e*P			**Pb**	**04 03 12.9**	**+0.3**
EDPN	**Palmar Norte**	**1.46**	**111**	*e*P			**Pn**	**04 03 10.8**	**-1.1**
BUAI	**Buenos Aires**	**1.46**	**340**	*e*P			**Pb**	**04 03 13.2**	**+0.2**
BUAI					*e*S		**Sb**	**04 03 31.7**	**+0.4**
EDBA	**Buenos Aires**	**1.57**	**102**	*e*P			**Pn**	**04 03 12.6**	**-0.9**
EDAD	**Golfito**	**1.85**	**117**	*e*P			**Pn**	**04 03 16.1**	**-1.3**

*IDC **11** 04:24:35.8±11.0,17°70'S×178°69'W,h602km±131km, **mb2.5**/4,**mbtmp3.5**/4,**Error ellipse: s-maj=115.0km s-min=42.2km az=147.0**,**Fiji Islands region***

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.41**	**259**	P	P	04 31 54.6	-0.2
	0.2nm,0.5s,baz=96,slow=7.4,SNR=2.2						
WRA				PcP	PcP	04 33 24.8	-0.3
	0.2nm,1.0s,baz=98,slow=3.5,SNR=1.4						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**44.59**	**254**	P	P	04 31 56.1	0.0
	0.5nm,0.6s,baz=91,slow=8.3,SNR=8.5						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**85.75**	**13**	P	P	04 36 11.6	-0.2
	0.2nm,0.4s,baz=220,slow=4.7,SNR=8.5						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**86.11**	**58**	P	P	04 36 14.7	+0.2
	0.3nm,0.7s,baz=232,slow=5.3,SNR=3.8						
	0.3nm,0.7s						

*NEIC **11** 04:29:07.9±0.5,36°01N±0°01×97°34W±0°01,h5km±4km, Error ellipse: s-maj=1.8km s-min=1.4km az=129.0*
TUL 11 04:29:07.3±0.5,36°02N±0°01×97°33W±0°01,h7km±3km, ML2.5,mb_Lg2.4**/22(NEIC),**ML2.7**/44(NEIC),**Error ellipse: s-maj=1.6km s-min=1.3km az=137.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.24**	**205**	Pg	Pg	04 29 12.2	+0.1
OK029				Sg	Sg	04 29 15.8	+0.4
OK029				IAML		04 29 18.0	
	1μm,0.3s						
OK033	**Mehan**	**0.32**	**85**	Pg	Pg	04 29 13.9	+0.4
OK033				Sg	Sg	04 29 18.5	+0.8
OK033				IAML		04 29 19.3	
	912nm,0.1s						
ADOK	**Arcadia Dam**	**0.36**	**185**	Sg	Sg	04 29 19.9	+0.7
OK052	**Battle Ridge R**	**0.43**	**93**	Pg	Pg	04 29 15.8	+0.3
OK052				Sg	Sg	04 29 21.9	+0.7
OK052				IAML		04 29 22.7	
	645nm,0.2s						
OK030	**Cody Creek RV**	**0.45**	**101**	Pg	Pg	04 29 16.3	+0.2
OK030				Sg	Sg	04 29 22.5	+0.5
OK030				IAML		04 29 22.8	
	718nm,0.2s						
OK048	**Pawnee Station**	**0.51**	**38**	Pg	Pg	04 29 17.3	+0.2
OK048				Sg	Sg	04 29 24.1	+0.3
OK048				IAML		04 29 26.4	
	392nm,0.3s						
QUOK	**Quay**	**0.53**	**73**	Pg	Pg	04 29 17.7	+0.2
QUOK				Sg	Sg	04 29 24.9	+0.6
QUOK				IAML		04 29 25.1	
	comp=E,425nm,0.2s						
QUOK				IAML		04 29 25.4	
	comp=N,492nm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.62**	**188**	Pg	Pg	04 29 19.2	0.0
OKCSW				Sg	Sg	04 29 28.0	+0.8
OKCSW				IAML		04 29 30.2	
	comp=N,354nm,0.5s						
OKCSW				IAML		04 29 31.2	
	comp=E,409nm,0.2s						
OK051	**E0350 and S346**	**0.63**	**39**	Sg	Sg	04 29 28.0	+0.3
DEOK	**Depew**	**0.70**	**104**	Pg	Pg	04 29 20.8	+0.1
DEOK				Sg	Sg	04 29 30.3	+0.6
DEOK				IAML		04 29 31.1	
	comp=N,284nm,0.2s						
DEOK				IAML		04 29 34.2	
	comp=E,274nm,0.1s						
CROK	**Carrier**	**0.72**	**313**	Pg	Pg	04 29 21.1	0.0
CROK				Sg	Sg	04 29 30.6	+0.1
BLOK	**Blackwell**	**0.75**	**7**	Pg	Pg	04 29 21.6	-0.1
BLOK				Sg	Sg	04 29 31.7	+0.3
BLOK				IAML		04 29 43.4	
	comp=E,299nm,0.2s						
FNO	**Franklin**	**0.76**	**184**	Pg	Pg	04 29 21.7	-0.2
FNO				IAmb_Lg		04 29 31.9	
	comp=Z,48nm,1.0s						
FNO				Sg	Sg	04 29 32.3	+0.5
FNO				IAML		04 29 35.4	
	comp=E,297nm,0.1s						
FNO				IAML		04 29 35.8	
	comp=N,277nm,0.1s						
GC02	**Grant County #**	**0.94**	**333**	Pg	Pg	04 29 24.9	-0.4
W35A	**Tecumseh**	**0.94**	**157**	Pg	Pg	04 29 24.4	-0.9
W35A				Sg	Sg	04 29 37.4	-0.1
KAN13	**South Haven SW**	**1.00**	**353**	Pg	Pg	04 29 26.1	-0.4
KAN13				Sg	Sg	04 29 39.4	-0.1
OK032	**Salt Plains WL**	**1.06**	**318**	Pg	Pg	04 29 27.0	-0.6
KAN14	**Manchester OK**	**1.07**	**332**	Pg	Pg	04 29 27.2	-0.6
KAN14				Sg	Sg	04 29 40.7	-1.0
KAN17	**Caldwell West**	**1.08**	**341**	Pg	Pg	04 29 27.4	-0.7
T35A	**Sooner Cattle**	**1.11**	**36**	Pg	Pg	04 29 28.1	-0.6
T35A				Sg	Sg	04 29 42.5	-0.6
T35A				IAML		04 29 44.1	
	comp=N,214nm,0.2s						
T35A				IAML		04 29 44.2	
	comp=E,195nm,0.3s						
KAN09	**Caldwell North**	**1.14**	**348**	Pg	Pg	04 29 28.4	-0.8
KAN09				Sg	Sg	04 29 43.4	-0.6
CSTR	**Hydro, Custer**	**1.17**	**252**	Pg	Pg	04 29 28.5	-1.1
KAN01	**Argonia South**	**1.19**	**343**	Pg	Pg	04 29 29.3	-0.8
OK038	**West end E0370**	**1.23**	**292**	Pg	Pg	04 29 29.7	-1.2
TUL3	**Leonard**	**1.25**	**94**		Pn	04 29 30.1	-1.2
KAN10	**Anthony SW Sta**	**1.27**	**331**	Pg	Pn	04 29 30.3	-1.1
KS21	**Milan North St**	**1.30**	**348**	Pg	Pn	04 29 31.2	-0.7
KAN06	**Argonia West S**	**1.30**	**341**	Pg	Pn	04 29 31.4	-0.5
KAN08	**Anthony NE Sta**	**1.31**	**337**	Pg	Pn	04 29 31.7	-0.4
KAN12	**Harper NE Stat**	**1.39**	**337**		Pn	04 29 33.0	-0.1
U32A	**Winter Ranch,**	**1.40**	**285**		Pn	04 29 32.7	-0.6
ELIS	**Ellis County**	**1.69**	**272**	Pn	Pn	04 29 37.7	+0.3
WMOK	**Wichita Mounta**	**1.74**	**223**	Pn	Pn	04 29 38.2	+0.2
WMOK				IAmb_Lg		04 30 03.1	
	comp=Z,18nm,0.8s						
RLO	**Rose Lookout**	**1.87**	**85**	Pn	Pn	04 29 40.5	+0.7
LOOK	**Love County**	**2.02**	**176**	Pn	Pn	04 29 42.8	+1.0
X37A	**Clayton**	**2.14**	**131**	Pn	Pn	04 29 44.3	+0.8
U38A	**Gravette**	**2.42**	**79**	Pn	Pn	04 29 48.1	+0.8
WTFS	**Witchita Falls**	**2.43**	**203**	Pn	Pn	04 29 48.5	+1.1
WTFS				IAmb_Lg		04 30 26.6	
	comp=Z,12nm,1.2s						
SMWD	**Samnorwood**	**2.54**	**250**	Pn	Pn	04 29 49.6	+0.5
R32A	**Long Quarter,**	**2.64**	**336**	IAmb_Lg		04 30 30.7	
	comp=Z,12nm,0.9s						
HHAR	**Hobbs**	**2.75**	**83**	Pn	Pn	04 29 52.3	+0.4
FW03	**Perrin-Whitt E**	**3.03**	**192**	Pn	Pn	04 29 55.2	-0.5
FW06	**Azle**	**3.04**	**184**	IAmb_Lg		04 30 51.8	
	comp=Z,6.8nm,0.8s						
KSU1	**Kansas State U**	**3.13**	**10**	IAmb_Lg		04 30 55.1	
	comp=Z,13nm,0.9s						
PLPT	**Palo Pinto**	**3.30**	**195**	Pn	Pn	04 29 58.9	-0.6
PLPT				IAmb_Lg		04 30 56.9	
	comp=Z,7.6nm,0.8s						
Z38A	**Mt. Pleasant**	**3.36**	**144**	Pn	Pn	04 30 00.2	-0.1
TREL	**Terrell**	**3.44**	**162**	Pn	Pn	04 30 01.8	+0.6
S39A	**Bolivar**	**3.62**	**61**	Pn	Pn	04 30 04.8	+1.0
S39A				IAmb_Lg		04 31 05.8	
	comp=Z,7.8nm,0.8s						
ABTX	**Abilene, Hawle**	**3.89**	**210**	Pn	Pn	04 30 08.0	+0.4
X40A	**Basin Creek Fa**	**3.98**	**111**	Pn	Pn	04 30 09.7	+0.9
X40A				IAmb_Lg		04 31 16.2	
	comp=Z,9.4nm,0.7s						
WHAR	**Wooly Hollow**	**4.17**	**99**	Pn	Pn	04 30 11.3	0.0
WLAR	**White Oak Lake**	**4.17**	**123**	Pn	Pn	04 30 12.0	+0.6
RTBA	**Rita Blanca**	**4.39**	**277**	Pn	Pn	04 30 14.0	-0.6
R40A	**Maddies Statio**	**4.64**	**59**	Pn	Pn	04 30 17.9	+0.1
R40A				IAmb_Lg		04 31 33.4	
	comp=Z,8.2nm,0.8s						
BRDY	**Brady**	**4.92**	**197**	Pn	Pn	04 30 19.6	-2.1
435B	**Jarrell**	**5.22**	**182**	IAmb_Lg		04 32 04.5	
	comp=Z,6.3nm,0.7s						
T25A	**Trinidad**	**5.81**	**283**	Pn	Pn	04 30 33.9	-0.3
T25A				IAmb_Lg		04 32 20.9	
	comp=Z,5.0nm,0.9s						
JCT	**Junction City**	**5.90**	**201**	Pn	Pn	04 30 35.2	+0.1
SDCO	**Great Sand Dun**	**6.77**	**287**	Pn	Pn	04 30 48.2	+0.8
ISCO	**Idaho Springs**	**7.56**	**302**	Pn	Pn	04 30 57.9	-0.3
O44A	**Mansfield**	**8.12**	**57**	Pn	Pn	04 31 04.5	-1.1
N23A	**Red Feather La**	**8.33**	**308**	Pn	Pn	04 31 08.3	-0.4

*OSPL **11** 04:41:39.7±1.3,20°02N×75°54W,h22km±5km,ML2.3 SSNC **11** 04:41:41.8±1.2,19°81N×75°40W,h17km±4km,MD2.8, ML2.7,MW2.7*
ISC 11 04:41:40.1±1.0,19°86N±0°06×75°44W±0°03,h32km±8km, n16,σ0°91/26,1D,Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.27**	**300**	*e*P	**Pn**	**04 41 48.0**	**0.0**
RCC				*e*S	**Sb**	**04 41 52.7**	**+0.4**
RCC				IAML		04 41 52.9	
	comp=E,606nm,0.2s						
RCC				IAML		04 41 53.2	
	comp=N,537nm,0.2s						
GTBY	**Guantanamo Bay**	**0.32**	**77**	*i* P	**Pb**	**04 41 47.9**	**-0.1**
GTBY				*e*S	**Sb**	**04 41 52.9**	**-0.4**
GTBY				IAML		04 41 53.2	
	comp=Z,223nm,0.1s						
GTBY	**Guantanamo Bay**	**0.32**	**77**	*e*P	**Pb**	**04 41 47.9**	**-0.1**
GTBY				*e*S	**Sb**	**04 41 52.8**	**-0.5**
GTBY				IAML		04 41 53.2	
	comp=Z,754nm,0.1s						
GTBY				IAML		04 41 53.2	
	comp=Z,474nm,0.1s						
MARVS	**Santiago de Cu**	**0.45**	**288**	*e*P	**Pn**	**04 41 50.9**	**+0.5**
MARVS				*e*S	**Sn**	**04 41 57.7**	**+0.3**
MARVS				IAML		04 41 58.4	
	comp=E,695nm,0.2s						
MARVS				IAML		04 41 58.4	
	comp=N,500nm,0.2s						
NMDO	**Nuevo Mundo**	**0.82**	**32**	*e*P	**Pb**	**04 41 56.0**	**0.0**
NMDO				*e*S	**Sb**	**04 42 07.4**	**+0.7**
MOAC	**Moa**	**0.92**	**29**	*e*P	**Pb**	**04 41 57.5**	**0.0**
CHIV	**Chivirico**	**0.92**	**278**	*e*P	**Pb**	**04 41 58.5**	**+0.9**
GNEO	**Boca de Quibij**	**0.93**	**59**	*e*P	**Pn**	**04 41 56.6**	**-0.4**
GNEO				*e*S	**Sn**	**04 42 07.9**	**-1.3**
GNEO				IAML		04 42 08.9	
	comp=E,432nm,0.2s						
GNEO				IAML		04 42 10.5	
	comp=N,518nm,0.1s						
MASC	**Masc**	**1.18**	**74**	⇓*i*P	**Pn**	**04 42 00.4**	**0.0**
MASC				*e*S	**Sn**	**04 42 14.8**	**-0.6**
MASC				IAML		04 42 20.0	
	comp=Z,50nm,0.4s						
MASC	**Masc**	**1.18**	**74**	*e*P	**Pn**	**04 42 00.4**	**0.0**
MASC				*e*S	**Sn**	**04 42 14.4**	**-1.0**
LMGC	**Las Mercedes**	**1.48**	**278**	*e*P	**Pb**	**04 42 06.3**	**-0.7**
LMGC				*e*S	**Sn**	**04 42 24.1**	**+1.3**
PILO	**Pilon**	**1.85**	**272**	*e*P	**Pb**	**04 42 11.8**	**-1.4**
MTDJ	**Mount Denham**	**2.56**	**231**	*i* P	**Pn**	**04 42 19.6**	**+0.1**
MTDJ				*e*S	**Sn**	**04 42 47.5**	**-2.0**
MTDJ				IAML		04 42 48.2	
	comp=Z,164nm,0.9s						
PAPH	**Port-au-Prince**	**3.25**	**114**	*e*S	**Sn**	**04 43 07.8**	**+1.2**
SDDR	**Presa de Saban**	**4.02**	**102**	*i* P	**Pn**	**04 42 40.4**	**+1.0**
PODR	**Polo**	**4.28**	**112**	*i* P	**Pn**	**04 42 44.7**	**+1.4**

*IDC **11** 04:46:15.9±8.8,14°13N×91°99W,h0km,mb3.2/3, mbtmp3.2/4,ML3.6/1,Error ellipse: s-maj=207.0km s-min=104.0km az=20.0*
*CATAC **11** 04:46:28.4±1.3,14°77N×92°84W,h34km±13km,ML4.2*
*MEX **11** 04:46:31.7±0.8,14°80N×92°62W,h77km±9km,MD4.3*
ISC 11 04:46:30.8±1.0,14°78N±0°06×92°67W±0°03,h68km±7km, n38,σ1°67/58,mb3.3/3,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.41**	**72**	*i* P	**Pn**	**04 46 42.3**	**-0.3**
THIG				*e*S	**Sn**	**04 46 51.4**	**+0.1**
PATR	**El Naranjo**	**0.54**	**51**	*e*P	**Pn**	**04 46 43.3**	**-0.8**
PATR				*e*S	**Sn**	**04 46 53.5**	**-0.4**
SMCA	**Catarina**	**0

	1.5nm,0.6s						
WRA	**Warramunga Arr**	**44.48**	**263**	P	**P**	**05 04 10.9**	**-0.3**
	0.6nm,0.4s,baz=95,slow=8.0,SNR=34						
	0.6nm,0.4s						
TXAR	**Lajitas Array**	**87.73**	**57**	P	**P**	**05 08 43.1**	**+0.8**
	0.2nm,0.7s,baz=204,slow=8.2,SNR=3.9						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**89.60**	**13**	P	**P**	**05 08 49.7**	**-0.5**
	0.9nm,1.1s,baz=211,slow=5.0,SNR=4.3						
	0.9nm,1.1s						
PDAR	**Pinedale Array**	**89.90**	**43**	P	**P**	**05 08 52.1**	**-0.3**
	0.2nm,0.7s,baz=191,slow=2.8,SNR=2.5						
	0.2nm,0.7s						
AKASG	**Malin Array Be**	**144.20**	**330**	PKP	PKPbc	05 15 25.7	+0.5
	0.8nm,0.8s,baz=48,slow=3.6,SNR=4.6						

*IDC **11** 05:36:41.1±1.0,0.°52N×126.°06E,h0km,mb4.1/9, mbtmp4.1/9,MS3.2/1,Error ellipse: s-maj=146.2km s-min=15.0km az=67.0*
*DJA **11** 05:36:45.4±0.3,1.°1N±4.°×12.°6E±.°,h10km,M4.1/8,mb4.4/4, MLv4.0/8,MwMwp4.9/1,Mwp5.2/1*
*NEIC **11** 05:36:49.5±2.4,0.°46N±0.°09×126.°43E±0.°07,h58km±5km, mb4.5/16,Error ellipse: s-maj=13.0km s-min=9.3km az=155.0*

ISC 11 05:36:47.4±0.6,0.°48N±0.°07×126.°24E±0.°05,h44km,n45, σ1°22/46,mb4.3/16,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.17**	**76**		**Pn**	**05 37 07.1**	**-0.2**
TNTI	**Ternate**	**1.17**	**76**	P	**Pn**	**05 37 08.0**	**+0.7**
TNTI				S	**Sn**	**05 37 24.2**	**+2.2**
LBMI	**Labuha**	**1.68**	**131**	P	**Pn**	**05 37 15.2**	**+0.8**
KMSI	**Cibinong**	**2.26**	**272**	P	**Pn**	**05 37 21.4**	**-0.8**
SANI	**Sanana**	**2.52**	**186**	P	**Pn**	**05 37 25.7**	**-0.2**
GTOI	**Gorontalo**	**3.23**	**171**	P	**Pn**	**05 37 37.5**	**+1.9**
LUWI	**Luwuk**	**3.78**	**246**		**Pn**	**05 37 47.0**	**+3.8**
NLAI	**Namlea**	**3.79**	**167**	P	**Pn**	**05 37 43.2**	**-0.2**
TOLI2	**Tolitoli**	**5.49**	**277**	Pn	Pn	05 38 11.4	+4.8
SPSI	**Sidrap Palu**	**7.83**	**236**	P	**Pn**	**05 38 40.4**	**+1.7**
	24nm,0.7s,4μm0.1nm						
BKSI	**Bulukumba**	**8.40**	**227**	P	**Pn**	**05 38 47.7**	**+1.1**
	14nm,0.7s						
EDFI	**Ende, Flores**	**10.23**	**206**	P	**Pn**	**05 39 13.4**	**+1.7**
BATI	**Baumata**	**10.92**	**193**	LR	LR	05 44 07.2	
	comp=Z,132nm,20.0s,baz=34,slow=41						
MTN	**Manton Dam**	**14.10**	**160**	Pn	**Pn**	**05 40 05.2**	**+0.6**
SBUM	**Sibu**	**14.15**	**278**		**P**	**05 40 09.7**	**-2.1**
KNRA	**Kununurra**	**16.25**	**171**		**Pn**	**05 40 32.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**18.47**	**182**	P	**P**	**05 40 59.9**	**+0.2**
WB0	**Warramunga Arr**	**21.65**	**159**	P	**P**	**05 41 33.9**	**-0.4**
WB0				IAmb	IAmb	05 41 39.6	
	comp=Z,13nm,0.7s						
WRA	**Warramunga Arr**	**21.80**	**159**	P	**P**	**05 41 35.1**	**-0.7**
WRA	**Warramunga Arr**	**21.80**	**159**	P	**P**	**05 41 35.4**	**-0.4**
	comp=Z,5.1nm,0.5s,baz=338,slow=11,SNR=92						
WRA				PcP	**PcP**	**05 45 36.4**	**+1.4**
	comp=Z,1.0nm,0.9s,baz=331,slow=1.9,SNR=6.2						
	comp=Z,5.1nm,0.5s						
MBWA	**Marble Bar**	**22.43**	**196**	P	**P**	**05 41 41.7**	**-0.9**
MBWA				IAmb	IAmb	05 42 16.2	
	comp=Z,9.1nm,1.2s						
AS31	**Alice Springs**	**25.13**	**163**	P	**P**	**05 42 08.7**	**+0.2**
ASAR	**Alice Springs**	**25.13**	**163**	P	**P**	**05 42 10.2**	**+1.7**
ASAR	**Alice Springs**	**25.13**	**163**	P	**P**	**05 42 09.9**	**+1.4**
	comp=Z,3.3nm,0.5s,baz=338,slow=9.4,SNR=49						
ASAR				PcP	**PcP**	**05 45 42.6**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=340,slow=2.8,SNR=2.4						
	comp=Z,3.3nm,0.5s						
FORT	**Forrest**	**31.14**	**177**	P	**P**	**05 43 02.4**	**+0.5**
STKA	**Stephens Creek**	**35.31**	**157**	P	**P**	**05 43 38.5**	**0.0**
	comp=Z,2.6nm,0.7s,baz=328,slow=13,SNR=7.3						
	comp=Z,2.6nm,0.7s						
SONM	**Songino Array**	**50.22**	**343**	P	**P**	**05 45 37.6**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=159,slow=7.8,SNR=4.7						
	comp=Z,0.6nm,0.7s						
MK31	**Makanchi Array**	**59.95**	**327**	P	**P**	**05 46 48.3**	**-0.9**
MK31				IAmb	IAmb	05 46 54.1	
	comp=Z,2.1nm,0.8s						
MKAR	**Makanchi Array**	**59.95**	**327**	P	**P**	**05 46 48.9**	**-0.4**
MKAR	**Makanchi Array**	**59.95**	**327**	P	**P**	**05 46 48.6**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=123,slow=7.8,SNR=23						
	comp=Z,1.1nm,0.4s						
MAKZ	**Makanchi**	**60.13**	**326**	P	**P**	**05 46 50.1**	**-0.4**
MAKZ				IAmb	IAmb	05 46 53.4	
	comp=Z,3.3nm,0.8s						
ZALV	**Zalesovo Beam**	**63.26**	**334**	P	**P**	**05 47 10.1**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=135,slow=6.3,SNR=2.3						
	comp=Z,0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**64.21**	**328**	P	**P**	**05 47 17.1**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=128,slow=6.3,SNR=18						
	comp=Z,1.9nm,0.6s						
KURK	**Kurchatov**	**64.22**	**329**	P	**P**	**05 47 17.5**	**-0.2**
BVAR	**Borovoye Array**	**69.77**	**328**	P	**P**	**05 47 52.6**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=116,slow=6.8,SNR=6.3						
	comp=Z,1.0nm,0.5s						
ABKAR	**Akbulak array**	**74.35**	**321**	P	**P**	**05 48 19.9**	**-0.6**
ANM	**Nome**	**80.41**	**24**	P	**P**	**05 48 54.0**	**-0.1**
O14K	**Tigyukauivet M**	**80.70**	**30**	P	**P**	**05 48 54.9**	**-0.7**
C18K	**Utukok River**	**83.26**	**21**	P	**P**	**05 49 10.9**	**+1.9**
C18K				IAmb	IAmb	05 49 24.4	
	comp=Z,9.2nm,1.4s						
G19K	**Purcell Mounta**	**84.19**	**23**	P	**P**	**05 49 15.7**	**+1.9**
G19K				IAmb	IAmb	05 49 23.5	
	comp=Z,11nm,1.4s						
D19K	**Kuna River**	**84.31**	**21**	P	**P**	**05 49 15.7**	**+1.2**
D19K				IAmb	IAmb	05 49 43.5	
	comp=Z,6.4nm,1.3s						
IMAR	**Indian Mountai**	**85.50**	**24**	P	**P**	**05 49 21.6**	**+1.2**
QSPA	**South Pole Qui**	**90.41**	**180**	P	**P**	**05 49 44.3**	**+0.3**
QSPA				IAmb	IAmb	05 50 19.5	
	comp=Z,6.1nm,1.5s						
QSPA	**South Pole Qui**	**90.41**	**180**	P	**P**	**05 49 43.3**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=309,slow=2.7,SNR=5.9						
	comp=Z,0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**123.40**	**286**	PKP	**PKPdf**	**05 55 40.4**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=64,slow=2.3,SNR=4.0						

IDC 11 05:46:08.0±2.6,6.°33S×130.°49E,h0km,mb3.4/1, mbtmp3.3/3,ML3.6/2,MS3.3/1,Error ellipse: s-maj=145.0km s-min=33.2km az=70.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.04**	**165**	Pn	Pn	05 49 27.5	-0.9
	0.3nm,0.3s,baz=348,slow=13,SNR=14						
WRA				Sn	Sn	05 51 50.2	-15
	0.3nm,0.3s,baz=338,slow=23,SNR=8.3						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**17.55**	**170**	P	P	05 50 14.9	-0.5
	0.2nm,0.3s,baz=346,slow=10,SNR=12						
ASAR				S	Sn	05 53 17.8	-13
	0.2nm,0.8s,baz=349,slow=24,SNR=2.3						
	0.6nm,0.5s						
STKA	**Stephens Creek**	**27.45**	**159**	LR	LR	06 03 49.2	
	comp=Z,54nm,18.7s,baz=21,slow=39						
MKAR	**Makanchi Array**	**67.94**	**326**	P	P	05 57 08.8	0.0
	0.1nm,0.4s,baz=117,slow=7.7,SNR=1.9						
	0.1nm,0.4s						

IDC 11 05:51:23.8±5.8,7.°91S×124.°07E,h139km±65km,mb3.0/1, mbtmp3.6/4,Error ellipse: s-maj=93.0km s-min=32.0km az=46.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.32**	**190**	P	Pn	05 52 02.8	+0.6
	65nm,0.4s,baz=11,slow=5.1,SNR=7.6						
BATI				S	Sn	05 52 32.1	+0.4
	31nm,0.3s,baz=164,slow=1.6,SNR=8.4						
WRA	**Warramunga Arr**	**15.56**	**141**	P	Pn	05 54 55.8	+0.1
	0.8nm,0.5s,baz=316,slow=12,SNR=6.8						
WRA				S	Sn	05 57 34.5	-14
	0.3nm,0.4s,baz=318,slow=25,SNR=2.5						
ASAR	**Alice Springs**	**18.29**	**150**	P	P	05 55 27.1	0.0
	0.6nm,0.6s,baz=329,slow=12,SNR=8.4						
MKAR	**Makanchi Array**	**65.91**	**330**	P	P	06 01 54.7	-0.1
	0.2nm,0.5s,baz=132,slow=7.5,SNR=5.7						
	0.2nm,0.5s						

*ISN **11** 05:54:53.9±1.3,34.°55N×45.°69E,h14km±44km,ML2.9*
*TEH **11** 05:54:54.1,34.°55N×45.°71E,h9km,ML2.9*

ISC 11 05:54:54.3±1.1,34.°56N±0.°04×45.°71E±0.°03,h7km±9km, n11,σ0°73/16,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.12**	**244**	Pg	**Pg**	**05 54 56.6**	**-0.2**
KGS1				Sg	**Sg**	**05 54 59.4**	**+0.9**
IDHR	**Dehrash**	**0.57**	**75**	Pg	**Pg**	**05 55 05.6**	**+0.2**
IGHG	**Ghaleghazi**	**0.74**	**108**	Pg	**Pb**	**05 55 09.0**	**-0.6**
ILBA	**Ilam Banvizeh**	**1.02**	**156**	Pg	**Pg**	**05 55 13.3**	**-0.5**
ILIN	**Lien**	**1.09**	**70**	Pg	**Pb**	**05 55 15.2**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.13**	**104**	Pg	**Pn**	**05 55 16.0**	**-0.7**
IKRK	**Kirkuk**	**1.41**	**307**	*e*Pg	**Pg**	**05 55 21.0**	**-0.3**
IKRK				*e*Sg	**Sg**	**05 55 40.0**	**+0.5**
IKRK				AML	AML	05 55 43.1	
	comp=N,418nm,0.5s						
IKRK				AML	AML	05 55 43.1	
	comp=E,399nm,0.5s						
IBDR	**Badra**	**1.46**	**173**	*e*Pn	**Pb**	**05 55 21.0**	**-0.7**
IBDR				*e*Sn	**Sg**	**05 55 41.0**	**0.0**
IKOM	**Komasi**	**1.53**	**104**	Pg	**Pg**	**05 55 23.8**	**+0.1**
BHD	**Baghdad**	**1.70**	**221**	*e*Pn	**Pb**	**05 55 25.0**	**-0.8**
BHD				*e*Sn	**Sb**	**05 55 47.0**	**-0.3**
BHD				AML	AML	05 55 51.4	
	comp=E,33nm,0.6s						
RAFI	**Al-Rafai**	**2.85**	**173**	*e*Pn	**Pn**	**05 55 41.0**	**+0.9**
RAFI				*e*Sn	**Sn**	**05 56 16.0**	**+1.4**

*IDC **11** 06:14:43.4±1.6,2.°58S×139.°19E,h0km,mb3.7/5, mbtmp3.7/6,ML3.4/1,MS3.1/6,Error ellipse: s-maj=67.8km s-min=24.8km az=92.0*

ISC 11 06:14:48.9±1.4,2.°7S±0.°1×139.°2E±0.°5,h37km,n11, σ0°49/6,mb3.7/5,MS3.2/4,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**16.66**	**306**	LR	LR	06 24 49.0	
	comp=Z,8.8nm,19.9s,baz=166,slow=36						
WRA	**Warramunga Arr**	**17.80**	**195**	P	**Pn**	**06 18 53.5**	**-0.4**
	0.1nm,0.3s,baz=16,slow=12,SNR=5.7						
WRA				S	Sn	06 22 01.8	-10
	0.4nm,0.8s,baz=15,slow=25,SNR=1.6						
	1.3nm,0.8s						
CTA	**Charters Tower**	**18.64**	**159**	LR	LR	06 26 44.4	
	comp=Z,136nm,19.2s,baz=271,slow=38						
ASAR	**Alice Springs**	**21.48**	**193**	P	**P**	**06 19 35.0**	**+0.5**
	0.5nm,0.6s,baz=19,slow=11,SNR=10						
ASAR				LR	LR	06 28 30.2	
	comp=Z,60nm,19.5s,baz=16,slow=38						
	0.5nm,0.6s						
STKA	**Stephens Creek**	**29.14**	**176**	LR	LR	06 33 46.1	
	comp=Z,76nm,18.6s,baz=27,slow=39						
NWAO	**Narrogin (SRO)**	**36.45**	**212**	LR	LR	06 39 31.6	
	comp=Z,39nm,18.4s,baz=196,slow=41						
SONM	**Songino Array**	**57.88**	**334**	LR	LR	06 49 05.4	
	comp=Z,18nm,19.8s,baz=80,slow=36						
MKAR	**Makanchi Array**	**70.04**	**322**	P	**P**	**06 25 57.4**	**+0.3**
	0.8nm,0.5s,baz=105,slow=7.4,SNR=11						
	0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**73.96**	**325**	P	**P**	**06 26 20.1**	**-0.3**
	0.5nm,0.6s,baz=111,slow=5.2,SNR=4.1						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**79.54**	**325**	P	**P**	**06 26 51.5**	**-0.3**
	1.4nm,0.7s,baz=124,slow=7.2,SNR=5.8						
	1.4nm,0.7s						
ILAR	**Eielson Array**	**85.61**	**24**	P	**P**	**06 27 23.2**	**0.0**
	0.4nm,0.8s,baz=273,slow=5.8,SNR=4.4						
	0.4nm,0.8s						

KRSC 11 06:16:04.8±1.2,49.°24N×156.°06E,h52km±24km,Ml4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.45**	**2**	*e*P	Pn	06 16 30.8	+2.2
SKR				*e*S	Sn	06 16 48.2	+1.7
KDTR	**Khodutka, Kamc**	**2.88**	**26**	*e*S	Sn	06 17 25.4	+3.8
ASAK	**Asacha**	**3.36**	**20**	*e*P	Pn	06 16 58.1	+3.3
GRL	**Gorelyy**	**3.56**	**20**	*e*P	Pn	06 17 01.6	+4.0
SDLR	**Sedlovina**	**4.42**	**23**	*e*P	Pn	06 17 12.5	+3.1

IDC 11 06:28:18.1±2.9,53.°55N×87.°78E,h0km,mbtmp3.2/2, ML2.9/2,Error ellipse: s-maj=24.2km s-min=14.5km az=56.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**284**	I	I	06 42 10.0	
	baz=102,slow=333,SNR=4.8						
ZALV	**Zalesovo Beam**	**1.80**	**284**	Pg	Pn	06 28 50.1	-0.3
	1.8nm,0.3s,baz=98,slow=15,SNR=11						
ZALV				Lg	Lg	06 29 15.8	
	5.5nm,0.3s,baz=108,slow=27,SNR=18						
KURBB	**Kurchatov Arra**	**6.41**	**247**	Pn	Pn	06 29 54.3	+0.6
	0.1nm,0.3s,baz=62,slow=14,SNR=5.3						
KURBB				Sn	Sn	06 31 06.0	-1.4
	baz=63,slow=28,SNR=1.1						
KURBB				Lg	Lg	06 31 41.0	
	0.1nm,0.3s,baz=59,slow=32,SNR=6.5						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**7.62**	**210**	Pn	Pn	06 30 11.7	+1.4
	0.4nm,0.3s,baz=30,slow=14,SNR=17						
MKAR				Sn	Sn	06 31 37.5	+0.1
	0.1nm,0.3s,baz=27,slow=26,SNR=2.6						
MKAR				Lg	Lg	06 32 19.0	
	0.1nm,0.3s,baz=28,slow=29,SNR=5.1						
	0.7nm,0.3s						

IDC 11 06:40:41.9±1.5,2.°59N×31.°17W,h0km,mb3.5/3, mbtmp3.5/4,ML3.1/1,MS3.3/9,Error ellipse: s-maj=45.6km s-min=30.3km az=139.0,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.61**	**209**	Pn	Pn	06 43 02.0	+0.4
	0.2nm,0.3s,baz=91,slow=16,SNR=2.3						
RCBR				Sn	Sn	06 44 49.6	-0.8
	0.2nm,0.3s,baz=224,slow=19,SNR=1.9						
	0.8nm,0.3s						
H10N3	**ASCENSION HYDR**	**19.59**	**122**	T	T	07 05 39.0	
	baz=301,slow=74,SNR=6.5						
H10N2	**ASCENSION HYDR**	**19.59**	**122**	T	T	07 05 42.9	
	baz=301,slow=74,SNR=16						
H10N1	**ASCENSION HYDR**	**19.61**	**122**	T	T	07 05 39.5	
	baz=301,slow=74,SNR=20						
MDP	**Montagnes des**	**21.57**	**277**	LR	LR	06 52 47.7	
	comp=Z,79nm,18.3s,baz=192,slow=34						
DBIC	**Dimbokro**	**26.53**	**80**	LR	LR	06 54 41.3	
	comp=Z,76nm,18.8s,baz=214,slow=32						
TORD	**Torodi Ar. Bea**	**34.15**	**70**	P	P	06 47 29.3	+0.1
	0.6nm,0.7s,baz=269,slow=7.5,SNR=4.3						
TORD				LR	LR	06 59 47.9	
	comp=Z,38nm,19.6s,baz=120,slow=34						
	0.6nm,0.7s						
SIV	**San Ignacio**	**34.85**	**237**	LR	LR	07 00 37.5	
	comp=Z,74nm,18.1s,baz=92,slow=34						
SJG	**San Juan**	**37.60**	**297**	LR	LR	07 00 53.1	
	comp=Z,22nm,19.4s,baz=152,slow=32						
ATAH	**Atahualpa**	**48.11**	**258**	LR	LR	07 09 21.3	
	comp=Z,47nm,18.3s,baz=64,slow=36						
TKL	**Tuckaleechee C**	**58.66**	**311**	LR	LR	07 10 18.4	
	comp=Z,14nm,21.7s,baz=112,slow=30						
LSZ	**Lusaka**	**61.34**	**109**	LR	LR	07 12 11.6	
	comp=Z,25nm,20.0s,baz=216,slow=31						
LBTB	**Lobatse**	**61.45**	**120**	LR	LR	07 13 20.2	
	comp=Z,25nm,18.7s,baz=282,slow=32						
TXAR	**Lajitas Array**	**73.49**	**300**	P	P	06 52 17.9	+0.9
	0.5nm,0.9s,baz=104,slow=7.5,SNR=2.1						
	0.5nm,0.9s						
YKA	**Yellowknife Ar**	**84.68**	**332**	P	P	06 53 16.6	-0.9
	0.2nm,0.7s,baz=90,slow=5.3,SNR=4.6						
	0.2nm,0.7s						

*IDC **11** 06:43:06.8±3.2,40.°34N×121.°97W,h0km,mb2.5/1, mbtmp2.8/3,ML3.3/2,MS2.7/1,Error ellipse: s-maj=71.9km s-min=17.6km az=48.0*
*NCEDC **11** 06:43:07.0±1.7,40.°10N±0.°02×122.°06W±0.°02,h19km±5km, ML3.2/19,ML3.1/58(NEIC),Error ellipse: s-maj=3.4km s-min=0.9km az=128.0*
*NEIC **11** 06:43:06.7±1.8,40.°10N±0.°02×122.°07W±0.°02,h20km±3km, Error ellipse: s-maj=3.3km s-min=0.5km az=146.0*

ISC 11 06:43:07.1±1.0,40.°11N±0.°02×122.°08W±0.°02,h19km±3km, n94,σ1°15/90,Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTCM	**Tuscan Springs**	**0.11**	**342**		**Pg**	**06 43 10.7**	**-0.3**
O03E	**Paynes Creek**	**0.28**	**48**		**Pb**	**06 43 13.0**	**-0.6**
O03E					**Sg**	**06 43 17.8**	**-0.2**
LDBM	**Digger Butte**	**0.40**	**35**		**Pg**	**06 43 14.8**	**-0.6**
GROM	**Round Mountain**	**0.49**	**248**		**Pg**	**06 43 16.9**	**-0.3**
O02D	**Mt. Diablo Mer**	**0.55**	**278**		**Pb**	**06 43 17.5**	**-0.6**
O02D					**Sg**	**06 43 26.1**	**+0.5**
GVV	**Valley View**	**0.56**	**234**		**Pb**	**06 43 18.1**	**-0.3**
OGOM	**Van Goodin Ran**	**0.58**	**141**		**Pb**	**06 43 17.1**	**-1.4**
LMEM	**Manzanita Entr**	**0.58**	**42**		**Pb**	**06 43 18.1**	**-0.6**
GCK	**Clark Valley**	**0.62**	**206**		**Pg**	**06 43 19.5**	**0.0**
LBPM	**Beegum Peak**	**0.65**	**289**		**Pb**	**06 43 18.8**	**-1.0**
OBHM	**Bloomer Hill**	**0.66**	**133**		**Pb**	**06 43 19.1**	**-0.8**
LSHM	**Sage Hen Hill**	**0.69**	**3**		**Pb**	**06 43 19.4**	**-1.1**
ORV	**Oroville**	**0.71**	**141**		**Pb**	**06 43 19.8**	**-1.0**
ORV	**Oroville**	**0.71**	**141**	IAML		06 43 33.0	
	comp=N,794nm,0.4s						
ORV				IAML		06 43 34.1	
	comp=E,730nm,0.6s						
PAM	**Palermo**	**0.79**	**146**		**Pb**	**06 43 20.6**	**-1.5**
KPK	**Kanaka Peak**	**0.79**	**131**		**Pb**	**06 43 21.3**	**-1.0**
GFC	**Funks Creek**	**0.79**	**192**		**Pb**	**06 43 21.5**	**-0.7**
OWYM	**Wyandotte**	**0.80**	**145**		**Pb**	**06 43 21.2**	**-1.1**
OSTM	**Stimpson Lane**	**0.82**	**153**		**Pb**	**06 43 22.2**	**-0.6**
OSUM	**Sutter Buttes**	**0.85**	**168**		**Pb**	**06 43 22.2**	**-1.1**
HATC	**Hat Creek Radi**	**0.85**	**33**		**Pb**	**06 43 22.9**	**-0.5**
KBNM	**Bluenose Ridge**	**0.88**	**256**		**Pb**	**06 43 23.4**	**-0.4**
GTSM	**Trough Springs**	**0.89**	**207**		**Pb**	**06 43 22.5**	**-1.4**
GHMM	**Hull Mountain**	**0.89**	**227**		**Pb**	**06 43 23.3**	**-0.8**
OHCM	**Honcut**	**0.90**	**149**		**Pb**	**06 43 22.5**	**-1.5**
LGPM	**Granite Peak**	**0.99**	**325**		**Pb**	**06 43 23.5**	**-2.2**
N02D	**Trinity Center**	**0.99**	**331**		**Pb**	**06 43 23.1**	**-2.6**
GBMM	**Baldy Mountain**	**1.01**	**199**		**Pb**	**06 43 24.9**	**-1.2**
KHBM	**Hayfork Bally**	**1.03**	**303**		**Pb**	**06 43 24.9**	**-1.6**
LBKM	**Bonanza King**	**1.07**	**336**		**Pb**	**06 43 24.4**	**-2.8**
KIPM	**Iron Peak**	**1.12**	**255**		**Pb**	**06 43 28.0**	**+0.1**
KFPM	**Farley Peak**	**1.13**	**246**		**Pb**	**06 43 28.1**	**0.0**
DCMP	**DeCamp, Califo**	**1.16**	**237**		**Pn**	**06 43 28.1**	**-0.2**
LTIM	**Timbered Crate**	**1.16**	**23**		**Pb**	**06 43 28.3**	**-0.3**
M03C	**McCloud**	**1.17**	**358**		**Pn**	**06 43 27.7**	**-0.8**
KCPM	**Cahto Peak**	**1.23**	**251**		**Pn**	**06 43 28.8**	**-0.6**
LGBM	**Gray Butte**	**1.24**	**356**		**Pn**	**06 43 29.3**	**-0.4**
LBFM	**Black Fox Moun**	**1.25**	**7**		**Pn**	**06 43 29.1**	**-0.7**
GRTM	**Round Top Moun**	**1.25**	**202**		**Pn**	**06 43 28.0**	**-1.6**
KMRM	**Mail Ridge**	**1.25**	**276**		**Pn**	**06 43 29.8**	**+0.1**
GHLM	**Highland Sprin**	**1.29**	**215**		**Pn**	**06 43 29.0**	**-1.1**
GWRM	**Wonder Ranch**	**1.30**	**227**		**Pn**	**06 43 29.7**	**-0.6**
NMTM	**Middletown**	**1.33**	**192**		**Pn**	**06 43 29.0**	**-1.6**
GTC	**Three Chop Rid**	**1.34**	**239**		**Pn**	**06 43 30.2**	**-0.5**
BEKR	**Beckworth**	**1.34**	**100**		**Pb**	**06 43 31.0**	**-0.7**
HOPS	**Hopland Field**	**1.35**	**215**		**Pn**	**06 43 29.9**	**-1.0**
KCRM	**Chalk Rock**	**1.37**	**284**		**Pn**	**06 43 31.3**	**0.0**
BMRR	**Black Mountain**	**1.37**	**89**		**Pb**	**06 43 31.4**	**-0.9**
AFDM	**Forest Hills D**	**1.44**	**143**		**Pn**	**06 43 31.2**	**-1.0**
GSNM	**Snow Mountain**	**1.45**	**217**		**Pn**	**06 43 31.6**	**-0.7**
KHMM	**Horse Mountain**	**1.48**	**302**	Pn	**Pn**	**06 43 32.9**	**0.0**
KHMM				IAML		06 43 59.2	
	comp=E,248nm,1.1s						
KHMM				IAML		06 43 59.5	
	comp=N,234nm,0.6s						
LOY	**Loyalton**	**1.49**	**107**		**Pb**	**06 43 33.7**	**-0.5**
NHSM	**Mount Saint He**	**1.50**	**196**		**Pn**	**06 43 31.8**	**-1.4**
LGMM	**Garner Mountai**	**1.50**	**7**		**Pn**	**06 43 33.3**	**+0.1**
LHEM	**Herd Peak**	**1.53**	**356**		**Pb**	**06 43 34.1**	**-0.9**
LASM	**Arnica Sink**	**1.54**	**14**		**Pn**	**06 43 33.5**	**-0.3**
DONR	**Donner Summit**	**1.55**	**118**		**Pb**	**06 43 34.5**	**-0.9**
KBF	**Kyburz Flat**	**1.56**	**112**		**Pn**	**06 43 31.6**	**-2.4**
KOMM	**Orleans Mounta**	**1.57**	**319**		**Pn**	**06 43 32.9**	**-1.2**
KMPM	**Mount Pierce**	**1.59**	**282**	Pn	**Pn**	**06 43 33.9**	**-0.4**
KMPM				IAML		06 44 05.8	
	comp=N,284nm,1.5s						
KMPM				IAML		06 44 08.5	
	comp=E,287nm,0.8s						
BABR	**Babbit Peak**	**1.60**	**108**		**Pb**	**06 43 35.8**	**-0.4**
JCC	**Jacoby Creek,**	**1.65**	**296**		**Pn**	**06 43 35.1**	**+0.1**
JCC	**Jacoby Creek,**	**1.65**	**296**	IAML		06 44 05.4	
	comp=E,125nm,1.3s						
JCC				IAML		06 44 10.1	
	comp=N,141nm,0.8s						
TNK	**Tinkers Knob**	**1.65**	**120**		**Pn**	**06 43 31.4**	**-3.9**
GGUM	**Gualala**	**1.66**	**222**		**Pn**	**06 43 34.3**	**-

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	4.1nm,0.8s						
CTA	**Charters Tower**	**40.38**	**261**	P	P	06 55 45.5	-0.7
	7.5nm,0.9s,baz=104,slow=10,SNR=5.2						
	7.5nm,0.9s						
STKA	**Stephens Creek**	**44.66**	**243**	P	P	06 56 20.4	-0.4
	0.7nm,0.5s,baz=89,slow=11,SNR=3.0						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**51.49**	**254**	P	P	06 57 14.2	+0.3
	3.9nm,0.5s,baz=96,slow=7.6,SNR=52						
	3.9nm,0.5s						
WRA	**Warramunga Arr**	**51.52**	**259**	P	P	06 57 14.0	-0.2
	0.9nm,0.3s,baz=97,slow=7.2,SNR=38						
	0.9nm,0.3s						

IDC 11 06:51:04.3±5.0, 2°48S × 139°53E, h0 km, mb3.4/2, mbtmp3.4/3, ML3.1/1, MS3.1/2, Error ellipse: s-maj=193.9km s-min=31.6km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.08**	**196**	P	Pn	06 55 16.4	-0.8
	0.1nm,0.3s,baz=16,slow=12,SNR=2.6						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**21.75**	**194**	P	P	06 55 57.7	0.0
	0.6nm,0.8s,baz=16,slow=11,SNR=3.3						
ASAR				LR	LR	07 04 06.3	
	comp=Z,30nm,19.5s,baz=23,slow=36						
	0.6nm,0.8s						
RAR	**Rarotonga**	**61.86**	**113**	LR	LR	07 25 41.0	
	comp=Z,25nm,21.8s,baz=162,slow=34						
MKAR	**Makanchi Array**	**70.11**	**322**	P	P	07 02 18.8	+0.2
	0.4nm,0.5s,baz=100,slow=7.1,SNR=4.1						
	0.4nm,0.5s						

IDC 11 07:03:22.1±1.3, 49°.99N × 77°.81E, h0 km, mbtmp3.4/2, ML3.0/2, Error ellipse: s-maj=13.0km s-min=8.6km az=80.0

NNC 11 07:03:25.4±0.4, 49°.99N × 78°.73E, h0 km, mb3.4, mpv3.1, Error ellipse: s-maj=6.3km s-min=2.2km az=80.0, Suspected Mining explosion.

ISC 11 07:03:26.8±0.9, 50°.04N±0°.05 × 78°.74E±0°.05, h0 km, n20, σ1§04/33, 20C-12D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.56**	**345**	⇑P	**Pg**	**07 03 37.4**	**-0.1**
KUR07				⇑S	**Sb**	**07 03 46.4**	**-1.5**
KUR06	**Kurchatov Arra**	**0.58**	**346**	⇑P	**Pg**	**07 03 37.8**	**-0.1**
KUR06				⇓S	**Sb**	**07 03 46.8**	**-1.6**
KUR14	**Kurchatov Arra**	**0.58**	**351**	⇑P	**Pg**	**07 03 37.7**	**-0.2**
KUR14				⇑S	**Sb**	**07 03 46.8**	**-1.7**
KUR15	**Kurchatov Arra**	**0.59**	**349**	⇓P	**Pg**	**07 03 37.8**	**-0.2**
KUR15				⇑S	**Sb**	**07 03 47.3**	**-1.5**
KURBB	**Kurchatov Arra**	**0.59**	**347**	Pg	**Pg**	**07 03 38.1**	**0.0**
	6.9nm,0.3s,baz=219,slow=16,SNR=163						
KURBB				Lg	Lg	07 03 47.4	
	6.1nm,0.3s,baz=216,slow=33,SNR=7.6						
KURBB	**Kurchatov Arra**	**0.59**	**347**	⇑P	**Pg**	**07 03 37.9**	**-0.3**
	40nm,0.3s						
KURBB				⇑S	**Sb**	**07 03 47.3**	**-1.8**
	143nm,0.7s						
KUR16	**Kurchatov Arra**	**0.60**	**345**	⇑P	**Pg**	**07 03 38.4**	**0.0**
KUR16				⇑S	**Sb**	**07 03 48.0**	**-1.3**
KUR05	**Kurchatov Arra**	**0.61**	**348**	⇓P	**Pg**	**07 03 38.3**	**-0.2**
KUR05				⇑S	**Sg**	**07 03 47.3**	**+0.8**
KUR17	**Kurchatov Arra**	**0.61**	**344**	⇑P	**Pg**	**07 03 38.3**	**-0.2**
KUR17				⇑S	**Sb**	**07 03 48.0**	**-1.5**
KUR04	**Kurchatov Arra**	**0.63**	**349**	⇑P	**Pg**	**07 03 38.7**	**-0.1**
KUR04				⇓S	**Sg**	**07 03 47.9**	**+0.8**
KURK	**Kurchatov**	**0.68**	**354**	⇑P	**Pg**	**07 03 39.3**	**-0.4**
	15nm,0.3s						
KURK				⇓S	**Sb**	**07 03 50.0**	**-1.4**
	57nm,0.5s						
MAKZ	**Makanchi**	**3.89**	**145**	⇑Pg	**Pb**	**07 04 34.3**	**-2.0**
	1.5nm,0.5s						
MAKZ				⇓Lg	Lg	07 05 25.7	
	6.5nm,0.5s						
MK31	**Makanchi Array**	**4.02**	**143**	⇑Pn	**Pn**	**07 04 30.1**	**+0.5**
	0.4nm,0.2s,baz=323,slow=10,SNR=82						
MK31				⇑Pg	**Pb**	**07 04 39.4**	**+0.9**
	0.5nm,0.2s,baz=340,slow=15,SNR=9.1						
MK31				⇓Lg	Lg	07 05 32.2	
	7.5nm,0.6s,baz=334,slow=26,SNR=12						
MKAR	**Makanchi Array**	**4.02**	**143**	Pn	**Pn**	**07 04 29.7**	**+0.1**
	0.9nm,0.3s,baz=321,slow=10,SNR=109						
MKAR				Pg	**Pb**	**07 04 38.3**	**-0.2**
	1.9nm,0.3s,baz=325,slow=12,SNR=12						
MKAR				Lg	Lg	07 05 31.9	
	3.6nm,0.3s,baz=323,slow=31,SNR=8.6						
	0.8nm,0.3s						
OTUK	**Ortayu**	**4.57**	**249**	⇓Pn	**Pn**	**07 04 36.9**	**-0.2**
	3.5nm,0.3s						
OTUK				⇓Pg	**Pb**	**07 04 49.0**	**+1.1**
	1.0nm,0.3s						
OTUK				⇓Lg	Lg	07 05 48.7	
I46RU	**ZALESOVO INFRA**	**5.42**	**42**	I	I	07 34 20.0	
	baz=222,slow=327,SNR=3.4						
ZALV	**Zalesovo Beam**	**5.42**	**42**	Pn	**Pn**	**07 04 50.3**	**+1.5**
	1.8nm,0.3s,baz=230,slow=14,SNR=18						
ZALV				Sn	**Sn**	**07 05 53.4**	**+1.6**
	0.3nm,0.3s,baz=226,slow=27,SNR=2.0						
ZALV				Lg	Lg	07 06 21.0	
	1.1nm,0.3s,baz=228,slow=26,SNR=5.8						
	3.4nm,0.2s						
BVA0	**Borovoye Array**	**6.00**	**303**	⇑Sn	**Sn**	**07 06 06.1**	**-0.1**
	4.3nm,0.7s						
BVA0				⇓Lg	Lg	07 06 33.8	
	6.9nm,1.2s						
BVAR	**Borovoye Array**	**6.00**	**303**	Pg	**Pn**	**07 04 57.0**	**+0.2**
	0.1nm,0.3s,baz=112,slow=14,SNR=7.4						
BVAR				Lg	Lg	07 06 06.5	
	0.1nm,0.3s,baz=115,slow=23,SNR=5.4						
BRVK	**Borovoye**	**6.08**	**303**	⇑Sn	**Sn**	**07 06 08.0**	**0.0**
	3.5nm,0.8s						
BRVK				⇓Lg	Lg	07 06 39.7	
	3.0nm,0.9s						

IDC 11 07:16:58.0±2.0, 29°.06S × 176°.49W, h0 km, mb3.5/2, mbtmp3.6/3, ML3.2/1, MS3.2/5, Error ellipse: s-maj=45.8km s-min=27.0km az=147.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.26**	**261**	Pn	Pn	07 17 25.0	+2.2
	358nm,0.3s,baz=78,slow=9.8,SNR=7.2						
RAO				Sn	Sn	07 17 41.2	+0.7
	1µm,0.3s,baz=322,slow=23,SNR=8.4						
URZ	**Urewera**	**10.61**	**208**	Pn	Pn	07 19 30.7	-0.5
	0.2nm,0.3s,baz=257,slow=18,SNR=1.4						
URZ				Sn	Sn	07 21 30.8	+0.1
	0.8nm,0.3s,baz=226,slow=23,SNR=1.3						
	4.4nm,0.9s						
DZM	**Mont Dzumac**	**16.89**	**290**	LR	LR	07 26 09.8	
	comp=Z,79nm,19.9s,baz=116,slow=33						
CTA	**Charters Tower**	**34.92**	**276**	LR	LR	07 36 20.7	
	comp=Z,43nm,20.0s,baz=86,slow=33						
STKA	**Stephens Creek**	**36.08**	**255**	LR	LR	07 37 15.4	
	comp=Z,33nm,19.0s,baz=193,slow=34						
ASAR	**Alice Springs**	**44.51**	**265**	P	P	07 25 10.5	-1.0
	0.4nm,0.6s,baz=99,slow=6.8,SNR=9.2						
ASAR				LR	LR	07 42 56.4	
	comp=Z,55nm,18.3s,baz=120,slow=35						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**45.38**	**270**	P	P	07 25 16.9	-1.6
	0.4nm,0.4s,baz=108,slow=7.8,SNR=7.2						
	0.4nm,0.4s						
GUMO	**Guam**	**56.49**	**313**	LR	LR	07 46 52.8	
	comp=Z,12nm,21.8s,baz=118,slow=32						
H03S2	**Juan Fernandez**	**80.10**	**123**	T	T	08 59 14.7	
	baz=239						
H03S1	**Juan Fernandez**	**80.11**	**123**	T	T	08 59 14.9	
	baz=239						
H03S3	**Juan Fernandez**	**80.12**	**123**	T	T	08 59 06.9	
	baz=239						
AKASG	**Malin Array Be**	**150.99**	**325**	PKPbc	PKiKP	07 36 52.8	-0.2
	0.2nm,0.3s,baz=45,slow=1.0,SNR=2.2						
AKASG				PKPab	PKPab	07 37 00.3	+0.4
	0.9nm,0.6s,baz=44,slow=3.7,SNR=6.0						

JMA 11 07:18:11.8±0.1, 25°.2 × 123°.0E±0°.6, h68 km, 1 km,

MV2.8/12, NW OFF ISHIGAKIJIMA IS

TAP 11 07:18:11.9, 24°.54N × 122°.96E, h66 km, ML3.4, D

ISC 11 07:18:12.2±1.3, 24°.46N±0°.04 × 122°.98E±0°.03, h69 km±7km, n97, σ§99/141, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.03**	**77**	P	**Pn**	**07 18 21.9**	**-0.3**
YOJ	**Yonaguni jima**	**0.03**	**77**	*i* P	**Pn**	**07 18 21.9**	**-0.3**
YOJ				S	**Sn**	**07 18 29.2**	**-0.3**
YOJ	**Yonaguni jima**	**0.03**	**77**	*i* P	**Pn**	**07 18 21.8**	**-0.3**
	baz=163						
YOJ				*i* S	**Sn**	**07 18 29.2**	**-0.3**
	baz=163						
JYNG	**Yonagunijimaku**	**0.04**	**263**	*i* P	**Pn**	**07 18 21.9**	**-0.3**
JYNG				S	**Sn**	**07 18 29.4**	**-0.2**
EOS3	**EOS3**	**0.63**	**255**	*i* P	**Pn**	**07 18 26.7**	**+0.6**
	baz=245						
EOS3				*i* S	**Sn**	**07 18 37.7**	**+1.4**
	baz=245						
EOS2	**EOS2**	**0.69**	**267**	*i* P	**Pn**	**07 18 26.7**	**0.0**
	baz=266						
EOS2				S	**Sn**	**07 18 38.5**	**+1.0**
	baz=266						
EOS4	**EOS4**	**0.69**	**241**	P	**Pn**	**07 18 27.4**	**+0.8**
	baz=235						
EOS4				S	**Sn**	**07 18 39.2**	**+2.0**
	baz=235						
HATJ	**Hateruma jima**	**0.85**	**118**	P	**Pn**	**07 18 29.5**	**+0.7**
HATJ				S	**Sn**	**07 18 42.3**	**+1.2**
JKRS	**Kuro-shima**	**0.96**	**103**	P	**Pn**	**07 18 30.4**	**+0.3**
JKRS				S	**Sn**	**07 18 44.4**	**+1.0**
TWC	**Suao**	**1.04**	**279**	*i* P	**Pn**	**07 18 30.4**	**-0.8**
	baz=274						
TWC				S	**Sn**	**07 18 44.0**	**-1.3**
	baz=274						
JIJ	**Ishigaki jima**	**1.06**	**95**	*i* P	**Pn**	**07 18 31.0**	**-0.4**
JIJ				S	**Sn**	**07 18 45.0**	**-0.7**
EWUT	**Wuta**	**1.10**	**270**	*e*P	**Pn**	**07 18 31.7**	**-0.1**
	baz=265						
ENA	**Nanau**	**1.13**	**269**	P	**Pn**	**07 18 31.9**	**-0.4**
	baz=269						
ENA				S	**Sn**	**07 18 47.5**	**+0.2**
	baz=269						
NDS	**Dongshan**	**1.17**	**279**	P	**Pn**	**07 18 32.9**	**+0.1**
	baz=274						
NDS				S	**Sn**	**07 18 47.3**	**-0.9**
	baz=274						
TIPB	**Shuangxi**	**1.17**	**296**	*i* P	**Pn**	**07 18 31.8**	**-1.0**
	baz=292						
SXI1	**Grass Mountain**	**1.19**	**302**	*e*P	**Pn**	**07 18 32.2**	**-0.9**
	baz=295						
JISG	**Ishigakijimahi**	**1.22**	**84**	*i* P	**Pn**	**07 18 32.9**	**-0.5**
JISG				S	**Sn**	**07 18 48.7**	**-0.5**
TWE	**Neicheng**	**1.23**	**283**	P	**Pn**	**07 18 33.1**	**-0.4**
	baz=283						
TWE				S	**Sn**	**07 18 48.9**	**-0.6**
	baz=283						
NWF	**Wu-fen Shan**	**1.25**	**300**	*e*P	**Pn**	**07 18 34.0**	**0.0**
	baz=286						
WFSB	**Wu-fen Shan**	**1.25**	**300**	*e*P	**Pn**	**07 18 33.6**	**-0.2**
	baz=287						
ETL	**Fush Village**	**1.28**	**257**	*e*P	**Pn**	**07 18 33.7**	**-0.5**
	baz=252						
ETL				*e*S	**Sn**	**07 18 50.9**	**+0.2**
	baz=252						
NACB	**Ninganchiao**	**1.30**	**258**	P	**Pn**	**07 18 34.1**	**-0.3**
NACB	**Ninganchiao**	**1.30**	**258**	*i* P	**Pn**	**07 18 33.9**	**-0.5**
	baz=253						
NACB				S	**Sn**	**07 18 50.4**	**-0.8**
	baz=253						
ENTT	**Nioudou**	**1.30**	**278**	P	**Pn**	**07 18 34.4**	**-0.1**
	baz=274						
ENTT				S	**Sn**	**07 18 51.0**	**-0.3**
	baz=274						
FUSB	**Fushanzhiwuyua**	**1.31**	**284**	*i* P	**Pn**	**07 18 34.4**	**-0.2**
	baz=286						
FUSB				*i* S	**Sn**	**07 18 50.8**	**-0.7**
	baz=286						
TWD	**Chiawan**	**1.32**	**254**	P	**Pn**	**07 18 34.7**	**0.0**
	baz=250						
TWD				S	**Sn**	**07 18 51.1**	**-0.6**
	baz=250						
LATG	**Datong**	**1.33**	**274**	P	**Pn**	**07 18 35.4**	**+0.4**
	baz=277						
LATG				*e*S	**Sn**	**07 18 52.9**	**+0.8**
	baz=277						
NDT	**Datong Townshi**	**1.35**	**277**	*e*P	**Pn**	**07 18 35.4**	**+0.3**
	baz=279						
NDT				S	**Sn**	**07 18 52.8**	**+0.5**
	baz=279						
TWA	**Mucha**	**1.38**	**293**	*e*P	**Pn**	**07 18 35.7**	**+0.3**
	baz=289						
NWLT	**Wulai**	**1.39**	**284**	P	**Pn**	**07 18 35.7**	**0.0**
	baz=280						
NWLT				S	**Sn**	**07 18 53.2**	**-0.1**
	baz=280						
ETLH	**Xiulin Townshi**	**1.39**	**260**	*e*P	**Pn**	**07 18 35.2**	**-0.5**
	baz=246						
ETLH				*e*S	**Sn**	**07 18 53.0**	**-0.5**
	baz=246						
PCYT	**Pengchaiyu**	**1.43**	**325**	*e*P	**Pn**	**07 18 36.2**	**0.0**
	baz=315						
ETM	**Tongmen**	**1.45**	**251**	*e*P	**Pn**	**07 18 35.3**	**-1.1**
	baz=240						
ETM				*e*S	**Sn**	**07 18 52.4**	**-2.2**
	baz=240						
YM01	**YM01**	**1.46**	**298**	P	**Pn**	**07 18 36.4**	**-0.2**
	baz=287						
YM01				S	**Sn**	**07 18 54.0**	**-0.9**
	baz=287						
NNSB	**Datong**	**1.46**	**269**	P	**Pn**	**07 18 37.1**	**+0.4**
	baz=255						
NNSB				S	**Sn**	**07 18 54.8**	**-0.3**
	baz=255						
YM08	**YM08**	**1.46**	**300**	*e*P	**Pn**	**07 18 35.9**	**-0.7**
	baz=288						
YM08				*e*S	**Sn**	**07 18 54.7**	**-0.3**
	baz=288						
NNS	**Nan Shan**	**1.47**	**270**	*e*P	**Pn**	**07 18 36.2**	**-0.6**
	baz=256						
YHNB	**Yeheng**	**1.48**	**279**	P	**Pn**	**07 18 37.7**	**+0.8**
YHNB	**Yeheng**	**1.48**	**279**	P	**Pn**	**07 18 37.4**	**+0.5**
	baz=280						
YHNB				*e*S	**Sn**	**07 18 56.1**	**+0.5**
	baz=280						
NSK	**Sanguang**	**1.50**	**279**	P	**Pn**	**07 18 37.4**	**+0.3**
	baz=279						
NSK				*e*S	**Sn**	**07 18 55.6**	**-0.3**
	baz=279						
LXIB	**Xiulin Townshi**	**1.50**	**254**	*e*P	**Pn**	**07 18 37.1**	**-0.1**
	baz=250						
LXIB				S	**Sn**	**07 18 55.5**	**-0.6**
	baz=250						
ESL	**Shilin**	**1.55**	**246**	P	**Pn**	**07 18 37.6**	**-0.2**
	baz=243						
TWS1	**Kuangyinshan**	**1.56**	**295**	*e*P	**Pn**	**07 18 39.1**	**+1.2**
	baz=292						
NTST	**Danshui**	**1.56**	**297**	*e*P	**Pn**	**07 18 38.0**	**0.0**
	baz=294						
JTJ	**Tarama**	**1.58**	**83**	P	**Pn**	**07 18 38.2**	**+0.1**
JTJ				S	**Sn**	**07 18 57.7**	**0.0**
WHF	**Hehuan Shan**	**1.60**	**259**	*e*P	**Pn**	**07 18 38.2**	**-0.6**
	baz=245						
WHF				*e*S	**Sn**	**07 18 57.4**	**-1.5**
	baz=245						
EGFH	**Guangfu**	**1.62**	**241**	*e*P	**Pn**	**07 18 38.1**	**-0.6**
	baz=238						
EGFH				*e*S	**Sn**	**07 18 57.4**	**-1.5**
	baz=238						
WARBT	**Fenglin Townsh**	**1.63**	**244**	P	**Pn**	**07 18 38.7**	**-0.2**
	baz=232						
WARBT				*e*S	**Sn**	**07 18 57.5**	**-1.6**
	baz=232						
TDCB	**Techi**	**1.68**	**263**	*e*P	**Pn**	**07 18 40.7**	**+1.1**
	baz=260						
TDCB				*e*S	**Sn**	**07 18 59.9**	**-0.4**
	baz=260						
CHGB	**Renai**	**1.70**	**257**	*e*P	**Pn**	**07 18 39.8**	**-0.1**
	baz=244						
CHGB				*e*S	**Sn**	**07 19 00.2**	**-0.7**
	baz=244						
NFF	**Wufeng Townshi**	**1.71**	**276**	*e*P	**Pn**	**07 18 40.3**	**+0.4**
	baz=265						
NFF				*e*S	**Sn**	**07 19 01.7**	**+0.7**
	baz=265						
HGSD	**Ruisui**	**1.72**	**236**	*e*P	**Pn**	**07 18 39.7**	**-0.3**
	baz=233						
HGSD				*e*S	**Sn**	**07 18 59.3**	**-1.8**
	baz=233						
OWD	**Renai**	**1.72**	**254**	P	**Pn**	**07 18 41.1**	**+0.9**
	baz=243						
WUSB	**Renai**	**1.77**	**255**	P	**Pn**	**07 18 41.1**	**+0.3**
	baz=244						
WUSB				S	**Sn**	**07 19 02.3**	**-0.1**
	baz=244						
EHY	**Hungye**	**1.79**	**238**	*e*P	**Pn**	**07 18 40.8**	**-0.2**
	baz=246						
LIOB	**Emei**	**1.80**	**276**	*e*P	**Pn**	**07 18 42.3**	**+1.1**
	baz=274						
NSTT	**Nanjuang**	**1.81**	**276**	*e*P	**Pn**	**07 18 42.6**	**+1.3**
	baz=273						
WHP	**Taichung City**	**1.87**	**265**	P	**Pn**	**07 18 43.1**	**+1.1**
	baz=262						
WHP				*e*S	**Sn**	**07 19 05.2**	**+0.4**
	baz=262						
YULB	**Yu-li**	**1.87**	**236**	P	**Pn**	**07 18 41.8**	**-0.3**
YULB	**Yu-li**	**1.87**	**236**	*e*P	**Pn**	**07 18 41.8**	**-0.3**
	baz=244						
EYUL	**Yuli**	**1.88**	**234**	*e*P	**Pn**	**07 18 43.6**	**+1.4**
	baz=232						
TWF1	**Yuli**	**1.89**	**235**	P	**Pn**	**07 18 41.5**	**-0.9**
	baz=232						
WCS	**Beigang Elemen**	**1.93**	**259**	*e*P	**Pn**	**07 18 44.2**	**+1.3**
	baz=248						
WCS				*e*S	**Sn**	**07 19 07.0**	**+0.7**
	baz=248						
SSLB	**Suanglung**	**1.97**	**251**	P	**Pn**	**07 18 44.5**	**+1.1**
SSLB	**Suanglung**	**1.97**	**251**	*e*P	**Pn**	**07 18 44.1**	**+0.7**
	baz=247						
SSLB				*e*S	**Sn**	**07 19 05.8**	**-1.4**
	baz=247						
SMLT	**Sun Moon Lake**	**1.99**	**254**	P	**Pn**	**07 18 44.7**	**+0.9**
	baz=243						
SMLT				S	**Sn**	**07 19 08.2**	**+0.5**
	baz=243						
FULB	**Fuli**	**1.99**	**231**	*e*P	**Pn**	**07 18 42.5**	**-1.1**
	baz=229						
TWQ1	**Liyutan**	**2.02**	**267**	*e*P	**Pn**	**07 18 46.9**	**+2.8**
	baz=264						
TWQ1				*e*S	**Sn**	**07 19 09.1**	**+0.8**
	baz=264						
EHD	**Haiduan**	**2.08**	**232**	*e*P	**Pn**	**07 18 44.7**	**-0.3**
	baz=230						
WHYT	**Xinyi Township**	**2.09**	**249**	*e*P	**Pn**	**07 18 46.0**	**+1.0**
	baz=241						
EDH	**Donghe**	**2.13**	**227**	*e*P	**Pn**	**07 18 43.3**	**-2.3**
	baz=231						
WJS	**Zhushan**	**2.15**	**253**	*e*P	**Pn**	**07 18 47.0**	**+1.1**
	baz=245						
ELDTW	**Lidau**	**2.20**	**235**	*e*P	**Pn**	**07 18 46.9**	**+0.3**
	baz=233						
ALS	**Alishan**	**2.20**	**245**	*e*P	**Pn**	**07 18 47.3**	**+0.5**
	baz=235						
LDUT	**Ludao**	**2.25**	**218**	*e*P	**Pn**	**07 18 46.5**	**-0.8**
	baz=210						
CHN5	**Tsauling**	**2.27**	**248**	*e*P	**Pn**	**07 18 48.9**	**+1.3**
	baz=246						
LONT	**Longtian**	**2.29**	**228**	*e*P	**Pn**	**07 18 47.9**	**+0.1**
	baz=236						
WDLH	**Douliu**	**2.36**	**252**	*e*P	**Pn**	**07 18 50.9**	**+2.2**
	baz=250						
TWGBT	**Beinan**	**2.39**	**227**	P	**Pn**	**07 18 48.9**	**-0.2**
TWGBT	**Beinan**	**2.39**	**227**	*e*P	**Pn**	**07 18 48.5**	**-0.6**
	baz=234						
TWG	**Pinlang**	**2.39**	**228**	*e*P	**Pn**	**07 18 48.2**	**-1.0**
	baz=234						
STYH	**Taoyuan**	**2.39**	**238**	*e*P	**Pn**	**07 18 50.0**	**+0.9**
	baz=236						
WCKO	**Fanlu**	**2.40**	**246**	*e*P	**Pn**	**07 18 50.7**	**+1.5**
	baz=243						
TPUB	**Ta-pu**	**2.44**	**242**	P	**Pn**	**07 18 51.0**	**+1.2**
TPUB	**Ta-pu**	**2.44**	**242**	*e*P	**Pn**	**07 18 52.1**	**+2.3**
	baz=240						
WRL	**Guolierlin Hig**	**2.44**	**257**	*e*P	**Pn**	**07 18 50.0**	**+0.2**
	baz=266						
WTP	**Ta-pu**	**2.48**	**241**	*e*P	**Pn**	**07 18 52.9**	**+2.6**
	baz=239						
SNST	**Tainan City**	**2.59**	**242**	*e*P	**Pn**	**07 18 51.9**	**+0.1**
	baz=240						
SGST	**Jiashian**	**2.59**	**239**	*e*P	**Pn**	**07 18 53.4**	**+1.5**
	baz=237						
SLGT	**Liugui**	**2.59**	**236**	*e*P	**Pn**	**07 18 54.4**	**+2.6**
	baz=228						
LYUB	**Lan-yu**	**2.76**	**208**	*e*P	**Pn**	**07 18 52.2**	**-2.0**
	baz=207						
TSMG	**Majia**	**2.76**	**231**	*e*P	**Pn**	**07 18 56.3**	**+2.2**
	baz=225						
SCST	**Cishan**	**2.77**	**236**	*e*P	**Pn**	**07 18 56.8**	**+2.7**
	baz=245						
MASBT	**Mashibuluo**	**2.83**	**230**	*e*P	**Pn**	**07 18 55.8**	**+0.7**
	baz=223						
TAWH	**Dawu Township**	**2.85**	**223**	*e*P	**Pn**	**07 18 55.5**	**+0.1**
	baz=228						
SCZT	**Fangliau**	**3.00**	**227**	*e*P	**Pn**	**07 18 59.0**	**+1.6**
	baz=225						
VWUC	**VWUC**	**3.26**	**280**	*e*P	**Pn**	**07 18 59.8**	**-1.0**
	baz=270						

ISN 11 07:30:45.4±0.8, 34°.73N × 45°.81E, h8 km±560 km, ML3.1

TEH 11 07:30:45.3, 34°.85N × 45°.87E, h8 km±39 km, ML3.3

ISC 11 07:30:45.9±1.0, 34°.82N±0°.04 × 45°.82E±0°.04, h10 km, n18, σ1§15/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.37**	**211**	Pg	**Pb**	**07 30 53.3**	**-1.3**
KGS1				Sg	**Sb**	**07 31 00.7**	**+0.4**
IDHR	**Dehrash**	**0.48**	**104**	Pg	**Pg**	**07 30 54.2**	**-1.1**
IDHR				Sg	**Sg**	**07 31 01.4**	**-0.4**
IGHG	**Ghaleghazi**	**0.79**	**128**	Pg	**Pg**	**07 31 00.6**	**-0.6**
ILIN	**Lien**	**0.95**	**84**	Pg	**Pg**	**07 31 03.2**	**-1.0**
KCHF	**Cheshme Sefid,**	**1.15**	**118**	Pg	**Pg**	**07 31 06.9**	**-1.1**
ILBA	**Ilam Banvizeh**	**1.24**	**165**	Pg	**Pg**	**07 31 08.9**	**-0.7**
SDS1	**Sardasht. Az.**	**1.35**	**349**	Pg	**Pn**	**07 31 10.8**	**-0.2**
IKOM	**Komasi**	**1.54**	**114**	Pg	**Pb**	**07 31 14.1**	**-0.5**
IBDR	**Badra**	**1.71**	**177**	*e*Pn	**Pb**	**07 31 17.0**	**-0.4**
IBDR				*e*Sn	**Sg**	**07 31 40.0**	**-0.9**
IBDR				AML	AML	07 31 51.9	
	comp=E,180nm,0.5s						
IBDR				AML	AML	07 31 52.7	
	comp=N,156nm,0.3s						
BHD	**Baghdad**	**1.95**	**218**	*e*Pn	**Pb**	**07 31 21.0**	**-0.6**
BHD				*e*Sn	**Sb**	**07 31 46.0**	**0.0**
BHD				AML	AML	07 31 51.1	
	comp=E,508nm,0.3s						
IKFM	**Kafar-mosalman**	**2.12**	**127**	Pn	**Pb**	**07 31 23.0**	**-1.4**
HAGD	**Aghdareh**	**2.73**	**89**	Pn	**Pn**	**07 31 31.3**	**+1.3**
IAZR	**Azarshahr**	**2.85**	**3**	Pn	**Pn**	**07 31 32.7**	**

H11N2	**WAKE ISLAND Hy**	**27.00**	**66**	T	T	08 44 20.5		
	baz=253,slow=75,SNR=67							
H11N3	**WAKE ISLAND Hy**	**27.01**	**66**	T	T	08 44 26.4		
	baz=253,slow=75,SNR=94							
CTA	**Charters Tower**	**30.31**	**170**	LR	LR	08 27 15.5		
	comp=Z,50nm,18.2s,baz=236,slow=34							
WRA	**Warramunga Arr**	**30.36**	**192**	P	**P**	**08 16 13.1**	**0.0**	
	0.2nm,0.9s,baz=15,slow=9.8,SNR=1.8							
	0.2nm,0.9s							
ASAR	**Alice Springs**	**34.07**	**191**	P	**P**	**08 16 44.8**	**-0.9**	
	0.2nm,0.7s,baz=19,slow=12,SNR=5.0							
ASAR				LR	LR	08 30 54.2		
	comp=Z,48nm,19.1s,baz=4.0,slow=37							
	0.2nm,0.7s							
CMAR	**Chiang Mai Arr**	**41.38**	**287**	P	**P**	**08 17 47.7**	**+0.1**	
	0.9nm,0.3s,baz=78,slow=8.4,SNR=1.4							
CMAR				LR	LR	08 33 44.5		
	comp=Z,20nm,20.8s,baz=180,slow=34							
	0.9nm,0.3s							
NWAO	**Narrogin (SRO)**	**48.18**	**207**	LR	LR	08 39 42.5		
	comp=Z,24nm,18.9s,baz=185,slow=37							
MKAR	**Makanchi Array**	**61.45**	**318**	P	**P**	**08 20 17.2**	**-0.4**	
	0.3nm,0.7s,baz=93,slow=5.8,SNR=1.8							
	0.3nm,0.7s							
ILAR	**Eielson Array**	**73.55**	**25**	P	**P**	**08 21 33.5**	**-0.3**	
	0.2nm,0.6s,baz=244,slow=5.9,SNR=1.1							
	0.2nm,0.6s							
YKA	**Yellowknife Ar**	**87.91**	**27**	P	**P**	**08 22 50.8**	**+0.1**	
	0.5nm,0.9s,baz=293,slow=5.4,SNR=3.2							
	0.5nm,0.9s							

*IDC **11** 08:17:13.3±2.7,33°.98N×11°.06E,h0km,mb3.2/2,*
mbtmp3.2/3,ML3.5/1,Error ellipse: s-maj=77.4km
s-min=27.9km az=78.0
*TUN **11** 08:17:18.7,34°.35N×8°.26E,h68km±3km,MD3.4*
ISC 11 08:17:20.9±1.3,34°.20N±0°.05×8°.09E±0°.10,h10km,n11,
σ1°.41/10,Tunisia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BERT	**Berda**	**0.77**	**86**	*i* P	**Pn**	**08 17 37.3**	**-0.5**
THTN	**Thala**	**1.45**	**20**	*i* P	**Pg**	**08 17 48.9**	**+0.1**
MEDT	**Meda**	**1.52**	**93**	*i* P	Pg	08 17 55.9	+5.8
SGNT	**Sidi Gnaou**	**1.57**	**109**	*i* P	**Pg**	**08 17 53.0**	**+1.9**
TROT	**Trozza**	**1.84**	**42**	*i* P	Pg	08 18 01.2	+4.9
KEST	**Kesra**	**1.85**	**34**	Pn	**Pn**	**08 17 52.6**	**-0.2**
	13nm,0.3s,baz=170,slow=9.1,SNR=47						
KEST				Sn	**Sg**	**08 18 19.6**	**-0.8**
	5.4nm,0.3s,baz=336,slow=20,SNR=6.5						
	24nm,0.6s						
KRIT	**Krib**	**2.29**	**20**	*i* P	**Pg**	**08 18 04.8**	**0.0**
GHAT	**Ghardimaou**	**2.30**	**4**	*i* P	**Pg**	**08 18 03.9**	**-1.2**
TATN	**Tataouine**	**2.60**	**128**	*i* P	**Pg**	**08 18 08.3**	**-2.5**
TORD	**Torodi Ar. Bea**	**21.74**	**197**	P	**P**	**08 22 13.7**	**+1.0**
	0.4nm,0.6s,baz=23,slow=11,SNR=3.2						
	0.4nm,0.6s						
YKA	**Yellowknife Ar**	**73.29**	**336**	P	**P**	**08 28 53.0**	**+0.8**
	0.2nm,0.7s,baz=49,slow=5.5,SNR=5.3						
	0.2nm,0.7s						

*LDG **11** 08:17:25.1±0.5,36°.38N×9°.99W,h30km,Ml3.9/3,Error*
ellipse: s-maj=9.5km s-min=8.5km az=27.0
*MDD **11** 08:17:28.5±0.5,36°.36N×9°.93W,h34km±12km,*
mb_Lg3.9/13,Error ellipse: s-maj=5.6km s-min=3.0km
az=76.0
*CNRM **11** 08:17:29.5,36°.22N×9°.41W,h7km,ml3.5*
*SFS **11** 08:17:29.5,36°.36N×9°.83W,h42km,ML4.1/21,ML4.3/12,*
MLv3.8/21
*INMG **11** 08:17:30.4±1.2,36°.38N×9°.83W,h37km,ML3.2,Error*
ellipse: s-maj=3.3km s-min=1.8km az=88.0
*IGIL **11** 08:17:30.9,36°.49N×9°.71W,h11km,ML3.1*
ISC 11 08:17:26.9±1.1,36°.37N±0°.04×9°.83W±0°.05,h35km,n97,
σ2°.39/174,7C-1D,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.11**	**46**	⇑*i* P	**Pn**	**08 17 48.4**	**+2.4**
PFVI				*e*S	**Sn**	**08 18 01.4**	**+1.3**
PFVI				A	A	08 18 02.3	
	159nm,0.5s						
PFVI	**Vila Bisbo**	**1.11**	**46**	P	**Pn**	**08 17 47.9**	**+1.9**
PFVI				S	**Sn**	**08 18 02.5**	**+2.4**
PFVI	**Vila Bisbo**	**1.11**	**46**	P	**Pn**	**08 17 48.4**	**+2.4**
MORF	**Marmelete**	**1.33**	**45**	⇑*i* P	**Pn**	**08 17 51.5**	**+2.4**
MORF				*e*S	**Sn**	**08 18 06.8**	**+1.3**
MORF				A	A	08 18 09.2	
	126nm,0.2s						
MORF	**Marmelete**	**1.33**	**45**	*e*P	**Pn**	**08 17 51.4**	**+2.4**
MORF				*e*S	**Sn**	**08 18 06.6**	**+1.1**
MORF				IAML		08 18 07.8	
	comp=N,232nm,0.1s						
PTEO	**Sao Teotonio**	**1.47**	**37**	⇑*i* P	**Pn**	**08 17 53.3**	**+2.4**
PTEO				*e*S	**Sn**	**08 18 10.2**	**+1.2**
PTEO				A	A	08 18 25.3	
	comp=N,143nm,0.7s						
PBDV	**Barranco-do-Ve**	**1.76**	**60**	*e*P	**Pn**	**08 17 57.5**	**+2.6**
PBDV				*e*S	**Sn**	**08 18 16.8**	**+0.7**
PBDV				A	A	08 18 23.3	
	comp=N,91nm,0.3s						
PCVE	**Castro Verde**	**1.91**	**48**	⇑*i* P	**Pn**	**08 17 59.6**	**+2.6**
PCVE				*e*S	**Sn**	**08 18 20.8**	**+1.0**
PCVE				A	A	08 18 22.2	
	comp=N,52nm,0.5s						
PCVE	**Castro Verde**	**1.91**	**48**	P	**Pn**	**08 17 59.6**	**+2.6**
MESJ	**Messejana**	**1.95**	**41**	⇑*i* P	**Pn**	**08 17 59.9**	**+2.3**
MESJ				*e*S	**Sn**	**08 18 21.9**	**+1.0**
MESJ				A	A	08 18 39.5	
	comp=N,48nm,0.3s						
MESJ	**Messejana**	**1.95**	**41**	*e*P	**Pn**	**08 17 59.9**	**+2.3**
MESJ				*e*S	**Sn**	**08 18 21.4**	**+0.6**
MESJ				IAML		08 18 23.5	
	comp=N,54nm,0.1s						
PVAQ	**Vaqueiros**	**1.99**	**58**	*e*P	**Pn**	**08 18 00.5**	**+2.5**
PVAQ				*e*S	**Sn**	**08 18 22.1**	**+0.5**
PVAQ	**Vaqueiros**	**1.99**	**58**	P	**Pn**	**08 18 00.5**	**+2.5**
PVAQ				S	**Sn**	**08 18 22.6**	**+0.9**
PVAQ	**Vaqueiros**	**1.99**	**58**	P	**Pn**	**08 18 00.5**	**+2.5**
PNCL	**Nicolau / Gran**	**2.03**	**30**	⇑*i* P	**Pn**	**08 18 00.7**	**+2.1**
PNCL				*e*S	**Sn**	**08 18 23.6**	**+0.9**
PNCL				A	A	08 18 25.7	
	comp=N,78nm,0.2s						
PNCL	**Nicolau / Gran**	**2.03**	**30**	P	**Pn**	**08 18 00.7**	**+2.1**
EGRO	**El Granado**	**2.21**	**58**	P	**Pn**	**08 18 03.4**	**+2.3**
EGRO				S	**Sn**	**08 18 28.3**	**+1.0**
EGRO				*i* Vmb_Lg		08 18 30.1	
EGRO	**El Granado**	**2.21**	**58**	P	**Pn**	**08 18 03.4**	**+2.3**
EGRO				S	**Sn**	**08 18 27.9**	**+0.7**
PBEJ	**Beja**	**2.28**	**43**	⇑*e*P	**Pn**	**08 18 04.2**	**+2.1**
PBEJ				*e*S	**Sn**	**08 18 29.7**	**+0.8**
PBEJ				A	A	08 18 31.8	
	comp=N,36nm,0.5s						
LIS	**Lisbon**	**2.41**	**13**	*e*S	**Sn**	**08 18 32.7**	**+0.6**
LIS				A	A	08 18 34.9	
	comp=N,260nm,0.2s						
LIS	**Lisbon**	**2.41**	**13**	*e*S	**Sn**	**08 18 32.6**	**+0.6**
LIS				IAML		08 18 33.7	
	comp=N,353nm,0.2s						
PACT	**Alcochete**	**2.52**	**18**	*e*P	**Pn**	**08 18 08.1**	**+2.7**
PACT				*e*S	**Sn**	**08 18 36.2**	**+1.3**
PACT				A	A	08 18 39.5	
	comp=N,114nm,0.2s						
EVO	**Evora**	**2.60**	**33**	*e*P	**Pn**	**08 18 08.4**	**+2.0**
EVO				*e*S	**Sn**	**08 18 36.7**	**-0.1**
EVO				A	A	08 18 39.0	
	comp=N,75nm,0.1s						
PMAFR	**Mafra**	**2.62**	**9**	*e*P	**Pn**	**08 18 08.8**	**+2.1**
PMAFR				*e*S	**Sn**	**08 18 37.6**	**+0.3**
PMAFR				A	A	08 18 39.6	
	comp=N,558nm,0.2s						
PBAR	**Barrancos**	**2.87**	**50**	*e*P	**Pn**	**08 18 12.2**	**+2.1**
PBAR				*e*S	**Sn**	**08 18 44.1**	**+0.7**
PBAR				A	A	08 18 56.6	
	comp=N,26nm,0.4s						
PBAR	**Barrancos**	**2.87**	**50**	P	**Pn**	**08 18 12.1**	**+2.0**
PMTG	**Montargil**	**2.98**	**25**	*e*P	**Pn**	**08 18 13.8**	**+2.1**
PMTG				*e*S	**Sn**	**08 18 46.3**	**+0.1**
PMTG				A	A	08 18 48.1	
	comp=N,30nm,0.2s						
PESTR	**Estremoz**	**3.06**	**35**	*e*P	**Pn**	**08 18 14.5**	**+1.6**
PESTR				*e*S	**Sn**	**08 18 48.5**	**+0.2**
PESTR				A	A	08 18 51.7	
	comp=N,18nm,0.4s						
PESTR	**Estremoz**	**3.06**	**35**	P	**Pn**	**08 18 18.2**	**+5.4**
PESTR				S	**Sn**	**08 18 56.3**	**+8.0**
ESPR	**Espera**	**3.24**	**80**	P	**Pn**	**08 18 17.8**	**+2.7**
ESPR				S	**Sn**	**08 18 52.6**	**+0.1**
ESPR				*i* Vmb_Lg		08 18 53.4	
ESPR	**Espera**	**3.24**	**80**	P	**Pn**	**08 18 17.8**	**+2.7**
ESPR				S	**Sn**	**08 18 52.1**	**-0.4**
PSBE	**So Bento**	**3.25**	**14**	*e*P	**Pn**	**08 18 17.5**	**+2.1**
PSBE				*e*S	**Sn**	**08 18 52.2**	**-0.6**
PSBE				A	A	08 18 58.1	
	comp=N,84nm,0.5s						
EBAD	**Badajoz**	**3.27**	**42**	P	**Pn**	**08 18 17.4**	**+1.7**
EBAD				S	**Sn**	**08 18 52.5**	**-0.9**
EBAD				*i* Vmb_Lg		08 18 56.7	
EBAD	**Badajoz**	**3.27**	**42**	P	**Pn**	**08 18 17.4**	**+1.7**
EBAD				S	**Sn**	**08 18 52.8**	**-0.5**
PMRV	**Marv??o**	**3.61**	**32**	*e*P	**Pn**	**08 18 22.4**	**+2.0**
PMRV				*e*S	**Sn**	**08 19 01.1**	**-0.7**
PMRV				A	A	08 19 03.5	
	comp=N,46nm,0.6s						
CEU	**Ceuta**	**3.64**	**96**	P	**Pn**	**08 18 23.1**	**+2.4**
AVE	**Averroes**	**3.65**	**146**	P	**Pn**	**08 18 23.3**	**+2.4**
AVE				S	**Sn**	**08 19 02.7**	**-0.1**
AVE	**Averroes**	**3.65**	**146**	S	**Sn**	**08 19 02.3**	**-0.4**
AVE				P	**Pn**	**08 18 23.3**	**+2.4**
SMIR	**Smir Dam**	**3.67**	**99**	P	**Pn**	**08 18 23.1**	**+1.9**
SMIR				S	**Sn**	**08 19 02.9**	**-0.3**
PCAS	**Casmilo, Conde**	**3.83**	**16**	*e*P	**Pn**	**08 18 25.4**	**+2.1**
PCAS				*e*S	**Sn**	**08 19 06.1**	**-1.0**
PCAS				A	A	08 19 09.7	
	comp=N,40nm,0.3s						
ECAB	**El Cabril**	**3.91**	**63**	P	**Pn**	**08 18 26.4**	**+1.9**
ECAB				S	**Sn**	**08 19 08.4**	**-0.8**
ECAB				*i* Vmb_Lg		08 19 09.9	
ECAB	**El Cabril**	**3.91**	**63**	S	**Sn**	**08 19 07.8**	**-1.5**
ECAB				P	**Pn**	**08 18 26.4**	**+1.9**
ZHG	**ZHG**	**3.92**	**137**	P	**Pn**	**08 18 26.5**	**+1.9**
ZHG				S	**Sn**	**08 19 08.5**	**-1.0**
PCBR	**Castelo Branco**	**3.93**	**27**	*e*P	**Pn**	**08 18 27.1**	**+2.3**
PCBR				*e*S	**Sn**	**08 19 09.2**	**-0.5**
PCBR				A	A	08 19 13.5	
	comp=N,16nm,0.7s						
COI	**Coimbra**	**3.99**	**16**	*e*P	**Pn**	**08 18 27.5**	**+1.9**
COI				*e*S	**Sn**	**08 19 09.9**	**-1.2**
EMIJ	**Mijas**	**4.08**	**86**	P	**Pn**	**08 18 27.6**	**+0.8**
SRHM	**Skhour des Reh**	**4.20**	**157**	P	**Pn**	**08 18 32.5**	**+3.9**
MTE	**Manteigas**	**4.41**	**23**	⇓*e*P	**Pn**	**08 18 33.3**	**+1.9**
MTE				*e*S	**Sn**	**08 19 20.9**	**-0.6**
MTE				A	A	08 19 24.0	
	comp=N,31nm,0.3s						
EADA	**Adamuz**	**4.56**	**65**	P	**Pn**	**08 18 35.4**	**+2.0**
EADA				S	**Sn**	**08 19 24.2**	**-1.0**
EADA				*i* Vmb_Lg		08 19 26.4	
EADA	**Adamuz**	**4.56**	**65**	S	**Sn**	**08 19 22.2**	**-3.0**
EADA				P	**Pn**	**08 18 35.3**	**+1.9**
PVIS	**Viseu**	**4.60**	**19**	*e*P	**Pn**	**08 18 35.8**	**+1.8**
PVIS				*e*S	**Sn**	**08 19 24.8**	**-1.4**
PVIS				A	A	08 19 28.1	
	comp=N,22nm,0.2s						
EGOR	**Sierra Gorda,**	**4.66**	**79**	S	**Sn**	**08 19 26.9**	**-0.8**
EGOR				*i* Vmb_Lg		08 19 46.7	
EPLA	**Plasencia**	**4.73**	**38**	P	**Pn**	**08 18 37.5**	**+1.7**
EPLA				S	**Sn**	**08 19 28.4**	**-0.9**
EPLA				*i* Vmb_Lg		08 19 29.8	
IFR	**Ifrane**	**4.80**	**125**	S	**Sn**	**08 19 28.1**	**-3.1**
IFR				P	**Pn**	**08 18 38.2**	**+1.3**
PTO	**Porto**	**4.86**	**11**	*e*P	**Pn**	**08 18 39.4**	**+1.9**
PTO				*e*S	**Sn**	**08 19 31.2**	**-1.3**
PTO				A	A	08 19 34.4	
	comp=N,45nm,0.2s						
LCRM	**LCR**	**4.88**	**122**	P	**Pn**	**08 18 39.7**	**+1.8**
LCRM				S	**Sn**	**08 19 32.7**	**-0.6**
ELGU	**Los Guajares,**	**5.02**	**82**	P	**Pn**	**08 18 42.1**	**+2.4**
ELGU				S	**Sn**	**08 19 37.1**	**+0.5**
ELGU				*i* Vmb_Lg		08 19 43.5	
PVRL	**Vila Real**	**5.17**	**18**	*e*P	**Pn**	**08 18 43.6**	**+1.8**
PVRL				*e*S	**Sn**	**08 19 38.4**	**-1.9**
PVRL				A	A	08 19 41.7	
	comp=N,54nm,0.5s						
EQTA	**Presa de Quent**	**5.20**	**79**	P	**Pn**	**08 18 45.1**	**+2.9**
EQUE	**Quentar**	**5.20**	**79**	P	**Pn**	**08 18 45.2**	**+3.0**
EQUE				S	**Sn**	**08 19 40.4**	**-0.6**
EQUE				*i* Vmb_Lg		08 19 48.2	
POLO	**Lamas de Olo**	**5.25**	**17**	*e*P	**Pn**	**08 18 44.5**	**+1.6**
POLO				*e*S	**Sn**	**08 19 39.8**	**-2.4**
POLO				A	A	08 19 44.8	
	comp=N,12nm,0.5s						
MVO	**Moncorvo**	**5.27**	**24**	*e*P	**Pn**	**08 18 44.8**	**+1.6**
MVO				*e*S	**Sn**	**08 19 40.7**	**-1.9**
MVO				A	A	08 19 46.5	
	comp=N,24nm,0.3s						
PAB	**San Pablo**	**5.37**	**52**	P	**Pn**	**08 18 46.1**	**+1.5**
PAB				S	**Sn**	**08 19 43.3**	**-1.9**
PSIM	**Granatula de C**	**5.41**	**61**	P	**Pn**	**08 18 46.8**	**+1.7**
PSIM				S	**Sn**	**08 19 43.3**	**-2.9**
MD31	**MD31**	**5.45**	**128**	P	**Pn**	**08 18 47.0**	**+1.4**
PCAB	**Cabril**	**5.52**	**14**	*e*P	**Pn**	**08 18 48.5**	**+1.9**
PCAB				*e*S	**Sn**	**08 19 46.4**	**-2.4**
PCAB				A	A	08 19 50.3	
	comp=N,24nm,0.5s						
MDT	**Midelt**	**5.58**	**128**	P	**Pn**	**08 18 48.9**	**+1.4**
MDT				S	**Sn**	**08 19 48.8**	**-1.6**
EQES	**Quesada**	**5.59**	**73**	P	**Pn**	**08 18 48.3**	**+0.6**
EQES				S	**Sn**	**08 19 49.0**	**-1.7**
EQES				*i* Vmb_Lg		08 19 52.1	
ESDC	**Sonseca Array**	**5.69**	**53**	P	**Pn**	**08 18 50.9**	**+1.9**
ESDC				S	**Sn**	**08 19 51.6**	**-1.4**
PGAV	**Gavieira, Arco**	**5.72**	**12**	*e*P	**Pn**	**08 18 50.3**	**+0.9**
PGAV				*e*S	**Sn**	**08 19 51.3**	**-2.6**
PGAV				A	A	08 19 54.3	
	comp=N,30nm,0.2s						
TIO	**Tiouine**	**5.83**	**158**	P	**Pn**	**08 18 52.3**	**+1.3**
TIO				S	**Sn**	**08 19 53.8**	**-3.0**
PBRG	**Braganca**	**5.94**	**23**	*e*P	**Pn**	**08 18 53.8**	**+1.5**
PBRG				*e*S	**Sn**	**08 19 56.2**	**-2.9**
PBRG				A	A	08 20 00.1	
	comp=N,15nm,0.2s						
OUZM	**OUZ**	**6.02**	**154**	P	**Pn**	**08 18 55.4**	**+1.9**
ECAL	**Calabor**	**6.06**	**22**	P	**Pn**	**08 18 55.7**	**+1.6**
ECAL				S	**Sn**	**08 19 59.7**	**-2.6**
ECAL	**Calabor**	**6.06**	**22**	P	**Pn**	**08 18 55.4**	**+1.3**
GUD	**Guadarrama**	**6.17**	**44**	P	**Pn**	**08 18 57.2**	**+1.6**
GUD				S	**Sn**	**08 20 04.0**	**-0.9**
TAF	**Taforalt**	**6.24**	**102**	P	**Pn**	**08 18 57.5**	**+1.0**
TAF				S	**Sn**	**08 20 05.2**	**-1.4**
PMPST	**Porto Santo, M**	**6.28**	**240**	*e*P	**Pn**	**08 18 58.0**	**+1.0**
PMPST				*e*S	**Sn**	**08 20 01.3**	**-6.2**
PMPST				A	A	08 20 14.6	
	comp=N,38nm,0.8s						
UCM	**Universidad Co**	**6.50**	**51**	S	**Sn**	**08 20 10.3**	**-2.7**
UCM				P	**Pn**	**08 19 02.3**	**+2.2**
EAGO	**Agolada(Pontev**	**6.57**	**11**	P	**Pn**	**08 19 02.1**	**+1.2**
EAGO				S	**Sn**	**08 20 11.6**	**-2.9**
EAGO				*i* Vmb_Lg		08 20 14.6	
EMAZ	**Mazaricos**	**6.61**	**5**	P	**Pn**	**08 19 02.5**	**+1.0**
EMAZ				S	**Sn**	**08 20 11.1**	**-4.4**
EMAZ				*i* Vmb_Lg		08 20 14.3	
EZAR	**Zarzadilla de**	**6.67**	**75**	P	**Pn**	**08 19 04.4**	**+1.9**
EZAR				S	**Sn**	**08 20 16.0**	**-1.3**
ARF	**Arif**	**6.78**	**135**	P	**Pn**	**08 19 04.4**	**+0.4**
ARF				S	**Sn**	**08 20 20.0**	**-0.1**
PMAR	**Madeira**	**6.88**	**240**	*e*P	**Pn**	**08 19 06.2**	**+0.8**
PMAR				*e*S	**Sn**	**08 20 15.4**	**-7.2**
PMAR				A	A	08 20 21.7	
	comp=N,28nm,0.2s						
ETOB	**Tobarra**	**6.97**	**68**	P	**Pn**	**08 19 07.5**	**+1.0**
ETOB				S	**Sn**	**08 20 21.2**	**-3.4**
ETOB	**Tobarra**	**6.97**	**68**	S	**Sn**	**08 20 22.0**	**-2.5**
ETOB				P	**Pn**	**08 19 07.9**	**+1.4**
ZGR	**Zagora**	**7.16**	**149**	P	**Pn**	**08 19 10.2**	**+1.0**
EPON	**Pontenova**	**7.25**	**16**	P	**Pn**	**08 19 11.5**	**+1.2**
EPON				S	**Sn**	**08 20 26.3**	**-5.1**
ETOR	**Torete**	**7.54**	**52**	P	**Pn**	**08 19 16.1**	**+1.8**
ETOR				S	**Sn**	**08 20 36.3**	**-2.3**
EARI	**Arriondas**	**7.78**	**26**	P	**Pn**	**08 19 20.2**	**+2.6**
EARI				S	**Sn**	**08 20 40.5**	**-4.1**
EMOS	**Mosqueruela**	**8.36**	**59**	P	**Pn**	**08 19 27.9**	**+2.2**
EMOS				S	**Sn**	**08 20 54.1**	**-5.0**
SJPF	**Ste Jean**	**9.45**	**42**	*e*P	**Pn**	**08 19 42.7**	**+2.3**
SJPF				*e*Sn	**Sn**	**08 21 17.8**	**-7.6**
	comp=N,11nm,0.8s						
EPF	**Esparros**	**10.28**	**47**	*e*P	**Pn**	**08 19 54.1**	**+2.3**
EPF				*e*Sn	**Sn**	**08 21 37.9**	**-7.9**
	comp=N,7.6nm,0.7s						
MTLF	**Montolieu**	**11.58**	**49**	*e*P	**Pn**	**08 20 12.8**	**+3.2**
MTLF				*e*Sn	**Sn**	**08 22 09.2**	**-8.4**
	comp=N,4.3nm,0.3s						
CAF	**Calviac**	**12.43**	**43**	*e*P	**Pn**	**08 20 22.1**	**+0.9**
MFF	**Saint Martin d**	**12.53**	**32**	*e*P	**Pn**	**08 20 23.5**	**+0.9**
QUIF	**Quistinic**	**12.55**	**21**	*e*P	**Pn**	**08 20 24.9**	**+2.1**

*KRSC **11** 08:21:51.4±1.2,51°.02N×158°.01E,h41km±17km,Ml4.3*
*MOS **11** 08:21:53.3±1.1,51°.12N×157°.66E,h69km,mb4.0/1,Error*
ellipse: s-maj=23.4km s-min=5.3km az=80.1
*IDC **11** 08:21:56.4±3.0,51°.16N×157°.67E,h81km±25km,mb3.4/8,*
mbtmp3.7/8,MS2.7/1,Error ellipse: s-maj=27.9km
s-min=19.9km az=137.0
ISC 11 08:21:52.8±1.5,51°.00N±0°.08×157°.96E±0°.07,h50km±13km,
n59,σ1°.35/66,mb3.6/8,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**0.81**	**5**	*e*P	**Pn**	**08 22 07.3**	**-0.7**
KDTR				*e*S	**Sn**	**08 22 17.6**	**-1.4**
KDTR	**Khodutka, Kamc**	**0.81**	**5**	PN	**Pn**	**08 22 07.3**	**-0.7**
KDTR				S	**Sn**	**08 22 17.6**	**-1.4**
PAU	**Pauzhetka**	**0.86**	**303**	*i* P	**Pn**	**08 22 09.8**	**+1.2**
PAU				*e*S	**Sn**	**08 22 21.5**	**+1.3**
PAU	**Pauzhetka**	**0.86**	**303**	PN	**Pn**	**08 22 09.8**	**+1.2**
PAU				S	**Sn**	**08 22 21.5**	**+1.3**
SKR	**Severo-Kuril's**	**1.21**	**256**	*e*P	**Pn**	**08 22 13.4**	**+0.1**
SKR				*e*S	**Sn**	**08 22 28.4**	**-0.1**
SKR	**Severo-Kuril's**	**1.21**	**256**	PN	**Pn**	**08 22 13.4**	**+0.1**
SKR				S	**Sn**	**08 22 28.4**	**-0.1**
ASAK	**Asacha**	**1.39**	**358**	*e*P	**Pn**	**08 22 15.4**	**-0.4**
ASAK	**Asacha**	**1.39**	**358**	PN	**Pn**	**08 22 15.4**	**-0.4**
GRL	**Gorelyy**	**1.56**	**3**	*e*P	**Pn**	**08 22 18.3**	**+0.2**
GRL				*e*S	**Sn**	**08 22 36.8**	**-0.4**
GRL	**Gorelyy**	**1.56**	**3**	PN	**Pn**	**08 22 18.3**	**+0.2**
GRL				S	**Sn**	**08 22 36.8**	**-0.4**
KRMR	**Karymshinskiy**	**1.84**	**3**	*e*P	**Pn**	**08 22 22.2**	**+0.5**
KRMR				*e*S	**Sn**	**08 22 44.1**	**+0.3**
KRMR	**Karymshinskiy**	**1.84**	**3**	PN	**Pn**	**08 22 22.3**	**+0.5**
KRMR				S	**Sn**	**08 22 44.1**	**+0.3**
APC	**Apacha**	**1.99**	**346**	*e*P	**Pn**	**08 22 24.3**	**+0.4**
APC	**Apacha**	**1.99**	**346**	PN	**Pn**	**08 22 24.3**	**+0.4**
PET	**Petropavlovsk**	**2.07**	**12**	*e*P	**Pn**	**08 22 25.5**	**+0.4**
PET				*e*S	**Sn**	**08 22 49.1**	**-0.6**
PET	**Petropavlovsk**	**2.07**	**12**	*e*PN	**Pn**	**08 22 25.4**	**+0.4**
PET				*e*S	**Sn**	**08 22 48.9**	**-0.7**
PET				smax	smax		
	comp=E,488nm,0.6s						
PET				smax	smax		
	comp=N,395nm,0.5s						
DALK	**Dalny**	**2.09**	**13**	*e*P	**Pn**	**08 22 25.3**	**0.0**
DALK				*e*S	**Sn**	**08 22 49.4**	**-0.8**
DALK	**Dalny**	**2.09**	**13**	PN	**Pn**	**08 22 25.3**	**0.0**
DALK				S	**Sn**	**08 22 49.4**	**-0.8**
PETK	**Petropavlovsk-**	**2.12**	**356**	P	**Pn**	**08 22 25.8**	**+0.1**
	comp=N,13nm,0.5s,baz=152,slow=12,SNR=50						
PETK				S	**Sn**	**08 22 52.5**	**+1.6**
	comp=N,20nm,0.5s,baz=320,slow=27,SNR=7.8						
UGLR	**Uglovaya**	**2.28**	**13**	*e*P	**Pn**	**08 22 29.2**	**+1.2**
UGLR	**Uglovaya**	**2.28**	**13**	PN	**Pn**	**08 22 29.2**	**+1.2**
AVH	**Avacha**	**2.32**	**12**	*e*P	**Pn**	**08 22 30.4**	**+1.9**
AVH	**Avacha**	**2.32**	**12**	PN	**Pn**	**08 22 30.4**	**+1.9**
SMAR	**Somma**	**2.33**	**13**	*e*P	**Pn**	**08 22 29.2**	**+0.5**
SMAR	**Somma**	**2.33**	**13**	PN	**Pn**	**08 22 29.2**	**+0.5**
KOK	**Koryaka**	**2.33**	**10**	*e*P	**Pn**	**08 22 30.2**	**+1.5**
KOK	**Koryaka**	**2.33**	**10**	PN	**Pn**	**08 22 30.2**	**+1.5**
SDLR	**Sedlovina**	**2.35**	**14**	*e*P	**Pn**	**08 22 29.0**	**0.0**
SDLR	**Sedlovina**	**2.35**	**14**	PN	**Pn**	**08 22 29.0**	**0.0**
KRX	**Arik**	**2.40**	**10**	*e*P	**Pn**	**08 22 32.2**	**+2.5**
KRX	**Arik**	**2.40**	**10**	PN	**Pn**	**08 22 32.2**	**+2.5**
SPN	**Mys Shipunski**	**2.46**	**30**	*e*P	**Pn**	**08 22 30.7**	**+0.4**
SPN				*e*S	**Sn**	**08 22 58.8**	**-0.3**
SPN	**Mys Shipunski**	**2.46**	**30**	PN	**Pn**	**08 22 30.7**	**+0.4**
SPN				S	**Sn**	**08 22 58.8**	**-0.3**
KII	**Karymskiy**	**3.17**	**16**	*e*P	**Pn**	**08 22 42.5**	**+2.3**
KII	**Karymskiy**	**3.17**	**16**	PN	**

IDC 11 08:45:28.7±2.8, 53°.74N×87°.01E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=26.8km s-min=15.8km az=73.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**280**	I	I	08 54 25.0	
	0.1nm,1.2s,baz=96,slow=337,SNR=15						
ZALV	**Zalesovo Beam**	**1.32**	**280**	Pg	Pg	08 45 53.8	-0.2
	0.7nm,0.3s,baz=99,slow=17,SNR=7.0						
ZALV				Lg	Lg	08 46 11.5	
	0.9nm,0.3s,baz=102,slow=30,SNR=6.5						
KURBB	**Kurchatov Arra**	**6.08**	**243**	Pn	Pn	08 46 59.0	-0.8
	0.1nm,0.3s,baz=60,slow=13,SNR=2.3						
	0.5nm,0.2s						
MKAR	**Makanchi Array**	**7.58**	**205**	Pn	Pn	08 47 22.4	+2.0
	0.1nm,0.3s,baz=24,slow=13,SNR=4.0						
	0.2nm,0.3s						

NNC 11 08:48:20.9±0.9, 51°.72N×75°.46E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=47.2km s-min=5.8km az=27.0, Suspected Mining explosion.

IDC 11 08:48:23.5±0.9, 51°.70N×75°.48E, h0km, mbtmp2.8/3, ML2.1/3, Error ellipse: s-maj=30.0km s-min=6.4km az=30.0

ISC 11 08:48:22.9±1.0, 51°.7N±0°.1×75°.45E±0°.06, h0km, n10, σ0s93/12, 8C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.21**	**117**	Pg	Pb	**08 49 02.8**	**-0.9**
	0.6nm,0.3s,baz=297,slow=18,SNR=24						
KURBB				Lg	Lg	08 49 32.2	
	0.9nm,0.3s,baz=310,slow=18,SNR=10						
KURBB	**Kurchatov Arra**	**2.21**	**117**	⇑Pg	Pb	**08 49 02.8**	**-0.9**
	4.4nm,0.6s						
KURBB				⇑Lg	Lg	08 49 30.9	
	32nm,0.7s						
KURK	**Kurchatov**	**2.22**	**114**	⇑Pg	Pn	**08 49 00.9**	**0.0**
	2.2nm,0.5s						
KURK				⇑Lg	Lg	08 49 29.8	
	9.2nm,0.5s						
BVA0	**Borovoye Array**	**3.38**	**296**	⇑Pg	Pb	**08 49 22.7**	**-1.0**
	3.2nm,0.8s,baz=116,slow=17,SNR=7.8						
BVA0				⇑Lg	Lg	08 50 06.4	
	4.7nm,0.4s,baz=117,slow=26,SNR=5.0						
BVAR	**Borovoye Array**	**3.38**	**296**	Pn	Pn	**08 49 17.7**	**+0.7**
	0.1nm,0.3s,baz=110,slow=14,SNR=4.7						
BVAR				Pg	Pb	**08 49 23.3**	**-0.4**
	0.1nm,0.3s,baz=114,slow=17,SNR=11						
BVAR				Sn	Sn	**08 49 57.7**	**-0.1**
	0.2nm,0.3s,baz=109,slow=21,SNR=5.2						
BVAR				Lg	Lg	08 50 09.2	
	0.5nm,0.3s,baz=114,slow=26,SNR=6.4						
	0.7nm,0.4s						
BRVK	**Borovoye**	**3.45**	**296**	⇓Pg	Pb	**08 49 23.6**	**-1.3**
	3.5nm,0.9s						
BRVK				⇓Lg	Lg	08 50 08.9	
	5.4nm,0.5s						
ZALV	**Zalesovo Beam**	**6.12**	**65**	Pn	Pn	**08 49 55.3**	**+0.8**
	0.4nm,0.3s,baz=258,slow=14,SNR=6.5						
	1.2nm,0.4s						
I46RU	**ZALESOVO INFRA**	**6.12**	**65**	I	I	09 25 50.0	
	baz=249,slow=314,SNR=3.2						
MK31	**Makanchi Array**	**6.63**	**135**	⇑Sn	Sn	**08 51 17.7**	**-0.1**
	0.7nm,0.5s,baz=327,slow=22,SNR=2.6						
MK31				⇑Lg	Lg	08 51 53.0	
	1.7nm,0.5s,baz=317,slow=25,SNR=4.9						
MKAR	**Makanchi Array**	**6.63**	**135**	Pn	Pn	**08 50 01.8**	**+0.3**
	0.1nm,0.3s,baz=311,slow=13,SNR=1.7						
MKAR				Sn	Sn	**08 51 19.2**	**+1.4**
	0.4nm,0.3s,baz=320,slow=23,SNR=7.3						
MKAR				Lg	Lg	08 51 52.3	
	0.3nm,0.3s,baz=311,slow=26,SNR=7.5						
	0.2nm,0.5s						

IDC 11 08:52:14.8±1.8, 32°.28S×77°.04E, h0km, mb3.7/5, mbtmp3.7/5, MS3.6/12, Error ellipse: s-maj=68.1km s-min=33.5km az=19.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**23.85**	**227**	T	T	09 22 23.6	
	baz=64,slow=74,SNR=2508						
H04N1	**CROZET ISLANDS**	**23.86**	**227**	T	T	09 22 23.9	
	baz=64,slow=74,SNR=2798						
H04N3	**CROZET ISLANDS**	**23.86**	**227**	T	T	09 22 26.1	
	baz=64,slow=74,SNR=2752						
H04S1	**CROZET ISLANDS**	**24.09**	**226**	T	T	09 22 37.1	
	baz=62,slow=76,SNR=108						
H04S3	**CROZET ISLANDS**	**24.11**	**226**	T	T	09 22 37.7	
	baz=62,slow=76,SNR=203						
H04S2	**CROZET ISLANDS**	**24.11**	**226**	T	T	09 22 39.0	
	baz=62,slow=76,SNR=109						
H08S2	**Diego Garcia H**	**24.87**	**349**	T	T	09 23 21.1	
	baz=171,slow=76,SNR=13						
H08S1	**Diego Carcia H**	**24.87**	**349**	T	T	09 23 21.6	
	baz=171,slow=76,SNR=5.2						
H08S3	**Diego Garcia H**	**24.89**	**349**	T	T	09 23 24.5	
	baz=171,slow=76,SNR=112						
H01W2	**Cape Leeuwin H**	**30.90**	**105**	T	T	09 30 48.3	
	baz=264,slow=75,SNR=16						
H01W3	**Cape Leeuwin H**	**30.90**	**105**	T	T	09 30 50.9	
	baz=264,slow=75,SNR=13						
H01W1	**Cape Leeuwin H**	**30.91**	**105**	T	T	09 30 53.2	
	baz=264,slow=75,SNR=15						
MAW	**Mawson**	**36.33**	**189**	LR	LR	09 12 22.9	
	comp=Z,79nm,18.6s,baz=260,slow=33						
LEM	**Lembang**	**38.09**	**55**	LR	LR	09 13 31.7	
	comp=Z,52nm,18.9s,baz=290,slow=34						
PALK	**Pallekele**	**39.48**	**6**	LR	LR	09 11 47.1	
	comp=Z,66nm,21.2s,baz=251,slow=30						
KAPI	**Kappang**	**48.22**	**65**	LR	LR	09 20 01.6	
	comp=Z,26nm,19.3s,baz=265,slow=35						
ASAR	**Alice Springs**	**50.45**	**95**	P	P	09 01 14.0	-0.6
	0.5nm,0.8s,baz=257,slow=6.5,SNR=4.7						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**52.35**	**91**	P	P	09 01 29.1	+0.2
	0.8nm,0.8s,baz=248,slow=7.3,SNR=6.1						
	0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**54.63**	**26**	P	P	09 01 46.2	+0.8
	0.9nm,0.4s,baz=206,slow=6.0,SNR=1.3						
CMAR				LR	LR	09 21 13.7	
	comp=Z,37nm,20.9s,baz=70,slow=32						
	0.9nm,0.4s						
VNDA	**Vanda**	**57.63**	**165**	LR	LR	09 23 50.6	
	comp=Z,116nm,18.5s,baz=255,slow=33						
QSPA	**South Pole Qui**	**57.87**	**180**	LR	LR	09 23 52.1	
	comp=Z,57nm,19.9s,baz=221,slow=33						
AAK	**Ala-Archa**	**74.58**	**358**	LR	LR	09 33 10.4	
	comp=Z,36nm,21.7s,baz=103,slow=33						
MKAR	**Makanchi Array**	**78.84**	**4**	LR	LR	09 36 51.5	
	comp=Z,37nm,21.0s,baz=119,slow=34						
KSRS	**Korea Array**	**84.06**	**38**	LR	LR	09 41 35.3	
	comp=Z,25nm,19.2s,baz=160,slow=35						
TORD	**Torodi Ar. Bea**	**84.92**	**289**	P	P	09 04 52.4	+0.3
	0.3nm,0.7s,baz=109,slow=5.2,SNR=1.7						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**86.13**	**5**	P	P	09 04 55.4	-1.8
	0.5nm,0.4s,baz=205,slow=6.4,SNR=2.4						
ZALV				LR	LR	09 40 51.0	
	comp=Z,28nm,21.3s,baz=228,slow=34						
	0.5nm,0.4s						
ASAJ	**Asahikawa**	**96.67**	**41**	LR	LR	09 44 43.6	
	comp=Z,39nm,20.6s,baz=202,slow=33						
YKA	**Yellowknife Ar**	**148.86**	**10**	PKPbc	PKPbc	09 12 03.5	-0.1
	0.5nm,0.7s,baz=326,slow=3.6,SNR=11						

IDC 11 09:09:44.3±1.0, 55°.30N×157°.52W, h0km, mb3.6/8, mbtmp3.7/12, ML4.0/4, MS3.0/1, Error ellipse: s-maj=23.2km s-min=16.1km az=173.0

NEIC 11 09:09:49.3±1.2, 55°.35N±0°.02×157°.19W±0°.06, h36km±48km, Error ellipse: s-maj=5.0km s-min=3.0km az=63.0

AEIC 11 09:09:49.5±1.1, 55°.32N±0°.07×157°.21W±0°.07, h39km±10km, ML3.6, ML3.8/44(NEIC), Error ellipse: s-maj=10.0km s-min=5.4km az=164.0

ISC 11 09:09:49.6±0.7, 55°.36N±0°.07×157°.24W±0°.04, h35km, n136, σ0s93/121, mb3.6/8, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**1.03**	**63**		**Pn**	**09 10 06.8**	**-0.6**
CHIR					**Sn**	**09 10 19.8**	**-0.8**
CHIR	**Chirikof Islan**	**1.03**	**63**	IAML		09 10 27.4	
	comp=E,2μm,0.6s						
CHGN	**Chignik**	**1.15**	**325**		**Pn**	**09 10 08.3**	**-0.9**
CHGN					**Sn**	**09 10 23.4**	**-0.3**
CHGN	**Chignik**	**1.15**	**325**	IAML		09 10 24.4	
	comp=E,3μm,0.5s						
VNSG	**Veniaminof 6**	**1.30**	**307**		**Pn**	**09 10 10.8**	**-0.4**
CNBA	**Chernabura Isl**	**1.46**	**249**		**Pn**	**09 10 12.6**	**-0.7**
CNBA				IAML		09 10 39.9	
	comp=N,1μm,0.4s						
CNBA	**Chernabura Isl**	**1.46**	**249**		**Sn**	**09 10 31.5**	**+0.4**
VNSW	**Veniaminof 7**	**1.49**	**299**		**Pn**	**09 10 13.8**	**-0.1**
VNSW					**Sn**	**09 10 33.2**	**+1.0**
VNSS	**Veniaminof 8**	**1.52**	**306**		**Pn**	**09 10 14.5**	**0.0**
VNWF	**Veniaminof 8**	**1.54**	**302**		**Pn**	**09 10 14.6**	**+0.1**
VNFG	**Fog Glacier, M**	**1.60**	**306**		**Pn**	**09 10 15.6**	**+0.2**
ANNE	**Aniakchak Nort**	**1.62**	**344**		**Pn**	**09 10 15.5**	**-0.2**
AZAC	**Aniakchak**	**1.64**	**341**		**Pn**	**09 10 15.9**	**0.0**
SDPT	**Sand Point**	**1.85**	**271**		**Pn**	**09 10 18.1**	**-0.7**
SDPT					**Sn**	**09 10 40.4**	**-0.4**
SDPT	**Sand Point**	**1.85**	**271**	IAML		09 10 54.9	
	comp=N,984nm,0.9s						
SDPT				IAML		09 10 55.2	
	comp=E,1μm,0.9s						
SDPT	**Sand Point**	**1.85**	**271**	P	**Pn**	**09 10 18.4**	**-0.3**
SII	**Sitkinak Islan**	**2.10**	**54**		**Pn**	**09 10 21.6**	**-0.6**
SII	**Sitkinak Islan**	**2.10**	**54**	IAML		09 11 14.1	
	comp=E,606nm,0.6s						
SII				IAML		09 11 20.1	
	comp=N,668nm,0.8s						
SII	**Sitkinak Islan**	**2.10**	**54**	P	**Pn**	**09 10 21.8**	**-0.4**
R16K	**Pilot Point**	**2.22**	**355**		**Pn**	**09 10 23.5**	**-0.3**
R16K	**Pilot Point**	**2.22**	**355**	IAML		09 11 05.6	
	comp=N,696nm,0.7s						
R16K				IAML		09 11 06.0	
	comp=E,833nm,0.8s						
R17K	**Ugashik Creek**	**2.33**	**11**		**Pn**	**09 10 25.6**	**+0.2**
R17K	**Ugashik Creek**	**2.33**	**11**	IAML		09 11 08.0	
	comp=E,570nm,0.6s						
R17K				IAML		09 11 16.0	
	comp=N,387nm,0.8s						
PS1A	**Pavlof South-1**	**2.57**	**273**		**Pn**	**09 10 28.2**	**-0.4**
PS4A	**Pavlof South-4**	**2.64**	**272**		**Pn**	**09 10 29.2**	**-0.3**
PN7A	**Pavlof North-7**	**2.72**	**273**		**Pn**	**09 10 30.7**	**0.0**
OHAK	**Old Harbor**	**2.89**	**48**		**Pn**	**09 10 32.4**	**-0.6**
OHAK	**Old Harbor**	**2.89**	**48**	P	**Pn**	**09 10 32.3**	**-0.7**
ANCK	**Angle Creek**	**3.00**	**18**		**Pn**	**09 10 34.6**	**0.0**
CNTC	**Contact Creek**	**3.01**	**14**		**Pn**	**09 10 34.6**	**-0.2**
ACHA	**Angle Creek He**	**3.04**	**19**		**Pn**	**09 10 35.1**	**-0.2**
KABU	**Katmai Buttres**	**3.11**	**19**		**Pn**	**09 10 36.5**	**+0.3**
KAKN	**Katmai Knife C**	**3.18**	**21**		**Pn**	**09 10 36.6**	**-0.5**
KVTA	**Katmai Vly 10**	**3.21**	**19**		**Pn**	**09 10 37.5**	**0.0**
Q16K	**King Salmon**	**3.34**	**5**		**Pn**	**09 10 39.0**	**-0.2**
KAHG	**Katmai Hook Gl**	**3.47**	**24**		**Pn**	**09 10 40.9**	**-0.2**
KAHC	**Katmai Hardscr**	**3.52**	**19**		**Pn**	**09 10 41.4**	**-0.4**
KDAK	**Kodiak Island**	**3.54**	**45**		**Pn**	**09 10 41.0**	**-1.0**
KDAK	**Kodiak Island**	**3.54**	**45**	Pn	**Pn**	**09 10 41.1**	**-0.9**
	comp=N,8.3nm,0.3s,baz=258,slow=12,SNR=36						
KDAK				Lg	Lg	09 11 40.9	
	baz=186,slow=17						
KDAK				LR	LR	09 11 43.7	
	comp=N,182nm,18.4s,baz=358,slow=32						
	comp=N,18nm,0.3s						
FALS	**False Pass**	**3.58**	**264**		**Pn**	**09 10 42.5**	**-0.1**
FALS	**False Pass**	**3.58**	**264**	P	**Pn**	**09 10 43.0**	**+0.4**
P16K	**Nushagak River**	**3.70**	**354**		**Pn**	**09 10 44.4**	**+0.2**
ISNN	**Isanotski Nort**	**3.79**	**265**		**Pn**	**09 10 45.8**	**+0.2**
P17K	**Kvichak River**	**3.87**	**6**		**Pn**	**09 10 46.7**	**+0.3**
SSLN	**Shishaldin Nor**	**3.92**	**265**		**Pn**	**09 10 47.5**	**+0.3**
SSLS	**Shishaldin Sou**	**3.94**	**263**		**Pn**	**09 10 48.0**	**+0.4**
SSBA	**Shishaldin**	**4.00**	**264**		**Pn**	**09 10 48.1**	**-0.3**
O15K	**Ungalikthiuk R**	**4.08**	**341**		**Pn**	**09 10 49.1**	**-0.2**
Q19K	**Cape Douglas,**	**4.08**	**27**		**Pn**	**09 10 48.8**	**-0.6**
P18K	**Big Mountain,**	**4.19**	**14**		**Pn**	**09 10 50.3**	**-0.6**
SYI	**Shuyak Island**	**4.20**	**37**		**Pn**	**09 10 50.5**	**-0.6**
SYI	**Shuyak Island**	**4.20**	**37**	IAML		09 11 32.8	
	comp=E,147nm,2.8s						
SYI				IAML		09 13 28.8	
	comp=N,132nm,3.6s						
O16K	**Kokwok River B**	**4.27**	**354**		**Pn**	**09 10 51.8**	**-0.2**
WEBT	**Westdahl Beart**	**4.40**	**263**		**Pn**	**09 10 53.8**	**+0.1**
O17K	**Koliganek Bris**	**4.43**	**1**		**Pn**	**09 10 53.8**	**-0.3**
O14K	**Tigyukauivet M**	**4.47**	**332**		**Pn**	**09 10 54.5**	**-0.2**
O14K	**Tigyukauivet M**	**4.47**	**332**	IAML		09 12 23.8	
	comp=N,79nm,0.9s						
O18K	**Koktuh Hills**	**4.64**	**13**		**Pn**	**09 10 56.9**	**-0.1**
O18K	**Koktuh Hills**	**4.64**	**13**	IAML		09 11 43.0	
	comp=N,67nm,4.8s						
O18K				IAML		09 12 46.5	
	comp=E,65nm,3.1s						
N15K	**Kwethluk River**	**5.06**	**344**		**Pn**	**09 11 03.2**	**+0.4**
N15K	**Kwethluk River**	**5.06**	**344**	IAML		09 12 45.0	
	comp=N,80nm,0.9s						
N15K				IAML		09 12 55.0	
	comp=E,71nm,1.1s						
AKUT	**Akutan**	**5.09**	**260**	Pn	**Pn**	**09 11 03.0**	**-0.2**
ILSW	**Iliamna Southw**	**5.13**	**24**		**Pn**	**09 11 03.8**	**-0.1**
ILSW	**Iliamna Southw**	**5.13**	**24**	IAML		09 11 47.7	
	comp=N,77nm,4.8s						
ILSW				IAML		09 14 11.3	
	comp=E,66nm,4.2s						
N14K	**Kuskokwak Cree**	**5.16**	**334**		**Pn**	**09 11 04.3**	**+0.1**
N17K	**Nushagak Hills**	**5.18**	**0**		**Pn**	**09 11 04.0**	**-0.5**
N17K	**Nushagak Hills**	**5.18**	**0**	IAML		09 12 20.3	
	comp=N,44nm,3.1s						
N17K				IAML		09 12 43.8	
	comp=E,47nm,3.1s						
IVE	**Iliamna Volcan**	**5.19**	**24**		**Pn**	**09 11 04.5**	**-0.2**
HOM	**Homer**	**5.26**	**33**	Pn	**Pn**	**09 11 05.5**	**0.0**
CNPM	**China Poot**	**5.29**	**35**		**Pn**	**09 11 05.5**	**-0.4**
O20K	**Slope Mountain**	**5.34**	**26**		**Pn**	**09 11 06.5**	**-0.2**
N18K	**Kilae Creek**	**5.38**	**7**		**Pn**	**09 11 07.0**	**-0.3**
BRLK	**Bradley Lake**	**5.58**	**35**	Pn	**Pn**	**09 11 08.7**	**-1.3**
UNV	**Unalaska Valle**	**5.60**	**258**		**Pn**	**09 11 09.2**	**-1.0**
UNV	**Unalaska Valle**	**5.60**	**258**	P	**Pn**	**09 11 09.6**	**-0.6**
BRSE	**Bradley Lake S**	**5.61**	**36**		**Pn**	**09 11 09.6**	**-0.9**
RSO	**Redoubt South**	**5.65**	**23**	Pn	**Pn**	**09 11 11.9**	**+0.8**
M15K	**Kasigluk River**	**5.66**	**343**		**Pn**	**09 11 11.0**	**+0.1**
N19K	**Bonanza Creek**	**5.66**	**14**	Pn	**Pn**	**09 11 11.0**	**-0.2**
M16K	**Timber Creek**	**5.75**	**352**		**Pn**	**09 11 12.5**	**+0.2**
MGOD	**Makushin Gods**	**5.82**	**258**		**Pn**	**09 11 12.6**	**-0.7**
SVW2	**Sparrevohn**	**5.82**	**8**	Pn	**Pn**	**09 11 13.2**	**-0.1**
SVW2	**Sparrevohn**	**5.82**	**8**	P	**Pn**	**09 11 13.1**	**-0.1**
MAPS	**Pakushin South**	**5.85**	**259**		**Pn**	**09 11 13.1**	**-0.6**
M14K	**Bethel**	**5.96**	**337**		**Pn**	**09 11 14.8**	**-0.3**
M13K	**Dall Lake**	**6.02**	**330**		**Pn**	**09 11 16.2**	**+0.2**
M17K	**Holitna River**	**6.06**	**359**		**Pn**	**09 11 16.4**	**-0.1**
M18K	**Stony River**	**6.19**	**6**		**Pn**	**09 11 18.2**	**-0.2**
O22K	**Cooper Landing**	**6.51**	**35**	Pn	**Pn**	**09 11 23.3**	**+0.6**
L14K	**Kuka Creek**	**6.65**	**337**		**Pn**	**09 11 24.6**	**+0.1**
M20K	**Styx River**	**6.88**	**16**	Pn	**Pn**	**09 11 29.2**	**+1.3**
L19K	**White Mountain**	**6.95**	**9**	Pn	**Pn**	**09 11 29.2**	**+0.4**
SUA	**Susitna One**	**7.00**	**26**	Pn	**Pn**	**09 11 28.5**	**-1.1**
SKT	**Skwentna**	**7.27**	**22**	Pn	**Pn**	**09 11 33.5**	**+0.3**
K15K	**Wolf Creek Mou**	**7.30**	**344**	Pn	**Pn**	**09 11 35.2**	**+1.7**
K17K	**Iditarod**	**7.40**	**356**	Pn	**Pn**	**09 11 34.9**	**0.0**
PMR	**Palmer**	**7.55**	**31**	Pn	**Pn**	**09 11 35.9**	**-1.1**
PMR	**Palmer**	**7.55**	**31**	P	**Pn**	**09 11 35.5**	**-1.5**
TTA	**Tatalina**	**7.62**	**4**	P	**Pn**	**09 11 37.8**	**-0.2**
FID	**Port Fidalgo**	**7.85**	**42**	Pn	**Pn**	**09 11 40.2**	**-0.9**
SML	**Sawmill**	**7.96**	**32**	Pn	**Pn**	**09 11 41.7**	**-0.9**
EYAK	**Cordova Ski Ar**	**8.02**	**42**	P	**Pn**	**09 11 43.0**	**-0.2**
SCM	**Sheep Creek Mo**	**8.29**	**34**	Pn	**Pn**	**09 11 46.2**	**-1.0**
J19K	**Poorman**	**8.70**	**5**	Pn	**Pn**	**09 11 52.9**	**+0.1**
TRF	**Thorofare Moun**	**8.85**	**21**	Pn	**Pn**	**09 11 54.6**	**-0.3**
N25K	**Chitina, Valde**	**9.10**	**41**	Pn	**Pn**	**09 11 57.9**	**-0.4**
PNL	**Peninsula**	**10.51**	**58**	P	**Pn**	**09 12 18.8**	**+1.2**
IL31		**10.74**	**24**		**Pn**	**09 12 17.7**	**-3.0**
ILAR	**Eielson Array**	**10.74**	**24**	Pn	**Pn**	**09 12 17.9**	**-2.8**
ILAR	**Eielson Array**	**10.74**	**24**	Pn	**Pn**	**09 12 17.2**	**-3.5**
	comp=E,0.4nm,0.3s,baz=219,slow=14,SNR=20						
ILAR				Sn	Sn	09 14 06.8	-13
	baz=194,slow=26						
	comp=E,0.9nm,0.4s						
IMAR	**Indian Mountai**	**10.79**	**8**	Pn	**Pn**	**09 12 20.9**	**-0.4**
J25K	**Salcha River,**	**11.00**	**28**		**Pn**	**09 12 23.5**	**-0.7**
O29M	**Mount Kennedy**	**11.10**	**56**		**Pn**	**09 12 26.8**	**+1.1**
EGAK	**Eagle**	**12.35**	**34**	Pn	**Pn**	**09 12 41.9**	**-0.7**
SKAG	**Skagway**	**12.48**	**62**	Pn	**Pn**	**09 12 46.1**	**+1.8**
SKAG	**Skagway**	**12.48**	**62**	P	**Pn**	**09 12 46.2**	**+1.8**
BMAR	**Burnt Mountain**	**13.50**	**21**	Pn	**Pn**	**09 12 54.6**	**-3.7**
DLBC	**Dease Lake**	**15.13**	**67**	Pn	**Pn**	**09 13 20.1**	**-0.4**
DLBC					Sn	Sn	09 15 50.2	-17
	baz=278,slow=21,SNR=1.5						
	comp=E,3.6nm,1.1s						
INK	**Inuvik**	**16.97**	**31**	P	**Pn**	**09 13 43.0**	**-0.8**
	comp=E,1.0nm,0.3s,baz=247,slow=12,SNR=24						
INK				S	**Sn**	**09 16 53.0**	**+2.1**
	comp=E,0.6nm,0.7s,baz=255,slow=18,SNR=1.6						
	comp=E,2.8nm,0.4s						
YKA	**Yellowknife Ar**	**22.76**	**54**	P	**P**	**09 14 48.0**	**-0.3**
	comp=E,0.5nm,0.6s,baz=263,slow=9.9,SNR=14						
	comp=E,0.5nm,0.6s						
PETK	**Petropavlovsk-**	**26.09**	**284**	P	**P**	**09 15 18.1**	**-1.5**
	comp=E,2.9nm,0.7s,baz=72,slow=14,SNR=5.5						
	comp=E,2.9nm,0.7s						
NVAR	**Mina Array Bea**	**31.02**	**107**	P	**P**	**09 16 04.4**	**+0.5**
	comp=E,0.4nm,0.8s,baz=304,slow=11,SNR=2.2						
	comp=E,0.4nm,0.8s						
PDAR	**Pinedale Array**	**33.02**	**92**	P	**P**	**09 16 23.1**	**+1.6**
	comp=E,0.2nm,0.5s,baz=293,slow=4.7,SNR=3.7						
	comp=E,0.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**44.65**	**232**	T	T	10 05 04.8	
	baz=28						
H11N3	**WAKE ISLAND Hy**	**44.66**	**232**	T	T	10 04 51.4	
	baz=28						
H11N1	**WAKE ISLAND Hy**	**44.67**	**232**	T	T	10 04 59.8	
	baz=28						
H11S1	**WAKE ISLAND Hy**	**45.81**	**231**	T	T	10 06 48.3	
	baz=27						
H11S2	**WAKE ISLAND Hy**	**45.82**	**231**	T	T	10 06 36.4	
	baz=27						
H11S3	**WAKE ISLAND Hy**	**45.83**	**231**	T	T	10 07 24.5	
	baz=27						
TXAR	**Lajitas Array**	**45.88**	**102**	P	**P**	**09 18 10.3**	**+1.9**
	comp=E,0.9nm,0.7s,baz=312,slow=5.9,SNR=11						
TXAR				PcP	**PcP**	**09 19 45.4**	**+0.2**
	comp=E,0.1nm,0.5s,baz=241,slow=1.9,SNR=1.8						
	comp=E,0.9nm,0.7s						
SONM	**Songino Array**	**55.67**	**306**	P	**P**	**09 19 21.7**	**-0.3**
	comp=E,0.4nm,0.6s,baz=32,slow=8.5,SNR=2.4						
	comp=E,0.4nm,0.6s						
BVAR	**Borovoye Array**	**65.05**	**331**	P	**P**	**09 20 26.4**	**+0.5**
	comp=E,0.4nm,0.3s,baz=54,slow=7.3,SNR=2.2						
	comp=E,0.4nm,0.3s						
MKAR	**Makanchi Array**	**66.58**	**320**	P	**P**	**09 20 33.6**	**-2.1**
	comp=E,0.4nm,0.7s,baz=27,slow=9.7,SNR=1.4						
	comp=E,0.4nm,0.7s						
H03N2	**Juan Fernandez**	**110.70**	**119**	T	T	11 28 27.3	
	baz=326,slow=78,SNR=9.4						
H03N1	**Juan Fernandez**	**110.71**	**119**	T	T	11 28 26.1	
	baz=326,slow=78,SNR=9.3						
H03N3	**Juan Fernandez**	**110.72**	**119**	T	T	11 28 32.7	
	baz=326,slow=78,SNR=11						

KRSC 11 09:10:35.7±2.2, 49°.48N×154°.68E, h230km±10km, MI4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.52**	**37**	*eP*	Pn	09 11 12.3	+0.1
SKR				*eS*	S	09 11 41.8	+1.0
KDTR	**Khodutka, Kamc**	**3.18**	**42**	*eS*	S	09 12 09.4	-1.3
ASAK	**Asacha**	**3.55**	**34**	*eP*	Pn	09 11 34.7	+1.5
GRL	**Gorelyy**	**3.75**	**34**	*eP*	Pn	09 11 37.6	+2.0
KOK	**Koryaka**	**4.55**	**31**	*eP*	Pn	09 11 47.7	+2.5
SDLR	**Sedlovina**	**4.62**	**33**	*eP*	Pn	09 11 48.7	+2.5

IDC 11 09:47:58.8±2.1, 1°.81N×127°.37E, h0km, mb3.6/3, mbtmp3.7/3, Error ellipse: s-maj=138.5km s-min=27.7km az=66.0

DJA 11 09:48:10.7±0.9, 2°.N±4°×12°.7E±°, h99km±18km, M4.1/8, mb4.5/2, mB5.8/1, MLv3.9/8, Mw(mB)5.4/1

ISC 11 09:48:10.7±1.4, 1°.81N±0°.10×127°.6E±0°.2, h112km, n9, σ1s09/9, mb3.4/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.06**	**192**	P	**Pn**	**09 48 31.5**	**-1.1**
LBMI	**Labuha**	**2.44**	**182**	P	**Pn**	**09 48 48.5**	**-0.9**
SGSI	**Sangihe**	**2.77**	**312**	P	**Pn**	**09 48 52.3**	**-1.4**
KMSI	**Cibinong**	**3.81**	**251**	P	**Pn**	**09 49 06.4**	**-1.1**
SANI	**

KPKS				Lg	Lg	09 52 30.9		
	122nm,0.5s							
ANVS	**Anan'yevo**	**1.98**	**297**	⇓*e*P	**Pb**	**09 52 08.1**	**-0.2**	
	baz=2.0							
ANVS				⇓*e*S	**Sb**	**09 52 34.1**	**+0.7**	
	baz=2.0							
KURS	**Kuram**	**2.10**	**319**	*e*Pg	**Pb**	**09 52 09.2**	**-1.2**	
	8.3nm,0.3s							
KURS				*e*Lg	Lg	09 52 38.8		
	24nm,0.5s							
KURS	**Kuram**	**2.10**	**319**	Pg	**Pb**	**09 52 09.2**	**-1.2**	
	8.3nm,0.3s							
KURS				Lg	Lg	09 52 38.8		
	24nm,0.5s							
DJR	**Jarkent**	**2.43**	**355**	*e*Pg	**Pb**	**09 52 14.8**	**-1.0**	
	1.8nm,0.1s							
DJR				*e*Lg	Lg	09 52 48.2		
	35nm,0.5s							
DJR	**Jarkent**	**2.43**	**355**	Pg	**Pb**	**09 52 14.8**	**-1.0**	
	1.8nm,0.1s							
DJR				Lg	Lg	09 52 48.2		
	35nm,0.5s							
BLB	**Baldybastay**	**2.47**	**333**	Pg	**Pb**	**09 52 15.8**	**-0.9**	
	12nm,0.2s							
BLB				Lg	Lg	09 52 49.9		
	18nm,0.4s							
KNOS	**Konyrlen**	**2.53**	**345**	Pg	**Pb**	**09 52 17.1**	**-0.6**	
	23nm,0.3s							
KNOS				Lg	Lg	09 52 52.2		
	21nm,0.3s							
KOTS	**Kotyrbulak**	**2.55**	**302**	*e*Pg	**Pb**	**09 52 16.4**	**-1.6**	
	6.5nm,0.2s							
KOTS				*e*Lg	Lg	09 52 50.8		
	22nm,0.7s							
KOTS	**Kotyrbulak**	**2.55**	**302**	Pg	**Pb**	**09 52 16.4**	**-1.6**	
	6.5nm,0.2s							
KOTS				Lg	Lg	09 52 50.8		
	22nm,0.7s							
MDOK	**Medeo**	**2.55**	**300**	*e*Pg	**Pb**	**09 52 16.0**	**-2.1**	
	3.6nm,0.2s							
MDOK				*e*Lg	Lg	09 52 49.8		
	20nm,0.4s							
MDOK	**Medeo**	**2.55**	**300**	⇑Pg	**Pb**	**09 52 15.8**	**-2.3**	
	5.0nm,0.5s							
MDOK				⇓Lg	Lg	09 52 51.0		
	11nm,0.4s							
TNSS	**Tian-Shan**	**2.56**	**297**	*e*Pg	**Pb**	**09 52 17.0**	**-1.3**	
	2.6nm,0.4s							
TNSS				*e*Lg	Lg	09 52 51.8		
	14nm,0.3s							
TNSS	**Tian-Shan**	**2.56**	**297**	Pg	**Pb**	**09 52 17.0**	**-1.3**	
	2.6nm,0.4s							
TNSS				Lg	Lg	09 52 51.8		
	14nm,0.3s							
IZV	**Izvestkoviy**	**2.79**	**295**	*e*Pg	**Pb**	**09 52 20.5**	**-1.5**	
	1.2nm,0.1s							
IZV				*e*Lg	Lg	09 52 57.7		
	31nm,0.3s							
ARXS	**Arharly**	**2.82**	**325**	*e*Pg	**Pb**	**09 52 21.6**	**-1.0**	
	3.7nm,0.3s							
ARXS				*e*Lg	Lg	09 53 00.0		
	18nm,0.5s							
ARXS	**Arharly**	**2.82**	**325**	Pg	**Pb**	**09 52 21.6**	**-1.0**	
	3.7nm,0.3s							
ARXS				Lg	Lg	09 52 60.0		
	18nm,0.5s							
ULHL	**Ulahol**	**2.86**	**278**	⇑*e*P	**Pn**	**09 52 19.6**	**+1.3**	
	baz=81							
ULHL				⇑*e*S	**Sn**	**09 52 54.6**	**+1.2**	
	baz=81							
MTBS	**Maitube**	**2.95**	**296**	*e*Pg	**Pb**	**09 52 22.8**	**-1.9**	
	2.1nm,0.2s							
MTBS				*e*Lg	Lg	09 53 01.6		
	12nm,0.3s							
CHKK	**Chushkaly**	**2.98**	**312**	*e*Pg	**Pb**	**09 52 24.0**	**-1.2**	
	4.1nm,0.1s							
CHKK				*e*Lg	Lg	09 53 04.0		
	22nm,0.3s							
CHKK	**Chushkaly**	**2.98**	**312**	Pg	**Pb**	**09 52 24.0**	**-1.2**	
	4.1nm,0.1s							
CHKK				Lg	Lg	09 53 04.0		
	22nm,0.3s							
KTBS	**Karatobe**	**3.07**	**307**	*e*Pg	**Pb**	**09 52 25.7**	**-1.1**	
	3.8nm,0.3s							
KTBS				*e*Lg	Lg	09 53 06.6		
	9.9nm,0.4s							
KTBS	**Karatobe**	**3.07**	**307**	Pg	**Pb**	**09 52 25.7**	**-1.1**	
	3.8nm,0.3s							
KTBS				Lg	Lg	09 53 06.6		
	9.9nm,0.4s							
NRN	**Naryn**	**3.08**	**262**	⇓*e*P	**Pn**	**09 52 22.3**	**+0.9**	
	baz=64							
NRN				⇓*e*S	**Sn**	**09 52 58.9**	**0.0**	
	baz=64							
BOOM	**Boomskoye usch**	**3.12**	**282**	⇑*e*P	**Pn**	**09 52 23.0**	**+1.3**	
	baz=85							
BOOM				⇑*e*S	**Sn**	**09 53 00.0**	**+0.4**	
	baz=85							
KST	**Kastek**	**3.24**	**292**	*e*Pg	**Pb**	**09 52 28.0**	**-1.7**	
	3.2nm,0.6s							
KST				*e*Lg	Lg	09 53 10.5		
	17nm,0.7s							
KST	**Kastek**	**3.24**	**292**	Pg	**Pb**	**09 52 28.0**	**-1.7**	
	3.2nm,0.6s							
KST				Lg	Lg	09 53 10.5		
	17nm,0.7s							
KUU	**Kurty**	**3.38**	**307**	*e*Pg	**Pb**	**09 52 30.9**	**-1.1**	
	1.8nm,0.3s							
KUU				*e*Lg	Lg	09 53 15.5		
	9.1nm,0.5s							
KUU	**Kurty**	**3.38**	**307**	Pg	**Pb**	**09 52 30.9**	**-1.1**	
	1.8nm,0.3s							
KUU				Lg	Lg	09 53 15.5		
	9.1nm,0.5s							
KAPS	**Kapalarasan**	**3.41**	**352**	*e*Pg	**Pb**	**09 52 31.1**	**-1.5**	
	3.9nm,0.5s							
KAPS				*e*Lg	Lg	09 53 15.9		
	8.5nm,0.4s							
DGS	**Degeres**	**3.44**	**294**	*e*Pg	**Pb**	**09 52 32.2**	**-0.8**	
	2.1nm,0.4s							
DGS				*e*Lg	Lg	09 53 18.1		
	12nm,0.6s							
DGS	**Degeres**	**3.44**	**294**	Pg	**Pb**	**09 52 32.3**	**-0.8**	
	2.1nm,0.4s							
DGS				Lg	Lg	09 53 18.1		
	12nm,0.6s							
TKM2	**Tokmak 2**	**3.46**	**288**	⇑*e*P	**Pn**	**09 52 28.1**	**+1.7**	
	baz=91							
TKM2				⇑*e*S	**Sn**	**09 53 08.4**	**+0.4**	
	baz=91							
TKM2	**Tokmak 2**	**3.46**	**288**	⇑Pg	**Pb**	**09 52 31.2**	**-2.3**	
	1.0nm,0.3s							
TKM2				⇑Lg	Lg	09 53 17.4		
	6.2nm,0.5s							
KRBS	**Karabastau**	**3.69**	**300**	*e*Pg	**Pb**	**09 52 36.9**	**-0.4**	
	1.0nm,0.3s							
KRBS				*e*Lg	Lg	09 53 25.8		
	16nm,0.4s							
MK31	**Makanchi Array**	**5.14**	**17**	⇓Pn	**Pn**	**09 52 49.4**	**+0.1**	
	0.9nm,0.6s,baz=202,slow=13,SNR=14							
MK31				⇑Sn	**Sn**	**09 53 52.0**	**+2.9**	
	0.4nm,0.3s,baz=200,slow=24,SNR=4.5							
MK31				⇓Lg	Lg	09 54 15.9		
	1.1nm,0.4s							

*DJA **11** 09:58:21.7±0.2, 10°S±2°×11°9E±°, h72km±6km, M4.6/18, mb4.7/18, mB5.1/7, MLv4.7/18, Mw(mB)4.5/7*
*NEIC **11** 09:58:22.0±2.3, 9.78S±0.08×119.48E±0.08, h71km±10km, mb4.2/20, Error ellipse: s-maj=12.3km s-min=10.4km az=204.0*
*IDC **11** 09:58:25.4±2.8, 9.46S×119.83E, h97km±23km, mb4.0/11, mbtmp4.4/14, MS3.2/7, Error ellipse: s-maj=31.9km s-min=9.7km az=57.0*
ISC 11 09:58:20.0±0.4, 9.81S±0.05×119.49E±0.05, h50km, n106, σ1§99/105, mb4.3/22, MS3.1/5, Suma region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.15**	**111**	P			**Pn**	**09 58 42.4**	**+2.6**
BASI				S			**Sn**	**09 58 57.6**	**+3.1**
PLAI	**Plampang**	**1.95**	**300**	P			**Pn**	**09 58 54.0**	**+3.3**
PLAI	**Plampang**	**1.95**	**300**	P			**Pn**	**09 58 53.9**	**+3.3**
PLAI				S			**Sn**	**09 59 17.2**	**+3.2**
EDFI	**Ende, Flores**	**2.42**	**64**	P			**Pn**	**09 58 58.4**	**+1.2**
MMRI	**Maumere**	**2.96**	**67**	Pn			**Pn**	**09 59 06.5**	**+2.0**
MMRI	**Maumere**	**2.96**	**67**	P			**Pn**	**09 59 07.1**	**+2.6**
MMRI	**Maumere**	**2.96**	**67**	P			**Pn**	**09 59 06.6**	**+2.0**
BATI	**Baumata**	**4.13**	**96**	P			**Pn**	**09 59 23.5**	**+2.8**
BATI	**Baumata**	**4.13**	**96**	P			**Pn**	**09 59 23.1**	**+2.4**
	248nm,0.3s,baz=275,slow=11,SNR=38								
BATI				S			**Sn**	**10 00 06.7**	**-1.1**
	234nm,0.5s,baz=344,slow=22,SNR=20								
DNP	**Denpasar**	**4.37**	**285**	P			**Pn**	**09 59 26.5**	**+2.6**
IGBI	**Denpasar**	**4.39**	**283**	P			**Pn**	**09 59 27.0**	**+2.7**
BKSI	**Bulukumba**	**4.50**	**8**	P			**Pn**	**09 59 28.1**	**+2.4**
SRBI	**Singaraja**	**4.55**	**292**	P			**Pn**	**09 59 29.0**	**+2.5**
SOEI	**Soe**	**4.71**	**90**	Pn			**Pn**	**09 59 31.5**	**+2.7**
SOEI	**Soe**	**4.71**	**90**	P			**Pn**	**09 59 31.7**	**+2.9**
SOEI	**Soe**	**4.71**	**90**	P			**Pn**	**09 59 30.5**	**+1.7**
KAPI	**Kappang**	**4.77**	**3**	Pn			**Pn**	**09 59 31.9**	**+2.5**
KAPI	**Kappang**	**4.77**	**3**	P			**Pn**	**09 59 32.2**	**+2.8**
KAPI	**Kappang**	**4.77**	**3**	P			**Pn**	**09 59 31.4**	**+1.9**
	37nm,0.3s,baz=166,slow=6.6,SNR=47								
KAPI				S			**Sn**	**10 00 21.2**	**-2.3**
	54nm,0.3s,baz=18,slow=19,SNR=14								
KAPI				LR			LR	10 01 27.9	
	comp=Z,239nm,19.8s,baz=158,slow=41								
BBSI	**Bau Bau**	**5.27**	**36**	P			**Pn**	**09 59 38.9**	**+2.6**
	44nm,1.0s,0.2nm								
JAGI	**Jajag, Banyuwa**	**5.43**	**284**	Pn			**Pn**	**09 59 40.1**	**+1.5**
JAGI	**Jajag, Banyuwa**	**5.43**	**284**	P			**Pn**	**09 59 40.3**	**+1.8**
JAGI	**Jajag, Banyuwa**	**5.43**	**284**	P			**Pn**	**09 59 40.0**	**+1.5**
	121nm,0.5s,3µm0.8nm								
ABJI	**Asem Bagus**	**5.56**	**291**	P			**Pn**	**09 59 42.6**	**+2.3**
	79nm,0.6s,0.5nm								
SPSI	**Sidrap Palu**	**5.81**	**3**	P			**Pn**	**09 59 46.7**	**+3.0**
	71nm,0.6s,2µm0.3nm								
BLJI	**Banyuglugur**	**6.17**	**289**	P			**Pn**	**09 59 50.6**	**+1.9**
	48nm,0.5s,14µm0.9nm								
TTSI	**Tana Toraja**	**6.73**	**3**	P			**Pn**	**09 59 59.7**	**+3.4**
	76nm,0.5s,0.3nm								
BBKI	**Banjar Baru**	**7.81**	**324**	P			Pn	10 00 15.5	+4.3
	69nm,1.0s,0.4nm								
UGM	**Wanagama**	**9.05**	**281**	Pn			**Pn**	**10 00 30.2**	**+2.0**
UGM	**Wanagama**	**9.05**	**281**	P			**Pn**	**10 00 29.9**	**+1.7**
	127nm,1.5s								
FITZ	**Fitzroy Crossi**	**10.18**	**145**	Pn			**Pn**	**10 00 43.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**10.18**	**145**	P			**Pn**	**10 00 44.3**	**+0.8**
KPJI	**Karang Pucung**	**10.72**	**282**	P			**Pn**	**10 00 52.9**	**+1.9**
	29nm,1.0s								
KNRA	**Kunungurra**	**10.76**	**124**	Pn			**Pn**	**10 00 52.7**	**+1.1**
KNRA	**Kunungurra**	**10.76**	**124**	P			**Pn**	**10 00 52.9**	**+1.3**
MBWA	**Marble Bar**	**11.29**	**179**	Pn			**Pn**	**10 00 59.2**	**+0.5**
MBWA	**Marble Bar**	**11.29**	**179**	P			**Pn**	**10 00 59.2**	**+0.5**
BNDI	**Bandanaira**	**11.59**	**64**	P			Pn	10 01 16.2	+13
PSA00	**Pilbara Seismi**	**11.70**	**178**	Pn			**Pn**	**10 01 04.7**	**+0.3**
PSA00	**Pilbara Seismi**	**11.70**	**178**				**Pn**	**10 01 03.5**	**-0.9**
PSA00							**Sn**	**10 03 05.1**	**-8.5**
MTN	**Manton Dam**	**11.81**	**106**	Pn			**Pn**	**10 01 05.2**	**-0.8**
KDU	**Kakadu**	**13.06**	**104**	P			**Pn**	**10 01 24.0**	**+1.1**
SWI	**Sorong**	**14.70**	**54**	P			**Pn**	**10 01 47.2**	**+2.1**
	41nm,0.6s								
MEEK	**Meekatharra**	**16.76**	**183**	P			**P**	**10 02 12.8**	**-0.2**
WRKA	**Warakurna**	**17.31**	**152**	P			**P**	**10 02 19.6**	**+0.5**
WB0	**Warramunga Arr**	**17.47**	**126**				**Pn**	**10 02 20.2**	**-0.1**
WRA	**Warramunga Arr**	**17.52**	**127**				**Pn**	**10 02 21.7**	**+0.8**
WRA	**Warramunga Arr**	**17.52**	**127**	P			**Pn**	**10 02 19.4**	**-1.5**
	2.8nm,0.6s,baz=299,slow=13,SNR=32								
WRA				S			Sn	10 05 20.9	-14
	7.6nm,0.9s,baz=304,slow=25,SNR=9.9								
WRAB	**Tennant Creek**	**17.53**	**127**	P			**Pn**	**10 02 21.5**	**+0.5**
WB2	**Warramunga Arr**	**17.53**	**127**				**Pn**	**10 02 21.6**	**+0.6**
WR0	**Warramunga Arr**	**17.69**	**126**	P			**Pn**	**10 02 22.7**	**-0.3**
WR0				IAmb			IAmb	10 02 38.1	
	comp=Z,19nm,1.4s								
MORW	**Morawa**	**19.43**	**189**				**Pn**	**10 02 46.5**	**+2.6**
MORW				IAmb			IAmb	10 02 50.2	
	comp=Z,16nm,0.6s								
MORW	**Morawa**	**19.43**	**189**	P			**Pn**	**10 02 44.8**	**+0.9**
AS31	**Alice Springs**	**19.48**	**137**	P			**Pn**	**10 02 45.2**	**+0.6**
AS31				IAmb			IAmb	10 02 50.5	
	comp=Z,4.7nm,0.6s								
ASAR	**Alice Springs**	**19.48**	**137**	P			**P**	**10 02 44.0**	**+1.0**
ASAR	**Alice Springs**	**19.48**	**137**	P			**Pn**	**10 02 45.0**	**+0.3**
	comp=Z,8.4nm,0.7s,baz=326,slow=13,SNR=72								
ASAR				S			S	10 06 07.0	-14
	comp=Z,4.1nm,0.8s,baz=308,slow=23,SNR=10								
ASAR				LR			LR	10 09 45.0	
	comp=Z,60nm,20.8s,baz=330,slow=35								
AS01	**Alice Springs**	**19.51**	**137**	P			**Pn**	**10 02 45.1**	**+0.1**
	comp=Z,14nm,0.7s								
QIS	**Mount Isa**	**22.14**	**121**	P			**P**	**10 03 13.9**	**+2.2**
FORT	**Forrest**	**22.34**	**160**	P			**P**	**10 03 15.7**	**+2.0**
FORT				IAmb			IAmb	10 03 17.3	
	comp=Z,14nm,0.8s								
NWAO	**Narrogin (SRO)**	**23.10**	**185**	P			P	10 03 33.7	+12
	comp=Z,13nm,0.6s,baz=3.2,slow=13,SNR=12								
NWAO				S			S	10 07 18.0	-11
	comp=Z,2.1nm,0.2s,baz=269,slow=13,SNR=1.3								
OOD	**Oodnadatta**	**23.51**	**142**	P			**P**	**10 03 27.5**	**+1.8**
COEN	**Coen**	**23.54**	**102**	P			**P**	**10 03 26.4**	**+0.3**
COEN	**Coen**	**23.54**	**102**	P			**P**	**10 03 26.4**	**+0.3**
RPSI	**Rantau Prapat**	**23.95**	**300**	P			**P**	**10 03 29.1**	**-0.8**
MULG	**Mulgathing**	**24.49**	**148**	P			**P**	**10 03 36.9**	**+2.3**
BBOO	**Buckleboo**	**27.53**	**149**	P			**P**	**10 04 03.1**	**+1.0**
BBOO				IAmb			IAmb	10 04 07.4	
	comp=Z,6.3nm,0.9s								
CTA	**Charters Tower**	**27.77**	**115**	LR			LR	10 15 38.1	
	comp=Z,54nm,18.8s,baz=266,slow=37								
STKA	**Stephens Creek**	**30.03**	**140**	P			**P**	**10 04 25.4**	**+1.1**
STKA	**Stephens Creek**	**30.03**	**140**	P			**P**	**10 04 25.9**	**+1.6**
	comp=Z,3.2nm,0.5s,baz=310,slow=12,SNR=12								
STKA				LR			LR	10 16 12.1	
	comp=Z,30nm,20.4s,baz=224,slow=36								
	comp=Z,3.2nm,0.5s								
CMAR	**Chiang Mai Arr**	**34.64**	**324**	P			**P**	**10 05 04.8**	**0.0**
	comp=Z,2.1nm,0.7s,baz=155,slow=6.7,SNR=6.3								
CMAR				LR				10 19 42.0	
	comp=Z,30nm,18.2s,baz=155,slow=37								
	comp=Z,2.1nm,0.7s								
PALK	**Pallekele**	**42.19**	**292**	LR			LR	10 25 02.1	
	comp=Z,27nm,18.8s,baz=195,slow=38								
XAN	**Xi'an**	**44.75**	**348**	P			**P**	**10 06 27.4**	**-1.3**
XAN				pmax			pmax		
	comp=Z,14nm,0.6s								
DZM	**Mont Dzumac**	**46.59**	**111**	LR			LR	10 26 42.3	
	comp=Z,33nm,20.5s,baz=272,slow=37								
KSRS	**Korea Ray**	**47.67**	**9**	P			**P**	**10 06 50.2**	**-1.3**
	comp=Z,2.0nm,0.8s,baz=193,slow=7.8,SNR=5.8								
	comp=Z,2.0nm,0.8s								
JGF	**Kuroka**	**48.22**	**20**	P			P	10 06 50.6	-5.2
JGF				IAmb			IAmb	10 06 52.5	
	comp=Z,1.5nm,0.9s								
RAMN	**Ramite**	**48.51**	**320**	*e*P			**P**	**10 06 58.9**	**+0.4**
JIRN	**Jiri**	**49.27**	**320**	*e*P			**P**	**10 07 03.6**	**-0.9**
GUN	**Gumba**	**49.64**	**320**	*e*P			**P**	**10 07 06.2**	**-1.1**
PKI	**Pulchoki**	**49.70**	**319**	*e*P			**P**	**10 07 06.8**	**-0.9**
PKIN	**Phulchoki**	**49.72**	**319**	*e*P			**P**	**10 07 07.1**	**-0.7**
DMN	**Daman**	**49.92**	**319**	*e*P			**P**	**10 07 08.7**	**-0.6**
GKN	**Gorkha**	**50.50**	**319**	*e*P			**P**	**10 07 12.8**	**-0.7**
KOLN	**Koldanda**	**51.02**	**318**	*e*P			**P**	**10 07 16.6**	**-0.9**
DANN	**Dangsing**	**51.30**	**319**	*e*P			**P**	**10 07 18.2**	**-1.5**
PYUN	**Piuthan**	**51.64**	**318**	*e*P			**P**	**10 07 20.9**	**-1.3**
XLT	**XiLinHaoTe**	**53.54**	**357**	*e*P			**P**	**10 07 40.6**	**+4.8**
XLT				pP			sP	10 08 00.1	+4.7
XLT				sP			pP	10 08 12.5	+23
XLT				PcP			**PcP**	**10 08 42.3**	**+0.3**
XLT				pmax			pmax		
	comp=Z,550nm,5.3s								
XLT				pmax			pmax		
	comp=Z,9.0nm,0.9s								
USRK	**Ussuriysk Ar.**	**54.94**	**11**	P			**P**	**10 07 42.3**	**-3.5**
	comp=Z,5.6nm,0.7s,baz=188,slow=9.7,SNR=5.5								
	comp=Z,5.6nm,0.7s								
SONM	**Songino Array**	**58.55**	**350**	P			**P**	**10 08 10.3**	**-1.3**
	comp=Z,1.8nm,0.5s,baz=173,slow=7.6,SNR=12								
	comp=Z,1.8nm,0.5s								
HEH	**HeiHe**	**60.21**	**6**	*e*P			**P**	**10 08 20.9**	**-1.9**
KSH	**Kashi**	**63.54**	**323**	P			**P**	**10 08 44.8**	**-0.8**
KSH				pmax			pmax		
	comp=Z,12nm,0.8s								
MK31	**Makanchi Array**	**65.39**	**333**	P			**P**	**10 08 56.9**	**-0.6**
MK31				IAmb			IAmb	10 08 57.9	
	comp=Z,6.9nm,1.4s								
MKAR	**Makanchi Array**	**65.39**	**333**	P			**P**	**10 08 55.5**	**-1.9**
MKAR	**Makanchi Array**	**65.39**	**333**	P			**P**	**10 08 56.4**	**-1.1**
	comp=Z,3.3nm,0.6s,baz=156,slow=7.3,SNR=25								
	comp=Z,3.3nm,0.6s								
CHGR	**Chuyangaron**	**67.21**	**319**	P			**P**	**10 09 07.6**	**-1.7**
KURBB	**Kurchatov Arra**	**69.90**	**334**	P			**P**	**10 09 24.5**	**-1.2**
	comp=Z,1.0nm,0.2s,baz=148,slow=5.5,SNR=4.6								
	comp=Z,1.0nm,0.2s								
KURK	**Kurchatov**	**69.93**	**334**	P			**P**	**10 09 24.4**	**-1.5**
KURK				IAmb			IAmb	10 09 26.0	
	comp=Z,3.8nm,1.1s								
ZAA0	**Zalesovo Array**	**69.96**	**339**	P			**P**	**10 09 25.4**	**-0.6**
ZAA0				IAmb			IAmb	10 09 26.7	
	comp=Z,2.0nm,0.7s								
ZALV	**Zalesovo Beam**	**69.96**	**339**	P			**P**	**10 09 24.4**	**-1.6**
ZALV	**Zalesovo Beam**	**69.96**	**339**	P			**P**	**10 09 24.6**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=158,slow=5.4,SNR=8.7								
	comp=Z,1.0nm,0.3s								
PETK	**Petropavlovsk-**	**70.62**	**23**	P			**P**	**10 09 28.0**	**-2.1**
	comp=Z,4.9nm,0.9s,baz=214,slow=1.0,SNR=2.4								
	comp=Z,4.9nm,0.9s								
BVAR	**Borovoye Array**	**75.23**	**332**	P			**P**	**10 09 55.8**	**-1.6**
	comp=Z,2.1nm,0.8s,baz=127,slow=9.2,SNR=7.8								
	comp=Z,2.1nm,0.8s								
ABKAR	**Akbulak array**	**78.49**	**325**	P			**P**	**10 10 14.6**	**-1.3**
ABKAR	**Akbulak array**	**78.49**	**325**	P			**P**	**10 10 14.8**	**-1.0**
ABKAR				IAmb			IAmb	10 10 15.4	
	comp=Z,3.1nm,0.9s								
QSPA	**South Pole Qui**	**80.19**	**180**	P			**P**	**10 10 27.1**	**+2.1**
	comp=Z,1.3nm,0.8s,baz=294,slow=1.7,SNR=2.5								
	comp=Z,1.3nm,0.8s								
YKA	**Yellowknife Ar**	**114.73**	**24**	PKP			**PKiKP**	**10 16 54.1**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=309,slow=2.2,SNR=4.7								
TORD	**Torodi Ar. Bea**	**119.07**	**280**	PKP			**PKiKP**	**10 17 05.2**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=71,slow=3.9,SNR=3.2								

*IDC **11** 10:09:02.8±1.6, 10°.23N×140°.06E, h0km, mb3.4/4, mbtmp3.6/5, ML4.5/1, MS2.6/1, Error ellipse: s-maj=99.1km s-min=24.0km az=113.0*
ISC 11 10:09:04.7±1.3, 10.1N±0.3×140.3E±0.3, h10km, n5, σ1§56/6, mb3.4/4, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.62**	**52**	Pn			**Pn**	**10 10 30.1**	**+1.6**
	12nm,0.3s,baz=218,slow=19,SNR=2.1								
GUMO				Sn			**Sn**	**10 11 31.5**	**-1.6**
	4.8nm,0.3s,baz=281,slow=16,SNR=2.0								
GUMO				LR			LR	10 12 56.2	
	comp=Z,53nm,20.0s,baz=53,slow=40								
	33nm,0.3s								
WRA	**Warramunga Arr**	**30.46**	**191**	P			**P**	**10 15 17.0**	**-0.9**
	0.4nm,0.7s,baz=11,slow=9.5,SNR=2.0								
	0.4nm,0.7s								
ASAR	**Alice Springs**	**34.18**	**191**	P			**P**	**10 15 51.0**	**+0.6**
	0.3nm,0.6s,baz=19,slow=12,SNR=7.6								
	0.3nm,0.6s								
ILAR	**Eielson Array**	**73.57**	**25**	P			**P**	**10 20 38.1**	**+0.3**
	0.3nm,0.7s,baz=240,slow=6.4,SNR=4.1								
	0.3nm,0.7s								
YKA	**Yellowknife Ar**	**87.94**	**27**	P			**P**	**10 21 53.8**	**-0.9**
	0.2nm,0.8s,baz=288,slow=5.2,SNR=1.8								
	0.2nm,0.8s								

*NNC **11** 10:13:52.9±0.3, 44.62N×79.38E, h0km, mb3.9, mpv3.9, Error ellipse: s-maj=2.4km s-min=2.0km az=100.0*
*SOME **11** 10:13:53.2, 44.63N×79.33E, h10km*
ISC 11 10:13:53.2±1.1, 44.61N±0.02×79.37E±0.02, h6km±11km, n60, σ0§95/88, 11C-10D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.41**	**133**	*e*P			**Pg**	**10 14 01.2**	**0.0**
	72nm,0.1s								
DJR				*e*S			**Sg**	**10 14 06.8**	**+0.2**
	2µm,0.3s								
DJR	**Jarkent**	**0.41**	**133**	P			**Pg**	**10 14 01.2**	**0.0**
	105nm,0.2s								
DJR				S			**Sg**	**10 14 06.8**	**+0.2**
	2µm,0.3s								
KAPS	**Kapalarasan**	**0.67**	**359**	*e*P			**Pg**	**10 14 05.6**	**-0.6**
	302nm,0.2s								
KAPS				*e*S			**Sg**	**10 14 14.2**	**-0.7**
	1µm,0.2s								
KAPS	**Kapalarasan**	**0.67**	**359**	P			**Pg**	**10 14 05.6**	**-0.6**
	302nm,0.2s								
KAPS				S			**Sg**	**10 14 14.2**	**-0.7**
	1µm,0.2s								
TDK	**Taldyqorghan**	**0.79**	**300**	*e*P			**Pg**	**10 14 08.3

27nm,0.3s
CHKK *e*S **Sg** **10 14 52.6 -0.8**
317nm,0.2s
CHKK Chushkaly 1.87 247 P **Pb** **10 14 28.0 +0.1**
27nm,0.3s
CHKK S **Sg** **10 14 52.6 -0.8**
317nm,0.2s
KTBS Karatobe 2.13 246 *e*Pg **Pg** **10 14 33.1 -1.0**
12nm,0.4s
KTBS *e*Lg Lg 10 15 01.6
254nm,0.3s
KTBS Karatobe 2.13 246 Pg **Pg** **10 14 33.1 -1.0**
12nm,0.4s
KTBS Lg Lg 10 15 01.6
254nm,0.3s
KOTS Kotyrbulak 2.14 231 *e*Pg **Pg** **10 14 33.7 -0.5**
31nm,0.4s
KOTS *e*Lg Lg 10 15 02.3
304nm,0.3s
KOTS Kotyrbulak 2.14 231 Pg **Pg** **10 14 33.7 -0.5**
31nm,0.4s
KOTS Lg Lg 10 15 02.3
304nm,0.3s
MDOK Medeo 2.22 230 *e*Pg **Pb** **10 14 33.4 -0.5**
55nm,0.4s
MDOK *e*Lg Lg 10 15 03.6
120nm,0.3s
MDOK Medeo 2.22 230 ⇑Pg **Pb** **10 14 32.9 -0.9**
39nm,0.5s
MDOK Pg **Pb** **10 14 33.4 -0.5**
55nm,0.4s
MDOK ⇓Lg Lg 10 15 03.5
29nm,0.2s
MDOK Lg Lg 10 15 03.6
120nm,0.3s
KNDC Almaty 2.23 232 ⇑Pg **Pb** **10 14 33.2 -0.8**
90nm,0.5s
KNDC ⇓Lg Lg 10 15 04.5
182nm,0.5s
AAA Alma-Ata 2.26 232 *e*Pg **Pg** **10 14 35.5 -1.1**
55nm,0.2s
AAA *e*Lg Lg 10 15 05.7
256nm,0.3s
AAA Alma-Ata 2.26 232 Pg **Pg** **10 14 35.5 -1.1**
55nm,0.2s
AAA Lg Lg 10 15 05.7
256nm,0.3s
KUU Kurty 2.29 253 *e*Pg **Pb** **10 14 35.1 +0.1**
11nm,0.2s
KUU *e*Lg Lg 10 15 04.8
233nm,0.4s
KUU Kurty 2.29 253 Pg **Pb** **10 14 35.1 +0.1**
11nm,0.2s
KUU Lg Lg 10 15 04.8
233nm,0.4s
TNSS Tian-Shan 2.36 229 *e*Pg **Pb** **10 14 37.3 +0.9**
14nm,0.3s
TNSS *e*Lg Lg 10 15 08.6
51nm,0.4s
TNSS Tian-Shan 2.36 229 Pg **Pb** **10 14 37.3 +0.9**
14nm,0.3s
TNSS Lg Lg 10 15 08.6
51nm,0.4s
IZV Izvestkoviy 2.54 233 *e*Pg **Pg** **10 14 40.6 -1.4**
11nm,0.2s
IZV *e*Lg Lg 10 15 14.0
133nm,0.2s
MTBS Maitube 2.59 236 *e*Pg **Pb** **10 14 40.6 +0.4**
15nm,0.3s
MTBS *e*Lg Lg 10 15 14.4
341nm,0.3s
MTBS Maitube 2.59 236 Pg **Pb** **10 14 40.6 +0.4**
15nm,0.3s
MTBS Lg Lg 10 15 14.4
341nm,0.3s
KRBS Karabastau 2.81 252 *e*Pg **Pb** **10 14 44.1 +0.2**
9.4nm,0.4s
KRBS *e*Lg Lg 10 15 20.3
0.7nm,0.3s
KRBS Karabastau 2.81 252 Pg **Pb** **10 14 44.1 +0.2**
9.4nm,0.4s
KRBS Lg Lg 10 15 20.3
0.7nm,0.3s
MAKZ Makanchi 2.85 39 ⇑Pn **Pn** **10 14 41.5 +2.2**
5.7nm,0.6s
MAKZ ⇓Sn **Sb** **10 15 17.0 -2.8**
19nm,0.4s
KST Kastek 2.92 239 *e*Pg **Pb** **10 14 46.6 +0.8**
3.3nm,0.3s
KST *e*Lg Lg 10 15 24.6
22nm,0.4s
KST Kastek 2.92 239 Pg **Pb** **10 14 46.6 +0.8**
3.3nm,0.3s
KST Lg Lg 10 15 24.6
22nm,0.4s
DGS Degeres 2.94 243 *e*Pg **Pb** **10 14 46.6 +0.5**
6.7nm,0.3s
DGS *e*Lg Lg 10 15 24.4
103nm,0.5s
DGS Degeres 2.94 243 Pg **Pb** **10 14 46.6 +0.5**
6.7nm,0.3s
DGS Lg Lg 10 15 24.4
103nm,0.5s
MK31 Makanchi Array 2.99 42 ⇓Pn **Pn** **10 14 41.3 +0.1**
0.7nm,0.2s,baz=217,slow=15,SNR=134
MK31 ⇓Pg **Pb** **10 14 48.4 +1.6**
2.4nm,0.2s,baz=221,slow=14,SNR=8.2
MK31 Sn **Sn** **10 15 17.2 -0.2**
7.4nm,0.3s,baz=219,slow=25,SNR=24
TKM2 Tokmak 2 3.21 240 ⇑Pg **Pg** **10 14 53.3 -1.6**
6.2nm,0.7s
TKM2 ⇑Lg Lg 10 15 32.9
26nm,0.5s
CHMS Chumysh 3.71 246 ⇑Pg **Pb** **10 15 00.8 +1.6**
4.5nm,0.5s
CHMS ⇑Lg Lg 10 15 47.4
27nm,0.5s
ZSN Zaisan 4.76 52 *e*Pg **Pb** **10 15 16.1 -1.0**
2.8nm,0.1s
ZSN *e*Lg Lg 10 16 15.5
15nm,0.6s
AML Almayashu 4.83 241 ⇓Pg **Pb** **10 15 18.9 +0.5**
0.4nm,0.7s
AML ⇓Lg Lg 10 16 25.8
1.2nm,0.7s
MRKS Merke 4.83 249 *e*Pg **Pb** **10 15 20.9 +2.6**
1.9nm,0.5s
MRKS *e*Lg Lg 10 16 23.5
23nm,0.6s
KURBB Kurchatov Arra 6.04 355 ⇑Pg **Pb** **10 15 42.4 +3.6**
2.9nm,0.6s
KURBB ⇑Lg Lg 10 17 04.9
24nm,0.8s
OTUK Ortayu 6.07 309 ⇓Lg Lg 10 17 03.8
11nm,0.5s
KURK Kurchatov 6.13 356 ⇑Lg Lg 10 17 04.8
17nm,0.8s
KK31 Karatay Array 6.58 260 ⇓Lg Lg 10 17 22.2
6.3nm,0.7s,baz=73,slow=31,SNR=4.4

IDC 11 10:14:34.2±11.0, 15°.73S×163°.65E, h0km, mb3.8/3, mbtmp3.7/4, ML2.7/1, Error ellipse: s-maj=208.9km s-min=41.5km az=39.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.84**	**158**	Pn	Pn	10 16 15.9	0.0
	0.1nm,0.3s,baz=102,slow=22,SNR=1.4						
	2.2nm,0.8s						
STKA	**Stephens Creek**	**25.72**	**227**	P	P	10 20 06.0	-0.3
	1.4nm,0.6s,baz=30,slow=16,SNR=4.8						
	1.4nm,0.6s						
WRA	**Warramunga Arr**	**28.20**	**257**	P	P	10 20 28.6	-0.3
	0.5nm,0.5s,baz=87,slow=9.2,SNR=15						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**29.05**	**250**	P	P	10 20 37.0	+0.5
	0.6nm,0.4s,baz=77,slow=9.4,SNR=20						
	0.6nm,0.4s						

*SOME **11** 10:24:47.0, 39°.52N×69°.47E, h5km*
*IDC **11** 10:24:48.3±0.7, 39°.56N×67°.97E, h0km, mb4.1/15, mbtmp4.1/24, ML3.4/9, Error ellipse: s-maj=12.8km s-min=9.0km az=158.0*
*MOS **11** 10:24:48.8±1.1, 39°.74N×67°.84E, h12km, mb4.3/6, Error ellipse: s-maj=7.0km s-min=5.2km az=69.3*

*NNC **11** 10:24:52.7±2.9, 40°.07N×67°.92E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=26.8km s-min=12.1km az=11.0*
ISC 11 10:24:49.8±0.5, 39°.66N±0°.05×67°.90E±0°.04, h10km, n87, σ1ᵗ92/94, mb4.1/18, 14C-8D, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHGR	**Chuyangaron**	**1.40**	**135**	PG	Pn	**10 25 15.7**	**+0.1**
BTK	**Batken**	**2.28**	**79**	PN	Pn	**10 25 29.9**	**+2.2**
CHM	**Chimkent**	**2.95**	**25**	*e*Pg	Pn	**10 25 39.4**	**+2.6**
	53nm,0.2s						
CHM				*e*Lg	Lg	10 26 17.3	
	1μm,0.4s						
TRKS	**Terek-Say**	**3.10**	**52**	PN	Pn	**10 25 39.2**	**+0.3**
ARK	**Arkit**	**3.75**	**54**	PN	Pn	**10 25 48.5**	**+0.6**
OHH	**Osh**	**3.85**	**76**	PN	Pn	**10 25 49.0**	**-0.2**
KK31	**Karatay Array**	**3.96**	**29**	PN	Pn	**10 25 51.2**	**+0.6**
KK31				*e*		10 26 02.7	
KK31						10 26 53.2	
KK31	**Karatay Array**	**3.96**	**29**	⇓Pn	Pn	**10 25 51.3**	**+0.6**
	7.5nm,0.5s,baz=214,slow=14,SNR=208						
KK31				⇑Pg	Pb	**10 26 00.9**	**+1.2**
	44nm,0.5s,baz=216,slow=18,SNR=13						
KK31				Lg	Lg	10 26 48.9	
	72nm,0.5s,baz=212,slow=29,SNR=7.4						
KKAR	**Karatay Array**	**3.96**	**29**	*e*PN	Pn	**10 25 51.1**	**+0.4**
DZA	**Taraz**	**4.14**	**38**	*e*Pg	Pn	**10 25 54.6**	**+1.5**
	171nm,0.1s						
DZA				*e*Lg	Lg	10 26 43.2	
	200nm,0.4s						
AML	**Almayashu**	**5.04**	**59**	P	Pn	**10 26 05.9**	**+0.1**
	SNR=103						
AML	**Almayashu**	**5.04**	**59**	PN	Pn	**10 26 05.7**	**-0.1**
AML						10 27 03.1	
AML	**Almayashu**	**5.04**	**59**	⇑Pn	Pn	**10 26 05.8**	**-0.1**
	3.8nm,0.6s						
AML				⇑Sn	Sn	**10 27 02.9**	**-1.4**
	15nm,0.7s						
AML				⇑Lg	Lg	10 27 29.4	
	10.0nm,0.6s						
MRKS	**Merke**	**5.06**	**51**	*e*Pg	Pn	**10 26 07.2**	**+1.3**
	12nm,0.3s						
MRKS				*e*Lg	Lg	10 27 05.4	
	69nm,0.4s						
KBL	**Kabul**	**5.19**	**169**	PN	Pn	**10 26 07.8**	**0.0**
KBL				pmax	pmax		
	comp=Z,26nm,0.5s						
ARLS	**Aral**	**5.35**	**64**	PN	Pn	**10 26 10.4**	**+0.5**
ARLS				pmax	pmax		
	comp=Z,52nm,0.7s						
EKS2	**Erkin-Say**	**5.36**	**54**	P	Pn	**10 26 10.8**	**+0.8**
	SNR=5.2						
UCH	**Uchtor**	**5.63**	**61**	P	Pn	**10 26 14.1**	**+0.1**
	SNR=23						
AAK	**Ala-Archa**	**5.80**	**57**	P	Pn	**10 26 17.3**	**+1.2**
	SNR=11						
AAK	**Ala-Archa**	**5.80**	**57**	*c i*PN	Pn	**10 26 16.9**	**+0.8**
AAK	**Ala-Archa**	**5.80**	**57**	Pn	Pn	**10 26 17.0**	**+1.0**
	comp=Z,2.4nm,0.3s,baz=243,slow=1.8,SNR=16						
AAK				Sn	Sn	**10 27 24.0**	**+1.3**
	comp=Z,5.3nm,0.3s,baz=338,slow=19,SNR=6.3						
AAK				Lg	Lg	10 27 52.0	
	comp=Z,3.3nm,0.3s,baz=278,slow=23,SNR=3.6						
	comp=Z,13nm,0.5s						
KZA	**Kyzart**	**6.07**	**64**	P	Pn	**10 26 20.8**	**+0.8**
	SNR=17						
KBK	**Karagaybulak**	**6.11**	**58**	P	Pn	**10 26 21.5**	**+1.3**
	SNR=24						
USP	**Ospenovka**	**6.13**	**52**	P	Pn	**10 26 20.1**	**-0.3**
	SNR=7.5						
KSH	**Kashi**	**6.24**	**89**	Pn	Pn	**10 26 20.6**	**-1.5**
KSH				Sn	Sn	**10 27 28.7**	**-4.8**
KSH				pmax	pmax		
	comp=Z,28nm,0.5s						
KSH				smax	smax		
	comp=N,200nm,0.7s						
KSH				smax	smax		
	comp=E,100nm,0.8s						
TKM2	**Tokmak 2**	**6.65**	**58**	P	Pn	**10 26 26.8**	**-1.0**
	SNR=12						
TKM2	**Tokmak 2**	**6.65**	**58**	PN	Pn	**10 26 28.5**	**+0.7**
TKM2						10 27 43.9	
TKM2	**Tokmak 2**	**6.65**	**58**	⇓Pn	Pn	**10 26 28.5**	**+0.7**
	comp=E,4.4nm,0.4s						
TKM2				⇓Pg	Pb	10 26 51.3	+5.6
	comp=E,6.2nm,0.4s						
TKM2				⇑Sn	Sn	**10 27 43.9**	**+0.2**
	comp=E,14nm,0.6s						
TKM2				⇑Lg	Lg	10 28 15.3	
	comp=E,33nm,0.7s						
BOOM	**Boomskoye usch**	**6.70**	**62**	*e*PN	Pn	**10 26 30.5**	**+2.0**
DGS	**Degeres**	**6.91**	**56**	*e*P	Pn	10 26 38.2	+6.9
	comp=E,11nm,0.3s						
DGS				*e*S	Sn	**10 27 57.9**	**+7.9**
	comp=E,13nm,0.4s						
KRBS	**Karabastau**	**7.08**	**53**	*e*Pg	Pn	10 26 42.8	+9.3
	comp=E,3.1nm,0.2s						
KRBS				*e*Lg	Lg	10 28 05.9	
	comp=E,8.8nm,0.7s						
NIL	**Nilore**	**7.38**	**143**	P	Pn	**10 26 41.3**	**+3.6**
NIL				pmax	pmax		
	comp=Z,22nm,0.5s						
TARG	**Taragay, Kyrgy**	**7.81**	**71**	P	Pn	**10 26 45.5**	**+1.7**
TARG				pmax	pmax		
	comp=Z,7.0nm,0.6s						
GEYT	**Alibeck**	**7.83**	**260**	Pn	Pn	**10 26 43.7**	**-0.2**
	comp=Z,4.0nm,0.3s,baz=108,slow=8.1,SNR=14						
GEYT				Sn	Sn	**10 28 13.0**	**+0.5**
	comp=Z,4.1nm,0.3s,baz=82,slow=11,SNR=1.5						
	comp=Z,5.5nm,0.3s						
AB31	**Akbulak array**	**11.14**	**332**	P	Pn	**10 27 27.9**	**-1.2**
AB31	**Akbulak array**	**11.14**	**332**	⇑Pn	Pn	**10 27 28.0**	**-1.2**
	comp=Z,3.3nm,0.3s,baz=165,slow=12,SNR=282						
AB31				⇓Sn	Sn	**10 29 27.8**	**-5.9**
	comp=Z,8.6nm,0.4s,baz=151,slow=24,SNR=11						
MK31	**Makanchi Array**	**12.68**	**51**	*c i*P	Pn	**10 27 50.7**	**+0.5**
MKAR	**Makanchi Array**	**12.68**	**51**	Pn	Pn	**10 27 49.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=242,slow=15,SNR=6.5						
MKAR				Lg	Lg	10 31 31.7	
	comp=Z,0.2nm,0.3s,baz=251,slow=26,SNR=5.2						
	comp=Z,1.7nm,0.8s						
AKTO	**Aktyubinsk**	**12.82**	**330**	Pn	Pn	**10 27 51.8**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=146,slow=13,SNR=14						
AKTO				Sn	Sn	10 30 07.2	-7.6
	comp=Z,1.5nm,0.3s,baz=224,slow=17,SNR=8.5						
AKTO				Lg	Lg	10 31 39.9	
	comp=Z,0.2nm,0.3s,baz=224,slow=22,SNR=1.2						
	comp=Z,2.5nm,0.3s						
AKTO	**Aktyubinsk**	**12.82**	**330**	⇑Pn	Pn	**10 27 51.7**	**-0.4**
	comp=Z,3.4nm,0.8s						
AKTO				⇓Sn	Sn	**10 30 09.5**	**-5.4**
	comp=Z,15nm,0.8s						
KURBB	**Kurchatov Arra**	**13.27**	**31**	Pn	Pn	10 27 55.7	-2.4
	comp=Z,0.1nm,0.3s,baz=219,slow=13,SNR=9.7						
KURBB				Lg	Lg	10 31 50.5	
	comp=Z,0.1nm,0.3s,baz=231,slow=33,SNR=4.6						
	comp=Z,0.9nm,0.6s						
KURK	**Kurchatov**	**13.38**	**31**	*e*P	Pn	**10 27 57.9**	**-1.7**
BVA0	**Borovoye Array**	**13.48**	**6**	*i*P	Pn	**10 28 00.7**	**-0.3**
BVA0	**Borovoye Array**	**13.48**	**6**	Pn	Pn	**10 28 00.7**	**-0.3**
	comp=Z,6.0nm,1.2s,baz=184,slow=11,SNR=9.5						
BVA0				⇓Sn	Sn	**10 30 24.5**	**-6.2**
	comp=Z,7.3nm,1.0s,baz=163,slow=25,SNR=5.7						
BVAR	**Borovoye Array**	**13.48**	**6**	Pn	Pn	**10 27 58.9**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=179,slow=11,SNR=11						
BVAR				Sn	Sn	10 30 21.6	-9.1
	comp=Z,0.2nm,0.3s,baz=172,slow=20,SNR=3.4						
	comp=Z,2.3nm,0.6s						
BRVK	**Borovoye**	**13.50**	**6**	*d i*P	Pn	**10 28 00.6**	**-0.7**
BRVK	**Borovoye**	**13.50**	**6**	⇑Pn	Pn	**10 28 01.1**	**-0.2**
	comp=Z,2.4nm,0.5s						
BRVK				⇓Sn	Sn	**10 30 25.3**	**-6.0**
	comp=Z,5.8nm,0.7s						
PYUN	**Piuthan**	**17.00**	**128**	*e*P	Pn	**10 28 44.6**	**-3.4**
	comp=Z,15nm,0.4s						
DGZ	**Jazzator, Alta**	**17.09**	**48**	*e*P	Pn	**10 28 50.1**	**+1.2**
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
DANN	**Dangsing**	**17.30**	**126**	*e*P	Pn	10 28 48.0	-3.8
	comp=Z,9.2nm,0.4s						
KOLN	**Koldanda**	**17.61**	**128**	*e*P	Pn	**10 28 52.8**	**-2.8**
GNI	**Garni**	**17.77**	**279**	⇑*i*P	Pn	**10 28 58.1**	**+0.7**
GNI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ARU	**Arti**	**17.87**	**343**	*c i*P	Pn	**10 28 59.3**	**+0.9**
ARU				S	Sn	**10 32 17.8**	**+0.3**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ARU	**Arti**	**17.87**	**343**	P	Pn	**10 28 58.7**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=153,slow=7.6,SNR=5.6						
ARU				Sn	Sn	10 32 06.4	-11
	comp=Z,1.3nm,0.3s,baz=249,slow=17,SNR=2.4						
ARU				Lg	Lg	10 34 21.0	
	comp=Z,0.5nm,0.3s,baz=127,slow=20,SNR=1.2						
	comp=Z,2.4nm,0.3s						
ZALV	**Zalesovo Beam**	**18.32**	**33**	*i*P	Pn	**10 29 03.7**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ZALV	**Zalesovo Beam**	**18.32**	**33**	P	Pn	**10 29 03.3**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=228,slow=12,SNR=14						
	comp=Z,4.9nm,0.7s						
KBZ	**Khabaz**	**19.08**	**290**	P	P	**10 29 11.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=145,slow=8.1,SNR=4.2						
KBZ				S	Sn	10 32 37.5	-9.4
	comp=Z,1.9nm,0.8s,baz=192,slow=15,SNR=2.1						
	comp=Z,2.4nm,0.8s						
JIRN	**Jiri**	**19.33**	**123**	*e*P	P	**10 29 14.1**	**-1.5**
	comp=Z,9.3nm,0.4s						
RAMN	**Ramite**	**20.08**	**124**	*e*P	P	**10 29 22.9**	**-0.8**
	comp=Z,15nm,0.6s						
BRTR	**Keskin Array B**	**26.27**	**281**	P	P	**10 30 25.8**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=63,slow=9.9,SNR=2.5						
	comp=Z,0.8nm,0.5s						
SONM	**Songino Array**	**28.74**	**61**	P	P	**10 30 47.5**	**0.0**
	comp=Z,0.3nm,0.5s,baz=270,slow=11,SNR=2.1						
	comp=Z,0.3nm,0.5s						
AKASG	**Malin Array Be**	**29.09**	**305**	*i*P	P	**10 30 51.4**	**+1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**29.09**	**305**	P	P	**10 30 51.1**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=80,slow=7.7,SNR=7.7						
	comp=Z,0.5nm,0.5s						
TNCH	**TengChong**	**29.53**	**110**	P	P	**10 30 56.5**	**+1.7**
TNCH				pmax	pmax		
	comp=Z,70nm,0.7s						
TNCH				pmax	pmax		
	comp=Z,200nm,4.3s						
FINES	**FINESS Array B**	**33.49**	**325**	*i*P	P	**10 31 30.5**	**+1.5**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	**FINESS Array B**	**33.49**	**325**	P	P	**10 31 30.3**	**+1.3**
	comp=Z,2.3nm,0.4s,baz=121,slow=9.2,SNR=17						
	comp=Z,2.3nm,0.4s						
ARCES	**ARCESS Array B**	**37.29**	**337**	P	P	**10 32 02.3**	**+0.7**
	comp=Z,8.2nm,1.1s,baz=106,slow=7.7,SNR=10						
	comp=Z,8.2nm,1.1s						
HFS	**Hagfors**	**39.07**	**320**	P	P	**10 32 17.8**	**+1.1**
	comp=Z,4.2nm,0.6s,baz=97,slow=12,SNR=15						
	comp=Z,4.2nm,0.6s						
COP	**Copenhagen**	**39.49**	**313**	P	P	**10 32 19.7**	**-0.5**
NB2	**NORSAR Subarra**	**40.38**	**321**	P	P	**10 32 28.5**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=96,slow=8.6						
NB2	**NORSAR Subarra**	**40.38**	**321**	P	P	**10 32 28.9**	**+1.2**
NOA	**NORSAR Array B**	**40.38**	**321**	P	P	**10 32 28.4**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=100,slow=8.0,SNR=8.5						
	comp=Z,1.0nm,0.4s						
AQU	**L'Aquila**	**40.62**	**292**	P	P	10 32 28.0	-1.9
SPITS	**Spitsbergen Ar**	**43.86**	**347**	P	P	**10 32 56.8**	**+1.1**
	comp=Z,3.3nm,0.7s,baz=128,slow=11,SNR=6.9						
	comp=Z,3.3nm,0.7s						
KLR	**Kul'dur**	**45.33**	**56**	⇑*e*P	P	**10 33 06.3**	**-1.5**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.5s						
EKA	**Eskdalemuir Ar**	**48.32**	**314**	P	P	**10 33 31.8**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=88,slow=8.5,SNR=5.9						
	comp=Z,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**63.44**	**265**	P	P	**10 35 20.8**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=44,slow=7.2,SNR=7.4						
	comp=Z,0.9nm,0.7s						
INK	**Inuvik**	**71.16**	**8**	P	P	**10 36 08.6**	**+0.5**
INK				pmax	pmax		
	comp=Z,6.0nm,2.0s						
COLA	**College**	**72.10**	**15**	*e*P	P	**10 36 14.0**	**+0.1**
ILAR	**Eielson Array**	**72.38**	**15**	P	P	**10 36 15.1**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=326,slow=4.9,SNR=7.9						
	comp=Z,1.0nm,0.9s						
LBTB	**Lobatse**	**75.48**	**219**	P	P	**10 36 35.8**	**+1.5**
LBTB				pmax	pmax		
	comp=Z,7.0nm,2.7s						
YKA	**Yellowknife Ar**	**78.17**	**1**	*i*P	P	**10 36 49.6**	**+0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**78.17**	**1**	P	P	**10 36 49.5**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=351,slow=6.1,SNR=23						
	comp=Z,0.9nm,0.6s						
BOSA	**Boshof**	**78.67**	**217**	P	P	**10 36 52.0**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=1.8,slow=7.0,SNR=4.9						
	comp=Z,1.5nm,0.5s						
WRA	**Warramunga Arr**	**85.72**	**120**	*i*P	P	**10 37 28.8**	**-0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**85.72**	**120**	P	P	**10 37 28.9**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=322,slow=4.8,SNR=16						
	comp=Z,0.8nm,0.7s						
ASAR	**Alice Springs**	**88.05**	**123**	P	P	**10 37 40.4**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=310,slow=4.5,SNR=10						
	comp=Z,0.6nm,0.7s						

*JMA **11** 10:28:24.0±0.2, 25°.N×122°.9E±0°.6, h118km±2km, MV2.3/13, NW OFF ISHIGAKIJIMA IS*
*TAP **11** 10:28:24.0, 24°.80N×122°.89E, h116km, ML3.0, D*
ISC 11 10:28:25.5±1.5, 24°.71N±0°.05×122°.91E±0°.03, h105km±9km, n78, σ0ᵗ89/145, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.26**	**173**	P	Pn	**10 28 40.7**	**+0.2**
YOJ	**Yonaguni jima**	**0.26**	**159**	P	Pn	**10 28 40.8**	**+0.3**
YOJ	**Yonaguni jima**	**0.26**	**159**	*e*P	Pn	**10 28 40.6**	**+0.1**
	baz=170						
EOS2	**EOS2**	**0.68**	**245**	*e*P	Pn	**10 28 43.4**	**+0.4**
	baz=241						
EOS2				*e*S	Sn	**10 28 57.7**	**+1.5**
	baz=241						
EOS3	**EOS3**	**0.68**	**232**	P	Pn	**10 28 43.7**	**+0.7**
	baz=229						
EOS4	**EOS4**	**0.80**	**223**	P	Pn	**10 28 44.2**	**+0.3**
	baz=218						
EOS4				S	Sn	**10 28 59.2**	**+1.7**
	baz=218						
TWC	**Suao**	**0.97**	**264**	*e*P	Pn	**10 28 45.1**	**-0.8**
	baz=258						
TWC				*e*S	Sn	**10 29 00.6**	**-0.7**
	baz=258						
SXI1	**Grass Mountain**	**1.01**	**292**	*e*P	Pn	**10 28 45.7**	**-0.8**
	baz=287						
TIPB	**Shuangxi**	**1.02**	**285**	P	Pn	**10 28 46.1**	**-0.4**
	baz=273						
TIPB				S	Sn	**10 29 01.8**	**-0.5**
	baz=273						
HATJ	**Hateruma jima**	**1.04**	**128**	S	Sn	**10 29 03.9**	**+1.1**
EWUT	**Wuta**	**1.06**	**256**	*e*P	Pn	**10 28 46.8**	**-0.1**
	baz=245						
EWUT				*e*S	Sn	**10 29 02.4**	**-0.7**
	baz=245						
NDS	**Dongshan**	**1.09**	**266**	*e*P	Pn	**10 28 47.3**	**0.0**
	baz=256						
NDS				*e*S	Sn	**10 29 04.9**	**+1.3**
	baz=256						
JKRS	**Kuro-shima**	**1.11**	**115**	P	Pn	**10 28 47.7**	**+0.2**
JKRS				S	Sn	**10 29 05.0**	**+1.0**
TWE	**Neicheng**	**1.13**	**271**	P	Pn	**10 28 47.2**	**-0.4**
	baz=265						
TWE				*e*S	Sn	**10 29 03.9**	**-0.5**
	baz=265						
JIJ	**Ishigaki jima**	**1.18**	**107**	P	Pn	**10 28 47.9**	**-0.3**
JIJ				S	Sn	**10 29 04.8**	**-0.5**
FUSB	**Fushanzhiwuyua**	**1.20**	**273**	*e*P	Pn	**10 28 48.2**	**-0.4**
	baz=261						
FUSB				*e*S	Sn	**10 29 05.1**	**-0.9**
	baz=261						
ENTT	**Nioudou**	**1.22**	**267**	P	Pn	**10 28 48.9**	**+0.1**
	baz=258						
ENTT				S	Sn	**10 29 06.4**	**0.0**
	baz=258						
LATG	**Datong**	**1.27**	**262**	P	Pn	**10 28 49.2**	**-0.1**
	baz=253						
LATG				*e*S	Sn	**10 29 07.6**	**+0.1**
	baz=253						
NDT	**Datong Townshi**	**1.27**	**265**	*e*P	Pn	**10 28 49.4**	**0.0**
	baz=258						
NDT				*e*S	Sn	**10 29 07.8**	**+0.4**
	baz=258						
NWLT	**Wulai**	**1.28**	**273**	*e*P	Pn	**10 28 48.9**	**-0.6**

	baz=269							
NWLT				*e*S		**Sn**	**10 29 09.1**	**+1.6**
	baz=269							
JISG	**Ishigakijimahi**	**1.28**	**95**	P		**Pn**	**10 28 48.8**	**-0.6**
JISG				S		**Sn**	**10 29 06.9**	**-0.6**
YM01	**YM01**	**1.29**	**290**	*e*P		**Pn**	**10 28 49.0**	**-0.5**
	baz=281							
YM01				*e*S		**Sn**	**10 29 07.8**	**0.0**
	baz=281							
ETL	**Fush Village**	**1.29**	**245**	*e*P		**Pn**	**10 28 48.7**	**-0.9**
	baz=234							
ETL				*e*S		**Sn**	**10 29 07.9**	**0.0**
	baz=234							
NACB	**Ninganchiao**	**1.31**	**246**	*e*P		**Pn**	**10 28 48.7**	**-1.1**
	baz=242							
NACB				*e*S		**Sn**	**10 29 07.7**	**-0.5**
	baz=242							
TWD	**Chiawan**	**1.35**	**243**	*e*P		**Pn**	**10 28 49.2**	**-1.0**
	baz=233							
TWD				*e*S		**Sn**	**10 29 07.9**	**-1.0**
	baz=233							
ETLH	**Xiulin Townshi**	**1.39**	**249**	*e*P		**Pn**	**10 28 50.1**	**-0.7**
	baz=245							
ETLH				*e*S		**Sn**	**10 29 09.5**	**-0.5**
	baz=245							
YHNB	**Yeheng**	**1.40**	**269**	*e*P		**Pn**	**10 28 50.6**	**-0.2**
	baz=264							
YHNB				*e*S		**Sn**	**10 29 09.6**	**-0.4**
	baz=264							
NSK	**Sanguang**	**1.41**	**269**	*e*P		**Pn**	**10 28 50.7**	**-0.3**
	baz=265							
NSK				*e*S		**Sn**	**10 29 09.9**	**-0.5**
	baz=265							
NNSB	**Datong**	**1.42**	**259**	*e*P		**Pn**	**10 28 49.9**	**-1.3**
	baz=249							
NNSB				*e*S		**Sn**	**10 29 10.3**	**-0.2**
	baz=249							
NNS	**Nan Shan**	**1.42**	**259**	*e*P		**Pn**	**10 28 50.8**	**-0.5**
	baz=249							
NNS				*e*S		**Sn**	**10 29 09.9**	**-0.8**
	baz=249							
ETM	**Tongmen**	**1.49**	**240**	*e*P		**Pn**	**10 28 51.0**	**-0.9**
	baz=232							
ETM				*e*S		**Sn**	**10 29 11.1**	**-0.8**
	baz=232							
LXIB	**Xiulin Townshi**	**1.53**	**244**	*e*P		**Pn**	**10 28 51.7**	**-0.8**
	baz=240							
LXIB				*e*S		**Sn**	**10 29 11.8**	**-1.1**
	baz=240							
FUSS	**Fushou**	**1.58**	**253**	*e*P		**Pn**	**10 28 53.2**	**-0.1**
	baz=245							
FUSS				*e*S		**Sn**	**10 29 13.7**	**-0.7**
	baz=245							
TEGC	**Jichi Village**	**1.60**	**232**	*e*P		**Pn**	**10 28 53.0**	**-0.2**
	baz=225							
WHF	**Hehuan Shan**	**1.60**	**250**	*e*P		**Pn**	**10 28 53.3**	**-0.4**
	baz=246							
WHF				*e*S		**Sn**	**10 29 14.1**	**-0.9**
	baz=246							
ESL	**Shilin**	**1.61**	**237**	*e*P		**Pn**	**10 28 52.5**	**-0.9**
	baz=233							
ESL				S		**Sn**	**10 29 13.5**	**-1.2**
	baz=233							
NFF	**Wufeng Townshi**	**1.63**	**268**	P		**Pn**	**10 28 53.6**	**-0.1**
	baz=264							
NFF				*i* S		**Sn**	**10 29 14.3**	**-0.8**
	baz=264							
JTJ	**Tarama**	**1.63**	**92**	P		**Pn**	**10 28 53.2**	**-0.4**
JTJ				S		**Sn**	**10 29 15.4**	**+0.4**
TWT	**Tachien**	**1.64**	**254**	*e*P		**Pn**	**10 28 53.9**	**0.0**
	baz=246							
TWT				*e*S		**Sn**	**10 29 16.1**	**+0.6**
	baz=246							
TDCB	**Techi**	**1.66**	**254**	*e*S		**Sn**	**10 29 15.4**	**-0.4**
	baz=245							
EGFH	**Guangfu**	**1.70**	**233**	*e*P		**Pn**	**10 28 53.7**	**-0.8**
	baz=230							
EGFH				*e*S		**Sn**	**10 29 15.6**	**-1.0**
	baz=230							
WARBT	**Fenglin Townsh**	**1.71**	**235**	*e*P		**Pn**	**10 28 53.6**	**-1.0**
	baz=232							
WARBT				*e*S		**Sn**	**10 29 15.1**	**-1.6**
	baz=232							
CHGB	**Renai**	**1.71**	**248**	*e*P		**Pn**	**10 28 54.6**	**-0.2**
	baz=239							
CHGB				*e*S		**Sn**	**10 29 16.7**	**-0.4**
	baz=239							
LIOB	**Emei**	**1.72**	**268**	*e*P		**Pn**	**10 28 55.5**	**+0.7**
	baz=265							
LIOB				*i* S		**Sn**	**10 29 16.4**	**-0.6**
	baz=265							
NSTT	**Nanjuang**	**1.74**	**268**	*e*P		**Pn**	**10 28 55.0**	**+0.1**
	baz=264							
NSTT				*e*S		**Sn**	**10 29 16.6**	**-0.8**
	baz=264							
OWD	**Renai**	**1.75**	**245**	*e*P		**Pn**	**10 28 54.8**	**-0.4**
	baz=237							
OWD				*e*S		**Sn**	**10 29 17.1**	**-0.7**
	baz=237							
WUSB	**Renai**	**1.78**	**247**	*i* P		**Pn**	**10 28 55.7**	**0.0**
	baz=239							
WUSB				*e*S		**Sn**	**10 29 18.1**	**-0.4**
	baz=239							
HGSD	**Ruisui**	**1.82**	**229**	*e*P		**Pn**	**10 28 55.2**	**-0.8**
	baz=225							
HGSD				*e*S		**Sn**	**10 29 18.9**	**-0.3**
	baz=225							
WHP	**Taichung City**	**1.84**	**257**	*e*P		**Pn**	**10 28 56.8**	**+0.5**
	baz=250							
WHP				*e*S		**Sn**	**10 29 19.9**	**+0.1**
	baz=250							
EHY	**Hungye**	**1.88**	**231**	*e*P		**Pn**	**10 28 55.9**	**-0.9**
	baz=228							
EHY				*e*S		**Sn**	**10 29 19.5**	**-1.1**
	baz=228							
WCS	**Beigang Elemen**	**1.93**	**251**	*e*P		**Pn**	**10 28 57.9**	**+0.5**
	baz=248							
WCS				*e*S		**Sn**	**10 29 22.6**	**+0.8**
	baz=248							
YULB	**Yu-li**	**1.97**	**229**	*e*P		**Pn**	**10 28 57.0**	**-1.0**
	baz=232							
YULB				*e*S		**Sn**	**10 29 21.2**	**-1.5**
	baz=232							
TWQ1	**Liyutan**	**1.98**	**260**	*e*P		**Pn**	**10 28 58.4**	**+0.3**
	baz=257							
TWQ1				*e*S		**Sn**	**10 29 22.3**	**-0.5**
	baz=257							
TWF1	**Yuli**	**2.00**	**228**	*e*P		**Pn**	**10 28 57.6**	**-0.7**
	baz=232							
TWF1				*e*S		**Sn**	**10 29 22.7**	**-0.6**
	baz=232							
SSLB	**Suanglung**	**2.01**	**243**	*e*P		**Pn**	**10 28 58.5**	**+0.1**
	baz=237							
SSLB				*e*S		**Sn**	**10 29 23.4**	**-0.1**
	baz=237							
SMLT	**Sun Moon Lake**	**2.01**	**246**	*e*P		**Pn**	**10 28 59.3**	**+0.8**
	baz=238							
SMLT				*e*S		**Sn**	**10 29 25.6**	**+1.9**
	baz=238							
TYC	**Yuchr**	**2.04**	**247**	*e*P		**Pn**	**10 28 59.3**	**+0.6**
	baz=240							
TYC				*e*S		**Sn**	**10 29 25.3**	**+1.2**
	baz=240							
FULB	**Fuli**	**2.11**	**225**	*e*P		**Pn**	**10 28 58.9**	**-0.8**
	baz=217							
FULB				*e*S		**Sn**	**10 29 25.5**	**-0.4**
	baz=217							
WHYT	**Xinyi Township**	**2.13**	**242**	*e*P		**Pn**	**10 29 00.7**	**+0.7**
	baz=238							
WHYT				S		**Sn**	**10 29 27.8**	**+1.4**
	baz=238							
CHKT	**Chengkung**	**2.14**	**222**	*e*P		**Pn**	**10 28 58.8**	**-1.2**
	baz=215							
CHKT				*e*S		**Sn**	**10 29 25.4**	**-1.0**
	baz=215							
JMJ2	**Miyako jima3**	**2.20**	**89**	P		**Pn**	**10 29 00.6**	**-0.2**
ALS	**Alishan**	**2.26**	**239**	P		**Pn**	**10 29 02.8**	**+0.8**
	baz=236							
ALS				*e*S		**Sn**	**10 29 29.3**	**-0.5**
	baz=236							
EDH	**Donghe**	**2.27**	**221**	*e*P		**Pn**	**10 28 59.8**	**-2.0**
	baz=215							
ELDTW	**Lidau**	**2.30**	**229**	*e*P		**Pn**	**10 29 01.4**	**-0.9**
	baz=227							
ELDTW				*e*S		**Sn**	**10 29 29.1**	**-1.3**
	baz=227							
CHN5	**Tsauling**	**2.32**	**242**	*e*P		**Pn**	**10 29 03.1**	**+0.6**
	baz=233							
CHN5				*e*S		**Sn**	**10 29 32.4**	**+1.6**
	baz=233							
LONT	**Longtian**	**2.42**	**223**	*e*P		**Pn**	**10 29 03.2**	**-0.6**
	baz=221							
LONT				*e*S		**Sn**	**10 29 33.5**	**+0.3**
	baz=221							
WCKO	**Fanlu**	**2.46**	**239**	*e*P		**Pn**	**10 29 04.4**	**+0.1**
	baz=237							
WCKO				*e*S		**Sn**	**10 29 35.7**	**+1.8**
	baz=237							
STYH	**Taoyuan**	**2.48**	**232**	*e*P		**Pn**	**10 29 05.1**	**+0.6**
	baz=229							
STYH				*e*S		**Sn**	**10 29 34.8**	**+0.4**
	baz=229							
CHN4	**Tsaushan**	**2.51**	**238**	*e*P		**Pn**	**10 29 06.3**	**+1.3**
	baz=236							
CHN4				*e*S		**Sn**	**10 29 37.5**	**+2.3**
	baz=236							
TPUB	**Ta-pu**	**2.51**	**237**	*e*P		**Pn**	**10 29 06.2**	**+1.2**
	baz=234							
TPUB				S		**Sn**	**10 29 37.4**	**+2.2**
	baz=234							
TWGBT	**Beinan**	**2.52**	**222**	*e*P		**Pn**	**10 29 03.9**	**-1.2**
	baz=220							
TWGBT				*e*S		**Sn**	**10 29 35.5**	**0.0**
	baz=220							
TWG	**Pinlang**	**2.52**	**222**	*e*P		**Pn**	**10 29 04.0**	**-1.1**
	baz=220							
TWG				*e*S		**Sn**	**10 29 34.5**	**-0.9**
	baz=220							
WTP	**Ta-pu**	**2.56**	**236**	*e*P		**Pn**	**10 29 06.2**	**+0.6**
	baz=234							
WTP				*e*S		**Sn**	**10 29 37.4**	**+1.1**
	baz=234							
TWK	**Hsinying**	**2.64**	**238**	*e*P		**Pn**	**10 29 07.1**	**+0.4**
	baz=235							
TWK				*e*S		**Sn**	**10 29 38.8**	**+0.5**
	baz=235							
CHN1	**Nanshi**	**2.66**	**236**	*e*P		**Pn**	**10 29 08.0**	**+1.2**
	baz=234							
CHN1				*e*S		**Sn**	**10 29 40.4**	**+1.8**
	baz=234							
SLGT	**Liugui**	**2.69**	**231**	*e*P		**Pn**	**10 29 08.4**	**+1.2**
	baz=234							
SLGT				*e*S		**Sn**	**10 29 41.5**	**+2.2**
	baz=234							
MASBT	**Mashibuluo**	**2.95**	**225**	*e*P		**Pn**	**10 29 11.7**	**+0.9**
	baz=224							
MASBT				*e*S		**Sn**	**10 29 47.2**	**+1.6**
	baz=224							
LYUB	**Lan-yu**	**2.96**	**205**	*e*P		**Pn**	**10 29 09.4**	**-1.4**
	baz=203							

MOS ***11*** *10:50:00.8±1.4,20˚.98S×174˚.08W,h10km,mb5.5/44, MS5.7/31,Error ellipse: s-maj=8.9km s-min=7.7km az=56.7*

IDC ***11*** *10:50:00.8±0.4,20˚.83S×174˚.09W,h0km,mb5.1/20, mbtmp5.1/23,ML4.9/2,MS5.5/55,Error ellipse: s-maj=17.0km s-min=13.1km az=111.0*

NEIC ***11*** *10:50:00.9,20˚.80S×173˚.73W,h18km*

NEIC ***11*** *10:50:00.9±3.0,20˚.83S±0˚.06×173˚.72W±0˚.08,h7km±1km, mb5.6/201,Ms_20 5.9/1061,Mwb5.8/64,Mww5.7/22,Error ellipse: s-maj=12.7km s-min=10.7km az=245.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}4.82; $M_{\theta\theta}$-2.27; $M_{\phi\phi}$-2.55; $M_{r\theta}$3.01; $M_{\theta\phi}$-1.75; $M_{\phi r}$2.74; Fault plane solution: $M_0$6.08000×10^{17} NP1: ϕ_s220.54000°,δ24.01000°,λ85.13000°. NP2:ϕ_s45.87000°, δ66.09000°,λ92.17000°. Principal axes: T 6.3882, Plg69.0000°, Azm320.0000°; N -0.6622, Plg2.0000°, Azm225.0000°; P -5.7260, Plg21.0000°, Azm134.0000°;*

NEIC ***11*** *10:50:00.9,20˚.90S×173˚.30W,h18km,Moment Tensor Solution. Duration: 3^{s}4 Moment tensor: Scale 10^{17}Nm; M_{rr}4.01; $M_{\theta\theta}$-1.63; $M_{\phi\phi}$-2.38; $M_{r\theta}$1.02; $M_{\theta\phi}$-1.31; $M_{\phi r}$1.72; Fault plane solution: $M_0$4.19000×10^{17} NP1:ϕ_s34.27000°, δ59.24000°,λ87.61000°. NP2:ϕ_s218.93000°,δ30.85000°, λ94.00000°. Principal axes: T 4.5167, Plg76.0000°, Azm297.0000°; N -0.6502, Plg2.0000°, Azm35.0000°; P -3.8665, Plg14.0000°, Azm126.0000°;*

NEIC ***11*** *10:50:01.4,20˚.85S×173˚.70W,h10km*

NOU ***11*** *10:50:02.3,21˚.16S×173˚.53W,h15km,ML6.0/135,Tonga Islands*

BJI ***11*** *10:50:03.0,20˚.90S×173˚.90W,h14km,mb5.4/60, mB6.3/73,Ms5.8/80,Ms7 5.5/75*

GCMT ***11*** *10:50:05.9±0.1,21˚.08S±0˚.01×173˚.42W±0˚.01,h13km, MW5.7/158,Moment Tensor Solution. s127,c254; s158,c318; Duration: 1^{s}7 Moment tensor: Scale 10^{17} Nm; M_{rr}3.52±.04; $M_{\theta\theta}$-1.24±.03; $M_{\phi\phi}$-2.28±.03; $M_{r\theta}$0.97±.08; $M_{\theta\phi}$-1.81±.02; $M_{\phi r}$1.74±.09; Best double couple: $M_0$4.09900×10^{17} NP1:ϕ_s33.00000°,δ60.00000°, λ86.00000°. NP2:ϕ_s221.00000°,δ31.00000°,λ97.00000°. Principal axes: T 4.0450, Plg75.0000°, Azm292.0000°; N 0.1070, Plg3.0000°, Azm35.0000°; P -4.1520, Plg14.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 10:50:01.1±0.4, 20˚.94S±0˚.04×173˚.69W±0˚.04, h11km±1km, h11km:pP-P,n1656,σ2^{s}26/1155**,mb5.6/**231**,MS5.9/**615**, 119C-60D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.99**	**63**	P		**Pn**	**10 50 58.5**	**-3.8**
	baz=4.2							
NIUE				S		Sn	10 51 39.8	-9.3
	baz=4.2							
NIUE	**Niue**	**3.99**	**63**			**Pn**	**10 50 59.4**	**-2.9**
NIUE	**Niue**	**3.99**	**63**	P		**Pn**	**10 50 59.6**	**-2.7**
NIUE	**Niue**	**3.99**	**63**	⇑P		**Pn**	**10 50 58.4**	**-4.0**
AFI	**Afiamalu**	**7.22**	**15**			**Pn**	**10 51 44.6**	**-2.2**
AFI	**Afiamalu**	**7.22**	**15**	P		**Pn**	**10 51 47.2**	**+0.4**
AFI	**Afiamalu**	**7.22**	**15**	⇑P		**Pn**	**10 51 42.8**	**-4.0**
AFI	**Afiamalu**	**7.22**	**15**	P		**Pn**	**10 51 44.6**	**-2.2**
TAVE	**Taveuni**	**7.24**	**304**	P		**Pn**	**10 51 51.4**	**+4.5**
DGTI	**Dogotuki**	**7.75**	**305**	P		**Pn**	**10 51 57.9**	**+3.8**
FUTU	**Fugatoga**	**7.83**	**327**	P		Pn	10 52 00.9	+5.8
RAO	**Raoul Island**	**9.12**	**204**	Pn		**Pn**	**10 52 11.3**	**-1.5**
	495nm,0.4s,baz=75,slow=22,SNR=4.4							
RAO				Sn		**Sn**	**10 53 49.8**	**-5.8**
	166nm,0.3s,baz=72,slow=19,SNR=8.3							
GLKZ	**Green Lake**	**9.13**	**204**	P		**Pn**	**10 52 09.4**	**-3.5**
GLKZ				S		Sn	10 53 47.7	-8.1
YSA	**Yasawairara**	**9.28**	**296**	P		**Pn**	**10 52 19.3**	**+4.3**
RAR	**Rarotonga**	**12.99**	**94**	Pn		**Pn**	**10 53 02.2**	**-3.6**
RAR	**Rarotonga**	**12.99**	**94**	P		**Pn**	**10 53 03.4**	**-2.4**
RAR	**Rarotonga**	**12.99**	**94**	P		**Pn**	**10 53 02.2**	**-3.6**
RAR	**Rarotonga**	**12.99**	**94**	Pn		Pn	10 53 00.8	-5.0
	22nm,0.3s,baz=238,slow=4.9,SNR=35							
RAR				Sn		Sn	10 55 16.2	-14
	2.9nm,0.3s,baz=315,slow=19,SNR=1.2							
RAR				LR		LR	10 57 49.6	
	comp=Z,24μm,18.1s,baz=272,slow=35							
FUNA	**Funafuti**	**14.12**	**330**			**Pn**	**10 53 19.9**	**-1.4**
FUNA	**Funafuti**	**14.12**	**330**	P		**P**	**10 53 25.6**	**-3.4**
	433nm,2.4s							
FUNA	**Funafuti**	**14.12**	**330**	⇓P		**P**	**10 53 25.5**	**-3.4**
MARNC	**Mare, Loyalty**	**17.06**	**265**	Pn		**Pn**	**10 53 58.9**	**-0.9**
MARNC	**Mare, Loyalty**	**17.06**	**265**	P		**P**	**10 54 02.8**	**+1.2**
RTV	**Rentapao**	**17.16**	**277**	P		**P**	**10 54 05.6**	**+2.9**
	544nm,1.5s							
DVP	**Devils Point**	**17.40**	**277**	P		**P**	**10 54 08.3**	**+2.9**
PINNC	**Pines Island,**	**17.60**	**261**			**Pn**	**10 54 06.9**	**+0.3**
PINNC	**Pines Island,**	**17.60**	**261**	P		**P**	**10 54 09.9**	**+2.3**
LIFNC	**LIFOU**	**17.83**	**267**			**Pn**	**10 54 09.1**	**-0.3**
LIFNC	**LIFOU**	**17.83**	**267**	P		**P**	**10 54 12.0**	**+1.9**
OUZ	**Omahuta**	**18.09**	**215**	⇓P		**P**	**10 54 14.5**	**+1.6**
OUZ	**Omahuta**	**18.09**	**215**	P		**P**	**10 54 13.5**	**+0.5**
OUENC	**Ouen Island, N**	**18.16**	**262**			**Pn**	**10 54 13.8**	**+0.4**
OUENC	**Ouen Island, N**	**18.16**	**262**	P		**P**	**10 54 14.7**	**+1.0**
WCZ	**Waipu Caves**	**18.25**	**212**	P		**P**	**10 54 16.8**	**+2.1**
KUZ	**Kuaotunu**	**18.26**	**208**	P		**Pn**	**10 54 13.3**	**-1.3**
ONTNC	**Ouen Toro**	**18.52**	**262**			**P**	**10 54 17.0**	**-0.6**
ONTNC	**Ouen Toro**	**18.52**	**262**	P		**Pn**	**10 54 21.3**	**+3.5**
ONTNC	**Ouen Toro**	**18.52**	**262**	⇑P		**P**	**10 54 16.8**	**-0.9**
DZM	**Mont Dzumac**	**18.52**	**263**			**P**	**10 54 17.8**	**-0.1**
DZM	**Mont Dzumac**	**18.52**	**263**	P		**Pn**	**10 54 19.1**	**+1.1**
DZM	**Mont Dzumac**	**18.52**	**263**	⇑P		**P**	**10 54 17.4**	**-0.4**
DZM	**Mont Dzumac**	**18.52**	**263**	*e*P		**P**	**10 54 17.6**	**-0.3**
	478nm,1.4s							
DZM				*e*LR		LR	10 58 46.4	
	17μm,21.1s							
DZM	**Mont Dzumac**	**18.52**	**263**	P		**P**	**10 54 15.8**	**-2.0**
	3.1nm,0.3s,baz=74,slow=23,SNR=38							
	15nm,0.7s							
NOUC	**Port Laguerre**	**18.66**	**263**	P		**Pn**	**10 54 20.6**	**+1.1**
MKAZ	**Moumakai**	**18.81**	**209**	P		**Pn**	**10 54 24.0**	**+2.8**
URZ	**Urewera**	**19.01**	**203**	P		**Pn**	**10 54 24.4**	**+0.8**
URZ	**Urewera**	**19.01**	**203**	⇓P		**Pn**	**10 54 24.4**	**+0.8**
URZ	**Urewera**	**19.01**	**203**	P		**Pn**	**10 54 24.2**	**+0.6**
	5.1nm,0.3s,baz=91,slow=4.6,SNR=44							
URZ				S		Sn	10 57 41.6	-15
	8.0nm,0.6s,baz=96,slow=22,SNR=1.7							
	86nm,0.7s							
URZ	**Urewera**	**19.01**	**203**	P		**Pn**	**10 54 24.5**	**+0.8**
URZ				S		Sn	10 57 40.8	-16
OMRZ	**Omania**	**19.15**	**205**	P		**Pn**	**10 54 28.9**	**+3.5**
TOZ	**Tahuroa Road**	**19.18**	**207**	P		**Pn**	**10 54 26.0**	**+0.2**
TOZ	**Tahuroa Road**	**19.18**	**207**	P		**Pn**	**10 54 29.0**	**+3.3**
RRRZ	**Republican Roa**	**19.30**	**204**	P		**Pn**	**10 54 31.4**	**+4.2**
MUGZ	**Murupara**	**19.32**	**203**	P		**P**	**10 54 25.9**	**-0.5**
MUGZ				S		Sn	10 57 44.1	-20
RTZ	**Ruatahuna**	**19.37**	**203**	P		**P**	**10 54 27.8**	**+0.8**
SNGZ	**Shannon Statio**	**19.39**	**202**	P		**Pn**	**10 54 30.4**	**+2.0**
SNGZ				S		Sn	10 57 49.0	-17
MHGZ	**Mahia Peninsul**	**19.54**	**200**	P		**Pn**	**10 54 32.8**	**+2.7**
RAHZ	**Arahi**	**19.60**	**202**	P		**Pn**	**10 54 32.3**	**+1.5**
RAHZ				S		S	10 57 59.2	-11
MTHZ	**Maungataniwha**	**19.63**	**202**	P		**Pn**	**10 54 34.1**	**+2.9**
MTHZ				S		S	10 57 55.0	-16
TLZ	**Tolley Road**	**19.67**	**206**	P		**Pn**	**10 54 34.0**	**+2.3**
WHHZ	**Waihua**	**19.69**	**201**	P		**Pn**	**10 54 34.7**	**+2.8**
NMHZ	**Naumai**	**19.86**	**202**	P		**Pn**	**10 54 35.0**	**+1.0**
NMHZ				S		S	10 57 58.0	-18
BKZ	**Black Stump Fm**	**20.03**	**203**	P		**P**	**10 54 34.4**	**+0.2**
BKZ	**Black Stump Fm**	**20.03**	**203**	P		**P**	**10 54 34.6**	**+0.4**
BKZ	**Black Stump Fm**	**20.03**	**203**	P		Pn	10 54 37.0	+1.1
RATZ	**Rangitukua**	**20.04**	**205**	P		Pn	10 54 38.1	+2.0
HIZ	**Hauiti**	**20.11**	**207**			Pn	10 54 38.6	-0.1
HIZ	**Hauiti**	**20.11**	**207**	P		Pn	10 54 38.7	+1.8
NTVZ	**North Tongarir**	**20.28**	**204**	P		Pn	10 54 38.6	-0.4
TMVZ	**Te Maari**	**20.29**	**204**	P		**P**	**10 54 38.3**	**+1.3**
ETVZ	**East Tongariro**	**20.30**	**204**	P		**P**	**10 54 36.9**	**-0.3**
WTVZ	**West Tongariro**	**20.33**	**205**	P		Pn	10 54 41.5	+2.0
NNVZ	**North Ngauruho**	**20.33**	**205**	P		**P**	**10 54 38.6**	**+1.0**
OTVZ	**Oturere**	**20.34**	**204**	P		**P**	**10 54 37.6**	**-0.1**
OTVZ				S		S	10 58 15.4	-10
NGZ	**Ngauruhoe**	**20.38**	**205**	P		Pn	10 54 41.8	+1.7
BHHZ	**Black Hill Sta**	**20.48**	**203**	P		**P**	**10 54 36.2**	**-2.9**
BHHZ				S		S	10 58 14.1	-14
KRHZ	**Kereru**	**20.50**	**202**	P		**P**	**10 54 40.5**	**+1.3**
KRHZ				S		S	10 58 08.5	-20
WNVZ	**Wahianoa**	**20.51**	**204**	P		**P**	**10 54 40.3**	**+0.8**
MOVZ	**Moawhango**	**20.52**	**204**	P		**P**	**10 54 37.2**	**-2.3**
MOVZ				S		S	10 58 15.1	-14
PKVZ	**Pokaka**	**20.57**	**205**	P		**P**	**10 54 40.8**	**+0.7**
KOUNC	**Koumac, New Ca**	**20.60**	**267**	P		**P**	**10 54 39.8**	**-0.7**
KOUNC	**Koumac, New Ca**	**20.60**	**267**	P		Pn	10 54 44.5	+1.7
KOUNC	**Koumac, New Ca**	**20.60**	**267**	⇑P		**P**	**10 54 40.1**	**-0.4**
PXZ	**Pawanui**	**20.68**	**201**	P		**P**	**10 54 42.7**	**+1.5**
PXZ				S		S	10 58 15.1	-17
PNHZ	**Pukenui**	**20.80**	**202**	P		**P**	**10 54 43.5**	**+0.9**
PNHZ				S		S	10 58 17.0	-18
BFZ	**Birch Farm**	**21.47**	**201**	P		**P**	**10 54 50.3**	**+0.6**
BFZ				IAmb		IAmb	10 55 06.2	
	comp=Z,294nm,1.4s							
BFZ	**Birch Farm**	**21.47**	**201**	P		**P**	**10 54 49.0**	**-0.7**
MRZ	**Mangatainoka R**	**21.68**	**203**	P		**P**	**10 54 52.6**	**+0.6**
TBI	**Tubuai**	**22.56**	**101**	*e*P		**P**	**10 55 00.2**	**-1.4**
	comp=Z,577nm,1.3s							
TBI				*es*S		Sn	10 59 17.3	-5.0
	comp=Z,89μm,26.8s							
TBI				*e*LR		LR	11 00 14.4	
	comp=Z,48μm,22.2s							
TBI				*e*LR		LR	11 00 18.5	
	comp=Z,14μm,22.8s							
TBI	**Tubuai**	**22.56**	**101**	*e*T		T	11 18 53.1	
	comp=Z,7.4nm,0.4s							
PLWZ	**Palliser**	**22.60**	**202**	P		**P**	**10 55 02.2**	**+0.4**
TCW	**Tory Channel**	**22.64**	**204**	P		**P**	**10 55 00.8**	**-1.5**
PAE	**Paea**	**22.98**	**86**	*e*PKP2		**P**	**10 55 07.5**	**+1.5**
	comp=Z,71nm,1.3s							
PAE	**Paea**	**22.98**	**86**	*e*T		T	11 19 49.1	
	comp=Z,7.1nm,0.3s							
PPT2	**Papeete2**	**23.00**	**86**	*e*PKP2		**P**	**10 55 07.6**	**+1.3**
	comp=Z,194nm,1.3s							
PPT2				*es*S		**sS**	**10 59 22.2**	**+4.4**
	comp=Z,23μm,26.0s							
PPT2				*e*LR		LR	11 00 25.0	
	comp=Z,13μm,21.5s							
PPT2				*e*LR		LR	11 00 34.5	
	comp=Z,11μm,22.2s							
PPT2	**Papeete2**	**23.00**	**86**	*e*T		T	11 19 51.1	
	comp=Z,4.1nm,0.4s							
PPT	**Papeete**	**23.00**	**86**	P		**P**	**10 55 06.6**	**+0.3**
	comp=Z,60nm,1.0s,baz=322,slow=2.9,SNR=6.6							
PPT				LR		LR	11 02 35.2	
	comp=Z,14μm,18.7s,baz=254,slow=32							
PPTF	**Pamatai, Papee**	**23.01**	**86**	P		**P**	**10 55 04.3**	**-2.0**
PPTF				IAmb		IAmb	10 55 12.2	
	comp=Z,258nm,1.2s							
PPTF	**Pamatai, Papee**	**23.01**	**86**	P		**P**	**10 55 07.0**	**+0.6**
PPTF	**Pamatai, Papee**	**23.01**	**86**	⇑P		**

baz=32,SNR=5.3
EIDS Eidsvold 32.63 255 P **P** 10 56 30.8 -2.4
EIDS IAmb IAmb 10 56 43.7
comp=Z,118nm,1.8s
EIDS Eidsvold 32.63 255 P **P** 10 56 34.1 +0.8
EIDS Eidsvold 32.63 255 ⇑P **P** 10 56 31.5 -1.8
AUPHS Peel High Scho 33.28 245 P **P** 10 56 39.2 +0.3
comp=Z,21nm,1.6s
MGCD Mangrove Creek 33.49 241 P **P** 10 56 39.2 -1.5
baz=33,SNR=11
MGCD Mangrove Creek 33.49 241 P **P** 10 56 41.2 +0.5
comp=Z,47nm,1.2s
SYDH Sydney Hard Ro 33.91 240 P **P** 10 56 45.1 +0.8
comp=Z,52nm,1.2s
WOLH Wollongong Har 33.95 239 P **P** 10 56 45.9 +1.2
comp=Z,50nm,0.9s
TAOE Nuku Hiva Isla 34.48 75 *e*PKP2 **P** 10 56 50.0 +0.4
comp=Z,314nm,22.8s
TAOE *e*S S 11 02 03.8 -15
comp=Z,1µm,24.2s
TAOE *e*LR LR 11 06 05.0
comp=Z,9µm,20.9s
RMQ Roma 34.74 253 P **P** 10 56 50.7 -0.9
baz=34,SNR=8.4
RMQ Roma 34.74 253 P **P** 10 56 51.8 +0.2
comp=Z,50nm,1.2s
AUDCS Dubbo College 35.36 244 P **P** 10 56 57.9 +1.0
CNB Canberra Magne 35.38 238 P **P** 10 56 56.1 -1.0
baz=35,SNR=7.6
CNB Canberra Magne 35.38 238 P **P** 10 56 57.2 +0.1
AULRC Lightning Ridg 35.58 248 P **P** 10 56 59.9 +1.1
CAN Canberra 35.67 238 IAmb IAmb 10 57 00.5
comp=Z,76nm,1.2s
CAN Canberra 35.67 238 P **P** 10 57 00.1 +0.5
CAN Canberra 35.67 238 ⇓P **P** 10 56 58.5 -1.1
CAN Canberra 35.67 238 P **P** 10 56 58.4 -1.1
CAN pmax pmax
comp=Z,59nm,1.1s
YNG Young 35.93 240 P **P** 10 57 02.5 +0.7
MILA Mila 35.99 235 P **P** 10 57 00.5 -1.8
baz=36,SNR=3.7
MILA Mila 35.99 235 P **P** 10 57 03.2 +0.9
comp=Z,34nm,1.2s
AUSMG Snowy Mountain 36.24 237 P **P** 10 57 05.0 +0.5
KRVT Keravat (AS076 37.19 292 LR LR 11 11 53.2
comp=Z,5µm,18.7s,baz=260,slow=36
CTA Charters Tower 37.46 264 P **P** 10 57 15.8 +0.8
CTA Charters Tower 37.46 264 P **P** 10 57 12.1 -2.9
CTA pmax pmax
comp=Z,46nm,2.0s
CTA Charters Tower 37.46 264 LR LR 11 11 44.1
comp=Z,5µm,18.1s,baz=90,slow=35
CTAO Charters Tower 37.46 264 P **P** 10 57 12.9 -2.1
CTAO Charters Tower 37.46 264 P **P** 10 57 15.8 +0.8
CTAO Charters Tower 37.46 264 ⇑P **P** 10 57 12.7 -2.3
CTAO Charters Tower 37.46 264 P **P** 10 57 12.9 -2.1
CTAO pmax pmax
comp=Z,103nm,1.7s
CTAO MLR MLR
comp=Z,7µm,18.0s
CMSA Cobar Meteorol 37.75 245 P **P** 10 57 15.2 -2.1
baz=38,SNR=32
CMSA Cobar Meteorol 37.75 245 P **P** 10 57 14.9 -2.4
QLP Quilpie 38.79 253 P **P** 10 57 24.9 -1.3
baz=38,SNR=13
QLP Quilpie 38.79 253 P **P** 10 57 25.8 -0.4
QLP Quilpie 38.79 253 ⇑P **P** 10 57 23.4 -2.8
TOO Toolangi 38.94 236 P **P** 10 57 26.4 -1.0
baz=39,SNR=8.4
TOO Toolangi 38.94 236 P **P** 10 57 27.6 +0.3
TOO Toolangi 38.94 236 ⇑P **P** 10 57 25.8 -1.5
TOO Toolangi 38.94 236 P **P** 10 57 26.1 -1.2
TOO pmax pmax
comp=Z,39nm,2.4s
MOO Moorlands 39.14 228 P **P** 10 57 30.2 +1.4
baz=39,SNR=4.5
MOO Moorlands 39.14 228 P **P** 10 57 29.1 +0.3
AUTAR Taroona High S 39.20 227 P **P** 10 57 29.3 0.0
TAU Tasmania Unive 39.22 227 P **P** 10 57 29.8 +0.4
TAU Tasmania Unive 39.22 227 P **P** 10 57 29.5 0.0
TAU Tasmania Unive 39.22 227 P **P** 10 57 29.8 +0.4
TAU pmax pmax
comp=Z,116nm,1.4s
PMG Port Moresby 39.38 281 P **P** 10 57 29.1 -2.1
PMG IAmb IAmb 10 57 32.7
comp=Z,138nm,1.2s
PMG Port Moresby 39.38 281 P **P** 10 57 31.0 -0.2
PMG Port Moresby 39.38 281 P **P** 10 57 30.9 -0.2
PMG Port Moresby 39.38 281 ⇑P **P** 10 57 28.5 -2.7
PMG Port Moresby 39.38 281 *i*P **P** 10 57 28.5 -2.7
PMG pmax pmax
comp=Z,95nm,1.1s
PMG MLR MLR
comp=Z,7µm,17.0s
PMG Port Moresby 39.38 281 LR LR 11 12 45.0
comp=Z,6µm,18.0s,baz=139,slow=35
MTSU Mount Surprise 39.60 267 P **P** 10 57 30.7 -2.3
baz=39,SNR=5.3
MTSU Mount Surprise 39.60 267 P **P** 10 57 32.1 -0.9
comp=Z,17nm,0.8s
GEXS Deakin Univers 40.01 235 P **P** 10 57 38.0 +1.8
comp=Z,74nm,0.6s
BRAT Ballarat 40.15 236 P **P** 10 57 37.2 -0.1
comp=Z,39nm,1.1s
STKA Stephens Creek 41.25 245 P **P** 10 57 44.6 -2.0
baz=41,SNR=43
STKA Stephens Creek 41.25 245 P **P** 10 57 44.5 -2.0
STKA Stephens Creek 41.25 245 P **P** 10 57 45.2 -1.3
STKA Stephens Creek 41.25 245 P **P** 10 57 44.5 -2.0
comp=Z,32nm,1.0s,baz=92,slow=10,SNR=34
STKA LR LR 11 13 13.5
comp=Z,5µm,20.1s,baz=83,slow=34
comp=Z,32nm,1.0s
COEN Coen 41.64 272 P **P** 10 57 49.6 -0.3
comp=Z,72nm,2.5s
COEN Coen 41.64 272 ⇑P **P** 10 57 47.6 -2.2
ARPS Mount Arapiles 41.64 238 P **P** 10 57 48.6 -1.1
baz=41,SNR=5.7
ARPS Mount Arapiles 41.64 238 P **P** 10 57 48.8 -0.8
comp=Z,74nm,1.0s
INKA Innaminka 41.88 251 P **P** 10 57 52.4 +0.7
MANU Manus Island 42.34 291 P **P** 10 57 54.4 -1.3
MANU IAmb IAmb 10 57 56.4
comp=Z,245nm,1.6s
MANU Manus Island 42.34 291 P **P** 10 57 55.6 0.0
QIS Mount Isa 43.56 262 P **P** 10 58 03.7 -1.8
baz=43,SNR=3.8
QIS Mount Isa 43.56 262 P **P** 10 58 06.2 +0.7
HTT Hallett 43.61 243 P **P** 10 58 03.9 -1.9
baz=43,SNR=28
HTT Hallett 43.61 243 P **P** 10 58 05.4 -0.4
HTT Hallett 43.61 243 ⇑P **P** 10 58 02.7 -3.1
HTT Hallett 43.61 243 ⇑P **P** 10 58 02.7 -3.1
HMH Humu'ula Sheep 44.05 25 **P** 10 58 07.7 -2.0
LCRK Leigh Creek 44.09 247 P **P** 10 58 09.8 +0.2
WAKE Wake Island 44.37 333 IAMs_20 IAMs_20 11 13 28.4
comp=Z,9µm,20.0s
WAKE Wake Island 44.37 333 P **P** 10 58 15.0 +3.2
comp=Z,252nm,1.2s
WHYH Whyalla 44.72 244 P **P** 10 58 14.3 -0.3
comp=Z,28nm,0.8s
KIP Kipapa 44.80 21 P **P** 10 58 17.1 +1.8
KIP Kipapa 44.80 21 P **P** 10 58 17.0 +1.8
KIP Kipapa 44.80 21 *i*P **P** 10 58 15.6 +0.4
KIP pmax pmax
comp=Z,46nm,1.0s
KIP MLR MLR
comp=Z,3µm,6.0s
BBOO Buckleboo 45.98 244 P **P** 10 58 22.3 -2.4
baz=46,SNR=11
BBOO Buckleboo 45.98 244 P **P** 10 58 22.2 -2.4
BBOO Buckleboo 45.98 244 P **P** 10 58 25.1 +0.5
OOD Oodnadatta 46.36 251 P **P** 10 58 28.1 +0.4
TABU Tabubil 46.40 283 P **P** 10 58 30.1 +1.9
comp=Z,2µm,0.9s
MULG Mulgathing 47.68 248 P **P** 10 58 37.9 -0.1
JAY Jayapura 48.03 286 P **P** 10 58 40.1 -0.8
comp=Z,167nm,1.1s,comp=Z,6µm
JAY Jayapura 48.03 286 P **P** 10 58 38.4 -2.5
JAY pmax pmax
comp=Z,166nm,1.1s
WR0 Warramunga Arr 48.34 262 P **P** 10 58 40.7 -2.6
WR0 IAmb IAmb 10 58 44.1
comp=Z,139nm,1.9s
ASAR Alice Springs 48.35 256 P **P** 10 58 40.9 -2.4
ASAR Alice Springs 48.35 256 P **P** 10 58 40.8 -2.5
comp=Z,78nm,1.1s,baz=90,slow=7.8,SNR=126
ASAR PcP **PcP** 11 00 10.7 +0.7
comp=Z,9.2nm,0.9s,baz=97,slow=5.4,SNR=1.2
ASAR ScP **ScP** 11 04 03.5 -1.3
comp=Z,0.6nm,0.8s,baz=108,slow=5.9,SNR=2.1
ASAR S **S** 11 05 35.5 -8.2
comp=Z,3.6nm,0.9s,baz=95,slow=16,SNR=6.7
ASAR LR LR 11 18 09.4
comp=Z,6µm,18.6s,baz=103,slow=35
comp=Z,78nm,1.1s
GENI Genyem 48.48 286 P **P** 10 58 45.9 +1.6
GENI Genyem 48.48 286 P **P** 10 58 44.6 +0.3
comp=Z,88nm,0.6s,comp=Z,10µmcomp=Z,5µm
WB2 Warramunga Arr 48.52 261 IAmb IAmb 10 58 43.8
comp=Z,51nm,1.1s
WRAB Tennant Creek 48.52 261 P **P** 10 58 41.8 -2.9
WRAB IAmb IAmb 10 58 43.7
comp=Z,53nm,1.1s
WRAB Tennant Creek 48.52 261 P **P** 10 58 41.8 -2.9
WRAB pmax pmax
comp=Z,53nm,1.1s
WRA Warramunga Arr 48.53 261 P **P** 10 58 41.6 -3.1
comp=Z,30nm,1.0s,baz=99,slow=8.7,SNR=59
WRA PcP **PcP** 11 00 11.3 +0.7
comp=Z,13nm,0.9s,baz=96,slow=3.8,SNR=5.2
WRA ScP **ScP** 11 04 07.3 +1.7
comp=Z,1.6nm,1.0s,baz=87,slow=4.2,SNR=2.1
WRA S **S** 11 05 38.1 -8.3
comp=Z,1.5nm,1.0s,baz=102,slow=20,SNR=4.6
comp=Z,30nm,1.0s
KDU Kakadu 51.99 270 P **P** 10 59 09.0 -1.9
baz=52,SNR=7.7
KDU Kakadu 51.99 270 P **P** 10 59 09.2 -1.7
KDU Kakadu 51.99 270 ⇑P **P** 10 59 07.8 -3.2
FORT Forrest 52.83 247 P **P** 10 59 15.1 -1.8
baz=52,SNR=16
FORT Forrest 52.83 247 P **P** 10 59 15.5 -1.5
FORT IAmb IAmb 10 59 20.2
comp=Z,96nm,0.7s
FORT Forrest 52.83 247 P **P** 10 59 17.7 +0.7
FORT Forrest 52.83 247 ⇓P **P** 10 59 14.9 -2.1
MTN Manton Dam 53.20 269 P **P** 10 59 17.2 -2.7
MTN IAmb IAmb 10 59 19.2
comp=Z,47nm,0.9s
WRKA Warakurna 53.23 254 P **P** 10 59 17.4 -2.7
baz=53,SNR=67
WRKA Warakurna 53.23 254 P **P** 10 59 18.9 -1.2
WRKA Warakurna 53.23 254 ⇑P **P** 10 59 17.4 -2.7
GUMO Guam 53.24 307 P **P** 10 59 16.0 -4.1
GUMO Guam 53.24 307 P **P** 10 59 22.0 +1.9
comp=Z,154nm,1.2s
GUMO Guam 53.24 307 P **P** 10 59 16.0 -4.1
GUMO pmax pmax
comp=Z,352nm,1.2s
GUMO Guam 53.24 307 LR LR 11 17 15.8
comp=Z,882nm,21.2s,baz=140,slow=31
DRV Dumont d'Urvil 54.33 201 P **P** 10 59 27.9 +0.5
SAUI Saumlaki 54.56 275 P **P** 10 59 31.0 +1.1
comp=Z,294nm,1.1s
SAUI Saumlaki 54.56 275 P **P** 10 59 30.6 +0.7
comp=Z,299nm,1.1s,comp=Z,5µm
KNRA Kununurra 54.65 265 P **P** 10 59 27.9 -2.6
baz=54,SNR=14
KNRA Kununurra 54.65 265 P **P** 10 59 27.8 -2.6
KNRA IAMs_20 IAMs_20 11 21 45.8
comp=Z,7µm,20.0s
KNRA Kununurra 54.65 265 P **P** 10 59 29.8 -0.7
FITZ Fitzroy Crossi 56.96 262 P **P** 10 59 45.0 -2.2
baz=57,SNR=15
FITZ Fitzroy Crossi 56.96 262 P **P** 10 59 44.9 -2.2
FITZ Fitzroy Crossi 56.96 262 P **P** 10 59 45.8 -1.3
FITZ Fitzroy Crossi 56.96 262 ⇑P **P** 10 59 44.9 -2.2
BNDI Bandanaira 57.08 278 P **P** 10 59 47.9 -0.1
BNDI Bandanaira 57.08 278 P **P** 10 59 46.7 -1.3
comp=Z,431nm,1.4s,comp=Z,20µmcomp=Z,4µm
VNDA Vanda 57.87 186 P **P** 10 59 53.0 +0.4
VNDA Vanda 57.87 186 P **P** 10 59 55.9 +3.3
comp=Z,13nm,0.9s,baz=1.7,slow=7.3,SNR=30
VNDA LR LR 11 23 42.4
comp=Z,3µm,18.3s,baz=15,slow=35
comp=Z,13nm,0.9s
KMBL Kambalda 58.05 245 P **P** 10 59 53.4 -1.3
baz=58,SNR=14
KMBL Kambalda 58.05 245 P **P** 10 59 54.8 +0.1
VA02 Isla de Pascua 58.46 110 IAMs_20 IAMs_20 11 20 45.5
comp=Z,8µm,18.0s
RPN Rapa Nui 58.55 110 IAMs_20 IAMs_20 11 20 47.0
comp=Z,8µm,19.0s
RPN Rapa Nui 58.55 110 LR LR 11 20 59.2
comp=Z,7µm,18.4s,baz=253,slow=32
SOEI Soe 60.55 270 P **P** 11 00 15.0 +2.8
SOEI Soe 60.55 270 P **P** 11 00 11.6 -0.6
comp=Z,271nm,1.2s,comp=Z,6µmcomp=Z,4µm
SOEI Soe 60.55 270 S **S** 11 08 26.3 -2.2
SOEI P **P** 11 00 10.9 -1.3
SOEI Soe 60.55 270 ⇑P **P** 11 00 10.8 -1.5
BATI Baumata 60.97 270 LR LR 11 27 24.0
comp=Z,6µm,18.1s,baz=134,slow=37
AUALB St Joseph's Co 60.98 241 P **P** 11 00 14.7 0.0
PSAC2 Pilbara Seismi 61.45 256 IAMs_20 IAMs_20 11 27 59.9
comp=Z,7µm,18.0s
PSAA3 Pilbara Seismi 61.48 256 IAMs_20 IAMs_20 11 28 01.4
comp=Z,7µm,18.0s
TNTI Ternate 61.48 283 P **P** 11 00 17.2 -1.3
TNTI Ternate 61.48 283 P **P** 11 00 19.5 +1.0
TNTI Ternate 61.48 283 P **P** 11 00 17.4 -1.1
comp=Z,156nm,1.0s,comp=Z,3µmcomp=Z,2µm
TNTI Ternate 61.48 283 ⇑P **P** 11 00 16.8 -1.7
PSA00 Pilbara Seismi 61.49 256 P **P** 11 00 16.5 -2.0
PSA00 IAmb IAmb 11 00 19.6
comp=Z,86nm,1.1s
PSA00 Pilbara Seismi 61.49 256 IAmb IAmb 11 00 19.7
comp=Z,41nm,1.1s
PSA00 Pilbara Seismi 61.49 256 P **P** 11 00 17.1 -1.4
comp=Z,99nm,1.1s
PSAA2 Pilbara Seismi 61.49 256 IAMs_20 IAMs_20 11 27 53.2
comp=Z,7µm,18.0s
PSAA1 Pilbara Seismi 61.50 256 IAMs_20 IAMs_20 11 28 02.4
comp=Z,7µm,18.0s
PSAB1 Pilbara Seismi 61.52 256 IAMs_20 IAMs_20 11 27 53.8
comp=Z,7µm,18.0s
KLBR Kellerberrin 61.52 245 P **P** 11 00 18.1 -0.4
baz=61,SNR=24
KLBR Kellerberrin 61.52 245 P **P** 11 00 18.3 -0.2
comp=Z,254nm,1.0s
PSAC1 Pilbara Seismi 61.53 256 IAMs_20 IAMs_20 11 27 46.3
comp=Z,6µm,18.0s
MEEK Meekatharra 61.58 250 P **P** 11 00 17.7 -1.4
baz=61,SNR=6.6
MEEK Meekatharra 61.58 250 P **P** 11 00 20.0 +1.0
SANI Sanana 61.63 279 P **P** 11 00 17.8 -1.7
SANI Sanana 61.63 279 P **P** 11 00 17.6 -1.9
comp=Z,170nm,1.1s,comp=Z,3µmcomp=Z,3µm
SANI Sanana 61.63 279 S **S** 11 08 39.1 -3.0
SANI P **P** 11 00 16.3 -3.2
SANI Sanana 61.63 279 ⇑P **P** 11 00 17.0 -2.4
MBWA Marble Bar 61.69 257 P **P** 11 00 17.9 -1.9
MBWA IAmb IAmb 11 00 21.0
comp=Z,72nm,1.1s
MBWA Marble Bar 61.69 257 IAMs_20 IAMs_20 11 26 32.4
comp=Z,7µm,20.0s
MBWA Marble Bar 61.69 257 P **P** 11 00 18.5 -1.3
MBWA Marble Bar 61.69 257 ⇑P **P** 11 00 17.4 -2.4
RKGY Rocky Gully 61.77 241 P **P** 11 00 20.8 +0.6
baz=62,SNR=6.1
RKGY Rocky Gully 61.77 241 P **P** 11 00 22.4 +2.2
comp=Z,97nm,1.1s
NWAO Narrogin (SRO) 61.78 243 P **P** 11 00 20.6 +0.5
baz=62,SNR=5.4
NWAO P **P** 11 00 20.6 +0.5
baz=62,SNR=5.4
NWAO Narrogin (SRO) 61.78 243 P **P** 11 00 19.9 -0.2
NWAO Narrogin (SRO) 61.78 243 P **P** 11 00 20.7 +0.5
NWAO Narrogin (SRO) 61.78 243 P **P** 11 00 20.0 -0.2
NWAO pmax pmax
comp=Z,130nm,1.4s
NWAO MLR MLR
comp=Z,4µm,18.0s
NWAO Narrogin (SRO) 61.78 243 LR LR 11 25 42.6
comp=Z,4µm,19.5s,baz=82,slow=35
BLDU Ballidu 62.56 246 P **P** 11 00 25.0 -0.5
baz=62,SNR=31
BLDU Ballidu 62.56 246 P **P** 11 00 24.8 -0.7
MUN Mundaring 62.77 244 P **P** 11 00 27.0 +0.1
baz=62,SNR=7.6
MUN Mundaring 62.77 244 P **P** 11 00 27.5 +0.6
MUN Mundaring 62.77 244 P **P** 11 00 26.7 -0.2
MMRI Maumere 62.80 271 P **P** 11 00 27.8 +0.5
MMRI Maumere 62.80 271 P **P** 11 00 26.1 -1.2
comp=Z,61nm,0.6s,comp=Z,3µmcomp=Z,3µm
EDFI Ende, Flores 63.27 271 P **P** 11 00 28.0 -2.6
comp=Z,92nm,1.2s,comp=Z,2µm
MORW Morawa 63.39 247 P **P** 11 00 30.7 -0.4
baz=63,SNR=11
MORW Morawa 63.39 247 P **P** 11 00 30.4 -0.6
MORW IAmb IAmb 11 00 34.4
comp=Z,49nm,0.9s
MORW IAMs_20 IAMs_20 11 28 07.5
comp=Z,8µm,18.0s
MORW Morawa 63.39 247 P **P** 11 00 31.9 +0.8
MORW Morawa 63.39 247 ⇑P **P** 11 00 30.1 -1.0
BBSI Bau Bau 63.55 274 P **P** 11 00 32.0 -0.3
comp=Z,59nm,1.1s,comp=Z,1µmcomp=Z,2µm
BASI Baing, Sumba 63.85 269 P **P** 11 00 34.4 +0.2
comp=Z,264nm,1.5s,comp=Z,8µm
JCJ Chichijima 64.07 316 LR LR 11 23 23.6
comp=Z,1µm,21.3s,baz=128,slow=31
SGSI Sangihe 64.36 285 P **P** 11 00 36.6 -1.0
comp=Z,259nm,1.1s,comp=Z,3µm
KMSI Cibinong 64.50 281 P **P** 11 00 38.8 +0.3
comp=Z,266nm,1.0s,comp=Z,3µm
LUWI Luwuk 64.99 279 P **P** 11 00 42.7 +1.0
LUWI Luwuk 64.99 279 P **P** 11 00 41.5 -0.2
comp=Z,293nm,1.2s,comp=Z,7µmcomp=Z,4µm
LUWI Luwuk 64.99 279 P **P** 11 00 40.0 -1.7
CASY Casey 65.31 206 P **P** 11 00 43.3 +0.4
CASY Casey 65.31 206 ⇑P **P** 11 00 44.7 +1.8
DAV Davao City (W) 65.79 288 LR LR 11 27 50.5
comp=Z,759nm,18.6s,baz=95,slow=35
BKSI Bulukumba 65.89 274 P **P** 11 00 44.8 -2.8
comp=Z,42nm,1.7s,comp=Z,1µmcomp=Z,3µm
GIRL Giralia 66.31 254 P **P** 11 00 49.5 -0.7
baz=66,SNR=5.2
MRSI Marisa 66.34 280 P **P** 11 00 49.1 -1.3
comp=Z,94nm,1.1s,comp=Z,2µmcomp=Z,3µm
KAPI Kappang 66.34 274 P **P** 11 00 48.5 -2.0
KAPI IAmb IAmb 11 01 13.8
comp=Z,74nm,1.3s
KAPI Kappang 66.34 274 P **P** 11 00 52.5 +2.0
KAPI Kappang 66.34 274 P **P** 11 00 48.5 -2.0
KAPI pmax pmax
comp=Z,74nm,1.3s
KAPI Kappang 66.34 274 LR LR 11 28 56.2
comp=Z,1µm,20.3s,baz=122,slow=35
SPSI Sidrap Palu 66.70 275 P **P** 11 00 51.2 -1.5
comp=Z,54nm,1.2s,comp=Z,2µm
PLAI Plampang 66.91 269 P **P** 11 00 55.5 +1.4
PLAI Plampang 66.91 269 P **P** 11 00 53.8 -0.3
comp=Z,102nm,1.2s,comp=Z,2µmcomp=Z,3µm
TTSI Tana Toraja 66.98 276 P **P** 11 00 54.5 0.0
comp=Z,27nm,1.4s,comp=Z,3µm
TOLI2 Tolitoli 67.65 280 P **P** 11 00 56.3 -2.5
TOLI2 Tolitoli 67.65 280 P **P** 11 01 02.7 +3.9
TWSI Taliwang, Sumb 67.77 269 P **P** 11 00 57.4 -2.2
comp=Z,84nm,1.5s,comp=Z,2µmcomp=Z,3µm
MPSI Mapaga 68.17 279 P **P** 11 01 00.9 -1.1
comp=Z,106nm,1.1s,comp=Z,2µmcomp=Z,3µm
QSPA South Pole Qui 69.14 180 P **P** 11 01 09.1 +1.7
QSPA IAmb IAmb 11 01 14.8
comp=Z,80nm,1.0s
QSPA South Pole Qui 69.14 180 IAMs_20 IAMs_20 11 32 20.2
comp=Z,6µm,19.0s
QSPA South Pole Qui 69.14 180 P **P** 11 01 10.2 +2.7
comp=Z,73nm,1.0s,baz=47,slow=1.6,SNR=93
QSPA LR LR 11 27 02.1
comp=Z,4µm,21.0s,baz=36,slow=32
comp=Z,73nm,1.0s
IGBI Denpasar 69.37 268 P **P** 11 01 08.0 -1.6
comp=Z,110nm,1.1s,comp=Z,3µm
SRBI Singaraja 69.55 269 P **P** 11 01 08.6 -2.0
comp=Z,57nm,1.2s,comp=Z,3µmcomp=Z,3µm
JHJ Hachijo jima 2 69.73 320 LR LR 11 32 30.6
comp=Z,1µm,18.2s,baz=23,slow=37
JAGI Jajag, Banyuwa 70.41 268 P **P** 11 01 15.5 -0.5
comp=Z,48nm,1.2s
JAGI Jajag, Banyuwa 70.41 268 P **P** 11 01 14.5 -1.5
comp=Z,48nm,1.2s,comp=Z,2µmcomp=Z,3µm
MYLDM Lahad Datu 71.35 283 P **P** 11 01 22.0 +0.3
MYLDM IAmb IAmb 11 01 46.3
comp=Z,104nm,1.1s
MYLDM Lahad Datu 71.35 283 ⇑P **P** 11 01 22.1 +0.4
BBKI Banjar Baru 71.47 273 P **P** 11 01 23.8 +1.4
comp=Z,113nm,1.5s,comp=Z,5µm
MTKI Muara Teweh, K 72.32 276 P **P** 11 01 28.2 +0.6
comp=Z,89nm,1.1s,comp=Z,8µmcomp=Z,3µm
JMM Marumori 72.47 324 IAMs_20 IAMs_20 11 29 20.0
comp=Z,6µm,20.0s
MJAR Matsushiro Arr 73.02 321 P **P** 11 01 30.7 -0.5
comp=Z,11nm,0.6s,baz=150,slow=5.7,SNR=38
MJAR LR LR 11 28 13.3
comp=Z,1µm,21.6s,baz=125,slow=32
comp=Z,11nm,0.6s
MAJO Matsushiro 73.02 321 P **P** 11 01 29.9 -1.3
MAJO IAmb IAmb 11 01 35.2
comp=Z,153nm,1.8s
MAJO Matsushiro 73.02 321 P **P** 11 01 33.2 +2.0
MAJO Matsushiro 73.02 321 ⇑P **P** 11 01 31.6 +0.5
MAJO Matsushiro 73.02 321 *i*P **P** 11 01 32.7 +1.5
MAJO pmax pmax
comp=Z,28nm,1.0s
MAJO MLR MLR
comp=Z,528nm,5.0s
MJB9 Matsu-Tunnel 73.02 321 P **P** 11 01 29.6 -1.6
MJB9 IAmb IAmb 11 01 35.2
comp=Z,152nm,1.8s
TGY Tagaytay City 73.03 293 LR LR 11 31 53.2
comp=Z,1µm,20.8s,baz=112,slow=35
JOW Kunigami 73.58 308 P **P** 11 01 34.5 -0.2
JOW Kunigami 73.58 308 P **P** 11 01 36.5 +1.8
JOW Kunigami 73.58 308 LR LR 11 27 20.7
comp=Z,771nm,21.5s,baz=122,slow=31
NIKH Nikolski High 73.72 3 P **P** 11 01 37.5 +2.7
baz=185
JMN Monobe 73.82 317 P **P** 11 01 34.7 -1.3
JMN Monobe 73.82 317 P **P** 11 01 40.0 +4.0
comp=Z,149nm,2.5s
UGM Wanagama 73.98 268 P **P** 11 01 35.0 -2.4
UGM Wanagama 73.98 268 P **P** 11 01 37.1 -0.3
comp=Z,113nm,1.2s,comp=Z,4µm
SHEM Shemya Is, Ala 74.12 352 LR LR 11 28 18.7
comp=Z,4µm,21.1s,baz=144,slow=31
ERM Erimo 74.26 328 IAMs_20 IAMs_20 11 34 34.1
comp=Z,5µm,19.0s
YUK Yuzh-Kuril'sk 74.52 331 P **P** 11 01 37.9 -1.8
YUK *e*S **S** 11 11 11.8 -3.0
YUK MLR MLR
comp=Z,4µm,21.0s
SNCC San Nicolas Is 74.65 45 IAMs_20 IAMs_20 11 28 22.1
comp=Z,4µm,21.0s
SNCC San Nicolas Is 74.65 45 P **P** 11 01 43.4 +2.6
baz=232
UNV Unalaska Valle 74.73 4 P **P** 11 01 44.6 +3.9
baz=187
SCZ2 Santa Cruz Isl 75.04 44 P **P** 11 01 45.1 +2.0
baz=232
AKUT Akutan 75.07 5 IAMs_20 IAMs_20 11 30 13.3
comp=Z,4µm,19.0s
SBC Santa Barbara 75.26 44 P **P** 11 01 46.1 +1.8
baz=231
JNU Nakatsue 75.41 314 P **P** 11 01 43.9 -1.4
JNU Nakatsue 75.41 314 P **P** 11 01 48.4 +3.1
comp=Z,81nm,1.6s
JNU Nakatsue 75.41 314 ⇑P **P** 11 01 47.1 +1.8
JNU Nakatsue 75.41 314 LR LR 11 30 31.2
comp=Z,848nm,20.8s,baz=116,slow=32
CIS Catalina Islan 75.47 45 P **P** 11 01 47.4 +1.8
baz=232,SNR=8.2
PKM Mcpherson Peak 75.48 43 P **P** 11 01 47.5 +1.7
baz=231,SNR=12
SMMC Simmler 75.63 43 P **P** 11 01 47.7 +1.2
baz=231,SNR=6.9
SAO San Andreas Ge 75.64 41 ⇑P **P** 11 01 49.4 +2.9
SAO San Andreas Ge 75.64 41 ⇑P **P** 11 01 49.4 +2.9
KPJI Karang Pucung 75.67 268 P **P** 11 01 44.9 -2.2
comp=Z,48nm,1.3s,comp=Z,3µm
PMPB Monarch Peak 75.69 42 IAMs_20 IAMs_20 11 29 39.5
comp=Z,7µm,19.0s
FMP Fort Macarthur 75.74 45 P **P** 11 01 49.4 +2.4
baz=232
BCW Bitter Crk WRg 75.77 43 IAMs_20 IAMs_20 11 29 34.6
comp=Z,5µm,19.0s

STKI **Sintang** 75.87 276 P P 11 01 50.3 +2.0
comp=Z,42nm,1.4s,comp=Z,12µmcomp=Z,4µm
CMJI **Cimerak** 75.96 267 P P 11 01 47.0 -1.8
comp=Z,61nm,1.8s,comp=Z,3µmcomp=Z,3µm
FALS **False Pass** 76.00 6 P P 11 01 49.7 +1.7
baz=190
OSI **Osito Audit: C** 76.01 44 P P 11 01 50.8 +2.2
baz=232
109C **Camp Elliot, M** 76.04 46 P P 11 01 51.3 +2.5
baz=233
DECC **Green Verdugo** 76.05 45 P P 11 01 52.1 +3.2
baz=232
SBUM **Sibu** 76.06 278 P P 11 01 48.2 -1.1
SBUM **Sibu** 76.06 278 ⇑P P 11 01 49.4 0.0
SBUM ⇓P pP 11 01 49.6 -0.9
PASC **Pasadena Art C** 76.09 45 IAMs_20 IAMs_20 11 29 52.4
comp=Z,4µm,20.0s
ASAJ **Asahikawa** 76.10 329 LR LR 11 33 50.4
comp=Z,2µm,18.1s,baz=146,slow=35
HOPS **Hopland Field** 76.14 38 IAMs_20 IAMs_20 11 28 52.1
comp=Z,4µm,18.0s
GDXM **Geysers** 76.17 39 IAMs_20 IAMs_20 11 33 26.2
comp=Z,5µm,18.0s
LPIG **La Paz** 76.20 57 LR LR 11 28 59.4
comp=Z,9µm,19.3s,baz=224,slow=31
ARVC **Arvin** 76.26 44 P P 11 01 53.3 +3.3
baz=232,SNR=7.9
KCPM **Cahto Peak** 76.31 38 IAMs_20 IAMs_20 11 28 36.6
comp=Z,6µm,20.0s
MURC **Murrieta** 76.41 46 P P 11 01 55.4 +4.5
baz=233,SNR=11
CNBA **Chernabura Isl** 76.41 8 IAMs_20 IAMs_20 11 32 45.1
comp=Z,7µm,20.0s
CHNA **Chernabura Isl** 76.42 8 P P 11 01 53.0 +2.6
baz=193
BFSC **Mount Baldy Ra** 76.48 45 P P 11 01 55.2 +3.7
baz=233,SNR=12
KMPM **Mount Pierce** 76.50 37 IAMs_20 IAMs_20 11 28 31.6
comp=Z,6µm,20.0s
SFX **San Felipe** 76.53 49 IAMs_20 IAMs_20 11 28 50.2
comp=Z,4µm,20.0s
VES **Vestal, Richgr** 76.53 43 P P 11 01 53.8 +2.2
baz=232,SNR=19
IKP **In-Ko-Pah, Jac** 76.58 47 P P 11 01 55.2 +3.3
baz=234,SNR=15
KMRM **Mail Ridge** 76.60 37 IAMs_20 IAMs_20 11 28 53.9
comp=Z,6µm,19.0s
VOG **Valley Oaks Go** 76.64 42 P P 11 01 55.5 +3.4
baz=231
EDW2 **Edwards Air Fo** 76.65 44 P P 11 01 56.1 +3.8
baz=232,SNR=30
CCAC **Calif City Air** 76.80 44 IAMs_20 IAMs_20 11 29 39.0
comp=Z,4µm,20.0s
SDPT **Sand Point** 76.81 8 IAMs_20 IAMs_20 11 32 37.4
comp=Z,5µm,20.0s
SDPT **Sand Point** 76.81 8 P P 11 01 54.3 +1.8
baz=193
ISA **Isabella, Lake** 76.81 43 IAMs_20 IAMs_20 11 29 40.4
comp=Z,5µm,20.0s
ISA **Isabella, Lake** 76.81 43 P P 11 01 56.6 +3.3
baz=232,SNR=28
BBJI **Bungbulang** 76.82 267 P P 11 01 54.9 +1.1
JCC **Jacoby Creek,** 76.82 36 IAMs_20 IAMs_20 11 29 11.2
comp=Z,6µm,19.0s
PFO **Pinyon Flats O** 76.91 46 IAMs_20 IAMs_20 11 35 04.1
comp=Z,3µm,18.0s
PFO **Pinyon Flats O** 76.91 46 P P 11 01 55.2 +1.3
baz=234,SNR=20
PFO **Pinyon Flats O** 76.91 46 LR LR 11 29 39.9
comp=Z,2µm,19.5s,baz=248,slow=31
TPFO **Pinon Flats** 76.91 46 P P 11 01 55.5 +1.7
baz=234,SNR=22
SWSC **Sam W. Stewart** 76.97 47 P P 11 01 57.8 +3.8
baz=234,SNR=12
BBRC **Big Bear Solar** 76.98 45 P P 11 01 57.2 +2.7
baz=233,SNR=6.4
KHMM **Horse Mountain** 77.03 37 IAMs_20 IAMs_20 11 29 08.6
comp=Z,6µm,20.0s
KRPM **Rodgers** 77.06 36 IAMs_20 IAMs_20 11 29 06.4
comp=Z,6µm,19.0s
LEM **Lembang** 77.06 268 LR LR 11 35 18.2
comp=Z,3µm,20.6s,baz=122,slow=35
CMB **Columbia Colle** 77.11 41 P P 11 01 56.4 +1.6
CMB IAmb IAmb 11 02 11.1
comp=Z,89nm,1.6s
CMB IAMs_20 IAMs_20 11 30 25.9
comp=Z,5µm,19.0s
CMB **Columbia Colle** 77.11 41 P P 11 01 56.4 +1.6
CMB pmax pmax
comp=Z,89nm,1.7s
YULB **Yu-li** 77.14 301 P P 11 01 58.2 +2.9
LRMC **Laurel Mtn Rad** 77.22 44 P P 11 01 58.5 +2.9
baz=232,SNR=9.1
NACB **Ninganchiao** 77.29 302 P P 11 01 57.2 +1.1
RRX **Edison Barstow** 77.30 45 P P 11 01 58.9 +2.9
baz=233
AFDM **Forest Hills D** 77.34 39 IAmb IAmb 11 02 12.3
comp=Z,63nm,1.6s
AFDM IAMs_20 IAMs_20 11 34 00.1
comp=Z,3µm,18.0s
KRMB **Red Mountain** 77.37 36 IAMs_20 IAMs_20 11 29 37.6
comp=Z,5µm,20.0s
BELC **Belle Mtn. Jos** 77.45 46 P P 11 01 59.5 +2.6
baz=234,SNR=15
PET **Petropavlovsk** 77.47 343 eP P 11 01 57.4 +1.1
PET e 11 04 48.9
PET eS S 11 11 47.6 +0.7
PET e 11 12 28.8
PET ePS PnS 11 12 47.7 +21
PET pmax pmax
comp=Z,700nm,11.0s
PET pmax pmax
comp=Z,20nm,1.0s
PET smax smax
comp=N,1µm,15.1s
PET MLR MLR
comp=Z,6µm,16.0s
PET MLR MLR
comp=Z,5µm,16.0s
CWC **Cottonwood Cre** 77.54 43 P P 11 02 00.2 +2.7
baz=232
KSXB **Camp Six Broad** 77.60 36 IAMs_20 IAMs_20 11 29 25.6
comp=Z,6µm,19.0s
SSLB **Suanglung** 77.61 302 IAmb IAmb 11 02 01.9
comp=Z,61nm,1.2s
SSLB **Suanglung** 77.61 302 P P 11 01 59.7 +1.8
BC3 **Big Chuckawall** 77.61 47 P P 11 02 01.0 +3.2
baz=234,SNR=19
TPUB **Ta-pu** 77.63 301 P P 11 01 59.3 +1.3
MDPB **Devils Postpil** 77.65 41 IAMs_20 IAMs_20 11 30 42.5
comp=Z,5µm,19.0s
KBO **Bosley Butte** 77.67 35 IAMs_20 IAMs_20 11 29 56.5
comp=Z,7µm,19.0s
GSC **Goldstone, Bar** 77.68 45 IAmb IAmb 11 02 16.3
comp=Z,81nm,1.6s
GSC IAMs_20 IAMs_20 11 30 05.4
comp=Z,4µm,20.0s
GSC **Goldstone, Bar** 77.68 45 P P 11 02 01.2 +3.1
baz=233,SNR=14
MPMC **Manual Prospec** 77.69 44 P P 11 02 00.9 +2.6
baz=233,SNR=35
OMMB **Old Mammoth Mi** 77.69 42 IAMs_20 IAMs_20 11 29 46.5
comp=Z,5µm,20.0s
GLA **Glamis** 77.69 47 P P 11 02 01.1 +2.9
baz=235
HEC **Hector,Ludlow** 77.71 45 P P 11 02 00.9 +2.6
baz=234,SNR=21
YHNB **Yeheng** 77.71 302 IAmb IAmb 11 01 59.6
comp=Z,132nm,1.4s
PEA0B **Petropavlovsk-** 77.80 343 ceP P 11 01 59.7 +1.5
PETK **Petropavlovsk-** 77.80 343 P P 11 01 57.5 -0.8
PETK **Petropavlovsk-** 77.80 343 P P 11 01 58.3 0.0
comp=Z,32nm,0.9s,baz=119,slow=4.9,SNR=16
PETK LR LR 11 30 52.0
comp=Z,2µm,21.2s,baz=160,slow=32
comp=Z,32nm,0.9s
MLAC **Mammoth, Mammo** 77.80 42 P P 11 02 01.6 +2.7
baz=231,SNR=11
TIN **Tinemaha, Big** 77.83 42 P P 11 02 01.1 +2.2
baz=232
S14K **Fog Glacier** 77.84 8 P P 11 01 58.9 +0.4
baz=193
SPIA **Saint Paul Isl** 77.86 2 P P 11 01 58.7 +0.2
baz=183
EMB **Emerald Bay** 77.88 40 IAMs_20 IAMs_20 11 31 27.3
comp=Z,4µm,19.0s
CBJI **Citeko** 77.92 268 P P 11 01 59.6 -0.2
comp=Z,116nm,1.0s,comp=Z,7µm

L02F **Cave Junction** 77.96 36 IAmb IAmb 11 02 15.3
comp=Z,68nm,1.7s
L02F IAMs_20 IAMs_20 11 29 26.3
comp=Z,7µm,19.0s
DBJI **Dramaga** 77.96 268 P P 11 02 01.0 +0.9
comp=Z,202nm,2.6s,comp=Z,8µmcomp=Z,4µm
CHIR **Chirikof Islan** 77.98 10 P P 11 01 59.1 0.0
WAKR **Walker** 77.98 41 IAMs_20 IAMs_20 11 31 04.1
comp=Z,6µm,19.0s
CHGN **Chignik** 78.01 9 IAMs_20 IAMs_20 11 33 42.2
comp=Z,6µm,21.0s
CHGN **Chignik** 78.01 9 P P 11 02 00.3 +1.1
baz=194
IRM **Iron Mountain** 78.11 46 P P 11 02 01.9 +1.4
baz=234,SNR=34
MPK **Martis Peak** 78.12 40 IAMs_20 IAMs_20 11 34 34.7
comp=Z,4µm,18.0s
GMRC **Granite Mounta** 78.13 46 P P 11 02 02.0 +1.3
baz=234,SNR=18
YSS **Yuzh-Sakhalins** 78.16 331 eP P 11 02 01.4 +1.1
YSS eS S 11 11 54.9 +0.2
YSS ePS PnS 11 12 12.7 -23
YSS pmax pmax
comp=Z,40nm,0.8s
YSS MLR MLR
comp=N,3µm,16.0s
YBH **Yreka Blue Hor** 78.17 36 IAmb IAmb 11 02 08.2
comp=Z,75nm,1.8s
YBH IAMs_20 IAMs_20 11 29 24.9
comp=Z,5µm,20.0s
YBH **Yreka Blue Hor** 78.17 36 LR LR 11 29 47.3
comp=Z,4µm,20.2s,baz=222,slow=30
PNTR **Pine Nut** 78.25 40 IAmb IAmb 11 02 07.5
comp=Z,146nm,1.5s
PNTR IAMs_20 IAMs_20 11 30 54.2
comp=Z,5µm,19.0s
HSIG 78.25 53 IAMs_20 IAMs_20 11 29 41.1
comp=Z,6µm,20.0s
113A **Mohawk Valley,** 78.27 48 IAMs_20 IAMs_20 11 29 33.1
comp=Z,4µm,20.0s
GWY **Greenwater Val** 78.30 44 IAMs_20 IAMs_20 11 30 16.6
comp=Z,4µm,18.0s
GRAC **Grapevine Rang** 78.34 43 IAMs_20 IAMs_20 11 30 20.7
comp=Z,5µm,20.0s
GRAC **Grapevine Rang** 78.34 43 P P 11 02 02.8 +1.1
TUQ **Turquoise Moun** 78.34 45 P P 11 02 02.8 +0.9
baz=234
FURC **Furnace Creek,** 78.34 44 P P 11 02 03.4 +1.8
baz=233,SNR=11
LHV **Little Huntoon** 78.39 41 IAMs_20 IAMs_20 11 31 18.1
comp=Z,5µm,19.0s
YERR **Yerington** 78.40 40 IAMs_20 IAMs_20 11 31 36.2
comp=Z,5µm,19.0s
214A **Organ Pipe Nat** 78.48 49 IAMs_20 IAMs_20 11 30 08.0
comp=Z,5µm,20.0s
214A **Organ Pipe Nat** 78.48 49 P P 11 02 04.4 +1.8
baz=236,SNR=8.6
BELA **Belgrano 2** 78.58 172 P P 11 02 03.6 +1.1
BELA IAMs_20 IAMs_20 11 32 58.2
comp=Z,4µm,20.0s
RYN **Ryan** 78.62 41 IAMs_20 IAMs_20 11 31 24.9
comp=Z,5µm,19.0s
NVAR **Mina Array Bea** 78.63 41 P P 11 02 05.8 +2.3
comp=Z,18nm,0.8s,baz=224,slow=8.6,SNR=69
NVAR LR LR 11 31 30.7
comp=Z,5µm,19.0s,baz=246,slow=32
comp=Z,18nm,0.8s
NV11 **Mina Array Sit** 78.72 41 IAMs_20 IAMs_20 11 31 18.7
comp=Z,6µm,20.0s
L04D **Klamath Falls** 78.72 36 P P 11 02 04.3 +0.5
L04D IAmb IAmb 11 02 32.9
comp=Z,57nm,1.4s
L04D IAMs_20 IAMs_20 11 31 59.5
comp=Z,4µm,19.0s
PAHR **Pah Rah Range** 78.77 40 IAMs_20 IAMs_20 11 31 02.0
comp=Z,4µm,18.0s
NEE2 **Needles Airpor** 78.82 46 P P 11 02 05.7 +1.3
baz=235
PDMCI **Parker Dam,Lak** 78.88 47 P P 11 02 06.3 +1.7
baz=235,SNR=7.6
SII **Sitkinak Islan** 78.93 11 P P 11 02 04.2 -0.2
baz=198
CGJI **Cibinong** 78.93 267 P P 11 02 04.4 -1.0
comp=Z,127nm,1.3s,comp=Z,4µm
TPNV **Topopah Spring** 79.02 43 IAMs_20 IAMs_20 11 31 01.9
comp=Z,5µm,20.0s
TPNV **Topopah Spring** 79.02 43 P P 11 02 07.5 +1.9
baz=233,SNR=16
TPNV **Topopah Spring** 79.02 43 ⇑P P 11 02 08.9 +3.3
KVN **Kaiserville** 79.14 41 P P 11 02 07.7 +1.5
KVN IAMs_20 IAMs_20 11 31 42.7
comp=Z,6µm,19.0s
KVN **Kaiserville** 79.14 41 P P 11 02 07.7 +1.5
KVN pmax pmax
comp=Z,36nm,1.1s
I03D **Drain, OR** 79.15 35 IAMs_20 IAMs_20 11 31 03.7
comp=Z,6µm,20.0s
PMSA **Palmer Station** 79.26 156 LR LR 11 30 37.2
comp=Z,3µm,19.0s,baz=246,slow=31
K04D **Chiloquin, OR** 79.30 36 IAMs_20 IAMs_20 11 30 13.7
comp=Z,4µm,20.0s
R17K **Ugashik Creek** 79.60 9 IAMs_20 IAMs_20 11 35 06.3
comp=Z,7µm,21.0s
OHAK **Old Harbor** 79.72 11 IAMs_20 IAMs_20 11 34 01.5
comp=Z,5µm,21.0s
I04A **Tendick Farm,** 79.72 35 IAMs_20 IAMs_20 11 31 01.7
comp=Z,5µm,20.0s
S11A **Rachel** 79.76 43 IAMs_20 IAMs_20 11 32 04.3
comp=Z,6µm,20.0s
K05A **Summer Lake** 79.84 37 IAMs_20 IAMs_20 11 30 52.1
comp=Z,5µm,20.0s
R18K **Karluk** 79.84 10 P P 11 02 10.0 +0.7
baz=198
KSRS **Korea Array** 79.93 317 P P 11 02 10.9 +0.6
comp=Z,7.9nm,1.0s,baz=133,slow=5.9,SNR=12
KSRS LR LR 11 31 51.2
comp=Z,1µm,22.0s,baz=125,slow=32
comp=Z,7.9nm,1.0s
KSAR **Wonju Array Be** 79.95 316 P P 11 02 10.8 +0.4
KSAR **Wonju Array Be** 79.95 316 P P 11 02 10.8 +0.4
HEBO **Mount Hebo** 79.98 33 IAMs_20 IAMs_20 11 32 05.5
comp=Z,6µm,19.0s
J05D **Fort Rock, OR** 80.02 36 IAmb IAmb 11 02 16.0
comp=Z,90nm,1.6s
J05D IAMs_20 IAMs_20 11 30 46.8
comp=Z,5µm,19.0s
QZH **Quanzhou** 80.05 301 ⇑iP P 11 02 12.1 +0.9
QZH S S 11 12 16.2 +0.4
QZH pmax pmax
comp=Z,2µm,4.5s
QZH LR LR
comp=Z,800nm,18.3s
QZH LR LR
comp=Z,2µm,19.7s
QZH LR LR
comp=Z,2µm,18.2s
PPBI **Pangkal Pinang** 80.06 271 P P 11 02 12.9 +1.3
comp=Z,59nm,1.6s,comp=Z,16µmcomp=Z,4µm
PRN **Pahroc Range** 80.06 44 IAMs_20 IAMs_20 11 31 25.4
comp=Z,6µm,20.0s
TUC **Tucson** 80.12 50 IAMs_20 IAMs_20 11 31 46.3
comp=Z,6µm,19.0s
TUC **Tucson** 80.12 50 P P 11 02 12.3 +0.7
baz=238
TUC **Tucson** 80.12 50 ⇓P P 11 02 15.1 +3.5
TUC **Tucson** 80.12 50 ⇓P P 11 02 15.1 +3.5
G03D **McMinnville, O** 80.23 34 IAMs_20 IAMs_20 11 31 26.1
comp=Z,6µm,20.0s
Q17K **Contact Creek** 80.28 9 P P 11 02 11.8 0.0
baz=197
R11B **Troy Canyon, C** 80.28 43 IAMs_20 IAMs_20 11 31 44.0
comp=Z,4µm,19.0s
R11B **Troy Canyon, C** 80.28 43 P P 11 02 12.9 +0.4
baz=234,SNR=22
KDAK **Kodiak Island** 80.38 11 P P 11 02 12.5 +0.3
baz=200
KDAK **Kodiak Island** 80.38 11 LR LR 11 31 43.8
comp=Z,4µm,21.5s,baz=230,slow=31
KASI **Kalaupapa** 80.42 268 P P 11 02 12.6 -0.9
comp=Z,305nm,1.1s,comp=Z,5µm
BMN **Battle Mountai** 80.52 40 IAMs_20 IAMs_20 11 32 44.3
comp=Z,5µm,19.0s
O14K **Tigyukauivet M** 80.55 6 IAMs_20 IAMs_20 11 35 38.6
comp=Z,6µm,20.0s
O14K **Tigyukauivet M** 80.55 6 P P 11 02 13.8 +0.7
baz=192

Q16K **King Salmon** 80.56 9 P P 11 02 13.6 +0.4
baz=196
F03A **Seaside** 80.57 33 IAMs_20 IAMs_20 11 32 01.1
comp=Z,4µm,20.0s
O15K **Ungalikthiuk R** 80.63 7 P P 11 02 13.9 +0.4
baz=193
I05D **Terrebonne, OR** 80.66 35 IAMs_20 IAMs_20 11 31 14.6
comp=Z,4µm,20.0s
P16K **Nushagak River** 80.72 8 P P 11 02 14.4 +0.4
baz=195
Q18K **Katmai Hardscr** 80.78 10 P P 11 02 12.5 -2.0
baz=198
INCN **Inchon** 80.78 316 P P 11 02 16.8 +1.8
WVOR **Wild Horse Val** 80.93 38 IAMs_20 IAMs_20 11 31 49.0
comp=Z,4µm,20.0s
WVOR **Wild Horse Val** 80.93 38 ⇑P P 11 02 18.3 +2.5
WVOR **Wild Horse Val** 80.93 38 P P 11 02 17.0 +1.2
WVOR pmax pmax
comp=Z,41nm,1.2s
F04D **Rainier, OR** 80.95 33 IAMs_20 IAMs_20 11 32 04.3
comp=Z,4µm,20.0s
E03A **Lebam** 80.99 32 IAMs_20 IAMs_20 11 32 42.2
comp=Z,6µm,20.0s
LWLI **Liwa** 81.00 268 P P 11 02 17.2 +0.4
comp=Z,203nm,0.7s,comp=Z,11µm
P17K **Kvichak River** 81.09 9 P P 11 02 15.4 -0.6
baz=196
SSE **Sheshan** 81.10 308 P P 11 02 16.2 -0.5
SSE S S 11 12 28.0 +1.5
SSE pmax pmax
comp=Z,15nm,0.5s
SSE pmax pmax
comp=Z,640nm,4.6s
SSE LR LR
comp=Z,200nm,15.7s
SSE LR LR
comp=Z,350nm,16.3s
TYV **Tymovskoe** 81.15 334 eP P 11 02 18.1 +1.6
TYV eS S 11 12 28.5 +2.3
TYV pmax pmax
comp=Z,36nm,1.4s
TYV pmax pmax
comp=Z,1µm,4.6s
TYV smax smax
comp=E,34nm,1.7s
TYV smax smax
comp=N,1µm,5.1s
TYV smax smax
comp=E,2µm,5.1s
F04A **Amboy** 81.16 33 IAMs_20 IAMs_20 11 31 45.6
comp=Z,4µm,20.0s
N14K **Kuskokwak Cree** 81.16 6 P P 11 02 15.8 -0.5
baz=191
Q12A **Willow Creek R** 81.16 42 IAMs_20 IAMs_20 11 33 19.4
comp=Z,4µm,20.0s
O16K **Kokwok River B** 81.25 8 IAMs_20 IAMs_20 11 35 27.8
comp=Z,4µm,20.0s
M11K **Mekoryuk** 81.26 4 P P 11 02 16.4 -0.4
baz=187
Q19K **Cape Douglas,** 81.27 10 P P 11 02 15.8 -1.3
baz=199
WISH **Wishkah** 81.28 32 IAMs_20 IAMs_20 11 32 12.9
comp=Z,6µm,20.0s
NLWA **Neilton Lookou** 81.42 32 IAMs_20 IAMs_20 11 33 05.1
comp=Z,6µm,19.0s
WUAZ **Wupatki** 81.44 47 P P 11 02 16.4 -2.3
baz=237
WUAZ **Wupatki** 81.44 47 ⇓P P 11 02 22.3 +3.6
WUAZ ⇓P PcP 11 02 24.6 -0.1
SPR3 **Spring Creek 3** 81.45 43 IAMs_20 IAMs_20 11 32 38.1
comp=Z,5µm,19.0s
P18K **Big Mountain,** 81.46 9 IAMs_20 IAMs_20 11 35 33.4
comp=Z,6µm,20.0s
P18K **Big Mountain,** 81.46 9 P P 11 02 16.6 -1.4
baz=197
C03A **Quillayute Air** 81.47 31 IAMs_20 IAMs_20 11 32 15.8
comp=Z,5µm,20.0s
PSUT **Pine Spring** 81.49 43 IAMs_20 IAMs_20 11 32 51.1
comp=Z,6µm,20.0s
I07A **Izee** 81.49 36 IAmb IAmb 11 02 43.9
comp=Z,63nm,1.7s
I07A IAMs_20 IAMs_20 11 31 45.7
comp=Z,5µm,20.0s
M13K **Dall Lake** 81.49 5 P P 11 02 17.3 -0.8
baz=190
O17K **Koliganek Bris** 81.56 8 P P 11 02 17.6 -0.8
baz=196
N15K **Kwethluk River** 81.57 7 IAMs_20 IAMs_20 11 36 20.2
comp=Z,6µm,20.0s
N15K **Kwethluk River** 81.57 7 P P 11 02 17.7 -0.9
baz=193
J08A **Circle Bar Ran** 81.61 37 IAMs_20 IAMs_20 11 32 31.8
comp=Z,5µm,20.0s
G06A **Carlson Farm,** 81.63 35 IAMs_20 IAMs_20 11 33 03.2
comp=Z,6µm,20.0s
USRK **Ussuriysk Ar.** 81.64 324 P P 11 02 19.6 +0.2
comp=Z,28nm,1.1s,baz=116,slow=4.4,SNR=7.9
USRK LR LR 11 34 34.9
comp=Z,6µm,20.1s,baz=130,slow=33
comp=Z,28nm,1.1s
OZB **Mount Ozzard** 81.75 30 IAMs_20 IAMs_20 11 32 51.0
comp=Z,5µm,21.0s
O18K **Koktuh Hills** 81.91 9 IAMs_20 IAMs_20 11 36 26.2
comp=Z,5µm,20.0s
O18K **Koktuh Hills** 81.91 9 P P 11 02 20.3 0.0
baz=197
ELK **Elko** 81.91 41 P P 11 02 22.2 +1.1
ELK IAMs_20 IAMs_20 11 33 40.2
comp=Z,6µm,19.0s
ELK **Elko** 81.91 41 ⇑P P 11 02 23.7 +2.5
ELK **Elko** 81.91 41 ⇑P P 11 02 23.7 +2.5
ELK **Elko** 81.91 41 LR LR 11 34 01.2
comp=Z,6µm,18.9s,baz=228,slow=32
M14K **Bethel** 81.95 6 IAMs_20 IAMs_20 11 36 13.7
comp=Z,4µm,20.0s
M14K **Bethel** 81.95 6 P P 11 02 21.3 +0.8
baz=191
LON **Longmire** 82.02 33 IAMs_20 IAMs_20 11 32 40.4
comp=Z,4µm,19.0s
M15K **Kasigluk River** 82.02 6 P P 11 02 22.6 +1.7
baz=192
N16K **Nishlik Lake** 82.02 7 P P 11 02 20.6 -0.4
baz=194
P19K **Oil Pt** 82.03 10 P P 11 02 20.9 -0.1
baz=199
GNW **Green Mountain** 82.06 32 IAMs_20 IAMs_20 11 32 57.4
comp=Z,5µm,20.0s
DSRI **Dabo** 82.11 273 P P 11 02 24.3 +1.8
comp=Z,108nm,1.4s,comp=Z,4µmcomp=Z,3µm
D05A **Enumclaw** 82.22 33 IAMs_20 IAMs_20 11 33 13.7
comp=Z,4µm,19.0s
N17K **Nushagak Hills** 82.27 8 IAMs_20 IAMs_20 11 36 19.9
comp=Z,5µm,20.0s
N17K **Nushagak Hills** 82.27 8 P P 11 02 22.2 0.0
baz=195
CLRS **Cowichan Lake** 82.29 31 IAMs_20 IAMs_20 11 32 51.4
comp=Z,6µm,20.0s
W18A **Petrified Fore** 82.35 48 P P 11 02 23.0 -0.5
baz=238
O19K **Port Alsworth** 82.37 10 P P 11 02 21.2 -1.5
baz=199
H03S2 **Juan Fernandez** 82.40 123 T T 12 34 53.1
baz=248,slow=74,SNR=9.6
121A **Cookes Peak, D** 82.40 51 P P 11 02 21.7 -2.1
baz=239
H03S1 **Juan Fernandez** 82.41 123 T T 12 35 01.8
baz=248,slow=74,SNR=11
H03S3 **Juan Fernandez** 82.41 123 T T 12 35 03.6
baz=248,slow=74,SNR=12
TCRU **Three Creeks R** 82.44 44 IAMs_20 IAMs_20 11 33 31.3
comp=Z,5µm,19.0s
HKPS **Hong Kong Po S** 82.46 297 P P 11 02 27.4 +3.3
comp=Z,130nm,2.2s
L14K **Kuka Creek** 82.47 5 IAmb IAmb 11 02 39.2
comp=Z,117nm,1.3s
L14K IAMs_20 IAMs_20 11 37 03.3
comp=Z,4µm,20.0s
L14K **Kuka Creek** 82.47 5 P P 11 02 22.0 -1.2
baz=190
MAW **Mawson** 82.49 199 P P 11 02 25.5 +2.0
baz=82,SNR=20
MAW **Mawson** 82.49 199 P P 11 02 24.4 +1.0
MAW **Mawson** 82.49 199 P P 11 02 24.5 +1.0
MAW pmax pmax
comp=Z,9.0nm,1.5s
MAW **Mawson** 82.49 199 P P 11 02 25.2 +1.8
comp=Z,20nm,0.8s,baz=133,slow=8.6,SNR=24
MAW LR LR 11 38 56.7

comp=Z,5µm,18.3s,baz=117,slow=36
comp=Z,20nm,0.8s
M16K Timber Creek 82.53 7 IAMs_20 IAMs_20 11 36 30.1
comp=Z,7µm,21.0s
M16K Timber Creek 82.53 7 P **P** **11 02 21.2 -2.4**
baz=194
O20K Slope Mountain 82.54 10 P **P** **11 02 21.4 -2.4**
baz=200
VA04 Juan Fernndez 82.54 123 IAMs_20 IAMs_20 11 35 30.9
comp=Z,5µm,19.0s
BRLK Bradley Lake 82.55 11 IAMs_20 IAMs_20 11 38 21.8
comp=Z,7µm,20.0s
BRSE Bradley Lake S 82.55 11 P **P** **11 02 21.3 -2.4**
baz=202
G08A Pilot Rock 82.56 36 IAmb IAmb 11 02 31.3
comp=Z,46nm,1.3s
G08A IAMs_20 IAMs_20 11 32 37.0
comp=Z,5µm,20.0s
CBB Campbell River 82.57 29 IAMs_20 IAMs_20 11 33 49.7
comp=Z,4µm,20.0s
JMBI JAMBI 82.57 271 P **P** **11 02 26.6 +1.7**
comp=Z,177nm,1.2s,comp=Z,4µm
N18K Kilae Creek 82.60 9 IAMs_20 IAMs_20 11 39 02.5
comp=Z,4µm,20.0s
N18K Kilae Creek 82.60 9 P **P** **11 02 21.6 -2.4**
baz=197
ESPZ Base Esperanza 82.64 156 IAMs_20 IAMs_20 11 34 06.9
comp=Z,5µm,19.0s
K13K Kusilvak Mount 82.90 4 IAMs_20 IAMs_20 11 37 17.7
comp=Z,4µm,20.0s
L15K Ungalak Mounta 82.91 6 P **P** **11 02 24.3 -1.2**
baz=191
N19K Bonanza Creek 82.93 9 IAMs_20 IAMs_20 11 36 38.3
comp=Z,6µm,20.0s
N19K Bonanza Creek 82.93 9 P **P** **11 02 24.6 -1.2**
baz=198
LTY Liberty 82.94 33 IAmb IAmb 11 02 32.9
comp=Z,60nm,1.6s
LTY IAMs_20 IAMs_20 11 33 58.8
comp=Z,4µm,19.0s
BBB Bella Bella 82.94 26 LR LR 11 34 34.3
comp=Z,2µm,18.8s,baz=224,slow=32
EPT El Paso 82.96 52 IAMs_20 IAMs_20 11 32 32.5
comp=Z,6µm,20.0s
HAWA Hanford 82.97 34 IAmb IAmb 11 02 32.0
comp=Z,59nm,1.4s
HAWA Hanford 82.97 34 ⇑P **P** **11 02 28.7 +2.5**
SVW2 Sparrevohn 83.04 9 IAMs_20 IAMs_20 11 43 24.4
comp=Z,4µm,18.0s
M17K Holitna River 83.08 8 IAMs_20 IAMs_20 11 36 56.3
comp=Z,5µm,20.0s
M17K Holitna River 83.08 8 P **P** **11 02 24.7 -1.7**
baz=195
DUG Dugway, Tooele 83.10 42 IAMs_20 IAMs_20 11 34 11.7
comp=Z,3µm,19.0s
DUG Dugway, Tooele 83.10 42 P **P** **11 02 24.6 -2.6**
baz=235,SNR=7.9
DUG Dugway, Tooele 83.10 42 ⇓P **P** **11 02 30.1 +2.8**
DUG ⇑P **PcP** **11 02 30.7 -1.2**
DUG Dugway, Tooele 83.10 42 P **P** **11 02 28.2 +1.0**
DUG pmax pmax
comp=Z,28nm,2.2s
DLV T Lat 83.12 286 P **P** **11 02 30.2 +2.3**
comp=Z,116nm,2.1s
SEW Seward 83.13 12 P **P** **11 02 25.3 -1.4**
baz=203
L16K Owhat River 83.14 7 P **P** **11 02 28.1 +1.4**
L16K IAMs_20 IAMs_20 11 36 58.9
comp=Z,5µm,20.0s
L16K Owhat River 83.14 7 P **P** **11 02 25.6 -1.2**
baz=193
MFID Camas Ranch 83.16 38 IAmb IAmb 11 02 43.6
comp=Z,50nm,1.3s
Q23K Middleton Isla 83.16 14 P **P** **11 02 24.9 -1.9**
baz=206
UNM Universidad Na 83.17 66 IAMs_20 IAMs_20 11 31 49.3
comp=Z,6µm,20.0s
LL07 Hotel Espejo d 83.18 133 IAMs_20 IAMs_20 11 35 11.4
comp=Z,5µm,20.0s
BMO Blue Mountains 83.20 37 IAmb IAmb 11 02 34.4
comp=Z,79nm,1.8s
BMO IAMs_20 IAMs_20 11 32 40.9
comp=Z,4µm,20.0s
MDJ Mudanjiang 83.24 323 IAmb IAmb 11 02 32.2
comp=Z,79nm,1.3s
MDJ IAMs_20 IAMs_20 11 35 55.0
comp=Z,5µm,20.0s
MDJ Mudanjiang 83.24 323 P **P** **11 02 30.6 +2.9**
comp=Z,92nm,2.6s
MDJ Mudanjiang 83.24 323 P **P** **11 02 30.0 +2.3**
MDJ pP PcP 11 02 33.5 +1.4
MDJ S **SKSac** **11 12 49.4 -0.3**
MDJ SS **SS** **11 18 15.4 +2.1**
MDJ pmax pmax
comp=Z,67nm,1.9s
MDJ pmax pmax
comp=Z,4µm,6.4s
MDJ LR LR
comp=Z,4µm,23.4s
MDJ LR LR
comp=Z,5µm,20.6s
MDJ LR LR
comp=Z,6µm,20.6s
NJ2 Nanjing 83.30 308 ⇓P **P** **11 02 29.8 +1.6**
NJ2 pP **PcP** **11 02 34.3 +1.6**
NJ2 PcP **pwP** **11 02 37.5 -1.6**
NJ2 S **SKSac** **11 12 51.4 +0.7**
NJ2 pmax pmax
comp=Z,48nm,1.3s
NJ2 pmax pmax
comp=Z,2µm,4.1s
NJ2 LR LR
comp=Z,670nm,12.6s
NJ2 LR LR
comp=Z,880nm,14.2s
NJ2 LR LR
comp=Z,1µm,18.0s
LL06 Loncomilla 83.31 133 IAMs_20 IAMs_20 11 41 14.8
comp=Z,5µm,18.0s
B06A Marblemount 83.36 32 IAMs_20 IAMs_20 11 33 41.0
comp=Z,6µm,19.0s
BGU Big Grassy Mou 83.38 42 IAMs_20 IAMs_20 11 34 48.0
comp=Z,5µm,19.0s
M18K Stony River 83.39 9 P **P** **11 02 24.9 -3.1**
baz=197
NLU North Lily Min 83.43 43 IAMs_20 IAMs_20 11 33 54.5
comp=Z,6µm,19.0s
O22K Cooper Landing 83.43 12 P **P** **11 02 24.8 -3.4**
baz=202
CAPN Captain Cook N 83.44 11 P **P** **11 02 25.0 -3.2**
baz=201
P23K Montague Islan 83.45 13 P **P** **11 02 26.9 -1.4**
baz=204
GZH Guangzhou 83.48 298 P **P** **11 02 28.2 -1.2**
GZH PP **PP** **11 05 38.9 -2.9**
GZH S **S** **11 12 48.4 -2.8**
GZH pmax pmax
comp=Z,20nm,1.1s
GZH pmax pmax
comp=Z,2µm,2.6s
GZH LR LR
comp=Z,460nm,6.2s
GZH LR LR
comp=Z,380nm,6.2s
K15K Wolf Creek Mou 83.51 6 IAMs_20 IAMs_20 11 34 42.9
comp=Z,4µm,20.0s
K15K Wolf Creek Mou 83.51 6 P **P** **11 02 27.4 -1.2**
baz=191
CRAG Craig 83.55 22 P **P** **11 02 27.3 -1.7**
baz=218
N20K Mount Spurr 83.66 10 P **P** **11 02 27.0 -2.5**
baz=200
L17K Donlin 83.69 7 P **P** **11 02 27.3 -2.2**
baz=194
Y22A Socorro 83.70 50 P **P** **11 02 33.5 +3.0**
baz=240
D08A Wollman Farm, 83.72 34 IAmb IAmb 11 02 34.9
comp=Z,53nm,1.3s
MPU Maple Canyon 83.75 43 IAMs_20 IAMs_20 11 34 14.9
comp=Z,6µm,19.0s
MNTX Cornudas Mount 83.75 53 P **P** **11 02 27.8 -2.8**
baz=241
MNTX Cornudas Mount 83.75 53 P **P** **11 02 33.4 +2.7**
baz=241
MNTX Cornudas Mount 83.75 53 ⇑P **P** **11 02 33.3 +2.7**
MNTX ⇑P **PcP** **11 02 35.4 +0.7**
E09A Wood Farm, Sta 83.78 35 IAmb IAmb 11 02 48.6
comp=Z,31nm,1.2s
E09A IAMs_20 IAMs_20 11 33 51.2
comp=Z,5µm,20.0s
J14K Nanvaranak Lak 83.79 5 IAMs_20 IAMs_20 11 35 16.2
comp=Z,4µm,21.0s
J14K Nanvaranak Lak 83.79 5 P **P** **11 02 28.7 -1.2**
baz=189
GRNR Gornyy 83.80 331 ⇓*i*P **P** **11 02 31.7 +1.3**
GRNR pmax pmax
comp=Z,10.0nm,0.7s
Y22D IRIS PASSCAL I 83.80 50 IAMs_20 IAMs_20 11 33 09.8
comp=Z,5µm,20.0s
Y22D IRIS PASSCAL I 83.80 50 P **P** **11 02 26.9 -4.1**
baz=240
Y22F Passcal Instru 83.80 50 P **P** **11 02 27.9 -3.1**
baz=240
TX31 Lajitas Ar. Si 83.93 56 P **P** **11 02 34.1 +2.4**
baz=242
TXAR Lajitas Array 83.93 56 P **P** **11 02 34.3 +2.6**
comp=Z,3.8nm,0.9s,baz=218,slow=6.6,SNR=23
TXAR LR LR 11 33 44.4
comp=Z,3µm,19.6s,baz=230,slow=31
comp=Z,3.8nm,0.9s
F10A Beach Ranch, E 83.94 36 P **P** **11 02 32.5 +1.2**
F10A IAmb IAmb 11 02 36.3
comp=Z,51nm,1.1s
F10A IAMs_20 IAMs_20 11 34 10.4
comp=Z,5µm,20.0s
SPUT South Promonto 83.96 42 IAMs_20 IAMs_20 11 34 37.4
comp=Z,5µm,19.0s
L18K Granite Mounta 83.97 8 IAMs_20 IAMs_20 11 37 31.8
comp=Z,5µm,20.0s
L18K Granite Mounta 83.97 8 P **P** **11 02 29.1 -1.9**
baz=196
V35K Ketchikan 83.97 23 P **P** **11 02 28.4 -2.7**
baz=219
RC01 Rabbit Creek A 83.99 11 P **P** **11 02 27.8 -3.3**
baz=202
HIN Hinchinbrook I 84.00 13 IAMs_20 IAMs_20 11 38 54.8
comp=Z,6µm,20.0s
P17A Butcher Ranch, 84.02 44 IAMs_20 IAMs_20 11 34 23.2
comp=Z,5µm,19.0s
HVU Hansel Valley 84.03 41 IAmb IAmb 11 02 36.8
comp=Z,31nm,1.2s
HVU IAMs_20 IAMs_20 11 35 06.1
comp=Z,5µm,19.0s
KAIM Kayak Island 84.04 14 P **P** **11 02 29.4 -2.0**
baz=207
CTU Camp Tracy 84.05 42 IAMs_20 IAMs_20 11 34 04.9
comp=Z,3µm,20.0s
U33K Whale Pass 84.06 21 P **P** **11 02 28.9 -2.6**
baz=218
HLID Hailey 84.07 39 IAmb IAmb 11 02 48.6
comp=Z,47nm,1.2s
HLID Hailey 84.07 39 P **P** **11 02 29.8 -2.4**
baz=234,SNR=36
HLID Hailey 84.07 39 ⇓P **P** **11 02 34.5 +2.3**
HLID ⇓P **P** **11 02 34.6 +2.3**
PLID Pearl Lake 84.07 37 IAmb IAmb 11 02 48.1
comp=Z,65nm,1.4s
PLID IAMs_20 IAMs_20 11 33 30.1
comp=Z,5µm,20.0s
SIT Sitka 84.09 20 P **P** **11 02 27.5 -4.1**
baz=216
LL02 Futaleuf 84.14 134 P **P** **11 02 35.0 +2.5**
LL02 IAmb IAmb 11 03 12.7
comp=Z,69nm,1.9s
LL02 IAMs_20 IAMs_20 11 34 43.9
comp=Z,6µm,20.0s
M20K Styx River 84.16 10 IAMs_20 IAMs_20 11 37 37.7
comp=Z,6µm,20.0s
M20K Styx River 84.16 10 P **P** **11 02 28.7 -3.4**
baz=199
SUA Susitna One 84.16 11 IAMs_20 IAMs_20 11 39 30.9
comp=Z,6µm,19.0s
SUA Susitna One 84.16 11 P **P** **11 02 28.8 -3.3**
baz=201
L19K White Mountain 84.19 9 IAMs_20 IAMs_20 11 39 42.4
comp=Z,4µm,20.0s
L19K White Mountain 84.19 9 P **P** **11 02 29.6 -2.5**
baz=198
K17K Iditarod 84.26 7 IAMs_20 IAMs_20 11 37 43.3
comp=Z,5µm,20.0s
K17K Iditarod 84.26 7 P **P** **11 02 30.5 -1.9**
baz=194,SNR=5.7
EYAK Cordova Ski Ar 84.30 13 P **P** **11 02 30.7 -2.0**
baz=206
MVCO Mesa Verde 84.30 47 P **P** **11 02 30.4 -3.2**
baz=238
MVCO Mesa Verde 84.30 47 ⇑P **P** **11 02 38.1 +4.5**
GLI Glacier Island 84.32 13 IAMs_20 IAMs_20 11 39 10.1
comp=Z,5µm,19.0s
GLI Glacier Island 84.32 13 P **P** **11 02 29.9 -2.9**
baz=205
FID Port Fidalgo 84.33 13 IAMs_20 IAMs_20 11 36 23.2
comp=Z,6µm,21.0s
P18A Preston Nutter 84.43 44 IAMs_20 IAMs_20 11 34 37.0
comp=Z,4µm,19.0s
TCUT Toone Canyon 84.50 42 IAMs_20 IAMs_20 11 33 59.8
comp=Z,4µm,20.0s
SKT Skwentna 84.51 10 IAMs_20 IAMs_20 11 36 59.1
comp=Z,6µm,20.0s
SKT Skwentna 84.51 10 P **P** **11 02 31.3 -2.5**
baz=201
KNK Knik Glacier 84.53 12 IAMs_20 IAMs_20 11 36 55.8
comp=Z,4µm,20.0s
KNK Knik Glacier 84.53 12 P **P** **11 02 32.0 -1.9**
baz=204
M22K Willow 84.54 11 IAMs_20 IAMs_20 11 36 57.4
comp=Z,4µm,22.0s
M22K Willow 84.54 11 P **P** **11 02 32.2 -1.6**
baz=202
S31K Pelican 84.55 19 P **P** **11 02 31.4 -2.6**
baz=215
LL03 Petrohue 84.57 132 IAMs_20 IAMs_20 11 34 26.2
comp=Z,5µm,18.0s
ANMO Albuquerque 84.57 50 P **P** **11 02 36.9 +2.0**
ANMO IAmb IAmb 11 02 53.6
comp=Z,51nm,1.4s
ANMO Albuquerque 84.57 50 IAMs_20 IAMs_20 11 33 35.1
comp=Z,4µm,20.0s
ANMO Albuquerque 84.57 50 P **P** **11 02 30.7 -4.3**
baz=240
ANMO Albuquerque 84.57 50 P **P** **11 02 37.7 +2.8**
baz=240
ANMO Albuquerque 84.57 50 ⇑P **P** **11 02 37.9 +3.0**
ANMO ⇓P **PcP** **11 02 38.3 -0.2**
ANMO Albuquerque 84.57 50*ce*P **P** **11 02 35.3 +0.3**
ANMO pmax pmax
comp=Z,102nm,2.7s
ANMO Albuquerque 84.57 50 LR LR 11 34 15.5
comp=Z,4µm,19.4s,baz=341,slow=31
J16K Anvik River 84.57 6 IAMs_20 IAMs_20 11 38 05.9
comp=Z,5µm,20.0s
J16K Anvik River 84.57 6 P **P** **11 02 31.6 -2.4**
baz=192
BSUT Blindstream Ca 84.59 43 IAmb IAmb 11 02 51.5
comp=Z,44nm,1.2s
BSUT IAMs_20 IAMs_20 11 34 34.2
comp=Z,4µm,19.0s
L20K Farewell, AK 84.61 9 P **P** **11 02 31.8 -2.5**
baz=198
S32K Killisnoo 84.66 20 P **P** **11 02 30.4 -4.2**
baz=216
T33K Petersburg 84.67 21 P **P** **11 02 29.9 -4.7**
baz=218
HWUT Hardware Ranch 84.68 42 IAmb IAmb 11 02 50.3
comp=Z,40nm,1.5s
HWUT IAMs_20 IAMs_20 11 34 42.4
comp=Z,5µm,20.0s
HWUT Hardware Ranch 84.68 42 ⇓P **P** **11 02 37.7 +2.4**
HWUT ⇓P **PcP** **11 02 38.4 -0.5**
QIZ Qiongzhong 84.73 293 P **P** **11 02 36.0 +0.1**
QIZ PP **PP** **11 05 51.5 -0.7**
QIZ S **SKSac** **11 13 02.2 +1.6**
QIZ SS **SS** **11 18 37.2 +0.9**
QIZ pmax pmax
comp=Z,1µm,5.3s
QIZ LR LR
comp=Z,410nm,22.6s
QIZ LR LR
comp=Z,670nm,18.2s
QIZ LR LR
comp=Z,800nm,20.8s
TTA Tatalina 84.75 8 IAmb IAmb 11 02 52.9
comp=Z,103nm,1.5s
TTA IAMs_20 IAMs_20 11 37 47.2
comp=Z,4µm,20.0s
TTA Tatalina 84.75 8 P **P** **11 02 38.2 +3.2**
baz=196
GHO Glory Hole Cre 84.78 12 IAMs_20 IAMs_20 11 40 17.2
comp=Z,4µm,19.0s
MESA MESA 84.86 15 P P 11 02 30.8 -5.0
baz=210
DL2 Dalian 84.86 315 P **P** **11 02 37.7 +1.7**
DL2 S **S** **11 13 04.2 -0.2**
DL2 pmax pmax
comp=Z,1µm,5.0s
DL2 LR LR
comp=Z,820nm,18.8s
DL2 LR LR
comp=Z,1µm,15.5s
SML Sawmill 84.92 12 IAMs_20 IAMs_20 11 40 11.0
comp=Z,4µm,19.0s
SML Sawmill 84.92 12 P **P** **11 02 31.1 -4.8**
baz=204
BMRM Bremner River 84.93 14 P **P** **11 02 31.5 -4.5**
baz=207
U35K Hyder 85.00 23 P **P** **11 02 31.7 -4.6**
baz=220
KLR Kul'dur 85.01 328*ce*P **P** **11 02 38.4 +1.9**
KLR pmax pmax
comp=Z,91nm,3.3s
KLR MLR MLR
comp=Z,625nm,5.0s
KLR Kul'dur 85.01 328 LR LR 11 35 51.0
comp=Z,3µm,21.2s,baz=136,slow=32
R31K City Hall, Gus 85.07 19 P **P** **11 02 32.6 -4.0**
baz=215
PNL Peninsula 85.07 17 P **P** **11 02 32.3 -4.3**
baz=212
CRQE Cirque 85.08 15 P **P** **11 02 32.7 -4.1**
baz=208
KLU Klutina 85.12 13 IAMs_20 IAMs_20 11 37 01.3
comp=Z,5µm,20.0s
KLU Klutina 85.12 13 P P 11 02 31.2 -5.7
baz=206
CUT Chulitna 85.12 11 IAMs_20 IAMs_20 11 40 11.3
comp=Z,5µm,18.0s
CUT Chulitna 85.12 11 P **P** **11 02 33.0 -3.8**
baz=202
SCM Sheep Creek Mo 85.14 12 IAMs_20 IAMs_20 11 39 57.8
comp=Z,5µm,21.0s
SCM Sheep Creek Mo 85.14 12 P **P** **11 02 34.0 -3.0**
baz=204
I17K Unalakleet 85.15 6 IAMs_20 IAMs_20 11 38 43.3
comp=Z,4µm,20.0s
I17K Unalakleet 85.15 6 P **P** **11 02 33.8 -3.0**
baz=192
BNX BinXian 85.15 323 ⇓P **P** **11 02 39.1 +1.7**
BNX pP **pwP** **11 02 43.8 -4.4**
BNX sP **PcP** **11 02 47.0 +6.5**
BNX PP **PP** **11 05 58.2 +3.1**
BNX S **S** **11 13 09.4 +2.3**
BNX sS **ScS** **11 13 14.9 -2.6**
BNX pmax pmax
comp=Z,58nm,1.4s
BNX pmax pmax
comp=Z,3µm,5.1s
BNX LR LR
comp=Z,3µm,19.0s
BNX LR LR
comp=Z,3µm,13.7s
BNX LR LR
comp=Z,5µm,17.7s
J18K Innoko River 85.17 8 IAmb IAmb 11 02 52.8
comp=Z,113nm,1.5s
J18K IAMs_20 IAMs_20 11 38 01.5
comp=Z,5µm,20.0s
J18K Innoko River 85.17 8 P **P** **11 02 33.6 -3.4**
baz=196
SNY Shenyang 85.18 318 ⇓P **P** **11 02 40.9 +3.3**
SNY S **S** **11 13 08.2 +0.7**
SNY pmax pmax
comp=Z,44nm,2.3s
SNY pmax pmax
comp=Z,2µm,4.0s
SNY LR LR
comp=Z,840nm,5.0s
SNY LR LR
comp=Z,870nm,5.4s
SNY LR LR
comp=Z,960nm,4.9s
PINM Pinnacle 85.21 16 P **P** **11 02 33.7 -3.7**
baz=211
COCO West Island 85.25 259 IAMs_20 IAMs_20 11 39 56.6
comp=Z,4µm,20.0s
PPLA Purkeypile 85.26 10 P **P** **11 02 33.0 -4.7**
baz=200
R32K Eaglecrest 85.33 20 P **P** **11 02 33.9 -4.0**
baz=216
MA2 Magadan 85.34 343 IAMs_20 IAMs_20 11 42 54.6
comp=Z,4µm,20.0s
MA2 Magadan 85.34 343 *i*P **P** **11 02 39.8 +1.9**
MA2 pmax pmax
comp=Z,23nm,1.0s
MA2 MLR MLR
comp=Z,4µm,19.0s
MA2 Magadan 85.34 343 LR LR 11 35 48.0
comp=Z,2µm,20.4s,baz=143,slow=32
RDMU Red Mountain 85.37 43 IAMs_20 IAMs_20 11 35 18.9
comp=Z,6µm,20.0s
GRNC Granite Creek 85.39 15 IAMs_20 IAMs_20 11 38 46.9
comp=Z,6µm,19.0s
K20K Telida 85.42 9 IAMs_20 IAMs_20 11 38 17.0
comp=Z,3µm,20.0s
K20K Telida 85.42 9 P **P** **11 02 34.0 -4.3**
baz=198
NEW Newport 85.42 34 P **P** **11 02 34.7 -4.1**
baz=231,SNR=6.4
NEW Newport 85.42 34 ⇑P **P** **11 02 41.0 +2.3**
NEW ⇑P **PcP** **11 02 42.4 +0.6**
NEW Newport 85.42 34 P **P** **11 02 39.8 +1.1**
NEW Newport 85.42 34 LR LR 11 35 47.3
comp=Z,10µm,19.0s,baz=219,slow=32
VRDI Verde Repeater 85.42 14 IAMs_20 IAMs_20 11 38 59.4
comp=Z,5µm,19.0s
ANM Nome 85.47 4 IAMs_20 IAMs_20 11 38 38.2
comp=Z,4µm,20.0s
ANM Nome 85.47 4 P **P** **11 02 34.3 -4.2**
baz=188
P29M Windy Craggy 85.50 17 P P 11 02 33.6 -5.2
baz=213
N25K Chitina, Valde 85.50 13 P **P** **11 02 34.3 -4.5**
baz=207
GLB Gilahina Butte 85.53 14 IAMs_20 IAMs_20 11 36 49.2
comp=Z,4µm,20.0s
AHID Auburn Hatcher 85.61 41 IAMs_20 IAMs_20 11 35 57.9
comp=Z,4µm,19.0s
M24K Tolsona, Glenn 85.62 13 P **P** **11 02 34.9 -4.5**
baz=206
LOGN Logan Glacier 85.65 15 IAMs_20 IAMs_20 11 39 23.5
comp=Z,6µm,19.0s
MCARA McCarthy VSAT 85.66 14 IAMs_20 IAMs_20 11 39 44.6
comp=Z,4µm,19.0s
MCARA McCarthy VSAT 85.66 14 P **P** **11 02 35.8 -3.8**
baz=208
CTG Chitna Glacier 85.69 15 P **P** **11 02 35.9 -3.9**
baz=210
CTGM Chitina Glacie 85.69 15 IAMs_20 IAMs_20 11 39 35.5
comp=Z,5µm,19.0s
BARN Barnard Glacie 85.69 15 IAMs_20 IAMs_20 11 39 24.6
comp=Z,5µm,19.0s
BKNI Bangkinang 85.70 272 P **P** **11 02 39.2 -1.6**
BKNI Bangkinang 85.70 272 ⇑P **P** **11 02 38.6 -2.2**
BI05 Punta Hualpn 85.71 128 IAMs_20 IAMs_20 11 36 33.6
comp=Z,5µm,18.0s
S22A 4UR Ranch, Cre 85.72 47 P P 11 02 35.8 -5.0
baz=240
T35M Bob Quinn 85.74 22 P **P** **11 02 36.5 -3.6**
baz=220
WAT6 Susitna Watana 85.74 12 P **P** **11 02 37.9 -2.2**
baz=204
H16K Elim 85.76 5 P **P** **11 02 37.3 -2.6**
baz=191
CAST Castle Rocks 85.77 10 P **P** **11 02 40.1 0.0**
CAST IAmb IAmb 11 02 54.0
comp=Z,102nm,1.8s
CAST IAMs_20 IAMs_20 11 38 08.4
comp=Z,5µm,20.0s
CAST Castle Rocks 85.77 10 P **P** **11 02 37.7 -2.4**
baz=200,SNR=6.8
PDSI Padang 85.80 271 P **P** **11 02 41.0 -0.4**
comp=Z,49nm,1.3s,comp=Z,2µm
J19K Poorman 85.82 8 IAMs_20 IAMs_20 11 38 09.6

comp=Z,5µm,20.0s
J19K Poorman 85.82 8 P P 11 02 38.9 -1.4
baz=197
WAT1 Susitna Watana 85.82 11 P P 11 02 37.4 -2.9
baz=203
O29M Mount Kennedy 85.83 17 IAMs_20 IAMs_20 11 39 16.4
comp=Z,3µm,19.0s
O29M Mount Kennedy 85.83 17 P P 11 02 37.1 -3.5
baz=212
G15K Niukluk 85.98 4 P P 11 02 38.7 -2.3
baz=189
WHN Wuhan 85.98 305 P P 11 02 43.1 +1.3
WHN sP **pwP** 11 02 51.0 -1.7
WHN SKS **SKSac** 11 13 05.5 -2.5
WHN S **SKKSac** 11 13 15.5 +0.2
WHN sS **ScS** 11 13 22.6 -2.4
WHN pmax pmax
comp=Z,3µm,4.9s
WHN LR LR
comp=Z,2µm,17.1s
WHN LR LR
comp=Z,760nm,9.6s
WHN LR LR
comp=Z,2µm,18.2s
O20A White River Ci 86.00 44 P P 11 02 38.5 -3.5
baz=238
PLCA Paso Flores 86.02 132 P P 11 02 43.4 +1.3
PLCA IAMs_20 IAMs_20 11 37 08.5
comp=Z,5µm,18.0s
PLCA Paso Flores 86.02 132 P P 11 02 43.4 +1.3
PLCA pmax pmax
comp=Z,41nm,1.7s
PLCA Paso Flores 86.02 132 P P 11 02 44.4 +2.3
comp=Z,4.5nm,1.0s,baz=314,slow=2.6,SNR=5.4
PLCA LR LR 11 33 21.8
comp=Z,3µm,20.0s,baz=231,slow=30
comp=Z,4.5nm,1.0s
CNSH ChangSha 86.04 302 ⇓P P 11 02 44.5 +2.3
CNSH S S 11 13 21.0 +4.4
CNSH pmax pmax
comp=Z,29nm,1.4s
CNSH LR LR
comp=Z,1µm,19.5s
CNSH LR LR
comp=Z,920nm,16.9s
CNSH LR LR
comp=Z,1µm,17.6s
SKAG Skagway 86.05 19 P P 11 02 38.9 -2.6
baz=216
KTH Kantishna Hill 86.08 10 IAmb IAmb 11 02 47.0
comp=Z,101nm,1.6s
TRF Thorofare Moun 86.09 10 IAmb IAmb 11 03 03.0
comp=Z,105nm,1.4s
TRF Thorofare Moun 86.09 10 P P 11 02 37.6 -4.2
baz=202,SNR=11
HARP HAARP 86.09 13 P P 11 02 37.6 -4.1
baz=206
TPAW Teton Pass 86.10 40 IAMs_20 IAMs_20 11 36 04.8
comp=Z,4µm,19.0s
P30M Million Dollar 86.12 17 P P 11 02 37.6 -4.3
baz=214
FXWY Fox Creek 86.14 40 IAMs_20 IAMs_20 11 35 57.9
comp=Z,3µm,19.0s
S34M Telegraph Cree 86.15 21 P P 11 02 37.4 -4.6
baz=219
CHUM Lake Minchumin 86.17 9 P P 11 02 39.8 -2.2
baz=200,SNR=6.2
J20K Nowinta River 86.19 8 IAMs_20 IAMs_20 11 38 52.4
comp=Z,3µm,21.0s
J20K Nowinta River 86.19 8 P P 11 02 38.3 -3.8
baz=198
SNOW Snow King Moun 86.20 41 IAmb IAmb 11 03 06.0
comp=Z,61nm,1.8s
SNOW IAMs_20 IAMs_20 11 36 27.7
comp=Z,4µm,20.0s
H17K Granite Mounta 86.25 6 IAMs_20 IAMs_20 11 39 18.5
comp=Z,4µm,20.0s
H17K Granite Mounta 86.25 6 P P 11 02 38.1 -4.3
baz=193
DHY Denali Highway 86.26 12 IAMs_20 IAMs_20 11 40 05.5
comp=Z,3µm,19.0s
DHY Denali Highway 86.26 12 P P 11 02 38.4 -4.3
baz=204
MSO Missoula 86.27 36 P P 11 02 36.8 -6.3
baz=234
RND Reindeer 86.30 11 IAmb IAmb 11 02 48.8
comp=Z,80nm,1.1s
RND IAMs_20 IAMs_20 11 35 23.3
comp=Z,4µm,20.0s
F14K Arctic Creek 86.32 3 P P 11 02 38.4 -4.3
baz=187
TNA Tin City 86.34 2 P P 11 02 35.0 -7.7
baz=185
DRIO Del Rio 86.34 57 IAmb IAmb 11 03 01.4
comp=Z,31nm,1.2s
YUK8 Steele Glacier 86.36 16 P P 11 02 38.2 -5.1
baz=211
MOOW Moose Ponds 86.37 40 IAMs_20 IAMs_20 11 36 43.0
comp=Z,3µm,19.0s
LOHW Long Hollow 86.38 40 IAMs_20 IAMs_20 11 36 42.3
comp=Z,4µm,19.0s
GCSA Galena City Sc 86.39 7 P P 11 02 37.5 -5.5
baz=196,SNR=6.2
YUK6 Outpost Mounta 86.43 16 P P 11 02 37.8 -5.8
baz=213
G16K Koyuk River 86.49 5 IAMs_20 IAMs_20 11 39 59.8
comp=Z,4µm,20.0s
G16K Koyuk River 86.49 5 P P 11 02 38.8 -4.7
baz=190
PAX Paxson 86.54 12 P P 11 02 37.7 -6.3
baz=206
BW06 Boulder Array 86.56 42 IAMs_20 IAMs_20 11 36 50.2
comp=Z,3µm,20.0s
BW06 Boulder Array 86.56 42 P P 11 02 38.9 -5.9
baz=237,SNR=9.9
BW06 Boulder Array 86.56 42 ⇑P P 11 02 46.4 +1.6
BW06 ⇑P PcP 11 02 48.0 +0.9
PD31 Pinedale Array 86.56 42 P P 11 02 45.6 +0.9
PDAR Pinedale Array 86.56 42 P P 11 02 45.4 +0.7
PDAR Pinedale Array 86.56 42 P P 11 02 46.4 +1.6
comp=Z,6.2nm,0.9s,baz=209,slow=3.2,SNR=21
PDAR LR LR 11 36 32.9
comp=Z,3µm,18.9s,baz=248,slow=32
comp=Z,6.2nm,0.9s
HYT Haines Junctio 86.56 17 P P 11 02 38.3 -5.9
baz=214
M26K Nabesna, AK 86.56 14 IAMs_20 IAMs_20 11 40 18.4
comp=Z,4µm,19.0s
M26K Nabesna, AK 86.56 14 P P 11 02 38.5 -5.6
baz=208
FLWY Flagg Ranch 86.58 40 IAMs_20 IAMs_20 11 36 40.6
comp=Z,3µm,19.0s
TIA Tai'an 86.58 311 P P 11 02 46.8 +2.1
TIA S **SKSac** 11 13 13.6 +2.1
TIA pmax pmax
comp=Z,28nm,2.0s
TIA pmax pmax
comp=Z,2µm,4.6s
TIA LR LR
comp=Z,780nm,17.0s
TIA LR LR
comp=Z,780nm,12.3s
TIA LR LR
comp=Z,1µm,16.3s
BPAW Bear Paw Mtn. 86.58 10 IAMs_20 IAMs_20 11 38 34.9
comp=Z,5µm,20.0s
BPAW Bear Paw Mtn. 86.58 10 P P 11 02 40.9 -3.1
baz=201
MCK McKinley 86.58 11 P P 11 02 40.4 -3.7
baz=203,SNR=16
Q32M Nakina River 86.59 20 P P 11 02 40.3 -4.2
baz=218
YUK3 Moose Creek 86.61 15 P P 11 02 40.4 -4.1
baz=211
OZNA Ozona 86.61 55 IAmb IAmb 11 02 58.2
comp=Z,66nm,1.9s
H18K Honhosa River 86.62 6 IAMs_20 IAMs_20 11 39 09.2
comp=Z,5µm,20.0s
H18K Honhosa River 86.62 6 P P 11 02 42.0 -2.2
baz=194
ELIB Princess Elisa 86.62 185 *d*P P 11 02 45.5 +0.9
comp=Z,31nm,1.0s
ELIB *d*PP **PP** 11 06 06.6 +0.8
ELIB *d*S **S** 11 13 21.7 +0.4
SDCO Great Sand Dun 86.63 47 IAMs_20 IAMs_20 11 41 27.5
comp=Z,3µm,18.0s
SDCO Great Sand Dun 86.63 47 P P 11 02 38.2 -7.1
baz=240
P32M Atlin 86.64 19 P P 11 02 40.3 -4.1
baz=217
F15K North Star Dit 86.65 4 IAMs_20 IAMs_20 11 39 24.8
comp=Z,4µm,21.0s
F15K North Star Dit 86.65 4 P P 11 02 40.4 -3.9
baz=188
YUK4 Talbot Arm 86.69 16 P P 11 02 42.5 -2.4
baz=212
YFT Old Faithful 86.70 40 IAMs_20 IAMs_20 11 35 48.8
comp=Z,4µm,20.0s
I20K Naaghedeneel 86.74 8 IAMs_20 IAMs_20 11 38 47.8
comp=Z,4µm,20.0s
I20K Naaghedeneel 86.74 8 P P 11 02 42.5 -2.2
baz=198
G17K Kiwalik Mounta 86.74 5 P P 11 02 42.2 -2.5
baz=192,SNR=6.5
MSTX Muleshoe 86.77 52 IAmb IAmb 11 02 50.4
comp=Z,27nm,1.0s
MSTX Muleshoe 86.77 52 P P 11 02 42.5 -3.4
baz=242
MSTX Muleshoe 86.77 52 P P 11 02 48.1 +2.3
baz=242
M27K Edge Creek, AK 86.78 14 IAMs_20 IAMs_20 11 40 41.2
comp=Z,5µm,19.0s
M27K Edge Creek, AK 86.78 14 P P 11 02 42.5 -2.7
baz=210
833A Chaparral WMA, 86.82 58 IAMs_20 IAMs_20 11 35 02.4
comp=Z,5µm,20.0s
833A Chaparral WMA, 86.82 58 P P 11 02 41.5 -4.6
baz=244
833A Chaparral WMA, 86.82 58 P P 11 02 48.6 +2.6
baz=244
H17A Grant Village 86.82 40 IAMs_20 IAMs_20 11 36 24.1
comp=Z,4µm,20.0s
H17A Grant Village 86.82 40 P P 11 02 43.3 -2.8
baz=236
BOZ Bozeman (W) 86.87 38 IAMs_20 IAMs_20 11 35 40.2
comp=Z,3µm,20.0s
BOZ Bozeman (W) 86.87 38 P P 11 02 42.8 -3.3
baz=236,SNR=8.9
BOZ Bozeman (W) 86.87 38 ⇓P P 11 02 48.7 +2.6
BOZ ⇓P PcP 11 02 49.3 +1.0
BOZ Bozeman (W) 86.87 38 ⇓P P 11 02 48.7 +2.6
GULI GuiLin 86.87 298 P P 11 02 49.1 +2.7
GULI S **SKSac** 11 13 14.8 +1.0
GULI pmax pmax
comp=Z,50nm,1.3s
GULI LR LR
comp=Z,480nm,21.7s
GULI LR LR
comp=Z,600nm,20.1s
GULI LR LR
comp=Z,1µm,17.3s
MENT Mentasta 86.88 13 IAMs_20 IAMs_20 11 40 20.8
comp=Z,4µm,20.0s
MENT Mentasta 86.88 13 P P 11 02 48.0 +2.5
O30N Mendenhall 86.90 17 P P 11 02 41.1 -4.6
baz=215
DLBC Dease Lake 86.93 21 P P 11 02 41.1 -4.9
baz=220
DLBC Dease Lake 86.93 21 LR LR 11 35 01.6
comp=Z,1µm,21.4s,baz=234,slow=31
L26K Log Cabin Wild 87.03 13 IAMs_20 IAMs_20 11 37 52.0
comp=Z,4µm,20.0s
L26K Log Cabin Wild 87.03 13 P P 11 02 41.7 -4.6
baz=208
BVCY Beaver Creek 87.06 15 P P 11 02 41.8 -4.7
baz=210
T25A Trinidad 87.09 48 IAMs_20 IAMs_20 11 36 04.8
comp=Z,3µm,19.0s
T25A Trinidad 87.09 48 P P 11 02 41.3 -6.2
baz=241
WHY Whitehorse 87.16 18 P P 11 02 41.2 -5.9
baz=216
H19K Roundabout Mou 87.19 7 IAMs_20 IAMs_20 11 39 25.4
comp=Z,5µm,20.0s
H19K Roundabout Mou 87.19 7 P P 11 02 43.3 -3.6
baz=196,SNR=7.4
N30M Aishikik Lake 87.20 17 P P 11 02 42.9 -4.3
baz=214
K24K Donnelly Dome 87.23 12 P P 11 02 43.7 -3.6
baz=206
TROLL Troll, Antarti 87.26 179 ⇓P P 11 02 50.0 +2.3
comp=Z,581nm,0.8s
TROLL ⇑S S 11 13 28.9 +1.4
comp=Z,14µm,4.8s
YMP Mirror Lake Pl 87.27 40 IAMs_20 IAMs_20 11 36 27.7
comp=Z,3µm,19.0s
G18K Tagagawik 87.31 6 IAmb IAmb 11 02 53.8
comp=Z,72nm,1.4s
G18K IAMs_20 IAMs_20 11 39 40.5
comp=Z,4µm,20.0s
G18K Tagagawik 87.31 6 P P 11 02 43.5 -4.0
baz=194,SNR=7.6
GO05 Huala 87.33 126 IAMs_20 IAMs_20 11 42 37.6
comp=Z,5µm,18.0s
H20K Anotleneega Mo 87.35 8 P P 11 02 45.3 -2.5
baz=198
R33M Jennings River 87.35 20 P P 11 02 42.8 -5.2
baz=219
NEA2 Nenana 87.36 10 P P 11 02 43.0 -4.8
baz=203
RIDG Independent Ri 87.36 12 IAMs_20 IAMs_20 11 40 56.5
comp=Z,4µm,19.0s
VNA3 Neumayer Olymp 87.40 175 ⇓P P 11 02 50.1 +1.9
comp=Z,18nm,0.8s
VNA3 ⇓S S 11 13 27.8 -0.7
comp=Z,871µm,0.0s
L27K Beaver Creek, 87.40 14 P P 11 02 49.8 +1.7
L27K IAmb IAmb 11 03 04.0
comp=Z,84nm,1.6s
L27K IAMs_20 IAMs_20 11 41 11.7
comp=Z,4µm,19.0s
L27K Beaver Creek, 87.40 14 P P 11 02 44.3 -3.8
baz=210
P33M Teslin, Yukon 87.41 19 P P 11 02 44.6 -3.6
baz=218
ML02 Panimavida 87.41 127 IAMs_20 IAMs_20 11 37 53.7
comp=Z,4µm,19.0s
BCAR Beaver Creek A 87.41 14 P P 11 02 49.3 +1.1
SNAA Sanae 87.42 177 P P 11 02 49.7 +1.3
SNAA Sanae 87.42 177 ⇓P P 11 02 50.5 +2.1
comp=Z,306nm,0.8s
SNAA ⇑S S 11 13 28.0 -0.8
comp=Z,11µm,5.3s
SNAA Sanae 87.42 177 *ce*P P 11 02 48.5 +0.2
SNAA pmax pmax
comp=Z,43nm,1.7s
SNAA MLR MLR
comp=Z,4µm,18.0s
SNAA Sanae 87.42 177 P P 11 02 49.5 +1.2
comp=Z,13nm,0.8s,baz=206,slow=4.6,SNR=24
SNAA LR LR 11 38 54.3
comp=Z,6µm,19.9s,baz=192,slow=34
comp=Z,13nm,0.8s
JCT Junction City 87.44 56 IAMs_20 IAMs_20 11 35 44.6
comp=Z,6µm,20.0s
JCT Junction City 87.44 56 P P 11 02 43.1 -6.0
baz=244
I21K Tanana 87.45 9 P P 11 02 44.3 -3.9
baz=200
Q24A Divide 87.47 47 P P 11 02 44.0 -5.4
baz=240
RWWY Rawlins 87.47 43 IAMs_20 IAMs_20 11 36 08.6
comp=Z,6µm,20.0s
MLY Manley 87.49 10 IAMs_20 IAMs_20 11 39 22.9
comp=Z,4µm,20.0s
MLY Manley 87.49 10 P P 11 02 45.1 -3.4
baz=201,SNR=5.1
HDA Harding Lake 87.56 11 IAmb IAmb 11 02 52.6
comp=Z,110nm,1.8s
HDA IAMs_20 IAMs_20 11 41 07.8
comp=Z,3µm,20.0s
HDA Harding Lake 87.56 11 P P 11 02 44.8 -3.9
baz=205
HDA P P 11 02 44.8 -3.9
baz=205
ISCO Idaho Springs 87.57 46 P P 11 02 45.2 -4.6
baz=240
N31M Braeburn, Yuko 87.58 17 P P 11 02 44.4 -4.6
baz=215
F17K Baldwin Pennin 87.61 5 IAMs_20 IAMs_20 11 40 23.4
comp=Z,3µm,21.0s
F17K Baldwin Pennin 87.61 5 P P 11 02 45.5 -3.4
baz=192
CCB Clear Creek Bu 87.62 11 IAMs_20 IAMs_20 11 38 04.4
comp=Z,3µm,20.0s
M29M Somme Creek 87.67 16 IAmb IAmb 11 02 54.1
comp=Z,54nm,1.5s
M29M Somme Creek 87.67 16 P P 11 02 47.6 -1.9
baz=213
KVTX Kingsville 87.69 59 IAMs_20 IAMs_20 11 36 08.6
comp=Z,3µm,20.0s
G19K Purcell Mounta 87.72 7 IAMs_20 IAMs_20 11 39 31.8
comp=Z,5µm,20.0s
G19K Purcell Mounta 87.72 7 P P 11 02 48.3 -1.2
baz=195
SCRK Sand Creek 87.74 13 IAMs_20 IAMs_20 11 41 07.7
comp=Z,4µm,19.0s
SCRK Sand Creek 87.74 13 P P 11 02 48.2 -1.6
baz=208
H21K Melozitna Rive 87.78 9 IAMs_20 IAMs_20 11 39 42.5
comp=Z,4µm,20.0s
H21K Melozitna Rive 87.78 9 P P 11 02 49.3 -0.5
baz=199,SNR=7.7
I23K Minto, Yukon-K 87.82 10 P P 11 02 48.0 -2.0
baz=203,SNR=7.3
COLA College 87.82 11 P P 11 02 50.7 +0.7
COLA College 87.82 11 IAMs_20 IAMs_20 11 38 41.7
comp=Z,5µm,21.0s
COLA College 87.82 11 P P 11 02 52.7 +2.7
COLA College 87.82 11 P P 11 02 49.5 -0.4
baz=204
COLA College 87.82 11 P P 11 02 50.7 +0.7
COLA pmax pmax
comp=Z,294nm,1.8s
MDM Murphy Dome 87.84 11 IAMs_20 IAMs_20 11 39 33.1
comp=Z,5µm,20.0s
HEH HeiHe 87.85 327 *e*P P 11 02 50.6 +0.1
HEH pP **pwP** 11 02 58.2 -3.1
HEH S **S** 11 13 37.9 +4.8
HEH pmax pmax
comp=Z,32nm,1.3s
HEH pmax pmax
comp=Z,2µm,5.1s
HEH LR LR
comp=Z,4µm,17.1s
HEH LR LR
comp=Z,2µm,18.6s
HEH LR LR
comp=Z,6µm,18.3s
VNA2 Neumayer--Watz 87.88 176 ⇓P P 11 02 52.7 +2.2
comp=Z,12nm,0.6s,baz=191,slow=5.0
VNA2 ⇓S S 11 13 31.1 -2.1
comp=Z,0.1nm,0.1s,baz=260,slow=27
N23A Red Feather La 87.89 45 P P 11 02 49.0 -2.3
baz=240
ILAR Eielson Array 87.90 11 P P 11 02 50.9 +0.5
comp=Z,4.2nm,0.9s,baz=235,slow=5.1,SNR=26
ILAR PP PP 11 06 10.2 -6.7
comp=Z,0.7nm,0.8s,baz=210,slow=7.5,SNR=2.4
comp=Z,4.2nm,0.9s
AMTX Amarillo 87.99 51 P P 11 02 49.8 -1.9
baz=243
AMTX Amarillo 87.99 51 S S 11 13 41.3 +5.9
baz=243
RLMT Red Lodge 88.00 40 IAMs_20 IAMs_20 11 37 39.2
comp=Z,3µm,19.0s
RLMT Red Lodge 88.00 40 P P 11 02 48.1 -3.5
baz=237
J25K Salcha River, 88.04 12 IAMs_20 IAMs_20 11 49 41.5
comp=Z,4µm,19.0s
J25K Salcha River, 88.04 12 P P 11 02 50.0 -1.2
baz=206
N32M Quiet Lake 88.08 18 P P 11 02 49.9 -1.5
baz=217
CCIG Comitan 88.11 72 IAMs_20 IAMs_20 11 33 34.5
comp=Z,4µm,20.0s
VA05 Santo Domingo 88.11 125 IAMs_20 IAMs_20 11 36 15.4
comp=Z,5µm,18.0s
POKR Poker Plat Res 88.12 11 IAMs_20 IAMs_20 11 38 28.5
comp=Z,4µm,21.0s
POKR Poker Plat Res 88.12 11 P P 11 02 49.4 -2.0
baz=204,SNR=7.1
K27K Chicken 88.19 13 IAmb IAmb 11 03 08.2
comp=Z,76nm,1.5s
K27K IAMs_20 IAMs_20 11 49 04.0
comp=Z,4µm,18.0s
K27K Chicken 88.19 13 P P 11 02 51.2 -0.6
baz=209
E17K Hotham Inlet 88.20 5 P P 11 02 50.2 -1.5
baz=191,SNR=6.1
H22K Ishtalitna Cre 88.21 9 P P 11 02 51.2 -0.7
baz=201
M30M Minto, Yukon 88.21 16 IAMs_20 IAMs_20 11 40 28.2
comp=Z,4µm,19.0s
M30M Minto, Yukon 88.21 16 P P 11 02 51.1 -0.9
baz=214
BO01 Tunca 88.22 126 IAMs_20 IAMs_20 11 40 13.1
comp=Z,4µm,18.0s
BO02 Sierra Bellavi 88.28 127 IAMs_20 IAMs_20 11 34 08.8
comp=Z,4µm,20.0s
J26L Joseph Creek 88.30 13 IAMs_20 IAMs_20 11 38 43.3
comp=Z,3µm,20.0s
J26L Joseph Creek 88.30 13 P P 11 02 51.0 -1.4
baz=208,SNR=23
MT01 Popeta 88.31 126 P P 11 02 52.4 -0.8
MT01 IAMs_20 IAMs_20 11 37 07.5
comp=Z,4µm,18.0s
735A Kenedy 88.31 58 IAMs_20 IAMs_20 11 35 31.8
comp=Z,5µm,20.0s
F19K Shaleruckik Mo 88.31 6 IAMs_20 IAMs_20 11 40 42.0
comp=Z,4µm,20.0s
F19K Shaleruckik Mo 88.31 6 P P 11 02 50.9 -1.4
baz=195
L29M L29M 88.31 15 P P 11 02 53.9 +1.4
L29M L29M 88.31 15 P P 11 02 50.5 -2.0
baz=213
HUEH Huehuetenango 88.32 73 IAMs_20 IAMs_20 11 33 26.9
comp=Z,3µm,20.0s
VA01 Torpederas 88.34 125 IAMs_20 IAMs_20 11 35 16.8
comp=Z,3µm,19.0s
K22A Casper 88.40 43 P P 11 02 51.1 -2.4
baz=239
K22A Casper 88.40 43 S S 11 13 43.0 +3.9
baz=239
NVL N'lazarevskaya 88.46 182 *e*P P 11 02 51.1 -2.1
NVL *e*S **SKSac** 11 13 16.9 -5.1
NVL pmax pmax
comp=Z,33nm,2.0s
NVL smax smax
comp=E,2µm,15.0s
ABTX Abilene, Hawle 88.50 54 P P 11 02 52.0 -2.0
baz=244
ABTX Abilene, Hawle 88.50 54 P P 11 02 58.5 +4.5
baz=244
EFI East Falkland 88.50 146 *ce*P P 11 02 56.7 +3.0
EFI pmax pmax
comp=Z,76nm,1.0s
EFI MLR MLR
comp=Z,3µm,19.0s
G21K Allakaket 88.50 8 IAMs_20 IAMs_20 11 40 02.5
comp=Z,3µm,21.0s
G21K Allakaket 88.50 8 P P 11 02 51.8 -1.4
baz=199,SNR=6.6
RPSI Rantau Prapat 88.51 273 IAmb IAmb 11 02 58.2
comp=Z,75nm,1.2s
MT09 Talagante 88.54 126 IAMs_20 IAMs_20 11 38 32.7
comp=Z,4µm,18.0s
M31M Drury Creek, Y 88.55 17 IAMs_20 IAMs_20 11 37 16.2
comp=Z,3µm,20.0s
M31M Drury Creek, Y 88.55 17 P P 11 02 51.5 -2.0
baz=216
PSI Prapat 88.55 274 P P 11 02 55.3 +0.4
PSI Prapat 88.55 274 P P 11 02 54.2 -0.7
PSI pmax pmax
comp=Z,70nm,1.7s
WTLY Watson Lake, Y 88.61 21 P P 11 02 52.2 -1.7
baz=221
E18K Tukpahlearik C 88.63 5 IAMs_20 IAMs_20 11 41 27.2
comp=Z,3µm,20.0s
E18K Tukpahlearik C 88.63 5 P P 11 02 52.8 -1.0
baz=192
MT02 Curacav 88.64 125 IAMs_20 IAMs_20 11 36 40.3
comp=Z,5µm,18.0s
H24K Noodor Dome 88.70 10 P P 11 02 52.5 -1.7
baz=204
BO04 La Punta 88.74 126 IAMs_20 IAMs_20 11 40 29.0
comp=Z,4µm,18.0s
F20K Avaraart Lake 88.74 7 IAmb IAmb 11 03 09.9
comp=Z,56nm,1.6s
F20K IAMs_20 IAMs_20 11 40 23.8
comp=Z,5µm,20.0s
F20K Avaraart Lake 88.74 7 P P 11 02 52.8 -1.5
baz=197
HNS HongShan 88.85 311 ⇓P P 11 02 58.3 +2.8

HNS				SKS	SKSac	11 13 27.8	+2.7
HNS				S	ScS	11 13 51.1	+2.6
HNS				pmax	pmax		
	comp=Z,36nm,2.4s						
HNS				pmax	pmax		
	comp=Z,1µm,6.4s						
HNS				LR	LR		
	comp=Z,900nm,17.8s						
HNS				LR	LR		
	comp=Z,1µm,19.8s						
HNS				LR	LR		
	comp=Z,2µm,19.3s						
FARO	Faro, Yukon	88.86	18	P	P	11 02 53.6	-1.5
	baz=217						
MT05	Renca	88.89	125	IAMs_20	IAMs_20	11 37 05.0	
	comp=Z,5µm,18.0s						
BRLDA	Berland Lookou	88.94	29	IAMs_20	IAMs_20	11 37 35.1	
	comp=Z,5µm,20.0s						
E19K	Redstone River	88.97	6	IAmb	IAmb	11 03 11.1	
	comp=Z,114nm,1.8s						
E19K				IAMs_20	IAMs_20	11 40 53.4	
	comp=Z,4µm,20.0s						
E19K	Redstone River	88.97	6	P	P	11 02 53.5	-2.0
	baz=195						
LIRD	Liard River Hi	89.02	22	P	P	11 02 54.2	-1.6
	baz=224						
MT03	Universidad Ad	89.02	126	IAMs_20	IAMs_20	11 38 19.4	
	comp=Z,5µm,18.0s						
PEL	Peldehue	89.03	125	IAMs_20	IAMs_20	11 36 45.0	
	comp=Z,5µm,18.0s						
EGAK	Eagle	89.04	13	P	P	11 02 56.3	+0.5
EGAK				IAMs_20	IAMs_20	11 41 47.1	
	comp=Z,5µm,19.0s						
EGAK	Eagle	89.04	13	P	P	11 02 54.3	-1.5
	baz=210						
BJT	Baijiatuau	89.07	314	P	P	11 02 59.7	+3.2
BJI	Beijing	89.07	314	P	P	11 02 58.0	+1.5
BJI				sP	pwP	11 03 04.5	-2.8
BJI				PP	PP	11 06 32.4	+5.6
BJI				SKS	SKSac	11 13 26.5	+0.2
BJI				sS	ScS	11 13 53.6	+3.4
BJI				pmax	pmax		
	comp=Z,1µm,4.8s						
BJI				LR	LR		
	comp=Z,400nm,21.9s						
BJI				LR	LR		
	comp=Z,630nm,20.9s						
BJI				LR	LR		
	comp=Z,810nm,21.8s						
K29M	Barlow Dome	89.08	15	IAmb	IAmb	11 03 12.4	
	comp=Z,96nm,1.5s						
K29M				IAMs_20	IAMs_20	11 41 35.2	
	comp=Z,5µm,19.0s						
K29M	Barlow Dome	89.08	15	P	P	11 02 55.4	-0.8
	baz=213						
RDOG	Red Dog Mine	89.08	4	IAMs_20	IAMs_20	11 47 56.8	
	comp=Z,4µm,19.0s						
RDOG	Red Dog Mine	89.08	4	P	P	11 02 53.6	-2.3
	baz=190						
MT13	San Alfonso	89.09	126	IAMs_20	IAMs_20	11 40 32.2	
	comp=Z,4µm,18.0s						
I26K	Coal Creek Min	89.09	12	IAMs_20	IAMs_20	11 42 20.3	
	comp=Z,4µm,20.0s						
I26K	Coal Creek Min	89.09	12	P	P	11 02 54.5	-1.5
	baz=208						
LMEL	Las Melosas	89.11	126	IAMs_20	IAMs_20	11 40 41.6	
	comp=Z,4µm,18.0s						
G22K	Bettles	89.15	9	P	P	11 02 55.0	-1.2
	baz=201						
C16K	Lisburne Hills	89.16	3	IAMs_20	IAMs_20	11 39 31.2	
	comp=Z,3µm,21.0s						
C16K	Lisburne Hills	89.16	3	P	P	11 02 53.8	-2.4
	baz=188						
G23K	Bananza Creek	89.17	9	IAMs_20	IAMs_20	11 39 57.2	
	comp=Z,3µm,20.0s						
G23K	Bananza Creek	89.17	9	P	P	11 02 54.9	-1.5
	baz=202						
F21K	Alatna River	89.18	8	IAMs_20	IAMs_20	11 40 47.3	
	comp=Z,3µm,20.0s						
F21K	Alatna River	89.18	8	P	P	11 02 53.7	-2.7
	baz=199						
LYN	LuoYang	89.19	308	eP	P	11 03 00.3	+3.1
LYN				SKS	SKSac	11 13 29.9	+2.6
LYN				S	ScS	11 13 49.8	-1.7
LYN				sS	sS	11 13 56.7	+7.4
LYN				pmax	pmax		
	comp=Z,100nm,1.3s						
LYN				pmax	pmax		
	comp=Z,3µm,4.5s						
LYN				LR	LR		
	comp=Z,1µm,20.3s						
LYN				LR	LR		
	comp=Z,1µm,18.6s						
LYN				LR	LR		
	comp=Z,1µm,17.9s						
KSCO	Kaye Shedlock'	89.22	47	P	P	11 02 54.9	-2.6
	baz=242						
GSI	Gunungsitoli	89.28	272	IAMs_20	IAMs_20	11 43 28.4	
	comp=Z,4µm,21.0s						
GSI	Gunungsitoli	89.28	272	P	P	11 03 01.2	+3.1
GSI	Gunungsitoli	89.28	272	P	P	11 02 59.9	+1.8
	comp=Z,120nm,1.3s,comp=Z,6µmcomp=Z,4µm						
MAYO	Mayo, Yukon	89.28	16	P	P	11 02 53.3	-3.7
	baz=215						
EGMT	Eagleton	89.29	37	IAMs_20	IAMs_20	11 37 14.0	
	comp=Z,5µm,20.0s						
EGMT	Eagleton	89.29	37	P	P	11 02 53.2	-4.2
	baz=237						
435B	Jarrell	89.29	57	P	P	11 02 53.3	-4.5
	baz=245						
435B	Jarrell	89.29	57	S	S	11 13 49.2	+1.5
	baz=245						
MT08	Bocatoma Ro	89.42	126	IAMs_20	IAMs_20	11 38 53.9	
	comp=Z,4µm,18.0s						
C17K	DeLong Mountai	89.48	4	P	P	11 02 54.5	-3.3
	baz=190						
G24K	Hadweenzic Riv	89.56	10	P	P	11 02 55.1	-3.1
	baz=204						
CO02	Combarbal	89.59	123	IAMs_20	IAMs_20	11 39 18.5	
	comp=Z,4µm,18.0s						
F22K	John River	89.61	8	P	P	11 02 54.9	-3.6
	baz=200						
COLD	Coldfoot	89.63	9	P	P	11 02 55.1	-3.4
	baz=202						
ENH	Enshi	89.65	303	P	P	11 03 02.3	+2.8
	comp=Z,106nm,1.8s						
I27K	Kandik River	89.66	13	P	P	11 02 55.1	-3.7
	baz=210						
SNET	Serv Nac Est T	89.76	75	IAMs_20	IAMs_20	11 34 36.2	
	comp=Z,5µm,19.0s						
C18K	Utukok River	89.79	5	IAMs_20	IAMs_20	11 41 56.5	
	comp=Z,4µm,20.0s						
C18K	Utukok River	89.79	5	P	P	11 02 56.1	-3.2
	baz=192						
G25K	Bearman Lake	89.85	11	P	P	11 02 56.3	-3.2
	baz=206						
E20K	Nigu River	89.86	6	P	P	11 02 56.2	-3.4
	baz=196						
FW03	Perrin-Whitt E	89.87	54	IAMs_20	IAMs_20	11 37 28.0	
	comp=Z,6µm,19.0s						
I28M	Miner Creek	89.89	13	IAmb	IAmb	11 03 06.4	
	comp=Z,133nm,1.9s						
I28M				IAMs_20	IAMs_20	11 42 32.3	
	comp=Z,4µm,19.0s						
I28M	Miner Creek	89.89	13	P	P	11 02 55.1	-4.8
	baz=211						
D19K	Kuna River	89.90	6	IAMs_20	IAMs_20	11 41 35.7	
	comp=Z,4µm,20.0s						
D19K	Kuna River	89.90	6	P	P	11 02 55.3	-4.5
	baz=194						
WHTX	Lake Whitney,	89.90	56	P	P	11 02 56.4	-4.2
	baz=245						
WHTX	Lake Whitney,	89.90	56	S	S	11 13 56.8	+3.5
	baz=245						
CO05	La Serena	89.92	122	IAMs_20	IAMs_20	11 36 23.5	
	comp=Z,4µm,18.0s						
BILL	Bilibino	89.93	353	P	P	11 03 01.1	+1.2
BILL				IAmb	IAmb	11 03 02.2	
	comp=Z,64nm,1.9s						
BILL				IAMs_20	IAMs_20	11 43 54.1	
	comp=Z,4µm,19.0s						
BILL	Bilibino	89.93	353	eP	P	11 03 01.1	+1.2
FW07	Weatherford	89.94	55	IAMs_20	IAMs_20	11 36 55.9	
	comp=Z,7µm,20.0s						
CO03	El Pedregal	89.98	123	IAMs_20	IAMs_20	11 37 55.9	
	comp=Z,3µm,19.0s						
J30M	Hart River	89.98	15	P	P	11 02 57.5	-2.9
	baz=214						
SRIT	Nakonsritamara	89.98	279	P	P	11 03 04.3	+2.9
	comp=Z,74nm,0.7s						
ZEA	Zeya	90.02	329	eP	P	11 03 02.7	+2.1
ZEA				eS	S	11 13 57.7	+4.3
ZEA				ePS	PnS	11 15 00.7	0.0
ZEA				eSP	SP	11 15 05.7	+6.4
ZEA				pmax	pmax		
	comp=N,20nm,1.3s						
ZEA				pmax	pmax		
	comp=Z,30nm,1.5s						
ZEA				smax	smax		
	comp=N,2µm,5.3s						
ZEA				smax	smax		
	comp=E,2µm,4.8s						
WMOK	Wichita Mounta	90.06	53	IAMs_20	IAMs_20	11 36 49.7	
	comp=Z,5µm,19.0s						
SURA	Surathani	90.16	280	P	P	11 03 05.5	+3.3
GO04	Tololo Observa	90.17	122	IAMs_20	IAMs_20	11 37 42.7	
	comp=Z,4µm,18.0s						
I29M	Ogilvie Camp,	90.17	14	IAmb	IAmb	11 03 16.7	
	comp=Z,32nm,1.3s						
I29M				IAMs_20	IAMs_20	11 39 17.0	
	comp=Z,3µm,20.0s						
I29M	Ogilvie Camp,	90.17	14	P	P	11 02 59.3	-1.8
	baz=213,SNR=7.1						
NONG	Nongkai	90.21	289	P	P	11 03 04.3	+2.0
	comp=Z,68nm,2.1s						
H27K	Steamboat Moun	90.23	12	P	P	11 02 57.7	-3.7
	baz=210						
FW06	Azle	90.23	55	IAMs_20	IAMs_20	11 37 33.5	
	comp=Z,7µm,20.0s						
F24K	Squaw Lake	90.24	10	P	P	11 02 56.3	-5.2
	baz=204						
D20K	Etivluk River	90.25	6	P	P	11 02 55.9	-5.5
	baz=196						
E22K	Anaktuvuk Pass	90.25	8	IAmb	IAmb	11 03 17.0	
	comp=Z,40nm,1.5s						
E22K				IAMs_20	IAMs_20	11 44 03.8	
	comp=Z,5µm,20.0s						
E22K	Anaktuvuk Pass	90.25	8	P	P	11 02 56.5	-5.0
	baz=200						
KOTAN	Kotaneelee Air	90.26	22	P	P	11 02 59.5	-2.1
	baz=225						
EDM	Edmonton	90.33	32	IAMs_20	IAMs_20	11 38 00.1	
	comp=Z,4µm,20.0s						
HKT	Hockley	90.33	58	IAMs_20	IAMs_20	11 37 35.3	
	comp=Z,5µm,20.0s						
HKT	Hockley	90.33	58	iP	P	11 03 03.5	+0.9
HKT				pmax	pmax		
	comp=Z,4.0nm,1.1s						
HKT				MLR	MLR		
	comp=Z,2µm,17.0s						
C19K	Lookout Ridge	90.36	5	IAmb	IAmb	11 03 17.6	
	comp=Z,111nm,1.6s						
C19K				IAMs_20	IAMs_20	11 41 55.1	
	comp=Z,5µm,20.0s						
C19K	Lookout Ridge	90.36	5	P	P	11 02 56.7	-5.3
	baz=193						
PETF	Flores	90.37	72	IAMs_20	IAMs_20	11 35 16.2	
	comp=Z,3µm,20.0s						
GYA	Guiyang	90.39	298	⇓P	P	11 03 05.5	+2.3
GYA				PP	PP	11 06 35.4	-2.4
GYA				SKS	SKSac	11 13 33.3	-1.7
GYA				S	S	11 13 58.9	+0.6
GYA				SS	SS	11 19 58.7	-0.4
GYA				pmax	pmax		
	comp=Z,31nm,1.7s						
GYA				pmax	pmax		
	comp=Z,2µm,4.5s						
GYA				LR	LR		
	comp=Z,400nm,13.6s						
GYA				LR	LR		
	comp=Z,960nm,16.7s						
GYA				LR	LR		
	comp=Z,1µm,18.5s						
G26K	Porcupine Rive	90.43	11	P	P	11 02 56.6	-5.6
	baz=208						
B18K	Kokolik River	90.45	4	P	P	11 02 56.1	-6.2
	baz=191						
NAYO	Nakonayok	90.47	285	P	P	11 03 06.3	+2.7
	comp=Z,574nm,1.5s						
E23K	Chandalar	90.48	9	P	P	11 02 56.0	-6.6
	baz=202						
I30M	Mount Dempster	90.51	15	IAmb	IAmb	11 03 18.6	
	comp=Z,83nm,1.4s						
I30M				IAMs_20	IAMs_20	11 42 49.8	
	comp=Z,5µm,19.0s						
I30M	Mount Dempster	90.51	15	P	P	11 02 56.5	-6.3
	baz=214,SNR=16						
OGNE	Ogallala	90.52	46	IAMs_20	IAMs_20	11 39 07.3	
	comp=Z,3µm,19.0s						
OGNE	Ogallala	90.52	46	P	P	11 02 56.2	-7.2
	baz=242						
FLDN	Fort Liard	90.54	23	P	P	11 02 56.4	-6.5
	baz=226						
TIY	Taiyuan	90.60	310	P	P	11 03 06.2	+2.4
TIY				S	S	11 13 53.6	-6.1
TIY				pmax	pmax		
	comp=Z,43nm,2.1s						
TIY				pmax	pmax		
	comp=Z,1µm,4.9s						
TIY				LR	LR		
	comp=Z,600nm,17.8s						
TIY				LR	LR		
	comp=Z,770nm,19.6s						
TIY				LR	LR		
	comp=Z,1µm,17.3s						
U32A	Winter Ranch,	90.60	51	S	S	11 14 05.2	+5.5
	baz=244						
Z35A	Perchaven, San	90.61	54	S	S	11 14 03.9	+4.1
	baz=245						
LAO	LASA Array	90.63	39	P	P	11 02 56.6	-7.2
	baz=240						
E24K	Your Creek	90.66	9	IAMs_20	IAMs_20	11 41 24.7	
	comp=Z,6µm,20.0s						
E24K	Your Creek	90.66	9	P	P	11 02 57.4	-5.9
	baz=203						
F25K	Christian Rive	90.68	10	P	P	11 02 57.1	-6.3
	baz=206						
G27K	Doyon Strip	90.71	12	IAMs_20	IAMs_20	11 42 46.0	
	comp=Z,4µm,20.0s						
G27K	Doyon Strip	90.71	12	P	P	11 02 57.9	-5.7
	baz=210						
RSSD	Black Hills	90.71	42	IAMs_20	IAMs_20	11 38 04.1	
	comp=Z,4µm,20.0s						
RSSD	Black Hills	90.71	42	P	P	11 02 57.3	-7.1
	baz=241						
RSSD	Black Hills	90.71	42	P	P	11 03 07.2	+2.9
	baz=241						
BMAR	Burnt Mountain	90.71	11	P	P	11 03 05.8	+2.2
LCO	Las Campanas	90.72	121	IAMs_20	IAMs_20	11 37 40.6	
	comp=Z,5µm,18.0s						
AC04	Llanos de Chal	90.75	121	IAMs_20	IAMs_20	11 37 38.5	
	comp=Z,4µm,18.0s						
CO01	Juntas del Tor	90.80	122	IAMs_20	IAMs_20	11 38 03.8	
	comp=Z,4µm,18.0s						
D22K	Ayikyak River	90.85	7	IAMs_20	IAMs_20	11 41 42.5	
	comp=Z,5µm,20.0s						
D22K	Ayikyak River	90.85	7	P	P	11 02 58.1	-6.1
	baz=200						
C21K	Knifeblade Rid	90.87	7	P	P	11 02 58.6	-5.7
	baz=198						
H29M	Whitestone	90.88	14	IAmb	IAmb	11 03 20.3	
	comp=Z,81nm,1.5s						
H29M				IAMs_20	IAMs_20	11 43 21.8	
	comp=Z,3µm,20.0s						
H29M	Whitestone	90.88	14	P	P	11 03 00.7	-3.7
	baz=213						
XLT	XiLinHaoTe	90.97	317	eP	P	11 03 06.0	+0.6
XLT				pP	pwP	11 03 11.4	-4.8
XLT				sP	sP	11 03 13.6	+6.6
XLT				S	S	11 14 05.1	+2.3
XLT				pmax	pmax		
	comp=Z,22nm,1.2s						
XLT				pmax	pmax		
	comp=Z,920nm,6.8s						
XLT				LR	LR		
	comp=Z,1µm,16.6s						
XLT				LR	LR		
	comp=Z,1µm,19.1s						
F26K	Sheenjek River	91.03	11	P	P	11 02 59.1	-6.0
	baz=207						
TOLK	Toolik Lake Re	91.03	9	P	P	11 03 02.5	-2.6
	baz=202						
AC05	El Transito	91.13	121	IAMs_20	IAMs_20	11 38 20.6	
	comp=Z,4µm,18.0s						
CBKS	Cedar Bluff	91.14	49	IAMs_20	IAMs_20	11 37 15.9	
	comp=Z,4µm,20.0s						
CBKS	Cedar Bluff	91.14	49	P	P	11 03 00.5	-5.8
	baz=244						
E25K	Arctic Village	91.17	10	IAmb	IAmb	11 03 21.9	
	comp=Z,42nm,1.5s						
E25K				IAMs_20	IAMs_20	11 41 38.0	
	comp=Z,5µm,20.0s						
E25K	Arctic Village	91.17	10	P	P	11 03 01.0	-4.7
	baz=206,SNR=5.9						
237A	Washetta, Mont	91.18	56	IAMs_20	IAMs_20	11 37 41.7	
	comp=Z,5µm,20.0s						
D23K	Nanushuk River	91.18	8	P	P	11 03 00.7	-5.0
	baz=201						
ZON	Zonda	91.25	124	IAMs_20	IAMs_20	11 38 31.2	
	comp=Z,4µm,18.0s						
FNO	Franklin	91.31	53	IAMs_20	IAMs_20	11 37 51.7	
	comp=Z,4µm,20.0s						
A19K	Wainwright	91.33	4	P	P	11 03 02.8	-3.5
	baz=192						
B21K	Ikpikpuk River	91.33	7	P	P	11 03 03.9	-2.5
	baz=198						
EPYK	Eagle Plains	91.38	14	IAmb	IAmb	11 03 22.5	
	comp=Z,88nm,1.6s						
EPYK				IAMs_20	IAMs_20	11 43 08.8	
	comp=Z,3µm,19.0s						
EPYK	Eagle Plains	91.38	14	P	P	11 03 04.6	-2.2
	baz=214,SNR=5.8						
MLSI	Meulaboh, Aceh	91.42	274	P	P	11 03 09.5	+1.4
	comp=Z,48nm,0.8s						
HIA	Hailar	91.43	323	iP	P	11 03 08.3	+1.0
HIA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
B20K	Meade River	91.45	6	IAMs_20	IAMs_20	11 42 17.9	
	comp=Z,4µm,20.0s						
B20K	Meade River	91.45	6	P	P	11 03 04.4	-2.5
	baz=195						
G29M	Pine Creek	91.54	13	IAmb	IAmb	11 03 23.1	
	comp=Z,87nm,1.6s						
G29M				IAMs_20	IAMs_20	11 43 35.2	
	comp=Z,4µm,20.0s						
G29M	Pine Creek	91.54	13	P	P	11 03 05.3	-2.1
	baz=213						
CFA	Coronel Fontan	91.56	125	LR	LR	11 40 28.8	
	comp=Z,2µm,18.0s,baz=246,slow=33						
D24K	Happy Valley	91.61	9	IAMs_20	IAMs_20	11 45 32.1	
	comp=Z,3µm,18.0s						
D24K	Happy Valley	91.61	9	P	P	11 03 05.8	-1.9
	baz=203						
XAN	Xi'an	91.63	306	P	P	11 03 10.5	+1.8
XAN				pP	pwP	11 03 15.3	-4.2
XAN				PP	PP	11 06 44.6	-2.8
XAN				SKS	SKSac	11 13 40.9	-0.7
XAN				S	ScS	11 14 12.4	+0.5
XAN				pmax	pmax		
	comp=Z,48nm,1.0s						
XAN				pmax	pmax		
	comp=Z,2µm,4.6s						
XAN				LR	LR		
	comp=Z,970nm,19.9s						
XAN				LR	LR		
	comp=Z,1µm,16.8s						
XAN				LR	LR		
	comp=Z,2µm,17.5s						
TGUH	Tegucigalpa,Un	91.66	76	IAMs_20	IAMs_20	11 35 13.7	
	comp=Z,3µm,20.0s						
GO03	Copiap	91.68	120	IAMs_20	IAMs_20	11 35 43.1	
	comp=Z,3µm,20.0s						
AC06	Mina Casimiro	91.68	120	IAMs_20	IAMs_20	11 37 16.1	
	comp=Z,4µm,18.0s						
R32A	Long Quarter,	91.69	49	IAMs_20	IAMs_20	11 38 31.7	
	comp=Z,5µm,20.0s						
R32A	Long Quarter,	91.69	49	P	P	11 03 13.1	+4.3
	baz=244						
F28M	Old Crow	91.76	12	IAmb	IAmb	11 03 24.2	
	comp=Z,45nm,1.6s						
F28M				IAMs_20	IAMs_20	11 43 46.8	
	comp=Z,5µm,20.0s						
F28M	Old Crow	91.76	12	P	P	11 03 07.4	-1.1
	baz=211						
E27K	Coleen River	91.92	11	IAmb	IAmb	11 03 25.4	
	comp=Z,41nm,1.4s						
E27K				IAMs_20	IAMs_20	11 44 21.0	
	comp=Z,3µm,20.0s						
E27K	Coleen River	91.92	11	P	P	11 03 06.2	-3.0
	baz=210						
OK033	Mehan	91.97	52	IAMs_20	IAMs_20	11 38 48.4	
	comp=Z,5µm,20.0s						
NATX	Nacogdoches	91.98	57	P	P	11 03 07.0	-3.3
	baz=247						
AC01	Pan de Azucar	91.98	119	IAMs_20	IAMs_20	11 37 15.1	
	comp=Z,4µm,19.0s						
G30M	tAoh Zraii Nji	92.00	14	IAMs_20	IAMs_20	11 43 10.2	
	comp=Z,3µm,18.0s						
G30M	tAoh Zraii Nji	92.00	14	P	P	11 03 07.9	-1.7
	baz=215						
C23K	Itkillik River	92.01	8	IAmb	IAmb	11 03 16.3	
	comp=Z,66nm,1.6s						
C23K				IAMs_20	IAMs_20	11 42 09.1	
	comp=Z,5µm,21.0s						
C23K	Itkillik River	92.01	8	P	P	11 03 08.0	-1.5
	baz=201						
HZTE	Horizontes, Gu	92.01	79	IAMs_20	IAMs_20	11 39 48.0	
	comp=Z,3µm,19.0s						
OK030	Cody Creek RV	92.04	52	IAMs_20	IAMs_20	11 39 00.2	
	comp=Z,5µm,20.0s						
NNA	Nana	92.05	104	IAMs_20	IAMs_20	11 39 43.4	
	comp=Z,3µm,18.0s						
NNA	Nana	92.05	104	LR	LR	11 35 17.0	
	comp=Z,2µm,20.4s,baz=233,slow=29						
OK052	Battle Ridge R	92.05	52	IAMs_20	IAMs_20	11 39 00.5	
	comp=Z,5µm,20.0s						
D25K	Kavik River	92.12	9	IAMs_20	IAMs_20	11 41 52.3	
	comp=Z,5µm,20.0s						
D25K	Kavik River	92.12	9	P	P	11 03 08.2	-2.0
	baz=205						
ARNL	Arenillas	92.12	95	IAMs_20	IAMs_20	11 37 58.5	
	comp=Z,3µm,18.0s						
B22K	Teshekpuk Lake	92.15	7	IAMs_20	IAMs_20	11 42 15.9	
	comp=Z,3µm,20.0s						
B22K	Teshekpuk Lake	92.15	7	P	P	11 03 08.6	-1.5
	baz=199						
C24K	Franklin Bluff	92.15	8	P	P	11 03 10.0	-0.1
	baz=203						
ATAH	Atahualpa	92.39	99	LR	LR	11 35 49.4	
	comp=Z,2µm,20.0s,baz=251,slow=30						
G31M	Satah River	92.39	15	IAmb	IAmb	11 03 26.8	
	comp=Z,77nm,1.5s						
G31M				IAMs_20	IAMs_20	11 44 06.8	
	comp=Z,5µm,19.0s						
G31M	Satah River	92.39	15	P	P	11 03 08.0	-3.3
	baz=216,SNR=11						
SRDT	SRDT	92.47	284	P	P	11 03 14.0	+1.1
HHC	Hu-ho-hao-te	92.58	313	eP	P	11 03 14.2	+1.2
HHC				sP	pwP	11 03 21.3	-2.5
HHC				S	S	11 14 20.6	+3.1
HHC				sS	sS	11 14 25.8	+5.5
HHC				pmax	pmax		
	comp=Z,68nm,1.5s						
HHC				pmax	pmax		
	comp=Z,820nm,5.1s						
HHC				LR	LR		
	comp=Z,1µm,15.1s						
HHC				LR	LR		
	comp=Z,2µm,16.7s						
HHC				LR	LR		
	comp=Z,2µm,19.2s						
F30M	Barrier River	92.61	14	P	P	11 03 09.3	-3.0
	baz=215						
A22K	Sinclair Lake	92.62	6	P	P	11 03 10.1	-2.2
	baz=197						
E28M	Babbage River	92.67	12	IAmb	IAmb	11 03 28.5	
	comp=Z,47nm,1.4s						
E28M				IAMs_20	IAMs_20	11 44 43.9	
	comp=Z,5µm,19.0s						
E28M	Babbage River	92.67	12	P	P	11 03 10.3	-2.3
	baz=212						
DGMT	Dagmar	92.70	39	IAMs_20	IAMs_20	11 38 57.6	
	comp=Z,3µm,20.0s						
DGMT	Dagmar	92.70	39	P	P	11 03 11.9	-1.4
	baz=241,SNR=6.2						
DGMT	Dagmar	92.70	39	P	P	11 03 16.1	+2.8
	baz=241						
441A	DeRidder	92.74	58	IAMs_20	IAMs_20	11 45 14.3	
	comp=Z,4µm,18.0s						
PB14	IPOC Station P	92.77	118	IAMs_20	IAMs_20	11 38 08.0	
	comp=Z,4µm,19.0s						
TUL3	Leonard	92.77	53	P	P	11 03 10.3	-3.5
	baz=246						

TUL3	**Leonard** baz=246	**92.77**	**53**	S	**S**	**11 14 22.0**	**+2.8**		
A21K	**Barrow** baz=196	**92.77**	**5**	P	**P**	**11 03 11.5**	**-1.5**		
E29M	**Blow River** comp=Z,37nm,1.6s	**92.81**	**13**	IAmb	IAmb	11 03 28.6			
E29M	comp=Z,5µm,20.0s			IAMs_20	IAMs_20	11 41 35.7			
E29M	**Blow River** baz=213	**92.81**	**13**	P	**P**	**11 03 11.6**	**-1.6**		
C26K	**Camden Bay** baz=207	**92.89**	**10**	P	**P**	**11 03 11.3**	**-2.2**		
F31M	**Tsiigehtchic** comp=Z,4µm,19.0s	**92.94**	**14**	IAMs_20	IAMs_20	11 44 34.0			
F31M	**Tsiigehtchic** baz=217,SNR=19	**92.94**	**14**	P	**P**	**11 03 12.5**	**-1.3**		
D27M	**Malcolm River** comp=Z,3µm,20.0s	**92.95**	**11**	IAMs_20	IAMs_20	11 45 13.3			
D27M	**Malcolm River** baz=210	**92.95**	**11**	P	**P**	**11 03 11.8**	**-2.2**		
TEIG	**Tepich** comp=Z,3µm,18.0s	**92.97**	**70**	IAMs_20	IAMs_20	11 40 37.1			
TEIG	**Tepich** comp=Z,27µm,18.2s,baz=15,slow=33	**92.97**	**70**	LR	LR	11 40 39.3			
TRQA	**Tornquist** comp=Z,4µm,19.0s	**93.14**	**133**	IAMs_20	IAMs_20	11 37 57.2			
KMI	**Kunming**	**93.16**	**296**	⇑P	**P**	**11 03 17.3**	**+1.1**		
KMI				PP	**PP**	**11 06 58.8**	**-1.0**		
KMI				SKS	**SKSac**	**11 13 47.7**	**-3.2**		
KMI				S	**ScS**	**11 14 27.0**	**+1.6**		
KMI				SS	**SS**	**11 20 37.2**	**-2.0**		
KMI	comp=Z,37nm,1.6s			pmax	pmax				
KMI	comp=Z,1µm,5.4s			pmax	pmax				
KMI	comp=Z,870nm,19.8s			LR	LR				
KMI	comp=Z,2µm,20.9s			LR	LR				
KMI	comp=Z,2µm,21.2s			LR	LR				
GO02	**Mina Guanaco** comp=Z,4µm,18.0s	**93.22**	**118**	IAMs_20	IAMs_20	11 37 53.9			
BGNE	**Belgrade** comp=Z,3µm,20.0s	**93.35**	**47**	IAMs_20	IAMs_20	11 40 18.4			
BGNE	**Belgrade** baz=245	**93.35**	**47**	P	P	11 03 11.3	-5.1		
D28M	**Stokes Point** baz=212	**93.44**	**12**	P	**P**	**11 03 13.1**	**-3.0**		
RLO	**Rose Lookout** comp=Z,6µm,21.0s	**93.44**	**53**	IAMs_20	IAMs_20	11 43 12.2			
KSU1	**Kansas State U** comp=Z,5µm,19.0s	**93.47**	**49**	IAMs_20	IAMs_20	11 40 14.7			
KSU1	**Kansas State U** baz=246	**93.47**	**49**	P	**P**	**11 03 13.6**	**-3.4**		
BTO	**Baotou**	**93.53**	**312**	*e*P	**P**	**11 03 19.0**	**+1.6**		
BTO				pP	**pwP**	**11 03 23.9**	**-4.3**		
BTO				sP	**sP**	**11 03 25.9**	**+6.9**		
BTO				PP	**PP**	**11 07 06.6**	**+4.3**		
BTO				SKS	**SKSac**	**11 13 49.4**	**-2.6**		
BTO				S	**ScS**	**11 14 29.5**	**+1.9**		
BTO				SS	**SS**	**11 20 45.6**	**+1.8**		
BTO	comp=Z,19nm,0.6s			pmax	pmax				
BTO	comp=Z,3µm,5.1s			pmax	pmax				
BTO	comp=Z,2µm,16.5s			LR	LR				
BTO	comp=Z,2µm,14.3s			LR	LR				
BTO	comp=Z,3µm,17.3s			LR	LR				
PB05	**IPOC Station P** comp=Z,3µm,20.0s	**93.66**	**116**	IAMs_20	IAMs_20	11 36 17.8			
INK	**Inuvik** comp=Z,78nm,1.9s	**93.68**	**14**	IAmb	IAmb	11 03 23.6			
INK	comp=Z,4µm,19.0s			IAMs_20	IAMs_20	11 44 12.7			
INK	**Inuvik** baz=217,SNR=7.0	**93.68**	**14**	P	**P**	**11 03 14.5**	**-2.7**		
INK	**Inuvik**	**93.68**	**14**	P	**P**	**11 03 17.2**	**0.0**		
INK	comp=Z,21nm,2.1s			pmax	pmax				
INK	**Inuvik** comp=Z,2µm,18.2s,baz=184,slow=34	**93.68**	**14**	LR	LR	11 43 30.3			
PB04	**IPOC Station P** comp=Z,4µm,18.0s	**93.92**	**116**	IAMs_20	IAMs_20	11 38 05.7			
E28A	**Huff** comp=Z,3µm,19.0s	**93.93**	**41**	IAMs_20	IAMs_20	11 41 22.3			
YAK	**Yakutsk**	**94.06**	**337**	*i* P	**P**	**11 03 21.0**	**+1.9**		
YAK	comp=Z,9.0nm,0.5s			pmax	pmax				
YAK	comp=Z,1µm,19.0s			MLR	MLR				
YAK	**Yakutsk** comp=Z,48nm,19.6s,baz=125,slow=34	**94.06**	**337**	LR	LR	11 43 03.6			
CMAR	**Chiang Mai Arr**	**94.08**	**288**	*i* P	**P**	**11 03 22.6**	**+2.4**		
CMAR	comp=Z,29nm,1.2s			pmax	pmax				
CMAR	**Chiang Mai Arr** comp=Z,26nm,1.2s,baz=114,slow=2.3,SNR=46	**94.08**	**288**	P	**P**	**11 03 21.7**	**+1.5**		
CMAR	comp=Z,504nm,18.3s,baz=110,slow=37 comp=Z,26nm,1.2s			LR	LR	11 47 43.9			
SUSD	**Miller** baz=245	**94.10**	**44**	P	**P**	**11 03 15.7**	**-4.1**		
PB15	**IPOC Station P** comp=Z,2µm,18.0s	**94.13**	**117**	IAMs_20	IAMs_20	11 38 33.1			
CHTO	**Chiang Mai**	**94.20**	**288**	P	**P**	**11 03 21.6**	**+0.8**		
CHTO	comp=Z,75nm,1.6s			IAmb	IAmb	11 03 26.2			
CHTO	**Chiang Mai**	**94.20**	**288**	P	**P**	**11 03 22.8**	**+2.0**		
CHTO	**Chiang Mai**	**94.20**	**288**	P	**P**	**11 03 21.6**	**+0.8**		
CHTO	comp=Z,75nm,1.6s			pmax	pmax				
PB06	**IPOC Station P** comp=Z,3µm,20.0s	**94.25**	**116**	IAMs_20	IAMs_20	11 36 35.4			
PB07	**IPOC Station P** comp=Z,4µm,20.0s	**94.39**	**115**	IAMs_20	IAMs_20	11 36 36.2			
CD2	**Chengdu**	**94.44**	**301**	*e*P	**P**	**11 03 21.0**	**-0.7**		
CD2	comp=Z,10.0nm,0.5s			pmax	pmax				
X40A	**Basin Creek Fa** comp=Z,4µm,20.0s	**94.44**	**55**	IAMs_20	IAMs_20	11 39 47.0			
PZH	**PanZhiHua**	**94.50**	**297**	P	**P**	**11 03 23.1**	**+0.9**		
PZH				sP	**pwP**	**11 03 31.3**	**-1.7**		
PZH				SKS	**SKSac**	**11 13 59.9**	**+2.0**		
PZH				S	**S**	**11 14 35.0**	**-0.1**		
PZH	comp=Z,860nm,5.9s			pmax	pmax				
PZH	comp=Z,720nm,20.6s			LR	LR				
PZH	comp=Z,930nm,22.1s			LR	LR				
PZH	comp=Z,1µm,21.2s			LR	LR				
PATCX	**Punta Patache** comp=Z,4µm,20.0s	**94.54**	**114**	IAMs_20	IAMs_20	11 38 30.1			
PB02	**IPOC Station P** comp=Z,3µm,19.0s	**94.55**	**115**	IAMs_20	IAMs_20	11 38 22.4			
TA01	**Diego Aracena** comp=Z,4µm,19.0s	**94.62**	**114**	IAMs_20	IAMs_20	11 38 41.2			
TA02	**Huaiquique** comp=Z,3µm,19.0s	**94.78**	**114**	IAMs_20	IAMs_20	11 41 17.5			
L34A	**Svendsen Farm,** comp=Z,2µm,19.0s	**94.79**	**47**	IAMs_20	IAMs_20	11 41 30.5			
LVC	**Limon Verde** comp=Z,3µm,20.0s	**94.85**	**116**	IAMs_20	IAMs_20	11 37 15.2			
LVC	**Limon Verde** comp=Z,3µm,19.8s,baz=246,slow=30	**94.85**	**116**	LR	LR	11 37 36.9			
N35A	**Tabor** comp=Z,3µm,20.0s	**94.86**	**48**	IAMs_20	IAMs_20	11 40 43.3			
PB09	**IPOC Station P** comp=Z,4µm,21.0s	**94.91**	**115**	IAMs_20	IAMs_20	11 37 04.8			
UALR	**University of** comp=Z,5µm,20.0s	**94.93**	**55**	IAMs_20	IAMs_20	11 40 13.8			
OTAV	**Otavalo** comp=Z,3µm,20.0s	**94.98**	**92**	IAMs_20	IAMs_20	11 36 47.1			
PB01	**IPOC Station P** comp=Z,4µm,19.0s	**95.01**	**115**	IAMs_20	IAMs_20	11 38 56.6			
MDND	**Maddock** comp=Z,4µm,19.0s	**95.16**	**41**	IAMs_20	IAMs_20	11 42 39.6			
MDND	**Maddock** baz=244	**95.16**	**41**	P	**P**	**11 03 21.2**	**-3.3**		
IMBA	**Imbabura, San** comp=Z,3µm,20.0s	**95.23**	**92**	IAMs_20	IAMs_20	11 36 55.7			
YKA	**Yellowknife Ar**	**95.26**	**24**	P	**P**	**11 03 26.1**	**+1.5**		
YKA	comp=Z,2.8nm,0.7s,baz=241,slow=4.7,SNR=25			PP	**PP**	**11 07 14.4**	**-0.6**		
YKA	comp=Z,0.7nm,1.1s,baz=324,slow=4.2,SNR=5.8			LR	LR	11 44 19.9			
PB12	comp=Z,1µm,18.1s,baz=248,slow=34 comp=Z,2.8nm,0.7s **IPOC Station P** comp=Z,5µm,19.0s	**95.28**	**112**	IAMs_20	IAMs_20	11 38 59.0			
S39A	**Bolivar** comp=Z,5µm,20.0s	**95.29**	**52**	IAMs_20	IAMs_20	11 40 42.1			
YKAW1	**Yellowknife Wh** comp=Z,2µm,18.0s	**95.30**	**24**	IAMs_20	IAMs_20	11 43 59.1			
YKAW3	**Yellowknife Wh** comp=Z,2µm,19.0s	**95.30**	**24**	IAMs_20	IAMs_20	11 43 51.1			
AF01	**San Pedro de A** comp=Z,2µm,18.0s	**95.32**	**117**	IAMs_20	IAMs_20	11 39 47.6			
ECSD	**EROS Data Cent**	**95.34**	**45**	P	**P**	**11 03 26.5**	**+1.0**		
ECSD	comp=Z,33nm,1.2s			IAmb	IAmb	11 03 40.8			
ECSD	**EROS Data Cent** baz=246	**95.34**	**45**	P	**P**	**11 03 22.0**	**-3.5**		
ECSD	**EROS Data Cent** baz=246	**95.34**	**45**	P	**P**	**11 03 27.2**	**+1.7**		
VBMS	**Vicksburg** comp=Z,4µm,20.0s	**95.41**	**58**	IAMs_20	IAMs_20	11 43 10.7			
PB08	**IPOC Station P** comp=Z,3µm,20.0s	**95.67**	**114**	IAMs_20	IAMs_20	11 37 35.1			
346A	**Big Creek Wild** comp=Z,3µm,20.0s	**95.95**	**59**	IAMs_20	IAMs_20	11 42 19.2			
PB16	**IPOC Station P** comp=Z,4µm,19.0s	**96.11**	**112**	IAMs_20	IAMs_20	11 39 26.8			
LZH	**Lanzhou**	**96.26**	**306**	||*e*P	**P**	**11 03 32.4**	**+2.3**		
LZH				sP	pwP	11 03 39.8	-1.1		
LZH				SKS	**SKSac**	**11 14 08.9**	**+1.9**		
LZH				S	**S**	**11 14 46.8**	**-3.3**		
LZH				SS	**SS**	**11 21 23.8**	**+0.9**		
LZH	comp=Z,23nm,1.3s			pmax	pmax				
LZH	comp=Z,780nm,5.0s			LR	LR				
LZH	comp=Z,360nm,14.3s			LR	LR				
LZH	comp=Z,1µm,16.1s			LR	LR				
LZH	comp=Z,1µm,18.2s								
F33A	**5 Mile Ranch,** comp=Z,5µm,20.0s	**96.40**	**43**	IAMs_20	IAMs_20	11 42 26.6			
N38A	**Joes South For** comp=Z,4µm,20.0s	**96.52**	**49**	IAMs_20	IAMs_20	11 41 13.3			
TNCH	**TengChong**	**96.71**	**294**	⇑P	**P**	**11 03 33.1**	**+0.7**		
TNCH				sP	pwP	11 03 42.0	-1.2		
TNCH				PP	**PP**	**11 07 26.9**	**-0.5**		
TNCH				SKS	**SKSac**	**11 14 10.5**	**+0.7**		
TNCH				S	**SKKSac**	**11 14 41.7**	**+5.9**		
TNCH				sS	sS	11 15 01.4	+5.2		
TNCH	comp=Z,530nm,5.1s			pmax	pmax				
TNCH	comp=Z,670nm,23.8s			LR	LR				
TNCH	comp=Z,1µm,23.5s			LR	LR				
TNCH	comp=Z,2µm,20.5s								
146A	**Union** comp=Z,4µm,20.0s	**96.71**	**58**	IAMs_20	IAMs_20	11 42 05.3			
C36M	**Paulatuk** comp=Z,29nm,1.6s	**96.73**	**16**	IAmb	IAmb	11 03 45.3			
C36M	comp=Z,4µm,20.0s			IAMs_20	IAMs_20	11 46 09.5			
C36M	**Paulatuk** baz=226,SNR=5.3	**96.73**	**16**	P	**P**	**11 03 29.6**	**-1.6**		
Y45A	**Yeager Farm, C** comp=Z,4µm,20.0s	**96.76**	**56**	IAMs_20	IAMs_20	11 41 29.4			
HDBT	**Hernando Brdge** comp=Z,5µm,21.0s	**96.81**	**55**	IAMs_20	IAMs_20	11 42 11.7			
SCIA	**State Center** comp=Z,3µm,20.0s	**96.94**	**48**	IAMs_20	IAMs_20	11 41 21.5			
SCIA	**State Center** baz=248	**96.94**	**48**	P	**P**	**11 03 30.0**	**-2.8**		
CCM	**Cathedral Cave** baz=249	**96.95**	**52**	P	**P**	**11 03 30.9**	**-2.0**		
K38A	**Parkersburg** comp=Z,3µm,19.0s	**97.52**	**47**	IAMs_20	IAMs_20	11 41 20.8			
I37A	**Lemond, Waseca** comp=Z,4µm,18.0s	**97.60**	**46**	IAMs_20	IAMs_20	11 42 40.6			
AGMN	**Agassiz Nation** baz=247	**97.63**	**41**	P	**P**	**11 03 33.0**	**-2.7**		
BRAL	**Brewton** comp=Z,3µm,20.0s	**97.81**	**60**	IAMs_20	IAMs_20	11 44 03.6			
CGM3	**Cape Girardeau** comp=Z,5µm,20.0s	**97.86**	**53**	IAMs_20	IAMs_20	11 42 34.4			
F36A	**Milaca** comp=Z,4µm,19.0s	**98.19**	**44**	IAMs_20	IAMs_20	11 43 53.3			
S44A	**Carbondale** comp=Z,4µm,20.0s	**98.30**	**53**	IAMs_20	IAMs_20	11 42 07.9			
A36M	**Sachs Harbour** comp=Z,12nm,0.9s	**98.32**	**14**	IAmb	IAmb	11 03 43.9			
A36M	comp=Z,4µm,19.0s			IAMs_20	IAMs_20	11 47 57.2			
A36M	**Sachs Harbour** baz=225	**98.32**	**14**	P	**P**	**11 03 37.8**	**-0.5**		
SIUC	**Southern Illin** comp=Z,4µm,20.0s	**98.33**	**53**	IAMs_20	IAMs_20	11 42 08.8			
ULN	**Ulaanbaatar** comp=Z,30nm,1.6s	**98.36**	**318**	P	**P**	**11 03 38.9**	**-0.3**		
ULN				IAmb	IAmb	11 03 44.9			
ULN	**Ulaanbaatar** comp=Z,16nm,1.3s	**98.36**	**318**	*ce*P	Pdif	11 03 40.3	+1.0		
ULN				pmax	pmax				
ULM	**Lac du Bonnet** comp=Z,4µm,20.0s	**98.38**	**39**	IAMs_20	IAMs_20	11 42 52.6			
ULM	**Lac du Bonnet** comp=Z,2.9nm,1.0s,baz=232,slow=12,SNR=2.8	**98.38**	**39**	P	Pdif	11 03 40.5	+1.4		
ULM	comp=Z,3µm,19.3s,baz=259,slow=33 comp=Z,2.9nm,1.0s			LR	LR	11 44 02.4			
SPMN	**Marine on St.** comp=Z,2µm,19.0s	**98.43**	**45**	IAMs_20	IAMs_20	11 44 51.7			
SOR	**Soroa** comp=Z,4µm,19.0s	**98.46**	**69**	IAMs_20	IAMs_20	11 43 57.4			
LRAL	**Lakeview Retre** comp=Z,4µm,20.0s	**98.48**	**58**	IAMs_20	IAMs_20	11 43 21.0			
SONM	**Songjin Array** comp=Z,3.3nm,1.1s,baz=105,slow=3.9,SNR=9.6	**98.76**	**318**	P	Pdif	11 03 41.9	+0.8		
SONM	comp=Z,1.9nm,1.1s,baz=101,slow=7.5,SNR=3.2			PP	**PP**	**11 07 39.1**	**-3.5**		
SONM	comp=Z,691nm,19.8s,baz=98,slow=34 comp=Z,3.3nm,1.1s			LR	LR	11 46 12.8			
P43A	**Skaggs, Pawnee** comp=Z,4µm,20.0s	**98.76**	**51**	IAMs_20	IAMs_20	11 43 08.0			
X48A	**Hartselle** comp=Z,4µm,20.0s	**98.91**	**57**	IAMs_20	IAMs_20	11 42 44.2			
Y49A	**Blount Mountai** comp=Z,4µm,19.0s	**99.21**	**57**	IAMs_20	IAMs_20	11 45 26.3			
JFWS	**Jewell Farm** comp=Z,3µm,20.0s	**99.36**	**48**	IAMs_20	IAMs_20	11 42 45.3			
L42A	**Oliver, Polo** comp=Z,3µm,19.0s	**99.45**	**49**	IAMs_20	IAMs_20	11 43 52.0			
553A	**Crawfordville** comp=Z,2µm,19.0s	**99.63**	**61**	IAMs_20	IAMs_20	11 45 31.7			
352A	**Blakely** comp=Z,3µm,18.0s	**99.63**	**60**	IAMs_20	IAMs_20	11 47 11.7			
O44A	**Mansfield** comp=Z,4µm,20.0s	**99.70**	**51**	IAMs_20	IAMs_20	11 43 27.7			
E38A	**The Farm, Brul** comp=Z,5µm,19.0s	**99.74**	**44**	IAMs_20	IAMs_20	11 45 07.0			
SWET	**Sewanee** comp=Z,5µm,20.0s	**100.02**	**56**	IAMs_20	IAMs_20	11 43 27.6			
FPAL	**Fort Paine** comp=Z,4µm,20.0s	**100.06**	**57**	IAMs_20	IAMs_20	11 43 49.7			
152A	**Waverly Hall** comp=Z,2µm,20.0s	**100.17**	**59**	IAMs_20	IAMs_20	11 44 02.0			
EYMN	**Ely** comp=Z,4µm,19.0s	**100.23**	**43**	IAMs_20	IAMs_20	11 44 12.9			
TIXI	**Tiksi**	**100.23**	**344**	*i* P	**Pdif**	**11 03 48.2**	**+1.4**		
GTA	**Gaotai**	**100.39**	**308**	*e*P	**Pdif**	**11 03 47.2**	**-1.3**		
GTA				PP	**PP**	**11 07 57.0**	**+1.7**		
GTA				SKS	**SKSac**	**11 14 27.9**	**+0.2**		
GTA				SS	**SS**	**11 22 19.2**	**-1.6**		
GTA	comp=Z,2.0nm,1.0s			pmax	pmax				
GTA	comp=Z,410nm,17.7s			LR	LR				
GTA	comp=Z,560nm,18.3s			LR	LR				
GTA				LR	LR				
ROSC	**El Rosal** comp=Z,3µm,18.0s	**100.45**	**89**	IAMs_20	IAMs_20	11 41 52.1			
I42A	**Draeger Farm,** comp=Z,4µm,20.0s	**100.59**	**47**	IAMs_20	IAMs_20	11 44 14.0			
K43A	**Burlington** comp=Z,3µm,19.0s	**100.62**	**48**	IAMs_20	IAMs_20	11 44 37.8			
X51A	**Calhoun** comp=Z,4µm,20.0s	**100.65**	**57**	IAMs_20	IAMs_20	11 44 29.5			
L44A	**Lake County Fo** comp=Z,3µm,20.0s	**100.75**	**49**	IAMs_20	IAMs_20	11 43 15.2			
SFIN	**Lafayette** comp=Z,4µm,20.0s	**100.77**	**51**	IAMs_20	IAMs_20	11 44 11.9			
Y52A	**Lilburn** comp=Z,3µm,18.0s	**101.07**	**58**	IAMs_20	IAMs_20	11 47 03.5			
CPCT	**Cooper Cave** comp=Z,4µm,20.0s	**101.19**	**56**	IAMs_20	IAMs_20	11 44 13.6			
061Z	**Ochoppi** comp=Z,4µm,20.0s	**101.24**	**67**	IAMs_20	IAMs_20	11 44 44.0			
GOGA	**Godfrey** comp=Z,5µm,20.0s	**101.40**	**59**	IAMs_20	IAMs_20	11 45 11.5			
V51A	**Loudon** comp=Z,4µm,20.0s	**101.43**	**56**	IAMs_20	IAMs_20	11 44 10.9			
154A	**Montrose** comp=Z,3µm,19.0s	**101.45**	**59**	IAMs_20	IAMs_20	11 45 20.9			
H43A	**Windswept, Lux** comp=Z,3µm,20.0s	**101.56**	**47**	IAMs_20	IAMs_20	11 44 54.5			
P48A	**Milroy** comp=Z,4µm,20.0s	**101.71**	**52**	IAMs_20	IAMs_20	11 44 23.0			
F42A	**Maple Grove Fa** comp=Z,3µm,18.0s	**101.71**	**45**	IAMs_20	IAMs_20	11 45 13.3			
456A	**Hilliard** comp=Z,3µm,19.0s	**101.77**	**62**	IAMs_20	IAMs_20	11 46 21.5			
D41A	**Chassel** comp=Z,4µm,20.0s	**101.82**	**44**	IAMs_20	IAMs_20	11 45 46.3			
TKL	**Tuckaleechee C** comp=Z,4µm,20.0s	**101.83**	**56**	IAMs_20	IAMs_20	11 44 14.6			
N47A	**Urbana** comp=Z,4µm,20.0s	**101.93**	**51**	IAMs_20	IAMs_20	11 44 48.8			
V52A	**Sevierville** comp=Z,4µm,20.0s	**102.02**	**56**	IAMs_20	IAMs_20	11 44 39.7			
BG3	**Lake Jocassee** comp=Z,4µm,20.0s	**102.29**	**57**	IAMs_20	IAMs_20	11 45 01.0			
FCC	**Fort Churchill** comp=Z,3µm,20.0s	**102.43**	**32**	IAMs_20	IAMs_20	11 46 13.4			
CPUP	**Villa Florida** comp=Z,2µm,19.0s	**102.46**	**125**	IAMs_20	IAMs_20	11 47 00.2			
I45A	**Fountain** comp=Z,4µm,20.0s	**102.48**	**48**	IAMs_20	IAMs_20	11 44 49.0			
ETMB	**Extrema** comp=Z,3µm,20.0s	**102.50**	**106**	IAMs_20	IAMs_20	11 43 13.3			
V53A	**Saluda** comp=Z,4µm,20.0s	**102.58**	**57**	IAMs_20	IAMs_20	11 44 58.5			
E43A	**Lone Tree Farm** comp=Z,3µm,18.0s	**102.65**	**45**	IAMs_20	IAMs_20	11 47 31.2			
257A	**Skidaway Islan** comp=Z,3µm,19.0s	**102.95**	**61**	IAMs_20	IAMs_20	11 47 26.6			
PAULI	**Pauline** comp=Z,4µm,18.0s	**103.12**	**58**	IAMs_20	IAMs_20	11 48 45.0			
G45A	**Suttons Bay** comp=Z,4µm,20.0s	**103.16**	**47**	IAMs_20	IAMs_20	11 45 23.0			
J47A	**Sunmer** comp=Z,3µm,19.0s	**103.24**	**49**	IAMs_20	IAMs_20	11 45 23.1			
U54A	**Nelsons Funny** comp=Z,4µm,20.0s	**103.59**	**56**	IAMs_20	IAMs_20	11 45 40.2			
GLMI	**Grayling** comp=Z,3µm,20.0s	**103.81**	**47**	IAMs_20	IAMs_20	11 46 50.2			
NHSC	**New Hope** comp=Z,4µm,19.0s	**103.95**	**60**	IAMs_20	IAMs_20	11 47 05.2			
Y57A	**Sumter** comp=Z,3µm,19.0s	**104.03**	**59**	IAMs_20	IAMs_20	11 47 07.1			
BIRD	**Birdtown, Kers** comp=Z,3µm,19.0s	**104.15**	**58**	IAMs_20	IAMs_20	11 49 19.1			
N51A	**Ashland** comp=Z,4µm,19.0s	**104.36**	**51**	IAMs_20	IAMs_20	11 47 19.1			
Y58A	**Scranton** comp=Z,3µm,20.0s	**104.58**	**59**	IAMs_20	IAMs_20	11 46 47.7			
U56A	**King** comp=Z,4µm,20.0s	**104.66**	**56**	IAMs_20	IAMs_20	11 46 03.6			
I49A	**Point Hope** comp=Z,3µm,20.0s	**104.82**	**48**	IAMs_20	IAMs_20	11 46 14.0			
BLA	**Blacksburg** comp=Z,4µm,20.0s	**104.86**	**56**	IAMs_20	IAMs_20	11 46 19.7			
X58A	**Rowland** comp=Z,2µm,18.0s	**105.02**	**58**	IAMs_20	IAMs_20	11 50 02.1			
N53A	**Lisbon** comp=Z,4µm,19.0s	**105.46**	**52**	IAMs_20	IAMs_20	11 47 45.2			
V58A	**Windy Hill, Pi** comp=Z,4µm,19.0s	**105.51**	**57**	IAMs_20	IAMs_20	11 49 23.2			
SAML	**Samuel** comp=Z,2µm,20.0s	**105.58**	**106**	IAMs_20	IAMs_20	11 44 06.9			
T57A	**Hurt** comp=Z,3µm,20.0s	**105.71**	**56**	IAMs_20	IAMs_20	11 47 06.2			
M53A	**WI Miller and** comp=Z,4µm,20.0s	**105.73**	**51**	IAMs_20	IAMs_20	11 46 38.4			
W59A	**Clinton** comp=Z,4µm,18.0s	**105.88**	**58**	IAMs_20	IAMs_20	11 50 11.1			
S57A	**Dark Hollow, R** comp=Z,4µm,20.0s	**106.13**	**55**	IAMs_20	IAMs_20	11 47 01.2			
U59A	**Littleton** comp=Z,4µm,20.0s	**106.69**	**57**	IAMs_20	IAMs_20	11 47 54.3			
R58B	**Mineral** comp=Z,4µm,21.0s	**107.00**	**55**	IAMs_20	IAMs_20	11 47 08.4			
T59A	**Double "B" Far** comp=Z,4µm,19.0s	**107.02**	**56**	IAMs_20	IAMs_20	11 50 11.0			
RES	**Resolute Bay** comp=Z,4µm,19.0s	**107.11**	**16**	IAMs_20	IAMs_20	11 52 29.6			
PALK	**Pallekele** comp=Z,2µm,20.0s	**107.11**	**271**	IAMs_20	IAMs_20	11 53 21.0			
M55A	**Ridgway** comp=Z,4µm,20.0s	**107.14**	**52**	IAMs_20	IAMs_20	11 47 21.6			
V61A	**Roper** comp=Z,3µm,19.0s	**107.51**	**58**	IAMs_20	IAMs_20	11 51 01.2			
SADO	**Sadowa** comp=Z,3µm,20.0s	**107.58**	**48**	IAMs_20	IAMs_20	11 47 56.1			
J54A	**Appleton** comp=Z,4µm,20.0s	**107.62**	**50**	IAMs_20	IAMs_20	11 48 14.2			
T60A	**Surry** comp=Z,3µm,19.0s	**107.70**	**56**	IAMs_20	IAMs_20	11 48 25.9			
SDDR	**Presa de Saban** comp=Z,2µm,20.0s	**107.75**	**76**	IAMs_20	IAMs_20	11 44 17.9			
SDMD	**Soldier's Deli** comp=Z,4µm,20.0s	**108.12**	**54**	IAMs_20	IAMs_20	11 48 22.8			
L56A	**Greenwood** comp=Z,4µm,20.0s	**108.16**	**51**	IAMs_20	IAMs_20	11 48 42.6			
M57A	**Sunshine Farm,** comp=Z,4µm,20.0s	**108.31**	**52**	IAMs_20	IAMs_20	11 48 00.7			
DELO	**Deloro Mine** comp=Z,4µm,20.0s	**108.60**	**49**	IAMs_20	IAMs_20	11 49 39.9			
S61A	**Accomac** comp=Z,4µm,19.0s	**108.64**	**56**	IAMs_20	IAMs_20	11 51 00.9			
DGAR	**Diego Garcia** comp=Z,3µm,20.0s	**109.24**	**254**	IAMs_20	IAMs_20	11 50 54.3			
VLDQ	**Val d'Or** comp=Z,4µm,20.0s	**109.37**	**45**	IAMs_20	IAMs_20	11 50 19.1			
WMQ	**Urumqi**	**110.27**	**310**	*e*PKP	**PKiKP**	**11 08 32.2**	**-1.2**		
WMQ	comp=Z,570nm,18.9s			LR	LR				
WMQ	comp=Z,840nm,18.9s			LR	LR				
WMQ	comp=Z,840nm,26.1s			LR	LR				
LONY	**Lake Ozonia** comp=Z,3µm,19.0s	**110.75**	**49**	IAMs_20	IAMs_20	11 51 05.0			
KSCT	**Kent School, K** comp=Z,4µm,20.0s	**111.07**	**52**	IAMs_20	IAMs_20	11 49 45.7			
FRNY	**Flat Rock** comp=Z,3µm,20.0s	**111.48**	**49**	IAMs_20	IAMs_20	11 52 57.4			
HRV	**Adam Dziewonsk** comp=Z,3µm,18.0s	**112.61**	**52**	IAMs_20	IAMs_20	11 57 08.3			
ZAA0	**Zalesovo Array** comp=Z,2µm,20.0s	**113.37**	**321**	IAMs_20	IAMs_20	11 54 04.1			
ZALV	**Zalesovo Beam** comp=Z,2.9nm,0.6s,baz=154,slow=1.4,SNR=9.5	**113.37**	**321**	PKiKP	**PKiKP**	**11 08 39.2**	**+0.3**		
ZALV	comp=Z,2.5nm,0.9s,baz=86,slow=6.1,SNR=3.7			PP	**PP**	**11 09 27.6**	**-2.4**		
TULEG	**Thule** comp=Z,3µm,20.0s	**113.67**	**14**	IAMs_20

KURK **Kurchatov** **117.05 317** IAms_20 IAms_20 11 56 31.9
comp=Z,3µm,20.0s
KURK **Kurchatov** **117.05 317***c* *i*PKIKP **PKiKP** **11 08 46.5 +0.4**
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURBB **Kurchatov Arra** **117.11 317** PKP **PKPdf** **11 08 45.6 -0.5**
comp=Z,3.1nm,0.7s,baz=91,slow=1.8,SNR=16
KURBB PP **PP** **11 09 53.0 -3.4**
comp=Z,5.1nm,1.2s,baz=89,slow=6.9,SNR=8.0
KSH **Kashi** **118.45 304** PKP **PKiKP** **11 08 54.8 +5.4**
KSH LR LR
comp=Z,500nm,16.5s
KSH LR LR
comp=Z,1µm,21.3s
KSH LR LR
comp=Z,1µm,22.0s
AAK **Ala-Archa** **119.74 308***c* *i*PKIKP **PKiKP** **11 08 52.8 +1.0**
AAK pmax pmax
comp=Z,9.0nm,1.7s
ILULI **Ilulissat** **120.77 20** IAms_20 IAms_20 11 57 11.9
comp=Z,3µm,19.0s
VOI **Vohitsoka** **121.91 225** IAms_20 IAms_20 12 03 13.8
comp=Z,2µm,18.0s
BVAR **Borovoye Array** **122.00 320** PKIKP **PKiKP** **11 08 56.0 +0.3**
BVAR **Borovoye Array** **122.00 320** PKP **PKiKP** **11 08 56.0 +0.3**
comp=Z,6.7nm,0.7s,baz=90,slow=1.5,SNR=22
BRVK **Borovoye** **122.06 320** PKPdf **PKPdf** **11 08 55.6 0.0**
BRVK **Borovoye** **122.06 320** IAms_20 IAms_20 11 59 10.1
comp=Z,3µm,21.0s
BRVK **Borovoye** **122.06 320***c* *i*PKIKP **PKiKP** **11 08 56.0 +0.2**
BRVK pmax pmax
comp=Z,31nm,2.5s
SPITS **Spitsbergen Ar** **122.51 358** PKP **PKiKP** **11 08 56.9 +0.9**
comp=Z,20nm,0.9s,baz=168,slow=12,SNR=3.8
SUMG **Summit** **122.59 15** *i* P **PKPdf** **11 08 56.2 -0.4**
SUMG IAmb IAmb 11 09 13.7
comp=Z,5.6nm,1.0s
KK31 **Karatay Array** **122.67 308** PKPdf **PKPdf** **11 08 56.3 -0.9**
KK31 **Karatay Array** **122.67 308** PKIKP **PKPdf** **11 08 56.3 -0.9**
KKAR **Karatay Array** **122.67 308** PKPdf **PKPdf** **11 08 56.7 -0.5**
KKAR **Karatay Array** **122.67 308** PKIKP **PKPdf** **11 08 56.7 -0.5**
DAG **Danmarks Havn** **122.74 7** *i* P **PKiKP** **11 08 57.0 +0.5**
DAG IAMs_20 IAMs_20 12 07 49.6
comp=Z,2µm,18.3s
GRHM **Grahamstown, E** **122.79 200** IAMs_20 IAMs_20 12 00 57.1
comp=Z,2µm,19.0s
ABPO **Ambohimpanom** **123.59 228** IAMs_20 IAMs_20 11 53 51.7
comp=Z,2µm,20.0s
DY2G **Dye2** **123.60 23** *i* P **PKPdf** **11 08 56.4 -2.1**
DY2G IAMs_20 IAMs_20 12 06 15.1
comp=Z,3µm,6.3s
ICESG **Greenland Ices** **124.39 18** *i* P **PKPdf** **11 08 60.0 -0.1**
ICESG IAMs_20 IAMs_20 11 59 09.5
comp=Z,5µm,6.2s
DBG **Daneborg** **124.71 9** *i* P **PKPdf** **11 09 00.1 -0.1**
DBG IAMs_20 IAMs_20 12 10 12.9
comp=Z,2µm,18.1s
MSEY **Mahe Island** **125.48 248** IAMs_20 IAMs_20 12 06 41.7
comp=Z,2µm,18.0s
SVE **Sverdlovsk** **126.62 326** *i* PKIKP **PKiKP** **11 09 06.6 +1.9**
SVE pmax pmax
comp=Z,33nm,1.5s
SVE MLR MLR
comp=Z,3µm,20.0s
SVE MLR MLR
comp=E,3µm,21.0s
BOSA **Boshof** **127.45 201** IAMs_20 IAMs_20 12 07 35.6
comp=Z,2µm,18.0s
BOSA **Boshof** **127.45 201** PKP **PKPdf** **11 09 07.1 +0.1**
comp=Z,6.1nm,1.0s,baz=182,slow=4.7,SNR=6.5
ARU **Arti** **127.83 326** PKPdf **PKPdf** **11 09 05.4 -1.1**
ARU **Arti** **127.83 326** *i* PKIKP **PKiKP** **11 09 07.8 +0.7**
ARU 11 11 05.8
ARU 11 16 19.1
ARU SS SS 11 28 20.3 -0.7
ARU SSS SSS 11 32 59.2
ARU MLR MLR
comp=Z,3µm,20.0s
KEV **Kevo** **129.60 351** IAMs_20 IAMs_20 12 12 46.0
comp=Z,2µm,20.0s
LVZ **Lovozero** **129.81 346** IAMs_20 IAMs_20 12 04 57.1
comp=Z,2µm,21.0s
ARCES **ARCESS Array B** **130.02 351** **PKiKP** **11 09 11.1 -0.1**
ARCES **ARCESS Array B** **130.02 351** PKIKP **PKPdf** **11 09 10.0 -0.4**
ARCES **ARCESS Array B** **130.02 351** PKP **PKPdf** **11 09 09.9 -0.4**
comp=Z,7.8nm,0.6s,baz=0.0,slow=1.2,SNR=14
APA **Apatity** **130.35 347**⇓ *i*PKIKP **PKPdf** **11 09 08.0 -3.0**
APA *i* 11 11 25.0
APA *i* 11 21 30.0
APA pmax pmax
comp=Z,6.0nm,1.0s
LBTB **Lobatse** **130.63 203** IAMs_20 IAMs_20 12 10 28.8
comp=Z,3µm,18.0s
KIRV **Kirov** **131.31 332** *i* PKIKP **PKiKP** **11 09 14.9 +0.9**
GEYT **Alibeck** **132.42 303** PKP **PKPdf** **11 09 16.4 +0.4**
comp=Z,1.7nm,0.3s,baz=134,slow=4.3,SNR=5.7
GEYT PP **PP** **11 11 36.8 -2.6**
comp=Z,1.3nm,0.3s,baz=58,slow=3.7,SNR=5.1
KLMR **Klimovskoe** **133.84 338** *e*PKPdf **PKPdf** **11 09 10.5 -7.3**
KLMR AMP 11 09 19.9
comp=Z,25nm,1.8s
KLMR LQ LQ 11 53 11.8
KLMR LQ LQ 11 53 11.8
KLMR LR LR 11 59 04.3
KLMR AMP 12 14 33.4
comp=Z,2µm,18.8s
KLMR **Klimovskoe** **133.84 338** *e*PKIKP **PKPdf** **11 09 10.5 -7.3**
KLMR pmax pmax
comp=Z,25nm,1.8s
FINES **FINESS Array B** **137.24 346** PKhKP PKPpre 11 09 16.9
comp=Z,2.3nm,0.9s,baz=201,slow=10,SNR=3.7
FINES PKP **PKPdf** **11 09 23.1 -1.1**
comp=Z,4.5nm,0.7s,baz=48,slow=2.8,SNR=8.1
LSZ **Lusaka** **138.09 213** IAMs_20 IAMs_20 12 09 44.9
comp=Z,2µm,19.0s
MOS **Moscow** **138.13 334** *i* PKIKP **PKiKP** **11 09 28.4 +0.4**
MOS *e* 11 12 13.4
TSUM **Tsumeb** **138.61 196** IAMs_20 IAMs_20 12 07 38.0
comp=Z,3µm,20.0s
OBN **Obninsk** **139.00 334** IAMs_20 IAMs_20 12 18 22.4
comp=Z,2µm,19.0s
OBN **Obninsk** **139.00 334**⇑ *e*PKIKP **PKiKP** **11 09 29.1 -0.6**
OBN *e* 11 12 21.0
OBN *e*PPP PPP 11 15 20.2
OBN *i* SS SS 11 30 34.1 -1.4
OBN pmax pmax
comp=Z,14nm,1.1s
VRH **Novokhopyorsk** **139.06 326** *e*PKIKP **PKiKP** **11 09 29.1 -0.9**
VRH pmax pmax
comp=Z,28nm,1.8s
MAK **Makhachkala** **139.25 312** *de*P **Pdif** **11 06 36.1 -4.9**
MAK *i* 11 09 26.6
MAK *e* 11 12 18.2
MAK *e* 11 16 39.0
MAK *e*SS SS 11 30 36.9 -3.0
MAK *e*SSS SSS 11 35 44.3
MAK pmax pmax
comp=Z,802nm,1.9s
NOA **NORSAR Array B** **139.78 356** PKhKP PKPpre 11 09 25.4
comp=Z,1.6nm,0.9s,baz=6.5,slow=3.6,SNR=2.8
VORR **Voronezh** **140.06 328** *e*PKIKP **PKPdf** **11 09 28.6 -1.0**
VORR pmax pmax
comp=Z,10.0nm,0.8s
VSR **Storozhevoye** **140.36 328** *e*PKIKP **PKiKP** **11 09 32.1 -0.6**
VSR pmax pmax
comp=Z,10.0nm,1.1s
VORD **Divnogorie** **140.45 327** *e*PKIKP **PKiKP** **11 09 32.0 -0.9**
VORD pmax pmax
comp=Z,9.0nm,1.0s
HFS **Hagfors** **140.49 354** PKhKP PKPpre 11 09 23.5
comp=Z,4.0nm,0.7s,baz=46,slow=16,SNR=5.0
KIBK **Kibwezi** **141.26 237** IAMs_20 IAMs_20 12 06 11.1
comp=Z,1µm,19.0s
KIBK **Kibwezi** **141.26 237** PKP **PKPdf** **11 09 28.4 -4.7**
GOF **Gofitskoye** **141.41 317***ce* PKIKP **PKiKP** **11 09 38.2 +3.1**
ZEI **Tsey** **141.79 313** *i* PKIKP **PKPdf** **11 09 30.9 -2.4**
ZEI pmax pmax
comp=Z,12nm,1.4s
KBZ **Khabaz** **142.08 315** *i* PKIKP **PKPdf** **11 09 31.6 -1.9**
KBZ pmax pmax
comp=Z,5.0nm,1.1s
KIV **Kislovodsk** **142.12 316** IAMs_20 IAMs_20 12 21 39.2
comp=Z,2µm,19.0s
KIV **Kislovodsk** **142.12 316** *e*PKIKP **PKPdf** **11 09 32.3 -1.4**
KIV *i* 11 09 35.5
KIV *e* 11 12 37.4
KIV *e* 11 16 42.0
KIV *e*SS SS 11 31 11.1 -2.3
KIV *e*SSS SSS 11 36 29.8
KIV pmax pmax
comp=Z,11nm,1.1s
ONI **Oni** **142.17 313** IAMs_20 IAMs_20 12 13 52.8
comp=Z,2µm,20.0s
KMBO **Kilima Mbogo** **142.62 238** *e*P **PKPdf** **11 09 29.1 -6.6**
KMBO **Kilima Mbogo** **142.62 238** PKP **PKPdf** **11 09 35.2 -0.5**
comp=Z,5.0nm,0.9s,baz=149,slow=1.1,SNR=6.3
KMBO **Kilima Mbogo** **142.62 238** *e*P **PKPdf** **11 09 29.1 -6.6**
MNK **Minsk** **142.71 339** *i* PKP **PKPdf** **11 09 31.6 -2.7**
MNK *i* PKP **PKPdf** **11 09 31.6 -2.7**
MNK *i* PKP **PKPdf** **11 09 31.6 -2.7**
baz=35
MNK *i* PP **PP** **11 12 39.3 -2.9**
MNK *i* SKP 11 13 04.8
MNK *i* PKS **PKSdf** **11 13 07.5 -2.3**
MNK *i* PPP PPP 11 15 48.6
MNK *i* SKS **SKSdf** **11 16 41.4 -2.6**
MNK *i* SKKS **SKKSdf** **11 26 07.2 +3.7**
MNK *i* SS **SS** **11 31 15.9 -2.7**
MNK *i* SSS SSS 11 37 05.8
MNK *i* LQ LQ 12 06 05.0
MNK *i* LR LR 12 08 10.0
MNK *i* LRM MLR 12 12 33.6
comp=N,1µm,19.4s
MNK *i* LRM MLR 12 13 14.3
comp=Z,2µm,20.3s
MNK *i* LRM MLR 12 13 27.4
comp=E,420nm,22.9s
MNK **Minsk** **142.71 339** *i* PKIKP **PKPdf** **11 09 31.5 -2.7**
MNK *i* 11 12 39.2
MNK *i* 11 16 41.4
MNK *i* SS SS 11 31 15.9 -2.7
MNK MLR MLR
comp=N,1µm,19.0s
MNK MLR MLR
comp=Z,2µm,20.0s
MNK MLR MLR
comp=E,420nm,23.0s
NACGM **Naroch** **142.73 341** *e*PKP **PKPdf** **11 09 35.0 +0.7**
comp=E,3µm,0.9s
PABE **Paberze** **143.03 343** IAMs_20 IAMs_20 12 19 53.3
comp=Z,2µm,20.0s
ATD **Arta Tunnel** **143.77 261** *e*P PKPab 11 09 31.2 -3.1
ATD **Arta Tunnel** **143.77 261** *e*P **PKPdf** **11 09 36.4 -1.0**
ATD **Arta Tunnel** **143.77 261** *e*P **PKPdf** **11 09 36.4 -1.0**
ATD **Arta Tunnel** **143.77 261** *e*P PKPab 11 09 31.2 -3.1
SOC **Sochi** **144.21 317** *e*PKIKP **PKPdf** **11 09 36.9 -0.4**
SOC *e* 11 12 51.6
SOC *e*SS SS 11 31 32.2 -5.0
SOC *e*SSS SSS 11 37 02.2
SOC pmax pmax
comp=Z,55nm,1.0s
MUD **Monsted U'grnd** **144.47 357** *i* P **PKPdf** **11 09 38.2 +0.9**
MUD IAMs_20 IAMs_20 12 12 30.6
comp=Z,3µm,6.6s
SUW **Suwalki** **144.56 343** *e*PKP **PKPdf** **11 09 37.4 -0.2**
SUW *e*L L 12 04 21.6
comp=Z,2µm,28.7s
SUW **Suwalki** **144.56 343** IAMs_20 IAMs_20 12 14 08.4
comp=Z,3µm,21.0s
EKA **Eskdalemuir Ar** **144.92 9** PKP **PKPdf** **11 09 37.9 -0.3**
comp=Z,9.1nm,0.7s,baz=330,slow=3.2,SNR=14
COP **Copenhagen** **145.00 354** *i* P **PKPdf** **11 09 39.3 +1.1**
ANN **Anapa** **145.00 320** *i* PKIKP **PKPdf** **11 09 39.5 +0.9**
ANN *e* 11 16 46.9
ANN pmax pmax
comp=Z,208nm,1.1s
ANN MLR MLR
comp=Z,2µm,21.0s
AKASG **Malin Array Be** **145.25 334** PKP **PKPbc** **11 09 38.6 0.0**
comp=Z,31nm,0.7s,baz=40,slow=4.2,SNR=81
AKBB **Malin Array Si** **145.25 334** IAMs_20 IAMs_20 12 18 15.9
comp=Z,2µm,21.0s
BSD **Bornholm Skovb** **145.26 351** *i* P **PKPdf** **11 09 40.1 +1.4**
BSD IAMs_20 IAMs_20 12 18 05.8
comp=Z,2µm,20.0s
KIEV **Kiev** **145.27 334**⇓ P **PKPdf** **11 09 39.2 +0.3**
KIEV **Kiev** **145.27 334** IAMs_20 IAMs_20 12 18 15.9
comp=Z,1µm,20.0s
KIEV **Kiev** **145.27 334**⇓ PKIKP **PKPdf** **11 09 39.2 +0.3**
SSRD **Sdr. Stenderup** **145.42 357** *i* P **PKPab** **11 09 40.4 +1.4**
SSRD IAMs_20 IAMs_20 12 15 33.9
comp=Z,2µm,17.2s
DESE **Dese** **146.58 258** *e*P **PKiKP** **11 09 46.5 -0.5**
DESE **Dese** **146.58 258** *e*P **PKiKP** **11 09 47.5 +0.5**
DESE **Dese** **146.58 258** *e*P **PKiKP** **11 09 47.5 +0.5**
DESE **Dese** **146.58 258** *e*P **PKiKP** **11 09 46.5 -0.5**
FURI **Furi** **146.59 254** IAMs_20 IAMs_20 12 30 33.2
comp=Z,2µm,19.0s
FURI **Furi** **146.59 254** *e*P **PKPab** **11 09 45.7 +0.5**
FURI **Furi** **146.59 254** *e*P **PKPab** **11 09 45.7 +0.5**
GKP **Gorka Klasztor** **146.65 348** *e*PKP **PKiKP** **11 09 45.1 -0.5**
GKP *e*L L 12 10 29.1
comp=Z,1µm,23.5s
LODK **Lodwar** **146.81 242** IAMs_20 IAMs_20 12 23 04.7
comp=Z,2µm,19.0s
LODK **Lodwar** **146.81 242** *e*P PKPdf 11 09 32.0 -11
LODK **Lodwar** **146.81 242** *e*P **PKPbc** **11 09 44.5 0.0**
LODK **Lodwar** **146.81 242** *e*P **PKPbc** **11 09 44.5 0.0**
LODK **Lodwar** **146.81 242** *e*P PKPdf 11 09 32.0 -11
SIM **Simferopol'** **146.85 323** *e*PKP2 **PKPab** **11 09 45.3 +0.4**
SIM *e* 11 13 16.6
SIM pmax pmax
comp=Z,163nm,1.1s
BEL **Belsk** **147.16 343** *e*PKP **PKPab** **11 09 46.3 +0.4**
BEL *e*L L 12 04 49.3
comp=Z,1µm,28.1s
SORM **Soroca** **147.58 332**⇑ P **PKPbc** **11 09 45.8 +0.3**
SORM **Soroca** **147.58 332**⇑ PKP2 **PKPbc** **11 09 45.8 +0.3**
LVV **L'vov** **147.93 338** *e*PKP2 **PKiKP** **11 09 47.7 -0.6**
PURM **Purcari** **148.06 329**⇑ P **PKiKP** **11 09 48.6 -0.1**
KIS **Kishinev** **148.22 330**⇑ *i*PKP **PKPbc** **11 09 47.0 -0.3**
comp=Z,650nm,5.3s
KIS *e*L L 12 05 42.0
KIS LRM MLR 12 30 41.0
comp=Z,600nm,19.0s
KIS **Kishinev** **148.22 330***c* *i*PKP2 **PKPbc** **11 09 47.0 -0.3**
KIS pmax pmax
comp=Z,650nm,5.3s
MILM **Milestii Mici** **148.28 330**⇑ *i*PKP **PKPbc** **11 09 48.0 +0.6**
comp=Z,1µm,2.8s
MILM **Milestii Mici** **148.28 330** *e*PP PP 11 13 17.0 +1.5
MILM *i* SKSP 11 23 33.0
MILM *e*L L 12 05 06.0
MILM LQM 12 14 40.0
comp=Z,1µm,19.5s
MILM LRM MLR 12 31 03.0
comp=Z,2µm,18.5s
MILM **Milestii Mici** **148.28 330**⇑ P **PKiKP** **11 09 48.6 -0.5**
MILM **Milestii Mici** **148.28 330**⇑ PKP2 **PKiKP** **11 09 48.6 -0.5**
KWP **Kalwaria Pacla** **148.54 339** *e*PKP **PKiKP** **11 09 49.8 +0.2**
KWP *e*L L 12 08 44.7
comp=Z,2µm,25.8s
VASR **Vaslui** **148.96 331**⇑ P **PKPab** **11 09 52.0 -1.2**
BNN **Bunyan** **148.98 312** IAMs_20 IAMs_20 12 20 55.3
comp=Z,2µm,21.0s
KSP **Ksiaz** **149.14 348** *e*PKP **PKiKP** **11 09 51.4 +0.6**
STHS **Stebnicka Huta** **149.19 341** *e*PKP **PKiKP** **11 09 52.2 +1.2**
CLL **Collm** **149.24 352** **PKiKP** **11 09 50.8 -0.2**
CLL IAMs_20 IAMs_20 12 20 17.2
comp=Z,2µm,20.0s
CLL **Collm** **149.24 352** *i* PKPbc **PKiKP** **11 09 50.9 -0.1**
comp=Z,40nm,1.0s
CLL *i* PKPab **PKPab** **11 09 53.8 -0.4**
comp=Z,634nm,2.4s
CLL *e*PKPlp 11 09 56.0
comp=Z,800nm,19.4s
CLL *i* x x 11 10 02.7
comp=Z,313nm,2.0s
CLL *e*SKPdf **SKPdf** **11 13 21.0 +1.7**
CLL *e*SKSdf **SKSdf** **11 16 48.0 -5.6**
CLL *e*SKKSac **SKKSac** **11 20 12.0 -0.5**
CLL *e*PSKS 11 23 33.0
CLL *e*PPS PPS 11 26 12.0
CLL *e*SS SS 11 32 18.0 -14
CLL *ex* x 11 33 48.0
CLL *e*SSS SSS 11 38 06.0
CLL *ex* x 11 43 54.0
CLL AMS AMS 12 24 00.0
comp=N,600nm,19.5s
CLL AMS AMS 12 24 00.0
comp=E,2µm,19.8s
CLL AMS AMS 12 24 00.0
comp=Z,1µm,19.6s
CLL **Collm** **149.24 352** *i* PKP2 **PKiKP** **11 09 50.9 -0.1**
CLL *e* 11 13 21.0
CLL pmax pmax
comp=Z,40nm,1.0s
CLL MLR MLR
comp=Z,1µm,19.6s
KOLS **Kolonicke sedl** **149.29 339** *e*PKP **PKPab** **11 09 54.1 -0.4**
KOLS **Kolonicke sedl** **149.29 339** *e*PKP2 **PKPab** **11 09 54.1 -0.4**
BUR08 **Bucovina Ar. S** **149.29 335** **PKiKP** **11 09 52.7 +1.3**
BURAR **Bucovina Array** **149.31 335**⇑ P **PKiKP** **11 09 52.2 +0.8**
BURAR **Bucovina Array** **149.31 335** **PKPbc** **11 09 50.1 0.0**
BURAR **Bucovina Array** **149.31 335**⇑ PKP2 **PKiKP** **11 09 52.2 +0.8**
OSTC **Ostas** **149.43 348**⇑ *e*PKP **PKiKP** **11 09 53.0 +1.6**
OSTC AMS AMS 12 25 20.0
comp=Z,2µm,18.7s
OSTC **Ostas** **149.43 348** *e*PKP2 **PKiKP** **11 09 53.0 +1.6**
OSTC MLR MLR
comp=Z,2µm,18.7s
CHVC **Chvalec** **149.43 348**⇑ *e*PKP **PKiKP** **11 09 52.8 +1.4**
CHVC AMS AMS 12 25 20.0
comp=Z,2µm,18.0s
CHVC **Chvalec** **149.43 348** *e*PKP2 **PKiKP** **11 09 52.8 +1.4**
CHVC MLR MLR
comp=Z,2µm,18.0s
NIE **Niedzica** **149.47 342** *e*PKP **PKiKP** **11 09 52.8 +1.2**
NIE *e*L L 12 07 14.7
comp=Z,722nm,30.8s
UPC **Upice** **149.51 348**⇑ *e*PKP **PKPab** **11 09 54.1 -1.2**
UPC AMS AMS 12 25 10.0
comp=Z,3µm,18.2s
UPC **Upice** **149.51 348** *e*PKP2 **PKPab** **11 09 54.1 -1.2**
UPC MLR MLR
comp=Z,3µm,18.2s
BRG **Berggiesshubel** **149.53 350** *e*PKP **PKPdf** **11 09 42.8 -3.2**
BRG Amp 11 09 46.4
comp=Z,65nm,1.8s
BRG **Berggiesshubel** **149.53 350** P **PKPbc** **11 09 48.9 -1.6**
BRG Amp 11 09 51.5
comp=Z,55nm,1.1s
BRG **Berggiesshubel** **149.53 350** P **PKPab** **11 09 59.8 +4.4**
BRG Amp 11 10 02.6
comp=Z,56nm,1.3s
BRG **Berggiesshubel** **149.53 350** *e*PKIKP **PKPdf** **11 09 42.8 -3.2**
BRG 11 09 48.9
BRG pmax pmax
comp=Z,65nm,1.8s
BRG pmax pmax
comp=Z,55nm,1.1s
BRG pmax pmax
comp=Z,57nm,1.3s
TLCR **149.53 328**⇑ P **PKiKP** **11 09 52.4 +0.7**
TLCR **149.53 328**⇑ PKP2 **PKiKP** **11 09 52.4 +0.7**
GHRR **149.57 330**⇑ P **PKiKP** **11 09 53.3 +1.4**
TESR **Tescani** **149.57 332**⇑ P **PKPbc** **11 09 49.6 -1.2**
CRVS **Cervenica-Dubn** **149.58 340** *e*PKP **PKPab** **11 09 54.0 -1.7**
CRVS **Cervenica-Dubn** **149.58 340** *e*PKP2 **PKPab** **11 09 54.0 -1.7**
DPC **Dobruska-Polom** **149.60 347**⇑ *e*PKP **PKiKP** **11 09 52.1 +0.3**
DPC AMS AMS 12 27 20.0
comp=Z,2µm,17.2s
DPC **Dobruska-Polom** **149.60 347** *e*PKP2 **PKiKP** **11 09 52.1 +0.3**
DPC MLR MLR
comp=Z,2µm,17.2s
OKC **Ostrava-Krasne** **149.67 345** AMS AMS 12 25 40.0
comp=Z,2µm,18.4s
PVCC **Panska Ves** **149.76 350**⇑ *e*PKP **PKiKP** **11 09 53.2 +1.1**
PVCC AMS AMS 12 24 20.0
comp=Z,3µm,19.6s
PVCC **Panska Ves** **149.76 350** *e*PKP2 **PKiKP** **11 09 53.2 +1.1**
PVCC MLR MLR
comp=Z,3µm,19.6s
KRLC **Kraliky** **149.76 347**⇑ *e*PKP **PKiKP** **11 09 53.0 +0.8**
KRLC AMS AMS 12 27 20.0
comp=Z,2µm,19.1s
KRLC **Kraliky** **149.76 347** *e*PKP2 **PKiKP** **11 09 53.0 +0.8**
KRLC MLR MLR
comp=Z,2µm,19.1s
RICC **Richard** **149.82 350**⇑ *e*PKP **PKPab** **11 09 55.5 -1.1**
RICC AMS AMS 12 28 40.0
comp=Z,2µm,18.7s
HSKC **Hora Svate Kat** **149.86 351**⇑ *e*PKP **PKiKP** **11 09 53.2 +0.9**
HSKC AMS AMS 12 24 50.0
comp=Z,2µm,18.8s
MORC **Moravsky Berou** **149.87 345**⇑ P **PKiKP** **11 09 52.5 +0.1**
MORC **Moravsky Berou** **149.87 345** IAMs_20 IAMs_20 12 26 00.2
comp=Z,2µm,19.0s
MORC **Moravsky Berou** **149.87 345** *e*PKP **PKPdf** **11 09 48.9 +2.3**
MORC *e* 11 09 54.1
MORC **Moravsky Berou** **149.87 345**⇑ PKP2 **PKiKP** **11 09 52.5 +0.1**
CFR **Carcaliu** **149.87 328**⇑ P **PKiKP** **11 09 53.0 +0.6**
CFR **Carcaliu** **149.87 328**⇑ PKP2 **PKiKP** **11 09 53.0 +0.6**
BMR **Baia Mare** **149.93 337**⇑ P **PKiKP** **11 09 53.6 +1.1**
BMR **Baia Mare** **149.93 337**⇑ PKP2 **PKiKP** **11 09 53.6 +1.1**
TPGR **Topolog** **149.96 328**⇑ P **PKiKP** **11 09 53.7 +1.0**
VRI **Vrincioaia** **150.03 331**⇑ P **PKiKP** **11 09 53.4 +0.6**
VRI **Vrincioaia** **150.03 331**⇑ PKP2 **PKiKP** **11 09 53.4 +0.6**
BRTR **Keskin Array B** **150.07 315** **PKPbc** **11 09 50.8 -1.6**
BRTR **Keskin Array B** **150.07 315** PKP **PKPdf** **11 09 49.1 +1.8**
comp=Z,7.7nm,0.8s,baz=90,slow=1.6,SNR=15
BRTR PKPbc **PKiKP** **11 09 53.2 -0.1**
comp=Z,16nm,0.8s,baz=135,slow=3.2,SNR=27
PLOR **Plostina** **150.07 331**⇓ P **PKiKP** **11 09 54.1 +1.1**
PLOR **Plostina** **150.07 331**⇓ PKP2 **PKiKP** **11 09 54.1 +1.1**
MAUC **Maruska** **150.18 345**⇑ *e*PKP **PKiKP** **11 09 54.0 +1.0**
MAUC AMS AMS 12 26 00.0
comp=Z,4µm,18.5s
BEBN **Eben Emael** **150.20 1** *d*PKP **PKiKP** **11 09 54.5 +1.6**
TURR **Turia** **150.20 332**⇑ P **PKiKP** **11 09 54.7 +1.5**
PRA **Prague** **150.22 349** AMS AMS 12 26 20.0
comp=Z,2µm,16.0s
TIRR **Tirgusor** **150.25 327**⇑ P **PKPbc** **11 09 52.1 -0.3**
TIRR **Tirgusor** **150.25 327**⇑ PKIKP **PKPbc** **11 09 52.1 -0.3**
OZUR **Tirgusor** **150.27 332**⇓ P **PKiKP** **11 09 54.4 +1.1**
PRU **Pruhonice** **150.28 349**⇑ *e*PKP **PKiKP** **11 09 53.8 +0.6**
PRU AMS AMS 12 27 00.0
comp=Z,2µm,19.8s
PRU **Pruhonice** **150.28 349** *e*PKIKP **PKiKP** **11 09 53.8 +0.6**
PRU MLR MLR
comp=Z,2µm,19.8s
GOPC **GO Pecny, Ondr** **150.31 349**⇑ *e*PKP **PKiKP** **11 09 54.3 +1.0**
GOPC AMS AMS 12 24 20.0
comp=Z,2µm,21.9s
GOPC **GO Pecny, Ondr** **150.31 349** *e*PKIKP **PKiKP** **11 09 54.3 +1.0**
GOPC MLR MLR
comp=Z,2µm,21.9s
HARR **Harsova** **150.32 328**⇑ P **PKiKP** **11 09 55.3 +1.9**
HARR **Harsova** **150.32 328**⇑ PKIKP **PKiKP** **11 09 55.3 +1.9**
NKC **Novy Kostel** **150.36 352**⇑ *e*PKP **PKiKP** **11 09 55.0 +1.6**
NKC AMS AMS 12 23 40.0
comp=Z,2µm,20.2s
NKC **Novy Kostel** **150.36 352** *e*PKIKP **PKiKP** **11 09 55.0 +1.6**
NKC MLR MLR
comp=Z,2µm,20.2s
MEM **Membach** **150.39 0** *d*PKP **PKiKP** **11 09 54.1 +0.7**
BSTI **Sart Tilman** **150.41 1** *d*PKP **PKiKP** **11 09 54.8 +1.5**
BTNL **Ternell** **150.41 0** *d*PKP **PKPbc** **11 09 53.0 +0.3**
VRAC **Vranov** **150.53 346**⇑ P **PKiKP** **11 09 54.3 +0.6**
VRAC **Vranov** **150.53 346** *e*PKP **PKPbc** **11 09 50.7 -2.3**
VRAC *e* 11 09 56.2
VRAC **Vranov** **150.53 346** PKP **PKPdf** **11 09 49.7 +2.1**
comp=Z,11nm,0.8s,baz=172,slow=0.5,SNR=4.2
VRAC PKPbc **sPKPbc** **11 09 54.4 -0.2**
comp=Z,15nm,0.8s,baz=360,slow=2.2,SNR=13
DOPR **Dopca** **150.55 332**⇑ P **PKiKP** **11 09 53.8 -0.1**
ANTO **Ankara** **150.55 316**⇑ P **PKiKP** **11 09 55.4 +1.3**
ANTO **Ankara** **150.55 316**⇑ PKIKP **PKiKP** **11 09 55.4 +1.3**
MESR **Meseseni** **150.57 337**⇑ P **PKiKP** **11 09 56.1 +2.3**
BGES **Gesves** **150.60 2** *d*PKP **PKiKP** **11 09 56.6 +2.8**
BHOU **Houvegnez** **150.64 0** *d*PKP **PKPbc** **11 09 53.6 +0.4**
BMRD **Maredsous** **150.67 2** *d*PKP **PKiKP** **11 09 54.4 +0.5**
MLR **Muntele Rosu** **150.67 331**⇑ P **PKiKP** **11 09 54.3 0.0**
MLR **Muntele Rosu** **150.67 331** PKPbc **PKiKP** **11 09 54.2 0.0**
comp=Z,20nm,1.0s,baz=46,slow=5.5,SNR=9.7
JAVC **Velka Javorina** **150.69 345** *e*PKP **PKPbc** **11 09 52.3 -1.2**
JAVC *e* 11 09 56.4
VYHS **Vyhne** **150.72 343** *e*PKP **PKiKP** **11 09 54.9 +0.7**
VYHS **Vyhne** **150.72 343** *e*PKIKP **PKiKP** **11 09 54.9 +0.7**
TREC **Trest** **150.77 348** AMS AMS 12 22 50.0
comp=Z,3µm,24.1s
KRUC **Moravsky** **150.80 346** *e*PKP **PKPdf** **11 09 49.5 +1.5**
KRUC *e* 11 09 55.1

RCHB	**Rochefort**	**150.83**	**1**	*d*PKP		**PKiKP**	**11 09 54.3**	**0.0**	
DOU	**Dourbes**	**150.87**	**2**	*d*PKP		**PKiKP**	**11 09 54.6**	**+0.3**	
ZVC	**Zvikov**	**150.87**	**349**	⇑*e*PKP		**PKiKP**	**11 09 55.6**	**+1.2**	
ZVC					AMS	AMS	12 26 10.0		
	comp=Z,2μm,21.9s								
MARR	**Marisel-Cluj**	**150.90**	**336**	⇑P		**PKiKP**	**11 09 54.8**	**+0.1**	
PSZ	**Piszkesteto**	**150.94**	**341**	⇓P		**PKiKP**	**11 09 55.9**	**+1.2**	
PSZ	**Piszkesteto**	**150.94**	**341**	⇓PKIKP		**PKiKP**	**11 09 55.9**	**+1.2**	
SACV	**Santiago Islan**	**150.95**	**97**	IAMs_20	IAMs_20		12 18 25.0		
	comp=Z,2μm,20.0s								
VOIR		**151.11**	**332**	⇓P		**PKPbc**	**11 09 54.2**	**-0.4**	
VOIR		**151.11**	**332**	⇓PKIKP		**PKPbc**	**11 09 54.2**	**-0.4**	
MODS	**Modra-Piesok**	**151.24**	**345**	*e*PKP		**PKiKP**	**11 09 57.0**	**+1.8**	
MODS	**Modra-Piesok**	**151.24**	**345**	*e*PKIKP		**PKiKP**	**11 09 57.0**	**+1.8**	
KHC	**Kasperske Hory**	**151.28**	**350**	IAMs_20	IAMs_20		12 24 33.1		
	comp=Z,2μm,20.0s								
KHC	**Kasperske Hory**	**151.28**	**350**	*e*PKPDF		**PKPdf**	**11 09 49.0**	**+0.2**	
KHC				⇑*e*PKP		**sPKPbc**	**11 09 56.2**	**-0.3**	
KHC				*e*PKPAB		**sPKPab**	**11 10 08.0**	**+3.7**	
KHC				AMS	AMS		12 24 00.0		
	comp=Z,2μm,19.6s								
KHC	**Kasperske Hory**	**151.28**	**350**	*e*PKIKP		**PKPdf**	**11 09 49.0**	**+0.2**	
KHC				*e*			11 09 56.2		
KHC				MLR	MLR				
	comp=Z,2μm,19.6s								
WLF	**Walferdange**	**151.33**	**0**	*d*PKP		**PKiKP**	**11 09 57.6**	**+2.3**	
WLF	**Walferdange**	**151.33**	**0**	PKP		**PKiKP**	**11 09 56.6**	**+1.3**	
ARR	**Arges**	**151.34**	**332**	⇑P		**PKiKP**	**11 09 57.6**	**+2.0**	
ZST	**Bratislava**	**151.45**	**345**	*e*PKP		**PKPab**	**11 10 00.1**	**-3.3**	
CKRC	**Cesky Krumlov**	**151.45**	**349**	⇑*e*PKP		**PKiKP**	**11 09 57.0**	**+1.3**	
CKRC				AMS	AMS		12 24 30.0		
	comp=Z,2μm,18.1s								
CKRC	**Cesky Krumlov**	**151.45**	**349**	*e*PKIKP		**PKiKP**	**11 09 57.0**	**+1.3**	
CKRC				MLR	MLR				
	comp=Z,2μm,18.1s								
MMAI	**Mount Meron Ar**	**151.52**	**301**	PKPbc		**PKiKP**	**11 09 57.5**	**+1.1**	
	comp=Z,20nm,0.8s,baz=50,slow=4.4,SNR=16								
GERES	**GERESS Array B**	**151.53**	**350**	PKPbc		**PKiKP**	**11 09 56.8**	**+0.9**	
	comp=Z,14nm,0.8s,baz=48,slow=2.0,SNR=18								
LOT	**Lotru**	**151.65**	**334**	⇑P		**PKPbc**	**11 09 56.0**	**+0.1**	
CONA	**Conrad Observa**	**151.99**	**346**	*i* pPKP		**PKiKP**	**11 09 58.5**	**+1.6**	
	comp=Z,31nm,0.8s								
SURR	**Surduc**	**152.05**	**336**	⇑P		**PKiKP**	**11 09 57.3**	**+0.3**	
GZR	**Gura Zlata**	**152.10**	**335**	⇓P		**PKPbc**	**11 09 56.5**	**-0.3**	
GZR	**Gura Zlata**	**152.10**	**335**	⇓PKIKP		**PKPbc**	**11 09 56.5**	**-0.3**	
RONA	**Rosalia, Austr**	**152.11**	**346**	*e*pPKP		**PKiKP**	**11 09 58.6**	**+1.5**	
	comp=Z,26nm,0.7s								
BZS	**Buzias**	**152.36**	**336**	⇑P		**PKPbc**	**11 09 55.3**	**-2.0**	
BZS	**Buzias**	**152.36**	**336**	⇑PKIKP		**PKPbc**	**11 09 55.3**	**-2.0**	
MOA	**Molln**	**152.39**	**348**	*i* pPKP		**PKiKP**	**11 09 58.8**	**+1.1**	
	comp=Z,21nm,1.4s								
CSS	**Mathiatis**	**152.45**	**306**	IAMs_20	IAMs_20		12 23 38.0		
	comp=Z,2μm,20.0s								
BIOA	**Bad Ischl, Aus**	**152.66**	**349**	*e*pPKiKP		**PKiKP**	**11 10 00.5**	**+2.3**	
	comp=Z,13nm,0.8s								
ARSA	**Arzberg**	**152.71**	**346**	*i* pPKP		**PKiKP**	**11 09 59.3**	**+1.0**	
	comp=Z,8.4nm,0.8s								
MORH	**Mrgy, Hungar**	**152.84**	**341**	⇑P		**PKiKP**	**11 09 59.0**	**+0.5**	
LESA	**Schwarzleotal**	**153.08**	**350**	*e*pPKiKP		**PKiKP**	**11 10 01.4**	**+2.3**	
	comp=Z,14nm,1.2s								
ISP	**Isparta**	**153.13**	**314**	IAMs_20	IAMs_20		12 30 05.9		
	comp=Z,1μm,21.0s								
RETA	**Reutte**	**153.27**	**353**	*i* pPKiKP		**PKiKP**	**11 10 01.9**	**+2.4**	
	comp=Z,36nm,1.5s								
KBA	**Koelnbreinsper**	**153.30**	**349**	*e*pPKiKP		**PKiKP**	**11 10 02.7**	**+2.9**	
	comp=Z,23nm,1.0s								
WATA	**Walderalm**	**153.32**	**352**	*i* pPKiKP		**PKiKP**	**11 10 02.2**	**+2.5**	
	comp=Z,22nm,1.3s								
SOKA	**Soboth**	**153.36**	**347**	*e*pPKiKP		**PKiKP**	**11 10 01.9**	**+2.2**	
	comp=Z,16nm,1.0s								
MOTA	**Moosalm**	**153.37**	**353**	*i* pPKiKP		**PKiKP**	**11 10 02.0**	**+2.2**	
	comp=Z,18nm,0.9s								
WTTA	**Wattenberg**	**153.38**	**352**	*i* pPKP		**PKiKP**	**11 10 01.2**	**+1.3**	
	comp=Z,23nm,0.9s								
SQTA	**Sankt Quirin**	**153.48**	**353**	*i* pPKiKP		**PKiKP**	**11 10 02.4**	**+2.4**	
	comp=Z,13nm,0.9s								
DAVA	**Damuels**	**153.55**	**355**	*i* pPKiKP		**PKiKP**	**11 10 02.8**	**+2.6**	
	comp=Z,20nm,1.3s								
BLKB	**Belogradchik**	**153.58**	**333**	⇑P		**PKPdf**	**11 09 54.8**	**+2.4**	
MYKA	**Terra Mystica**	**153.68**	**349**	*i* pPKP		**PKiKP**	**11 10 02.2**	**+1.8**	
	comp=Z,10nm,0.8s								
FETA	**Feichten**	**153.73**	**353**	*i* pPKP		**PKiKP**	**11 10 02.1**	**+1.5**	
	comp=Z,31nm,1.6s								
ABTA	**Abfaltersbach**	**153.76**	**350**	*e*pPKP		**PKiKP**	**11 10 01.4**	**+0.8**	
	comp=Z,35nm,1.3s								
CLUD	**Cludinico**	**153.98**	**350**	IAMs_20	IAMs_20		12 19 06.8		
	comp=Z,2μm,20.0s								
ALN	**Alexandroupoli**	**153.99**	**324**	IAMs_20	IAMs_20		12 19 38.0		
	comp=Z,2μm,21.0s								
DAVOX	**Davos/Dischmat**	**154.06**	**354**	PKPbc		**PKiKP**	**11 10 02.9**	**+1.6**	
	comp=Z,9.4nm,0.7s,baz=15,slow=9.0,SNR=7.6								
RDO	**Rodhopi**	**154.09**	**325**	IAMs_20	IAMs_20		12 20 51.6		
	comp=Z,1μm,20.0s								
CIMO	**Cimolais**	**154.20**	**350**	IAMs_20	IAMs_20		12 26 17.4		
	comp=Z,2μm,20.0s								
DIVS	**Divbare**	**154.25**	**337**	IAMs_20	IAMs_20		12 23 01.8		
	comp=Z,2μm,20.0s								
JAWL	**J.Aulia**	**154.49**	**262**	*i* P		**PKPbc**	**11 10 00.4**	**-2.5**	
CTI	**Castel Tesino**	**154.57**	**351**	IAMs_20	IAMs_20		12 25 14.4		
	comp=Z,2μm,20.0s								
HMAD	**Nubian desert**	**154.83**	**272**	*i* P		**PKPdf**	**11 09 57.6**	**+2.8**	
HMAD				*i*			11 10 02.3		
	baz=347,slow=9.3								
MRWI	**Hamdab**	**155.66**	**269**	*i* P		PKPdf	11 09 46.4	-10	
FDMO	**Fiordimonte**	**157.24**	**347**	IAMs_20	IAMs_20		12 23 19.2		
	comp=Z,2μm,20.0s								
KEK	**Kerkira**	**158.01**	**331**	IAMs_20	IAMs_20		12 21 54.7		
	comp=Z,2μm,20.0s								
IDI	**Anoyia**	**158.31**	**315**	PKP		**PKPdf**	**11 10 00.3**	**+1.3**	
CUC	**Castrocucco**	**159.34**	**339**	IAMs_20	IAMs_20		12 28 21.2		
	comp=Z,2μm,20.0s								
ESDC	**Sonseca Array**	**159.35**	**23**	PKPab		**PKPab**	**11 10 40.0**	**+2.6**	
	comp=Z,1.7nm,0.8s,baz=310,slow=4.4,SNR=5.8								
TIP	**Timpagrande**	**159.72**	**336**	IAMs_20	IAMs_20		12 37 44.1		
	comp=Z,2μm,20.0s								
DBIC	**Dimbokro**	**162.16**	**141**	PKP		**PKPdf**	**11 10 05.3**	**+1.6**	
	comp=Z,5.0nm,1.0s,baz=49,slow=1.4,SNR=3.6								
DBIC					PKPab	**sPKPab**	**11 10 53.0**	**+0.9**	
	comp=Z,7.6nm,1.2s,baz=161,slow=4.4,SNR=3.1								
TORD	**Torodi Ar. Bea**	**171.09**	**150**	PKP		**PKPdf**	**11 10 13.3**	**+2.8**	
	comp=Z,1.1nm,0.8s,baz=214,slow=0.6,SNR=8.2								
TORD					PKPab	**sPKPab**	**11 11 32.0**	**+0.6**	
	comp=Z,5.2nm,0.8s,baz=211,slow=1.6,SNR=11								
TORD					PP	**PP**	**11 15 24.6**	**+5.5**	
	comp=Z,1.2nm,1.0s,baz=241,slow=1.5,SNR=3.4								

*IDC **11** 11:18:04.0±1.2,6°.84N×73°.01W,h161km±11km,mb3.5/8, mbtmp4.1/11,Error ellipse: s-maj=19.3km s-min=13.4km az=136.0*
*RSNC **11** 11:18:04.3±1.0,6°.85N×73°.19W,h151km±4km,ML3.9, Mw4.2*
*NEIC **11** 11:18:04.6±1.6,6°.8N±0°.1×73°.0W±0°.1,h165km±9km, mb4.3/43,Error ellipse: s-maj=17.6km s-min=11.4km az=135.0*

ISC 11 11:18:03.3±0.6,6°.86N±0°.03×73°.15W±0°.04,h155km±6km, n103,σ1§26/144,mb4.4/27,4C-5D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BARC	**Barichara**	**0.27**	**188**	⇓*i*P		**Pn**		**11 18 24.7**	**+0.1**
BARC				*e*S		**Sn**		**11 18 40.0**	**-0.9**
BARC				*i*				11 18 40.9	
	comp=Z,3μm,0.4s								
PAMC	**Pamplona, Colo**	**0.65**	**43**	⇑*i*P		**Pn**		**11 18 27.6**	**+1.0**
PAMC				*e*S		**Sn**		**11 18 44.5**	**+0.2**
PAMC				*i*				11 18 47.0	
	comp=Z,2μm,0.5s								
PTBC	**PUERTO BERRIO,**	**1.34**	**256**	*e*P		**Pn**		**11 18 31.1**	**-0.5**
PTBC				*e*S		**Sn**		**11 18 52.2**	**-1.0**
PTBC				*i*				11 18 58.8	
	comp=Z,650nm,0.3s								
OCAC	**Ocana**	**1.38**	**353**	⇑*i*P		**Pn**		**11 18 32.8**	**+0.5**
OCAC				*e*S		**Sn**		**11 18 54.4**	**-0.1**
OCAC				*i*				11 18 59.5	
	comp=Z,2μm,0.4s								
TAMC	**Tame, Arauca**	**1.41**	**107**	⇓*i*P		**Pn**		**11 18 33.2**	**+0.9**
TAMC				*e*S		**Sn**		**11 18 54.1**	**-0.5**
TAMC				*i*				11 18 54.1	
	comp=Z,743nm,0.4s								
SPBC	**San Pablo de B**	**1.51**	**218**	*e*P		**Pn**		**11 18 33.5**	**0.0**
SPBC				*e*S		**Sn**		**11 18 56.0**	**-0.5**
SPBC				*i*				11 19 00.6	
	comp=Z,2μm,0.3s								
ZARC	**Zaragoza, Cauc**	**1.81**	**291**	*e*P		**Pn**		**11 18 36.8**	**+0.2**
ZARC				*e*S		**Sn**		**11 19 02.5**	**+0.3**
ZARC				*i*				11 19 08.2	
	comp=Z,1μm,0.4s								
CHIC	**Chingaza**	**2.29**	**195**	⇓*i*P		**Pn**		**11 18 42.5**	**0.0**
CHIC				*e*S		**Sn**		**11 19 11.9**	**-0.9**
CHIC				*i*				11 19 15.8	
	comp=Z,946nm,0.6s								
ROSC	**El Rosal**	**2.32**	**210**	⇓*i*P		**Pn**		**11 18 44.6**	**+1.8**
ROSC				*e*S		**Sn**		**11 19 13.8**	**+0.4**
ROSC				*i*				11 19 19.6	
	comp=Z,2μm,0.5s								
ROSC	**El Rosal**	**2.32**	**210**	P		**Pn**		**11 18 44.7**	**+1.8**
	comp=Z,343nm,0.3s,baz=100,slow=15,SNR=172								
ROSC					S	**Sn**		**11 19 12.6**	**-0.8**
	comp=Z,2μm,0.5s,baz=113,slow=16,SNR=9.0								
UREC	**San Jos de Ur**	**2.53**	**291**	*e*P		**Pn**		**11 18 44.4**	**-0.7**
UREC				*e*S		**Sn**		**11 19 15.6**	**-1.6**
UREC				*i*				11 19 27.5	
	comp=Z,538nm,0.3s								
GUY2C	**Guyana, Caldas**	**2.74**	**234**	*e*P		**Pn**		**11 18 48.4**	**+0.3**
GUY2C				*e*S		**Sn**		**11 19 24.8**	**+2.3**
GUY2C				*i*				11 19 31.0	
	comp=Z,702nm,0.3s								
VILC	**Villavicencio,**	**2.78**	**191**	*e*P		**Pn**		**11 18 48.0**	**-0.2**
VILC				*e*S		**Sn**		**11 19 22.1**	**-1.0**
VILC				*i*				11 19 25.5	
	comp=Z,1μm,0.4s								
PTGC	**Puerto Gaitan,**	**2.83**	**159**	⇓*i*P		**Pn**		**11 18 47.9**	**-0.8**
PTGC				*e*S		**Sn**		**11 19 21.4**	**-2.4**
PTGC				*i*				11 19 24.0	
	comp=Z,539nm,0.4s								
LL6C	**La Loma 6 Bece**	**2.86**	**358**	*e*P		**Pn**		**11 18 49.1**	**-0.1**
LL6C				*e*S		**Sn**		**11 19 24.6**	**-0.1**
LL6C				*i*				11 19 30.9	
	comp=Z,312nm,0.4s								
CBOC	**Ciudad Bolivar**	**3.01**	**251**	*e*P		**Pn**		**11 18 51.9**	**+0.7**
CBOC				*e*S		**Sn**		**11 19 28.7**	**+0.5**
CBOC				*i*				11 19 34.4	
	comp=Z,168nm,0.5s								
DBBC	**Dabeiba**	**3.05**	**273**	*e*P		**Pn**		**11 18 52.2**	**+0.7**
DBBC				*e*S		**Sn**		**11 19 27.1**	**-1.7**
DBBC				*i*				11 19 29.5	
	comp=Z,256nm,0.4s								
ARGC	**Ariguani, Magd**	**3.17**	**340**	*e*P		**Pn**		**11 18 54.2**	**+1.2**
ARGC				*e*S		**Sn**		**11 19 33.8**	**+2.1**
ARGC				*i*				11 19 42.3	
	comp=Z,183nm,0.3s								
SDV	**Santo Domingo**	**3.20**	**51**	⇑*i*P		**Pn**		**11 18 54.2**	**+0.6**
SDV				*e*S		**Sn**		**11 19 31.3**	**-1.3**
SDV				*i*				11 19 35.1	
	comp=Z,149nm,0.3s								
SDV	**Santo Domingo**	**3.20**	**51**	P		**Pn**		**11 18 54.2**	**+0.6**
	comp=Z,297nm,0.3s,baz=171,slow=2.9,SNR=332								
SDV					S	**Sn**		**11 19 31.5**	**-1.1**
	comp=Z,232nm,0.5s,baz=272,slow=23,SNR=9.8								
APAC	**Apartado, Choc**	**3.56**	**287**	*e*P		**Pn**		**11 18 58.5**	**+0.5**
APAC				*e*S		**Sn**		**11 19 39.8**	**-0.6**
APAC				*i*				11 19 54.7	
	comp=Z,181nm,0.4s								
PRAC	**Prado**	**3.57**	**209**	*e*P		**Pn**		**11 18 57.9**	**-0.3**
PRAC				*e*S		**Sn**		**11 19 40.0**	**-0.8**
PRAC				*i*				11 19 46.9	
	comp=Z,694nm,0.7s								
ORTC	**Ortega, Tolima**	**3.60**	**216**	*e*P		**Pn**		**11 18 58.6**	**0.0**
ORTC				*e*S		**Sn**		**11 19 41.0**	**-0.4**
ORTC				*i*				11 19 46.2	
	comp=Z,411nm,0.2s								
SJCC	**San Jacinto, C**	**3.63**	**326**	*e*P		**Pn**		**11 18 58.3**	**-0.7**
SJCC				*e*S		**Sn**		**11 19 40.0**	**-2.2**
SJCC				*i*				11 19 54.6	
	comp=Z,220nm,0.7s								
PLMC	**San Jos del P**	**3.67**	**238**	⇑*i*P		**Pn**		**11 19 00.1**	**+0.5**
PLMC				*e*S		**Sn**		**11 19 41.8**	**-1.4**
PLMC				*i*				11 19 47.8	
	comp=Z,118nm,0.3s								
CRJC	**Cerrejon, Guaj**	**4.15**	**4**	*e*P		**Pn**		**11 19 04.9**	**-0.8**
CRJC				*e*S		**Sn**		**11 19 52.4**	**-1.8**
CRJC				*i*				11 20 00.0	
	comp=Z,276nm,0.3s								
YOTC	**Yotoco, Valle**	**4.28**	**228**	*e*P		**Pn**		**11 19 07.2**	**-0.3**
YOTC				*e*S		**Sn**		**11 19 58.9**	**+1.6**
YOTC				*i*				11 20 10.2	
	comp=Z,28nm,0.6s								
SMRC	**Santa Marta, M**	**4.41**	**346**	*e*P		**Pn**		**11 19 10.1**	**+1.0**
SMRC				*e*S		**Sn**		**11 19 57.8**	**-2.6**
SMRC				*i*				11 20 05.8	
	comp=Z,129nm,0.5s								
CAPC	**Capurgana**	**4.53**	**293**	*e*P		**Pn**		**11 19 09.6**	**-1.0**
CAPC				*e*S		**Sn**		**11 19 59.4**	**-3.6**
CAPC				*i*				11 20 03.1	
	comp=Z,50nm,0.2s								
PIZC	**Pizarro, Choco**	**4.59**	**246**	*e*P		**Pn**		**11 19 13.8**	**+2.4**
PTAC	**Punta Ardita,**	**4.64**	**274**	*e*P		**Pn**		**11 19 11.2**	**-0.9**
PTAC				*e*S		**Sn**		**11 20 02.6**	**-3.0**
PTAC				*i*				11 20 05.7	
	comp=Z,39nm,0.3s								
BETC	**Betania**	**4.74**	**209**	*e*P		**Pn**		**11 19 12.7**	**-0.7**
BETC				*e*S		**Sn**		**11 20 03.8**	**-4.3**
BETC				*i*				11 20 11.0	
	comp=Z,102nm,0.4s								
MALC	**Bahia Malaga**	**5.04**	**236**	*e*P		**Pn**		**11 19 18.6**	**+1.3**
MALC				*e*S		**Sn**		**11 20 15.8**	**+0.7**
MALC				*i*				11 20 24.2	
	comp=Z,45nm,0.6s								
JAMC	**Jamundi, Valle**	**5.04**	**224**	*e*P		**Pn**		**11 19 17.3**	**-0.3**
JAMC				*e*S		**Sn**		**11 20 18.3**	**+2.7**
JAMC				*i*				11 20 21.2	
	comp=Z,20nm,0.2s								
UPD2	**Meteti**	**5.11**	**290**	*e*P		**Pn**		**11 19 16.5**	**-1.7**
UPD2				*e*S		**Sn**		**11 20 14.4**	**-2.4**
UPD2				*i*				11 20 21.2	
	comp=Z,134nm,0.5s								
GARC	**Garzon, Huila**	**5.20**	**207**	*e*P		**Pn**		**11 19 18.4**	**-1.2**
GARC				*e*S		**Sn**		**11 20 15.6**	**-3.7**
GARC				*i*				11 20 23.1	
	comp=Z,152nm,0.2s								
BAUV	**El Baul**	**5.46**	**67**	Pn		**Pn**		**11 19 20.7**	**-2.3**
POPC	**Popayan, Colom**	**5.55**	**220**	*e*P		**Pn**		**11 19 23.8**	**-0.5**
POPC				*e*S		**Sn**		**11 20 25.9**	**-1.7**
POPC				*i*				11 20 33.5	
	comp=Z,24nm,0.5s								
FLOC	**Florencia**	**5.80**	**206**	*e*P		**Pn**		**11 19 26.9**	**-0.7**
FLOC				*e*S		**Sn**		**11 20 33.3**	**-0.1**
FLOC				*i*				11 20 37.8	
	comp=Z,30nm,0.5s								
GR1C	**Gorgona, Isla**	**6.30**	**233**	*e*P		**Pn**		**11 19 32.9**	**-1.2**
BBAC	**Balboa, Cauca**	**6.31**	**221**	*e*P		**Pn**		**11 19 34.3**	**-0.1**
BBAC				*e*S		**Sn**		**11 20 44.2**	**-1.5**
BBAC				*i*				11 20 50.4	
	comp=Z,16nm,0.3s								
GCUF	**Volcan Galeras**	**6.99**	**217**	*e*P		**Pn**		**11 19 44.7**	**+1.0**
GCUF				*e*S		**Sn**		**11 21 01.2**	**-1.2**
GCUF				*i*				11 21 08.9	
	comp=Z,8.9nm,0.4s								
BCIP	**Isla Barro Col**	**7.01**	**290**	Pn		**Pn**		**11 19 42.3**	**-1.3**
BONI	**La Bonita**	**7.72**	**215**	*e*P		**Pn**		**11 19 54.0**	**+0.7**
OTAV	**Otavalo**	**8.44**	**219**	Pn		**Pn**		**11 20 01.9**	**-1.2**
PCRV	**Puerto La Cruz**	**9.04**	**68**	P		**Pn**		**11 20 10.5**	**-0.1**
	comp=Z,14nm,0.7s,baz=314,slow=4.7,SNR=13								
COHC	**Cochancay**	**11.09**	**214**			**Pn**		**11 20 37.9**	**+0.3**
BOSC	**San Juan Bosco**	**11.28**	**208**	Pn		**Pn**		**11 20 42.1**	**+1.8**
MTDJ	**Mount Denham**	**12.08**	**340**	Pn		**P**		**11 20 54.4**	**-2.5**
ETMB	**Extrema**	**17.95**	**157**			**P**		**11 22 00.4**	**-1.3**
ETMB						IAmb	IAmb	11 22 01.5	
	comp=Z,4.8nm,0.7s								
TEIG	**Tepich**	**19.80**	**314**	P		**Pn**		**11 22 23.7**	**-1.3**
	comp=Z,118nm,0.5s,baz=120,slow=9.4,SNR=6.5								
Y49A	**Blount Mountai**	**29.54**	**337**	P		**P**		**11 23 55.5**	**+2.0**
Y49A						IAmb	IAmb	11 23 56.2	
	comp=Z,5.1nm,0.7s								
X48A	**Hartselle**	**30.31**	**337**	P		**P**		**11 24 01.4**	**+1.2**
X48A						IAmb	IAmb	11 24 03.0	
	comp=Z,5.3nm,0.7s								
V48A	**Smith Brothers**	**31.37**	**338**	P		**P**		**11 24 10.8**	**+1.4**
HBVL	**Hebbronville**	**31.49**	**313**	P		**P**		**11 24 12.3**	**+1.7**
HBVL						IAmb	IAmb	11 24 13.5	
	comp=Z,4.7nm,0.6s								
WVT	**Waverly**	**32.09**	**337**	P		**P**		**11 24 17.2**	**+1.4**
WVT						IAmb	IAmb	11 24 18.2	
	comp=Z,8.4nm,1.1s								
T47A	**Sharon Grove**	**32.58**	**339**	P		**P**		**11 24 21.2**	**+1.1**
T47A						IAmb	IAmb	11 24 22.2	
	comp=Z,5.9nm,0.6s								
WHAR	**Wooly Hollow**	**33.32**	**331**	P		**P**		**11 24 27.6**	**+1.1**
WHAR						IAmb	IAmb	11 25 09.9	
	comp=Z,5.7nm,1.4s								
PBMO	**Poplar Bluff**	**33.70**	**335**	P		**P**		**11 24 29.7**	**0.0**
FCAR	**Ozark Fklk Cen**	**33.73**	**332**	P		**P**		**11 24 30.7**	**+0.6**
CGM3	**Cape Girardeau**	**33.83**	**336**	P		**P**		**11 24 31.4**	**+0.6**
CGM3						IAmb	IAmb	11 24 32.7	
	comp=Z,6.0nm,0.5s								
BRDY	**Brady**	**34.28**	**318**	P		**P**		**11 24 34.8**	**-0.1**
BRDY						IAmb	IAmb	11 24 36.5	
	comp=Z,7.2nm,1.4s								
FVM	**French Village**	**34.73**	**336**	P		**P**		**11 24 39.6**	**+1.0**
FVM						IAmb	IAmb	11 24 40.5	
	comp=Z,6.7nm,0.7s								
CCM	**Cathedral Cave**	**35.13**	**335**	P		**P**		**11 24 43.1**	**+1.1**
L56A	**Greenwood**	**35.35**	**354**	P		**P**		**11 24 45.0**	**+1.1**
SFIN	**Lafayette**	**35.64**	**342**	P		**P**		**11 24 47.0**	**+0.7**
R40A	**Maddies Statio**	**35.77**	**334**	P		**P**		**11 24 48.1**	**+0.6**
R40A						IAmb	IAmb	11 24 48.7	
	comp=Z,10nm,1.3s								
TXAR	**Lajitas Array**	**36.42**	**312**	P		**P**		**11 24 54.4**	**+1.1**
TXAR	**Lajitas Array**	**36.42**	**312**	P		**P**		**11 24 54.1**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=129,slow=9.0,SNR=28								
TXAR					PcP	**PcP**		**11 27 15.1**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=135,slow=4.9,SNR=4.3								
	comp=Z,1.3nm,0.6s								
TX31	**Lajitas Ar. Si**	**36.42**	**312**	P		**P**		**11 24 54.6**	**+1.3**
P38A	**Dawn**	**37.42**	**334**	P		**P**		**11 25 02.0**	**+0.6**
L42A	**Oliver, Polo**	**37.95**	**340**	P		**P**		**11 25 05.9**	**0.0**
425A	**Indio Mountain**	**38.16**	**313**	P		**P**		**11 25 08.1**	**+0.1**
LMN	**Caledonia Moun**	**39.52**	**9**	P		**P**		**11 25 19.9**	**+1.0**
D62A	**Allapoint, All**	**40.23**	**4**	P		**P**		**11 25 26.2**	**+1.5**
D62A						IAmb	IAmb	11 26 09.7	
	comp=Z,11nm,1.2s								
E46A	**Sault Ste Mari**	**40.52**	**348**	P		**P**		**11 25 28.0**	**+0.9**
BATG	**Bathurst New B**	**40.73**	**7**	P		**P**		**11 25 29.5**	**+0.7**
BATG						IAmb	IAmb	11 25 49.0	
	comp=Z,19nm,1.3s								
ECSD	**EROS Data Cent**	**42.10**	**334**	P		**P**		**11 25 40.2**	**0.0**
ECSD						IAmb	IAmb	11 25 41.2	
	comp=Z,3.6nm,1.0s								
SDCO	**Great Sand Dun**	**42.51**	**321**	P		**P**		**11 25 45.1**	**+1.3**
EYMN	**Ely**	**43.83**	**342**	P		**P**		**11 25 53.6**	**-0.3**
EYMN						IAmb	IAmb	11 25 55.1	
	comp=Z,9.8nm,0.7s								
U15A	**North Rim**	**46.28**	**315**	P		**P**		**11 26 14.8**	**+1.1**
U15A						IAmb	IAmb	11 26 16.6	
	comp=Z,4.5nm,1.1s								
MTPU	**Mount Pierson**	**47.02**	**317**	P		**P**		**11 26 21.0**	**+1.4**
ULM	**Lac du Bonnet**	**47.24**	**340**	P		**P**		**11 26 20.6**	**-0.1**
ULM						IAmb	IAmb	11 26

JCJ	**Chichijima**	**13.48**	**350**	Pn		**Pn**	**11 32 37.5**	**-1.1**
DAV	**Davao City (W)**	**20.00**	**253**	P		**P**	**11 33 51.1**	**-1.7**
H11S3	**WAKE ISLAND Hy**	**21.57**	**75**	T		T	11 55 35.4	
	baz=255,slow=75,SNR=30							
H11S1	**WAKE ISLAND Hy**	**21.58**	**74**	T		T	11 55 38.9	
	baz=255,slow=75,SNR=14							
H11S2	**WAKE ISLAND Hy**	**21.58**	**75**	T		T	11 55 36.5	
	baz=255,slow=75,SNR=20							
H11N1	**WAKE ISLAND Hy**	**21.98**	**71**	T		T	11 56 15.1	
	baz=253,slow=74,SNR=24							
H11N2	**WAKE ISLAND Hy**	**21.99**	**71**	T		T	11 56 16.6	
	baz=253,slow=74,SNR=14							
H11N3	**WAKE ISLAND Hy**	**22.00**	**71**	T		T	11 56 21.6	
	baz=253,slow=74,SNR=13							
JNU	**Nakatsue**	**23.06**	**329**	P		**P**	**11 34 22.6**	**-0.4**
MTN	**Manton Dam**	**29.69**	**208**	P		**P**	**11 35 23.6**	**+1.0**
MTN				IAmb		IAmb	11 35 43.5	
	comp=Z,14nm,1.3s							
WB0	**Warramunga Arr**	**34.85**	**197**	P		**P**	**11 36 09.3**	**+1.8**
WB0				IAmb		IAmb	11 36 52.1	
	comp=Z,5.8nm,1.4s							
WR0	**Warramunga Arr**	**34.99**	**197**	P		**P**	**11 36 10.4**	**+1.7**
WR0				IAmb		IAmb	11 36 32.0	
	comp=Z,6.9nm,1.5s							
WRAB	**Tennant Creek**	**35.02**	**197**	P		**P**	**11 36 08.8**	**-0.2**
WRAB				IAmb		IAmb	11 36 30.1	
	comp=Z,5.8nm,1.4s							
WRA	**Warramunga Arr**	**35.03**	**197**	P		**P**	**11 36 11.0**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=20,slow=10,SNR=9.8							
	comp=Z,0.4nm,0.6s							
FITZ	**Fitzroy Crossi**	**36.86**	**211**	P		**P**	**11 36 25.2**	**+0.7**
FITZ				IAmb		IAmb	11 36 55.8	
	comp=Z,2.2nm,1.4s							
AS31	**Alice Springs**	**38.69**	**196**	P		**P**	**11 36 42.4**	**+2.5**
ASAR	**Alice Springs**	**38.69**	**196**	P		**P**	**11 36 41.5**	**+1.6**
	comp=Z,0.2nm,0.8s,baz=21,slow=13,SNR=4.6							
	comp=Z,0.2nm,0.8s							
STKA	**Stephens Creek**	**45.48**	**184**	P		**P**	**11 37 36.6**	**+2.1**
SONM	**Songino Array**	**46.53**	**325**	P		**P**	**11 37 44.4**	**+1.6**
GIRL	**Giralia**	**46.95**	**220**	P		**P**	**11 37 44.9**	**-1.3**
BBOO	**Buckleboo**	**47.05**	**190**	P		**P**	**11 37 44.4**	**-2.4**
BBOO				IAmb		IAmb	11 38 27.5	
	comp=Z,14nm,1.4s							
MKAR	**Makanchi Array**	**61.30**	**316**	P		**P**	**11 39 30.0**	**+0.5**
MKAR	**Makanchi Array**	**61.30**	**316**	P		**P**	**11 39 30.9**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=90,slow=8.7,SNR=9.2							
	comp=Z,0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**64.43**	**320**	P		**P**	**11 39 51.0**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=104,slow=6.8,SNR=3.9							
	comp=Z,0.6nm,0.3s							
BVAR	**Borovoye Array**	**69.73**	**322**	P		**P**	**11 40 24.2**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=101,slow=7.8,SNR=3.3							
	comp=Z,0.6nm,0.3s							

*IDC **11** 11:44:48.7±1.6,53˚.43N×107˚.52E,h0km,mb3.5/5, mbtmp3.5/9,ML3.2/4,Error ellipse: s-maj=35.6km s-min=21.2km az=147.0*

*MOS **11** 11:44:50.4±1.6,53˚.29N×107˚.71E,h13km,mb4.1/3,Error ellipse: s-maj=9.9km s-min=6.9km az=57.3*

MOS Felt (II) at Onguryeny.

*BYKL **11** 11:44:51.1±0.1,53˚.32N×107˚.57E,h20km±2km,FELT I–IV-V MSK at Harancy; IV at Huzhir; III at Onguryon, Elancy, Tyrgan*

ISC 11 11:44:49.7±1.0,53˚26N±0˚.02×107˚74E±0˚.02,h5km±7km, n70,σ2°28/143,mb3.9/6,8C-2D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h	m	s	Res ISC
OGRR	**Ongureny**	**0.39**	**348**	⇑*i*	*P*g	**Pg**	**11 44 58.5**			**+1.2**
OGRR					Pmax		11 44 58.8			
	1μm,0.2s									
OGRR					*e*Sg	**Sg**	**11 45 03.2**			**+0.8**
OGRR					Smax		11 45 03.7			
	13μm,0.4s									
OGRR	**Ongureny**	**0.39**	**348**	⇑*i*	*P*G	**Pg**	**11 44 58.5**			**+1.2**
OGRR					*e*		11 45 03.3			
OGRR					pmax	pmax				
	comp=Z,1μm,0.1s									
OGRR					smax	smax				
	comp=N,10μm,0.3s									
KELR	**Kotokel**	**0.54**	**157**	⇑*i*	*P*g	**Pb**	**11 45 03.1**			**+1.4**
KELR					*e*Sg	**Sb**	**11 45 11.8**			**+2.0**
MXMB	**Maximikha**	**0.61**	**89**		*e*Pg	**Pb**	**11 45 04.5**			**+1.7**
MXMB					*e*Sg	**Sn**	**11 45 14.3**			**-0.9**
MXMB					*e*Sb	**Sb**	**11 45 17.8**			**+6.2**
MXMB					*e*		11 45 18.2			
TRG	**Tyrgan**	**0.98**	**240**	⇑*i*	*P*g	**Pg**	**11 45 07.9**			**-0.5**
TRG					Pmax		11 45 13.3			
	comp=N,657nm,0.1s									
TRG					*e*Sg	**Sg**	**11 45 20.4**			**-0.6**
TRG					Smax		11 45 21.7			
	comp=N,6μm,0.2s									
TRG	**Tyrgan**	**0.98**	**240**	⇑*i*	*P*G	**Pg**	**11 45 07.9**			**-0.5**
TRG					*e*		11 45 20.6			
TRG					pmax	pmax				
	comp=Z,656nm,0.1s									
TRG					smax	smax				
	comp=N,5μm,0.2s									
FFNB	**Fofonovo**	**1.35**	**206**		*e*Pg	**Pn**	**11 45 15.6**			**+0.4**
FFNB					*e*Sg	**Sg**	**11 45 34.2**			**+1.1**
STDB	**Stepnoy Dvoret**	**1.38**	**218**		*e*Pg	**Pb**	**11 45 16.3**			**+0.4**
STDB					*e*		11 45 20.0			
STDB					*e*Sg	**Sg**	**11 45 35.2**			**+1.4**
KAB	**Kabansk**	**1.38**	**209**		*e*Pg	**Pb**	**11 45 16.5**			**+0.6**
KAB					*e*		11 45 22.5			
KAB					max		11 45 23.8			
	comp=N,2μm,1.0s									
KAB					*e*Sg	**Sg**	**11 45 35.2**			**+1.3**
KAB					Smax		11 45 50.4			
	comp=N,4μm,1.2s									
UUDB	**Ulan-Yde**	**1.40**	**182**	⇑*i*	*P*g	**Pb**	**11 45 16.8**			**+0.6**
UUDB					Pmax		11 45 17.6			
	comp=N,490nm,0.6s									
UUDB					*e*Sg	**Sg**	**11 45 36.4**			**+1.9**
UUDB					Smax		11 45 37.5			
	comp=N,3μm,0.5s									
SYVR	**Suvo**	**1.41**	**73**	⇑*i*	*P*g	**Pb**	**11 45 17.5**			**+1.0**
SYVR					*e*Pb	**Pg**	**11 45 18.1**			**+1.4**
SYVR					max		11 45 18.3			
	comp=N,1μm,0.3s									
SYVR					*e*Sg	**Sg**	**11 45 37.2**			**+2.2**
SYVR					Smax		11 45 38.3			
	comp=N,2μm,0.6s									
SYVR	**Suvo**	**1.41**	**73**		*e*PN	**Pb**	**11 45 17.4**			**+1.0**
SYVR					*e*		11 45 36.7			
SYVR					pmax	pmax				
	comp=Z,2μm,0.4s									
SYVR					smax	smax				
	comp=E,2μm,0.4s									
HRMR	**Khuramsha**	**1.70**	**197**	⇑*i*	*P*n	**Pn**	**11 45 21.0**			**+0.9**
HRMR					*e*Pg	**Pb**	**11 45 22.6**			**+1.1**
HRMR					Pmax		11 45 34.6			
	comp=E,860nm,0.6s									
HRMR					*e*Sn	**Sn**	**11 45 42.6**			**+0.3**
HRMR					*e*Sg	**Sb**	**11 45 44.4**			**+1.2**
HRMR					*e*Sb	**Sg**	**11 45 45.5**			**+1.2**
HRMR					max		11 45 46.1			
	comp=E,6μm,0.4s									
BGT	**Bolshoye Golou**	**1.87**	**230**		*e*Pn	**Pn**	**11 45 22.6**			**+0.3**
BGT					*e*Pg	**Pb**	**11 45 23.7**			**-0.6**
BGT					Pmax		11 45 30.5			
	comp=E,377nm,0.4s									
BGT					*e*Sg	**Sb**	**11 45 47.5**			**-0.4**
BGT					*e*		11 45 50.8			
BGT					max		11 45 55.5			
	comp=E,1μm,0.4s									
LSTR	**Listvyanka**	**2.25**	**233**		*e*Pn	**Pn**	**11 45 28.1**			**+0.4**
LSTR					*e*Pg	**Pb**	**11 45 31.2**			**+0.3**
LSTR					Pmax		11 45 36.7			
	comp=E,261nm,1.1s									
LSTR					*e*		11 45 56.6			
LSTR					*e*Sg	**Sb**	**11 45 59.3**			**+0.3**
LSTR					Smax		11 46 05.8			
	comp=E,1μm,1.7s									
LSTR	**Listvyanka**	**2.25**	**233**		*e*PN	**Pn**	**11 45 28.0**			**+0.4**
LSTR					*e*		11 45 30.0			
LSTR					*e*		11 45 58.5			
LSTR					pmax	pmax				
	comp=Z,3μm,0.1s									
LSTR					smax	smax				
	comp=E,762nm,0.5s									
IRK	**Irkutsk**	**2.34**	**246**		*e*Pg	**Pb**	**11 45 31.4**			**-0.9**
IRK					Pmax		11 45 51.6			
	comp=E,377nm,0.2s									
IRK					*e*Sn	**Sn**	**11 45 56.3**			**-1.6**
IRK					*e*Sg	**Sb**	**11 46 01.1**			**-0.4**
IRK					Smax		11 46 01.6			
	comp=E,4μm,0.3s									
IRK	**Irkutsk**	**2.34**	**246**		*e*PN	**Pb**	**11 45 31.4**			**-0.9**
IRK					*e*S	**Sn**	**11 45 56.5**			**-1.4**
IRK					*e*		11 46 01.8			
IRK					pmax	pmax				
	comp=Z,335nm,0.2s									
IRK					smax	smax				
	comp=E,4μm,0.2s									
IVK	**Ivanovka**	**2.50**	**236**		*e*Pn	**Pn**	**11 45 31.4**			**+0.4**
IVK					*e*Pg	**Pb**	**11 45 34.7**			**-0.3**
IVK					Pmax		11 45 39.9			
	comp=E,87nm,0.1s									
IVK					*e*Sn	**Sn**	**11 45 59.8**			**-2.1**
IVK					*e*		11 46 02.6			
IVK					*e*Sg	**Sb**	**11 46 05.8**			**-0.3**
IVK					Smax		11 46 07.0			
	comp=E,665nm,0.2s									
YLYR	**Ulyunkhan**	**2.59**	**50**	⇓	*i*Pn	**Pn**	**11 45 33.4**			**+1.2**
YLYR					*e*Pg	**Pb**	**11 45 38.2**			**+1.7**
YLYR					*e*		11 45 42.0			
YLYR					max		11 45 43.7			
	comp=E,331nm,0.5s									
YLYR					*e*Sg	**Sg**	**11 46 12.3**			**-0.4**
YLYR					Smax		11 46 13.3			
	comp=E,680nm,0.6s									
YLYR	**Ulyunkhan**	**2.59**	**50**	⇓	*i*PN	**Pn**	**11 45 33.4**			**+1.2**
YLYR					*e*		11 45 37.3			
YLYR					*e*S	**Sn**	**11 46 04.8**			**+0.7**
YLYR					*e*		11 46 10.6			
YLYR					pmax	pmax				
	comp=Z,333nm,0.6s									
YLYR					smax	smax				
	comp=N,686nm,0.5s									
NIZB	**Nizh Angarsk**	**2.73**	**22**		*e*Pn	**Pn**	**11 45 35.3**			**+1.2**
NIZB					*e*Pg	**Pb**	**11 45 40.4**			**+1.5**
NIZB					*e*		11 45 43.2			
NIZB					max		11 45 44.7			
	comp=N,122nm,0.2s									
NIZB					*e*Sn	**Sn**	**11 46 07.4**			**-0.1**
NIZB					*e*Sg	**Sb**	**11 46 15.4**			**+2.8**
NIZB					Smax		11 46 20.1			
	comp=N,647nm,0.4s									
TLY	**Talaya**	**2.96**	**239**		*e*Pn	**Pn**	**11 45 37.3**			**0.0**
TLY					*e*Pg	**Pb**	**11 45 42.6**			**-0.3**
TLY					Pmax		11 45 49.0			
	comp=N,160nm,0.5s									
TLY					*e*Sn	**Sn**	**11 46 11.6**			**-1.6**
TLY					*e*Sg	**Sb**	**11 46 19.6**			**+0.2**
TLY					*e*		11 46 22.7			
TLY					max		11 46 25.0			
	comp=N,888nm,0.6s									
TLY	**Talaya**	**2.96**	**239**		*e*PN	**Pn**	**11 45 37.4**			**+0.1**
TLY					*e*		11 45 42.7			
TLY					*e*S	**Sn**	**11 46 12.1**			**-1.1**
TLY					*e*		11 46 19.5			
TLY					pmax	pmax				
	comp=Z,160nm,0.5s									
TLY					smax	smax				
	comp=E,616nm,0.4s									
KMO	**Kumora**	**3.32**	**36**		*e*Pn	**Pn**	**11 45 43.4**			**+1.2**
KMO					*e*Pg	**Pb**	**11 45 50.9**			**+2.0**
KMO					Pmax		11 46 07.8			
	comp=E,232nm,0.5s									
KMO					*e*Sg	**Sg**	**11 46 34.1**			**-2.0**
KMO					*e*		11 46 39.2			
KMO					max		11 46 57.3			
	comp=E,849nm,1.3s									
KMO	**Kumora**	**3.32**	**36**		*e*PN	**Pn**	**11 45 43.4**			**+1.2**
KMO					*e*		11 45 49.4			
KMO					*e*S	**Sn**	**11 46 19.6**			**-2.4**
KMO					*e*		11 46 34.1			
KMO					pmax	pmax				
	comp=Z,9.0nm,0.1s									
KMO					smax	smax				
	comp=E,795nm,1.0s									
ARS	**Arshan**	**3.51**	**250**		*e*Pn	**Pn**	**11 45 45.0**			**+0.1**
ARS					*e*Pg	**Pb**	**11 45 52.2**			**0.0**
ARS					Pmax		11 46 00.1			
	comp=E,220nm,0.7s									
ARS					*e*Sn	**Sn**	**11 46 24.4**			**-2.4**
ARS					*e*		11 46 34.6			
ARS					*e*Sg	**Sb**	**11 46 36.7**			**+1.6**
ARS					Smax		11 46 41.7			
	comp=E,4μm,0.9s									
ARS	**Arshan**	**3.51**	**250**		*e*PN	**Pn**	**11 45 45.0**			**+0.1**
ARS					*e*		11 45 53.4			
ARS					*e*S	**Sn**	**11 46 26.0**			**-0.8**
ARS					*e*		11 46 34.6			
ARS					pmax	pmax				
	comp=Z,186nm,0.2s									
ARS					smax	smax				
	comp=E,4μm,0.4s									
YOA	**Uoyan**	**3.69**	**37**		*e*Pg	**Pb**	**11 45 56.9**			**+1.5**
YOA					Pmax		11 46 15.4			
	comp=E,461nm,1.1s									
YOA					*e*Sn	**Sn**	**11 46 29.1**			**-2.2**
YOA					*e*Sg	**Sg**	**11 46 45.4**			**-2.8**
YOA					*e*		11 47 00.4			
YOA					max		11 47 22.9			
	comp=E,2μm,1.4s									
CIT	**Chita**	**3.75**	**107**		*e*Pn	**Pn**	**11 45 49.5**			**+1.2**
CIT					*e*Pn	**Pb**	**11 45 52.8**			**-3.6**
CIT					*e*Pg	**Pg**	**11 46 00.6**			**-1.0**
CIT					Pmax		11 46 01.0			
	comp=E,402nm,0.6s									
CIT					*e*Sn	**Sn**	**11 46 32.6**			**-0.3**
CIT					*e*Sg	**Sg**	**11 46 50.5**			**+0.3**
CIT					*e*Sg	**Sg**	**11 46 54.9**			**+4.7**
	comp=E,763nm,0.7s									
CIT	**Chita**	**3.75**	**107**		*e*PN	**Pn**	**11 45 48.6**			**+0.3**
CIT					*e*		11 46 00.2			
CIT					*e*		11 46 50.6			
CIT					pmax	pmax				
	comp=Z,402nm,0.6s									
CIT					smax	smax				
	comp=E,768nm,0.4s									
ZAK	**Zakamensk**	**3.99**	**226**		*e*Pn	**Pn**	**11 45 52.6**			**+1.0**
ZAK					*e*Pg	**Pb**	**11 46 02.0**			**+1.5**
ZAK					Pmax		11 46 10.5			
	comp=E,72nm,1.4s									
ZAK					*e*Sg	**Sb**	**11 46 54.1**			**+5.0**
ZAK					*e*		11 47 00.6			
ZAK					max		11 47 03.1			
	comp=E,351nm,0.5s									
ZAK	**Zakamensk**	**3.99**	**226**		*e*PN	**Pn**	**11 45 52.3**			**+0.7**
ZAK					*e*		11 46 04.6			
ZAK					*e*		11 46 54.7			
ZAK					pmax	pmax				
	comp=Z,39nm,0.3s									
ZAK					smax	smax				
	comp=N,353nm,0.5s									
UKT	**Uakit**	**4.11**	**55**		*e*Pn	**Pn**	**11 45 54.9**			**+1.8**
UKT					*e*Pg	**Pb**	**11 46 05.4**			**+3.0**
UKT					*e*		11 46 12.1			
UKT					max		11 46 13.5			
	comp=N,108nm,0.6s									
UKT					*e*Sg	**Sg**	**11 47 00.3**			**-1.1**
UKT					Smax		11 47 07.8			
	comp=N,543nm,1.6s									
MOY	**Mondy**	**4.42**	**252**		*e*	**Pn**	**11 46 00.1**			**+2.6**
MOY					*e*Pg	**Pb**	**11 46 08.3**			**+0.5**
MOY					Pmax		11 46 15.8			
	comp=N,116nm,1.3s									
MOY					*e*		11 46 50.3			
MOY					*e*		11 47 02.2			
MOY					*e*Sg	**Sb**	**11 47 05.2**			**+3.7**
MOY					Smax		11 47 07.0			
	comp=N,1μm,1.0s									
MOY	**Mondy**	**4.42**	**252**		*e*PN	**Pn**	**11 45 59.7**			**+2.2**
MOY					*e*		11 46 08.3			
MOY					*e*		11 47 05.4			
MOY					pmax	pmax				
	comp=Z,40nm,0.3s									
MOY					smax	smax				
	comp=N,1μm,0.9s									
SVKR	**Severomuysk**	**4.43**	**47**		*e*Pg	**Pb**	**11 46 11.5**			**+3.6**
SVKR					Pmax		11 46 19.1			
	comp=N,163nm,0.8s									
SVKR					*e*		11 47 07.4			
SVKR					*e*Sg	**Sg**	**11 47 09.5**			**-2.2**
SVKR					Smax		11 47 25.8			
	comp=N,970nm,0.7s									
KPC	**Khapcheranga**	**4.59**	**139**		*e*Pn	**Pn**	**11 46 00.0**			**+0.2**
KPC					*e*Pg	**Pg**	**11 46 15.9**			**-1.7**
KPC					Pmax		11 46 21.5			
	comp=N,68nm,0.6s									
KPC					*e*Sn	**Sn**	**11 46 51.7**			**-1.9**
KPC					*e*Sg	**Sg**	**11 47 17.1**			**0.0**
KPC					Smax		11 47 23.3			
	comp=N,291nm,1.1s									
KPC	**Khapcheranga**	**4.59**	**139**		*e*PN	**Pn**	**11 46 00.0**			**+0.2**
KPC					*e*		11 46 13.1			
KPC					*e*S	**Sn**	**11 46 51.5**			**-2.1**
KPC					*e*		11 47 13.7			
KPC					pmax	pmax				
	comp=Z,68nm,0.4s									
KPC					smax	smax				
	comp=E,270nm,0.9s									
ORL	**Orlik**	**4.85**	**265**		*e*Pn	**Pn**	**11 46 03.5**			**0.0**
ORL					max		11 46 05.6			
	comp=E,98nm,0.6s									
ORL					*e*		11 46 12.2			
ORL					*e*Pg	**Pb**	**11 46 16.5**			**+1.3**
ORL					*e*Sn	**Sn**	**11 46 56.4**			**-3.6**
ORL					*e*Sg	**Sb**	**11 47 19.3**			**+5.4**
ORL					Smax		11 47 25.1			
	comp=E,462nm,1.0s									
ORL	**Orlik**	**4.85**	**265**		*e*PN	**Pn**	**11 46 03.4**			**0.0**
ORL					*e*		11 46 17.6			
ORL					*e*S	**Sn**	**11 46 57.2**			**-2.8**
ORL					*e*		11 47 17.8			
ORL					pmax	pmax				
	comp=Z,100nm,0.6s									
ORL					smax	smax				
	comp=N,461nm,1.0s									
ULN	**Ulaanbaatar**	**5.42**	**185**		*i* PN	**Pn**	**11 46 10.9**			**-0.3**
ULN					pmax	pmax				
	comp=Z,3.0nm,0.9s									
ULN					MLR	MLR				
	comp=Z,130nm,3.0s									
SONM	**Songino Array**	**5.50**	**189**		Pn	**Pn**	**11 46 13.9**			**+1.6**
	comp=Z,1.3nm,0.3s,baz=0.1,slow=13,SNR=16									
SONM					Sn	**Sn**	**11 47 12.8**			**-3.2**
	comp=Z,3.9nm,0.3s,baz=2.9,slow=33,SNR=5.8									
SONM					Lg	Lg	11 47 44.6			
	comp=Z,8.6nm,0.3s,baz=5.6,slow=28,SNR=10.0									
	comp=Z,3.4nm,0.5s									
NLYR	**Nelyaty**	**5.62**	**52**		*e*	Pn	11 46 08.2			-5.7
NLYR					*e*Pg	**Pb**	**11 46 31.5**			**+3.3**
NLYR					*e*		11 46 40.2			
NLYR					max		11 46 48.8			
	comp=Z,68nm,0.6s									
NLYR					*e*Sg	**Sg**	**11 47 46.1**			**-4.0**
NLYR					Smax		11 47 55.6			
	comp=Z,332nm,1.1s									
BOD	**Bodaibo**	**5.79**	**35**		*e*Pn	**Pn**	**11 46 16.6**			**+0.5**
BOD					*e*Pg	**Pb**	**11 46 34.3**			**+3.3**
BOD					Pmax		11 46 37.7			
	comp=Z,62nm,1.6s									
BOD					*e*Sg	**Sg**	**11 47 50.1**			**-5.3**
BOD					*e*		11 47 52.7			
BOD					max		11 48 03.3			
	comp=Z,145nm,1.1s									
VTMR	**Vitim**	**6.75**	**21**		*e*Pn	**Pn**	**11 46 30.6**			**+1.4**
VTMR					*e*Pg	Pb	11 46 52.8			+5.5
VTMR					*e*Sn	**Sn**	**11 47 42.7**			**-3.7**
VTMR					*e*		11 48 03.5			
VTMR					*e*Sg	**Sg**	**11 48 19.9**			**-6.1**
CRS	**Chara**	**7.06**	**55**		*e*Sn	Pg	11 47 10.1			+5.3
CRS					*e*Sg	**Sg**	**11 48 30.0**			**-6.1**
CRS					*e*		11 48 37.8			
CRS					max		11 48 40.4			
	comp=Z,179nm,2.1s									
CRS					*e*		11 48 41.3			
TUP	**Tupik**	**7.33**	**76**		*e*Pn	**Pn**	**11 46 38.3**			**+1.1**
TUP					*e*Pg	Pb	11 47 04.4			+7.2
TUP					Pmax		11 47 21.4			
	comp=Z,61nm,1.9s									
TUP					*e*Sn	**Sn**	**11 47 57.3**			**-3.4**
TUP					*e*Sg	**Sg**	**11 48 39.5**			**-5.1**
TUP					Smax		11 48 49.5			
	comp=Z,255nm,0.9s									
TUP	**Tupik**	**7.33**	**76**		*e*PN	**Pn**	**11 46 38.3**			**+1.1**
TUP					*e*		11 47 02.8			
TUP					*e*S	**Sn**	**11 47 55.6**			**-5.1**
TUP					*e*		11 48 38.3			
TUP					pmax	pmax				
	comp=Z,10.0nm,0.4s									
TUP					smax	smax				
	comp=N,256nm,1.0s									
HIA	**Hailar**	**8.52**	**113**		*i* PN	**Pn**	**11 46 54.3**			**+0.6**
HIA					pmax	pmax				
	comp=Z,3.0nm,0.4s									
YKLR	**Yuktali**	**8.68**	**62**		*e*Sg	**Sg**	**11 49 21.9**			**-6.1**
CLNS	**Chul'man**	**10.47**	**63**		*e*Sg	Sn	11 50 16.1			+58
DGZ	**Jazzator, Alta**	**13.14**	**262**		*i* P	**Pn**	**11 47 57.2**			**+0.3**
DGZ					pmax	pmax				
	comp=Z,3.0nm,1.1s									
DGZ					MLR	MLR				
	comp=Z,1μm,21.0s									
ZALV	**Zalesovo Beam**	**13.61**	**282**		Pn	**Pn**	**11 48 01.3**			**-1.9**
	comp=Z,0.3nm,0.3s,baz=82,slow=11,SNR=4.6									
ZALV					Lg	Lg	11 51 46.9			
	comp=Z,0.2nm,0.3s,baz=93,slow=27,SNR=7.2									
	comp=Z,0.7nm,0.3s									
YAK	**Yakutsk**	**14.60**	**44**		*i* P	**Pn**	**11 48 17.1**			**+0.5**
YAK					pmax	pmax				
	comp=Z,17nm,0.5s									
KLR	**Kul'dur**	**15.54**	**95**		Lg	Lg	11 52 57.5			
	comp=Z,0.1nm,0.3s,baz=311,slow=19,SNR=3.8									
MK31	**Makanchi Array**	**17.52**	**259**		*i* P	**Pn**	**11 48 54.7**			**+0.1**
MKAR	**Makanchi Array**	**17.52**	**259**		P	**Pn**	**11 48 54.1**			**-0.5**
	comp=Z,0.1nm,0.3s,baz=63,slow=8.8,SNR=4.8									
	comp=Z,0.6nm,0.7s									
KURK	**Kurchatov**	**18.06**	**274**		*i* P	**P**	**11 49 04.0**			**+2.5**
KURK					pmax	pmax				
	comp=Z,7.0nm,1.1s									
KURK					MLR	MLR				
	comp=Z,

mB5.3/3,MLv4.7/7,Mw(mB)4.7/3
NEIC ***11*** *11:51:21.4±1.4,2°.03N±0°.05×128°.1E±0°.1,h10km±1km, mb4.3/17,Error ellipse: s-maj=22.5km s-min=6.3km az=71.0*
ISC 11 11:51:20.0±0.6,**2°.10N**±0°.05×**128°.22E**±0°.07,**h10**km,**n58, σ1§25/55,mb4.1/19,Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.57**	**213**			**Pn**	**11 51 47.8**	**-0.1**
TNTI	**Ternate**	**1.57**	**213**	P		**Pn**	**11 51 47.9**	**-0.1**
TNTI				S		**Sg**	**11 52 10.9**	**+0.4**
SGSI	**Sangihe**	**3.12**	**301**	P		**Pn**	**11 52 08.7**	**-0.6**
SGSI				S		**Sn**	**11 52 48.2**	**+1.6**
KMSI	**Cibinong**	**4.50**	**250**	P		**Pn**	**11 52 30.0**	**+1.7**
KMSI				S		**Sn**	**11 53 24.1**	**+3.4**
SANI	**Sanana**	**4.68**	**208**	P		**Pn**	**11 52 31.3**	**+0.5**
LUWI	**Luwuk**	**6.28**	**240**	Pn		**Pn**	**11 52 51.8**	**-0.9**
MRSI	**Marisa**	**6.48**	**256**	P		**Pn**	**11 52 56.9**	**+1.4**
	83nm,0.6s,1μm0.3nm							
TOLI2	**Tolitoli**	**7.50**	**263**	Pn		**Pn**	**11 53 09.3**	**-0.2**
MPSI	**Mapaga**	**8.50**	**258**	P		**Pn**	**11 53 24.1**	**+0.8**
	30nm,0.6s							
TTSI	**Tana Toraja**	**9.83**	**239**	P		**Pn**	**11 53 42.0**	**+0.5**
	16nm,0.6s,2μm							
MYLDM	**Lahad Datu**	**10.17**	**288**	Pn		**Pn**	**11 53 45.9**	**-0.3**
BKSI	**Bulukumba**	**10.94**	**228**	P		**Pn**	**11 53 59.5**	**+2.7**
KAPI	**Kappang**	**11.02**	**230**	Pn		**Pn**	**11 53 57.5**	**-0.4**
	2.3nm,0.4s,baz=65,slow=20,SNR=1.2							
KAPI				Sn		**Sn**	**11 55 57.4**	**-3.9**
	1.0nm,0.3s,baz=45,slow=18,SNR=1.4							
KNRA	**Kununurra**	**17.67**	**178**	P		**Pn**	**11 55 25.6**	**-0.8**
KNRA				IAmb		IAmb	11 55 27.6	
	comp=Z,13nm,1.1s							
FITZ	**Fitzroy Crossi**	**20.23**	**187**	P		**P**	**11 55 54.3**	**-1.1**
WB0	**Warramunga Arr**	**22.56**	**165**	P		**P**	**11 56 20.9**	**+0.3**
WB0				IAmb		IAmb	11 56 34.2	
	comp=Z,14nm,1.1s							
WRAB	**Tennant Creek**	**22.70**	**165**	P		**P**	**11 56 22.6**	**+0.5**
WRAB				IAmb		IAmb	11 56 35.1	
	comp=Z,6.4nm,0.9s							
WRA	**Warramunga Arr**	**22.71**	**165**	P		**P**	**11 56 22.4**	**+0.3**
WRA	**Warramunga Arr**	**22.71**	**165**	P		**P**	**11 56 22.2**	**0.0**
	comp=Z,1.9nm,0.7s,baz=344,slow=11,SNR=24							
	comp=Z,1.9nm,0.7s							
WB2	**Warramunga Arr**	**22.71**	**165**	P		**P**	**11 56 22.5**	**+0.3**
WB2				IAmb		IAmb	11 56 60.0	
	comp=Z,11nm,0.9s							
WR0	**Warramunga Arr**	**22.78**	**164**	P		**P**	**11 56 23.0**	**+0.1**
WR0				IAmb		IAmb	11 56 42.7	
	comp=Z,4.3nm,0.8s							
MBWA	**Marble Bar**	**24.56**	**199**	P		**P**	**11 56 39.6**	**-0.7**
MBWA				IAmb		IAmb	11 56 45.4	
	comp=Z,19nm,1.4s							
AS31	**Alice Springs**	**26.20**	**168**	P		**P**	**11 56 55.6**	**+0.5**
ASAR	**Alice Springs**	**26.20**	**168**	P		**P**	**11 56 55.4**	**+0.3**
ASAR	**Alice Springs**	**26.20**	**168**	P		**P**	**11 56 54.9**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=347,slow=7.1,SNR=12							
	comp=Z,0.5nm,0.4s							
CMAR	**Chiang Mai Arr**	**32.98**	**301**	P		**P**	**11 57 55.5**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=129,slow=8.6,SNR=5.5							
	comp=Z,0.4nm,0.5s							
MORW	**Morawa**	**33.11**	**200**	P		**P**	**11 57 54.0**	**-2.4**
KSRS	**Korea Array**	**35.19**	**360**	P		P	11 58 11.3	-2.9
	comp=Z,1.0nm,0.5s,baz=174,slow=9.7,SNR=2.5							
	comp=Z,1.0nm,0.5s							
BBOO	**Buckleboo**	**35.50**	**169**	P		**P**	**11 58 18.8**	**+1.7**
BBOO				IAmb		IAmb	11 58 19.6	
	comp=Z,12nm,1.4s							
STKA	**Stephens Creek**	**36.09**	**160**	P		**P**	**11 58 22.5**	**+0.3**
STKA	**Stephens Creek**	**36.09**	**160**	P		**P**	**11 58 21.1**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=330,slow=10,SNR=5.1							
	comp=Z,0.9nm,0.4s							
H11S3	**WAKE ISLAND Hy**	**41.06**	**64**	T		T	12 42 19.9	
	baz=252							
H11S2	**WAKE ISLAND Hy**	**41.08**	**64**	T		T	12 42 18.9	
	baz=252							
H11S1	**WAKE ISLAND Hy**	**41.08**	**64**	T		T	12 42 19.5	
	baz=252							
H11N1	**WAKE ISLAND Hy**	**41.65**	**62**	T		T	12 43 06.0	
	baz=247,slow=75,SNR=12							
H11N2	**WAKE ISLAND Hy**	**41.66**	**62**	T		T	12 43 09.0	
	baz=247							
H11N3	**WAKE ISLAND Hy**	**41.67**	**62**	T		T	12 43 04.3	
	baz=247,slow=75,SNR=9.7							
USRK	**Ussuriysk Ar.**	**42.06**	**4**	P		**P**	**11 59 13.3**	**+1.4**
XLT	**XiLinHaoTe**	**43.00**	**347**	*e*P		P	11 59 14.6	-5.1
XLT				pP		pP	11 59 19.2	-3.6
XLT				sP		sP	11 59 21.8	-2.3
XLT				PP		**PP**	**12 01 01.1**	**+1.5**
XLT				pmax		pmax		
	comp=Z,390nm,4.8s							
XLT				pmax		pmax		
	comp=Z,8.0nm,0.8s							
RAMN	**Ramite**	**46.90**	**306**	*e*P		**P**	**11 59 51.4**	**+0.1**
	comp=Z,7.6nm,0.6s							
JIRN	**Jiri**	**47.53**	**306**	*e*P		**P**	**11 59 56.1**	**-0.2**
GUN	**Gumba**	**47.88**	**307**	*e*P		**P**	**11 59 58.6**	**-0.4**
	comp=Z,20nm,0.7s							
SONM	**Songino Array**	**49.31**	**341**	P		**P**	**12 00 09.3**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=150,slow=8.3,SNR=3.6							
	comp=Z,0.6nm,0.5s							
KOLN	**Koldanda**	**49.67**	**305**	*e*P		**P**	**12 00 12.6**	**0.0**
	comp=Z,18nm,0.7s							
DANN	**Dangsing**	**49.77**	**306**	*e*P		**P**	**12 00 13.2**	**-0.3**
	comp=Z,19nm,0.6s							
PYUN	**Piuthan**	**50.30**	**305**	*e*P		**P**	**12 00 17.6**	**+0.2**
	comp=Z,22nm,0.8s							
LBZ	**Lake Benmore**	**59.51**	**146**	P		**P**	**12 01 25.9**	**+2.3**
MK31	**Makanchi Array**	**59.74**	**325**	P		**P**	**12 01 24.0**	**-1.1**
MK31				IAmb		IAmb	12 01 36.4	
	comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**59.74**	**325**	P		**P**	**12 01 24.7**	**-0.4**
MKAR	**Makanchi Array**	**59.74**	**325**	P		**P**	**12 01 24.0**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=117,slow=8.3,SNR=17							
	comp=Z,1.9nm,0.6s							
MAKZ	**Makanchi**	**59.92**	**325**	P		**P**	**12 01 26.2**	**-0.2**
KURBB	**Kurchatov Arra**	**63.91**	**327**	P		**P**	**12 01 52.5**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=128,slow=6.2,SNR=15							
	comp=Z,2.0nm,0.6s							
KURK	**Kurchatov**	**63.91**	**327**	P		**P**	**12 01 52.7**	**-0.4**
KKAR	**Karatay Array**	**65.43**	**317**	P		**P**	**12 02 02.1**	**-1.1**
BVAR	**Borovoye Array**	**69.49**	**327**	P		**P**	**12 02 27.2**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=144,slow=10,SNR=5.3							
	comp=Z,0.8nm,0.6s							
ABKAR	**Akbulak array**	**74.35**	**321**	P		**P**	**12 02 56.8**	**-1.1**
VNDA	**Vanda**	**81.63**	**173**	P		**P**	**12 03 39.5**	**+1.6**
VNDA				IAmb		IAmb	12 03 42.9	
	comp=Z,8.0nm,1.4s							
ILAR	**Eielson Array**	**85.93**	**25**	P		**P**	**12 03 58.4**	**-1.8**
	comp=Z,0.2nm,0.6s,baz=247,slow=5.2,SNR=1.4							
	comp=Z,0.2nm,0.6s							

THE ***11*** *11:52:28.4,36°.36N×27°.65E,h7km±2km,ML2.5/4,Error ellipse: s-maj=2.0km s-min=0.6km az=28.0*
ISK ***11*** *11:52:28.1,36°.42N×27°.73E,h25km,ML2.5/4*
ISC 11 11:52:28.2±1.3,**36°.39N**±0°.03×**27°.70E**±0°.03,**h17**km±10km,**n21,σ0§64/32,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.35**	**344**	Pg		**Pb**	**11 52 35.9**	**-0.2**
DAT				Sg		**Sb**	**11 52 41.9**	**+0.5**
DAT	**Datca**	**0.35**	**344**	P		**Pg**	**11 52 35.7**	**0.0**
DAT				S		**Sb**	**11 52 41.6**	**+0.2**
ARG	**Arkhangelos**	**0.39**	**117**	Pg		**Pb**	**11 52 36.6**	**0.0**
ARG				Sg		**Sb**	**11 52 43.6**	**+1.3**
ARG	**Arkhangelos**	**0.39**	**117**	P		**Pb**	**11 52 36.7**	**+0.1**
ARG				S		**Sb**	**11 52 43.0**	**+0.7**
	2um,0.2s							
NISR	**Nisiros**	**0.51**	**296**	P		**Pb**	**11 52 38.7**	**0.0**
NISR				S		**Sb**	**11 52 45.7**	**-0.2**
	672nm,0.3s							
TURN	**Turunc**	**0.58**	**49**	Pg		**Pg**	**11 52 39.9**	**+0.1**
RFTB	**Kemer-Bodrum**	**0.67**	**329**	Pg		**Pb**	**11 52 41.8**	**+0.4**
RFTB				Sg		**Sb**	**11 52 51.8**	**+1.4**
BODT	**Bodrum**	**0.74**	**335**	Pg		**Pb**	**11 52 42.8**	**+0.1**
BODT				Sg		**Sn**	**11 52 53.9**	**-0.8**
BODT	**Bodrum**	**0.74**	**335**	P		**Pg**	**11 52 42.6**	**-0.1**
BODT				S		**Sn**	**11 52 54.7**	**-0.1**
DALY	**Dalyan (Mula)**	**0.88**	**61**	Pg		**Pb**	**11 52 44.5**	**-0.5**
YER	**Yerkesik**	**0.88**	**32**	Pg		**Pb**	**11 52 44.6**	**-0.4**
YER	**Yerkesik**	**0.88**	**32**	P		**Pg**	**11 52 45.5**	**+0.2**
YER				S		**Sn**	**11 52 59.7**	**+1.5**

MLSB	**Milas**	**0.90**	**4**	Pg		**Pb**	**11 52 45.4**	**-0.1**
KARP	**Karpathos**	**0.95**	**208**	Pg		**Pn**	**11 52 46.9**	**+0.1**
KARP	**Karpathos**	**0.95**	**208**	P		**Pb**	**11 52 46.0**	**-0.3**
KARP				S		**Sb**	**11 52 58.5**	**-0.1**
	555nm,0.3s							
FETY	**Fethiye**	**1.14**	**77**	Pn		**Pn**	**11 52 49.0**	**-0.4**
GCAM	**G?zelcaml?**	**1.36**	**344**	Pn		**Pn**	**11 52 51.9**	**-0.5**
CAME	**Cameli-Denizli**	**1.40**	**66**	Pn		**Pn**	**11 52 52.3**	**-0.8**
APMY	**Acipayam-Deniz**	**1.68**	**50**	Pn		**Pn**	**11 52 55.7**	**-1.2**
APE	**Apeiranthos**	**1.87**	**292**	Pn		**Pn**	**11 52 59.8**	**+0.3**
IDI	**Anoyia**	**2.54**	**245**	P		**Pn**	**11 53 08.5**	**-0.2**
IDI				S		**Sn**	**11 53 38.5**	**-0.7**
	15nm,0.6s							

HEL 11 11:58:15.9±0.1,**63°.93N×28°.19E,h0km,ML1.2, Suspected explosion,Finland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.57**	**197**	PG		Pg	11 58 26.2	-0.6
	baz=14							
NIF				SG		Sg	11 58 34.1	-0.1
RMF	**Romuvaara**	**0.82**	**69**	PG		Pg	11 58 30.6	-0.9
RMF				SG		Sg	11 58 41.1	-1.0
RMF				MSG			11 58 41.3	
	comp=Z,1.4nm,0.2s							
OUL	**Oulu**	**1.52**	**320**	PG		Pn	11 58 43.8	-0.6
OUL				SN		Sn	11 59 05.8	+0.9
OUF	**Merijarvi**	**1.58**	**288**	PG		Pn	11 58 43.7	-1.4
OUF				MSG			11 59 03.1	
	comp=Z,1.0nm,0.2s							
OUF				SG		Sn	11 59 04.6	-1.6
JOF	**Joensuu**	**1.73**	**125**	PG		Pn	11 58 46.9	-0.4
	baz=304							
JOF				SG		Sn	11 59 09.3	-0.8
OBF0	**Syolatti, Pyha**	**1.82**	**290**	MSG			11 59 10.1	
	comp=Z,1.9nm,0.2s							
OBF0				SG		Sn	11 59 11.8	-0.3
KAF	**Kangasniemi**	**2.02**	**206**	MSG			11 59 16.0	
	comp=Z,1.6nm,0.2s							
KAF				SG		Sb	11 59 18.9	-0.2
KU6	**Riekki**	**2.22**	**18**	MSG			11 59 21.7	
	comp=Z,0.5nm,0.2s							
KU6				SB		Sn	11 59 22.3	+0.2
KEF	**Keuruu**	**2.33**	**222**	MSG			11 59 24.8	
	comp=Z,1.2nm,0.2s							
KEF				SG		Sb	11 59 27.4	-0.7
OLKF	**Oulanka, Finla**	**2.45**	**11**	MSG			11 59 28.2	
	comp=Z,0.5nm,0.2s							
OLKF				SG		Sb	11 59 29.9	-1.6
VAF	**Ylistaro**	**2.63**	**253**	MSG			11 59 33.6	
	comp=Z,1.0nm,0.2s							
VAF				SG		Sb	11 59 35.6	-1.0
FIA0	**FINESS Array S**	**2.68**	**202**	PB		Pb	11 59 02.5	-2.2
	baz=16							
FIA0				MSG			11 59 34.9	
	comp=Z,0.6nm,0.2s							
FIA0				SG		Sb	11 59 37.3	-0.8
RNF	**Rovaniemi**	**2.84**	**342**	SB		Sb	11 59 40.3	-2.3
ARBE	**Arbavere**	**4.63**	**194**	PB		Pb	11 59 32.7	-5.2

IDC 11 12:33:21.7±56.0,**20°.56S×178°.57W,h0km,mb3.9/3, mbtmp3.9/3,Error ellipse: s-maj=1020.0km s-min=162.0km az=83.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.28**	**244**	P		P	12 40 34.7	-0.9
	0.6nm,0.4s,baz=90,slow=11,SNR=3.6							
	0.6nm,0.4s							
ASAR	**Alice Springs**	**43.99**	**257**	P		P	12 41 30.8	-0.4
	1.6nm,baz=92,slow=8.5,SNR=23							
	1.6nm,0.7s							
WRA	**Warramunga Arr**	**44.07**	**262**	P		P	12 41 32.5	+0.6
	0.7nm,0.3s,baz=95,slow=8.2,SNR=58							
	0.7nm,0.3s							

TEH ***11*** *12:42:46.7,35°.74N×48°.96E,h6km±40km,ML3.7*
AZER ***11*** *12:42:47.2±0.9,35°.70N×49°.27E,h17km±197km,Error ellipse: s-maj=387.6km s-min=21.5km az=335.0*
ISC 11 12:42:47.6±0.8,**35°.62N**±0°.03×**49°.04E**±0°.03,**h8km,n32, σ2§16/41,Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IRAZ	**Razeghan**	**0.76**	**106**	Pg		**Pn**	**12 43 04.9**	**+0.1**
HAGD	**Aghdareh**	**0.80**	**174**	Pg		**Pn**	**12 43 05.5**	**+0.1**
HAGD				Sg		**Sn**	**12 43 18.8**	**+1.1**
QSDN	**Sirdan**	**0.89**	**7**	Pg		**Pg**	**12 43 02.9**	**-1.8**
JIR1	**Jirandeh**	**1.25**	**30**	Pg		**Pn**	**12 43 10.4**	**-1.1**
IMHD	**Mahdasht**	**1.33**	**87**	Pg		**Pg**	**12 43 14.1**	**+1.0**
IMHD				Sg		**Sn**	**12 43 34.3**	**+3.8**
LHJ2	**Lahijan - Gila**	**1.75**	**28**	Pg		**Pb**	**12 43 19.3**	**-0.6**
IHSB	**Hasanabad**	**1.84**	**95**	Pn		**Pg**	**12 43 23.2**	**+0.4**
ILIN	**Lien**	**1.84**	**248**	Pn		**Pb**	**12 43 21.5**	**0.0**
IQOM	**Qom**	**1.84**	**114**	Pn		**Pg**	**12 43 22.9**	**0.0**
IKOM	**Komasi**	**1.91**	**221**	Pn		**Pg**	**12 43 24.0**	**-0.2**
CSN1	**Caspian**	**1.94**	**1**	Pn		**Pb**	**12 43 22.0**	**-1.1**
KCHF	**Cheshme Sefid,**	**2.12**	**231**	Pn		**Pg**	**12 43 26.9**	**-1.3**
IHSH	**Hashtrud**	**2.20**	**320**	Pn		**Pn**	**12 43 25.0**	**+0.2**
IVRN	**Varamin**	**2.29**	**105**	Pn		**Pb**	**12 43 29.5**	**+0.3**
IKFM	**Kafar-mosalman**	**2.31**	**205**	Pn		**Pb**	**12 43 28.9**	**-0.6**
IDMV	**Damavand**	**2.44**	**90**	Pn		**Pb**	**12 43 31.2**	**-0.8**
ISRB	**Sarab**	**2.46**	**334**	Pn		**Pn**	**12 43 28.5**	**+0.4**
IPRN	**Peran**	**2.75**	**76**	Pn		**Pb**	**12 43 35.2**	**-1.9**
GAS1	**Astara - Iran**	**2.76**	**357**	Pn		**Pn**	**12 43 32.6**	**+0.5**
ISFB	**Sefidab**	**2.92**	**115**	Pn		**Pb**	**12 43 38.5**	**-1.5**
ASTR	**Astara**	**2.94**	**356**	P		**Pn**	**12 43 35.6**	**+1.0**
	SNR=15							
ASTR				S		**Sn**	**12 44 12.9**	**+2.9**
IFIR	**Firoozkooh**	**3.03**	**89**	Pn		**Pb**	**12 43 40.0**	**-1.9**
KRSH	**Karshahi**	**3.04**	**122**	Pn		**Pb**	**12 43 40.7**	**-1.3**
LRK	**Lerik**	**3.06**	**350**	P		**Pn**	**12 43 38.3**	**+1.9**
	SNR=15							
LRK				S		**Sn**	**12 44 16.7**	**+3.3**
LKRN	**Lenkeran, Azer**	**3.09**	**356**	P		**Pn**	**12 43 38.1**	**+1.5**
LKRN				S		**Sn**	**12 44 16.8**	**+3.1**
IHRS	**Heris**	**3.13**	**330**	Pn		**Pn**	**12 43 36.9**	**-0.5**
GRMI	**Germi**	**3.31**	**344**	Pn		**Pn**	**12 43 39.9**	**+0.2**
YRD	**Yardimli**	**3.35**	**349**	P		**Pn**	**12 43 42.2**	**+1.9**
	SNR=18							
YRD				S		**Sb**	**12 44 25.7**	**-2.5**
GLBA	**Clilabad**	**3.65**	**352**	P		**Pn**	**12 43 45.8**	**+1.5**
GLBA				S		**Sb**	**12 44 32.7**	**-4.0**
ORD	**Ordubad**	**4.09**	**325**	P		**Pn**	**12 43 53.3**	**+2.8**
	SNR=6.5							
ORD				S		**Sn**	**12 44 43.0**	**+4.3**
NAX	**Nakhchivan**	**4.53**	**323**	P		**Pn**	**12 43 59.6**	**+3.1**
NAX				S		**Sb**	**12 44 57.1**	**-5.0**
AGDM	**Agdam**	**4.73**	**342**	P		**Pn**	**12 44 03.0**	**+3.8**

IDC ***11*** *13:02:34.6±1.7,39°.78N×20°.63E,h0km,mb3.5/4, mbtmp3.6/4,Error ellipse: s-maj=50.2km s-min=28.6km az=116.0*
TIR ***11*** *13:02:37.4,39°.71N×20°.44E,h0km±1km,Ml3.1*
THE ***11*** *13:02:38.1,39°.70N×20°.38E,h12km±1km,ML3.0/9,Error ellipse: s-maj=1.5km s-min=0.6km az=286.0*
BEO ***11*** *13:02:38.2±0.8,39°.49N×20°.46E,h18km±3km,ML2.8/4*
ATH ***11*** *13:02:38.6,39°.73N×20°.31E,h4km±1km,MLs.1/20,Error ellipse: s-maj=1.7km s-min=1.0km az=246.0*
ISC 11 13:02:38.5±0.8,**39°.68N**±0°.02×**20°.37E**±0°.02,**h16**km±5km, **n85,σ1§68/122,mb3.6/3,Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.15**	**192**	P		**Pg**	**13 02 42.0**	**-0.5**
	baz=207							
IGT				S		**Sg**	**13 02 46.3**	**+1.1**
	baz=207							
IGT				AMP				
	comp=N,133nm,0.4s,baz=207							
IGT	**Igoumenitsa**	**0.15**	**192**	P		**Pg**	**13 02 42.1**	**-0.5**
IGT				S		**Sg**	**13 02 45.5**	**+0.2**
	comp=N,29μm,0.4s							
IGT	**Igoumenitsa**	**0.15**	**192**	*e*Pg		**Pg**	**13 02 42.3**	**-0.3**
IGT				*e*Sg		**Sg**	**13 02 46.2**	**+0.9**
IGT	**Igoumenitsa**	**0.15**	**192**	P		**Pg**	**13 02 42.1**	**-0.5**
IGT				S		**Sg**	**13 02 45.8**	**+0.6**
IGT				AML	AML		13 02 47.2	
	comp=E,46757μm,0.5s							
IGT				AML	AML		13 02 47.6	
	comp=N,67620μm,0.4s							
KASA	**Kassiopi**	**0.34**	**281**	P		**Pg**	**13 02 45.6**	**0.0**
KASA				S		**Sg**	**13 02 49.1**	**-1.4**
KASA				AML	AML		13 02 54.0	
	comp=N,13668μm,0.2s							
KASA				AML	AML		13 02 54.5	
	comp=E,15245μm,0.3s							
SRN	**Sarande**	**0.35**	**304**	P		**Pg**	**13 02 45.4**	**-0.3**
	baz=298							
SRN				S		**Sb**	**13 02 52.1**	**+0.5**
	baz=298							
SRN				AMP				
	comp=E,9.8nm,0.4s,baz=298							
SRN	**Sarande**	**0.35**	**304**	P		**Pg**	**13 02 45.1**	**-0.6**
SRN				S		**Sg**	**13 02 50.4**	**-0.2**
	comp=E,2μm,0.5s							
JAN	**Janina**	**0.37**	**94**	P		**Pb**	**13 02 46.1**	**-0.6**
JAN				S		**Sb**	**13 02 51.0**	**-1.3**
	comp=E,7μm,0.3s							
JAN	**Janina**	**0.37**	**94**	P		**Pb**	**13 02 46.3**	**-0.4**
JAN				S		**Sb**	**13 02 51.9**	**-0.4**
JAN				AML	AML		13 02 54.3	
	comp=E,15321μm,0.3s							
JAN				AML	AML		13 02 54.9	
	comp=N,12213μm,0.4s							
KEK	**Kerkira**	**0.44**	**274**	P		**Pg**	**13 02 46.3**	**-1.1**
KEK				S		**Sg**	**13 02 52.9**	**-0.6**
	comp=N,4μm,0.3s							
KEK	**Kerkira**	**0.44**	**274**	P		**Pg**	**13 02 46.4**	**-1.1**
KEK				S		**Sg**	**13 02 51.8**	**-1.7**
KEK				AML	AML		13 02 57.9	
	comp=N,9122μm,0.4s							
KEK				AML	AML		13 02 58.4	
	comp=E,5794μm,0.2s							
LSK	**Leskovik**	**0.50**	**20**	P		**Pg**	**13 02 47.4**	**-1.1**
	baz=15							
LSK				S		**Sb**	**13 02 55.2**	**-0.8**
	baz=15							
LSK				AMP				
	comp=E,13nm,0.5s,baz=15							
LSK	**Leskovik**	**0.50**	**20**	P		**Pg**	**13 02 47.3**	**-1.2**
LSK				S		**Sg**	**13 02 54.5**	**-0.7**
	comp=E,4μm,0.5s							
PENT	**Pentalofos**	**0.78**	**49**	P		**Pg**	**13 02 52.3**	**-1.4**
PENT				S		**Sb**	**13 03 03.9**	**-0.2**
PENT	**Pentalofos**	**0.78**	**49**	P		**Pg**	**13 02 52.5**	**-1.2**
KPRO	**Kipourio**	**0.81**	**70**	P		**Pg**	**13 02 52.4**	**-1.9**
KPRO				S		**Sb**	**13 03 04.5**	**-0.5**
	comp=E,1μm,0.7s							
KPRO	**Kipourio**	**0.81**	**70**	P		**Pb**	**13 02 54.0**	**-0.2**
KPRO				S		**Sn**	**13 03 06.2**	**-0.8**
KPRO				AML	AML		13 03 06.9	
	comp=N,2766μm,0.7s							
KPRO				AML	AML		13 03 07.6	
	comp=E,2810μm,0.6s							
TSLK	**Tsoukalades, L**	**0.89**	**166**	P		**Pg**	**13 02 54.7**	**-1.0**
TSLK	**Tsoukalades, L**	**0.89**	**166**	P		**Pn**	**13 02 57.3**	**+1.0**
NEST	**Nestorio**	**0.90**	**35**	P		**Pg**	**13 02 54.7**	**-1.2**
NEST				S		**Sb**	**13 03 07.3**	**-0.2**
	comp=E,655nm,0.4s							
NEST	**Nestorio**	**0.90**	**35**	P		**Pg**	**13 02 54.8**	**-1.2**
LKD2	**Lefkada island**	**0.92**	**166**	P		**Pg**	**13 02 55.3**	**-1.1**
	baz=169							
LKD2				S		**Sn**	**13 03 10.9**	**+1.2**
	baz=169							
LKD2				AMP				
	comp=E,2.6nm,0.4s,baz=169							
LKD2	**Lefkada island**	**0.92**	**166**	P		**Pg**	**13 02 55.2**	**-1.1**
LKD2				S		**Sb**	**13 03 09.7**	**+1.6**
	comp=E,752nm,0.3s							
LKD2	**Lefkada island**	**0.92**	**166**	P		**Pg**	**13 02 55.3**	**-1.1**
LKD2				S		**Sb**	**13 03 10.6**	**+2.5**
LKD2				AML	AML		13 03 19.9	
	comp=E,1686μm,0.4s							
LKD2				AML	AML		13 03 20.1	
	comp=N,1218μm,0.3s							
KBN	**Korca**	**0.99**	**19**	P		**Pg**	**13 02 56.8**	**-0.9**
	baz=16							
KBN				S		**Sb**	**13 03 11.4**	**+1.2**
	baz=16							
KBN				AMP				
	comp=E,2.6nm,0.6s,baz=16							
KBN	**Korca**	**0.99**	**19**	P		**Pg**	**13 02 56.5**	**-1.2**
KBN				S		**Sb**	**13 03 11.4**	**+1.2**
	comp=E,780nm,0.8s							
NYDR	**Nydri-Lefkada**	**1.00**	**165**	P		**Pg**	**13 02 56.5**	**-1.4**
NYDR	**Nydri-Lefkada**	**1.00**	**165**	P		**Pg**	**13 02 57.8**	**0.0**
NYDR				S		**Sn**	**13 03 13.5**	**+1.9**
DRAG	**Dragano-Lefkad**	**1.01**	**171**	P		**Pg**	**13 02 58.0**	**0.0**
VLO	**Vlora**	**1.03**	**320**	S		**Sn**	**13 03 15.3**	**+2.9**
	baz=317							
VLO				AMP				
	comp=E,7.7nm,0.3s,baz=317							
EVGI	**Lefkada island**	**1.08**	**168**	P		**Pn**	**13 03 00.0**	**+1.0**
**FS

comp=N,602μm,0.4s
RLS Riolos of Patr 1.83 152 P **Pn** **13 03 10.7 +1.3**
TRIZ Trizonia 1.87 134 P **Pb** **13 03 12.6 +0.4**
LAKA Lakka 1.91 139 P **Pb** **13 03 12.4 -0.5**
LAKA AML AML 13 03 52.2
comp=N,984μm,0.6s
LAKA AML AML 13 03 54.2
comp=E,802μm,0.8s
AXAR Agios Charalam 2.00 117 P **Pb** **13 03 13.9 -0.5**
AXAR AML AML 13 03 47.1
comp=E,1272μm,0.4s
AXAR AML AML 13 03 49.2
comp=N,911μm,0.8s
GRG Griva 2.01 50 P **Pb** **13 03 13.6 -1.0**
KLV Kalavryta, Ach 2.15 139 P **Pb** **13 03 16.3 -0.7**
KLV AML AML 13 03 59.5
comp=N,261μm,0.9s
KLV AML AML 13 04 05.9
comp=E,186μm,1.4s
NEO Neokhori 2.24 99 P **Pb** **13 03 17.3 -1.2**
NEO AML AML 13 03 55.2
comp=N,410μm,0.6s
NEO AML AML 13 03 57.4
comp=E,309μm,0.4s
HORT Hortiatis 2.28 66 P **Pn** **13 03 17.2 +1.6**
GUR Goura 2.33 138 P **Pn** **13 03 18.7 +2.5**
GUR AML AML 13 03 56.1
comp=E,324μm,0.5s
GUR AML AML 13 04 05.4
comp=N,344μm,0.4s
SKO Skopje 2.42 19 *e*Pn **Pn** **13 03 19.8 +2.3**
SKO Skopje 2.42 19 *i* Pn **Pn** **13 03 19.8 +2.3**
KNT Kendrikon 2.43 52 P **Pn** **13 03 18.7 +1.2**
SOH Sokhos 2.55 63 P **Pn** **13 03 21.0 +1.7**
PEHC Pehcevo 2.84 42 *i* Pn **Pn** **13 03 24.9 +1.6**
OUR Ouranopolis 2.85 76 P **Pn** **13 03 25.4 +2.2**
OUR S **Sn** **13 03 58.6 +1.5**
OUR AML AML 13 04 00.8
comp=N,234μm,0.6s
OUR AML AML 13 04 02.5
comp=E,273μm,0.8s
PYL PYLOS 2.98 158 P **Pn** **13 03 26.2 +1.1**
KOKK Kokkinochori, 3.00 67 P **Pn** **13 03 26.9 +1.5**
PRVS Prvonek 3.10 24 *e*Pn **Pn** **13 03 29.2 +2.4**
NVR Nevrokopi 3.14 57 P **Pn** **13 03 29.5 +2.2**
KRND KRANIDI 3.17 136 P **Pn** **13 03 28.8 +1.2**
KRND S **Sn** **13 04 07.8 +2.8**
DION Dionisos Attik 3.21 119 P **Pn** **13 03 31.1 +2.8**
DION S **Sn** **13 04 09.0 +2.9**
VLY Voula,Athens 3.24 123 P **Pn** **13 03 30.3 +1.6**
BARS Barje 3.31 19 *e*Pn **Pn** **13 03 31.4 +1.7**
SELS Selova 3.58 9 *e*Pn **Pn** **13 03 33.9 +0.6**
ZAPS Zavoj 3.97 25 *e*Pn **Pn** **13 03 41.9 +3.2**
GRUS Gruza 4.21 3 *e*Pn **Pn** **13 03 42.8 +0.8**
ZAGS Zajecar 4.35 18 *e*Pn **Pn** **13 03 45.7 +1.7**
DIVS Divibare 4.42 356 *e*Pn **Pn** **13 03 46.2 +1.2**
TRUS Trudelj 4.54 0 *e*Pn **Pn** **13 03 47.5 +1.0**
HFS Hagfors 20.90 351 P **P** **13 07 17.7 -2.1**
comp=E,1.7nm,0.8s,baz=156,slow=11,SNR=4.4
comp=E,1.7nm,0.8s
FINES FINESS Array B 22.07 7 P **P** **13 07 29.4 -3.0**
comp=E,2.0nm,0.7s,baz=172,slow=11,SNR=4.0
comp=E,2.0nm,0.7s
TORD Torodi Ar. Bea 31.14 217 P **P** **13 08 56.9 +0.3**
comp=E,0.3nm,0.6s,baz=27,slow=9.7,SNR=2.4
comp=E,0.3nm,0.6s
MKAR Makanchi Array 44.63 60 P **P** **13 10 46.9 -3.2**
comp=E,0.6nm,0.6s,baz=279,slow=7.7,SNR=7.0
comp=E,0.6nm,0.6s

IDC 11 13:32:48.0±10.0, 3°.09N×128°.30E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=318.7km s-min=170.4km az=82.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.65**	**166**	P	P	13 38 02.0	+0.9
	0.2nm,0.6s,baz=342,slow=10,SNR=1.8						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**27.15**	**169**	P	P	13 38 32.3	-0.9
	0.2nm,0.7s,baz=358,slow=7.4,SNR=6.2						
	0.2nm,0.7s						
STKA	**Stephens Creek**	**37.00**	**161**	P	P	13 39 59.6	+0.2
	1.0nm,0.5s,baz=328,slow=12,SNR=5.6						
	1.0nm,0.5s						

*JMA **11** 13:42:38.6±0.1, 24°.1N×122°.4E±0'.4, h62km±1km, MV1.8/11, NW OFF ISHIGAKIJIMA IS*
*TAP **11** 13:42:38.2, 24°.54N×122°.42E, h66km, ML2.6, D*
ISC 11 13:42:38.8±1.4, 24°.54N±0'.05×122°.45E±0'.03, h63km±8km, n60, σ0.9 55/78, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.23**	**239**	P	**Pn**	**13 42 48.6**	**+0.1**
	baz=235						
EOS2				S	**Sn**	**13 42 56.5**	**+0.9**
	baz=235						
EOS3	**EOS3**	**0.28**	**206**	P	**Pn**	**13 42 49.1**	**+0.2**
	baz=200						
EOS3				*e*S	**Sn**	**13 42 57.1**	**+0.9**
	baz=200						
EOS4	**EOS4**	**0.43**	**196**	*e*P	**Pn**	**13 42 50.1**	**+0.2**
	baz=192						
JYNG	**Yonagunijimaku**	**0.46**	**101**	P	**Pn**	**13 42 50.3**	**-0.2**
JYNG				S	**Sn**	**13 42 58.5**	**-0.6**
YOJ	**Yonaguni jima**	**0.52**	**99**	P	**Pn**	**13 42 50.9**	**-0.2**
TWC	**Suao**	**0.55**	**277**	*i* P	**Pn**	**13 42 50.9**	**-0.6**
	baz=277						
EWUT	**Wuta**	**0.62**	**261**	*e*P	**Pn**	**13 42 52.0**	**-0.2**
	baz=261						
ENA	**Nanau**	**0.66**	**260**	*e*P	**Pn**	**13 42 52.5**	**-0.2**
	baz=259						
ENA				*e*S	**Sn**	**13 43 03.1**	**+0.3**
	baz=259						
NDS	**Dongshan**	**0.68**	**278**	*e*P	**Pn**	**13 42 52.7**	**-0.2**
	baz=278						
TIPB	**Shuangxi**	**0.71**	**307**	*e*P	**Pn**	**13 42 53.5**	**+0.2**
	baz=308						
TIPB				*e*S	**Sn**	**13 43 03.1**	**-0.9**
	baz=308						
TWE	**Neicheng**	**0.73**	**284**	*i* P	**Pn**	**13 42 53.3**	**-0.3**
	baz=285						
TWE				*i* S	**Sn**	**13 43 04.0**	**-0.5**
	baz=285						
SXI1	**Grass Mountain**	**0.76**	**317**	P	**Pn**	**13 42 53.8**	**-0.2**
	baz=318						
SXI1				*e*S	**Sn**	**13 43 05.5**	**+0.3**
	baz=318						
ENTT	**Nioudou**	**0.81**	**277**	*e*P	**Pn**	**13 42 54.6**	**+0.1**
	baz=277						
FUSB	**Fushanzhiwuyua**	**0.81**	**286**	*i* P	**Pn**	**13 42 54.5**	**-0.1**
	baz=286						
FUSB				S	**Sn**	**13 43 06.3**	**0.0**
	baz=286						
LATG	**Datong**	**0.84**	**270**	P	**Pn**	**13 42 55.1**	**+0.1**
	baz=269						
LATG				*e*S	**Sn**	**13 43 07.4**	**+0.4**
	baz=269						
NDT	**Datong Townshi**	**0.86**	**274**	P	**Pn**	**13 42 55.4**	**+0.3**
	baz=274						
NDT				S	**Sn**	**13 43 07.3**	**+0.2**
	baz=274						
NACB	**Ninganchiao**	**0.86**	**245**	P	**Pn**	**13 42 54.5**	**-0.7**
NACB	**Ninganchiao**	**0.86**	**245**	P	**Pn**	**13 42 54.4**	**-0.8**
	baz=244						
NACB				*e*S	**Sn**	**13 43 06.5**	**-0.8**
	baz=244						
NWLT	**Wulai**	**0.89**	**285**	*e*P	**Pn**	**13 42 55.7**	**+0.1**
	baz=285						
NWLT				*e*S	**Sn**	**13 43 07.6**	**-0.4**
	baz=285						
TWA	**Mucha**	**0.90**	**299**	*e*P	**Pn**	**13 42 55.6**	**-0.1**
	baz=300						
TWA				*e*S	**Sn**	**13 43 08.1**	**-0.1**
	baz=300						
ETLH	**Xiulin Townshi**	**0.94**	**250**	*e*P	**Pn**	**13 42 55.7**	**-0.6**
	baz=248						
NNSB	**Datong**	**0.98**	**264**	*e*P	**Pn**	**13 42 56.6**	**-0.2**
	baz=263						
YHNB	**Yeheng**	**0.99**	**278**	P	**Pn**	**13 42 57.6**	**+0.8**
NNS	**Nan Shan**	**0.99**	**264**	*e*P	**Pn**	**13 42 56.6**	**-0.3**
	baz=263						
NSK	**Sanguang**	**1.00**	**278**	*e*P	**Pn**	**13 42 57.4**	**+0.3**
	baz=278						
NSK				*e*S	**Sn**	**13 43 10.7**	**+0.1**
	baz=278						
ETM	**Tongmen**	**1.04**	**237**	*e*P	**Pn**	**13 42 56.4**	**-1.1**
	baz=236						
LXIB	**Xiulin Townshi**	**1.08**	**242**	*e*P	**Pn**	**13 42 57.4**	**-0.7**
	baz=240						
WHF	**Hehuan Shan**	**1.15**	**250**	*e*P	**Pn**	**13 42 58.7**	**-0.6**
	baz=249						
ESL	**Shilin**	**1.18**	**232**	*e*P	**Pn**	**13 42 58.5**	**-0.7**
	baz=231						
NFF	**Wufeng Townshi**	**1.22**	**275**	*e*P	**Pn**	**13 42 60.0**	**+0.1**
	baz=274						
NFF				*e*S	**Sn**	**13 43 15.6**	**+0.1**
	baz=274						
CHGB	**Renai**	**1.26**	**248**	*e*P	**Pn**	**13 43 00.4**	**-0.1**
	baz=247						
CHGB				*e*S	**Sn**	**13 43 16.2**	**-0.6**
	baz=247						
WARBT	**Fenglin Townsh**	**1.27**	**230**	*e*P	**Pn**	**13 42 59.4**	**-1.1**
	baz=229						
EGFH	**Guangfu**	**1.28**	**227**	*e*P	**Pn**	**13 43 00.1**	**-0.4**
	baz=226						
OWD	**Renai**	**1.30**	**244**	*e*P	**Pn**	**13 43 00.7**	**-0.3**
	baz=242						
LIOB	**Emei**	**1.31**	**275**	*e*P	**Pn**	**13 43 01.6**	**+0.6**
	baz=274						
NSTT	**Nanjuang**	**1.32**	**274**	*e*P	**Pn**	**13 43 01.3**	**+0.2**
	baz=274						
HGSD	**Ruisui**	**1.40**	**222**	*e*P	**Pn**	**13 43 01.8**	**-0.5**
	baz=221						
JKRS	**Kuro-shima**	**1.45**	**102**	P	**Pn**	**13 43 03.0**	**+0.1**
JKRS				S	**Sn**	**13 43 21.6**	**+0.5**
EHY	**Hungye**	**1.46**	**225**	*e*P	**Pn**	**13 43 02.8**	**-0.2**
	baz=224						
JIJ	**Ishigaki jima**	**1.55**	**96**	P	**Pn**	**13 43 04.2**	**-0.1**
JIJ				S	**Sn**	**13 43 22.8**	**-0.6**
YULB	**Yu-li**	**1.56**	**223**	P	**Pn**	**13 43 06.2**	**+1.9**
SSLB	**Suanglung**	**1.56**	**242**	P	**Pn**	**13 43 05.9**	**+1.5**
SSLB	**Suanglung**	**1.56**	**242**	*e*P	**Pn**	**13 43 04.4**	**0.0**
	baz=240						
SMLT	**Sun Moon Lake**	**1.56**	**245**	*e*P	**Pn**	**13 43 04.6**	**+0.1**
	baz=244						
TWF1	**Yuli**	**1.58**	**222**	*e*P	**Pn**	**13 43 04.4**	**-0.3**
	baz=220						
TYC	**Yuchr**	**1.59**	**247**	*e*P	**Pn**	**13 43 05.4**	**+0.7**
	baz=246						
JISG	**Ishigakijimahi**	**1.69**	**88**	P	**Pn**	**13 43 06.2**	**+0.1**
FULB	**Fuli**	**1.71**	**219**	*e*P	**Pn**	**13 43 06.5**	**+0.2**
	baz=217						
WJS	**Zhushan**	**1.73**	**246**	*e*P	**Pn**	**13 43 07.0**	**+0.4**
	baz=245						
EHD	**Haiduan**	**1.79**	**220**	*e*P	**Pn**	**13 43 07.2**	**-0.3**
	baz=218						
ALS	**Alishan**	**1.82**	**236**	*e*P	**Pn**	**13 43 08.2**	**+0.1**
	baz=235						
CHN5	**Tsauling**	**1.87**	**240**	*e*P	**Pn**	**13 43 08.9**	**+0.3**
	baz=239						
ELDTW	**Lidau**	**1.88**	**225**	*e*P	**Pn**	**13 43 07.8**	**-1.0**
	baz=223						
WCKO	**Fanlu**	**2.01**	**237**	*e*P	**Pn**	**13 43 11.0**	**+0.5**
	baz=236						
STYH	**Taoyuan**	**2.05**	**229**	*e*P	**Pn**	**13 43 11.2**	**+0.2**
	baz=227						
TPUB	**Ta-pu**	**2.07**	**234**	*e*P	**Pn**	**13 43 11.9**	**+0.6**
	baz=233						
TWGBT	**Beinan**	**2.13**	**216**	P	**Pn**	**13 43 12.7**	**+0.7**
TWK	**Hsinying**	**2.20**	**235**	*e*P	**Pn**	**13 43 13.2**	**+0.2**
	baz=234						
CHN1	**Nanshi**	**2.22**	**233**	*e*P	**Pn**	**13 43 13.7**	**+0.4**
	baz=232						
SLGT	**Liugui**	**2.26**	**227**	*e*P	**Pn**	**13 43 13.8**	**0.0**
	baz=226						

NOU 11 13:55:55.8, 21°.97S×171°.22E, h32km, MLv3.5/6, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**3.00**	**279**	P	Pn	13 56 41.2	0.0
PINNC	**Pines Island,**	**3.55**	**259**	P	Pn	13 56 48.7	0.0
OUENC	**Ouen Island, N**	**4.08**	**263**	P	Pn	13 56 56.1	+0.1
ONTNC	**Ouen Toro**	**4.43**	**265**	P	Pn	13 57 01.0	+0.2
DZM	**Mont Dzumac**	**4.43**	**268**	P	Pn	13 57 01.0	+0.1
NOUC	**Port Laguerre**	**4.56**	**267**	P	Pn	13 57 02.6	0.0

*NAO **11** 14:09:29.6, 32°.13N×47°.67E, h33km, mb5.3*
*PDG **11** 14:09:43.7, 34°.40N×45°.82E, h10km, mb5.4/2*
*MOS **11** 14:09:55.6±1.2, 35°.00N×45°.75E, h18km, mb5.8/63, MS5.1/48, Error ellipse: s-maj=4.0km s-min=2.5km az=118.3*
*ISN **11** 14:09:56.5±1.3, 35°.13N×45°.83E, h18km±913km, ML5.7*
*AZER **11** 14:09:58.0±0.3, 35°.05N×45°.90E, h10km, Error ellipse: s-maj=3.9km s-min=3.4km az=122.0*
*NEIC **11** 14:09:57.4±1.3, 35°.08N±0'.05×45°.76E±0'.07, h18km±2km, mb5.7/462, Ms_20 5.2/114, Mwb5.4/36, Mww5.4/19, Error ellipse: s-maj=8.9km s-min=6.1km az=56.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.14; Mθθ1.05; Mφφ-1.19; Mrθ0.76; Mrφ0.26; Mθφ-0.27; Fault plane solution: M₀1.40000×10¹⁷ NP1:φs34.91000°, δ57.62000°, λ169.70000°. NP2:φs130.47000°, δ81.31000°, λ32.80000°. Principal axes: T 1.4807, Plg29.0000°, Azm358.0000°; N -0.1676, Plg56.0000°, Azm144.0000°; P -1.3131, Plg16.0000°, Azm259.0000°;*
*TEH **11** 14:09:57.0, 35°.08N×45°.84E, h8km±55km, ML5.4*
*DSN **11** 14:09:57.7±0.5, 34°.85N×45°.84E, h15km, mb6.2/6, Error ellipse: s-maj=11.2km s-min=5.5km az=54.0*
*NEIC **11** 14:09:57.3, 35°.07N×45°.75E, h20km*
*NEIC **11** 14:09:57.3, 35°.07N×45°.75E, h17km*
*NEIC **11** 14:09:57.3, 35°.17N×45°.75E, h20km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10¹⁷Nm; Mrr0.32; Mθθ1.17; Mφφ-1.48; Mrθ0.77; Mrφ0.21; Mθφ-0.23; Fault plane solution: M₀1.59000×10¹⁷ NP1: φs134.06000°, δ76.23000°, λ29.41000°. NP2:φs36.42000°, δ61.51000°, λ164.29000°. Principal axes: T 1.6224, Plg30.0000°, Azm359.0000°; N -0.0718, Plg58.0000°, Azm157.0000°; P -1.5506, Plg10.0000°, Azm263.0000°;*
*GCMT **11** 14:09:58.4±0.1, 35°.01N±0'.01×45°.71E±0'.01, h23km, MW5.5/133, Moment Tensor Solution. s114,c178; s133,c263; Duration: 1s4 Moment tensor: Scale 10¹⁷ Nm; Mrr0.44±.03; Mθθ1.55±.03; Mφφ-1.99±.03; Mrθ1.14±.06; Mrφ0.41±.02; Mθφ-0.03±.04; Best double couple: M₀2.17000×10¹⁷ NP1:φs133.00000°, δ71.00000°, λ26.00000°. NP2:φs34.00000°, δ65.00000°, λ159.00000°. Principal axes: T 2.2900, Plg32.0000°, Azm355.0000°; N -0.2370, Plg58.0000°, Azm165.0000°; P -2.0490, Plg4.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*THR **11** 14:09:58.5±2.1, 35°.06N×45°.79E, h27km±16km, ML5.3*
*IDC **11** 14:09:59.5±1.4, 35°.13N×45°.79E, h32km±10km, mb5.3/40, mbtmp5.4/49, ML5.1/8, MS4.9/75, Error ellipse: s-maj=8.7km s-min=8.0km az=177.0*
*GII **11** 14:10:01.0±0.4, 35°.05N×45°.72E, h46km*
ISC 11 14:09:57.5±0.3, 35°.02N±0'.02×45°.82E±0'.02, h19km±1km, h19km:pP-P, n1977, σ1994/2004, mb5.7/456, MS5.1/177, 109C-51D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSBB	**Baniby**	**0.10**	**282**	Pg	**Pg**	**14 10 00.6**	**-0.8**
KGS1	**Ghasr-e-Shirin**	**0.55**	**201**	Pg	**Pb**	**14 10 08.5**	**+0.1**
IDHR	**Dehrash**	**0.56**	**125**	Pg	**Pb**	**14 10 08.8**	**0.0**
SLY	**Sulaymaniyah**	**0.63**	**336**	Pg	**Pb**	**14 10 08.7**	**-1.2**
IGHG	**Ghaleghazi**	**0.93**	**138**	Pg	**Pb**	**14 10 14.9**	**-0.2**
ILIN	**Lien**	**0.94**	**96**	Pg	**Pb**	**14 10 15.4**	**+0.1**
SDS1	**Sardasht. Az.**	**1.16**	**346**	Pg	**Pn**	**14 10 17.6**	**-1.2**
KCHF	**Cheshme Sefid,**	**1.25**	**126**	Pg	**Pb**	**14 10 20.8**	**+0.2**
SNGE	**Sanandaj**	**1.25**	**86**	*i* Pg	**Pb**	**14 10 21.0**	**+0.4**
SNGE				*e*Sg	**Sg**	**14 10 39.9**	**+1.6**
SNGE				IAML		14 10 46.6	
	comp=E,38μm,0.5s						
SNGE				IAML		14 10 50.8	
	comp=N,51μm,0.6s						
IKRK	**Kirkuk**	**1.27**	**288**	*e*Pg	**Pn**	**14 10 20.0**	**-0.2**
IKRK				*e*Sg	**Sb**	**14 10 35.0**	**-1.8**
IKRK				AML	AML	14 10 42.9	
	comp=N,198μm,0.8s						
IKRK				AML	AML	14 10 43.0	
	comp=E,125μm,0.6s						
ILBA	**Ilam Banvizeh**	**1.43**	**167**	*e*Pg	**Pb**	**14 10 24.2**	**+0.7**
ILBA				*e*Sg	**Sg**	**14 10 45.8**	**+2.0**
ILBA				IAML		14 10 48.9	
	comp=N,54μm,0.3s						
IKOM	**Komasi**	**1.63**	**121**	Pg	**Pb**	**14 10 27.9**	**+0.9**
MAHB	**Mahabad**	**1.74**	**357**	Pg	**Pn**	**14 10 27.5**	**+0.7**
IBDR	**Badra**	**1.91**	**177**	*e*Pn	**Pb**	**14 10 31.0**	**-0.7**
IBDR				*e*Sn	**Sb**	**14 10 57.0**	**+1.9**
NGD1	**Naghade .Az. G**	**1.95**	**350**	Pn	**Pb**	**14 10 31.9**	**-0.6**
BHD	**Baghdad**	**2.12**	**215**	*e*Pn	**Pb**	**14 10 34.0**	**-1.2**
BHD				*e*Sn	**Sb**	**14 11 02.0**	**+0.9**
IKFM	**Kafar-mosalman**	**2.25**	**131**	Pn	**Pb**	**14 10 36.8**	**-0.6**
IHSH	**Hashtrud**	**2.56**	**27**	Pn	**Pb**	**14 10 41.2**	**-1.8**
IAZR	**Azarshahr**	**2.65**	**3**	Pn	**Pb**	**14 10 42.0**	**-2.6**
HAGD	**Aghdareh**	**2.73**	**93**	Pn	**Pb**	**14 10 44.1**	**-1.8**
ZNJK	**Zanjan**	**2.85**	**54**	*e*Pn	**Pb**	**14 10 45.6**	**-2.3**
ZNJK				IAML		14 11 34.2	
	comp=N,6μm,0.7s						
ZNJK				IAML		14 11 36.7	
	comp=E,4μm,0.7s						
CUKT	**Cukurca**	**2.85**	**322**	P	**Pn**	**14 10 41.7**	**-0.4**
QSDN	**Sirdan**	**3.10**	**61**	Pn	**Pn**	**14 10 48.4**	**+2.8**
ISRB	**Sarab**	**3.17**	**27**	Pn	**Pn**	**14 10 49.3**	**+2.8**
ITBZ	**Tabriz**	**3.22**	**5**	Pn	**Pn**	**14 10 48.1**	**+1.0**
ISHB	**Shabestar**	**3.26**	**357**	Pn	**Pn**	**14 10 48.7**	**+0.9**
RAFI	**Al-Rafai**	**3.30**	**176**	*e*Pn	**Pn**	**14 10 51.0**	**+2.9**
RAFI				*e*Sn	**Sn**	**14 11 30.0**	**+3.3**
IRAZ	**Razeghan**	**3.38**	**82**	Pn	**Pn**	**14 10 52.4**	**+2.9**
IHRS	**Heris**	**3.43**	**16**	Pn	**Pn**	**14 10 52.3**	**+2.1**
ASAO	**Ashtian**	**3.49**	**97**	*e*Pn	**Pb**	**14 10 55.2**	**-3.6**
ASAO				IAML		14 12 04.6	
	comp=E,3μm,0.7s						
ASAO				IAML		14 12 05.3	
	comp=N,4μm,0.8s						
JIR1	**Jirandeh**	**3.64**	**61**	Pn	**Pn**	**14 10 55.9**	**+2.9**
KHMZ	**Khomeyn**	**3.65**	**109**	*e*Pn	**Pn**	**14 10 55.7**	**+2.5**
KHMZ				IAML		14 12 04.9	
	comp=N,3μm,0.7s						
KHMZ				IAML		14 12 09.5	
	comp=E,4μm,0.6s						
CSN1	**Caspian**	**3.66**	**45**	Pn	**Pn**	**14 10 55.9**	**+2.9**
IMRD	**Marand**	**3.69**	**359**	Pn	**Pn**	**14 10 55.6**	**+2.0**
GIDE	**GILAN DEYLAMAN**	**3.82**	**59**	*e*Pn	**Pn**	**14 10 58.6**	**+3.1**
GIDE				IAML		14 12 08.4	
	comp=N,8μm,0.8s						
GIDE				IAML		14 12 19.9	
	comp=E,9μm,0.8s						
ORD	**Ordubad**	**3.90**	**2**	P	**Pn**	**14 10 57.3**	**+0.9**
	SNR=756						
ORD				S	**Sn**	**14 11 44.8**	**+3.0**
AKDM	**Akdamar-Van**	**4.01**	**326**	P	**Pn**	**14 10 58.2**	**+0.1**
IMHD	**Mahdasht**	**4.01**	**79**	Pn	**Pn**	**14 11 00.4**	**+2.4**
LHJ2	**Lahijan - Gila**	**4.04**	**57**	Pn	**Pn**	**14 11 00.9**	**+2.6**
VANB	**Van**	**4.07**	**332**	P	**Pn**	**14 10 58.6**	**-0.1**
GRMI	**Germi**	**4.13**	**23**	*e*Pn	**Pn**	**14 11 02.6**	**+3.0**
GRMI				IAML		14 12 12.3	
	comp=E,3μm,0.8s						
GRMI				IAML		14 12 22.2	
	comp=N,1μm,0.6s						
LRK	**Lerik**	**4.14**	**28**	P	**Pn**	**14 11 00.2**	**+0.3**
	SNR=557						
LRK				S	**Sn**	**14 11 49.0**	**+1.3**
GAS1	**Astara - Iran**	**4.14**	**35**	Pn	**Pn**	**14 11 02.0**	**+2.4**
NAX	**Nakhchivan**	**4.15**	**356**	P	**Pn**	**14 11 01.0**	**+1.1**
	SNR=682						
NAX				S	**Sn**	**14 11 50.8**	**+2.8**
THKV	**Tehran--Karaj**	**4.22**	**76**	*e*Pn	**Pn**	**14 11 03.1**	**+2.2**
THKV				IAML		14 12 23.1	
	comp=E,2μm,0.6s						
THKV				IAML		14 12 32.1	
	comp=N,3μm,0.7s						
ASTR	**Astara**	**4.26**	**33**	P	**Pn**	**14 11 02.0**	**+0.7**
	SNR=944						
ASTR				S	**Sn**	**14 11 53.3**	**+2.9**
IQOM	**Qom**	**4.32**	**91**	Pn	**Pn**	**14 11 04.8**	**+2.5**
YRD	**Yardimli**	**4.34**	**26**	P	**Pn**	**14 11 03.2**	**+0.5**
	SNR=938						
YRD				S	**Sn**	**14 11 55.2**	**+2.5**
SBZ	**Shahbuz**	**4.37**	**357**	P	**Pn**	**14 11 03.9**	**+0.9**
	SNR=334						
SBZ				S	**Sn**	**14 11 56.5**	**+3.1**
AHWZ	**Ahwaz**	**4.38**	**146**	Pn	**Pn**	**14 11 05.9**	**+3.1**
LKRN	**Lenkeran, Azer**	**4.38**	**32**	P	**Pn**	**14 11 03.7**	**+0.8**
	SNR=387						
LKRN				S	**Sn**	**14 11 55.6**	**+2.3**
CLDR	**Caldiran**	**4.39**	**340**	P	**Pn**	**14 11 04.9**	**+1.6**
CHTH	**Charan**	**4.42**	**77**	*e*Pn	**Pn**	**14 11 05.9**	**+2.2**
MAKU	**Maku**	**4.42**	**348**	*e*Pn	**Pn**	**14 11 05.9**	**+2.3**
AMIS	**Naft Sefid**	**4.43**	**138**	Pn	**Pn**	**14 11 06.3**	**+2.6**
IHSB	**Hasanabad**	**4.48**	**83**	Pn	**Pn**	**14 11 06.6**	**+2.1**
GHVR	**GHOM**	**4.54**	**95**	*e*Pn	**Pn**	**14 11 07.7**	**+2.5**
GHVR				IAML		14 12 27.3	
	comp=N,3μm,0.7s						
GHVR				IAML		14 12 30.2	
	comp=E,5μm,0.8s						
QRD	**Qoradiz**	**4.59**	**15**	P	**Pn**	**14 11 06.9**	**+1.1**
	SNR=72						
QRD				S	**Sn**	**14 12 00.7**	**+2.1**
TEH	**Tehran**	**4.60**	**79**	Pn	**Pn**	**14 11 08.6**	**+2.5**
TEHA	**Amirabad Tehra**	**4.60**	**79**	Pn	**Pn**	**14 11 08.5**	**+2.4**
GURO	**Guroymak-BITLI**	**4.65**	**320**	P	**Pn**	**14 11 06.8**	**0.0**
GURO	**Guroymak-BITLI**	**4.65**	**320**	Pn	**Pn**	**14 11 06.1**	**-0.7**
GLBA	**Clilabad**	**4.69**	**25**	P	**Pn**	**14 11 08.2**	**+1.0**
	SNR=200						
GLBA				S	**Sn**	**14 12 03.3**	**+2.4**
HYR	**Heyderabad**	**4.75**	**351**	P	**Pn**	**14 11 09.8**	**+1.6**
	SNR=53						
HYR				S	**Sn**	**14 12 06.1**	**+3.4**
QAMS	**Qamsar**	**4.78**	**104**	Pn	**Pn**	**14 11 11.1**	**+2.3**
IPIR	**Pirpir**	**4.82**	**118**	Pn	**Pn**	**14 11 11.4**	**+2.1**
IVRN	**Varamin**	**4.85**	**89**	Pn	**Pn**	**14 11 12.1**	**+2.7**
SVAN	**Silvan-Diyarba**	**4.86**	**311**	P	**Pn**	**14 11 09.3**	**-0.3**
MLAZ	**Malazgirt-MUS**	**4.87**	**328**	P	**Pn**	**14 11 10.8**	**+0.9**
MZPU	**Pul - Mazandar**	**4.88**	**72**	Pn	**Pn**	**14 11 13.3**	**+3.2**
BLQ	**Beylaqan**	**4.89**	**16**	P	**Pn**	**14 11 11.2**	**+1.2**
	SNR=52						
BLQ				S	**Sn**	**14 12 09.4**	**+3.4**
JHBN	**Jahan bin**	**4.91**	**123**	Pn	**Pn**	**14 11 11.7**	**+1.3**
MAZI	**Mazidag**	**4.98**	**301**	P	**Pn**	**14 11 11.1**	**-0.2**
DAMV	**Damavand**	**5.06**	**81**	*e*Pn	**Pn**	**14 11 16.4**	**+3.8**
DAMV				IAML		14 12 49.7	
	comp=E,883nm,0.6s						
DAMV				IAML		14 12 51.9	
	comp=N,819nm,0.8s						
IKLH	**Kolahroud**	**5.07**	**108**	Pn	**Pn**	**14 11 14.3**	**+1.7**
AGRB	**Hanur-Agry**	**5.07**	**334**	P	**Pn**	**14 11 13

ZRD	**Zardab**	**5.45**	**15**	P		**Pn**	**14 11 18.8**	**+1.1**
	SNR=31								
ZRD				S		**Sn**	**14 12 22.3**	**+2.5**
IBRJ	**Brojen**	**5.50**	**123**	Pn		**Pn**	**14 11 19.7**	**+1.0**
ALIB	**Äli-Bayra**	**5.54**	**26**	P		**Pn**	**14 11 19.9**	**+1.0**
	SNR=55								
ALIB				S		**Sn**	**14 12 24.2**	**+2.2**
GANJ	**Ganja**	**5.63**	**4**	P		**Pn**	**14 11 21.7**	**+1.5**
	SNR=38								
GANJ				S		**Sn**	**14 12 27.5**	**+3.2**
KDMR	**Kurdemir**	**5.66**	**19**	P		**Pn**	**14 11 21.6**	**+1.1**
	SNR=42								
KDMR				S		**Sn**	**14 12 27.9**	**+2.9**
GDB	**GEDABAY**	**5.69**	**359**	P		**Pn**	**14 11 22.8**	**+1.7**
	SNR=111								
GDB				S		**Sn**	**14 12 28.9**	**+3.0**
IFIR	**Firoozkooh**	**5.70**	**82**	Pn		**Pn**	**14 11 23.2**	**+1.8**
BNGB	**Bingl**	**5.71**	**315**	P		**Pn**	**14 11 21.6**	**+0.2**
KARO	**Karliova-Bingo**	**5.73**	**320**	P		**Pn**	**14 11 22.0**	**+0.3**
ABEH	**Behbahan**	**5.78**	**139**	Pn		**Pn**	**14 11 23.8**	**+1.6**
IALA	**Alasht**	**5.79**	**77**	Pn		**Pn**	**14 11 25.7**	**+3.1**
IGAR	**Gharneh**	**5.80**	**115**	Pn		**Pn**	**14 11 24.7**	**+2.0**
IZEF	**Zefreh**	**5.81**	**110**	Pn		**Pn**	**14 11 25.4**	**+2.6**
MNGR	**Mingechevir, A**	**5.83**	**9**	P		**Pn**	**14 11 23.8**	**+1.0**
MNGR				S		**Sn**	**14 12 32.1**	**+3.1**
ILAS	**Lasjerd**	**5.85**	**84**	Pn		**Pn**	**14 11 25.4**	**+2.0**
KOPR	**Koprukoy-ERZUR**	**5.88**	**329**	P		**Pn**	**14 11 24.9**	**+1.2**
KARS	**Kars**	**6.00**	**340**	P		**Pn**	**14 11 28.9**	**+3.5**
KARS	**Kars**	**6.00**	**340**	Pn		**Pn**	**14 11 24.9**	**-0.5**
KARS	**Kars**	**6.00**	**340**	P		**Pn**	**14 11 24.9**	**-0.5**
GBS	**Qobustan**	**6.03**	**23**	P		**Pn**	**14 11 26.8**	**+1.1**
	SNR=93								
GBS				S		**Sn**	**14 12 36.8**	**+2.6**
QZX	**Qazax, Azerbai**	**6.04**	**357**	P		**Pn**	**14 11 27.3**	**+1.6**
	SNR=116								
QZX				S		**Sn**	**14 12 38.2**	**+3.9**
IML	**Ismayilli**	**6.05**	**17**	P		**Pn**	**14 11 27.3**	**+1.3**
	SNR=41								
IML				P		**Pn**	**14 11 27.3**	**+1.3**
	SNR=41								
IML				S		**Sn**	**14 12 37.5**	**+2.8**
IML				S		**Sn**	**14 12 37.5**	**+2.8**
QBL	**Gabala**	**6.12**	**14**	P		**Pn**	**14 11 28.4**	**+1.5**
	SNR=53								
QBL				S		**Sn**	**14 12 39.2**	**+2.7**
URFA	**Urfa**	**6.15**	**295**	P		**Pn**	**14 11 28.1**	**+0.7**
PQL	**Pirkuli**	**6.16**	**20**	P		**Pn**	**14 11 28.7**	**+1.1**
	SNR=92								
PQL				P		**Pn**	**14 11 28.7**	**+1.1**
	SNR=92								
PQL				S		**Sn**	**14 12 39.8**	**+2.3**
PQL				S		**Sn**	**14 12 39.8**	**+2.3**
SENK	**Senkaya-Erzuru**	**6.17**	**335**	P		**Pn**	**14 11 30.1**	**+2.3**
GOBA	**Gobu**	**6.20**	**29**	P		**Pn**	**14 11 29.1**	**+1.2**
	SNR=25								
GOBA				P		**Pn**	**14 11 29.1**	**+1.2**
	SNR=25								
GOBA				S		**Sn**	**14 12 41.4**	**+3.2**
GOBA				S		**Sn**	**14 12 41.4**	**+3.2**
NASN	**Na'in**	**6.22**	**109**	*e*Pn		**Pn**	**14 11 29.6**	**+1.1**
SEKA	**Sheki**	**6.27**	**10**	P		**Pn**	**14 11 30.5**	**+1.5**
	SNR=50								
SEKA				S		**Sn**	**14 12 43.6**	**+3.5**
KLNJ	**Kolanjah**	**6.28**	**128**	Pn		**Pn**	**14 11 30.1**	**+0.6**
ATGJ	**Altiaghaj**	**6.33**	**22**	P		**Pn**	**14 11 31.3**	**+1.5**
	SNR=32								
ATGJ				S		**Sn**	**14 12 43.6**	**+2.1**
IRAM	**Ramesheh**	**6.35**	**118**	Pn		**Pn**	**14 11 30.8**	**+0.5**
GALA	**Gala**	**6.38**	**31**	S		**Sn**	**14 12 44.5**	**+1.8**
XNQ	**Khinaliq**	**6.41**	**16**	P		**Pn**	**14 11 33.0**	**+2.0**
	SNR=30								
XNQ				S		**Sn**	**14 12 46.2**	**+2.5**
PTK	**Pertek**	**6.44**	**309**	P		**Pn**	**14 11 31.8**	**+0.4**
NDR	**Nardaran**	**6.45**	**29**	P		**Pn**	**14 11 32.6**	**+1.2**
	SNR=7.2								
NDR				S		**Sn**	**14 12 46.1**	**+1.6**
SIZA	**Siyzn**	**6.51**	**21**	P		**Pn**	**14 11 33.8**	**+1.4**
	SNR=56								
SIZA				P		**Pn**	**14 11 33.8**	**+1.4**
	SNR=56								
SIZA				S		**Sn**	**14 12 48.3**	**+2.2**
SIZA				S		**Sn**	**14 12 48.3**	**+2.2**
ZKTA	**Zakatala**	**6.63**	**5**	P		**Pn**	**14 11 35.8**	**+1.9**
	SNR=72								
ZKTA				S		**Sn**	**14 12 52.2**	**+3.2**
AKH	**Akhalkalaki**	**6.64**	**345**	P		**Pn**	**14 11 38.2**	**+4.1**
AKH	**Akhalkalaki**	**6.64**	**345**	Pn		**Pn**	**14 11 34.9**	**+0.8**
AKH	**Akhalkalaki**	**6.64**	**345**	P		**Pn**	**14 11 34.9**	**+0.8**
IANJ	**Anjilo**	**6.64**	**84**	Pn		**Pn**	**14 11 36.0**	**+1.8**
TRLG	**Trialeti**	**6.65**	**349**	P		**Pn**	**14 11 38.1**	**+3.9**
TRLG				pmax		pmax			
	comp=Z,397nm,1.2s								
ERZN	**Erzincan**	**6.66**	**315**	P		**Pn**	**14 11 35.0**	**+0.6**
QUBA	**Quba, Azerbaij**	**6.66**	**18**	P		**Pn**	**14 11 35.9**	**+1.6**
	SNR=29								
QUBA				S		**Sn**	**14 12 53.2**	**+3.5**
IGLO	**Ghaloghah**	**6.68**	**75**	Pn		**Pn**	**14 11 38.0**	**+3.3**
QSAR	**Qusar**	**6.76**	**16**	P		**Pn**	**14 11 37.2**	**+1.5**
	SNR=20								
QSAR				S		**Sn**	**14 12 54.8**	**+2.7**
ANAR	**Anarak**	**6.81**	**103**	Pn		**Pn**	**14 11 38.2**	**+1.8**
BAYT	**Aydıntepe-Bayb**	**7.00**	**322**	P		**Pn**	**14 11 40.8**	**+1.7**
BCA	**Borcka**	**7.21**	**334**	P		**Pn**	**14 11 44.7**	**+2.8**
ARPR	**Arapgir-MALATY**	**7.23**	**306**	P		**Pn**	**14 11 43.1**	**+0.8**
ARPR	**Arapgir-MALATY**	**7.23**	**306**	Pn		**Pn**	**14 11 40.7**	**-1.6**
CHOM	**Cayeli-Rize**	**7.26**	**328**	P		**Pn**	**14 11 44.6**	**+2.1**
ISAD	**Sadrabad**	**7.26**	**113**	Pn		**Pn**	**14 11 43.4**	**+0.6**
ILIC	**ilic-Erzincan**	**7.28**	**310**	P		**Pn**	**14 11 44.2**	**+1.3**
GAZ	**Gaziantep**	**7.29**	**290**	P		**Pn**	**14 11 45.3**	**+2.3**
GAZ	**Gaziantep**	**7.29**	**290**	Pn		**Pn**	**14 11 41.3**	**-1.8**
BATM	**Batumi**	**7.33**	**330**	P		**Pn**	**14 11 48.3**	**+2.9**
DARE	**Darende-Malaty**	**7.57**	**300**	P		**Pn**	**14 11 48.4**	**+1.6**
KMRS	**Kahramanmaras**	**7.62**	**292**	P		**Pn**	**14 11 49.4**	**+1.9**
KTUT	**Trabzon**	**7.63**	**323**	P		**Pn**	**14 11 48.9**	**+1.3**
BTLR	**Botlikh**	**7.64**	**2**	*i* P		**Pn**	**14 11 51.7**	**+4.0**
ICHK	**Chekchek**	**7.68**	**109**	Pn		**Pn**	**14 11 49.2**	**+0.8**
YZKH	**Yazd**	**7.76**	**107**	*e*Pn		**Pn**	**14 11 50.2**	**+0.7**
ONI	**Oni**	**7.78**	**347**	P		**Pn**	**14 11 54.1**	**+4.4**
ONI	**Oni**	**7.78**	**347**	Pn		**Pn**	**14 11 52.2**	**+2.5**
ONI	**Oni**	**7.78**	**347**	P		**Pn**	**14 11 52.2**	**+2.5**
SHI	**Shiraz**	**7.80**	**132**	Pn		**Pn**	**14 11 51.4**	**+1.3**
ZEI	**Tsey**	**7.90**	**350**	*e*P		**Pn**	**14 11 53.6**	**+2.2**
ZEI				pmax		pmax			
	comp=Z,483nm,1.3s								
BEIL	**Beino**	**7.95**	**269**	*e*P		**Pn**	**14 11 52.0**	**+0.1**
TAHT	**Tahtakopru-Hat**	**7.96**	**283**	P		**Pn**	**14 11 54.1**	**+2.0**
ASF	**Jabal al Asfar**	**7.97**	**252**	P		**Pn**	**14 11 52.5**	**+0.1**
ASF	**Jabal al Asfar**	**7.97**	**252**	Pn		**Pn**	**14 11 52.8**	**+0.5**
	comp=Z,33nm,0.3s,baz=69,slow=7.4,SNR=136								
ASF				Lg		Lg	14 14 11.6		
	comp=Z,23nm,0.3s,baz=124,slow=18,SNR=3.2								
ASF				LR		LR	14 15 48.6		
	comp=Z,14µm,18.8s,baz=78,slow=44								
	comp=Z,80nm,0.4s								
MAK	**Makhachkala**	**8.04**	**9**	*e*P		**Pn**	**14 11 53.2**	**+0.1**
MAK				*e*S		**Sn**	**14 13 25.3**	**+1.9**
MAK				pmax		pmax			
	comp=Z,1µm,1.0s								
MAK				MLR		MLR			
	comp=Z,19µm,16.0s								
IMND	**Minoodasht**	**8.07**	**71**	Pn		**Pn**	**14 11 55.7**	**+2.1**
DSBU	**Dashti - Bushe**	**8.09**	**144**	Pn		**Pn**	**14 11 54.5**	**+0.5**
ESPY	**Espiye-Giresun**	**8.12**	**319**	P		**Pn**	**14 11 55.1**	**+0.7**
HWQ	**Hawqa**	**8.17**	**268**	*e*P		**Pn**	**14 11 54.8**	**-0.3**
IMEH	**Mehriz**	**8.21**	**114**	Pn		**Pn**	**14 11 55.5**	**-0.3**
SARI	**SarD1z-Kayseri**	**8.27**	**297**	P		**Pn**	**14 11 57.3**	**+0.7**
ZAHL	**Zahle**	**8.29**	**265**	*e*P		**Pn**	**14 11 58.0**	**+1.2**
SHRO	**Shahrood**	**8.36**	**80**	*e*Pn		**Pn**	**14 11 59.5**	**+1.7**
CEYT	**Ceyhan**	**8.40**	**287**	P		**Pn**	**14 11 59.6**	**+1.5**
RCY	**Rachaya**	**8.41**	**262**	*e*P		**Pn**	**14 11 58.1**	**-0.3**
KOZT	**Kozan**	**8.44**	**290**	P		**Pn**	**14 11 59.3**	**+0.6**
BHL	**Bhannes**	**8.47**	**265**	*e*P		**Pn**	**14 12 00.6**	**+1.4**
QRWL	**Qaraoun**	**8.52**	**263**	*e*P		**Pn**	**14 12 00.8**	**+0.9**
NATI	**Neve Ativ**	**8.54**	**261**	Pn		**Pn**	**14 12 01.8**	**+1.7**
HSUJ	**Al Zarqa**	**8.55**	**253**	P		Pn	14 12 13.6	+13
SVSK	**Karacayir**	**8.55**	**307**	P		**Pn**	**14 12 00.6**	**+0.5**
DQRL	**Deir Qamar**	**8.58**	**264**	*e*P		**Pn**	**14 12 03.8**	**+3.1**
GEM	**Giv'at Ha'Em**	**8.62**	**261**	P		Pn	14 12 07.1	+6.0
SHMJ	**Saham**	**8.67**	**258**	P		Pn	14 12 07.4	+5.5
MRVT	**Maraveh tapeh**	**8.69**	**69**	*e*Pn		**Pn**	**14 12 04.5**	**+2.3**
IBAF	**Bafgh**	**8.84**	**110**	Pn		**Pn**	**14 12 04.5**	**+0.1**
MMA0B	**Mount Meron ar**	**8.88**	**260**	Pn		**Pn**	**14 12 06.4**	**+1.6**
MMAI	**Mount Meron Ar**	**8.88**	**260**	Pn		**Pn**	**14 12 05.2**	**+0.4**
	comp=Z,9.2nm,0.3s,baz=85,slow=15,SNR=26								
MMAI				Lg		Lg	14 14 40.9		
	comp=Z,26nm,0.3s,baz=84,slow=28,SNR=2.4								
MMAI				LR		LR	14 16 06.6		
	comp=Z,7µm,19.1s,baz=44,slow=41								
	comp=Z,9.8nm,0.4s								
QRNJ	**Al-Qirein**	**8.95**	**255**	P		**Pn**	**14 12 08.9**	**+3.2**
QIR1	**Qir**	**8.96**	**135**	Pn		**Pn**	**14 12 06.1**	**+0.1**
TNSJ	**Nastanj**	**8.97**	**94**	Pn		**Pn**	**14 12 07.9**	**+1.9**
KBZ	**Khabaz**	**8.98**	**346**	*ce*P		**Pn**	**14 12 08.3**	**+2.2**
KBZ				MLR		MLR			
	comp=Z,16µm,12.0s								
KBZ	**Khabaz**	**8.98**	**346**	Pn		**Pn**	**14 12 10.7**	**+4.6**
	comp=Z,1.7nm,0.3s,baz=162,slow=9.2,SNR=57								
SWQJ	**Swaqa**	**9.01**	**248**	P		**Pn**	**14 12 06.1**	**-0.5**
MMLI	**Mount Malkishu**	**9.04**	**256**	Pn		**Pn**	**14 12 08.8**	**+1.8**
SHA1	**Shidzhatmaz**	**9.04**	**345**	*i* P		**Pn**	**14 12 10.0**	**+2.9**
HNTI	**Hanita**	**9.04**	**261**	Pn		**Pn**	**14 12 08.8**	**+1.8**
HNTI	**Hanita**	**9.04**	**261**	P		**Pn**	**14 12 10.6**	**+3.6**
BLGI	**Bet Lehem HaGe**	**9.13**	**259**	Pn		**Pn**	**14 12 09.0**	**+0.8**
UJAP	**Al Uja**	**9.18**	**253**	Pn		**Pn**	**14 12 10.7**	**+1.9**
UJAP	**Al Uja**	**9.18**	**253**	P		**Pn**	14 12 15.2	+6.4
TPRV	**Parvadeh(Tabas**	**9.23**	**99**	Pn		**Pn**	**14 12 11.4**	**+1.7**
KVAR	**Kislovodsk Arr**	**9.24**	**346**	Pn		Pn	14 12 14.6	+4.8
	baz=270,slow=20								
KVAR				LR		LR	14 15 44.0		
	comp=Z,9µm,21.1s,baz=52,slow=38								
KIV	**Kislovodsk**	**9.24**	**346**	Pn		**Pn**	**14 12 13.6**	**+3.8**
KIV	**Kislovodsk**	**9.24**	**346**	*i* P		**Pn**	**14 12 14.1**	**+4.3**
	SNR=53								
KIV	**Kislovodsk**	**9.24**	**346**	P		Pn	14 12 14.6	+4.8
KIV				P		Pn	14 12 14.6	+4.8
KIV	**Kislovodsk**	**9.24**	**346**	*e*P		**Pn**	**14 12 14.2**	**+4.4**
KIV				*e*S		**Sn**	**14 14 01.3**	**+8.0**
KIV				pmax		pmax			
	comp=Z,464nm,1.1s								
KIV				MLR		MLR			
	comp=Z,5µm,12.0s								
JHRM	**Jahrom**	**9.26**	**132**	Pn		**Pn**	**14 12 10.0**	**0.0**
PYA1	**Pyatigorsk**	**9.27**	**348**	*i* P		**Pn**	**14 12 13.6**	**+3.5**
OFRI	**`Ofer**	**9.33**	**258**	Pn		**Pn**	**14 12 12.0**	**+1.1**
OFRI	**`Ofer**	**9.33**	**258**	P		Pn	14 12 17.5	+6.6
GHAJ	**Ghor Haditha**	**9.36**	**250**			**Pn**	**14 12 10.1**	**-1.3**
GHAJ	**Ghor Haditha**	**9.36**	**250**	Pn		**Pn**	**14 12 12.7**	**+1.4**
KARJ	**KARJ**	**9.38**	**248**	P		**Pn**	**14 12 13.4**	**+1.8**
DSI	**Dead Sea**	**9.39**	**251**	Pn		**Pn**	**14 12 13.6**	**+1.8**
DSI	**Dead Sea**	**9.39**	**251**	P		**Pn**	**14 12 14.1**	**+2.3**
TABS	**Tabas**	**9.44**	**95**	*e*Pn		**Pn**	**14 12 14.1**	**+1.6**
TKDS	**Koohdasht(Taba**	**9.45**	**95**	Pn		**Pn**	**14 12 14.4**	**+1.6**
MSBI	**Mazada**	**9.52**	**250**	Pn		**Pn**	**14 12 15.1**	**+1.6**
VSLR	**Vesyoloye**	**9.55**	**334**	*i* P		**Pn**	**14 12 17.7**	**+3.9**
SBZV	**Sabzevar**	**9.68**	**79**	Pn		**Pn**	**14 12 19.0**	**+3.1**
YTIR	**Yattir**	**9.68**	**251**	Pn		**Pn**	**14 12 16.4**	**+0.5**
YTIR	**Yattir**	**9.68**	**251**	P		Pn	14 12 21.5	+5.6
BJRD	**Bojnurd**	**9.72**	**71**	*e*Pn		**Pn**	**14 12 19.0**	**+2.7**
SOC	**Sochi**	**9.77**	**333**	*e*P		**Pn**	**14 12 17.9**	**+1.0**
SOC				*e*			14 14 11.1		
SOC				pmax		pmax			
	comp=Z,458nm,1.0s								
SOC				MLR		MLR			
	comp=Z,15µm,13.0s								
AMAZ	**Amatzia**	**9.77**	**252**	P		Pn	14 12 23.4	+6.4
ZRDN	**Zarand Kerman**	**9.86**	**111**	Pn		**Pn**	**14 12 20.3**	**+1.8**
SAKB	**Bahrain**	**9.89**	**154**	P		**Pn**	**14 12 16.7**	**-1.9**
SAKB				S		**Sn**	**14 14 02.7**	**-6.3**
LMD1	**Lamerd**	**9.90**	**139**	Pn		**Pn**	**14 12 19.0**	**+0.1**
ZFRI	**Zfri**	**10.00**	**247**	Pn		**Pn**	**14 12 22.0**	**+1.9**
ISFR	**Sfrayin**	**10.07**	**75**	Pn		**Pn**	**14 12 24.5**	**+3.2**
KHGB	**Koh Gabri**	**10.10**	**114**	Pn		**Pn**	**14 12 22.7**	**+1.0**
SHMA	**Al-Shehemyia**	**10.15**	**153**	P		**Pn**	**14 12 21.0**	**-1.2**
SHMA				S		**Sn**	**14 14 09.6**	**-5.9**
PRNI	**Paran**	**10.23**	**246**	Pn		**Pn**	**14 12 24.2**	**+0.9**
PRNI	**Paran**	**10.23**	**246**	P		**Pn**	**14 12 25.1**	**+1.8**
GOF	**Gofitskoye**	**10.25**	**349**	*e* P		**Pn**	**14 12 27.3**	**+3.9**
CSS	**Mathiatis**	**10.25**	**273**	P		Pn	14 12 28.9	+5.4
GEYT	**Alibeck**	**10.32**	**70**	Pn		**Pn**	**14 12 24.8**	**+0.3**
GEYT	**Alibeck**	**10.32**	**70**	P		**Pn**	**14 12 24.8**	**+0.3**
GEYT	**Alibeck**	**10.32**	**70**	Pn		**Pn**	**14 12 28.2**	**+3.8**
	comp=Z,6.4nm,0.3s,baz=274,slow=8.3,SNR=287								
GEYT				LR		LR	14 17 15.0		
	comp=Z,7µm,19.2s,baz=258,slow=42								
GYA0B	**ALIBECK ARRAY**	**10.32**	**70**	Pn		**Pn**	**14 12 24.7**	**+0.2**
LAR1	**LAR**	**10.35**	**133**	Pn		**Pn**	**14 12 24.1**	**-0.9**
HRFI	**Mount Harif**	**10.37**	**244**	Pn		**Pn**	**14 12 25.9**	**+0.7**
KZIT	**Kziot**	**10.44**	**250**	Pn		**Pn**	**14 12 27.4**	**+1.3**
TVBK	**TV Kerman**	**10.51**	**116**	Pn		**Pn**	**14 12 27.9**	**+0.5**
KRBR	**Kerman**	**10.51**	**116**	*e*Pn		**Pn**	**14 12 27.0**	**-0.4**
AQBJ	**Aqaba**	**10.52**	**243**	P		**Pn**	**14 12 27.6**	**+0.3**
MBRI	**Mt Berech**	**10.59**	**244**	P		**Pn**	**14 12 29.2**	**+0.9**
IAKL	**Akhelmad**	**10.62**	**78**	Pn		**Pn**	**14 12 32.4**	**+3.5**
EIL	**Elat**	**10.63**	**243**	P		**Pn**	**14 12 28.6**	**-0.1**
EIL	**Elat**	**10.63**	**243**	Pn		**Pn**	**14 12 28.4**	**-0.3**
	comp=Z,8.2nm,0.3s,baz=35,slow=7.1,SNR=40								
EIL				Lg		Lg	14 15 37.3		
	comp=Z,11nm,0.3s,baz=318,slow=17,SNR=1.7								
EIL				LR		LR	14 17 33.6		
	comp=Z,9µm,21.5s,baz=64,slow=43								
	comp=Z,65nm,0.6s								
IEMG	**Emamgholi**	**10.64**	**73**	Pn		**Pn**	**14 12 32.1**	**+3.1**
NGRK	**Negar Kerman**	**10.67**	**117**	Pn		**Pn**	**14 12 30.8**	**+1.1**
BR131	**Keskin Array S**	**10.77**	**299**			**Pn**	**14 12 29.4**	**-1.3**
BR131	**Keskin Array S**	**10.77**	**299**	P		Pn	14 12 35.8	+5.0
	SNR=32								
BR131	**Keskin Array S**	**10.77**	**299**	P		**Pn**	**14 12 29.4**	**-1.3**
BRTR	**Keskin Array B**	**10.77**	**299**	Pn		**Pn**	**14 12 29.6**	**-1.2**
BRTR	**Keskin Array B**	**10.77**	**299**	P		**Pn**	**14 12 29.6**	**-1.2**
BRTR	**Keskin Array B**	**10.77**	**299**	Pn		**Pn**	**14 12 35.0**	**+4.2**
	comp=Z,39nm,0.9s,baz=124,slow=12,SNR=50								
IPAY	**Payeh**	**10.80**	**79**	Pn		**Pn**	**14 12 34.2**	**+2.9**
ITEG	**Tejag**	**10.94**	**98**	Pn		**Pn**	**14 12 34.4**	**+1.2**
TBHD	**Torbat heydari**	**10.98**	**84**	Pn		**Pn**	**14 12 37.5**	**+3.8**
AFRZ	**Afriz**	**11.04**	**95**	Pn		**Pn**	**14 12 36.5**	**+2.0**
IMOG	**Moghan**	**11.06**	**80**	Pn		**Pn**	**14 12 38.2**	**+3.3**
SMRA	**Abu-Samra**	**11.12**	**156**	P		**Pn**	**14 12 33.8**	**-1.6**
	SNR=11								
SMRA				S		**Sn**	**14 14 32.8**	**-6.4**
CHMN	**Cheshme madani**	**11.15**	**114**	Pn		**Pn**	**14 12 37.5**	**+1.3**
IKRD	**Kardeh**	**11.24**	**77**	Pn		**Pn**	**14 12 40.9**	**+3.5**
TRNA	**Turayna**	**11.27**	**154**	P		**Pn**	**14 12 35.6**	**-1.8**
	SNR=6.2								
TRNA				S		**Sn**	**14 14 36.2**	**-6.6**
IKOO	**Kooshah**	**11.28**	**100**	Pn		**Pn**	**14 12 39.5**	**+1.7**
ANTO	**Ankara**	**11.43**	**299**			**Pn**	**14 12 38.5**	**-1.2**
ANTO	**Ankara**	**11.43**	**299**	P		Pn	14 12 44.6	+5.0
ANTO	**Ankara**	**11.43**	**299**	P		**Pn**	**14 12 38.5**	**-1.2**
BSRN	**Basiran**	**11.52**	**102**	*e*Pn		Pn	14 12 34.5	-6.5
BNDS	**Bandar-Abbas**	**11.66**	**128**	*e*Pn		**Pn**	**14 12 41.9**	**-1.2**
GENO	**Geno**	**11.66**	**128**	Pn		**Pn**	**14 12 40.2**	**-2.9**
IMYA	**Miami**	**11.69**	**79**	Pn		**Pn**	**14 12 47.8**	**+4.4**
ANN	**Anapa**	**11.69**	**329**	*e*P		**Pn**	**14 12 45.9**	**+2.7**
ANN				*e*S		**Sn**	**14 14 54.0**	**+0.9**
ANN				pmax		pmax			
	comp=Z,575nm,1.3s								
ANN				MLR		MLR			
	comp=Z,12µm,14.0s								
JRN	**Qarnain Island**	**11.74**	**147**	P		**Pn**	**14 12 41.8**	**-2.2**
JRN				S		**Sn**	**14 14 46.2**	**-8.3**
IBND	**Bandar-abas**	**11.87**	**127**	Pn		**Pn**	**14 12 44.0**	**-1.7**
JRKH	**Jarkhoshk**	**11.88**	**82**	Pn		**Pn**	**14 12 48.7**	**+2.8**
TBJM	**Torbat-e-JAM**	**11.88**	**85**	Pn		**Pn**	**14 12 48.8**	**+2.7**
IDAH	**Dahanechah**	**11.89**	**97**	Pn		**Pn**	**14 12 47.6**	**+1.3**
SHRT	**Shahrakht**	**12.04**	**92**	*e*Pn		**Pn**	**14 12 49.1**	**+1.0**
KBAM	**BAM**	**12.21**	**115**	Pn		**Pn**	**14 12 51.6**	**+1.2**
KHNJ	**Kahnooj**	**12.35**	**122**	Pn		**Pn**	**14 12 50.5**	**-1.7**
NHDN	**Nehbandan**	**12.45**	**103**	Pn		**Pn**	14 12 48.0	-5.8
SHME	**Shamn**	**12.60**	**132**	*i* P		**Pn**	**14 12 54.0**	**-1.8**
	SNR=25								
SHME	**Shamm**	**12.60**	**132**	P		**Pn**	**14 12 53.7**	**-2.1**
	SNR=13								
SHME				S		**Sn**	**14 15 08.9**	**-6.7**
ISP	**Isparta**	**12.64**	**287**	Pn		**Pn**	**14 12 54.7**	**-1.6**
ISP	**Isparta**	**12.64**	**287**	*ce*P		**Pn**	**14 12 59.5**	**+3.2**
ISP				pmax		pmax			
	comp=Z,232nm,2.5s								
UMQ	**Umm Al-Quwin**	**12.71**	**135**	*i* P		**Pn**	**14 12 56.8**	**-0.5**
	SNR=18								
UMQ	**Umm Al-Quwin**	**12.71**	**135**	P		**Pn**	**14 12 56.0**	**-1.2**
	SNR=15								
UMQ				S		**Sn**	**14 15 14.5**	**-3.8**
AJN	**Ajban**	**13.11**	**140**	*i* P		**Pn**	**14 13 02.6**	**0.0**
	SNR=44								
AJN	**Ajban**	**13.11**	**140**	P		**Pn**	**14 13 02.2**	**-0.4**
	SNR=23								
AJN				P		**Pn**	**14 13 02.2**	**-0.4**
	SNR=23								
AJN				S		**Sn**	**14 15 23.1**	**-4.7**
AJN				S		**Sn**	**14 15 23.1**	**-4.7**
MASF	**Masafi**	**13.12**	**134**	P		**Pn**	**14 13 02.1**	**-0.7**
	SNR=122								
MASF				S		**Sn**	**14 15 21.8**	**-6.5**
MSFE	**Esma-Masafi**	**13.13**	**134**	*i* P		**Pn**	**14 13 01.8**	**-1.2**
	SNR=47								
NAZ	**Nazwa, Dubai**	**13.13**	**137**	*i* P		**Pn**	**14 13 02.2**	**-0.8**
	SNR=241								
NAZ	**Nazwa, Dubai**	**13.13**	**137**	P		**Pn**	**14 13 01.7**	**-1.3**
	SNR=118								
NAZ				S		**Sn**	**14 15 22.9**	**-5.6**
ASUD	**Al Ashush, Dub**	**13.24**	**139**	*i* P		**Pn**	**14 13 04.0**	**-0.4**
	SNR=50								
ASUD	**Al Ashush, Dub**	**13.24**	**139**	P		**Pn**	**14 13 04.4**	**0.0**
	SNR=32								
ASUD				S		**Sn**	**14 15 26.9**	**-4.1**
KSL	**Kastellorizon**	**13.27**	**280**	P		**P**	**14 13 15.8**	**+1.3**
FAQ	**Al Faqa, Dubai**	**13.28**	**138**	*i* P		**Pn**	**14 13 04.6**	**-0.4**
	SNR=24								
FAQ	**Al Faqa, Dubai**	**13.28**	**138**	P		**Pn**	**14 13 03.9**	**-1.2**
	SNR=40								
FAQ				S		**Sn**	**14 15 26.6**	**-5.7**
SIM	**Simferopol'**	**13.36**	**321**	*e*P		**Pn**	**14 13 07.9**	**+1.9**
SIM				*e*S		**Sn**	**14 15 40.4**	**+6.5**
SIM				pmax		pmax			
	comp=Z,166nm,1.1s								
SIM				smax		smax			
	comp=N,607nm,14.5s								
UOSS	**Minazif**	**13.47**	**135**	Pn		**Pn**	**14 13 05.0**	**-2.6**
UOSS	**Minazif**	**13.47**	**135**	*i* P		**Pn**	**14 13 05.9**	**-1.7**
	SNR=60								
UOSS

comp=Z,1µm,1.1s
VSR smax smax
comp=E,590nm,4.3s
VSR MLR MLR
comp=Z,4µm,13.0s
LOZB Loznitsa 17.05 305 ⇑P P 14 13 57.4 +0.9
RDO Rodhopi 17.09 297 P P 14 13 58.2 +1.4
IDI Anoyia 17.12 277 ⇓P P 14 13 57.4 0.0
IDI Anoyia 17.12 277 Pn 14 13 55.3 -0.5
IDI Anoyia 17.12 277 P Pn 14 13 54.6 -1.2
IDI Anoyia 17.12 277 P Pn 14 13 56.4 +0.6
IDI Anoyia 17.12 277 P Pn 14 13 56.1 +0.3
comp=Z,3.5nm,0.3s,baz=72,slow=12,SNR=29
comp=Z,72nm,0.8s
RAZG Razgrad 17.19 306 ⇓P P 14 13 59.4 +1.4
SCTR Scanteiesti 17.22 314 ⇑P P 14 13 59.1 +0.9
VORR Voronezh 17.31 346 *e*P **Pn 14 13 56.7 -1.2**
VORR pmax pmax
comp=Z,902nm,1.6s
ELND Elena 17.38 303 ⇓P P 14 14 01.6 +1.6
MILM Milestii Mici 17.45 318 *i*⇑*i*P **Pn 14 13 58.0 -1.7**
comp=Z,470nm,1.4s
MILM Milestii Mici 17.45 318 *e*PP **PnPn 14 14 18.0 +8.0**
MILM *e*S **Sn 14 17 12.0 -1.4**
MILM Milestii Mici 17.45 318 *e*PCP PcP 14 18 49.0 +9.0
MILM *e*L L 14 20 42.0
MILM LQM 14 23 20.0
comp=Z,1µm,18.0s
MILM LRM MLR 14 24 17.0
comp=Z,3µm,14.0s
MILM Milestii Mici 17.45 318 ⇑P P 14 14 00.9 0.0
MILM Milestii Mici 17.45 318 *c i*P **Pn 14 13 58.0 -1.7**
MILM *e*S **Sn 14 17 12.0 -1.4**
MILM pmax pmax
comp=Z,470nm,1.4s
MILM MLR MLR
comp=E,4µm,14.0s
MILM MLR MLR
comp=Z,3µm,14.0s
JLN Jalan Bani Buh 17.49 134 P Pn 14 13 57.9 -2.5
SNR=22
JLN P **Pn 14 13 57.9 -2.5**
SNR=22
KIS Kishinev 17.50 318 *e*P **Pn 14 13 58.0 -2.3**
comp=Z,450nm,13.1s
KIS *e*S **Sn 14 17 12.5 -2.0**
KIS *e*L L 14 20 46.0
KIS LQM 14 24 07.0
comp=Z,2µm,15.0s
KIS LRM MLR 14 24 20.0
comp=Z,2µm,13.5s
KIS Kishinev 17.50 318 *e*P **Pn 14 13 58.0 -2.3**
KIS *e*S **Sn 14 17 12.5 -2.0**
KIS pmax pmax
comp=Z,450nm,3.1s
KIS MLR MLR
comp=E,2µm,13.5s
KIS MLR MLR
comp=Z,1µm,13.5s
MHTO MHTO 17.60 139 P Pn 14 13 59.1 -2.6
SNR=98
MHTO P **Pn 14 13 59.1 -2.6**
SNR=98
MHTO S **Sn 14 17 09.4 -7.8**
MHTO S **Sn 14 17 09.4 -7.8**
AB31 Akbulak array 17.62 32 *i*P **Pn 14 14 00.1 -1.6**
ABKAR Akbulak array 17.62 32 Pn 14 14 00.1 -1.7
GHRR 17.77 314 ⇓P P 14 14 05.0 +0.6
AKTO Aktyubinsk 17.78 26 P Pn 14 14 03.3 -0.4
comp=Z,12nm,0.3s,baz=206,slow=9.9,SNR=78
AKTO LR LR 14 23 23.5
comp=Z,3µm,18.0s,baz=205,slow=45
comp=Z,136nm,0.8s
SGRR Singureni 17.80 307 ⇑P P 14 14 06.1 +1.4
RZN Rozhen 17.81 298 P Pn 14 14 04.1 -0.2
GVDS Gavdos 17.82 276 P Pn 14 14 02.7 -1.7
PANC Panciu 17.83 313 ⇓P P 14 14 06.1 +1.2
DION Dionisos Attik 17.84 286 P P 14 14 07.2 +1.9
IMMV Iera Moni Meta 17.85 278 P P 14 14 05.4 +0.1
VASR Vaslui 17.87 316 ⇑P P 14 14 06.1 +0.7
PLD Plovdiv 17.92 300 P P 14 14 08.8 +2.7
VLY Voula,Athens 17.94 285 P Pn 14 14 04.9 -1.0
VRI Vrincioaia 18.08 313 ⇓P P 14 14 08.5 +0.7
VRI Vrincioaia 18.08 313 P P 14 14 08.5 +0.7
PLOR Plostina 18.12 312 ⇑P P 14 14 09.7 +1.4
PLOR Plostina 18.12 312 P P 14 14 09.6 +1.4
NEHR Nehoiu 18.13 311 ⇑P P 14 14 10.4 +2.0
LPSR Galich'ya Gora 18.25 346 *e*P **Pn 14 14 07.4 -2.0**
LPSR *e*S **Sn 14 17 31.0 -1.5**
LPSR pmax pmax
comp=Z,5µm,1.0s
LPSR smax smax
comp=E,1µm,6.2s
LPSR MLR MLR
comp=Z,5µm,16.0s
DQM DQM 18.25 142 P Pn 14 14 07.6 -2.2
DQM S **Sn 14 17 26.0 -7.1**
IAS Iasi 18.31 317 P P 14 14 14.8 +4.5
IAS pmax pmax
comp=Z,481nm,1.4s
NVR Nevrokopi 18.36 297 P Pn 14 14 14.4 +3.4
MLR Muntele Rosu 18.38 311 ⇓P Pn 14 14 12.7 +1.5
MLR Muntele Rosu 18.38 311 P Pn 14 14 12.1 +0.8
comp=Z,1.4nm,0.3s,baz=77,slow=3.9,SNR=13
MLR LR LR 14 23 03.6
comp=Z,4µm,18.6s,baz=131,slow=43
comp=Z,28nm,0.9s
COVR Voineasa-Covas 18.39 312 ⇑P Pn 14 14 12.8 +1.5
PLVB Pleven 18.40 303 ⇑P Pn 14 14 12.8 +1.4
PGB Panagyurishte 18.43 300 P Pn 14 14 13.6 +1.7
WHFO Wadi Hawf 18.45 155 P P 14 14 08.7 -3.3
SNR=76
WHFO P **P 14 14 08.7 -3.3**
SNR=76
WHFO P **P 14 14 08.7 -3.3**
SNR=76
WHFO S **Sn 14 17 34.4 -3.4**
WHFO S **Sn 14 17 34.4 -3.4**
WHFO S **Sn 14 17 34.4 -3.4**
SORM Soroca 18.45 321 ⇓P P 14 14 11.0 -0.8
TESR Tescani 18.46 314 ⇓P Pn 14 14 12.5 +0.4
SRS Serrai 18.51 296 P Pn 14 14 13.9 +1.1
SRS Serrai 18.51 296 P Pn 14 14 14.7 +1.9
SRS pmax pmax
comp=Z,167nm,1.2s
HUMR Humele 18.58 307 ⇓P Pn 14 14 15.2 +1.7
LOUT Loutraki 18.60 286 P Pn 14 14 13.9 0.0
TURR Turia 18.61 312 ⇓P Pn 14 14 14.8 +0.9
VLI Veliai 18.62 282 P P 14 14 11.2 -2.6
SOH Sokhos 18.63 295 P Pn 14 14 16.3 +2.1
SOH pmax pmax
comp=Z,78nm,0.9s
OZUR 18.76 312 ⇓P Pn 14 14 16.3 +0.4
HORT Hortiatis 18.78 294 P Pn 14 14 18.0 +1.9
MTUR Matau 18.82 309 ⇑P Pn 14 14 17.8 +1.3
MTUR Matau 18.82 309 P Pn 14 14 17.8 +1.3
ABTO Aybut 18.82 157 P P 14 14 13.1 -3.0
SNR=67
ABTO S **Sn 14 17 43.4 -3.4**
BOSR Bodos 18.83 312 ⇑P Pn 14 14 17.6 +1.0
THE Thessaloniki 18.88 294 P Pn 14 14 17.8 +0.5
THE pmax pmax
comp=Z,153nm,1.4s
HMAD Nubian desert 18.89 220 *i*P **Pn 14 14 20.3 +2.8**
AXAR Agios Charalam 18.89 288 P Pn 14 14 19.4 +2.0
VOIR 18.92 310 ⇓P Pn 14 14 18.8 +1.0
VOIR 18.92 310 P Pn 14 14 18.4 +0.7
DOPR Dopca 18.95 311 ⇑P Pn 14 14 18.4 +0.4
RBK Rabkut 18.98 155 P P 14 14 15.8 -2.1
SNR=39
RBK P **P 14 14 15.8 -2.1**
SNR=39
RBK S **Sn 14 17 42.6 -8.2**
RBK S **Sn 14 17 42.6 -8.2**
MPEP Malo Peshtene 18.99 303 P P 14 14 17.3 -0.5
KKB Krupnik 19.01 298 P Pn 14 14 20.1 +1.3
CHGR Chuyangaron 19.02 72 P Pn 14 14 19.1 +0.1
CHGR IAmb IAmb 14 14 31.8
comp=Z,732nm,1.2s
CHGR Chuyangaron 19.02 72 P Pn 14 14 19.1 +0.1
CHGR pmax pmax
comp=Z,733nm,1.2s
KNT Kendrikon 19.03 296 P Pn 14 14 23.1 +4.0
KNT Kendrikon 19.03 296 P Pn 14 14 20.1 +1.0
KNT pmax pmax
comp=Z,79nm,1.2s
SHAO Shalim 19.05 150 *i*P **P 14 14 17.1 -1.4**
SNR=92
SHAO Shalim 19.05 150 P P 14 14 17.3 -1.3
SNR=21
SHAO P **P 14 14 17.3 -1.3**
SNR=21
SHAO S **Sn 14 17 49.3 -3.0**
SHAO S **Sn 14 17 49.3 -3.0**
DMTO DMTO 19.06 152 P P 14 14 16.4 -2.3
SNR=19
KBL Kabul 19.08 85 Pn **Pn 14 14 20.6 +0.7**
KBL Kabul 19.08 85 P Pn 14 14 21.3 +1.4
SNR=58
KBL P **Pn 14 14 21.3 +1.4**
SNR=58
KBL Kabul 19.08 85 P Pn 14 14 20.6 +0.7
KBL pmax pmax
comp=Z,136nm,1.0s
GUR Goura 19.09 286 P Pn 14 14 19.8 -0.2
VTS Vitosha 19.13 300 P Pn 14 14 21.3 +0.9
ARR Arges 19.15 309 ⇓P Pn 14 14 21.2 +0.7
PEHC Pehcevo 19.16 297 *i*P **P 14 14 19.9 +0.2**
AGG Agios Georgios 19.16 289 P P 14 14 19.8 0.0
KLV Kalavryta, Ach 19.25 286 P Pn 14 14 24.3 +2.5
VAY Valandovo 19.31 296 *i*P **Pn 14 14 22.6 +0.2**
MAKR Makrakomi, Fth 19.32 289 P Pn 14 14 23.4 +0.8
GRG Griva 19.36 295 P Pn 14 14 24.8 +1.7
GRG Griva 19.36 295 P Pn 14 14 23.7 +0.6
GRG pmax pmax
comp=Z,108nm,0.8s
LAKA Lakka 19.39 287 P Pn 14 14 23.4 -0.1
ANX Ano Chora 19.45 288 P Pn 14 14 24.8 +0.5
EFP Efpalio 19.46 287 P P 14 14 23.4 +0.5
THL Klokotos Trika 19.46 290 P Pn 14 14 24.3 +0.1
EVR Evrytania 19.56 289 P Pn 14 14 25.2 -0.4
PYL PYLOS 19.57 282 P P 14 14 21.6 -2.6
LOT Lotru 19.74 308 ⇓P Pn 14 14 26.9 -0.7
PVO Paravola 19.76 288 P P 14 14 25.7 -0.6
AKASG Malin Array Be 19.77 328 P P 14 14 25.0 -1.2
AKASG IAmb IAmb 14 14 27.3
comp=Z,426nm,1.1s
AKASG Malin Array Be 19.77 328 P P 14 14 25.4 -0.8
comp=Z,25nm,0.3s,baz=136,slow=11,SNR=202
AKASG ScP **ScP 14 22 17.5 -1.5**
comp=Z,3.7nm,0.7s,baz=106,slow=2.0,SNR=6.2
AKASG LR LR 14 23 32.5
comp=Z,4µm,18.0s,baz=119,slow=41
comp=Z,370nm,1.1s
AKBB Malin Array Si 19.77 328 P P 14 14 25.5 -0.7
AKBB IAmb IAmb 14 14 27.3
comp=Z,450nm,1.0s
AKBB Malin Array Si 19.77 328 *c e*P **P 14 14 25.0 -1.2**
AKBB pmax pmax
comp=Z,579nm,1.0s
KIEV Kiev 19.77 327 P P 14 14 25.0 -1.3
KIEV IAmb IAmb 14 14 27.3
comp=Z,403nm,1.0s
KIEV Kiev 19.77 327 *i*P **P 14 14 25.3 -0.9**
SNR=17
KIEV Kiev 19.77 327 ⇑P P 14 14 25.4 -0.9
RLS Riolos of Patr 19.79 286 P P 14 14 26.1 -0.5
SRE Strehaia 19.80 306 ⇑P Pn 14 14 27.9 -0.4
SRE Strehaia 19.80 306 P Pn 14 14 27.9 -0.4
BLKB Belogradchik 19.81 303 ⇓P Pn 14 14 27.7 -0.7
BURAR Bucovina Array 19.87 316 ⇑P Pn 14 14 28.8 -0.4
BURAR Bucovina Array 19.87 316 P P 14 14 27.7 +0.2
KPRO Kipourio 20.00 291 P Pn 14 14 30.6 -0.1
FNA Florina 20.10 294 P P 14 14 30.1 +0.1
FNA Florina 20.10 294 P P 14 14 30.2 +0.2
FNA Florina 20.10 294 P P 14 14 30.1 +0.1
FNA pmax pmax
comp=Z,57nm,0.8s
ARCR ARCALIA 20.11 313 ⇓P Pn 14 14 31.4 -0.5
HORU Horodok 20.12 321 P P 14 14 29.3 -0.8
DJES Djerdap 20.26 305 ⇑P P 14 14 32.6 +0.9
DJES Djerdap 20.26 305 P P 14 14 31.9 +0.2
SKO Skopje 20.27 297 *i*P **P 14 14 32.7 +0.9**
LTHK Lithakia 20.28 285 P P 14 14 30.6 -1.3
KSV Kosov 20.33 317 P P 14 14 31.4 -1.0
GZR Gura Zlata 20.36 308 ⇑P P 14 14 33.5 +0.7
MRWI Hamdab 20.38 220 *i*P Pn 14 14 34.9 -0.3
MRWI *i* 14 14 40.6
baz=293,slow=6.5
CJR Cluj-Napoca 20.39 312 ⇑P Pn 14 14 34.1 -1.1
CJR Cluj-Napoca 20.39 312 P P 14 14 34.1 +1.0
BTK Batken 20.42 68 IAmb IAmb 14 14 42.8
comp=Z,262nm,0.9s
CBBR Cluj-Babes-Bol 20.45 312 ⇑P P 14 14 34.5 +0.9
LKD2 Lefkada island 20.45 288 P P 14 14 32.9 -0.9
DEV Deva 20.47 309 ⇑P P 14 14 34.6 +0.7
DEV Deva 20.47 309 P P 14 14 34.6 +0.7
VLS Valsamata 20.48 286 P P 14 14 32.4 -1.8
PSDA Pessada-Kefalo 20.49 286 P P 14 14 33.3 -0.8
BOVS Bovan 20.49 302 ⇓P P 14 14 34.8 +0.7
OHR Ohrid 20.58 295 *i*P Pn 14 14 40.1 +2.5
KEF4 Livadi, Kephal 20.62 286 P P 14 14 33.8 -1.7
MARR Marisel-Cluj 20.67 311 ⇓P P 14 14 36.9 +0.7
KEF3 Kipouria, Keph 20.68 286 P P 14 14 33.8 -2.4
KK31 Karatay Array 20.75 60 P P 14 14 37.2 +0.2
KK31 Karatay Array 20.75 60 *i*P **P 14 14 37.4 +0.4**
KKAR Karatay Array 20.75 60 P P 14 14 37.3 +0.3
KKAR Karatay Array 20.75 60 IAmb IAmb 14 14 43.6
comp=Z,157nm,0.8s
KKAR Karatay Array 20.75 60 P P 14 14 37.3 +0.3
IGT Igoumenitsa 20.75 290 P P 14 14 34.2 -2.8
MDVR Moldovita 20.84 305 ⇓P P 14 14 38.9 +0.9
TRKS Terek-Say 20.87 64 P Pn 14 14 39.8 -1.2
BMR Baia Mare 20.90 314 ⇓P Pn 14 14 39.8 -1.3
BMR Baia Mare 20.90 314 P P 14 14 39.8 +1.2
SURR Surduc 20.92 308 ⇑P P 14 14 38.9 +0.1
MESR Meseseni 20.98 312 ⇓P P 14 14 40.7 +1.2
OBN Obninsk 21.09 345 ⇓P P 14 14 40.1 -0.4
OBN Obninsk 21.09 345 P P 14 14 39.1 -1.4
OBN IAMs_20 IAMs_20 14 23 45.6
comp=Z,6µm,18.0s
OBN Obninsk 21.09 345 *c i*P **P 14 14 39.0 -1.5**
OBN *e* 14 15 00.6
OBN *e*PPP PPP 14 15 10.2
OBN *i*S **S 14 18 24.0 -10**
OBN pmax pmax
comp=Z,258nm,3.3s
OBN MLR MLR
comp=Z,6µm,18.0s
OBN Obninsk 21.09 345 P P 14 14 39.7 -0.8
comp=Z,848nm,0.9s,baz=115,slow=1.3,SNR=201
OBN S **S 14 18 29.6 -4.7**
comp=Z,57nm,0.7s,baz=198,slow=21,SNR=3.4
OBN LR LR 14 23 59.4
comp=Z,6µm,19.3s,baz=157,slow=40
comp=Z,848nm,0.9s
KEK Kerkira 21.18 290 IAmb IAmb 14 14 58.8
comp=Z,233nm,0.6s
BZS Buzias 21.20 307 ⇓P P 14 14 42.0 +0.2
BZS Buzias 21.20 307 P P 14 14 41.4 -0.4
DZA Taraz 21.28 61 *e*P **P 14 14 43.7 +0.9**
baz=61
DZA Taraz 21.28 61 *e*P **P 14 14 43.6 +0.9**
TIR Tirane 21.32 295 ⇓P P 14 14 44.8 +1.6
TIR Tirane 21.32 295 P P 14 14 44.7 +1.6
SIRR Siria 21.42 309 ⇑P P 14 14 45.5 +1.4
TRSU Trosnyk 21.43 315 P P 14 14 44.6 +0.4
MORS Morshin 21.43 318 P P 14 14 44.3 +0.1
MOS Moscow 21.47 347 *e*P **P 14 14 39.9 -4.7**
MOS *e*S **S 14 18 35.9 -5.9**
MOS pmax pmax
comp=Z,3µm,1.6s
MOS pmax pmax
comp=N,2µm,1.6s
MOS pmax pmax
comp=Z,2µm,1.4s
MOS pmax pmax
comp=N,2µm,1.3s
MOS smax smax
comp=E,4µm,3.0s
MOS smax smax
comp=N,800nm,2.1s
MOS MLR MLR
comp=Z,5µm,15.0s
MOS MLR MLR
comp=N,4µm,16.0s
IVA Berane 21.58 299 ⇓*i*P **P 14 14 46.9 +0.9**
LVV L'vov 21.74 320 *e*P **P 14 14 46.8 -0.7**
LVV *e*S **S 14 18 41.6 -5.5**
DIVS Divibare 21.81 302 IAmb IAmb 14 14 58.1
comp=Z,392nm,1.5s
DIVS Divibare 21.81 302 *e*P **P 14 14 48.0 -0.5**
KOME Kolasin 21.84 299 ⇑*i*P **P 14 14 51.5 +2.6**
ULC Ulcinj 21.87 296 ⇓*i*P **P 14 14 50.2 +1.1**
PDG Podgorica 21.95 298 ⇓P P 14 14 51.0 +1.2
PDG Podgorica 21.95 298 P P 14 14 48.3 -1.6
PDG Podgorica 21.95 298 *e*P **P 14 14 49.5 -0.4**
DRME Dracevica, Mon 21.96 297 *e*P **P 14 14 51.4 +1.4**
DRME Dracevica, Mon 21.96 297 ⇑*i*P **P 14 14 51.8 +1.8**
OHH Osh 21.97 68 P P 14 14 51.5 +1.3
PLE Pljevlja 22.04 300 ⇑*i*P **P 14 14 51.5 +0.5**
UZH Uzhgorod 22.07 315 P P 14 14 51.9 +0.7
RUDO Rudo 22.12 301 *e*P **P 14 14 50.8 -0.9**
CEME Cevo 22.22 298 ⇑*i*P **P 14 14 54.9 +2.1**
NKME Niksic 22.23 298 ⇑*i*P **P 14 14 54.5 +1.5**
FRGS Fruska Gora 22.24 305 ⇓P P 14 14 54.9 +1.9
FRGS Fruska Gora 22.24 305 *e*P **P 14 14 53.4 +0.4**
TEKS Tekeris 22.25 303 *e*P **P 14 14 52.2 -1.0**
KWP Kalwaria Pacla 22.35 318 *e*P **P 14 14 53.5 -0.6**
KWP Kalwaria Pacla 22.35 318 P P 14 14 53.9 -0.3
KWP pmax pmax
comp=Z,399nm,1.6s
HCY Herceg Novi 22.51 297 *e*P **P 14 14 56.4 +0.5**
HCY Herceg Novi 22.51 297 ⇓*i*P **P 14 14 57.3 +1.4**
BRY Bratogost 22.56 299 *e*P **P 14 14 57.6 +1.0**
BRY Bratogost 22.56 299 ⇑*i*P **P 14 14 58.4 +1.8**
TREB Trebinje 22.66 298 *e*P **P 14 14 57.9 +0.4**
NIL Nilore 22.67 86 P P 14 14 57.8 +0.1
NIL IAmb IAmb 14 15 01.8
comp=Z,362nm,1.0s
NIL Nilore 22.67 86 P P 14 14 57.8 +0.1
NIL pmax pmax
comp=Z,361nm,1.0s
NIL MLR MLR
comp=Z,5µm,21.0s
CRVS Cervenica-Dubn 22.69 315 *e*P **P 14 14 57.7 0.0**
CRVS Cervenica-Dubn 22.69 315 *e*P **P 14 14 57.7 0.0**
CRVS pmax pmax
comp=Z,608nm,1.3s
AML Almayashu 22.85 64 P P 14 15 01.4 +1.4
SNR=145
AML Almayashu 22.85 64 P P 14 14 59.3 -0.7
NEVS Nevesinje 22.95 299 *e*P **P 14 15 01.3 +0.7**
EKS2 Erkin-Say 23.00 62 P P 14 15 02.5 +1.3
SNR=69
JAWL J.Aulia 23.06 215 *i*P **P 14 15 05.0 +3.2**
STHS Stebnicka Huta 23.06 316 *e*P **P 14 15 01.2 -0.5**
STHS Stebnicka Huta 23.06 316 *e*PN P 14 15 09.0 +7.3
KECS Kecovo 23.07 313 *e*P **P 14 15 03.1 +1.4**
KECS Kecovo 23.07 313 *e*PN P 14 15 09.9 +8.2
KECS Kecovo 23.07 313 *e*P **P 14 15 03.1 +1.4**
KECS *e* 14 15 09.9
KECS pmax pmax
comp=Z,217nm,1.4s
ARU Arti 23.11 18 P P 14 15 01.5 -0.5
ARU Arti 23.11 18 *c i*P **P 14 15 01.8 -0.2**
ARU 14 15 27.3
ARU PPP PPP 14 15 37.6
ARU S **S 14 19 15.9 +3.8**
ARU SS **SnSn 14 19 47.5 +2.1**
ARU SSS SSS 14 20 03.0
ARU pmax pmax
comp=Z,215nm,1.1s
ARU MLR MLR
comp=Z,3µm,15.0s
ARU Arti 23.11 18 P P 14 15 01.8 -0.2
comp=Z,91nm,0.8s,baz=207,slow=6.6,SNR=79
ARU LR LR 14 25 40.1
comp=Z,1µm,20.8s,baz=204,slow=41
comp=Z,91nm,0.8s
MNK Minsk 23.15 333 *i*P **P 14 15 00.8 -1.6**
comp=E,35nm,0.6s
MNK *i*P **P 14 15 00.8 -1.6**
comp=N,86nm,0.6s
MNK *i*P **P 14 15 00.8 -1.6**
comp=Z,236nm,0.6s,baz=141
MNK *i*PP **PnPn 14 15 27.0 -0.9**
MNK *i*S **S 14 19 12.9 +0.1**
MNK *i*SS **SnSn 14 20 00.6 +14**
MNK *i*LR LR 14 22 52.9
MNK *i*LRM MLR 14 25 16.0
comp=E,2µm,19.6s
MNK *i*LRM MLR 14 25 16.6
comp=Z,7µm,19.6s
MNK *i*LRM MLR 14 25 17.9
comp=N,5µm,19.6s
MNK Minsk 23.15 333 *i*P **P 14 15 00.8 -1.6**
MNK *i* 14 15 26.9
MNK *i*S **S 14 19 12.9 +0.1**
MNK *i*SS **SnSn 14 20 00.5 +14**
MNK pmax pmax
comp=N,86nm,0.6s
MNK pmax pmax
comp=E,35nm,0.6s
MNK pmax pmax
comp=Z,236nm,0.6s
MNK MLR MLR
comp=E,2µm,20.0s
MNK MLR MLR
comp=Z,7µm,20.0s
MNK MLR MLR
comp=N,5µm,20.0s
STON Ston 23.16 298 *e*P **P 14 15 02.8 +0.2**
PSZ Piszkesteto 23.18 312 ⇑P **P 14 15 03.3 +0.3**
PSZ Piszkesteto 23.18 312 IAmb IAmb 14 15 22.6
comp=Z,193nm,1.0s
PSZ Piszkesteto 23.18 312 P P 14 15 03.2 +0.3
MORH Mrgy, Hungar 23.35 307 ⇑P P 14 15 04.9 +0.3
UCH Uchtor 23.47 64 P P 14 15 06.8 +0.5
SNR=68
TIP Timpagrande 23.50 289 IAMs_20 IAMs_20 14 25 32.7
comp=Z,5µm,18.0s
AAK Ala-Archa 23.52 63 P P 14 15 12.0 +5.5
SNR=31
AAK Ala-Archa 23.52 63 P P 14 15 07.2 +0.8
AAK Ala-Archa 23.52 63 *i*P **P 14 15 08.1 +1.7**
SNR=25
AAK Ala-Archa 23.52 63 P P 14 15 08.6 +2.1
AAK P **P 14 15 08.6 +2.1**
AAK Ala-Archa 23.52 63 *c e*P **P 14 15 07.8 +1.4**
AAK pmax pmax
comp=Z,103nm,1.7s
AAK MLR MLR
comp=Z,4µm,16.0s
AAK Ala-Archa 23.52 63 PcP **PcP 14 18 51.8 +0.1**
comp=Z,8.2nm,0.6s,baz=101,slow=5.2,SNR=1.9
AAK ScP **ScP 14 22 27.6 -1.2**
comp=Z,13nm,0.9s,baz=214,slow=4.9,SNR=5.7
AAK LR LR 14 27 06.2
comp=Z,4µm,18.4s,baz=283,slow=44
ATD Arta Tunnel 23.54 187 IAMs_20 IAMs_20 14 25 00.2
comp=Z,5µm,18.0s
ATD Arta Tunnel 23.54 187 *e*P **P 14 15 03.9 -2.8**
ATD Arta Tunnel 23.54 187 *e*P **P 14 15 07.8 +1.1**
ATD *e*S Sn 14 19 36.1 -4.2
ATD IAMs_20 IAMs_20 14 24 02.1
comp=E,20µm,8.6s
BUD Budapest 23.55 310 P P 14 15 07.0 +0.5
BUD pmax pmax
comp=Z,165nm,1.0s
NIE Niedzica 23.60 315 *e*P **P 14 15 07.6 +0.6**
NIE *e*S **S 14 19 23.1 +2.6**
MATE Matera 23.61 292 ⇑P **P 14 15 06.8 -0.4**
USP Ospenovka 23.63 61 P P 14 15 08.5 +1.1
SNR=209
KIRV Kirov 23.69 5 *c e*P **P 14 15 06.6 -1.1**
KIRV Kirov 23.69 5 P P 14 15 07.0 -0.7
comp=Z,369nm,0.7s,baz=197,slow=3.2,SNR=175
KIRV LR LR 14 26 11.3
comp=Z,6µm,18.6s,baz=191,slow=41
comp=Z,369nm,0.7s
BTLS Baital 23.71 56 ⇑*i*P **P 14 15 09.9 +1.8**

baz=56
BTLS Baital 23.71 56 *c* iP **P** **14 15 09.8 +1.8**
SGDS Sogindy 23.76 61 ⇑*i*P **P** **14 15 09.8 +1.2**
comp=Z,163nm,1.4s,baz=60
SGDS *e*S **S** **14 19 26.9 +3.8**
baz=60
SGDS Sogindy 23.76 61 *c* iP **P** **14 15 09.8 +1.2**
SGDS *e*S **S** **14 19 26.8 +3.8**
SGDS pmax pmax
comp=Z,163nm,1.4s
CHMS Chumysh 23.76 62 P **P** **14 15 10.3 +1.7**
SNR=58
KBK Karagaybulak 23.85 63 P **P** **14 15 11.7 +2.0**
SNR=62
NACGM Naroch 23.87 332 *i* P **P** **14 15 08.3 -1.2**
MGRS Mrkonjic Grad 23.91 302 *e*P **P** **14 15 10.1 0.0**
BLY Banja Luka 23.92 303 *e*P **P** **14 15 08.5 -1.6**
KZA Kyzart 23.99 64 P **P** **14 15 13.5 +2.2**
SNR=58
SVE Sverdlovsk 24.02 20 *de*P **P** **14 15 11.5 +0.6**
SVE *e*S **S** **14 19 27.2 +0.4**
SVE pmax pmax
comp=Z,1μm,1.5s
SVE MLR MLR
comp=Z,4μm,18.0s
VYHS Vyhne 24.07 312 *e*P **P** **14 15 11.2 -0.2**
VYHS Vyhne 24.07 312 *e*P **P** **14 15 11.3 -0.2**
VYHS pmax pmax
comp=Z,102nm,1.6s
SRO Srobarova 24.12 310 *e*P **P** **14 15 12.3 +0.4**
SRO Srobarova 24.12 310 *e*P **P** **14 15 12.4 +0.5**
SRO pmax pmax
comp=Z,116nm,1.2s
CEL Celeste 24.18 286 IAmb IAmb 14 15 32.7
comp=Z,198nm,0.9s
IDID Didziasalis 24.20 333 *e*P **P** **14 15 10.3 -2.3**
A050A Klekovaca 24.31 302 *e*P **P** **14 15 12.9 -0.9**
KSH Kashi 24.35 70 P **P** **14 15 14.0 -0.3**
KSH sP pP 14 15 20.0 -0.5
KSH PP **PnPn** **14 15 47.0 +2.4**
KSH S **S** **14 19 35.0 +2.3**
KSH pmax pmax
comp=Z,220nm,0.9s
KSH LR LR
comp=Z,4μm,15.1s
KSH LR LR
comp=Z,6μm,17.5s
KSH LR LR
comp=Z,6μm,18.5s
TKM2 Tokmak 2 24.36 62 P **P** **14 15 16.5 +2.0**
SNR=170
TKM2 Tokmak 2 24.36 62 P **P** **14 15 16.1 +1.6**
DESE Dese 24.45 195 *e*P P 14 15 02.0 -14
DESE Dese 24.45 195 *e*P **P** **14 15 14.8 -0.7**
DESE Dese 24.45 195 *e*P P 14 15 02.0 -14
DESE Dese 24.45 195 *e*P **P** **14 15 14.8 -0.7**
NRN Naryn 24.48 66 IAmb IAmb 14 15 19.4
comp=Z,237nm,0.9s
BEL Belsk 24.57 321 *e*P **P** **14 15 15.8 -0.2**
BEL *e*S **S** **14 19 42.5 +6.7**
BEL Belsk 24.57 321 P **P** **14 15 16.7 +0.7**
ISAL Salakas 24.62 333 *e*P **P** **14 15 17.2 +0.8**
BRZS Berezniki 24.63 44 ⇑*i*P **P** **14 15 17.5 +0.9**
baz=44
BRZS *e*S **S** **14 19 40.5 +3.6**
baz=44
BRZS Berezniki 24.63 44 *c* iP **P** **14 15 17.5 +0.9**
BRZS *e*S **S** **14 19 40.4 +3.6**
IZAR Zarasai 24.71 333 *e*P **P** **14 15 18.3 +1.1**
SUW Suwalki 24.73 327 *e*P **P** **14 15 16.5 -0.9**
SUW *e*S **S** **14 19 37.7 -0.6**
SUW Suwalki 24.73 327 *e*P **P** **14 15 18.0 +0.6**
SUW Suwalki 24.73 327 P **P** **14 15 16.8 -0.6**
SUW pmax pmax
comp=Z,2μm,1.1s
ULHL Ulahol 24.74 64 P **P** **14 15 19.0 +1.1**
SNR=18
JAVC Velka Javorina 24.92 312 *e*P **P** **14 15 19.8 +0.5**
SMOL Smolenice 24.93 311 *e*P **P** **14 15 20.2 +0.9**
SMOL pmax pmax
comp=Z,67nm,0.9s
MODS Modra-Piesok 24.98 311 *e*P **P** **14 15 19.6 -0.1**
MODS Modra-Piesok 24.98 311 *e*PN P 14 15 30.4 +11
MODS Modra-Piesok 24.98 311 *e*P **P** **14 15 19.6 -0.1**
MODS *e* 14 15 30.5
MODS pmax pmax
comp=Z,317nm,1.2s
BRVK Borovoye 24.98 36 P **P** **14 15 20.5 +0.8**
BRVK Borovoye 24.98 36 IAMs_20 IAMs_20 14 26 49.0
comp=Z,5μm,20.0s
BRVK Borovoye 24.98 36 P **P** **14 15 21.6 +1.9**
BRVK P **P** **14 15 21.6 +1.9**
BRVK S **S** **14 19 46.0 +3.6**
BRVK S **S** **14 19 46.0 +3.6**
BRVK Borovoye 24.98 36 *ce*P **P** **14 15 20.3 +0.6**
BRVK pmax pmax
comp=Z,432nm,1.3s
KOGS Kog 25.00 306 *i* P **P** **14 15 20.1 +0.1**
BVA0 Borovoye Array 25.02 36 *i* P **P** **14 15 20.4 +0.4**
BVAR Borovoye Array 25.02 36 P **P** **14 15 20.7 +0.7**
comp=Z,180nm,0.8s,baz=242,slow=7.7,SNR=205
BVAR PcP **PcP** **14 18 54.4 -0.1**
comp=Z,7.4nm,0.7s,baz=33,slow=3.4,SNR=2.1
BVAR ScP **ScP** **14 22 31.1 -1.3**
comp=Z,15nm,0.8s,baz=251,slow=2.1,SNR=8.6
BVAR LR LR 14 27 13.8
comp=Z,6μm,20.3s,baz=230,slow=42
comp=Z,180nm,0.8s
ZST Bratislava 25.02 311 *e*P **P** **14 15 20.4 +0.3**
ZST Bratislava 25.02 311 *e*PN P 14 15 31.1 +11
ZST Bratislava 25.02 311 *e*P **P** **14 15 20.4 +0.3**
ZST *e* 14 15 31.1
ZST pmax pmax
comp=Z,549nm,1.1s
MAUC Maruska 25.03 314 *e*P **P** **14 15 21.7 +1.5**
MAUC *e*S **S** **14 19 51.4 +8.1**
MAUC AMS AMS 14 27 50.0
comp=Z,7μm,13.0s
OKC Ostrava-Krasne 25.04 315 *e*P **P** **14 15 20.0 -0.3**
OKC AMS AMS 14 27 30.0
comp=Z,3μm,16.1s
OKC Ostrava-Krasne 25.04 315 *e*P **P** **14 15 20.0 -0.3**
OKC MLR MLR
comp=Z,3μm,16.1s
PTJ Puntijarka 25.04 305 P **P** **14 15 21.2 +0.8**
SOP Sopron 25.18 309 P **P** **14 15 22.3 +0.7**
PAOL Paolisi 25.26 293 IAmb IAmb 14 15 26.5
comp=Z,314nm,1.5s
RONA Rosalia, Austr 25.36 309 *e*P **P** **14 15 23.3 +0.1**
comp=Z,222nm,1.2s,SNR=30
TNSS Tian-Shan 25.36 62 *e*P **P** **14 15 25.1 +1.3**
baz=62
TNSS Tian-Shan 25.36 62 *e*P **P** **14 15 25.0 +1.3**
AAA Alma-Ata 25.36 62 *e*P **P** **14 15 24.8 +1.4**
comp=Z,131nm,0.8s,baz=62
AAA Alma-Ata 25.36 62 *e*P **P** **14 15 24.7 +1.4**
AAA pmax pmax
comp=Z,131nm,0.8s
CRES Cresnjev 25.37 304 *e*P **P** **14 15 23.2 -0.1**
MORC Moravsky Berou 25.37 314 ⇑P **P** **14 15 23.3 -0.1**
MORC Moravsky Berou 25.37 314 IAmb IAmb 14 15 36.2
comp=Z,133nm,0.9s
MORC Moravsky Berou 25.37 314 *e*P **P** **14 15 23.0 -0.3**
MORC Moravsky Berou 25.37 314 P **P** **14 15 23.2 -0.1**
VAE Valguarnera 25.39 285 P **P** **14 15 25.4 +1.8**
comp=Z,72nm,0.8s,baz=245,slow=4.0,SNR=8.0
comp=Z,72nm,0.8s
PABE Paberze 25.42 330 *e*P **P** **14 15 23.2 -0.4**
BOJS Bojanci 25.43 304 *e*P **P** **14 15 22.7 -1.1**
MDOK Medeo 25.45 62 *e*P **P** **14 15 26.1 +1.8**
baz=62
MDOK *e*S **S** **14 19 53.9 +3.5**
baz=62
MDOK Medeo 25.45 62 *e*P **P** **14 15 26.1 +1.8**
MDOK *e*S **S** **14 19 53.9 +3.5**
CHKK Chushkaly 25.51 60 *e*P **P** **14 15 25.8 +1.1**
baz=60
CHKK Chushkaly 25.51 60 *e*P **P** **14 15 25.8 +1.1**
CONA Conrad Observa 25.71 309 *i* P **P** **14 15 26.4 -0.1**
comp=Z,133nm,1.0s,SNR=35
ARSA Arzberg 25.71 308 *i* P **P** **14 15 26.5 0.0**
comp=Z,74nm,0.8s,SNR=15
VRAC Vranov 25.75 313 ⇓P **P** **14 15 27.2 +0.5**
VRAC Vranov 25.75 313 *e*P **P** **14 15 26.4 -0.3**
VRAC Vranov 25.75 313 P **P** **14 15 26.7 0.0**
comp=Z,54nm,0.8s,baz=108,slow=8.3,SNR=39
VRAC LR LR 14 27 20.0
comp=Z,3μm,18.4s,baz=126,slow=41
comp=Z,54nm,0.8s
VSVD Vaisvydziai 25.77 331 *e*P **P** **14 15 27.4 +0.6**
KRUC Moravsky 25.77 312 *e*P **P** **14 15 26.7 -0.2**
KRUC Moravsky 25.77 312 P **P** **14 15 27.0 +0.1**
INTR Introdacqua 25.83 295 IAmb IAmb 14 15 54.5
comp=Z,168nm,1.2s
TARG Taragay, Kyrgy 25.85 65 P **P** **14 15 31.1 +2.9**
SOKA Soboth 25.87 306 *e*P **P** **14 15 27.8 -0.2**
comp=Z,73nm,1.2s,SNR=18
SOKA *e*S **S** **14 19 54.5 -2.4**
comp=Z,16nm,1.1s
KRLC Kraliky 25.94 314 *e*P **P** **14 15 28.3 -0.2**
KRLC *e*S **S** **14 20 04.5 +6.7**
KRLC AMS AMS 14 27 20.0
comp=Z,3μm,15.1s
KRLC Kraliky 25.94 314 *e*P **P** **14 15 28.3 -0.2**
KRLC *e*S **S** **14 20 04.5 +6.7**
KRLC MLR MLR
comp=Z,3μm,15.1s
CEY Cerknica 26.05 304 *e*P **P** **14 15 29.7 +0.2**
LJU Ljubljana 26.05 305 *e*P **P** **14 15 29.6 +0.1**
OBKA Obir 26.15 306 *i* P **P** **14 15 30.4 -0.1**
comp=Z,75nm,1.2s
OBKA Obir 26.15 306 *e*P **P** **14 15 31.3 +0.8**
KLMR Klimovskoe 26.17 353 ⇑*i*P **P** **14 15 29.0 -1.4**
KLMR ⇑*i*P **P** **14 15 29.0 -1.4**
KLMR *e*P **P** **14 15 29.0 -1.4**
KLMR AMP 14 15 32.9
comp=Z,1μm,1.1s
KLMR S **S** **14 20 00.6 -0.4**
KLMR S **S** **14 20 00.6 -0.4**
KLMR LQ LQ 14 24 19.1
KLMR LQ LQ 14 24 19.1
KLMR LR LR 14 25 37.8
KLMR AMP 14 26 34.3
comp=Z,4μm,15.5s
KLMR Klimovskoe 26.17 353 *c* iP **P** **14 15 28.9 -1.4**
KLMR S **S** **14 20 00.5 -0.4**
KLMR pmax pmax
comp=Z,1μm,1.1s
KLMR MLR MLR
comp=Z,4μm,16.0s
ARXS Arharly 26.17 60 *e*P **P** **14 15 32.3 +1.6**
AQU L'Aquila 26.23 296 IAmb IAmb 14 16 04.3
comp=Z,199nm,0.9s
AQU IAMs_20 IAMs_20 14 26 01.7
comp=Z,5μm,19.0s
AQU L'Aquila 26.23 296 P **P** **14 15 32.2 +1.0**
CAMP Campotosto 26.24 296 IAmb IAmb 14 15 48.5
comp=Z,242nm,0.9s
DPC Dobruska-Polom 26.32 315 *e*P **P** **14 15 31.9 -0.1**
DPC *e*S **S** **14 20 06.5 +2.7**
DPC AMS AMS 14 26 00.0
comp=Z,3μm,22.1s
DPC Dobruska-Polom 26.32 315 *e*P **P** **14 15 31.9 -0.1**
DPC *e*S **S** **14 20 06.5 +2.7**
DPC MLR MLR
comp=Z,3μm,22.1s
GUMA Gualdo di Mace 26.35 298 IAmb IAmb 14 16 02.8
comp=Z,179nm,0.8s
TREC Trest 26.41 312 *e*P **P** **14 15 33.6 +0.8**
TREC AMS AMS 14 27 20.0
comp=Z,4μm,19.9s
TREC Trest 26.41 312 *e*P **P** **14 15 33.6 +0.8**
TREC MLR MLR
comp=Z,4μm,19.9s
SATY Saty 26.42 62 *e*P **P** **14 15 34.7 +1.7**
comp=Z,124nm,0.8s,baz=62
SATY Saty 26.42 62 *e*P **P** **14 15 34.7 +1.7**
SATY pmax pmax
comp=Z,124nm,0.8s
ZHN Zhinishke 26.46 62 *e*P **P** **14 15 34.6 +1.3**
comp=Z,101nm,0.9s,baz=62
ZHN Zhinishke 26.46 62 *e*P **P** **14 15 34.6 +1.3**
ZHN pmax pmax
comp=Z,101nm,0.9s
KLNR Kaliningrad 26.46 326 *i* P **P** **14 15 33.0 0.0**
KLNR pmax pmax
comp=Z,293nm,0.9s
KLNR MLR MLR
comp=Z,3μm,17.0s
OSTC Ostas 26.47 315 *e*P **P** **14 15 33.4 +0.1**
OSTC *e*S **S** **14 20 08.5 +2.4**
OSTC AMS AMS 14 27 50.0
comp=Z,3μm,17.3s
OSTC Ostas 26.47 315 *e*P **P** **14 15 33.4 +0.1**
OSTC *e*S **S** **14 20 08.5 +2.4**
OSTC MLR MLR
comp=Z,3μm,17.3s
NRCA Norcia 26.49 297 IAmb IAmb 14 15 53.5
comp=Z,135nm,1.0s
FDMO Fiordimonte 26.53 297 IAmb IAmb 14 15 42.7
comp=Z,103nm,0.7s
KSP Ksiaz 26.55 316 *e*P **P** **14 15 33.7 -0.2**
KSP *e*S **S** **14 20 14.2 +7.0**
UPC Upice 26.57 315 *e*P **P** **14 15 34.1 0.0**
UPC *e*S **S** **14 19 57.4 -10**
UPC AMS AMS 14 27 40.0
comp=Z,3μm,15.9s
UPC Upice 26.57 315 *e*P **P** **14 15 34.1 0.0**
UPC *e*S **S** **14 19 57.4 -10**
UPC MLR MLR
comp=Z,3μm,15.9s
CHVC Chvalec 26.58 315 *e*P **P** **14 15 34.2 0.0**
CHVC AMS AMS 14 27 40.0
comp=Z,3μm,15.8s
CHVC Chvalec 26.58 315 *e*P **P** **14 15 34.2 0.0**
CHVC MLR MLR
comp=Z,3μm,15.8s
PBUR Paburge 26.61 329 *e*P **P** **14 15 34.6 +0.2**
CADS Cadrg 26.63 305 *i* P **P** **14 15 34.6 -0.2**
PRGR Permogore 26.63 360 ⇑*i*P **P** **14 15 33.4 -1.1**
PRGR *e* 14 16 12.6
PRGR pmax pmax
comp=Z,670nm,1.0s
VSU Vasula 26.66 337 *e*P **P** **14 15 34.3 -0.4**
SABO M.te Sabotino 26.66 304 IAmb IAmb 14 16 02.2
comp=Z,205nm,1.3s
KPKS Kokpek 26.68 62 *e*P **P** **14 15 36.2 +0.9**
comp=Z,114nm,1.1s,baz=62
KPKS Kokpek 26.68 62 *e*P **P** **14 15 36.1 +0.9**
KPKS pmax pmax
comp=Z,114nm,1.1s
MOA Molin 26.70 308 *i* P **P** **14 15 35.3 -0.1**
comp=Z,92nm,0.9s,SNR=25
TDK Taldyqorghan 26.71 58 *e*P **P** **14 15 36.6 +1.0**
baz=58
TDK LR LR 14 27 43.4
comp=Z,3μm,12.1s,baz=58
TDK Taldyqorghan 26.71 58 *e*P **P** **14 15 36.5 +1.0**
TDK MLR MLR
comp=Z,3μm,12.0s
PUL Pulkovo 26.75 343 *de*P **P** **14 15 35.6 0.0**
PUL pmax pmax
comp=Z,223nm,1.0s
PUL MLR MLR
comp=Z,5μm,15.0s
MYKA Terra Mystica 26.79 305 *i* P **P** **14 15 38.6 +2.4**
comp=Z,22nm,0.8s
FURI Furi 26.81 196 IAMs_20 IAMs_20 14 26 43.7
comp=Z,10μm,18.0s
FURI Furi 26.81 196 *e*P **P** **14 15 30.5 -6.5**
FURI Furi 26.81 196 *e*P **P** **14 15 37.6 +0.6**
FURI *e*S S 14 20 37.9 +25
FURI IAMs_20 IAMs_20 14 26 25.5
comp=Z,13μm,12.7s
FURI Furi 26.81 196 *e*P **P** **14 15 30.5 -6.5**
FURI Furi 26.81 196 *e*P **P** **14 15 37.6 +0.6**
FURI *e*S S 14 20 37.9 +25
FURI IAMs_20 IAMs_20 14 26 25.5
comp=Z,13μm,12.7s
CESX Cesi 26.86 296 IAmb IAmb 14 15 56.9
comp=Z,155nm,0.9s
UZB Uzunbulak 26.88 62 *e*P **P** **14 15 38.8 +1.6**
comp=Z,78nm,1.2s,baz=62
UZB Uzunbulak 26.88 62 *e*P **P** **14 15 38.8 +1.6**
UZB pmax pmax
comp=Z,78nm,1.2s
CKRC Cesky Krumlov 26.98 310 *e*P **P** **14 15 37.7 -0.2**
CKRC *e*S **S** **14 20 12.5 -1.6**
CKRC AMS AMS 14 29 30.0
comp=Z,3μm,17.0s
CKRC Cesky Krumlov 26.98 310 *e*P **P** **14 15 37.7 -0.2**
CKRC *e*S **S** **14 20 12.5 -1.6**
CKRC MLR MLR
comp=Z,3μm,17.0s
GOPC GO Pecny, Ondr 27.06 313 *e*P **P** **14 15 39.2 +0.6**
GOPC *e*S **S** **14 20 11.5 -4.0**
GOPC AMS AMS 14 29 00.0
comp=Z,6μm,14.9s
GOPC GO Pecny, Ondr 27.06 313 *e*P **P** **14 15 39.2 +0.6**
GOPC *e*S **S** **14 20 11.5 -4.0**
GOPC MLR MLR
comp=Z,6μm,14.9s
BIOA Bad Ischl, Aus 27.07 308 *e*P **P** **14 15 38.4 -0.3**
comp=Z,131nm,1.1s,SNR=20
KBA Koelnbreinsper 27.09 306 *i* P **P** **14 15 38.9 -0.2**
comp=Z,166nm,1.2s
KBA Koelnbreinsper 27.09 306 P **P** **14 15 39.0 -0.1**
GKP Gorka Klasztor 27.17 321 *e*P **P** **14 15 38.9 -0.6**
GKP Gorka Klasztor 27.17 321 *e*P **P** **14 15 40.6 +1.1**
GKP Gorka Klasztor 27.17 321 P **P** **14 15 40.7 +1.2**
SHLS Shalkode 27.20 62 *e*P **P** **14 15 44.0 +3.9**
baz=62
SHLS Shalkode 27.20 62 *e*P **P** **14 15 43.9 +3.9**
PRU Pruhonice 27.24 313 *e*P **P** **14 15 40.5 +0.4**
PRU *e*S **S** **14 20 17.5 -0.7**
PRU AMS AMS 14 29 10.0
comp=Z,6μm,14.1s
PRU Pruhonice 27.24 313 *e*P **P** **14 15 40.5 +0.4**
PRU *e*S **S** **14 20 17.5 -0.7**
PRU MLR MLR
comp=Z,6μm,14.1s
ZVC Zvikov 27.26 312 *e*P **P** **14 15 40.3 0.0**
ZVC *e*S **S** **14 20 17.5 -1.0**
ZVC AMS AMS 14 29 20.0
comp=Z,4μm,16.1s
PRA Prague 27.33 313 *e*S **S** **14 20 15.5 -4.1**
PRA AMS AMS 14 29 20.0
comp=Z,5μm,13.4s
GERES GERESS Array B 27.37 310 P **P** **14 15 40.9 -0.5**
comp=Z,7.9nm,0.5s,baz=111,slow=8.0,SNR=16
GERES ScP **ScP** **14 22 38.8 -0.8**
comp=Z,6.1nm,0.9s,baz=133,slow=7.8,SNR=3.8
GERES LR LR 14 28 20.6
comp=Z,2μm,19.4s,baz=107,slow=40
comp=Z,7.9nm,0.5s
PVCC Panska Ves 27.42 314 *e*P **P** **14 15 42.2 +0.4**
PVCC AMS AMS 14 28 20.0
comp=Z,4μm,16.5s
PVCC Panska Ves 27.42 314 *e*P **P** **14 15 42.2 +0.4**
PVCC MLR MLR
comp=Z,4μm,16.5s
CIMO Cimolais 27.52 304 IAmb IAmb 14 15 44.1
comp=Z,124nm,1.4s
KHC Kasperske Hory 27.53 311 *e*P **P** **14 15 42.4 -0.5**
KHC x x 14 16 11.0
KHC *e*S **S** **14 20 19.2 -3.7**
KHC AMS AMS 14 29 50.0
comp=Z,3μm,13.4s
KHC Kasperske Hory 27.53 311 *e*P **P** **14 15 42.4 -0.5**
KHC *e*S **S** **14 20 19.2 -3.7**
KHC MLR MLR
comp=Z,3μm,13.4s
ABTA Abfaltersbach 27.57 305 *e*P **P** **14 15 42.9 -0.3**
comp=Z,62nm,1.0s,SNR=12
SLIT Slitere, Latvi 27.57 332 *e*P **P** **14 15 41.7 -1.3**
LESA Schwarzleotal 27.62 307 *i* P **P** **14 15 42.9 -0.8**
comp=Z,33nm,0.8s
LESA *e*S **S** **14 20 24.7 +0.3**
comp=Z,26nm,1.6s
RICC Richard 27.71 314 *e*P **P** **14 15 44.6 +0.3**
RICC AMS AMS 14 29 40.0
comp=Z,4μm,15.4s
MTSE Matsula 27.82 335 *e*P **P** **14 15 45.0 -0.2**
TEOL Teolo 27.87 302 IAmb IAmb 14 15 59.8
comp=Z,133nm,0.9s
BRG Berggiesshubel 27.92 314 *i* P **P** **14 15 40.0 -6.2**
BRG Amp 14 15 42.4
comp=Z,56nm,1.3s
BRG Berggiesshubel 27.92 314 S **S** **14 20 27.0 -1.9**
BRG Amp 14 28 27.0
comp=E,1.3nm,15.8s
BRG Amp 14 28 36.0
comp=N,2.3nm,14.7s
BRG Amp 14 28 41.0
comp=Z,3.8nm,16.1s
BRG Berggiesshubel 27.92 314 *i* P **P** **14 15 40.0 -6.2**
BRG S **S** **14 20 27.0 -1.9**
BRG pmax pmax
comp=Z,56nm,1.3s
BRG smax smax
comp=E,1μm,15.8s
BRG MLR MLR
comp=N,2μm,14.7s
BRG MLR MLR
comp=Z,4μm,16.1s
WET Wettzell 27.98 310 P **P** **14 15 46.4 -0.4**
HSKC Hora Svate Kat 28.13 314 *e*P **P** **14 15 48.4 +0.3**
HSKC AMS AMS 14 29 50.0
comp=Z,6μm,19.4s
WTTA Wattenberg 28.27 306 *e*P **P** **14 15 48.8 -0.8**
comp=Z,110nm,1.0s,SNR=18
WTTA *e*S **S** **14 20 32.5 -2.3**
comp=Z,91nm,1.9s
WTTA Wattenberg 28.27 306 P **P** **14 15 48.8 -0.8**
KURBB Kurchatov Arra 28.32 47 P **P** **14 15 50.9 +1.1**
KURBB Kurchatov Arra 28.32 47 P **P** **14 15 49.9 +0.1**
comp=Z,93nm,0.7s,baz=253,slow=9.1,SNR=291
KURBB PcP **PcP** **14 19 02.0 -0.3**
comp=Z,5.0nm,0.5s,baz=247,slow=3.1,SNR=2.8
KURBB ScP **ScP** **14 22 40.9 -1.5**
comp=Z,11nm,1.0s,baz=248,slow=3.7,SNR=6.2
KURBB LR LR 14 29 35.9
comp=Z,4μm,18.8s,baz=226,slow=42
comp=Z,93nm,0.7s
WATA Walderalm 28.33 306 *e*P **P** **14 15 49.0 -1.1**
comp=Z,151nm,1.2s,SNR=15
WATA *e*S **S** **14 20 33.1 -2.6**
comp=Z,66nm,1.9s
KURK Kurchatov 28.41 46 P **P** **14 15 51.7 +1.1**
KURK IAmb IAmb 14 15 58.9
comp=Z,139nm,0.9s
KURK Kurchatov 28.41 46 P **P** **14 15 52.5 +1.9**
KURK S **S** **14 20 40.2 +3.7**
KURK Kurchatov 28.41 46 *ce*P **P** **14 15 52.2 +1.6**
KURK pmax pmax
comp=Z,170nm,1.0s
KURK MLR MLR
comp=Z,4μm,14.0s
SQTA Sankt Quirin 28.55 306 *e*P **P** **14 15 51.0 -1.0**
comp=Z,77nm,0.5s,SNR=22
SQTA *e*S **S** **14 20 36.1 -2.9**
comp=Z,60nm,1.3s
NKC Novy Kostel 28.59 312 *e*P **P** **14 15 52.0 -0.2**
NKC AMS AMS 14 29 00.0
comp=Z,3μm,16.9s
NKC Novy Kostel 28.59 312 *e*P **P** **14 15 52.0 -0.2**
NKC MLR MLR
comp=Z,3μm,16.9s
CLL Collm 28.64 315 IAMs_20 IAMs_20 14 29 11.1
comp=Z,4μm,18.0s
CLL Collm 28.64 315 *i* P **P** **14 15 51.9 -0.7**
comp=Z,99nm,1.3s
CLL *i* sP **sP** **14 16 00.5 -0.8**
CLL *i* x x 14 16 11.6
CLL *i* x x 14 16 31.6
CLL *e*PPP PPP 14 16 52.0
CLL *i* x x 14 17 08.7
comp=Z,85nm,1.3s
CLL *e*S **S** **14 20 41.0 +0.9**
CLL *e*SSS SSS 14 22 23.0
CLL *e*PcS **PcS** **14 22 46.0 +0.7**
CLL AMS AMS 14 29 00.0
CLL AMS AMS 14 29 00.0
comp=Z,4μm,18.2s
CLL Collm 28.64 315 *i* P **P** **14 15 51.9 -0.7**
CLL *i* 14 16 00.5
CLL *e*S **S** **14 20 41.0 +0.9**
CLL pmax pmax
comp=Z,99nm,1.3s
CLL MLR MLR
comp=Z,4μm,18.2s
MOTA Moosalm 28.64 306 *e*P **P** **14 15 51.6 -1.3**
comp=Z,52nm,0.7s,SNR=14
RUE Ruedersdorf 28.66 317 *e*P **P** **14 15 53.1 +0.4**

FUR	**Furstenfeldbru**	**28.72**	**308**	P		**P**		**14 15 52.7**	**-0.8**
MEF	**Metsahovi**	**28.79**	**338**	*e*P		**P**		**14 15 53.4**	**-0.4**
FETA	**Feichten**	**28.82**	**305**	*e*P		**P**		**14 15 53.7**	**-0.8**
	comp=Z,128nm,1.5s,SNR=20								
FETA				*e*S		**S**		**14 20 41.0**	**-2.5**
	comp=Z,67nm,1.3s								
RETA	**Reutte**	**28.90**	**306**	*e*P		**P**		**14 15 53.5**	**-1.6**
	comp=Z,36nm,0.7s,SNR=8.5								
RETA				*i* S		**S**		**14 20 41.4**	**-3.2**
	comp=Z,59nm,1.5s								
FUORN	**Ofenpass-Fuorn**	**29.06**	**304**	IAMs_20	IAMs_20			14 28 48.4	
	comp=Z,3µm,18.0s								
GRFO	**Grafenberg**	**29.17**	**311**	P		**P**		**14 15 56.5**	**-0.9**
GRFO	**Grafenberg**	**29.17**	**311**	P		**P**		**14 15 56.5**	**-0.9**
GRFO				pmax	pmax				
	comp=Z,53nm,0.7s								
MOX	**Moxa**	**29.23**	**313**	P		**P**		**14 15 58.0**	**+0.1**
FINES	**FINESS Array B**	**29.28**	**341**	*i* P		**P**		**14 15 57.2**	**-1.0**
FINES				pmax	pmax				
	comp=Z,45nm,0.4s								
FINES	**FINESS Array B**	**29.28**	**341**	P		**P**		**14 15 57.4**	**-0.8**
	comp=Z,44nm,0.5s,baz=146,slow=10,SNR=308								
FINES				LR	LR			14 29 20.5	
	comp=Z,4µm,20.1s,baz=152,slow=40								
	comp=Z,44nm,0.5s								
BSD	**Bornholm Skovb**	**29.29**	**323**	*e*P		**P**		**14 15 57.2**	**-1.1**
BSD	**Bornholm Skovb**	**29.29**	**323**	P		**P**		**14 15 57.2**	**-1.1**
BSD	**Bornholm Skovb**	**29.29**	**323**	*i* P		**P**		**14 15 57.2**	**-1.1**
BSD				IAmb	IAmb			14 16 14.4	
	comp=Z,78nm,1.0s								
DAVOX	**Davos/Dischmat**	**29.35**	**305**	P		**P**		**14 15 58.8**	**-0.4**
	comp=Z,20nm,0.6s,baz=109,slow=4.2,SNR=20								
DAVOX				LR	LR			14 29 18.5	
	comp=Z,3µm,20.1s,baz=82,slow=40								
	comp=Z,20nm,0.6s								
DAVA	**Damuels**	**29.44**	**306**	*e*P		**P**		**14 15 58.9**	**-1.1**
	comp=Z,66nm,0.5s,SNR=24								
DAVA				*i* S		**S**		**14 20 50.1**	**-3.1**
	comp=Z,134nm,1.7s								
MAKZ	**Makanchi**	**29.50**	**55**	⇑P		**P**		**14 16 02.3**	**+2.0**
KEST	**Kesra**	**29.64**	**282**	P		**P**		**14 16 04.8**	**+2.9**
KEST				P		**P**		**14 16 04.8**	**+2.9**
KEST	**Kesra**	**29.64**	**282**	P		**P**		**14 16 03.4**	**+1.5**
	comp=Z,29nm,0.7s,baz=247,slow=16,SNR=25								
KEST				ScP		**ScP**		**14 22 46.4**	**-0.5**
	comp=Z,12nm,0.9s,baz=2.8,slow=4.6,SNR=4.7								
KEST				LR	LR			14 31 05.9	
	comp=Z,856nm,18.8s,baz=12,slow=43								
	comp=Z,29nm,0.7s								
MK31	**Makanchi Array**	**29.70**	**55**	*i* P		**P**		**14 16 03.9**	**+1.7**
MKAR	**Makanchi Array**	**29.70**	**55**	*i* P		**P**		**14 16 04.0**	**+1.8**
MKAR				pmax	pmax				
	comp=Z,430nm,0.8s								
MKAR	**Makanchi Array**	**29.70**	**55**	P		**P**		**14 16 03.9**	**+1.7**
	comp=Z,430nm,0.8s,baz=255,slow=9.1,SNR=1601								
MKAR				LR	LR			14 31 01.6	
	comp=Z,4µm,18.1s,baz=266,slow=42								
RGN	**Rugen**	**29.82**	**321**	*e*P		**P**		**14 16 04.0**	**+1.0**
RAF	**Rauma**	**30.24**	**337**	*e*P		**P**		**14 16 05.9**	**-0.8**
VIKU	**Vikbolandet**	**30.38**	**330**	*e*P		**P**		**14 16 08.0**	**0.0**
SLE	**Schleitheim**	**30.46**	**306**	P		**P**		**14 16 08.4**	**-0.5**
DEL	**Delary**	**30.49**	**325**	*e*P		**P**		**14 16 08.9**	**-0.1**
BFO	**Black Forest**	**30.68**	**307**	P		**P**		**14 16 09.9**	**-0.9**
BFO	**Black Forest**	**30.68**	**307**	P		**P**		**14 16 09.9**	**-0.9**
BFO				pmax	pmax				
	comp=Z,45nm,1.3s								
COP	**Copenhagen**	**30.80**	**323**	P		**P**		**14 16 12.3**	**+0.6**
COP	**Copenhagen**	**30.80**	**323**	*i* P		**P**		**14 16 12.9**	**+1.3**
COP				IAmb	IAmb			14 16 13.6	
	comp=Z,295nm,0.8s								
UPP	**Uppsala**	**30.88**	**332**	*e*P		**P**		**14 16 11.6**	**-0.7**
TNS	**Taunus Mts**	**31.04**	**311**	P		**P**		**14 16 14.2**	**+0.2**
BSEG	**Bad Segeberg**	**31.15**	**318**	P		**P**		**14 16 15.1**	**+0.3**
BNI	**Bardonecchia**	**31.33**	**301**	IAmb	IAmb			14 16 18.0	
	comp=Z,199nm,1.1s								
BNI	**Bardonecchia**	**31.33**	**301**	P		**P**		**14 16 16.6**	**-0.1**
ECH	**Echery**	**31.42**	**307**	P		**P**		**14 16 16.6**	**-0.8**
ZSN	**Zaisan**	**31.55**	**55**	*e*P		**P**		**14 16 19.7**	**+1.2**
	baz=55								
ZSN	**Zaisan**	**31.55**	**55**	*e*P		**P**		**14 16 19.6**	**+1.2**
ORIF	**Oris-en-Rattie**	**31.89**	**300**	P		**P**		**14 16 19.5**	**-2.0**
BUG	**Bochum--Univer**	**32.08**	**313**	P		**P**		**14 16 23.8**	**+0.8**
SSRD	**Sdr. Stenderup**	**32.14**	**321**	*i* P		**P**		**14 16 24.2**	**+0.7**
SSRD				IAmb	IAmb			14 16 25.6	
	comp=Z,329nm,0.8s								
PYUN	**Piuthan**	**32.28**	**92**	*e*P		**P**		**14 16 26.3**	**+1.0**
	comp=Z,319nm,0.8s								
WLF	**Walferdange**	**32.35**	**309**	*d*P		**P**		**14 16 24.5**	**-0.9**
	comp=Z,38nm,0.9s								
OUL	**Oulu**	**32.40**	**344**	P		**P**		**14 16 24.8**	**-0.8**
BTNL	**Ternell**	**32.57**	**311**	*dx*		x		14 16 30.8	
BHOU	**Houvegnez**	**32.59**	**310**	*d*P		**P**		**14 16 28.0**	**+0.4**
HFS	**Hagfors**	**32.60**	**330**	P		**P**		**14 16 27.1**	**-0.4**
	comp=Z,112nm,0.5s,baz=128,slow=9.7,SNR=391								
HFS				LR	LR			14 31 24.3	
	comp=Z,3µm,19.1s,baz=128,slow=40								
	comp=Z,112nm,0.5s								
OVD	**Ostervraa, Den**	**32.66**	**324**	*i* P		**P**		**14 16 27.5**	**-0.5**
OVD				IAmb	IAmb			14 16 29.0	
	comp=Z,281nm,1.0s								
MUD	**Monsted U'grnd**	**32.78**	**322**	P		**P**		**14 16 29.7**	**+0.6**
MUD	**Monsted U'grnd**	**32.78**	**322**	*i* P		**P**		**14 16 28.9**	**-0.2**
MUD				IAmb	IAmb			14 16 31.1	
	comp=Z,294nm,0.8s								
DANN	**Dangsing**	**32.82**	**91**	*e*P		**P**		**14 16 31.4**	**+1.3**
	comp=Z,1µm,0.8s								
SSB	**Saint Sauveur**	**32.85**	**301**	IAmb	IAmb			14 16 45.5	
	comp=Z,252nm,1.8s								
KOLN	**Koldanda**	**32.90**	**92**	*e*P		**P**		**14 16 31.4**	**+0.7**
LODK	**Lodwar**	**32.91**	**199**	IAMs_20	IAMs_20			14 30 24.1	
	comp=Z,5µm,19.0s								
LODK	**Lodwar**	**32.91**	**199**	*e*P		P		14 16 36.8	+6.1
LODK	**Lodwar**	**32.91**	**199**	*e*P		**P**		**14 16 30.1**	**-0.6**
LODK				*e*S		S		14 22 15.6	+28
LODK				IAMs_20	IAMs_20			14 28 19.1	
	comp=E,5µm,18.6s								
LODK	**Lodwar**	**32.91**	**199**	P		**P**		**14 16 32.9**	**+2.2**
	SNR=24								
LODK	**Lodwar**	**32.91**	**199**	*e*P		P		14 16 36.8	+6.1
LODK	**Lodwar**	**32.91**	**199**	*e*P		**P**		**14 16 30.1**	**-0.6**
LODK				*e*S		S		14 22 15.6	+28
LODK				IAMs_20	IAMs_20			14 28 19.1	
	comp=E,5µm,18.6s								
RCHB	**Rochefort**	**33.04**	**310**	*d*P		**P**		**14 16 31.3**	**-0.1**
RCHB				*d*PP		**PnPn**		**14 17 38.5**	**-2.4**
BCLA	**Clavier**	**33.05**	**310**	*d*P		**P**		**14 16 32.0**	**+0.5**
ZAA0	**Zalesovo Array**	**33.09**	**43**	IAmb	IAmb			14 16 35.6	
	comp=Z,75nm,0.8s								
ZALV	**Zalesovo Beam**	**33.09**	**43**	P		**P**		**14 16 32.9**	**+1.1**
	comp=Z,64nm,0.6s,baz=253,slow=8.6,SNR=183								
ZALV				LR	LR			14 32 43.3	
	comp=Z,7µm,18.2s,baz=247,slow=41								
	comp=Z,64nm,0.6s								
BGES	**Gesves**	**33.17**	**310**	*d*P		**P**		**14 16 31.9**	**-0.7**
WMQ	**Urumqi**	**33.22**	**62**	*e*P		**P**		**14 16 35.5**	**+2.3**
WMQ				PP		**PnPn**		**14 17 45.3**	**+1.9**
WMQ				S		**S**		**14 21 55.0**	**+2.8**
WMQ				pmax	pmax				
	comp=Z,360nm,0.9s								
WMQ				pmax	pmax				
	comp=Z,600nm,5.1s								
WMQ				LR	LR				
	comp=Z,3µm,14.9s								
WMQ				LR	LR				
	comp=Z,3µm,18.9s								
WMQ				LR	LR				
	comp=Z,2µm,19.5s								
BMRD	**Maredsous**	**33.36**	**310**	*d*P		**P**		**14 16 34.1**	**-0.1**
APA	**Apatity**	**33.37**	**351**	⇓*i*P		**P**		**14 16 32.4**	**-1.7**
APA				*i*				14 19 13.5	
APA				*i* S		**S**		**14 21 51.0**	**-2.7**
APA				pmax	pmax				
	comp=Z,57nm,0.8s								
DOU	**Dourbes**	**33.43**	**310**	*d*P		**P**		**14 16 34.5**	**-0.4**
DOU				*dp*P		**pP**		**14 16 38.5**	**-2.5**
LOR	**Lormes**	**33.49**	**304**	P		**P**		**14 16 34.4**	**-1.1**
LVZ	**Lovozero**	**33.54**	**352**	P		**P**		**14 16 34.5**	**-1.1**
LVZ				IAmb	IAmb			14 17 47.2	
	comp=Z,122nm,1.0s								
LVZ				IAMs_20	IAMs_20			14 31 36.7	
	comp=Z,3µm,21.0s								
LVZ	**Lovozero**	**33.54**	**352**	*ce*P		**P**		**14 16 35.3**	**-0.3**
LVZ				pmax	pmax				
	comp=Z,207nm,2.5s								
LVZ				MLR	MLR				
	comp=Z,2µm,13.0s								
DGZ	**Jazzator, Alta**	**33.60**	**51**	*c i*P		**P**		**14 16 38.0**	**+1.5**
DGZ				pmax	pmax				
	comp=Z,109nm,0.7s								
DGZ				MLR	MLR				
	comp=Z,4µm,14.0s								
GKN	**Gorkha**	**33.66**	**91**	*e*P		**P**		**14 16 38.4**	**+1.0**
	comp=Z,893nm,0.8s								
OSL	**Oslo**	**33.73**	**329**	*e*P		**P**		**14 16 36.7**	**-0.6**
NC602	**NORSAR Array S**	**33.82**	**330**	*e*P		**P**		**14 16 37.0**	**-1.1**
NORES	**NORESS Array B**	**33.82**	**330**	P		**P**		**14 16 37.7**	**-0.4**
HOMB	**Homborsund**	**33.91**	**325**	*e*P		**P**		**14 16 38.3**	**-0.6**
NC405	**NORSAR Array S**	**33.96**	**331**	IAmb	IAmb			14 16 39.4	
	comp=Z,59nm,0.8s								
HYB	**Hyderabad**	**33.99**	**113**	*e*P		**P**		**14 16 40.5**	**+0.4**
HYB				*ep*P		**pP**		**14 16 46.4**	**+0.1**
HYB				*e*PcP		**PcP**		**14 19 17.7**	**-0.3**
HYB				*e*S		**S**		**14 22 07.6**	**+3.2**
KONO	**Kongsberg**	**34.07**	**328**	P		**P**		**14 16 38.5**	**-1.8**
KONO				IAmb	IAmb			14 16 40.3	
	comp=Z,71nm,0.8s								
KONO	**Kongsberg**	**34.07**	**328**	IAMs_20	IAMs_20			14 32 10.6	
	comp=Z,3µm,19.0s								
KONO	**Kongsberg**	**34.07**	**328**	*e*P		**P**		**14 16 39.1**	**-1.2**
KONO	**Kongsberg**	**34.07**	**328**	*ce*P		**P**		**14 16 39.5**	**-0.8**
KONO				pmax	pmax				
	comp=Z,91nm,0.8s								
NB201	**NORSAR Array S**	**34.09**	**331**	IAmb	IAmb			14 17 54.6	
	comp=Z,79nm,1.1s								
NB2	**NORSAR Subarra**	**34.12**	**330**	P		**P**		**14 16 38.9**	**-1.9**
	comp=Z,36nm,0.8s,baz=124,slow=8.6								
NB2	**NORSAR Subarra**	**34.12**	**330**	P		**P**		**14 16 38.9**	**-1.9**
	baz=124,slow=8.6								
NOA	**NORSAR Array B**	**34.12**	**330**	P		**P**		**14 16 39.4**	**-1.5**
	comp=Z,13nm,0.6s,baz=124,slow=8.6,SNR=68								
NOA				LR	LR			14 31 37.5	
	comp=Z,2µm,19.0s,baz=140,slow=38								
	comp=Z,13nm,0.6s								
NAO01	**NORSAR Array S**	**34.15**	**330**	IAmb	IAmb			14 17 54.6	
	comp=Z,143nm,1.4s								
DMN	**Daman**	**34.20**	**91**	*e*P		**P**		**14 16 43.1**	**+1.0**
	comp=Z,679nm,0.9s								
KKN	**Kakani**	**34.27**	**91**	*e*P		**P**		**14 16 43.4**	**+0.7**
SGF	**Sodankyl**	**34.32**	**347**	P		**P**		**14 16 42.1**	**-0.2**
NC204	**NORSAR Array S**	**34.44**	**331**	IAmb	IAmb			14 16 42.7	
	comp=Z,147nm,1.6s								
PKIN	**Phulchoki**	**34.45**	**91**	*e*P		**P**		**14 16 45.3**	**+1.0**
	comp=Z,462nm,0.7s								
PKI	**Pulchoki**	**34.46**	**91**	*e*P		**P**		**14 16 45.3**	**+0.8**
	comp=Z,410nm,0.7s								
SNART	**Snartemo**	**34.55**	**325**	*e*P		**P**		**14 16 44.4**	**-0.1**
GUN	**Gumba**	**34.72**	**90**	*e*P		**P**		**14 16 47.9**	**+1.2**
	comp=Z,1µm,1.0s								
JIRN	**Jiri**	**35.07**	**91**	*e*P		**P**		**14 16 50.9**	**+1.1**
	comp=Z,721nm,0.7s								
SKAR	**Skarslia**	**35.14**	**329**	*e*P		**P**		**14 16 49.0**	**-0.7**
BLS5	**Blasjo**	**35.37**	**326**	*e*P		**P**		**14 16 51.8**	**+0.2**
ODD1	**Odda**	**35.51**	**327**	*e*P		**P**		**14 16 53.1**	**+0.3**
DOMB	**Dombas**	**35.53**	**331**	*e*P		**P**		**14 16 52.1**	**-0.8**
RAMN	**Ramite**	**35.68**	**92**	*e*P		**P**		**14 16 55.9**	**+1.0**
	comp=Z,1µm,0.7s								
TBLU	**Trondheim**	**35.75**	**333**	*e*P		**P**		**14 16 54.7**	**-0.1**
NSS	**Nansos**	**35.92**	**336**	*e*P		**P**		**14 16 55.5**	**-0.6**
MFF	**Saint Martin d**	**36.19**	**303**	P		**P**		**14 16 57.9**	**-0.8**
MOR8	**Moi Rana**	**36.23**	**339**	*e*P		**P**		**14 16 57.7**	**-1.2**
HYA	**Hoyanger**	**36.28**	**328**	*e*P		**P**		**14 16 59.7**	**+0.3**
VADS	**Vadso**	**36.28**	**351**	*e*P		**P**		**14 16 59.0**	**-0.2**
KEV	**Kevo**	**36.29**	**349**	P		**P**		**14 16 58.7**	**-0.6**
KEV				IAMs_20	IAMs_20			14 33 06.6	
	comp=Z,4µm,19.0s								
KEV	**Kevo**	**36.29**	**349**	P		**P**		**14 16 58.7**	**-0.6**
KEV				pmax	pmax				
	comp=Z,77nm,1.0s								
KEV				MLR	MLR				
	comp=Z,4µm,19.0s								
KTK1	**Kautokeino**	**36.30**	**346**	*e*P		**P**		**14 16 58.8**	**-0.6**
BER	**Bergen**	**36.30**	**327**	*e*P		**P**		**14 16 59.6**	**+0.1**
BER	**Bergen**	**36.30**	**327**	P		**P**		**14 16 59.9**	**+0.4**
ARA0	**ARCESS Array S**	**36.34**	**348**	*e*P		**P**		**14 16 59.3**	**-0.5**
ARCES	**ARCESS Array B**	**36.34**	**348**	IAmb	IAmb			14 18 21.9	
	comp=Z,211nm,1.3s								
ARCES	**ARCESS Array B**	**36.34**	**348**	P		**P**		**14 16 59.1**	**-0.6**
	comp=Z,35nm,0.6s,baz=152,slow=8.4,SNR=206								
ARCES				PP		**PnPn**		**14 18 21.0**	**-0.9**
	comp=Z,34nm,0.5s,baz=150,slow=9.8,SNR=8.8								
ARCES				LR	LR			14 33 20.3	
	comp=Z,4µm,19.2s,baz=144,slow=39								
	comp=Z,35nm,0.6s								
ODAN	**Odare**	**36.36**	**91**	*e*P		**P**		**14 17 01.3**	**+0.6**
	comp=Z,559nm,0.9s								
ASK	**Askoy**	**36.41**	**327**	*e*P		**P**		**14 17 01.5**	**+1.1**
MOL	**Molde**	**36.41**	**331**	*e*P		**P**		**14 17 00.2**	**-0.3**
TAPN	**Taplejung**	**36.43**	**90**	*e*P		**P**		**14 17 02.5**	**+1.1**
	comp=Z,759nm,1.1s								
AKN	**Aaknes**	**36.44**	**330**	*e*P		**P**		**14 17 01.4**	**+0.7**
STOK	**Stokkvaagen**	**36.76**	**339**	*e*P		**P**		**14 17 02.4**	**-0.9**
KONS	**Kongsvik**	**36.84**	**339**	*e*P		**P**		**14 17 03.3**	**-0.7**
FAUS	**Fauske**	**36.84**	**341**	*e*P		**P**		**14 17 02.8**	**-1.2**
KMBO	**Kilima Mbogo**	**36.84**	**194**	IAMs_20	IAMs_20			14 32 06.6	
	comp=Z,3µm,20.0s								
KMBO	**Kilima Mbogo**	**36.84**	**194**	*i* P		**P**		**14 17 07.1**	**+2.3**
	SNR=7.2								
KMBO	**Kilima Mbogo**	**36.84**	**194**	*e*P		P		14 17 18.4	+14
KMBO	**Kilima Mbogo**	**36.84**	**194**	P		**P**		**14 17 07.5**	**+2.7**
KMBO	**Kilima Mbogo**	**36.84**	**194**	*i* P		**P**		**14 17 05.3**	**+0.5**
KMBO	**Kilima Mbogo**	**36.84**	**194**	P		**P**		**14 17 07.0**	**+2.1**
	comp=Z,8.0nm,0.9s,baz=3.6,slow=8.7,SNR=12								
KMBO				LR	LR			14 32 19.1	
	comp=Z,3µm,20.6s,baz=9.5,slow=36								
	comp=Z,8.0nm,0.9s								
KMBO	**Kilima Mbogo**	**36.84**	**194**	*e*P		P		14 17 18.4	+14
SUE	**Sulen**	**36.85**	**328**	*e*P		**P**		**14 17 04.2**	**+0.1**
FOO	**Floro**	**36.97**	**329**	*e*P		**P**		**14 17 04.8**	**-0.3**
STEI	**Steigen**	**37.25**	**341**	*e*P		**P**		**14 17 06.5**	**-0.9**
JETT	**Jettan, Norway**	**37.31**	**346**	*e*P		**P**		**14 17 07.5**	**-0.6**
CWF	**Charnwood Fore**	**37.53**	**313**	*e*P		**P**		**14 17 09.2**	**-0.8**
GDLE	**Glaisdale, N Y**	**37.54**	**316**	*e*P		**P**		**14 17 09.3**	**-0.9**
HAMF	**Hammerfest**	**37.62**	**348**	*e*P		**P**		**14 17 10.2**	**-0.4**
TRO	**Tromso**	**37.68**	**345**	*e*P		**P**		**14 17 10.3**	**-0.8**
HMDM	**Hanimaadhoo**	**37.74**	**132**	P		**P**		**14 17 13.4**	**+1.3**
LOF	**Lofoten**	**37.85**	**341**	*e*P		**P**		**14 17 11.4**	**-1.1**
KIBK	**Kibwezi**	**37.88**	**193**	P		**P**		**14 17 13.3**	**-0.1**
KIBK	**Kibwezi**	**37.88**	**193**	P		**P**		**14 17 15.9**	**+2.5**
	SNR=5.5								
LBWR	**Ladybower, Pea**	**37.88**	**314**	*e*P		**P**		**14 17 12.8**	**-0.2**
LBWR				IAmb	IAmb			14 17 13.8	
	comp=Z,142nm,1.1s								
STRD	**Stroud**	**37.91**	**311**	*e*P		**P**		**14 17 12.9**	**-0.4**
HPK	**Haverah Park**	**37.92**	**315**	*e*P		**P**		**14 17 13.0**	**-0.3**
HPK				IAmb	IAmb			14 17 14.4	
	comp=Z,715nm,1.5s								
EDMD	**Edmundbyers**	**38.28**	**316**	*e*P		**P**		**14 17 15.9**	**-0.5**
EDMD				IAmb	IAmb			14 17 17.3	
	comp=Z,243nm,0.8s								
MONM	**Monmouth**	**38.31**	**311**	⇑*e*P		**P**		**14 17 15.9**	**-0.7**
MONM				IAmb	IAmb			14 17 16.6	
	comp=Z,256nm,1.5s								
LSA	**Lhasa**	**38.40**	**85**	P		**P**		**14 17 19.0**	**+0.8**
LSA	**Lhasa**	**38.40**	**85**	P		**P**		**14 17 19.7**	**+1.4**
LSA	**Lhasa**	**38.40**	**85**	P		**P**		**14 17 19.9**	**+1.6**
LSA	**Lhasa**	**38.40**	**85**	P		**P**		**14 17 19.0**	**+0.8**
LSA				pmax	pmax				
	comp=Z,316nm,0.9s								
LSA				MLR	MLR				
	comp=Z,2µm,22.0s								
HLM1	**Long Mynd**	**38.44**	**312**	*e*P		**P**		**14 17 16.6**	**-1.2**
MCH1	**Michaelchurch**	**38.45**	**312**	⇑*e*P		**P**		**14 17 16.5**	**-1.3**
MCH1				IAmb	IAmb			14 17 19.0	
	comp=Z,144nm,1.0s								
FOEL	**Foel Wylfa**	**38.69**	**313**	⇑*e*P		**P**		**14 17 20.3**	**+0.5**
FOEL				IAmb	IAmb			14 17 21.2	
	comp=Z,144nm,1.0s								
KESW	**Keswick, Cumbr**	**38.88**	**316**	*e*P		**P**		**14 17 21.4**	**-0.1**
KESW				IAmb	IAmb			14 17 22.6	
	comp=Z,292nm,0.8s								
LLW	**Llanuwychllyn**	**38.96**	**313**	*e*P		**P**		**14 17 21.9**	**-0.2**
DRUM	**Mains of Drumt**	**39.00**	**319**	⇑*e*P		**P**		**14 17 21.8**	**-0.6**
DRUM				IAmb	IAmb			14 17 23.3	
	comp=Z,411nm,0.7s								
EKA	**Eskdalemuir Ar**	**39.05**	**317**	P		**P**		**14 17 22.0**	**-0.8**
EKA	**Eskdalemuir Ar**	**39.05**	**317**	P		**P**		**14 17 22.0**	**-0.8**
	comp=Z,128nm,0.6s,baz=108,slow=8.3,SNR=288								
	comp=Z,128nm,0.6s								
ESK	**Eskdalemuir**	**39.07**	**317**	*e*P		**P**		**14 17 22.0**	**-1.0**
ESK				IAmb	IAmb			14 17 23.6	
	comp=Z,171nm,0.8s								
ESK	**Eskdalemuir**	**39.07**	**317**	P		**P**		**14 17 21.4**	**-1.5**
ESK				IAmb	IAmb			14 17 23.9	
	comp=Z,167nm,0.8s								
ESK	**Eskdalemuir**	**39.07**	**317**	P		**P**		**14 17 21.5**	**-1.5**
ESK				pmax	pmax				
	comp=Z,167nm,0.8s								
EDI	**Edinburgh**	**39.17**	**318**	*e*P		**P**		**14 17 23.0**	**-0.8**
EDI				IAmb	IAmb			14 17 25.9	
	comp=Z,312nm,0.7s								
LRW	**Lerwick**	**39.22**	**325**	⇑*e*P		**P**		**14 17 23.2**	**-1.0**
LRW				IAmb	IAmb			14 17 24.3	
	comp=Z,168nm,0.7s								
ESDC	**Sonseca Array**	**39.44**	**292**	P		**P**		**14 17 25.9**	**-0.5**
	comp=Z,26nm,0.7s,baz=69,slow=8.2,SNR=114								
ESDC				PcP		**PcP**		**14 19 34.4**	**+0.2**
	comp=Z,7.1nm,1.0s,baz=55,slow=3.9,SNR=2.2								
ESDC				LR	LR			14 34 27.2	
	comp=Z,2µm,20.0s,baz=85,slow=37								
	comp=Z,26nm,0.7s								
WLF1	**Llynfaes**	**39.45**	**313**	*e*P		**P**		**14 17 26.8**	**+0.6**
WLF1				IAmb	IAmb			14 17 28.7	
	comp=Z,153nm,0.8s								
GOMU	**GeErMu**	**39.51**	**74**	P		**P**		**14 17 29.7**	**+2.3**
GOMU				pP	sP	14 17 35.6	-0.4		
GOMU				sP	pP	14 17 37.6	+3.9		
GOMU				PP	**PnPn**	**14 19 07.0**	**+6.0**		
GOMU				S	**S**	**14 23 33.4**	**+4.4**		
GOMU				SS	**SS**	**14 26 21.5**	**-2.0**		
GOMU				pmax	pmax				
	comp=Z,110nm,1.0s								
GOMU				LR	LR				
	comp=Z,1µm,18.8s								
GOMU				LR	LR				
	comp=Z,1µm,19.1s								
GOMU				LR	LR				
	comp=Z,1µm,18.7s								
WPS	**Cemaes, Angles**	**39.52**	**314**	⇑*e*P		**P**		**14 17 27.0**	**+0.2**
WPS				IAmb	IAmb			14 17 29.3	
	comp=Z,259nm,1.2s								
MCD	**Coleburn Disti**	**39.56**	**320**	⇑*e*P		**P**		**14 17 26.2**	**-0.8**
MCD				IAmb	IAmb			14 17 27.9	
	comp=Z,340nm,0.7s								
NEWG	**New Galloway**	**39.61**	**316**	⇑*e*P		**P**		**14 17 26.3**	**-1.2**
NEWG				IAmb	IAmb			14 17 28.4	
	comp=Z,60nm,0.9s								
IOMK	**Kirk Michael**	**39.68**	**315**	*e*P		**P**		**14 17 27.6**	**-0.5**
IOMK				IAmb	IAmb			14 17 29.2	
	comp=Z,326nm,0.9s								
WIM	**Isle of Man**	**39.72**	**315**	*e*P		**P**		**14 17 28.4**	**-0.1**
INVG	**Invergeldie, C**	**39.74**	**318**	⇑*e*P		**P**		**14 17 27.6**	**-1.0**
INVG				IAmb	IAmb			14 17 29.3	
	comp=Z,317nm,0.9s								
PAB	**San Pablo**	**39.76**	**292**	P		**P**		**14 17 28.1**	**-0.9**
PAB	**San Pablo**	**39.76**	**292**	P		**P**		**14 17 28.1**	**-0.9**
PAB				pmax	pmax				
	comp=Z,66nm,1.1s								
GAL1	**Galloway**	**39.85**	**316**	*e*P		**P**		**14 17 28.8**	**-0.6**
GAL1				IAmb	IAmb			14 17 30

PBDV Barranco-do-Ve 42.98 289 *e*P **P 14 17 55.8 +0.3**
comp=Z,159nm,1.7s
MESJ Messejana 43.07 290 *e*pP pP 14 18 02.2 -0.2
PNCL Nicolau / Gran 43.24 291 *e*P **P 14 17 59.4 +1.9**
comp=Z,87nm,2.7s
PACT Alcochete 43.33 292 *e*pP pP 14 18 05.2 +0.8
PMAFR Mafra 43.63 292 *e*pP pP 14 18 06.8 -0.1
PFVI Vila Bisbo 43.70 289 *e*pP pP 14 18 08.1 +0.6
ZAK Zakamensk 43.82 51 *e*P **P 14 18 04.1 +1.9**
ZAK *e* 14 19 46.8
ZAK pmax pmax
comp=Z,87nm,1.3s
ZAK pmax pmax
comp=Z,32nm,1.5s
HSPB Hornsund (broa 44.20 351 *e*P **P 14 18 05.5 +0.8**
HSPB *e*PP **PP 14 19 46.4 -1.2**
IRK Irkutsk 44.39 49 *e*P **P 14 18 07.8 +1.2**
IRK pmax pmax
comp=Z,332nm,1.4s
SPB2 Spitsbergen Ar 45.05 352 P **P 14 18 11.5 0.0**
SPB2 IAmb IAmb 14 18 12.9
comp=Z,129nm,0.8s
SPA0 Spitsbergen Ar 45.06 352 *e*P **P 14 18 11.7 +0.1**
SPITS Spitsbergen Ar 45.06 352 P **P 14 18 11.7 +0.1**
comp=Z,53nm,0.4s,baz=134,slow=11,SNR=246
SPITS LR LR 14 38 50.3
comp=Z,2µm,18.9s,baz=124,slow=38
comp=Z,53nm,0.4s
TOA0 Torodi Ar. Sit 45.33 252 P **P 14 18 13.2 -1.3**
TOA0 Torodi Ar. Sit 45.33 252 P **P 14 18 14.2 -0.3**
TOA0 P **P 14 18 14.2 -0.3**
TOA0 S **S 14 24 54.9 +0.5**
TOA0 S **S 14 24 54.9 +0.5**
TORD Torodi Ar. Bea 45.33 252 P **P 14 18 13.1 -1.4**
TORD Torodi Ar. Bea 45.33 252 P **P 14 18 13.8 -0.7**
comp=Z,16nm,0.7s,baz=42,slow=8.1,SNR=84
TORD LR LR 14 40 03.0
comp=Z,1µm,18.8s,baz=54,slow=40
comp=Z,16nm,0.7s
MND Mandalay 45.61 93 P **P 14 18 15.9 -0.8**
JMIC Jan Mayen 45.84 338 LR LR 14 38 34.1
comp=Z,3µm,19.5s,baz=104,slow=38
SONM Songino Array 46.06 55 P **P 14 18 20.7 +0.6**
SONM Songino Array 46.06 55 P **P 14 18 20.7 +0.6**
SONM pmax pmax
comp=Z,77nm,1.3s
SONM Songino Array 46.06 55 P **P 14 18 21.2 +1.2**
comp=Z,34nm,1.1s,baz=278,slow=11,SNR=85
SONM PcP **PcP 14 19 56.1 -0.1**
comp=Z,6.7nm,0.7s,baz=257,slow=2.7,SNR=2.2
SONM ScP **ScP 14 23 46.9 -1.5**
comp=Z,3.5nm,0.9s,baz=256,slow=6.1,SNR=4.1
SONM LR LR 14 40 30.6
comp=Z,1µm,18.9s,baz=280,slow=40
comp=Z,34nm,1.1s
KBS Kingsbay 46.19 351 P **P 14 18 19.9 -0.6**
KBS IAmb IAmb 14 18 21.5
comp=Z,122nm,1.3s
KBS Kingsbay 46.19 351 IAMs_20 IAMs_20 14 38 46.9
comp=Z,2µm,19.0s
KBS Kingsbay 46.19 351 *e*P **P 14 18 20.6 +0.2**
KBS Kingsbay 46.19 351 *ce*P **P 14 18 19.7 -0.8**
KBS pmax pmax
comp=Z,26nm,0.7s
KBS Kingsbay 46.19 351 *i* P **P 14 18 19.9 -0.6**
TNCH TengChong 46.24 88 ⇑P **P 14 18 23.1 +1.3**
TNCH PcP **PcP 14 19 58.4 +1.1**
TNCH PP **PP 14 20 12.1 +1.7**
TNCH S **S 14 25 03.4 -4.4**
TNCH sS pS 14 25 16.6 +1.2
TNCH pmax pmax
comp=Z,160nm,1.1s
TNCH LR LR
comp=Z,660nm,12.3s
TNCH LR LR
comp=Z,750nm,13.4s
TNCH LR LR
comp=Z,640nm,18.7s
ULN Ulaanbaatar 46.50 54 P **P 14 18 24.6 +1.0**
ULN Ulaanbaatar 46.50 54 IAMs_20 IAMs_20 14 40 34.0
comp=Z,2µm,18.0s
ULN Ulaanbaatar 46.50 54 P **P 14 18 25.1 +1.6**
ULN P **P 14 18 25.1 +1.6**
ULN S **S 14 25 11.6 +0.7**
ULN S **S 14 25 11.6 +0.7**
ULN Ulaanbaatar 46.50 54 *ce*P **P 14 18 24.0 +0.5**
ULN pmax pmax
comp=Z,231nm,1.0s
LZH Lanzhou 46.60 71 ⇑*i*P **P 14 18 26.5 +2.0**
LZH pP pP 14 18 31.6 +0.8
LZH sP sP 14 18 35.3 +2.1
LZH S **S 14 25 15.9 +3.3**
LZH sS sS 14 25 27.0 +4.0
LZH pmax pmax
comp=Z,210nm,1.1s
LZH pmax pmax
comp=Z,710nm,4.3s
LZH LR LR
comp=Z,1µm,15.1s
LZH LR LR
comp=Z,2µm,14.4s
LZH LR LR
comp=Z,2µm,15.1s
CD2 Chengdu 48.20 78 P **P 14 18 38.0 +1.1**
CD2 S **S 14 25 37.0 +1.7**
CD2 pmax pmax
comp=Z,600nm,0.8s
CD2 LR LR
comp=Z,2µm,20.6s
CD2 LR LR
comp=Z,1µm,15.7s
PZH PanZhiHua 48.26 84 ⇑P **P 14 18 37.7 +0.2**
PZH PP **PP 14 20 32.0 +2.1**
PZH ScP **ScP 14 23 56.2 -1.8**
PZH S **S 14 25 39.8 +3.3**
PZH ScS **ScS 14 28 26.3 -3.6**
PZH SS **SS 14 29 00.0 -5.8**
PZH pmax pmax
comp=Z,170nm,0.8s
PZH pmax pmax
comp=Z,300nm,3.9s
PZH LR LR
comp=Z,840nm,19.1s
PZH LR LR
comp=Z,880nm,20.6s
PZH LR LR
comp=Z,870nm,23.0s
SBV Sambava 48.37 175 P **P 14 18 41.4 +3.3**
SBV Sambava 48.37 175 P **P 14 18 40.4 +2.3**
SNR=5.0
SBV Sambava 48.37 175 *eP* **P 14 18 40.2 +2.1**
DGAR Diego Garcia 49.12 144 P **P 14 18 45.3 +1.4**
BORG Borgarnes 49.25 329 P **P 14 18 43.5 -0.9**
BORG IAmb IAmb 14 18 47.0
comp=Z,71nm,1.0s
BORG Borgarnes 49.25 329 P **P 14 18 43.5 -0.9**
BORG pmax pmax
comp=Z,71nm,1.0s
BORG Borgarnes 49.25 329 LR LR 14 41 25.1
comp=Z,2µm,19.8s,baz=95,slow=38
CHTO Chiang Mai 49.48 95 P **P 14 18 45.8 -1.0**
CHTO Chiang Mai 49.48 95 P **P 14 18 46.4 -0.4**
CHTO Chiang Mai 49.48 95 P **P 14 18 46.6 -0.2**
CHTO P **P 14 18 46.6 -0.2**
CHTO S **S 14 25 52.5 -1.0**
CHTO S **S 14 25 52.5 -1.0**
CHTO Chiang Mai 49.48 95 P **P 14 18 45.8 -1.0**
CHTO pmax pmax
comp=Z,38nm,1.0s
KMI Kunming 49.66 85 ⇑P **P 14 18 48.9 +0.5**
KMI sP sP 14 18 57.4 +0.3
KMI S **S 14 25 55.4 -0.9**
KMI ScS **ScS 14 28 34.9 -4.6**
KMI SS **SS 14 29 23.8 -4.7**
KMI pmax pmax
comp=Z,250nm,1.0s
KMI pmax pmax
comp=Z,440nm,4.3s
KMI LR LR
comp=Z,1µm,26.7s
KMI LR LR
comp=Z,910nm,26.2s
KMI LR LR
comp=Z,790nm,25.1s
CM31 Chiang Mai Arr 49.66 95 P **P 14 18 48.7 +0.5**
SNR=21
CM31 P **P 14 18 48.7 +0.5**
SNR=21
CMAR Chiang Mai Arr 49.66 95 *i* P **P 14 18 47.9 -0.3**
CMAR pmax pmax
comp=Z,28nm,0.7s
CMAR Chiang Mai Arr 49.66 95 P **P 14 18 48.0 -0.1**
comp=Z,26nm,0.7s,baz=293,slow=8.3,SNR=126
CMAR PP **PP 14 20 42.6 0.0**
comp=Z,20nm,1.0s,baz=294,slow=10.0,SNR=4.6
CMAR LR LR 14 42 54.7
comp=Z,613nm,21.6s,baz=285,slow=40
comp=Z,26nm,0.7s
BOD Bodaibo 49.77 41 *e*P **P 14 18 48.6 +0.2**
BOD pmax pmax
comp=Z,137nm,1.3s
SCO Scoresbysund 50.03 336 IAmb IAmb 14 18 52.3
comp=Z,86nm,0.9s
SCO Scoresbysund 50.03 336 *i* P **P 14 18 50.4 +0.2**
SCO IAmb IAmb 14 18 52.6
comp=Z,37nm,0.8s
BTO Baotou 50.03 63 ⇑*i*P **P 14 18 51.7 +0.9**
BTO pP **pP 14 18 56.4 -0.8**
BTO sP **sP 14 18 59.0 -0.5**
BTO PP **PP 14 20 46.6 +0.9**
BTO S **S 14 26 02.2 +1.3**
BTO SS **SS 14 29 31.2 -2.5**
BTO pmax pmax
comp=Z,1µm,4.3s
BTO LR LR
comp=Z,3µm,19.0s
BTO LR LR
comp=Z,2µm,23.1s
BTO LR LR
comp=Z,1µm,16.5s
CIT Chita 50.10 48 *e*P **P 14 18 52.4 +1.2**
CIT *e* 14 20 55.0
CIT *e* 14 26 11.2
CIT pmax pmax
comp=Z,240nm,1.7s
DBG Daneborg 50.17 341 *i* P **P 14 18 51.4 +0.1**
DBG IAmb IAmb 14 18 53.9
comp=Z,72nm,0.9s
DAG Danmarks Havn 50.40 344 *i* P **P 14 18 52.0 -1.0**
DAG IAmb IAmb 14 18 54.0
comp=Z,49nm,0.9s
HHC Hu-ho-hao-te 51.09 63 *e*P **P 14 18 59.8 +0.9**
HHC pmax pmax
comp=Z,34nm,0.5s
HHC Hu-ho-hao-te 51.09 63 *e*P **P 14 19 01.0 +2.1**
HHC pP pP 14 19 06.1 +0.8
HHC sP sP 14 19 08.8 +1.2
HHC S **S 14 26 16.8 +1.1**
HHC pmax pmax
comp=Z,360nm,1.1s
HHC pmax pmax
comp=Z,1µm,5.0s
HHC LR LR
comp=Z,3µm,20.4s
HHC LR LR
comp=Z,2µm,17.8s
HHC LR LR
comp=Z,1µm,16.2s
XAN Xi'an 51.19 72 ⇑P **P 14 19 00.6 +1.0**
XAN pP pP 14 19 04.5 -1.5
XAN S **S 14 26 19.1 +2.0**
XAN ScS **ScS 14 28 45.2 -4.2**
XAN SS **SS 14 29 49.9 -2.4**
XAN pmax pmax
comp=Z,380nm,0.8s
XAN pmax pmax
comp=Z,890nm,3.6s
XAN LR LR
comp=Z,3µm,16.1s
XAN LR LR
comp=Z,2µm,16.1s
XAN LR LR
comp=Z,2µm,15.5s
NOR Nord 51.62 350 *i* P **P 14 19 01.0 -1.1**
NOR IAmb IAmb 14 19 03.7
comp=Z,25nm,0.9s
SRDT SRDT 51.97 99 P **P 14 19 05.3 -0.2**
GYA Guiyang 52.29 82 ⇑P **P 14 19 08.5 +0.5**
GYA pP pP 14 19 14.3 -0.1
GYA PP **PP 14 21 06.5 0.0**
GYA S **S 14 26 32.9 +0.4**
GYA SS **SS 14 30 12.0 +1.9**
GYA pmax pmax
comp=Z,280nm,0.9s
GYA pmax pmax
comp=Z,320nm,4.4s
GYA LR LR
comp=Z,860nm,17.3s
GYA LR LR
comp=Z,700nm,21.1s
GYA LR LR
comp=Z,1µm,18.6s
SLVN Son La 52.33 89 IAmb IAmb 14 19 12.2
comp=Z,215nm,1.6s
TIY Taiyuan 52.67 66 P **P 14 19 12.1 +1.5**
TIY S **S 14 26 39.2 +1.8**
TIY pmax pmax
comp=Z,86nm,0.6s
TIY LR LR
comp=Z,1µm,17.3s
TIY LR LR
comp=Z,1µm,15.5s
TIY LR LR
comp=Z,1µm,18.8s
LSZ Lusaka 52.75 202 IAMs_20 IAMs_20 14 41 30.9
comp=Z,1µm,19.0s
LSZ Lusaka 52.75 202 P **P 14 19 13.8 +2.4**
LSZ Lusaka 52.75 202 LR LR 14 41 42.4
comp=Z,1µm,18.9s,baz=27,slow=36
ENH Enshi 53.02 76 P **P 14 19 12.8 -0.5**
ENH IAmb IAmb 14 19 15.2
comp=Z,158nm,1.0s
ENH IAMs_20 IAMs_20 14 45 09.0
comp=Z,2µm,18.0s
ENH Enshi 53.02 76 P **P 14 19 13.8 +0.5**
SOEG Soedalen 53.28 333 *i* P **P 14 19 14.4 -0.1**
SOEG IAmb IAmb 14 19 19.1
comp=Z,36nm,0.9s
NONG Nongkai 53.30 93 P **P 14 19 15.2 -0.2**
OPO Ambohidratompo 53.31 178 LR LR 14 42 59.0
comp=Z,1µm,18.2s,baz=175,slow=37
XLT XiLinHaoTe 53.48 58 ⇑*i*P **P 14 19 18.2 +1.7**
XLT pP pP 14 19 23.4 +0.5
XLT sP sP 14 19 27.7 +2.3
XLT PcP **PcP 14 20 23.0 -0.3**
XLT S **S 14 26 46.4 -1.8**
XLT sS pS 14 26 57.1 +1.2
XLT ScS **ScS 14 29 06.6 +1.5**
XLT SS **SKiKP 14 30 32.5 +1.2**
XLT pmax pmax
comp=Z,110nm,0.9s
XLT pmax pmax
comp=Z,630nm,5.3s
XLT LR LR
comp=Z,160nm,21.3s
XLT LR LR
comp=Z,1µm,19.6s
XLT LR LR
comp=Z,2µm,15.3s
ABPO Ambohimpanom 53.76 178 P **P 14 19 19.1 +0.4**
ABPO Ambohimpanom 53.76 178 IAMs_20 IAMs_20 14 42 47.2
comp=Z,2µm,19.0s
ABPO Ambohimpanom 53.76 178 *eP* **P 14 19 18.7 -0.1**
ABPO IAmb IAmb 14 19 29.9
comp=Z,55nm,1.3s
ABPO Ambohimpanom 53.76 178 P **P 14 19 19.1 +0.4**
ABPO pmax pmax
comp=Z,59nm,1.4s
ABPO MLR MLR
comp=Z,2µm,19.0s
LYN LuoYang 53.77 70 ⇑*i*P **P 14 19 20.4 +1.8**
LYN S **S 14 26 55.6 +3.4**
LYN sS sS 14 27 02.3 -0.3
LYN SS **SS 14 30 36.3 +3.5**
LYN pmax pmax
comp=Z,330nm,0.9s
LYN pmax pmax
comp=Z,520nm,3.8s
LYN LR LR
comp=Z,3µm,18.9s
LYN LR LR
comp=Z,2µm,19.9s
LYN LR LR
comp=Z,3µm,18.2s
NAYO Nakonayok 53.77 98 P **P 14 19 19.1 +0.2**
DBIC Dimbokro 54.37 251 P **P 14 19 22.0 -1.2**
DBIC IAmb IAmb 14 19 24.0
comp=Z,164nm,1.8s
DBIC Dimbokro 54.37 251 *eP* **P 14 19 23.9 +0.7**
DBIC Dimbokro 54.37 251 P **P 14 19 22.5 -0.8**
comp=Z,20nm,0.6s,baz=37,slow=7.6,SNR=43
DBIC LR LR 14 47 26.1
comp=Z,2µm,18.4s,baz=39,slow=41
comp=Z,20nm,0.6s
KIC Kosan Boka 54.48 251 *e*P **P 14 19 22.8 -1.2**
comp=Z,81nm,0.7s
HNS HongShan 54.48 66 ⇑P **P 14 19 25.2 +1.4**
HNS S **S 14 27 04.5 +2.8**
HNS pmax pmax
comp=Z,100nm,1.0s
HNS pmax pmax
comp=Z,430nm,6.1s
HNS LR LR
comp=Z,1µm,14.3s
HNS LR LR
comp=Z,1µm,14.3s
HNS LR LR
comp=Z,2µm,18.5s
HIA Hailar 54.51 51 IAmb IAmb 14 19 26.3
comp=Z,102nm,0.9s
HIA Hailar 54.51 51 IAMs_20 IAMs_20 14 45 14.6
comp=Z,2µm,20.0s
HIA Hailar 54.51 51 P **P 14 19 25.5 +1.6**
HIA Hailar 54.51 51 *i* P **P 14 19 24.3 +0.4**
HIA pmax pmax
comp=Z,77nm,0.8s
TIC Toumodi 54.52 251 ⇓*e*P **P 14 19 24.0 -0.3**
comp=Z,25nm,0.8s
BJI Beijing 54.69 62 P **P 14 19 26.3 +1.0**
BJI sP **sP 14 19 32.9 -1.3**
BJI S **S 14 27 04.2 -0.3**
BJI pmax pmax
comp=Z,58nm,0.7s
BJI LR LR
comp=Z,770nm,17.0s
BJI LR LR
comp=Z,570nm,17.2s
BJI LR LR
comp=Z,810nm,17.3s
BJT Baijiatuao 54.70 62 IAMs_20 IAMs_20 14 47 17.4
comp=Z,1µm,19.0s
BJT Baijiatuao 54.70 62 P **P 14 19 26.7 +1.4**
LIC Lamto 54.78 251 ⇑*e*P **P 14 19 25.5 -0.8**
comp=Z,91nm,0.8s
TIXI Tiksi 55.01 23 P **P 14 19 26.6 -0.5**
TIXI IAmb IAmb 14 19 28.6
comp=Z,113nm,1.1s
TIXI Tiksi 55.01 23 IAMs_20 IAMs_20 14 47 25.2
comp=Z,1µm,19.0s
TIXI Tiksi 55.01 23 *ce*P **P 14 19 26.8 -0.3**
TIXI Tiksi 55.01 23 LR LR 14 47 55.8
comp=Z,68nm,18.9s,baz=302,slow=41
SUMG Summit 55.29 339 *i* P **P 14 19 29.7 0.0**
SUMG IAmb IAmb 14 19 31.3
comp=Z,113nm,0.7s
SURA Surathani 55.32 104 P **P 14 19 29.1 -1.0**
SRIT Nakonsritamara 55.64 105 P **P 14 19 31.5 -0.9**
GULI GuiLin 55.80 81 ⇑P **P 14 19 34.6 +1.1**
GULI S **S 14 27 15.5 -4.2**
GULI pmax pmax
comp=Z,110nm,1.1s
GULI LR LR
comp=Z,1µm,19.5s
GULI LR LR
comp=Z,620nm,16.4s
GULI LR LR
comp=Z,930nm,21.7s
ICESG Greenland Ices 56.19 334 *i* P **P 14 19 34.6 -1.4**
ICESG IAmb IAmb 14 19 37.8
comp=Z,123nm,0.8s
ISOG Isortoq, Green 56.60 330 *i* P **P 14 19 37.4 -1.1**
ISOG IAmb IAmb 14 19 39.8
comp=Z,75nm,0.7s
CNSH ChangSha 56.62 77 ⇑P **P 14 19 39.8 +0.5**
CNSH S **S 14 27 32.3 +1.8**
CNSH pmax pmax
comp=Z,130nm,0.8s
CNSH LR LR
comp=Z,1µm,23.1s
CNSH LR LR
comp=Z,1µm,19.4s
CNSH LR LR
comp=Z,930nm,22.8s
VOI Vohitsoka 56.62 179 IAMs_20 IAMs_20 14 44 02.1
comp=Z,2µm,20.0s
VOI Vohitsoka 56.62 179 P P 14 19 50.5 +11
RER Riviere de l'E 56.66 169 P **P 14 19 42.2 +2.7**
TIA Tai'an 56.71 66 P **P 14 19 40.8 +0.9**
TIA S **S 14 27 34.4 +2.8**
TIA pmax pmax
comp=Z,240nm,1.0s
TIA LR LR
comp=Z,750nm,12.7s
TIA LR LR
comp=Z,2µm,14.9s
TIA LR LR
comp=Z,2µm,15.9s
WHN Wuhan 56.76 74 ⇑*i*P **P 14 19 41.4 +1.1**
WHN sP **sP 14 19 48.8 -0.4**
WHN S **S 14 27 32.8 +0.4**
WHN pmax pmax
comp=Z,1µm,3.0s
WHN LR LR
comp=Z,880nm,7.6s
WHN LR LR
comp=Z,2µm,17.1s
WHN LR LR
comp=Z,1µm,12.7s
YAK Yakutsk 56.96 34 P **P 14 19 39.4 -1.8**
YAK IAmb IAmb 14 19 44.0
comp=Z,120nm,1.1s
YAK Yakutsk 56.96 34 *e*P **P 14 19 41.8 +0.6**
YAK *e* 14 20 34.8
YAK *e* 14 21 49.1
YAK *e*S **S 14 27 32.2 -1.8**
YAK *e**SS **sS 14 27 47.1 +2.6**
YAK *e* 14 29 25.9
YAK pmax pmax
comp=Z,185nm,1.5s
YAK pmax pmax
comp=N,31nm,1.8s
YAK pmax pmax
comp=E,101nm,1.8s
YAK pmax pmax
comp=Z,2µm,5.1s
YAK pmax pmax
comp=N,985nm,5.4s
YAK pmax pmax
comp=E,1µm,4.8s
YAK smax smax
comp=E,516nm,5.1s
YAK smax smax
comp=N,388nm,4.9s
YAK Yakutsk 56.96 34 LR LR 14 48 00.1
comp=N,214nm,18.8s,baz=276,slow=40
NEEM North Greenlan 57.59 345 *i* P **P 14 19 44.9 -0.9**
NEEM IAmb IAmb 14 19 54.2
comp=Z,26nm,0.7s
ZEA Zeya 57.84 44 *eP* **P 14 19 49.5 +1.9**
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=Z,40nm,0.8s
QIZ Qiongzhong 58.31 88 P **P 14 19 52.0 +0.6**
QIZ Qiongzhong 58.31 88 P **P 14 19 51.7 +0.3**
QIZ S **S 14 27 56.1 +3.1**
QIZ pmax pmax
comp=Z,40nm,1.1s
QIZ LR LR
comp=Z,760nm,18.1s
QIZ LR LR
comp=Z,550nm,17.7s
QIZ LR LR
comp=Z,730nm,19.4s
GSI Gunungsitoli 58.61 113 P **P 14 19 53.0 -0.5**
GSI Gunungsitoli 58.61 113 P **P 14 19 51.7 -1.8**

comp=Z,83nm,0.9s
PSI Prapat 58.67 111 P **P** **14 19 52.4 -1.6**
MUSN Musina, Limpop 58.98 197 *e*P **P** **14 19 57.7 +1.9**
MUSN IAmb IAmb 14 20 06.9
comp=Z,51nm,1.1s
HEH HeiHe 58.99 48 *e*P **P** **14 19 56.0 +0.3**
HEH pmax pmax
comp=Z,180nm,1.1s
HEH pmax pmax
comp=Z,880nm,4.5s
DL2 Dalian 59.04 62 P **P** **14 19 57.1 +0.9**
DL2 S **S** **14 28 06.3 +4.3**
DL2 pmax pmax
comp=Z,310nm,1.0s
DL2 LR LR
comp=Z,680nm,12.9s
DY2G Dye2 59.25 332 *i* P **P** **14 19 57.0 -0.4**
DY2G IAmb IAmb 14 19 58.8
comp=Z,151nm,0.9s
SNY Shenyang 59.36 58 ⇓P **P** **14 19 59.6 +1.3**
SNY S **S** **14 28 05.3 -0.7**
SNY pmax pmax
comp=Z,11nm,0.8s
SNY pmax pmax
comp=Z,770nm,4.5s
SNY LR LR
comp=Z,510nm,5.3s
SNY LR LR
comp=Z,940nm,4.7s
SNY LR LR
comp=Z,560nm,4.9s
MPHEP Siloam, Limpop 59.49 197 *e*P **P** **14 20 00.0 +0.6**
MPHEP IAmb IAmb 14 20 01.9
comp=Z,28nm,1.1s
NJ2 Nanjing 59.66 70⇑ *i* P **P** **14 20 01.2 +0.7**
NJ2 sP **pP** **14 20 07.7 +0.7**
NJ2 S **S** **14 28 16.4 +6.2**
NJ2 sS sS 14 28 28.9 +8.2
NJ2 pmax pmax
comp=Z,97nm,1.0s
NJ2 LR LR
comp=Z,1μm,19.9s
NJ2 LR LR
comp=Z,770nm,17.0s
NJ2 LR LR
comp=Z,560nm,17.1s
FOMA Nahampoana Res 59.68 179 P **P** **14 20 00.7 +0.2**
FOMA IAmb IAmb 14 20 03.5
comp=Z,81nm,1.3s
MOPA Mopani 59.80 195 *e*P **P** **14 20 02.5 +1.1**
UMMG Uummannaq 59.94 338 *i* P **P** **14 20 01.4 -0.4**
UMMG IAmb IAmb 14 20 02.8
comp=Z,84nm,0.8s
TSUM Tsumeb 60.23 211 P **P** **14 20 04.3 -0.3**
TSUM Tsumeb 60.23 211 IAMs_20 IAMs_20 14 46 23.7
comp=Z,2μm,18.0s
TSUM Tsumeb 60.23 211 LR LR 14 48 48.9
comp=Z,2μm,18.5s,baz=25,slow=39
UPNV Upernavik 60.35 340 *i* P **P** **14 20 04.0 -0.6**
UPNV IAmb IAmb 14 20 05.9
comp=Z,72nm,0.8s
BNX BinXian 60.53 53⇑P **P** **14 20 05.6 -0.7**
BNX pmax pmax
comp=Z,45nm,0.6s
BNX pmax pmax
comp=Z,480nm,3.6s
NRS Narsarsuaq 60.59 326 *i* P **P** **14 20 06.4 0.0**
NRS IAmb IAmb 14 20 07.2
comp=Z,79nm,0.7s
SFJD Kangerlussuaq 60.72 333 P **P** **14 20 05.3 -1.9**
SFJD IAmb IAmb 14 20 07.3
comp=Z,66nm,0.8s
SFJD Kangerlussuaq 60.72 333 *i* P **P** **14 20 05.8 -1.4**
SFJD IAmb IAmb 14 20 08.1
comp=Z,39nm,0.7s
SFJD Kangerlussuaq 60.72 333 P **P** **14 20 06.1 -1.1**
comp=Z,42nm,0.6s,baz=117,slow=5.3,SNR=13
SFJD LR LR 14 46 37.8
comp=Z,2μm,20.9s,baz=64,slow=36
comp=Z,42nm,0.6s
LEPH Lephalale, Lim 61.00 199 *e*P **P** **14 20 09.2 -0.6**
LEPH IAmb IAmb 14 20 20.0
comp=Z,66nm,1.5s
SISI Saibi 61.47 114 P **P** **14 20 12.3 -0.8**
comp=Z,67nm,1.2s
TULEG Thule 61.63 346 IAmb IAmb 14 20 14.1
comp=Z,141nm,1.5s
TULEG IAMs_20 IAMs_20 14 47 05.8
comp=Z,2μm,21.0s
IVI Ivigtut 61.82 327 *i* P **P** **14 20 13.6 -1.2**
IVI IAmb IAmb 14 20 15.2
comp=Z,63nm,0.5s
SSE Sheshan 61.87 70 P **P** **14 20 16.3 +0.7**
SSE S **S** **14 28 38.9 +0.5**
SSE pmax pmax
comp=Z,70nm,0.9s
SSE pmax pmax
comp=Z,190nm,3.8s
SSE LR LR
comp=Z,450nm,14.1s
SSE LR LR
comp=Z,540nm,14.9s
BKNI Bangkinang 61.87 111 P **P** **14 20 14.4 -1.4**
BKNI Bangkinang 61.87 111 P **P** **14 20 14.3 -1.5**
comp=Z,281nm,1.0s,comp=Z,3μm
KLR Kul'dur 61.99 48*ce*P **P** **14 20 16.7 +0.6**
KLR pmax pmax
comp=Z,116nm,1.3s
KLR MLR MLR
comp=Z,533nm,5.0s
KLR Kul'dur 61.99 48 LR LR 14 50 45.9
comp=Z,1μm,19.0s,baz=296,slow=40
NUUK Nuuk 62.20 331 *i* P **P** **14 20 15.7 -1.5**
NUUK IAmb IAmb 14 20 18.8
comp=Z,37nm,0.7s
PDSI Padang 62.23 113 P **P** **14 20 16.5 -1.7**
comp=Z,93nm,1.0s,comp=Z,1μm
MDJ Mudanjiang 62.39 53 P **P** **14 20 19.7 +0.8**
MDJ sP pP 14 20 26.3 +0.9
MDJ PcP **PcP** **14 20 58.1 -0.2**
MDJ pmax pmax
comp=Z,31nm,1.9s
MDJ pmax pmax
comp=Z,3μm,5.5s
MDJ LR LR
comp=Z,4μm,21.3s
MDJ LR LR
comp=Z,2μm,24.0s
MDJ LR LR
comp=Z,4μm,22.0s
LBTB Lobatse 62.71 201 *e*P **P** **14 20 21.8 +0.6**
LBTB IAmb IAmb 14 20 32.6
comp=Z,58nm,1.0s
LBTB Lobatse 62.71 201 LR LR 14 48 17.2
comp=Z,2μm,19.0s,baz=24,slow=37
HRAO HartRAO 62.97 198 *e*P **P** **14 20 23.0 0.0**
HRAO IAmb IAmb 14 20 25.1
comp=Z,50nm,1.3s
INCN Inchon 63.23 62 P **P** **14 20 24.5 -0.1**
INCN IAmb IAmb 14 20 26.4
comp=Z,70nm,0.9s
INCN Inchon 63.23 62 P **P** **14 20 25.6 +1.0**
INCN Inchon 63.23 62 P **P** **14 20 25.2 +0.6**
INCN Inchon 63.23 62 P **P** **14 20 24.5 -0.1**
INCN pmax pmax
comp=Z,70nm,0.9s
WIN Windhoek 63.43 210 P **P** **14 20 25.9 -0.2**
WIN IAmb IAmb 14 20 29.5
comp=Z,39nm,0.8s
WIN IAMs_20 IAMs_20 14 48 53.7
comp=Z,2μm,21.0s
WIN Windhoek 63.43 210 P **P** **14 20 25.9 -0.2**
WIN pmax pmax
comp=Z,39nm,0.8s
WIN MLR MLR
comp=Z,2μm,21.0s
KRJI Kerinci 63.76 113 P **P** **14 20 28.2 -0.3**
comp=Z,656nm,0.9s
USRK Ussuriysk Ar. 64.13 53 P **P** **14 20 29.2 -1.2**
USRK Ussuriysk Ar. 64.13 53 P **P** **14 20 29.7 -0.7**
comp=Z,101nm,0.8s,baz=284,slow=6.3,SNR=122
USRK LR LR 14 52 44.8
comp=Z,2μm,18.7s,baz=303,slow=40
comp=Z,101nm,0.8s
GRNR Gornyy 64.16 45⇑ *i* P **P** **14 20 31.1 +0.6**
GRNR pmax pmax
comp=E,6.0nm,0.7s
GRNR pmax pmax
comp=N,6.0nm,1.0s
GRNR pmax pmax
comp=Z,30nm,1.2s
GRNR MLR MLR
comp=Z,1μm,15.0s
GRNR MLR MLR
comp=N,2μm,14.0s
GRNR MLR MLR
comp=Z,3μm,14.0s
KSRS Korea Array 64.17 61 P **P** **14 20 30.8 0.0**
comp=Z,70nm,0.9s,baz=290,slow=6.9,SNR=141
KSRS LR LR 14 52 59.5
comp=Z,989nm,18.3s,baz=300,slow=40
comp=Z,70nm,0.9s
TPRI Tanjung Pinang 64.19 108 P **P** **14 20 29.8 -1.4**
comp=Z,57nm,0.9s
TJN Taejon 64.23 62*ce*P **P** **14 20 31.6 +0.4**
TATO Taipei 64.89 76 P **P** **14 20 35.4 -0.3**
TATO Taipei 64.89 76 P **P** **14 20 37.9 +2.2**
TATO Taipei 64.89 76 P **P** **14 20 38.3 +2.6**
YHNB Yeheng 64.95 77 P **P** **14 20 38.4 +2.2**
TPUB Ta-pu 65.01 78 P **P** **14 20 38.0 +1.5**
SSLB Suanglung 65.03 78 P **P** **14 20 38.3 +1.6**
DSRI Dabo 65.11 110 P **P** **14 20 36.0 -1.2**
comp=Z,95nm,1.0s
SNKL Senekal, Frees 65.23 198 *e*P **P** **14 20 38.3 +0.5**
SNKL IAmb IAmb 14 20 50.8
comp=Z,41nm,0.9s
YULB Yu-li 65.50 78 P **P** **14 20 42.0 +2.3**
TWGBT Beinan 65.61 78 P **P** **14 20 42.6 +2.2**
BOSA Boshof 66.21 200 P **P** **14 20 43.8 -0.3**
BOSA IAmb IAmb 14 20 46.4
comp=Z,70nm,1.4s
BOSA Boshof 66.21 200 *e*P **P** **14 20 44.5 +0.4**
BOSA IAmb IAmb 14 20 45.7
comp=Z,78nm,1.4s
BOSA Boshof 66.21 200 P **P** **14 20 45.3 +1.3**
comp=Z,14nm,0.7s,baz=17,slow=6.0,SNR=23
BOSA LR LR 14 50 50.4
comp=Z,2μm,18.2s,baz=21,slow=37
comp=Z,14nm,0.7s
UPI Upington 67.18 203 *e*P **P** **14 20 51.7 +1.5**
UPI IAmb IAmb 14 20 52.5
comp=Z,64nm,1.4s
PPBI Pangkal Pinang 67.37 110 P **P** **14 20 50.6 -1.1**
comp=Z,51nm,1.3s,comp=Z,26μm
MA2 Magadan 67.42 32*ce*P **P** **14 20 51.4 +0.1**
MA2 pmax pmax
comp=Z,88nm,1.3s
MA2 Magadan 67.42 32 LR LR 14 54 17.6
comp=Z,2μm,19.3s,baz=294,slow=40
RES Resolute Bay 67.55 350 P **P** **14 20 50.7 -1.2**
RES IAmb IAmb 14 20 53.4
comp=Z,65nm,1.4s
RES Resolute Bay 67.55 350 P **P** **14 20 50.7 -1.2**
RES pmax pmax
comp=Z,65nm,1.4s
RES Resolute Bay 67.55 350 LR LR 14 52 33.0
comp=Z,1μm,19.4s,baz=22,slow=38
KEIM Keimoes 67.59 204 *e*P **P** **14 20 52.8 0.0**
KEIM IAmb IAmb 14 20 55.4
comp=Z,41nm,1.2s
LWLI Liwa 67.62 114 P **P** **14 20 51.4 -2.0**
comp=Z,166nm,0.7s
TYV Tymovskoe 67.66 43 *e*P **P** **14 20 54.4 +1.4**
TYV *e*S **S** **14 29 52.9 +3.7**
TYV pmax pmax
comp=Z,96nm,1.0s
TYV pmax pmax
comp=Z,1μm,4.7s
TYV smax smax
comp=N,1μm,5.0s
TYV smax smax
comp=E,2μm,5.0s
HVD Gariep Dam 68.03 199 *e*P **P** **14 20 56.6 +1.0**
HVD IAmb IAmb 14 21 13.0
comp=Z,34nm,0.9s
BILL Bilibino 68.11 20 P **P** **14 20 55.4 -0.2**
BILL IAMs_20 IAMs_20 14 56 11.9
comp=Z,1μm,19.0s
BILL Bilibino 68.11 20⇑ *e*P **P** **14 20 55.7 +0.1**
KASI Kota Agung 68.28 114 P **P** **14 20 55.7 -1.7**
comp=Z,75nm,1.0s,comp=Z,6μm
JNU Nakatsue 68.28 64 IAmb IAmb 14 21 08.1
comp=Z,68nm,1.0s
JNU Nakatsue 68.28 64 P **P** **14 20 58.6 +1.3**
JNU Nakatsue 68.28 64 LR LR 14 54 25.5
comp=Z,816nm,19.9s,baz=301,slow=39
FRB Frobisher Bay 68.83 334 P **P** **14 20 59.7 -0.4**
comp=Z,169nm,0.6s,baz=52,slow=7.0,SNR=196
FRB LR LR 14 51 40.2
comp=Z,2μm,20.5s,baz=56,slow=36
comp=Z,169nm,0.6s
JOW Kunigami 69.34 71 LR LR 14 56 13.9
comp=Z,544nm,20.1s,baz=300,slow=40
SBUM Sibu 69.36 102 P **P** **14 21 02.9 -1.3**
YSS Yuzh-Sakhalins 69.61 47 *e*P **P** **14 21 05.5 +0.2**
YSS *e*S **S** **14 30 14.2 +1.7**
YSS pmax pmax
comp=Z,70nm,1.0s
YSS MLR MLR
comp=Z,3μm,16.0s
YSS MLR MLR
comp=N,3μm,13.0s
YSS MLR MLR
comp=E,4μm,14.0s
BRAK Brakfontein 69.86 201 *e*P **P** **14 21 10.0 +3.1**
GRAF Camdeboo Natio 69.88 199 *e*P **P** **14 21 08.4 +1.3**
GRAF IAmb IAmb 14 21 24.0
comp=Z,28nm,0.9s
CGJI Cibinong 69.89 114 P **P** **14 21 04.8 -2.6**
comp=Z,108nm,1.0s,comp=Z,898nm
TGY Tagaytay City 69.95 87 LR LR 14 55 38.5
comp=Z,484nm,21.8s,baz=286,slow=39
STKI Sintang 70.19 104 P **P** **14 21 09.1 -0.2**
comp=Z,88nm,1.0s,comp=Z,11μm
JMN Monobe 70.19 62 P **P** **14 21 09.6 +0.5**
ROOI Rooidraai Farm 70.34 200 *e*P **P** **14 21 11.7 +1.8**
ROOI IAmb IAmb 14 21 27.3
comp=Z,37nm,1.0s
GRHM Grahamstown, E 70.35 197 *e*P **P** **14 21 11.7 +1.9**
GRHM IAmb IAmb 14 21 58.7
comp=Z,46nm,1.2s
FRAZ Fraserburg 70.44 202 *e*P **P** **14 21 10.6 +0.1**
FRAZ IAmb IAmb 14 21 12.9
comp=Z,71nm,1.3s
CVNA Calvinia 70.55 203 *e*P **P** **14 21 11.6 +0.4**
CVNA IAmb IAmb 14 21 15.2
comp=Z,35nm,1.1s
GRAN Grantham 70.56 201 *e*P **P** **14 21 12.4 +1.3**
GRAN IAmb IAmb 14 21 33.5
comp=Z,11nm,0.9s
SKJI Sukabumi 70.79 114 P **P** **14 21 13.1 +0.2**
comp=Z,115nm,1.0s
ASAJ Asahikawa 70.94 49 LR LR 14 54 59.5
comp=Z,874nm,19.9s,baz=306,slow=38
SUR Sutherland 71.04 202 LR LR 14 52 57.6
comp=Z,1μm,18.8s,baz=22,slow=36
MERW Merweville 71.10 202 *e*P **P** **14 21 15.5 +1.0**
MERW IAmb IAmb 14 21 17.9
comp=Z,94nm,1.6s
CNJI Cibinong 71.42 113 P **P** **14 21 16.5 -0.2**
comp=Z,99nm,1.0s,comp=Z,788nm
LEM Lembang 71.47 113 P **P** **14 21 17.4 +0.2**
comp=Z,24nm,0.8s,baz=45,slow=14,SNR=5.0
LEM LR LR 14 54 29.0
comp=Z,535nm,19.2s,baz=301,slow=37
comp=Z,24nm,0.8s
MJB9 Matsu-Tunnel 71.86 58 IAmb IAmb 14 21 19.9
comp=Z,52nm,1.0s
MAJO Matsushiro 71.87 58 P **P** **14 21 17.8 -1.4**
MAJO IAmb IAmb 14 21 19.9
comp=Z,50nm,0.9s
MAJO Matsushiro 71.87 58 P **P** **14 21 19.1 -0.2**
MAJO Matsushiro 71.87 58 P **P** **14 21 17.8 -1.4**
MAJO pmax pmax
comp=Z,50nm,1.0s
MJAR Matsushiro Arr 71.87 58 P **P** **14 21 19.3 0.0**
comp=Z,32nm,1.1s,baz=305,slow=6.7,SNR=20
MJAR LR LR 14 56 31.5
comp=Z,578nm,21.9s,baz=304,slow=39
comp=Z,32nm,1.1s
BBJI Bungbulang 71.91 113 P **P** **14 21 16.7 -3.1**
MATJ Matjiesfontein 71.94 202 *e*P **P** **14 21 20.5 +1.0**
MATJ IAmb IAmb 14 21 29.6
comp=Z,19nm,0.7s
DRLN Deer Lake 72.08 318 P **P** **14 21 18.6 -1.7**
CER Ceres 72.43 203 *e*P **P** **14 21 22.5 +0.1**
CER IAmb IAmb 14 21 44.1
comp=Z,23nm,1.2s
CMJI Cimerak 72.72 113 P **P** **14 21 22.4 -2.1**
comp=Z,111nm,1.0s
A21K Barrow 72.76 7 P **P** **14 21 24.1 +0.2**
baz=341
JMM Marumori 72.97 56 P **P** **14 21 25.9 +0.2**
A36M Sachs Harbour 73.10 357 P **P** **14 21 25.5 -0.4**
baz=7.7,SNR=134
A22K Sinclair Lake 73.23 7 P **P** **14 21 26.5 -0.1**
baz=342,SNR=10
A19K Wainwright 73.28 9 P **P** **14 21 27.6 +0.7**
baz=337
SCHQ Schefferville 73.56 326 P **P** **14 21 28.1 -0.8**
comp=Z,64nm,0.6s,baz=40,slow=6.3,SNR=93
SCHQ LR LR 14 56 18.1
comp=Z,577nm,18.4s,baz=56,slow=38
comp=Z,64nm,0.6s
B20K Meade River 73.94 8 IAmb IAmb 14 21 32.8
comp=Z,100nm,0.9s
B20K Meade River 73.94 8 P **P** **14 21 31.5 +0.6**
baz=341
B18K Kokolik River 73.95 10 P **P** **14 21 31.4 +0.4**
baz=337,SNR=58
B22K Teshekpuk Lake 74.02 7 P **P** **14 21 31.6 +0.3**
baz=344
PEA0B Petropavlovsk- 74.25 36 IAmb IAmb 14 21 33.4
comp=Z,90nm,1.2s
PEA0B Petropavlovsk- 74.25 36*ce*P **P** **14 21 32.2 -0.8**
PETK Petropavlovsk- 74.25 36 P **P** **14 21 32.1 -0.9**
comp=Z,29nm,1.1s,baz=321,slow=1.9,SNR=12
PETK LR LR 14 58 37.1
comp=Z,1μm,18.9s,baz=301,slow=39
comp=Z,29nm,1.1s
C16K Lisburne Hills 74.41 12 IAMs_20 IAMs_20 14 59 22.1
comp=Z,1μm,22.0s
C16K Lisburne Hills 74.41 12 P **P** **14 21 33.4 -0.3**
baz=334
C19K Lookout Ridge 74.50 9 IAmb IAmb 14 21 36.3
comp=Z,126nm,1.4s
C19K Lookout Ridge 74.50 9 P **P** **14 21 34.1 -0.2**
baz=339,SNR=21
C17K DeLong Mountai 74.57 11 P **P** **14 21 35.0 +0.3**
baz=336
B21K Ikpikpuk River 74.59 7 P **P** **14 21 35.1 +0.4**
baz=343
C18K Utukok River 74.70 10 IAMs_20 IAMs_20 15 00 02.8
comp=Z,1μm,20.0s
C18K Utukok River 74.70 10 P **P** **14 21 35.4 -0.1**
baz=337
C23K Itkillik River 74.76 6 P **P** **14 21 35.7 0.0**
baz=346
RDOG Red Dog Mine 75.00 11 IAMs_20 IAMs_20 14 56 52.6
comp=Z,1μm,20.0s
RDOG Red Dog Mine 75.00 11 P **P** **14 21 36.6 -0.4**
baz=336,SNR=25
C21K Knifeblade Rid 75.02 7 P **P** **14 21 38.0 +0.8**
baz=343
C24K Franklin Bluff 75.02 5 P **P** **14 21 37.5 +0.4**
baz=348,SNR=27
C26K Camden Bay 75.07 4 P **P** **14 21 38.0 +0.6**
baz=351
D20K Etivluk River 75.24 8 P **P** **14 21 38.8 +0.3**
baz=341
D19K Kuna River 75.26 9 P **P** **14 21 38.9 +0.3**
baz=340
D22K Ayikyak River 75.50 7 IAMs_20 IAMs_20 14 57 44.8
comp=Z,1μm,19.0s
D22K Ayikyak River 75.50 7 P **P** **14 21 40.3 +0.3**
baz=344
D24K Happy Valley 75.57 5 P **P** **14 21 40.5 +0.1**
baz=348
D25K Kavik River 75.58 4 P **P** **14 21 40.6 +0.1**
baz=350
D23K Nanushuk River 75.60 6 P **P** **14 21 40.9 +0.4**
baz=346,SNR=39
C36M Paulatuk 75.67 356 IAmb IAmb 14 21 41.2
comp=Z,104nm,1.0s
C36M Paulatuk 75.67 356 P **P** **14 21 39.8 -1.1**
baz=8.6,SNR=62
E20K Nigu River 75.72 8 P **P** **14 21 41.0 -0.3**
baz=342
E21K Killik River 75.79 7 IAMs_20 IAMs_20 14 58 21.5
comp=Z,1μm,20.0s
E21K Killik River 75.79 7 P **P** **14 21 41.3 -0.4**
baz=343
D28M Stokes Point 75.90 2 P **P** **14 21 42.6 +0.3**
baz=356
D27M Malcolm River 75.92 2 P **P** **14 21 42.6 +0.1**
baz=354
E18K Tukpahlearik C 75.93 10 P **P** **14 21 42.7 +0.2**
baz=338
TOLK Toolik Lake Re 76.01 6 P **P** **14 21 43.5 +0.5**
baz=347,SNR=51
E17K Hotham Inlet 76.06 11 P **P** **14 21 43.2 0.0**
baz=337,SNR=32
E22K Anaktuvuk Pass 76.31 7 IAmb IAmb 14 21 46.1
comp=Z,67nm,0.9s
E22K Anaktuvuk Pass 76.31 7 P **P** **14 21 44.7 0.0**
baz=345,SNR=51
E19K Redstone River 76.35 9 P **P** **14 21 44.8 0.0**
baz=341
TNA Tin City 76.37 14 P **P** **14 21 45.1 +0.2**
baz=332
E23K Chandalar 76.58 6 P **P** **14 21 46.2 0.0**
baz=347
E28M Babbage River 76.61 2 P **P** **14 21 46.2 -0.1**
baz=356
E24K Your Creek 76.66 5 IAmb IAmb 14 21 49.1
comp=Z,86nm,1.1s
E24K Your Creek 76.66 5 P **P** **14 21 47.0 +0.3**
baz=348
F17K Baldwin Pennin 76.74 11 IAmb IAmb 14 21 48.4
comp=Z,67nm,0.8s
F17K Baldwin Pennin 76.74 11 P **P** **14 21 47.3 +0.3**
baz=338
F14K Arctic Creek 76.76 13 P **P** **14 21 47.2 0.0**
baz=333
MPSI Mapaga 76.79 99 P **P** **14 21 47.8 -0.4**
comp=Z,58nm,1.0s,comp=Z,574nm
E25K Arctic Village 76.81 4 IAmb IAmb 14 21 49.1
comp=Z,76nm,0.9s
E25K Arctic Village 76.81 4 P **P** **14 21 47.7 +0.2**
baz=350,SNR=49
F15K North Star Dit 76.85 12 P **P** **14 21 47.7 0.0**
baz=335
E29M Blow River 76.86 1 P **P** **14 21 48.0 +0.2**
baz=357,SNR=94
F19K Shaleruckik Mo 76.87 9 IAmb IAmb 14 21 49.2
comp=Z,96nm,1.0s
F19K Shaleruckik Mo 76.87 9 P **P** **14 21 47.1 -0.7**
baz=340
F22K John River 76.88 7 P **P** **14 21 48.5 +0.6**
baz=345
F20K Avaraart Lake 76.93 9 P **P** **14 21 47.9 -0.2**
baz=342
E27K Coleen River 76.95 3 P **P** **14 21 48.3 0.0**
baz=354
INK Inuvik 76.98 360 P **P** **14 21 48.0 -0.4**
baz=0.6,SNR=30
INK Inuvik 76.98 360 LR LR 15 01 26.7
comp=Z,351nm,20.4s,baz=5.0,slow=40
F21K Alatna River 77.02 8 IAmb IAmb 14 21 51.0
comp=Z,113nm,1.0s
F21K Alatna River 77.02 8 P **P** **14 21 49.1 +0.4**
baz=344,SNR=78
GAMB Gambell 77.14 16 P **P** **14 21 49.2 0.0**
baz=329
F24K Squaw Lake 77.25 5 P **P** **14 21 50.3 +0.3**
baz=349
F26K Sheenjek River 77.32 4 P **P** **14 21 50.8 +0.5**
baz=352
F25K Christian Rive 77.33 4 P **P** **14 21 50.8 +0.3**
baz=350
COLD Coldfoot 77.34 6 P **P** **14 21 50.4 -0.1**
baz=347,SNR=53
G22K Bettles 77.52 7 P **P** **14 21 51.5 +0.1**
baz=346
G16K Koyuk River 77.53 12 IAmb IAmb 14 21 53.1
comp=Z,98nm,1.0s
G16K Koyuk River 77.53 12 P **P** **14 21 51.7 +0.2**
baz=337
F28M Old Crow 77.59 2 IAmb IAmb 14 21 53.2
comp=Z,62nm,1.1s

F28M Old Crow 77.59 2 P P 14 21 51.7 -0.1
baz=355,SNR=39
DAV Davao City (W) 77.60 90 LR LR 15 02 11.4
comp=Z,328nm,19.0s,baz=336,slow=40
G15K Niukluk 77.61 13 P P 14 21 52.1 +0.1
baz=335
G19K Purcell Mounta 77.62 9 P P 14 21 52.0 0.0
baz=341
G18K Tagagawik 77.64 10 P P 14 21 51.6 -0.5
baz=340
F30M Barrier River 77.68 1 P P 14 21 52.1 -0.2
baz=359,SNR=59
G21K Allakaket 77.70 8 P P 14 21 52.4 -0.1
baz=344
G17K Kiwalik Mounta 77.71 11 P P 14 21 52.2 -0.3
baz=338
ANM Nome 77.75 13 IAmb IAmb 14 21 54.6
comp=Z,135nm,1.2s
ANM Nome 77.75 13 P P 14 21 52.4 -0.4
baz=334,SNR=7.8
F31M Tsiigehtchic 77.85 360 P P 14 21 52.8 -0.4
baz=0.4,SNR=62
G23K Bananza Creek 77.86 6 P P 14 21 54.0 +0.5
baz=347,SNR=18
BATG Bathurst New B 77.87 320 P P 14 21 53.2 -0.6
BATG IAmb IAmb 14 21 54.9
comp=Z,98nm,1.0s
G26K Porcupine Rive 78.08 4 P P 14 21 54.9 +0.4
baz=352
LMN Caledonia Moun 78.08 318 P P 14 21 54.2 -0.7
LMN IAmb IAmb 14 21 56.3
comp=Z,78nm,1.0s
G24K Hadweenzic Riv 78.09 5 IAmb IAmb 14 21 56.7
comp=Z,127nm,1.2s
G24K Hadweenzic Riv 78.09 5 P P 14 21 55.0 +0.4
baz=349,SNR=21
G25K Bearman Lake 78.12 5 P P 14 21 55.4 +0.6
baz=350
H16K Elim 78.25 12 P P 14 21 55.6 +0.1
baz=337,SNR=6.2
H19K Roundabout Mou 78.29 9 IAmb IAmb 14 21 57.4
comp=Z,104nm,1.2s
H19K Roundabout Mou 78.29 9 P P 14 21 55.5 -0.2
baz=342
G30M tAoh Zraii Nji 78.31 1 P P 14 21 55.2 -0.6
baz=358
G27K Doyon Strip 78.33 3 IAmb IAmb 14 21 58.0
comp=Z,86nm,1.1s
G27K Doyon Strip 78.33 3 P P 14 21 55.8 -0.1
baz=354,SNR=48
G29M Pine Creek 78.34 2 P P 14 21 56.0 -0.1
baz=357,SNR=48
H17K Granite Mounta 78.35 11 IAmb IAmb 14 21 57.2
comp=Z,69nm,0.9s
H17K Granite Mounta 78.35 11 P P 14 21 56.3 +0.2
baz=339
MRSI Marisa 78.37 98 P P 14 21 56.4 -0.6
comp=Z,32nm,0.9s
G31M Satah River 78.38 0 P P 14 21 55.6 -0.5
baz=360,SNR=82
H18K Honhosa River 78.38 10 P P 14 21 56.1 -0.2
baz=340
H20K Anotleneega Mo 78.52 9 P P 14 21 57.0 -0.1
baz=343
H22K Ishtalitna Cre 78.53 7 P P 14 21 58.0 +1.0
baz=346,SNR=37
H21K Melozitna Rive 78.61 8 P P 14 21 58.1 +0.6
baz=345
TTSI Tana Toraja 78.71 102 P P 14 21 56.9 -1.9
comp=Z,20nm,0.9s
H24K Noodor Dome 78.91 6 IAmb IAmb 14 22 01.2
comp=Z,65nm,1.1s
H24K Noodor Dome 78.91 6 P P 14 21 59.6 +0.4
baz=349
EPYK Eagle Plains 78.91 1 P P 14 21 58.7 -0.5
baz=358,SNR=49
H27K Steamboat Moun 78.91 3 P P 14 21 59.7 +0.5
baz=354,SNR=48
GCSA Galena City Sc 78.97 10 P P 14 21 59.7 +0.2
baz=341,SNR=19
H29M Whitestone 79.03 2 P P 14 22 00.0 +0.2
baz=357
I21K Tanana 79.16 8 IAmb IAmb 14 22 02.6
comp=Z,112nm,1.1s
I21K Tanana 79.16 8 P P 14 22 00.9 +0.4
baz=345,SNR=21
I17K Unalakleet 79.20 12 IAmb IAmb 14 22 02.5
comp=Z,103nm,1.1s
I17K IAMs_20 IAMs_20 15 00 04.9
comp=Z,1μm,21.0s
I17K Unalakleet 79.20 12 P P 14 22 01.2 +0.4
baz=338,SNR=15
I20K Naaghedeneel 79.24 9 P P 14 22 01.6 +0.7
baz=343,SNR=13
PQI Presque Isle 79.29 320 IAmb IAmb 14 22 02.5
comp=Z,87nm,0.9s
MLY Manley 79.43 7 IAmb IAmb 14 22 03.9
comp=Z,81nm,1.0s
MLY Manley 79.43 7 P P 14 22 02.5 +0.4
baz=346,SNR=29
I23K Minto, Yukon-K 79.45 6 IAmb IAmb 14 22 04.1
comp=Z,122nm,1.4s
I23K Minto, Yukon-K 79.45 6 P P 14 22 02.6 +0.5
baz=347,SNR=23
H31M Peel River 79.50 0 P P 14 22 02.1 -0.3
baz=360
I27K Kandik River 79.53 3 P P 14 22 02.3 -0.3
baz=354,SNR=19
D62A Allapoint, All 79.56 321 P P 14 22 02.7 -0.3
baz=49,SNR=22
D62A P P 14 22 02.7 -0.3
baz=49,SNR=22
POKR Poker Plat Res 79.65 6 IAmb IAmb 14 22 05.2
comp=Z,127nm,1.1s
POKR Poker Plat Res 79.65 6 P P 14 22 03.9 +0.7
baz=349,SNR=29
GGN Saint George 79.66 318 IAmb IAmb 14 22 04.9
comp=Z,183nm,1.7s
E63A Oxbow 79.67 320 P P 14 22 03.1 -0.5
baz=49,SNR=6.6
E63A P P 14 22 03.1 -0.5
baz=49,SNR=6.6
MDM Murphy Dome 79.74 6 P P 14 22 03.3 -0.4
J14K Nanvaranak Lak 79.75 13 IAmb IAmb 14 22 05.4
comp=Z,116nm,1.2s
J14K Nanvaranak Lak 79.75 13 P P 14 22 03.6 -0.1
baz=336,SNR=8.8
I26K Coal Creek Min 79.75 4 P P 14 22 03.9 +0.1
baz=353
I28M Miner Creek 79.75 2 IAmb IAmb 14 22 04.8
comp=Z,71nm,0.9s
I28M Miner Creek 79.75 2 P P 14 22 03.5 -0.4
baz=355
JCJ Chichijima 79.76 64 LR LR 15 02 27.5
comp=Z,167nm,18.1s,baz=313,slow=40
J16K Anvik River 79.78 12 IAmb IAmb 14 22 05.6
comp=Z,101nm,1.1s
J16K Anvik River 79.78 12 P P 14 22 04.0 +0.1
baz=338
KAPI Kappang 79.82 103 P P 14 22 04.1 -0.8
KAPI Kappang 79.82 103 P P 14 22 03.7 -1.2
comp=Z,3.9nm,0.3s,baz=92,slow=1.3,SNR=6.0
KAPI LR LR 15 00 46.9
comp=Z,188nm,19.7s,baz=312,slow=38
comp=Z,3.9nm,0.3s
COLA College 79.86 6 P P 14 22 03.9 -0.4
COLA IAmb IAmb 14 22 05.8
comp=Z,109nm,0.9s
COLA College 79.86 6 P P 14 22 04.9 +0.6
COLA College 79.86 6 P P 14 22 04.2 -0.1
baz=349
COLA College 79.86 6 P P 14 22 03.9 -0.4
COLA pmax pmax
comp=Z,109nm,0.9s
J19K Poorman 79.86 9 IAmb IAmb 14 22 06.3
comp=Z,115nm,1.1s
J19K Poorman 79.86 9 P P 14 22 04.6 +0.3
baz=342,SNR=37
J20K Nowinta River 79.88 9 P P 14 22 04.7 +0.3
baz=344
I29M Ogilvie Camp, 79.89 2 IAmb IAmb 14 22 05.4
comp=Z,65nm,0.9s
I29M Ogilvie Camp, 79.89 2 P P 14 22 03.9 -0.6
baz=357,SNR=16
LMQ La Malbaie 79.91 322 IAmb IAmb 14 22 05.7
comp=Z,66nm,0.8s
KMSI Cibinong 79.97 96 P P 14 22 18.9 +13
F64A Sherman 79.99 320 IAmb IAmb 14 22 06.5
comp=Z,58nm,0.8s
F64A Sherman 79.99 320 P P 14 22 04.9 -0.5
baz=49,SNR=8.4
F64A P P 14 22 04.9 -0.5
baz=49,SNR=8.4
G65A Princeton 80.00 319 P P 14 22 05.2 -0.3
baz=50
G65A P P 14 22 05.2 -0.3
baz=50
NEA2 Nenana 80.02 6 IAmb IAmb 14 22 06.4
comp=Z,133nm,1.6s
NEA2 Nenana 80.02 6 P P 14 22 05.0 -0.2
baz=348
ILAR Eielson Array 80.03 5 P P 14 22 04.8 -0.5
comp=Z,20nm,0.9s,baz=332,slow=3.7,SNR=110
ILAR PP PP 14 25 07.5 +1.0
comp=Z,4.6nm,1.0s,baz=354,slow=6.2,SNR=3.9
ILAR PKKPbc PKKPbc 14 40 49.9 -0.1
comp=Z,1.4nm,0.9s,baz=202,slow=2.2,SNR=8.7
ILAR PKPPKP P'P'df 14 48 48.3 -12
comp=Z,0.4nm,0.7s,baz=228,slow=1.5,SNR=4.9
ILAR LR LR 15 01 24.3
comp=Z,304nm,19.3s,baz=325,slow=39
comp=Z,20nm,0.9s
I30M Mount Dempster 80.07 1 P P 14 22 05.4 -0.2
baz=358
LDAQ Lac Daran 80.09 323 P P 14 22 06.0 -0.1
LDAQ IAmb IAmb 14 22 06.9
comp=Z,81nm,1.1s
E62A Clayton Lake 80.11 321 IAmb IAmb 14 22 06.7
comp=Z,53nm,0.7s
E62A Clayton Lake 80.11 321 P P 14 22 04.4 -1.7
baz=49,SNR=12
E62A P P 14 22 04.4 -1.7
baz=49,SNR=12
J18K Innoko River 80.22 10 IAmb IAmb 14 22 08.1
comp=Z,72nm,1.1s
J18K Innoko River 80.22 10 P P 14 22 06.1 -0.2
baz=342,SNR=18
BKSI Bulukumba 80.30 103 P P 14 22 06.4 -1.1
comp=Z,28nm,1.1s,comp=Z,499nm
J25K Salcha River, 80.30 5 IAmb IAmb 14 22 08.4
comp=Z,196nm,1.8s
J25K Salcha River, 80.30 5 P P 14 22 06.5 -0.3
baz=351
BPAW Bear Paw Mtn. 80.32 7 IAmb IAmb 14 22 08.8
comp=Z,128nm,1.1s
BPAW Bear Paw Mtn. 80.32 7 P P 14 22 06.5 -0.4
baz=346,SNR=15
EGAK Eagle 80.38 3 IAmb IAmb 14 22 08.4
comp=Z,85nm,1.1s
EGAK Eagle 80.38 3 P P 14 22 06.9 -0.2
baz=354,SNR=39
CHUM Lake Minchumin 80.38 8 P P 14 22 07.2 0.0
baz=345,SNR=33
HDA Harding Lake 80.39 6 P P 14 22 06.6 -0.6
baz=350,SNR=11
HDA P P 14 22 06.6 -0.6
baz=350,SNR=11
F63A Nahmakanta, Br 80.49 320 P P 14 22 07.7 -0.4
baz=49
F63A P P 14 22 07.7 -0.4
baz=49
J26L Joseph Creek 80.53 4 P P 14 22 07.7 -0.4
baz=352
K15K Wolf Creek Mou 80.54 13 IAmb IAmb 14 22 10.1
comp=Z,88nm,1.1s
K15K Wolf Creek Mou 80.54 13 P P 14 22 08.0 -0.1
baz=338,SNR=12
PLAI Plampang 80.55 108 P P 14 22 05.3 -3.5
PLAI Plampang 80.55 108 P P 14 22 05.7 -3.1
comp=Z,41nm,1.0s
K20K Telida 80.68 9 P P 14 22 08.4 -0.4
baz=344
K17K Iditarod 80.69 11 P P 14 22 08.5 -0.3
baz=340
J30M Hart River 80.72 1 IAmb IAmb 14 22 10.7
comp=Z,138nm,1.1s
J30M Hart River 80.72 1 P P 14 22 09.2 0.0
baz=358,SNR=32
F62A Pittston Farm, 80.82 320 P P 14 22 09.8 0.0
baz=48
F62A P P 14 22 09.8 0.0
baz=48
TTA Tatalina 80.83 10 IAmb IAmb 14 22 11.4
comp=Z,88nm,1.2s
TTA Tatalina 80.83 10 P P 14 22 10.4 +0.7
TTA Tatalina 80.83 10 P P 14 22 09.6 -0.1
baz=342,SNR=18
KTH Kantishna Hill 80.86 8 IAmb IAmb 14 22 11.4
comp=Z,70nm,1.0s
CAST Castle Rocks 80.86 8 IAmb IAmb 14 22 11.2
comp=Z,142nm,1.1s
CAST Castle Rocks 80.86 8 P P 14 22 09.8 0.0
baz=345,SNR=50
MCK McKinley 80.88 7 P P 14 22 09.3 -0.6
baz=348,SNR=14
PKME Peaks-Kenny Pk 80.88 320 IAmb IAmb 14 22 11.4
comp=Z,187nm,1.8s
PKME Peaks-Kenny Pk 80.88 320 P P 14 22 09.5 -0.7
baz=49
PKME Peaks-Kenny Pk 80.88 320 P P 14 22 10.6 +0.4
baz=49
TRF Thorofare Moun 81.02 7 IAmb IAmb 14 22 13.3
comp=Z,196nm,1.9s
TRF Thorofare Moun 81.02 7 P P 14 22 10.8 0.0
baz=347
SCRK Sand Creek 81.03 4 IAmb IAmb 14 22 12.5
comp=Z,121nm,1.0s
SCRK Sand Creek 81.03 4 P P 14 22 10.6 -0.2
baz=352,SNR=50
K24K Donnelly Dome 81.08 5 P P 14 22 10.3 -0.6
baz=350,SNR=15
K27K Chicken 81.08 4 P P 14 22 11.0 +0.1
baz=354
L15K Ungalak Mounta 81.12 13 P P 14 22 11.2 +0.1
baz=338,SNR=7.2
RIDG Independent Ri 81.21 5 IAmb IAmb 14 22 13.0
comp=Z,128nm,1.1s
RIDG Independent Ri 81.21 5 P P 14 22 11.0 -0.7
baz=351,SNR=6.7
L14K Kuka Creek 81.21 13 P P 14 22 11.9 +0.3
baz=337
RND Reindeer 81.21 7 IAmb IAmb 14 22 12.0
comp=Z,75nm,1.1s
L17K Donlin 81.24 11 P P 14 22 11.9 +0.1
baz=340
PPLA Purkypile 81.35 8 P P 14 22 12.1 -0.4
baz=345
M11K Mekoryuk 81.36 15 P P 14 22 11.9 -0.5
baz=334
L18K Granite Mounta 81.40 10 P P 14 22 12.9 +0.2
baz=342
K29M Barlow Dome 81.43 1 IAmb IAmb 14 22 14.4
comp=Z,70nm,1.0s
K29M Barlow Dome 81.43 1 P P 14 22 12.2 -0.8
baz=357,SNR=28
L16K Owhat River 81.44 12 P P 14 22 13.1 +0.3
baz=339,SNR=9.5
L20K Farewell, AK 81.55 9 P P 14 22 13.5 +0.1
baz=344
YKA Yellowknife Ar 81.55 351 P P 14 22 12.8 -0.6
comp=Z,50nm,0.9s,baz=15,slow=5.8,SNR=387
YKA PKKPbc PKKPbc 14 40 44.9 -1.6
comp=Z,0.3nm,0.8s,baz=186,slow=2.5,SNR=3.9
YKA PKPPKP P'P'df 14 48 39.0 -18
comp=Z,0.4nm,0.9s,baz=144,slow=3.0,SNR=4.2
YKA LR LR 15 01 47.0
comp=Z,532nm,18.2s,baz=3.5,slow=38
comp=Z,50nm,0.9s
G62A West of Eustis 81.57 320 IAmb IAmb 14 22 15.1
comp=Z,73nm,1.0s
G62A West of Eustis 81.57 320 P P 14 22 14.0 +0.1
baz=48,SNR=9.6
G62A P P 14 22 14.0 +0.1
baz=48,SNR=9.6
DHY Denali Highway 81.67 6 P P 14 22 13.9 -0.4
baz=349,SNR=7.1
SHEM Shemya Is, Ala 81.70 29 LR LR 15 01 18.9
comp=Z,377nm,21.5s,baz=308,slow=38
L19K White Mountain 81.70 10 IAmb IAmb 14 22 16.1
comp=Z,79nm,1.1s
L19K White Mountain 81.70 10 P P 14 22 15.1 +0.8
baz=343,SNR=24
MAYO Mayo, Yukon 81.71 1 P P 14 22 14.6 +0.4
baz=359,SNR=8.2
WRGLY Wrigley 81.71 355 P P 14 22 14.4 +0.2
baz=8.9
WAT1 Susitna Watana 81.80 7 P P 14 22 15.0 +0.1
baz=348
M14K Bethel 81.89 13 IAmb IAmb 14 22 17.1
comp=Z,82nm,1.1s
M14K Bethel 81.89 13 P P 14 22 15.3 +0.1
baz=337,SNR=7.3
PAX Paxson 81.92 5 P P 14 22 15.7 +0.2
baz=351,SNR=7.1
M13K Dall Lake 81.93 14 P P 14 22 15.9 +0.5
baz=336
L26K Log Cabin Wild 82.01 4 P P 14 22 16.0 +0.1
baz=352,SNR=13
CUT Chulitna 82.05 7 IAmb IAmb 14 23 37.4
comp=Z,84nm,1.2s
CUT Chulitna 82.05 7 P P 14 22 15.5 -0.6
baz=347
L27K Beaver Creek, 82.06 4 IAmb IAmb 14 22 18.0
comp=Z,60nm,1.0s
L27K Beaver Creek, 82.06 4 P P 14 22 16.4 +0.2
baz=354,SNR=28
M17K Holitna River 82.07 11 IAmb IAmb 14 22 18.3
comp=Z,94nm,1.0s
M17K Holitna River 82.07 11 P P 14 22 16.5 +0.3
baz=341
MENT Mentasta 82.08 4 IAmb IAmb 14 22 18.0
comp=Z,71nm,1.0s
MENT Mentasta 82.08 4 P P 14 22 17.3 +1.0
WAT6 Susitna Watana 82.12 6 P P 14 22 16.2 -0.5
baz=349,SNR=9.0
L29M L29M 82.15 2 IAmb IAmb 14 22 19.0
comp=Z,115nm,1.3s
L29M L29M 82.15 2 P P 14 22 16.7 0.0
baz=357
M16K Timber Creek 82.18 12 IAmb IAmb 14 22 18.9
comp=Z,86nm,1.1s
M16K Timber Creek 82.18 12 P P 14 22 16.6 -0.1
baz=340
M15K Kasigluk River 82.18 13 P P 14 22 16.8 0.0
baz=338
M20K Styx River 82.22 9 P P 14 22 16.7 -0.4
baz=344
M18K Stony River 82.23 10 P P 14 22 17.1 +0.1
baz=342
SKT Skwentna 82.32 8 IAmb IAmb 14 22 19.2
comp=Z,113nm,1.3s
SKT Skwentna 82.32 8 P P 14 22 17.0 -0.5
baz=346,SNR=18
HARP HAARP 82.51 5 P P 14 22 18.7 +0.1
baz=351,SNR=9.4
SVW2 Sparrevohn 82.64 10 P P 14 22 20.6 +1.4
M26K Nabesna, AK 82.66 4 IAmb IAmb 14 22 21.0
comp=Z,60nm,1.1s
M26K Nabesna, AK 82.66 4 P P 14 22 19.6 +0.3
baz=353
M22K Willow 82.70 8 P P 14 22 19.0 -0.4
baz=347
N14K Kuskokwak Cree 82.71 14 P P 14 22 19.8 +0.3
baz=338
M30M Minto, Yukon 82.72 1 P P 14 22 20.5 +0.9
baz=358,SNR=13
M24K Tolsona, Glenn 82.72 6 P P 14 22 20.3 +0.7
baz=350,SNR=13
N16K Nishlik Lake 82.72 12 P P 14 22 20.4 +0.8
baz=340
BVCY Beaver Creek 82.75 3 P P 14 22 20.5 +0.7
baz=354
M27K Edge Creek, AK 82.76 4 IAmb IAmb 14 22 22.0
comp=Z,96nm,1.1s
M27K Edge Creek, AK 82.76 4 P P 14 22 20.5 +0.5
baz=354,SNR=19
N15K Kwethluk River 82.78 13 P P 14 22 20.4 +0.4
baz=339
M29M Somo Creek 82.81 2 P P 14 22 20.4 +0.2
baz=356,SNR=10
SML Sawmill 82.83 7 P P 14 22 20.3 +0.1
baz=348,SNR=8.9
SCM Sheep Creek Mo 82.90 6 P P 14 22 20.5 -0.1
baz=349
M23K Glacier View 82.90 6 P P 14 22 20.1 -0.4
baz=349
SUA Susitna One 82.91 8 P P 14 22 20.8 0.0
baz=346,SNR=10
N17K Nushagak Hills 82.94 11 P P 14 22 20.8 +0.1
baz=341
LBNH Lisbon 82.96 320 IAmb IAmb 14 22 22.6
comp=Z,60nm,1.1s
LBNH Lisbon 82.96 320 P P 14 22 21.1 0.0
baz=47
LBNH Lisbon 82.96 320 P P 14 22 21.2 0.0
baz=47,SNR=6.6
PMR Palmer 82.96 7 IAmb IAmb 14 22 22.1
comp=Z,96nm,1.1s
PMR Palmer 82.96 7 P P 14 22 21.3 +0.5
PMR Palmer 82.96 7 P P 14 22 20.9 +0.1
baz=348,SNR=8.9
VLDQ Val d'Or 82.98 326 IAmb IAmb 14 22 22.4
comp=Z,86nm,1.0s
N18K Kilae Creek 82.99 11 IAmb IAmb 14 22 23.1
comp=Z,100nm,1.1s
N18K Kilae Creek 82.99 11 P P 14 22 21.6 +0.5
baz=340,SNR=9.1
N20K Mount Spurr 83.00 9 P P 14 22 20.8 -0.4
baz=345
N19K Bonanza Creek 83.07 10 P P 14 22 21.9 +0.4
baz=343,SNR=22
FARO Faro, Yukon 83.09 360 IAmb IAmb 14 22 23.8
comp=Z,91nm,1.1s
FARO Faro, Yukon 83.09 360 P P 14 22 21.8 +0.3
baz=0.7,SNR=24
M31M Drury Creek, Y 83.11 0 IAmb IAmb 14 22 23.1
comp=Z,82nm,1.1s
M31M Drury Creek, Y 83.11 0 P P 14 22 22.2 +0.6
baz=360,SNR=30
SANI Sanana 83.12 97 P P 14 22 21.0 -1.4
SANI Sanana 83.12 97 P P 14 22 20.8 -1.6
comp=Z,19nm,0.9s
KNK Knik Glacier 83.20 7 P P 14 22 21.9 -0.2
baz=348
VT1 Waterbury 83.33 321 IAmb IAmb 14 22 24.3
comp=Z,72nm,1.3s
N25K Chitina, Valde 83.34 5 P P 14 22 22.7 -0.2
baz=352
KLU Klutina 83.35 6 P P 14 22 23.3 +0.3
baz=350,SNR=17
RC01 Rabbit Creek A 83.39 8 P P 14 22 23.1 +0.1
baz=347,SNR=7.3
YUK3 Moose Creek 83.41 3 P P 14 22 23.4 0.0
baz=355,SNR=14
O14K Tigyukauivet M 83.41 14 P P 14 22 23.4 +0.3
baz=338
FRNY Flat Rock 83.42 321 P P 14 22 22.9 -0.5
baz=46,SNR=8.0
HNH Hanover 83.52 320 IAmb IAmb 14 22 25.4
comp=Z,50nm,1.0s
CAPN Captain Cook N 83.54 8 P P 14 22 23.8 0.0
baz=346
LBMI Labuha 83.54 95 P P 14 22 25.2 +0.6
comp=Z,33nm,1.2s
EDFI Ende, Flores 83.58 105 P P 14 22 22.7 -2.2
comp=Z,12nm,0.8s
BASI Baing, Sumba 83.58 107 P P 14 22 33.8 +9.1
MCARA McCarthy VSAT 83.67 4 P P 14 22 23.6 -0.9
baz=353
O17K Koliganek Bris 83.67 11 P P 14 22 24.7 +0.2
baz=341,SNR=7.9
O16K Kokwok River B 83.67 12 P P 14 22 24.8 +0.3
baz=340
O19K Port Alsworth 83.69 10 IAmb IAmb 14 22 28.5
comp=Z,69nm,1.3s
O19K Port Alsworth 83.69 10 P P 14 22 24.9 +0.3
baz=344
MCVT Middlebury Col 83.72 320 P P 14 22 24.6 -0.4
baz=46
O15K Ungalikthiuk R 83.76 13 P P 14 22 25.1 +0.1
baz=339
VRDI Verde Repeater 83.79 4 IAmb IAmb 14 22 26.6
comp=Z,83nm,1.2s
N31M Braeburn, Yuko 83.83 1 IAmb IAmb 14 22 26.2
comp=Z,70nm,1.3s
N31M Braeburn, Yuko 83.83 1 P P 14 22 25.2 -0.2
baz=359
N30M Aishikik Lake 83.83 1 P P 14 22 25.2 -0.2
baz=358
BCX Boston College 83.85 318 IAmb IAmb 14 22 26.6
comp=Z,60nm,1.1s
GLI Glacier Island 83.86 6 P P 14 22 25.4 -0.1
baz=349
BMNY Brushton-Moira 83.88 322 P P 14 22 25.0 -0.8

baz=45,SNR=6.7
O18K Koktuh Hills 83.88 10 IAmb IAmb 14 22 27.5
comp=Z,67nm,1.1s
O18K Koktuh Hills 83.88 10 P **P** **14 22 25.9 +0.3**
baz=343
YUK4 Talbot Arm 83.91 2 P **P** **14 22 25.5 -0.5**
baz=356,SNR=13
YUK8 Steele Glacier 83.93 3 P **P** **14 22 26.0 -0.2**
baz=355
HRV Adam Dziewonsk 83.94 319 P **P** **14 22 25.4 -0.8**
baz=47
MMRI Maumere 83.95 105 P **P** **14 22 23.9 -2.7**
MMRI Maumere 83.95 105 P **P** **14 22 23.9 -2.7**
comp=Z,34nm,1.1s,comp=Z,982nm
BMRM Bremner River 83.97 5 P **P** **14 22 26.1 0.0**
baz=352
O22K Cooper Landing 83.99 8 P **P** **14 22 26.1 0.0**
baz=347
O20K Slope Mountain 84.03 9 P **P** **14 22 26.6 +0.2**
baz=345
BARN Barnard Glacie 84.07 4 IAmb IAmb 14 22 28.5
comp=Z,81nm,1.3s
LONY Lake Ozonia 84.07 322 IAmb IAmb 14 22 27.7
comp=Z,51nm,0.8s
LONY Lake Ozonia 84.07 322 P **P** **14 22 26.1 -0.8**
baz=45
WBO Williamsburg 84.15 322 IAmb IAmb 14 22 28.0
comp=Z,68nm,1.2s
N32M Quiet Lake 84.17 359 P **P** **14 22 26.8 -0.3**
baz=0.9
CTG Chitna Glacier 84.18 4 P **P** **14 22 27.6 +0.3**
baz=354,SNR=5.7
K62A Royalston 84.20 319 IAmb IAmb 14 22 29.0
comp=Z,36nm,0.9s
P16K Nushagak River 84.22 12 P **P** **14 22 27.9 +0.6**
baz=341
CRQE Cirque 84.29 4 P **P** **14 22 27.6 -0.3**
baz=353
EYAK Cordova Ski Ar 84.30 6 P **P** **14 22 28.0 +0.3**
baz=350
YUK6 Outpost Mounta 84.32 2 P **P** **14 22 27.6 -0.5**
baz=357
P17K Kvichak River 84.32 11 P **P** **14 22 27.8 0.0**
baz=342,SNR=8.0
P18K Big Mountain, 84.32 11 P **P** **14 22 27.5 -0.4**
baz=343
NCB Newcomb 84.34 321 P **P** **14 22 27.7 -0.6**
baz=46
P19K Oil Pt 84.36 10 P **P** **14 22 28.2 +0.1**
baz=344
SEW Seward 84.39 8 P **P** **14 22 28.3 +0.2**
baz=348
HYT Haines Junctio 84.46 2 P **P** **14 22 28.9 +0.2**
baz=357,SNR=20
ACCN Adirondack Com 84.46 320 P **P** **14 22 28.4 -0.5**
baz=46,SNR=9.7
QUA2 Belchertown 84.53 319 IAmb IAmb 14 22 30.4
comp=Z,82nm,1.3s
O30N Mendenhall 84.54 1 IAmb IAmb 14 22 30.6
comp=Z,88nm,1.4s
O30N Mendenhall 84.54 1 P **P** **14 22 28.7 -0.3**
baz=358,SNR=11
HOM Homer 84.56 9 P **P** **14 22 29.3 +0.3**
baz=346
L61B Northampton 84.59 319 P **P** **14 22 28.8 -0.7**
baz=46
L61B Northampton 84.59 319 P **P** **14 22 29.5 0.0**
baz=46
BRSE Bradley Lake S 84.59 8 P **P** **14 22 28.8 -0.4**
baz=346
WHY Whitehorse 84.66 0 P **P** **14 22 29.3 -0.4**
baz=360,SNR=5.9
FLDN Fort Liard 84.68 355 P **P** **14 22 30.1 +0.6**
baz=8.8,SNR=22
P23K Montague Islan 84.70 7 P **P** **14 22 29.9 +0.2**
baz=349
Q16K King Salmon 84.78 12 P **P** **14 22 29.9 -0.2**
baz=342,SNR=8.1
KOTAN Kotaneelee Air 84.83 355 P **P** **14 22 30.2 -0.2**
baz=8.4,SNR=10
J59A Piesco 84.84 321 P **P** **14 22 29.8 -1.0**
baz=45,SNR=17
J59A P **P** **14 22 29.8 -1.0**
baz=45,SNR=17
TRY Troy 84.92 320 P **P** **14 22 31.7 +0.5**
baz=46
MESA MESA 84.93 4 P **P** **14 22 31.5 +0.3**
baz=354
O29M Mount Kennedy 84.95 2 P **P** **14 22 31.4 +0.2**
baz=356
Q19K Cape Douglas, 85.00 10 P **P** **14 22 31.7 +0.3**
baz=344
KAIM Kayak Island 85.02 5 P **P** **14 22 30.8 -0.5**
baz=352
WCNY West Carthage 85.07 322 P **P** **14 22 30.7 -1.2**
baz=44,SNR=11
Q18K Katmai Hardscr 85.07 11 P **P** **14 22 31.7 -0.1**
baz=343
PINM Pinnacle 85.10 3 P **P** **14 22 32.0 +0.1**
baz=355
P33M Teslin, Yukon 85.11 359 IAmb IAmb 14 22 32.8
comp=Z,47nm,1.1s
P33M Teslin, Yukon 85.11 359 P **P** **14 22 31.2 -0.7**
baz=1.2,SNR=12
WTLY Watson Lake, Y 85.11 357 IAmb IAmb 14 22 33.5
comp=Z,46nm,0.9s
WTLY Watson Lake, Y 85.11 357 P **P** **14 22 32.2 +0.4**
baz=4.5
P30M Million Dollar 85.18 1 P **P** **14 22 31.9 -0.3**
baz=358
Q17K Contact Creek 85.30 11 P **P** **14 22 32.2 -0.8**
baz=342
J58A Remsen 85.32 321 IAmb IAmb 14 22 34.1
comp=Z,92nm,1.2s
J58A Remsen 85.32 321 P **P** **14 22 32.3 -0.9**
baz=45,SNR=8.7
J58A P **P** **14 22 32.3 -0.9**
baz=45,SNR=8.7
HCNY Howe Caverns 85.33 320 P **P** **14 22 33.9 +0.7**
baz=45,SNR=9.7
Q23K Middleton Isla 85.36 6 P **P** **14 22 32.1 -0.9**
baz=350
Q20K Shuyak Island 85.48 9 P **P** **14 22 33.1 -0.6**
baz=345
KSCT Kent School, K 85.52 319 IAmb IAmb 14 22 34.9
comp=Z,50nm,1.2s
PNL Peninsula 85.56 3 P **P** **14 22 33.5 -0.6**
baz=356
J57A Williamstown 85.65 322 IAmb IAmb 14 22 35.5
comp=Z,96nm,1.3s
J57A Williamstown 85.65 322 P **P** **14 22 34.8 0.0**
baz=44
J57A P **P** **14 22 34.8 0.0**
baz=44
P29M Windy Craggy 85.65 2 P **P** **14 22 33.7 -0.9**
baz=357
DELO Deloro Mine 85.66 323 IAmb IAmb 14 22 35.5
comp=Z,91nm,1.2s
LIRD Liard River Hi 85.68 356 P **P** **14 22 34.1 -0.5**
baz=6.7,SNR=29
R16K Pilot Point 85.68 12 P **P** **14 22 34.3 -0.3**
baz=341
P32M Atlin 85.74 360 P **P** **14 22 34.0 -1.0**
baz=0.4,SNR=5.9
R17K Ugashik Creek 85.81 12 P **P** **14 22 35.3 -0.1**
baz=342
NPNY Mohonk Preserv 85.85 319 P **P** **14 22 35.6 -0.3**
baz=45
SKAG Skagway 85.86 1 IAmb IAmb 14 22 37.2
comp=Z,43nm,1.0s
SKAG Skagway 85.86 1 P **P** **14 22 36.5 +1.0**
SKAG Skagway 85.86 1 P **P** **14 22 34.7 -0.8**
baz=359,SNR=7.5
R33M Jennings River 85.89 358 P **P** **14 22 34.9 -1.0**
baz=2.7
BATI Baumata 86.01 105 P **P** **14 22 36.7 -0.3**
comp=Z,55nm,1.0s
BATI Baumata 86.01 105 P **P** **14 22 36.9 -0.1**
comp=Z,44nm,0.9s,baz=221,slow=3.7,SNR=10
BATI LR LR 15 05 03.9
comp=Z,405nm,20.1s,baz=305,slow=38
comp=Z,44nm,0.9s
L59A Walton 86.02 320 IAmb IAmb 14 22 38.2
comp=Z,69nm,1.1s
L59A Walton 86.02 320 P **P** **14 22 36.4 -0.4**
baz=45,SNR=6.9
L59A P **P** **14 22 36.4 -0.4**
baz=45,SNR=6.9

R18K Karluk 86.19 11 P **P** **14 22 37.1 -0.1**
baz=344
SADO Sadowa 86.22 324 IAmb IAmb 14 22 38.0
comp=Z,71nm,1.4s
SADO Sadowa 86.22 324 P **P** **14 22 36.9 -0.7**
comp=Z,19nm,1.0s,baz=89,slow=4.4,SNR=4.8
SADO LR LR 15 03 54.0
comp=Z,606nm,18.0s,baz=61,slow=38
comp=Z,19nm,1.0s
SOEI Soe 86.22 105 IAmb IAmb 14 22 49.0
comp=Z,67nm,0.9s
SOEI IAMs_20 IAMs_20 15 06 19.4
comp=Z,749nm,22.0s
SOEI Soe 86.22 105 P **P** **14 22 36.9 -1.3**
SOEI Soe 86.22 105 P **P** **14 22 37.6 -0.6**
comp=Z,80nm,0.9s
PAL Palisades 86.25 319 P **P** **14 22 37.0 -0.8**
baz=46
KDAK Kodiak Island 86.26 10 P **P** **14 22 36.5 -1.0**
KDAK Kodiak Island 86.26 10 P **P** **14 22 37.2 -0.3**
baz=345
KDAK Kodiak Island 86.26 10 P **P** **14 22 36.6 -1.0**
KDAK pmax pmax
comp=Z,286nm,1.3s
KDAK Kodiak Island 86.26 10 LR LR 15 06 32.7
comp=Z,454nm,18.4s,baz=7.9,slow=39
TRNY Table Rock, Ra 86.33 319 IAmb IAmb 14 22 38.7
comp=Z,66nm,1.3s
Q32M Nakina River 86.36 359 P **P** **14 22 37.3 -1.0**
baz=1.6
K57A Scipio Center 86.40 321 IAmb IAmb 14 22 40.7
comp=Z,86nm,1.4s
FFC Flin Flon 86.42 342 P **P** **14 22 36.8 -1.6**
FFC IAmb IAmb 14 22 39.2
comp=Z,84nm,1.0s
FFC Flin Flon 86.42 342 P **P** **14 22 36.8 -1.6**
FFC pmax pmax
comp=Z,84nm,1.0s
BINY Binghamton 86.51 321 IAmb IAmb 14 22 52.6
comp=Z,160nm,1.9s
BINY Binghamton 86.51 321 P **P** **14 22 37.8 -1.3**
baz=44
S14K Fog Glacier 86.52 14 P **P** **14 22 38.1 -0.9**
baz=340
RCBR Riachuelo 86.56 261 *eP* **P** **14 22 42.7 +2.8**
RCBR Riachuelo 86.56 261 LR LR 15 01 44.7
comp=Z,351nm,20.8s,baz=62,slow=36
OHAK Old Harbor 86.70 10 P **P** **14 22 39.3 -0.4**
baz=344
CHGN Chignik 86.72 13 P **P** **14 22 40.2 +0.4**
baz=340
SWI Sorong 86.75 93 P **P** **14 22 40.6 -0.1**
comp=Z,33nm,1.1s
DLBC Dease Lake 86.83 358 IAmb IAmb 14 22 42.6
comp=Z,79nm,1.2s
DLBC Dease Lake 86.83 358 P **P** **14 22 41.1 +0.6**
baz=3.5,SNR=11
DLBC Dease Lake 86.83 358 LR LR 15 08 32.3
comp=Z,340nm,18.6s,baz=354,slow=40
FALS False Pass 87.02 16 P **P** **14 22 41.0 -0.2**
baz=336
JIS Juneau Island 87.06 0 IAmb IAmb 14 22 43.7
comp=Z,58nm,1.1s
JIS Juneau Island 87.06 0 P **P** **14 22 42.8 +1.4**
R32K Eaglecrest 87.06 0 P **P** **14 22 41.1 -0.4**
baz=360
UNV Unalaska Valle 87.18 18 P **P** **14 22 42.2 +0.1**
baz=334
SII Sitkinak Islan 87.20 11 P **P** **14 22 42.3 +0.1**
baz=344
SDPT Sand Point 87.21 15 P **P** **14 22 42.1 -0.1**
baz=339
NIKH Nikolski High 87.32 20 P **P** **14 22 42.3 -0.5**
baz=332
S31K Pelican 87.35 1 IAmb IAmb 14 22 46.2
comp=Z,73nm,1.2s
S31K Pelican 87.35 1 P **P** **14 22 43.2 +0.4**
baz=358
L56A Greenwood 87.36 322 IAmb IAmb 14 22 44.4
comp=Z,54nm,1.1s
L56A Greenwood 87.36 322 P **P** **14 22 42.0 -1.3**
baz=43,SNR=8.4
L56A P **P** **14 22 42.0 -1.3**
baz=43,SNR=8.4
E46A Sault Ste Mari 87.37 328 IAmb IAmb 14 22 43.6
comp=Z,54nm,0.8s
S34M Telegraph Cree 87.38 358 IAmb IAmb 14 22 45.4
comp=Z,83nm,1.1s
S34M Telegraph Cree 87.38 358 P **P** **14 22 43.2 +0.2**
baz=2.5,SNR=12
CHIR Chirikof Islan 87.68 12 P **P** **14 22 44.8 +0.3**
baz=343
WVNY West Valley, N 87.70 322 IAmb IAmb 14 22 45.1
comp=Z,100nm,1.4s
M57A Sunshine Farm, 87.72 321 IAmb IAmb 14 22 50.2
comp=Z,54nm,1.4s
M57A Sunshine Farm, 87.72 321 P **P** **14 22 44.7 -0.3**
baz=44
M57A P **P** **14 22 44.7 -0.3**
baz=44
BNDI Bandanaira 87.73 97 P **P** **14 22 43.6 -1.8**
BNDI Bandanaira 87.73 97 P **P** **14 22 44.1 -1.3**
comp=Z,93nm,0.9s,comp=Z,1μm
S32K Killisnoo 87.86 0 IAmb IAmb 14 22 47.7
comp=Z,63nm,1.1s
S32K Killisnoo 87.86 0 P **P** **14 22 45.4 +0.1**
baz=360
CHNA Chernabura Isl 87.88 14 P **P** **14 22 45.7 +0.3**
baz=340
SIT Sitka 88.27 1 P **P** **14 22 47.7 +0.5**
baz=359
T35M Bob Quinn 88.29 358 IAmb IAmb 14 22 49.8
comp=Z,55nm,1.1s
T35M Bob Quinn 88.29 358 P **P** **14 22 47.8 +0.3**
baz=3.3,SNR=7.6
M55A Ridgway 88.47 322 IAmb IAmb 14 22 48.8
comp=Z,33nm,0.8s
M55A Ridgway 88.47 322 P **P** **14 22 48.2 -0.4**
baz=42,SNR=8.2
M55A P **P** **14 22 48.2 -0.4**
baz=42,SNR=8.2
E43A Lone Tree Farm 88.51 329 IAmb IAmb 14 22 48.9
comp=Z,36nm,0.9s
T33K Petersburg 88.52 359 P **P** **14 22 48.5 +0.1**
baz=1.1
ULM Lac du Bonnet 88.59 337 P **P** **14 22 48.1 -0.9**
comp=Z,14nm,0.7s,baz=39,slow=4.0,SNR=24
ULM LR LR 15 03 40.5
comp=Z,1μm,19.4s,baz=31,slow=36
comp=Z,14nm,0.7s
ERPA Erie 88.60 323 P **P** **14 22 47.9 -1.3**
baz=42
SSPA Standing Stone 88.63 321 P **P** **14 22 47.8 -1.6**
SSPA Standing Stone 88.63 321 P **P** **14 22 48.3 -1.0**
baz=43
SSPA Standing Stone 88.63 321 P **P** **14 22 48.2 -1.1**
baz=43,SNR=5.0
GLMI Grayling 88.71 327 P **P** **14 22 49.8 +0.2**
baz=39
PSDB Penn State Uni 88.71 322 P **P** **14 22 50.3 +0.6**
baz=42
WRAK Wrangell Islan 88.90 359 P **P** **14 22 50.6 +0.3**
baz=1.6
EYMN Ely 89.01 333 IAMs_20 IAMs_20 15 02 50.0
comp=Z,2μm,20.0s
EYMN Ely 89.01 333 P **P** **14 22 50.6 -0.4**
baz=34
U33K Whale Pass 89.22 359 P **P** **14 22 52.4 +0.7**
baz=0.9,SNR=6.5
U35K Hyder 89.35 358 P **P** **14 22 52.8 +0.4**
baz=3.5
M53A WI Miller and 89.45 323 P **P** **14 22 53.0 -0.2**
baz=41
F42A Maple Grove Fa 89.48 330 IAmb IAmb 14 22 53.5
comp=Z,93nm,1.6s
P57A Homestead Farm 89.53 320 IAmb IAmb 14 22 53.9
comp=Z,92nm,1.8s
GUMO Guam 89.55 74 LR LR 15 05 56.1
comp=Z,197nm,21.9s,baz=301,slow=38
MBWA Marble Bar 89.58 116 P **P** **14 22 51.8 -2.1**
MBWA Marble Bar 89.58 116 IAMs_20 IAMs_20 15 00 08.7
comp=Z,702nm,22.0s
MBWA Marble Bar 89.58 116 P **P** **14 22 53.3 -0.6**
M52A Chesterland 89.71 323 P **P** **14 22 53.8 -0.6**
baz=41
M52A P **P** **14 22 53.8 -0.6**
baz=41
CRAG Craig 89.86 359 P **P** **14 22 54.4 -0.4**

baz=0.9
V35K Ketchikan 89.98 359 IAmb IAmb 14 22 57.2
comp=Z,68nm,1.1s
V35K Ketchikan 89.98 359 P **P** **14 22 54.2 -1.1**
baz=2.1
N53A Lisbon 90.00 322 IAmb IAmb 14 22 55.9
comp=Z,44nm,0.8s
N53A Lisbon 90.00 322 P **P** **14 22 54.2 -1.6**
baz=41,SNR=7.1
N53A P **P** **14 22 54.2 -1.6**
baz=41,SNR=7.1
CBN Corbin Frederi 90.12 319 P **P** **14 22 55.5 -0.8**
baz=43
E38A The Farm, Brul 90.15 332 P **P** **14 22 55.5 -0.8**
baz=34,SNR=13
AAM Ann Arbor 90.23 325 P **P** **14 22 55.9 -0.8**
baz=39
O54A Avella 90.24 322 IAmb IAmb 14 22 57.1
comp=Z,34nm,0.8s
O54A Avella 90.24 322 P **P** **14 22 56.1 -0.8**
baz=41,SNR=8.6
O54A P **P** **14 22 56.1 -0.8**
baz=41,SNR=8.6
AGMN Agassiz Nation 90.27 336 P **P** **14 22 55.9 -0.9**
baz=30
MCWV Mont Chateau 90.36 321 IAmb IAmb 14 22 58.6
comp=Z,92nm,1.4s
MCWV Mont Chateau 90.36 321 P **P** **14 22 56.6 -0.9**
baz=42
Q56A Snyder Ridge, 90.48 320 IAmb IAmb 14 22 59.1
comp=Z,56nm,1.4s
O53A New Philadelph 90.61 322 P **P** **14 22 57.5 -1.1**
baz=41,SNR=10
G40A Rib Lake 90.72 331 P **P** **14 22 58.2 -0.8**
baz=35
L48A N Adams 90.87 325 IAmb IAmb 14 23 00.4
comp=Z,77nm,1.2s
O52A Adamsville 91.02 323 P **P** **14 22 58.8 -1.8**
baz=40,SNR=14
O52A P **P** **14 22 58.8 -1.8**
baz=40,SNR=14
P53A Whipple 91.28 322 P **P** **14 23 00.8 -0.9**
baz=41,SNR=18
P53A P **P** **14 23 00.8 -0.9**
baz=41,SNR=18
I42A Draeger Farm, 91.31 329 IAmb IAmb 14 23 01.9
comp=Z,67nm,1.2s
Q54A Coxs Mills 91.37 321 IAmb IAmb 14 23 03.0
comp=Z,77nm,1.4s
Q54A Coxs Mills 91.37 321 P **P** **14 23 01.1 -1.1**
baz=41,SNR=8.8
Q54A P **P** **14 23 01.1 -1.1**
baz=41,SNR=8.8
ACSO Alum Creek Sta 91.50 323 P **P** **14 23 01.2 -1.6**
baz=40,SNR=11
ACSO Alum Creek Sta 91.50 323 P **P** **14 23 01.5 -1.2**
baz=40,SNR=11
F36A Milaca 91.52 333 IAmb IAmb 14 23 03.4
comp=Z,65nm,1.1s
F36A Milaca 91.52 333 P **P** **14 23 01.8 -0.9**
baz=32,SNR=22
P52A Corning 91.54 322 P **P** **14 23 01.4 -1.6**
baz=40,SNR=14
N49A Columbus Grove 91.55 325 P **P** **14 23 01.9 -1.1**
baz=39,SNR=12
N49A P **P** **14 23 01.9 -1.1**
baz=39,SNR=12
ROSB Rosrio 91.60 268 *eP* **P** **14 23 04.7 +1.1**
SPMN Marine on St. 91.78 332 P **P** **14 23 03.3 -0.6**
baz=33
SPMN Marine on St. 91.78 332 P **P** **14 23 04.0 +0.1**
baz=33,SNR=8.2
MDND Maddock 91.89 338 P **P** **14 23 03.2 -1.2**
baz=28
MDND Maddock 91.89 338 P **P** **14 23 04.3 -0.1**
baz=28
I40A Norwalk 92.02 330 IAmb IAmb 14 23 05.4
comp=Z,28nm,0.8s
I40A Norwalk 92.02 330 P **P** **14 23 04.8 -0.3**
baz=34
P51A Williamsport 92.12 323 IAmb IAmb 14 23 05.2
comp=Z,34nm,0.8s
P51A Williamsport 92.12 323 P **P** **14 23 04.0 -1.6**
baz=40,SNR=6.0
P51A P **P** **14 23 04.0 -1.6**
baz=40,SNR=6.0
Q52A Bidwell 92.12 322 P **P** **14 23 05.2 -0.4**
baz=40,SNR=19
Q52A P **P** **14 23 05.2 -0.4**
baz=40,SNR=19
O49A Covington 92.19 324 P **P** **14 23 04.7 -1.2**
baz=39,SNR=14
O49A P **P** **14 23 04.7 -1.2**
baz=39,SNR=14
FITZ Fitzroy Crossi 92.20 110 P **P** **14 23 04.5 -1.7**
FITZ Fitzroy Crossi 92.20 110 P **P** **14 23 05.5 -0.7**
L44A Lake County Fo 92.27 327 P **P** **14 23 05.6 -0.7**
baz=36
N47A Urbana 92.29 325 P **P** **14 23 05.5 -0.9**
baz=38
N47A P **P** **14 23 05.5 -0.9**
baz=38
R53A Hurricane 92.44 322 P **P** **14 23 07.2 +0.1**
baz=40,SNR=12
R53A P **P** **14 23 07.2 +0.1**
baz=40,SNR=12
BLA Blacksburg 92.48 320 P **P** **14 23 06.6 -0.9**
baz=41
O48B Farmland 92.53 325 P **P** **14 23 06.1 -1.4**
baz=38,SNR=11
O48B Farmland 92.53 325 P **P** **14 23 06.7 -0.8**
baz=38,SNR=11
F33A 5 Mile Ranch, 92.54 335 IAmb IAmb 14 23 07.8
comp=Z,49nm,0.9s
F33A 5 Mile Ranch, 92.54 335 P **P** **14 23 06.6 -0.9**
baz=30,SNR=10
CNNC Cliffs of the 92.56 317 P **P** **14 23 06.8 -0.9**
baz=43
Q51A Peebles 92.61 323 P **P** **14 23 06.8 -1.1**
baz=40,SNR=16
Q51A P **P** **14 23 06.8 -1.1**
baz=40,SNR=16
JFWS Jewell Farm 92.67 329 IAmb IAmb 14 23 07.8
comp=Z,34nm,0.8s
JFWS Jewell Farm 92.67 329 P **P** **14 23 07.1 -1.0**
baz=35,SNR=6.2
JFWS Jewell Farm 92.67 329 P **P** **14 23 07.1 -1.0**
baz=35,SNR=6.2
DGMT Dagmar 92.68 341 P **P** **14 23 07.3 -0.8**
baz=24
V58A Windy Hill, Pi 92.83 318 IAmb IAmb 14 23 09.2
comp=Z,32nm,1.1s
V58A Windy Hill, Pi 92.83 318 P **P** **14 23 08.8 -0.1**
baz=42,SNR=5.3
V58A P **P** **14 23 08.8 -0.1**
baz=42,SNR=5.3
P49A Miami Univ. Ec 92.89 324 P **P** **14 23 07.5 -1.6**
baz=38,SNR=10
P49A Miami Univ. Ec 92.89 324 P **P** **14 23 07.8 -1.4**
baz=38,SNR=10
BBB Bella Bella 93.00 356 LR LR 15 11 44.3
comp=Z,464nm,19.0s,baz=9.5,slow=40
I37B Waseca 93.03 332 P **P** **14 23 09.3 -0.5**
baz=32,SNR=19
U56A King 93.11 319 IAmb IAmb 14 23 11.4
comp=Z,60nm,1.4s
U56A King 93.11 319 P **P** **14 23 10.0 -0.2**
baz=41,SNR=5.5
U56A P **P** **14 23 10.0 -0.2**
baz=41,SNR=5.5
L42A Oliver, Polo 93.17 328 P **P** **14 23 09.9 -0.5**
baz=35,SNR=8.1
P48A Milroy 93.28 324 P **P** **14 23 09.4 -1.6**
baz=38,SNR=12
P48A P **P** **14 23 09.4 -1.6**
baz=38,SNR=12
SFIN Lafayette 93.34 326 P **P** **14 23 09.7 -1.5**
baz=37
E28A Huff 93.36 338 P **P** **14 23 11.4 +0.1**
baz=27
R50A Paris 93.67 323 IAmb IAmb 14 23 13.0
comp=Z,40nm,0.9s
R50A Paris 93.67 323 P **P** **14 23 11.7 -1.1**
baz=39,SNR=9.9
R50A P **P** **14 23 11.7 -1.1**
baz=39,SNR=9.9
U54A Nelsons Funny 93.74 320 IAmb IAmb 14 23 13.5
comp=Z,43nm,1.4s

L40A	**Anamosa** comp=Z,48nm,1.1s	**93.78 329**	IAmb	IAmb	14 23 13.4		
L40A	**Anamosa** baz=34,SNR=7.6	**93.78 329**	P	**P**	**14 23 12.6**	**-0.7**	
S51A	**Beattyville** baz=39,SNR=14	**93.80 322**	P	**P**	**14 23 11.4**	**-2.0**	
S51A	baz=39,SNR=14		P	**P**	**14 23 11.4**	**-2.0**	
V55A	**Taylorsville** comp=Z,32nm,1.2s	**93.93 319**	IAmb	IAmb	14 23 15.3		
K38A	**Parkersburg** comp=Z,49nm,0.9s	**93.93 331**	IAmb	IAmb	14 23 13.4		
P46A	**Rosedale** comp=Z,42nm,1.1s	**94.00 326**	IAmb	IAmb	14 23 14.5		
R49A	**Shelbyville** comp=Z,37nm,0.9s	**94.08 323**	IAmb	IAmb	14 23 14.7		
R49A	**Shelbyville** baz=38,SNR=8.1	**94.08 323**	P	**P**	**14 23 13.6**	**-1.1**	
R49A	baz=38,SNR=8.1		P	**P**	**14 23 13.6**	**-1.1**	
O44A	**Mansfield** comp=Z,46nm,1.1s	**94.15 327**	IAmb	IAmb	14 23 15.1		
HDIL	**Hopedale** baz=35	**94.19 327**	P	**P**	**14 23 14.5**	**-0.6**	
HDIL	**Hopedale** baz=35	**94.19 327**	P	**P**	**14 23 14.8**	**-0.3**	
SMRT	**St. Maarten** comp=Z,494nm,19.0s	**94.41 295**	IAMs_20	IAMs_20	15 01 41.9		
ECSD	**EROS Data Cent** comp=Z,44nm,0.9s	**94.47 334**	IAmb	IAmb	14 23 17.2		
ECSD	**EROS Data Cent** baz=30,SNR=27	**94.47 334**	P	**P**	**14 23 15.1**	**-1.3**	
ECSD	**EROS Data Cent** baz=30,SNR=27	**94.47 334**	P	**P**	**14 23 15.7**	**-0.7**	
EGMT	**Eagleton** comp=Z,26nm,1.1s	**94.49 344**	IAmb	IAmb	14 23 17.2		
EGMT	comp=Z,975nm,21.0s		IAMs_20	IAMs_20	15 09 56.5		
EGMT	**Eagleton** baz=20,SNR=8.5	**94.49 344**	P	**P**	**14 23 15.3**	**-1.1**	
KMSC	**Kings Mountain** comp=Z,96nm,2.0s	**94.53 319**	IAmb	IAmb	14 23 17.9		
KMSC	**Kings Mountain** baz=41	**94.53 319**	P	**P**	**14 23 15.1**	**-1.6**	
TZTN	**Tazewell** baz=39	**94.62 321**	P	**P**	**14 23 16.3**	**-0.9**	
TZTN	**Tazewell** baz=39,SNR=10	**94.62 321**	P	**P**	**14 23 16.9**	**-0.3**	
WCI	**Wyandotte Cave**	**94.67 324**	P	**P**	**14 23 16.0**	**-1.4**	
WCI	comp=Z,38nm,1.3s		IAmb	IAmb	14 23 17.8		
WCI	**Wyandotte Cave** baz=38	**94.67 324**	P	**P**	**14 23 16.8**	**-0.6**	
WCI	**Wyandotte Cave** baz=38	**94.67 324**	P	**P**	**14 23 16.4**	**-0.9**	
WCI	**Wyandotte Cave**	**94.67 324**	P	**P**	**14 23 16.0**	**-1.4**	
WCI	comp=Z,38nm,1.3s		pmax	pmax			
SUSD	**Miller** baz=28	**94.68 336**	P	**P**	**14 23 16.7**	**-0.6**	
SUSD	**Miller** baz=28	**94.68 336**	P	**P**	**14 23 17.6**	**+0.3**	
SCIA	**State Center** baz=33	**94.73 331**	P	**P**	**14 23 16.6**	**-1.0**	
LAO	**LASA Array** baz=23,SNR=44	**94.86 341**	P	**P**	**14 23 18.0**	**-0.1**	
LAO	**LASA Array** baz=23	**94.86 341**	P	**P**	**14 23 19.2**	**+1.0**	
T50A	**Nancy** comp=Z,29nm,0.9s	**94.91 322**	IAmb	IAmb	14 23 18.6		
T50A	**Nancy** baz=39	**94.91 322**	P	**P**	**14 23 17.4**	**-1.1**	
T50A	baz=39		P	**P**	**14 23 17.4**	**-1.1**	
V53A	**Saluda** comp=Z,26nm,0.9s	**94.91 320**	IAmb	IAmb	14 23 19.1		
V53A	**Saluda** baz=40,SNR=9.2	**94.91 320**	P	**P**	**14 23 18.6**	**0.0**	
V53A	baz=40,SNR=9.2		P	**P**	**14 23 18.6**	**0.0**	
CBB	**Campbell River** comp=Z,31nm,1.2s	**94.96 354**	IAmb	IAmb	14 23 19.9		
PAULI	**Pauline** comp=Z,51nm,1.3s	**95.03 319**	IAmb	IAmb	14 23 20.9		
PAULI	**Pauline** baz=41,SNR=7.8	**95.03 319**	P	**P**	**14 23 18.4**	**-0.7**	
V52A	**Sevierville** comp=Z,36nm,1.1s	**95.19 321**	IAmb	IAmb	14 23 20.2		
V52A	**Sevierville** baz=39,SNR=8.8	**95.19 321**	P	**P**	**14 23 17.8**	**-2.0**	
Q44A	**Meyer Farm, Va** baz=36,SNR=5.6	**95.41 326**	P	**P**	**14 23 20.3**	**-0.5**	
NHSC	**New Hope** baz=42	**95.41 317**	P	**P**	**14 23 20.2**	**-0.6**	
TKL	**Tuckaleechee C** baz=39,SNR=13	**95.42 321**	P	**P**	**14 23 19.2**	**-1.6**	
TKL	**Tuckaleechee C** comp=Z,470nm,21.1s,baz=51,slow=36	**95.42 321**	LR	LR	15 07 34.4		
BG3	**Lake Jocassee** comp=Z,26nm,0.9s	**95.49 320**	IAmb	IAmb	14 23 21.8		
CASEE	**Lake Jocassee** baz=40,SNR=6.2	**95.49 320**	P	**P**	**14 23 21.2**	**0.0**	
NEW	**Newport** comp=Z,34nm,1.1s	**95.69 349**	IAmb	IAmb	14 23 23.3		
NEW	**Newport** comp=Z,1μm,22.0s	**95.69 349**	IAMs_20	IAMs_20	15 07 20.4		
NEW	**Newport** baz=14,SNR=24	**95.69 349**	P	**P**	**14 23 21.0**	**-0.9**	
NEW	**Newport** comp=Z,1μm,21.6s,baz=18,slow=36	**95.69 349**	LR	LR	15 07 53.8		
HODGE	**Hodges** comp=Z,38nm,1.5s	**95.71 319**	IAmb	IAmb	14 23 24.0		
HODGE	**Hodges** baz=40,SNR=6.9	**95.71 319**	P	**P**	**14 23 21.5**	**-0.7**	
U49A	**Red Boiling Sp** comp=Z,53nm,1.5s	**95.77 323**	IAmb	IAmb	14 23 22.2		
U49A	**Red Boiling Sp** baz=38,SNR=8.4	**95.77 323**	P	**P**	**14 23 20.6**	**-1.8**	
CPCT	**Cooper Cave** comp=Z,26nm,1.2s	**95.97 321**	IAmb	IAmb	14 23 24.3		
T47A	**Sharon Grove** comp=Z,56nm,1.6s	**96.05 324**	IAmb	IAmb	14 23 24.0		
P40A	**Paris** comp=Z,30nm,1.0s	**96.23 329**	IAmb	IAmb	14 23 24.4		
P40A	**Paris** baz=34,SNR=8.3	**96.23 329**	P	**P**	**14 23 23.4**	**-1.0**	
CLTN	**Cedars of Leba** comp=Z,32nm,1.4s	**96.38 323**	IAmb	IAmb	14 23 25.5		
S44A	**Carbondale** baz=36,SNR=8.8	**96.50 326**	P	**P**	**14 23 25.4**	**-0.3**	
MSO	**Missoula** baz=17	**96.51 346**	P	**P**	**14 23 24.8**	**-0.9**	
W50A	**Signal Mountai** baz=38,SNR=5.3	**96.56 322**	P	**P**	**14 23 24.8**	**-1.4**	
RSSD	**Black Hills**	**96.59 339**	P	**P**	**14 23 25.8**	**-0.5**	
RSSD	comp=Z,24nm,0.9s		IAmb	IAmb	14 23 27.3		
RSSD	**Black Hills** baz=24	**96.59 339**	P	**P**	**14 23 25.5**	**-0.9**	
RSSD	**Black Hills** baz=24	**96.59 339**	P	**P**	**14 23 26.7**	**+0.4**	
RSSD	**Black Hills**	**96.59 339**	P	**P**	**14 23 25.8**	**-0.5**	
RSSD	comp=Z,24nm,1.0s		pmax	pmax			
RSSD	comp=Z,2μm,22.0s		MLR	MLR			
X51A	**Calhoun** comp=Z,15nm,0.7s	**96.83 321**	IAmb	IAmb	14 23 27.4		
Y52A	**Lilburn** comp=Z,51nm,1.8s	**96.95 320**	IAmb	IAmb	14 23 28.5		
GOGA	**Godfrey** comp=Z,42nm,1.7s	**96.98 319**	IAmb	IAmb	14 25 23.6		
GOGA	**Godfrey** baz=40	**96.98 319**	P	**P**	**14 23 27.8**	**-0.2**	
CGM3	**Cape Girardeau** comp=Z,28nm,1.0s	**97.00 326**	IAmb	IAmb	14 23 28.1		
BGNE	**Belgrade** baz=29	**97.06 334**	P	**P**	**14 23 27.1**	**-1.1**	
WVT	**Waverly** baz=37	**97.08 324**	P	**P**	**14 23 27.6**	**-0.8**	
RLMT	**Red Lodge** comp=Z,19nm,1.0s	**97.10 343**	IAmb	IAmb	14 23 29.9		
RLMT	**Red Lodge** baz=20,SNR=11	**97.10 343**	P	**P**	**14 23 27.6**	**-1.0**	
CCM	**Cathedral Cave** baz=34	**97.10 327**	P	**P**	**14 23 27.4**	**-1.0**	
GNW	**Green Mountain** comp=Z,19nm,1.0s	**97.16 352**	IAmb	IAmb	14 23 36.0		
BOZ	**Bozeman (W)** baz=18,SNR=8.2	**97.20 344**	P	**P**	**14 23 27.8**	**-1.1**	
R40A	**Maddies Statio** comp=Z,32nm,1.0s	**97.36 328**	IAmb	IAmb	14 23 30.1		
R40A	**Maddies Statio** baz=34,SNR=12	**97.36 328**	P	**P**	**14 23 28.4**	**-1.2**	
YMR	**Madison River** comp=Z,23nm,1.4s	**97.93 344**	IAmb	IAmb	14 23 34.0		
H17A	**Grant Village** baz=19,SNR=9.8	**98.10 343**	P	**P**	**14 23 32.5**	**-0.6**	
PLAL	**Pickwick Lake** comp=Z,1μm,19.0s	**98.12 323**	IAMs_20	IAMs_20	15 10 25.7		
Y49A	**Blount Mountai** comp=Z,13nm,0.8s	**98.18 322**	IAmb	IAmb	14 23 33.0		
MGMO	**Mountain Grove** comp=Z,25nm,1.4s	**98.31 327**	IAmb	IAmb	14 23 33.9		
S39A	**Bolivar** comp=Z,29nm,1.4s	**98.32 328**	IAmb	IAmb	14 23 34.2		
S39A	**Bolivar** baz=33,SNR=7.9	**98.32 328**	P	**P**	**14 23 32.7**	**-1.2**	
FLWY	**Flagg Ranch** comp=Z,22nm,1.1s	**98.42 343**	IAmb	IAmb	14 23 36.9		
FLWY	comp=Z,771nm,19.0s		IAMs_20	IAMs_20	15 14 21.6		
KSU1	**Kansas State U** baz=30	**98.47 331**	P	**P**	**14 23 33.6**	**-1.0**	
TIGA	**Tifton** baz=40	**98.56 318**	P	**P**	**14 23 33.9**	**-1.2**	
JANB	**Januaria**	**98.59 258**	*e*P	Pdif	14 23 37.8	+2.3	
K22A	**Casper** comp=Z,28nm,1.1s	**98.67 340**	IAmb	IAmb	14 23 36.3		
K22A	**Casper** baz=23,SNR=9.2	**98.67 340**	P	**P**	**14 23 34.2**	**-1.4**	
K22A	**Casper** baz=23	**98.67 340**	P	**P**	**14 23 35.3**	**-0.3**	
MOOW	**Moose Ponds** comp=Z,23nm,1.4s	**98.75 343**	IAmb	IAmb	14 23 38.6		
MOOW	comp=Z,1μm,20.0s		IAMs_20	IAMs_20	15 11 50.3		
OGNE	**Ogallala** baz=26	**98.83 336**	Pdiff	**P**	**14 23 34.8**	**-1.5**	
LOHW	**Long Hollow** comp=Z,915nm,21.0s	**98.84 343**	IAMs_20	IAMs_20	15 09 10.8		
BMO	**Blue Mountains** comp=Z,894nm,19.0s	**99.04 348**	IAMs_20	IAMs_20	15 16 25.9		
TPAW	**Teton Pass** comp=Z,18nm,1.1s	**99.04 343**	IAmb	IAmb	14 23 39.3		
LRAL	**Lakeview Retre** comp=Z,34nm,1.6s	**99.13 321**	IAmb	IAmb	14 23 38.0		
LRAL	**Lakeview Retre** baz=37	**99.13 321**	Pdiff	**Pdif**	**14 23 36.7**	**-0.9**	
OXF	**Oxford** baz=36	**99.15 324**	Pdiff	**Pdif**	**14 23 36.3**	**-1.3**	
BW06	**Boulder Array** comp=Z,1μm,21.0s	**99.38 342**	IAMs_20	IAMs_20	15 09 52.0		
BW06	**Boulder Array** baz=20	**99.38 342**	Pdiff	**Pdif**	**14 23 37.1**	**-1.8**	
PDAR	**Pinedale Array** comp=Z,2.8nm,1.0s,baz=36,slow=2.8,SNR=15	**99.38 342**	P	**Pdif**	**14 23 37.6**	**-1.3**	
PDAR	comp=Z,3.9nm,1.0s,baz=30,slow=6.8,SNR=5.2		PP	**PP**	**14 27 35.4**	**-5.6**	
PDAR	comp=Z,0.2nm,0.5s,baz=157,slow=4.2,SNR=4.2		PKKPbc	**PKKPbc**	**14 40 00.8**	**-1.1**	
PDAR	comp=Z,786nm,19.9s,baz=28,slow=36		LR	LR	15 10 12.0		
HLID	**Hailey** comp=Z,1μm,20.0s	**99.74 346**	IAMs_20	IAMs_20	15 12 01.4		
HLID	**Hailey** baz=16	**99.74 346**	Pdiff	**Pdif**	**14 23 39.0**	**-1.4**	
U38A	**Gravette** comp=Z,22nm,1.2s	**99.83 328**	IAmb	IAmb	14 23 41.2		
DWPF	**Disney Wildern** baz=41	**99.85 314**	Pdiff	**Pdif**	**14 23 40.1**	**-0.9**	
CBKS	**Cedar Bluff** baz=28	**99.91 333**	Pdiff	**Pdif**	**14 23 39.8**	**-1.3**	
WRA	**Warramunga Arr** comp=Z,1.6nm,0.9s,baz=314,slow=3.9,SNR=9.9	**100.00 107**	P	**Pdif**	**14 23 40.0**	**-1.6**	
WRA	comp=Z,5.8nm,1.1s,baz=313,slow=7.4,SNR=7.0		PP	**PP**	**14 27 46.4**	**-0.8**	
WRA	comp=Z,0.4nm,0.7s,baz=129,slow=2.3,SNR=2.4		PKKPbc	**PKKPbc**	**14 39 59.5**	**-0.2**	
N23A	**Red Feather La** baz=23	**100.11 339**	Pdiff	**Pdif**	**14 23 40.8**	**-1.4**	
MFID	**Camas Ranch**	**100.16 347**	Pdif	**Pdif**	**14 23 42.0**	**-0.2**	
MFID	comp=Z,840nm,20.0s		IAMs_20	IAMs_20	15 14 16.6		
BRAL	**Brewton** baz=38	**100.63 320**	Pdiff	**Pdif**	**14 23 42.4**	**-1.9**	
KSCO	**Kaye Shedlock'** baz=26	**100.76 335**	Pdiff	**Pdif**	**14 23 42.9**	**-2.1**	
OK051	**E0350 and S346** comp=Z,996nm,18.0s	**100.80 330**	IAMs_20	IAMs_20	15 10 45.1		
TUL3	**Leonard** baz=31	**100.87 329**	Pdiff	**Pdif**	**14 23 44.6**	**-0.7**	
OK048	**Pawnee Station** comp=Z,598nm,22.0s	**100.92 330**	IAMs_20	IAMs_20	14 55 55.3		
HWUT	**Hardware Ranch**	**100.97 343**	Pdif	**Pdif**	**14 23 45.4**	**-0.5**	
HWUT	comp=Z,1μm,21.0s		IAMs_20	IAMs_20	15 10 05.0		
ISCO	**Idaho Springs** baz=24	**101.02 338**	Pdiff	**Pdif**	**14 23 45.1**	**-1.3**	
O20A	**White River Ci** baz=21	**101.48 340**	Pdiff	**Pdif**	**14 23 47.2**	**-1.0**	
VBMS	**Vicksburg** comp=Z,1μm,18.0s	**101.55 323**	IAMs_20	IAMs_20	15 12 41.4		
VBMS	**Vicksburg** baz=35	**101.55 323**	Pdiff	**Pdif**	**14 23 47.2**	**-1.2**	
WVOR	**Wild Horse Val** comp=Z,1000nm,19.0s	**101.61 348**	IAMs_20	IAMs_20	15 16 49.0		
Q24A	**Divide** baz=24	**101.64 337**	Pdiff	**Pdif**	**14 23 47.5**	**-1.6**	
ASAR	**Alice Springs** comp=Z,1.1nm,0.9s,baz=299,slow=4.1,SNR=9.2	**101.70 111**	P	**Pdif**	**14 23 47.5**	**-1.7**	
ASAR	comp=Z,2.7nm,1.1s,baz=306,slow=6.2,SNR=4.3		PP	**PP**	**14 28 00.8**	**+0.6**	
ASAR	comp=Z,0.4nm,0.5s,baz=121,slow=3.3,SNR=7.4		PKKPbc	**PKKPbc**	**14 39 53.5**	**-1.4**	
BDFB	**Brasília** comp=Z,3.0nm,0.7s,baz=98,slow=12,SNR=3.0	**101.89 259**	PP	**PP**	**14 28 02.9**	**+1.3**	
SMCO	**Snowmass** comp=Z,1μm,22.0s	**102.00 339**	IAMs_20	IAMs_20	15 10 20.5		
DUG	**Dugway, Tooele** comp=Z,994nm,20.0s	**102.60 343**	IAMs_20	IAMs_20	15 11 40.3		
DUG	**Dugway, Tooele** baz=18	**102.60 343**	Pdiff	**Pdif**	**14 23 52.1**	**-1.1**	
ELK	**Elko**	**102.61 345**	Pdif	**Pdif**	**14 23 52.9**	**-0.4**	
ELK	**Elko**	**102.61 345**	P	**Pdif**	**14 23 52.9**	**-0.4**	
SDCO	**Great Sand Dun** baz=24	**102.86 337**	Pdiff	**Pdif**	**14 23 52.8**	**-1.7**	
T25A	**Trinidad** baz=25	**103.06 336**	Pdiff	**Pdif**	**14 23 53.7**	**-1.6**	
WMOK	**Wichita Mounta** baz=29	**103.12 331**	Pdiff	**Pdif**	**14 23 54.0**	**-1.4**	
S22A	**4UR Ranch, Cre** baz=23	**103.28 338**	Pdiff	**Pdif**	**14 23 54.4**	**-2.0**	
NATX	**Nacogdoches** baz=32	**103.89 326**	Pdiff	**Pdif**	**14 23 57.7**	**-1.1**	
AMTX	**Amarillo** baz=27	**104.11 333**	Pdiff	**Pdif**	**14 23 58.1**	**-1.8**	
MVCO	**Mesa Verde** baz=22	**104.27 339**	Pdiff	**Pdif**	**14 23 59.2**	**-1.6**	
ORV	**Oroville** comp=Z,928nm,22.0s	**104.87 350**	IAMs_20	IAMs_20	15 13 53.3		
WHTX	**Lake Whitney,** baz=30	**104.94 328**	Pdiff	**Pdif**	**14 24 01.8**	**-1.7**	
R11B	**Troy Canyon, C** baz=16	**104.99 345**	Pdiff	**Pdif**	**14 24 02.2**	**-1.6**	
ABTX	**Abilene, Hawle** baz=29	**105.31 330**	Pdiff	**Pdif**	**14 24 03.1**	**-2.1**	
MSTX	**Muleshoe** baz=26	**105.33 333**	Pdiff	**Pdif**	**14 24 03.6**	**-1.8**	
NVAR	**Mina Array Bea** comp=Z,0.4nm,0.6s,baz=31,slow=4.6,SNR=3.8	**105.45 347**	Pdiff	**Pdif**	**14 24 05.9**	**-0.1**	
NVAR	comp=Z,0.9nm,0.7s,baz=37,slow=4.5,SNR=4.5		PKiKP	**PKiKP**	**14 28 20.5**	**+1.0**	
NVAR	comp=Z,1.2nm,0.9s,baz=203,slow=5.9,SNR=6.4		PKKPbc	**PKKPbc**	**14 39 42.8**	**-1.4**	
HOPS	**Hopland Field** comp=Z,899nm,22.0s	**105.64 351**	IAMs_20	IAMs_20	15 11 20.5		
ANMO	**Albuquerque** baz=23	**105.73 337**	PKiKP	**PKiKP**	**14 28 19.2**	**-0.8**	
435B	**Jarrell** baz=30	**106.03 328**	PKiKP	**PKiKP**	**14 28 19.6**	**-0.9**	
MLAC	**Mammoth, Mammt** baz=13	**106.32 347**	PKiKP	**PKiKP**	**14 28 20.1**	**-1.1**	
TPNV	**Topopah Spring** baz=15	**106.48 345**	PKiKP	**PKiKP**	**14 28 20.6**	**-0.8**	
W18A	**Petrified Fore** baz=21	**106.58 339**	PKiKP	**PKiKP**	**14 28 21.2**	**-0.5**	
WUAZ	**Wupatki** baz=19	**106.67 341**	PKiKP	**PKiKP**	**14 28 20.4**	**-1.4**	
Y22D	**IRIS PASSCAL I** baz=23	**106.68 337**	PKiKP	**PKiKP**	**14 28 20.2**	**-1.6**	
Y22F	**Passcal Instru** baz=23	**106.68 337**	PKiKP	**PKiKP**	**14 28 20.3**	**-1.5**	
MPMC	**Manual Prospec** baz=14	**107.59 346**	PKiKP	**PKiKP**	**14 28 22.1**	**-1.4**	
VOG	**Valley Oaks Go** baz=13	**107.69 347**	PKiKP	**PKiKP**	**14 28 22.2**	**-1.2**	
ELIB	**Princess Elisa**	**107.84 187**	*d*PKiKP	**PKiKP**	**14 28 23.6**	**+1.0**	
ISA	**Isabella, Lake** baz=14	**108.17 347**	PKiKP	**PKiKP**	**14 28 23.3**	**-1.1**	
GSC	**Goldstone, Bar** baz=15	**108.18 345**	PKiKP	**PKiKP**	**14 28 23.1**	**-1.4**	
LRMC	**Laurel Mtn Rad** baz=14	**108.19 346**	PKiKP	**PKiKP**	**14 28 24.0**	**-0.5**	
MNTX	**Cornudas Mount** baz=24	**108.32 334**	PKiKP	**PKiKP**	**14 28 24.2**	**-0.5**	
GMRC	**Granite Mounta** baz=16	**108.43 344**	PKiKP	**PKiKP**	**14 28 24.4**	**-0.7**	
PDMCI	**Parker Dam,Lak** baz=17	**108.53 343**	PKiKP	**PKiKP**	**14 28 24.2**	**-0.8**	
EDW2	**Edwards Air Fo** baz=14	**108.83 346**	PKiKP	**PKiKP**	**14 28 23.8**	**-1.9**	
IRM	**Iron Mountain** baz=16	**108.91 343**	PKiKP	**PKiKP**	**14 28 23.9**	**-1.9**	
833A	**Chaparral WMA,** baz=30	**108.94 328**	PKiKP	**PKiKP**	**14 28 24.4**	**-1.6**	
BELC	**Belle Mtn. Jos** baz=16	**109.26 344**	PKiKP	**PKiKP**	**14 28 25.1**	**-1.5**	
BFSC	**Mount Baldy Ra** baz=14	**109.39 346**	PKiKP	**PKiKP**	**14 28 25.5**	**-1.4**	
BC3	**Big Chuckawall** baz=16	**109.46 344**	PKiKP	**PKiKP**	**14 28 25.8**	**-1.2**	
TUC	**Tucson** baz=20	**109.51 339**	PKiKP	**PKiKP**	**14 28 25.7**	**-1.3**	
PFO	**Pinyon Flats O** baz=15	**109.73 344**	PKiKP	**PKiKP**	**14 28 26.1**	**-1.4**	
TPFO	**Pinon Flats** baz=15	**109.74 344**	PKiKP	**PKiKP**	**14 28 26.4**	**-1.1**	
TXAR	**Lajitas Array** comp=Z,0.2nm,0.3s,baz=36,slow=3.4,SNR=4.3	**109.81 332**	Pdiff	**Pdif**	**14 24 25.5**	**+0.1**	
TXAR	comp=Z,1.2nm,1.0s,baz=350,slow=2.8,SNR=4.5		PKiKP	**PKiKP**	**14 28 28.5**	**+0.8**	
SCZ2	**Santa Cruz Isl** baz=13	**110.00 347**	PKiKP	**PKiKP**	**14 28 26.9**	**-1.0**	
FMP	**Fort Macarthur** baz=14	**110.02 346**	PKiKP	**PKiKP**	**14 28 27.5**	**-0.4**	
SWSC	**Sam W. Stewart** baz=16	**110.22 344**	PKiKP	**PKiKP**	**14 28 28.2**	**0.0**	
IKP	**In-Ko-Pah, Jac** baz=16	**110.58 344**	PKiKP	**PKiKP**	**14 28 28.8**	**-0.2**	
SNCC	**San Nicolas Is** baz=13	**110.71 347**	PKiKP	**PKiKP**	**14 28 29.4**	**+0.2**	
TROLL	**Troll, Antarti** comp=Z,290nm,0.8s	**110.94 193**	⇑PKiKP	**PKiKP**	**14 28 36.1**	**+7.7**	
SNAA	**Sanae** comp=Z,118nm,0.8s	**111.74 195**	⇑PKiKP	**PKiKP**	**14 28 36.5**	**+6.6**	
SNAA	**Sanae** comp=Z,2.4nm,1.1s,baz=186,slow=3.1,SNR=2.4	**111.74 195**	PKiKP	**PKiKP**	**14 28 31.6**	**+1.7**	
STKA	**Stephens Creek** comp=Z,1.3nm,0.4s,baz=321,slow=5.2,SNR=6.2	**111.75 114**	PKiKP	**PKiKP**	**14 28 30.4**	**-0.6**	
VNA2	**Neumayer--Watz** comp=Z,4.8nm,0.6s,baz=46,slow=3.0	**112.21 197**	⇑PKiKP	**PKiKP**	**14 28 33.0**	**+2.3**	
CASEY	**Casey** comp=Z,871nm,20.0s	**112.37 157**	IAMs_20	IAMs_20	15 13 01.8		
VNA3	**Neumayer Olymp** comp=Z,13nm,1.0s	**112.97 197**	⇑PKiKP	**PKiKP**	**14 28 34.1**	**+2.0**	
CPUP	**Villa Florida** comp=Z,1.0nm,0.5s,baz=170,slow=6.1,SNR=2.0	**114.81 254**	PKP	PKPdf	14 28 36.5	-0.4	
LPAZ	**La Paz**	**118.64 270**		**PKPdf**	**14 28 43.9**	**-1.5**	
LPAZ	**La Paz**	**118.64 270**	PKiKP	**PKPdf**	**14 28 43.9**	**-1.5**	
GO01	**Chusmiza**	**121.21 267**		**PKPdf**	**14 28 49.2**	**-0.9**	
BELA	**Belgrano 2**	**121.98 194**		**PKPdf**	**14 28 48.5**	**-0.8**	
LVC	**Limon Verde**	**122.39 264**	*e*P	**PKiKP**	**14 28 53.1**	**+0.7**	
TRQA	**Tornquist**	**123.28 244**		**PKPdf**	**14 28 51.9**	**-1.1**	
TRQA	**Tornquist**	**123.28 244**	PKiKP	**PKPdf**	**14 28 51.9**	**-1.1**	
TRQA	**Tornquist**	**123.28 244**	*e*P	**PKiKP**	**14 28 53.5**	**+0.3**	
KOUNC	**Koumac, New Ca**	**124.47 92**		**PKPdf**	**14 28 54.7**	**-1.0**	
QSPA	**South Pole Qui**	**124.85 180**		**PKPdf**	**14 28 54.8**	**-0.4**	
QSPA	**South Pole Qui** comp=Z,14nm,0.9s,baz=292,slow=0.6,SNR=83	**124.85 180**	PKP	**PKPdf**	**14 28 55.2**	**+0.1**	
DZM	**Mont Dzumac** comp=Z,481nm,37.5s	**126.96 93**	*e*LR	LR	15 08 40.2		
VNDA	**Vanda** comp=Z,1.9nm,1.0s,baz=173,slow=2.6,SNR=2.4	**129.49 165**	PKP	**PKPdf**	**14 29 03.7**	**+0.1**	
PLCA	**Paso Flores**	**130.42 243**	*e*P	**PKPdf**	**14 29 07.0**	**+0.4**	
PLCA	**Paso Flores** comp=Z,8.0nm,1.0s,baz=97,slow=3.4,SNR=5.1	**130.42 243**	PKP	**PKPdf**	**14 29 07.0**	**+0.4**	
TAOE	**Nuku Hiva Isla** comp=Z,675nm,25.8s	**153.39 13**	*e*LR	LR	15 21 06.7		
PPT2	**Papeete2** comp=Z,603nm,23.2s	**157.87 42**	*e*LR	LR	15 22 48.9		
PPT2	comp=Z,469nm,24.0s		*e*LR	LR	15 22 50.1		
TBI	**Tubuai** comp=Z,2μm,24.2s	**162.32 53**	*e*LR	LR	15 25 00.5		
TBI	comp=Z,1μm,27.2s		*e*LR	LR	15 25 04.5		

IDC ***11*** *14:11:17.4±2.5, 1.82N×127.55E, h89km±24km, mb4.0/9, mbtmp4.4/11, Error ellipse: s-maj=38.2km s-min=12.3km az=77.0*
NEIC ***11*** *14:11:18.9±2.1, 1.74N±0.07×127.4E±0.1, h100km±4km, mb4.6/29, Error ellipse: s-maj=16.4km s-min=9.7km az=69.0*
DJA ***11*** *14:11:19.2±0.3, 2.1N±2.2×12.7E±°, h65km±6km, M4.5/14, mb4.7/13, mB5.0/6, MLv4.5/14, Mw(mB)4.4/6*

ISC 11 14:11:19.5±0.5, 1.77N±0.05×127.33E±0.07, h112km, n71, σ1§47/78, mb4.5/24, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.99**	**178**	Pn	**Pn**	**14 11 39.8**	**-1.0**
TNTI				Sn	**Sn**	**14 11 53.7**	**-3.1**
TNTI	**Ternate**	**0.99**	**178**	P	**Pn**	**14 11 39.7**	**-1.0**
TNTI				S	**Sn**	**14 11 54.3**	**-2.5**
LBMI	**Labuha**	**2.39**	**176**	P	**Pn**	**14 11 58.5**	**+0.9**
LBMI				S	**Sn**	**14 12 27.9**	**+1.0**
SGSI	**Sangihe**	**2.62**	**317**	P	**Pn**	**14 11 57.7**	**-2.9**
KMSI	**Cibinong**	**3.55**	**251**	P	**Pn**	**14 12 13.3**	**+0.4**
KMSI				S	**Sn**	**14 12 53.7**	**-0.4**
SANI	**Sanana**	**4.02**	**199**	P	**Pn**	**14 12 18.1**	**-1.1**
SWI	**Sorong**	**4.72**	**124**	P	**Pn**	**14 12 29.1**	**+0.5**
NLAI	**Namlea** 40nm,0.6s,6μm0.2nm	**4.98**	**183**	P	**Pn**	**14 12 32.6**	**+0.5**
LUWI	**Luwuk**	**5.34**	**239**	Pn	**Pn**	**14 12 35.2**	**-1.8**
LUWI	**Luwuk** 77nm,0.4s,1.5nm	**5.34**	**239**	P	**Pn**	**14 12 36.4**	**-0.6**
MRSI	**Marisa** 117nm,0.7s,1μm0.4nm	**5.54**	**257**	P	**Pn**	**14 12 39.9**	**+0.3**
DAV	**Davao City (W)** 150nm,0.4s,baz=252,slow=17,SNR=1.6	**5.55**	**342**	P	**Pn**	**14 12 37.8**	**-2.1**
DAV	100nm,0.4s,baz=92,slow=22,SNR=0.9			S	**Sn**	**14 13 40.9**	**-1.5**
TOLI2	**Tolitoli**	**6.58**	**264**	Pn	**Pn**	**14 12 52.7**	**-1.0**
MPSI	**Mapaga** 14nm,0.8s,0.1nm	**7.56**	**259**	P	**Pn**	**14 13 07.3**	**+0.2**
BBSI	**Bau Bau** 29nm,1.1s	**8.63**	**213**	P	**Pn**	**14 13 23.2**	**+1.6**
TTSI	**Tana Toraja** 57nm,0.7s	**8.90**	**238**	P	**Pn**	**14 13 25.2**	**0.0**
MYLDM	**Lahad Datu**	**9.44**	**291**		**Pn**	**14 13 33.3**	**+0.8**
SPSI	**Sidrap Palu** 69nm,0.7s,5μm	**9.46**	**233**	P	**Pn**	**14 13 33.2**	**+0.4**
BKSI	**Bulukumba** 25nm,0.5s	**10.07**	**226**	P	**Pn**	**14 13 42.5**	**+1.4**
KAPI	**Kappang**	**10.13**	**228**		**Pn**	**14 13 40.4**	**-1.5**
KAPI	**Kappang** 12nm,0.4s,baz=62,slow=6.4,SNR=11	**10.13**	**228**	P	**Pn**	**14 13 42.8**	**+0.8**
KAPI	3.5nm,0.4s,baz=343,slow=23,SNR=1.7			S	**Sn**	**14 15 29.2**	**-4.5**
SOEI	**Soe**	**11.84**	**195**	Pn	**Pn**	**14 14 02.0**	**-3.0**
SOEI	**Soe**	**11.84**	**195**	P	P	14 14 21.9	+8.6
EDFI	**Ende, Flores** 11nm,0.6s	**11.86**	**208**	P	**Pn**	**14 14 07.1**	**+1.9**
BATI	**

SBUM	**Sibu**	**15.11 273**		P		**P**	**14 14 49.0 -0.7**
KNRA	**Kununurra**	**17.39 175**		P		**Pn**	**14 15 15.7 +0.5**
KNRA				IAmb		IAmb	14 15 20.5
	comp=Z,18nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.81 185**		P		**P**	**14 15 41.0 -0.3**
YULB	**Yu-li**	**22.28 345**		P		**P**	**14 16 06.3 -1.4**
YULB				IAmb		IAmb	14 16 33.9
	comp=Z,68nm,1.5s						
TPUB	**Ta-pu**	**22.37 344**		P		**P**	**14 16 06.6 -2.0**
TPUB				IAmb		IAmb	14 16 41.8
	comp=Z,93nm,1.4s						
WB0	**Warramunga Arr**	**22.49 162**		P		**P**	**14 16 09.2 -0.6**
WB0				IAmb		IAmb	14 16 11.6
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	**22.64 163**		P		**P**	**14 16 10.7 -0.6**
WRAB				IAmb		IAmb	14 16 19.1
	comp=Z,13nm,0.6s						
WRA	**Warramunga Arr**	**22.64 163**		P		**P**	**14 16 09.2 -2.2**
WRA	**Warramunga Arr**	**22.64 163**		P		**P**	**14 16 11.0 -0.4**
	comp=Z,14nm,0.6s,baz=341,slow=11,SNR=130						
	comp=Z,14nm,0.6s						
WB2	**Warramunga Arr**	**22.65 163**		P		**P**	**14 16 10.1 -1.3**
WB2				IAmb		IAmb	14 16 19.2
	comp=Z,17nm,0.7s						
WR0	**Warramunga Arr**	**22.72 162**		P		**P**	**14 16 11.5 -0.7**
WR0				IAmb		IAmb	14 16 12.8
	comp=Z,12nm,0.7s						
SSLB	**Suanglung**	**22.75 345**		P		**P**	**14 16 11.6 -0.8**
SSLB				IAmb		IAmb	14 16 25.8
	comp=Z,45nm,1.3s						
YHNB	**Yeheng**	**23.48 346**		P		**P**	**14 16 18.6 -0.7**
MBWA	**Marble Bar**	**23.97 198**		P		**P**	**14 16 23.4 -0.2**
PSA00	**Pilbara Seismi**	**24.32 197**		P		**P**	**14 16 25.9 -1.0**
XMIS	**Christmas Isla**	**24.77 240**		P		**P**	**14 16 29.6 -1.4**
AS31	**Alice Springs**	**26.07 166**		P		**P**	**14 16 42.3 -0.5**
AS31				IAmb		IAmb	14 16 46.6
	comp=Z,3.0nm,0.3s						
ASAR	**Alice Springs**	**26.08 166**		P		**P**	**14 16 42.6 -0.2**
ASAR	**Alice Springs**	**26.08 166**		P		**P**	**14 16 42.7 -0.1**
	comp=Z,1.4nm,0.3s,baz=348,slow=7.7,SNR=112						
ASAR				PcP		**PcP**	**14 20 08.0 +0.1**
	comp=Z,0.4nm,0.6s,baz=356,slow=1.9,SNR=3.3						
	comp=Z,1.4nm,0.3s						
NJ2	**Nanjing**	**31.17 346**	*e*P			**P**	**14 17 29.1 +1.2**
NJ2				pP		**pP**	**14 17 50.7 -1.2**
NJ2				pmax		pmax	
	comp=Z,10.0nm,0.6s						
NJ2				pmax		pmax	
	comp=Z,160nm,3.5s						
FORT	**Forrest**	**32.37 179**		P		**P**	**14 17 38.2 -0.3**
FORT				IAmb		IAmb	14 18 20.3
	comp=Z,14nm,0.9s						
MORW	**Morawa**	**32.51 199**		P		**P**	**14 17 39.8 +0.1**
MORW				IAmb		IAmb	14 18 14.1
	comp=Z,32nm,1.4s						
PZH	**PanZhiHua**	**34.77 317**		P		**P**	**14 18 02.1 +2.6**
PZH				pmax		pmax	
	comp=Z,10.0nm,0.4s						
PZH				pmax		pmax	
	comp=Z,110nm,5.7s						
BBOO	**Buckleboo**	**35.37 167**		P		**P**	**14 18 04.4 0.0**
BBOO				IAmb		IAmb	14 18 24.4
	comp=Z,24nm,1.4s						
NWAO	**Narrogin (SRO)**	**35.80 195**		P		**P**	**14 18 07.1 -1.0**
MJAR	**Matsushiro Arr**	**36.04 15**		P		**P**	**14 18 09.0 -1.1**
	comp=Z,2.8nm,1.1s,baz=195,slow=8.8,SNR=4.3						
	comp=Z,2.8nm,1.1s						
STKA	**Stephens Creek**	**36.09 159**		P		**P**	**14 18 10.7 +0.1**
STKA	**Stephens Creek**	**36.09 159**		P		**P**	**14 18 11.2 +0.5**
	comp=Z,9.4nm,0.8s,baz=334,slow=8.8,SNR=25						
	comp=Z,9.4nm,0.8s						
CAN	**Canberra**	**42.10 153**		P		**P**	**14 19 01.7 +1.0**
CAN				IAmb		IAmb	14 19 13.5
	comp=Z,30nm,1.5s						
TOO	**Toolangi**	**42.60 159**		P		**P**	**14 19 06.0 +1.3**
TOO				IAmb		IAmb	14 19 32.0
	comp=Z,10nm,1.4s						
WMQ	**Urumqi**	**54.67 326**	*e*P			**P**	**14 20 39.8 +2.8**
MK31	**Makanchi Array**	**59.50 326**		P		**P**	**14 21 12.2 +1.2**
MKAR	**Makanchi Array**	**59.50 326**		P		**P**	**14 21 12.2 +1.2**
MKAR	**Makanchi Array**	**59.50 326**		P		**P**	**14 21 12.4 +1.5**
	comp=Z,1.7nm,0.3s,baz=115,slow=7.6,SNR=21						
	comp=Z,1.7nm,0.3s						
MAKZ	**Makanchi**	**59.69 326**		P		**P**	**14 21 13.4 +1.2**
KURBB	**Kurchatov Arra**	**63.71 328**		P		**P**	**14 21 39.4 +0.3**
	comp=Z,2.3nm,0.7s,baz=130,slow=6.1,SNR=2.2						
	comp=Z,2.3nm,0.7s						
KURK	**Kurchatov**	**63.71 328**		P		**P**	**14 21 40.3 +1.2**
VNDA	**Vanda**	**81.42 173**		P		**P**	**14 23 23.9 +0.4**
VNDA				IAmb		IAmb	14 23 42.6
	comp=Z,7.5nm,1.5s						
VNDA	**Vanda**	**81.42 173**		P		**P**	**14 23 23.9 +0.4**
	comp=Z,1.6nm,0.8s,baz=320,slow=7.0,SNR=6.5						
	comp=Z,1.6nm,0.8s						
MAW	**Mawson**	**82.13 200**		P		**P**	**14 23 28.4 +1.1**
MAW	**Mawson**	**82.13 200**		P		**P**	**14 23 28.2 +0.9**
	comp=Z,2.8nm,0.8s,baz=59,slow=2.3,SNR=4.1						
	comp=Z,2.8nm,0.8s						
L19K	**White Mountain**	**82.76 28**		P		**P**	**14 23 30.8 -0.1**
QSPA	**South Pole Qui**	**91.69 180**		P		**P**	**14 24 14.8 +0.7**
	comp=Z,0.4nm,0.5s,baz=162,slow=1.7,SNR=11						
	comp=Z,0.4nm,0.5s						

IDC 11 14:30:55.8±3.4,2.˚50S×139.˚25E,h0km,mb4.0/3, mbtmp4.0/4,ML4.0/1,MS3.7/1,Error ellipse: s-maj=133.5km s-min=25.6km az=112.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.99**	**195**	P	P	14 35 08.0	-0.1
	0.5nm,0.3s,baz=18,slow=12,SNR=18						
WRA				S	Sn	14 38 29.9	+1.0
	0.4nm,0.7s,baz=16,slow=24,SNR=3.6						
	1.9nm,0.5s						
ASAR	**Alice Springs**	**21.67**	**193**	P	P	14 35 48.6	+0.3
	2.3nm,0.7s,baz=22,slow=9.7,SNR=39						
	2.3nm,0.7s						
STKA	**Stephens Creek**	**29.31**	**176**	P	P	14 37 01.9	+1.8
	0.8nm,0.4s,baz=333,slow=9.0,SNR=3.4						
	0.8nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**34.98**	**50**	T	T	15 14 35.3	
	baz=229,slow=74						
H11N2	**WAKE ISLAND Hy**	**35.00**	**50**	T	T	15 14 34.9	
	baz=229,slow=74						
H11N3	**WAKE ISLAND Hy**	**35.00**	**50**	T	T	15 14 36.9	
	baz=229						
RAO	**Raoul Island**	**48.60**	**128**	LR	LR	14 58 50.1	
	comp=Z,70nm,18.6s,baz=97,slow=34						
VNDA	**Vanda**	**75.94**	**175**	P	P	14 42 42.3	-1.7
	3.3nm,1.2s,baz=344,slow=5.8,SNR=2.0						
	3.3nm,1.2s						

*NAO **11** 14:42:22.5,33.˚14N×47.˚30E,h33km,mb4.4*
*IDC **11** 14:42:38.4±0.6,35.˚03N×45.˚75E,h0km,mb4.4/27, mbtmp4.4/37,ML4.0/10,MS3.9/17,Error ellipse: s-maj=13.7km s-min=9.3km az=160.0*
*DSN **11** 14:42:39.7±0.9,34.˚70N×45.˚46E,h15km,mb5.2/2,Error ellipse: s-maj=31.3km s-min=4.8km az=60.0*
*MOS **11** 14:42:39.1±1.5,35.˚00N×45.˚82E,h14km,mb4.7/16,Error ellipse: s-maj=5.8km s-min=3.3km az=111.3*
*NEIC **11** 14:42:40.9±2.2,35.˚03N±0.˚03×45.˚75E±0.˚08,h15km±4km, mb4.7/54,Error ellipse: s-maj=9.6km s-min=3.7km az=68.0*
*AZER **11** 14:42:41.1±0.4,34.˚93N×45.˚71E,h10km,Error ellipse: s-maj=5.1km s-min=3.5km az=111.0*
*TEH **11** 14:42:41.1,35.˚08N×45.˚85E,h6km±51km,ML4.9*
*THR **11** 14:42:41.4±1.2,35.˚04N×45.˚81E,h15km±9km,ML4.5*
*GCMT **11** 14:42:41.9±0.4,35.˚06N±0.˚03×45.˚67E±0.˚02,h28km±1km, MW4.8/71,Moment Tensor Solution. s22,c26; s71,c89; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.15±.14; Mθθ2.18±.11; Mϕϕ-2.33±.11; Mrθ0.04±.18; Mθϕ-0.58±.09; Mϕr-0.16±.17; Best double couple: Mo2.33300×10^16^ NP1:ϕs322.00000°,δ89.00000°,λ-4.00000°. NP2: ϕs52.00000°,δ86.00000°,λ-179.00000°. Principal axes: T 2.2540, Plg2.0000°, Azm7.0000°; N 0.1630, Plg86.0000°, Azm121.0000°; P -2.4120, Plg3.0000°, Azm277.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*ISN **11** 14:42:41.5±0.8,35.˚13N×45.˚86E,h19km±785km,ML4.9*
*GII **11** 14:42:44.3±0.3,34.˚95N×45.˚78E,h47km*

ISC 11 14:42:41.2±0.3,34.˚94N±0.˚02×45.˚83E±0.˚02,h19km±2km, n498,σ2s62/567,mb4.7/95,MS3.9/11,37C-10D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSBB	**Baniby**	**0.14**	**316**	Pg	**Pb**	**14 42 44.1**	**+0.2**
KGS1	**Ghasr-e-Shirin**	**0.47**	**205**	Pg	**Pn**	**14 42 52.7**	**-0.3**
IDHR	**Dehrash**	**0.52**	**117**	Pg	**Pg**	**14 42 52.5**	**+0.6**
IDHR				Sg	**Sn**	**14 43 01.6**	**-0.6**
SLY	**Sulaymaniyah**	**0.71**	**338**	Pg	**Pb**	**14 42 52.0**	**-3.0**
IGHG	**Ghaleghazi**	**0.86**	**135**	Pg	**Pn**	**14 42 59.7**	**+1.1**
IGHG				Sg	**Sn**	**14 43 13.0**	**+2.3**
ILIN	**Lien**	**0.93**	**91**	Pg	**Pb**	**14 42 58.9**	**0.0**
KCHF	**Cheshme Sefid,**	**1.20**	**123**	Pg	**Pg**	**14 43 04.9**	**+0.4**
SDS1	**Sardasht. Az.**	**1.24**	**347**	Pg	**Pn**	**14 43 00.8**	**-2.9**
SNGE	**Sanandaj**	**1.26**	**83**	*e*Pg	**Pb**	**14 43 04.2**	**-0.2**
SNGE				*e*Sg	**Sg**	**14 43 22.1**	**0.0**
SNGE				IAML		14 43 29.6	
	comp=E,7μm,0.4s						
SNGE				IAML		14 43 30.7	
	comp=N,6μm,0.7s						
IKRK	**Kirkuk**	**1.30**	**291**	*e*Pg	**Pb**	**14 43 05.0**	**-0.1**
IKRK				*e*Sg	**Sn**	**14 43 21.0**	**-0.3**
IKRK				AML	AML	14 43 26.0	
	comp=N,101μm,0.4s						
IKRK				AML	AML	14 43 26.3	
	comp=E,49μm,0.3s						
ILBA	**Ilam Banvizeh**	**1.35**	**166**	*e*Pg	**Pg**	**14 43 08.4**	**+1.0**
ILBA				IAML		14 43 32.9	
	comp=N,14μm,0.5s						
IKOM	**Komasi**	**1.58**	**118**	Pg	**Pg**	**14 43 11.7**	**-0.1**
IBZA	**Bozab**	**1.74**	**105**	Pg	**Pb**	**14 43 13.5**	**+0.9**
MAHB	**Mahabad**	**1.83**	**357**	Pg	**Pn**	**14 43 11.0**	**-0.7**
IBDR	**Badra**	**1.83**	**177**	*e*Pn	**Pg**	**14 43 16.0**	**-0.4**
IBDR				*e*Sn	**Sg**	**14 43 42.0**	**+1.9**
NGD1	**Naghade .Az. G**	**2.03**	**351**	Pn	**Pn**	**14 43 15.4**	**+0.9**
BHD	**Baghdad**	**2.05**	**216**	*e*Pn	**Pb**	**14 43 19.0**	**+1.1**
BHD				*e*Sn	**Sg**	**14 43 47.0**	**-0.4**
BHD				AML	AML	14 43 52.0	
	comp=E,22μm,0.5s						
IKFM	**Kafar-mosalman**	**2.19**	**130**	Pn	**Pb**	**14 43 20.3**	**+0.1**
IHSH	**Hashtrud**	**2.63**	**26**	Pn	**Pn**	**14 43 24.4**	**+1.4**
HAGD	**Aghdareh**	**2.73**	**92**	Pn	**Pb**	**14 43 27.6**	**-1.9**
IAZR	**Azarshahr**	**2.74**	**3**	Pn	**Pn**	**14 43 25.2**	**+0.8**
ZNJK	**Zanjan**	**2.89**	**53**	*e*Pn	**Pn**	**14 43 28.8**	**+2.3**
CUKT	**Cukurca**	**2.92**	**323**	P	**Pn**	**14 43 28.9**	**+2.1**
RAFI	**Al-Rafai**	**3.22**	**176**	*e*Pn	**Pb**	**14 43 36.0**	**-1.7**
RAFI				*e*Sn	**Sb**	**14 44 15.0**	**-1.5**
RAFI				AML	AML	14 44 18.9	
	comp=E,1μm,0.4s						
RAFI				AML	AML	14 44 19.2	
	comp=N,1μm,0.4s						
ISRB	**Sarab**	**3.24**	**27**	Pn	**Pn**	**14 43 32.7**	**+1.5**
ITBZ	**Tabriz**	**3.30**	**4**	Pn	**Pn**	**14 43 31.7**	**-0.3**
ISHB	**Shabestar**	**3.34**	**357**	Pn	**Pn**	**14 43 32.1**	**-0.5**
IRAZ	**Razeghan**	**3.39**	**81**	Pn	**Pn**	**14 43 35.7**	**+2.4**
ASAO	**Ashtian**	**3.48**	**95**	*e*Pn	**Pb**	**14 43 38.7**	**-3.7**
IHRS	**Heris**	**3.51**	**16**	Pn	**Pn**	**14 43 36.0**	**+1.0**
KHMZ	**Khomeyn**	**3.62**	**108**	*e*Pn	**Pn**	**14 43 39.5**	**+3.0**
KHMZ				IAML		14 44 53.9	
	comp=N,440nm,0.4s						
JIR1	**Jirandeh**	**3.68**	**60**	Pn	**Pn**	**14 43 39.2**	**+2.0**
IMRD	**Marand**	**3.77**	**359**	Pn	**Pn**	**14 43 38.9**	**+0.4**
GIDE	**GILAN DEYLAMAN**	**3.86**	**58**	*e*Pn	**Pn**	**14 43 42.1**	**+2.4**
GIDE				IAML		14 44 50.9	
	comp=N,935nm,0.7s						
GIDE				IAML		14 45 03.1	
	comp=E,732nm,0.7s						
ORD	**Ordubad**	**3.98**	**2**	P	**Pn**	**14 43 42.7**	**+1.4**
	SNR=148						
ORD				S	**Sn**	**14 44 30.7**	**+3.2**
AKDM	**Akdamar-Van**	**4.08**	**327**	P	**Pn**	**14 43 44.3**	**+1.5**
VANB	**Van**	**4.14**	**332**	P	**Pn**	**14 43 42.9**	**-0.6**
GRMI	**Germi**	**4.20**	**23**	*e*Pn	**Pn**	**14 43 45.9**	**+1.5**
GAS1	**Astara - Iran**	**4.21**	**34**	Pn	**Pn**	**14 43 45.5**	**+1.3**
LRK	**Lerik**	**4.21**	**28**	P	**Pn**	**14 43 46.4**	**+1.9**
	SNR=348						
LRK				S	**Sn**	**14 44 37.0**	**+3.7**
NAX	**Nakhchivan**	**4.24**	**356**	P	**Pn**	**14 43 46.1**	**+1.4**
	SNR=106						
NAX				S	**Sn**	**14 44 36.8**	**+3.0**
THKV	**Tehran--Karaj**	**4.24**	**75**	*e*Pn	**Pn**	**14 43 48.1**	**+3.2**
IQOM	**Qom**	**4.31**	**90**	Pn	**Pn**	**14 43 48.3**	**+2.3**
ASTR	**Astara**	**4.33**	**32**	P	**Pn**	**14 43 48.3**	**+2.4**
	SNR=36						
ASTR				S	**Sn**	**14 44 40.2**	**+4.4**
AMIS	**Naft Sefid**	**4.36**	**137**	Pn	**Pn**	**14 43 49.6**	**+3.1**
YRD	**Yardimli**	**4.42**	**25**	P	**Pn**	**14 43 49.0**	**+1.6**
	SNR=92						
YRD				P	**Pn**	**14 43 49.0**	**+1.6**
	SNR=124						
YRD				S	**Sn**	**14 44 42.2**	**+3.9**
CHTH	**Charan**	**4.43**	**76**	*e*Pn	**Pn**	**14 43 50.1**	**+2.5**
LKRN	**Lenkeran, Azer**	**4.45**	**31**	P	**Pn**	**14 43 49.7**	**+2.1**
	SNR=49						
LKRN				S	**Sn**	**14 44 43.0**	**+4.3**
SBZ	**Shahbuz**	**4.46**	**357**	P	**Pn**	**14 43 49.3**	**+1.4**
	SNR=42						
SBZ				S	**Sn**	**14 44 42.2**	**+3.1**
CLDR	**Caldiran**	**4.46**	**341**	P	**Pn**	**14 43 49.3**	**+1.2**
MAKU	**Maku**	**4.50**	**349**	*e*Pn	**Pn**	**14 43 49.6**	**+1.0**
GHVR	**GHOM**	**4.53**	**94**	*e*Pn	**Pn**	**14 43 51.2**	**+2.4**
QRD	**Qoradiz**	**4.67**	**14**	P	**Pn**	**14 43 52.4**	**+1.7**
	SNR=6.5						
QRD				S	**Sn**	**14 44 48.3**	**+4.0**
GURO	**Guroymak-BITLI**	**4.72**	**321**	P	**Pn**	**14 43 51.9**	**+0.4**
GURO	**Guroymak-BITLI**	**4.72**	**321**	Pn	**Pn**	**14 43 51.6**	**+0.2**
GLBA	**Cilabad**	**4.76**	**25**	P	**Pn**	**14 43 53.8**	**+1.9**
	SNR=201						
GLBA				S	**Sn**	**14 44 50.6**	**+4.1**
QAMS	**Qamsar**	**4.76**	**103**	Pn	**Pn**	**14 43 55.2**	**+3.0**
IPIR	**Pirpir**	**4.78**	**117**	Pn	**Pn**	**14 43 55.2**	**+2.7**
HYR	**Heyderabad**	**4.83**	**351**	P	**Pn**	**14 43 54.3**	**+1.3**
	SNR=17						
HYR				S	**Sn**	**14 44 51.0**	**+2.5**
IVRN	**Varamin**	**4.84**	**88**	Pn	**Pn**	**14 43 55.9**	**+2.7**
JHBN	**Jahan bin**	**4.86**	**122**	Pn	**Pn**	**14 43 56.4**	**+2.8**
SVAN	**Silvan-Diyarba**	**4.92**	**312**	P	**Pn**	**14 43 49.7**	**-4.4**
MLAZ	**Malazgirt-MUS**	**4.95**	**329**	P	**Pn**	**14 43 55.0**	**+0.4**
BLQ	**Beylaqan**	**4.97**	**16**	P	**Pn**	**14 43 56.6**	**+1.9**
	SNR=9.0						
BLQ				S	**Sn**	**14 44 55.7**	**+4.1**
MAZI	**Mazidag**	**5.03**	**302**	P	**Pn**	**14 43 54.9**	**-0.8**
IKLH	**Kolahrood**	**5.04**	**107**	Pn	**Pn**	**14 43 58.7**	**+2.8**
ZNGN	**Zangian**	**5.05**	**122**	Pn	**Pn**	**14 43 58.6**	**+2.4**
DAMV	**Damavand**	**5.07**	**80**	*e*Pn	**Pn**	**14 43 59.0**	**+2.5**
IDMV	**Damavand**	**5.12**	**81**	Pn	**Pn**	**14 43 59.2**	**+2.1**
AGRB	**Hanur-Agry**	**5.15**	**335**	P	**Pn**	**14 43 58.4**	**+0.9**
TASB	**TASBURUN-IGDIR**	**5.19**	**346**	*e*P	**Pn**	**14 44 01.8**	**+3.9**
AGDM	**Agdam**	**5.26**	**11**	P	**Pn**	**14 44 00.5**	**+1.7**
	SNR=8.4						
AGDM				S	**Sn**	**14 45 02.7**	**+3.8**
GNI	**Garni**	**5.27**	**351**	Pn	**Pn**	**14 43 58.7**	**-0.4**
GNI	**Garni**	**5.27**	**351**	P	**Pn**	**14 44 01.4**	**+2.3**
GNI	**Garni**	**5.27**	**351**	P	**Pn**	**14 44 13.1**	**+0.3**
GNI				S	**Sb**	**14 45 20.2**	**+4.4**
GNI	**Garni**	**5.27**	**351**	*ce*P	**Pn**	**14 43 56.1**	**-3.0**
GNI				pmax	pmax		
	comp=Z,25nm,0.7s						
GNI	**Garni**	**5.27**	**351**	Pn	**Pn**	**14 44 00.8**	**+1.7**
	comp=Z,1.6nm,0.3s,baz=133,slow=3.0,SNR=10						
GNI				Pg	**Pb**	**14 44 12.7**	**-0.1**
	comp=Z,10nm,0.3s,baz=198,slow=2.9,SNR=26						
GNI				LR	LR	14 46 23.3	
	comp=Z,714nm,21.2s,baz=184,slow=44						
	comp=Z,18nm,0.7s						
KRSH	**Karshahi**	**5.30**	**99**	Pn	**Pn**	**14 44 01.7**	**+2.1**
ISFB	**Sefidab**	**5.32**	**95**	Pn	**Pn**	**14 44 01.6**	**+1.9**
SAAT	**Saatly**	**5.33**	**22**	S	**Sn**	**14 45 05.7**	**+5.2**
BRDA	**Brd**	**5.42**	**11**	P	**Pn**	**14 44 02.8**	**+1.9**
	SNR=8.8						
BRDA				S	**Sn**	**14 45 06.5**	**+3.7**
IBRJ	**Brojen**	**5.46**	**122**	Pn	**Pn**	**14 44 03.9**	**+2.2**
VRTB	**Varto-Mus**	**5.47**	**322**	*e*P	**Pn**	**14 44 00.0**	**-1.9**
DYBB	**Diyarbakir**	**5.48**	**305**	P	Pn	14 43 56.0	-5.9
ZRD	**Zardab**	**5.53**	**15**	P	**Pn**	**14 44 04.3**	**+1.9**
	SNR=10						
ZRD				S	**Sn**	**14 45 09.2**	**+3.8**
ALIB	**Äli-Bayra**	**5.61**	**26**	P	**Pn**	**14 44 05.7**	**+2.1**
	SNR=11						
ALIB				S	**Sn**	**14 45 11.8**	**+4.3**
IFIR	**Firoozkooh**	**5.71**	**81**	Pn	**Pn**	**14 44 07.4**	**+2.2**
GANJ	**Ganja**	**5.71**	**4**	P	**Pn**	**14 44 06.8**	**+1.8**
	SNR=4.5						
GANJ				S	**Sn**	**14 45 13.7**	**+3.7**
KDMR	**Kurdemir**	**5.74**	**18**	P	**Pn**	**14 44 07.5**	**+2.2**
KDMR				S	**Sn**	**14 45 15.0**	**+4.3**
IGAR	**Gharneh**	**5.76**	**114**	Pn	**Pn**	**14 44 08.8**	**+2.8**
GDB	**GEDABAY**	**5.77**	**359**	P	**Pn**	**14 44 07.3**	**+1.4**
	SNR=12						
GDB				S	**Sn**	**14 45 15.3**	**+3.6**
BNGB	**Bingl**	**5.77**	**316**	*e*P	**Pn**	**14 44 04.9**	**-1.0**
IZEF	**Zefreh**	**5.78**	**109**	Pn	**Pn**	**14 44 08.6**	**+2.5**
ILAS	**Lasjerd**	**5.86**	**84**	Pn	**Pn**	**14 44 09.1**	**+1.9**
MNGR	**Mingechevir, A**	**5.91**	**9**	P	**Pn**	**14 44 09.5**	**+1.8**
MNGR				S	**Sn**	**14 45 18.6**	**+3.8**
KOPR	**Koprukoy-ERZUR**	**5.95**	**329**	*e*P	**Pn**	**14 44 09.0**	**+0.6**
KARS	**Kars**	**6.08**	**340**	Pn	**Pn**	**14 44 09.4**	**-0.8**
KARS	**Kars**	**6.08**	**340**	P	**Pn**	**14 44 09.4**	**-0.8**
GBS	**Qobustan**	**6.11**	**23**	P	**Pn**	**14 44 12.3**	**+1.8**
	SNR=9.3						
GBS				S	**Sn**	**14 45 23.4**	**+3.6**
QZX	**Qazax, Azerbai**	**6.12**	**357**	P	**Pn**	**14 44 12.0**	**+1.4**
	SNR=9.0						
QZX				S	**Sn**	**14 45 23.2**	**+3.2**
IML	**Ismayilli**	**6.13**	**17**	P	**Pn**	**14 44 12.7**	**+1.9**
	SNR=6.1						
IML				S	**Sn**	**14 45 24.6**	**+4.1**
NASN	**Na'in**	**6.19**	**108**	*e*Pn	**Pn**	**14 44 14.6**	**+2.8**
URFA	**Urfa**	**6.19**	**296**	*e*P	**Pn**	**14 44 11.1**	**-0.5**
QBL	**Gabala**	**6.20**	**14**	P	**Pn**	**14 44 13.6**	**+1.9**
	SNR=9.0						
QBL				S	**Sn**	**14 45 26.4**	**+4.3**
KLNJ	**Kolanjah**	**6.23**	**127**	Pn	**Pn**	**14 44 14.4**	**+1.9**
PQL	**Pirkuli**	**6.24**	**20**	P	**Pn**	**14 44 14.3**	**+2.0**
	SNR=9.6						
PQL				S	**Sn**	**14 45 27.2**	**+4.1**
SENK	**Senkaya-Erzuru**	**6.25**	**335**	*e*P	**Pn**	**14 44 15.2**	**+2.6**
GOBA	**Gobu**	**6.27**	**28**	P	**Pn**	**14 44 14.8**	**+2.1**
GOBA				S	**Sn**	**14 45 27.8**	**+4.1**
IRAM	**Ramesheh**	**6.31**	**118**	Pn	**Pn**	**14 44 15.1**	**+1.6**
SEKA	**Sheki**	**6.35**	**9**	P	**Pn**	**14 44 15.8**	**+2.0**
	SNR=5.1						
SEKA				S	**Sn**	**14 45 30.1**	**+4.2**
ATGJ	**Altiaghaj**	**6.40**	**22**	P	**Pn**	**14 44 16.5**	**+1.9**
ATGJ				S	**Sn**	**14 45 30.8**	**+3.6**
GALA	**Gala**	**6.45**	**31**	S	**Sn**	**14 45 32.8**	**+4.7**
XNQ	**Khinaliq**	**6.48**	**16**	P	**Pn**	**14 44 15.8**	**0.0**
	SNR=8.0						
XNQ				S	**Sn**	**14 45 34.4**	**+5.0**
PTK	**Pertek**	**6.49**	**309**	*e*P	**Pn**	**14 44 14.8**	**-1.1**
NDR	**Nardaran**	**6.52**	**29**	P	**Pn**	**14 44 18.1**	**+2.0**
NDR				S	**Sn**	**14 45 35.3**	**+5.4**
SIZA	**Siyzn**	**6.59**	**21**	P	**Pn**	**14 44 18.9**	**+1.8**
	SNR=11						
SIZA				S	**Sn**	**14 45 36.1**	**+4.4**
IGLO	**Ghaloghah**	**6.69**	**74**	Pn	**Pn**	**14 44 21.0**	**+2.3**
AKH	**Akhalkalaki**	**6.72**	**345**	Pn	**Pn**	**14 44 18.1**	**-0.8**
AKH	**Akhalkalaki**	**6.72**	**345**	P	**Pn**	**14 44 18.1**	**-0.8**
ZKTA	**Zakatala**	**6.72**	**5**	P	**Pn**	**14 44 20.4**	**+1.6**
	SNR=6.6						
ZKTA				S	**Sn**	**14 45 38.8**	**+4.0**
ERZN	**Erzincan**	**6.72**	**315**	*e*P	**Pn**	**14 44 15.8**	**-3.2**
TRLG	**Trialeti**	**6.73**	**349**	P	**Pn**	**14 44 23.5**	**+4.4**
TRLG				pmax	pmax		
	comp=Z,44nm,1.1s						
QUBA	**Quba, Azerbaij**	**6.74**	**17**	P	**Pn**	**14 44 21.2**	**+2.1**
QUBA				S	**Sn**	**14 45 39.6**	**+4.3**
ANAR	**Anarak**	**6.79**	**103**	Pn	**Pn**	**14 44 22.5**	**+2.6**
QSAR	**Qusar**	**6.84**	**16**	P	**Pn**	**14 44 22.4**	**+1.9**
QSAR				S	**Sn**	**14 45 41.5**	**+3.7**
BAYT	**Aydıntepe-Bayb**	**7.07**	**322**	*e*P	**Pn**	**14 44 22.3**	**-1.5**
ARPR	**Arapgir-MALATY**	**7.29**	**307**	*e*P	Pn	14 44 21.9	-4.8
ARPR	**Arapgir-MALATY**	**7.29**	**307**	Pn	**Pn**	**14 44 25.7**	**-1.1**
BCA	**Borcka**	**7.29**	**334**	*e*P	**Pn**	**14 44 28.1**	**+1.4**
GAZ	**Gaziantep**	**7.33**	**290**	*e*P	Pn	14 44 20.1	-7.1
GAZ	**Gaziantep**	**7

MBRI Mt Berech 10.56 244 P Pn 14 45 16.2 +4.7
EIL Elat 10.59 243 Pn **Pn** **14 45 12.8 +0.8**
EIL Elat 10.59 243 Pn **Pn** **14 45 12.1 +0.1**
comp=Z,1.7nm,0.3s,baz=32,slow=3.3,SNR=16
EIL Lg Lg 14 48 16.2
comp=Z,2.0nm,0.3s,baz=274,slow=21,SNR=4.4
EIL LR LR 14 49 40.5
comp=Z,418nm,19.5s,baz=69,slow=40
comp=Z,7.1nm,0.6s
BR131 Keskin Array S 10.81 300 Pn **Pn** **14 45 14.0 -1.1**
BR131 Keskin Array S 10.81 300 *i* P **Pn** **14 45 16.8 +1.7**
BRTR Keskin Array B 10.81 300 Pn **Pn** **14 45 14.0 -1.1**
BRTR Keskin Array B 10.81 300 *i* P **Pn** **14 45 18.5 +3.4**
BRTR pmax pmax
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 10.81 300 Pn **Pn** **14 45 16.3 +1.2**
comp=Z,0.2nm,0.3s,baz=126,slow=13,SNR=14
BRTR LR LR 14 50 32.5
comp=Z,575nm,18.2s,baz=116,slow=44
comp=Z,6.6nm,0.9s
SMRA Abu-Samra 11.04 156 P **Pn** **14 45 19.3 +1.2**
SMRA S **Sn** **14 47 17.3 -3.8**
TRNA Turayna 11.19 154 P **Pn** **14 45 20.6 +0.5**
SNR=16
TRNA S **Sn** **14 47 20.6 -4.1**
ANTO Ankara 11.47 299 P Pn 14 45 28.9 +4.9
ANTO pmax pmax
comp=Z,32nm,1.4s
BR231 Keskin MP Arra 11.47 299 Pn **Pn** **14 45 22.4 -1.7**
TBJM Torbat-e-JAM 11.88 84 Pn **Pn** **14 45 30.4 +0.6**
SHME Shamm 12.54 132 *i* P **Pn** **14 45 37.8 -0.9**
SNR=7.1
SHME Shamm 12.54 132 P **Pn** **14 45 38.3 -0.4**
SNR=7.9
SHME S **Sn** **14 47 51.4 -6.5**
UMQ Umm Al-Quwin 12.65 135 P **Pn** **14 45 40.9 +0.8**
UMQ Umm Al-Quwin 12.65 135 P **Pn** **14 45 41.2 +1.0**
ISP Isparta 12.67 288 *i* P **Pn** **14 45 42.5 +2.1**
AJN Ajban 13.04 140 P **Pn** **14 45 46.3 +0.9**
SNR=5.4
AJN S **Sn** **14 48 05.6 -4.3**
ELL Elmali 13.04 283 P **P** **14 45 51.8 -4.0**
ELL pmax pmax
comp=Z,42nm,0.8s
MASF Masafi 13.06 134 P **Pn** **14 45 45.7 -0.1**
SNR=10
MASF S **Sn** **14 48 03.3 -7.3**
NAZ Nazwa, Dubai 13.07 137 *i* P **Pn** **14 45 46.0 +0.1**
SNR=20
NAZ Nazwa, Dubai 13.07 137 P **Pn** **14 45 46.7 +0.8**
SNR=20
NAZ S **Sn** **14 48 05.1 -5.6**
MSFE Esma-Masafi 13.07 134 *i* P **Pn** **14 45 44.8 -1.1**
SNR=30
ASUD Al Ashush, Dub 13.17 139 *i* P **Pn** **14 45 48.0 +0.8**
SNR=26
ASUD Al Ashush, Dub 13.17 139 P **Pn** **14 45 48.4 +1.1**
SNR=27
ASUD S **Sn** **14 48 07.1 -6.1**
FAQ Al Faqa, Dubai 13.22 138 *i* P **Pn** **14 45 47.8 -0.1**
SNR=14
FAQ Al Faqa, Dubai 13.22 138 P **Pn** **14 45 48.1 +0.2**
SNR=12
FAQ S **Sn** **14 48 08.2 -6.2**
UOSS Minazif 13.41 135 Pn **Pn** **14 45 49.2 -1.4**
UOSS Minazif 13.41 135 *i* P **Pn** **14 45 49.6 -0.9**
SNR=17
UOSS Minazif 13.41 135 P **Pn** **14 45 50.4 -0.1**
UOSS S **Sn** **14 48 11.1 -8.0**
HATD Hatta, Dubai 13.46 136 *i* P **Pn** **14 45 50.5 -0.7**
SNR=21
HATD Hatta, Dubai 13.46 136 P **Pn** **14 45 51.2 0.0**
SNR=10.0
HATD S **Sn** **14 48 13.6 -6.7**
ASHO Ashiyiah 13.53 136 *i* P **Pn** **14 45 51.4 -0.8**
SNR=41
ASHO Ashiyiah 13.53 136 P **Pn** **14 45 52.0 -0.2**
SNR=42
ASHO S **Sn** **14 48 14.7 -7.3**
MZR Muzera 13.64 149 P **Pn** **14 45 54.8 +1.1**
MZR S **Sn** **14 48 19.8 -4.9**
JASK Jask - Hormozg 13.76 128 P **Pn** **14 45 54.8 -0.5**
JASK S **Sn** **14 48 19.8 -7.8**
ALNE Al Ain 13.86 139 *i* P **Pn** **14 45 56.5 -0.1**
SNR=28
ALNE Al Ain 13.86 139 P **Pn** **14 45 57.0 +0.4**
SNR=28
ALNE S **Sn** **14 48 23.5 -6.5**
SOHO SOHO 14.23 136 *i* P **Pn** **14 46 00.3 -1.4**
SNR=12
SOHO SOHO 14.23 136 P **Pn** **14 46 00.6 -1.0**
SOHO P **Pn** **14 46 00.6 -1.0**
SOHO S **Sn** **14 48 31.8 -7.2**
SOHO S **Sn** **14 48 31.8 -7.2**
YER Yerkesik 14.37 284 P **P** **14 46 10.4 -0.1**
YER pmax pmax
comp=Z,16nm,0.8s
ARQ Araqi 14.85 138 P **Pn** **14 46 09.0 -1.3**
SNR=7.1
ARQ S **Sn** **14 48 48.3 -5.9**
HOQ Hoqain 15.10 135 P **Pn** **14 46 12.7 -0.8**
HOQ P **Pn** **14 46 12.7 -0.8**
HOQ S **Sn** **14 48 53.5 -6.8**
HOQ S **Sn** **14 48 53.5 -6.8**
KARP Karpathos 15.27 278 P **P** **14 46 20.8 +0.3**
BIDO Bidbid 15.63 133 P **Pn** **14 46 19.5 -0.9**
BIDO P **Pn** **14 46 19.5 -0.9**
BIDO S **Sn** **14 49 04.0 -9.1**
BIDO S **Sn** **14 49 04.0 -9.1**
BSY Bisya 15.70 138 P **Pn** **14 46 19.4 -2.0**
SNR=17
BSY S **Sn** **14 49 08.0 -6.9**
SMDO Samad 15.93 135 P **Pn** **14 46 22.8 -1.7**
SNR=9.1
SMDO P **Pn** **14 46 22.8 -1.7**
SNR=9.1
SMDO S **Sn** **14 49 12.4 -8.3**
SMDO S **Sn** **14 49 12.4 -8.3**
WSAR Wadi Sarin 16.14 133 P **Pn** **14 46 25.2 -1.8**
SNR=5.1
WSAR S Sn 14 49 14.6 -11
WSAR Wadi Sarin 16.14 133 Pn **Pn** **14 46 25.0 -2.0**
comp=Z,5.0nm,0.3s,baz=310,slow=13,SNR=39
WSAR Sn Sn 14 49 14.3 -11
comp=Z,0.5nm,0.3s,baz=162,slow=17,SNR=3.1
WSAR LR LR 14 53 19.4
comp=Z,1μm,21.7s,baz=338,slow=40
TIRR Tirgusor 16.40 311 ⇓P **Pn** **14 46 30.4 +0.1**
TIRR Tirgusor 16.40 311 Pn **Pn** **14 46 30.0 -0.2**
TIRR IAmb IAmb 14 46 52.0
comp=Z,47nm,1.1s
TIRR Tirgusor 16.40 311 P **Pn** **14 46 30.0 -0.2**
TIRR pmax pmax
comp=Z,47nm,1.1s
JMDO Jabal Madar 16.50 136 P **Pn** **14 46 30.0 -1.7**
SNR=11
JMDO P **Pn** **14 46 30.0 -1.7**
SNR=11
JMDO S **Sn** **14 49 26.0 -8.3**
JMDO S **Sn** **14 49 26.0 -8.3**
VRH Novokhopyorsk 16.52 351 *e*P **Pn** **14 46 30.0 -1.7**
VRH pmax pmax
comp=Z,99nm,1.6s
TPGR Topolog 16.60 312 ⇑P **P** **14 46 34.7 -0.4**
VORD Divnogorie 16.70 346 *e*P **Pn** **14 46 33.4 -0.6**
VORD pmax pmax
comp=Z,80nm,0.8s
HARR Harsova 16.82 311 ⇑P **P** **14 46 37.4 -0.1**
HARR Harsova 16.82 311 ⇑P **P** **14 46 37.4 -0.1**
WBK Wadi Bani Khal 16.82 133 P **Pn** **14 46 35.0 -0.7**
SNR=12
WBK P **Pn** **14 46 35.0 -0.7**
SNR=12
WBK S **Sn** **14 49 35.3 -6.8**
WBK S **Sn** **14 49 35.3 -6.8**
CFR Carcaliu 16.94 312 ⇓P **Pn** **14 46 37.3 +0.3**
CFR Carcaliu 16.94 312 ⇓P **Pn** **14 46 37.3 +0.3**
VSR Storozhevoye 16.97 346 *e*P **Pn** **14 46 36.3 -1.0**
VSR pmax pmax
comp=Z,60nm,0.8s
RDO Rodhopi 17.13 297 P **P** **14 46 41.7 +0.7**
IDI Anoyia 17.14 277 ⇑P **Pn** **14 46 40.1 +0.4**
IDI Anoyia 17.14 277 Pn **Pn** **14 46 39.4 -0.2**
IDI IAmb IAmb 14 46 59.2
comp=Z,41nm,0.9s

IDI Anoyia 17.14 277 Pn **Pn** **14 46 39.8 +0.2**
comp=Z,2.1nm,0.3s,baz=67,slow=15,SNR=16
comp=Z,21nm,0.7s
VORR Voronezh 17.39 346 *e*P **Pn** **14 46 40.2 -2.4**
VORR pmax pmax
comp=Z,60nm,0.5s
ELND Elena 17.43 303 ⇑P **Pn** **14 46 43.5 +0.3**
JLN Jalan Bani Buh 17.43 133 P **Pn** **14 46 43.5 +0.1**
SNR=7.2
JLN S **Sn** **14 49 47.9 -9.1**
MHTO MHTO 17.53 139 P **Pn** **14 46 43.0 -1.6**
SNR=21
MHTO S **Sn** **14 49 51.3 -8.0**
AB31 Akbulak array 17.69 32 *i* P **Pn** **14 46 44.7 -1.6**
ABKAR Akbulak array 17.69 32 Pn **Pn** **14 46 44.9 -1.4**
AKTO Aktyubinsk 17.85 26 P **Pn** **14 46 45.6 -2.8**
AKTO Aktyubinsk 17.85 26 P **Pn** **14 46 47.5 -0.8**
comp=Z,1.8nm,0.3s,baz=217,slow=13,SNR=24
AKTO LR LR 14 54 32.1
comp=Z,454nm,20.0s,baz=237,slow=40
comp=Z,15nm,0.6s
VRI Vrincioaia 18.14 313 ⇑P **P** **14 46 53.1 +0.9**
VRI Vrincioaia 18.14 313 ⇑P **P** **14 46 53.1 +0.9**
PLOR Plostina 18.18 313 ⇑P **P** **14 46 52.8 +0.2**
PLOR Plostina 18.18 313 ⇑P **P** **14 46 52.8 +0.2**
LPSR Galich'ya Gora 18.33 347 *e*P **Pn** **14 46 51.8 -2.4**
LPSR pmax pmax
comp=Z,380nm,0.9s
WHFO Wadi Hawf 18.37 155 P **P** **14 46 52.8 -2.1**
SNR=70
WHFO S **Sn** **14 50 11.6 -8.1**
MLR Muntele Rosu 18.43 311 ⇑P **P** **14 46 55.1 -0.5**
MLR Muntele Rosu 18.43 311 ⇑P **P** **14 46 55.1 -0.5**
MLR Muntele Rosu 18.43 311 P **Pn** **14 46 56.4 +0.7**
comp=Z,3.2nm,0.5s,baz=190,slow=18,SNR=1.6
SORM Soroca 18.52 321 ⇑P **P** **14 46 55.8 -0.4**
SORM Soroca 18.52 321 ⇑P **P** **14 46 55.8 -0.4**
TESR Tescani 18.52 314 ⇑P **Pn** **14 46 56.7 +0.2**
SRS Serrai 18.55 296 P **Pn** **14 46 57.6 +0.6**
SRS pmax pmax
comp=Z,25nm,0.8s
ABTO Aybut 18.74 157 P **P** **14 46 57.4 -1.6**
SNR=9.9
ABTO S **Sn** **14 50 21.4 -7.2**
RBK Rabkut 18.91 155 P **P** **14 47 00.7 -0.1**
SNR=10.0
VOIR 18.97 310 ⇓P **Pn** **14 47 02.2 +0.1**
VOIR 18.97 310 ⇓P **Pn** **14 47 02.2 +0.1**
SHAO Shalim 18.97 150 *i* P **P** **14 47 01.2 -0.3**
SNR=40
SHAO Shalim 18.97 150 P **P** **14 47 01.2 -0.3**
SNR=40
SHAO S **Sn** **14 50 26.0 -8.2**
DMTO DMTO 18.98 152 P **P** **14 47 01.6 0.0**
SNR=32
DMTO S **Sn** **14 50 24.8 -10**
DOPR Dopca 19.00 312 ⇓P **Pn** **14 47 02.2 -0.3**
CHGR Chuyangaron 19.04 72 P **Pn** **14 47 03.0 0.0**
CHGR IAmb IAmb 14 47 14.2
comp=Z,55nm,1.5s
CHGR Chuyangaron 19.04 72 P **Pn** **14 47 03.0 0.0**
CHGR pmax pmax
comp=Z,55nm,1.5s
KNT Kendrikon 19.07 296 P **P** **14 47 02.5 0.0**
KNT pmax pmax
comp=Z,12nm,2.5s
AGG Agios Georgios 19.20 289 Pn **P** **14 47 04.2 +0.4**
AGG Agios Georgios 19.20 289 P **P** **14 47 04.2 +0.4**
AGG pmax pmax
comp=Z,23nm,0.8s
ARR Arges 19.20 309 ⇓P **Pn** **14 47 05.4 +0.4**
GRG Griva 19.40 295 P **P** **14 47 06.4 +0.3**
GRG pmax pmax
comp=Z,25nm,1.0s
LOT Lotru 19.79 309 ⇑P **P** **14 47 10.6 +0.2**
AKASG Malin Array Be 19.84 328 P **P** **14 47 07.9 -2.8**
AKASG Malin Array Be 19.84 328 P **P** **14 47 09.3 -1.4**
comp=Z,3.0nm,0.3s,baz=136,slow=11,SNR=31
AKASG LR LR 14 56 11.7
comp=Z,378nm,19.2s,baz=54,slow=41
comp=Z,16nm,1.0s
AKBB Malin Array Si 19.84 328 P **P** **14 47 08.9 -1.8**
AKBB IAmb IAmb 14 47 20.0
comp=Z,22nm,0.7s
AKBB Malin Array Si 19.84 328 *ce*P **P** **14 47 09.4 -1.3**
KIEV Kiev 19.84 328 ⇑P **P** **14 47 10.2 -0.6**
KIEV Kiev 19.84 328 P **P** **14 47 08.9 -1.8**
KIEV IAmb IAmb 14 47 20.0
comp=Z,19nm,0.7s
KIEV Kiev 19.84 328 *i* P **P** **14 47 09.5 -1.3**
SNR=9.5
KIEV Kiev 19.84 328 ⇑P **P** **14 47 10.2 -0.6**
BLKB Belogradchik 19.86 303 ⇑P **P** **14 47 10.8 -0.4**
BURAR Bucovina Array 19.93 316 ⇑P **P** **14 47 12.6 +0.7**
BURAR Bucovina Array 19.93 316 **P** **14 47 11.6 -0.3**
BURAR Bucovina Array 19.93 316 ⇑P **P** **14 47 12.6 +0.7**
BUR08 Bucovina Ar. S 19.96 316 **P** **14 47 11.9 -0.3**
GAR Garm 19.96 71 P **Pn** **14 47 13.4 -0.7**
FNA Florina 20.14 294 P **P** **14 47 13.8 -0.3**
FNA Florina 20.14 294 P **P** **14 47 13.8 -0.3**
FNA pmax pmax
comp=Z,24nm,1.0s
ARCR ARCALIA 20.17 313 ⇑P **P** **14 47 15.1 +0.7**
DJES Djerdap 20.31 306 ⇓P **P** **14 47 16.7 +0.7**
DJES Djerdap 20.31 306 **P** **14 47 15.8 -0.2**
GZR Gura Zlata 20.41 308 ⇑P **P** **14 47 16.4 -0.7**
BOVS Bovan 20.54 302 ⇑P **P** **14 47 18.3 -0.1**
MARR Marisel-Cluj 20.73 311 ⇑P **P** **14 47 20.3 -0.3**
KK31 Karatay Array 20.79 60 P **P** **14 47 22.3 +1.2**
KK31 Karatay Array 20.79 60 P **P** **14 47 22.3 +1.2**
KK31 pmax pmax
comp=Z,18nm,1.1s
KKAR Karatay Array 20.79 60 P **P** **14 47 21.7 +0.5**
KKAR Karatay Array 20.79 60 P **P** **14 47 22.4 +1.2**
KKAR IAmb IAmb 14 47 37.6
comp=Z,18nm,1.1s
KKAR Karatay Array 20.79 60 P **P** **14 47 21.7 +0.5**
KKAR pmax pmax
comp=Z,18nm,1.1s
BMR Baia Mare 20.96 314 P **P** **14 47 24.2 +1.2**
BMR pmax pmax
comp=Z,83nm,1.2s
SURR Surduc 20.97 308 ⇑P **P** **14 47 22.8 -0.3**
OBN Obninsk 21.17 345 ⇑P **P** **14 47 24.0 -1.1**
OBN Obninsk 21.17 345 **P** **14 47 22.9 -2.2**
OBN Obninsk 21.17 345 *d* P **P** **14 47 23.4 -1.7**
OBN *e* 14 47 47.5
OBN *eS* Sn 14 51 36.4 +10
OBN pmax pmax
comp=Z,92nm,0.8s
OBN MLR MLR
comp=Z,342nm,17.0s
OBN Obninsk 21.17 345 P **P** **14 47 23.5 -1.6**
comp=Z,80nm,0.7s,baz=172,slow=21,SNR=21
comp=Z,80nm,0.7s
BZS Buzias 21.25 307 ⇑P **P** **14 47 26.6 +0.5**
BZS Buzias 21.25 307 ⇑P **P** **14 47 26.6 +0.5**
MOS Moscow 21.55 347 *e*P **P** **14 47 27.0 -2.2**
MOS *e* 14 47 48.1
MOS *eS* **S** **14 51 23.1 -4.0**
MOS pmax pmax
comp=Z,100nm,1.1s
MOS pmax pmax
comp=Z,115nm,0.9s
LVV L'vov 21.80 320 *e*P **P** **14 47 35.0 +3.0**
DIVS Divibare 21.86 302 P **P** **14 47 30.7 -2.0**
DIVS IAmb IAmb 14 47 55.3
comp=Z,34nm,1.1s
CRVS Cervenica-Dubn 22.75 315 *e*P **P** **14 47 44.3 +2.2**
CRVS Cervenica-Dubn 22.75 315 *e*P **P** **14 47 44.3 +2.2**
STHS Stebnicka Huta 23.12 316 *e*P **P** **14 47 48.5 +2.5**
ARU Arti 23.18 18 P **P** **14 47 44.5 -2.1**
ARU Arti 23.18 18 *d* P **P** **14 47 46.5 0.0**
ARU 14 48 10.0
ARU *S* **S** **14 51 59.7 +2.6**
ARU SS **SnSn** **14 52 33.8 +2.8**
ARU pmax pmax
comp=Z,11nm,0.7s
PSZ Piszkesteto 23.24 312 ⇑P **P** **14 47 47.7 +0.4**
PSZ Piszkesteto 23.24 312 IAmb IAmb 14 47 54.1
comp=Z,21nm,1.0s
PSZ Piszkesteto 23.24 312 ⇑P **P** **14 47 47.7 +0.4**
MORH Mrgy, Hungar 23.40 307 ⇑P **P** **14 47 48.8 0.0**
AAK Ala-Archa 23.55 62 *i* P **P** **14 47 52.1 +1.6**

AAK Ala-Archa 23.55 62 LR LR 14 59 50.7
comp=Z,331nm,20.1s,baz=261,slow=44
NIE Niedzica 23.66 315 *e*P **P** **14 47 56.1 +4.7**
NIE Niedzica 23.66 315 P **P** **14 47 54.1 +2.7**
NIE pmax pmax
comp=Z,9.0nm,1.2s
KIRV Kirov 23.77 5 *ce*P **P** **14 47 51.1 -1.1**
NACGM Naroch 23.94 332 *e*P **P** **14 47 58.3 +4.3**
comp=Z,60nm,1.1s,baz=139
SVE Sverdlovsk 24.09 20 *e*P **P** **14 47 55.2 -0.1**
SVE pmax pmax
comp=Z,68nm,1.1s
VYHS Vyhne 24.12 312 *e*P **P** **14 47 56.3 +0.6**
VYHS Vyhne 24.12 312 *e*P **P** **14 47 56.3 +0.6**
KSH Kashi 24.37 70 P **P** **14 47 56.9 -1.4**
KSH sP pP 14 48 02.5 -1.9
KSH pmax pmax
comp=Z,2.0nm,0.7s
TKM2 Tokmak 2 24.40 62 P **P** **14 48 00.2 +1.7**
SUW Suwalki 24.81 327 *e*P **P** **14 48 00.7 -1.1**
SUW Suwalki 24.81 327 P **P** **14 47 60.0 -1.8**
SUW Suwalki 24.81 327 P **P** **14 48 00.0 -1.8**
SUW pmax pmax
comp=Z,86nm,0.9s
JAVC Velka Javorina 24.98 312 *e*P **P** **14 48 06.1 +2.6**
MODS Modra-Piesok 25.03 311 *e*P **P** **14 48 04.6 +0.6**
MODS Modra-Piesok 25.03 311 *e*P **P** **14 48 04.6 +0.6**
BRVK Borovoye 25.05 36 P **P** **14 48 03.9 -0.2**
BRVK IAmb IAmb 14 48 13.3
comp=Z,23nm,1.1s
BRVK Borovoye 25.05 36 *ce*P **P** **14 48 05.1 +1.1**
BRVK pmax pmax
comp=Z,11nm,1.0s
BVA0 Borovoye Array 25.08 36 *i* P **P** **14 48 04.6 +0.3**
BVAR Borovoye Array 25.08 36 P **P** **14 48 04.7 +0.3**
comp=Z,8.7nm,0.8s,baz=238,slow=8.2,SNR=17
BVAR ScP **ScP** **14 55 17.2 +0.8**
comp=Z,1.2nm,0.7s,baz=228,slow=1.8,SNR=5.0
BVAR LR LR 14 59 56.4
comp=Z,310nm,19.4s,baz=233,slow=41
comp=Z,8.7nm,0.8s
MAUC Maruska 25.09 314 *e*P **P** **14 48 06.2 +1.7**
OKC Ostrava-Krasne 25.10 315 *e*P **P** **14 48 08.2 +3.6**
OKC Ostrava-Krasne 25.10 315 *e*P **P** **14 48 08.2 +3.6**
RONA Rosalia, Austr 25.41 309 *i* P **P** **14 48 07.1 -0.4**
comp=Z,26nm,0.8s
MORC Moravsky Berou 25.43 314 IAmb IAmb 14 48 14.2
comp=Z,17nm,0.8s
MORC Moravsky Berou 25.43 314 *e*P **P** **14 48 07.6 0.0**
MORC Moravsky Berou 25.43 314 P **P** **14 48 09.3 +1.7**
MORC pmax pmax
comp=Z,24nm,1.0s
PABE Paberze 25.49 331 P **P** **14 48 06.7 -1.3**
CONA Conrad Observa 25.76 309 *e*P **P** **14 48 10.6 -0.1**
comp=Z,32nm,1.1s
ARSA Arzberg 25.77 308 *i* P **P** **14 48 12.1 +1.4**
comp=Z,14nm,1.0s
VRAC Vranov 25.81 313 *e*P **P** **14 48 12.0 +1.0**
VRAC Vranov 25.81 313 P **P** **14 48 11.4 +0.4**
comp=Z,5.1nm,0.6s,baz=98,slow=7.6,SNR=3.0
comp=Z,5.1nm,0.6s
KRUC Moravsky 25.83 312 *e*P **P** **14 48 12.7 +1.5**
KRUC Moravsky 25.83 312 P **P** **14 48 13.4 +2.2**
SOKA Soboth 25.93 306 *e*P **P** **14 48 13.4 +1.3**
comp=Z,15nm,1.4s
KRLC Kraliky 26.00 314 P **P** **14 48 15.4 +2.6**
OBKA Obir 26.20 306 *e*P **P** **14 48 16.1 +1.4**
comp=Z,28nm,1.6s
KLMR Klimovskoe 26.25 353 *e*P **P** **14 48 12.9 -1.9**
KLMR AMP 14 48 15.8
comp=Z,53nm,0.8s
KLMR Klimovskoe 26.25 353 *e*P **P** **14 48 12.9 -1.9**
KLMR pmax pmax
comp=Z,53nm,0.8s
DPC Dobruska-Polom 26.39 315 *e*P **P** **14 48 16.6 +0.3**
DPC Dobruska-Polom 26.39 315 *e*P **P** **14 48 16.6 +0.3**
OSTC Ostas 26.53 315 *e*P **P** **14 48 20.1 +2.5**
OSTC Ostas 26.53 315 *e*P **P** **14 48 20.1 +2.5**
KSP Ksiaz 26.61 316 *e*P **P** **14 48 21.4 +3.2**
KSP Ksiaz 26.61 316 P **P** **14 48 20.8 +2.6**
UPC Upice 26.63 315 *e*P **P** **14 48 21.7 +3.3**
UPC Upice 26.63 315 *e*P **P** **14 48 21.7 +3.3**
CHVC Chvalec 26.64 315 *e*P **P** **14 48 18.9 +0.4**
CHVC Chvalec 26.64 315 *e*P **P** **14 48 18.9 +0.4**
PRGR Permogore 26.72 360 *e*P **P** **14 48 16.2 -2.8**
PRGR pmax pmax
comp=Z,47nm,1.0s
VSU Vasula 26.74 338 P **P** **14 48 23.6 +4.4**
VSU pmax pmax
comp=Z,51nm,0.7s
MOA Molln 26.76 308 *e*P **P** **14 48 19.4 -0.3**
comp=Z,9.7nm,0.9s
CESX Cesi 26.90 297 IAmb IAmb 14 48 33.2
comp=Z,60nm,1.4s
KBA Koelnbreinsper 27.15 306 *e*P **P** **14 48 22.7 -0.6**
comp=Z,27nm,1.3s
ZVC Zvikov 27.32 312 *e*P **P** **14 48 25.6 +1.0**
GERES GERESS Array B 27.42 310 P **P** **14 48 25.9 +0.2**
comp=Z,1.7nm,0.6s,baz=70,slow=8.8,SNR=1.6
comp=Z,1.7nm,0.6s
KHC Kasperske Hory 27.59 311 *e*P **P** **14 48 33.0 +5.9**
KHC Kasperske Hory 27.59 311 *e*P **P** **14 48 33.0 +5.9**
BRG Berggiesshubel 27.98 315 *e*P **P** **14 48 30.4 -0.2**
BRG Amp 14 48 36.1
comp=Z,7.7nm,1.2s
BRG Berggiesshubel 27.98 315 *e*P **P** **14 48 30.3 -0.2**
BRG pmax pmax
comp=Z,8.0nm,1.2s
WTTA Wattenberg 28.32 306 *e*P **P** **14 48 33.6 -0.3**
comp=Z,11nm,0.6s
KURBB Kurchatov Arra 28.38 46 P **P** **14 48 34.3 +0.3**
comp=Z,1.0nm,0.3s,baz=254,slow=9.0,SNR=2.0
KURBB PcP **PcP** **14 51 46.5 +0.4**
comp=Z,0.4nm,0.2s,baz=242,slow=2.7,SNR=1.2
KURBB ScP **ScP** **14 55 29.8 +3.6**
comp=Z,0.3nm,0.3s,baz=265,slow=3.3,SNR=1.0
comp=Z,1.0nm,0.3s
WATA Walderalm 28.38 306 *e*P **P** **14 48 34.5 +0.2**
comp=Z,20nm,1.0s
KURK Kurchatov 28.46 46 *i* P **P** **14 48 36.8 +2.0**
SQTA Sankt Quirin 28.60 306 *e*P **P** **14 48 35.8 -0.4**
comp=Z,10nm,0.5s
MOTA Moosalm 28.69 306 *e*P **P** **14 48 36.8 -0.3**
comp=Z,15nm,1.1s
CLL Collm 28.70 315 *e*P **P** **14 48 38.0 +1.1**
CLL *i* x x 14 48 46.7
comp=Z,16nm,1.3s
CLL Collm 28.70 315 *e*P **P** **14 48 38.0 +1.1**
CLL *i* 14 48 46.7
FETA Feichten 28.87 305 *e*P **P** **14 48 37.7 -1.0**
comp=Z,11nm,0.8s
RETA Reutte 28.95 306 *e*P **P** **14 48 38.4 -0.9**
comp=Z,6.4nm,0.8s
FINES FINESS Array B 29.36 341 *i* P **P** **14 48 41.7 -0.9**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 29.36 341 P **P** **14 48 41.2 -1.5**
comp=Z,2.6nm,0.5s,baz=146,slow=11,SNR=14
comp=Z,2.6nm,0.5s
DAVOX Davos/Dischmat 29.40 305 P **P** **14 48 42.4 -1.0**
comp=Z,2.1nm,0.4s,baz=130,slow=11,SNR=2.8
DAVOX LR LR 15 02 22.9
comp=Z,276nm,18.2s,baz=77,slow=40
comp=Z,2.1nm,0.4s
DAVA Damuels 29.50 306 *e*P **P** **14 48 43.0 -1.2**
comp=Z,15nm,0.7s
KEST Kesra 29.67 282 P **P** **14 48 45.5 -0.2**
KEST IAmb IAmb 14 48 48.4
comp=Z,16nm,0.8s
KEST Kesra 29.67 282 P **P** **14 48 45.7 -0.1**
comp=Z,14nm,0.7s,baz=343,slow=2.5,SNR=9.4
comp=Z,14nm,0.7s
MK31 Makanchi Array 29.75 55 IAmb IAmb 14 48 56.9
comp=Z,19nm,1.4s
MK31 Makanchi Array 29.75 55 *e*P **P** **14 48 47.5 +1.2**
MKAR Makanchi Array 29.75 55 P **P** **14 48 47.6 +1.3**
comp=Z,4.5nm,0.8s,baz=254,slow=10,SNR=17
MKAR LR LR 15 04 02.3
comp=Z,304nm,19.1s,baz=314,slow=43
comp=Z,4.5nm,0.8s
BNI Bardonecchia 31.38 301 P **P** **14 49 00.1 -0.7**
BNI Bardonecchia 31.38 301 P **P** **14 49 00.2 -0.7**
BNI pmax pmax
comp=Z,26nm,0.8s
HFS Hagfors 32.67 330 P **P** **14 49 10.5 -1.3**
comp=Z,7.8nm,0.8s,baz=127,slow=9.8,SNR=12

HFS					LR	LR	15 04 11.5	
	comp=Z,239nm,18.6s,baz=124,slow=40							
	comp=Z,7.8nm,0.8s							
DANN	**Dangsing**	**32.81**	**91**	*e*P	**P**		**14 49 15.3 +1.5**	
	comp=Z,24nm,0.7s							
ZALV	**Zalesovo Beam**	**33.14**	**43**	P	**P**		**14 49 16.4 +0.3**	
	comp=Z,0.6nm,0.4s,baz=232,slow=7.4,SNR=5.9							
	comp=Z,0.6nm,0.4s							
WMQ	**Urumqi**	**33.26**	**62**	*e*P	**P**		**14 49 18.6 +1.3**	
WMQ				pP	pP		14 49 22.9 -0.6	
WMQ				sP	sP		14 49 25.8 -0.1	
WMQ				pmax	pmax			
	comp=Z,15nm,0.9s							
DGZ	**Jazzator, Alta**	**33.65**	**51**	*i* P	**P**		**14 49 21.9 +1.2**	
DGZ				pmax	pmax			
	comp=Z,3.0nm,0.9s							
GKN	**Gorkha**	**33.66**	**91**	*e*P	**P**		**14 49 22.0 +1.0**	
	comp=Z,28nm,0.6s							
DMN	**Daman**	**34.19**	**91**	*e*P	**P**		**14 49 27.4 +1.6**	
	comp=Z,39nm,0.8s							
NB2	**NORSAR Subarra**	**34.20**	**331**	P	**P**		**14 49 23.0 -2.2**	
	comp=Z,8.7nm,1.2s,baz=124,slow=8.6							
NOA	**NORSAR Array B**	**34.20**	**331**	P	**P**		**14 49 23.0 -2.2**	
NOA	**NORSAR Array B**	**34.20**	**331**	P	**P**		**14 49 22.9 -2.2**	
	comp=Z,1.2nm,0.8s,baz=124,slow=8.6,SNR=6.1							
NOA				LR	LR		15 04 31.0	
	comp=Z,189nm,18.6s,baz=110,slow=38							
	comp=Z,1.2nm,0.8s							
PKIN	**Phulchoki**	**34.44**	**91**	*e*P	**P**		**14 49 29.0 +1.0**	
	comp=Z,21nm,0.6s							
PKI	**Pulchoki**	**34.45**	**91**	*e*P	**P**		**14 49 29.1 +1.0**	
	comp=Z,18nm,0.7s							
GUN	**Gumba**	**34.71**	**90**	*e*P	**P**		**14 49 31.5 +1.1**	
JIRN	**Jiri**	**35.06**	**91**	*e*P	**P**		**14 49 34.6 +1.2**	
	comp=Z,29nm,0.6s							
RAMN	**Ramite**	**35.67**	**91**	*e*P	**P**		**14 49 39.6 +1.1**	
	comp=Z,44nm,0.7s							
ODAN	**Odare**	**36.35**	**91**	*e*P	**P**		**14 49 45.7 +1.3**	
ARCES	**ARCESS Array B**	**36.42**	**348**	P	**P**		**14 49 42.8 -1.4**	
	comp=Z,3.4nm,0.8s,baz=225,slow=14,SNR=7.1							
	comp=Z,3.4nm,0.8s							
TAM	**Tamanrasset**	**37.08**	**262**	P	**P**		**14 49 51.0 +0.5**	
TAM				IAmb	IAmb		14 49 53.1	
	comp=Z,26nm,1.4s							
TAM	**Tamanrasset**	**37.08**	**262**	P	**P**		**14 49 51.0 +0.5**	
TAM				pmax	pmax			
	comp=Z,26nm,1.4s							
EKA	**Eskdalemuir Ar**	**39.11**	**317**	P	**P**		**14 50 06.0 -1.1**	
EKA	**Eskdalemuir Ar**	**39.11**	**317**	P	**P**		**14 50 06.0 -1.1**	
	comp=Z,3.9nm,0.5s,baz=106,slow=8.5,SNR=24							
	comp=Z,3.9nm,0.5s							
ESDC	**Sonseca Array**	**39.48**	**292**	P	**P**		**14 50 09.4 -1.0**	
	comp=Z,8.5nm,0.7s,baz=68,slow=8.3,SNR=38							
	comp=Z,8.5nm,0.7s							
MDT	**Midelt**	**41.57**	**282**	P	**P**		**14 50 27.6 -0.2**	
	comp=Z,5.0nm,0.7s,baz=46,slow=11,SNR=3.4							
	comp=Z,5.0nm,0.7s							
PBAR	**Barrancos**	**42.12**	**290**	*e*P	**P**		**14 50 31.3 -0.8**	
	comp=Z,50nm,0.9s							
PCBR	**Castelo Branco**	**42.12**	**293**	*e*P	**P**		**14 50 31.5 -0.6**	
	comp=Z,48nm,1.8s							
PMRV	**Marv??o**	**42.13**	**292**	*e*P	**P**		**14 50 31.6 -0.6**	
	comp=Z,156nm,2.1s							
PVIS	**Viseu**	**42.27**	**294**	*e*P	**P**		**14 50 33.1 -0.3**	
PESTR	**Estremoz**	**42.39**	**292**	*e*P	**P**		**14 50 33.6 -0.8**	
	comp=Z,42nm,1.3s							
GTA	**Gaotai**	**42.72**	**67**	*e*P	**P**		**14 50 38.8 +1.6**	
GTA				pP	sP		14 50 45.7 -0.1	
GTA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
SPITS	**Spitsbergen Ar**	**45.14**	**352**	P	**P**		**14 50 55.2 -0.7**	
	comp=Z,5.2nm,0.6s,baz=138,slow=11,SNR=56							
	comp=Z,5.2nm,0.6s							
TOA0	**Torodi Ar. Sit**	**45.31**	**253**	P	**P**		**14 50 56.9 -1.1**	
TOA0				IAmb	IAmb		14 50 59.6	
	comp=Z,10nm,1.4s							
TORD	**Torodi Ar. Bea**	**45.31**	**253**	P	**P**		**14 50 57.1 -1.0**	
TORD	**Torodi Ar. Bea**	**45.31**	**253**	P	**P**		**14 50 57.8 -0.3**	
	comp=Z,3.0nm,0.9s,baz=38,slow=9.3,SNR=14							
	comp=Z,3.0nm,0.9s							
SONM	**Songino Array**	**46.11**	**55**	P	**P**		**14 51 05.4 +1.2**	
	comp=Z,0.3nm,0.4s,baz=43,slow=45,SNR=1.6							
	comp=Z,0.3nm,0.4s							
TNCH	**TengChong**	**46.24**	**87**	P	**P**		**14 51 08.7 +3.1**	
TNCH				pP	sP		14 51 19.3 +5.0	
TNCH				S	**S**		**14 57 53.1 +1.6**	
TNCH				sS	sS		14 58 11.3 +9.4	
TNCH				pmax	pmax			
	comp=Z,42nm,0.5s							
TNCH				pmax	pmax			
	comp=Z,190nm,4.4s							
TNCH				LR	LR			
	comp=N,170nm,4.3s							
TNCH				LR	LR			
	comp=E,210nm,4.2s							
TNCH				LR	LR			
	comp=Z,130nm,10.9s							
ULN	**Ulaanbaatar**	**46.54**	**54**	P	**P**		**14 51 07.6 0.0**	
ULN				IAmb	IAmb		14 51 16.2	
	comp=Z,6.6nm,0.9s							
ULN	**Ulaanbaatar**	**46.54**	**54**	*ce*P	**P**		**14 51 09.2 +1.6**	
ULN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
LZH	**Lanzhou**	**46.62**	**71**	*e*P	**P**		**14 51 11.0 +2.6**	
LZH				pP	sP		14 51 17.3 +0.2	
LZH				sP	pP		14 51 21.4 +6.6	
LZH				pmax	pmax			
	comp=Z,7.0nm,1.1s							
PZH	**PanZhiHua**	**48.27**	**84**	P	**P**		**14 51 21.3 0.0**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.4s							
BORG	**Borgarnes**	**49.32**	**329**	LR	LR		15 13 46.4	
	comp=Z,153nm,19.0s,baz=90,slow=38							
CMAR	**Chiang Mai Arr**	**49.65**	**95**	*i* P	**P**		**14 51 33.0 +1.2**	
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**49.65**	**95**	P	**P**		**14 51 31.9 +0.1**	
	comp=Z,1.2nm,0.6s,baz=295,slow=8.5,SNR=9.7							
	comp=Z,1.2nm,0.6s							
BTO	**Baotou**	**50.06**	**63**	*e*P	**P**		**14 51 36.7 +1.9**	
BTO				pP	**sP**		**14 51 48.9 +5.2**	
BTO				sP	pP		14 51 53.6 +12	
BTO				PP	**PP**		**14 53 23.8 -6.0**	
BTO				S	**S**		**14 58 44.7 -0.4**	
BTO	**Baotou**	**50.06**	**63**	SS	**SS**		**15 02 18.8 +0.8**	
BTO				pmax	pmax			
	comp=Z,18nm,0.8s							
BTO				pmax	pmax			
	comp=Z,400nm,4.5s							
BTO				LR	LR			
	comp=N,1μm,5.3s							
BTO				LR	LR			
	comp=E,820nm,4.8s							
BTO				LR	LR			
	comp=Z,870nm,6.0s							
SCO	**Scoresbysund**	**50.10**	**336**	*i* P	**P**		**14 51 31.5 -3.0**	
SCO				IAmb	IAmb		14 51 43.8	
	comp=Z,1.5nm,0.8s							
DBG	**Daneborg**	**50.25**	**341**	*i* P	**P**		**14 51 33.4 -2.2**	
DBG				IAmb	IAmb		14 51 36.8	
	comp=Z,3.9nm,0.9s							
DAG	**Danmarks Havn**	**50.48**	**344**	*i* P	**P**		**14 51 35.0 -2.3**	
HHC	**Hu-ho-hao-te**	**51.13**	**63**	*e*P	**P**		**14 51 43.3 +0.4**	
HHC				pmax	pmax			
	comp=Z,21nm,0.8s							
HHC				pmax	pmax			
	comp=Z,510nm,7.7s							
XAN	**Xi'an**	**51.22**	**72**	P	**P**		**14 51 43.0 -0.5**	
XAN				pmax	pmax			
	comp=Z,6.0nm,0.8s							
XAN				LR	LR			
	comp=N,520nm,14.3s							
XAN				LR	LR			
	comp=E,430nm,14.1s							
XAN				LR	LR			
	comp=Z,450nm,14.4s							
NOR	**Nord**	**51.71**	**350**	*i* P	**P**		**14 51 44.5 -2.0**	
NOR				IAmb	IAmb		14 51 47.0	
	comp=Z,1.5nm,0.8s							
DBIC	**Dimbokro**	**54.35**	**251**	P	**P**		**14 52 06.0 -0.8**	
DBIC				IAmb	IAmb		14 52 22.5	
	comp=Z,6.1nm,0.7s							
DBIC	**Dimbokro**	**54.35**	**251**	P	**P**		**14 52 06.5 -0.3**	
	comp=Z,5.4nm,0.6s,baz=24,slow=5.2,SNR=12							
	comp=Z,5.4nm,0.6s							
HIA	**Hailar**	**54.56**	**51**	*i* P	**P**		**14 52 09.1 +1.1**	
HIA				pmax	pmax			
	comp=Z,6.0nm,1.0s							
TIXI	**Tiksi**	**55.09**	**23**	P	**P**		**14 52 10.9 -0.5**	
TIXI				IAmb	IAmb		14 52 12.5	
	comp=Z,6.5nm,1.1s							
TIXI	**Tiksi**	**55.09**	**23**	*i* P	**P**		**14 52 11.9 +0.5**	
SUMG	**Summit**	**55.37**	**339**	P	**P**		**14 52 12.8 -1.1**	
SUMG				IAmb	IAmb		14 52 15.5	
	comp=Z,13nm,0.9s							
SUMG	**Summit**	**55.37**	**339**	P	**P**		**14 52 12.8 -1.1**	
SUMG				pmax	pmax			
	comp=Z,13nm,0.9s							
SUMG	**Summit**	**55.37**	**339**	*i* P	**P**		**14 52 12.1 -1.8**	
SUMG				IAmb	IAmb		14 52 16.1	
	comp=Z,7.6nm,0.8s							
ICESG	**Greenland Ices**	**56.26**	**335**	*i* P	**P**		**14 52 18.3 -2.0**	
ICESG				IAmb	IAmb		14 52 22.6	
	comp=Z,7.4nm,0.9s							
YAK	**Yakutsk**	**57.03**	**34**	*i* P	**P**		**14 52 25.8 +0.4**	
YAK				pmax	pmax			
	comp=Z,12nm,0.9s							
NEEM	**North Greenlan**	**57.67**	**345**	*i* P	**P**		**14 52 29.9 -0.2**	
NEEM				IAmb	IAmb		14 52 37.7	
	comp=Z,3.5nm,0.5s							
ZEA	**Zeya**	**57.90**	**44**	*e*P	P		14 52 39.1 +7.4	
DY2G	**Dye2**	**59.33**	**332**	*i* P	**P**		**14 52 40.7 -1.1**	
DY2G				IAmb	IAmb		14 52 47.8	
	comp=Z,7.5nm,0.8s							
NJ2	**Nanjing**	**59.69**	**70**	*e*P	**P**		**14 52 43.9 -0.5**	
NJ2				pP	**pP**		**14 52 48.3 -2.6**	
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.5s							
NJ2				pmax	pmax			
	comp=Z,230nm,3.9s							
SFJD	**Kangerlussuaq**	**60.79**	**333**	LR	LR		15 20 55.6	
	comp=Z,176nm,18.9s,baz=62,slow=38							
USRK	**Ussuriysk Ar.**	**64.17**	**53**	P	**P**		**14 53 13.8 -0.6**	
	comp=Z,3.3nm,0.7s,baz=261,slow=7.4,SNR=4.2							
	comp=Z,3.3nm,0.7s							
KSRS	**Korea Array**	**64.20**	**61**	P	**P**		**14 53 14.8 +0.1**	
	comp=Z,1.4nm,0.6s,baz=291,slow=7.3,SNR=7.2							
	comp=Z,1.4nm,0.6s							
BOSA	**Boshof**	**66.13**	**200**	P	**P**		**14 53 28.4 +1.1**	
	comp=Z,2.7nm,0.8s,baz=354,slow=4.8,SNR=5.5							
	comp=Z,2.7nm,0.8s							
BILL	**Bilibino**	**68.18**	**20**	P	**P**		**14 53 39.7 -0.1**	
BILL				IAmb	IAmb		14 53 41.4	
	comp=Z,11nm,1.2s							
BILL	**Bilibino**	**68.18**	**20**	*i* P	**P**		**14 53 39.6 -0.1**	
A36M	**Sachs Harbour**	**73.18**	**357**	P	**P**		**14 54 08.7 -1.5**	
A36M				IAmb	IAmb		14 54 10.7	
	comp=Z,9.9nm,0.8s							
SCHQ	**Schefferville**	**73.63**	**326**	P	**P**		**14 54 11.9 -1.2**	
	comp=Z,3.5nm,0.7s,baz=313,slow=3.7,SNR=5.5							
	comp=Z,3.5nm,0.7s							
B21K	**Ikpikpuk River**	**74.67**	**7**	IAmb	IAmb		14 54 20.5	
	comp=Z,11nm,1.1s							
C18K	**Utukok River**	**74.78**	**10**	IAmb	IAmb		14 54 20.4	
	comp=Z,8.6nm,0.8s							
C36M	**Paulatuk**	**75.75**	**356**	P	**P**		**14 54 23.6 -1.5**	
C36M				IAmb	IAmb		14 54 52.0	
	comp=Z,5.4nm,0.8s							
TOLK	**Toolik Lake Re**	**76.09**	**6**	P	**P**		**14 54 26.8 -0.4**	
TOLK				IAmb	IAmb		14 54 28.2	
	comp=Z,7.7nm,0.9s							
E22K	**Anaktuvuk Pass**	**76.39**	**7**	P	**P**		**14 54 28.4 -0.4**	
E27K	**Coleen River**	**77.04**	**3**	IAmb	IAmb		14 54 49.3	
	comp=Z,6.8nm,1.1s							
F31M	**Tsiigehtchic**	**77.94**	**360**	IAmb	IAmb		14 54 37.4	
	comp=Z,7.6nm,0.8s							
G31M	**Satah River**	**78.46**	**0**	P	**P**		**14 54 38.8 -1.5**	
G31M				IAmb	IAmb		14 54 40.8	
	comp=Z,10nm,0.9s							
H21K	**Melozitna Rive**	**78.69**	**8**	P	**P**		**14 54 41.8 +0.1**	
ILAR	**Eielson Array**	**80.12**	**5**	P	**P**		**14 54 49.0 -0.5**	
ILAR	**Eielson Array**	**80.12**	**5**	P	**P**		**14 54 49.0 -0.5**	
	comp=Z,1.2nm,1.0s,baz=333,slow=4.0,SNR=8.2							
	comp=Z,1.2nm,1.0s							
I30M	**Mount Dempster**	**80.15**	**1**	IAmb	IAmb		14 54 50.1	
	comp=Z,6.4nm,0.8s							
YKA	**Yellowknife Ar**	**81.63**	**351**	P	**P**		**14 54 56.6 -0.9**	
	comp=Z,2.6nm,0.8s,baz=15,slow=5.8,SNR=32							
	comp=Z,2.6nm,0.8s							
HILA	**High Level**	**85.76**	**351**	P	**P**		**14 55 17.4 -1.4**	

IDC 11 14:52:25.8±1.7, 2°30N×124°93E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=203.6km s-min=22.9km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.96**	**158**	P	P	14 57 42.0	-0.1
	0.6nm,0.8s,baz=336,slow=11,SNR=6.9						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**27.25**	**162**	P	P	14 58 12.7	+0.8
	0.4nm,1.0s,baz=347,slow=8.0,SNR=2.4						
	0.4nm,1.0s						
MKAR	**Makanchi Array**	**57.73**	**327**	P	P	15 02 18.4	-0.1
	0.3nm,0.4s,baz=122,slow=8.4,SNR=7.2						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**61.99**	**329**	P	P	15 02 47.3	-0.5
	0.4nm,0.4s,baz=133,slow=6.5,SNR=2.3						
	0.4nm,0.4s						

*IDC **11** 15:06:53.9±0.8, 9°.96N×140°.36E, h0km, mb3.7/9, mbtmp3.8/10, ML4.5/1, Error ellipse: s-maj=25.4km s-min=18.5km az=107.0*
*NEIC **11** 15:06:55.3±2.7, 10°.0N±0°.1×140°.61E±0°.10, h10km±1km, mb4.5/15, Error ellipse: s-maj=23.2km s-min=7.5km az=138.0*

ISC 11 15:06:57.2±0.6, 9°.8N±0°.1×140°.45E±0°.10, h26km, n34, σ1s29/31, mb4.2/19, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.71**	**49**	Pn	**Pn**	**15 08 16.9**	**-3.4**
GUMO	**Guam**	**5.71**	**49**	Pn	**Pn**	**15 08 20.9**	**+0.6**
	15nm,0.3s,baz=7.2,slow=11,SNR=5.4						
GUMO				Sn	**Sn**	**15 09 27.4**	**+2.4**
	11nm,0.3s,baz=201,slow=18,SNR=2.7						
	86nm,0.7s						
PATS	**Pohnpei**	**17.92**	**98**		**Pn**	**15 11 02.0**	**-2.7**
YOJ	**Yonaguni jima**	**22.07**	**313**	P	**P**	**15 11 48.4**	**-2.0**
H11S3	**WAKE ISLAND Hy**	**26.82**	**68**	T	T	15 40 40.5	
	baz=255,slow=75,SNR=902						
H11S1	**WAKE ISLAND Hy**	**26.84**	**68**	T	T	15 40 40.9	
	baz=255,slow=75,SNR=213						
H11S2	**WAKE ISLAND Hy**	**26.84**	**68**	T	T	15 40 41.6	
	baz=255,slow=75,SNR=774						
H11N1	**WAKE ISLAND Hy**	**27.34**	**66**	T	T	15 41 24.3	
	baz=253,slow=75,SNR=94						
H11N2	**WAKE ISLAND Hy**	**27.35**	**66**	T	T	15 41 26.8	
	baz=253,slow=75,SNR=65						
H11N3	**WAKE ISLAND Hy**	**27.36**	**66**	T	T	15 41 25.0	
	baz=253,slow=75,SNR=52						
WB0	**Warramunga Arr**	**30.02**	**191**	P	**P**	**15 13 03.9**	**-0.2**
WB0				IAmb	IAmb	15 13 26.2	
	comp=Z,4.9nm,1.4s						
WR0	**Warramunga Arr**	**30.18**	**191**	P	**P**	**15 13 05.3**	**-0.2**
WRA	**Warramunga Arr**	**30.20**	**191**	P	**P**	**15 13 06.1**	**+0.4**
WRA	**Warramunga Arr**	**30.20**	**191**	P	**P**	**15 13 06.5**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=9.8,slow=10.0,SNR=9.9						
WRA				PcP	**PcP**	**15 16 08.1**	**+1.6**
	comp=Z,0.5nm,0.9s,baz=358,slow=2.4,SNR=2.6						
	comp=Z,1.0nm,0.8s						
AS31	**Alice Springs**	**33.91**	**191**	P	**P**	**15 13 39.6**	**+1.3**
ASAR	**Alice Springs**	**33.91**	**191**	P	**P**	**15 13 39.8**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=17,slow=12,SNR=29						
ASAR				PcP	**PcP**	**15 16 18.1**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=19,slow=1.9,SNR=5.5						
	comp=Z,0.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.07**	**287**	P	**P**	**15 14 38.6**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=91,slow=6.8,SNR=12						
	comp=Z,1.1nm,0.6s						
MKAR	**Makanchi Array**	**61.27**	**318**	P	**P**	**15 17 10.4**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=99,slow=8.2,SNR=1.5						
	comp=Z,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**64.76**	**322**	P	**P**	**15 17 33.5**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=113,slow=5.9,SNR=2.3						
	comp=Z,0.4nm,0.7s						
CTZ	**Chatham Island**	**66.05**	**147**	P	**P**	**15 17 40.8**	**-0.9**
BVAR	**Borovoye Array**	**70.22**	**323**	P	**P**	**15 18 07.7**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=110,slow=8.1,SNR=6.4						
	comp=Z,1.2nm,0.8s						
BRVK	**Borovoye**	**70.29**	**323**	P	**P**	**15 18 07.4**	**-0.9**
BRVK				IAmb	IAmb	15 18 09.4	
	comp=Z,1.6nm,0.8s						
D19K	**Kuna River**	**70.63**	**20**	P	**P**	**15 18 10.5**	**+0.4**
D19K				IAmb	IAmb	15 18 44.0	
	comp=Z,10nm,1.4s						
E22K	**Anaktuvuk Pass**	**72.70**	**21**	P	**P**	**15 18 23.6**	**+1.0**
E22K				IAmb	IAmb	15 18 24.4	
	comp=Z,3.9nm,0.9s						
TOLK	**Toolik Lake Re**	**73.64**	**21**	P	**P**	**15 18 28.9**	**+0.7**
TOLK				IAmb	IAmb	15 19 11.3	
	comp=Z,6.2nm,1.4s						
ILAR	**Eielson Array**	**73.78**	**25**	P	**P**	**15 18 28.2**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=240,slow=5.5,SNR=8.0						
	comp=Z,0.5nm,0.7s						
BMAR	**Burnt Mountain**	**75.20**	**23**	P	**P**	**15 18 38.1**	**+0.8**
I26K	**Coal Creek Min**	**75.43**	**25**	P	**P**	**15 18 38.3**	**-0.2**
I26K				IAmb	IAmb	15 19 07.3	
	comp=Z,7.1nm,1.4s						
I28M	**Miner Creek**	**76.79**	**25**	P	**P**	**15 18 46.8**	**+0.4**
I28M				IAmb	IAmb	15 19 01.6	
	comp=Z,11nm,1.5s						
G31M	**Satah River**	**79.16**	**24**	P	**P**	**15 18 59.7**	**+0.3**
G31M				IAmb	IAmb	15 19 02.9	
	comp=Z,4.3nm,1.2s						
C36M	**Paulatuk**	**82.79**	**21**	P	**P**	**15 19 18.5**	**-0.2**
C36M				IAmb	IAmb	15 19 48.1	
	comp=Z,5.3nm,1.4s						
YKA	**Yellowknife Ar**	**88.14**	**27**	P	**P**	**15 19 46.3**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=285,slow=5.2,SNR=7.4						
	comp=Z,0.5nm,0.8s						
NVAR	**Mina Array Bea**	**92.62**	**50**	P	**P**	**15 20 08.8**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=273,slow=5.8,SNR=3.6						
	comp=Z,0.4nm,0.7s						
ASF	**Jabal al Asfar**	**96.08**	**304**	P	**P**	**15 20 22.9**	**-0.2**
	comp=Z,8.0nm,0.9s,baz=14,slow=12,SNR=5.6						

IDC 11 15:17:24.7±1.3, 9°.93N×140°.26E, h0km, mb3.4/4, mbtmp3.6/5, ML4.0/1, Error ellipse: s-maj=34.1km s-min=24.3km az=103.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.80**	**51**	Pn	Pn	15 18 52.5	+0.5
	4.1nm,0.3s,baz=184,slow=20,SNR=1.9						
GUMO				Sn	Sn	15 19 59.1	-0.2
	2.8nm,0.3s,baz=32,slow=22,SNR=1.1						
	67nm,0.9s						
WRA	**Warramunga Arr**	**30.25**	**191**	P	P	15 23 37.2	-0.3
	0.4nm,0.8s,baz=12,slow=9.8,SNR=5.1						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**33.96**	**190**	P	P	15 24 10.2	+0.1
	0.4nm,0.5s,baz=19,slow=12,SNR=18						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**40.86**	**287**	P	P	15 25 08.5	-0.3
	0.4nm,0.6s,baz=92,slow=7.0,SNR=4.3						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**64.58**	**322**	P	P	15 28 03.9	+0.1
	0.4nm,0.8s,baz=115,slow=6.2,SNR=2.0						
	0.4nm,0.8s						

*IDC **11** 15:22:05.7±1.5, 36°.47N×28°.90E, h0km, mb3.9/5, mbtmp4.0/11, ML4.1/6, Error ellipse: s-maj=25.6km s-min=20.4km az=47.0*
*ISK **11** 15:22:10.8, 36°.43N×28°.76E, h44km±1km, ML3.6/23*
*NEIC **11** 15:22:10.9±0.9, 36°.34N±0°.03×28°.79E±0°.05, h48km±9km, mb4.4/6, Error ellipse: s-maj=6.3km s-min=3.6km az=56.0*
*ATH **11** 15:22:11.7, 36°.45N×28°.74E, h49km±4km, ML3.6/15, Error ellipse: s-maj=4.5km s-min=0.8km az=157.0*
*THE **11** 15:22:11.7, 36°.40N×28°.76E, h57km±5km, ML3.6/5, Error ellipse: s-maj=5.6km s-min=0.9km az=39.0*
*NIC **11** 15:22:11.4, 36°.14N×28°.88E, h65km±4km, Ml3.8/11*
*GII **11** 15:22:13.5±0.2, 36°.18N×29°.14E, h31km, Mm3.3/9*

ISC 11 15:22:10.1±0.8, 36°.35N±0°.03×28°.81E±0°.02, h43km±9km, n152, σ1s47/211, mb4.0/9, 3C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FETY	**Fethiye**	**0.36**	**37**	Pg	**Pn**	**15 22 19.7**	**+0.4**
DALY	**Dalyan (Mula)**	**0.49**	**345**	Pg	**Pn**	**15 22 21.0**	**+0.2**
DALY				Sg	**Sn**	**15 22 28.5**	**+0.1**
ARG	**Arkhangelos**	**0.57**	**257**	Pg	**Pn**	**15 22 22.9**	**+1.0**
ARG				Sg	**Sn**	**15 22 31.9**	**+1.6**
ARG	**Arkhangelos**	**0.57**	**257**		**Pn**	**15 22 23.2**	**+1.3**
ARG				Sn	**Sn**	**15 22 31.1**	**+0.8**
ARG	**Arkhangelos**	**0.57**	**257**	P	**Pn**	**15 22 23.2**	**+1.3**
ARG	**Arkhangelos**	**0.57**	**257**	⇑P	**Pn**	**15 22 23.1**	**+1.3**
ARG				AML	AML	15 22 32.2	
	9.7nm,0.2s						
ARG				AML	AML	15 22 33.0	
	14nm,0.2s						
ARG	**Arkhangelos**	**0.57**	**257**	P	**Pn**	**15 22 23.2**	**+1.3**
ARG				S	**Sn**	**15 22 31.9**	**+1.6**
ARG				AML	AML	15 22 32.5	
	comp=N,9747μm,0.2s						
ARG				AML	AML	15 22 33.2	
	comp=E,13724μm,0.2s						
TURN	**Turunc**	**0.63**	**313**	Pg	**Pn**	**15 22 22.7**	**+0.1**
TURN				Sg	**Sn**	**15 22 31.3**	**-0.3**
AKAS	**Kas**	**0.65**	**100**	Pg	**Pn**	**15 22 24.9**	**+1.8**
KSL	**Kastellorizon**	**0.65**	**107**	P	**Pn**	**15 22 25.2**	**+2.2**
KSL	**Kastellorizon**	**0.65**	**107**	⇑P	**Pn**	**15 22 25.1**	**+2.2**
KSL				S	**Sn**	**15 22 35.0**	**+2.8**
KSL				AML	A

comp=E,5343µm,0.2s
DIDI Didim-Aydin 1.63 310 Pn **Pn** 15 22 36.8 +0.5
BCK Bucak 1.81 51 Pn **Pn** 15 22 40.3 +1.5
GCAM G?zelcaml? 1.85 317 Pn **Pn** 15 22 39.6 +0.3
BASM Basmaki-Afyon 1.86 32 Pn **Pn** 15 22 39.8 +0.3
ISP Isparta 2.01 42 Pn **Pn** 15 22 42.8 +1.2
ISP Isparta 2.01 42 **Pn** 15 22 42.7 +1.2
ISP Isparta 2.01 42 P **Pn** 15 22 42.9 +1.2
ISP S **Sn** 15 23 06.3 +0.7
ISP AML AML 15 23 07.3
comp=N,1464µm,0.4s
ISP AML AML 15 23 07.5
comp=E,1047µm,0.5s
KHL Karahalli 2.05 16 Pn **Pn** 15 22 43.2 +1.0
SMG Samos 2.09 311 P **Pn** 15 22 42.7 +0.1
SMG S **Sn** 15 23 06.3 -1.1
comp=E,2µm,0.2s
SMG Samos 2.09 311 P **Pn** 15 22 42.7 +0.1
SMG S **Sn** 15 23 05.6 -1.8
SMG AML AML 15 23 08.0
comp=E,4039µm,0.2s
SMG AML AML 15 23 10.2
comp=N,4857µm,0.4s
KULA Kula-Manisa 2.17 357 Pn **Pn** 15 22 43.8 0.0
ZKR Zakros 2.44 241 P **Pn** 15 22 50.1 +2.6
ZKR S **Sn** 15 23 17.4 +1.3
ZKR Zakros 2.44 241 P **Pn** 15 22 49.7 +2.2
ZKR S **Sn** 15 23 17.5 +1.3
ZKR AML AML 15 23 18.1
comp=N,0.9nm,0.4s
ZKR AML AML 15 23 23.5
comp=N,0.3nm,0.6s
ZKR Zakros 2.44 241 P **Pn** 15 22 49.7 +2.2
ZKR S **Sn** 15 23 17.4 +1.3
ZKR AML AML 15 23 19.3
comp=E,974µm,0.4s
ZKR AML AML 15 23 20.5
comp=N,399µm,0.4s
SHUT Suhut-Afyon 2.60 32 Pn **Pn** 15 22 50.3 +0.5
SANT Santorini 2.71 272 **Pn** 15 22 51.5 +0.3
SANT Santorini 2.71 272 P **Pn** 15 22 51.9 +0.7
SANT S **Sn** 15 23 22.6 -0.1
comp=N,132nm,0.2s
SANT Santorini 2.71 272 P **Pn** 15 22 51.9 +0.7
SANT S **Sn** 15 23 22.6 -0.1
SANT AML AML 15 23 31.0
comp=E,328µm,0.2s
SANT AML AML 15 23 31.0
comp=N,198µm,0.2s
APE Apeiranthos 2.73 286 P **Pn** 15 22 51.7 +0.1
SNT5 Nea Kammeni, S 2.76 272 P **Pn** 15 22 52.6 +0.8
FRMA Ierapetra Chan 2.84 243 P **Pn** 15 22 53.5 +0.7
FRMA S **Sn** 15 23 24.0 -1.8
FRMA AML AML 15 23 28.5
comp=N,862µm,0.4s
FRMA AML AML 15 23 29.4
comp=E,826µm,0.5s
CHOS Chios island 3.00 314 P **Pn** 15 22 55.3 +0.1
CHOS S **Sn** 15 23 28.2 -1.7
comp=E,320nm,0.3s
CHOS Chios island 3.00 314 P **Pn** 15 22 55.3 +0.1
CHOS S **Sn** 15 23 26.9 -2.9
CHOS AML AML 15 23 30.9
comp=N,465µm,0.3s
CHOS AML AML 15 23 32.3
comp=E,845µm,0.2s
AKMS Akamas 3.16 114 P **Pn** 15 22 58.2 +0.8
AKMS S **Sn** 15 23 34.5 +0.7
AKMS AML AML 15 23 35.7
comp=E,1.1nm,0.2s
AKMS AML AML 15 23 35.7
comp=E,1.0nm,0.2s
ALFC Alefka 3.30 110 P **Pn** 15 22 59.7 +0.4
ALFC S **Sn** 15 23 37.3 0.0
ALFC AML AML 15 23 39.1
comp=E,0.9nm,0.1s
ALFC AML AML 15 23 39.6
comp=E,0.9nm,0.2s
IDI Anoyia 3.36 253 **Pn** 15 23 00.5 +0.4
IDI Anoyia 3.36 253 P **Pn** 15 23 01.2 +1.1
IDI S **Sn** 15 23 38.8 0.0
comp=E,250nm,0.4s
IDI Anoyia 3.36 253 P **Pn** 15 23 00.7 +0.6
IDI Anoyia 3.36 253 Pn **Pn** 15 23 00.8 +0.6
comp=E,6.8nm,0.3s,baz=73,slow=16,SNR=109
IDI Sn **Sn** 15 23 36.8 -1.9
comp=E,43nm,0.3s,baz=9.6,slow=22,SNR=17
comp=E,18nm,0.4s
IDI Anoyia 3.36 253 P **Pn** 15 23 01.2 +1.1
IDI S **Sn** 15 23 37.0 -1.8
IDI AML AML 15 23 40.2
comp=E,455µm,0.3s
IDI AML AML 15 23 42.1
comp=N,461µm,0.3s
BALB Balikesir 3.37 348 **Pn** 15 23 00.4 +0.2
PSRA Psara 3.39 311 P **Pn** 15 23 01.0 +0.5
NATA Nata 3.44 116 P **Pn** 15 23 02.4 +1.2
NATA S **Sn** 15 23 40.0 -0.7
NATA AML AML 15 23 45.0
comp=N,1.7nm,0.3s
NATA AML AML 15 23 45.4
comp=N,1.0nm,0.2s
PRK Paraskevi 3.53 326 P **Pn** 15 23 02.3 -0.1
TROD Troodos 3.58 112 P **Pn** 15 23 04.0 +0.6
TROD S **Sn** 15 23 44.3 -0.2
TROD AML AML 15 23 49.3
comp=N,0.2nm,0.3s
TROD AML AML 15 23 51.4
comp=N,0.4nm,0.2s
ATHAL Athalassa 3.92 107 P **Pn** 15 23 08.5 +0.8
CSS Mathiatis 3.93 109 **Pn** 15 23 08.2 +0.4
CSS Mathiatis 3.93 109 P **Pn** 15 23 08.1 +0.2
CSS AML AML 15 24 01.9
comp=N,0.3nm,0.4s
CSS AML AML 15 24 02.1
comp=N,0.2nm,0.3s
CSS Mathiatis 3.93 109 P **Pn** 15 23 08.3 +0.4
CSS S **Sn** 15 23 54.8 +2.0
CSS AML AML 15 23 59.3
comp=E,212µm,0.6s
CSS AML AML 15 24 01.9
comp=N,250µm,0.4s
ASGA Asgata 3.94 112 P **Pn** 15 23 08.8 +0.8
ASGA AML AML 15 24 02.3
comp=N,0.4nm,0.3s
ASGA AML AML 15 24 04.1
comp=N,0.4nm,0.2s
IMMV Iera Moni Meta 4.02 259 P **Pn** 15 23 10.2 +1.1
IMMV S **Sn** 15 23 53.5 -1.5
comp=N,208nm,0.2s
IMMV Iera Moni Meta 4.02 259 P **Pn** 15 23 10.2 +1.1
IMMV AML AML 15 23 59.8
comp=N,405µm,0.3s
IMMV AML AML 15 24 00.6
comp=E,422µm,0.3s
GVD Gavdhos 4.13 250 P **Pn** 15 23 12.6 +1.9
GVD S **Sn** 15 23 57.1 -0.7
GVD AML AML 15 23 59.4
comp=E,757µm,0.3s
GVD AML AML 15 24 01.5
comp=N,1255µm,0.3s
MVOU Mavrovouni 4.14 107 P **Pn** 15 23 10.8 0.0
DION Dionisos Attik 4.26 295 P **Pn** 15 23 14.6 +2.1
DION S **Sn** 15 23 57.9 -3.1
VLY Voula,Athens 4.29 292 P **Pn** 15 23 13.6 +0.9
OSC2 CSNet OBS 4 4.33 138 P **Pn** 15 23 12.9 -0.5
OSC2 S **Sn** 15 24 00.7 -1.9
ANTO Ankara 4.71 41 Pn **Pn** 15 23 19.8 +1.0
VLI Veliai 4.75 276 P **Pn** 15 23 20.8 +1.7
ALN Alexandroupoli 5.04 335 Pn **Pn** 15 23 22.8 -0.2
BR131 Keskin Array S 5.09 47 **Pn** 15 23 24.7 +0.7
BRTR Keskin Array B 5.09 47 Pn **Pn** 15 23 24.9 +0.9
BRTR Keskin Array B 5.09 47 Pn **Pn** 15 23 25.0 +1.1
comp=N,2.2nm,0.3s,baz=221,slow=15,SNR=44
BRTR Sn **Sn** 15 24 21.0 -0.5
comp=N,0.7nm,0.3s,baz=215,slow=27,SNR=5.6
comp=N,5.3nm,0.5s
RDO Rodhopi 5.43 333 **Pn** 15 23 28.8 +0.3
RDO Rodhopi 5.43 333 P **Pn** 15 23 28.5 0.0
RDO Rodhopi 5.43 333 P **Pn** 15 23 28.5 0.0
KLV Kalavryta, Ach 5.58 290 P **Pn** 15 23 32.2 +1.5
AGG Agios Georgios 5.79 299 Pn **Pn** 15 23 35.6 +2.1
ANX Ano Chora 5.92 294 P **Pn** 15 23 37.9 +2.5
BNN Bunyan 6.12 64 Pn **Pn** 15 23 39.3 +1.2

HNTI Hanita 6.17 120 Pn **Pn** 15 23 38.4 -0.2
HNTI Sn **Sn** 15 24 44.8 -3.1
HNTI Hanita 6.17 120 P **Pn** 15 23 39.1 +0.5
OFRI `Ofer 6.31 124 Pn **Pn** 15 23 40.1 -0.5
OFRI Sn **Sn** 15 24 48.9 -2.4
MMA0B Mount Meron ar 6.36 120 Pn **Pn** 15 23 41.4 0.0
MMA0B Sn **Sn** 15 24 49.9 -2.9
MMAI Mount Meron Ar 6.36 120 Pn **Pn** 15 23 41.7 +0.3
comp=N,25nm,0.3s,baz=308,slow=12,SNR=58
MMAI Sn **Sn** 15 24 50.1 -2.7
comp=N,39nm,0.3s,baz=308,slow=27,SNR=14
comp=N,19nm,0.4s
BLGI Bet Lehem HaGe 6.38 123 Sn **Sn** 15 24 50.4 -2.6
GEM Giv'at Ha'Em 6.45 117 Pn **Pn** 15 23 42.5 +0.1
GEM Sn **Sn** 15 24 50.8 -3.9
GEM Giv'at Ha'Em 6.45 117 P **Pn** 15 23 43.2 +0.8
NATI Neve Ativ 6.47 116 Pn **Pn** 15 23 42.9 +0.1
NATI Sn **Sn** 15 24 51.7 -3.6
SLTI Sal'it 6.58 127 Pn **Pn** 15 23 44.7 +0.4
SLTI Sn **Sn** 15 24 55.7 -2.4
KSHT Keshet 6.67 118 Pn **Pn** 15 23 45.8 +0.2
KSHT Sn **Sn** 15 24 57.1 -3.2
MMLI Mount Malkishu 6.71 124 Pn **Pn** 15 23 45.8 -0.3
MMLI Sn **Sn** 15 24 58.5 -2.8
VLS Valsamata 6.81 288 P **Pn** 15 23 50.9 +3.5
QRNJ Al-Qirein 6.88 124 P **Pn** 15 23 48.8 +0.5
HMDT Nahal Hemdat 6.89 124 Pn **Pn** 15 23 49.0 +0.4
HMDT Sn **Sn** 15 25 03.3 -2.4
AMAZ Amatzia 6.98 132 Pn **Pn** 15 23 49.9 +0.1
AMAZ Sn **Sn** 15 25 05.3 -2.6
UJAP Al Uja 7.04 127 P **Pn** 15 23 51.4 +0.8
KZIT Kziot 7.15 138 Pn **Pn** 15 23 52.6 +0.5
KZIT Sn **Sn** 15 25 08.5 -3.5
YTIR Yattir 7.22 132 Pn **Pn** 15 23 53.5 +0.3
YTIR Sn **Sn** 15 25 10.5 -3.5
YTIR Yattir 7.22 132 P **Pn** 15 23 53.8 +0.6
DSI Dead Sea 7.24 129 Pn **Pn** 15 23 53.3 -0.1
DSI Sn **Sn** 15 25 11.4 -2.9
DSI Dead Sea 7.24 129 P **Pn** 15 23 53.8 +0.4
FNA Florina 7.32 310 Pn **Pn** 15 23 54.5 +0.1
MSBI Mazada 7.40 131 Pn **Pn** 15 23 55.9 +0.3
MSBI Sn **Sn** 15 25 15.7 -2.5
GHAJ Ghor Haditha 7.54 130 **Pn** 15 23 58.1 +0.7
GHAJ Ghor Haditha 7.54 130 Pn **Pn** 15 23 58.0 +0.6
KARJ KARJ 7.72 131 P **Pn** 15 23 51.5 -8.4
ASF Jabal al Asfar 7.88 120 Pn **Pn** 15 24 03.3 +1.1
comp=N,2.5nm,0.3s,baz=319,slow=6.2,SNR=14
ASF Sn **Sn** 15 25 31.2 +1.1
comp=N,1.0nm,0.3s,baz=15,slow=17,SNR=2.0
comp=N,5.2nm,0.3s
PRNI Paran 7.91 137 Pn **Pn** 15 24 02.3 -0.2
PRNI Sn **Sn** 15 25 28.0 -2.7
PRNI Paran 7.91 137 P **Pn** 15 24 02.6 +0.1
KRMI Paran Flat 7.94 140 Pn **Pn** 15 24 02.6 -0.4
KRMI Sn **Sn** 15 25 29.1 -2.5
HRFI Mount Harif 8.17 139 Pn **Pn** 15 24 05.9 -0.2
HRFI Sn **Sn** 15 25 34.6 -2.6
HRFI Mount Harif 8.17 139 P **Pn** 15 24 06.1 0.0
MBRI Mt Berech 8.30 140 Pn **Pn** 15 24 07.7 -0.2
MBRI Sn **Sn** 15 25 38.2 -2.2
MBRI Mt Berech 8.30 140 P **Pn** 15 24 07.8 -0.2
EIL Elat 8.42 141 Pn **Pn** 15 24 09.1 -0.4
EIL Elat 8.42 141 Pn **Pn** 15 24 09.8 +0.4
comp=N,5.9nm,0.3s,baz=298,slow=3.5,SNR=50
EIL Sn **Sn** 15 25 39.7 -3.5
comp=N,4.1nm,0.3s,baz=56,slow=2.2,SNR=5.7
comp=N,12nm,0.3s
MLR Muntele Rosu 9.39 348 Pn **Pn** 15 24 24.2 +1.3
MLR Muntele Rosu 9.39 348 Pn **Pn** 15 24 23.3 +0.5
comp=N,0.4nm,0.3s,baz=185,slow=6.4,SNR=3.5
comp=N,3.1nm,0.7s
TIP Timpagrande 9.96 290 Pn **Pn** 15 24 30.7 +0.1
RAFF Raffo Rosso 11.62 279 Pn **Pn** 15 24 52.8 -0.6
GEYT Alibeck 23.38 77 P **P** 15 27 14.6 -0.3
GEYT Alibeck 23.38 77 P **P** 15 27 15.6 +0.7
comp=N,1.0nm,0.3s,baz=265,slow=12,SNR=2.9
comp=N,1.0nm,0.3s
GYA0B ALIBECK ARRAY 23.38 77 P **P** 15 27 15.2 +0.3
FINES FINESS Array B 25.18 357 P **P** 15 27 31.8 +0.6
FINES FINESS Array B 25.18 357 P **P** 15 27 31.3 +0.1
comp=N,3.3nm,1.0s,baz=180,slow=9.7,SNR=4.3
comp=N,3.3nm,1.0s
TARG Taragay, Kyrgy 38.02 67 **PcP** 15 31 39.6 +0.2
KURBB Kurchatov Arra 38.06 52 P **P** 15 29 24.0 -0.2
comp=N,1.0nm,0.7s,baz=275,slow=8.9,SNR=9.1
comp=N,1.0nm,0.7s
KURK Kurchatov 38.12 52 P **P** 15 29 24.4 -0.3
KURK IAmb IAmb 15 29 45.5
comp=Z,2.6nm,1.2s
MAKZ Makanchi 40.42 58 P **P** 15 29 44.3 +0.2
MAKZ IAmb IAmb 15 29 53.8
comp=Z,15nm,1.4s
MK31 Makanchi Array 40.63 58 P **P** 15 29 45.7 -0.2
MK31 IAmb IAmb 15 30 11.7
comp=Z,9.8nm,1.4s
MKAR Makanchi Array 40.63 58 P **P** 15 29 45.7 -0.2
MKAR Makanchi Array 40.63 58 P **P** 15 29 45.8 0.0
comp=Z,3.1nm,0.7s,baz=279,slow=6.6,SNR=16
comp=Z,3.1nm,0.7s
ZALV Zalesovo Beam 42.03 47 P **P** 15 29 56.1 -1.1
comp=Z,0.4nm,0.3s,baz=273,slow=8.6,SNR=3.8
comp=Z,0.4nm,0.3s
C18K Utukok River 75.05 4 P **P** 15 33 46.7 -0.2
C18K IAmb IAmb 15 34 08.5
comp=Z,7.8nm,1.4s
C16K Lisburne Hills 75.16 5 P **P** 15 33 48.1 +0.8

*MOS **11** 15:37:09.8,43.°60N×44.°09E,h54km,MPVA3.8*
*TIF **11** 15:37:10.8,43.°57N×44.°23E,h43km±1km*
*DRS **11** 15:37:33.1,43.°20N×45.°16E,h21km*
NORS 11 15:37:10.9,43.°61N×44.°09E,h52km±1km,MPVA3.8,
Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRTR	**Priterechnaya**	**0.20**	**45**	*i* Pg	Pn	15 37 19.4	-0.1
PRTR				*e*Sg	Sn	15 37 26.0	+0.4
STDR	**Stavd-Durt**	**0.24**	**184**	*e*Pg	Pn	15 37 20.3	+0.5
STDR				*e*Sg	Sn	15 37 27.2	+1.0
NCK	**Nalchik**	**0.38**	**252**	*i* Pg	Pn	15 37 21.5	+0.5
NCK				*e*Sg	Sn	15 37 29.3	+1.0
TRKR	**Terskaya**	**0.48**	**76**	*e*Pg	Pn	15 37 22.8	+0.7
TRKR				*e*Sg	Sn	15 37 31.6	+1.5
KORR	**Kora**	**0.52**	**182**	*i* Pg	Pn	15 37 23.4	+0.7
KORR				*e*Sg	Sn	15 37 32.7	+1.6
KBTC	**Kuba-Taba**	**0.54**	**293**	*i* Pg	Pn	15 37 23.3	+0.5
KBTC				*e*Sg	Sn	15 37 32.5	+1.1
LACR	**Lac**	**0.80**	**169**	*i* Pg	Pn	15 37 26.7	+0.5
LACR				*e*Sg	Sn	15 37 37.8	+0.5
DIGR	**Digorskoe uzhe**	**0.80**	**208**	*e*Pg	Pn	15 37 26.6	+0.4
DIGR				*e*Sg	Sn	15 37 37.5	+0.1
ZEI	**Tsey**	**0.83**	**190**	*e*Pg	Pn	15 37 26.7	0.0
ZEI				*e*Sg	Sn	15 37 38.5	+0.4
PYA1	**Pyatigorsk**	**0.85**	**303**	*e*Pg	Pn	15 37 27.2	+0.5
PYA1				*e*Sg	Sn	15 37 38.5	+0.2
KBZ	**Khabaz**	**0.87**	**278**	*e*Pg	Pn	15 37 27.7	+0.8
KBZ				*e*Sg	Sn	15 37 38.5	-0.3
BEYR	**Belyy Ugol+**	**1.00**	**294**	*e*Pg	Pn	15 37 29.9	+1.1
BEYR				*e*Sg	Sn	15 37 41.6	-0.4
SHA1	**Shidzhatmaz**	**1.05**	**278**	*e*Pg	Pn	15 37 30.1	+0.6
SHA1				*e*Sg	Sn	15 37 43.6	+0.3
NEUR	**Neytrino**	**1.07**	**252**	*e*Pg	Pn	15 37 31.0	+1.3
NEUR				*e*Sg	Sn	15 37 44.7	+1.0
KIV	**Kislovodsk**	**1.07**	**289**	*e*Pg	Pn	15 37 30.4	+0.7
KIV				*e*Sg	Sn	15 37 44.1	+0.4
ONI	**Oni**	**1.12**	**205**	*e*Pg	Pn	15 37 30.0	-0.4
ONI				*e*Sg	Sn	15 37 45.0	+0.3
GUDG	**Gudauri**	**1.18**	**166**	*e*Pg	Pn	15 37 31.3	0.0
GUDG				*e*Sg	Sn	15 37 47.5	+1.0
ALER	**Alexandrovskoy**	**1.43**	**324**	*e*Pg	Pn	15 37 33.3	-1.2
ALER				*e*Sg	Sn	15 37 53.8	+1.6
DVE	**Vedeno**	**1.62**	**113**	*e*Pg	Pn	15 37 37.9	+0.7
DVE				*e*Sg	Sn	15 37 57.4	+0.4
GOF	**Gofitskoye**	**1.63**	**333**	*e*Pg	Pn	15 37 38.6	+1.4
BTLR	**Botlikh**	**1.83**	**120**	*e*Pg	Pn	15 37 42.3	+2.4
BTLR				*e*Sg	Sn	15 38 01.3	-0.6
DBC	**Dubki**	**2.09**	**105**	*e*Pg	Pn	15 37 44.2	+0.7
DBC				*e*Sg	Sn	15 38 08.3	0.0
UNCR	**Uncukul**	**2.17**	**113**	*e*Pg	Pn	15 37 45.3	+0.6
UNCR				*e*Sg	Sn	15 38 11.4	+1.0
XNZR	**Khunzakh**	**2.19**	**118**	*e*Pg	Pn	15 37 46.5	+1.4
XNZR				*e*Sg	Sn	15 38 12.2	+1.1
KRNR	**Karanay**	**2.20**	**110**	*e*Pg	Pn	15 37 46.0	+0.9
KRNR				*e*Sg	Sn	15 38 11.2	0.0
ARKR	**Arakani**	**2.35**	**114**	*e*Pn	Pn	15 37 48.6	+1.4
ARKR				*e*Sn	Sn	15 38 16.0	+1.1
GNBR	**Gunib**	**2.44**	**119**	*e*Pn	Pn	15 37 51.6	+3.4
GNBR				*e*Sn	Sn	15 38 18.8	+1.9
KMKR	**Kumukh**	**2.66**	**123**	*e*Pn	Pn	15 37 55.1	+3.6
KMKR				*e*Sn	Sn	15 38 25.2	+2.6

*NEIC **11** 16:19:05.4±2.6,58.°48N±0.°03×137.°2W±0.°1,h5km±2km,*
ML2.6/34,ML2.8(OTT),Error ellipse: s-maj=11.1km
s-min=3.3km az=245.0
*PGC **11** 16:19:07.1±5.8,58.°56N×137.°23W,h1km,ML2.8/13,*
130km Wsw of Haines, Ak Southeastern Alaska
ISC 11 16:19:03.6±1.4,58.°54N±0.°04×137.°12W±0.°04,h3km±12km,
n35,σ1s24/51,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
S31K	**Pelican**	**0.75**	**141**	Pg	**Pg**	**16 19 17.7**	**-0.2**
P29M	**Windy Craggy**	**1.14**	**344**		**Pn**	**16 19 26.4**	**-0.1**
P29M	**Windy Craggy**	**1.14**	**344**	P	**Pn**	**16 19 26.6**	**+0.2**
P29M				S	**Sn**	**16 19 42.0**	**-0.6**
BESE	**Bessie Mountai**	**1.19**	**87**	S	**Sn**	**16 19 43.6**	**-0.2**
SKAG	**Skagway**	**1.31**	**44**		**Pn**	**16 19 31.1**	**+2.3**
R32K	**Eaglecrest**	**1.40**	**100**	Pn	**Pb**	**16 19 31.2**	**+0.9**
JIS	**Juneau Island**	**1.47**	**99**		**Pg**	**16 19 32.3**	**+0.6**
JIS				IAML		16 19 57.0	
	comp=E,66nm,0.7s						
JIS				IAML		16 20 00.2	
	comp=N,68nm,0.9s						
S32K	**Killisnoo**	**1.73**	**127**	Pn	**Pb**	**16 19 35.9**	**0.0**
S32K				IAML		16 20 31.9	
	comp=E,41nm,5.0s						
SIT	**Sitka**	**1.77**	**146**	Pn	**Pn**	**16 19 35.7**	**+0.6**
SIT				IAML		16 19 45.4	
	comp=N,44nm,3.8s						
SIT				IAML		16 20 01.2	
	comp=E,50nm,3.5s						
O29M	**Mount Kennedy**	**1.92**	**338**		**Pb**	**16 19 39.4**	**+0.1**
O29M				IAML		16 19 49.3	
	comp=N,46nm,3.1s						
O29M				IAML		16 20 15.6	
	comp=E,76nm,0.8s						
O29M	**Mount Kennedy**	**1.92**	**338**	Pn	**Pg**	**16 19 39.9**	**-0.4**
O29M				Sg	**Sg**	**16 20 06.2**	**+1.1**
P32M	**Atlin**	**2.05**	**58**		**Pg**	**16 19 42.6**	**-0.3**
P32M				IAML		16 20 14.6	
	comp=N,34nm,0.8s						
P32M	**Atlin**	**2.05**	**58**	Pn	**Pg**	**16 19 42.1**	**-0.8**
P32M				Sg	**Sg**	**16 20 11.0**	**+1.6**
YUK7	**Dusty Glacier**	**2.06**	**346**	Pn	**Pg**	**16 19 42.6**	**-0.5**
YUK7				Sg	**Sg**	**16 20 10.3**	**+0.5**
YUK7	**Dusty Glacier**	**2.06**	**346**	Pn	**Pg**	**16 19 42.6**	**-0.5**
YUK7				Sg	**Sg**	**16 20 10.3**	**+0.5**
O30N	**Mendenhall**	**2.30**	**13**		**Pg**	**16 19 46.3**	**-1.3**
O30N				IAML		16 20 26.6	
	comp=N,32nm,1.6s						
HYT	**Haines Junctio**	**2.30**	**355**		**Pb**	**16 19 46.3**	**+0.6**
HYT				IAML		16 20 25.4	
	comp=E,34nm,3.1s						
HYT				IAML		16 20 44.3	
	comp=N,31nm,4.4s						
HYT	**Haines Junctio**	**2.30**	**355**	Pg	**Pg**	**16 19 47.9**	**+0.3**
HYT				Sg	**Sg**	**16 20 18.4**	**+1.0**
WHY	**Whitehorse**	**2.41**	**27**		**Pb**	**16 19 47.2**	**-0.5**
WHY				IAML		16 20 23.8	
	comp=E,34nm,2.0s						
WHY				IAML		16 20 26.9	
	comp=N,28nm,0.6s						
WHY	**Whitehorse**	**2.41**	**27**	Pg	**Pg**	**16 19 50.4**	**+0.6**
WHY				Sg	**Sg**	**16 20 22.6**	**+1.5**
YUK6	**Outpost Mounta**	**2.49**	**346**	Pg	**Pb**	**16 19 49.7**	**+0.6**
YUK6				Sg	**Sg**	**16 20 21.9**	**-1.6**
Q32M	**Nakina River**	**2.56**	**78**	Pg	**Pg**	**16 19 53.8**	**+1.1**
Q32M				Sg	**Sg**	**16 20 26.4**	**+0.5**
P33M	**Teslin, Yukon**	**2.77**	**51**	Pn	**Pb**	**16 19 52.6**	**-1.2**
P33M				IAML		16 20 29.7	
	comp=E,20nm,4.9s						
P33M				IAML		16 20 43.5	
	comp=N,30nm,4.3s						
P33M	**Teslin, Yukon**	**2.77**	**51**	Pg	**Pg**	**16 19 57.0**	**+0.4**
P33M				Sg	**Sg**	**16 20 32.6**	**+0.2**
N30M	**Aishikik Lake**	**2.93**	**0**	Pn	**Pb**	**16 19 54.3**	**-2.1**
N30M				IAML		16 20 50.5	
	comp=N,25nm,4.4s						
N30M				IAML		16 21 20.3	
	comp=E,21nm,4.7s						
N30M	**Aishikik Lake**	**2.93**	**0**	Pn	**Pb**	**16 19 54.4**	**-2.0**
N30M				Pg	**Pg**	**16 19 58.9**	**-0.8**
N30M				Sg	**Sg**	**16 20 38.0**	**+0.4**
N31M	**Braeburn, Yuko**	**3.03**	**12**	Pg	**Pg**	**16 20 01.1**	**-0.5**
N31M				Sg	**Sg**	**16 20 41.2**	**+0.3**
S34M	**Telegraph Cree**	**3.23**	**99**	Sg	**Sg**	**16 20 45.2**	**-2.1**
R33M	**Jennings River**	**3.30**	**72**	Pn	**Pb**	**16 19 59.4**	**-3.4**
R33M				IAML		16 20 54.5	
	comp=E,21nm,3.3s						
R33M	**Jennings River**	**3.30**	**72**	Pn	**Pb**	**16 19 59.6**	**-3.3**
R33M				Pg	**Pg**	**16 20 07.1**	**+0.3**
R33M				Sg	**Sg**	**16 20 49.1**	**-0.4**
N32M	**Quiet Lake**	**3.32**	**36**	Pg	**Pg**	**16 20 09.3**	**+2.2**
N32M				Sg	**Sg**	**16 20 51.0**	**+0.9**
BARN	**Barnard Glacie**	**3.41**	**320**	Pn	**Pn**	**16 19 59.8**	**+1.9**
DLBC	**Dease Lake**	**3.73**	**89**	Sg	**Sg**	**16 21 02.2**	**-1.0**
M30M	**Minto, Yukon**	**4.05**	**2**	Sg	**Sg**	**16 21 13.1**	**-0.5**
M27K	**Edge Creek, AK**	**4.50**	**330**	Pn	**Pn**	**16 20 13.1**	**+0.5**

IDC 11 16:25:07.9±3.1,8.°87N×126.°52E,h0km,mb3.6/4,
mbtmp3.6/4,Error ellipse: s-maj=270.5km
s-min=23.2km az=67.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**29.64**	**165**	P	P	16 31 15.9	+0.5
	0.3nm,0.9s,baz=345,slow=9.2,SNR=1.7						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**33.13**	**168**	P	P	16 31 45.6	-0.4
	0.1nm,0.3s,baz=354,slow=7.4,SNR=8.9						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**53.29**	**323**	P	P	16 34 28.8	0.0
	0.9nm,0.7s,baz=116,slow=8.2,SNR=5.5						
	0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**57.36**	**326**	P	P	16 34 57.8	-0.2
	0.7nm,0.2s,baz=129,slow=6.3,SNR=4.7						
	0.7nm,0.2s						

*OSPL **11** 16:25:17.8±2.6,19.°18N×69.°97W,h5km±25km,ML2.2*
*SDD **11** 16:25:18.7±2.6,19.°26N×69.°98W,h20km±15km,MD3.2,*
ML2.5,MW3.3
ISC 11 16:25:17.2±1.0,19.°26N±0.°03×69.°96W±0.°03,h24km±7km,
n17,σ1s12/32,12C-8D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LONA1	**Toro Cenizo, N**	**0.15**	**36**	*i* P	**Pb**	**16 25 21.7**	**-0.5**
LONA1				*e*S	**Sb**	**16 25 25.7**	**+0.2**
LONA1				IAML		16 25 27.6	
	comp=Z,1µm,2.4s						
SFDR	**San Fco. de Ma**	**0.27**	**275**	*e*Pg	**Pb**	**16 25 23.0**	**-0.7**
SFDR				⇑*e*Sg	**Sb**	**16 25 28.2**	**0.0**
SFDR				IAML		16 25 28.3	
	comp=N,1µm,0.3s						
DR08	**Loma La Naviza**	**0.30**	**192**	⇓*e*Pg	**Pb**	**16 25 24.4**	**+0.2**
DR08				⇓*e*Sg	**Sb**	**16 25 30.1**	**+1.0**
DR08				IAML		16 25 30.9	
	comp=N,4µm,0.2s						
CADR	**Cabrera**	**0.41**	**2**	⇑*e*Pg	**Pn**	**16 25 28.4**	**+0.9**
CADR				*e*Sg	**Sb**	**16 25 31.9**	**+0.3**
CADR				IAML		16 25 34.7	
	comp=N,372nm,0.8s						
HATOM	**Hato Mayor del**	**0.72**	**131**	⇑*e*Sg	**Sn**	**16 25 41.6**	**-0.5**
HATOM				IAML		16 25 42.3	
	comp=E,34nm,0.6s						
HATOM				IAML		16 25 47.5	
	comp=N,36nm,0.5s						
SMDR	**Samana, DR**	**0.73**	**88**	⇑*e*Pg	**Pb**	**16 25 30.6**	**-0.6**
SMDR				⇓*e*Sg	**Sn**	**16 25 43.5**	**+1.2**
SMDR				IAML		16 25 45.5	
	comp=N,152nm,0.4s						

SMDR					IAML			16 25 45.5	
	comp=E,94nm,0.5s								
SC01	**Santiago de lo**	**0.75**	**283**	*i* P		**Pb**		**16 25 30.4**	**-1.1**
SC01				*e*S		**Sn**		**16 25 41.7**	**-1.1**
SC01					IAML			16 25 44.7	
	comp=Z,85nm,0.3s								
SODR	**Sosua Marina B**	**0.76**	**310**	⇓*e*Sg		**Sb**		**16 25 42.1**	**+0.3**
SODR					IAML			16 25 50.3	
	comp=N,178nm,2.4s								
ABDR	**Alto Bandera**	**0.78**	**235**	⇓*e*Pg		**Pb**		**16 25 31.1**	**-1.1**
ABDR				⇑*e*Sg		**Sb**		**16 25 41.9**	**-0.6**
ABDR					IAML			16 25 43.2	
	comp=N,287nm,0.3s								
ABDR					IAML			16 25 44.5	
	comp=E,189nm,0.5s								
SDD	**Santo Domingo**	**0.80**	**177**	⇑*e*Pg		**Pb**		**16 25 31.9**	**-0.5**
SDD				⇑*e*Sg		**Sn**		**16 25 43.5**	**-0.5**
SDD					IAML			16 25 44.4	
	comp=N,94nm,0.3s								
SDD	**Santo Domingo**	**0.80**	**177**	*i* P		**Pb**		**16 25 31.3**	**-1.2**
SDD				*e*S		**Sb**		**16 25 39.8**	**-3.0**
BANI	**BANI**	**0.94**	**204**	*e*Pg		**Pb**		**16 25 35.2**	**+0.2**
BANI				⇓*e*Sg		**Sn**		**16 25 47.7**	**-0.1**
BANI					IAML			16 25 49.5	
	comp=E,316nm,0.1s								
BANI					IAML			16 25 51.1	
	comp=N,286nm,0.2s								
SDDR	**Presa de Saban**	**1.29**	**258**	⇑*e*Pg		**Pb**		**16 25 40.9**	**+0.1**
SDDR				⇑*e*Sg		**Sb**		**16 25 57.8**	**+0.9**
SDDR					IAML			16 25 58.1	
	comp=E,50nm,0.3s								
SDDR					IAML			16 26 01.7	
	comp=N,59nm,1.7s								
SDDR	**Presa de Saban**	**1.29**	**258**	⇓*i* P		**Pn**		**16 25 39.8**	**+0.1**
SDDR				*e*S		**Sb**		**16 25 56.7**	**-0.2**
SDDR					IAML			16 26 01.6	
	comp=Z,41nm,0.7s								
PODR	**Polo**	**1.66**	**229**	⇓*e*Pg		**Pb**		**16 25 47.2**	**0.0**
PODR				⇑*e*Sg		**Sb**		**16 26 10.8**	**+3.0**
PODR					IAML			16 26 12.3	
	comp=N,37nm,0.8s								
PODR	**Polo**	**1.66**	**229**	*i* P		**Pb**		**16 25 47.0**	**-0.2**
PODR				*e*S		**Sb**		**16 26 09.8**	**+1.9**
MCDR	**Montecristi**	**1.72**	**292**	⇑*e*Pg		**Pb**		**16 25 47.1**	**-1.1**
MCDR				⇑*e*Sg		**Sb**		**16 26 09.7**	**+0.4**
MCDR					IAML			16 26 13.4	
	comp=E,103nm,0.8s								
MCDR					IAML			16 26 21.0	
	comp=N,85nm,2.0s								

JMA ***11*** *16:38:24.4±0.2,43°.3N±0°.7×14°.6E±°, h78km±1km, MV3.0/40,OFF NEMURO PENINSULA*
SKHL ***11*** *16:38:25.1±0.3,43°.30N×146°.40E, h68km±4km, mb3.9/2*
ISC 11 16:38:23.8±1.9**,43°.33N**±0°.08×**146°.46E**±0°.07**, h76**km±13km**, n14**, σ0**°65**/27**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.52**	**274**	*e*P	**Pn**	**16 38 37.8**	**+0.5**
NEM2				*e*S	**Sn**	**16 38 47.5**	**+0.3**
SHO	**Shikotan**	**0.60**	**27**	*e*P	**Pn**	**16 38 38.3**	**+0.2**
SHO				AMB	AMB	16 38 40.1	
	30nm,0.2s						
SHO				*e*S	**Sn**	**16 38 48.2**	**-0.4**
SHO				A	A	16 38 50.2	
	190nm,0.2s						
SHO				A	A	16 38 50.2	
	180nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.82**	**329**	*e*P	**Pn**	**16 38 40.2**	**-0.3**
YUK				AMB	AMB	16 38 41.7	
	130nm,0.3s						
YUK				*e*S	**Sn**	**16 38 51.8**	**-1.1**
YUK				A	A	16 38 54.5	
	190nm,0.2s						
YUK				A	A	16 38 54.5	
	190nm,0.2s						
JKHN	**Kushirohamanak**	**0.98**	**256**	P	**Pn**	**16 38 42.9**	**+0.6**
JKHN				*e*S	**Sn**	**16 38 56.3**	**+0.3**
JRA	**Rausu**	**1.14**	**303**	*e*P	**Pn**	**16 38 44.6**	**+0.3**
JRA				*e*S	**Pn**	**16 39 00.1**	**+0.4**
JNSB	**Nemuroshibetsu**	**1.14**	**293**	P	**Pn**	**16 38 44.6**	**+0.3**
JNSB				S	**Sn**	**16 39 00.1**	**+0.3**
JNK	**Nakash**	**1.29**	**282**	*e*P	**Pn**	**16 38 45.9**	**-0.3**
JNK				*e*S	**Sn**	**16 39 01.6**	**-1.4**
JAK	**Akkeshi**	**1.33**	**256**	*e*P	**Pn**	**16 38 46.7**	**0.0**
JAK				*e*S	**Sn**	**16 39 03.3**	**-0.6**
JTKR	**Abashiri--Toko**	**1.96**	**290**	*e*P	**Pn**	**16 38 55.4**	**+0.5**
JTKR				*e*S	**Sn**	**16 39 19.3**	**+0.7**
JAR	**Ashorobuto**	**1.96**	**270**	*e*P	**Pn**	**16 38 55.6**	**+0.6**
JAR				*e*S	**Sn**	**16 39 18.4**	**-0.4**
JOB	**Onbets**	**1.97**	**258**	*e*P	**Pn**	**16 38 55.4**	**+0.4**
JOB				*e*S	**Sn**	**16 39 18.4**	**-0.5**
KUR	**Kuril'sk**	**2.15**	**28**	*e*P	**Pn**	**16 38 58.2**	**+0.6**
KUR				*e*S	**Sn**	**16 39 22.8**	**-0.6**
KUR				A	A	16 39 24.8	
	60nm,0.3s						
KUR				A	A	16 39 24.8	
	40nm,0.3s						
JMP	**Maruseppu**	**2.34**	**288**	*e*P	**Pn**	**16 39 00.8**	**+0.6**
JCH	**Churui**	**2.38**	**254**	*e*P	**Pn**	**16 39 00.7**	**+0.1**
JCH				*e*S	**Sn**	**16 39 27.4**	**-1.5**

NEIC ***11*** *16:39:13.9±1.4,19°.33N±0°.04×155°.22W±0°.03, h19km±2km, Error ellipse: s-maj=5.3km s-min=4.0km az=163.0*
HVO 11 16:39:15.1±0.7**,19°.35N**±0°.01×**155°.216W**±0°.009**, h8**km±1km**, ML2.7**/38**, ML2.8**/46(NEIC)**, Error ellipse: s-maj=1.9km s-min=1.1km az=150.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.02**	**0**		Pg	16 39 16.9	+0.2
PUH					IAML	16 39 18.4	
	comp=E,9μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.05**	**56**		Pg	16 39 17.3	+0.3
KKO	**Keanakako`i**	**0.07**	**316**		Pg	16 39 17.4	+0.3
KKO					IAML	16 39 19.2	
	comp=E,5μm,0.3s						
KKO					IAML	16 39 19.5	
	comp=N,6μm,0.4s						
RIM	**Rim**	**0.07**	**310**	Pg	Pg	16 39 17.5	+0.3
BYL	**Byron's Ledge**	**0.07**	**326**		Pg	16 39 17.2	0.0
BYL					IAML	16 39 19.5	
	comp=E,4μm,0.4s						
BYL					IAML	16 39 19.5	
	comp=N,6μm,0.4s						
HATHI	**Halema'uma'u T**	**0.08**	**330**		Pg	16 39 17.6	+0.2
HATHI					IAML	16 39 19.6	
	comp=N,4μm,0.3s						
HATHI					IAML	16 39 19.9	
	comp=E,5μm,0.3s						
SDHHI	**Sand Hill**	**0.08**	**298**		Pg	16 39 17.5	+0.1
SDHHI					IAML	16 39 19.7	
	comp=E,6μm,0.6s						
NPH	**North Pit**	**0.09**	**315**		Pg	16 39 17.5	+0.1
SBLHI	**Steaming Bluff**	**0.09**	**328**		Pg	16 39 17.6	+0.1
SBLHI					IAML	16 39 19.7	
	comp=E,4μm,0.5s						
OBL	**Observatory Le**	**0.09**	**317**		Pg	16 39 17.7	+0.2
OBL					IAML	16 39 20.6	
	comp=N,4μm,0.6s						
STCH	**Steam Cracks**	**0.09**	**68**		Pg	16 39 17.6	+0.2
STCH					IAML	16 39 19.9	
	comp=N,3μm,0.1s						
STCH					IAML	16 39 20.2	
	comp=E,4μm,0.2s						
UWB	**Uwekahuna B**	**0.10**	**322**		Pg	16 39 17.6	+0.1
WRMHI	**West Rim**	**0.10**	**306**		Pg	16 39 17.7	+0.2
WRMHI					IAML	16 39 20.1	
	comp=E,3μm,0.7s						
WRMHI					IAML	16 39 20.8	
	comp=N,3μm,0.5s						
HLP	**Hilina Pali**	**0.10**	**238**		Pg	16 39 17.8	+0.3
HLP					IAML	16 39 20.1	
	comp=E,4μm,0.3s						
HLP					IAML	16 39 20.1	
	comp=N,4μm,0.2s						
UWE	**Uwekahuna**	**0.10**	**315**		Pg	16 39 17.8	+0.1
UWE					IAML	16 39 20.2	
	comp=E,3μm,0.4s						
UWE					IAML	16 39 20.5	
	comp=N,2μm,0.9s						
NPOC	**North of Pu'u**	**0.11**	**67**	Pg	Pg	16 39 17.9	+0.2
NPOC					IAML	16 39 20.5	
	comp=N,3μm,0.3s						
JCUZ	**Jacuzzi**	**0.11**	**72**	Pg	Pg	16 39 18.0	+0.3
JCUZ					IAML	16 39 20.5	
	comp=N,2μm,0.6s						
RSD	**Rainshed**	**0.13**	**333**		Pg	16 39 18.1	+0.1
HTC	**Hot Caves**	**0.20**	**237**		Pg	16 39 19.7	+0.4
MLH	**Mauna Loa**	**0.21**	**312**		Pg	16 39 19.7	+0.2
JOKA	**Jonika Flow**	**0.22**	**67**		Pg	16 39 19.4	-0.1
JOKA					Sg	16 39 23.1	+0.6
HMH	**Humu'ula Sheep**	**0.36**	**315**		Sb	16 39 28.8	-1.1
HMH	**Humu'ula Sheep**	**0.36**	**315**		Pg	16 39 22.1	-0.1
HMH	**Humu'ula Sheep**	**0.36**	**315**	IAML		16 39 29.1	
	comp=N,1μm,0.3s						
HMH				IAML		16 39 29.2	
	comp=E,1μm,0.3s						
MWH	**Moku'aweowe**	**0.38**	**291**		Sb	16 39 29.4	-1.5
MWH	**Moku'aweowe**	**0.38**	**291**		Pg	16 39 22.6	-0.3
MWH	**Moku'aweowe**	**0.38**	**291**	IAML		16 39 29.9	
	comp=N,2μm,0.2s						
MWH				IAML		16 39 29.9	
	comp=E,2μm,0.4s						
MLOA	**Mauna Loa Obse**	**0.39**	**299**		Pg	16 39 22.5	-0.4
KHU	**Kahuku**	**0.39**	**255**		Sg	16 39 28.8	+0.8
KHU	**Kahuku**	**0.39**	**255**		Pg	16 39 22.8	-0.1
KHU	**Kahuku**	**0.39**	**255**	IAML		16 39 29.3	
	comp=E,1μm,0.7s						
KHU				IAML		16 39 29.4	
	comp=N,712nm,0.4s						
ALEP	**Alea Permanent**	**0.45**	**295**		Pg	16 39 23.5	-0.4
ALEP					Sg	16 39 30.5	+0.7
POHA	**Pohakuloa**	**0.50**	**324**		Pg	16 39 24.5	-0.4
POHA	**Pohakuloa**	**0.50**	**324**		Sg	16 39 32.3	+0.7
POHA	**Pohakuloa**	**0.50**	**324**	IAML		16 39 32.3	
	comp=N,1μm,0.6s						
POHA				IAML		16 39 32.4	
	comp=N,1μm,0.4s						
HUH	**Hualalai**	**0.67**	**300**		Pg	16 39 27.4	-0.7
CPH	**Captain Cook**	**0.68**	**282**		Pg	16 39 27.4	-0.8
KHLU	**Kahalu`u**	**0.68**	**291**	Pg	Pg	16 39 26.9	-1.4
HPAH	**Hawaii Prepara**	**0.81**	**326**		Pg	16 39 28.5	-2.4
MHA	**Mahukona**	**1.05**	**322**	Pg	Pg	16 39 32.3	-3.1
HLK	**Haleakala**	**1.70**	**325**	Pn	Pn	16 39 41.0	-4.4

SCB 11 16:41:22.4±1.1**,17°.32S**×**64°.43W, h41**km±7km**, ML3.7/1, Error ellipse: s-maj=5.0km s-min=3.5km az=2.0, Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOEA	**Aiquile**	**1.15**	**222**	Pg	Pn	16 41 44.5	+2.2
AOEA	**Aiquile**	**1.15**	**222**	Pg	Pn	16 41 44.7	+2.4
BBOE	**La Paz, Chanca**	**3.43**	**278**	Pn	Pn	16 42 18.8	+4.9
SIV	**San Ignacio**	**3.48**	**68**	Pn	Pn	16 42 18.8	+4.7
SOEO	**Opoqueri**	**3.52**	**249**	Pn	Pn	16 42 19.6	+4.6
LPAZ	**La Paz**	**3.69**	**286**	Pn	Pn	16 42 21.0	+3.5
BBOD	**La Paz, Gloria**	**4.04**	**279**	Pn	Pn	16 42 27.2	+4.9
MOCB	**Mochara**	**4.08**	**196**	Pn	Pn	16 42 27.6	+4.9
MOCB				Sn	Sn	16 43 15.2	+5.8
MOCB				IAML		16 43 37.4	
	99nm,0.6s						
PTLB	**Pontes e Lacer**	**5.41**	**71**	Pn	Pn	16 42 44.8	+4.2
ETMB	**Extrema**	**7.65**	**347**	Pn	Pn	16 43 15.1	+3.7

IDC 11 16:49:06.8±3.3**,11°.17S**×**165°.93E, h0**km**, mb4.0**/3**, mbtmp3.9**/4**, ML3.3**/1**, MS2.9**/2**, Error ellipse: s-maj=67.6km s-min=43.6km az=86.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.85**	**177**	Pn	Pn	16 51 43.5	-0.1
	0.2nm,0.3s,baz=143,slow=20,SNR=8.5						
DZM				Sn	Sn	16 53 34.2	-12
	0.2nm,0.3s,baz=74,slow=24,SNR=1.1						
DZM				LR	LR	16 55 33.8	
	comp=Z,48nm,19.7s,baz=354,slow=36 3.5nm,0.8s						
STKA	**Stephens Creek**	**30.47**	**224**	LR	LR	17 05 56.2	
	comp=Z,37nm,21.4s,baz=30,slow=33						
WRA	**Warramunga Arr**	**31.61**	**250**	P	P	16 55 32.0	+0.4
	1.1nm,0.8s,baz=81,slow=9.3,SNR=9.3 1.1nm,0.8s						
ASAR	**Alice Springs**	**32.89**	**244**	P	P	16 55 42.6	-0.4
	1.4nm,0.8s,baz=69,slow=9.9,SNR=20 1.4nm,0.8s						
MKAR	**Makanchi Array**	**93.73**	**317**	P	P	17 02 25.6	-0.1
	0.5nm,0.6s,baz=85,slow=5.4,SNR=4.7 0.5nm,0.6s						

NDI ***11*** *16:49:43.7±3.7, 11°.45N×94°.06E, h136km, mb4.6, ML4.5, mb4.6(NEIC)*
BJI ***11*** *16:49:47.7, 11°.58N×93°.80E, h152km, mb4.6/43, mB5.0/19*
NEIC ***11*** *16:49:49.0±2.0, 11°.81N±0°.08×93°.84E±0°.09, h137km±7km, mb4.6/54, Error ellipse: s-maj=13.7km s-min=11.3km az=66.0*
IDC ***11*** *16:49:49.6±1.9, 11°.69N×93°.76E, h149km±17km, mb4.0/25, mbtmp4.4/27, MS2.9/1, Error ellipse: s-maj=15.1km s-min=9.3km az=54.0*
DJA ***11*** *16:49:52.3±0.4, 12°.N±2°×9°.4E±°, h165km±5km, M4.8/30, mB5.4/11, mb4.6/30, MLv4.7/6, Mw(mB)4.8/11*
ISC 11 16:49:49.6±0.3**,11°.80N**±0°.04×**93°.65E**±0°.05**, h150**km**, n167, σ1**°99**/171, mb4.5**/65**, 5D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**8.36**	**37**		**Pn**	**16 51 47.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**8.36**	**37**	Pn	**Pn**	**16 51 45.6**	**-2.3**
CMAR	**Chiang Mai Arr**	**8.36**	**37**	P	**Pn**	**16 51 48.1**	**+0.2**
	10nm,0.9s,baz=226,slow=14,SNR=76						
CMAR				S	**Sn**	**16 53 22.7**	**+1.7**
	0.6nm,0.6s,baz=159,slow=18,SNR=1.4						
CMAR				ScP	**ScP**	**17 01 24.2**	**+0.9**
	0.1nm,0.4s,baz=259,slow=2.8,SNR=5.8						
CHTO	**Chiang Mai**	**8.64**	**36**	Pn	**Pn**	**16 51 49.2**	**-2.5**
KULM	**Kulim**	**9.47**	**132**		**Pn**	**16 52 01.5**	**-1.2**
MND	**Mandalay**	**10.43**	**13**	Pn	**Pn**	**16 52 11.6**	**-3.8**
RPSI	**Rantau Prapat**	**10.44**	**150**		**Pn**	**16 52 12.4**	**-3.2**
VIS	**Vishakhapatnam**	**11.59**	**302**	*e*P	**Pn**	**16 52 32.4**	**+1.7**
VIS				IAmb	IAmb	16 52 43.0	
	comp=Z,102nm,0.4s						
VIS				*e*S	Sn	16 54 31.2	-7.6
VIS				IAML		16 54 34.4	
	comp=E,145nm,0.5s						
VIS				IAML		16 54 35.4	
	comp=N,171nm,0.4s						
IMP	**Imphal**	**12.97**	**1**	*e*P	**Pn**	**16 52 47.8**	**-0.7**
IMP				*e*S	**Sn**	**16 55 04.4**	**-7.7**
IMP				IAML		16 55 14.8	
	comp=E,17nm,0.8s						
MDRS	**Chennai**	**13.16**	**277**	*e*P	**P**	**16 52 54.8**	**-0.6**
MDRS				IAmb	IAmb	16 52 57.2	
	comp=Z,20nm,0.6s						
VJD	**Vijayawada**	**13.45**	**292**	*e*P	**Pn**	**16 52 57.5**	**+2.9**
VJD				*e*S	Sn	16 55 16.0	-7.7
PALK	**Pallekele**	**13.54**	**252**	Pn	**P**	**16 52 59.0**	**-0.8**
PALK	**Pallekele**	**13.54**	**252**	P	**Pn**	**16 52 58.4**	**+2.6**
	comp=Z,13nm,0.8s,baz=174,slow=14,SNR=17						
PALK				S	Sn	16 55 18.1	-7.8
	comp=Z,28nm,0.3s,baz=90,slow=20,SNR=14						
SHL	**Shillong**	**13.80**	**353**	P	**Pn**	**16 53 00.9**	**+1.7**
SHL	**Shillong**	**13.80**	**353**	*e*P	**P**	**16 53 01.8**	**-0.9**
SHL				*e*S	Sn	16 55 22.5	-10
TNCH	**TengChong**	**13.95**	**19**	⇓P	**Pn**	**16 53 01.2**	**+0.1**
TNCH				S	**Sn**	**16 55 30.0**	**-5.7**
TNCH				pmax	pmax		
	comp=Z,21nm,1.1s						
TNCH				pmax	pmax		
	comp=Z,200nm,4.7s						
TNCH				LR	LR		
	comp=Z,150nm,5.8s						
TNCH				LR	LR		
	comp=Z,150nm,5.3s						
TNCH				LR	LR		
	comp=Z,130nm,6.2s						
BOK	**Bokaro**	**14.03**	**329**	*e*P	**Pn**	**16 53 04.3**	**+2.3**
BOK				IAmb	IAmb	16 53 10.1	
	comp=Z,30nm,0.7s						
BOK				*e*S	**Sn**	**16 55 31.3**	**-6.3**
MYKOM	**Kota Tinggi**	**14.18**	**134**	P	**P**	**16 53 06.5**	**-0.4**

PDSI	**Padang**	**14.32**	**151**	P		**P**		**16 53 08.5**	**0.0**
	comp=Z,24nm,0.8s								
MOKO	**MOKOCHONG**	**14.47**	**3**	*e*P		**Pn**		**16 53 06.3**	**-1.3**
MOKO					IAML			16 55 50.4	
	comp=N,110nm,0.8s								
MOKO					IAML			16 55 55.9	
	comp=E,116nm,0.8s								
TEZP	**TEZPUR**	**14.77**	**357**	*e*P		**Pn**		**16 53 09.9**	**-1.3**
TEZP				*e*S		Sn		16 55 44.2	-11
SALM	**Salem**	**15.13**	**271**	IAmb		IAmb		16 53 24.9	
	comp=Z,8.8nm,0.4s								
SALM				*e*S		**Sn**		**16 55 55.6**	**-8.6**
ITAN	**ITANAGAR**	**15.27**	**0**	*e*P		**Pn**		**16 53 16.4**	**-1.0**
ITAN				*e*S		**Sn**		**16 55 58.2**	**-9.1**
ITAN					IAML			16 56 02.8	
	comp=E,215nm,0.7s								
TPRI	**Tanjung Pinang**	**15.27**	**134**	P		**Pn**		**16 53 16.4**	**-1.2**
	comp=E,43nm,1.2s								
ZIRO	**ZIRO**	**15.65**	**1**	*e*P		**Pn**		**16 53 20.6**	**-1.7**
ZIRO				*e*S		Sn		16 56 05.2	-11
ZIRO					IAML			16 56 12.7	
	comp=E,301nm,0.7s								
ZIRO					IAML			16 56 16.1	
	comp=N,515nm,0.6s								
KMI	**Kunming**	**15.80**	**32**	⇓P		**P**		**16 53 27.0**	**+2.0**
KRJI	**Kerinci**	**15.83**	**150**	P		**P**		**16 53 24.6**	**-0.7**
	comp=N,116nm,0.7s								
ODAN	**Odare**	**16.10**	**339**	*e*P		**P**		**16 53 29.8**	**+1.5**
GTK	**Tadong**	**16.16**	**344**	*e*P		**P**		**16 53 30.3**	**+1.5**
DSRI	**Dabo**	**16.32**	**138**	P		**P**		**16 53 31.5**	**+0.9**
	comp=N,40nm,1.3s								
TAPN	**Taplejung**	**16.45**	**341**	*e*P		**Pn**		**16 53 34.3**	**+2.1**
	comp=N,140nm,0.9s								
RAMN	**Ramite**	**16.47**	**337**	*e*P		**Pn**		**16 53 36.1**	**+3.7**
PZH	**PanZhiHua**	**16.50**	**26**	P		**Pn**		**16 53 33.8**	**+1.2**
PZH				S		**S**		**16 56 35.6**	**-0.4**
PZH				pmax	pmax				
	comp=N,30nm,1.2s								
PZH				pmax	pmax				
	comp=N,120nm,6.1s								
JMBI	**JAMBI**	**16.63**	**143**	P		**Pn**		**16 53 35.3**	**+1.1**
	comp=N,283nm,0.9s								
JIRN	**Jiri**	**17.27**	**337**	*e*P		**Pn**		**16 53 44.0**	**+1.9**
PKI	**Pulchoki**	**17.50**	**335**	*e*P		**Pn**		**16 53 46.4**	**+1.5**
	comp=N,123nm,0.6s								
PKIN	**Phulchoki**	**17.51**	**335**	*e*P		**Pn**		**16 53 46.4**	**+1.5**
	comp=N,160nm,0.5s								
DMN	**Daman**	**17.66**	**334**	*e*P		**Pn**		**16 53 48.0**	**+1.3**
	comp=N,168nm,0.6s								
KKN	**Kakani**	**17.74**	**335**	*e*P		**Pn**		**16 53 48.7**	**+1.0**
LSA	**Lhasa**	**17.97**	**353**	Pn		**Pn**		**16 53 50.5**	**0.0**
LSA				IAmb		IAmb		16 53 58.5	
	comp=Z,13nm,0.6s								
GKN	**Gorkha**	**18.20**	**334**	*e*P		**Pn**		**16 53 53.9**	**+0.9**
	comp=Z,80nm,0.5s								
LHSI	**Lahat**	**18.36**	**147**	P		**Pn**		**16 53 54.6**	**-0.3**
	comp=Z,27nm,0.4s								
MNGI	**Mangalore**	**18.43**	**276**	*e*S		**S**		**16 57 10.9**	**-5.5**
KOLN	**Koldanda**	**18.48**	**331**	*e*P		**Pn**		**16 53 57.1**	**+0.8**
MNAI	**Manna**	**18.53**	**150**	P		**P**		**16 53 54.4**	**-0.4**
	comp=Z,204nm,1.1s								
PPBI	**Pangkal Pinang**	**18.61**	**137**	P		**Pn**		**16 53 56.3**	**-1.4**
	comp=Z,76nm,1.0s,comp=Z,4μm								
DANN	**Dangsing**	**18.89**	**332**	*e*P		**Pn**		**16 54 01.5**	**+0.2**
	comp=Z,186nm,0.6s								
PYUN	**Piuthan**	**19.05**	**330**	*e*P		**Pn**		**16 54 03.2**	**+0.2**
	comp=Z,72nm,0.6s								
GYA	**Guiyang**	**19.05**	**38**	⇓P		**Pn**		**16 54 01.6**	**-1.4**
GYA				pP		pP		16 54 26.3	-0.1
GYA				pmax	pmax				
	comp=Z,65nm,0.8s								
GYA				pmax	pmax				
	comp=Z,190nm,4.3s								
LWLI	**Liwa**	**19.65**	**148**	P		**P**		**16 54 06.0**	**-1.1**
	comp=Z,64nm,0.6s								
SBUM	**Sibu**	**20.61**	**115**	P		**P**		**16 54 16.6**	**-0.8**
STKI	**Sintang**	**21.19**	**122**	P		**P**		**16 54 22.9**	**-0.6**
	comp=Z,30nm,0.8s,comp=Z,9μm								
ENH	**Enshi**	**23.54**	**36**	P		**P**		**16 54 46.0**	**-0.4**
ENH				IAmb		IAmb		16 54 48.3	
	comp=Z,19nm,0.8s								
GOMU	**GeErMu**	**24.32**	**2**	P		**P**		**16 54 55.9**	**+2.1**
GOMU				pmax	pmax				
	comp=Z,38nm,1.1s								
LZH	**Lanzhou**	**25.88**	**19**	*e*P		**P**		**16 55 02.4**	**-5.3**
LZH				pP		pP		16 55 26.0	-13
LZH				pmax	pmax				
	comp=Z,15nm,1.1s								
XAN	**Xi'an**	**26.16**	**30**	P		**P**		**16 55 09.4**	**-0.7**
XAN				pmax	pmax				
	comp=Z,14nm,0.7s								
WHN	**Wuhan**	**26.75**	**43**	P		**P**		**16 55 19.6**	**+4.2**
GTA	**Gaotai**	**28.04**	**10**	*e*P		**P**		**16 55 28.4**	**+1.4**
GTA				pmax	pmax				
	comp=Z,6.0nm,1.1s								
ABJI	**Asem Bagus**	**28.25**	**133**	P		**P**		**16 55 27.1**	**-1.7**
	comp=Z,74nm,0.9s								
H08S3	**Diego Garcia H**	**28.56**	**228**	T		T		17 24 29.4	
	baz=49								
H08S2	**Diego Garcia H**	**28.56**	**228**	T		T		17 24 33.4	
	baz=49								
H08S1	**Diego Carcia H**	**28.58**	**228**	T		T		17 24 26.3	
	baz=49								
NIL	**Nilore**	**28.65**	**323**	P		**P**		**16 55 32.6**	**+0.2**
NIL				IAmb		IAmb		16 55 34.4	
	comp=Z,9.5nm,0.6s								
SRBI	**Singaraja**	**29.15**	**132**	P		**P**		**16 55 37.4**	**+0.5**
	comp=Z,94nm,1.1s								
TTSI	**Tana Toraja**	**29.90**	**118**	P		**P**		**16 55 43.7**	**+0.1**
	comp=Z,11nm,1.0s								
NJ2	**Nanjing**	**30.73**	**45**	*e*P		**P**		**16 55 50.3**	**-0.3**
NJ2				pmax	pmax				
	comp=Z,6.0nm,0.5s								
NJ2				pmax	pmax				
	comp=Z,190nm,3.8s								
KAPI	**Kappang**	**30.87**	**121**	P		**P**		**16 55 52.2**	**+0.1**
	comp=Z,3.2nm,0.3s,baz=311,slow=6.9,SNR=4.

MK31	**Makanchi Array**	**36.18**	**347**	P	**P**	**16**	**56**	**38.3 +0.6**
MK31				IAmb	IAmb	16	56	39.9
	comp=Z,8.5nm,0.8s							
MKAR	**Makanchi Array**	**36.18**	**347**	P	**P**	**16**	**56**	**38.5 +0.7**
MKAR	**Makanchi Array**	**36.18**	**347**	P	**P**	**16**	**56**	**39.0 +1.2**
	comp=Z,11nm,0.7s,baz=164,slow=8.1,SNR=66							
MKAR				PcP	**PcP**	**16**	**59**	**00.5 +0.6**
	comp=Z,0.4nm,0.5s,baz=213,slow=1.9,SNR=1.8							
	comp=Z,11nm,0.7s							
MAKZ	**Makanchi**	**36.27**	**346**	P	**P**	**16**	**56**	**39.5 +1.1**
MAKZ				IAmb	IAmb	16	56	40.4
	comp=Z,9.1nm,0.7s							
BATI	**Baumata**	**36.98**	**125**	P	**P**	**16**	**56**	**42.6 -2.2**
	comp=Z,5.9nm,0.5s,baz=275,slow=0.7,SNR=3.8							
	comp=Z,5.9nm,0.5s							
KK31	**Karatay Array**	**37.09**	**331**	P	**P**	**16**	**56**	**46.4 +1.0**
KKAR	**Karatay Array**	**37.09**	**331**	P	**P**	**16**	**56**	**46.3 +0.8**
KKAR	**Karatay Array**	**37.09**	**331**	P	**P**	**16**	**56**	**46.5 +1.1**
KKAR				IAmb	IAmb	16	56	47.9
	comp=Z,4.4nm,0.9s							
XLT	**XiLinHaoTe**	**37.38**	**27** *eP*	P	**P**	**16**	**56**	**47.9 -0.1**
XLT				pP	pwP	16	57	22.6 0.0
XLT				pmax	pmax			
	comp=Z,9.0nm,0.9s							
XLT				pmax	pmax			
	comp=Z,290nm,4.6s							
SONM	**Songino Array**	**37.48**	**14**	P	**P**	**16**	**56**	**48.7 -0.1**
SONM	**Songino Array**	**37.48**	**14**	P	**P**	**16**	**56**	**49.2 +0.4**
	comp=Z,2.1nm,1.0s,baz=205,slow=8.7,SNR=7.5							
SONM				ScP	**ScP**	**17**	**02**	**38.2 +0.8**
	comp=Z,1.9nm,0.9s,baz=194,slow=2.1,SNR=6.7							
	comp=Z,2.1nm,1.0s							
GIRL	**Giralia**	**39.73**	**149**	P	**P**	**16**	**57**	**07.5 -0.1**
KSRS	**Korea Array**	**39.92**	**44**	P	**P**	**16**	**57**	**08.8 -0.3**
	comp=Z,2.4nm,0.8s,baz=246,slow=9.4,SNR=4.9							
KSRS				LR	LR	17	13	26.4
	comp=Z,17nm,21.9s,baz=170,slow=36							
	comp=Z,2.4nm,0.8s							
JNU	**Nakatsue**	**40.12**	**52**	P	**P**	**16**	**57**	**11.9 +1.1**
	comp=Z,10nm,0.9s,baz=236,slow=7.3,SNR=1.9							
	comp=Z,10nm,0.9s							
KURBB	**Kurchatov Arra**	**40.65**	**345**	P	**P**	**16**	**57**	**16.1 +1.2**
	comp=Z,7.9nm,0.8s,baz=160,slow=7.6,SNR=44							
	comp=Z,7.9nm,0.8s							
KURK	**Kurchatov**	**40.72**	**345**	P	**P**	**16**	**57**	**16.0 +0.5**
KURK				IAmb	IAmb	16	57	17.7
	comp=Z,8.7nm,0.8s							
GEYT	**Alibeck**	**41.03**	**316**	P	**P**	**16**	**57**	**20.4 +2.1**
GEYT	**Alibeck**	**41.03**	**316**	P	**P**	**16**	**57**	**21.4 +3.1**
	comp=Z,32nm,0.8s,baz=137,slow=9.1,SNR=51							
	comp=Z,32nm,0.8s							
GYA0B	**ALIBECK ARRAY**	**41.03**	**316**	P	**P**	**16**	**57**	**21.0 +2.7**
PSA00	**Pilbara Seismi**	**41.96**	**142**	P	**P**	**16**	**57**	**23.9 -2.2**
ZAA0	**Zalesovo Array**	**42.63**	**352**	P	**P**	**16**	**57**	**31.7 +0.8**
ZAA0				IAmb	IAmb	16	57	33.1
	comp=Z,16nm,0.8s							
ZALV	**Zalesovo Beam**	**42.63**	**352**	P	**P**	**16**	**57**	**32.1 +1.2**
	comp=Z,16nm,0.7s,baz=176,slow=8.6,SNR=74							
	comp=Z,16nm,0.7s							
FITZ	**Fitzroy Crossi**	**43.35**	**133**	P	**P**	**16**	**57**	**35.6 -1.7**
BVAR	**Borovoye Array**	**45.15**	**340**	P	**P**	**16**	**57**	**52.0 +0.8**
	comp=Z,4.3nm,0.5s,baz=137,slow=8.8,SNR=32							
BVAR				PcP	**PcP**	**16**	**59**	**29.8 +0.9**
	comp=Z,1.1nm,0.6s,baz=152,slow=3.6,SNR=3.0							
	comp=Z,4.3nm,0.5s							
BRVK	**Borovoye**	**45.22**	**340**	P	**P**	**16**	**57**	**52.0 +0.4**
BRVK				IAmb	IAmb	16	57	53.3
	comp=Z,6.2nm,0.7s							
ABKAR	**Akbulak array**	**46.60**	**330**	P	**P**	**16**	**58**	**03.6 +1.1**
ABKAR	**Akbulak array**	**46.60**	**330**	P	**P**	**16**	**58**	**03.5 +0.9**
ABKAR				IAmb	IAmb	16	58	04.8
	comp=Z,9.7nm,0.9s							
WB0	**Warramunga Arr**	**50.92**	**128**	P	**P**	**16**	**58**	**34.1 -1.8**
WB0				IAmb	IAmb	16	58	35.6
	comp=Z,7.2nm,1.1s							
WRA	**Warramunga Arr**	**50.98**	**128**	P	**P**	**16**	**58**	**34.9 -1.5**
WRA	**Warramunga Arr**	**50.98**	**128**	P	**P**	**16**	**58**	**34.9 -1.5**
	comp=Z,4.3nm,1.0s,baz=306,slow=8.4,SNR=18							
	comp=Z,4.3nm,1.0s							
WRAB	**Tennant Creek**	**50.98**	**128**	P	**P**	**16**	**58**	**34.5 -1.9**
WRAB				IAmb	IAmb	16	58	36.2
	comp=Z,10nm,1.2s							
WR0	**Warramunga Arr**	**51.14**	**128**	P	**P**	**16**	**58**	**36.3 -1.3**
WR0				IAmb	IAmb	16	58	38.0
	comp=Z,9.7nm,1.1s							
ARU	**Arti**	**52.12**	**336**	P	**P**	**16**	**58**	**44.3 0.0**
ARU				IAmb	IAmb	16	58	45.8
	comp=Z,6.4nm,0.7s							
ASAR	**Alice Springs**	**52.83**	**132**	P	**P**	**16**	**58**	**48.2 -1.9**
ASAR	**Alice Springs**	**52.83**	**132**	P	**P**	**16**	**58**	**48.8 -1.3**
	comp=Z,1.9nm,0.6s,baz=307,slow=6.6,SNR=54							
	comp=Z,1.9nm,0.6s							
AS31	**Alice Springs**	**52.83**	**132**	P	**P**	**16**	**58**	**48.3 -1.8**
KBZ	**Khabaz**	**53.92**	**316**	P	**P**	**16**	**58**	**59.3 +1.6**
	comp=Z,1.8nm,0.8s,baz=249,slow=14,SNR=4.1							
	comp=Z,1.8nm,0.8s							
KIV	**Kislovodsk**	**54.14**	**316**	P	**P**	**16**	**59**	**01.2 +1.8**
BR131	**Keskin Array S**	**59.56**	**309**	P	**P**	**16**	**59**	**37.6 -0.1**
BR131				IAmb	IAmb	16	59	40.6
	comp=Z,3.3nm,0.8s							
BRTR	**Keskin Array B**	**59.56**	**309**	P	**P**	**16**	**59**	**37.7 0.0**
BRTR	**Keskin Array B**	**59.56**	**309**	P	**P**	**16**	**59**	**38.0 +0.3**
	comp=Z,2.8nm,0.7s,baz=125,slow=7.3,SNR=8.7							
	comp=Z,2.8nm,0.7s							
STKA	**Stephens Creek**	**63.17**	**135**	P	**P**	**17**	**00**	**00.9 -1.0**
	comp=Z,1.4nm,0.7s,baz=241,slow=4.7,SNR=3.3							
	comp=Z,1.4nm,0.7s							
TIXI	**Tiksi**	**63.51**	**12**	P	**P**	**17**	**00**	**03.0 -0.4**
KARP	**Karpathos**	**64.15**	**304**	P	**P**	**17**	**00**	**08.7 +0.3**
AKASG	**Malin Array Be**	**64.82**	**321**	P	**P**	**17**	**00**	**12.3 0.0**
	comp=Z,0.2nm,0.4s,baz=87,slow=4.6,SNR=6.3							
	comp=Z,0.2nm,0.4s							
SANT	**Santorini**	**65.58**	**305**	P	**P**	**17**	**00**	**17.1 -0.5**
IDI	**Anoyia**	**65.99**	**303**	P	**P**	**17**	**00**	**20.5 +0.2**
IDI				IAmb	IAmb	17	01	03.7
	comp=Z,13nm,1.3s							
BURAR	**Bucovina Array**	**66.86**	**317**	P	**P**	**17**	**00**	**26.4 +0.8**
BUR08	**Bucovina Ar. S**	**66.87**	**317**	P	**P**	**17**	**00**	**26.6 +0.8**
BUR08				IAmb	IAmb	17	00	47.7
	comp=Z,12nm,1.5s							
NACGM	**Naroch**	**67.17**	**325** *eP*	P	**P**	**17**	**00**	**28.2 +0.9**
	comp=Z,18nm,0.8s,baz=103							
LVZ	**Lovozero**	**67.74**	**339**	P	**P**	**17**	**00**	**31.4 +0.7**
H04N2	**CROZET ISLANDS**	**68.85**	**210**	T	T	18	15	27.6
	baz=44,slow=75,SNR=20							
H04N1	**CROZET ISLANDS**	**68.86**	**210**	T	T	18	15	18.3
	baz=44,slow=75,SNR=4.8							
H04N3	**CROZET ISLANDS**	**68.86**	**210**	T	T	18	14	55.8
	baz=44,slow=75,SNR=26							
FINES	**FINESS Array B**	**69.05**	**332**	P	**P**	**17**	**00**	**39.1 +0.3**
FINES	**FINESS Array B**	**69.05**	**332**	P	**P**	**17**	**00**	**39.5 +0.6**
	comp=Z,3.0nm,0.7s,baz=96,slow=5.3,SNR=11							
	comp=Z,3.0nm,0.7s							
CAN	**Canberra**	**70.22**	**134**	P	**P**	**17**	**00**	**46.4 -0.2**
CAN				IAmb	IAmb	17	01	29.8
	comp=Z,13nm,1.2s							
KEV	**Kevo**	**71.00**	**340**	P	**P**	**17**	**00**	**51.6 +1.0**
ARCES	**ARCESS Array B**	**71.44**	**340**	P	**P**	**17**	**00**	**54.5 +1.1**
ARCES				IAmb	IAmb	17	01	30.0
	comp=Z,24nm,1.4s							
ARCES	**ARCESS Array B**	**71.44**	**340**	P	**P**	**17**	**00**	**54.2 +0.9**
	comp=Z,1.4nm,0.4s,baz=90,slow=6.6,SNR=17							
	comp=Z,1.4nm,0.4s							
GEC2	**GERESS Array S**	**74.61**	**318**	P	**P**	**17**	**01**	**13.1 +0.6**
GERES	**GERESS Array B**	**74.61**	**318**	P	**P**	**17**	**01**	**13.5 +1.0**
	comp=Z,1.9nm,0.6s,baz=40,slow=5.2,SNR=2.3							
	comp=Z,1.9nm,0.6s							
HFS	**Hagfors**	**74.85**	**329**	P	**P**	**17**	**01**	**13.6 +0.1**
	comp=Z,2.4nm,0.7s,baz=116,slow=6.8,SNR=6.4							
	comp=Z,2.4nm,0.7s							
CIMO	**Cimolais**	**75.52**	**315**	P	**P**	**17**	**01**	**18.1 +0.4**
CIMO				IAmb	IAmb	17	01	25.7
	comp=Z,16nm,1.5s							
LBTB	**Lobatse**	**75.73**	**240**	P	**P**	**17**	**01**	**20.2 +0.9**
NC405	**NORSAR Array S**	**75.86**	**330**	P	**P**	**17**	**01**	**19.4 +0.1**
NC405				IAmb	IAmb	17	01	21.3
	comp=Z,9.5nm,1.2s							
SPB2	**Spitsbergen Ar**	**75.92**	**348**	P	**P**	**17**	**01**	**20.2 +0.8**
SPITS	**Spitsbergen Ar**	**75.92**	**348**	P	**P**	**17**	**01**	**20.1 +0.7**
	comp=Z,2.5nm,0.5s,baz=107,slow=11,SNR=9.0							
	comp=Z,2.5nm,0.5s							
NC303	**NORSAR Array S**	**76.03**	**330**	P	**P**	**17**	**01**	**20.7 +0.5**
NC303				IAmb	IAmb	17	01	23.9
	comp=Z,20nm,1.4s							
NB2	**NORSAR Subarra**	**76.11**	**330**	P	**P**	**17**	**01**	**20.9 +0.2**
	comp=Z,0.8nm,0.7s,baz=94,slow=5.3							
NOA	**NORSAR Array B**	**76.11**	**330**	P	**P**	**17**	**01**	**20.5 -0.2**
	comp=Z,1.6nm,0.8s,baz=91,slow=5.7,SNR=4.9							
	comp=Z,1.6nm,0.8s							
BOSA	**Boshof**	**77.28**	**237**	P	**P**	**17**	**01**	**28.2 +0.3**
BOSA				IAmb	IAmb	17	01	47.1
	comp=Z,15nm,1.4s							
BOSA	**Boshof**	**77.28**	**237**	P	**P**	**17**	**01**	**28.3 +0.3**
	comp=Z,2.7nm,0.7s,baz=131,slow=7.7,SNR=4.3							
	comp=Z,2.7nm,0.7s							
BGES	**Gesves**	**80.11**	**319** *dPcP*		**PcP**	**17**	**01**	**49.1 -0.7**
SUR	**Sutherland**	**82.17**	**235**	P	**P**	**17**	**01**	**56.0 +1.6**
SUR				IAmb	IAmb	17	02	39.6
	comp=Z,21nm,1.2s							
MAW	**Mawson**	**82.26**	**191**	P	**P**	**17**	**01**	**53.8 +0.1**
	comp=Z,3.3nm,0.8s,baz=262,slow=23,SNR=4.3							
	comp=Z,3.3nm,0.8s							
EKA	**Eskdalemuir Ar**	**84.24**	**325**	P	**P**	**17**	**02**	**04.8 +0.5**
	comp=Z,1.1nm,0.7s,baz=102,slow=7.8,SNR=4.1							
	comp=Z,1.1nm,0.7s							
TXAR	**Lajitas Array**	**135.82**	**22**	SKPbc	**SKPbc**	**17**	**12**	**11.8 +0.5**
	comp=Z,0.8nm,0.8s,baz=296,slow=2.0,SNR=10							
PLCA	**Paso Flores**	**148.00**	**203**	PKPbc	**PKPbc**	**17**	**09**	**17.8 0.0**
	comp=Z,2.6nm,0.8s,baz=126,slow=2.9,SNR=4.8							

*NIED **11** 16:52:24.1,37.01N×141.32E,h49km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=4.69; $M_{\theta\theta}$=2.72; $M_{\phi\phi}$ 1.97; $M_{r\theta}$=4.59; $M_{\theta\phi}$0.25; $M_{\phi r}$6.82; Fault plane solution: $M_0$8.97000×10^{14} NP1: ϕ_s216.00000°,δ78.00000°,λ-93.00000°. NP2:ϕ_s51.00000°, δ12.00000°,λ-75.00000°.*

*JMA **11** 16:52:24.1±0.2,37.0N±0.4×141.3E±1.0,h49km±1km, MD4.1/40,MV4.1/40,E OFF FUKUSHIMA PREF*

JMA Felt II J1 at E OFF FUKUSHIMA PREF .

*IDC **11** 16:52:25.4±2.4,36.93N×141.42E,h51km±21km,mb3.7/11, mbtmp4.0/15,ML3.7/3,MS2.7/5,Error ellipse: s-maj=18.3km s-min=12.6km az=77.0*

*NEIC **11** 16:52:26.7±0.9,37.13N±0.05×141.27E±0.10,h38km±9km, mb4.6/36,Error ellipse: s-maj=11.2km s-min=7.7km az=85.0*

ISC 11 16:52:24.4±1.4,**37.01N**±0.04×**141.38E**±0.06,**h32**km±9km, **n103,**σ1**9**22/100,**mb4.5**/30,**12D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.47**	**282**	⇓*i*	P		**Pb**	**16 52 34.5**	**-0.1**
ONAJ				⇓	S		**Sb**	**16 52 41.6**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.47**	**282**		A			16 52 34.5	
	comp=E,52nm,0.4s,comp=N,32nm,0.3s								
JFK	**Kawauchi**	**0.54**	**312**	⇓*i*	P		**Pb**	**16 52 35.2**	**-0.5**
JFK				⇓	S		**Sb**	**16 52 42.8**	**-0.5**
JFK	**Kawauchi**	**0.54**	**312**		A			16 52 35.2	
	comp=E,13nm,0.7s,comp=N,9.0nm,0.8s								
JFFD	**Fukushimafurud**	**0.66**	**277**	⇓*i*	P		**Pn**	**16 52 36.8**	**-0.8**
JFFD				⇓	S		**Sn**	**16 52 45.5**	**-1.4**
JFFD	**Fukushimafurud**	**0.66**	**277**		A			16 52 36.8	
	comp=E,14nm,0.6s,comp=N,9.0nm,1.0s								
JHO	**Hitachi**	**0.76**	**239**	⇓*i*	P		**Pn**	**16 52 37.8**	**-1.1**
JHO				⇓	S		**Sn**	**16 52 47.7**	**-1.7**
JHO	**Hitachi**	**0.76**	**239**		A			16 52 37.8	
	comp=E,7.0nm,0.6s,comp=N,6.0nm,0.4s								
JMM	**Marumori**	**0.98**	**332**				**Pn**	**16 52 41.0**	**-0.9**
JMM					Sn		**Sn**	**16 52 52.7**	**-2.0**
JMM	**Marumori**	**0.98**	**332**		P		**Pn**	**16 52 41.3**	**-0.6**
JMM	**Marumori**	**0.98**	**332**	⇓*i*	P		**Pn**	**16 52 41.1**	**-0.8**
JMM				⇓	S		**Sn**	**16 52 53.2**	**-1.5**
JOTO	**OTAMA OYAMA**	**1.00**	**304**	*i*	P		**Pn**	**16 52 42.3**	**0.0**
JOTO					S		**Sn**	**16 52 54.9**	**-0.5**
JOTO	**OTAMA OYAMA**	**1.00**	**304**		A			16 52 42.3	
	comp=E,20nm,1.1s,comp=N,20nm,0.4s								
JSB	**Shiboa**	**1.17**	**269**		A			16 52 43.8	
	comp=E,15nm,1.4s,comp=N,10.0nm,1.4s								
JYT	**Yasato**	**1.23**	**231**		A			16 52 44.8	
	comp=E,11nm,0.4s,comp=N,9.0nm,0.5s								
JYAR	**Yonezawaarcadi**	**1.34**	**313**		A			16 52 46.3	
	comp=E,11nm,1.3s,comp=N,10.0nm,1.2s								
JFY	**Yanaizu**	**1.40**	**287**	*i*	P		**Pn**	**16 52 47.7**	**0.0**
JFY				*e*	S		**Sn**	**16 53 04.9**	**-0.2**
JIO	**Ouri**	**1.44**	**359**	⇓*i*	P		**Pn**	**16 52 47.6**	**-0.7**
JIO				⇓	S		**Sn**	**16 53 04.3**	**-1.9**
JOU	**Okura**	**1.47**	**337**		P		**Pn**	**16 52 48.8**	**+0.1**
JOU					S		**Sn**	**16 53 07.7**	**+0.8**
JOU	**Okura**	**1.47**	**337**		A			16 52 48.8	
	comp=E,5.0nm,2.0s,comp=N,7.0nm,3.6s								
JYS	**Shirataka**	**1.60**	**320**		P		**Pn**	**16 52 51.1**	**+0.6**
JYS					S		**Sn**	**16 53 10.7**	**+0.7**
JAG	**Ashikaga**	**1.65**	**250**	*i*	P		**Pn**	**16 52 50.9**	**-0.3**
JAG					S		**Sn**	**16 53 10.6**	**-0.8**
MJAR	**Matsushiro Arr**	**2.59**	**261**		P		**Pn**	**16 53 04.9**	**+0.7**
	comp=N,1.7nm,0.3s,baz=83,slow=14,SNR=60								
MJAR					S		**Sn**	**16 53 36.1**	**+1.5**
	comp=N,39nm,0.5s,baz=129,slow=14,SNR=3.5								
MJAR					LR		LR	16 54 05.0	
	comp=N,117nm,19.5s,baz=74,slow=38								
	comp=N,12nm,0.3s								
MAJO	**Matsushiro**	**2.59**	**261**				**Pn**	**16 53 05.1**	**+0.9**
MAJO	**Matsushiro**	**2.59**	**261**		P		**Pn**	**16 53 05.4**	**+1.3**
MJB9	**Matsu-Tunnel**	**2.59**	**261**				**Pn**	**16 53 06.0**	**+1.8**
JSG	**Sagara**	**3.49**	**229**	Pn			**Pn**	**16 53 18.2**	**+1.8**
JSG	**Sagara**	**3.49**	**229**	P			**Pn**	**16 53 18.5**	**+2.1**
JGF	**Kuroka**	**3.54**	**248**	Pn			**Pn**	**16 53 18.6**	**+1.4**
JTM	**Tenmabayashi**	**3.78**	**356**	Pn			**Pn**	**16 53 21.8**	**+1.3**
JTM	**Tenmabayashi**	**3.78**	**356**	P			**Pn**	**16 53 21.8**	**+1.3**
JHJ2	**Mitsune**	**4.09**	**199**	Pn			**Pn**	**16 53 25.8**	**+1.0**
JHJ	**Hachijo jima 2**	**4.09**	**199**	P			**Pn**	**16 53 24.7**	**-0.1**
	comp=N,29nm,0.3s,baz=248,slow=11,SNR=3.6								
JHJ					S		**Sn**	**16 54 10.4**	**-1.2**
	comp=N,122nm,0.3s,baz=281,slow=24,SNR=1.9								
	comp=N,328nm,0.7s								
ERM	**Erimo**	**5.19**	**15**	Pn			**Pn**	**16 53 39.5**	**-0.2**
ERM	**Erimo**	**5.19**	**15**	P			**Pn**	**16 53 41.4**	**+1.6**
JEM	**Erimo**	**5.19**	**15**	P			**Pn**	**16 53 41.6**	**+1.8**
JMN	**Monobe**	**6.95**	**244**	Pn			**Pn**	**16 54 06.4**	**+2.3**
ASAJ	**Asahikawa**	**7.16**	**7**	P			**Pn**	**16 54 07.6**	**+0.7**
	comp=N,2.3nm,0.3s,baz=226,slow=12,SNR=7.9								
	comp=N,4.6nm,0.4s								
JKA	**Kamikawa-asahi**	**7.16**	**7**	Pn			**Pn**	**16 54 07.3**	**+0.4**
JCJ	**Chichijima**	**9.91**	**176**	LR			LR	16 57 39.4	
	comp=N,22nm,21.2s,baz=72,slow=32								
USA0B	**Usuriysk Arra**	**10.12**	**318**	Pn			**Pn**	**16 54 47.8**	**+0.3**
USRK	**Ussuriysk Ar.**	**10.12**	**318**	Pn			**Pn**	**16 54 48.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**10.12**	**318**	P			**Pn**	**16 54 51.8**	**+4.3**
	comp=N,10nm,0.7s,baz=131,slow=13,SNR=14								
USRK					LR		LR	16 58 20.0	
	comp=N,63nm,21.7s,baz=123,slow=35								
KSRS	**Korea Array**	**10.74**	**276**	P			**Pn**	**16 54 57.9**	**+2.0**
	comp=N,3.8nm,0.9s,baz=90,slow=13,SNR=2.8								
KSRS					LR		LR	16 58 51.7	
	comp=N,59nm,19.8s,baz=85,slow=36								
KLR	**Kul'dur**	**14.08**	**333**	P			**P**	**16 55 48.2**	**-0.6**
	comp=N,1.2nm,0.6s,baz=135,slow=14,SNR=5.3								
KLR					LR		LR	17 00 35.3	
	comp=N,38nm,20.2s,baz=126,slow=35								
ULN	**Ulaanbaatar**	**27.35**	**304**	P			**P**	**16 58 08.1**	**+1.5**
SONM	**Songino Array**	**27.78**	**304**	P			**P**	**16 58 10.3**	**-0.2**
SONM	**Songino Array**	**27.78**	**304**	P			**P**	**16 58 10.4**	**0.0**
	comp=N,1.6nm,0.5s,baz=105,slow=8.6,SNR=7.4								
	comp=N,1.6nm,0.5s								
H11N2	**WAKE ISLAND Hy**	**28.16**	**121**	T			T	17 27 42.4	
	baz=313,slow=75,SNR=50								
H11N1	**WAKE ISLAND Hy**	**28.16**	**121**	T			T	17 27 53.1	
	baz=313,slow=75,SNR=37								
H11N3	**WAKE ISLAND Hy**	**28.18**	**121**	T			T	17 27 47.4	
	baz=313,slow=75,SNR=30								
H11S1	**WAKE ISLAND Hy**	**28.87**	**123**	T			T	17 29 12.1	
	baz=315,slow=76,SNR=44								
H11S3	**WAKE ISLAND Hy**	**28.87**	**123**	T			T	17 28 42.9	
	baz=315,slow=76,SNR=34								
H11S2	**WAKE ISLAND Hy**	**28.88**	**123**	T			T	17 28 52.2	
	baz=315,slow=76,SNR=24								
ZAA0	**Zalesovo Array**	**41.91**	**312**	P			**P**	**17 00 10.9**	**-0.8**
ZALV	**Zalesovo Beam**	**41.91**	**312**	P			**P**	**17 00 11.0**	**-0.8**
ZALV	**Zalesovo Beam**	**41.91**	**312**	P			**P**	**17 00 11.5**	**-0.3**
	comp=N,0.8nm,0.4s,baz=75,slow=6.7,SNR=4.7								
	comp=N,0.8nm,0.4s								
F17K	**Baldwin Pennin**	**43.76**	**29**	P			**P**	**17 00 27.6**	**+1.1**
F17K					IAmb		IAmb	17 01 00.2	
	comp=Z,13nm,1.3s								
M16K	**Timber Creek**	**43.91**	**37**	P			**P**	**17 00 28.8**	**+0.9**
MK31	**Makanchi Array**	**44.11**	**302**	P			**P**	**17 00 28.9**	**-0.8**
MKAR	**Makanchi Array**	**44.11**	**302**	P			**P**	**17 00 28.9**	**-0.8**
MKAR	**Makanchi Array**	**44.11**	**302**	P			**P**	**17 00 28.7**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=97,slow=8.8,SNR=8.1								
	comp=Z,0.7nm,0.6s								
O16K	**Kokwok River B**	**44.24**	**39**	P			**P**	**17 00 31.2**	**+0.8**
O16K					IAmb		IAmb	17 00 49.1	
	comp=Z,19nm,1.4s								
C18K	**Utukok River**	**44.31**	**26**	P			**P**	**17 00 31.4**	**+0.4**
C18K					IAmb		IAmb	17 00 32.3	
	comp=Z,5.4nm,0.8s								
MAKZ	**Makanchi**	**44.32**	**302**	P			**P**	**17 00 31.3**	**-0.1**
K17K	**Idlitarod**	**44.39**	**35**	P			**P**	**17 00 32.7**	**+1.1**
M17K	**Holitna River**	**44.68**	**37**	P			**P**	**17 00 35.1**	**+1.2**
G18K	**Tagagawik**	**44.68**	**30**	P			**P**	**17 00 34.5**	**+0.5**
H18K	**Honhosa River**	**44.68**	**31**	P			**P**	**17 00 34.6**	**+0.6**
N17K	**Nushagak Hills**	**44.75**	**38**	P			**P**	**17 00 35.8**	**+1.3**
N17K					IAmb		IAmb	17 00 52.6	
	comp=Z,18nm,1.4s								
D19K	**Kuna River**	**45.38**	**27**	P			**P**	**17 00 40.1**	**+0.6**
D19K					IAmb		IAmb	17 00 53.6	
	comp=Z,14nm,1.4s								
E19K	**Redstone River**	**45.51**	**28**	P			**P**	**17 00 40.9**	**+0.4**
E19K					IAmb		IAmb	17 00 41.1	
	comp=Z,8.0nm,1.4s								
H19K	**Roundabout Mou**	**45.53**	**31**	P			**P**	**17 00 41.8**	**+1.2**
H19K					IAmb		IAmb	17 00 55.3	
	comp=Z,12nm,1.4s								
J19K	**Poorman**	**45.72**	**33**	P			**P**	**17 00 42.6**	**+0.4**
J19K					IAmb		IAmb	17 01 13.9	
	comp=Z,13nm,1.5s								
KURK	**Kurchatov**	**45.93**	**308**	P			**P**	**17 00 43.7**	**-0.2**
KURBB	**Kurchatov Arra**	**46.00**	**308**	P			**P**	**17 00 43.4**	**-1.1**
	comp=Z,2.0nm,0.4s,baz=83,slow=8.6,SNR=8.9								
	comp=Z,2.0nm,0.4s								
B20K	**Meade River**	**46.03**	**25**	P			**P**	**17 00 45.6**	**+1.1**
K20K	**Telida**	**46.36**	**34**	P			**P**	**17 00 48.0**	**+0.7**
J20K	**Nowinta River**	**46.38**	**33**	P			**P**	**17 00 48.3**	**+1.0**
J20K					IAmb		IAmb	17 01 17.4	
	comp=Z,12nm,1.5s								
B21K	**Ikpikpuk River**	**46.82**	**26**	P			**P**	**17 00 52.1**	**+1.3**
H21K	**Melozitna Rive**	**47.05**	**31**	P			**P**	**17 00 53.3**	**+0.7**
H21K					IAmb		IAmb	17 01 10.2	
	comp=Z,8.2nm,1.4s								
D22K	**Ayikyak River**	**47.40**	**27**	P			**P**	**17 00 56.2**	**+0.9**
D22K					IAmb		IAmb	17 01 09.0	
	comp=Z,12nm,1.4s								
E22K	**Anaktuvuk Pass**	**47.64**	**28**	P			**P**	**17 00 58.0**	**+0.8**
E22K					IAmb		IAmb	17 00 58.4	
	comp=Z,9.5nm,1.5s								
C23K

48nm,0.4s,baz=214,slow=19,SNR=13
LEM S **Sn** **17 26 04.5 +4.1**
62nm,0.5s,baz=225,slow=20,SNR=1.9
CMJI Cimerak 3.92 111 P **Pn** **17 25 42.7 +1.7**
KPJI Karang Pucung 4.25 103 P **Pn** **17 25 48.5 +2.9**
BATI Baumata 19.09 103 P **Pn** **17 29 03.9 -0.3**
11nm,0.4s,baz=267,slow=1.7,SNR=7.6
BATI S **Sn** **17 32 33.4 -3.9**
2.3nm,0.3s,baz=344,slow=18,SNR=1.7
SOEI Soe 19.60 101 P **Pn** **17 29 11.5 +1.0**
CMAR Chiang Mai Arr 25.36 347 P **P** **17 30 04.2 -3.1**
0.2nm,0.3s,baz=174,slow=10.0,SNR=2.1
0.2nm,0.3s
H01W3 Cape Leeuwin H 29.64 164 T T 18 01 56.2
baz=342
H01W1 Cape Leeuwin H 29.65 164 T T 18 01 57.5
baz=342
H01W2 Cape Leeuwin H 29.65 164 T T 18 01 52.1
baz=342
WRA Warramunga Arr 31.72 118 P **P** **17 31 04.4 +0.2**
0.7nm,0.8s,baz=292,slow=10,SNR=5.5
WRA PcP **PcP** **17 33 55.2 -0.3**
0.2nm,0.6s,baz=286,slow=2.1,SNR=1.5
0.7nm,0.8s
H08S2 Diego Garcia H 32.04 266 T T 18 04 44.8
baz=90,slow=76
H08S3 Diego Garcia H 32.05 266 T T 18 04 46.3
baz=90,slow=76
H08S1 Diego Carcia H 32.06 266 T T 18 04 46.9
baz=90,slow=76
ASAR Alice Springs 32.86 125 P **P** **17 31 15.0 +0.9**
1.1nm,0.9s,baz=302,slow=7.5,SNR=10
1.1nm,0.9s
STKA Stephens Creek 42.70 131 P **P** **17 32 39.2 +2.0**
1.8nm,0.5s,baz=310,slow=7.3,SNR=6.0
1.8nm,0.5s
USRK Ussuriysk Ar. 56.03 23 LR LR 17 57 11.4
comp=Z,218nm,21.3s,baz=107,slow=35
MKAR Makanchi Array 56.59 342 P **P** **17 34 20.6 -2.1**
0.2nm,0.4s,baz=150,slow=9.1,SNR=8.0
0.2nm,0.4s
H04N2 CROZET ISLANDS 60.28 220 T T 18 40 19.7
baz=66,slow=75
H04N1 CROZET ISLANDS 60.30 220 T T 18 40 19.5
baz=66,slow=75
H04N3 CROZET ISLANDS 60.30 220 T T 18 40 18.6
baz=66,slow=75
H04S1 CROZET ISLANDS 60.49 219 T T 18 40 27.9
baz=65,slow=75
H04S3 CROZET ISLANDS 60.50 219 T T 18 40 35.8
baz=65,slow=75
H04S2 CROZET ISLANDS 60.51 219 T T 18 40 32.0
baz=65,slow=75
BVAR Borovoye Array 65.96 338 P **P** **17 35 23.4 -2.5**
0.2nm,0.4s,baz=122,slow=7.0,SNR=2.2
0.2nm,0.4s
TXAR Lajitas Array 144.80 46 PKP **PKPdf** **17 44 17.5 0.0**
1.4nm,0.6s,baz=321,slow=1.2,SNR=10

IDC 11 17:26:57.5±999.0, 53.29N×6.51E, h0km, Error ellipse: s-maj=3399.0km s-min=302.0km az=67.0, The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**17.87**	**67**	I	I	19 13 22.9	
	0.1nm,1.5s,baz=274,slow=321,SNR=4.9						
I31KZ	**AKTYUBINSK INF**	**31.40**	**74**	I	I	20 38 00.0	
	baz=294,slow=332,SNR=0.9						
I46RU	**ZALESOVO INFRA**	**44.20**	**56**	I	I	21 58 50.0	
	baz=301,slow=338,SNR=1.4						

*MOS **11** 17:29:09.2±1.1, 14.34S×167.31E, h186km, mb5.8/33, Error ellipse: s-maj=7.3km s-min=6.5km az=122.0*
*NEIC **11** 17:29:10.4, 14.34S×167.45E, h200km*
*BJI **11** 17:29:10.2, 13.97S×167.48E, h193km, mb5.3/85, mB5.6/55*
*NEIC **11** 17:29:10.4±1.9, 14.33S±0.08×167.44E±0.09, h186km±1km, mb5.4/255, Mwb5.7/49, Mww5.6/24, Error ellipse: s-maj=14.9km s-min=12.8km az=55.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=3.97; Mθθ=0.44; Mϕϕ=3.53; Mrθ=0.77; Mθϕ=1.51; Mϕr=1.11; Fault plane solution: M0=4.28000×10^17 NP1:ϕs=162.10000°, δ=36.17000°, λ=96.79000°. NP2:ϕs=333.71000°, δ=54.13000°, λ=85.06000°. Principal axes: T 4.1989, Plg=80.0000°, Azm=223.0000°; N 0.1494, Plg=4.0000°, Azm=337.0000°; P -4.3483, Plg=9.0000°, Azm=67.0000°;*
*NEIC **11** 17:29:10.4, 14.44S×167.35E, h200km, Moment Tensor Solution. Duration: 3s3 Moment tensor: Scale 10^17 Nm; Mrr=3.37; Mθθ=0.28; Mϕϕ=3.09; Mrθ=0.81; Mθϕ=0.65; Mϕr=0.33; Fault plane solution: M0=3.40000×10^17 NP1: ϕs=336.61000°, δ=50.31000°, λ=75.83000°. NP2: ϕs=178.19000°, δ=41.74000°, λ=106.44000°. Principal axes: T 3.5438, Plg=78.0000°, Azm=188.0000°; N -0.2782, Plg=11.0000°, Azm=346.0000°; P -3.2656, Plg=4.0000°, Azm=77.0000°;*
*NEIC **11** 17:29:10.6, 14.35S×167.43E, h188km*
*IDC **11** 17:29:11.6±0.4, 14.41S×167.36E, h199km±2km, mb4.9/33, mbtmp5.4/35, MS4.4/15, Error ellipse: s-maj=8.5km s-min=7.4km az=122.0*
*GCMT **11** 17:29:12.4±0.1, 14.37S±0.01×167.15E±0.01, h198km, MW5.7/168, Moment Tensor Solution. s140,c249; s168,c328; Duration: 1s7 Moment tensor: Scale 10^17 Nm; Mrr=3.83±.03; Mθθ=-0.04±.04; Mϕϕ=-3.79±.04; Mrθ=0.69±.03; Mθϕ=0.66±.04; Mϕr=1.09±.03; Best double couple: M0=4.07600×10^17 NP1:ϕs=343.00000°, δ=54.00000°, λ=82.00000°. NP2:ϕs=177.00000°, δ=37.00000°, λ=101.00000°. Principal axes: T 4.0700, Plg=79.0000°, Azm=221.0000°; N 0.0150, Plg=7.0000°, Azm=348.0000°; P -4.0820, Plg=9.0000°, Azm=79.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IPGP **11** 17:29:12.0, 14.37S×167.40E, h194km, Mw5.7, Fault plane solution: NP1:ϕs=347.00000°, δ=52.00000°, λ=85.00000°. NP2:ϕs=175.00000°, δ=39.00000°, λ=97.00000°.*
*NOU **11** 17:29:12.7, 14.39S×167.22E, h193km, ML5.5/145, Vanuatu Islands*

ISC 11 17:29:11.2±0.2, 14.40S±0.03×167.43E±0.04, h198km±1km, h199km:pP-P, n1179, σ1.9/38/1263, mb5.4/276, 65C-37D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**3.38**	**168**	P	**Pn**	**17 30 06.1**	**+0.8**
RTV	**Rentapao**	**3.50**	**164**	P	**Pn**	**17 30 07.7**	**+0.9**
LIFNC	**LIFOU**	**6.34**	**182**	Pn	**Pn**	**17 30 42.6**	**-0.2**
LIFNC	**LIFOU**	**6.34**	**182**	P	**Pn**	**17 30 43.0**	**+0.1**
KOUNC	**Koumac, New Ca**	**6.81**	**206**	Pn	**Pn**	**17 30 48.9**	**0.0**
KOUNC	**Koumac, New Ca**	**6.81**	**206**	P	**Pn**	**17 30 50.3**	**+1.3**
MARNC	**Mare, Loyalty**	**7.06**	**175**		**Pn**	**17 30 51.4**	**-0.8**
MARNC	**Mare, Loyalty**	**7.06**	**175**	P	**Pn**	**17 30 52.6**	**+0.4**
DZM	**Mont Dzumac**	**7.68**	**187**	Pn	**Pn**	**17 31 00.6**	**+0.2**
DZM	**Mont Dzumac**	**7.68**	**187**	P	**Pn**	**17 31 03.0**	**+2.6**
DZM	**Mont Dzumac**	**7.68**	**187**	*e*Pn	**Pn**	**17 31 01.2**	**+0.8**
	706nm,1.1s						
DZM				*e*S	**Sn**	**17 32 26.9**	**-0.4**
	1μm,1.4s						
DZM	**Mont Dzumac**	**7.68**	**187**	P	**Pn**	**17 31 01.4**	**+1.0**
	156nm,0.8s,baz=42,slow=16,SNR=59						
DZM				S	**Sn**	**17 32 28.4**	**+1.0**
	64nm,0.4s,baz=299,slow=22,SNR=9.7						
NOUC	**Port Laguerre**	**7.73**	**188**	P	**Pn**	**17 31 02.7**	**+1.8**
ONTNC	**Ouen Toro**	**7.92**	**187**	Pn	**Pn**	**17 31 04.4**	**+1.0**
ONTNC	**Ouen Toro**	**7.92**	**187**	P	**Pn**	**17 31 05.3**	**+1.9**
OUENC	**Ouen Island, N**	**7.99**	**184**	Pn	**Pn**	**17 31 05.7**	**+1.4**
OUENC	**Ouen Island, N**	**7.99**	**184**	P	**Pn**	**17 31 06.3**	**+2.0**
PINNC	**Pines Island,**	**8.16**	**180**		**Pn**	**17 31 07.4**	**+0.8**
PINNC	**Pines Island,**	**8.16**	**180**	P	**Pn**	**17 31 08.2**	**+1.6**
HNR	**Honiara**	**8.83**	**303**	Pn	**Pn**	**17 31 14.5**	**-0.9**
HNR	**Honiara**	**8.83**	**303**	P	**Pn**	**17 31 15.7**	**+0.3**
HNR	**Honiara**	**8.83**	**303**	P	**Pn**	**17 31 14.5**	**-0.9**
HNR	**Honiara**	**8.83**	**303**	P	**Pn**	**17 31 14.8**	**-0.6**
	21μm,0.7s,baz=194,slow=2.3,SNR=83						
HNR				S	**Sn**	**17 32 53.5**	**-1.0**
	18μm,0.9s,baz=18,slow=19,SNR=1.1						
YSA	**Yasawairara**	**10.04**	**104**	P	**Pn**	**17 31 35.2**	**+4.1**
DGTI	**Dogotuki**	**12.02**	**101**	P	**P**	**17 32 01.3**	**+0.1**
TAVE	**Taveuni**	**12.42**	**102**	P	**P**	**17 32 06.8**	**+1.2**
FUNA	**Funafuti**	**12.92**	**64**		**P**	**17 32 10.2**	**-1.1**
FUNA	**Funafuti**	**12.92**	**64**	P	**P**	**17 32 13.1**	**+1.8**
FUTU	**Fugatoga**	**14.00**	**91**	P	**P**	**17 32 27.2**	**+4.0**
NFK	**Norfolk Island**	**14.58**	**178**	P	**P**	**17 32 30.4**	**+0.9**
RABL	**Rabaul**	**18.15**	**303**	P	**P**	**17 33 08.5**	**-0.5**
RABL	**Rabaul**	**18.15**	**303**	P	**P**	**17 33 09.1**	**+0.2**
KRVT	**Keravat (AS076**	**18.20**	**302**	P	**P**	**17 33 10.0**	**+0.6**
	398nm,1.0s,baz=280,slow=1.6,SNR=16						
LHI	**Lord Howe Isla**	**18.68**	**203**	P	**P**	**17 33 15.6**	**+1.1**
	baz=19,SNR=9.7						
LHI	**Lord Howe Isla**	**18.68**	**203**	P	**P**	**17 33 14.0**	**-0.5**
LHI	**Lord Howe Isla**	**18.68**	**203**	P	**Pn**	**17 33 16.5**	**-0.8**
EIDS	**Eidsvold**	**18.83**	**232**	P	**P**	**17 33 17.2**	**+1.0**
	baz=19,SNR=72						
EIDS	**Eidsvold**	**18.83**	**232**	P	**P**	**17 33 17.1**	**+0.9**
EIDS	**Eidsvold**	**18.83**	**232**	P	**Pn**	**17 33 18.2**	**-0.9**
BULU	**Kimbe**	**19.01**	**296**	P	**P**	**17 33 18.3**	**+0.1**
AUAYR	**Ayr State High**	**19.82**	**252**	P	**P**	**17 33 27.0**	**+0.1**
AFI	**Afiamalu**	**20.17**	**91**	P	**P**	**17 33 30.3**	**-0.5**
AFI	**Afiamalu**	**20.17**	**91**	P	Pn	17 33 36.6	+1.2
AFI	**Afiamalu**	**20.17**	**91**	P	**P**	**17 33 30.3**	**-0.5**
KAVG	**Kavieng**	**20.18**	**304**	P	**P**	**17 33 30.4**	**-0.4**
PMG	**Port Moresby**	**20.44**	**282**	P	**P**	**17 33 33.5**	**-0.2**
PMG	**Port Moresby**	**20.44**	**282**	P	**P**	**17 33 33.4**	**-0.2**
PMG	**Port Moresby**	**20.44**	**282**	*e*P	**P**	**17 33 33.1**	**-0.5**
PMG				pmax	pmax		
	comp=Z,188nm,1.3s						
PMG	**Port Moresby**	**20.44**	**282**	P	**P**	**17 33 33.4**	**-0.2**
	comp=Z,146nm,1.0s,baz=86,slow=7.4,SNR=24						
	comp=Z,146nm,1.0s						
CTA	**Charters Tower**	**20.99**	**251**	P	**P**	**17 33 40.8**	**+1.4**
CTA	**Charters Tower**	**20.99**	**251**	P	**P**	**17 33 39.5**	**0.0**
	comp=Z,164nm,1.1s,baz=73,slow=12,SNR=53						
	comp=Z,164nm,1.1s						
CTAO	**Charters Tower**	**20.99**	**251**	P	**P**	**17 33 39.4**	**0.0**
CTAO	**Charters Tower**	**20.99**	**251**	P	**P**	**17 33 40.6**	**+1.2**
CTAO	**Charters Tower**	**20.99**	**251**	P	**P**	**17 33 39.4**	**0.0**
RMQ	**Roma**	**21.19**	**233**	P	**P**	**17 33 41.6**	**+0.1**
	baz=21,SNR=131						
ARMA	**Armidale**	**21.58**	**220**	P	**P**	**17 33 46.1**	**+0.6**
	baz=22,SNR=106						
ARMA	**Armidale**	**21.58**	**220**	P	**P**	**17 33 45.5**	**+0.1**
ARMA	**Armidale**	**21.58**	**220**	P	**P**	**17 33 46.8**	**+1.3**
NIUE	**Niue**	**22.17**	**105**	P	**P**	**17 33 52.8**	**+1.5**
	baz=22,SNR=5.1						
NIUE	**Niue**	**22.17**	**105**	P	**P**	**17 33 52.2**	**+0.9**
NIUE	**Niue**	**22.17**	**105**	P	**P**	**17 33 54.7**	**+3.4**
MTSU	**Mount Surprise**	**22.49**	**257**	P	**P**	**17 33 54.0**	**-0.3**
	baz=22,SNR=137						
AUPHS	**Peel High Scho**	**22.51**	**220**	P	**P**	**17 33 55.9**	**+1.6**
PATS	**Pohnpei**	**22.96**	**336**	P	**P**	**17 33 58.9**	**+0.4**
	baz=23,SNR=5.2						
PATS	**Pohnpei**	**22.96**	**336**	P	**P**	**17 33 57.8**	**-0.6**
PATS	**Pohnpei**	**22.96**	**336**	P	**P**	**17 34 00.2**	**+1.7**
MANU	**Manus Island**	**23.32**	**300**	P	**P**	**17 34 00.5**	**-1.2**
MANU	**Manus Island**	**23.32**	**300**	P	**P**	**17 34 02.7**	**+0.9**
AULRC	**Lightning Ridg**	**23.38**	**227**	P	**P**	**17 34 03.3**	**+1.1**
KUZ	**Kuaotunu**	**23.45**	**163**	P	**P**	**17 34 03.7**	**+1.0**
COEN	**Coen**	**23.52**	**268**	P	**P**	**17 34 03.3**	**-0.3**
COEN				IAmb	IAmb	17 34 42.7	
	comp=Z,191nm,1.0s						
COEN	**Coen**	**23.52**	**268**	P	**P**	**17 34 04.3**	**+0.7**
MKAZ	**Moumakai**	**23.64**	**164**	P	**P**	**17 34 05.9**	**+1.5**
MGCD	**Mangrove Creek**	**23.89**	**216**	P	**P**	**17 34 08.2**	**+1.4**
	baz=24,SNR=44						
TOZ	**Tahuroa Road**	**24.32**	**164**	P	**P**	**17 34 10.9**	**+0.3**
RIV	**Riverview**	**24.32**	**214**	P	**P**	**17 34 11.8**	**+1.2**
	baz=24,SNR=10.0						
RIV	**Riverview**	**24.32**	**214**	P	**P**	**17 34 12.3**	**+1.6**
RIV	**Riverview**	**24.32**	**214**	P	**P**	**17 34 12.3**	**+1.6**
RIV				pmax	pmax		
	comp=Z,714nm,1.1s						
AUDCS	**Dubbo College**	**24.69**	**221**	P	**P**	**17 34 15.4**	**+1.4**
QLP	**Quilpie**	**24.83**	**237**	P	**P**	**17 34 15.7**	**+0.4**
	baz=25,SNR=128						
QLP	**Quilpie**	**24.83**	**237**	P	**P**	**17 34 15.9**	**+0.5**
HAZ	**Te Kaha**	**25.01**	**160**	P	**P**	**17 34 18.0**	**+1.1**
RUGZ	**Raukumara Rang**	**25.17**	**161**	P	**P**	**17 34 20.5**	**+2.0**
WMGZ	**Waiomatatini S**	**25.28**	**159**	P	**P**	**17 34 23.1**	**+3.8**
PUZ	**Puketiti**	**25.45**	**160**	P	**P**	**17 34 25.4**	**+4.5**
MWZ	**Matawai**	**25.46**	**161**	P	**P**	**17 34 22.1**	**+1.1**
MWZ				S	**S**	**17 38 40.9**	**+7.8**
TWGZ	**Tauwhareparae**	**25.46**	**160**	P	**P**	**17 34 21.8**	**+0.8**
RTZ	**Ruatahuna**	**25.55**	**162**	P	**P**	**17 34 21.2**	**-0.7**
RTZ				IAmb	IAmb	17 35 09.7	
	comp=Z,95nm,1.2s						
RTZ	**Ruatahuna**	**25.55**	**162**	P	**P**	**17 34 22.8**	**+0.9**
TMVZ	**Te Maari**	**25.67**	**165**	P	**P**	**17 34 26.8**	**+3.8**
MTHZ	**Maungataniwha**	**25.73**	**163**	P	**P**	**17 34 24.2**	**+0.8**
MTHZ				S	**S**	**17 38 40.3**	**+2.9**
AUUHS	**Ulladulla High**	**25.85**	**213**	P	**P**	**17 34 25.9**	**+1.5**
BKZ	**Black Stump Fm**	**25.93**	**164**	P	**P**	**17 34 24.3**	**-0.9**
BKZ	**Black Stump Fm**	**25.93**	**164**	P	**P**	**17 34 25.6**	**+0.4**
BKZ				S	**S**	**17 38 41.7**	**+1.2**
NMHZ	**Naumai**	**25.95**	**163**	P	**P**	**17 34 26.1**	**+0.7**
MOVZ	**Moawhango**	**25.96**	**165**	P	**P**	**17 34 27.6**	**+2.1**
BHHZ	**Black Hill Sta**	**26.12**	**165**	P	**P**	**17 34 27.9**	**+1.0**
CMSA	**Cobar Meteorol**	**26.21**	**226**	P	**P**	**17 34 28.6**	**+0.8**
	baz=26,SNR=208						
CMSA	**Cobar Meteorol**	**26.21**	**226**	P	**P**	**17 34 28.5**	**+0.8**
YNG	**Young**	**26.24**	**218**	P	**P**	**17 34 29.2**	**+1.2**
CNB	**Canberra Magne**	**26.41**	**215**	P	**P**	**17 34 30.8**	**+1.2**
	baz=26,SNR=62						
CNB	**Canberra Magne**	**26.41**	**215**	P	**P**	**17 34 31.0**	**+1.4**
CAN	**Canberra**	**26.62**	**215**	P	**P**	**17 34 31.5**	**0.0**
CAN	**Canberra**	**26.62**	**215**	P	**P**	**17 34 32.6**	**+1.1**
CAN	**Canberra**	**26.62**	**215**	P	**P**	**17 34 31.5**	**0.0**
CAN				pmax	pmax		
	comp=Z,322nm,1.7s						
MRZ	**Mangatainoka R**	**27.11**	**166**	P	**P**	**17 34 37.2**	**+1.5**
QIS	**Mount Isa**	**27.21**	**253**	P	**P**	**17 34 36.4**	**-0.5**
	baz=27,SNR=56						
QIS	**Mount Isa**	**27.21**	**253**	P	**P**	**17 34 36.5**	**-0.4**
BFZ	**Birch Farm**	**27.29**	**165**	P	**P**	**17 34 38.4**	**+1.1**
BFZ				IAmb	IAmb	17 35 26.1	
	comp=Z,67nm,1.1s						
TABU	**Tabubil**	**27.34**	**287**	P	**P**	**17 34 39.8**	**+1.7**
TCW	**Tory Channel**	**27.36**	**169**	P	**P**	**17 34 39.0**	**+1.1**
TUWZ	**Tuamarina**	**27.52**	**169**	P	**P**	**17 34 38.0**	**-1.3**
AUSMG	**Snowy Mountain**	**27.64**	**214**	P	**P**	**17 34 41.8**	**+1.2**
THZ	**Tophouse**	**27.67**	**171**	P	**P**	**17 34 40.7**	**0.0**
THZ				IAmb	IAmb	17 34 53.6	
	comp=Z,118nm,1.7s						
MILA	**Mila**	**27.82**	**213**	P	**P**	**17 34 43.1**	**+1.0**
	baz=28,SNR=19						
MILA	**Mila**	**27.82**	**213**	P	**P**	**17 34 43.3**	**+1.1**
PLWZ	**Palliser**	**27.91**	**167**	P	**P**	**17 34 43.3**	**+0.5**
INKA	**Innaminka**	**28.14**	**238**	P	**P**	**17 34 45.6**	**+0.6**
INZ	**Inchbonnie**	**28.43**	**174**	P	**P**	**17 34 47.7**	**+0.3**
INZ				IAmb	IAmb	17 34 49.8	
	comp=Z,248nm,1.9s						
LTZ	**Lake Taylor**	**28.58**	**173**	P	**P**	**17 34 48.8**	**0.0**
JAY	**Jayapura**	**28.91**	**292**	P	**P**	**17 34 52.0**	**0.0**
	comp=Z,39nm,1.0s,comp=Z,980nm						
JAY	**Jayapura**	**28.91**	**292**	P	**P**	**17 34 51.3**	**-0.7**
OXZ	**Oxford**	**29.09**	**173**	IAmb	IAmb	17 34 55.2	
	comp=Z,255nm,2.0s						
STKA	**Stephens Creek**	**29.32**	**229**	P	**P**	**17 34 56.4**	**+1.0**
	baz=29,SNR=505						
STKA	**Stephens Creek**	**29.32**	**229**	P	**P**	**17 34 56.3**	**+0.9**
STKA	**Stephens Creek**	**29.32**	**229**	P	**P**	**17 34 56.4**	**+0.9**
	comp=Z,202nm,0.4s,baz=55,slow=9.2,SNR=809						
STKA				PcP	**PcP**	**17 37 57.2**	**+0.3**
	comp=Z,18nm,0.6s,baz=86,slow=2.2,SNR=4.3						
	comp=Z,202nm,0.4s						
GENI	**Genyem**	**29.36**	**291**	P	**P**	**17 34 55.9**	**0.0**
GENI	**Genyem**	**29.36**	**291**	P	**P**	**17 34 55.9**	**0.0**
	comp=Z,77nm,1.2s,comp=Z,3μm						
RPZ	**Rata Peaks**	**29.38**	**175**	P	**P**	**17 34 56.2**	**+0.5**
RPZ				IAmb	IAmb	17 35 03.8	
	comp=Z,44nm,1.0s						
JCZ	**Jackson Bay**	**29.59**	**178**	P	**P**	**17 35 00.1**	**+2.4**
AUSSC	**Sale College,**	**29.70**	**214**	P	**P**	**17 35 00.2**	**+1.6**
TOO	**Toolangi**	**30.20**	**216**	P	**P**	**17 35 04.2**	**+1.0**
	baz=30,SNR=82						
TOO	**Toolangi**	**30.20**	**216**	P	**P**	**17 35 04.0**	**+0.8**
TOO	**Toolangi**	**30.20**	**216**	P	**P**	**17 35 04.1**	**+0.9**
TOO	**Toolangi**	**30.20**	**216**	P	**P**	**17 35 04.0**	**+0.8**
TOO				pmax	pmax		
	comp=Z,600nm,1.5s						
WKZ	**Wanaka**	**30.35**	**178**	P	**P**	**17 35 05.0**	**+0.7**
MLZ	**Mavora Lakes**	**30.87**	**179**	P	**P**	**17 35 07.9**	**-1.0**
MLZ				IAmb	IAmb	17 35 11.0	
	comp=Z,101nm,1.4s						
SMPI	**Sarmi**	**30.93**	**291**	P	**P**	**17 35 09.5**	**-0.3**
	comp=Z,591nm,1.3s,comp=Z,7μm						
LCRK	**Leigh Creek**	**31.24**	**234**	P	**P**	**17 35 12.7**	**+0.4**
WHZ	**Wether Hill Ro**	**31.39**	**179**	P	**P**	**17 35 13.9**	**+0.5**
ARPS	**Mount Arapiles**	**31.89**	**221**	P	**P**	**17 35 19.0**	**+1.1**
	baz=32,SNR=17						
WRAB	**Tennant Creek**	**32.05**	**255**	P	**P**	**17 35 17.7**	**-1.8**
WRAB	**Tennant Creek**	**32.05**	**255**	P	**P**	**17 35 17.7**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,286nm,1.3s						
HTT	**Hallett**	**32.05**	**229**	P	**P**	**17 35 20.2**	**+0.8**
	baz=32,SNR=122						
HTT	**Hallett**	**32.05**	**229**	P	**P**	**17 35 20.3**	**+0.8**
HTT	**Hallett**	**32.05**	**229**	P	**P**	**17 35 20.3**	**+0.8**
WRA	**Warramunga Arr**	**32.06**	**255**	P	**P**	**17 35 18.3**	**-1.3**
	comp=Z,94nm,0.9s,baz=86,slow=8.5,SNR=223						
WRA				pP	**pP**	**17 35 59.2**	**+0.1**
	comp=Z,31nm,0.9s,baz=84,slow=8.9,SNR=2.9						
WRA				PcP	**PcP**	**17 38 03.6**	**-0.8**
	comp=Z,7.4nm,0.6s,baz=88,slow=3.1,SNR=4.7						
	comp=Z,94nm,0.9s						
OOD	**Oodnadatta**	**32.36**	**241**	P	**P**	**17 35 22.4**	**+0.2**
AUHPC	**Hawkesdale P12**	**32.43**	**219**	P	**P**	**17 35 23.7**	**+1.1**
AS31	**Alice Springs**	**32.93**	**249**	IAmb	IAmb	17 35 27.6	
	comp=Z,127nm,1.3s						
ASAR	**Alice Springs**	**32.93**	**249**	P	**P**	**17 35 25.3**	**-2.0**
ASAR	**Alice Springs**	**32.93**	**249**	P	**P**	**17 35 25.8**	**-1.5**
	comp=Z,96nm,0.5s,baz=77,slow=9.4,SNR=1644						
ASAR				pP	**pP**	**17 36 09.2**	**+2.7**
	comp=Z,19nm,0.6s,baz=75,slow=9.2,SNR=1.8						
ASAR				PcP	**PcP**	**17 38 06.8**	**0.0**
	comp=Z,5.4nm,0.6s,baz=78,slow=2.6,SNR=5.5						
ASAR				ScP	**ScP**	**17 41 31.6**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=86,slow=3.7,SNR=2.6						
	comp=Z,96nm,0.5s						
MOO	**Moorlands**	**32.95**	**208**	P	**P**	**17 35 28.6**	**+1.5**
	baz=33,SNR=18						
MOO	**Moorlands**	**32.95**	**208**	P	**P**	**17 35 28.5**	**+1.5**
TAU	**Tasmania Unive**	**33.26**	**207**	P	**P**	**17 35 29.0**	**-0.7**
TAU	**Tasmania Unive**	**33.26**	**207**	P	**P**	**17 35 30.9**	**+1.2**
TAU	**Tasmania Unive**	**33.26**	**207**	P	**P**	**17 35 29.0**	**-0.7**
TAU				pmax	pmax		
	comp=Z,483nm,1.8s						
TAU	**Tasmania Unive**	**33.26**	**207**	P	**P**	**17 35 30.6**	**+0.9**
TAU				PcP	**PcP**	**17 38 08.9**	**+1.7**
BBOO	**Buckleboo**	**33.90**	**232**	P	**P**	**17 35 35.8**	**+0.3**
	baz=34,SNR=451						
BBOO	**Buckleboo**	**33.90**	**232**	P	**P**	**17 35 35.3**	**-0.1**
BBOO	**Buckleboo**	**33.90**	**232**	P	**P**	**17 35 35.9**	**+0.5**
KDU	**Kakadu**	**34.01**	**269**	P	**P**	**17 35 35.9**	**-0.7**
	baz=34,SNR=41						
KDU	**Kakadu**	**34.01**	**269**	P	**P**	**17 35 36.3**	**-0.2**
MULG	**Mulgathing**	**34.51**	**237**	P	**P**	**17 35 40.3**	**-0.4**
KMPI	**Kaimana, Papua**	**34.92**	**285**	P	**P**	**17 35 45.8**	**+1.4**
	comp=Z,270nm,1.2s,comp=Z,3μmcomp=Z,2μm						
MTN	**Manton Dam**	**35.29**	**268**	P	**P**	**17 35 47.0**	**-0.5**
	baz=35,SNR=26						
MTN	**Manton Dam**	**35.29**	**268**	P	**P**	**17 35 46.3**	**-1.2**
MTN				IAmb	IAmb	17 35 48.4	
	comp=Z,170nm,1.1s						
MTN	**Manton Dam**	**35.29**	**268**	P	**P**	**17 35 47.7**	**+0.2**
SAUI	**Saumlaki**	**35.98**	**276**	P	**P**	**17 35 52.1**	**-1.3**
SAUI	**Saumlaki**	**35.98**	**276**	P	**P**	**17 35 54.6**	**+1.2**
SAUI	**Saumlaki**	**35.98**	**276**	P	**P**	**17 35 54.1**	**+0.7**
	comp=Z,380nm,1.4s,comp=Z,5μmcomp=Z,4μm						
KNRA	**Kununurra**	**37.33**	**263**	P	**P**	**17 36 03.9**	**-0.9**
	baz=37,SNR=107						
KNRA	**Kununurra**	**37.33**	**263**	P	**P**	**17 36 03.6**	**-1.2**
KNRA	**Kununurra**	**37.33**	**263**	P	**P**	**17 36 04.6**	**-0.2**
WRKA	**Warakurna**	**38.20**	**248**	P	**P**	**17 36 11.0**	**-1.1**
	baz=38,SNR=171						
WRKA	**Warakurna**	**38.20**	**248**	P	**P**	**17 36 11.5**	**-0.6**
SWI	**Sorong**	**38.20**	**287**	P	**P**	**17 36 11.7**	**-0.4**
	comp=Z,491nm,1.1s,comp=Z,4μmcomp=Z,2μm						
BNDI	**Bandanaira**	**38.24**	**281**	P	**P**	**17 36 12.5**	**+0.1**
BNDI	**Bandanaira**	**38.24**	**281**	P	**P**	**17 36 11.7**	**-0.7**
	comp=Z,1μm,1.3s,comp=Z,12μmcomp=Z,2μm						
FORT	**Forrest**	**39.60**	**239**	P	**P**	**17 36 23.1**	**-0.4**
	baz=40,SNR=272						
FORT	**Forrest**	**39.60**	**239**	P	**P**	**17 36 23.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**40.23**	**259**	P	**P**	**17 36 28.1**	**-0.7**
	baz=40,SNR=135						
FITZ	**Fitzroy Crossi**	**40.23**	**259**	P	**P**	**17 36 28.3**	**-0.6**
FITZ				IAmb	IAmb	17 36 29.7	
	comp=Z,63nm,1.0s						
FITZ	**Fitzroy Crossi**	**40.23**	**259**	P	**P**	**17 36 28.5**	**-0.4**
NLAI	**Namlea**	**41.39**	**282**	P	**P**	**17 36 38.0**	**+0.4**
	comp=Z,224nm,1.6s,comp=Z,12μm						
PAE	**Paea**	**41.38

PSA00 **Pilbara Seismi** 45.68 254 P **P** 17 37 12.6 0.0
MBWA **Marble Bar** 45.78 254 P **P** 17 37 13.5 +0.1
MBWA **Marble Bar** 45.78 254 P **P** 17 37 13.7 +0.3
MBWA **Marble Bar** 45.78 254 P **P** 17 37 13.0 -0.4
BASI **Baing, Sumba** 45.91 270 P **P** 17 37 15.0 +0.6
comp=Z,634nm,1.5s,comp=Z,8µmcomp=Z,2µm
LUWI **Luwuk** 46.09 283 P **P** 17 37 15.2 -0.7
LUWI **Luwuk** 46.09 283 P **P** 17 37 16.5 +0.7
LUWI **Luwuk** 46.09 283 P **P** 17 37 15.9 +0.1
comp=Z,289nm,1.3s,comp=Z,4µm
MEEK **Meekatharra** 47.05 247 P **P** 17 37 22.8 -0.5
baz=47,SNR=136
MEEK **Meekatharra** 47.05 247 P **P** 17 37 23.2 -0.1
MRSI **Marisa** 47.37 284 P **P** 17 37 24.3 -1.5
comp=Z,72nm,1.1s,comp=Z,1µmcomp=Z,2µm
BKSI **Bulukumba** 47.39 276 P **P** 17 37 25.4 -0.5
comp=Z,88nm,1.7s,comp=Z,2µmcomp=Z,2µm
KAPI **Kappang** 47.83 276 P **P** 17 37 29.1 -0.2
KAPI IAmb IAmb 17 37 31.0
comp=Z,314nm,1.3s
KAPI **Kappang** 47.83 276 P **P** 17 37 29.8 +0.5
KAPI **Kappang** 47.83 276 P **P** 17 37 29.1 -0.2
KAPI pmax pmax
comp=Z,314nm,1.3s
KAPI **Kappang** 47.83 276 P **P** 17 37 28.8 -0.5
comp=Z,130nm,1.1s,baz=106,slow=4.4,SNR=72
comp=Z,130nm,1.1s
KAPI **Kappang** 47.83 276 P **P** 17 37 29.6 +0.3
KAPI PcP **PcP** 17 38 53.4 -1.6
JCJ **Chichijima** 47.98 329 P **P** 17 37 29.4 -0.9
JCJ **Chichijima** 47.98 329 P **P** 17 37 30.7 +0.5
JCJ **Chichijima** 47.98 329 P **P** 17 37 25.9 -4.3
comp=Z,178nm,0.5s,baz=319,slow=20,SNR=16
SPSI **Sidrap Palu** 48.08 278 P **P** 17 37 30.4 -0.9
comp=Z,82nm,1.4s,comp=Z,1µmcomp=Z,2µm
TTSI **Tana Toraja** 48.29 279 P **P** 17 37 32.9 +0.1
comp=Z,74nm,1.5s,comp=Z,1µmcomp=Z,4µm
KLBR **Kellerberrin** 48.40 240 P **P** 17 37 32.5 -1.0
baz=48,SNR=151
TOLI2 **Tolitoli** 48.68 285 P **P** 17 37 34.5 -1.3
TOLI2 IAmb IAmb 17 37 36.2
comp=Z,107nm,1.1s
TOLI2 **Tolitoli** 48.68 285 P **P** 17 37 36.2 +0.4
PLAI **Plampang** 48.88 271 P **P** 17 37 37.2 -0.1
PLAI **Plampang** 48.88 271 P **P** 17 37 36.8 -0.5
comp=Z,262nm,1.6s,comp=Z,4µmcomp=Z,2µm
AUALB **St Joseph's Co** 48.89 236 P **P** 17 37 37.3 +0.1
NWAO **Narrogin (SRO)** 49.05 239 P **P** 17 37 37.6 -0.8
baz=49,SNR=70
NWAO P **P** 17 37 37.6 -0.8
baz=49,SNR=70
NWAO **Narrogin (SRO)** 49.05 239 P **P** 17 37 37.2 -1.2
NWAO **Narrogin (SRO)** 49.05 239 P **P** 17 37 37.9 -0.4
NWAO **Narrogin (SRO)** 49.05 239 P **P** 17 37 38.0 -0.4
NWAO **Narrogin (SRO)** 49.05 239 P **P** 17 37 37.2 -1.2
NWAO pmax pmax
comp=Z,535nm,1.3s
NWAO **Narrogin (SRO)** 49.05 239 P **P** 17 37 36.8 -1.6
comp=Z,212nm,0.9s,baz=75,slow=5.9,SNR=88
NWAO LR LR 17 59 40.2
comp=Z,948nm,18.0s,baz=91,slow=37
comp=Z,212nm,0.9s
NWAO **Narrogin (SRO)** 49.05 239 P **P** 17 37 37.7 -0.7
NWAO pP **pP** 17 38 20.6 -0.3
BLDU **Ballidu** 49.15 242 P **P** 17 37 38.2 -0.9
baz=49,SNR=15
BLDU **Ballidu** 49.15 242 P **P** 17 37 38.6 -0.6
MPSI **Mapaga** 49.25 283 P **P** 17 37 39.4 -0.8
comp=Z,198nm,1.3s,comp=Z,3µm
MORW **Morawa** 49.55 244 P **P** 17 37 41.5 -0.8
baz=50,SNR=56
MORW **Morawa** 49.55 244 P **P** 17 37 41.5 -0.8
MORW **Morawa** 49.55 244 P **P** 17 37 41.7 -0.5
RKGY **Rocky Gully** 49.56 237 P **P** 17 37 42.4 +0.2
baz=50,SNR=25
MLOA **Mauna Loa Obse** 49.63 48 P **P** 17 37 41.6 -1.8
MLOA IAmb IAmb 17 37 43.7
comp=Z,304nm,1.7s
MUN **Mundaring** 49.76 240 P **P** 17 37 43.0 -0.7
baz=50,SNR=33
MUN **Mundaring** 49.76 240 P **P** 17 37 43.2 -0.6
TWSI **Taliwang, Sumb** 49.76 271 P **P** 17 37 43.5 -0.5
comp=Z,694nm,1.2s,comp=Z,8µm
GIRL **Giralia** 50.88 252 P **P** 17 37 51.8 -0.6
baz=51,SNR=16
GIRL **Giralia** 50.88 252 P **P** 17 37 53.0 +0.7
GIRL **Giralia** 50.88 252 P **P** 17 37 54.5 +2.2
DNP **Denpasar** 51.39 270 P **P** 17 37 57.5 +1.3
comp=Z,423nm,1.3s,comp=Z,60µm
SRBI **Singaraja** 51.51 271 P **P** 17 37 56.9 -0.2
comp=Z,206nm,1.6s,comp=Z,4µmcomp=Z,3µm
TAOE **Nuku Hiva Isla** 51.55 90 *e*S **S** 17 44 54.7 -8.4
comp=Z,858nm,26.9s
TAOE *e*SS SS 17 48 31.0 -11
comp=Z,540nm,27.0s
BKB **Balikpapan** 51.60 280 P **P** 17 37 56.2 -1.6
BKB **Balikpapan** 51.60 280 P **P** 17 37 59.0 +1.2
BKB **Balikpapan** 51.60 280 P **P** 17 38 00.5 +2.7
comp=Z,215nm,1.1s,comp=Z,3µmcomp=Z,3µm
MYLDM **Lahad Datu** 52.28 288 P **P** 17 38 02.9 +0.2
JAGI **Jajag, Banyuwa** 52.46 270 P **P** 17 38 01.9 -2.2
JAGI **Jajag, Banyuwa** 52.46 270 P **P** 17 38 04.3 +0.2
JAGI **Jajag, Banyuwa** 52.46 270 P **P** 17 38 03.2 -0.9
comp=Z,149nm,1.4s,comp=Z,2µmcomp=Z,2µm
ABJI **Asem Bagus** 52.52 271 P **P** 17 38 05.0 +0.5
comp=Z,280nm,1.5s,comp=Z,4µm
BBKI **Banjar Baru** 52.95 277 P **P** 17 38 08.4 +0.6
comp=Z,230nm,1.5s,comp=Z,5µm
BLJI **Banyuglugur** 53.15 271 P **P** 17 38 09.1 0.0
comp=Z,189nm,1.3s,comp=Z,3µm
DRV **Dumont d'Urvil** 55.29 193 P **P** 17 38 24.1 +0.4
DRV pP **pP** 17 39 08.7 +0.2
DRV sP **sP** 17 39 28.8 -1.5
NGJI **Ngawi** 55.30 271 P **P** 17 38 26.2 +1.6
comp=Z,204nm,1.6s,comp=Z,5µm
JOW **Kunigami** 55.92 317 P **P** 17 38 29.8 +1.0
JOW **Kunigami** 55.92 317 P **P** 17 38 28.4 -0.4
comp=Z,100nm,1.0s,baz=278,slow=7.2,SNR=7.7
JOW pP **pP** 17 39 13.8 +1.2
comp=Z,47nm,0.8s,baz=139,slow=8.0,SNR=3.0
comp=Z,100nm,1.0s
UGM **Wanagama** 56.09 270 P **P** 17 38 30.9 +0.5
UGM **Wanagama** 56.09 270 P **P** 17 38 31.2 +0.8
comp=Z,323nm,1.3s,comp=Z,5µm
SMRI **Semarang** 56.35 271 IAmb IAmb 17 38 34.3
comp=Z,90nm,0.9s
SMRI **Semarang** 56.35 271 P **P** 17 38 32.9 +0.7
SMRI **Semarang** 56.35 271 P **P** 17 38 33.1 +0.9
comp=Z,133nm,1.3s,comp=Z,2µm
STKI **Sintang** 57.16 280 P **P** 17 38 38.6 +0.7
comp=Z,173nm,1.2s
JMN **Monobe** 57.56 327 P **P** 17 38 41.7 +1.4
MJAR **Matsushiro Arr** 57.69 332 P **P** 17 38 40.6 -0.5
comp=Z,32nm,0.6s,baz=230,slow=13,SNR=81
MJAR pP **pP** 17 39 27.2 +1.5
comp=Z,32nm,1.0s,baz=163,slow=5.3,SNR=5.2
comp=Z,32nm,0.6s
MAJO **Matsushiro** 57.69 332 P **P** 17 38 39.7 -1.4
MAJO **Matsushiro** 57.69 332 P **P** 17 38 41.3 +0.2
MAJO **Matsushiro** 57.69 332 P **P** 17 38 39.7 -1.4
MAJO pmax pmax
comp=Z,155nm,1.2s
MAJO **Matsushiro** 57.69 332 P **P** 17 38 40.8 -0.3
MAJO pP **pP** 17 39 26.6 +0.9
MAJO sP **sP** 17 39 46.8 -0.4
MJB9 **Matsu-Tunnel** 57.70 332 P **P** 17 38 41.2 0.0
MJB9 IAmb IAmb 17 38 43.7
comp=Z,143nm,1.1s
JMM **Marumori** 57.70 335 P **P** 17 38 42.7 +1.6
KPJI **Karang Pucung** 57.75 270 P **P** 17 38 41.8 -0.2
comp=Z,147nm,1.7s,comp=Z,2µm
CMJI **Cimerak** 58.13 270 P **P** 17 38 43.2 -1.4
comp=Z,135nm,0.8s,comp=Z,3µm
JCJI **Jatiwangi** 58.58 271 P **P** 17 38 49.0 +1.3
comp=Z,394nm,1.4s
YULB **Yu-li** 58.71 309 IAmb IAmb 17 38 50.4
comp=Z,101nm,1.3s
YULB **Yu-li** 58.71 309 P **P** 17 38 48.1 -0.3
JNU **Nakatsue** 58.75 324 IAmb IAmb 17 38 49.7
comp=Z,122nm,1.0s
JNU **Nakatsue** 58.75 324 P **P** 17 38 49.0 +0.5
JNU **Nakatsue** 58.75 324 P **P** 17 38 48.1 -0.4
comp=Z,69nm,0.9s,baz=138,slow=1.3,SNR=29
JNU pP **pP** 17 39 34.4 +1.1
comp=Z,52nm,0.9s,baz=180,slow=3.6,SNR=3.7
JNU LR LR 18 01 31.9
comp=Z,127nm,20.1s,baz=134,slow=33
comp=Z,69nm,0.9s
NACB **Ninganchiao** 58.94 310 P **P** 17 38 50.7 +0.7
BBJI **Bungbulang** 58.97 270 P **P** 17 38 49.9 -0.6
LEM **Lembang** 59.14 271 P **P** 17 38 51.2 -0.6
comp=Z,246nm,1.6s,comp=Z,4µm
TPUB **Ta-pu** 59.16 309 P **P** 17 38 50.6 -0.9
SSLB **Suanglung** 59.20 309 IAmb IAmb 17 38 52.0
comp=Z,102nm,1.1s
SSLB **Suanglung** 59.20 309 P **P** 17 38 51.4 -0.4
YHNB **Yeheng** 59.39 310 P **P** 17 38 52.2 -0.9
YHNB **Yeheng** 59.39 310 P **P** 17 38 53.9 +0.7
CNJI **Cibinong** 59.51 270 P **P** 17 38 53.0 -1.1
comp=Z,108nm,1.5s,comp=Z,1µm
CBJI **Citeko** 59.97 271 P **P** 17 38 56.1 -1.1
comp=Z,207nm,1.5s,comp=Z,10µm
DBJI **Dramaga** 60.04 271 P **P** 17 38 57.4 -0.3
comp=Z,417nm,1.5s,comp=Z,8µmcomp=Z,4µm
JTM **Tenmabayashi** 60.11 337 P **P** 17 38 56.9 -0.7
JTM **Tenabayashi** 60.11 337 P **P** 17 38 59.2 +1.6
SKJI **Sukabumi** 60.12 270 P **P** 17 38 58.0 -0.3
comp=Z,275nm,1.2s,comp=Z,3µmcomp=Z,1µm
XMI **Christmas Isla** 60.28 266 P **P** 17 39 00.4 +1.0
XMIS **Christmas Isla** 60.31 266 P **P** 17 39 00.0 +0.4
SBJI **Serang** 60.73 271 P **P** 17 39 03.8 +1.4
comp=Z,121nm,1.9s,comp=Z,12µm
CGJI **Cibinong** 61.05 270 P **P** 17 39 03.4 -1.1
comp=Z,585nm,1.4s,comp=Z,8µm
QZH **Quanzhou** 61.62 309 *e*P **P** 17 39 11.8 +3.7
QZH S **S** 17 47 19.5 +4.8
PPBI **Pangkal Pinang** 61.68 275 P **P** 17 39 09.1 +0.3
KASI **Kota Agung** 62.45 271 P **P** 17 39 12.5 -1.4
comp=Z,291nm,1.2s,comp=Z,3µm
ASAJ **Asahikawa** 62.49 340 P **P** 17 39 14.3 +0.8
comp=Z,122nm,0.9s,baz=215,slow=5.9,SNR=36
comp=Z,122nm,0.9s
PMBI **Palembang** 62.80 274 P **P** 17 39 18.1 +1.8
LWLI **Liwa** 62.99 272 P **P** 17 39 16.6 -1.0
comp=Z,214nm,1.2s,comp=Z,3µm
TJN **Taejon** 63.10 324 P **P** 17 39 19.2 +1.5
TJN **Taejon** 63.10 324 *ce*P **P** 17 39 15.5 +0.8
VNDA **Vanda** 63.19 181 P **P** 17 39 17.6 -0.1
VNDA **Vanda** 63.19 181 P **P** 17 39 18.2 +0.6
comp=Z,12nm,0.6s,baz=355,slow=6.6,SNR=50
VNDA pP **pP** 17 40 04.8 +1.4
comp=Z,6.6nm,0.9s,baz=345,slow=7.6,SNR=2.0
comp=Z,12nm,0.6s
VNDA **Vanda** 63.19 181 P **P** 17 39 18.3 +0.6
VNDA pP **pP** 17 40 03.7 +0.4
SSE **Sheshan** 63.40 316 P **P** 17 39 19.5 -0.2
SSE S **S** 17 47 32.7 -3.9
SSE pmax pmax
comp=Z,32nm,1.1s
SSE pmax pmax
comp=Z,270nm,5.1s
SSE LR LR
comp=Z,170nm,6.0s
SSE LR LR
comp=Z,120nm,6.0s
SBA **Scott Base** 63.46 180 P **P** 17 39 20.4 +0.9
SBA **Scott Base** 63.46 180 P **P** 17 39 20.4 +0.9
SBA pmax pmax
comp=Z,279nm,1.6s
SBA **Scott Base** 63.46 180 P **P** 17 39 21.0 +1.6
SBA pP **pP** 17 40 04.5 -0.2
SBA sP **sP** 17 40 25.3 -0.7
KSRS **Korea Array** 63.56 326 P **P** 17 39 20.6 -0.1
comp=Z,17nm,0.9s,baz=139,slow=7.0,SNR=24
KSRS pP **pwP** 17 40 08.2 -0.3
comp=Z,16nm,0.9s,baz=144,slow=7.2,SNR=5.3
comp=Z,17nm,0.9s
KS19 **Wonju Array Si** 63.62 326 P **P** 17 39 20.0 -1.1
KS19 IAmb IAmb 17 41 24.7
comp=Z,175nm,1.9s
DSRI **Dabo** 63.63 277 P **P** 17 39 22.4 +0.7
comp=Z,120nm,1.3s,comp=Z,2µmcomp=Z,2µm
HKPS **Hong Kong Po S** 63.68 304 P **P** 17 39 20.3 -1.6
HKPS **Hong Kong Po S** 63.68 304 P **P** 17 39 22.9 +1.1
LHSI **Lahat** 63.79 273 P **P** 17 39 22.8 +0.1
comp=Z,78nm,1.2s
CASY **Casey** 63.88 202 P **P** 17 39 22.5 +0.1
CASY **Casey** 63.88 202 P **P** 17 39 22.8 +0.4
CASY pP **pP** 17 40 10.0 +1.5
DLV **T Lat** 64.00 291 P **P** 17 39 20.9 -3.4
DLV **T Lat** 64.00 291 P **P** 17 39 24.9 +0.6
TPRI **Tanjung Pinang** 64.06 278 P **P** 17 39 25.0 +0.5
comp=Z,119nm,1.2s,comp=Z,2µm
JMBI **JAMBI** 64.23 275 P **P** 17 39 28.3 +2.7
comp=Z,149nm,1.2s,comp=Z,2µm
INCN **Inchon** 64.30 325 P **P** 17 39 24.5 -1.0
INCN **Inchon** 64.30 325 P **P** 17 39 26.6 +1.1
INCN **Inchon** 64.30 325 P **P** 17 39 24.5 -1.0
INCN pmax pmax
comp=Z,362nm,1.7s
MYKOM **Kota Tinggi** 64.96 279 P **P** 17 39 29.9 -0.4
MYKOM IAmb IAmb 17 39 32.1
comp=Z,132nm,1.4s
YSS **Yuzh-Sakhalins** 64.97 342 *e*P **P** 17 39 31.5 +1.9
YSS *e*S **S** 17 47 57.6 +2.3
YSS pmax pmax
comp=Z,180nm,1.1s
YSS MLR MLR
comp=Z,2µm,13.0s
YSS **Yuzh-Sakhalins** 64.97 342 P **P** 17 39 31.7 +2.1
YSS PcP **PcP** 17 40 03.6 +2.6
CCD **Concordia, Ant** 65.25 191 P **P** 17 39 32.1 +0.5
CCD PcP **PcP** 17 40 01.9 -0.4
CCD pP **pP** 17 40 17.7 -0.2
CCD sP **sP** 17 40 40.0 +0.6
NJ2 **Nanjing** 65.55 316 P **P** 17 39 33.8 +0.1
NJ2 PcP **PcP** 17 40 04.5 +0.8
NJ2 pP **pP** 17 40 19.1 +0.1
NJ2 sP **sP** 17 40 40.4 +0.3
NJ2 pmax pmax
comp=Z,75nm,1.3s
NJ2 pmax pmax
comp=Z,220nm,4.6s
QIZ **Qiongzhong** 65.72 299 P **P** 17 39 36.2 +1.2
QIZ pP **pP** 17 40 22.0 +1.9
QIZ sP **sP** 17 40 38.6 -2.4
QIZ S **S** 17 48 10.2 +4.7
QIZ sS **sS** 17 49 27.6 +3.8
QIZ pmax pmax
comp=Z,53nm,1.2s
QIZ pmax pmax
comp=Z,530nm,6.1s
QIZ **Qiongzhong** 65.72 299 P **P** 17 39 35.7 +0.7
QIZ pP **pP** 17 40 21.1 +1.0
MSHR **Mys Shultsa** 65.77 331 *ce*P **P** 17 39 36.4 +1.5
MSHR pmax pmax
comp=Z,184nm,2.5s
KRJI **Kerinci** 66.22 274 P **P** 17 39 38.5 0.0
comp=Z,170nm,1.2s,comp=Z,3µm
USRK **Ussuriysk Ar.** 66.67 333 P **P** 17 39 41.5 +0.9
comp=Z,85nm,1.1s,baz=141,slow=6.4,SNR=39
comp=Z,85nm,1.1s
SHEM **Shemya Is, Ala** 67.10 4 LR LR 18 05 13.2
comp=Z,127nm,19.4s,baz=256,slow=32
BKNI **Bangkinang** 67.25 277 P **P** 17 39 46.4 +1.5
BKNI **Bangkinang** 67.25 277 P **P** 17 39 45.9 +1.0
comp=Z,294nm,1.2s,comp=Z,4µm
PPSI **Pulau Pagai** 67.45 273 P **P** 17 39 47.0 +0.8
comp=Z,346nm,1.4s,comp=Z,5µm
PDSI **Padang** 67.48 275 P **P** 17 39 44.9 -1.5
comp=Z,48nm,1.2s,comp=Z,1µm
PET **Petropavlovsk** 67.58 354 P **P** 17 39 46.5 +0.5
PET IAmb IAmb 17 39 47.8
comp=Z,149nm,1.4s
PET **Petropavlovsk** 67.58 354 P **P** 17 39 47.6 +1.6
PET **Petropavlovsk** 67.58 354 *e*P **P** 17 39 46.8 +0.8
PET *e**PP **pP** 17 40 28.0 -4.2
PET *e*S **S** 17 48 29.6 +3.2
PET *e* 17 49 10.1
PET pmax pmax
comp=Z,99nm,0.8s
PET pmax pmax
comp=Z,200nm,11.4s
PET **Petropavlovsk** 67.58 354 P **P** 17 39 46.5 +0.5
PET pP **pP** 17 40 33.0 +0.9
CNSH **ChangSha** 67.63 309 P **P** 17 39 46.8 -0.2
CNSH pmax pmax
comp=Z,49nm,1.5s
PEA0B **Petropavlovsk-** 67.76 354 *ce*P **P** 17 39 48.4 +1.2
PETK **Petropavlovsk-** 67.76 354 P **P** 17 39 47.5 +0.3
comp=Z,42nm,0.6s,baz=148,slow=5.0,SNR=117
comp=Z,42nm,0.6s
WHN **Wuhan** 67.84 312 *i*P **P** 17 39 47.7 -0.5
WHN pP **pP** 17 40 33.3 -0.6
WHN pmax pmax
comp=Z,100nm,1.0s
MDJ **Mudanjiang** 68.07 332 P **P** 17 39 50.0 +0.7
MDJ PcP **PcP** 17 40 12.0 -2.0
MDJ pP pP 17 40 34.6 -0.8
MDJ S **S** 17 48 37.5 +4.8
MDJ sS sS 17 49 54.0 +2.8
MDJ pmax pmax
comp=Z,170nm,1.4s
MDJ pmax pmax
comp=Z,1µm,6.3s
MDJ **Mudanjiang** 68.07 332 P **P** 17 39 50.2 +0.8
MDJ pP **pP** 17 40 36.1 +0.7
DL2 **Dalian** 68.13 323 P **P** 17 39 50.3 +0.4
DL2 pmax pmax
comp=Z,86nm,1.1s
GULI **GuiLin** 68.17 305 P **P** 17 39 52.1 +1.7
GULI S **S** 17 48 35.3 +0.7
GULI pmax pmax
comp=Z,100nm,1.4s
GULI LR LR
comp=Z,450nm,19.0s
GULI LR LR
comp=Z,330nm,21.7s
GULI LR LR
comp=Z,490nm,20.1s
COCO **West Island** 68.49 262 P **P** 17 39 53.3 +0.7
COCO **West Island** 68.49 262 P **P** 17 39 53.3 +0.7
COCO pmax pmax
comp=Z,428nm,1.5s
TYV **Tymovskoe** 68.51 343 *e*P **P** 17 39 52.8 +0.9
TYV pmax pmax
comp=Z,65nm,1.4s
TYV pmax pmax
comp=Z,900nm,4.6s
SNY **Shenyang** 69.02 326 P **P** 17 39 54.8 -0.5
SNY S **S** 17 48 45.1 +1.1
SNY pmax pmax
comp=Z,23nm,1.4s
SNY pmax pmax
comp=Z,420nm,3.8s
SNY LR LR
comp=Z,610nm,5.1s
SNY LR LR
comp=Z,780nm,4.5s
SNY LR LR
comp=Z,360nm,4.9s
KULM **Kulim** 69.04 281 IAmb IAmb 17 39 57.4
comp=Z,134nm,1.3s
TIA **Tai'an** 69.20 318 P **P** 17 39 56.0 -0.6
TIA pmax pmax
comp=Z,58nm,1.2s
PBSI **Pulau Batu** 69.81 275 P **P** 17 40 01.6 +0.8
comp=Z,260nm,1.5s,comp=Z,4µm
BNX **BinXian** 69.93 331 P **P** 17 40 01.3 +0.5
BNX pmax pmax
comp=Z,58nm,0.7s
BNX pmax pmax
comp=Z,940nm,3.9s
RPSI **Rantau Prapat** 69.93 278 IAmb IAmb 17 40 02.1
comp=Z,153nm,1.3s
PSI **Prapat** 69.96 278 P **P** 17 40 01.0 -0.8
GRNR **Gornyy** 70.34 340 *i*P **P** 17 40 04.6 +1.4
GRNR pmax pmax
comp=N,40nm,1.2s
GRNR pmax pmax
comp=E,30nm,1.2s
GRNR pmax pmax
comp=Z,120nm,1.1s
KLR **Kul'dur** 70.78 336 *ce*P **P** 17 40 06.5 +0.7
KLR pmax pmax
comp=Z,217nm,1.7s
KLR **Kul'dur** 70.78 336 P **P** 17 40 06.2 +0.3
comp=Z,111nm,1.2s,baz=124,slow=4.7,SNR=42
comp=Z,111nm,1.2s
GSI **Gunungsitoli** 70.85 277 P **P** 17 40 06.3 -0.8
GSI **Gunungsitoli** 70.85 277 P **P** 17 40 08.0 +0.9
GSI **Gunungsitoli** 70.85 277 P **P** 17 40 07.0 -0.1
comp=Z,212nm,1.3s,comp=Z,3µm
SRIT **Nakonsritamara** 71.04 284 IAmb IAmb 17 40 11.3
comp=Z,91nm,1.0s
SRIT **Nakonsritamara** 71.04 284 P **P** 17 40 10.3 +2.1
NONG **Nongkai** 71.11 295 P **P** 17 40 09.2 +0.7
SURA **Surathani** 71.19 285 P **P** 17 40 10.8 +1.7
KCSI **Kotacane, Aceh** 71.27 279 P **P** 17 40 08.8 -0.8
comp=Z,65nm,1.4s
ENH **Enshi** 71.28 309 P **P** 17 40 09.1 -0.2
ENH **Enshi** 71.28 309 P **P** 17 40 08.8 -0.5
ENH pP **pP** 17 40 55.8 +0.3
NAYO **Nakonayok** 71.36 291 P **P** 17 40 10.9 +0.9
LYN **LuoYang** 71.36 315 P **P** 17 40 09.9 +0.2
LYN PcP **PcP** 17 40 28.0 -0.2
LYN pP **pP** 17 40 56.0 +0.9
LYN PP **PP** 17 42 50.2 -0.8
LYN S **S** 17 49 09.0 -2.5
LYN pmax pmax
comp=Z,220nm,1.2s
HNS **HongShan** 71.47 318 P **P** 17 40 10.6 +0.4
HNS pP **pP** 17 40 56.7 +0.1
HNS sP **sP** 17 41 15.6 -1.8
HNS S **S** 17 49 10.4 -2.1
HNS sS **sS** 17 50 26.6 -5.2
HNS pmax pmax
comp=Z,90nm,1.7s
GYA **Guiyang** 71.66 304 P **P** 17 40 11.9 +0.1
GYA pP pP 17 40 58.6 +0.6
GYA sP sP 17 41 20.5 +1.6
GYA S **S** 17 49 13.7 -1.8
GYA sS sS 17 50 36.7 +1.1
GYA pmax pmax
comp=Z,77nm,1.4s
GYA pmax pmax
comp=Z,770nm,6.1s
SLVN **Son La** 71.74 299 IAmb IAmb 17 40 14.6
comp=Z,104nm,1.5s
BJI **Beijing** 72.11 321 P **P** 17 40 14.2 +0.2
BJI PcP **PcP** 17 40 32.2 +1.0
BJI pP **pP** 17 41 00.7 +0.2
BJI sP **sP** 17 41 21.8 +0.3
BJI S **S** 17 49 20.2 +0.4
BJI pmax pmax
comp=Z,29nm,1.3s
BJI pmax pmax
comp=Z,510nm,5.0s
BJI LR LR
comp=Z,230nm,21.0s
SNSI **Sinabang, Aceh** 72.35 277 P **P** 17 40 16.5 +0.5
comp=Z,204nm,1.3s
LHMI **Lhok Sumawe** 72.54 280 P **P** 17 40 17.5 +0.4
LHMI **Lhok Sumawe** 72.54 280 P **P** 17 40 18.7 +1.6
comp=Z,57nm,0.6s
MLSI **Meulaboh, Aceh** 72.79 279 P **P** 17 40 19.7 +1.1
comp=Z,165nm,1.1s
TIY **Taiyuan** 73.13 317 P **P** 17 40 21.0 +0.8
TIY pP **pP** 17 41 07.6 +0.8
TIY sP **sP** 17 41 28.4 +0.6
TIY S **S** 17 49 29.9 -1.7
TIY sS **sS** 17 50 49.8 -1.4
TIY pmax pmax
comp=Z,87nm,0.9s
FALS **False Pass** 73.28 17 P **P** 17 40 21.3 +0.8
baz=210
HEH **HeiHe** 73.33 334 *e*P **P** 17 40 20.7 -0.3
HEH pmax pmax
comp=Z,63nm,1.3s
HEH pmax pmax
comp=Z,1µm,5.2s
SRDT **SRDT** 73.37 290 P **P** 17 40 23.3 +1.4
XAN **Xi'an** 73.59 312 P **P** 17 40 22.9 0.0
XAN pP pP 17 41 09.0 -0.5
XAN sP sP 17 41 31.6 +1.2
XAN S **S** 17 49 35.0 -1.9
XAN SKS **SKSac** 17 50 01.6 -9.1
XAN sS sS 17 50 56.9 -0.1
XAN SS **SS** 17 54 24.9 +0.2
XAN pmax pmax
comp=Z,110nm,1.2s
XAN pmax pmax
comp=Z,1µm,4.4s
KMI **Kunming** 74.27 302 P **P** 17 40 27.9 +0.6
KMI PcP **PcP** 17 40 41.5 +0.4
KMI pP pP 17 41 13.1 -0.7

KMI sP sP 17 41 34.9 +0.2
KMI S **S** **17 49 44.1 -1.1**
KMI sS sS 17 51 03.3 -3.2
KMI SS **SS** **17 54 32.1 -3.6**
KMI pmax pmax
comp=Z,130nm,1.2s
KMI pmax pmax
comp=Z,650nm,5.5s
KMI LR LR
comp=Z,150nm,11.4s
KMI LR LR
comp=Z,160nm,12.9s
KMI LR LR
comp=Z,230nm,20.5s
CHNA Chernabura Isl 74.42 19 P **P** **17 40 28.2 +1.1**
baz=213
XLT XiLinHaoTe 74.53 324⇑ *i*P **P** **17 40 28.8 +0.6**
XLT PcP **PcP** **17 40 43.9 +2.2**
XLT pP pwP 17 41 18.3 +0.9
XLT sP sP 17 41 40.3 +4.3
XLT PP **PP** **17 43 18.4 +0.5**
XLT pmax pmax
comp=Z,94nm,1.3s
XLT pmax pmax
comp=Z,500nm,4.1s
MA2 Magadan 74.95 351 P **P** **17 40 30.7 +0.5**
comp=Z,26nm,0.8s,baz=147,slow=7.5,SNR=8.8
MA2 LR LR 18 08 53.3
comp=Z,150nm,20.9s,baz=110,slow=32
comp=Z,26nm,0.8s
CM31 Chiang Mai Arr 74.96 294 IAmb IAmb 17 40 33.5
comp=Z,153nm,1.2s
CMAR Chiang Mai Arr 74.96 294 P **P** **17 40 31.9 +0.7**
comp=Z,68nm,1.1s,baz=116,slow=4.0,SNR=187
CMAR pP **pP** **17 41 18.9 +1.3**
comp=Z,31nm,0.9s,baz=121,slow=4.0,SNR=6.5
comp=Z,68nm,1.1s
CHTO Chiang Mai 75.09 294 P **P** **17 40 31.9 +0.1**
CHTO IAmb IAmb 17 41 23.6
comp=Z,221nm,1.5s
CHTO Chiang Mai 75.09 294 P **P** **17 40 32.8 +1.0**
CHTO Chiang Mai 75.09 294 P **P** **17 40 31.9 +0.1**
CHTO pmax pmax
comp=Z,221nm,1.5s
HHC Hu-ho-hao-te 75.44 320 ⇑P **P** **17 40 34.5 +1.0**
HHC pP pP 17 41 20.8 +0.4
HHC sP sP 17 41 39.4 -1.9
HHC S **S** **17 49 57.8 +0.5**
HHC sS sS 17 51 20.5 +4.2
HHC pmax pmax
comp=Z,110nm,0.9s
HHC pmax pmax
comp=Z,600nm,5.6s
QSPA South Pole Qui 75.62 180 P **P** **17 40 33.9 -0.3**
QSPA IAmb IAmb 17 40 35.3
comp=Z,56nm,1.0s
S14K Fog Glacier 75.65 18 P **P** **17 40 35.7 +1.4**
baz=213
PZH PanZhiHua 75.65 303 P **P** **17 40 34.7 -0.4**
PZH pP **pP** **17 41 21.9 +0.2**
PZH S **S** **17 49 58.3 -1.9**
PZH sS **sS** **17 51 15.7 -5.9**
PZH pmax pmax
comp=Z,40nm,1.3s
PZH pmax pmax
comp=Z,520nm,4.9s
PZH LR LR
comp=Z,290nm,20.6s
PZH LR LR
comp=Z,280nm,23.0s
PZH LR LR
comp=Z,300nm,25.0s
CD2 Chengdu 75.94 307 P **P** **17 40 37.3 +0.8**
CD2 pmax pmax
comp=Z,50nm,0.7s
CHGN Chignik 76.01 19 P **P** **17 40 37.3 +1.1**
baz=214
ZEA Zeya 76.06 337 *e*P **P** **17 40 37.7 +1.2**
ZEA pmax pmax
comp=N,40nm,1.4s
ZEA pmax pmax
comp=Z,70nm,1.3s
BTO Baotou 76.28 319 *e*P **P** **17 40 39.7 +1.4**
BTO pP **pwP** **17 41 29.6 +1.7**
BTO sP **sP** **17 41 50.9 +4.8**
BTO S **S** **17 50 04.8 -1.7**
BTO pmax pmax
comp=Z,140nm,1.4s
BTO pmax pmax
comp=Z,2μm,7.2s
BTO LR LR
comp=Z,960nm,12.6s
BTO LR LR
comp=Z,770nm,4.5s
BTO LR LR
comp=Z,550nm,5.1s
R16K Pilot Point 77.32 18 P **P** **17 40 43.9 +0.4**
baz=215
M11K Mekoryuk 77.49 13 P **P** **17 40 44.9 +0.5**
baz=206
SII Sitkinak Islan 77.61 21 P **P** **17 40 44.4 -0.8**
baz=218
O14K Tigyukauivet M 77.69 16 P **P** **17 40 45.1 -0.4**
baz=211
TNCH TengChong 77.74 300 ⇑P **P** **17 40 47.3 +0.4**
TNCH PcP **PcP** **17 40 56.3 +0.2**
TNCH pP pP 17 41 34.8 +1.1
TNCH sP sP 17 41 52.9 -1.5
TNCH S **S** **17 50 22.4 -0.7**
TNCH sS sS 17 51 40.6 -4.4
TNCH pmax pmax
comp=Z,81nm,1.5s
TNCH pmax pmax
comp=Z,540nm,3.0s
TNCH LR LR
comp=Z,230nm,14.9s
TNCH LR LR
comp=Z,300nm,19.8s
TNCH LR LR
comp=Z,220nm,17.5s
R17K Ugashik Creek 77.75 19 P **P** **17 40 45.4 -0.5**
baz=216
N14K Kuskokwak Cree 78.15 15 P **P** **17 40 47.9 -0.2**
baz=210
LZH Lanzhou 78.22 312 *e*P **P** **17 40 50.4 +1.2**
LZH pP pP 17 41 37.2 +0.9
LZH sP sP 17 41 54.3 -2.9
LZH S **S** **17 50 26.2 -1.5**
LZH sS sS 17 51 50.5 +1.6
LZH pmax pmax
comp=Z,140nm,1.3s
LZH pmax pmax
comp=Z,1μm,4.3s
Q17K Contact Creek 78.41 19 P **P** **17 40 50.0 +0.4**
baz=216
OHAK Old Harbor 78.43 21 P **P** **17 40 50.7 +1.1**
baz=219
Q16K King Salmon 78.51 18 P **P** **17 40 50.6 +0.6**
baz=215
MND Mandalay 78.70 296 P **P** **17 40 52.5 +0.6**
N15K Kwethluk River 78.78 16 P **P** **17 40 51.4 -0.1**
baz=212
M14K Bethel 78.80 15 P **P** **17 40 52.0 +0.4**
baz=210
O16K Kokwok River B 78.84 17 P **P** **17 40 51.8 -0.1**
baz=214
Q18K Katmai Hardscr 79.00 19 P **P** **17 40 52.7 -0.1**
baz=217
P17K Kvichak River 79.00 18 P **P** **17 40 52.7 0.0**
baz=216
M15K Kasigluk River 79.07 15 P **P** **17 40 53.6 +0.6**
baz=211
KDAK Kodiak Island 79.11 21 P **P** **17 40 53.2 -0.1**
baz=219
L14K Kuka Creek 79.14 14 P **P** **17 40 53.8 +0.4**
baz=209
O17K Koliganek Bris 79.28 17 P **P** **17 40 54.6 +0.4**
baz=215
N16K Nishlik Lake 79.39 16 P **P** **17 40 55.5 +0.6**
baz=213
P18K Big Mountain, 79.53 18 P **P** **17 40 56.0 +0.4**
baz=217
GAMB Gambell 79.58 9 P **P** **17 40 56.2 +0.4**
baz=200
Q19K Cape Douglas, 79.65 19 P **P** **17 40 56.6 +0.3**
baz=218

L15K Ungalak Mounta 79.72 14 P **P** **17 40 56.2 -0.4**
baz=210
M16K Timber Creek 79.80 16 P **P** **17 40 57.0 -0.1**
baz=213
Q20K Shuyak Island 79.81 20 P **P** **17 40 56.5 -0.6**
baz=219
N17K Nushagak Hills 79.87 17 P **P** **17 40 57.0 -0.4**
baz=215
J14K Nanvaranak Lak 80.18 13 P **P** **17 40 58.7 -0.2**
baz=208
K15K Wolf Creek Mou 80.24 14 IAmb IAmb 17 41 54.1
comp=Z,94nm,1.1s
K15K Wolf Creek Mou 80.24 14 P **P** **17 40 58.8 -0.5**
baz=210
L16K Owhat River 80.25 15 P **P** **17 40 59.6 +0.2**
baz=212
P19K Oil Pt 80.35 19 P **P** **17 40 59.9 -0.2**
baz=218
N18K Kilae Creek 80.37 17 P **P** **17 40 59.7 -0.4**
baz=216
O19K Port Alsworth 80.44 18 P **P** **17 41 00.5 0.0**
baz=217
M17K Holitna River 80.53 16 P **P** **17 41 01.0 +0.1**
baz=214
HOM Homer 80.87 20 P **P** **17 41 03.1 +0.4**
baz=220
CIT Chita 80.87 330 *e*P **P** **17 41 03.4 +0.4**
CIT *e* 17 41 50.2
CIT pmax pmax
comp=Z,411nm,1.5s
O20K Slope Mountain 80.88 19 P **P** **17 41 03.1 +0.2**
baz=219
N19K Bonanza Creek 80.89 18 P **P** **17 41 03.7 +0.8**
baz=217
L17K Donlin 80.91 16 P **P** **17 41 03.7 +0.8**
baz=214
M18K Stony River 81.05 17 P **P** **17 41 04.5 +0.9**
baz=216
BRSE Bradley Lake S 81.23 20 P **P** **17 41 05.3 +0.6**
baz=221
J16K Anvik River 81.31 14 P **P** **17 41 05.6 +0.6**
baz=211
K17K Iditarod 81.39 15 P **P** **17 41 05.5 0.0**
baz=214
L18K Granite Mounta 81.40 16 P **P** **17 41 06.5 +1.0**
baz=215
ANM Nome 81.42 12 P **P** **17 41 06.2 +0.6**
baz=207
YAK Yakutsk 81.77 343 P **P** **17 41 06.4 -1.0**
YAK Yakutsk 81.77 343 *c i*P **P** **17 41 08.1 +0.7**
YAK *e**PP **pP** **17 41 56.6 +1.4**
YAK *e* 17 44 15.0
YAK *e*PPP PPP 17 46 09.0
YAK *e*S **S** **17 51 04.0 +0.8**
YAK *e*SSS SSS 17 59 57.4
YAK pmax pmax
comp=Z,403nm,1.4s
YAK pmax pmax
comp=E,62nm,1.5s
YAK pmax pmax
comp=N,97nm,1.3s
YAK pmax pmax
comp=Z,880nm,6.2s
YAK pmax pmax
comp=N,781nm,6.3s
YAK pmax pmax
comp=E,856nm,5.1s
YAK smax smax
comp=N,732nm,3.8s
YAK smax smax
comp=E,435nm,4.6s
YAK Yakutsk 81.77 343 P **P** **17 41 07.5 +0.2**
comp=E,6.9nm,0.6s,baz=351,slow=0.9,SNR=84
I17K Unalakleet 81.81 14 P **P** **17 41 08.4 +0.9**
baz=211
TNA Tin City 81.86 10 P **P** **17 41 08.7 +0.9**
baz=204
L19K White Mountain 81.88 17 P **P** **17 41 09.0 +1.0**
baz=217
SEW Seward 81.93 20 P **P** **17 41 09.4 +1.2**
baz=222
ULN Ulaanbaatar 81.97 324 P **P** **17 41 09.2 +0.2**
ULN IAmb IAmb 17 41 11.1
comp=Z,175nm,1.2s
ULN Ulaanbaatar 81.97 324 *ce*P **P** **17 41 09.0 0.0**
ULN pmax pmax
comp=Z,246nm,1.7s
F14K Arctic Creek 82.06 11 P **P** **17 41 09.3 +0.4**
baz=206
H16K Elim 82.12 13 P **P** **17 41 10.0 +0.8**
baz=210
O22K Cooper Landing 82.12 20 P **P** **17 41 10.0 +0.7**
baz=222
M20K Styx River 82.14 18 P **P** **17 41 10.0 +0.5**
baz=218
TTA Tatalina 82.17 16 P **P** **17 41 10.1 +0.6**
baz=216
BILL Bilibino 82.22 360 P **P** **17 41 09.3 -0.4**
BILL IAmb IAmb 17 41 11.5
comp=Z,211nm,1.5s
BILL Bilibino 82.22 360⇑ *e*P **P** **17 41 10.3 +0.7**
MAW Mawson 82.24 202 P **P** **17 41 10.6 +0.7**
baz=82,SNR=72
MAW Mawson 82.24 202 P **P** **17 41 10.5 +0.7**
comp=Z,56nm,0.8s,baz=108,slow=5.9,SNR=90
comp=Z,56nm,0.8s
SONM Songino Array 82.33 324 IAmb IAmb 17 41 12.7
comp=Z,198nm,1.4s
SONM Songino Array 82.33 324 P **P** **17 41 11.1 +0.3**
comp=Z,17nm,0.6s,baz=142,slow=3.3,SNR=140
SONM pP **pP** **17 41 59.2 +0.6**
comp=Z,14nm,0.9s,baz=142,slow=7.8,SNR=4.8
SONM LR LR 18 15 47.7
comp=Z,176nm,20.6s,baz=106,slow=34
comp=Z,17nm,0.6s
L20K Farewell, AK 82.39 17 P **P** **17 41 10.7 0.0**
baz=218
J18K Innoko River 82.42 15 P **P** **17 41 10.4 -0.4**
baz=215
Q23K Middleton Isla 82.52 22 P **P** **17 41 11.6 +0.3**
baz=225
SUA Susitna One 82.54 19 P **P** **17 41 11.4 -0.1**
baz=221
P23K Montague Islan 82.55 21 P **P** **17 41 11.0 -0.6**
baz=223
GTA Gaotai 82.56 314 ⇑P **P** **17 41 12.8 +0.6**
GTA pP pP 17 41 59.3 -0.6
GTA sP sP 17 42 22.6 +2.0
GTA S **S** **17 51 11.9 -0.7**
GTA sS sS 17 52 37.9 +4.0
GTA pmax pmax
comp=Z,110nm,1.4s
GTA pmax pmax
comp=Z,660nm,10.4s
GTA LR LR
comp=Z,150nm,17.7s
GTA LR LR
comp=Z,230nm,19.5s
GTA LR LR
comp=Z,270nm,23.5s
F15K North Star Dit 82.58 11 P **P** **17 41 11.9 +0.3**
baz=207
SKT Skwentna 82.69 18 P **P** **17 41 13.3 +1.1**
baz=220
G16K Koyuk River 82.76 12 P **P** **17 41 12.8 +0.4**
baz=209
H17K Granite Mounta 82.89 13 P **P** **17 41 13.3 +0.1**
baz=212
M22K Willow 82.95 19 P **P** **17 41 13.3 -0.2**
baz=221
K20K Telida 83.04 16 P **P** **17 41 13.7 -0.3**
baz=217
J19K Poorman 83.14 15 P **P** **17 41 14.2 -0.3**
baz=216
PMR Palmer 83.14 19 P **P** **17 41 14.7 +0.2**
PMR IAmb IAmb 17 42 30.3
comp=Z,87nm,1.4s
PMR Palmer 83.14 19 P **P** **17 41 15.5 +1.0**
PMR Palmer 83.14 19 P **P** **17 41 14.7 +0.2**
baz=222
PMR Palmer 83.14 19 P **P** **17 41 14.7 +0.2**
PMR pmax pmax
comp=Z,87nm,1.4s
G17K Kiwalik Mounta 83.21 13 P **P** **17 41 15.2 +0.4**
baz=211
KNK Knik Glacier 83.23 20 IAmb IAmb 17 42 15.6
comp=Z,155nm,1.6s

KNK Knik Glacier 83.23 20 P **P** **17 41 15.2 +0.2**
baz=223
GLI Glacier Island 83.30 21 P **P** **17 41 15.4 +0.1**
baz=224
GHO Glory Hole Cre 83.34 19 P **P** **17 41 14.4 -1.2**
GHO IAmb IAmb 17 42 17.3
comp=Z,76nm,1.2s
CUT Chulitna 83.40 18 IAmb IAmb 17 41 16.6
comp=Z,107nm,1.2s
CUT Chulitna 83.40 18 P **P** **17 41 16.2 +0.4**
baz=221
H18K Honhosa River 83.42 14 P **P** **17 41 16.5 +0.6**
baz=213
EYAK Cordova Ski Ar 83.53 21 P **P** **17 41 16.3 -0.1**
baz=225
SML Sawmill 83.56 19 P **P** **17 41 16.6 -0.1**
SML IAmb IAmb 17 42 16.0
comp=Z,50nm,1.1s
SML Sawmill 83.56 19 P **P** **17 41 16.4 -0.3**
baz=223
SML Sawmill 83.56 19 P **P** **17 41 16.6 -0.1**
SML pmax pmax
comp=Z,50nm,1.1s
KAIM Kayak Island 83.57 22 P **P** **17 41 16.6 -0.2**
baz=227
KCPM Cahto Peak 83.63 46 P **P** **17 41 18.4 +0.6**
KCPM IAmb IAmb 17 42 09.5
comp=Z,132nm,1.3s
CAST Castle Rocks 83.64 17 IAmb IAmb 17 41 17.7
comp=Z,82nm,1.4s
CAST Castle Rocks 83.64 17 P **P** **17 41 16.5 -0.6**
baz=219,SNR=14
J20K Nowinta River 83.67 16 P **P** **17 41 17.3 +0.2**
baz=217,SNR=6.8
M23K Glacier View 83.75 20 P **P** **17 41 17.8 +0.1**
baz=223
KMRM Mail Ridge 83.77 46 P **P** **17 41 18.6 +0.2**
KMRM IAmb IAmb 17 42 10.4
comp=Z,123nm,1.2s
GDXM Geysers 83.83 48 IAmb IAmb 17 42 10.6
comp=Z,60nm,1.3s
F17K Baldwin Pennin 83.89 12 P **P** **17 41 18.3 +0.1**
baz=210
SCM Sheep Creek Mo 83.91 20 P **P** **17 41 19.0 +0.5**
baz=224
CHUM Lake Minchumin 83.94 17 P **P** **17 41 18.6 +0.1**
baz=219,SNR=7.5
G18K Tagagawik 83.98 13 P **P** **17 41 19.1 +0.4**
baz=213
SAO San Andreas Ge 84.00 50 IAmb IAmb 17 42 10.3
comp=Z,90nm,1.6s
KHMM Horse Mountain 84.03 45 P **P** **17 41 19.8 0.0**
KHMM IAmb IAmb 17 42 11.9
comp=Z,94nm,1.4s
I20K Naaghedeneel 84.08 15 P **P** **17 41 19.7 +0.5**
baz=217
BGLC Bering Glacier 84.12 22 P **P** **17 41 19.8 +0.3**
baz=228
KLU Klutina 84.13 21 P **P** **17 41 19.5 -0.2**
baz=225
SNCC San Nicolas Is 84.15 54 P **P** **17 41 19.6 -0.8**
baz=249
TRF Thorofare Moun 84.18 18 P **P** **17 41 20.4 +0.4**
baz=221
H19K Roundabout Mou 84.19 14 IAmb IAmb 17 41 22.1
comp=Z,83nm,1.6s
H19K Roundabout Mou 84.19 14 P **P** **17 41 19.8 +0.1**
baz=215,SNR=7.2
BMRM Bremner River 84.22 21 P **P** **17 41 19.8 -0.3**
baz=226
BBGB Big Mountain B 84.24 50 P **P** **17 41 20.6 -0.2**
BBGB IAmb IAmb 17 42 13.0
comp=Z,128nm,1.4s
WAT1 Susitna Watana 84.25 19 P **P** **17 41 20.3 +0.1**
baz=223
BOD Bodaibo 84.25 334 *e*P **P** **17 41 19.6 -0.6**
BOD pmax pmax
comp=Z,179nm,1.7s
PMPB Monarch Peak 84.28 51 P **P** **17 41 21.6 +0.6**
PMPB IAmb IAmb 17 42 13.0
comp=Z,140nm,1.6s
WAT6 Susitna Watana 84.32 19 P **P** **17 41 20.0 -0.7**
baz=223
E17K Hotham Inlet 84.34 12 P **P** **17 41 20.8 +0.3**
baz=210
BPAW Bear Paw Mtn. 84.48 17 P **P** **17 41 20.7 -0.6**
baz=220,SNR=5.1
M24K Tolsona, Glenn 84.48 20 P **P** **17 41 20.0 -1.4**
baz=225
PKM Mcpherson Peak 84.53 52 P **P** **17 41 21.2 -1.2**
baz=248,SNR=6.5
H20K Anotleneega Mo 84.54 15 P **P** **17 41 21.2 -0.3**
baz=216,SNR=9.5
G19K Purcell Mounta 84.54 14 P **P** **17 41 21.6 0.0**
baz=214
RND Reindeer 84.58 18 P **P** **17 41 21.2 -0.7**
RND IAmb IAmb 17 42 16.0
comp=Z,99nm,1.4s
RND Reindeer 84.58 18 P **P** **17 41 21.2 -0.7**
RND pmax pmax
comp=Z,99nm,1.4s
CRQE Cirque 84.61 22 P **P** **17 41 21.7 -0.5**
baz=228
L02F Cave Junction 84.65 44 IAmb IAmb 17 42 17.7
comp=Z,107nm,2.0s
MESA MESA 84.65 23 P **P** **17 41 21.4 -1.1**
baz=229
N25K Chitina, Valde 84.67 21 P **P** **17 41 22.0 -0.3**
baz=226
C16K Lisburne Hills 84.76 10 P **P** **17 41 21.9 -0.6**
baz=206
DHY Denali Highway 84.79 19 P **P** **17 41 22.6 -0.5**
baz=224
MCK McKinley 84.80 18 P **P** **17 41 22.2 -0.6**
baz=222,SNR=7.2
BCW Bitter Crk WRg 84.85 52 IAmb IAmb 17 42 16.1
comp=Z,180nm,1.8s
E18K Tukpahlearik C 84.87 12 IAmb IAmb 17 41 24.8
comp=Z,68nm,1.6s
E18K Tukpahlearik C 84.87 12 P **P** **17 41 23.0 -0.2**
baz=211
GOMU GeErMu 84.90 309 P **P** **17 41 24.8 +0.3**
GOMU PP **PP** **17 44 48.5 +4.3**
GOMU S **SKSac** **17 51 29.1 -1.4**
GOMU pmax pmax
comp=Z,15nm,1.4s
F19K Shaleruckik Mo 84.96 13 IAmb IAmb 17 41 25.7
comp=Z,63nm,1.3s
F19K Shaleruckik Mo 84.96 13 P **P** **17 41 23.4 -0.2**
baz=214,SNR=8.3
RDOG Red Dog Mine 84.98 11 P **P** **17 41 23.5 -0.2**
baz=209
HARP HAARP 85.03 20 P **P** **17 41 23.8 -0.2**
baz=226
I21K Tanana 85.04 16 IAmb IAmb 17 42 19.0
comp=Z,77nm,1.2s
I21K Tanana 85.04 16 P **P** **17 41 23.9 -0.1**
baz=219,SNR=11
ORV Oroville 85.05 47 P **P** **17 41 24.9 +0.2**
ORV Oroville 85.05 47 P **P** **17 41 24.9 +0.2**
ORV pmax pmax
comp=Z,47nm,1.3s
MCARA McCarthy VSAT 85.07 22 P **P** **17 41 24.3 +0.1**
baz=228
CIS Catalina Islan 85.07 54 P **P** **17 41 23.9 -1.1**
baz=249
YBH Yreka Blue Hor 85.08 45 P **P** **17 41 25.1 +0.2**
YBH Yreka Blue Hor 85.08 45 P **P** **17 41 25.5 +0.6**
comp=Z,5.1nm,0.6s,baz=133,slow=2.7,SNR=18
YBH pP **pP** **17 42 14.6 +1.6**
comp=Z,17nm,0.9s,baz=169,slow=3.9,SNR=7.7
comp=Z,5.1nm,0.6s
H21K Melozitna Rive 85.19 15 P **P** **17 41 24.8 0.0**
baz=218
MLY Manley 85.26 17 P **P** **17 41 25.3 +0.1**
baz=220,SNR=5.6
C17K DeLong Mountai 85.31 10 P **P** **17 41 25.5 +0.1**
baz=208
ZAK Zakamensk 85.38 325 *e*P **P** **17 41 25.5 -0.7**
ZAK *e* 17 42 13.9
ZAK pmax pmax
comp=Z,117nm,1.4s
ZAK pmax pmax
comp=Z,34nm,1.2s
CTG Chitna Glacier 85.40 22 P **P** **17 41 24.7 -1.3**
baz=229
NEA2 Nenana 85.40 17 IAmb IAmb 17 42 19.6

comp=Z,112nm,1.6s
NEA2 Nenana 85.40 17 P P 17 41 25.2 -0.6
baz=222
VES Vestal, Richgr 85.43 51 P P 17 41 25.6 -1.0
baz=249
L04D Klamath Falls 85.55 45 P P 17 41 26.8 -0.5
L04D IAmb IAmb 17 42 21.7
comp=Z,49nm,1.0s
CRAG Craig 85.57 29 P P 17 41 27.0 +0.2
baz=237
F20K Avaraart Lake 85.60 14 P P 17 41 26.8 0.0
baz=216
E19K Redstone River 85.60 13 P P 17 41 26.2 -0.6
baz=214,SNR=13
G21K Allakaket 85.70 15 P P 17 41 26.4 -0.8
baz=218
I23K Minto, Yukon-K 85.73 17 P P 17 41 26.8 -0.6
baz=222
H22K Ishtalitna Cre 85.75 16 P P 17 41 27.4 -0.2
baz=220,SNR=7.3
IRK Irkutsk 85.75 327 *e*P P 17 41 26.6 -1.3
IRK pmax pmax
comp=Z,153nm,2.1s
M26K Nabesna, AK 85.76 21 IAmb IAmb 17 43 02.3
comp=Z,100nm,1.9s
M26K Nabesna, AK 85.76 21 P P 17 41 27.7 -0.1
baz=228
CCB Clear Creek Bu 85.81 18 IAmb IAmb 17 42 21.8
comp=Z,81nm,1.6s
C18K Utukok River 85.82 11 IAmb IAmb 17 41 29.2
comp=Z,60nm,1.4s
C18K Utukok River 85.82 11 P P 17 41 28.9 +1.0
baz=210
ISA Isabella, Lake 85.83 52 P P 17 41 28.9 +0.2
ISA IAmb IAmb 17 42 20.5
comp=Z,94nm,1.6s
ISA Isabella, Lake 85.83 52 P P 17 41 28.4 -0.3
baz=249,SNR=9.3
ISA Isabella, Lake 85.83 52 P P 17 41 28.9 +0.2
ISA pmax pmax
comp=Z,94nm,1.6s
EMB Emerald Bay 85.83 48 IAmb IAmb 17 42 20.4
comp=Z,91nm,1.8s
HDA Harding Lake 85.89 18 P P 17 41 29.3 +1.0
baz=224,SNR=11
HDA P P 17 41 29.3 +1.0
baz=224,SNR=11
MDM Murphy Dome 85.91 17 IAmb IAmb 17 42 43.3
comp=Z,53nm,1.2s
EDW2 Edwards Air Fo 85.92 53 P P 17 41 29.0 -0.2
baz=249,SNR=14
ELS Elsinore Mount 85.93 54 IAmb IAmb 17 42 19.8
comp=Z,108nm,1.9s
BFSC Mount Baldy Ra 85.96 53 P P 17 41 29.4 -0.1
baz=250,SNR=7.6
COLA College 85.96 18 P P 17 41 28.6 +0.1
COLA IAmb IAmb 17 42 22.5
comp=Z,47nm,1.1s
COLA College 85.96 18 P P 17 41 29.1 +0.6
COLA College 85.96 18 P P 17 41 29.4 +0.9
baz=223
COLA College 85.96 18 P P 17 41 28.6 +0.1
COLA pmax pmax
comp=Z,47nm,1.1s
MPK Martis Peak 86.00 48 IAmb IAmb 17 42 21.6
comp=Z,63nm,1.4s
L26K Log Cabin Wild 86.07 20 P P 17 41 30.2 +1.0
baz=227
RIDG Independent Ri 86.07 19 IAmb IAmb 17 42 24.6
comp=Z,163nm,2.0s
RIDG Independent Ri 86.07 19 P P 17 41 30.1 +0.9
baz=226
MURC Murrieta 86.10 54 P P 17 41 29.9 -0.2
baz=250
M27K Edge Creek, AK 86.12 21 P P 17 41 29.5 -0.1
baz=229
IL31 86.17 18 IAmb IAmb 17 42 23.7
comp=Z,139nm,1.8s
ILAR Eielson Array 86.17 18 P P 17 41 28.9 -0.8
comp=Z,15nm,0.7s,baz=235,slow=5.5,SNR=82
ILAR pP **pP** 17 42 20.0 +1.7
comp=Z,9.4nm,0.7s,baz=238,slow=5.1,SNR=4.5
ILAR PKKP **PKKPdf** 17 59 26.6 +2.9
comp=Z,0.4nm,0.4s,baz=355,slow=1.0,SNR=11
ILAR LR LR 18 12 28.0
comp=Z,205nm,20.5s,baz=215,slow=30
comp=Z,15nm,0.7s
YUK8 Steele Glacier 86.19 23 P P 17 41 30.2 +0.1
baz=231
YUK3 Moose Creek 86.25 22 P P 17 41 29.6 -0.7
baz=230
POKR Poker Flat Res 86.26 17 IAmb IAmb 17 42 55.5
comp=Z,74nm,1.6s
POKR Poker Flat Res 86.26 17 P P 17 41 29.6 -0.4
baz=224,SNR=6.2
MLAC Mammoth, Mammo 86.26 50 P P 17 41 29.5 -1.5
baz=249
F21K Alatna River 86.26 14 P P 17 41 30.3 +0.3
baz=218
D19K Kuna River 86.28 12 P P 17 41 30.5 +0.4
baz=213
B18K Kokolik River 86.33 10 P P 17 41 31.0 +0.7
baz=210
CWC Cottonwood Cre 86.40 51 P P 17 41 31.4 -0.3
baz=249
BBB Bella Bella 86.42 34 LR LR 18 10 53.2
comp=Z,134nm,20.9s,baz=236,slow=29
YERR Yerington 86.46 48 IAmb IAmb 17 42 25.2
comp=Z,69nm,1.9s
MONP2 Monument Peak 86.47 55 P P 17 41 31.8 -0.3
baz=250,SNR=12
VTX Valle De La Tr 86.49 57 IAmb IAmb 17 42 23.0
comp=Z,81nm,1.8s
E20K Nigu River 86.49 13 P P 17 41 31.9 +0.7
baz=215
SCRK Sand Creek 86.51 19 IAmb IAmb 17 42 26.1
comp=Z,120nm,2.0s
SCRK Sand Creek 86.51 19 P P 17 41 31.6 +0.2
baz=227,SNR=5.9
YUK6 Outpost Mounta 86.51 23 P P 17 41 32.2 +0.5
baz=232
C19K Lookout Ridge 86.51 11 P P 17 41 32.0 +0.7
baz=212
G22K Bettles 86.51 15 P P 17 41 31.9 +0.7
baz=220
J25K Salcha River, 86.52 18 P P 17 41 32.2 +0.8
baz=225,SNR=9.8
BVCY Beaver Creek 86.52 21 P P 17 41 32.7 +1.3
baz=230
P30M Million Dollar 86.56 24 P P 17 41 31.9 +0.3
baz=233
L27K Beaver Creek, 86.61 21 P P 17 41 32.6 +0.8
baz=229
PAHR Pah Rah Range 86.62 48 IAmb IAmb 17 42 25.8
comp=Z,89nm,1.9s
H04A Detroit Lake 86.63 42 IAmb IAmb 17 42 22.4
comp=Z,52nm,1.5s
IKP In-Ko-Pah, Jac 86.64 55 P P 17 41 32.7 -0.1
baz=251
YUK4 Talbot Arm 86.65 23 P P 17 41 32.2 -0.1
baz=232
H24K Noodor Dome 86.66 17 P P 17 41 31.2 -0.9
baz=223
PFO Pinyon Flats O 86.68 54 P P 17 41 32.8 -0.2
PFO Pinyon Flats O 86.68 54 P P 17 41 33.1 +0.1
baz=250
PFO Pinyon Flats O 86.68 54 P P 17 41 33.0 0.0
comp=Z,3.7nm,0.7s,baz=248,slow=7.4,SNR=8.7
PFO pP **pwP** 17 42 22.6 -0.7
comp=Z,12nm,1.1s,baz=254,slow=3.9,SNR=5.8
comp=Z,3.7nm,0.7s
TPFO Pinon Flats 86.68 54 P P 17 41 32.9 -0.1
baz=250,SNR=5.0
J05D Fort Rock, OR 86.70 44 IAmb IAmb 17 42 26.3
comp=Z,74nm,1.5s
K05A Summer Lake 86.71 44 IAmb IAmb 17 42 26.4
comp=Z,121nm,1.6s
MPMC Manual Prospec 86.72 52 P P 17 41 32.1 -1.1
baz=250,SNR=7.3
G23K Bananza Creek 86.73 16 P P 17 41 32.6 +0.2
baz=221
D20K Etivluk River 86.77 12 P P 17 41 32.4 -0.1
baz=215
YUH Yuha Desert 86.79 55 P P 17 41 33.0 -0.4
YUH IAmb IAmb 17 42 24.2
comp=Z,69nm,1.8s
F22K John River 86.80 14 P P 17 41 32.8 +0.1
baz=219
SKAG Skagway 86.83 25 P P 17 41 32.8 -0.1
baz=235
NVAR Mina Array Bea 86.94 49 P P 17 41 34.8 +0.6
comp=Z,2.9nm,0.8s,baz=229,slow=7.4,SNR=18
NVAR pP **pwP** 17 42 24.5 +1.9
comp=Z,7.3nm,0.8s,baz=231,slow=8.4,SNR=9.3
NVAR PKPPKP **P'P'df** 18 07 32.1 -1.5
comp=Z,0.3nm,0.4s,baz=69,slow=4.9,SNR=6.8
NVAR LR LR 18 14 46.7
comp=Z,246nm,19.4s,baz=252,slow=31
comp=Z,2.9nm,0.8s
GSC Goldstone, Bar 86.98 53 IAmb IAmb 17 42 26.3
comp=Z,97nm,1.6s
GSC Goldstone, Bar 86.98 53 P P 17 41 33.6 -0.7
baz=250,SNR=5.9
SWSC Sam W. Stewart 86.98 55 P P 17 41 33.4 -0.9
baz=251
J26L Joseph Creek 87.00 19 P P 17 41 33.8 +0.1
baz=227
NV11 Mina Array Sit 87.05 49 IAmb IAmb 17 42 26.6
comp=Z,126nm,1.9s
COLD Coldfoot 87.08 15 P P 17 41 34.3 +0.4
baz=221,SNR=6.4
PINE Pine Mountain 87.09 43 IAmb IAmb 17 42 29.8
comp=Z,76nm,1.6s
E21K Killik River 87.12 13 P P 17 41 35.0 +0.8
baz=217
GRAC Grapevine Rang 87.13 51 P P 17 41 34.4 -0.6
baz=250
K27K Chicken 87.17 20 P P 17 41 35.2 +0.7
baz=228
BELC Belle Mtn. Jos 87.17 54 P P 17 41 35.2 -0.1
baz=251,SNR=13
HEC Hector,Ludlow 87.18 53 P P 17 41 35.3 0.0
baz=250,SNR=7.1
HOOD Mount Hood Mea 87.23 42 IAmb IAmb 17 42 28.8
comp=Z,36nm,0.9s
MOY Mondy 87.26 325 *e*P P 17 41 35.0 -0.3
MOY pmax pmax
comp=Z,147nm,3.7s
KVN Kaiserville 87.31 49 IAmb IAmb 17 42 27.8
comp=Z,98nm,1.9s
N30M Aishikik Lake 87.31 23 P P 17 41 35.6 +0.3
baz=233
FURC Furnace Creek, 87.33 51 P P 17 41 36.1 +0.3
baz=250
E22K Anaktuvuk Pass 87.38 14 IAmb IAmb 17 42 31.0
comp=Z,93nm,1.6s
E22K Anaktuvuk Pass 87.38 14 P P 17 41 36.8 +1.3
baz=219,SNR=7.4
GWY Greenwater Val 87.38 52 IAmb IAmb 17 42 28.1
comp=Z,68nm,1.6s
M29M Somme Creek 87.40 22 P P 17 41 36.7 +1.0
baz=232
G24K Hadweenzic Riv 87.40 16 P P 17 41 36.4 +0.9
baz=223
GNW Green Mountain 87.40 39 P P 17 41 35.0 -1.0
G05A Wamic 87.42 42 IAmb IAmb 17 42 29.1
comp=Z,55nm,1.2s
BC3 Big Chuckawall 87.49 54 P P 17 41 36.6 -0.2
baz=251,SNR=8.7
C21K Knifeblade Rid 87.52 13 P P 17 41 36.9 +0.8
baz=216
TAPN Taplejung 87.66 299 *e*P P 17 41 37.6 -0.4
I26K Coal Creek Min 87.68 19 P P 17 41 37.3 +0.4
baz=227
GMRC Granite Mounta 87.69 53 P P 17 41 37.5 -0.4
baz=251,SNR=9.9
TUQ Turquoise Moun 87.70 53 P P 17 41 37.6 -0.2
baz=251
WHY Whitehorse 87.71 25 P P 17 41 37.2 -0.1
baz=235
B20K Meade River 87.74 12 P P 17 41 37.5 +0.5
baz=214
D22K Ayikyak River 87.76 13 P P 17 41 36.9 -0.3
baz=218
ODAN Odare 87.79 298 *e*P P 17 41 36.9 -1.7
S34M Telegraph Cree 87.81 28 P P 17 41 37.0 -0.6
baz=238
G25K Bearman Lake 87.83 17 P P 17 41 38.3 +0.8
baz=225
N31M Braeburn, Yuko 87.83 24 P P 17 41 38.9 +1.2
baz=234
E23K Chandalar 87.85 15 P P 17 41 39.0 +1.3
baz=221
IRM Iron Mountain 87.89 54 P P 17 41 38.6 0.0
baz=251,SNR=15
F24K Squaw Lake 87.89 16 P P 17 41 38.5 +0.6
baz=223
B21K Ikpikpuk River 87.93 12 P P 17 41 38.8 +0.9
baz=217
L29M L29M 87.93 22 P P 17 41 38.8 +0.6
baz=232
TPNV Topopah Spring 87.96 51 P P 17 41 38.2 -0.9
baz=250
EGAK Eagle 87.96 20 P P 17 41 38.6 +0.5
baz=229
DAWY Dawson 88.09 21 P P 17 41 39.4 +0.5
baz=231
M30M Minto, Yukon 88.10 23 P P 17 41 39.5 +0.6
baz=233
WVOR Wild Horse Val 88.15 45 IAmb IAmb 17 42 34.7
comp=Z,74nm,1.6s
WVOR Wild Horse Val 88.15 45 P P 17 41 40.6 +0.8
I07A Izee 88.17 44 IAmb IAmb 17 42 31.8
comp=Z,102nm,1.9s
BLYC Blythe 88.25 55 IAmb IAmb 17 42 35.1
comp=Z,33nm,1.1s
D23K Nanushuk River 88.29 14 P P 17 41 40.4 +0.8
baz=220
TOLK Toolik Lake Re 88.30 14 P P 17 41 40.4 +0.6
baz=221
P33M Teslin, Yukon 88.31 26 P P 17 41 40.7 +0.7
baz=237
I27K Kandik River 88.36 19 P P 17 41 40.5 +0.4
baz=229
RAMN Ramite 88.49 298 *e*P P 17 41 40.5 -1.4
F25K Christian Rive 88.55 16 P P 17 41 41.7 +0.7
baz=225
113A Mohawk Valley, 88.55 56 IAmb IAmb 17 42 32.9
comp=Z,94nm,1.8s
DLBC Dease Lake 88.58 28 P P 17 41 40.8 -0.6
baz=239
K29M Barlow Dome 88.60 21 P P 17 41 41.1 -0.3
baz=233
G26K Porcupine Rive 88.61 17 P P 17 41 40.8 -0.4
baz=227
PALK Pallekele 88.64 278 P P 17 41 42.7 +0.1
PALK Pallekele 88.64 278 P P 17 41 42.7 +0.1
PALK pmax pmax
comp=Z,159nm,1.6s
R33M Jennings River 88.66 27 P P 17 41 41.5 -0.3
baz=238
PDMCI Parker Dam,Lak 88.73 54 P P 17 41 41.5 -1.0
baz=252
B22K Teshekpuk Lake 88.76 12 P P 17 41 41.3 -0.5
baz=218
I28M Miner Creek 88.79 19 P P 17 41 41.6 -0.6
baz=230
H27K Steamboat Moun 88.80 18 P P 17 41 42.0 -0.1
baz=229
D24K Happy Valley 88.87 14 P P 17 41 42.1 -0.2
baz=222
LPIG La Paz 88.92 65 LR LR 18 12 26.8
comp=Z,140nm,21.8s,baz=221,slow=29
R11B Troy Canyon, C 88.92 50 P P 17 41 42.6 -1.0
baz=251,SNR=12
E25K Arctic Village 88.94 16 P P 17 41 43.1 +0.4
baz=225
C23K Itkillik River 88.97 13 P P 17 41 42.6 -0.2
baz=220
G08A Pilot Rock 88.97 43 IAmb IAmb 17 42 34.1
comp=Z,55nm,1.3s
A22K Sinclair Lake 88.98 12 P P 17 41 42.4 -0.4
baz=216
HAWA Hanford 89.01 41 IAmb IAmb 17 42 34.3
comp=Z,65nm,1.4s
PRN Pahroc Range 89.01 51 IAmb IAmb 17 42 38.9
comp=Z,69nm,1.6s
F26K Sheenjek River 89.03 17 P P 17 41 43.6 +0.4
baz=226
JIRN Jiri 89.04 299 *e*P P 17 41 43.9 -0.7
comp=Z,329nm,1.4s
214A Organ Pipe Nat 89.07 57 IAmb IAmb 17 42 35.6
comp=Z,57nm,1.5s
214A Organ Pipe Nat 89.07 57 P P 17 41 42.6 -1.6
baz=252,SNR=5.7
G27K Doyon Strip 89.14 18 P P 17 41 44.1 +0.4
baz=229
FARO Faro, Yukon 89.21 24 P P 17 41 44.4 +0.3
baz=236
I29M Ogilvie Camp, 89.27 20 P P 17 41 45.4 +1.1
baz=232
C24K Franklin Bluff 89.32 14 P P 17 41 45.5 +1.0
baz=222
E08A Dider Farm, El 89.35 41 IAmb IAmb 17 42 35.9
comp=Z,79nm,1.3s
GUN Gumba 89.38 299 *e*P P 17 41 45.6 -0.5
comp=Z,238nm,1.3s
J30M Hart River 89.46 21 P P 17 41 45.9 +0.5
baz=234
D25K Kavik River 89.59 15 P P 17 41 46.0 +0.2
baz=224
D08A Wollman Farm, 89.65 41 IAmb IAmb 17 42 37.2
comp=Z,57nm,1.5s
PKI Pulchoki 89.68 298 *e*P P 17 41 46.9 -0.7
comp=Z,366nm,1.3s
TIXI Tiksi 89.68 349 P P 17 41 45.0 -1.1
TIXI IAmb IAmb 17 41 47.1
comp=Z,62nm,1.2s
TIXI Tiksi 89.68 349 *ce*P P 17 41 45.2 -0.9
PKIN Phulchoki 89.69 298 *e*P P 17 41 46.8 -0.7
comp=Z,301nm,1.3s
Q12A Willow Creek R 89.70 50 IAmb IAmb 17 42 42.0
comp=Z,39nm,1.1s
H29M Whitestone 89.78 19 P P 17 41 48.0 +1.3
baz=232
I30M Mount Dempster 89.83 20 P P 17 41 47.9 +0.8
baz=234
KKN Kakani 89.85 299 *e*P P 17 41 46.6 -1.6
comp=Z,501nm,1.7s
BMO Blue Mountains 89.91 43 IAmb IAmb 17 42 38.3
comp=Z,54nm,1.4s
DMN Daman 89.95 298 *e*P P 17 41 48.1 -0.6
comp=Z,401nm,1.2s
E09A Wood Farm, Sta 89.95 42 IAmb IAmb 17 42 41.2
comp=Z,50nm,1.3s
ELK Elko 89.96 48 P P 17 41 49.2 +0.8
comp=Z,3.4nm,0.8s,baz=210,slow=4.8,SNR=11
ELK pP **pP** 17 42 37.3 +0.3
comp=Z,7.3nm,0.9s,baz=217,slow=2.0,SNR=6.5
comp=Z,3.4nm,0.8s
E27K Coleen River 90.07 17 P P 17 41 49.2 +1.1
baz=229
F28M Old Crow 90.20 18 P P 17 41 49.5 +0.8
baz=230
LCMT Little Creek M 90.26 52 IAmb IAmb 17 42 44.1
comp=Z,31nm,1.0s
G29M Pine Creek 90.32 19 P P 17 41 50.0 +0.8
baz=232
CCUT Cedar City 90.33 51 IAmb IAmb 17 42 40.7
comp=Z,54nm,1.7s
F10A Beach Ranch, E 90.35 42 IAmb IAmb 17 42 40.2
comp=Z,52nm,1.1s
C26K Camden Bay 90.38 15 P P 17 41 50.0 +0.7
baz=226
EPYK Eagle Plains 90.40 19 P P 17 41 50.4 +0.8
baz=233
MFID Camas Ranch 90.42 45 IAmb IAmb 17 42 43.0
comp=Z,35nm,1.2s
GKN Gorkha 90.46 299 *e*P P 17 41 49.8 -1.1
comp=Z,272nm,1.3s
SZCU Shurtz Canyon 90.56 51 IAmb IAmb 17 42 42.4
comp=Z,40nm,1.4s
ELIB Princess Elisa 90.56 191 *d*P P 17 41 50.0 -0.5
ELIB *d*pP **pP** 17 42 35.3 -4.1
KNB Kanab 90.58 52 IAmb IAmb 17 42 42.6
comp=Z,53nm,1.3s
U15A North Rim 90.81 53 IAmb IAmb 17 42 47.7
comp=Z,53nm,1.2s
TUC Tucson 90.82 57 P P 17 41 52.3 -0.1
TUC IAmb IAmb 17 42 43.8
comp=Z,41nm,1.4s
TUC Tucson 90.82 57 P P 17 41 51.9 -0.6
baz=254
TUC Tucson 90.82 57 P P 17 41 52.3 -0.1
TUC pmax pmax
comp=Z,41nm,1.5s
LIRD Liard River Hi 90.84 28 P P 17 41 52.4 +0.6
baz=243
H31M Peel River 90.86 21 P P 17 41 51.9 +0.1
baz=235
X16A Lo Mia Camp, P 90.89 55 IAmb IAmb 17 42 47.5
comp=Z,27nm,1.1s
G30M tAoh Zraii Nji 90.92 19 P P 17 41 52.8 +0.7
baz=234
E28M Babbage River 90.93 17 P P 17 41 52.8 +0.8
baz=231
D27M Malcolm River 90.94 16 P P 17 41 52.4 +0.3
baz=229
NEW Newport 91.22 40 P P 17 41 54.5 +0.7
baz=250
NEW Newport 91.22 40 P P 17 41 53.8 0.0
comp=Z,4.8nm,0.8s,baz=219,slow=6.0,SNR=6.0
NEW pP **pP** 17 42 42.3 -0.4
comp=Z,11nm,1.1s,baz=228,slow=7.2,SNR=5.2
comp=Z,4.8nm,0.8s
WUAZ Wupatki 91.26 54 IAmb IAmb 17 42 49.6
comp=Z,39nm,1.1s
WUAZ Wupatki 91.26 54 P P 17 41 55.3 +0.8
baz=253
E29M Blow River 91.26 18 P P 17 41 55.1 +1.6
baz=232
KOLN Koldanda 91.28 298 *e*P P 17 41 53.4 -1.4
DANN Dangsing 91.30 299 *e*P P 17 41 53.7 -1.3
TCRU Three Creeks R 91.34 51 IAmb IAmb 17 42 48.4
comp=Z,30nm,1.0s
MTPU Mount Pierson 91.37 51 IAmb IAmb 17 42 49.0
comp=Z,30nm,1.1s
F30M Barrier River 91.43 19 P P 17 41 55.2 +0.9
baz=234
HLID Hailey 91.44 45 IAmb IAmb 17 42 48.1
comp=Z,31nm,1.4s
HLID Hailey 91.44 45 P P 17 41 55.3 +0.1
baz=252,SNR=5.7
G31M Satah River 91.52 20 P P 17 41 55.6 +0.9
baz=236
DUG Dugway, Tooele 91.54 49 IAmb IAmb 17 42 48.5
comp=Z,39nm,1.9s
DUG Dugway, Tooele 91.54 49 P P 17 41 55.7 0.0
baz=252
D28M Stokes Point 91.61 17 P P 17 41 56.9 +1.8
baz=232
PYUN Piuthan 91.89 298 *e*P P 17 41 56.0 -1.6
comp=Z,122nm,1.3s
F31M Tsiigehtchic 91.98 19 P P 17 41 58.2 +1.4
baz=236,SNR=7.9
HVU Hansel Valley 92.05 47 IAmb IAmb 17 42 50.9
comp=Z,43nm,1.2s
X18A Snowflake 92.10 55 IAmb IAmb 17 42 53.5
comp=Z,28nm,1.2s
W18A Petrified Fore 92.44 54 P P 17 41 59.9 -0.1
baz=254,SNR=6.4
INK Inuvik 92.53 19 P P 17 42 00.7 +1.3
baz=236
INK Inuvik 92.53 19 PKKP 17 59 11.5
comp=Z,1.1nm,0.5s,baz=27,slow=3.8,SNR=6.0
INK LR LR 18 21 56.5
comp=Z,200nm,20.3s,baz=186,slow=34
WMQ Urumqi 92.61 315 ⇑P P 17 42 00.6 +0.2
WMQ pP pP 17 42 48.7 -0.3
WMQ sP sP 17 43 06.5 -3.0
WMQ PP **PP** 17 45 42.8 -2.3
WMQ pmax pmax
comp=Z,81nm,1.3s
WMQ pmax pmax
comp=Z,180nm,6.3s
WMQ LR LR
comp=Z,270nm,28.7s
TCUT Toone Canyon 92.83 48 IAmb IAmb 17 42 54.5
comp=Z,25nm,1.3s
TROLL Troll, Antarti 93.20 185 ⇑P P 17 42 02.4 -0.3
comp=Z,1μm,0.6s
TROLL ⇓pP **pP** 17 42 50.7 -0.7
comp=Z,1μm,0.9s
121A Cookes Peak, D 93.32 57 P P 17 42 04.1 0.0
baz=255
NVL N'lazarevskaya 93.39 188 *e*P P 17 42 01.4 -2.1
NVL *e**PP **pP** 17 42 50.9 -1.1
NVL *e*S **SKSac** 17 52 16.0 -2.4
NVL pmax pmax
comp=Z,28nm,0.9s
NVL smax smax
comp=N,144nm,8.1s
SNAA Sanae 93.88 183 P P 17 42 04.8 -1.0
SNAA Sanae 93.88 183 ⇑P P 17 42 05.1 -0.8

comp=Z,407nm,0.9s
SNAA ⇓pP **pP** 17 42 53.3 -1.3
comp=Z,303nm,1.2s
SNAA Sanae 93.88 183 *ce*P **P** 17 42 04.9 -0.9
SNAA pmax pmax
comp=Z,38nm,1.0s
SNAA Sanae 93.88 183 P **P** 17 42 04.8 -1.0
comp=Z,15nm,0.7s,baz=208,slow=6.8,SNR=44
SNAA pP **pP** 17 42 55.3 +0.8
comp=Z,20nm,1.1s,baz=207,slow=6.8,SNR=4.6
comp=Z,15nm,0.7s
BOZ Bozeman (W) 93.95 44 P **P** 17 42 07.2 +0.5
baz=254
H17A Grant Village 94.34 45 P **P** 17 42 08.7 +0.1
baz=254
DGZ Jazzator, Alta 94.52 320 *c i*P **P** 17 42 08.3 -0.8
DGZ pmax pmax
comp=Z,69nm,1.2s
VNA3 Neumayer Olymp 94.54 181 ⇑P **P** 17 42 07.9 -0.9
comp=Z,32nm,0.6s
VNA3 ⇑pP **pP** 17 42 56.0 -1.0
comp=Z,18nm,0.8s
PDAR Pinedale Array 94.61 47 P **P** 17 42 09.8 -0.1
comp=Z,0.7nm,0.7s,baz=237,slow=3.0,SNR=5.6
PDAR pP **pP** 17 42 58.9 +0.2
comp=Z,1.0nm,0.9s,baz=117,slow=0.3,SNR=2.6
PDAR PKKP **PKKPdf** 17 59 06.7 -1.5
comp=Z,0.5nm,0.7s,baz=90,slow=4.4,SNR=5.5
PDAR LR LR 18 25 56.5
comp=Z,99nm,18.1s,baz=280,slow=36
VNA2 Neumayer--Watz 94.81 182 ⇑P **P** 17 42 09.4 -0.6
comp=Z,28nm,0.5s,baz=183,slow=5.0
VNA2 ⇑pP **pP** 17 42 57.6 -1.2
comp=Z,17nm,0.6s,baz=180,slow=6.0
O20A White River Ci 94.89 50 P **P** 17 42 11.7 +0.5
baz=255
ANMO Albuquerque 94.99 55 P **P** 17 42 11.3 -0.4
baz=256
ANMO Albuquerque 94.99 55 *ce*P **P** 17 42 13.2 +1.5
ANMO pmax pmax
comp=Z,2.0nm,1.1s
ANMO Albuquerque 94.99 55 pP **pP** 17 43 00.5 +0.1
comp=Z,3.5nm,0.9s,baz=355,slow=3.1,SNR=4.7
ANMO LR LR 18 18 38.3
comp=Z,158nm,20.3s,baz=347,slow=31
MNTX Cornudas Mount 95.09 59 P **P** 17 42 11.2 -0.9
baz=256
VNA1 Neumayer--Stat 95.11 181 ⇓pP pP 17 42 57.4 -2.8
comp=Z,23nm,1.1s
S22A 4UR Ranch, Cre 95.37 53 P **P** 17 42 13.0 -0.5
baz=256
RLMT Red Lodge 95.43 45 P **P** 17 42 13.0 -0.5
baz=255
ZSN Zaisan 95.53 317 *e*P **P** 17 42 13.7 0.0
comp=Z,45nm,1.2s,baz=318
ZSN Zaisan 95.53 317 *e*P **P** 17 42 13.6 0.0
ZSN pmax pmax
comp=Z,45nm,1.2s
TXAR Lajitas Array 95.99 61 P **P** 17 42 15.8 -0.5
comp=Z,0.6nm,0.6s,baz=194,slow=4.6,SNR=7.5
TXAR pP **pP** 17 43 05.8 +0.9
comp=Z,2.6nm,1.1s,baz=235,slow=4.4,SNR=5.0
TXAR PKKP **PKKPbc** 17 59 04.0 -0.2
comp=Z,0.3nm,0.4s,baz=96,slow=4.9,SNR=4.3
comp=Z,0.6nm,0.6s
C36M Paulatuk 96.03 19 IAmb IAmb 17 43 12.9
comp=Z,35nm,1.7s
C36M Paulatuk 96.03 19 P **P** 17 42 15.2 -0.2
baz=245
A36M Sachs Harbour 96.82 17 P **P** 17 42 19.2 +0.4
baz=244
Q24A Divide 96.94 52 P **P** 17 42 19.5 -1.1
baz=257
MK31 Makanchi Array 97.08 316 *ce*P Pdif 17 42 20.9 +0.1
MKAR Makanchi Array 97.08 316 P **P** 17 42 20.6 0.0
comp=Z,15nm,0.6s,baz=89,slow=6.7,SNR=106
MKAR pP **pwP** 17 43 10.6 -1.3
comp=Z,7.7nm,0.7s,baz=94,slow=6.2,SNR=4.5
MKAR PP **PP** 17 46 24.9 +5.3
comp=Z,5.2nm,1.1s,baz=107,slow=10,SNR=3.7
MKAR PKiKP **PKiKP** 17 46 55.5 0.0
comp=Z,0.9nm,0.5s,baz=215,slow=1.1,SNR=10
comp=Z,15nm,0.6s
YKA Yellowknife Ar 97.19 27 P **P** 17 42 19.9 -0.8
comp=Z,2.0nm,0.7s,baz=255,slow=4.8,SNR=26
YKA pP **pP** 17 43 08.8 -0.9
comp=Z,3.4nm,0.8s,baz=257,slow=4.7,SNR=6.0
YKA PKKPbc **PKKPbc** 17 58 59.5 -2.7
comp=Z,0.4nm,0.9s,baz=72,slow=2.4,SNR=3.5
YKA LR LR 18 22 33.7
comp=Z,90nm,18.1s,baz=303,slow=33
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 97.22 324 P **P** 17 42 20.1 -1.1
comp=Z,46nm,1.1s,baz=111,slow=3.8,SNR=91
ZALV pP **pP** 17 43 10.4 +0.6
comp=Z,6.0nm,0.7s,baz=112,slow=4.9,SNR=4.3
ZALV PKiKP **PKiKP** 17 46 55.4 -0.1
comp=Z,1.4nm,0.6s,baz=195,slow=1.4,SNR=2.9
ZALV LR LR 18 23 22.9
comp=Z,152nm,21.8s,baz=100,slow=34
comp=Z,46nm,1.1s
MAKZ Makanchi 97.29 316 P **P** 17 42 20.8 -0.8
MAKZ Makanchi 97.29 316 P **P** 17 42 20.8 -0.8
MAKZ pmax pmax
comp=Z,103nm,1.4s
SHLS Shalkode 98.24 312 *e*P **P** 17 42 24.5 -1.7
comp=Z,28nm,1.7s,baz=312
SHLS Shalkode 98.24 312 *e*P **P** 17 42 24.4 -1.7
SHLS pmax pmax
comp=Z,27nm,1.7s
UZB Uzunbulak 98.55 312 *e*P **P** 17 42 26.9 -0.7
comp=Z,21nm,1.8s,baz=312
UZB Uzunbulak 98.55 312 *e*P **P** 17 42 26.8 -0.7
UZB pmax pmax
comp=Z,21nm,1.8s
KPKS Kokpek 98.86 313 *e*P **P** 17 42 28.2 -0.7
comp=Z,26nm,1.9s,baz=312
KPKS Kokpek 98.86 313 *e*P **P** 17 42 28.1 -0.7
KPKS pmax pmax
comp=Z,26nm,1.9s
SATY Saty 98.98 312 *e*P **P** 17 42 28.9 -0.5
comp=Z,22nm,2.2s,baz=312
SATY *e*PP **PP** 17 46 31.4 -2.8
baz=312
SATY Saty 98.98 312 *e*P **P** 17 42 28.9 -0.5
SATY *e* 17 46 31.4
SATY pmax pmax
comp=Z,22nm,2.2s
ZHN Zhinishke 98.98 312 *e*P **P** 17 42 28.5 -0.9
baz=312
ZHN Zhinishke 98.98 312 *e*P **P** 17 42 28.5 -0.9
TDK Taldyqorghan 99.35 314 *e*P **Pdif** 17 42 30.2 -0.7
baz=314
TDK Taldyqorghan 99.35 314 *e*P **Pdif** 17 42 30.2 -0.7
KSH Kashi 100.12 308 P **Pdif** 17 42 35.6 +1.0
KSH PP **PP** 17 46 43.7 +0.7
KSH pmax pmax
comp=Z,4.0nm,1.1s
KURK Kurchatov 100.25 320 Pdif **Pdif** 17 42 33.0 -1.7
KURK Kurchatov 100.25 320 *i*P **Pdif** 17 42 34.3 -0.4
KURK pmax pmax
comp=Z,11nm,1.2s
KURBB Kurchatov Arra 100.29 320 P **Pdif** 17 42 33.7 -1.2
comp=Z,6.9nm,1.1s,baz=101,slow=4.3,SNR=17
KURBB PKiKP **PKiKP** 17 47 01.3 +0.3
comp=Z,2.0nm,0.6s,baz=121,slow=1.5,SNR=14
KURBB PKKPbc **PKKPbc** 17 58 51.1 -1.8
comp=Z,0.4nm,0.5s,baz=298,slow=3.2,SNR=4.7
SGDS Sogindy 101.76 312 *e*P **Pdif** 17 42 41.5 -0.2
baz=312
SGDS Sogindy 101.76 312 *e*P **Pdif** 17 42 41.5 -0.2
BRZS Berezniki 103.92 318 *e*Pdif **Pdif** 17 42 50.4 -0.8
baz=318
BRZS *e*PKiKP **PKiKP** 17 47 06.4 -1.2
baz=318
BRZS Berezniki 103.92 318 *e*P **Pdif** 17 42 50.3 -0.8
BRZS *e* 17 47 06.4
BVAR Borovoye Array 105.59 322 Pdiff **Pdif** 17 42 57.4 -1.0
comp=Z,6.4nm,1.1s,baz=100,slow=4.5,SNR=19
BVAR PKiKP **PKiKP** 17 47 11.1 +0.5
comp=Z,3.2nm,0.5s,baz=124,slow=1.3,SNR=20
BRVK Borovoye 105.66 322 Pdif **Pdif** 17 42 58.2 -0.5
BRVK Borovoye 105.66 322 P **Pdif** 17 42 58.2 -0.5
SVE Sverdlovsk 111.12 326 *e*PKiKP **PKiKP** 17 47 20.9 +0.1
SVE pmax pmax
comp=Z,29nm,1.4s
ARU Arti 112.31 325 *i* PKiKP **PKiKP** 17 47 23.0 -0.1
ARU 17 48 15.1
ARU 17 54 16.0
ARU SP SP 17 57 23.2 -0.9
ARU Arti 112.31 325 PKiKP **PKiKP** 17 47 23.2 +0.1
comp=Z,11nm,0.5s,baz=63,slow=1.2,SNR=25
AKTO Aktyubinsk 113.33 319 PKiKP **PKiKP** 17 47 25.7 +0.4
comp=Z,6.2nm,0.5s,baz=79,slow=2.7,SNR=19
GEYT Alibeck 113.87 305 PKiKP **PKiKP** 17 47 26.8 0.0
comp=Z,5.8nm,0.7s,baz=72,slow=4.8,SNR=10.0
NEEM North Greenlan 114.02 9 *i* P **PKiKP** 17 47 26.9 +0.6
SPA0 Spitsbergen Ar 114.63 354 *e*PKPdf **PKiKP** 17 47 27.3 +0.3
SPITS Spitsbergen Ar 114.63 354 PKP PKPdf 17 47 26.9 -0.1
comp=Z,5.1nm,0.6s,baz=106,slow=4.6,SNR=11
KIRV Kirov 116.68 329 *i* PKiKP **PKiKP** 17 47 32.1 +0.7
KIRV Kirov 116.68 329 PKP **PKPdf** 17 47 31.4 0.0
comp=Z,16nm,0.4s,baz=81,slow=0.9,SNR=14
PRGR Permogore 117.45 333 *e*PKiKP **PKPdf** 17 47 29.8 -3.0
PRGR pmax pmax
comp=Z,25nm,0.9s
DAG Danmarks Havn 117.55 2 *i* P **PKPdf** 17 47 31.0 -1.6
LVZ Lovozero 118.55 342 *i* PKiKP **PKiKP** 17 47 35.3 +0.4
LVZ pmax pmax
comp=Z,21nm,1.0s
VADS Vadso 118.61 345 *e*PKPdf **PKiKP** 17 47 35.1 +0.2
APA Apatity 119.12 342 ⇓*i*PKiKP **PKPdf** 17 47 35.0 -0.9
APA pmax pmax
comp=Z,17nm,1.2s
HAMF Hammerfest 119.58 347 *e*PKPdf **PKPdf** 17 47 36.5 -0.2
SUMG Summit 119.89 9 **PKPdf** 17 47 36.6 -1.2
SUMG Summit 119.89 9 PKiKP **PKPdf** 17 47 36.6 -1.2
DBG Daneborg 119.95 2 *i* P **PKPdf** 17 47 35.4 -1.9
ARA0 ARCESS Array S 119.98 345 *e*PKPdf **PKPdf** 17 47 37.6 0.0
ARCES ARCESS Array B 119.98 345 PKP **PKPdf** 17 47 37.5 0.0
comp=Z,22nm,0.3s,baz=85,slow=2.6,SNR=488
ARCES PKKPbc **PKKPab** 17 57 47.5 -0.8
comp=Z,3.4nm,1.0s,baz=219,slow=1.6,SNR=8.3
KLMR Klimovskoe 120.47 333 *e*PKPdf **PKPdf** 17 47 35.8 -2.8
KLMR AMP 17 47 40.4
comp=Z,116nm,1.4s
KLMR Klimovskoe 120.47 333 *e*PKiKP **PKPdf** 17 47 35.8 -2.8
KLMR pmax pmax
comp=Z,116nm,1.4s
KTK1 Kautokeino 120.91 346 *e*PKPdf **PKPdf** 17 47 38.8 -0.5
JETT Jettan, Norway 121.13 347 *e*PKPdf **PKPdf** 17 47 39.7 -0.1
TRO Tromso 121.39 348 *e*PKPdf **PKPdf** 17 47 39.6 -0.5
MAK Makhachkala 121.51 312 *e*P **Pdif** 17 44 07.2 -2.2
MAK *i* 17 47 39.8
MAK *e* 17 48 30.9
MAK *e* 17 49 12.9
MAK *e* 17 54 25.2
MAK *e*PS **PS** 17 59 11.6 0.0
MAK *e*SS SS 18 05 35.7 +0.2
MAK *e*SSS SSS 18 10 10.7
MAK pmax pmax
comp=Z,182nm,1.3s
SCHQ Schefferville 121.94 34 PKP **PKPdf** 17 47 40.0 -1.7
comp=Z,3.5nm,1.0s,baz=76,slow=18,SNR=1.4
SCHQ PKKPbc **PKKPab** 17 57 40.6 +0.5
comp=Z,3.3nm,0.5s,baz=74,slow=3.6,SNR=10
ICESG Greenland Ices 122.71 11 *i* P **PKPdf** 17 47 41.2 -2.1
SDV Santo Domingo 122.99 89 **PKPdf** 17 47 43.5 -1.6
VRH Novokhopyorsk 123.23 322 *e*PKiKP **PKPdf** 17 47 43.7 -0.5
VRH pmax pmax
comp=Z,70nm,0.8s
DY2G Dye2 123.37 15 *i* P **PKPdf** 17 47 43.4 -1.0
STEI Steigen 123.56 348 *e*PKPdf **PKPdf** 17 47 44.5 +0.2
SCO Scoresbysund 123.65 4 *i* P **PKPdf** 17 47 43.4 -1.1
MOS Moscow 123.69 329 *i* PKiKP **PKPdf** 17 47 42.4 -2.6
MOS *e* 17 49 26.9
MOS pmax pmax
comp=Z,54nm,0.8s
BOSA Boshof 123.72 220 PKP **PKPdf** 17 47 45.9 -0.3
comp=Z,14nm,1.1s,baz=167,slow=2.8,SNR=8.3
LOF Lofoten 123.72 349 *e*PKPdf **PKPdf** 17 47 44.4 -0.3
FAUS Fauske 124.01 347 *e*PKPdf **PKPdf** 17 47 45.4 +0.2
GNI Garni 124.05 309 PKP **PKPdf** 17 47 46.1 -0.3
comp=Z,16nm,0.8s,baz=194,slow=4.3,SNR=9.5
ZEI Tsey 124.15 312 *i* PKiKP **PKPdf** 17 47 44.7 -1.9
ZEI pmax pmax
comp=Z,20nm,1.0s
GOF Gofitskoye 124.21 315 *ce*PKiKP **PKiKP** 17 47 47.3 +0.6
LPSR Galich'ya Gora 124.32 325 *e*PKiKP **PKPdf** 17 47 45.6 -0.7
LPSR pmax pmax
comp=Z,180nm,1.4s
OBN Obninsk 124.51 328 **PKPdf** 17 47 46.2 -0.3
OBN Obninsk 124.51 328 *ce*PKiKP **PKPdf** 17 47 46.3 -0.3
OBN *i* 17 48 38.2
OBN *e* 17 49 35.7
OBN *e*PPP PPP 17 52 21.0
OBN pmax pmax
comp=Z,155nm,1.5s
ONI Oni 124.51 312 **PKiKP** 17 47 48.0 +0.6
ONI Oni 124.51 312 PKiKP **PKiKP** 17 47 48.0 +0.6
VORR Voronezh 124.52 324 *e*PKiKP **PKPdf** 17 47 46.9 +0.2
VORR pmax pmax
comp=Z,280nm,1.4s
KBZ Khabaz 124.64 313 *i* PKiKP **PKiKP** 17 47 47.6 +0.1
KBZ pmax pmax
comp=Z,7.0nm,0.7s
KBZ Khabaz 124.64 313 PKP **PKPdf** 17 47 47.1 0.0
comp=Z,9.0nm,0.9s,baz=94,slow=6.6,SNR=16
SAML Samuel 124.70 112 **PKPdf** 17 47 47.0 -1.2
SAML Samuel 124.70 112 PKiKP **PKPdf** 17 47 47.0 -1.2
VSR Storozhevoye 124.72 323 *e*PKiKP **PKPdf** 17 47 46.8 -0.3
VSR pmax pmax
comp=Z,140nm,1.5s
KIV Kislovodsk 124.74 314 **PKPdf** 17 47 47.4 -0.1
KIV Kislovodsk 124.74 314 *i* PKiKP **PKPdf** 17 47 47.4 -0.1
KIV *e* 17 49 36.3
KIV *e*PS **PS** 17 59 38.3 -2.0
KIV *e*SS SS 18 06 15.6 -0.7
KIV pmax pmax
comp=Z,37nm,1.0s
KIV MLR MLR
comp=Z,65nm,23.0s
VORD Divnogorie 124.74 323 *e*PKiKP **PKPdf** 17 47 46.9 -0.2
VORD pmax pmax
comp=Z,80nm,1.5s
MOR8 Moi Rana 125.21 347 *e*PKPdf **PKPdf** 17 47 46.8 -0.8
KONS Konsvik 125.21 348 *e*PKPdf **PKPdf** 17 47 47.8 +0.2
PTLB Pontes e Lacer 125.24 121 **PKPdf** 17 47 48.3 -0.8
STOK Stokkvaagen 125.38 348 *e*PKPdf **PKiKP** 17 47 48.3 +0.1
FINES FINESS Array B 125.48 338 PKP **PKPdf** 17 47 48.1 -0.1
comp=Z,7.5nm,0.3s,baz=58,slow=1.9,SNR=84
SOC Sochi 126.91 314 *i* PKiKP **PKPdf** 17 47 49.1 -2.4
SOC *e*PPP PPP 17 52 32.1
SOC *e*PS **PS** 17 59 58.2 -0.8
SOC *e*SSS SSS 18 11 21.0
MEF Metsahovi 126.92 338 *e*P **PKiKP** 17 47 51.8 +0.3
NSS Namsos 127.16 347 *e*PKPdf **PKPdf** 17 47 51.4 0.0
VSU Vasula 127.19 335 *e*P **PKiKP** 17 47 52.1 0.0
RAF Rauma 127.27 340 *e*P **PKPdf** 17 47 51.7 0.0
ANN Anapa 128.10 316 *i* PKiKP **PKPdf** 17 47 51.4 -2.3
ANN *e* 17 48 43.2
ANN *e* 17 49 58.1
ANN pmax pmax
comp=Z,118nm,1.0s
MTSE Matsula 128.17 337 *e*P **PKiKP** 17 47 54.0 -0.1
KMBO Kilima Mbogo 128.33 257 **PKPdf** 17 47 55.2 -0.2
KMBO Kilima Mbogo 128.33 257 PKP **PKPdf** 17 47 55.4 -0.1
comp=Z,3.2nm,0.7s,baz=81,slow=4.3,SNR=11
IZAR Zarasai 129.11 333 *e*P **PKiKP** 17 48 00.4 +4.4
MNK Minsk 129.11 331 *i* PKP **PKiKP** 17 47 56.1 0.0
comp=E,1.0nm,0.4s
MNK *i* PKP **PKiKP** 17 47 56.1 0.0
comp=N,10.0nm,1.0s
MNK *i* PKP **PKiKP** 17 47 56.1 0.0
comp=Z,39nm,1.1s,baz=54
MNK *i* pPKP **pPKPdf** 17 48 48.1 +1.6
MNK *i* sPKP 17 49 09.4
MNK *i* PP **PP** 17 50 06.8 +1.1
MNK *i* SKP 17 51 14.4
MNK *i* PKS **PKSdf** 17 51 33.4 +1.7
MNK *i* PPP PPP 17 52 55.4
MNK *i* SKS **SKSdf** 17 54 54.4 +6.4
MNK *i* SKKS **SKKSdf** 18 04 56.9 -0.5
MNK *i* SS **SS** 18 07 13.4 +4.2
MNK *i* SSS SSS 18 12 03.3
MNK *i* LRM MLR 18 43 59.1
comp=Z,185nm,20.9s
MNK *i* LRM MLR 18 44 01.7
comp=N,170nm,20.9s
MNK *i* LRM MLR 18 44 06.5
comp=E,58nm,17.4s
MNK Minsk 129.11 331 *i* PKiKP **PKiKP** 17 47 56.1 0.0
MNK *i* 17 48 48.0
MNK *i* 17 50 06.7
MNK *i* PPP PPP 17 52 55.4
MNK *i* SS SS 18 07 13.4 +4.2
MNK *i* SSS SSS 18 12 03.2
MNK pmax pmax
comp=N,10.0nm,1.0s
MNK pmax pmax
comp=E,1.0nm,0.4s
MNK pmax pmax
comp=Z,39nm,1.1s
MNK MLR MLR
comp=Z,185nm,21.0s
MNK MLR MLR
comp=N,170nm,21.0s
MNK MLR MLR
comp=E,58nm,17.0s
IDID Didziasalis 129.15 332 *e*P **PKPdf** 17 47 55.2 -0.2
ISAL Salakas 129.27 333 *e*P **PKiKP** 17 47 58.7 +2.3
NACGM Naroch 129.38 332 *e*PKP **PKiKP** 17 47 56.6 -0.1
comp=Z,91nm,1.1s,baz=52
UPP Uppsala 129.50 341 *e*P **PKPdf** 17 47 56.2 +0.2
MOL Molde 129.82 348 *e*PKPdf **PKiKP** 17 47 57.0 -0.3
VSVD Vaisvydziai 129.96 334 *e*P **PKiKP** 17 47 58.5 +0.7
DOMB Dombas 129.98 347 *e*PKPdf **PKiKP** 17 47 57.6 -0.1
LSZ Lusaka 130.06 235 **PKPdf** 17 47 58.2 -0.4
LSZ Lusaka 130.06 235 PKiKP **PKPdf** 17 47 58.2 -0.4
PABE Paberze 130.26 334 *e*P **PKPdf** 17 47 58.0 +0.5
AKN Aaknes 130.29 348 *e*PKPdf **PKiKP** 17 47 58.4 +0.1
NB2 NORSAR Subarra 130.35 345 PKPdf **PKPdf** 17 47 57.6 0.0
comp=Z,57nm,1.7s,baz=31,slow=1.9
NB2 pPKP **SKPbc** 17 51 05.5 +3.2
comp=Z,5.3nm,0.7s,baz=40,slow=4.6
NB2 NORSAR Subarra 130.35 345 PKPdf **PKPdf** 17 47 57.6 0.0
baz=31,slow=1.9
NOA NORSAR Array B 130.35 345 PKiKP **PKPdf** 17 47 58.0 +0.3
NOA NORSAR Array B 130.35 345 PKP **PKPdf** 17 47 58.0 +0.3
comp=Z,4.7nm,0.6s,baz=33,slow=2.0,SNR=31
NOA SKPbc **SKPbc** 17 51 02.4 +0.1
comp=Z,9.5nm,0.8s,baz=33,slow=2.9,SNR=21
HFS Hagfors 130.46 343 PKP **PKPdf** 17 47 57.8 0.0
comp=Z,5.1nm,0.4s,baz=132,slow=6.6,SNR=30
HFS SKPbc **SKPab** 17 51 03.4 +0.6
comp=Z,13nm,0.6s,baz=92,slow=4.5,SNR=30
NC602 NORSAR Array S 130.53 345 *e*PKPdf **PKPdf** 17 47 58.1 +0.2
AKASG Malin Array Be 130.55 326 PKiKP **PKPdf** 17 47 58.0 -0.3
AKASG Malin Array Be 130.55 326 PKP **PKPdf** 17 47 58.0 -0.3
comp=Z,3.2nm,0.4s,baz=47,slow=1.6,SNR=54
AKASG SKPbc **SKPab** 17 51 04.6 +1.1
comp=Z,7.7nm,0.6s,baz=48,slow=4.4,SNR=21
AKBB Malin Array Si 130.55 326 *i* PKiKP **PKPdf** 17 47 58.5 +0.3
AKBB pmax pmax
comp=Z,102nm,1.5s
KIEV Kiev 130.57 326 ⇓P **PKiKP** 17 47 59.2 +0.1
KIEV Kiev 130.57 326 **PKPdf** 17 47 58.1 -0.2
KIEV Kiev 130.57 326 PKiKP **PKPdf** 17 47 58.1 -0.2
VIKU Vikbolandet 130.86 340 *e*P **PKPdf** 17 47 59.1 +0.5
FOO Floro 131.20 349 *e*PKPdf **PKPdf** 17 47 59.4 +0.3
SKAR Skarslia 131.36 346 *e*PKPdf **PKiKP** 17 48 00.3 -0.2
OSL Oslo 131.43 345 *e*PKPdf **PKPdf** 17 48 00.0 +0.4
SUW Suwalki 131.58 333 *e*PKPdf **PKiKP** 17 48 00.7 -0.4
SUW Suwalki 131.58 333 *e*P **PKiKP** 17 48 00.7 -0.4
ASK Askoy 132.20 348 *e*PKPdf **PKPdf** 17 48 01.3 +0.3
BER Bergen 132.26 348 *e*PKPdf **PKPdf** 17 48 01.1 -0.1
SORM Soroca 132.38 324 ⇓P **PKPdf** 17 48 02.1 +0.3
SORM Soroca 132.38 324 ⇓PKiKP **PKPdf** 17 48 02.1 +0.3
BRTR Keskin Array B 132.42 311 PKP **PKPdf** 17 48 02.5 +0.2
comp=Z,3.9nm,0.5s,baz=133,slow=4.4,SNR=16
BRTR SKPbc **SKPab** 17 51 12.3 +0.3
comp=Z,3.6nm,1.0s,baz=118,slow=4.2,SNR=3.5
ODD1 Odda 132.42 347 *e*PKPdf **PKiKP** 17 48 03.2 +0.5
MILM Milestii Mici 132.71 322 *e*PKP **PKPdf** 17 48 01.0 -1.4
comp=Z,120nm,1.9s
MILM Milestii Mici 132.71 322 *e*PKiKP **PKPdf** 17 48 01.0 -1.4
MILM pmax pmax
comp=Z,120nm,1.9s
MMAI Mount Meron Ar 132.77 302 PKP **PKPdf** 17 48 03.8 +0.6
comp=Z,6.0nm,0.6s,baz=95,slow=9.3,SNR=7.8
BLS5 Blasjo 132.90 347 *e*PKPdf **PKiKP** 17 48 03.2 -0.4
ANTO Ankara 132.98 312 ⇓P **PKiKP** 17 48 04.3 -0.2
ANTO Ankara 132.98 312 **PKPdf** 17 48 03.7 +0.4
ANTO Ankara 132.98 312 PKiKP **PKPdf** 17 48 03.7 +0.4
KMY Karmoy 133.35 347 *e*PKPdf **PKiKP** 17 48 04.6 +0.1
DEL Delary 133.40 340 *e*P **PKPdf** 17 48 04.1 +0.6
HOMB Homborsund 133.45 345 *e*PKPdf **PKPdf** 17 48 04.1 +0.6
TLCR 133.54 320 ⇓P **PKiKP** 17 48 05.9 +0.6
TLCR 133.54 320 ⇓PKiKP **PKiKP** 17 48 05.9 +0.6
LVV L'vov 133.80 328 *e*PKiKP **PKPdf** 17 48 03.8 -0.6
CFR Carcaliu 133.97 320 ⇑P **PKPdf** 17 48 05.0 +0.2
CFR Carcaliu 133.97 320 ⇑PKiKP **PKPdf** 17 48 05.0 +0.2
BEL Belsk 134.11 332 *e*PKPdf **PKPdf** 17 48 05.5 +0.6
BSD Bornholm Skovb 134.12 338 *e*P **PKiKP** 17 48 05.6 -0.6
BSD Bornholm Skovb 134.12 338 *i* P **PKiKP** 17 48 05.2 +0.4
TESR Tescani 134.21 322 ⇑P **PKiKP** 17 48 06.2 -0.5
PANC Panciu 134.23 321 ⇓P **PKiKP** 17 48 07.0 +0.3
MFTR Murfatlar 134.26 319 ⇓P **PKiKP** 17 48 07.0 +0.2
TLBR Topalu 134.33 319 ⇓P **PKiKP** 17 48 07.3 +0.3
HARR Harsova 134.33 320 ⇓P **PKiKP** 17 48 07.2 +0.2
HARR Harsova 134.33 320 ⇓PKiKP **PKiKP** 17 48 07.2 +0.2
BURAR Bucovina Array 134.44 325 ⇑P **PKiKP** 17 48 08.7 +1.4
BURAR Bucovina Array 134.44 325 ⇑PKiKP **PKiKP** 17 48 08.7 +1.4
VRI Vrincioaia 134.49 322 ⇓P **PKPdf** 17 48 06.0 +0.1
VRI Vrincioaia 134.49 322 ⇓PKiKP **PKPdf** 17 48 06.0 +0.1
KWP Kalwaria Pacla 134.60 328 *e*PKPdf **PKiKP** 17 48 06.9 -0.5
GKP Gorka Klasztor 134.64 335 *e*PKPdf **PKiKP** 17 48 06.9 -0.4
GKP Gorka Klasztor 134.64 335 *e*P **PKiKP** 17 48 07.4 +0.1
COVR Voineasa-Covas 134.81 322 ⇑P **PKiKP** 17 48 07.8 -0.2
TURR Turia 134.82 322 ⇑P **PKiKP** 17 48 07.8 -0.1
OZUR 134.93 322 ⇓P **PKiKP** 17 48 08.0 -0.2
MLR Muntele Rosu 135.15 322 ⇑P **PKPdf** 17 48 08.0 +0.7
MLR Muntele Rosu 135.15 322 ⇑PKiKP **PKPdf** 17 48 08.0 +0.7
ARCR ARCALIA 135.22 324 ⇓P **PKiKP** 17 48 08.3 +0.4
DOPR Dopca 135.24 322 ⇑P **PKiKP** 17 48 08.9 +0.1
TSUM Tsumeb 135.31 222 PKPpre 17 47 53.7
PRD Provadia 135.38 318 P **PKPdf** 17 48 05.0 -2.6
STHS Stebnicka Huta 135.48 329 *e*PKP **PKiKP** 17 48 08.8 -0.4
CRVS Cervenica-Dubn 135.69 328 *e*PKP **PKiKP** 17 48 09.7 +0.1
CRVS Cervenica-Dubn 135.69 328 *e*PKiKP **PKiKP** 17 48 09.7 +0.1
VOIR 135.72 322 ⇑P **PKiKP** 17 48 09.3 -0.6
VOIR 135.72 322 ⇑PKiKP **PKiKP** 17 48 09.3 -0.6
LOZB Loznitsa 135.81 319 ⇑P **PKPdf** 17 48 07.8 -0.6
NIE Niedzica 135.95 329 *e*PKPdf **PKiKP** 17 48 10.3 +0.2
ARR Arges 136.00 322 ⇑P **PKPdf** 17 48 09.6 +0.9
HUMR Humele 136.24 321 ⇓P **PKPdf** 17 48 09.2 0.0
SZH Strazhitsa 136.25 319 P **PKPdf** 17 48 08.0 -1.2
KULA Kula-Manisa 136.47 311 P **PKPdf** 17 48 09.7 -0.2
LOT Lotru 136.47 323 ⇓P **PKPdf** 17 48 10.0 +0.3
ELND Elena 136.48 318 ⇓P **PKPdf** 17 48 10.3 +0.7
DEV Deva 136.73 324 ⇑P **PKiKP** 17 48 11.1 -0.7
DEV Deva 136.73 324 ⇑PKiKP **PKiKP** 17 48 11.1 -0.7
KSP Ksiaz 136.82 333 *e*PKPdf **PKiKP** 17 48 11.3 -0.6
MORC Moravsky Berou 137.02 332 ⇑P **PKiKP** 17 48 12.1 -0.3
MORC Moravsky Berou 137.02 332 *e*PKP **PKPdf** 17 48 11.5 +1.0
MORC *e*PP **PP** 17 50 58.4 +2.4
MORC Moravsky Berou 137.02 332 ⇑PKiKP **PKiKP** 17 48 12.1 -0.3
PLVB Pleven 137.05 320 ⇑P **PKPdf** 17 48 11.1 +0.4
OSTC Ostas 137.06 333 *e*PKPDF **PKiKP** 17 48 13.3 +0.9
OSTC Ostas 137.06 333 *e*PKIKP **PKiKP** 17 48 13.3 +0.9
GZR Gura Zlata 137.08 323 ⇓P **PKPdf** 17 48 10.8 0.0
GZR Gura Zlata 137.08 323 ⇓PKiKP **PKPdf** 17 48 10.8 0.0
CHVC Chvalec 137.11 333 *e*PKPDF **PKiKP** 17 48 13.1 +0.6
CHVC Chvalec 137.11 333 *e*PKIKP **PKiKP** 17 48 13.1 +0.6
PSZ Piszkesteto 137.12 328 ⇑P **PKiKP** 17 48 11.9 -0.8
PSZ Piszkesteto 137.12 328 ⇑PKiKP **PKiKP** 17 48 11.9 -0.8
DPC Dobruska-Polom 137.16 333 *e*PKPDF **PKiKP** 17 48 13.4 +0.8
DPC Dobruska-Polom 137.16 333 *e*PKIKP **PKiKP** 17 48 13.4 +0.8
UPC Upice 137.19 333 *e*PKPDF **PKiKP** 17 48 12.1 -0.5
UPC Upice 137.19 333 *e*PKIKP **PKiKP** 17 48 12.1 -0.5
YER Yerkesik 137.25 310 P **PKPdf** 17 48 09.8 -1.5
VYHS Vyhne 137.28 329 *e*PKP **PKPdf** 17 48 11.1 +0.1
VYHS Vyhne 137.28 329 *e*PKIKP **PKPdf** 17 48 11.1 +0.1
ALN Alexandroupoli 137.32 316 P **PKiKP** 17 48 13.3 +0.1
RDO Rodhopi 137.55 316 P **PKPdf** 17 48 10.3 -1.4
JAVC Velka Javorina 137.60 330 *e*PKP **PKiKP** 17 48 13.0 -0.6
BZS Buzias 137.62 324 ⇓P **PKPdf** 17 48 12.5 +0.8
BZS Buzias 137.62 324 ⇓PKiKP **PKPdf** 17 48 12.5 +0.8
BLCB Balcova 137.69 312 P **PKPdf** 17 48 11.3 -0.7
BRG Berggiesshubel 137.78 335 *e*PKP PKPpre 17 48 00.4
BRG Amp 17 48 01.3
comp=Z,2.6nm,0.7s

BRG	**Berggiesshubel**	**137.78**	**335**	P	**PKPdf**	**17 48 07.7**	**-4.1**
BRG				Amp		17 48 10.3	
	comp=Z,30nm,1.0s						
BRG	**Berggiesshubel**	**137.78**	**335**	P	**PKiKP**	**17 48 14.8**	**+1.0**
BRG				Amp		17 48 15.2	
	comp=Z,7.4nm,1.0s						
BRG	**Berggiesshubel**	**137.78**	**335**	P	PKiKP	17 48 27.9	+14
BRG				Amp		17 48 30.8	
	comp=Z,3.7nm,0.8s						
BRG	**Berggiesshubel**	**137.78**	**335**	*e*PKHKP	PKPpre	17 48 00.4	
BRG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PVCC	**Panska Ves**	**137.79**	**334**	*e*PKPDF	**PKiKP**	**17 48 14.7**	**+0.9**
PVCC	**Panska Ves**	**137.79**	**334**	*e*PKiKP	**PKiKP**	**17 48 14.7**	**+0.9**
VRAC	**Vranov**	**137.79**	**332**	*e*PKP	**PKPdf**	**17 48 11.9**	**0.0**
VRAC				*e*PP	**PP**	**17 51 01.5**	**+0.7**
CLL	**Collm**	**137.82**	**336**	*e*PKPdif	PKPpre	17 48 04.0	
CLL				*i* PKPdf	**PKPdf**	**17 48 12.1**	**+0.3**
	comp=Z,47nm,1.5s						
CLL				*i* PKiKP	**PKiKP**	**17 48 15.2**	**+1.3**
	comp=Z,32nm,1.0s						
CLL				*ep*PKPdf	pPKiKP	17 49 03.0	-1.7
CLL				*e*PP	**PP**	**17 51 00.0**	**-0.8**
CLL				*e*SKPdf	**SKiKP**	**17 51 30.0**	**-1.2**
CLL				*i* PKSdf	**PKSdf**	**17 51 47.0**	**-0.8**
CLL				*e*SKKSac	**SKKSac**	**17 57 36.0**	**+0.3**
CLL				*e*PPS	PPS	18 03 12.0	
CLL				*es*PPS		18 04 18.0	
CLL				*ex*	x	18 10 24.0	
CLL				*e*SSS	SSS	18 14 30.0	
CLL	**Collm**	**137.82**	**336**	*i* PKiKP	**PKPdf**	**17 48 12.1**	**+0.3**
CLL				*e*		17 49 03.0	
CLL				pmax	pmax		
	comp=Z,47nm,1.5s						
KRUC	**Moravsky**	**138.06**	**332**	*e*PKP	**PKPdf**	**17 48 12.5**	**+0.1**
KRUC				*e*PP	**PP**	**17 51 02.2**	**-0.2**
MODS	**Modra-Piesok**	**138.12**	**330**	*e*PKP	**PKiKP**	**17 48 13.7**	**-0.9**
MODS	**Modra-Piesok**	**138.12**	**330**	*e*PKiKP	**PKiKP**	**17 48 13.7**	**-0.9**
GOPC	**GO Pecny, Ondr**	**138.15**	**334**	*e*PKPDF	**PKiKP**	**17 48 15.3**	**+0.7**
GOPC	**GO Pecny, Ondr**	**138.15**	**334**	*e*PKiKP	**PKiKP**	**17 48 15.3**	**+0.7**
PRA	**Prague**	**138.19**	**334**	*e*PKPDF	**PKiKP**	**17 48 15.7**	**+1.0**
PRA	**Prague**	**138.19**	**334**	*e*PKiKP	**PKiKP**	**17 48 15.7**	**+1.0**
HSKC	**Hora Svate Kat**	**138.20**	**335**	*e*PKPDF	**PKiKP**	**17 48 13.8**	**-0.9**
PRU	**Pruhonice**	**138.20**	**334**	*e*PKPDF	**PKiKP**	**17 48 15.7**	**+1.0**
PRU	**Pruhonice**	**138.20**	**334**	*e*PKiKP	**PKiKP**	**17 48 15.7**	**+1.0**
VTS	**Vitosha**	**138.32**	**320**	P	**PKPdf**	**17 48 09.0**	**-4.3**
THAS	**Thassos island**	**138.35**	**316**	P	**PKPdf**	**17 48 11.2**	**-1.9**
CHOS	**Chios island**	**138.40**	**312**	P	**PKiKP**	**17 48 15.2**	**-0.4**
EKA	**Eskdalemuir Ar**	**138.51**	**352**	PKhKP	PKPpre	17 48 01.9	
	comp=Z,1.0nm,0.4s,baz=4.6,slow=2.5,SNR=9.6						
EKA				PKP	**PKPdf**	**17 48 13.1**	**+0.1**
	comp=Z,1.6nm,0.4s,baz=2.6,slow=2.5,SNR=8.8						
EKA				SKP		17 51 29.4	
	comp=Z,2.6nm,0.7s,baz=16,slow=3.2,SNR=5.4						
MMB	**Musomishta**	**138.53**	**318**	P	**PKPdf**	**17 48 10.0**	**-3.5**
NVR	**Nevrokopi**	**138.56**	**318**	P	**PKPdf**	**17 48 08.0**	**-5.6**
KOKK	**Kokkinochori,**	**138.73**	**317**	P	**PKPdf**	**17 48 11.7**	**-2.2**
ZVC	**Zvikov**	**138.77**	**334**	*e*PKPDF	**PKiKP**	**17 48 16.8**	**+0.9**
SRS	**Serrai**	**138.85**	**317**	P	**PKPdf**	**17 48 08.9**	**-5.2**
MORH	**Mrgy, Hungar**	**138.88**	**327**	⇑P	**PKPdf**	**17 48 15.1**	**+1.1**
NKC	**Novy Kostel**	**138.88**	**336**	*e*PKPDF	**PKiKP**	**17 48 15.8**	**-0.3**
NKC	**Novy Kostel**	**138.88**	**336**	*e*PKiKP	**PKiKP**	**17 48 15.8**	**-0.3**
RONA	**Rosalia, Austr**	**139.07**	**330**	*e*PKiKP	**PKiKP**	**17 48 15.7**	**-0.9**
	comp=Z,48nm,1.0s,SNR=7.0						
CONA	**Conrad Observa**	**139.11**	**331**	*i* PKiKP	**PKiKP**	**17 48 16.0**	**-0.7**
	comp=Z,73nm,1.2s,SNR=13						
CONA				*ep*PKP	**pPKPdf**	**17 49 03.1**	**-2.4**
	comp=Z,25nm,1.6s						
CKRC	**Cesky Krumlov**	**139.18**	**333**	*e*PKPDF	**PKiKP**	**17 48 16.7**	**-0.1**
CKRC	**Cesky Krumlov**	**139.18**	**333**	*e*PKiKP	**PKiKP**	**17 48 16.7**	**-0.1**
KHC	**Kasperske Hory**	**139.26**	**334**	*e*PKPDF	**PKPdf**	**17 48 15.0**	**+0.4**
KHC				*e*SKP		17 51 31.0	
KHC	**Kasperske Hory**	**139.26**	**334**	*e*PKiKP	**PKPdf**	**17 48 15.0**	**+0.4**
GERES	**GERESS Array B**	**139.43**	**333**	PKhKP	PKPpre	17 48 06.1	
	comp=Z,2.7nm,0.6s,baz=38,slow=7.3,SNR=4.9						
GERES				PKP	**PKPdf**	**17 48 14.8**	**-0.2**
	comp=Z,5.6nm,0.5s,baz=46,slow=2.2,SNR=10.0						
GERES				SKPbc	**SKPbc**	**17 51 31.9**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=41,slow=1.8,SNR=3.4						
SANT	**Santorini**	**139.64**	**310**	P	**PKPdf**	**17 48 13.8**	**-1.9**
KYMI	**Kymi, Euboea I**	**139.68**	**314**	P	**PKPdf**	**17 48 08.0**	**-7.7**
ARSA	**Arzberg**	**139.76**	**330**	*i* PKP	**PKPdf**	**17 48 14.8**	**-0.8**
	comp=Z,24nm,1.4s						
ARSA				*ep*PKP	**pPKPdf**	**17 49 04.3**	**-2.3**
	comp=Z,22nm,2.0s						
MOA	**Molln**	**139.91**	**332**	*i* PKP	**PKPdf**	**17 48 15.8**	**-0.1**
	comp=Z,16nm,0.5s						
DION	**Dionisos Attik**	**140.04**	**313**	P	**PKPdf**	**17 48 15.6**	**-0.8**
PTL	**Penteli**	**140.10**	**313**	P	**PKPdf**	**17 48 16.8**	**+0.3**
BIOA	**Bad Ischl, Aus**	**140.32**	**332**	*e*PKP	**PKPdf**	**17 48 16.1**	**-0.5**
	comp=Z,62nm,1.6s,SNR=8.7						
BIOA				*i* pPKP	**pPKPdf**	**17 49 05.2**	**-2.4**
	comp=Z,21nm,1.3s						
SOKA	**Soboth**	**140.40**	**330**	*e*PKP	**PKPdf**	**17 48 11.9**	**-4.9**
	comp=Z,21nm,1.1s						
SOKA				*i* pPKP	**pPKPdf**	**17 49 05.6**	**-2.3**
	comp=Z,19nm,1.2s						
TYRN	**Tyrnavos**	**140.45**	**316**	P	**PKPdf**	**17 48 11.7**	**-5.3**
FNA	**Florina**	**140.46**	**318**	P	**PKPdf**	**17 48 12.6**	**-4.5**
IDI	**Anoyia**	**140.48**	**309**	⇑P	**PKPdf**	**17 48 11.5**	**-5.8**
IDI	**Anoyia**	**140.48**	**309**	P	**PKPdf**	**17 48 16.4**	**-0.9**
AGG	**Agios Georgios**	**140.72**	**315**	P	**PKPdf**	**17 48 15.6**	**-2.0**
OBKA	**Obir**	**140.75**	**330**	*i* PKP	**PKPdf**	**17 48 15.0**	**-2.5**
	comp=Z,16nm,1.3s						
BTNL	**Ternell**	**140.85**	**341**	*d*PKiKP	**PKiKP**	**17 48 19.0**	**-1.1**
MEM	**Membach**	**140.87**	**341**	*d*PKP	**PKiKP**	**17 48 21.0**	**+0.9**
KBA	**Koelnbreinsper**	**140.91**	**332**	*i* PKP	**PKPdf**	**17 48 14.4**	**-3.4**
	comp=Z,27nm,0.9s						
LESA	**Schwarzleotal**	**140.95**	**333**	*e*PKP	**PKPdf**	**17 48 12.7**	**-5.1**
	comp=Z,20nm,0.5s						
IMMV	**Iera Moni Meta**	**141.10**	**309**	P	**PKPdf**	**17 48 12.6**	**-5.7**
MYKA	**Terra Mystica**	**141.10**	**331**	*i* PKP	**PKPdf**	**17 48 13.8**	**-4.3**
	comp=Z,15nm,0.6s						
BCLA	**Clavier**	**141.25**	**342**	*d*PKPdf	**PKPdf**	**17 48 17.3**	**-0.8**
KLV	**Kalavryta, Ach**	**141.31**	**314**	P	**PKPdf**	**17 48 11.7**	**-7.0**
WATA	**Walderalm**	**141.50**	**333**	*i* PKP	**PKPdf**	**17 48 15.1**	**-3.8**
	comp=Z,20nm,0.6s						
WATA				*i* pPKiKP	**pPKPdf**	**17 49 10.6**	**+0.7**
	comp=Z,22nm,1.3s						
RCHB	**Rochefort**	**141.51**	**342**	*d*PKPdf	**PKPdf**	**17 48 17.4**	**-1.2**
BMRD	**Maredsous**	**141.52**	**342**	*d*PKiKP	**PKiKP**	**17 48 22.2**	**+0.7**
WTTA	**Wattenberg**	**141.53**	**333**	*e*PKP	**PKPdf**	**17 48 15.0**	**-4.0**
	comp=Z,78nm,1.4s,SNR=10.0						
WTTA				*i* pPKiKP	**pPKPdf**	**17 49 11.0**	**+1.0**
	comp=Z,31nm,1.8s						
ABTA	**Abfaltersbach**	**141.53**	**332**	*e*PKP	**PKPdf**	**17 48 15.5**	**-3.4**
	comp=Z,63nm,1.2s						
ABTA				*i* pPKiKP	**pPKPdf**	**17 49 10.3**	**+0.4**
	comp=Z,37nm,1.5s						
WLF	**Walferdange**	**141.65**	**340**	*d*PKP	**PKPdf**	**17 48 15.1**	**-3.8**
MOTA	**Moosalm**	**141.69**	**334**	*e*PKP	**PKPdf**	**17 48 15.5**	**-3.7**
	comp=Z,64nm,1.4s,SNR=9.8						
MOTA				*i* pPKP	**pPKPdf**	**17 49 07.9**	**-2.3**
	comp=Z,20nm,1.6s						
RETA	**Reutte**	**141.73**	**334**	*i* PKP	**PKPdf**	**17 48 15.4**	**-3.8**
	comp=Z,40nm,1.5s						
RETA				*i* pPKiKP	**pPKPdf**	**17 49 09.4**	**-0.8**
	comp=Z,19nm,1.2s						
SQTA	**Sankt Quirin**	**141.75**	**334**	*e*PKP	**PKPdf**	**17 48 15.8**	**-3.5**
	comp=Z,54nm,1.5s,SNR=7.3						
SQTA				*i* pPKiKP	**pPKPdf**	**17 49 10.2**	**-0.1**
	comp=Z,23nm,1.2s						
IGT	**Igoumenitsa**	**141.80**	**317**	P	**PKPdf**	**17 48 15.4**	**-4.1**
BFO	**Black Forest**	**142.01**	**337**		**PKPdf**	**17 48 15.8**	**-3.8**
BFO	**Black Forest**	**142.01**	**337**	PKiKP	**PKPdf**	**17 48 15.8**	**-3.8**
FETA	**Feichten**	**142.11**	**334**	*e*PKP	**PKPdf**	**17 48 16.5**	**-3.5**
	comp=Z,35nm,1.3s						
DAVA	**Damuels**	**142.25**	**335**	*i* PKP	**PKPdf**	**17 48 16.4**	**-3.9**
	comp=Z,60nm,1.6s						
DAVA				*i* pPKiKP	**pPKPdf**	**17 49 12.0**	**+0.8**
	comp=Z,17nm,1.1s						
VSL	**Villasalto**	**148.43**	**326**		**PKPbc**	**17 48 34.8**	**+0.2**
SHEL	**Horse Pasture**	**149.09**	**193**		**PKPdf**	**17 48 33.8**	**+1.2**
SHEL	**Horse Pasture**	**149.09**	**193**	PKHKP	PKPpre	17 48 33.8	
KEST	**Kesra**	**151.06**	**321**	PKPbc	**PKiKP**	**17 48 42.1**	**+0.4**
	comp=Z,108nm,0.8s,baz=110,slow=1.8,SNR=88						
PBRG	**Braganca**	**152.23**	**351**	*e*PKPbc	**PKiKP**	**17 48 44.4**	**+0.5**
PBRG	**Braganca**	**152.23**	**351**	*e*PKPab	**PKPab**	**17 48 56.0**	**+1.9**
PVRL	**Vila Real**	**152.90**	**352**	*e*PKPbc	**PKiKP**	**17 48 46.5**	**+1.2**
PVRL	**Vila Real**	**152.90**	**352**	*e*PKPab	**PKPab**	**17 48 58.8**	**+1.9**
MVO	**Moncorvo**	**152.91**	**351**	*e*PKPbc	**PKiKP**	**17 48 46.1**	**+0.8**
MVO	**Moncorvo**	**152.91**	**351**	*e*PKPab	**PKPab**	**17 48 59.1**	**+2.2**
PVIS	**Viseu**	**153.47**	**352**	*e*PKPab	**PKPab**	**17 49 01.2**	**+1.9**
ESDC	**Sonseca Array**	**153.72**	**345**	PKP	**PKPdf**	**17 48 38.9**	**-0.1**
	comp=Z,3.4nm,1.1s,baz=5.7,slow=4.5,SNR=6.2						
ESDC				PKPbc	**PKPbc**	**17 48 46.6**	**-0.3**
	comp=Z,5.3nm,0.8s,baz=6.7,slow=4.2,SNR=18						
ESDC				PKPab	**PKPab**	**17 49 00.6**	**+0.2**
	comp=Z,14nm,0.8s,baz=8.5,slow=4.0,SNR=16						
MTE	**Manteigas**	**153.73**	**351**	*e*PKPbc	**PKiKP**	**17 48 47.8**	**+0.8**
MTE	**Manteigas**	**153.73**	**351**	*e*PKPab	**PKPab**	**17 49 00.9**	**+0.4**
COI	**Coimbra**	**154.04**	**353**	*e*PKPab	**PKPab**	**17 49 03.9**	**+2.3**
PCAS	**Casmilo, Conde**	**154.20**	**353**	*e*PKPab	**PKPab**	**17 49 04.1**	**+1.7**
PCBR	**Castelo Branco**	**154.27**	**351**	*e*PKPbc	**PKiKP**	**17 48 48.9**	**+0.8**
PCBR	**Castelo Branco**	**154.27**	**351**	*e*PKPab	**PKPab**	**17 49 03.9**	**+1.2**
PMRV	**Marv??o**	**154.66**	**351**	*e*PKPbc	**PKiKP**	**17 48 49.6**	**+0.7**
PESTR	**Estremoz**	**155.24**	**351**	*e*PKPbc	**PKPdf**	**17 48 46.9**	**+5.8**
PESTR	**Estremoz**	**155.24**	**351**	*e*PKPab	**PKPab**	**17 49 07.3**	**+0.4**
EVO	**Evora**	**155.63**	**351**	*e*PKPab	**PKPab**	**17 49 09.7**	**+1.2**
PBAR	**Barrancos**	**155.82**	**349**	*e*PKPab	**PKPab**	**17 49 08.8**	**-0.5**
PBEJ	**Beja**	**156.10**	**351**	*e*PKPab	**PKPab**	**17 49 12.5**	**+1.9**
MESJ	**Messejana**	**156.34**	**351**	*e*PKPab	**PKPab**	**17 49 12.1**	**+0.5**
MESJ	**Messejana**	**156.34**	**351**	*e*PKP	**PKPab**	**17 49 11.9**	**+0.3**
PCVE	**Castro Verde**	**156.52**	**351**	*e*PKPab	**PKPab**	**17 49 13.8**	**+1.4**
PVAQ	**Vaqueiros**	**156.69**	**350**	*e*PKPab	**PKPab**	**17 49 14.9**	**+1.8**
MORF	**Marmelete**	**156.93**	**352**	*e*PKPab	**PKPab**	**17 49 15.8**	**+1.6**
MORF	**Marmelete**	**156.93**	**352**	*e*PKP	**PKPab**	**17 49 14.5**	**+0.3**
TAM	**Tamanrasset**	**160.94**	**299**		**PKPab**	**17 49 31.8**	**-0.6**
TAM	**Tamanrasset**	**160.94**	**299**	PKP2	**PKPab**	**17 49 31.8**	**-0.6**
TOA0	**Torodi Ar. Sit**	**166.09**	**267**		**PKPdf**	**17 48 52.7**	**-0.7**
TORD	**Torodi Ar Bea**	**166.09**	**267**	PKP	**PKPdf**	**17 48 53.6**	**+0.2**
	comp=Z,3.7nm,0.8s,baz=40,slow=1.4,SNR=26						
TORD				PKPab	**PKPab**	**17 49 54.2**	**-0.9**
	comp=Z,19nm,1.1s,baz=60,slow=5.2,SNR=18						
KIC	**Kosan Boka**	**168.90**	**225**	⇑*e*PKP2	**PKPdf**	**17 48 53.5**	**-2.0**
	comp=Z,15nm,1.1s						
KIC	**Kosan Boka**	**168.90**	**225**	⇑*e*PKP1	**PKPab**	**17 50 07.5**	**+0.1**
	comp=Z,18nm,0.8s						
LIC	**Lamto**	**169.00**	**223**	⇑*e*PKP2	**PKPdf**	**17 48 54.7**	**-0.8**
	comp=Z,20nm,1.4s						
LIC	**Lamto**	**169.00**	**223**	⇑*e*PKP1	**PKPab**	**17 50 07.5**	**-0.2**
	comp=Z,47nm,0.7s						
DBIC	**Dimbokro**	**169.21**	**225**	PKP	**PKPdf**	**17 48 54.9**	**-0.7**
	comp=Z,8.5nm,1.1s,baz=112,slow=1.6,SNR=7.5						
DBIC				PKPab	**PKPab**	**17 50 08.5**	**-0.1**
	comp=Z,4.1nm,0.7s,baz=122,slow=5.9,SNR=4.4						
TIC	**Toumodi**	**169.30**	**225**	⇑*e*PKP2	**PKPdf**	**17 48 53.8**	**-1.9**
	comp=Z,13nm,1.0s						
TIC	**Toumodi**	**169.30**	**225**	⇑*e*PKP1	**PKPab**	**17 50 08.7**	**-0.4**
	comp=Z,12nm,0.6s						

IDC 11 17:40:18.4±843.0, 54°06N×5°07E, h0km, Error ellipse: s-maj=385.8km s-min=140.0km az=120.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**7.50**	**131**	I	I	18 29 30.0	
	baz=316,slow=333,SNR=0.6						
I43RU	**DUBNA INFRASON**	**8.36**	**69**	I	I	19 30 25.0	
	0.1nm,1.8s,baz=272,slow=317,SNR=5.8						
I31KZ	**AKTYUBINSK INF**	**32.01**	**74**	I	I	20 52 10.0	
	baz=294,slow=306,SNR=2.4						

IDC 11 18:04:52.8±870.0, 54°30N×4°51E, h0km, Error ellipse: s-maj=394.9km s-min=146.6km az=118.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**7.91**	**130**	I	I	18 55 50.0	
	baz=315,slow=332,SNR=0.6						
I43RU	**DUBNA INFRASON**	**8.58**	**69**	I	I	19 57 29.7	
	0.1nm,0.9s,baz=274,slow=324,SNR=2.8						
I31KZ	**AKTYUBINSK INF**	**32.26**	**75**	I	I	21 18 10.0	
	baz=296,slow=308,SNR=2.6						

JMA 11 18:09:05.4±0.1, 28°N±1°×14°1E±°, h199km, MV3.9/25, NEAR CHICHIJIMA ISLAND, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.02**	**120**	P	Pn	18 09 35.4	+0.2
CBIJ				S	Sn	18 09 58.2	-0.1
JHH2	**Haha-jima-NKT2**	**1.31**	**138**	P	Pn	18 09 37.5	+0.1
JHH2				S	Sn	18 10 02.2	-0.1
JHU	**Hanno**	**8.37**	**349**	*e*P	Pn	18 11 02.4	-1.0
JRY	**Ryogami san**	**8.60**	**348**	P	Pn	18 11 06.3	-0.1
JAG	**Ashikaga**	**8.91**	**351**	P	Pn	18 11 08.7	-1.6
JHO	**Hitachi**	**8.99**	**357**	*e*P		18 11 11.0	-0.4

*IDC **11** 18:16:33.1±1.7, 18°66N×145°40E, h186km±17km, mb3.4/8, mbtmp4.0/10, MS3.5/2, Error ellipse: s-maj=30.1km s-min=11.5km az=95.0*

ISC 11 18:16:34.1±0.7, 18°63N±0°07×145°3E±0°2, h200km, n18, σ0s82/13, mb3.5/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.03**	**185**	P	**Pn**	**18 17 48.9**	**-0.1**
GUMO	52nm,0.3s,baz=122,slow=4.1,SNR=14			S	**Sn**	**18 18 46.7**	**-1.4**
	72nm,0.3s,baz=342,slow=20,SNR=3.1						
JCJ	**Chichijima**	**8.89**	**342**	P	**Pn**	**18 18 38.1**	**-0.8**
JCJ	69nm,0.8s,baz=250,slow=6.0,SNR=1.7			S	**Sn**	**18 20 18.2**	**-0.5**
	69nm,0.8s,baz=325,slow=19,SNR=1.7						
H11S3	**WAKE ISLAND Hy**	**20.30**	**87**	T	T	18 42 15.1	
	baz=275						
H11S1	**WAKE ISLAND Hy**	**20.31**	**87**	T	T	18 42 22.1	
	baz=275						
H11S2	**WAKE ISLAND Hy**	**20.31**	**87**	T	T	18 42 13.7	
	baz=275						
H11N1	**WAKE ISLAND Hy**	**20.44**	**83**	T	T	18 42 20.9	
	baz=268						
H11N2	**WAKE ISLAND Hy**	**20.45**	**83**	T	T	18 42 31.6	
	baz=268						
H11N3	**WAKE ISLAND Hy**	**20.46**	**83**	T	T	18 42 38.3	
	baz=268						
WRA	**Warramunga Arr**	**39.81**	**196**	P	**P**	**18 23 48.9**	**+0.8**
	1.4nm,0.4s,baz=17,slow=8.7,SNR=27						
WRA				PcP	**PcP**	**18 25 50.0**	**-0.1**
	0.5nm,0.5s,baz=23,slow=3.7,SNR=5.0						
	1.4nm,0.4s						
ASAR	**Alice Springs**	**43.48**	**195**	P	**P**	**18 24 18.4**	**+0.5**
	0.5nm,0.5s,baz=12,slow=6.8,SNR=13						
	0.5nm,0.5s						
DZM	**Mont Dzumac**	**45.45**	**152**	LR	LR	18 43 37.3	
	comp=Z,48nm,19.4s,baz=6.5,slow=36						
KDAK	**Kodiak Island**	**59.63**	**33**	LR	LR	18 52 15.0	
	comp=Z,46nm,18.1s,baz=142,slow=96						
ILAR	**Eielson Array**	**63.88**	**26**	P	**P**	**18 26 44.8**	**-0.4**
	0.4nm,0.6s,baz=248,slow=5.0,SNR=6.7						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**66.27**	**320**	P	**P**	**18 27 02.3**	**+1.5**
	0.6nm,0.6s,baz=98,slow=9.5,SNR=4.8						
	0.6nm,0.6s						
YKA	**Yellowknife Ar**	**78.23**	**28**	P	**P**	**18 28 11.4**	**0.0**
	0.3nm,0.6s,baz=286,slow=5.8,SNR=7.0						
	0.3nm,0.6s						
NVAR	**Mina Array Bea**	**83.49**	**52**	P	**P**	**18 28 40.6**	**+0.6**
	1.3nm,0.7s,baz=264,slow=6.0,SNR=9.2						
	1.3nm,0.7s						
FINES	**FINESS Array B**	**86.78**	**335**	P	**P**	**18 28 55.3**	**-0.2**
	1.7nm,0.8s,baz=44,slow=6.3,SNR=3.8						
	1.7nm,0.8s						
PDAR	**Pinedale Array**	**88.15**	**45**	P	**P**	**18 29 02.5**	**-0.2**
	0.2nm,0.3s,baz=200,slow=1.1,SNR=6.4						
	0.2nm,0.3s						

*BEO **11** 18:53:10.3±0.4, 43°12N×17°78E, h6km±3km, ML2.1/2*
*RHSSO **11** 18:53:10.7±0.3, 43°10N×17°86E, h5km±1km, ML2.5/11*

ISC 11 18:53:10.6±0.9, 43°11N±0°02×17°85E±0°02, h9km±8km, n36, σ0s74/65, 3C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.26**	**205**	*e*Pg	**Pg**	**18 53 15.6**	**-0.2**
STON				Sg	**Sg**	**18 53 20.3**	**+1.0**
STON	**Ston**	**0.26**	**205**	*e*Pg	**Pg**	**18 53 15.7**	**-0.2**
NEVS	**Nevesinje**	**0.27**	**44**	*e*Pg	**Pg**	**18 53 15.8**	**-0.2**
NEVS				*e*Sg	**Sg**	**18 53 20.1**	**+0.5**
DBRK	**Dubrovnik**	**0.49**	**154**	*e*Pg	**Pg**	**18 53 19.6**	**-0.4**
DBRK				Sg	**Sg**	**18 53 27.5**	**+1.0**
TREB	**Trebinje**	**0.54**	**137**	*e*Pg	**Pg**	**18 53 19.8**	**-1.2**
TREB				*e*Sg	**Sg**	**18 53 28.9**	**+0.9**
TREB	**Trebinje**	**0.54**	**137**	⇑*i*Pg	**Pg**	**18 53 19.8**	**-1.2**
TREB				*e*Sg	**Sg**	**18 53 28.4**	**+0.4**
BRY	**Bratogost**	**0.54**	**112**	*e*Pg	**Pg**	**18 53 21.0**	**-0.2**
BRY				*e*Sg	**Sg**	**18 53 29.1**	**+0.8**
MAKA	**Makarska**	**0.64**	**287**	*e*Pg	**Pb**	**18 53 23.2**	**-0.6**
MAKA				Sg	**Sb**	**18 53 32.2**	**-0.6**
RICI	**Ricice**	**0.65**	**307**	*e*Pg	**Pg**	**18 53 22.2**	**-1.0**
RICI				Sg	**Sb**	**18 53 32.9**	**-0.4**
UPM	**Unac-Piva**	**0.78**	**83**	*e*Sg	**Sg**	**18 53 35.5**	**-0.2**
LSTV	**Lastovo**	**0.78**	**245**	*e*Pg	**Pg**	**18 53 24.4**	**-1.2**
LSTV				Sg	**Sb**	**18 53 36.9**	**-0.2**
HCY	**Herceg Novi**	**0.81**	**144**	*e*Pg	**Pg**	**18 53 25.0**	**-1.2**
HCY				*e*Sg	**Sg**	**18 53 37.1**	**+0.3**
HVAR	**Hvar**	**1.03**	**274**	*e*Pg	**Pg**	**18 53 30.0**	**-0.4**
HVAR				Sg	**Sb**	**18 53 44.3**	**+0.1**
RUDO	**Rudo**	**1.22**	**65**	⇑*i*Pg	**Pg**	**18 53 32.1**	**-1.9**
RUDO				*e*Sg	**Sg**	**18 53 49.6**	**-0.2**
PDG	**Podgorica**	**1.23**	**123**	*e*Pg	**Pg**	**18 53 33.5**	**-0.8**
PDG				*e*Sg	**Sn**	**18 53 51.9**	**+1.1**
PDG	**Podgorica**	**1.23**	**123**	*e*Pg	**Pg**	**18 53 32.7**	**-1.6**
PDG				*e*Sg	**Sg**	**18 53 49.8**	**-0.5**
DRME	**Dracevica, Mon**	**1.35**	**133**	*e*Pg	**Pn**	**18 53 34.6**	**-1.0**
DRME				*e*Sg	**Sb**	**18 53 52.9**	**-0.4**
KIJV	**Kijevo**	**1.38**	**311**	*e*Pn	**Pn**	**18 53 36.0**	**-0.1**
KIJV				Sn	**Sn**	**18 53 55.6**	**+1.2**
MGRS	**Mrkonjic Grad**	**1.42**	**337**	*e*Pg	**Pn**	**18 53 36.3**	**-0.4**
MGRS				*e*Sg	**Sg**	**18 53 56.1**	**-0.3**
SJES	**Sjenica**	**1.56**	**84**	*e*Pg	**Pb**	**18 53 39.8**	**+0.1**
SJES				*e*Sg	**Sg**	**18 54 01.7**	**+1.0**
SJES	**Sjenica**	**1.56**	**84**	*e*Pn	**Pn**	**18 53 39.2**	**+0.6**
SJES				*e*Sn	**Sn**	**18 53 59.9**	**+0.9**
A050A	**Klekovaca**	**1.67**	**326**	⇑*i*Pn	**Pn**	**18 53 41.0**	**-0.6**
A050A				*e*Sn	**Sb**	**18 54 03.1**	**+0.3**
BLY	**Banja Luka**	**1.71**	**344**	*e*Pg	**Pb**	**18 53 42.0**	**-0.2**
BLY				*e*Sg	**Sb**	**18 54 03.7**	**-0.1**
BLY	**Banja Luka**	**1.71**	**344**	*e*Pn	**Pn**	**18 53 41.4**	**+0.8**
BLY				*e*Sn	**Sb**	**18 54 04.1**	**+0.3**
MORI	**Morici**	**1.74**	**297**	*e*Pn	**Pn**	**18 53 41.6**	**+0.7**
IVAS	**Ivanjica**	**1.74**	**74**	*e*Pn	**Pn**	**18 53 40.2**	**-0.9**
IVAS				*e*Sn	**Sn**	**18 54 03.7**	**+0.3**
DIVS	**Divibare**	**1.84**	**57**	*e*Pn	**Pn**	**18

PB08 IPOC Station P 1.79 106 Pg 19 01 28.6 -2.1
PB08 IPOC Station P 1.79 106 i P Pg 19 01 28.9 -1.7
PB08 e S Sg 19 01 53.3 -0.6
PB08 IAML 19 02 00.1
comp=N,43µm,0.7s
PB16 IPOC Station P 1.91 47 Pg 19 01 30.5 -2.4
PB16 IPOC Station P 1.91 47 i P Pg 19 01 30.8 -2.2
PB16 e S Sg 19 01 56.7 -1.0
PB16 IAML 19 02 07.8
comp=N,17µm,0.5s
PB02 IPOC Station P 1.95 149 Pn 19 01 29.2 -0.1
PB02 IPOC Station P 1.95 149 i P Pn 19 01 29.8 +0.5
PB02 e S Sn 19 01 53.5 -0.3
PB02 IAML 19 02 06.4
comp=E,43µm,0.8s
PB01 IPOC Station P 1.97 135 Pb 19 01 30.3 -1.9
PB01 IPOC Station P 1.97 135 i P Pb 19 01 30.6 -1.5
PB01 e S Sb 19 01 55.2 -1.6
PB01 IAML 19 02 06.3
comp=N,38µm,0.7s
PB07 IPOC Station P 2.31 154 Pn 19 01 34.2 -0.1
PB07 IPOC Station P 2.31 154 i P Pn 19 01 34.4 +0.1
PB07 e S Sg 19 02 10.8 +0.2
PB07 IAML 19 02 22.8
comp=E,25µm,0.7s
PB18 Visviri 2.49 35 Pb 19 01 40.5 -0.8
PB09 IPOC Station P 2.69 143 Pn 19 01 41.3 +1.9
PB09 IPOC Station P 2.69 143 eP Pn 19 01 41.2 +1.7
PB09 e S Sg 19 02 21.7 -1.0
PB04 IPOC Station P 2.79 164 Pn 19 01 39.9 -1.0
PB04 IPOC Station P 2.79 164 eP Pn 19 01 40.0 -0.8
PB04 e S Sg 19 02 25.7 -0.1
PB04 IAML 19 02 36.7
comp=N,19µm,0.5s
PB05 IPOC Station P 3.27 167 Pn 19 01 46.0 -1.5
PB05 IPOC Station P 3.27 167 eP Pn 19 01 46.8 -0.7
PB05 e S Sn 19 02 22.7 -3.7
PB05 IAML 19 02 55.9
comp=N,7µm,0.6s
PB06 IPOC Station P 3.32 157 Pn 19 01 47.9 -0.2
LVC Limon Verde 3.53 147 Pn 19 01 52.6 +1.4
LVC Limon Verde 3.53 147 eP Pn 19 01 53.1 +2.0
LVC Limon Verde 3.53 147 Pn Pn 19 01 52.9 +1.7
comp=N,43nm,0.3s,baz=318,slow=9.3,SNR=251
LVC Sn **Sn 19 02 34.5 +1.5**
comp=N,207nm,0.3s,baz=234,slow=20,SNR=7.8
LVC LR LR 19 02 36.3
comp=N,3µm,19.6s,baz=322,slow=29
comp=N,263nm,0.5s
PB15 IPOC Station P 3.81 159 Pn Pn 19 01 54.2 -0.8
AF01 San Pedro de A 4.20 142 Pn Pn 19 02 01.8 +1.4
LPAZ La Paz 4.30 40 Pn 19 02 05.8 +3.8
LPAZ La Paz 4.30 40 P Pn 19 02 05.9 +3.8
PB14 IPOC Station P 4.99 174 Pn Pn 19 02 08.9 -2.3
GO02 Mina Guanaco 5.64 167 Pn Pn 19 02 19.5 -0.7
AC01 Pan de Azucar 6.48 177 Pn 19 02 28.5 -3.0
AC06 Mina Casimiro 7.70 176 Pn 19 02 45.5 -2.7
GO03 Copiap 7.94 175 Pn 19 02 49.2 -2.4
AC04 Llanos de Chal 8.52 181 Pn 19 02 58.5 -1.0
AC05 El Transito 9.17 176 Pn 19 03 05.4 -3.2
LCO Las Campanas 9.33 178 Pn 19 03 09.7 -1.1
LCO Las Campanas 9.33 178 P Pn 19 03 09.7 -1.1
NNA Nana 9.47 323 Pn Pn 19 03 12.2 -0.4
NNA Nana 9.47 323 Pn Pn 19 03 13.8 +1.1
comp=N,2.6nm,0.3s,baz=194,slow=17,SNR=2.3
NNA Sn **Sn 19 04 53.3 -5.9**
comp=N,4.4nm,0.3s,baz=114,slow=18,SNR=1.9
comp=N,6.3nm,0.3s
SIV San Ignacio 10.11 71 Pn Pn 19 03 21.5 +0.2
comp=N,0.4nm,0.3s,baz=252,slow=12,SNR=37
comp=N,32nm,0.5s
BBSD Serra de San D 10.14 78 eP Pn 19 03 21.6 -0.2
CO05 La Serena 10.23 181 Pn Pn 19 03 21.0 -1.9
CO01 Juntas del Tor 10.32 176 Pn 19 03 21.8 -2.6
GO04 Tololo Observa 10.48 179 Pn 19 03 24.4 -2.2
BBRB Robore, Bolivi 10.66 84 eP Pn 19 03 26.7 -2.2
ETMB Extrema 10.80 26 Pn 19 03 30.7 -0.1
ETMB Extrema 10.80 26 eP Pn 19 03 29.8 -1.0
CO03 El Pedregal 11.15 179 Pn 19 03 34.0 -1.5
CO02 Combarbal 11.51 180 Pn 19 03 39.1 -1.4
TICA Tres Isletas 11.84 126 eP Pn 19 03 45.0 +0.1
CZSB Cruzeiro do Su 11.96 352 Pn 19 03 44.8 -1.9
CZSB Cruzeiro do Su 11.96 352 eP Pn 19 03 47.2 +0.5
ZON Zonda 12.03 171 Pn Pn 19 03 47.3 -0.3
ZON Zonda 12.03 171 P Pn 19 03 47.3 -0.3
PTLB Pontes e Lacer 12.04 72 Pn 19 03 47.5 -0.3
PTLB Pontes e Lacer 12.04 72 eP Pn 19 03 47.0 -0.7
CFA Coronel Fontan 12.16 169 Pn Pn 19 03 48.5 -1.0
comp=N,0.6nm,0.3s,baz=351,slow=13,SNR=6.8
CFA Sn Sn 19 05 56.0 -9.0
comp=N,1.1nm,0.3s,baz=308,slow=23,SNR=1.8
CFA LR LR 19 08 38.4
comp=N,8µm,18.1s,baz=344,slow=38
VILB Vilhena 12.30 59 Pn 19 03 51.5 +0.2
VILB Vilhena 12.30 59 eP Pn 19 03 51.1 -0.2
VACA Villa Angela C 12.32 132 eP Pn 19 03 53.3 +1.7
ESFA Espinillo Form 12.71 117 eP Pn 19 03 59.7 +2.8
SAML Samuel 13.04 36 Pn 19 03 59.1 -2.3
SAML Samuel 13.04 36 P Pn 19 03 59.1 -2.3
SAML Samuel 13.04 36 eP Pn 19 03 59.5 -1.9
VA03 San Esteban 13.07 178 Pn Pn 19 04 00.6 -1.3
ROC1 El Roble 13.28 180 Pn Pn 19 04 02.9 -1.9
BDQN Bodoquena, MS 13.40 96 eP Pn 19 04 04.7 -1.6
PEL Peldehue 13.45 179 Pn 19 04 04.0 -3.0
PEL Peldehue 13.45 179 P Pn 19 04 04.0 -3.0
MT02 Curacav 13.56 181 Pn 19 04 06.2 -2.2
MT08 Bocatoma Ro 13.77 177 Pn 19 04 07.9 -3.6
MT13 San Alfonso 14.06 178 Pn 19 04 12.3 -3.0
MT09 Talagante 14.07 180 Pn 19 04 15.9 +0.3
LMEL Las Melosas 14.16 177 Pn 19 04 13.8 -3.1
MT01 Popeta 14.16 181 P Pn 19 04 19.0 +2.3
ANTJ Antonio Joao (14.20 102 eP Pn 19 04 17.1 -0.2
CPUP Villa Florida 14.22 120 Pn 19 04 18.7 +1.2
CPUP Villa Florida 14.22 120 P Pn 19 04 18.7 +1.2
CPUP Villa Florida 14.22 120 eP Pn 19 04 19.2 +1.7
CPUP Villa Florida 14.22 120 Pn Pn 19 04 18.3 +0.9
comp=N,0.7nm,0.3s,baz=298,slow=12,SNR=8.6
CPUP LR LR 19 10 23.4
comp=N,6µm,19.2s,baz=300,slow=40
comp=N,10nm,0.9s
BO04 La Punta 14.29 179 Pn 19 04 16.9 -1.6
ATAH Atahualpa 14.37 329 Pn Pn 19 04 22.3 +2.3
comp=N,0.2nm,0.3s,baz=136,slow=14,SNR=8.8
ATAH LR LR 19 10 22.6
comp=N,5µm,18.2s,baz=51,slow=40
comp=N,8.9nm,1.0s
AQDB Aquidauana 14.38 96 Pn 19 04 20.1 +0.4
AQDB Aquidauana 14.38 96 eP Pn 19 04 19.2 -0.6
BO01 Tunca 14.69 180 Pn Pn 19 04 22.5 -1.4
SALV Santo Antonio 15.03 78 eP Pn 19 04 27.5 -1.1
BO02 Sierra Bellavi 15.09 179 Pn 19 04 27.6 -1.8
RVDE Rio Verde (Bra 15.15 90 eP Pn 19 04 27.9 -2.4
GO05 Huala 15.33 183 Pn 19 04 30.0 -2.4
PP1B Ponte de Pedra 15.40 85 eP Pn 19 04 33.9 +0.5
H03N1 Juan Fernandez 15.46 206 T T 19 20 53.2
baz=32,slow=72
H03N2 Juan Fernandez 15.46 206 T T 19 20 47.4
baz=32,slow=72
H03N3 Juan Fernandez 15.47 206 T T 19 20 50.2
baz=32,slow=72
VA04 Juan Fernndez 15.60 205 Pn 19 04 33.4 -2.6
VA04 IAmb IAmb 19 04 36.7
comp=Z,218nm,1.0s
PDRB Porto dos Gac 15.87 62 eP Pn 19 04 38.7 -0.9
ML02 Panimavida 16.06 181 P Pn 19 04 42.0 +0.1
ITQB Itaqui 16.41 130 Pn 19 04 46.5 0.0
ITQB Itaqui 16.41 130 eP P 19 04 48.0 -1.2
MCR1 Marechal Candi 16.42 110 eP P 19 04 47.5 -1.9
CLDB Colider 17.04 61 eP P 19 04 54.7 -1.5
BI05 Punta Hualpn 17.15 186 Pn 19 04 53.5 -2.3
C2SB Chapadao do Su 17.16 90 eP P 19 04 55.9 -1.7
TEFE Tefe 17.19 22 eP Pn 19 04 55.6 -0.9
UNIS Unistalda (Bra 17.25 126 eP P 19 04 57.2 -1.4
CRSM Crissiumal (Br 17.37 120 eP P 19 04 58.8 -1.0
MCRA Macar, Loja 17.52 329 P Pn 19 04 59.4 -1.2
MCRA Macar, Loja 17.52 329 eP P 19 05 03.2 +1.5
FRBT Francisco Belt 17.67 114 eP Pn 19 05 01.6 -0.8
RODS Rosario do Sul 17.82 130 eP Pn 19 05 03.3 -0.8
BOSC San Juan Bosco 17.96 335 P Pn 19 05 04.4 -1.7
PTGB Pitanga 18.22 109 eP P 19 05 09.2 -0.3
ARNL Arenillas 18.30 330 P Pn 19 05 09.8 -0.2
PCMB Pacaembu 18.56 99 eP Pn 19 05 12.3 -1.0

ALGR Alto Alegre (B 18.72 123 eP Pn 19 05 14.3 -0.9
LDASE Londrina, Braz 18.85 105 eP Pn 19 05 15.9 -0.9
ITAB Concordia 18.86 117 P P 19 05 15.4 -0.9
ITAB Concordia 18.86 117 eP Pn 19 05 15.9 -0.9
COHC Cochancay 18.89 334 P P 19 05 17.6 +0.9
COHC Cochancay 18.89 334 eP P 19 05 06.1 -11
LPA La Plata 19.09 145 eP P 19 05 12.0 -6.8
LPA pP **sP 19 05 22.6 0.0**
LPA sP pP 19 05 30.6 +9.3
LPA PP **PnPn 19 05 37.7 +5.4**
LPA PPP PPP 19 06 30.7
LPA pPP 19 06 59.1
LPA S **Sn 19 08 51.4 -2.0**
LPA La Plata 19.09 145 SN **S 19 08 55.8 +0.6**
LPA sS sS 19 09 00.3 +1.1
LPA SS **SnSn 19 09 15.4 +7.8**
LPA PS 19 09 21.1
LPA PCP **PcP 19 09 47.7 +4.5**
LPA SSS SSS 19 11 28.2
LPA SCS **ScS 19 17 01.0 +0.5**
LPA PKIKP **PKiKP 19 17 28.4 -5.0**
LPA SKIKP 19 21 01.0
LPA PKIKS 19 21 09.6
LPA SKIKS 19 24 33.4
CPSB Cacapava Do Su 19.14 127 eP Pn 19 05 19.4 -0.8
MACA Manacapuru-AM 19.22 33 P P 19 05 19.2 -1.1
MACA IAmb IAmb 19 05 22.7
comp=Z,562nm,1.1s
MACA Manacapuru-AM 19.22 33 eP P 19 05 20.0 -0.4
ITRB Iturama 19.42 94 eP Pn 19 05 22.9 -0.8
CHSH Refugio Sur-Vo 19.62 336 P P 19 05 26.9 +1.5
NPGB Novo Progresso 19.67 53 eP P 19 05 24.4 -0.9
PLTB Pedras Altas 19.73 131 P P 19 05 25.5 -0.4
PLTB Pedras Altas 19.73 131 eP Pn 19 05 26.3 -1.1
SGCB SÃo Gabriel d 19.79 12 eP P 19 05 25.3 -1.2
PIAT Ana Tenorio 19.86 338 eP Pn 19 05 30.1 +0.8
GO06 Curarrehue 19.88 181 P P 19 05 27.1 -0.3
TRQA Tornquist 19.95 159 P Pn 19 05 29.4 -0.4
TRQA IAmb IAmb 19 05 30.8
comp=Z,239nm,1.1s
TRQA Tornquist 19.95 159 P Pn 19 05 29.4 -0.4
TRQA pmax pmax
comp=Z,239nm,1.1s
PTLC Puerto Leguiza 20.05 349 eP P 19 05 24.5 -4.9
SLOR San Lorenzo - 20.19 338 P P 19 05 30.7 -0.7
FRTB Fartura 20.26 104 eP P 19 05 31.0 -0.7
SNDB Serra Nova Dou 20.41 71 eP P 19 05 32.3 -1.0
LR05 Currie 20.54 182 P P 19 05 34.0 -0.5
LR05 IAmb IAmb 19 05 42.9
comp=Z,271nm,1.2s
CNLB Canela 20.67 122 eP P 19 05 34.7 -1.4
PULU Pululahua 20.89 338 P P 19 05 39.5 +0.5
PULU IAmb IAmb 19 05 53.7
comp=Z,309nm,1.0s
PULU IAMs_20 IAMs_20 19 13 35.9
comp=Z,10µm,19.0s
BONI La Bonita 20.98 341 eP P 19 05 41.8 +2.0
PLCA Paso Flores 21.02 179 P P 19 05 40.6 +0.7
PLCA IAmb IAmb 19 05 48.4
comp=Z,278nm,1.3s
PLCA Paso Flores 21.02 179 eP P 19 05 41.9 +2.0
PLCA Paso Flores 21.02 179 P P 19 05 41.0 +1.2
comp=Z,41nm,1.0s,baz=358,slow=12,SNR=37
comp=Z,41nm,1.0s
IMBA Imbabura, San 21.03 339 P P 19 05 41.2 +0.8
OTAV Otavalo 21.07 339 P P 19 05 41.4 +0.4
OTAV Otavalo 21.07 339 eP P 19 05 42.2 +1.2
OTAV Otavalo 21.07 339 P P 19 05 41.4 +0.4
OTAV pmax pmax
comp=Z,200nm,1.8s
OTAV MLR MLR
comp=Z,3µm,19.0s
OTAV Otavalo 21.07 339 eP P 19 05 43.9 +2.9
BB19B Bebedouro 21.10 98 eP P 19 05 39.5 -1.3
CUSE Cuicocha Este 21.12 339 eP P 19 05 42.6 +1.1
PAC1 Pacto, Paraso 21.22 338 eP P 19 05 43.7 +1.4
ITTB Itaituba 21.25 46 eP P 19 05 41.0 -1.4
TULM Tulcn-Chalpat 21.31 341 P P 19 05 46.1 +2.6
TULM IAMs_20 IAMs_20 19 15 17.4
comp=Z,7µm,18.0s
TULM Tulcn-Chalpat 21.31 341 eP P 19 05 45.6 +2.1
LL03 Petrohue 21.46 183 P P 19 05 42.6 -1.9
FLOC Florencia 21.59 347 eP P 19 05 47.1 +1.0
IPMB Ipameri, GO 21.61 89 eP P 19 05 45.0 -1.4
GCUF Volcan Galeras 21.66 343 eP P 19 05 50.7 +3.3
LL05 Los Muermos 21.79 185 P P 19 05 45.0 -3.0
LL05 IAmb IAmb 19 06 05.7
comp=Z,248nm,1.1s
CRUC La Cruz 21.88 344 eP P 19 05 56.2 +6.6
RCLB Rio Claro- Sao 22.06 101 eP P 19 05 50.2 -0.9
GARC Garzon, Huila 22.14 348 eP P 19 05 53.2 +0.9
SPB Sao Paulo 22.23 104 P P 19 05 52.0 -1.0
SPB IAMs_20 IAMs_20 19 15 59.3
comp=Z,6µm,22.0s
SPB Sao Paulo 22.23 104 eP P 19 05 53.3 +0.4
BDFB Brasilia 22.24 83 P P 19 05 52.7 -0.5
BDFB Brasilia 22.24 83 P P 19 05 53.0 -0.2
BDFB Brasilia 22.24 83 P P 19 05 53.0 -0.2
comp=Z,53nm,1.0s,baz=264,slow=12,SNR=25
BDFB LR LR 19 15 28.9
comp=Z,6µm,19.4s,baz=263,slow=40
comp=Z,53nm,1.0s
BBAC Balboa, Cauca 22.39 343 eP P 19 05 55.8 +0.9
PET01 Itanhaem-SP 22.45 106 eP P 19 05 55.3 0.0
LL06 Loncomilla 22.61 185 P P 19 05 54.5 -2.3
LL06 IAmb IAmb 19 06 03.8
comp=Z,334nm,1.3s
VAO Valinhos 22.61 103 eP P 19 05 55.3 -1.8
BETC Betania 22.62 348 eP P 19 05 59.6 +2.5
LL01 San Ignacio de 22.70 183 P P 19 05 58.5 +0.8
LL01 IAmb IAmb 19 06 18.4
comp=Z,258nm,1.6s
POPC Popayan, Colom 22.75 345 eP P 19 06 00.1 +1.4
PMNB Patos De Minas 23.21 91 eP P 19 06 02.7 -0.7
JAMC Jamundi, Valle 23.40 346 eP P 19 06 05.2 -0.1
LL02 Futaleuf 23.49 182 P P 19 06 05.2 -0.6
PRAC Prado 23.53 350 P P 19 06 06.2 -0.2
PRAC Prado 23.53 350 eP P 19 06 06.3 -0.2
GR1C Gorgona, Isla 23.59 342 eP P 19 06 08.2 +1.2
PTGC Puerto Gaitan, 23.72 357 eP P 19 06 06.9 -1.4
VILC Villavicencio, 23.76 353 eP P 19 06 08.3 -0.5
ORTC Ortega, Tolima 23.78 349 eP P 19 06 09.4 +0.5
PARB Paraibuna 23.87 103 eP P 19 06 09.1 -0.7
YOTC Yotoco, Valle 24.07 347 eP P 19 06 12.4 +0.6
MALB Monte Alegre 24.08 45 eP P 19 06 09.9 -1.9
BOAV Boa Vista 24.19 26 P P 19 06 12.5 -0.3
BOAV IAmb IAmb 19 06 14.5
comp=Z,239nm,1.0s
BOAV Boa Vista 24.19 26 eP P 19 06 12.1 -0.7
BOAV Boa Vista 24.19 26 eP P 19 06 13.7 +1.0
CVER Cruz Verde, Cu 24.21 352 eP P 19 06 14.2 +0.8
CHIC Chingaza 24.27 353 eP P 19 06 12.8 -1.2
PRPB Parauapebas 24.55 60 eP P 19 06 14.7 -1.4
ROSC El Rosal 24.55 352 P P 19 06 16.1 -0.3
ROSC IAmb IAmb 19 06 45.4
comp=Z,172nm,1.2s
ROSC IAMs_20 IAMs_20 19 15 54.8
comp=Z,6µm,18.0s
ROSC El Rosal 24.55 352 eP P 19 06 18.7 +2.2
ROSC El Rosal 24.55 352 P P 19 06 16.2 -0.3
ROSC pmax pmax
comp=Z,172nm,1.2s
ROSC MLR MLR
comp=Z,6µm,18.0s
ROSC El Rosal 24.55 352 P P 19 06 17.5 +1.0
comp=Z,76nm,0.9s,baz=161,slow=6.9,SNR=26
ROSC LR LR 19 16 26.9
comp=Z,5µm,18.4s,baz=206,slow=38
comp=Z,76nm,0.9s
AY01 Puyuhuapi 24.74 183 P P 19 06 17.7 +0.2
PLMC San Jos del P 24.95 347 eP P 19 06 20.6 +0.9
GUY2C Guyana, Caldas 25.09 350 eP P 19 06 23.0 +1.6
SPBC San Pablo de B 25.32 353 eP P 19 06 22.9 -0.2
CBOC Ciudad Bolivar 25.83 348 eP P 19 06 28.1 +0.3
JANB Januaria 25.85 84 eP P 19 06 27.0 -0.9
DIAM Diamantina, MG 25.85 92 eP P 19 06 28.1 +0.1
COYC Coyhaique 25.87 182 P P 19 06 27.0 -0.7
TAMC Tame, Arauca 25.93 358 eP P 19 06 28.8 +0.3
SDBA SAO DESIDERIO 26.05 78 eP P 19 06 29.4 -0.4
PTBC PUERTO BERRIO, 26.24 352 eP P 19 06 30.2 -1.2
MCPB Macapa, AP 26.67 46 eP P 19 06 35.4 +0.2
DUB01 Friburgo-RJ 26.82 100 eP P 19 06 36.9 +0.2

PAMC Pamplona, Colo 26.87 356 eP P 19 06 37.0 -0.5
DBBC Dabeiba 26.99 348 eP P 19 06 39.8 +1.5
ZARC Zaragoza, Cauc 27.24 352 eP P 19 06 40.2 -0.2
PTAC Punta Ardita, 27.46 345 eP P 19 06 49.1 +6.8
URES San Jos de Ur 27.59 350 eP P 19 06 43.9 +0.4
APAC Apartado, Choc 27.92 348 eP P 19 06 48.3 +1.8
SJMB Sao Joao De Ma 28.14 93 eP P 19 06 48.1 -0.4
SDV Santo Domingo 28.35 1 P P 19 06 49.1 -1.5
SDV IAMs_20 IAMs_20 19 19 11.1
comp=Z,6µm,21.0s
SDV Santo Domingo 28.35 1 eP P 19 06 49.8 -0.7
SDV Santo Domingo 28.35 1 eP P 19 06 50.4 -0.1
SDV Santo Domingo 28.35 1 LR LR 19 19 00.2
comp=Z,3µm,18.3s,baz=208,slow=38
BAUV El Baul 28.56 6 P P 19 06 51.0 -1.1
BAUV IAMs_20 IAMs_20 19 17 15.6
comp=Z,4µm,20.0s
BAUV El Baul 28.56 6 eP P 19 06 51.1 -1.0
GO08 Villa O'Higgin 28.78 182 P P 19 06 51.5 -2.3
CAPC Capurgana 28.80 347 eP P 19 06 54.3 +0.1
CAP2 Capurgana 28.81 347 P P 19 06 54.3 -0.1
RIB01 Linhares ES 28.82 95 eP P 19 06 54.1 -0.4
LL6C La Loma 6 Bece 29.28 355 eP P 19 06 56.1 -2.4
ARGC Ariguani, Magd 29.49 353 eP P 19 06 59.7 -0.7
SJCC San Jacinto, C 29.65 352 eP P 19 07 01.2 -0.6
GUA01 Guaratinga, BA 29.76 89 eP P 19 07 02.5 -0.4
PCRV Puerto La Cruz 30.29 12 LR LR 19 21 05.8
comp=Z,7µm,18.9s,slow=40
BRU2 Volcan 30.52 337 P P 19 07 08.9 -0.8
BRU2 IAmb IAmb 19 07 14.0
comp=Z,160nm,1.4s
BRU2 IAMs_20 IAMs_20 19 21 09.7
comp=Z,3µm,18.0s
SMRC Santa Marta, M 30.78 354 eP P 19 07 10.2 -1.6
ROSB Rosrio 31.07 61 eP P 19 07 14.3 -0.1
URIC Uribia, Colomb 31.17 358 P P 19 07 12.3 -2.9
URIC Uribia, Colomb 31.17 358 eP P 19 07 11.5 -3.7
TRN Trinidad (W) 31.55 18 eP P 19 07 17.8 -0.8
HATO Hato, Curacao 31.69 4 IAMs_20 IAMs_20 19 21 28.8
comp=Z,4µm,20.0s
RIMA Rio Macho 31.86 335 IAMs_20 IAMs_20 19 20 50.2
comp=Z,3µm,19.0s
LCR2 La Lucha 2 31.90 335 P P 19 07 22.8 +0.9
LCR2 IAmb IAmb 19 07 26.2
comp=Z,75nm,1.2s
JACO JACO, Garabito 32.09 334 IAMs_20 IAMs_20 19 20 27.1
comp=Z,3µm,18.0s
HDC Heredia 32.18 335 IAMs_20 IAMs_20 19 19 55.3
comp=Z,3µm,19.0s
SOCE Pocosol 32.72 335 P P 19 07 27.8 -1.1
SOCE IAmb IAmb 19 07 33.8
comp=Z,83nm,1.0s
GRGR Grenville 32.89 17 P P 19 07 29.5 -0.8
GRGR Grenville 32.89 17 eP P 19 07 28.8 -1.6
GRGR Grenville 32.89 17 eP P 19 07 26.8 -3.5
COVE Coope Vega, Sa 32.94 335 IAMs_20 IAMs_20 19 21 23.4
comp=Z,3µm,18.0s
GRHS Sauteurs 32.98 17 eP P 19 07 29.4 -1.7
ORTG Ortega, Santa 33.05 333 IAMs_20 IAMs_20 19 20 55.3
comp=Z,3µm,19.0s
GCMP Grenada, Carri 33.29 17 eP P 19 07 31.7 -2.1
EFI East Falkland 33.54 165 i P P 19 07 35.7 0.0
EFI pmax pmax
comp=Z,34nm,1.1s
SVB Belmont 34.08 17 eP P 19 07 38.5 -2.2
SLBI Saint Lucia, B 34.88 17 eP P 19 07 45.9 -1.7
MPOM Morne Pois Mar 35.31 17 IAMs_20 IAMs_20 19 23 38.1
comp=Z,4µm,19.0s
MPOM Morne Pois Mar 35.31 17 eP P 19 07 48.9 -2.5
BIM Bigot 35.32 17 eP P 19 07 44.0 -7.6
FDF Fort de France 35.51 17 P P 19 07 51.4 -1.7
FDF Fort de France 35.51 17 eP P 19 07 49.3 -3.8
SVN Savane Anatole 35.60 16 eP P 19 07 50.8 -3.1
RPN Rapa Nui 35.88 251 LR LR 19 19 11.0
comp=Z,4µm,18.5s,baz=74,slow=30
MAGL Barre de l'ile 36.63 16 e P 19 07 58.9 -3.8
CBE Ff, Capester 36.67 15 e P 19 08 01.7 -1.3
RCBR Riachuelo 36.77 73 eP P 19 08 04.6 +0.5
RCBR Riachuelo 36.77 73 LR LR 19 24 23.2
comp=Z,4µm,18.4s,baz=248,slow=38
ABD La Joyeuse, An 37.09 15 IAMs_20 IAMs_20 19 24 41.0
comp=Z,4µm,18.0s
ABD La Joyeuse, An 37.09 15 e P 19 08 03.2 -3.4
ANBD Bethesda, Anti 37.57 15 e P 19 08 06.1 -4.5
SABA Saba 37.80 12 P P 19 08 10.6 -2.1
SABA IAmb IAmb 19 08 25.3
comp=Z,161nm,1.0s
SJG San Juan 37.82 8 P P 19 08 11.4 -1.3
SJG IAmb IAmb 19 08 12.6
comp=Z,159nm,1.1s
SJG San Juan 37.82 8 IAMs_20 IAMs_20 19 26 47.1
comp=Z,3µm,18.0s
SJG San Juan 37.82 8 eP P 19 08 10.6 -2.1
SJG San Juan 37.82 8 P P 19 08 11.4 -1.3
SJG pmax pmax
comp=Z,159nm,1.1s
SJG MLR MLR
comp=Z,3µm,18.0s
SDDR Presa de Saban 38.39 360 IAmb IAmb 19 08 30.5
comp=Z,118nm,1.4s
SDDR IAMs_20 IAMs_20 19 27 02.9
comp=Z,3µm,18.0s
TEIG Tepich 43.10 336 P P 19 08 57.3 +0.8
TEIG Tepich 43.10 336 LR LR 19 27 56.7
comp=Z,13µm,18.6s,baz=293,slow=38
CMIG Matias Romero 43.41 326 LR LR 19 27 08.9
comp=Z,824nm,18.0s,baz=150,slow=36
PMSA Palmer Station 45.34 176 eP P 19 09 17.7 +3.8
PMSA Palmer Station 45.34 176 LR LR 19 27 25.7
comp=Z,566nm,18.6s,baz=2.0,slow=35
DWPF Disney Wildern 48.54 348 P P 19 09 39.9 +0.6
baz=167
456A Hilliard 51.19 348 IAMs_20 IAMs_20 19 34 19.7
comp=Z,2µm,18.0s
553A Crawfordville 51.21 345 P P 19 10 01.2 +1.6
baz=164,SNR=8.3
451A Vernon 51.95 344 IAmb IAmb 19 10 07.3
comp=Z,143nm,1.1s
451A Vernon 51.95 344 P P 19 10 05.9 +0.7
baz=162
TIGA Tifton 52.22 346 IAmb IAmb 19 10 08.9
comp=Z,66nm,1.1s
TIGA IAMs_20 IAMs_20 19 33 36.7
comp=Z,2µm,20.0s
TIGA Tifton 52.22 346 P P 19 10 07.7 +0.6
baz=165
TIGA Tifton 52.22 346 P P 19 10 08.1 +1.0
baz=165
257A Skidaway Islan 52.22 349 IAMs_20 IAMs_20 19 31 57.0
comp=Z,1µm,21.0s
255A Hazlehurst 52.45 348 IAmb IAmb 19 10 10.8
comp=Z,110nm,1.1s
255A IAMs_20 IAMs_20 19 35 17.0
comp=Z,1µm,19.0s
255A Hazlehurst 52.45 348 P P 19 10 09.8 +1.0
baz=166
352A Blakely 52.57 345 IAmb IAmb 19 10 11.5
comp=Z,129nm,1.1s
352A IAMs_20 IAMs_20 19 32 30.9
comp=Z,1µm,21.0s
352A Blakely 52.57 345 P P 19 10 10.4 +0.7
baz=164,SNR=8.2
BRAL Brewton 52.83 343 P P 19 10 12.6 +1.0
BRAL Brewton 52.83 343 P P 19 10 12.3 +0.7
baz=161,SNR=5.5
BRAL Brewton 52.83 343 P P 19 10 12.7 +1.0
baz=161,SNR=5.5
NHSC New Hope 53.19 350 P P 19 10 15.9 +1.7
NHSC IAMs_20 IAMs_20 19 33 52.6
comp=Z,2µm,20.0s
NHSC New Hope 53.19 350 P P 19 10 15.9 +1.7
baz=169,SNR=7.7
NHSC New Hope 53.19 350 P P 19 10 15.8 +1.7
baz=169,SNR=7.7
154A Montrose 53.24 347 IAMs_20 IAMs_20 19 35 32.0
comp=Z,1µm,19.0s
250A Grady 53.38 344 IAmb IAmb 19 10 17.1
comp=Z,110nm,1.1s
250A Grady 53.38 344 P P 19 10 15.5 -0.2
baz=162,SNR=8.5
HBVL Hebbronville 53.63 329 IAmb IAmb 19 10 20.3
comp=Z,24nm,0.9s
152A Waverly Hall 53.65 346 IAmb IAmb 19 10 35.9
comp=Z,64nm,1.2s
152A IAMs_20 IAMs_20 19 33 05.8

comp=Z,2µm,21.0s
152A Waverly Hall 53.65 346 P P 19 10 17.8 +0.1
baz=164,SNR=10
TRIS Tristan da Cun 53.66 122 P P 19 10 18.2 +0.4
HAW Hawthorne Fire 53.68 349 P P 19 10 18.7 +0.8
baz=168
Y60A Bolivia 53.80 353 IAMs_20 IAMs_20 19 34 01.8
comp=Z,1µm,21.0s
Y60A Bolivia 53.80 353 P P 19 10 19.8 +1.1
baz=172,SNR=11
Y60A P P 19 10 19.8 +1.1
baz=172,SNR=11
Y58A Scranton 53.89 351 IAMs_20 IAMs_20 19 33 51.3
comp=Z,1µm,21.0s
GOGA Godfrey 54.09 347 IAMs_20 IAMs_20 19 34 56.4
comp=Z,1µm,20.0s
GOGA Godfrey 54.09 347 P P 19 10 21.2 +0.4
baz=166,SNR=8.3
GOGA Godfrey 54.09 347 P P 19 10 21.0 +0.1
baz=166,SNR=8.3
GOGA Godfrey 54.09 347 P P 19 10 21.3 +0.4
Y57A Sumter 54.11 350 P P 19 10 22.3 +1.3
baz=169
Y57A P P 19 10 22.3 +1.3
baz=169
Z51A Franklin 54.38 345 IAMs_20 IAMs_20 19 33 27.0
comp=Z,2µm,20.0s
Z51A Franklin 54.38 345 P P 19 10 23.2 +0.2
baz=164
X58A Rowland 54.48 352 IAmb IAmb 19 10 25.8
comp=Z,79nm,1.1s
X58A IAMs_20 IAMs_20 19 34 22.0
comp=Z,1µm,21.0s
X58A Rowland 54.48 352 P P 19 10 24.9 +1.3
baz=170
X58A P P 19 10 24.9 +1.3
baz=170
JSC Jenkinsville 54.51 350 IAmb IAmb 19 10 25.7
comp=Z,42nm,0.9s
JSC IAMs_20 IAMs_20 19 34 36.7
comp=Z,2µm,20.0s
JSC Jenkinsville 54.51 350 P P 19 10 24.6 +0.7
baz=168,SNR=11
LRAL Lakeview Retre 54.58 343 P P 19 10 24.4 0.0
baz=162,SNR=6.8
LRAL Lakeview Retre 54.58 343 P P 19 10 24.7 +0.3
baz=162,SNR=6.8
HODGE Hodges 54.64 349 IAMs_20 IAMs_20 19 33 12.1
comp=Z,1µm,22.0s
HODGE Hodges 54.64 349 P P 19 10 25.6 +0.7
baz=167
Y52A Lilburn 54.65 347 P P 19 10 24.9 -0.1
baz=165,SNR=5.7
Y52A P P 19 10 24.9 -0.1
baz=165,SNR=5.7
BIRD Birdtown, Kers 54.74 350 IAmb IAmb 19 10 27.6
comp=Z,97nm,1.0s
BIRD IAMs_20 IAMs_20 19 34 27.7
comp=Z,2µm,20.0s
BIRD Birdtown, Kers 54.74 350 P P 19 10 26.5 +0.9
baz=169,SNR=23
146A Union 54.79 341 IAmb IAmb 19 10 27.7
comp=Z,82nm,1.1s
146A Union 54.79 341 P P 19 10 26.9 +0.9
baz=159
HKT Hockley 54.81 333 P P 19 10 26.6 +0.4
HKT IAmb IAmb 19 10 28.9
comp=Z,46nm,1.2s
HKT Hockley 54.81 333 P P 19 10 27.8 +1.7
baz=151
HKT Hockley 54.81 333 *i* P P 19 10 26.3 +0.2
HKT pmax pmax
comp=Z,31nm,1.2s
VBMS Vicksburg 54.86 340 P P 19 10 27.3 +0.8
baz=158
W59A Clinton 54.97 353 IAmb IAmb 19 10 29.4
comp=Z,60nm,0.8s
W59A IAMs_20 IAMs_20 19 35 18.9
comp=Z,1µm,20.0s
CNNC Cliffs of the 54.98 353 P P 19 10 27.9 +0.7
baz=172
CNNC Cliffs of the 54.98 353 P P 19 10 28.5 +1.3
baz=172
Z47A Carrollton 55.02 342 IAmb IAmb 19 10 28.8
comp=Z,141nm,1.8s
Z47A Carrollton 55.02 342 P P 19 10 28.0 +0.3
baz=160
833A Chaparral WMA, 55.03 329 IAmb IAmb 19 10 30.1
comp=Z,48nm,1.1s
833A Chaparral WMA, 55.03 329 P P 19 10 28.4 +0.6
baz=147,SNR=8.7
833A Chaparral WMA, 55.03 329 P P 19 10 29.3 +1.4
baz=147,SNR=8.7
PAULI Pauline 55.14 349 IAmb IAmb 19 10 30.3
comp=Z,60nm,1.0s
PAULI IAMs_20 IAMs_20 19 35 17.2
comp=Z,2µm,20.0s
PAULI Pauline 55.14 349 P P 19 10 29.6 +1.2
baz=168,SNR=12
W57A Gilead 55.16 351 IAmb IAmb 19 10 30.5
comp=Z,67nm,1.0s
W57A IAMs_20 IAMs_20 19 35 03.0
comp=Z,1µm,19.0s
W57A Gilead 55.16 351 P P 19 10 29.6 +1.0
baz=170,SNR=17
W57A P P 19 10 29.6 +1.0
baz=170,SNR=17
Y49A Blount Mountai 55.20 344 IAMs_20 IAMs_20 19 36 36.7
comp=Z,1µm,19.0s
Y49A Blount Mountai 55.20 344 P P 19 10 29.0 +0.1
baz=162,SNR=6.0
KMSC Kings Mountain 55.37 350 IAmb IAmb 19 10 32.0
comp=Z,52nm,1.0s
KMSC IAMs_20 IAMs_20 19 35 09.3
comp=Z,2µm,19.0s
KMSC Kings Mountain 55.37 350 P P 19 10 30.6 +0.5
baz=168,SNR=11
KMSC Kings Mountain 55.37 350 P P 19 10 31.1 +1.0
baz=168,SNR=11
HNVL Huntsville, TX 55.37 334 IAmb IAmb 19 10 33.2
comp=Z,131nm,1.1s
V61A Roper 55.39 354 P P 19 10 31.5 +1.3
baz=174
V61A P P 19 10 31.5 +1.3
baz=174
X51A Calhoun 55.50 346 IAmb IAmb 19 10 32.4
comp=Z,61nm,1.1s
X51A Calhoun 55.50 346 P P 19 10 31.5 +0.3
baz=164,SNR=7.5
X51A P P 19 10 31.5 +0.3
baz=164,SNR=7.5
BG3 Lake Jocassee 55.51 348 IAMs_20 IAMs_20 19 38 22.1
comp=Z,1µm,19.0s
CASEE Lake Jocassee 55.51 348 P P 19 10 32.0 +0.8
baz=166,SNR=8.8
FPAL Fort Paine 55.66 345 IAMs_20 IAMs_20 19 34 15.7
comp=Z,1µm,21.0s
V58A Windy Hill, Pi 55.67 352 IAmb IAmb 19 10 34.2
comp=Z,68nm,1.0s
V58A IAMs_20 IAMs_20 19 35 07.5
comp=Z,1µm,21.0s
V58A Windy Hill, Pi 55.67 352 P P 19 10 32.9 +0.6
baz=171,SNR=15
V58A P P 19 10 32.9 +0.6
baz=171,SNR=15
X48A Hartselle 55.93 344 IAmb IAmb 19 10 35.2
comp=Z,64nm,1.2s
X48A IAMs_20 IAMs_20 19 37 02.9
comp=Z,1µm,18.0s
X48A Hartselle 55.93 344 P P 19 10 34.4 +0.2
baz=162,SNR=14
NATX Nacogdoches 55.93 336 P P 19 10 35.2 +1.0
baz=153
HNDO Hondo 55.99 330 IAmb IAmb 19 10 37.0
comp=Z,55nm,0.9s
V55A Taylorsville 56.04 350 IAmb IAmb 19 10 37.1
comp=Z,69nm,1.0s
V55A Taylorsville 56.04 350 P P 19 10 35.9 +1.0
baz=168,SNR=15
V55A P P 19 10 35.9 +1.0
baz=168,SNR=15
U59A Littleton 56.06 353 IAmb IAmb 19 10 37.3
comp=Z,65nm,1.1s
U59A Littleton 56.06 353 P P 19 10 35.9 +0.8
baz=172,SNR=12
U59A P P 19 10 35.9 +0.8
baz=172,SNR=12
V53A Saluda 56.14 348 IAMs_20 IAMs_20 19 34 08.8
comp=Z,2µm,21.0s
V53A Saluda 56.14 348 P P 19 10 35.9 +0.1
baz=167,SNR=15
V53A P P 19 10 35.9 +0.1
baz=167,SNR=15
W50A Signal Mountai 56.22 346 IAmb IAmb 19 10 37.5
comp=Z,43nm,1.0s
W50A IAMs_20 IAMs_20 19 35 07.6
comp=Z,1µm,19.0s
W50A Signal Mountai 56.22 346 P P 19 10 36.4 +0.1
baz=164,SNR=14
CPCT Cooper Cave 56.28 347 IAmb IAmb 19 10 38.0
comp=Z,48nm,1.1s
CPCT IAMs_20 IAMs_20 19 36 02.4
comp=Z,2µm,19.0s
435B Jarrell 56.29 332 P P 19 10 37.3 +0.5
baz=150
TKL Tuckaleechee C 56.32 347 IAmb IAmb 19 10 38.1
comp=Z,57nm,1.0s
TKL Tuckaleechee C 56.32 347 P P 19 10 37.0 0.0
baz=166,SNR=21
TKL Tuckaleechee C 56.32 347 P P 19 10 36.6 -0.4
comp=Z,42nm,0.9s,baz=158,slow=8.9,SNR=36
TKL LR LR 19 35 50.5
comp=Z,867nm,18.9s,baz=159,slow=37
comp=Z,42nm,0.9s
SWET Sewanee 56.38 345 IAmb IAmb 19 10 38.4
comp=Z,40nm,1.0s
SWET IAMs_20 IAMs_20 19 34 48.9
comp=Z,1µm,21.0s
U56A King 56.39 351 IAmb IAmb 19 10 39.9
comp=Z,100nm,1.1s
U56A IAMs_20 IAMs_20 19 35 40.6
comp=Z,1µm,19.0s
U56A King 56.39 351 P P 19 10 39.0 +1.5
baz=170,SNR=9.3
U56A P P 19 10 39.0 +1.5
baz=170,SNR=9.3
V52A Sevierville 56.46 348 IAMs_20 IAMs_20 19 37 23.3
comp=Z,1µm,19.0s
V52A Sevierville 56.46 348 P P 19 10 38.1 +0.1
baz=166,SNR=33
DRIO Del Rio 56.54 329 P P 19 10 38.0 -0.7
DRIO IAmb IAmb 19 10 40.4
comp=Z,36nm,1.0s
V51A Loudon 56.58 347 IAmb IAmb 19 10 40.0
comp=Z,48nm,1.0s
V51A IAMs_20 IAMs_20 19 36 00.4
comp=Z,1µm,19.0s
V51A Loudon 56.58 347 P P 19 10 39.2 +0.3
baz=165,SNR=11
Z41A Richland Creek 56.59 338 IAmb IAmb 19 10 41.3
comp=Z,89nm,1.0s
Z41A Richland Creek 56.59 338 P P 19 10 40.3 +1.5
baz=155,SNR=6.4
Z41A P P 19 10 40.3 +1.5
baz=155,SNR=6.4
237A Washetta, Mont 56.60 335 P P 19 10 40.8 +1.8
baz=152,SNR=7.1
OXF Oxford 56.64 342 P P 19 10 38.7 -0.5
baz=159,SNR=7.8
OXF Oxford 56.64 342 P P 19 10 39.3 0.0
baz=159,SNR=7.8
T59A Double "B" Far 56.65 354 IAmb IAmb 19 10 41.4
comp=Z,91nm,0.9s
T59A Double "B" Far 56.65 354 P P 19 10 40.3 +1.1
baz=173,SNR=25
T59A P P 19 10 40.3 +1.1
baz=173,SNR=25
PLAL Pickwick Lake 56.70 343 IAmb IAmb 19 10 40.2
comp=Z,47nm,1.1s
T60A Surry 56.74 355 IAmb IAmb 19 10 42.0
comp=Z,87nm,1.0s
U54A Nelsons Funny 56.79 350 IAmb IAmb 19 10 42.0
comp=Z,86nm,0.9s
U54A IAMs_20 IAMs_20 19 35 55.1
comp=Z,1µm,19.0s
U54A Nelsons Funny 56.79 350 P P 19 10 40.9 +0.5
baz=168,SNR=18
U54A P P 19 10 40.9 +0.5
baz=168,SNR=18
T57A Hurt 56.88 352 IAmb IAmb 19 10 43.1
comp=Z,85nm,1.1s
T57A IAMs_20 IAMs_20 19 35 43.4
comp=Z,1µm,22.0s
T57A Hurt 56.88 352 P P 19 10 41.9 +1.0
baz=171,SNR=23
T57A P P 19 10 41.9 +1.0
baz=171,SNR=23
JCT Junction City 57.03 330 P P 19 10 42.2 0.0
baz=147
JCT Junction City 57.03 330 P P 19 10 43.8 +1.6
baz=147
V48A Smith Brothers 57.09 345 IAmb IAmb 19 10 43.5
comp=Z,81nm,1.1s
V48A IAMs_20 IAMs_20 19 38 53.8
comp=Z,1µm,19.0s
V48A Smith Brothers 57.09 345 P P 19 10 42.4 -0.1
baz=162,SNR=16
TZTN Tazewell 57.13 348 IAmb IAmb 19 10 44.0
comp=Z,42nm,1.1s
TZTN Tazewell 57.13 348 P P 19 10 42.5 -0.3
baz=166,SNR=9.5
TZTN Tazewell 57.13 348 P P 19 10 43.1 +0.4
baz=166,SNR=9.5
HPIG 57.23 323 IAMs_20 IAMs_20 19 33 31.4
comp=Z,1µm,19.0s
BLA Blacksburg 57.25 351 IAmb IAmb 19 11 02.3
comp=Z,55nm,1.1s
BLA IAMs_20 IAMs_20 19 36 17.2
comp=Z,1µm,20.0s
BLA Blacksburg 57.25 351 P P 19 10 44.0 +0.5
baz=170,SNR=5.4
BLA Blacksburg 57.25 351 P P 19 10 44.8 +1.2
baz=170,SNR=5.4
WHTX Lake Whitney, 57.27 333 IAmb IAmb 19 10 46.0
comp=Z,62nm,1.0s
WHTX Lake Whitney, 57.27 333 P P 19 10 44.1 +0.3
baz=150,SNR=8.3
WHTX Lake Whitney, 57.27 333 P P 19 10 45.0 +1.2
baz=150,SNR=8.3
CLTN Cedars of Leba 57.31 345 IAmb IAmb 19 10 45.0
comp=Z,60nm,1.1s
CLTN IAMs_20 IAMs_20 19 39 34.5
comp=Z,1µm,18.0s
BRDY Brady 57.34 331 IAmb IAmb 19 11 03.2
comp=Z,33nm,1.3s
Z38A Mt. Pleasant 57.39 336 P P 19 10 46.3 +1.8
baz=153,SNR=5.7
U49A Red Boiling Sp 57.58 346 IAMs_20 IAMs_20 19 35 58.7
comp=Z,1µm,20.0s
U49A Red Boiling Sp 57.58 346 P P 19 10 45.8 0.0
baz=164,SNR=14
S57A Dark Hollow, R 57.59 353 IAmb IAmb 19 10 48.2
comp=Z,77nm,1.0s
S57A IAMs_20 IAMs_20 19 36 56.3
comp=Z,1µm,20.0s
S57A Dark Hollow, R 57.59 353 P P 19 10 47.1 +1.2
baz=171,SNR=15
S57A P P 19 10 47.1 +1.2
baz=171,SNR=15
R58B Mineral 57.67 354 IAmb IAmb 19 10 49.0
comp=Z,91nm,1.2s
R58B Mineral 57.67 354 P P 19 10 47.6 +1.2
baz=172,SNR=17
R58B P P 19 10 47.6 +1.2
baz=172,SNR=17
WVT Waverly 57.72 344 P P 19 10 46.1 -0.7
WVT IAmb IAmb 19 10 47.3
comp=Z,52nm,0.9s
WVT Waverly 57.72 344 P P 19 10 46.3 -0.6
baz=161
WVT Waverly 57.72 344 P P 19 10 46.2 -0.7
baz=161,SNR=21
WVT Waverly 57.72 344 P P 19 10 46.1 -0.7
WVT pmax pmax
comp=Z,52nm,0.9s
WVT MLR MLR
comp=Z,300nm,18.0s
SAND Sanderson 57.72 328 IAmb IAmb 19 10 49.4
comp=Z,37nm,1.1s
UALR University of 57.81 339 IAmb IAmb 19 10 49.1
comp=Z,60nm,1.1s
CBN Corbin Frederi 57.85 354 P P 19 10 48.4 +0.6
baz=173
T50A Nancy 57.86 347 IAmb IAmb 19 10 48.8
comp=Z,50nm,1.0s
T50A IAMs_20 IAMs_20 19 35 50.2
comp=Z,2µm,20.0s
T50A Nancy 57.86 347 P P 19 10 47.9 +0.1
baz=165
T50A P P 19 10 47.9 +0.1
baz=165
SACV Santiago Islan 57.92 57 P P 19 10 48.5 -0.2
SACV IAmb IAmb 19 10 49.7
comp=Z,78nm,0.9s
S54A Dingess, Beckl 57.96 350 IAmb IAmb 19 10 50.2
comp=Z,106nm,1.1s
S54A Dingess, Beckl 57.96 350 P P 19 10 48.7 +0.2
baz=169,SNR=9.0
S54A P P 19 10 48.7 +0.2
baz=169,SNR=9.0
TX31 Lajitas Ar. Si 58.01 326 P P 19 10 49.7 +0.5
baz=143,SNR=8.6
TXAR Lajitas Array 58.01 326 P P 19 10 48.9 -0.3
comp=Z,9.4nm,0.9s,baz=146,slow=8.9,SNR=45
TXAR LR LR 19 35 25.8
comp=Z,466nm,18.1s,baz=132,slow=36
comp=Z,9.4nm,0.9s
MIAR Mount Ida 58.02 338 IAmb IAmb 19 10 50.9
comp=Z,73nm,0.9s
MIAR Mount Ida 58.02 338 P P 19 10 49.3 +0.3
baz=155,SNR=17
MIAR Mount Ida 58.02 338 P P 19 10 49.7 +0.7
baz=155,SNR=17
OZNA Ozona 58.03 329 IAmb IAmb 19 11 08.9
comp=Z,44nm,1.2s
S51A Beattyville 58.20 348 P P 19 10 50.2 -0.1
baz=166,SNR=6.6
S51A P P 19 10 50.2 -0.1
baz=166,SNR=6.6
R55A Marlinton 58.26 352 IAmb IAmb 19 11 09.7
comp=Z,67nm,1.1s
R55A Marlinton 58.26 352 P P 19 10 52.0 +1.3
baz=170,SNR=9.2
R55A P P 19 10 52.0 +1.3
baz=170,SNR=9.2
WHAR Wooly Hollow 58.26 340 IAmb IAmb 19 10 52.1
comp=Z,35nm,1.0s
PLPT Palo Pinto 58.34 333 IAmb IAmb 19 11 11.9
comp=Z,30nm,1.1s
Z35A Perchaven, San 58.35 334 IAmb IAmb 19 10 53.7
comp=Z,85nm,0.9s
Z35A Perchaven, San 58.35 334 P P 19 10 52.5 +1.1
baz=151
T47A Sharon Grove 58.35 345 IAMs_20 IAMs_20 19 39 48.9
comp=Z,1µm,19.0s
T47A Sharon Grove 58.35 345 P P 19 10 51.3 +0.1
baz=162,SNR=19
R53A Hurricane 58.58 350 IAmb IAmb 19 10 54.3
comp=Z,73nm,1.2s
R53A IAMs_20 IAMs_20 19 39 46.3
comp=Z,1µm,18.0s
R53A Hurricane 58.58 350 P P 19 10 53.5 +0.7
baz=168,SNR=7.5
R53A P P 19 10 53.5 +0.7
baz=168,SNR=7.5
LCAR Lake Charles 58.61 341 IAmb IAmb 19 10 54.1
comp=Z,36nm,1.0s
LCAR Lake Charles 58.61 341 P P 19 10 52.8 -0.3
baz=158,SNR=12
X37A Clayton 58.71 337 P P 19 10 55.0 +1.2
baz=153,SNR=17
ABTX Abilene, Hawle 58.76 332 IAmb IAmb 19 10 56.3
comp=Z,56nm,1.0s
ABTX Abilene, Hawle 58.76 332 P P 19 10 54.3 0.0
baz=148,SNR=9.2
ABTX Abilene, Hawle 58.76 332 P P 19 10 55.2 +0.9
baz=148,SNR=9.2
T45A Paducah 58.77 344 IAMs_20 IAMs_20 19 36 11.0
comp=Z,1µm,20.0s
ALPN Alpine 58.83 327 IAmb IAmb 19 11 47.2
comp=Z,26nm,1.1s
Q56A Snyder Ridge, 58.88 353 P P 19 10 56.5 +1.6
baz=171,SNR=28
Q56A P P 19 10 56.5 +1.6
baz=171,SNR=28
LOOK Love County 58.89 335 IAmb IAmb 19 10 57.3
comp=Z,66nm,1.0s
R50A Paris 58.97 348 IAmb IAmb 19 10 56.7
comp=Z,63nm,1.1s
R50A Paris 58.97 348 P P 19 10 55.6 +0.1
baz=165,SNR=11
R50A P P 19 10 55.6 +0.1
baz=165,SNR=11
SDMD Soldier's Deli 59.00 355 P P 19 10 57.0 +1.3
baz=174
Q54A Coxs Mills 59.05 351 IAmb IAmb 19 10 57.6
comp=Z,44nm,1.0s
Q54A Coxs Mills 59.05 351 P P 19 10 56.5 +0.5
baz=169,SNR=12
Q54A P P 19 10 56.5 +0.5
baz=169,SNR=12
PBMO Poplar Bluff 59.05 342 IAmb IAmb 19 10 57.2
comp=Z,90nm,1.4s
PBMO Poplar Bluff 59.05 342 P P 19 10 56.3 +0.2
baz=159,SNR=6.1
P61A Hammonton 59.12 357 IAMs_20 IAMs_20 19 37 25.7
comp=Z,1µm,20.0s
R49A Shelbyville 59.15 347 IAmb IAmb 19 10 57.7
comp=Z,36nm,1.1s
R49A IAMs_20 IAMs_20 19 37 00.3
comp=Z,2µm,20.0s
R49A Shelbyville 59.15 347 P P 19 10 56.8 0.0
baz=165,SNR=7.0
R49A P P 19 10 56.8 0.0
baz=165,SNR=7.0
MNHN Monahans 59.17 328 IAmb IAmb 19 10 59.4
comp=Z,71nm,1.1s
P57A Homestead Farm 59.19 354 IAmb IAmb 19 11 00.0
comp=Z,71nm,1.1s
P57A Homestead Farm 59.19 354 P P 19 10 58.7 +1.7
baz=172,SNR=9.4
P57A P P 19 10 58.7 +1.7
baz=172,SNR=9.4
WTFS Witchita Falls 59.23 333 IAmb IAmb 19 11 16.4
comp=Z,89nm,1.1s
Q52A Bidwell 59.25 350 IAmb IAmb 19 10 58.8
comp=Z,42nm,0.9s
Q52A IAMs_20 IAMs_20 19 40 14.0
comp=Z,1µm,19.0s
Q52A Bidwell 59.25 350 P P 19 10 58.1 +0.6
baz=168,SNR=6.0
Q52A P P 19 10 58.1 +0.6
baz=168,SNR=6.0
CGM3 Cape Girardeau 59.31 343 IAmb IAmb 19 10 59.2
comp=Z,85nm,1.2s
WCI Wyandotte Cave 59.34 346 P P 19 10 57.8 -0.3
WCI IAmb IAmb 19 10 58.9
comp=Z,74nm,1.1s
WCI Wyandotte Cave 59.34 346 P P 19 10 57.8 -0.3
baz=163
WCI Wyandotte Cave 59.34 346 P P 19 10 57.8 -0.3
baz=163,SNR=5.6
WCI Wyandotte Cave 59.34 346 P P 19 10 57.8 -0.3
WCI pmax pmax
comp=Z,75nm,1.2s
USIN University of 59.41 345 IAMs_20 IAMs_20 19 40 50.1
comp=Z,1µm,18.0s
U40A Yellville 59.42 340 P P 19 10 59.1 +0.4
baz=156,SNR=13
U40A P P 19 10 59.1 +0.4
baz=156,SNR=13
Q51A Peebles 59.50 349 IAmb IAmb 19 11 00.3
comp=Z,44nm,1.0s
Q51A Peebles 59.50 349 P P 19 10 59.1 -0.2
baz=167,SNR=11
Q51A P P 19 10 59.1 -0.2
baz=167,SNR=11
SN01 Snyder 1 59.53 331 IAmb IAmb 19 11 01.5
comp=Z,36nm,0.9s
MVL Millersville 59.55 355 IAmb IAmb 19 11 19.2
comp=Z,42nm,1.0s
MVL IAMs_20 IAMs_20 19 39 23.0
comp=Z,1µm,19.0s
APMT Aspermont 59.57 332 IAmb IAmb 19 11 01.9
comp=Z,58nm,1.0s
S44A Carbondale 59.57 343 P P 19 10 59.9 +0.1
baz=160,SNR=13
MCWV Mont Chateau 59.57 352 IAmb IAmb 19 11 02.0
comp=Z,65nm,0.9s
MCWV Mont Chateau 59.57 352 P P 19 11 00.0 +0.3
baz=170,SNR=9.7
MCWV Mont Chateau 59.57 352 P P 19 11 00.8 +1.1
baz=170,SNR=9.7
P53A Whipple 59.62 351 P P 19 11 00.8 +0.8

baz=169,SNR=13
P53A P P 19 11 00.8 +0.8
baz=169,SNR=13
ODSA Odessa 59.70 329 IAmb IAmb 19 11 02.6
comp=Z,102nm,1.3s
HHAR Hobbs 59.71 339 IAmb IAmb 19 11 02.4
comp=Z,84nm,1.3s
PECS Pecos 59.74 327 IAmb IAmb 19 11 03.5
comp=Z,47nm,1.4s
W35A Tecumseh 59.79 336 IAmb IAmb 19 11 02.4
comp=Z,54nm,1.1s
PANJ Princeton 59.81 357 P P **19 11 02.6 +1.3**
baz=176
425A Indio Mountain 59.86 326 IAmb IAmb 19 11 04.2
comp=Z,49nm,1.1s
P52A Corning 59.88 350 IAmb IAmb 19 11 02.9
comp=Z,48nm,0.9s
P52A Corning 59.88 350 P P **19 11 01.4 -0.4**
baz=168,SNR=6.2
P51A Williamsport 59.89 349 IAmb IAmb 19 11 02.8
comp=Z,73nm,1.1s
P51A Williamsport 59.89 349 P P **19 11 01.9 0.0**
baz=167,SNR=6.2
P51A P P **19 11 01.9 0.0**
baz=167,SNR=6.2
MGMO Mountain Grove 59.96 340 IAmb IAmb 19 11 03.8
comp=Z,77nm,1.2s
RLO Rose Lookout 59.99 338 IAmb IAmb 19 11 04.6
comp=Z,73nm,1.1s
U38A Gravette 60.01 338 IAmb IAmb 19 11 04.4
comp=Z,55nm,1.3s
U38A Gravette 60.01 338 P P **19 11 03.4 +0.6**
baz=155,SNR=6.2
PABK Blue Knob Stat 60.02 353 P P **19 11 04.5 +1.7**
baz=172
TUL3 Leonard 60.04 337 P P **19 11 03.1 +0.1**
baz=153,SNR=6.3
TUL3 Leonard 60.04 337 P P **19 11 03.7 +0.6**
baz=153,SNR=6.3
BRNJ Basking Ridge 60.11 357 P P **19 11 04.7 +1.4**
baz=176
O54A Avella 60.16 352 P P **19 11 04.4 +0.7**
baz=170,SNR=5.7
O54A P P **19 11 04.4 +0.7**
baz=170,SNR=5.7
FVM French Village 60.17 342 IAmb IAmb 19 11 05.2
comp=Z,78nm,1.1s
FVM French Village 60.17 342 P P **19 11 03.9 +0.1**
baz=159,SNR=13
WMOK Wichita Mounta 60.20 334 P P **19 11 03.5 -0.7**
baz=150
DKNS Dickens 60.22 331 IAmb IAmb 19 11 06.0
comp=Z,24nm,1.0s
OLIL Olney 60.25 345 IAmb IAmb 19 11 05.0
comp=Z,115nm,1.6s
OLIL Olney 60.25 345 P P **19 11 03.7 -0.6**
baz=162
P49A Miami Univ. Ec 60.26 348 IAmb IAmb 19 11 05.5
comp=Z,61nm,1.1s
P49A Miami Univ. Ec 60.26 348 P P **19 11 03.5 -0.9**
baz=165
P49A Miami Univ. Ec 60.26 348 P P **19 11 04.3 -0.1**
baz=165
BLO Bloomington 60.29 346 IAMs_20 IAMs_20 19 38 16.4
comp=Z,2µm,20.0s
O52A Adamsville 60.31 350 IAmb IAmb 19 11 06.0
comp=Z,60nm,1.1s
O52A Adamsville 60.31 350 P P **19 11 05.2 +0.4**
baz=168
O52A P P **19 11 05.2 +0.4**
baz=168
N62A Caumsett State 60.31 358 IAMs_20 IAMs_20 19 37 08.4
comp=Z,1µm,19.0s
SSPA Standing Stone 60.31 354 P P **19 11 05.2 +0.4**
SSPA IAmb IAmb 19 11 07.4
comp=Z,94nm,1.4s
SSPA Standing Stone 60.31 354 IAMs_20 IAMs_20 19 39 08.3
comp=Z,1µm,20.0s
SSPA Standing Stone 60.31 354 P P **19 11 05.4 +0.6**
baz=173
SSPA Standing Stone 60.31 354 P P **19 11 05.9 +1.2**
baz=173,SNR=10
P48A Milroy 60.33 347 IAmb IAmb 19 11 05.3
comp=Z,62nm,1.4s
P48A IAMs_20 IAMs_20 19 37 38.4
comp=Z,1µm,19.0s
P48A Milroy 60.33 347 P P **19 11 04.3 -0.6**
baz=164
P48A P P **19 11 04.3 -0.6**
baz=164
O53A New Philadelph 60.34 351 IAmb IAmb 19 11 06.6
comp=Z,58nm,1.1s
O53A New Philadelph 60.34 351 P P **19 11 05.0 0.0**
baz=169,SNR=8.7
PAL Palisades 60.40 357 IAmb IAmb 19 11 23.4
comp=Z,69nm,1.2s
PAL IAMs_20 IAMs_20 19 40 39.8
comp=Z,1µm,20.0s
PAL Palisades 60.40 357 P P **19 11 05.2 -0.1**
baz=177
UPAO U. Pittsburgh 60.41 352 P P **19 11 06.8 +1.4**
baz=170
N58A Sunbury 60.41 355 IAmb IAmb 19 11 07.9
comp=Z,77nm,1.2s
N58A Sunbury 60.41 355 P P **19 11 06.5 +1.1**
baz=174,SNR=8.1
N58A P P **19 11 06.5 +1.1**
baz=174,SNR=8.1
CCM Cathedral Cave 60.47 342 P P **19 11 06.0 +0.1**
CCM IAmb IAmb 19 11 07.1
comp=Z,53nm,1.1s
CCM Cathedral Cave 60.47 342 P P **19 11 05.6 -0.3**
baz=158
CCM Cathedral Cave 60.47 342 P P **19 11 06.0 +0.1**
baz=158,SNR=12
CCM Cathedral Cave 60.47 342 P P **19 11 06.0 +0.1**
CCM pmax pmax
comp=Z,53nm,1.1s
OK052 Battle Ridge R 60.50 336 IAmb IAmb 19 11 07.7
comp=Z,66nm,1.0s
ODNJ Ogdensburg 60.51 357 IAmb IAmb 19 11 26.7
comp=Z,56nm,1.3s
ODNJ IAMs_20 IAMs_20 19 39 43.7
comp=Z,1µm,19.0s
WSPT Westport, CT 60.54 358 IAMs_20 IAMs_20 19 38 27.6
comp=Z,2µm,18.0s
TRNY Table Rock, Ra 60.55 357 IAMs_20 IAMs_20 19 39 52.8
comp=Z,1µm,18.0s
OK029 Liberty Lake 60.58 335 IAmb IAmb 19 11 08.0
comp=Z,56nm,1.0s
OK033 Mehan 60.59 336 P P **19 11 06.7 -0.1**
OK033 IAmb IAmb 19 11 08.4
comp=Z,50nm,0.9s
ACSO Alum Creek Sta 60.61 349 IAMs_20 IAMs_20 19 36 45.9
comp=Z,1µm,22.0s
ACSO Alum Creek Sta 60.61 349 P P **19 11 06.9 +0.1**
baz=167,SNR=15
ACSO Alum Creek Sta 60.61 349 P P **19 11 06.8 +0.1**
baz=167,SNR=15
QUOK Quay 60.62 336 IAmb IAmb 19 11 08.6
comp=Z,72nm,1.1s
Q44A Meyer Farm, Va 60.64 344 IAmb IAmb 19 11 07.6
comp=Z,64nm,1.0s
Q44A Meyer Farm, Va 60.64 344 P P **19 11 06.5 -0.5**
baz=161,SNR=8.1
MNTX Cornudas Mount 60.78 327 P P **19 11 07.5 -0.7**
baz=143,SNR=26
MNTX Cornudas Mount 60.78 327 P P **19 11 08.4 +0.2**
baz=143,SNR=26
S39A Bolivar 60.78 340 IAmb IAmb 19 11 09.5
comp=Z,70nm,1.1s
S39A Bolivar 60.78 340 P P **19 11 08.3 +0.2**
baz=156,SNR=16
O49A Covington 60.81 348 IAmb IAmb 19 11 09.0
comp=Z,70nm,1.1s
O49A IAMs_20 IAMs_20 19 38 23.3
comp=Z,1µm,20.0s
O49A Covington 60.81 348 P P **19 11 08.2 0.0**
baz=166,SNR=6.3
O49A P P **19 11 08.2 0.0**
baz=166,SNR=6.3
N53A Lisbon 60.84 351 IAmb IAmb 19 11 10.1
comp=Z,62nm,1.1s
N53A Lisbon 60.84 351 P P **19 11 09.1 +0.7**
baz=170,SNR=7.3
N53A P P **19 11 09.1 +0.7**
baz=170,SNR=7.3
BELA Belgrano 2 60.85 172 P P **19 11 09.6 +1.5**
BELA IAmb IAmb 19 11 11.5
comp=Z,41nm,1.2s
BELA IAMs_20 IAMs_20 19 36 17.6
comp=Z,1µm,20.0s
PAMR Moraine State 60.87 352 P P **19 11 10.0 +1.4**
baz=170
P46A Rosedale 60.87 346 IAmb IAmb 19 11 09.1
comp=Z,62nm,1.1s
P46A Rosedale 60.87 346 P P **19 11 07.9 -0.7**
baz=163,SNR=5.4
PSDB Penn State Uni 60.89 353 P P **19 11 10.4 +1.7**
baz=172
M65A Busby, Falmout 60.90 0 P P **19 11 08.1 -0.6**
baz=180
M57A Sunshine Farm, 60.94 355 IAmb IAmb 19 11 11.8
comp=Z,102nm,1.3s
M57A Sunshine Farm, 60.94 355 P P **19 11 10.4 +1.4**
baz=174,SNR=10
M57A P P **19 11 10.4 +1.4**
baz=174,SNR=10
R40A Maddies Statio 61.00 341 P P **19 11 09.3 -0.2**
baz=157,SNR=7.1
O48B Farmland 61.04 348 IAMs_20 IAMs_20 19 36 25.2
comp=Z,2µm,22.0s
O48B Farmland 61.04 348 P P **19 11 09.4 -0.3**
baz=165,SNR=12
O48B Farmland 61.04 348 P P **19 11 09.6 -0.1**
baz=165,SNR=12
KSPA Keystone Colle 61.05 356 IAmb IAmb 19 11 11.5
comp=Z,52nm,1.2s
KSPA Keystone Colle 61.05 356 P P **19 11 11.1 +1.3**
baz=175,SNR=6.2
KSCT Kent School, K 61.10 358 IAmb IAmb 19 11 12.3
comp=Z,74nm,1.4s
SMWD Samnorwood 61.13 333 IAmb IAmb 19 11 12.2
comp=Z,54nm,0.9s
NPNY Mohonk Preserv 61.16 357 P P **19 11 11.9 +1.4**
baz=177
N51A Ashland 61.18 350 IAmb IAmb 19 11 11.7
comp=Z,53nm,1.1s
N51A Ashland 61.18 350 P P **19 11 10.6 -0.1**
baz=168
N51A P P **19 11 10.6 -0.1**
baz=168
T35B Sooner Cattle 61.20 337 P P **19 11 11.5 +0.5**
baz=153,SNR=8.8
M55A Ridgway 61.23 353 P P **19 11 12.3 +1.3**
baz=172,SNR=24
M55A P P **19 11 12.3 +1.3**
baz=172,SNR=24
L64A Middleborough 61.27 0 IAmb IAmb 19 11 28.7
comp=Z,53nm,1.1s
L64A Middleborough 61.27 0 P P **19 11 12.3 +1.1**
baz=180
L64A P P **19 11 12.3 +1.1**
baz=180
MSTX Muleshoe 61.32 330 IAmb IAmb 19 11 31.5
comp=Z,69nm,1.1s
MSTX Muleshoe 61.32 330 P P **19 11 11.4 -0.5**
baz=146,SNR=11
MSTX Muleshoe 61.32 330 P P **19 11 12.7 +0.8**
baz=146,SNR=11
CROK Carrier 61.40 335 IAmb IAmb 19 11 13.8
comp=Z,66nm,1.1s
M53A WI Miller and 61.44 352 P P **19 11 12.6 +0.2**
baz=170,SNR=5.2
P43A Skaggs, Pawnee 61.47 344 P P **19 11 12.4 -0.2**
baz=160,SNR=7.0
N49A Columbus Grove 61.49 349 P P **19 11 12.5 -0.3**
baz=166,SNR=23
N49A P P **19 11 12.5 -0.3**
baz=166,SNR=23
ALLY Alegheny Colle 61.57 352 P P **19 11 14.0 +0.7**
baz=170,SNR=5.4
SFIN Lafayette 61.57 346 IAmb IAmb 19 11 13.5
comp=Z,53nm,1.0s
SFIN Lafayette 61.57 346 P P **19 11 12.3 -1.0**
baz=163,SNR=8.4
SFIN Lafayette 61.57 346 P P **19 11 12.7 -0.7**
baz=163,SNR=8.4
AMTX Amarillo 61.58 331 P P **19 11 12.0 -1.7**
baz=147
ELIS Ellis County 61.60 334 IAMs_20 IAMs_20 19 35 04.5
comp=Z,967nm,20.0s
QUA2 Belchertown 61.62 359 P P **19 11 14.6 +1.0**
baz=179
M52A Chesterland 61.63 351 IAMs_20 IAMs_20 19 38 54.0
comp=Z,1µm,19.0s
L59A Walton 61.64 357 P P **19 11 14.8 +1.0**
baz=176,SNR=13
L59A P P **19 11 14.8 +1.0**
baz=176,SNR=13
OK038 West end E0370 61.68 335 IAmb IAmb 19 11 15.8
comp=Z,71nm,1.3s
O44A Mansfield 61.68 345 IAmb IAmb 19 11 15.1
comp=Z,89nm,1.4s
BINY Binghamton 61.71 356 P P **19 11 15.2 +0.9**
baz=175,SNR=12
BINY Binghamton 61.71 356 P P **19 11 15.1 +0.9**
baz=175,SNR=12
WES Weston 61.72 360 IAmb IAmb 19 11 32.2
comp=Z,63nm,1.2s
N47A Urbana 61.75 347 IAMs_20 IAMs_20 19 36 59.0
comp=Z,2µm,21.0s
N47A Urbana 61.75 347 P P **19 11 14.2 -0.3**
baz=164,SNR=5.4
N47A P P **19 11 14.2 -0.3**
baz=164,SNR=5.4
OK032 Salt Plains WL 61.75 335 IAmb IAmb 19 11 16.3
comp=Z,52nm,1.1s
M50A Fremont 61.76 350 P P **19 11 14.8 +0.3**
baz=167,SNR=6.9
M50A P P **19 11 14.8 +0.3**
baz=167,SNR=6.9
L56A Greenwood 61.77 354 P P **19 11 15.8 +1.1**
baz=173,SNR=13
L56A P P **19 11 15.8 +1.1**
baz=173,SNR=13
L61B Northampton 61.80 359 P P **19 11 15.9 +1.1**
baz=178,SNR=5.4
L61B Northampton 61.80 359 P P **19 11 15.5 +0.7**
baz=178,SNR=5.4
HRV Adam Dziewonsk 61.84 360 P P **19 11 15.7 +0.6**
HRV Adam Dziewonsk 61.84 360 P P **19 11 15.7 +0.6**
baz=180
HRV Adam Dziewonsk 61.84 360 P P **19 11 16.6 +1.5**
baz=180,SNR=7.0
HRV Adam Dziewonsk 61.84 360 P P **19 11 15.7 +0.6**
HRV pmax pmax
comp=Z,85nm,1.0s
OK035 E0210 Rd and N 61.87 335 IAMs_20 IAMs_20 19 39 19.6
comp=Z,900nm,19.0s
ERPA Erie 62.01 352 P P **19 11 16.7 +0.5**
baz=170,SNR=7.0
ERPA Erie 62.01 352 P P **19 11 17.3 +1.0**
baz=170,SNR=7.0
P40A Paris 62.07 342 IAmb IAmb 19 11 17.9
comp=Z,70nm,1.3s
P40A Paris 62.07 342 P P **19 11 16.7 0.0**
baz=158,SNR=6.9
HCNY Howe Caverns 62.11 357 P P **19 11 18.0 +1.1**
baz=176,SNR=9.7
TRY Troy 62.11 358 P P **19 11 18.7 +1.8**
baz=177,SNR=7.5
WVNY West Valley, N 62.14 354 P P **19 11 18.4 +1.2**
baz=172,SNR=31
HDIL Hopedale 62.27 344 P P **19 11 17.9 -0.1**
baz=161,SNR=5.6
HDIL Hopedale 62.27 344 P P **19 11 17.5 -0.6**
baz=161,SNR=5.6
K57A Scipio Center 62.27 355 P P **19 11 18.4 +0.4**
baz=174,SNR=10
VNA3 Neumayer Olymp 62.45 161 ⇑P P **19 11 20.6 +1.7**
L48A N Adams 62.53 349 P P **19 11 19.2 -0.6**
baz=166,SNR=7.9
L48A P P **19 11 19.2 -0.6**
baz=166,SNR=7.9
P38A Dawn 62.62 341 IAmb IAmb 19 11 21.7
comp=Z,28nm,0.9s
P38A Dawn 62.62 341 P P **19 11 20.4 +0.1**
baz=156,SNR=5.4
319A Douglas 62.65 323 IAmb IAmb 19 11 45.5
comp=Z,50nm,1.1s
319A IAMs_20 IAMs_20 19 39 24.7
comp=Z,1µm,18.0s
VNA1 Neumayer--Stat 62.67 161 ⇑P P **19 11 22.6 +2.3**
comp=Z,27nm,0.9s
J61A Chester 62.70 359 IAmb IAmb 19 11 23.8
comp=Z,108nm,1.6s
J61A Chester 62.70 359 P P **19 11 22.3 +1.5**
baz=178,SNR=5.3
J61A P P **19 11 22.3 +1.5**
baz=178,SNR=5.3
121A Cookes Peak, D 62.70 325 IAmb IAmb 19 11 31.1
comp=Z,66nm,1.5s
121A Cookes Peak, D 62.70 325 P P **19 11 20.8 -0.6**
baz=141,SNR=13
121A Cookes Peak, D 62.70 325 P P **19 11 23.1 +1.8**
baz=141,SNR=13
AAM Ann Arbor 62.74 349 P P **19 11 21.2 +0.1**
baz=167
M44A Midewin, Midew 62.75 346 IAmb IAmb 19 11 31.4
comp=Z,104nm,1.6s
ACCN Adirondack Com 62.77 358 IAmb IAmb 19 11 24.0
comp=Z,73nm,1.4s
ACCN Adirondack Com 62.77 358 P P **19 11 22.4 +1.2**
baz=177,SNR=7.0
J58A Remsen 62.82 356 IAmb IAmb 19 11 24.0
comp=Z,110nm,1.7s
J58A IAMs_20 IAMs_20 19 41 05.7
comp=Z,1µm,18.0s
J58A Remsen 62.82 356 P P **19 11 22.8 +1.2**
baz=176
J58A P P **19 11 22.8 +1.2**
baz=176
J56A Wolcott 62.84 355 P P **19 11 22.8 +1.0**
baz=174,SNR=8.2
J56A P P **19 11 22.8 +1.0**
baz=174,SNR=8.2
J59A Piesco 62.88 357 IAMs_20 IAMs_20 19 39 29.4
comp=Z,2µm,20.0s
J59A Piesco 62.88 357 P P **19 11 23.2 +1.1**
baz=176,SNR=19
J59A P P **19 11 23.2 +1.1**
baz=176,SNR=19
J57A Williamstown 62.91 356 P P **19 11 23.3 +1.1**
baz=175,SNR=9.3
J57A P P **19 11 23.3 +1.1**
baz=175,SNR=9.3
J55A Hilton 62.91 354 P P **19 11 23.3 +1.1**
baz=173,SNR=11
J55A P P **19 11 23.3 +1.1**
baz=173,SNR=11
J54A Appleton 63.00 354 P P **19 11 23.7 +0.8**
baz=172,SNR=9.5
J54A P P **19 11 23.7 +0.8**
baz=172,SNR=9.5
VNA2 Neumayer--Watz 63.03 161 ⇑P P **19 11 24.5 +1.7**
baz=271,slow=7.0
HNH Hanover 63.05 359 IAmb IAmb 19 11 27.1
comp=Z,59nm,1.1s
KSU1 Kansas State U 63.17 338 IAmb IAmb 19 11 25.4
comp=Z,76nm,1.4s
KSU1 Kansas State U 63.17 338 P P **19 11 24.0 -0.1**
baz=153
KSU1 Kansas State U 63.17 338 P P **19 11 24.6 +0.5**
baz=153
I62A Tamworth 63.21 360 IAmb IAmb 19 11 26.9
comp=Z,79nm,1.4s
I62A Tamworth 63.21 360 P P **19 11 25.8 +1.6**
baz=180
I62A P P **19 11 25.8 +1.6**
baz=180
MCVT Middlebury Col 63.31 358 P P **19 11 26.3 +1.4**
baz=178,SNR=8.2
RTBA Rita Blanca 63.35 332 IAmb IAmb 19 12 09.6
comp=Z,56nm,1.6s
R32A Long Quarter, 63.36 336 IAmb IAmb 19 11 27.3
comp=Z,74nm,1.1s
R32A Long Quarter, 63.36 336 P P **19 11 26.6 +1.2**
baz=151
Y22A Socorro 63.36 327 P P **19 11 27.5 +1.8**
baz=142,SNR=8.4
NCB Newcomb 63.37 357 IAmb IAmb 19 11 27.7
comp=Z,92nm,1.4s
NCB Newcomb 63.37 357 P P **19 11 26.6 +1.2**
baz=177,SNR=9.6
I63A Otisfield 63.38 0 IAmb IAmb 19 11 28.4
comp=Z,61nm,1.1s
WCNY West Carthage 63.46 356 P P **19 11 27.0 +1.1**
baz=175,SNR=13
L44A Lake County Fo 63.47 346 P P **19 11 26.3 +0.3**
baz=162
LBNH Lisbon 63.58 359 P P **19 11 27.9 +1.3**
baz=179,SNR=8.8
LBNH Lisbon 63.58 359 P P **19 11 28.3 +1.7**
baz=179,SNR=8.8
N38A Joes South For 63.59 341 IAmb IAmb 19 11 28.1
comp=Z,69nm,1.1s
VT1 Waterbury 63.68 359 IAmb IAmb 19 11 45.7
comp=Z,56nm,1.2s
VT1 Waterbury 63.68 359 P P **19 11 29.1 +1.7**
baz=178
L42A Oliver, Polo 63.73 345 IAmb IAmb 19 11 28.4
comp=Z,67nm,1.2s
L42A Oliver, Polo 63.73 345 P P **19 11 27.3 -0.4**
baz=169
J47A Sumner 63.85 349 P P **19 11 28.2 -0.3**
baz=166,SNR=8.6
J47A P P **19 11 28.2 -0.3**
baz=166,SNR=8.6
ANMO Albuquerque 63.90 328 P P **19 11 30.2 +1.0**
ANMO Albuquerque 63.90 328 P P **19 11 30.0 +0.8**
baz=143
ANMO Albuquerque 63.90 328 P P **19 11 30.7 +1.4**
baz=143,SNR=8.6
ANMO Albuquerque 63.90 328 *ce* P P **19 11 29.7 +0.5**
ANMO pmax pmax
comp=Z,8.0nm,1.1s
ANMO Albuquerque 63.90 328 P P **19 11 29.9 +0.6**
comp=Z,5.7nm,1.0s,baz=232,slow=9.1,SNR=13
ANMO LR LR 19 38 57.9
comp=Z,543nm,19.8s,baz=228,slow=36
comp=Z,5.7nm,1.0s
H62A Milan 63.91 360 IAmb IAmb 19 11 56.2
comp=Z,34nm,1.1s
H62A Milan 63.91 360 P P **19 11 30.7 +1.8**
baz=180
H62A P P **19 11 30.7 +1.8**
baz=180
WVL Waterville 63.91 1 IAmb IAmb 19 11 30.9
comp=Z,39nm,1.0s
WVL Waterville 63.91 1 P P **19 11 30.4 +1.6**
baz=182,SNR=5.8
LONY Lake Ozonia 64.04 357 IAmb IAmb 19 11 32.0
comp=Z,61nm,1.0s
LONY Lake Ozonia 64.04 357 P P **19 11 30.3 +0.7**
baz=176,SNR=16
K43A Burlington 64.07 346 P P **19 11 29.4 -0.5**
baz=162,SNR=8.2
CBKS Cedar Bluff 64.09 335 P P **19 11 30.9 +0.6**
baz=150
L40A Anamosa 64.19 343 P P **19 11 30.8 0.0**
baz=159,SNR=9.0
TUC Tucson 64.19 323 P P **19 11 31.8 +0.7**
TUC Tucson 64.19 323 IAMs_20 IAMs_20 19 40 19.7
comp=Z,921nm,19.0s
TUC Tucson 64.19 323 P P **19 11 32.3 +1.2**
baz=138
TUC Tucson 64.19 323 P P **19 11 31.8 +0.7**
TUC pmax pmax
comp=Z,50nm,1.9s
TUC MLR MLR
comp=Z,900nm,19.0s
FRNY Flat Rock 64.21 358 P P **19 11 31.9 +1.1**
baz=177,SNR=19
BMNY Brushton-Moira 64.25 357 P P **19 11 32.2 +1.2**
baz=176,SNR=19
SADO Sadowa 64.53 354 P P **19 11 33.0 0.0**
comp=Z,93nm,0.9s,baz=186,slow=5.3,SNR=39
SADO LR LR 19 41 39.4
comp=Z,803nm,18.7s,baz=181,slow=38
comp=Z,93nm,0.9s
G62A West of Eustis 64.55 0 P P **19 11 35.2 +2.1**
baz=181,SNR=36
G62A P P **19 11 35.2 +2.1**
baz=181,SNR=36
GGN Saint George 64.56 3 P P **19 11 34.4 +1.3**
GGN IAmb IAmb 19 11 35.6
comp=Z,58nm,1.0s
G65A Princeton 64.61 3 P P **19 11 34.7 +1.4**
baz=184,SNR=6.4
G65A P P **19 11 34.7 +1.4**
baz=184,SNR=6.4
SCIA State Center 64.61 342 P P **19 11 34.1 +0.6**
baz=157

PKME **Peaks-Kenny Pk** 64.61 1 P P 19 11 34.5 +1.1
baz=182,SNR=12
PKME **Peaks-Kenny Pk** 64.61 1 P P 19 11 35.0 +1.6
baz=182,SNR=12
SNAA **Sanae** 64.66 161 P P 19 11 34.5 +0.9
SNAA IAmb IAmb 19 11 36.5
comp=Z,61nm,1.1s
SNAA **Sanae** 64.66 161 ⇑P P 19 11 35.3 +1.7
comp=Z,682nm,0.9s
SNAA **Sanae** 64.66 161 *c i* P P 19 11 34.8 +1.2
SNAA pmax pmax
comp=Z,70nm,1.2s
SNAA **Sanae** 64.66 161 P P 19 11 34.7 +1.2
comp=Z,37nm,1.0s,baz=279,slow=6.6,SNR=54
SNAA LR LR 19 37 35.4
comp=Z,518nm,21.0s,baz=300,slow=34
comp=Z,37nm,1.0s
T25A **Trinidad** 64.68 331 IAmb IAmb 19 11 37.1
comp=Z,37nm,1.2s
T25A **Trinidad** 64.68 331 P P 19 11 35.3 +0.9
baz=145,SNR=7.0
JFWS **Jewell Farm** 64.73 344 IAMs_20 IAMs_20 19 39 31.8
comp=Z,1µm,21.0s
JFWS **Jewell Farm** 64.73 344 P P 19 11 34.6 +0.4
baz=160,SNR=5.4
JFWS **Jewell Farm** 64.73 344 P P 19 11 34.4 +0.1
baz=160,SNR=5.4
214A **Organ Pipe Nat** 65.11 321 IAmb IAmb 19 11 40.5
comp=Z,36nm,1.2s
214A **Organ Pipe Nat** 65.11 321 P P 19 11 37.9 +0.9
baz=136,SNR=14
F62A **Pittston Farm,** 65.23 1 IAmb IAmb 19 11 40.1
comp=Z,42nm,1.0s
F62A **Pittston Farm,** 65.23 1 P P 19 11 39.1 +1.6
baz=181,SNR=7.4
F62A P P 19 11 39.1 +1.6
baz=181,SNR=7.4
F64A **Sherman** 65.24 2 P P 19 11 38.7 +1.2
baz=183,SNR=9.7
F64A P P 19 11 38.7 +1.2
baz=183,SNR=9.7
I42A **Draeger Farm,** 65.33 346 P P 19 11 38.1 -0.1
baz=162,SNR=5.9
X18A **Snowflake** 65.39 325 IAmb IAmb 19 12 02.1
comp=Z,53nm,1.6s
X18A IAMs_20 IAMs_20 19 38 26.5
comp=Z,1µm,20.0s
LMN **Caledonia Moun** 65.42 5 P P 19 11 39.0 +0.3
LMN IAmb IAmb 19 11 40.5
comp=Z,57nm,0.9s
KSCO **Kaye Shedlock'** 65.44 333 P P 19 11 40.5 +1.4
baz=147
KSCO **Kaye Shedlock'** 65.44 333 P P 19 11 41.1 +2.0
baz=147
SDCO **Great Sand Dun** 65.68 330 IAmb IAmb 19 12 02.3
comp=Z,57nm,1.1s
SDCO **Great Sand Dun** 65.68 330 P P 19 11 42.6 +1.7
baz=144,SNR=34
SDCO **Great Sand Dun** 65.68 330 P P 19 11 42.4 +1.5
baz=144,SNR=34
W18A **Petrified Fore** 65.72 326 IAMs_20 IAMs_20 19 39 35.3
comp=Z,953nm,18.0s
W18A **Petrified Fore** 65.72 326 P P 19 11 42.8 +1.7
baz=140
BGNE **Belgrade** 65.76 338 P P 19 11 42.0 +1.0
baz=152,SNR=5.7
BGNE **Belgrade** 65.76 338 P P 19 11 42.3 +1.3
baz=152,SNR=5.7
E63A **Oxbow** 65.80 2 P P 19 11 42.3 +1.3
baz=183,SNR=7.3
E63A P P 19 11 42.3 +1.3
baz=183,SNR=7.3
E62A **Clayton Lake** 65.97 1 IAmb IAmb 19 11 45.0
comp=Z,61nm,0.9s
E62A **Clayton Lake** 65.97 1 P P 19 11 43.8 +1.7
baz=182,SNR=12
E62A P P 19 11 43.8 +1.7
baz=182,SNR=12
X16A **Lo Mia Camp, P** 66.12 324 IAMs_20 IAMs_20 19 41 35.8
comp=Z,1µm,18.0s
S22A **4UR Ranch, Cre** 66.31 330 P P 19 11 46.0 +1.1
baz=143,SNR=6.9
TROLL **Troll, Antarti** 66.37 161 ⇑P P 19 11 46.7 +1.9
comp=Z,736nm,0.8s
D62A **Allapoint, All** 66.44 1 P P 19 11 46.7 +1.5
baz=182,SNR=18
D62A P P 19 11 46.7 +1.5
baz=182,SNR=18
Q24A **Divide** 66.51 331 IAmb IAmb 19 12 07.5
comp=Z,58nm,1.4s
Q24A **Divide** 66.51 331 P P 19 11 47.3 +1.0
baz=145,SNR=11
I37B **Waseca** 66.60 343 P P 19 11 46.7 +0.4
baz=157,SNR=10.0
MVCO **Mesa Verde** 66.70 328 IAmb IAmb 19 11 50.4
comp=Z,97nm,1.9s
MVCO IAMs_20 IAMs_20 19 40 32.9
comp=Z,1µm,18.0s
MVCO **Mesa Verde** 66.70 328 P P 19 11 48.8 +1.4
baz=142,SNR=9.0
BATG **Bathurst New B** 66.76 4 P P 19 11 48.4 +1.2
E46A **Sault Ste Mari** 66.80 350 IAmb IAmb 19 11 48.4
comp=Z,48nm,0.9s
E46A **Sault Ste Mari** 66.80 350 P P 19 11 47.4 -0.1
baz=166,SNR=5.0
OGNE **Ogallala** 66.83 335 P P 19 11 48.9 +0.9
baz=148
LMQ **La Malbaie** 66.88 0 IAmb IAmb 19 11 50.3
comp=Z,63nm,1.3s
WUAZ **Wupatki** 66.90 325 IAmb IAmb 19 11 52.2
comp=Z,33nm,1.1s
WUAZ **Wupatki** 66.90 325 P P 19 11 49.9 +1.2
baz=139,SNR=13
ECSD **EROS Data Cent** 67.31 340 P P 19 11 51.4 +0.6
baz=154,SNR=25
ECSD **EROS Data Cent** 67.31 340 P P 19 11 51.3 +0.4
baz=154,SNR=25
ISCO **Idaho Springs** 67.40 332 P P 19 11 52.8 +0.9
baz=145,SNR=12
ISCO **Idaho Springs** 67.40 332 P P 19 11 53.4 +1.6
baz=145,SNR=12
ISCO **Idaho Springs** 67.40 332 P P 19 11 53.3 +1.4
YUH **Yuha Desert** 67.46 320 P P 19 11 54.1 +2.1
SMCO **Snowmass** 67.52 330 IAmb IAmb 19 12 01.4
comp=Z,107nm,1.9s
TAOE **Nuku Hiva Isla** 67.52 268 *e* S S 19 20 40.9 -8.9
comp=Z,320nm,24.7s
TAOE **Nuku Hiva Isla** 67.52 268 *e* LR LR 19 32 20.6
comp=Z,541nm,24.2s
SPMN **Marine on St.** 67.55 343 IAmb IAmb 19 11 53.5
comp=Z,64nm,1.1s
SPMN **Marine on St.** 67.55 343 P P 19 11 52.2 -0.1
baz=158,SNR=6.8
SPMN **Marine on St.** 67.55 343 P P 19 11 52.6 +0.3
baz=158,SNR=6.8
PDMCI **Parker Dam,Lak** 67.57 322 P P 19 11 54.8 +2.1
baz=136
IKP **In-Ko-Pah, Jac** 67.57 320 P P 19 11 54.5 +1.6
baz=134,SNR=13
SWSC **Sam W. Stewart** 67.59 320 P P 19 11 54.7 +1.9
baz=134,SNR=5.5
BC3 **Big Chuckawall** 67.88 321 P P 19 11 56.4 +1.6
baz=135,SNR=12
MONP2 **Monument Peak** 67.93 320 P P 19 11 57.0 +1.7
baz=134,SNR=14
BAR **Barrett** 67.94 319 P P 19 11 57.0 +1.9
BAR IAmb IAmb 19 11 58.6
comp=Z,28nm,1.0s
IRM **Iron Mountain** 68.05 321 P P 19 11 58.1 +2.4
baz=135,SNR=19
U15A **North Rim** 68.08 325 IAmb IAmb 19 12 00.0
comp=Z,32nm,1.1s
U15A IAMs_20 IAMs_20 19 39 58.5
comp=Z,1µm,21.0s
D41A **Chassel** 68.26 347 P P 19 11 56.9 +0.1
baz=162
F36A **Milaca** 68.33 343 IAmb IAmb 19 11 58.5
comp=Z,49nm,1.1s
F36A **Milaca** 68.33 343 P P 19 11 57.5 +0.3
baz=157,SNR=14
109C **Camp Elliot, M** 68.35 319 P P 19 11 59.7 +2.1
baz=133
HMU **Henry Mountain** 68.39 327 IAmb IAmb 19 12 21.5
comp=Z,88nm,1.5s
HMU IAMs_20 IAMs_20 19 41 17.0
comp=Z,797nm,18.0s
N23A **Red Feather La** 68.43 332 IAmb IAmb 19 12 19.6
comp=Z,42nm,1.2s
N23A **Red Feather La** 68.43 332 P P 19 11 59.9 +1.6
baz=145,SNR=12
BELC **Belle Mtn. Jos** 68.44 321 P P 19 12 00.7 +2.3
baz=134,SNR=8.9
TPFO **Pinon Flats** 68.44 320 P P 19 12 00.8 +2.4
baz=134,SNR=10
PFO **Pinyon Flats O** 68.45 320 P P 19 11 59.7 +1.3
PFO **Pinyon Flats O** 68.45 320 P P 19 12 00.7 +2.3
baz=134,SNR=11
PFO **Pinyon Flats O** 68.45 320 P P 19 11 59.7 +1.3
PFO pmax pmax
comp=Z,26nm,1.2s
PFO **Pinyon Flats O** 68.45 320 P P 19 11 59.7 +1.3
comp=Z,14nm,1.1s,baz=129,slow=6.9,SNR=14
comp=Z,14nm,1.1s
PHWY **Pilot Hill** 68.55 333 IAmb IAmb 19 12 01.9
comp=Z,49nm,1.4s
SUSD **Miller** 68.72 339 P P 19 12 00.2 +0.5
baz=152
GMRC **Granite Mounta** 68.79 322 P P 19 12 03.0 +2.5
baz=135,SNR=26
PKCU **Pink Cliffs** 68.84 326 IAmb IAmb 19 12 24.6
comp=Z,42nm,1.2s
O20A **White River Ci** 68.87 330 IAmb IAmb 19 12 04.1
comp=Z,56nm,1.4s
O20A **White River Ci** 68.87 330 P P 19 12 03.4 +2.4
baz=142
MURC **Murrieta** 68.89 320 P P 19 12 03.1 +2.0
baz=133
V12A **Nelson** 68.99 323 IAmb IAmb 19 12 05.1
comp=Z,44nm,1.3s
ELS **Elsinore Mount** 69.06 320 P P 19 12 03.3 +1.2
ELS IAmb IAmb 19 12 12.3
comp=Z,58nm,1.8s
BBRC **Big Bear Solar** 69.17 320 P P 19 12 04.8 +1.7
baz=134
SRU **San Rafael Swe** 69.18 328 IAmb IAmb 19 12 10.3
comp=Z,48nm,1.4s
HEC **Hector,Ludlow** 69.22 321 P P 19 12 05.8 +2.6
baz=134,SNR=13
MTPU **Mount Pierson** 69.22 326 IAMs_20 IAMs_20 19 44 51.8
comp=Z,993nm,20.0s
NVL **N'lazarevskaya** 69.24 159 *e* P P 19 12 03.3 +0.6
NVL *e* S S 19 21 07.2 -1.1
NVL pmax pmax
comp=Z,76nm,1.1s
NVL smax smax
comp=N,321nm,8.9s
Q16A **Castle Valley** 69.36 327 IAMs_20 IAMs_20 19 43 21.4
comp=Z,864nm,19.0s
SZCU **Shurtz Canyon** 69.37 325 IAmb IAmb 19 12 27.8
comp=Z,68nm,1.6s
SZCU IAMs_20 IAMs_20 19 41 02.7
comp=Z,986nm,19.0s
TUQ **Turquoise Moun** 69.40 322 P P 19 12 06.3 +2.0
baz=135,SNR=5.8
P18A **Preston Nutter** 69.44 329 IAmb IAmb 19 12 08.0
comp=Z,66nm,1.4s
CCUT **Cedar City** 69.48 325 IAmb IAmb 19 12 09.1
comp=Z,47nm,1.1s
CIS **Catalina Islan** 69.50 319 P P 19 12 06.6 +1.8
baz=132
BFSC **Mount Baldy Ra** 69.60 320 P P 19 12 07.4 +1.8
baz=133,SNR=9.6
FMP **Fort Macarthur** 69.64 319 P P 19 12 07.3 +1.8
baz=133
RWWY **Rawlins** 69.64 332 IAmb IAmb 19 12 07.8
comp=Z,52nm,1.3s
RRX **Edison Barstow** 69.64 321 P P 19 12 07.3 +1.7
baz=134
TMUT **Trail Mountain** 69.66 328 IAmb IAmb 19 12 13.6
comp=Z,65nm,2.0s
EYMN **Ely** 69.75 345 P P 19 12 08.1 +2.1
baz=160
EYMN **Ely** 69.75 345 P P 19 12 06.1 0.0
baz=160
LIC **Lamto** 69.77 75 *e* P P 19 12 05.3 -1.6
comp=Z,65nm,1.1s
TCRU **Three Creeks R** 69.78 326 IAMs_20 IAMs_20 19 45 21.7
comp=Z,870nm,18.0s
GSC **Goldstone, Bar** 69.82 321 IAmb IAmb 19 12 10.6
comp=Z,55nm,1.6s
GSC **Goldstone, Bar** 69.82 321 P P 19 12 08.6 +1.7
baz=134,SNR=9.1
RDMU **Red Mountain** 69.84 330 IAmb IAmb 19 12 09.9
comp=Z,58nm,1.5s
PASC **Pasadena Art C** 69.88 320 IAmb IAmb 19 12 16.1
comp=Z,62nm,1.4s
TIC **Toumodi** 69.94 75 *e* P P 19 12 06.3 -1.7
comp=Z,82nm,1.1s
DECC **Green Verdugo** 70.02 320 P P 19 12 09.1 +1.0
baz=133
KIC **Kosan Boka** 70.08 75 *e* P P 19 12 06.9 -1.9
comp=Z,123nm,1.1s
SNCC **San Nicolas Is** 70.09 318 P P 19 12 09.3 +0.9
baz=132
DBIC **Dimbokro** 70.10 75 P P 19 12 07.5 -1.4
DBIC **Dimbokro** 70.10 75 P P 19 12 08.2 -0.7
comp=Z,68nm,1.0s,baz=232,slow=5.5,SNR=55
DBIC LR LR 19 41 11.2
comp=Z,1µm,20.8s,baz=226,slow=34
comp=Z,68nm,1.0s
K22A **Casper** 70.11 333 IAmb IAmb 19 12 11.3
comp=Z,38nm,1.1s
K22A **Casper** 70.11 333 P P 19 12 10.0 +1.4
baz=145,SNR=8.9
K22A **Casper** 70.11 333 P P 19 12 09.8 +1.3
baz=145,SNR=8.9
EDW2 **Edwards Air Fo** 70.24 320 P P 19 12 10.9 +1.5
baz=133,SNR=12
RSSD **Black Hills** 70.30 335 P P 19 12 11.1 +1.3
RSSD IAmb IAmb 19 12 12.3
comp=Z,33nm,1.1s
RSSD **Black Hills** 70.30 335 IAMs_20 IAMs_20 19 46 03.8
comp=Z,832nm,20.0s
RSSD **Black Hills** 70.30 335 P P 19 12 11.3 +1.5
baz=147
RSSD **Black Hills** 70.30 335 P P 19 12 11.1 +1.3
baz=147,SNR=14
RSSD **Black Hills** 70.30 335 P P 19 12 11.1 +1.3
RSSD pmax pmax
comp=Z,33nm,1.1s
RSSD MLR MLR
comp=Z,800nm,20.0s
BSUT **Blindstream Ca** 70.39 329 IAmb IAmb 19 12 18.4
comp=Z,73nm,1.5s
MPU **Maple Canyon** 70.42 328 IAmb IAmb 19 12 13.9
comp=Z,44nm,1.3s
LRMC **Laurel Mtn Rad** 70.46 321 P P 19 12 12.0 +1.2
baz=134,SNR=14
PSUT **Pine Spring** 70.47 326 P P 19 12 10.9 +0.1
PSUT IAMs_20 IAMs_20 19 42 16.8
comp=Z,825nm,20.0s
OSI **Osito Audit: C** 70.50 320 P P 19 12 12.6 +1.6
baz=132
NLU **North Lily Min** 70.60 328 IAmb IAmb 19 12 15.2
comp=Z,57nm,1.5s
TPNV **Topopah Spring** 70.65 323 IAmb IAmb 19 12 36.1
comp=Z,72nm,1.4s
TPNV **Topopah Spring** 70.65 323 P P 19 12 13.8 +1.8
baz=135,SNR=24
SCZ2 **Santa Cruz Isl** 70.65 319 P P 19 12 13.6 +1.7
baz=132
FURC **Furnace Creek,** 70.66 322 P P 19 12 13.8 +1.9
baz=134,SNR=12
MPMC **Manual Prospec** 70.75 321 P P 19 12 14.1 +1.5
baz=134,SNR=18
WCT **Wildcat Mounta** 70.75 323 IAmb IAmb 19 12 16.6
comp=Z,46nm,1.2s
ARVC **Arvin** 70.91 320 P P 19 12 15.2 +1.8
baz=133
MACI **Morro de la Ar** 70.98 49 P P 19 12 14.0 -0.2
MACI IAMs_20 IAMs_20 19 41 19.8
comp=Z,749nm,18.0s
SBC **Santa Barbara** 71.00 319 P P 19 12 15.2 +1.3
baz=132
ISA **Isabella, Lake** 71.06 321 P P 19 12 16.3 +1.9
baz=133,SNR=18
SPR3 **Spring Creek 3** 71.06 326 IAmb IAmb 19 12 37.8
comp=Z,41nm,1.2s
SPR3 IAMs_20 IAMs_20 19 42 40.5
comp=Z,827nm,20.0s
BCW **Bitter Crk WRg** 71.14 319 IAmb IAmb 19 12 35.4
comp=Z,84nm,1.4s
TCUT **Toone Canyon** 71.15 329 IAmb IAmb 19 12 33.2
comp=Z,33nm,1.0s
DUG **Dugway, Tooele** 71.15 327 IAmb IAmb 19 12 18.5
comp=Z,65nm,1.4s
DUG **Dugway, Tooele** 71.15 327 P P 19 12 17.4 +2.4
baz=139,SNR=24
E28A **Huff** 71.17 339 P P 19 12 16.3 +1.6
baz=151,SNR=9.9
AGMN **Agassiz Nation** 71.21 343 IAmb IAmb 19 12 16.3
comp=Z,33nm,1.0s
AGMN **Agassiz Nation** 71.21 343 P P 19 12 15.4 +0.5
baz=155,SNR=5.8
AGMN **Agassiz Nation** 71.21 343 P P 19 12 15.5 +0.5
baz=155,SNR=5.8
R11B **Troy Canyon, C** 71.27 324 P P 19 12 18.2 +2.5
baz=136,SNR=21
GRAC **Grapevine Rang** 71.32 322 P P 19 12 16.7 +0.8
baz=134
CWC **Cottonwood Cre** 71.36 321 P P 19 12 16.6 +0.3
baz=133
PKM **Mcpherson Peak** 71.36 319 P P 19 12 17.3 +0.9
baz=132,SNR=23
VES **Vestal, Richgr** 71.55 320 P P 19 12 17.9 +0.7
baz=132,SNR=9.4
BW06 **Boulder Array** 71.55 331 P P 19 12 18.8 +1.3
baz=142,SNR=12
PDAR **Pinedale Array** 71.55 331 P P 19 12 18.1 +0.7
comp=Z,6.6nm,1.1s,baz=151,slow=6.4,SNR=29
PDAR LR LR 19 44 59.7
comp=Z,491nm,18.3s,baz=121,slow=37
comp=Z,6.6nm,1.1s
HWUT **Hardware Ranch** 71.60 329 IAMs_20 IAMs_20 19 44 04.9
comp=Z,741nm,20.0s
SMMC **Simmler** 71.75 319 P P 19 12 19.1 +0.5
baz=132,SNR=6.8
SPUT **South Promonto** 71.80 328 IAmb IAmb 19 12 21.9
comp=Z,63nm,1.4s
TIN **Tinemaha, Big** 71.86 322 P P 19 12 20.6 +1.4
baz=134
MDND **Maddock** 71.93 340 P P 19 12 20.2 +1.0
baz=152,SNR=14
MDND **Maddock** 71.93 340 P P 19 12 20.6 +1.3
baz=152,SNR=14
VOG **Valley Oaks Go** 72.05 321 P P 19 12 21.2 +1.0
baz=132
TBI **Tubuai** 72.26 251 *e* P P 19 12 11.1 -11
TBI comp=Z,486nm,26.8s *e* S S 19 21 42.9 -2.1
comp=Z,3µm,26.5s
TBI **Tubuai** 72.26 251 *e* LR LR 19 34 19.2
comp=Z,2µm,31.2s
TBI *e* LR LR 19 34 19.3
comp=Z,9µm,28.8s
AHID **Auburn Hatcher** 72.26 330 IAmb IAmb 19 12 24.4
comp=Z,52nm,1.2s
MLAC **Mammoth, Mammo** 72.61 322 P P 19 12 25.8 +1.9
baz=133
OMMB **Old Mammoth Mi** 72.69 322 IAmb IAmb 19 12 28.0
comp=Z,38nm,1.1s
ELK **Elko** 72.81 326 P P 19 12 26.6 +1.6
ELK **Elko** 72.81 326 LR LR 19 43 46.6
comp=Z,697nm,19.6s,baz=136,slow=35
ELIB **Princess Elisa** 72.82 161 *d* P P 19 12 26.2 +1.6
comp=Z,16nm,1.1s
PMPB **Monarch Peak** 72.83 320 P P 19 12 27.3 +2.3
PMPB IAmb IAmb 19 12 28.9
comp=Z,44nm,1.1s
LHV **Little Huntoon** 72.84 323 IAmb IAmb 19 12 29.0
comp=Z,37nm,1.1s
NVAR **Mina Array Bea** 72.85 323 P P 19 12 27.1 +1.8
comp=Z,11nm,0.9s,baz=142,slow=6.4,SNR=58
comp=Z,11nm,0.9s
ULM **Lac du Bonnet** 72.99 344 IAmb IAmb 19 12 26.7
comp=Z,53nm,1.2s
ULM **Lac du Bonnet** 72.99 344 P P 19 12 25.2 -0.2
comp=Z,21nm,1.0s,baz=150,slow=5.7,SNR=16
ULM LR LR 19 46 56.8
comp=Z,772nm,19.6s,baz=139,slow=38
comp=Z,21nm,1.0s
IMW **Indian Meadow** 73.06 331 IAmb IAmb 19 12 29.6
comp=Z,42nm,1.2s
FLWY **Flagg Ranch** 73.10 331 IAmb IAmb 19 12 30.1
comp=Z,94nm,1.2s
BBGB **Big Mountain B** 73.22 320 IAmb IAmb 19 13 02.2
comp=Z,40nm,1.0s
RLMT **Red Lodge** 73.28 333 IAmb IAmb 19 12 30.7
comp=Z,59nm,1.1s
RLMT **Red Lodge** 73.28 333 P P 19 12 29.1 +1.4
baz=143,SNR=23
H17A **Grant Village** 73.28 332 P P 19 12 30.3 +2.6
baz=141,SNR=13
LAO **LASA Array** 73.29 335 IAmb IAmb 19 12 30.8
comp=Z,95nm,1.1s
LAO **LASA Array** 73.29 335 P P 19 12 28.7 +1.2
baz=146,SNR=9.4
LAO **LASA Array** 73.29 335 P P 19 12 28.9 +1.4
baz=146,SNR=9.4
YMP **Mirror Lake Pl** 73.37 332 IAmb IAmb 19 12 50.1
comp=Z,77nm,1.3s
YMR **Madison River** 73.67 331 IAmb IAmb 19 12 33.9
comp=Z,91nm,1.2s
PPT2 **Papeete2** 73.85 257 *e* P P 19 12 40.3 +8.8
PPT2 comp=Z,57nm,21.0s *e* S **SKiKP** 19 21 59.2 -1.7
comp=Z,751nm,25.0s
PPT2 **Papeete2** 73.85 257 *e* LR LR 19 35 17.1
comp=Z,1µm,26.0s
PPT **Papeete** 73.86 257 LR LR 19 36 38.5
comp=Z,685nm,18.0s,baz=150,slow=29
DGMT **Dagmar** 74.02 338 P P 19 12 33.2 +1.5
baz=148,SNR=18
DGMT **Dagmar** 74.02 338 P P 19 12 33.8 +2.1
baz=148,SNR=18
SCHQ **Schefferville** 74.26 2 IAmb IAmb 19 12 34.8
comp=Z,60nm,1.1s
SCHQ **Schefferville** 74.26 2 P P 19 12 33.2 +0.3
comp=Z,35nm,0.9s,baz=180,slow=4.3,SNR=16
SCHQ LR LR 19 49 04.1
comp=Z,642nm,18.1s,baz=197,slow=39
comp=Z,35nm,0.9s
PAHR **Pah Rah Range** 74.33 323 IAmb IAmb 19 12 37.8
comp=Z,56nm,1.0s
HLID **Hailey** 74.45 329 IAmb IAmb 19 12 38.3
comp=Z,48nm,1.2s
HLID **Hailey** 74.45 329 P P 19 12 36.6 +2.1
baz=138,SNR=46
BOZ **Bozeman (W)** 74.69 332 P P 19 12 37.0 +1.2
baz=141,SNR=31
MFID **Camas Ranch** 75.05 328 IAmb IAmb 19 12 41.6
comp=Z,74nm,1.2s
PLTX **Planet X, Gerl** 75.06 324 IAmb IAmb 19 12 41.6
comp=Z,61nm,1.1s
ORV **Oroville** 75.44 322 IAmb IAmb 19 12 43.9
comp=Z,86nm,1.2s
EGMT **Eagleton** 75.79 334 IAmb IAmb 19 12 44.5
comp=Z,81nm,1.1s
EGMT **Eagleton** 75.79 334 P P 19 12 43.0 +1.1
baz=143,SNR=32
WVOR **Wild Horse Val** 75.80 326 P P 19 12 44.0 +1.7
PLID **Pearl Lake** 76.35 329 IAmb IAmb 19 12 48.5
comp=Z,46nm,1.1s
MSO **Missoula** 76.67 331 IAmb IAmb 19 12 50.7
comp=Z,61nm,1.4s
MSO **Missoula** 76.67 331 P P 19 12 48.7 +1.7
baz=139,SNR=20
BMO **Blue Mountains** 76.82 328 IAmb IAmb 19 12 51.0
comp=Z,41nm,1.2s
KMRM **Mail Ridge** 77.17 321 IAmb IAmb 19 12 53.9
comp=Z,61nm,1.2s
K05A **Summer Lake** 77.22 325 IAmb IAmb 19 12 54.2
comp=Z,76nm,1.2s
KMPM **Mount Pierce** 77.54 321 IAmb IAmb 19 12 55.8
comp=Z,46nm,1.0s
YBH **Yreka Blue Hor** 77.57 323 P P 19 12 52.8 +0.6
comp=Z,11nm,1.0s,baz=113,slow=3.8,SNR=20
YBH LR LR 19 47 05.3
comp=Z,170nm,18.1s,baz=126,slow=36
comp=Z,11nm,1.0s
K04D **Chiloquin, OR** 77.62 324 IAmb IAmb 19 13 00.9
comp=Z,53nm,1.0s
JCC **Jacoby Creek,** 77.74 322 IAmb IAmb 19 12 56.8
comp=Z,39nm,1.1s
J05D **Fort Rock, OR** 77.78 325 IAmb IAmb 19 12 56.9
comp=Z,40nm,1.2s
PINE **Pine Mountain** 77.96 325 IAmb IAmb 19 12 58.3
comp=Z,45nm,1.1s
KSXB **Camp Six Broad** 78.30 323 IAmb IAmb 19 13 05.3
comp=Z,68nm,1.4s
VNDA **Vanda** 78.33 190 P P 19 12 54.1 -1.8
VNDA **Vanda** 78.33 190 P P 19 12 55.8 -0.1
comp=Z,5.9nm,1.0s,baz=136,slow=5.4,SNR=5.9
comp=Z,5.9nm,1.0s
I05D **Terrebonne, OR** 78.54 326 IAmb IAmb 19 13 01.2

comp=Z,55nm,1.1s
TORD Torodi Ar. Bea 78.59 72 IAMs_20 IAMs_20 19 45 35.3
comp=Z,1µm,21.0s
TORD Torodi Ar. Bea 78.59 72 P **P** **19 12 57.8 -0.5**
comp=Z,107nm,0.8s,baz=271,slow=4.3,SNR=457
TORD LR LR 19 46 17.6
comp=Z,1µm,20.4s,baz=259,slow=35
comp=Z,107nm,0.8s
FFC Flin Flon 78.67 342 P **P** **19 12 57.1 -0.8**
FFC Flin Flon 78.67 342 P **P** **19 12 57.1 -0.8**
FFC pmax pmax
comp=Z,40nm,1.3s
K02D Willamette Mer 78.73 323 IAmb IAmb 19 13 02.2
comp=Z,48nm,1.3s
DBO Dodson Butte 78.77 324 IAmb IAmb 19 13 06.8
comp=Z,51nm,1.3s
HAWA Hanford 79.01 328 IAmb IAmb 19 13 03.5
comp=Z,50nm,1.1s
G05A Wamic 79.14 326 IAmb IAmb 19 13 25.5
comp=Z,82nm,1.2s
D08A Wollman Farm, 79.18 329 IAmb IAmb 19 13 04.4
comp=Z,102nm,1.9s
NEW Newport 79.18 331 P **P** **19 13 02.2 +1.2**
baz=136
NEW Newport 79.18 331 P **P** **19 13 00.5 -0.4**
NEW Newport 79.18 331 LR LR 19 50 43.9
comp=Z,422nm,18.6s,baz=119,slow=38
BUCK Buck Mountain 79.33 325 IAmb IAmb 19 13 05.0
comp=Z,61nm,1.2s
HOOD Mount Hood Mea 79.36 326 IAmb IAmb 19 13 05.7
comp=Z,52nm,1.2s
HOOD IAMs_20 IAMs_20 19 49 24.3
comp=Z,806nm,22.0s
C09A Chrisman Ranch 79.39 330 IAmb IAmb 19 13 05.4
comp=Z,53nm,1.1s
F04A Amboy 80.17 326 IAmb IAmb 19 13 09.3
comp=Z,66nm,1.0s
LTY Liberty 80.18 328 IAmb IAmb 19 13 09.6
comp=Z,77nm,1.4s
D05A Enumclaw 80.79 328 IAmb IAmb 19 13 12.5
comp=Z,72nm,1.0s
WIN Windhoek 80.98 111 IAmb IAmb 19 13 14.0
comp=Z,53nm,1.2s
E03A Lebam 81.17 326 IAmb IAmb 19 13 15.0
comp=Z,58nm,1.1s
SUR Sutherland 81.19 121 P **P** **19 13 12.7 +0.2**
SUR IAmb IAmb 19 13 15.8
comp=Z,70nm,1.1s
SUR Sutherland 81.19 121 LR LR 19 47 53.8
comp=Z,618nm,18.0s,baz=248,slow=35
MORF Marmelete 81.53 46 *e*P **P** **19 13 15.9 +2.1**
comp=Z,169nm,1.4s
PBDV Barranco-do-Ve 81.98 46 *e*P **P** **19 13 18.4 +2.2**
comp=Z,151nm,1.6s
RAR Rarotonga 82.03 250 LR LR 19 41 27.9
comp=Z,813nm,19.1s,baz=158,slow=30
MDT Midelt 82.08 51 LR LR 19 48 44.3
comp=Z,436nm,18.6s,baz=255,slow=35
PCVE Castro Verde 82.11 46 *e*P **P** **19 13 18.1 +1.3**
comp=Z,87nm,1.5s
TSUM Tsumeb 82.44 108 P **P** **19 13 19.3 +0.1**
TSUM IAmb IAmb 19 13 21.8
comp=Z,65nm,1.1s
TSUM Tsumeb 82.44 108 IAMs_20 IAMs_20 19 49 03.1
comp=Z,841nm,20.0s
TSUM Tsumeb 82.44 108 LR LR 19 48 57.1
comp=Z,490nm,18.2s,baz=254,slow=35
PGC Sidney 82.50 328 P **P** **19 13 18.3 -0.2**
PGC IAmb IAmb 19 13 21.7
comp=Z,46nm,1.0s
PMTG Montargil 82.75 44 *e*P **P** **19 13 20.9 +0.8**
comp=Z,52nm,1.9s
PBAR Barrancos 83.07 45 *e*P **P** **19 13 23.3 +1.5**
comp=Z,40nm,1.8s
FRB Frobisher Bay 83.14 1 LR LR 19 49 56.5
comp=Z,960nm,22.0s,baz=184,slow=35
BRLDA Berland Lookou 83.53 335 IAmb IAmb 19 13 29.9
comp=Z,63nm,1.2s
PCBR Castelo Branco 83.66 44 *e*P **P** **19 13 25.7 +0.9**
comp=Z,61nm,1.5s
PVIS Viseu 83.85 43 *e*P **P** **19 13 27.2 +1.4**
MTE Manteigas 83.91 43 *e*P **P** **19 13 27.7 +1.5**
comp=Z,92nm,1.2s
MTE Manteigas 83.91 43 P **P** **19 13 26.6 +0.4**
PVRL Vila Real 84.26 43 *e*P **P** **19 13 29.3 +1.4**
comp=Z,138nm,1.7s
POLO Lamas de Olo 84.27 42 *e*P **P** **19 13 29.1 +1.1**
comp=Z,53nm,1.9s
PGAV Gavieira, Arco 84.28 42 *e*P **P** **19 13 28.0 -0.1**
comp=Z,147nm,1.5s
CBB Campbell River 84.35 328 IAmb IAmb 19 13 31.0
comp=Z,46nm,1.1s
MVO Moncorvo 84.64 43 *e*P **P** **19 13 31.3 +1.4**
comp=Z,124nm,1.4s
SOE Somerset East 84.88 123 P **P** **19 13 32.6 +1.1**
PBRG Braganca 85.16 43 *e*P **P** **19 13 33.6 +1.1**
comp=Z,95nm,1.5s
TAM Tamanrasset 85.74 64 P **P** **19 13 37.3 +1.4**
ESDC Sonseca Array 85.90 45 IAmb IAmb 19 13 47.6
comp=Z,65nm,1.5s
ESDC Sonseca Array 85.90 45 P **P** **19 13 37.0 +0.8**
comp=Z,18nm,1.1s,baz=249,slow=4.4,SNR=24
ESDC LR LR 19 51 45.7
comp=Z,624nm,18.2s,baz=239,slow=36
comp=Z,18nm,1.1s
BOSA Boshof 86.03 119 P **P** **19 13 37.3 0.0**
BOSA IAmb IAmb 19 13 40.0
comp=Z,33nm,1.1s
BOSA Boshof 86.03 119 P **P** **19 13 37.7 +0.3**
comp=Z,16nm,0.9s,baz=234,slow=4.8,SNR=13
BOSA LR LR 19 49 00.2
comp=Z,1µm,19.4s,baz=254,slow=34
comp=Z,16nm,0.9s
MAW Mawson 86.65 164 P **P** **19 13 39.7 +0.3**
comp=Z,24nm,0.9s,baz=222,slow=5.4,SNR=21
MAW LR LR 19 53 30.7
comp=Z,421nm,18.1s,baz=238,slow=36
comp=Z,24nm,0.9s
HILA High Level 86.65 338 P **P** **19 13 39.4 +0.1**
BBB Bella Bella 87.04 329 LR LR 19 57 23.2
comp=Z,195nm,18.3s,baz=120,slow=39
LBTB Lobatse 87.56 116 P **P** **19 13 44.6 -0.2**
LBTB Lobatse 87.56 116 P **P** **19 13 44.7 -0.2**
LBTB pmax pmax
comp=Z,17nm,0.9s
LBTB MLR MLR
comp=Z,1µm,19.0s
LBTB Lobatse 87.56 116 LR LR 19 50 22.6
comp=Z,990nm,19.2s,baz=240,slow=34
SFJD Kangerlussuaq 87.71 8 LR LR 19 56 06.9
comp=Z,270nm,18.1s,baz=195,slow=38
YKA Yellowknife Ar 88.81 341 P **P** **19 13 50.4 +0.8**
comp=Z,54nm,0.9s,baz=138,slow=4.8,SNR=418
YKA LR LR 19 56 56.6
comp=Z,701nm,20.1s,baz=120,slow=38
comp=Z,54nm,0.9s
U35K Hyder 90.19 331 P **P** **19 13 57.7 +1.5**
baz=126
FLDN Fort Liard 90.19 337 P **P** **19 13 58.5 +2.4**
baz=132
KOTAN Kotaneelee Air 90.34 336 P **P** **19 13 58.4 +1.5**
baz=131,SNR=7.2
V35K Ketchikan 90.58 330 P **P** **19 13 59.4 +1.4**
baz=125
LIRD Liard River Hi 90.66 335 P **P** **19 13 59.9 +1.6**
baz=130
T35M Bob Quinn 90.92 332 IAmb IAmb 19 12 38.4
comp=Z,63nm,1.8s
T35M Bob Quinn 90.92 332 P **P** **19 14 00.7 +1.1**
baz=126
CRAG Craig 91.37 330 P **P** **19 14 02.6 +0.9**
baz=124
WRAK Wrangell Islan 91.54 331 P **P** **19 14 03.5 +1.0**
baz=124
DLBC Dease Lake 91.68 333 IAmb IAmb 19 14 05.8
comp=Z,34nm,0.9s
DLBC Dease Lake 91.68 333 P **P** **19 14 04.4 +1.2**
baz=126
DLBC Dease Lake 91.68 333 P **P** **19 14 04.1 +0.9**
comp=Z,28nm,0.9s,baz=121,slow=4.5,SNR=26
DLBC LR LR 19 58 12.9
comp=Z,777nm,19.1s,baz=43,slow=38
comp=Z,28nm,0.9s
U33K Whale Pass 91.73 330 P **P** **19 14 04.3 +1.0**
baz=124
S34M Telegraph Cree 91.85 332 P **P** **19 14 05.1 +1.3**
baz=125
T33K Petersburg 92.04 331 P **P** **19 14 06.3 +1.6**
baz=124
WTLY Watson Lake, Y 92.17 335 IAmb IAmb 19 14 08.4
comp=Z,44nm,1.1s
WTLY Watson Lake, Y 92.17 335 P **P** **19 14 06.8 +1.4**
baz=127
WRGLY Wrigley 92.18 339 P **P** **19 14 06.4 +1.2**
baz=132
BORG Borgarnes 92.30 19 LR LR 19 53 46.6
comp=Z,362nm,19.4s,baz=221,slow=34
R33M Jennings River 92.63 334 P **P** **19 14 08.9 +1.2**
baz=125
Q32M Nakina River 92.94 333 P **P** **19 14 10.1 +0.9**
baz=124
S32K Killisnoo 93.14 331 P **P** **19 14 11.0 +1.2**
baz=122
SIT Sitka 93.27 330 P **P** **19 14 11.1 +0.7**
baz=122
LSZ Lusaka 93.29 107 P **P** **19 14 12.3 +0.5**
LSZ Lusaka 93.29 107 P **P** **19 14 12.3 +0.5**
LSZ pmax pmax
comp=Z,14nm,1.2s
LSZ MLR MLR
comp=Z,1µm,18.0s
LSZ Lusaka 93.29 107 LR LR 19 55 56.1
comp=Z,679nm,18.3s,baz=259,slow=35
R32K Eaglecrest 93.54 332 P **P** **19 14 12.2 +0.5**
baz=122
KEST Kesra 93.75 53 P **P** **19 14 13.2 -0.1**
comp=Z,7.0nm,1.0s,baz=227,slow=7.5,SNR=4.1
KEST LR LR 19 56 38.4
comp=Z,878nm,20.6s,baz=194,slow=36
comp=Z,7.0nm,1.0s
P33M Teslin, Yukon 93.87 334 P **P** **19 14 14.1 +0.8**
baz=124
P32M Atlin 93.90 333 P **P** **19 14 14.4 +1.0**
baz=123
URZ Urewera 94.06 227 LR LR 19 48 11.0
comp=Z,962nm,19.4s,baz=214,slow=30
EKA Eskdalemuir Ar 94.07 32 P **P** **19 14 13.4 -0.8**
comp=Z,7.4nm,1.0s,baz=210,slow=9.7,SNR=6.2
comp=Z,7.4nm,1.0s
S31K Pelican 94.16 331 P **P** **19 14 15.3 +0.8**
baz=121
CASY Casey 94.33 181 IAMs_20 IAMs_20 19 58 00.5
comp=Z,643nm,20.0s
RAO Raoul Island 94.44 237 LR LR 19 46 30.6
comp=Z,302nm,21.5s,baz=114,slow=29
N32M Quiet Lake 94.50 335 P **P** **19 14 16.9 +0.8**
baz=124
SKAG Skagway 94.53 332 P **P** **19 14 16.7 +0.5**
baz=122
SUMG Summit 94.55 9 IAmb IAmb 19 14 20.5
comp=Z,25nm,1.1s
WHY Whitehorse 94.97 334 P **P** **19 14 18.6 +0.2**
baz=122
RPZ Rata Peaks 95.18 220 LR LR 19 48 33.1
comp=Z,886nm,19.3s,baz=106,slow=30
FARO Faro, Yukon 95.19 335 P **P** **19 14 19.6 +0.4**
baz=123
RES Resolute Bay 95.35 354 LR LR 19 59 36.2
comp=Z,482nm,19.2s,baz=159,slow=37
O30N Mendenhall 95.54 333 P **P** **19 14 22.0 +1.1**
baz=121
M31M Drury Creek, Y 95.59 335 P **P** **19 14 20.9 -0.2**
baz=122
P29M Windy Craggy 95.67 332 P **P** **19 14 22.0 +0.5**
baz=120
N31M Braeburn, Yuko 95.78 334 P **P** **19 14 21.9 0.0**
baz=121
HYT Haines Junctio 96.16 333 P **P** **19 14 24.0 +0.1**
baz=120
N30M Aishikik Lake 96.31 334 P **P** **19 14 25.1 +0.7**
baz=120
C36M Paulatuk 96.41 343 P **P** **19 14 25.8 +1.2**
baz=131
PNL Peninsula 96.43 332 P **P** **19 14 25.7 +0.8**
baz=118
M30M Minto, Yukon 96.74 335 P **P** **19 14 27.5 +1.2**
baz=120
YUK4 Talbot Arm 96.90 333 P **P** **19 14 27.6 +0.3**
baz=119
PINM Pinnacle 97.01 332 P **P** **19 14 27.9 +0.2**
baz=118
YUK8 Steele Glacier 97.35 333 P **P** **19 14 29.4 0.0**
baz=118
M29M Somme Creek 97.35 334 P **P** **19 14 29.6 +0.5**
baz=119
H31M Peel River 97.49 338 P **P** **19 14 30.1 +0.5**
baz=122
L29M L29M 97.54 335 P **P** **19 14 30.5 +0.6**
baz=119
J30M Hart River 97.57 337 P **P** **19 14 30.4 +0.3**
baz=120
K29M Barlow Dome 97.66 336 P **P** **19 14 31.2 +0.7**
baz=119
YUK3 Moose Creek 97.87 333 P **P** **19 14 32.0 +0.4**
baz=117
CTG Chitna Glacier 97.89 332 P **P** **19 14 32.1 +0.4**
baz=116
I30M Mount Dempster 97.92 337 P **P** **19 14 31.7 +0.1**
baz=120
DAVOX Davos/Dischmat 98.04 43 LR LR 19 59 00.0
comp=Z,714nm,18.6s,baz=258,slow=36
G31M Satah River 98.06 339 P **P** **19 14 32.5 +0.4**
baz=122
F31M Tsiigehtchic 98.16 340 IAmb IAmb 19 14 41.2
comp=Z,32nm,1.8s
F31M Tsiigehtchic 98.16 340 P **P** **19 14 32.4 -0.1**
baz=122
VAE Valguarnera 98.18 53 LR LR 20 00 48.7
comp=Z,743nm,18.6s,baz=256,slow=37
A36M Sachs Harbour 98.42 345 IAmb IAmb 19 14 35.4
comp=Z,22nm,0.9s
A36M Sachs Harbour 98.42 345 P **P** **19 14 33.1 -0.4**
baz=129
DAWY Dawson 98.49 336 P **P** **19 14 33.0 -1.2**
baz=118
INK Inuik 98.55 341 IAmb IAmb 19 14 36.3
comp=Z,11nm,0.9s
INK Inuvik 98.55 341 P **P** **19 14 33.9 -0.3**
baz=122
INK Inuvik 98.55 341 LR LR 20 02 01.9
comp=Z,528nm,20.5s,baz=166,slow=37
EPYK Eagle Plains 98.61 338 P **P** **19 14 35.0 +0.4**
baz=120
I29M Ogilvie Camp, 98.69 337 IAmb IAmb 19 16 06.2
comp=Z,12nm,0.7s
MCARA McCarthy VSAT 98.80 332 P **P** **19 14 35.5 -0.1**
baz=115
KAIM Kayak Island 98.83 331 P **P** **19 14 35.9 +0.2**
baz=114
F30M Barrier River 98.92 339 P **P** **19 14 36.1 +0.1**
baz=120
L27K Beaver Creek, 99.02 334 P **Pdif** **19 14 36.4 -0.1**
baz=116
H29M Whitestone 99.12 338 P **Pdif** **19 14 37.5 +0.6**
baz=118
M26K Nabesna, AK 99.22 333 P **Pdif** **19 14 37.4 -0.1**
baz=115
BMRM Bremner River 99.33 332 P **Pdif** **19 14 37.3 -0.7**
baz=114
G29M Pine Creek 99.33 338 P **Pdif** **19 14 37.5 -0.3**
baz=118
I28M Miner Creek 99.34 337 P **Pdif** **19 14 37.4 -0.6**
baz=117
EGAK Eagle 99.50 336 P **Pdif** **19 14 38.1 -0.5**
baz=116
K27K Chicken 99.53 335 P **Pdif** **19 14 39.3 +0.5**
baz=115
L26K Log Cabin Wild 99.63 334 P **Pdif** **19 14 38.8 -0.5**
baz=114
JMIC Jan Mayen 99.96 17 LR LR 19 52 46.0
comp=Z,303nm,21.5s,baz=241,slow=31
E29M Blow River 99.99 340 P **Pdif** **19 14 40.7 0.0**
baz=118
I27K Kandik River 100.03 337 P **Pdif** **19 14 40.7 -0.3**
baz=116
KLU Klutina 100.12 332 P **Pdif** **19 14 41.2 -0.4**
baz=112
H27K Steamboat Moun 100.27 337 P **Pdif** **19 14 43.3 +1.2**
baz=116
SCRK Sand Creek 100.28 335 P **Pdif** **19 14 43.0 +0.8**
baz=114
F28M Old Crow 100.29 339 P **Pdif** **19 14 43.3 +1.2**
baz=117
J26L Joseph Creek 100.32 335 P **Pdif** **19 14 42.4 0.0**
baz=114
G27K Doyon Strip 100.56 338 P **Pdif** **19 14 44.3 +1.0**
baz=115
E28M Babbage River 100.63 340 P **Pdif** **19 14 44.2 +0.6**
baz=117
D28M Stokes Point 100.70 340 P **Pdif** **19 14 44.8 +0.9**
baz=118
J25K Salcha River, 101.08 335 P **Pdif** **19 14 46.6 +0.8**
baz=112
E27K Coleen River 101.13 339 P **Pdif** **19 14 47.1 +1.2**
baz=115
GERES GERESS Array B 101.14 42 P **Pdif** **19 14 45.8 -0.6**
comp=Z,1.9nm,0.8s,baz=160,slow=6.0,SNR=2.3
KHC Kasperske Hory 101.14 42 AMS AMS 19 56 50.0
comp=Z,800nm,17.3s
KHC Kasperske Hory 101.14 42 *i* P **Pdif** **19 14 47.4 +1.1**
KHC pmax pmax
comp=Z,6.0nm,1.1s
KNK Knik Glacier 101.23 331 P **Pdif** **19 14 46.8 +0.4**
baz=110
SEW Seward 101.24 330 P **Pdif** **19 14 46.8 +0.4**
baz=110
SML Sawmill 101.31 332 P **Pdif** **19 14 46.8 0.0**
baz=110
WAT6 Susitna Watana 101.32 333 P **Pdif** **19 14 47.6 +0.6**
baz=111
D27M Malcolm River 101.38 340 P **Pdif** **19 14 47.1 +0.2**
baz=116
G26K Porcupine Rive 101.39 337 P **Pdif** **19 14 47.5 +0.6**
baz=113
CLL Collm 101.43 40 *e*Pdif **Pdif** **19 14 48.0 +0.5**
CLL *e*PP **PP** **19 18 55.0 -2.4**
CLL *e*SKSac **SKSac** **19 25 24.0 -2.5**
CLL *e*(Sdif) 19 26 42.0
CLL *e*PS **PS** **19 28 08.0 +7.2**
CLL *e*PPS PPS 19 28 57.0
CLL *ex* x 19 33 06.0
CLL *ex* x 19 34 42.0
CLL *e*SSS SSS 19 37 36.0
CLL *e*SSSS 19 40 48.0
CLL AMS AMS 19 57 00.0
comp=Z,800nm,21.8s
CLL Collm 101.43 40 *e*P **Pdif** **19 14 48.0 +0.5**
CLL *e* 19 18 55.0
CLL MLR MLR
comp=Z,800nm,21.8s
HSKC Hora Svate Kat 101.48 40 AMS AMS 19 56 50.0
comp=Z,800nm,16.0s
O22K Cooper Landing 101.49 330 P **Pdif** **19 14 48.2 +0.7**
baz=110
CKRC Cesky Krumlov 101.52 42 AMS AMS 19 57 30.0
comp=Z,700nm,24.3s
PMR Palmer 101.59 331 P **Pdif** **19 14 48.7 +0.7**
baz=110
ZVC Zvikov 101.62 42 AMS AMS 20 02 20.0
comp=Z,600nm,14.6s
HDA Harding Lake 101.64 335 P **Pdif** **19 14 48.4 +0.3**
baz=111
HDA P **Pdif** **19 14 48.4 +0.3**
baz=111
RC01 Rabbit Creek A 101.70 331 P **Pdif** **19 14 48.9 +0.4**
baz=109
BRSE Bradley Lake S 101.73 329 P **Pdif** **19 14 48.8 +0.1**
baz=105
ILAR Eielson Array 101.75 335 P **Pdif** **19 14 47.4 -1.2**
comp=Z,0.8nm,0.8s,baz=164,slow=3.0,SNR=5.8
ILAR PP **PP** **19 18 53.4 -6.1**
comp=Z,1.4nm,1.0s,baz=144,slow=5.1,SNR=5.9
WAT1 Susitna Watana 101.76 333 P **Pdif** **19 14 50.0 +1.2**
baz=110
F26K Sheenjek River 101.81 338 P **Pdif** **19 14 49.7 +0.8**
baz=115
PRA Prague 101.95 41 AMS AMS 19 59 40.0
comp=Z,800nm,17.4s
PRU Pruhonice 101.99 41 AMS AMS 20 02 20.0
comp=Z,800nm,7.2s
KDAK Kodiak Island 102.03 327 P **Pdif** **19 14 50.3 +0.4**
baz=108
POKR Poker Plat Res 102.09 335 P **Pdif** **19 14 51.0 +0.9**
baz=111
M22K Willow 102.09 331 P **Pdif** **19 14 50.9 +0.7**
baz=109
GOPC GO Pecny, Ondr 102.12 41 AMS AMS 20 04 30.0
comp=Z,700nm,16.7s
HOM Homer 102.14 329 P **Pdif** **19 14 51.5 +1.1**
baz=108
PVCC Panska Ves 102.16 41 AMS AMS 19 59 10.0
comp=Z,800nm,22.0s
G25K Bearman Lake 102.17 337 P **Pdif** **19 14 51.1 +0.7**
baz=111
COLA College 102.17 335 P **Pdif** **19 14 51.3 +0.9**
baz=110
Q20K Shuyak Island 102.19 328 P **Pdif** **19 14 51.6 +0.9**
baz=108
MCK McKinley 102.23 334 P **Pdif** **19 14 50.9 +0.1**
baz=110
OHAK Old Harbor 102.23 327 P **Pdif** **19 14 51.4 +0.6**
baz=107
CAPN Captain Cook N 102.25 330 P **Pdif** **19 14 51.1 +0.2**
baz=108
F25K Christian Rive 102.30 338 P **Pdif** **19 14 51.3 +0.2**
baz=112
CUT Chulitna 102.37 332 P **Pdif** **19 14 51.0 -0.4**
baz=109
TREC Trest 102.39 42 AMS AMS 19 59 50.0
comp=Z,700nm,19.5s
E25K Arctic Village 102.47 338 P **Pdif** **19 14 51.5 -0.3**
baz=112
SII Sitkinak Islan 102.51 326 P **Pdif** **19 14 51.4 -0.8**
baz=107
H24K Noodor Dome 102.51 336 P **Pdif** **19 14 51.9 -0.2**
baz=110
NEA2 Nenana 102.57 334 P **Pdif** **19 14 52.2 0.0**
baz=109
G24K Hadweenzic Riv 102.66 337 P **Pdif** **19 14 53.1 +0.5**
baz=110
TRF Thorofare Moun 102.71 333 P **Pdif** **19 14 52.8 -0.3**
baz=108
O20K Slope Mountain 102.74 329 P **Pdif** **19 14 52.4 -0.8**
baz=107
SKT Skwentna 102.80 331 P **Pdif** **19 14 54.1 +0.8**
baz=108
I23K Minto, Yukon-K 102.87 335 P **Pdif** **19 14 53.9 +0.4**
baz=109
N20K Mount Spurr 102.87 331 P **Pdif** **19 14 54.1 +0.3**
baz=107
Q19K Cape Douglas, 102.91 328 P **Pdif** **19 14 54.2 +0.3**
baz=107
P19K Oil Pt 102.91 329 P **Pdif** **19 14 54.2 +0.3**
baz=107
C26K Camden Bay 102.92 340 P **Pdif** **19 14 53.8 +0.2**
baz=112
UPC Upice 103.04 41 AMS AMS 20 03 10.0
comp=Z,600nm,16.9s
F24K Squaw Lake 103.08 337 P **Pdif** **19 14 54.8 +0.2**
baz=110
CHVC Chvalec 103.09 41 AMS AMS 20 04 40.0
comp=Z,1µm,7.1s
OSTC Ostas 103.18 41 AMS AMS 20 04 40.0
comp=Z,700nm,17.4s
DPC Dobruska-Polom 103.19 41 AMS AMS 20 00 20.0
comp=Z,500nm,23.6s
BPAW Bear Paw Mtn. 103.20 334 P **Pdif** **19 14 55.1 0.0**
baz=108
MLY Manley 103.38 335 P **Pdif** **19 14 56.6 +0.7**
baz=108
KRLC Kraliky 103.41 41 AMS AMS 19 59 10.0
comp=Z,600nm,23.8s
CAST Castle Rocks 103.47 333 P **Pdif** **19 14 56.4 +0.1**
baz=107
Q18K Katmai Hardscr 103.51 328 P **Pdif** **19 14 57.0 +0.3**
baz=106
G23K Bananza Creek 103.62 336 P **Pdif** **19 14 57.1 +0.2**
baz=108
COLD Coldfoot 103.84 337 P **Pdif** **19 14 58.6 +0.7**
baz=108
O18K Koktuh Hills 103.93 329 P **Pdif** **19 14 58.8 +0.4**
baz=105
D24K Happy Valley 103.95 339 P **Pdif** **19 14 58.8 +0.5**
baz=108
C24K Franklin Bluff 104.08 339 P **Pdif** **19 14 59.8 +1.0**
baz=108
OKC Ostrava-Krasne 104.20 42 AMS AMS 20 07 20.0
comp=Z,700nm,22.5s
J19K Poorman 105.14 333 P **PKiKP** **19 19 18.4 +0.3**
baz=104
IDI Anoyia 105.73 58 IAMs_20 IAMs_20 20 07 09.2
comp=Z,436nm,18.0s
E20K Nigu River 106.31 337 P **PKiKP** **19 19 20.5 +0.4**
baz=102
SANT Santorini 106.42 57 IAMs_20 IAMs_20 20 05 47.4

comp=Z,552nm,20.0s
G18K Tagagawik 106.80 335 P **PKiKP** 19 19 21.1 **0.0**
baz=100
KARP Karpathos 107.59 58 IAMs_20 IAMs_20 20 06 51.6
comp=Z,454nm,20.0s
ALN Alexandroupoli 107.78 52 IAMs_20 IAMs_20 20 05 26.3
comp=Z,706nm,20.0s
F17K Baldwin Pennin 107.93 335 P **PKiKP** 19 19 23.4 **+0.3**
baz=98
E17K Hotham Inlet 108.24 336 P **PKiKP** 19 19 24.3 **+0.7**
baz=97
A19K Wainwright 108.34 339 P **PKiKP** 19 19 24.1 **+0.3**
baz=97
J14K Nanvaranak Lak 108.43 331 P **PKiKP** 19 19 24.3 **+0.2**
baz=97
UNV Unalaska Valle 108.84 321 P **PKiKP** 19 19 24.8 **-0.3**
baz=98
G15K Niukluk 108.90 333 P **PKiKP** 19 19 24.4 **-0.6**
baz=96
BALB Balikesir 108.93 54 IAMs_20 IAMs_20 20 07 41.8
comp=Z,691nm,20.0s
F15K North Star Dit 109.22 334 P **PKiKP** 19 19 25.8 **+0.2**
baz=95
C16K Lisburne Hills 109.69 337 P **PKiKP** 19 19 26.6 **+0.2**
baz=94
F14K Arctic Creek 109.90 334 P **PKiKP** 19 19 27.0 **+0.1**
baz=94
DZM Mont Dzumac 110.23 236 *e*LR LR 19 52 15.2
comp=Z,888nm,22.6s
NACGM Naroch 110.26 38 *e*Pdif **Pdif** 19 15 20.5 **-6.1**
comp=Z,24nm,1.0s,baz=265
ISP Isparta 110.67 56 IAMs_20 IAMs_20 20 09 23.6
comp=Z,426nm,19.0s
SPIA Saint Paul Isl 111.28 325 P **PKiKP** 19 19 30.1 **+0.5**
baz=94
AKBB Malin Array Si 111.35 42*c* *i*PKIKP **PKiKP** 19 19 30.5 **+0.5**
ANTO Ankara 112.71 54 IAMs_20 IAMs_20 20 10 12.8
comp=Z,430nm,19.0s
BRTR Keskin Array B 113.34 54 PP **PP** 19 20 21.3 **-4.0**
comp=Z,4.6nm,1.1s,baz=223,slow=5.1,SNR=3.8
APA Apatity 113.48 24 ⇓*i*PKIKP **PKiKP** 19 19 27.8 **-5.8**
APA pmax pmax
comp=Z,7.0nm,1.1s
OBN Obninsk 115.90 38 ⇓*e*PKIKP **PKPdf** 19 19 39.3 **+0.8**
OBN *e* 19 20 48.4
OBN *e*PPP PPP 19 23 08.1
OBN *e* 19 26 24.4
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,548nm,20.0s
ATD Arta Tunnel 116.07 86 IAMs_20 IAMs_20 20 08 51.4
comp=Z,606nm,20.0s
ARPR Arapgir-MALATY 116.90 55 IAMs_20 IAMs_20 20 16 25.9
comp=Z,336nm,20.0s
KLMR Klimovskoe 116.94 31 *e*PKPdf **PKPdf** 19 19 34.2 **-6.2**
KLMR AMP 19 19 50.9
comp=Z,28nm,1.9s
KLMR LR LR 19 59 52.5
KLMR AMP 20 15 50.1
comp=Z,568nm,18.3s
KLMR Klimovskoe 116.94 31 *e*PKIKP **PKPdf** 19 19 34.2 **-6.2**
KLMR pmax pmax
comp=Z,28nm,1.9s
KLMR MLR MLR
comp=Z,568nm,18.0s
SOC Sochi 118.14 50 *i* PKIKP **PKPdf** 19 19 42.4 **-0.9**
SOC *e* 19 20 56.2
SOC *e*PPP PPP 19 23 29.8
SOC *e*PS **PS** 19 30 45.7 **+1.0**
SOC *e*SS SS 19 37 14.2 +0.5
SOC *e*SSS SSS 19 41 38.6
PRGR Permogore 119.68 29 *e*PKIKP **PKPdf** 19 19 45.7 **+0.1**
PRGR pmax pmax
comp=Z,7.0nm,0.6s
GURO Guroymak-BITLI 119.76 56 IAMs_20 IAMs_20 20 15 07.5
comp=Z,451nm,20.0s
STKA Stephens Creek 120.00 212 PKP **PKPdf** 19 19 47.1 **-0.3**
comp=Z,1.6nm,0.7s,baz=54,slow=1.7,SNR=4.0
BILL Bilibino 120.09 339 *i* PKIKP **PKPdf** 19 19 46.4 **+0.1**
KIV Kislovodsk 120.29 50 *i* PKIKP **PKPdf** 19 19 47.3 **-0.2**
KIV *e* 19 21 13.4
KIV *e*PS **PS** 19 31 04.2 **-0.1**
KIV *e*SS SS 19 37 43.5 +1.8
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,192nm,22.0s
KBZ Khabaz 120.45 50*c* *i*PKIKP **PKiKP** 19 19 48.9 **+1.1**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
KBZ Khabaz 120.45 50 PKP **PKPdf** 19 19 47.7 **+0.1**
comp=Z,8.8nm,0.9s,baz=238,slow=1.4,SNR=12
ZEI Tsey 121.20 51 *i* PKIKP **PKPdf** 19 19 49.8 **+0.3**
ZEI pmax pmax
comp=Z,6.0nm,1.2s
KIRV Kirov 122.31 32*c* *i*PKIKP **PKiKP** 19 19 52.0 **+1.1**
MAK Makhachkala 123.84 51 *e*P **Pdif** 19 16 22.9 **-4.4**
MAK *i* 19 19 52.5
MAK *e* 19 21 41.2
MAK *e*PPP PPP 19 24 12.2
MAK *e* 19 26 49.1
MAK *e*SS SS 19 38 21.5 -5.2
MAK *e*SSS SSS 19 42 57.9
MAK pmax pmax
comp=Z,220nm,1.4s
H11S2 WAKE ISLAND Hyl 125.70 279 T T 21 39 34.0
baz=101,slow=74
H11S1 WAKE ISLAND Hyl 125.70 279 T T 21 39 34.4
baz=101,slow=74
H11S3 WAKE ISLAND Hyl 125.72 279 T T 21 39 34.4
baz=101,slow=74
H11N3 WAKE ISLAND Hyl 125.74 281 T T 21 39 36.1
baz=101,slow=75
H11N2 WAKE ISLAND Hyl 125.75 281 T T 21 39 10.0
baz=101,slow=75
H11N1 WAKE ISLAND Hyl 125.75 281 T T 21 39 10.5
baz=101,slow=75
CTAO Charters Tower 126.24 225 IAMs_20 IAMs_20 20 04 58.6
comp=Z,502nm,22.0s
TIXI Tiksi 126.71 352 PKPdf **PKPdf** 19 19 59.7 **+0.8**
TIXI Tiksi 126.71 352*c* *i*PKIKP **PKPdf** 19 19 58.1 **-0.8**
ARU Arti 127.68 33 PKPdf **PKPdf** 19 20 01.9 **+0.7**
ARU Arti 127.68 33 *i* PKIKP **PKiKP** 19 20 02.8 **+1.1**
ARU 19 22 04.7
ARU 19 27 13.7
ARU MLR MLR
comp=Z,520nm,24.0s
SVE Sverdlovsk 128.56 32 *i* PKIKP **PKPdf** 19 20 02.5 **-0.3**
SVE pmax pmax
comp=Z,14nm,1.4s
ASAR Alice Springs 130.58 211 PKPdf **PKPdf** 19 20 07.6 **-0.3**
ASAR Alice Springs 130.58 211 PKP **PKPdf** 19 20 07.3 **-0.5**
comp=Z,9.9nm,1.0s,baz=142,slow=2.3,SNR=44
ASAR PP **PP** 19 22 24.1 **+2.8**
comp=Z,1.8nm,1.1s,baz=152,slow=6.7,SNR=4.4
AS31 Alice Springs 130.58 211 PKPdf **PKPdf** 19 20 07.1 **-0.8**
ABKAR Akbulak array 131.07 41 PKPdf **PKPdf** 19 20 08.8 **+0.9**
ABKAR Akbulak array 131.07 41 PKPdf **PKPdf** 19 20 08.5 **+0.6**
GYA0B ALIBECK ARRAY 132.42 56 IAMs_20 IAMs_20 20 22 46.7
comp=Z,509nm,22.0s
WRA Warramunga Arr 133.49 214 PKP **PKPdf** 19 20 13.2 **-0.2**
comp=Z,5.0nm,1.0s,baz=154,slow=1.8,SNR=30
WRAB Tennant Creek 133.49 214 IAMs_20 IAMs_20 20 08 26.1
comp=Z,471nm,22.0s
BRVK Borovoye 135.25 32 PKPdf **PKPdf** 19 20 16.0 **+0.4**
BRVK Borovoye 135.25 32*c* *i*PKIKP **PKPdf** 19 20 16.2 **+0.6**
BRVK pmax pmax
comp=Z,16nm,2.5s
YAK Yakutsk 135.28 346*c* *i*PKIKP **PKPdf** 19 20 15.7 **+0.3**
YAK pmax pmax
comp=Z,59nm,2.5s
YAK Yakutsk 135.28 346 PKP **PKPdf** 19 20 15.6 **+0.3**
comp=Z,0.4nm,0.7s,baz=335,slow=7.6,SNR=5.5
BVAR Borovoye Array 135.32 32 PKP **PKPdf** 19 20 15.5 **-0.2**
comp=Z,4.1nm,0.8s,baz=286,slow=3.1,SNR=20
HRA Herat 136.19 61 PKPdf **PKPdf** 19 20 17.0 **-1.2**
PSA00 Pilbara Seismi 137.69 195 PKPdf **PKPdf** 19 20 20.4 **-0.8**
PSA00 Pilbara Seismi 137.69 195 PKPdf **PKPdf** 19 20 20.9 **-0.2**
MBWA Marble Bar 138.11 195 IAMs_20 IAMs_20 20 24 20.7
comp=Z,361nm,20.0s
BRZS Berezniki 138.19 35 *e*PKP **PKPdf** 19 20 20.6 **-0.6**
baz=35
BRZS Berezniki 138.19 35 *e*PKIKP **PKPdf** 19 20 20.6 **-0.6**
KURK Kurchatov 140.78 31 PKPdf **PKPdf** 19 20 22.5 **-3.4**
KURK Kurchatov 140.78 31 *i* PKIKP **PKPdf** 19 20 25.6 **-0.2**
KURBB Kurchatov Arra 140.80 31 PKhKP PKPpre 19 20 20.8
comp=Z,1.5nm,0.8s,baz=296,slow=2.7,SNR=14
KURBB PKP **PKPdf** 19 20 26.5 **+0.6**
comp=Z,7.3nm,0.9s,baz=299,slow=2.4,SNR=22
KURBB PP **PP** 19 23 25.2 **-0.6**
comp=Z,1.3nm,1.0s,baz=316,slow=8.0,SNR=4.7
ZALV Zalesovo Beam 141.05 23 PKhKP PKPpre 19 20 21.0
comp=Z,4.5nm,0.8s,baz=319,slow=2.2,SNR=14
ZALV PKP **PKPdf** 19 20 26.8 **+0.6**
comp=Z,13nm,1.0s,baz=321,slow=3.8,SNR=18
SEM Semipalatinsk 141.76 30 *e*PKP **PKPdf** 19 20 27.2 **-0.7**
baz=30
SEM Semipalatinsk 141.76 30 *e*PKIKP **PKPdf** 19 20 27.2 **-0.7**
SGDS Sogindy 142.70 43 *e*PKP **PKPdf** 19 20 28.4 **-1.2**
baz=43
SGDS Sogindy 142.70 43 *e*PKIKP **PKPdf** 19 20 28.4 **-1.2**
AAK Ala-Archa 142.99 44 PKPdf **PKPdf** 19 20 29.7 **-0.6**
AAK IAMs_20 IAMs_20 20 30 29.2
comp=Z,361nm,20.0s
AAK Ala-Archa 142.99 44 *i* PKIKP **PKPdf** 19 20 29.5 **-0.8**
ZEA Zeya 143.19 342 *e*PKIKP **PKPdf** 19 20 29.5 **-0.5**
ERM Erimo 143.53 315*c* *i*PKIKP **PKPdf** 19 20 33.0 **+2.0**
ERM pmax pmax
comp=Z,135nm,1.7s
CHKK Chushkaly 143.97 41 *e*PKP PKPbc 19 20 30.6 +1.0
baz=41
CHKK Chushkaly 143.97 41 *e*PKIKP PKPbc 19 20 30.6 +1.0
TDK Taldyqorghan 144.19 38 *e*PKP PKPbc 19 20 31.4 +1.2
baz=38
TDK Taldyqorghan 144.19 38 *e*PKIKP PKPbc 19 20 31.4 +1.1
AAA Alma-Ata 144.26 42 *e*PKP PKPbc 19 20 31.6 +1.0
baz=42
AAA Alma-Ata 144.26 42 *e*PKIKP PKPbc 19 20 31.6 +1.0
MDOK Medeo 144.37 42 *e*PKP PKPbc 19 20 31.4 +0.3
baz=42
MDOK Medeo 144.37 42 *e*PKIKP PKPbc 19 20 31.4 +0.3
TNSS Tian-Shan 144.37 42 *e*PKP PKPbc 19 20 32.4 +1.0
baz=42
TNSS Tian-Shan 144.37 42 *e*PKIKP PKPbc 19 20 32.4 +1.0
SAUI Saumlaki 144.85 221 PKP PKPbc 19 20 34.7 +1.5
SAUI PKP **PKPdf** 19 20 36.6 **+2.4**
MAKZ Makanchi 145.03 33 PKPbc 19 20 33.6 +0.7
MAKZ Makanchi 145.03 33 PKIKP PKPbc 19 20 33.6 +0.7
MAKZ MLR MLR
comp=Z,700nm,21.0s
MK31 Makanchi Array 145.20 33 **PKPab** 19 20 34.0 **+0.4**
MK31 Makanchi Array 145.20 33 *i* PKIKP **PKPbc** 19 20 33.3 **-0.1**
MKAR Makanchi Array 145.20 33 **PKPab** 19 20 34.0 **+0.5**
MKAR Makanchi Array 145.20 33 PKIKP **PKPab** 19 20 34.0 **+0.5**
MKAR Makanchi Array 145.20 33 PKPbc **PKPdf** 19 20 34.5 **+0.6**
comp=Z,58nm,0.9s,baz=321,slow=3.1,SNR=225
KPKS Kokpek 145.22 40 *e*PKP **PKPbc** 19 20 33.5 **-0.2**
baz=40
KPKS Kokpek 145.22 40 *e*PKIKP **PKPbc** 19 20 33.5 **-0.2**
ZHN Zhinishke 145.23 41 *e*PKP **PKPbc** 19 20 33.2 **-0.6**
baz=41
ZHN Zhinishke 145.23 41 *e*PKP2 **PKPbc** 19 20 33.1 **-0.6**
SATY Saty 145.27 41 *e*PKP **PKPbc** 19 20 33.3 **-0.7**
baz=41
SATY Saty 145.27 41 *e*PKP2 **PKPbc** 19 20 33.2 **-0.7**
NIL Nilore 145.31 59 PKPbc **PKPbc** 19 20 33.9 **-0.3**
NIL Nilore 145.31 59 PKIKP **PKPbc** 19 20 33.9 **-0.3**
NIL MLR MLR
comp=Z,700nm,18.0s
KLR Kul'dur 145.31 334 *i* PKIKP **PKPbc** 19 20 33.4 **-0.2**
KLR pmax pmax
comp=Z,84nm,1.5s
KLR Kul'dur 145.31 334 PKPbc **PKPbc** 19 20 34.6 **+1.0**
comp=Z,30nm,1.1s,baz=40,slow=3.1,SNR=23
KSH Kashi 145.38 48 PKPbc **PKPdf** 19 20 35.5 **+1.0**
DGZ Jazzator, Alta 145.41 25 *i* PKIKP **PKPbc** 19 20 33.7 **-0.5**
UZB Uzynbulak 145.60 40 *e*PKP **PKPdf** 19 20 33.9 **-1.0**
baz=40
UZB Uzynbulak 145.60 40 *e*PKIKP **PKPdf** 19 20 33.8 **-1.0**
SHLS Shalkode 145.86 40 *e*PKP **PKPdf** 19 20 35.1 **-0.1**
baz=40
SHLS Shalkode 145.86 40 *e*PKIKP **PKPdf** 19 20 35.1 **-0.1**
ZSN Zaisan 146.01 30 *e*PKP **PKPdf** 19 20 35.1 **-0.1**
baz=30
ZSN Zaisan 146.01 30 *e*PKP2 **PKPdf** 19 20 35.1 **-0.1**
HEH HeiHe 146.14 339 *e*PKPbc **PKPbc** 19 20 37.0 **+0.8**
HEH AMB AMB
comp=Z,1μm,6.3s
BATI Baumata 147.01 207 PKP **PKPdf** 19 20 39.7 **+1.8**
BATI Baumata 147.01 207 PKPbc **PKPbc** 19 20 40.0 **+0.1**
comp=Z,31nm,1.0s,baz=177,slow=2.3,SNR=11
SOEI Soe 147.15 209 PKP **PKPdf** 19 20 38.9 **+0.7**
IRK Irkutsk 147.26 5 *e*PKIKP **PKPdf** 19 20 37.4 **+0.3**
IRK pmax pmax
comp=Z,112nm,1.9s
MOY Mondy 147.43 9 *e*PKP2 **PKPbc** 19 20 40.1 **+0.1**
MOY pmax pmax
comp=Z,77nm,2.7s
CIT Chita 147.50 355 *e*PKIKP **PKPdf** 19 20 38.0 **+0.4**
CIT pmax pmax
comp=Z,176nm,1.4s
USRK Ussuriysk Ar. 148.91 327 PKPbc **PKPbc** 19 20 44.2 **+0.2**
comp=Z,31nm,0.9s,baz=34,slow=2.1,SNR=21
ZAK Zakamensk 148.99 7 *e*PKIKP **PKPdf** 19 20 40.9 **+0.7**
ZAK pmax pmax
comp=Z,34nm,1.5s
MMRI Maumere 149.03 206 PKPdf **PKPdf** 19 20 40.3 **-0.9**
MJAR Matsushiro Arr 149.40 310 PKPbc **PKPbc** 19 20 46.2 **+0.7**
comp=Z,34nm,0.9s,baz=112,slow=1.7,SNR=36
MAJO Matsushiro 149.40 310 **PKPdf** 19 20 42.9 **+1.7**
MAJO Matsushiro 149.40 310 PKHKP PKPpre 19 20 42.9
MJB9 Matsu-Tunnel 149.41 310 **PKPdf** 19 20 42.9 **+1.8**
PALK Pallekele 149.90 110 **PKPdf** 19 20 44.0 **+1.3**
PALK Pallekele 149.90 110 PKHKP PKPpre 19 20 44.0
PALK MLR MLR
comp=Z,600nm,20.0s
WMQ Urumqi 150.01 32 *e*PKPbc **PKPdf** 19 20 42.3 **+0.4**
WMQ LR LR
comp=Z,340nm,19.5s
WMQ LR LR
comp=Z,770nm,22.3s
WMQ LR LR
comp=Z,470nm,23.7s
HYB Hyderabad 151.04 89 *e*P PKPdf 19 20 30.3 -14
HYB *e*PKiKP **PKPbc** 19 20 50.5 **+0.4**
HYB *es*PKiKP sPKiKP 19 20 56.1 +1.1
HYB *e*PP **PP** 19 24 29.8 **+1.6**
JAGI Jajag, Banyuwa 151.61 191 PKPdf **PKPdf** 19 20 44.3 **-0.9**
SONM Songino Array 151.80 4 PKPdf **PKPdf** 19 20 46.0 **+1.3**
SONM Songino Array 151.80 4 PKP **PKPdf** 19 20 45.5 **+0.8**
comp=Z,4.6nm,1.0s,baz=259,slow=0.3,SNR=18
SONM PKPbc **PKiKP** 19 20 52.0 **+0.6**
comp=Z,20nm,0.9s,baz=318,slow=1.2,SNR=45
ULN Ulaanbaatar 151.81 3 PKPdf **PKPdf** 19 20 45.3 **+0.6**
ULN Ulaanbaatar 151.81 3 PKIKP **PKPdf** 19 20 45.3 **+0.6**
LBMI Labuha 152.89 224 PKP **PKiKP** 19 20 56.6 **+2.1**
KAPI Kappang 153.32 204 PKPbc **PKiKP** 19 20 56.8 **+1.4**
comp=Z,13nm,0.4s,baz=220,slow=2.1,SNR=9.3
LEM Lembang 153.66 177 PKPbc **PKiKP** 19 20 57.5 **+1.2**
comp=Z,39nm,0.9s,baz=82,slow=9.3,SNR=6.3
PYUN Piuthan 154.79 66 *e*P **PKPdf** 19 20 50.3 **+0.6**
comp=Z,49nm,1.2s
XLT XiLinHaoTe 155.10 348 *e*PKP **PKPdf** 19 20 46.4 **-3.1**
XLT PKPab **PKPab** 19 21 14.6 **+0.7**
XLT PP **PP** 19 24 56.8 **+7.7**
XLT SS SS 19 44 37.7 +5.7
XLT AMB AMB
comp=Z,360nm,11.1s
DANN Dangsing 155.39 65 *e*P **PKPdf** 19 20 51.4 **+0.8**
comp=Z,55nm,1.0s
KOLN Koldanda 155.39 66 *e*P **PKPdf** 19 20 50.0 **-0.5**
LUWI Luwuk 155.41 215 PKPdf **PKPdf** 19 20 50.4 **-0.2**
KSRS Korea Array 155.78 321 PKP **PKPdf** 19 20 51.0 **+0.6**
comp=Z,7.8nm,1.0s,baz=327,slow=0.3,SNR=13
KSRS PKPab **PKPab** 19 21 17.0 **+0.1**
comp=Z,4.1nm,0.8s,baz=34,slow=3.5,SNR=5.6
KSAR Wonju Array Be 155.81 321 PKPdf **PKPdf** 19 20 50.7 **+0.2**
KSAR Wonju Array Be 155.81 321 PKIKP **PKPdf** 19 20 50.7 **+0.2**
GKN Gorkha 156.23 65 *e*P **PKPdf** 19 20 52.0 **+0.4**
DMN Daman 156.73 66 *e*P **PKPdf** 19 20 52.6 **+0.2**
PKIN Phulchoki 156.99 65 *e*P **PKPdf** 19 20 52.8 **+0.1**
PKI Pulchoki 157.00 65 *e*P **PKPdf** 19 20 52.8 **0.0**
GUN Gumba 157.31 64 *e*P **PKPdf** 19 20 53.5 **+0.3**
comp=Z,42nm,1.3s
JIRN Jiri 157.64 65 *e*P **PKPdf** 19 20 53.6 **-0.1**
RAMN Ramite 158.18 66 *e*P **PKPdf** 19 20 55.1 **+0.9**
comp=Z,67nm,1.3s
HHC Hu-ho-hao-te 158.75 355 *e*PKP **PKPdf** 19 20 52.8 **-1.5**
HHC PP **PP** 19 25 12.4 **+3.3**
HHC SS SS 19 45 12.6 +1.6
HHC AMB AMB
comp=Z,510nm,8.4s
HHC LR LR
comp=Z,640nm,16.2s
HHC LR LR
comp=Z,580nm,12.2s
HHC LR LR
comp=Z,830nm,18.6s
GTA Gaotai 158.76 20 PKP **PKPdf** 19 20 55.6 **+1.2**
GTA PKPab **PKPab** 19 21 30.4 **+0.6**
GTA PP **PP** 19 25 08.9 **-0.6**
GTA AMB AMB
comp=Z,210nm,13.1s
GTA LR LR
comp=Z,270nm,17.7s
GTA LR LR
comp=Z,250nm,18.5s
GTA LR LR
comp=Z,390nm,20.3s
ODAN Odare 158.89 66 *e*P **PKPdf** 19 20 54.6 **-0.4**
TAPN Taplejung 159.03 65 *e*P **PKPdf** 19 20 55.8 **+0.6**
comp=Z,29nm,1.4s
BTO Baotou 159.09 358 *e*PKP **PKPdf** 19 20 50.4 **-4.3**
BTO pPKP **sPKPdf** 19 21 01.0 **+1.9**
BTO PKPab **PKPab** 19 21 31.7 **+0.5**
BTO PP **PP** 19 25 16.7 **+5.7**
BTO SKS **SKSdf** 19 27 53.6 **-6.6**
BTO AMB AMB
comp=Z,1μm,4.5s
BTO LR LR
comp=Z,1μm,9.5s
BTO LR LR
comp=Z,690nm,8.7s
BTO LR LR
comp=Z,880nm,12.3s
GOMU GeErMu 159.32 34 PKP **PKPdf** 19 20 57.9 **+2.5**
GOMU PP **PP** 19 25 10.8 **-2.5**
GOMU AMB AMB
comp=Z,130nm,5.8s
GOMU LR LR
comp=Z,300nm,17.3s
GOMU LR LR
comp=Z,150nm,16.2s
GOMU LR LR
comp=Z,290nm,16.9s
RPSI Rantau Prapat 160.48 148 PKPdf **PKPdf** 19 20 56.9 **0.0**
PSI Prapat 160.57 148 PKIKP **PKPdf** 19 20 56.9 **-0.3**
HNS HongShan 161.63 346 ⇓PKP **PKPdf** 19 20 59.6 **+2.2**
HNS PKPab **PKPab** 19 21 42.9 **+0.8**
HNS LR LR
comp=Z,330nm,16.8s
HNS LR LR
comp=Z,420nm,21.1s
SBUM Sibu 162.63 191 PKPdf **PKPdf** 19 20 59.0 **-0.2**
LZH Lanzhou 163.00 14 PKP **PKPdf** 19 21 01.0 **+1.9**
LZH PP **PP** 19 25 39.7 **+7.5**
LZH AMB AMB
comp=Z,300nm,11.7s
LZH LR LR
comp=Z,550nm,16.8s
LZH LR LR
comp=Z,400nm,17.2s
LZH LR LR
comp=Z,550nm,20.3s
NJ2 Nanjing 164.81 326 *e*PKP **PKPdf** 19 21 02.2 **+1.6**
NJ2 AMB AMB
comp=Z,290nm,4.2s
XAN Xi'an 165.66 0 PKP **PKPdf** 19 21 02.5 **+1.1**
XAN PKPab **PKPab** 19 21 59.7 **-0.3**
XAN PP **PP** 19 25 53.6 **+7.8**
XAN SS SS 19 46 24.2 +1.5
XAN AMB AMB
comp=Z,320nm,10.8s
XAN LR LR
comp=Z,660nm,17.5s
XAN LR LR
comp=Z,500nm,17.9s
XAN LR LR
comp=Z,770nm,20.4s
MND Mandalay 167.70 77 PKPdf **PKPdf** 19 21 01.3 **-1.9**
CD2 Chengdu 167.82 22 PKP **PKPdf** 19 21 01.4 **-1.7**
WHN Wuhan 168.13 337 ⇓PKP **PKPdf** 19 21 04.7 **+1.5**
WHN PKPab **PKPab** 19 22 11.0 **+0.1**
TNCH TengChong 168.91 59 PKP **PKPdf** 19 21 00.1 **-4.1**
TNCH sPKP 19 21 06.9
TNCH PKPab **PKPab** 19 22 13.4 **-1.6**
TNCH PP **PP** 19 26 06.6 **+2.2**
TNCH SKS SKSdf 19 27 57.6 -11
TNCH SKKS **SKKSac** 19 32 54.8 **+2.9**
TNCH AMB AMB
comp=Z,240nm,6.6s
TNCH LR LR
comp=Z,190nm,16.0s
TNCH LR LR
comp=Z,200nm,14.9s
TNCH LR LR
comp=Z,310nm,19.2s
CMAR Chiang Mai Arr 170.40 95 PKPdf **PKPdf** 19 21 04.5 **-0.5**
CMAR Chiang Mai Arr 170.40 95 PKIKP **PKPdf** 19 21 04.5 **-0.5**
CMAR Chiang Mai Arr 170.40 95 PKP **PKPdf** 19 21 06.0 **+1.0**
comp=Z,3.3nm,0.9s,baz=267,slow=1.9,SNR=28
CMAR PKPab **PKPab** 19 22 22.6 **+0.9**
comp=Z,7.4nm,0.9s,baz=250,slow=6.2,SNR=21
CMAR PP **PP** 19 26 13.4 **+1.1**
comp=Z,1.9nm,0.9s,baz=273,slow=5.3,SNR=2.9
PZH PanZhiHua 170.44 43 PKP **PKPdf** 19 21 05.9 **+0.9**
PZH PKPab **PKPab** 19 22 21.9 **+0.3**
PZH PP **PP** 19 26 17.4 **+6.0**
PZH SKKS 19 32 57.7
PZH AMB AMB
comp=Z,260nm,12.0s
PZH LR LR
comp=Z,290nm,22.2s
PZH LR LR
comp=Z,280nm,23.3s
PZH LR LR
comp=Z,260nm,20.2s
CHTO Chiang Mai 170.44 93 PKPdf **PKPdf** 19 21 04.1 **-0.9**
CHTO Chiang Mai 170.44 93 PKIKP **PKPdf** 19 21 04.1 **-0.9**
KMI Kunming 172.03 46 ⇑PKP **PKPdf** 19 21 07.2 **+1.3**
GYA Guiyang 172.88 17 PKP **PKPdf** 19 21 07.6 **+1.5**
GYA PKPab **PKPab** 19 22 33.0 **+0.8**
GYA PP **PP** 19 26 20.0 **-2.6**
GYA SKKS 19 33 12.2
GYA SS SS 19 47 33.8 -1.3
GYA AMB AMB
comp=Z,400nm,16.5s
GYA LR LR
comp=Z,290nm,19.5s
QIZ Qiongzhong 179.01 232 PKP **PKPdf** 19 21 07.7 **+0.1**
QIZ PP **PP** 19 26 54.3 **+1.3**
QIZ SS SS 19 48 35.2 -0.5
QIZ AMB AMB
comp=Z,630nm,8.5s
QIZ LR LR
comp=Z,380nm,20.2s
QIZ LR LR
comp=Z,240nm,18.8s
QIZ LR LR
comp=Z,430nm,26.5s

IDC ***11*** *19:02:40.1±0.9, 44.04N×105.78W, h0km, mb4.0/4, mbtmp3.6/9, ML3.3/5, MS3.0/1, Error ellipse: s-maj=25.7km s-min=7.9km az=145.0*
NEIC ***11*** *19:02:40.1±1.5, 43.76N±0.05×105.34W±0.06, h0km±1km, ML3.3/91, Error ellipse: s-maj=9.7km s-min=5.4km az=319.0*
ISC 11 19:02:38.1±0.8, 43.79N±0.05×105.30W±0.06, h0km, n41, σ1s37/32, mb4.2/4, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.97**	**70**	Pg	**Pn**	**19 02 58.8**	**-0.4**
K22A	**Casper**	**1.45**	**219**		**Pn**	**19 03 04.6**	**-1.2**
K22A				IAML		19 03 28.2	
	comp=E,334nm,0.3s						
K22A				IAML		19 03 28.5	
	comp=N,551nm,0.3s						
PHWY	**Pilot Hill**	**2.49**	**183**		**Pn**	**19 03 21.1**	**+0.9**
PHWY				IAML		19 04 02.1	
	comp=N,98nm,0.4s						
RWWY	**Rawlins**	**2.53**	**215**		**Pn**	**19 03 21.4**	**+0.7**

RWWY Sn **Sn** **19 03 52.0 -0.3**
RWWY IAML 19 03 59.6
comp=N,181nm,0.8s
N23A Red Feather La 2.93 190 Pn **Pn** **19 03 27.1 +0.8**
N23A IAML 19 04 09.2
comp=E,94nm,0.7s
N23A IAML 19 04 09.3
comp=N,124nm,0.7s
LAO LASA Array 2.97 348 **Pb** **19 03 29.7 -2.3**
RLMT Red Lodge 3.14 296 **Pn** **19 03 30.8 +1.7**
RLMT IAML 19 04 20.3
comp=N,66nm,0.6s
RLMT IAML 19 04 26.5
comp=N,83nm,0.4s
PD31 Pinedale Array 3.27 253 **Pn** **19 03 32.3 +1.4**
PDAR Pinedale Array 3.27 253 **Pn** **19 03 32.1 +1.2**
PDAR Pinedale Array 3.27 253 Pn **Pn** **19 03 32.4 +1.4**
comp=N,4.4nm,0.3s,baz=70,slow=16,SNR=57
PDAR Lg Lg 19 04 15.8
comp=N,12nm,0.3s,baz=72,slow=17,SNR=2.4
comp=N,6.1nm,0.4s
BW06 Boulder Array 3.28 253 **Pn** **19 03 32.1 +1.2**
BW06 IAML 19 04 23.8
comp=N,77nm,0.5s
BRIGG Briggsdale 3.29 167 **Pn** **19 03 31.6 +0.6**
YMP Mirror Lake Pl 3.62 287 **Pn** **19 03 37.4 +1.6**
YMP IAML 19 04 41.8
comp=N,72nm,0.5s
OGNE Ogallala 3.73 139 **Pn** **19 03 39.4 +2.3**
H17A Grant Village 3.85 281 **Pn** **19 03 40.9 +2.0**
H17A IAML 19 04 43.2
comp=E,35nm,0.8s
H17A IAML 19 04 46.1
comp=N,40nm,1.4s
LOHW Long Hollow 3.85 269 **Pn** **19 03 40.2 +1.4**
FLWY Flagg Ranch 3.91 276 **Pn** **19 03 40.8 +1.1**
FLWY IAML 19 04 47.6
comp=N,53nm,2.4s
FLWY IAML 19 04 58.7
comp=N,62nm,1.6s
MOOW Moose Ponds 3.95 271 **Pn** **19 03 42.2 +2.0**
YNR Norris Junctio 3.98 285 **Pn** **19 03 41.1 +0.5**
SNOW Snow King Moun 3.98 267 **Pn** **19 03 41.4 +0.8**
SNOW IAML 19 04 48.2
comp=N,55nm,1.7s
SNOW IAML 19 05 15.1
comp=N,49nm,1.7s
ISCO Idaho Springs 3.99 184 **Pn** **19 03 42.1 +1.2**
YFT Old Faithful 4.04 281 IAML 19 04 60.0
comp=E,29nm,1.9s
IMW Indian Meadow 4.08 273 IAML 19 04 13.3
comp=E,42nm,0.6s
IMW IAML 19 04 54.3
comp=E,27nm,0.7s
TPAW Teton Pass 4.12 268 IAML 19 05 01.0
comp=E,34nm,0.7s
YMR Madison River 4.17 284 IAML 19 05 01.1
comp=E,34nm,4.5s
YMR IAML 19 05 07.8
comp=N,38nm,1.2s
YHL Hebgen Lake 4.36 286 IAML 19 05 16.2
comp=N,7nm,1.7s
RDMU Red Mountain 4.52 226 IAML 19 05 05.4
comp=N,39nm,1.3s
RDMU IAML 19 05 07.8
comp=E,32nm,1.9s
SMCO Snowmass 4.78 196 IAML 19 05 16.2
comp=E,24nm,1.3s
SMCO IAML 19 05 17.3
comp=E,26nm,1.3s
Q24A Divide 4.82 179 IAML 19 05 10.0
comp=E,32nm,0.7s
Q24A IAML 19 05 18.5
comp=N,18nm,1.3s
BOZ Bozeman (W) 4.86 294 IAML 19 05 13.2
comp=N,14nm,1.4s
HWUT Hardware Ranch 5.11 247 IAML 19 05 19.0
comp=N,22nm,1.4s
BSUT Blindstream Ca 5.20 233 Pn **Pn** **19 03 58.8 +1.3**
BSUT IAML 19 05 30.4
comp=E,19nm,4.3s
BSUT IAML 19 07 14.3
comp=N,16nm,4.9s
MVU Marysvale 7.42 227 **Pn** **19 04 28.5 +0.6**
ELK Elko 7.98 251 Pn **Pn** **19 04 36.9 +1.4**
comp=N,0.2nm,0.3s,baz=130,slow=11,SNR=3.4
ELK Lg Lg 19 06 43.4
comp=N,0.1nm,0.3s,baz=30,slow=20,SNR=1.5
comp=N,0.7nm,0.4s
ULM Lac du Bonnet 9.12 42 Pn **Pn** **19 04 52.5 +1.6**
comp=N,2.0nm,0.3s,baz=220,slow=13,SNR=14
ULM Lg Lg 19 07 24.4
comp=N,0.5nm,0.3s,baz=139,slow=21,SNR=3.5
comp=N,3.5nm,0.3s
TXAR Lajitas Array 14.49 174 Pn **P** **19 06 11.5 0.0**
baz=357,slow=10,SNR=1.9
TXAR LR LR 19 11 12.3
comp=N,68nm,20.9s,baz=352,slow=35
comp=N,0.1nm,0.3s
YKA Yellowknife Ar 19.51 347 P **P** **19 07 04.3 -2.4**
baz=165,slow=12,SNR=2.5
comp=N,0.2nm,0.6s
ARCES ARCESS Array B 61.37 18 P **P** **19 12 55.6 +0.3**
comp=N,2.6nm,0.8s,baz=338,slow=6.9,SNR=4.0
comp=N,2.8nm,0.8s
FINES FINESS Array B 67.99 23 P **P** **19 13 39.9 +1.3**
comp=N,3.7nm,1.0s,baz=325,slow=8.5,SNR=4.3
comp=N,3.7nm,1.0s
AKASG Malin Array Be 77.92 28 P **P** **19 14 38.3 +0.7**
comp=N,0.3nm,0.3s,baz=323,slow=4.9,SNR=4.2
comp=N,0.3nm,0.3s
ZALV Zalesovo Beam 82.25 354 P **P** **19 15 00.7 -0.3**
comp=N,0.3nm,0.4s,baz=3.8,slow=11,SNR=1.8
comp=N,0.3nm,0.4s

*IDC **11** 19:16:30.4±0.5,30˚.21S×177˚.61W,h0km,mb4.8/16, mbtmp4.7/19,ML4.0/3,MS4.1/9,Error ellipse: s-maj=17.5km s-min=15.3km az=103.0*
*NEIC **11** 19:16:37.9±2.1,30˚.02S±0˚.07×177˚.9W±0˚.2,h39km±5km, mb4.9/65,Error ellipse: s-maj=19.5km s-min=9.8km az=89.0*
*NOU **11** 19:16:53.8,30˚.64S×178˚.55W,h121km,mb4.9/33, Kermadec Islands, New Zealand*
ISC 11 19:16:37.2±0.4,30˚.13S±0˚.05×177˚.71W±0˚.08,h38km±1km, h38km:pP-P,n262,σ2s10/247,mb5.0/56,MS4.3/8,4C-4D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.89**	**348**	Pn	**Pn**	**19 16 52.0**	**-1.2**
RAO				Sn	**Sn**	**19 17 01.6**	**-3.3**
RAO	**Raoul Island**	**0.89**	**348**	Pn	**Pn**	**19 16 52.0**	**-1.2**
RAO	6μm,0.3s,baz=94,slow=8.7,SNR=81			Sn	**Sn**	**19 17 01.9**	**-3.0**
MXZ	28μm,0.3s,baz=287,slow=19,SNR=26 **Matakaoa Point**	**8.12**	**203**	Pn	**Pn**	**19 18 30.7**	**-1.7**
WMGZ	**Waiomatatini S**	**8.32**	**202**	P	**Pn**	**19 18 34.7**	**-0.5**
HAZ	**Te Kaha**	**8.48**	**205**	P	**Pn**	**19 18 35.2**	**-2.2**
PKGZ	**Pakihiroa**	**8.49**	**203**	P	**Pn**	**19 18 35.0**	**-2.6**
PUZ	**Puketiti**	**8.60**	**202**	P	**Pn**	**19 18 35.9**	**-3.1**
RUGZ	**Raukumara Rang**	**8.70**	**205**	P	**Pn**	**19 18 37.7**	**-2.9**
TWGZ	**Tauwhareparae**	**8.79**	**203**	P	**Pn**	**19 18 39.8**	**-1.8**
OUZ	**Omahuta**	**8.91**	**233**	P	Pn	19 18 48.7	+5.4
CNGZ	**Carnagh Statio**	**8.99**	**201**	P	**Pn**	**19 18 41.7**	**-2.7**
MWZ	**Matawai**	**9.08**	**204**	P	**Pn**	**19 18 42.4**	**-3.3**
URZ	**Urewera**	**9.17**	**206**	Pn	**Pn**	**19 18 43.7**	**-3.2**
URZ	2.1nm,0.3s,baz=348,slow=3.3,SNR=15			Sn	**Sn**	**19 20 27.3**	**-1.5**
	13nm,0.3s,baz=121,slow=23,SNR=11 5.6nm,0.3s						
URZ	**Urewera**	**9.17**	**206**	P	**Pn**	**19 18 43.5**	**-3.3**
RIGZ	**Rimuhau**	**9.34**	**202**	P	**Pn**	**19 18 47.3**	**-1.9**
MUGZ	**Murupara**	**9.49**	**207**	P	**Pn**	**19 18 48.7**	**-2.7**
RTZ	**Ruatahuna**	**9.53**	**206**	Pn	**Pn**	**19 18 47.9**	**-4.1**
SNGZ	**Shannon Statio**	**9.55**	**204**	P	**Pn**	**19 18 49.7**	**-2.4**
MHGZ	**Mahia Peninsul**	**9.70**	**201**	P	**Pn**	**19 18 50.0**	**-4.1**
MTHZ	**Maungataniwha**	**9.79**	**206**	P	**Pn**	**19 18 52.8**	**-2.6**
CKHZ	**Cape Kidnapper**	**10.42**	**203**	P	**Pn**	**19 19 00.1**	**-3.9**
NTVZ	**North Tongarir**	**10.47**	**210**	P	**Pn**	**19 19 03.9**	**-1.0**
TMVZ	**Te Maari**	**10.48**	**209**	P	**Pn**	**19 19 03.3**	**-1.5**
OTVZ	**Oturere**	**10.53**	**209**	P	**Pn**	**19 19 01.2**	**-4.5**
KAHZ	**Kahuranaki**	**10.61**	**203**	P	**Pn**	**19 19 02.2**	**-4.5**
BHHZ	**Black Hill Sta**	**10.65**	**207**	P	**Pn**	**19 19 04.2**	**-2.9**
BFZ	**Birch Farm**	**11.62**	**203**	Pn	**Pn**	**19 19 17.6**	**-2.8**
MRZ	**Mangatainoka R**	**11.85**	**206**	Pn	**Pn**	**19 19 19.0**	**-4.5**
LKBA	**Tubou, Lakemba**	**11.88**	**355**	P	Pn	19 19 47.5	+23
	40nm,1.0s						
NFK	**Norfolk Island**	**12.54**	**271**	P	Pn	19 19 38.1	+5.1
	baz=12						
PLWZ	**Palliser**	**12.76**	**205**	Pn	**Pn**	**19 19 31.6**	**-4.4**
BHW	**Baring Head**	**12.76**	**206**	Pn	Pn	19 19 30.3	-5.7
TCW	**Tory Channel**	**12.83**	**208**	Pn	Pn	19 19 31.7	-5.1
TUWZ	**Tuamarina**	**13.15**	**209**	Pn	Pn	19 19 35.2	-6.0
NNZ	**Nelson**	**13.21**	**211**	Pn	**Pn**	**19 19 37.9**	**-4.3**
TKNZ	**Takaka Hill**	**13.26**	**212**	Pn	Pn	19 19 38.2	-4.6
QRZ	**Quartz Range**	**13.30**	**214**	Pn	**Pn**	**19 19 43.6**	**+0.2**
QRZ	**Quartz Range**	**13.30**	**214**	P	**Pn**	**19 19 46.7**	**+3.4**
THZ	**Tophouse**	**13.87**	**211**		**Pn**	**19 19 50.4**	**-0.7**
KHZ	**Kahutara**	**14.14**	**207**	Pn	Pn	19 19 49.7	-5.0
KHZ	**Kahutara**	**14.14**	**207**	P	**Pn**	**19 19 57.0**	**+2.3**
GVZ	**Greta Valley S**	**14.80**	**208**	Pn	**Pn**	**19 20 00.7**	**-3.1**
LTZ	**Lake Taylor**	**14.97**	**210**	Pn	**Pn**	**19 20 02.0**	**-4.0**
INZ	**Inchbonnie**	**15.29**	**212**	Pn	**Pn**	**19 20 07.6**	**-2.5**
OXZ	**Oxford**	**15.51**	**209**		**Pn**	**19 20 09.4**	**-3.6**
OXZ				IAmb	IAmb	19 20 17.7	
	comp=Z,38nm,0.5s						
MQZ	**McQueen's Vall**	**15.57**	**207**	Pn	**Pn**	**19 20 09.1**	**-4.8**
MQZ				IAmb	IAmb	19 20 17.8	
	comp=Z,210nm,1.9s						
OUENC	**Ouen Island, N**	**15.83**	**295**	P	**P**	**19 20 24.4**	**+3.7**
OUENC	**Ouen Island, N**	**15.83**	**295**	P	**P**	**19 20 24.5**	**+3.8**
RPZ	**Rata Peaks**	**16.25**	**210**	P	**Pn**	**19 20 18.0**	**-4.4**
RPZ	**Rata Peaks**	**16.25**	**210**	Pn	**Pn**	**19 20 20.1**	**-2.4**
	comp=Z,2.6nm,0.3s,baz=354,slow=0.7,SNR=11						
RPZ				Sn	Sn	19 23 04.8	-17
	comp=Z,0.8nm,0.3s,baz=54,slow=19,SNR=1.2						
RPZ				LR	LR	19 26 06.4	
	comp=Z,320nm,21.7s,baz=10.0,slow=36 comp=Z,6.7nm,0.3s						
DZM	**Mont Dzumac**	**16.33**	**296**	P	**P**	**19 20 29.2**	**+3.0**
DZM	**Mont Dzumac**	**16.33**	**296**	P	**P**	**19 20 30.2**	**+3.9**
DZM	**Mont Dzumac**	**16.33**	**296**	*e*Pn	**P**	**19 20 25.6**	**-0.7**
	comp=Z,123nm,1.4s						
DZM				*e*LR	LR	19 24 10.5	
	comp=Z,1μm,25.4s						
DZM	**Mont Dzumac**	**16.33**	**296**	Pn	**Pn**	**19 20 22.5**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=100,slow=19,SNR=1.9						
DZM				LR	LR	19 25 28.3	
	comp=Z,616nm,18.7s,baz=121,slow=33 comp=Z,4.4nm,1.0s						
NOUC	**Port Laguerre**	**16.42**	**295**	P	**P**	**19 20 31.0**	**+3.8**
FOZ	**Fox Glacier**	**16.67**	**213**	P	**Pn**	**19 20 26.5**	**-1.3**
FOZ				IAmb	IAmb	19 20 30.3	
	comp=Z,175nm,1.8s						
LBZ	**Lake Benmore**	**17.16**	**211**	Pn	**Pn**	**19 20 30.7**	**-3.2**
ODZ	**Otahua Downs**	**17.49**	**208**	P	**Pn**	**19 20 34.5**	**-3.6**
ODZ	**Otahua Downs**	**17.49**	**208**	P	**Pn**	**19 20 38.0**	**0.0**
WKZ	**Wanaka**	**18.03**	**212**	P	Pn	19 20 37.4	-7.2
RAR	**Rarotonga**	**18.43**	**65**	LR	LR	19 26 25.6	
	comp=Z,158nm,20.0s,baz=238,slow=32						
KOUNC	**Koumac, New Ca**	**18.84**	**296**	P	**P**	**19 20 51.1**	**-2.8**
KOUNC	**Koumac, New Ca**	**18.84**	**296**	P	Pn	19 21 01.9	+7.2
MLZ	**Mavora Lakes**	**18.85**	**212**	P	**P**	**19 20 49.1**	**-4.8**
MLZ				IAmb	IAmb	19 20 50.0	
	comp=Z,75nm,1.5s						
WHZ	**Wether Hill Ro**	**19.33**	**212**	P	**P**	**19 20 55.5**	**-3.6**
TBI	**Tubuai**	**26.07**	**82**	*e*LR	LR	19 28 40.6	
	comp=Z,2μm,27.0s						
TBI	**Tubuai**	**26.07**	**82**	*e*T	T	19 49 25.1	
	comp=Z,46nm,0.3s						
ARMA	**Armidale**	**26.45**	**262**	P	**P**	**19 22 11.8**	**+1.1**
	baz=26,SNR=13						
ARMA	**Armidale**	**26.45**	**262**		**P**	**19 22 08.7**	**-2.0**
ARMA				IAmb	IAmb	19 22 14.3	
	comp=Z,14nm,0.7s						
ARMA	**Armidale**	**26.45**	**262**	P	**P**	**19 22 13.6**	**+2.9**
MGCD	**Mangrove Creek**	**26.67**	**255**	P	**P**	**19 22 13.2**	**+0.6**
	baz=27,SNR=8.5						
MGCD	**Mangrove Creek**	**26.67**	**255**	P	**P**	**19 22 15.7**	**+3.1**
	comp=Z,49nm,0.7s						
WOLH	**Wollongong Har**	**26.85**	**253**	P	**P**	**19 22 17.0**	**+2.8**
	comp=Z,62nm,0.8s						
SYDH	**Sydney Hard Ro**	**26.96**	**254**	P	**P**	**19 22 18.0**	**+2.8**
	comp=Z,53nm,0.7s						
AUPHS	**Peel High Scho**	**27.00**	**260**	P	**P**	**19 22 18.1**	**+2.5**
EIDS	**Eidsvold**	**27.98**	**272**	P	**P**	**19 22 25.6**	**+1.2**
	baz=28,SNR=6.1						
EIDS	**Eidsvold**	**27.98**	**272**	P	**P**	**19 22 23.0**	**-1.3**
EIDS				IAmb	IAmb	19 22 26.3	
	comp=Z,12nm,0.7s						
CNB	**Canberra Magne**	**28.10**	**251**	P	**P**	**19 22 27.9**	**+2.4**
	baz=28,SNR=6.8						
CNB	**Canberra Magne**	**28.10**	**251**	P	**P**	**19 22 27.9**	**+2.4**
MILA	**Mila**	**28.35**	**247**	P	**P**	**19 22 29.9**	**+2.1**
	baz=28,SNR=4.7						
MILA	**Mila**	**28.35**	**247**	P	**P**	**19 22 29.9**	**+2.1**
CAN	**Canberra**	**28.40**	**251**	P	**P**	**19 22 26.6**	**-1.5**
CAN				IAmb	IAmb	19 22 30.9	
	comp=Z,18nm,0.8s						
CAN	**Canberra**	**28.40**	**251**	P	**P**	**19 22 30.2**	**+2.1**
PAE	**Paea**	**28.47**	**71**	*e*T	T	19 52 05.8	
	comp=Z,22nm,0.3s						
PPT2	**Papeete2**	**28.51**	**70**	*e*T	T	19 52 12.3	
	comp=Z,22nm,0.3s						
TVO	**Taravao**	**28.68**	**71**	*e*T	T	19 52 28.9	
	comp=Z,8.1nm,0.3s						
AUSMG	**Snowy Mountain**	**28.75**	**248**	P	**P**	**19 22 33.4**	**+2.1**
AUDCS	**Dubbo College**	**28.81**	**257**	P	**P**	**19 22 33.9**	**+2.1**
RK1H	**Rockhampton Ha**	**29.11**	**276**	P	**P**	**19 22 36.2**	**+1.7**
	comp=Z,53nm,0.7s						
HNR	**Honiara**	**29.32**	**310**	LR	LR	19 31 51.6	
	comp=Z,2μm,21.4s,baz=153,slow=31						
MEH	**Mehetia**	**29.61**	**72**	*e*T	T	19 53 56.2	
	comp=Z,21nm,0.3s						
RMQ	**Roma**	**29.68**	**269**	P	**P**	**19 22 40.9**	**+1.3**
	baz=30,SNR=7.7						
RMQ	**Roma**	**29.68**	**269**	P	**P**	**19 22 42.3**	**+2.7**
	comp=Z,27nm,0.7s						
AULRC	**Lightning Ridg**	**29.73**	**263**	P	**P**	**19 22 42.0**	**+2.1**
TOO	**Toolangi**	**31.30**	**246**	P	**P**	**19 22 55.7**	**+1.9**
	baz=31,SNR=8.8						
TOO	**Toolangi**	**31.30**	**246**	P	**P**	**19 22 52.9**	**-0.9**
TOO				IAmb	IAmb	19 22 57.3	
	comp=Z,11nm,0.8s						
CMSA	**Cobar Meteorol**	**31.37**	**258**	P	**P**	**19 22 55.9**	**+1.6**
	baz=31,SNR=28						
CMSA	**Cobar Meteorol**	**31.37**	**258**	P	**P**	**19 22 55.7**	**+1.3**
QLP	**Quilpie**	**33.57**	**267**	P	**P**	**19 23 14.6**	**+0.9**
	baz=34,SNR=8.2						
QLP	**Quilpie**	**33.57**	**267**	P	**P**	**19 23 14.4**	**+0.6**
CTA	**Charters Tower**	**34.00**	**279**	P	**P**	**19 23 18.8**	**+1.2**
CTA	**Charters Tower**	**34.00**	**279**	P	**P**	**19 23 18.4**	**+0.9**
	comp=Z,40nm,0.6s,baz=104,slow=10.0,SNR=68						
CTA				LR	LR	19 35 47.0	
	comp=Z,276nm,18.9s,baz=88,slow=34 comp=Z,40nm,0.6s						
CTAO	**Charters Tower**	**34.00**	**279**	P	**P**	**19 23 16.8**	**-0.8**
CTAO	**Charters Tower**	**34.00**	**279**	P	**P**	**19 23 18.8**	**+1.2**
CTAO	**Charters Tower**	**34.00**	**279**	P	**P**	**19 23 18.6**	**+1.0**
CTAO				pP	**pwP**	**19 23 30.6**	**+0.5**
CTAO				sP	**sP**	**19 23 35.0**	**+3.0**
STKA	**Stephens Creek**	**34.78**	**257**	P	**P**	**19 23 25.2**	**+1.0**
	baz=35,SNR=64						
STKA	**Stephens Creek**	**34.78**	**257**	P	**P**	**19 23 24.0**	**-0.2**
STKA	**Stephens Creek**	**34.78**	**257**	P	**P**	**19 23 25.4**	**+1.2**
STKA	**Stephens Creek**	**34.78**	**257**	P	**P**	**19 23 24.8**	**+0.5**
	comp=Z,19nm,0.5s,baz=100,slow=11,SNR=86						
STKA				LR	LR	19 36 14.4	
	comp=Z,240nm,20.0s,baz=85,slow=34 comp=Z,19nm,0.5s						
INKA	**Innaminka**	**36.30**	**263**	P	**P**	**19 23 38.6**	**+1.4**
MTSU	**Mount Surprise**	**36.49**	**280**	P	**P**	**19 23 39.7**	**+0.7**
	baz=36,SNR=17						
MTSU	**Mount Surprise**	**36.49**	**280**	P	**P**	**19 23 40.5**	**+1.5**
	comp=Z,20nm,0.8s						
HTT	**Hallett**	**36.82**	**253**	P	**P**	**19 23 42.2**	**+0.5**
	baz=37,SNR=28						
LCRK	**Leigh Creek**	**37.88**	**258**	P	**P**	**19 23 50.8**	**+0.2**
WHYH	**Whyalla**	**37.99**	**254**	P	**P**	**19 23 53.6**	**+2.1**
PMG	**Port Moresby**	**38.72**	**295**	LR	LR	19 36 34.7	
	comp=Z,198nm,19.4s,baz=79,slow=31						
BBOO	**Buckleboo**	**39.28**	**254**	P	**P**	**19 24 01.9**	**-0.6**
	baz=39,SNR=28						
BBOO	**Buckleboo**	**39.28**	**254**	P	**P**	**19 24 01.7**	**-0.7**
BBOO				IAmb	IAmb	19 24 20.9	
	comp=Z,32nm,1.4s						
COEN	**Coen**	**39.44**	**285**	P	**P**	**19 24 03.9**	**0.0**
COEN				IAmb	IAmb	19 24 45.2	
	comp=Z,37nm,1.6s						
QIS	**Mount Isa**	**39.55**	**274**	P	**P**	**19 24 04.5**	**-0.3**
	baz=40,SNR=11						
OOD	**Oodnadatta**	**40.62**	**261**	P	**P**	**19 24 13.6**	**0.0**
AS31	**Alice Springs**	**43.37**	**267**	P	**P**	19 24 30.5	-5.6
ASAR	**Alice Springs**	**43.38**	**267**	P	**P**	19 24 31.6	-4.5
ASAR	**Alice Springs**	**43.38**	**267**	P	**P**	**19 24 35.3**	**-0.9**
	comp=Z,12nm,0.5s,baz=107,slow=7.3,SNR=44						
ASAR				PcP	**PcP**	**19 26 23.8**	**-0.5**
	comp=Z,1.6nm,0.4s,baz=122,slow=3.9,SNR=4.0						
ASAR				ScP	**ScP**	**19 30 16.0**	**+3.2**
	comp=Z,1.2nm,0.9s,baz=98,slow=4.8,SNR=2.6						
ASAR				LR	LR	19 41 15.0	
	comp=Z,290nm,21.4s,baz=120,slow=34 comp=Z,12nm,0.5s						
WR0	**Warramunga Arr**	**44.16**	**272**	P	**P**	**19 24 41.7**	**-0.7**
WR0				IAmb	IAmb	19 24 42.9	
	comp=Z,41nm,1.1s						
WB2	**Warramunga Arr**	**44.33**	**272**	P	**P**	**19 24 42.8**	**-1.0**
WRAB	**Tennant Creek**	**44.33**	**272**	P	**P**	**19 24 42.8**	**-1.1**
WRAB				IAmb	IAmb	19 24 44.3	
	comp=Z,42nm,0.9s						
WRA	**Warramunga Arr**	**44.34**	**272**	P	**P**	**19 24 41.9**	**-2.0**
WRA	**Warramunga Arr**	**44.34**	**272**	P	**P**	**19 24 42.6**	**-1.3**
	comp=Z,38nm,0.5s,baz=111,slow=7.7,SNR=58						
WRA				ScP	**ScP**	**19 30 20.5**	**+3.7**
	comp=Z,1.0nm,0.6s,baz=108,slow=4.0,SNR=4.4						
WB0	**Warramunga Arr**	**44.36**	**272**	P	**P**	**19 24 42.1**	**-2.0**
DRV	**Dumont d'Urvil**	**44.49**	**202**	P	**P**	**19 24 44.7**	**+0.3**
FORT	**Forrest**	**46.36**	**255**	P	**P**	**19 24 58.1**	**-1.7**
	baz=46,SNR=12						
FORT	**Forrest**	**46.36**	**255**	P	**P**	**19 24 56.0**	**-3.8**
VNDA	**Vanda**	**48.39**	**186**	P	**P**	**19 25 17.0**	**+2.1**
VNDA				IAmb	IAmb	19 26 28.7	
	comp=Z,22nm,1.8s						
VNDA	**Vanda**	**48.39**	**186**	P	**P**	**19 25 17.1**	**+2.2**
	comp=Z,1.6nm,0.5s,baz=6.6,slow=7.6,SNR=9.8						
VNDA	**Vanda**	**48.39**	**186**	P	**P**	**19 25 19.1**	**+4.1**
VNDA				pP	**pwP**	**19 25 30.9**	**+1.4**
CCD	**Concordia, Ant**	**53.28**	**196**	P	**P**	**19 25 53.1**	**+0.9**
KLBR	**Kellerberrin**	**54.67**	**251**	P	**P**	**19 26 01.8**	**-0.8**
	baz=55,SNR=5.9						
CASY	**Casey**	**55.50**	**208**	P	**P**	**19 26 07.3**	**-0.6**
CASY				IAmb	IAmb	19 26 09.5	
	comp=Z,14nm,0.8s						
CASY	**Casey**	**55.50**	**208**	P	**P**	**19 26 08.0**	**+0.1**
MBWA	**Marble Bar**	**56.51**	**263**	P	**P**	**19 26 13.3**	**-2.5**
MBWA				IAmb	IAmb	19 26 18.7	
	comp=Z,9.1nm,0.9s						
MBWA	**Marble Bar**	**56.51**	**263**	P	**P**	**19 26 13.8**	**-2.1**
MBWA				pP	**pP**	**19 26 26.2**	**+0.1**
MORW	**Morawa**	**56.85**	**253**	P	**P**	**19 26 15.5**	**-2.7**
	baz=57,SNR=5.5						
MORW	**Morawa**	**56.85**	**253**	P	**P**	**19 26 15.5**	**-2.7**
SOEI	**Soe**	**57.57**	**278**	P	**P**	**19 26 21.5**	**-2.0**
SOEI				IAmb	IAmb	19 26 40.1	
	comp=Z,20nm,1.0s						
BATI	**Baumata**	**57.87**	**277**	P	**P**	**19 26 24.6**	**-1.0**
	comp=Z,11nm,0.6s,baz=119,slow=3.6,SNR=3.6						
BATI				LR	LR	19 51 26.6	
	comp=Z,367nm,18.7s,baz=114,slow=36 comp=Z,11nm,0.6s						
MMRI	**Maumere**	**59.86**	**278**	P	**P**	**19 26 36.5**	**-2.8**
MMRI				IAmb	IAmb	19 26 39.3	
	comp=Z,15nm,0.7s						
QSPA	**South Pole Qui**	**59.98**	**180**	P	**P**	**19 26 41.4**	**+1.7**
QSPA				IAmb	IAmb	19 27 05.5	
	comp=Z,9.8nm,0.8s						
QSPA	**South Pole Qui**	**59.98**	**180**	P	**P**	**19 26 41.9**	**+2.2**
QSPA				pP	**sP**	**19 26 53.3**	**-0.2**
QSPA				sP	**pwP**	**19 26 58.2**	**+3.7**
GIRL	**Giralia**	**60.64**	**259**	P	**P**	**19 26 43.9**	**-0.8**
KAPI	**Kappang**	**63.81**	**280**	P	**P**	**19 27 04.1**	**-1.8**
	comp=Z,5.1nm,0.4s,baz=76,slow=12,SNR=2.6 comp=Z,5.1nm,0.4s						
TOLI2	**Tolitoli**	**66.20**	**286**	P	**P**	**19 27 19.4**	**-2.1**
TOLI2				IAmb	IAmb	19 27 22.1	
	comp=Z,13nm,1.0s						
BELA	**Belgrano 2**	**70.02**	**172**		**P**	**19 27 44.8**	**+0.3**
BELA				IAmb	IAmb	19 29 47.9	
	comp=Z,9.2nm,0.6s						
MAW	**Mawson**	**72.65**	**200**	P	**P**	**19 27 59.2**	**-1.3**
MAW	**Mawson**	**72.65**	**200**	P	**P**	**19 27 58.3**	**-2.2**
	comp=Z,4.2nm,0.8s,baz=142,slow=12,SNR=5.4 comp=Z,4.2nm,0.8s						
LEM	**Lembang**	**73.36**	**272**	P	**P**	**19 28 03.9**	**-1.9**
	comp=Z,24nm,0.8s,baz=150,slow=3.7,SNR=6.8 comp=Z,24nm,0.8s						
JMZ	**Minamidaito 2**	**74.08**	**313**	P	**P**	**19 28 07.9**	**-1.5**
SBUM	**Sibu**	**74.11**	**282**	P	**P**	**19 28 08.1**	**-1.9**
ELIB	**Princess Elisa**	**77.15**	**187**	*d*P	**P**	**19 28 27.2**	**+0.6**
	comp=Z,14nm,0.5s						
TROLL	**Troll, Antarti**	**78.14**	**180**	⇑P	**P**	**19 28 33.0**	**+0.9**
	comp=Z,396nm,0.7s						
MJAR	**Matsushiro Arr**	**78.16**	**325**	P	**P**	**19 28 32.1**	**-0.3**
	comp=Z,5.3nm,0.9s,baz=150,slow=3.7,SNR=5.4 comp=Z,5.3nm,0.9s						
SNAA	**Sanae**	**78.42**	**178**	P	**P**	**19 28 33.7**	**+0.1**
SNAA	**Sanae**	**78.42**	**178**	⇑P	**P**	**19 28 34.2**	**+0.6**
	comp=Z,71nm,0.4s						
SNAA	**Sanae**	**78.42**	**178**	P	**P**	**19 28 32.8**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=286,slow=2.8,SNR=14 comp=Z,0.9nm,0.3s						
VNA3	**Neumayer Olymp**	**78.56**	**176**	⇑P	**P**	**19 28 34.8**	**+0.5**
	comp=Z,1.0nm,0.2s						
VNA2	**Neumayer--Watz**	**79.00**	**177**	⇑P	**P**	**19 28 37.5**	**+0.8**
	comp=Z,8.1nm,0.6s,baz=175,slow=4.0						
H03S2	**Juan Fernandez**	**80.41**	**123**	T	T	20 58 12.0	
	baz=238,slow=74						
H03S1	**Juan Fernandez**	**80.42**	**123**	T	T	20 58 13.1	
	baz=238,slow=74						
H03S3	**Juan Fernandez**	**80.42**	**123**	T	T	20 58 12.0	
	baz=238,slow=74						
H03N3	**Juan Fernandez**	**80.60**	**123**	T	T	20 58 23.1	
	baz=244

U15A	**North Rim**	**90.26**	**47**	P		**P**	**19 29 34.8**	**+0.5**
U15A				IAmb		IAmb	19 30 04.3	
	comp=Z,21nm,1.9s							
WUAZ	**Wupatki**	**90.30**	**48**	P		**P**	**19 29 35.6**	**+1.3**
PSUT	**Pine Spring**	**90.60**	**45**	P		**P**	**19 29 36.5**	**+0.7**
X18A	**Snowflake**	**90.63**	**50**	P		**P**	**19 29 37.2**	**+1.2**
X18A				IAmb		IAmb	19 29 55.1	
	comp=Z,9.7nm,1.3s							
G08A	**Pilot Rock**	**92.09**	**37**	P		**P**	**19 29 42.5**	**+0.2**
G08A				IAmb		IAmb	19 29 44.1	
	comp=Z,8.2nm,1.4s							
HVU	**Hansel Valley**	**93.27**	**43**	P		**P**	**19 29 48.6**	**+0.7**
HVU				IAmb		IAmb	19 30 01.5	
	comp=Z,18nm,1.8s							
CMAR	**Chiang Mai Arr**	**93.55**	**289**	P		**P**	**19 29 50.4**	**+0.8**
	comp=Z,1.6nm,0.9s,baz=132,slow=4.0,SNR=7.1							
	comp=Z,1.6nm,0.9s							
PZH	**PanZhiHua**	**95.40**	**297**	P		**P**	**19 29 58.2**	**+0.1**
PZH				pmax		pmax		
	comp=Z,10.0nm,1.8s							
PDAR	**Pinedale Array**	**95.77**	**43**	PKKP			19 46 49.8	
	comp=Z,0.5nm,0.6s,baz=72,slow=3.2,SNR=4.6							
HHC	**Hu-ho-hao-te**	**96.23**	**314**	*e*P		**P**	**19 30 04.6**	**+3.2**
HHC				pmax		pmax		
	comp=Z,31nm,0.5s							
HHC				pmax		pmax		
	comp=Z,230nm,4.5s							
ILAR	**Eielson Array**	**97.61**	**13**	P		**P**	**19 30 05.9**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=220,slow=4.6,SNR=7.0							
	comp=Z,0.4nm,0.6s							
LZH	**Lanzhou**	**98.76**	**307**	*e*P		**P**	**19 30 11.7**	**-1.4**
LZH				pP		pP	19 30 24.3	+0.5
LZH				sP		sP	19 30 30.3	+2.0
LZH				pmax		pmax		
	comp=Z,9.0nm,1.1s							
YKA	**Yellowknife Ar**	**105.09**	**25**	PKKPbc		PKKPbc	19 46 20.9	-2.5
	comp=Z,0.3nm,0.6s,baz=34,slow=3.0,SNR=6.0							
WMQ	**Urumqi**	**113.25**	**308**	*e*P		**PKiKP**	**19 35 11.2**	**+0.5**
WMQ				LR		LR		
	comp=N,370nm,22.7s							
WMQ				LR		LR		
	comp=E,770nm,21.1s							
WMQ				LR		LR		
	comp=Z,360nm,22.7s							
MKAR	**Makanchi Array**	**117.79**	**310**			**PKPdf**	**19 35 16.7**	**-2.5**
MKAR	**Makanchi Array**	**117.79**	**310**	PKP		**PKPdf**	**19 35 17.5**	**-1.7**
	comp=Z,1.8nm,0.6s,baz=150,slow=0.4,SNR=15							
ZALV	**Zalesovo Beam**	**118.00**	**318**	PKP		**PKPdf**	**19 35 17.2**	**-2.1**
	comp=Z,0.9nm,0.4s,baz=143,slow=1.7,SNR=7.3							
KSH	**Kashi**	**120.32**	**301**	PKP		**PKPdf**	**19 35 24.0**	**-0.5**
KURK	**Kurchatov**	**121.04**	**314**			**PKPdf**	**19 35 23.6**	**-1.6**
KURBB	**Kurchatov Arra**	**121.08**	**314**	PKP		**PKPdf**	**19 35 23.7**	**-1.7**
	comp=Z,5.7nm,0.6s,baz=112,slow=1.9,SNR=55							
KKAR	**Karatay Array**	**125.13**	**304**			**PKPdf**	**19 35 31.2**	**-2.3**
BVAR	**Borovoye Array**	**126.39**	**316**	PKP		**PKPdf**	**19 35 34.4**	**-1.1**
	comp=Z,6.9nm,0.4s,baz=115,slow=2.1,SNR=61							
BRVK	**Borovoye**	**126.45**	**316**			**PKPdf**	**19 35 34.2**	**-1.4**
SPITS	**Spitsbergen Ar**	**131.45**	**356**	PKP		**PKPdf**	**19 35 43.2**	**-1.3**
	comp=Z,8.6nm,0.8s,baz=41,slow=2.7,SNR=2.2							
ARU	**Arti**	**133.04**	**321**			**PKPdf**	**19 35 47.4**	**-0.7**
ARCES	**ARCESS Array B**	**138.38**	**348**	PKhKP		PKPpre	19 35 47.4	
	comp=Z,1.9nm,0.5s,baz=66,slow=2.6,SNR=17							
ARCES				PKP		**PKPdf**	**19 35 56.9**	**-0.7**
	comp=Z,2.0nm,0.5s,baz=94,slow=2.4,SNR=7.1							
H10N3	**ASCENSION HYDR**	**138.95**	**154**	T		T	22 12 31.1	
	baz=204,slow=75,SNR=119							
H10N1	**ASCENSION HYDR**	**138.95**	**154**	T		T	22 12 27.5	
	baz=204,slow=75,SNR=200							
H10N2	**ASCENSION HYDR**	**138.96**	**154**	T		T	22 12 27.5	
	baz=204,slow=75,SNR=102							
FINES	**FINESS Array B**	**144.97**	**340**	PKPbc		PKPbc	19 36 07.5	-1.4
	comp=Z,32nm,0.3s,baz=52,slow=4.2,SNR=603							
KBZ	**Khabaz**	**145.17**	**304**	PKPbc		**PKPbc**	**19 36 08.9**	**-1.2**
	comp=Z,4.9nm,0.8s,baz=323,slow=0.3,SNR=10							
MEF	**Metsahovi**	**146.45**	**340**	*e*P		**PKPdf**	**19 36 11.6**	**-0.5**
RAF	**Rauma**	**146.51**	**343**	*e*P		**PKPdf**	**19 36 11.6**	**-0.6**
VSU	**Vasula**	**147.08**	**336**	*e*P		**PKPbc**	**19 36 14.4**	**-1.0**
UPP	**Uppsala**	**148.52**	**345**	*e*P		**PKPdf**	**19 36 16.7**	**+1.2**
NB2	**NORSAR Subarra**	**148.52**	**352**	PKP		**PKPbc**	**19 36 18.0**	**-1.3**
	comp=Z,3.3nm,0.7s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**148.52**	**352**	PKPbc		**PKPbc**	**19 36 18.1**	**-1.1**
	comp=Z,10nm,0.8s,baz=14,slow=4.2,SNR=26							
HFS	**Hagfors**	**149.03**	**349**	PKPbc		**PKPbc**	**19 36 19.3**	**-1.3**
	comp=Z,13nm,0.5s,baz=37,slow=3.7,SNR=34							
MNK	**Minsk**	**149.47**	**330**	*i* PKP		**PKPbc**	**19 36 21.3**	**-0.5**
	comp=E,4.0nm,0.9s							
MNK				*i* PKP		**PKPbc**	**19 36 21.3**	**-0.5**
	comp=N,3.0nm,0.9s							
MNK				*i* PKP		**PKPbc**	**19 36 21.3**	**-0.5**
	comp=Z,27nm,0.9s,baz=47							
MNK				*i* SKP			19 39 49.5	
MNK				*i* PKS		**PP**	**19 39 56.5**	**+2.1**
MNK				*i* PP		**PP**	**19 39 58.5**	**+4.0**
MNK				*i* PPP		PPP	19 43 17.2	
MNK				*i* SKS		**SKSdf**	**19 43 26.9**	**+4.7**
MNK				*i* SS		SS	19 58 02.9	-62
MNK				*i* SSS		SSS	20 04 18.7	
MNK				*i* LQ		LQ	20 36 07.4	
MNK				*i* LR		LR	20 38 57.0	
MNK				*i* LRM		MLR	20 40 44.3	
	comp=Z,106nm,13.2s							
MNK				*i* LRM		MLR	20 42 36.6	
	comp=N,222nm,20.4s							
MNK				*i* LRM		MLR	20 42 38.7	
	comp=E,110nm,22.4s							
NACGM	**Naroch**	**149.66**	**332**	*e*PKiKP		**PKPbc**	**19 36 21.6**	**-0.7**
	comp=Z,21nm,0.7s,baz=45							
VIKU	**Vikbolandet**	**149.95**	**345**	*e*P		**PKPbc**	**19 36 21.1**	**-1.8**
VSVD	**Vaisvydziai**	**149.96**	**336**	*e*P		**PKPbc**	**19 36 22.4**	**-0.6**
KONO	**Kongsberg**	**150.07**	**353**			**PKPbc**	**19 36 21.9**	**-1.2**
PABE	**Paberze**	**150.31**	**335**	*e*P		**PKPbc**	**19 36 23.6**	**-0.2**
PBUR	**Paburge**	**150.62**	**337**	*e*P		**PKPbc**	**19 36 22.6**	**-1.9**
AKASG	**Malin Array Be**	**151.23**	**323**	PKPbc		**PKPbc**	**19 36 24.9**	**-1.2**
	comp=Z,8.8nm,0.4s,baz=46,slow=2.8,SNR=62							
MMAI	**Mount Meron Ar**	**151.71**	**284**	PKPbc		**PKPbc**	**19 36 28.1**	**+0.1**
	comp=Z,13nm,0.5s,baz=82,slow=7.2,SNR=20							
SUW	**Suwalki**	**151.75**	**334**	*e*P		**PKPbc**	**19 36 26.2**	**-1.0**
DEL	**Delary**	**152.43**	**346**	*e*P		**PKPbc**	**19 36 26.4**	**-2.2**
BRTR	**Keskin Array B**	**152.69**	**299**	PKPbc		**PKPbc**	**19 36 28.9**	**-1.2**
	comp=Z,3.3nm,0.6s,baz=134,slow=3.6,SNR=8.9							
EKA	**Eskdalemuir Ar**	**154.51**	**7**	PKPab		**PKPab**	**19 36 46.9**	**-0.9**
	comp=Z,6.0nm,0.6s,baz=321,slow=3.1,SNR=17							
UPC	**Upice**	**157.18**	**337**	*e*PKPAB		**PKPab**	**19 36 59.1**	**-0.3**
DPC	**Dobruska-Polom**	**157.21**	**336**	*e*PKPAB		**PKPab**	**19 36 59.1**	**-0.5**
CLL	**Collm**	**157.38**	**342**	*e*PKPab		**PKPab**	**19 36 59.0**	**-1.2**
	comp=Z,8.0nm,0.9s							
PVCC	**Panska Ves**	**157.63**	**339**	*e*PKPAB		**PKPab**	**19 37 01.1**	**-0.2**
RICC	**Richard**	**157.76**	**340**	*e*PKPAB		**PKPab**	**19 37 05.0**	**+3.1**
PRU	**Pruhonice**	**158.11**	**338**	*e*PKPAB		**PKPab**	**19 37 05.9**	**+2.5**
NKC	**Novy Kostel**	**158.51**	**342**	*e*PKPAB		**PKPab**	**19 37 04.2**	**-1.0**
ZVC	**Zvikov**	**158.70**	**338**	*e*PKPAB		**PKPab**	**19 37 05.6**	**-0.4**
KHC	**Kasperske Hory**	**159.17**	**339**	*e*PKPAB		**PKPab**	**19 37 07.5**	**-0.6**
CKRC	**Cesky Krumlov**	**159.20**	**337**	*e*PKPAB		**PKPab**	**19 37 10.8**	**+2.6**
GERES	**GERESS Array B**	**159.38**	**338**	PKPab		**PKPab**	**19 37 08.1**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=76,slow=4.1,SNR=2.0							
BCLA	**Clavier**	**159.60**	**354**	*d*PKP		**PKPdf**	**19 36 30.6**	**-0.8**
BGES	**Gesves**	**159.66**	**355**	*d*PKPdf		**PKPdf**	**19 36 25.2**	**-6.3**
DOU	**Dourbes**	**159.98**	**356**	*d*PKPdf		PKPdf	19 36 41.3	+9.4
TORD	**Torodi Ar. Bea**	**163.09**	**178**	PKP		**PKPdf**	**19 36 35.4**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=326,slow=1.7,SNR=4.5							
TORD				PKPab		**PKPab**	**19 37 25.0**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=175,slow=2.6,SNR=6.6							
ESDC	**Sonseca Array**	**169.18**	**27**	PKPab		**PKPab**	**19 37 51.5**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=339,slow=4.4,SNR=1.2							

*IDC **11** 19:17:59.1±2.2,33.°75S×70.°15W,h119km±19km,mb3.6/4, mbtmp3.9/6,Error ellipse: s-maj=33.6km s-min=17.3km az=101.0*

*GUC **11** 19:17:59.0±0.7,33.°77S×70.°30W,h130km±2km,ML3.9*

*SJA **11** 19:17:59.5±2.4,33.°75S×70.°20W,h100km,ML3.8,MW3.8*

ISC 11 19:17:59.2±0.8,33.°76S±0.°03×70.°28W±0.°03,h126km±5km, n65,σ0.°90/105,mb3.8/4,18C-4D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MT13	**San Alfonso**	**0.02**	**333**	↓*i*P		**Pn**	**19 18 16.1**	**-0.4**
MT13				*e*S		**Sn**	**19 18 29.0**	**-0.5**
MT13				IAML			19 18 32.1	
	comp=E,3μm,0.3s							
LMEL	**Las Melosas**	**0.11**	**145**	↓*i*P		**Pn**	**19 18 15.9**	**-0.7**
LMEL				*e*S		**Sn**	**19 18 29.1**	**-0.7**
LMEL				IAML			19 18 30.2	
	comp=N,2μm,0.5s							
MT15	**Las Vizcachas**	**0.25**	**310**	↑*i*P		**Pn**	**19 18 16.5**	**-0.3**
MT15				*e*S		**Sn**	**19 18 29.8**	**-0.3**
MT03	**Universidad Ad**	**0.33**	**324**	*e*P		**Pn**	**19 18 17.1**	**0.0**
MT03				*e*S		**Sn**	**19 18 31.4**	**+0.8**
MT03				IAML			19 18 35.5	
	comp=Z,3μm,0.7s							
MT03	**Universidad Ad**	**0.33**	**324**	↑*i*P		**Pn**	**19 18 16.7**	**-0.4**
MT03				*e*S		**Sn**	**19 18 30.2**	**-0.4**
MT03				IAML			19 18 31.3	
	comp=E,8μm,0.3s							
BO04	**La Punta**	**0.36**	**230**	↑*i*P		**Pn**	**19 18 16.7**	**-0.4**
BO04				*e*S		**Sn**	**19 18 30.3**	**-0.5**
BO04				IAML			19 18 31.4	
	comp=N,7μm,0.3s							
MT04	**Ro Olivares**	**0.37**	**18**	↑*i*P		**Pn**	**19 18 17.1**	**-0.4**
MT04				*e*S		**Sn**	**19 18 30.5**	**-0.7**
MT04				IAML			19 18 33.6	
	comp=N,3μm,0.5s							
MT08	**Bocatoma Ro**	**0.38**	**35**	↑*i*P		**Pn**	**19 18 17.3**	**-0.2**
MT08				*e*S		**Sn**	**19 18 30.7**	**-0.6**
MT14	**Cerro Cal¡n**	**0.42**	**329**	↑*i*P		**Pn**	**19 18 17.4**	**-0.1**
MT14				*e*S		**Sn**	**19 18 31.1**	**-0.2**
FCH	**Farellones**	**0.43**	**358**	↑*i*P		**Pn**	**19 18 17.6**	**-0.3**
FCH				*e*S		**Sn**	**19 18 31.4**	**-0.5**
FCH				IAML			19 18 33.1	
	comp=N,5μm,0.7s							
MT05	**Renca**	**0.53**	**313**	*e*P		**Pn**	**19 18 18.0**	**0.0**
MT05				*e*S		**Sn**	**19 18 33.2**	**+0.9**
MT05				IAML			19 18 34.6	
	comp=Z,1μm,0.2s							
MT05	**Renca**	**0.53**	**313**	↑*e*P		**Pn**	**19 18 17.8**	**-0.3**
MT05				*e*S		**Sn**	**19 18 31.8**	**-0.5**
MT05				IAML			19 18 33.9	
	comp=N,5μm,0.5s							
MT10	**Hacienda Santa**	**0.53**	**336**	↑*i*P		**Pn**	**19 18 18.0**	**-0.2**
MT10				*e*S		**Sn**	**19 18 32.6**	**0.0**
MT10				IAML			19 18 33.6	
	comp=E,5μm,0.5s							
MT09	**Talagante**	**0.59**	**268**	↑*i*P		**Pn**	**19 18 18.2**	**-0.3**
MT09				*e*S		**Sn**	**19 18 32.5**	**-0.7**
PEL	**Peldehue**	**0.70**	**331**	*e*P		**Pn**	**19 18 19.0**	**-0.2**
PEL				*e*S		**Sn**	**19 18 33.9**	**-0.5**
PEL				IAML			19 18 35.2	
	comp=N,5μm,0.3s							
MT01	**Popeta**	**0.82**	**262**	*e*P		**Pn**	**19 18 19.5**	**-0.5**
MT01				*e*S		**Sn**	**19 18 34.9**	**-1.0**
MT01				IAML			19 18 35.8	
	comp=Z,2μm,0.2s							
MT01	**Popeta**	**0.82**	**262**	↑*i*P		**Pn**	**19 18 19.6**	**-0.5**
MT01				*e*S		**Sn**	**19 18 34.7**	**-1.2**
MT01				IAML			19 18 37.1	
	comp=N,4μm,0.2s							
MT02	**Curacav**	**0.88**	**304**	*e*P		**Pn**	**19 18 20.3**	**-0.3**
MT02				*e*S		**Sn**	**19 18 38.2**	**+1.4**
MT02				IAML			19 18 39.0	
	comp=Z,758nm,0.7s							
MT02	**Curacav**	**0.88**	**304**	↑*i*P		**Pn**	**19 18 20.3**	**-0.3**
MT02				*e*S		**Sn**	**19 18 35.9**	**-0.9**
MT02				IAML			19 18 38.2	
	comp=N,2μm,0.2s							
BO01	**Tunca**	**0.92**	**227**	*e*P		Pn	19 18 15.0	-6.0
BO01				*e*P			19 18 20.6	
BO01				*e*S		**Sn**	**19 18 37.5**	**0.0**
BO01				IAML			19 18 38.6	
	comp=Z,802nm,0.2s							
BO01	**Tunca**	**0.92**	**227**	↑*i*P		**Pn**	**19 18 20.7**	**-0.3**
BO01				*e*S		**Sn**	**19 18 36.7**	**-0.8**
BO01				IAML			19 18 38.1	
	comp=E,2μm,0.5s							
ROCH	**El Roble**	**1.00**	**322**	⇑*i*P			19 18 21.5	
ROCH				⇑*i*P		**Pn**	**19 18 21.5**	**-0.5**
ROCH				*e*S		**Sn**	**19 18 38.9**	**-0.3**
ROCH				*e*S			19 18 39.1	
ROCH				IAML			19 18 42.6	
	comp=E,3μm,0.5s							
ROCH				IAML			19 18 42.7	
	comp=E,3μm,0.5s							
BO02	**Sierra Bellavi**	**1.11**	**202**	*e*P		**Pn**	**19 18 22.5**	**-0.4**
BO02				*e*S		**Sn**	**19 18 42.6**	**+1.7**
BO02				IAML			19 18 45.3	
	comp=Z,2μm,0.1s							
BO02	**Sierra Bellavi**	**1.11**	**202**	↓*i*P		**Pn**	**19 18 23.1**	**+0.2**
BO02				*e*S		**Sn**	**19 18 41.7**	**+0.7**
BO02				IAML			19 18 44.4	
	comp=N,3μm,0.2s							
VA05	**Santo Domingo**	**1.12**	**275**	⇑*i*P		**Pn**	**19 18 22.3**	**-0.5**
VA05				*e*S		**Sn**	**19 18 39.3**	**-1.6**
VA05				IAML			19 18 43.3	
	comp=N,3μm,0.2s							
VA01	**Torpederas**	**1.36**	**302**	*e*P		**Pn**	**19 18 25.5**	**+0.1**
VA01				*e*S		**Sn**	**19 18 45.7**	**+0.3**
VA01				IAML			19 18 47.8	
	comp=Z,1μm,0.3s							
VA01	**Torpederas**	**1.36**	**302**	⇑*e*P		**Pn**	**19 18 25.5**	**+0.1**
VA01				*e*S		**Sn**	**19 18 43.9**	**-1.5**
VA01				IAML			19 18 47.8	
	comp=N,3μm,0.2s							
AAGR	**Agrelo**	**1.39**	**61**	*e*P		**Pn**	**19 18 25.4**	**-0.4**
AAGR				*e*S		**Sn**	**19 18 44.2**	**-1.9**
ARCO	**CERRO ARCO**	**1.45**	**51**	*e*P		**Pn**	**19 18 26.4**	**-0.3**
ARCO				*e*S		Sn	19 19 07.0	+20
AVIZ	**Vizcacheras**	**1.50**	**80**	*e*P		**Pn**	**19 18 26.8**	**-0.2**
AVIZ				*e*S		**Sn**	**19 18 48.8**	**+0.5**
BO03	**Pichilemu**	**1.58**	**242**	↑*i*P		**Pn**	**19 18 27.4**	**-0.5**
BO03				*e*S		**Sn**	**19 18 48.7**	**-1.0**
ASAL	**Salagasta**	**1.68**	**46**	*e*P		**Pn**	**19 18 29.1**	**-0.1**
ASAL				*e*S		**Sn**	**19 18 53.8**	**+1.8**
RFA	**San Rafael**	**1.81**	**124**	*e*P		**Pn**	**19 18 29.2**	**-1.5**
GO05	**Huala**	**1.85**	**227**	*e*P		**Pn**	**19 18 30.6**	**-0.6**
GO05				*e*S		**Sn**	**19 18 55.2**	**-0.3**
GO05	**Huala**	**1.85**	**227**	*e*P		**Pn**	**19 18 30.4**	**-0.7**
GO05				*e*S		**Sn**	**19 18 53.9**	**-1.7**
GO05				IAML			19 18 55.7	
	comp=E,557nm,0.2s							
RTLS	**Leoncito**	**2.12**	**23**	*e*P		**Pn**	**19 18 35.5**	**+0.8**
RTLS				*e*S		**Sn**	**19 19 03.5**	**+1.5**
RTLS				IAML			19 19 04.5	
	comp=Z,2μm,0.6s							
CO02	**Combarbal**	**2.62**	**346**	*e*P		**Pn**	**19 18 40.2**	**-0.7**
CO02				*e*S		**Sn**	**19 19 12.1**	**-0.8**
CFA	**Coronel Fontan**	**2.75**	**39**	*e*P		**Pn**	**19 18 41.7**	**-0.8**
CFA				*e*S		**Sn**	**19 19 14.7**	**-1.1**
CFA	**Coronel Fontan**	**2.75**	**39**	P		**Pn**	**19 18 41.7**	**-0.8**
	comp=Z,33nm,0.3s,baz=230,slow=10.0,SNR=267							
CFA				S		**Sn**	**19 19 14.1**	**-1.7**
	comp=Z,170nm,0.3s,baz=117,slow=19,SNR=45							
CO03	**El Pedregal**	**2.93**	**353**	*e*P		**Pn**	**19 18 44.8**	**-0.1**
CO03				*e*S		**Sn**	**19 19 20.1**	**0.0**
CO03				IAML			19 19 20.5	
	comp=Z,527nm,0.2s							
CO03	**El Pedregal**	**2.93**	**353**	↓*e*P		**Pn**	**19 18 45.0**	**+0.1**
CO03				*e*S		**Sn**	**19 19 19.0**	**-1.1**
DOCA	**Reserva Natura**	**2.98**	**20**	*e*P		**Pn**	**19 18 45.4**	**-0.3**
DOCA				*e*S		**Sn**	**19 19 21.3**	**-0.2**
DOCA				IAML			19 19 26.8	
	comp=Z,198nm,0.5s							
ACCO	**Cerro Coronel**	**3.33**	**18**	*e*P		**Pn**	**19 18 50.1**	**-0.1**
ACCO				*e*S		**Sn**	**19 19 29.8**	**+0.2**
GO04	**Tololo Observa**	**3.60**	**353**	*e*P		**Pn**	**19 18 53.0**	**-0.8**
GO04				*e*S		**Sn**	**19 19 34.8**	**-1.3**
GO04	**Tololo Observa**	**3.60**	**353**	*e*P		**Pn**	**19 18 53.2**	**-0.7**
GO04				*e*S		**Sn**	**19 19 34.4**	**-1.7**
AROD	**Rodeo**	**3.65**	**11**	*e*P		**Pn**	**19 18 54.9**	**+0.4**
AROD				*e*S		**Sn**	**19 19 37.7**	**+0.5**
CO01	**Juntas del Tor**	**3.77**	**2**	*e*P		**Pn**	**19 18 56.1**	**0.0**
CO01				*e*S		**Sn**	**19 19 39.4**	**-0.7**
CO01				IAML			19 19 42.4	
	comp=Z,103nm,0.5s							
MRA	**San Martin**	**4.05**	**72**	*e*P		**Pn**	**19 18 58.6**	**-1.0**
MRA				IAML			19 20 04.1	
	comp=Z,140nm,0.8s							
AGUA	**GUANDACOL**	**4.52**	**20**	*e*P		**Pn**	**19 19 05.4**	**-0.5**
AGUA				*e*S		**Sn**	**19 19 58.0**	**+0.3**
AGUA				IAML			19 19 59.0	
	comp=Z,153nm,0.6s							
APLL	**PUNTA DE LOS L**	**4.62**	**45**	*e*P		**Pn**	**19 19 05.6**	**-1.6**
APLL				*e*S		Sn	19 19 40.0	-20
LCO	**Las Campanas**	**4.75**	**356**	*e*P		**Pn**	**19 19 07.0**	**-2.1**
LCO				*e*S		**Sn**	**19 20 00.4**	**-3.0**
LCO				IAML			19 20 05.5	
	comp=Z,207nm,0.3s							
AC05	**El Transito**	**4.91**	**0**	*e*P		**Pn**	**19 19 10.5**	**-0.6**
AC05				IAML			19 20 09.2	
	comp=Z,80nm,0.6s							
ACLC	**CERRO LA CRUZ**	**5.17**	**34**	*e*P		**Pn**	**19 19 12.3**	**-2.3**
ACLC				IAML			19 20 34.5	
	comp=Z,58nm,0.4s							
TCA	**Tanti**	**5.37**	**65**	*e*P		**Pn**	**19 19 15.4**	**-1.9**
TCA				IAML			19 20 49.1	
	comp=Z,29nm,0.5s							
PLCA	**Paso Flores**	**6.96**	**182**	P		**Pn**	**19 19 38.5**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=352,slow=11,SNR=7.2							
H03S1	**Juan Fernandez**	**7.18**	**267**	T		T	19 26 13.0	
	baz=84,slow=75,SNR=8.2							
H03S3	**Juan Fernandez**	**7.19**	**267**	T		T	19 26 16.7	
	baz=84,slow=75,SNR=9.4							
H03S2	**Juan Fernandez**	**7.20**	**267**	T		T	19 25 56.1	
	baz=84,slow=75,SNR=8.9							
H03N1	**Juan Fernandez**	**7.21**	**270**	T		T	19 26 57.0	
	baz=86,slow=73,SNR=12							
H03N3	**Juan Fernandez**	**7.22**	**270**	T		T	19 26 50.3	
	baz=86,slow=73,SNR=9.9							
H03N2	**Juan Fernandez**	**7.23**	**270**	T		T	19 26 53.7	
	baz=86,slow=73,SNR=15							
SNAA	**Sanae**	**51.26**	**158**	P		**P**	**19 26 50.2**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=303,slow=8.9,SNR=5.3							
	comp=Z,1.2nm,0.7s							
TXAR	**Lajitas Array**	**70.26**	**329**	P		**P**	**19 28 59.9**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=151,slow=8.6,SNR=6.6							
	comp=Z,0.6nm,0.7s							
BOSA	**Boshof**	**78.88**	**117**	P		**P**	**19 29 49.0**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=232,slow=7.3,SNR=3.6							
	comp=Z,1.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**82.75**	**69**	P		**P**	**19 30 09.4**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=275,slow=3.2,SNR=3.7							
	comp=Z,0.8nm,0.8s							

*IDC **11** 19:20:48.3±9.6,7.°59S×128.°76E,h199km±95km,mb3.2/3, mbtmp4.1/5,Error ellipse: s-maj=98.1km s-min=22.9km az=51.0*

ISC 11 19:20:42.9±0.9,7.°62S±0.°10×129.°04E±0.°07,h131km,n14, σ2.°96/16,mb3.5/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**2.27**	**99**	P		**Pn**	**19 21 21.3**	**+1.1**
MTN	**Manton Dam**	**5.58**	**159**	P		**Pn**	**19 22 06.7**	**+2.9**
BATI	**Baumata**	**5.90**	**244**	P		**Pn**	**19 22 11.3**	**+3.2**
	144nm,0.4s,baz=136,slow=1.2,SNR=78							
BATI				S		**Sn**	**19 23 17.4**	**+2.8**
	51nm,0.3s,baz=71,slow=20,SNR=9.4							
KDU	**Kakadu**	**6.06**	**146**	P		**Pn**	**19 22 12.0**	**+1.7**
KNRA	**Kununurra**	**8.01**	**182**	P		**Pn**	**19 22 38.4**	**+1.9**
PLAI	**Plampang**	**11.21**	**263**	P		**Pn**	**19 23 18.9**	**-0.6**
TABU	**Tabubil**	**12.33**	**80**	P		**Pn**	**19 23 35.0**	**+0.8**
	1μm,0.4s							
WRA	**Warramunga Arr**	**13.28**	**158**	P		**Pn**	**19 23 44.6**	**-1.9**
	2.8nm,0.4s,baz=332,slow=13,SNR=15							
WRA				S		Sn	19 26 05.3	-7.8
	5.1nm,0.5s,baz=326,slow=24,SNR=6.8							
JAGI	**Jajag, Banyuwa**	**14.77**	**266**	P		**Pn**	**19 24 05.2**	**-0.2**
ASAR	**Alice Springs**	**16.62**	**164**	P		**P**	**19 24 29.8**	**+1.3**
	6.0nm,0.5s,baz=340,slow=9.8,SNR=118							
ASAR				S		**Sn**	**19 27 26.9**	**-6.6**
	1.6nm,0.6

*NEIC **11** 19:40:24.4±1.7, 19.°70S±0.°03×71.°11W±0.°09, h10km±2km, mb4.0/2, Error ellipse: s-maj=14.3km s-min=3.1km az=287.0*

*GUC **11** 19:40:27.4±0.7, 19.°68S×71.°13W, h40km, ML3.9*

*IDC **11** 19:40:31.7±4.3, 19.°58S×70.°73W, h50km±37km, mb3.7/4, mbtmp4.0/6, ML3.9/2, Error ellipse: s-maj=45.6km s-min=22.7km az=96.0*

ISC 11 19:40:23.1±1.7, 19.°69S±0.°03×71.°16W±0.°06, h5km±10km, n70, σ1°s40/82, mb4.2/4, 6C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TA02	**Huaiquique**	**1.12**	**121**			**Pb**	**19 40 45.6**	**+0.6**
TA02	**Huaiquique**	**1.12**	**121**	*eP*		**Pn**	**19 40 46.0**	**+0.5**
TA02				*eS*		**Sn**	**19 41 00.8**	**-0.6**
TA02				IAML			19 41 02.9	
	comp=E,4μm,0.3s							
PX02	**IPOC Station P**	**1.16**	**52**	*eP*		**Pg**	**19 40 45.4**	**0.0**
PX02				*eS*		**Sg**	**19 41 00.2**	**-0.1**
TA01	**Diego Aracena**	**1.27**	**134**			**Pb**	**19 40 47.5**	**+0.1**
TA01				Sn		**Sb**	**19 41 03.2**	**-0.8**
TA01	**Diego Aracena**	**1.27**	**134**	↑*iP*		**Pg**	**19 40 48.2**	**+0.8**
TA01				*eS*		**Sb**	**19 41 03.5**	**-0.5**
TA01				IAML			19 41 10.3	
	comp=E,4μm,0.7s							
PB12	**IPOC Station P**	**1.32**	**36**			**Pn**	**19 40 48.5**	**+0.2**
PB12	**IPOC Station P**	**1.32**	**36**	*eP*		**Pn**	**19 40 48.6**	**+0.3**
PB12				*eS*		**Sb**	**19 41 05.9**	**+0.1**
PB12				IAML			19 41 07.8	
	comp=N,4μm,0.5s							
PB11	**IPOC Station P**	**1.41**	**93**			**Pn**	**19 40 49.9**	**+0.3**
PB11	**IPOC Station P**	**1.41**	**93**	↑*eP*		**Pb**	**19 40 50.3**	**+0.2**
PB11				*eS*		**Sg**	**19 41 08.3**	**-0.3**
PB11				IAML			19 41 15.2	
	comp=E,4μm,0.7s							
PATCX	**Punta Patache**	**1.47**	**140**			**Pn**	**19 40 51.2**	**+0.8**
PATCX	**Punta Patache**	**1.47**	**140**	↑*eP*		**Pn**	**19 40 51.2**	**+0.8**
PATCX				*eS*		**Sn**	**19 41 09.0**	**-0.9**
PATCX				IAML			19 41 21.0	
	comp=E,2μm,0.5s							
AP01	**Chacalluta**	**1.52**	**31**			**Pn**	**19 40 50.9**	**0.0**
AP01	**Chacalluta**	**1.52**	**31**	*eP*		**Pn**	**19 40 51.7**	**+0.8**
AP01				*eS*		**Sn**	**19 41 08.4**	**-2.7**
AP01				IAML			19 41 18.9	
	comp=N,5μm,0.2s							
PX03	**IPOC Station P**	**1.60**	**117**	*eP*		**Pn**	**19 40 52.3**	**+0.2**
GO01	**Chusmiza**	**1.85**	**90**			**Pn**	**19 40 56.8**	**+0.9**
GO01				Sn		**Sn**	**19 41 18.0**	**-1.8**
GO01	**Chusmiza**	**1.85**	**90**	*eP*		**Pn**	**19 40 57.1**	**+1.2**
GO01				*eS*		**Sb**	**19 41 20.3**	**-1.0**
PB08	**IPOC Station P**	**1.94**	**104**			**Pn**	**19 40 58.0**	**+0.9**
PB08	**IPOC Station P**	**1.94**	**104**	↑*eP*		**Pn**	**19 40 58.2**	**+1.2**
PB02	**IPOC Station P**	**2.01**	**144**			**Pn**	**19 40 57.6**	**-0.2**
PB02	**IPOC Station P**	**2.01**	**144**	*eP*		**Pn**	**19 40 58.9**	**+1.2**
PB02				*eS*		**Sn**	**19 41 22.3**	**-1.0**
PB02				IAML			19 41 38.9	
	comp=E,3μm,0.5s							
PB16	**IPOC Station P**	**2.06**	**49**			**Pn**	**19 40 57.7**	**-1.2**
PB16	**IPOC Station P**	**2.06**	**49**	↑*eP*		**Pn**	**19 41 00.2**	**+1.3**
PB16				*eS*		**Sn**	**19 41 26.0**	**+0.8**
PB16				IAML			19 41 38.0	
	comp=N,1μm,0.6s							
PB01	**IPOC Station P**	**2.06**	**131**			**Pn**	**19 40 59.6**	**+1.1**
PB01	**IPOC Station P**	**2.06**	**131**	*i P*		**Pn**	**19 40 59.5**	**+0.9**
PB01				*eS*		**Sn**	**19 41 23.9**	**-0.8**
PB01				IAML			19 41 39.2	
	comp=N,853nm,0.4s							
PB07	**IPOC Station P**	**2.35**	**150**			**Pn**	**19 41 03.0**	**+0.4**
PB07	**IPOC Station P**	**2.35**	**150**	*eP*		**Pn**	**19 41 03.6**	**+1.1**
PB07				*eS*		**Sb**	**19 41 34.7**	**-0.8**
PB07				IAML			19 41 50.9	
	comp=E,890nm,0.7s							
PB18	**Visviri**	**2.62**	**38**			**Pn**	**19 41 08.8**	**+2.2**
PB18	**Visviri**	**2.62**	**38**	↑*eP*		**Pb**	**19 41 10.1**	**-0.8**
PB18				*eS*		**Sg**	**19 41 46.4**	**-1.1**
PB09	**IPOC Station P**	**2.76**	**140**			**Pn**	**19 41 08.9**	**+0.8**
PB09	**IPOC Station P**	**2.76**	**140**	*eP*		**Pn**	**19 41 10.2**	**+2.1**
PB09				IAML			19 41 54.9	
	comp=E,754nm,0.4s							
PB04	**IPOC Station P**	**2.79**	**161**			**Pn**	**19 41 08.6**	**-0.1**
PB04	**IPOC Station P**	**2.79**	**161**	*eP*		**Pn**	**19 41 09.6**	**+0.9**
PB04				*eS*		**Sn**	**19 41 37.0**	**-5.9**
PB04				IAML			19 42 01.1	
	comp=E,572nm,0.7s							
PB05	**IPOC Station P**	**3.27**	**164**			**Pn**	**19 41 15.6**	**+0.4**
PB05	**IPOC Station P**	**3.27**	**164**	↓*eP*		**Pn**	**19 41 15.9**	**+0.7**
PB05				*eS*		**Sn**	**19 41 50.8**	**-3.8**
PB05				IAML			19 42 24.0	
	comp=N,209nm,0.5s							
PB06	**IPOC Station P**	**3.35**	**154**			**Pn**	**19 41 16.3**	**+0.1**
PB06	**IPOC Station P**	**3.35**	**154**	*eP*		**Pn**	**19 41 16.9**	**+0.7**
PB06				*eS*		**Sn**	**19 41 52.6**	**-3.8**
PB06				IAML			19 42 29.4	
	comp=E,273nm,0.8s							
LVC	**Limon Verde**	**3.58**	**145**			**Pn**	**19 41 21.9**	**+2.2**
LVC	**Limon Verde**	**3.58**	**145**	P		**Pn**	**19 41 22.7**	**+3.0**
	comp=E,8.7nm,0.3s,baz=331,slow=11,SNR=30							
LVC				S		**Sn**	**19 42 03.8**	**+1.2**
	comp=E,58nm,0.5s,baz=95,slow=22,SNR=8.9							
	comp=E,17nm,0.4s							
PB15	**IPOC Station P**	**3.84**	**156**	Pn		**Pn**	**19 41 23.7**	**+0.7**
PB15	**IPOC Station P**	**3.84**	**156**	*eP*		**Pn**	**19 41 23.9**	**+0.8**
AF01	**San Pedro de A**	**4.27**	**140**			**Pn**	**19 41 29.4**	**+0.3**
LPAZ	**La Paz**	**4.44**	**41**			**Pn**	**19 41 30.7**	**-1.0**
PB14	**IPOC Station P**	**4.96**	**172**	Pn		**Pn**	**19 41 38.3**	**-0.3**
GO02	**Mina Guanaco**	**5.64**	**165**			**Pn**	**19 41 48.7**	**+0.8**
AC01	**Pan de Azucar**	**6.45**	**176**	Pn		**Pn**	**19 41 58.2**	**-0.6**
AC06	**Mina Casimiro**	**7.67**	**175**	Pn		**Pn**	**19 42 14.9**	**-0.6**
GO03	**Copiap**	**7.92**	**174**	Pn		**Pn**	**19 42 18.6**	**-0.4**
SIV	**San Ignacio**	**10.28**	**71**	P		**Pn**	**19 42 52.0**	**+0.6**
	comp=E,0.1nm,0.3s,baz=258,slow=10,SNR=12							
	comp=E,3.2nm,0.5s							
ETMB	**Extrema**	**10.91**	**27**			**Pn**	**19 42 59.9**	**-0.1**
PTLB	**Pontes e Lacer**	**12.21**	**72**			**Pn**	**19 43 15.5**	**-2.3**
VILB	**Vilhena**	**12.46**	**59**			**Pn**	**19 43 20.4**	**-0.9**
SAML	**Samuel**	**13.17**	**37**	Pn		**Pn**	**19 43 31.8**	**+0.9**
MT08	**Bocatoma Ro**	**13.74**	**176**	Pn		**Pn**	**19 43 38.7**	**-0.1**
AQDB	**Aquidauana**	**14.54**	**96**	Pn		**Pn**	**19 43 49.8**	**+0.1**
H03N1	**Juan Fernandez**	**15.35**	**205**	T		T	20 00 00.1	
	baz=33,slow=72,SNR=16							
H03N2	**Juan Fernandez**	**15.35**	**205**	T		T	20 00 24.7	
	baz=33,slow=72,SNR=16							
H03N3	**Juan Fernandez**	**15.36**	**205**	T		T	20 00 20.1	
	baz=33,slow=72,SNR=18							
TRQA	**Tornquist**	**19.97**	**158**	P		**P**	**19 44 56.3**	**0.0**
TRQA				IAmb		IAmb	19 45 10.2	
	comp=Z,4.4nm,0.8s							
PLCA	**Paso Flores**	**20.98**	**179**	P		Pn	19 45 12.5	+2.7
	comp=Z,2.1nm,0.9s,baz=37,slow=7.8,SNR=3.6							
	comp=Z,2.1nm,0.9s							
BOAV	**Boa Vista**	**24.30**	**27**	P		**P**	**19 45 40.9**	**-0.9**
BOAV				IAmb		IAmb	19 45 54.4	
	comp=Z,5.3nm,0.9s							
SNAA	**Sanae**	**64.67**	**161**	P		**P**	**19 51 04.3**	**+2.6**
	comp=Z,1.0nm,0.8s,baz=252,slow=5.1,SNR=1.1							
	comp=Z,1.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**78.76**	**72**	P		**P**	**19 52 26.8**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=258,slow=4.3,SNR=13							
	comp=Z,3.3nm,0.7s							
YKA	**Yellowknife Ar**	**88.80**	**341**	P		**P**	**19 53 19.4**	**+1.8**
	comp=Z,0.9nm,0.7s,baz=136,slow=4.5,SNR=14							
	comp=Z,0.9nm,0.7s							
H11S2	**WAKE ISLAND Hyd**	**25.54**	**279**	T		T	22 18 53.2	
	baz=101,slow=74,SNR=4.5							
H11S1	**WAKE ISLAND Hyd**	**25.55**	**279**	T		T	22 18 50.9	
	baz=101,slow=74,SNR=2.8							
H11S3	**WAKE ISLAND Hyd**	**25.56**	**279**	T		T	22 18 53.5	
	baz=101,slow=74,SNR=2.6							
WRA	**Warramunga Arr**	**133.36**	**214**	PKP		**PKiKP**	**19 59 43.1**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=152,slow=2.2,SNR=1.7							
MKAR	**Makanchi Array**	**145.33**	**33**	PKPbc		**PKPdf**	**20 00 03.2**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=337,slow=3.7,SNR=7.2							
SONM	**Songino Array**	**151.85**	**4**	PKPbc		**PKiKP**	**20 00 20.5**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=42,slow=2.3,SNR=3.6							
PZH	**PanZhiHua**	**170.58**	**43**	PKP		**PKPdf**	**20 00 31.3**	**-1.8**

*IDC **11** 19:59:18.3±0.8, 3.°87N×74.°08W, h0km, mb3.8/7, mbtmp3.9/9, ML4.1/2, Error ellipse: s-maj=26.7km s-min=12.1km az=77.0*

*RSNC **11** 19:59:23.7±2.6, 4.°09N×74.°07W, h0km±6km, ML4.0, Mw4.0*

ISC 11 19:59:20.0±1.2, 4.°00N±0.°02×74.°14W±0.°03, h8km±8km, n50, σ1°s84/87, mb3.7/7, 2C-3D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VILC	**Villavicencio,**	**0.46**	**75**	↓*eP*		**Pb**	**19 59 29.9**	**-0.4**
VILC				*eS*		**Sb**	**19 59 36.7**	**-0.7**
VILC				*i*			19 59 37.5	
	comp=Z,17μm,0.6s							
CVER	**Cruz Verde, Cu**	**0.52**	**7**	↑*iP*		**Pb**	**19 59 31.5**	**-0.2**
CVER				*eS*		**Sb**	**19 59 39.5**	**-0.2**
CVER				*i*			19 59 41.9	
	comp=Z,8μm,0.4s							
BOG	**Bogota**	**0.63**	**6**	*eP*		**Pb**	**19 59 33.8**	**+0.4**
BOG				*eS*		**Sb**	**19 59 42.8**	**+0.3**
PRAC	**Prado**	**0.80**	**249**	↓*iP*		**Pn**	**19 59 38.1**	**+0.4**
PRAC				*eS*		**Sn**	**19 59 50.6**	**+0.8**
PRAC				*i*			19 59 58.2	
	comp=Z,4μm,0.2s							
ROSC	**El Rosal**	**0.86**	**348**	↑*iP*		**Pn**	**19 59 38.5**	**-0.2**
ROSC				*eS*		**Sn**	**19 59 50.4**	**-1.4**
ROSC				*i*			19 59 55.5	
	comp=Z,4μm,0.4s							
ROSC	**El Rosal**	**0.86**	**348**	Pg		**Pn**	**19 59 38.5**	**-0.2**
	comp=Z,378nm,0.3s,baz=77,slow=23,SNR=312							
ROSC				Lg		Lg	19 59 51.1	
	comp=Z,1μm,0.3s,baz=285,slow=20,SNR=14							
ORTC	**Ortega, Tolima**	**1.11**	**266**	↓*iP*		**Pn**	**19 59 43.5**	**+1.6**
ORTC				*eS*		**Sn**	**19 59 59.7**	**+2.2**
ORTC				*i*			20 00 04.4	
	comp=Z,4μm,0.5s							
ARMEC	**Armenia, Quind**	**1.62**	**290**	*eS*		**Sg**	**20 00 14.1**	**+2.0**
SPBC	**San Pablo de B**	**1.65**	**2**	*eP*		**Pb**	**19 59 50.4**	**-0.3**
SPBC				*eS*		**Sg**	**20 00 13.1**	**+0.1**
SPBC				*i*			20 00 19.2	
	comp=Z,2μm,0.4s							
GUY2C	**Guyana, Caldas**	**1.73**	**315**	*eP*		**Pg**	**19 59 53.1**	**-0.1**
GUY2C				*eS*		**Sg**	**20 00 15.9**	**+0.2**
GUY2C				*i*			20 00 18.3	
	comp=Z,2μm,0.6s							
BETC	**Betania**	**1.85**	**225**	*eP*		**Pb**	**19 59 55.0**	**+0.9**
BETC				*eS*		**Sg**	**20 00 20.7**	**+1.3**
BETC				*i*			20 00 24.0	
	comp=Z,1μm,0.4s							
YOTC	**Yotoco, Valle**	**2.21**	**270**	*eP*		**Pb**	**19 59 59.6**	**-0.6**
YOTC				*eS*		**Sb**	**20 00 28.0**	**+0.2**
YOTC				*i*			20 00 32.6	
	comp=Z,2μm,0.4s							
GARC	**Garzon, Huila**	**2.25**	**217**	*eP*		**Pb**	**20 00 00.9**	**-0.2**
GARC				*eS*		**Sg**	**20 00 33.3**	**+0.9**
GARC				*i*			20 00 34.5	
	comp=Z,3μm,0.2s							
PLMC	**San Jos del P**	**2.32**	**293**	*eP*		**Pb**	**20 00 02.3**	**0.0**
PLMC				*eS*		**Sg**	**20 00 34.4**	**-0.3**
PLMC				*i*			20 00 37.6	
	comp=Z,483nm,0.3s							
PTBC	**PUERTO BERRIO,**	**2.55**	**353**	*eP*		**Pn**	**20 00 01.7**	**0.0**
PTBC				*eS*		**Sb**	**20 00 36.1**	**-1.4**
PTBC				*i*			20 00 43.1	
	comp=Z,527nm,0.3s							
JAMC	**Jamundi, Valle**	**2.65**	**253**	*eP*		**Pb**	**20 00 06.9**	**-1.0**
JAMC				*eS*		**Sb**	**20 00 41.4**	**+0.7**
JAMC				*i*			20 00 47.8	
	comp=Z,815nm,0.3s							
MEDEC	**Medelln, Ant**	**2.69**	**327**	*eP*		**Pn**	**20 00 04.1**	**+0.3**
MEDEC				*eS*		**Sb**	**20 00 41.7**	**-0.1**
BARC	**Barichara**	**2.75**	**20**	*eP*		**Pb**	**20 00 08.3**	**-1.3**
BARC				*eS*		**Sb**	**20 00 44.6**	**+1.1**
BARC				*i*			20 00 55.1	
	comp=Z,420nm,0.4s							
FLOC	**Florencia**	**2.84**	**212**	*eP*		**Pb**	**20 00 09.9**	**-1.1**
FLOC				*eS*		**Sg**	**20 00 50.4**	**-0.8**
FLOC				*i*			20 00 56.0	
	comp=Z,405nm,0.3s							
POPC	**Popayan, Colom**	**2.92**	**240**	*eP*		**Pb**	**20 00 11.4**	**-1.1**
POPC				*eS*		**Sg**	**20 00 51.9**	**-2.1**
POPC				*i*			20 00 55.1	
	comp=Z,263nm,0.3s							
MALC	**Bahia Malaga**	**3.19**	**270**	*eP*		**Pb**	**20 00 15.0**	**-2.0**
MALC				*eS*		**Sb**	**20 00 57.0**	**+0.9**
MALC				*i*			20 01 11.2	
	comp=Z,382nm,0.4s							
PIZC	**Pizarro, Choco**	**3.36**	**287**	*eP*		**Pb**	**20 00 18.8**	**-1.0**
TAMC	**Tame, Arauca**	**3.36**	**44**	*eP*		**Pn**	**20 00 15.1**	**+2.1**
TAMC				*eS*		**Sn**	**20 00 54.8**	**+1.6**
TAMC				*i*			20 01 23.0	
	comp=Z,285nm,0.5s							
PAMC	**Pamplona, Colo**	**3.62**	**23**	*eP*		**Pn**	**20 00 19.9**	**+3.1**
PAMC				*eS*		**Sn**	**20 01 02.1**	**+2.2**
PAMC				*i*			20 01 20.6	
	comp=Z,182nm,0.3s							
DBBC	**Dabeiba**	**3.64**	**326**	*eP*		**Pb**	**20 00 21.9**	**-2.8**
DBBC				*eS*		**Sb**	**20 01 08.6**	**-0.6**
DBBC				*i*			20 01 17.1	
	comp=Z,106nm,0.5s							
BBAC	**Balboa, Cauca**	**3.67**	**238**	*eP*		**Pn**	**20 00 21.6**	**+4.2**
BBAC				*eS*		**Sg**	**20 01 17.0**	**-1.2**
BBAC				*i*			20 01 18.8	
	comp=Z,130nm,0.4s							
CRUC	**La Cruz**	**3.71**	**229**	*eP*		**Pb**	**20 00 24.3**	**-1.7**
CRUC				*eS*		**Sg**	**20 01 18.2**	**-0.9**
CRUC				*i*			20 01 29.2	
	comp=Z,4μm,0.4s							
PTLC	**Puerto Leguiza**	**3.86**	**190**	*eP*		**Pb**	**20 00 28.7**	**+0.3**
PTLC				*eS*		**Sg**	**20 01 28.9**	**+4.9**
PTLC				*i*			20 01 39.3	
	comp=Z,490nm,0.4s							
UREC	**San Jos de Ur**	**3.98**	**340**	*eP*		**Pn**	**20 00 23.6**	**+2.1**
UREC				*eS*		**Sn**	**20 01 12.5**	**+4.1**
UREC				*i*			20 01 29.0	
	comp=Z,133nm,0.3s							
GCUF	**Volcan Galeras**	**4.23**	**229**	*eP*		**Pb**	**20 00 33.0**	**-2.0**
GCUF				*eS*		**Sb**	**20 01 23.9**	**-2.5**
GCUF				*i*			20 01 49.1	
	comp=Z,110nm,0.5s							
OCAC	**Ocana**	**4.29**	**11**	*eP*		**Pn**	**20 00 27.9**	**+2.1**
OCAC				*eS*		**Sn**	**20 01 21.0**	**+4.8**
OCAC				*i*			20 01 55.1	
	comp=Z,447nm,0.5s							
TULM	**Tulcn-Chalpat**	**4.89**	**228**	*eP*		**Pg**	**20 00 53.8**	**0.0**
TULM				*eS*		**Sg**	**20 01 55.9**	**-1.4**
OTAV	**Otavalo**	**5.71**	**229**	*eP*		Pn	20 00 53.0	+7.5
OTAV				*eS*		**Sg**	**20 02 22.7**	**-0.7**
ARGC	**Ariguani, Magd**	**5.82**	**359**	*eP*		**Pn**	**20 00 48.2**	**+1.5**
ARGC				*eS*		**Sn**	**20 01 57.8**	**+4.0**
SJCC	**San Jacinto, C**	**5.95**	**350**	*eP*		**Pn**	**20 00 48.3**	**-0.3**
SJCC				*eS*		**Sn**	**20 01 57.0**	**-0.1**
SJCC				*i*			20 02 30.8	
	comp=Z,28nm,0.7s							
SDV	**Santo Domingo**	**5.97**	**35**	*eP*		**Pn**	**20 00 50.0**	**+1.0**
SDV				*eS*		**Sn**	**20 01 53.5**	**-4.3**
SDV	**Santo Domingo**	**5.97**	**35**	Pn		**Pn**	**20 00 50.0**	**+1.0**
	comp=Z,31nm,0.3s,baz=135,slow=2.0,SNR=61							
SDV				Sn		**Sn**	**20 01 55.1**	**-2.8**
	comp=Z,26nm,0.3s,baz=57,slow=19,SNR=9.6							
	comp=Z,77nm,0.3s							
PIAT	**Ana Tenorio**	**6.45**	**220**	*eP*		Pb	20 01 05.1	-7.7
PIAT				*eS*		**Sg**	**20 02 41.8**	**-5.5**
URIC	**Uribia, Colomb**	**7.94**	**15**	*eP*		**Pn**	**20 01 16.3**	**+0.4**
URIC				*eS*		**Sn**	**20 02 44.0**	**-2.0**
PCRV	**Puerto La Cruz**	**11.25**	**56**	Pn		**Pn**	**20 02 01.9**	**+0.6**
	comp=Z,1.7nm,0.3s,baz=76,slow=8.5,SNR=6.6							
PCRV				Sn		**Sn**	**20 04 03.0**	**-4.3**
	comp=Z,1.1nm,0.3s,baz=172,slow=15,SNR=1.7							
	comp=Z,5.4nm,0.5s							
TXAR	**Lajitas Array**	**37.66**	**315**	P		**P**	**20 06 36.5**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=120,slow=6.6,SNR=3.7							
TXAR				PcP		**PcP**	**20 08 54.4**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=145,slow=6.5,SNR=5.1							
	comp=Z,0.4nm,0.9s							
SCHQ	**Schefferville**	**51.03**	**5**	P		**P**	**20 08 22.8**	**+0.3**
	comp=Z,6.0nm,0.7s,baz=215,slow=11,SNR=3.8							
	comp=Z,6.0nm,0.7s							
NVAR	**Mina Array Bea**	**52.78**	**317**	P		**P**	**20 08 36.7**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=116,slow=6.2,SNR=5.4							
NVAR				PcP		**PcP**	**20 09 46.0**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=141,slow=4.8,SNR=3.5							
	comp=Z,0.6nm,0.6s							
YKA	**Yellowknife Ar**	**65.56**	**341**	P		**P**	**20 10 03.5**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=135,slow=6.1,SNR=10							
	comp=Z,0.4nm,0.5s							
TORD	**Torodi Ar. Bea**	**75.31**	**78**	P		**P**	**20 11 04.2**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=281,slow=4.1,SNR=2.4							
	comp=Z,0.3nm,0.6s							
ILAR	**Eielson Array**	**79.09**	**335**	P		**P**	**20 11 24.2**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=131,slow=4.6,SNR=4.3							
	comp=Z,0.5nm,0.9s							
NOA	**NORSAR Array B**	**84.27**	**29**	P		**P**	**20 11 51.6**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=268,slow=4.9,SNR=2.8							
	comp=Z,0.7nm,0.7s							
MKAR	**Makanchi Array**	**125.30**	**20**	PKP		**PKPdf**	**20 18 20.8**	**-1.1**
	comp=Z,2.0nm,0.4s,baz=314,slow=2.4,SNR=4.5							
ASAR	**Alice Springs**	**146.61**	**232**	PKPbc		**PKPdf**	**20 19 02.1**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=120,slow=3.6,SNR=19							
WRA	**Warramunga Arr**	**148.04**	**238**	PKPbc		**PKPbc**	**20 19 06.4**	**-0.9**
	comp=Z,3.5nm,0.6s,baz=112,slow=2.6,SNR=34							

*TIR **11** 20:14:19.1, 37.°99N×21.°47E, h34km±4km, Ml3.1*

ATH 11 20:14:24.9, 38.°65N×21.°58E, h15km±1km, ML2.5/8, Error ellipse: s-maj=1.4km s-min=0.8km az=86.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PVO	**Paravola**	**0.06**	**231**	P		Pg	20 14 27.3	-0.4
PVO				S		Sg	20 14 29.1	-0.6
ANX	**Ano Chora**	**0.27**	**102**	P		Pg	20 14 30.5	-0.2
ANX				S		Sg	20 14 34.9	+0.2
EVR	**Evrytania**	**0.32**	**34**	P		Pg	20 14 31.8	+0.3
EVR				S		Sb	20 14 36.8	-0.5
EVR				AML		AML	20 14 37.1	
	comp=N,2618μm,0.3s							
EVR				AML		AML	20 14 37.3	
	comp=E,5505μm,0.4s							
EFP	**Efpalio**	**0.34**	**132**	P		Pg	20 14 31.8	-0.1
EFP				S		Sg	20 14 36.6	0.0
EFP				AML		AML	20 14 38.5	
	comp=E,2623μm,0.2s							
EFP				AML		AML	20 14 39.1	
	comp=N,2899μm,0.4s							
TRIZ	**Trizonia**	**0.48**	**127**	P		Pg	20 14 33.8	-0.6
TRIZ				S		Sb	20 14 41.6	-0.3
LAKA	**Lakka**	**0.52**	**143**	P		Pg	20 14 34.9	-0.2
LAKA				AML		AML	20 14 47.3	
	comp=E,1065μm,0.7s							
LAKA				AML		AML	20 14 47.5	
	comp=N,1082μm,0.4s							
MAKR	**Makrakomi, Fth**	**0.56**	**50**	P		Pg	20 14 35.4	-0.6
MAKR				S		Sb	20 14 43.9	-0.3
RLS	**Riolos of Patr**	**0.60**	**189**	P		Pb	20 14 37.4	+0.3
RLS				AML		AML	20 14 48.8	
	comp=E,485μm,0.3s							
RLS				AML		AML	20 14 49.3	
	comp=N,1111μm,0.5s							
AGG	**Agios Georgios**	**0.69**	**57**	P		Pg	20 14 37.3	-1.1
AGG				S		Sg	20 14 47.4	-0.2
NYDR	**Nydri-Lefkada**	**0.69**	**275**	P		Pg	20 14 38.1	-0.3
DRO	**Drossia**	**0.71**	**172**	P		Pb	20 14 38.8	-0.1
DRO				AML		AML	20 14 55.8	
	comp=E,702μm,0.3s							
DRO				AML		AML	20 14 56.8	
	comp=N,760μm,0.4s							
EVGI	**Lefkada island**	**0.73**	**268**	P		Pg	20 14 38.9	-0.1
LKD2	**Lefkada island**	**0.74**	**281**	P		Pg	20 14 39.1	-0.1
LKD2	baz=322			S		Sn	20 14 53.5	+1.8
LKD2	baz=322			AMP				
	comp=E,2.5nm,0.5s,baz=322							
LKD2	**Lefkada island**	**0.74**	**281**	P		Pg	20 14 39.0	-0.2
TSLK	**Tsoukalades, L**	**0.74**	**284**	P		Pg	20 14 39.1	-0.3
KLV	**Kalavryta, Ach**	**0.75**	**144**	P		Pg	20 14 38.7	-0.8
DRAG	**Dragano-Lefkad**	**0.79**	**273**	P		Pg	20 14 39.7	-0.5
FSK	**Fiskardo**	**0.82**	**257**	P		Pb	20 14 40.3	-0.6
AXAR	**Agios Charalam**	**0.85**	**82**	P		Pb	20 14 39.9	-1.4
VLS	**Valsamata**	**0.91**	**239**	P		Pb	20 14 41.9	-0.5
VLS				AML		AML	20 14 58.3	
	comp=N,638μm,0.3s							
GUR	**Goura**	**0.93**	**140**	P		Pb	20 14 41.8	-1.0
PSDA	**Pessada-Kefalo**	**0.95**	**236**	P

comp=E,2217μm,0.3s

RLS					AML	AML	20 15 11.8	
	comp=N,4428μm,0.4s							
AGG	**Agios Georgios**	**0.68**	**60**	P	Pg	20 15 00.5	-0.9	
AGG				S	Sg	20 15 10.5	+0.3	
	comp=N,750nm,0.3s							
AGG	**Agios Georgios**	**0.68**	**60**	P	Pg	20 15 00.9	-0.5	
AGG				S	Sg	20 15 10.4	+0.2	
NYDR	**Nydri-Lefkada**	**0.69**	**273**	P	Pg	20 15 00.7	-0.8	
NYDR				S	Sg	20 15 11.1	+0.7	
EVGI	**Lefkada island**	**0.72**	**265**	P	Pg	20 15 01.5	-0.7	
LKD2	**Lefkada island**	**0.73**	**279**	P	Pg	20 15 01.6	-0.7	
LKD2				S	Sg	20 15 12.1	+0.4	
LKD2				AML	AML	20 15 16.6		
	comp=N,1341μm,0.3s							
LKD2				AML	AML	20 15 17.7		
	comp=E,1354μm,0.4s							
TSLK	**Tsoukalades, L**	**0.73**	**281**	P	Pg	20 15 01.3	-1.1	
DRO	**Drossia**	**0.74**	**172**	P	Pg	20 15 01.6	-0.8	
DRO				S	Sg	20 15 12.1	+0.1	
DRO				AML	AML	20 15 19.3		
	comp=N,2007μm,0.3s							
DRO				AML	AML	20 15 21.5		
	comp=E,2234μm,0.4s							
KLV	**Kalavryta, Ach**	**0.78**	**145**	P	Pg	20 15 01.9	-1.4	
KLV				S	Sg	20 15 13.6	+0.2	
DRAG	**Dragano-Lefkad**	**0.78**	**270**	P	Pg	20 15 02.2	-1.2	
FSK	**Fiskardo**	**0.82**	**255**	P	Pg	20 15 02.3	-1.8	
VLS	**Valsamata**	**0.92**	**237**	P	Pg	20 15 04.3	-1.7	
VLS				AML	AML	20 15 20.8		
	comp=N,1370μm,0.3s							
VLS				AML	AML	20 15 26.9		
	comp=E,954μm,0.3s							
XOR	**Xorichti**	**1.43**	**61**	P	Pn	20 15 12.4	-2.4	
PTL	**Penteli**	**1.91**	**109**	P	Pn	20 15 20.7	-0.7	
VLY	**Voula,Athens**	**1.93**	**115**	P	Pn	20 15 21.1	-0.6	

TRN ***11*** *20:22:44.8, 10.66N×62.37W, h90km, MD3.7*
FUNV ***11*** *20:22:46.0, 10.66N×62.30W, h94km, MW3.8*
ISC 11 20:22:43.6±1.5, 10.65N±0.07×62.34W±0.06, h110km±12km, n27, σ1.41/43, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUV	**Carupano**	**0.88**	**272**	↑*i* P	**Pn**	**20 23 04.2**	**+0.7**
CRUV				*e*S	**Sn**	**20 23 17.4**	**-1.2**
TRN	**Trinidad (W)**	**0.93**	**90**	*e*P	**Pn**	**20 23 05.0**	**+1.0**
TRN				*e*S	**Sn**	**20 23 17.6**	**-1.9**
GRGR	**Grenville**	**1.62**	**25**	*e*P	**Pn**	**20 23 12.4**	**+0.5**
GRGR				*e*S	**Sn**	**20 23 32.9**	**-0.5**
GRHS	**Sauteurs**	**1.71**	**24**	*e*P	**Pn**	**20 23 13.8**	**+0.9**
GRHS				*e*S	**Sn**	**20 23 33.9**	**-1.4**
CUMV	**Cumana_UDO**	**1.83**	**263**	↑*e*P	**Pn**	**20 23 16.8**	**+2.4**
CUMV				*e*S	**Sn**	**20 23 38.4**	**+0.4**
GCMP	**Grenada, Carri**	**2.03**	**26**	*e*P	**Pn**	**20 23 17.9**	**+0.9**
GCMP				*e*S	**Sn**	**20 23 41.4**	**-1.1**
PCRV	**Puerto La Cruz**	**2.30**	**258**	*e*P	**Pn**	**20 23 21.8**	**+1.2**
PCRV				*e*S	**Sn**	**20 23 48.5**	**-0.3**
SVOC	**Richmond Hill,**	**2.72**	**24**	*e*P	**Pn**	**20 23 26.9**	**+1.0**
SVOC				*e*S	**Sn**	**20 23 58.2**	**-0.2**
SVB	**Belmont**	**2.81**	**22**	*e*P	**Pn**	**20 23 28.4**	**+1.2**
SVB				*e*S	**Sn**	**20 24 00.0**	**-0.7**
PRGV	**PARIAGUAN**	**2.95**	**231**	*e*P	**Pn**	**20 23 30.4**	**+1.5**
PRGV				*e*S	**Sn**	**20 24 03.5**	**-0.4**
SLBI	**Saint Lucia, B**	**3.61**	**22**	*e*P	**Pn**	**20 23 38.8**	**+1.1**
SLBI				*e*S	**Sn**	**20 24 18.7**	**-0.9**
BIM	**Bigot**	**4.04**	**18**	*e*P	**Pn**	**20 23 45.5**	**+1.9**
BIM				*e*S	**Sn**	**20 24 28.9**	**-1.0**
MPOM	**Morne Pois Mar**	**4.04**	**21**	*e*P	**Pn**	**20 23 45.4**	**+1.9**
MPOM				*e*S	**Sn**	**20 24 29.2**	**-0.7**
TRMF	**Trois Ilets**	**4.06**	**18**	*e*P	**Pn**	**20 23 45.0**	**+1.3**
MERV	**Las Mercedes**	**4.13**	**251**	*e*P	**Pn**	**20 23 45.8**	**+1.1**
MERV				*e*S	**Sn**	**20 24 31.5**	**-0.8**
FDF	**Fort de France**	**4.22**	**16**	*e*P	**Pn**	**20 23 46.6**	**+0.6**
GBMF	**Grand Be**	**4.28**	**15**	*e*P	**Pn**	**20 23 47.6**	**+0.8**
PCM	**Pelee Case Pet**	**4.28**	**15**	*e*P	**Pn**	**20 23 47.4**	**+0.6**
BAMF	**Morne Balai**	**4.30**	**16**	*e*P	**Pn**	**20 23 47.6**	**+0.5**
SVN	**Savane Anatole**	**4.32**	**15**	*e*P	**Pn**	**20 23 48.6**	**+1.3**
SVN	**Savane Anatole**	**4.32**	**15**	*e*S	**Sn**	**20 24 34.9**	**-1.8**
TACV	**Tcata**	**4.63**	**264**	*e*P	**Pn**	**20 23 53.0**	**+1.5**
TACV				*e*S	**Sn**	**20 24 43.0**	**-1.4**
CACV	**CAICARA DEL OR**	**5.16**	**234**	*e*P	Pn	20 23 54.6	-3.9
CACV				*e*S	Sn	20 24 45.5	-11
BENV	**Beln**	**5.22**	**263**	*e*P	**Pn**	**20 24 01.0**	**+1.5**
BENV				*e*S	**Sn**	**20 24 56.0**	**-2.4**
BAUV	**El Baul**	**5.87**	**254**	*e*P	**Pn**	**20 24 08.7**	**+0.6**
BAUV				*e*S	**Sn**	**20 25 10.7**	**-3.4**
BAUV	**El Baul**	**5.87**	**254**	*e*P	**Pn**	**20 24 08.8**	**+0.6**
BAUV	**El Baul**	**5.87**	**254**	*e*S	**Sn**	**20 25 11.5**	**-2.6**

JMA ***11*** *20:41:31.7±0.1, 23.5N±0.5×122.0E±0.6, h34km, MV2.8/16, TAIWAN REGION*
TAP ***11*** *20:41:32.6, 23.53N×122.00E, h33km, ML3.1, C*
ISC 11 20:41:31.7±1.0, 23.50N±0.02×122.03E±0.02, h29km±9km, n139, σ0.83/243, 3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.49**	**295**	P	**Pb**	**20 41 41.9**	**+0.1**
	baz=293						
TEGC				S	**Sb**	**20 41 49.5**	**+0.6**
	baz=293						
HGSD	**Ruisui**	**0.55**	**269**	↓*i* P	**Pb**	**20 41 42.7**	**-0.2**
	baz=266						
HGSD				S	**Sb**	**20 41 50.0**	**-0.6**
	baz=266						
ECBN	**Changbin**	**0.56**	**251**	*i* P	**Pb**	**20 41 43.2**	**+0.2**
	baz=237						
ECBN				S	**Sb**	**20 41 50.9**	**+0.2**
	baz=237						
EGFH	**Guangfu**	**0.57**	**287**	P	**Pb**	**20 41 43.2**	**-0.1**
	baz=292						
EGFH				*e*S	**Sb**	**20 41 51.6**	**+0.5**
	baz=292						
HWA	**Hwalien**	**0.61**	**321**	*e*P	**Pb**	**20 41 43.7**	**-0.2**
	baz=321						
HWA				*e*S	**Sb**	**20 41 51.9**	**-0.2**
	baz=321						
WARBT	**Fenglin Townsh**	**0.62**	**290**	*i* P	**Pb**	**20 41 43.6**	**-0.5**
	baz=295						
WARBT				*e*S	**Sb**	**20 41 52.3**	**-0.3**
	baz=295						
ESL	**Shilin**	**0.62**	**300**	*i* P	**Pb**	**20 41 43.2**	**-0.9**
	baz=292						
ESL				*i* S	**Sb**	**20 41 51.7**	**-0.9**
	baz=292						
EHY	**Hungye**	**0.65**	**270**	↓*i* P	**Pn**	**20 41 44.4**	**-0.5**
	baz=268						
EHY				S	**Sb**	**20 41 53.1**	**0.0**
	baz=268						
EYUL	**Yuli**	**0.67**	**257**	P	**Pn**	**20 41 44.8**	**-0.3**
	baz=247						
EYUL				*i* S	**Sb**	**20 41 54.2**	**+0.5**
	baz=247						
EOS4	**EOS4**	**0.67**	**24**	*i* P	**Pn**	**20 41 44.7**	**-0.1**
	baz=26						
EOS4				S	**Sb**	**20 41 53.6**	**+0.1**
	baz=26						
ETM	**Tongmen**	**0.67**	**313**	*i* P	**Pn**	**20 41 44.1**	**-1.1**
	baz=318						
YULB	**Yu-li**	**0.68**	**261**	P	**Pn**	**20 41 44.7**	**-0.5**
	baz=252						
YULB				*e*S	**Sb**	**20 41 54.6**	**+0.5**
	baz=252						
TWF1	**Yuli**	**0.69**	**257**	P	**Pn**	**20 41 44.9**	**-0.5**
	baz=248						
TWF1				S	**Sb**	**20 41 54.4**	**0.0**
	baz=248						
TWD	**Chiawan**	**0.69**	**326**	P	**Pn**	**20 41 44.5**	**-1.0**
	baz=327						
TWD				S	**Sb**	**20 41 53.6**	**-1.0**
	baz=327						
CHKT	**Chengkung**	**0.73**	**236**	*e*S	**Sn**	**20 41 54.3**	**-1.8**
	baz=226						
FULB	**Fuli**	**0.74**	**246**	P	**Pn**	**20 41 45.5**	**-0.6**
	baz=234						
FULB				S	**Sn**	**20 41 54.8**	**-1.6**
	baz=234						
ETL	**Fush Village**	**0.75**	**331**	P	**Pn**	**20 41 45.4**	**-0.9**
	baz=331						
ETL				S	**Sb**	**20 41 54.8**	**-1.3**
	baz=331						
LXIB	**Xiulin Townshi**	**0.76**	**313**	P	**Pn**	**20 41 45.7**	**-0.9**
	baz=312						
LXIB				*e*S	**Sb**	**20 41 55.2**	**-1.4**
	baz=312						
NACB	**Ninganchiao**	**0.77**	**330**	*i* P	**Pn**	**20 41 45.6**	**-1.0**
	baz=330						
NACB				S	**Sn**	**20 41 55.3**	**-1.9**
	baz=330						
EOS3	**EOS3**	**0.82**	**19**	*i* P	**Pn**	**20 41 47.4**	**+0.3**
	baz=15						
EOS3				S	**Sn**	**20 41 58.2**	**0.0**
	baz=15						
EHD	**Haiduan**	**0.83**	**245**	P	**Pn**	**20 41 46.9**	**-0.5**
	baz=236						
EHD				*e*S	**Sn**	**20 41 56.8**	**-1.9**
	baz=236						
ECS	**Chishang**	**0.84**	**241**	*e*P	**Pn**	**20 41 47.7**	**+0.1**
	baz=232						
ECS				*e*S	**Sb**	**20 41 59.6**	**+0.7**
	baz=232						
EDH	**Donghe**	**0.85**	**232**	*e*P	**Pn**	**20 41 45.9**	**-1.8**
	baz=224						
EDH				*e*S	**Sn**	**20 41 57.7**	**-1.3**
	baz=224						
ETLH	**Xiulin Townshi**	**0.86**	**325**	P	**Pn**	**20 41 47.1**	**-0.7**
	baz=325						
ETLH				*e*S	**Sn**	**20 41 57.7**	**-1.8**
	baz=325						
OWD	**Renai**	**0.90**	**300**	*i* P	**Pn**	**20 41 48.1**	**-0.3**
	baz=299						
OWD				*e*S	**Sn**	**20 41 59.3**	**-1.2**
	baz=299						
EOS2	**EOS2**	**0.93**	**12**	P	**Pn**	**20 41 48.9**	**+0.3**
	baz=7.0						
EOS2				*e*S	**Sb**	**20 42 01.6**	**+0.5**
	baz=7.0						
WHF	**Hehuan Shan**	**0.94**	**313**	*i* P	**Pn**	**20 41 48.7**	**-0.6**
	baz=312						
WHF				*e*S	**Sn**	**20 42 00.3**	**-1.7**
	baz=312						
CHGB	**Renai**	**0.96**	**306**	*i* P	**Pn**	**20 41 49.1**	**-0.2**
	baz=305						
CHGB				S	**Sn**	**20 42 01.2**	**-0.9**
	baz=305						
EWUT	**Wuta**	**0.96**	**347**	P	**Pn**	**20 41 49.1**	**-0.1**
	baz=347						
EWUT				*e*S	**Sn**	**20 42 01.4**	**-0.6**
	baz=347						
WUSB	**Renai**	**0.96**	**300**	↓*i* P	**Pn**	**20 41 49.2**	**-0.1**
	baz=300						
WUSB				*e*S	**Sn**	**20 42 01.2**	**-0.9**
	baz=300						
LDUT	**Ludao**	**0.97**	**212**	*e*P	**Pn**	**20 41 48.6**	**-0.7**
	baz=210						
LDUT				*e*S	**Sn**	**20 42 00.3**	**-1.8**
	baz=210						
ELDTW	**Lidau**	**0.98**	**251**	P	**Pn**	**20 41 49.0**	**-0.6**
	baz=239						
ELDTW				*e*S	**Sn**	**20 42 00.5**	**-2.0**
	baz=239						
LONT	**Longtian**	**1.02**	**234**	*e*P	**Pn**	**20 41 50.6**	**+0.7**
	baz=228						
LONT				*e*S	**Sn**	**20 42 02.6**	**-0.6**
	baz=228						
SSLB	**Suanglung**	**1.02**	**286**	P	**Pn**	**20 41 49.9**	**-0.1**
	baz=285						
SSLB				*e*S	**Sn**	**20 42 03.5**	**+0.1**
	baz=285						
FUSS	**Fushou**	**1.03**	**316**	*i* P	**Pn**	**20 41 50.3**	**-0.1**
	baz=316						
FUSS				S	**Sn**	**20 42 03.1**	**-0.8**
	baz=316						
TWT	**Tachien**	**1.08**	**314**	P	**Pn**	**20 41 51.4**	**+0.4**
	baz=313						
TWT				S	**Sn**	**20 42 04.6**	**-0.4**
	baz=313						
TDCB	**Techi**	**1.09**	**313**	P	**Pn**	**20 41 51.3**	**+0.3**
	baz=313						
TDCB				*e*S	**Sn**	**20 42 04.2**	**-1.0**
	baz=313						
NNSB	**Datong**	**1.09**	**328**	P	**Pn**	**20 41 51.1**	**0.0**
	baz=328						
NNSB				S	**Sn**	**20 42 04.6**	**-0.7**
	baz=328						
NNSH	**Datong**	**1.09**	**328**	P	**Pn**	**20 41 51.2**	**+0.1**
	baz=327						
NNSH				S	**Sn**	**20 42 04.5**	**-0.8**
	baz=327						
WHYT	**Xinyi Township**	**1.09**	**280**	*i* P	**Pn**	**20 41 51.8**	**+0.8**
	baz=273						
WHYT				S	**Sn**	**20 42 05.0**	**-0.2**
	baz=273						
SMLT	**Sun Moon Lake**	**1.10**	**290**	P	**Pn**	**20 41 51.3**	**+0.2**
	baz=295						
SMLT				*e*S	**Sn**	**20 42 05.7**	**+0.3**
	baz=295						
TTN	**Taitung**	**1.10**	**227**	*e*P	**Pn**	**20 41 51.9**	**+0.8**
	baz=216						
TTN				*e*S	**Sn**	**20 42 04.7**	**-0.5**
	baz=216						
WPL	**Puli Township**	**1.10**	**298**	*e*P	**Pn**	**20 41 51.6**	**+0.5**
	baz=297						
NNS	**Nan Shan**	**1.11**	**328**	P	**Pn**	**20 41 51.2**	**-0.1**
	baz=328						
NNS				S	**Sn**	**20 42 04.7**	**-0.9**
	baz=328						
TWGBT	**Beinan**	**1.11**	**232**	*e*P	**Pn**	**20 41 50.8**	**-0.4**
	baz=239						
TWGBT				*e*S	**Sn**	**20 42 04.4**	**-1.0**
	baz=239						
TWG	**Pinlang**	**1.11**	**232**	*e*P	**Pn**	**20 41 50.9**	**-0.3**
	baz=239						
TWG				*e*S	**Sn**	**20 42 04.4**	**-1.1**
	baz=239						
TWC	**Suao**	**1.11**	**352**	*e*P	**Pn**	**20 41 51.7**	**+0.4**
	baz=353						
TWC				*e*S	**Sn**	**20 42 05.3**	**-0.3**
	baz=353						
ALS	**Alishan**	**1.12**	**271**	P	**Pn**	**20 41 52.3**	**+0.7**
	baz=269						
ALS				*e*S	**Sn**	**20 42 06.5**	**+0.3**
	baz=269						
LATG	**Datong**	**1.12**	**336**	P	**Pn**	**20 41 51.3**	**-0.2**
	baz=336						
LATG				*e*S	**Sn**	**20 42 05.1**	**-1.0**
	baz=336						
TYC	**Yuchr**	**1.14**	**291**	*e*P	**Pn**	**20 41 52.0**	**+0.4**
	baz=290						
NDS	**Dongshan**	**1.16**	**346**	*e*P	**Pn**	**20 41 52.1**	**+0.2**
	baz=339						
NDS				*e*S	**Sn**	**20 42 06.5**	**-0.3**
	baz=339						
WCS	**Beigang Elemen**	**1.16**	**299**	P	**Pn**	**20 41 52.4**	**+0.5**
	baz=298						
NDT	**Datong Townshi**	**1.19**	**337**	*e*P	**Pn**	**20 41 52.5**	**+0.2**
	baz=337						
NDT				*e*S	**Sn**	**20 42 06.9**	**-0.6**
	baz=337						
STYH	**Taoyuan**	**1.20**	**254**	P	**Pn**	**20 41 53.0**	**+0.6**
	baz=246						
STYH				*e*S	**Sn**	**20 42 07.4**	**-0.2**
	baz=246						
ENTT	**Nioudou**	**1.21**	**340**	*e*P	**Pn**	**20 41 53.1**	**+0.6**
	baz=340						
ENTT				*e*S	**Sn**	**20 42 07.9**	**-0.1**
	baz=340						
STYT	**Tauyuan**	**1.21**	**254**	P	**Pn**	**20 41 53.3**	**+0.6**
	baz=246						
STYT				S	**Sn**	**20 42 08.6**	**+0.4**
	baz=246						
WJS	**Zhushan**	**1.23**	**285**	*e*P	**Pb**	**20 41 54.5**	**+0.2**
	baz=284						
WJS				*e*S	**Sb**	**20 42 10.5**	**+0.7**
	baz=284						
WHP	**Taichung City**	**1.25**	**308**	*e*P	**Pn**	**20 41 54.3**	**+1.0**
	baz=317						
WHP				*e*S	**Sn**	**20 42 09.6**	**+0.4**
	baz=317						
TWE	**Neicheng**	**1.25**	**345**	*e*P	**Pn**	**20 41 53.9**	**+0.6**
	baz=340						
TWE				*e*S	**Sn**	**20 42 09.0**	**-0.1**
	baz=340						
JYNG	**Yonagunijimaku**	**1.26**	**42**	*e*S	**Sn**	**20 42 09.1**	**-0.3**
ILA	**Ilan**	**1.28**	**349**	*e*S	**Sb**	**20 42 10.9**	**-0.3**
	baz=350						
WNT	**Mingjian**	**1.28**	**287**	*e*P	**Pb**	**20 41 55.3**	**+0.1**
	baz=286						
WNT				*e*S	**Sb**	**20 42 12.4**	**+1.0**
	baz=286						
TPUB	**Ta-pu**	**1.30**	**261**	P	**Pb**	**20 41 55.2**	**-0.2**
	baz=260						
TPUB				*e*S	**Sb**	**20 42 11.5**	**-0.3**
	baz=260						
YHNB	**Yeheng**	**1.30**	**333**	P	**Pn**	**20 41 54.3**	**+0.3**
	baz=333						
YHNB				*e*S	**Sn**	**20 42 09.7**	**-0.8**
	baz=333						
WCKO	**Fanlu**	**1.31**	**267**	*e*P	**Pb**	**20 41 55.7**	**+0.1**
	baz=266						
WCKO				S	**Sb**	**20 42 12.8**	**+0.8**
	baz=266						
FUSB	**Fushanzhiwuyua**	**1.31**	**342**	P	**Pn**	**20 41 54.5**	**+0.4**
	baz=332						
FUSB				*e*S	**Sn**	**20 42 10.5**	**-0.2**
	baz=332						
YOJ	**Yonaguni jima**	**1.31**	**43**	*e*S	**Sn**	**20 42 10.4**	**-0.1**
YOJ	**Yonaguni jima**	**1.31**	**43**	*e*P	**Pn**	**20 41 54.8**	**+0.8**
	baz=56						
YOJ				*e*S	**Sn**	**20 42 10.4**	**-0.1**
	baz=56						
NSK	**Sanguang**	**1.32**	**333**	P	**Pn**	**20 41 54.5**	**+0.4**
	baz=333						
NSK				S	**Sn**	**20 42 10.0**	**-0.8**
	baz=333						
WTP	**Ta-pu**	**1.32**	**259**	*e*P	**Pn**	**20 41 55.5**	**+1.3**
	baz=257						
WTP				*e*S	**Sb**	**20 42 12.5**	**+0.1**
	baz=257						
ECL	**Taimali**	**1.34**	**228**	*e*P	**Pn**	**20 41 54.2**	**-0.2**
	baz=226						
ECL				*e*S	**Sn**	**20 42 10.1**	**-1.1**
	baz=226						
NWLT	**Wulai**	**1.35**	**339**	*e*P	**Pn**	**20 41 55.1**	**+0.4**
	baz=328						
NWLT				*e*S	**Sn**	**20 42 11.7**	**+0.1**
	baz=328						
WGK	**Gukeng**	**1.35**	**278**	*e*P	**Pb**	**20 41 56.4**	**0.0**
	baz=277						
SLGT	**Liugui**	**1.37**	**248**	*e*P	**Pn**	**20 41 56.1**	**+1.4**
	baz=242						
SLGT				*e*S	**Sn**	**20 42 12.4**	**+0.5**
	baz=242						
WDLH	**Douliu**	**1.38**	**278**	*e*P	**Pb**	**20 41 56.4**	**-0.3**
	baz=277						
WDLH				*e*S	**Sb**	**20 42 14.8**	**+0.9**
	baz=277						
SGST	**Jiashian**	**1.39**	**253**	P	**Pn**	**20 41 55.9**	**+0.8**
	baz=251						
SGST				*e*S	**Sb**	**20 42 14.4**	**0.0**
	baz=251						
TCU	**Taichung**	**1.39**	**298**	*e*P	**Pb**	**20 41 57.2**	**+0.1**
	baz=298						
NFF	**Wufeng Townshi**	**1.40**	**324**	P	**Pn**	**20 41 56.4**	**+1.2**
	baz=324						
NFF				*e*S	**Sn**	**20 42 13.2**	**+0.5**
	baz=324						
CHN1	**Nanshi**	**1.41**	**257**	*e*P	**Pb**	**20 41 57.3**	**-0.1**
	baz=256						
CHN1				*e*S	**Sb**	**20 42 16.6**	**+1.5**
	baz=256						
TWQ1	**Liyutan**	**1.42**	**307**	P	**Pb**	**20 41 57.4**	**-0.2**
	baz=307						
SNST	**Tainan City**	**1.43**	**259**	*e*P	**Pb**	**20 41 57.5**	**-0.2**
	baz=258						
SNST				*e*S	**Sb**	**20 42 16.2**	**+0.6**
	baz=258						
TWK	**Hsinying**	**1.43**	**261**	*e*P	**Pb**	**20 41 57.6**	**-0.1**
	baz=259						
TWK				*e*S	**Sb**	**20 42 15.6**	**-0.1**
	baz=259						
WCHH	**Zhanghua**	**1.46**	**293**	*e*P	**Pb**	**20 41 58.3**	**+0.1**
	baz=293						
NSTT	**Nanjuang**	**1.46**	**320**	P	**Pb**	**20 41 58.0**	**-0.2**
	baz=305						
NSTT				*e*S	**Sn**	**20 42 14.8**	**+0.6**
	baz=305						
LIOB	**Emei**	**1.46**	**321**	*e*P	**Pb**	**20 41 58.0**	**-0.3**
	baz=321						
LIOB				*e*S	**Sb**	**20 42 15.3**	**-1.2**
	baz=321						
CHY	**Chiayi**	**1.47**	**270**	*e*P	**Pn**	**20 41 57.1**	**+1.0**
	baz=269						
CHY				*e*S	**Sb**	**20 42 17.1**	**+0.5**
	baz=269						
NSY	**Sanyi**	**1.47**	**308**	*e*P	**Pb**	**20 41 58.3**	**-0.1**
	baz=309						
TIPB	**Shuangxi**	**1.47**	**353**	*e*P	**Pn**	**20 41 57.4**	**+1.2**
	baz=7.0						
TIPB				*e*S	**Sn**	**20 42 15.0**	**+0.5**
	baz=7.0						
SSD	**Sandimen**	**1.49**	**240**	*e*P	**Pn**	**20 41 57.5**	**+1.0**
	baz=233						
NJD	**Zhudong**	**1.50**	**325**	*e*P	**Pn**	**20 41 57.8**	**+1.3**
	baz=325						
NJD				*e*S	**Sb**	**20 42 16.6**	**-0.8**
	baz=325						
TSMG	**Majia**	**1.50**	**238**	*e*P	**Pn**	**20 41 57.4**	**+0.9**
	baz=231						
WTK	**Tuku**	**1.51**	**277**	*e*P	**Pb**	**20 41 58.6**	**-0.4**
	baz=276						
WTK				*e*S	**Sb**	**20 42 18.5**	**+0.6**
	baz=276						
NHDH	**Xindian Distri**	**1.52**	**343**	*e*P	**Pn**	**20 41 58.3**	**+1.4**
	baz=332						
NHDH				*e*S	**Sn**	**20 42 16.5**	**+0.8**
	baz=332						
LAY	**Lan-yu**	**1.52**	**197**	*e*P	**Pn**	**20 41 57.0**	**+0.1**
	baz=185						
TWA	**Mucha**	**1.52**	**345**	*e*P	**Pn**	**20 41 58.2**	**+1.3**
	baz=335						
TWA				*e*S	**Sb**	**20 42 17.6**	**-0.6**
	baz=335						
NMLH	**Miaoli**	**1.53**	**313**	*e*P	**Pn**	**20 41 58.4**	**+1.5**
	baz=312						
SCST	**Cishan**	**1.54**	**247**	*e*P	**Pn**	**20 41 58.2**	**+1.1**
	baz=245						
SCST				*e*S	**Sb**	**20 42 20.0**	**+1.4**
	baz=245						
TATO	**Taipei**	**1.54**	**342**	P	**Pn**	**20 41 58.4**	**+1.2**
	baz=342						
TATO				*e*S	**Sn**	**20 42 17.0**	**+0.8**
	baz=342						
TAW	**Tawu**	**1.54**	**223**	*e*P	**Pn**	**20 41 57.1**	**-0.1**
	baz=230						
TAW				*e*S	**Sn**	**20 42 15.7**	**-0.5**
	baz=230						
LYUB	**Lan-yu**	**1.55**	**195**	*e*P	**Pn**	**20 41 56.4**	**-0.8**
	baz=194						
EAST	**Anshuo**	**1.56**	**224**	*e*P	**Pn**	**20 41 57.3**	**-0.1**
	baz=223						
MASBT	**Mashibuluo**	**1.56**	**236**	*e*P	**Pn**	**20 41 58.1**	**+0.7**
	baz=231						
MASBT				*e*S	**Sn**	**20 42 16.4**	**-0.3**
	baz=231						
WRL	**Guolierlin Hig**	**1.56**	**285**	*e*P	**Pb**	**20 41 59.5**	**-0.4**
	baz=274						
WRL				*i* S	**Sb**	**20 42 20.0**	**+0.8**
	baz=274						
TAWH	**Dawu Township**	**1.56**	**222**	*e*S	**Sn**	**20 42 15.8**	**-0.9**
	baz=230						
NWF	**Wu-fen Shan**	**1.57**	**352**	*e*P	**Pn**	**20 41 59.1**	**+1.4**
	baz=352						
NWF				*e*S	**Sb**	**20 42 18.6**	**-1.2**
	baz=352						
WFSB	**Wu-fen Shan**	**1.57**	**352**	*e*P	**Pn**	**20 41 59.2**	**+1.6**
	baz=352						
WFSB				*e*S	**Sb**	**20 42 18.9**	**-0.8**
	baz=352						
CHN3	**Shinhua**	**1.58**	**255**	*e*P	**Pn**	**20 41 59.5**	**+1.8**
	baz=267						
SXI1	**Grass Mountain**	**1.59**	**355**	P	**Pn**	**20 41 58.9**	**+1.0**
	baz=11						
SXI1				*e*S	**Sn**	**20 42 17.6**	**+0.1**
	baz=11						
ICHU	**Yijhu**	**1.61**	**

CHN8	**Yiju**	**1.67**	**265**	*e*P	**Pn**	**20 42 00.8 +1.9**
	baz=264					
CHN8				*e*S	**Sb**	**20 42 22.2 -0.3**
	baz=264					
TWS1	**Kuangyinshan**	**1.68**	**341**	*e*P	**Pn**	**20 41 59.4 +0.3**
	baz=341					
TWS1				*e*S	**Sn**	**20 42 20.7 +1.0**
	baz=341					
YM01	**YM01**	**1.69**	**346**	*e*P	**Pn**	**20 41 58.0 -1.2**
	baz=331					
YM01				*e*S	**Sn**	**20 42 20.9 +1.1**
	baz=331					
SCZT	**Fangliau**	**1.72**	**229**	*e*P	**Pn**	**20 42 00.7 +1.1**
	baz=221					
HATJ	**Hateruma jima**	**1.72**	**71**	*e*P	**Pn**	**20 41 60.0 +0.4**
HATJ				*e*S	**Sn**	**20 42 20.2 -0.4**
YM08	**YM08**	**1.72**	**347**	*e*P	**Pn**	**20 42 00.5 +0.9**
	baz=332					
YM08				*e*S	**Sn**	**20 42 21.6 +0.9**
	baz=332					
NTST	**Danshui**	**1.73**	**342**	*e*P	**Pn**	**20 42 01.0 +1.2**
	baz=343					
NTST				*e*S	**Sn**	**20 42 21.7 +0.7**
	baz=343					
WSSB	**Gushan**	**1.84**	**242**	*e*P	**Pn**	**20 42 03.5 +2.3**
	baz=241					
HEN	**Hengchun**	**1.91**	**219**	*e*P	**Pb**	**20 42 04.9 -0.9**
	baz=210					
TWKBT	**Hengchun**	**1.92**	**216**	*e*P	**Pn**	**20 42 04.4 +2.1**
	baz=215					
JKRS	**Kuro-shima**	**1.96**	**68**	P	**Pn**	**20 42 03.7 +0.8**
JKRS				S	**Sn**	**20 42 26.7 +0.3**
JIJ	**Ishigaki jima**	**2.12**	**66**	P	**Pn**	**20 42 05.6 +0.5**
JIJ				S	**Sn**	**20 42 29.4 -1.0**
PHUB	**P'eng-hu**	**2.25**	**271**	*e*P	**Pn**	**20 42 08.1 +1.2**
	baz=270					
PHUB				*e*S	**Sn**	**20 42 34.2 +0.5**
	baz=270					
PNG	**Penghu**	**2.27**	**272**	*e*P	**Pn**	**20 42 08.3 +1.2**
	baz=271					
PNG				*e*S	**Sn**	**20 42 34.5 +0.5**
	baz=271					
JISG	**Ishigakijimahi**	**2.35**	**62**	*e*P	**Pn**	**20 42 08.5 +0.2**
JISG				*e*S	**Sn**	**20 42 35.0 -1.2**
VCHM	**Qimei**	**2.40**	**263**	*e*P	**Pn**	**20 42 10.1 +1.1**
	baz=263					
VCHM				*e*S	**Sn**	**20 42 37.6 +0.1**
	baz=263					
JTJ	**Tarama**	**2.70**	**65**	P	**Pn**	**20 42 13.7 +0.7**
JTJ				*e*S	**Sn**	**20 42 44.7 0.0**
VWUC	**VWUC**	**2.78**	**303**	*e*P	**Pn**	**20 42 14.8 +0.7**
	baz=302					
VWUC				S	**Sn**	**20 42 46.1 -0.6**
	baz=302					
JIRB	**Irabujima**	**3.16**	**65**	*e*P	**Pn**	**20 42 19.9 +0.5**
MATB	**Ma-tsu**	**3.24**	**325**	*e*P	**Pn**	**20 42 20.9 +0.3**
	baz=324					
JMJ2	**Miyako jima3**	**3.26**	**67**	P	**Pn**	**20 42 21.5 +0.7**
JMJ2				S	**Sn**	**20 42 58.9 +0.3**
KNMB	**Chin-men Tao**	**3.46**	**287**	*e*P	**Pn**	**20 42 24.5 +0.9**
	baz=287					
XPSS	**Dashiqiu**	**3.79**	**334**	*e*P	**Pn**	**20 42 27.4 -0.7**
	baz=333					
ZPLA	**Ao Xicun**	**3.94**	**277**	*e*P	**Pn**	**20 42 31.2 +1.1**
	baz=277					
AXDP	**Jialang**	**3.95**	**291**	*e*P	**Pn**	**20 42 31.4 +1.1**
	baz=291					
DSXP	**Dongshan**	**4.22**	**274**	*e*P	**Pn**	**20 42 35.0 +1.0**
	baz=273					
SXFK	**Yanhouchang**	**4.91**	**307**	*e*P	**Pn**	**20 42 43.8 +0.3**
	baz=307					

*JMA **11** 20:48:19.3±0.5,32°N±4°×13°8E±°, h427km, MV3.1/18, FAR S OFF TOKAI DISTRICT*
*IDC **11** 20:48:21.4±2.8,32°53N×137°12E, h398km±59km, mb2.6/4, mbtmp3.4/6, Error ellipse: s-maj=112.7km s-min=20.7km az=68.0*
ISC 11 20:48:21.2±1.1,32°5N±0°1×137°5E±0°1, h400km, n16, σ1§53/21, mb2.8/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
TTO1	**TONANKAI O.B.S**	**1.23**	**333**	*e*P	**Pn**		**20 49 14.9**	**+2.2**
TK02	**Tokai 2**	**1.43**	**10**	*e*P	**Pn**		**20 49 16.1**	**+2.4**
JIE	**Ise**	**1.96**	**341**	P	**Pn**		**20 49 18.2**	**+1.5**
JOD2	**Odawara 2**	**3.04**	**26**	*e*P	**Pn**		**20 49 26.5**	**+1.8**
JOD2				*e*S	**S**		**20 50 17.6**	**+1.5**
JYN	**Shimob**	**3.09**	**17**	*e*P	**Pn**		**20 49 27.7**	**+2.6**
JYTA	**Yamagatataniai**	**3.11**	**349**	*e*P	**Pn**		**20 49 26.9**	**+1.7**
JWT	**Wachi**	**3.23**	**329**	*e*P	**Pn**		**20 49 27.2**	**+0.9**
JWT				*e*S	**S**		**20 50 18.7**	**-0.3**
BSO1	**Boso 1**	**3.62**	**53**	*e*P	**Pn**		**20 49 28.8**	**-0.3**
BSO1				*e*S	**S**		**20 50 22.9**	**-1.2**
JRY	**Ryogami san**	**3.67**	**19**	*e*P	**Pn**		**20 49 31.6**	**+1.5**
JRY				*e*S	**S**		**20 50 26.8**	**+0.6**
MJAR	**Matsushiro Arr**	**4.05**	**9**	P	**Pn**		**20 49 34.3**	**+0.7**
	9.2nm,0.6s,baz=186,slow=9.1,SNR=26							
MAT	**Matsushiro**	**4.05**	**9**	*e*P	**Pn**		**20 49 35.0**	**+1.4**
MAT				*e*S	**S**		**20 50 31.9**	**-0.5**
KLR	**Kul'dur**	**17.22**	**347**	P	**P**		**20 51 56.6**	**-0.6**
	0.7nm,0.5s,baz=163,slow=14,SNR=4.0							
MKAR	**Makanchi Array**	**43.92**	**306**	P	**P**		**20 55 48.6**	**-1.7**
	0.2nm,0.4s,baz=89,slow=8.6,SNR=4.2							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**46.35**	**311**	P	**P**		**20 56 07.3**	**-1.7**
	0.3nm,0.4s,baz=91,slow=8.8,SNR=5.9							
	0.3nm,0.4s							
BVAR	**Borovoye Array**	**51.29**	**315**	P	**P**		**20 56 45.5**	**-0.5**
	0.3nm,0.5s,baz=113,slow=8.4,SNR=1.8							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**52.26**	**184**	P	**P**		**20 56 53.6**	**+0.1**
	0.1nm,0.4s,baz=1.3,slow=7.8,SNR=5.8							
	0.1nm,0.4s							

MEX 11 21:07:20.2±1.3,16°55N×95°16W, h58km±20km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
NILT	**Santiago Nilte**	**0.52**	**88**	*e*P	Pn		21 07 26.2	-6.0
NILT				*e*S	Sn		21 07 33.7	-7.2
NILT	**Santiago Nilte**	**0.52**	**88**	*i* P	Pn		21 07 26.6	-5.6
NILT				*i* S	Sn		21 07 34.0	-6.9
CMIG	**Matias Romero**	**0.60**	**26**	*i* P	Pn		21 07 27.8	-5.4
CMIG				*i* S	Sn		21 07 35.5	-7.1
CMIG	**Matias Romero**	**0.60**	**26**	*i* P	Pn		21 07 27.7	-5.5
CMIG				*i* S	Sn		21 07 35.4	-7.2
HUIG	**Huatulco**	**1.20**	**230**	*e*P	Pn		21 07 38.5	-2.3
HUIG				*e*S	Sn		21 07 54.3	-1.9
HUIG	**Huatulco**	**1.20**	**230**	*i* P	Pn		21 07 38.6	-2.2
HUIG				*i* S	Sn		21 07 54.8	-1.4
CARR	**Arriaga**	**1.23**	**104**	*e*P	Pn		21 07 39.5	-1.7
CARR				*e*S	Sn		21 07 55.8	-1.1
CARR	**Arriaga**	**1.23**	**104**	*i* P	Pn		21 07 40.1	-1.1
CARR				*i* S	Sn		21 07 56.0	-0.9
UXUV	**UXUV**	**1.23**	**52**	*e*P	Pn		21 07 39.2	-2.1
UXUV				*e*S	Sn		21 07 56.2	-0.8
UXUV	**UXUV**	**1.23**	**52**	*e*P	Pn		21 07 39.1	-2.1
UXUV				*e*S	Sn		21 07 55.6	-1.4
NEUV	**Arroyo Zacate**	**1.31**	**332**	*e*P	Pn		21 07 40.4	-2.0
NEUV				*e*S	Sn		21 07 57.7	-1.2
NEUV	**Arroyo Zacate**	**1.31**	**332**	*i* P	Pn		21 07 40.4	-1.9
NEUV				*i* S	Sn		21 07 57.4	-1.5
OXLC	**Oaxaca**	**1.57**	**289**	*e*	Pn		21 07 45.1	-0.8
OXLC				*e*			21 08 05.4	
VHO	**Vista Hermosa**	**1.60**	**289**	*e*P	Pn		21 07 44.7	-1.6
VHO				*e*S	Sn		21 08 06.8	+0.8
VHO	**Vista Hermosa**	**1.60**	**289**	*e*P	Pn		21 07 45.7	-0.6
VHO				*i* S	Sn		21 08 06.1	0.0
TGIG		**1.96**	**83**	*e*P	Pn		21 07 52.3	+1.1
TGIG				*e*S	Sn		21 08 17.3	+2.5
TGIG		**1.96**	**83**	*e*P	Pn		21 07 51.4	+0.1
TGIG				*e*S	Sn		21 08 15.1	+0.3
PEIG	**Puerto Escondi**	**1.99**	**254**	*e*P	Pn		21 07 50.4	-1.1
PEIG				*e*S	Sn		21 08 16.2	+0.9
PEIG	**Puerto Escondi**	**1.99**	**254**	*e*P	Pn		21 07 50.4	-1.1
PEIG				*e*S	Sn		21 08 15.1	-0.3
PCIG		**2.04**	**114**	*e*P	Pn		21 07 52.7	+0.5
PCIG				*e*S	Sn		21 08 18.5	+1.9
PCIG		**2.04**	**114**	*e*P	Pn		21 07 52.6	+0.4
PCIG				*i* S	Sn		21 08 18.5	+1.9
YOIG	**Yosondua**	**2.31**	**278**	*e*P	Pn		21 07 57.2	+1.1
YOIG				*e*S	Sn		21 08 27.7	+4.1
YOIG	**Yosondua**	**2.31**	**278**	*e*P	Pn		21 07 55.0	-1.1
YOIG				*e*S	Sn		21 08 22.2	-1.4
TXIG	**Tlaxiaco**	**2.60**	**286**	*e*P	Pn		21 08 02.6	+2.6
TXIG				*e*S	Sn		21 08 35.9	+5.3
TXIG	**Tlaxiaco**	**2.60**	**286**	*e*P	Pn		21 07 58.2	-1.8
TXIG				*e*S	Sn		21 08 32.8	+2.2
TPIG	**Tehuac#an**	**2.81**	**312**	*e*	Pn		21 08 34.2	+31
HLIG	**Huajuapan de L**	**2.83**	**297**	*e*P	Pn		21 08 05.9	+2.7
HLIG				*e*S	Sn		21 08 41.7	+5.4
HLIG	**Huajuapan de L**	**2.83**	**297**	*e*P	Pn		21 08 03.6	+0.4
HLIG				*e*S	Sn		21 08 39.5	+3.2
PNIG	**Pinotepa**	**2.85**	**267**	*e*P	Pn		21 08 07.8	+4.4
PNIG				*e*S	Sn		21 08 43.0	+6.5
PNIG	**Pinotepa**	**2.85**	**267**	*e*P	Pn		21 08 02.5	-0.8
PNIG				*e*S	Sn		21 08 35.2	-1.3
FTIG	**Fresnillo de T**	**3.15**	**296**	*e*P	Pn		21 08 13.2	+5.8
FTIG				*e*S	Sn		21 08 51.5	+7.6
FTIG	**Fresnillo de T**	**3.15**	**296**	*e*P	Pn		21 08 09.4	+2.0
FTIG				*e*S	Sn		21 08 47.2	+3.3
PATR	**El Naranjo**	**3.15**	**116**	*e*P	Pn		21 08 09.0	+1.4
PATR				*e*S	Sn		21 08 46.4	+2.2
PATR	**El Naranjo**	**3.15**	**116**	*e*P	Pn		21 08 08.9	+1.3
PATR				*e*S	Sn		21 08 46.7	+2.5
PAVE	**Pavencul**	**3.17**	**115**	*e*P	Pn		21 08 10.2	+2.3
PAVE				*e*S	Sn		21 08 48.0	+3.4
PAVE	**Pavencul**	**3.17**	**115**	*e*P	Pn		21 08 09.2	+1.3
PAVE				*e*S	Sn		21 08 47.3	+2.8
JAUV	**Jalcomulco**	**3.21**	**331**	*e*P	Pn		21 08 04.5	-3.8
JAUV				*e*S	Sn		21 08 42.1	-3.3
CHUJ	**Union Juarez**	**3.27**	**116**	*e*P	Pn		21 08 10.3	+1.0
CHUJ				*e*S	Sn		21 08 49.5	+2.4
CHUJ	**Union Juarez**	**3.27**	**116**	*e*P	Pn		21 08 10.6	+1.3
CHUJ				*e*S	Sn		21 08 49.8	+2.7
MGIG	**Malinaltepec**	**3.40**	**282**	*e*P	Pn		21 08 10.0	-0.9
MGIG				*e*S	Sn		21 08 49.1	-1.0
TLIG	**Tlapa**	**3.41**	**288**	*e*	Pn		21 08 59.4	+48
CRIG	**Cruz Grande**	**3.81**	**273**	*e*	Pn		21 09 08.8	+52
PPM	**Popocatepetl**	**4.15**	**308**	*e*			21 09 22.1	

*IDC **11** 21:10:35.0±2.6,5°93S×147°74E, h46km±28km, mb3.5/5, mbtmp3.8/7, ML4.3/1, Error ellipse: s-maj=52.4km s-min=14.3km az=112.0*
ISC 11 21:10:35.4±1.1,5°91S±0°10×147°8E±0°3, h50km, n8, σ1§11/11, mb3.6/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PMG	**Port Moresby**	**3.53**	**190**	P	**Pn**		**21 11 28.6**	**+0.9**
	34nm,0.7s,baz=17,slow=9.1,SNR=22							
PMG				S	**Sn**		**21 12 07.0**	**-1.3**
	60nm,0.5s,baz=169,slow=22,SNR=8.0							
WRA	**Warramunga Arr**	**19.10**	**222**	P	**P**		**21 14 53.2**	**-1.0**
	1.0nm,0.3s,baz=43,slow=12,SNR=31							
WRA				PcP	**PcP**		**21 19 17.9**	**+0.7**
	0.4nm,0.7s,baz=31,slow=1.8,SNR=1.5							
	2.2nm,0.4s							
ASAR	**Alice Springs**	**22.13**	**216**	P	**P**		**21 15 26.6**	**-0.4**
	3.6nm,0.5s,baz=51,slow=9.1,SNR=82							
ASAR				S	**S**		**21 19 28.4**	**+0.3**
	2.6nm,0.8s,baz=35,slow=21,SNR=14							
	3.6nm,0.5s							
STKA	**Stephens Creek**	**26.48**	**192**	P	**P**		**21 16 09.1**	**+1.1**
	1.7nm,0.7s,baz=0.0,slow=11,SNR=3.1							
	1.7nm,0.7s							
SONM	**Songino Array**	**64.69**	**330**	P	**P**		**21 21 09.9**	**+1.5**
	0.7nm,1.0s,baz=149,slow=5.9,SNR=2.7							
	0.7nm,1.0s							
MKAR	**Makanchi Array**	**77.91**	**320**	P	**P**		**21 22 27.0**	**-1.1**
	0.1nm,0.4s,baz=107,slow=7.6,SNR=1.2							
	0.1nm,0.4s							
ILAR	**Eielson Array**	**85.10**	**23**	P	**P**		**21 23 04.7**	**-1.0**
	0.2nm,0.5s,baz=258,slow=4.5,SNR=5.0							
	0.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**145.80**	**285**	PKPbc	**PKPdf**		**21 30 09.0**	**-0.5**
	0.4nm,0.5s,baz=66,slow=3.8,SNR=3.0							

*SJA **11** 21:20:35.3±0.7,23°.99S×66°.81W, h231km±4km, ML4.0, MW3.8*
*IDC **11** 21:20:36.6±1.1,23°.97S×66°.69W, h193km±11km, mb3.2/2, mbtmp3.8/8, Error ellipse: s-maj=19.0km s-min=15.8km az=24.0*
*NEIC **11** 21:20:36.9±1.2,23°.99S±0°.07×67°.0W±0°.1, h230km±7km, mb4.4/3, Error ellipse: s-maj=15.3km s-min=10.7km az=92.0*
ISC 11 21:20:36.7±0.7,24°.00S±0°.04×66°.88W±0°.05, h217km±7km, n69, σ1§07/91, mb3.7/3, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SLA	**San Lorenzo**	**1.44**	**120**	*e*P	**Pn**		**21 21 11.3**	**-0.3**
SLA				*e*S	**S**		**21 21 38.4**	**-0.4**
AF01	**San Pedro de A**	**1.58**	**311**	Pn	**Pn**		**21 21 14.2**	**+1.2**
AZAP	**Zapla**	**1.67**	**98**	*e*P	**Pn**		**21 21 13.3**	**-0.4**
YJA	**Yavi**	**2.21**	**35**	*e*P	**Pn**		**21 21 19.4**	**+0.3**
YJA				*e*S	**S**		**21 21 51.6**	**-0.2**
ASTB	**Santa Barbara**	**2.22**	**89**	*e*P	**Pn**		**21 21 18.7**	**-0.2**
FSA	**Cafayete**	**2.26**	**159**	*e*P	**Pn**		**21 21 19.3**	**0.0**
LVC	**Limon Verde**	**2.32**	**306**	Pn	**Pn**		**21 21 21.0**	**+0.8**
LVC	**Limon Verde**	**2.32**	**306**	*e*P	**Pn**		**21 21 21.1**	**+0.9**
LVC				*e*S	**S**		**21 21 54.4**	**+0.5**
LVC	**Limon Verde**	**2.32**	**306**	P	**Pn**		**21 21 21.2**	**+0.9**
	80nm,0.3s,baz=118,slow=6.2,SNR=266							
LVC				S	**S**		**21 21 53.4**	**-0.4**
	109nm,0.3s,baz=338,slow=16,SNR=21							
PB15	**IPOC Station P**	**2.51**	**288**	Pn	**Pn**		**21 21 23.0**	**+1.0**
PB15	**IPOC Station P**	**2.51**	**288**	*e*P	**Pn**		**21 21 23.0**	**+1.0**
PB15				*e*S	**S**		**21 21 57.9**	**+0.8**
GO02	**Mina Guanaco**	**2.73**	**244**	Pn	**Pn**		**21 21 25.6**	**+1.0**
GO02	**Mina Guanaco**	**2.73**	**244**	*e*P	**Pn**		**21 21 25.5**	**+1.0**
GO02				*e*S	**S**		**21 22 02.0**	**+0.4**
PB06	**IPOC Station P**	**2.79**	**297**	Pn	**Pn**		**21 21 25.4**	**+0.3**
PB06	**IPOC Station P**	**2.79**	**297**	*e*P	**Pn**		**21 21 26.0**	**+0.9**
PB06				*e*S	**S**		**21 22 02.4**	**-0.1**
PB06				IAML			21 22 03.8	
	comp=Z,511nm,0.1s							
PB09	**IPOC Station P**	**3.09**	**315**	Pn	**Pn**		**21 21 29.0**	**+0.5**
PB09	**IPOC Station P**	**3.09**	**315**	*e*P	**Pn**		**21 21 29.7**	**+1.1**
PB09				*e*S	**S**		**21 22 09.2**	**+0.4**
PB09				IAML			21 22 11.1	
	comp=Z,264nm,0.4s							
PB05	**IPOC Station P**	**3.26**	**290**	Pn	**Pn**		**21 21 30.9**	**+0.5**
PB05	**IPOC Station P**	**3.26**	**290**	*e*P	**Pn**		**21 21 30.9**	**+0.5**
PB05				*e*S	**S**		**21 22 11.3**	**-0.9**
PB05				IAML			21 22 13.6	
	comp=Z,175nm,0.3s							
PB14	**IPOC Station P**	**3.28**	**258**	Pn	**Pn**		**21 21 31.1**	**+0.3**
PB14	**IPOC Station P**	**3.28**	**258**	*e*P	**Pn**		**21 21 30.7**	**-0.1**
PB14				*e*S	**S**		**21 22 12.3**	**-0.6**
PB14				IAML			21 22 14.7	
	comp=Z,140nm,0.6s							
PB04	**IPOC Station P**	**3.44**	**298**	Pn	**Pn**		**21 21 32.8**	**+0.2**
PB04	**IPOC Station P**	**3.44**	**298**	*e*P	**Pn**		**21 21 33.2**	**+0.7**
PB04				*e*S	**S**		**21 22 14.9**	**-1.2**
PB04				IAML			21 22 18.7	
	comp=Z,372nm,0.1s							
PB07	**IPOC Station P**	**3.58**	**309**	Pn	**Pn**		**21 21 34.1**	**-0.1**
PB07	**IPOC Station P**	**3.58**	**309**	*e*P	**Pn**		**21 21 34.6**	**+0.4**
PB07				*e*S	**S**		**21 22 17.1**	**-2.0**
PB07				IAML			21 22 19.9	
	comp=Z,276nm,0.3s							
PB01	**IPOC Station P**	**3.80**	**320**	Pn	**Pn**		**21 21 36.8**	**-0.1**
PB01	**IPOC Station P**	**3.80**	**320**	*e*P	**Pn**		**21 21 37.1**	**+0.2**
PB01				*e*S	**S**		**21 22 22.8**	**-1.1**
PB01				IAML			21 22 25.9	
	comp=Z,150nm,0.1s							
PB02	**IPOC Station P**	**3.86**	**313**	Pn	**Pn**		**21 21 37.2**	**-0.3**
PB02	**IPOC Station P**	**3.86**	**313**	*e*P	**Pn**		**21 21 37.6**	**+0.1**
PB02				*e*S	**S**		**21 22 23.6**	**-1.5**
PB02				IAML			21 22 32.3	
	comp=Z,362nm,0.3s							
AC01	**Pan de Azucar**	**4.00**	**237**	Pn	**Pn**		**21 21 38.8**	**-0.3**
AC01	**Pan de Azucar**	**4.00**	**237**	*e*P	**Pn**		**21 21 38.9**	**-0.2**
AC01				*e*S	**S**		**21 22 25.9**	**-2.0**
AC01				IAML			21 22 26.8	
	comp=Z,72nm,0.3s							
PATCX	**Punta Patache**	**4.38**	**316**	Pn	**Pn**		**21 21 43.0**	**-0.9**
PATCX	**Punta Patache**	**4.38**	**316**	*e*P	**Pn**		**21 21 43.4**	**-0.5**
PATCX				*e*S	**S**		**21 22 35.2**	**-1.5**
PB08	**IPOC Station P**	**4.38**	**331**	Pn	**Pn**		**21 21 44.5**	**+0.3**
PB08	**IPOC Station P**	**4.38**	**331**	*e*P	**Pn**		**21 21 45.2**	**+1.0**
PB08				*e*S	**S**		**21 22 36.5**	**-0.6**
PB08				IAML			21 22 42.4	
	comp=Z,104nm,0.3s							
TA01	**Diego Aracena**	**4.58**	**318**	Pn	**Pn**		**21 21 45.6**	**-0.8**
TA01	**Diego Aracena**	**4.58**	**318**	*e*P	**Pn**		**21 21 46.4**	**0.0**
TA01				*e*S	**S**		**21 22 40.6**	**-0.5**
TA01				IAML			21 22 44.1	
	comp=Z,68nm,0.6s							
AC06	**Mina Casimiro**	**4.59**	**222**	Pn	**Pn**		**21 21 45.7**	**-0.6**
HMBC	**Humberstone**	**4.63**	**322**	*e*P	**Pn**		**21 21 46.4**	**-0.8**
HMBC				*e*S	**S**		**21 22 39.8**	**-2.7**
GO03	**Copiap**	**4.69**	**219**	Pn	**Pn**		**21 21 47.2**	**-0.5**
GO03	**Copiap**	**4.69**	**219**	*e*P	**Pn**		**21 21 47.5**	**-0.1**
GO03				*e*S	**S**		**21 22 42.5**	**-1.1**
TA02	**Huaiquique**	**4.78**	**320**	Pn	**Pn**		**21 21 48.6**	**-0.2**
GO01	**Chusmiza**	**4.81**	**333**	Pn	**Pn**		**21 21 49.1**	**-0.7**
GO01	**Chusmiza**	**4.81**	**333**	*e*P	**Pn**		**21 21 52.2**	**+2.4**
GO01				*e*S	**S**		**21 22 47.1**	**0.0**
PB11	**IPOC Station P**	**4.94**	**328**	Pn	**Pn**		**21 21 50.0**	**-1.0**
PB11	**IPOC Station P**	**4.94**	**328**	*e*P	**Pn**		**21 21 50.5**	**-0.6**
PB11				*e*S	**S**		**21 22 46.6**	**-3.0**
PB11				IAML			21 22 49.1	
	comp=Z,97nm,0.3s							
AC04	**Llanos de Chal**	**5.64**	**221**	Pn	**Pn**		**21 21 58.2**	**-1.4**
AC05	**El Transito**	**5.70**	**212**	Pn	**Pn**		**21 22 00.3**	**-0.2**
LCO	**Las Campanas**	**6.05**	**214**	Pn	**Pn**		**21 22 04.2**	**-1.0**
PB16	**IPOC Station P**	**6.14**	**336**	Pn	**Pn**		**21 22 06.5**	**-0.2**
PB12	**IPOC Station P**	**6.25**	**328**	Pn	**Pn**		**21 22 06.8**	**-0.8**
CO01	**Juntas del Tor**	**6.61**	**205**	Pn	**Pn**		**21 22 12.5**	**+0.2**
GO04	**Tololo Observa**	**7.07**	**209**	Pn	**Pn**		**21 22 16.6**	**-1.6**
CFA	**Coronel Fontan**	**7.67**	**189**	P	**Pn**		**21 22 25.6**	**-0.2**
	comp=Z,1.9nm,0.3s,baz=21,slow=14,SNR=8.5							
LPAZ	**La Paz**	**7.76**	**351**	Pn	**Pn**		**21 22 27.2**	**-0.4**
CPUP	**Villa Florida**	**8.96**	**107**	P	**Pn**		**21 22 40.8**	**-1.5**
	comp=Z,2.4nm,0.6s,baz=290,slow=13,SNR=4.7							
SIV	**San Ignacio**	**9.65**	**35**	P	**Pn**		**21 22 49.4**	**-2.0**
	comp=Z,0.9nm,0.4s,baz=233,slow=13,SNR=5.6							
PLCA	**Paso Flores**	**16.97**	**190**	Pn	**Pn**		**21 24 21.3**	**-0.5**
PLCA				IAmb	IAmb		21 24 30.2	
	comp=Z,3.0nm,0.8s							
PLCA	**Paso Flores**	**16.97**	**190**	P	**Pn**		**21 24 22.5**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=23,slow=14,SNR=4.1							
BDFB	**Brasilia**	**19.58**	**68**	P	**P**		**21 24 49.4**	**+0.6**
BDFB				IAmb	IAmb		21 24 50.7	
	comp=Z,14nm,0.7s							
BDFB	**Brasilia**	**19.58**	**68**	P	**P**		**21 24 49.3**	**+0.6**
	comp=Z,13nm,0.7s,baz=235,slow=12,SNR=18							
HBVL	**Hebbronville**	**59.33**	**327**	P	**P**		**21 30 13.9**	**-2.1**
HBVL				IAmb	IAmb		21 30 14.6	
	comp=Z,5.0nm,0.5s							
TORD	**Torodi Ar. Bea**	**76.46**	**69**	P	**P**		**21 32 03.4**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=260,slow=5.3,SNR=9.2							
	comp=Z,0.8nm,0.6s							
PDAR	**Pinedale Array**	**77.20**	**329**	P	**P**		**21 32 10.0**	**+3.1**
	comp=Z,0.2nm,0.5s,baz=135,slow=10,SNR=2.5							
	comp=Z,0.2nm,0.5s							
ASAR	**Alice Springs**	**128.50**	**205**	PKP	**PKiKP**		**21 39 20.8**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=169,slow=1.9,SNR=4.1							
WRA	**Warramunga Arr**	**131.68**	**207**	PKP	**PKiKP**		**21 39 27.4**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=159,slow=1.8,SNR=8.6							
ZALV	**Zalesovo Beam**	**143.34**	**28**	PKP	**PKPdf**		**21 39 45.0**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=316,slow=4.0,SNR=2.7							
MKAR	**Makanchi Array**	**146.45**	**40**	PKPbc	**PKiKP**		**21 39 55.2**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=306,slow=3.2,SNR=8.8							
PZH	**PanZhiHua**	**169.40**	**74**	PKP	**PKPdf**		**21 40 16.7**	**-2.0**

*VIE **11** 21:29:29.4±0.8, 45°.04N×14°.85E, h3km, mb2.6/9, ml2.8/17, Error ellipse: s-maj=4.9km s-min=3.0km az=1.0 48 km SE of Rijeka*
*PRU **11** 21:29:33.7, 45°.26N×14°.89E, h0km*
RHSSO 11 21:29:30.5±0.5, 45°.04N×14°.85E, h8km±2km, ML2.7/8, 4C-3D, Northwestern Balkan Peninsula

| Code |

	comp=Z,7.6nm,0.4s									
ABTA	**Abfaltersbach**	**2.36**	**317**	*e*Pn		Pn	21	30	10.8	+1.0
	comp=Z,4.1nm,0.3s									
ABTA				Sg		Sg	21	30	47.0	+0.6
	comp=Z,8.3nm,0.2s									
BIOA	**Bad Ischl, Aus**	**2.78**	**343**	*e*Pn		Pn	21	30	17.0	+1.6
	comp=Z,1.3nm,0.2s									
BIOA				Sn		Sn	21	30	51.9	+2.7
	comp=Z,12nm,0.4s									
LESA	**Schwarzleotal**	**2.82**	**328**	*e*Pn		Pn	21	30	18.0	+1.9
	comp=Z,2.7nm,0.3s									
MOA	**Molln**	**2.84**	**352**	*e*Pn		Pn	21	30	17.0	+0.8
	comp=Z,1.4nm,0.2s									
MOA				*e*Sn		Sn	21	30	52.8	+2.1
	comp=Z,9.0nm,0.4s									
RONA	**Rosalia, Austr**	**2.84**	**20**	*e*Pn		Pn	21	30	17.4	+1.1
	comp=Z,2.7nm,0.1s,SNR=5.2									
MORH	**Mrgy, Hungar**	**2.91**	**65**	*e*Pn		Pn	21	30	16.6	-0.5
MORH				*e*Sn		Sn	21	30	51.5	-0.8
CONA	**Conrad Observa**	**2.97**	**13**	*e*Pn		Pn	21	30	18.5	+0.4
	comp=Z,1.2nm,0.1s									
CONA				*e*Sn		Sn	21	30	53.9	-0.1
	comp=Z,2.0nm,0.2s									
WTTA	**Wattenberg**	**3.15**	**316**	*i* Pn		Pn	21	30	23.3	+2.6
	comp=Z,2.1nm,0.3s									
WTTA				*i* Sn		Sb	21	31	03.5	-2.0
	comp=Z,4.0nm,0.3s									
WATA	**Walderalm**	**3.23**	**316**	*i* Pn		Pn	21	30	24.8	+3.1
	comp=Z,1.3nm,0.2s									
WATA				*i* Sn		Sb	21	31	04.4	-3.4
	comp=Z,2.9nm,0.3s									
SQTA	**Sankt Quirin**	**3.34**	**312**	*i* Pn		Pn	21	30	25.4	+2.2
	comp=Z,1.9nm,0.2s									
SQTA				*i* Sn		Sn	21	31	04.6	+1.5
	comp=Z,2.2nm,0.2s									
MOTA	**Moosalm**	**3.48**	**313**	*i* Pn		Pn	21	30	27.8	+2.8
	comp=Z,1.0nm,0.2s									
MOTA				*i* Sn		Sn	21	31	09.2	+2.7
	comp=Z,1.5nm,0.2s									
FETA	**Feichten**	**3.49**	**306**	*i* Pn		Pn	21	30	28.2	+3.0
	comp=Z,1.8nm,0.4s									
FETA				*e*Sn		Sn	21	31	10.6	+3.8
	comp=Z,1.1nm,0.2s									
CKRC	**Cesky Krumlov**	**3.80**	**355**	*e*PN		Pn	21	30	30.5	+1.1
CKRC				*e*SN		Sn	21	31	11.8	-2.5
DAVA	**Damuels**	**4.12**	**305**	*i* Pn		Pn	21	30	36.4	+2.5
	comp=Z,0.6nm,0.1s									
DAVA				*i* Sn		Sn	21	31	26.8	+4.4
	comp=Z,3.6nm,0.3s									
KRUC	**Moravsky**	**4.16**	**14**	*e*PN		Pn	21	30	34.7	+0.4
KHC	**Kasperske Hory**	**4.18**	**348**	*e*PN		Pn	21	30	36.8	+2.1
KHC				*e*SN		Sn	21	31	22.3	-1.5
ZVC	**Zvikov**	**4.42**	**354**	*e*PN		Pn	21	30	38.9	+0.9
ZVC				*e*SN		Sn	21	31	27.7	-2.0
GOPC	**GO Pecny, Ondr**	**4.88**	**360**	*e*PN		Pn	21	30	44.1	-0.1
GOPC				*e*SN		Sn	21	31	39.8	-1.0
PRU	**Pruhonice**	**4.96**	**358**	*e*PN		Pn	21	30	45.5	+0.3
PRU				*e*SN		Sn	21	31	40.7	-2.0
NKC	**Novy Kostel**	**5.44**	**344**	*e*SN		Sn	21	31	51.0	-3.8

*IDC **11** 21:38:40.3±9.2, 7°.24S×129°.46E, h154km±96km, mb3.3/5, mbtmp3.8/8, Error ellipse: s-maj=86.0km s-min=25.2km az=37.0*

ISC 11 21:38:39.0±1.1, 7°.37S±0°.09×129°.6E±0°.1, h150km, n8, σ1°94/11, mb3.5/5, Bandas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.54**	**244**	P	**Pn**	**21 40 14.2**	**+1.2**
	6.3nm,0.3s,baz=73,slow=2.6,SNR=2.6						
BATI				S	**Sn**	**21 41 25.6**	**-1.0**
	9.9nm,0.3s,baz=93,slow=16,SNR=5.3						
WRA	**Warramunga Arr**	**13.31**	**160**	P	**Pn**	**21 41 43.8**	**+1.5**
	2.5nm,0.9s,baz=332,slow=14,SNR=21						
WRA				S	**Sn**	**21 44 07.4**	**-2.2**
	1.8nm,0.5s,baz=344,slow=20,SNR=9.4						
ASAR	**Alice Springs**	**16.72**	**166**	P	**Pn**	**21 42 28.1**	**+3.6**
	2.0nm,0.7s,baz=343,slow=9.5,SNR=21						
ASAR				S	**S**	**21 45 28.8**	**-1.8**
	0.3nm,0.4s,baz=348,slow=26,SNR=2.8						
CMAR	**Chiang Mai Arr**	**39.69**	**311**	P	**P**	**21 45 55.4**	**-1.5**
	0.6nm,0.6s,baz=140,slow=8.3,SNR=6.6						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**68.33**	**327**	P	**P**	**21 49 24.0**	**-0.1**
	0.8nm,0.4s,baz=124,slow=8.0,SNR=17						
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**71.75**	**334**	P	**P**	**21 49 43.2**	**-1.5**
	0.3nm,0.3s,baz=140,slow=9.1,SNR=2.2						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**72.63**	**329**	P	**P**	**21 49 50.2**	**+0.2**
	0.4nm,0.5s,baz=126,slow=4.7,SNR=5.6						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**78.18**	**328**	P	**P**	**21 50 21.9**	**+0.2**
	0.3nm,0.6s,baz=96,slow=4.3,SNR=2.1						
	0.3nm,0.6s						

*IDC **11** 22:13:36.2±1.8, 19°.56S×70°.96W, h0km, mb4.0/2, mbtmp3.8/4, ML3.5/2, MS3.8/2, Error ellipse: s-maj=54.5km s-min=35.9km az=49.0*

*GUC **11** 22:13:38.0±0.8, 19°.62S×71°.16W, h29km±3km, ML3.7*

ISC 11 22:13:35.1±3.6, 19°.68S±0°.03×71°.16W±0°.08, h4km±22km, n25, σ1°42/36, 9C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**1.13**	**121**	*e*P	**Pn**	**22 13 57.9**	**+0.1**
TA02				*i* S	**Sb**	**22 14 12.6**	**+0.3**
TA01	**Diego Aracena**	**1.27**	**134**	⇑*i*P	**Pn**	**22 13 60.0**	**+0.3**
TA01				*i* S	**Sb**	**22 14 14.7**	**-1.6**
TA01				IAML		22 14 22.0	
	comp=E,2μm,0.5s						
PB12	**IPOC Station P**	**1.32**	**37**	*e*P	**Pn**	**22 13 60.0**	**-0.5**
PB12				*i* S	**Sb**	**22 14 17.7**	**-0.1**
HMBC	**Humberstone**	**1.33**	**117**	⇑*i*P	**Pn**	**22 14 00.8**	**+0.1**
HMBC				*i* S	**Sn**	**22 14 18.3**	**-0.6**
HMBC				IAML		22 14 23.3	
	comp=N,1μm,0.4s						
PB11	**IPOC Station P**	**1.42**	**93**	⇑*i*P	**Pn**	**22 14 02.2**	**+0.3**
PB11				*i* S	**Sn**	**22 14 19.9**	**-1.1**
PB11				IAML		22 14 30.1	
	comp=E,2μm,0.6s						
PATCX	**Punta Patache**	**1.47**	**140**	⇑*i*P	**Pn**	**22 14 03.0**	**+0.4**
PATCX				*i* S	**Sn**	**22 14 19.5**	**-2.9**
AP01	**Chacalluta**	**1.51**	**31**	⇓*i*P	**Pn**	**22 14 01.7**	**-1.3**
AP01				*i* S	**Sn**	**22 14 20.9**	**-2.3**
AP01				IAML		22 14 35.2	
	comp=N,2μm,0.7s						
GO01	**Chusmiza**	**1.85**	**90**	⇑*i*P	**Pn**	**22 14 08.9**	**+0.7**
GO01				*i* S	**Sn**	**22 14 32.6**	**+0.4**
GO01				IAML		22 14 42.8	
	comp=N,1μm,0.4s						
PB08	**IPOC Station P**	**1.94**	**104**	⇑*i*P	**Pn**	**22 14 09.8**	**+0.5**
PB08				*i* S	**Sn**	**22 14 35.0**	**+0.7**
PB02	**IPOC Station P**	**2.01**	**144**	⇑*i*P	**Pn**	**22 14 10.7**	**+0.7**
PB02				*i* S	**Sn**	**22 14 33.9**	**-1.8**
PB02				IAML		22 14 43.4	
	comp=E,1μm,0.5s						
PB16	**IPOC Station P**	**2.06**	**50**	⇑*i*P	**Pn**	**22 14 12.1**	**+1.1**
PB16				*i* S	**Sn**	**22 14 37.9**	**+0.4**
PB16				IAML		22 14 46.5	
	comp=N,487nm,0.5s						
PB01	**IPOC Station P**	**2.07**	**131**	⇑*i*P	**Pn**	**22 14 11.8**	**+1.0**
PB01				*i* S	**Sn**	**22 14 35.4**	**-1.7**
PB01				IAML		22 14 49.1	
	comp=N,506nm,0.6s						
PB07	**IPOC Station P**	**2.36**	**150**	*e*P	**Pn**	**22 14 15.4**	**+0.6**
PB07				*i* S	**Sn**	**22 14 46.9**	**+2.5**
PB07				IAML		22 15 00.7	
	comp=E,366nm,0.6s						
PB18	**Visviri**	**2.62**	**38**	*e*P	**Pb**	**22 14 22.3**	**-0.7**
PB18				*i* S	**Sn**	**22 14 51.2**	**-0.1**
PB18				IAML		22 15 14.9	
	comp=E,682nm,0.7s						
PB04	**IPOC Station P**	**2.80**	**161**	*e*P	**Pn**	**22 14 21.1**	**+0.2**
PB04				*i* S	**Sn**	**22 14 51.6**	**-3.7**
PB04				IAML		22 15 15.1	
	comp=N,329nm,0.6s						
LVC	**Limon Verde**	**3.59**	**145**	Pn	**Pn**	**22 14 33.8**	**+1.8**
	comp=N,3.7nm,0.3s,baz=334,slow=11,SNR=12						
LVC				Sn	**Sn**	**22 15 12.6**	**-2.4**
	comp=N,4.9nm,0.3s,baz=94,slow=21,SNR=6.6						
	comp=N,8.0nm,0.3s						
SIV	**San Ignacio**	**10.28**	**71**	Pn	**Pn**	**22 16 03.9**	**+0.3**
	baz=247,slow=11,SNR=7.1						
	comp=N,1.1nm,0.4s						
H03N1	**Juan Fernandez**	**15.35**	**205**	T	T	22 33 18.2	
	baz=31,slow=71,SNR=15						
H03N2	**Juan Fernandez**	**15.36**	**205**	T	T	22 33 16.8	
	baz=31,slow=71,SNR=9.6						
H03N3	**Juan Fernandez**	**15.37**	**205**	T	T	22 33 14.4	
	baz=31,slow=71,SNR=8.2						
RCBR	**Riachuelo**	**36.94**	**73**	LR	LR	22 36 51.6	
	comp=N,65nm,18.9s,baz=62,slow=38						
TORD	**Torodi Ar. Bea**	**78.76**	**72**	P	**P**	**22 25 39.1**	**-0.4**
	comp=N,1.1nm,0.6s,baz=256,slow=5.2,SNR=9.2						
	comp=N,1.1nm,0.6s						
YKA	**Yellowknife Ar**	**88.79**	**341**	P	**P**	**22 26 31.3**	**+1.5**
	comp=N,0.3nm,0.4s,baz=134,slow=4.9,SNR=8.6						
	comp=N,0.3nm,0.4s						
RAO	**Raoul Island**	**94.28**	**237**	LR	LR	22 59 01.2	
	comp=N,77nm,19.8s,baz=120,slow=29						
MKAR	**Makanchi Array**	**145.32**	**33**	PKPbc	**PKPdf**	**22 33 15.3**	**+0.9**
	comp=N,0.7nm,0.8s,baz=331,slow=4.3,SNR=4.1						

*SOF **11** 22:15:09.6, 45°.62N×26°.35E, h144km, MD3.7*
*SIGU **11** 22:15:11.7, 45°.49N×26°.39E, h136km, mb3.4*
*IDC **11** 22:15:12.8±5.7, 45°.61N×27°.08E, h168km±117km, mb3.2/1, mbtmp3.4/4, Error ellipse: s-maj=136.2km s-min=38.4km az=82.0*
*BUC **11** 22:15:12.5±0.2, 45°.47N×26°.38E, h128km±2km, ml3.9/74, Error ellipse: s-maj=1.6km s-min=1.3km az=166.0*
*BEO **11** 22:15:21.5±0.4, 45°.20N×25°.25E, h13km±9km, ML2.8/8*

ISC 11 22:15:11.8±0.9, 45°.48N±0°.02×26°.35E±0°.02, h138km±4km, n122, σ1°32/223, 123C-46D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEHR	**Nehoiu**	**0.07**	**216**	⇑P	**Pn**	**22 15 30.8**	**+0.3**
NEHR				⇑P	**Pn**	**22 15 30.8**	**+0.3**
NEHR				⇓S	**Sn**	**22 15 44.4**	**-0.2**
NEHR				⇓S	**Sn**	**22 15 44.4**	**-0.2**
MLR	**Muntele Rosu**	**0.29**	**272**	⇑P	**Pn**	**22 15 31.2**	**+0.2**
MLR				⇑P	**Pn**	**22 15 31.2**	**+0.2**
MLR				⇑S	**Sn**	**22 15 44.7**	**-0.8**
MLR				⇑S	**Sn**	**22 15 44.7**	**-0.8**
MLR	**Muntele Rosu**	**0.29**	**272**	*e*Pg	**Pn**	**22 15 31.2**	**+0.2**
MLR				*e*Sg	**Sn**	**22 15 42.5**	**-3.0**
COVR	**Voineasa-Covas**	**0.38**	**344**	⇑P	**Pn**	**22 15 31.0**	**-0.2**
COVR				⇑P	**Pn**	**22 15 31.0**	**-0.2**
COVR				⇑S	**Sn**	**22 15 45.0**	**-1.0**
COVR				⇑S	**Sn**	**22 15 45.0**	**-1.0**
PLOR	**Plostina**	**0.42**	**29**	⇑P	**Pn**	**22 15 31.4**	**-0.1**
PLOR				⇑P	**Pn**	**22 15 31.4**	**-0.1**
PLOR				⇓S	**Sn**	**22 15 45.7**	**-0.6**
PLOR				⇓S	**Sn**	**22 15 45.7**	**-0.6**
VRI	**Vrincioaia**	**0.47**	**34**	⇑P	**Pn**	**22 15 31.7**	**+0.1**
VRI				⇑P	**Pn**	**22 15 31.7**	**+0.1**
VRI				⇑S	**Sn**	**22 15 45.7**	**-1.0**
VRI				⇑S	**Sn**	**22 15 45.7**	**-1.0**
TURR	**Turia**	**0.62**	**338**	⇑P	**Pn**	**22 15 32.5**	**0.0**
TURR				⇑P	**Pn**	**22 15 32.5**	**0.0**
TURR				⇑S	**Sn**	**22 15 47.4**	**-0.9**
TURR				⇑S	**Sn**	**22 15 47.4**	**-0.9**
PANC	**Panciu**	**0.68**	**55**	⇑P	**Pn**	**22 15 33.3**	**+0.5**
PANC				⇓S	**Sn**	**22 15 49.2**	**+0.4**
PGOR	**Pogoanele**	**0.73**	**142**	⇑P	**Pn**	**22 15 33.8**	**+0.6**
PGOR				⇑S	**Sn**	**22 15 50.5**	**+1.2**
OZUR		**0.73**	**327**	⇑P	**Pn**	**22 15 33.0**	**-0.3**
OZUR				⇑P	**Pn**	**22 15 33.0**	**-0.3**
OZUR				⇑S	**Sn**	**22 15 48.0**	**-1.6**
OZUR				⇑S	**Sn**	**22 15 48.0**	**-1.6**
BOSR	**Bodos**	**0.77**	**321**	⇑P	**Pn**	**22 15 33.3**	**-0.2**
BOSR				⇑P	**Pn**	**22 15 33.3**	**-0.2**
BOSR				⇑S	**Sn**	**22 15 48.7**	**-1.3**
BOSR				⇑S	**Sn**	**22 15 48.7**	**-1.3**
SULR		**0.81**	**185**	⇑P	**Pn**	**22 15 34.4**	**+0.7**
SULR				⇑P	**Pn**	**22 15 34.4**	**+0.7**
SULR				⇑S	**Sn**	**22 15 51.1**	**+0.7**
SULR				⇑S	**Sn**	**22 15 51.1**	**+0.7**
DOPR	**Dopca**	**0.83**	**306**	⇓P	**Pn**	**22 15 33.9**	**-0.1**
DOPR				⇓S	**Sn**	**22 15 49.7**	**-1.2**
VOIR		**0.92**	**268**	⇑P	**Pn**	**22 15 34.8**	**0.0**
VOIR				⇑P	**Pn**	**22 15 34.8**	**0.0**
VOIR				⇑S	**Sn**	**22 15 50.8**	**-1.4**
VOIR				⇑S	**Sn**	**22 15 50.8**	**-1.4**
TUDR		**0.93**	**83**	⇑P	**Pn**	**22 15 34.5**	**-0.3**
TUDR				⇑P	**Pn**	**22 15 34.5**	**-0.3**
TUDR				⇑S	**Sn**	**22 15 51.1**	**-1.2**
TUDR				⇑S	**Sn**	**22 15 51.1**	**-1.2**
GHRR		**0.94**	**52**	⇑P	**Pn**	**22 15 35.3**	**+0.5**
GHRR				⇑P	**Pn**	**22 15 35.3**	**+0.5**
GHRR				⇑S	**Sn**	**22 15 51.9**	**-0.5**
GHRR				⇑S	**Sn**	**22 15 51.9**	**-0.5**
MTUR	**Matau**	**0.94**	**255**	⇓P	**Pn**	**22 15 35.3**	**+0.3**
IZVR	**Izvoarele**	**1.00**	**86**	⇑P	**Pn**	**22 15 34.9**	**-0.4**
IZVR				⇑P	**Pn**	**22 15 34.9**	**-0.4**
IZVR				⇑S	**Sn**	**22 15 51.5**	**-1.8**
IZVR				⇑S	**Sn**	**22 15 51.5**	**-1.8**
SLCR	**Slobozia Conac**	**1.00**	**83**	⇑P	**Pn**	**22 15 35.1**	**-0.3**
SLCR				⇑P	**Pn**	**22 15 35.1**	**-0.3**
SLCR				⇑S	**Sn**	**22 15 51.9**	**-1.4**
SLCR				⇑S	**Sn**	**22 15 51.9**	**-1.4**
SCHL	**Schela**	**1.04**	**88**	⇑P	**Pn**	**22 15 35.5**	**-0.3**
SCHL				⇓S	**Sn**	**22 15 52.2**	**-1.7**
SCHLR	**Schela**	**1.04**	**90**	⇓P	**Pn**	**22 15 35.5**	**-0.2**
SCHLR				⇓S	**Sn**	**22 15 52.2**	**-1.7**
INCR	**INCERC-Sediu C**	**1.05**	**187**	⇓P	**Pn**	**22 15 36.3**	**+0.5**
INCR				⇓S	**Sn**	**22 15 54.2**	**+0.1**
TESR	**Tescani**	**1.05**	**11**	⇑P	**Pn**	**22 15 35.7**	**-0.2**
TESR				⇑P	**Pn**	**22 15 35.7**	**-0.2**
TESR				⇓S	**Sn**	**22 15 52.4**	**-1.9**
TESR				⇓S	**Sn**	**22 15 52.4**	**-1.9**
LEHL	**Lehliu**	**1.06**	**162**	⇑P	**Pn**	**22 15 36.5**	**+0.5**
LEHL				⇓S	**Sn**	**22 15 54.6**	**+0.3**
NEGRR	**Negrea**	**1.07**	**86**	⇑P	**Pn**	**22 15 36.2**	**+0.1**
NEGRR				⇓S	**Sn**	**22 15 53.4**	**-1.1**
CIOR	**Ciorogarla**	**1.09**	**198**	⇓P	**Pn**	**22 15 36.6**	**+0.4**
CIOR				⇓S	**Sn**	**22 15 54.7**	**0.0**
AMRR	**Amara**	**1.12**	**141**	⇑P	**Pn**	**22 15 36.9**	**+0.4**
AMRR				⇑S	**Sn**	**22 15 55.2**	**0.0**
VARL	**Varlezi**	**1.13**	**68**	⇑P	**Pn**	**22 15 36.7**	**+0.1**
VARL				⇑S	**Sn**	**22 15 54.8**	**-0.6**
BUC1	**Bucharest**	**1.16**	**192**	⇑P	**Pn**	**22 15 37.4**	**+0.5**
BUC1				⇑S	**Sn**	**22 15 55.9**	**0.0**
STFAR	**Stefanesti-Arg**	**1.16**	**238**	⇑S	**Sn**	**22 15 56.8**	**+0.7**
SCTR	**Scanteiesti**	**1.17**	**80**	⇑P	**Pn**	**22 15 37.3**	**+0.4**
SCTR				⇑P	**Pn**	**22 15 37.3**	**+0.4**
SCTR				⇓S	**Sn**	**22 15 55.4**	**-0.8**
SCTR				⇓S	**Sn**	**22 15 55.4**	**-0.8**
BIR	**Birlad**	**1.19**	**48**	⇑P	**Pn**	**22 15 37.4**	**+0.3**
BIR				⇑S	**Sn**	**22 15 54.9**	**-1.6**
GISR	**Galati**	**1.20**	**91**	⇑P	**Pn**	**22 15 37.5**	**+0.3**
GISR				⇓S	**Sn**	**22 15 56.0**	**-0.6**
TATR	**Tatarca**	**1.20**	**84**	⇑P	**Pn**	**22 15 37.6**	**+0.3**
TATR				⇑S	**Sn**	**22 15 56.0**	**-0.7**
ARR	**Arges**	**1.22**	**265**	⇓P	**Pn**	**22 15 37.9**	**+0.3**
ARR				⇓S	**Sn**	**22 15 57.0**	**-0.2**
SGRR	**Singureni**	**1.29**	**192**	⇑P	**Pn**	**22 15 38.5**	**+0.3**
SGRR				⇑S	**Sn**	**22 15 57.6**	**-0.6**
CFR	**Carcaliu**	**1.29**	**103**	⇓P	**Pn**	**22 15 38.1**	**-0.1**
CFR				⇓S	**Sn**	**22 15 56.5**	**-1.8**
GIUM	**Giurgiulesti**	**1.31**	**89**	⇑P	**Pn**	**22 15 38.7**	**+0.3**
GIUM				⇑S	**Sn**	**22 15 58.2**	**-0.4**
GIUM	**Giurgiulesti**	**1.31**	**89**	P	**Pn**	**22 15 38.6**	**+0.3**
GIUM				S	**Sn**	**22 15 58.2**	**-0.4**
HUMR	**Humele**	**1.36**	**226**	⇓P	**Pn**	**22 15 39.2**	**+0.2**
HUMR				⇓S	**Sn**	**22 15 59.4**	**-0.3**
HARR	**Harsova**	**1.37**	**125**	⇑P	**Pn**	**22 15 39.2**	**+0.1**
BIZ	**Bicaz**	**1.47**	**353**	⇑S	**Sn**	**22 16 01.8**	**+0.1**
TLBR	**Topalu**	**1.52**	**127**	⇑P	**Pn**	**22 15 40.9**	**+0.2**
TLBR				⇑S	**Sn**	**22 16 01.1**	**-1.6**
RMVG	**GOVORA**	**1.53**	**254**	⇑S	**Sn**	**22 16 03.7**	**+0.9**
MDB	**Medias**	**1.53**	**296**	⇑P	**Pn**	**22 15 41.6**	**+0.9**
VASR	**Vaslui**	**1.53**	**40**	⇑P	**Pn**	**22 15 40.9**	**+0.1**
VASR				⇑S	**Sn**	**22 16 01.7**	**-1.3**
COPA	**Copaceanca**	**1.57**	**211**	⇓P	**Pn**	**22 15 41.5**	**+0.3**
COPA				⇓S	**Sn**	**22 16 02.6**	**-1.0**
TPGR	**Topolog**	**1.59**	**112**	⇑P	**Pn**	**22 15 41.2**	**-0.2**
TPGR				⇑S	**Sn**	**22 16 02.4**	**-1.7**
LEOM	**Leova**	**1.65**	**52**	⇑P	**Pn**	**22 15 42.2**	**+0.1**
LEOM				⇑S	**Sn**	**22 16 04.0**	**-1.3**
LEOM	**Leova**	**1.65**	**52**	P	**Pn**	**22 15 42.2**	**+0.1**
CVDA	**Cernavoda**	**1.66**	**133**	⇑P	**Pn**	**22 15 42.5**	**+0.2**
CVDA				⇓S	**Sn**	**22 16 04.1**	**-1.3**
ICOR	**Ion Corvin**	**1.71**	**142**	⇑P	**Pn**	**22 15 43.4**	**+0.6**
ICOR				⇑S	**Sn**	**22 16 05.6**	**-0.8**
TLCR		**1.76**	**99**	⇓P	**Pn**	**22 15 43.5**	**+0.1**
TLCR				⇑S	**Sn**	**22 16 06.7**	**-0.8**
TIRR	**Tirgusor**	**1.79**	**124**	⇑P	**Pn**	**22 15 43.8**	**+0.1**
TIRR				⇑S	**Sn**	**22 16 05.9**	**-2.0**
LOT	**Lotru**	**1.82**	**270**	⇑P	**Pn**	**22 15 44.3**	**+0.1**
LOT				⇓S	**Sn**	**22 16 08.9**	**0.0**
IAS	**Iasi**	**1.90**	**25**	⇑P	**Pn**	**22 15 45.4**	**+0.4**
RAZG	**Razgrad**	**1.92**	**177**	⇓P	**Pn**	**22 15 45.6**	**+0.3**
RAZG				⇑S	**Sn**	**22 16 09.6**	**-1.2**
ZIMR		**1.96**	**201**	⇓P	**Pn**	**22 15 46.0**	**+0.3**
ZIMR				⇑S	**Sn**	**22 16 11.6**	**-1.0**
MFTR	**Murfatlar**	**1.97**	**131**	⇑P	**Pn**	**22 15 45.9**	**+0.1**
MFTR				⇑S	**Sn**	**22 16 10.5**	**-1.3**
VLAD	**Vladila**	**2.03**	**224**	⇓P	**Pn**	**22 15 46.6**	**+0.1**
VLAD				⇓S	**Sn**	**22 16 11.9**	**-1.3**
TSCT	**Constanta Port**	**2.11**	**128**	⇓P	**Pn**	**22 15 47.7**	**+0.3**
TSCT				⇓S	**Sn**	**22 16 13.5**	**-1.3**
LOZB	**Loznitsa**	**2.12**	**175**	⇑P	**Pn**	**22 15 47.9**	**+0.3**
LOZB				⇑S	**Sn**	**22 16 13.8**	**-1.3**
EFOR	**EFORIE**	**2.15**	**130**	⇑P	**Pn**	**22 15 48.3**	**+0.3**
EFOR				⇓S	**Sn**	**22 16 14.8**	**-0.8**
SZH	**Strazhitsa**	**2.23**	**187**	P	**Pn**	**22 15 49.4**	**+0.3**
MILM	**Milestii Mici**	**2.23**	**49**	⇓*i*P	**Pn**	**22 15 48.9**	**-0.1**
	160nm,0.1s						
MILM				*e*S	**Sn**	**22 16 14.7**	**-2.8**
	820nm,0.1s						
MILM	**Milestii Mici**	**2.23**	**49**	⇓P	**Pn**	**22 15 49.0**	**-0.1**
MILM	**Milestii Mici**	**2.23**	**49**	P	**Pn**	**22 15 48.9**	**-0.1**
MILM				Pm		22 15 49.9	
MILM				*e*S	**Sn**	**22 16 14.7**	**-2.8**
MILM				Sm		22 16 14.8	
MILM				m		22 16 16.4	
PSN	**Preselentsi**	**2.24**	**145**	P	**Pn**	**22 15 49.6**	**+0.5**
BURAR	**Bucovina Array**	**2.27**	**340**	⇑P	**Pn**	**22 15 51.6**	**+2.0**
CJR	**Cluj-Napoca**	**2.28**	**304**	⇑P	**Pn**	**22 15 50.7**	**+1.0**
KIS	**Kishinev**	**2.29**	**48**	⇓*i*P	**Pn**	**22 15 49.7**	**+0.1**
	280nm,0.1s						
KIS				*e*S	**Sn**	**22 16 16.0**	**-2.7**
	640nm,0.2s						
KIS	**Kishinev**	**2.29**	**48**	⇓P	**Pn**	**22 15 49.7**	**+0.1**
KIS	**Kishinev**	**2.29**	**48**	P	**Pn**	**22 15 49.7**	**+0.1**
KIS				Pm		22 15 49.9	
KIS				*e*S	**Sn**	**22 16 16.0**	**-2.7**
KIS				Sm		22 16 16.1	
KIS				m		22 16 17.0	
MANR	**Mangalia**	**2.31**	**135**	⇓P	**Pn**	**22 15 50.3**	**+0.3**
SRE	**Strehaia**	**2.38**	**251**	⇓P	**Pn**	**22 15 50.8**	**0.0**
PLVB	**Pleven**	**2.43**	**211**	⇓P	**Pn**	**22 15 51.8**	**+0.3**
PRD	**Provadia**	**2.44**	**162**	P	**Pn**	**22 15 52.0**	**+0.4**
DEV	**Deva**	**2.45**	**281**	⇓P	**Pn**	**22 15 52.3**	**+0.6**
PVL	**Pavlikeni**	**2.51**	**200**	P	**Pn**	**22 15 52.5**	**+0.1**
GZR	**Gura Zlata**	**2.52**	**269**	⇓P	**Pn**	**22 15 52.9**	**+0.3**
GZR	**Gura Zlata**	**2.52**	**269**	*e*Pg	**Pn**	**22 15 52.7**	**+0.1**
ELND	**Elena**	**2.58**	**188**	⇓P	**Pn**	**22 15 53.8**	**+0.5**
ELND				⇑S	**Sn**	**22 16 25.8**	**+0.6**
BAIL	**Bailesti**	**2.59**	**237**	⇓P	**Pn**	**22 15 53.6**	**+0.1**
BAIL

SSBA	**Shishaldin**	**3.23**	**293**			Pn	22 20 10.3	0.0
WECS	**Westdahl Cape**	**3.53**	**287**			Pn	22 20 14.8	+0.2
SII	**Sitkinak Islan**	**4.02**	**41**	Pn		Pn	22 20 22.1	+0.8
AKUT	**Akutan**	**4.05**	**280**	Pn		Pn	22 20 19.5	-2.1
AKUT				IAML			22 20 53.5	
	comp=N,140nm,3.6s							
AKBBA	**Akutan Broad B**	**4.14**	**279**			Pn	22 20 23.3	+0.4
ZRO	**Akutan Zero**	**4.17**	**279**			Pn	22 20 23.3	0.0
R17K	**Ugashik Creek**	**4.28**	**19**	Pn		Pn	22 20 23.6	-1.1
R17K				IAML			22 21 02.8	
	comp=N,59nm,3.5s							
R17K				IAML			22 21 11.6	
	comp=E,56nm,3.6s							
UNV	**Unalaska Valle**	**4.47**	**276**	Pn		Pn	22 20 25.9	-1.5
MNAT	**Makushin Natee**	**4.58**	**276**			Pn	22 20 27.9	-1.0
MAPS	**Pakushin South**	**4.73**	**275**			Pn	22 20 30.0	-0.9
OHAK	**Old Harbor**	**4.84**	**40**	Pn		Pn	22 20 30.4	-2.0
OHAK				IAML			22 22 11.3	
	comp=E,70nm,3.7s							
ANCK	**Angle Creek**	**4.98**	**22**			Pn	22 20 33.8	-0.7
P16K	**Nushagak River**	**5.44**	**5**			Pn	22 20 40.4	-0.3
KAHG	**Katmai Hook Gl**	**5.47**	**25**			Pn	22 20 40.6	-0.6
KDAK	**Kodiak Island**	**5.51**	**38**	Pn		Pn	22 20 39.7	-1.9
O14K	**Tigyukauivet M**	**5.77**	**348**	Pn		Pn	22 20 44.6	-0.7
O16K	**Kokwok River B**	**5.99**	**4**	Pn		Pn	22 20 47.5	-0.8
Q19K	**Cape Douglas,**	**6.08**	**27**	Pn		Pn	22 20 50.4	+0.9
O18K	**Koktuh Hills**	**6.57**	**17**	Pn		Pn	22 20 55.5	-0.7
N15K	**Kwethluk River**	**6.58**	**355**	Pn		Pn	22 20 55.8	-0.5
N18K	**Kilae Creek**	**7.26**	**12**	Pn		Pn	22 21 04.7	-1.0
M14K	**Bethel**	**7.32**	**348**	Pn		Pn	22 21 04.9	-1.5
M16K	**Timber Creek**	**7.41**	**0**	Pn		Pn	22 21 07.0	-0.7
N19K	**Bonanza Creek**	**7.60**	**17**	Pn		Pn	22 21 09.9	-0.5
M17K	**Holitna River**	**7.83**	**5**	Pn		Pn	22 21 12.8	-0.7
L14K	**Kuka Creek**	**7.98**	**347**	Pn		Pn	22 21 14.4	-1.1
L16K	**Owhat River**	**8.10**	**358**	Pn		Pn	22 21 15.0	-2.2
M20K	**Styx River**	**8.84**	**18**	Pn		Pn	22 21 27.6	+0.2
L19K	**White Mountain**	**8.85**	**13**	Pn		Pn	22 21 26.8	-0.6
K17K	**Iditarod**	**9.11**	**2**	Pn		Pn	22 21 30.8	-0.3
KNK	**Knik Glacier**	**9.62**	**32**	Pn		Pn	22 21 36.2	-1.9
FID	**Port Fidalgo**	**9.83**	**39**	Pn		Pn	22 21 38.1	-2.7
SML	**Sawmill**	**9.96**	**30**	Pn		Pn	22 21 41.8	-1.0
SCM	**Sheep Creek Mo**	**10.30**	**32**	Pn		Pn	22 21 45.7	-1.7
KLU	**Klutina**	**10.53**	**36**	Pn		Pn	22 21 49.6	-0.9
N25K	**Chitina, Valde**	**11.08**	**38**	Pn		Pn	22 21 57.6	-0.5
RND	**Reindeer**	**11.12**	**24**	Pn		Pn	22 21 57.2	-1.4
GLB	**Gilahina Butte**	**11.27**	**40**	Pn		Pn	22 21 59.8	-0.9
TGL	**Tana Glacier**	**11.28**	**44**	Pn		Pn	22 21 59.4	-1.4
ISLE	**Juniper Island**	**11.40**	**46**	Pn		Pn	22 22 01.6	-0.9
GRNC	**Granite Creek**	**11.72**	**46**	Pn		Pn	22 22 06.5	-0.4
TABL	**Table Mountain**	**11.84**	**48**	Pn		Pn	22 22 08.0	-0.6
IL31		**12.74**	**24**	Pn		Pn	22 22 18.4	-2.1
ILAR	**Eielson Array**	**12.74**	**24**	Pn		Pn	22 22 18.4	-2.2
P29M	**Windy Craggy**	**13.11**	**54**	Pn		Pn	22 22 25.1	-0.6
M29M	**Somme Creek**	**13.94**	**43**	Pn		Pn	22 22 36.5	-0.6
I26K	**Coal Creek Min**	**14.14**	**28**	Pn		Pn	22 22 37.6	-2.1
EGAK	**Eagle**	**14.35**	**32**	Pn		Pn	22 22 40.6	-2.0
L29M	**L29M**	**14.41**	**41**	Pn		Pn	22 22 41.0	-2.4
WHY	**Whitehorse**	**14.79**	**52**	Pn		Pn	22 22 48.6	0.0
K29M	**Barlow Dome**	**15.04**	**39**	Pn		Pn	22 22 51.1	-0.8
G27K	**Doyon Strip**	**15.68**	**26**	P		P	22 23 05.3	+1.3
G27K				IAmb		IAmb	22 23 10.9	
	comp=Z,3.8nm,1.2s							
H29M	**Whitestone**	**16.19**	**31**	Pn		Pn	22 23 07.2	+0.5
C23K	**Itkillik River**	**16.70**	**10**	Pn		Pn	22 23 11.5	-1.7
C23K				IAmb		IAmb	22 23 28.2	
	comp=Z,7.1nm,1.2s							
F28M	**Old Crow**	**16.74**	**26**			Pn	22 23 14.0	+0.2
F28M				IAmb		IAmb	22 23 24.6	
	comp=Z,7.8nm,1.5s							
G29M	**Pine Creek**	**16.75**	**29**	P		P	22 23 18.1	+2.2
G29M				IAmb		IAmb	22 23 30.9	
	comp=Z,8.0nm,1.1s							
G30M	**tAoh Zraii Nji**	**17.34**	**31**	Pn		Pn	22 23 20.4	-0.9
E29M	**Blow River**	**17.82**	**26**			P	22 23 28.8	+1.1
G31M	**Satah River**	**17.91**	**32**			Pn	22 23 27.9	-0.3
G31M				IAmb		IAmb	22 24 00.9	
	comp=Z,9.9nm,1.4s							
INK	**Inuvik**	**18.97**	**29**	P		Pn	22 23 41.3	+0.1
INK				IAmb		IAmb	22 24 11.8	
	comp=Z,6.2nm,1.4s							

*IDC **11** 22:26:40.6±1.0,29.°11S×178.°50W, h0km, mb3.7/3, mbtmp3.9/4, ML3.9/1, MS3.3/4, Error ellipse: s-maj=50.3km s-min=16.2km az=9.0*

ISC 11 22:26:41.7±1.0,**28.°9S**±0.°1×**178.°55W**±0.°09,**h10**km,**n11,** σ1°**77**/**11**,**mb3.5**/3,**MS3.6**/3,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.65**	**122**	Pn	**Pn**	**22 26 55.0**	**-2.0**
	394nm,0.3s,baz=20,slow=19,SNR=7.7						
RAO				Sn	**Sn**	**22 27 09.6**	**+2.3**
	994nm,0.3s,baz=107,slow=23,SNR=16						
URZ	**Urewera**	**10.00**	**200**	Sn			
	0.9nm,0.3s,baz=321,slow=15,SNR=2.1						
DZM	**Mont Dzumac**	**15.16**	**293**	LR	LR	22 33 50.7	
	comp=Z,27nm,21.0s,baz=82,slow=28						
RPZ	**Rata Peaks**	**16.96**	**207**	Pn	**Pn**	**22 30 36.7**	**-2.4**
	0.5nm,0.3s,baz=15,slow=19,SNR=2.0						
	10nm,1.0s						
CTA	**Charters Tower**	**33.11**	**277**	LR	LR	22 45 59.6	
	comp=Z,119nm,18.4s,baz=84,slow=35						
STKA	**Stephens Creek**	**34.37**	**255**	P	**P**	**22 33 30.4**	**+1.4**
	1.9nm,0.8s,baz=113,slow=6.7,SNR=4.0						
STKA				LR	LR	22 46 50.6	
	comp=Z,60nm,18.7s,baz=25,slow=35						
	1.9nm,0.8s						
ASAR	**Alice Springs**	**42.73**	**266**	P	**P**	**22 34 38.5**	**-0.8**
	0.3nm,0.4s,baz=96,slow=7.0,SNR=5.1						
ASAR				LR	LR	22 52 24.8	
	comp=Z,70nm,18.8s,baz=127,slow=36						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**43.58**	**271**	P	**P**	**22 34 45.3**	**-0.9**
	0.6nm,0.7s,baz=109,slow=8.0,SNR=3.0						
WRA				PcP	**PcP**	**22 36 36.1**	**+2.3**
	0.6nm,0.9s,baz=127,slow=5.1,SNR=2.9						
	0.6nm,0.7s						
AKASG	**Malin Array Be**	**149.82**	**324**	PKPbc	**PKiKP**	**22 46 32.4**	**-0.3**
	1.2nm,0.6s,baz=42,slow=3.4,SNR=6.8						
MMAI	**Mount Meron Ar**	**150.68**	**287**	PKPbc	**PKiKP**	**22 46 35.5**	**+0.4**
	0.4nm,0.3s,baz=98,slow=4.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**164.31**	**181**	PKPab	**PKPab**	**22 47 40.2**	**+0.1**
	0.3nm,0.6s,baz=181,slow=3.9,SNR=2.2						

*ISN **11** 22:45:09.8±0.8,34.°65N×45.°49E, h24km±5km, ML3.4*
*TEH **11** 22:45:10.5,34.°60N×45.°56E, h8km±44km, ML3.3*

ISC 11 22:45:10.9±1.2,**34.°57N**±0.°03×**45.°57E**±0.°04,**h10**km±8km,
n21,σ1°**16**/**27**,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.06**	**166**	Pg	**Pg**	**22 45 13.3**	**+0.3**
IDHR	**Dehrash**	**0.69**	**79**	Pg	**Pb**	**22 45 23.8**	**-1.3**
IDHR				Sg	**Sb**	**22 45 34.5**	**-0.2**
IGHG	**Ghaleghazi**	**0.86**	**106**	Pg	**Pb**	**22 45 27.7**	**-0.3**
IGHG				Sg	**Sn**	**22 45 42.0**	**-0.1**
ILBA	**Ilam Banvizeh**	**1.08**	**150**	Pg	**Pg**	**22 45 30.9**	**-0.7**
ILIN	**Lien**	**1.20**	**73**	Pg	**Pn**	**22 45 33.6**	**-0.4**
ILIN				Sg	**Sn**	**22 45 50.3**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.25**	**103**	Pg	**Pn**	**22 45 35.0**	**+0.4**
IBDR	**Badra**	**1.48**	**168**	*e*Pg	**Pn**	**22 45 38.0**	**+0.3**
IBDR				*e*Sg	**Sn**	**22 45 59.0**	**+1.9**
IBDR				AML	AML	22 46 04.2	
	comp=E,578nm,0.7s						
IBDR				AML	AML	22 46 10.9	
	comp=N,570nm,0.6s						
SDS1	**Sardasht. Az.**	**1.58**	**358**	Pg	**Pg**	**22 45 40.4**	**-0.8**
BHD	**Baghdad**	**1.63**	**218**	*e*Pn	**Pn**	**22 45 39.0**	**-0.6**
BHD				*e*Sn	**Sn**	**22 46 01.0**	**+0.3**
BHD				AML	AML	22 46 06.5	
	comp=E,541nm,0.8s						
IKOM	**Komasi**	**1.65**	**103**	Pg	**Pg**	**22 45 41.8**	**-0.8**
IKFM	**Kafar-mosalman**	**2.16**	**118**	Pn	**Pb**	**22 45 48.8**	**-1.2**
MAHB	**Mahabad**	**2.20**	**3**	Pn	**Pb**	**22 45 49.5**	**-1.3**
RAFI	**Al-Rafai**	**2.87**	**171**	*e*Pn	**Pn**	**22 45 58.0**	**+1.2**
RAFI				*e*Sn	**Sn**	**22 46 32.0**	**+0.6**
IAZR	**Azarshahr**	**3.12**	**6**	Pn	**Pn**	**22 46 02.2**	**+1.8**
QSDN	**Sirdan**	**3.52**	**56**	Pn	**Pn**	**22 46 07.7**	**+1.9**
ISRB	**Sarab**	**3.67**	**27**	Pn	**Pn**	**22 46 09.0**	**+1.2**
GRMI	**Germi**	**4.63**	**23**	Pn	**Pn**	**22 46 22.9**	**+1.9**
ZNGN	**Zangian**	**5.05**	**117**	Pn	**Pn**	**22 46 27.6**	**+0.6**
IKLH	**Kolahrood**	**5.15**	**102**	Pn	**Pn**	**22 46 29.6**	**+1.3**
ISFB	**Sefidab**	**5.51**	**90**	Pn	**Pn**	**22 46 34.6**	**+1.4**
KLNJ	**Kolanjah**	**6.19**	**123**	Pn	**Pn**	**22 46 44.1**	**+1.4**

*IDC **11** 22:57:34.9±5.1, 14.°30N×93.°73W, h0km, mb3.4/3, mbtmp3.4/5, ML3.5/2, MS3.3/2, Error ellipse: s-maj=86.3km s-min=48.6km az=176.0*
*SNET **11** 22:57:48.9±1.1, 15.°49N×93.°64W, h15km, ML4.2*
*MEX **11** 22:57:50.0±1.3, 15.°16N×93.°74W, h38km±40km, MD4.2*
*GCG **11** 22:58:08.8±3.0, 14.°77N×92.°31W, h0km, MD4.0*

ISC 11 22:57:45.4±1.2,**15.°15N**±0.°04×**93.°75W**±0.°03,**h30**km±11km,
n45,σ2°**47**/**63**,**mb3.5**/3,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.76**	**43**	*i* P	**Pn**	**22 58 02.2**	**+2.1**
PCIG				*e*S	**Sn**	**22 58 11.8**	**+1.3**
CARR	**Arriaga**	**1.11**	**352**	*i* P	**Pb**	**22 58 06.9**	**+0.9**
CARR				*i* S	**Sb**	**22 58 20.5**	**+0.4**
THIG		**1.45**	**99**	*e*P	**Pb**	**22 58 11.9**	**0.0**
THIG				*e*S	**Sn**	**22 58 28.2**	**+0.5**
PATR	**El Naranjo**	**1.46**	**91**	*i* P	**Pb**	**22 58 12.0**	**-0.2**
PATR				*i* S	**Sb**	**22 58 29.5**	**-1.1**
PAVE	**Pavencul**	**1.52**	**88**	*i* P	**Pb**	**22 58 13.3**	**+0.1**
PAVE				*i* S	**Sb**	**22 58 31.4**	**-0.7**
CHUJ	**Union Juarez**	**1.59**	**92**	*e*P	**Pb**	**22 58 13.5**	**-0.8**
CHUJ				*i* S	**Sb**	**22 58 33.3**	**-0.8**
NILT	**Santiago Nilte**	**1.64**	**330**	*i* P	**Pb**	**22 58 14.4**	**-0.7**
NILT				*i* S	**Sn**	**22 58 33.3**	**+1.0**
TGIG		**1.73**	**20**	*e*P	**Pb**	**22 58 16.0**	**-0.6**
TGIG				*e*S	**Sn**	**22 58 32.0**	**-2.7**
TGBT	**Tuxtla Gutierr**	**1.74**	**21**	*e*P	**Pb**	**22 58 18.0**	**+1.2**
TGBT				*e*S	**Sn**	**22 58 34.6**	**-0.2**
SMSP	**San Marcos**	**1.91**	**95**	*e*P	**Pb**	**22 58 17.0**	**+0.8**
SMSP				*e*S	**Sn**	**22 58 38.2**	**-1.2**
CCIG	**Comitan**	**1.92**	**54**	*e*P	**Pb**	**22 58 18.4**	**-1.5**
CCIG				*e*S	**Sn**	**22 58 37.3**	**-2.3**
RTAL	**Retalhuleu**	**2.08**	**107**	*e*P	**Pb**	**22 58 21.1**	**-1.4**
RTAL				*e*S	**Sn**	**22 58 43.7**	**+0.5**
STG3	**Santiaguito 3,**	**2.15**	**101**	*e*P	**Pb**	**22 58 22.9**	**-1.0**
HUEH	**Huehuetenango**	**2.18**	**85**	*e*P	**Pb**	**22 58 24.4**	**+0.1**
HUEH				*e*S	**Sb**	**22 58 50.2**	**-0.7**
HUEH				IAML		22 59 00.8	
	comp=Z,2μm,0.3s						
HUEH	**Huehuetenango**	**2.18**	**85**	*i* P	**Pb**	**22 58 24.1**	**-0.2**
HUEH				*e*S	**Sb**	**22 58 50.3**	**-0.7**
UXUV	**UXUV**	**2.19**	**350**	*e*P	**Pb**	**22 58 23.1**	**-1.3**
UXUV				*e*S	**Sn**	**22 58 47.2**	**+1.2**
CMIG	**Matias Romero**	**2.22**	**331**	Pn	**Pn**	**22 58 22.4**	**+2.1**
	comp=Z,8.7nm,0.3s,baz=168,slow=15,SNR=50						
CMIG				Sn	**Sn**	**22 58 46.3**	**-0.4**
	comp=Z,24nm,0.3s,baz=156,slow=12,SNR=13						
CMIG				LR	LR	22 59 26.5	
	comp=Z,135nm,20.6s,baz=128,slow=37						
	comp=Z,17nm,0.3s						
CMIG	**Matias Romero**	**2.22**	**331**	*e*P	**Pn**	**22 58 22.3**	**+2.0**
CMIG				*e*S	**Sn**	**22 58 46.2**	**-0.4**
SULM	**Suchitepequez,**	**2.27**	**111**	*e*P	**Pb**	**22 58 25.2**	**-0.6**
HUIG	**Huatulco**	**2.36**	**286**	*e*	**Pn**	**22 58 23.7**	**+1.6**
HUIG				*e*		22 58 46.1	
FUG	**Fuego 3**	**2.90**	**103**	*e*P	**Pb**	**22 58 39.8**	**+3.3**
NEUV	**Arroyo Zacate**	**3.22**	**323**	*e*P	**Pn**	**22 58 36.0**	**+1.9**
NEUV				*e*S	**Sn**	**22 59 12.1**	**+0.6**
NBG	**Las Nubes**	**3.34**	**99**	*e*P	**Pb**	**22 58 43.2**	**-0.9**
PEIG	**Puerto Escondi**	**3.38**	**285**	*e*P	**Pn**	**22 58 37.2**	**+0.9**
PEIG				*e*S	**Sn**	**22 59 14.5**	**-0.9**
VHO	**Vista Hermosa**	**3.45**	**304**	*e*P	**Pn**	**22 58 40.2**	**+2.9**
VHO				*e*S	**Sn**	**22 59 16.5**	**-0.8**
PMUV	**Sontecomapan**	**3.63**	**339**	*e*	**Sn**	**22 59 22.4**	**+0.9**
YOIG	**Yosondua**	**4.03**	**295**	*e*S	**Sn**	**22 59 37.7**	**+6.0**
NUBE	**Las Nubes**	**4.04**	**107**	*e*P	**Pn**	**22 58 50.0**	**+4.6**
NUBE				IAML		22 59 42.6	
	comp=Z,105nm,0.3s						
CEVE	**Cerro Verde**	**4.21**	**108**	*e*P	Pn	22 58 53.0	+5.2
CEVE				*e*S	**Sb**	**22 59 44.7**	**-4.7**
CEVE				IAML		22 59 50.5	
	comp=Z,767nm,0.4s						
PNIG	**Pinotepa**	**4.39**	**287**	*e*	**Sn**	**22 59 37.5**	**-2.9**
JAYA	**Jayaque - finc**	**4.42**	**109**	IAML		22 59 57.4	
	comp=Z,288nm,0.4s						
SCIG	**Sabancuy**	**4.52**	**32**	*e*S	**Sn**	**22 59 40.8**	**-2.7**
HLIG	**Huajuapan de L**	**4.72**	**305**	*e*	**Sn**	**22 59 47.6**	**-1.0**
TPIG	**Tehuac#an**	**4.75**	**314**	*e*	**Sn**	**22 59 47.0**	**-2.4**
FTIG	**Fresnillo de T**	**5.02**	**304**	*e*	**Sn**	**22 59 48.6**	**-7.4**
TLIG	**Tlapa**	**5.21**	**298**	*e*	**Sn**	**22 59 55.0**	**-5.7**
CRIG	**Cruz Grande**	**5.41**	**288**	*e*	**Sn**	**23 00 00.6**	**-4.9**
DAIG	**Los Arroyos**	**5.97**	**289**	*e*	Sn	23 00 11.3	-8.0
PPM	**Popocatepetl**	**6.08**	**311**	*e*	Pn	22 59 08.9	-4.9
PLIG	**Platanillo**	**6.39**	**301**	*e*	**Sn**	**23 00 23.4**	**-6.2**
TEIG	**Tepich**	**7.26**	**45**	Pn	**Pn**	**22 59 31.7**	**+2.1**
	comp=Z,106nm,0.3s,baz=339,slow=7.8,SNR=14						
TEIG				Sn	**Sn**	**23 00 46.6**	**-4.4**
	comp=Z,46nm,0.3s,baz=207,slow=21,SNR=1.6						
TEIG				LR	LR	23 02 52.9	
	comp=Z,784nm,19.1s,baz=174,slow=40						
TXAR	**Lajitas Array**	**16.83**	**329**	P	**P**	**23 01 43.0**	**+2.1**
	baz=151,slow=12,SNR=7.1						
	comp=Z,0.6nm,0.8s						
NVAR	**Mina Array Bea**	**31.72**	**322**	P	**P**	**23 04 07.4**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=138,slow=9.5,SNR=2.2						
	comp=Z,0.5nm,0.8s						
YKA	**Yellowknife Ar**	**49.54**	**347**	P	**P**	**23 06 32.1**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=156,slow=7.0,SNR=4.3						
	comp=Z,0.4nm,0.8s						
ILAR	**Eielson Array**	**61.13**	**337**	P	**P**	**23 07 56.4**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=125,slow=7.9,SNR=2.7						
	comp=Z,0.4nm,0.9s						

*IDC **11** 22:59:36.9±5.4, 14.°68S×167.°23E, h108km±46km, mb3.5/6, mbtmp3.8/7, MS3.1/2, Error ellipse: s-maj=37.1km s-min=34.0km az=154.0*
*NEIC **11** 22:59:40.2±1.3, 15.°05S±0.°1×167.°5E±0.°2, h122km±8km, mb4.2/12, Error ellipse: s-maj=23.9km s-min=15.4km az=110.0*

ISC 11 22:59:39.0±0.8,**14.°8S**±0.°1×**167.°4E**±0.°1,**h129**km,**n30,**
σ1°**05**/**29**,**mb4.1**/**11**,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**5.91**	**181**	Pn	**Pn**	**23 01 03.4**	**-0.9**
KOUNC	**Koumac, New Ca**	**6.41**	**207**	Pn	**Pn**	**23 01 10.4**	**-0.6**
DZM	**Mont Dzumac**	**7.25**	**187**	Pn	**Pn**	**23 01 21.9**	**-0.6**
DZM	**Mont Dzumac**	**7.25**	**187**	P	**Pn**	**23 01 22.4**	**-0.1**
	13nm,0.5s,baz=6.8,slow=14,SNR=38						
DZM				LR	LR	23 03 54.0	
	comp=Z,37nm,20.6s,baz=261,slow=35						
ONTNC	**Ouen Toro**	**7.48**	**187**	Pn	**Pn**	**23 01 23.9**	**-1.6**
OUENC	**Ouen Island, N**	**7.56**	**184**	Pn	**Pn**	**23 01 25.8**	**-0.7**
PINNC	**Pines Island,**	**7.73**	**180**	Pn	**Pn**	**23 01 27.7**	**-1.1**
HNR	**Honiara**	**9.05**	**306**	LR	LR	23 04 57.5	
	comp=Z,437nm,18.6s,baz=168,slow=36						
EIDS	**Eidsvold**	**18.54**	**233**		**Pn**	**23 03 47.2**	**-0.3**
BKZ	**Black Stump Fm**	**25.52**	**163**	P	**P**	**23 04 55.9**	**+0.3**
BKZ				IAmb	IAmb	23 04 57.2	
	comp=Z,4.9nm,0.5s						
MRZ	**Mangatainoka R**	**26.70**	**166**	P	**P**	**23 05 05.3**	**-0.8**
LTZ	**Lake Taylor**	**28.16**	**172**	P	**P**	**23 05 19.6**	**+0.4**
STKA	**Stephens Creek**	**29.02**	**230**	P	**P**	**23 05 27.8**	**+0.9**
STKA	**Stephens Creek**	**29.02**	**230**	P	**P**	**23 05 27.8**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=26,slow=8.9,SNR=5.4						
	comp=Z,1.0nm,0.4s						
TOO	**Toolangi**	**29.84**	**217**	P	**P**	**23 05 35.4**	**+1.2**
TOO				IAmb	IAmb	23 06 03.8	
	comp=Z,4.4nm,1.0s						
WB0	**Warramunga Arr**	**31.86**	**256**	P	**P**	**23 05 53.5**	**+1.4**
WB0				IAmb	IAmb	23 06 07.4	
	comp=Z,4.2nm,1.1s						
WRA	**Warramunga Arr**	**31.92**	**256**	P	**P**	**23 05 53.8**	**+1.2**
WRA	**Warramunga Arr**	**31.92**	**256**	P	**P**	**23 05 50.7**	**-1.9**
	comp=Z,0.5nm,0.9s,baz=86,slow=8.2,SNR=3.5						
	comp=Z,0.5nm,0.9s						
ASAR	**Alice Springs**	**32.75**	**249**	P	**P**	**23 05 57.9**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=79,slow=9.1,SNR=2.3						
	comp=Z,0.3nm,0.4s						
BBOO	**Buckleboo**	**33.61**	**232**	P	**P**	**23 06 06.6**	**-0.6**
BBOO				IAmb	IAmb	23 06 24.1	
	comp=Z,5.9nm,1.1s						
VNDA	**Vanda**	**62.75**	**181**	P	**P**	**23 09 50.8**	**+0.7**
VNDA				IAmb	IAmb	23 09 52.4	
	comp=Z,2.1nm,0.8s						
VNDA	**Vanda**	**62.75**	**181**	P	**P**	**23 09 50.9**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=8.1,slow=6.5,SNR=6.8						
	comp=Z,1.4nm,0.7s						
SBA	**Scott Base**	**63.03**	**180**	P	**P**	**23 09 53.6**	**+1.7**
QSPA	**South Pole Qui**	**75.19**	**180**	P	**P**	**23 11 07.7**	**+0.4**
QSPA				IAmb	IAmb	23 11 08.8	
	comp=Z,5.8nm,0.9s						
ILAR	**Eielson Array**	**86.59**	**18**	P	**P**	**23 12 06.8**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=241,slow=5.0,SNR=1.9						
	comp=Z,0.4nm,0.9s						
MKAR	**Makanchi Array**	**97.37**	**316**	P	**P**	**23 12 57.7**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=93,slow=6.6,SNR=2.1						
	comp=Z,0.2nm,0.5s						
ARCES	**ARCESS Array B**	**120.39**	**345**	PKP	**PKiKP**	**23 18 14.8**	**+0.1**
	comp=Z,3.6nm,0.9s,baz=79,slow=1.8,SNR=7.1						
ELL	**Elmali**	**136.40**	**308**	PKPdf	**PKPdf**	**23 18 45.1**	**-1.0**
TIP	**Timpagrande**	**144.61**	**319**		**PKPdf**	**23 19 00.1**	**-0.6**
BNI	**Bardonecchia**	**145.75**	**335**	PKPdf	**PKPab**	**23 19 04.8**	**+1.0**

*IDC **11** 23:19:15.1±2.2, 1.°25N×126.°55E, h0km, mb3.2/3, mbtmp3.2/3, MS3.2/1, Error ellipse: s-maj=183.6km s-min=27.6km az=65.0*
*DJA **11** 23:19:24.1±0.4, 1.°N±3.°×12.°7E±.°, h10km, M3.4/6, MLv3.4/6*

ISC 11 23:19:17.0±1.5,**1.°5N**±0.°1×**126.°6E**±0.°1,**h10**km,**n7,**σ1°**86**/**7,**
mb3.2/3,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.00**	**133**	P	**Pn**	**23 19 37.5**	**+0.4**
TNTI				S	**Sg**	**23 19 49.4**	**+0.1**
LBMI	**Labuha**	**2.26**	**157**	P	**Pg**	**23 20 01.1**	**+0.8**
SANI	**Sanana**	**3.54**	**190**	P	**Pb**	**23 20 20.2**	**+0.4**
LEM	**Lembang**	**20.69**	**246**	LR	LR	23 33 42.7	
	comp=Z,80nm,19.6s,baz=158,slow=42						
WRA	**Warramunga Arr**	**22.57**	**161**	P	**P**	**23 24 14.3**	**-3.4**
	0.3nm,0.4s,baz=339,slow=10,SNR=6.3						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**25.96**	**165**	P	**P**	**23 24 48.8**	**-1.1**
	0.3nm,0.6s,baz=346,slow=11,SNR=3.2						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**59.36**	**326**	P	**P**	**23 29 20.1**	**+0.6**
	0.2nm,0.5s,baz=115,slow=7.9,SNR=4.2						
	0.2nm,0.5s						

*NOU **11** 23:20:33.4, 37.°43S×178.°70E, h74km, MLv4.2/10, Off E. Coast of N. Island, N.Z.*
*WEL **11** 23:20:40.3±0.5, 37.°5S±4.°×17.°8E±.°, h36km±6km, M3.5/32, ML3.8/34, MLv3.5/32, Error ellipse: s-maj=0.0km s-min=0.0km az=60.8, confirmed*

ISC 11 23:20:41.3±2.5,**37.°50S**±0.°06×**177.°93E**±0.°05,**h39**km±2km,
n113, σ1°**44**/**126**,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**0.28**	**204**	P	**Pn**	**23 20 49.6**	**+0.2**
HAZ				S	**Sn**	**23 20 57.5**	**+1.6**
MXZ	**Matakaoa Point**	**0.30**	**103**	P	**Pn**	**23 20 49.1**	**-0.4**
MXZ				S	**Sn**	**23 20 57.0**	**+1.0**
PKGZ	**Pakihiroa**	**0.41**

POWZ	Post Office Ro	3.35	210	P	Pn	23 21 29.1	-1.9
LREZ	Lake Rotokare	3.39	234	P	Pn	23 21 32.7	+1.0
PRWZ	Pori Road	3.41	206	P	Pn	23 21 29.8	-2.2
BFZ	Birch Farm	3.44	202	P	Pn	23 21 29.0	-3.3
BFZ	Birch Farm	3.44	202	P	Pn	23 21 29.1	-3.3
NEZ	North Egmont	3.50	238	P	Pn	23 21 35.6	+2.5
PKE	Pukeiti	3.53	240	P	Pn	23 21 36.6	+3.0
KHEZ	Kahui Hut	3.56	239	P	Pn	23 21 36.0	+2.0
KHEZ	Kahui Hut	3.56	239	P	Pn	23 21 36.1	+2.0
TIWZ	Tintock	3.64	205	P	Pn	23 21 32.9	-2.2
NBEZ	Newall Road No	3.65	240	P	Pn	23 21 37.0	+1.9
MRZ	Mangatainoka R	3.65	209	P	Pn	23 21 32.3	-2.9
CPWZ	Castlepoint	3.66	201	P	Pn	23 21 32.2	-3.2
OGWZ	Otaki Gorge	3.95	212	P	Pn	23 21 36.9	-3.0
OUZ	Omahuta	4.17	302	P	Pn	23 21 42.7	+0.3
OUZ	Omahuta	4.17	302	P	Pn	23 21 42.7	+0.3
SNZO	South Karori	4.55	212	P	Pn	23 21 46.1	-1.5
QRZ	Quartz Range	5.36	230	P	Pn	23 21 56.0	-2.6
KHZ	Kahutara	5.96	213	P	Pn	23 22 03.0	-3.9
CTZ	Chatham Island	7.48	148	P	Pn	23 22 26.3	-1.5

*DJA **11** 23:41:42.4±1.5, 19°N±6″×14°6E±°, h91km±14km, M5.2/36, mB5.8/6, mb5.0/36, Mw(mB)5.4/6*
*IDC **11** 23:41:54.4±0.6, 18°.40N×145°.62E, h196km±5km, mb3.9/20, mbtmp4.4/21, Error ellipse: s-maj=13.7km s-min=7.6km az=95.0*
*NEIC **11** 23:41:55.0±1.0, 18°.37N±0°.07×145°.6E±0°.1, h187km±7km, mb4.5/270, Error ellipse: s-maj=15.7km s-min=10.8km az=94.0*

ISC 11 23:41:55.4±0.3, **18°.35N**±0°.04×**145°.58E**±0°.07, **h200**km, **n552**, σ0°.74/561, **mb4.5**/5/168, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	Guam	4.78	188	P	Pn		Pn	23 43 06.6	-0.5
GUMO							Sn	23 44 04.0	+0.4
GUMO	Guam	4.78	188	P	Pn		Pn	23 43 05.7	-1.4
	46nm,0.3s,baz=272,slow=19,SNR=2.3								
GUMO					S		Sn	23 44 00.9	-2.7
	192nm,0.3s,baz=147,slow=24,SNR=6.5								
PATS	Pohnpei	16.88	131				Pn	23 45 40.4	0.0
JOW	Kunigami	18.05	301	P			Pn	23 45 53.4	-0.7
JOW	Kunigami	18.05	301	P			Pn	23 45 53.8	-0.3
	21nm,0.5s,baz=124,slow=7.7,SNR=4.4								
MJAR	Matsushiro Arr	19.25	342	P			Pn	23 46 06.0	-2.1
	3.6nm,0.6s,baz=166,slow=8.7,SNR=8.1								
JMM	Marumori	19.89	349	P			P	23 46 12.2	+0.7
H11S3	WAKE ISLAND Hy	20.03	86	T			T	00 07 29.6	
	baz=275,slow=74,SNR=2.4								
H11S1	WAKE ISLAND Hy	20.04	86	T			T	00 07 29.7	
	baz=275,slow=74,SNR=3.9								
H11S2	WAKE ISLAND Hy	20.05	86	T			T	00 07 32.6	
	baz=275,slow=74,SNR=4.0								
MANU	Manus Island	20.34	175	P			P	23 46 16.7	+0.2
MANU	Manus Island	20.34	175	P			P	23 46 16.8	+0.2
JAY	Jayapura	21.28	194	P			P	23 46 24.8	-1.7
	27nm,0.9s								
SMPI	Sarmi	21.31	199	P			P	23 46 25.7	-1.1
	48nm,1.1s,4μm								
KAVG	Kavieng	21.43	166	P			P	23 46 30.9	+2.9
GENI	Genyem	21.48	195	P			P	23 46 27.6	-1.0
	100nm,0.6s								
SWI	Sorong	23.72	218	P			P	23 46 50.0	+0.5
	22nm,0.6s								
TABU	Tabubil	23.86	191	P			P	23 46 52.0	+1.2
KSRS	Korea Array	24.53	324	P			P	23 46 56.7	+0.2
	1.1nm,0.6s,baz=150,slow=10.0,SNR=2.2								
KSRS					pP		pP	23 47 35.1	+0.8
	3.0nm,0.8s,baz=158,slow=9.2,SNR=4.2								
	1.1nm,0.6s								
PMG	Port Moresby	27.62	177	P			P	23 47 23.0	-1.5
	15nm,0.6s,baz=14,slow=16,SNR=3.4								
	15nm,0.6s								
SANI	Sanana	27.98	226	P			P	23 47 34.7	+7.0
MPSI	Mapaga	30.93	237	P			P	23 47 54.4	+0.6
	8.3nm,1.0s								
KKM	Kota Kinabalu	31.13	251	P			P	23 47 56.9	+1.2
COEN	Coen	32.19	184	P			P	23 48 04.5	-0.2
COEN					IAmb		IAmb	23 48 04.7	
	comp=Z,10nm,0.6s								
BBSI	Bau Bau	32.80	226	P			P	23 48 12.0	+1.9
	comp=Z,23nm,0.8s								
TTSI	Tana Toraja	33.10	233	P			P	23 48 14.0	+1.3
	comp=Z,45nm,0.8s								
KDU	Kakadu	33.44	204	P			P	23 48 15.5	-0.1
SPSI	Sidrap Palu	33.74	231	P			P	23 48 18.9	+0.7
	comp=Z,24nm,0.9s								
MTN	Manton Dam	34.12	206	P			P	23 48 21.6	+0.3
MTN	Manton Dam	34.12	206	P			P	23 48 21.9	+0.5
BKSI	Bulukumba	34.40	229	P			P	23 48 24.6	+0.7
	comp=Z,11nm,0.7s								
KAPI	Kappang	34.46	230	P			P	23 48 24.8	+0.4
	comp=Z,7.4nm,0.2s,baz=76,slow=4.2,SNR=2.4								
	comp=Z,7.4nm,0.2s								
SOEI	Soe	34.96	219	P			P	23 48 27.9	-0.9
SOEI					IAmb		IAmb	23 48 39.6	
	comp=Z,18nm,0.7s								
SOEI	Soe	34.96	219	P			P	23 48 34.4	+5.6
	comp=Z,24nm,0.8s								
SOEI	Soe	34.96	219	P			P	23 48 28.2	-0.6
MMRI	Maumere	35.35	223	P			P	23 48 31.6	-0.4
	comp=Z,20nm,0.6s								
BATI	Baumata	35.68	219	P			P	23 48 34.0	-0.8
	comp=Z,34nm,0.6s								
BATI	Baumata	35.68	219	P			P	23 48 34.4	-0.5
	comp=Z,27nm,0.5s,baz=18,slow=3.2,SNR=5.7								
	comp=Z,27nm,0.5s								
EDFI	Ende, Flores	35.79	223	P			P	23 48 35.0	-0.9
	comp=Z,6.9nm,0.6s								
PEA0B	Petropavlovsk-	35.95	12	P			P	23 48 36.5	-0.2
PEA0B					IAmb		IAmb	23 48 44.6	
	comp=Z,31nm,1.3s								
PETK	Petropavlovsk-	35.95	12	P			P	23 48 36.8	+0.1
PETK	Petropavlovsk-	35.95	12	P			P	23 48 36.4	-0.3
	comp=Z,2.4nm,0.6s,baz=191,slow=6.8,SNR=2.2								
	comp=Z,2.4nm,0.6s								
MTSU	Mount Surprise	36.28	182	P			P	23 48 41.1	+1.3
	comp=Z,9.6nm,0.6s								
SBUM	Sibu	36.30	248				P	23 48 41.7	+1.5
SBUM					IAmb		IAmb	23 48 42.4	
	comp=Z,8.3nm,0.5s								
KNRA	Kununurra	37.65	207	P			P	23 48 52.4	+1.0
KNRA	Kununurra	37.65	207	P			P	23 48 52.4	+1.0
CTA	Charters Tower	38.21	179	P			P	23 48 56.5	+0.5
	comp=Z,4.0nm,0.4s,baz=359,slow=10,SNR=6.6								
	comp=Z,4.0nm,0.4s								
CTAO	Charters Tower	38.21	179	P			P	23 48 57.2	+1.2
CTAO					IAmb		IAmb	23 49 26.6	
	comp=Z,14nm,1.2s								
PLAI	Plampang	38.50	228	P			P	23 48 58.8	+0.2
	comp=Z,20nm,1.0s								
TWSI	Taliwang, Sumb	39.07	229	P			P	23 49 03.0	-0.3
	comp=Z,36nm,0.9s								
QIS	Mount Isa	39.11	189	P			P	23 49 03.9	+0.4
WB0	Warramunga Arr	39.44	197	P			P	23 49 06.6	+0.3
WR0	Warramunga Arr	39.58	196	P			P	23 49 07.8	+0.3
WRAB	Tennant Creek	39.61	197	P			P	23 49 06.9	-0.7
WB2	Warramunga Arr	39.62	197	P			P	23 49 08.1	+0.3
WRA	Warramunga Arr	39.62	197	P			P	23 49 06.6	-1.2
WRA	Warramunga Arr	39.62	197	P			P	23 49 08.2	+0.5
	comp=Z,44nm,0.8s,baz=20,slow=9.1,SNR=103								
WRA					ScP		ScP	23 54 38.8	-1.7
	comp=Z,1.9nm,0.8s,baz=13,slow=4.2,SNR=9.1								
WRA					S		S	23 54 56.1	+0.3
	comp=Z,0.6nm,0.8s,baz=20,slow=18,SNR=3.9								
PZH	PanZhiHua	41.16	289	P			P	23 49 21.3	+0.7
PZH					pmax		pmax		
	comp=Z,10.0nm,0.5s								
PZH					pmax		pmax		
	comp=Z,140nm,6.9s								
FITZ	Fitzroy Crossi	41.18	210	P			P	23 49 21.5	+1.0
FITZ	Fitzroy Crossi	41.18	210	P			P	23 49 21.5	+1.0
AS31	Alice Springs	43.29	196	P			P	23 49 37.4	-0.1
AS31					IAmb		IAmb	23 49 40.8	
	comp=Z,5.8nm,0.5s								
ASAR	Alice Springs	43.29	196	P			P	23 49 37.3	-0.3
ASAR	Alice Springs	43.29	196	P			P	23 49 37.8	+0.2
	comp=Z,10nm,0.7s,baz=25,slow=8.5,SNR=76								
ASAR					PP		PP	23 51 18.6	-4.0
	comp=Z,1.1nm,0.6s,baz=32,slow=8.8,SNR=2.1								
ASAR					ScP		ScP	23 54 53.8	-1.4
	comp=Z,1.2nm,0.8s,baz=20,slow=3.6,SNR=7.5								
ASAR					S		S	23 55 49.1	-0.7
	comp=Z,1.1nm,0.9s,baz=22,slow=22,SNR=6.2								
	comp=Z,10nm,0.7s								
UGM	Wanagama	43.33	236	P			P	23 49 38.6	+0.5
SONM	Songino Array	43.34	322	P			P	23 49 37.7	-0.2
SONM	Songino Array	43.34	322	P			P	23 49 37.0	-0.9
	comp=Z,0.8nm,0.7s,baz=140,slow=7.5,SNR=6.1								
	comp=Z,0.8nm,0.7s								
EIDS	Eidsvold	43.79	173	P			P	23 49 41.8	+0.3
EIDS					IAmb		IAmb	23 50 05.8	
	comp=Z,18nm,1.3s								
CMAR	Chiang Mai Arr	44.15	278	P			P	23 49 45.4	+0.8
	comp=Z,0.9nm,0.3s,baz=66,slow=7.6,SNR=7.6								
	comp=Z,0.9nm,0.3s								
ADK	Adak	44.67	33	P			P	23 49 49.0	+0.9
QLP	Quilpie	44.68	182	P			P	23 49 47.6	-0.9
DZM	Mont Dzumac	45.07	152	P			P	23 49 52.1	+0.4
DZM					IAmb		IAmb	23 49 53.0	
	comp=Z,20nm,1.0s								
OUENC	Ouen Island, N	45.55	152	P			P	23 49 56.2	+0.8
OUENC					IAmb		IAmb	23 49 56.8	
	comp=Z,16nm,0.7s								
KULM	Kulim	45.71	259	P			P	23 49 59.1	+2.2
KULM					IAmb		IAmb	23 50 00.2	
	comp=Z,9.7nm,0.8s								
INKA	Innaminka	46.06	186	P			P	23 49 59.0	-0.3
WRKA	Warakurna	46.29	202	P			P	23 50 01.9	+0.7
CGJI	Cibinong	46.51	241	P			P	23 50 01.1	-2.0
	comp=Z,34nm,0.6s								
MBWA	Marble Bar	46.72	214	P			P	23 50 04.0	-0.6
MBWA					IAmb		IAmb	23 50 05.9	
	comp=Z,15nm,0.6s								
OOD	Oodnadatta	46.86	192	P			P	23 50 05.3	-0.2
PSA00	Pilbara Seismi	47.00	214	P			P	23 50 07.3	+0.5
PSA00	Pilbara Seismi	47.00	214	P			P	23 50 06.9	+0.1
PSA00					IAmb		IAmb	23 50 08.2	
	comp=Z,16nm,0.9s								
RPSI	Rantau Prapat	48.25	257	P			P	23 50 17.3	+0.8
RPSI					IAmb		IAmb	23 50 19.3	
	comp=Z,10nm,0.9s								
XMIS	Christmas Isla	48.71	237	P			P	23 50 19.3	-0.7
ARMA	Armidale	48.84	173	P			P	23 50 22.4	+1.6
GSI	Gunungsitoli	50.03	256	P			P	23 50 30.9	+0.9
GSI	Gunungsitoli	50.03	256	P			P	23 50 30.8	+0.8
	comp=Z,35nm,0.7s,comp=Z,3μm								
STKA	Stephens Creek	50.09	184	P			P	23 50 29.4	-0.7
STKA	Stephens Creek	50.09	184	P			P	23 50 29.3	-0.8
	comp=Z,4.1nm,0.4s,baz=4.0,slow=7.5,SNR=25								
	comp=Z,4.1nm,0.4s								
GIRL	Giralia	50.98	218	P			P	23 50 38.8	+1.9
UNV	Unalaska Valle	51.01	34	P			P	23 50 37.9	+1.2
	baz=245								
BILL	Bilibino	51.38	10	P			P	23 50 39.2	-0.1
BILL					IAmb		IAmb	23 50 40.1	
	comp=Z,20nm,1.2s								
AKUT	Akutan	51.52	34	P			P	23 50 40.5	0.0
FORT	Forrest	51.67	199	P			P	23 50 42.5	+0.6
BBOO	Buckleboo	51.68	190	P			P	23 50 41.6	-0.4
BBOO					IAmb		IAmb	23 51 20.4	
	comp=Z,16nm,1.1s								
CAN	Canberra	53.48	177	P			P	23 50 56.5	+1.4
WMQ	Urumqi	54.45	311	eP			P	23 51 04.9	+2.7
SDPT	Sand Point	54.82	34	P			P	23 51 05.0	+0.5
SDPT	Sand Point	54.82	34	P			P	23 51 04.7	+0.2
	baz=250								
MORW	Morawa	55.10	212	P			P	23 51 07.2	+0.3
CHNA	Chernabura Isl	55.13	35	P			P	23 51 08.1	+1.3
	baz=251								
M13K	Dall Lake	55.40	28	P			P	23 51 09.7	+1.1
O14K	Tigyukauivet M	55.87	30	P			P	23 51 12.6	+0.6
N14K	Kuskokwak Cree	55.95	29	P			P	23 51 12.7	+0.2
	baz=246								
L14K	Kuka Creek	56.10	27	P			P	23 51 14.5	+0.9
M14K	Bethel	56.17	28	P			P	23 51 15.2	+1.2
M14K	Bethel	56.17	28	P			P	23 51 13.8	-0.3
	baz=245								
J14K	Nanvaranak Lak	56.38	25	P			P	23 51 16.0	+0.5
O15K	Ungalikthiuk R	56.52	30	P			P	23 51 17.4	+0.8
	baz=248								
ANM	Nome	56.56	23	P			P	23 51 16.9	+0.1
L15K	Ungalak Mounta	56.77	27	P			P	23 51 18.7	+0.4
	baz=245								
N15K	Kwethluk River	56.78	29	P			P	23 51 19.2	+0.8
N15K					IAmb		IAmb	23 51 19.8	
	comp=Z,15nm,0.9s								
N15K	Kwethluk River	56.78	29	P			P	23 51 18.8	+0.4
	baz=247								
K15K	Wolf Creek Mou	57.01	26	P			P	23 51 20.8	+0.8
K15K	Wolf Creek Mou	57.01	26	P			P	23 51 20.2	+0.2
	baz=244								
F15K	North Star Dit	57.41	22	P			P	23 51 23.2	+0.5
F15K	North Star Dit	57.41	22	P			P	23 51 23.5	+0.8
	baz=239								
O16K	Kokwok River B	57.50	30	P			P	23 51 23.8	+0.3
O16K					IAmb		IAmb	23 52 00.1	
	comp=Z,29nm,1.5s								
O16K	Kokwok River B	57.50	30	P			P	23 51 24.2	+0.8
	baz=250								
M16K	Timber Creek	57.62	28	P			P	23 51 24.7	+0.4
M16K	Timber Creek	57.62	28	P			P	23 51 24.3	0.0
	baz=248								
L16K	Owhat River	57.66	27	P			P	23 51 24.6	+0.2
L16K					IAmb		IAmb	23 51 40.5	
	comp=Z,25nm,1.5s								
L16K	Owhat River	57.66	27	P			P	23 51 24.2	-0.3
	baz=247								
NWAO	Narrogin (SRO)	57.74	208	P			P	23 51 26.1	+0.6
NWAO	Narrogin (SRO)	57.74	208	P			P	23 51 26.1	+0.6
NWAO					IAmb		IAmb	23 51 26.6	
	comp=Z,86nm,0.8s								
J16K	Anvik River	57.82	26	P			P	23 51 26.7	+1.0
J16K					IAmb		IAmb	23 51 26.8	
	comp=Z,8.1nm,0.8s								
J16K	Anvik River	57.82	26	P			P	23 51 26.6	+1.0
	baz=245								
O17K	Koliganek Bris	58.04	30	P			P	23 51 27.9	+0.7
	baz=250								
I17K	Unalakleet	58.04	25	P			P	23 51 27.8	+0.6
I17K					IAmb		IAmb	23 51 58.9	
	comp=Z,14nm,1.4s								
I17K	Unalakleet	58.04	25	P			P	23 51 27.5	+0.3
	baz=244								
ZALV	Zalesovo Beam	58.22	323	P			P	23 51 27.1	-1.5
	comp=Z,1.2nm,0.6s,baz=113,slow=7.5,SNR=6.4								
	comp=Z,1.2nm,0.6s								
N17K	Nushagak Hills	58.25	29	P			P	23 51 29.5	+0.8
	baz=250								
C16K	Lisburne Hills	58.53	19	P			P	23 51 30.4	0.0
C16K					IAmb		IAmb	23 51 30.8	
	comp=Z,8.4nm,0.8s								
C16K	Lisburne Hills	58.53	19	P			P	23 51 30.6	+0.2
	baz=237								
K17K	Iditarod	58.55	27	P			P	23 51 31.9	+1.1
K17K					IAmb		IAmb	23 51 46.6	
	comp=Z,22nm,1.3s								
K17K	Iditarod	58.55	27	P			P	23 51 31.1	+0.4
	baz=248								
MK31	Makanchi Array	58.62	314	P			P	23 51 31.6	+0.1
MKAR	Makanchi Array	58.62	314	P			P	23 51 31.3	-0.2
MKAR	Makanchi Array	58.62	314	P			P	23 51 30.7	-0.8
	comp=Z,0.7nm,0.6s,baz=88,slow=8.0,SNR=9.1								
MKAR					pP		pP	23 52 15.9	0.0
	comp=Z,1.1nm,0.6s,baz=90,slow=8.6,SNR=4.9								
	comp=Z,0.7nm,0.6s								
Q18K	Katmai Hardscr	58.71	32	P			P	23 51 31.3	-0.7
	baz=253								
G17K	Kiwalik Mounta	58.77	23	P			P	23 51 32.6	+0.4
	baz=244								
H17K	Granite Mounta	58.80	24	P			P	23 51 32.9	+0.5
H17K					IAmb		IAmb	23 51 33.6	
	comp=Z,9.3nm,0.8s								
H17K	Granite Mounta	58.80	24	P			P	23 51 33.0	+0.6
	baz=245								
MAKZ	Makanchi	58.83	314	P			P	23 51 33.0	0.0
N18K	Kilae Creek	58.91	29	P			P	23 51 34.0	+0.8
N18K					IAmb		IAmb	23 52 05.7	
	comp=Z,20nm,1.4s								
N18K	Kilae Creek	58.91	29	P			P	23 51 33.7	+0.5
	baz=251								
O18K	Koktuh Hills	58.97	30	P			P	23 51 34.3	+0.6
	baz=252								
F17K	Baldwin Pennin	58.98	22	P			P	23 51 34.1	+0.6
F17K					IAmb		IAmb	23 51 35.0	
	comp=Z,10nm,0.7s								
F17K	Baldwin Pennin	58.98	22	P			P	23 51 34.2	+0.6
	baz=242								
L18K	Granite Mounta	59.07	28	P			P	23 51 35.2	+0.9
L18K					IAmb		IAmb	23 51 35.5	
	comp=Z,9.9nm,1.1s								
L18K	Granite Mounta	59.07	28	P			P	23 51 35.0	+0.7
	baz=249								
E17K	Hotham Inlet	59.08	21	P			P	23 51 34.5	+0.3
	baz=242								
SVW2	Sparrevohn	59.19	29	P			P	23 51 36.0	+0.8
SVW2					IAmb		IAmb	23 51 37.3	
	comp=Z,24nm,1.2s								
RDOG	Red Dog Mine	59.19	20	P			P	23 51 35.3	+0.2
	baz=240								
M18K	Stony River	59.20	28	P			P	23 51 35.8	+0.6
	baz=251								
H18K	Honhosa River	59.49	24	P			P	23 51 37.4	+0.2
H18K					IAmb		IAmb	23 51 38.2	
	comp=Z,9.0nm,1.1s								
H18K	Honhosa River	59.49	24	P			P	23 51 37.1	-0.1
	baz=246								
O19K	Port Alsworth	59.50	30	P			P	23 51 37.4	+0.2
	baz=253								
N19K	Bonanza Creek	59.60	29	P			P	23 51 38.9	+0.8
N19K					IAmb		IAmb	23 51 39.7	
	comp=Z,8.7nm,0.9s								
N19K	Bonanza Creek	59.60	29	P			P	23 51 38.6	+0.5
	baz=252								
TTA	Tatalina	59.61	27	P			P	23 51 38.5	+0.4
F18K	Selawik	59.62	22	P			P	23 51 37.9	-0.1
	baz=244								
E18K	Tukpahlearik C	59.66	21	P			P	23 51 38.6	+0.4
E18K					IAmb		IAmb	23 51 42.9	
	comp=Z,12nm,1.4s								
E18K	Tukpahlearik C	59.66	21	P			P	23 51 38.1	-0.1
	baz=243								
G18K	Tagagawik	59.69	23	P			P	23 51 38.5	+0.1
G18K					IAmb		IAmb	23 52 01.7	
	comp=Z,15nm,1.5s								
G18K	Tagagawik	59.69	23	P			P	23 51 38.5	+0.1
	baz=245								
KDAK	Kodiak Island	59.71	33	P			P	23 51 38.5	-0.2
L19K	White Mountain	59.87	28	P			P	23 51 40.1	+0.4
L19K					IAmb		IAmb	23 51 47.4	
	comp=Z,25nm,1.5s								
C18K	Utukok River	60.04	20	P			P	23 51 41.0	+0.1
C18K					IAmb		IAmb	23 51 50.2	
	comp=Z,12nm,1.3s								
C18K	Utukok River	60.04	20	P			P	23 51 40.9	+0.1
	baz=241								
J19K	Poorman	60.15	26	P			P	23 51 42.1	+0.5
J19K					IAmb		IAmb	23 51 42.8	
	comp=Z,5.0nm,0.8s								
J19K	Poorman	60.15	26	P			P	23 51 41.9	+0.2
	baz=249								
G19K	Purcell Mounta	60.37	23	P			P	23 51 43.4	+0.3
G19K					IAmb		IAmb	23 51 44.0	
	comp=Z,6.7nm,0.8s								
G19K	Purcell Mounta	60.37	23	P			P	23 51 43.4	+0.3
	baz=247								
H19K	Roundabout Mou	60.38	24	P			P	23 51 44.0	+0.9
H19K					IAmb		IAmb	23 51 44.8	
	comp=Z,5.2nm,0.7s								
H19K	Roundabout Mou	60.38	24	P			P	23 51 43.3	+0.2
	baz=248								
M20K	Styx River	60.55	29	P			P	23 51 45.3	+0.8
M20K					IAmb		IAmb	23 51 59.6	
	comp=Z,16nm,1.4s								
M20K	Styx River	60.55	29	P			P	23 51 44.9	+0.4
	baz=253								
K20K	Telida	60.59	27	P			P	23 51 45.4	+0.8
K20K	Telida	60.59	27	P			P	23 51 45.6	+1.0
	baz=251								
HOM	Homer	60.65	31	P			P	23 51 45.5	+0.5
	baz=256								
C19K	Lookout Ridge	60.77	20	P			P	23 51 46.4	+0.6
C19K					IAmb		IAmb	23 51 46.9	
	comp=Z,10.0nm,0.6s								
C19K	Lookout Ridge	60.77	20	P			P	23 51 46.7	+0.9
	baz=243								
N20K	Mount Spurr	60.78	29	P			P	23 51 46.5	+0.5
	baz=254								
CNPM	China Poot	60.82	31	P			P	23 51 45.6	-0.6
J20K	Nowinta River	60.82	26	P			P	23 51 47.1	+0.9
J20K					IAmb		IAmb	23 51 47.3	
	comp=Z,4.4nm,0.6s								
J20K	Nowinta River	60.82	26	P			P	23 51 46.4	+0.2
	baz=251								
E19K	Redstone River	60.85	22	P			P	23 51 46.9	+0.7
E19K	Redstone River	60.85	22	P			P	23 51 46.1	-0.2
	baz=246								
H20K	Anotleneega Mo	60.97	24	P			P	23 51 47.9	+0.7
	baz=249								
D19K	Kuna River	60.98	21	P			P	23 51 47.6	+0.4
	baz=245								
BRLK	Bradley Lake	61.05	31	P			P	23 51 46.6	-1.2
F20K	Avaraart Lake	61.22	22	P			P	23 51 49.3	+0.5
F20K	Avaraart Lake	61.22	22	P			P	23 51 49.1	+0.3
	baz=248								
PPLA	Purkeypile	61.26	28	P			P	23 51 49.9	+0.6
SKT	Skwentna	61.30	29	P			P	23 51 48.9	-0.5
SKT					IAmb		IAmb	23 52 00.9	
	comp=Z,10nm,1.1s								
SKT	Skwentna	61.30	29	P			P	23 51 49.1	-0.3
	baz=254				

MLY	**Manley**	**62.48**	**25**	P	**P**	**23 51 57.6**	**+0.3**	
MLY				IAmb	IAmb	23 51 58.2		
	comp=Z,7.3nm,0.6s							
MLY	**Manley**	**62.48**	**25**	P	**P**	**23 51 57.6**	**+0.3**	
	baz=254,SNR=6.3							
B21K	**Ikpikpuk River**	**62.59**	**20**	P	**P**	**23 51 58.2**	**+0.4**	
B21K	**Ikpikpuk River**	**62.59**	**20**	P	**P**	**23 51 58.3**	**+0.4**	
	baz=248							
KNK	**Knik Glacier**	**62.59**	**30**	P	**P**	**23 51 57.9**	**-0.1**	
KNK	**Knik Glacier**	**62.59**	**30**	P	**P**	**23 51 58.4**	**+0.3**	
	baz=258							
F22K	**John River**	**62.67**	**23**	P	**P**	**23 51 59.4**	**+0.9**	
	baz=251							
SML	**Sawmill**	**62.73**	**29**	P	**P**	**23 51 59.1**	**+0.1**	
SML	**Sawmill**	**62.73**	**29**	P	**P**	**23 51 59.1**	**+0.1**	
	baz=258							
RND	**Reindeer**	**62.85**	**27**	P	**P**	**23 51 59.8**	**-0.1**	
RND				IAmb	IAmb	23 51 59.9		
	comp=Z,5.6nm,0.7s							
WAT1	**Susitna Watana**	**62.85**	**28**	P	**P**	**23 51 59.3**	**-0.5**	
	baz=257							
MCK	**McKinley**	**62.90**	**27**	P	**P**	**23 52 00.9**	**+0.9**	
MCK				IAmb	IAmb	23 52 42.5		
	comp=Z,20nm,1.4s							
MCK	**McKinley**	**62.90**	**27**	P	**P**	**23 52 00.3**	**+0.3**	
	baz=256							
D22K	**Ayikyak River**	**62.96**	**21**	P	**P**	**23 52 01.1**	**+0.8**	
D22K	**Ayikyak River**	**62.96**	**21**	P	**P**	**23 52 01.0**	**+0.6**	
	baz=250							
M23K	**Glacier View**	**63.01**	**29**	P	**P**	**23 52 00.8**	**0.0**	
	baz=258							
E22K	**Anaktuvuk Pass**	**63.01**	**22**	P	**P**	**23 52 01.2**	**+0.5**	
E22K				IAmb	IAmb	23 52 01.9		
	comp=Z,6.5nm,0.8s							
E22K	**Anaktuvuk Pass**	**63.01**	**22**	P	**P**	**23 52 01.2**	**+0.5**	
	baz=251							
A22K	**Sinclair Lake**	**63.01**	**18**	P	**P**	**23 52 01.2**	**+0.6**	
	baz=247							
NEA2	**Nenana**	**63.05**	**26**	P	**P**	**23 52 01.2**	**+0.2**	
	baz=256							
I23K	**Minto, Yukon-K**	**63.07**	**25**	P	**P**	**23 52 01.6**	**+0.5**	
I23K				IAmb	IAmb	23 52 02.3		
	comp=Z,6.5nm,0.5s							
I23K	**Minto, Yukon-K**	**63.07**	**25**	P	**P**	**23 52 01.6**	**+0.5**	
	baz=255,SNR=5.0							
WAT6	**Susitna Watana**	**63.16**	**28**	P	**P**	**23 52 01.6**	**-0.4**	
	baz=258							
SCM	**Sheep Creek Mo**	**63.20**	**29**	P	**P**	**23 52 02.4**	**+0.3**	
SCM	**Sheep Creek Mo**	**63.20**	**29**	P	**P**	**23 52 02.2**	**0.0**	
	baz=258							
G23K	**Bananza Creek**	**63.24**	**24**	P	**P**	**23 52 02.9**	**+0.6**	
G23K	**Bananza Creek**	**63.24**	**24**	P	**P**	**23 52 02.5**	**+0.3**	
	baz=254							
B22K	**Teshekpuk Lake**	**63.24**	**19**	P	**P**	**23 52 02.3**	**+0.2**	
B22K				IAmb	IAmb	23 52 02.8		
	comp=Z,7.1nm,0.7s							
B22K	**Teshekpuk Lake**	**63.24**	**19**	P	**P**	**23 52 02.2**	**+0.2**	
	baz=248							
COLD	**Coldfoot**	**63.32**	**23**	P	**P**	**23 52 03.4**	**+0.7**	
	baz=253							
FID	**Port Fidalgo**	**63.40**	**31**	P	**P**	**23 52 03.4**	**0.0**	
MDM	**Murphy Dome**	**63.49**	**26**	P	**P**	**23 52 04.5**	**+0.6**	
MDM				IAmb	IAmb	23 52 05.2		
	comp=Z,8.0nm,0.6s							
D23K	**Nanushuk River**	**63.67**	**21**	P	**P**	**23 52 05.8**	**+0.8**	
	baz=252							
EYAK	**Cordova Ski Ar**	**63.72**	**31**	P	**P**	**23 52 06.0**	**+0.6**	
E23K	**Chandalar**	**63.77**	**22**	P	**P**	**23 52 06.8**	**+1.1**	
	baz=253							
H24K	**Noodor Dome**	**63.84**	**25**	P	**P**	**23 52 06.7**	**+0.4**	
H24K				IAmb	IAmb	23 52 07.3		
	comp=Z,4.9nm,0.6s							
H24K	**Noodor Dome**	**63.84**	**25**	P	**P**	**23 52 06.6**	**+0.4**	
	baz=256							
POKR	**Poker Plat Res**	**63.86**	**26**	P	**P**	**23 52 05.4**	**-0.9**	
POKR				IAmb	IAmb	23 52 06.5		
	comp=Z,3.6nm,0.7s							
RTZ	**Ruatahuna**	**63.86**	**153**	P	**P**	**23 52 06.0**	**-0.8**	
HDA	**Harding Lake**	**63.90**	**27**	P	**P**	**23 52 05.7**	**-0.9**	
HDA				IAmb	IAmb	23 52 07.0		
	comp=Z,5.3nm,0.8s							
HDA	**Harding Lake**	**63.90**	**27**	P	**P**	**23 52 05.7**	**-0.9**	
	baz=258							
HDA				P	**P**	**23 52 05.7**	**-0.9**	
	baz=258							
TOLK	**Toolik Lake Re**	**63.96**	**22**	P	**P**	**23 52 07.5**	**+0.6**	
TOLK				IAmb	IAmb	23 52 12.8		
	comp=Z,4.1nm,0.8s							
TOLK	**Toolik Lake Re**	**63.96**	**22**	P	**P**	**23 52 07.6**	**+0.6**	
	baz=253							
C23K	**Itkillik River**	**63.97**	**20**	P	**P**	**23 52 07.3**	**+0.4**	
C23K				IAmb	IAmb	23 52 07.7		
	comp=Z,8.6nm,0.6s							
C23K	**Itkillik River**	**63.97**	**20**	P	**P**	**23 52 07.2**	**+0.4**	
	baz=252							
QRZ	**Quartz Range**	**63.98**	**157**	P	**P**	**23 52 08.2**	**+0.8**	
IL31		**64.01**	**26**	P	**P**	**23 52 05.9**	**-1.3**	
IL31				IAmb	IAmb	23 52 06.2		
	comp=Z,4.4nm,0.6s							
ILAR	**Eielson Array**	**64.01**	**26**	P	**P**	**23 52 06.0**	**-1.3**	
ILAR	**Eielson Array**	**64.01**	**26**	P	**P**	**23 52 05.7**	**-1.6**	
	comp=Z,3.7nm,0.7s,baz=252,slow=5.1,SNR=53							
ILAR				pP	**pP**	**23 52 50.4**	**-2.3**	
	comp=Z,1.1nm,0.8s,baz=256,slow=6.0,SNR=2.6							
	comp=Z,3.7nm,0.7s							
IL03	**Eielson Array**	**64.02**	**26**	P	**P**	**23 52 06.1**	**-1.2**	
BKZ	**Black Stump Fm**	**64.11**	**154**	P	**P**	**23 52 07.9**	**-0.4**	
BKZ				IAmb	IAmb	23 52 26.0		
	comp=Z,24nm,1.5s							
E24K	**Your Creek**	**64.18**	**22**	P	**P**	**23 52 09.1**	**+0.7**	
E24K				IAmb	IAmb	23 52 09.7		
	comp=Z,5.3nm,0.8s							
E24K	**Your Creek**	**64.18**	**22**	P	**P**	**23 52 09.3**	**+0.9**	
	baz=254							
G24K	**Hadweenzic Riv**	**64.21**	**24**	P	**P**	**23 52 09.3**	**+0.7**	
G24K				IAmb	IAmb	23 52 49.6		
	comp=Z,7.5nm,1.1s							
G24K	**Hadweenzic Riv**	**64.21**	**24**	P	**P**	**23 52 09.0**	**+0.4**	
	baz=256							
F24K	**Squaw Lake**	**64.26**	**23**	P	**P**	**23 52 09.5**	**+0.6**	
F24K	**Squaw Lake**	**64.26**	**23**	P	**P**	**23 52 09.9**	**+1.0**	
	baz=255							
PAX	**Paxson**	**64.27**	**28**	P	**P**	**23 52 09.1**	**+0.1**	
PAX				IAmb	IAmb	23 52 09.6		
	comp=Z,6.5nm,0.6s							
PAX	**Paxson**	**64.27**	**28**	P	**P**	**23 52 08.9**	**-0.2**	
	baz=260							
HARP	**HAARP**	**64.31**	**29**	P	**P**	**23 52 09.7**	**+0.4**	
	baz=260							
TKNZ	**Takaka Hill**	**64.32**	**157**	P	**P**	**23 52 09.0**	**-0.5**	
BMRM	**Bremner River**	**64.34**	**31**	P	**P**	**23 52 10.4**	**+0.8**	
	baz=261							
D24K	**Happy Valley**	**64.36**	**21**	P	**P**	**23 52 10.3**	**+0.8**	
D24K	**Happy Valley**	**64.36**	**21**	P	**P**	**23 52 10.2**	**+0.8**	
	baz=254							
N25K	**Chitina, Valde**	**64.44**	**30**	P	**P**	**23 52 10.9**	**+0.7**	
N25K				IAmb	IAmb	23 52 12.7		
	comp=Z,19nm,1.2s							
N25K	**Chitina, Valde**	**64.44**	**30**	P	**P**	**23 52 10.6**	**+0.3**	
	baz=261							
C24K	**Franklin Bluff**	**64.57**	**21**	P	**P**	**23 52 11.2**	**+0.4**	
	baz=253							
J25K	**Salcha River,**	**64.61**	**26**	P	**P**	**23 52 10.2**	**-1.1**	
J25K				IAmb	IAmb	23 52 11.1		
	comp=Z,4.8nm,0.7s							
J25K	**Salcha River,**	**64.61**	**26**	P	**P**	**23 52 10.6**	**-0.7**	
	baz=259							
NNZ	**Nelson**	**64.64**	**157**	P	**P**	**23 52 12.3**	**+0.8**	
RIDG	**Independent Ri**	**64.68**	**27**	P	**P**	**23 52 12.9**	**+1.2**	
	baz=260							
G25K	**Bearman Lake**	**64.76**	**24**	P	**P**	**23 52 12.6**	**+0.6**	
	baz=257							
VRDI	**Verde Repeater**	**64.93**	**30**	P	**P**	**23 52 13.2**	**-0.4**	
THZ	**Tophouse**	**64.94**	**158**	P	**P**	**23 52 13.9**	**+0.3**	
THZ				IAmb	IAmb	23 52 17.6		
	comp=Z,10nm,0.8s							
TCW	**Tory Channel**	**64.97**	**156**	P	**P**	**23 52 13.8**	**0.0**	
CRQM	**Cirque**	**65.02**	**31**	P	**P**	**23 52 14.1**	**0.0**	
CRQE	**Cirque**	**65.05**	**31**	P	**P**	**23 52 14.7**	**+0.5**	
	baz=263							
SCRK	**Sand Creek**	**65.09**	**27**	P	**P**	**23 52 14.2**	**-0.2**	
SCRK				IAmb	IAmb	23 52 40.8		
	comp=Z,6.5nm,1.3s							
SCRK	**Sand Creek**	**65.09**	**27**	P	**P**	**23 52 14.7**	**+0.2**	
	baz=261							
F25K	**Christian Rive**	**65.11**	**23**	P	**P**	**23 52 15.3**	**+0.9**	
	baz=257,SNR=5.5							
MCARA	**McCarthy VSAT**	**65.16**	**30**	P	**P**	**23 52 15.2**	**+0.5**	
MCARA	**McCarthy VSAT**	**65.16**	**30**	P	**P**	**23 52 15.4**	**+0.7**	
	baz=263							
ARSB	**Arslanbob**	**65.17**	**308**	P	**P**	**23 52 17.4**	**+2.0**	
SNZO	**South Karori**	**65.22**	**156**	P	**P**	**23 52 14.6**	**-0.7**	
L26K	**Log Cabin Wild**	**65.23**	**28**	P	**P**	**23 52 15.9**	**+0.7**	
	baz=262							
D25K	**Kavik River**	**65.25**	**21**	P	**P**	**23 52 15.8**	**+0.5**	
D25K				IAmb	IAmb	23 52 16.4		
	comp=Z,7.7nm,0.6s							
D25K	**Kavik River**	**65.25**	**21**	P	**P**	**23 52 15.8**	**+0.5**	
	baz=256							
E25K	**Arctic Village**	**65.26**	**23**	P	**P**	**23 52 16.2**	**+0.9**	
E25K				IAmb	IAmb	23 52 16.9		
	comp=Z,7.3nm,1.4s							
E25K	**Arctic Village**	**65.26**	**23**	P	**P**	**23 52 16.2**	**+0.9**	
	baz=257							
BFZ	**Birch Farm**	**65.29**	**155**	P	**P**	**23 52 16.4**	**+0.6**	
M26K	**Nabesna, AK**	**65.30**	**29**	P	**P**	**23 52 15.5**	**-0.3**	
M26K				IAmb	IAmb	23 52 27.8		
	comp=Z,9.3nm,1.1s							
J26L	**Joseph Creek**	**65.36**	**27**	P	**P**	**23 52 15.8**	**-0.3**	
J26L				IAmb	IAmb	23 52 18.4		
	comp=Z,4.0nm,0.6s							
J26L	**Joseph Creek**	**65.36**	**27**	P	**P**	**23 52 15.9**	**-0.2**	
	baz=261							
BHW	**Baring Head**	**65.36**	**156**	P	**P**	**23 52 17.6**	**+1.3**	
ISLE	**Juniper Island**	**65.40**	**31**	P	**P**	**23 52 16.6**	**+0.1**	
BMAR	**Burnt Mountain**	**65.48**	**23**	P	**P**	**23 52 17.7**	**+0.9**	
PLWZ	**Palliser**	**65.65**	**156**	P	**P**	**23 52 18.9**	**+0.8**	
I26K	**Coal Creek Min**	**65.66**	**26**	P	**P**	**23 52 16.8**	**-1.1**	
I26K				IAmb	IAmb	23 52 25.2		
	comp=Z,13nm,1.4s							
G26K	**Porcupine Rive**	**65.69**	**24**	P	**P**	**23 52 18.5**	**+0.4**	
	baz=259,SNR=6.1							
F26K	**Sheenjek River**	**65.69**	**23**	P	**P**	**23 52 18.9**	**+0.7**	
	baz=259							
GRNC	**Granite Creek**	**65.70**	**31**	P	**P**	**23 52 18.9**	**+0.4**	
GRNC				IAmb	IAmb	23 52 19.3		
	comp=Z,16nm,0.9s							
KHZ	**Kahutara**	**65.74**	**158**	P	**P**	**23 52 19.0**	**+0.4**	
C26K	**Camden Bay**	**65.89**	**21**	P	**P**	**23 52 20.3**	**+1.1**	
	baz=257							
CTG	**Chitna Glacier**	**65.92**	**31**	P	**P**	**23 52 19.8**	**0.0**	
	baz=264							
L27K	**Beaver Creek,**	**65.92**	**28**	P	**P**	**23 52 19.9**	**+0.2**	
L27K				IAmb	IAmb	23 52 28.9		
	comp=Z,18nm,1.5s							
L27K	**Beaver Creek,**	**65.92**	**28**	P	**P**	**23 52 20.0**	**+0.2**	
	baz=263							
CTGM	**Chitina Glacie**	**65.92**	**31**	P	**P**	**23 52 20.4**	**+0.5**	
K27K	**Chicken**	**65.93**	**27**	P	**P**	**23 52 20.2**	**+0.5**	
BCAR	**Beaver Creek A**	**65.94**	**28**	P	**P**	**23 52 20.2**	**+0.4**	
TABL	**Table Mountain**	**65.97**	**31**	P	**P**	**23 52 20.8**	**+0.5**	
LOGN	**Logan Glacier**	**66.07**	**31**	P	**P**	**23 52 20.9**	**+0.1**	
I27K	**Kandik River**	**66.34**	**26**	P	**P**	**23 52 22.4**	**+0.1**	
	baz=262							
YUK3	**Moose Creek**	**66.42**	**30**	P	**P**	**23 52 23.8**	**+0.7**	
	baz=265							
EGAK	**Eagle**	**66.43**	**27**	P	**P**	**23 52 23.6**	**+0.8**	
EGAK	**Eagle**	**66.43**	**27**	P	**P**	**23 52 23.4**	**+0.6**	
	baz=263							
H27K	**Steamboat Moun**	**66.47**	**25**	P	**P**	**23 52 23.3**	**+0.2**	
	baz=262							
G27K	**Doyon Strip**	**66.50**	**24**	P	**P**	**23 52 23.4**	**+0.2**	
G27K	**Doyon Strip**	**66.50**	**24**	P	**P**	**23 52 23.3**	**0.0**	
	baz=262							
MLZ	**Mavora Lakes**	**66.64**	**163**	P	**P**	**23 52 25.1**	**+0.7**	
BVAR	**Borovoye Array**	**66.67**	**321**	P	**P**	**23 52 23.3**	**-1.2**	
	comp=Z,3.1nm,0.6s,baz=100,slow=7.8,SNR=23							
BVAR				pP	**pP**	**23 53 10.8**	**+0.8**	
	comp=Z,3.3nm,0.7s,baz=93,slow=7.2,SNR=4.0							
	comp=Z,3.1nm,0.6s							
YUK8	**Steele Glacier**	**66.71**	**30**	P	**P**	**23 52 25.9**	**+0.9**	
	baz=266							
E27K	**Coleen River**	**66.73**	**23**	P	**P**	**23 52 25.3**	**+0.6**	
E27K	**Coleen River**	**66.73**	**23**	P	**P**	**23 52 24.9**	**+0.2**	
	baz=261							
KKAR	**Karatay Array**	**66.90**	**310**	P	**P**	**23 52 26.0**	**-0.3**	
I28M	**Miner Creek**	**67.02**	**26**	P	**P**	**23 52 26.6**	**0.0**	
I28M	**Miner Creek**	**67.02**	**26**	P	**P**	**23 52 26.9**	**+0.2**	
	baz=264							
DAWY	**Dawson**	**67.11**	**27**	P	**P**	**23 52 27.4**	**+0.2**	
	baz=265							
D27M	**Malcolm River**	**67.12**	**22**	P	**P**	**23 52 28.2**	**+1.0**	
D27M				IAmb	IAmb	23 52 28.6		
	comp=Z,4.5nm,0.6s							
D27M	**Malcolm River**	**67.12**	**22**	P	**P**	**23 52 28.4**	**+1.1**	
	baz=261							
O29M	**Mount Kennedy**	**67.23**	**32**	P	**P**	**23 52 28.9**	**+0.8**	
	baz=267							
YUK4	**Talbot Arm**	**67.25**	**30**	P	**P**	**23 52 29.4**	**+1.0**	
	baz=267							
F28M	**Old Crow**	**67.30**	**24**	P	**P**	**23 52 28.7**	**+0.4**	
F28M	**Old Crow**	**67.30**	**24**	P	**P**	**23 52 28.6**	**+0.4**	
	baz=263							
YUK6	**Outpost Mounta**	**67.37**	**31**	P	**P**	**23 52 30.0**	**+0.9**	
	baz=267							
M29M	**Somme Creek**	**67.41**	**29**	P	**P**	**23 52 29.9**	**+0.7**	
M29M				IAmb	IAmb	23 52 30.8		
	comp=Z,5.2nm,0.8s							
M29M	**Somme Creek**	**67.41**	**29**	P	**P**	**23 52 29.9**	**+0.7**	
	baz=266							
E28M	**Babbage River**	**67.54**	**23**	P	**P**	**23 52 30.6**	**+0.8**	
E28M				IAmb	IAmb	23 52 31.4		
	comp=Z,9.9nm,1.4s							
E28M	**Babbage River**	**67.54**	**23**	P	**P**	**23 52 30.9**	**+1.1**	
	baz=263							
L29M	**L29M**	**67.60**	**29**	P	**P**	**23 52 31.4**	**+1.1**	
L29M				IAmb	IAmb	23 52 32.0		
	comp=Z,9.6nm,0.8s							
L29M	**L29M**	**67.60**	**29**	P	**P**	**23 52 31.1**	**+0.8**	
	baz=266							
P29M	**Windy Craggy**	**67.62**	**32**	P	**P**	**23 52 31.3**	**+0.8**	
P29M	**Windy Craggy**	**67.62**	**32**	P	**P**	**23 52 30.9**	**+0.4**	
	baz=268							
I29M	**Ogilvie Camp,**	**67.69**	**26**	P	**P**	**23 52 30.8**	**0.0**	
I29M	**Ogilvie Camp,**	**67.69**	**26**	P	**P**	**23 52 30.7**	**0.0**	
	baz=265							
H29M	**Whitestone**	**67.74**	**25**	P	**P**	**23 52 31.3**	**+0.3**	
H29M				IAmb	IAmb	23 52 31.9		
	comp=Z,5.2nm,0.7s							
H29M	**Whitestone**	**67.74**	**25**	P	**P**	**23 52 31.5**	**+0.5**	
	baz=265							
HYT	**Haines Junctio**	**67.78**	**31**	P	**P**	**23 52 32.7**	**+1.1**	
HYT				IAmb	IAmb	23 52 33.3		
	comp=Z,11nm,0.8s							
HYT	**Haines Junctio**	**67.78**	**31**	P	**P**	**23 52 32.7**	**+1.1**	
	baz=268							
D28M	**Stokes Point**	**67.92**	**22**	P	**P**	**23 52 32.6**	**+0.6**	
	baz=263							
K29M	**Barlow Dome**	**67.92**	**28**	P	**P**	**23 52 32.8**	**+0.5**	
K29M				IAmb	IAmb	23 52 33.8		
	comp=Z,5.7nm,0.8s							
K29M	**Barlow Dome**	**67.92**	**28**	P	**P**	**23 52 33.0**	**+0.6**	
	baz=267							
G29M	**Pine Creek**	**67.94**	**24**	P	**P**	**23 52 33.0**	**+0.7**	
G29M				IAmb	IAmb	23 52 34.8		
	comp=Z,10nm,1.2s							
G29M	**Pine Creek**	**67.94**	**24**	P	**P**	**23 52 32.7**	**+0.5**	
	baz=265							
N30M	**Aishikik Lake**	**68.01**	**30**	P	**P**	**23 52 33.4**	**+0.6**	
N30M				IAmb	IAmb	23 52 42.7		
	comp=Z,15nm,1.4s							
N30M	**Aishikik Lake**	**68.01**	**30**	P	**P**	**23 52 33.7**	**+0.9**	
	baz=268							
P30M	**Million Dollar**	**68.03**	**32**	P	**P**	**23 52 34.0**	**+1.0**	
	baz=269							
E29M	**Blow River**	**68.12**	**23**	P	**P**	**23 52 33.8**	**+0.4**	
E29M	**Blow River**	**68.12**	**23**	P	**P**	**23 52 33.9**	**+0.5**	
	baz=264							
M30M	**Minto, Yukon**	**68.19**	**29**	P	**P**	**23 52 34.6**	**+0.6**	
M30M	**Minto, Yukon**	**68.19**	**29**	P	**P**	**23 52 34.2**	**+0.2**	
	baz=268							
EPYK	**Eagle Plains**	**68.41**	**25**	P	**P**	**23 52 35.5**	**+0.2**	
EPYK				IAmb	IAmb	23 52 35.9		
	comp=Z,6.1nm,0.7s							
EPYK	**Eagle Plains**	**68.41**	**25**	P	**P**	**23 52 35.2**	**0.0**	
	baz=266							
O30N	**Mendenhall**	**68.47**	**31**	P	**P**	**23 52 36.2**	**+0.5**	
O30N				IAmb	IAmb	23 53 06.9		
	comp=Z,10nm,1.1s							
J30M	**Hart River**	**68.48**	**27**	P	**P**	**23 52 36.1**	**+0.3**	
J30M	**Hart River**	**68.48**	**27**	P	**P**	**23 52 36.1**	**+0.3**	
	baz=267							
I30M	**Mount Dempster**	**68.49**	**26**	P	**P**	**23 52 35.9**	**0.0**	
I30M				IAmb	IAmb	23 52 36.1		
	comp=Z,8.0nm,1.2s							
I30M	**Mount Dempster**	**68.49**	**26**	P	**P**	**23 52 35.7**	**-0.2**	
	baz=267							
N31M	**Braeburn, Yuko**	**68.64**	**30**	P	**P**	**23 52 37.1**	**+0.4**	
N31M				IAmb	IAmb	23 52 46.1		
	comp=Z,29nm,1.4s							
N31M	**Braeburn, Yuko**	**68.64**	**30**	P	**P**	**23 52 37.7**	**+1.0**	
	baz=269							
G30M	**tAoh Zraii Nji**	**68.65**	**24**	P	**P**	**23 52 36.7**	**-0.1**	
G30M	**tAoh Zraii Nji**	**68.65**	**24**	P	**P**	**23 52 35.8**	**-0.9**	
	baz=266							
F30M	**Barrier River**	**68.85**	**24**	P	**P**	**23 52 38.6**	**+0.7**	
	baz=267,SNR=5.9							
WHY	**Whitehorse**	**69.07**	**31**	P	**P**	**23 52 40.5**	**+1.0**	
WHY	**Whitehorse**	**69.07**	**31**	P	**P**	**23 52 39.5**	**0.0**	
	baz=270							
S32K	**Killisnoo**	**69.28**	**35**	P	**P**	**23 52 40.3**	**-0.3**	
	baz=272							
M31M	**Drury Creek, Y**	**69.30**	**30**	P	**P**	**23 52 41.1**	**+0.4**	
M31M	**Drury Creek, Y**	**69.30**	**30**	P	**P**	**23 52 40.2**	**-0.6**	
	baz=270							
H31M	**Peel River**	**69.36**	**26**	P	**P**	**23 52 41.6**	**+0.5**	
H31M				IAmb	IAmb	23 52 42.0		
	comp=Z,5.2nm,0.7s							
H31M	**Peel River**	**69.36**	**26**	P	**P**	**23 52 40.7**	**-0.4**	
	baz=269							
JIS	**Juneau Island**	**69.36**	**34**	P	**P**	**23 52 41.5**	**+0.4**	
G31M	**Satah River**	**69.41**	**25**	P	**P**	**23 52 41.2**	**-0.1**	
G31M				IAmb	IAmb	23 52 41.9		
	comp=Z,11nm,0.6s							
G31M	**Satah River**	**69.41**	**25**	P	**P**	**23 52 41.3**	**-0.1**	
	baz=268,SNR=7.3							
F31M	**Tsiigehtchic**	**69.63**	**24**	IAmb	IAmb	23 52 42.4		
	comp=Z,5.2nm,0.6s							
F31M				P	**P**	**23 52 42.4**	**-0.2**	
F31M	**Tsiigehtchic**	**69.63**	**24**	P	**P**	**23 52 42.1**	**-0.5**	
	baz=269							
P32M	**Atlin**	**69.67**	**32**	P	**P**	**23 52 44.0**	**+0.9**	
P32M				IAmb	IAmb	23 53 05.0		
	comp=Z,15nm,1.1s							
P32M	**Atlin**	**69.67**	**32**	P	**P**	**23 52 43.5**	**+0.4**	
	baz=272							
INK	**Inuvik**	**69.73**	**23**	P	**P**	**23 52 42.9**	**-0.4**	
INK				IAmb	IAmb	23 52 43.6		
	comp=Z,6.6nm,0.8s							
INK	**Inuvik**	**69.73**	**23**	P	**P**	**23 52 42.9**	**-0.4**	
	baz=268,SNR=6.9							
FARO	**Faro, Yukon**	**69.79**	**30**	P	**P**	**23 52 44.1**	**+0.3**	
FARO				IAmb	IAmb	23 52 45.0		
	comp=Z,11nm,1.3s							
FARO	**Faro, Yukon**	**69.79**	**30**	P	**P**	**23 52 43.5**	**-0.3**	
	baz=271							
P33M	**Teslin, Yukon**	**70.10**	**32**	P	**P**	**23 52 46.2**	**+0.4**	
P33M	**Teslin, Yukon**	**70.10**	**32**	P	**P**	**23 52 46.0**	**+0.2**	
	baz=272							
Q32M	**Nakina River**	**70.44**	**33**	P	**P**	**23 52 48.8**	**+0.8**	
Q32M				IAmb	IAmb	23 52 51.9		
	comp=Z,26nm,1.5s							
R33M	**Jennings River**	**71.08**	**33**	P	**P**	**23 52 52.6**	**+0.7**	
R33M				IAmb	IAmb	23 53 10.5		
	comp=Z,8.1nm,1.2s							
R33M	**Jennings River**	**71.08**	**33**	P	**P**	**23 52 52.5**	**+0.7**	
	baz=274							
S34M	**Telegraph Cree**	**71.10**	**34**	P	**P**	**23 52 53.1**	**+1.3**	
S34M				IAmb	IAmb	23 53 18.9		
	comp=Z,19nm,1.4s							
S34M	**Telegraph Cree**	**71.10**	**34**	P	**P**	**23 52 52.3**	**+0.5**	
	baz=274							
DLBC	**Dease Lake**	**71.64**	**33**	P	**P**	**23 52 56.0**	**+0.9**	
DLBC	**Dease Lake**	**71.64**	**33**	P	**P**	**23 52 56.2**	**+1.1**	
	baz=275							
T35M	**Bob Quinn**	**71.66**	**35**	P	**P**	**23 52 55.9**	**+0.8**	
T35M				IAmb	IAmb	23 52 58.4		
	comp=Z,13nm,1.2s							
T35M	**Bob Quinn**	**71.66**	**35**	P	**P**	**23 52 55.7**	**+0.5**	
	baz=275							
WTLY	**Watson Lake, Y**	**72.11**	**32**	P	**P**	**23 52 58.7**	**+0.9**	
	baz=276							
A36M	**Sachs Harbour**	**72.44**	**19**	P	**P**	**23 52 59.4**	**-0.1**	
A36M				IAmb	IAmb	23 53 00.0		
	comp=Z,9.5nm,0.8s							
A36M	**Sachs Harbour**	**72.44**	**19**	P	**P**	**23 52 59.3**	**-0.1**	
	baz=275,SNR=5.7							
C36M	**Paulatuk**	**73.11**	**22**	P	**P**	**23 53 03.0**	**-0.4**	
C36M				IAmb	IAmb	23 53 03.5		
	comp=Z,12nm,1.1s							
C36M	**Paulatuk**	**73.11**	**22**	P	**P**	**23 53 02.9**	**-0.6**	
	baz=277,SNR=7.8							
ABKAR	**Akbulak array**	**73.51**	**317**	P	**P**	**23 53 05.3**	**-0.9**	
ABKAR	**Akbulak array**	**73.51**	**317**	P	**P**	**23 53 04.8**	**-1.4**	
LIRD	**Liard River Hi**	**73.55**	**32**	P	**P**	**23 53 05.9**	**-0.3**	
	baz=278							
WRGLY	**Wrigley**	**74

comp=Z,5.9nm,0.6s
PLID Pearl Lake 82.97 45 P P 23 53 58.2 -0.3
TULEG Thule 83.07 8 P P 23 53 58.5 +0.5
OMMB Old Mammoth Mi 83.17 53 P P 23 54 00.4 +0.6
RYN Ryan 83.22 52 P P 23 54 00.4 +0.6
RYN IAmb IAmb 23 54 01.1
comp=Z,4.9nm,0.8s
LHV Little Huntoon 83.35 52 P P 23 54 01.1 +0.9
PKM Mcpherson Peak 83.37 56 P P 23 54 00.8 +0.1
baz=288
KVN Kaiserville 83.40 51 P P 23 54 01.2 +0.5
KVN IAmb IAmb 23 54 01.9
comp=Z,6.8nm,0.7s
NVAR Mina Array Bea 83.44 52 P P 23 54 01.7 +0.7
NVAR Mina Array Bea 83.44 52 P P 23 54 01.5 +0.5
comp=Z,5.6nm,0.6s,baz=267,slow=6.0,SNR=51
comp=Z,5.6nm,0.6s
NV11 Mina Array Sit 83.55 52 P P 23 54 02.2 +0.7
MFID Camas Ranch 83.64 46 P P 23 54 01.8 +0.1
CHMT Chamberlain Mo 84.16 43 P P 23 54 05.0 +0.6
OVMT Ovando 84.28 42 P P 23 54 06.3 +1.4
MZP Montezuma Peak 84.36 52 P P 23 54 06.0 +0.3
TPH Tonopah 84.36 52 P P 23 54 05.7 +0.1
HLID Hailey 84.56 46 P P 23 54 06.9 +0.4
HLID Hailey 84.56 46 P P 23 54 06.7 +0.2
baz=290
GMN Gold Mountain 84.58 53 P P 23 54 07.4 +0.6
GMN IAmb IAmb 23 54 07.9
comp=Z,4.3nm,0.7s
GRAC Grapevine Rang 84.60 53 P P 23 54 07.2 +0.6
GRAC Grapevine Rang 84.60 53 P P 23 54 07.1 +0.4
baz=289
ELMT Elliston 84.79 43 P P 23 54 07.8 +0.2
EDW2 Edwards Air Fo 84.80 55 P P 23 54 08.4 +0.7
baz=289
MPMC Manual Prospec 84.81 54 P P 23 54 08.1 +0.2
baz=289
BEMT Mount Belmont 84.81 42 P P 23 54 07.9 +0.2
LRMC Laurel Mtn Rad 84.85 54 P P 23 54 06.9 -1.2
baz=289
ELK Elko 84.94 49 P P 23 54 08.7 +0.2
WCT Wildcat Mounta 85.23 53 P P 23 54 09.9 +0.1
WCT IAmb IAmb 23 54 10.9
comp=Z,4.6nm,0.7s
BFSC Mount Baldy Ra 85.26 56 P P 23 54 09.4 -0.7
baz=289
TPNV Topopah Spring 85.46 53 P P 23 54 11.4 +0.3
TPNV IAmb IAmb 23 54 12.2
comp=Z,6.6nm,0.6s
TPNV Topopah Spring 85.46 53 P P 23 54 11.5 +0.3
baz=290
R11B Troy Canyon, C 85.49 51 P P 23 54 11.6 +0.4
baz=290
BOZ Bozeman (W) 85.69 43 P P 23 54 12.3 +0.3
BOZ Bozeman (W) 85.69 43 P P 23 54 12.4 +0.3
baz=292
SPR3 Spring Creek 3 86.19 50 P P 23 54 14.9 +0.1
SPR3 IAmb IAmb 23 54 17.0
comp=Z,8.6nm,1.5s
PRN Pahroc Range 86.21 52 P P 23 54 15.0 +0.2
HVU Hansel Valley 86.31 47 P P 23 54 15.5 +0.3
HVU IAmb IAmb 23 54 16.5
comp=Z,8.7nm,1.4s
SHPR Sheep Range 86.44 53 P P 23 54 16.0 +0.1
GMRC Granite Mounta 86.64 55 P P 23 54 17.1 +0.3
baz=290
BELC Belle Mtn. Jos 86.64 55 P P 23 54 16.8 -0.1
baz=290
MONP2 Monument Peak 86.68 57 P P 23 54 16.8 -0.4
baz=290
PSUT Pine Spring 86.70 51 P P 23 54 17.5 +0.3
PSUT IAmb IAmb 23 54 23.8
comp=Z,5.0nm,0.8s
IMW Indian Meadow 86.78 45 P P 23 54 18.3 +0.7
DUG Dugway, Tooele 86.86 49 P P 23 54 18.0 +0.2
DUG IAmb IAmb 23 54 18.9
comp=Z,4.0nm,0.7s
DUG Dugway, Tooele 86.86 49 P P 23 54 18.1 +0.3
baz=291
V12A Nelson 86.94 53 P P 23 54 19.1 +0.9
V12A IAmb IAmb 23 54 19.6
comp=Z,4.7nm,0.7s
FINES FINESS Array B 87.15 335 P P 23 54 16.3 -2.2
comp=Z,0.7nm,0.4s,baz=73,slow=4.8,SNR=13
comp=Z,0.7nm,0.4s
BC3 Big Chuckawall 87.19 56 P P 23 54 19.3 -0.2
baz=290
IRM Iron Mountain 87.25 55 P P 23 54 20.0 +0.3
baz=290
RLMT Red Lodge 87.41 43 P P 23 54 21.0 +0.6
RLMT Red Lodge 87.41 43 P P 23 54 21.7 +1.3
baz=293
CCUT Cedar City 87.42 51 P P 23 54 21.1 +0.4
W13A Hualapai Mount 87.90 54 P P 23 54 23.2 +0.2
W13A IAmb IAmb 23 54 24.2
comp=Z,2.6nm,0.5s
KNB Kanab 88.01 52 P P 23 54 23.6 +0.2
KNB IAmb IAmb 23 54 25.2
comp=Z,7.8nm,1.0s
BW06 Boulder Array 88.15 45 P P 23 54 24.1 +0.1
baz=293
PD31 Pinedale Array 88.15 45 P P 23 54 23.9 -0.1
PDAR Pinedale Array 88.15 45 P P 23 54 23.6 -0.5
comp=Z,0.7nm,0.4s,baz=148,slow=1.3,SNR=20
PDAR pP **pP** 23 55 09.8 -2.3
comp=Z,0.4nm,0.5s,baz=194,slow=2.0,SNR=2.6
comp=Z,0.7nm,0.4s
U15A North Rim 88.62 52 P P 23 54 27.2 +0.8
U15A IAmb IAmb 23 54 28.0
comp=Z,4.3nm,0.7s
LAO LASA Array 88.70 41 P P 23 54 26.4 +0.1
baz=296
SRU San Rafael Swe 88.91 49 P P 23 54 27.8 +0.2
SRU IAmb IAmb 23 54 28.4
comp=Z,4.5nm,0.7s
Y14A Wickenburg 88.99 55 P P 23 54 28.3 +0.3
Y14A IAmb IAmb 23 54 29.3
comp=Z,5.4nm,0.6s
HMU Henry Mountain 89.20 50 P P 23 54 29.2 +0.1
HMU IAmb IAmb 23 54 30.7
comp=Z,5.1nm,0.8s
WUAZ Wupatki 89.65 53 P P 23 54 31.8 +0.6
WUAZ IAmb IAmb 23 54 33.4
comp=Z,4.3nm,0.8s
WUAZ Wupatki 89.65 53 P P 23 54 32.2 +1.1
baz=292
214A Organ Pipe Nat 89.87 56 P P 23 54 32.8 +0.8
baz=292
O20A White River Ci 90.11 47 P P 23 54 32.6 -0.6
baz=294
K22A Casper 90.24 45 P P 23 54 33.6 -0.1
baz=295
MVCO Mesa Verde 91.12 50 P P 23 54 38.0 0.0
baz=294
RSSD Black Hills 91.21 42 P P 23 54 38.0 -0.3
baz=297
TUC Tucson 91.33 55 P P 23 54 39.3 +0.5
baz=293
N23A Red Feather La 91.38 46 P P 23 54 39.5 +0.3
baz=296
ISCO Idaho Springs 92.09 47 P P 23 54 42.6 +0.1
baz=296
S22A 4UR Ranch, Cre 92.11 49 P P 23 54 42.7 +0.1
baz=295
SDCO Great Sand Dun 93.06 49 P P 23 54 46.9 -0.2
baz=296
121A Cookes Peak, D 93.57 54 P P 23 54 49.4 +0.1
baz=294
ANMO Albuquerque 93.57 52 P P 23 54 49.2 -0.1
baz=295
MNTX Cornudas Mount 95.77 54 P P 23 54 58.8 -0.4
baz=296
MSTX Muleshoe 96.73 51 P P 23 55 03.2 -0.4
baz=297
TXAR Lajitas Array 98.13 56 P Pdif 23 55 10.1 +0.1
comp=Z,0.2nm,0.8s,baz=259,slow=2.4,SNR=1.6
comp=Z,0.2nm,0.8s
LRAL Lakeview Retre 108.36 45 P **PKiKP** 23 59 59.8 -0.6
baz=308
MCWV Mont Chateau 108.40 35 P **PKiKP** 23 59 59.8 -0.5
baz=315
BINY Binghamton 108.58 31 P **PKiKP** 00 00 00.1 -0.5
baz=318
SSPA Standing Stone 108.76 34 P **PKiKP** 00 00 00.1 -0.8
baz=316
LBNH Lisbon 108.91 28 P **PKiKP** 00 00 01.0 -0.2
baz=322

*IDC **11** 23:57:05.8±2.4, 48.97S×108.45E, h0km, mb4.1/2, mbtmp4.1/2, MS3.3/8, Error ellipse: s-maj=127.3km s-min=44.5km az=122.0*
*NEIC **11** 23:57:07.8±1.8, 49.0ºS±0.1º×108.6ºE±0.2, h10km±1km, mb4.9/14, Error ellipse: s-maj=25.8km s-min=21.0km az=338.0*

ISC 11 23:57:07.5±0.6, **48.9ºS**±0.1º×**108.6E**±0.1º, **h10**km, **n35**, σ1º**03**/24, **mb4.8**/10, **MS3.3**/7, **Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**14.61**	**18**	T	T	00 15 32.8	
	baz=194,slow=74,SNR=56						
H01W1	**Cape Leeuwin H**	**14.62**	**18**	T	T	00 15 30.7	
	baz=194,slow=74,SNR=54						
H01W3	**Cape Leeuwin H**	**14.62**	**18**	T	T	00 15 32.5	
	baz=194,slow=74,SNR=39						
NWAO	**Narrogin (SRO)**	**17.25**	**25**	LR	LR	00 06 06.5	
	comp=Z,93nm,20.2s,baz=258,slow=31						
FORT	**Forrest**	**23.38**	**46**	P	**P**	**00 02 14.8**	**-1.4**
FORT				IAmb	IAmb	00 02 26.3	
	comp=Z,31nm,1.3s						
MBWA	**Marble Bar**	**29.11**	**22**	P	**P**	**00 03 08.2**	**-0.1**
MBWA				IAmb	IAmb	00 03 11.1	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**30.06**	**68**	LR	LR	00 13 00.0	
	comp=Z,53nm,21.0s,baz=206,slow=32						
ASAR	**Alice Springs**	**32.15**	**47**	P	**P**	**00 03 34.7**	**-0.6**
ASAR	**Alice Springs**	**32.15**	**47**	P	**P**	**00 03 35.7**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=209,slow=8.6,SNR=14						
	comp=Z,1.6nm,0.8s						
AS31	**Alice Springs**	**32.16**	**47**	P	**P**	**00 03 35.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**33.72**	**30**	P	**P**	**00 03 49.8**	**+0.9**
VNDA	**Vanda**	**34.97**	**162**	LR	LR	00 17 40.8	
	comp=Z,46nm,18.2s,baz=146,slow=35						
WRA	**Warramunga Arr**	**35.55**	**45**	P	**P**	**00 04 05.3**	**+0.5**
	comp=Z,3.2nm,0.9s,baz=209,slow=8.2,SNR=14						
	comp=Z,3.2nm,0.9s						
CTA	**Charters Tower**	**41.65**	**60**	LR	LR	00 20 51.7	
	comp=Z,33nm,20.9s,baz=264,slow=34						
LEM	**Lembang**	**41.96**	**359**	LR	LR	00 19 45.7	
	comp=Z,34nm,18.5s,baz=58,slow=32						
KHZ	**Kahutara**	**44.61**	**107**	P	**P**	**00 05 19.2**	**-0.5**
KHZ				IAmb	IAmb	00 05 35.4	
	comp=Z,38nm,1.3s						
KAPI	**Kappang**	**44.78**	**16**	LR	LR	00 20 24.4	
	comp=Z,26nm,21.4s,baz=224,slow=31						
ROCAM	**Rodrigues Isla**	**46.35**	**293**	P	**P**	**00 05 33.2**	**-0.5**
BFZ	**Birch Farm**	**47.26**	**107**	P	**P**	**00 05 39.0**	**-1.7**
MXZ	**Matakaoa Point**	**50.37**	**105**	P	**P**	**00 06 03.5**	**-1.0**
BELA	**Belgrano 2**	**51.46**	**189**	P	**P**	**00 06 12.1**	**-0.2**
BOSA	**Boshof**	**64.81**	**255**	P	**P**	**00 07 46.0**	**-0.6**
BOSA				IAmb	IAmb	00 08 01.2	
	comp=Z,13nm,1.5s						
SUR	**Sutherland**	**65.02**	**249**	P	**P**	**00 07 47.6**	**-0.3**
SUR				IAmb	IAmb	00 08 06.1	
	comp=Z,34nm,1.2s						
WIN	**Windhoek**	**74.27**	**254**	P	**P**	**00 08 45.8**	**+0.6**
WIN				IAmb	IAmb	00 08 57.0	
	comp=Z,14nm,1.3s						
TSUM	**Tsumeb**	**76.41**	**256**	P	**P**	**00 08 56.8**	**-0.6**
TSUM				IAmb	IAmb	00 09 07.1	
	comp=Z,12nm,1.4s						
TSUM	**Tsumeb**	**76.41**	**256**	LR	LR	00 35 37.0	
	comp=Z,34nm,21.4s,baz=152,slow=30						
GO08	**Villa O'Higgin**	**82.99**	**179**	P	**P**	**00 09 32.6**	**+0.1**
GO08				IAmb	IAmb	00 09 37.4	
	comp=Z,31nm,1.5s						
KLR	**Kul'dur**	**99.80**	**15**	LR	LR	00 57 54.3	
	comp=Z,16nm,18.6s,baz=202,slow=36						
NVAR	**Mina Array Bea**	**145.02**	**90**	PKPbc	**PKPab**	**00 16 44.7**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=222,slow=5.4,SNR=7.8						
WCT	**Wildcat Mounta**	**145.21**	**93**		**PKPbc**	**00 16 45.2**	**+0.5**
KVN	**Kaiserville**	**145.49**	**89**		**PKPbc**	**00 16 45.9**	**+0.3**
J05D	**Fort Rock, OR**	**145.52**	**80**		**PKPdf**	**00 16 46.5**	**+1.1**
TPNV	**Topopah Spring**	**145.55**	**93**		**PKPdf**	**00 16 46.3**	**+0.6**
TXAR	**Lajitas Array**	**148.59**	**117**	PKPbc	**PKPdf**	**00 16 54.1**	**+3.2**
	comp=Z,1.1nm,0.9s,baz=193,slow=6.2,SNR=1.9						
YKA	**Yellowknife Ar**	**152.75**	**44**	PKPbc	**PKPbc**	**00 17 02.5**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=290,slow=2.4,SNR=9.5						

*NOU **12** 00:02:48.0, 43.37S×173.53E, h10km, MLv4.1/12, Off E. Coast of S. Island, N.Z.*
*WEL **12** 00:02:50.7±0.5, 43.5º S±3.7×17.3E±.7, h22km±4km, M4.2/101, ML4.0/12, MLv4.2/101, Error ellipse: s-maj=0.0km s-min=0.0km az=112.5, confirmed*

ISC 12 00:02:48.3±1.4, **43.32S**±0.03×**173.43E**±0.04, **h10**km±12km, **n138**, σ1º**00**/147, **Off east coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.45**	**320**	P	**Pb**	**00 02 59.4**	**+1.1**
GVZ				S	**Sb**	**00 03 04.8**	**-0.3**
MNZS	**Menzies Bay Ba**	**0.46**	**226**	P	**Pn**	**00 03 01.4**	**+0.4**
OKCZ	**Okains Bay**	**0.49**	**213**	P	**Pn**	**00 03 02.0**	**+0.7**
CECS	**Cheviot Emerge**	**0.51**	**347**	P	**Pn**	**00 03 00.8**	**-0.8**
SCAC	**Scargill**	**0.53**	**315**	P	**Pg**	**00 02 59.1**	**+0.5**
SCAC				S	**Sg**	**00 03 05.3**	**-0.2**
AMBC	**Amberley HDC**	**0.54**	**287**	P	**Pb**	**00 02 59.7**	**0.0**
AMBC				S	**Sb**	**00 03 06.7**	**-0.8**
PARS	**Panorama Road**	**0.56**	**243**	P	**Pb**	**00 03 00.7**	**+0.6**
KPOC	**Kaiapoi North**	**0.56**	**263**	P	**Pb**	**00 03 01.1**	**+0.9**
RCBS	**Redcliffs Bore**	**0.56**	**244**	P	**Pn**	**00 03 02.1**	**-0.2**
MENS	**Menlo Terrace**	**0.58**	**245**	P	**Pn**	**00 03 02.1**	**-0.4**
AMCZ	**Amberley**	**0.58**	**283**	P	**Pn**	**00 03 01.8**	**-0.8**
AMCZ				S	**Sb**	**00 03 09.1**	**+0.1**
ASHY	**Ashley**	**0.61**	**274**	P	**Pb**	**00 03 00.9**	**-0.1**
WAKC	**Waikari**	**0.64**	**303**	P	**Pb**	**00 03 02.1**	**+0.6**
CMHS	**Cashmere**	**0.64**	**246**	P	**Pb**	**00 03 01.6**	**+0.2**
AKCZ	**Akaroa Harbour**	**0.67**	**214**	P	**Pn**	**00 03 04.2**	**+0.4**
SWNC	**Swannanoa Scho**	**0.68**	**265**	P	**Pb**	**00 03 02.4**	**+0.1**
MQZ	**McQueen's Vall**	**0.69**	**235**	P	**Pn**	**00 03 03.5**	**-0.5**
MQZ				S	**Sb**	**00 03 11.9**	**+0.1**
CULC	**Culverden Airl**	**0.72**	**320**	P	**Pg**	**00 03 02.3**	**+0.1**
CULC				S	**Sg**	**00 03 10.4**	**-1.2**
CSTC	**Cust School**	**0.77**	**270**	P	**Pg**	**00 03 03.2**	**+0.2**
LINC	**Lincoln Crop a**	**0.77**	**246**	P	**Pg**	**00 03 03.5**	**+0.5**
LSRC	**Lake Sumner Ro**	**0.79**	**304**	P	**Pg**	**00 03 03.5**	**+0.1**
LSRC				S	**Sg**	**00 03 12.5**	**-1.2**
SMHS	**Summerhill**	**0.80**	**273**	P	**Pn**	**00 03 05.0**	**-0.6**
KHZ	**Kahutara**	**0.90**	**5**	P	**Pg**	**00 03 04.6**	**+0.8**
KHZ	**Kahutara**	**0.90**	**5**	P	**Pg**	**00 03 06.5**	**+0.8**
KHZ				S	**Sb**	**00 03 17.4**	**-0.6**
KIKS	**Kaikoura**	**0.91**	**12**	P	**Pn**	**00 03 07.4**	**+0.3**
DSLC	**Dunsandel Scho**	**0.96**	**248**	P	**Pg**	**00 03 07.6**	**+0.8**
LTZ	**Lake Taylor**	**1.00**	**302**	P	**Pb**	**00 03 07.5**	**-0.2**
OXZ	**Oxford**	**1.01**	**269**	P	**Pb**	**00 03 07.5**	**-0.4**
OXZ				S	**Sb**	**00 03 18.9**	**-2.5**
RACZ	**Rakaia**	**1.02**	**246**	P	**Pb**	**00 03 08.4**	**+0.3**
WACZ	**Wakanui South**	**1.31**	**241**	P	**Pn**	**00 03 12.7**	**+0.1**
MHCZ	**Mount Hutt**	**1.37**	**260**	P	**Pn**	**00 03 12.8**	**-0.7**
INZ	**Inchbonnie**	**1.57**	**291**	P	**Pn**	**00 03 15.5**	**-0.7**
THZ	**Tophouse**	**1.60**	**346**	P	**Pn**	**00 03 16.1**	**-0.5**
BSWZ	**Blackbirch Sta**	**1.63**	**12**	P	**Pn**	**00 03 17.5**	**+0.4**
ARCZ	**Arundel**	**1.75**	**248**	P	**Pn**	**00 03 18.4**	**-0.4**
RPZ	**Rata Peaks**	**1.77**	**256**	P	**Pn**	**00 03 18.6**	**-0.4**
RPZ	**Rata Peaks**	**1.77**	**256**	P	**Pn**	**00 03 18.5**	**-0.4**
TUWZ	**Tuamarina**	**1.98**	**12**	P	**Pn**	**00 03 20.9**	**-0.2**
DSZ	**Dennistoun Nort**	**1.98**	**322**	P	**Pn**	**00 03 21.3**	**-0.5**
MRNZ	**Matariki Terra**	**1.98**	**345**	P	**Pn**	**00 03 22.0**	**+0.2**
WVZ	**Waitaha Valley**	**1.98**	**276**	P	**Pn**	**00 03 21.8**	**-0.1**
TMZ	**Timaru**	**2.05**	**238**	P	**Pn**	**00 03 22.9**	**+0.1**
NNZ	**Nelson**	**2.10**	**359**	P	**Pn**	**00 03 23.4**	**0.0**
BHW	**Baring Head**	**2.19**	**30**	P	**Pn**	**00 03 24.4**	**-0.2**
TCW	**Tory Channel**	**2.20**	**17**	P	**Pn**	**00 03 24.4**	**-0.3**
PLWZ	**Palliser**	**2.21**	**38**	P	**Pn**	**00 03 24.5**	**-0.5**
SNZO	**South Karori**	**2.22**	**26**	P	**Pn**	**00 03 25.0**	**0.0**
WEL	**Wellington**	**2.26**	**27**	P	**Pn**	**00 03 25.7**	**+0.1**
GCSZ	**Gaunt Creek Bo**	**2.26**	**269**	P	**Pn**	**00 03 26.0**	**+0.3**
TKNZ	**Takaka Hill**	**2.31**	**351**	P	**Pn**	**00 03 26.9**	**+0.6**
PAWZ	**Paruwai Farm**	**2.43**	**38**	P	**Pn**	**00 03 27.5**	**-0.6**
CAW	**Cannon Point**	**2.52**	**29**	P	**Pn**	**00 03 29.0**	**-0.3**
DUWZ	**D'Urville Isla**	**2.54**	**8**	P	**Pn**	**00 03 29.3**	**-0.2**
TRWZ	**Traveller**	**2.54**	**42**	P	**Pn**	**00 03 29.0**	**-0.6**
QRZ	**Quartz Range**	**2.58**	**345**	P	**Pn**	**00 03 30.5**	**+0.5**
QRZ	**Quartz Range**	**2.58**	**345**	P	**Pn**	**00 03 30.3**	**+0.3**
LBZ	**Lake Benmore**	**2.58**	**244**	P	**Pn**	**00 03 30.4**	**+0.3**
FOZ	**Fox Glacier**	**2.64**	**264**	P	**Pn**	**00 03 31.7**	**+0.8**
ODZ	**Otahua Downs**	**2.65**	**228**	P	**Pn**	**00 03 31.2**	**+0.2**
ODZ	**Otahua Downs**	**2.65**	**228**	P	**Pn**	**00 03 31.2**	**+0.2**
MTW	**Mount Morrison**	**2.65**	**36**	P	**Pn**	**00 03 30.2**	**-0.8**
KIW	**Kapiti Island**	**2.69**	**25**	P	**Pn**	**00 03 31.5**	**-0.1**
OGWZ	**Otaki Gorge**	**2.81**	**28**	P	**Pn**	**00 03 32.9**	**-0.3**
TMWZ	**Te Maipa**	**2.87**	**40**	P	**Pn**	**00 03 32.6**	**-1.4**
HOWZ	**Holdsworth Sta**	**2.87**	**33**	P	**Pn**	**00 03 33.4**	**-0.7**
MRZ	**Mangatainoka R**	**3.10**	**32**	P	**Pn**	**00 03 36.5**	**-0.7**
TIWZ	**Tintock**	**3.13**	**37**	P	**Pn**	**00 03 36.8**	**-0.8**
HHSZ	**Highcliff Hill**	**3.27**	**217**	P	**Pn**	**00 03 39.9**	**+0.3**
PRWZ	**Pori Road**	**3.35**	**35**	P	**Pn**	**00 03 39.9**	**-0.7**
BFZ	**Birch Farm**	**3.37**	**40**	P	**Pn**	**00 03 40.1**	**-0.8**
BFZ	**Birch Farm**	**3.37**	**40**	P	**Pn**	**00 03 39.9**	**-0.9**
POWZ	**Post Office Ro**	**3.40**	**32**	P	**Pn**	**00 03 41.0**	**-0.3**
JCZ	**Jackson Bay**	**3.45**	**256**	P	**Pn**	**00 03 42.1**	**-0.1**
JCZ	**Jackson Bay**	**3.45**	**256**	P	**Pn**	**00 03 42.0**	**-0.1**
WKZ	**Wanaka**	**3.52**	**243**	P	**Pn**	**00 03 42.9**	**-0.2**
EAZ	**Earnscleugh**	**3.52**	**236**	P	**Pn**	**00 03 43.1**	**+0.1**
DVHZ	**Dannevirke**	**3.64**	**35**	P	**Pn**	**00 03 43.4**	**-1.3**
TUZ	**Tuapeka**	**3.78**	**224**	P	**Pn**	**00 03 47.0**	**+0.4**
PRHZ	**Porangahau**	**3.88**	**39**	P	**Pn**	**00 03 47.0**	**-0.9**
NMEZ	**Namu Road**	**3.91**	**5**	P	**Pn**	**00 03 50.8**	**+2.4**
PNHZ	**Pukenui**	**3.98**	**32**	P	**Pn**	**00 03 48.2**	**-1.2**
PREZ	**Palmer Road**	**4.01**	**8**	P	**Pn**	**00 03 52.2**	**+2.5**
KHEZ	**Kahui Hut**	**4.04**	**6**	P	**Pn**	**00 03 52.2**	**+2.0**
KHEZ	**Kahui Hut**	**4.04**	**6**	P	**Pn**	**00 03 51.8**	**+1.5**
NBEZ	**Newall Road No**	**4.06**	**5**	P	**Pn**	**00 03 52.3**	**+1.9**
NEZ	**North Egmont**	**4.07**	**7**	P	**Pn**	**00 03 53.1**	**+2.4**
PKE	**Pukeiti**	**4.14**	**6**	P	**Pn**	**00 03 53.0**	**+1.5**
MSZ	**Milford Sound**	**4.20**	**249**	P	**Pn**	**00 03 51.8**	**-0.4**
PKVZ	**Pokaka**	**4.27**	**20**	P	**Pn**	**00 03 54.3**	**+0.8**
MOVZ	**Moawhango**	**4.28**	**25**	P	**Pn**	**00 03 53.9**	**+0.4**
KRHZ	**Kereru**	**4.28**	**32**	P	**Pn**	**00 03 52.1**	**-1.4**
BHHZ	**Black Hill Sta**	**4.30**	**28**	P	**Pn**	**00 03 53.6**	**-0.3**
VRZ	**Vera Road**	**4.30**	**14**	P	**Pn**	**00 03 54.6**	**+0.9**
WNVZ	**Wahianoa**	**4.31**	**23**	P	**Pn**	**00 03 54.8**	**+0.8**
TRVZ	**Turoa**	**4.32**	**22**	P	**Pn**	**00 03 55.0**	**+0.8**
MLZ	**Mavora Lakes**	**4.33**	**240**	P	**Pn**	**00 03 53.6**	**-0.5**
WHVZ	**Whangaehu Hut**	**4.34**	**23**	P	**Pn**	**00 03 55.7**	**+1.1**
MAVZ	**Matarangi**	**4.35**	**22**	P	**Pn**	**00 03 56.4**	**+1.7**
FWVZ	**Far West T-bar**	**4.36**	**22**	P	**Pn**	**00 03 56.5**	**+1.8**
KAHZ	**Kahuranaki**	**4.37**	**37**	P	**Pn**	**00 03 53.2**	**-1.4**
TUVZ	**Tukino**	**4.38**	**23**	P	**Pn**	**00 03 56.3**	**+1.4**
COVZ	**Chateau Observ**	**4.41**	**22**	P	**Pn**	**00 03 56.8**	**+1.5**
SYZ	**Scrubby Hill**	**4.43**	**222**	P	**Pn**	**00 03 56.4**	**+0.9**
SYZ	**Scrubby Hill**	**4.43**	**222**	P	**Pn**	**00 03 56.2**	**+0.7**
NGZ	**Ngauruhoe**	**4.45**	**22**	P	**Pn**	**00 03 56.5**	**+0.6**
SNVZ	**South Ngauruho**	**4.45**	**23**	P	**Pn**	**00 03 56.6**	**+0.6**
OTVZ	**Oturere**	**4.48**	**23**	P	**Pn**	**00 03 56.7**	**+0.4**
NNVZ	**North Ngauruho**	**4.49**	**22**	P	**Pn**	**00 03 57.7**	**+1.2**
WTVZ	**West Tongariro**	**4.50**	**22**	P	**Pn**	**00 03 57.5**	**+1.0**
TWVZ	**Taurewa**	**4.50**	**20**	P	**Pn**	**00 03 56.8**	**+0.2**
TMVZ	**Te Maari**	**4.53**	**23**	P	**Pn**	**00 03 57.8**	**+0.7**
NTVZ	**North Tongarir**	**4.54**	**23**	P	**Pn**	**00 03 57.6**	**+0.5**
WHZ	**Wether Hill Ro**	**4.69**	**235**	P	**Pn**	**00 03 58.2**	**-0.8**
BKZ	**Black Stump Fm**	**4.75**	**30**	P	**Pn**	**00 03 58.8**	**-1.1**
ARHZ	**Aropaoanui**	**4.86**	**35**	P	**Pn**	**00 04 00.8**	**-0.5**
HIZ	**Hauiti**	**4.92**	**13**	P	**Pn**	**00 04 02.9**	**+0.7**
NMHZ	**Naumai**	**4.92**	**32**	P	**Pn**	**00 04 02.4**	**0.0**
MRHZ	**Matea Rd**	**5.01**	**28**	P	**Pn**	**00 04 02.8**	**-0.8**
MTHZ	**Maungataniwha**	**5.15**	**31**	P	**Pn**	**00 04 04.9**	**-0.6**
RAHZ	**Arahi**	**5.19**	**33**	P	**Pn**	**00 04 05.2**	**-0.8**
APZ	**The Paps**	**5.22**	**226**	P	**Pn**	**00 04 06.9**	**+0.6**
TLZ	**Tolley Road**	**5.23**	**19**	P	**Pn**	**00 04 10.3**	**+3.8**
KNZ	**Kokohu**	**5.35**	**38**	P	**Pn**	**00 04 06.6**	**-1.6**
MHGZ	**Mahia Peninsul**	**5.36**	**41**	P	**Pn**	**00 04 07.9**	**-0.4**
RTZ	**Ruatahuna**	**5.41**	**31**	P	**Pn**	**00 04 08.0**	**-1.0**
URZ	**Urewera**	**5.77**	**30**	P	**Pn**	**00 04 13.7**	**-0.2**
URZ	**Urewera**	**5.77**	**30**	P	**Pn**	**00 04 12.5**	**-1.4**
TOZ	**Tahuroa Road**	**5.80**	**16**	P	**Pn**	**00 04 14.4**	**+0.1**
MWZ	**Matawai**	**5.87**	**33**	P	**Pn**	**00 04 13.1**	**-2.2**
TWGZ	**Tauwhareparae**	**6.19**	**35**	P	**Pn**	**00 04 21.5**	**+1.9**
RUGZ	**Raukumara Rang**	**6.24**	**33**	P	**Pn**	**00 04 18.9**	**-1.7**
AWAZ	**Awhitu Peninsu**	**6.31**	**9**	P	**Pn**	**00 04 21.8**	**+0.5**
MKAZ	**Moumakai**	**6.34**	**13**	P	**Pn**	**00 04 22.0**	**+0.2**
HAZ	**Te Kaha**	**6.47**	**32**	P	**Pn**	**00 04 22.1**	**-1.4**
PKGZ	**Pakihiroa**	**6.47**	**35**	P	**Pn**	**00 04 21.6**	**-2.0**
WIAZ	**Waiheke Island**	**6.64**	**12**	P	**Pn**	**00 04 26.5**	**+0.6**
OUZ	**Omahuta**	**8.09**	**1**	P	**Pn**	**00 04 46.8**	**+1.1**
OUZ	**Omahuta**	**8.09**	**1**	P	**Pn**	**00 04 48.9**	**+3.2**

IDC 12 00:04:16.3±11.0, **2.27N**×**127.63E**, **h299**km±111km, **mb2.7**/4, **mbtmp3.3**/4, **Error ellipse: s-maj=215.2km s-min=24.4km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.04**	**164**	P	P	00 08 56.0	+0.1
	0.1nm,0.3s,baz=344,slow=10,SNR=6.2						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**26.50**	**167**	P	P	00 09 26.9	-0.1
	0.2nm,0.4s,baz=351,slow=6.7,SNR=2.0						
ASAR				PcP	PcP	00 12 43.2	-0.3
	0.3nm,0.7s,baz=348,slow=4.0,SNR=1.8						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**59.26**	**325**	P	P	00 13 47.0	+0.1
	0.2nm,0.5s,baz=128,slow=7.9,SNR=3.9						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**63.44**	**327**	P	P	00 14 14.4	-0.2
	0.4nm,0.4s,baz=125,

ELIS					IAML			00 11 47.8		
	comp=N,823nm,0.3s									
OK032	**Salt Plains WL**	**0.84**	**69**		Pg		Pg	00 11 43.0	-0.5	
OK032					Sg		Sg	00 11 52.2	-2.2	
CSTR	**Hydro, Custer**	**0.94**	**155**		Pg		Pg	00 11 45.1	-0.4	
CSTR					Sg		Sg	00 11 58.0	+0.3	
CROK	**Carrier**	**0.97**	**89**				Pg	00 11 44.9	-1.1	
KAN10	**Anthony SW Sta**	**1.07**	**54**				Pg	00 11 47.2	-0.8	
KAN10							Sg	00 12 02.0	+0.1	
KAN14	**Manchester OK**	**1.08**	**65**				Pg	00 11 47.3	-0.8	
KAN14							Sg	00 12 01.7	-0.4	
GC02	**Grant County #**	**1.12**	**71**				Pg	00 11 48.2	-0.7	
KAN08	**Anthony NE Sta**	**1.21**	**53**				Pg	00 11 49.7	-0.9	
KAN12	**Harper NE Stat**	**1.24**	**50**				Pg	00 11 50.3	-0.8	
KAN17	**Caldwell West**	**1.26**	**64**				Pn	00 11 51.0	-0.5	
KAN01	**Argonia South**	**1.31**	**60**				Pn	00 11 52.0	-0.3	
KAN01							Sn	00 12 10.0	-0.1	
KAN09	**Caldwell North**	**1.41**	**63**				Pn	00 11 53.6	0.0	
KS21	**Milan North St**	**1.45**	**57**				Pn	00 11 54.0	-0.2	
KAN13	**South Haven SW**	**1.46**	**69**				Pb	00 11 55.0	0.0	
OK029	**Liberty Lake**	**1.56**	**116**				Pn	00 11 56.0	+0.3	
BLOK	**Blackwell**	**1.60**	**80**		Pg		Pb	00 11 57.0	-0.4	
SMWD	**Samnorwood**	**1.64**	**212**				Pn	00 11 56.9	+0.1	
ADOK	**Arcadia Dam**	**1.69**	**119**				Pn	00 11 57.6	+0.1	
OKCSW	**OKLAHOMA CITY**	**1.79**	**127**				Pn	00 11 58.1	-0.7	
WMOK	**Wichita Mounta**	**1.79**	**169**		Pn		Pn	00 11 59.6	+0.8	
WMOK					IAmb_Lg			00 12 24.2		
	comp=Z,21nm,0.8s									
OK048	**Pawnee Station**	**1.81**	**92**				Pn	00 11 59.4	+0.3	
OK033	**Mehan**	**1.87**	**103**				Pn	00 12 00.8	+0.9	
OK051	**E0350 and S346**	**1.89**	**89**				Pn	00 12 00.2	0.0	
FNO	**Franklin**	**1.91**	**130**				Pn	00 11 59.9	-0.5	
FNO							Sb	00 12 27.1	+0.5	
R32A	**Long Quarter,**	**1.96**	**11**				Pn	00 12 01.3	+0.2	
OK052	**Battle Ridge R**	**1.99**	**104**				Pn	00 12 00.2	-1.3	
QUOK	**Quay**	**2.02**	**99**				Pn	00 12 01.8	-0.2	
T35A	**Sooner Cattle**	**2.19**	**78**				Pn	00 12 04.5	+0.3	
DEOK	**Depew**	**2.27**	**106**		Pn		Pn	00 12 05.0	-0.3	
W35A	**Tecumseh**	**2.31**	**125**				Pn	00 12 06.5	+0.6	
CBKS	**Cedar Bluff**	**2.35**	**349**				Pb	00 12 08.6	-1.5	
AMTX	**Amarillo**	**2.60**	**232**				Pb	00 12 13.2	-1.2	
WTFS	**Witchita Falls**	**2.79**	**168**				Pn	00 12 13.8	+1.2	
TUL3	**Leonard**	**2.81**	**101**		Pn		Pn	00 12 12.9	+0.1	
RTBA	**Rita Blanca**	**2.87**	**270**				Pn	00 12 14.8	+1.1	
RTBA					IAmb_Lg			00 13 03.5		
	comp=Z,10nm,1.1s									
LOOK	**Love County**	**2.99**	**146**				Pn	00 12 15.3	0.0	
DKNS	**Dickens**	**3.17**	**207**				Pn	00 12 20.2	+2.4	
DKNS					IAmb_Lg			00 13 14.8		
	comp=Z,16nm,0.8s									
APMT	**Aspermont**	**3.26**	**194**				Pn	00 12 20.3	+1.3	
APMT					IAmb_Lg			00 13 09.2		
	comp=Z,9.2nm,0.8s									
KSU1	**Kansas State U**	**3.30**	**37**				Pn	00 12 19.2	-0.4	
KSU1					IAmb_Lg			00 13 15.0		
	comp=Z,32nm,1.2s									
Z35A	**Perchaven, San**	**3.54**	**153**				Pn	00 12 24.1	+1.2	
KSCO	**Kaye Shedlock'**	**3.71**	**314**		IAmb_Lg			00 13 27.5		
	comp=Z,23nm,0.7s									
PLPT	**Palo Pinto**	**3.75**	**169**		IAmb_Lg			00 13 27.0		
	comp=Z,11nm,1.0s									
ABTX	**Abilene, Hawle**	**3.89**	**186**		IAmb_Lg			00 13 34.4		
	comp=Z,14nm,0.8s									
SN01	**Snyder 1**	**3.89**	**202**		IAmb_Lg			00 13 36.6		
	comp=Z,20nm,0.8s									
POST	**Post**	**3.92**	**210**		IAmb_Lg			00 13 34.8		
	comp=Z,16nm,0.7s									
HHAR	**Hobbs**	**4.24**	**91**		IAmb_Lg			00 13 41.2		
	comp=Z,12nm,0.8s									
T25A	**Trinidad**	**4.24**	**280**		IAmb_Lg			00 13 52.0		
	comp=Z,8.8nm,0.8s									
FW13	**Cleburne**	**4.38**	**160**		IAmb_Lg			00 13 47.5		
	comp=Z,9.0nm,0.8s									
SGCY	**Sterling City**	**4.85**	**200**		IAmb_Lg			00 14 08.9		
	comp=Z,20nm,0.8s									
BRDY	**Brady**	**5.20**	**178**		IAmb_Lg			00 14 22.1		
	comp=Z,12nm,0.8s									
435B	**Jarrell**	**5.86**	**166**		IAmb_Lg			00 14 40.0		
	comp=Z,14nm,0.9s									
PHWY	**Pilot Hill**	**6.85**	**316**		IAmb_Lg			00 15 10.4		
	comp=Z,9.7nm,1.1s									
N23A	**Red Feather La**	**6.87**	**312**		IAmb_Lg			00 15 12.6		
	comp=Z,11nm,0.8s									
RSSD	**Black Hills**	**8.46**	**336**		IAmb_Lg			00 15 59.9		
	comp=Z,4.4nm,0.7s									

*IDC **12** 00:31:21.7±0.9, 10°.06N×140°.39E, h0km, mb3.9/10, mbtmp4.0/11, ML4.9/1, MS3.5/19, Error ellipse: s-maj=25.9km s-min=20.6km az=101.0*

ISC 12 00:31:25.7±0.9, 10°.1N±0°.2×140°.4E±0°.1, h26km, n34, σ0899/12, mb4.0/10, MS3.5/17, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.59**	**51**	Pn	**Pn**	**00 32 48.0**	**+0.7**
	32nm,0.3s,baz=194,slow=3.2,SNR=7.0						
GUMO				Sn	**Sn**	**00 33 49.5**	**-1.3**
	baz=80,slow=23						
	88nm,0.3s						
DAV	**Davao City (W)**	**14.96**	**260**	LR	LR	00 39 22.5	
	comp=Z,86nm,20.3s,baz=151,slow=32						
JCJ	**Chichijima**	**17.02**	**5**	LR	LR	00 41 02.4	
	comp=Z,126nm,18.2s,baz=339,slow=34						
JOW	**Kunigami**	**20.24**	**327**	LR	LR	00 41 50.7	
	comp=Z,64nm,21.3s,baz=56,slow=31						
PMG	**Port Moresby**	**20.47**	**161**	LR	LR	00 42 59.2	
	comp=Z,139nm,20.1s,baz=299,slow=34						
JNU	**Nakatsue**	**24.57**	**340**	LR	LR	00 44 57.8	
	comp=Z,63nm,21.4s,baz=142,slow=33						
MJAR	**Matsushiro Arr**	**26.44**	**356**	LR	LR	00 47 15.3	
	comp=Z,69nm,19.1s,baz=187,slow=36						
H11S3	**WAKE ISLAND Hy**	**26.78**	**69**	T	T	01 05 10.5	
	baz=255,slow=75,SNR=2037						
H11S1	**WAKE ISLAND Hy**	**26.79**	**69**	T	T	01 05 07.3	
	baz=255,slow=75,SNR=422						
H11S2	**WAKE ISLAND Hy**	**26.79**	**69**	T	T	01 05 12.3	
	baz=255,slow=75,SNR=1125						
H11N1	**WAKE ISLAND Hy**	**27.29**	**66**	T	T	01 05 45.8	
	baz=242,slow=77,SNR=323						
H11N2	**WAKE ISLAND Hy**	**27.30**	**66**	T	T	01 05 46.5	
	baz=242,slow=77,SNR=239						
H11N3	**WAKE ISLAND Hy**	**27.31**	**66**	T	T	01 05 46.9	
	baz=242,slow=77,SNR=305						
KSRS	**Korea Array**	**29.51**	**340**	LR	LR	00 48 09.1	
	comp=Z,70nm,19.6s,baz=150,slow=34						
WRA	**Warramunga Arr**	**30.41**	**191**	P	**P**	**00 37 35.0**	**-1.0**
	0.7nm,0.7s,baz=10,slow=9.5,SNR=3.7						
	0.7nm,0.7s						
CTA	**Charters Tower**	**30.51**	**169**	LR	LR	00 48 36.4	
	comp=Z,58nm,20.0s,baz=297,slow=34						
ASAJ	**Asahikawa**	**33.98**	**3**	LR	LR	00 50 04.5	
	comp=Z,56nm,21.9s,baz=0.0,slow=33						
ASAR	**Alice Springs**	**34.12**	**191**	P	**P**	**00 38 08.7**	**0.0**
	0.8nm,0.6s,baz=19,slow=12,SNR=9.8						
ASAR				LR	LR	00 51 45.8	
	comp=Z,95nm,20.1s,baz=19,slow=36						
	0.8nm,0.6s						
DZM	**Mont Dzumac**	**40.89**	**142**	LR	LR	00 53 56.2	
	comp=Z,67nm,18.2s,baz=206,slow=33						
CMAR	**Chiang Mai Arr**	**40.97**	**287**	P	**P**	**00 39 07.5**	**+0.8**
	1.4nm,0.4s,baz=88,slow=6.7,SNR=11						
	1.4nm,0.4s						
MKAR	**Makanchi Array**	**61.09**	**318**	P	**P**	**00 41 36.8**	**-0.8**
	0.8nm,0.7s,baz=100,slow=8.4,SNR=9.2						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**62.03**	**326**	P	**P**	**00 41 43.3**	**-0.4**
	0.8nm,0.6s,baz=104,slow=6.8,SNR=5.3						
ZALV				LR	LR	01 09 36.8	
	comp=Z,35nm,19.0s,baz=64,slow=37						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**64.57**	**322**	P	**P**	**00 42 01.7**	**+1.1**
	0.9nm,0.7s,baz=102,slow=6.9,SNR=5.5						
	0.9nm,0.7s						
BVAR	**Borovoye Array**	**70.03**	**323**	P	**P**	**00 42 34.3**	**-0.9**
	1.3nm,0.6s,baz=107,slow=8.2,SNR=10						
	1.3nm,0.6s						
ILAR	**Eielson Array**	**73.60**	**25**	P	**P**	**00 42 56.1**	**-0.3**
	0.6nm,0.5s,baz=248,slow=6.0,SNR=14						
	0.6nm,0.5s						
ARU	**Arti**	**77.18**	**326**	LR	LR	01 19 32.5	
	comp=Z,42nm,19.1s,baz=88,slow=38						
KIRV	**Kirov**	**82.01**	**328**	LR	LR	01 23 47.1	
	comp=Z,20nm,18.7s,baz=37,slow=38						
SPITS	**Spitsbergen Ar**	**86.78**	**350**	LR	LR	01 23 52.6	
	comp=Z,29nm,18.4s,baz=272,slow=36						

YKA	**Yellowknife Ar**	**87.96**	**27**	P			**P**	**00 44 13.3**	**+0.2**	
	0.8nm,0.7s,baz=288,slow=5.3,SNR=10									
	0.8nm,0.7s									
ARCES	**ARCESS Array B**	**89.05**	**341**	LR		LR	LR	01 27 08.0		
	comp=Z,40nm,20.4s,baz=37,slow=38									
OBN	**Obninsk**	**89.61**	**326**	LR		LR	LR	01 25 18.0		
	comp=Z,42nm,21.8s,baz=6.5,slow=36									
NEW	**Newport**	**90.74**	**41**	LR		LR	LR	01 26 31.8		
	comp=Z,53nm,18.5s,baz=18,slow=36									
FINES	**FINESS Array B**	**92.45**	**334**	LR		LR	LR	01 29 56.4		
	comp=Z,49nm,18.2s,baz=7.0,slow=38									
NVAR	**Mina Array Bea**	**92.52**	**50**	P			**P**	**00 44 36.7**	**+1.4**	
	0.4nm,0.5s,baz=281,slow=4.7,SNR=3.0									
	0.4nm,0.5s									

*IDC **12** 00:36:42.6±1.5, 9°.58N×140°.50E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=52.2km s-min=25.7km az=81.0*

ISC 12 00:36:47.4±1.3, 9°.6N±0°.2×140°.6E±0°.3, h35km, n13, σ1920/7, mb3.7/7, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**26.78**	**68**	T	T	01 10 27.0	
	baz=255,slow=75,SNR=70						
H11S1	**WAKE ISLAND Hy**	**26.80**	**68**	T	T	01 10 31.7	
	baz=255,slow=75,SNR=61						
H11S2	**WAKE ISLAND Hy**	**26.80**	**68**	T	T	01 10 27.6	
	baz=255,slow=75,SNR=92						
H11N1	**WAKE ISLAND Hy**	**27.32**	**65**	T	T	01 11 06.0	
	baz=253,slow=74,SNR=64						
H11N2	**WAKE ISLAND Hy**	**27.33**	**65**	T	T	01 11 07.6	
	baz=253,slow=74,SNR=35						
H11N3	**WAKE ISLAND Hy**	**27.34**	**65**	T	T	01 11 10.3	
	baz=253,slow=74,SNR=53						
WRA	**Warramunga Arr**	**29.96**	**192**	P	**P**	**00 42 51.5**	**-1.0**
	0.4nm,0.6s,baz=356,slow=12,SNR=2.9						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**33.66**	**191**	P	**P**	**00 43 26.3**	**+1.1**
	0.2nm,0.5s,baz=18,slow=10,SNR=1.4						
	0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.30**	**287**	P	**P**	**00 44 29.9**	**0.0**
	0.9nm,0.3s,baz=81,slow=7.1,SNR=4.8						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**61.59**	**318**	P	**P**	**00 47 02.6**	**+1.2**
	0.5nm,0.9s,baz=105,slow=7.4,SNR=2.7						
	0.5nm,0.9s						
KURBB	**Kurchatov Arra**	**65.08**	**322**	P	**P**	**00 47 25.0**	**+0.6**
	0.4nm,0.6s,baz=98,slow=6.6,SNR=2.1						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**70.55**	**323**	P	**P**	**00 47 57.5**	**-1.3**
	0.6nm,0.8s,baz=101,slow=7.8,SNR=2.9						
	0.6nm,0.8s						
YKA	**Yellowknife Ar**	**88.32**	**27**	P	**P**	**00 49 35.3**	**+0.1**
	0.2nm,0.6s,baz=291,slow=5.7,SNR=2.6						
	0.2nm,0.6s						

*KNET **12** 00:57:15.9±0.2, 42°.69N×74°.44E, h20km±3km, ml2.7, Error ellipse: s-maj=1.9km s-min=1.9km az=159.0*
*NNC **12** 00:57:16.3±0.4, 42°.68N×74°.47E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=3.1km s-min=2.3km az=146.0*
*KRNET **12** 00:57:16.4±0.1, 42°.71N×74°.44E, h21km, mb3.1*
*SOME **12** 00:57:17.3, 42°.75N×74°.48E, h10km*

ISC 12 00:57:16.3±0.8, 42°.74N±0°.02×74°.33E±0°.02, h14km±5km, n87, σ1941/136, 47C-25D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**0.16**	**131**	⇑P	**Pg**	**00 57 20.1**	**-0.3**
	564nm,0.2s,SNR=607						
AAK				⇑S	**Sg**	**00 57 22.7**	**-0.4**
	2μm,0.3s						
AAK	**Ala-Archa**	**0.16**	**131**	⇑*i*P	**Pg**	**00 57 20.1**	**-0.3**
	baz=52						
AAK				⇑*i*S	**Sg**	**00 57 22.6**	**-0.5**
	baz=52						
FRU1	**Bishkek**	**0.23**	**72**	⇑*i*P	**Pg**	**00 57 21.1**	**-0.3**
	baz=54						
FRU1				⇑*i*S	**Sg**	**00 57 24.3**	**-0.6**
	baz=54						
CHMS	**Chumysh**	**0.40**	**50**	⇑P	**Pg**	**00 57 24.2**	**-0.2**
	299nm,0.1s,SNR=767						
CHMS				⇓S	**Sg**	**00 57 29.5**	**-0.4**
	455nm,0.1s						
CHMS	**Chumysh**	**0.40**	**50**	⇑*i*P	**Pg**	**00 57 24.1**	**-0.2**
	baz=39						
CHMS				⇑*i*S	**Sg**	**00 57 29.5**	**-0.4**
	baz=39						
CHMS	**Chumysh**	**0.40**	**50**	⇑P	**Pg**	**00 57 24.0**	**-0.4**
	30nm,0.1s						
CHMS				⇑S	**Sg**	**00 57 29.4**	**-0.4**
	196nm,0.3s						
EKS2	**Erkin-Say**	**0.42**	**259**	P	**Pb**	**00 57 26.6**	**+1.0**
	74nm,0.1s,SNR=712						
EKS2				⇑S	**Sb**	**00 57 33.6**	**+1.8**
	175nm,0.2s						
EKS2	**Erkin-Say**	**0.42**	**259**	⇓*i*P	**Pb**	**00 57 26.3**	**+0.8**
	baz=64						
EKS2				⇓*i*S	**Sb**	**00 57 33.2**	**+1.5**
	baz=64						
KBK	**Karagaybulak**	**0.46**	**100**	⇑P	**Pg**	**00 57 24.6**	**-0.9**
	144nm,0.1s,SNR=652						
KBK				⇓S	**Sg**	**00 57 30.3**	**-1.4**
	2μm,0.3s						
KBK	**Karagaybulak**	**0.46**	**100**	⇑*i*P	**Pg**	**00 57 24.3**	**-1.2**
	baz=99						
KBK				⇑*i*S	**Sg**	**00 57 29.8**	**-2.0**
	baz=99						
UCH	**Uchtor**	**0.53**	**165**	P	**Pg**	**00 57 26.5**	**-0.4**
	182nm,0.2s,SNR=803						
UCH				⇓S	**Sg**	**00 57 33.2**	**-0.9**
	400nm,0.1s						
UCH	**Uchtor**	**0.53**	**165**	⇑*i*P	**Pg**	**00 57 26.3**	**-0.6**
	baz=74						
UCH				⇑*i*S	**Sg**	**00 57 33.2**	**-0.9**
	baz=74						
USP	**Ospenovka**	**0.54**	**13**	P	**Pb**	**00 57 27.3**	**-0.2**
	110nm,0.2s,SNR=181						
USP				⇑S	**Sb**	**00 57 35.0**	**-0.1**
	892nm,0.3s						
USP	**Ospenovka**	**0.54**	**13**	⇑*i*P	**Pb**	**00 57 27.3**	**-0.2**
	baz=4.0						
USP				⇑*i*S	**Sb**	**00 57 35.1**	**-0.1**
	baz=4.0						
SGDS	**Sogindy**	**0.74**	**17**	P	**Pg**	**00 57 30.8**	**+0.1**
	17nm,0.1s						
SGDS				S	**Sg**	**00 57 40.7**	**+0.1**
	693nm,0.2s						
AML	**Almayashu**	**0.77**	**218**	P	**Pb**	**00 57 31.9**	**+0.1**
	150nm,0.1s,SNR=652						
AML				⇓S	**Sb**	**00 57 42.7**	**+0.5**
	272nm,0.3s						
AML	**Almayashu**	**0.77**	**218**	⇑*i*P	**Pb**	**00 57 31.8**	**+0.1**
	baz=24						
AML				⇑*i*S	**Sb**	**00 57 42.7**	**+0.5**
	baz=24						
AML	**Almayashu**	**0.77**	**218**	⇑P	**Pb**	**00 57 31.8**	**+0.1**
	0.8nm,0.2s						
AML				⇑S	**Sb**	**00 57 42.6**	**+0.4**
	18nm,0.5s						
MRKS	**Merke**	**0.82**	**271**	*e*P	**Pn**	**00 57 33.9**	**+0.5**
	44nm,0.1s						
MRKS				*e*S	**Sn**	**00 57 45.6**	**+0.2**
	289nm,0.1s						
MRKS	**Merke**	**0.82**	**271**	P	**Pn**	**00 57 33.3**	**-0.1**
	62nm,0.1s						
MRKS				S	**Sn**	**00 57 45.1**	**-0.2**
	512nm,0.2s						
ARLS	**Aral**	**0.88**	**181**	⇓*i*P	**Pg**	**00 57 32.7**	**-0.7**
	baz=86						
ARLS				⇓*i*S	**Sg**	**00 57 44.3**	**-0.6**
	baz=86						
TKM2	**Tokmak 2**	**0.95**	**79**	⇑P	**Pg**	**00 57 32.9**	**-1.8**
	90nm,0.1s,SNR=66						
TKM2	**Tokmak 2**	**0.95**	**79**	⇑*i*P	**Pg**	**00 57 32.9**	**-1.8**
	baz=76						
TKM2				⇑*i*S	**Sg**	**00 57 44.8**	**-2.2**
	baz=76						
TKM2	**Tokmak 2**	**0.95**	**79**	⇓P	**Pg**	**00 57 32.8**	**-1.8**
	17nm,0.2s						
TKM2				⇑S	**Sg**	**00 57 44.6**	**-2.4**
	148nm,0.3s						
KZA	**Kyzart**	**0.95**	**134**	⇑P	**Pg**	**00 57 33.3**	**-1.4**
	68nm,0.1s,SNR=253						
KZA				⇑S	**Sg**	**00 57 44.7**	**-2.5**
	96nm,0.2s						

KZA	**Kyzart**	**0.95**	**134**	⇑*i*P			**Pg**	**00 57 33.0**	**-1.7**	
	baz=36									
KZA				⇑*i*S			**Sg**	**00 57 44.7**	**-2.5**	
	baz=36									
KST	**Kastek**	**1.23**	**75**	*e*P			**Pg**	**00 57 38.4**	**-1.7**	
	48nm,0.2s									
KST				*e*S			**Sg**	**00 57 53.3**	**-2.9**	
	222nm,0.3s									
KST	**Kastek**	**1.23**	**75**	P			**Pg**	**00 57 38.4**	**-1.7**	
	48nm,0.2s									
KST				S			**Sg**	**00 57 53.3**	**-2.9**	
	222nm,0.3s									
KRBS	**Karabastau**	**1.37**	**45**	*e*P			**Pn**	**00 57 41.2**	**+0.2**	
	62nm,0.3s									
KRBS				*e*S			**Sg**	**00 57 58.1**	**-2.3**	
	94nm,0.3s									
KRBS	**Karabastau**	**1.37**	**45**	P			**Pn**	**00 57 41.2**	**+0.2**	
	62nm,0.3s									
KRBS				S			**Sg**	**00 57 58.1**	**-2.3**	
	94nm,0.3s									
ULHL	**Ulahol**	**1.50**	**109**	⇑P			**Pn**	**00 57 42.9**	**0.0**	
	9.7nm,0.1s,SNR=68									
ULHL				⇑S			**Sn**	**00 58 01.4**	**-0.8**	
	34nm,0.2s									
ULHL	**Ulahol**	**1.50**	**109**	⇓*i*P			**Pn**	**00 57 42.4**	**-0.5**	
	baz=9.0									
ULHL				⇓*i*S			**Sn**	**00 58 01.2**	**-1.1**	
	baz=9.0									
MTBS	**Maitube**	**1.59**	**75**	*e*P			**Pn**	**00 57 44.4**	**+0.4**	
	18nm,0.1s									
MTBS				*e*S			**Sn**	**00 58 03.6**	**-0.7**	
	90nm,0.3s									
MTBS	**Maitube**	**1.59**	**75**	P			**Pn**	**00 57 44.4**	**+0.4**	
	18nm,0.1s									
MTBS				S			**Sn**	**00 58 03.6**	**-0.7**	
	90nm,0.3s									
ARSB	**Arslanbob**	**1.74**	**216**	⇑*i*P			**Pb**	**00 57 48.2**	**+0.2**	
	baz=19									
ARSB				⇑*i*S			**Sg**	**00 58 11.1**	**-1.1**	
	baz=19									
NRN	**Naryn**	**1.80**	**136**	⇓*i*P			**Pn**	**00 57 47.6**	**+0.4**	
	baz=38									
NRN				⇓*i*S			**Sn**	**00 58 10.2**	**+0.2**	
	baz=38									
TNSS	**Tian-Shan**	**1.94**	**80**	*e*P			**Pn**	**00 57 50.6**	**+1.4**	
	20nm,0.3s									
TNSS				*e*S			**Sn**	**00 58 14.3**	**+0.7**	
	45nm,0.4s									
TNSS	**Tian-Shan**	**1.94**	**80**	P			**Pn**	**00 57 50.6**	**+1.4**	
	20nm,0.3s									
TNSS				S			**Sn**	**00 58 14.3**	**+0.7**	
	45nm,0.4s									
AAA	**Alma-Ata**	**1.95**	**75**	*e*P			**Pn**	**00 57 51.2**	**+2.2**	
	48nm,0.3s									
AAA				*e*S			**Sn**	**00 58 15.7**	**+2.4**	
	101nm,0.2s									
AAA	**Alma-Ata**	**1.95**	**75**	P			**Pn**	**00 57 51.2**	**+2.2**	
	48nm,0.3s									
AAA				S			**Sn**	**00 58 15.7**	**+2.4**	
	101nm,0.2s									
KTBS	**Karatobe**	**1.97**	**60**	*e*P			**Pn**	**00 57 51.3**	**+2.1**	
	41nm,0.2s									
KTBS				*e*S			**Sn**	**00 58 15.5**	**+1.7**	
	200nm,0.4s									
KTBS	**Karatobe**	**1.97**	**60**	P			**Pn**	**00 57 51.3**	**+2.1**	
	41nm,0.2s									
KTBS				S			**Sn**	**00 58 15.5**	**+1.7**	
	200nm,0.4s									
KNDC	**Almaty**	**1.99**	**75**	⇓Pn			**Pn**	**00 57 51.2**	**+1.6**	
	25nm,0.4s									
KNDC				⇓Sn			**Sb**	**00 58 18.0**	**+1.1**	
	60nm,0.3s									
ARK	**Arkit**	**2.00**	**243**	⇑*i*P			**Pb**	**00 57 52.2**	**-0.2**	
	baz=44									
ARK				⇑*i*S			**Sb**	**00 58 18.2**	**+1.0**	
	baz=44									
MDOK	**Medeo**	**2.04**	**77**	*e*P			**Pn**	**00 57 52.2**	**+2.0**	
	22nm,0.3s									
MDOK				*e*S			**Sn**	**00 58 17.0**	**+1.5**	
	69nm,0.5s									
MDOK	**Medeo**	**2.04**	**77**	⇓Pn			**Pn**	**00 57 51.8**	**+1.5**	
	9.4nm,0.4s									
MDOK				Pg			**Pn**	**00 57 52.2**	**+2.0**	
	22nm,0.3s									
MDOK				Lg			Lg	00 58 17.0		
	69nm,0.5s									
MDOK				⇓Sn			**Sb**	**00 58 18.8**	**+0.4**	
	12nm,0.2s									
KOTS	**Kotyrbulak**	**2.10**	**75**	*e*Pg			**Pn**	**00 57 53.4**	**+2.3**	
	16nm,0.2s									
KOTS				*e*Lg			Lg	00 58 18.9		
	98nm,0.2s									
KOTS	**Kotyrbulak**	**2.10**	**75**	Pg			**Pb**	**00 57 54.2**	**+0.1**	
	19nm,0.2s									
KOTS				Lg			Lg	00 58 20.7		
	89nm,0.2s									
DZA	**Taraz**	**2.21**	**275**	*e*Pg			**Pg**	**00 57 58.7**	**0.0**	
	19nm,0.1s									
DZ

KPKS	**Kokpek**	**3.27**	**76**	*e*Pg	**Pb**	**00 58 14.4**	**+0.4**
	15nm,0.5s							
KPKS				eLg	Lg	00 58 55.0		
	47nm,0.5s							
KPKS	**Kokpek**	**3.27**	**76**	Pg	**Pb**	**00 58 14.4**	**+0.4**
	15nm,0.5s							
KPKS				Lg	Lg	00 58 55.0		
	47nm,0.5s							
UZB	**Uzynbulak**	**3.47**	**82**	*e*Pg	**Pb**	**00 58 18.6**	**+1.1**
	6.7nm,0.4s							
UZB				eLg	Lg	00 59 02.7		
	21nm,0.3s							
UZB	**Uzynbulak**	**3.47**	**82**	Pg	**Pb**	**00 58 18.6**	**+1.1**
	6.7nm,0.4s							
UZB				Lg	Lg	00 59 02.7		
	21nm,0.3s							
TDK	**Taldyqorghan**	**3.71**	**51**	*e*Pg	**Pb**	**00 58 22.8**	**+1.2**
	12nm,0.1s							
TDK				eLg	Lg	00 59 09.4		
	30nm,0.3s							
TDK	**Taldyqorghan**	**3.71**	**51**	Pg	**Pb**	**00 58 23.9**	**+2.4**
	19nm,0.3s							
TDK				Lg	Lg	00 59 11.3		
	30nm,0.4s							
SHLS	**Shalkode**	**3.79**	**82**	*e*Pg	**Pg**	**00 58 29.6**	**+0.7**
	6.7nm,0.5s							
SHLS				eLg	Lg	00 59 21.0		
	25nm,0.5s							
SHLS	**Shalkode**	**3.79**	**82**	Pg	**Pg**	**00 58 29.6**	**+0.7**
	6.7nm,0.5s							
SHLS				Lg	Lg	00 59 21.0		
	25nm,0.5s							
PDGK	**Podgornoye**	**3.83**	**79**	Pg	**Pb**	**00 58 23.5**	**-0.1**
	1.5nm,0.3s							
PDGK				Lg	Lg	00 59 11.1		
	6.5nm,0.8s							
KNOS	**Konyrlen**	**3.88**	**64**	Pg	**Pb**	**00 58 24.9**	**+0.5**
	7.8nm,0.4s							
KNOS				Lg	Lg	00 59 13.3		
	6.9nm,0.3s							
DJR	**Jarkent**	**4.27**	**66**	*e*Pg	**Pb**	**00 58 32.6**	**+1.4**
	2.8nm,0.5s							
DJR				eLg	Lg	00 59 26.6		
	14nm,0.5s							
DJR	**Jarkent**	**4.27**	**66**	Pg	**Pb**	**00 58 32.6**	**+1.4**
	2.8nm,0.5s							
DJR				Lg	Lg	00 59 26.6		
	14nm,0.5s							
KAPS	**Kapalarasan**	**4.43**	**53**	*e*Pg	**Pb**	**00 58 35.0**	**+1.2**
	3.1nm,0.4s							
KAPS				eLg	Lg	00 59 30.5		
	21nm,0.9s							
KAPS	**Kapalarasan**	**4.43**	**53**	Pg	**Pb**	**00 58 35.0**	**+1.2**
	3.1nm,0.4s							
KAPS				Lg	Lg	00 59 30.5		
	21nm,0.9s							
KTMS	**Ketmen**	**4.46**	**79**	*e*Pg	**Pb**	**00 58 35.9**	**+1.4**
	1.3nm,0.5s							
KTMS				eLg	Lg	00 59 31.9		
	5.4nm,0.8s							
KTMS	**Ketmen**	**4.46**	**79**	Pg	**Pb**	**00 58 35.9**	**+1.4**
	1.3nm,0.5s							
KTMS				Lg	Lg	00 59 31.9		
	5.4nm,0.8s							
OTUK	**Ortayu**	**5.68**	**346**	Pg	**Pg**	**00 59 00.8**	**-4.2**
	0.5nm,0.4s							
OTUK				Lg	Lg	01 00 14.6		
	6.0nm,0.4s							
MAKZ	**Makanchi**	**6.79**	**51**	⇑Pn	**Pn**	**00 58 59.4**	**+4.0**
	0.5nm,0.5s							
MAKZ				⇑Lg	Lg	01 00 47.1		
	2.0nm,0.8s							
MK31	**Makanchi Array**	**6.96**	**52**	Pn	**Pn**	**00 58 59.4**	**+1.6**
	0.9nm,0.4s,baz=235,slow=14,SNR=26							
MK31				⇑Lg	Lg	01 00 54.1		
	4.2nm,0.9s,baz=231,slow=28,SNR=4.3							
KURBB	**Kurchatov Arra**	**8.39**	**19**	⇑Lg	Lg	01 01 44.5		
	5.4nm,0.8s							
KURK	**Kurchatov**	**8.50**	**19**	⇓Lg	Lg	01 01 47.7		
	5.5nm,0.9s							

NEIC ***12*** *01:02:09.8±1.4, 64°.39N±0°.02×162°.50W±0°.06, h13km±4km, Error ellipse: s-maj=4.5km s-min=1.7km az=57.0*
AEIC ***12*** *01:02:09.7±1.4, 64°.38N±0°.03×162°.50W±0°.06, h13km±4km, ML3.2, ML3.6/8(NEIC), Error ellipse: s-maj=4.4km s-min=3.0km az=220.0*

ISC 12 01:02:09.8±1.0, 64°.39N±0°.03×162°.51W±0°.02, h13km±8km, n106, σ0≤61/121, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H16K	**Elim**	**0.28**	**25**		**Pg**	**01 02 15.6**	**+0.1**
H16K					**Sg**	**01 02 19.8**	**+0.4**
H16K	**Elim**	**0.28**	**25**	P	**Pg**	**01 02 15.6**	**+0.1**
	baz=203						
H16K				S	**Sg**	**01 02 19.8**	**+0.4**
	baz=203						
G15K	**Niukluk**	**0.89**	**313**		**Pg**	**01 02 26.3**	**-0.8**
G15K					**Sg**	**01 02 38.5**	**-0.2**
G15K	**Niukluk**	**0.89**	**313**	P	**Pg**	**01 02 26.6**	**-0.5**
	baz=132						
G15K				S	**Sg**	**01 02 38.5**	**-0.2**
	baz=132						
I17K	**Unalakleet**	**0.94**	**122**		**Pg**	**01 02 27.6**	**-0.4**
I17K				Sn	**Sn**	**01 02 42.8**	**+0.9**
I17K				IAML		01 02 43.9	
	comp=E,2μm,0.6s						
I17K	**Unalakleet**	**0.94**	**122**	P	**Pg**	**01 02 27.6**	**-0.4**
	baz=303						
I17K				S	**Sb**	**01 02 40.8**	**+0.5**
	baz=303						
G16K	**Koyuk River**	**1.01**	**4**	Pn	**Pb**	**01 02 28.3**	**-0.8**
G16K				Sn	**Sg**	**01 02 42.5**	**+0.1**
G16K				IAML		01 02 44.3	
	comp=N,3μm,0.2s						
G16K	**Koyuk River**	**1.01**	**4**	P	**Pb**	**01 02 28.8**	**-0.2**
	baz=183						
G16K				S	**Sn**	**01 02 43.2**	**-0.4**
	baz=183						
H17K	**Granite Mounta**	**1.25**	**63**		**Pn**	**01 02 32.4**	**-0.5**
H17K					**Sb**	**01 02 48.5**	**-0.5**
H17K	**Granite Mounta**	**1.25**	**63**	IAML		01 02 51.8	
	comp=E,979nm,0.6s						
H17K	**Granite Mounta**	**1.25**	**63**	P	**Pn**	**01 02 32.5**	**-0.3**
	baz=244						
H17K				S	**Sb**	**01 02 48.5**	**-0.5**
	baz=244						
ANM	**Nome**	**1.25**	**279**		**Pn**	**01 02 32.6**	**-0.3**
ANM				Sn	**Sb**	**01 02 49.3**	**+0.1**
ANM				IAML		01 02 50.7	
	comp=N,1μm,0.2s						
ANM	**Nome**	**1.25**	**279**	P	**Pn**	**01 02 33.1**	**+0.2**
	baz=97						
ANM				S	**Sb**	**01 02 49.4**	**+0.1**
	baz=97						
G17K	**Kiwalik Mounta**	**1.37**	**35**		**Pn**	**01 02 34.0**	**-0.6**
G17K	**Kiwalik Mounta**	**1.37**	**35**	P	**Pn**	**01 02 34.1**	**-0.4**
	baz=216						
J16K	**Anvik River**	**1.40**	**142**		**Pn**	**01 02 34.5**	**-0.4**
J16K	**Anvik River**	**1.40**	**142**	P	**Pn**	**01 02 34.9**	**0.0**
	baz=324						
F15K	**North Star Dit**	**1.60**	**327**	Pn	**Pn**	**01 02 37.9**	**+0.1**
F15K				Sn	**Sb**	**01 03 00.1**	**+0.8**
F15K	**North Star Dit**	**1.60**	**327**	P	**Pn**	**01 02 37.9**	**+0.1**
	baz=145						
F15K				S	**Sb**	**01 03 00.4**	**+1.1**
	baz=145						
J14K	**Nanvaranak Lak**	**1.71**	**196**		**Pn**	**01 02 38.5**	**-0.7**
J14K	**Nanvaranak Lak**	**1.71**	**196**	P	**Pn**	**01 02 38.6**	**-0.6**
	baz=16						
H18K	**Honhosa River**	**1.94**	**65**		**Pn**	**01 02 41.9**	**-0.4**
F14K	**Arctic Creek**	**1.96**	**306**		**Pn**	**01 02 42.4**	**-0.2**
F14K					**Sb**	**01 03 09.8**	**+0.4**
F14K	**Arctic Creek**	**1.96**	**306**	P	**Pn**	**01 02 42.4**	**-0.2**
	baz=122						
F14K				S	**Sb**	**01 03 09.8**	**+0.4**
	baz=122						
F17K	**Baldwin Pennin**	**2.13**	**14**		**Pn**	**01 02 44.6**	**-0.4**
F17K	**Baldwin Pennin**	**2.13**	**14**	P	**Pn**	**01 02 44.8**	**-0.2**
	baz=195						
K15K	**Wolf Creek Mou**	**2.15**	**168**		**Pn**	**01 02 45.3**	**0.0**
G18K	**Tagagawik**	**2.22**	**45**		**Pn**	**01 02 45.5**	**-0.7**
G18K	**Tagagawik**	**2.22**	**45**	P	**Pn**	**01 02 45.8**	**-0.5**
	baz=229						
K17K	**Iditarod**	**2.52**	**130**		**Pn**	**01 02 49.5**	**-0.9**

TNA	**Tin City**	**2.58**	**299**		**Pn**	**01 02 51.4**	**+0.3**
TNA	**Tin City**	**2.58**	**299**	P	**Pn**	**01 02 51.4**	**+0.3**
	baz=115							
E17K	**Hotham Inlet**	**2.72**	**6**		**Pn**	**01 02 52.8**	**-0.2**
E17K	**Hotham Inlet**	**2.72**	**6**	P	**Pn**	**01 02 53.0**	**-0.1**
	baz=186							
J18K	**Innoko River**	**2.72**	**107**	Pn	**Pn**	**01 02 52.9**	**-0.2**
L15K	**Ungalak Mounta**	**2.76**	**170**		**Pn**	**01 02 53.7**	**0.0**
L15K	**Ungalak Mounta**	**2.76**	**170**	P	**Pn**	**01 02 53.7**	**0.0**
	baz=351							
H19K	**Roundabout Mou**	**2.82**	**63**		**Pn**	**01 02 54.2**	**-0.2**
G19K	**Purcell Mounta**	**2.88**	**50**		**Pn**	**01 02 54.2**	**-1.0**
L17K	**Donlin**	**2.96**	**138**		**Pn**	**01 02 56.8**	**+0.5**
L16K	**Owhat River**	**3.02**	**151**		**Pn**	**01 02 57.1**	**-0.2**
L16K	**Owhat River**	**3.02**	**151**	P	**Pn**	**01 02 57.3**	**0.0**
	baz=334							
J19K	**Poorman**	**3.04**	**94**		**Pn**	**01 02 58.1**	**+0.6**
L14K	**Kuka Creek**	**3.06**	**182**		**Pn**	**01 02 57.5**	**-0.3**
L14K	**Kuka Creek**	**3.06**	**182**	P	**Pn**	**01 02 57.8**	**+0.1**
	baz=1.6							
F19K	**Shaleruckik Mo**	**3.14**	**37**		**Pn**	**01 02 57.6**	**-1.3**
E18K	**Tukpahlearik C**	**3.14**	**14**		**Pn**	**01 02 58.6**	**-0.3**
TTA	**Tatalina**	**3.25**	**114**	Pn	**Pn**	**01 03 00.5**	**+0.1**
L18K	**Granite Mounta**	**3.41**	**127**		**Pn**	**01 03 03.4**	**+0.8**
H20K	**Anotleneega Mo**	**3.43**	**68**		**Pn**	**01 03 03.9**	**+1.1**
I20K	**Naaghedeneel**	**3.49**	**80**		**Pn**	**01 03 03.9**	**+0.3**
I20K	**Naaghedeneel**	**3.49**	**80**	P	**Pn**	**01 03 03.8**	**+0.3**
	baz=267							
J20K	**Nowinta River**	**3.65**	**90**		**Pn**	**01 03 07.0**	**+1.1**
M14K	**Bethel**	**3.66**	**176**	Pn	**Pn**	**01 03 06.1**	**+0.1**
RDOG	**Red Dog Mine**	**3.68**	**358**		**Pn**	**01 03 07.6**	**+1.3**
RDOG	**Red Dog Mine**	**3.68**	**358**	P	**Pn**	**01 03 07.1**	**+0.8**
	baz=177							
M16K	**Timber Creek**	**3.75**	**153**		**Pn**	**01 03 07.8**	**+0.5**
E19K	**Redstone River**	**3.76**	**33**		**Pn**	**01 03 06.9**	**-0.5**
M17K	**Holitna River**	**3.79**	**140**		**Pn**	**01 03 08.6**	**+0.7**
M15K	**Kasigluk River**	**3.80**	**166**		**Pn**	**01 03 07.8**	**-0.2**
M15K	**Kasigluk River**	**3.80**	**166**	P	**Pn**	**01 03 07.9**	**0.0**
	baz=348							
F20K	**Avaraart Lake**	**3.87**	**43**		**Pn**	**01 03 08.7**	**-0.2**
K20K	**Telida**	**3.88**	**102**		**Pn**	**01 03 09.5**	**+0.5**
M13K	**Dall Lake**	**4.01**	**186**		**Pn**	**01 03 11.0**	**+0.2**
M13K	**Dall Lake**	**4.01**	**186**	P	**Pn**	**01 03 11.2**	**+0.4**
	baz=5.3							
IMAR	**Indian Mountai**	**4.02**	**63**		**Pn**	**01 03 11.0**	**0.0**
C16K	**Lisburne Hills**	**4.07**	**345**		**Pn**	**01 03 12.5**	**+1.0**
L19K	**White Mountain**	**4.11**	**119**		**Pn**	**01 03 13.0**	**+0.8**
C17K	**DeLong Mountai**	**4.11**	**357**		**Pn**	**01 03 13.4**	**+1.2**
M18K	**Stony River**	**4.22**	**131**		**Pn**	**01 03 14.3**	**+0.6**
H21K	**Melozitna River**	**4.31**	**68**		**Pn**	**01 03 15.5**	**+0.6**
H21K	**Melozitna River**	**4.31**	**68**	P	**Pn**	**01 03 15.5**	**+0.6**
	baz=257							
C18K	**Utukok River**	**4.31**	**6**		**Pn**	**01 03 14.9**	**0.0**
G21K	**Allakaket**	**4.32**	**56**		**Pn**	**01 03 16.1**	**+1.1**
L20K	**Farewell, AK**	**4.32**	**112**		**Pn**	**01 03 15.2**	**+0.1**
D19K	**Kuna River**	**4.48**	**21**		**Pn**	**01 03 17.9**	**+0.6**
D19K	**Kuna River**	**4.48**	**21**	P	**Pn**	**01 03 17.9**	**+0.6**
	baz=205							
N14K	**Kuskokwak Cree**	**4.50**	**175**		**Pn**	**01 03 17.3**	**-0.1**
I21K	**Tanana**	**4.57**	**75**	Pn	**Pn**	**01 03 18.9**	**+0.4**
SVW2	**Sparrevohn**	**4.59**	**133**	Pn	**Pn**	**01 03 18.8**	**+0.1**
E20K	**Nigu River**	**4.64**	**30**		**Pn**	**01 03 19.9**	**+0.3**
F21K	**Alatna River**	**4.68**	**49**	Pn	**Pn**	**01 03 20.7**	**+0.7**
CAST	**Castle Rocks**	**4.71**	**97**		**Pn**	**01 03 19.9**	**-0.5**
N19K	**Kilae Creek**	**4.82**	**138**		**Pn**	**01 03 22.8**	**+0.9**
C19K	**Kokpuk Ridge**	**4.88**	**12**		**Pn**	**01 03 23.3**	**+0.6**
H22K	**Ishtalitna Cre**	**4.94**	**67**		**Pn**	**01 03 24.4**	**+0.9**
H22K	**Ishtalitna Cre**	**4.94**	**67**	P	**Pn**	**01 03 24.4**	**+0.9**
	baz=257							
D20K	**Etivluk River**	**4.94**	**26**		**Pn**	**01 03 24.1**	**+0.5**
M20K	**Styx River**	**4.94**	**116**	Pn	**Pn**	**01 03 23.9**	**+0.2**
B18K	**Kokolik River**	**5.00**	**3**		**Pn**	**01 03 24.7**	**+0.3**
BPAW	**Bear Paw Mtn.**	**5.04**	**88**	Pn	**Pn**	**01 03 25.3**	**+0.4**
MLY	**Manley**	**5.09**	**77**		**Pn**	**01 03 25.4**	**-0.3**
N19K	**Bonanza Creek**	**5.16**	**130**		**Pn**	**01 03 28.0**	**+1.4**
KTH	**Kantishna Hill**	**5.17**	**94**		**Pn**	**01 03 26.2**	**-0.7**
O14K	**Tigyukauivet M**	**5.19**	**173**		**Pn**	**01 03 27.2**	**+0.2**
O16K	**Kokwok River B**	**5.24**	**155**	Pn	**Pn**	**01 03 26.0**	**-1.8**
O16K	**Kokwok River B**	**5.24**	**155**	P	**Pn**	**01 03 28.3**	**+0.6**
	baz=339							
E21K	**Killik River**	**5.32**	**36**	Pn	**Pn**	**01 03 28.5**	**-0.2**
I23K	**Minto, Yukon-K**	**5.68**	**76**	Pn	**Pn**	**01 03 34.2**	**+0.6**
G23K	**Bananza Creek**	**5.68**	**60**	Pn	**Pn**	**01 03 33.6**	**-0.2**
E22K	**Anaktuvuk Pass**	**5.72**	**44**	Pn	**Pn**	**01 03 34.1**	**-0.2**
D22K	**Ayikyak River**	**5.96**	**37**	Pn	**Pn**	**01 03 37.7**	**+0.1**
H24K	**Noodor Dome**	**6.34**	**70**	Pn	**Pn**	**01 03 42.5**	**-0.4**
TOLK	**Toolik Lake Re**	**6.70**	**45**	Pn	**Pn**	**01 03 47.4**	**-0.2**
F24K	**Squaw Lake**	**6.74**	**56**	Pn	**Pn**	**01 03 47.8**	**-0.5**
E24K	**Your Creek**	**6.76**	**51**	Pn	**Pn**	**01 03 50.9**	**+2.3**

IDC 12 01:04:43.5±1.4, 19°.58N×123°.55E, h0km, mb3.7/3, mbtmp3.7/3, MS2.6/1, Error ellipse: s-maj=54.1km s-min=28.5km az=76.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**12.59**	**171**	LR	LR	01 13 20.3	
	comp=Z,27nm,18.3s,baz=159,slow=41						
WRA	**Warramunga Arr**	**40.67**	**164**	P	P	01 12 25.7	-0.1
	0.3nm,0.4s,baz=344,slow=10,SNR=8.4						
	0.3nm,0.4s						
PETK	**Petropavlovsk-**	**42.59**	**30**	P	P	01 12 40.8	-0.4
	1.8nm,0.5s,baz=224,slow=8.1,SNR=4.2						
	1.8nm,0.5s						
MKAR	**Makanchi Array**	**43.20**	**319**	P	P	01 12 46.2	0.0
	0.3nm,0.4s,baz=114,slow=8.0,SNR=5.2						
	0.3nm,0.4s						

CATAC ***12*** *01:08:16.9±0.4, 9°.60N×84°.92W, h5km±3km, ML3.4*
UCR ***12*** *01:08:17.3±1.2, 9°.61N×84°.98W, h8km±4km, MW3.8*

ISC 12 01:08:17.2±1.2, 9°.61N±0°.04×84°.94W±0°.03, h10km±9km, n56, σ0≤69/86, 2C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.28**	**80**	*e*P	**Pg**	**01 08 23.5**	**+0.5**
JACO	**JACO, Garabito**	**0.28**	**80**	*i* P	**Pg**	**01 08 23.4**	**+0.5**
JACO				*i* S	**Sg**	**01 08 27.9**	**+1.2**
JACO				IAML		01 08 29.3	
	comp=Z,3μm,1.0s						
INDI	**Punta indio, G**	**0.61**	**294**	*e*P	**Pg**	**01 08 29.0**	**0.0**
INDI	**Punta indio, G**	**0.61**	**294**	*i* P	**Pg**	**01 08 28.9**	**-0.1**
INDI				*i* S	**Sb**	**01 08 38.5**	**0.0**
INDI				IAML		01 08 40.6	
	comp=Z,800nm,1.0s						
MONTE	**Monteverde**	**0.70**	**11**	*e*P	**Pb**	**01 08 31.7**	**+0.1**
TCS1	**Tacares**	**0.76**	**56**	*i* P	**Pg**	**01 08 32.0**	**+0.1**
TCS1				IAML		01 08 48.5	
	comp=Z,10μm,1.0s						
SOCE	**Pocosol**	**0.83**	**23**	*i* P	**Pg**	**01 08 33.0**	**-0.2**
SOCE				*i* S	**Sg**	**01 08 43.7**	**-0.3**
SOCE				IAML		01 08 46.8	
	comp=Z,4μm,1.0s						
CASO	**Castillo**	**0.84**	**14**	*e*P	**Pg**	**01 08 33.2**	**-0.2**
LLNJ	**Naranjito**	**0.84**	**99**	*e*P	**Pg**	**01 08 33.5**	**0.0**
CPMI	**Catarata Coope**	**0.86**	**40**	*i* P	**Pg**	**01 08 33.6**	**-0.3**
CPMI				*i* S	**Sg**	**01 08 45.5**	**+0.3**
CPMI				IAML		01 08 53.0	
	comp=Z,760nm,1.0s						
SGBR	**La Fortuna**	**0.88**	**12**	*e*P	**Pb**	**01 08 35.0**	**+0.5**
ABE2	**San Pablo**	**0.88**	**84**	*e*P	**Pg**	**01 08 33.6**	**-0.5**
SAJU	**San Juanillo,**	**0.88**	**301**	*e*P	Pn	01 08 41.8	+6.1
FORC	**Fortuna**	**0.89**	**17**	*e*P	**Pb**	**01 08 34.9**	**+0.2**
VACR	**Volcan Arenal**	**0.89**	**17**	*i* P	**Pg**	**01 08 34.8**	**+0.4**
VACR				*i* S	**Sb**	**01 08 48.0**	**+1.2**
VACR				IAML		01 08 56.8	
	comp=Z,930nm,1.0s						
TABAC	**Tabacon**	**0.90**	**11**	*e*P	**Pb**	**01 08 35.0**	**+0.1**
TABAC				*e*S	**Sb**	**01 08 47.8**	**+0.9**
CEDE	**Laguna Cedeo**	**0.90**	**15**	*e*P	**Pg**	**01 08 34.7**	**+0.1**
CEDE				*e*S	**Sb**	**01 08 48.0**	**+1.0**
ORTG	**Ortega, Santa**	**0.90**	**326**	*e*P	**Pg**	**01 08 34.5**	**-0.2**
ORTG	**Ortega, Santa**	**0.90**	**326**	*i* P	**Pg**	**01 08 34.4**	**-0.2**
ORTG				*i* S	**Sb**	**01 08 47.2**	**+0.1**
ORTG				IAML		01 08 49.1	
	comp=Z,740nm,1.0s						
VPTE	**Poasito**	**0.92**	**53**	*i* P	**Pg**	**01 08 34.8**	**-0.1**
VPTE				*i* S	**Sg**	**01 08 46.1**	**-0.9**
VPTE				IAML		01 08 53.4	
	comp=Z,1μm,1.0s						
LCR2	**La Lucha 2**	**0.93**	**82**	*e*P	**Pg**	**01 08 34.1**	**-1.1**
LCR2				*i* P	**Pg**	**01 08 34.1**	**-1.1**
LCR2				*i* S	**Sg**	**01 08 47.1**	**-0.3**
LCR2				IAML		01 08 50.1	
	comp=Z,840nm,1.0s						
COTE	**Lago Cote**	**0.96**	**1**	*e*P	**Pg**	**01 08 35.3**	**-0.3**
OCM	**Ochomogo**	**1.01**	**74**	*i* P	**Pg**	**01 08 35.4**	**-1.2**
OCM				*i* S	**Sg**	**01 08 49.5**	**-0.2**
OCM				IAML		01 08 51.6	
	comp=Z,650nm,1.0s						
ACAL	**Aguas Claras**	**1.02**	**355**	*e*P	**Pg**	**01 08 36.2**	**-0.6**
ACAL				*e*S	**Sg**	**01 08 50.3**	**+0.2**
CUI	**Cuipilapa**	**1.06**	**348⇑**	*e*P	**Pg**	**01 08 37.1**	**-0.5**
CUI				*e*S	**Sg**	**01 08 51.1**	**-0.3**
MOTZ	**Rio Naranjo**	**1.07**	**353⇑**	*e*P	**Pg**	**01 08 37.8**	**-0.1**
MOTZ				*e*S	**Sb**	**01 08 52.3**	**+0.3**
RIMA	**Rio Macho**	**1.07**	**82**	*i* P	**Pg**	**01 08 36.3**	**-1.6**
RIMA				*i* S	**Sg**	**01 08 50.6**	**-1.3**
RIMA				IAML		01 08 53.7	
	comp=Z,480nm,1.0s						
COLC	**Colonia**	**1.08**	**346**	*e*P	**Pg**	**01 08 37.6**	**-0.3**
PTEN	**Parque Tenorio**	**1.09**	**358**	*e*P	**Pg**	**01 08 38.2**	**-0.1**
PTEN				*e*S	**Sg**	**01 08 52.7**	**+0.2**
CAMAV	**Centro de Prod**	**1.11**	**347**	*e*P	**Pg**	**01 08 38.1**	**-0.4**
CAMAV				*e*S	**Sb**	**01 08 54.3**	**+1.3**
HORNC	**Hornillas**	**1.12**	**348⇓**	*e*P	**Pg**	**01 08 38.1**	**-0.6**
HORNC				*e*S	**Sg**	**01 08 52.5**	**-0.7**
LIM1	**Limonal**	**1.12**	**344**	*e*P	**Pg**	**01 08 38.2**	**-0.6**
HAYA	**Volcan Irazu**	**1.14**	**71**	*i* P	**Pg**	**01 08 39.0**	**-0.2**
HAYA				*i* S	**Sb**	**01 08 54.9**	**+0.5**
HAYA				IAML		01 08 59.6	
	comp=Z,790nm,1.0s						
MESS	**Mesas**	**1.15**	**347**	*e*P	**Pg**	**01 08 38.8**	**-0.5**
MESS				*e*S	**Sg**	**01 08 54.0**	**-0.2**
CDM	**Cerro de Muert**	**1.16**	**93**	*i* P	**Pg**	**01 08 38.8**	**-0.8**
CDM				*i* S	**Sg**	**01 08 54.7**	**-0.1**
CDM				IAML		01 08 57.0	
	comp=Z,900nm,1.0s						
BUS1	**Rivas**	**1.18**	**93**	*e*P	**Pg**	**01 08 38.6**	**-1.4**
GP77	**Hacienda Santa**	**1.20**	**342⇓**	*i* P	**Pg**	**01 08 39.6**	**-0.7**
GP77				*e*S	**Sg**	**01 08 56.2**	**+0.2**
GPS3	**Bodega del ICE**	**1.21**	**340**	*e*P	**Pg**	**01 08 39.6**	**-0.8**
GPS3				*e*S	**Sg**	**01 08 55.9**	**-0.3**
CANAL	**Canalete**	**1.22**	**355**	*e*P	**Pg**	**01 08 39.3**	**-1.3**
CANAL				*e*S	**Sg**	**01 08 56.2**	**-0.2**
COVE	**Coope Vega, Sa**	**1.22**	**26**	*e*P	**Pb**	**01 08 39.3**	**-1.2**
COVE	**Coope Vega, Sa**	**1.22**	**26**	*i* P	**Pb**	**01 08 39.2**	**-1.2**
COVE				*i* S	**Sn**	**01 08 57.6**	**+0.7**
COVE				IAML		01 08 59.6	
	comp=Z,800nm,1.0s						
GPS1	**Guardaparques**	**1.22**	**341**	*e*P	**Pg**	**01 08 39.3**	**-1.4**
RIFO	**Rio Frio, Sara**	**1.22**	**55**	*i* P	**Pb**	**01 08 40.2**	**-0.2**
RIFO				*i* S	**Sg**	**01 08 56.1**	**-0.5**
RIFO				IAML		01 09 04.9	
	comp=Z,860nm,1.0s						
VERA	**Finca Concepci**	**1.23**	**3⇓**	*i* P	**Pb**	**01 08 40.5**	**-0.1**
VERA				*e*S	**Sb**	**01 08 57.5**	**+0.9**
VRLE	**La Escondida,**	**1.24**	**340**	*i* P	**Pg**	**01 08 40.1**	**-1.0**
VRLE				*i* S	**Sg**	**01 08 57.3**	**+0.1**
VRLE				IAML		01 09 09.7	
	comp=Z,360nm,1.0s						
BUEV	**Buena Vista**	**1.26**	**339**	*e*P	**Pn**	**01 08 40.5**	**-0.5**
BUEV				*e*S	**Sn**	**01 08 59.1**	**+0.9**
GBS3	**Finca Las Img**	**1.27**	**337**	*e*P	**Pn**	**01 08 40.1**	**-0.9**
HZTE	**Horizontes, Gu**	**1.27**	**330**	*e*P	**Pn**	**01 08 40.6**	**-0.4**
HZTE	**Horizontes, Gu**	**1.27**	**330**	*i* P	**Pn**	**01 08 40.6**	**-0.4**
HZTE				*i* S	**Sn**	**01 08 59.8**	**+1.7**
HZTE				IAML		01 09 01.3	
	comp=Z,530nm,1.0s						
VERB	**Verbena**	**1.27**	**75**	*e*P	**Pn**	**01 08 40.4**	**-0.8**
GB1A	**Boringuen Arri**	**1.28**	**339**	*e*P	**Pn**	**01 08 40.5**	**-0.7**
BUAI	**Buenos Aires**	**1.31**	**343**	*e*P	**Pn**	**01 08 40.9**	**-0.7**
BUAI				*e*S	**Sb**	**01 08 59.1**	**+0.2**
RVSTA	**Santa Teresita**	**1.32**	**74**	*e*P	**Pn**	**01 08 41.7**	**-0.2**
EDPN	**Palmar Norte**	**1.60**	**114**	*e*P	**Pb**	**01 08 47.4**	**+0.5**
EDBA	**Buenos Aires**	**1.70**	**105**	*e*P	**Pn**	**01 08 47.1**	**+0.1**

DJA 12 01:20:18.5±1.1, 3°.3S×12°.2E, h35km±21km, M4.0/10, mb4.4/2, MLv3.8/10, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.88**	**12**	P

CVIMO	**Finca Echandi**	**1.15**	**46**	*e*P		**Pn**	**01 49 55.1**	**-1.1**
SOCE	**Pocosol**	**1.17**	**8**	*e*P		**Pg**	**01 49 56.8**	**-0.3**
SOCE	**Pocosol**	**1.17**	**8**	*i* P		**Pb**	**01 49 55.8**	**-0.6**
SOCE				*i* S		**Sg**	**01 50 13.8**	**+1.4**
SOCE				IAML			01 50 21.2	
	comp=Z,510nm,1.0s							
HAYA	**Volcan Irazu**	**1.19**	**50**	*i* P		**Pb**	**01 49 56.6**	**-0.4**
HAYA				*i* S		**Sg**	**01 50 14.0**	**+0.8**
HAYA				IAML			01 50 20.6	
	comp=Z,520nm,1.0s							
VICA	**Volcano Irazu**	**1.19**	**50**	*e*P		**Pn**	**01 49 56.4**	**-0.6**
JUD3	**Juan Diaz 3**	**1.21**	**321**	*e*P		**Pg**	**01 49 57.3**	**-0.6**
CASO	**Castillo**	**1.21**	**2**	*e*P		**Pb**	**01 49 56.8**	**-0.3**
VINA	**Juan Vinas**	**1.22**	**56**	*e*P		**Pn**	**01 49 56.4**	**-0.6**
VTRT	**Volcan Turrial**	**1.24**	**51**	*e*P		**Pg**	**01 49 59.1**	**+0.5**
FORC	**Fortuna**	**1.25**	**5**	*e*P		**Pg**	**01 49 57.8**	**-0.8**
VACR	**Volcan Arenal**	**1.25**	**4**	*e*P		**Pg**	**01 49 58.8**	**0.0**
VTLA	**Turrialba Volc**	**1.26**	**52**	*e*P		**Pg**	**01 49 59.2**	**+0.3**
PLVR	**Palo Verde**	**1.26**	**333**	*e*P		**Pg**	**01 49 58.2**	**-0.7**
CEDE	**Laguna Cedeo**	**1.26**	**3**	*e*P		**Pb**	**01 49 57.7**	**-0.4**
CVTQ	**Turrialba Volc**	**1.26**	**52**	*e*P		**Pg**	**01 49 59.1**	**+0.1**
TABAC	**Tabacon**	**1.27**	**0**	*e*P		**Pg**	**01 49 58.2**	**-1.0**
VTCV	**VTCV, Calle Va**	**1.28**	**54**	*e*P		**Pb**	**01 49 57.7**	**-0.7**
VERB	**Verbena**	**1.29**	**56**	*e*P		**Pb**	**01 49 58.0**	**-0.5**
VTLO	**VTLO**	**1.32**	**51**	*e*P		**Pb**	**01 49 58.4**	**-0.7**
RVSTA	**Santa Teresita**	**1.34**	**56**	*e*P		**Pg**	**01 50 00.2**	**-0.3**
RIFO	**Rio Frio, Sara**	**1.38**	**37**	*e*P		**Pb**	**01 49 59.6**	**-0.4**
ACAL	**Aguas Claras**	**1.43**	**350**	*e*P		**Pb**	**01 49 60.0**	**-1.0**
CUI	**Cuipilapa**	**1.48**	**345**	*e*P		**Pb**	**01 50 01.0**	**-0.8**
MOTZ	**Rio Naranjo**	**1.49**	**349**	*e*P		**Pb**	**01 50 01.4**	**-0.4**
PTEN	**Parque Tenorio**	**1.50**	**352**	*e*P		**Pb**	**01 50 01.0**	**-1.1**
COVE	**Coope Vega, Sa**	**1.54**	**14**	*e*P		**Pb**	**01 50 02.1**	**-0.6**
MESS	**Mesas**	**1.57**	**345**	*e*P		**Pb**	**01 50 03.0**	**-0.3**
VMAR	**Armenia, Volca**	**1.62**	**348**	*e*P		**Pb**	**01 50 03.4**	**-0.7**
POTG	**Potrero Grande**	**1.64**	**96**	*e*P		**Pn**	**01 50 02.5**	**-0.4**
EDAD	**Golfito**	**1.69**	**109**	*e*P		**Pn**	**01 50 02.6**	**-0.8**

IDC ***12*** *02:05:16.7±0.9, 45˚.19S×166˚.69E, h0km, mb3.7/4, mbtmp3.8/6, ML4.2/2, MS3.6/1, Error ellipse: s-maj=32.2km s-min=24.4km az=10.0*

WEL ***12*** *02:05:16.7, 45˚.00S×166˚.58E, h7km, ML4.5, Mw4.0, Moment Tensor Solution. s4 Moment tensor: Mrr=77.41; Mθθ-17.12; Mϕϕ-60.29; Mrθ11.02; Mrϕ24.54; Mθϕ-117.46; Fault plane solution: NP1:ϕ=215.00000°, δ17.00000°, λ115.00000°. NP2:ϕ=9.00000°, δ74.00000°, λ83.00000°. Principal axes: T -133.7400, Plg60.0000°, Azm269.0000°; N -11.0200, Plg7.0000°, Azm11.0000°; P 144.7600, Plg29.0000°, Azm105.0000°; FIORDLAND REGION*

WEL ***12*** *02:05:18.0±1.1, 45˚.S±5×16˚.7E±, h5km, M4.5/42, ML4.5/8, MLv4.5/42 Error ellipse: s-maj=0.0km s-min=0.0km az=118.0,confirmed*

NOU ***12*** *02:05:20.1, 45˚.75S×166˚.54E, h61km, MLv4.6/10, Off W. Coast of S. Island, N.Z.*

ISC 12 02:05:17.4±1.6, 45˚.11S±0˚.04×166˚.66E±0˚.06, h4km±10km, n85, σ1°38/86, mb3.6/4, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAFS	**Te Anau Fire S**	**0.81**	**113**	P	**Pg**	**02 05 32.7**	**-0.1**
MSZ	**Milford Sound**	**1.00**	**64**	P	**Pg**	**02 05 36.9**	**+0.4**
MSZ				S	**Sg**	**02 05 49.5**	**0.0**
PYZ	**Puysegur Point**	**1.05**	**179**	P	**Pb**	**02 05 38.3**	**+0.2**
PYZ	**Puysegur Point**	**1.05**	**179**	P	**Pb**	**02 05 38.1**	**0.0**
PYZ				S	**Sg**	**02 05 50.9**	**-0.3**
MLZ	**Mavora Lakes**	**1.06**	**104**	P	**Pg**	**02 05 37.8**	**+0.1**
RRKS	**Rarakau**	**1.18**	**151**	P	**Pb**	**02 05 40.2**	**-0.1**
WHZ	**Wether Hill Ro**	**1.19**	**131**	P	**Pg**	**02 05 39.9**	**-0.3**
WHZ				S	**Sg**	**02 05 55.6**	**-0.1**
MOSS	**Mossburn Schoo**	**1.24**	**117**	P	**Pg**	**02 05 41.6**	**+0.5**
MOSS				S	**Sn**	**02 05 59.9**	**+1.2**
GLNY	**Glenorchy**	**1.26**	**79**	P	**Pg**	**02 05 39.6**	**-2.0**
QTPS	**Queenstown Pol**	**1.42**	**87**	P	**Pn**	**02 05 44.0**	**0.0**
WKZ	**Wanaka**	**1.70**	**81**	P	**Pn**	**02 05 48.5**	**+0.8**
WKZ				S	**Sb**	**02 06 11.7**	**+0.9**
JCZ	**Jackson Bay**	**1.84**	**56**	P	**Pn**	**02 05 51.5**	**+1.7**
JCZ	**Jackson Bay**	**1.84**	**56**	P	**Pb**	**02 05 51.6**	**+0.1**
EAZ	**Earnscleugh**	**1.88**	**95**	P	**Pn**	**02 05 51.0**	**+0.8**
APZ	**The Paps**	**1.95**	**152**	P	**Pb**	**02 05 53.0**	**-0.5**
SYZ	**Scrubby Hill**	**2.24**	**130**	P	**Pn**	**02 05 55.9**	**+0.7**
SYZ	**Scrubby Hill**	**2.24**	**130**	P	**Pn**	**02 05 55.6**	**+0.4**
TUZ	**Tuapeka**	**2.25**	**113**	P	**Pn**	**02 05 55.8**	**+0.5**
LBZ	**Lake Benmore**	**2.61**	**75**	P	**Pn**	**02 06 00.8**	**+0.5**
FOZ	**Fox Glacier**	**2.76**	**56**	P	**Pn**	**02 06 00.8**	**-1.5**
ODZ	**Otahua Downs**	**2.82**	**90**	P	**Pn**	**02 06 03.2**	**0.0**
ODZ	**Otahua Downs**	**2.82**	**90**	P	**Pn**	**02 06 03.1**	**0.0**
HHSZ	**Highcliff Hill**	**2.87**	**107**	P	**Pn**	**02 06 04.5**	**+0.6**
TMZ	**Timaru**	**3.18**	**78**	P	**Pn**	**02 06 08.0**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**3.19**	**57**	P	**Pn**	**02 06 06.5**	**-1.7**
ARCZ	**Arundel**	**3.43**	**72**	P	**Pn**	**02 06 11.6**	**0.0**
RPZ	**Rata Peaks**	**3.44**	**68**	P	**Pn**	**02 06 11.6**	**-0.2**
RPZ	**Rata Peaks**	**3.44**	**68**	Pn	**Pn**	**02 06 11.9**	**+0.2**
	51nm,0.3s,baz=222,slow=5.2,SNR=225						
RPZ				Sn	**Sn**	**02 06 51.3**	**-1.6**
	32nm,0.3s,baz=336,slow=22,SNR=6.3						
RPZ				LR	LR	02 07 57.5	
	comp=Z,760nm,18.8s,baz=250,slow=46 192nm,0.4s						
RPZ	**Rata Peaks**	**3.44**	**68**	P	**Pn**	**02 06 11.2**	**-0.6**
WVZ	**Waitaha Valley**	**3.57**	**57**	P	**Pn**	**02 06 11.7**	**-1.8**
MHCZ	**Mount Hutt**	**3.86**	**68**	P	**Pn**	**02 06 17.3**	**-0.2**
WACZ	**Wakanui South**	**3.88**	**74**	P	**Pn**	**02 06 17.8**	**0.0**
RACZ	**Rakaia**	**4.16**	**72**	P	**Pn**	**02 06 21.3**	**-0.3**
INZ	**Inchbonnie**	**4.20**	**57**	P	**Pn**	**02 06 20.5**	**-1.6**
OXZ	**Oxford**	**4.26**	**67**	P	**Pn**	**02 06 22.8**	**-0.2**
MQZ	**McQueen's Vall**	**4.52**	**74**	P	**Pn**	**02 06 26.0**	**-0.5**
AKCZ	**Akaroa Harbour**	**4.64**	**77**	P	**Pn**	**02 06 28.0**	**-0.2**
LTZ	**Lake Taylor**	**4.67**	**62**	P	**Pn**	**02 06 28.5**	**-0.1**
AMCZ	**Amberley**	**4.72**	**68**	P	**Pn**	**02 06 29.0**	**-0.3**
OKCZ	**Okains Bay**	**4.79**	**75**	P	**Pn**	**02 06 30.5**	**+0.3**
DSZ	**Denniston Nort**	**5.04**	**50**	P	**Pn**	**02 06 31.5**	**-2.2**
GVZ	**Greta Valley S**	**5.07**	**67**	P	**Pn**	**02 06 33.9**	**-0.2**
THZ	**Tophouse**	**5.64**	**56**	P	**Pn**	**02 06 42.2**	**+0.2**
KHZ	**Kahutara**	**5.66**	**64**	P	**Pn**	**02 06 42.7**	**+0.5**
MRNZ	**Matariki Terra**	**5.79**	**52**	P	**Pn**	**02 06 43.0**	**-1.0**
QRZ	**Quartz Range**	**6.07**	**47**	P	**Pn**	**02 06 47.1**	**-0.8**
QRZ	**Quartz Range**	**6.07**	**47**	P	**Pn**	**02 06 46.1**	**-1.8**
TKNZ	**Takaka Hill**	**6.16**	**51**	P	**Pn**	**02 06 47.9**	**-1.1**
NNZ	**Nelson**	**6.27**	**54**	P	**Pn**	**02 06 50.8**	**+0.3**
TCW	**Tory Channel**	**6.80**	**58**	P	**Pn**	**02 06 59.2**	**+1.4**
DUWZ	**D'Urville Isla**	**6.85**	**54**	P	**Pn**	**02 06 59.6**	**+1.1**
SNZO	**South Karori**	**7.00**	**60**	P	**Pn**	**02 07 02.5**	**+2.0**
OGWZ	**Otaki Gorge**	**7.57**	**58**	P	**Pn**	**02 07 11.3**	**+2.9**
HOWZ	**Holdsworth Sta**	**7.74**	**60**	P	Pn	02 07 15.5	+4.8
MRZ	**Mangatainoka R**	**7.92**	**59**	P	**Pn**	**02 07 14.4**	**+1.3**
KHEZ	**Kahui Hut**	**7.97**	**46**	P	**Pn**	**02 07 14.8**	**+0.8**
KHEZ	**Kahui Hut**	**7.97**	**46**	P	**Pn**	**02 07 16.7**	**+2.7**
VRZ	**Vera Road**	**8.48**	**48**	P	**Pn**	**02 07 23.0**	**+2.0**
PKVZ	**Pokaka**	**8.68**	**51**	P	**Pn**	**02 07 25.6**	**+1.9**
TRVZ	**Turoa**	**8.79**	**52**	P	**Pn**	**02 07 27.3**	**+2.0**
WNVZ	**Wahianoa**	**8.79**	**52**	P	**Pn**	**02 07 28.7**	**+3.3**
MAVZ	**Matarangi**	**8.81**	**52**	P	**Pn**	**02 07 29.2**	**+3.4**
TUVZ	**Tukino**	**8.87**	**52**	P	**Pn**	**02 07 29.9**	**+3.6**
TWVZ	**Taurewa**	**8.89**	**50**	P	**Pn**	**02 07 27.6**	**+1.1**
NGZ	**Ngauruhoe**	**8.90**	**51**	P	Pn	02 07 32.5	+5.7
WTVZ	**West Tongariro**	**8.94**	**51**	P	**Pn**	**02 07 29.9**	**+2.7**
NNVZ	**North Ngauruho**	**8.94**	**51**	P	**Pn**	**02 07 29.6**	**+2.2**
OTVZ	**Oturere**	**8.95**	**51**	P	Pn	02 07 33.0	+5.6
ETVZ	**East Tongariro**	**8.99**	**52**	P	**Pn**	**02 07 31.7**	**+3.7**
TMVZ	**Te Maari**	**9.00**	**51**	P	Pn	02 07 33.5	+5.4
URZ	**Urewera**	**10.38**	**52**	Pn	**Pn**	**02 07 48.1**	**+1.2**
	0.7nm,0.3s,baz=304,slow=10,SNR=2.0						
URZ				Sn	Sn	02 09 32.2	-12
	0.5nm,0.3s,baz=254,slow=23,SNR=1.4 4.3nm,0.6s						
OUZ	**Omahuta**	**11.21**	**31**	P	**Pn**	**02 07 58.4**	**+0.1**
OUZ	**Omahuta**	**11.21**	**31**	P	**Pn**	**02 08 01.0**	**+2.7**
STKA	**Stephens Creek**	**23.54**	**296**	P	**P**	**02 10 30.6**	**+2.0**
	0.6nm,0.4s,baz=92,slow=7.6,SNR=3.4 0.6nm,0.4s						
ASAR	**Alice Springs**	**34.12**	**298**	P	**P**	**02 12 03.5**	**+0.2**
	0.4nm,0.6s,baz=130,slow=7.9,SNR=6.2						
ASAR				PcP	**PcP**	**02 14 40.7**	**+0.1**
	0.2nm,0.3s,baz=142,slow=4.7,SNR=2.2 0.4nm,0.6s						
WRA	**Warramunga Arr**	**36.65**	**303**	P	**P**	**02 12 24.6**	**-0.3**
	1.0nm,0.9s,baz=138,slow=7.7,SNR=9.2						
WRA				PcP	**PcP**	**02 14 47.8**	**-0.2**
	0.3nm,0.9s,baz=134,slow=3.5,SNR=1.3 1.0nm,0.9s						

H01W1	**Cape Leeuwin H**	**40.85**	**266**		T	T	02 56 48.7	
	baz=121,slow=76,SNR=14							
H01W2	**Cape Leeuwin H**	**40.87**	**266**		T	T	02 56 32.2	
	baz=121,slow=76,SNR=13							
H01W3	**Cape Leeuwin H**	**40.87**	**266**		T	T	02 56 35.2	
	baz=121,slow=76,SNR=14							
SNAA	**Sanae**		**63.28**	**184**	P	**P**	**02 15 46.1**	**-0.6**
	1.4nm,0.9s,baz=209,slow=8.4,SNR=2.3 1.4nm,0.9s							
BRTR	**Keskin Array B**	**145.29**	**278**		PKPbc	**PKPbc**	**02 24 56.4**	**+0.5**
	2.6nm,0.7s,baz=157,slow=4.0,SNR=9.7							
TORD	**Torodi Ar. Bea**	**145.66**	**207**		PKPbc	**PKPdf**	**02 24 56.7**	**-0.5**
	9.5nm,0.6s,baz=132,slow=2.1,SNR=98							
ARCES	**ARCESS Array B**	**148.76**	**335**		PKPbc	**PKPbc**	**02 25 04.1**	**-0.6**
	3.9nm,0.9s,baz=70,slow=1.4,SNR=5.4							
AKASG	**Malin Array Be**	**151.24**	**297**		PKPbc	**PKPbc**	**02 25 09.4**	**-1.8**
	0.6nm,0.5s,baz=70,slow=3.0,SNR=2.6							
FINES	**FINESS Array B**	**151.90**	**320**		PKPbc	**PKPbc**	**02 25 12.2**	**-0.2**
	4.2nm,1.0s,baz=116,slow=4.4,SNR=14							

IDC ***12*** *02:05:21.4±0.7, 37˚.62N×69˚.83E, h0km, mb4.1/25, mbtmp4.2/33, ML4.0/7, MS3.6/30, Error ellipse: s-maj=13.1km s-min=9.4km az=157.0*

MOS ***12*** *02:05:23.1±1.2, 37˚.80N×69˚.72E, h17km, mb4.6/23, Error ellipse: s-maj=5.2km s-min=4.0km az=84.7*

NEIC ***12*** *02:05:25.7±1.6, 37˚.83N±0˚.03×69˚.78E±0˚.05, h15km±1km, mb4.6/29, Mwr4.4/24, Error ellipse: s-maj=6.2km s-min=3.9km az=65.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr 1.53; Mθθ-0.81; Mϕϕ-0.72; Mrθ 0.18; Mθϕ-1.15; Mϕr-5.33; Fault plane solution: M₀ 5.61000×10¹⁵ NP1:ϕ=182.06000°, δ83.70000°, λ77.76000°. NP2:ϕ=65.22000°, δ13.75000°, λ152.48000°. Principal axes: T 5.9612, Plg50.0000°, Azm79.0000°; N -0.7763, Plg12.0000°, Azm183.0000°; P -5.1849, Plg38.0000°, Azm283.0000°;*

NEIC ***12*** *02:05:26.1, 37˚.81N×69˚.79E, h19km*

NNC ***12*** *02:05:26.9±4.1, 37˚.89N×69˚.61E, h28km±30km, mb4.2, mpv3.9, Error ellipse: s-maj=22.0km s-min=14.2km az=179.0*

ISC 12 02:05:23.9±0.3, 37˚.81N±0˚.04×69˚.73E±0˚.04, h12km, n227, σ2°17/229, mb4.4/52, MS3.6/29, 37C-17D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**0.96**	**332**		**Sg**	**02 05 55.6**	**+0.6**
GAR	**Garm**	**1.28**	**21**		**Pb**	**02 05 48.2**	**+0.3**
GAR				Sg	**Sg**	**02 06 08.8**	**+1.8**
BTK	**Batken**	**2.40**	**20**		**Pb**	**02 06 06.9**	**-0.2**
BTK	**Batken**	**2.40**	**20**	PN	**Pb**	**02 06 06.9**	**-0.2**
KBL	**Kabul**	**3.31**	**190**		**Pn**	**02 06 18.4**	**+2.8**
KBL	**Kabul**	**3.31**	**190**	PN	**Pn**	**02 06 18.4**	**+2.8**
OHH	**Osh**	**3.60**	**40**	PN	**Pn**	**02 06 23.0**	**+3.4**
TRKS	**Terek-Say**	**3.87**	**16**	PN	**Pn**	**02 06 25.2**	**+1.8**
ARSB	**Arslanbob**	**4.32**	**35**	Pn	**Pn**	**02 06 30.9**	**+1.4**
ARSB	**Arslanbob**	**4.32**	**35**	PN	**Pn**	**02 06 30.9**	**+1.4**
ARK	**Arkit**	**4.34**	**23**	PN	**Pn**	**02 06 32.1**	**+2.3**
NIL	**Nilore**	**5.04**	**144**	Pn	**Pn**	**02 06 42.5**	**+3.2**
NIL	**Nilore**	**5.04**	**144**	PN	**Pn**	**02 06 42.5**	**+3.2**
KSH	**Kashi**	**5.17**	**69**	Pn	**Pn**	**02 06 39.4**	**-1.8**
KSH				Sn	**Sn**	**02 07 34.3**	**-6.6**
KSH				pmax	pmax		
	comp=Z,41nm,0.8s						
KSH				smax	smax		
	comp=N,370nm,1.2s						
KSH				smax	smax		
	comp=E,210nm,0.9s						
AML	**Almayashu**	**5.28**	**34**	P	**Pn**	**02 06 45.2**	**+2.2**
	SNR=25						
AML	**Almayashu**	**5.28**	**34**	PN	**Pn**	**02 06 45.5**	**+2.6**
AML						02 07 47.4	
AML	**Almayashu**	**5.28**	**34**	⇑Pn	**Pn**	**02 06 45.6**	**+2.6**
	comp=E,1.3nm,0.5s						
AML				⇓Lg	Lg	02 08 14.9	
	comp=E,17nm,0.6s						
KK31	**Karatay Array**	**5.33**	**6**		**Pn**	**02 06 45.6**	**+2.4**
KK31	**Karatay Array**	**5.33**	**6**	*e*PN	**Pn**	**02 06 45.8**	**+2.6**
KK31	**Karatay Array**	**5.33**	**6**	⇑Pn	**Pn**	**02 06 45.6**	**+2.4**
	comp=E,2.1nm,0.3s,baz=199,slow=15,SNR=86						
KK31				⇑Lg	Lg	02 08 12.4	
	comp=E,161nm,0.8s,baz=192,slow=30,SNR=6.6						
KKAR	**Karatay Array**	**5.33**	**6**		**Pn**	**02 06 45.0**	**+1.8**
KKAR	**Karatay Array**	**5.33**	**6**		**Pn**	**02 06 45.8**	**+2.6**
KKAR	**Karatay Array**	**5.33**	**6**	PN	**Pn**	**02 06 45.8**	**+2.6**
UCH	**Uchtor**	**5.74**	**38**	P	**Pn**	**02 06 51.6**	**+2.3**
	SNR=49						
EKS2	**Erkin-Say**	**5.75**	**31**	P	**Pn**	**02 06 53.2**	**+4.0**
	SNR=14						
KZA	**Kyzart**	**6.01**	**43**	P	**Pn**	**02 06 55.5**	**+2.5**
	SNR=21						
NRN	**Naryn**	**6.04**	**51**	Pn	**Pn**	**02 06 54.5**	**+1.2**
NRN	**Naryn**	**6.04**	**51**	PN	**Pn**	**02 06 54.5**	**+1.2**
AAK	**Ala-Archa**	**6.05**	**36**	P	**Pn**	**02 06 56.0**	**+2.8**
	SNR=37						
AAK	**Ala-Archa**	**6.05**	**36**		**Pn**	**02 06 55.5**	**+2.2**
AAK	**Ala-Archa**	**6.05**	**36**	*i* PN	**Pn**	**02 06 55.7**	**+2.5**
AAK				MLR	MLR		
	comp=Z,1μm,11.0s						
AAK	**Ala-Archa**	**6.05**	**36**	Pn	**Pn**	**02 06 55.9**	**+2.6**
	comp=Z,8.8nm,0.3s,baz=200,slow=3.9,SNR=71						
AAK				Pg	**Pb**	**02 07 13.9**	**+4.7**
	comp=Z,6.6nm,0.3s,baz=183,slow=9.6,SNR=6.9						
AAK				Sn	**Sn**	**02 08 00.7**	**-1.8**
	comp=Z,4.4nm,0.3s,baz=213,slow=9.0,SNR=3.6						
AAK				Lg	Lg	02 08 34.1	
	comp=Z,5.1nm,0.3s,baz=162,slow=19,SNR=4.4						
AAK				LR	LR	02 09 46.9	
	comp=Z,382nm,20.1s,baz=224,slow=43 comp=Z,30nm,0.4s						
FRU1	**Bishkek**	**6.24**	**35**		**Pn**	**02 06 57.0**	**+1.2**
FRU1	**Bishkek**	**6.24**	**35**	PN	**Pn**	**02 06 57.1**	**+1.2**
KBK	**Karaybulak**	**6.28**	**38**	P	**Pn**	**02 06 59.7**	**+3.3**
	SNR=41						
CHMS	**Chumysh**	**6.45**	**35**	P	**Pn**	**02 07 01.0**	**+2.4**
	SNR=39						
CHMS	**Chumysh**	**6.45**	**35**	PN	**Pn**	**02 06 59.8**	**+1.2**
CHMS	**Chumysh**	**6.45**	**35**	⇑Pn	**Pn**	**02 06 59.8**	**+1.2**
	comp=Z,4.0nm,0.4s						
CHMS				⇑Lg	Lg	02 08 52.2	
	comp=Z,142nm,1.2s						
USP	**Ospenovka**	**6.55**	**32**	P	**Pn**	**02 07 02.4**	**+2.3**
	SNR=10.0						
ULHL	**Ulahol**	**6.68**	**46**	P	**Pn**	**02 07 05.1**	**+3.1**
	SNR=8.4						
TKM2	**Tokmak 2**	**6.79**	**39**	P	**Pn**	**02 07 06.2**	**+2.7**
	SNR=20						
TKM2	**Tokmak 2**	**6.79**	**39**	PN	**Pn**	**02 07 05.7**	**+2.2**
TKM2	**Tokmak 2**	**6.79**	**39**	⇓Pn	**Pn**	**02 07 05.8**	**+2.2**
	comp=Z,7.7nm,0.5s						
TKM2				⇓Lg	Lg	02 09 01.5	
	comp=Z,60nm,0.8s						
HRA	**Herat**	**6.96**	**243**	Pn	**Pn**	**02 07 06.8**	**+1.0**
KNDC	**Almaty**	**7.72**	**43**	P	**Pn**	**02 07 18.5**	**+2.4**
KNDC	**Almaty**	**7.72**	**43**	⇓Pn	**Pn**	**02 07 18.5**	**+2.4**
	comp=Z,23nm,0.5s						
KNDC				⇑Lg	Lg	02 09 32.0	
	comp=Z,240nm,1.2s						
MDOK	**Medeo**	**7.72**	**44**	P	**Pn**	**02 07 16.9**	**+0.7**
MDOK	**Medeo**	**7.72**	**44**	Pn	**Pn**	**02 07 16.9**	**+0.7**
	comp=Z,5.7nm,0.5s						
MDOK				Lg	Lg	02 09 31.0	
	comp=Z,135nm,1.1s						
DHRM	**DHARAMSHALA**	**7.73**	**134**	*e*P	**Pn**	**02 07 17.8**	**+1.4**
DHRM				*e*S	**Sn**	**02 08 40.5**	**-3.5**
DHRM				IAML		02 09 27.2	
	comp=N,232nm,0.7s						
DHRM				IAML		02 09 29.4	
	comp=E,277nm,0.8s						
SMLA	**Simla**	**9.05**	**135**	*e*P	**Pn**	**02 07 33.4**	**-0.9**
SMLA				*e*S	**Sn**	**02 09 10.3**	**-5.9**
SMLA				IAML		02 09 33.1	
	comp=N,66nm,0.5s						
GEYT	**Alibeck**	**9.19**	**274**	Pn	**Pn**	**02 07 35.3**	**-0.9**
	comp=N,5.8nm,0.3s,baz=106,slow=11,SNR=80						
GEYT				Sn	**Sn**	**02 09 18.5**	**-1.1**
	comp=N,5.9nm,0.3s,baz=112,slow=31,SNR=2.0						
GEYT				Lg	Lg	02 10 18.7	
	baz=86,slow=24						
GEYT				LR	LR	02 12 25.4	
	comp=N,882nm,18.7s,baz=104,slow=46 comp=N,42nm,0.6s						
GYA0	**ALIBECK ARRAY**	**9.19**	**274**	P	**Pn**	**02 07 36.8**	**+0.6**

GYA0B	**ALIBECK ARRAY**	**9.19**	**274**		Pn	**Pn**	**02 07 37.3**	**+1.1**
GYA0B	**ALIBECK ARRAY**	**9.19**	**274**	⇑P		**Pn**	**02 07 36.1**	**-0.1**
PDGK	**Podgornoye**	**9.25**	**50**	P		**Pn**	**02 07 37.7**	**+0.6**
PDGK	**Podgornoye**	**9.25**	**50**	⇑P		**Pn**	**02 07 37.8**	**+0.6**
	comp=N,1.6nm,0.5s							
KUDL	**Kundal**	**11.18**	**148**	*e*P		**Pn**	**02 08 03.9**	**+0.5**
MAKZ	**Makanchi**	**12.76**	**41**	Pn		**Pn**	**02 08 27.0**	**+2.0**
MAKZ	**Makanchi**	**12.76**	**41**	P		**Pn**	**02 08 27.0**	**+2.0**
MAKZ	**Makanchi**	**12.76**	**41**	⇑P		**Pn**	**02 08 25.8**	**+0.8**
	comp=N,9.6nm,0.8s							
MK31	**Makanchi Array**	**12.91**	**42**	Pn		**Pn**	**02 08 27.1**	**0.0**
MK31	**Makanchi Array**	**12.91**	**42**	*ce*P		**Pn**	**02 08 27.5**	**+0.4**
MK31	**Makanchi Array**	**12.91**	**42**	⇑P		**Pn**	**02 08 26.3**	**-0.8**
	comp=N,14nm,0.8s,baz=225,slow=12,SNR=69							
MKAR	**Makanchi Array**	**12.91**	**42**	Pn		**Pn**	**02 08 27.8**	**+0.7**
MKAR	**Makanchi Array**	**12.91**	**42**	Pn		**Pn**	**02 08 27.5**	**+0.4**
	comp=N,0.3nm,0.3s,baz=230,slow=12,SNR=79							
MKAR				Lg		Lg	02 12 16.1	
	comp=N,0.1nm,0.3s,baz=228,slow=17,SNR=3.2							
MKAR				LR		LR	02 14 12.2	
	comp=N,106nm,19.0s,baz=243,slow=41 comp=N,11nm,0.9s							
AB31	**Akbulak array**	**13.45**	**331**	P		**Pn**	**02 08 33.1**	**-1.4**
AB31	**Akbulak array**	**13.45**	**331**	⇑P		**Pn**	**02 08 33.4**	**-1.1**
	comp=N,2.1nm,0.3s,baz=167,slow=10,SNR=246							
AB31				⇑S		**Sn**	**02 11 01.3**	**-2.6**
	comp=N,11nm,0.8s,baz=151,slow=23,SNR=4.8							
ABKAR	**Akbulak array**	**13.45**	**331**	Pn		**Pn**	**02 08 33.2**	**-1.3**
ABKAR	**Akbulak array**	**13.45**	**331**	Pn		**Pn**	**02 08 33.2**	**-1.3**
KURBB	**Kurchatov Arra**	**14.27**	**23**	Pn		**Pn**	**02 08 43.6**	**-1.9**
	comp=N,0.2nm,0.3s,baz=209,slow=12,SNR=10							
KURBB				Lg		Lg	02 12 51.4	
	comp=N,0.1nm,0.3s,baz=214,slow=29,SNR=4.3 comp=N,1.8nm,0.2s							
KURK	**Kurchatov**	**14.38**	**23**	Pn		**Pn**	**02 08 47.4**	**+0.3**
KURK	**Kurchatov**	**14.38**	**23**	*ce*P		**Pn**	**02 08 45.4**	**-1.7**
KURK				pmax		pmax		
	comp=Z,7.0nm,1.3s							
KURK	**Kurchatov**	**14.38**	**23**	⇓P		**Pn**	**02 08 44.9**	**-2.1**
	comp=Z,4.7nm,1.0s							
WMQ	**Urumqi**	**14.86**	**61**	*e*P		**Pn**	**02 08 52.5**	**-1.3**
WMQ				PP		**P**	**02 08 59.3**	**-0.3**
WMQ				pP			02 09 09.0	
WMQ				pmax		pmax		
	comp=Z,27nm,0.7s							
WMQ				LR		LR		
	comp=N,560nm,13.7s							
WMQ				LR		LR		
	comp=E,230nm,10.5s							
WMQ				LR		LR		
	comp=Z,290nm,17.5s							
AKTO	**Aktyubinsk**	**15.15**	**330**	Pn		**Pn

GOMU	**GeErMu**	**20.08**	**87**	P	Pn	02 10 00.6	+1.2	
GOMU				pP	sP	02 10 04.8	+1.8	
GOMU				sP	pP	02 10 06.9	+5.7	
GOMU				S	Sn	02 13 54.0	+8.6	
GOMU				sS	pS	02 14 03.5	+7.7	
GOMU				SS		02 15 18.3		
GOMU				pmax	pmax			
	comp=Z,6.0nm,0.5s							
GOMU				LR	LR			
	comp=N,190nm,12.3s							
GOMU				LR	LR			
	comp=E,140nm,11.3s							
GOMU				LR	LR			
	comp=Z,160nm,10.7s							
ZEI	**Tsey**	**20.29**	**292**	*e*P	**P**	**02 09 59.8**	**+0.2**	
ZEI				pmax	pmax			
	comp=Z,10.0nm,0.8s							
AKH	**Akhalkalaki**	**20.51**	**288**		**P**	**02 10 03.0**	**+1.0**	
AKH	**Akhalkalaki**	**20.51**	**288**	P	**P**	**02 10 03.0**	**+1.0**	
AKH				pmax	pmax			
	comp=Z,55nm,0.8s							
ONI	**Oni**	**20.60**	**292**		Pn	02 10 05.0	-0.1	
ONI				IAmb	IAmb	02 10 09.9		
	comp=Z,22nm,0.7s							
ONI	**Oni**	**20.60**	**292**	P	Pn	02 10 05.0	-0.1	
ONI				pmax	pmax			
	comp=Z,22nm,0.7s							
KBZ	**Khabaz**	**21.12**	**295**	*ce*P	**P**	**02 10 08.0**	**-0.3**	
KBZ				pmax	pmax			
	comp=Z,24nm,0.8s							
KBZ	**Khabaz**	**21.12**	**295**	P	**P**	**02 10 08.9**	**+0.6**	
	comp=Z,24nm,0.8s,baz=112,slow=9.2,SNR=29							
KBZ				LR	LR	02 20 38.0		
	comp=Z,247nm,18.8s,baz=76,slow=43							
	comp=Z,24nm,0.8s							
GOF	**Gofitskoye**	**21.22**	**298**	*ce*P	**P**	**02 10 11.7**	**+2.3**	
KVAR	**Kislovodsk Arr**	**21.29**	**295**	P	**P**	**02 10 11.6**	**+1.2**	
	comp=Z,12nm,0.6s,baz=90,slow=20,SNR=17							
KVAR				LR	LR	02 20 47.5		
	comp=Z,226nm,18.6s,baz=270,slow=43							
	comp=Z,12nm,0.6s							
SHA1	**Shidzhatmaz**	**21.29**	**295**	*i* P	**P**	**02 10 11.3**	**+0.8**	
KIV	**Kislovodsk**	**21.30**	**295**	⇓P	**P**	**02 10 12.5**	**+2.1**	
KIV	**Kislovodsk**	**21.30**	**295**	P	**P**	**02 10 11.2**	**+0.8**	
KIV	**Kislovodsk**	**21.30**	**295**	*e*P	**P**	**02 10 10.9**	**+0.5**	
KIV				*e*S	**S**	**02 14 08.0**	**+1.2**	
KIV				pmax	pmax			
	comp=Z,63nm,0.9s							
KIV				MLR	MLR			
	comp=Z,179nm,14.0s							
GURO	**Guroymak-BITLI**	**21.76**	**281**	P	**P**	**02 10 16.5**	**+1.0**	
SHL	**Shillong**	**22.39**	**117**	P	**P**	**02 10 22.6**	**+0.2**	
SHL				IAmb	IAmb	02 10 35.0		
	comp=Z,21nm,1.1s							
SHL	**Shillong**	**22.39**	**117**	P	**P**	**02 10 22.6**	**+0.2**	
SHL				pmax	pmax			
	comp=Z,21nm,1.1s							
SOC	**Sochi**	**23.40**	**294**	*e*P	**P**	**02 10 35.5**	**+3.0**	
SOC				*e*PPP	PPP	02 11 07.7		
SOC				*e*SSS	SSS	02 15 34.1		
SOC				pmax	pmax			
	comp=Z,27nm,0.8s							
SOC				MLR	MLR			
	comp=Z,128nm,17.0s							
GTA	**Gaotai**	**23.51**	**77**	P	**P**	**02 10 34.3**	**+0.5**	
GTA				sP	sP	02 10 47.0	+7.6	
GTA				pmax	pmax			
	comp=Z,30nm,1.2s							
GTA				LR	LR			
	comp=N,310nm,15.9s							
GTA				LR	LR			
	comp=E,480nm,15.1s							
GTA				LR	LR			
	comp=E,510nm,15.1s							
VRH	**Novokhopyorsk**	**23.88**	**313**	*e*P	**P**	**02 10 37.3**	**+0.3**	
VRH				pmax	pmax			
	comp=Z,18nm,1.8s							
ARPR	**Arapgir-MALATY**	**24.56**	**283**	P	**P**	**02 10 45.1**	**+1.4**	
ARPR				IAmb	IAmb	02 10 51.8		
	comp=Z,16nm,1.1s							
KIRV	**Kirov**	**24.62**	**334**	P	**P**	**02 10 44.8**	**+0.9**	
	comp=Z,8.9nm,0.7s,baz=191,slow=16,SNR=4.8							
	comp=Z,8.9nm,0.7s							
VORD	**Divnogorie**	**25.22**	**311**	*e*P	**P**	**02 10 48.1**	**-1.2**	
VORD				pmax	pmax			
	comp=Z,6.0nm,0.6s							
VSR	**Storozhevoye**	**25.38**	**312**	*e*P	**P**	**02 10 49.1**	**-1.6**	
VSR				pmax	pmax			
	comp=Z,10.0nm,0.7s							
VORR	**Voronezh**	**25.51**	**313**	*e*P	**P**	**02 10 52.3**	**+0.4**	
VORR				pmax	pmax			
	comp=Z,13nm,1.6s							
GAZ	**Gaziantep**	**25.75**	**279**	P	**P**	**02 10 55.9**	**+1.5**	
GAZ				IAmb	IAmb	02 10 58.3		
	comp=Z,12nm,0.8s							
LPSR	**Galich'ya Gora**	**26.01**	**315**	*e*P	**P**	**02 10 55.8**	**-0.7**	
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
ZAK	**Zakamensk**	**26.93**	**51**	*e*P	**P**	**02 11 06.0**	**+1.0**	
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
LZH	**Lanzhou**	**27.23**	**83**	*e*P	**P**	**02 11 14.0**	**+6.1**	
LZH				pP	sP	02 11 23.8	+10	
LZH				pmax	pmax			
	comp=Z,20nm,1.3s							
LZH				LR	LR			
	comp=E,340nm,13.4s							
LZH				LR	LR			
	comp=Z,320nm,16.5s							
ASF	**Jabal al Asfar**	**27.39**	**268**	P	**P**	**02 11 10.6**	**+1.3**	
	comp=Z,1.5nm,0.9s,baz=147,slow=18,SNR=1.9							
	comp=Z,1.5nm,0.9s							
SIM	**Simferopol'**	**27.50**	**296**	*e*P	**P**	**02 11 15.2**	**+5.2**	
SIM				pmax	pmax			
	comp=Z,51nm,1.0s							
BRTR	**Keskin Array B**	**28.09**	**285**	P	**P**	**02 11 17.2**	**+1.7**	
	comp=Z,2.2nm,0.8s,baz=102,slow=9.1,SNR=6.7							
BRTR				LR	LR	02 25 24.8		
	comp=Z,86nm,19.1s,baz=108,slow=43							
	comp=Z,2.2nm,0.8s							
MMAI	**Mount Meron Ar**	**28.29**	**271**	P	**P**	**02 11 18.8**	**+1.6**	
	comp=Z,4.5nm,1.1s,baz=74,slow=11,SNR=2.9							
MMAI				LR	LR	02 24 21.0		
	comp=Z,50nm,20.2s,baz=52,slow=40							
	comp=Z,4.5nm,1.1s							
OBN	**Obninsk**	**28.29**	**318**	*e*P	**P**	**02 11 15.3**	**-1.6**	
OBN				*e*		02 12 05.8		
OBN				*e*S	**S**	**02 16 03.3**	**+0.6**	
OBN				pmax	pmax			
	comp=Z,6.0nm,1.0s							
OBN				MLR	MLR			
	comp=Z,178nm,17.0s							
SONM	**Songino Array**	**28.46**	**58**	P	**P**	**02 11 18.9**	**+0.2**	
	comp=Z,1.5nm,0.6s,baz=268,slow=9.5,SNR=11							
SONM				LR	LR	02 23 47.8		
	comp=Z,473nm,18.1s,baz=196,slow=39							
	comp=Z,1.5nm,0.6s							
ULN	**Ulaanbaatar**	**28.90**	**58**	P	**P**	**02 11 22.4**	**-0.3**	
ULN	**Ulaanbaatar**	**28.90**	**58**	*ce*P	**P**	**02 11 23.2**	**+0.5**	
ULN				pmax	pmax			
	comp=Z,4.0nm,1.0s							
EIL	**Elat**	**29.91**	**265**	LR	LR	02 26 45.9		
	comp=Z,312nm,18.1s,baz=66,slow=43							
AKASG	**Malin Array Be**	**31.34**	**307**	P	**P**	**02 11 45.5**	**+1.5**	
AKASG	**Malin Array Be**	**31.34**	**307**	P	**P**	**02 11 45.5**	**+1.5**	
AKASG				pmax	pmax			
	comp=Z,4.0nm,0.7s							
AKASG	**Malin Array Be**	**31.34**	**307**	P	**P**	**02 11 44.6**	**+0.5**	
	comp=Z,4.4nm,0.6s,baz=81,slow=7.3,SNR=40							
AKASG				LR	LR	02 27 22.0		
	comp=Z,103nm,18.9s,baz=35,slow=42							
	comp=Z,4.4nm,0.6s							
AKBB	**Malin Array Si**	**31.34**	**307**	P	**P**	**02 11 44.6**	**+0.6**	
AKBB	**Malin Array Si**	**31.34**	**307**	*ce*P	**P**	**02 11 43.9**	**-0.1**	
AKBB				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KIEV	**Kiev**	**31.35**	**307**	⇓P	**P**	**02 11 45.1**	**+1.0**	
KIEV	**Kiev**	**31.35**	**307**	P	**P**	**02 11 44.5**	**+0.5**	
KIEV	**Kiev**	**31.35**	**307**	⇓P	**P**	**02 11 45.1**	**+1.0**	
ELL	**Elmali**	**31.54**	**280**	P	**P**	**02 11 47.6**	**+1.5**	
ELL	**Elmali**	**31.54**	**280**	P	**P**	**02 11 47.6**	**+1.5**	
ELL				pmax	pmax			
	comp=Z,42nm,0.6s							
SORM	**Soroca**	**31.64**	**302**	⇓P	**P**	**02 11 47.9**	**+1.2**	
SORM	**Soroca**	**31.64**	**302**	⇓P	**P**	**02 11 47.9**	**+1.2**	
CMAR	**Chiang Mai Arr**	**31.97**	**119**	*ce*P	**P**	**02 11 49.7**	**-0.1**	
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**31.97**	**119**	P	**P**	**02 11 49.2**	**-0.7**	
	comp=Z,1.0nm,0.3s,baz=308,slow=9.1,SNR=9.9							
CMAR				LR	LR	02 28 43.8		
	comp=Z,51nm,19.7s,baz=295,slow=44							
	comp=Z,1.0nm,0.3s							
PALK	**Pallekele**	**31.98**	**159**	LR	LR	02 25 30.7		
	comp=Z,120nm,18.0s,baz=94,slow=38							
TESR	**Tescani**	**32.76**	**299**	⇓P	**P**	**02 11 58.2**	**+1.7**	
PLOR	**Plostina**	**32.76**	**298**	⇑P	**P**	**02 11 59.6**	**+3.0**	
PLOR	**Plostina**	**32.76**	**298**	⇑P	**P**	**02 11 59.6**	**+3.0**	
COVR	**Voineasa-Covas**	**33.08**	**298**	⇑P	**P**	**02 12 02.0**	**+2.7**	
TURR	**Turia**	**33.20**	**298**	⇓P	**P**	**02 12 03.1**	**+2.6**	
MLR	**Muntele Rosu**	**33.27**	**297**	⇑P	**P**	**02 12 03.5**	**+2.4**	
MLR	**Muntele Rosu**	**33.27**	**297**	P	**P**	**02 12 01.4**	**+0.3**	
MLR				IAmb	IAmb	02 12 06.3		
	comp=Z,7.9nm,0.8s							
MLR	**Muntele Rosu**	**33.27**	**297**	P	**P**	**02 12 01.4**	**+0.3**	
MLR				pmax	pmax			
	comp=Z,8.0nm,0.8s							
MLR	**Muntele Rosu**	**33.27**	**297**	LR	LR	02 29 10.9		
	comp=Z,65nm,18.3s,baz=100,slow=43							
ELND	**Elena**	**33.52**	**293**	⇑P	**P**	**02 12 05.5**	**+2.4**	
BURAR	**Bucovina Array**	**33.73**	**301**	⇑P	**P**	**02 12 06.6**	**+1.5**	
BURAR	**Bucovina Array**	**33.73**	**301**	⇑P	**P**	**02 12 06.6**	**+1.5**	
BUR08	**Bucovina Ar. S**	**33.74**	**301**	P	**P**	**02 12 06.8**	**+1.5**	
VOIR		**33.90**	**297**	⇑P	**P**	**02 12 08.6**	**+2.0**	
VOIR		**33.90**	**297**	⇑P	**P**	**02 12 08.6**	**+2.0**	
KARP	**Karpathos**	**34.01**	**279**	P	**P**	**02 12 08.5**	**+1.0**	
ARCR	**ARCALIA**	**34.33**	**300**	⇑P	**P**	**02 12 13.0**	**+2.9**	
LYN	**LuoYang**	**34.43**	**82**	⇓P	**P**	**02 12 13.1**	**+1.9**	
LYN				pmax	pmax			
	comp=Z,23nm,0.7s							
BOD	**Bodaibo**	**35.00**	**41**	*e*P	**P**	**02 12 15.9**	**+0.1**	
BOD				pmax	pmax			
	comp=Z,14nm,1.0s							
FINES	**FINESS Array B**	**35.84**	**325**	P	**P**	**02 12 23.3**	**+0.3**	
	comp=Z,1.8nm,0.8s,baz=64,slow=3.2,SNR=7.0							
FINES				LR	LR	02 30 18.3		
	comp=Z,93nm,18.3s,baz=52,slow=42							
	comp=Z,1.8nm,0.8s							
IDI	**Anoyia**	**35.85**	**280**	LR	LR	02 32 23.6		
	comp=Z,35nm,18.2s,baz=136,slow=45							
VRAC	**Vranov**	**39.42**	**304**	LR	LR	02 32 57.0		
	comp=Z,126nm,19.3s,baz=344,slow=42							
ARCES	**ARCESS Array B**	**39.55**	**337**	P	**P**	**02 12 55.3**	**+1.0**	
	comp=Z,1.2nm,0.4s,baz=101,slow=7.2,SNR=16							
	comp=Z,1.2nm,0.4s							
GERES	**GERESS Array B**	**41.35**	**304**	P	**P**	**02 13 08.8**	**-0.8**	
	comp=Z,0.5nm,0.4s,baz=78,slow=9.3,SNR=2.5							
	comp=Z,0.5nm,0.4s							
HFS	**Hagfors**	**41.42**	**321**	P	**P**	**02 13 10.2**	**+0.4**	
	comp=Z,1.9nm,0.5s,baz=104,slow=11,SNR=11							
HFS				LR	LR	02 33 24.6		
	comp=Z,160nm,18.7s,baz=80,slow=40							
	comp=Z,1.9nm,0.5s							
NB2	**NORSAR Subarra**	**42.73**	**322**	P	**P**	**02 13 20.7**	**+0.1**	
	comp=Z,3.9nm,1.1s,baz=97,slow=8.6							
NOA	**NORSAR Array B**	**42.73**	**322**	P	**P**	**02 13 20.6**	**+0.1**	
	comp=Z,1.0nm,0.7s,baz=107,slow=7.2,SNR=5.9							
NOA				LR	LR	02 32 28.9		
	comp=Z,62nm,18.5s,baz=275,slow=38							
	comp=Z,1.0nm,0.7s							
YAK	**Yakutsk**	**43.50**	**36**	*ce*P	**P**	**02 13 26.7**	**-0.1**	
YAK				pmax	pmax			
	comp=Z,12nm,0.7s							
GSI	**Gunungsitoli**	**44.44**	**138**	P	**P**	**02 13 35.6**	**+0.8**	
TIXI	**Tiksi**	**44.95**	**23**	P	**P**	**02 13 38.5**	**+0.3**	
TIXI				IAmb	IAmb	02 13 39.3		
	comp=Z,7.8nm,0.8s							
TIXI	**Tiksi**	**44.95**	**23**	*ce*P	**P**	**02 13 37.9**	**-0.3**	
KLR	**Kul'dur**	**45.20**	**55**	*i* P	**P**	**02 13 40.2**	**-0.4**	
KLR	**Kul'dur**	**45.20**	**55**	LR	LR	02 34 09.5		
	comp=Z,88nm,21.5s,baz=238,slow=38							
KSRS	**Korea Array**	**45.42**	**72**	P	**P**	**02 13 42.3**	**-0.1**	
	comp=Z,2.3nm,0.7s,baz=274,slow=6.0,SNR=3.3							
KSRS				LR	LR	02 35 09.7		
	comp=Z,138nm,19.2s,baz=150,slow=39							
	comp=Z,2.3nm,0.7s							
SPITS	**Spitsbergen Ar**	**45.99**	**347**	P	**P**	**02 13 47.8**	**+1.4**	
	comp=Z,4.3nm,0.9s,baz=123,slow=12,SNR=1.0							
	comp=Z,4.3nm,0.9s							
USRK	**Ussuriysk Ar.**	**46.42**	**61**	LR	LR	02 35 14.9		
	comp=Z,187nm,19.4s,baz=313,slow=39							
JNU	**Nakatsue**	**49.25**	**76**	LR	LR	02 38 46.1		
	comp=Z,90nm,18.0s,baz=210,slow=41							
EKA	**Eskdalemuir Ar**	**50.65**	**315**	P	**P**	**02 14 22.9**	**+0.3**	
	comp=Z,1.7nm,0.7s,baz=76,slow=8.0,SNR=3.4							
	comp=Z,1.7nm,0.7s							
DAG	**Danmarks Havn**	**53.19**	**343**	*i* P	**P**	**02 14 42.0**	**+0.7**	
MJAR	**Matsushiro Arr**	**53.42**	**69**	LR	LR	02 39 41.1		
	comp=Z,60nm,21.1s,baz=242,slow=39							
ASAJ	**Asahikawa**	**53.73**	**59**	LR	LR	02 39 48.0		
	comp=Z,159nm,18.6s,baz=132,slow=38							
ESDC	**Sonseca Array**	**55.96**	**297**	P	**P**	**02 15 01.9**	**-0.1**	
	comp=Z,1.5nm,0.9s,baz=69,slow=8.1,SNR=5.6							
	comp=Z,1.5nm,0.9s							
BILL	**Bilibino**	**57.88**	**26**	*i* P	**P**	**02 15 15.2**	**+0.1**	
SUMG	**Summit**	**59.50**	**341**	*i* P	**P**	**02 15 28.6**	**+1.8**	
TORD	**Torodi Ar. Bea**	**64.75**	**267**	P	**P**	**02 16 01.6**	**-0.8**	
TORD				IAmb	IAmb	02 16 16.5		
	comp=Z,4.3nm,1.2s							
TORD	**Torodi Ar. Bea**	**64.75**	**267**	P	**P**	**02 16 01.9**	**-0.5**	
	comp=Z,1.4nm,0.6s,baz=42,slow=6.4,SNR=11							
	comp=Z,1.4nm,0.6s							
TOLK	**Toolik Lake Re**	**69.91**	**14**	P	**P**	**02 16 35.4**	**+1.0**	
TOLK				IAmb	IAmb	02 16 36.0		
	comp=Z,6.4nm,0.8s							
A36M	**Sachs Harbour**	**70.00**	**5**	P	**P**	**02 16 35.8**	**+1.0**	
A36M				IAmb	IAmb	02 16 59.4		
	comp=Z,8.0nm,0.9s							
E24K	**Your Creek**	**70.61**	**14**	P	**P**	**02 16 39.6**	**+1.0**	
E24K				IAmb	IAmb	02 16 48.8		
	comp=Z,7.2nm,1.3s							
E29M	**Blow River**	**72.12**	**10**	P	**P**	**02 16 48.9**	**+1.2**	
E29M				IAmb	IAmb	02 17 24.5		
	comp=Z,11nm,1.4s							
C36M	**Paulatuk**	**72.67**	**5**	P	**P**	**02 16 51.2**	**+0.3**	
C36M				IAmb	IAmb	02 16 51.7		
	comp=Z,5.1nm,0.9s							
DBIC	**Dimbokro**	**73.77**	**266**	P	**P**	**02 16 57.8**	**-0.5**	
	comp=Z,2.4nm,1.0s,baz=20,slow=10.0,SNR=1.9							
DBIC				LR	LR	02 54 43.0		
	comp=Z,118nm,18.5s,baz=38,slow=40							
	comp=Z,2.4nm,1.0s							
ILAR	**Eielson Array**	**73.80**	**15**	P	**P**	**02 16 56.4**	**-1.2**	
	comp=Z,1.1nm,0.9s,baz=331,slow=4.2,SNR=7.5							
	comp=Z,1.1nm,0.9s							
YKA	**Yellowknife Ar**	**79.98**	**2**	*ce*P	**P**	**02 17 33.2**	**+0.7**	
YKA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
YKA	**Yellowknife Ar**	**79.98**	**2**	P	**P**	**02 17 32.7**	**+0.1**	
	comp=Z,1.1nm,0.8s,baz=348,slow=5.7,SNR=20							
	comp=Z,1.1nm,0.8s							
WRA	**Warramunga Arr**	**83.54**	**121**	*ce*P	**P**	**02 17 50.7**	**-1.2**	
WRA	**Warramunga Arr**	**83.54**	**121**	P	**P**	**02 17 49.0**	**-2.9**	
	comp=Z,0.4nm,0.7s,baz=326,slow=5.3,SNR=4.6							
	comp=Z,0.4nm,0.7s							
ASAR	**Alice Springs**	**85.83**	**124**	P	**P**	**02 18 01.7**	**-1.8**	
	comp=Z,0.3nm,0.7s,baz=321,slow=5.1,SNR=2.2							
	comp=Z,0.3nm,0.7s							
PLCA	**Paso Flores**	**149.29**	**252**	PKPbc	**PKiKP**	**02 25 13.4**	**-0.1**	
	comp=Z,2.7nm,1.0s,baz=69,slow=8.6,SNR=3.7							

NIED ***12*** *02:13:50.1, 33.37N× 134.90E, h39km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr0.11; Mθθ3.16; Mϕϕ-3.27; Mrθ1.17; Mθϕ-6.46; Mϕr-1.07; Fault plane solution: M07.39000×1014 NP1: ϕs167.00000°, δ83.00000°, λ10.00000°. NP2:ϕs76.00000°, δ80.00000°, λ173.00000°.*

JMA ***12*** *02:13:50.1±0.1, 33.4N±0.3× 134.9E±0.2, h39km±1km, MV3.6/40, SE OFF SHIKOKU*

JMA Felt I J1 at SE OFF SHIKOKU .

IDC ***12*** *02:13:52.4±1.2, 34.06N× 134.38E, h0km, mb3.4/4, mbtmp3.3/5, ML2.5/1, Error ellipse: s-maj=40.3km s-min=26.5km az=105.0*

ISC 12 02:13:48.4±2.3, 33.41N±0.08× 134.87E±0.04, h14km±14km, n23, σ1s06/24, mb3.4/4, 8D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAI	**Aioi**	**0.52**	**318**	⇓*i*P	**Pn**	**02 14 01.7**	**+0.2**
JAI				⇓S	**Sn**	**02 14 09.2**	**-1.0**
JWM	**Minabe**	**0.60**	**42**	*i* P	**Pn**	**02 14 02.3**	**-0.2**
JWM				S	**Sb**	**02 14 10.7**	**+1.7**
MRT2	**Murotomisaki 2**	**0.61**	**268**	⇓*i*P	**Pn**	**02 14 02.3**	**-0.3**
MRT2				⇓S	**Sb**	**02 14 10.5**	**+1.2**
JTNC	**Tanabenakahech**	**0.74**	**56**	*i* P	**Pn**	**02 14 04.1**	**-0.4**
JTNC				S	**Sb**	**02 14 13.9**	**+0.8**
JMN	**Monobe**	**0.89**	**291**	⇓*i*P	**Pn**	**02 14 06.7**	**+0.1**
JMN				⇓*e*S	**Sb**	**02 14 18.6**	**+1.2**
JWY	**Kouya**	**1.01**	**36**	*i* P	**Pn**	**02 14 08.3**	**+0.1**
JWY				S	**Sb**	**02 14 21.4**	**+0.5**
JAWN	**Awajishima-nag**	**1.08**	**1**	P	**Pn**	**02 14 09.7**	**+0.6**
JAWN				S	**Sb**	**02 14 23.6**	**+0.8**
JJS	**Sakaide**	**1.24**	**321**	⇓*i*P	**Pg**	**02 14 12.0**	**-0.4**
JJS				⇓S	**Sb**	**02 14 27.0**	**-0.6**
JHE	**Heguri**	**1.42**	**28**	P	**Pn**	**02 14 14.0**	**+0.3**
JKN2	**Miekihoku**	**1.43**	**54**	*i* P	**Pn**	**02 14 14.0**	**+0.1**
JKN2				S	**Sn**	**02 14 31.6**	**-1.0**
JKU	**Kubokawa**	**1.52**	**267**	P	**Pn**	**02 14 15.2**	**+0.1**
MJAR	**Matsushiro Arr**	**4.16**	**40**	P	**Pn**	**02 14 53.2**	**+1.7**
MJAR	**Matsushiro Arr**	**4.16**	**40**	Pn	**Pn**	**02 14 53.2**	**+1.7**
	0.3nm,0.3s,baz=247,slow=14,SNR=7.6						
MJAR				Sn	**Sb**	**02 15 49.1**	**-2.4**
	baz=328,slow=47						
	2.0nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**31.57**	**107**	T	T	02 52 49.6	
	baz=298,slow=74						
H11N1	**WAKE ISLAND Hy**	**31.58**	**107**	T	T	02 52 56.8	
	baz=298						
H11N3	**WAKE ISLAND Hy**	**31.59**	**107**	T	T	02 53 01.8	
	baz=298,slow=74						
H11S3	**WAKE ISLAND Hy**	**32.08**	**110**	T	T	02 53 31.6	
	baz=305,slow=74						
H11S1	**WAKE ISLAND Hy**	**32.08**	**110**	T	T	02 53 50.5	
	baz=305,slow=74						
H11S2	**WAKE ISLAND Hy**	**32.09**	**110**	T	T	02 54 01.3	
	baz=305						
MKAR	**Makanchi Array**	**41.64**	**305**	P	**P**	**02 21 36.2**	**0.0**
	0.2nm,0.7s,baz=92,slow=8.7,SNR=1.9						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**53.05**	**181**	P	P	02 23 15.6	+10
	1.0nm,1.0s,baz=353,slow=8.0,SNR=4.3						
	1.0nm,1.0s						
ILAR	**Eielson Array**	**55.38**	**31**	P	P	02 23 26.3	+4.6
	0.3nm,0.9s,baz=275,slow=6.4,SNR=1.6						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**56.76**	**181**	P	P	02 23 43.0	+11
	0.3nm,0.6s,baz=13,slow=12,SNR=4.3						
	0.3nm,0.6s						

IDC 12 02:16:38.5±10.0, 6.90S× 126.23E, h489km±157km, mb2.5/1, mbtmp3.3/3, Error ellipse: s-maj=131.0km s-min=63.5km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.17**	**150**	P	P	02 19 50.2	-0.5
	0.2nm,0.3s,baz=328,slow=11,SNR=15						
WRA				S	S	02 22 29.1	-0.2
	0.4nm,0.7s,baz=325,slow=20,SNR=3.2						
ASAR	**Alice Springs**	**18.23**	**157**	P	P	02 20 22.1	+0.5
	0.2nm,0.3s,baz=327,slow=7.8,SNR=1.7						
MKAR	**Makanchi Array**	**66.14**	**329**	P	P	02 26 36.7	-0.1
	0.2nm,0.5s,baz=117,slow=5.7,SNR=1.6						
	0.2nm,0.5s						

IDC ***12*** *02:23:10.6±0.4, 6.70S× 107.18E, h125km±3km, mb4.0/22, mbtmp4.4/23, MS3.4/4, Error ellipse: s-maj=16.5km s-min=10.0km az=61.0*

DJA ***12*** *02:23:10.0±0.1, 7.3S±3× 107.7E±, h115km±2km, M5.1/27, mb5.1/25, mB5.6/13, MLv5.1/27, Mw4.6/19, Mw(mB)5.1/13*

NEIC ***12*** *02:23:10.1±1.9, 7.13S±0.08× 107.09E±0.07, h101km±2km, mb5.0/32, Error ellipse: s-maj=11.4km s-min=9.3km az=209.0*

ISC 12 02:23:10.3±0.5, 6.89S±0.05× 107.10E±0.04, h122km±4km, n186, σ1s61/194, mb4.7/44, 4C, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.41**	**176**	P	**Pn**	**02 23 26.7**	**-1.3**
CNJI				S	**Sn**	**02 23 38.5**	**-2.9**
DBJI	**Dramaga**	**0.48**	**314**	P	**Pn**	**02 23 30.0**	**+1.6**
DBJI				S	**Sn**	**02 23 44.2**	**+2.1**
LEM	**Lembang**	**0.52**	**83**	P	**Pn**	**02 23 29.4**	**+0.7**
LEM	**Lembang**	**0.52**	**83**	P	**Pn**	**02 23 29.5**	**+0.7**
	18μm,0.4s,baz=9.7,slow=1.3,SNR=1631						
LEM				S	**Sn**	**02 23 44.5**	**+1.9**
	7μm,0.5s,baz=323,slow=20,SNR=14						
SKJI	**Sukabumi**	**0.55**	**258**	P	**Pn**	**02 23 28.5**	**-0.3**
SKJI				S	**Sn**	**02 23 42.0**	**-0.7**
BBJI	**Bungbulang**	**0.79**	**136**	P	**Pn**	**02 23 29.6**	**-1.0**
JCJI	**Jatiwangi**	**1.23**	**71**	P	**Pn**	**02 23 35.1**	**+0.3**
SBJI	**Serang**	**1.23**	**309**	P	**Pn**	**02 23 37.1**	**+2.2**
CGJI	**Cibinong**	**1.42**	**281**

GIRL	**Giralia**	**17.10**	**157**	P		**P**	**02 27 01.7**	**0.0**
SOEI	**Soe**	**17.22**	**101**	P		**P**	**02 27 01.1**	**-2.2**
SOEI	**Soe**	**17.22**	**101**	P		**Pn**	**02 27 04.7**	**+1.1**
SOEI	**Soe**	**17.22**	**101**	P		**P**	**02 27 00.4**	**-2.9**
	73nm,0.7s							
MBWA	**Marble Bar**	**18.72**	**141**	P		**P**	**02 27 16.4**	**-3.1**
MBWA	**Marble Bar**	**18.72**	**141**	P		**Pn**	**02 27 20.9**	**-0.4**
PSA00	**Pilbara Seismi**	**19.10**	**141**			**P**	**02 27 23.0**	**-0.6**
PSA00	**Pilbara Seismi**	**19.10**	**141**			**P**	**02 27 22.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**21.23**	**123**	P		**P**	**02 27 45.9**	**-0.7**
KNRA	**Kununurra**	**22.95**	**114**	P		**P**	**02 28 04.5**	**+0.2**
KNRA	**Kununurra**	**22.95**	**114**	P		**P**	**02 28 05.0**	**+0.8**
MTN	**Manton Dam**	**24.39**	**106**	P		**P**	**02 28 13.2**	**-4.3**
MTN	**Manton Dam**	**24.39**	**106**	P		**P**	**02 28 18.0**	**+0.5**
KDU	**Kakadu**	**25.65**	**105**	P		**P**	**02 28 28.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**26.45**	**342**	P		**P**	**02 28 35.1**	**-0.8**
	2.3nm,0.6s,baz=178,slow=8.7,SNR=15							
CMAR				PcP		**PcP**	**02 31 59.6**	**+1.2**
	1.0nm,0.3s,baz=159,slow=0.8,SNR=1.8							
CMAR				ScP		**ScP**	**02 35 26.0**	**-1.1**
	1.2nm,0.4s,baz=207,slow=3.7,SNR=2.1							
	2.3nm,0.6s							
WRKA	**Warakurna**	**27.14**	**134**	P		**P**	**02 28 43.4**	**+1.2**
WB0	**Warramunga Arr**	**29.42**	**118**	P		**P**	**02 29 02.0**	**-0.5**
WRA	**Warramunga Arr**	**29.44**	**119**	P		**P**	**02 29 02.5**	**-0.2**
WRA						**PcP**	**02 32 05.9**	**+0.2**
WRA	**Warramunga Arr**	**29.44**	**119**	P		**P**	**02 29 02.2**	**-0.5**
	3.3nm,0.5s,baz=289,slow=12,SNR=68							
WRA				PcP		**PcP**	**02 32 05.6**	**-0.2**
	2.5nm,0.4s,baz=308,slow=2.1,SNR=12							
WRA				S		**S**	**02 33 44.9**	**-3.2**
	0.4nm,0.6s,baz=298,slow=16,SNR=1.8							
WRA				ScP		**ScP**	**02 35 36.1**	**-0.4**
	0.5nm,0.5s,baz=319,slow=2.5,SNR=2.3							
	3.3nm,0.5s							
WB2	**Warramunga Arr**	**29.45**	**119**	P		**P**	**02 29 02.7**	**0.0**
WB2				IAmb		IAmb	02 29 29.1	
	comp=Z,28nm,1.2s							
WR0	**Warramunga Arr**	**29.62**	**119**	P		**P**	**02 29 04.2**	**0.0**
AS31	**Alice Springs**	**30.67**	**126**	P		**P**	**02 29 13.8**	**+0.3**
AS31				PcP		**PcP**	**02 32 09.5**	**+0.5**
ASAR	**Alice Springs**	**30.67**	**126**	P		**P**	**02 29 13.4**	**-0.2**
ASAR						**PcP**	**02 32 09.4**	**+0.5**
ASAR	**Alice Springs**	**30.67**	**126**	P		**P**	**02 29 13.5**	**-0.1**
	comp=Z,7.3nm,0.7s,baz=306,slow=8.6,SNR=82							
ASAR				PcP		**PcP**	**02 32 08.9**	**0.0**
	comp=Z,1.9nm,0.3s,baz=317,slow=2.2,SNR=11							
ASAR				S		**S**	**02 34 05.1**	**-2.3**
	comp=Z,5.2nm,0.9s,baz=292,slow=15,SNR=21							
ASAR				ScP		**ScP**	**02 35 40.2**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=318,slow=1.2,SNR=2.2							
ASAR				LR		LR	02 42 34.5	
	comp=Z,26nm,18.7s,baz=208,slow=38							
	comp=Z,7.3nm,0.7s							
AS01	**Alice Springs**	**30.71**	**126**	P		**P**	**02 29 14.1**	**+0.2**
	comp=Z,11nm,0.8s							
FORT	**Forrest**	**30.83**	**143**	P		**P**	**02 29 15.4**	**+0.6**
MMPI	**Merauke**	**33.02**	**95**	P		P	02 29 51.5	+17
PZH	**PanZhiHua**	**33.60**	**351**	P		P	02 29 46.7	+7.5
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,210nm,7.1s							
OOD	**Oodnadatta**	**34.14**	**131**	P		**P**	**02 29 44.0**	**+0.3**
QIS	**Mount Isa**	**34.28**	**117**	P		**P**	**02 29 45.6**	**+0.5**
MULG	**Mulgathing**	**34.38**	**136**	P		**P**	**02 29 45.6**	**-0.2**
COEN	**Coen**	**36.13**	**104**	P		**P**	**02 30 00.5**	**-0.5**
COEN				IAmb		IAmb	02 30 01.7	
	comp=Z,18nm,1.2s							
COEN	**Coen**	**36.13**	**104**	P		**P**	**02 30 00.9**	**-0.1**
	comp=Z,17nm,1.5s							
HYB	**Hyderabad**	**37.14**	**311**	*e*P		**P**	**02 30 12.2**	**+2.7**
HYB				*es*P		**sP**	**02 30 47.8**	**-2.8**
BBOO	**Buckleboo**	**37.26**	**138**	P		**P**	**02 30 09.9**	**-0.5**
BBOO				IAmb		IAmb	02 30 10.8	
	comp=Z,13nm,1.0s							
BBOO	**Buckleboo**	**37.26**	**138**	P		**P**	**02 30 10.0**	**-0.4**
LCRK	**Leigh Creek**	**37.42**	**133**	P		**P**	**02 30 12.4**	**+0.7**
TAPN	**Taplejung**	**38.87**	**332**	*e*P		**P**	**02 30 22.9**	**-1.3**
	comp=Z,9.4nm,0.2s							
TAPN	**Taplejung**	**38.87**	**332**	*e*Pg		**P**	**02 30 23.2**	**-1.0**
RAMN	**Ramite**	**39.07**	**330**	*e*P		**P**	**02 30 24.3**	**-1.5**
	comp=Z,5.2nm,0.3s							
HTT	**Hallett**	**39.57**	**136**	P		**P**	**02 30 30.6**	**+0.9**
JIRN	**Jiri**	**39.86**	**330**	*e*P		**P**	**02 30 30.9**	**-1.6**
	comp=Z,16nm,0.4s							
GUN	**Gumba**	**40.22**	**330**	*e*P		**P**	**02 30 33.8**	**-1.7**
	comp=Z,9.8nm,0.3s							
NJ2	**Nanjing**	**40.32**	**16**	*e*P		P	02 30 43.6	+7.8
NJ2				pP		pP	02 31 04.1	+0.8
NJ2				sP		sP	02 31 15.3	-1.9
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
NJ2				pmax		pmax		
	comp=Z,71nm,4.1s							
QLP	**Quilpie**	**40.37**	**123**	P		**P**	**02 30 37.4**	**+1.0**
	comp=Z,38nm,0.7s							
STKA	**Stephens Creek**	**40.64**	**132**	P		**P**	**02 30 39.1**	**+0.6**
STKA	**Stephens Creek**	**40.64**	**132**	P		**P**	**02 30 38.6**	**+0.1**
STKA	**Stephens Creek**	**40.64**	**132**	P		**P**	**02 30 38.8**	**+0.2**
	comp=Z,24nm,0.5s,baz=308,slow=8.0,SNR=92							
STKA				PcP		**PcP**	**02 32 38.3**	**+0.1**
	comp=Z,5.6nm,0.5s,baz=316,slow=3.0,SNR=4.3							
	comp=Z,24nm,0.5s							
DANN	**Dangsing**	**41.66**	**328**	*e*P		**P**	**02 30 44.9**	**-2.3**
	comp=Z,14nm,0.4s							
PYUN	**Piuthan**	**41.86**	**327**	*e*P		**P**	**02 30 46.8**	**-2.0**
	comp=Z,6.9nm,0.5s							
LZH	**Lanzhou**	**42.86**	**356**	*e*P		P	02 31 08.2	+12
LZH				pP		pP	02 31 24.1	-0.4
LZH				sP		sP	02 31 34.4	-3.9
LZH				pmax		pmax		
	comp=Z,17nm,1.0s							
BULU	**Kimbe**	**42.97**	**91**	P		**P**	**02 30 59.5**	**+1.7**
CMSA	**Cobar Meteorol**	**43.56**	**129**	P		**P**	**02 31 02.7**	**+0.5**
EIDS	**Eidsvold**	**45.80**	**119**	P		**P**	**02 31 20.6**	**+0.5**
EIDS				IAmb		IAmb	02 31 25.9	
	comp=Z,46nm,1.7s							
HHC	**Hu-ho-hao-te**	**47.69**	**5**	*e*P		P	02 31 41.3	+6.7
HHC				pmax		pmax		
	comp=Z,22nm,0.7s							
HHC				pmax		pmax		
	comp=Z,500nm,5.0s							
CAN	**Canberra**	**47.70**	**132**	P		**P**	**02 31 36.1**	**+1.2**
RER	**Riviere de l'E**	**51.57**	**249**	P		**P**	**02 32 07.5**	**+3.1**
RER	**Riviere de l'E**	**51.57**	**249**	P		**P**	**02 32 07.5**	**+3.1**
PAF	**Port-aux-Franc**	**52.44**	**210**	P		**P**	**02 32 12.2**	**+1.9**
WMQ	**Urumqi**	**53.45**	**343**	*e*P		P	02 32 24.2	+6.4
SONM	**Songino Array**	**54.49**	**359**	P		**P**	**02 32 24.3**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=187,slow=10,SNR=2.8							
SONM				ScP		**ScP**	**02 37 12.8**	**-1.7**
	comp=Z,2.5nm,0.6s,baz=174,slow=4.1,SNR=17							
	comp=Z,0.7nm,0.8s							
MDJ	**Mudanjiang**	**55.13**	**19**	P		P	02 32 36.8	+6.9
MDJ				pmax		pmax		
	comp=Z,14nm,1.9s							
MDJ				pmax		pmax		
	comp=Z,810nm,5.0s							
USRK	**Ussuriysk Ar.**	**55.60**	**22**	P		**P**	**02 32 31.5**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=209,slow=5.3,SNR=4.1							
	comp=Z,0.9nm,0.4s							
MKAR	**Makanchi Array**	**57.82**	**340**	P		**P**	**02 32 47.0**	**-1.9**
	comp=Z,0.8nm,0.5s,baz=154,slow=8.3,SNR=12							
MKAR				ScP		**ScP**	**02 37 27.6**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=156,slow=6.4,SNR=3.8							
	comp=Z,0.8nm,0.5s							
DZM	**Mont Dzumac**	**59.06**	**112**	LR		LR	02 59 41.3	
	comp=Z,76nm,18.2s,baz=24,slow=37							
ABPO	**Ambohimpanom**	**59.33**	**252**	P		**P**	**02 33 00.4**	**+0.2**
ABPO	**Ambohimpanom**	**59.33**	**252**	P		**P**	**02 33 01.9**	**+1.8**
ABPO				PcP		**PcP**	**02 33 47.8**	**+0.8**
KLR	**Kul'dur**	**59.90**	**18**	P		**P**	**02 33 02.1**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=225,slow=4.8,SNR=5.2							
	comp=Z,1.0nm,0.5s							
VOI	**Vohitsoka**	**59.94**	**249**	P		**P**	**02 33 05.7**	**+1.5**
H04S1	**CROZET ISLANDS**	**61.59**	**220**	T		T	03 40 05.7	
	baz=64,slow=74							
H04S3	**CROZET ISLANDS**	**61.60**	**220**	T		T	03 39 59.3	
	baz=64,slow=74							
H04S2	**CROZET ISLANDS**	**61.60**	**220**	T		T	03 40 17.8	
	baz=64							
KURBB	**Kurchatov Arra**	**62.39**	**340**	P		**P**	**02 33 17.8**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=150,slow=6.8,SNR=1.6							
	comp=Z,0.7nm,0.3s							
ZALV	**Zalesovo Beam**	**63.46**	**345**	P		**P**	**02 33 24.2**	**-2.8**
	comp=Z,0.7nm,0.3s,baz=157,slow=6.6,SNR=4.1							
	comp=Z,0.7nm,0.3s							
GEYT	**Alibeck**	**63.75**	**318**	P		**P**	**02 33 28.5**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=149,slow=9.6,SNR=2.0							
	comp=Z,0.8nm,0.3s							
DRV	**Dumont d'Urvil**	**63.80**	**166**	⇑P		**P**	**02 33 29.4**	**+0.3**
BVAR	**Borovoye Array**	**67.31**	**337**	P		**P**	**02 33 49.9**	**-2.0**
	comp=Z,0.9nm,0.4s,baz=134,slow=9.5,SNR=4.8							
	comp=Z,0.9nm,0.4s							
MAW	**Mawson**	**67.49**	**197**	P		**P**	**02 33 53.9**	**+1.1**
	comp=Z,21nm,0.6s,baz=59,slow=5.7,SNR=85							
	comp=Z,21nm,0.6s							
CCD	**Concordia, Ant**	**68.79**	**176**	P		**P**	**02 34 02.7**	**+1.5**
CCD				PcP		**PcP**	**02 34 26.2**	**+1.1**
ABKAR	**Akbulak array**	**69.37**	**329**	P		**P**	**02 34 02.9**	**-1.8**
ABKAR	**Akbulak array**	**69.37**	**329**	P		**P**	**02 34 03.2**	**-1.6**
BKZ	**Black Stump Fm**	**69.72**	**129**	P		**P**	**02 34 07.6**	**+0.3**
BKZ				IAmb		IAmb	02 34 08.2	
	comp=Z,24nm,1.2s							
BFZ	**Birch Farm**	**69.74**	**131**	P		**P**	**02 34 07.7**	**+0.4**
BFZ				IAmb		IAmb	02 34 53.7	
	comp=Z,44nm,1.3s							
KMBO	**Kilima Mbogo**	**69.86**	**271**	P		**P**	**02 34 09.6**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=122,slow=4.2,SNR=5.3							
	comp=Z,1.7nm,0.6s							
RTZ	**Ruatahuna**	**70.02**	**128**	P		**P**	**02 34 09.0**	**-0.1**
RTZ				IAmb		IAmb	02 34 10.2	
	comp=Z,21nm,1.0s							
POGA	**Pongola**	**73.91**	**244**	P		**P**	**02 34 34.1**	**+1.7**
KARS	**Kars**	**75.30**	**315**	P		**P**	**02 34 41.7**	**+1.3**
VNDA	**Vanda**	**76.05**	**169**	P		**P**	**02 34 44.8**	**+1.0**
VNDA	**Vanda**	**76.05**	**169**	P		**P**	**02 34 44.5**	**+0.7**
	comp=Z,5.6nm,0.6s,baz=317,slow=6.8,SNR=31							
	comp=Z,5.6nm,0.6s							
KBZ	**Khabaz**	**76.64**	**318**	P		**P**	**02 34 47.1**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=170,slow=4.4,SNR=6.3							
	comp=Z,1.7nm,0.7s							
SBA	**Scott Base**	**77.13**	**169**	P		**P**	**02 34 51.8**	**+1.9**
LSZ	**Lusaka**	**77.55**	**256**	P		**P**	**02 34 55.2**	**+1.6**
LSZ				IAmb		IAmb	02 34 55.9	
	comp=Z,13nm,0.7s							
MMAI	**Mount Meron Ar**	**78.62**	**306**	P		**P**	**02 34 59.8**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=94,slow=10,SNR=5.0							
	comp=Z,2.0nm,0.7s							
SOE	**Somerset East**	**79.20**	**238**	P		**P**	**02 35 02.5**	**+0.2**
LBTB	**Lobatse**	**79.44**	**246**	P		**P**	**02 35 05.0**	**+1.2**
LBTB				IAmb		IAmb	02 35 05.9	
	comp=Z,12nm,0.7s							
BOSA	**Boshof**	**79.59**	**242**	P		**P**	**02 35 05.8**	**+1.3**
BOSA				IAmb		IAmb	02 36 51.7	
	comp=Z,37nm,1.8s							
BOSA	**Boshof**	**79.59**	**242**	P		**P**	**02 35 05.5**	**+0.9**
	comp=Z,3.1nm,0.4s,baz=106,slow=3.6,SNR=32							
	comp=Z,3.1nm,0.4s							
BRTR	**Keskin Array B**	**81.83**	**312**	P		**P**	**02 35 16.7**	**+0.4**
BRTR	**Keskin Array B**	**81.83**	**312**	P		**P**	**02 35 15.9**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=134,slow=6.9,SNR=4.7							
	comp=Z,1.4nm,0.5s							
QSPA	**South Pole Qui**	**83.09**	**180**	P		**P**	**02 35 23.2**	**+0.9**
QSPA				IAmb		IAmb	02 35 23.9	
	comp=Z,16nm,0.9s							
SUR	**Sutherland**	**83.23**	**238**	P		**P**	**02 35 26.1**	**+2.4**
ARG	**Arkhangelos**	**85.21**	**307**	P		**P**	**02 35 36.0**	**+2.6**
ARG				IAmb		IAmb	02 35 58.7	
	comp=Z,26nm,1.2s							
KARP	**Karpathos**	**85.85**	**306**	P		**P**	**02 35 37.9**	**+1.3**
KARP				IAmb		IAmb	02 35 39.2	
	comp=Z,20nm,0.9s							
TSUM	**Tsumeb**	**87.31**	**251**	P		**P**	**02 35 46.0**	**+1.8**
TSUM				IAmb		IAmb	02 35 46.8	
	comp=Z,12nm,0.7s							
AKASG	**Malin Array Be**	**87.67**	**322**	P		**P**	**02 35 43.7**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=89,slow=4.6,SNR=2.7							
	comp=Z,0.5nm,0.5s							
TROLL	**Troll, Antarti**	**87.95**	**198**	⇑P		**P**	**02 35 48.0**	**+1.8**
	comp=Z,321nm,0.6s							
SNAA	**Sanae**	**89.66**	**197**	P		**P**	**02 35 56.1**	**+2.0**
SNAA				IAmb		IAmb	02 35 57.1	
	comp=Z,12nm,0.9s							
SNAA	**Sanae**	**89.66**	**197**	⇑P		**P**	**02 35 55.9**	**+1.8**
	comp=Z,196nm,0.7s							
SNAA	**Sanae**	**89.66**	**197**	P		**P**	**02 35 55.4**	**+1.2**
	comp=Z,9.4nm,0.8s,baz=205,slow=2.5,SNR=30							
	comp=Z,9.4nm,0.8s							
VNA2	**Neumayer--Watz**	**91.30**	**197**	⇑P		**P**	**02 36 03.4**	**+1.7**
	comp=Z,0.9nm,0.4s,baz=106,slow=5.0							
FINES	**FINESS Array B**	**91.73**	**332**	P		**P**	**02 36 03.0**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=134,slow=5.5,SNR=4.3							
	comp=Z,2.4nm,0.9s							
BELA	**Belgrano 2**	**92.76**	**188**	P		**P**	**02 36 09.1**	**+0.7**
BELA				IAmb		IAmb	02 36 09.8	
	comp=Z,4.8nm,0.6s							
ARCES	**ARCESS Array B**	**93.47**	**340**	LR		LR	03 23 18.8	
	comp=Z,52nm,18.1s,baz=30,slow=39							
TORD	**Torodi Ar. Bea**	**106.49**	**282**	PKiKP		**PKiKP**	**02 41 21.5**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=37,slow=2.0,SNR=5.8							
YKA	**Yellowknife Ar**	**116.73**	**20**	PKP		**PKPdf**	**02 41 39.4**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=342,slow=2.3,SNR=10							
NVAR	**Mina Array Bea**	**128.41**	**46**	PKP		**PKiKP**	**02 42 04.8**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=242,slow=1.2,SNR=6.7							
NVAR				SKPbc		SKPbc	02 45 10.7	
	comp=Z,0.6nm,0.8s,baz=287,slow=3.7,SNR=3.8							
ELK	**Elko**	**129.43**	**41**	PKP		**PKPdf**	**02 42 05.5**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=256,slow=12,SNR=3.4							
ELK				SKPbc		SKPbc	02 45 16.1	+0.1
	comp=Z,0.7nm,0.6s,baz=295,slow=3.8,SNR=4.7							
PFO	**Pinyon Flats O**	**131.77**	**50**	SKPbc		**SKPbc**	**02 45 23.7**	**-0.8**
	comp=Z,13nm,1.1s,baz=272,slow=3.7,SNR=11							
PDAR	**Pinedale Array**	**131.85**	**36**	PKP		**PKiKP**	**02 42 10.4**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=116,slow=1.5,SNR=4.5							
PDAR				SKPbc		**SKPbc**	**02 45 23.5**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=261,slow=0.5,SNR=11							
SCHQ	**Schefferville**	**131.95**	**355**	PKP		**PKiKP**	**02 42 09.9**	**-0.4**
	comp=Z,3.9nm,0.9s,baz=288,slow=6.4,SNR=1.3							
SCHQ				SKPbc		**SKPbc**	**02 45 23.0**	**-1.2**
	comp=Z,7.5nm,0.5s,baz=19,slow=4.3,SNR=26							
PLCA	**Paso Flores**	**132.56**	**182**	PKP		**PKiKP**	**02 42 12.5**	**+0.4**
	comp=Z,3.0nm,1.1s,baz=89,slow=1.9,SNR=4.4							
PLCA				SKPbc		**SKPab**	**02 45 27.7**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=124,slow=4.8,SNR=3.0							
ULM	**Lac du Bonnet**	**132.71**	**20**	SKPbc		**SKPbc**	**02 45 24.6**	**-2.5**
	comp=Z,9.0nm,0.9s,baz=328,slow=6.0,SNR=9.1							
ANMO	**Albuquerque**	**138.39**	**43**	PKP		**PKiKP**	**02 42 23.3**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=236,slow=7.3,SNR=2.4							
ANMO				SKPbc		**SKPbc**	**02 45 44.9**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=5.3,slow=4.4,SNR=7.1							
TXAR	**Lajitas Array**	**143.42**	**49**	PKP		PKPbc	02 42 29.6	+0.9
	comp=Z,1.2nm,0.5s,baz=322,slow=1.2,SNR=32							
TXAR				SKPbc		**SKPbc**	**02 45 57.9**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=271,slow=0.7,SNR=7.2							
CPUP	**Villa Florida**	**143.68**	**204**	PKP		PKPbc	02 42 29.9	+0.5
	comp=Z,7.3nm,0.5s,baz=146,slow=1.8,SNR=23							
TKL	**Tuckaleechee C**	**149.68**	**18**	PKPbc		**PKPbc**	**02 42 46.4**	**+0.2**
	comp=Z,15nm,0.5s,baz=342,slow=3.2,SNR=46							

*IDC **12** 02:31:03.3±1.1, 10.°10N×126.°65E, h0km, mb3.9/10, mbtmp3.9/10, MS2.7/1, Error ellipse: s-maj=68.4km s-min=19.0km az=67.0*
*NEIC **12** 02:31:05.7±0.7, 10.°00N±0.°10×126.°2E±0.°2, h10km±1km, mb4.4/10, Error ellipse: s-maj=30.2km s-min=10.7km az=63.0*

ISC 12 02:31:09.4±0.7, 9.°94N±0.°09×126.°3E±0.°2, h42km, n31,
σ1s 05/25, mb4.0/16, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.93**	**194**	Pn	**Pn**	**02 31 51.9**	**-1.6**
DAV	**Davao City (W)**	**2.93**	**194**	LR	LR	02 33 26.1	
	comp=Z,105nm,19.8s,baz=348,slow=45						
CMAR	**Chiang Mai Arr**	**27.79**	**291**	P	**P**	**02 36 57.4**	**+2.6**
	1.0nm,0.3s,baz=124,slow=5.8,SNR=1.1						
	1.0nm,0.3s						
WRA	**Warramunga Arr**	**30.73**	**165**	P	**P**	**02 37 20.7**	**-0.1**
	0.2nm,0.6s,baz=333,slow=10,SNR=1.2						
	0.2nm,0.6s						
BJT	**Baijiatuau**	**31.28**	**345**	P	**P**	**02 37 22.8**	**-2.6**
BJT				IAmb	IAmb	02 37 30.6	
	comp=Z,3.7nm,0.5s						
AS31	**Alice Springs**	**34.22**	**168**	P	**P**	**02 37 51.4**	**+0.1**
ASAR	**Alice Springs**	**34.22**	**168**	P	**P**	**02 37 51.7**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=348,slow=7.1,SNR=5.7						
ASAR				PcP	**PcP**	**02 40 28.0**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=340,slow=2.7,SNR=1.8						
	comp=Z,0.4nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**40.00**	**73**	T	T	03 21 36.8	
	baz=262,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**40.02**	**73**	T	T	03 21 44.4	
	baz=262,slow=75,SNR=6.8						
H11S2	**WAKE ISLAND Hy**	**40.02**	**73**	T	T	03 21 44.2	
	baz=262,slow=75,SNR=8.1						
H11N1	**WAKE ISLAND Hy**	**40.35**	**71**	T	T	03 22 05.1	
	baz=264,slow=74,SNR=8.1						
H11N2	**WAKE ISLAND Hy**	**40.36**	**71**	T	T	03 22 02.6	
	baz=264,slow=74,SNR=7.6						
H11N3	**WAKE ISLAND Hy**	**40.37**	**71**	T	T	03 22 06.2	
	baz=264,slow=74,SNR=8.8						
FORT	**Forrest**	**40.52**	**178**	P	**P**	**02 38 44.4**	**-0.2**
FORT				IAmb	IAmb	02 38 57.8	
	comp=Z,15nm,0.9s						
SONM	**Songino Array**	**41.33**	**340**	P	**P**	**02 38 51.7**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=138,slow=8.9,SNR=2.2						
	comp=Z,0.2nm,0.4s						
BBOO	**Buckleboo**	**43.52**	**168**	P	**P**	**02 39 10.4**	**+1.4**
MK31	**Makanchi Array**	**52.30**	**323**	P	**P**	**02 40 16.1**	**-0.7**
MKAR	**Makanchi Array**	**52.30**	**323**	P	**P**	**02 40 16.4**	**-0.4**
MKAR	**Makanchi Array**	**52.30**	**323**	P	**P**	**02 40 16.9**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=124,slow=7.9,SNR=11						
	comp=Z,0.9nm,0.6s						
ZAA0	**Zalesovo Array**	**54.92**	**331**	P	**P**	**02 40 35.1**	**-0.7**
ZAA0				IAmb	IAmb	02 41 00.9	
	comp=Z,1.8nm,1.0s						
ZALV	**Zalesovo Beam**	**54.92**	**331**	P	**P**	**02 40 35.5**	**-0.3**
ZALV	**Zalesovo Beam**	**54.92**	**331**	P	**P**	**02 40 35.1**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=123,slow=11,SNR=2.7						
	comp=Z,0.5nm,0.4s						
KURK	**Kurchatov**	**56.34**	**326**	P	**P**	**02 40 45.9**	**-0.3**
KURK				IAmb	IAmb	02 40 48.8	
	comp=Z,3.2nm,1.3s						
KURBB	**Kurchatov Arra**	**56.35**	**325**	P	**P**	**02 40 45.9**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=124,slow=6.8,SNR=6.9						
	comp=Z,0.6nm,0.4s						
BVAR	**Borovoye Array**	**61.94**	**325**	P	**P**	**02 41 26.4**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=96,slow=5.8,SNR=2.2						
	comp=Z,0.4nm,0.6s						
ABKAR	**Akbulak array**	**67.13**	**319**	P	**P**	**02 41 58.6**	**-0.2**
ABKAR	**Akbulak array**	**67.13**	**319**	P	**P**	**02 41 58.6**	**-0.2**
ABKAR				IAmb	IAmb	02 42 38.4	
	comp=Z,3.5nm,1.4s						
D19K	**Kuna River**	**75.54**	**22**	P	**P**	**02 42 49.9**	**+0.6**
C23K	**Itkillik River**	**78.36**	**21**	P	**P**	**02 43 05.2**	**+0.1**
C23K				IAmb	IAmb	02 43 14.3	
	comp=Z,5.0nm,1.4s						
ARCES	**ARCESS Array B**	**84.51**	**340**	P	**P**	**02 43 38.2**	**+0.6**
	comp=Z,5.1nm,1.0s,baz=80,slow=6.7,SNR=14						
	comp=Z,5.1nm,1.0s						
FINES	**FINESS Array B**	**86.19**	**332**	P	**P**	**02 43 46.2**	**0.0**
	comp=Z,2.1nm,0.6s,baz=61,slow=5.0,SNR=15						
	comp=Z,2.1nm,0.6s						

*IDC **12** 02:49:18.7±1.6, 10.°63S×118.°79E, h0km, mb4.0/3, mbtmp4.0/7, ML3.8/4, MS2.8/2, Error ellipse: s-maj=53.9km s-min=22.4km az=47.0*
*DJA **12** 02:49:23.8±1.0, 10.°S±11.

σ2s20/47, mb4.5/23, MS3.3/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.52**	**114**		**Pn**	**02 52 11.4**	**-1.6**
HNR	**Honiara**	**2.52**	**114**	Pn	**Pn**	**02 52 12.3**	**-0.7**
	3μm,0.3s,baz=255,slow=6.6,SNR=20						
HNR				Sn	**Sb**	**02 52 48.7**	**+0.4**
	2μm,0.3s,baz=102,slow=23,SNR=2.1						
HNR				LR	LR	02 53 08.8	
	comp=Z,6μm,20.5s,baz=140,slow=39						
RABL	**Rabaul**	**6.85**	**308**	Pn	**Pn**	**02 53 09.9**	**-2.7**
PMG	**Port Moresby**	**10.37**	**264**	LR	LR	02 57 49.3	
	comp=Z,190nm,18.4s,baz=166,slow=37						
CTA	**Charters Tower**	**15.97**	**222**	Pn	**Pn**	**02 55 16.1**	**-0.9**
	0.1nm,0.3s,baz=46,slow=16,SNR=1.4						
	2.4nm,0.8s						
CTAO	**Charters Tower**	**15.97**	**222**	Pn	**Pn**	**02 55 17.6**	**+0.6**
ARMA	**Armidale**	**22.59**	**194**	P	**P**	**02 56 31.4**	**-1.3**
WR0	**Warramunga Arr**	**25.09**	**240**	P	**P**	**02 56 57.0**	**+0.1**
WB0	**Warramunga Arr**	**25.14**	**241**	P	**P**	**02 56 57.8**	**+0.4**
WB0				IAmb	IAmb	02 56 59.6	
	comp=Z,14nm,1.1s						
WRAB	**Tennant Creek**	**25.25**	**241**	P	**P**	**02 56 59.2**	**+0.9**
WRAB				IAmb	IAmb	02 57 02.1	
	comp=Z,11nm,0.8s						
WB2	**Warramunga Arr**	**25.25**	**241**	P	**P**	**02 57 00.2**	**+1.8**
WB2				IAmb	IAmb	02 57 02.3	
	comp=Z,7.5nm,0.7s						
WRA	**Warramunga Arr**	**25.26**	**241**	P	**P**	**02 56 58.8**	**+0.3**
WRA	**Warramunga Arr**	**25.26**	**241**	P	**P**	**02 56 57.9**	**-0.6**
	comp=Z,7.7nm,0.6s,baz=67,slow=9.3,SNR=33						
WRA				PcP	**PcP**	**03 00 33.1**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=71,slow=2.7,SNR=13						
	comp=Z,7.7nm,0.6s						
ASAR	**Alice Springs**	**27.29**	**234**	P	**P**	**02 57 15.0**	**-1.8**
	comp=Z,2.2nm,1.0s,baz=67,slow=8.2,SNR=8.9						
ASAR				PcP	**PcP**	**03 00 37.5**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=73,slow=2.5,SNR=7.9						
ASAR				LR	LR	03 07 19.8	
	comp=Z,52nm,20.2s,baz=36,slow=35						
	comp=Z,2.2nm,1.0s						
STKA	**Stephens Creek**	**27.68**	**210**	P	**P**	**02 57 20.6**	**+0.4**
STKA	**Stephens Creek**	**27.68**	**210**	P	**P**	**02 57 21.6**	**+1.4**
	comp=Z,2.3nm,0.5s,baz=44,slow=15,SNR=7.8						
	comp=Z,2.3nm,0.5s						
RAO	**Raoul Island**	**30.95**	**135**	LR	LR	03 08 42.6	
	comp=Z,159nm,19.5s,baz=120,slow=34						
BBOO	**Buckleboo**	**31.41**	**216**	P	**P**	**02 57 53.7**	**+0.4**
BBOO				IAmb	IAmb	02 57 59.2	
	comp=Z,21nm,1.2s						
FITZ	**Fitzroy Crossi**	**32.52**	**250**	P	**P**	**02 58 03.1**	**-0.1**
BATI	**Baumata**	**33.53**	**264**	LR	LR	03 11 58.7	
	comp=Z,76nm,19.0s,baz=74,slow=37						
RTZ	**Ruatahuna**	**34.75**	**153**	P	**P**	**02 58 21.8**	**-0.7**
FORT	**Forrest**	**35.43**	**227**	P	**P**	**02 58 28.5**	**+0.2**
FORT				IAmb	IAmb	02 58 35.3	
	comp=Z,14nm,1.0s						
TCW	**Tory Channel**	**35.84**	**158**	P	**P**	**02 58 31.0**	**-0.7**
TUWZ	**Tuamarina**	**35.91**	**159**	P	**P**	**02 58 31.2**	**-1.1**
LTZ	**Lake Taylor**	**36.57**	**162**	P	**P**	**02 58 37.0**	**-0.9**
LTZ				IAmb	IAmb	02 59 17.3	
	comp=Z,26nm,1.3s						
KAPI	**Kappang**	**37.74**	**273**	LR	LR	03 14 35.2	
	comp=Z,22nm,20.2s,baz=36,slow=37						
PSA00	**Pilbara Seismi**	**38.63**	**246**	P	**P**	**02 58 56.0**	**+0.4**
PSA00				IAmb	IAmb	02 58 57.7	
	comp=Z,10.0nm,1.1s						
MBWA	**Marble Bar**	**38.63**	**247**	P	**P**	**02 58 53.8**	**-1.9**
MBWA				IAmb	IAmb	02 59 34.2	
	comp=Z,14nm,1.2s						
GIRL	**Giralia**	**43.94**	**246**	P	**P**	**02 59 39.1**	**-0.2**
MJAR	**Matsushiro Arr**	**48.30**	**339**	P	**P**	**03 00 15.1**	**+1.7**
	comp=Z,0.8nm,0.2s,baz=168,slow=6.4,SNR=2.3						
	comp=Z,0.8nm,0.2s						
KSRS	**Korea Array**	**53.43**	**331**	P	**P**	**03 00 54.8**	**+2.9**
	comp=Z,1.0nm,0.5s,baz=141,slow=6.9,SNR=2.0						
	comp=Z,1.0nm,0.5s						
GSI	**Gunungsitoli**	**60.61**	**276**	P	**P**	**03 01 39.8**	**-3.6**
PETK	**Petropavlovsk-**	**61.29**	**0**	P	**P**	**03 01 43.1**	**-4.1**
CMAR	**Chiang Mai Arr**	**63.73**	**295**	P	**P**	**03 02 07.2**	**+3.0**
	comp=Z,1.5nm,0.3s,baz=127,slow=5.3,SNR=5.7						
	comp=Z,1.5nm,0.3s						
CASY	**Casey**	**66.06**	**199**	P	**P**	**03 02 19.6**	**+1.1**
VNDA	**Vanda**	**69.10**	**179**	P	**P**	**03 02 37.9**	**+0.2**
VNDA				IAmb	IAmb	03 02 55.7	
	comp=Z,5.3nm,1.3s						
VNDA	**Vanda**	**69.10**	**179**	P	**P**	**03 02 37.7**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=78,slow=6.8,SNR=2.2						
	comp=Z,1.2nm,0.8s						
SONM	**Songino Array**	**71.94**	**326**	P	**P**	**03 02 58.9**	**+3.3**
	comp=Z,0.9nm,0.8s,baz=135,slow=8.2,SNR=4.3						
	comp=Z,0.9nm,0.8s						
K15K	**Wolf Creek Mou**	**77.23**	**18**	P	**P**	**03 03 21.0**	**-4.8**
PALK	**Pallekele**	**78.23**	**279**	LR	LR	03 40 24.7	
	comp=Z,13nm,19.1s,baz=222,slow=38						
L18K	**Granite Mounta**	**78.75**	**20**	P	**P**	**03 03 29.9**	**-4.4**
L18K				IAmb	IAmb	03 03 44.7	
	comp=Z,7.4nm,0.9s						
J17K	**VABM Dome**	**78.81**	**18**	P	**P**	**03 03 31.6**	**-2.9**
L19K	**White Mountain**	**79.35**	**21**	P	**P**	**03 03 32.8**	**-4.8**
L19K				IAmb	IAmb	03 03 46.5	
	comp=Z,11nm,1.0s						
K20K	**Telida**	**80.41**	**20**	P	**P**	**03 03 39.9**	**-3.4**
K20K				IAmb	IAmb	03 03 51.7	
	comp=Z,6.7nm,1.0s						
ILAR	**Eielson Array**	**83.77**	**21**	P	**P**	**03 04 03.1**	**+2.3**
	comp=Z,1.8nm,0.9s,baz=265,slow=4.7,SNR=8.7						
	comp=Z,1.8nm,0.9s						
MKAR	**Makanchi Array**	**86.19**	**318**	P	**P**	**03 04 15.6**	**+2.2**
	comp=Z,1.0nm,0.6s,baz=100,slow=6.0,SNR=12						
	comp=Z,1.0nm,0.6s						
NVAR	**Mina Array Bea**	**90.58**	**51**	P	**P**	**03 04 38.4**	**+3.6**
	comp=Z,2.3nm,0.9s,baz=246,slow=6.4,SNR=14						
	comp=Z,2.3nm,0.9s						
YKA	**Yellowknife Ar**	**96.38**	**28**	P	**P**	**03 05 02.8**	**+2.1**
	comp=Z,0.2nm,0.8s,baz=269,slow=5.9,SNR=2.3						
	comp=Z,0.2nm,0.8s						
PDAR	**Pinedale Array**	**97.73**	**48**	P	Pdif	03 05 09.4	+1.8
	comp=Z,0.3nm,0.6s,baz=240,slow=1.8,SNR=2.4						
	comp=Z,0.3nm,0.6s						
CLL	**Collm**	**128.28**	**332**	*e*PKPdf	**PKPdf**	**03 10 36.0**	**-2.5**

BUC 12 02:58:34.0±0.1, 45.53N×27.04E, h17km±1km, ml1.8/17, 21C-30D, Error ellipse: s-maj=1.3km s-min=0.9km az=18.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRER		**0.16**	**197**	⇑P	Pg	02 58 38.1	-0.2
GRER				⇓S	Sb	02 58 42.7	+1.2
ODBI	**Odobesti**	**0.23**	**3**	⇓P	Pb	02 58 39.8	+0.1
ODBI				⇑S	Sb	02 58 44.8	+1.2
VRI	**Vrincioaia**	**0.40**	**327**	⇑P	Pg	02 58 41.3	-1.0
VRI				⇓S	Sg	02 58 47.8	0.0
PLOR	**Plostina**	**0.42**	**320**	⇑P	Pg	02 58 41.7	-1.0
PLOR				⇑S	Sb	02 58 49.2	+0.1
TUDR		**0.45**	**82**	⇓P	Pg	02 58 42.9	-0.2
TUDR				⇑S	Sb	02 58 50.2	+0.5
IZVR	**Izvoarele**	**0.51**	**88**	⇓S	Sb	02 58 51.4	-0.2
SLCR	**Slobozia Conac**	**0.52**	**83**	⇓S	Sb	02 58 51.7	0.0
NEHR	**Nehoiu**	**0.53**	**259**	⇓P	Pg	02 58 44.0	-0.6
NEHR				⇓S	Sb	02 58 52.4	+0.1
ISR	**Istrita**	**0.54**	**220**	⇓S	Sb	02 58 52.7	+0.2
SCHL	**Schela**	**0.56**	**93**	⇓S	Sb	02 58 53.1	+0.2
SCHLR	**Schela**	**0.56**	**96**	⇓S	Sb	02 58 53.1	+0.1
GHRR		**0.59**	**26**	⇑P	Pg	02 58 45.7	0.0
GHRR				⇑S	Sb	02 58 54.3	+0.5
NEGRR	**Negrea**	**0.59**	**89**	⇑S	Sb	02 58 54.0	+0.2
COVR	**Voineasa-Covas**	**0.67**	**298**	⇓P	Pg	02 58 46.2	-0.9
COVR				⇓S	Sb	02 58 56.2	+0.1
MLR	**Muntele Rosu**	**0.77**	**267**	⇓P	Pg	02 58 49.1	0.0
MLR				⇑S	Sn	02 59 00.7	-0.7
VLDR	**Vladesti**	**0.79**	**66**	⇓P	Pb	02 58 48.7	-0.6
VLDR				⇑S	Sg	02 59 00.5	+0.5
CFR	**Carcaliu**	**0.85**	**114**	⇓P	Pb	02 58 49.8	-0.4
CFR				⇓S	Sb	02 59 00.9	-0.5
TURR	**Turia**	**0.89**	**307**	⇓P	Pb	02 58 50.0	-0.9
TURR				⇓S	Sg	02 59 03.5	+0.5
AMRR	**Amara**	**0.94**	**167**	⇓S	Sg	02 59 05.0	+0.2
PLAR	**PLOIESTI**	**0.94**	**230**	⇓P	Pb	02 58 51.7	-0.2
TESR	**Tescani**	**1.02**	**345**	⇓P	Pb	02 58 52.6	-0.5
TESR				⇑S	Sn	02 59 07.9	+0.6
OZUR		**1.04**	**303**	⇑P	Pb	02 58 53.5	0.0
OZUR				⇓S	Sn	02 59 08.1	+0.1
LEHL	**Lehliu**	**1.07**	**188**	⇑S	Sg	02 59 08.6	0.0
BOSR	**Bodos**	**1.11**	**300**	⇓S	Sg	02 59 10.0	0.0
TPGR	**Topolog**	**1.19**	**124**	⇑P	Pb	02 58 56.0	0.0
TPGR				⇓S	Sn	02 59 11.9	+0.4
TLBR	**Topalu**	**1.22**	**144**	⇓P	Pn	02 58 55.9	-0.3
TLBR				⇑S	Sn	02 59 12.3	+0.1
TLCR		**1.30**	**105**	⇓P	Pb	02 58 57.7	-0.2
TLCR				⇓S	Sg	02 59 15.3	-0.7
VOIR		**1.40**	**267**	⇓P	Pb	02 58 59.7	0.0
VOIR				⇑S	Sb	02 59 17.9	+0.5
TIRR	**Tirgusor**	**1.45**	**137**	⇓P	Pn	02 58 59.3	-0.1
TIRR				⇓S	Sb	02 59 18.8	+0.2
MFTR	**Murfatlar**	**1.67**	**144**	⇓P	Pn	02 59 03.3	+0.9
MFTR				⇑S	Sb	02 59 25.4	+0.3
MILM	**Milestii Mici**	**1.85**	**41**	⇑S	Sn	02 59 28.8	+0.8

TIR 12 03:00:01.9, 40.55N×20.76E, h7km±5km, Md2.1, Ml1.4, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.08**	**15**	P	Pg	03 00 04.4	+0.4
KBN	baz=15			S	Sg	03 00 05.6	+0.2
KBN	comp=E,1.4nm,0.2s,baz=15			AMP			
LSK	**Leskovik**	**0.42**	**197**	P	Pg	03 00 10.4	+0.4
LSK	baz=198			S	Sg	03 00 16.8	+1.3
FNA	**Florina**	**0.53**	**63**	P	Pg	03 00 12.2	+0.1
FNA	baz=63			S	Sb	03 00 20.6	-0.7
FNA	comp=E,0.1nm,0.2s,baz=63			AMP			

SOME ***12*** *03:17:53.7, 39.45N×73.03E, h5km*
NNC ***12*** *03:17:55.0±2.8, 39.39N×73.28E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=19.4km s-min=15.9km az=165.0*
KRNET ***12*** *03:17:58.3±0.1, 39.46N×73.68E, h17km, mb3.4*

ISC 12 03:17:60.0±1.6, 39.44N±0.05×73.51E±0.04, h8km±12km, n54, σ1s65/77, 27C-27D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.22**	**333**	⇑*i*P	**Pb**	**03 18 22.1**	**-1.2**
OHH	baz=28			⇑*i*S	**Sg**	**03 18 39.7**	**+0.6**
DRK	**Karamyk**	**1.32**	**272**	⇑*e*P	**Pg**	**03 18 25.5**	**+0.2**
DRK	baz=72			⇑*e*S	**Sg**	**03 18 45.8**	**+3.3**
ARSB	**Arslanbob**	**1.92**	**348**	⇑*e*P	**Pn**	**03 18 34.0**	**+0.8**
ARSB	baz=44			⇑*e*S	**Sg**	**03 19 00.6**	**-1.2**
BTK	**Batken**	**2.16**	**287**	⇑*i*P	**Pb**	**03 18 39.3**	**-0.1**
BTK	baz=86			⇑*i*S	**Sg**	**03 19 09.1**	**-0.3**
ARLS	**Aral**	**2.50**	**14**	⇑*i*P	**Pn**	**03 18 41.2**	**+0.2**
ARLS	baz=11			⇑*i*S	**Sn**	**03 19 12.8**	**+1.0**
GAR	**Garm**	**2.52**	**261**	⇑*i*P	**Pb**	**03 18 44.4**	**-1.1**
GAR	baz=61			⇑*i*S	**Sg**	**03 19 17.9**	**-2.9**
ARK	**Arkit**	**2.63**	**334**	⇓*i*P	**Pn**	**03 18 44.6**	**+1.7**
ARK	baz=31			⇓*i*S	**Sb**	**03 19 18.4**	**-1.6**
AML	**Almayashu**	**2.69**	**3**	P	**Pb**	**03 18 46.6**	**-2.0**
	SNR=44						
AML	**Almayashu**	**2.69**	**3**	⇓*i*P	**Pn**	**03 18 44.5**	**+0.6**
AML	baz=0.0			⇓*i*S	**Sn**	**03 19 18.3**	**+1.4**
	baz=0.0						
AML	**Almayashu**	**2.69**	**3**	⇓Pg	**Pb**	**03 18 47.5**	**-1.1**
AML	0.7nm,0.5s			⇑Lg	Lg	03 19 24.8	
	7.8nm,0.6s						
NRN	**Naryn**	**2.75**	**43**	⇑*i*P	**Pn**	**03 18 44.1**	**-0.6**
NRN	baz=41			⇑*i*S	**Sn**	**03 19 17.2**	**-1.1**
	baz=41						
TRKS	**Terek-Say**	**2.76**	**320**	⇓*i*P	**Pn**	**03 18 46.0**	**+1.3**
TRKS	baz=17			⇓*i*S	**Sb**	**03 19 20.7**	**-3.0**
	baz=17						
UCH	**Uchtor**	**2.89**	**15**	P	**Pb**	**03 18 51.0**	**-0.9**
	SNR=8.8						
UCH	**Uchtor**	**2.89**	**15**	⇓*i*P	**Pn**	**03 18 47.1**	**+0.4**
UCH	baz=13			⇓*i*S	**Sn**	**03 19 22.6**	**+0.8**
	baz=13						
KZA	**Kyzart**	**2.95**	**26**	P	**Pb**	**03 18 53.8**	**+0.8**
	SNR=6.3						
KZA	**Kyzart**	**2.95**	**26**	⇑*i*P	**Pn**	**03 18 47.5**	**0.0**
KZA	baz=24			⇑*i*S	**Sn**	**03 19 23.4**	**+0.1**
	baz=24						
EKS2	**Erkin-Say**	**3.22**	**4**	P	**Pb**	**03 18 55.2**	**-2.4**
	SNR=7.9						
EKS2	**Erkin-Say**	**3.22**	**4**	⇑*i*P	**Pn**	**03 18 51.9**	**+0.9**
EKS2	baz=1.0			⇑*i*S	**Sn**	**03 19 30.7**	**+1.0**
	baz=1.0						
AAK	**Ala-Archa**	**3.28**	**13**	P	**Pb**	**03 18 57.1**	**-1.4**
	SNR=9.6						
AAK	**Ala-Archa**	**3.28**	**13**	⇑*i*P	**Pn**	**03 18 52.3**	**+0.5**
AAK	baz=11			⇑*i*S	**Sn**	**03 19 31.8**	**+0.7**
	baz=11						
MRKS	**Merke**	**3.31**	**356**	*e*Pg	**Pn**	**03 18 55.2**	**+3.1**
MRKS	6.6nm,0.3s			*e*Lg	Lg	03 19 38.5	
	17nm,0.4s						
MRKS	**Merke**	**3.31**	**356**	Pg	**Pn**	**03 18 55.3**	**+3.1**
MRKS	6.6nm,0.3s			Lg	Lg	03 19 38.5	
	17nm,0.4s						
KBK	**Karagaybulak**	**3.39**	**18**	P	**Pb**	**03 18 58.5**	**-1.9**
	SNR=7.1						
KBK	**Karagaybulak**	**3.39**	**18**	⇓*i*P	**Pn**	**03 18 53.9**	**+0.5**
KBK	baz=16			⇓*i*S	**Sn**	**03 19 33.8**	**-0.1**
	baz=16						
FRU1	**Bishkek**	**3.47**	**14**	⇓*i*P	**Pn**	**03 18 55.0**	**+0.6**
FRU1	baz=12			⇓*i*S	**Sn**	**03 19 36.6**	**+0.9**
	baz=12						
CHGR	**Chuyangaron**	**3.48**	**258**	⇓*i*P	**Pn**	**03 18 56.8**	**+2.4**
CHGR	baz=59			⇓*i*S	**Sb**	**03 19 39.9**	**-4.3**
	baz=59						
ULHL	**Ulahol**	**3.49**	**36**	⇑*i*P	**Pn**	**03 18 54.6**	**-0.1**
ULHL	baz=34			⇑*i*S	**Sn**	**03 19 35.7**	**-0.6**
	baz=34						
BOOM	**Boomskoye usch**	**3.56**	**30**	⇑*i*P	**Pn**	**03 18 55.7**	**0.0**
BOOM	baz=29			⇑*i*S	**Sn**	**03 19 37.8**	**-0.2**
	baz=29						
CHMS	**Chumysh**	**3.68**	**14**	⇓*i*P	**Pn**	**03 18 57.8**	**+0.7**
CHMS	baz=13			⇓*i*S	**Sn**	**03 19 40.9**	**+0.2**
	baz=13						
CHMS	**Chumysh**	**3.68**	**14**	⇓Pg	**Pb**	**03 19 01.9**	**-3.2**
CHMS	1.8nm,0.4s			⇓Lg	Lg	03 19 56.4	
	28nm,1.1s						
TKM2	**Tokmak 2**	**3.82**	**24**	⇓*i*P	**Pn**	**03 18 59.5**	**+0.2**
TKM2	baz=22			⇓*i*S	**Sn**	**03 19 44.1**	**-0.3**
	baz=22						
TKM2	**Tokmak 2**	**3.82**	**24**	⇓Pg	**Pb**	**03 19 04.7**	**-3.1**
TKM2	0.7nm,0.5s			⇓Lg	Lg	03 20 00.5	
	15nm,0.7s						
USP	**Ospenovka**	**3.90**	**11**	⇑*e*P	**Pn**	**03 19 00.9**	**+0.7**
USP	baz=9.0			⇑*i*S	**Sn**	**03 19 46.3**	**+0.2**
	baz=9.0						
KST	**Kastek**	**4.05**	**26**	*e*Pg	**Pb**	**03 19 11.5**	**-0.1**
KST	2.1nm,0.5s			*e*Lg	Lg	03 20 06.1	
	31nm,0.8s						
KST	**Kastek**	**4.05**	**26**	Pg	**Pb**	**03 19 10.9**	**-0.7**
KST	4.4nm,0.8s			Lg	Lg	03 20 05.6	
	31nm,1.0s						
SGDS	**Sogindy**	**4.10**	**12**	Pg	**Pb**	**03 19 12.5**	**+0.2**
SGDS	2.6nm,0.5s			Lg	Lg	03 20 08.6	
	12nm,0.8s						
KK31	**Karatay Array**	**4.30**	**329**	⇓Pg	**Pn**	**03 19 09.6**	**+3.9**
KK31	0.5nm,0.3s,baz=129,slow=12,SNR=25			⇓Lg	Lg	03 20 16.0	
	8.9nm,0.8s,baz=128,slow=24,SNR=3.5						
KKAR	**Karatay Array**	**4.30**	**329**	⇓*i*P	**Pn**	**03 19 07.8**	**+2.1**
KKAR	baz=28			⇓*i*S	**Sn**	**03 19 58.5**	**+2.5**
	baz=28						
TNSS	**Tian-Shan**	**4.43**	**35**	*e*Pg	**Pb**	**03 19 19.9**	**+1.6**
	3.5nm,0.4s						
TNSS				*e*Lg	Lg	03 20 20.9	
	13nm,0.7s						
TNSS	**Tian-Shan**	**4.43**	**35**	Pg	**Pb**	**03 19 19.9**	**+1.6**
	3.5nm,0.4s						
TNSS				Lg	Lg	03 20 20.9	
	13nm,0.7s						
KRBS	**Karabastau**	**4.55**	**20**	*e*Pg	**Pb**	**03 19 21.0**	**+0.9**
	3.3nm,0.9s						
KRBS				*e*Lg	Lg	03 20 22.6	
	12nm,0.8s						
KRBS	**Karabastau**	**4.55**	**20**	Pg	**Pb**	**03 19 21.0**	**+0.9**
	3.3nm,0.9s						
KRBS				Lg	Lg	03 20 22.6	
	12nm,0.8s						
MDOK	**Medeo**	**4.58**	**35**	*e*Pg	**Pb**	**03 19 21.9**	**+1.3**
	2.5nm,0.6s						
MDOK				*e*Lg	Lg	03 20 24.2	
	13nm,0.7s						
MDOK	**Medeo**	**4.58**	**35**	Pg	**Pb**	**03 19 21.9**	**+1.3**
	2.5nm,0.6s						
MDOK				Lg	Lg	03 20 24.2	
	13nm,0.7s						
KOTS	**Kotyrbulak**	**4.66**	**34**	*e*Pg	**Pb**	**03 19 23.6**	**+1.6**
	3.4nm,0.2s						
KOTS				*e*Lg	Lg	03 20 27.8	
	38nm,0.5s						
KOTS	**Kotyrbulak**	**4.66**	**34**	Pg	**Pb**	**03 19 23.6**	**+1.6**
	3.4nm,0.2s						
KOTS				Lg	Lg	03 20 27.8	
	38nm,0.5s						
KTBS	**Karatobe**	**4.89**	**28**	*e*Pg	**Pb**	**03 19 27.2**	**+1.3**
	1.9nm,0.4s						
KTBS				*e*Lg	Lg	03 20 33.9	
	13nm,0.8s						
KTBS	**Karatobe**	**4.89**	**28**	Pg	**Pb**	**03 19 27.2**	**+1.3**
	1.9nm,0.4s						
KTBS				Lg	Lg	03 20 33.9	
	13nm,0.8s						
KUU	**Kurty**	**4.93**	**25**	*e*Pg	**Pb**	**03 19 27.4**	**+0.9**
	5.2nm,0.5s						
KUU				*e*Lg	Lg	03 20 33.8	
	18nm,1.0s						
KUU	**Kurty**	**4.93**	**25**	Pg	**Pb**	**03 19 27.4**	**+0.9**
	5.2nm,0.5s						
KUU				Lg	Lg	03 20 33.8	
	18nm,1.0s						
BTLS	**Baital**	**5.61**	**4**	*e*Pg	**Pb**	**03 19 38.5**	**+0.3**
	2.2nm,0.8s						
BTLS				*e*Lg	Lg	03 20 52.6	
	1.9nm,0.9s						
BTLS	**Baital**	**5.61**	**4**	Pg	**Pb**	**03 19 38.5**	**+0.3**
	2.2nm,0.8s						
BTLS				Lg	Lg	03 20 52.6	
	1.9nm,0.9s						
ARXS	**Arharly**	**5.76**	**33**	*e*Pg	**Pb**	**03 19 44.1**	**+3.4**
	1.9nm,0.8s						
ARXS				*e*Lg	Lg	03 21 02.3	
	5.6nm,0.7s						
ARXS	**Arharly**	**5.76**	**33**	Pg	**Pb**	**03 19 43.1**	**+2.4**
	3.2nm,0.7s						
ARXS				Lg	Lg	03 21 00.8	
	5.2nm,0.5s						

IDC ***12*** *03:18:38.3±1.7, 50.17N×157.11E, h0km, mb3.5/6, mbtmp3.4/7, ML2.5/1, MS3.4/2, Error ellipse: s-maj=40.1km s-min=26.7km az=179.0*
KRSC ***12*** *03:18:44.0±1.4, 50.43N×157.62E, h40km±21km, Ml4.2*
MOS ***12*** *03:18:45.2±1.0, 50.44N×157.26E, h41km, mb4.1/1, Error ellipse: s-maj=25.8km s-min=6.0km az=82.7*

ISC 12 03:18:44.7±2.4, 50.3N±0.1×157.51E±0.07, h41km±19km, n50, σ1s35/54, mb3.6/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.96**	**292**	*i* P	**Pn**	**03 19 02.1**	**+0.4**
SKR				*e*S	**Sn**	**03 19 13.8**	**-0.4**
SKR	**Severo-Kuril's**	**0.96**	**292**	PN	**Pn**	**03 19 02.1**	**+0.4**
SKR				S	**Sn**	**03 19 13.8**	**-0.4**
PAU	**Pauzhetka**	**1.23**	**339**	*e*P	**Pn**	**03 19 06.5**	**+1.1**
PAU				*e*S	**Sn**	**03 19 20.9**	**+0.2**
PAU	**Pauzhetka**	**1.23**	**339**	PN	**Pn**	**03 19 06.5**	**+1.1**
PAU				S	**Sn**	**03 19 20.9**	**+0.2**
KDTR	**Khodutka, Kamc**	**1.53**	**13**	*e*P	**Pn**	**03 19 08.7**	**-0.8**
KDTR				*e*S	**Sn**	**03 19 25.0**	**-3.1**
KDTR	**Khodutka, Kamc**	**1.53**	**13**	PN	**Pn**	**03 19 08.7**	**-0.8**
KDTR				S	**Sn**	**03 19 25.0**	**-3.1**
ASAK	**Asacha**	**2.07**	**7**	*e*P	**Pn**	**03 19 17.0**	**-0.1**
ASAK	**Asacha**	**2.07**	**7**	PN	**Pn**	**03 19 17.0**	**-0.1**
GRL	**Gorelyy**	**2.26**	**9**	*e*P	**Pn**	**03 19 19.8**	**+0.2**
GRL				*e*S	**Sn**	**03 19 46.1**	**-0.2**
GRL	**Gorelyy**	**2.26**	**9**	PN	**Pn**	**03 19 19.8**	**+0.2**
GRL				S	**Sn**	**03 19 46.1**	**-0.2**
KRMR	**Karymshinskiy**	**2.54**	**9**	*e*P	**Pn**	**03 19 23.7**	**+0.4**
KRMR				*e*S	**Sn**	**03 19 53.3**	**+0.3**
KRMR	**Karymshinskiy**	**2.54**	**9**	PN	**Pn**	**03 19 23.7**	**+0.4**
KRMR				S	**Sn**	**03 19 53.3**	**+0.3**
APC	**Apacha**	**2.61**	**355**	*e*P	**Pn**	**03 19 24.9**	**+0.5**
APC	**Apacha**	**2.61**	**355**	PN	**Pn**	**03 19 24.9**	**+0.5**
PETK	**Petropavlovsk-**	**2.79**	**2**	Pn	**Pn**	**03 19 27.4**	**+0.6**
	2.9nm,0.3s,baz=161,slow=14,SNR=26						
PETK				Sn	**Sn**	**03 20 03.9**	**+4.7**
	3.3nm,0.3s,baz=142,slow=15,SNR=4.3					

baz=349,slow=76,SNR=62
DLBC Dease Lake 41.03 50 LR LR 03 45 14.8
comp=N,46nm,18.8s,baz=51,slow=39
KURK Kurchatov 47.85 303 P **P** **03 27 17.3 -0.8**
MKAR Makanchi Array 47.93 296 P **P** **03 27 17.4 -1.3**
comp=N,0.2nm,0.4s,baz=56,slow=7.3,SNR=7.6
comp=N,0.2nm,0.4s
KURBB Kurchatov Arra 47.95 303 P **P** **03 27 17.3 -1.5**
comp=N,0.4nm,0.5s,baz=59,slow=7.3,SNR=4.7
comp=N,0.4nm,0.5s
BVAR Borovoye Array 50.86 309 P **P** **03 27 38.9 -2.1**
comp=N,0.4nm,0.5s,baz=65,slow=6.8,SNR=2.4
comp=N,0.4nm,0.5s
NVAR Mina Array Bea 58.26 67 P **P** **03 28 36.6 +1.4**
comp=N,0.1nm,0.3s,baz=302,slow=5.2,SNR=1.8
comp=N,0.1nm,0.3s
FINES FINESS Array B 62.01 336 LR LR 03 59 06.3
comp=N,32nm,19.0s,baz=292,slow=39
TXAR Lajitas Array 73.25 64 P **P** **03 30 13.6 +1.9**
comp=N,0.1nm,0.6s,baz=308,slow=6.2,SNR=2.0
comp=N,0.1nm,0.6s
EKA Eskdalemuir Ar 73.48 349 P **P** **03 30 12.0 -0.5**
EKA Eskdalemuir Ar 73.48 349 P **P** **03 30 11.9 -0.5**
comp=N,0.4nm,0.4s,baz=19,slow=6.3,SNR=4.2
comp=N,0.4nm,0.4s
H03N2 Juan Fernandez 135.83 90 T T 06 09 23.4
baz=313,slow=77
H03N1 Juan Fernandez 135.84 90 T T 06 09 25.5
baz=313,slow=77
H03N3 Juan Fernandez 135.84 90 T T 06 09 15.3
baz=313,slow=77

LDG ***12*** *03:22:31.0±0.8, 42°.48N×15°.43E, h10km, Ml3.7/6, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
ROM ***12*** *03:22:33.2±0.3, 42°.43N±0°.01×15°.48E±0°.02, h34km±2km, ML3.1/59, Error ellipse: s-maj=1.4km s-min=1.0km az=57.0*
PRU ***12*** *03:22:34.8, 42°.67N×15°.56E, h10km*
BEO ***12*** *03:22:35.4±0.9, 42°.47N×15°.47E, h35km, ML2.8/4*
TIR ***12*** *03:22:37.4, 42°.10N×16°.31E, h3km±4km, Ml3.4*
PDG ***12*** *03:22:43.8±0.2, 42°.06N×16°.61E, h14km±8km, ML3.2/9, Error ellipse: s-maj=2.2km s-min=14.2km az=0.0*
ISC 12 03:22:32.5±1.2, **42°.47N**±0°.03×**15°.46E**±0°.03, **h33**km±3km, **n123**, σ**S10**/158, **4C-5D, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
APRC	**Apricena**	**0.72**	**175**	**P**	**Pb**	**03 22 46.8**	**+0.1**
APRC				S	**Sb**	**03 22 56.7**	**+0.4**
APRC				AML	AML		
	comp=E,5380μm,0.6s						
APRC				AML	AML		
	comp=E,5305μm,0.6s						
APRC				AML	AML		
	comp=N,2965μm,0.2s						
APRC				AML	AML		
	comp=N,7120μm,0.2s						
APRC				AML	AML		
	comp=N,2964μm,0.2s						
SGRT	**San Giovanni R**	**0.75**	**163**	P	**Pb**	**03 22 47.4**	**+0.2**
	baz=231						
SGRT				S	**Sb**	**03 22 57.1**	**-0.1**
SGRT				AMP			
	baz=231						
	comp=E,13nm,0.2s,baz=231						
SGRT	**San Giovanni R**	**0.75**	**163**	P	**Pb**	**03 22 47.3**	**+0.2**
SGRT				S	**Sb**	**03 22 57.4**	**+0.2**
SGRT				AML	AML		
	comp=E,3975μm,0.2s						
SGRT				AML	AML		
	comp=N,4480μm,1.1s						
MELA	**Melanico ??? S**	**0.80**	**198**	P	**Pb**	**03 22 48.2**	**+0.2**
MELA				AML	AML		
	comp=E,4725μm,0.2s						
MELA				AML	AML		
	comp=N,4400μm,0.5s						
MELA				AML	AML		
	comp=N,4405μm,0.5s						
MELA				AML	AML		
	comp=N,4530μm,0.5s						
MELA				AML	AML		
	comp=N,4400μm,0.5s						
MELA				AML	AML		
	comp=N,4530μm,1.5s						
MELA				AML	AML		
	comp=E,4945μm,0.2s						
MELA				AML	AML		
	comp=N,4400μm,1.5s						
MSAG	**Monte S. Angel**	**0.83**	**156**	P	**Pb**	**03 22 48.4**	**-0.2**
MSAG				S	**Sb**	**03 23 01.2**	**+1.7**
MSAG				AML	AML		
	comp=N,2070μm,0.8s						
MSAG				AML	AML		
	comp=E,3040μm,0.8s						
MSAG				AML	AML		
	comp=N,4685μm,0.8s						
MSAG				AML	AML		
	comp=E,1230μm,0.8s						
CIGN	**Sant'Elia a Pi**	**0.92**	**207**	P	**Pb**	**03 22 50.0**	**+0.1**
CIGN				AML	AML		
	comp=E,1042μm,0.4s						
CIGN				AML	AML		
	comp=E,1043μm,0.4s						
CIGN				AML	AML		
	comp=N,1010μm,1.5s						
CIGN				AML	AML		
	comp=N,1010μm,0.5s						
TRIV	**Trivento**	**0.98**	**224**	P	**Pb**	**03 22 51.1**	**+0.1**
TRIV				AML	AML		
	comp=E,790μm,0.8s						
TRIV				AML	AML		
	comp=N,590μm,1.2s						
TRIV				AML	AML		
	comp=N,590μm,1.2s						
TRIV				AML	AML		
	comp=N,584μm,1.2s						
TRIV				AML	AML		
	comp=E,828μm,0.8s						
TRIV				AML	AML		
	comp=E,790μm,0.8s						
TRIV				AML	AML		
	comp=N,590μm,0.8s						
TRIV				AML	AML		
	comp=N,584μm,0.8s						
HVAR	**Hvar**	**1.01**	**46**	*e*Pb	**Pn**	**03 22 51.6**	**+1.3**
HVAR				Sg	**Sn**	**03 23 04.8**	**+1.3**
HVAR	**Hvar**	**1.01**	**46**	P	**Pn**	**03 22 51.7**	**+1.3**
LPEL	**Lama dei Pelig**	**1.04**	**246**	P	**Pn**	**03 22 51.7**	**+1.0**
LPEL				AML	AML		
	comp=E,1370μm,0.3s						
LPEL				AML	AML		
	comp=N,1008μm,0.2s						
LSTV	**Lastovo**	**1.10**	**74**	*e*Pn	**Pb**	**03 22 53.0**	**0.0**
LSTV				Sg	**Sb**	**03 23 07.1**	**+0.1**
MOCO	**Biccari - m.te**	**1.12**	**192**	P	**Pb**	**03 22 53.7**	**+0.2**
MOCO				AML	AML		
	comp=E,772μm,0.5s						
MOCO				AML	AML		
	comp=N,486μm,0.5s						
MOCO				AML	AML		
	comp=N,478μm,0.5s						
MOCO				AML	AML		
	comp=E,788μm,0.5s						
BSSO	**Busso**	**1.13**	**215**	AML	AML		
	comp=E,206μm,0.5s						
BSSO				AML	AML		
	comp=N,206μm,0.3s						
TRTR	**Tortoreto Alta**	**1.19**	**287**	P	**Pb**	**03 22 55.7**	**+1.2**
INTR	**Introdacqua**	**1.24**	**249**	P	**Pn**	**03 22 54.3**	**+0.7**
INTR				AML	AML		
	comp=E,422μm,0.5s						
INTR				AML	AML		
	comp=E,426nm,0.5s						
INTR				AML	AML		
	comp=N,661nm,0.8s						
INTR				AML	AML		
	comp=N,889μm,0.4s						
INTR				AML	AML		
	comp=E,422μm,1.5s						
INTR				AML	AML		
	comp=E,426nm,1.5s						
T0110	**Collepietro**	**1.27**	**259**	P	**Pn**	**03 22 55.3**	**+1.4**
SGTA	**Sant Agata di**	**1.34**	**183**	AML	AML		
	comp=N,984μm,0.4s						
SGTA				AML	AML		
	comp=E,1485μm,0.8s						
SGTA				AML	AML		
	comp=E,1580μm,0.8s						
SGTA				AML	AML		
	comp=N,936μm,1.4s						
SGTA				AML	AML		
	comp=E,1580μm,1.2s						
SGTA				AML	AML		
	comp=E,1485μm,1.2s						
TERO	**Teramo**	**1.38**	**277**	P	**Pn**	**03 22 56.8**	**+1.4**
TERO				AML	AML		
	comp=E,308μm,0.5s						
TERO				AML	AML		
	comp=N,408μm,0.8s						
TERO				AML	AML		
	comp=E,307μm,0.5s						
TERO				AML	AML		
	comp=E,348μm,1.5s						
TERO				AML	AML		
	comp=E,348μm,0.5s						
TERO				AML	AML		
	comp=N,326μm,0.5s						
TERO				AML	AML		
	comp=N,408μm,1.2s						
MORI	**Morici**	**1.41**	**7**	*e*Pn	**Pn**	**03 22 57.0**	**+1.3**
MORI				Sn	**Sn**	**03 23 14.9**	**+1.8**
POFI	**Posta Fibreno**	**1.50**	**240**	P	**Pn**	**03 22 57.5**	**+0.4**
POFI				AML	AML		
	comp=E,232μm,0.8s						
POFI				AML	AML		
	comp=N,227μm,1.4s						
POFI				AML	AML		
	comp=E,244μm,0.8s						
POFI				AML	AML		
	comp=N,218μm,1.4s						
POFI				AML	AML		
	comp=E,244μm,1.2s						
POFI				AML	AML		
	comp=E,232μm,1.2s						
MRVN	**Minervino Murg**	**1.51**	**158**	AML	AML		
	comp=N,448μm,0.4s						
MRVN				AML	AML		
	comp=E,428μm,0.2s						
DUGI	**Dugi Otok**	**1.55**	**349**	*e*Pn	**Pn**	**03 22 59.3**	**+1.6**
DUGI				Sn	**Sn**	**03 23 17.8**	**+1.2**
RICI	**Ricice**	**1.60**	**50**	*e*Pn	**Pn**	**03 23 00.1**	**+1.7**
RICI				Sn	**Sb**	**03 23 20.8**	**-0.4**
LRP	**Arpino**	**1.62**	**240**	P	**Pn**	**03 22 59.7**	**+1.0**
LRP				AML	AML		
	comp=N,208μm,1.6s						
LRP				AML	AML		
	comp=N,208μm,1.6s						
LRP				AML	AML		
	comp=E,238μm,0.5s						
LRP				AML	AML		
	comp=N,208μm,0.4s						
MMO1	**Montemonaco**	**1.63**	**286**	P	**Pn**	**03 23 00.8**	**+2.0**
RM33	**Pellescritta (**	**1.66**	**272**	P	**Pn**	**03 23 01.2**	**+1.9**
RM33				AML	AML		
	comp=E,340μm,1.3s						
RM33				AML	AML		
	comp=N,306μm,1.0s						
RM33				AML	AML		
	comp=E,340μm,0.7s						
KIJV	**Kijevo**	**1.68**	**24**	*e*Pn	**Pn**	**03 23 01.7**	**+2.2**
KIJV				Sn	**Sn**	**03 23 22.6**	**+2.7**
STON	**Ston**	**1.70**	**76**	*e*Pn	**Pn**	**03 23 01.7**	**+1.9**
STON				Sn	**Sn**	**03 23 22.2**	**+1.9**
MRLC	**Muro Lucano**	**1.71**	**179**	P	**Pn**	**03 23 00.4**	**+0.4**
MRLC				AML	AML		
	comp=N,637μm,0.5s						
MRLC				AML	AML		
	comp=N,637μm,1.5s						
MRLC				AML	AML		
	comp=E,282μm,0.4s						
MRLC				AML	AML		
	comp=E,546μm,0.4s						
MRLC				AML	AML		
	comp=N,318μm,1.5s						
ACER	**Acerenza**	**1.72**	**168**	P	**Pn**	**03 23 00.5**	**+0.4**
FIAM	**Fiamignano**	**1.75**	**264**	P	**Pn**	**03 23 02.6**	**+2.1**
FIAM				AML	AML		
	comp=E,280μm,0.5s						
FIAM				AML	AML		
	comp=N,353μm,0.5s						
FIAM				AML	AML		
	comp=E,280μm,1.5s						
FIAM				AML	AML		
	comp=N,353μm,1.5s						
NRCA	**Norcia**	**1.77**	**283**	P	**Pn**	**03 23 02.5**	**+1.7**
NRCA				AML	AML		
	comp=E,444μm,0.7s						
NRCA				AML	AML		
	comp=N,514μm,1.5s						
NRCA				AML	AML		
	comp=E,451μm,0.7s						
NRCA				AML	AML		
	comp=N,460μm,0.7s						
AMUR	**Altamura**	**1.78**	**151**	AML	AML		
	comp=N,338μm,0.5s						
AMUR				AML	AML		
	comp=E,438μm,0.2s						
FDMO	**Fiordimonte**	**1.83**	**289**	P	**Pn**	**03 23 03.4**	**+1.7**
FDMO				AML	AML		
	comp=E,302μm,0.8s						
FDMO				AML	AML		
	comp=N,308μm,0.6s						
FDMO				AML	AML		
	comp=E,302μm,1.2s						
VIRC	**Vir**	**1.84**	**351**	*e*Pn	**Pn**	**03 23 03.3**	**+1.6**
VIRC				Sn	**Sn**	**03 23 25.4**	**+1.6**
CING	**Cingoli**	**1.89**	**299**	P	**Pn**	**03 23 03.9**	**+1.4**
CING				AML	AML		
	comp=E,273μm,0.6s						
CING				AML	AML		
	comp=N,214μm,0.6s						
CING				AML	AML		
	comp=N,214μm,1.4s						
CING				AML	AML		
	comp=E,273μm,1.4s						
GAVE	**Gavelli**	**1.91**	**277**	AML	AML		
	comp=N,476μm,1.2s						
GAVE				AML	AML		
	comp=E,482μm,0.4s						
EL6	**Elcito**	**1.93**	**297**	AML	AML		
	comp=N,456μm,0.9s						
EL6				AML	AML		
	comp=E,363μm,1.6s						
CESI	**CESI - Serrava**	**1.96**	**287**	P	**Pn**	**03 23 05.9**	**+2.5**
CESI				AML	AML		
	comp=E,350μm,1.1s						
CESI				AML	AML		
	comp=N,478μm,0.4s						
DBRK	**Dubrovnik**	**2.00**	**83**	*e*Pn	**Pn**	**03 23 06.0**	**+2.1**
DBRK				Sn	**Sn**	**03 23 29.4**	**+1.7**
PTRP	**Pietrapertosa**	**2.00**	**167**	P	**Pn**	**03 23 05.3**	**+1.2**
PTRP				AML	AML		
	comp=N,573μm,0.5s						
PTRP				AML	AML		
	comp=E,582μm,0.4s						
MIGL	**Miglionico**	**2.01**	**158**	AML	AML		
	comp=N,1250μm,0.7s						
MIGL				AML	AML		
	comp=N,1250μm,1.3s						
MIGL				AML	AML		
	comp=E,1184μm,0.4s						
MATE	**Matera**	**2.05**	**152**	AML	AML		
	comp=N,404μm,0.3s						
MATE				AML	AML		
	comp=E,372μm,0.6s						
NOCI	**Noci**	**2.07**	**144**	P	**Pn**	**03 23 05.5**	**+0.6**
	baz=156						
NOCI	**Noci**	**2.07**	**144**	AML	AML		
	comp=N,450μm,0.4s						
NOCI				AML	AML		
	comp=E,347μm,1.3s						
NEVS	**Nevesinje**	**2.11**	**66**	*e*Pn	**Pn**	**03 23 08.1**	**+2.6**
LTRZ	**Laterza**	**2.13**	**151**	P	**Pn**	**03 23 06.2**	**+0.5**
LTRZ				AML	AML		
	comp=E,319μm,0.3s						
LTRZ				AML	AML		
	comp=N,334μm,1.0s						
NVLJ	**Novalja**	**2.13**	**349**	*e*Pn	**Pn**	**03 23 07.8**	**+2.1**
NVLJ				Sn	**Sn**	**03 23 33.0**	**+1.9**
FOSV	**Fossato di Vic**	**2.15**	**293**	P	**Pn**	**03 23 07.6**	**+1.6**
FOSV				AML	AML		
	comp=E,207μm,0.5s						
FOSV				AML	AML		
	comp=N,250μm,1.1s						
FOSV				AML	AML		
	comp=N,250μm,0.9s						
FOSV				AML	AML		
	comp=E,207μm,1.5s						
TREB	**Trebinje**	**2.15**	**82**	*e*Pn	**Pn**	**03 23 07.9**	**+1.9**
TREB				*e*Sn	**Sn**	**03 23 33.9**	**+2.4**
TREB	**Trebinje**	**2.15**	**82**	*e*Pn	**Pn**	**03 23 07.3**	**+1.3**
MCEL	**Monticello**	**2.16**	**173**	P	**Pn**	**03 23 06.3**	**+0.1**
HCY	**Herceg Novi**	**2.25**	**90**	*e*Pn	**Pb**	**03 23 10.5**	**-1.9**
HCY	**Herceg Novi**	**2.25**	**90**	⇓*i*Pg	**Pb**	**03 23 10.8**	**-1.6**
HCY				*e*Sg	**Sn**	**03 23 34.2**	**+0.3**
MGRS	**Mrkonjic Grad**	**2.28**	**31**	*e*Pn	**Pn**	**03 23 10.6**	**+2.9**
BRY	**Bratogost**	**2.31**	**78**	⇑*i*Pn	**Pb**	**03 23 13.7**	**+0.1**
BRY				*e*Sn	**Sn**	**03 23 36.7**	**+1.0**
FSSB	**Fossombrone**	**2.31**	**303**	P	**Pn**	**03 23 09.7**	**+1.5**
FSSB				AML	AML		
	comp=E,502μm,1.5s						
FSSB				AML	AML		
	comp=E,502μm,0.5s						
FSSB				AML	AML		
	comp=N,711μm,1.5s						
NARO	**Abbazia di Nar**	**2.40**	**299**	AML	AML		
	comp=N,254μm,1.3s						
NARO				AML	AML		
	comp=E,216μm,0.3s						
BUM	**Brajici-Budva**	**2.55**	**93**	⇑*i*Pn	**Pn**	**03 23 14.0**	**+2.5**
BUM				*e*Sn	**Sn**	**03 23 38.3**	**-3.2**
CEME	**Cevo**	**2.56**	**87**	⇑*i*Pn	**Pn**	**03 23 14.7**	**+3.0**
CEME				*e*Sn	**Sn**	**03 23 39.7**	**-2.0**
BLY	**Banja Luka**	**2.60**	**28**	*e*Pn	**Pb**	**03 23 16.4**	**-2.0**
BLY	**Banja Luka**	**2.60**	**28**	*e*Pn	**Pn**	**03 23 15.9**	**+3.8**
DRME	**Dracevica, Mon**	**2.78**	**95**	*e*Pn	**Pn**	**03 23 16.0**	**+1.4**
DRME	**Dracevica, Mon**	**2.78**	**95**	⇓*i*Pn	**Pb**	**03 23 17.1**	**+2.5**
DRME				*e*Sn	**Sn**	**03 23 44.8**	**-2.2**
PDG	**Podgorica**	**2.81**	**90**	*e*Pn	**Pn**	**03 23 17.9**	**+2.9**
PDG				*e*Sn	**Sn**	**03 23 51.3**	**+3.6**
PDG	**Podgorica**	**2.81**	**90**	*e*Pn	**Pn**	**03 23 18.0**	**+2.9**
PDG	**Podgorica**	**2.81**	**90**	⇓*i*Pn	**Pn**	**03 23 17.5**	**+2.5**
PDG				*e*Sn	**Sn**	**03 23 45.1**	**-2.6**
ULC	**Ulcinj**	**2.86**	**99**	⇑*i*Pn	**Pn**	**03 23 17.8**	**+2.1**
ULC				*e*Sn	**Sn**	**03 23 44.9**	**-4.1**
PLE	**Pljevlja**	**3.01**	**72**	⇓*i*Pn	**Pb**	**03 23 24.1**	**-1.4**
PLE				*e*Sn	**Sn**	**03 23 55.7**	**+2.8**
BOJS	**Bojanci**	**3.04**	**357**	*e*Pn	**Pn**	**03 23 20.1**	**+2.0**
BOJS	**Bojanci**	**3.04**	**357**	AML	AML		
	comp=N,286μm,1.2s						
BOJS				AML	AML		
	comp=E,312μm,0.5s						
A253A	**Karojba, Istri**	**3.06**	**338**	*e*Pn	**Pn**	**03 23 19.4**	**+0.9**
A253A				Sn	**Sn**	**03 23 54.6**	**+0.7**
RUDO	**Rudo**	**3.09**	**67**	*e*Pn	**Pn**	**03 23 21.6**	**+2.7**
PIPA	**Pietrapaola**	**3.16**	**161**	P	**Pn**	**03 23 21.4**	**+1.6**
PIPA				AML	AML		
	comp=E,85μm,1.5s						
PIPA				AML	AML		
	comp=N,71μm,1.6s						
RUFI	**Rufina**	**3.20**	**297**	P	**Pn**	**03 23 22.4**	**+2.0**
RUFI				AML	AML		
	comp=E,146μm,1.6s						
RUFI				AML	AML		
	comp=N,132μm,1.6s						
IVA	**Berane**	**3.29**	**82**	⇓*i*Pn	**Pn**	**03 23 26.2**	**+4.4**
IVA				*i* Sn	**Sn**	**03 23 58.8**	**-1.0**
CEY	**Cerknica**	**3.35**	**348**	*e*Pn	**Pn**	**03 23 23.1**	**+0.6**
CRES	**Cresnjev**	**3.35**	**360**	*e*Pn	**Pn**	**03 23 24.9**	**+2.4**
SJES	**Sjenica**	**3.41**	**75**	*e*Pn	**Pn**	**03 23 26.4**	**+3.0**
SJES	**Sjenica**	**3.41**	**75**	*e*Pn	**Pb**	**03 23 29.7**	**-2.6**
BCI	**Bajram Curri**	**3.41**	**90**	P	**Pn**	**03 23 27.8**	**+4.4**
	baz=83						
TIR	**Tirane**	**3.48**	**107**	P	**Pb**	**03 23 29.1**	**-4.2**
	baz=104						
TIR				S	**Sn**	**03 24 03.4**	**-0.8**
	baz=104						
DIVS	**Divibare**	**3.69**	**62**	*e*Pn	Pn	03 23 22.6	-4.6
KOGS	**Kog**	**4.02**	**8**	AML	AML		
	comp=N,480μm,1.0s						
KOGS				AML	AML		
	comp=E,462μm,1.5s						
SELS	**Selova**	**4.23**	**78**	*e*Pn	**Pn**	**03 23 37.5**	**+2.9**
ACOM	**Acomizza, Ital**	**4.31**	**342**	AML	AML		
	comp=N,164μm,0.6s						
ACOM				AML	AML		
	comp=N,186μm,0.6s						
ACOM				AML	AML		
	comp=E,182μm,0.3s						
ACOM				AML	AML		
	comp=E,178μm,0.3s						
MYKA	**Terra Mystica**	**4.36**	**343**	*e*Pn	**Pn**	**03 23 38.0**	**+1.7**
	comp=E,0.7nm,0.2s						
MYKA				*e*Sn	**Sn**	**03 24 25.7**	**-0.3**
	comp=E,3.5nm,0.2s						
FNA	**Florina**	**4.75**	**109**	*e*Pn	**Pn**	**03 23 45.0**	**+3.3**
FNA				*e*Sn	**Sn**	**03 24 35.9**	**+0.3**
ABTA	**Abfaltersbach**	**4.76**	**335**	*i* Pn	**Pn**	**03 23 43.9**	**+2.0**
	comp=E,0.4nm,0.1s						
ABTA				*e*Sn	**Sn**	**03 24 35.1**	**-0.9**
	comp=E,4.2nm,0.3s						
ARSA	**Arzberg**	**4.78**	**1**	*e*Pn	**Pn**	**03 23 44.0**	**+1.9**
	comp=E,2.1nm,0.4s						
ARSA				*i* Sn	**Sn**	**03 24 34.0**	**-2.3**
	comp=E,2.5nm,0.3s						
KBA	**Koelnbreinsper**	**4.84**	**343**	*e*Pn	**Pn**	**03 23 45.0**	**+1.8**
	comp=E,2.6nm,0.4s						
KBA				*e*Sn	**Sn**	**03 24 36.4**	**-1.8**
	comp=E,2.4nm,0.3s						
PRVS	**Prvonek**	**4.89**	**87**	*e*Pn	**Pn**	**03 23 46.6**	**+2.9**
PRVS				*e*Sn	**Sn**	**03 24 40.3**	**+1.1**
STIP	**Stip**	**5.07**	**97**	*i* Pn	**Pn**	**03 23 50.4**	**+4.4**
LESA	**Schwarzleotal**	**5.33**	**339**	*e*Pn	**Pn**	**03 23 52.1**	**+2.4**
	comp=E,0.6nm,0.2s						
LESA				*e*Sn	**Sn**	**03 24 48.8**	**-1.2**
	comp=E,4.4nm,0.3s						
BIOA	**Bad Ischl, Aus**	**5.38**	**347**	*i* Pn	**Pn**	**03 23 52.5**	**+2.1**
	comp=E,4.5nm,0.3s						
BIOA				*e*Sn	**Sn**	**03 24 49.6**	**-1.5**
	comp=E,5.3nm,0.3s						
MOA	**Molln**	**5.44**	**352**	*e*Pn	**Pn**	**03 23 53.3**	**+2.0**
	comp=E,3.7nm,0.3s						
MOA				*e*Sn	**Sn**	**03 24 51.9**	**-0.8**
	comp=E,8.2nm,0.3s						
MOA	**Molln**	**5.44**	**352**	*e*Pn	**Pn**	**03 23 54.2**	**+3.0**
MOA				*e*Sn	**Sn**	**03 24 52.3**	**-0.4**
CONA	**Conrad Observa**	**5.46**	**3**	*e*Pn	**Pn**	**03 23 53.5**	**+1.9**
	comp=E,0.8nm,0.3s						
CONA				*e*Sn	**Sn**	**03 24 52.7**	**-0.6**
	comp=E,2.6nm,0.4s						
WTTA	**Wattenberg**	**5.51**	**332**	*i* Pn	**Pn**	**03 23 54.5**	**+2.2**
	comp=E,1.6nm,0.3s						
WTTA				*e*Sn	**Sn**	**03 24 52.9**	**-1.6**
	comp=E,5.9nm,0.3s						
WATA	**Walderalm**	**5.59**	**332**	*i* Pn	**Pn**	**03 23 55.9**	**+2.5**
	comp=E,1.1nm,0.2s						
WATA				*e*Sn	**Sn**	**03 24 56.6**	**+0.2**
	comp=E,2.2nm,0.3s						
SQTA	**Sankt Quirin**	**5.63**	**329**	*e*Pn	**Pn**	**03 23 55.9**	**+2.1**
	comp=E,0.7nm,0.1s						
SQTA				*e*Sn	**Sn**	**03 24 56.0**	**-1.4**
	comp=E,12nm,0.5s						
FETA	**Feichten**	**5.66**	**325**	*e*Pn	**Pn**	**03 23 57.3**	**+3.0**
	comp=E,0.5nm,0.3s						
FETA				*e*Sn	**Sn**	**03 24 58.6**	**+0.4**
	comp=E,5.8nm,0.7s						
VTS	**Vitosha**	**5.75**	**86**	*e*Pn	**Pn**	**03 23 59.1**	**+3.6**
VTS				*e*Sn	**Sn**	**03 25 00.2**	**-0.2**
MOTA	**Moosalm**	**5.77**	**329**	*e*Pn	**Pn**	**03 23 58.6**	**+2.8**
	comp=E,0.9nm,0.3s						
MOTA				*e*Sn	**Sn**	**03 24 59.8**	**-1.1**
	comp=E,4.7nm,0.3s						
RETA	**Reutte**	**6.02**	**328**	*e*Sn	**Sn**	**03 25 04.7**	**-2.2**
	comp=E,1.4nm,0.3s						
SRS	**Serrai**	**6.23**	**100**	*e*Pn	**Pn**	**03 24 04.2**	**+2.2**
SRS				*e*Sn	**Sn**	**03 25 10.8**	**-1.2**
DAVA	**Damuels**	**6.23**	**322**	*e*Sn	**Sn**	**03 25 10.8**	**-1.5**
	comp=E,16nm,0.6s						
CKRC	**Cesky Krumlov**	**6.40**	**353**	*e*SN	**Sn**	**03 25 15.2**	**-1.0**
VYHS	**Vyhne**	**6.47**	**20**	*e*PN	**Pn**	**03 24 08.3**	**+2.9**
MBDF	**Montbardon**	**6.70**	**293**	*e*Pn	**Pn**	**03 24 08.2**	**-0.4**
KHC	**Kasperske Hory**	**6.79**	**349**	*e*PN	**Pn**	**03 24 10.2**	**+0.5**
KHC				*e*SN	**Sn**	**03 25 23.2**	**-2.6**
LPG	**La Plagne**	**6.97**	**299**	*e*Pn	**Pn**	**03 24 12.4**	**0.0**
LPL	**La Plagne**	**6.99**	**299**	*e*Pn	**Pn**	**03 24 12.3**	**-0.4**
ZVC	**Zvikov**	**7.02**	**353**	*e*SN	**Sn**	**03 25 28.9**	**-2.6**
ORIF	**Oris-en-Rattie**	**7.36**	**293**	*e*Pn	**Pn**	**03 24 18.3**	**+0.7**

CABF	**La Chapelle**	**7.87**	**305**	*e*Pn	**Pn**	**03 24 23.9**	**-0.7**
CABF				*e*Sn	**Sn**	**03 25 47.2**	**-5.3**
	comp=E,3.0nm,0.3s						
CABF	**La Chapelle**	**7.87**	**305**	*e*Sg	**Sn**	**03 25 48.8**	**-3.7**
	comp=E,4.3nm,0.4s						
HINF	**Hinteralfeld**	**8.09**	**314**	*e*Pn	**Pn**	**03 24 26.6**	**-1.0**
HINF				*e*Sn	**Sn**	**03 25 52.5**	**-5.4**
	comp=E,5.5nm,0.2s						
HINF	**Hinteralfeld**	**8.09**	**314**	*e*Sg	**Sn**	**03 25 54.5**	**-3.4**
	comp=E,7.1nm,0.2s						
HAU	**Haudompre**	**8.48**	**314**	*e*Pn	**Pn**	**03 24 31.8**	**-1.1**
HAU				*e*Sn	**Sn**	**03 26 01.7**	**-5.6**
	comp=E,13nm,0.2s						
SMF	**Signal de Mont**	**9.28**	**301**	*e*Pn	**Pn**	**03 24 41.9**	**-2.0**
SMF				*e*Sn	Sn	03 26 18.7	-8.4
	comp=E,2.5nm,0.2s						
LOR	**Lormes**	**9.53**	**304**	*e*Pn	**Pn**	**03 24 46.0**	**-1.2**
	baz=117						
LOR				*e*Sn	Sn	03 26 24.7	-8.4
	comp=E,3.7nm,0.2s						
SSF	**Saint Saulge**	**9.66**	**302**	*e*Pn	**Pn**	**03 24 48.4**	**-0.6**
SSF				*e*Sn	Sn	03 26 28.3	-8.0
	comp=E,1.6nm,0.3s						

TAP 12 03:23:07.2, 24.15N×121.64E, h7km, ML1.1, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.02**	**320**	*i* P	Pg	03 23 08.5	-0.1
ETL	baz=332			S	Sg	03 23 08.8	-0.6
	baz=332						
NACB	**Ninganchiao**	**0.05**	**307**	*i* P	Pg	03 23 08.9	+0.2
NACB	baz=311			S	Sg	03 23 09.5	-0.3
	baz=311						
TWD	**Chiawan**	**0.07**	**208**	P	Pg	03 23 09.5	+0.5
TWD	baz=200			S	Sg	03 23 10.7	+0.3
	baz=200						
ETLH	**Xiulin Townshi**	**0.15**	**293**	P	Pg	03 23 11.1	+0.7
ETLH	baz=294			S	Sg	03 23 13.8	+1.3
	baz=294						
LXIB	**Xiulin Townshi**	**0.24**	**239**	*e*P	Pg	03 23 12.5	+0.5
LXIB	baz=238			*e*S	Sg	03 23 15.9	+0.7
	baz=238						
WHF	**Hehuan Shan**	**0.34**	**270**	*e*P	Pg	03 23 14.7	+0.7
	baz=271						

JMA 12 03:23:10.3±0.3, 25.°N±3.°×123.2E±0.°8, h136km±3km, MV2.1/11, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.81**	**143**	P	Pn	03 23 32.2	0.0
IRIF				S	Sn	03 23 48.9	+0.1
JKRS	**Kuro-shima**	**1.05**	**135**	P	Pn	03 23 34.8	+0.6
JKRS				S	Sn	03 23 52.9	+0.4
JIJ	**Ishigaki jima**	**1.06**	**126**	P	Pn	03 23 34.4	0.0
JIJ				S	Sn	03 23 52.0	-0.6
HATJ	**Hateruma jima**	**1.08**	**149**	*e*S	Sn	03 23 54.1	+1.2
JISG	**Ishigakijimahi**	**1.09**	**111**	*e*P	Pn	03 23 34.6	0.0
JISG				*e*S	Sn	03 23 53.3	+0.2
JTJ	**Tarama**	**1.41**	**104**	P	Pn	03 23 38.3	+0.5
JTJ				S	Sn	03 23 59.5	+0.6
JMJ2	**Miyako jima3**	**1.96**	**97**	*e*P	Pn	03 23 44.7	+0.7

MOS ***12*** *03:47:26.6±0.9, 39.°78N×141.°77E, h70km, mb4.7/20, Error ellipse: s-maj=10.4km s-min=7.0km az=100.5*
NIED ***12*** *03:47:27.2, 39.°76N×141.°84E, h58km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr0.96; Mθθ-0.16; Mφφ-0.80; Mrθ0.46; Mrφ-0.45; Mθφ0.93; Fault plane solution: M0 1.44000×10^15 NP1:φ=26.00000°, δ=68.00000°, λ=89.00000°. NP2:φ=208.00000°, δ=22.00000°, λ=92.00000°.*
JMA ***12*** *03:47:27.2±0.1, 39.°8N±0.°2×141.°8E±0.°4, h58km, MD4.0/40, MV4.0/40, NORTHERN IWATE PREF*
JMA Felt II J1 at NORTHERN IWATE PREF .
NEIC ***12*** *03:47:28.7±1.4, 39.°75N±0.°05×141.°7E±0.°1, h72km±7km, mb4.5/43, Error ellipse: s-maj=12.2km s-min=7.4km az=95.0*
IDC ***12*** *03:47:29.2±1.9, 39.°75N×141.°74E, h78km±16km, mb3.8/18, mbtmp4.1/22, MS3.0/8, Error ellipse: s-maj=16.1km s-min=12.2km az=112.0*

ISC 12 03:47:27.1±0.6, 39.74N±0.03×141.83E±0.05, h60km±5km, n145, σ1$15/143, mb4.4/50, 5C-16D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.16**	**183**	*i* P	**Pn**	**03 47 36.6**	**+0.2**
MIYJ				S	**Sn**	**03 47 43.0**	**-0.1**
MIYJ	**Miyakonagasawa**	**0.16**	**183**	A	A	03 47 36.6	
	comp=E,25nm,1.1s,comp=N,15nm,0.8s						
JTH	**Tanohata**	**0.20**	**7**	*i* P	**Pn**	**03 47 36.6**	**0.0**
JTH				S	**Sn**	**03 47 43.1**	**-0.3**
JTH	**Tanohata**	**0.20**	**7**	A	A	03 47 36.6	
	comp=E,69nm,0.3s,comp=N,38nm,0.3s						
JKZ	**Kuzumaki**	**0.46**	**303**	⇓*i* P	**Pn**	**03 47 38.8**	**+0.1**
JKZ				⇓S	**Sn**	**03 47 46.8**	**-0.3**
JKZ	**Kuzumaki**	**0.46**	**303**	A	A	03 47 38.8	
	comp=E,32nm,0.6s,comp=N,16nm,0.9s						
JKEN	**Kujiedanarisaw**	**0.47**	**349**	⇓*i* P	**Pn**	**03 47 38.6**	**-0.2**
JKEN				⇓S	**Sn**	**03 47 46.8**	**-0.5**
JKEN	**Kujiedanarisaw**	**0.47**	**349**	A	A	03 47 38.6	
	comp=E,56nm,0.9s,comp=N,47nm,1.2s						
JOM	**Ohasama**	**0.49**	**238**	⇓*i* P	**Pn**	**03 47 39.1**	**+0.1**
JOM				⇓*e*S	**Sn**	**03 47 47.4**	**-0.2**
JOM	**Ohasama**	**0.49**	**239**	A	A	03 47 39.1	
	comp=E,23nm,0.6s,comp=N,11nm,0.4s						
OFUJ	**Ofunato**	**0.67**	**191**	A	A	03 47 41.2	
	comp=E,21nm,0.3s,comp=N,18nm,0.4s						
JSZI	**Iwateshizukuis**	**0.68**	**270**	A	A	03 47 41.2	
	comp=E,11nm,1.1s,comp=N,13nm,1.0s						
JANG	**Nango**	**0.68**	**339**	⇓*i* P	**Pn**	**03 47 40.7**	**-0.4**
JANG				⇓*e*S	**Sn**	**03 47 50.4**	**-1.0**
JANG	**Nango**	**0.68**	**339**	A	A	03 47 40.7	
	comp=E,14nm,0.5s,comp=N,17nm,0.6s						
JMK	**Ichinoseki**	**0.92**	**211**	⇓*i* P	**Pn**	**03 47 44.2**	**+0.2**
JMK				⇓*e*S	**Sn**	**03 47 56.7**	**+0.2**
JRG	**Rokugo**	**0.99**	**250**	⇓*i* P	**Pn**	**03 47 45.0**	**0.0**
JRG	**Rokugo**	**0.99**	**250**	A	A	03 47 45.0	
	comp=E,16nm,0.5s,comp=N,12nm,0.6s						
JAH	**Hinai**	**1.02**	**296**	⇓*i* P	**Pn**	**03 47 45.5**	**0.0**
JAH	**Hinai**	**1.02**	**296**	A	A	03 47 45.5	
	comp=E,10.0nm,1.0s,comp=N,7.0nm,1.1s						
JTM	**Tenmabayashi**	**1.20**	**331**		**Pn**	**03 47 47.7**	**-0.1**
JTM				Sn	**Sn**	**03 48 02.4**	**-0.8**
JTM	**Tenmabayashi**	**1.20**	**331**	⇓*i* P	**Pn**	**03 47 47.5**	**-0.2**
JTM				⇓S	**Sn**	**03 48 02.8**	**-0.3**
JIO	**Ouri**	**1.34**	**196**	*i* P	**Pn**	**03 47 49.8**	**+0.2**
JYK	**Kaneyama**	**1.41**	**235**	⇓*i* P	**Pn**	**03 47 50.8**	**+0.2**
JYK				⇓*e*S	**Sn**	**03 48 08.8**	**+0.7**
JAHD	**Aomorihigashid**	**1.57**	**346**	A	A	03 47 53.1	
	comp=E,6.0nm,1.3s,comp=N,7.0nm,1.3s						
JMM	**Marumori**	**2.04**	**204**		**Pn**	**03 47 59.4**	**+0.4**
ERM	**Erimo**	**2.49**	**23**	Pn	**Pn**	**03 48 05.7**	**+0.5**
ERM	**Erimo**	**2.49**	**23**	P	**Pn**	**03 48 05.7**	**+0.5**
MAJO	**Matsushiro**	**4.28**	**223**		**Pn**	**03 48 31.4**	**+1.6**
MAJO	**Matsushiro**	**4.28**	**223**	P	**Pn**	**03 48 31.4**	**+1.6**
MJAR	**Matsushiro Arr**	**4.28**	**223**	P	**Pn**	**03 48 31.8**	**+2.0**
	comp=N,9.1nm,0.6s,baz=29,slow=15,SNR=18						
MJAR				S	Sn	03 49 28.5	+10
	comp=N,3.7nm,0.4s,baz=321,slow=26,SNR=1.1						
MJAR				LR	LR	03 50 29.6	
	comp=N,108nm,18.6s,baz=38,slow=42						
MJB9	**Matsu-Tunnel**	**4.28**	**223**		**Pn**	**03 48 31.4**	**+1.6**
ASAJ	**Asahikawa**	**4.41**	**7**	P	**Pn**	**03 48 34.0**	**+2.6**
	comp=N,12nm,0.4s,baz=212,slow=12,SNR=14						
ASAJ				S	**Sn**	**03 49 23.3**	**+1.8**
	comp=N,31nm,0.6s,baz=60,slow=27,SNR=1.8						
ASAJ				LR	LR	03 50 34.2	
	comp=N,106nm,20.4s,baz=129,slow=42						
JKA	**Kamikawa-asahi**	**4.41**	**7**		**Pn**	**03 48 33.3**	**+1.8**
SHO	**Shikotan**	**5.57**	**41**	*e*P	**Pn**	**03 48 46.9**	**-0.4**
SHO				*e*S	**Sn**	**03 49 43.6**	**-6.3**
SHO				smax	smax		
	comp=N,102nm,0.2s						
SHO				smax	smax		
	comp=E,171nm,0.2s						
JHJ	**Hachijo jima 2**	**6.81**	**195**	S	**Sn**	**03 50 18.3**	**-2.2**
	comp=E,51nm,0.4s,baz=57,slow=22,SNR=1.1						
JHJ				LR	LR	03 51 34.1	
	comp=E,307nm,18.7s,baz=72,slow=36						
USRK	**Ussuriysk Ar.**	**8.58**	**304**	P	**Pn**	**03 49 29.7**	**+1.2**
	comp=E,7.8nm,0.7s,baz=114,slow=13,SNR=8.0						
USRK				LR	LR	03 52 07.4	
	comp=E,78nm,19.8s,baz=133,slow=33						
MDJ	**Mudanjiang**	**10.30**	**302**		**Pn**	**03 49 53.0**	**+0.9**
KSRS	**Korea Array**	**11.12**	**263**	P	**Pn**	**03 50 05.8**	**+2.6**
	comp=E,2.3nm,0.5s,baz=68,slow=14,SNR=5.9						
KSRS				LR	LR	03 54 09.1	
	comp=E,22nm,21.7s,baz=80,slow=36						
KLR	**Kul'dur**	**11.90**	**326**	*i* P	**Pn**	**03 50 17.6**	**+3.8**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KLR	**Kul'dur**	**11.90**	**326**	LR	LR	03 54 31.4	
	comp=Z,57nm,20.2s,baz=204,slow=36						
ZEA	**Zeya**	**17.15**	**330**	*e*P	**Pn**	**03 51 22.4**	**-0.1**
YAK	**Yakutsk**	**23.52**	**346**	*i* P	**P**	**03 52 30.4**	**-1.1**
YAK				pmax	pmax		
	comp=Z,14nm,1.1s						
SEY	**Seymchan**	**24.08**	**12**	*ce*P	**P**	**03 52 38.7**	**+2.1**
SEY				pmax	pmax		
	comp=Z,63nm,2.5s						
SONM	**Songino Array**	**26.64**	**299**	P	**P**	**03 52 59.4**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=94,slow=8.5,SNR=6.8						
	comp=Z,1.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**29.35**	**125**	T	T	04 23 59.6	
	baz=318,slow=75,SNR=528						
H11N1	**WAKE ISLAND Hy**	**29.36**	**126**	T	T	04 24 03.6	
	baz=318,slow=75,SNR=711						
H11N3	**WAKE ISLAND Hy**	**29.37**	**125**	T	T	04 24 03.7	
	baz=318,slow=75,SNR=540						
H11S1	**WAKE ISLAND Hy**	**30.15**	**127**	T	T	04 24 59.0	
	baz=320,slow=76,SNR=50						
H11S3	**WAKE ISLAND Hy**	**30.15**	**127**	T	T	04 25 02.7	
	baz=320,slow=76,SNR=56						
H11S2	**WAKE ISLAND Hy**	**30.16**	**127**	T	T	04 25 03.2	
	baz=320,slow=76,SNR=49						
TIXI	**Tiksi**	**32.65**	**352**	*i* P	**P**	**03 53 54.5**	**+1.6**
DGZ	**Jazzator, Alta**	**39.13**	**303**	*i* P	**P**	**03 54 49.0**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,8.0nm,1.4s						
ZAA0	**Zalesovo Array**	**40.38**	**310**		**P**	**03 54 58.3**	**-0.5**
ZALV	**Zalesovo Beam**	**40.38**	**310**	P	**P**	**03 54 58.7**	**-0.1**
	comp=Z,8.6nm,0.5s,baz=92,slow=8.0,SNR=36						
ZALV				PcP	**PcP**	**03 57 00.4**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=46,slow=4.2,SNR=2.3						
	comp=Z,8.6nm,0.5s						
G18K	**Tagagawik**	**42.16**	**32**	P	**P**	**03 55 14.6**	**+1.2**
G18K				lAmb	lAmb	03 55 15.3	
	comp=Z,5.4nm,1.1s						
MK31	**Makanchi Array**	**43.01**	**300**	P	**P**	**03 55 20.2**	**-0.3**
MK31				lAmb	lAmb	03 55 20.9	
	comp=Z,3.8nm,0.7s						
MK31	**Makanchi Array**	**43.01**	**300**	P	**P**	**03 55 20.2**	**-0.3**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**43.01**	**300**	P	**P**	**03 55 20.1**	**-0.4**
MKAR	**Makanchi Array**	**43.01**	**300**	P	**P**	**03 55 20.2**	**-0.3**
	comp=Z,4.0nm,0.6s,baz=86,slow=9.9,SNR=45						
	comp=Z,4.0nm,0.6s						
MAKZ	**Makanchi**	**43.22**	**300**	P	**P**	**03 55 21.6**	**-0.6**
MAKZ				lAmb	lAmb	03 55 22.7	
	comp=Z,3.8nm,0.8s						
MAKZ	**Makanchi**	**43.22**	**300**	P	**P**	**03 55 21.6**	**-0.6**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
B20K	**Meade River**	**43.41**	**26**	P	**P**	**03 55 23.9**	**+0.5**
B20K				lAmb	lAmb	03 55 30.9	
	comp=Z,19nm,1.4s						
KURK	**Kurchatov**	**44.56**	**306**	P	**P**	**03 55 32.3**	**-0.5**
KURK				lAmb	lAmb	03 55 33.2	
	comp=Z,11nm,0.9s						
KURK	**Kurchatov**	**44.56**	**306**	*ce*P	**P**	**03 55 32.5**	**-0.3**
KURK				pmax	pmax		
	comp=Z,16nm,1.3s						
KURBB	**Kurchatov Arra**	**44.64**	**306**	P	**P**	**03 55 33.0**	**-0.4**
	comp=Z,11nm,0.8s,baz=82,slow=8.5,SNR=55						
KURBB				PcP	**PcP**	**03 57 14.3**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=79,slow=4.8,SNR=0.8						
	comp=Z,11nm,0.8s						
D22K	**Ayikyak River**	**44.81**	**28**	P	**P**	**03 55 36.2**	**+1.5**
D22K				lAmb	lAmb	03 55 39.7	
	comp=Z,7.5nm,1.4s						
E22K	**Anaktuvuk Pass**	**45.07**	**29**	P	**P**	**03 55 37.9**	**+1.1**
IL31		**47.05**	**34**	P	**P**	**03 55 53.0**	**+0.8**
IL31				lAmb	lAmb	03 56 12.6	
	comp=Z,9.9nm,1.5s						
ILAR	**Eielson Array**	**47.05**	**34**	P	**P**	**03 55 53.1**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=264,slow=5.9,SNR=19						
	comp=Z,0.7nm,0.6s						
RAMN	**Ramite**	**47.19**	**272**	*e*P	**P**	**03 55 54.3**	**+0.1**
	comp=Z,10nm,0.6s						
GUN	**Gumba**	**47.27**	**273**	*e*P	**P**	**03 55 54.9**	**0.0**
	comp=Z,20nm,0.6s						
BMAR	**Burnt Mountain**	**47.82**	**30**	P	**P**	**03 56 00.6**	**+2.4**
SCRK	**Sand Creek**	**48.38**	**35**	P	**P**	**03 56 03.2**	**+0.5**
SCRK				lAmb	lAmb	03 56 04.8	
	comp=Z,6.0nm,1.4s						
DANN	**Dangsing**	**48.68**	**275**	*e*P	**P**	**03 56 05.9**	**+0.2**
	comp=Z,31nm,0.6s						
BVAR	**Borovoye Array**	**49.03**	**311**	P	**P**	**03 56 07.5**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=69,slow=9.9,SNR=8.7						
BVAR				PcP	**PcP**	**03 57 30.4**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=90,slow=4.4,SNR=3.8						
	comp=Z,1.2nm,0.5s						
K27K	**Chicken**	**49.21**	**34**	P	**P**	**03 56 09.7**	**+0.8**
K27K				lAmb	lAmb	03 56 11.3	
	comp=Z,8.7nm,1.4s						
PYUN	**Piuthan**	**49.40**	**275**	*e*P	**P**	**03 56 10.2**	**-0.9**
	comp=Z,8.5nm,0.4s						
BCAR	**Beaver Creek A**	**49.49**	**36**	P	**P**	**03 56 12.3**	**+1.1**
E28M	**Babbage River**	**49.60**	**28**	P	**P**	**03 56 13.5**	**+1.6**
E28M				lAmb	lAmb	03 56 17.1	
	comp=Z,4.1nm,1.4s						
G29M	**Pine Creek**	**50.42**	**30**	P	**P**	**03 56 19.5**	**+1.5**
ARSB	**Arslanbob**	**51.07**	**295**	P	**P**	**03 56 23.1**	**-0.4**
ARSB	**Arslanbob**	**51.07**	**295**	P	**P**	**03 56 23.1**	**-0.4**
ARSB				pmax	pmax		
	comp=Z,1.0nm,0.8s						
G30M	**tAoh Zrail Nji**	**51.10**	**30**	P	**P**	**03 56 24.5**	**+1.3**
K29M	**Barlow Dome**	**51.22**	**34**	P	**P**	**03 56 25.3**	**+1.0**
I30M	**Mount Dempster**	**51.40**	**32**	P	**P**	**03 56 26.1**	**+0.5**
I30M				lAmb	lAmb	03 56 28.1	
	comp=Z,2.9nm,0.7s						
INK	**Inuvik**	**51.84**	**28**	P	**P**	**03 56 29.6**	**+1.0**
INK	**Inuvik**	**51.84**	**28**	P	**P**	**03 56 29.6**	**+1.0**
INK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
G31M	**Satah River**	**51.87**	**30**	P	**P**	**03 56 30.0**	**+1.1**
G31M				lAmb	lAmb	03 56 36.3	
	comp=Z,4.1nm,1.4s						
KK31	**Karatay Array**	**52.09**	**298**	P	**P**	**03 56 29.9**	**-1.0**
KK31	**Karatay Array**	**52.09**	**298**	P	**P**	**03 56 30.0**	**-1.0**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KKAR	**Karatay Array**	**52.09**	**298**	P	**P**	**03 56 29.4**	**-1.5**
KKAR	**Karatay Array**	**52.09**	**298**	P	**P**	**03 56 30.1**	**-0.8**
KKAR	**Karatay Array**	**52.09**	**298**	P	**P**	**03 56 30.1**	**-0.8**
H31M	**Peel River**	**52.10**	**31**	P	**P**	**03 56 31.9**	**+1.2**
ARU	**Arti**	**54.57**	**317**	*c* P	**P**	**03 56 48.7**	**-0.2**
ARU				S	**S**	**04 04 21.8**	**-1.8**
ARU				SS	**SS**	**04 08 06.5**	**+0.2**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHGR	**Chuyangaron**	**54.84**	**294**	P	**P**	**03 56 50.0**	**-1.2**
CHGR	**Chuyangaron**	**54.84**	**294**	P	**P**	**03 56 50.0**	**-1.2**
CHGR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ABKAR	**Akbulak array**	**56.47**	**309**	P	**P**	**03 57 02.1**	**-0.5**
ABKAR	**Akbulak array**	**56.47**	**309**		**P**	**03 57 01.7**	**-0.9**
ABKAR				lAmb	lAmb	03 57 02.9	
	comp=Z,6.1nm,0.6s						
KIRV	**Kirov**	**58.30**	**322**	*ce*P	**P**	**03 57 15.5**	**+0.2**
PRGR	**Permogore**	**58.69**	**326**	*e*P	**P**	**03 57 14.6**	**-3.4**
PRGR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WB0	**Warramunga Arr**	**59.60**	**188**	P	**P**	**03 57 24.1**	**-0.7**
WB0				lAmb	lAmb	03 57 43.1	
	comp=Z,7.7nm,1.4s						
WR0	**Warramunga Arr**	**59.78**	**188**	P	**P**	**03 57 25.1**	**-0.8**
WR0				lAmb	lAmb	03 57 42.3	
	comp=Z,6.3nm,1.4s						
WB2	**Warramunga Arr**	**59.78**	**188**	P	**P**	**03 57 25.7**	**-0.3**
WRA	**Warramunga Arr**	**59.78**	**188**	P	**P**	**03 57 25.4**	**-0.6**
WRA	**Warramunga Arr**	**59.78**	**188**	P	**P**	**03 57 25.4**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=6.7,slow=7.0,SNR=14						
	comp=Z,1.2nm,0.7s						
RES	**Resolute Bay**	**59.90**	**15**	P	**P**	**03 57 26.3**	**+0.1**
RES				lAmb	lAmb	03 57 38.7	
	comp=Z,5.0nm,1.4s						
RES	**Resolute Bay**	**59.90**	**15**	P	**P**	**03 57 26.3**	**+0.1**
RES				pmax	pmax		
	comp=Z,5.0nm,1.4s						
YKA	**Yellowknife Ar**	**61.31**	**31**	P	**P**	**03 57 35.8**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=298,slow=6.4,SNR=2.8						
	comp=Z,0.2nm,0.6s						
ARCES	**ARCESS Array B**	**61.59**	**339**	P	**P**	**03 57 37.1**	**-0.6**
ARCES				lAmb	lAmb	03 57 37.8	
	comp=Z,7.4nm,1.1s						
ARCES	**ARCESS Array B**	**61.59**	**339**	P	**P**	**03 57 37.5**	**-0.2**
	comp=Z,5.2nm,0.9s,baz=56,slow=9.0,SNR=7.4						
	comp=Z,5.2nm,0.9s						
ASAR	**Alice Springs**	**63.51**	**188**	P	**P**	**03 57 51.1**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=16,slow=12,SNR=6.2						
	comp=Z,0.5nm,0.6s						
OBN	**Obninsk**	**66.14**	**323**	*e*P	**P**	**03 58 06.7**	**-1.1**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FIA1	**FINESS Array S**	**66.58**	**332**	P	**P**	**03 58 10.3**	**-0.2**
FINES	**FINESS Array B**	**66.58**	**332**	P	**P**	**03 58 10.3**	**-0.2**
	comp=Z,5.3nm,0.7s,baz=44,slow=7.9,SNR=16						
	comp=Z,5.3nm,0.7s						
SUMG	**Summit**	**67.98**	**0**	P	**P**	**03 58 20.1**	**+0.3**
SUMG	**Summit**	**67.98**	**0**	P	**P**	**03 58 20.1**	**+0.3**
KIV	**Kislovodsk**	**69.39**	**310**	P	**P**	**03 58 26.5**	**-2.1**
KIV	**Kislovodsk**	**69.39**	**310**	*e*P	**P**	**03 58 28.6**	**0.0**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KBZ	**Khabaz**	**69.40**	**310**	*ce*P	**P**	**03 58 27.9**	**-0.6**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	**Khabaz**	**69.40**	**310**	P	**P**	**03 58 28.3**	**-0.2**
	comp=Z,4.5nm,0.9s,baz=134,slow=2.6,SNR=7.2						
	comp=Z,4.5nm,0.9s						
NC405	**NORSAR Array S**	**71.61**	**337**	P	**P**	**03 58 41.2**	**-0.5**
NC405				lAmb	lAmb	03 58 50.3	
	comp=Z,8.1nm,1.2s						
HFS	**Hagfors**	**71.76**	**336**	P	**P**	**03 58 42.6**	**0.0**
	comp=Z,1.2nm,0.3s,baz=34,slow=5.6,SNR=12						
HFS				LR	LR	04 31 54.3	
	comp=Z,36nm,19.7s,baz=270,slow=37						
	comp=Z,1.2nm,0.3s						
NC204	**NORSAR Array S**	**71.77**	**337**	P	**P**	**03 58 42.2**	**-0.5**
NB201	**NORSAR Array S**	**71.79**	**337**	P	**P**	**03 58 42.4**	**-0.4**
NOA	**NORSAR Array B**	**71.82**	**337**	P	**P**	**03 58 42.9**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=37,slow=6.0,SNR=7.4						
	comp=Z,1.5nm,0.6s						
AKASG	**Malin Array Be**	**72.36**	**322**	P	**P**	**03 58 45.9**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=45,slow=5.8,SNR=12						
	comp=Z,2.1nm,0.5s						
AKBB	**Malin Array Si**	**72.36**	**322**	P	**P**	**03 58 45.1**	**-1.2**
AKBB				lAmb	lAmb	03 59 03.5	
	comp=Z,5.9nm,1.0s						
AKBB	**Malin Array Si**	**72.36**	**322**	*i* P	**P**	**03 58 45.4**	**-1.0**
AKBB				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KIEV	**Kiev**	**72.38**	**322**	P	**P**	**03 58 45.5**	**-0.9**
KIEV				lAmb	lAmb	03 59 03.5	
	comp=Z,5.2nm,1.0s						
KIEV	**Kiev**	**72.38**	**322**	P	**P**	**03 58 45.5**	**-0.9**
KIEV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AK05	**Malin Array Si**	**72.43**	**322**	P	**P**	**03 58 46.4**	**-0.4**
AK05				lAmb	lAmb	03 58 46.6	
	comp=Z,4.5nm,0.6s						
MORW	**Morawa**	**72.54**	**204**	P	**P**	**03 58 46.8**	**-0.7**
NVAR	**Mina Array Bea**	**73.12**	**54**	P	**P**	**03 58 52.4**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=306,slow=3.0,SNR=2.3						
	comp=Z,0.3nm,0.7s						
PDAR	**Pinedale Array**	**75.55**	**46**	P	**P**	**03 59 06.0**	**+0.5**
PDAR	**Pinedale Array**	**75.55**	**46**	P	**P**	**03 59 05.9**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=287,slow=4.0,SNR=6.3						
	comp=Z,0.6nm,0.6s						
BUR08	**Bucovina Ar. S**	**76.39**	**322**	P	**P**	**03 59 09.1**	**-0.9**
BUR08				lAmb	lAmb	03 59 28.2	
	comp=Z,5.7nm,1.2s						
BURAR	**Bucovina Array**	**76.40**	**322**	P	**P**	**03 59 10.0**	**-0.1**
BURAR				lAmb	lAmb	03 59 11.3	
	comp=Z,2.8nm,0.8s						
P17A	**Butcher Ranch,**	**77.03**	**49**	P	**P**	**03 59 13.0**	**-0.9**
VYHS	**Vyhne**	**78.69**	**325**	*e*P	**P**	**03 59 24.2**	**+1.5**
VYHS	**Vyhne**	**78.69**	**325**	*e*P	**P**	**03 59 24.2**	**+1.5**
ANMO	**Albuquerque**	**82.60**

comp=Z,34nm,0.2s
CTA Charters Tower 38.99 257 LR LR 04 11 01.6
comp=Z,216nm,20.8s,baz=84,slow=32
H11S2 WAKE ISLAND Hy 39.07 329 T T 04 39 19.7
baz=149,slow=76,SNR=16
H11S3 WAKE ISLAND Hy 39.08 329 T T 04 39 16.2
baz=149,slow=76,SNR=15
H11S1 WAKE ISLAND Hy 39.09 329 T T 04 39 17.2
baz=149,slow=76,SNR=18
H11N3 WAKE ISLAND Hy 40.01 330 T T 04 40 32.0
baz=150,slow=76,SNR=12
H11N1 WAKE ISLAND Hy 40.02 330 T T 04 40 41.8
baz=150,slow=76,SNR=17
H11N2 WAKE ISLAND Hy 40.03 330 T T 04 40 35.3
baz=150,slow=76,SNR=6.2
COEN Coen 42.33 266 P **P** **03 58 21.7 -0.6**
COEN IAmb IAmb 03 58 24.5
comp=Z,17nm,0.8s
TOO Toolangi 42.78 231 P **P** **03 58 23.3 -2.5**
TOO IAmb IAmb 03 58 26.2
comp=Z,15nm,1.1s
STKA Stephens Creek 44.37 240 P **P** **03 58 37.9 -0.8**
STKA IAmb IAmb 03 58 39.1
comp=Z,1.9nm,0.9s
STKA Stephens Creek 44.37 240 P **P** **03 58 38.7 0.0**
STKA Stephens Creek 44.37 240 P **P** **03 58 38.5 -0.1**
comp=Z,6.1nm,0.7s,baz=74,slow=8.7,SNR=14
comp=Z,6.1nm,0.7s
STKA Stephens Creek 44.37 240 pmax pmax
comp=Z,2.0nm,1.0s
STKA Stephens Creek 44.37 240 P **P** **03 58 38.7 0.0**
BBOO Buckleboo 49.15 240 P **P** **03 59 15.3 -0.8**
BBOO IAmb IAmb 03 59 17.8
comp=Z,11nm,0.7s
WR0 Warramunga Arr 50.00 257 P **P** **03 59 21.8 -1.0**
WB0 Warramunga Arr 50.15 257 P **P** **03 59 21.1 -2.8**
WB0 IAmb IAmb 03 59 24.9
comp=Z,8.5nm,0.7s
WB2 Warramunga Arr 50.18 257 P **P** **03 59 22.5 -1.6**
WB2 IAmb IAmb 03 59 44.0
comp=Z,19nm,1.1s
WRAB Tennant Creek 50.18 257 P **P** **03 59 21.4 -2.7**
WRAB IAmb IAmb 03 59 25.1
comp=Z,8.8nm,0.8s
WRA Warramunga Arr 50.19 257 P **P** **03 59 22.2 -2.0**
WRA Warramunga Arr 50.19 257 P **P** **03 59 23.3 -0.9**
comp=Z,7.2nm,0.7s,baz=91,slow=7.0,SNR=136
WRA PcP **PcP** **04 00 44.2 +0.9**
comp=Z,1.9nm,0.7s,baz=87,slow=3.8,SNR=5.3
comp=Z,7.2nm,0.7s
AS31 Alice Springs 50.46 252 P **P** **03 59 23.7 -2.5**
ASAR Alice Springs 50.46 252 P **P** **03 59 24.5 -1.7**
ASAR Alice Springs 50.46 252 P **P** **03 59 25.6 -0.7**
comp=Z,22nm,0.8s,baz=86,slow=8.6,SNR=147
ASAR LR LR 04 19 16.7
comp=Z,328nm,20.1s,baz=108,slow=34
comp=Z,22nm,0.8s
GUMO Guam 50.58 302 LR LR 04 17 43.9
comp=Z,38nm,20.0s,baz=132,slow=32
FORT Forrest 55.75 243 P **P** **04 00 02.6 -2.5**
RPN Rapa Nui 60.01 113 LR LR 04 19 41.5
comp=Z,64nm,20.1s,baz=308,slow=29
VNDA Vanda 63.49 186 P **P** **04 01 01.0 +3.4**
comp=Z,1.3nm,0.7s,baz=355,slow=6.6,SNR=6.6
comp=Z,1.3nm,0.7s
KAPI Kappang 66.72 271 LR LR 04 29 11.6
comp=Z,68nm,18.1s,baz=102,slow=35
SHEM Shemya Is, Ala 68.67 352 LR LR 04 23 25.3
comp=Z,131nm,21.6s,baz=316,slow=29
MJAR Matsushiro Arr 69.10 320 P **P** **04 01 35.0 +0.9**
comp=Z,2.5nm,0.8s,baz=145,slow=8.1,SNR=2.9
MJAR LR LR 04 25 47.2
comp=Z,102nm,19.5s,baz=126,slow=31
comp=Z,2.5nm,0.8s
JOW Kunigami 70.71 306 LR LR 04 26 12.3
comp=Z,94nm,20.3s,baz=110,slow=30
PETK Petropavlovsk- 72.66 342 P **P** **04 01 57.9 +2.5**
comp=Z,5.7nm,0.9s,baz=113,slow=11,SNR=3.8
comp=Z,5.7nm,0.9s
LPIG La Paz 72.71 58 LR LR 04 26 44.4
comp=Z,123nm,19.4s,baz=244,slow=30
MDPB Devils Postpil 73.08 42 P **P** **04 01 55.2 -3.4**
YBH Yreka Blue Hor 73.33 37 LR LR 04 28 25.5
comp=Z,119nm,20.1s,baz=259,slow=31
NVAR Mina Array Bea 74.04 42 P **P** **04 02 08.1 +4.0**
comp=Z,1.2nm,0.9s,baz=226,slow=11,SNR=6.7
comp=Z,1.2nm,0.9s
GMN Gold Mountain 74.09 43 P **P** **04 02 03.0 -1.5**
HSIG 74.41 53 P **P** **04 02 04.1 -2.2**
QSPA South Pole Qui 74.72 180 P **P** **04 02 06.1 -1.5**
QSPA IAmb IAmb 04 02 11.6
comp=Z,7.7nm,0.8s
QSPA South Pole Qui 74.72 180 P **P** **04 02 10.8 +3.1**
comp=Z,7.7nm,0.8s,baz=59,slow=1.8,SNR=6.6
QSPA LR LR 04 33 18.1
comp=Z,44nm,18.7s,baz=96,slow=34
comp=Z,7.7nm,0.8s
PINE Pine Mountain 75.63 36 P **P** **04 02 11.2 -2.0**
PINE IAmb IAmb 04 02 36.6
comp=Z,18nm,1.4s
ELK Elko 77.30 41 LR LR 04 28 36.8
comp=Z,95nm,21.2s,baz=252,slow=30
USRK Ussuriysk Ar. 77.52 323 LR LR 04 30 10.1
comp=Z,121nm,19.6s,baz=122,slow=31
G08A Pilot Rock 77.67 36 P **P** **04 02 21.5 -3.1**
LEM Lembang 77.97 266 LR LR 04 38 06.5
comp=Z,53nm,18.1s,baz=9.0,slow=37
F10A Beach Ranch, E 79.05 36 P **P** **04 02 29.3 -2.9**
HLID Hailey 79.35 39 P **P** **04 02 32.7 -1.3**
HVU Hansel Valley 79.42 41 P **P** **04 02 32.2 -2.2**
TX31 Lajitas Ar. Sí 80.28 56 P **P** **04 02 36.7 -2.6**
TX31 IAmb IAmb 04 02 58.9
comp=Z,21nm,1.6s
TXAR Lajitas Array 80.29 56 P **P** **04 02 39.6 +0.3**
TXAR Lajitas Array 80.29 56 P **P** **04 02 43.1 +3.9**
comp=Z,1.3nm,0.9s,baz=232,slow=5.9,SNR=9.2
TXAR LR LR 04 31 53.9
comp=Z,60nm,19.2s,baz=246,slow=31
comp=Z,1.3nm,0.9s
ANMO Albuquerque 80.49 50 P **P** **04 02 37.8 -2.6**
ANMO Albuquerque 80.49 50 LR LR 04 30 55.7
comp=Z,73nm,20.0s,baz=326,slow=30
J20K Nowinta River 80.57 8 P **P** **04 02 39.1 -0.7**
KLR Kul'dur 80.64 327 LR LR 04 35 37.4
comp=Z,39nm,18.4s,baz=21,slow=34
TPAW Teton Pass 81.45 41 P **P** **04 02 42.5 -2.9**
S22A 4UR Ranch, Cre 81.47 47 P **P** **04 02 44.3 -1.4**
S22A IAmb IAmb 04 03 04.6
comp=Z,19nm,1.8s
BPMT Black Pine Rid 81.49 37 P **P** **04 02 44.2 -1.3**
IMW Indian Meadow 81.67 40 P **P** **04 02 45.0 -1.6**
CHMT Chamberlain Mo 81.86 37 P **P** **04 02 46.0 -1.4**
HDA Harding Lake 81.96 11 P **P** **04 02 46.2 -1.0**
PDAR Pinedale Array 81.98 42 P **P** **04 02 51.0 +2.9**
comp=Z,1.8nm,1.0s,baz=222,slow=2.0,SNR=8.1
PDAR LR LR 04 35 09.5
comp=Z,100nm,19.6s,baz=252,slow=33
comp=Z,1.8nm,1.0s
YHL Hebgen Lake 82.00 39 P **P** **04 02 47.5 -0.9**
YHL IAmb IAmb 04 02 53.9
comp=Z,15nm,1.3s
CCB Clear Creek Bu 82.02 11 P **P** **04 02 46.6 -1.0**
CCB IAmb IAmb 04 02 50.5
comp=Z,10nm,1.0s
BOZ Bozeman (W) 82.12 38 P **P** **04 02 47.5 -1.2**
IL31 82.30 11 P **P** **04 02 48.4 -0.6**
IL31 IAmb IAmb 04 04 09.2
comp=Z,24nm,1.8s
ILAR Eielson Array 82.30 11 P **P** **04 02 50.6 +1.6**
comp=Z,1.4nm,0.8s,baz=223,slow=6.0,SNR=16
comp=Z,1.4nm,0.8s
J25K Salcha River, 82.45 12 P **P** **04 02 49.5 -0.3**
J25K IAmb IAmb 04 02 53.4
comp=Z,7.9nm,1.1s
POKR Poker Plat Res 82.52 11 P **P** **04 02 49.1 -1.1**
POKR IAmb IAmb 04 02 56.8
comp=Z,9.9nm,0.9s
F19K Shaleruckik Mo 82.69 6 P **P** **04 02 51.9 +0.9**
F19K IAmb IAmb 04 02 54.7
comp=Z,4.2nm,0.7s
G21K Allakaket 82.88 8 P **P** **04 02 52.1 +0.1**
G21K IAmb IAmb 04 03 24.1
comp=Z,22nm,1.6s
E18K Tukpahlearik C 83.01 5 P **P** **04 02 53.8 +1.1**
DAWY Dawson 83.26 14 P **P** **04 02 53.4 -0.7**
DAWY IAmb IAmb 04 03 09.7
comp=Z,5.6nm,0.8s

RLMT Red Lodge 83.32 40 P **P** **04 02 53.9 -1.2**
RLMT IAmb IAmb 04 03 00.5
comp=Z,20nm,1.6s
E19K Redstone River 83.36 6 P **P** **04 02 54.3 -0.2**
E19K IAmb IAmb 04 03 16.0
comp=Z,20nm,1.5s
N23A Red Feather La 83.49 45 P **P** **04 02 55.0 -1.2**
N23A IAmb IAmb 04 03 18.7
comp=Z,11nm,1.1s
CMIG Matias Romero 83.54 70 LR LR 04 31 42.4
comp=Z,80nm,20.6s,baz=226,slow=30
G23K Bananza Creek 83.56 9 P **P** **04 02 56.0 +0.4**
F21K Alatna River 83.56 8 P **P** **04 02 56.0 +0.5**
F21K IAmb IAmb 04 03 02.3
comp=Z,5.2nm,1.1s
AMTX Amarillo 84.03 52 P **P** **04 02 56.7 -2.1**
AMTX IAmb IAmb 04 03 02.9
comp=Z,8.9nm,1.0s
D19K Kuna River 84.28 5 P **P** **04 03 01.6 +2.4**
E22K Anaktuvuk Pass 84.64 8 P **P** **04 03 00.4 -0.7**
E22K IAmb IAmb 04 03 05.0
comp=Z,5.0nm,0.9s
E21K Killik River 84.66 7 P **P** **04 03 03.6 +2.5**
E21K IAmb IAmb 04 03 21.8
comp=Z,14nm,1.4s
ABTX Abilene, Hawle 84.74 54 P **P** **04 03 02.5 +0.1**
E24K Your Creek 85.05 9 P **P** **04 03 03.6 +0.5**
E24K IAmb IAmb 04 03 10.5
comp=Z,19nm,1.9s
BMAR Burnt Mountain 85.11 11 P **P** **04 03 03.5 0.0**
D22K Ayikyak River 85.23 7 P **P** **04 03 04.2 +0.2**
D22K IAmb IAmb 04 03 11.7
comp=Z,11nm,1.1s
PLPT Palo Pinto 85.85 55 P **P** **04 03 05.5 -2.4**
PLPT IAmb IAmb 04 03 24.0
comp=Z,22nm,1.3s
FW03 Perrin-Whitt E 86.13 54 P **P** **04 03 07.6 -1.6**
FW03 IAmb IAmb 04 03 13.7
comp=Z,15nm,1.0s
F31M Tsiigehtchic 87.37 14 P **P** **04 03 14.6 +0.1**
HNVL Huntsville, TX 87.42 57 P **P** **04 03 15.0 -0.6**
HNVL IAmb IAmb 04 03 21.0
comp=Z,50nm,1.3s
MAW Mawson 87.98 199 P **P** **04 03 19.2 +1.6**
comp=Z,3.6nm,0.9s,baz=61,slow=8.2,SNR=5.1
comp=Z,3.6nm,0.9s
PLCA Paso Flores 89.31 132 LR LR 04 34 18.2
comp=Z,75nm,19.0s,baz=210,slow=29
YKA Yellowknife Ar 89.89 23 P **P** **04 03 29.1 +2.7**
comp=Z,1.0nm,0.9s,baz=236,slow=4.1,SNR=12
comp=Z,1.0nm,0.9s
TEIG Tepich 90.44 69 LR LR 04 38 42.9
comp=Z,325nm,18.4s,baz=3.5,slow=32
ATAH Atahualpa 92.60 98 LR LR 04 35 19.5
comp=Z,115nm,21.4s,baz=256,slow=29
NNA Nana 92.75 103 LR LR 04 35 47.3
comp=Z,36nm,20.5s,baz=228,slow=29
CMAR Chiang Mai Arr 92.91 288 P **P** **04 03 44.3 +2.7**
comp=Z,1.4nm,0.3s,baz=116,slow=2.1,SNR=2.5
comp=Z,1.4nm,0.3s
SONM Songino Array 95.01 318 P **P** **04 03 52.9 +2.2**
comp=Z,0.4nm,0.7s,baz=134,slow=4.3,SNR=3.7
comp=Z,0.4nm,0.7s
LVC Limon Verde 96.75 116 LR LR 04 39 27.2
comp=Z,48nm,18.2s,baz=241,slow=30
TKL Tuckaleechee C 98.19 55 LR LR 04 43 35.3
comp=Z,71nm,19.2s,baz=292,slow=32
BVAR Borovoye Array 118.03 322 PKP **PKiKP** **04 09 16.3 +1.8**
comp=Z,0.8nm,0.5s,baz=117,slow=0.6,SNR=5.5
UPC Upice 144.14 350 *e*PP **PP** **04 13 18.5 +1.2**
DPC Dobruska-Polom 144.24 350 *e*PKP **PKPdf** **04 10 05.2 +1.4**
DPC *e*PP **PP** **04 13 17.6 -0.3**
TESR Tescani 144.81 336 ⇑P **PKPdf** **04 10 06.2 +1.3**
PRU Pruhonice 144.88 351 *e*PKP **PKiKP** **04 10 06.9 -1.8**
PRU *ex* x 04 10 14.0
ARCR ARCALIA 145.17 339 ⇑P **PKiKP** **04 10 10.9 +1.5**
CFR Carcaliu 145.28 333 ⇓P **PKiKP** **04 10 07.8 -1.8**
VRI Vrincioaia 145.31 335 ⇑P **PKPdf** **04 10 07.1 +1.3**
PLOR Plostina 145.36 336 ⇓P **PKPab** **04 10 07.0 +1.0**
TPGR Topolog 145.41 333 ⇑P **PKiKP** **04 10 08.9 -1.1**
JAVC Velka Javorina 145.41 348 *e*PKP **PKiKP** **04 10 09.2 -0.7**
TURR Turia 145.44 336 ⇑P **PKiKP** **04 10 08.5 -1.5**
ZVC Zvikov 145.46 352 *e*PKP **PKPab** **04 10 07.7 +1.6**
ZVC *e*PP **PP** **04 13 21.8 -3.3**
KRUC Moravsky 145.47 349 *e*PKP **PKiKP** **04 10 08.2 -1.7**
OZUR 145.49 337 ⇑P **PKiKP** **04 10 09.3 -0.8**
COVR Voineasa-Covas 145.54 336 ⇑P **PKiKP** **04 10 08.6 -1.6**
BOSR Bodos 145.56 337 ⇑P **PKiKP** **04 10 09.6 -0.7**
DOPR Dopca 145.75 337 ⇓P **PKiKP** **04 10 10.3 -0.3**
HARR Harsova 145.75 333 ⇑P **PKiKP** **04 10 10.3 -0.3**
TLBR Topalu 145.82 333 ⇓P **PKiKP** **04 10 10.4 -0.4**
KHC Kasperske Hory 145.85 352 *e*PKP **PKPdf** **04 10 04.4 -2.2**
KHC *ex* x 04 10 09.2
KHC *e*PP **PP** **04 13 24.4 -3.0**
KHC *ex* x 04 13 29.3
KMBO Kilima Mbogo 145.88 244 PKPbc **PKiKP** **04 10 10.8 -1.3**
comp=Z,2.3nm,0.6s,baz=51,slow=4.3,SNR=4.9
MLR Muntele Rosu 145.93 336 ⇑P **PKiKP** **04 10 10.8 -0.4**
MLR Muntele Rosu 145.93 336 PKPbc **PKiKP** **04 10 10.4 -0.7**
comp=Z,11nm,1.0s,baz=100,slow=3.4,SNR=12
CKRC Cesky Krumlov 146.05 351 *e*PKP **PKiKP** **04 10 10.0 -1.1**
CKRC *e*PP **PP** **04 13 22.9 -5.7**
GERES **GERESS Array B 146.11 352** PKPbc **PKiKP** **04 10 10.6 -0.8**
comp=Z,3.0nm,0.9s,baz=35,slow=3.3,SNR=5.2
BRTR Keskin Array B 146.31 321 PKPbc **PKiKP** **04 10 11.8 -0.4**
comp=Z,16nm,1.0s,baz=118,slow=2.1,SNR=30
VOIR 146.33 337 ⇑P **PKiKP** **04 10 11.5 -0.4**
CONA Conrad Observa 146.66 349 *e*PKP **PKiKP** **04 10 12.9 +0.3**
comp=Z,8.6nm,1.2s
ANTO Ankara 146.72 322 ⇓P **PKiKP** **04 10 13.4 +0.5**
MOA Molln 147.00 351 *i* PKP **PKiKP** **04 10 13.5 +0.4**
comp=Z,14nm,1.4s
GZR Gura Zlata 147.19 339 ⇑P **PKiKP** **04 10 14.0 +0.3**
BZS Buzias 147.37 341 ⇓P **PKPab** **04 10 13.0 -0.5**
WATA Walderalm 147.85 354 *i* PKP **PKPab** **04 10 15.6 0.0**
comp=Z,5.2nm,0.7s
KBA Koelnbreinsper 147.89 352 *i* PKP **PKPab** **04 10 16.3 +0.5**
comp=Z,8.3nm,1.2s
WTTA Wattenberg 147.91 354 *i* PKP **PKPab** **04 10 17.1 +1.2**
comp=Z,5.2nm,0.6s
FETA Feichten 148.24 355 *i* PKiKP **PKPab** **04 10 17.4 +0.3**
comp=Z,10nm,1.3s
DAVOX **Davos/Dischmat 148.54 356** PKPbc **PKPab** **04 10 19.0 +0.6**
comp=Z,3.6nm,0.8s,baz=185,slow=1.2,SNR=5.4
MMAI Mount Meron Ar 148.78 309 PKPbc **PKPab** **04 10 19.6 -0.1**
comp=Z,1.6nm,0.6s,baz=64,slow=6.6,SNR=3.1

*IDC **12** 03:53:38.4±0.8,21°.84S×170°.66E,h0km,mb4.3/10, mbtmp4.2/11,ML3.7/1,MS3.5/3,Error ellipse: s-maj=30.6km s-min=21.5km az=151.0*
ISC 12 03:53:45.8±0.7,**21°.8S**±0°.2×**170°.52E**±0°.1**0,h51**km,**n29,** σ1**§38**/26,**mb4.3**/10,**MS3.2**/3,**Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s	ISC
DZM	**Mont Dzumac**	**3.79**	**266**	*e*LR		LR	03	59	51.1
	699nm,24.2s									
DZM	**Mont Dzumac**	**3.79**	**266**	Pn		**Pn**	**03**	**54**	**39.2**	**-2.7**
	5.1nm,0.3s,baz=107,slow=13,SNR=36									
DZM					Sn	**Sn**	**03**	**55**	**27.3**	**+2.1**
	11nm,0.3s,baz=179,slow=16,SNR=6.0									
	12nm,0.3s									
DZM	**Mont Dzumac**	**3.79**	**266**	*e*P		**Pn**	**03**	**54**	**39.3**	**-2.5**
	184nm,1.1s									
DZM	**Mont Dzumac**	**3.79**	**266**	*e*S			03	58	34.4	
	212nm,26.2s									
RPZ	**Rata Peaks**	**21.83**	**179**	LR		LR	04	05	16.0	
	comp=Z,90nm,20.5s,baz=25,slow=32									
ASAR	**Alice Springs**	**33.76**	**260**	P		**P**	**04**	**00**	**24.6**	**+1.7**
	3.8nm,0.9s,baz=82,slow=8.0,SNR=1.2									
	3.8nm,0.9s									
WRA	**Warramunga Arr**	**33.81**	**266**	P		**P**	**04**	**00**	**23.2**	**-0.2**
	0.5nm,0.5s,baz=96,slow=8.7,SNR=1.1									
	0.5nm,0.5s									
PPT	**Papeete**	**37.73**	**91**	LR		LR	04	15	44.8	
	comp=Z,38nm,18.4s,baz=264,slow=35									
PETK	**Petropavlovsk-**	**75.44**	**352**	P		**P**	**04**	**05**	**25.8**	**+1.8**
	6.9nm,0.8s,baz=157,slow=8.0,SNR=4.9									
PETK				LR		LR	04	34	50.9	
	comp=Z,49nm,19.5s,baz=253,slow=33									
	6.9nm,0.8s									
MAW	**Mawson**	**76.50**	**202**	P		**P**	**04**	**05**	**30.2**	**+0.2**
	7.4nm,0.8s,baz=176,slow=11,SNR=9.6									
	7.4nm,0.8s									

CMAR Chiang Mai Arr 80.65 294 P **P** **04 05 53.5 -0.2**
1.4nm,0.3s,baz=5.8,slow=23,SNR=1.5
1.4nm,0.3s
SNAA Sanae 86.64 182 P **P** **04 06 24.0 +0.4**
4.0nm,0.9s,baz=204,slow=13,SNR=5.8
4.0nm,0.9s
NVAR Mina Array Bea 89.62 48 P **P** **04 06 37.9 -0.5**
1.0nm,0.7s,baz=228,slow=8.3,SNR=11
1.0nm,0.7s
SONM Songino Array 90.00 323 P **P** **04 06 40.2 +0.3**
1.4nm,1.0s,baz=143,slow=3.7,SNR=4.4
1.4nm,1.0s
ILAR Eielson Array 92.34 17 P **P** **04 06 49.5 -0.6**
0.3nm,0.8s,baz=232,slow=4.0,SNR=2.2
0.3nm,0.8s
TXAR Lajitas Array 96.94 61 P **P** **04 07 11.5 -0.7**
0.1nm,0.6s,baz=206,slow=3.9,SNR=2.7
0.1nm,0.6s
ARCES **ARCESS Array B 127.86 345** PKP **PKPdf** **04 12 43.9 -1.2**
6.9nm,1.0s,baz=52,slow=2.0,SNR=5.3
VRAC Vranov 145.66 329 *e*PKP **PKPab** **04 13 19.4 +0.2**
KRUC Moravsky 145.93 329 *e*PKP **PKPbc** **04 13 19.7 +0.1**
EKA Eskdalemuir Ar 146.21 354 PKPbc **PKPbc** **04 13 19.8 -0.4**
5.3nm,0.7s,baz=352,slow=2.2,SNR=14
IDI Anoyia 147.14 302 PKPbc **PKPbc** **04 13 23.6 -0.1**
9.1nm,1.1s,baz=105,slow=10,SNR=3.5
GERES **GERESS Array B 147.33 331** PKPbc **PKPbc** **04 13 23.4 -0.4**
3.8nm,1.0s,baz=44,slow=4.1,SNR=6.6
SOKA Soboth 148.23 327 *e*PKP **PKPbc** **04 13 24.9 -1.4**
9.7nm,1.3s
MYKA Terra Mystica 148.95 328 *e*PKP **PKPdf** **04 13 25.0 +0.9**
9.3nm,1.2s
WATA Walderalm 149.40 331 *i* PKP **PKPdf** **04 13 27.0 +2.1**
8.3nm,1.1s
WTTA Wattenberg 149.43 331 *e*PKP **PKPdf** **04 13 26.5 +1.6**
8.8nm,1.0s
MOTA Moosalm 149.60 332 *e*PKP **PKPdf** **04 13 26.9 +1.7**
11nm,1.4s
SQTA Sankt Quirin 149.65 332 *i* PKP **PKPdf** **04 13 27.0 +1.8**
8.3nm,0.9s
DAVOX **Davos/Dischmat 150.57 332** PKPbc **PKPbc** **04 13 31.5 -0.7**
6.2nm,0.8s,baz=354,slow=1.4,SNR=7.4

*SJA **12** 03:55:31.9±0.8,32°.04S×69°.61W,h108km±3km,ML3.4, MW3.6*
ISC 12 03:55:33.2±1.6,**32°.04S**±0°.03×**69°.61W**±0°.04, **h108**km±12km,**n25,** σ0**§58**/48,**11D,Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s	ISC
AUSP	**Uspallata**	**0.26**	**134**	⇓*i*P		**Pn**	**03**	**55**	**48.8**	**-0.1**
AUSP				*i* S		**Sn**	**03**	**56**	**00.8**	**+0.1**
RTLS	**Leoncito**	**0.36**	**48**	*i* P		**Pn**	**03**	**55**	**49.2**	**-0.2**
RTLS				*i* S		**Sn**	**03**	**56**	**01.9**	**+0.4**
ASAL	**Salagasta**	**0.85**	**130**	*i* P		**Pn**	**03**	**55**	**52.8**	**0.0**
ASAL				*i* S		**Sn**	**03**	**56**	**07.8**	**+0.2**
ASAL				IAML			03	56	09.2	
	comp=Z,808nm,0.5s									
RTCV	**Cerro Valdivia**	**0.93**	**79**	*i* P		**Pn**	**03**	**55**	**53.0**	**-0.5**
RTCV				*i* S		**Sn**	**03**	**56**	**08.5**	**-0.3**
RTCV				IAML			03	56	11.0	
	comp=Z,749nm,4.5s									
ZON	**Zonda**	**0.94**	**58**	*i* P		**Pn**	**03**	**55**	**52.9**	**-0.7**
ZON				*i* S		**Sn**	**03**	**56**	**08.4**	**-0.6**
ZON				IAML			03	56	10.9	
	comp=Z,413nm,0.3s									
ARCO	**CERRO ARCO**	**0.98**	**144**	⇓*i*P		**Pn**	**03**	**55**	**54.0**	**-0.2**
ARCO				*i* S		**Sn**	**03**	**56**	**10.6**	**+0.5**
ARCO				IAML			03	56	13.1	
	comp=Z,524nm,0.2s									
RTLL	**Cerro Villicun**	**1.20**	**54**	*i* P		**Pn**	**03**	**55**	**56.0**	**-0.4**
RTLL				⇓*i* S		**Sn**	**03**	**56**	**13.7**	**-0.4**
RTLL				IAML			03	56	15.3	
	comp=Z,645nm,0.2s									
AAGR	**Agrelo**	**1.23**	**148**	⇓*i*P		**Pn**	**03**	**55**	**56.6**	**-0.3**
AAGR				IAML			03	56	16.8	
	comp=Z,324nm,0.3s									
PEL	**Peldehue**	**1.43**	**219**	*i* P		**Pn**	**03**	**55**	**58.4**	**-0.7**
PEL				*i* S		**Sn**	**03**	**56**	**18.8**	**+0.2**
PEL	**Peldehue**	**1.43**	**219**	⇓*i*P		**Pn**	**03**	**55**	**58.6**	**-0.4**
PEL				*e*S		**Sn**	**03**	**56**	**18.3**	**-0.3**
PEL				IAML			03	56	20.4	
	comp=N,478nm,0.2s									
MT04	**Ro Olivares**	**1.43**	**198**	*i* P		**Pn**	**03**	**55**	**59.8**	**+0.6**
MT04				*e*S		**Sn**	**03**	**56**	**20.7**	**+1.7**
CO02	**Combarbal**	**1.45**	**305**	*i* P		**Pn**	**03**	**55**	**59.1**	**-0.2**
CO02				*i* S		**Sn**	**03**	**56**	**19.9**	**+0.6**
MT10	**Hacienda Santa**	**1.46**	**212**	⇓*i*P		**Pn**	**03**	**55**	**59.7**	**+0.3**
MT10				*e*S		**Sn**	**03**	**56**	**20.2**	**+0.8**
MT10				IAML			03	56	24.7	
	comp=N,2μm,0.3s									
ROCH	**El Roble**	**1.50**	**232**	*i* P			03	55	59.6	
ROCH				*i* P		**Pn**	**03**	**55**	**59.5**	**-0.6**
ROCH				*e*S		**Sn**	**03**	**56**	**20.1**	**-0.4**
ROCH				IAML			03	56	22.5	
	comp=N,981nm,0.2s									
ROC1	**El Roble**	**1.51**	**232**	*i* P		**Pn**	**03**	**55**	**59.6**	**-0.6**
ROC1				*i* S		**Sn**	**03**	**56**	**20.7**	**0.0**
CO03	**El Pedregal**	**1.51**	**322**	*i* P		**Pn**	**03**	**55**	**59.7**	**-0.5**
CO03				*i* S		**Sn**	**03**	**56**	**20.8**	**+0.2**
CO03				IAML			03	56	25.5	
	comp=Z,365nm,0.1s									
ACCO	**Cerro Coronel**	**1.52**	**18**	⇓*i*P		**Pn**	**03**	**56**	**00.5**	**-0.1**
ACCO				*i* S		**Sn**	**03**	**56**	**22.3**	**+1.2**
ACCO				IAML			03	56	22.8	
	comp=Z,623nm,0.6s									
MT14	**Cerro Calฺn**	**1.56**	**210**	⇓*i*P		**Pn**	**03**	**56**	**00.9**	**+0.2**
MT14				*e*S		**Sn**	**03**	**56**	**22.4**	**+0.9**
MT14				IAML			03	56	24.4	
	comp=E,1μm,0.6s									
MT05	**Renca**	**1.65**	**215**	⇓*i*P		**Pn**	**03**	**56**	**01.6**	**-0.1**
MT05				*e*S		**Sn**	**03**	**56**	**23.6**	**+0.1**
MT05				IAML			03	56	26.2	
	comp=E,1μm,0.2s									
MT15	**Las Vizcachas**	**1.73**	**206**	*i* P		**Pn**	**03**	**56**	**02.7**	**0.0**
MT15				*e*S		**Sn**	**03**	**56**	**26.1**	**+0.9**
MT15				IAML			03	56	30.2	
	comp=N,1μm,0.2s									
AROD	**Rodeo**	**1.87**	**4**	*i* P		**Pn**	**03**	**56**	**05.3**	**+0.5**
AROD				*i* S		**Sn**	**03**	**56**	**29.6**	**+0.8**
ACDV	**Cuesta del Vie**	**1.91**	**13**	*i* P		**Pn**	**03**	**56**	**05.5**	**+0.3**
ACDV				*i* S		**Sn**	**03**	**56**	**29.5**	**0.0**
ACDV				IAML			03	56	31.6	
	comp=Z,262nm,0.4s									
MT09	**Talagante**	**2.08**	**213**	*i* P		**Pn**	**03**	**56**	**06.1**	**-1.1**
MT09				*e*S		**Sn**	**03**	**56**	**32.4**	**-0.9**
GO04	**Tololo Observa**	**2.12**	**331**	⇓*i*P		**Pn**	**03**	**56**	**07.3**	**-0.6**
AGUA	**GUANDACOL**	**2.72**	**21**	⇓*i*P		**Pn**	**03**	**56**	**15.8**	**+0.2**
AGUA				*i* S		**Sn**	**03**	**56**	**48.0**	**-0.2**
AGUA				IAML			03	56	51.4	
	comp=Z,209nm,0.2s									

BUC 12 03:57:24.1±0.2,**45°.47N**×**27°.00E,h18**km±1km,**ml1.6**/14, **23C-17D,Error ellipse: s-maj=1.8km s-min=1.2km az=10.0,Romania**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s	ISC
GRER		**0.09**	**191**	⇑P		Pg	03	57	28.6	+0.9
GRER				⇑S		Sg	03	57	31.0	+0.9
ODBI	**Odobesti**	**0.30**	**8**	⇓P		Pg	03	57	30.2	-0.4
ODBI				⇑S		Sb	03	57	35.8	+0.4
PANC	**Panciu**	**0.42**	**15**	⇑P		Pg	03	57	32.8	+0.1
PANC				⇑S		Sg	03	57	38.6	+0.2
VRI	**Vrincioaia**	**0.44**	**335**	⇓S		Sb	03	57	39.7	0.0
PLOR	**Plostina**	**0.45**	**328**	⇑S		Sb	03	57	40.0	-0.1
TUDR		**0.49**	**75**	⇑P		Pg	03	57	33.6	-0.4
TUDR				⇑S		Sb	03	57	41.5	+0.6
NEHR	**Nehoiu**	**0.50**	**265**	⇓P		Pb	03	57	34.5	+0.2
NEHR				⇓S		Sb	03	57	41.9	+0.6
IZVR	**Izvoarele**	**0.55**	**82**

TURR	**Turia**	**0.90**	**311**	⇑P	Pb	03 57 40.6	-0.6	
TURR				⇑S	Sn	03 57 54.2	-0.3	
TESR	**Tescani**	**1.07**	**347**	⇑P	Pb	03 57 43.0	-1.1	
TESR				⇑S	Sg	03 57 59.9	+0.9	
TPGR	**Topolog**	**1.18**	**121**	⇑P	Pn	03 57 45.1	-0.6	
TPGR				⇓S	Sn	03 58 01.1	-0.2	
DOPR	**Dopca**	**1.23**	**294**	⇓P	Pn	03 57 46.4	-0.1	
DOPR				⇑S	Sn	03 58 03.2	+0.6	
VASR	**Vaslui**	**1.30**	**25**	⇓S	Sg	03 58 05.8	-0.3	
TLCR		**1.31**	**102**	⇓P	Pb	03 57 48.3	+0.1	
TLCR				⇑S	Sg	03 58 06.1	-0.5	
VOIR		**1.37**	**269**	⇓P	Pb	03 57 49.0	-0.2	
VOIR				⇑S	Sb	03 58 07.1	+0.6	
TIRR	**Tirgusor**	**1.43**	**135**	⇓P	Pn	03 57 49.3	+0.2	
TIRR				⇓S	Sb	03 58 08.9	+1.0	
MILM	**Milestii Mici**	**1.92**	**40**	⇑S	Sb	03 58 21.1	-1.1	

IDC 12 04:29:57.7±1.2, 29°22S×178°47W, h165km±18km, mb3.2/3, mbtmp3.6/3, MS3.5/1, Error ellipse: s-maj=80.1km s-min=30.8km az=38.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.49**	**94**	P	Pn	04 30 21.8	+1.2
	1μm,0.2s,baz=18,slow=22,SNR=7.8						
RAO				S	Sn	04 30 38.6	+0.4
	331nm,0.3s,baz=238,slow=23,SNR=1.0						
URZ	**Urewera**	**9.73**	**201**	S	Sn	04 33 47.7	-14
	6.8nm,1.0s,baz=340,slow=18,SNR=1.7						
STKA	**Stephens Creek**	**34.36**	**255**	LR	LR	04 48 46.4	
	comp=Z,78nm,20.9s,baz=23,slow=33						
ASAR	**Alice Springs**	**42.77**	**266**	P	P	04 37 38.7	-0.4
	0.2nm,0.3s,baz=105,slow=8.0,SNR=2.3						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**43.65**	**271**	P	P	04 37 46.1	-0.1
	0.5nm,0.4s,baz=110,slow=7.7,SNR=4.6						
	0.5nm,0.4s						
QSPA	**South Pole Qui**	**60.88**	**180**	P	P	04 39 52.6	-0.1
	0.9nm,0.7s,baz=357,slow=3.3,SNR=8.0						
	0.9nm,0.7s						
FINES	**FINES Array B**	**143.90**	**340**	PKP	PKPbc	04 49 11.6	+0.7
	2.1nm,0.4s,baz=55,slow=3.0,SNR=26						

ROM 12 04:45:15.4±0.1, 43°022N±0°003×13°014E±0°004, h10km, ML1.9/22, Error ellipse: s-maj=0.3km s-min=0.3km az=220.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.06**	**75**	P	Pg	04 45 17.3	-0.1
FDMO				S	Sg	04 45 19.3	+0.4
CSP1	**Cessapalombo**	**0.16**	**63**	P	Pg	04 45 19.4	+0.5
CSP1				S	Sg	04 45 22.2	+0.9
CSP1				AML	AML		
	comp=N,122μm,0.2s						
CSP1				AML	AML		
	comp=E,266μm,0.2s						
MC2	**Monte Cornacci**	**0.17**	**130**	P	Pg	04 45 19.4	+0.2
MC2				S	Sg	04 45 22.8	+1.1
NRCA	**Norcia**	**0.20**	**159**	P	Pg	04 45 20.4	+0.8
NRCA				S	Sg	04 45 23.8	+1.3
NRCA				AML	AML		
	comp=E,422μm,0.2s						
NRCA				AML	AML		
	comp=N,503μm,0.4s						
NRCA				AML	AML		
	comp=E,398μm,0.1s						
NRCA				AML	AML		
	comp=N,520μm,0.4s						
NRCA				AML	AML		
	comp=N,503μm,1.6s						
T1221	**Campello sul C**	**0.20**	**217**	P	Pg	04 45 20.3	+0.7
T1221				S	Sg	04 45 24.1	+1.5
T1221				AML	AML		
	comp=N,104μm,2.7s						
T1221				AML	AML		
	comp=N,109μm,0.5s						
T1221				AML	AML		
	comp=E,203μm,1.3s						
T1221				AML	AML		
	comp=N,104μm,0.7s						
GUMA	**Gualdo di Mace**	**0.24**	**80**	P	Pg	04 45 21.2	+0.9
GUMA				AML	AML		
	comp=N,828μm,1.5s						
GUMA				AML	AML		
	comp=E,932μm,0.3s						
GUMA				AML	AML		
	comp=N,828μm,0.5s						
GUMA				AML	AML		
	comp=E,1078μm,0.2s						
GUMA				AML	AML		
	comp=N,1200μm,0.2s						
SNTG	**Esanatoglia**	**0.24**	**347**	P	Pg	04 45 20.9	+0.6
SNTG				S	Sg	04 45 25.2	+1.7
SNTG				AML	AML		
	comp=E,388μm,0.8s						
SNTG				AML	AML		
	comp=N,436μm,0.6s						
SNTG				AML	AML		
	comp=N,404μm,0.8s						
MMO1	**Montemonaco**	**0.26**	**118**	P	Pg	04 45 21.2	+0.5
MMO1				S	Sb	04 45 25.6	-1.2
ASSB	**Assisi San Ben**	**0.26**	**275**	P	Pg	04 45 21.2	+0.5
ASSB				S	Sb	04 45 25.8	-1.0
ASSB				AML	AML		
	comp=E,702μm,0.3s						
ASSB				AML	AML		
	comp=E,886μm,1.2s						
ASSB				AML	AML		
	comp=N,1315μm,0.5s						
ASSB				AML	AML		
	comp=E,886μm,0.8s						
MF5	**Montefalcone A**	**0.33**	**96**	P	Pb	04 45 23.2	-0.3
MF5				AML	AML		
	comp=E,773μm,0.5s						
MF5				AML	AML		
	comp=N,846μm,0.9s						
CING	**Cingoli**	**0.38**	**21**	P	Pg	04 45 23.3	+0.5
CING				S	Sb	04 45 29.6	-0.6
CING				AML	AML		
	comp=N,197μm,0.4s						
CING				AML	AML		
	comp=E,642μm,0.2s						
CING				AML	AML		
	comp=N,573μm,0.5s						
CING				AML	AML		
	comp=N,197μm,1.6s						

ROM 12 04:45:26.6±0.1, 43°027N±0°003×13°010E±0°005, h7km, ML2.2/22, 5C-1D, Error ellipse: s-maj=0.3km s-min=0.3km az=294.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.06**	**81**	⇑P	Pg	04 45 28.5	+0.2
FDMO				S	Sg	04 45 29.8	+0.3
FEMA	**Monte Fema**	**0.07**	**156**	P	Pg	04 45 28.9	+0.3
FEMA				S	Sg	04 45 30.2	+0.2
FEMA				AML	AML		
	comp=N,6465μm,0.3s						
FEMA				AML	AML		
	comp=E,10995μm,0.2s						
CSP1	**Cessapalombo**	**0.16**	**66**	⇑P	Pg	04 45 30.5	+0.6
CSP1				S	Sg	04 45 33.2	+1.1
MC2	**Monte Cornacci**	**0.17**	**131**	⇑P	Pg	04 45 30.9	+0.7
MC2				S	Sg	04 45 33.4	+0.7
T1221	**Campello sul C**	**0.20**	**216**	P	Pg	04 45 31.5	+0.8
T1221				S	Sg	04 45 35.0	+1.5
T1221				AML	AML		
	comp=E,1285μm,1.3s						
T1221				AML	AML		
	comp=N,2035μm,0.2s						
T1221				AML	AML		
	comp=E,1144μm,1.3s						
T1221				AML	AML		
	comp=N,1960μm,0.2s						
T1221				AML	AML		
	comp=E,1285μm,1.3s						
T1221				AML	AML		
	comp=E,1144μm,1.3s						
T1221				AML	AML		
	comp=N,1959μm,0.2s						
T1221				AML	AML		
	comp=E,1259μm,0.5s						
T1221				AML	AML		
	comp=N,2035μm,0.2s						
T1221				AML	AML		
	comp=E,1094μm,0.4s						
NRCA	**Norcia**	**0.21**	**158**	⇑P	Pg	04 45 31.4	+0.6
NRCA				S	Sg	04 45 35.1	+1.5
GUMA	**Gualdo di Mace**	**0.24**	**81**	⇑P	Pg	04 45 32.4	+1.0
GUMA				S	Sg	04 45 35.8	+1.2
MMO1	**Montemonaco**	**0.27**	**119**	⇓P	Pg	04 45 32.4	+0.5
MMO1				S	Sg	04 45 36.8	+1.4
EL6	**Elcito**	**0.31**	**12**	P	Pb	04 45 34.0	-0.5
EL6				S	Sb	04 45 38.6	-1.2
FOSV	**Fossato di Vic**	**0.32**	**326**	P	Pg	04 45 33.7	+0.8
FOSV				S	Sb	04 45 39.0	-1.1
MTRA	**Matera**	**0.39**	**133**	P	Pb	04 45 36.1	+0.3
MTRA				S	Sb	04 45 41.3	-0.8
ARRO	**Arrone**	**0.48**	**202**	P	Pg	04 45 36.5	+0.6
ARRO				S	Sb	04 45 43.9	-0.7
ARRO				AML	AML		
	comp=E,328μm,0.7s						
ARRO				AML	AML		
	comp=N,302μm,0.2s						
ARRO				AML	AML		
	comp=N,302μm,0.2s						
ARRO				AML	AML		
	comp=E,312μm,0.2s						
RM33	**Pellescritta (**	**0.54**	**164**	P	Pg	04 45 37.5	+0.5
RM33				S	Sb	04 45 45.7	-0.7
RM33				AML	AML		
	comp=E,272μm,0.2s						
RM33				AML	AML		
	comp=N,288μm,0.9s						
RM33				AML	AML		
	comp=N,281μm,0.4s						
RM33				AML	AML		
	comp=N,285μm,0.3s						
RM33				AML	AML		
	comp=E,272μm,0.2s						
RM33				AML	AML		
	comp=E,299μm,0.2s						
FIAM	**Fiamignano**	**0.76**	**174**	P	Pg	04 45 41.6	+0.4
FIAM				S	Sb	04 45 52.6	-0.2
FIAM				AML	AML		
	comp=E,132μm,1.0s						
FIAM				AML	AML		
	comp=N,144μm,1.2s						
FIAM				AML	AML		
	comp=N,144μm,0.8s						
FIAM				AML	AML		
	comp=E,144μm,3.5s						
FIAM				AML	AML		
	comp=N,114μm,0.5s						
FIAM				AML	AML		
	comp=E,144μm,0.5s						

KRSC 12 04:51:10.8±1.8, 54°67N×163°72E, h41km±25km, Ml4.1
IDC 12 04:51:11.8±1.4, 55°01N×163°34E, h0km, mb3.5/6, mbtmp3.5/7, ML2.1/1, MS3.6/1, Error ellipse: s-maj=45.5km s-min=19.0km az=157.0

ISC 12 04:51:12.0±0.9, 54°75N±0°05×163°64E±0°08, h10km, n34, σ1s24/36, mb3.6/7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**1.54**	**343**	*eP*	**Pn**	**04 51 37.9**	**-1.6**
KBTR				*eS*	**Sn**	**04 51 57.2**	**-2.3**
KBG	**Krutoberegovo**	**1.60**	**341**	*eP*	**Pn**	**04 51 39.1**	**-1.3**
KBG				*eS*	**Sn**	**04 51 58.9**	**-2.1**
TUMD	**Tumrok D**	**1.92**	**285**	*eP*	**Pn**	**04 51 44.4**	**-0.4**
TUMD				*eS*	**Sn**	**04 52 08.0**	**-1.0**
ZLN	**Zelenaya**	**2.06**	**309**	*eP*	**Pn**	**04 51 48.0**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**2.06**	**307**	*eP*	**Pn**	**04 51 47.6**	**+0.8**
CIRR	**Tsirk**	**2.14**	**311**	*eP*	**Pn**	**04 51 49.2**	**+1.2**
BZWR	**Bezymyannyi-We**	**2.17**	**305**	*eP*	**Pn**	**04 51 48.9**	**+0.5**
KMNR	**Kamenistaya**	**2.19**	**299**	*eP*	**Pn**	**04 51 49.3**	**+0.7**
SMKR	**Semkarok**	**2.21**	**327**	*eP*	**Pn**	**04 51 48.9**	**0.0**
SMKR				*eS*	**Sn**	**04 52 16.4**	**+0.2**
KIRR	**Kirishev**	**2.24**	**304**	*eP*	**Pn**	**04 51 50.6**	**+1.4**
KRSR	**Krestovskiy**	**2.29**	**311**	*eP*	**Pn**	**04 51 50.2**	**+0.3**
KPT	**Kopyto**	**2.30**	**303**	*eP*	**Pn**	**04 51 52.0**	**+1.9**
KOZ	**Kozyrevsk**	**2.52**	**303**	*eP*	**Pn**	**04 51 53.4**	**+0.4**
SPN	**Mys Shipunski**	**2.70**	**234**	*eP*	**Pn**	**04 51 53.8**	**-1.7**
NLC	**Nalytchevo**	**2.99**	**240**	*eP*	**Pn**	**04 51 57.8**	**-1.6**
NLC				*eS*	**Sn**	**04 52 32.4**	**-2.9**
ESO	**Esso**	**3.06**	**295**	*eP*	**Pn**	**04 52 01.4**	**+1.0**
SMAR	**Somma**	**3.22**	**244**	*eP*	**Pn**	**04 52 02.6**	**-0.2**
AVH	**Avacha**	**3.25**	**245**	*eP*	**Pn**	**04 52 03.4**	**+0.3**
KRX	**Arik**	**3.25**	**247**	*eP*	**Pn**	**04 52 03.2**	**0.0**
KOK	**Koryaka**	**3.29**	**246**	*eP*	**Pn**	**04 52 04.3**	**+0.6**
KRMR	**Karymshinskiy**	**3.79**	**242**	*eP*	**Pn**	**04 52 11.4**	**+1.0**
PETK	**Petropavlovsk-**	**3.88**	**247**	Pn	**Pn**	**04 52 11.5**	**-0.1**
	0.6nm,0.3s,baz=83,slow=18,SNR=8.2						
PETK				Sn	**Sn**	**04 52 57.9**	**+0.7**
	0.6nm,0.3s,baz=167,slow=15,SNR=3.6						
	1.5nm,0.5s						
GRL	**Gorelyy**	**3.98**	**239**	*eP*	**Pn**	**04 52 13.2**	**+0.1**
KDAK	**Kodiak Island**	**24.18**	**65**	LR	LR	05 04 03.9	
	comp=Z,144nm,21.1s,baz=210,slow=32						
ILAR	**Eielson Array**	**26.15**	**48**	P	**P**	**04 56 46.8**	**+0.8**
	0.8nm,0.8s,baz=262,slow=8.6,SNR=9.8						
	0.8nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.05**	**175**	T	T	05 35 57.6	
	baz=359,slow=76,SNR=8.2						
H11N3	**WAKE ISLAND Hy**	**35.06**	**175**	T	T	05 35 57.6	
	baz=359,slow=76,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**35.06**	**175**	T	T	05 35 57.6	
	baz=359,slow=76,SNR=3.1						
YKA	**Yellowknife Ar**	**40.51**	**45**	P	**P**	**04 58 51.9**	**+1.2**
	0.3nm,0.7s,baz=296,slow=7.5,SNR=2.9						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**48.73**	**302**	P	**P**	**04 59 54.7**	**-1.7**
	0.3nm,0.5s,baz=49,slow=8.7,SNR=2.3						
	0.3nm,0.5s						
FINES	**FINES Array B**	**59.40**	**338**	P	**P**	**05 01 13.3**	**-0.7**
	1.1nm,0.5s,baz=35,slow=7.0,SNR=7.7						
	1.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**60.55**	**260**	P	**P**	**05 01 23.8**	**+1.2**
	3.4nm,0.3s,baz=21,slow=12,SNR=6.5						
TXAR	**Lajitas Array**	**68.08**	**70**	P	**P**	**05 02 13.3**	**+1.5**
	0.2nm,0.5s,baz=290,slow=5.4,SNR=5.0						
	0.2nm,0.5s						
AKASG	**Malin Array Be**	**68.23**	**331**	P	**P**	**05 02 11.9**	**-0.4**
	0.3nm,0.4s,baz=26,slow=7.0,SNR=2.9						
	0.3nm,0.4s						

RSNC 12 04:53:30.2±1.2, 10°24N×73°13W, h120km±4km, ML2.9
FUNV 12 04:53:38.9, 9°83N×72°60W, h75km, MW3.1

ISC 12 04:53:29.0±1.6, 10°17N±0°05×72°99W±0°05, h124km±11km, n26, σ2s94/39, 3C-3D, Venezuela

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	ISC
MCQV	**Machiques**	**0.46**	**105**	*eP*	**Pn**	**04 53 50.0**	**+2.8**
LL6C	**La Loma 6 Bece**	**0.52**	**213**	⇑*iP*	**Pn**	**04 53 48.4**	**+0.8**
LL6C				*eS*	**Sn**	**04 54 01.6**	**0.0**
LL6C				*i*		04 54 02.5	
	comp=Z,119nm,0.3s						
LL5C	**La Loma 5 El P**	**0.84**	**240**	⇑*iP*	**Pn**	**04 53 49.8**	**-0.1**
LL5C				*i*		04 54 04.8	
	comp=Z,270nm,0.1s						
LL5C				*eS*	**Sn**	**04 54 04.9**	**-0.8**
CRJC	**Cerrejon, Guaj**	**0.85**	**7**	⇑*iP*	**Pn**	**04 53 50.2**	**+0.1**
CRJC				*eS*	**Sn**	**04 54 05.2**	**-0.9**
CRJC				*i*		04 54 06.8	
	comp=Z,836nm,0.4s						
ARGC	**Ariguani, Magd**	**1.28**	**256**	*eP*	Pn	04 53 54.1	-0.1
ARGC				*eS*	**Sn**	**04 54 12.4**	**-1.0**
ARGC				*i*		04 54 14.2	
	comp=Z,60nm,0.1s						
SMRC	**Santa Marta, M**	**1.57**	**309**	*eP*	Pn	04 53 56.2	-1.2
SMRC				*eS*	Sn	04 54 16.3	-2.9
SMRC				*i*		04 54 20.7	
	comp=Z,68nm,0.2s						
URIC	**Uribia, Colomb**	**1.81**	**33**	⇓*eP*	**Pn**	**04 54 01.1**	**+0.8**
URIC				*eS*	**Sn**	**04 54 25.0**	**+0.7**
URIC				*i*		04 54 25.4	
	comp=Z,58nm,0.1s						
OCAC	**Ocana**	**1.95**	**190**	*eP*	**Pn**	**04 54 03.0**	**+0.7**
OCAC				*eS*	**Sn**	**04 54 28.5**	**+0.9**
OCAC				*i*		04 54 33.5	
	comp=Z,95nm,0.5s						
SJCC	**San Jacinto, C**	**2.18**	**263**	*eP*	Pn	04 54 03.3	-1.6
SJCC				*eS*	Sn	04 54 29.1	-3.3
SJCC				*i*		04 54 36.6	
	comp=Z,20nm,0.4s						
CAPV	**Capacho**	**2.39**	**164**	*eP*	**Pn**	**04 54 10.4**	**+2.6**
CAPV				*eS*	**Sn**	**04 54 32.4**	**-5.1**
SOCV	**Socops**	**2.82**	**132**	*eP*	**Pn**	**04 54 15.4**	**+2.3**
SOCV				*eS*	**Sn**	**04 54 40.2**	**-6.8**
PAMC	**Pamplona, Colo**	**2.83**	**174**	⇓*eP*	**Pn**	**04 54 15.9**	**+2.2**
PAMC				*eS*	**Sn**	**04 54 50.0**	**+1.9**
PAMC				*i*		04 54 59.6	
	comp=Z,6.7nm,0.4s						
CURV	**Curarigua**	**2.98**	**93**	⇓*eP*	**Pn**	**04 54 18.3**	**+3.0**
CURV				*eS*	**Sn**	**04 54 48.0**	**-2.9**
SIQV	**Siquisique**	**3.16**	**81**	*eP*	**Pn**	**04 54 19.9**	**+2.3**
SIQV				*eS*	**Sn**	**04 54 53.7**	**-1.4**
ZARC	**Zaragoza, Cauc**	**3.24**	**215**	*eP*	**Pn**	**04 54 18.5**	**-0.2**
ZARC				*eS*	**Sn**	**04 54 54.2**	**-2.8**
ZARC				*i*		04 54 57.8	
	comp=Z,16nm,0.5s						
SANV	**Sanarito**	**3.46**	**101**	*eP*	**Pn**	**04 54 25.3**	**+3.7**
SANV				*eS*	**Sn**	**04 54 56.8**	**-5.5**
URCC	**San Jos de Ur**	**3.48**	**226**	*eP*	Pn	04 54 21.4	-0.4
UREC				*eS*	Sn	04 54 57.8	-4.8
BARC	**Barichara**	**3.56**	**183**	*eP*	**Pn**	**04 54 24.7**	**+1.6**
BARC				*eS*	**Sn**	**04 55 07.6**	**+2.7**
BARC				*i*		04 55 09.9	
	comp=Z,11nm,0.3s						
TEPV	**Terepaima**	**3.74**	**93**	*eP*	**Pn**	**04 54 27.9**	**+2.7**
TEPV				*eS*	**Sn**	**04 55 04.6**	**-4.3**
PTBC	**PUERTO BERRIO,**	**3.89**	**202**	*eP*	**Pn**	**04 54 29.0**	**+1.8**
PTBC				*eS*	**Sn**	**04 55 09.2**	**-3.2**
PTBC				*i*		04 55 17.3	
	comp=Z,3.7nm,0.2s						
CAPC	**Capurgana**	**4.57**	**251**	*eP*	Pn	04 54 33.1	-3.2
CAPC				*eS*	Sn	04 55 21.8	-6.8
BAUV	**El Baul**	**5.03**	**104**	*eP*	**Pn**	**04 54 44.5**	**+2.1**
BAUV				*eS*	Sn	04 55 31.9	-7.7
TURV	**Turiamo**	**5.07**	**86**	*eP*	**Pn**	**04 54 44.7**	**+1.7**
CBOC	**Ciudad Bolivar**	**5.22**	**215**	*eP*	**Pn**	**04 54 47.0**	**+1.8**
CBOC				*eS*	**Sn**	**04 55 41.1**	**-3.5**
CBOC				*i*		04 55 49.6	
	comp=Z,2.5nm,0.2s						
BENV	**Beln**	**5.31**	**92**	*eP*	**Pn**	**04 54 50.1**	**+3.9**
BENV				*eS*	**Sn**	**04 55 41.9**	**-4.5**
TACV	**Tcata**	**5.87**	**90**	*eP*	**Pn**	**04 54 57.0**	**+3.3**

IDC 12 05:00:16.3±0.9, 54°89N×159°33W, h0km, mb4.0/21, mbtmp4.0/24, ML3.5/3, MS3.4/9, Error ellipse: s-maj=22.7km s-min=12.4km az=172.0
AEIC 12 05:00:21.6±1.9, 54°81N±0°06×159°18W±0°05, h14km±5km, Error ellipse: s-maj=9.3km s-min=4.0km az=166.0
NEIC 12 05:00:21.4±1.6, 54°85N±0°07×159°20W±0°08, h23km±7km, mb4.1/19, ML4.0/26, ML3.9(AEIC), Error ellipse: s-maj=10.4km s-min=5.6km az=159.0

ISC 12 05:00:20.2±0.9, 54°83N±0°05×159°13W±0°04, h27km±6km, n201, σ1s40/183, mb4.2/29, MS3.4/5, South of Alaska

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	ISC
CHNA	**Chernabura Isl**	**0.27**	**270**	P	**Pb**	**05 00 26.8**	**-0.2**
	baz=87						
CHNA				S	**Sb**	**05 00 31.6**	**+0.1**
	baz=87						
CNBA	**Chernabura Isl**	**0.27**	**268**		**Pb**	**05 00 26.8**	**-0.2**
CNBA					**Sb**	**05 00 31.6**	**+0.1**
CNBA	**Chernabura Isl**	**0.27**	**268**	IAML		05 00 31.8	
	comp=E,21μm,0.4s						
CNBA				IAML		05 00 31.8	
	comp=N,47μm,0.6s						
SDPT	**Sand Point**	**0.93**	**304**		**Pb**	**05 00 37.4**	**-0.4**
SDPT					**Sn**	**05 00 50.5**	**+0.6**
SDPT	**Sand Point**	**0.93**	**304**	IAML		05 00 53.9	
	comp=N,5μm,0.7s						
SDPT	**Sand Point**	**0.93**	**304**	P	**Pb**	**05 00 37.6**	**-0.2**
SDPT	**Sand Point**	**0.93**	**304**	P	**Pb**	**05 00 37.4**	**-0.4**
	baz=124						
SDPT				S	**Sn**	**05 00 50.5**	**+0.6**
	baz=124						
VNKR	**Veniaminof 5**	**1.21**	**354**		**Pn**	**05 00 42.1**	**+0.7**
VNKR					**Sb**	**05 00 58.4**	**+0.5**
VNSG	**Veniaminof 6**	**1.30**	**1**		**Pn**	**05 00 43.4**	**+0.8**
VNWF	**Veniaminof 8**	**1.35**	**350**		**Pn**	**05 00 44.5**	**+1.2**
VNSS	**Veniaminof 8**	**1.41**	**353**		**Pb**	**05 00 46.0**	**-0.1**
S14K	**Fog Glacier**	**1.48**	**351**	P	**Pb**	**05 00 47.2**	**+0.1**
	baz=172						
S14K				S	**Sb**	**05 01 05.5**	**+0.1**
	baz=172						
VNFG	**Fog Glacier, M**	**1.48**	**351**		**Pn**	**05 00 46.5**	**+1.3**
VNFG					**Sb**	**05 01 05.5**	**0.0**
CHGN	**Chignik**	**1.53**	**15**		**Pn**	**05 00 47.1**	**+1.4**
CHGN	**Chignik**	**1.53**	**15**	IAML		05 01 11.1	
	comp=E,2μm,0.6s						
CHGN				IAML		05 01 12.5	
	comp=N,1μm,0.7s						
CHGN	**Chignik**	**1.53**	**15**	P	**Pn**	**05 00 47.1**	**+1.4**
	baz=197						
PS1A	**Pavlof South-1**	**1.61**	**293**		**Pn**	**05 00 47.7**	**+0.8**
PS1A					**Sb**	**05 01 09.1**	**-0.2**
PVV	**Pavlof Volcano**	**1.62**	**291**		**Pn**	**05 00 47.8**	**+0.8**
PN7A	**Pavlof North-7**	**1.75**	**291**		**Pn**	**05 00 50.1**	**+1.2**
DT1	**Dutton Round H**	**1.84**	**280**		**Pn**	**05 00 50.2**	**+0.2**
AZAC	**Aniakchak**	**2.13**	**13**		**Pn**	**05 00 55.7**	**+1.6**
ANNE	**Aniakchak Nort**	**2.17**	**16**		**Pn**	**05 00 56.0**	**+1.4**
CHIR	**Chirikof Islan**	**2.24**	**62**	Pn	**Pn**	**05 00 57.5**	**+2.1**
CHIR				IAML		05 01 36.5	
	comp=E,755nm,0.7s						
CHIR				IAML		05 01 43.7	
	comp=N,775nm,1.2s						
FALS	**False Pass**	**2.48**	**272**		**Pn**	**05 00 59.7**	**+0.9**
FALS					**Sb**	**05 01 31.4**	**-2.7**
FALS	**False Pass**	**2.48**	**272**	P	**Pn**	**05 01 00.5**	**+1.7**
FALS	**False Pass**	**2.48**	**272**	P	**Pn**	**05 01 00.5**	**+1.7**
	baz=89						
ISLZ	**Isanotski Laza**	**2.66**	**270**		**Pn**	**05 01 02.2**	**+1.0**
ISNN	**Isanotski Nort**	**2.69**	**272**		**Pn**	**05 01 03.4**	**+1.7**
SSLS	**Shishaldin Sou**	**2.82**	**270**		**Pn**	**05 01 04.9**	**+1.3**
P17K	**Ugashik Creek**	**3.21**	**27**		**Pn**	**05 01 10.8**	**+2.0**
SII	**Sitkinak Islan**	**3.29**	**56**	Pn	**Pn**	**05 01 13.6**	**+3.6**
SII				IAML		05 02 09.7	
	comp=N,400nm,0.9s						
SII				IAML		05 02 18.7	
	comp=E,424nm,1.2s						
SII	**Sitkinak Islan**	**3.29**	**56**	P	**Pn**	**05 01 11.6**	**+1.6**
WECS	**Westdahl Cape**	**3.29**	**267**		**Pn**	**05 01 11.4**	**+1.4**
AKSA	**Akutan Strait**	**3.89**	**262**		**Pn**	**05 01 20.1**	**+1.8**
AKUT	**Akutan**	**3.94**	**263**	Pn	**Pn**	**05 01 20.6**	**+1.8**
AKUT				IAML		05 02 23.2	
	comp=E,205nm,1.6s						
AKUT				IAML		05 02 35.5	
	comp=N,201nm,1.7s						
ZRO	**Akutan Zero**	**4.07**	**262**		**Pn**	**05 01 21.9**	**+1.3**
P16K	**Nushagak River**	**4.26**	**8**		**Pn**	**05 01 24.1**	**+1.0**
O15K	**Ungalikthiuk R**	**4.38**	**355**		**Pn**	**05 01 25.7**	**+0.9**
O15K	**Ungalikthiuk R**	**4.38**	**355**	P	**Pn**	**05 01 26.6**	**+1.7**
	baz=175						
UNV	**Unalaska Valle**	**4.43**	**260**		**Pn**	**05 01 25.9**	**+0.4**
**U

O16K	**Kokwok River B**	4.81	6	P		Pn	05 01 33.4	+2.6
	baz=188							
Q19K	**Cape Douglas,**	5.09	34	Pn		Pn	05 01 36.4	+1.7
N14K	**Kuskokwak Cree**	5.29	346	P		Pn	05 01 38.5	+1.2
	baz=164							
N15K	**Kwethluk River**	5.38	355			Pn	05 01 39.5	+0.9
N15K	**Kwethluk River**	5.38	355	IAML			05 03 30.7	
	comp=N,83nm,2.3s							
O18K	**Koktuh Hills**	5.47	21			Pn	05 01 41.6	+1.8
O18K	**Koktuh Hills**	5.47	21	P		Pn	05 01 41.6	+1.8
	baz=205							
N16K	**Nishlik Lake**	5.66	2			Pn	05 01 43.6	+1.1
N17K	**Nushagak Hills**	5.81	10			Pn	05 01 47.2	+2.7
M15K	**Kasigluk River**	5.94	353			Pn	05 01 47.3	+1.0
O19K	**Port Alsworth**	5.97	24			Pn	05 01 48.6	+2.0
M13K	**Dall Lake**	6.04	340			Pn	05 01 49.0	+1.4
N18K	**Kilae Creek**	6.12	15			Pn	05 01 51.3	+2.5
M14K	**Bethel**	6.13	347	Pn		Pn	05 01 50.0	+1.2
M14K	**Bethel**	6.13	347	P		Pn	05 01 49.8	+1.0
	baz=165							
M16K	**Timber Creek**	6.21	1			Pn	05 01 51.3	+1.2
CNPM	**China Poot**	6.37	39	Pn		Pn	05 01 54.9	+2.8
N19K	**Bonanza Creek**	6.49	21			Pn	05 01 54.5	+0.6
SVW2	**Sparrevohn**	6.56	15	Pn		Pn	05 01 56.2	+1.4
SVW2	**Sparrevohn**	6.56	15	P		Pn	05 01 56.4	+1.6
RSO	**Redoubt South**	6.60	29	Pn		Pn	05 01 57.3	+1.8
M17K	**Holitna River**	6.65	7			Pn	05 01 56.8	+0.8
BRLK	**Bradley Lake**	6.66	39	Pn		Pn	05 01 56.5	+0.2
M11K	**Mekoryuk**	6.74	329			Pn	05 01 57.5	+0.3
RDT	**Redoubt**	6.79	29			Pn	05 01 58.7	+0.7
L14K	**Kuka Creek**	6.80	345			Pn	05 01 58.5	+0.5
L16K	**Owhat River**	6.90	359			Pn	05 02 00.0	+0.5
M18K	**Stony River**	6.90	13			Pn	05 01 59.9	+0.4
L15K	**Ungalak Mounta**	6.98	351			Pn	05 02 00.4	-0.1
L17K	**Donlin**	7.34	3			Pn	05 02 06.0	+0.5
L18K	**Granite Mounta**	7.52	9			Pn	05 02 08.2	+0.3
K15K	**Wolf Creek Mou**	7.59	351			Pn	05 02 10.5	+1.6
K13K	**Kusilvak Mount**	7.69	340			Pn	05 02 11.5	+1.2
L19K	**White Mountain**	7.70	15			Pn	05 02 11.5	+1.0
M20K	**Styx River**	7.74	22			Pn	05 02 12.7	+1.7
K17K	**Iditarod**	7.92	3			Pn	05 02 13.6	+0.1
SUA	**Susitna One**	7.99	30	Pn		Pn	05 02 15.4	+1.0
SKT	**Skwentna**	8.20	26	Pn		Pn	05 02 19.4	+2.1
J14K	**Nanvaranak Lak**	8.27	346			Pn	05 02 18.9	+0.8
TTA	**Tatalina**	8.28	10			Pn	05 02 20.2	+1.8
TTA	**Tatalina**	8.28	10	P		Pn	05 02 19.8	+1.3
J16K	**Anvik River**	8.52	355			Pn	05 02 22.4	+0.8
J17K	**VABM Dome**	8.59	0			Pn	05 02 22.6	-0.1
KNK	**Knik Glacier**	8.68	36	Pn		Pn	05 02 24.8	+1.0
J18K	**Innoko River**	8.75	7			Pn	05 02 25.3	+0.5
GHO	**Glory Hole Cre**	8.78	33	Pn		Pn	05 02 26.8	+1.4
K20K	**Telida**	8.94	15			Pn	05 02 29.6	+2.2
FID	**Port Fidalgo**	8.98	44			Pn	05 02 27.1	-0.9
SML	**Sawmill**	9.00	35	Pn		Pn	05 02 29.0	+0.7
I17K	**Unalakleet**	9.12	356	Pn		Pn	05 02 30.5	+0.7
EYAK	**Cordova Ski Ar**	9.16	46	P		Pn	05 02 30.7	+0.2
CAST	**Castle Rocks**	9.34	20			Pn	05 02 34.3	+1.5
SCM	**Sheep Creek Mo**	9.36	37			Pn	05 02 33.5	+0.3
KLU	**Klutina**	9.64	41			Pn	05 02 37.7	+0.5
KTH	**Kantishna Hill**	9.70	22	Pn		Pn	05 02 39.4	+1.6
TRF	**Thorofare Moun**	9.75	24	Pn		Pn	05 02 38.5	-0.2
M24K	**Tolsona, Glenn**	9.95	38	Pn		Pn	05 02 42.2	+1.0
H17K	**Granite Mounta**	10.15	358			Pn	05 02 45.1	+1.1
BPAW	**Bear Paw Mtn.**	10.17	21	Pn		Pn	05 02 48.1	+3.9
N25K	**Chitina, Valde**	10.22	43	Pn		Pn	05 02 47.0	+2.0
ANM	**Nome**	10.26	345	Pn		Pn	05 02 46.5	+1.1
H18K	**Honhosa River**	10.36	2	Pn		Pn	05 02 47.3	+0.4
CRQM	**Cirque**	10.38	49	Pn		Pn	05 02 48.6	+1.3
GLB	**Gilahina Butte**	10.44	44	Pn		Pn	05 02 49.8	+1.8
VRDI	**Verde Repeater**	10.48	46	Pn		Pn	05 02 49.0	+0.3
G16K	**Koyuk River**	10.72	353	Pn		Pn	05 02 53.7	+2.0
GRNC	**Granite Creek**	10.98	50			Pn	05 02 56.0	+0.5
MLY	**Manley**	11.05	19	Pn		Pn	05 02 58.8	+2.5
G18K	**Tagagawik**	11.11	1	Pn		Pn	05 02 58.8	+1.7
TABL	**Table Mountain**	11.14	52	Pn		Pn	05 02 59.4	+1.7
F15K	**North Star Dit**	11.25	348	Pn		Pn	05 03 04.5	+1.9
H21K	**Melozitna Rive**	11.30	13			Pn	05 03 00.7	+1.0
M26K	**Nabesna, AK**	11.30	41	Pn		Pn	05 03 00.8	+1.1
LOGN	**Logan Glacier**	11.35	51	Pn		Pn	05 03 04.1	+3.5
G19K	**Purcell Mounta**	11.40	4	Pn		Pn	05 03 03.0	+2.1
I23K	**Minto, Yukon-K**	11.43	21			Pn	05 03 00.1	-1.3
IMAR	**Indian Mountai**	11.50	11	Pn		Pn	05 03 04.2	+1.9
RIDG	**Independent Ri**	11.51	33			Pn	05 03 03.1	+0.6
IL31		11.69	27	Pn		Pn	05 03 02.5	-2.5
ILAR	**Eielson Array**	11.69	27	Pn		Pn	05 03 02.6	-2.4
ILAR	**Eielson Array**	11.69	27	Pn		Pn	05 03 02.0	-3.1
	comp=N,0.2nm,0.3s,baz=217,slow=13,SNR=33							
ILAR				Sn		Sn	05 05 05.7	-8.8
	baz=322,slow=33							
ILAR				LR		LR	05 07 50.8	
	comp=N,79nm,20.4s,baz=236,slow=39							
PNL	**Peninsula**	11.71	58	P		Pn	05 03 07.2	+1.8
SCRK	**Sand Creek**	11.95	34	Pn		Pn	05 03 08.7	+0.1
RDOG	**Red Dog Mine**	13.39	354			Pn	05 03 32.1	+4.0
EGAK	**Eagle**	13.40	35	Pn		Pn	05 03 27.3	-1.0
DAWY	**Dawson**	13.59	39	Pn		Pn	05 03 31.6	+0.7
TOLK	**Toolik Lake Re**	14.55	14	Pn		Pn	05 03 46.3	+2.3
J30M	**Hart River**	14.99	40	IAmb		IAmb	05 04 13.6	
	comp=Z,5.3nm,0.8s							
P33M	**Teslin, Yukon**	15.06	58	Pn		P	05 03 55.5	-0.6
P33M				IAmb		IAmb	05 03 59.8	
	comp=Z,8.4nm,0.8s							
D24K	**Happy Valley**	15.13	14	IAmb		IAmb	05 04 13.7	
	comp=Z,15nm,1.5s							
H29M	**Whitestone**	15.22	33	IAmb		IAmb	05 04 00.1	
	comp=Z,11nm,0.7s							
FARO	**Faro, Yukon**	15.28	51	P		P	05 03 58.9	+0.4
FARO				IAmb		IAmb	05 04 02.9	
	comp=Z,9.0nm,1.1s							
I30M	**Mount Dempster**	15.31	38	IAmb		IAmb	05 04 23.0	
	comp=Z,9.3nm,0.8s							
C23K	**Itkillik River**	15.54	11	IAmb		IAmb	05 04 02.3	
	comp=Z,19nm,0.8s							
G29M	**Pine Creek**	15.76	32	IAmb		IAmb	05 04 06.2	
	comp=Z,21nm,1.2s							
B22K	**Teshekpuk Lake**	15.78	7	IAmb		IAmb	05 04 07.0	
	comp=Z,8.8nm,0.8s							
SHEM	**Shemya Is, Ala**	15.93	273	LR		LR	05 10 44.4	
	comp=Z,81nm,18.7s,baz=349,slow=40							
DLBC	**Dease Lake**	16.34	65	Pn		Pn	05 04 07.8	+0.3
	baz=238,slow=15,SNR=1.3							
	comp=Z,0.7nm,0.6s							
G30M	**tAoh Zraii Nji**	16.36	33	IAmb		IAmb	05 04 13.5	
	comp=Z,12nm,0.9s							
G31M	**Satah River**	16.96	35	Pn		Pn	05 04 14.6	-0.5
INK	**Inuvik**	17.98	31	Pn		Pn	05 04 27.6	-0.3
INK	**Inuvik**	17.98	31	P		Pn	05 04 27.0	-0.8
	comp=Z,0.5nm,0.3s,baz=232,slow=9.7,SNR=21							
INK				LR		LR	05 11 26.4	
	comp=Z,88nm,18.2s,baz=318,slow=37							
	comp=Z,3.6nm,0.6s							
BBB	**Bella Bella**	18.56	85	LR		LR	05 10 32.7	
	comp=Z,85nm,20.3s,baz=258,slow=33							
C36M	**Paulatuk**	21.47	34	P		P	05 05 06.2	+0.1
A36M	**Sachs Harbour**	22.39	27	P		P	05 05 14.7	-1.3
A36M				IAmb		IAmb	05 05 20.2	
	comp=Z,7.4nm,0.8s							
YKA	**Yellowknife Ar**	23.95	53	P		P	05 05 32.0	+0.3
	comp=Z,0.8nm,0.7s,baz=273,slow=9.8,SNR=14							
	comp=Z,0.8nm,0.7s							
PETK	**Petropavlovsk-**	25.16	284	P		P	05 05 40.2	-2.7
	comp=Z,3.9nm,0.8s,baz=46,slow=11,SNR=5.6							
	comp=Z,3.9nm,0.8s							
NEW	**Newport**	26.61	87	LR		LR	05 14 35.2	
	comp=Z,92nm,18.4s,baz=16,slow=32							
YBH	**Yreka Blue Hor**	27.20	104	LR		LR	05 13 49.1	
	comp=Z,88nm,19.0s,baz=30,slow=30							
NVAR	**Mina Array Bea**	31.93	104	P		P	05 06 43.8	+0.2
	comp=Z,0.3nm,0.8s,baz=314,slow=9.7,SNR=2.3							
	comp=Z,0.3nm,0.8s							
ELK	**Elko**	32.10	98	LR		LR	05 17 49.9	
	comp=Z,64nm,18.9s,baz=338,slow=33							
TIXI	**Tiksi**	33.88	327	P		P	05 06 59.0	-0.9
TIXI	**Tiksi**	33.88	327	P		P	05 06 58.2	-1.8
	comp=Z,0.1nm,0.6s,baz=98,slow=6.5,SNR=9.4							
PDAR	**Pinedale Array**	34.09	90	P		P	05 07 02.6	+0.1
	comp=Z,0.2nm,0.6s,baz=313,slow=5.7,SNR=1.6							
	comp=Z,0.2nm,0.6s							
NEEM	**North Greenlan**	40.83	19	*i* P		P	05 07 58.4	-0.7
NEEM				IAmb		IAmb	05 08 00.1	
	comp=Z,3.9nm,0.7s							
NOR	**Nord**	42.33	8	*i* P		P	05 08 09.6	-1.4
NOR				IAmb		IAmb	05 08 12.1	
	comp=Z,2.0nm,0.8s							
H11N2	**WAKE ISLAND Hy**	43.47	230	T		T	05 54 33.7	
	baz=28,slow=76							
H11N3	**WAKE ISLAND Hy**	43.48	230	T		T	05 54 39.2	
	baz=28,slow=76							
H11N1	**WAKE ISLAND Hy**	43.49	230	T		T	05 54 45.3	
	baz=28,slow=76							
H11S1	**WAKE ISLAND Hy**	44.63	229	T		T	05 55 57.5	
	baz=28,slow=76,SNR=19							
H11S2	**WAKE ISLAND Hy**	44.65	229	T		T	05 55 58.7	
	baz=28,slow=76,SNR=20							
H11S3	**WAKE ISLAND Hy**	44.65	229	T		T	05 55 59.7	
	baz=28,slow=76,SNR=11							
MJAR	**Matsushiro Arr**	45.77	273	P		P	05 08 38.5	-0.7
	comp=Z,1.2nm,0.4s,baz=39,slow=7.9,SNR=1.6							
	comp=Z,1.2nm,0.4s							
DAG	**Danmarks Havn**	46.30	12	*i* P		P	05 08 42.0	-0.8
DAG				IAmb		IAmb	05 08 43.6	
	comp=Z,7.9nm,0.7s							
SUMG	**Summit**	46.47	21	*i* P		P	05 08 45.0	+0.4
SUMG				IAmb		IAmb	05 08 47.5	
	comp=Z,3.2nm,0.9s							
TXAR	**Lajitas Array**	46.84	100	P		P	05 08 49.9	+2.1
	comp=Z,0.2nm,0.5s,baz=292,slow=6.2,SNR=6.1							
	comp=Z,0.2nm,0.5s							
SFJD	**Kangerlussuaq**	47.33	30	*i* P		P	05 08 51.4	+0.5
SFJD				IAmb		IAmb	05 08 53.4	
	comp=Z,6.3nm,1.0s							
P43A	**Skaggs, Pawnee**	47.63	78	P		P	05 08 56.2	+2.6
DBG	**Daneborg**	48.23	14	*i* P		P	05 08 56.5	-1.3
DBG				IAmb		IAmb	05 08 58.7	
	comp=Z,4.1nm,0.7s							
KSRS	**Korea Array**	51.03	282	P		P	05 09 19.9	+0.3
	comp=Z,2.3nm,0.7s,baz=44,slow=6.9,SNR=5.1							
	comp=Z,2.3nm,0.7s							
SONM	**Songino Array**	55.09	305	P		P	05 09 49.7	+0.1
	comp=Z,2.1nm,0.6s,baz=42,slow=7.0,SNR=12							
SONM				PcP		PcP	05 10 52.0	+1.3
	comp=Z,0.8nm,0.6s,baz=29,slow=2.2,SNR=4.0							
	comp=Z,2.1nm,0.6s							
ARCES	**ARCESS Array B**	55.90	358	P		P	05 09 55.5	+0.6
	comp=Z,2.4nm,0.8s,baz=24,slow=7.1,SNR=8.4							
	comp=Z,2.4nm,0.8s							
ZALV	**Zalesovo Beam**	59.49	322	P		P	05 10 20.4	0.0
	comp=Z,1.3nm,0.6s,baz=29,slow=6.3,SNR=5.9							
	comp=Z,1.3nm,0.6s							
FINES	**FINESS Array B**	64.00	357	P		P	05 10 50.6	0.0
	comp=Z,2.5nm,0.6s,baz=13,slow=7.0,SNR=11							
	comp=Z,2.5nm,0.6s							
NOA	**NORSAR Array B**	64.22	5	P		P	05 10 51.3	-0.8
	comp=Z,0.8nm,0.7s,baz=350,slow=6.5,SNR=2.9							
	comp=Z,0.8nm,0.7s							
KURBB	**Kurchatov Arra**	64.43	323	P		P	05 10 53.4	-0.2
	comp=Z,0.4nm,0.2s,baz=40,slow=5.9,SNR=4.2							
	comp=Z,0.4nm,0.2s							
KIRV	**Kirov**	64.62	344	LR		LR	05 42 33.4	
	comp=Z,30nm,18.1s,baz=332,slow=39							
BVAR	**Borovoye Array**	64.97	330	P		P	05 10 55.0	-2.0
	comp=Z,1.8nm,0.6s,baz=32,slow=9.6,SNR=7.8							
	comp=Z,1.8nm,0.6s							
HFS	**Hagfors**	65.24	4	P		P	05 10 58.1	-0.6
	comp=Z,3.0nm,0.7s,baz=14,slow=8.9,SNR=4.1							
	comp=Z,3.0nm,0.7s							
MKAR	**Makanchi Array**	66.27	319	P		P	05 11 05.1	-0.5
	comp=Z,0.9nm,0.7s,baz=44,slow=7.4,SNR=9.5							
	comp=Z,0.9nm,0.7s							
EKA	**Eskdalemuir Ar**	68.44	14	P		P	05 11 20.0	+0.9
	comp=Z,0.7nm,0.6s,baz=326,slow=5.5,SNR=5.2							
	comp=Z,0.7nm,0.6s							
AAK	**Ala-Archa**	72.71	322	LR		LR	05 46 37.6	
	comp=Z,42nm,18.9s,baz=40,slow=38							
CLL	**Collm**	74.03	5	*e*P		P	05 11 52.0	-1.0
AKASG	**Malin Array Be**	74.61	355	P		P	05 11 56.2	-0.2
	comp=Z,2.4nm,0.5s,baz=6.3,slow=5.7,SNR=10							
	comp=Z,2.4nm,0.5s							
KBZ	**Khabaz**	80.04	344	P		P	05 12 26.9	+0.1
	comp=Z,1.2nm,0.8s,baz=329,slow=5.9,SNR=2.3							
	comp=Z,1.2nm,0.8s							
CMAR	**Chiang Mai Arr**	81.77	290	P		P	05 12 36.2	-0.3
	comp=Z,1.1nm,0.3s,baz=13,slow=5.9,SNR=7.0							
	comp=Z,1.1nm,0.3s							
ESDC	**Sonseca Array**	83.49	19	P		P	05 12 46.5	+1.2
	comp=Z,1.9nm,0.7s,baz=341,slow=4.7,SNR=10							
	comp=Z,1.9nm,0.7s							
H03N2	**Juan Fernandez**	111.41	118	T		T	07 19 47.1	
	baz=324,slow=78,SNR=8.1							
H03N1	**Juan Fernandez**	111.42	118	T		T	07 19 47.1	
	baz=324,slow=78,SNR=9.2							
H03N3	**Juan Fernandez**	111.42	118	T		T	07 19 48.0	
	baz=324,slow=78,SNR=8.2							
QSPA	**South Pole Qui**	144.61	180	PKP		PKPab	05 19 51.4	+0.1
	comp=Z,1.3nm,0.8s,baz=64,slow=2.4,SNR=3.0							

IDC **12** *05:01:01.9±1.1,22.˝78S×170.˝73E,h0km,mb3.8/6, mbtmp3.8/7,ML3.4/1,MS3.2/6,Error ellipse: s-maj=40.7km s-min=26.3km az=162.0*

ISC 12 05:01:06.3±1.0,22.˝8S±0.˝2×170.˝7E±0.˝1,h28km,n13, σ0s44/10,mb3.9/6,MS3.0/4,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	3.98	279	Pn	Pn	05 02 05.7	+0.3
	2.3nm,0.3s,baz=90,slow=18,SNR=18						
DZM				Sn	Sn	05 02 51.2	-0.1
	4.5nm,0.3s,baz=235,slow=15,SNR=4.1						
DZM				LR	LR	05 02 57.7	
	comp=Z,54nm,20.6s,baz=190,slow=29						
	18nm,0.7s						
URZ	**Urewera**	16.41	162	LR	LR	05 09 43.8	
	comp=Z,128nm,19.9s,baz=38,slow=32						
RPZ	**Rata Peaks**	20.91	179	LR	LR	05 12 09.3	
	comp=Z,85nm,21.3s,baz=356,slow=32						
CTA	**Charters Tower**	22.89	272	LR	LR	05 13 52.9	
	comp=Z,48nm,19.4s,baz=84,slow=34						
STKA	**Stephens Creek**	27.32	244	P	P	05 06 48.4	-0.4
	2.1nm,0.8s,baz=85,slow=10.0,SNR=1.7						
STKA				LR	LR	05 17 08.0	
	comp=Z,29nm,18.2s,baz=32,slow=35						
	2.1nm,0.8s						
ASAR	**Alice Springs**	33.75	261	P	P	05 07 46.0	+0.3
	0.8nm,0.8s,baz=90,slow=9.5,SNR=10						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	33.91	268	P	P	05 07 46.4	-0.7
	0.3nm,0.8s,baz=100,slow=8.4,SNR=2.9						
	0.3nm,0.8s						
VNDA	**Vanda**	54.99	182	LR	LR	05 30 08.7	
	comp=Z,70nm,18.7s,baz=50,slow=32						
QSPA	**South Pole Qui**	67.32	180	P	P	05 11 58.7	+0.2
	1.6nm,1.0s,baz=26,slow=5.6,SNR=2.3						
	1.6nm,1.0s						
NVAR	**Mina Array Bea**	90.13	48	P	P	05 14 04.0	-0.2
	0.5nm,0.6s,baz=231,slow=5.7,SNR=6.0						
	0.5nm,0.6s						
SONM	**Songino Array**	90.82	323	P	P	05 14 07.5	+0.5
	0.7nm,0.9s,baz=132,slow=6.4,SNR=2.9						
	0.7nm,0.9s						
EKA	**Eskdalemuir Ar**	147.14	354	PKPbc	PKPbc	05 20 46.0	-0.4
	1.8nm,0.6s,baz=359,slow=2.8,SNR=8.8						
GERES	**GERESS Array B**	148.20	331	PKPbc	PKPbc	05 20 49.6	0.0
	1.1nm,0.8s,baz=48,slow=1.5,SNR=2.4						

IDC **12** *05:02:39.4±1.4,54.˝82N×159.˝40W,h0km,mb3.8/10, mbtmp3.8/13,ML3.4/3,Error ellipse: s-maj=31.5km s-min=21.4km az=164.0*

AEIC **12** *05:02:43.6±1.3,54.˝73N±0.˝05×159.˝10W±0.˝07,h12km±6km, Error ellipse: s-maj=8.0km s-min=5.4km az=172.0*

NEIC **12** *05:02:44.5±1.2,54.˝83N±0.˝04×159.˝21W±0.˝06,h23km±8km, mb4.1/5,ML3.8/24,ML3.6(AEIC),Error ellipse: s-maj=5.7km s-min=4.2km az=212.0*

ISC 12 05:02:43.5±1.0,54.˝78N±0.˝06×159.˝14W±0.˝04,h28km±7km, n73,σ1s19/76,mb4.0/10,South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNBA	**Chernabura Isl**	0.26	278		Pb	05 02 50.0	-0.2
CNBA					Sb	05 02 54.7	-0.1
CNBA	**Chernabura Isl**	0.26	278	IAML		05 02 55.0	
	comp=N,19μm,0.4s						
CNBA				IAML		05 02 55.1	
	comp=E,12μm,0.3s						
CHNA	**Chernabura Isl**	0.26	280	P	Pb	05 02 50.0	-0.2
	baz=109						
CHNA				S	Sb	05 02 54.7	-0.2
	baz=109						
SDPT	**Sand Point**	0.95	307	Pn	Pn	05 03 00.7	-0.3
SDPT	**Sand Point**	0.95	307		Sn	05 03 14.2	+0.6
SDPT	**Sand Point**	0.95	307	P	Pn	05 03 00.6	-0.4
	baz=128						
SDPT				S	Sn	05 03 14.2	+0.6
	baz=128						
VNKR	**Veniaminof 5**	1.26	354		Pn	05 03 05.3	+0.1
VNKR					Sn	05 03 22.0	+0.8
VNSG	**Veniaminof 6**	1.34	1		Pn	05 03 06.7	+0.3
VNWF	**Veniaminof 8**	1.39	350		Pn	05 03 07.8	+0.6
VNSS	**Veniaminof 8**	1.46	353		Pn	05 03 09.2	+1.1
S14K	**Fog Glacier**	1.52	351	P	Pn	05 03 10.1	+1.2
	baz=171						
S14K				S	Sb	05 03 30.0	0.0
	baz=171						
VNFG	**Fog Glacier, M**	1.52	351		Pn	05 03 10.1	+1.2
VNFG					Sb	05 03 30.0	0.0
CHGN	**Chignik**	1.58	15		Pn	05 03 09.4	-0.2
CHGN	**Chignik**	1.58	15	IAML		05 03 32.4	
	comp=N,949nm,0.5s						
CHGN				IAML		05 03 34.2	
	comp=E,1μm,0.5s						
CHGN	**Chignik**	1.58	15	P	Pn	05 03 10.0	+0.5
	baz=194						
PS1A	**Pavlof South-1**	1.62	294		Pn	05 03 10.9	+0.7
PS1A					Sb	05 03 31.9	-0.9
PVV	**Pavlof Volcano**	1.63	292		Pn	05 03 10.9	+0.6
PN7A	**Pavlof North-7**	1.77	293		Pn	05 03 13.3	+1.1
PN7A					Sb	05 03 36.6	-0.3
DT1	**Dutton Round H**	1.84	281		Pn	05 03 13.3	+0.2
AZAC	**Aniakchak**	2.18	13		Pn	05 03 19.0	+1.1
ANNE	**Aniakchak Nort**	2.22	16		Pn	05 03 19.3	+0.8
CHIR	**Chirikof Islan**	2.27	61	Pn	Pn	05 03 19.2	+0.2
CHIR				IAML		05 04 02.8	
	comp=E,406nm,0.8s						
CHIR				IAML		05 04 06.6	
	comp=N,434nm,1.2s						
FALS	**False Pass**	2.48	273		Pn	05 03 22.7	+0.8
FALS					Sb	05 03 54.5	-2.7
FALS	**False Pass**	2.48	273	P	Pn	05 03 22.8	+0.8
	baz=91						
FALS				S	Sb	05 03 54.5	-2.7
	baz=91						
ISLZ	**Isanotski Laza**	2.65	271		Pn	05 03 25.2	+0.8
SSLS	**Shishaldin Sou**	2.82	271		Pn	05 03 27.0	+0.3
R17K	**Ugashik Creek**	3.25	27	Pn	Pn	05 03 33.7	+1.2
WECS	**Westdahl Cape**	3.28	268		Pn	05 03 34.3	+1.3
SII	**Sitkinak Islan**	3.32	56	Pn	Pn	05 03 35.5	+1.9
AKSA	**Akutan Strait**	3.88	263		Pn	05 03 43.3	+2.1
AKUT	**Akutan**	3.92	263	Pn	Pn	05 03 43.2	+1.5
AKUT				IAML		05 04 14.7	
	comp=N,157nm,4.2s						
AKUT				IAML		05 05 36.4	
	comp=E,167nm,3.8s						
OHAK	**Old Harbor**	4.09	51	Pn	Pn	05 03 46.6	+2.4
OHAK				IAML		05 05 08.0	
	comp=N,88nm,2.9s						
OHAK				IAML		05 05 15.1	
	comp=E,91nm,2.9s						
P16K	**Nushagak River**	4.30	8		Pn	05 03 47.6	+0.6
UNV	**Unalaska Vale**	4.41	261		Pn	05 03 49.2	+0.7
O15K	**Ungalikthiuk R**	4.42	355		Pn	05 03 48.9	+0.3
MNAT	**Makushin Natee**	4.50	262		Pn	05 03 50.4	+0.5
O14K	**Tigyukauivet M**	4.63	346		Pn	05 03 51.8	+0.4
KDAK	**Kodiak Island**	4.73	48		Pn	05 03 52.5	-0.4
KDAK	**Kodiak Island**	4.73	48	IAML		05 05 25.5	
	comp=E,86nm,2.5s						
KDAK	**Kodiak Island**	4.73	48	Pn	Pn	05 03 53.4	+0.5
	comp=E,1.2nm,0.3s,baz=265,slow=16,SNR=0.9						
KDAK				Sn	Sn	05 04 41.8	-4.9
	comp=E,0.5nm,0.3s,baz=308,slow=23,SNR=1.2						
	comp=E,9.4nm,0.5s						
N15K	**Kwethluk River**	5.42	355		Pn	05 04 03.5	+1.1

HAZ	Te Kaha	13.44	187	P	P	05 08 40.0	+1.5
RUGZ	Raukumara Rang	13.66	187	P	P	05 08 42.1	+1.1
PUZ	Puketiti	13.71	185	P	P	05 08 42.5	+1.2
URZ	Urewera	14.03	189	P	P	05 08 42.9	-1.7
	5.5nm,0.5s,baz=46,slow=4.0,SNR=5.6						
URZ	Urewera	14.03	189	P	P	05 08 40.9	-3.8
RTZ	Ruatahuna	14.39	189	P	P	05 08 38.1	-10
TMVZ	Te Maari	15.10	193	P	P	05 08 56.0	-0.1
ETVZ	East Tongariro	15.12	193	P	P	05 08 56.3	0.0
OTVZ	Oturere	15.16	193	P	P	05 08 56.0	-0.6
MCHZ	McNeill Hill	15.25	189	P	P	05 08 46.6	-11
WNVZ	Wahianoa	15.33	193	P	P	05 08 56.6	-1.8
BHHZ	Black Hill Sta	15.40	191	P	P	05 08 56.8	-2.3
BFZ	Birch Farm	16.53	190	P	P	05 09 08.0	-2.5
MRZ	Mangatainoka R	16.62	192	P	P	05 09 09.3	-2.2
RPZ	Rata Peaks	20.59	198	P	P	05 09 48.2	+0.2
	8.1nm,1.0s,baz=27,slow=2.3,SNR=1.8						
	8.1nm,1.0s						
STKA	Stephens Creek	34.45	249	P	P	05 11 50.3	+0.9
	2.2nm,0.5s,baz=94,slow=12,SNR=8.5						
	2.2nm,0.5s						
ASAR	Alice Springs	41.86	261	P	P	05 12 50.0	+0.1
	1.4nm,0.6s,baz=98,slow=7.3,SNR=18						
ASAR				PcP	PcP	05 14 33.7	-0.1
	0.3nm,0.4s,baz=90,slow=5.6,SNR=4.4						
ASAR				ScP	ScP	05 17 35.7	+0.9
	0.6nm,0.8s,baz=111,slow=4.1,SNR=3.3						
ASAR				S	S	05 18 29.4	-1.1
	0.3nm,0.6s,baz=103,slow=14,SNR=2.4						
	1.4nm,0.6s						
WRA	Warramunga Arr	42.28	267	P	P	05 12 52.9	-0.3
	3.9nm,0.5s,baz=98,slow=8.2,SNR=63						
WRA				ScP	ScP	05 17 37.3	+0.8
	2.7nm,0.9s,baz=102,slow=3.8,SNR=13						
WRA				S	S	05 18 33.3	-3.2
	1.3nm,1.0s,baz=101,slow=13,SNR=5.6						
	3.9nm,0.5s						
VNDA	Vanda	53.88	185	P	P	05 14 20.0	+1.1
	0.6nm,0.3s,baz=347,slow=7.8,SNR=14						
	0.6nm,0.3s						
QSPA	South Pole Qui	65.69	180	P	P	05 15 38.7	+0.7
	5.2nm,0.6s,baz=341,slow=0.5,SNR=33						
	5.2nm,0.6s						
MAW	Mawson	77.26	200	P	P	05 16 45.9	+0.5
	2.6nm,0.6s,baz=157,slow=5.4,SNR=13						
	2.6nm,0.6s						
PETK	Petropavlovsk-	79.56	347	P	P	05 16 58.3	+0.6
	1.9nm,0.6s,baz=114,slow=5.8,SNR=1.7						
	1.9nm,0.6s						
TROLL	Troll, Antarti	83.84	181	⇑P	P	05 17 19.6	-0.1
	comp=Z,254nm,0.3s						
SNAA	Sanae	84.18	179	⇑P	P	05 17 20.3	-1.0
	comp=Z,21nm,0.4s						
SNAA	Sanae	84.18	179	P	P	05 17 20.7	-0.6
	comp=Z,0.7nm,0.3s,baz=208,slow=9.2,SNR=14						
	comp=Z,0.7nm,0.3s						
VNA3	Neumayer Olymp	84.39	177	⇑P	P	05 17 22.0	-0.3
	comp=Z,7.2nm,0.8s						
VNA2	Neumayer--Watz	84.81	178	⇑P	P	05 17 24.2	-0.1
	comp=Z,4.5nm,0.6s,baz=173,slow=5.0						
VNA1	Neumayer--Stat	85.05	177	⇑P	P	05 17 24.3	-1.1
	comp=Z,12nm,0.9s						
NVAR	Mina Array Bea	85.17	44	P	P	05 17 27.4	+0.5
	comp=Z,0.8nm,0.7s,baz=218,slow=8.1,SNR=7.2						
	comp=Z,0.8nm,0.7s						
CMAR	Chiang Mai Arr	89.61	290	P	P	05 17 49.6	+1.7
	comp=Z,1.2nm,0.3s,baz=142,slow=4.6,SNR=2.8						
	comp=Z,1.2nm,0.3s						
TXAR	Lajitas Array	90.77	58	P	P	05 17 54.4	+1.2
	comp=Z,1.8nm,0.8s,baz=215,slow=6.7,SNR=23						
	comp=Z,1.8nm,0.8s						
ILAR	Eielson Array	92.53	14	P	P	05 17 59.4	-0.9
	comp=Z,0.5nm,0.7s,baz=219,slow=5.1,SNR=8.0						
	comp=Z,0.5nm,0.7s						
PDAR	Pinedale Array	93.11	44	P	P	05 18 03.8	0.0
	comp=Z,0.6nm,0.7s,baz=195,slow=1.8,SNR=5.1						
	comp=Z,0.6nm,0.7s						
BVAR	Borovoye Array	120.75	319	PKP	PKPdf	05 23 37.1	-0.7
	comp=Z,1.4nm,0.4s,baz=112,slow=2.8,SNR=6.5						
SPITS	Spitsbergen Ar	125.60	356	PKP	PKPdf	05 23 44.8	-1.8
	comp=Z,20nm,1.1s,baz=97,slow=6.0,SNR=2.9						
ARU	Arti	127.22	323	PKP	PKPdf	05 23 49.4	-0.7
	comp=Z,4.7nm,0.2s,baz=143,slow=7.0,SNR=4.2						
AKTO	Aktyubinsk	128.59	316	PKP	PKPdf	05 23 52.1	-0.8
	comp=Z,1.4nm,0.7s,baz=126,slow=2.3,SNR=3.8						
ARCES	ARCESS Array B	132.35	348	PKP	PKPdf	05 23 58.7	-0.8
	comp=Z,5.2nm,1.1s,baz=72,slow=1.9,SNR=11						
FINES	FINESS Array B	138.88	341	PKhKP	PKPpre	05 24 03.5	
	comp=Z,2.3nm,0.7s,baz=356,slow=2.5,SNR=8.3						
FINES				PKP	PKPdf	05 24 12.1	+0.3
	comp=Z,9.4nm,1.1s,baz=159,slow=2.4,SNR=7.4						
NB2	NORSAR Subarra	142.55	351	PKP	PKPdf	05 24 14.9	-3.6
	comp=Z,1.4nm,0.9s,baz=14,slow=4.0						
NOA	NORSAR Array B	142.55	351	PKhKP	PKPpre	05 24 15.1	
	comp=Z,1.8nm,0.8s,baz=11,slow=2.3,SNR=5.2						
HFS	Hagfors	143.01	349	PKP	PKPab	05 24 16.4	-0.2
	comp=Z,8.1nm,0.4s,baz=64,slow=3.4,SNR=78						
AKASG	Malin Array Be	145.33	327	PKPbc	PKPdf	05 24 24.0	+0.5
	comp=Z,3.2nm,0.6s,baz=44,slow=4.0,SNR=15						
BRTR	Keskin Array B	147.80	307	PKPbc	PKPbc	05 24 31.9	0.0
	comp=Z,1.6nm,0.6s,baz=140,slow=3.6,SNR=4.4						
MMAI	Mount Meron Ar	147.81	294	PKPbc	PKPbc	05 24 32.5	+0.4
	comp=Z,3.3nm,0.4s,baz=73,slow=5.6,SNR=6.8						
EKA	Eskdalemuir Ar	149.01	3	PKPbc	PKPbc	05 24 33.8	-0.5
	comp=Z,1.1nm,0.4s,baz=349,slow=2.9,SNR=22						
TORD	Torodi Ar. Bea	168.69	189	PKP	PKPdf	05 24 52.5	-0.8
	comp=Z,0.7nm,1.0s,baz=14,slow=2.4,SNR=4.0						
TORD				PKPab	PKPab	05 26 06.3	-0.4
	comp=Z,1.2nm,0.8s,baz=175,slow=2.2,SNR=5.6						

IDC 12 05:18:57.9±2.9, 54°45N×86°83E, h0km, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=23.3km s-min=16.2km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.28	248	I	I	05 26 06.3	
	0.1nm,0.7s,baz=71,slow=344,SNR=18						
ZALV	Zalesovo Beam	1.28	248	Pg	Pg	05 19 21.2	-1.2
	1.0nm,0.3s,baz=66,slow=15,SNR=19						
ZALV				Lg	Lg	05 19 38.8	
	1.5nm,0.3s,baz=61,slow=27,SNR=11						
KURBB	Kurchatov Arra	6.35	236	Pn	Pn	05 20 33.6	+1.0
	0.1nm,0.3s,baz=55,slow=14,SNR=7.0						
KURBB				Sn	Sn	05 21 45.0	-0.8
	baz=41,slow=30,SNR=1.1						
KURBB				Lg	Lg	05 22 19.3	
	baz=46,slow=31,SNR=1.5						
	1.1nm,0.5s						
MKAR	Makanchi Array	8.19	202	Pn	Pn	05 20 58.6	+0.7
	0.1nm,0.3s,baz=25,slow=15,SNR=6.0						
MKAR				Sn	Sn	05 22 32.6	+1.4
	0.1nm,0.3s,baz=26,slow=30,SNR=2.9						
MKAR				Lg	Lg	05 23 16.8	
	0.1nm,0.3s,baz=24,slow=28,SNR=5.4						
	0.4nm,0.5s						

VIE 12 05:39:54.8±0.2, 48°.20N×8°.95E, h6km±1km, mb2.2/5, ml2.4/8, Error ellipse: s-maj=2.2km s-min=0.9km az=37.0
8 km SSW of Onstmettingen
STR 12 05:39:54.9±0.5, 48°N±2°×±°, h6km, MLv2.3/7, Error ellipse: s-maj=0.0km s-min=0.0km az=77.5, preliminary
LDG 12 05:39:54.9±0.1, 48°.20N×8°.99E, h8km, Ml2.6/9, Error ellipse: s-maj=1.4km s-min=1.2km az=114.0
ZUR 12 05:39:54.2, 48°.20N×8°.98E, h6km±1km, MLh2.4/28, Error ellipse: s-maj=2909.5km s-min=1013.4km az=48.0
BGR 12 05:39:55.4±0.3, 48°.20N×8°.95E, h10km, ML2.1/6, Error ellipse: s-maj=2.2km s-min=1.1km az=10.0
BUG 12 05:39:55.0±0.4, 48°.21N×8°.97E, h1km±2km, MD2.2/8, ML2.7/6

ISC 12 05:39:54.5±0.8, 48°20N±0°.01×8°98E±0°.01, h5km±4km, n117, σ0°74/180, 21C-13D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSS	Messtetten	0.02	208	⇑ePg	Pg	05 39 55.6	+0.1
MSS				eSg	Sg	05 39 56.4	+0.1
MSS	Messtetten	0.02	208	⇑Pg	Pg	05 39 55.6	+0.1
MSS				Sg	Sg	05 39 56.4	+0.1
EBIN	Albstadt-Ebing	0.04	73	⇑Pg	Pg	05 39 55.6	0.0
EBIN				Sg	Sg	05 39 56.5	0.0
BHBD	Braunhartsberg	0.05	20	⇓Pg	Pg	05 39 56.0	+0.1
BHBD				Sg	Sg	05 39 57.1	+0.2
ONST	Albstadt-Onstm	0.09	10	⇓Pg	Pg	05 39 56.6	+0.2
ONST				Sg	Sg	05 39 58.1	+0.4
BALG	Balingen, Zoll	0.11	313	⇓Pg	Pg	05 39 57.1	+0.3
BALG				Sg	Sg	05 39 59.0	+0.6
FREU	Neufra-Freuden	0.11	70	⇑Pg	Pg	05 39 57.0	+0.2
FREU				Sg	Sg	05 39 58.8	+0.4
JUNG	Jungingen	0.14	17	Sg	Sg	05 39 59.7	+0.5
GUT	Gutenstein	0.16	144	⇓Pg	Pg	05 39 57.9	+0.3
GUT	Gutenstein	0.16	144	Pg	Pg	05 39 57.9	+0.3
GUT				Sg	Sg	05 40 00.2	+0.6
GUT	Gutenstein	0.16	144	⇓Pg	Pg	05 39 57.9	+0.3
GUT				Sg	Sg	05 40 00.3	+0.6
A102A	Sigmaringen, J	0.16	111	Pg	Pg	05 39 57.9	+0.2
A102A				Sg	Sg	05 40 00.0	+0.2
ERPF	Erpfingen	0.20	42	⇑Pg	Pg	05 39 58.7	+0.4
ERPF				Sg	Sg	05 40 01.8	+0.8
ROTE	Rottweil	0.21	258	⇑Pg	Pg	05 39 59.0	+0.4
ROTE				Sg	Sg	05 40 02.1	+0.8
MSGN	Moessingen, Su	0.22	15	Sg	Sg	05 40 02.4	+0.7
A100A	Rottenburg, We	0.26	353	Pg	Pg	05 39 59.8	+0.3
A100A				Sg	Sg	05 40 03.4	+0.5
A101B	Rottweil, Deis	0.30	255	Pg	Pg	05 40 00.6	+0.4
A101B				Sg	Sg	05 40 04.7	+0.6
EMING	Emmingen-Lipti	0.32	196	⇑Pg	Pg	05 40 01.0	+0.4
EMING				Sg	Sg	05 40 05.5	+0.7
EMING	Emmingen-Lipti	0.32	196	⇑Pg	Pg	05 40 01.0	+0.4
EMING				Sg	Sg	05 40 05.5	+0.7
ZWI	Zwiefalten, Ha	0.32	79	⇑Pg	Pg	05 40 00.9	+0.2
ZWI				Sg	Sg	05 40 05.3	+0.4
TUEB	Tuebingen, Eug	0.32	10	Pg	Pg	05 40 01.0	+0.3
TUEB				Sg	Sg	05 40 05.3	+0.4
TUBL	Tuebingen-Lenn	0.33	12	⇓Pg	Pg	05 40 01.1	+0.2
TUBL				Sg	Sg	05 40 05.5	+0.2
BFO	Black Forest	0.45	287	⇓Pg	Pg	05 40 03.5	+0.3
BFO				Sg	Sg	05 40 09.4	+0.4
BFO	Black Forest	0.45	287	⇓Pg	Pg	05 40 03.5	+0.3
BFO				Sg	Sg	05 40 09.5	+0.4
WALHA	Wallhausen, DE	0.46	167	⇓Pg	Pg	05 40 03.6	+0.4
WALHA				Sg	Sg	05 40 10.2	+1.0
WALHA	Wallhausen, DE	0.46	167	⇓Pg	Pg	05 40 03.6	+0.4
WALHA				Sg	Sg	05 40 10.1	+1.0
A104A	Biberach, Staf	0.51	105	Sg	Sg	05 40 11.9	+1.0
STEIN	Stein am Rhein	0.53	188	Pg	Pg	05 40 05.2	+0.5
STEIN				Sg	Sg	05 40 12.6	+1.0
STEIN	Stein am Rhein	0.53	188	Pg	Pg	05 40 05.2	+0.5
STEIN				Sg	Sg	05 40 12.6	+1.0
SLE	Schleitheim	0.54	217	⇑Pg	Pg	05 40 05.1	+0.2
SLE	Schleitheim	0.54	217	Pg	Pg	05 40 05.0	+0.2
SLE	Schleitheim	0.54	217	Sg	Sg	05 40 12.2	+0.3
SLE	Schleitheim	0.54	217	⇑Pg	Pg	05 40 05.1	+0.2
SLE				Sg	Sg	05 40 12.4	+0.5
A108A	Ulm, Ringingen	0.59	75	Pg	Pg	05 40 06.0	+0.1
A108A				Sg	Sg	05 40 14.1	+0.6
STU	Stuttgart	0.59	14	PmP		05 40 08.1	
GALG	Neuhausen (Enz	0.60	348	⇓Pg	Pg	05 40 06.2	+0.2
GALG				Sg	Sg	05 40 14.2	+0.3
GALG				SmS		05 40 17.9	
OPP	Oppenau	0.61	300	Sg	Sg	05 40 14.2	+0.2
OPP	Oppenau	0.61	300	Pg	Pg	05 40 06.3	+0.2
OPP	Oppenau	0.61	300	Pg	Pg	05 40 06.2	+0.2
BERGE	Lenzkirch (DE)	0.63	239	⇑Pg	Pg	05 40 06.7	+0.2
BERGE	Lenzkirch (DE)	0.63	239	⇑Pg	Pg	05 40 06.7	+0.2
BERGE				Sg	Sg	05 40 15.3	+0.7
BERGE				SmS		05 40 18.8	
DEGG	Deggingen-Nord	0.64	50	⇑Pg	Pg	05 40 06.9	+0.1
DEGG				PmP		05 40 09.0	
DEGG				SmS		05 40 19.4	
WEIN	Weingarten	0.67	179	⇓Pg	Pg	05 40 07.8	+0.5
WEIN				Sg	Sg	05 40 17.1	+1.1
METMA	Mettma DE	0.69	225	⇑Pg	Pg	05 40 07.7	+0.1
METMA	Mettma DE	0.69	225	⇑Pg	Pg	05 40 07.7	+0.1
METMA				PmP		05 40 09.6	
METMA				SmS		05 40 20.1	
TETT	Tettnang	0.69	141	Sg	Sg	05 40 17.7	+1.2
TETT				SmS		05 40 21.3	
FELD	Feldberg im Sc	0.73	244	Pg	Pg	05 40 08.7	+0.2
FELD	Feldberg im Sc	0.73	244	Sg	Sg	05 40 18.4	+0.5
FELD	Feldberg im Sc	0.73	244	⇑Pg	Pg	05 40 08.6	+0.2
FELD				SmS		05 40 21.5	
BABA	Baden-Baden-Ne	0.74	315	Sg	Sb	05 40 19.7	-0.5
BABA	Baden-Baden-Ne	0.74	315	Pg	Pg	05 40 08.7	+0.1
BABA	Baden-Baden-Ne	0.74	315	⇓Pg	Pg	05 40 08.7	+0.1
BABA				PmP		05 40 10.2	
BABA				SmS		05 40 21.3	
A106B	Goeppingen, Ma	0.75	41	Pg	Pg	05 40 09.1	+0.3
KIZ	Kirchzarten	0.75	252	⇑Pn	Pg	05 40 08.9	+0.1
KIZ	Kirchzarten	0.75	252	Pg	Pg	05 40 08.9	+0.1
KIZ	Kirchzarten	0.75	252	Sg	Sg	05 40 19.7	+1.1
KIZ	Kirchzarten	0.75	252	⇑Pg	Pg	05 40 08.9	+0.1
URBA	Urbach, Forsts	0.76	32	Sg	Sg	05 40 19.5	+0.6
WILA	Wila	0.78	183	Sg	Sg	05 40 20.8	+1.1
WILA	Wila	0.78	183	Pg	Pg	05 40 09.9	+0.4
WILA				Sg	Sg	05 40 20.7	+1.1
BRET	Bretten	0.84	347	Pg	Pg	05 40 10.8	+0.2
BRET				Sg	Sg	05 40 21.9	+0.5
A107C	Memmingen - Ei	0.84	102	Pg	Pb	05 40 11.8	+0.3
A107C				Sg	Sb	05 40 22.4	-0.7
ZUR	Degenried	0.87	198	Sg	Sg	05 40 23.5	+1.1
ZUR	Degenried	0.87	198	Pg	Pg	05 40 11.7	+0.5
VOGT	Vogtsburg - To	0.88	263	Pg	Pg	05 40 11.7	+0.4
VOGT	Vogtsburg - To	0.88	263	Sg	Sg	05 40 23.6	+0.8
VOGT	Vogtsburg - To	0.88	263	Pg	Pg	05 40 11.6	+0.2
VOGT				Sg	Sb	05 40 24.6	+0.3
SULZ	Cheisacher	0.89	221	Pg	Pg	05 40 11.7	+0.2
SULZ	Cheisacher	0.89	221	⇑Pg	Pg	05 40 11.6	+0.2
SULZ				eSg	Sg	05 40 23.9	+0.9
HDH	Heidenheim-Cha	0.91	64	Pg	Pg	05 40 12.2	+0.4
HDH				Sg	Sg	05 40 24.1	+0.5
UBR	Ueberruh	0.92	124	Sg	Sb	05 40 25.2	-0.3
UBR	Ueberruh	0.92	124	ePg	Pg	05 40 12.7	+0.6
UBR				Sg	Sb	05 40 25.1	-0.3
ENDD	Endenburg	0.96	240	Pg	Pg	05 40 12.9	0.0
ENDD	Endenburg	0.96	240	Sg	Sg	05 40 25.6	+0.2
ENDD	Endenburg	0.96	240	⇑Pn	Pg	05 40 12.9	0.0
ENDD				Sn	Sg	05 40 25.7	+0.3
SUBF	Surbourg	1.04	314	Pg	Pg	05 40 14.9	+0.5
SUBF	Surbourg	1.04	314	Sg	Sb	05 40 29.2	+0.4
ROTT	Steinweiler	1.08	330	ePg	Pb	05 40 16.2	+0.5
DAVA	Damuels	1.10	146	ePg	Pb	05 40 16.3	+0.3
	2.8nm,0.2s						
DAVA				eSg	Sn	05 40 31.7	-0.6
	16nm,0.2s						
DAVA	Damuels	1.10	146	ePg	Pn	05 40 16.5	-0.1
DAVA				eSg	Sn	05 40 31.6	-0.6
WLS	Welschbruch	1.10	282	Pg	Pg	05 40 16.2	+0.5
WLS				Sg	Sg	05 40 30.8	+0.9
FLIN	Helmstadt-Barg	1.11	1	Sg	Sb	05 40 31.2	+0.3
CDF	Champ du Feu	1.16	281	ePn	Pg	05 40 16.6	0.0
CDF				eSn	Sg	05 40 29.8	-1.8
	25nm,0.2s						
LEMB	Lembach	1.16	316	Pg	Pg	05 40 17.0	+0.2
LEMB				Sg	Sb	05 40 32.7	+0.2
WALT	Westhalten	1.16	259	Pg	Pg	05 40 17.2	+0.5
WALT				Sg	Sg	05 40 32.7	+0.9
PLONS	Plons/SG	1.18	166	ePg	Pn	05 40 17.9	+0.1
A105A	Obersdorf, Sch	1.19	131	Pg	Pb	05 40 17.6	+0.1
A105A				Sg	Sn	05 40 34.8	+0.4
OBER	Oberstdorf	1.19	131	Pg	Pg	05 40 14.0	-3.2
OBER				Sg	Sg	05 40 27.8	-4.9
OBER	Oberstdorf	1.19	131	ePn	Pb	05 40 17.7	+0.2
OBER				ePg	Pn	05 40 18.2	+0.4
OBER				Sg	Sn	05 40 34.2	-0.2
ECH	Echery	1.22	272	Pg	Pb	05 40 18.1	+0.1
ECH				Sg	Sb	05 40 33.8	-0.2
ECH	Echery	1.22	272	Pg	Pb	05 40 17.8	-0.1
ECH				Sg	Sb	05 40 33.6	-0.4
NORI	Noerdlinger Ri	1.22	64	ePn	Pb	05 40 17.7	-0.3
NORI				eSg	Sn	05 40 34.4	-0.6
BALST	Balsthal	1.22	226	Pg	Pb	05 40 17.6	-0.5
BALST	Balsthal	1.22	226	ePn	Pb	05 40 17.8	-0.2
BALST				Pg	Pb	05 40 18.2	-0.1
BALST				Sg	Sb	05 40 34.5	+0.4
SIND	Sindeldorf	1.22	20	Pg	Pb	05 40 18.1	0.0
CIEL	Dossenheim-sur	1.25	301	Pg	Pn	05 40 18.7	+0.2
CIEL				Sg	Sb	05 40 35.1	+0.3
ILLF	Illfurth	1.27	247	Pg	Pn	05 40 18.7	-0.1
ILLF				Sg	Sg	05 40 35.9	+0.8
KTD	Kalmit	1.27	333	Pg	Pn	05 40 18.8	-0.1
MOF	Molkenrain	1.28	255	Pg	Pn	05 40 19.3	+0.1
RETA	Reutte	1.40	120	ePg	Pg	05 40 21.6	+0.3
	2.4nm,0.2s						
RETA				Sn	Sg	05 40 40.3	+1.0
	6.9nm,0.2s						
RETA	Reutte	1.40	120	Pg	Pg	05 40 21.5	+0.3
BOURR	Bourrignon	1.43	236	Pn	Pn	05 40 20.7	-0.4
BOURR	Bourrignon	1.43	236	Sn	Sb	05 40 40.4	+0.4
HINF	Hinteralfeld	1.48	256	ePn	Pn	05 40 20.8	-0.9
HINF	Hinteralfeld	1.48	256	ePg	Pg	05 40 23.2	+0.5
HINF				eSg	Sn	05 40 41.0	-0.4
	16nm,0.2s						
FUR	Furstenfeldbru	1.54	90	Sn	Sg	05 40 44.7	+0.8
MOTA	Moosalm	1.67	120	Pn	Pb	05 40 25.3	-0.5
	1.4nm,0.1s						
MOTA				eSn	Sb	05 40 47.6	+0.4
	14nm,0.2s						
FETA	Feichten	1.67	134	ePn	Pn	05 40 24.8	+0.3
	0.2nm,0.1s						
FETA				eSn	Sn	05 40 46.3	-0.1
	0.7nm,0.2s						
HAU	Haudompre	1.77	265	ePg	Pb	05 40 28.1	+0.7
HAU				eSg	Sb	05 40 49.9	-0.1
	19nm,0.3s						
SQTA	Sankt Quirin	1.80	122	Pn	Pn	05 40 26.2	0.0
	1.2nm,0.2s						
SQTA				eSn	Sb	05 40 51.2	+0.4
	6.8nm,0.2s						
WATA	Walderalm	1.96	115	Sn	Sb	05 40 54.5	-0.9
	4.3nm,0.2s						
WTTA	Wattenberg	2.02	116	Pn	Pn	05 40 30.4	+1.0
	1.5nm,0.5s						
WTTA				Sn	Sb	05 40 57.1	-0.3
	1.9nm,0.2s						
PAGF	Fort de Pagny	2.20	281	eSg	Sg	05 41 04.3	-0.7
	5.4nm,0.3s						
CABF	La Chapelle	2.52	232	ePg	Pb	05 40 41.4	+1.1
CABF				eSg	Sg	05 41 14.5	-1.0
	2.4nm,0.3s						
SFTF	Sexfontaines	2.63	272	eSg	Sg	05 41 19.3	+0.3
	2.5nm,0.2s						
LOR	Lormes	3.58	257	ePg	Pg	05 41 01.6	-1.3
LOR				eSg	Sg	05 41 46.7	-2.6
	2.1nm,0.2s						
SSF	Saint Saulge	3.87	255	eSg	Sg	05 41 56.0	-2.7
	1.0nm,0.3s						

IDC 12 05:44:36.6±2.3, 0°.84S×98°.73E, h0km, mb3.9/6, mbtmp3.9/7, ML4.2/1, MS2.8/2, Error ellipse: s-maj=98.1km s-min=21.4km az=58.0
DJA 12 05:44:44.8±0.9, 0°.54S±0°.07×98°87E±0°.08, h53km±22km, M4.5/11, mb4.9/4, MLv4.3/11

ISC 12 05:44:44.8±0.9, 0°.54S±0°.07×98°87E±0°.08, h53km, n28, σ18°20/21, mb4.1/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	Pulau Batu	0.76	309	P	Pn	05 44 59.4	-0.1
PDSI	Padang	1.63	103	P	Pn	05 45 11.0	-0.2
PDSI				S	Sn	05 45 30.1	-1.1
SBSI	Sibolga	2.08	1	P	Pn	05 45 16.4	-0.9
SBSI				S	Sn	05 45 39.8	-2.3
GSI	Gunungsitoli	2.24	325	P	Pn	05 45 20.0	+0.4
BKNI	Bangkinang	2.34	68	P	Pn	05 45 21.8	+1.0
PPSI	Pulau Pagai	2.48	153	P	Pn	05 45 22.4	-0.4
KRJI	Kerinci	3.01	121	P	Pn	05 45 30.6	+0.4
KCSI	Kotacane, Aceh	4.18	345	P	Pn	05 45 47.6	+1.4
KCSI				S	Sn	05 46 33.1	-0.7
MNAI	Manna	5.57	133	P	Pn	05 46 06.8	+1.6
	186nm,1.4s,0.8nm						
KASI	Kota Agung	7.49	131	P	Pn	05 46 31.8	+0.3
	42nm,0.6s,0.2nm						
LEM	Lembang	10.73	126	LR	LR	05 51 13.1	
	comp=Z,39nm,19.2s,baz=148,slow=37						
CMAR	Chiang Mai Arr	18.88	0	P	Pn	05 49 01.7	-0.3
	0.3nm,0.3s,baz=189,slow=11,SNR=2.0						
CMAR				LR	LR	05 56 57.9	
	comp=Z,29nm,18.6s,baz=45,slow=39						
	1.0nm,0.3s						
H08S2	Diego Garcia H	27.22	254	T	T	06 18 28.8	
	baz=77						
H08S3	Diego Garcia H	27.23	254	T	T	06 18 25.3	
	baz=77						
H08S1	Diego Garcia H	27.24	254	T	T	06 18 20.2	
	baz=77						
WRA	Warramunga Arr	39.71	121	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.10**	**290**	*i* P	**Pn**	**06 11 15.0**	**-1.1**
JIKH				S	**Sn**	**06 11 38.8**	**-2.3**
JIO	**Ouri**	**2.24**	**293**	P	**Pn**	**06 11 17.1**	**-0.9**
JIO				*e*S	**Sn**	**06 11 42.6**	**-1.8**
JKMT	**Kesennumamotoy**	**2.31**	**302**	P	**Pn**	**06 11 18.0**	**-1.0**
JKMT				S	**Sn**	**06 11 43.9**	**-2.2**
OFUJ	**Ofunato**	**2.33**	**310**	*i* P	**Pn**	**06 11 18.4**	**-1.0**
OFUJ				*e*S	**Sn**	**06 11 44.9**	**-1.9**
JMK	**Ichinoseki**	**2.55**	**303**	*e*P	**Pn**	**06 11 21.6**	**-0.7**
JMK				*e*S	**Sn**	**06 11 50.6**	**-1.5**
JOM	**Ohasama**	**2.81**	**313**	P	**Pn**	**06 11 25.5**	**-0.4**
JOM				S	**Sn**	**06 11 57.5**	**-1.1**
JOTO	**OTAMA OYAMA**	**2.89**	**270**	*e*P	**Pn**	**06 11 26.4**	**-0.6**
JOTO				S	**Sn**	**06 11 58.7**	**-1.9**
JYK	**Kaneyama**	**3.13**	**296**	P	**Pn**	**06 11 30.3**	**0.0**
JANG	**Nango**	**3.37**	**326**	*e*P	**Pn**	**06 11 32.4**	**-1.2**
JANG				*e*S	**Sn**	**06 12 09.8**	**-2.5**
JAG	**Ashikaga**	**3.80**	**253**	*i* P	**Pn**	**06 11 38.2**	**-1.3**
JAG				S	**Sn**	**06 12 19.0**	**-4.0**
JRY	**Ryogami san**	**4.36**	**250**	P	**Pn**	**06 11 45.5**	**-1.8**
JRY				*e*S	**Sn**	**06 12 31.6**	**-5.4**
JOT	**Ohata**	**4.40**	**330**	*e*P	**Pn**	**06 11 48.5**	**+0.7**
JOD2	**Odawara 2**	**4.57**	**241**	*e*S	**Sn**	**06 12 36.4**	**-5.8**
MJAR	**Matsushiro Arr** 0.8nm,0.3s,baz=88,slow=15,SNR=18	**4.73**	**259**	Pn	**Pn**	**06 11 52.5**	**+0.2**
MJAR				Sn	**Sn**	**06 12 45.0**	**-0.8**
	0.4nm,0.3s,baz=52,slow=25,SNR=4.5 7.5nm,0.5s						
JCH	**Churui**	**5.03**	**355**	*e*P	**Pn**	**06 11 55.3**	**-1.1**
JCH				S	**Sn**	**06 12 49.7**	**-3.6**
NEM2	**Nemuro 2**	**5.92**	**13**	*e*P	**Pn**	**06 12 05.7**	**-2.8**
NEM2				*e*S	**Sn**	**06 13 09.1**	**-5.9**
JTKR	**Abashiri--Toko**	**6.36**	**360**	*e*P	**Pn**	**06 12 13.5**	**-1.2**
JTKR				*e*S	**Sn**	**06 13 21.1**	**-5.0**
USRK	**Ussuriysk Ar.** 0.2nm,0.3s,baz=115,slow=15,SNR=2.0 1.6nm,0.6s	**11.20**	**310**	Pn	**Pn**	**06 13 24.3**	**+3.3**
SONM	**Songino Array** 0.2nm,0.3s,baz=106,slow=9.1,SNR=2.1 0.2nm,0.3s	**29.18**	**303**	P	P	06 16 47.0	+5.5
ZALV	**Zalesovo Beam** 0.8nm,0.5s,baz=87,slow=7.0,SNR=4.3 0.8nm,0.5s	**43.05**	**312**	P	**P**	**06 18 44.0**	**+4.5**
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=83,slow=9.5,SNR=3.8 0.5nm,0.7s	**45.55**	**302**	P	**P**	**06 19 03.6**	**+3.9**
KURBB	**Kurchatov Arra** 1.3nm,0.3s,baz=81,slow=8.6,SNR=2.5 1.3nm,0.3s	**47.26**	**308**	P	**P**	**06 19 17.5**	**+4.5**
ILAR	**Eielson Array** 0.6nm,0.8s,baz=267,slow=7.1,SNR=6.9 0.6nm,0.8s	**47.92**	**33**	P	**P**	**06 19 19.3**	**+1.3**
WRA	**Warramunga Arr** 0.8nm,0.6s,baz=12,slow=7.3,SNR=8.4 0.8nm,0.6s	**57.95**	**191**	P	**P**	**06 20 30.8**	**-1.6**
ASAR	**Alice Springs** 0.5nm,0.8s,baz=15,slow=6.9,SNR=6.2 0.5nm,0.8s	**61.67**	**190**	P	**P**	**06 20 56.7**	**-1.2**

IDC 12 06:10:45.1±3.9, 11°.30S×118°.84E, h0km, mb3.3/1, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=278.8km s-min=32.1km az=47.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=296,slow=13,SNR=6.2	**17.21**	**122**	Pn	Pn	06 14 46.4	-0.8
WRA				Sn	Sn	06 17 52.8	-6.7
	baz=296,slow=26,SNR=2.1 0.3nm,0.7s						
ASAR	**Alice Springs** 0.1nm,0.3s,baz=304,slow=11,SNR=5.7 0.3nm,0.4s	**18.89**	**133**	P	Pn	06 15 07.8	-0.1
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=134,slow=6.2,SNR=2.4 0.2nm,0.5s	**66.42**	**333**	P	P	06 21 36.1	0.0

IDC 12 06:30:23.8±3.4, 62°.31S×157°.43W, h0km, mb3.6/3, mbtmp3.6/4, ML3.7/1, MS3.6/11, Error ellipse: s-maj=93.4km s-min=33.5km az=66.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda** 0.2nm,0.3s,baz=71,slow=16,SNR=13	**19.94**	**205**	P	Pn	06 34 57.9	-0.4
VNDA				LR	LR	06 40 50.2	
	comp=Z,96nm,18.2s,baz=64,slow=31 0.9nm,0.5s						
QSPA	**South Pole Qui** 1.3nm,0.9s,baz=63,slow=3.3,SNR=4.5	**27.81**	**180**	P	P	06 36 13.4	-0.9
QSPA				LR	LR	06 45 27.0	
	comp=Z,56nm,19.0s,baz=80,slow=32 1.3nm,0.9s						
RAO	**Raoul Island** comp=Z,138nm,21.8s,baz=111,slow=30	**35.69**	**328**	LR	LR	06 47 56.5	
MAW	**Mawson** comp=Z,72nm,18.0s,baz=205,slow=33	**47.14**	**200**	LR	LR	06 56 11.8	
RPN	**Rapa Nui** comp=Z,51nm,21.4s,baz=340,slow=30	**47.23**	**65**	LR	LR	06 54 22.9	
STKA	**Stephens Creek** comp=Z,39nm,19.2s,baz=180,slow=32	**48.89**	**279**	LR	LR	06 56 48.2	
PLCA	**Paso Flores** comp=Z,55nm,18.2s,baz=186,slow=31	**53.56**	**109**	LR	LR	06 58 14.5	
H03S2	**Juan Fernandez** baz=211,slow=74,SNR=37	**55.42**	**98**	T	T	07 40 37.8	
H03S1	**Juan Fernandez** baz=211,slow=74,SNR=42	**55.43**	**98**	T	T	07 40 40.5	
H03S3	**Juan Fernandez** baz=211,slow=74,SNR=38	**55.44**	**98**	T	T	07 40 33.7	
H03N3	**Juan Fernandez** baz=210,slow=72,SNR=26	**55.74**	**98**	T	T	07 41 05.4	
H03N2	**Juan Fernandez** baz=210,slow=72,SNR=28	**55.75**	**98**	T	T	07 41 05.4	
H03N1	**Juan Fernandez** baz=210,slow=72,SNR=16	**55.76**	**98**	T	T	07 40 59.2	
H01W1	**Cape Leeuwin H** baz=146,slow=76,SNR=5.6	**59.06**	**253**	T	T	07 44 23.9	
H01W2	**Cape Leeuwin H** baz=146,slow=76,SNR=7.3	**59.06**	**253**	T	T	07 44 33.5	
H01W3	**Cape Leeuwin H** baz=146,slow=76,SNR=5.4	**59.08**	**253**	T	T	07 44 27.8	
ASAR	**Alice Springs** 0.7nm,0.9s,baz=155,slow=8.2,SNR=5.7 0.7nm,0.9s	**59.42**	**277**	P	P	06 40 27.6	-0.3
WRA	**Warramunga Arr** 0.5nm,1.1s,baz=151,slow=5.9,SNR=2.5 0.5nm,1.1s	**62.43**	**280**	P	P	06 40 47.7	-0.7
BDFB	**Brasilia** comp=Z,55nm,19.6s,baz=65,slow=34	**84.99**	**114**	LR	LR	07 18 15.7	
SUR	**Sutherland** comp=Z,56nm,21.5s,baz=165,slow=32	**85.63**	**179**	LR	LR	07 16 45.3	
BOSA	**Boshof** comp=Z,26nm,19.7s,baz=198,slow=33	**89.37**	**182**	LR	LR	07 19 30.1	
LBTB	**Lobatse** comp=Z,39nm,18.2s,baz=190,slow=35	**92.94**	**183**	LR	LR	07 23 57.2	
KURBB	**Kurchatov Arra** 0.4nm,0.7s,baz=142,slow=1.8,SNR=5.0	**148.01**	**275**	PKPbc	PKPbc	06 50 10.2	+0.4

*IDC **12** 06:38:12.2±0.6, 15°.31S×173°.30W, h0km, mb4.1/12, mbtmp4.2/12, MS3.6/9, Error ellipse: s-maj=31.7km s-min=16.5km az=137.0*
*NEIC **12** 06:38:12.7±1.4, 15°.17S±0°.06×173°.1W±0°.1, h10km±1km, mb4.6/22, Error ellipse: s-maj=19.0km s-min=10.3km az=274.0*
ISC 12 06:38:12.8±0.5, 15°.25S±0°.09×173°.2W±0°.1, h10km, n63, σ1♀18/42, mb4.5/19, MS3.8/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.91**	**46**		**Pn**	**06 38 42.4**	**-3.1**
NIUE	**Niue**	**4.92**	**141**		**Pn**	**06 39 23.8**	**-3.0**
RAR	**Rarotonga** comp=Z,121nm,18.2s,baz=352,slow=32	**14.05**	**117**	LR	LR	06 45 45.7	
PINNC	**Pines Island,**	**19.72**	**245**	P	**P**	**06 42 41.9**	**-0.7**
PINNC				IAmb	IAmb	06 42 56.5	
	comp=Z,41nm,0.9s						
OUENC	**Ouen Island, N**	**20.19**	**246**	P	**P**	**06 42 47.7**	**-0.1**
OUENC				IAmb	IAmb	06 42 56.8	
	comp=Z,22nm,1.0s						
DZM	**Mont Dzumac**	**20.44**	**248**	P	**P**	**06 42 49.6**	**-1.1**
DZM	**Mont Dzumac** comp=Z,185nm,23.4s	**20.44**	**248**	*e*LR	LR	06 47 37.1	
DZM	**Mont Dzumac** comp=Z,6.1nm,0.7s,baz=89,slow=18,SNR=7.6	**20.44**	**248**	P	**P**	**06 42 50.9**	**+0.3**
DZM				LR	LR	06 49 32.6	
	comp=Z,151nm,20.1s,baz=58,slow=34 comp=Z,6.1nm,0.7s						
PAE	**Paea** comp=Z,2.1nm,0.3s	**22.76**	**99**	*e*T	T	07 06 24.4	
PPT2	**Papeete2** comp=Z,157nm,25.2s	**22.76**	**99**	*e*LR	LR	06 48 39.2	
PPT2				*e*LR	LR	06 48 46.2	
	comp=Z,111nm,24.2s						
PPT2	**Papeete2** comp=Z,5.0nm,0.4s	**22.76**	**99**	*e*T	T	07 06 21.2	
TVO	**Taravao** comp=Z,1.7nm,0.4s	**23.08**	**100**	*e*T	T	07 06 36.0	
TBI	**Tubuai** comp=Z,381nm,29.5s	**23.77**	**113**	*e*S	S	06 47 27.1	-14
TBI				*e*LR	LR	06 49 11.1	
	comp=Z,695nm,23.2s						
TBI	**Tubuai** comp=Z,7.3nm,0.4s	**23.77**	**113**	*e*T	T	07 07 43.2	
TUWZ	**Tuamarina**	**28.37**	**201**	P	**P**	**06 44 07.7**	**+0.6**
TAOE	**Nuku Hiva Isla** comp=Z,26nm,0.3s	**32.90**	**83**	*e*T	T	07 19 13.8	
ARMA	**Armidale**	**35.59**	**239**	P	**P**	**06 45 10.2**	**-0.7**
ARMA				IAmb	IAmb	06 45 18.6	
	comp=Z,10nm,1.3s						
H11S2	**WAKE ISLAND Hy** baz=149,slow=76,SNR=16	**38.94**	**329**	T	T	07 27 05.9	
H11S3	**WAKE ISLAND Hy** baz=149,slow=76,SNR=11	**38.96**	**329**	T	T	07 26 49.0	
H11S1	**WAKE ISLAND Hy** baz=149,slow=76,SNR=13	**38.96**	**329**	T	T	07 26 59.7	
PMG	**Port Moresby** comp=Z,54nm,18.2s,baz=90,slow=33	**39.13**	**274**	LR	LR	06 59 36.3	
H11N3	**WAKE ISLAND Hy** baz=149,slow=76,SNR=8.1	**39.89**	**330**	T	T	07 28 16.0	
H11N1	**WAKE ISLAND Hy** baz=149,slow=76,SNR=7.3	**39.89**	**330**	T	T	07 28 25.2	
H11N2	**WAKE ISLAND Hy** baz=149,slow=76,SNR=4.0	**39.90**	**330**	T	T	07 28 22.5	
COEN	**Coen** comp=Z,5.0nm,0.8s	**42.20**	**266**	P	**P**	**06 46 06.2**	**0.0**
COEN				IAmb	IAmb	06 46 08.6	
TOO	**Toolangi**	**42.72**	**231**	P	**P**	**06 46 11.1**	**+0.8**
STKA	**Stephens Creek**	**44.29**	**240**	P	**P**	**06 46 22.6**	**-0.4**
STKA	**Stephens Creek** comp=Z,2.4nm,0.6s,baz=87,slow=9.1,SNR=8.6 comp=Z,2.4nm,0.6s	**44.29**	**240**	P	**P**	**06 46 22.4**	**-0.6**
BBOO	**Buckleboo**	**49.06**	**240**	P	**P**	**06 46 59.2**	**-1.2**
WR0	**Warramunga Arr**	**49.89**	**257**	P	**P**	**06 47 05.9**	**-1.0**
WR0				IAmb	IAmb	06 47 07.3	
	comp=Z,12nm,1.5s						
WB0	**Warramunga Arr**	**50.04**	**257**	P	**P**	**06 47 07.3**	**-0.8**
WB0				IAmb	IAmb	06 47 08.5	
	comp=Z,4.6nm,0.6s						
WB2	**Warramunga Arr**	**50.07**	**257**	P	**P**	**06 47 07.4**	**-0.9**
WRAB	**Tennant Creek**	**50.07**	**257**	P	**P**	**06 47 08.0**	**-0.3**
WRAB				IAmb	IAmb	06 47 08.7	
	comp=Z,5.7nm,0.6s						
WRA	**Warramunga Arr**	**50.08**	**257**	P	**P**	**06 47 07.6**	**-0.8**
WRA	**Warramunga Arr** comp=Z,3.6nm,0.5s,baz=91,slow=6.7,SNR=126	**50.08**	**257**	P	**P**	**06 47 07.9**	**-0.5**
WRA				PcP	**PcP**	**06 48 28.7**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=94,slow=3.5,SNR=3.1						
WRA				LR	LR	07 07 43.1	
	comp=Z,5μm,21.9s,baz=219,slow=36 comp=Z,3.6nm,0.5s						
AS31	**Alice Springs**	**50.35**	**252**	P	**P**	**06 47 09.5**	**-0.9**
ASAR	**Alice Springs** comp=Z,7.4nm,0.6s,baz=88,slow=8.2,SNR=149 comp=Z,7.4nm,0.6s	**50.35**	**252**	P	**P**	**06 47 09.8**	**-0.6**
GUMO	**Guam** comp=Z,26nm,19.2s,baz=126,slow=34	**50.43**	**303**	LR	LR	07 06 20.7	
MTN	**Manton Dam**	**53.95**	**265**	P	**P**	**06 47 37.1**	**-0.2**
MTN				IAmb	IAmb	06 47 43.8	
	comp=Z,13nm,1.4s						
FORT	**Forrest**	**55.67**	**243**	P	**P**	**06 47 48.9**	**-0.6**
VNDA	**Vanda**	**63.54**	**186**	P	**P**	**06 48 43.5**	**+0.5**
VNDA				IAmb	IAmb	06 48 48.3	
	comp=Z,3.3nm,1.2s						
VNDA	**Vanda** comp=Z,1.0nm,0.8s,baz=16,slow=6.6,SNR=2.3 comp=Z,1.0nm,0.8s	**63.54**	**186**	P	**P**	**06 48 42.2**	**-0.9**
MJAR	**Matsushiro Arr** comp=Z,61nm,20.2s,baz=139,slow=30	**68.96**	**320**	LR	LR	07 12 08.9	
JTU	**Tsushima**	**73.64**	**314**	P	**P**	**06 49 45.2**	**-1.5**
NVAR	**Mina Array Bea** comp=Z,0.7nm,0.8s,baz=224,slow=7.5,SNR=5.0 comp=Z,0.7nm,0.8s	**74.08**	**42**	P	**P**	**06 49 50.2**	**+0.7**
QSPA	**South Pole Qui**	**74.79**	**180**	P	**P**	**06 49 54.7**	**+1.6**
QSPA				IAmb	IAmb	06 49 55.6	
	comp=Z,6.3nm,0.9s						
QSPA	**South Pole Qui** comp=Z,5.2nm,1.0s,baz=345,slow=0.8,SNR=16 comp=Z,5.2nm,1.0s	**74.79**	**180**	P	**P**	**06 49 54.7**	**+1.6**
USRK	**Ussuriysk Ar.** comp=Z,71nm,20.5s,baz=141,slow=30	**77.39**	**323**	LR	LR	07 17 21.2	
TXAR	**Lajitas Array** comp=Z,1.3nm,1.1s,baz=217,slow=6.0,SNR=8.0 comp=Z,1.3nm,1.1s	**80.36**	**56**	P	**P**	**06 50 27.1**	**+2.3**
ANMO	**Albuquerque** comp=Z,44nm,20.5s,baz=106,slow=32	**80.55**	**50**	LR	LR	07 20 55.5	
IMW	**Indian Meadow**	**81.70**	**40**	P	**P**	**06 50 31.2**	**-0.7**
IMW				IAmb	IAmb	06 50 35.1	
	comp=Z,9.0nm,1.4s						
CHMT	**Chamberlain Mo**	**81.89**	**37**	P	**P**	**06 50 31.6**	**-1.1**
CCB	**Clear Creek Bu**	**81.98**	**11**	P	**P**	**06 50 33.4**	**+0.9**
CCB				IAmb	IAmb	06 50 34.2	
	comp=Z,5.0nm,0.9s						
PDAR	**Pinedale Array** comp=Z,0.8nm,0.8s,baz=205,slow=2.8,SNR=6.1 comp=Z,0.8nm,0.8s	**82.02**	**42**	P	**P**	**06 50 34.9**	**+1.3**
ILAR	**Eielson Array** comp=Z,0.8nm,0.8s,baz=227,slow=5.8,SNR=13 comp=Z,0.8nm,0.8s	**82.26**	**11**	P	**P**	**06 50 34.9**	**+0.9**
MAYO	**Mayo, Yukon**	**83.72**	**16**	P	**P**	**06 50 41.4**	**-0.2**
MAW	**Mawson** comp=Z,1.4nm,0.6s,baz=130,slow=7.9,SNR=2.7 comp=Z,1.4nm,0.6s	**88.00**	**199**	P	**P**	**06 51 03.8**	**+0.9**
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.9s,baz=236,slow=4.4,SNR=6.9 comp=Z,0.6nm,0.9s	**89.88**	**23**	P	**P**	**06 51 13.2**	**+1.5**
ATAH	**Atahualpa** comp=Z,46nm,18.8s,baz=5.6,slow=30	**92.74**	**98**	LR	LR	07 24 14.7	
CMAR	**Chiang Mai Arr** comp=Z,12nm,21.9s,baz=5.0,slow=33	**92.76**	**288**	LR	LR	07 28 45.3	
CLL	**Collm** comp=Z,7.0nm,0.5s	**143.69**	**353**	*i* PKPdf	**PKPdf**	**06 57 49.2**	**+1.2**
CLL				*i* x	x	06 58 00.5	
GERES	**GERESS Array B** comp=Z,1.9nm,0.6s,baz=28,slow=2.5,SNR=6.7	**146.03**	**352**	PKPbc	**PKPab**	**06 57 53.8**	**+0.2**
BRTR	**Keskin Array B** comp=Z,9.2nm,1.1s,baz=102,slow=4.1,SNR=15	**146.17**	**321**	PKPbc	**PKiKP**	**06 57 55.9**	**-1.2**

IDC 12 06:45:18.3±3.6, 54°.50N×87°.07E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=33.1km s-min=20.7km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=68,slow=344,SNR=4.0	**1.43**	**248**	I	I	06 52 30.0	
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=63,slow=17,SNR=5.5	**1.43**	**248**	Pg	Pn	06 45 43.0	-2.5
ZALV				Lg	Lg	06 46 03.7	
	0.4nm,0.3s,baz=62,slow=26,SNR=2.7						
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=52,slow=14,SNR=5.6 0.4nm,0.4s	**6.49**	**237**	Pn	Pn	06 46 56.9	+1.9
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=22,slow=12,SNR=1.4 0.1nm,0.4s	**8.29**	**203**	Pn	Pn	06 47 19.9	+0.1

*NNC **12** 06:47:44.7±2.8, 54°.01N×88°.01E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=23.3km s-min=11.9km az=38.0, Suspected Mining explosion.*
*IDC **12** 06:47:53.6±2.6, 54°.12N×87°.25E, h0km, mbtmp3.1/3, ML2.7/3, Error ellipse: s-maj=22.4km s-min=14.5km az=72.0*
ISC 12 06:47:53.0±3.7, 54°.1N±0°.1×87°.3E±0°.2, h0km, n10, σ2♀35/10, 9C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** 0.1nm,0.7s,baz=81,slow=344,SNR=41	**1.47**	**266**	I	I	06 55 50.0	
ZAA0	**Zalesovo Array** 0.8nm,0.3s	**1.47**	**266**	⇑P	**Pn**	**06 48 18.9**	**-1.8**
ZAA0				⇓S	**Sn**	**06 48 43.1**	**+2.4**
	5.2nm,0.8s						
ZALV	**Zalesovo Beam** 6.5nm,0.3s,baz=80,slow=17,SNR=33	**1.47**	**266**	Pg	**Pn**	**06 48 19.1**	**-1.6**
ZALV				Lg	Lg	06 48 39.5	
	3.7nm,0.3s,baz=82,slow=25,SNR=11						
KURK	**Kurchatov** 0.3nm,0.4s	**6.29**	**241**	⇓Pn	Pn	06 49 22.4	-4.6
KURK				⇑Lg	Lg	06 51 14.4	
	3.0nm,0.7s						
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=55,slow=14,SNR=14	**6.39**	**241**	Pn	**Pn**	**06 49 29.9**	**+1.6**
KURBB				Sn	**Sn**	**06 50 41.9**	**-0.1**
	0.1nm,0.3s,baz=118,slow=40,SNR=0.9						
KURBB				Lg	Lg	06 51 15.8	
	baz=59,slow=33,SNR=3.6 1.6nm,0.6s						
KURBB	**Kurchatov Arra** 1.3nm,0.3s	**6.39**	**241**	⇑Pn	Pn	06 49 22.4	-5.9
KURBB				⇓Lg	Lg	06 51 19.4	
	8.3nm,0.8s						
MK31	**Makanchi Array** 0.1nm,0.4s,baz=28,slow=14,SNR=3.0	**7.97**	**206**	⇑Pn	Pn	06 49 44.3	-5.7
MK31				⇑Sn	**Sn**	**06 51 17.1**	**-3.7**
	0.3nm,0.6s						
MK31				⇑Lg	Lg	06 52 03.8	
	1.3nm,0.8s,baz=27,slow=27						
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=25,slow=14,SNR=4.3	**7.97**	**206**	Pn	**Pn**	**06 49 51.9**	**+1.9**
MKAR				Sn	**Sn**	**06 51 21.9**	**+1.1**
	0.1nm,0.3s,baz=26,slow=27,SNR=3.6						
MKAR				Lg	Lg	06 52 04.3	
	0.1nm,0.3s,baz=27,slow=29,SNR=3.8 0.1nm,0.3s						
MAKZ	**Makanchi** 0.2nm,0.5s	**8.04**	**207**	⇑Pn	Pn	06 49 42.1	-8.9
MAKZ				⇑Sn	**Sn**	**06 51 20.2**	**-2.3**
	0.2nm,0.6s						
MAKZ				⇑Lg	Lg	06 52 06.3	
	2.1nm,1.0s						
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=79,slow=11,SNR=3.7 1.0nm,0.5s	**10.12**	**271**	Pn	**Pn**	**06 50 18.4**	**-1.0**

*OTT **12** 06:55:28.4±0.1, 61°.15N×59°.09W, h18km, ML3.9/5, 312km east from Resolution Island, Nu LAlbertaRADOR Sea Seismic Zone.*
ISC 12 06:55:23.0±0.8, 61°.10N±0°.05×59°.10W±0°.05, h10km, n17, σ4♀16/31, Davis Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUUK	**Nuuk** baz=214,slow=11	**4.59**	**45**	*e*	**Pn**	**06 56 34.0**	**+1.6**
NUUK				*i* P	**Pn**	**06 56 34.8**	**+2.5**
NUUK				*i*		06 57 20.4	
NUUK				IAML		06 57 29.4	
	comp=Z,5.1nm,0.4s						
NANL	**Nain**	**4.77**	**198**	PN	**Pn**	**06 56 39.5**	**+4.7**
NANL				SN	**Sn**	**06 57 32.1**	**+2.0**
FRB	**Frobisher Bay**	**5.13**	**305**	PN	**Pn**	**06 56 43.7**	**+4.0**
FRB				SN	**Sn**	**06 57 39.0**	**+0.2**
FRB				Trac		06 58 07.8	
	comp=Z,79nm,1.1s						
IVI	**Ivigtut**	**5.29**	**84**	*e*P	**Pn**	**06 56 43.5**	**+1.5**
IVI				*i* S	**Sn**	**06 57 35.7**	**-7.3**
IVI				IAML		06 57 38.0	
	comp=Z,6.9nm,0.3s						
NRS	**Narsarsuaq**	**6.63**	**84**	*e*P	**Pn**	**06 57 02.9**	**+2.6**
NRS				*i* P	Pb	06 57 09.4	-8.8
NRS				*e*S	**Sn**	**06 58 13.4**	**-2.4**
NRS				IAML		06 58 27.7	
	comp=Z,3.4nm,0.4s						
SFJD	**Kangerlussuaq**	**6.98**	**28**	*i* P	**Pn**	**06 57 08.7**	**+3.6**
SFJD				*e*		06 58 19.5	
SFJD				IAML		06 58 25.8	
	comp=Z,3.2nm,0.3s						
SFJD	**Kangerlussuaq**	**6.98**	**28**	PN	**Pn**	**06 57 08.9**	**+3.8**
SFJD				SN	**Sn**	**06 58 21.5**	**-2.9**
SFJD				Trac		06 58 33.6	
	comp=Z,759nm,6.0s						
SCHQ	**Schefferville**	**7.51**	**217**	PN	Pn	06 57 17.5	+5.0
SCHQ				SN	**Sn**	**06 58 37.3**	**-0.2**
SCHQ				Trac		06 58 51.0	
	comp=Z,1μm,4.0s						
DY2G	**Dye2**	**7.82**	**41**	*i* P	**Pn**	**06 57 19.8**	**+3.0**
DY2G				*i* S	**Sn**	**06 58 40.9**	**-4.5**
LG4Q	**La Grande 4**	**11.01**	**234**	PN	**Pn**	**06 58 02.9**	**+2.5**
LG4Q				SN	**Sn**	**06 59 59.2**	**-4.2**
LG4Q				Trac		07 00 02.9	
	comp=Z,1.4nm,0.2s						
BJBQ	**Baie Johan-Bee**	**11.04**	**193**	PN	**Pn**	**06 58 03.6**	**+2.9**
BJBQ				SN	**Sn**	**07 00 00.2**	**-3.9**
BJBQ				Trac		07 00 01.9	
	comp=Z,2μm,4.0s						
KJKQ	**Kuujjuarapik**	**11.42**	**248**	PN	**Pn**	**06 58 09.3**	**+3.5**
KJKQ				SN	**Sn**	**07 00 08.4**	**-4.9**
KJKQ				Trac		07 00 25.0	
	comp=Z,2.3nm,0.1s						
SMQ	**Clarke City**	**11.71**	**205**	PN	**Pn**	**06 58 13.0**	**+3.1**
SMQ				SN	**Sn**	**07 00 15.7**	**-4.8**
SMQ				Trac		07 00 20.8	
	comp=Z,2.0nm,0.3s						
ILON	**Igloolik, Nuna**	**12.54**	**321**	PN	**Pn**	**06 58 23.8**	**+2.7**
ILON				SN	**Sn**	**07 00 34.1**	**-6.5**
ILON				Trac		07 00 51.4	
	comp=Z,1μm,4.4s						
NMSQ	**Nemaska Statio**	**13.23**	**232**	PN	**Pn**	**06 58 33.8**	**+3.1**
NMSQ				SN	**Sn**	**07 00 50.4**	**-7.4**
NMSQ				Trac		07 01 14.8	
	comp=Z,6.5nm,0.3s						
VIMO	**Victor Mine**	**15.71**	**249**	PN	**Pn**	**06 59 05.3**	**+1.2**
VIMO				SN	**Sn**	**07 01 50.5**	**-7.5**
VIMO				Trac		07 02 14.1	
	comp=Z,1μm,5.5s						
RES	**Resolute Bay**	**18.67**	**331**	PN	**Pn**	**06 59 44.7**	**+3.7**
RES				Trac		07 03 02.4	
	comp=Z,173nm,3.7s						

IDC 12 06:55:37.9±3.2, 54°.18N×87°.27E, h0km, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=27.3km s-min=19.0km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=77,slow=344,SNR=3.1	**1.46**	**262**	I	I	07 03 10.0	
ZALV	**Zalesovo Beam** 0.7nm,0.3s,baz=83,slow=13,SNR=4.3	**1.46**	**262**	Pg	Pn	06 56 05.2	-0.3
ZALV				Lg	Lg	06 56 23.9	
	1.3nm,0.3s,baz=82,slow=29,SNR=4.4						
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=56,slow=14,SNR=4.7	**6.43**	**240**	Pn	Pn	06 57 14.4	+0.7
KURBB				Lg	Lg	06 59 03.9	
	baz=200,slow=30,SNR=3.0 0.8nm,0.5s						
MKAR	**Makanchi Array** 0.1nm,0.

CNJI	Cibinong	2.06	24	P		Pn	07 03 11.6	-1.9
BBJI	Bungbulang	2.19	38	P		Pn	07 03 13.6	-1.8
CMJI	Cimerak	2.55	57	P		Pn	07 03 18.0	-2.3
CGJI	Cibinong	2.65	347	P		Pn	07 03 21.0	-0.6
CGJI				S		Sn	07 03 51.3	-1.5
DBJI	Dramaga	2.67	10	P		Pn	07 03 21.7	-0.3
LEM	Lembang	2.70	29	P		Pn	07 03 22.8	+0.3
LEM	Lembang	2.70	29	Pn		Pn	07 03 22.5	0.0
	104nm,0.3s,baz=278,slow=18,SNR=43							
LEM				Sn		Sn	07 03 54.9	+0.5
	48nm,0.3s,baz=305,slow=19,SNR=1.8							
LEM				LR		LR	07 04 53.5	
	comp=Z,258nm,18.1s,baz=25,slow=51							
	379nm,0.4s							
KPJI	Karang Pucung	3.20	55	P		Pn	07 03 28.8	-0.4
KASI	Kota Agung	4.07	334	P		Pn	07 03 40.2	-1.1
UGM	Wanagama	4.37	73	P		Pn	07 03 44.3	-1.0
UGM	Wanagama	4.37	73	P		Pn	07 03 44.1	-1.2
SMRI	Semarang	4.62	63	P		Pn	07 03 49.0	+0.1
SMRI	Semarang	4.62	63	P		Pn	07 03 49.2	+0.3
MNAI	Manna	5.85	325	P		Pn	07 04 04.4	-1.3
MNAI	Manna	5.85	325	P		Pn	07 04 04.1	-1.6
	208nm,1.5s,1.0nm							
BLJI	Banyuglugur	7.36	79	P		Pn	07 04 27.5	+1.1
JAGI	Jajag, Banyuwa	7.79	85	P		Pn	07 04 32.7	+0.3
JAGI	Jajag, Banyuwa	7.79	85	P		Pn	07 04 32.1	-0.3
	69nm,0.7s,2µm0.4nm							
IGBI	Denpasar	8.74	88	P		Pn	07 04 45.2	-0.2
	67nm,0.8s							
DNP	Denpasar	8.82	87	P		Pn	07 04 46.2	-0.2
SRBI	Singaraja	8.88	83	P		Pn	07 04 47.2	-0.1
	42nm,0.7s							
TWSI	Taliwang, Sumb	10.46	88	P		Pn	07 05 08.4	-0.6
	23nm,0.4s							
PLAI	Plampang	11.34	89	P		Pn	07 05 20.5	-0.6
PLAI	Plampang	11.34	89	P		Pn	07 05 20.1	-1.0
CMAR	Chiang Mai Arr	28.43	345	P		P	07 08 33.3	-0.1
	0.9nm,0.3s,baz=186,slow=8.2,SNR=4.2							
	0.9nm,0.3s							
WRA	Warramunga Arr	29.11	115	P		P	07 08 39.4	-0.1
	0.5nm,0.8s,baz=286,slow=11,SNR=2.1							
	0.5nm,0.8s							
ASAR	Alice Springs	30.04	122	P		P	07 08 47.0	-0.7
	0.2nm,0.5s,baz=304,slow=8.6,SNR=1.9							
	0.2nm,0.5s							
SONM	Songino Array	56.79	0	P		P	07 12 23.3	+0.8
	0.3nm,0.3s,baz=155,slow=4.1,SNR=2.6							
	0.3nm,0.3s							
H04N2	CROZET ISLANDS	59.15	221	T		T	08 17 04.4	
	baz=69,slow=75,SNR=9.8							
H04N1	CROZET ISLANDS	59.17	221	T		T	08 17 05.2	
	baz=69,slow=75,SNR=7.9							
H04N3	CROZET ISLANDS	59.17	221	T		T	08 17 04.4	
	baz=69,slow=75,SNR=9.1							
MKAR	Makanchi Array	59.73	341	P		P	07 12 42.9	-0.1
	1.0nm,0.5s,baz=151,slow=8.3,SNR=14							
	1.0nm,0.5s							
KURBB	Kurchatov Arra	64.28	341	P		P	07 13 13.8	+0.4
	0.8nm,0.6s,baz=150,slow=6.0,SNR=2.8							
	0.8nm,0.6s							
BVAR	Borovoye Array	69.12	338	P		P	07 13 47.2	+2.9
	1.2nm,0.5s,baz=151,slow=8.7,SNR=7.1							
	1.2nm,0.5s							
TXAR	Lajitas Array	145.51	50	PKPbc		PKPab	07 22 17.8	+0.3
	0.3nm,0.9s,baz=358,slow=2.2,SNR=2.8							

IDC **12** *07:23:29.5±0.7,31°.47N×141°.89E, h0km, mb3.9/17, mbtmp3.9/20, ML3.5/3, MS2.9/1, Error ellipse: s-maj=22.9km s-min=14.6km az=71.0*
JMA **12** *07:23:37.7±0.6, 32°.N×14°.2E, h73km, MV3.5/17, FAR E OFF IZU ISLANDS*

ISC 12 07:23:34.1±0.6, 31°.54N±0°.07×141°.9E±0°.1, h29km, n29, σ1s07/31, mb3.9/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.36	312	Pn	Pn	07 24 11.4	+0.5
	19nm,0.3s,baz=97,slow=13,SNR=2.1						
JHJ				Sn	Sn	07 24 38.5	-0.4
	20nm,0.3s,baz=84,slow=22,SNR=2.8						
	85nm,0.5s						
BSO1	Boso 1	3.19	347	eP	Pn	07 24 21.3	-0.5
BSO3	Boso 3	3.44	341	eP	Pn	07 24 25.5	0.0
BSO4	Boso 4	3.67	340	eP	Pn	07 24 28.7	-0.1
JOD2	Odawara 2	4.38	329	eS	Sn	07 25 26.5	-2.2
JCJ	Chichijima	4.44	176	Pn	Pn	07 24 35.4	-4.1
	13nm,0.3s,baz=278,slow=21,SNR=1.6						
JCJ				Sn	Sn	07 25 31.1	+0.9
	11nm,0.3s,baz=277,slow=21,SNR=1.7						
	42nm,0.3s						
JHU	Hanno	4.80	334	eP	Pn	07 24 44.7	+0.1
JRY	Ryogami san	5.10	332	eP	Pn	07 24 49.7	+1.1
JHO	Hitachi	5.17	348	P	Pn	07 24 49.0	-0.6
JAG	Ashikaga	5.26	338	eP	Pn	07 24 51.0	+0.1
MJAR	Matsushiro Arr	5.83	330	Pn	Pn	07 24 59.5	+0.8
	0.4nm,0.3s,baz=144,slow=12,SNR=10						
MJAR				Sn	Sn	07 26 04.8	+0.2
	0.2nm,0.3s,baz=128,slow=15,SNR=1.2						
	3.0nm,0.4s						
KSRS	Korea Array	12.91	301	LR	LR	07 31 32.9	
	comp=Z,55nm,18.9s,baz=145,slow=37						
SONM	Songino Array	31.44	311	P	P	07 29 53.0	+0.1
	0.7nm,0.5s,baz=108,slow=9.5,SNR=4.3						
	0.7nm,0.5s						
ZALV	Zalesovo Beam	46.02	316	P	P	07 31 55.6	+0.8
	0.6nm,0.4s,baz=103,slow=6.5,SNR=2.5						
	0.6nm,0.4s						
MKAR	Makanchi Array	47.52	307	P	P	07 32 07.0	+0.3
	0.4nm,0.5s,baz=89,slow=8.5,SNR=10						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	49.80	312	P	P	07 32 23.8	-0.4
	1.1nm,0.5s,baz=87,slow=7.1,SNR=12						
	1.1nm,0.5s						
WRA	Warramunga Arr	51.70	189	P	P	07 32 38.1	-0.5
	0.7nm,0.4s,baz=6.2,slow=7.7,SNR=19						
	0.7nm,0.4s						
ILAR	Eielson Array	53.99	30	P	P	07 32 55.4	+0.3
	0.7nm,0.7s,baz=262,slow=6.9,SNR=11						
	0.7nm,0.7s						
BVAR	Borovoye Array	54.64	315	P	P	07 33 01.5	+1.5
	0.9nm,0.5s,baz=96,slow=6.2,SNR=5.0						
	0.9nm,0.5s						
ASAR	Alice Springs	55.42	189	P	P	07 33 05.2	-0.7
	0.4nm,0.4s,baz=359,slow=4.9,SNR=10						
	0.4nm,0.4s						
ARU	Arti	60.78	321	P	P	07 33 43.1	0.0
	2.0nm,0.4s,baz=76,slow=12,SNR=2.0						
	2.0nm,0.4s						
AKTO	Aktyubinsk	62.69	314	P	P	07 33 56.6	+0.4
	1.3nm,0.5s,baz=6.4,slow=7.9,SNR=3.4						
	1.3nm,0.5s						
GEYT	Alibeck	66.91	301	P	P	07 34 24.0	+0.1
	1.2nm,0.3s,baz=129,slow=4.6,SNR=2.6						
	1.2nm,0.3s						
YKA	Yellowknife Ar	68.39	29	P	P	07 34 32.2	-0.5
	0.3nm,0.8s,baz=293,slow=6.6,SNR=4.0						
	0.3nm,0.8s						
FINES	FINESS Array B	73.85	333	P	P	07 35 05.4	-0.4
	3.6nm,0.9s,baz=57,slow=7.0,SNR=4.2						
	3.6nm,0.9s						
NVAR	Mina Array Bea	78.01	52	P	P	07 35 31.1	+0.8
	0.2nm,0.6s,baz=304,slow=8.5,SNR=2.0						
	0.2nm,0.6s						
AKASG	Malin Array Be	78.88	323	P	P	07 35 34.6	+0.1
	0.3nm,0.3s,baz=27,slow=1.0,SNR=1.6						
	0.3nm,0.3s						
NOA	NORSAR Array B	79.39	338	P	P	07 35 36.4	-0.8
	0.7nm,0.8s,baz=40,slow=5.2,SNR=2.3						
	0.7nm,0.8s						
TXAR	Lajitas Array	93.16	53	P	P	07 36 46.9	+0.9
	0.5nm,0.7s,baz=324,slow=2.7,SNR=5.5						
	0.5nm,0.7s						

NEIC 12 07:25:07.0±2.0, 34°.10N±0°.03×107°.10W±0°.04, h5km±2km, ML2.9/10, Error ellipse: s-maj=6.0km s-min=4.8km az=60.0, New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Y22D	IRIS PASSCAL I	0.15	101	Pg	Pg	07 25 10.9	+0.8
Y22D				Sg	Sg	07 25 13.7	+1.6
ANMO	Albuquerque	0.99	32	Pg	Pg	07 25 26.0	-0.2
ANMO				Sg	Sg	07 25 38.5	-0.6
ANMO				IAML		07 25 43.2	
	155nm,0.5s						
ANMO				IAML		07 25 43.3	
	316nm,0.7s						
121A	Cookes Peak, D	1.67	200		Pn	07 25 36.8	-0.3
121A					Sn	07 25 58.2	-0.8
121A				IAML		07 26 01.8	
	comp=E,347nm,0.4s						
121A				IAML		07 26 02.7	
	comp=N,292nm,0.4s						
DUN6	Lazy B Ranch	2.27	228	Pn	Pn	07 25 45.8	+0.4
X18A	Snowflake	2.40	281	Pn	Pn	07 25 47.7	+0.5
W18A	Petrified Fore	2.40	296	Pn	Pn	07 25 45.8	-1.4
319A	Douglas	3.28	215	Pn	Pn	07 25 59.1	-0.1
MVCO	Mesa Verde	3.31	340	Pn	Pn	07 25 58.2	-1.4
TUC	Tucson	3.57	241	Pn	Pn	07 26 03.6	+0.4
TUC	Tucson	3.57	241	IAML		07 27 02.1	
	comp=N,14nm,0.5s						
TUC				IAML		07 27 02.9	
	comp=N,17nm,0.7s						
425A	Indio Mountain	3.76	151	Pn	Pn	07 26 05.4	-0.4
WUAZ	Wupatki	3.79	293	Pn	Pn	07 26 07.4	+1.1
U15A	North Rim	4.84	300	Pn	Pn	07 26 22.4	+1.5
Y14A	Wickenburg	4.91	270	Pn	Pn	07 26 21.0	-0.6
DKNS	Dickens	5.15	93	Pn	Pn	07 26 25.0	+0.1
TX31	Lajitas Ar. Si	5.58	148	Pn	Pn	07 26 31.5	+0.7
TXAR	Lajitas Array	5.58	147	Pn	Pn	07 26 31.5	+0.7
MTPU	Mount Pierson	5.69	315	Pn	Pn	07 26 29.8	-2.8
APMT	Aspermont	5.86	96	Pn	Pn	07 26 33.7	-1.0
OZNA	Ozona	5.96	121	Pn	Pn	07 26 33.3	-2.6
MSU	Marysvale	6.02	318	Pn	Pn	07 26 35.4	-1.5
P18A	Preston Nutter	6.07	336	Pn	Pn	07 26 37.5	-0.2
ABTX	Abilene, Hawle	6.41	101	Pn	Pn	07 26 38.2	-4.0
BSUT	Blindstream Ca	7.05	337	Pn	Pn	07 26 48.0	-3.3
PLPT	Palo Pinto	7.45	97	Pn	Pn	07 26 52.9	-3.5

IDC **12** *07:29:17.9±1.2, 31°.49N×95°.62E, h0km, mb3.4/5, mbtmp3.4/6, ML3.0/1, MS3.7/1, Error ellipse: s-maj=149.4km s-min=20.4km az=53.0*

ISC 12 07:29:23.1±1.3, 31°.6N±0°.4×95°.7E±0°.6, h35km, n7, σ1s01/6, mb3.4/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	18.38	330	P	Pn	07 33 35.3	+0.3
	baz=137,slow=9.8,SNR=1.4						
	0.3nm,0.7s						
AAK	Ala-Archa	20.14	309	P	P	07 33 53.6	-0.7
	2.2nm,0.8s,baz=106,slow=4.7,SNR=4.5						
	2.2nm,0.8s						
KURBB	Kurchatov Arra	22.91	331	P	P	07 34 23.1	-0.6
	0.4nm,0.5s,baz=140,slow=11,SNR=4.8						
	0.4nm,0.5s						
BVAR	Borovoye Array	28.20	327	P	P	07 35 12.7	+0.4
	0.4nm,0.5s,baz=138,slow=11,SNR=2.1						
	0.4nm,0.5s						
JNU	Nakatsue	29.69	78	LR	LR	07 46 48.4	
	comp=Z,148nm,19.6s,baz=164,slow=35						
WRA	Warramunga Arr	63.22	139	P	P	07 39 47.0	-1.0
	0.4nm,1.1s,baz=322,slow=8.3,SNR=1.5						
	0.4nm,1.1s						
ASAR	Alice Springs	65.98	142	P	P	07 40 07.0	+1.0
	0.2nm,0.6s,baz=324,slow=6.2,SNR=5.4						
	0.2nm,0.6s						

IDC **12** *07:41:37.5±0.8, 54°.26N×169°.17E, h0km, mb3.7/15, mbtmp3.8/17, ML3.7/2, MS3.1/2, Error ellipse: s-maj=25.2km s-min=15.7km az=7.0*
NEIC **12** *07:41:41.0±1.8, 54°.1N±0°.3×169°.2E±0°.2, h19km±7km, mb4.1/52, Error ellipse: s-maj=38.5km s-min=16.6km az=172.0*
KRSC **12** *07:41:42.1±1.6, 53°.92N×168°.85E, h60km±34km, Ml4.5*
MOS **12** *07:41:42.3±1.1, 54°.12N×169°.03E, h52km, mb4.2/4, Error ellipse: s-maj=10.5km s-min=7.4km az=11.4*

ISC 12 07:41:40.7±0.6, 53°.94N±0°.07×169°.15E±0°.05, h25km, n134, σ1s51/140, mb4.1/33, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	2.24	306	eP	Pn	07 42 16.2	0.0
BKI				eS	Sn	07 42 43.4	+0.4
BKI	Bering	2.24	306	PN	Pn	07 42 16.2	0.0
BKI				S	Sn	07 42 43.4	+0.4
SHEM	Shemya Is, Ala	3.20	110	Pn	Pn	07 42 29.0	-0.4
	11nm,0.3s,baz=239,slow=19,SNR=2.1						
SHEM				Sn	Sn	07 43 08.7	+2.0
	14nm,0.3s,baz=256,slow=18,SNR=2.3						
	112nm,0.5s						
KBTR	Krutoberegovo	4.29	305	eP	Pn	07 42 44.5	+0.2
KBTR	Krutoberegovo	4.29	305	PN	Pn	07 42 44.5	+0.2
KBG	Krutoberegovo	4.37	305	eP	Pn	07 42 47.3	+1.9
KBG				eS	Sn	07 43 36.2	+0.8
KBG	Krutoberegovo	4.37	305	PN	Pn	07 42 47.3	+1.9
KBG				S	Sn	07 43 36.2	+0.8
TUMD	Tumrok D	5.25	288	eP	Pn	07 42 58.5	+1.0
BZGR	Bezymyannyi-Gr	5.27	296	eP	Pn	07 42 59.9	+2.0
BZGR				eS	Sn	07 43 58.7	+0.9
BZGR	Bezymyannyi-Gr	5.27	296	PN	Pn	07 42 59.9	+2.0
BZGR				S	Sn	07 43 58.7	+0.9
TUMR	Tumrok	5.41	288	PN	Pn	07 42 58.5	-1.2
KMNR	Kamenistaya	5.46	293	eP	Pn	07 43 02.7	+2.2
KMNR	Kamenistaya	5.46	293	PN	Pn	07 43 02.7	+2.2
KIRR	Kirishev	5.46	295	eP	Pn	07 43 02.6	+2.0
KIRR	Kirishev	5.46	295	PN	Pn	07 43 02.6	+2.0
SPN	Mys Shipunski	5.51	265	eP	Pn	07 43 02.2	+1.1
SPN				eS	Sn	07 44 01.2	-2.4
SPN	Mys Shipunski	5.51	265	PN	Pn	07 43 02.2	+1.1
NLC	Nalytchevo	5.90	266	eP	Pn	07 43 08.9	+2.6
NLC				eS	Sn	07 44 11.4	-1.6
NLC	Nalytchevo	5.90	266	PN	Pn	07 43 08.9	+2.6
UGLR	Uglovaya	6.20	267	eP	Pn	07 43 12.5	+1.9
UGLR	Uglovaya	6.20	267	PN	Pn	07 43 12.5	+1.9
AVH	Avacha	6.24	268	eP	Pn	07 43 12.9	+1.8
AVH	Avacha	6.24	268	PN	Pn	07 43 12.9	+1.8
DALK	Dalny	6.27	266	eP	Pn	07 43 13.3	+1.8
DALK	Dalny	6.27	266	PN	Pn	07 43 13.3	+1.8
KRX	Arik	6.27	269	eP	Pn	07 43 13.3	+1.6
KRX				eS	Sn	07 44 22.1	-0.4
KRX	Arik	6.27	269	PN	Pn	07 43 13.3	+1.6
KOK	Koryaka	6.29	268	eP	Pn	07 43 13.9	+2.0
KOK	Koryaka	6.29	268	PN	Pn	07 43 13.9	+2.0
PET	Petropavlovsk	6.33	266		Pn	07 43 13.9	+1.5
PET	Petropavlovsk	6.33	266	eP	Pn	07 43 14.0	+1.7
PET				eS	Sn	07 44 23.8	0.0
PET	Petropavlovsk	6.33	266	ePN	Pn	07 43 14.7	+2.3
PET				pmax	pmax		
	comp=Z,38nm,0.5s						
ESO	Esso	6.34	293	eP	Pn	07 43 15.4	+2.9
ESO	Esso	6.34	293	PN	Pn	07 43 15.4	+2.9
KRMR	Karymshinskiy	6.69	265	eP	Pn	07 43 19.0	+1.8
KRMR				eS	Sn	07 44 30.3	-2.2
KRMR	Karymshinskiy	6.69	265	PN	Pn	07 43 19.0	+1.8
MTVR	Mutnovka	6.75	262	eP	Pn	07 43 20.3	+2.1
MTVR	Mutnovka	6.75	262	PN	Pn	07 43 20.3	+2.1
GRL	Gorelyy	6.79	263	eP	Pn	07 43 21.1	+2.3
GRL	Gorelyy	6.79	263	PN	Pn	07 43 21.1	+2.3
PEA0B	Petropavlovsk-	6.88	268	Pn	Pn	07 43 22.4	+2.5
PEA0B	Petropavlovsk-	6.88	268	PN	Pn	07 43 22.4	+2.5
PETK	Petropavlovsk-	6.88	268	Pn	Pn	07 43 21.7	+1.9
PETK	Petropavlovsk-	6.88	268	Pn	Pn	07 43 21.2	+1.3
	comp=Z,4.0nm,0.3s,baz=94,slow=19,SNR=29						
PETK				Sn	Sn	07 44 36.9	-0.4
	comp=Z,2.1nm,0.3s,baz=119,slow=15,SNR=1.3						
	comp=Z,6.7nm,0.4s						
ASAK	Asacha	6.94	262	eP	Pn	07 43 23.2	+2.4
ASAK	Asacha	6.94	262	PN	Pn	07 43 23.2	+2.4
KDTR	Khodutka, Kamc	7.03	257	eP	Pn	07 43 23.4	+1.5
KDTR				eS	Sn	07 44 38.3	-2.8
KDTR	Khodutka, Kamc	7.03	257	PN	Pn	07 43 23.4	+1.5
M13K	Dall Lake	16.17	55	P	Pn	07 45 24.9	-1.0
L14K	Kuka Creek	16.69	52	P	P	07 45 34.0	-0.7
L14K				IAmb	IAmb	07 46 15.1	
	comp=Z,20nm,1.3s						
M14K	Bethel	16.91	55	P	P	07 45 36.9	-0.2
K15K	Wolf Creek Mou	17.46	50	P	P	07 45 43.2	-0.1
K15K				IAmb	IAmb	07 46 05.2	
	comp=Z,35nm,1.4s						
N15K	Kwethluk River	17.73	57	P	P	07 45 46.9	+0.6
N15K				IAmb	IAmb	07 46 03.2	
	comp=Z,32nm,1.4s						
L16K	Owhat River	18.27	52	P	P	07 45 52.2	0.0
L16K				IAmb	IAmb	07 46 23.9	
	comp=Z,25nm,1.5s						

J17K	VABM Dome	18.84	47	P		Pn	07 45 58.7	-0.3
K17K	Iditarod	19.02	50	P		P	07 45 59.7	-0.7
M17K	Holitna River	19.18	54	P		Pn	07 46 02.0	-1.2
M17K				IAmb		IAmb	07 46 08.7	
	comp=Z,24nm,1.2s							
N17K	Nushagak Hills	19.21	56	P		P	07 46 02.1	-0.4
N17K				IAmb		IAmb	07 46 11.3	
	comp=Z,12nm,1.1s							
L18K	Granite Mounta	19.66	51	P		P	07 46 06.9	-0.4
L18K				IAmb		IAmb	07 46 25.0	
	comp=Z,20nm,1.5s							
G18K	Tagagawik	19.81	40	P		P	07 46 09.1	+0.1
J18K	Innoko River	19.89	48	P		Pn	07 46 10.0	-1.6
J18K				IAmb		IAmb	07 46 22.3	
	comp=Z,18nm,1.4s							
SVW2	Sparrevohn	20.04	55	P		P	07 46 07.8	-3.8
TTA	Tatalina	20.09	50	P		P	07 46 12.2	+0.1
TTA				IAmb		IAmb	07 46 36.5	
	comp=Z,15nm,1.4s							
TTA	Tatalina	20.09	50	P		P	07 46 12.3	+0.1
TTA				pmax		pmax		
	comp=Z,15nm,1.4s							
C18K	Utukok River	20.18	32	P		P	07 46 12.2	-0.9
C18K				IAmb		IAmb	07 46 33.6	
	comp=Z,14nm,1.4s							
J19K	Poorman	20.48	47	P		P	07 46 13.6	-2.6
L19K	White Mountain	20.50	52	P		P	07 46 16.4	-0.2
L19K				IAmb		IAmb	07 46 18.0	
	comp=Z,11nm,1.0s							
H19K	Roundabout Mou	20.55	42	P		P	07 46 16.2	-0.7
E19K	Redstone River	20.94	37	P		P	07 46 20.9	-0.3
E19K				IAmb		IAmb	07 47 03.2	
	comp=Z,9.1nm,1.3s							
K20K	Telida	21.03	49	P		P	07 46 22.7	+0.4
K20K				IAmb		IAmb	07 46 30.4	
	comp=Z,11nm,1.4s							
D19K	Kuna River	21.09	34	P		P	07 46 22.4	-0.4
D19K				IAmb		IAmb	07 46 43.7	
	comp=Z,8.2nm,1.1s							
J20K	Nowinta River	21.15	47	P		P	07 46 23.7	+0.2
F20K	Avaraart Lake	21.33	38	P		P	07 46 24.4	-0.9
IMAR	Indian Mountai	21.74	42	P		P	07 46 28.5	-1.3
H21K	Melozitna Rive	22.04	43	P		P	07 46 31.7	-1.3
B20K	Meade River	22.11	30	P		P	07 46 32.5	-1.2
F21K	Alatna River	22.21	39	P		P	07 46 33.7	-1.2
E21K	Killik River	22.45	35	P		P	07 46 36.0	-1.5
B21K	Ikpikpuk River	22.71	32	P		P	07 46 39.0	-1.2
B21K				IAmb		IAmb	07 46 56.3	
	comp=Z,16nm,1.5s							
TRF	Thorofare Moun	22.73	49	P		P	07 46 38.9	-1.7
D22K	Ayikyak River	23.06	35	P		P	07 46 43.7	-0.1
D22K				IAmb		IAmb	07 47 10.9	
	comp=Z,10nm,1.4s							
B22K	Teshekpuk Lake	23.39	31	P		P	07 46 45.3	-1.8
KLR	Kul'dur	23.52	274	LR		LR	07 55 53.4	
	comp=Z,18nm,19.8s,baz=47,slow=36							
CCB	Clear Creek Bu	23.94	46	P		P	07 46 51.0	-1.4
SCM	Sheep Creek Mo	24.03	53	P		P	07 46 52.5	-0.9
SCM	Sheep Creek Mo	24.03	53	P		P	07 46 52.5	-0.9
SCM				pmax		pmax		
	comp=Z,19nm,1.2s							
TOLK	Toolik Lake Re	24.05	36	P		P	07 46 53.3	-0.1
C23K	Itkillik River	24.08	33	P		P	07 46 52.1	-1.5
E24K	Your Creek	24.28	38	P		P	07 46 54.6	-1.0
E24K				IAmb		IAmb	07 47 22.9	
	comp=Z,7.9nm,1.4s							
ILAR	Eielson Array	24.35	46	P		P	07 46 54.3	-1.9
	comp=Z,1.3nm,1.0s,baz=249,slow=7.4,SNR=8.8							
	comp=Z,1.3nm,1.0s							
F24K	Squaw Lake	24.38	39	P		P	07 46 55.7	-0.8
F24K				IAmb		IAmb	07 47 16.3	
	comp=Z,7.8nm,1.4s							
D25K	Kavik River	25.34	36	P		P	07 47 04.1	-1.1
D25K				IAmb		IAmb	07 47 22.6	
	comp=Z,5.0nm,0.9s							
E25K	Arctic Village	25.36	38	P		P	07 47 05.3	0.0
E25K				IAmb		IAmb	07 47 28.4	
	comp=Z,4.9nm,1.1s							
BMAR	Burnt Mountain	25.61	40	P		P	07 47 07.2	-0.5
EGAK	Eagle	26.80	46	P		P	07 47 16.5	-1.9
D27M	Malcolm River	27.21	37	P		P	07 47 22.5	+0.4
DAWY	Dawson	27.59	48	P		P	07 47 25.0	-0.4
DAWY				IAmb		IAmb	07 47 39.8	
	comp=Z,4.0nm,1.1s							
H29M	Whitestone	27.97	43	P		P	07 47 29.1	+0.3
H29M				IAmb		IAmb	07 48 02.8	
	comp=Z,8.4nm,1.4s							
G29M	Pine Creek	28.11	42	P		P	07 47 30.1	0.0
G29M				IAmb		IAmb	07 47 46.8	
	comp=Z,6.1nm,1.2s							
K29M	Barlow Dome	28.43	48	P		P	07 47 32.1	-0.9
K29M				IAmb		IAmb	07 47 46.2	
	comp=Z,4.9nm,1.1s							
G31M	Satah River	29.59	42	P		P	07 47 42.9	-0.3
G31M				IAmb		IAmb	07 48 03.9	
	comp=Z,6.1nm,1.5s							
F31M	Tsiigehtchic	29.78	41	P		P	07 47 46.0	+1.2
F31M				IAmb		IAmb	07 47 48.3	
	comp=Z,5.3nm,1.3s							
C36M	Paulatuk	33.20	37	P		P	07 48 15.2	+0.4
H11N2	WAKE ISLAND Hy	34.19	184	T		T

WRA	**Warramunga Arr**	**79.44**	**213**	P		**P**	**07 53 47.3**	**+2.8**
	comp=Z,0.2nm,0.6s,baz=22,slow=6.2,SNR=2.2							
	comp=Z,0.2nm,0.6s							
ASAR	**Alice Springs**	**83.06**	**212**	P		**P**	**07 54 06.2**	**+2.5**
	comp=Z,0.2nm,0.7s,baz=20,slow=5.0,SNR=2.1							
	comp=Z,0.2nm,0.7s							

IDC 12 07:41:45.2±14.0, 3°16S×104°90W, h0km, mb3.5/4, mbtmp3.5/4, MS3.3/1, Error ellipse: s-maj=473.1km s-min=126.8km az=120.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMIG	**Matias Romero**	**22.41**	**26**	LR		LR	07 53 21.8	
	comp=Z,70nm,18.8s,baz=220,slow=31							
TXAR	**Lajitas Array**	**32.33**	**2**	P		P	07 48 16.8	+0.4
	0.4nm,0.9s,baz=188,slow=12,SNR=3.9							
	0.4nm,0.9s							
PDAR	**Pinedale Array**	**45.90**	**355**	P		P	07 50 09.3	-0.6
	0.3nm,0.6s,baz=161,slow=5.7,SNR=3.4							
	0.3nm,0.6s							
YKA	**Yellowknife Ar**	**65.89**	**355**	P		P	07 52 32.6	+0.1
	0.6nm,0.8s,baz=166,slow=6.4,SNR=7.3							
	0.6nm,0.8s							
ILAR	**Eielson Array**	**74.42**	**343**	P		P	07 53 24.7	-0.1
	0.5nm,0.8s,baz=146,slow=5.0,SNR=5.4							
	0.5nm,0.8s							

SJA ***12*** *07:42:21.5±0.8, 31°64S×70°28W, h118km±3km, ML3.9, MW3.7*

NEIC ***12*** *07:42:22.1±1.6, 31°66S±0°05×70°30W±0°08, h126km±8km, mb4.3/6, Error ellipse: s-maj=10.1km s-min=6.6km az=104.0*

IDC ***12*** *07:42:23.5±2.6, 31°76S×70°15W, h114km±22km, mb3.2/3, mbtmp3.5/5, Error ellipse: s-maj=36.1km s-min=24.6km az=128.0*

GUC ***12*** *07:42:23.1±1.0, 31°60S×70°23W, h117km±7km, ML4.2*

ISC 12 07:42:22.5±0.7, 31°63S±0°03×70°28W±0°03, h115km±5km, n99, σ1s06/135, mb3.7/7, 5C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO02	**Combarbal**	**0.75**	**304**			**Pn**	**07 42 42.4**	**+0.4**
CO02	**Combarbal**	**0.75**	**304**	*i* P		**Pn**	**07 42 42.4**	**+0.4**
CO02				*i* S		**Sn**	**07 42 56.8**	**+0.3**
CO02				IAML			07 42 58.5	
	comp=Z,4μm,0.4s							
CO02	**Combarbal**	**0.75**	**304**	⇑*i* P		**Pn**	**07 42 42.3**	**+0.4**
CO02				*e*S		**Sn**	**07 42 56.3**	**-0.2**
CO02				IAML			07 42 58.3	
	comp=E,14μm,0.5s							
RTLS	**Leoncito**	**0.85**	**102**	*i* P		**Pn**	**07 42 43.3**	**+0.3**
RTLS				*i* S		**Sn**	**07 42 59.5**	**+1.0**
CO03	**El Pedregal**	**0.86**	**336**	Pn		**Pn**	**07 42 43.4**	**+0.5**
CO03	**El Pedregal**	**0.86**	**336**	*i* P		**Pn**	**07 42 43.4**	**+0.5**
CO03				*i* S		**Sn**	**07 42 58.5**	**+0.3**
CO03				IAML			07 43 01.0	
	comp=Z,2μm,0.2s							
CO03	**El Pedregal**	**0.86**	**336**	*i* P		**Pn**	**07 42 43.2**	**+0.3**
CO03				*e*S		**Sn**	**07 42 58.7**	**+0.4**
CO03				IAML			07 43 01.0	
	comp=E,6μm,0.2s							
DOCA	**Reserva Natura**	**1.23**	**57**	*i* P		**Pn**	**07 42 47.1**	**+0.1**
DOCA				*i* S		**Sn**	**07 43 06.0**	**+0.7**
ZON	**Zonda**	**1.37**	**87**	Pn		**Pn**	**07 42 48.0**	**-0.1**
ACCO	**Cerro Coronel**	**1.47**	**45**	*i* P		**Pn**	**07 42 50.2**	**+0.6**
ACCO				*i* S		**Sn**	**07 43 11.6**	**+1.5**
ACCO				IAML			07 43 12.1	
	comp=Z,581nm,0.2s							
ROCH	**El Roble**	**1.48**	**205**	*i* P			07 42 51.2	
ROCH				*i* P		**Pn**	**07 42 51.2**	**+1.5**
ROCH				IAML			07 43 11.2	
	comp=E,3μm,0.4s							
ROC1	**El Roble**	**1.48**	**205**			**Pn**	**07 42 49.7**	**-0.1**
RTCV	**Cerro Valdivia**	**1.50**	**100**	*i* P		**Pn**	**07 42 49.9**	**+0.2**
RTCV				*i* S		**Sn**	**07 43 10.5**	**+0.2**
GO04	**Tololo Observa**	**1.52**	**343**			**Pn**	**07 42 50.4**	**+0.3**
GO04	**Tololo Observa**	**1.52**	**343**	*i* P		**Pn**	**07 42 50.5**	**+0.3**
GO04				*i* S		**Sn**	**07 43 11.7**	**+0.7**
GO04	**Tololo Observa**	**1.52**	**343**	⇑*i* P		**Pn**	**07 42 50.4**	**+0.3**
GO04				*e*S		**Sn**	**07 43 10.6**	**-0.4**
GO04				IAML			07 43 16.1	
	comp=N,6μm,0.4s							
PEL	**Peldehue**	**1.55**	**193**			**Pn**	**07 42 50.3**	**0.0**
PEL	**Peldehue**	**1.55**	**193**	*i* P		**Pn**	**07 42 50.3**	**0.0**
PEL				*e*S		**Sn**	**07 43 11.8**	**+0.3**
ASAL	**Salagasta**	**1.56**	**129**	*i* P		**Pn**	**07 42 50.9**	**+0.5**
ASAL				*i* S		**Sn**	**07 43 12.5**	**+0.9**
ASAL				IAML			07 43 13.4	
	comp=Z,522nm,0.8s							
RTLL	**Cerro Villicun**	**1.57**	**80**	*i* P		**Pn**	**07 42 50.2**	**-0.3**
RTLL				*i* S		**Sn**	**07 43 12.0**	**+0.3**
RTLL				IAML			07 43 12.4	
	comp=Z,1μm,0.3s							
AROD	**Rodeo**	**1.61**	**26**	*i* P		**Pn**	**07 42 52.4**	**+1.0**
AROD				*i* S		**Sn**	**07 43 14.8**	**+1.7**
CO01	**Juntas del Tor**	**1.65**	**6**			**Pn**	**07 42 53.1**	**+1.4**
MT10	**Hacienda Santa**	**1.66**	**188**	⇓*i* P		**Pn**	**07 42 52.2**	**+0.5**
MT10				*e*S		**Sn**	**07 43 14.4**	**+0.5**
MT10				IAML			07 43 16.6	
	comp=E,2μm,0.2s							
ARCO	**CERRO ARCO**	**1.66**	**137**	*i* P		**Pn**	**07 42 52.4**	**+0.6**
ARCO				*i* S		**Sn**	**07 43 13.9**	**-0.1**
ARCO				IAML			07 43 18.2	
	comp=Z,1μm,0.3s							
FCH	**Farellones**	**1.70**	**180**	*i* P		**Pn**	**07 42 53.4**	**+1.1**
CFA	**Coronel Fontan**	**1.74**	**90**	*i* P		**Pn**	**07 42 52.4**	**-0.2**
CFA				*i* S		**Sn**	**07 43 15.3**	**-0.1**
CFA				IAML			07 43 16.7	
	comp=Z,485nm,0.2s							
CFA	**Coronel Fontan**	**1.74**	**90**	P		**Pn**	**07 42 52.4**	**-0.2**
	comp=Z,459nm,0.4s,baz=265,slow=11,SNR=766							
CFA				S		**Sn**	**07 43 14.2**	**-1.3**
	comp=Z,484nm,0.3s,baz=190,slow=17,SNR=54							
ACDV	**Cuesta del Vie**	**1.76**	**35**	*i* P		**Pn**	**07 42 54.1**	**+1.1**
ACDV				*i* S		**Sn**	**07 43 16.8**	**+0.7**
MT04	**Ro Olivares**	**1.78**	**176**	*i* P		**Pn**	**07 42 54.3**	**+1.1**
MT04				*e*S		**Sn**	**07 43 17.2**	**+0.6**
MT14	**Cerro Cal¡n**	**1.78**	**187**	*i* P		**Pn**	**07 42 53.6**	**+0.5**
MT14				*e*S		**Sn**	**07 43 17.1**	**+0.7**
MT14				IAML			07 43 24.4	
	comp=E,1μm,0.5s							
MT02	**Curacav**	**1.78**	**204**			**Pn**	**07 42 52.7**	**-0.4**
MT02	**Curacav**	**1.78**	**204**	*i* P		**Pn**	**07 42 53.0**	**-0.1**
MT02				*i* S		**Sn**	**07 43 15.9**	**-0.4**
MT02				IAML			07 43 16.8	
	comp=Z,678nm,0.2s							
MT02	**Curacav**	**1.78**	**204**	*i* P		**Pn**	**07 42 52.6**	**-0.4**
MT05	**Renca**	**1.80**	**192**			**Pn**	**07 42 53.6**	**+0.2**
MT05	**Renca**	**1.80**	**192**	*i* P		**Pn**	**07 42 53.7**	**+0.4**
MT05				*i* S		**Sn**	**07 43 16.8**	**-0.1**
MT05				IAML			07 43 19.1	
	comp=Z,1μm,0.2s							
MT05	**Renca**	**1.80**	**192**	*i* P		**Pn**	**07 42 53.5**	**+0.2**
MT05				*e*S		**Sn**	**07 43 17.7**	**+0.8**
MT05				IAML			07 43 18.9	
	comp=E,4μm,0.2s							
VA01	**Torpederas**	**1.81**	**219**			**Pn**	**07 42 53.0**	**-0.3**
VA01	**Torpederas**	**1.81**	**219**	*i* P		**Pn**	**07 42 53.1**	**-0.3**
VA01				*i* S		**Sn**	**07 43 16.7**	**-0.3**
VA01	**Torpederas**	**1.81**	**219**	*i* P		**Pn**	**07 42 55.0**	**+1.7**
MT08	**Bocatoma Ro**	**1.83**	**173**			**Pn**	**07 42 55.0**	**+1.2**
MT08	**Bocatoma Ro**	**1.83**	**173**	*i* P		**Pn**	**07 42 54.7**	**+0.8**
MT08				*e*S		**Sn**	**07 43 18.9**	**+1.2**
MT03	**Universidad Ad**	**1.87**	**186**			**Pn**	**07 42 54.8**	**+0.5**
MT03	**Universidad Ad**	**1.87**	**186**	*i* P		**Pn**	**07 42 54.4**	**+0.1**
MT03				*i* S		**Sn**	**07 43 18.4**	**-0.1**
MT03				IAML			07 43 22.3	
	comp=Z,1μm,0.2s							
MT03	**Universidad Ad**	**1.87**	**186**	⇓*i* P		**Pn**	**07 42 54.9**	**+0.5**
MT03				*e*S		**Sn**	**07 43 18.8**	**+0.3**
MT03				IAML			07 43 25.5	
	comp=E,2μm,0.2s							
CO05	**La Serena**	**1.89**	**334**			**Pn**	**07 42 54.5**	**0.0**
CO05	**La Serena**	**1.89**	**334**	⇑*i* P		**Pn**	**07 42 54.3**	**-0.1**
AAGR	**Agrelo**	**1.90**	**140**	*i* P		**Pn**	**07 42 55.2**	**+0.6**
AAGR				*i* S		**Sn**	**07 43 19.4**	**+0.3**
AAGR				IAML			07 43 23.9	
	comp=Z,701nm,1.0s							
MT15	**Las Vizcachas**	**1.98**	**186**	*i* P		**Pn**	**07 42 56.0**	**+0.4**
MT15				*e*S		**Sn**	**07 43 21.3**	**+0.6**
MT15				IAML			07 43 23.6	
	comp=E,2μm,0.2s							
MT13	**San Alfonso**	**2.11**	**180**			**Pn**	**07 42 57.9**	**+0.6**
MT13	**San Alfonso**	**2.11**	**180**	⇑*i* P		**Pn**	**07 42 58.2**	**+0.9**
MT12	**Pirque**	**2.11**	**186**	*i* P		**Pn**	**07 42 57.7**	**+0.4**
MT12				*e*S		**Sn**	**07 43 23.6**	**-0.2**
MT12				IAML			07 43 26.0	
	comp=E,828nm,0.4s							
LMEL	**Las Melosas**	**2.22**	**178**			**Pn**	**07 42 59.6**	**+0.9**
LMEL	**Las Melosas**	**2.22**	**178**	⇑*i* P		**Pn**	**07 42 59.9**	**+1.3**
MT09	**Talagante**	**2.23**	**195**			**Pn**	**07 42 58.4**	**-0.4**
MT09	**Talagante**	**2.23**	**195**	*i* P		**Pn**	**07 42 59.3**	**+0.5**
VA05	**Santo Domingo**	**2.32**	**209**			**Pn**	**07 42 59.2**	**-0.6**
VA05	**Santo Domingo**	**2.32**	**209**	*i* P		**Pn**	**07 43 00.5**	**+0.7**
BO04	**La Punta**	**2.37**	**187**			**Pn**	**07 43 00.6**	**0.0**
MT01	**Popeta**	**2.38**	**200**	Pn		**Pn**	**07 43 00.0**	**-0.5**
MT01	**Popeta**	**2.38**	**200**	*i* P		**Pn**	**07 43 00.4**	**-0.1**
MT01				*i* S		**Sn**	**07 43 29.3**	**-0.4**
MT01				IAML			07 43 29.8	
	comp=Z,390nm,0.1s							
MT01	**Popeta**	**2.38**	**200**	*i* P		**Pn**	**07 43 01.6**	**+1.0**
LCO	**Las Campanas**	**2.63**	**352**	Pn		**Pn**	**07 43 04.3**	**+0.1**
LCO	**Las Campanas**	**2.63**	**352**	*i* P		**Pn**	**07 43 04.1**	**0.0**
LCO				*i* S		**Sn**	**07 43 36.2**	**+0.2**
AC05	**El Transito**	**2.78**	**0**	Pn		**Pn**	**07 43 07.2**	**+1.3**
AC05	**El Transito**	**2.78**	**0**	*i* P		**Pn**	**07 43 06.2**	**+0.2**
AC05				*i* S		**Sn**	**07 43 39.0**	**-0.3**
AC05				IAML			07 43 41.1	
	comp=Z,187nm,0.3s							
BO01	**Tunca**	**2.84**	**194**			**Pn**	**07 43 06.0**	**-0.6**
BO02	**Sierra Bellavi**	**3.19**	**187**	Pn		**Pn**	**07 43 10.8**	**-0.4**
BO02	**Sierra Bellavi**	**3.19**	**187**	*i* P		**Pn**	**07 43 11.2**	**+0.1**
BO02				*i* S		**Sn**	**07 43 48.0**	**-0.8**
BO02				IAML			07 43 49.4	
	comp=Z,271nm,0.1s							
AC04	**Llanos de Chal**	**3.48**	**348**	Pn		**Pn**	**07 43 15.3**	**+0.2**
AC04	**Llanos de Chal**	**3.48**	**348**	*i* P		**Pn**	**07 43 15.3**	**+0.2**
AC04				IAML			07 44 07.2	
	comp=Z,120nm,0.3s							
RFA	**San Rafael**	**3.48**	**155**	*i* P		**Pn**	**07 43 14.8**	**-0.3**
GO05	**Huala**	**3.65**	**202**	Pn		**Pn**	**07 43 15.6**	**-1.7**
GO03	**Copiap**	**4.02**	**1**			**Pn**	**07 43 22.1**	**-0.2**
GO03	**Copiap**	**4.02**	**1**	*i* P		**Pn**	**07 43 22.5**	**+0.1**
ML02	**Panimavida**	**4.23**	**193**			**Pn**	**07 43 23.5**	**-1.6**
AC06	**Mina Casimiro**	**4.25**	**359**	Pn		**Pn**	**07 43 25.5**	**0.0**
PB15	**IPOC Station P**	**8.41**	**5**	Pn		**Pn**	**07 44 22.5**	**+0.6**
LVC	**Limon Verde**	**9.06**	**8**	P		**Pn**	**07 44 27.2**	**-3.6**
	comp=Z,1.0nm,0.3s,baz=170,slow=13,SNR=1.9							
LVC				S		**Sn**	**07 46 05.1**	**-6.1**
	comp=Z,2.1nm,0.6s,baz=180,slow=20,SNR=1.7							
PLCA	**Paso Flores**	**9.09**	**181**	P		**Pn**	**07 44 29.2**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=26,slow=21,SNR=1.3							
TRQA	**Tornquist**	**9.36**	**136**	Pn		**Pn**	**07 44 32.5**	**-1.8**
ITQB	**Itaqui**	**11.92**	**84**	Pn		**Pn**	**07 45 05.5**	**-3.2**
CPUP	**Villa Florida**	**12.50**	**68**	P		**Pn**	**07 45 12.9**	**-3.5**
	comp=Z,2.3nm,1.0s,baz=239,slow=11,SNR=2.8							
PB16	**IPOC Station P**	**13.25**	**3**	P		**Pn**	**07 45 28.2**	**+1.4**
LPAZ	**La Paz**	**15.39**	**8**	P		**Pn**	**07 45 54.8**	**+0.7**
SIV	**San Ignacio**	**17.68**	**30**	P		**P**	**07 46 20.8**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=213,slow=13,SNR=4.8							
ETMB	**Extrema**	**22.03**	**11**	P		**P**	**07 47 08.7**	**+0.9**
ETMB				IAmb		IAmb	07 47 10.5	
	comp=Z,4.0nm,1.0s							
SAML	**Samuel**	**23.51**	**18**	P		**P**	**07 47 23.0**	**+0.8**
QSPA	**South Pole Qui**	**58.60**	**180**	P		**P**	**07 52 06.4**	**-0.8**
QSPA				IAmb		IAmb	07 52 13.2	
	comp=Z,4.1nm,1.4s							
V58A	**Windy Hill, Pi**	**67.58**	**352**	P		**P**	**07 53 06.2**	**-0.3**
V58A				IAmb		IAmb	07 53 19.9	
	comp=Z,6.8nm,1.1s							
TXAR	**Lajitas Array**	**68.43**	**329**	P		**P**	**07 53 14.1**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=152,slow=9.9,SNR=2.1							
	comp=Z,0.2nm,0.6s							
LCAR	**Lake Charles**	**70.13**	**342**	P		**P**	**07 53 22.8**	**+0.5**
LCAR				IAmb		IAmb	07 53 26.9	
	comp=Z,12nm,1.4s							
TORD	**Torodi Ar. Bea**	**82.00**	**69**	P		**P**	**07 54 29.1**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=268,slow=5.8,SNR=3.0							
	comp=Z,0.5nm,0.7s							
PDAR	**Pinedale Array**	**82.34**	**332**	P		**P**	**07 54 33.5**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=161,slow=8.6,SNR=2.3							
	comp=Z,0.2nm,0.6s							
ASAR	**Alice Springs**	**120.35**	**206**	PKP		**PKPdf**	**08 01 00.7**	**-0.1**
	comp=Z,0.3nm,1.0s,baz=142,slow=1.6,SNR=4.9							
WRA	**Warramunga Arr**	**123.55**	**208**	PKP		**PKiKP**	**08 01 07.8**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=159,slow=1.7,SNR=16							
BVAR	**Borovoye Array**	**144.53**	**41**	PKP		**PKPdf**	**08 01 45.9**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=297,slow=0.3,SNR=2.2							
KURBB	**Kurchatov Arra**	**150.12**	**41**	PKPbc		**PKiKP**	**08 02 01.1**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=303,slow=3.0,SNR=6.8							
ZALV	**Zalesovo Beam**	**151.43**	**31**	PKPbc		**PKiKP**	**08 02 03.9**	**+1.1**
	comp=Z,1.9nm,0.5s,baz=309,slow=3.5,SNR=7.1							
MKAR	**Makanchi Array**	**154.07**	**46**	PKPab		**PKPab**	**08 02 23.5**	**+1.0**
	comp=Z,0.2nm,0.8s,baz=284,slow=5.8,SNR=3.5							

NNC ***12*** *07:43:57.6±2.8, 54°14N×87°44E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=24.2km s-min=12.4km az=25.0, Suspected Mining explosion.*

IDC ***12*** *07:44:01.0±2.4, 54°12N×87°13E, h0km, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=20.7km s-min=13.1km az=67.0*

ISC 12 07:44:02.4±4.3, 54°1N±0°2×86°9E±0°2, h0km, n10, σ2s20/15, 6C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**266**	I		I	07 51 58.9	
	baz=81,slow=346,SNR=16							
ZAA0	**Zalesovo Array**	**1.22**	**266**	⇓P		**Pg**	**07 44 25.6**	**-0.3**
	0.4nm,0.4s							
ZAA0				⇑S		**Sn**	**07 44 47.3**	**+3.3**
	7.0nm,0.8s							
ZALV	**Zalesovo Beam**	**1.22**	**266**	Pg		**Pb**	**07 44 25.9**	**-0.5**
	4.0nm,0.3s,baz=80,slow=16,SNR=30							
ZALV				Lg		Lg	07 44 45.7	
	3.5nm,0.3s,baz=79,slow=27,SNR=16							
KURK	**Kurchatov**	**6.06**	**240**	⇓Pn		**Pn**	**07 45 33.2**	**0.0**
	0.2nm,0.4s							
KURK				⇓Lg		Lg	07 47 20.0	
	4.7nm,0.9s							
KURBB	**Kurchatov Arra**	**6.16**	**240**	Pn		**Pn**	**07 45 36.7**	**+2.1**
	0.1nm,0.3s,baz=56,slow=14,SNR=9.3							
KURBB						Sn	**Sn**	**07 46 46.7**	**+1.0**
	baz=59,slow=33,SNR=0.9							
KURBB						Lg	Lg	07 47 23.9	
	baz=54,slow=30,SNR=1.3							
	0.6nm,0.3s							
KURBB	**Kurchatov Arra**	**6.16**	**240**	⇑Pn		**Pn**	**07 45 35.7**	**+1.1**
	0.7nm,0.4s							
KURBB				⇑Lg		Lg	07 47 24.2	
	10nm,1.0s							
MK31	**Makanchi Array**	**7.83**	**204**	⇓Pn		**Pn**	**07 45 58.7**	**+1.1**
	baz=27,slow=14,SNR=5.7							
MK31				⇓Sn		**Sn**	**07 47 30.8**	**+3.9**
	0.1nm,0.5s							
MK31				⇑Lg		Lg	07 48 15.6	
	3.3nm,0.9s,baz=21,slow=25,SNR=5.5							
MKAR	**Makanchi Array**	**7.83**	**204**	Pn		**Pn**	**07 45 59.1**	**+1.6**
	0.1nm,0.3s,baz=28,slow=14,SNR=5.6							
MKAR						Sn	**Sn**	**07 47 26.7**	**-0.2**
	0.1nm,0.3s,baz=22,slow=17,SNR=2.8							
MKAR						Lg	Lg	07 48 11.4	
	baz=22,slow=31,SNR=1.8							
	0.1nm,0.3s							
MAKZ	**Makanchi**	**7.90**	**205**	⇑Pn		**Pn**	**07 45 55.7**	**-2.8**
	0.2nm,0.3s							
MAKZ				⇓Sn		**Sn**	**07 47 26.3**	**-2.1**
	0.2nm,0.5s							
MAKZ				⇑Lg		Lg	07 48 17.7	
	1.5nm,0.8s							
BVAR	**Borovoye Array**	**9.88**	**271**	Pn		**Pn**	**07 46 24.7**	**-0.8**
	0.1nm,0.3s,baz=73,slow=20,SNR=8.0							
BVAR						Sn	**Sn**	**07 48 14.1**	**-2.9**
	baz=63,slow=29,SNR=5.4							
	0.5nm,0.3s							

IDC ***12*** *07:46:12.2±1.2, 52°7S×27°97E, h0km, mb3.9/6, mbtmp3.9/6, MS3.1/5, Error ellipse: s-maj=40.9km s-min=27.8km az=89.0*

ISC 12 07:46:13.8±1.2, 52°7S±0°2×28°0E±0°3, h10km, n15, σ0s52/7, mb3.9/6, MS3.0/5, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H04S2	**CROZET ISLANDS**	**16.48**	**79**	T		T	08 07 19.7	
	baz=242,slow=75,SNR=43							
H04S3	**CROZET ISLANDS**	**16.49**	**79**	T		T	08 07 19.8	
	baz=242,slow=75,SNR=30							
H04S1	**CROZET ISLANDS**	**16.50**	**79**	T		T	08 07 15.9	
	baz=242,slow=75,SNR=57							
SUR	**Sutherland**		**20.94**	**343**	LR	LR	07 57 47.0	
	comp=Z,34nm,18.2s,baz=180,slow=33							
SNAA	**Sanae**	**23.37**	**204**	P		**P**	**07 51 22.7**	**+0.5**
	1.6nm,0.9s,baz=66,slow=15,SNR=5.7							
	1.6nm,0.9s							
SNAA	**Sanae**	**23.37**	**204**	P		**P**	**07 51 22.4**	**+0.3**
BOSA	**Boshof**	**24.12**	**354**	LR		LR	07 59 25.8	
	comp=Z,66nm,18.2s,baz=200,slow=33							
LBTB	**Lobatse**	**27.68**	**355**	LR		LR	08 01 35.4	
	comp=Z,39nm,18.8s,baz=192,slow=33							
TSUM	**Tsumeb**	**34.38**	**342**	LR		LR	08 05 15.4	
	comp=Z,32nm,21.7s,baz=154,slow=33							
LSZ	**Lusaka**	**37.31**	**0**	LR		LR	08 07 52.9	
	comp=Z,31nm,18.1s,baz=183,slow=35							
QSPA	**South Pole Qui**	**37.54**	**180**	P		**P**	**07 53 27.2**	**-0.7**
	1.3nm,0.6s,baz=247,slow=1.2,SNR=7.8							
	1.3nm,0.6s							
VNDA	**Vanda**		**46.96**	**168**	P		**P**	**07 54 44.3**	**+0.1**
	1.6nm,0.6s,baz=232,slow=6.7,SNR=10							
	1.6nm,0.6s							
TORD	**Torodi Ar. Bea**	**69.36**	**333**	P		**P**	**07 57 21.4**	**-0.1**
	0.6nm,0.7s,baz=157,slow=6.6,SNR=4.1							
	0.6nm,0.7s							
ASAR	**Alice Springs**	**80.60**	**117**	P		**P**	**07 58 27.2**	**+0.5**
	0.9nm,0.8s,baz=217,slow=4.9,SNR=11							
	0.9nm,0.8s							
WRA	**Warramunga Arr**	**83.83**	**115**	P		**P**	**07 58 43.5**	**-0.1**
	1.2nm,0.9s,baz=213,slow=4.1,SNR=8.7							
	1.2nm,0.9s							

NEIC ***12*** *07:52:45.5±2.1, 20°6S±0°1×173°6W±0°1, h10km±1km, mb4.7/29, Error ellipse: s-maj=21.3km s-min=18.3km az=0.0*

IDC ***12*** *07:52:46.6±0.5, 20°82S×173°98W, h0km, mb4.2/14, mbtmp4.2/15, ML4.2/1, MS4.0/11, Error ellipse: s-maj=23.4km s-min=16.3km az=121.0*

ISC 12 07:52:51.2±0.4, 20.75S±0.09×174.07W±0.07, h27km, n95, σ1s39/79, mb4.5/25, MS4.0/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIUE	**Niue**	**4.24**	**68**	Pn		Pn	07 53 44.0	-10
AFI	**Afiamalu**	**7.15**	**18**	Pn		Pn	07 54 28.6	-5.5
RAR	**Rarotonga**	**13.37**	**95**	Pn		Pn	07 55 46.0	-13
RAR	**Rarotonga**	**13.37**	**95**	Pn		Pn	07 55 47.2	-12
	5.7nm,0.3s,baz=288,slow=14,SNR=10.0							
RAR						Sn	Sn	07 57 59.5	-27
	1.0nm,0.3s,baz=195,slow=19,SNR=1.6							
RAR						LR	LR	08 00 43.2	
	comp=Z,446nm,18.6s,baz=324,slow=36							
PINNC	**Pines Island,**	**17.28**	**260**	P		**P**	**07 56 53.9**	**+2.0**
PINNC						IAmb	IAmb	07 57 32.2	
	comp=Z,55nm,1.2s							
DZM	**Mont Dzumac**	**18.19**	**262**	P		**P**	**07 57 04.9**	**+2.8**
DZM	**Mont Dzumac**	**18.19**	**262**	*e*P		**P**	**07 57 04.0**	**+1.9**
	comp=Z,50nm,1.2s							
DZM				*e*S		**Sn**	**08 00 24.3**	**-0.1**
	comp=Z,144nm,22.9s							
DZM				*e*LR		LR	08 01 30.5	
	comp=Z,524nm,22.6s							
DZM	**Mont Dzumac**	**18.19**	**262**	P		**P**	**07 57 04.1**	**+1.9**
	comp=Z,8.4nm,0.7s,baz=69,slow=19,SNR=7.5							
DZM				LR		LR	08 02 46.8	
	comp=Z,286nm,21.0s,baz=102,slow=33							
URZ	**Urewera**	**19.04**	**202**	P		**P**	**07 57 10.5**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=113,slow=19,SNR=2.1							
	comp=Z,9.4nm,0.6s							
TOZ	**Tahuroa Road**	**19.18**	**206**	P		**Pn**	**07 57 13.8**	**0.0**
TOZ				IAmb		IAmb	07 57 25.6	
	comp=Z,39nm,1.2s							
RTZ	**Ruatahuna**	**19.41**	**202**	P		**Pn**	**07 57 18.8**	**

comp=Z,37nm,18.1s,baz=132,slow=36
KNRA Kununurra 54.31 265 P **P** **08 02 14.3 -1.3**
KNRA IAmb IAmb 08 02 44.4
comp=Z,8.0nm,0.7s
FITZ Fitzroy Crossi 56.63 262 P **P** **08 02 31.9 -0.4**
SBA Scott Base 57.89 185 P **P** **08 02 42.2 +1.9**
VNDA Vanda 58.02 186 P **P** **08 02 42.4 +1.2**
VNDA IAmb IAmb 08 03 05.4
comp=Z,5.4nm,1.1s
VNDA Vanda 58.02 186 P **P** **08 02 41.1 0.0**
comp=Z,1.3nm,0.7s,baz=10,slow=7.9,SNR=5.7
comp=Z,1.3nm,0.7s
RPN Rapa Nui 58.95 110 LR LR 08 22 15.2
comp=Z,152nm,20.8s,baz=314,slow=30
BATI Baumata 60.61 270 LR LR 08 30 19.3
comp=Z,188nm,18.2s,baz=142,slow=37
PSA00 Pilbara Seismi 61.19 256 P **P** **08 03 03.0 -0.9**
MBWA Marble Bar 61.38 257 P **P** **08 03 03.6 -1.6**
NWAO Narrogin (SRO) 61.54 243 LR LR 08 28 28.8
comp=Z,125nm,19.8s,baz=98,slow=35
QSPA South Pole Qui 69.32 180 P **P** **08 03 56.2 +0.1**
QSPA South Pole Qui 69.32 180 P **P** **08 03 55.6 -0.4**
comp=Z,4.0nm,0.7s,baz=45,slow=2.4,SNR=16
comp=Z,4.0nm,0.7s
MJAR Matsushiro Arr 72.65 321 P **P** **08 04 17.2 +0.7**
comp=Z,3.4nm,0.7s,baz=156,slow=5.4,SNR=8.3
comp=Z,3.4nm,0.7s
PETK Petropavlovsk- 77.52 343 P **P** **08 04 45.1 +0.9**
PETK Petropavlovsk- 77.52 343 P **P** **08 04 44.5 +0.3**
comp=Z,4.0nm,0.7s,baz=127,slow=8.8,SNR=3.7
comp=Z,4.0nm,0.7s
NVAR Mina Array Bea 78.73 41 P **P** **08 04 51.3 -0.2**
comp=Z,2.3nm,0.9s,baz=223,slow=8.3,SNR=11
comp=Z,2.3nm,0.9s
MAW Mawson 82.55 199 P **P** **08 05 11.3 +0.1**
comp=Z,3.0nm,0.7s,baz=120,slow=9.7,SNR=6.8
comp=Z,3.0nm,0.7s
H03S2 Juan Fernandez 82.80 123 T T 09 37 48.7
baz=245
H03S1 Juan Fernandez 82.81 123 T T 09 37 49.5
baz=245
H03S3 Juan Fernandez 82.81 123 T T 09 37 54.6
baz=245
H03N2 Juan Fernandez 82.93 123 T T 09 37 55.7
baz=250
H03N3 Juan Fernandez 82.93 123 T T 09 37 45.9
baz=250
H03N1 Juan Fernandez 82.94 123 T T 09 37 50.6
baz=250
TXAR Lajitas Array 84.12 56 P **P** **08 05 19.7 -0.5**
comp=Z,0.5nm,0.9s,baz=207,slow=7.9,SNR=2.8
comp=Z,0.5nm,0.9s
PDAR Pinedale Array 86.66 42 P **P** **08 05 32.0 -0.7**
comp=Z,0.6nm,0.8s,baz=222,slow=2.0,SNR=5.0
comp=Z,0.6nm,0.8s
SNAA Sanae 87.62 177 P **P** **08 05 34.6 -2.2**
SNAA IAmb IAmb 08 05 56.1
comp=Z,8.6nm,1.3s
ILAR Eielson Array 87.79 11 P **P** **08 05 36.8 -0.5**
comp=Z,0.6nm,0.8s,baz=224,slow=4.8,SNR=3.3
comp=Z,0.6nm,0.8s
CMAR Chiang Mai Arr 93.68 288 P **P** **08 06 07.2 +1.4**
comp=Z,0.6nm,0.3s,baz=109,slow=3.6,SNR=4.1
comp=Z,0.6nm,0.3s
YKA Yellowknife Ar 95.23 24 P **P** **08 06 11.1 -0.8**
comp=Z,0.4nm,0.7s,baz=242,slow=4.5,SNR=9.2
comp=Z,0.4nm,0.7s
MKAR Makanchi Array 114.05 313 PKiKP **PKiKP** **08 11 27.0 -0.9**
comp=Z,0.3nm,0.4s,baz=58,slow=1.6,SNR=5.8
KURBB Kurchatov Arra 116.73 317 PKP **PKPdf** **08 11 31.7 -1.1**
comp=Z,0.6nm,0.7s,baz=92,slow=1.9,SNR=8.7
BVAR Borovoye Array 121.63 320 PKP **PKiKP** **08 11 42.4 +0.1**
comp=Z,1.3nm,0.4s,baz=74,slow=0.9,SNR=7.7
ARCES ARCESS Array B 129.78 351 PKP **PKPdf** **08 11 57.1 -0.2**
comp=Z,3.5nm,0.9s,baz=336,slow=2.7,SNR=3.7
GEYT Alibeck 132.01 303 PKP **PKiKP** **08 12 03.6 0.0**
comp=Z,0.7nm,0.4s,baz=93,slow=10,SNR=1.7
FINES FINESS Array B 136.98 346 PKP **PKiKP** **08 12 12.5 -0.3**
comp=Z,3.7nm,0.9s,baz=116,slow=3.2,SNR=1.3
EKA Eskdalemuir Ar 144.80 9 PKP **PKPab** **08 12 23.7 -0.5**
comp=Z,2.5nm,0.8s,baz=344,slow=2.8,SNR=4.6
AKASG Malin Array Be 144.93 334 PKPbc PKPbc 08 12 25.1 +0.2
comp=Z,4.5nm,0.5s,baz=40,slow=4.2,SNR=29
MORC Moravsky Berou 149.60 345 *e*PKP **PKiKP** **08 12 40.1 +0.9**
HSKC Hora Svate Kat 149.62 351 *e*PKP **PKPab** **08 12 46.8 +3.5**
BRTR Keskin Array B 149.68 315 PKPbc **PKPbc** **08 12 39.0 +0.2**
comp=Z,2.8nm,0.7s,baz=142,slow=2.8,SNR=7.9
PRU Pruhonice 150.03 349 *e*PKP **PKiKP** **08 12 40.3 +0.3**
VRAC Vranov 150.26 346 *e*PKP **PKiKP** **08 12 41.0 +0.4**
MLR Muntele Rosu 150.34 331 PKPbc **PKPbc** **08 12 37.6 -2.6**
comp=Z,1.5nm,0.7s,baz=92,slow=3.1,SNR=3.4
JAVC Velka Javorina 150.42 344 *e*PKP **PKiKP** **08 12 42.7 +1.7**
KRUC Moravsky 150.54 346 *e*PKP **PKiKP** **08 12 41.2 +0.1**
ZVC Zvikov 150.63 349 *e*PKP **PKiKP** **08 12 42.5 +1.2**
KHC Kasperske Hory 151.03 350 *e*PKP **PKPbc** **08 12 41.2 -0.4**
MMAI Mount Meron Ar 151.11 301 PKPbc **PKPbc** **08 12 42.5 +0.1**
comp=Z,0.6nm,0.3s,baz=78,slow=6.1,SNR=4.1
CKRC Cesky Krumlov 151.20 348 *e*PKP **PKiKP** **08 12 42.7 +0.2**
GERES GERESS Array B 151.29 349 PKPbc **PKPbc** **08 12 41.4 -0.9**
comp=Z,0.7nm,0.3s,baz=96,slow=12,SNR=2.5
TORD Torodi Ar. Bea 171.42 151 PKP **PKPdf** **08 12 57.7 -0.4**
comp=Z,0.4nm,0.8s,baz=253,slow=1.5,SNR=2.6
TORD PKPab **PKPab** **08 14 18.0 -0.5**
comp=Z,0.5nm,0.9s,baz=190,slow=1.7,SNR=1.6

IDC 12 07:58:02.9±2.2, 16°30S×173°95W, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=139.1km s-min=25.5km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.13**	**258**	P	P	08 06 52.4	-0.4
	2.2nm,1.1s,baz=90,slow=7.7,SNR=8.3						
	2.2nm,1.1s						
ASAR	**Alice Springs**	**49.33**	**253**	P	P	08 06 54.4	+0.1
	5.0nm,0.7s,baz=86,slow=8.3,SNR=34						
	5.0nm,0.7s						
NVAR	**Mina Array Bea**	**75.35**	**42**	P	P	08 09 47.8	-0.9
	0.4nm,0.8s,baz=234,slow=7.7,SNR=2.5						
	0.4nm,0.8s						
TXAR	**Lajitas Array**	**81.55**	**56**	P	P	08 10 23.5	+0.5
	0.1nm,0.6s,baz=216,slow=4.5,SNR=1.9						
	0.1nm,0.6s						
ILAR	**Eielson Array**	**83.43**	**11**	P	P	08 10 32.5	+0.6
	0.6nm,1.1s,baz=200,slow=6.6,SNR=4.4						
	0.6nm,1.1s						

*NNC **12** 08:03:47.3±1.2, 49°97N×78°90E, h0km, mb2.4, mpv2.1, Error ellipse: s-maj=27.3km s-min=5.8km az=68.0, Suspected Mining explosion.*
*IDC **12** 08:03:48.9±1.4, 50°04N×78°63E, h0km, mbtmp2.4/2, ML1.9/2, Error ellipse: s-maj=22.6km s-min=7.7km az=70.0*

ISC 12 08:03:43.1±1.0, 50°38N±0°06×79°83E±0°05, h0km, n8, σ0s61/10, 4C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**0.84**	**294**	P	**Pn**	**08 04 02.3**	**+0.1**
	1.5nm,0.4s						
KURK				⇓S	**Sb**	**08 04 12.9**	**+0.4**
	2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**0.87**	**287**	Pg	**Pg**	**08 03 59.6**	**-0.1**
	0.4nm,0.3s,baz=172,slow=18,SNR=18						
KURBB				Lg	Lg	08 04 09.4	
	0.3nm,0.3s,baz=176,slow=29,SNR=11						
KURBB	**Kurchatov Arra**	**0.87**	**287**	P	**Pb**	**08 04 01.1**	**+0.1**
	5.2nm,0.4s						
KURBB				⇑S	**Sg**	**08 04 10.6**	**-0.4**
	5.3nm,0.6s						
MAKZ	**Makanchi**	**3.85**	**157**	⇑Pg	**Pb**	**08 04 52.2**	**+0.3**
	0.2nm,0.3s						
MAKZ				⇑Lg	Lg	08 05 49.4	
	1.1nm,0.8s						
MK31	**Makanchi Array**	**3.94**	**155**	⇓Pg	**Pg**	**08 04 59.4**	**+0.8**
	0.1nm,0.5s,baz=326,slow=14,SNR=2.6						
MK31				⇑Lg	Lg	08 05 52.8	
	1.1nm,0.7s,baz=324,slow=26,SNR=4.4						
MKAR	**Makanchi Array**	**3.94**	**155**	Pn	**Pb**	**08 04 53.1**	**-0.3**
	0.1nm,0.3s,baz=322,slow=10,SNR=6.7						
MKAR				Sn	**Sb**	**08 05 40.5**	**-1.2**
	0.1nm,0.3s,baz=309,slow=27,SNR=1.4						
MKAR				Lg	Lg	08 05 53.6	
	0.2nm,0.3s,baz=336,slow=27,SNR=5.8						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**4.71**	**39**	Pn	**Pg**	**08 05 13.4**	**+0.1**
	0.2nm,0.3s,baz=226,slow=14,SNR=2.6						
	0.3nm,0.3s						
I46RU	**ZALESOVO INFRA**	**4.71**	**39**	I	I	08 35 00.0	
	baz=219,slow=323,SNR=0.7						

IDC 12 08:11:17.8±1.2, 20°86S×174°14W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=46.0km s-min=33.2km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**47.95**	**257**	P	P	08 19 57.8	-0.7
	0.7nm,0.9s,baz=97,slow=7.5,SNR=8.2						
	0.7nm,0.9s						
WRA	**Warramunga Arr**	**48.12**	**262**	P	P	08 19 59.4	-0.5
	0.4nm,0.6s,baz=100,slow=9.0,SNR=7.0						
WRA				PcP	PcP	08 21 28.4	+0.7
	0.3nm,0.7s,baz=104,slow=2.9,SNR=2.0						
	0.4nm,0.6s						
QSPA	**South Pole Qui**	**69.21**	**180**	P	P	08 22 27.1	+0.8
	1.1nm,0.2s,baz=338,slow=2.7,SNR=4.9						
	1.1nm,0.2s						
NVAR	**Mina Array Bea**	**78.85**	**41**	P	P	08 23 23.4	+0.2
	0.3nm,0.6s,baz=229,slow=8.2,SNR=2.7						
	0.3nm,0.6s						
AKASG	**Malin Array Be**	**145.00**	**334**	PKPbc	PKPab	08 30 55.5	-0.7
	1.2nm,0.5s,baz=40,slow=3.8,SNR=7.5						

AFAD 12 08:11:55.7±0.0, 40°74N×41°61E, h7km±1km, ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDEM	**Demirkent**	**0.19**	**35**	P	Pg	08 11 59.1	-0.5
DDEM				S	Sg	08 12 03.1	+0.8
DDEM				*i* AML	AML	08 12 04.0	
	comp=N,87nm,0.2s						
DBAD	**Bademkaya**	**0.29**	**13**	P	Pg	08 12 01.8	+0.4
DBAD				S	Sg	08 12 06.2	+0.9
DAGI	**Agillar**	**0.41**	**34**	P	Pg	08 12 03.7	-0.1
DAGI				S	Sg	08 12 09.7	+0.5
DAGI				*i* AML	AML	08 12 11.0	
	comp=N,18nm,0.3s						

ISK 12 08:12:03.6, 39°60N×40°27E, h18km, ML1.9/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARO	**Karliova-Bingo**	**0.67**	**115**	Pg	Pg	08 12 17.1	+0.2
KARO				Sg	Sg	08 12 27.0	+1.2
BNGB	**Bingl**	**0.68**	**152**	Pg	Pg	08 12 17.5	+0.4
BNGB				Sg	Sg	08 12 27.4	+1.2
PTK	**Pertek**	**0.98**	**224**	Pg	Pg	08 12 22.8	+0.1
ARPR	**Arapgir-MALATY**	**1.58**	**252**	Pn	Pn	08 12 31.3	+0.5

IDC 12 08:13:50.4±3.2, 54°41N×86°75E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=26.5km s-min=16.5km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.23**	**249**	I	I	08 21 05.6	
	baz=68,slow=343,SNR=7.8						
ZALV	**Zalesovo Beam**	**1.23**	**249**	Pg	Pg	08 14 12.6	-1.2
	1.0nm,0.3s,baz=65,slow=18,SNR=11						
ZALV				Lg	Lg	08 14 30.6	
	1.0nm,0.3s,baz=68,slow=28,SNR=6.1						
KURBB	**Kurchatov Arra**	**6.29**	**236**	Pn	Pn	08 15 25.0	+0.7
	0.1nm,0.3s,baz=54,slow=14,SNR=4.6						
KURBB				Sn	Sn	08 16 36.2	-0.5
	baz=51,slow=21,SNR=1.3						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**8.13**	**202**	Pn	Pn	08 15 50.9	+1.3
	0.1nm,0.3s,baz=22,slow=14,SNR=5.3						
	0.1nm,0.2s						

*PGC **12** 08:16:22.6±1.0, 54°34N×134°35W, h10km, ML3.6/19, 147km west of Masset, Bc Haida Gwaii Region*
*IDC **12** 08:16:23.5±1.4, 54°43N×133°82W, h0km, mbtmp3.1/6, ML3.3/6, Error ellipse: s-maj=18.9km s-min=9.4km az=67.0*
*AEIC **12** 08:16:24.3±3.0, 54°45N±0°04×134°23W±0°09, h20km±7km, ML3.6, ML3.6/42(NEIC), Error ellipse: s-maj=8.9km s-min=5.0km az=56.0*
*NEIC **12** 08:16:24.8±2.5, 54°48N±0°03×134°07W±0°10, h18km±6km, Error ellipse: s-maj=8.3km s-min=3.9km az=77.0*
ISC 12 08:16:23.5±1.4, 54°49N±0°03×134°09W±0°05, h14km±9km, n148, σ1s58/185, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIB	**Langara Island**	**0.65**	**111**	P	**Pb**	**08 16 36.0**	**-0.6**
LIB				S	**Sg**	**08 16 45.7**	**+1.0**
NDB	**Naden**	**0.86**	**128**		**Pg**	**08 16 40.3**	**+0.1**
NDB					**Sg**	**08 16 51.9**	**+0.4**
NDB	**Naden**	**0.86**	**128**	P	**Pb**	**08 16 40.0**	**-0.3**
NDB				S	**Sg**	**08 16 51.5**	**0.0**
CRAG	**Craig**	**1.13**	**29**		**Pn**	**08 16 44.0**	**-0.8**
CRAG	**Craig**	**1.13**	**29**		**Sb**	**08 16 59.5**	**+0.2**
CRAG	**Craig**	**1.13**	**29**	IAML		08 17 01.6	
	comp=N,1μm,0.4s						
CRAG				IAML		08 17 01.9	
	comp=E,1μm,0.5s						
CRAG	**Craig**	**1.13**	**29**	P	**Pn**	**08 16 44.2**	**-0.7**
	baz=212						
CRAG				S	**Sb**	**08 16 59.5**	**+0.2**
	baz=212						
MASB	**Masset**	**1.30**	**111**		**Pn**	**08 16 47.1**	**0.0**
MASB	**Masset**	**1.30**	**111**	Pn	**Pn**	**08 16 47.2**	**0.0**
MASB				Sg	**Sg**	**08 16 47.8**	**+1.3**
DIB	**Dawson Inlet,**	**1.61**	**143**	Pn	**Pn**	**08 16 51.0**	**-0.4**
DIB				IAML		08 17 15.1	
	comp=N,717nm,0.4s						
DIB	**Dawson Inlet,**	**1.61**	**143**		**Sn**	**08 17 10.7**	**-1.2**
DIB	**Dawson Inlet,**	**1.61**	**143**	Pn	**Pn**	**08 16 50.7**	**-0.7**
DIB				Sn	**Sn**	**08 17 10.8**	**-1.1**
DIB				Sg	**Sb**	**08 17 12.9**	**-0.1**
H02S1	**DAWSON INLET T**	**1.61**	**143**	Pn	**Pn**	**08 16 51.4**	**0.0**
H02S1				Sn	**Sn**	**08 17 10.4**	**-1.4**
V35K	**Ketchikan**	**1.66**	**59**		**Pn**	**08 16 52.2**	**+0.2**
V35K	**Ketchikan**	**1.66**	**59**		**Sb**	**08 17 14.5**	**+0.1**
V35K	**Ketchikan**	**1.66**	**59**	IAML		08 17 15.3	
	comp=N,2μm,0.7s						
V35K				IAML		08 17 17.3	
	comp=E,2μm,0.7s						
V35K	**Ketchikan**	**1.66**	**59**	P	**Pn**	**08 16 51.8**	**-0.3**
	baz=241						
V35K				S	**Sb**	**08 17 14.5**	**+0.1**
	baz=241						
U33K	**Whale Pass**	**1.72**	**18**		**Pn**	**08 16 52.7**	**-0.2**
U33K	**Whale Pass**	**1.72**	**18**		**Sn**	**08 17 16.0**	**+1.4**
U33K	**Whale Pass**	**1.72**	**18**	P	**Pn**	**08 16 52.6**	**-0.4**
	baz=201						
U33K				S	**Sn**	**08 17 16.0**	**+1.4**
	baz=201						
HG1B	**Mitchell Dam**	**1.95**	**142**	Pn	**Pn**	**08 16 55.8**	**-0.3**
HG1B				Sg	**Sb**	**08 17 23.2**	**+0.4**
WRAK	**Wrangell Islan**	**2.17**	**26**		**Pn**	**08 16 59.5**	**+0.4**
WRAK	**Wrangell Islan**	**2.17**	**26**		**Sn**	**08 17 26.8**	**+1.0**
WRAK	**Wrangell Islan**	**2.17**	**26**	P	**Pn**	**08 16 59.5**	**+0.4**
	baz=209						
WRAK				S	**Sn**	**08 17 26.8**	**+1.0**
	baz=209						
WRAK	**Wrangell Islan**	**2.17**	**26**	Pn	**Pn**	**08 16 59.5**	**+0.4**
WRAK				Sn	**Sb**	**08 17 31.1**	**+1.8**
RUBB	**Prince Rupert**	**2.25**	**93**		**Pn**	**08 16 59.1**	**-1.1**
RUBB				IAML		08 17 43.3	
	comp=E,441nm,0.5s						
RUBB	**Prince Rupert**	**2.25**	**93**	Pn	**Pn**	**08 16 58.8**	**-1.5**
RUBB				Pg	**Pb**	**08 17 03.1**	**-0.7**
RUBB				Sg	**Sb**	**08 17 31.8**	**+0.3**
BNAB	**Bonilla**	**2.27**	**115**		**Pn**	**08 16 59.7**	**-0.8**
BNAB	**Bonilla**	**2.27**	**115**	Pn	**Pn**	**08 16 59.7**	**-0.8**
BAIB	**Barry Inlet**	**2.37**	**143**	Pn	**Pn**	**08 17 00.6**	**-1.4**
BAIB				Sn	**Sn**	**08 17 29.6**	**-1.3**
BAIB				Sg	**Sb**	**08 17 34.6**	**-0.5**
BNB	**Barry Inlet**	**2.37**	**143**		**Pn**	**08 17 01.9**	**-0.2**
BNB	**Barry Inlet**	**2.37**	**143**	Pn	**Pn**	**08 17 00.6**	**-1.4**
GRNB	**Grenville Isla**	**2.51**	**103**		**Pn**	**08 17 04.0**	**+0.1**
GRNB				IAML		08 17 48.2	
	comp=E,281nm,0.9s						
GRNB				IAML		08 18 02.5	
	comp=N,333nm,0.8s						
GRNB	**Grenville Isla**	**2.51**	**103**	Pg	**Pb**	**08 17 07.7**	**-0.7**
GRNB				Sg	**Sb**	**08 17 40.0**	**+0.9**
SIT	**Sitka**	**2.66**	**345**		**Pn**	**08 17 05.6**	**-0.3**
SIT	**Sitka**	**2.66**	**345**		**Sn**	**08 17 36.9**	**-1.1**
SIT	**Sitka**	**2.66**	**345**	IAML		08 17 58.8	
	comp=E,280nm,0.8s						
SIT	**Sitka**	**2.66**	**345**	P	**Pn**	**08 17 05.5**	**-0.3**
	baz=166						
SIT				S	**Sn**	**08 17 36.9**	**-1.1**
	baz=166						
BNKB	**Banks Island**	**2.74**	**113**	Pn	**Pn**	**08 17 05.8**	**-1.2**
BNKB				Sg	**Sb**	**08 17 48.0**	**+2.5**
HG4B	**Hotspring**	**2.80**	**141**		**Pn**	**08 17 07.4**	**-0.4**
HG4B				IAML		08 17 52.7	
	comp=E,277nm,0.5s						
HG4B				IAML		08 17 53.8	
	comp=N,245nm,1.2s						
HG4B	**Hotspring**	**2.80**	**141**	Pn	**Pn**	**08 17 06.6**	**-1.2**
HG4B				Sg	**Sb**	**08 17 48.0**	**+0.6**
S32K	**Killisnoo**	**3.00**	**355**		**Pn**	**08 17 10.4**	**-0.1**
S32K	**Killisnoo**	**3.00**	**355**	IAML		08 17 49.5	
	comp=E,172nm,0.6s						
S32K	**Killisnoo**	**3.00**	**355**	P	**Pn**	**08 17 10.4**	**-0.1**
	baz=176						
HWKB	**Hawksbury Isla**	**3.04**	**105**	Pn	**Pn**	**08 17 11.1**	**-0.1**
HWKB				Pg	**Pb**	**08 17 16.6**	**-0.9**
HWKB				Sg	**Sb**	**08 17 57.0**	**+2.6**
GRIB	**Gribbell Islan**	**3.15**	**110**	Pn	**Pn**	**08 17 12.2**	**-0.4**
GRIB				Pg	**Pb**	**08 17 18.5**	**-0.7**
GRIB				Sg	**Sb**	**08 18 00.4**	**+3.0**
KITB	**Kitimat**	**3.22**	**95**	Pn	**Pn**	**08 17 12.6**	**-1.0**
KITB				Pg	**Pb**	**08 17 19.8**	**-0.6**
KITB				Sg	**Sb**	**08 18 02.1**	**+2.6**
MBLB	**Minette Bay Lo**	**3.24**	**96**	Pg	**Pb**	**08 17 20.1**	**-0.6**
T35M	**Bob Quinn**	**3.31**	**39**		**Pn**	**08 17 16.2**	**+1.4**
T35M	**Bob Quinn**	**3.31**	**39**	P	**Pn**	**08 17 15.7**	**+0.9**
	baz=223						
T35M	**Bob Quinn**	**3.31**	**39**	Pn	**Pn**	**08 17 16.1**	**+1.4**
T35M				Sg	**Sg**	**08 18 08.8**	**-0.8**
BUTB	**Butedale**	**3.63**	**111**	Pn	**Pn**	**08 17 18.8**	**-0.6**
BUTB				Sn	**Sn**	**08 18 01.5**	**-0.5**
S31K	**Pelican**	**3.68**	**342**		**Pn**	**08 17 19.9**	**+0.1**
JIS	**Juneau Island**	**3.80**	**358**	Pn	**Pn**	**08 17 22.4**	**+1.0**
JIS				IAML		08 18 32.6	
	comp=E,123nm,0.8s						
JIS				IAML		08 18 43.0	
	comp=N,86nm,0.8s						
R32K	**Eaglecrest**	**3.80**	**357**		**Pn**	**08 17 22.8**	**+1.2**
S34M	**Telegraph Cree**	**3.81**	**25**	Pn	**Pn**	**08 17 23.1**	**+1.5**
S34M				IAML		08 18 28.1	
	comp=N,87nm,0.6s						
S34M	**Telegraph Cree**	**3.81**	**25**	P	**Pn**	**08 17 23.0**	**+1.3**
	baz=208						
S34M	**Telegraph Cree**	**3.81**	**25**	Pn	**Pn**	**08 17 22.8**	**+1.2**
S34M				Sn	**Sn**	**08 18 05.6**	**-0.5**
BESE	**Bessie Mountai**	**4.12**	**354**		**Pn**	**08 17 26.4**	**+0.6**
BESE	**Bessie Mountai**	**4.12**	**354**	Sn	**Sn**	**08 18 13.2**	**-0.8**
BBB	**Bella Bella**	**4.26**	**120**		**Pn**	**08 17 27.0**	**-0.9**
BBB	**Bella Bella**	**4.26**	**120**	IAML		08 17 47.8	
	comp=N,63nm,0.9s						
BBB				IAML		08 18 52.5	
	comp=E,88nm,1.9s						
BBB	**Bella Bella**	**4.26**	**120**	Pn	**Pn**	**08 17 27.0**	**-0.9**
	comp=E,0.8nm,0.3s,baz=284,slow=4.2,SNR=8.7						
BBB				Sn	**Sn**	**08 18 15.3**	**-2.0**
	comp=E,7.1nm,0.3s,baz=113,slow=13,SNR=15						
BBB				Lg	Lg	08 18 33.3	
	comp=E,6.3nm,0.3s,baz=351,slow=19,SNR=2.4						
	comp=E,21nm,0.9s						
BBB	**Bella Bella**	**4.26**	**120**	Pn	**Pn**	**08 17 26.7**	**-1.2**
BBB				Sn	**Sn**	**08 18 15.3**	**-2.0**
DLBC	**Dease Lake**	**4.55**	**28**		**Pn**	**08 17 33.2**	**+1.3**
DLBC	**Dease Lake**	**4.55**	**28**	IAML		08 18 52.7	
	comp=N,46nm,0.9s						
DLBC				IAML		08 18 52.7	
	comp=E,50nm,0.9s						
DLBC	**Dease Lake**	**4.55**	**28**	P	**Pn**	**08 17 33.2**	**+1.3**
	baz=212						
DLBC	**Dease Lake**	**4.55**	**28**	Pn	**Pn**	**08 17 34.2**	**+2.3**
	comp=E,0.3nm,0.3s,baz=214,slow=13,SNR=11						
DLBC				Sn	**Sn**	**08 18 25.7**	**+1.1**
	comp=E,2.0nm,0.3s,baz=238,slow=17,SNR=3.5						
DLBC				Lg	Lg	08 18 44.1	
	comp=E,2.1nm,0.3s,baz=89,slow=3.2,SNR=4.9						
	comp=E,1.0nm,0.3s						
DLBC	**Dease Lake**	**4.55**	**28**	Pn	**Pn**	**08 17 33.9**	**+1.9**
DLBC				Sn	**Sn**	**08 18 25.0**	**+0.3**
Q32M	**Nakina River**	**4.59**	**12**		**Pn**	**08 17 33.6**	**+1.0**
Q32M	**Nakina River**	**4.59**	**12**	IAML		08 19 00.9	
	comp=E,66nm,1.0s						
Q32M				IAML		08 19 08.0	
	comp=N,66nm,0.9s						
Q32M	**Nakina River**	**4.59**	**12**	Pn	**Pn**	**08 17 33.4**	**+0.8**
Q32M				Sg	**Sg**	**08 18 50.4**	**-0.4**
SKAG	**Skagway**	**5.03**	**353**	Pn	**Pn**	**08 17 39.9**	**+1.5**
SKAG				IAML		08 19 10.1	
	comp=E,40nm,0.9s						
SKAG				IAML		08 19 12.3	
	comp=N,38nm,0.8s						
P32M	**Atlin**	**5.12**	**2**	Pn	**Pn**	**08 17 40.8**	**+1.2**
P32M				IAML		08 19 20.1	
	comp=E,36nm,4.1s						
P32M	**Atlin**	**5.12**	**2**	P	**Pn**	**08 17 40.5**	**+0.9**
	baz=183						
P32M	**Atlin**	**5.12**	**2**	Pn	**Pn**	**08 17 41.1**	**+1.5**
P32M				Sn	**Sn**	**08 18 38.9**	**+0.4**
R33M	**Jennings River**	**5.20**	**18**		**Pn**	**08 17 42.3**	**+1.3**
R33M	**Jennings River**	**5.20**	**18**	Pn	**Pn**	**08 17 42.9**	**+1.9**
R33M				Sg	**Sg**	**08 19 09.1**	**-1.3**
P29M	**Windy Craggy**	**5.52**	**340**	Pn	**Pn**	**08 17 46.9**	**+1.6**
P29M	**Windy Craggy**	**5.52**	**340**	Pn	**Pn**	**08 17 46.8**	**+1.6**
P29M				Sn	**Sn**	**08 18 47.6**	**-0.9**
PHC	**Port Hardy**	**5.55**	**130**	Sn	**Sn**	**08 18 46.2**	**-2.9**
FSJB	**Fort St James**	**5.71**	**86**	Pg	**Pb**	**08 18 05.7**	**+2.8**
FSJB				Sg	**Sg**	**08 19 19.4**	**-7.3**
P33M	**Teslin, Yukon**	**5.78**	**6**	Pn	**Pn**	**08 17 50.4**	**+1.7**
P33M	**Teslin, Yukon**	**5.78**	**6**	Pn	**Pn**	**08 17 50.7**	**+1.9**
MAYB	**Maynard**	**5.89**	**131**	Pn	**Pn**	**08 17 50.0**	**-0.3**
WHY	**Whitehorse**	**6.20**	**356**	Pn	**Pn**	**08 17 55.7**	**+1.1**

KIAG	Kiagna River	7.82	329	Pn		Pn	08 18 18.6	+1.8
KIAG				Sn		Sn	08 19 43.0	-2.1
TGL	Tana Glacier	7.83	327	Pn		Pn	08 18 17.8	+0.9
BERG	Berg Lake	7.86	323	Pn		Pn	08 18 18.2	+0.9
CRQM	Cirque	7.93	326	Pn		Pn	08 18 17.1	-1.4
PTPK	Patty Peak	8.06	330	Pn		Pn	08 18 23.5	+3.4
PTPK				Sn		Sn	08 19 51.5	+0.4
M29M	Somme Creek	8.29	346	Pn		Pn	08 18 22.5	-0.8
MCARA	McCarthy VSAT	8.38	329	Pn		Pn	08 18 24.4	0.0
VRDI	Verde Repeater	8.39	327	Pn		Pn	08 18 26.6	+1.9
GLB	Gilahina Butte	8.66	327	Pn		Pn	08 18 26.7	-1.6
L29M	L29M	8.89	348	Pn		Pn	08 18 33.1	+1.6
N25K	Chitina, Valde	9.04	326	Pn		Pn	08 18 35.3	+1.8
KLU	Klutina	9.41	323	Pn		Pn	08 18 36.8	-1.7
K29M	Barlow Dome	9.54	351	Pn		Pn	08 18 42.7	+2.3
DAWY	Dawson	9.97	346	Pn		Pn	08 18 47.4	+1.2
J30M	Hart River	10.18	355	Pn		Pn	08 18 49.5	+0.4
CNPM	China Poot	10.61	305	Pn		Pn	08 18 54.0	-0.9
KDAK	Kodiak Island	10.82	295	Pn		Pn	08 18 58.3	+0.5
	comp=E,0.5nm,0.3s,baz=108,slow=9.6,SNR=2.6							
I30M	Mount Dempster	10.83	355	Pn		Pn	08 19 00.5	+2.6
EGAK	Eagle	10.91	344	Pn		Pn	08 18 60.0	+1.0
CUT	Chulitna	11.57	320	Pn		Pn	08 19 10.5	+2.4
ILAR	Eielson Array	12.14	333	Pn		Pn	08 19 18.9	+3.1
	baz=148,slow=12,SNR=5.6							
	comp=E,0.3nm,0.8s							
YKA	Yellowknife Ar	12.92	44	Pn		Pn	08 19 26.0	-0.4
	comp=E,0.3nm,0.8s,baz=238,slow=13,SNR=2.9							
YKA				Lg		Lg	08 23 06.3	
	baz=240,slow=32,SNR=3.7							
INK	Inuvik	13.87	1	Pn		Pn	08 19 42.6	+3.3
	baz=166,slow=6.1,SNR=2.3							
	comp=E,0.4nm,0.6s							
PDAR	Pinedale Array	19.89	116	P		P	08 20 53.0	-1.6
	baz=324,slow=10,SNR=3.5							
	comp=E,0.1nm,0.3s							
H11N2	WAKE ISLAND Hy	56.25	256	T		T	09 27 16.1	
	baz=37,slow=76,SNR=355							
H11N3	WAKE ISLAND Hy	56.26	256	T		T	09 27 13.6	
	baz=37,slow=76,SNR=283							
H11N1	WAKE ISLAND Hy	56.27	256	T		T	09 27 17.6	
	baz=37,slow=76,SNR=208							
H11S1	WAKE ISLAND Hy	57.34	256	T		T	09 28 36.9	
	baz=36,slow=76,SNR=39							
H11S2	WAKE ISLAND Hy	57.35	256	T		T	09 28 34.4	
	baz=36,slow=76,SNR=30							
H11S3	WAKE ISLAND Hy	57.36	256	T		T	09 28 34.0	
	baz=36,slow=76,SNR=45							

IDC 12 08:21:01.1±3.0, 53.66N×87.19E, h0km, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=28.2km s-min=17.1km az=70.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.43	282	I	I	08 28 15.1	
	baz=99,slow=348,SNR=5.5						
ZALV	Zalesovo Beam	1.43	282	Pg	Pn	08 21 27.5	-0.8
	0.9nm,0.3s,baz=97,slow=18,SNR=6.2						
ZALV				Lg	Lg	08 21 47.0	
	1.2nm,0.3s,baz=104,slow=29,SNR=6.2						
KURBB	Kurchatov Arra	6.14	244	Pn	Pn	08 22 33.5	+0.6
	baz=58,slow=13,SNR=2.8						
	0.2nm,0.3s						
MKAR	Makanchi Array	7.56	206	Pn	Pn	08 22 53.6	+1.1
	baz=20,slow=13,SNR=2.1						
	0.1nm,0.3s						

IDC 12 08:25:31.8±3.2, 54.19N×87.17E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=28.8km s-min=20.4km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.41	261	I	I	08 33 24.0	
	baz=80,slow=346,SNR=6.4						
ZALV	Zalesovo Beam	1.41	261	Pg	Pn	08 25 57.4	-1.3
	2.4nm,0.3s,baz=78,slow=12,SNR=2.1						
ZALV				Lg	Lg	08 26 16.8	
	0.7nm,0.3s,baz=78,slow=27,SNR=3.4						
KURBB	Kurchatov Arra	6.38	239	Pn	Pn	08 27 07.5	+0.5
	0.1nm,0.3s,baz=53,slow=13,SNR=4.7						
KURBB				Lg	Lg	08 28 54.8	
	baz=56,slow=38,SNR=1.8						
	0.4nm,0.4s						
MKAR	Makanchi Array	8.03	205	Pn	Pn	08 27 31.0	+1.4
	0.1nm,0.3s,baz=26,slow=16,SNR=2.4						
	0.1nm,0.3s						

AFAD ***12*** *08:32:17.0±0.0, 36.86N×27.34E, h7km±4km, ML2.3*
ISK ***12*** *08:32:17.0, 36.88N×27.37E, h8km, ML2.2/18*
THE ***12*** *08:32:17.6, 36.89N×27.39E, h5km±1km, ML2.6/5, Error ellipse: s-maj=1.5km s-min=0.5km az=263.0*

ISC 12 08:32:17.1±0.8, 36.87N±0.02×27.33E±0.02, h11km±6km, n37, σ0.72/55, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFTB	Kemer-Bodrum	0.10	334	Pg	Pg	08 32 20.3	+0.4
RFTB				Sg	Sg	08 32 22.2	+0.3
BODT	Bodrum	0.19	356	Pg	Pg	08 32 21.4	+0.1
BODT				Sg	Sg	08 32 24.6	+0.5
BODT	Bodrum	0.19	356	P	Pg	08 32 21.4	+0.1
BODT				S	Sg	08 32 24.3	+0.2
BDRM	Kayabasi	0.21	26	P	Pg	08 32 21.4	-0.3
BDRM				*i* AML	AML	08 32 24.0	
	comp=E,2μm,0.2s						
BDRM				S	Sg	08 32 24.3	-0.5
DAT	Datca	0.25	125	Pg	Pg	08 32 22.3	0.0
DAT				Sg	Sg	08 32 25.5	-0.3
DAT	Datca	0.25	125	P	Pg	08 32 22.4	0.0
DAT				S	Sg	08 32 25.4	-0.3
DAT				*i* AML	AML	08 32 27.0	
	comp=N,316nm,0.2s						
DAT	Datca	0.25	125	P	Pg	08 32 22.4	+0.1
DAT				S	Sg	08 32 25.4	-0.3
NIS1	Nisyros Isl.	0.29	204	P	Pb	08 32 24.2	-0.2
NIS1				S	Sb	08 32 29.6	+0.3
	2μm,0.2s						
NISR	Nisiros	0.30	212	P	Pb	08 32 24.5	-0.1
NISR				S	Sb	08 32 29.6	0.0
	1μm,0.2s						
RFTAA	Mazikoy-Bodrum	0.36	69	Pg	Pg	08 32 23.9	-0.4
RFTAA				Sg	Sg	08 32 29.4	+0.3
DIDI	Didim-Aydin	0.51	352	Pg	Pg	08 32 27.3	+0.2
MLSB	Milas	0.56	40	Pg	Pg	08 32 27.9	-0.1
MLSB				Sg	Sg	08 32 35.5	+0.2
DDIM	Aydin, Didim	0.59	353	P	Pg	08 32 28.5	-0.1
DDIM				S	Sb	08 32 38.5	+0.7
DDIM				*i* AML	AML	08 32 42.0	
	comp=E,331nm,0.2s						
TURN	Turunc	0.74	97	Pg	Pg	08 32 31.0	-0.5
TURN				Sg	Sb	08 32 41.6	-0.6
TURN	Turunc	0.74	97	P	Pg	08 32 30.7	-0.8
TURN				S	Sb	08 32 42.5	+0.3
TURN				*i* AML	AML	08 32 44.0	
	comp=N,182nm,0.3s						
YER	Yerkesik	0.81	71	Pg	Pg	08 32 32.4	-0.4
YER	Yerkesik	0.81	71	P	Pg	08 32 32.6	-0.2
GCAM	G?zelcami?	0.83	355	Pg	Pg	08 32 33.2	0.0
GCAM	G?zelcami?	0.83	355	P	Pg	08 32 33.0	-0.2
ARG	Arkhangelos	0.92	135	Pg	Pg	08 32 34.9	+0.1
ARG	Arkhangelos	0.92	135	P	Pb	08 32 35.1	0.0
ARG				S	Sn	08 32 48.4	-0.8
	292nm,0.4s						
SMG	Samos	0.92	335	P	Pg	08 32 34.8	-0.1
SMG				S	Sn	08 32 48.9	-0.4
	505nm,0.3s						
DALY	Dalyan (Mula)	1.07	93	Pg	Pb	08 32 37.3	-0.3
DGB	zmir	1.23	343	P	Pn	08 32 39.0	-1.3
KARP	Karpathos	1.33	186	Pn	Pn	08 32 41.7	0.0
KARP	Karpathos	1.33	186	P	Pn	08 32 41.6	-0.1
IZMR	zmir-demi	1.36	21	P	Pn	08 32 42.1	+0.1
IZMR				S	Sg	08 33 03.5	+2.7
IZMR				*i* AML	AML	08 33 04.0	
	comp=N,22nm,0.5s						
TAVA	DENIZLI_Tavas	1.40	64	P	Pg	08 32 44.0	0.0
FETY	Fethiye	1.43	99	Pn	Pb	08 32 43.4	-0.4
FETY	Fethiye	1.43	99	P	Pg	08 32 47.8	+3.2
APE	Apeiranthos	1.45	278	Pn	Pb	08 32 44.7	+0.5
BLCB	Balcova	1.53	352	Pn	Pb	08 32 45.1	-0.4
CAME	Cameli-Denizli	1.58	87	Pn	Pn	08 32 45.6	+0.3
IZZE	Mula-Seydike	1.59	105	P	Pb	08 32 46.5	0.0
IZZE				S	Sg	08 33 08.4	+0.2
IZZE				*i* AML	AML	08 33 16.0	
	comp=N,79nm,0.3s						
URLA	Izmir	1.59	339	Pn	Pn	08 32 45.4	+0.1
URLA	Izmir	1.59	339	P	Pn	08 32 44.0	-1.3
APMY	Acipayam-Deniz	1.69	69	Pn	Pn	08 32 47.1	+0.4

IDC 12 08:36:22.9±342.0, 57.61N×54.31E, h0km, Error ellipse: s-maj=160.6km s-min=142.6km az=64.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	7.55	162	I	I	09 19 50.0	
	baz=347,slow=321,SNR=1.8						
I46RU	ZALESOVO INFRA	17.47	89	I	I	10 22 50.0	
	baz=298,slow=310,SNR=0.8						
I34MN	SONGINO INFRAS	32.29	85	I	I	11 54 40.0	
	baz=303,slow=329,SNR=0.3						
I18DK	QAANAAQ INFRAS	40.75	344	I	I	12 45 20.0	
	baz=42,slow=333,SNR=4.1						
I53US	FAIRBANKS INFR	56.68	11	I	I	14 41 04.6	
	baz=348,slow=331,SNR=1.4						

IDC 12 08:38:19.3±2.8, 53.76N×86.80E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=25.5km s-min=13.4km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.19	280	I	I	08 45 10.0	
	baz=99,slow=346,SNR=2.6						
ZALV	Zalesovo Beam	1.19	280	Pg	Pg	08 38 40.6	-1.4
	0.4nm,0.3s,baz=99,slow=16,SNR=3.3						
ZALV				Lg	Lg	08 38 58.4	
	0.8nm,0.3s,baz=98,slow=28,SNR=4.7						
KURBB	Kurchatov Arra	5.98	242	Pn	Pn	08 39 49.8	+0.9
	0.1nm,0.3s,baz=58,slow=14,SNR=4.1						
	0.7nm,0.7s						
MKAR	Makanchi Array	7.55	204	Pn	Pn	08 40 11.9	+1.4
	0.1nm,0.3s,baz=24,slow=11,SNR=6.7						
MKAR				Sn	Sn	08 41 36.8	0.0
	0.1nm,0.3s,baz=25,slow=26,SNR=2.6						
MKAR				Lg	Lg	08 42 17.2	
	baz=25,slow=32,SNR=2.8						
	0.2nm,0.3s						

IDC 12 08:41:37.4±3.1, 54.08N×86.64E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=26.2km s-min=15.2km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.08	264	I	I	08 47 44.0	
	baz=83,slow=346,SNR=3.8						
ZALV	Zalesovo Beam	1.08	264	Pg	Pg	08 41 57.3	-0.8
	0.6nm,0.3s,baz=84,slow=16,SNR=5.9						
ZALV				Lg	Lg	08 42 13.9	
	1.2nm,0.3s,baz=82,slow=31,SNR=3.4						
KURBB	Kurchatov Arra	6.05	238	Pn	Pn	08 43 08.2	+0.1
	0.1nm,0.3s,baz=55,slow=13,SNR=4.1						
	0.4nm,0.3s						
MKAR	Makanchi Array	7.80	203	Pn	Pn	08 43 33.6	+1.5
	0.1nm,0.3s,baz=25,slow=13,SNR=5.6						
	0.2nm,0.3s						

MOS ***12*** *08:43:15.0±0.9, 30.63N×57.29E, h8km, mb6.0/106, MS5.6/51, Error ellipse: s-maj=3.7km s-min=2.5km az=118.9*
TEH ***12*** *08:43:16.3, 30.72N×57.33E, h9km±48km, ML6.2*
THR ***12*** *08:43:17.3±1.4, 30.74N×57.30E, h15km±7km, ML6.2*
BJI ***12*** *08:43:17.0, 30.75N×57.30E, h10km, mb5.3/79, mB5.9/87, Ms6.1/94, Ms7 5.8/89*
NEIC ***12*** *08:43:18.8, 30.66N×57.29E, h20km, Moment Tensor Solution. Duration: 5s1 Moment tensor: Scale 10^18Nm; Mrr1.45; Mθθ-0.85; Mφφ-0.60; Mrθ-0.14; Mθφ0.49; Mφr0.26; Fault plane solution: M0 1.37000×10^18 NP1: φs312.17000°, δ50.79000°, λ94.95000°. NP2: φs124.38000°, δ39.47000°, λ83.97000°. Principal axes: T 1.4873, Plg83.0000°, Azm253.0000°; N -0.2264, Plg4.0000°, Azm129.0000°; P -1.2609, Plg6.0000°, Azm39.0000°;*
NEIC ***12*** *08:43:18.3±1.6, 30.74N±0.06×57.28E±0.08, h12km±1km, mb5.9/224, Ms_20 5.8/867, Mwb5.8/67, Mww6.0/35 Error ellipse: s-maj=11.6km s-min=10.7km az=297.0*
IPGP ***12*** *08:43:18.0, 30.76N×57.29E, h11km, Mw5.9, Fault plane solution: NP1:φs310.00000°, δ53.00000°, λ94.00000°. NP2:φs123.00000°, δ37.00000°, λ84.00000°.*
NEIC ***12*** *08:43:18.8, 30.76N×57.29E, h20km*
GCMT ***12*** *08:43:19.3±0.1, 30.66N×57.10E, h12km, MW6.0/166, Moment Tensor Solution. s162,c328; s166,c575; Duration: 2s4 Moment tensor: Scale 10^18Nm; Mrr0.96±.01; Mθθ-0.65±.01; Mφφ-0.31±.01; Mrθ-0.60±.02; Mθφ0.52±.01; Mφr0.51±.02; Best double couple: M0 1.26900×10^18 NP1:φs309.00000°, δ64.00000°, λ92.00000°. NP2:φs123.00000°, δ26.00000°, λ85.00000°. Principal axes: T 1.2370, Plg71.0000°, Azm224.0000°; N 0.0630, Plg2.0000°, Azm128.0000°; P -1.3000, Plg19.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
OMAN ***12*** *08:43:20.0±0.9, 30.65N×57.23E, h22km±6km, mb5.6/47, ml5.7/3, ms5.5/19, Mwp6.2/37 Error ellipse: s-maj=5.4km s-min=2.7km az=341.0*
IDC ***12*** *08:43:20.4±3.2, 30.63N×57.30E, h33km±24km, mb5.1/39, mbtmp5.3/49, ML4.8/10, MS5.5/69, Error ellipse: s-maj=10.8km s-min=8.3km az=172.0*
DSN ***12*** *08:43:21.6±0.5, 30.72N×57.38E, h38km±10km, mb6.0/5, ML5.6/11, Ms5.2/5, Error ellipse: s-maj=8.0km s-min=4.4km az=93.0*
SGS ***12*** *08:44:05.8, 29.04N×53.73E, h7km, Ml4.9*

ISC 12 08:43:17.6±0.3, 30.68N±0.02×57.30E±0.02, h11km±1km, h11km:pP-P, n2300, σ1.963/2213, mb5.8/366, MS5.8/577, 174C-80D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.72	293	Pg	Pg	08 43 30.3	-1.2
ZRDN				Sg	Sb	08 43 41.7	-0.5
KHGB	Koh Gabri	0.77	247	Pg	Pg	08 43 31.7	-0.9
KHGB				Sg	Sg	08 43 42.4	-0.4
TVBK	TV Kerman	0.84	214	Pg	Pg	08 43 33.6	-0.3
KRBR	Kerman	0.84	214	*e*Pg	Pg	08 43 34.0	+0.1
CHMN	Cheshme madani	0.85	166	Pg	Pg	08 43 32.9	-1.1
NGRK	Negar Kerman	1.15	206	Pg	Pb	08 43 39.2	-0.5
IBAF	Bafgh	1.74	302	Pg	Pb	08 43 48.9	-0.8
KBAM	BAM	1.84	147	Pn	Pn	08 43 49.7	+0.4
BSRN	Basiran	2.02	50	*e*Pn	Pn	08 43 52.3	+0.6
BSRN				*e*Sg	Sb	08 44 19.6	0.0
BSRN	Basiran	2.02	50	Pn	Pn	08 43 51.4	-0.4
IKOO	Kooshah	2.26	40	Pn	Pn	08 43 55.0	-0.3
TPRV	Parvadeh(Tabas	2.40	348	Pn	Pn	08 43 56.9	0.0
IMEH	Mehriz	2.41	288	Pn	Pn	08 43 58.0	+0.8
NHDN	Nehbandan	2.46	73	Pn	Pn	08 43 57.9	+0.1
ITEG	Tejag	2.53	29	Pn	Pn	08 43 59.0	+0.1
KHNJ	Kahnooj	2.75	173	Pn	Pn	08 44 03.6	+1.9
YZKH	Yazd	2.87	307	*e*Pn	Pn	08 44 04.8	+1.4
YZKH				*e*Sg	Sb	08 44 45.1	+1.0
YZKH				IAML		08 44 48.4	
	comp=N,63μm,0.6s						
YZKH				IAML		08 44 51.4	
	comp=E,87μm,0.6s						
ICHK	Chekchek	2.92	303	Pn	Pn	08 44 05.3	+1.1
TKDS	Koohdasht(Taba	2.92	357	Pn	Pn	08 44 04.3	+0.1
TABS	Tabas	2.96	357	*e*Pn	Pn	08 44 05.6	+0.9
TABS				IAML		08 45 00.4	
	comp=N,49μm,0.8s						
IDAH	Dahanechah	3.00	46	Pn	Pn	08 44 05.1	-0.2
AFRZ	Afriz	3.10	28	Pn	Pn	08 44 06.5	-0.1
ZHSF	Zahedan	3.19	109	*e*Pn	Pn	08 44 09.0	+1.0
IBND	Bandar-abas	3.29	192	Pn	Pn	08 44 10.9	+1.8
ZHDN	Zahedan	3.30	112	Pn	Pn	08 44 09.8	+0.4
TNSJ	Nastanj	3.32	350	Pn	Pn	08 44 09.9	+0.2
ISAD	Sadrabad	3.33	293	Pn	Pn	08 44 11.1	+1.1
GENO	Geno	3.42	197	Pn	Pn	08 44 13.9	+2.9
BNDS	Bandar-Abbas	3.42	197	*e*Pn	Pn	08 44 14.3	+3.2
SHRT	Shahrakht	3.89	40	*e*Pn	Pn	08 44 18.1	+0.7
SHRT	Shahrakht	3.89	40	Pn	Pn	08 44 17.7	+0.2
JHRM	Jahrom	3.90	237	Pn	Pn	08 44 19.2	+1.5
ANAR	Anarak	3.93	310	Pn	Pn	08 44 18.1	+0.1
LAR1	LAR	3.94	221	Pn	Pn	08 44 20.2	+2.0
QIR1	Qir	4.31	240	Pn	Pn	08 44 24.1	+0.9
IRAM	Ramesheh	4.36	286	Pn	Pn	08 44 25.2	+1.2
NASN	Na'in	4.37	300	*e*Pn	Pn	08 44 24.9	+0.7
GHIR	Ghir-Karzin	4.46	239	*e*Pn	Pn	08 44 27.0	+1.8
SHME	Shamm	4.73	193	*i* P	Pn	08 44 31.2	+2.3
	SNR=28						
SHME	Shamm	4.73	193	P	Pn	08 44 31.2	+2.3
	SNR=28						
SHME				P	Pn	08 44 31.2	+2.3
	SNR=28						
IZEF	Zefreh	4.77	299	Pn	Pn	08 44 30.9	+1.2
IGAR	Gharneh	4.81	292	Pn	Pn	08 44 31.5	+1.4
JASK	Jask - Hormozg	4.83	174	P	Pn	08 44 31.8	+1.5
	SNR=187						
JASK				S	Sn	08 45 24.0	-2.1
JASK	Jask - Hormozg	4.83	174	Pn	Pn	08 44 32.3	+2.1
KLNJ	Kolanjah	4.92	275	Pn	Pn	08 44 33.4	+1.5
LMD1	Lamerd	4.92	228	Pn	Pn	08 44 33.0	+1.5
TBHD	Torbat heydari	4.99	18	Pn	Pn	08 44 32.9	+0.3
TBJM	Torbat-e-JAM	5.23	28	Pn	Pn	08 44 37.0	+1.0
IBRJ	Brojen	5.31	285	Pn	Pn	08 44 39.5	+2.3
UMQ	Umm Al-Quwin	5.34	196	*i* P	Pn	08 44 40.0	+2.7
	SNR=12						
UMQ	Umm Al-Quwin	5.34	196	P	Pn	08 44 39.2	+1.9
	SNR=5.1						
UMQ				P	Pn	08 44 39.2	+1.9
	SNR=5.1						
MASF	Masafi	5.39	191	P	Pn	08 44 40.5	+2.5
	SNR=103						
MASF				P	Pn	08 44 40.5	+2.5
	SNR=103						
MSFE	Esma-Masafi	5.40	191	*i* P	Pn	08 44 40.5	+2.3
	SNR=105						
SHRO	Shahrood	5.40	349	*e*Pn	Pn	08 44 39.1	+0.9
SHRO				IAML		08 46 12.6	
	comp=N,8μm,0.4s						
SHRO				IAML		08 46 20.3	
	comp=E,13μm,0.3s						
KRSH	Karshahi	5.46	308	Pn	Pn	08 44 40.2	+1.1
IKLH	Kolahrood	5.53	300	Pn	Pn	08 44 41.4	+1.4
SRVN	Saravan	5.53	125	Pn	Pn	08 44 41.3	+1.2
IANJ	Anjilo	5.55	330	Pn	Pn	08 44 40.1	-0.3
HRA	Herat	5.57	47	Pn	Pn	08 44 42.2	+1.5
ISFB	Sefidab	5.62	312	Pn	Pn	08 44 41.3	0.0
IMOG	Moghan	5.67	17	Pn	Pn	08 44 42.6	+0.5
ZNGN	Zangian	5.69	286	Pn	Pn	08 44 44.1	+1.7
SBZV	Sabzevar	5.70	3	Pn	Pn	08 44 43.4	+1.0
DSBU	Dashti - Bushe	5.75	248	Pn	Pn	08 44 43.6	+0.7
CHBR	Chabahar	5.79	150	*e*Pn	Pn	08 44 43.8	+0.2
CHBR	Chabahar	5.79	150	Pn	Pn	08 44 43.2	-0.3
UOSS	Minazif	5.80	190	Pn	Pn	08 44 45.8	+2.2
UOSS	Minazif	5.80	190	*i* P	Pn	08 44 45.0	+1.3
	SNR=36						
UOSS				S	Sn	08 45 54.4	+4.2
UOSS	Minazif	5.80	190	P	Pn	08 44 45.1	+1.5
UOSS				P	Pn	08 44 45.1	+1.5
UOSS				S	Sn	08 45 53.1	+2.9
UOSS				S	Sn	08 45 53.1	+2.9
UOSS	Minazif	5.80	190	⇑P	Pn	08 44 45.1	+1.5
JRKH	Jarkhoshk	5.80	25	Pn	Pn	08 44 44.5	+0.7
IPIR	Pirpir	5.81	292	Pn	Pn	08 44 46.5	+2.4
NAZ	Nazwa, Dubai	5.86	195	*i* P	Pn	08 44 46.5	+2.1
	SNR=59						
NAZ	Nazwa, Dubai	5.86	195	P	Pn	08 44 47.0	+2.6
	SNR=59						
NAZ				P	Pn	08 44 47.0	+2.6
	SNR=59						
QAMS	Qamsar	5.86	303	Pn	Pn	08 44 45.7	+1.1
JHBN	Jahan bin	5.88	287	Pn	Pn	08 44 46.7	+1.8
HATD	Hatta, Dubai	5.93	190	*i* P	Pn	08 44 46.1	+0.7
	SNR=39						
HATD	Hatta, Dubai	5.93	190	P	Pn	08 44 46.7	+1.3
	SNR=40						
HATD				P	Pn	08 44 46.7	+1.3
	SNR=40						
ILAS	Lasjerd	5.94	323	Pn	Pn	08 44 46.0	+0.3
IAKL	Akhelmad	6.03	11	Pn	Pn	08 44 48.1	+1.1
ABEH	Behbahan	6.07	271	Pn	Pn	08 44 50.7	+3.3
ASHO	Ashiyiah	6.08	191	*i* P	Pn	08 44 50.0	+2.5
	SNR=92						
ASHO	Ashiyiah	6.08	191	P	Pn	08 44 48.8	+1.3
	SNR=92						
ASHO				S	Sn	08 45 59.9	+2.8
FAQ	Al Faqa, Dubai	6.11	195	*i* P	Pn	08 44 50.1	+2.3
	SNR=80						
FAQ	Al Faqa, Dubai	6.11	195	P	Pn	08 44 48.9	+1.1
	SNR=79						
FAQ				P	Pn	08 44 48.9	+1.1
	SNR=79						
IMYA	Miami	6.11	22	Pn	Pn	08 44 50.1	+2.1
IFIR	Firoozkooh	6.24	324	Pn	Pn	08 44 49.9	-0.1
ASUD	Al Ashush, Dub	6.28	197	*i* P	Pn	08 44 52.6	+2.3
	SNR=15						
ASUD	Al Ashush, Dub	6.28	197	P	Pn	08 44 51.0	+0.8
	SNR=22						
ASUD				P	Pn	08 44 51.0	+0.8
	SNR=22						
NGCH	Negor - Chabah	6.29	146	P	Pn	08 44 51.0	+0.6
	SNR=15						
NGCH	Negor - Chabah	6.29	146	Pn	Pn	08 44 49.9	-0.5
GHVR	GHOM	6.33	308	*e*Pn	Pn	08 44 52.7	+1.8
IKRD	Kardeh	6.35	16	Pn	Pn	08 44 53.1	+1.7
IVRN	Varamin	6.36	314	Pn	Pn	08 44 51.8	+0.4
ISFR	Sfrayin	6.38	5	Pn	Pn	08 44 53.0	+1.1
AJN	Ajban	6.43	199	*i* P	Pn	08 44 54.6	+2.3
	SNR=11						
AJN	Ajban	6.43	199	P	Pn	08 44 53.0	+0.7
	SNR=11						
AJN				P	Pn	08 44 53.0	+0.7
	SNR=11						
IGLO	Ghaloghah	6.49	334	Pn	Pn	08 44 54.1	+0.9
SOHO	SOHO	6.56	186	*i* P	Pn	08 44 55.0	+0.9
	SNR=77						
SOHO	SOHO	6.56	186	P	Pn	08 44 55.2	+1.2
SOHO		

comp=E,9.0nm,0.3s,baz=187,slow=15,SNR=75
GEYT Sn Sn 08 46 29.1 +2.9
comp=E,30nm,0.3s,baz=189,slow=18,SNR=3.9
GEYT Lg Lg 08 47 08.6
comp=E,6.6nm,0.3s,baz=114,slow=44,SNR=2.1
GEYT LR LR 08 48 33.8
comp=E,82µm,21.9s,baz=194,slow=43
comp=E,36nm,0.5s
GYA0 ALIBECK ARRAY 7.26 5 P **Pn 08 45 05.8 +2.1**
GYA0B ALIBECK ARRAY 7.26 5 P **Pn 08 45 05.1 +1.4**
CHTH Charan 7.34 317 *e*Pn **Pn 08 45 06.0 +1.1**
ARQ Araqi 7.35 186 P **Pn 08 45 07.5 +2.5**
SNR=106
ARQ P **Pn 08 45 07.5 +2.5**
SNR=106
ARQ P **Pn 08 45 07.5 +2.5**
SNR=106
SHMA Al-Shehemyia 7.37 231 P **Pn 08 45 06.0 +0.8**
SNR=48
IMHD Mahdasht 7.47 314 Pn **Pn 08 45 05.8 -0.8**
MZPU Pul - Mazandar 7.47 322 Pn **Pn 08 45 07.9 +1.1**
THKV Tehran--Karaj 7.49 316 *e*Pn **Pn 08 45 07.6 +0.6**
WSAR Wadi Sarin 7.51 171 P **Pn 08 45 08.5 +1.3**
SNR=82
WSAR S **Sn 08 46 36.2 +3.9**
WSAR Wadi Sarin 7.51 171 Pn **Pn 08 45 08.0 +0.8**
comp=E,70nm,0.3s,baz=11,slow=12,SNR=148
WSAR Sn **Sn 08 46 33.3 +1.0**
comp=E,20nm,0.3s,baz=318,slow=14,SNR=1.5
comp=E,360nm,0.5s
SMDO Samad 7.62 175 P **Pn 08 45 11.0 +2.2**
SNR=8.1
SMDO P **Pn 08 45 11.0 +2.2**
SNR=8.1
SMDO S **Sn 08 46 39.0 +3.8**
SMDO S **Sn 08 46 39.0 +3.8**
IRAZ Razeghan 7.77 309 Pn **Pn 08 45 11.5 +0.6**
KLST Kelardasht - M 7.81 320 Pn **Pn 08 45 12.6 +1.1**
BSY Bisya 7.91 181 P **Pn 08 45 15.3 +2.7**
SNR=130
BSY P **Pn 08 45 15.3 +2.7**
SNR=130
TRNA Turayna 8.01 224 P **Pn 08 45 14.3 +0.3**
SNR=242
HAGD Aghdareh 8.02 303 Pn **Pn 08 45 16.2 +1.9**
KFJS2 Khafji 8.10 256 P **Pn 08 45 15.9 +0.7**
WBK Wadi Bani Khal 8.18 169 P **Pn 08 45 16.9 +0.6**
SNR=100
WBK P **Pn 08 45 16.9 +0.6**
SNR=100
WBK P **Pn 08 45 16.9 +0.6**
SNR=100
WBK S **Sn 08 46 54.3 +5.5**
WBK S **Sn 08 46 54.3 +5.5**
WBK S **Sn 08 46 54.3 +5.5**
WBK Wadi Bani Khal 8.18 169 Pn **Pn 08 45 17.2 +0.8**
SMRA Abu-Samra 8.24 226 P **Pn 08 45 17.9 +0.8**
SNR=132
SMRA S **Sn 08 46 50.4 +0.2**
JMDO Jabal Madar 8.31 175 P **Pn 08 45 19.7 +1.6**
SNR=49
JMDO P **Pn 08 45 19.7 +1.6**
SNR=49
SHBH2 SHBH2 8.46 220 P **Pn 08 45 20.1 +0.1**
BOQSS 8.47 237 P **Pn 08 45 21.2 +0.9**
BOQSS 8.47 237 S Sn 08 46 14.5 -42
IKFM Kafar-mosalman 8.50 292 Pn **Pn 08 45 20.8 +0.1**
JLN Jalan Bani Buh 8.71 167 P **Pn 08 45 24.6 +1.1**
SNR=50
JLN P **Pn 08 45 24.6 +1.1**
SNR=50
JLN P **Pn 08 45 24.6 +1.1**
SNR=50
GIDE GILAN DEYLAMAN 8.75 317 *e*Pn **Pn 08 45 25.2 +1.0**
SHBH1 SHBH1 8.77 217 P **Pn 08 45 24.1 -0.3**
QSDN Sirdan 8.92 313 Pn **Pn 08 45 27.2 +0.5**
IKOM Komasi 8.98 295 Pn **Pn 08 45 27.2 -0.2**
SMAN Sihmah 9.29 243 P **Pn 08 45 30.2 -1.3**
ZNJK Zanjan 9.33 312 *e*Pn **Pn 08 45 33.3 +1.0**
KCHF Cheshme Sefid, 9.38 295 Pn **Pn 08 45 32.3 -0.6**
NHRD Haradh 9.44 233 P **Pn 08 45 33.4 -0.2**
SNGE Sanandaj 9.45 300 *e*Pn **Pn 08 45 35.1 +1.2**
ILIN Lien 9.67 299 Pn **Pn 08 45 37.1 +0.1**
MHTO MHTO 9.68 176 P **Pn 08 45 39.7 +2.9**
SNR=86
MHTO P **Pn 08 45 39.7 +2.9**
SNR=86
MHTO P **Pn 08 45 39.7 +2.9**
SNR=86
MHTO S **Sn 08 47 26.7 +1.2**
MHTO S **Sn 08 47 26.7 +1.2**
MHTO S **Sn 08 47 26.7 +1.2**
IGHG Ghaleghazi 9.76 295 Pn **Pn 08 45 37.3 -0.9**
ILBA Ilam Banvizeh 9.85 290 *e*Pn **Pn 08 45 38.7 -0.5**
ILBA Ilam Banvizeh 9.85 290 Pn **Pn 08 45 38.0 -1.3**
IDHR Dehrash 10.03 296 Pn **Pn 08 45 39.7 -2.1**
GAS1 Astara - Iran 10.37 320 Pn **Pn 08 45 45.6 -0.7**
RQBS RQBS 10.47 254 P **Pn 08 45 46.2 -1.6**
KBL Kabul 10.62 66 Pn **Pn 08 45 54.1 +4.1**
KBL Kabul 10.62 66 P **Pn 08 45 54.3 +4.4**
SNR=59
KBL P **Pn 08 45 54.3 +4.4**
SNR=59
KBL Kabul 10.62 66 P **Pn 08 45 54.1 +4.1**
IHSH Hashtrud 10.63 311 Pn **Pn 08 45 50.8 +0.6**
RMAH Rumah 10.63 243 P **Pn 08 45 48.4 -1.6**
LKRN Lenkeran, Azer 10.64 321 P **Pn 08 45 50.9 +0.9**
ISRB Sarab 10.69 314 Pn **Pn 08 45 51.9 +1.1**
KBU Kabul Universi 10.69 66 P **Pn 08 45 51.2 +0.4**
DQM DQM 10.71 179 P **Pn 08 45 51.8 +0.8**
SNR=16
DQM P **Pn 08 45 51.8 +0.8**
SNR=16
GRMI Germi 11.20 319 *e*Pn **Pn 08 45 58.3 +0.6**
GRMI Germi 11.20 319 Pn **Pn 08 45 56.6 -1.2**
IHRS Heris 11.38 315 Pn **Pn 08 46 01.9 +1.6**
MAHB Mahabad 11.40 305 Pn **Pn 08 46 02.2 +1.7**
IAZR Azarshahr 11.68 310 Pn **Pn 08 46 06.8 +2.3**
ITBZ Tabriz 11.89 312 Pn **Pn 08 46 07.2 0.0**
ISHB Shabestar 12.26 311 Pn **Pn 08 46 12.7 +0.4**
IMRD Marand 12.45 313 Pn **Pn 08 46 16.1 +1.2**
CHGR Chuyangaron 12.58 48 P **Pn 08 46 17.5 +0.8**
CHGR Chuyangaron 12.58 48 P **Pn 08 46 17.5 +0.8**
SHAO Shalim 12.70 187 P **Pn 08 46 18.5 +0.3**
SNR=18
SHAO P **Pn 08 46 18.5 +0.3**
SNR=18
SHAO P **Pn 08 46 18.5 +0.3**
SNR=18
SHAO P **P 08 46 25.0 -4.6**
SNR=8.0
SHAO P **P 08 46 25.0 -4.6**
SNR=8.0
SHAO P **P 08 46 25.0 -4.6**
SNR=8.0
SHAO S **Sn 08 48 40.9 +1.3**
SHAO S **Sn 08 48 40.9 +1.3**
SHAO S **Sn 08 48 40.9 +1.3**
NAX Nakhchivan 12.86 314 P **Pn 08 46 23.9 +3.5**
MNGR Mingechevir, A 13.04 323 P **Pn 08 46 26.9 +4.2**
DMTO DMTO 13.09 190 P **Pn 08 46 24.1 +0.6**
SNR=27
DMTO P **Pn 08 46 24.1 +0.6**
SNR=27
DMTO P **Pn 08 46 24.1 +0.6**
SNR=27
WHFO Wadi Hawf 13.11 195 P **Pn 08 46 24.0 +0.1**
SNR=52
WHFO P **Pn 08 46 24.0 +0.1**
SNR=52
WHFO P **Pn 08 46 24.0 +0.1**
SNR=52
WHFO S **Sn 08 48 50.1 +0.4**
WHFO S **Sn 08 48 50.1 +0.4**
WHFO S **Sn 08 48 50.1 +0.4**
CUKT Cukurca 13.11 304 *e*P **Pn 08 46 26.9 +3.0**
AKT Akhty 13.25 327 *i*P **Pn 08 46 25.8 0.0**
SEKA Sheki 13.30 325 P **Pn 08 46 27.9 +1.4**
GANJ Ganja 13.35 321 P **Pn 08 46 27.7 +0.7**
RBK Rabkut 13.42 193 P **Pn 08 46 28.5 +0.4**
SNR=28
RBK P **Pn 08 46 28.5 +0.4**
SNR=28
RBK P **Pn 08 46 28.5 +0.4**
SNR=28

DRN Derbent 13.42 330 ⇓ *e*P **Pn 08 46 27.9 -0.1**
MAKU Maku 13.47 313 *e*Pn **Pn 08 46 30.5 +1.6**
MAKU Maku 13.47 313 Pn **Pn 08 46 30.6 +1.8**
GAR Garm 13.52 49 **Pn 08 46 29.2 -0.3**
ABTO Aybut 13.76 196 P **Pn 08 46 32.5 -0.3**
SNR=44
ABTO P **Pn 08 46 32.5 -0.3**
SNR=44
ABTO P **Pn 08 46 32.5 -0.3**
SNR=44
NIL Nilore 13.83 73 **Pn 08 46 36.1 +2.4**
NIL Nilore 13.83 73 ⇑P **Pn 08 46 35.4 +1.7**
NIL Nilore 13.83 73 P **Pn 08 46 36.1 +2.4**
CLDR Caldiran 13.84 311 *i*P **Pn 08 46 36.7 +2.8**
VANB Van 13.90 308 *e*P **Pn 08 46 37.1 +2.5**
ZKTA Zakatala 13.91 325 P **Pn 08 46 36.0 +1.3**
GNI Garni 13.92 316 P **Pn 08 46 37.4 +2.5**
GNI Garni 13.92 316 P **Pn 08 46 35.1 +0.2**
GNI P **Pn 08 46 35.1 +0.2**
GNI Garni 13.92 316 ⇑P **Pn 08 46 37.5 +2.5**
GNI Garni 13.92 316 Pn **Pn 08 46 37.8 +2.9**
comp=E,2.1nm,0.3s,baz=154,slow=4.3,SNR=24
GNI Sn S 08 49 21.4 -10
comp=E,0.9nm,0.3s,baz=65,slow=19,SNR=1.3
GNI Lg Lg 08 50 40.1
comp=E,1.2nm,0.3s,baz=245,slow=18,SNR=1.1
comp=E,69nm,0.9s
AKDM Akdamar-Van 14.05 307 *i*P **Pn 08 46 39.0 +2.3**
TASB TASBURUN-IGDIR 14.12 315 *e*P **Pn 08 46 39.8 +2.2**
BTK Batken 14.45 46 Pn **Pn 08 46 41.3 -0.8**
BTK Batken 14.45 46 P **Pn 08 46 41.3 -0.8**
MAK Makhachkala 14.54 330 *d*iP **Pn 08 46 43.0 -0.2**
MAK *e*S **Sn 08 49 24.9 +0.6**
MAK pmax pmax
comp=Z,798nm,1.2s
MAK MLR MLR
comp=Z,14µm,10.0s
AGRB Hanur-Agry 14.67 311 *e*P **Pn 08 46 47.9 +2.6**
GURO Guroymak-BITLI 14.81 306 *e*P **P 08 46 50.6 -2.4**
GURO Guroymak-BITLI 14.81 306 Pn **Pn 08 46 48.1 +1.1**
BTLR Botlikh 14.88 327 *e*P **Pn 08 46 48.7 +0.7**
KARS Kars 15.21 315 *e*P **Pn 08 46 52.4 -0.2**
KARS Kars 15.21 315 P **P 08 46 55.8 -1.8**
KARS IAmb IAmb 08 46 55.9
comp=Z,937nm,1.8s
KARS Kars 15.21 315 P **P 08 46 55.8 -1.8**
KARS pmax pmax
comp=Z,937nm,1.8s
SVAN Silvan-Diyarba 15.22 304 *i*P **Pn 08 46 52.4 -0.2**
AKH Akhalkalaki 15.45 318 *e*P **P 08 46 58.1 -2.1**
AKH Akhalkalaki 15.45 318 P **P 08 46 58.2 -2.0**
AKH IAmb IAmb 08 47 01.5
comp=Z,556nm,1.4s
AKH Akhalkalaki 15.45 318 P **P 08 46 58.2 -2.0**
AKH pmax pmax
comp=Z,556nm,1.4s
VRTB Varto-Mus 15.49 307 *e*P **P 08 47 00.6 0.0**
MAZI Mazidag 15.51 300 *i*P **Pn 08 46 54.8 -1.6**
SENK Senkaya-Erzuru 15.63 313 *i*P **P 08 47 00.7 -1.5**
KOPR Koprukoy-ERZUR 15.64 311 *i*P **P 08 47 01.2 -1.1**
AJM Ajmer 15.80 101 *e*P **P 08 47 04.0 0.0**
KARO Karliova-Bingo 15.84 307 P **Pn 08 46 59.8 -0.9**
DYBB Diyarbakir 15.91 302 *e*P **Pn 08 47 03.0 +1.4**
BNGB Bingl 15.95 306 *e*P **Pn 08 47 03.9 +1.8**
BINT Bingol 16.03 305 P **Pn 08 47 03.9 +0.7**
ZEI Tsey 16.14 322 *e*P **Pn 08 47 04.8 +0.2**
ZEI pmax pmax
comp=Z,464nm,1.5s
ONI Oni 16.25 321 *e*P **Pn 08 47 05.7 -0.1**
ONI Pn **Pn 08 47 06.2 +0.4**
ONI Oni 16.25 321 P **Pn 08 47 06.2 +0.4**
ONI pmax pmax
comp=Z,461nm,1.9s
KK31 Karatay Array 16.26 37 *i*P **Pn 08 47 04.7 -1.3**
KKAR Karatay Array 16.26 37 P **Pn 08 47 04.7 -1.3**
KKAR Karatay Array 16.26 37 Pn **Pn 08 47 04.2 -1.8**
KKAR IAmb IAmb 08 47 11.7
comp=Z,353nm,1.4s
KKAR Karatay Array 16.26 37 ⇑P **Pn 08 47 04.7 -1.3**
KKAR Karatay Array 16.26 37 P **Pn 08 47 04.2 -1.8**
KKAR pmax pmax
comp=Z,353nm,1.4s
ARSB Arslanbob 16.52 46 Pn **Pn 08 47 07.1 -2.3**
ARSB Arslanbob 16.52 46 P **Pn 08 47 07.1 -2.3**
ARSB pmax pmax
comp=Z,123nm,1.3s
DZA Taraz 16.55 39 *e*P **Pn 08 47 10.2 +0.6**
baz=39
DZA Taraz 16.55 39 *e*P **Pn 08 47 10.2 +0.6**
BCA Borcka 16.59 315 *i*P **P 08 47 12.2 -0.5**
BATM Batumi 16.64 315 *e*P **P 08 47 12.2 -1.0**
BATM Batumi 16.64 315 P **P 08 47 12.1 -1.1**
URFA Urfa 16.72 299 *e*P **P 08 47 13.1 -1.1**
PTK Pertek 16.82 304 *e*P **P 08 47 14.4 -1.0**
ERZN Erzincan 16.88 307 *e*P **Pn 08 47 13.4 -0.6**
KUDL Kundal 16.91 94 *e*P **P 08 47 15.5 -0.8**
CHOM Cayeli-Rize 16.93 312 *i*P **P 08 47 16.4 -0.1**
BAYT Aydıntepe-Bayb 16.97 309 *i*P **P 08 47 17.3 +0.2**
SMLA Simla 17.06 83 *e*P **P 08 47 17.0 -0.9**
SMLA IAmb IAmb 08 47 30.6
comp=Z,239nm,0.8s
KBZ Khabaz 17.32 323 P **P 08 47 20.2 -0.5**
comp=Z,0.5nm,0.3s,baz=129,slow=8.7,SNR=47
KBZ S **S 08 50 39.6 -1.1**
comp=Z,14nm,0.8s,baz=279,slow=19,SNR=1.2
KBZ Lg Lg 08 52 44.0
baz=227,slow=21
comp=Z,76nm,1.1s
SONA Sohna 17.40 93 *e*P **P 08 47 21.5 -0.1**
AML Almayashu 17.42 45 P **Pn 08 47 20.8 -0.2**
SNR=35
AML Almayashu 17.42 45 P **Pn 08 47 19.8 -1.2**
NDI New Delhi 17.42 92 *e*P **P 08 47 21.7 -0.3**
ASF Jabal al Asfar 17.48 280 P **Pn 08 47 20.7 -0.8**
comp=Z,8.6nm,0.3s,baz=92,slow=7.5,SNR=20
ASF S **Sn 08 50 35.7 -0.4**
comp=Z,18nm,0.7s,baz=59,slow=5.8,SNR=1.0
ASF Lg Lg 08 52 42.0
baz=315,slow=18
ASF LR LR 08 55 15.5
comp=Z,17µm,20.9s,baz=98,slow=41
comp=Z,128nm,1.0s
KTUT Trabzon 17.51 311 ⇓P **P 08 47 25.2 +2.3**
KTUT Trabzon 17.51 311 *e*P **P 08 47 23.8 +0.9**
KVAR Kislovodsk Arr 17.58 323 P **P 08 47 24.9 +1.1**
baz=271,slow=23
KVAR S **S 08 50 43.0 -3.4**
comp=Z,24nm,0.8s,baz=152,slow=19,SNR=1.2
comp=Z,134nm,1.2s
KIV Kislovodsk 17.59 323 ⇓P **P 08 47 25.5 +1.7**
KIV Kislovodsk 17.59 323 P **P 08 47 23.7 -0.1**
KIV IAmb IAmb 08 47 31.5
comp=Z,953nm,1.1s
KIV Kislovodsk 17.59 323 *i*P **P 08 47 23.6 -0.3**
SNR=99
KIV Kislovodsk 17.59 323 P **P 08 47 23.5 -0.3**
KIV P **P 08 47 23.5 -0.3**
KIV P **P 08 47 23.5 -0.3**
KIV Kislovodsk 17.59 323 ⇑P **P 08 47 23.5 -0.3**
KIV Kislovodsk 17.59 323 *e*P **P 08 47 23.6 -0.3**
KIV *e*S **Sn 08 50 40.1 +1.5**
KIV pmax pmax
comp=Z,749nm,1.1s
KIV MLR MLR
comp=Z,4µm,14.0s
KSH Kashi 17.61 55 P **Pn 08 47 17.9 -5.3**
KSH pP P 08 47 20.8 -3.4
KSH sP pP 08 47 25.2 -2.5
KSH S **Sn 08 50 28.7 -11**
KSH pmax pmax
comp=Z,76nm,1.1s
KSH pmax pmax
comp=Z,12µm,11.9s
KSH LR LR
comp=Z,32µm,12.7s
KSH LR LR
comp=Z,42µm,10.7s
KSH LR LR
comp=Z,41µm,12.0s
ILIC ilic-Erzincan 17.63 305 *e*P **P 08 47 25.2 +0.9**
ARPR Arapgir-MALATY 17.65 303 *e*P **P 08 47 25.5 +0.9**
ARPR Arapgir-MALATY 17.65 303 P **P 08 47 24.9 +0.3**
ARPR IAmb IAmb 08 47 29.2
comp=Z,1µm,1.4s

EKS2 Erkin-Say 17.78 43 P **P 08 47 25.6 -0.4**
SNR=41
GAZ Gaziantep 17.87 297 *e*P **Pn 08 47 24.9 -1.4**
GAZ Gaziantep 17.87 297 **P 08 47 26.6 -0.3**
GAZ IAmb IAmb 08 47 33.1
comp=Z,945nm,1.6s
GAZ Gaziantep 17.87 297 ⇑P **P 08 47 27.2 +0.3**
UCH Uchtor 17.98 45 P **Pn 08 47 26.3 -1.6**
SNR=39
DARE Darende-Malaty 18.09 301 *e*P **Pn 08 47 28.6 -0.4**
ESPY Espiye-Giresun 18.17 309 *e*P **P 08 47 30.8 +0.7**
BEIL Beino 18.20 288 *e*P **P 08 47 31.6 +1.1**
AAK Ala-Archa 18.20 44 P **Pn 08 47 30.5 +0.1**
SNR=55
AAK Ala-Archa 18.20 44 P **Pn 08 47 30.2 -0.1**
AAK Ala-Archa 18.20 44 *i*P **Pn 08 47 30.2 -0.1**
SNR=131
AAK Ala-Archa 18.20 44 P **P 08 47 30.7 +0.1**
AAK P **P 08 47 30.7 +0.1**
AAK Ala-Archa 18.20 44 ⇑P **Pn 08 47 29.8 -0.6**
AAK Ala-Archa 18.20 44 P **Pn 08 47 30.2 -0.1**
AAK pmax pmax
comp=Z,454nm,1.4s
AAK Ala-Archa 18.20 44 P **P 08 47 30.7 +0.1**
comp=Z,2.0nm,0.3s,baz=218,slow=5.6,SNR=42
AAK S **S 08 51 00.8 +1.8**
comp=Z,10.0nm,1.0s,baz=320,slow=19,SNR=0.6
AAK LR LR 08 55 43.1
comp=Z,40µm,19.3s,baz=246,slow=41
comp=Z,40nm,0.7s
GOF Gofitskoye 18.20 326 *c*iP **Pn 08 47 29.1 -1.1**
KMRS Kahramanmaras 18.20 297 *e*P **P 08 47 31.4 +0.9**
KZA Kyzart 18.35 47 P **P 08 47 32.8 +0.3**
SNR=28
HWQ Hawqa 18.36 287 *e*P **P 08 47 34.9 +2.5**
FRU1 Bishkek 18.38 44 P **Pn 08 47 31.5 -1.0**
FRU1 Bishkek 18.38 44 P **Pn 08 47 31.5 -1.0**
FRU1 pmax pmax
comp=Z,232nm,1.2s
ZAHL Zahle 18.38 286 *e*P **P 08 47 35.2 +2.6**
RCY Rachaya 18.40 284 *e*P **Pn 08 47 34.7 +1.8**
KBK Karagaybulak 18.48 45 P **Pn 08 47 34.2 +0.3**
SNR=35
TAHT Tahtakopru-Hat 18.48 294 *i*P **Pn 08 47 35.6 +1.9**
NRN Naryn 18.50 49 P **P 08 47 32.2 -1.9**
NRN Naryn 18.50 49 P **P 08 47 32.2 -1.9**
NRN pmax pmax
comp=Z,81nm,0.9s
QRWL Qaraoun 18.53 285 *e*P **Pn 08 47 36.0 +1.6**
GEM Giv'at Ha'Em 18.53 283 ⇑P **Pn 08 47 34.4 0.0**
CHMS Chumysh 18.56 44 P **P 08 47 34.4 -0.1**
SNR=17
USP Ospenovka 18.57 43 P **Pn 08 47 36.7 +1.9**
SNR=15
BHL Bhannes 18.58 286 *e*P **Pn 08 47 37.2 +2.2**
DQRL Deir Qamar 18.63 285 *e*P **Pn 08 47 37.8 +2.1**
GHAJ Ghor Haditha 18.64 277 P **Pn 08 47 36.2 +0.5**
GHAJ IAmb IAmb 08 47 44.9
comp=Z,2µm,1.3s
AB31 Akbulak array 18.66 5 *i*P **P 08 47 35.0 -0.4**
ABKAR Akbulak array 18.66 5 P **P 08 47 35.5 0.0**
ABKAR Akbulak array 18.66 5 P **P 08 47 34.5 -0.9**
ABKAR IAmb IAmb 08 47 43.2
comp=Z,328nm,1.1s
ABKAR Akbulak array 18.66 5 ⇑P **P 08 47 34.9 -0.6**
VSLR Vesyoloye 18.73 318 *i*P **Pn 08 47 37.8 +1.1**
MMAI Mount Meron Ar 18.75 283 P **Pn 08 47 38.3 +1.3**
comp=Z,3.2nm,0.3s,baz=96,slow=14,SNR=22
MMAI S **S 08 51 08.8 -1.2**
comp=Z,7.5nm,0.8s,baz=112,slow=6.4,SNR=1.1
MMAI LR LR 08 56 07.4
comp=Z,8µm,19.7s,baz=67,slow=41
comp=Z,66nm,1.0s
SGDS Sogindy 18.76 42 *e*P **P 08 47 36.4 -0.3**
baz=42
SGDS Sogindy 18.76 42 *e*P **P 08 47 36.3 -0.3**
MSBI Mazada 18.82 278 ⇑P **Pn 08 47 38.0 +0.1**
SARI SarD1z-Kayseri 18.82 300 *e*P **Pn 08 47 39.2 +1.2**
RSDY Resadiye-TOKAT 18.89 306 *e*P **P 08 47 36.8 -1.3**
SVSK Karacayir 18.93 305 *i*P **Pn 08 47 40.4 +1.4**
SALP Salfit 18.93 280 ⇑P **Pn 08 47 40.1 +0.9**
CEYT Ceyhan 18.96 295 *e*P **Pn 08 47 40.3 +0.8**
SOC Sochi 18.98 318 *e*P **P 08 47 38.3 -0.8**
SOC *e* 08 51 11.1
SOC pmax pmax
comp=Z,229nm,1.1s
SOC MLR MLR
comp=Z,6µm,13.0s
BOOM Boomskoye usch 19.00 47 P **Pn 08 47 40.2 0.0**
BOOM Boomskoye usch 19.00 47 P **Pn 08 47 40.2 0.0**
BOOM pmax pmax
comp=Z,511nm,1.7s
GUZR Guzeripl' 19.01 319 *i*P **Pn 08 47 41.1 +1.0**
KOZT Kozan 19.02 297 *i*P **Pn 08 47 41.3 +1.1**
TKM2 Tokmak 2 19.03 45 P **P 08 47 39.1 -0.6**
SNR=75
TKM2 Tokmak 2 19.03 45 P **P 08 47 38.7 -1.1**
ULHL Ulahol 19.07 48 P **Pn 08 47 40.9 0.0**
SNR=15
LABN Labinsk 19.09 321 *c*eP **Pn 08 47 42.8 +1.8**
LABN pmax pmax
comp=N,236nm,1.7s
LABN pmax pmax
comp=Z,1µm,2.1s
LABN MLR MLR
comp=Z,5µm,7.0s
LABN MLR MLR
comp=E,23µm,8.0s
LABN MLR MLR
comp=N,10µm,8.0s
POO Poona 19.28 125 *e*P **Pn 08 47 45.7 +2.2**
POO IAmb IAmb 08 47 54.6
comp=Z,238nm,1.2s
EIL Elat 19.35 273 ⇑P **Pn 08 47 44.1 -0.1**
EIL Elat 19.35 273 P **Pn 08 47 45.0 +0.8**
comp=Z,2.2nm,0.3s,baz=75,slow=4.9,SNR=66
EIL S **S 08 51 26.1 +4.0**
comp=Z,34nm,0.9s,baz=312,slow=22,SNR=1.2
EIL LR LR 08 56 16.4
comp=Z,13µm,18.7s,baz=90,slow=40
comp=Z,102nm,0.9s
BNN Bunyan 19.39 301 *e*P **Pn 08 47 45.3 +0.5**
BNN Bunyan 19.39 301 **Pn 08 47 45.0 +0.3**
BNN IAmb IAmb 08 47 49.7
comp=Z,2µm,1.5s
BNN Bunyan 19.39 301 ⇑P **Pn 08 47 45.1 +0.3**
BHPL Bhopal 19.39 108 *e*P **Pn 08 47 44.9 +0.1**
BHPL IAmb IAmb 08 47 52.6
comp=Z,109nm,1.0s
TOKT Tokat 19.40 305 *e*P **Pn 08 47 45.5 +0.6**
BTLS Baital 19.44 38 *e*P **Pn 08 47 44.9 -0.4**
comp=Z,1µm,2.9s,baz=38
BTLS Baital 19.44 38 *e*P **Pn 08 47 44.9 -0.4**
BTLS pmax pmax
comp=Z,1µm,2.9s
GOYR Goytkh 19.58 319 *i*P **Pn 08 47 47.5 +0.6**
GOYR pmax pmax
comp=Z,1µm,1.2s
KZIT Kziot 19.68 277 ⇑P **Pn 08 47 49.0 +0.8**
AKTO Aktyubinsk 19.74 1 P **P 08 47 47.4 +0.2**
comp=Z,16nm,0.3s,baz=195,slow=13,SNR=118
AKTO S **S 08 51 27.7 -1.8**
comp=Z,15nm,0.9s,baz=0.1,slow=19,SNR=1.0
AKTO LR LR 08 56 18.8
comp=Z,43µm,21.4s,baz=170,slow=39
comp=Z,167nm,0.7s
TARG Taragay, Kyrgy 19.83 51 **Pn 08 47 50.3 0.0**
TARG Taragay, Kyrgy 19.83 51 P **Pn 08 47 50.3 0.0**
TARG pmax pmax
comp=Z,304nm,1.3s
PTH Pithoragarh 19.85 87 *e*P **Pn 08 47 52.0 +1.5**
PTH *e*P **pP 08 47 52.2 -0.3**
LGTI Lohaghat 19.89 88 *e*P **Pn 08 47 51.0 +0.2**
TNSS Tian-Shan 19.92 46 *e*P **P 08 47 49.4 -0.3**
baz=46
TNSS Tian-Shan 19.92 46 *e*P **P 08 47 49.4 -0.3**
ERBR Yeremizino-Bor 19.93 324 *c*iP **Pn 08 47 51.3 +0.2**
ERBR *e*S **Sn 08 51 37.3 +2.2**
ERBR pmax pmax
comp=Z,1µm,1.5s
ERBR pmax pmax
comp=N,247nm,1.4s
ERBR pmax pmax
comp=E,375nm,1.3s
AAA Alma-Ata 19.99 46 *e*P **P 08 47 50.4 +0.2**

baz=46
AAA Alma-Ata 19.99 46 *e*P **P 08 47 50.4 +0.2**
KUU Kurty 20.02 44 *e*P **P 08 47 50.3 -0.1**
comp=E,2μm,2.7s,baz=44
KUU LR LR 08 56 19.0
comp=E,16μm,7.4s,baz=44
KUU Kurty 20.02 44 *e*P **P 08 47 50.3 -0.1**
KUU pmax pmax
comp=Z,2μm,2.7s
KUU MLR MLR
comp=Z,16μm,7.0s
YOZ Yozgat 20.03 302 *i*P Pn 08 47 51.7 -0.8
MDOK Medeo 20.05 46 *e*P **P 08 47 51.3 +0.3**
baz=46
MDOK LR LR 08 55 05.5
comp=Z,13μm,8.6s,baz=46
MDOK Medeo 20.05 46 *e*P **P 08 47 51.2 +0.3**
MDOK MLR MLR
comp=Z,13μm,9.0s
KVT Kavak 20.06 307 *i*P Pn 08 47 52.6 0.0
AKL Akola 20.33 115 *e*P Pn 08 47 56.8 +0.8
AKL IAmb IAmb 08 48 09.6
comp=Z,140nm,1.0s
KAD Karad 20.34 127 *e*P Pn 08 47 57.9 +1.8
CHKK Chushkaly 20.39 44 *e*P **P 08 47 54.7 +0.2**
baz=44
CHKK Chushkaly 20.39 44 *e*P **P 08 47 54.6 +0.2**
PRZ Przheval'sk 20.57 49 Pn 08 47 58.2 -0.6
PRZ IAmb IAmb 08 48 11.8
comp=Z,681nm,1.5s
PRZ Przheval'sk 20.57 49 P Pn 08 47 58.3 -0.6
PRZ pmax pmax
comp=Z,681nm,1.5s
CSS Mathiatis 20.58 288 P **P 08 47 57.0 +0.5**
CSS IAmb IAmb 08 48 03.9
comp=Z,343nm,0.9s
SATY Saty 20.85 48 *e*P **P 08 47 59.9 +0.2**
baz=48
SATY Saty 20.85 48 *e*P **P 08 47 59.8 +0.2**
ZHN Zhinishke 20.93 48 *e*P **P 08 48 00.3 -0.1**
baz=48
ZHN Zhinishke 20.93 48 *e*P **P 08 48 00.2 -0.1**
ANN Anapa 21.03 318*c i*P **P 08 48 02.9 +1.6**
ANN *e* 08 48 25.4
ANN *e*S Sn 08 52 00.6 -0.8
ANN *e*SS **SnSn 08 52 25.1 +8.7**
ANN pmax pmax
comp=Z,901nm,1.1s
ANN pmax pmax
comp=N,261nm,1.2s
ANN pmax pmax
comp=E,229nm,1.1s
KPKS Kokpek 21.23 47 *e*P **P 08 48 04.4 +0.7**
baz=47
KPKS Kokpek 21.23 47 *e*P **P 08 48 04.3 +0.7**
BR131 Keskin Array S 21.29 302 P **P 08 48 04.2 -0.1**
BR131 IAmb IAmb 08 48 06.5
comp=Z,922nm,1.3s
BR131 Keskin Array S 21.29 302 P **P 08 48 04.8 +0.5**
SNR=94
BR131 Keskin Array S 21.29 302 P **P 08 48 04.2 -0.1**
BR131 pmax pmax
comp=Z,922nm,1.3s
BRTR Keskin Array B 21.29 302 P **P 08 48 04.2 -0.1**
BRTR Keskin Array B 21.29 302 P **P 08 48 04.2 -0.1**
BRTR Keskin Array B 21.29 302 P **P 08 48 04.7 +0.4**
comp=Z,379nm,1.1s,baz=124,slow=9.5,SNR=352
BRTR S **S 08 51 60.0 -0.9**
comp=Z,1.2nm,0.6s,baz=232,slow=34,SNR=0.9
comp=Z,379nm,1.1s
UZB Uzynbulak 21.29 48 *e*P **P 08 48 05.1 +0.8**
baz=48
UZB Uzynbulak 21.29 48 *e*P **P 08 48 05.1 +0.8**
SHLS Shalkode 21.58 49 *e*P **P 08 48 11.3 +3.8**
baz=49
SHLS Shalkode 21.58 49 *e*P **P 08 48 11.2 +3.8**
PDGK Podgornoye 21.68 48 P **P 08 48 08.6 +0.1**
TDK Taldyqorghan 21.87 43 *e*P **P 08 48 10.1 -0.3**
comp=Z,1μm,1.8s,baz=43
TDK LR LR 08 57 26.7
comp=Z,22μm,11.9s,baz=43
TDK Taldyqorghan 21.87 43 *e*P **P 08 48 10.1 -0.3**
TDK pmax pmax
comp=Z,1μm,1.8s
TDK MLR MLR
comp=Z,22μm,12.0s
ANTO Ankara 21.95 301 ⇓P **P 08 48 12.2 +0.8**
ANTO Ankara 21.95 301 P **P 08 48 11.3 -0.1**
ANTO IAmb IAmb 08 48 15.2
comp=Z,962nm,1.4s
ANTO Ankara 21.95 301 P **P 08 48 13.0 +1.6**
ANTO P **P 08 48 13.0 +1.6**
ANTO Ankara 21.95 301 ⇑P **P 08 48 11.6 +0.3**
ANTO Ankara 21.95 301 P **P 08 48 11.3 -0.1**
ANTO pmax pmax
comp=Z,962nm,1.5s
ANTO MLR MLR
comp=Z,20μm,19.0s
BR231 Keskin MP Arra 21.96 301 P **P 08 48 10.7 -0.7**
BR231 IAmb IAmb 08 48 15.3
comp=Z,958nm,1.4s
ALBI Allahabad 22.27 98 *e*P **P 08 48 17.8 +2.9**
ALBI IAmb IAmb 08 48 24.3
comp=Z,406nm,1.0s
BRZS Berezniki 22.48 27 *e*P **P 08 48 17.2 +0.3**
baz=27
BRZS Berezniki 22.48 27 *e*P **P 08 48 17.1 +0.3**
PYUN Piuthan 22.52 90 *e*P **P 08 48 18.7 +1.0**
comp=Z,776nm,0.7s
SIM Simferopol' 23.09 315 *e*P **P 08 48 22.9 -0.4**
SIM *e*S **S 08 52 37.0 +2.6**
SIM pmax pmax
comp=Z,2μm,1.3s
SIM pmax pmax
comp=Z,3μm,5.7s
DANN Dangsing 23.13 89 *e*P **P 08 48 25.0 +0.8**
comp=Z,4μm,1.2s
ISP Isparta 23.20 295 P **P 08 48 25.0 +0.4**
ISP Isparta 23.20 295 ⇑P **P 08 48 24.8 +0.1**
ISP Isparta 23.20 295 P **P 08 48 25.0 +0.4**
ISP pmax pmax
comp=Z,2μm,1.3s
ISP MLR MLR
comp=Z,6μm,20.0s
MDUB Mudurnu 23.30 302 P **P 08 48 24.9 -0.6**
MDUB Mudurnu 23.30 302 ⇑P **P 08 48 25.2 -0.4**
ATD Arta Tunnel 23.30 218 P **P 08 48 26.0 +0.2**
ATD IAMs_20 IAMs_20 08 58 59.4
comp=Z,29μm,18.0s
ATD Arta Tunnel 23.30 218 *e*P **P 08 48 26.6 +0.9**
ATD Arta Tunnel 23.30 218 *e*P **P 08 48 25.9 +0.2**
ATD *e*S **S 08 52 40.1 +1.8**
ATD Arta Tunnel 23.30 218 P **P 08 48 25.4 -0.3**
SNR=15
ATD Arta Tunnel 23.30 218 ⇑P **P 08 48 26.4 +0.7**
ATD Arta Tunnel 23.30 218 LR LR 08 59 10.1
comp=Z,1μm,18.7s,baz=36,slow=41
ATD Arta Tunnel 23.30 218 *e*P **P 08 48 26.6 +0.9**
ATD Arta Tunnel 23.30 218 *e*P **P 08 48 25.9 +0.2**
ATD *e*S **S 08 52 40.1 +1.8**
HYB Hyderabad 23.42 119 *e*P **P 08 48 28.0 +1.1**
HYB IVmB_BB 08 48 29.5
comp=Z,3μm,3.2s
HYB *e*sP **sP 08 48 33.0 +0.6**
HYB *e*PcP **PcP 08 52 13.1 -0.2**
HYB *e*S **S 08 52 41.9 +1.7**
HYB *e*ScP **ScP 08 55 51.3 -0.1**
HYB *e*PcS **PcS 08 55 52.9 0.0**
HYB *e*ScS **ScS 08 59 38.1 +0.1**
HYB IVMs_BB IVMs_BB 08 59 40.6
comp=Z,6μm,13.0s
VLK Valmikinagar 23.46 92 *e*P **P 08 48 29.8 +2.7**
ELL Elmali 23.53 292 P **P 08 48 28.3 +0.4**
ELL Elmali 23.53 292 ⇑P **P 08 48 28.4 +0.4**
ELL Elmali 23.53 292 P **P 08 48 28.3 +0.4**
ELL pmax pmax
comp=Z,3μm,1.0s
VRH Novokhopyorsk 23.54 335 *e*P **P 08 48 26.5 -1.3**
VRH *e*S **S 08 52 40.7 -0.8**
VRH pmax pmax
comp=Z,2μm,1.6s
KSL Kastellorizon 23.73 291 P **P 08 48 28.9 -0.8**
GKN Gorkha 23.96 90 *e*P **P 08 48 33.1 +0.9**
comp=Z,398nm,0.6s
BRVK Borovoye 24.28 19 P **P 08 48 35.2 +0.4**
BRVK IAmb IAmb 08 48 42.4
comp=Z,526nm,1.2s
BRVK Borovoye 24.28 19 P **P 08 48 35.4 +0.6**
BRVK P **P 08 48 35.4 +0.6**
BRVK P **P 08 48 35.4 +0.6**
BRVK Borovoye 24.28 19 ⇑P **P 08 48 35.6 +0.8**
BRVK Borovoye 24.28 19 P **P 08 48 35.2 +0.4**
BRVK pmax pmax
comp=Z,526nm,1.3s
BRVK MLR MLR
comp=Z,46μm,19.0s
BVA0 Borovoye Array 24.28 19 *i*P **P 08 48 34.8 0.0**
BVAR Borovoye Array 24.28 19 P **P 08 48 35.5 +0.7**
comp=Z,87nm,0.6s,baz=201,slow=7.7,SNR=217
BVAR LR LR 08 59 33.0
comp=Z,43μm,18.8s,baz=207,slow=40
comp=Z,87nm,0.6s
VORD Divnogorie 24.30 332 *e*P **P 08 48 34.2 -0.7**
VORD *e*S **S 08 52 50.5 -3.1**
VORD pmax pmax
comp=Z,450nm,1.3s
VORD smax smax
comp=E,950nm,5.6s
HMAD Nubian desert 24.36 249 *i*P **P 08 48 35.2 -0.6**
HMAD *i* 08 48 40.1
baz=307,slow=6.9
DMN Daman 24.45 90 *e*P **P 08 48 37.8 +0.9**
comp=E,476nm,0.9s
VSR Storozhevoye 24.54 332 *e*P **P 08 48 36.4 -0.7**
VSR *e*S **S 08 52 52.4 -5.1**
VSR pmax pmax
comp=Z,420nm,1.1s
VSR smax smax
comp=N,8μm,14.3s
PKIN Phulchoki 24.71 90 *e*P **P 08 48 40.1 +0.8**
comp=N,1μm,1.2s
PKI Pulchoki 24.72 90 *e*P **P 08 48 40.3 +0.9**
comp=N,494nm,0.8s
KULA Kula-Manisa 24.77 296 P **P 08 48 39.1 -0.3**
YER Yerkesik 24.87 293 P **P 08 48 39.6 -0.8**
VORR Voronezh 24.87 333 *e*P **P 08 48 39.8 -0.3**
VORR *e*S **S 08 53 04.8 +1.9**
VORR pmax pmax
comp=Z,150nm,0.5s
VORR smax smax
comp=N,620nm,4.7s
ARG Arkhangelos 24.91 291 P **P 08 48 39.1 -1.5**
ARG Arkhangelos 24.91 291 P **P 08 48 40.2 -0.4**
ARG Arkhangelos 24.91 291 ⇑P **P 08 48 40.3 -0.4**
ARG Arkhangelos 24.91 291 P **P 08 48 39.1 -1.5**
ARG pmax pmax
comp=Z,1μm,1.3s
MAKZ Makanchi 24.94 43 P **P 08 48 41.1 +0.2**
MAKZ IAmb IAmb 08 48 49.8
comp=Z,228nm,1.0s
MAKZ Makanchi 24.94 43 ⇑P **P 08 48 40.4 -0.5**
MAKZ Makanchi 24.94 43 P **P 08 48 41.1 +0.2**
MAKZ pmax pmax
comp=Z,229nm,1.0s
ISK Istanbul-Kandi 25.02 302 P **P 08 48 40.8 -0.8**
ISK Istanbul-Kandi 25.02 302 P **P 08 48 41.5 -0.1**
GUN Gumba 25.05 89 *e*P **P 08 48 43.5 +1.1**
comp=Z,1μm,0.9s
MK31 Makanchi Array 25.12 43 P **P 08 48 43.1 +0.7**
MK31 IAmb IAmb 08 48 51.4
comp=Z,491nm,2.0s
MK31 Makanchi Array 25.12 43 *i*P **P 08 48 42.4 -0.1**
MKAR Makanchi Array 25.12 43 P **P 08 48 41.8 -0.7**
MKAR Makanchi Array 25.12 43 P **P 08 48 43.2 +0.7**
comp=Z,42nm,0.6s,baz=228,slow=8.0,SNR=88
MKAR S **S 08 53 08.3 +1.3**
comp=Z,3.2nm,0.9s,baz=347,slow=20,SNR=1.3
MKAR LR LR 08 59 59.5
comp=Z,26μm,18.1s,baz=264,slow=40
comp=Z,42nm,0.6s
JIRN Jiri 25.38 90 *e*P **P 08 48 46.2 +0.8**
comp=Z,2μm,1.1s
DAT Datca 25.39 292 P **P 08 48 44.7 -0.4**
KURBB Kurchatov Arra 25.45 32 P **P 08 48 47.5 +2.1**
KURBB Kurchatov Arra 25.45 32 P **P 08 48 46.4 +1.0**
comp=Z,84nm,0.6s,baz=231,slow=9.4,SNR=166
KURBB LR LR 09 00 13.8
comp=Z,28μm,20.8s,baz=236,slow=40
comp=Z,84nm,0.6s
KURK Kurchatov 25.56 32 P **P 08 48 46.6 +0.2**
KURK IAmb IAmb 08 48 54.7
comp=Z,299nm,1.1s
KURK Kurchatov 25.56 32 P **P 08 48 48.0 +1.6**
KURK P **P 08 48 48.0 +1.6**
KURK Kurchatov 25.56 32 ⇑P **P 08 48 47.4 +1.0**
KURK Kurchatov 25.56 32 P **P 08 48 46.4 0.0**
BALB Balikesir 25.57 298 P **P 08 48 45.7 -0.9**
BODT Bodrum 25.63 292 P **P 08 48 46.7 -0.5**
KARP Karpathos 25.65 289 P **P 08 48 47.4 -0.1**
KARP Karpathos 25.65 289 P **P 08 48 47.5 +0.1**
KARP Karpathos 25.65 289 ⇑P **P 08 48 47.6 +0.2**
NIS1 Nisyros Isl. 25.70 291 P **P 08 48 47.5 -0.3**
LPSR Galich'ya Gora 25.70 334 *e*P **P 08 48 46.9 -0.7**
LPSR *e*S **S 08 53 13.3 -2.8**
LPSR pmax pmax
comp=Z,510nm,1.4s
LPSR smax smax
comp=E,13μm,13.8s
NISR Nisiros 25.74 291 P **P 08 48 48.0 -0.2**
ARU Arti 25.75 2 P **P 08 48 49.2 +1.2**
ARU IAmb IAmb 08 48 56.7
comp=Z,624nm,1.6s
ARU Arti 25.75 2 ⇑P **P 08 48 48.8 +0.8**
ARU Arti 25.75 2*c i*P **P 08 48 48.5 +0.4**
ARU 08 49 25.0
ARU 08 52 16.1
ARU S **S 08 53 19.9 +3.1**
ARU SS **SnSn 08 54 19.7 +7.9**
ARU pmax pmax
comp=Z,341nm,1.3s
ARU MLR MLR
comp=Z,17μm,18.0s
ARU Arti 25.75 2 LR LR 08 59 43.8
comp=Z,22μm,20.2s,baz=177,slow=38
MRWI Hamdab 25.81 248 *i*P **P 08 48 48.2 -0.7**
MRWI *i* 08 48 54.2
baz=307,slow=3.0
EVN Everest 25.85 89 ⇓P **P 08 48 51.0 +1.0**
KOSK Kos Island 25.87 292 P **P** 08 48 56.6 +7.2
RAMN Ramite 25.91 91 *e*P **P 08 48 51.0 +0.9**
comp=Z,1μm,0.9s
BLCB Balcova 26.00 295 P **P 08 48 50.5 0.0**
SMG Samos 26.08 294 P **P 08 48 51.2 0.0**
SEM Semipalatinsk 26.13 35 *e*P **P 08 48 52.6 +0.7**
baz=35
SEM LR LR 08 59 33.3
comp=Z,7μm,8.7s,baz=35
SEM Semipalatinsk 26.13 35 *e*P **P 08 48 52.5 +0.7**
SEM MLR MLR
comp=Z,7μm,9.0s
DKL Dikili 26.21 297 ⇑P **P 08 48 52.4 0.0**
RAGD RAYAGADA 26.24 110 *e*P **P 08 48 54.4 +1.6**
SVE Sverdlovsk 26.24 4*de*P **P 08 48 53.2 +0.7**
SVE *e*S **S 08 53 28.7 +4.2**
SVE pmax pmax
comp=Z,395nm,1.6s
SVE MLR MLR
comp=Z,20μm,17.0s
BOK Bokaro 26.28 98 *e*P **P 08 48 55.3 +2.1**
JURR Jurilovca 26.35 310 ⇓P **P 08 48 54.2 +0.5**
ZKR Zakros 26.41 288 P **P 08 48 54.4 +0.1**
MFTR Murfatlar 26.44 309 ⇓P **P 08 48 54.9 +0.5**
PSN Preselentsi 26.45 307 P **P 08 48 54.0 -0.5**
PURM Purcari 26.46 314 ⇑P **P 08 48 55.7 +1.1**
TIRR Tirgusor 26.55 309 ⇑P **P 08 48 55.9 +0.5**
TIRR Tirgusor 26.55 309 P **P 08 48 54.9 -0.5**
TIRR Tirgusor 26.55 309 ⇑P **P 08 48 55.4 0.0**
TIRR Tirgusor 26.55 309 P **P 08 48 54.9 -0.5**
TIRR pmax pmax
comp=Z,630nm,1.2s
TPGR Topolog 26.69 310 ⇓P **P 08 48 57.3 +0.6**
PRK Paraskevi 26.72 297 P **P 08 48 56.7 -0.3**
TAPN Taplejung 26.76 89 *e*Pg **P 08 48 58.3 +0.4**
comp=Z,404nm,0.9s
CHOS Chios Island 26.77 295 P **P 08 48 57.9 +0.3**
EZN Ezine 26.78 298 P **P 08 48 57.3 -0.3**
EZN Ezine 26.78 298 P **P 08 48 57.2 -0.3**
PRD Provadia 26.80 306 P **P 08 48 57.0 -0.6**
EDRB Edirne 26.90 303 P **P 08 48 58.3 -0.4**
VIS Vishakhapatnam 26.94 113 *e*P **P 08 49 00.2 +1.0**
VIS IAmb IAmb 08 49 07.9
comp=Z,67nm,1.0s
HARR Harsova 26.95 309 ⇑P **P 08 48 59.7 +0.7**
HARR Harsova 26.95 309 P **P 08 48 59.7 +0.7**
ZSN Zaisan 26.97 44 *e*P **P 08 48 59.5 +0.3**
baz=44
ZSN Zaisan 26.97 44 *e*P **P 08 48 59.5 +0.3**
SIGR SIGRI 27.04 297 P **P 08 48 58.7 -1.2**
APE Apeiranthos 27.05 292 ⇓P **P 08 49 00.0 -0.1**
APE Apeiranthos 27.05 292 P **P 08 48 59.4 -0.7**
APE Apeiranthos 27.05 292 ⇑P **P 08 48 59.4 -0.7**
APE Apeiranthos 27.05 292 P **P 08 49 00.0 -0.1**
SANT Santorini 27.07 291 ⇓P **P 08 48 59.6 -0.6**
SANT Santorini 27.07 291 P **P 08 48 58.6 -1.6**
SANT Santorini 27.07 291 ⇑P **P 08 48 59.6 -0.6**
ENEZ Enez 27.08 300 P **P 08 49 00.1 -0.2**
CMBO Columbo, Santo 27.12 291 P **P 08 49 00.1 -0.5**
ALN Alexandroupoli 27.20 301 P **P 08 49 00.8 -0.5**
ALN IAmb IAmb 08 49 05.4
comp=Z,508nm,1.5s
ALN Alexandroupoli 27.20 301 P **P 08 49 01.1 -0.2**
ALN Alexandroupoli 27.20 301 ⇑P **P 08 49 01.1 -0.2**
ALN Alexandroupoli 27.20 301 P **P 08 49 00.8 -0.5**
ALN pmax pmax
comp=Z,508nm,1.5s
JMB Yambol 27.23 304 P **P 08 48 59.0 -2.5**
SCTR Scanteiesti 27.28 312 ⇓P **P 08 49 02.7 +0.7**
MILM Milestii Mici 27.29 315 *i*P **P 08 49 02.3 +0.3**
comp=Z,5μm,6.2s
MILM Milestii Mici 27.29 315 *e*PP PP 08 49 40.0 -24
MILM Milestii Mici 27.29 315 ⇓P **P 08 49 02.6 +0.6**
MILM Milestii Mici 27.29 315 *i*P **P 08 49 02.3 +0.3**
MILM *e*PPP PPP 08 49 59.0
MILM *e*S **S 08 53 43.0 +1.8**
MILM pmax pmax
comp=Z,4μm,6.2s
MILM smax smax
comp=E,19μm,11.4s
MILM smax smax
comp=N,8μm,12.5s
VLDR Vladesti 27.29 312 ⇓P **P 08 49 03.1 +1.0**
KIS Kishinev 27.32 315 ⇑*i*P **P 08 49 02.0 -0.3**
comp=N,1μm,6.0s
KIS Kishinev 27.32 315 *e*PP PP 08 49 43.0 -21
KIS Kishinev 27.32 315*c i*P **P 08 49 02.0 -0.3**
KIS *e* 08 49 43.0
KIS *e*PPP PPP 08 50 00.0
KIS *e*S **S 08 53 42.0 +0.3**
KIS pmax pmax
comp=Z,1μm,6.0s
KIS smax smax
comp=N,3μm,13.5s
KIS smax smax
comp=E,9μm,9.8s
SHBG Sahibganj 27.32 94 *e*P **P 08 49 04.6 +2.0**
WMQ Urumqi 27.35 53 *e*P **P 08 49 03.7 +1.0**
WMQ pP sP 08 49 08.5 +0.3
WMQ S **S 08 53 44.9 +2.4**
WMQ pmax pmax
comp=E,2μm,8.7s
WMQ LR LR
comp=E,36μm,24.3s
WMQ LR LR
comp=E,15μm,12.5s
WMQ LR LR
comp=E,16μm,22.3s
MDRS Chennai 27.49 125 *e*P **P 08 49 06.6 +2.6**
IDI Anoyia 27.50 288 ⇑P **P 08 49 03.3 -0.8**
IDI Anoyia 27.50 288 P **P 08 49 03.6 -0.6**
IDI IAmb IAmb 08 49 36.3
comp=Z,193nm,0.8s
IDI Anoyia 27.50 288 P **P 08 49 03.5 -0.7**
IDI Anoyia 27.50 288 P **P 08 49 03.1 -1.0**
IDI Anoyia 27.50 288 ⇑P **P 08 49 03.5 -0.7**
IDI Anoyia 27.50 288 P **P 08 49 03.8 -0.4**
comp=Z,65nm,0.8s,baz=88,slow=9.4,SNR=45
IDI S **S 08 53 47.2 +2.2**
comp=Z,14nm,1.0s,baz=178,slow=11,SNR=1.8
IDI LR LR 09 04 04.3
comp=Z,4μm,20.4s,baz=128,slow=45
comp=Z,65nm,0.8s
GTK Tadong 27.54 89 *e*P **P 08 49 06.1 +1.5**
GTK IAmb IAmb 08 49 23.0
comp=Z,105nm,0.7s
RAZG Razgrad 27.55 306 ⇓P **P 08 49 05.0 +0.6**
RDO Rodhopi 27.62 301 P **P 08 49 04.4 -0.7**
RDO IAmb IAmb 08 49 06.5
comp=Z,364nm,1.3s
RDO Rodhopi 27.62 301 P **P 08 49 05.0 -0.1**
RDO Rodhopi 27.62 301 ⇑P **P 08 49 05.0 -0.1**
LIA Limnos Island 27.66 298 P **P 08 49 04.6 -0.8**
KOD Kodaikanal 27.67 133 *e*P **P 08 49 08.3 +2.3**
FURI Furi 27.78 223 *e*P **P 08 49 08.2 +1.1**
FURI Furi 27.78 223 *e*P **P 08 49 10.3 +3.2**
FURI Furi 27.78 223 *e*P **P 08 49 08.2 +1.1**
FURI Furi 27.78 223 *e*P **P 08 49 10.3 +3.2**
VASR Vaslui 27.80 313 ⇓P **P 08 49 07.7 +1.1**
GHRR 27.81 312 ⇑P **P 08 49 07.8 +1.1**
PRNS Prines Rethymn 27.82 288 P **P 08 49 07.3 +0.4**
SZH Strazhitsa 27.83 306 P **P 08 49 06.0 -1.0**
KDZ Kurdzhali 27.87 302 P **P 08 49 06.0 -1.4**
PANC Panciu 27.90 311 ⇓P **P 08 49 09.3 +1.7**
MHLO Agia Marina, M 27.93 291 P **P 08 49 07.5 -0.4**
SKY Skiros Island 28.00 296 P **P 08 49 09.0 +0.5**
SORM Soroca 28.12 317 ⇓P **P 08 49 09.9 +0.5**
SORM Soroca 28.12 317 P **P 08 49 09.4 0.0**
THAS Thassos island 28.13 300 P **P 08 48 08.3 -1.3**
GVDS Gavdos 28.16 287 P **P 08 49 08.9 -1.1**
GVD Gavdhos 28.16 287 P **P 08 49 08.7 -1.3**
VRI Vrincioaia 28.17 311 ⇑P **P 08 49 10.5 +0.5**
VRI Vrincioaia 28.17 311 P **P 08 49 10.5 +0.5**
PLOR Plostina 28.22 311 ⇓P **P 08 49 11.8 +1.4**
PLOR Plostina 28.22 311 P **P 08 49 11.6 +1.2**
IMMV Iera Moni Meta 28.24 289 P **P 08 49 10.2 -0.5**
NEHR Nehoiu 28.30 310 ⇓P **P 08 49 12.2 +1.1**
RZN Rozhen 28.33 302 P **P 08 49 10.3 -1.3**
KAVA Kavala 28.35 300 P **P 08 49 11.2 -0.4**
DION Dionisos Attik 28.40 294 P **P 08 49 12.9 +0.8**
KIRV Kirov 28.42 351 *i*P **P 08 49 12.5 +0.6**
KIRV Kirov 28.42 351 LR LR 09 02 31.2
comp=Z,20μm,21.3s,baz=168,slow=40
PLD Plovdiv 28.42 303 P **P 08 49 11.0 -1.2**
RODP Rodopos 28.43 289 P **P 08 49 12.7 +0.3**
PTL Penteli 28.45 294 P **P 08 49 13.4 +0.8**
TESR Tescani 28.47 312 ⇓P **P 08 49 13.2 +0.5**
VLY Voula,Athens 28.49 294 P **P 08 49 12.3 -0.6**
COVR Voineasa-Covas 28.51 311 ⇑P **P 08 49 14.7 +1.7**
ATHU Athens Univers 28.51 294 P **P 08 49 13.0 -0.1**
OBN Obninsk 28.54 335 ⇓P **P 08 49 14.4 +1.3**
OBN Obninsk 28.54 335 P **P 08 49 13.2 +0.2**
OBN Obninsk 28.54 335 *i*P **P 08 49 13.8 +0.8**
OBN pmax pmax
comp=Z,1μm,1.7s
OBN Obninsk 28.54 335 P **P 08 49 13.9 +0.8**
comp=Z,218nm,1.0s,baz=130,slow=9.1,SNR=100
OBN LR LR 09 02 02.5
comp=Z,7μm,20.9s,baz=152,slow=39
comp=Z,218nm,1.0s
MLR Muntele Rosu 28.55 310 ⇓P **P 08 49 15.2 +1.7**
MLR Muntele Rosu 28.55 310 P **P 08 49 14.2 +0.7**
MLR IAmb IAmb 08 50 02.4
comp=Z,291nm,1.2s
MLR Muntele Rosu 28.55 310 P **P 08 49 14.2 +0.7**
MLR pmax pmax
comp=Z,291nm,1.2s
MLR Muntele Rosu 28.55 310 P **P 08 49 14.6 +1.1**
comp=Z,115nm,1.1s,baz=110,slow=4.6,SNR=49
MLR S **S 08 54 00.3 -1.2**
comp=Z,8.3nm,1.0s,baz=110,slow=7.8,SNR=1.3
comp=Z,115nm,1.1s
ATH Athens Observa 28.56 294 P **P 08 49 13.3 -0.2**
OUR Ouranopolis 28.64 299 P **P 08 49 12.7 -1.5**
MOS Moscow 28.65 337 *e*P **P 08 49 11.6 -2.5**
MOS *e* 08 50 05.1
MOS *e*S **S 08 54 01.1 -1.4**
MOS *e*SSS SSS 08 55 43.3
MOS pmax pmax
comp=Z,2μm,1.9s
MOS pmax pmax
comp=N,600nm,1.8s
MOS pmax pmax
comp=E,400nm,1.8s

MOS pmax pmax
comp=E,162nm,1.3s
MOS pmax pmax
comp=Z,896nm,1.6s
MOS pmax pmax
comp=N,289nm,1.3s
KOKK Kokkinochori, 28.70 300 P **P** **08 49 13.8 -1.0**
TURR Turia 28.70 311 ⇑P **P** **08 49 15.8 +1.0**
ANKY Antikythira Is 28.80 289 P **P** **08 49 14.9 -0.8**
HUMR Humele 28.89 308 ⇑P **P** **08 49 17.1 +0.7**
VILL Villia 28.89 294 P **P** **08 49 15.9 -0.7**
NVR Nevrokopi 28.90 301 P **P** **08 49 17.2 +0.6**
PGB Panagyurishte 28.92 303 P **P** **08 49 16.0 -0.7**
AKASG Malin Array Be 28.93 322 P **P** **08 49 16.8 +0.2**
AKASG IAmb IAmb 08 49 17.8
comp=Z,218nm,1.1s
AKASG Malin Array Be 28.93 322 P **P** **08 49 16.8 +0.2**
AKASG pmax pmax
comp=Z,218nm,1.2s
AKASG Malin Array Be 28.93 322 P **P** **08 49 16.9 +0.2**
comp=Z,65nm,0.9s,baz=125,slow=8.0,SNR=317
AKASG PcP **PcP** **08 52 24.0 -1.4**
comp=Z,7.4nm,0.8s,baz=83,slow=2.2,SNR=2.5
AKASG LR LR 09 04 02.2
comp=Z,4μm,18.5s,baz=152,slow=43
comp=Z,65nm,0.9s
AKBB Malin Array Si 28.93 322 P **P** **08 49 16.2 -0.4**
AKBB IAmb IAmb 08 49 17.8
comp=Z,205nm,1.0s
AKBB Malin Array Si 28.93 322 P **P** **08 49 16.2 -0.4**
AKBB pmax pmax
comp=Z,205nm,1.0s
KIEV Kiev 28.93 322 ⇓P **P** **08 49 17.0 +0.3**
KIEV Kiev 28.93 322 P **P** **08 49 17.0 +0.3**
KIEV IAmb IAmb 08 49 17.8
comp=Z,200nm,1.1s
KIEV Kiev 28.93 322 *i* P **P** **08 49 16.9 +0.3**
SNR=66
KIEV Kiev 28.93 322 ⇑P **P** **08 49 17.0 +0.3**
KIEV Kiev 28.93 322 P **P** **08 49 17.0 +0.3**
KIEV pmax pmax
comp=Z,200nm,1.1s
BOSR Bodos 28.94 311 ⇑P **P** **08 49 17.9 +1.0**
KRND KRANIDI 28.97 293 P **P** **08 49 15.4 -1.8**
SRS Serrai 29.06 300 P **P** **08 49 17.5 -0.5**
SRS Serrai 29.06 300 P **P** **08 49 17.9 -0.1**
DOPR Dopca 29.08 311 ⇑P **P** **08 49 19.0 +0.9**
XOR Xorichti 29.11 297 P **P** **08 49 17.8 -0.6**
VLI Veliai 29.11 291 P **P** **08 49 16.2 -2.2**
VOIR 29.13 309 ⇑P **P** **08 49 19.5 +0.9**
VOIR 29.13 309 P **P** **08 49 19.2 +0.6**
LOUT Loutraki 29.15 294 P **P** **08 49 17.2 -1.6**
SOH Sokhos 29.19 300 P **P** **08 49 18.5 -0.6**
SOH Sokhos 29.19 300 P **P** **08 49 18.9 -0.2**
LSA Lhasa 29.21 83 P **P** **08 49 20.0 0.0**
LSA Lhasa 29.21 83 P **P** **08 49 20.0 0.0**
LSA pmax pmax
comp=Z,47nm,0.9s
LSA MLR MLR
comp=Z,18μm,21.0s
HORT Hortiatis 29.34 299 P **P** **08 49 20.0 -0.6**
ARR Arges 29.38 309 ⇑P **P** **08 49 21.4 +0.6**
THAL Thalero 29.40 294 P **P** **08 49 19.4 -1.5**
PLNA Plana 29.45 303 P **P** **08 49 21.0 -0.5**
THE Thessaloniki 29.45 299 P **P** **08 49 20.9 -0.5**
THE Thessaloniki 29.45 299 P **P** **08 49 21.1 -0.3**
AXAR Agios Charalam 29.46 295 P **P** **08 49 21.0 -0.5**
KKB Krupnik 29.54 302 P **P** **08 49 21.0 -1.2**
DGZ Jazzator, Alta 29.55 41 *i* P **P** **08 49 23.1 +0.8**
DGZ pmax pmax
comp=Z,59nm,0.8s
KNT Kendrikon 29.59 300 P **P** **08 49 22.2 -0.4**
KNT Kendrikon 29.59 300 P **P** **08 49 22.2 -0.4**
VTS Vitosha 29.62 303 P **P** **08 49 21.0 -2.0**
GUR Goura 29.64 294 P **P** **08 49 22.5 -0.8**
AGG Agios Georgios 29.74 296 P **P** **08 49 22.6 -1.4**
AGG Agios Georgios 29.74 296 P **P** **08 49 22.6 -1.4**
AGG Agios Georgios 29.74 296 ⇑P **P** **08 49 22.8 -1.3**
AGG Agios Georgios 29.74 296 P **P** **08 49 22.6 -1.4**
AGG pmax pmax
comp=Z,97nm,1.1s
HORU Horodok 29.75 317 P **P** **08 49 24.0 +0.1**
KLV Kalavryta, Ach 29.80 294 P **P** **08 49 22.6 -2.0**
BURAR Bucovina Array 29.80 314 ⇑P **P** **08 49 25.8 +1.2**
BURAR Bucovina Array 29.80 314 P **P** **08 49 24.8 +0.3**
BURAR Bucovina Array 29.80 314 P **P** **08 49 25.7 +1.2**
BUR08 Bucovina Ar. S 29.82 314 P **P** **08 49 25.2 +0.4**
BUR08 IAmb IAmb 08 50 26.8
comp=Z,133nm,1.2s
VAY Valandovo 29.86 300 *i* P **P** **08 49 24.6 -0.4**
TYRN Tyrnavos 29.88 297 P **P** **08 49 24.4 -0.8**
GRG Griva 29.92 300 P **P** **08 49 25.1 -0.5**
GRG Griva 29.92 300 P **P** **08 49 25.2 -0.4**
LAKA Lakka 29.95 294 P **P** **08 49 24.4 -1.5**
LOT Lotru 29.98 309 ⇑P **P** **08 49 25.8 -0.4**
EFP Efpalio 30.02 295 P **P** **08 49 24.7 -1.7**
THL Klokotos Trika 30.04 297 P **P** **08 49 24.3 -2.3**
PYL PYLOS 30.07 292 P **P** **08 49 25.1 -1.9**
KSV Kosov 30.17 315 P **P** **08 49 27.0 -0.7**
STIP Stip 30.20 301 *i* P **P** **08 49 26.2 -1.9**
BLKB Belogradchik 30.24 305 ⇑P **P** **08 49 28.2 -0.2**
PASG PASIGHAT 30.27 87 *eP* P 08 49 54.9 +26
PASG IAmb IAmb 08 50 01.1
comp=Z,116nm,0.7s
PVO Paravola 30.33 295 P **P** **08 49 27.7 -1.5**
RLS Riolos of Patr 30.34 294 P **P** **08 49 28.3 -1.0**
ZAA0 Zalesovo Array 30.55 32 P **P** **08 49 31.3 +0.4**
ZAA0 IAmb IAmb 08 49 41.0
comp=Z,208nm,0.8s
ZAA0 IAMs_20 IAMs_20 09 03 03.3
comp=Z,19μm,21.0s
ZALV Zalesovo Beam 30.55 32 P **P** **08 49 31.0 0.0**
ZALV Zalesovo Beam 30.55 32 P **P** **08 49 31.0 0.0**
ZALV Zalesovo Beam 30.55 32 P **P** **08 49 31.2 +0.3**
comp=Z,186nm,0.5s,baz=240,slow=8.5,SNR=94
ZALV PcP **PcP** **08 52 26.1 -3.4**
comp=Z,13nm,0.9s,baz=245,slow=5.7,SNR=1.6
ZALV S **S** **08 54 31.1 -1.3**
comp=Z,2.9nm,0.8s,baz=297,slow=43,SNR=1.3
ZALV LR LR 09 03 24.2
comp=Z,16μm,21.1s,baz=219,slow=39
comp=Z,186nm,0.5s
KPRO Kipourio 30.58 298 P **P** **08 49 29.5 -2.0**
DJES Djerdap 30.61 307 P **P** **08 49 31.4 -0.3**
GZR Gura Zlata 30.64 308 ⇓P **P** **08 49 31.8 -0.1**
FNA Florina 30.67 299 P **P** **08 49 31.4 -0.8**
FNA Florina 30.67 299 P **P** **08 49 31.7 -0.6**
FNA Florina 30.67 299 ⇑P **P** **08 49 31.9 -0.3**
FNA Florina 30.67 299 P **P** **08 49 31.4 -0.8**
FNA pmax pmax
comp=Z,61nm,0.9s
DEV Deva 30.70 309 P **P** **08 49 32.4 +0.1**
PENT Pentalofos 30.77 298 P **P** **08 49 32.2 -1.1**
SKO Skopje 30.80 301 *i* P **P** **08 49 32.6 -0.8**
MARR Marisel-Cluj 30.80 311 ⇓P **P** **08 49 34.1 +0.7**
LTHK Lithakia 30.82 293 P **P** **08 49 31.8 -1.7**
SHL Shillong 30.84 91 P **P** **08 49 32.9 -1.2**
SHL IAmb IAmb 08 49 42.8
comp=Z,109nm,0.8s
SHL Shillong 30.84 91 P **P** **08 49 33.8 -0.3**
SNR=47
SHL Shillong 30.84 91 P **P** **08 49 32.9 -1.2**
SHL pmax pmax
comp=Z,109nm,0.8s
SHL MLR MLR
comp=Z,13μm,18.0s
SHL Shillong 30.84 91 *eP* **P** **08 49 33.3 -0.8**
NEST Nestorio 30.87 298 P **P** **08 49 33.2 -0.9**
BOVS Bovan 30.93 305 ⇓P **P** **08 49 34.3 -0.2**
JAN Janina 30.94 297 P **P** **08 49 34.9 +0.3**
NYDR Nydri-Lefkada 30.98 295 P **P** **08 49 32.1 -2.8**
EVGI Lefkada island 31.01 295 P **P** **08 49 32.7 -2.5**
MALK Mahakanadarawa 31.03 131 P **P** **08 49 36.4 +0.8**
VLS Valsamata 31.04 294 P **P** **08 49 33.2 -2.3**
PSDA Pessada-Kefalo 31.04 294 P **P** **08 49 32.9 -2.5**
MESR Meseseni 31.07 312 ⇓P **P** **08 49 36.6 +0.9**
KBN Korca 31.09 299 P **P** **08 49 35.0 -1.0**
KBN Korca 31.09 299 P **P** **08 49 35.3 -0.7**
KBN Korca 31.09 299 P **P** **08 49 35.0 -1.0**
KBN pmax pmax
comp=Z,593nm,1.0s
OHR Ohrid 31.14 300 *i* P **P** **08 49 36.1 -0.3**
LSK Leskovik 31.18 298 P **P** **08 49 36.3 -0.5**

MDVR Moldovita 31.20 307 ⇑P **P** **08 49 37.4 +0.5**
MORS Morshin 31.21 316 P **P** **08 49 38.2 +1.3**
KEF3 Kipouria, Keph 31.23 294 P **P** **08 49 32.5 -4.6**
BELO BĒLONIA 31.23 95 *eP* **P** **08 49 40.3 +3.0**
IGT Igoumenitsa 31.33 297 P **P** **08 49 35.8 -2.2**
TEZP TEZPUR 31.33 88 *eP* **P** **08 49 37.8 -0.4**
TEZP IAmb IAmb 08 49 45.0
comp=Z,108nm,0.9s
TRSU Trosnyk 31.39 313 P **P** **08 49 39.3 +0.9**
LVV L'vov 31.42 317 ⇓*i*P **P** **08 49 38.3 -0.4**
LVV *e* 08 50 39.5
LVV *e*PPP PPP 08 50 53.6
LVV *e*S **S** **08 54 43.0 -3.1**
LVV pmax pmax
comp=Z,450nm,1.6s
LVV MLR MLR
comp=N,800nm,15.0s
LVV MLR MLR
comp=E,3μm,15.0s
LVV MLR MLR
comp=Z,3μm,15.0s
BZS Buzias 31.48 308 ⇓P **P** **08 49 39.4 +0.1**
BZS Buzias 31.48 308 ⇑P **P** **08 49 38.9 -0.4**
BZS Buzias 31.48 308 P **P** **08 49 39.4 +0.1**
SRN Sarande 31.61 297 P **P** **08 49 38.6 -1.9**
GOMU GeErMu 31.65 70 P **P** **08 49 42.4 +1.1**
GOMU pP sP 08 49 48.4 +1.7
GOMU sP pP 08 49 52.6 +7.4
GOMU S **S** **08 54 55.6 +4.9**
GOMU pmax pmax
comp=Z,24nm,1.2s
GOMU LR LR
comp=Z,6μm,16.2s
GOMU LR LR
comp=Z,7μm,15.7s
GOMU LR LR
comp=Z,11μm,15.1s
KEK Kerkira 31.75 297 P **P** **08 49 39.5 -2.2**
KEK IAmb IAmb 08 49 48.9
comp=Z,140nm,1.0s
KEK Kerkira 31.75 297 P **P** **08 49 38.6 -3.2**
KEK Kerkira 31.75 297 ⇓P **P** **08 49 39.8 -1.9**
MNK Minsk 31.77 327 *i* P **P** **08 49 42.1 +0.3**
comp=E,45nm,0.9s
MNK *i* P **P** **08 49 42.1 +0.3**
comp=N,87nm,0.9s
MNK *i* P **P** **08 49 42.1 +0.3**
comp=Z,150nm,0.9s,baz=126
MNK *i* PP PnPn 08 50 34.5 -11
MNK *i* PPP PPP 08 50 56.6
MNK *i* S **S** **08 54 50.3 -1.3**
MNK *i* SS **SS** **08 56 59.4 -8.2**
MNK *i* LQ LQ 09 00 36.3
MNK *i* LR LR 09 02 33.6
MNK *i* LRM MLR 09 04 51.6
comp=E,1μm,15.1s
MNK *i* LRM MLR 09 04 57.2
comp=N,2μm,15.1s
MNK *i* LRM MLR 09 04 57.5
comp=Z,4μm,15.1s
MNK Minsk 31.77 327 *i* P **P** **08 49 42.0 +0.3**
MNK *i* PPP PPP 08 50 56.5
MNK *i* 08 52 31.4
MNK *i* S **S** **08 54 50.2 -1.3**
MNK *i* SS **SS** **08 56 59.3 -8.2**
MNK pmax pmax
comp=N,87nm,0.9s
MNK pmax pmax
comp=E,45nm,0.9s
MNK pmax pmax
comp=Z,150nm,0.9s
MNK MLR MLR
comp=N,2μm,15.0s
MNK MLR MLR
comp=Z,4μm,15.0s
TIR Tirane 31.87 300 P **P** **08 49 41.2 -1.6**
TIR Tirane 31.87 300 P **P** **08 49 41.4 -1.4**
TIR Tirane 31.87 300 ⇓P **P** **08 49 42.2 -0.6**
TIR Tirane 31.87 300 P **P** **08 49 41.2 -1.6**
TIR pmax pmax
comp=Z,370nm,1.0s
TIR MLR MLR
comp=Z,10μm,18.0s
PRGR Permogore 31.89 349 *eP* **P** **08 49 40.3 -2.4**
PRGR pmax pmax
comp=Z,222nm,1.5s
PALK Pallekele 31.98 132 P **P** **08 49 45.7 +1.7**
PALK Pallekele 31.98 132 P **P** **08 49 45.1 +1.1**
PALK P **P** **08 49 45.1 +1.1**
PALK P **P** **08 49 45.1 +1.1**
PALK Pallekele 31.98 132 ⇑P **P** **08 49 46.0 +2.0**
PALK Pallekele 31.98 132 P **P** **08 49 45.7 +1.7**
PALK pmax pmax
comp=Z,27nm,1.1s
PALK MLR MLR
comp=Z,9μm,20.0s
PALK Pallekele 31.98 132 LR LR 09 03 41.6
comp=Z,9μm,19.7s,baz=61,slow=38
ITAN ITANAGAR 31.99 87 *eP* **P** **08 49 45.0 +1.0**
ITAN IAmb IAmb 08 49 51.9
comp=Z,296nm,0.9s
ZIRO ZIRO 32.00 86 *eP* **P** **08 49 44.9 +0.7**
ZIRO IAmb IAmb 08 49 50.8
comp=Z,219nm,0.6s
IVA Berane 32.08 303 ⇑*i*P **P** **08 49 43.6 -1.1**
SJES Sjenica 32.09 304 ⇑*i*P **P** **08 49 44.1 -0.7**
KWP Kalwaria Pacla 32.12 316 *eP* **P** **08 49 45.9 +0.9**
KWP *e*S **S** **08 55 05.9 +8.7**
KWP Kalwaria Pacla 32.12 316 P **P** **08 49 44.6 -0.3**
KWP Kalwaria Pacla 32.12 316 ⇑P **P** **08 49 45.8 +0.9**
KWP Kalwaria Pacla 32.12 316 P **P** **08 49 44.6 -0.3**
KWP pmax pmax
comp=Z,494nm,1.2s
DIVS Divibare 32.24 305 P **P** **08 49 45.5 -0.6**
DIVS Divibare 32.24 305 *eP* **P** **08 49 43.4 -2.7**
DIVS Divibare 32.24 305 ⇑P **P** **08 49 45.4 -0.6**
KLMR Klimovskoe 32.40 344 ⇑*i*P **P** **08 49 47.1 0.0**
KLMR ⇑*i*P **P** **08 49 47.1 0.0**
KLMR ⇓*i*P **P** **08 49 47.1 0.0**
KLMR AMP 08 49 48.3
comp=Z,2μm,1.6s
KLMR AMP 08 49 49.4
comp=Z,1μm,1.5s
KLMR S **S** **08 55 02.6 +1.5**
KLMR S **S** **08 55 02.6 +1.5**
KLMR LQ LQ 09 01 02.4
KLMR LQ LQ 09 01 02.4
KLMR LR LR 09 02 25.3
KLMR AMP 09 06 08.8
comp=Z,13μm,15.4s
KLMR Klimovskoe 32.40 344*c* *i*P **P** **08 49 47.1 0.0**
KLMR S **S** **08 55 02.6 +1.5**
KLMR pmax pmax
comp=Z,2μm,1.6s
KLMR pmax pmax
comp=Z,1μm,1.5s
KLMR MLR MLR
comp=Z,13μm,15.0s
ULC Ulcinj 32.42 301 ⇓*i*P **P** **08 49 46.3 -1.3**
PDG Podgorica 32.48 302 *eP* **P** **08 49 45.7 -2.3**
PDG Podgorica 32.48 302 ⇑*i*P **P** **08 49 46.4 -1.6**
DRME Dracevica, Mon 32.49 301 *eP* **P** **08 49 46.2 -2.0**
DRME Dracevica, Mon 32.49 301 ⇑*i*P **P** **08 49 47.5 -0.7**
PLE Pljevlja 32.52 303 ⇑*i*P **P** **08 49 48.1 -0.5**
NACGM Naroch 32.53 327 *i* P **P** **08 49 48.9 +0.6**
RUDO Rudo 32.59 304 *eP* **P** **08 49 47.9 -1.2**
FRGS Fruska Gora 32.60 307 ⇑P **P** **08 49 49.4 +0.2**
FRGS Fruska Gora 32.60 307 ⇑*i*P **P** **08 49 48.9 -0.2**
CRVS Cervenica-Dubn 32.61 314 *eP* **P** **08 49 50.4 +1.2**
CRVS Cervenica-Dubn 32.61 314 *eP* **P** **08 49 50.4 +1.2**
CRVS pmax pmax
comp=Z,500nm,1.7s
TEKS Tekeris 32.66 306 *eP* **P** **08 49 48.8 -0.9**
KOHI KOHIMA 32.72 89 *eP* **P** **08 49 51.4 +0.8**
KOHI IAmb IAmb 08 50 01.1
comp=Z,332nm,0.9s
BUM Brajici-Budva 32.72 302 ⇑*i*P **P** **08 49 47.7 -2.6**
CEME Cevo 32.74 302 ⇑*i*P **P** **08 49 48.7 -1.8**
NKME Niksic 32.75 302 ⇑*i*P **P** **08 49 49.5 -1.0**
IDID Didziasalis 32.79 328 *eP* **P** **08 49 50.1 -0.5**
SAIH SAIHA 32.83 96 *eP* **P** **08 49 52.2 +0.6**
SAIH IAmb IAmb 08 49 59.4
comp=Z,71nm,0.8s

IMP Imphal 32.85 91 *eP* **P** **08 49 52.4 +0.8**
IMP IAmb IAmb 08 49 59.9
comp=Z,376nm,1.4s
HALK Hakmana 32.88 133 ⇑P **P** **08 49 53.6 +1.9**
MOKO MOKOCHONG 32.89 88 *eP* **P** **08 49 52.8 +0.7**
MOKO IAmb IAmb 08 50 01.4
comp=Z,791nm,1.1s
HCY Herceg Novi 33.04 302 *eP* **P** **08 49 51.6 -1.4**
HCY Herceg Novi 33.04 302 ⇑*i*P **P** **08 49 51.6 -1.4**
BRY Bratogost 33.07 303 *eP* **P** **08 49 52.6 -0.8**
BRY Bratogost 33.07 303 ⇑*i*P **P** **08 49 52.4 -1.0**
KECS Kecovo 33.08 313 *eP* **P** **08 49 54.5 +1.2**
KECS Kecovo 33.08 313 *eP* **P** **08 49 54.5 +1.2**
KECS pmax pmax
comp=Z,124nm,1.6s
TREB Trebinje 33.18 302 *eP* **P** **08 49 52.0 -2.2**
ISAL Salakas 33.22 328 *eP* **P** **08 49 55.1 +0.7**
IZAR Zarasai 33.27 328 *eP* **P** **08 49 55.5 +0.7**
PSZ Piszkesteto 33.27 312 ⇑P **P** **08 49 56.0 +0.9**
PSZ Piszkesteto 33.27 312 P **P** **08 49 55.0 -0.1**
PSZ IAmb IAmb 08 50 07.4
comp=Z,108nm,1.1s
PSZ Piszkesteto 33.27 312 ⇑P **P** **08 49 55.4 +0.3**
PSZ Piszkesteto 33.27 312 P **P** **08 49 55.0 -0.1**
PSZ pmax pmax
comp=Z,108nm,1.1s
NEVS Nevesinje 33.45 303 *eP* **P** **08 49 54.5 -2.1**
NIE Niedzica 33.50 315 *eP* **P** **08 49 58.6 +1.6**
NIE *e*S **S** **08 55 18.2 -0.5**
MORH Mrgy, Hungar 33.64 308 ⇓P **P** **08 49 58.7 +0.5**
STON Ston 33.67 302 *eP* **P** **08 49 54.2 -4.3**
BUD Budapest 33.71 311 P **P** **08 49 59.3 +0.5**
SUW Suwalki 33.82 323 *eP* **P** **08 49 60.0 +0.4**
SUW *e*S **S** **08 55 25.5 +2.2**
SUW Suwalki 33.82 323 P **P** **08 50 00.1 +0.5**
SUW Suwalki 33.82 323 *eP* **P** **08 50 00.4 +0.8**
SUW Suwalki 33.82 323 P **P** **08 50 00.1 +0.5**
SUW pmax pmax
comp=Z,676nm,1.3s
TIP Timpagrande 34.07 296 P **P** **08 50 00.1 -2.0**
TIP IAmb IAmb 08 50 02.9
comp=Z,176nm,1.3s
BEL Belsk 34.12 319 *eP* **P** **08 50 03.3 +1.0**
BEL *e*S **S** **08 55 33.5 +5.4**
BEL Belsk 34.12 319 P **P** **08 50 03.5 +1.2**
VYHS Vyhne 34.12 312 *eP* **P** **08 50 03.0 +0.6**
VYHS Vyhne 34.12 312 *eP* **P** **08 50 03.0 +0.6**
VYHS pmax pmax
comp=Z,634nm,2.1s
LODK Lodwar 34.13 222 P **P** **08 50 04.4 +1.6**
LODK IAmb IAmb 08 50 10.8
comp=Z,120nm,1.1s
LODK Lodwar 34.13 222 *eP* **P** **08 50 03.1 +0.4**
LODK Lodwar 34.13 222 *i* P **P** **08 50 03.8 +1.0**
LODK Lodwar 34.13 222 P **P** **08 50 03.5 +0.7**
SNR=65
LODK Lodwar 34.13 222 *eP* **P** **08 50 03.1 +0.4**
LODK Lodwar 34.13 222 *i* P **P** **08 50 03.8 +1.0**
MATE Matera 34.19 298 ⇓P **P** **08 50 01.6 -1.4**
PABE Paberze 34.20 326 P **P** **08 50 03.0 +0.1**
PABE Paberze 34.20 326 *eP* **P** **08 50 03.7 +0.8**
SRO Srobarova 34.27 311 *eP* **P** **08 50 04.4 +0.8**
SRO Srobarova 34.27 311 *eP* **P** **08 50 04.4 +0.8**
SRO pmax pmax
comp=Z,78nm,1.0s
BLY Banja Luka 34.34 306 *eP* P 08 49 52.7 -12
MGRS Mrkonjic Grad 34.35 305 *eP* **P** **08 50 03.1 -1.4**
VSVD Vaisvydziai 34.48 327 *eP* **P** **08 50 06.1 +0.8**
MRVN Minervino Murg 34.60 299 ⇓P **P** **08 50 05.4 -1.3**
VSU Vasula 34.73 332 *eP* **P** **08 50 07.8 +0.4**
VSU Vasula 34.73 332 ⇑P **P** **08 50 07.6 +0.2**
VSU Vasula 34.73 332 P **P** **08 50 07.8 +0.4**
CEL Celeste 34.74 294 P **P** **08 50 07.8 -0.1**
CEL IAmb IAmb 08 50 20.9
comp=Z,273nm,1.2s
CEL Celeste 34.74 294 ⇑P **P** **08 50 07.6 -0.3**
CUC Castrocucco 34.83 297 P **P** **08 50 07.9 -0.8**
CUC IAmb IAmb 08 50 09.9
comp=Z,307nm,1.5s
CUC Castrocucco 34.83 297 ⇑P **P** **08 50 08.6 0.0**
OKC Ostrava-Krasne 34.96 314 *eP* **P** **08 50 10.0 +0.4**
OKC *e*S **S** **08 55 43.2 +2.1**
OKC AMS AMS 09 08 40.0
comp=Z,3μm,20.5s
OKC Ostrava-Krasne 34.96 314 *eP* **P** **08 50 10.0 +0.4**
OKC *e*S **S** **08 55 43.2 +2.1**
OKC MLR MLR
comp=Z,3μm,20.5s
JAVC Velka Javorina 34.97 313 *eP* **P** **08 50 10.7 +0.9**
MAUC Maruska 35.02 314 *eP* **P** **08 50 10.9 +0.8**
MAUC *e*S S **08 55 35.5 -6.6**
MAUC AMS AMS 09 08 40.0
comp=Z,7μm,16.0s
SMOL Smolenice 35.03 312 *eP* **P** **08 50 10.6 +0.4**
SMOL pmax pmax
comp=Z,32nm,1.0s
MODS Modra-Piesok 35.09 312 *eP* **P** **08 50 10.8 +0.1**
MODS Modra-Piesok 35.09 312 *eP* **P** **08 50 10.8 +0.1**
MODS pmax pmax
comp=Z,231nm,1.3s
MSEY Mahe Island 35.20 183 P **P** **08 50 13.7 +1.7**
KOGS Kog 35.31 308 *i* P **P** **08 50 12.6 -0.1**
KOGS *e*PP PP 08 51 47.0 +14
MORC Moravsky Berou 35.32 314 ⇓P **P** **08 50 13.0 +0.3**
MORC Moravsky Berou 35.32 314 P **P** **08 50 12.0 -0.7**
MORC Moravsky Berou 35.32 314 *eP* **P** **08 50 12.8 +0.1**
MORC Moravsky Berou 35.32 314 ⇑P **P** **08 50 12.8 +0.1**
MORC Moravsky Berou 35.32 314 P **P** **08 50 12.0 -0.7**
MORC pmax pmax
comp=Z,125nm,1.4s
SOP Sopron 35.38 310 P **P** **08 50 13.3 +0.1**
PBUR Paburge 35.45 326 *eP* **P** **08 50 15.1 +1.3**
RONA Rosalia, Austr 35.55 310 *i* P **P** **08 50 14.8 +0.1**
comp=Z,128nm,1.2s,SNR=33
GTA Gaotai 35.61 64 ⇑P **P** **08 50 16.9 +1.4**
GTA pP sP 08 50 22.0 +1.1
GTA sP pP 08 50 25.3 +5.9
GTA P PP **08 51 36.8 +0.6**
GTA S **S** **08 55 49.5 -2.1**
GTA pmax pmax
comp=Z,41nm,1.5s
GTA pmax pmax
comp=Z,2μm,8.0s
GTA LR LR
comp=Z,10μm,17.9s
GTA LR LR
comp=Z,13μm,17.5s
GTA LR LR
comp=Z,18μm,18.3s
KLNR Kaliningrad 35.63 323 *i* P **P** **08 50 15.9 +0.7**
KLNR pmax pmax
comp=Z,398nm,1.2s
CRES Cresnjev 35.73 307 ⇑*i*P **P** **08 50 16.3 0.0**
VRAC Vranov 35.77 313 ⇑P **P** **08 50 17.3 +0.6**
VRAC Vranov 35.77 313 *eP* **P** **08 50 16.7 +0.1**
VRAC Vranov 35.77 313 P **P** **08 50 17.0 +0.4**
comp=Z,34nm,1.0s,baz=101,slow=8.1,SNR=38
VRAC S **S** **08 55 45.6 -8.1**
comp=Z,1.5nm,0.4s,baz=48,slow=7.3,SNR=1.3
comp=Z,34nm,1.0s
BOJS Bojanci 35.82 306 ⇑*i*P **P** **08 50 16.5 -0.5**
PAOL Paolisi 35.83 299 P **P** **08 50 16.5 -0.7**
PAOL IAmb IAmb 08 50 25.1
comp=Z,320nm,1.1s
KRUC Moravsky 35.83 313 *eP* **P** **08 50 17.3 +0.2**
KRUC Moravsky 35.83 313 P **P** **08 50 17.5 +0.4**
KRLC Kraliky 35.88 314 *eP* **P** **08 50 17.0 -0.5**
KRLC *e*S **S** **08 55 50.1 -5.2**
KRLC AMS AMS 09 08 00.0
comp=Z,3μm,14.4s
KRLC Kraliky 35.88 314 *eP* **P** **08 50 17.0 -0.5**
KRLC *e*S **S** **08 55 50.1 -5.2**
KRLC MLR MLR
comp=Z,3μm,14.4s
CONA Conrad Observa 35.89 311 *i* P **P** **08 50 17.5 -0.3**
comp=Z,70nm,1.2s,SNR=24
VAE Valguarnera 35.92 293 P **P** **08 50 19.6 +1.5**
comp=Z,16nm,0.4s,baz=133,slow=2.9,SNR=6.1
VAE LR LR 09 07 06.3
comp=Z,2μm,18.1s,baz=99,slow=40
comp=Z,16nm,0.4s
ARSA Arzberg 35.97 309 *i* P **P** **08 50 18.3 0.0**
comp=Z,121nm,1.7s,SNR=22

ARSA	**Arzberg**	**35.97 309**	⇑P		**P**		**08 50 18.4**	**+0.1**	
RAFF	**Raffo Rosso**	**35.97 292**	P		**P**		**08 50 18.4**	**-0.1**	
MTSE	**Matsula**	**36.09 331**	*e*P		**P**		**08 50 17.6**	**-1.5**	
SLIT	**Slitere, Latvi**	**36.14 328**	*e*P		**P**		**08 50 19.9**	**+0.4**	
SLIT	**Slitere, Latvi**	**36.14 328**	⇑P		**P**		**08 50 19.3**	**-0.2**	
SOKA	**Soboth**	**36.18 308**	*i* P		**P**		**08 50 20.0**	**-0.2**	
	comp=Z,50nm,1.4s,SNR=7.9								
DPC	**Dobruska-Polom**	**36.24 315**	*e*P		**P**		**08 50 20.6**	**0.0**	
DPC			*e*S		S		08 55 50.3	-11	
DPC				AMS	AMS		09 09 20.0		
	comp=Z,5µm,14.7s								
DPC	**Dobruska-Polom**	**36.24 315**	*e*P		**P**		**08 50 20.6**	**0.0**	
DPC			*e*S		S		08 55 50.3	-11	
DPC				MLR	MLR				
	comp=Z,5µm,14.7s								
OSTC	**Ostas**	**36.37 315**	*e*P		**P**		**08 50 21.7**	**0.0**	
OSTC			*e*S		S		08 55 51.0	-12	
OSTC				AMS	AMS		09 09 30.0		
	comp=Z,4µm,14.7s								
OSTC	**Ostas**	**36.37 315**	*e*P		**P**		**08 50 21.7**	**0.0**	
OSTC				MLR	MLR				
	comp=Z,4µm,14.7s								
INTR	**Introdacqua**	**36.38 300**	P		**P**		**08 50 21.4**	**-0.6**	
INTR				IAmb	IAmb		08 51 18.8		
	comp=Z,148nm,1.3s								
KSP	**Ksiaz**	**36.41 315**	*e*P		**P**		**08 50 22.7**	**+0.8**	
KSP			*e*S		**S**		**08 56 08.8**	**+5.5**	
KSP	**Ksiaz**	**36.41 315**	⇑P		**P**		**08 50 22.8**	**+0.8**	
LJU	**Ljubljana**	**36.41 307**	*i* P		**P**		**08 50 22.1**	**0.0**	
LJU			*e*PP		PP		08 51 58.8	+14	
LJU			*e*S		**S**		**08 56 08.7**	**+5.3**	
CEY	**Cerknica**	**36.43 307**	⇑*i*P		**P**		**08 50 21.6**	**-0.7**	
TREC	**Trest**	**36.47 313**	*e*P		**P**		**08 50 22.5**	**-0.1**	
TREC			*e*S		**S**		**08 55 57.4**	**-6.9**	
TREC				AMS	AMS		09 09 30.0		
	comp=Z,6µm,14.9s								
TREC	**Trest**	**36.47 313**	*e*P		**P**		**08 50 22.5**	**-0.1**	
TREC			*e*S		**S**		**08 55 57.4**	**-6.9**	
TREC				MLR	MLR				
	comp=Z,6µm,14.9s								
CHVC	**Chvalec**	**36.47 315**	*e*P		**P**		**08 50 23.0**	**+0.4**	
CHVC				AMS	AMS		09 09 40.0		
	comp=Z,5µm,15.8s								
CHVC	**Chvalec**	**36.47 315**	*e*P		**P**		**08 50 23.0**	**+0.4**	
CHVC				MLR	MLR				
	comp=Z,5µm,15.8s								
UPC	**Upice**	**36.48 315**	*e*P		**P**		**08 50 22.9**	**+0.3**	
UPC			*e*S		**S**		**08 56 02.3**	**-2.0**	
UPC				AMS	AMS		09 09 30.0		
	comp=Z,5µm,14.4s								
UPC	**Upice**	**36.48 315**	*e*P		**P**		**08 50 22.9**	**+0.3**	
UPC			*e*S		**S**		**08 56 02.3**	**-2.0**	
UPC				MLR	MLR				
	comp=Z,5µm,14.4s								
GKP	**Gorka Klasztor**	**36.68 320**	*e*P		**P**		**08 50 24.9**	**+0.7**	
GKP			*e*S		**S**		**08 56 16.2**	**+8.9**	
GKP	**Gorka Klasztor**	**36.68 320**	*e*P		**P**		**08 50 24.8**	**+0.6**	
GKP	**Gorka Klasztor**	**36.68 320**	P		**P**		**08 50 24.8**	**+0.6**	
TNCH	**TengChong**	**36.73 88**	⇑*i*P		**P**		**08 50 27.0**	**+1.8**	
TNCH			S		**S**		**08 56 13.2**	**+4.1**	
TNCH				pmax	pmax				
	comp=Z,170nm,1.5s								
TNCH				pmax	pmax				
	comp=Z,1µm,5.7s								
TNCH				LR	LR				
	comp=Z,5µm,21.2s								
TNCH				LR	LR				
	comp=Z,3µm,14.3s								
TNCH				LR	LR				
	comp=Z,5µm,21.5s								
MEF	**Metsahovi**	**36.77 333**	*e*P		**P**		**08 50 25.1**	**+0.2**	
AQU	**L'Aquila**	**36.78 301**	P		**P**		**08 50 24.8**	**-0.5**	
AQU				IAmb	IAmb		08 50 41.8		
	comp=Z,249nm,1.0s								
AQU	**L'Aquila**	**36.78 301**	P		**P**		**08 50 25.1**	**-0.3**	
AQU	**L'Aquila**	**36.78 301**	P		**P**		**08 50 24.8**	**-0.5**	
AQU				pmax	pmax				
	comp=Z,249nm,1.0s								
CAMP	**Campotosto**	**36.78 301**	P		**P**		**08 50 24.9**	**-0.6**	
CAMP				IAmb	IAmb		08 50 53.1		
	comp=Z,322nm,1.2s								
MOA	**Molln**	**36.92 310**	*i* P		**P**		**08 50 26.4**	**-0.1**	
	comp=Z,119nm,1.1s,SNR=31								
FINES	**FINESS Array B**	**36.94 336**	P		**P**		**08 50 25.9**	**-0.4**	
FINES	**FINESS Array B**	**36.94 336**	P		**P**		**08 50 25.9**	**-0.4**	
FINES	**FINESS Array B**	**36.94 336**	P		**P**		**08 50 26.6**	**+0.2**	
	comp=Z,48nm,0.7s,baz=129,slow=8.1,SNR=84								
	comp=Z,48nm,0.7s								
KMBO	**Kilima Mbogo**	**36.94 215**	P		**P**		**08 50 28.5**	**+1.3**	
KMBO	**Kilima Mbogo**	**36.94 215**	*i* P		**P**		**08 50 28.6**	**+1.4**	
	SNR=32								
KMBO	**Kilima Mbogo**	**36.94 215**	*e*P		**P**		**08 50 24.2**	**-3.0**	
KMBO	**Kilima Mbogo**	**36.94 215**	*i* P		**P**		**08 50 26.8**	**-0.4**	
KMBO	**Kilima Mbogo**	**36.94 215**	P		**P**		**08 50 28.0**	**+0.8**	
KMBO			P		**P**		**08 50 28.0**	**+0.8**	
KMBO	**Kilima Mbogo**	**36.94 215**	*e*P		**P**		**08 50 29.5**	**+2.3**	
KMBO			IAmb		IAmb		08 50 34.1		
	comp=Z,3µm,2.6s								
KMBO	**Kilima Mbogo**	**36.94 215**	⇑P		**P**		**08 50 28.9**	**+1.7**	
KMBO	**Kilima Mbogo**	**36.94 215**	P		**P**		**08 50 27.9**	**+0.7**	
	comp=Z,17nm,1.0s,baz=18,slow=9.7,SNR=30								
KMBO			S		**S**		**08 56 10.7**	**-1.8**	
	comp=Z,0.8nm,0.3s,baz=64,slow=12,SNR=1.6								
KMBO			LR		LR		09 05 55.0		
	comp=Z,6µm,18.8s,baz=32,slow=37								
	comp=Z,17nm,1.0s								
KMBO	**Kilima Mbogo**	**36.94 215**	*e*P		**P**		**08 50 24.2**	**-3.0**	
KMBO	**Kilima Mbogo**	**36.94 215**	*i* P		**P**		**08 50 26.8**	**-0.4**	
NRCA	**Norcia**	**37.02 302**	P		**P**		**08 50 26.0**	**-1.4**	
NRCA				IAmb	IAmb		08 50 53.7		
	comp=Z,157nm,1.1s								
FDMO	**Fiordimonte**	**37.06 302**	P		**P**		**08 50 26.3**	**-1.4**	
FDMO				IAmb	IAmb		08 50 40.4		
	comp=Z,136nm,1.1s								
GOPC	**GO Pecny, Ondr**	**37.07 314**		AMS	AMS		09 08 40.0		
	comp=Z,4µm,14.2s								
CKRC	**Cesky Krumlov**	**37.10 312**	*e*P		**P**		**08 50 27.6**	**-0.4**	
CKRC			*e*S		**S**		**08 56 08.1**	**-5.9**	
CKRC	**Cesky Krumlov**	**37.10 312**	*e*P		**P**		**08 50 27.6**	**-0.4**	
CKRC			*e*S		**S**		**08 56 08.1**	**-5.9**	
MYKA	**Terra Mystica**	**37.11 308**	*i* P		**P**		**08 50 27.8**	**-0.4**	
	comp=Z,75nm,1.8s,SNR=8.7								
PRED	**Cave del Predi**	**37.13 308**	P		**P**		**08 50 27.6**	**-0.7**	
ROBS	**Robic**	**37.14 307**	*i* P		**P**		**08 50 27.5**	**-0.8**	
PRU	**Pruhonice**	**37.24 314**	*e*P		**P**		**08 50 28.9**	**-0.2**	
PRU			*e*S		**S**		**08 56 14.6**	**-1.4**	
PRU				AMS	AMS		09 09 00.0		
	comp=Z,5µm,14.2s								
PRU	**Pruhonice**	**37.24 314**	*e*P		**P**		**08 50 28.9**	**-0.2**	
PRU			*e*S		**S**		**08 56 14.6**	**-1.4**	
PRU				MLR	MLR				
	comp=Z,5µm,14.2s								
BIOA	**Bad Ischl, Aus**	**37.31 310**	*i* P		**P**		**08 50 29.5**	**-0.2**	
	comp=Z,139nm,1.2s,SNR=28								
ZVC	**Zvikov**	**37.32 313**	*e*P		**P**		**08 50 29.9**	**+0.1**	
ZVC				AMS	AMS		09 10 00.0		
	comp=Z,4µm,22.2s								
PRA	**Prague**	**37.33 314**		AMS	AMS		09 09 00.0		
	comp=Z,5µm,13.6s								
PVCC	**Panska Ves**	**37.37 314**	*e*P		**P**		**08 50 29.6**	**-0.6**	
PVCC				AMS	AMS		09 13 30.0		
	comp=Z,5µm,13.2s								
PVCC	**Panska Ves**	**37.37 314**	*e*P		**P**		**08 50 29.6**	**-0.6**	
PVCC				MLR	MLR				
	comp=Z,5µm,13.2s								
KBA	**Koelnbreinsper**	**37.39 309**	*i* P		**P**		**08 50 30.3**	**-0.3**	
	comp=Z,141nm,1.3s								
KBA	**Koelnbreinsper**	**37.39 309**	⇑P		**P**		**08 50 30.2**	**-0.5**	
KBA	**Koelnbreinsper**	**37.39 309**	P		**P**		**08 50 30.4**	**-0.3**	
CESX	**Cesi**	**37.40 301**	P		**P**		**08 50 29.8**	**-0.7**	
CESX				IAmb	IAmb		08 50 33.3		
	comp=Z,638nm,1.9s								
GEC2	**GERESS Array S**	**37.50 312**	P		**P**		**08 50 30.7**	**-0.8**	
GEC2				IAmb	IAmb		08 50 40.1		
	comp=Z,319nm,1.4s								
GERES	**GERESS Array B**	**37.50 312**	P		**P**		**08 50 31.1**	**-0.3**	
GERES	**GERESS Array B**	**37.50 312**	P		**P**		**08 50 31.1**	**-0.3**	
GERES	**GERESS Array B**	**37.50 312**	P		**P**		**08 50 31.4**	**-0.1**	
	comp=Z,91nm,0.9s,baz=99,slow=8.4,SNR=94								
GERES			PcP		**PcP**		**08 52 49.9**	**+0.3**	
	comp=Z,16nm,0.9s,baz=104,slow=3.5,SNR=2.7								
	comp=Z,91nm,0.9s								
CLUD	**Cludinico**	**37.60 308**	P		**P**		**08 50 31.6**	**-0.7**	
KIBK	**Kibwezi**	**37.62 213**	P		**P**		**08 50 33.2**	**+0.5**	
KIBK				IAMs_20	IAMs_20		09 08 56.3		
	comp=Z,12µm,18.0s								
KIBK	**Kibwezi**	**37.62 213**	P		**P**		**08 50 34.2**	**+1.4**	
	SNR=26								
KIBK	**Kibwezi**	**37.62 213**	P		**P**		**08 50 29.3**	**-3.4**	
KHC	**Kasperske Hory**	**37.64 312**	P		**P**		**08 50 31.9**	**-0.6**	
KHC				IAmb	IAmb		08 50 41.3		
	comp=Z,216nm,1.3s								
KHC	**Kasperske Hory**	**37.64 312**	⇑P		**P**		**08 50 32.3**	**-0.3**	
KHC	**Kasperske Hory**	**37.64 312**	*e*P		**P**		**08 50 32.0**	**-0.6**	
KHC			*ex*		x		08 51 06.5		
KHC			*ex*		x		08 51 20.0		
KHC			*e*S		**S**		**08 56 22.2**	**0.0**	
KHC				AMS	AMS		09 10 40.0		
	comp=Z,3µm,16.6s								
KHC	**Kasperske Hory**	**37.64 312**	*e*P		**P**		**08 50 32.0**	**-0.6**	
KHC			*e*S		**S**		**08 56 22.2**	**0.0**	
KHC				MLR	MLR				
	comp=Z,3µm,16.6s								
RICC	**Richard**	**37.66 314**	*e*P		**P**		**08 50 32.8**	**+0.2**	
RICC				AMS	AMS		09 13 30.0		
	comp=Z,6µm,13.4s								
STAL	**STALIGIAL**	**37.69 307**	P		**P**		**08 50 31.9**	**-1.1**	
BRG	**Berggiesshubel**	**37.84 315**	*i* P		P		08 50 27.7	-6.5	
BRG				Amp			08 50 28.7		
	comp=Z,40nm,1.1s								
BRG	**Berggiesshubel**	**37.84 315**	P		**P**		**08 50 35.5**	**+1.3**	
BRG				Amp			08 50 36.5		
	comp=Z,46nm,1.1s								
BRG	**Berggiesshubel**	**37.84 315**	*i* P		P		08 50 27.7	-6.5	
BRG							08 50 35.5		
BRG							08 52 02.6		
BRG				S	**S**		**08 56 25.0**	**-0.1**	
BRG				pmax	pmax				
	comp=Z,40nm,1.1s								
BRG				pmax	pmax				
	comp=Z,21nm,1.0s								
BRG				smax	smax				
	comp=N,4µm,15.5s								
PBA	**Port Blair**	**37.86 112**	P		**P**		**08 50 35.5**	**+0.8**	
CIMO	**Cimolais**	**37.88 307**	P		**P**		**08 50 33.3**	**-1.4**	
CIMO				IAmb	IAmb		08 50 35.2		
	comp=Z,154nm,1.3s								
LESA	**Schwarzleotal**	**37.90 309**	*i* P		**P**		**08 50 34.2**	**-0.6**	
	comp=Z,94nm,1.6s								
ABTA	**Abfaltersbach**	**37.90 308**	*i* P		**P**		**08 50 34.4**	**-0.5**	
	comp=Z,124nm,1.1s,SNR=26								
HSKC	**Hora Svate Kat**	**38.09 314**	*e*P		**P**		**08 50 36.1**	**-0.2**	
HSKC				AMS	AMS		09 13 50.0		
	comp=Z,6µm,11.8s								
WET	**Wettzell**	**38.10 312**	P		**P**		**08 50 36.0**	**-0.4**	
MOY	**Mondy**	**38.26 44**	*e*P		**P**		**08 50 39.6**	**+1.7**	
MOY				pmax	pmax				
	comp=Z,317nm,2.1s								
RAF	**Rauma**	**38.29 333**	*e*P		**P**		**08 50 37.7**	**-0.1**	
RUE	**Ruedersdorf**	**38.39 317**	*e*P		**P**		**08 50 39.8**	**+1.1**	
OSSC	**Osservatorio P**	**38.44 303**	P		**P**		**08 50 38.8**	**-0.5**	
OSSC				IAmb	IAmb		08 51 15.8		
	comp=Z,197nm,1.4s								
CLL	**Collm**	**38.53 315**	P		**P**		**08 50 40.0**	**+0.1**	
CLL				IAmb	IAmb		08 50 49.4		
	comp=Z,331nm,1.1s								
CLL	**Collm**	**38.53 315**	⇑*i*P		**P**		**08 50 40.5**	**+0.6**	
	comp=Z,726nm,1.9s								
CLL				*e*Pmax			08 50 43.0		
CLL				*i* (sP)	**sP**		**08 50 48.2**	**+2.7**	
	comp=Z,326nm,1.1s								
CLL				*e*(PP)			08 52 18.0		
CLL				*e*S	**S**		**08 56 39.0**	**+3.5**	
	comp=N,1µm,18.3s								
CLL				*e*S	**S**		**08 56 39.0**	**+3.5**	
	comp=E,2µm,30.3s								
CLL				*e*SS	**SS**		**08 59 24.0**	**-0.9**	
CLL				AMS	AMS		09 10 00.0		
	comp=Z,5µm,20.6s								
CLL				AMS	AMS		09 14 00.0		
CLL	**Collm**	**38.53 315**	⇑*i*P		**P**		**08 50 40.5**	**+0.6**	
CLL			*i*				08 50 48.2		
CLL			*e*S		**S**		**08 56 39.0**	**+3.5**	
CLL				pmax	pmax				
	comp=Z,726nm,1.9s								
CLL				MLR	MLR				
	comp=Z,5µm,20.6s								
WTTA	**Wattenberg**	**38.57 309**	*i* P		**P**		**08 50 39.8**	**-0.8**	
	comp=Z,264nm,1.1s,SNR=58								
WTTA	**Wattenberg**	**38.57 309**	P		**P**		**08 50 39.8**	**-0.8**	
NKC	**Novy Kostel**	**38.61 313**	*e*P		**P**		**08 50 40.5**	**-0.2**	
NKC				AMS	AMS		09 14 20.0		
	comp=Z,6µm,13.3s								
NKC	**Novy Kostel**	**38.61 313**	*e*P		**P**		**08 50 40.5**	**-0.2**	
NKC				MLR	MLR				
	comp=Z,6µm,13.3s								
WATA	**Walderalm**	**38.62 309**	*i* P		**P**		**08 50 39.9**	**-1.1**	
	comp=Z,321nm,1.4s,SNR=57								
BSD	**Bornholm Skovb**	**38.63 322**	*e*P		**P**		**08 50 40.6**	**-0.2**	
BSD	**Bornholm Skovb**	**38.63 322**	⇑P		**P**		**08 50 40.0**	**-0.7**	
BSD	**Bornholm Skovb**	**38.63 322**	P		**P**		**08 50 40.1**	**-0.7**	
BSD	**Bornholm Skovb**	**38.63 322**	*i* P		**P**		**08 50 38.0**	**-2.7**	
BSD				IAmb	IAmb		08 50 41.1		
	comp=Z,458nm,1.1s								
ZCCA	**Zocca**	**38.69 304**	P		**P**		**08 50 41.6**	**+0.1**	
SQTA	**Sankt Quirin**	**38.85 308**	*i* P		**P**		**08 50 41.9**	**-1.0**	
	comp=Z,142nm,0.9s,SNR=31								
MOTA	**Moosalm**	**38.94 309**	*i* P		**P**		**08 50 42.3**	**-1.4**	
	comp=Z,175nm,1.2s,SNR=36								
LZH	**Lanzhou**	**38.95 69**	⇑*i*P		**P**		**08 50 44.9**	**+1.0**	
LZH				pP	sP		08 50 49.9	+0.5	
LZH				PP	**PP**		**08 52 14.5**	**+1.5**	
LZH				S	**S**		**08 56 40.9**	**-1.6**	
LZH				sS	sS		08 56 51.4	+2.4	
LZH				SS	**SnSn**		**08 59 29.1**	**-3.9**	
LZH				pmax	pmax				
	comp=Z,110nm,0.9s								
LZH				pmax	pmax				
	comp=Z,2µm,5.5s								
LZH				LR	LR				
	comp=Z,5µm,13.9s								
LZH				LR	LR				
	comp=Z,11µm,14.9s								
LZH				LR	LR				
	comp=Z,15µm,16.3s								
FUR	**Furstenfeldbru**	**38.95 310**	P		**P**		**08 50 43.0**	**-0.6**	
PZH	**PanZhiHua**	**39.05 85**	P		**P**		**08 50 44.7**	**-0.1**	
PZH			PP		**PP**		**08 52 15.0**	**+0.7**	
PZH			ScS		ScS		09 00 55.1	+0.3	
PZH			pmax		pmax				
	comp=Z,50nm,1.1s								
PZH			pmax		pmax				
	comp=Z,2µm,9.2s								
PZH			LR		LR				
	comp=Z,11µm,20.6s								
PZH			LR		LR				
	comp=Z,7µm,17.2s								
PZH			LR		LR				
	comp=Z,9µm,19.1s								
SALO	**Salr**	**39.12 306**	P		**P**		**08 50 44.0**	**-1.1**	
SALO				IAmb	IAmb		08 50 56.2		
	comp=Z,138nm,0.9s								
SALO	**Salr**	**39.12 306**	⇓P		**P**		**08 50 45.0**	**-0.1**	
VIKU	**Vikbolandet**	**39.14 327**	*e*P		**P**		**08 50 45.5**	**+0.5**	
FETA	**Feichten**	**39.15 308**	*i* P		**P**		**08 50 44.6**	**-0.8**	
	comp=Z,227nm,1.2s,SNR=46								
RETA	**Reutte**	**39.19 309**	*i* P		**P**		**08 50 44.4**	**-1.3**	
	comp=Z,73nm,0.9s,SNR=19								
MOX	**Moxa**	**39.22 314**	P		**P**		**08 50 46.1**	**+0.3**	
GRA1	**Grafenberg Arr**	**39.27 312**	P		**P**		**08 50 45.6**	**-0.5**	
GRA1				IAmb	IAmb		08 50 50.0		
	comp=Z,177nm,1.2s								
GRF	**Grafenberg Arr**	**39.27 312**	P		**P**		**08 50 45.7**	**-0.5**	
GRF				pmax	pmax				
	comp=Z,177nm,1.2s								
GRFO	**Grafenberg**	**39.27 312**	P		**P**		**08 50 46.5**	**+0.3**	
GRFO	**Grafenberg**	**39.27 312**	P		**P**		**08 50 46.5**	**+0.3**	
GRFO				pmax	pmax				
	comp=Z,172nm,1.2s								
RGN	**Rugen**	**39.30 320**	P		**P**		**08 50 46.7**	**+0.4**	
RGN	**Rugen**	**39.30 320**	*e*P		**P**		**08 50 48.3**	**+2.0**	
ZAK	**Zakamensk**	**39.35 47**	*e*P		**P**		**08 50 47.6**	**+0.6**	
ZAK			*e*				08 52 55.1		
ZAK				pmax	pmax				
	comp=Z,56nm,1.4s								
UPP	**Uppsala**	**39.38 329**	*e*P		**P**		**08 50 47.3**	**+0.4**	
CHTO	**Chiang Mai**	**39.41 98**	P		**P**		**08 50 47.6**	**-0.2**	
CHTO				IAmb	IAmb		08 50 55.5		
	comp=Z,268nm,1.4s								
CHTO	**Chiang Mai**	**39.41 98**	P		**P**		**08 50 48.6**	**+0.8**	
CHTO			P		**P**		**08 50 48.6**	**+0.8**	
CHTO			P		**P**		**08 50 48.6**	**+0.8**	
CHTO	**Chiang Mai**	**39.41 98**	⇑P		**P**		**08 50 47.6**	**-0.2**	
CHTO	**Chiang Mai**	**39.41 98**	P		**P**		**08 50 47.6**	**-0.2**	
CHTO				pmax	pmax				
	comp=Z,268nm,1.4s								
FUORN	**Ofenpass-Fuorn**	**39.41 307**	P		**P**		**08 50 46.8**	**-1.0**	
OUL	**Oulu**	**39.52 340**	P		**P**		**08 50 48.4**	**+0.4**	
APA	**Apatity**	**39.54 346**	⇓*i*P		**P**		**08 50 47.5**	**-0.7**	
APA			*i*				08 52 22.0		
APA			*i*				08 52 51.0		
APA			*i* S		**S**		**08 56 47.0**	**-3.3**	
APA			*i* SS		**SS**		**08 59 37.0**	**-7.7**	
APA				pmax	pmax				
	comp=Z,212nm,1.1s								
CM31	**Chiang Mai Arr**	**39.57 98**	P		**P**		**08 50 48.7**	**-0.4**	
CM31	**Chiang Mai Arr**	**39.57 98**	P		**P**		**08 50 49.5**	**+0.5**	
	SNR=32								
CMAR	**Chiang Mai Arr**	**39.57 98**	P		**P**		**08 50 49.3**	**+0.2**	
	comp=Z,16nm,1.0s,baz=293,slow=7.8,SNR=41								
CMAR			PcP		**PcP**		**08 52 57.0**	**+0.6**	
	comp=Z,11nm,0.9s,baz=286,slow=4.5,SNR=1.7								
CMAR			S		**S**		**08 56 45.1**	**-6.7**	
	comp=Z,1.1nm,0.3s,baz=313,slow=22,SNR=1.9								
CMAR			LR		LR		09 10 26.1		
	comp=Z,4µm,19.9s,baz=295,slow=41								
	comp=Z,16nm,1.0s								
LVZ	**Lovozero**	**39.57 347**	P		**P**		**08 50 48.3**	**-0.2**	
LVZ				IAmb	IAmb		08 50 55.4		
	comp=Z,458nm,1.5s								
LVZ	**Lovozero**	**39.57 347**	⇑P		**P**		**08 50 48.8**	**+0.3**	
LVZ	**Lovozero**	**39.57 347**	P		**P**		**08 50 48.3**	**-0.2**	
LVZ				pmax	pmax				
	comp=Z,458nm,1.5s								
LVZ				MLR	MLR				
	comp=Z,8µm,20.0s								
CD2	**Chengdu**	**39.68 77**	P		**P**		**08 50 51.2**	**+1.3**	
CD2			sP		sP		08 50 55.4	0.0	
CD2			S		**S**		**08 56 56.3**	**+2.9**	
CD2			SS		**SS**		**08 59 46.1**	**-2.6**	
CD2			pmax		pmax				
	comp=Z,30nm,0.5s								
CD2			pmax		pmax				
	comp=Z,1µm,4.2s								
CD2			LR		LR				
	comp=Z,29µm,22.0s								
CD2			LR		LR				
	comp=Z,14µm,20.1s								
CD2			LR		LR				
	comp=Z,9µm,19.6s								
DEL	**Delary**	**39.68 323**	*e*P		**P**		**08 50 50.2**	**+0.7**	
DEL	**Delary**	**39.68 323**	*i* P		**P**		**08 50 49.0**	**-0.5**	
DAVOX	**Davos/Dischmat**	**39.70 308**	P		**P**		**08 50 49.1**	**-0.9**	
	comp=Z,55nm,0.8s,baz=112,slow=7.5,SNR=47								
	comp=Z,55nm,0.8s								
DAVA	**Damuels**	**39.76 308**	*i* P		**P**		**08 50 49.4**	**-1.1**	
	comp=Z,176nm,0.9s,SNR=42								
DAVA	**Damuels**	**39.76 308**	⇑P		**P**		**08 50 49.2**	**-1.3**	
VSL	**Villasalto**	**39.79 296**	P		**P**		**08 50 50.2**	**-0.5**	
VSL				IAmb	IAmb		08 50 59.1		
	comp=Z,306nm,1.1s								
VSL	**Villasalto**	**39.79 296**	⇑P		**P**		**08 50 50.8**	**0.0**	
FLTG	**Flechtingen**	**39.85 316**	⇑P		**P**		**08 50 51.4**	**+0.4**	
TUE	**Stuetta**	**40.03 307**	P		**P**		**08 50 51.7**	**-1.2**	
TUE	**Stuetta**	**40.03 307**	⇑P		**P**		**08 50 51.6**	**-1.2**	
CRAI	**Chiangrai**	**40.05 95**	P		**P**		**08 50 53.1**	**0.0**	
KEST	**Kesra**	**40.12 290**	P		**P**		**08 50 53.5**	**-0.2**	
KEST				IAmb	IAmb		08 51 03.5		
	comp=Z,408nm,1.4s								
KEST	**Kesra**	**40.12 290**	P		**P**		**08 50 53.3**	**-0.4**	
	SNR=17								
KEST			P		**P**		**08 50 53.3**	**-0.4**	
	SNR=17								
KEST			P		**P**		**08 50 53.3**	**-0.4**	
	SNR=17								
KEST	**Kesra**	**40.12 290**	P		**P**		**08 50 53.2**	**-0.4**	
	comp=Z,53nm,1.1s,baz=74,slow=1.4,SNR=19								
KEST			LR		LR		09 11 21.0		
	comp=Z,6µm,18.1s,baz=58,slow=42								
	comp=Z,53nm,1.1s								
COP	**Copenhagen**	**40.16 322**	P		**P**		**08 50 55.0**	**+1.5**	
COP	**Copenhagen**	**40.16 322**	*i* P		**P**		**08 50 53.0**	**-0.5**	
COP				IAmb	IAmb		08 50 55.2		
	comp=Z,689nm,1.2s								
KMI	**Kunming**	**40.33 86**	⇑P		**P**		**08 50 56.0**	**+0.4**	
KMI				PP	**PP**		**08 52 29.4**	**+1.1**	
KMI			S		**S**		**08 57 06.0**	**+2.4**	
KMI				pmax	pmax				
	comp=Z,240nm,1.1s								
KMI				pmax	pmax				
	comp=Z,2µm,6.8s								
KMI				LR	LR				
	comp

BNI IAmb IAmb 08 51 16.4
comp=Z,187nm,1.1s
BNI Bardonecchia 41.79 305 ⇑P **P 08 51 05.7 -1.6**
BNI Bardonecchia 41.79 305 P **P 08 51 05.7 -1.6**
BNI pmax pmax
comp=Z,187nm,1.1s
HINF Hinteralfeld 41.85 309 *e*P **P 08 51 06.7 -1.0**
HINF pmax pmax
comp=Z,58nm,1.3s
LMR La Mourre 41.88 302 *e*P **P 08 51 08.0 +0.2**
LMR pmax pmax
comp=Z,148nm,2.2s
BUG Bochum--Univer 42.07 314 P **P 08 51 10.1 +0.9**
DODT Dodoma, Tanzan 42.07 213 *i* P **P 08 51 09.4 -0.5**
MUD Monsted U'grnd 42.13 322 ⇑P **P 08 51 10.9 +1.2**
MUD Monsted U'grnd 42.13 322 P **P 08 51 11.1 +1.4**
MUD Monsted U'grnd 42.13 322 *i* P **P 08 51 09.0 -0.7**
MUD IAmb IAmb 08 51 11.4
comp=Z,234nm,1.2s
HAU Haudompre 42.21 309 *e*P **P 08 51 08.8 -1.7**
HAU pmax pmax
comp=Z,127nm,1.6s
CABF La Chapelle 42.28 307 *e*P **P 08 51 09.7 -1.5**
CABF pmax pmax
comp=Z,111nm,1.0s
ORIF Oris-en-Rattie 42.35 304 *e*P **P 08 51 08.3 -3.5**
ORIF pmax pmax
comp=Z,32nm,1.2s
NC602 NORSAR Array S 42.48 329 P **P 08 51 11.4 -1.1**
NC602 NORSAR Array S 42.48 329 *e*P **P 08 51 12.2 -0.3**
NC602 IAmb IAmb 08 51 15.1
comp=Z,126nm,1.4s
NC602 *e*PP **PP 08 52 50.5 -0.2**
NC602 *e*S **S 08 57 34.8 +0.7**
NC602 *e*SS **SS 09 00 43.4 +0.2**
NC602 IAMs_20 IAMs_20 09 17 42.7
comp=Z,6µm,9.9s
NORES NORESS Array B 42.48 329 P **P 08 51 12.0 -0.5**
NORES pmax pmax
comp=Z,26nm,1.2s
VADS Vadso 42.48 346 *e*P **P 08 51 13.2 +0.8**
VADS IAmb IAmb 08 51 18.4
comp=Z,491nm,1.5s
VADS *e*PP **PP 08 52 52.7 +2.1**
VADS *e*S **S 08 57 30.9 -3.1**
VADS *e*SS **SS 09 00 43.3 +0.2**
VADS IAMs_20 IAMs_20 09 10 34.2
comp=Z,10µm,16.4s
WLF Walferdange 42.51 312 P **P 08 51 12.5 -0.4**
WLF Walferdange 42.51 312 *d*P **P 08 51 12.9 -0.1**
comp=Z,37nm,1.0s
WLF Walferdange 42.51 312 P **P 08 51 12.7 -0.2**
WLF Walferdange 42.51 312 P **P 08 51 12.5 -0.4**
WLF pmax pmax
comp=Z,56nm,0.9s
WLF MLR MLR
comp=Z,3µm,21.0s
OSL Oslo 42.54 327 *e*P **P 08 51 13.5 +0.6**
OSL IAmb IAmb 08 51 14.1
comp=Z,255nm,1.4s
OSL *e*S **S 08 57 34.6 -0.4**
OSL *e*SS **SS 09 00 44.8 +0.4**
OSL IAMs_20 IAMs_20 09 13 27.0
comp=Z,7µm,11.8s
NC405 NORSAR Array S 42.55 329 P **P 08 51 12.0 -1.1**
NC405 IAmb IAmb 08 51 16.4
comp=Z,342nm,1.7s
BTNL Ternell 42.65 313 *d*P **P 08 51 14.6 +0.5**
comp=Z,46nm,1.2s
BTNL *d*PP **PP 08 52 55.7 +2.9**
BTNL *d*PcP **PcP 08 53 06.6 +0.6**
SLVN Son La 42.65 91 P **P 08 51 14.5 0.0**
BHOU Houvegnez 42.69 313 *d*P **P 08 51 15.2 +0.8**
comp=Z,44nm,1.3s
BHOU *d*PP **PP 08 52 55.5 +2.2**
KEV Kevo 42.70 345 P **P 08 51 14.0 -0.1**
KEV IAmb IAmb 08 51 21.5
comp=Z,344nm,1.2s
KEV Kevo 42.70 345 ⇑P **P 08 51 14.6 +0.4**
KEV Kevo 42.70 345 P **P 08 51 14.0 -0.1**
KEV pmax pmax
comp=Z,344nm,1.2s
KEV MLR MLR
comp=Z,6µm,20.0s
NB201 NORSAR Array S 42.71 329 P **P 08 51 14.4 -0.1**
MEM Membach 42.73 313 *d*P **P 08 51 15.5 +0.9**
comp=Z,47nm,1.2s
MEM *d*PP **PcP 08 53 02.2 -4.0**
MEM *d*PcP PP 08 53 06.4 +13
MEM Membach 42.73 313 P **P 08 51 15.7 +1.0**
NB2 NORSAR Subarra 42.74 329 P **P 08 51 13.9 -0.8**
comp=Z,616nm,2.5s,baz=116,slow=7.9
NB2 PP **PP 08 52 51.3 -2.4**
comp=Z,363nm,2.5s,baz=111,slow=10
NB2 NORSAR Subarra 42.74 329 P **P 08 51 13.9 -0.8**
baz=116,slow=7.9
NB2 NORSAR Subarra 42.74 329 P **P 08 51 11.1 -3.6**
NOA NORSAR Array B 42.74 329 P **P 08 51 14.0 -0.8**
NOA NORSAR Array B 42.74 329 P **P 08 51 13.9 -0.8**
comp=Z,34nm,1.1s,baz=115,slow=8.0,SNR=31
NOA LR LR 09 10 49.9
comp=Z,4µm,20.7s,baz=110,slow=39
comp=Z,34nm,1.1s
NAO01 NORSAR Array S 42.81 329 P **P 08 51 14.1 -1.1**
ARA0 ARCESS Array S 42.87 344 *e*P **P 08 51 16.0 +0.4**
ARA0 IAmb IAmb 08 51 22.4
comp=Z,300nm,1.3s
ARA0 *e*PP **PP 08 52 58.3 +3.3**
ARA0 *e*ScP **ScP 08 56 56.6 -0.8**
ARA0 *e*S **S 08 57 43.1 +3.3**
ARA0 *e*SS **SS 09 00 47.9 -2.9**
ARA0 IAMs_20 IAMs_20 09 11 50.4
comp=Z,15µm,13.5s
ARCES ARCESS Array B 42.87 344 P **P 08 51 15.7 +0.1**
ARCES IAmb IAmb 08 51 22.9
comp=Z,368nm,1.4s
ARCES ARCESS Array B 42.87 344 P **P 08 51 15.3 -0.3**
comp=Z,31nm,0.7s,baz=140,slow=6.2,SNR=47
ARCES LR LR 09 10 08.2
comp=Z,6µm,21.6s,baz=126,slow=38
comp=Z,31nm,0.7s
NBO00 NORSAR Array S 42.94 329 P **P 08 51 15.1 -1.1**
KONO Kongsberg 42.96 327 P **P 08 51 15.9 -0.4**
KONO Kongsberg 42.96 327 *e*P **P 08 51 16.5 +0.1**
KONO IAmb IAmb 08 51 16.5
comp=Z,66nm,1.1s
KONO *e*PP **PP 08 52 58.1 +2.1**
KONO *e*ScP **ScP 08 56 57.1 -0.7**
KONO *e*S **S 08 57 44.4 +3.2**
KONO *e*SS **SS 09 00 53.9 +1.1**
KONO IAMs_20 IAMs_20 09 13 17.6
comp=Z,7µm,19.4s
KONO Kongsberg 42.96 327 ⇑P **P 08 51 16.2 -0.2**
KONO Kongsberg 42.96 327 P **P 08 51 16.0 -0.4**
KONO pmax pmax
comp=Z,49nm,0.9s
BEBN Eben Emael 42.96 313 *d*P **P 08 51 16.9 +0.4**
BEBN *d*PcP **PcP 08 53 08.2 +1.3**
BSTI Sart Tilman 43.00 313 *d*P **P 08 51 16.7 -0.2**
BSTI *d*PP **PcP 08 53 02.8 -4.3**
HOMB Homborsund 43.03 324 *e*P **P 08 51 17.7 +0.7**
HOMB IAmb IAmb 08 51 17.8
comp=Z,204nm,1.2s
HOMB *e*S **S 08 57 40.8 -1.5**
HOMB *e*SS **SS 09 00 55.1 +1.0**
HOMB IAMs_20 IAMs_20 09 16 19.2
comp=Z,7µm,11.0s
HOMB Homborsund 43.03 324 *i* P **P 08 51 16.0 -1.0**
KTK1 Kautokeino 43.05 343 *e*P **P 08 51 17.3 +0.3**
KTK1 IAmb IAmb 08 51 20.1
comp=Z,305nm,1.4s
KTK1 *e*PP **PP 08 52 59.4 +2.6**
KTK1 *e*S **S 08 57 44.5 +2.2**
KTK1 *e*SS **SS 09 00 56.7 +2.5**
KTK1 IAMs_20 IAMs_20 09 11 38.5
comp=Z,15µm,15.3s
BCLA Clavier 43.15 313 *d*P **P 08 51 18.7 +0.6**
comp=Z,44nm,1.0s
BCLA *d*PcP **PcP 08 53 07.2 -0.4**
RCHB Rochefort 43.16 312 *d*P **P 08 51 18.8 +0.6**
comp=Z,63nm,1.2s
VIVF Saint-Julien-l 43.21 304 *e*P **P 08 51 16.2 -2.5**
VIVF pmax pmax
comp=Z,101nm,1.3s

BGES Gesves 43.28 312 *d*P **P 08 51 19.8 +0.6**
comp=Z,38nm,1.3s
BGES *d*PP **PcP 08 53 07.3 -0.7**
BGES *d*PcP PP 08 53 10.5 +11
GYA Guiyang 43.28 83 *e*P **P 08 51 20.9 +1.3**
GYA PcP **PcP 08 53 11.2 +2.6**
GYA S **S 08 57 47.5 +0.4**
GYA SS **SS 09 00 58.8 -1.5**
GYA pmax pmax
comp=Z,43nm,0.9s
GYA pmax pmax
comp=Z,2µm,8.4s
GYA LR LR
comp=Z,6µm,15.8s
GYA LR LR
comp=Z,7µm,18.3s
GYA LR LR
comp=Z,9µm,18.5s
SSB Saint Sauveur 43.31 305 P **P 08 51 17.9 -1.6**
SSB Saint Sauveur 43.31 305 ⇑P **P 08 51 17.9 -1.6**
SSB Saint Sauveur 43.31 305 P **P 08 51 17.9 -1.6**
SSB pmax pmax
comp=Z,64nm,0.9s
XAN Xi'an 43.36 71 ⇑P **P 08 51 20.0 -0.1**
XAN pP pP 08 51 23.4 -0.6
XAN PP **PcP 08 53 05.8 -2.9**
XAN S **S 08 57 49.2 +1.3**
XAN SS **SS 09 00 53.5 -8.0**
XAN ScS **ScS 09 01 15.0 -5.4**
XAN pmax pmax
comp=Z,78nm,1.0s
XAN pmax pmax
comp=Z,2µm,6.9s
XAN LR LR
comp=Z,10µm,14.4s
XAN LR LR
comp=Z,14µm,15.8s
XAN LR LR
comp=Z,17µm,17.2s
BTO Baotou 43.41 62 *e*P **P 08 51 19.1 -1.4**
BTO pP **pP 08 51 23.6 -0.8**
BTO sP **sP 08 51 25.9 0.0**
BTO PP **PP 08 53 00.5 -0.7**
BTO S **S 08 57 46.6 -2.0**
BTO SS **SS 09 00 52.2 -10**
BTO pmax pmax
comp=Z,51nm,0.8s
BTO pmax pmax
comp=Z,5µm,6.4s
BTO LR LR
comp=Z,34µm,17.7s
BTO LR LR
comp=Z,10µm,14.0s
BTO LR LR
comp=Z,25µm,21.4s
GIVF Givet 43.42 312 *e*P **P 08 51 20.1 -0.2**
GIVF pmax pmax
comp=Z,107nm,0.9s
BMRD Maredsous 43.48 312 *d*P **P 08 51 21.1 +0.4**
comp=Z,49nm,1.1s
BMRD *d*PcP **PcP 08 53 11.2 +2.5**
DOU Dourbes 43.56 312 *d*P **P 08 51 21.6 +0.2**
comp=Z,57nm,1.3s
DOU *d*PcP **PcP 08 53 11.2 +2.3**
MAHO Mahon 43.70 297 P **P 08 51 21.6 -1.1**
MAHO IAmb IAmb 08 51 23.4
comp=Z,551nm,1.6s
MAHO Mahon 43.70 297 P **P 08 51 21.5 -1.1**
SNART Snartemo 43.70 324 *e*P **P 08 51 23.4 +0.9**
SNART *e*S **S 08 57 51.2 -1.0**
BAIF Baives 43.81 312 *e*P **P 08 51 23.3 -0.1**
BAIF pmax pmax
comp=Z,251nm,1.4s
MOR8 Moi Rana 43.90 337 *e*P **P 08 51 23.2 -0.8**
MOR8 IAmb IAmb 08 51 29.0
comp=Z,574nm,1.9s
MOR8 *e*PP **PcP 08 53 10.9 +1.1**
MOR8 *e*S **S 08 57 57.2 +2.3**
MOR8 *e*SS **SS 09 01 10.8 -0.2**
MOR8 IAMs_20 IAMs_20 09 13 15.5
comp=Z,11µm,13.8s
SKAR Skarslia 43.93 328 *e*P **P 08 51 25.0 +0.7**
SKAR IAmb IAmb 08 51 25.4
comp=Z,80nm,1.2s
SKAR *e*PP **PcP 08 53 09.9 -0.2**
SKAR *e*S **S 08 57 54.2 -1.3**
SKAR *e*SS **SS 09 01 13.8 +2.1**
SKAR IAMs_20 IAMs_20 09 13 21.3
comp=Z,6µm,13.2s
NSS Namsos 43.97 334 *e*P **P 08 51 24.5 +0.1**
NSS *e*PP **PP 08 53 05.4 -1.3**
NSS *e*S **S 08 57 56.4 +0.5**
NSS *e*SS **SS 09 01 14.5 +2.2**
NSS IAMs_20 IAMs_20 09 12 42.3
comp=Z,8µm,12.9s
TBLU Trondheim 44.07 332 *e*P **P 08 51 26.7 +1.4**
TBLU *e*PP **PP 08 53 09.3 +1.4**
TBLU *e*S **S 08 58 01.0 +3.5**
TBLU *e*SS **SS 09 01 12.7 -1.6**
TBLU IAMs_20 IAMs_20 09 13 22.3
comp=Z,6µm,16.4s
DOMB Dombas 44.09 330 *e*P **P 08 51 25.8 +0.3**
DOMB IAmb IAmb 08 51 26.8
comp=Z,390nm,1.9s
DOMB *e*S **S 08 57 59.6 +1.8**
DOMB IAMs_20 IAMs_20 09 12 55.9
comp=Z,10µm,16.6s
HAMF Hammerfest 44.12 345 *e*P **P 08 51 26.1 +0.5**
HAMF IAmb IAmb 08 51 32.5
comp=Z,169nm,0.9s
HAMF *e*PP **PcP 08 53 10.6 +0.2**
HAMF *e*S **S 08 58 01.0 +3.1**
HAMF *e*SS **SS 09 01 18.1 +3.0**
HAMF IAMs_20 IAMs_20 09 13 38.8
comp=Z,14µm,11.8s
JETT Jettan, Norway 44.15 342 *e*P **P 08 51 26.5 +0.6**
JETT IAmb IAmb 08 51 32.1
comp=Z,463nm,1.3s
JETT *e*PP **PcP 08 53 14.7 +4.0**
JETT *e*S **S 08 57 57.1 -1.5**
JETT *e*SS **SS 09 01 17.0 +1.1**
JETT IAMs_20 IAMs_20 09 12 12.1
comp=Z,15µm,15.3s
FAUS Fauske 44.29 338 *e*P **P 08 51 27.1 +0.1**
FAUS IAmb IAmb 08 51 28.2
comp=Z,431nm,1.6s
FAUS *e*PP **PP 08 53 08.9 -1.1**
FAUS *e*S **S 08 57 57.7 -2.8**
FAUS *e*SS **SS 09 01 19.6 +1.0**
FAUS IAMs_20 IAMs_20 09 12 47.5
comp=Z,11µm,15.9s
BLS5 Blasjo 44.40 325 *e*P **P 08 51 29.0 +1.0**
BLS5 IAmb IAmb 08 51 29.5
comp=Z,222nm,1.4s
BLS5 *e*PP **PP 08 53 10.8 -0.6**
BLS5 *e*S **S 08 58 03.7 +1.4**
BLS5 *e*SS **ScS 09 01 25.3 -0.7**
BLS5 IAMs_20 IAMs_20 09 15 03.5
comp=Z,9µm,12.8s
SBV Sambava 44.46 190 P **P 08 51 33.1 +4.2**
SBV Sambava 44.46 190 P **P 08 51 30.6 +1.7**
SNR=6.0
SBV Sambava 44.46 190 ⇑P **P 08 51 29.6 +0.7**
ODD1 Odda 44.46 326 *e*P **P 08 51 30.0 +1.5**
ODD1 IAmb IAmb 08 51 36.5
comp=Z,679nm,2.1s
ODD1 *e*PP **PP 08 53 13.2 +1.1**
ODD1 *e*S **S 08 58 08.4 +5.0**
ODD1 *e*SS **ScS 09 01 24.5 -1.9**
ODD1 IAMs_20 IAMs_20 09 14 15.1
comp=Z,7µm,15.4s
STOK Stokkvaagen 44.48 336 *e*P **P 08 51 28.8 +0.3**
STOK IAmb IAmb 08 51 29.7
comp=Z,401nm,1.3s
STOK *e*PP **PP 08 53 12.1 0.0**
STOK *e*S **S 08 58 03.7 +0.5**
STOK *e*SS **SS 09 01 21.6 -0.6**
STOK IAMs_20 IAMs_20 09 13 19.6
comp=Z,9µm,10.7s
KONS Konsvik 44.53 337 *e*P **P 08 51 28.9 0.0**
HHC Hu-ho-hao-te 44.56 61 *e*P **P 08 51 31.0 +1.3**
HHC PP **PP 08 53 13.4 -0.2**
HHC S **S 08 58 03.6 -1.8**
HHC SS **SS 09 01 19.6 -5.3**

HHC pmax pmax
comp=Z,71nm,0.9s
HHC pmax pmax
comp=Z,4µm,6.6s
HHC LR LR
comp=Z,6µm,15.1s
HHC LR LR
comp=Z,19µm,16.3s
HHC LR LR
comp=Z,34µm,16.7s
TRO Tromso 44.59 342 *e*P **P 08 51 29.8 +0.4**
TRO IAmb IAmb 08 51 36.1
comp=Z,273nm,1.0s
TRO *e*PP **PP 08 53 14.5 +1.2**
TRO *e*S **S 08 58 06.2 +1.4**
TRO *e*SS **ScS 09 01 27.8 +1.0**
TRO IAMs_20 IAMs_20 09 12 27.4
comp=Z,12µm,18.9s
STEI Steigen 44.62 339 *e*P **P 08 51 28.5 -1.1**
STEI *e*SS SS 09 01 30.8 +5.9
ENH Enshi 44.63 77 P **P 08 51 30.3 -0.1**
ETOS Mallorca 44.83 297 P **P 08 51 33.8 +2.0**
KMY Karmoy 44.93 325 *e*P **P 08 51 32.8 +0.6**
KMY IAmb IAmb 08 51 33.4
comp=Z,171nm,1.3s
KMY *e*PP **PP 08 53 16.4 -0.6**
KMY *e*S **S 08 58 12.0 +2.0**
KMY *e*ScS **ScS 09 01 24.2 -5.0**
MOL Molde 44.94 330 *e*P **P 08 51 32.7 +0.4**
TCF Toulx Ste Croi 44.95 306 *e*P **P 08 51 30.9 -1.7**
TCF pmax pmax
comp=Z,69nm,1.0s
MTLF Montolieu 45.01 302 ⇑P **P 08 51 32.0 -1.1**
MTLF Montolieu 45.01 302 *e*P **P 08 51 31.2 -1.9**
MTLF pmax pmax
comp=Z,265nm,1.8s
LHMI Lhok Sumawe 45.04 116 P **P 08 51 36.1 +2.4**
comp=Z,107nm,0.5s,comp=Z,3µm
AKN Aaknes 45.04 329 *e*P **P 08 51 34.0 +0.8**
AKN *e*S **S 08 58 11.4 -0.3**
AKN *e*ScS **ScS 09 01 30.4 +0.4**
AKN IAMs_20 IAMs_20 09 13 00.9
comp=Z,8µm,17.9s
CAF Calviac 45.06 304 *e*P **P 08 51 31.8 -1.8**
CAF pmax pmax
comp=Z,119nm,1.4s
HYA Hoyanger 45.07 328 *e*P **P 08 51 34.4 +1.2**
HYA IAmb IAmb 08 51 39.6
comp=Z,262nm,1.4s
BER Bergen 45.22 327 *e*P **P 08 51 35.7 +1.2**
BER IAmb IAmb 08 51 40.9
comp=Z,638nm,2.1s
BER *e*S **S 08 58 16.8 +2.6**
BER *e*ScS **ScS 09 01 32.3 +1.2**
BER IAMs_20 IAMs_20 09 15 32.8
comp=Z,8µm,18.1s
BER Bergen 45.22 327 P **P 08 51 35.9 +1.4**
MLSI Meulaboh, Aceh 45.23 118 P **P 08 51 37.2 +2.0**
comp=Z,50nm,0.9s
LOF Lofoten 45.26 339 *e*P **P 08 51 33.0 -1.7**
LOF IAmb IAmb 08 51 39.1
comp=Z,493nm,2.2s
LOF *e*PP **PP 08 53 20.4 0.0**
LOF *e*S **S 08 58 15.1 +0.6**
LOF *e*ScS **ScS 09 01 32.9 +1.8**
LOF IAMs_20 IAMs_20 09 13 59.6
comp=Z,10µm,12.8s
ASK Askoy 45.32 327 *e*P **P 08 51 37.3 +2.0**
ASK IAmb IAmb 08 51 42.5
comp=Z,789nm,2.4s
ASK *e*S **S 08 58 17.4 +1.9**
ASK *e*ScS **ScS 09 01 29.2 -2.5**
RJF Les Rejaudoux 45.44 305 *e*P **P 08 51 35.1 -1.5**
RJF pmax pmax
comp=Z,109nm,1.1s
TIY Taiyuan 45.58 66 ⇓P **P 08 51 39.2 +1.3**
TIY S **S 08 58 22.9 +2.7**
TIY pmax pmax
comp=Z,44nm,1.4s
TIY pmax pmax
comp=Z,2µm,6.7s
TIY LR LR
comp=Z,10µm,19.2s
TIY LR LR
comp=Z,3µm,16.5s
TIY LR LR
comp=Z,5µm,24.0s
SUE Sulen 45.69 327 *e*P **P 08 51 38.7 +0.5**
SUE IAmb IAmb 08 51 39.6
comp=Z,224nm,1.3s
SUE *e*PP **PP 08 53 25.4 +0.4**
SUE *e*S **S 08 58 25.3 +4.4**
SUE *e*ScS **ScS 09 01 35.0 +0.9**
SUE IAMs_20 IAMs_20 09 15 13.7
comp=Z,5µm,21.6s
PDHT Panda Hill 45.70 214 *i* P **P 08 51 37.5 -1.5**
FOO Floro 45.73 328 *e*P **P 08 51 38.7 +0.2**
FOO IAmb IAmb 08 51 39.2
comp=Z,118nm,1.3s
FOO *e*S **S 08 58 21.4 +0.1**
FOO *e*ScS **ScS 09 01 35.0 +0.7**
FOO IAMs_20 IAMs_20 09 15 05.1
comp=Z,7µm,16.9s
CIT Chita 45.98 46 *e*P **P 08 51 41.7 +1.0**
CIT *e* 08 53 17.2
CIT *e* 08 53 33.6
CIT pmax pmax
comp=Z,424nm,2.2s
EIBI Ibiza 46.05 296 P **P 08 51 40.6 -0.8**
LYN LuoYang 46.15 70 ⇑P **P 08 51 43.4 +1.2**
LYN pP sP 08 51 47.6 -0.1
LYN sP pP 08 51 49.9 +3.7
LYN S **S 08 58 24.4 -3.8**
LYN pmax pmax
comp=Z,64nm,1.5s
LYN pmax pmax
comp=Z,3µm,8.4s
LYN LR LR
comp=Z,14µm,12.0s
LYN LR LR
comp=Z,12µm,17.5s
LYN LR LR
comp=Z,19µm,18.9s
TAM Tamanrasset 46.57 273 P **P 08 51 45.9 0.0**
TAM IAmb IAmb 08 51 47.8
comp=Z,220nm,2.0s
TAM Tamanrasset 46.57 273 P **P 08 51 45.9 0.0**
TAM pmax pmax
comp=Z,220nm,2.0s
TAM MLR MLR
comp=Z,8µm,21.0s
MFF Saint Martin d 46.58 307 ⇓P **P 08 51 44.4 -1.0**
GULI GuiLin 46.81 83 ⇑P **P 08 51 48.6 +1.0**
GULI PP **PP 08 53 42.5 +4.8**
GULI S **S 08 58 43.3 +5.3**
GULI pmax pmax
comp=Z,20nm,1.6s
GULI LR LR
comp=Z,3µm,17.3s
GULI LR LR
comp=Z,4µm,16.8s
GULI LR LR
comp=Z,8µm,15.7s
BOD Bodaibo 47.00 38 *e*P **P 08 51 48.6 0.0**
BOD pmax pmax
comp=Z,453nm,1.7s
GRR Gorron 47.04 309 *e*P **P 08 51 48.1 -1.0**
GRR pmax pmax
comp=Z,80nm,1.2s
HNS HongShan 47.42 66 ⇑P **P 08 51 52.7 +0.6**
HNS PP **PP 08 53 48.3 +5.0**
HNS S **S 08 58 47.0 +0.7**
HNS pmax pmax
comp=Z,30nm,1.4s
HNS pmax pmax
comp=Z,2µm,10.4s
HNS LR LR
comp=Z,6µm,13.3s
HNS LR LR
comp=Z,5µm,18.5s
HNS LR LR
comp=Z,10µm,18.5s
XLT XiLinHaoTe 47.65 57 ⇑*i*P **P 08 51 55.3 +1.3**
XLT sP sP 08 52 01.4 +1.7
XLT PP **PP 08 53 51.3 +5.8**

XLT S **S** **08 58 54.4 +4.7**
XLT sS sS 08 59 01.3 +5.0
XLT SS **SS** **09 02 17.1 -0.5**
XLT pmax pmax
comp=Z,78nm,1.1s
XLT pmax pmax
comp=Z,2µm,8.5s
XLT LR LR
comp=Z,17µm,17.1s
XLT LR LR
comp=Z,26µm,18.5s
ECHE Chera 47.75 297 P **P** **08 51 54.1 -0.7**
BJO1 Bjornoya 47.87 347 *e*P **P** **08 51 55.4 +0.3**
BJO1 IAmb IAmb 08 51 56.0
comp=Z,480nm,1.9s
BJO1 *e*PP **PP** **08 53 47.6 +0.8**
BJO1 *e*S **S** **08 58 52.2 +0.5**
BJO1 *e*SS **SS** **09 02 20.2 +0.3**
BJO1 IAMs_20 IAMs_20 09 13 57.9
comp=Z,10µm,18.8s
KULM Kulim 47.91 113 P **P** **08 51 55.8 -0.4**
KULM IAmb IAmb 08 52 03.6
comp=Z,172nm,1.4s
KULM Kulim 47.91 113 ⇑P **P** **08 51 55.7 -0.4**
GSI Gunungsitoli 48.04 120 P **P** **08 51 56.7 -0.5**
GSI IAmb IAmb 08 52 05.9
comp=Z,175nm,1.9s
GSI Gunungsitoli 48.04 120 P P 08 52 07.8 +11
CART Cartagena 48.09 295 P P 08 51 51.6 -5.7
PSI Prapat 48.10 117 P **P** **08 51 57.0 -0.8**
PSI pmax pmax
comp=Z,67nm,1.2s
CNSH ChangSha 48.10 78 ⇑P **P** **08 51 57.6 +0.1**
CNSH PP **PP** **08 53 54.1 +4.4**
CNSH S **S** **08 58 58.0 +1.8**
CNSH LR LR
comp=Z,7µm,17.1s
CNSH LR LR
comp=Z,5µm,19.6s
CNSH LR LR
comp=Z,7µm,22.6s
BJT Baijiatuau 48.14 62 P **P** **08 51 57.9 +0.1**
BJT Baijiatuau 48.14 62 P **P** **08 51 57.9 +0.1**
BJT pmax pmax
comp=Z,70nm,1.3s
BJT MLR MLR
comp=Z,16µm,21.0s
BJI Beijing 48.15 62 P **P** **08 51 59.1 +1.4**
BJI PcP **PcP** **08 53 25.6 +0.5**
BJI PP **PP** **08 53 53.8 +3.9**
BJI S **S** **08 58 56.8 +0.3**
BJI pmax pmax
comp=Z,17nm,0.7s
BJI pmax pmax
comp=Z,670nm,6.4s
BJI LR LR
comp=Z,8µm,18.6s
BJI LR LR
comp=Z,1µm,16.8s
BJI LR LR
comp=Z,9µm,21.9s
RPSI Rantau Prapat 48.16 117 P **P** **08 51 57.0 -1.2**
SGMF Saint Gilles 48.18 309 *e*P **P** **08 51 57.3 -0.6**
SGMF pmax pmax
comp=Z,42nm,0.9s
EMUR La Murta 48.23 295 P **P** **08 51 58.3 -0.2**
LRW Lerwick 48.32 325 ⇑P **P** **08 51 58.8 +0.1**
ETOB Tobarra 48.34 296 P **P** **08 51 58.7 -0.6**
HOPEN Hopen 48.35 350 *e*P **P** **08 51 59.7 +0.9**
HOPEN IAmb IAmb 08 52 07.3
comp=Z,428nm,1.2s
HOPEN *e*PP **PP** **08 53 52.2 +1.1**
HOPEN *e*S **S** **08 59 04.3 +5.8**
HOPEN *e*SS **SS** **09 02 30.7 +3.0**
HOPEN IAMs_20 IAMs_20 09 16 01.6
comp=Z,13µm,17.9s
MCH1 Michaelchurch 48.47 314 ⇑P **P** **08 51 59.3 -0.8**
QUIF Quistinic 48.59 309 *e*P **P** **08 52 00.1 -1.0**
QUIF pmax pmax
comp=Z,84nm,1.2s
WHN Wuhan 48.62 75 ⇑P **P** **08 52 05.8 +4.2**
WHN S **S** **08 59 04.6 +1.1**
WHN pmax pmax
comp=Z,2µm,9.2s
WHN LR LR
comp=Z,34µm,21.1s
WHN LR LR
comp=Z,5µm,15.1s
WHN LR LR
comp=Z,16µm,17.7s
QIZ Qiongzhong 48.68 91 P **P** **08 52 00.8 -1.4**
QIZ PP **PP** **08 53 54.4 -0.8**
QIZ ScP **ScP** **08 57 24.8 +2.5**
QIZ S **S** **08 58 58.2 -6.5**
QIZ ScS **ScS** **09 01 54.7 -0.5**
QIZ pmax pmax
comp=Z,1µm,9.2s
QIZ LR LR
comp=Z,4µm,16.5s
QIZ LR LR
comp=Z,3µm,15.3s
QIZ LR LR
comp=Z,4µm,17.9s
EKA Eskdalemuir Ar 48.74 319 P **P** **08 52 01.8 -0.4**
comp=Z,43nm,1.0s,baz=106,slow=6.7,SNR=51
comp=Z,43nm,1.0s
ESK Eskdalemuir 48.77 319 P **P** **08 52 01.4 -0.9**
ESK IAmb IAmb 08 52 03.7
comp=Z,283nm,1.6s
ESK Eskdalemuir 48.77 319 ⇑P **P** **08 52 02.0 -0.4**
ESK Eskdalemuir 48.77 319 P **P** **08 52 01.4 -0.9**
ESK pmax pmax
comp=Z,283nm,1.6s
ENIJ Nijar 49.14 294 P P 08 51 59.3 -6.2
UCM Universidad Co 49.37 299 P **P** **08 52 04.8 -2.4**
TIA Tai'an 49.54 67 P **P** **08 52 09.1 +0.5**
TIA S **S** **08 59 18.1 +1.7**
TIA pmax pmax
comp=Z,33nm,0.8s
TIA pmax pmax
comp=Z,2µm,7.3s
TIA LR LR
comp=Z,9µm,22.8s
TIA LR LR
comp=Z,4µm,22.2s
TIA LR LR
comp=Z,8µm,15.4s
EBER Berja 49.69 294 P **P** **08 52 07.4 -2.5**
HIA Hailar 49.85 49 P **P** **08 52 10.9 +0.1**
HIA IAmb IAmb 08 52 17.8
comp=Z,228nm,1.8s
HIA Hailar 49.85 49 P **P** **08 52 10.9 +0.1**
HIA pmax pmax
comp=Z,229nm,1.8s
HIA MLR MLR
comp=Z,13µm,18.0s
OPO Ambohidratompo 49.93 193 LR LR 09 11 48.8
comp=Z,4µm,20.7s,baz=184,slow=34
ESBB Sonseca Array 50.02 298 P **P** **08 52 11.1 -1.1**
ESBB IAmb IAmb 08 52 14.5
comp=Z,151nm,1.4s
ESDC Sonseca Array 50.02 298 P **P** **08 52 10.7 -1.5**
ESDC IAmb IAmb 08 52 14.4
comp=Z,158nm,1.6s
ESDC Sonseca Array 50.02 298 P **P** **08 52 11.1 -1.2**
comp=Z,18nm,0.9s,baz=65,slow=7.5,SNR=58
ESDC LR LR 09 17 48.0
comp=Z,3µm,18.4s,baz=80,slow=41
comp=Z,18nm,0.9s
EQTA Presa de Quent 50.07 295 P **P** **08 52 10.5 -2.1**
GZH Guangzhou 50.13 84 P **P** **08 52 13.5 +0.4**
GZH S **S** **08 59 25.0 +0.2**
GZH pmax pmax
comp=Z,2µm,3.6s
GZH LR LR
comp=Z,3µm,14.7s
GZH LR LR
comp=Z,2µm,11.8s
HSPB Hornsund (broa 50.21 349 *e*P **P** **08 52 13.3 +0.4**
HSPB *e*S **S** **08 59 28.9 +4.4**
ELGU Los Guajares, 50.28 294 P **P** **08 52 12.2 -2.0**
PAB San Pablo 50.33 298 P **P** **08 52 13.7 -0.9**
PAB IAmb IAmb 08 52 21.2
comp=Z,93nm,1.1s
PAB San Pablo 50.33 298 ⇑P **P** **08 52 13.5 -1.1**
PAB San Pablo 50.33 298 P **P** **08 52 13.7 -0.9**
PAB pmax pmax
comp=Z,93nm,1.1s
ABPO Ambohimpanom 50.35 192 P **P** **08 52 14.1 -0.9**
ABPO Ambohimpanom 50.35 192 *e*P **P** **08 52 13.9 -1.0**
ABPO IAmb IAmb 08 52 21.1
comp=Z,63nm,1.4s
ABPO Ambohimpanom 50.35 192 P **P** **08 52 14.1 -0.9**
ABPO pmax pmax
comp=Z,78nm,1.5s
EGOR Sierra Gorda, 50.61 295 P **P** **08 52 14.2 -2.6**
DLV T Lat 50.74 100 P **P** **08 52 18.0 -0.1**
DLV IAmb IAmb 08 52 32.3
comp=Z,86nm,1.0s
EADA Adamuz 50.76 296 P **P** **08 52 16.3 -1.5**
SPB2 Spitsbergen Ar 50.87 350 P **P** **08 52 17.9 -0.1**
SPA0 Spitsbergen Ar 50.87 350 *e*P **P** **08 52 18.7 +0.7**
SPA0 *e*SS **SS** **09 03 11.0 +3.0**
SPITS Spitsbergen Ar 50.87 350 P **P** **08 52 17.7 -0.3**
SPITS pmax pmax
comp=Z,300nm,1.2s
SPITS Spitsbergen Ar 50.87 350 P **P** **08 52 18.4 +0.3**
comp=Z,142nm,1.1s,baz=134,slow=7.1,SNR=14
SPITS LR LR 09 17 09.9
comp=Z,5µm,20.1s,baz=106,slow=40
comp=Z,142nm,1.1s
EMAL Malaga-Limoner 50.93 294 P **P** **08 52 17.2 -1.9**
BKNI Bangkinang 51.30 118 P **P** **08 52 17.8 -4.3**
RER Riviere de l'E 51.57 182 P **P** **08 52 23.8 -0.1**
PDSI Padang 51.66 119 P **P** **08 52 24.7 -0.1**
comp=Z,41nm,1.4s
PBRG Braganca 51.75 301 *e*P **P** **08 52 24.3 -0.9**
comp=Z,52nm,1.7s
NJ2 Nanjing 51.93 72 *e*P **P** **08 52 26.2 -0.4**
NJ2 pP **pP** **08 52 30.0 -0.6**
NJ2 sP **sP** **08 52 33.3 +1.0**
NJ2 PP **PP** **08 54 21.4 -3.1**
NJ2 S **S** **08 59 49.6 0.0**
NJ2 ScS **ScS** **09 02 20.0 +3.0**
NJ2 SS **SS** **09 03 26.3 0.0**
NJ2 pmax pmax
comp=Z,11nm,0.6s
NJ2 pmax pmax
comp=Z,1µm,7.1s
NJ2 LR LR
comp=Z,6µm,16.1s
NJ2 LR LR
comp=Z,5µm,21.8s
NJ2 LR LR
comp=Z,8µm,19.1s
MDT Midelt 52.01 290 P **P** **08 52 26.9 -0.5**
comp=Z,17nm,1.1s,baz=94,slow=7.7,SNR=10
comp=Z,17nm,1.1s
KBS Kingsbay 52.03 350 P **P** **08 52 26.6 -0.1**
KBS IAMs_20 IAMs_20 09 18 16.9
comp=Z,9µm,18.0s
KBS Kingsbay 52.03 350 *e*P **P** **08 52 27.2 +0.5**
KBS *e*SS **SS** **09 03 24.0 -2.4**
KBS Kingsbay 52.03 350 ⇑P **P** **08 52 26.8 +0.1**
KBS Kingsbay 52.03 350 P **P** **08 52 26.6 -0.1**
KBS pmax pmax
comp=Z,405nm,1.5s
KBS MLR MLR
comp=Z,9µm,18.0s
KBS Kingsbay 52.03 350 *i* P **P** **08 52 25.4 -1.3**
MVO Moncorvo 52.07 300 *e*P **P** **08 52 27.0 -0.6**
comp=Z,93nm,1.5s
MVO Moncorvo 52.07 300 *e*LR LR 09 04 11.9
comp=Z,2µm,20.0s
EKNA AfricaArray - 52.23 250 *e*P **P** **08 52 30.7 +1.6**
IFR Ifrane 52.25 291 P **P** **08 52 28.5 -0.7**
DL2 Dalian 52.50 62 P **P** **08 52 30.3 -0.4**
DL2 PP **PP** **08 54 26.6 -2.9**
DL2 S **S** **09 00 02.4 +5.2**
DL2 SS **SS** **09 03 38.1 +3.1**
DL2 pmax pmax
comp=Z,47nm,1.5s
DL2 pmax pmax
comp=Z,2µm,6.9s
DL2 LR LR
comp=Z,7µm,19.0s
DL2 LR LR
comp=Z,8µm,21.1s
DL2 LR LR
comp=Z,13µm,19.3s
PVRL Vila Real 52.56 301 *e*P **P** **08 52 30.6 -0.6**
comp=Z,181nm,1.8s
MTE Manteigas 52.59 300 *e*P **P** **08 52 31.2 -0.3**
comp=Z,258nm,1.7s
MTE *e*S **S** **08 59 59.4 +0.8**
MTE *e*LR LR 09 04 20.1
comp=Z,2µm,18.0s
MTE Manteigas 52.59 300 P **P** **08 52 30.4 -1.2**
MTE IAmb IAmb 08 52 47.4
comp=Z,78nm,0.9s
MTE Manteigas 52.59 300 ⇓P **P** **08 52 31.3 -0.3**
POLO Lamas de Olo 52.60 301 *e*P **P** **08 52 31.1 -0.5**
comp=Z,61nm,1.9s
PCBR Castelo Branco 52.65 299 *e*P **P** **08 52 31.3 -0.6**
comp=Z,327nm,1.7s
PBAR Barrancos 52.66 297 *e*P **P** **08 52 30.8 -1.2**
comp=Z,319nm,1.7s
PMRV Marv??o 52.67 298 *e*P **P** **08 52 31.2 -0.8**
comp=Z,145nm,1.5s
PMRV Marv??o 52.67 298 *e*LR LR 09 04 21.7
comp=Z,2µm,16.0s
PVIS Viseu 52.80 300 *e*P **P** **08 52 32.6 -0.4**
PGAV Gavieira, Arco 52.84 302 *e*P **P** **08 52 31.9 -1.5**
comp=Z,197nm,1.8s
PGAV *e*S **S** **09 00 09.3 +7.2**
PGAV *e*LR LR 09 04 34.0
comp=Z,2µm,18.0s
PESTR Estremoz 52.94 298 P **P** **08 52 32.7 -1.3**
VOI Vohitsoka 53.25 192 P **P** **08 52 36.8 +0.3**
VOI IAmb IAmb 08 53 08.1
comp=Z,121nm,1.4s
VOI Vohitsoka 53.25 192 P **P** **08 52 38.5 +2.0**
VOI Vohitsoka 53.25 192 P **P** **08 52 39.3 +2.8**
VOI Vohitsoka 53.25 192 *e*P **P** **08 52 40.5 +4.0**
VOI Vohitsoka 53.25 192 ⇓P **P** **08 52 37.8 +1.3**
PBEJ Beja 53.33 297 *e*P **P** **08 52 36.0 -0.9**
comp=Z,228nm,1.7s
EVO Evora 53.33 297 *e*P **P** **08 52 36.1 -0.8**
comp=Z,156nm,1.6s
EVO Evora 53.33 297 P **P** **08 52 35.4 -1.5**
PVAQ Vaqueiros 53.35 296 *e*S **S** **09 00 11.0 +2.1**
PMTG Montargil 53.38 298 *e*P **P** **08 52 36.8 -0.4**
comp=Z,168nm,1.8s
PCAS Casmilo, Conde 53.38 299 *e*P **P** **08 52 36.0 -1.2**
comp=Z,95nm,2.2s
SNY Shenyang 53.39 58 ⇓P **P** **08 52 37.3 +0.1**
SNY S **S** **09 00 11.2 +2.0**
SNY pmax pmax
comp=Z,19nm,1.4s
SNY pmax pmax
comp=Z,1µm,10.1s
SNY LR LR
comp=Z,8µm,16.3s
SNY LR LR
comp=Z,4µm,22.7s
SNY LR LR
comp=Z,6µm,23.5s
JMIC Jan Mayen 53.46 338 LR LR 09 15 41.5
comp=Z,3µm,21.8s,baz=100,slow=36
PCVE Castro Verde 53.55 296 *e*P **P** **08 52 37.4 -1.1**
comp=Z,187nm,1.7s
LSZ Lusaka 53.60 216 P **P** **08 52 42.6 +3.5**
LSZ P **P** **08 52 42.6 +3.5**
LSZ Lusaka 53.60 216 ⇑P **P** **08 52 39.8 +0.6**
LSZ ⇑P **PcP** **08 53 39.5 -6.2**
LSZ ⇑P **PcP** **08 53 39.9 -5.8**
LSZ ⇑P **PcP** **08 53 41.2 -4.5**
LSZ ⇓P **PcP** **08 53 42.1 -3.6**
LSZ Lusaka 53.60 216 LR LR 09 17 21.3
comp=Z,17µm,18.2s,baz=26,slow=38
TPRI Tanjung Pinang 53.62 114 P **P** **08 52 39.3 0.0**
MESJ Messejana 53.64 297 *e*P **P** **08 52 40.5 +1.3**
comp=Z,150nm,1.8s
MESJ Messejana 53.64 297 P **P** **08 52 38.5 -0.6**
MESJ IAmb IAmb 08 52 40.8
comp=Z,235nm,1.9s
MESJ Messejana 53.64 297 *e*P **P** **08 52 40.3 +1.1**
MESJ *e*S **S** **09 00 14.8 +1.9**
MESJ IAMs_20 IAMs_20 09 22 35.6
comp=Z,2µm,10.7s
MESJ Messejana 53.64 297 P **P** **08 52 38.6 -0.6**
MESJ pmax pmax
comp=Z,235nm,1.9s
PNCL Nicolau / Gran 53.82 297 *e*P **P** **08 52 39.9 -0.6**
comp=Z,200nm,1.9s
TOA0 Torodi Ar. Sit 53.93 264 P **P** **08 52 40.6 -0.9**
TOA0 IAmb IAmb 08 52 49.1
comp=Z,144nm,0.9s
TOA0 Torodi Ar. Sit 53.93 264 P **P** **08 52 41.0 -0.5**
SNR=132
TORD Torodi Ar. Bea 53.93 264 P **P** **08 52 40.5 -1.0**
TORD IAmb IAmb 08 52 49.1
comp=Z,127nm,0.9s
TORD Torodi Ar. Bea 53.93 264 P **P** **08 52 40.8 -0.8**
comp=Z,61nm,0.7s,baz=54,slow=8.3,SNR=402
TORD S **S** **09 00 13.4 -3.8**
comp=Z,0.8nm,1.0s,baz=268,slow=5.8,SNR=1.0
TORD LR LR 09 16 40.3
comp=Z,7µm,20.2s,baz=64,slow=37
comp=Z,61nm,0.7s
QZH Quanzhou 53.94 80 ⇓*i*P **P** **08 52 44.1 +2.6**
QZH PP **PP** **08 54 44.7 +1.9**
QZH S **S** **09 00 22.9 +5.7**
QZH pmax pmax
comp=Z,1µm,7.5s
QZH LR LR
comp=Z,6µm,15.2s
QZH LR LR
comp=Z,5µm,15.3s
QZH LR LR
comp=Z,8µm,17.2s
MORF Marmelete 54.10 296 *e*S **S** **09 00 21.0 +1.8**
MORF IAMs_20 IAMs_20 09 27 27.4
comp=Z,2µm,14.4s
SSE Sheshan 54.11 72 P **P** **08 52 42.0 -0.7**
SSE S **S** **09 00 18.2 -1.1**
SSE SS **SS** **09 04 03.2 +2.5**
SSE pmax pmax
comp=Z,15nm,1.2s
SSE pmax pmax
comp=Z,530nm,6.5s
SSE LR LR
comp=Z,4µm,19.2s
AVE Averroes 54.15 291 P **P** **08 52 40.3 -2.7**
LIS Lisbon 54.16 298 *e*S **S** **09 00 21.7 +2.0**
ZEA Zeya 54.27 43 *ce*P **P** **08 52 44.8 +1.2**
ZEA *e*S **S** **09 00 25.3 +4.4**
ZEA *e*PS **PnS** **09 00 41.3 +11**
ZEA pmax pmax
comp=E,700nm,7.0s
ZEA pmax pmax
comp=Z,1µm,5.2s
ZEA pmax pmax
comp=E,20nm,1.7s
ZEA pmax pmax
comp=N,30nm,1.5s
ZEA pmax pmax
comp=Z,70nm,1.5s
ZEA smax smax
comp=E,2µm,12.3s
ZEA MLR MLR
comp=E,4µm,15.0s
ZEA MLR MLR
comp=N,4µm,9.0s
ZEA MLR MLR
comp=Z,5µm,12.0s
SUJ Sinuiju 54.41 60 P **P** **08 52 44.9 +0.2**
SUJ S **S** **09 00 20.0 -3.1**
SUJ AmB
comp=Z,2µm,4.1s
SUJ AMS AMS
comp=Z,5µm,9.9s
DSRI Dabo 54.53 116 P **P** **08 52 47.6 +1.7**
comp=Z,87nm,1.3s
TIO Tiouine 54.71 288 P **P** **08 52 46.2 -1.1**
HEH HeiHe 54.73 48 *e*P **P** **08 52 46.8 -0.1**
HEH pP **pP** **08 52 50.8 -0.1**
HEH PcP **PcP** **08 53 48.5 -1.0**
HEH S **S** **09 00 29.1 +2.0**
HEH pmax pmax
comp=Z,71nm,1.3s
HEH pmax pmax
comp=Z,2µm,8.0s
YAK Yakutsk 55.20 33 P **P** **08 52 49.5 -0.6**
YAK Yakutsk 55.20 33 ⇓P **P** **08 52 54.8 +4.7**
YAK Yakutsk 55.20 33 *d*/*i*P **P** **08 52 49.9 -0.2**
YAK *e* 08 53 50.3
YAK *e* 08 54 50.6
YAK *e*PPP PPP 08 56 04.0
YAK *e*S **S** **09 00 31.7 -1.4**
YAK *e**SS sS 09 00 50.4 +11
YAK *e* 09 02 34.8
YAK pmax pmax
comp=Z,253nm,1.0s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=E,180nm,1.4s
YAK pmax pmax
comp=Z,972nm,5.3s
YAK pmax pmax
comp=N,282nm,3.7s
YAK pmax pmax
comp=E,472nm,4.9s
YAK smax smax
comp=E,2µm,6.1s
YAK smax smax
comp=N,1µm,5.4s
YAK MLR MLR
comp=Z,13µm,18.0s
YAK MLR MLR
comp=E,9µm,17.0s
YAK MLR MLR
comp=N,3µm,16.0s
YAK Yakutsk 55.20 33 LR LR 09 18 52.9
comp=N,604nm,20.1s,baz=265,slow=39
TIXI Tiksi 55.40 21 P **P** **08 52 50.8 -0.6**
TIXI Tiksi 55.40 21 IAMs_20 IAMs_20 09 19 12.5
comp=Z,11µm,21.0s
TIXI Tiksi 55.40 21 ⇑P **P** **08 52 50.8 -0.6**
TIXI Tiksi 55.40 21 ⇑*e*P **P** **08 52 51.0 -0.4**
TIXI Tiksi 55.40 21 LR LR 09 19 24.1
comp=Z,495nm,20.1s,baz=277,slow=39
BNX BinXian 55.41 53 ⇑P **P** **08 52 51.2 -0.7**
BNX pP **pP** **08 52 56.3 +0.4**
BNX sP **sP** **08 52 57.6 0.0**
BNX PP **PP** **08 54 56.1 +0.6**
BNX S **S** **09 00 39.4 +3.1**
BNX sS **pS** **09 00 42.1 +0.8**
BNX pmax pmax
comp=Z,32nm,1.5s
BNX pmax pmax
comp=Z,2µm,6.8s
BNX LR LR
comp=Z,4µm,7.8s
BNX LR LR
comp=Z,9µm,10.6s
BNX LR LR
comp=Z,10µm,12.6s
PYAG Pyongyang 55.60 61 P **P** **08 52 53.5 +0.1**
PYAG S **S** **09 00 35.2 -3.9**
PYAG AmB
comp=Z,302nm,1.4s
PYAG AMS AMS
comp=Z,5µm,11.8s
HJU Haeju 55.83 63 P **P** **08 52 54.8 -0.2**
HJU S **S** **09 00 39.2 -2.9**
HJU AmB
comp=Z,741nm,1.7s
HJU AMS AMS
comp=Z,8µm,14.3s
FOMA Nahampoana Res 56.22 191 P **P** **08 52 59.3 +1.6**
SSLB Suanglung 56.37 80 IAMs_20 IAMs_20 09 21 05.9
comp=Z,7µm,18.0s
NACB Ninganchiao 56.77 80 IAMs_20 IAMs_20 09 21 41.4
comp=Z,8µm,18.0s
PPBI Pangkal Pinang 56.80 116 P **P** **08 53 02.5 +0.3**
YULB Yu-li 56.81 81 IAMs_20 IAMs_20 09 21 21.5
comp=Z,8µm,19.0s
MDJ Mudanjiang 57.14 54 P **P** **08 53 04.3 0.0**
MDJ pP pP 08 53 07.4 -0.9
MDJ PcS **PcS** **08 57 56.5 -3.3**
MDJ S **S** **09 00 59.9 +0.5**
MDJ ScS **ScS** **09 02 51.2 -2.5**
MDJ pmax pmax
comp=Z,27nm,1.6s

MDJ pmax pmax
comp=Z,1μm,6.1s
MDJ LR LR
comp=Z,14μm,18.9s
MDJ LR LR
comp=Z,5μm,15.5s
MDJ LR LR
comp=Z,10μm,19.6s
DAG Danmarks Havn 57.16 345 ⇑P **P 08 53 03.5 -0.4**
DAG Danmarks Havn 57.16 345 *i* P **P 08 53 01.8 -2.1**
DAG IAmb IAmb 08 53 10.3
comp=Z,234nm,1.3s
DBG Daneborg 57.37 342 ⇑P **P 08 53 06.0 +0.6**
DBG Daneborg 57.37 342 *i* P **P 08 53 04.9 -0.5**
DBG IAmb IAmb 08 53 14.2
comp=Z,324nm,1.9s
NOR Nord 57.51 350 ⇑P **P 08 53 06.1 -0.2**
NOR Nord 57.51 350 *i* P **P 08 53 04.9 -1.4**
NOR IAmb IAmb 08 53 12.9
comp=Z,1μm,2.6s
KS19 Wonju Array Si 57.60 63 P **P 08 53 07.5 -0.2**
KSAR Wonju Array Be 57.63 63 P **P 08 53 07.5 -0.4**
KSAR Wonju Array Be 57.63 63 P **P 08 53 07.5 -0.4**
KSRS Korea Array 57.66 63 P **P 08 53 07.7 -0.3**
comp=Z,12nm,0.9s,baz=278,slow=6.8,SNR=15
KSRS LR LR 09 20 46.3
comp=Z,9μm,20.5s,baz=275,slow=39
comp=Z,12nm,0.9s
KLR Kul'dur 57.67 48 *e*P **P 08 53 07.9 0.0**
KLR pmax pmax
comp=Z,79nm,1.1s
KLR Kul'dur 57.67 48 LR LR 09 20 29.9
comp=Z,12μm,19.6s,baz=280,slow=39
SCO Scoresbysund 57.84 337 P **P 08 53 08.6 -0.2**
SCO IAmb IAmb 08 53 16.3
comp=Z,276nm,1.7s
SCO Scoresbysund 57.84 337 ⇑P **P 08 53 09.9 +1.1**
SCO Scoresbysund 57.84 337 P **P 08 53 08.6 -0.2**
SCO pmax pmax
comp=Z,277nm,1.7s
SCO Scoresbysund 57.84 337 *i* P **P 08 53 09.0 +0.2**
SCO IAmb IAmb 08 53 16.0
comp=Z,369nm,1.8s
BORG Borgarnes 57.89 330 LR LR 09 19 27.1
comp=Z,2μm,18.4s,baz=83,slow=37
MUSN Musina, Limpop 58.89 210 *e*P **P 08 53 16.8 +0.1**
MUSN IAmb IAmb 08 53 22.1
comp=Z,135nm,1.5s
USRK Ussuriysk Ar. 58.91 54 P **P 08 53 16.4 -0.3**
comp=Z,10nm,0.7s,baz=273,slow=6.6,SNR=7.0
USRK LR LR 09 20 56.4
comp=Z,7μm,18.1s,baz=281,slow=38
comp=Z,10nm,0.7s
SBUM Sibu 58.92 107 P **P 08 53 16.0 -1.2**
SBUM Sibu 58.92 107 ⇑P **P 08 53 16.5 -0.6**
CGJI Cibinong 59.32 120 P **P 08 53 19.1 -0.8**
comp=Z,149nm,1.1s,comp=Z,2μm
JTU Tsushima 59.66 66 IAMs_20 IAMs_20 09 22 17.0
comp=Z,6μm,18.0s
DBJI Dramaga 60.07 119 P **P 08 53 29.4 +4.3**
comp=Z,94nm,0.4s
GRNR Gornyy 60.30 46 ⇑*i* P **P 08 53 26.0 -0.2**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR MLR MLR
comp=E,3μm,16.0s
GRNR MLR MLR
comp=N,6μm,15.0s
GRNR MLR MLR
comp=Z,4μm,14.0s
KKM Kota Kinabalu 60.30 101 P **P 08 53 26.6 -0.3**
KKM IAmb IAmb 08 53 34.2
comp=Z,80nm,1.1s
TGY Tagaytay City 60.39 91 LR LR 09 21 53.9
comp=Z,3μm,21.9s,baz=305,slow=38
CNJI Cibinong 60.85 120 P P 08 53 36.4 +6.0
LEPH Lephalale, Lim 61.17 211 *e*P **P 08 53 32.9 +0.5**
LEPH IAmb IAmb 08 54 02.5
comp=Z,107nm,1.2s
JNU Nakatsue 61.28 67 LR LR 09 22 42.1
comp=Z,5μm,21.4s,baz=292,slow=38
JOW Kunigami 61.38 74 LR LR 09 23 08.4
comp=Z,5μm,18.2s,baz=293,slow=39
SOEG Soedalen 61.42 335 *i* P **P 08 53 33.2 -0.3**
SOEG IAmb IAmb 08 53 40.2
comp=Z,484nm,1.8s
CMJI Cimerak 62.15 119 P P 08 53 51.8 +13
KPJI Karang Pucung 62.22 118 P **P 08 53 41.2 +1.6**
comp=Z,42nm,0.6s
TSUM Tsumeb 62.60 223 P **P 08 53 42.5 +0.3**
TSUM IAmb IAmb 08 53 48.6
comp=Z,111nm,1.1s
TSUM Tsumeb 62.60 223 IAMs_20 IAMs_20 09 25 01.4
comp=Z,7μm,18.0s
TSUM Tsumeb 62.60 223 *e*P **P 08 53 42.8 +0.6**
TSUM Tsumeb 62.60 223 ⇑P **P 08 53 42.8 +0.6**
TSUM Tsumeb 62.60 223 LR LR 09 21 32.1
comp=Z,5μm,21.5s,baz=32,slow=37
SLR Silverton 62.60 210 *e*P **P 08 53 42.5 +0.5**
SLR IAmb IAmb 08 53 47.7
comp=Z,135nm,1.5s
POGA Pongola 62.67 206 P **P 08 53 42.1 -0.3**
DBIC Dimbokro 62.73 261 P **P 08 53 41.9 -1.1**
DBIC IAmb IAmb 08 53 50.3
comp=Z,154nm,1.2s
DBIC Dimbokro 62.73 261 IAmb IAmb 08 53 42.5
comp=Z,160nm,1.4s
DBIC *e*P **P 08 53 42.8 -0.2**
DBIC Dimbokro 62.73 261 ⇑P **P 08 53 42.4 -0.7**
DBIC Dimbokro 62.73 261 P **P 08 53 42.0 -1.1**
comp=Z,43nm,1.0s,baz=48,slow=7.6,SNR=33
DBIC LR LR 09 22 45.2
comp=Z,12μm,18.8s,baz=44,slow=38
comp=Z,43nm,1.0s
SUMG Summit 62.73 340 P **P 08 53 43.1 +0.3**
SUMG Summit 62.73 340 P **P 08 53 43.1 +0.3**
SUMG pmax pmax
comp=Z,341nm,1.4s
SUMG Summit 62.73 340 *i* P **P 08 53 41.0 -1.7**
SUMG IAmb IAmb 08 53 49.3
comp=Z,443nm,1.5s
KIC Kosan Boka 62.79 261 ⇑*i* P **P 08 53 42.9 -0.6**
comp=Z,55nm,0.7s
TIC Toumodi 62.88 261 ⇑*e*P **P 08 53 42.9 -1.2**
comp=Z,22nm,0.6s
LIC Lamto 63.10 261 ⇓*e*P **P 08 53 44.2 -1.4**
comp=Z,105nm,1.0s
LBTB Lobatse 63.16 212 P **P 08 53 45.7 -0.1**
LBTB IAmb IAmb 08 53 51.4
comp=Z,136nm,1.4s
LBTB IAMs_20 IAMs_20 09 23 00.6
comp=Z,7μm,21.0s
LBTB Lobatse 63.16 212 ⇑*i* P **P 08 53 46.3 +0.5**
LBTB IAmb IAmb 08 53 51.0
comp=Z,156nm,1.4s
LBTB Lobatse 63.16 212 ⇑P **P 08 53 46.4 +0.5**
LBTB Lobatse 63.16 212 P **P 08 53 45.7 -0.1**
LBTB pmax pmax
comp=Z,137nm,1.5s
LBTB MLR MLR
comp=Z,7μm,21.0s
LBTB Lobatse 63.16 212 LR LR 09 23 19.8
comp=Z,8μm,18.1s,baz=28,slow=38
KSR Koster 63.30 211 *e*P **P 08 53 50.0 +3.2**
KSR IAmb IAmb 08 54 15.1
comp=Z,35nm,1.2s
NWCL Newcastle 63.72 207 *e*P **P 08 53 49.1 -0.3**
NWCL IAmb IAmb 08 53 53.8
comp=Z,172nm,1.8s
TYV Tymovskoe 64.09 45 *e*P **P 08 53 52.2 +0.6**
TYV pmax pmax
comp=Z,74nm,1.5s
TYV pmax pmax
comp=Z,3μm,5.2s
ICESG Greenland Ices 64.12 337 *i* P **P 08 53 49.9 -2.0**
ICESG IAmb IAmb 08 53 53.7
comp=Z,138nm,1.0s
NEEM North Greenlan 64.15 347 *i* P **P 08 53 50.9 -1.0**
NEEM IAmb IAmb 08 53 57.9
comp=Z,1μm,1.9s
NGJI Ngawi 64.17 117 P **P 08 53 55.5 +2.9**
comp=Z,42nm,1.0s
BKB Balikpapan 64.86 108 P **P 08 53 56.7 -0.4**
BKB Balikpapan 64.86 108 P **P 08 54 00.1 +2.9**
comp=Z,389nm,1.0s,comp=Z,4μm
ISOG Isortoq, Green 65.01 333 *i* P **P 08 53 55.8 -1.5**
ISOG IAmb IAmb 08 54 05.2
comp=Z,355nm,1.3s
SNKL Senekal, Frees 65.05 209 *e*P **P 08 53 58.0 -0.3**
SNKL IAmb IAmb 08 54 05.0
comp=Z,72nm,0.6s
YSS Yuzh-Sakhalins 65.38 49 ⇓P **P 08 53 60.0 -0.1**
YSS Yuzh-Sakhalins 65.38 49 *e*P **P 08 53 59.5 -0.5**
YSS *e* 08 54 29.3
YSS *e*PPP PPP 08 58 02.7
YSS *e*S **S 09 02 43.7 -0.3**
YSS *e*PPS PPS 09 03 04.5
YSS pmax pmax
comp=Z,140nm,1.6s
YSS MLR MLR
comp=N,6μm,16.0s
SEY Seymchan 65.38 30 LR LR 09 26 14.0
comp=N,15μm,18.4s,baz=288,slow=39
WIN Windhoek 65.51 221 P **P 08 54 01.9 +0.5**
WIN IAmb IAmb 08 54 07.7
comp=Z,147nm,1.5s
WIN Windhoek 65.51 221 P **P 08 54 01.9 +0.5**
WIN pmax pmax
comp=Z,147nm,1.5s
WIN MLR MLR
comp=Z,14μm,20.0s
MAJO Matsushiro 65.75 61 IAMs_20 IAMs_20 09 26 19.9
comp=Z,5μm,20.0s
MJAR Matsushiro Arr 65.75 61 P **P 08 54 02.4 -0.3**
comp=Z,5.5nm,0.9s,baz=288,slow=4.0,SNR=8.7
MJAR LR LR 09 26 32.1
comp=Z,5μm,20.7s,baz=295,slow=39
comp=Z,5.5nm,0.9s
MA2 Magadan 65.76 34 P **P 08 54 02.7 +0.4**
MA2 IAMs_20 IAMs_20 09 24 50.1
comp=Z,6μm,19.0s
MA2 Magadan 65.76 34 ⇓*e*P **P 08 54 01.9 -0.4**
MA2 pmax pmax
comp=Z,105nm,1.5s
MA2 Magadan 65.76 34 LR LR 09 24 59.9
comp=Z,5μm,18.8s,baz=284,slow=38
ASAJ Asahikawa 66.23 52 LR LR 09 25 33.0
comp=Z,5μm,18.6s,baz=288,slow=38
JKA Kamikawa-asahi 66.23 52 IAMs_20 IAMs_20 09 24 36.7
comp=Z,6μm,20.0s
BOSA Boshof 66.41 211 P **P 08 54 07.1 +0.1**
BOSA IAmb IAmb 08 54 12.7
comp=Z,185nm,1.6s
BOSA IAMs_20 IAMs_20 09 25 06.8
comp=Z,5μm,18.0s
BOSA Boshof 66.41 211 ⇑*i* P **P 08 54 06.8 -0.1**
BOSA IAmb IAmb 08 54 11.7
comp=Z,152nm,1.4s
BOSA Boshof 66.41 211 ⇑P **P 08 54 06.7 -0.2**
BOSA Boshof 66.41 211 P **P 08 54 07.1 +0.1**
BOSA pmax pmax
comp=Z,185nm,1.6s
BOSA MLR MLR
comp=Z,5μm,18.0s
BOSA Boshof 66.41 211 P **P 08 54 05.5 -1.5**
comp=Z,14nm,0.8s,baz=28,slow=7.1,SNR=21
BOSA LR LR 09 25 16.6
comp=Z,5μm,18.4s,baz=25,slow=38
comp=Z,14nm,0.8s
JSG Sagara 66.42 63 ⇑P **P 08 54 11.1 +4.1**
ABJI Asem Bagus 66.59 115 P **P 08 54 10.7 +2.4**
comp=Z,97nm,1.0s
JAGI Jajag, Banyuwa 66.94 116 P **P 08 54 15.3 +4.8**
comp=Z,61nm,1.0s
JMM Marumori 67.19 59 P **P 08 54 11.4 -0.4**
JMM IAmb IAmb 08 54 20.5
comp=Z,100nm,1.3s
JEM Erimo 67.36 54 IAMs_20 IAMs_20 09 26 53.7
comp=Z,6μm,20.0s
DY2G Dye2 67.42 335 *i* P **P 08 54 12.1 -1.1**
DY2G IAmb IAmb 08 54 20.1
comp=Z,637nm,1.4s
UMMG Uummannaq 67.45 340 *i* P **P 08 54 10.7 -2.2**
UMMG IAmb IAmb 08 54 19.5
comp=Z,300nm,1.4s
UPNV Upernavik 67.50 343 *i* P **P 08 54 11.6 -1.6**
UPNV IAmb IAmb 08 54 20.6
comp=Z,104nm,1.1s
SRBI Singaraja 67.53 115 P **P 08 54 16.1 +1.9**
comp=Z,74nm,1.1s,comp=Z,1μmcomp=Z,2μm
EUNU Eureka 67.71 354 P **P 08 54 14.1 -0.5**
DAV Davao City (W) 67.76 95 LR LR 09 25 55.2
comp=Z,2μm,21.7s,baz=334,slow=38
ILULI Ilulissat 67.84 339 *i* P **P 08 54 14.5 -0.8**
ILULI IAmb IAmb 08 54 16.9
comp=Z,158nm,1.4s
TULEG Thule 68.00 348 P **P 08 54 16.2 -0.1**
TULEG Thule 68.00 348 *i* P **P 08 54 17.2 +0.9**
TULEG IAmb IAmb 08 54 22.3
comp=Z,406nm,1.4s
MRSI Marisa 68.09 103 P **P 08 54 18.6 +0.8**
comp=Z,120nm,1.1s,comp=Z,2μmcomp=Z,2μm
JHJ Hachijo jima 2 68.24 64 LR LR 09 26 31.5
comp=Z,4μm,21.5s,baz=314,slow=38
TTSI Tana Toraja 68.27 108 P **P 08 54 17.5 -1.5**
comp=Z,51nm,1.2s
YUK Yuzh-Kuril'sk 68.45 51 *e*P **P 08 54 20.5 +0.9**
YUK *e* 08 54 44.9
YUK *e* 08 56 52.0
YUK *e*PPP PPP 08 58 30.8
YUK *e*S **S 09 03 24.1 +2.8**
YUK *e* 09 04 20.3
YUK *e*SS **SS 09 07 49.4 +5.0**
YUK pmax pmax
comp=Z,489nm,1.5s
YUK pmax pmax
comp=N,575nm,1.3s
YUK pmax pmax
comp=E,283nm,1.2s
YUK pmax pmax
comp=Z,658nm,2.6s
YUK MLR MLR
comp=N,1μm,12.0s
YUK MLR MLR
comp=Z,5μm,12.0s
YUK MLR MLR
comp=E,5μm,14.0s
KEIM Keimoes 68.47 214 *e*P **P 08 54 19.0 -0.9**
KEIM IAmb IAmb 08 54 25.9
comp=Z,180nm,1.5s
SFJD Kangerlussuaq 68.73 336 *i* P **P 08 54 18.3 -2.7**
SFJD IAmb IAmb 08 54 21.0
comp=Z,73nm,1.3s
SFJD Kangerlussuaq 68.73 336 LR LR 09 27 27.3
comp=Z,3μm,18.5s,baz=52,slow=38
SPSI Sidrap Palu 68.75 108 P **P 08 54 21.0 -1.0**
comp=Z,60nm,0.9s
KAPI Kappang 69.34 109 P **P 08 54 24.7 -0.9**
KAPI IAmb IAmb 08 54 35.1
comp=Z,104nm,1.1s
KAPI Kappang 69.34 109 P **P 08 54 26.6 +1.0**
KAPI P **P 08 54 26.6 +1.0**
KAPI Kappang 69.34 109 ⇑P **P 08 54 24.2 -1.4**
KAPI ⇑P **pP 08 54 28.4 -1.3**
KAPI Kappang 69.34 109 P **P 08 54 24.7 -0.9**
KAPI pmax pmax
comp=Z,104nm,1.1s
KAPI Kappang 69.34 109 LR LR 09 25 59.9
comp=Z,2μm,21.8s,baz=298,slow=37
NRS Narsarsuaq 69.38 330 *i* P **P 08 54 23.6 -1.6**
NRS IAmb IAmb 08 54 32.3
comp=Z,88nm,0.8s
MBO M'Bour 69.39 275 P **P 08 54 25.4 -0.6**
MBO IAMs_20 IAMs_20 09 28 18.1
comp=Z,5μm,19.0s
BKSI Bulukumba 69.82 109 P **P 08 54 27.3 -1.2**
comp=Z,75nm,1.1s,comp=Z,1μm
SOE Somerset East 69.84 208 P **P 08 54 28.9 +0.6**
SOE IAmb IAmb 08 54 34.8
comp=Z,128nm,1.3s
SOE Somerset East 69.84 208 ⇓P **P 08 54 28.0 -0.4**
PLAI Plampang 69.99 114 P **P 08 54 27.3 -2.3**
comp=Z,84nm,0.8s
GRHM Grahamstown, E 70.01 207 P **P 08 54 29.5 +0.1**
GRHM IAmb IAmb 08 54 35.5
comp=Z,158nm,1.4s
GRHM Grahamstown, E 70.01 207 ⇑P **P 08 54 29.9 +0.5**
GRHM ⇑P **sP 08 54 34.6 -0.7**
ROOI Rooidraai Farm 70.50 210 *e*P **P 08 54 33.8 +1.4**
ROOI IAML 08 54 49.3
comp=Z,15nm,0.7s
NUUK Nuuk 70.52 334 ⇓P **P 08 54 32.1 0.0**
NUUK Nuuk 70.52 334 *i* P **P 08 54 30.8 -1.3**
NUUK IAmb IAmb 08 54 37.7
comp=Z,273nm,1.3s
IVI Ivigtut 70.55 330 *i* P **P 08 54 33.0 +0.7**
IVI IAmb IAmb 08 54 39.4
comp=Z,45nm,0.8s
GRAN Grantham 70.94 211 *e*P **P 08 54 36.5 +1.5**
GRAN IAmb IAmb 08 54 41.6
comp=Z,26nm,1.1s
CVNA Calvinia 71.35 213 *e*P **P 08 54 39.0 +1.4**
CVNA IAmb IAmb 08 54 41.8
comp=Z,1μm,3.3s
MERW Merweville 71.54 211 *e*P **P 08 54 40.1 +1.4**
MERW IAmb IAmb 08 54 49.7
comp=Z,144nm,1.4s
SUR Sutherland 71.61 212 P **P 08 54 39.4 +0.1**
SUR IAmb IAmb 08 54 53.6
comp=Z,306nm,2.0s
SUR Sutherland 71.61 212 P **P 08 54 41.2 +1.9**
SUR Sutherland 71.61 212 *e*P **P 08 54 40.7 +1.5**
SUR Sutherland 71.61 212 ⇑P **P 08 54 39.9 +0.6**
SUR ⇓P **P 08 54 40.8 +1.5**
SUR Sutherland 71.61 212 LR LR 09 28 29.0
comp=Z,9μm,18.9s,baz=28,slow=38
PETK Petropavlovsk- 71.86 39 P **P 08 54 39.3 -1.1**
PETK Petropavlovsk- 71.86 39 P **P 08 54 39.3 -1.1**
PETK Petropavlovsk- 71.86 39 P **P 08 54 38.6 -1.8**
comp=Z,28nm,1.1s,baz=299,slow=1.5,SNR=6.8
PETK LR LR 09 28 56.2
comp=Z,8μm,19.4s,baz=299,slow=38
comp=Z,28nm,1.1s
PET Petropavlovsk 72.41 38 IAMs_20 IAMs_20 09 29 02.2
comp=Z,6μm,20.0s
PET Petropavlovsk 72.41 38 *e*P **P 08 54 42.2 -1.5**
PET *e* 08 57 27.3
PET *e*PPP PPP 08 59 10.0
PET *e*S **S 09 04 05.1 -2.1**
PET pmax pmax
comp=Z,1μm,10.2s
PET pmax pmax
comp=Z,2μm,10.6s
PET pmax pmax
comp=Z,66nm,1.7s
PET smax smax
comp=E,2μm,19.9s
PET MLR MLR
comp=Z,7μm,14.0s
PET MLR MLR
comp=Z,8μm,16.0s
TNTI Ternate 72.51 100 P **P 08 54 44.9 0.0**
TNTI Ternate 72.51 100 P **P 08 54 45.2 +0.3**
comp=Z,167nm,1.3s,comp=Z,3μmcomp=Z,2μm
JCJ Chichijima 72.63 68 LR LR 09 29 33.7
comp=Z,2μm,20.7s,baz=290,slow=38
SANI Sanana 72.85 103 P **P 08 54 46.1 -0.8**
comp=Z,130nm,1.4s,comp=Z,3μm
SANI Sanana 72.85 103 P **P 08 54 44.8 -2.1**
SANI Sanana 72.85 103 ⇑P **P 08 54 46.1 -0.8**
BASI Baing, Sumba 73.03 113 P P 08 54 53.9 +6.0
EDFI Ende, Flores 73.06 111 P **P 08 54 44.3 -4.0**
RES Resolute Bay 73.32 353 P **P 08 54 48.4 -0.3**
RES Resolute Bay 73.32 353 ⇑P **P 08 54 48.2 -0.6**
RES Resolute Bay 73.32 353 P **P 08 54 48.4 -0.3**
RES pmax pmax
comp=Z,90nm,1.6s
RES MLR MLR
comp=Z,7μm,21.0s
MMRI Maumere 73.43 111 P **P 08 54 50.0 -0.3**
comp=Z,128nm,0.9s
A21K Barrow 75.50 11 P **P 08 55 02.0 +0.5**
baz=330
A19K Wainwright 75.68 13 P **P 08 55 03.0 +0.5**
baz=327
SOEI Soe 75.71 111 P **P 08 55 03.0 -0.7**
SOEI Soe 75.71 111 P **P 08 55 03.8 +0.1**
comp=Z,286nm,0.9s,comp=Z,2μm
SOEI Soe 75.71 111 P **P 08 55 00.4 -3.3**
SOEI Soe 75.71 111 ⇑P **P 08 55 02.5 -1.3**
A22K Sinclair Lake 76.04 10 P **P 08 55 05.4 +0.9**
baz=332
B18K Kokolik River 76.24 13 P **P 08 55 06.8 +1.1**
baz=326
C16K Lisburne Hills 76.39 15 P **P 08 55 06.3 -0.3**
C16K IAMs_20 IAMs_20 09 34 02.9
comp=Z,5μm,18.0s
C16K Lisburne Hills 76.39 15 P **P 08 55 06.7 +0.2**
baz=323
B20K Meade River 76.56 12 P **P 08 55 07.6 +0.1**
B20K IAmb IAmb 08 55 15.9
comp=Z,175nm,0.9s
B20K IAMs_20 IAMs_20 09 33 00.2
comp=Z,5μm,22.0s
B20K Meade River 76.56 12 P **P 08 55 08.1 +0.6**
baz=330
C17K DeLong Mountai 76.70 14 P **P 08 55 08.7 +0.3**
baz=325
B22K Teshekpuk Lake 76.87 10 P **P 08 55 10.0 +0.7**
B22K Teshekpuk Lake 76.87 10 P **P 08 55 10.0 +0.7**
baz=333
C19K Lookout Ridge 76.89 13 P **P 08 55 09.7 +0.2**
C19K IAmb IAmb 08 55 17.4
comp=Z,140nm,1.1s
C19K Lookout Ridge 76.89 13 P **P 08 55 10.2 +0.7**
baz=328
C18K Utukok River 76.96 14 P **P 08 55 10.0 0.0**
C18K IAMs_20 IAMs_20 09 35 16.1
comp=Z,5μm,20.0s
C18K Utukok River 76.96 14 P **P 08 55 10.1 +0.2**
baz=327,SNR=58
RDOG Red Dog Mine 77.10 14 P **P 08 55 11.0 +0.3**
RDOG Red Dog Mine 77.10 14 P **P 08 55 10.6 0.0**
baz=325,SNR=20
B21K Ikpikpuk River 77.32 11 P **P 08 55 12.6 +0.7**
B21K IAMs_20 IAMs_20 09 32 09.5
comp=Z,5μm,22.0s
B21K Ikpikpuk River 77.32 11 P **P 08 55 12.4 +0.6**
baz=332
D17K Noatak River 77.36 15 P **P 08 55 12.3 +0.2**
baz=325
BNDI Bandanaira 77.47 103 P **P 08 55 12.8 -0.8**
comp=Z,581nm,1.3s
BNDI Bandanaira 77.47 103 ⇑P **P 08 55 12.8 -0.8**
A36M Sachs Harbour 77.60 1 P **P 08 55 12.8 -0.5**
A36M Sachs Harbour 77.60 1 P **P 08 55 13.0 -0.3**
baz=358,SNR=108
D19K Kuna River 77.70 13 P **P 08 55 14.2 +0.2**
D19K Kuna River 77.70 13 P **P 08 55 13.8 -0.2**
baz=329
C21K Knifeblade Rid 77.71 11 P **P 08 55 14.8 +0.8**
baz=332
C23K Itkillik River 77.74 10 P **P 08 55 14.9 +0.7**
C23K Itkillik River 77.74 10 P **P 08 55 15.2 +1.0**
baz=336
D20K Etivluk River 77.78 12 P **P 08 55 14.9 +0.4**
baz=331
TNA Tin City 77.92 18 P **P 08 55 15.0 -0.2**
baz=321
C24K Franklin Bluff 78.12 9 P **P 08 55 17.2 +0.9**
baz=337
E18K Tukpahlearik C 78.12 14 P **P 08 55 15.9 -0.4**
E18K IAmb IAmb 08 55 24.3
comp=Z,165nm,1.0s
E18K Tukpahlearik C 78.12 14 P **P 08 55 16.6 +0.2**
baz=327,SNR=33
E17K Hotham Inlet 78.14 15 P **P 08 55 16.4 0.0**
baz=326,SNR=33
GAMB Gambell 78.24 20 P **P 08 55 16.9 -0.1**
baz=318
E20K Nigu River 78.26 12 P **P 08 55 17.2 +0.1**
baz=331,SNR=34
D22K Ayikyak River 78.30 11 P **P 08 55 17.9 +0.6**
D22K Ayikyak River 78.30 11 P **P 08 55 18.3 +1.0**
baz=334
F14K Arctic Creek 78.40 17 P **P 08 55 18.1 +0.2**
baz=323
C26K Camden Bay 78.40 8 P **P 08 55 19.2 +1.4**
baz=341
E21K Killik River 78.48 11 IAMs_20 IAMs_20 09 31 15.1
comp=Z,6μm,22.0s
E21K Killik River 78.48 11 P **P 08 55 18.3 -0.1**
baz=333
D23K Nanushuk River 78.53 10 P **P 08 55 19.4 +0.8**
baz=336
D24K Happy Valley 78.62 9 P **P 08 55 19.6 +0.6**
D24K IAMs_20 IAMs_20 09 34 37.7
comp=Z,5μm,21.0s

D24K Happy Valley 78.62 9 P P 08 55 19.8 +0.7
baz=337
F15K North Star Dit 78.63 16 IAMs_20 IAMs_20 09 34 40.2
comp=Z,5µm,21.0s
F15K North Star Dit 78.63 16 P P 08 55 19.5 +0.3
baz=324,SNR=15
E19K Redstone River 78.76 13 P P 08 55 19.6 -0.3
E19K IAmb IAmb 08 55 27.6
comp=Z,114nm,1.1s
E19K Redstone River 78.76 13 P P 08 55 20.0 +0.1
baz=330
D25K Kavik River 78.79 8 P P 08 55 20.5 +0.5
baz=339
F17K Baldwin Pennin 78.81 15 P P 08 55 20.2 +0.1
baz=327
TOLK Toolik Lake Re 78.99 10 P P 08 55 21.5 +0.3
TOLK Toolik Lake Re 78.99 10 P P 08 55 21.7 +0.5
baz=337,SNR=136
MBWA Marble Bar 79.05 123 P P 08 55 21.3 -0.8
MBWA Marble Bar 79.05 123 P P 08 55 24.1 +2.0
MBWA P P 08 55 24.1 +2.0
MBWA Marble Bar 79.05 123 ⇑P P 08 55 21.3 -0.8
E22K Anaktuvuk Pass 79.11 11 P P 08 55 22.0 +0.2
E22K IAmb IAmb 08 55 30.0
comp=Z,119nm,1.0s
E22K IAMs_20 IAMs_20 09 35 19.8
comp=Z,4µm,21.0s
E22K Anaktuvuk Pass 79.11 11 P P 08 55 22.2 +0.3
baz=335
F19K Shaleruckik Mo 79.20 13 IAMs_20 IAMs_20 09 37 22.2
comp=Z,5µm,19.0s
F19K Shaleruckik Mo 79.20 13 P P 08 55 21.9 -0.3
baz=330
G15K Niukluk 79.36 17 P P 08 55 23.5 +0.3
baz=325,SNR=22
ANM Nome 79.37 17 P P 08 55 24.1 +0.9
baz=324,SNR=14
PSAA1 Pilbara Seismi 79.39 123 IAMs_20 IAMs_20 09 31 51.9
comp=Z,4µm,20.0s
PSA00 Pilbara Seismi 79.39 123 P P 08 55 22.7 -1.3
PSA00 Pilbara Seismi 79.39 123 P P 08 55 22.3 -1.7
PSA00 IAmb IAmb 08 55 23.6
comp=Z,38nm,1.4s
F20K Avaraart Lake 79.41 13 P P 08 55 22.9 -0.5
F20K IAmb IAmb 08 55 30.4
comp=Z,304nm,1.8s
F20K Avaraart Lake 79.41 13 P P 08 55 23.4 0.0
baz=332
PSAB3 Pilbara Seismi 79.41 123 IAMs_20 IAMs_20 09 31 52.5
comp=Z,3µm,20.0s
G16K Koyuk River 79.43 16 IAMs_20 IAMs_20 09 37 17.4
comp=Z,5µm,19.0s
G16K Koyuk River 79.43 16 P P 08 55 24.1 +0.6
baz=326
D27M Malcolm River 79.47 7 IAMs_20 IAMs_20 09 33 44.1
comp=Z,4µm,22.0s
D27M Malcolm River 79.47 7 P P 08 55 24.6 +0.8
baz=344
E23K Chandalar 79.52 10 P P 08 55 24.8 +0.6
baz=337
D28M Stokes Point 79.59 6 P P 08 55 25.1 +0.8
baz=346
F22K John River 79.62 11 P P 08 55 25.6 +0.9
baz=334
F21K Alatna River 79.66 12 IAMs_20 IAMs_20 09 37 38.2
comp=Z,5µm,20.0s
F21K Alatna River 79.66 12 P P 08 55 25.1 +0.3
baz=333
E24K Your Creek 79.67 10 P P 08 55 25.3 +0.3
E24K IAmb IAmb 08 55 34.6
comp=Z,256nm,1.2s
E24K IAMs_20 IAMs_20 09 35 13.5
comp=Z,4µm,20.0s
E24K Your Creek 79.67 10 P P 08 55 25.5 +0.5
baz=338,SNR=65
G17K Kiwalik Mounta 79.73 15 P P 08 55 25.3 +0.1
baz=328,SNR=13
G18K Tagagawik 79.83 14 IAMs_20 IAMs_20 09 36 26.9
comp=Z,6µm,21.0s
G18K Tagagawik 79.83 14 P P 08 55 25.6 -0.2
baz=329,SNR=23
G19K Purcell Mounta 79.94 13 IAMs_20 IAMs_20 09 37 42.7
comp=Z,5µm,20.0s
G19K Purcell Mounta 79.94 13 P P 08 55 26.4 +0.1
baz=330
E25K Arctic Village 80.02 9 P P 08 55 27.2 +0.4
baz=340,SNR=58
H16K Elim 80.09 16 P P 08 55 27.5 +0.4
baz=326,SNR=16
COLD Coldfoot 80.20 11 P P 08 55 28.1 +0.4
baz=336,SNR=50
E28M Babbage River 80.22 6 IAMs_20 IAMs_20 09 34 42.0
comp=Z,5µm,22.0s
E28M Babbage River 80.22 6 P P 08 55 28.3 +0.5
baz=345
C36M Paulatuk 80.26 0 P P 08 55 27.0 -1.0
C36M IAmb IAmb 08 55 34.2
comp=Z,285nm,1.4s
C36M Paulatuk 80.26 0 P P 08 55 27.1 -0.8
baz=359,SNR=52
G22K Bettles 80.27 11 P P 08 55 28.3 +0.2
baz=335,SNR=31
F24K Squaw Lake 80.28 10 IAMs_20 IAMs_20 09 36 15.5
comp=Z,4µm,20.0s
F24K Squaw Lake 80.28 10 P P 08 55 29.1 +0.9
baz=338
G21K Allakaket 80.29 12 IAMs_20 IAMs_20 09 37 46.9
comp=Z,4µm,20.0s
G21K Allakaket 80.29 12 P P 08 55 27.8 -0.4
baz=334,SNR=31
H17K Granite Mounta 80.38 15 IAMs_20 IAMs_20 09 38 01.4
comp=Z,4µm,19.0s
H17K Granite Mounta 80.38 15 P P 08 55 28.9 +0.2
baz=328
SHEM Shemya Is, Ala 80.39 33 LR LR 09 34 37.3
comp=Z,2µm,18.0s,baz=307,slow=38
E27K Coleen River 80.42 7 P P 08 55 29.5 +0.5
baz=344,SNR=92
SAUI Saumlaki 80.49 105 P P 08 55 30.8 +0.6
SAUI Saumlaki 80.49 105 P P 08 55 32.1 +2.0
SAUI Saumlaki 80.49 105 ⇑P P 08 55 30.9 +0.7
F25K Christian Rive 80.51 9 P P 08 55 30.2 +0.8
baz=340,SNR=34
H18K Honhosa River 80.53 14 P P 08 55 29.7 +0.1
baz=329
E29M Blow River 80.58 6 IAMs_20 IAMs_20 09 35 08.4
comp=Z,5µm,22.0s
E29M Blow River 80.58 6 P P 08 55 29.9 +0.2
baz=347
F26K Sheenjek River 80.61 8 P P 08 55 30.6 +0.7
baz=341
H19K Roundabout Mou 80.61 14 IAMs_20 IAMs_20 09 38 14.3
comp=Z,5µm,20.0s
H19K Roundabout Mou 80.61 14 P P 08 55 30.0 +0.1
baz=331
G23K Bananza Creek 80.70 11 P P 08 55 31.0 +0.6
baz=336
BMAR Burnt Mountain 80.81 8 P P 08 55 31.6 +0.6
H20K Anotleneega Mo 80.95 13 P P 08 55 31.7 -0.1
baz=332
INK Inuvik 80.98 4 P P 08 55 31.2 -0.6
INK IAmb IAmb 08 55 38.9
comp=Z,258nm,1.6s
INK Inuvik 80.98 4 P P 08 55 31.6 -0.2
baz=351,SNR=47
INK Inuvik 80.98 4 P P 08 55 31.2 -0.6
INK pmax pmax
comp=Z,258nm,1.6s
I17K Unalakleet 81.09 16 IAMs_20 IAMs_20 09 31 37.2
comp=Z,4µm,21.0s
I17K Unalakleet 81.09 16 P P 08 55 33.2 +0.7
baz=328,SNR=26
G24K Hadweenzic Riv 81.10 10 IAMs_20 IAMs_20 09 38 24.3
comp=Z,5µm,20.0s
G24K Hadweenzic Riv 81.10 10 P P 08 55 33.5 +0.9
baz=339
GUMO Guam 81.14 79 LR LR 09 32 59.8
comp=Z,2µm,21.6s,baz=314,slow=37
F28M Old Crow 81.16 7 IAMs_20 IAMs_20 09 34 23.6
comp=Z,4µm,22.0s
F28M Old Crow 81.16 7 P P 08 55 33.1 +0.2
baz=345,SNR=43
H21K Melozitna River 81.19 12 P P 08 55 33.3 +0.2
H21K IAmb IAmb 08 55 42.0
comp=Z,190nm,1.2s
H21K IAMs_20 IAMs_20 09 36 54.7
comp=Z,5µm,20.0s
H21K Melozitna River 81.19 12 P P 08 55 33.5 +0.4
baz=334,SNR=58
GCSA Galena City Sc 81.20 14 P P 08 55 33.4 +0.3
baz=331,SNR=31
H22K Ishtalitna Cre 81.23 12 P P 08 55 34.2 +0.9
baz=335
G25K Bearman Lake 81.23 9 P P 08 55 34.1 +0.9
baz=340
J14K Nanvaranak Lak 81.33 18 P P 08 55 34.4 +0.7
baz=325
G26K Porcupine Rive 81.36 8 P P 08 55 34.6 +0.7
baz=342,SNR=24
F30M Barrier River 81.51 5 P P 08 55 34.9 +0.1
baz=349,SNR=30
J16K Anvik River 81.62 16 P P 08 55 36.0 +0.6
J16K IAMs_20 IAMs_20 09 35 48.3
comp=Z,5µm,21.0s
J16K Anvik River 81.62 16 P P 08 55 35.7 +0.4
baz=328,SNR=21
FITZ Fitzroy Crossi 81.62 117 P P 08 55 35.6 -0.4
I20K Naaghedeneel 81.65 13 IAMs_20 IAMs_20 09 35 17.9
comp=Z,5µm,22.0s
I20K Naaghedeneel 81.65 13 P P 08 55 35.7 +0.3
baz=333
G27K Doyon Strip 81.75 7 IAMs_20 IAMs_20 09 38 26.3
comp=Z,4µm,19.0s
G27K Doyon Strip 81.75 7 P P 08 55 37.0 +1.0
baz=344
I21K Tanana 81.77 12 IAMs_20 IAMs_20 09 37 12.1
comp=Z,5µm,21.0s
I21K Tanana 81.77 12 P P 08 55 36.6 +0.5
baz=335,SNR=17
F31M Tsiigehtchic 81.83 4 IAMs_20 IAMs_20 09 37 12.2
comp=Z,4µm,22.0s
F31M Tsiigehtchic 81.83 4 P P 08 55 36.3 0.0
baz=350,SNR=59
H24K Nodor Dome 81.85 10 IAMs_20 IAMs_20 09 37 06.0
comp=Z,5µm,20.0s
H24K Noodor Dome 81.85 10 P P 08 55 37.1 +0.6
baz=338,SNR=30
J17K VABM Dome 81.89 16 IAMs_20 IAMs_20 09 36 52.0
comp=Z,5µm,20.0s
J17K VABM Dome 81.89 16 P P 08 55 36.9 +0.1
baz=329
G29M Pine Creek 82.01 6 IAMs_20 IAMs_20 09 34 51.3
comp=Z,4µm,21.0s
G29M Pine Creek 82.01 6 P P 08 55 37.3 -0.1
baz=347
G30M tAoh Zraii Nji 82.10 5 P P 08 55 37.7 -0.2
baz=348
MLY Manley 82.13 12 IAMs_20 IAMs_20 09 38 53.4
comp=Z,5µm,20.0s
MLY Manley 82.13 12 P P 08 55 38.1 0.0
baz=336,SNR=26
J19K Poorman 82.13 14 P P 08 55 38.3 +0.3
J19K Poorman 82.13 14 P P 08 55 38.4 +0.3
baz=332
K15K Wolf Creek Mou 82.23 17 IAMs_20 IAMs_20 09 35 09.4
comp=Z,4µm,21.0s
K15K Wolf Creek Mou 82.23 17 P P 08 55 39.4 +0.8
baz=327
I23K Minto, Yukon-K 82.25 11 P P 08 55 39.1 +0.5
baz=337,SNR=30
J20K Nowinta River 82.27 13 P P 08 55 39.0 +0.3
baz=333
SCHQ Schefferville 82.27 331 LR LR 09 33 44.5
comp=Z,1µm,20.3s,baz=40,slow=37
G31M Satah River 82.30 5 IAMs_20 IAMs_20 09 37 14.9
comp=Z,4µm,21.0s
G31M Satah River 82.30 5 P P 08 55 38.6 -0.2
baz=350,SNR=40
H27K Steamboat Moun 82.32 8 P P 08 55 39.3 +0.3
baz=344
J18K Innoko River 82.36 15 IAMs_20 IAMs_20 09 39 32.8
comp=Z,5µm,19.0s
J18K Innoko River 82.36 15 P P 08 55 39.4 +0.1
baz=331
M11K Mekoryuk 82.51 20 P P 08 55 40.7 +0.6
baz=323
POKR Poker Plat Res 82.59 10 P P 08 55 40.6 +0.2
POKR IAMs_20 IAMs_20 09 37 57.6
comp=Z,4µm,18.0s
POKR Poker Plat Res 82.59 10 P P 08 55 40.7 +0.3
baz=339,SNR=70
K17K Iditarod 82.66 16 IAMs_20 IAMs_20 09 37 03.6
comp=Z,4µm,21.0s
K17K Iditarod 82.66 16 P P 08 55 41.2 +0.4
baz=330,SNR=60
EPYK Eagle Plains 82.66 6 P P 08 55 40.5 -0.3
baz=338,SNR=33
H29M Whitestone 82.66 6 P P 08 55 40.8 0.0
baz=346,SNR=28
KNRA Kununurra 82.68 113 P P 08 55 40.4 -1.2
KNRA IAmb IAmb 08 55 49.6
comp=Z,126nm,1.1s
L14K Kuka Creek 82.72 18 P P 08 55 41.4 +0.3
baz=326
COLA College 82.75 11 P P 08 55 41.1 -0.1
COLA IAmb IAmb 08 55 49.5
comp=Z,121nm,1.2s
COLA College 82.75 11 P P 08 55 41.4 +0.2
baz=338
COLA College 82.75 11 ⇑P P 08 55 41.0 -0.1
COLA ⇑P P 08 55 41.1 -0.1
COLA ⇑P PcP 08 55 46.5 +0.3
COLA College 82.75 11 P P 08 55 41.1 -0.1
COLA pmax pmax
comp=Z,121nm,1.2s
L15K Ungalak Mounta 82.76 18 P P 08 55 42.1 +0.7
baz=327
NEA2 Nenana 82.81 11 IAMs_20 IAMs_20 09 38 55.6
comp=Z,5µm,20.0s
NEA2 Nenana 82.81 11 P P 08 55 41.3 -0.3
baz=332,SNR=20
CHUM Lake Minchumin 82.89 13 P P 08 55 42.5 +0.5
baz=335,SNR=49
I27K Kandik River 82.91 8 P P 08 55 42.3 +0.1
baz=344
BPAW Bear Paw Mtn. 82.94 12 P P 08 55 42.5 +0.2
baz=336,SNR=38
CCB Clear Creek Bu 82.97 11 P P 08 55 40.7 -1.7
CCB IAmb IAmb 08 55 48.1
comp=Z,118nm,1.9s
CCB IAMs_20 IAMs_20 09 37 39.7
comp=Z,5µm,20.0s
TTA Tatalina 82.98 15 IAMs_20 IAMs_20 09 36 44.3
comp=Z,5µm,20.0s
TTA Tatalina 82.98 15 P P 08 55 42.8 +0.2
baz=332,SNR=16
ILAR Eielson Array 83.00 10 P P 08 55 41.6 -1.0
ILAR Eielson Array 83.00 10 P P 08 55 41.3 -1.2
comp=Z,13nm,1.1s,baz=319,slow=4.2,SNR=38
comp=Z,13nm,1.1s
MTN Manton Dam 83.00 109 P P 08 55 42.5 -0.8
MTN IAmb IAmb 08 55 44.3
comp=Z,120nm,1.7s
I26K Coal Creek Min 83.01 9 IAMs_20 IAMs_20 09 37 06.5
comp=Z,4µm,19.0s
I26K Coal Creek Min 83.01 9 P P 08 55 42.9 +0.3
baz=342
K20K Telida 83.02 14 IAMs_20 IAMs_20 09 39 07.0
comp=Z,5µm,19.0s
K20K Telida 83.02 14 P P 08 55 43.0 +0.3
baz=333
WRH Wood River Hil 83.09 11 IAMs_20 IAMs_20 09 39 41.8
comp=Z,5µm,21.0s
BWN Browne 83.14 11 IAMs_20 IAMs_20 09 39 14.8
comp=Z,4µm,20.0s
L17K Donlin 83.16 16 P P 08 55 44.2 +0.8
baz=330,SNR=14
L16K owhat River 83.24 17 P P 08 55 44.4 +0.6
baz=329,SNR=13
I28M Miner Creek 83.25 7 IAMs_20 IAMs_20 09 39 15.0
comp=Z,4µm,20.0s
I28M Miner Creek 83.25 7 P P 08 55 43.6 -0.4
baz=345
M13K Dall Lake 83.31 19 P P 08 55 45.5 +1.3
baz=326
HDA Harding Lake 83.33 10 P P 08 55 43.0 -1.3
baz=339
HDA P P 08 55 43.0 -1.3
baz=339
CAST Castle Rocks 83.35 13 P P 08 55 44.2 -0.2
CAST Castle Rocks 83.35 13 P P 08 55 44.4 0.0
baz=335,SNR=38
J25K Salcha River, 83.37 10 P P 08 55 44.4 -0.2
baz=340,SNR=36
H31M Peel River 83.40 5 P P 08 55 44.5 -0.1
baz=350,SNR=35
M14K Bethel 83.41 18 P P 08 55 45.3 +0.6
baz=327,SNR=9.3
KTH Kantishna Hill 83.45 12 IAMs_20 IAMs_20 09 39 58.4
comp=Z,4µm,20.0s
L18K Granite Mounta 83.46 15 IAMs_20 IAMs_20 09 38 44.8
comp=Z,4µm,19.0s
L18K Granite Mounta 83.46 15 P P 08 55 45.1 +0.1
baz=331
I29M Ogilvie Camp, 83.50 7 P P 08 55 44.6 -0.5
I29M IAmb IAmb 08 55 53.1
comp=Z,112nm,1.2s
I29M Ogilvie Camp, 83.50 7 P P 08 55 44.7 -0.5
baz=347,SNR=25
MCK McKinley 83.63 11 P P 08 55 45.6 -0.3
baz=338,SNR=35
TRF Thorofare Moun 83.66 12 P P 08 55 45.4 -0.8
baz=336,SNR=16
J26L Joseph Creek 83.73 9 IAMs_20 IAMs_20 09 35 45.6
comp=Z,5µm,22.0s
J26L Joseph Creek 83.73 9 P P 08 55 46.4 0.0
baz=342
SPIA Saint Paul Isl 83.73 24 P P 08 55 47.6 +1.2
baz=320
EGAK Eagle 83.76 8 IAMs_20 IAMs_20 09 38 47.6
comp=Z,3µm,19.0s
EGAK Eagle 83.76 8 P P 08 55 46.5 -0.1
baz=344,SNR=32
EGAK Eagle 83.76 8 ⇑P P 08 55 46.4 -0.1
EGAK ⇑P P 08 55 46.4 -0.1
M15K Kasigluk River 83.80 18 P P 08 55 47.4 +0.7
baz=328
PPLA Purkeypile 83.81 13 P P 08 55 47.0 0.0
baz=335,SNR=7.6
I30M Mount Dempster 83.82 6 P P 08 55 46.7 -0.2
baz=348
L20K Farewell, AK 83.84 14 P P 08 55 47.0 +0.1
baz=333
L19K White Mountain 83.90 15 P P 08 55 47.7 +0.4
baz=333
RND Reindeer 83.95 12 IAMs_20 IAMs_20 09 38 18.6
comp=Z,5µm,20.0s
M16K Timber Creek 83.96 17 IAMs_20 IAMs_20 09 34 41.2
comp=Z,5µm,19.0s
M16K Timber Creek 83.96 17 P P 08 55 48.2 +0.7
baz=329
M17K Holitna River 84.00 16 P P 08 55 48.7 +0.9
M17K IAMs_20 IAMs_20 09 38 19.2
comp=Z,4µm,20.0s
M17K Holitna River 84.00 16 P P 08 55 48.7 +0.9
baz=330
K24K Donnelly Dome 84.07 10 P P 08 55 47.6 -0.5
baz=340,SNR=14
SCRK Sand Creek 84.17 9 IAMs_20 IAMs_20 09 37 26.4
comp=Z,5µm,20.0s
SCRK Sand Creek 84.17 9 P P 08 55 48.8 0.0
baz=342,SNR=107
N14K Kuskokwak Cree 84.18 19 P P 08 55 49.5 +0.8
baz=327
RIDG Independent Ri 84.27 10 IAMs_20 IAMs_20 09 38 10.1
comp=Z,4µm,20.0s
RIDG Independent Ri 84.27 10 P P 08 55 48.8 -0.4
baz=341,SNR=10
M18K Stony River 84.30 15 P P 08 55 49.4 +0.1
baz=332
K27K Chicken 84.37 8 IAMs_20 IAMs_20 09 37 47.4
comp=Z,3µm,19.0s
K27K Chicken 84.37 8 P P 08 55 49.9 +0.3
baz=343,SNR=54
N15K Kwethluk River 84.40 18 P P 08 55 50.6 +0.8
baz=328
J30M Hart River 84.46 6 P P 08 55 50.6 +0.4
baz=348
N16K Nishlik Lake 84.48 17 P P 08 55 50.9 +0.6
baz=329
DHY Denali Highway 84.51 11 P P 08 55 49.9 -0.6
baz=339,SNR=16
M20K Styx River 84.53 14 IAMs_20 IAMs_20 09 38 17.2
comp=Z,5µm,21.0s
M20K Styx River 84.53 14 P P 08 55 50.4 -0.1
baz=334
WAT1 Susitna Watana 84.54 12 P P 08 55 49.4 -1.1
baz=338
CUT Chulitna 84.62 13 P P 08 55 50.2 -0.7
baz=336
DAWY Dawson 84.65 7 P P 08 55 50.1 -1.0
DAWY Dawson 84.65 7 P P 08 55 51.1 0.0
baz=346,SNR=45
SVW2 Sparrevohn 84.70 15 IAMs_20 IAMs_20 09 39 13.2
comp=Z,5µm,20.0s
SKT Skwentna 84.77 13 IAMs_20 IAMs_20 09 37 05.4
comp=Z,4µm,21.0s
SKT Skwentna 84.77 13 P P 08 55 51.2 -0.5
baz=335,SNR=41
N17K Nushagak Hills 84.83 16 IAMs_20 IAMs_20 09 38 45.0
comp=Z,5µm,21.0s
N17K Nushagak Hills 84.83 16 P P 08 55 52.2 +0.2
baz=331
O14K Tigyukauivet M 84.86 19 P P 08 55 52.6 +0.5
baz=327
PAX Paxson 84.91 10 P P 08 55 52.3 -0.2
baz=340,SNR=19
WAT6 Susitna Watana 84.91 11 P P 08 55 52.4 -0.2
baz=339,SNR=19
NWAO Narrogin (SRO) 84.93 133 P P 08 55 50.6 -2.2
NWAO IAmb IAmb 08 55 56.4
comp=Z,54nm,1.1s
NWAO Narrogin (SRO) 84.93 133 P P 08 55 50.6 -2.2
NWAO pmax pmax
comp=Z,54nm,1.1s
NWAO Narrogin (SRO) 84.93 133 LR LR 09 29 25.0
comp=Z,589nm,21.4s,baz=334,slow=33
N18K Kilae Creek 85.00 16 P P 08 55 53.3 +0.4
baz=332
K29M Barlow Dome 85.06 7 IAMs_20 IAMs_20 09 40 14.9
comp=Z,4µm,20.0s
K29M Barlow Dome 85.06 7 P P 08 55 53.6 +0.4
baz=347
L26K Log Cabin Wild 85.17 9 P P 08 55 54.1 +0.4
L26K IAMs_20 IAMs_20 09 38 16.7
comp=Z,4µm,20.0s
L26K Log Cabin Wild 85.17 9 P P 08 55 54.0 +0.4
baz=342,SNR=22
GENI Genyem 85.18 96 ⇑P P 08 55 54.5 0.0
MENT Mentasta 85.20 9 P P 08 55 54.0 +0.1
MENT IAmb IAmb 08 56 02.2
comp=Z,135nm,1.3s
MENT IAMs_20 IAMs_20 09 38 07.5
comp=Z,5µm,20.0s
N19K Bonanza Creek 85.20 15 P P 08 55 54.5 +0.5
baz=333
M22K Willow 85.25 13 IAMs_20 IAMs_20 09 38 53.7
comp=Z,4µm,20.0s
M22K Willow 85.25 13 P P 08 55 54.0 0.0
baz=337,SNR=11
O15K Ungalikthiuk R 85.32 18 P P 08 55 54.6 +0.1
baz=329
L27K Beaver Creek, 85.33 9 IAMs_20 IAMs_20 09 40 47.2
comp=Z,4µm,20.0s
L27K Beaver Creek, 85.33 9 P P 08 55 55.0 +0.5
baz=344,SNR=114
BCAR Beaver Creek A 85.34 9 P P 08 55 54.8 +0.3
SUA Susitna One 85.39 13 P P 08 55 54.5 -0.5
SUA Susitna One 85.39 13 P P 08 55 54.9 0.0
baz=336,SNR=17
O16K Kokwok River B 85.42 17 IAMs_20 IAMs_20 09 37 53.7
comp=Z,5µm,21.0s
O16K Kokwok River B 85.42 17 P P 08 55 55.6 +0.7
baz=330,SNR=13
GHO Glory Hole Cre 85.45 12 IAMs_20 IAMs_20 09 35 38.4
comp=Z,5µm,22.0s
MAYO Mayo, Yukon 85.46 6 P P 08 55 55.4 +0.3
baz=349,SNR=9.7
HARP HAARP 85.50 10 P P 08 55 55.9 +0.6
baz=341,SNR=12
O17K Koliganek Bris 85.51 17 P P 08 55 56.0 +0.7
baz=331
SML Sawmill 85.53 12 IAMs_20 IAMs_20 09 38 21.4
comp=Z,5µm,21.0s
SML Sawmill 85.53 12 P P 08 55 55.4 -0.1
baz=338,SNR=34
PMR Palmer 85.58 12 P P 08 55 55.4 -0.3
PMR Palmer 85.58 12 P P 08 55 55.8 +0.1
baz=337,SNR=14
PMR Palmer 85.58 12 P P 08 55 55.4 -0.3
PMR pmax pmax
comp=Z,292nm,1.4s
M24K Tolsona, Glenn 85.61 11 IAMs_20 IAMs_20 09 37 42.6

comp=Z,3µm,19.0s
M24K Tolsona, Glenn 85.61 11 P P 08 55 57.0 +1.1
baz=340,SNR=18
M23K Glacier View 85.65 12 P P 08 55 55.9 -0.2
baz=339
SCM Sheep Creek Mo 85.68 11 IAMs_20 IAMs_20 09 41 45.4
comp=Z,3µm,19.0s
SCM Sheep Creek Mo 85.68 11 P P 08 55 56.2 -0.1
baz=339
L29M L29M 85.72 7 IAMs_20 IAMs_20 09 41 50.3
comp=Z,4µm,20.0s
L29M L29M 85.72 7 P P 08 55 56.9 +0.4
baz=347
O19K Port Alsworth 85.79 15 P P 08 55 56.9 +0.1
baz=333
M26K Nabesna, AK 85.81 9 IAMs_20 IAMs_20 09 38 26.8
comp=Z,4µm,21.0s
M26K Nabesna, AK 85.81 9 P P 08 55 57.0 +0.1
baz=343
KNK Knik Glacier 85.87 12 P P 08 55 57.4 +0.1
baz=338,SNR=16
O18K Koktuh Hills 85.89 16 P P 08 55 57.7 +0.4
baz=332
P16K Nushagak River 85.93 17 P P 08 55 57.9 +0.5
baz=330
RC01 Rabbit Creek A 85.93 13 P P 08 55 57.2 -0.3
baz=337,SNR=10.0
CAPN Captain Cook N 85.95 14 P P 08 55 57.3 -0.2
baz=336
M27K Edge Creek, AK 86.01 9 P P 08 55 58.6 +0.6
M27K IAMs_20 IAMs_20 09 41 15.9
comp=Z,3µm,20.0s
M27K Edge Creek, AK 86.01 9 P P 08 55 58.6 +0.6
baz=344
BVCY Beaver Creek 86.08 8 P P 08 55 59.2 +0.9
baz=344,SNR=8.9
P17K Kvichak River 86.18 17 P P 08 55 59.4 +0.7
baz=331
KLU Klutina 86.23 11 P P 08 55 59.1 0.0
KLU IAMs_20 IAMs_20 09 37 48.0
comp=Z,4µm,22.0s
KLU Klutina 86.23 11 P P 08 55 59.4 +0.3
baz=340,SNR=16
O20K Slope Mountain 86.27 15 P P 08 55 59.3 +0.1
baz=335
P18K Big Mountain, 86.30 16 IAMs_20 IAMs_20 09 38 43.9
comp=Z,4µm,20.0s
P18K Big Mountain, 86.30 16 P P 08 55 59.1 -0.2
baz=332
M29M Somme Creek 86.33 7 P P 08 55 59.8 +0.2
baz=346
N25K Chitina, Valde 86.34 10 IAMs_20 IAMs_20 09 39 47.7
comp=Z,5µm,20.0s
N25K Chitina, Valde 86.34 10 P P 08 55 59.3 -0.3
baz=341,SNR=11
M30M Minto, Yukon 86.38 6 IAMs_20 IAMs_20 09 41 42.6
comp=Z,4µm,20.0s
M30M Minto, Yukon 86.38 6 P P 08 55 59.6 -0.1
baz=348,SNR=9.6
WRGLY Wrigley 86.41 0 P P 08 56 00.1 +0.3
baz=359,SNR=26
O22K Cooper Landing 86.50 13 P P 08 56 00.2 0.0
baz=337
P19K Oil Pt 86.52 15 P P 08 55 59.6 -0.9
baz=334
Q16K King Salmon 86.58 17 P P 08 56 00.5 -0.1
baz=331
GLI Glacier Island 86.61 12 P P 08 56 00.5 -0.3
baz=339
YUK3 Moose Creek 86.75 8 P P 08 56 02.1 +0.3
baz=345,SNR=23
MCARA McCarthy VSAT 86.78 10 IAMs_20 IAMs_20 09 39 52.5
comp=Z,5µm,22.0s
MCARA McCarthy VSAT 86.78 10 P P 08 56 01.6 -0.1
baz=343
FID Port Fidalgo 86.84 11 IAMs_20 IAMs_20 09 42 30.7
comp=Z,4µm,21.0s
YKAW3 Yellowknife Wh 86.85 356 IAMs_20 IAMs_20 09 37 56.1
comp=Z,6µm,21.0s
HOM Homer 86.86 14 IAMs_20 IAMs_20 09 38 32.8
comp=Z,4µm,20.0s
HOM Homer 86.86 14 P P 08 56 02.8 +0.8
baz=335
VRDI Verde Repeater 86.87 10 P P 08 56 01.8 -0.6
VRDI IAmb IAmb 08 56 09.4
comp=Z,168nm,1.6s
VRDI IAMs_20 IAMs_20 09 40 16.8
comp=Z,5µm,21.0s
SEW Seward 86.90 13 P P 08 56 02.4 +0.2
baz=337
YKA Yellowknife Ar 86.92 356 P P 08 56 01.8 -0.5
YKA Yellowknife Ar 86.92 356 P P 08 56 01.8 -0.5
YKA Yellowknife Ar 86.92 356 P P 08 56 01.9 -0.3
comp=Z,27nm,1.0s,baz=356,slow=5.1,SNR=211
YKA PKKPbc **PKKPbc** 09 13 59.5 +3.3
comp=Z,0.3nm,0.8s,baz=185,slow=2.7,SNR=3.5
YKA LR LR 09 39 12.3
comp=Z,4µm,20.9s,baz=360,slow=38
comp=Z,27nm,1.0s
YKAW1 Yellowknife Wh 86.92 356 IAMs_20 IAMs_20 09 38 09.0
comp=Z,5µm,21.0s
BMRM Bremner River 86.94 11 P P 08 56 02.5 0.0
baz=341,SNR=9.6
M31M Drury Creek, Y 86.96 5 IAMs_20 IAMs_20 09 40 33.1
comp=Z,4µm,21.0s
M31M Drury Creek, Y 86.96 5 P P 08 56 02.5 -0.1
baz=350,SNR=36
BRSE Bradley Lake S 86.97 14 P P 08 56 03.4 +0.7
baz=336
Q18K Katmai Hardscr 87.01 16 P P 08 56 02.9 -0.1
baz=333
FARO Faro, Yukon 87.02 5 P P 08 56 03.0 +0.2
baz=351,SNR=19
CNPM China Poot 87.07 14 IAMs_20 IAMs_20 09 38 39.3
comp=Z,5µm,21.0s
Q19K Cape Douglas, 87.08 15 P P 08 56 03.1 -0.1
baz=334
Q17K Contact Creek 87.14 17 P P 08 56 02.9 -0.6
baz=332
EYAK Cordova Ski Ar 87.15 11 P P 08 56 03.4 0.0
baz=340
BARN Barnard Glacie 87.28 9 P P 08 56 04.6 +0.2
BARN IAmb IAmb 08 56 14.0
comp=Z,127nm,1.2s
BARN IAMs_20 IAMs_20 09 42 45.7
comp=Z,4µm,19.0s
YUK8 Steele Glacier 87.31 8 P P 08 56 04.4 -0.2
baz=345,SNR=12
R16K Pilot Point 87.31 18 P P 08 56 04.7 +0.5
baz=330
CRQE Cirque 87.38 10 P P 08 56 04.8 +0.1
baz=343
P23K Montague Islan 87.38 12 P P 08 56 05.1 +0.5
baz=339
YUK4 Talbot Arm 87.39 8 P P 08 56 05.1 +0.2
baz=346,SNR=35
CTG Chitna Glacier 87.42 9 P P 08 56 05.5 +0.5
baz=344,SNR=12
CTGM Chitina Glacie 87.42 9 IAMs_20 IAMs_20 09 39 20.3
comp=Z,5µm,22.0s
N30M Aishikik Lake 87.44 7 P P 08 56 05.0 +0.1
baz=348
NIKH Nikolski High 87.51 26 P P 08 56 05.2 -0.1
baz=322
N31M Braeburn, Yuko 87.55 6 IAMs_20 IAMs_20 09 37 52.5
comp=Z,4µm,21.0s
N31M Braeburn, Yuko 87.55 6 P P 08 56 05.5 +0.1
baz=349,SNR=10
R17K Ugashik Creek 87.56 17 P P 08 56 05.6 +0.1
baz=332
GRNC Granite Creek 87.59 9 IAMs_20 IAMs_20 09 39 45.7
comp=Z,4µm,20.0s
HMT Hamilton 87.60 11 IAMs_20 IAMs_20 09 41 50.0
comp=Z,5µm,21.0s
LOGN Logan Glacier 87.60 9 IAMs_20 IAMs_20 09 43 09.1
comp=Z,4µm,20.0s
BERG Berg Lake 87.63 10 IAMs_20 IAMs_20 09 37 43.8
comp=Z,4µm,19.0s
ISLE Juniper Island 87.63 10 P P 08 56 05.4 -0.5
ISLE IAmb IAmb 08 56 21.0
comp=Z,135nm,1.4s
ISLE IAMs_20 IAMs_20 09 40 52.9
comp=Z,5µm,22.0s
Q20K Shuyak Island 87.65 15 P P 08 56 05.6 -0.3
baz=335
UNV Unalaska Valle 87.67 24 P P 08 56 06.5 +0.5
baz=324
FCC Fort Churchill 87.75 346 P P 08 56 06.1 -0.2
FCC IAmb IAmb 08 56 12.6
comp=Z,183nm,1.7s
FCC Fort Churchill 87.75 346 P P 08 56 06.1 -0.2
FCC pmax pmax
comp=Z,183nm,1.7s
YUK6 Outpost Mounta 87.81 8 P P 08 56 07.5 +0.5
baz=347,SNR=9.4
TABL Table Mountain 87.95 9 IAMs_20 IAMs_20 09 39 58.4
comp=Z,4µm,22.0s
KAIM Kayak Island 87.96 11 P P 08 56 07.6 +0.3
baz=342
HYT Haines Junctio 88.02 7 P P 08 56 08.0 +0.1
HYT Haines Junctio 88.02 7 P P 08 56 08.4 +0.6
baz=347,SNR=34
MESA MESA 88.09 9 P P 08 56 08.1 -0.1
baz=344
N32M Quiet Lake 88.11 5 IAMs_20 IAMs_20 09 39 33.3
comp=Z,3µm,20.0s
N32M Quiet Lake 88.11 5 P P 08 56 08.1 0.0
baz=351
R18K Karluk 88.11 16 P P 08 56 07.8 -0.2
baz=333
CHGN Chignik 88.19 19 P P 08 56 09.2 +0.8
baz=330
O30N Mendenhall 88.22 7 P P 08 56 08.7 +0.1
baz=348,SNR=12
KDAK Kodiak Island 88.36 15 P P 08 56 09.6 +0.3
baz=335
KDAK Kodiak Island 88.36 15 LR LR 09 41 49.0
comp=Z,5µm,19.0s,baz=351,slow=40
SDPT Sand Point 88.40 20 P P 08 56 10.2 +0.7
baz=328
PINM Pinnacle 88.40 9 P P 08 56 10.1 +0.5
baz=345
O29M Mount Kennedy 88.41 8 P P 08 56 09.8 +0.1
O29M IAmb IAmb 08 56 17.1
comp=Z,115nm,1.4s
O29M IAMs_20 IAMs_20 09 39 27.5
comp=Z,3µm,20.0s
O29M Mount Kennedy 88.41 8 P P 08 56 09.8 +0.1
baz=346
WHY Whitehorse 88.44 6 IAMs_20 IAMs_20 09 40 59.2
comp=Z,4µm,22.0s
WHY Whitehorse 88.44 6 P P 08 56 09.2 -0.6
baz=350,SNR=9.7
BCPM Bancas Point 88.62 8 IAMs_20 IAMs_20 09 42 54.0
comp=Z,4µm,19.0s
OHAK Old Harbor 88.70 16 P P 08 56 10.7 -0.1
baz=334
P30M Million Dollar 88.77 7 P P 08 56 11.9 +0.6
baz=348
PNL Peninsula 88.93 8 P P 08 56 12.7 +0.7
baz=346
P33M Teslin, Yukon 89.06 5 P P 08 56 12.2 -0.4
P33M IAmb IAmb 08 56 19.4
comp=Z,144nm,1.5s
P33M IAMs_20 IAMs_20 09 39 48.4
comp=Z,4µm,21.0s
P33M Teslin, Yukon 89.06 5 P P 08 56 12.3 -0.4
baz=351,SNR=31
SII Sitkinak Islan 89.08 17 P P 08 56 12.4 -0.3
baz=333
P29M Windy Craggy 89.16 8 P P 08 56 13.0 -0.1
baz=347
CHIR Chirikof Islan 89.37 18 P P 08 56 14.4 +0.4
baz=332
WTLY Watson Lake, Y 89.40 3 IAMs_20 IAMs_20 09 42 25.4
comp=Z,4µm,20.0s
WTLY Watson Lake, Y 89.40 3 P P 08 56 14.4 +0.2
baz=355,SNR=9.2
FLDN Fort Liard 89.41 0 P P 08 56 14.9 +0.7
baz=359,SNR=7.0
WRA Warramunga Arr 89.45 114 P P 08 56 14.0 -1.0
WRA Warramunga Arr 89.45 114 P P 08 56 14.1 -0.9
comp=Z,13nm,1.0s,baz=314,slow=3.9,SNR=38
WRA PKKPbc **PKKPbc** 09 13 49.5 -0.3
comp=Z,1.4nm,0.9s,baz=119,slow=2.3,SNR=5.5
comp=Z,13nm,1.0s
WRAB Tennant Creek 89.45 114 P P 08 56 14.4 -0.6
WRAB IAmb IAmb 08 56 16.0
comp=Z,114nm,1.8s
WRAB Tennant Creek 89.45 114 P P 08 56 14.4 -0.6
WRAB pmax pmax
comp=Z,114nm,1.8s
WRAB MLR MLR
comp=Z,1µm,22.0s
WB2 Warramunga Arr 89.46 114 P P 08 56 13.6 -1.4
WB2 IAmb IAmb 08 56 16.1
comp=Z,117nm,1.7s
KOTAN Kotaneelee Air 89.52 1 P P 08 56 15.1 +0.5
baz=359
SKAG Skagway 89.58 6 P P 08 56 15.9 +0.9
SKAG IAmb IAmb 08 56 22.9
comp=Z,127nm,1.5s
SKAG IAMs_20 IAMs_20 09 44 16.4
comp=Z,3µm,18.0s
SKAG Skagway 89.58 6 P P 08 56 15.4 +0.4
baz=349,SNR=9.2
P32M Atlin 89.60 6 IAMs_20 IAMs_20 09 42 14.8
comp=Z,3µm,19.0s
P32M Atlin 89.60 6 P P 08 56 14.9 -0.3
baz=351,SNR=9.3
WR0 Warramunga Arr 89.62 113 P P 08 56 14.4 -1.4
R33M Jennings River 90.00 4 IAMs_20 IAMs_20 09 40 09.3
comp=Z,3µm,21.0s
R33M Jennings River 90.00 4 P P 08 56 17.3 +0.2
baz=353
PKME Peaks-Kenny Pk 90.18 325 P P 08 56 18.7 +0.6
baz=44
LIRD Liard River Hi 90.20 2 P P 08 56 18.2 +0.3
baz=357,SNR=7.0
Q32M Nakina River 90.34 5 IAMs_20 IAMs_20 09 39 48.4
comp=Z,3µm,19.0s
Q32M Nakina River 90.34 5 P P 08 56 18.8 -0.1
baz=352
FORT Forrest 90.81 126 P P 08 56 20.1 -1.0
FORT IAmb IAmb 08 56 25.0
comp=Z,58nm,0.8s
R32K Eaglecrest 90.83 6 IAMs_20 IAMs_20 09 42 20.4
comp=Z,3µm,20.0s
R32K Eaglecrest 90.83 6 P P 08 56 21.6 +0.8
baz=350
S31K Pelican 90.97 7 P P 08 56 21.9 +0.5
baz=348
DLBC Dease Lake 91.01 4 P P 08 56 22.6 +0.8
baz=354,SNR=9.3
DLBC Dease Lake 91.01 4 LR LR 09 39 49.6
comp=Z,2µm,21.9s,baz=342,slow=37
ASAR Alice Springs 91.13 117 P P 08 56 21.9 -0.9
comp=Z,11nm,0.9s,baz=306,slow=4.0,SNR=42
ASAR PKKPbc **PKKPbc** 09 13 44.6 -1.1
comp=Z,0.6nm,0.7s,baz=118,slow=2.9,SNR=4.6
ASAR LR LR 09 38 31.7
comp=Z,864nm,20.8s,baz=304,slow=36
comp=Z,11nm,0.9s
S34M Telegraph Cree 91.46 4 IAMs_20 IAMs_20 09 41 04.0
comp=Z,4µm,21.0s
S34M Telegraph Cree 91.46 4 P P 08 56 24.8 +1.0
baz=353,SNR=9.3
S32K Killisnoo 91.62 6 P P 08 56 24.8 +0.3
baz=350
SIT Sitka 91.95 7 IAMs_20 IAMs_20 09 38 34.0
comp=Z,3µm,22.0s
SIT Sitka 91.95 7 P P 08 56 26.2 +0.2
baz=349
LBNH Lisbon 92.21 326 P P 08 56 27.7 +0.2
baz=42
T35M Bob Quinn 92.44 4 IAMs_20 IAMs_20 09 45 38.0
comp=Z,3µm,19.0s
T35M Bob Quinn 92.44 4 P P 08 56 28.2 -0.2
baz=354
WRAK Wrangell Islan 92.86 5 P P 08 56 30.2 -0.1
baz=352
FFC Flin Flon 93.08 348 P P 08 56 29.9 -1.5
FFC Flin Flon 93.08 348 P P 08 56 29.9 -1.5
FFC pmax pmax
comp=Z,29nm,1.1s
FFC MLR MLR
comp=Z,5µm,20.0s
U33K Whale Pass 93.09 6 P P 08 56 31.6 +0.3
baz=351
LONY Lake Ozonia 93.17 328 P P 08 56 31.8 -0.2
baz=40
HRV Adam Dziewonsk 93.32 325 P P 08 56 32.8 +0.2
baz=42
U35K Hyder 93.52 4 IAMs_20 IAMs_20 09 47 07.5
comp=Z,3µm,18.0s
U35K Hyder 93.52 4 P P 08 56 33.4 +0.2
baz=354
M65A Busby, Falmout 93.55 324 IAMs_20 IAMs_20 09 45 44.8
comp=Z,3µm,18.0s
ACCN Adirondack Com 93.68 327 IAMs_20 IAMs_20 09 40 32.1
comp=Z,3µm,20.0s
CRAG Craig 93.73 6 IAMs_20 IAMs_20 09 43 26.1
comp=Z,3µm,21.0s
CRAG Craig 93.73 6 P P 08 56 34.2 -0.1
baz=351
L61B Northampton 93.91 325 P P 08 56 35.6 +0.1
baz=41
V35K Ketchikan 94.00 5 IAMs_20 IAMs_20 09 44 10.0
comp=Z,3µm,19.0s
V35K Ketchikan 94.00 5 P P 08 56 35.5 0.0
baz=352
PMG Port Moresby 94.61 98 P P 08 56 39.0 -0.1
PMG Port Moresby 94.61 98 eP P 08 56 38.5 -0.5
PMG pmax pmax
comp=Z,52nm,1.5s
PMG Port Moresby 94.61 98 P P 08 56 38.6 -0.4
comp=Z,23nm,0.9s,baz=331,slow=12,SNR=5.2
PMG LR LR 09 43 57.4
comp=Z,522nm,21.5s,baz=306,slow=38
comp=Z,23nm,0.9s
DELO Deloro Mine 94.61 329 IAMs_20 IAMs_20 09 40 53.4
comp=Z,3µm,20.0s
SADO Sadowa 95.07 330 LR LR 09 43 24.0
comp=Z,1µm,18.2s,baz=44,slow=38
BRLDA Berland Lookou 95.45 357 IAMs_20 IAMs_20 09 41 35.4
comp=Z,4µm,22.0s
PAL Palisades 95.60 325 IAMs_20 IAMs_20 09 41 50.0
comp=Z,2µm,18.0s
PAL Palisades 95.60 325 P P 08 56 42.1 -1.0
baz=40
BINY Binghamton 95.69 327 P P 08 56 43.7 +0.1
baz=39
RCBR Riachuelo 95.69 267 IAMs_20 IAMs_20 09 42 38.7
comp=Z,3µm,18.0s
RCBR Riachuelo 95.69 267 eP P 08 56 44.5 +0.5
RCBR Riachuelo 95.69 267 LR LR 09 40 30.3
comp=Z,2µm,18.1s,baz=62,slow=36
ULM Lac du Bonnet 95.98 343 IAMs_20 IAMs_20 09 45 54.8
comp=Z,3µm,19.0s
ULM Lac du Bonnet 95.98 343 P P 08 56 43.5 -1.2
comp=Z,16nm,0.9s,baz=16,slow=4.0,SNR=18
ULM LR LR 09 42 03.0
comp=Z,2µm,18.9s,baz=20,slow=37
comp=Z,16nm,0.9s
J54A Appleton 96.05 329 IAMs_20 IAMs_20 09 43 30.4
comp=Z,3µm,20.0s
D41A Chassel 96.72 337 IAMs_20 IAMs_20 09 44 30.6
comp=Z,3µm,20.0s
WVNY West Valley, N 96.72 329 IAMs_20 IAMs_20 09 42 10.3
comp=Z,3µm,21.0s
EYMN Ely 96.86 339 IAMs_20 IAMs_20 09 44 28.3
comp=Z,4µm,21.0s
EYMN Ely 96.86 339 P P 08 56 48.7 -0.1
baz=27
B35A Bob, Littlefor 97.14 341 IAMs_20 IAMs_20 09 46 23.6
comp=Z,3µm,20.0s
BBB Bella Bella 97.35 3 IAMs_20 IAMs_20 09 48 39.7
comp=Z,3µm,19.0s
BBB Bella Bella 97.35 3 LR LR 09 46 12.7
comp=Z,2µm,19.3s,baz=346,slow=39
G45A Suttons Bay 97.44 334 IAMs_20 IAMs_20 09 44 11.8
comp=Z,3µm,21.0s
ERPA Erie 97.57 329 IAMs_20 IAMs_20 09 40 52.6
comp=Z,3µm,20.0s
ERPA Erie 97.57 329 P P 08 56 51.4 -0.7
baz=36
AGMN Agassiz Nation 97.78 342 IAMs_20 IAMs_20 09 42 59.1
comp=Z,3µm,22.0s
AGMN Agassiz Nation 97.78 342 P P 08 56 52.5 -0.4
baz=23
SSPA Standing Stone 97.80 327 IAMs_20 IAMs_20 09 45 52.9
comp=Z,3µm,18.0s
SSPA Standing Stone 97.80 327 P P 08 56 52.8 -0.4
baz=38
E38A The Farm, Brul 98.08 339 IAMs_20 IAMs_20 09 47 26.5
comp=Z,3µm,18.0s
M53A WI Miller and 98.42 329 P P 08 56 55.3 -0.6
baz=36
I45A Fountain 98.51 334 IAMs_20 IAMs_20 09 48 46.2
comp=Z,2µm,20.0s
M52A Chesterland 98.63 330 IAMs_20 IAMs_20 09 41 34.8
comp=Z,3µm,22.0s
G40A Rib Lake 98.83 337 IAMs_20 IAMs_20 09 45 00.6
comp=Z,3µm,22.0s
N53A Lisbon 99.00 329 IAMs_20 IAMs_20 09 41 48.6
comp=Z,3µm,21.0s
MDND Maddock 99.12 344 IAMs_20 IAMs_20 09 43 25.7
comp=Z,3µm,20.0s
MDND Maddock 99.12 344 P Pdif 08 56 57.8 -1.1
baz=20
CTA Charters Tower 99.12 108 P Pdif 08 56 57.5 -1.9
comp=Z,3.7nm,0.8s,baz=277,slow=8.1,SNR=1.6
CTA LR LR 09 48 43.7
comp=Z,1µm,18.7s,baz=296,slow=40
comp=Z,3.7nm,0.8s
D32A Dogwood Acres, 99.15 343 IAMs_20 IAMs_20 09 43 36.7
comp=Z,3µm,21.0s
O54A Avella 99.30 328 IAMs_20 IAMs_20 09 45 42.6
comp=Z,3µm,19.0s
F36A Milaca 99.35 340 IAMs_20 IAMs_20 09 47 13.0
comp=Z,3µm,19.0s
DGMT Dagmar 99.48 348 P Pdif 08 56 59.9 -0.7
baz=16
MCWV Mont Chateau 99.48 328 IAMs_20 IAMs_20 09 44 11.5
comp=Z,2µm,20.0s
I42A Draeger Farm, 99.61 336 IAMs_20 IAMs_20 09 49 22.1
comp=Z,3µm,18.0s
CBB Campbell River 99.61 2 IAMs_20 IAMs_20 09 48 58.4
comp=Z,3µm,20.0s
O53A New Philadelph 99.62 329 P Pdif 08 57 00.3 -1.0
baz=35
SPMN Marine on St. 99.70 339 IAMs_20 IAMs_20 09 44 21.5
comp=Z,3µm,21.0s
O52A Adamsville 100.01 329 IAMs_20 IAMs_20 09 49 56.2
comp=Z,3µm,21.0s
F33A 5 Mile Ranch, 100.16 342 IAMs_20 IAMs_20 09 44 34.3
comp=Z,4µm,20.0s
L46A Eue Claire 100.26 333 IAMs_20 IAMs_20 09 44 45.6
comp=Z,2µm,20.0s
P53A Whipple 100.32 329 IAMs_20 IAMs_20 09 42 28.6
comp=Z,3µm,22.0s
ACSO Alum Creek Sta 100.41 330 P Pdif 08 57 03.6 -1.2
baz=34
K43A Burlington 100.43 335 IAMs_20 IAMs_20 09 44 45.0
comp=Z,3µm,21.0s
Q54A Coxs Mills 100.48 328 IAMs_20 IAMs_20 09 44 26.8
comp=Z,3µm,21.0s
P52A Corning 100.53 329 IAMs_20 IAMs_20 09 42 45.1
comp=Z,3µm,22.0s
P52A Corning 100.53 329 P Pdif 08 57 05.1 -0.3
baz=35
E28A Huff 100.57 345 IAMs_20 IAMs_20 09 44 19.0
comp=Z,3µm,20.0s
R55A Marlinton 100.72 327 IAMs_20 IAMs_20 09 48 30.0
comp=Z,2µm,21.0s
L44A Lake County Fo 100.73 334 IAMs_20 IAMs_20 09 50 10.0
comp=Z,3µm,18.0s
L44A Lake County Fo 100.73 334 P Pdif 08 57 06.3 +0.1
baz=30
CLRS Cowichan Lake 100.84 1 IAMs_20 IAMs_20 09 46 47.1
comp=Z,3µm,21.0s
JFWS Jewell Farm 100.93 336 IAMs_20 IAMs_20 09 47 43.1
comp=Z,2µm,19.0s
JFWS Jewell Farm 100.93 336 P Pdif 08 57 07.2 +0.1
baz=28
I37A Lemond, Waseca 100.98 339 IAMs_20 IAMs_20 09 46 01.2
comp=Z,3µm,20.0s
N47A Urbana 100.99 332 IAMs_20 IAMs_20 09 46 56.9
comp=Z,2µm,19.0s
HQIL Hanson Quary C 101.04 334 IAMs_20 IAMs_20 09 50 38.1
comp=Z,3µm,18.0s
Q52A Bidwell 101.14 329 IAMs_20 IAMs_20 09 43 16.3
comp=Z,3µm,20.0s
STKA Stephens Creek 101.19 120 P Pdif 08 57 06.7 -1.6
comp=Z,2.6nm,1.0s,baz=300,slow=11,SNR=6.2
NEW Newport 101.25 356 P Pdif 08 57 08.4 -0.1
baz=4.9
M44A Midewin, Midew 101.47 334 IAMs_20 IAMs_20 09 50 52.4
comp=Z,3µm,18.0s
R53A Hurricane 101.52 328 IAMs_20 IAMs_20 09 44 39.3
comp=Z,3µm,19.0s
L42A Oliver, Polo 101.52 336 IAMs_20 IAMs_20 09 51 00.9
comp=Z,3µm,19.0s
LAO LASA Array 101.56 349 P Pdif 08 57 09.7 -0.2
baz=14

S54A	Dingess, Beckl comp=Z,2µm,20.0s	101.66	328	IAMs_20	IAMs_20	09 49 04.1				
BLA	Blacksburg comp=Z,3µm,22.0s	101.72	327	IAMs_20	IAMs_20	09 44 01.7				
BLA	Blacksburg baz=36	101.72	327	P	Pdif	08 57 10.7	-0.1			
P49A	Miami Univ. Ec baz=33	101.72	331	P	Pdif	08 57 10.2	-0.5			
SFIN	Lafayette comp=Z,3µm,21.0s	101.97	333	IAMs_20	IAMs_20	09 46 55.9				
CNNC	Cliffs of the comp=Z,2µm,19.0s	102.04	324	IAMs_20	IAMs_20	09 45 56.6				
GNW	Green Mountain comp=Z,3µm,18.0s	102.11	0	IAMs_20	IAMs_20	09 52 16.7				
SUSD	Miller comp=Z,3µm,22.0s	102.15	343	IAMs_20	IAMs_20	09 45 35.1				
ECSD	EROS Data Cent comp=Z,3µm,19.0s	102.19	341	IAMs_20	IAMs_20	09 48 11.0				
ECSD	EROS Data Cent baz=23	102.19	341	P	Pdif	08 57 12.6	-0.1			
W59A	Clinton comp=Z,3µm,20.0s	102.38	324	IAMs_20	IAMs_20	09 46 05.4				
LTY	Liberty comp=Z,2µm,22.0s	102.40	359	IAMs_20	IAMs_20	09 51 53.3				
MSO	Missoula comp=Z,3µm,20.0s	102.44	354	IAMs_20	IAMs_20	09 44 50.4				
D05A	Enumclaw comp=Z,3µm,22.0s	102.49	360	IAMs_20	IAMs_20	09 43 53.5				
D08A	Wollman Farm, comp=Z,4µm,21.0s	102.55	357	IAMs_20	IAMs_20	09 45 52.1				
HDIL	Hopedale comp=Z,3µm,18.0s	102.66	335	IAMs_20	IAMs_20	09 51 41.9				
P46A	Rosedale comp=Z,2µm,21.0s	102.67	333	IAMs_20	IAMs_20	09 50 38.4				
BLO	Bloomington comp=Z,3µm,19.0s	102.78	332	IAMs_20	IAMs_20	09 48 02.2				
S51A	Beattyville comp=Z,3µm,22.0s	102.82	329	IAMs_20	IAMs_20	09 43 53.7				
U54A	Nelsons Funny comp=Z,3µm,18.0s	102.94	327	IAMs_20	IAMs_20	09 47 33.9				
R49A	Shelbyville comp=Z,3µm,20.0s	102.96	331	IAMs_20	IAMs_20	09 47 34.3				
E07A	Sunnyside comp=Z,3µm,22.0s	103.08	358	IAMs_20	IAMs_20	09 47 30.1				
E08A	Dider Farm, El comp=Z,3µm,20.0s	103.11	357	IAMs_20	IAMs_20	09 47 53.2				
E03A	Lebam comp=Z,4µm,20.0s	103.13	1	IAMs_20	IAMs_20	09 48 32.5				
W57A	Gilead comp=Z,2µm,18.0s	103.16	325	IAMs_20	IAMs_20	09 49 36.1				
V55A	Taylorsville comp=Z,3µm,20.0s	103.19	326	IAMs_20	IAMs_20	09 46 09.8				
HAWA	Hanford comp=Z,3µm,22.0s	103.23	358	IAMs_20	IAMs_20	09 47 58.2				
RADR	Rader Ridge comp=Z,4µm,22.0s	103.25	1	IAMs_20	IAMs_20	09 48 34.7				
BOZ	Bozeman (W) comp=Z,3µm,20.0s	103.42	352	IAMs_20	IAMs_20	09 48 11.2				
WCI	Wyandotte Cave comp=Z,2µm,20.0s	103.48	331	IAMs_20	IAMs_20	09 44 42.0				
WCI	Wyandotte Cave baz=32	103.48	331	P	Pdif	08 57 18.6	+0.1			
F10A	Beach Ranch, E comp=Z,4µm,20.0s	103.54	356	IAMs_20	IAMs_20	09 46 42.5				
RLMT	Red Lodge baz=12	103.57	350	P	Pdif	08 57 18.3	-0.7			
F04D	Rainier, OR comp=Z,3µm,22.0s	103.59	0	IAMs_20	IAMs_20	09 48 05.8				
RSSD	Black Hills baz=16	103.62	346	P	Pdif	08 57 18.9	-0.4			
TZTN	Tazewell comp=Z,4µm,21.0s	103.71	328	IAMs_20	IAMs_20	09 45 57.2				
TZTN	Tazewell baz=34	103.71	328	P	Pdif	08 57 19.4	-0.2			
F07A	Phinny Hill Vi comp=Z,3µm,21.0s	103.74	358	IAMs_20	IAMs_20	09 48 25.7				
F03A	Seaside comp=Z,3µm,22.0s	103.74	1	IAMs_20	IAMs_20	09 49 01.8				
L34A	Svendsen Farm, comp=Z,3µm,21.0s	103.74	340	IAMs_20	IAMs_20	09 49 12.3				
F04A	Amboy comp=Z,4µm,22.0s	103.74	360	IAMs_20	IAMs_20	09 47 12.8				
OLIL	Olney comp=Z,2µm,18.0s	103.78	333	IAMs_20	IAMs_20	09 52 16.8				
KMSC	Kings Mountain comp=Z,2µm,21.0s	103.82	326	IAMs_20	IAMs_20	09 45 18.5				
KMSC	Kings Mountain baz=36	103.82	326	P	Pdif	08 57 19.8	-0.3			
T50A	Nancy comp=Z,3µm,22.0s	103.88	330	IAMs_20	IAMs_20	09 44 36.8				
Q44A	Meyer Farm, Va comp=Z,2µm,19.0s	103.99	334	IAMs_20	IAMs_20	09 52 40.3				
V53A	Saluda comp=Z,3µm,18.0s	104.09	327	IAMs_20	IAMs_20	09 49 46.5				
G08A	Pilot Rock comp=Z,3µm,20.0s	104.31	357	IAMs_20	IAMs_20	09 48 28.8				
V52A	Sevierville comp=Z,2µm,20.0s	104.31	328	IAMs_20	IAMs_20	09 46 28.2				
PAULI	Pauline comp=Z,3µm,22.0s	104.31	326	IAMs_20	IAMs_20	09 45 44.5				
PLID	Pearl Lake comp=Z,2µm,20.0s	104.34	355	IAMs_20	IAMs_20	09 47 50.7				
HOOD	Mount Hood Mea comp=Z,4µm,22.0s	104.35	359	IAMs_20	IAMs_20	09 46 15.8				
G06A	Carlson Farm, comp=Z,3µm,18.0s	104.42	358	IAMs_20	IAMs_20	09 52 21.7				
G05A	Wamic comp=Z,3µm,20.0s	104.42	359	IAMs_20	IAMs_20	09 51 52.8				
HEBO	Mount Hebo comp=Z,3µm,20.0s	104.46	1	IAMs_20	IAMs_20	09 50 03.7				
G03D	McMinnville, O comp=Z,3µm,19.0s	104.46	0	IAMs_20	IAMs_20	09 50 12.9				
JSC	Jenkinsville comp=Z,2µm,18.0s	104.48	326	IAMs_20	IAMs_20	09 49 18.0				
TKL	Tuckaleechee C comp=Z,2µm,21.0s	104.54	328	IAMs_20	IAMs_20	09 46 34.4				
P40A	Paris comp=Z,4µm,21.0s	104.55	336	IAMs_20	IAMs_20	09 49 53.0				
BMO	Blue Mountains comp=Z,3µm,21.0s	104.66	356	IAMs_20	IAMs_20	09 48 47.2				
V51A	Loudon comp=Z,3µm,21.0s	104.68	329	IAMs_20	IAMs_20	09 46 36.1				
BGNE	Belgrade comp=Z,3µm,21.0s	104.77	341	IAMs_20	IAMs_20	09 47 26.3				
T47A	Sharon Grove comp=Z,3µm,20.0s	104.88	331	IAMs_20	IAMs_20	09 49 21.9				
NHSC	New Hope baz=37	104.89	324	P	Pdif	08 57 25.0	+0.2			
H04A	Detroit Lake comp=Z,3µm,22.0s	104.99	360	IAMs_20	IAMs_20	09 47 59.8				
IMW	Indian Meadow comp=Z,3µm,22.0s	105.00	351	IAMs_20	IAMs_20	09 47 45.3				
HODGE	Hodges comp=Z,3µm,20.0s	105.00	326	IAMs_20	IAMs_20	09 46 15.8				
ELIB	Princess Elisa	105.05	190	dPKiKP	PKiKP	09 01 37.9	-1.2			
CPCT	Cooper Cave comp=Z,3µm,21.0s	105.06	328	IAMs_20	IAMs_20	09 46 47.9				
W52A	Murphy comp=Z,2µm,19.0s	105.08	328	IAMs_20	IAMs_20	09 46 39.6				
COR	Corvallis comp=Z,3µm,22.0s	105.09	0	IAMs_20	IAMs_20	09 46 07.4				
SIUC	Southern Illin comp=Z,3µm,20.0s	105.10	333	IAMs_20	IAMs_20	09 48 50.7				
S44A	Carbondale comp=Z,3µm,21.0s	105.13	333	IAMs_20	IAMs_20	09 54 28.6				
H04D	Lebanon comp=Z,3µm,21.0s	105.15	0	IAMs_20	IAMs_20	09 50 58.1				
CLTN	Cedars of Leba comp=Z,2µm,19.0s	105.31	330	IAMs_20	IAMs_20	09 51 51.5				
I05D	Terrebonne, OR comp=Z,3µm,20.0s	105.33	359	IAMs_20	IAMs_20	09 45 34.7				
FVM	French Village comp=Z,2µm,20.0s	105.33	334	IAMs_20	IAMs_20	09 53 15.8				
T45A	Paducah comp=Z,3µm,18.0s	105.48	332	IAMs_20	IAMs_20	09 53 27.8				
BUCK	Buck Mountain comp=Z,3µm,21.0s	105.48	0	IAMs_20	IAMs_20	09 48 29.7				
CCM	Cathedral Cave comp=Z,3µm,19.0s	105.57	335	IAMs_20	IAMs_20	09 48 50.1				
W50A	Signal Mountai comp=Z,3µm,22.0s	105.62	329	IAMs_20	IAMs_20	09 47 14.7				
HLID	Hailey comp=Z,3µm,20.0s	105.72	354	IAMs_20	IAMs_20	09 46 46.3				
R40A	Maddies Statio comp=Z,3µm,20.0s	105.73	336	IAMs_20	IAMs_20	09 47 47.3				
V48A	Smith Brothers comp=Z,2µm,19.0s	105.82	330	IAMs_20	IAMs_20	09 48 10.0				
I04A	Tendick Farm, comp=Z,3µm,21.0s	105.88	360	IAMs_20	IAMs_20	09 52 08.4				
WVT	Waverly comp=Z,3µm,20.0s	105.91	331	IAMs_20	IAMs_20	09 50 02.3				
BW06	Boulder Array comp=Z,3µm,20.0s	105.92	350	IAMs_20	IAMs_20	09 51 01.4				
X51A	Calhoun comp=Z,2µm,20.0s	105.94	328	IAMs_20	IAMs_20	09 50 49.4				
I03D	Drain, OR comp=Z,3µm,19.0s	105.98	0	IAMs_20	IAMs_20	09 54 23.9				
MFID	Camas Ranch comp=Z,3µm,20.0s	105.99	355	IAMs_20	IAMs_20	09 52 01.3				
HICK	Hickman comp=Z,3µm,20.0s	106.12	332	IAMs_20	IAMs_20	09 53 54.9				
AHID	Auburn Hatcher comp=Z,4µm,22.0s	106.14	351	IAMs_20	IAMs_20	09 48 20.2				
Y52A	Lilburn comp=Z,2µm,18.0s	106.16	327	IAMs_20	IAMs_20	09 50 03.2				
PARMO	Parma comp=Z,3µm,18.0s	106.22	333	IAMs_20	IAMs_20	09 49 22.5				
GOGA	Godfrey comp=Z,3µm,21.0s	106.25	327	IAMs_20	IAMs_20	09 50 27.8				
FPAL	Fort Paine comp=Z,3µm,21.0s	106.30	329	IAMs_20	IAMs_20	09 47 34.9				
J05D	Fort Rock, OR comp=Z,4µm,22.0s	106.38	359	IAMs_20	IAMs_20	09 50 41.6				
GLAT	Glass comp=Z,3µm,19.0s	106.38	332	IAMs_20	IAMs_20	09 49 40.8				
KSU1	Kansas State U comp=Z,2µm,18.0s	106.44	339	IAMs_20	IAMs_20	09 49 54.9				
DBO	Dodson Butte comp=Z,3µm,20.0s	106.56	0	IAMs_20	IAMs_20	09 50 26.2				
RWWY	Rawlins comp=Z,4µm,22.0s	106.58	348	IAMs_20	IAMs_20	09 46 30.0				
PHWY	Pilot Hill comp=Z,4µm,21.0s	106.62	347	IAMs_20	IAMs_20	09 51 30.2				
HALT	Halls comp=Z,2µm,20.0s	106.72	332	IAMs_20	IAMs_20	09 54 15.5				
154A	Montrose comp=Z,2µm,22.0s	106.73	326	IAMs_20	IAMs_20	09 47 18.6				
MGMO	Mountain Grove comp=Z,3µm,22.0s	106.75	335	IAMs_20	IAMs_20	09 51 16.1				
GNAR	Gosnell comp=Z,3µm,18.0s	106.94	333	IAMs_20	IAMs_20	09 53 59.4				
K02D	Willamette Mer comp=Z,3µm,21.0s	106.98	1	IAMs_20	IAMs_20	09 49 58.3				
X48A	Hartselle comp=Z,3µm,21.0s	107.01	330	IAMs_20	IAMs_20	09 48 47.5				
K04D	Chiloquin, OR comp=Z,2µm,19.0s	107.05	359	IAMs_20	IAMs_20	09 53 20.2				
BRIGG	Briggsdale comp=Z,3µm,20.0s	107.08	345	IAMs_20	IAMs_20	09 49 35.3				
Z51A	Franklin comp=Z,3µm,20.0s	107.13	328	IAMs_20	IAMs_20	09 49 20.9				
Y49A	Blount Mountai comp=Z,2µm,18.0s	107.23	329	IAMs_20	IAMs_20	09 50 22.5				
LCAR	Lake Charles comp=Z,2µm,22.0s	107.29	334	IAMs_20	IAMs_20	09 48 40.6				
HVU	Hansel Valley comp=Z,3µm,21.0s	107.32	352	IAMs_20	IAMs_20	09 50 37.4				
152A	Waverly Hall comp=Z,3µm,18.0s	107.45	327	IAMs_20	IAMs_20	09 51 46.6				
L04D	Klamath Falls comp=Z,2µm,22.0s	107.46	360	IAMs_20	IAMs_20	09 53 01.1				
L02F	Cave Junction comp=Z,3µm,22.0s	107.55	1	IAMs_20	IAMs_20	09 48 52.6				
CBKS	Cedar Bluff comp=Z,4µm,22.0s	107.62	341	IAMs_20	IAMs_20	09 49 14.9				
MET	Memphis--Engin comp=Z,3µm,18.0s	107.64	332	IAMs_20	IAMs_20	09 54 50.0				
R32A	Long Quarter, comp=Z,2µm,20.0s	107.70	340	IAMs_20	IAMs_20	09 51 31.9				
SPUT	South Tamworth comp=Z,3µm,20.0s	107.74	352	IAMs_20	IAMs_20	09 49 46.7				
FCAR	Ozark Folk Cen comp=Z,3µm,20.0s	107.81	334	IAMs_20	IAMs_20	09 52 05.4				
YBH	Yreka Blue Hor comp=Z,3µm,21.0s	107.94	0	IAMs_20	IAMs_20	09 49 56.0				
OXF	Oxford comp=Z,3µm,19.0s	107.96	332	IAMs_20	IAMs_20	09 56 25.4				
RDMU	Red Mountain comp=Z,3µm,20.0s	108.07	350	IAMs_20	IAMs_20	09 53 59.3				
ISCO	Idaho Springs comp=Z,3µm,21.0s	108.10	346	IAMs_20	IAMs_20	09 52 39.3				
ISCO	Idaho Springs baz=15	108.10	346	P	PKiKP	09 01 46.1	-0.1			
KRMB	Red Mountain comp=Z,4µm,21.0s	108.14	1	IAMs_20	IAMs_20	09 50 08.3				
KSCO	Kaye Shedlock' baz=18	108.19	344	P	PKiKP	09 01 46.3	+0.2			
BGU	Big Grassy Mou comp=Z,3µm,20.0s	108.19	352	IAMs_20	IAMs_20	09 50 19.6				
LRAL	Lakeview Retre comp=Z,3µm,21.0s	108.19	329	IAMs_20	IAMs_20	09 47 12.7				
LRAL	Lakeview Retre baz=32	108.19	329	P	PKiKP	09 01 46.5	+0.4			
CAN	Canberra comp=Z,2µm,19.0s	108.25	121	IAMs_20	IAMs_20	09 49 52.0				
CTU	Camp Tracy comp=Z,4µm,22.0s	108.26	351	IAMs_20	IAMs_20	09 48 26.4				
O20A	White River Ci comp=Z,3µm,21.0s	108.27	348	IAMs_20	IAMs_20	09 52 53.8				
BSUT	Blindstream Ca comp=Z,3µm,21.0s	108.28	350	IAMs_20	IAMs_20	09 51 56.9				
WHAR	Wooly Hollow comp=Z,3µm,22.0s	108.41	334	IAMs_20	IAMs_20	09 52 21.2				
T35A	Sooner Cattle comp=Z,3µm,21.0s	108.42	338	IAMs_20	IAMs_20	09 49 29.1				
Z47A	Carrollton comp=Z,3µm,21.0s	108.52	330	IAMs_20	IAMs_20	09 49 42.5				
352A	Blakely comp=Z,2µm,20.0s	108.54	326	IAMs_20	IAMs_20	09 52 32.3				
ELK	Elko comp=Z,3µm,20.0s	108.59	354	IAMs_20	IAMs_20	09 48 35.2				
250A	Grady comp=Z,3µm,20.0s	108.75	328	IAMs_20	IAMs_20	09 48 52.8				
Q24A	Divide comp=Z,3µm,20.0s	108.81	346	IAMs_20	IAMs_20	09 50 54.9				
UALR	Unersity of comp=Z,3µm,20.0s	108.88	334	IAMs_20	IAMs_20	09 55 34.8				
DUG	Dugway, Tooele comp=Z,3µm,22.0s	108.89	352	IAMs_20	IAMs_20	09 53 46.9				
OK051	E0350 and S346 comp=Z,3µm,20.0s	108.89	338	IAMs_20	IAMs_20	09 51 13.8				
OK048	Pawnee Station comp=Z,3µm,21.0s	109.01	338	IAMs_20	IAMs_20	09 49 46.9				
BMN	Battle Mountai comp=Z,4µm,22.0s	109.06	356	IAMs_20	IAMs_20	09 47 44.5				
P18A	Prestonsutter comp=Z,3µm,18.0s	109.09	350	IAMs_20	IAMs_20	09 52 12.5				
TUL3	Leonard baz=24	109.10	337	P	PKiKP	09 01 47.5	-0.3			
TROLL	Troll, Antarti comp=Z,266nm,0.8s	109.16	196	⇑PKiKP	PKiKP	09 01 54.4	+7.6			
CROK	Carrier comp=Z,3µm,18.0s	109.25	339	IAMs_20	IAMs_20	09 51 48.3				
P17A	Butcher Ranch, comp=Z,3µm,19.0s	109.32	350	IAMs_20	IAMs_20	09 53 44.4				
X40A	Basin Creek Fa comp=Z,2µm,20.0s	109.32	334	IAMs_20	IAMs_20	09 50 12.5				
OK033	Mehan comp=Z,2µm,20.0s	109.35	338	IAMs_20	IAMs_20	09 54 00.8				
OK052	Battle Ridge R comp=Z,2µm,20.0s	109.35	338	IAMs_20	IAMs_20	09 52 59.9				
CCAR	Cane Creek comp=Z,3µm,20.0s	109.42	333	IAMs_20	IAMs_20	09 53 25.1				
146A	Union comp=Z,2µm,19.0s	109.43	330	IAMs_20	IAMs_20	09 55 17.5				
OK038	West end E0370 comp=Z,3µm,21.0s	109.51	340	IAMs_20	IAMs_20	09 50 23.0				
MIAR	Mount Ida comp=Z,3µm,20.0s	109.55	335	IAMs_20	IAMs_20	09 50 55.3				
SRU	San Rafael Swe comp=Z,3µm,20.0s	109.64	350	IAMs_20	IAMs_20	09 53 16.0				
451A	Vernon comp=Z,2µm,22.0s	109.64	327	IAMs_20	IAMs_20	09 44 56.6				
U32A	Winter Ranch, comp=Z,2µm,20.0s	109.68	340	IAMs_20	IAMs_20	09 52 47.4				
OK029	Liberty Lake comp=Z,2µm,20.0s	109.74	338	IAMs_20	IAMs_20	09 51 58.2				
BRAL	Brewton comp=Z,3µm,19.0s	109.79	328	IAMs_20	IAMs_20	09 53 04.3				
ORV	Oroville comp=Z,3µm,21.0s	110.11	359	IAMs_20	IAMs_20	09 51 42.3				
X37A	Clayton comp=Z,3µm,22.0s	110.15	336	IAMs_20	IAMs_20	09 56 56.2				
FNO	Franklin comp=Z,3µm,21.0s	110.22	338	IAMs_20	IAMs_20	09 50 25.9				
SPR3	Spring Creek 3 comp=Z,3µm,19.0s	110.24	353	IAMs_20	IAMs_20	09 53 21.7				
SNAA	Sanae comp=Z,83nm,1.0s	110.24	197	⇑PKiKP	PKiKP	09 01 55.9	+7.2			
T25A	Trinidad comp=Z,2µm,18.0s	110.39	344	IAMs_20	IAMs_20	09 55 35.0				
T25A	Trinidad baz=17	110.39	344	P	PKiKP	09 01 50.3	-0.1			
TCRU	Three Creeks R comp=Z,3µm,22.0s	110.40	351	IAMs_20	IAMs_20	09 48 54.1				
Z41A	Richland Creek comp=Z,2µm,20.0s	110.40	334	IAMs_20	IAMs_20	09 56 51.1				
KVN	Kaiserville comp=Z,3µm,22.0s	110.49	356	IAMs_20	IAMs_20	09 48 51.4				
PSUT	Pine Spring comp=Z,3µm,20.0s	110.65	353	IAMs_20	IAMs_20	09 53 41.5				
346A	Big Creek Wild comp=Z,2µm,19.0s	110.68	330	IAMs_20	IAMs_20	09 58 39.6				
HOPS	Hopland Field comp=Z,3µm,21.0s	110.68	0	IAMs_20	IAMs_20	09 52 51.3				
AFDM	Forest Hills D comp=Z,3µm,20.0s	110.71	359	IAMs_20	IAMs_20	09 52 40.1				
HMU	Henry Mountain comp=Z,2µm,19.0s	110.83	350	IAMs_20	IAMs_20	09 53 53.3				
RYN	Ryan comp=Z,3µm,22.0s	110.93	356	IAMs_20	IAMs_20	09 53 53.1				
R11B	Troy Canyon, C comp=Z,2µm,19.0s	111.00	354	IAMs_20	IAMs_20	09 56 26.9				
VNA2	Neumayer--Watz comp=Z,7.8nm,0.7s,baz=69,slow=3.0	111.01	199	⇑PKiKP	PKiKP	09 01 50.0	-0.1			
MVCO	Mesa Verde comp=Z,3µm,21.0s	111.16	348	IAMs_20	IAMs_20	09 50 56.6				
Z38A	Mt. Pleasant comp=Z,2µm,21.0s	111.21	335	IAMs_20	IAMs_20	09 50 01.4				
LHV	Little Huntoon comp=Z,3µm,22.0s	111.31	356	IAMs_20	IAMs_20	09 51 31.0				
SZCU	Shurtz Canyon comp=Z,2µm,22.0s	111.48	352	IAMs_20	IAMs_20	09 49 41.7				
CCUT	Cedar City comp=Z,2µm,20.0s	111.56	352	IAMs_20	IAMs_20	09 54 20.7				
CMB	Columbia Colle comp=Z,3µm,21.0s	111.60	358	IAMs_20	IAMs_20	09 53 15.8				
VNA3	Neumayer Olymp comp=Z,10nm,0.7s	111.80	199	⇑PKiKP	PKiKP	09 01 49.1	-2.5			
Z35A	Perchaven, San comp=Z,2µm,20.0s	111.94	337	IAMs_20	IAMs_20	09 56 19.4				
MDPB	Devils Postpil comp=Z,3µm,22.0s	111.95	357	IAMs_20	IAMs_20	09 51 08.1				
KNB	Kanab comp=Z,3µm,20.0s	112.02	351	IAMs_20	IAMs_20	09 52 56.9				
FW06	Azle comp=Z,3µm,19.0s	112.37	337	IAMs_20	IAMs_20	09 53 57.8				
NATX	Nacogdoches comp=Z,2µm,20.0s	112.44	334	IAMs_20	IAMs_20	09 56 04.0				
TPNV	Topopah Spring comp=Z,3µm,20.0s	112.45	354	IAMs_20	IAMs_20	09 54 10.2				
FW03	Perrin-Whitt E comp=Z,2µm,21.0s	112.47	338	IAMs_20	IAMs_20	09 54 04.5				
FW07	Weatherford comp=Z,3µm,20.0s	112.69	337	IAMs_20	IAMs_20	09 54 06.3				
ANMO	Albuquerque comp=Z,3µm,20.0s	112.95	346	IAMs_20	IAMs_20	09 55 44.7				
MSTX	Muleshoe comp=Z,3µm,20.0s	113.00	342	IAMs_20	IAMs_20	09 54 00.2				
WHTX	Lake Whitney, comp=Z,2µm,22.0s	113.23	337	IAMs_20	IAMs_20	09 53 07.7				
WUAZ	Wupatki comp=Z,3µm,21.0s	113.29	350	IAMs_20	IAMs_20	09 56 38.6				
WUAZ	Wupatki baz=11	113.29	350	P	PKiKP	09 01 56.0	+0.1			
W18A	Petrified Fore comp=Z,2µm,21.0s	113.42	348	IAMs_20	IAMs_20	09 58 08.0				
MPMC	Manual Prospec baz=4.9	113.43	355	P	PKiKP	09 01 56.5	+0.3			
CAMR	Camarioca comp=Z,2µm,22.0s	113.46	318	IAMs_20	IAMs_20	09 53 46.4				
VES	Vestal, Richgr baz=3.4	113.74	357	P	PKiKP	09 01 56.5	0.0			
SPB	Sao Paulo comp=Z,2µm,19.0s	113.77	256	IAMs_20	IAMs_20	09 51 17.7				
ISA	Isabella, Lake comp=Z,3µm,20.0s	113.89	356	IAMs_20	IAMs_20	09 56 02.2				
ISA	Isabella, Lake baz=4.0	113.89	356	P	PKiKP	09 01 57.1	+0.1			
LRMC	Laurel Mtn Rad baz=4.7	114.02	356	P	PKPdf	09 01 57.4	+0.1			
X18A	Snowflake comp=Z,2µm,20.0s	114.03	348	IAMs_20	IAMs_20	09 56 23.1				
W13A	Hualapai Mount comp=Z,3µm,20.0s	114.04	352	IAMs_20	IAMs_20	09 55 39.4				
GSC	Goldstone, Bar comp=Z,3µm,21.0s	114.13	355	IAMs_20	IAMs_20	09 55 03.7				
GSC	Goldstone, Bar baz=5.6	114.13	355	P	PKPdf	09 01 57.8	+0.3			
CCAC	Calif City Air comp=Z,2µm,22.0s	114.36	356	IAMs_20	IAMs_20	09 52 11.9				
435B	Jarrell comp=Z,3µm,21.0s	114.38	336	IAMs_20	IAMs_20	09 57 49.0				
X16A	Lo Mia Camp, P comp=Z,3µm,21.0s	114.38	350	IAMs_20	IAMs_20	09 51 34.4				
HKT	Hockley comp=Z,3µm,20.0s	114.50	334	IAMs_20	IAMs_20	09 57 16.4				
EDW2	Edwards Air Fo baz=4.5	114.63	356	P	PKiKP	09 01 58.4	0.0			
BCW	Bitter Crk WRg comp=Z,3µm,22.0s	114.65	357	IAMs_20	IAMs_20	09 53 47.5				
PKM	Mcpherson Peak baz=2.8	114.72	357	P	PKPdf	09 01 58.8	+0.1			
IRM	Iron Mountain baz=7.2	115.11	353	P	PKPdf	09 01 59.3	0.0			
BFSC	Mount Baldy Ra baz=4.8	115.25	355	P	PKPdf	09 02 00.0	+0.3			
BELC	Belle Mtn. Jos baz=6.4	115.35	354	P	PKiKP	09 01 59.9	0.0			
JCT	Junction City comp=Z,2µm,21.0s	115.39	338	IAMs_20	IAMs_20	09 56 44.8				
BLYC	Blythe	115.45	352		PKiKP	09 01 59.1	-0.7			
PMD	Palm Desert comp=Z,2µm,21.0s	115.74	354	IAMs_20	IAMs_20	09 54 31.2				
PFO	Pinyon Flats O comp=Z,2µm,20.0s	115.78	354	IAMs_20	IAMs

BELA	**Belgrano 2**	**120.16**	**194**		IAMs_20	IAMs_20	09 55 45.0	
	comp=Z,2µm,20.0s							
PTLB	**Pontes e Lacer**	**120.28**	**269**	*eP*		**PKiKP**	**09 02 09.6**	**+0.1**
ANTJ	**Antonio Joao (**	**120.36**	**261**	*eP*		**PKiKP**	**09 02 11.0**	**+1.4**
BDQN	**Bodoquena, MS**	**120.37**	**263**	*eP*		**PKPdf**	**09 02 09.2**	**-0.3**
QSPA	**South Pole Qui**	**120.51**	**180**	PKP		**PKPdf**	**09 02 06.2**	**-2.3**
	comp=Z,3.9nm,0.7s,baz=15,slow=0.1,SNR=9.3							
PTGC	**Puerto Gaitan,**	**120.59**	**297**	*eP*		**Pdif**	**08 58 35.1**	**+0.1**
SAML	**Samuel**	**120.68**	**278**		IAMs_20	IAMs_20	09 58 51.3	
	comp=Z,2µm,18.0s							
CRSM	**Crissiumal (Br**	**120.78**	**254**	*eP*		**PKiKP**	**09 02 11.4**	**+1.2**
SBLHI	**Steaming Bluff**	**121.15**	**36**		IAMs_20	IAMs_20	09 51 40.4	
	comp=Z,3µm,19.0s							
NPH	**North Pit**	**121.16**	**36**		IAMs_20	IAMs_20	09 46 52.5	
	comp=Z,3µm,21.0s							
BYL	**Byron's Ledge**	**121.17**	**36**		IAMs_20	IAMs_20	10 00 12.8	
	comp=Z,2µm,22.0s							
SRIG	**Santa Rosalia**	**121.46**	**349**		IAMs_20	IAMs_20	09 58 16.9	
	comp=Z,2µm,22.0s							
ROSC	**El Rosal**	**121.84**	**299**		IAMs_20	IAMs_20	09 58 49.7	
	comp=Z,2µm,19.0s							
PLTB	**Pedras Altas**	**121.86**	**250**	*eP*		**PKiKP**	**09 02 13.3**	**+1.0**
BBRB	**Robore, Bolivi**	**122.09**	**267**	*eP*		**PKPdf**	**09 02 12.7**	**-0.3**
UNIS	**Unistalda (Bra**	**122.17**	**253**	*eP*		**PKiKP**	**09 02 13.5**	**+0.5**
BBSD	**Serra de San D**	**122.32**	**268**	*eP*		**PKPdf**	**09 02 13.1**	**-0.3**
RODS	**Rosario do Sul**	**122.70**	**252**	*eP*		**PKiKP**	**09 02 14.7**	**+0.8**
VNDA	**Vanda**	**122.87**	**165**	PKP		**PKPdf**	**09 02 10.1**	**-2.6**
	comp=Z,2.0nm,1.0s,baz=214,slow=3.6,SNR=3.0							
CPUP	**Villa Florida**	**123.11**	**257**			**PKPdf**	**09 02 13.4**	**-1.2**
CPUP					IAMs_20	IAMs_20	09 53 24.4	
	comp=Z,2µm,21.0s							
CPUP	**Villa Florida**	**123.11**	**257**	*eP*		**PKPdf**	**09 02 14.3**	**-0.3**
CPUP	**Villa Florida**	**123.11**	**257**	PKP		**PKPdf**	**09 02 12.5**	**-2.1**
	comp=Z,3.6nm,0.9s,baz=90,slow=3.6,SNR=4.7							
MACC	**Macarena, Meta**	**123.20**	**296**	*eP*		Pdif	08 59 13.4	+27
ZAIG	**Zacatecas**	**123.45**	**338**		IAMs_20	IAMs_20	09 58 44.1	
	comp=Z,2µm,21.0s							
ESFA	**Espinillo Form**	**123.59**	**259**	*eP*		**PKiKP**	**09 02 16.3**	**+0.5**
ITQB	**Itaqui**	**123.65**	**253**	*eP*		**PKiKP**	**09 02 15.7**	**-0.1**
ETMB	**Extrema**	**123.70**	**279**	*eP*		**PKiKP**	**09 02 17.4**	**+1.0**
TBTG	**Tabatinga, AM**	**123.81**	**287**			**PKPdf**	**09 02 14.9**	**-1.5**
TBTG	**Tabatinga, AM**	**123.81**	**287**	*eP*		**PKPdf**	**09 02 15.5**	**-0.9**
TGUH	**Tegucigalpa,Un**	**123.97**	**317**	PKPdf		**PKPdf**	**09 02 16.0**	**-0.9**
SCCA	**San Cayetano,**	**124.63**	**256**	*eP*		**PKiKP**	**09 02 18.8**	**+1.0**
LCR2	**La Lucha 2**	**125.27**	**311**			**PKPdf**	**09 02 17.9**	**-1.6**
UNM	**Universidad Na**	**125.37**	**332**		IAMs_20	IAMs_20	09 57 16.5	
	comp=Z,2µm,22.0s							
TICA	**Tres Isletas**	**125.69**	**258**	*eP*		**PKPdf**	**09 02 19.6**	**0.0**
MOIG	**Morelia**	**125.82**	**335**		IAMs_20	IAMs_20	10 08 53.4	
	comp=Z,2µm,20.0s							
TLIG	**Tlapa**	**126.71**	**331**			**PKPdf**	**09 02 21.8**	**-0.2**
TLIG					IAMs_20	IAMs_20	10 09 58.0	
	comp=Z,2µm,20.0s							
OTAV	**Otavalo**	**127.95**	**298**	PKPdf		**PKPdf**	**09 02 25.1**	**+0.2**
OTAV	**Otavalo**	**127.95**	**298**	PKIKP		**PKPdf**	**09 02 25.1**	**+0.2**
OTAV				MLR		MLR		
	comp=Z,1µm,20.0s							
OTAV	**Otavalo**	**127.95**	**298**	*eP*		**PKPdf**	**09 02 25.1**	**+0.2**
CZSB	**Cruzeiro do Su**	**128.08**	**285**			**PKPdf**	**09 02 23.2**	**-1.3**
CZSB	**Cruzeiro do Su**	**128.08**	**285**	*eP*		**PKPdf**	**09 02 23.1**	**-1.5**
PULU	**Pululahua**	**128.13**	**298**			**PKPdf**	**09 02 25.2**	**0.0**
LPAZ	**La Paz**	**128.40**	**273**	PKPdf		**PKPdf**	**09 02 25.2**	**-0.6**
LPAZ	**La Paz**	**128.40**	**273**	PKIKP		**PKPdf**	**09 02 25.2**	**-0.6**
TOZ	**Tahuroa Road**	**129.21**	**116**	PKPdf		**PKPdf**	**09 02 25.8**	**-0.2**
CHSH	**Refugio Sur-Vo**	**129.38**	**296**			**PKPdf**	**09 02 27.8**	**0.0**
TRQA	**Tornquist**	**130.11**	**244**	PKPdf		**PKPdf**	**09 02 27.4**	**-0.4**
TRQA	**Tornquist**	**130.11**	**244**	PKIKP		**PKPdf**	**09 02 27.4**	**-0.4**
TRQA				MLR		MLR		
	comp=Z,4µm,22.0s							
TRQA	**Tornquist**	**130.11**	**244**	*eP*		**PKiKP**	**09 02 28.4**	**-0.2**
BOSC	**San Juan Bosco**	**130.12**	**294**	PKPdf		**PKPdf**	**09 02 28.5**	**-0.1**
COHC	**Cochancay**	**130.29**	**296**			**PKPdf**	**09 02 28.9**	**+0.1**
PB16	**IPOC Station P**	**130.47**	**271**	PKPdf		**PKPdf**	**09 02 29.9**	**+0.2**
PMSA	**Palmer Station**	**130.60**	**209**	*eP*		**PKiKP**	**09 02 28.8**	**+0.2**
GO01	**Chusmiza**	**130.75**	**270**			**PKPdf**	**09 02 30.2**	**+0.2**
PB08	**IPOC Station P**	**130.90**	**269**		IAMs_20	IAMs_20	10 00 56.4	
	comp=Z,2µm,20.0s							
AP01	**Chacalluta**	**131.20**	**272**		IAMs_20	IAMs_20	10 02 57.2	
	comp=Z,2µm,20.0s							
PB01	**IPOC Station P**	**131.54**	**268**		IAMs_20	IAMs_20	10 03 35.4	
	comp=Z,2µm,21.0s							
ARNL	**Arenillas**	**131.59**	**295**			**PKPdf**	**09 02 31.2**	**-0.1**
PB09	**IPOC Station P**	**131.62**	**267**		IAMs_20	IAMs_20	10 03 04.5	
	comp=Z,2µm,19.0s							
LVC	**Limon Verde**	**131.63**	**266**			**PKPdf**	**09 02 31.9**	**+0.4**
LVC	**Limon Verde**	**131.63**	**266**		IAMs_20	IAMs_20	10 04 27.0	
	comp=Z,2µm,19.0s							
LVC	**Limon Verde**	**131.63**	**266**	PKIKP		**PKPdf**	**09 02 31.9**	**+0.4**
LVC	**Limon Verde**	**131.63**	**266**	*eP*		**PKiKP**	**09 02 32.5**	**0.0**
TA01	**Diego Aracena**	**131.95**	**269**			**PKPdf**	**09 02 31.7**	**0.0**
TA01					IAMs_20	IAMs_20	09 58 58.3	
	comp=Z,2µm,21.0s							
PB02	**IPOC Station P**	**132.00**	**268**		IAMs_20	IAMs_20	10 04 11.6	
	comp=Z,2µm,20.0s							
MCRA	**Macar, Loja**	**132.01**	**294**	PKPdf		**PKPdf**	**09 02 30.7**	**-1.4**
PATCX	**Punta Patache**	**132.03**	**269**		IAMs_20	IAMs_20	10 04 17.3	
	comp=Z,2µm,21.0s							
PB06	**IPOC Station P**	**132.24**	**266**		IAMs_20	IAMs_20	10 04 45.9	
	comp=Z,2µm,18.0s							
PB15	**IPOC Station P**	**132.33**	**266**		IAMs_20	IAMs_20	10 06 15.5	
	comp=Z,2µm,20.0s							
PB04	**IPOC Station P**	**132.60**	**267**		IAMs_20	IAMs_20	10 02 48.5	
	comp=Z,2µm,21.0s							
NNA	**Nana**	**133.78**	**283**			**PKPdf**	**09 02 35.1**	**-0.3**
NNA	**Nana**	**133.78**	**283**		IAMs_20	IAMs_20	10 11 23.6	
	comp=Z,1µm,19.0s							
NNA	**Nana**	**133.78**	**283**	PKIKP		**PKPdf**	**09 02 35.1**	**-0.3**
AC06	**Mina Casimiro**	**134.44**	**260**		IAMs_20	IAMs_20	10 06 29.5	
	comp=Z,2µm,19.0s							
LCO	**Las Campanas**	**135.20**	**258**	PKPdf		**PKPdf**	**09 02 36.7**	**-1.2**
LCO	**Las Campanas**	**135.20**	**258**		IAMs_20	IAMs_20	10 05 03.6	
	comp=Z,2µm,20.0s							
LCO	**Las Campanas**	**135.20**	**258**	PKIKP		**PKPdf**	**09 02 36.7**	**-1.2**
AC04	**Llanos de Chal**	**135.30**	**260**		IAMs_20	IAMs_20	10 10 07.1	
	comp=Z,2µm,20.0s							
MT08	**Bocatoma Ro**	**135.66**	**252**			**PKPdf**	**09 02 37.6**	**-1.0**
LMEL	**Las Melosas**	**135.89**	**252**			**PKPdf**	**09 02 38.2**	**-0.7**
MT05	**Renca**	**136.24**	**252**		IAMs_20	IAMs_20	10 07 25.2	
	comp=Z,2µm,20.0s							
BO01	**Tunca**	**136.71**	**251**		IAMs_20	IAMs_20	10 01 02.5	
	comp=Z,2µm,22.0s							
MT01	**Popeta**	**136.75**	**252**		IAMs_20	IAMs_20	10 03 32.6	
	comp=Z,2µm,21.0s							
PLCA	**Paso Flores**	**137.03**	**242**	PKPdf		**PKPdf**	**09 02 40.1**	**-0.6**
PLCA	**Paso Flores**	**137.03**	**242**	PKIKP		**PKPdf**	**09 02 40.1**	**-0.6**
PLCA	**Paso Flores**	**137.03**	**242**	*eP*		**PKiKP**	**09 02 41.9**	**-0.7**
PLCA	**Paso Flores**	**137.03**	**242**	PKP		**PKPdf**	**09 02 40.7**	**0.0**
	comp=Z,8.7nm,1.0s,baz=74,slow=3.0,SNR=6.3							
GO06	**Curarrehue**	**137.66**	**243**			**PKPdf**	**09 02 41.5**	**-0.5**
LL01	**San Ignacio de**	**138.49**	**239**			**PKPdf**	**09 02 42.1**	**-1.1**
PMOR	**Pomariorio Ree**	**152.12**	**62**	*eP*		**PKPbc**	**09 03 12.1**	**-1.7**
	comp=Z,102nm,1.1s							
PPT2	**Papeete2**	**152.31**	**68**	*e*PKP1		**PKiKP**	**09 03 14.9**	**+0.3**
	comp=Z,92nm,1.4s							
PPT2	**Papeete2**	**152.31**	**68**	*e*SS		SS	09 26 15.5	-10
	comp=Z,644nm,25.8s							
PPT2	**Papeete2**	**152.31**	**68**	*e*LR		LR	09 53 47.9	
	comp=Z,4µm,24.2s							
PPT2				*e*LR		LR	09 53 56.4	
	comp=Z,3µm,24.8s							
PAE	**Paea**	**152.34**	**68**	*e*PKP1		**PKPbc**	**09 03 12.9**	**-1.3**
	comp=Z,23nm,1.2s							
TIAR	**Tiarei**	**152.48**	**68**	*e*PKP1		**PKiKP**	**09 03 17.4**	**+2.6**
	comp=Z,5.4nm,1.0s							
TVO	**Taravao**	**152.67**	**68**	*e*PKP1		**PKPbc**	**09 03 14.7**	**-0.4**
	comp=Z,22nm,0.9s							
TAOE	**Nuku Hiva Isla**	**152.85**	**40**	*e*PKP1		**PKPdf**	**09 03 02.8**	**-5.7**
	comp=Z,333nm,27.7s							
TAOE	**Nuku Hiva Isla**	**152.85**	**40**	*e*PP		**PP**	**09 06 52.5**	**-6.1**
	comp=Z,350nm,26.7s							
TAOE	**Nuku Hiva Isla**	**152.85**	**40**	*e*SS		SS	09 26 47.1	+17
	comp=Z,1µm,24.7s							
TAOE	**Nuku Hiva Isla**	**152.85**	**40**	*e*LR		LR	09 54 02.6	
	comp=Z,3µm,29.8s							
TBI	**Tubuai**	**155.10**	**79**	*eP*		**PKPdf**	**09 03 05.7**	**-5.5**
	comp=Z,854nm,38.8s							
TBI	**Tubuai**	**155.10**	**79**	*e*PP		**PP**	**09 07 09.7**	**-2.6**
	comp=Z,1µm,26.5s							
TBI	**Tubuai**	**155.10**	**79**	*e*SS		SS	09 27 01.1	+4.4
	comp=Z,4µm,28.5s							
TBI	**Tubuai**	**155.10**	**79**	*e*LR		LR	09 55 14.4	
	comp=Z,15µm,25.8s							
TBI				*e*LR		LR	09 55 22.6	
	comp=Z,3µm,25.0s							

IDC **12** *08:50:34.9±1.2,* **51.60N×75.51E, h0km, mbtmp3.9/3, ML2.5/2, Error ellipse: s-maj=32.4km s-min=9.1km az=28.0, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.14**	**116**	Pg	Pn	Pn	08 51 13.0	+1.2
KURBB	0.9nm,0.3s,baz=295,slow=18,SNR=23			Lg	Lg	Lg	08 51 42.3	
BVAR	**Borovoye Array**	**3.45**	**296**	Pn	Pn	Pn	08 51 29.8	-0.1
BVAR	0.9nm,0.3s,baz=300,slow=18,SNR=1.4			Sn	Sn	Sn	08 52 09.6	-1.9
ZALV	**Zalesovo Beam**	**6.12**	**64**	Pn	Pn	Pn	08 52 07.7	+1.2
	0.2nm,0.3s,baz=104,slow=22,SNR=1.3							
	0.6nm,0.3s,baz=257,slow=16,SNR=1.0							
	13nm,1.0s							
I46RU	**ZALESOVO INFRA**	**6.12**	**64**	I	I	I	09 28 30.0	
	baz=247,slow=328,SNR=2.7							
MKAR	**Makanchi Array**	**6.55**	**135**	Pn	Pn	Pn	08 52 14.0	+1.5
	0.1nm,0.3s,baz=303,slow=10,SNR=2.0							
MKAR				Lg	Lg	Lg	08 53 59.2	
	0.3nm,0.3s,baz=322,slow=26,SNR=1.9							
	21nm,1.1s							

IDC **12** *08:52:27.7±2.2,5.59S×147.20E,h158km±24km, mb3.3/2, mbtmp4.0/4, Error ellipse: s-maj=51.9km s-min=13.7km az=113.0*

ISC 12 08:52:30.5±1.3, 5.85S±0.1×147.76E±0.3, h200km, n6, σ2.253/9, mb3.5/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.60**	**188**	P	**Pn**	**Pn**	**08 53 27.4**	**0.0**
	47nm,0.3s,baz=42,slow=7.0,SNR=40							
PMG				S		**Sn**	**08 54 10.4**	**-1.6**
	34nm,0.4s,baz=216,slow=19,SNR=3.9							
WRA	**Warramunga Arr**	**19.10**	**221**	P	**P**	**P**	**08 56 38.0**	**-0.3**
	4.4nm,0.7s,baz=50,slow=12,SNR=9.0							
WRA				S		**S**	**09 00 02.5**	**-1.8**
	2.3nm,1.0s,baz=50,slow=18,SNR=4.7							
ASAR	**Alice Springs**	**22.14**	**215**	P	**P**	**P**	**08 57 11.1**	**+0.9**
	4.2nm,0.8s,baz=38,slow=11,SNR=13							
ASAR				S		**S**	**09 01 04.9**	**+5.5**
	3.4nm,0.9s,baz=32,slow=23,SNR=9.5							
	4.2nm,0.8s							
MKAR	**Makanchi Array**	**77.77**	**320**	P	**P**	**P**	**09 04 04.6**	**-1.0**
	0.1nm,0.3s,baz=93,slow=7.1,SNR=1.7							
	0.1nm,0.3s							
ILAR	**Eielson Array**	**85.06**	**23**	P	**P**	**P**	**09 04 43.9**	**+0.5**
	0.5nm,0.6s,baz=258,slow=4.9,SNR=0.9							
TORD	**Torodi Ar, Bea**	**145.68**	**285**	PKPbc		**PKPab**	**09 11 47.0**	**-0.4**
	0.7nm,0.5s,baz=75,slow=2.7,SNR=2.3							

SNET **12** *08:53:12.9±1.0, 14.25N×94.88W, h15km, ML5.4*
IDC **12** *08:53:12.8±0.7, 15.04N×94.13W, h0km, mb4.7/16, mbtmp4.7/18, ML5.0/2, MS4.2/9, Error ellipse: s-maj=23.8km s-min=16.8km az=67.0*
MOS **12** *08:53:16.2±0.9, 15.18N×94.15W, h24km, mb5.1/33, Error ellipse: s-maj=10.4km s-min=5.3km az=105.5*
MEX **12** *08:53:17.5±2.5, 15.01N×94.38W, h17km±18km, MD4.9*
NEIC **12** *08:53:19.8, 15.31N×94.22W, h30km, Moment Tensor Solution. Duration: 1s3 Moment tensor: Scale 10^16 Nm; Mrr=1.20; Mθθ=1.81; Mφφ=-0.61; Mrθ=0.11; Mθφ=-0.49; Mφr=-1.54; Fault plane solution: Mo2.23000×10^16 NP1: φs=316.04000°, δ=65.10000°, λ=-46.68000°. NP2: φs=70.10000°, δ=48.70000°, λ=-145.92000°. Principal axes: T 1.9732, Plg=10.0000°, Azm=17.0000°; N 0.5147, Plg=38.0000°, Azm=114.0000°; P -2.4879, Plg=50.0000°, Azm=275.0000°;*
NEIC **12** *08:53:19.8, 15.21N×94.22W, h30km*
NEIC **12** *08:53:19.9±2.3, 15.21N±0.05×94.22W±0.03, h32km±4km, mb5.0/180, Mww4.8/15, Md4.9/77(MEX), Error ellipse: s-maj=6.8km s-min=4.5km az=168.0*
CATAC **12** *08:53:20.0±0.3, 15.18N×94.37W, h50km, MB5.8, mb5.8, ML5.6*

ISC 12 08:53:18.1±0.4, 15.08N±0.04×94.37W±0.02, h33km±2km, h33km:pP-P, n803, σ1.977/889, mb5.0/114, MS4.0/5, 6C-14D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.25**	**21**	*i* P	**Pn**	**Pn**	**08 53 37.0**	**-2.2**
CARR				*i* S	**Sn**	**Sn**	**08 53 52.6**	**-2.3**
PCIG		**1.27**	**60**		**Pn**	**Pn**	**08 53 37.2**	**-2.4**
PCIG					**Sn**	**Sn**	**08 53 51.7**	**-3.8**
PCIG		**1.27**	**60**	*e*P	**Pn**	**Pn**	**08 53 37.2**	**-2.4**
PCIG				*e*S	**Sn**	**Sn**	**08 53 51.7**	**-3.8**
NILT	**Santiago Nilte**	**1.50**	**351**	*i* P	**Pn**	**Pn**	**08 53 40.9**	**-1.9**
NILT				*i* S	**Sn**	**Sn**	**08 53 56.3**	**-4.9**
HUIG	**Huatulco**	**1.82**	**293**		**Pn**	**Pn**	**08 53 45.1**	**-2.0**
HUIG					**Sn**	**Sn**	**08 54 05.2**	**-3.8**
HUIG	**Huatulco**	**1.82**	**293**	*e*P	**Pn**	**Pn**	**08 53 45.1**	**-2.0**
HUIG				*e*S	**Sn**	**Sn**	**08 54 05.2**	**-3.8**
THIG		**2.04**	**94**		**Pn**	**Pn**	**08 53 48.0**	**-2.1**
THIG					**Sn**	**Sn**	**08 54 16.2**	**+1.8**
THIG		**2.04**	**94**	*i* P	**Pn**	**Pn**	**08 53 48.0**	**-2.1**
THIG				*e*S	**Sn**	**Sn**	**08 54 16.2**	**+1.8**
PATR	**El Naranjo**	**2.06**	**89**	*e*P	**Pn**	**Pn**	**08 53 48.5**	**-2.1**
PATR				*e*S	**Sn**	**Sn**	**08 54 13.3**	**-2.0**
CMIG	**Matias Romero**	**2.07**	**346**	Pn	**Pn**	**Pn**	**08 53 49.6**	**-0.9**
	635nm,0.3s,baz=166,slow=12,SNR=2354							
CMIG				Sn		**Sn**	**08 54 13.9**	**-1.3**
	2µm,0.3s,baz=113,slow=1.8,SNR=46							
CMIG				LR	LR		08 54 53.1	
	comp=Z,3µm,20.0s,baz=134,slow=46							
	1µm,0.3s							
CMIG	**Matias Romero**	**2.07**	**346**	*i* P	**Pn**	**Pn**	**08 53 49.6**	**-0.9**
CMIG				*e*S	**Sn**	**Sn**	**08 54 13.7**	**-1.4**
TGIG		**2.07**	**35**		**Pn**	**Pn**	**08 53 50.5**	**-0.2**
TGIG					**Sn**	**Sn**	**08 54 15.8**	**+0.4**
TGIG		**2.07**	**35**	*i* P	**Pn**	**Pn**	**08 53 50.5**	**-0.2**
TGIG				*e*S	**Sn**	**Sn**	**08 54 15.8**	**+0.4**
TGBT	**Tuxtla Gutierr**	**2.09**	**36**		**Pn**	**Pn**	**08 53 50.6**	**-0.2**
TGBT					**Sn**	**Sn**	**08 54 17.3**	**+1.5**
TGBT	**Tuxtla Gutierr**	**2.09**	**36**	*e*P	**Pn**	**Pn**	**08 53 50.6**	**-0.2**
TGBT				*e*S	**Sn**	**Sn**	**08 54 17.3**	**+1.5**
PAVE	**Pavencul**	**2.12**	**87**	*e*P	**Pn**	**Pn**	**08 53 49.3**	**-2.1**
PAVE				*e*S	**Sn**	**Sn**	**08 54 14.4**	**-2.3**
CHUJ	**Union Juarez**	**2.18**	**89**	*e*P	**Pn**	**Pn**	**08 53 50.5**	**-1.8**
CHUJ				*e*S	**Sn**	**Sn**	**08 54 15.7**	**-2.6**
SMCA	**Catarina**	**2.23**	**95**	*i* P	**Pn**	**Pn**	**08 53 50.9**	**-1.8**
SMCA				*i* S	**Sn**	**Sn**	**08 54 17.4**	**-1.7**
SMCA				IAML			08 54 26.2	
	comp=Z,10µm,1.0s							
UXUV	**UXUV**	**2.24**	**5**	*i* P	**Pn**	**Pn**	**08 53 53.2**	**+0.3**
UXUV				*i* S	**Sn**	**Sn**	**08 54 20.8**	**+1.3**
CCIG	**Comitan**	**2.46**	**60**		**Pn**	**Pn**	**08 53 56.8**	**+0.7**
CCIG	**Comitan**	**2.46**	**60**	*e*P	**Pn**	**Pn**	**08 53 57.2**	**+1.1**
CCIG				*e*S	**Sn**	**Sn**	**08 54 25.6**	**+0.5**
CCIG	**Comitan**	**2.46**	**60**	*i* P	**Pn**	**Pn**	**08 53 56.6**	**+0.5**
CCIG				*i* S	**Sn**	**Sn**	**08 54 28.0**	**+2.9**
CCIG				IAML			08 54 32.7	
	comp=Z,21µm,1.0s							
SMSP	**San Marcos**	**2.50**	**92**	*e*P	**Pn**	**Pn**	**08 53 54.5**	**-2.2**
SMSP				*e*S	**Sn**	**Sn**	**08 54 26.8**	**+0.5**
SMSP	**San Marcos**	**2.50**	**92**	*i* P	**Pn**	**Pn**	**08 53 56.9**	**+0.2**
SMSP				*i* S	**Sn**	**Sn**	**08 54 25.2**	**-1.1**
SMSP				IAML			08 54 38.6	
	comp=Z,20µm,1.0s							
RTAL	**Retalhuleu**	**2.64**	**102**	Pn	**Pn**	**Pn**	**08 53 57.7**	**-0.7**
RTAL	**Retalhuleu**	**2.64**	**102**	*e*P	**Pn**	**Pn**	**08 53 56.4**	**-2.1**
RTAL				*e*S	**Sn**	**Sn**	**08 54 29.1**	**-0.3**
RTAL	**Retalhuleu**	**2.64**	**102**	*i* P	**Pn**	**Pn**	**08 53 58.1**	**-0.3**
RTAL				*i* S	**Sn**	**Sn**	**08 54 27.6**	**-1.8**
RTAL				IAML			08 54 59.4	
	comp=Z,7µm,1.0s							
QUEO	**Labor Ovalle**	**2.76**	**94**	*i* P	**Pn**	**Pn**	**08 54 00.0**	**-0.4**
QUEO				*i* S	**Sn**	**Sn**	**08 54 32.1**	**-0.7**
QUEO				IAML			08 54 50.2	
	comp=Z,20µm,1.0s							
HUEH	**Huehuetenango**	**2.78**	**85**		**Pn**	**Pn**	**08 54 01.0**	**+0.5**
HUEH	**Huehuetenango**	**2.78**	**85**	*e*P	**Pn**	**Pn**	**08 54 00.5**	**+0.1**
HUEH				*e*S	**Sn**	**Sn**	**08 54 35.8**	**+2.8**
HUEH	**Huehuetenango**	**2.78**	**85**	*i* P	**Pn**	**Pn**	**08 54 01.3**	**+0.8**
HUEH				*i* S	**Sn**	**Sn**	**08 54 32.9**	**-0.1**
HUEH				IAML			08 54 44.8	
	comp=Z,36µm,1.0s							
PEIG	**Puerto Escondi**	**2.83**	**289**			**Pn**	**08 53 59.6**	**-1.5**
PEIG						**Sn**	**08 54 27.9**	**-6.2**
PEIG	**Puerto Escondi**	**2.83**	**289**	*i* P		**Pn**	**08 53 59.6**	**-1.5**
PEIG				*e*S		**Sn**	**08 54 27.9**	**-6.2**
SOKI	**Kika Raxquin**	**2.88**	**95**	*i* P		**Pn**	**08 54 02.4**	**+0.4**
SOKI				IAML			08 54 59.2	
	comp=Z,7µm,1.0s							
TUIG	**Tuzandepetl**	**2.94**	**359**	*i* P		**Pn**	**08 54 02.3**	**-0.3**
TUIG				*e*S		**Sn**	**08 54 37.0**	**+0.3**
NEUV	**Arroyo Zacate**	**2.96**	**332**	*e*P		**Pn**	**08 54 02.6**	**-0.3**
NEUV				*e*S		**Sn**	**08 54 33.1**	**-4.2**
OXLC	**Oaxaca**	**2.99**	**312**	*e*P		**Pn**	**08 54 04.9**	**+1.4**
OXLC				*e*S		**Sn**	**08 54 37.2**	**-1.2**
OXIG	**Oaxaca**	**3.02**	**311**			**Pn**	**08 54 05.0**	**+1.1**
OXIG						**Sn**	**08 54 38.9**	**-0.1**
VHO	**Vista Hermosa**	**3.02**	**311**	*i* P		**Pn**	**08 54 05.0**	**+1.1**
VHO				*e*S		**Sn**	**08 54 38.9**	**-0.1**
CHTG	**Tecpan**	**3.28**	**95**	*i* P		**Pn**	**08 54 10.2**	**+2.7**
CHTG				IAML			08 55 21.4	
	comp=Z,9µm,1.0s							
PMUV	**Sontecomapan**	**3.53**	**348**	*i* P		**Pn**	**08 54 08.9**	**-1.8**
PMUV				*e*S		**Sn**	**08 54 51.2**	**-0.1**
YOIG	**Yosondua**	**3.53**	**301**			**Pn**	**08 54 11.8**	**+0.8**
YOIG						**Sn**	**08 54 50.9**	**-0.9**
YOIG	**Yosondua**	**3.53**	**301**	*i* P		**Pn**	**08 54 11.8**	**+0.8**
YOIG				*e*S		**Sn**	**08 54 50.9**	**-0.9**
GCG4	**OSOP**	**3.74**	**97**	*i* P		**Pn**	**08 54 15.9**	**+2.2**
GCG4				*i* S		**Sb**	**08 55 03.6**	**-4.9**
GCG4				IAML			08 55 14.8	
	comp=Z,5µm,1.0s							
PNIG	**Pinotepa**	**3.85**	**290**			**Pn**	**08 54 14.2**	**-0.9**
PNIG						**Sn**	**08 54 54.6**	**-4.6**
PNIG	**Pinotepa**	**3.85**	**290**	*i* P		**Pn**	**08 54 14.2**	**-0.9**
PNIG				*e*S		**Sn**	**08 54 54.6**	**-4.6**
GUNB	**GUNB**	**3.92**	**96**	*i* P		**Pn**	**08 54 18.1**	**+1.8**
GUNB				*i* S		**Sn**	**08 55 06.1**	**+4.8**
GUNB				IAML			08 55 44.7	
	comp=Z,3µm,1.0s							
TXIG	**Tlaxiaco**	**3.92**	**304**			**Pn**	**08 54 17.2**	**+0.9**
TXIG						**Sn**	**08 55 03.0**	**+1.6**
TXIG	**Tlaxiaco**	**3.92**	**304**	*e*P		**Pn**	**08 54 17.2**	**+0.9**
TXIG				*e*S		**Sn**	**08 55 03.0**	**+1.6**
HLIG	**Huajuapan de L**	**4.29**	**310**			**Pn**	**08 54 23.1**	**+1.8**
HLIG						**Sn**	**08 55 12.4**	**+2.1**
HLIG	**Huajuapan de L**	**4.29**

PAVA *i* S **Sb** **08 55 52.1 -5.0**
PAVA IAML 08 56 03.3
comp=Z,2µm,1.0s
IZABA Izabal, Puerto 5.62 83 *e*P **Pn** **08 54 39.4 +0.1**
SCLA Alcaldia de Sa 5.63 103 *i* P **Pn** **08 54 41.5 +1.9**
SCLA IVmB_BB 08 55 02.3
comp=Z,3µm,1.0s
SCLA IAmb IAmb 08 55 02.8
comp=Z,330nm,0.7s
SCLA *i* S **Sn** **08 55 48.8 +5.6**
SCLA IAML 08 56 23.3
comp=Z,620nm,1.0s
PPM Popocatepetl 5.69 315 *i* P **Pn** **08 54 44.2 +3.4**
PPM *e*S **Sn** **08 55 40.1 -5.2**
PPIG Popocatepetl 5.69 315 **Pn** **08 54 44.2 +3.4**
PPIG **Sn** **08 55 40.1 -5.2**
TLVM San Miguel Top 6.15 313 *e*P **Pn** **08 54 51.0 +3.9**
TLVM *e*S **Sn** **08 56 02.4 +5.9**
UNM Universidad Na 6.25 313 Pn **Pn** **08 54 50.7 +2.4**
UNM Universidad Na 6.25 313 P **Pn** **08 54 50.7 +2.4**
AOVM Tlapan 6.31 312 *e*P **Pn** **08 54 52.9 +3.6**
TGUH Tegucigalpa,Un 6.94 97 Pn **Pn** **08 54 58.3 +0.6**
ACIG Acambay 7.17 314 **Pn** **08 55 05.5 +4.7**
ACIG Acambay 7.17 314 *e*P **Pn** **08 55 05.5 +4.7**
CTUV Llano Grande 7.41 330 *e*P **Pn** **08 55 03.0 -0.9**
CTUV *e*S **Sn** **08 56 31.4 +4.6**
CRIN San Cristobal 7.49 107 **Pn** **08 55 07.4 +2.3**
CRIN San Cristobal 7.49 107 *e*P **Pn** **08 55 07.6 +2.5**
TEIG Tepich 7.74 48 Pn **Pn** **08 55 06.7 -1.8**
TEIG Tepich 7.74 48 *e*P **Pn** **08 55 06.9 -1.6**
TEIG Tepich 7.74 48 Pn **Pn** **08 55 06.5 -2.0**
comp=Z,612nm,0.3s,baz=8.0,slow=0.8,SNR=137
TEIG Sn **Sn** **08 56 30.7 -4.4**
comp=Z,600nm,0.3s,baz=46,slow=20,SNR=11
TEIG LR LR 08 57 55.7
comp=Z,5µm,21.1s,baz=1.0,slow=37
CNGN Cerro Negro 7.88 108 **Pn** **08 55 13.3 +2.9**
CNGN Cerro Negro 7.88 108 *e*P **Pn** **08 55 12.5 +2.0**
MOIG Morelia 7.96 306 **Pn** **08 55 15.3 +3.6**
MOIG Morelia 7.96 306 *i* P **Pn** **08 55 14.8 +3.0**
MATN Matagalpa 8.46 104 **Pn** **08 55 18.7 +0.1**
ACON Acoyapa 9.46 108 **Pn** **08 55 36.1 +4.0**
ACON Acoyapa 9.46 108 *e*P Pn 08 55 37.4 +5.3
HZTE Horizontes, Gu 9.59 116 Pn **Pn** **08 55 35.6 +1.8**
ORTG Ortega, Santa 9.87 117 **Pn** **08 55 40.2 +2.3**
COVE Coope Vega, Sa 10.63 113 **Pn** **08 55 50.3 +2.0**
ZAIG Zacatecas 10.89 316 **Pn** **08 55 55.8 +3.8**
JACO JACO, Garabito 10.90 118 **Pn** **08 55 53.0 +1.1**
HDC Heredia 11.21 116 **Pn** **08 55 58.9 +2.7**
LCR2 La Lucha 2 11.42 116 **Pn** **08 56 02.3 +3.0**
RIMA Rio Macho 11.53 116 **Pn** **08 56 03.5 +2.8**
HBVL Hebbronville 12.59 342 Pn **Pn** **08 56 18.9 +4.0**
SOR Soroa 13.20 53 **Pn** **08 56 21.6 -1.7**
SOR Soroa 13.20 53 P **Pn** **08 56 21.6 -1.7**
833A Chaparral WMA, 13.98 341 Pn **Pn** **08 56 36.1 +2.2**
833A Chaparral WMA, 13.98 341 P **Pn** **08 56 36.0 +2.0**
baz=158,SNR=86
735A Kenedy 14.08 347 **Pn** **08 56 35.2 0.0**
EF01 Eagle Ford 01 14.47 346 **Pn** **08 56 40.7 +0.1**
GMAL Guarumal, Vera 14.78 118 *e*P **Pn** **08 56 45.7 +0.8**
HKT Hockley 14.87 355 Pn **Pn** **08 56 45.8 -0.1**
HKT Hockley 14.87 355 *de*P **Pn** **08 56 45.0 -0.9**
HKT pmax pmax
comp=Z,23nm,1.8s
HNDO Hondo 15.08 343 **Pn** **08 56 50.0 +1.1**
DRIO Del Rio 15.40 339 Pn **Pn** **08 56 53.3 +0.2**
DRIO IAmb IAmb 08 56 57.5
comp=Z,27nm,1.0s
441A DeRidder 15.64 4 P **Pn** **08 56 57.0 +0.9**
HNVL Huntsville, TX 15.64 356 P **Pn** **08 56 56.8 +0.7**
HNVL IAmb IAmb 08 57 02.1
comp=Z,75nm,1.0s
HPIG 15.81 320 **Pn** **08 57 00.2 +1.6**
435B Jarrell 15.91 350 **Pn** **08 57 00.7 +1.0**
435B Jarrell 15.91 350 P **Pn** **08 57 00.9 +1.3**
baz=168
JCT Junction City 16.13 343 P **Pn** **08 57 03.1 +0.7**
JCT Junction City 16.13 343 P **Pn** **08 57 03.7 +1.3**
baz=160,SNR=18
JCT Junction City 16.13 343 P **Pn** **08 57 03.1 +0.7**
JCT pmax pmax
comp=Z,56nm,1.3s
SAND Sanderson 16.44 336 **P** **08 57 07.9 -1.0**
SAND IAmb IAmb 08 57 17.0
comp=Z,43nm,0.9s
TXAR Lajitas Array 16.59 330 **P** **08 57 09.8 -0.8**
TXAR Lajitas Array 16.59 330 P **P** **08 57 10.0 -0.6**
TXAR Lajitas Array 16.59 330 Pn **P** **08 57 10.0 -0.6**
comp=Z,1.1nm,0.3s,baz=155,slow=13,SNR=87
TXAR LR LR 09 03 55.7
comp=Z,328nm,19.0s,baz=120,slow=38
comp=Z,16nm,0.8s
TX31 Lajitas Ar. Si 16.59 330 **P** **08 57 10.3 -0.2**
NATX Nacogdoches 16.61 359 P **Pn** **08 57 07.9 -0.6**
NATX Nacogdoches 16.61 359 P **Pn** **08 57 08.9 +0.4**
baz=178
BRDY Brady 16.68 346 **Pn** **08 57 09.6 +0.1**
BRDY IAmb IAmb 08 57 16.2
comp=Z,32nm,0.7s
346A Big Creek Wild 16.85 15 P **Pn** **08 57 10.5 -0.9**
346A IAmb IAmb 08 57 16.2
comp=Z,77nm,0.8s
OZNA Ozona 16.95 340 **P** **08 57 13.9 -0.6**
OZNA IAmb IAmb 08 57 23.1
comp=Z,83nm,0.8s
SLBS Sierra La Lagu 17.00 303 P **P** **08 57 16.5 +1.4**
WHTX Lake Whitney, 17.07 351 P **P** **08 57 15.3 -0.5**
baz=169,SNR=28
BRAL Brewton 17.36 21 P **Pn** **08 57 17.8 -0.1**
baz=204
451A Vernon 17.38 26 P **Pn** **08 57 17.9 -0.2**
451A IAmb IAmb 08 57 24.1
comp=Z,194nm,1.2s
VBMS Vicksburg 17.42 11 P **Pn** **08 57 16.8 -1.9**
VBMS Vicksburg 17.42 11 P **Pn** **08 57 18.8 +0.2**
baz=192
FW13 Cleburne 17.43 351 P **Pn** **08 57 18.9 +0.2**
FW13 IAmb IAmb 08 57 28.3
comp=Z,134nm,0.7s
ALPN Alpine 17.45 332 **P** **08 57 20.3 +0.2**
ALPN IAmb IAmb 08 57 23.3
comp=Z,62nm,0.8s
LPIG La Paz 17.49 303 P **P** **08 57 23.5 +3.1**
comp=Z,51nm,0.9s,baz=141,slow=2.7,SNR=8.4
LPIG LR LR 09 03 20.4
comp=Z,786nm,19.5s,baz=116,slow=34
553A Crawfordville 17.60 30 P **Pn** **08 57 19.9 -0.9**
553A IAmb IAmb 08 57 27.8
comp=Z,122nm,1.1s
DWPF Disney Wildern 17.67 41 P **Pn** **08 57 21.2 -0.5**
baz=225
143A Socs Landing, 17.76 8 P **P** **08 57 23.2 -0.2**
SGCY Sterling City 17.86 341 P **P** **08 57 25.0 +0.3**
SGCY IAmb IAmb 08 57 29.2
comp=Z,126nm,1.0s
MNHN Monahans 17.92 336 P **P** **08 57 26.5 +1.2**
MNHN IAmb IAmb 08 57 34.4
comp=Z,133nm,0.9s
Z38A Mt. Pleasant 18.11 358 P **P** **08 57 27.7 +0.5**
Z38A IAmb IAmb 08 57 36.7
comp=Z,62nm,0.8s
ABTX Abilene, Hawle 18.12 346 P **P** **08 57 28.7 +1.2**
ABTX IAmb IAmb 08 57 37.5
comp=Z,133nm,1.1s
ABTX Abilene, Hawle 18.12 346 P **P** **08 57 28.6 +1.2**
baz=163,SNR=18
Z41A Richland Creek 18.16 4 P **P** **08 57 28.3 +0.5**
FW03 Perrin-Whitt E 18.20 350 P **P** **08 57 28.9 +0.7**
FW03 IAmb IAmb 08 57 38.8
comp=Z,79nm,0.8s
250A Grady 18.38 22 P **P** **08 57 29.5 -0.7**
PECS Pecos 18.40 333 P **Pn** **08 57 32.1 +1.3**
PECS IAmb IAmb 08 57 39.8
comp=Z,36nm,0.9s
425A Indio Mountain 18.43 330 **Pn** **08 57 32.3 +1.1**
352A Blakely 18.47 26 P **P** **08 57 30.6 -0.6**
ODSA Odessa 18.54 338 **Pn** **08 57 33.2 +0.7**
ODSA IAmb IAmb 08 57 40.2
comp=Z,333nm,1.2s
WLAR White Oak Lake 18.57 3 P **P** **08 57 32.0 -0.3**
WLAR IAmb IAmb 08 57 42.4
comp=Z,61nm,0.6s
SN01 Snyder 1 18.67 343 **Pn** **08 57 34.2 +0.2**
SN01 IAmb IAmb 08 57 43.8
comp=Z,83nm,0.7s
APAC Apartado, Choc 18.82 110 *e*P **P** **08 57 35.4 +0.2**
APAC *e*P **Pn** **08 57 37.3 +1.4**
APAC *e*P **pP** **08 57 41.9 -1.9**
Z47A Carrollton 18.93 16 P **P** **08 57 35.6 -0.6**
GTBY Guantanamo Bay 18.98 73 *e*P **P** **08 57 32.7 -4.2**
TIGA Tifton 19.04 29 P **P** **08 57 37.2 -0.3**
baz=213,SNR=7.6
POST Post 19.05 341 P **Pn** **08 57 38.2 -0.4**
POST IAmb IAmb 08 57 43.4
comp=Z,64nm,0.9s
LRAL Lakeview Retre 19.09 19 P **Pn** **08 57 38.7 -0.3**
baz=202,SNR=6.6
Y45A Yeager Farm, C 19.21 12 P **P** **08 57 39.1 -0.2**
Y45A IAmb IAmb 08 57 45.1
comp=Z,106nm,1.1s
MNTX Cornudas Mount 19.37 331 P **Pn** **08 57 42.4 0.0**
baz=145,SNR=44
MIAR Mount Ida 19.40 2 P **P** **08 57 40.7 -0.7**
MIAR IAmb IAmb 08 57 50.5
comp=Z,60nm,0.8s
MIAR Mount Ida 19.40 2 P **P** **08 57 41.2 -0.2**
baz=182,SNR=23
MIAR Mount Ida 19.40 2 P **P** **08 57 40.7 -0.7**
MIAR pmax pmax
comp=Z,60nm,0.8s
SJCC San Jacinto, C 19.42 103 *e*P **P** **08 57 40.6 -1.3**
DKNS Dickens 19.44 343 P **Pn** **08 57 42.8 -0.5**
DKNS IAmb IAmb 08 57 48.6
comp=Z,139nm,1.0s
UREC San Jos de Ur 19.83 109 *e*P **P** **08 57 45.8 -0.5**
OXF Oxford 19.86 12 P **P** **08 57 45.3 -1.1**
baz=194
WMOK Wichita Mounta 19.98 349 P **P** **08 57 47.9 +0.1**
baz=167
WHAR Wooly Hollow 20.22 5 P **P** **08 57 49.7 -0.6**
CBOC Ciudad Bolivar 20.22 115 *e*P Pn 08 57 52.8 0.0
MSTX Muleshoe 20.29 339 P **P** **08 57 51.9 +0.7**
baz=155,SNR=33
PLMC San Jos del P 20.46 118 *e*P **P** **08 57 53.8 +0.7**
ZARC Zaragoza, Cauc 20.55 109 *e*P **P** **08 57 50.8 -3.3**
GOGA Godfrey 20.76 27 P **P** **08 57 55.6 -0.6**
baz=211,SNR=20
GOGA Godfrey 20.76 27 P **P** **08 57 55.5 -0.7**
GOGA pmax pmax
comp=Z,88nm,1.0s
TUL3 Leonard 20.79 357 P **P** **08 57 56.3 -0.2**
TUL3 IAmb IAmb 08 58 03.1
comp=Z,44nm,0.8s
TUL3 Leonard 20.79 357 P **P** **08 57 56.5 0.0**
baz=176,SNR=12
AMTX Amarillo 20.79 343 P **P** **08 57 57.4 +0.7**
baz=159
YOTC Yotoco, Valle 20.89 120 *e*P **P** **08 57 58.6 +0.7**
JAMC Jamundi, Valle 21.05 122 *e*P **P** **08 58 00.6 +0.9**
GUY2C Guyana, Caldas 21.09 116 *e*P **P** **08 58 02.0 +1.6**
319A Douglas 21.20 322 P **P** **08 58 04.0 +2.9**
319A IAmb IAmb 08 58 05.1
comp=Z,77nm,0.9s
121A Cookes Peak, D 21.24 327 P **P** **08 58 04.3 +2.7**
121A Cookes Peak, D 21.24 327 P **P** **08 58 04.3 +2.7**
baz=141,SNR=112
U38A Gravette 21.28 360 P **P** **08 58 02.0 +0.2**
BBAC Balboa, Cauca 21.30 126 *e*P **P** **08 58 02.6 +0.3**
BBAC *e*P **P** **08 58 03.7 +1.3**
BBAC *e*P **P** **08 58 04.1 +1.7**
PTBC PUERTO BERRIO, 21.30 111 *e*P **P** **08 58 02.8 +0.6**
ANIL Santa Ana 21.42 117 *e*P **P** **08 58 06.1 +2.3**
ANIL *e*P **P** **08 58 06.7 +2.9**
ANIL *e*P **P** **08 58 08.3 +4.5**
POPC Popayan, Colom 21.44 124 *e*P **P** **08 58 05.5 +1.6**
OTAV Otavalo 21.56 132 P **P** **08 58 07.1 +1.7**
OTAV Otavalo 21.56 132 *e*P **P** **08 58 06.8 +1.4**
OTAV Otavalo 21.56 132 P **P** **08 58 07.1 +1.7**
OTAV pmax pmax
comp=Z,21nm,1.0s
WVT Waverly 21.77 14 P **P** **08 58 05.4 -1.6**
WVT IAmb IAmb 08 58 17.7
comp=Z,35nm,0.8s
WVT Waverly 21.77 14 P **P** **08 58 06.4 -0.7**
baz=197
WVT Waverly 21.77 14 P **P** **08 58 05.4 -1.6**
WVT pmax pmax
comp=Z,35nm,0.8s
T35A Sooner Cattle 21.84 355 P **P** **08 58 06.0 -1.8**
T35A IAmb IAmb 08 58 26.7
comp=Z,80nm,1.0s
ORTC Ortega, Tolima 21.85 119 *e*P **P** **08 58 09.6 +1.4**
DUN6 Lazy B Ranch 21.96 325 P **P** **08 58 11.7 +2.4**
SPBC San Pablo de B 22.03 113 *e*P **P** **08 58 10.8 +0.6**
Y22D IRIS PASSCAL I 22.06 331 P **P** **08 58 12.5 +2.2**
baz=145
Y22F Passcal Instru 22.06 331 P **P** **08 58 12.4 +2.0**
baz=145
NHSC New Hope 22.09 33 P **P** **08 58 09.8 -0.7**
baz=219
ROSC El Rosal 22.19 115 P **P** **08 58 12.2 +0.1**
ROSC IAmb IAmb 08 58 24.6
comp=Z,108nm,1.5s
ROSC El Rosal 22.19 115 *e*P **P** **08 58 18.0 +5.9**
ROSC El Rosal 22.19 115 P **P** **08 58 12.2 +0.1**
ROSC pmax pmax
comp=Z,108nm,1.5s
ROSC El Rosal 22.19 115 P **P** **08 58 13.9 +1.8**
comp=Z,12nm,0.8s,baz=294,slow=20,SNR=7.4
ROSC S **S** **09 02 11.1 -4.0**
comp=Z,7.6nm,0.5s,baz=291,slow=16,SNR=4.5
PRAC Prado 22.26 119 *e*P **P** **08 58 15.7 +3.1**
BARC Barichara 22.43 110 *e*P **P** **08 58 17.1 +2.5**
V51A Loudon 22.51 22 P **P** **08 58 13.2 -1.8**
V51A IAmb IAmb 08 58 38.0
comp=Z,56nm,1.2s
RTBA Rita Blanca 22.55 342 P **P** **08 58 15.5 0.0**
RTBA IAmb IAmb 08 58 23.9
comp=Z,110nm,0.8s
CVER Cruz Verde, Cu 22.55 116 *e*P **P** **08 58 19.3 +3.1**
PIAT Ana Tenorio 22.56 134 *e*P **P** **08 58 18.0 +1.9**
ANMO Albuquerque 22.58 333 P **P** **08 58 17.3 +1.3**
ANMO Albuquerque 22.58 333 P **P** **08 58 18.0 +2.0**
baz=148
ANMO Albuquerque 22.58 333 P **P** **08 58 17.3 +1.3**
ANMO pmax pmax
comp=Z,25nm,0.9s
PAMC Pamplona, Colo 22.59 108 *e*P **P** **08 58 16.1 -0.5**
TKL Tuckaleechee C 22.59 23 P **P** **08 58 14.5 -1.4**
TKL IAmb IAmb 08 58 39.1
comp=Z,42nm,0.9s
TKL Tuckaleechee C 22.59 23 P **P** **08 58 14.5 -1.4**
TKL pmax pmax
comp=Z,42nm,1.0s
TKL Tuckaleechee C 22.59 23 LR LR 09 09 01.9
comp=Z,476nm,19.5s,baz=192,slow=42
TUC Tucson 22.76 322 P **P** **08 58 19.6 +1.9**
TUC Tucson 22.76 322 P **P** **08 58 20.5 +2.7**
baz=134
TUC Tucson 22.76 322 P **P** **08 58 19.7 +1.9**
TUC pmax pmax
comp=Z,28nm,1.2s
T47A Sharon Grove 22.76 15 P **P** **08 58 16.6 -1.1**
T47A IAmb IAmb 08 58 27.3
comp=Z,45nm,1.0s
FLOC Florencia 22.82 124 *e*P **P** **08 58 21.9 +3.4**
CCM Cathedral Cave 23.06 6 P **P** **08 58 20.0 -0.6**
baz=187
KMSC Kings Mountain 23.16 28 P **P** **08 58 21.0 -0.8**
baz=213
R40A Maddies Statio 23.20 4 P **P** **08 58 21.6 -0.5**
R40A IAmb IAmb 08 58 24.3
comp=Z,46nm,0.8s
TZTN Tazewell 23.46 22 P **P** **08 58 24.3 -0.4**
baz=207
R32A Long Quarter, 23.57 351 P **P** **08 58 25.4 -0.4**
T25A Trinidad 23.72 340 P **P** **08 58 29.6 +2.2**
T25A Trinidad 23.72 340 P **P** **08 58 29.8 +2.4**
baz=155,SNR=30
214A Organ Pipe Nat 23.78 318 P **P** **08 58 29.9 +2.0**
214A Organ Pipe Nat 23.78 318 P **P** **08 58 31.1 +3.2**
baz=130,SNR=8.3
X18A Snowflake 23.93 327 P **P** **08 58 32.2 +2.8**
X18A IAmb IAmb 08 58 33.5
comp=Z,36nm,0.9s
SDV Santo Domingo 24.00 102 *e*P **P** **08 58 29.4 -0.9**
SDV Santo Domingo 24.00 102 *e*P **P** **08 58 29.6 -0.7**
SDV Santo Domingo 24.00 102 LR LR 09 09 49.2
comp=Z,916nm,18.8s,baz=298,slow=42
KSU1 Kansas State U 24.02 356 P **P** **08 58 30.1 +0.2**
baz=174,SNR=11
MCRA Macar, Loja 24.02 142 *e*P **P** **08 58 30.1 -0.2**
CBKS Cedar Bluff 24.12 350 P **P** **08 58 31.6 +0.7**
CBKS Cedar Bluff 24.12 350 P **P** **08 58 32.2 +1.2**
baz=167,SNR=18
CBKS Cedar Bluff 24.12 350 P **P** **08 58 31.7 +0.7**
CBKS pmax pmax
comp=Z,87nm,0.9s
WCI Wyandotte Cave 24.14 16 P **P** **08 58 29.3 -1.8**
WCI IAmb IAmb 08 58 41.9
comp=Z,39nm,0.8s
WCI Wyandotte Cave 24.14 16 P **P** **08 58 30.3 -0.8**
baz=199
WCI Wyandotte Cave 24.14 16 P **P** **08 58 29.3 -1.8**
WCI pmax pmax
comp=Z,39nm,0.9s
SDCO Great Sand Dun 24.64 338 P **P** **08 58 37.8 +1.7**
SDCO IAmb IAmb 08 58 54.1
comp=Z,50nm,1.2s
SDCO Great Sand Dun 24.64 338 P **P** **08 58 37.9 +1.9**
baz=153,SNR=36
X16A Lo Mia Camp, P 24.66 324 P **P** **08 58 38.3 +2.2**
X16A IAmb IAmb 08 58 41.5
comp=Z,48nm,0.9s
113A Mohawk Valley, 24.92 318 P **P** **08 58 40.7 +2.4**
113A IAmb IAmb 08 58 43.0
comp=Z,23nm,0.8s
KSCO Kaye Shedlock' 24.93 345 P **P** **08 58 39.8 +1.4**
baz=160
S22A 4UR Ranch, Cre 25.14 336 P **P** **08 58 42.4 +1.9**
baz=150,SNR=6.2
Y14A Wickenburg 25.23 321 P **P** **08 58 42.7 +1.6**
Y14A IAmb IAmb 08 58 46.2
comp=Z,30nm,0.9s
BLA Blacksburg 25.29 27 P **P** **08 58 42.0 +0.4**
baz=213
MVCO Mesa Verde 25.37 333 P **P** **08 58 44.6 +2.0**
baz=146,SNR=18
WUAZ Wupatki 25.43 326 P **P** **08 58 45.4 +2.3**
WUAZ IAmb IAmb 08 58 49.2
comp=Z,50nm,0.9s
WUAZ Wupatki 25.43 326 P **P** **08 58 45.5 +2.3**
baz=138,SNR=43
SSFO Shawnee State 25.51 21 P **P** **08 58 42.1 -1.4**
Q24A Divide 25.62 340 P **P** **08 58 45.9 +1.0**
baz=155
N38A Joes South For 25.64 2 P **P** **08 58 44.3 -0.4**
N35A Tabor 25.72 358 P **P** **08 58 45.5 +0.1**
HDIL Hopedale 25.77 9 P **P** **08 58 44.6 -1.2**
baz=191
P49A Miami Univ. Ec 25.80 17 P **P** **08 58 43.5 -2.6**
baz=201
ESJX Sierra Juarez 25.91 314 P **P** **08 58 49.6 +2.1**
SFIN Lafayette 26.00 13 P **P** **08 58 46.4 -1.5**
baz=196
PDMCI Parker Dam,Lak 26.16 321 P **P** **08 58 51.9 +2.4**
baz=132,SNR=7.4
O48B Farmland 26.35 16 P **P** **08 58 49.0 -2.1**
baz=200
SWSC Sam W. Stewart 26.36 316 P **P** **08 58 54.0 +2.6**
baz=127,SNR=5.1
IKP In-Ko-Pah, Jac 26.39 315 P **P** **08 58 54.7 +2.9**
baz=126,SNR=10
BAUV El Baul 26.44 100 P **P** **08 58 50.1 -2.1**
BGNE Belgrade 26.44 354 P **P** **08 58 53.2 +1.2**
baz=171
SMCO Snowmass 26.45 338 P **P** **08 58 53.8 +1.3**
SMCO IAmb IAmb 08 59 04.8
comp=Z,30nm,0.9s
ISCO Idaho Springs 26.53 340 P **P** **08 58 54.8 +1.6**
baz=154,SNR=9.6
ISCO Idaho Springs 26.53 340 P **P** **08 58 54.9 +1.8**
ISCO pmax pmax
comp=Z,25nm,0.8s
W13A Hualapai Mount 26.55 322 P **P** **08 58 55.3 +2.0**
BC3 Big Chuckawall 26.57 318 P **P** **08 58 55.8 +2.5**
baz=128,SNR=17
U15A North Rim 26.61 326 P **P** **08 58 54.8 +0.9**
OGNE Ogallala 26.62 347 P **P** **08 58 55.3 +1.5**
baz=163,SNR=9.9
IRM Iron Mountain 26.70 319 P **P** **08 58 56.8 +2.4**
baz=130,SNR=11
P52A Corning 26.71 21 P **P** **08 58 52.3 -2.2**
baz=207
MONP2 Monument Peak 26.75 315 P **P** **08 58 57.6 +2.5**
baz=126,SNR=7.0
SCIA State Center 26.76 2 P **P** **08 58 53.1 -1.7**
SCIA State Center 26.76 2 P **P** **08 58 54.1 -0.7**
baz=182,SNR=7.9
NEE2 Needles Airpor 26.77 321 P **P** **08 58 57.0 +2.0**
baz=132
L34A Svendsen Farm, 26.85 357 P **P** **08 58 55.8 +0.2**
L40A Anamosa 27.03 5 P **P** **08 58 56.1 -1.1**
L40A IAmb IAmb 08 58 58.3
comp=Z,44nm,0.8s
BELC Belle Mtn. Jos 27.14 318 P **P** **08 59 01.0 +2.5**
baz=128,SNR=7.1
PMD Palm Desert 27.17 317 P **P** **08 59 00.2 +1.6**
SJG San Juan 27.20 80 LR LR 09 10 37.8
comp=Z,436nm,19.6s,baz=239,slow=39
TPFO Pinon Flats 27.20 317 P **P** **08 59 01.4 +2.4**
baz=127,SNR=6.6
PFO Pinyon Flats O 27.20 317 P **P** **08 59 00.2 +1.1**
PFO Pinyon Flats O 27.20 317 P **P** **08 59 01.6 +2.5**
baz=127,SNR=6.8
PFO Pinyon Flats O 27.20 317 P **P** **08 59 00.2 +1.1**
PFO pmax pmax
comp=Z,8.0nm,1.0s
GMRC Granite Mounta 27.42 320 P **P** **08 59 03.5 +2.4**
baz=130,SNR=8.1
V12A Nelson 27.55 322 P **P** **08 59 04.3 +2.1**
O53A New Philadelph 27.59 22 P **P** **08 59 02.0 -0.3**
baz=208
N23A Red Feather La 27.63 341 P **P** **08 59 04.7 +1.7**
baz=155
MURC Murrieta 27.69 316 P **P** **08 59 06.3 +2.9**
baz=126
O20A White River Ci 27.76 337 P **P** **08 59 05.8 +1.7**
baz=150
HEC Hector Ludlow 27.88 319 P **P** **08 59 07.3 +2.2**
baz=129
BBRC Big Bear Solar 27.91 317 P **P** **08 59 08.0 +2.6**
baz=127
JFWS Jewell Farm 27.97 6 P **P** **08 59 04.8 -0.8**
baz=188,SNR=7.2
TUQ Turquoise Moun 28.01 320 P **P** **08 59 08.9 +2.6**
baz=130
CCUT Cedar City 28.02 327 P **P** **08 59 08.1 +1.6**
MVU Marysvale 28.15 329 P **P** **08 59 08.7 +1.1**
P17A Butcher Ranch, 28.23 333 P **P** **08 59 09.6 +1.3**
P17A IAmb IAmb 08 59 11.2
comp=Z,20nm,0.8s
BFSC Mount Baldy Ra 28.38 316 P **P** **08 59 12.2 +2.6**
baz=126,SNR=8.4
CIS Catalina Islan 28.41 314 P **P** **08 59 12.3 +2.6**
baz=124,SNR=5.7
GSC Goldstone, Bar 28.48 319 P **P** **08 59 12.7 +2.3**
baz=129
ECSD EROS Data Cent 28.63 357 P **P** **08 59 11.6 0.0**
baz=175,SNR=14
RWWY Rawlins 28.76 340 P **P** **08 59 13.5 +0.5**
RWWY IAmb IAmb 08 59 28.9
comp=Z,50nm,1.3s
M53A WI Miller and 28.83 22 P **P** **08 59 13.4 +0.1**
baz=208
DECC Green Verdugo 28.84 316 P **P** **08 59 16.7 +3.2**
baz=125
EDW2 Edwards Air Fo 28.98 317 P **P** **08 59 17.0 +2.2**
baz=126
SNCC San Nicolas Is 29.10 313 P **P** **08 59 17.7 +1.8**
baz=122
LRMC Laurel Mtn Rad 29.15 318 P **P** **08 59 17.6 +1.2**
baz=128
CCAC Calif City Air 29.16 318 P **P** **08 59 17.7 +1.3**
TPNV Topopah Spring 29.21 322 P **P** **08 59 20.2 +3.2**
baz=132,SNR=7.3
SSPA Standing Stone 29.23 26 P **P** **08 59 17.7 +0.8**
baz=214
FURC Furnace Creek, 29.26 321 P **P** **08 59 20.6 +3.4**
baz=130,SNR=6.7
MPMC Manual Prospec 29.39 320 P **P** **08 59 20.8 +2.2**
baz=129,SNR=11
PCRV Puerto La Cruz 29.40 96 LR LR 09 11 07.9
comp=Z,420nm,21.3s,slow=37
K22A Casper 29.40 342 P **P** **08 59 20.6 +1.9**
baz=155

SUSD **Miller** 29.53 353 P P 08 59 19.8 +0.2
SUSD **Miller** 29.53 353 P P 08 59 20.9 +1.4
baz=170,SNR=8.6
SCZ2 **Santa Cruz Isl** 29.58 314 P P 08 59 22.4 +2.3
baz=123
ERPA **Erie** 29.67 22 P P 08 59 21.7 +0.9
baz=209
ARVC **Arvin** 29.68 317 P P 08 59 23.6 +2.6
baz=126,SNR=5.4
DUG **Dugway, Tooele** 29.76 331 P P 08 59 24.1 +2.3
baz=142
DUG **Dugway, Tooele** 29.76 331 P P 08 59 24.7 +2.9
DUG pmax pmax
comp=Z,8.0nm,1.8s
ISA **Isabella, Lake** 29.77 318 P P 08 59 22.8 +0.9
ISA **Isabella, Lake** 29.77 318 P P 08 59 23.8 +2.0
baz=127
ISA **Isabella, Lake** 29.77 318 P P 08 59 22.8 +0.9
ISA pmax pmax
comp=Z,7.0nm,1.1s
R11B **Troy Canyon, C** 29.80 325 P P 08 59 24.2 +2.0
baz=135,SNR=5.9
CWC **Cottonwood Cre** 30.00 320 P P 08 59 25.8 +1.9
baz=128
SPMN **Marine on St.** 30.08 2 P P 08 59 23.3 -1.1
SPMN **Marine on St.** 30.08 2 P P 08 59 23.2 -1.2
baz=183,SNR=35
RSSD **Black Hills** 30.10 346 P P 08 59 25.9 +1.1
baz=161
RSSD **Black Hills** 30.10 346 P P 08 59 26.0 +1.2
RSSD pP pP 08 59 34.5 +0.3
RSSD sP sP 08 59 38.8 +0.6
PKM **Mcpherson Peak** 30.20 315 P P 08 59 28.7 +2.8
baz=124,SNR=9.5
VES **Vestal, Richgr** 30.27 318 P P 08 59 29.0 +2.8
baz=126,SNR=12
MZP **Montezuma Peak** 30.39 322 P P 08 59 29.0 +1.5
BW06 **Boulder Array** 30.53 338 P P 08 59 29.9 +1.2
BW06 **Boulder Array** 30.53 338 P P 08 59 30.0 +1.3
baz=150,SNR=5.7
PD31 **Pinedale Array** 30.53 338 P P 08 59 29.1 +0.4
PDAR **Pinedale Array** 30.53 338 P P 08 59 29.3 +0.6
PDAR **Pinedale Array** 30.53 338 P P 08 59 29.8 +1.1
comp=Z,4.3nm,0.9s,baz=149,slow=11,SNR=25
comp=Z,4.3nm,0.9s
TPH **Tonopah** 30.54 323 P P 08 59 30.4 +1.6
TPH IAmb IAmb 08 59 32.2
comp=Z,33nm,1.1s
TPH **Tonopah** 30.54 323 P P 08 59 30.4 +1.6
TPH pmax pmax
comp=Z,33nm,1.1s
SMMC **Simmler** 30.57 316 P P 08 59 31.3 +2.4
baz=124
SGCB **S£o Gabriel d** 30.95 117 eP P 08 59 32.1 -0.3
HVU **Hansel Valley** 31.01 333 P P 08 59 34.8 +2.0
HVU IAmb IAmb 08 59 43.7
comp=Z,24nm,0.8s
HVU **Hansel Valley** 31.01 333 P P 08 59 34.8 +2.0
HVU pmax pmax
comp=Z,24nm,0.8s
AHID **Auburn Hatcher** 31.12 336 P P 08 59 34.8 +1.0
AHID IAmb IAmb 08 59 47.4
comp=Z,21nm,1.0s
CZSB **Cruzeiro do Su** 31.22 135 P P 08 59 35.5 +0.7
CZSB IAmb IAmb 09 00 01.1
comp=Z,46nm,1.6s
CZSB **Cruzeiro do Su** 31.22 135 eP P 08 59 35.7 +1.0
MLAC **Mammoth, Mammo** 31.22 321 P P 08 59 37.4 +2.6
baz=129
ELK **Elko** 31.37 329 P P 08 59 38.7 +2.6
ELK IAmb IAmb 08 59 39.6
comp=Z,16nm,0.8s
ELK **Elko** 31.37 329 P P 08 59 38.7 +2.6
ELK pmax pmax
comp=Z,16nm,0.9s
NVAR **Mina Array Bea** 31.41 322 P P 08 59 39.2 +2.7
NVAR **Mina Array Bea** 31.41 322 P P 08 59 38.9 +2.3
comp=Z,12nm,0.8s,baz=135,slow=9.0,SNR=85
comp=Z,12nm,0.8s
REDW **Red Top Meadow** 31.53 337 P P 08 59 38.8 +1.3
SNOW **Snow King Moun** 31.57 337 P P 08 59 39.2 +1.3
E28A **Huff** 31.85 352 P P 08 59 40.4 +0.4
NNA **Nana** 32.00 146 eP P 08 59 43.7 +2.0
NNA pmax pmax
comp=Z,5.0nm,0.6s
BMN **Battle Mountai** 32.17 326 P P 08 59 44.9 +1.8
BMN **Battle Mountai** 32.17 326 P P 08 59 44.9 +1.8
BMN pmax pmax
comp=Z,10.0nm,1.1s
H17A **Grant Village** 32.31 338 P P 08 59 46.5 +2.2
baz=149,SNR=10
YERR **Yerington** 32.33 322 P P 08 59 46.3 +1.8
RLMT **Red Lodge** 32.49 340 P P 08 59 47.1 +1.2
RLMT IAmb IAmb 08 59 56.0
comp=Z,12nm,0.8s
RLMT **Red Lodge** 32.49 340 P P 08 59 47.3 +1.4
baz=152,SNR=11
EMB **Emerald Bay** 32.84 321 P P 08 59 51.2 +2.2
EMB IAmb IAmb 08 59 53.1
comp=Z,22nm,0.8s
EYMN **Ely** 32.86 4 P P 08 59 48.1 -0.8
baz=185
MDND **Maddock** 32.97 354 P P 08 59 50.5 +0.8
baz=170
LAO **LASA Array** 33.04 345 P P 08 59 50.7 +0.2
baz=158
AGMN **Agassiz Nation** 33.15 358 P P 08 59 51.2 -0.2
baz=177
HLID **Hailey** 33.16 333 P P 08 59 53.0 +1.3
HLID IAmb IAmb 09 00 04.6
comp=Z,14nm,0.8s
HLID **Hailey** 33.16 333 P P 08 59 53.1 +1.4
baz=142,SNR=17
HRV **Adam Dziewonsk** 33.65 31 P P 08 59 51.8 -3.9
HRV pmax pmax
comp=Z,25nm,1.8s
BOZ **Bozeman (W)** 33.72 338 P P 08 59 57.8 +1.3
baz=148
ORV **Oroville** 34.05 321 P P 09 00 01.1 +1.8
ORV **Oroville** 34.05 321 P P 09 00 01.1 +1.8
ORV pmax pmax
comp=Z,8.0nm,1.2s
DGMT **Dagmar** 34.27 348 P P 09 00 02.2 +1.1
baz=163
WVOR **Wild Horse Val** 34.34 327 P P 09 00 04.0 +2.0
WVOR IAmb IAmb 09 00 05.0
comp=Z,24nm,1.1s
WVOR **Wild Horse Val** 34.34 327 P P 09 00 04.0 +2.0
WVOR pmax pmax
comp=Z,25nm,1.1s
TEFE **Tefe** 34.76 120 eP P 09 00 05.0 -0.7
LBNH **Lisbon** 34.77 29 P P 09 00 05.2 -0.3
baz=220
PLID **Pearl Lake** 35.06 333 P P 09 00 09.6 +1.4
PLID IAmb IAmb 09 00 18.6
comp=Z,21nm,0.8s
ULM **Lac du Bonnet** 35.10 358 P P 09 00 07.4 -0.8
ULM **Lac du Bonnet** 35.10 358 eP P 09 00 06.1 -2.1
ULM pmax pmax
comp=Z,22nm,0.7s
ULM **Lac du Bonnet** 35.10 358 P P 09 00 06.5 -1.7
comp=Z,22nm,0.7s,baz=174,slow=11,SNR=15
comp=Z,22nm,0.7s
EGMT **Eagleton** 35.23 342 P P 09 00 10.8 +1.2
baz=153
CHMT **Chamberlain Mo** 35.44 337 P P 09 00 12.7 +1.3
BMO **Blue Mountains** 35.47 331 P P 09 00 12.2 +0.6
BMO **Blue Mountains** 35.47 331 P P 09 00 12.2 +0.6
BMO pmax pmax
comp=Z,7.0nm,1.0s
MSO **Missoula** 35.62 337 P P 09 00 14.8 +1.9
baz=146
BOAV **Boa Vista** 35.67 107 eP P 09 00 11.9 -1.7
BOAV **Boa Vista** 35.67 107 eP P 09 00 12.0 -1.6
ETMB **Extrema** 37.28 130 P P 09 00 26.6 -0.7
ETMB IAmb IAmb 09 00 27.7
comp=Z,39nm,1.5s
ETMB **Extrema** 37.28 130 eP P 09 00 25.8 -1.5
I04A **Tendick Farm,** 37.28 326 P P 09 00 27.4 +0.4
H04A **Detroit Lake** 37.76 327 P P 09 00 32.1 +1.0
H04A IAmb IAmb 09 00 33.4
comp=Z,27nm,0.8s
HOOD **Mount Hood Mea** 37.92 328 P P 09 00 34.9 +2.3
MACA **Manacapuru-AM** 37.96 116 eP P 09 00 30.9 -2.1
NEW **Newport** 38.05 335 P P 09 00 35.0 +1.6
baz=142
NEW **Newport** 38.05 335 P P 09 00 34.4 +1.0
NEW pmax pmax
comp=Z,13nm,1.2s
COR **Corvallis** 38.29 326 P P 09 00 37.0 +1.6
COR pP pP 09 00 45.5 +0.6
COR sP sP 09 00 50.2 +1.3
SAML **Samuel** 39.05 126 eP P 09 00 40.4 -1.8
SAML **Samuel** 39.05 126 P P 09 00 40.2 -2.0
FFC **Flin Flon** 40.01 353 eP P 09 00 49.9 +0.2
FFC **Flin Flon** 40.01 353 P P 09 00 49.7 0.0
FFC sP sP 09 01 02.7 -0.4
LPAZ **La Paz** 40.52 139 eP P 09 00 54.5 -0.6
ITTB **Itaituba** 42.87 114 eP P 09 01 11.8 -1.9
FCC **Fort Churchill** 43.61 0 P P 09 01 19.2 +0.2
FCC IAmb IAmb 09 01 20.9
comp=Z,18nm,0.8s
FCC **Fort Churchill** 43.61 0 P P 09 01 19.3 +0.2
FCC pmax pmax
comp=Z,18nm,0.8s
VILB **Vilhena** 43.81 128 P P 09 01 20.6 -0.7
VILB **Vilhena** 43.81 128 eP P 09 01 20.8 -0.4
NPGB **Novo Progresso** 44.47 117 eP P 09 01 24.4 -2.3
MCPB **Macapa, AP** 44.54 106 eP P 09 01 26.3 -0.9
LVC **Limon Verde** 44.99 146 LR LR 09 18 26.2
comp=Z,510nm,21.3s,baz=282,slow=34
PDRB **Porto dos Gac** 45.74 123 eP P 09 01 37.9 +1.2
CLDB **Colider** 46.09 122 eP P 09 01 38.9 -0.6
PTLB **Pontes e Lacer** 46.17 130 P P 09 01 39.0 -1.0
PTLB **Pontes e Lacer** 46.17 130 eP P 09 01 39.0 -1.0
BBSD **Serra de San D** 46.23 133 eP P 09 01 39.0 -1.4
BBRB **Robore, Bolivi** 47.52 133 eP P 09 01 49.1 -1.4
PRPB **Parauapebas** 48.94 112 eP P 09 02 02.3 +0.7
TMAB **Tom-Au,PA,Br** 48.96 107 eP P 09 02 01.9 +0.1
SALV **Santo Antonio** 49.05 127 eP P 09 02 01.5 -0.9
V35K **Ketchikan** 49.34 333 P P 09 02 06.2 +2.1
baz=129
YKA **Yellowknife Ar** 49.48 348 P P 09 02 05.0 0.0
YKA **Yellowknife Ar** 49.48 348 P P 09 02 04.9 0.0
comp=Z,5.4nm,0.8s,baz=154,slow=7.0,SNR=27
YKA PcP PcP 09 03 28.0 +1.4
comp=Z,0.6nm,0.7s,baz=215,slow=3.4,SNR=1.3
comp=Z,5.4nm,0.8s
KOTAN **Kotaneelee Air** 49.92 341 P P 09 02 10.0 +1.5
baz=141
LIRD **Liard River Hi** 50.04 339 P P 09 02 10.2 +0.8
baz=138
SNDB **Serra Nova Dou** 50.41 120 eP P 09 02 11.9 -0.9
DLBC **Dease Lake** 50.75 337 P P 09 02 17.1 +2.3
baz=133
S34M **Telegraph Cree** 50.83 336 P P 09 02 17.4 +2.0
baz=132
CO03 **El Pedregal** 51.02 154 P P 09 02 17.6 +0.4
CO03 IAmb IAmb 09 02 18.5
comp=Z,26nm,1.2s
WTLY **Watson Lake, Y** 51.48 339 P P 09 02 21.5 +1.2
WTLY IAmb IAmb 09 02 22.7
comp=Z,16nm,0.9s
WTLY **Watson Lake, Y** 51.48 339 P P 09 02 22.1 +1.9
baz=135,SNR=6.1
R33M **Jennings River** 51.77 337 P P 09 02 24.2 +1.7
baz=132
FRB **Frobisher Bay** 51.81 14 P P 09 02 21.5 -1.1
FRB pmax pmax
comp=Z,36nm,0.8s
Q32M **Nakina River** 51.97 336 P P 09 02 25.9 +1.7
Q32M IAmb IAmb 09 02 35.8
comp=Z,30nm,1.2s
Q32M **Nakina River** 51.97 336 P P 09 02 25.2 +1.1
baz=131
WRGLY **Wrigley** 52.21 344 P P 09 02 26.5 +0.9
baz=143
R32K **Eaglecrest** 52.44 335 P P 09 02 29.5 +2.1
baz=128
ZON **Zonda** 52.50 152 P P 09 02 28.9 +0.7
ZON **Zonda** 52.50 152 P P 09 02 28.9 +0.7
ZON pmax pmax
comp=Z,58nm,1.9s
P32M **Atlin** 52.95 336 P P 09 02 33.0 +1.8
baz=130
S31K **Pelican** 52.98 334 P P 09 02 33.0 +1.7
baz=126
P33M **Teslin, Yukon** 53.01 337 P P 09 02 33.0 +1.3
baz=131
MT13 **San Alfonso** 53.70 155 P P 09 02 37.7 +0.6
N32M **Quiet Lake** 53.73 338 P P 09 02 37.9 +1.0
N32M **Quiet Lake** 53.73 338 P P 09 02 38.6 +1.7
baz=131
AMBA **Amambai (Brazi** 53.96 134 eP P 09 02 38.0 -1.1
WHY **Whitehorse** 54.08 337 P P 09 02 40.3 +0.8
baz=129
FARO **Faro, Yukon** 54.54 339 P P 09 02 44.5 +1.7
FARO IAmb IAmb 09 02 53.6
comp=Z,16nm,1.3s
FARO **Faro, Yukon** 54.54 339 P P 09 02 43.8 +1.0
baz=132
P30M **Million Dollar** 54.56 335 P P 09 02 43.4 +0.4
baz=126
P29M **Windy Craggy** 54.59 335 P P 09 02 43.8 +0.7
baz=125
O30N **Mendenhall** 54.62 336 P P 09 02 44.3 +1.0
baz=128
M31M **Drury Creek, Y** 54.89 338 P P 09 02 46.2 +0.9
baz=130
N31M **Braeburn, Yuko** 54.94 337 P P 09 02 47.1 +1.4
baz=128
HYT **Haines Junctio** 55.20 336 P P 09 02 49.8 +2.2
baz=126
PNL **Peninsula** 55.31 334 P P 09 02 49.9 +1.6
baz=124
N30M **Aishikik Lake** 55.42 337 P P 09 02 51.2 +2.0
baz=127
YUK6 **Outpost Mounta** 55.61 336 P P 09 02 52.5 +1.7
baz=125
PINM **Pinnacle** 55.90 334 P P 09 02 54.5 +1.9
baz=123
YUK4 **Talbot Arm** 55.96 336 P P 09 02 55.0 +1.8
baz=125
M30M **Mirio, Yukon** 56.00 338 P P 09 02 55.1 +1.9
baz=128
SDBA **SAO DESIDERIO** 56.07 117 eP P 09 02 55.6 +1.1
MAYO **Mayo, Yukon** 56.32 339 P P 09 02 57.1 +1.5
baz=129
YUK8 **Steele Glacier** 56.37 336 P P 09 02 57.8 +1.6
baz=124
M29M **Somme Creek** 56.53 337 P P 09 02 58.4 +1.2
M29M IAmb IAmb 09 03 14.2
comp=Z,21nm,0.9s
M29M **Somme Creek** 56.53 337 P P 09 02 58.7 +1.6
baz=126
L29M **L29M** 56.81 338 P P 09 03 00.1 +1.0
L29M IAmb IAmb 09 03 09.6
comp=Z,18nm,1.0s
L29M **L29M** 56.81 338 P P 09 03 00.7 +1.6
baz=127
CTG **Chitna Glacier** 56.83 335 P P 09 03 01.1 +1.8
baz=122
GRNC **Granite Creek** 56.87 334 P P 09 03 01.1 +1.4
GRNC IAmb IAmb 09 03 02.7
comp=Z,14nm,0.8s
YUK3 **Moose Creek** 56.92 336 P P 09 03 01.0 +1.0
baz=124
K29M **Barlow Dome** 57.04 339 P P 09 03 02.2 +1.4
baz=128
J30M **Hart River** 57.10 340 P P 09 03 02.5 +1.4
baz=129
FRBT **Francisco Belt** 57.27 135 eP P 09 03 01.5 -1.3
H31M **Peel River** 57.28 342 P P 09 03 03.5 +1.2
baz=132
C36M **Paulatuk** 57.36 348 P P 09 03 03.2 +0.4
baz=145
BVCY **Beaver Creek** 57.43 336 P P 09 03 04.0 +0.6
baz=124
I30M **Mount Dempster** 57.53 340 P P 09 03 05.1 +0.9
baz=130
MCARA **McCarthy VSAT** 57.74 335 P P 09 03 07.3 +1.7
MCARA IAmb IAmb 09 03 08.7
comp=Z,18nm,0.8s
MCARA **McCarthy VSAT** 57.74 335 P P 09 03 06.3 +0.7
baz=121,SNR=5.0
M27K **Edge Creek, AK** 57.80 336 P P 09 03 05.9 -0.2
baz=122
JANB **Januaria** 57.83 119 eP P 09 03 05.1 -1.8
DAWY **Dawson** 57.84 338 P P 09 03 06.9 +0.7
DAWY IAmb IAmb 09 03 21.6
comp=Z,12nm,1.2s
DAWY **Dawson** 57.84 338 P P 09 03 06.5 +0.2
baz=126
G31M **Satah River** 58.02 343 P P 09 03 08.1 +0.7
G31M IAmb IAmb 09 03 28.2
comp=Z,22nm,1.4s
G31M **Satah River** 58.02 343 P P 09 03 07.9 +0.5
baz=133
BCAR **Beaver Creek A** 58.15 337 P P 09 03 09.6 +1.1
L27K **Beaver Creek,** 58.16 337 P P 09 03 10.1 +1.5
L27K IAmb IAmb 09 03 20.8
comp=Z,13nm,1.1s
L27K **Beaver Creek,** 58.16 337 P P 09 03 09.4 +0.8
baz=123
BMRM **Bremner River** 58.20 334 P P 09 03 10.0 +1.2
baz=119
F31M **Tsiigehtchic** 58.23 343 P P 09 03 08.9 +0.1
baz=134
I29M **Ogilvie Camp,** 58.25 340 P P 09 03 09.4 +0.3
baz=128
Q23K **Middleton Isla** 58.25 332 P P 09 03 09.4 +0.2
baz=116
M26K **Nabesna, AK** 58.26 336 P P 09 03 10.7 +1.4
baz=121
EPYK **Eagle Plains** 58.38 341 P P 09 03 11.1 +1.1
baz=130
EYAK **Cordova Ski Ar** 58.49 333 P P 09 03 11.9 +1.1
baz=117
N25K **Chitina, Valde** 58.51 334 P P 09 03 13.1 +2.0
N25K IAmb IAmb 09 03 20.7
comp=Z,19nm,1.1s
N25K **Chitina, Valde** 58.51 334 P P 09 03 12.2 +1.2
baz=119
G30M **tAoh Zraii Nji** 58.63 342 P P 09 03 11.8 0.0
baz=131
L26K **Log Cabin Wild** 58.73 336 P P 09 03 13.3 +0.8
baz=121
INK **Inuvik** 58.77 344 P P 09 03 13.1 +0.5
INK **Inuvik** 58.77 344 P P 09 03 13.2 +0.6
baz=134
INK **Inuvik** 58.77 344 P P 09 03 13.1 +0.5
INK pmax pmax
comp=Z,31nm,1.4s
K27K **Chicken** 58.78 338 P P 09 03 13.8 +1.0
K27K **Chicken** 58.78 338 P P 09 03 13.7 +0.8
baz=123
H29M **Whitestone** 58.80 341 P P 09 03 13.2 +0.2
H29M IAmb IAmb 09 03 41.9
comp=Z,27nm,1.4s
H29M **Whitestone** 58.80 341 P P 09 03 13.5 +0.5
baz=128
I28M **Miner Creek** 58.84 340 P P 09 03 13.8 +0.4
baz=126
EGAK **Eagle** 58.87 339 P P 09 03 13.3 -0.1
EGAK IAmb IAmb 09 03 25.0
comp=Z,24nm,1.5s
EGAK **Eagle** 58.87 339 P P 09 03 14.2 +0.8
baz=124
F30M **Barrier River** 58.92 343 P P 09 03 14.9 +1.2
baz=132
KLU **Klutina** 59.01 334 P P 09 03 15.7 +1.2
baz=118
G29M **Pine Creek** 59.13 342 P P 09 03 15.5 +0.3
baz=129
HARP **HAARP** 59.13 335 P P 09 03 16.7 +1.4
baz=119
M24K **Tolsona, Glenn** 59.40 335 P P 09 03 18.9 +1.6
baz=118
SCRK **Sand Creek** 59.47 337 P P 09 03 18.8 +1.1
SCRK IAmb IAmb 09 03 42.8
comp=Z,16nm,1.3s
SCRK **Sand Creek** 59.47 337 P P 09 03 19.2 +1.5
baz=121
I27K **Kandik River** 59.50 339 P P 09 03 18.8 +0.9
baz=124
PAX **Paxson** 59.53 336 P P 09 03 19.5 +1.4
baz=119
J26L **Joseph Creek** 59.59 338 P P 09 03 20.1 +1.6
J26L IAmb IAmb 09 03 20.4
comp=Z,8.4nm,0.9s
J26L **Joseph Creek** 59.59 338 P P 09 03 19.9 +1.3
baz=122
RES **Resolute Bay** 59.61 360 P P 09 03 17.9 -0.4
RES IAmb IAmb 09 03 47.3
comp=Z,31nm,1.8s
RES **Resolute Bay** 59.61 360 P P 09 03 17.9 -0.4
RES pmax pmax
comp=Z,31nm,1.8s
RIDG **Independent Ri** 59.67 337 P P 09 03 20.2 +1.2
baz=120
SCM **Sheep Creek Mo** 59.76 334 P P 09 03 20.5 +0.7
baz=116
PLCA **Paso Flores** 59.76 159 P P 09 03 19.8 -0.1
comp=Z,6.1nm,0.9s,baz=324,slow=8.1,SNR=5.3
comp=Z,6.1nm,0.9s
PLCA **Paso Flores** 59.76 159 P P 09 03 19.8 -0.1
A36M **Sachs Harbour** 59.76 349 P P 09 03 19.5 0.0
A36M IAmb IAmb 09 03 47.0
comp=Z,13nm,1.0s
A36M **Sachs Harbour** 59.76 349 P P 09 03 19.9 +0.5
baz=145
H27K **Steamboat Moun** 59.83 340 P P 09 03 20.8 +0.7
baz=125
I26K **Coal Creek Min** 59.87 339 P P 09 03 20.9 +0.6
baz=122
M23K **Glacier View** 59.91 334 P P 09 03 21.3 +0.6
baz=116
SEW **Seward** 59.96 332 P P 09 03 21.9 +0.9
baz=114
E29M **Blow River** 60.03 343 P P 09 03 22.3 +1.0
baz=130
KNK **Knik Glacier** 60.06 333 P P 09 03 23.1 +1.4
baz=115
K24K **Donnelly Dome** 60.06 336 P P 09 03 23.4 +1.6
baz=119
F28M **Old Crow** 60.13 342 P P 09 03 22.9 +0.8
F28M IAmb IAmb 09 03 24.0
comp=Z,14nm,0.9s
F28M **Old Crow** 60.13 342 P P 09 03 23.0 +0.9
baz=127,SNR=9.0
SML **Sawmill** 60.18 334 P P 09 03 24.0 +1.4
baz=116
G27K **Doyon Strip** 60.21 340 P P 09 03 23.4 +0.7
G27K **Doyon Strip** 60.21 340 P P 09 03 23.7 +1.0
baz=125
WAT6 **Susitna Watana** 60.27 335 P P 09 03 25.0 +1.7
baz=116
J25K **Salcha River,** 60.31 337 P P 09 03 24.6 +1.1
J25K IAmb IAmb 09 03 40.8
comp=Z,14nm,1.2s
J25K **Salcha River,** 60.31 337 P P 09 03 25.1 +1.6
baz=120
GHO **Glory Hole Cre** 60.41 334 P P 09 03 24.8 +0.6
PMR **Palmer** 60.43 333 P P 09 03 25.0 +0.8
baz=115
RC01 **Rabbit Creek A** 60.48 333 P P 09 03 25.7 +1.1
baz=114
KDAK **Kodiak Island** 60.61 328 P P 09 03 25.7 +0.2
baz=109
E28M **Babbage River** 60.64 343 P P 09 03 25.8 +0.2
E28M IAmb IAmb 09 03 53.1
comp=Z,7.9nm,1.0s
E28M **Babbage River** 60.64 343 P P 09 03 26.0 +0.5
baz=128
WAT1 **Susitna Watana** 60.72 335 P P 09 03 26.3 +0.1
baz=116
HDA **Harding Lake** 60.81 337 P P 09 03 27.2 +0.4
HDA IAmb IAmb 09 03 28.1
comp=Z,8.2nm,0.7s
HDA **Harding Lake** 60.81 337 P P 09 03 26.7 -0.1
baz=118
HDA P P 09 03 26.7 -0.1
baz=118
M22K **Willow** 60.92 333 P P 09 03 27.7 +0.2
baz=114
IL31 60.96 337 P P 09 03 27.9 +0.2
IL31 IAmb IAmb 09 03 29.4
comp=Z,10nm,0.8s
ILAR **Eielson Array** 60.96 337 P P 09 03 28.1 +0.3
comp=Z,10nm,0.3s,baz=128,slow=5.6,SNR=31
comp=Z,10nm,0.3s
G26K **Porcupine Rive** 60.99 340 P P 09 03 28.9 +1.0
baz=123
E27K **Coleen River** 60.99 342 P P 09 03 28.9 +0.9
E27K IAmb IAmb 09 03 38.1
comp=Z,10.0nm,1.1s
E27K **Coleen River** 60.99 342 P P 09 03 28.7 +0.7
baz=126,SNR=5.2
SUA **Susitna One** 61.08 333 P P 09 03 29.7 +0.9

baz=113
RND **Reindeer** 61.09 335 P **P** 09 03 30.2 +1.4
RND **Reindeer** 61.09 335 P **P** 09 03 30.2 +1.4
RND pmax pmax
comp=Z,25nm,0.9s
CCB **Clear Creek Bu** 61.25 337 P **P** 09 03 29.7 0.0
CCB IAmb IAmb 09 05 11.6
comp=Z,30nm,2.0s
CUT **Chulitna** 61.26 334 P **P** 09 03 30.6 +0.8
baz=114
MCK **McKinley** 61.27 336 P **P** 09 03 30.7 +0.8
baz=116
POKR **Poker Plat Res** 61.33 337 P **P** 09 03 30.4 +0.1
baz=118
COLA **College** 61.37 337 P **P** 09 03 30.8 +0.3
baz=118
COLA **College** 61.37 337 P **P** 09 03 31.1 +0.6
COLA pP **pP** 09 03 40.8 +0.3
COLA sP **sP** 09 03 44.9 +0.6
D27M **Malcolm River** 61.44 343 P **P** 09 03 32.0 +1.0
D27M IAmb IAmb 09 03 36.1
comp=Z,9.4nm,1.1s
D27M **Malcolm River** 61.44 343 P **P** 09 03 31.9 +0.9
baz=127
BMAR **Burnt Mountain** 61.51 340 P **P** 09 03 32.4 +0.9
F26K **Sheenjek River** 61.51 341 P **P** 09 03 32.4 +0.9
baz=123
Q19K **Cape Douglas,** 61.52 330 P **P** 09 03 32.7 +1.0
baz=109
SKT **Skwentna** 61.63 333 P **P** 09 03 33.6 +1.2
baz=112
G25K **Bearman Lake** 61.67 339 P **P** 09 03 33.5 +1.0
baz=120
TRF **Thorofare Moun** 61.70 335 P **P** 09 03 34.0 +1.0
TRF **Thorofare Moun** 61.70 335 P **P** 09 03 34.5 +1.5
baz=114,SNR=6.4
NEA2 **Nenana** 61.71 336 P **P** 09 03 33.0 +0.1
baz=116
H24K **Noodor Dome** 61.84 338 P **P** 09 03 34.5 +0.7
H24K IAmb IAmb 09 03 50.4
comp=Z,14nm,1.0s
H24K **Noodor Dome** 61.84 338 P **P** 09 03 34.4 +0.7
baz=118
F25K **Christian Rive** 61.94 340 P **P** 09 03 35.1 +0.7
baz=121
I23K **Minto, Yukon-K** 62.07 337 P **P** 09 03 35.8 +0.6
I23K **Minto, Yukon-K** 62.07 337 P **P** 09 03 36.3 +1.1
baz=116,SNR=12
Q18K **Katmai Hardscr** 62.10 329 P **P** 09 03 35.8 0.0
baz=107
G24K **Hadweenzic Riv** 62.11 339 P **P** 09 03 36.5 +1.0
baz=119
E25K **Arctic Village** 62.19 341 P **P** 09 03 36.3 +0.2
baz=121
SJMB **Sao Joao De Ma** 62.20 121 *e*P **P** 09 03 37.8 +0.9
BPAW **Bear Paw Mtn.** 62.25 336 P **P** 09 03 37.2 +0.7
baz=114,SNR=5.6
O19K **Port Alsworth** 62.26 331 P **P** 09 03 36.8 +0.2
baz=109
PPLA **Purkeypile** 62.27 334 P **P** 09 03 37.0 +0.2
baz=112
M20K **Styx River** 62.30 333 P **P** 09 03 37.8 +0.8
M20K **Styx River** 62.30 333 P **P** 09 03 37.4 +0.5
baz=111
GUA01 **Guaratinga, BA** 62.37 118 *e*P **P** 09 03 38.5 +0.6
ISOG **Isortoq, Green** 62.40 23 *i*P **P** 09 03 34.9 -2.4
ISOG IAmb IAmb 09 03 37.8
comp=Z,52nm,0.6s
CAST **Castle Rocks** 62.42 335 P **P** 09 03 37.6 -0.1
CAST IAmb IAmb 09 03 38.6
comp=Z,12nm,0.9s
CAST **Castle Rocks** 62.42 335 P **P** 09 03 37.8 +0.1
baz=113,SNR=5.6
N19K **Bonanza Creek** 62.54 331 P **P** 09 03 39.0 +0.4
baz=109
MLY **Manley** 62.54 337 P **P** 09 03 39.2 +0.7
MLY **Manley** 62.54 337 P **P** 09 03 39.3 +0.8
baz=115,SNR=11
O18K **Koktuh Hills** 62.57 330 P **P** 09 03 37.5 -1.2
baz=108
F24K **Squaw Lake** 62.65 340 P **P** 09 03 39.4 +0.2
baz=119
CHUM **Lake Minchumin** 62.70 335 P **P** 09 03 39.6 +0.2
baz=113
L20K **Farewell, AK** 62.84 333 P **P** 09 03 40.9 +0.5
baz=110
C26K **Camden Bay** 62.96 343 P **P** 09 03 42.3 +1.2
baz=123
G23K **Bananza Creek** 63.01 338 P **P** 09 03 42.1 +0.5
G23K IAmb IAmb 09 03 56.7
comp=Z,11nm,1.1s
G23K **Bananza Creek** 63.01 338 P **P** 09 03 41.8 +0.2
baz=116
D25K **Kavik River** 63.08 342 P **P** 09 03 42.8 +0.9
baz=121
I21K **Tanana** 63.08 336 P **P** 09 03 42.3 +0.3
baz=114
E24K **Your Creek** 63.12 340 P **P** 09 03 42.9 +0.7
baz=118
N18K **Kilae Creek** 63.15 331 P **P** 09 03 43.4 +0.8
baz=108
H22K **Ishtalitna Cre** 63.15 337 P **P** 09 03 43.4 +1.0
baz=114
RIB01 **Linhares ES** 63.15 121 *e*P **P** 09 03 42.5 -0.7
L19K **White Mountain** 63.16 333 P **P** 09 03 43.8 +1.2
baz=109
K20K **Telida** 63.23 334 P **P** 09 03 43.4 +0.3
K20K IAmb IAmb 09 03 43.8
comp=Z,13nm,0.8s
K20K **Telida** 63.23 334 P **P** 09 03 44.0 +1.0
baz=111
COLD **Coldfoot** 63.30 339 P **P** 09 03 44.9 +1.4
baz=116
M18K **Stony River** 63.37 332 P **P** 09 03 44.6 +0.6
baz=108
O17K **Koliganek Bris** 63.46 330 P **P** 09 03 47.2 +2.6
baz=106
E23K **Chandalar** 63.48 340 P **P** 09 03 46.0 +1.2
baz=117
J20K **Nowinta River** 63.56 335 P **P** 09 03 45.7 +0.5
J20K IAmb IAmb 09 03 46.3
comp=Z,12nm,0.9s
J20K **Nowinta River** 63.56 335 P **P** 09 03 45.5 +0.3
baz=111
CHNA **Chernabura Isl** 63.57 324 P **P** 09 03 46.5 +1.1
baz=101
H21K **Melozitna Rive** 63.59 337 P **P** 09 03 45.7 +0.3
baz=113
G22K **Bettles** 63.63 338 P **P** 09 03 46.8 +1.2
baz=115
COYC **Coyhaique** 63.65 163 P **P** 09 03 46.4 +0.5
TOLK **Toolik Lake Re** 63.74 340 P **P** 09 03 47.1 +0.7
TOLK IAmb IAmb 09 03 47.8
comp=Z,7.0nm,0.8s
TOLK **Toolik Lake Re** 63.74 340 P **P** 09 03 47.5 +1.1
baz=118
D24K **Happy Valley** 63.75 341 P **P** 09 03 47.5 +1.2
baz=118
ICESG **Greenland Ices** 63.80 19 *i*P **P** 09 03 45.6 -1.5
ICESG IAmb IAmb 09 03 48.5
comp=Z,28nm,0.9s
TTA **Tatalina** 63.91 333 P **P** 09 03 48.1 +0.5
baz=108
I20K **Naaghedeneel** 63.92 336 P **P** 09 03 47.6 +0.1
baz=111
C24K **Franklin Bluff** 63.98 342 P **P** 09 03 48.8 +1.0
baz=119
L18K **Granite Mounta** 63.99 333 P **P** 09 03 48.5 +0.5
baz=108
IMAR **Indian Mountai** 64.08 337 P **P** 09 03 48.1 -0.4
M17K **Holitna River** 64.08 332 P **P** 09 03 50.6 +1.9
baz=106
J19K **Poorman** 64.10 335 P **P** 09 03 49.1 +0.3
J19K **Poorman** 64.10 335 P **P** 09 03 49.5 +0.8
baz=109
F22K **John River** 64.12 339 P **P** 09 03 49.5 +0.7
baz=114
SDPT **Sand Point** 64.18 325 P **P** 09 03 51.4 +2.0
baz=101
G21K **Allakaket** 64.19 338 P **P** 09 03 50.0 +0.7
baz=113
D23K **Nanushuk River** 64.25 341 P **P** 09 03 50.5 +0.9
baz=116
E22K **Anaktuvuk Pass** 64.26 339 P **P** 09 03 50.2 +0.4
baz=115
H20K **Anotleneega Mo** 64.33 336 P **P** 09 03 51.2 +1.0
baz=111
J18K **Innoko River** 64.39 334 P **P** 09 03 51.4 +0.8
baz=108
F21K **Alatna River** 64.46 338 P **P** 09 03 52.4 +1.3
F21K **Alatna River** 64.46 338 P **P** 09 03 52.0 +0.9
baz=113
C23K **Itkillik River** 64.62 341 P **P** 09 03 53.0 +0.9
baz=117
O15K **Ungalikthiuk R** 64.65 329 P **P** 09 03 53.7 +1.3
baz=103
K17K **Iditarod** 64.85 333 P **P** 09 03 53.9 +0.3
baz=106
D22K **Ayikyak River** 64.86 340 P **P** 09 03 54.9 +1.2
D22K IAmb IAmb 09 04 04.1
comp=Z,14nm,0.9s
D22K **Ayikyak River** 64.86 340 P **P** 09 03 55.0 +1.3
baz=114
GCSA **Galena City Sc** 64.87 335 P **P** 09 03 54.0 +0.3
baz=108
H19K **Roundabout Mou** 64.95 336 P **P** 09 03 54.8 +0.6
baz=109
EUNU **Eureka** 65.11 2 P **P** 09 03 55.6 +0.5
EUNU IAmb IAmb 09 04 06.6
comp=Z,20nm,1.0s
E21K **Killik River** 65.11 339 P **P** 09 03 56.0 +0.7
baz=113
F20K **Avaraart Lake** 65.21 338 P **P** 09 03 56.8 +0.9
F20K IAmb IAmb 09 03 57.8
comp=Z,13nm,0.8s
F20K **Avaraart Lake** 65.21 338 P **P** 09 03 56.9 +0.9
baz=111
O14K **Tigyukauivet M** 65.39 329 P **P** 09 03 58.7 +1.5
baz=102
G19K **Purcell Mounta** 65.41 337 P **P** 09 03 57.5 +0.3
baz=109
H18K **Honhosa River** 65.59 335 P **P** 09 03 59.0 +0.5
baz=107
C21K **Knifebiade Rid** 65.67 340 P **P** 09 04 00.9 +2.0
baz=112
B22K **Teshekpuk Lake** 65.71 341 P **P** 09 03 59.8 +0.7
B22K IAmb IAmb 09 04 00.7
comp=Z,15nm,0.8s
B22K **Teshekpuk Lake** 65.71 341 P **P** 09 03 59.8 +0.7
baz=114
B21K **Ikpikpuk River** 65.80 341 P **P** 09 03 59.9 +0.3
baz=113
E20K **Nigu River** 65.81 339 P **P** 09 04 00.5 +0.6
baz=111
F19K **Shaleruckik Mo** 65.89 337 P **P** 09 04 00.6 +0.3
baz=109
E19K **Redstone River** 65.90 338 P **P** 09 04 00.7 +0.3
baz=109
G18K **Tagagawik** 65.94 336 P **P** 09 04 02.0 +1.4
baz=107
J16K **Anvik River** 66.02 333 P **P** 09 04 02.6 +1.4
J16K **Anvik River** 66.02 333 P **P** 09 04 02.6 +1.4
baz=104
L15K **Unglalk Mounta** 66.03 331 P **P** 09 04 02.1 +0.8
baz=103
NEEM **North Greenlan** 66.05 9 *i*P **P** 09 03 59.5 -2.0
NEEM IAmb IAmb 09 04 12.2
comp=Z,46nm,1.0s
M14K **Bethel** 66.05 330 P **P** 09 04 02.2 +0.8
baz=102
D20K **Etivluk River** 66.12 339 P **P** 09 04 02.9 +1.1
baz=110
H17K **Granite Mounta** 66.16 335 P **P** 09 04 03.3 +1.2
baz=106
K15K **Wolf Creek Mou** 66.19 332 P **P** 09 04 03.8 +1.4
baz=103
I17K **Unalakleet** 66.21 334 P **P** 09 04 03.8 +1.5
baz=104
A22K **Sinclair Lake** 66.46 342 P **P** 09 04 05.0 +1.2
baz=113
D19K **Kuna River** 66.56 339 P **P** 09 04 04.8 +0.2
D19K IAmb IAmb 09 05 40.6
comp=Z,14nm,1.1s
D19K **Kuna River** 66.56 339 P **P** 09 04 04.8 +0.2
baz=109
G17K **Kiwalik Mounta** 66.61 335 P **P** 09 04 06.0 +1.0
baz=105
M13K **Dall Lake** 66.65 330 P **P** 09 04 06.1 +0.8
baz=100
B20K **Meade River** 66.76 341 P **P** 09 04 06.7 +0.9
baz=110
H16K **Elim** 67.05 334 P **P** 09 04 08.5 +0.7
baz=103
F17K **Baldwin Pennin** 67.10 336 P **P** 09 04 08.8 +0.8
baz=105
E18K **Tukpahlearik C** 67.12 337 P **P** 09 04 08.5 +0.3
baz=106
J14K **Nanvaranak Lak** 67.20 332 P **P** 09 04 09.5 +0.8
baz=101
C19K **Lookout Ridge** 67.26 339 P **P** 09 04 10.6 +1.5
baz=108
E17K **Hotham Inlet** 67.49 337 P **P** 09 04 11.2 +0.7
baz=105,SNR=17
K13K **Kusilvak Mount** 67.55 331 P **P** 09 04 11.8 +0.8
baz=100
C18K **Utukok River** 67.69 339 P **P** 09 04 12.4 +0.6
baz=106
B18K **Kokolik River** 68.09 339 P **P** 09 04 15.0 +0.7
baz=106
D17K **Noatak River** 68.12 337 P **P** 09 04 15.4 +0.9
baz=104
RDOG **Red Dog Mine** 68.14 338 P **P** 09 04 15.5 +0.9
baz=104
F15K **North Star Dit** 68.28 335 P **P** 09 04 16.2 +0.7
baz=102
C17K **DeLong Mountai** 68.34 338 P **P** 09 04 16.3 +0.5
baz=104
ALE **Alert** 68.67 4 P **P** 09 04 16.9 -0.8
ALE pP **pP** 09 04 26.6 -1.2
ALE sP **sP** 09 04 31.0 -0.6
SCO **Scoresbysund** 70.03 20 *i*P **P** 09 04 25.8 -0.5
SCO IAmb IAmb 09 04 37.4
comp=Z,18nm,1.1s
DBG **Daneborg** 71.31 16 *i*P **P** 09 04 32.3 -1.6
DBG IAmb IAmb 09 04 43.9
comp=Z,4.6nm,0.8s
DAG **Danmarks Havn** 72.16 14 P **P** 09 04 37.8 -1.3
DAG pmax pmax
comp=Z,23nm,0.9s
DAG **Danmarks Havn** 72.16 14 *i*P **P** 09 04 36.7 -2.3
DAG IAmb IAmb 09 04 48.5
comp=Z,21nm,0.9s
NOR **Nord** 73.39 9 *i*P **P** 09 04 45.1 -1.2
NOR IAmb IAmb 09 04 47.7
comp=Z,6.6nm,0.8s
KBS **Kingsbay** 78.40 11⇑ *e*P **P** 09 05 17.7 +2.8
KBS pmax pmax
comp=Z,14nm,1.0s
KBS **Kingsbay** 78.40 11 *i*P **P** 09 05 13.9 -1.0
ESK **Eskdalemuir** 78.41 36 P **P** 09 05 14.8 -0.6
ESK pmax pmax
comp=Z,43nm,2.6s
EKB **Eskdalemuir** 78.42 36 P **P** 09 05 14.9 -0.6
EKA **Eskdalemuir Ar** 78.44 36 P **P** 09 05 14.7 -0.9
comp=Z,5.0nm,0.6s,baz=281,slow=5.1,SNR=19
comp=Z,5.0nm,0.6s
SPITS **Spitsbergen Ar** 79.49 11 P **P** 09 05 21.4 +0.4
comp=Z,16nm,1.0s,baz=257,slow=3.8,SNR=10.0
comp=Z,16nm,1.0s
BILL **Bilibino** 79.61 338⇑ *e*P **P** 09 05 23.0 +1.3
ESDC **Sonseca Array** 80.85 51 P **P** 09 05 27.8 -1.3
comp=Z,2.5nm,0.8s,baz=290,slow=5.7,SNR=11
comp=Z,2.5nm,0.8s
DOU **Dourbes** 84.22 40 *d*P **P** 09 05 46.1 -0.2
DOU *dp*P **sP** 09 06 01.1 +0.7
BMRD **Maredsous** 84.26 40 *d*P **P** 09 05 46.5 0.0
BMRD *d*PP **PP** 09 09 00.2 -0.8
NB2 **NORSAR Subarra** 84.29 28 P **P** 09 05 46.8 +0.2
comp=Z,3.2nm,0.7s,baz=291,slow=5.1
NB2 **NORSAR Subarra** 84.29 28 P **P** 09 05 46.7 +0.2
NOA **NORSAR Array B** 84.29 28 *e*P **P** 09 05 47.5 +1.0
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA **NORSAR Array B** 84.29 28 P **P** 09 05 47.2 +0.6
comp=Z,4.9nm,0.7s,baz=292,slow=4.9,SNR=16
comp=Z,4.9nm,0.7s
NB201 **NORSAR Array S** 84.32 28 P **P** 09 05 46.8 +0.1
BGES **Gesves** 84.44 39 *d*P **P** 09 05 47.6 +0.2
BGES *d*PP **PP** 09 09 07.7 +5.3
NORES **NORESS Array B** 84.55 28 P **P** 09 05 48.9 +1.1
BCLA **Clavier** 84.56 39 *d*P **P** 09 05 48.2 +0.2
RCHB **Rochefort** 84.59 40 *d*P **P** 09 05 48.5 +0.3
RCHB *d*PP **PP** 09 09 03.1 -0.6
BSTI **Sart Tilman** 84.67 39 *d*P **P** 09 05 48.9 +0.3
MEM **Membach** 84.93 39 *d*P **P** 09 05 50.0 +0.1
HFS **Hagfors** 85.77 28 P **P** 09 05 54.8 +0.9
comp=Z,5.1nm,0.9s,baz=318,slow=1.9,SNR=5.3
comp=Z,5.1nm,0.9s
ARCES **ARCESS Array B** 85.83 18 *e*P **P** 09 05 53.9 -0.2
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES **ARCESS Array B** 85.83 18 P **P** 09 05 53.4 -0.6
comp=Z,3.7nm,0.7s,baz=308,slow=4.4,SNR=13
comp=Z,3.7nm,0.7s
ECH **Echery** 86.39 41 P **P** 09 05 56.8 -0.4
ECH **Echery** 86.39 41 P **P** 09 05 56.8 -0.4
ECH pmax pmax
comp=Z,16nm,1.0s
TNS **Taunus Mts** 86.53 39 P **P** 09 05 58.7 +0.7
TNS pmax pmax
comp=Z,37nm,0.8s
SEY **Seymchan** 86.83 335⇓ *e*P **P** 09 05 59.3 +0.3
SEY pmax pmax
comp=Z,7.0nm,0.9s
SENIN **Lac Senin/Sane** 87.07 43 P **P** 09 06 00.4 -0.5
SLE **Schleitheim** 87.38 41 P **P** 09 06 02.3 +0.2
SLE pmax pmax
comp=Z,18nm,0.8s
TIC **Toumodi** 87.67 84⇑ *i*P **P** 09 06 03.5 -0.6
comp=Z,9.0nm,0.9s
LIC **Lamto** 87.77 84⇑ *e*P **P** 09 06 04.1 -0.5
comp=Z,23nm,0.7s
DBIC **Dimbokro** 87.82 84 P **P** 09 06 03.1 -1.7
DBIC **Dimbokro** 87.82 84 P **P** 09 06 03.5 -1.3
comp=Z,6.6nm,0.9s,baz=268,slow=6.2,SNR=6.9
comp=Z,6.6nm,0.9s
KIC **Kosan Boka** 88.01 84⇑ *i*P **P** 09 06 05.2 -0.5
comp=Z,18nm,0.7s
TIXI **Tiksi** 88.73 347 *ce*P **P** 09 06 08.0 0.0
KHC **Kasperske Hory** 90.03 39 *e*P **P** 09 06 15.3 +0.7
KHC **Kasperske Hory** 90.03 39 *e*P **P** 09 06 15.3 +0.7
GERES **GERESS Array B** 90.22 39 P **P** 09 06 15.6 0.0
comp=Z,2.4nm,0.8s,baz=298,slow=4.2,SNR=3.8
comp=Z,2.4nm,0.8s
PRU **Pruhonice** 90.27 38 *e*P P 09 06 21.2 +5.6
PRU **Pruhonice** 90.27 38 *e*P P 09 06 21.2 +5.6
FINES **FINESS Array B** 90.49 24 P **P** 09 06 15.6 -0.8
comp=Z,1.5nm,0.5s,baz=291,slow=4.3,SNR=6.7
comp=Z,1.5nm,0.5s
OSTC **Ostas** 91.01 37 *e*P **P** 09 06 19.0 -0.1
OSTC **Ostas** 91.01 37 *e*P **P** 09 06 19.0 -0.1
DPC **Dobruska-Polom** 91.16 37 *e*P **P** 09 06 20.1 +0.3
DPC **Dobruska-Polom** 91.16 37 *e*P **P** 09 06 20.1 +0.3
TORD **Torodi Ar. Bea** 92.35 76 P **P** 09 06 24.3 -1.6
comp=Z,0.6nm,0.6s,baz=289,slow=5.4,SNR=5.1
comp=Z,0.6nm,0.6s
KURK **Kurchatov** 114.21 5 PKIKP **PKiKP** 09 11 53.1 -1.1
KURBB **Kurchatov Arra** 114.29 5 PKP **PKiKP** 09 11 53.1 -1.3
comp=Z,0.6nm,0.8s,baz=326,slow=1.6,SNR=2.6
SONM **Songino Array** 114.68 345 PKIKP **PKiKP** 09 11 55.0 -0.4
SONM **Songino Array** 114.68 345 PKP **PKiKP** 09 11 55.0 -0.4
comp=Z,0.4nm,0.8s,baz=59,slow=1.3,SNR=2.7
MKAR **Makanchi Array** 118.35 3 *e*PKIKP **PKPdf** 09 12 00.8 -1.6
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR **Makanchi Array** 118.35 3 PKP **PKPdf** 09 12 00.7 -1.7
comp=Z,0.6nm,0.8s,baz=16,slow=3.1,SNR=5.1
HHC **Hu-ho-hao-te** 119.38 338 *e*P **PKiKP** 09 12 06.8 +2.1
WMQ **Urumqi** 121.36 358 *e*P **PKiKP** 09 12 10.2 +1.7
BOSA **Boshof** 122.89 114 PKP **PKPdf** 09 12 10.8 -0.9
comp=Z,2.2nm,0.9s,baz=166,slow=4.2,SNR=3.1
NJ2 **Nanjing** 123.35 326 *e*P **PKiKP** 09 12 13.1 +0.5
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
MAW **Mawson** 125.45 170 PKIKP **PKPdf** 09 12 15.0 -0.2
MAW **Mawson** 125.45 170 PKP **PKPdf** 09 12 15.0 -0.2
comp=Z,2.2nm,0.8s,baz=195,slow=3.9,SNR=6.5
STKA **Stephens Creek** 126.57 241 *e*PKIKP **PKPdf** 09 12 18.5 0.0
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA **Stephens Creek** 126.57 241 PKP **PKPdf** 09 12 18.2 -0.3
comp=Z,3.2nm,0.8s,baz=117,slow=1.2,SNR=9.4
CD2 **Chengdu** 131.07 339 PKP **PKPdf** 09 12 27.0 -0.2
WRA **Warramunga Arr** 133.42 257 PKhKP PKPpre 09 12 22.9
comp=Z,0.3nm,0.7s,baz=360,slow=0.8,SNR=5.0
WRA PKP **PKPdf** 09 12 31.4 -0.4
comp=Z,1.0nm,0.5s,baz=11,slow=0.7,SNR=21
ASAR **Alice Springs** 133.85 252 PKhKP PKPpre 09 12 24.5
comp=Z,0.6nm,0.8s,baz=108,slow=3.8,SNR=4.8
ASAR PKP **PKPdf** 09 12 32.5 -0.1
comp=Z,0.6nm,0.5s,baz=82,slow=2.3,SNR=9.9
PZH **PanZhiHua** 135.80 339 PKP **PKPdf** 09 12 36.5 +0.2
CMAR **Chiang Mai Arr** 144.19 338 PKP PKPbc 09 12 49.6 0.0
comp=Z,2.9nm,0.3s,baz=335,slow=3.0,SNR=24
HYB **Hyderabad** 146.97 12 *e*PKIKP **PKiKP** 09 13 01.8 +0.9

IDC 12 08:55:20.6±2.7, 54°22N×86°01E, h0km, mbtmp3.4/2, ML2.4/2, Error ellipse: s-maj=20.4km s-min=12.6km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.75**	**249**	I	I	09 00 17.3	
	baz=68,slow=344,SNR=4.0						
ZALV	**Zalesovo Beam**	**0.75**	**249**	Pg	Pg	08 55 34.1	-0.9
	0.7nm,0.3s,baz=69,slow=17,SNR=12						
ZALV				Lg	Lg	08 55 46.0	
	1.8nm,0.3s,baz=61,slow=27,SNR=6.0						
KURBB	**Kurchatov Arra**	**5.82**	**235**	Pn	Pn	08 56 49.7	+1.6
	0.1nm,0.3s,baz=51,slow=13,SNR=2.4						
	3.1nm,0.9s						
MKAR	**Makanchi Array**	**7.80**	**199**	Pn	Pn	08 57 16.1	+0.8
	0.1nm,0.3s,baz=23,slow=13,SNR=6.0						
	3.0nm,1.0s						

IDC 12 08:57:56.6±10.0, 30°79N×57°36E, h0km, mb3.7/4, mbtmp3.6/5, Error ellipse: s-maj=165.2km s-min=74.7km az=36.0, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEYT	**Alibeck**	**7.16**	**5**	Pn	Pn	08 59 42.2	-0.3
	3.0nm,0.8s,baz=185,slow=14,SNR=1.3						
BVAR	**Borovoye Array**	**24.17**	**19**	P	P	09 03 14.8	+0.4
	0.8nm,0.5s,baz=203,slow=6.3,SNR=3.0						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**25.01**	**43**	P	P	09 03 22.0	-0.1
	0.7nm,0.9s,baz=254,slow=10,SNR=2.4						
	0.7nm,0.9s						
KURBB	**Kurchatov Arra**	**25.34**	**33**	P	P	09 03 25.6	+0.6
	0.9nm,0.7s,baz=230,slow=9.1,SNR=6.6						
	0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**30.44**	**33**	P	P	09 04 09.9	-0.7
	1.8nm,0.7s,baz=228,slow=9.5,SNR=5.5						
	1.8nm,0.7s						

*IDC **12** 09:02:33.0±0.9, 53°52N×35°21W, h0km, mb3.6/7, mbtmp3.7/8, ML2.9/1, Error ellipse: s-maj=45.1km s-min=18.9km az=23.0*

ISC 12 09:02:34.8±0.9, 53°5N±0°3×35°2W±0°2, h12km, n9, σ0s69/10, mb3.7/7, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.48**	**287**	P	**Pn**	**09 06 50.1**	**-0.3**
	0.4nm,0.3s,baz=88,slow=8.3,SNR=5.8						
	2.9nm,0.6s						
ESDC	**Sonseca Array**	**25.30**	**110**	P	**P**	**09 08 01.6**	**+0.5**
	1.4nm,0.8s,baz=305,slow=8.5,SNR=4.6						
	1.4nm,0.8s						
YKA	**Yellowknife Ar**	**40.40**	**315**	P	**P**	**09 10 12.3**	**+0.1**
	0.6nm,0.9s,baz=60,slow=8.7,SNR=4.3						
YKA				PcP	**PcP**	**09 12 14.2**	**-0.7**
	0.3nm,0.8s,baz=67,slow=3.1,SNR=4.6						
	0.6nm,0.9s						
PDAR	**Pinedale Array**	**48.60**	**289**	P	**P**	**09 11 17.9**	**-0.3**
	0.9nm,0.5s,baz=60,slow=7.5,SNR=6.5						
	0.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**49.73**	**130**	P	**P**	**09 11 26.4**	**-0.5**
	2.1nm,0.8s,baz=339,slow=8.8,SNR=9.7						
	2.1nm,0.8s						
TXAR	**Lajitas Array**	**54.38**	**272**	P	**P**	**09 12 02.6**	**+1.2**
	0.2nm,0.7s,baz=46,slow=5.2,SNR=2.0						
	0.2nm,0.7s						
NVAR	**Mina Array Bea**	**56.43**	**291**	P	**P**	**09 12 15.7**	**-0.6**
	0.1nm,0.3s,baz=48,slow=5.5,SNR=2.0						
	0.1nm,0.3s						
SONM	**Songino Array**	**73.89**	**26**	P	**P**	**09 14 09.8**	**+0.4**
	0.9nm,0.8s,baz=343,slow=9.3,SNR=4.1						

0.9nm,0.8s
ASAR Alice Springs 149.07 20 PKPbc **PKPbc 09 22 22.2 -0.5**
0.9nm,0.6s,baz=345,slow=2.7,SNR=8.1

NEIC ***12*** *09:12:06.2±2.3,20°.6S±0°.2×177°.8W±0°.1, h379km±8km, mb4.2/28, Error ellipse: s-maj=24.3km s-min=14.8km az=155.0*
IDC ***12*** *09:12:11.8±5.3,20°.70S×178°.14W, h434km±55km, mb3.3/9, mbtmp4.1/10, Error ellipse: s-maj=23.8km s-min=21.6km az=92.0*
ISC 12 09:12:09.1±0.6,**20°.8S**±0°.1×**178°.0W**±0°.1,**h400**km,**n50,** σ1§**12**/45,**mb4.1/22,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NIUE	**Niue**	**7.80**	**79**			Pn	09 13 56.2	-5.7
NIUE				Sn		S	09 15 24.4	-10
AFI	**Afiamalu**	**9.05**	**42**	P		P	09 14 08.7	-7.7
PINNC	**Pines Island,**	**13.63**	**260**	P		**P**	**09 15 08.0**	**+1.3**
OUENC	**Ouen Island, N**	**14.18**	**261**	P		**P**	**09 15 13.3**	**+0.6**
DZM	**Mont Dzumac**	**14.53**	**262**	P		**P**	**09 15 17.9**	**+1.3**
DZM	**Mont Dzumac**	**14.53**	**262**	P		**P**	**09 15 18.4**	**+1.8**
	8.3nm,0.7s,baz=231,slow=23,SNR=11							
EIDS	**Eidsvold**	**28.76**	**255**	P		**P**	**09 17 32.7**	**+0.6**
EIDS				IAmb		IAmb	09 17 43.0	
	comp=Z,17nm,1.4s							
ARMA	**Armidale**	**28.93**	**244**	P		**P**	**09 17 34.5**	**+0.8**
ARMA				IAmb		IAmb	09 17 46.6	
	comp=Z,14nm,1.4s							
CAN	**Canberra**	**32.35**	**236**	P		**P**	**09 18 04.8**	**+1.5**
CAN				IAmb		IAmb	09 18 33.2	
	comp=Z,20nm,1.5s							
CTAO	**Charters Tower**	**33.44**	**265**	P		**P**	**09 18 13.0**	**+0.2**
CTAO				IAmb		IAmb	09 18 13.8	
	comp=Z,9.7nm,0.6s							
TOO	**Toolangi**	**35.73**	**234**	P		**P**	**09 18 31.2**	**-0.7**
TOO				IAmb		IAmb	09 18 33.1	
	comp=Z,5.5nm,0.7s							
COEN	**Coen**	**37.58**	**274**	P		**P**	**09 18 47.6**	**+0.1**
COEN				IAmb		IAmb	09 18 49.0	
	comp=Z,9.5nm,1.1s							
STKA	**Stephens Creek**	**37.66**	**244**	P		**P**	**09 18 47.9**	**-0.1**
STKA	**Stephens Creek**	**37.66**	**244**	P		**P**	**09 18 47.2**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=102,slow=9.8,SNR=4.3							
	comp=Z,1.0nm,0.5s							
BBOO	**Buckleboo**	**42.41**	**244**	P		**P**	**09 19 25.5**	**-1.1**
WR0	**Warramunga Arr**	**44.35**	**262**	P		**P**	**09 19 41.1**	**-1.0**
AS31	**Alice Springs**	**44.44**	**257**	P		**P**	**09 19 42.2**	**-0.5**
ASAR	**Alice Springs**	**44.44**	**257**	P		**P**	**09 19 42.0**	**-0.7**
	comp=Z,12nm,0.7s,baz=94,slow=8.3,SNR=158							
ASAR				PcP		**PcP**	**09 21 18.3**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=100,slow=4.0,SNR=5.8							
	comp=Z,12nm,0.7s							
WB0	**Warramunga Arr**	**44.52**	**263**	P		**P**	**09 19 42.6**	**-0.8**
WB2	**Warramunga Arr**	**44.53**	**262**	P		**P**	**09 19 41.9**	**-1.5**
WB2				IAmb		IAmb	09 19 43.2	
	comp=Z,8.5nm,0.8s							
WRA	**Warramunga Arr**	**44.54**	**262**	P		**P**	**09 19 42.6**	**-1.0**
WRA	**Warramunga Arr**	**44.54**	**262**	P		**P**	**09 19 42.2**	**-1.3**
	comp=Z,3.6nm,0.3s,baz=96,slow=7.8,SNR=167							
WRA				PcP		**PcP**	**09 21 18.0**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=94,slow=3.3,SNR=3.3							
	comp=Z,3.6nm,0.3s							
FORT	**Forrest**	**49.17**	**247**	P		**P**	**09 20 17.6**	**-1.1**
FORT				IAmb		IAmb	09 20 46.4	
	comp=Z,18nm,1.2s							
KNRA	**Kununurra**	**50.62**	**266**			**P**	**09 20 29.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**52.97**	**263**	P		**P**	**09 20 46.7**	**0.0**
SOEI	**Soe**	**56.48**	**272**	P		**P**	**09 21 09.6**	**-2.3**
PSA00	**Pilbara Seismi**	**57.59**	**257**	P		**P**	**09 21 18.1**	**-1.2**
PSA00				IAmb		IAmb	09 21 31.6	
	comp=Z,8.0nm,1.1s							
VNDA	**Vanda**	**57.65**	**185**	P		**P**	**09 21 19.3**	**+0.5**
VNDA	**Vanda**	**57.65**	**185**	P		**P**	**09 21 19.1**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=14,slow=7.5,SNR=5.5							
	comp=Z,1.1nm,0.8s							
QSPA	**South Pole Qui**	**69.31**	**180**	P		**P**	**09 22 34.4**	**-0.1**
QSPA				IAmb		IAmb	09 22 35.7	
	comp=Z,6.3nm,0.9s							
QSPA	**South Pole Qui**	**69.31**	**180**	P		**P**	**09 22 34.2**	**-0.2**
	comp=Z,5.8nm,0.9s,baz=23,slow=2.5,SNR=13							
	comp=Z,5.8nm,0.9s							
KMRM	**Mail Ridge**	**78.97**	**39**	P		P	09 23 26.7	-3.2
BELA	**Belgrano 2**	**79.31**	**173**	P		**P**	**09 23 30.7**	**-0.3**
BELA				IAmb		IAmb	09 23 30.9	
	comp=Z,3.5nm,0.7s							
NVAR	**Mina Array Bea**	**81.23**	**43**	P		**P**	**09 23 41.5**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=233,slow=7.5,SNR=2.2							
	comp=Z,0.2nm,0.5s							
O29M	**Mount Kennedy**	**86.89**	**18**	P		P	09 24 07.2	-2.4
BPAW	**Bear Paw Mtn.**	**87.16**	**12**	P		P	09 24 07.0	-3.6
TXAR	**Lajitas Array**	**87.21**	**57**	P		**P**	**09 24 11.9**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=216,slow=6.2,SNR=4.9							
	comp=Z,0.3nm,0.7s							
H21K	**Melozitna Rive**	**88.27**	**10**	P		**P**	**09 24 16.4**	**+0.6**
H21K				IAmb		IAmb	09 24 38.7	
	comp=Z,7.6nm,1.5s							
CCB	**Clear Creek Bu**	**88.27**	**13**	P		**P**	**09 24 16.0**	**+0.2**
CCB				IAmb		IAmb	09 24 16.4	
	comp=Z,2.0nm,0.7s							
I23K	**Minto, Yukon-K**	**88.41**	**12**	P		**P**	**09 24 16.7**	**+0.2**
I23K				IAmb		IAmb	09 24 37.3	
	comp=Z,7.2nm,1.5s							
IMAR	**Indian Mountai**	**88.41**	**10**	P		**P**	**09 24 17.1**	**+0.7**
MDM	**Murphy Dome**	**88.46**	**12**	P		**P**	**09 24 17.2**	**+0.5**
ILAR	**Eielson Array**	**88.57**	**13**	P		**P**	**09 24 17.3**	**+0.1**
ILAR	**Eielson Array**	**88.57**	**13**	P		**P**	**09 24 16.8**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=216,slow=5.5,SNR=7.2							
	comp=Z,1.0nm,0.9s							
PDAR	**Pinedale Array**	**89.17**	**43**	P		**P**	**09 24 20.4**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=235,slow=3.2,SNR=2.9							
	comp=Z,0.2nm,0.5s							
LODK	**Lodwar**	**143.22**	**247**	PKPdf		PKPab	09 30 55.1	+0.4
AKASG	**Malin Array Be**	**143.23**	**331**	PKP		PKPab	09 30 53.1	-0.5
	comp=Z,1.5nm,0.5s,baz=38,slow=4.0,SNR=11							
EKA	**Eskdalemuir Ar**	**145.26**	**5**	PKPbc		**PKPdf**	**09 30 57.2**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=0.0,slow=2.1,SNR=2.4							
MMAI	**Mount Meron Ar**	**147.92**	**299**	PKPbc		**PKPdf**	**09 31 07.3**	**+2.5**
	comp=Z,1.2nm,0.4s,baz=58,slow=5.6,SNR=1.7							
CLL	**Collm**	**148.31**	**347**	*e*PKPbc		**PKPdf**	**09 31 08.0**	**+3.2**

IDC ***12*** *09:20:13.8±2.9,30°.30N×57°.46E, h0km, mb3.6/7, mbtmp3.7/7, Error ellipse: s-maj=80.8km s-min=24.0km az=153.0*
TEH ***12*** *09:20:14.7, 30°.69N×57°.34E, h6km±110km, ML3.9*
ISC 12 09:20:17.7±0.8,**30°.65N**±0°.05×**57°.31E**±0°.05,**h15**km,**n23,** σ1§**23**/23,**mb3.6/7,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZRDN	**Zarand Kerman**	**0.74**	**295**	Pg		**Pg**	**09 20 30.1**	**-2.0**
KHGB	**Koh Gabri**	**0.77**	**249**	Pg		**Pg**	**09 20 31.4**	**-1.4**
CHMN	**Cheshme madani**	**0.81**	**166**	Pg		**Pg**	**09 20 32.1**	**-1.5**
TVBK	**TV Kerman**	**0.82**	**216**	Pg		**Pg**	**09 20 32.9**	**-0.8**
NGRK	**Negar Kerman**	**1.13**	**207**	Pg		**Pb**	**09 20 38.8**	**-0.3**
IBAF	**Bafgh**	**1.77**	**302**	Pg		**Pn**	**09 20 48.8**	**+0.9**
KBAM	**BAM**	**1.81**	**147**	Pn		**Pn**	**09 20 49.5**	**+1.1**
IKOO	**Kooshah**	**2.28**	**39**	Pn		**Pn**	**09 20 55.2**	**+0.2**
TPRV	**Parvadeh(Tabas**	**2.43**	**347**	Pn		**Pn**	**09 20 57.5**	**+0.6**
IMEH	**Mehriz**	**2.43**	**288**	Pn		**Pn**	**09 20 58.4**	**+1.3**
IDAH	**Dahanechah**	**3.01**	**46**	Pn		**Pn**	**09 21 06.3**	**+1.2**
AFRZ	**Afriz**	**3.12**	**27**	Pn		**Pn**	**09 21 07.1**	**+0.6**
ISAD	**Sadrabad**	**3.35**	**293**	Pn		**Pn**	**09 21 11.6**	**+1.8**
SHRT	**Shahrakht**	**3.91**	**39**	Pn		**Pn**	**09 21 18.7**	**+1.4**
ANAR	**Anarak**	**3.96**	**311**	Pn		**Pn**	**09 21 19.4**	**+1.3**
IZEF	**Zefreh**	**4.80**	**299**	Pn		**Pn**	**09 21 30.8**	**+1.1**
BRTR	**Keskin Array B**	**21.31**	**302**	P		**P**	**09 25 05.9**	**+1.8**
	0.7nm,0.5s,baz=128,slow=9.5,SNR=1.9							
	0.7nm,0.5s							
BVAR	**Borovoye Array**	**24.31**	**19**	P		**P**	**09 25 35.2**	**+0.7**
	2.6nm,0.7s,baz=209,slow=11,SNR=8.9							
	2.6nm,0.7s							
MKAR	**Makanchi Array**	**25.13**	**43**	P		**P**	**09 25 42.5**	**+0.4**
	0.4nm,0.6s,baz=232,slow=7.9,SNR=5.0							
	0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**25.47**	**32**	P		**P**	**09 25 46.1**	**+1.1**
	0.7nm,0.6s,baz=231,slow=8.7,SNR=7.9							
	0.7nm,0.6s							
ZALV	**Zalesovo Beam**	**30.57**	**32**	P		**P**	**09 26 30.9**	**+0.3**
	1.4nm,0.7s,baz=239,slow=10,SNR=6.8							
	1.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**53.94**	**264**	P		**P**	**09 29 40.4**	**-0.7**
	0.6nm,0.6s,baz=53,slow=6.9,SNR=5.4							
	0.6nm,0.6s							
YKA	**Yellowknife Ar**	**86.95**	**356**	P		**P**	**09 33 00.8**	**-1.0**
	0.4nm,1.0s,baz=355,slow=6.8,SNR=4.3							
	0.4nm,1.0s							

NNC ***12*** *09:27:18.9±3.2, 53°.79N×90°.67E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=23.5km s-min=17.3km az=54.0, Suspected Mining explosion.*
IDC ***12*** *09:27:20.3±3.4, 53°.66N×90°.68E, h0km, mbtmp3.3/3, ML2.7/3, Error ellipse: s-maj=30.3km s-min=23.5km az=41.0*
ISC 12 09:27:20.2±4.0,**53°.7N**±0°.1×**90°.6E**±0°.2,**h0**km,**n9,**σ1§**48**/14, **7C-7D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZAA0	**Zalesovo Array**	**3.43**	**276**	⇑Pg		**Pb**	**09 28 20.6**	**-1.1**
	0.5nm,0.5s							
ZAA0				⇓Lg		Lg	09 29 12.4	
	9.2nm,0.9s							
ZALV	**Zalesovo Beam**	**3.43**	**276**	Pn		**Pn**	**09 28 15.9**	**+1.1**
	0.3nm,0.3s,baz=95,slow=16,SNR=3.9							
ZALV				Lg		Lg	09 29 10.8	
	2.2nm,0.3s,baz=89,slow=24,SNR=7.9							
	1.1nm,0.5s							
KURK	**Kurchatov**	**7.95**	**252**	⇓Pn		**Pn**	**09 29 17.1**	**+0.2**
	0.6nm,0.4s							
KURK				⇓Sn		**Sn**	**09 30 50.2**	**+2.8**
	3.3nm,0.6s							
KURK				⇑Lg		Lg	09 31 35.3	
	42nm,1.1s							
KURBB	**Kurchatov Arra**	**8.04**	**252**	Pn		**Pn**	**09 29 18.7**	**+0.5**
	0.2nm,0.3s,baz=64,slow=14,SNR=8.7							
KURBB				Sn		**Sn**	**09 30 48.0**	**-1.7**
	baz=68,slow=27							
KURBB				Lg		Lg	09 31 38.3	
	0.2nm,0.3s,baz=62,slow=30,SNR=5.5							
	1.4nm,0.4s							
KURBB	**Kurchatov Arra**	**8.04**	**252**	⇓Pn		**Pn**	**09 29 18.9**	**+0.8**
	2.7nm,0.4s							
KURBB				⇑Sn		**Sn**	**09 30 48.7**	**-1.0**
	4.1nm,0.6s							
KURBB				⇑Lg		Lg	09 31 39.4	
	86nm,1.1s							
MK31	**Makanchi Array**	**8.74**	**221**	⇑Pn		**Pn**	**09 29 28.8**	**+1.0**
	0.2nm,0.3s,baz=34,slow=12,SNR=9.5							
MK31				⇓Sn		**Sn**	**09 31 08.8**	**+1.8**
	1.7nm,0.7s,baz=53,slow=13,SNR=3.9							
MK31				⇑Lg		Lg	09 31 59.2	
	18nm,1.1s,baz=34,slow=27,SNR=5.0							
MKAR	**Makanchi Array**	**8.74**	**221**	Pn		**Pn**	**09 29 28.2**	**+0.3**
	0.3nm,0.3s,baz=39,slow=14,SNR=11							
MKAR				Sn		**Sn**	**09 31 05.5**	**-1.5**
	baz=34,slow=31							
	1.0nm,0.5s							
MAKZ	**Makanchi**	**8.85**	**222**	⇓Pn		**Pn**	**09 29 28.4**	**-0.9**
	0.4nm,0.4s							
MAKZ				⇓Sn		**Sn**	**09 31 10.9**	**+1.2**
	2.9nm,0.7s							
MAKZ				⇑Lg		Lg	09 31 59.7	
	16nm,1.0s							
I34MN	**SONGINO INFRAS**	**11.63**	**114**	I		I	10 34 10.0	
	baz=308,slow=326,SNR=1.4							

IDC 12 09:28:36.6±5.3,**12°.43S**×**168°.99E,h0**km,**mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=263.5km s-min=33.2km az=140.0,Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**34.05**	**253**	P		P	09 35 22.8	-0.1
	0.1nm,0.4s,baz=84,slow=9.4,SNR=1.5							
	0.1nm,0.4s							
ASAR	**Alice Springs**	**35.08**	**246**	P		P	09 35 31.8	-0.1
	0.4nm,0.5s,baz=74,slow=9.2,SNR=13							
	0.4nm,0.5s							
ILAR	**Eielson Array**	**83.84**	**17**	P		P	09 41 07.7	0.0
	0.6nm,1.0s,baz=219,slow=7.0,SNR=6.9							
	0.6nm,1.0s							

IDC 12 09:29:47.4±3.9,**28°.28S**×**178°.24W,h0**km,**mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=85.1km s-min=19.9km az=52.0,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**1.00**	**164**	Pn		Pn	09 30 08.8	0.0
	211nm,0.3s,baz=72,slow=21,SNR=7.8							
RAO				Sn		Sn	09 30 24.9	+1.3
	340nm,0.3s,baz=188,slow=24,SNR=5.6							
STKA	**Stephens Creek**	**34.81**	**254**	P		P	09 36 40.1	+0.2
	0.7nm,0.5s,baz=107,slow=8.6,SNR=3.2							
	0.7nm,0.5s							
ASAR	**Alice Springs**	**43.05**	**265**	P		P	09 37 48.3	-0.9
	0.1nm,0.3s,baz=106,slow=7.4,SNR=4.8							
	0.1nm,0.3s							
WRA	**Warramunga Arr**	**43.85**	**270**	P		P	09 37 55.9	+0.3
	0.3nm,0.3s,baz=111,slow=8.1,SNR=12							
	0.3nm,0.3s							
FINES	**FINESS Array B**	**143.09**	**341**	PKP		PKPdf	09 49 21.2	-1.3
	5.1nm,1.1s,baz=47,slow=3.8,SNR=8.3							

IDC 12 09:29:57.5±2.6,**54°.27N**×**86°.09E,h0**km,**mbtmp3.2/2, ML2.9/2,Error ellipse: s-maj=19.5km s-min=11.5km az=54.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.81**	**247**	I		I	09 34 49.4	
	baz=67,slow=343,SNR=3.6							
ZALV	**Zalesovo Beam**	**0.81**	**247**	Pg		Pg	09 30 11.5	-1.6
	1.1nm,0.3s,baz=63,slow=17,SNR=7.9							
ZALV				Lg		Lg	09 30 25.2	
	7.4nm,0.3s,baz=68,slow=29,SNR=14							
ZALV				Rg		Rg	09 30 30.9	
	12nm,0.4s,baz=68,slow=31,SNR=6.2							
KURBB	**Kurchatov Arra**	**5.89**	**235**	Pn		Pn	09 31 27.1	+1.2
	0.2nm,0.3s,baz=50,slow=13,SNR=6.4							
	0.8nm,0.5s							
MKAR	**Makanchi Array**	**7.86**	**199**	Pn		Pn	09 31 54.0	+0.9
	0.3nm,0.3s,baz=24,slow=14,SNR=7.3							
	2.6nm,0.9s							

LDG ***12*** *09:29:59.2±0.1, 43°.47N×0°.55W, h2km, Md2.3/2, Ml3.0/26, Error ellipse: s-maj=1.4km s-min=1.2km az=109.0*
STR ***12*** *09:29:59.6±0.5, 43°.N±4°×°±°, h2km, MLv2.7/9, Error ellipse: s-maj=0.0km s-min=0.0km az=6.0, preliminary*
MDD ***12*** *09:30:00.7±0.4, 43°.45N×0°.61W, h0km, mb_Lg2.9/4, Error ellipse: s-maj=3.4km s-min=2.3km az=1.0*
ISC 12 09:29:58.1±0.9,**43°.51N**±0°.02×**0°.53W**±0°.02,**h10**km±6km, **n43,**σ1§**31**/85,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URDF	**Urds**	**0.09**	**212**	Pg		**Pg**	**09 30 00.3**	**-0.2**
URDF				Sg		**Sg**	**09 30 01.6**	**-0.6**
ATE	**Arette**	**0.44**	**196**	Pg		**Pg**	**09 30 06.5**	**-0.3**
ATE				Sg		**Sg**	**09 30 12.7**	**+0.1**
TERF	**Tercis-les-Bai**	**0.46**	**292**	Pg		**Pb**	**09 30 08.8**	**+0.7**
TERF				Sg		**Sb**	**09 30 17.0**	**+2.0**
PYLO	**Lourdes**	**0.54**	**139**	Pg		**Pb**	**09 30 09.4**	**-0.2**
PYLO				Sg		**Sb**	**09 30 17.7**	**+0.2**
OSSF	**Osses**	**0.59**	**245**	Pg		**Pg**	**09 30 09.7**	**+0.2**
OSSF				Sg		**Sg**	**09 30 17.9**	**+0.6**
ETSF	**Etsaut**	**0.61**	**182**	*e*Pg		**Pg**	**09 30 09.5**	**-0.5**
ETSF				*e*Sg		**Sg**	**09 30 16.5**	**-1.5**
	155nm,0.4s							
SJPF	**Ste Jean**	**0.65**	**232**	*e*Pg		**Pg**	**09 30 10.5**	**-0.1**
SJPF				*e*Sg		**Sg**	**09 30 17.9**	**-1.1**
	133nm,0.3s							
VIEF	**Viey**	**0.75**	**147**	Pg		**Pb**	**09 30 12.6**	**-0.6**
VIEF				Sg		**Sb**	**09 30 23.0**	**-0.5**
EPF	**Esparros**	**0.80**	**127**	*e*Pg		**Pb**	**09 30 14.4**	**+0.4**
EPF				*e*Sg		**Sb**	**09 30 25.6**	**+0.8**
	102nm,0.3s							
EORO	**Oroz-Betelu**	**0.84**	**223**	Pg		**Pg**	**09 30 14.0**	**-0.3**
EORO				Sg		**Sg**	**09 30 23.5**	**-1.7**
EORO				*i* Vmb_Lg			09 30 26.1	
EARA	**Aranguren**	**1.07**	**227**	Pn		**Pn**	**09 30 19.9**	**+0.9**
MLS	**Moulis**	**1.31**	**114**	Pg		**Pb**	**09 30 22.4**	**-0.4**
MLS				Sg		**Sb**	**09 30 39.3**	**-0.3**
SALF	**Salau**	**1.47**	**120**	Pg		**Pg**	**09 30 24.9**	**-1.2**
MONQ	**Montcuq**	**1.51**	**55**	Pg		**Pg**	**09 30 28.7**	**+1.6**
MONQ				Sg		**Sg**	**09 30 49.4**	**+2.7**
LFF	**La Frestale**	**1.69**	**32**	*e*Pg		**Pg**	**09 30 32.2**	**+1.6**
LFF				*e*Sg		**Sg**	**09 30 55.6**	**+3.1**
	44nm,0.4s							
ESAC	**San Caprasio**	**1.79**	**179**	Pg		**Pg**	**09 30 31.5**	**-0.8**
ESAC				Sg		**Sg**	**09 30 55.3**	**-0.3**
ESAC				*i* Vmb_Lg			09 30 57.2	
PAND	**Andorre**	**1.81**	**122**	Pn		**Pg**	**09 30 32.3**	**-0.6**
PAND				Pg		**Pb**	**09 30 33.8**	**+2.4**
PAND				Sg		**Sg**	**09 30 58.7**	**+2.3**
MTLF	**Montolieu**	**2.01**	**94**	*e*Pg		**Pg**	**09 30 37.1**	**+0.5**
MTLF				*e*Sg		**Sg**	**09 31 03.0**	**+0.4**
	34nm,0.3s							
RJF	**Les Rejaudoux**	**2.32**	**39**	*e*Pg		**Pg**	**09 30 42.8**	**+0.4**
RJF				*e*Sg		**Sg**	**09 31 13.5**	**+1.0**
	28nm,0.3s							
CAF	**Calviac**	**2.34**	**52**	*e*Pg		**Pg**	**09 30 43.0**	**+0.1**
CAF				*e*Sg		**Sg**	**09 31 14.3**	**+1.1**
	17nm,0.3s							
EPOB	**Poblet**	**2.46**	**151**	Pg		**Pg**	**09 30 44.2**	**-1.1**
EPOB				*i* Vmb_Lg			09 30 50.6	
EPOB				Sg		**Sg**	**09 31 16.5**	**-0.7**
ERTA	**Horta de San J**	**2.63**	**166**	Sg		**Sg**	**09 31 24.4**	**+1.8**
ETOR	**Torete**	**2.92**	**203**	Pn		**Pn**	**09 30 46.0**	**+1.4**
ETOR				Sn		**Sn**	**09 31 20.9**	**+1.1**
ETOR				Sg		**Sg**	**09 31 33.1**	**+1.3**
ETOR				*i* Vmb_Lg			09 32 00.1	
MFF	**Saint Martin d**	**3.10**	**5**	*e*Pg		**Pg**	**09 30 57.3**	**-0.2**
MFF				*e*Sg		**Sg**	**09 31 38.3**	**+0.6**
	9.8nm,0.3s							
LASF	**Ste Croix**	**3.23**	**78**	*e*Pn		**Pn**	**09 30 49.4**	**+0.6**
LASF	**Ste Croix**	**3.23**	**78**	*e*Pg		**Pg**	**09 30 58.7**	**-1.2**
LASF				*e*Sn		**Sn**	**09 31 26.0**	**-1.2**
LASF				*e*Sg		**Sg**	**09 31 40.8**	**-0.8**
	7.3nm,0.3s							
TCF	**Toulx Ste Croi**	**3.39**	**34**	*e*Pn		**Pn**	**09 30 51.5**	**+0.5**
TCF	**Toulx Ste Croi**	**3.39**	**34**	*e*Pg		**Pg**	**09 31 02.4**	**-0.6**
TCF				*e*Sn		**Sn**	**09 31 30.5**	**-0.8**
TCF				*e*Sg		**Sg**	**09 31 46.6**	**-0.3**
	11nm,0.4s							
BGF	**Bois d'Agland**	**3.87**	**37**	*e*Pn		**Pn**	**09 30 57.7**	**+0.1**
BGF	**Bois d'Agland**	**3.87**	**37**	*e*Pg		**Pg**	**09 31 11.2**	**-1.0**
BGF				*e*Sn		**Sn**	**09 31 42.8**	**-0.4**
BGF				*e*Sg		**Sg**	**09 32 01.8**	**-0.6**
	33nm,0.4s							
VIVF	**Saint-Julien-l**	**3.98**	**68**	*e*Pn		**Pn**	**09 30 59.5**	**+0.4**
VIVF				*e*Sn		**Sn**	**09 31 44.1**	**-1.6**
VIVF				*e*Sg		**Sg**	**09 32 04.6**	**-1.1**
	9.6nm,0.4s							
AVF	**Avril sur Loir**	**4.28**	**39**	*e*Pn		**Pn**	**09 31 03.5**	**+0.4**
AVF				*e*Sg		**Sg**	**09 32 14.4**	**-0.9**
	5.8nm,0.4s							
SMF	**Signal de Mont**	**4.40**	**43**	*e*Sg		**Sg**	**09 32 18.7**	**-0.7**
	4.8nm,0.3s							
SMRF	**Simiane la Rot**	**4.45**	**82**	*e*Pn		**Pn**	**09 31 06.3**	**+0.7**
SMRF				*e*Sg		**Sg**	**09 32 19.2**	**-1.6**
	3.0nm,0.4s							
SSF	**Saint Saulge**	**4.55**	**37**	*e*Sg		**Sg**	**09 32 23.2**	**-0.9**
	3.2nm,0.3s							
QUIF	**Quistinic**	**4.78**	**338**	*e*Pn		**Pn**	**09 31 10.1**	**+0.1**
QUIF	**Quistinic**	**4.78**	**338**	*e*Pg		**Pg**	**09 31 29.3**	**-0.2**
QUIF				*e*Sn		**Sn**	**09 32 05.1**	**-0.3**
	4.8nm,0.3s							
LOR	**Lormes**	**4.86**	**38**	*e*Sn		**Sn**	**09 32 05.8**	**-1.8**
LOR				*e*Sg		**Sg**	**09 32 32.5**	**-1.7**
	4.1nm,0.4s							
GRR	**Gorron**	**4.88**	**357**	*e*Sg		**Sg**	**09 32 32.6**	**-2.2**
	3.7nm,0.3s							
SGMF	**Saint Gilles**	**4.95**	**344**	*e*P		**Pn**	**09 31 16.8**	**+4.4**
SGMF				*e*Sn		**Sn**	**09 32 07.7**	**-1.9**
SGMF				*e*Sg		**Sg**	**09 32 35.5**	**-1.4**
	3.6nm,0.3s							
LDF	**La Druitiere**	**5.09**	**3**	*e*Pn		**Pn**	**09 31 14.6**	**+0.3**
LDF				*e*Sn		**Sn**	**09 32 11.2**	**-1.9**
LDF				*e*Sg		**Sg**	**09 32 39.5**	**-1.9**
	4.5nm,0.5s							
ROSF	**Rostrenen**	**5.19**	**339**	*e*Pn		**Pn**	**09 31 16.1**	**+0.4**
ROSF				*

SRVN **Saravan** 5.59 126 Pn **Pn** 09 43 48.4 +3.5
SBZV **Sabzevar** 5.59 3 Pn **Pn** 09 43 48.0 +3.1
ZNGN **Zangian** 5.67 285 Pn **Pn** 09 43 48.8 +2.7
JRKH **Jarkhoshk** 5.71 26 Pn **Pn** 09 43 49.4 +2.9
JHBN **Jahan bin** 5.85 286 Pn **Pn** 09 43 52.0 +3.4
ILAS **Lasjerd** 5.86 323 Pn **Pn** 09 43 51.0 +2.4
UOSS **Minazif** 5.90 190 Pn **Pn** 09 43 49.7 +0.7
IAKL **Akhelmad** 5.93 11 Pn **Pn** 09 43 51.8 +2.2
ISFR **Sfrayin** 6.28 5 Pn **Pn** 09 43 57.2 +2.8
IVRN **Varamin** 6.29 313 Pn **Pn** 09 43 56.8 +2.4
IGLO **Ghaloghah** 6.39 334 Pn **Pn** 09 43 58.8 +2.8
IDMV **Damavand** 6.51 319 Pn **Pn** 09 43 59.8 +2.3
IMND **Minoodasht** 6.64 347 Pn **Pn** 09 44 01.8 +2.6
IEMG **Emamgholi** 6.71 9 Pn **Pn** 09 44 03.2 +2.9
MRVT **Maraveh tapeh** 6.93 352 Pn **Pn** 09 44 06.0 +2.8
GEYT **Alibeck** 7.16 5 Pn 09 44 00.7 -5.6
GEYT **Alibeck** 7.16 5 P Pn 09 44 00.7 -5.6
GEYT **Alibeck** 7.16 5 P **Pn** 09 44 09.3 +3.0
0.8nm,0.3s,baz=185,slow=16,SNR=4.1
GEYT S **Sn** 09 45 31.0 +3.3
5.5nm,0.6s,baz=187,slow=20,SNR=1.5
2.8nm,0.5s
GYA0B **ALIBECK ARRAY** 7.16 5 Pn Pn 09 44 00.8 -5.5
WSAR **Wadi Sarin** 7.61 171 P **Pn** 09 44 14.2 +1.7
1.6nm,0.3s,baz=9.6,slow=10,SNR=16
WSAR S **Sn** 09 45 39.4 +0.6
4.2nm,0.7s,baz=295,slow=21,SNR=1.3
9.6nm,0.5s
IKFM **Kafar-mosalman** 8.47 291 Pn **Pn** 09 44 26.8 +2.5
CHGR **Chuyangaron** 12.51 48 Pn **Pn** 09 45 17.1 -2.6
CHGR **Chuyangaron** 12.51 48 P **Pn** 09 45 17.1 -2.6
GAR **Garm** 13.45 49 **Pn** 09 45 28.9 -3.6
GNI **Garni** 13.85 316 *eP* **Pn** 09 45 39.7 +1.8
GEVA **Gevas** 13.93 306 Pn Pn 09 45 31.6 -7.4
BTK **Batken** 14.37 46 **Pn** 09 45 42.9 -2.2
BTK **Batken** 14.37 46 P **Pn** 09 45 42.9 -2.2
KK31 **Karatay Array** 16.18 37 P **Pn** 09 46 06.9 -2.0
KK31 **Karatay Array** 16.18 37 P **Pn** 09 46 06.9 -2.0
KK31 pmax pmax
comp=Z,3.0nm,1.1s
KKAR **Karatay Array** 16.18 37 **Pn** 09 46 05.7 -3.3
KKAR **Karatay Array** 16.18 37 P **Pn** 09 46 05.7 -3.3
KKAR pmax pmax
comp=Z,3.0nm,1.1s
ARSB **Arslanbob** 16.45 46 Pn **Pn** 09 46 09.9 -2.6
ARSB **Arslanbob** 16.45 46 P **Pn** 09 46 09.9 -2.6
ARSB pmax pmax
comp=Z,3.0nm,0.9s
NCK **Nalchik** 16.71 323 *eP* **Pn** 09 46 17.2 +1.5
NCK pmax pmax
comp=Z,47nm,0.4s
ASF **Jabal al Asfar** 17.46 280 P **Pn** 09 46 24.8 -0.5
comp=Z,5.7nm,0.9s,baz=95,slow=12,SNR=4.6
KIV **Kislovodsk** 17.51 323 *eP* **P** 09 46 29.8 +2.9
KIV pmax pmax
comp=Z,8.0nm,1.0s
KSH **Kashi** 17.55 55 P **Pn** 09 46 26.1 -0.3
KSH pmax pmax
comp=Z,6.0nm,0.9s
ARPR **Arapgir-MALATY** 17.60 303 Pn **Pn** 09 46 21.7 -5.3
AAK **Ala-Archa** 18.12 45 Pn **Pn** 09 46 29.9 -3.5
AAK **Ala-Archa** 18.12 45 P **P** 09 46 37.8 +4.0
comp=Z,0.2nm,0.3s,baz=247,slow=2.3,SNR=6.9
comp=Z,3.1nm,0.8s
NRN **Naryn** 18.43 50 P **P** 09 46 34.5 -2.9
NRN **Naryn** 18.43 50 P **P** 09 46 34.5 -2.9
NRN pmax pmax
comp=Z,4.0nm,1.0s
ABKAR **Akbulak array** 18.56 5 P **P** 09 46 33.7 -4.6
AKTO **Aktyubinsk** 19.64 1 P **Pn** 09 46 52.5 +1.0
comp=Z,0.7nm,0.3s,baz=162,slow=12,SNR=20
comp=Z,5.3nm,0.6s
BR131 **Keskin Array S** 21.23 301 P **P** 09 47 03.7 -4.1
BR131 IAmb IAmb 09 47 13.5
comp=Z,11nm,1.2s
BR131 **Keskin Array S** 21.23 301 *de*P **P** 09 47 09.6 +1.8
BRTR **Keskin Array B** 21.23 301 P **P** 09 47 02.1 -5.7
BRTR **Keskin Array B** 21.23 301 *eP* **P** 09 47 09.7 +1.9
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR **Keskin Array B** 21.23 301 P **P** 09 47 08.1 +0.4
comp=Z,3.5nm,0.9s,baz=122,slow=13,SNR=11
comp=Z,3.5nm,0.9s
ISP **Isparta** 23.16 295 *ce*P **P** 09 47 33.4 +5.2
ISP pmax pmax
comp=Z,17nm,0.7s
MDUB **Mudurnu** 23.24 302 P **P** 09 47 24.8 -4.2
ELL **Elmali** 23.49 292 P **P** 09 47 26.8 -4.8
ELL **Elmali** 23.49 292 P **P** 09 47 26.8 -4.8
ELL pmax pmax
comp=Z,47nm,0.8s
BRVK **Borovoye** 24.18 19 P **P** 09 47 34.6 -3.3
BRVK IAmb IAmb 09 47 44.7
comp=Z,2.5nm,0.7s
BRVK **Borovoye** 24.18 19 P **P** 09 47 34.6 -3.3
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BVAR **Borovoye Array** 24.19 20 P **P** 09 47 40.8 +2.8
comp=Z,4.2nm,0.5s,baz=201,slow=7.7,SNR=20
comp=Z,4.2nm,0.5s
MAKZ **Makanchi** 24.87 43 P **P** 09 47 40.2 -4.0
MAKZ IAmb IAmb 09 47 50.4
comp=Z,7.4nm,0.8s
MAKZ **Makanchi** 24.87 43 P **P** 09 47 40.2 -4.0
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
MK31 **Makanchi Array** 25.04 43 P **P** 09 47 41.9 -3.9
MK31 IAmb IAmb 09 47 52.3
comp=Z,4.0nm,1.1s
MK31 **Makanchi Array** 25.04 43 P **P** 09 47 41.9 -3.9
MK31 pmax pmax
comp=Z,4.0nm,1.1s
MKAR **Makanchi Array** 25.04 43 P **P** 09 47 41.4 -4.5
MKAR **Makanchi Array** 25.04 43 *eP* **P** 09 47 47.9 +2.1
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR **Makanchi Array** 25.04 43 P **P** 09 47 48.1 +2.3
comp=Z,2.7nm,0.9s,baz=229,slow=9.2,SNR=14
comp=Z,2.7nm,0.9s
KURBB **Kurchatov Arra** 25.37 33 P **P** 09 47 50.3 +1.6
comp=Z,2.7nm,0.6s,baz=232,slow=8.9,SNR=13
comp=Z,2.7nm,0.6s
KURK **Kurchatov** 25.47 33 P **P** 09 47 46.5 -3.1
KURK IAmb IAmb 09 47 55.8
comp=Z,4.2nm,0.8s
KURK **Kurchatov** 25.47 33 *eP* **P** 09 47 52.3 +2.7
KURK pmax pmax
comp=Z,4.0nm,0.8s
KARP **Karpathos** 25.62 289 P **P** 09 47 48.3 -2.9
ARU **Arti** 25.65 2 *c i*P **P** 09 47 55.2 +4.0
ARU 09 48 30.9
ARU S **S** 09 52 25.7 +6.4
ARU SS **SnSn** 09 53 16.8 +3.4
ARU pmax pmax
comp=Z,7.0nm,1.4s
SANT **Santorini** 27.03 290 P **P** 09 48 00.2 -3.8
SANT IAmb IAmb 09 48 05.3
comp=Z,14nm,0.8s
WMQ **Urumqi** 27.29 53 *eP* **P** 09 48 07.8 +1.6
OBN **Obninsk** 28.45 335 *eP* **P** 09 48 19.2 +2.9
OBN *e* 09 49 06.7
OBN pmax pmax
comp=Z,8.0nm,1.1s
AKBB **Malin Array Si** 28.85 322 *eP* **P** 09 48 20.8 +0.9
ZAA0 **Zalesovo Array** 30.46 33 P **P** 09 48 31.3 -2.9
ZAA0 IAmb IAmb 09 48 39.7
comp=Z,6.6nm,0.7s
ZALV **Zalesovo Beam** 30.46 33 P **P** 09 48 31.4 -2.8
ZALV **Zalesovo Beam** 30.46 33 *eP* **P** 09 48 36.6 +2.4
ZALV pmax pmax
comp=Z,6.0nm,0.6s
ZALV **Zalesovo Beam** 30.46 33 P **P** 09 48 36.3 +2.1
comp=Z,5.5nm,0.6s,baz=239,slow=8.7,SNR=14
comp=Z,5.5nm,0.6s
TIR **Tirane** 31.82 300 P **P** 09 48 42.5 -3.9
TIR **Tirane** 31.82 300 P **P** 09 48 42.5 -3.9
TIR pmax pmax
comp=Z,72nm,1.3s
PALK **Pallekele** 32.05 132 LR LR 10 03 18.7
comp=Z,382nm,19.4s,baz=83,slow=39
FINES **FINESS Array B** 36.84 335 P P 09 49 22.3 -7.3
FINES **FINESS Array B** 36.84 335 *ce*P **P** 09 49 30.7 +1.1
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES **FINESS Array B** 36.84 335 P **P** 09 49 29.6 +0.1
comp=Z,2.3nm,0.6s,baz=111,slow=7.6,SNR=6.1
comp=Z,2.3nm,0.6s
GERES **GERESS Array B** 37.44 311 P **P** 09 49 35.4 +0.5
comp=Z,2.9nm,0.8s,baz=122,slow=13,SNR=2.9
comp=Z,2.9nm,0.8s
CLL **Collm** 38.46 315 *es*P **P** 09 49 45.0 +1.6
comp=Z,7.0nm,0.9s
CLL *e*(PP) 09 51 15.0
CLL **Collm** 38.46 315 *eP* **P** 09 49 45.0 +1.6
CLL pmax pmax
comp=Z,7.0nm,0.9s
PZH **PanZhiHua** 39.04 85 P **P** 09 49 50.7 +1.9
PZH pmax pmax
comp=Z,10.0nm,0.5s
SONM **Songino Array** 40.88 51 *eP* P 09 50 09.7 +5.9
SONM **Songino Array** 40.88 51 P **P** 09 50 06.0 +2.2
comp=Z,0.9nm,0.8s,baz=260,slow=8.7,SNR=3.7
comp=Z,0.9nm,0.8s
ARCES **ARCESS Array B** 42.78 344 P **P** 09 50 18.5 -0.4
comp=Z,4.1nm,0.9s,baz=142,slow=2.8,SNR=5.2
comp=Z,4.1nm,0.9s
HHC **Hu-ho-hao-te** 44.51 61 *eP* **P** 09 50 33.4 +0.1
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,930nm,7.3s
TOA0 **Torodi Ar. Sit** 53.94 264 **P** 09 51 45.9 +0.2
TOA0 IAmb IAmb 09 51 47.1
comp=Z,5.7nm,0.8s
TORD **Torodi Ar. Bea** 53.94 264 **P** 09 51 45.5 -0.1
TORD IAmb IAmb 09 51 47.1
comp=Z,3.3nm,0.8s
TORD **Torodi Ar. Bea** 53.94 264 P **P** 09 51 45.9 +0.2
comp=Z,4.0nm,0.7s,baz=51,slow=8.3,SNR=32
comp=Z,4.0nm,0.7s
INCN **Inchon** 56.62 63 P **P** 09 52 02.3 -2.5
INCN **Inchon** 56.62 63 P **P** 09 52 02.3 -2.5
INCN pmax pmax
comp=Z,27nm,1.3s
NACB **Ninganchiao** 56.75 80 P **P** 09 52 03.1 -2.7
TOLI2 **Tolitoli** 66.80 103 P **P** 09 53 14.0 +0.4
B22K **Teshekpuk Lake** 76.77 10 P **P** 09 54 10.6 -2.1
C19K **Lookout Ridge** 76.79 13 P **P** 09 54 11.2 -1.8
C19K IAmb IAmb 09 54 21.2
comp=Z,6.6nm,1.2s
D19K **Kuna River** 77.60 13 P P 09 54 13.2 -4.2
D19K IAmb IAmb 09 54 26.4
comp=Z,7.7nm,1.3s
C23K **Itkillik River** 77.64 10 P **P** 09 54 14.0 -3.7
C23K IAmb IAmb 09 54 29.1
comp=Z,9.2nm,1.4s
TOLK **Toolik Lake Re** 78.89 10 P **P** 09 54 21.8 -2.8
TOLK IAmb IAmb 09 54 29.6
comp=Z,8.5nm,1.4s
C36M **Paulatuk** 80.16 0 P **P** 09 54 29.7 -1.7
C36M IAmb IAmb 09 54 33.5
comp=Z,1.1nm,0.7s
G21K **Allakaket** 80.19 12 P **P** 09 54 28.2 -3.5
G21K IAmb IAmb 09 54 39.3
comp=Z,3.9nm,1.4s
E27K **Coleen River** 80.32 7 P P 09 54 25.6 -6.9
IMAR **Indian Mountai** 80.62 12 P **P** 09 54 32.7 -1.3
J20K **Nowinta River** 82.17 13 P **P** 09 54 38.6 -3.6
J20K IAmb IAmb 09 54 44.0
comp=Z,8.9nm,1.4s
ILAR **Eielson Array** 82.89 10 P **P** 09 54 42.9 -3.2
ILAR **Eielson Array** 82.89 10 P **P** 09 54 46.6 +0.6
comp=Z,0.3nm,0.7s,baz=327,slow=4.6,SNR=1.9
comp=Z,0.3nm,0.7s
YKA **Yellowknife Ar** 86.82 356 *eP* **P** 09 55 07.6 +1.8
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA **Yellowknife Ar** 86.82 356 P **P** 09 55 07.1 +1.3
comp=Z,0.5nm,0.9s,baz=355,slow=5.3,SNR=7.3
comp=Z,0.5nm,0.9s
WRA **Warramunga Arr** 89.49 114 P **P** 09 55 18.9 -0.3
comp=Z,0.4nm,1.0s,baz=318,slow=3.9,SNR=3.0
comp=Z,0.4nm,1.0s
ASAR **Alice Springs** 91.17 117 P **P** 09 55 27.0 0.0
ASAR **Alice Springs** 91.17 117 P **P** 09 55 27.0 0.0
comp=Z,0.3nm,0.8s,baz=306,slow=5.3,SNR=2.7
comp=Z,0.3nm,0.8s

IDC 12 09:46:03.4±3.3, 53.60N×87.81E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=29.6km s-min=17.2km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	1.81	282	I	I	09 56 20.0	
	baz=98,slow=346,SNR=2.9						
ZALV	**Zalesovo Beam**	1.81	282	Pg	Pn	09 46 36.1	+0.3
	1.6nm,0.3s,baz=98,slow=14,SNR=16						
ZALV				Lg	Lg	09 47 00.5	
	2.6nm,0.3s,baz=105,slow=27,SNR=11						
ZALV				Rg	Rg	09 47 12.0	
	1.8nm,0.4s,baz=111,slow=26,SNR=6.4						
KURBB	**Kurchatov Arra**	6.45	246	Pn	Pn	09 47 40.6	+1.1
	0.1nm,0.3s,baz=60,slow=14,SNR=4.1						
KURBB				Sn	Sn	09 48 45.8	-7.9
	0.1nm,0.3s,baz=54,slow=13,SNR=1.9						
KURBB				Lg	Lg	09 49 27.4	
	baz=66,slow=32,SNR=1.5						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	7.68	210	Pn	Pn	09 47 57.4	+1.0
	0.2nm,0.3s,baz=26,slow=12,SNR=4.1						
MKAR				Lg	Lg	09 50 05.6	
	0.1nm,0.3s,baz=31,slow=34,SNR=6.0						
	0.4nm,0.6s						

*JMA **12** 09:47:10.8±0.5, 47.7°N×143.7°E×°, h502km, MV4.1/20, SOUTHERN SEA OF OKHOTSK*
*SKHL **12** 09:47:11.0±0.3, 48.10N×147.70E, h386km±5km, mb5.5/2, msh5.5/7*
*IDC **12** 09:47:11.8±1.0, 48.05N×146.32E, h467km±11km, mb3.3/23, mbtmp4.2/30, Error ellipse: s-maj=10.8km s-min=9.3km az=124.0*

ISC 12 09:47:11.9±0.5, 47.80N±0.05×146.48E±0.07, h483km, n54, σ2s07/70, mb3.8/23, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	2.67	253	*eP*	**P**	**09 48 19.5**	**+0.2**
YSS				AMB	AMB	09 48 19.7	
	100nm,0.5s						
YSS				*es*	**S**	**09 49 12.6**	**-1.5**
YSS				A	A	09 49 13.9	
	200nm,0.8s						
YSS				A	A	09 49 13.9	
	300nm,0.8s						
UGL	**Uglegorsk**	3.20	295	*eP*	**P**	**09 48 22.2**	**-0.6**
UGL				AMB	AMB	09 48 22.9	
	160nm,0.4s						
UGL				*es*	**S**	**09 49 17.7**	**-3.0**
UGL				A	A	09 49 19.5	
	110nm,0.6s						
UGL				A	A	09 49 19.5	
	130nm,0.6s						
YUK	**Yuzh-Kuril'sk**	3.79	187	*eP*	**P**	**09 48 26.6**	**-1.0**
YUK				AMB	AMB	09 48 28.4	
	160nm,0.4s						
YUK				*es*	**S**	**09 49 25.9**	**-3.2**
YUK				A	A	09 49 36.2	
	350nm,0.5s						
YUK				A	A	09 49 36.2	
	480nm,0.5s						
SHO	**Shikotan**	3.94	176	*eP*	**P**	**09 48 26.4**	**-2.4**
SHO				AMB	AMB	09 48 27.9	
	50nm,0.3s						
SHO				AMB	AMB	09 48 30.9	
	2μm,4.0s						
SHO				*es*	**S**	**09 49 25.8**	**-5.5**
SHO				A	A	09 49 29.3	
	740nm,0.4s						
SHO				A	A	09 49 29.3	
	380nm,0.4s						
SHO				A	A	09 49 30.0	
	2μm,3.0s						
SHO				A	A	09 49 30.0	
	1μm,3.0s						
TYV	**Tymovskoe**	3.95	322	*eP*	**P**	**09 48 26.5**	**-2.1**
TYV				AMB	AMB	09 48 27.9	
	20nm,0.4s						
TYV				AMB	AMB	09 48 34.4	
	100nm,4.0s						
TYV				*es*	**S**	**09 49 26.3**	**-5.0**
TYV				A	A	09 49 28.8	
	10.0nm,0.7s						
TYV				A	A	09 49 28.8	
	20nm,0.7s						
TYV				A	A	09 49 32.5	
	100nm,3.0s						
TYV				A	A	09 49 32.5	
	100nm,3.0s						
JWK2	**Keihoku**	4.02	233	*eP*	**P**	**09 48 30.2**	**+0.8**
JWK2				*es*	**S**	**09 49 32.4**	**0.0**
JTKR	**Abashiri--Toko**	4.23	206	*eP*	**P**	**09 48 30.9**	**-0.3**
JNK	**Nakash**	4.39	197	*eP*	**P**	**09 48 31.8**	**-0.8**
NMR	**Nemuro--Hokkai**	4.47	187	*eP*	**P**	**09 48 30.8**	**-2.4**
NEM2	**Nemuro 2**	4.47	187	*eP*	**P**	**09 48 30.7**	**-2.5**
NEM2				*es*	**S**	**09 49 34.4**	**-5.1**
ASAJ	**Asahikawa**	4.57	218	P	**P**	**09 48 34.4**	**+0.2**
	12nm,0.6s,baz=41,slow=19,SNR=12						
ASAJ				S	**S**	**09 49 41.1**	**-0.1**
	10nm,0.8s,baz=152,slow=29,SNR=1.9						
JAR	**Ashorobuto**	4.89	204	*es*	**S**	**09 49 43.0**	**-3.4**
AKK	**Akkeshi**	4.92	194	*eP*	**P**	**09 48 36.3**	**-1.0**
JAK	**Akkeshi**	4.97	195	*eP*	**P**	**09 48 36.0**	**-1.8**
JAK				*es*	**S**	**09 49 43.2**	**-4.5**
JCH	**Churui**	5.64	204	*eP*	**P**	**09 48 42.4**	**-1.7**
JCH				*es*	S	09 49 53.6	-5.6
JBT2	**Biratori 2**	5.80	212	*es*	**S**	**09 49 59.4**	**-2.7**
JEW	**Eniwo**	6.10	217	*eP*	**P**	**09 48 47.8**	**-0.7**
JEW				*es*	**S**	**09 50 05.0**	**-2.5**
JNBK	**Urakawa-nobuka**	6.12	207	*es*	**S**	**09 50 03.3**	**-4.5**
OKH	**Okha**	6.18	340	*eP*	**P**	**09 48 47.2**	**-1.8**
OKH				AMB	AMB	09 48 50.3	
	60nm,0.4s						
NKL	**Nikolayevsk**	6.51	328	*eP*	**P**	**09 48 51.1**	**-1.1**
NKL				AMB	AMB	09 48 52.0	
	30nm,0.6s						
JOT	**Ohata**	7.50	213	*eS*	**S**	**09 50 28.4**	**-5.1**
JANG	**Nango**	8.24	207	*eS*	S	09 50 41.4	-6.4
PETK	**Petropavlovsk-**	8.91	49	P	**P**	**09 49 16.7**	**-0.5**
	13nm,0.9s,baz=231,slow=9.4,SNR=7.5						
KLR	**Kul'dur**	9.88	284	P	**P**	**09 49 27.5**	**-0.2**
	11nm,0.7s,baz=80,slow=9.4,SNR=32						
USRK	**Ussuriysk Ar.**	10.71	256	P	**P**	**09 49 35.8**	**-0.8**
	16nm,0.7s,baz=59,slow=12,SNR=12						
MJAR	**Matsushiro Arr**	12.81	212	P	**P**	**09 50 01.0**	**+1.8**
	5.0nm,0.9s,baz=27,slow=12,SNR=6.6						
SEY	**Seymchan**	15.52	10	P	**P**	**09 50 26.2**	**-1.2**
	2.4nm,0.3s,baz=209,slow=9.6,SNR=5.4						
KSRS	**Korea Array**	17.09	240	P	**P**	**09 50 45.3**	**+1.0**
	2.5nm,0.6s,baz=41,slow=9.8,SNR=8.2						
SONM	**Songino Array**	26.71	285	P	**P**	**09 52 11.8**	**+0.4**
	1.1nm,0.4s,baz=60,slow=8.8,SNR=5.7						
SONM				PcP	**PcP**	**09 55 20.2**	**+1.0**
	0.3nm,0.5s,baz=101,slow=3.4,SNR=1.8						
	1.1nm,0.4s						
ZALV	**Zalesovo Beam**	38.29	303	P	**P**	**09 53 47.8**	**-1.9**
	0.6nm,0.4s,baz=150,slow=42,SNR=2.1						
ZALV				PcP	**PcP**	**09 55 51.9**	**+0.6**
	2.6nm,0.6s,baz=90,slow=2.8,SNR=11						
	0.6nm,0.4s						
ILAR	**Eielson Array**	38.56	39	P	**P**	**09 53 51.3**	**-0.5**
	0.5nm,0.8s,baz=255,slow=6.5,SNR=14						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	42.41	293	P	**P**	**09 54 22.5**	**-0.4**
	1.2nm,0.5s,baz=64,slow=7.7,SNR=13						
MKAR				PcP	**PcP**	**09 56 05.4**	**+0.3**
	0.6nm,0.6s,baz=60,slow=3.5,SNR=3.9						
	1.2nm,0.5s						
KURBB	**Kurchatov Arra**	43.06	300	P	**P**	**09 54 27.1**	**-0.8**
	1.5nm,0.5s,baz=73,slow=8.8,SNR=5.5						
KURBB				PcP	**PcP**	**09 56 07.8**	**+0.6**
	2.9nm,0.7s,baz=70,slow=3.3,SNR=14						
	1.5nm,0.5s						
BVAR	**Borovoye Array**	46.65	306	P	**P**	**09 54 54.8**	**-0.7**
	0.8nm,0.4s,baz=79,slow=9.2,SNR=4.6						
BVAR				PcP	**PcP**	**09 56 19.6**	**-0.1**
	0.8nm,0.3s,baz=63,slow=6.6,SNR=2.5						
	0.8nm,0.4s						
CMAR	**Chiang Mai Arr**	48.36	250	P	**P**	**09 55 08.6**	**-0.3**
	1.0nm,0.3s,baz=55,slow=8.1,SNR=1.7						
CMAR				PcP	**PcP**	**09 56 28.5**	**+2.0**
	0.9nm,0.3s,baz=22,slow=2.5,SNR=4.1						
	1.0nm,0.3s						
ARU	**Arti**	51.12	315	P	**P**	**09 55 27.8**	**-0.9**
	5.8nm,0.5s,baz=97,slow=3.7,SNR=8.9						
	5.8nm,0.5s						
YKA	**Yellowknife Ar**	52.72	35	P	**P**	**09 55 39.7**	**-0.5**
	0.6nm,0.8s,baz=303,slow=7.3,SNR=8.3						
YKA				PcP	**PcP**	**09 56 42.5**	**+0.5**
	0.3nm,0.6s,baz=306,slow=3.8,SNR=6.9						
	0.6nm,0.8s						
ARCES	**ARCESS Array B**	55.29	338	P	**P**	**09 55 57.4**	**-1.0**
	5.2nm,1.0s,baz=32,slow=4.7,SNR=3.9						
	5.2nm,1.0s						
FINES	**FINESS Array B**	61.07	332	P	**P**	**09 56 36.6**	**-0.9**
	7.6nm,0.6s,baz=42,slow=7.2,SNR=31						
	7.6nm,0.6s						
GEYT	**Alibeck**	62.14	297	P	**P**	**09 56 45.7**	**+0.6**
	4.1nm,0.7s,baz=67,slow=13,SNR=2.9						
	4.1nm,0.7s						
NB2	**NORSAR Subarra**	65.66	338	P	**P**	**09 57 06.0**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=30,slow=6.5						
NOA	**ORSAR Array B**	65.66	339	P	**P**	**09 57 06.4**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=30,slow=6.8,SNR=8.9						
	comp=Z,2.0nm,0.7s						
HFS	**Hagfors**	65.78	336	P	**P**	**09 57 07.0**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=46,slow=6.4,SNR=7.3						
	comp=Z,1.9nm,0.5s						
NVAR	**Mina Array Bea**	65.86	59	P	**P**	**09 57 10.9**	**+1.9**
	comp=Z,0.7nm,0.7s,baz=304,slow=6.6,SNR=4.0						
	comp=Z,0.7nm,0.7s						
KBZ	**Khabaz**	66.80	310	P	**P**	**09 57 15.2**	**+0.7**
	comp=Z,3.9nm,0.8s,baz=30,slow=6.3,SNR=7.0						
	comp=Z,3.9nm,0.8s						
PDAR	**Pinedale Array**	67.67	51	P	**P**	**09 57 21.1**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=5.9,slow=1.3,SNR=9.5						
	comp=Z,0.8nm,0.5s						
AKASG	**Malin Array Be**	68.06	322	P	**P**	**09 57 21.3**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=34,slow=6.6,SNR=8.4						
	comp=Z,0.8nm,0.3s						
WRA	**Warramunga Arr**	68.31	192	P	**P**	**09 57 25.9**	**+1.9**
	comp=Z,1.6nm,0.6s,baz=6.5,slow=6.5,SNR=26						
	comp=Z,1.6nm,0.6s						
ASAR	**Alice Springs**	72.03	192	P	**P**	**09 57 49.1**	**+3.0**
	comp=Z,2.9nm,0.7s,baz=3.3,slow=5.2,SNR=55						
	comp=Z,2.9nm,0.7s						
EKA	**Eskdalemuir Ar**	74.11	343	P	**P**	**09 57 56.8**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=34,slow=5.2,SNR=2.6						
	comp=Z,2.2nm,0.8s						
STKA	**Stephens Creek**	79.44	184	P	**P**	**09 58 29.9**	**+2.9**
	comp=Z,1.3nm,0.8s,baz=336,slow=14,SNR=4.1						
	comp=Z,1.3nm,0.8s						
TXAR	**Lajitas Array**	80.79	56	P	**P**	**09 58 36.3**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=288,slow=3.7,SNR=24						
	comp=Z,0.9nm,0.6s						
SNAA	**Sanae**	152.14	200	PKPbc	**PKPbc**	**10 06 11.5**	**+0.7**
	comp=Z,2.2nm,0.8s,baz=135,slow=5.7,SNR=3.5						
PLCA	**Paso Flores**	152.76	89	PKPbc	**PKiKP**	**10 06 14.6**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=326,slow=7.3,SNR=3.3						

*OMAN **12** 09:50:23.7±0.2, 31.39N×57.31E, h10km, mb4.7/17, Mwp5.5/4, Error ellipse: s-maj=6.1km s-min=3.2km az=288.0*
*IDC **12** 09:50:27.5±1.0, 30.51N×57.37E, h0km, mb3.8/16, mbtmp3.8/17, ML3.0/1, Error ellipse: s-maj=22.2km s-min=17.3km az=8.0*
*TEH **12** 09:50:28.5, 30.75N×57.31E, h8km±46km, ML4.3*
*DSN **12** 09:50:29.0±1.6, 30.84N×57.50E, h15km, ML3.6/6, Error ellipse: s-maj=80.6km s-min=15.4km az=100.0*
*NEIC **12** 09:50:29.7±2.2, 30.66N±0.07×57.45E±0.10, h10km±1km, mb4.4/26, Error ellipse: s-maj=14.7km s-min=11.0km az=77.0*

ISC 12 09:50:29.6±0.4, 30.68N±0.03×57.32E±0.03, h10km, n127, σ2s17/140, mb4.1/29, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	0.73	293	Pg	**Pg**	**09 50 41.7**	**-2.1**
KHGB	**Koh Gabri**	0.79	247	Pg	**Pg**	**09 50 43.7**	**-1.2**
KHGB				Sg	**Sg**	**09 50 54.7**	**-0.5**
CHMN	**Cheshme madani**	0.84	167	Pg	**Pg**	**09 50 45.5**	**-0.4**
TVBK	**TV Kerman**	0.85	215	Pg	**Pb**	**09 50 46.2**	**-0.4**
NGRK	**Negar Kerman**	1.16	206	Pg	**Pn**	**09 50 51.9**	**-0.2**
NGRK				Sg	**Sn**	**09 51 08.4**	**+0.1**

IBAF	**Bafgh**	**1.75**	**301**	Pg	**Pb**	**09 50 59.8**	**-2.2**
KBAM	**BAM**	**1.83**	**147**	Pn	**Pb**	**09 51 02.3**	**-0.9**
BSRN	**Basiran**	**2.00**	**50**	Pn	**Pb**	**09 51 03.5**	**-2.7**
IKOO	**Kooshah**	**2.25**	**39**	Pn	**Pb**	**09 51 07.3**	**-3.2**
TPRV	**Parvadeh(Tabas**	**2.40**	**347**	Pn	**Pn**	**09 51 08.4**	**-0.6**
IMEH	**Mehriz**	**2.43**	**288**	Pn	**Pb**	**09 51 10.3**	**-3.2**
NHDN	**Nehbandan**	**2.45**	**73**	Pn	**Pb**	**09 51 10.6**	**-3.2**
ITEG	**Tejag**	**2.52**	**28**	Pn	**Pn**	**09 51 10.5**	**-0.2**
KHNJ	**Kahnooj**	**2.75**	**173**	Pn	**Pn**	**09 51 15.5**	**+1.8**
TKDS	**Koohdasht(Taba**	**2.92**	**357**	Pn	**Pn**	**09 51 15.8**	**-0.5**
IDAH	**Dahanechah**	**2.98**	**46**	Pn	**Pn**	**09 51 18.0**	**+0.7**
AFRZ	**Afriz**	**3.09**	**27**	Pn	**Pn**	**09 51 18.5**	**-0.1**
ZHDN	**Zahedan**	**3.29**	**112**	Pn	**Pn**	**09 51 22.7**	**+1.4**
TNSJ	**Nastanj**	**3.33**	**350**	Pn	**Pn**	**09 51 21.6**	**-0.2**
ISAD	**Sadrabad**	**3.34**	**292**	Pn	**Pn**	**09 51 23.4**	**+1.2**
SHRT	**Shahrakht**	**3.88**	**40**	Pn	**Pn**	**09 51 29.9**	**+0.6**
ANAR	**Anarak**	**3.94**	**310**	Pn	**Pn**	**09 51 30.5**	**+0.2**
LAR1	**LAR**	**3.96**	**221**	Pn	**Pn**	**09 51 32.6**	**+2.2**
IRAM	**Ramesheh**	**4.38**	**286**	Pn	**Pn**	**09 51 37.7**	**+1.4**
SHME	**Shamm**	**4.73**	**193**	P	**Pn**	**09 51 42.6**	**+1.6**
SHME	**Shamm**	**4.73**	**193**	P	**Pn**	**09 51 45.1**	**+4.0**
SHME				S	**Sb**	**09 52 50.0**	**+0.3**
IZEF	**Zefreh**	**4.79**	**299**	Pn	**Pn**	**09 51 42.3**	**+0.3**
JASK	**Jask - Hormozg** SNR=12	**4.82**	**174**	P	**Pn**	**09 51 45.4**	**+3.1**
JASK				S	**Sb**	**09 52 51.3**	**-1.0**
JASK	**Jask - Hormozg**	**4.82**	**174**	Pn	**Pn**	**09 51 44.4**	**+2.1**
KLNJ	**Kolanjah**	**4.94**	**275**	Pn	**Pn**	**09 51 46.3**	**+2.2**
TBJM	**Torbat-e-JAM**	**5.22**	**28**	Pn	**Pn**	**09 51 48.1**	**+0.2**
MASF	**Masafi**	**5.39**	**191**	P	**Pn**	**09 51 53.5**	**+3.4**
MASF				S	**Sb**	**09 53 04.0**	**-4.7**
MSFE	**Esma-Masafi**	**5.40**	**191**	P	**Pn**	**09 51 52.4**	**+2.1**
KRSH	**Karshahi**	**5.48**	**308**	Pn	**Pn**	**09 51 52.5**	**+1.1**
SRVN	**Saravan**	**5.52**	**125**	Pn	**Pn**	**09 51 53.6**	**+1.7**
IKLH	**Kolahrood**	**5.54**	**300**	Pn	**Pn**	**09 51 53.6**	**+1.2**
HRA	**Herat**	**5.56**	**47**	Pn	**Pn**	**09 51 53.2**	**+0.6**
ISFB	**Sefidab**	**5.64**	**312**	Pn	**Pn**	**09 51 53.2**	**-0.3**
IMOG	**Moghan**	**5.67**	**17**	Pn	**Pn**	**09 51 53.8**	**-0.3**
SBZV	**Sabzevar**	**5.69**	**2**	Pn	**Pn**	**09 51 54.5**	**+0.1**
JRKH	**Jarkhoshk**	**5.79**	**25**	Pn	**Pn**	**09 51 56.4**	**+0.7**
UOSS	**Minazif**	**5.80**	**190**		**Pn**	**09 51 56.6**	**+0.9**
UOSS	**Minazif**	**5.80**	**190**	P	**Pn**	**09 51 56.4**	**+0.7**
UOSS	**Minazif**	**5.80**	**190**	P	**Pn**	**09 51 59.4**	**+3.6**
UOSS				S	**Sb**	**09 53 16.2**	**-4.3**
NAZ	**Nazwa, Dubai**	**5.86**	**195**	P	**Pn**	**09 51 57.1**	**+0.6**
NAZ	**Nazwa, Dubai**	**5.86**	**195**	P	**Pn**	**09 52 00.2**	**+3.6**
NAZ				P	**Pn**	**09 52 00.2**	**+3.6**
NAZ				S	**Sb**	**09 53 16.2**	**-6.0**
NAZ				S	**Sb**	**09 53 16.2**	**-6.0**
JHBN	**Jahan bin**	**5.89**	**287**	Pn	**Pn**	**09 51 59.0**	**+1.8**
HATD	**Hatta, Dubai**	**5.93**	**191**	P	**Pn**	**09 51 59.7**	**+2.2**
HATD	**Hatta, Dubai**	**5.93**	**191**	P	Pn	09 52 02.1	+4.6
HATD				S	**Sb**	**09 53 18.6**	**-5.7**
IAKL	**Akhelmad**	**6.02**	**11**	Pn	**Pn**	**09 51 59.6**	**+0.6**
ASHO	**Ashiyiah**	**6.08**	**191**	P	**Pn**	**09 52 02.5**	**+2.9**
ASHO				S	**Sn**	**09 53 13.9**	**+4.5**
ASHO	**Ashiyiah** SNR=5.6	**6.08**	**191**	P	**Pn**	**09 52 02.9**	**+3.3**
ASHO				S	**Sb**	**09 53 20.7**	**-7.9**
FAQ	**Al Faqa, Dubai**	**6.11**	**195**	P	**Pn**	**09 52 03.9**	**+3.9**
FAQ				S	Sb	09 53 20.7	-8.7
ASUD	**Al Ashush, Dub**	**6.29**	**197**	P	**Pn**	**09 52 04.4**	**+2.0**
ASUD	**Al Ashush, Dub**	**6.29**	**197**	P	**Pn**	**09 52 06.0**	**+3.6**
ISFR	**Sfrayin**	**6.38**	**5**	Pn	**Pn**	**09 52 04.2**	**+0.3**
IGLO	**Ghaloghah**	**6.49**	**334**	Pn	**Pn**	**09 52 05.9**	**+0.5**
SOHO	**SOHO**	**6.56**	**186**	P	**Pn**	**09 52 07.1**	**+1.0**
SOHO	**SOHO**	**6.56**	**186**	P	**Pn**	**09 52 09.8**	**+3.6**
IDMV	**Damavand**	**6.59**	**319**	Pn	**Pn**	**09 52 07.1**	**+0.2**
IEMG	**Emamgholi**	**6.80**	**9**	Pn	**Pn**	**09 52 10.2**	**+0.4**
JRN	**Qarnain Island**	**6.96**	**216**	P	**Pn**	**09 52 14.0**	**+2.4**
MRVT	**Maraveh tapeh**	**7.03**	**352**	Pn	**Pn**	**09 52 12.8**	**+0.2**
HOQ	**Hoqain**	**7.07**	**180**	P	Pn	09 52 18.9	+5.7
GEYT	**Alibeck**	**7.26**	**5**	Pn	**Pn**	**09 52 15.9**	**+0.2**
GEYT	**Alibeck** 0.3nm,0.3s,baz=29,slow=37,SNR=2.1	**7.26**	**5**	Pn	**Pn**	**09 52 16.6**	**+0.9**
GEYT	baz=315,slow=57 1.8nm,0.4s			Sn	**Sn**	**09 53 42.3**	**+4.1**
GYA0B	**ALIBECK ARRAY**	**7.26**	**5**	Pn	**Pn**	**09 52 15.7**	**-0.1**
ARQ	**Araqi** SNR=5.1	**7.35**	**186**	P	**Pn**	**09 52 20.4**	**+3.4**
WSAR	**Wadi Sarin** SNR=17	**7.51**	**171**	P	**Pn**	**09 52 21.3**	**+2.2**
WSAR	**Wadi Sarin** 8.0nm,0.3s,baz=7.0,slow=8.2,SNR=79	**7.51**	**171**	Pn	**Pn**	**09 52 20.1**	**+0.9**
WSAR	baz=62,slow=18			Sn	**Sn**	**09 53 42.5**	**-1.9**
SMDO	**Samad**	**7.62**	**175**	P	**Pn**	**09 52 24.8**	**+4.0**
BSY	**Bisya**	**7.91**	**181**	P	Pn	09 52 29.4	+4.7
BSY				P	Pn	09 52 29.4	+4.7
TRNA	**Turayna** SNR=18	**8.03**	**224**	P	**Pn**	**09 52 26.8**	**+0.5**
WBK	**Wadi Bani Khal** SNR=5.3	**8.18**	**169**	P	**Pn**	**09 52 30.4**	**+2.0**
WBK	**Wadi Bani Khal**	**8.18**	**169**	Pn	**Pn**	**09 52 30.2**	**+1.9**
SMRA	**Abu-Samra**	**8.25**	**226**	P	**Pn**	**09 52 29.4**	**0.0**
JMDO	**Jabal Madar**	**8.31**	**175**	P	**Pn**	**09 52 33.4**	**+3.2**
JMDO				P	**Pn**	**09 52 33.4**	**+3.2**
JLN	**Jalan Bani Buh** SNR=6.0	**8.70**	**167**	P	**Pn**	**09 52 37.7**	**+2.1**
MHTO	**MHTO**	**9.68**	**176**	P	**Pn**	**09 52 52.9**	**+4.0**
MHTO				P	**Pn**	**09 52 52.9**	**+4.0**
KKAR	**Karatay Array**	**16.25**	**37**	Pn	**Pn**	**09 54 17.2**	**-0.8**
ARSB	**Arslanbob**	**16.50**	**46**	Pn	**Pn**	**09 54 20.2**	**-1.1**
AAK	**Ala-Archa**	**18.18**	**44**	P	**P**	**09 54 42.5**	**0.0**
ABKAR	**Akbulak array**	**18.66**	**5**	P	**Pn**	**09 54 47.3**	**-0.5**
TARG	**Taragay, Kyrgy**	**19.82**	**51**	P	**P**	**09 54 58.9**	**-1.9**
BRTR	**Keskin Array B**	**21.30**	**301**	P	**P**	**09 55 18.6**	**+2.0**
BRTR	**Keskin Array B** 1.7nm,0.7s,baz=130,slow=13,SNR=6.8 1.7nm,0.7s	**21.30**	**301**	P	**P**	**09 55 17.0**	**+0.5**
ELL	**Elmali**	**23.55**	**292**	P	**P**	**09 55 40.3**	**+0.1**
ELL	comp=Z,17nm,0.8s			IAmb	IAmb	09 55 44.6	
BRVK	**Borovoye**	**24.27**	**19**	P	**P**	**09 55 45.3**	**-1.6**
BVAR	**Borovoye Array** comp=Z,1.7nm,0.5s,baz=201,slow=7.3,SNR=7.0 comp=Z,1.7nm,0.5s	**24.28**	**19**	P	**P**	**09 55 47.1**	**+0.2**
MAKZ	**Makanchi**	**24.93**	**43**	P	**P**	**09 55 53.5**	**+0.6**
MAKZ	comp=Z,4.2nm,0.8s			IAmb	IAmb	09 55 57.6	
MK31	**Makanchi Array**	**25.11**	**43**	P	**P**	**09 55 54.2**	**-0.3**
MKAR	**Makanchi Array**	**25.11**	**43**	P	**P**	**09 55 54.0**	**-0.5**
MKAR	**Makanchi Array** comp=Z,1.1nm,0.7s,baz=221,slow=5.7,SNR=7.4 comp=Z,1.1nm,0.7s	**25.11**	**43**	P	**P**	**09 55 54.2**	**-0.3**
KURBB	**Kurchatov Arra** comp=Z,0.8nm,0.2s,baz=232,slow=8.8,SNR=11 comp=Z,0.8nm,0.2s	**25.44**	**32**	P	**P**	**09 55 57.3**	**-0.2**
KURK	**Kurchatov**	**25.55**	**32**	P	**P**	**09 55 59.3**	**+0.9**
KARP	**Karpathos**	**25.67**	**289**	P	**P**	**09 56 00.0**	**+0.3**
KARP	comp=Z,14nm,0.8s			IAmb	IAmb	09 56 03.0	
AKASG	**Malin Array Be** comp=Z,0.3nm,0.4s,baz=126,slow=8.0,SNR=4.1 comp=Z,0.3nm,0.4s	**28.94**	**322**	P	**P**	**09 56 29.9**	**+1.1**
ZAA0	**Zalesovo Array**	**30.54**	**32**	P	**P**	**09 56 40.8**	**-2.2**
ZAA0	comp=Z,2.8nm,0.8s			IAmb	IAmb	09 56 45.2	
ZALV	**Zalesovo Beam**	**30.54**	**32**	P	**P**	**09 56 41.1**	**-1.9**
ZALV	**Zalesovo Beam** comp=Z,3.3nm,0.6s,baz=239,slow=8.4,SNR=12 comp=Z,3.3nm,0.6s	**30.54**	**32**	P	**P**	**09 56 42.9**	**-0.1**
FNA	**Florina**	**30.68**	**299**	P	**P**	**09 56 45.8**	**+1.3**
FNA	comp=Z,7.1nm,1.2s			IAmb	IAmb	09 57 05.9	
FIA1	**FINESS Array S**	**36.94**	**336**	P	**P**	**09 57 39.6**	**+1.1**
FINES	**FINESS Array B** comp=Z,2.0nm,0.6s,baz=130,slow=10.0,SNR=7.1 comp=Z,2.0nm,0.6s	**36.94**	**336**	P	**P**	**09 57 39.7**	**+1.2**
KHC	**Kasperske Hory**	**37.66**	**312**	P	**P**	**09 57 45.9**	**+1.1**
CMAR	**Chiang Mai Arr** comp=Z,1.2nm,0.3s,baz=293,slow=7.8,SNR=4.8 comp=Z,1.2nm,0.3s	**39.55**	**98**	P	**P**	**09 57 60.0**	**-1.1**
SONM	**Songino Array** comp=Z,0.3nm,0.6s,baz=297,slow=1.0,SNR=2.0 comp=Z,0.3nm,0.6s	**40.93**	**51**	P	**P**	**09 58 13.4**	**+1.0**
HFS	**Hagfors** comp=Z,1.0nm,0.5s,baz=122,slow=14,SNR=1.1 comp=Z,1.0nm,0.5s	**41.26**	**328**	P	**P**	**09 58 16.7**	**+2.0**
ARCES	**ARCESS Array B**	**42.88**	**344**	P	**P**	**09 58 30.0**	**+2.2**
ARCES	**ARCESS Array B** comp=Z,4.8nm,0.9s,baz=129,slow=7.1,SNR=5.8	**42.88**	**344**	P	**P**	**09 58 29.6**	**+1.8**
	comp=Z,4.8nm,0.9s						
EKA	**Eskdalemuir Ar** comp=Z,0.2nm,0.4s,baz=95,slow=6.6,SNR=1.4 comp=Z,0.2nm,0.4s	**48.76**	**319**	P	**P**	**09 59 15.3**	**+0.9**
TOA0	**Torodi Ar. Sit**	**53.95**	**264**	P	**P**	**09 59 53.6**	**-0.2**
TOA0	comp=Z,2.2nm,0.8s			IAmb	IAmb	09 59 53.9	
TORD	**Torodi Ar. Bea**	**53.95**	**264**	P	**P**	**09 59 52.4**	**-1.4**
TORD	comp=Z,1.6nm,0.8s			IAmb	IAmb	09 59 53.4	
TORD	**Torodi Ar. Bea** comp=Z,2.1nm,0.8s,baz=55,slow=6.9,SNR=16 comp=Z,2.1nm,0.8s	**53.95**	**264**	P	**P**	**09 59 52.2**	**-1.7**
B20K	**Meade River**	**76.55**	**12**	P	**P**	**10 02 18.0**	**-1.5**
B22K	**Teshekpuk Lake**	**76.87**	**10**	P	**P**	**10 02 21.0**	**-0.4**
C18K	**Utukok River**	**76.96**	**14**	P	**P**	**10 02 22.1**	**0.0**
B21K	**Ikpikpuk River**	**77.32**	**11**	P	**P**	**10 02 24.7**	**+0.8**
B21K	comp=Z,5.7nm,1.1s			IAmb	IAmb	10 02 32.9	
C23K	**Itkillik River**	**77.74**	**10**	P	**P**	**10 02 27.1**	**+0.9**
C23K	comp=Z,2.0nm,1.1s			IAmb	IAmb	10 02 32.0	
E19K	**Redstone River**	**78.76**	**13**	P	**P**	**10 02 31.5**	**-0.5**
E19K	comp=Z,1.9nm,1.1s			IAmb	IAmb	10 02 53.0	
TOLK	**Toolik Lake Re**	**78.99**	**10**	P	**P**	**10 02 33.4**	**+0.1**
TOLK	comp=Z,2.8nm,0.7s			IAmb	IAmb	10 02 37.1	
IMAR	**Indian Mountai**	**80.72**	**12**	P	**P**	**10 02 41.9**	**-0.7**
H21K	**Melozitna Rive**	**81.19**	**12**	P	**P**	**10 02 44.5**	**-0.7**
H21K	comp=Z,5.8nm,1.4s			IAmb	IAmb	10 02 55.6	
F31M	**Tsiigehtchic**	**81.82**	**4**	P	**P**	**10 02 48.1**	**-0.3**
F31M	comp=Z,4.6nm,1.5s			IAmb	IAmb	10 03 11.9	
G31M	**Satah River**	**82.30**	**5**	P	**P**	**10 02 51.6**	**+0.7**
G31M	comp=Z,8.0nm,1.4s			IAmb	IAmb	10 03 17.6	
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.5s,baz=0.2,slow=5.6,SNR=6.5 comp=Z,0.1nm,0.5s	**86.92**	**356**	P	**P**	**10 03 14.5**	**+0.1**
WRA	**Warramunga Arr** comp=Z,0.4nm,1.0s,baz=316,slow=4.3,SNR=2.4 comp=Z,0.4nm,1.0s	**89.43**	**114**	P	**P**	**10 03 27.2**	**+0.1**
ASAR	**Alice Springs** comp=Z,0.3nm,0.7s,baz=307,slow=5.3,SNR=3.3 comp=Z,0.3nm,0.7s	**91.11**	**117**	P	**P**	**10 03 33.9**	**-0.9**

*IDC **12** 10:00:11.9±3.0, 64.°54N×31.°36E, h0km, mbtmp3.1/3, ML1.9/3, Error ellipse: s-maj=42.2km s-min=10.1km az=105.0*

*KOLA **12** 10:00:16.8, 64.°68N×30.°79E, h0km, ML2.0, Error ellipse: s-maj=22.0km s-min=10.1km az=160.0, Kostomuksha, Karelia*

ISC 12 10:00:15.2±1.6, 64.°63N±0.°08×30.°48E±0.°09, h10km, n8, σ1s54/12, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**3.16**	**18**	P	**Pn**	**10 01 06.5**	**+1.6**
APA0				S	**Sn**	**10 01 43.3**	**+0.6**
FINES	**FINESS Array B** 0.1nm,0.3s,baz=37,slow=15,SNR=1.3	**3.77**	**214**	Pn	**Pn**	**10 01 13.6**	**+0.3**
FINES	0.7nm,0.3s,baz=38,slow=27,SNR=9.3 1.2nm,0.7s			Lg	Lg	10 02 13.6	
TERR	**Teriberka**	**4.94**	**20**	P	**Pn**	**10 01 29.2**	**-0.1**
TERR				S	**Sn**	**10 02 24.9**	**-1.5**
ARCES	**ARCESS Array B**	**5.30**	**341**	P	**Pn**	**10 01 34.8**	**+0.5**
ARCES				S	**Sn**	**10 02 33.9**	**-1.4**
ARCES	**ARCESS Array B** 0.2nm,0.3s,baz=152,slow=13,SNR=20	**5.30**	**341**	Pn	**Pn**	**10 01 32.4**	**-1.8**
ARCES	0.2nm,0.3s,baz=151,slow=23,SNR=5.1			Sn	**Sn**	**10 02 33.1**	**-2.2**
ARCES	0.4nm,0.3s,baz=145,slow=32,SNR=8.1 0.6nm,0.2s			Lg	Lg	10 02 56.2	
I37NO	**I37NO** baz=123,slow=328,SNR=1.2	**6.46**	**319**	I	I	10 45 30.0	
FAUS	**Fauske**	**6.78**	**301**	P	**Pn**	**10 01 56.4**	**+1.9**
FAUS				S	**Sn**	**10 03 12.9**	**+1.3**
HFS	**Hagfors** 0.2nm,0.3s,baz=58,slow=14,SNR=2.4 1.9nm,0.8s	**8.99**	**248**	Pn	**Pn**	**10 02 24.4**	**-0.5**

TEH 12 10:12:47.2, 30.°76N×57.°27E, h8km±22km, ML3.7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.67**	**289**	Pg	Pb	10 13 01.5	+0.3
KHGB	**Koh Gabri**	**0.78**	**241**	Pg	Pb	10 13 03.5	+0.3
TVBK	**TV Kerman**	**0.89**	**210**	Pg	Pn	10 13 05.9	-0.4
CHMN	**Cheshme madani**	**0.92**	**165**	Pg	Pb	10 13 05.7	+0.1
NGRK	**Negar Kerman**	**1.20**	**203**	Pg	Pn	10 13 11.9	+1.2
NGRK				Sg	Sn	10 13 28.6	+1.3
IBAF	**Bafgh**	**1.68**	**300**	Pg	Pg	10 13 20.2	+0.7
KBAM	**BAM**	**1.91**	**147**	Pn	Pg	10 13 23.3	-0.6
BSRN	**Basiran**	**1.99**	**52**	Pn	Pb	10 13 24.5	+0.7
IKOO	**Kooshah**	**2.23**	**41**	Pn	Pb	10 13 26.8	-1.1
TPRV	**Parvadeh(Tabas**	**2.32**	**348**	Pn	Pb	10 13 28.4	-1.0
IMEH	**Mehriz**	**2.37**	**286**	Pn	Pb	10 13 29.8	-0.5
NHDN	**Nehbandan**	**2.47**	**74**	Pn	Pb	10 13 31.8	-0.1
ITEG	**Tejag**	**2.48**	**30**	Pn	Pb	10 13 30.7	-1.4
TKDS	**Koohdasht(Taba**	**2.85**	**357**	Pn	Pn	10 13 35.6	+2.4
IDAH	**Dahanechah**	**2.97**	**48**	Pn	Pb	10 13 37.7	-2.8
AFRZ	**Afriz**	**3.05**	**29**	Pn	Pn	10 13 37.9	+2.1
ISAD	**Sadrabad**	**3.28**	**292**	Pn	Pn	10 13 42.6	-3.2
SHRT	**Shahrakht**	**3.85**	**41**	Pn	Pn	10 13 49.6	+2.7
ANAR	**Anarak**	**3.87**	**310**	Pn	Pn	10 13 51.1	+4.0
IRAM	**Ramesheh**	**4.32**	**285**	Pn	Pn	10 13 56.9	+3.5
IZEF	**Zefreh**	**4.72**	**298**	Pn	Pn	10 14 02.1	+3.2
JRKH	**Jarkhoshk**	**5.75**	**26**	Pn	Pn	10 14 16.1	+3.2

IDC 12 10:14:13.0±25.0, 16.°50S×66.°30E, h0km, mb3.5/3, mbtmp3.5/3, MS3.9/4, Error ellipse: s-maj=828.0km s-min=45.1km az=59.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H** baz=213,slow=76,SNR=35	**10.66**	**35**	T	T	10 29 00.3	
H08S2	**Diego Garcia H** baz=213,slow=76,SNR=34	**10.67**	**35**	T	T	10 29 01.2	
H08S3	**Diego Garcia H** baz=213,slow=76,SNR=505	**10.68**	**35**	T	T	10 28 52.2	
H04N2	**CROZET ISLANDS** baz=26,slow=75,SNR=258	**31.96**	**199**	T	T	10 53 09.6	
H04N1	**CROZET ISLANDS** baz=26,slow=75,SNR=236	**31.96**	**199**	T	T	10 53 07.5	
H04N3	**CROZET ISLANDS** baz=26,slow=75,SNR=710	**31.98**	**199**	T	T	10 53 09.5	
KMBO	**Kilima Mbogo** comp=Z,250nm,20.8s,baz=93,slow=31	**32.43**	**295**	LR	LR	10 30 54.0	
LBTB	**Lobatse** comp=Z,228nm,21.6s,baz=62,slow=31	**38.88**	**251**	LR	LR	10 34 31.0	
H01W3	**Cape Leeuwin H** baz=279,slow=75,SNR=11	**46.36**	**123**	T	T	11 12 00.2	
H01W2	**Cape Leeuwin H** baz=279,slow=75,SNR=13	**46.36**	**123**	T	T	11 11 47.5	
H01W1	**Cape Leeuwin H** baz=279,slow=75,SNR=18	**46.38**	**123**	T	T	11 11 53.7	
CMAR	**Chiang Mai Arr** comp=Z,39nm,19.3s,baz=180,slow=34	**47.31**	**44**	LR	LR	10 41 11.4	
ASAR	**Alice Springs** 0.6nm,1.0s,baz=266,slow=5.1,SNR=3.3	**63.40**	**109**	P	P	10 24 45.0	+0.2
ASAR	comp=Z,206nm,19.1s,baz=213,slow=34 0.6nm,1.0s			LR	LR	10 49 34.9	
WRA	**Warramunga Arr** 1.0nm,1.0s,baz=264,slow=6.5,SNR=6.8 1.0nm,1.0s	**64.33**	**105**	P	P	10 24 50.8	-0.2
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=184,slow=6.6,SNR=1.5 0.1nm,0.3s	**64.62**	**12**	P	P	10 24 52.3	0.0

*TEH **12** 10:26:25.6, 30.°70N×57.°34E, h9km±43km, ML4.2*
*DSN **12** 10:26:26.4±2.0, 30.°83N×57.°58E, h15km, ML3.5/4, Error ellipse: s-maj=188.0km s-min=18.1km az=101.0*
*IDC **12** 10:26:31.7±2.3, 30.°59N×57.°28E, h56km±23km, mb3.6/11, mbtmp3.9/14, ML3.8/3, Error ellipse: s-maj=19.8km s-min=13.4km az=92.0*

ISC 12 10:26:27.4±0.6, 30.°68N±0.°03×57.°34E±0.°04, h15km, n63, σ1s54/69, mb3.9/11, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.75**	**293**	Pg	**Pg**	**10 26 39.8**	**-2.2**
KHGB	**Koh Gabri**	**0.80**	**248**	Pg	**Pg**	**10 26 40.8**	**-2.2**
CHMN	**Cheshme madani**	**0.83**	**168**	Pg	**Pg**	**10 26 41.7**	**-1.9**
CHMN				Sg	**Sg**	**10 26 53.5**	**-1.1**
TVBK	**TV Kerman**	**0.85**	**216**	Pg	**Pg**	**10 26 42.8**	**-1.2**
TVBK				Sg	**Sg**	**10 26 54.4**	**-0.8**
NGRK	**Negar Kerman**	**1.16**	**207**	Pg	**Pb**	**10 26 48.5**	**-0.8**
NGRK				Sg	**Sb**	**10 27 04.6**	**+0.4**
IBAF	**Bafgh**	**1.77**	**301**	Pg	**Pn**	**10 26 58.0**	**+0.4**
KBAM	**BAM**	**1.81**	**148**	Pn	**Pn**	**10 26 58.9**	**+0.7**
BSRN	**Basiran**	**2.00**	**50**	Pn	**Pn**	**10 27 01.3**	**+0.5**
IKOO	**Kooshah**	**2.25**	**39**	Pn	**Pn**	**10 27 04.5**	**+0.3**
TPRV	**Parvadeh(Tabas**	**2.41**	**347**	Pn	**Pn**	**10 27 07.1**	**+0.7**
NHDN	**Nehbandan**	**2.44**	**72**	Pn	**Pn**	**10 27 07.9**	**+1.1**
IMEH	**Mehriz**	**2.44**	**288**	Pn	**Pn**	**10 27 08.0**	**+1.0**
ITEG	**Tejag**	**2.52**	**28**	Pn	**Pn**	**10 27 08.1**	**+0.1**
KHNJ	**Kahnooj**	**2.74**	**173**	Pn	**Pn**	**10 27 12.3**	**+1.5**
TKDS	**Koohdasht(Taba**	**2.93**	**356**	Pn	**Pn**	**10 27 13.6**	**0.0**
ICHK	**Chekchek**	**2.95**	**303**	Pn	**Pn**	**10 27 15.0**	**+1.1**
IDAH	**Dahanechah**	**2.98**	**46**	Pn	**Pn**	**10 27 15.1**	**+0.8**
AFRZ	**Afriz**	**3.09**	**27**	Pn	**Pn**	**10 27 15.9**	**+0.1**
ZHDN	**Zahedan**	**3.27**	**112**	Pn	**Pn**	**10 27 18.6**	**+0.4**
IBND	**Bandar-abas**	**3.29**	**192**	Pn	**Pn**	**10 27 20.8**	**+2.4**
TNSJ	**Nastanj**	**3.33**	**350**	Pn	**Pn**	**10 27 19.4**	**+0.3**
ISAD	**Sadrabad**	**3.36**	**292**	Pn	**Pn**	**10 27 20.7**	**+1.1**
GENO	**Geno**	**3.42**	**198**	Pn	**Pn**	**10 27 22.6**	**+2.3**
SHRT	**Shahrakht**	**3.88**	**39**	Pn	**Pn**	**10 27 27.2**	**+0.7**
ANAR	**Anarak**	**3.96**	**310**	Pn	**Pn**	**10 27 29.2**	**+1.5**
IRAM	**Ramesheh**	**4.39**	**286**	Pn	**Pn**	**10 27 34.8**	**+1.1**
SHME	**Shamm**	**4.73**	**193**	P	**Pn**	**10 27 39.6**	**+1.5**
IZEF	**Zefreh**	**4.80**	**299**	Pn	**Pn**	**10 27 40.6**	**+1.2**
KLNJ	**Kolanjah**	**4.95**	**275**	Pn	**Pn**	**10 27 43.2**	**+1.6**
TBJM	**Torbat-e-JAM**	**5.22**	**28**	Pn	**Pn**	**10 27 45.8**	**+0.7**
IBRJ	**Brojen**	**5.34**	**285**	Pn	**Pn**	**10 27 48.1**	**+1.2**
MSFE	**Esma-Masafi**	**5.40**	**191**	P	**Pn**	**10 27 48.7**	**+1.3**
KRSH	**Karshahi**	**5.49**	**308**	Pn	**Pn**	**10 27 50.0**	**+1.2**
SRVN	**Saravan**	**5.50**	**125**	Pn	**Pn**	**10 27 50.5**	**+1.6**
IKLH	**Kolahrood**	**5.56**	**300**	Pn	**Pn**	**10 27 51.2**	**+1.4**
ISFB	**Sefidab**	**5.65**	**312**	Pn	**Pn**	**10 27 52.1**	**+1.1**
IMOG	**Moghan**	**5.67**	**17**	Pn	**Pn**	**10 27 52.3**	**+0.9**
SBZV	**Sabzevar**	**5.70**	**2**	Pn	**Pn**	**10 27 52.7**	**+0.9**
JRKH	**Jarkhoshk**	**5.79**	**25**	Pn	**Pn**	**10 27 53.6**	**+0.7**
UOSS	**Minazif**	**5.80**	**190**	P	**Pn**	**10 27 54.0**	**+1.1**
NAZ	**Nazwa, Dubai**	**5.86**	**195**	P	**Pn**	**10 27 56.1**	**+2.4**
HATD	**Hatta, Dubai**	**5.93**	**191**	P	**Pn**	**10 27 58.4**	**+3.8**
IAKL	**Akhelmad**	**6.03**	**11**	Pn	**Pn**	**10 27 56.9**	**+0.6**
ASHO	**Ashiyiah**	**6.08**	**191**	P	**Pn**	**10 27 57.9**	**+1.2**
ASHO				S	**Sn**	**10 29 11.2**	**+5.2**
IFIR	**Firoozkooh**	**6.27**	**323**	Pn	**Pn**	**10 28 00.3**	**+0.8**
ISFR	**Sfrayin**	**6.38**	**5**	Pn	**Pn**	**10 28 01.9**	**+0.8**
IVRN	**Varamin**	**6.39**	**314**	Pn	**Pn**	**10 28 02.1**	**+1.1**
IDMV	**Damavand**	**6.61**	**319**	Pn	**Pn**	**10 28 05.0**	**+0.8**
IEMG	**Emamgholi**	**6.81**	**9**	Pn	**Pn**	**10 28 08.1**	**+1.1**
GEYT	**Alibeck** 1.4nm,0.3s,baz=175,slow=17,SNR=3.3	**7.26**	**5**	P	**Pn**	**10 28 16.9**	**+3.9**
GEYT	4.2nm,0.7s,baz=194,slow=30,SNR=1.6 1.9nm,0.3s			S	**Sn**	**10 29 38.8**	**+3.6**
WSAR	**Wadi Sarin** 2.0nm,0.3s,baz=12,slow=9.0,SNR=24	**7.50**	**171**	P	**Pn**	**10 28 17.8**	**+1.6**
WSAR	4.5nm,0.7s,baz=315,slow=11,SNR=

	1.3nm,0.6s							
FINES	**FINESS Array B**	**36.90**	**336**	P	**P**	**10 48 17.8**	**+0.3**	
	4.0nm,0.9s,baz=140,slow=12,SNR=4.1							
	4.0nm,0.9s							
GERES	**GERESS Array B**	**37.46**	**312**	P	**P**	**10 48 22.5**	**0.0**	
	0.6nm,0.4s,baz=108,slow=12,SNR=1.8							
	0.6nm,0.4s							
TORD	**Torodi Ar. Bea**	**53.90**	**264**	P	**P**	**10 50 31.8**	**-1.0**	
	0.9nm,0.7s,baz=65,slow=7.9,SNR=7.7							
	0.9nm,0.7s							
YAK	**Yakutsk**	**55.19**	**33**	LR	LR	11 17 08.7		
	comp=Z,13nm,22.0s,baz=106,slow=39							
JOW	**Kunigami**	**61.41**	**74**	LR	LR	11 18 25.3		
	comp=Z,163nm,19.8s,baz=296,slow=36							
WRA	**Warramunga Arr**	**89.49**	**114**	P	**P**	**10 54 06.2**	**-0.4**	
	0.1nm,0.7s,baz=317,slow=4.5,SNR=1.7							
	0.1nm,0.7s							
ASAR	**Alice Springs**	**91.17**	**117**	P	**P**	**10 54 16.0**	**+1.6**	
	0.3nm,0.8s,baz=318,slow=5.8,SNR=2.0							
	0.3nm,0.8s							

BUT ***12*** *10:44:25.9±1.2,46°.86N±0°.05×112°.49W±0°.06,h16km±4km, Error ellipse: s-maj=7.6km s-min=5.1km az=205.0*

NEIC 12 10:44:26.4±1.2,46°.77N±0°.04×112°.59W±0°.05,h13km±6km, ML2.8/44,ML3.1/13(BUT),Error ellipse: s-maj=6.9km s-min=4.2km az=142.0,Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEMT	**Mount Belmont**	**0.18**	**95**	Pg	Pg	10 44 30.1	-0.6
ELMT	**Elliston**	**0.25**	**165**	Pg	Pb	10 44 32.8	-0.2
LYMT	**Lyon Mountain**	**0.29**	**45**	Pg	Pg	10 44 30.5	-2.0
OVMT	**Ovando**	**0.41**	**317**	Pg	Pg	10 44 34.0	-0.5
CHMT	**Chamberlain Mo**	**0.48**	**289**		Pg	10 44 36.0	+0.2
BPMT	**Black Pine Rid**	**0.67**	**241**	Pg	Pb	10 44 40.3	+0.1
MSO	**Missoula**	**0.93**	**274**		Pg	10 44 44.4	0.0
MSO				Sg	Sb	10 44 57.3	+0.5
MSO				IAML		10 45 00.6	
	348nm,0.5s						
LRM	**Limekiln Ridge**	**0.95**	**174**	Pg	Pb	10 44 45.2	+0.4
BOZ	**Bozeman (W)**	**1.34**	**150**	Pn	Pn	10 44 50.0	-1.0
MCMT	**McKenzie Canyo**	**1.95**	**185**	Pn	Pn	10 44 59.3	-0.1
QLMT	**Earthquake Lak**	**2.10**	**157**	Pn	Pn	10 45 01.5	0.0
YHL	**Hebgen Lake**	**2.15**	**152**	Pn	Pn	10 45 02.0	-0.3
YHL				IAML		10 45 42.3	
	comp=N,56nm,0.7s						
YHL				IAML		10 45 43.9	
	comp=E,49nm,1.0s						
EGMT	**Eagleton**	**2.30**	**56**		Pn	10 45 04.5	+0.3
YHH	**Holmes Hill**	**2.32**	**148**	Pn	Pn	10 45 04.3	-0.3
YMR	**Madison River**	**2.39**	**151**	Pn	Pn	10 45 05.3	-0.1
YMR				IAML		10 45 51.7	
	comp=N,55nm,1.6s						
YMR				IAML		10 45 53.0	
	comp=E,41nm,0.7s						
YNR	**Norris Junctio**	**2.45**	**146**	Pn	Pn	10 45 06.0	-0.4
YMP	**Mirror Lake Pl**	**2.65**	**139**	Pn	Pn	10 45 09.0	-0.1
YMP				IAML		10 45 51.2	
	comp=E,29nm,0.5s						
YMP				IAML		10 45 53.6	
	comp=N,40nm,0.5s						
RLMT	**Red Lodge**	**2.84**	**124**	Pn	Pn	10 45 11.8	+0.1
RLMT				IAML		10 45 55.4	
	comp=N,29nm,0.5s						
RLMT				IAML		10 46 01.4	
	comp=N,33nm,0.6s						
PLID	**Pearl Lake**	**2.91**	**236**	Pn	Pn	10 45 12.6	-0.1
PLID				IAML		10 46 04.3	
	comp=N,24nm,0.8s						
FLWY	**Flagg Ranch**	**2.99**	**153**	Pn	Pn	10 45 14.2	+0.3
FLWY				IAML		10 46 05.0	
	comp=N,20nm,4.4s						
FLWY				IAML		10 46 12.6	
	comp=N,20nm,4.8s						
IMW	**Indian Meadow**	**3.10**	**157**	Pn	Pn	10 45 15.9	+0.6
IMW				IAML		10 46 06.2	
	comp=N,37nm,0.5s						
IMW				IAML		10 46 15.8	
	comp=N,20nm,0.6s						
MOOW	**Moose Ponds**	**3.29**	**156**	Pn	Pn	10 45 18.7	+0.9
F10A	**Beach Ranch, E**	**3.31**	**258**		Pn	10 45 17.4	-0.6
FXWY	**Fox Creek**	**3.32**	**160**	Pn	Pn	10 45 18.3	+0.1
NEW	**Newport**	**3.42**	**298**	Pn	Pn	10 45 18.1	-1.3
NEW				IAML		10 46 18.2	
	comp=N,20nm,0.4s						
NEW				IAML		10 46 18.4	
	comp=N,18nm,0.5s						
HLID	**Hailey**	**3.45**	**203**	Pn	Pn	10 45 20.3	+0.2
HLID				IAML		10 46 18.0	
	comp=N,20nm,0.6s						
HLID				IAML		10 46 19.6	
	comp=N,25nm,0.3s						
SNOW	**Snow King Moun**	**3.55**	**158**	Pn	Pn	10 45 20.6	-0.9
SNOW				IAML		10 45 46.2	
	comp=N,20nm,4.5s						
SNOW				IAML		10 46 24.3	
	comp=N,15nm,4.6s						
BMO	**Blue Mountains**	**3.81**	**242**	Pn	Pn	10 45 24.7	-0.3
BMO				IAML		10 47 25.2	
	comp=N,10nm,5.0s						
MFID	**Camas Ranch**	**4.06**	**216**	Pn	Pn	10 45 28.1	-0.3
HAWA	**Hanford**	**4.80**	**268**	Pn	Pn	10 45 38.0	-0.4
HAWA				IAML		10 47 09.7	
	comp=N,8.1nm,3.1s						
B08A	**Colville Reser**	**4.83**	**292**	Pn	Pn	10 45 38.9	0.0
GBB	**Gable Butte**	**4.84**	**271**	Pn	Pn	10 45 38.0	-1.0

IDC ***12*** *10:55:59.7±0.9,49°.57S×125°.36E,h0km,mb4.1/7, mbtmp4.1/8,ML1.9/1,MS3.9/6,Error ellipse: s-maj=43.2km s-min=17.6km az=98.0*

ISC 12 10:56:01.2±0.8,49°.6S±0°.1×125°.3E±0°.3,h10km,n16, σ0°.77/10,mb4.0/7,MS3.9/6,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.81**	**327**	T	T	11 17 06.1	
	baz=158,slow=79,SNR=12						
H01W2	**Cape Leeuwin H**	**16.82**	**327**	T	T	11 17 09.5	
	baz=158,slow=79,SNR=9.0						
H01W3	**Cape Leeuwin H**	**16.83**	**327**	T	T	11 17 07.3	
	baz=158,slow=79,SNR=8.1						
NWAO	**Narrogin (SRO)**	**17.69**	**337**	P	**P**	**11 00 09.1**	**+0.6**
	0.2nm,0.3s,baz=176,slow=12,SNR=3.6						
	8.0nm,0.8s						
STKA	**Stephens Creek**	**21.48**	**41**	P	**P**	**11 00 50.8**	**+0.9**
	11nm,0.6s,baz=198,slow=11,SNR=37						
STKA				LR	LR	11 08 09.1	
	comp=Z,178nm,18.9s,baz=182,slow=34						
	11nm,0.8s						
ASAR	**Alice Springs**	**26.73**	**18**	P	**P**	**11 01 40.1**	**-0.7**
	2.5nm,0.8s,baz=192,slow=8.6,SNR=32						
ASAR				LR	LR	11 11 48.0	
	comp=Z,223nm,19.9s,baz=140,slow=36						
	2.5nm,0.8s						
WRA	**Warramunga Arr**	**30.44**	**17**	P	**P**	**11 02 12.6**	**-1.3**
	1.3nm,0.9s,baz=194,slow=9.4,SNR=7.1						
	1.3nm,0.9s						
VNDA	**Vanda**	**31.27**	**166**	P	**P**	**11 02 21.1**	**+0.5**
	1.2nm,0.7s,baz=322,slow=9.0,SNR=5.7						
	1.2nm,0.7s						
CTA	**Charters Tower**	**33.84**	**37**	LR	LR	11 16 23.0	
	comp=Z,194nm,18.7s,baz=216,slow=36						
MAW	**Mawson**	**35.26**	**216**	LR	LR	11 14 09.2	
	comp=Z,220nm,20.0s,baz=198,slow=31						
QSPA	**South Pole Qui**	**40.54**	**180**	P	**P**	**11 03 40.3**	**0.0**
	0.7nm,0.3s,baz=356,slow=5.9,SNR=2.4						
	0.7nm,0.3s						
SNAA	**Sanae**	**53.64**	**198**	P	**P**	**11 05 21.7**	**-0.5**
	3.2nm,1.0s,baz=160,slow=13,SNR=3.7						
SNAA				LR	LR	11 27 04.8	
	comp=Z,128nm,19.6s,baz=7.0,slow=35						
	3.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**71.66**	**334**	P	**P**	**11 07 23.3**	**+0.4**
	0.6nm,0.3s,baz=184,slow=2.7,SNR=1.7						
	0.6nm,0.3s						
SUR	**Sutherland**	**74.54**	**238**	LR	LR	11 36 23.6	
	comp=Z,143nm,18.2s,baz=193,slow=32						
YKA	**Yellowknife Ar**	**145.47**	**45**	PKPbc	**PKPdf**	**11 15 37.7**	**-0.4**
	0.6nm,0.9s,baz=265,slow=3.2,SNR=6.9						
EKA	**Eskdalemuir Ar**	**148.70**	**301**	PKPbc	**PKPbc**	**11 15 47.7**	**+0.2**
	0.5nm,0.5s,baz=90,slow=0.8,SNR=3.6						

NEIC ***12*** *11:12:23.3±1.5,4°.4S±0°.1×153°.49E±0°.07,h96km±9km, mb4.4/16,Error ellipse: s-maj=17.1km s-min=10.7km az=185.0*

IDC ***12*** *11:12:24.2±2.2,4°.53S×153°.42E,h100km±17km,mb3.5/7, mbtmp4.1/9,Error ellipse: s-maj=19.3km s-min=17.5km az=172.0*

ISC 12 11:12:23.5±0.6,4°.43S±0°.07×153°.44E±0°.07,h100km,n33, σ0°.93/38,mb4.2/15,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.29**	**280**		**Pn**	**11 12 47.1**	**-0.1**
PMG	**Port Moresby**	**7.96**	**231**		**Pn**	**11 14 17.0**	**+0.6**
PMG	**Port Moresby**	**7.96**	**231**	P	**Pn**	**11 14 16.4**	**+0.1**
	13nm,0.5s,baz=34,slow=7.1,SNR=8.6						
PMG				S	**Sn**	**11 15 43.8**	**-1.0**
	96nm,0.7s,baz=144,slow=20,SNR=23						
HNR	**Honiara**	**8.16**	**128**	P	**Pn**	**11 14 19.8**	**+0.6**
	244nm,0.4s,baz=300,slow=20,SNR=1.4						
HNR				S	**Sn**	**11 15 49.6**	**0.0**
	1µm,0.5s,baz=170,slow=23,SNR=5.6						
PATS	**Pohnpei**	**12.20**	**24**	Pn	**Pn**	**11 15 12.1**	**-1.8**
CTAO	**Charters Tower**	**17.07**	**204**	P	**P**	**11 16 17.4**	**+1.2**
DZM	**Mont Dzumac**	**21.60**	**145**	P	**P**	**11 17 05.4**	**-0.2**
DZM				IAmb	IAmb	11 17 06.6	
	comp=Z,23nm,1.5s						
MTN	**Manton Dam**	**23.56**	**248**	P	**P**	**11 17 26.7**	**+1.5**
MTN				IAmb	IAmb	11 18 00.4	
	comp=Z,11nm,1.0s						
WB0	**Warramunga Arr**	**24.02**	**229**	P	**P**	**11 17 29.6**	**+0.4**
WB0				IAmb	IAmb	11 17 34.5	
	comp=Z,15nm,0.6s						
WR0	**Warramunga Arr**	**24.02**	**228**	P	**P**	**11 17 30.2**	**+0.9**
WR0				IAmb	IAmb	11 17 35.1	
	comp=Z,15nm,0.9s						
WRAB	**Tennant Creek**	**24.15**	**229**	P	**P**	**11 17 31.0**	**+0.5**
WB2	**Warramunga Arr**	**24.16**	**229**	P	**P**	**11 17 31.6**	**+1.0**
WRA	**Warramunga Arr**	**24.16**	**229**	P	**P**	**11 17 30.5**	**-0.1**
WRA	**Warramunga Arr**	**24.16**	**229**	P	**P**	**11 17 31.0**	**+0.4**
	comp=Z,21nm,0.5s,baz=51,slow=10,SNR=166						
WRA				ScP	**ScP**	**11 24 39.5**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=48,slow=3.4,SNR=2.0						
KNRA	**Kununurra**	**26.70**	**243**	P	**P**	**11 17 52.2**	**-1.4**
KNRA				IAmb	IAmb	11 18 03.8	
	comp=Z,10nm,0.7s						
AS31	**Alice Springs**	**26.85**	**223**	P	**P**	**11 17 53.5**	**-1.3**
ASAR	**Alice Springs**	**26.85**	**223**	P	**P**	**11 17 54.4**	**-0.5**
ASAR	**Alice Springs**	**26.85**	**223**	P	**P**	**11 17 54.7**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=56,slow=8.9,SNR=25						
ASAR				PcP	**PcP**	**11 21 15.0**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=64,slow=4.2,SNR=4.1						
ASAR				ScP	**ScP**	**11 24 46.8**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=61,slow=3.4,SNR=5.3						
	comp=Z,0.4nm,0.4s						
STKA	**Stephens Creek**	**29.48**	**201**	P	**P**	**11 18 18.2**	**0.0**
	comp=Z,1.0nm,0.5s,baz=24,slow=16,SNR=3.9						
	comp=Z,1.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**30.39**	**241**	P	**P**	**11 18 25.0**	**-1.4**
FORT	**Forrest**	**35.48**	**219**	P	**P**	**11 19 09.9**	**-0.6**
MBWA	**Marble Bar**	**36.70**	**240**	P	**P**	**11 19 20.4**	**-0.7**
TCW	**Tory Channel**	**41.12**	**156**	P	**P**	**11 19 57.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**58.29**	**295**	P	**P**	**11 22 09.4**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=100,slow=4.4,SNR=4.4						
	comp=Z,0.5nm,0.3s						
VNDA	**Vanda**	**73.18**	**178**	P	**P**	**11 23 43.2**	**+0.3**
VNDA				IAmb	IAmb	11 23 44.0	
	comp=Z,2.5nm,0.7s						
VNDA	**Vanda**	**73.18**	**178**	P	**P**	**11 23 43.0**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=335,slow=6.5,SNR=16						
	comp=Z,2.2nm,0.6s						
H17K	**Granite Mounta**	**77.16**	**19**	P	**P**	**11 24 06.6**	**+0.7**
H17K				IAmb	IAmb	11 24 49.2	
	comp=Z,9.7nm,1.4s						
IMAR	**Indian Mountai**	**79.82**	**19**	P	**P**	**11 24 20.4**	**-0.1**
MKAR	**Makanchi Array**	**80.46**	**319**	P	**P**	**11 24 25.8**	**+1.4**
	comp=Z,0.6nm,0.9s,baz=94,slow=3.6,SNR=4.0						
	comp=Z,0.6nm,0.9s						
ZALV	**Zalesovo Beam**	**81.19**	**326**	P	**P**	**11 24 29.6**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=121,slow=5.6,SNR=2.9						
	comp=Z,0.7nm,0.4s						
ILAR	**Eielson Array**	**81.58**	**22**	P	**P**	**11 24 31.6**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=239,slow=5.1,SNR=4.5						
	comp=Z,0.3nm,0.7s						
QSPA	**South Pole Qui**	**85.53**	**180**	P	**P**	**11 24 49.3**	**-1.0**
QSPA				IAmb	IAmb	11 24 50.8	
	comp=Z,4.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**150.79**	**289**	PKPbc	**PKPbc**	**11 32 04.1**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=50,slow=3.0,SNR=9.6						

IDC ***12*** *11:19:04.1±0.7,51°.58N×15°.94E,h0km,mb3.6/6, mbtmp3.6/11,ML3.2/5,Error ellipse: s-maj=12.2km s-min=8.6km az=124.0*

VIE ***12*** *11:19:04.7±0.5,51°.55N×16°.12E,h0km,mb3.2/16, ml3.4/14,ms4.0/1,Error ellipse: s-maj=6.1km s-min=2.6km az=53.0 80 km NW of Wroclaw Suspected Mining induced.*

IPEC ***12*** *11:19:04.2±0.3,51°.56N×16°.25E,h1km,ML3.1/4,Error ellipse: s-maj=3.2km s-min=1.7km az=66.0*

DNK ***12*** *11:19:05.3±1.6,51°.76N×15°.77E,h0km,ML2.6,Suspected explosion*

UPP ***12*** *11:19:10.6±2.8,52°.06N×15°.72E,h0km,ML2.1*

ISC 12 11:19:02.8±0.6,51°.64N±0°.02×16°.10E±0°.02,h0km,n75, σ1°.41/145,mb3.6/6,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.81**	**171**	*i* Pg	**Pg**	**11 19 18.5**	**+0.3**
KSP				eSg	**Sg**	**11 19 28.3**	**-0.3**
CHVC	**Chvalec**	**1.05**	**182**	*e*PG	**Pg**	**11 19 22.8**	**-0.1**
CHVC				*e*SG	**Sg**	**11 19 36.3**	**-0.2**
	comp=Z,292nm,0.5s						
OSTC	**Ostas**	**1.08**	**176**	*e*PG	**Pg**	**11 19 23.6**	**0.0**
OSTC				*e*SG	**Sg**	**11 19 37.3**	**-0.3**
	comp=Z,564nm,1.0s						
UPC	**Upice**	**1.13**	**183**	*e*PG	**Pg**	**11 19 24.4**	**-0.1**
UPC				*e*SG	**Sg**	**11 19 38.4**	**-0.7**
	comp=Z,365nm,0.6s						
DPC	**Dobruska-Polom**	**1.30**	**174**	*e*PG	**Pg**	**11 19 27.3**	**-0.3**
DPC				*e*SG	**Sg**	**11 19 43.3**	**-1.1**
	comp=Z,318nm,0.7s						
PVCC	**Panska Ves**	**1.47**	**222**	*e*PG	**Pg**	**11 19 30.8**	**-0.2**
PVCC				*e*SG	**Sn**	**11 19 51.0**	**+0.5**
	comp=Z,783nm,0.6s						
BRG	**Berggiesshubel**	**1.56**	**241**	Pn	Pn	11 19 24.7	-7.0
BRG				Pg	Pb	11 19 26.6	-5.8
BRG				Sg	**Sn**	**11 19 46.9**	**-5.7**
BRG				Amp		11 19 49.6	
	comp=Z,259nm,0.5s						
KRLC	**Kraliky**	**1.62**	**164**	*e*PG	**Pn**	**11 19 32.3**	**-0.4**
KRLC				*e*SG	**Sn**	**11 19 53.1**	**-1.2**
	comp=Z,228nm,0.5s						
RICC	**Richard**	**1.67**	**230**	*e*PG	**Pn**	**11 19 33.7**	**+0.4**
RICC				*e*SG	**Sg**	**11 19 57.3**	**+0.9**
	comp=Z,442nm,0.5s						
PRA	**Prague**	**1.89**	**215**	*e*PG	**Pb**	**11 19 37.3**	**-0.9**
PRA				*e*SG	**Sg**	**11 20 03.0**	**-0.5**
	comp=Z,304nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.92**	**206**	*e*PG	**Pn**	**11 19 37.3**	**+0.6**
GOPC				*e*SG	**Sb**	**11 20 03.0**	**-0.1**
	comp=Z,129nm,0.5s						
PRU	**Pruhonice**	**1.92**	**211**	*e*PG	**Pn**	**11 19 37.1**	**+0.3**
PRU				*e*SG	**Sg**	**11 20 04.8**	**+0.2**
	comp=Z,184nm,0.6s						
CLL	**Collm**	**1.96**	**262**	*i* Pn	**Pn**	**11 19 37.4**	**+0.1**
	comp=Z,40nm,0.5s						
CLL				*i* Pg	**Pg**	**11 19 40.8**	**+0.4**
CLL				*i* x	x	11 19 44.4	
CLL				*e*Sg	**Sg**	**11 20 08.0**	**+2.1**
	comp=Z,133nm,0.6s						
HSKC	**Hora Svate Kat**	**1.97**	**239**	*e*PG	**Pn**	**11 19 38.5**	**+1.0**
HSKC				*e*SG	**Sg**	**11 20 06.4**	**+0.3**
	comp=Z,232nm,0.6s						
MORC	**Moravsky Berou**	**2.08**	**153**	*e*Pn	**Pn**	**11 19 38.4**	**-0.5**
	baz=336						
MORC				*e*Sg	**Sn**	**11 20 05.6**	**+0.1**
	comp=Z,122nm,0.6s,baz=336						
OKC	**Ostrava-Krasne**	**2.22**	**143**	*e*PG	**Pb**	**11 19 42.6**	**-1.2**
OKC				*e*SG	**Sb**	**11 20 12.7**	**+0.8**
	comp=Z,203nm,0.6s						
VRAC	**Vranov**	**2.35**	**172**	*e*PN	**Pn**	**11 19 42.7**	**0.0**
VRAC				*e*SG	**Sb**	**11 20 14.8**	**-0.9**
VRAC	**Vranov**	**2.35**	**172**	Pn	**Pn**	**11 19 43.5**	**+0.8**
	comp=Z,5.3nm,0.3s,baz=337,slow=15,SNR=22						
VRAC				Lg	Lg	11 20 16.8	
	comp=Z,19nm,0.3s,baz=253,slow=20,SNR=11						
	comp=Z,39nm,0.5s						
VRAC	**Vranov**	**2.35**	**172**	*e*Pn	**Pn**	**11 19 42.6**	**-0.1**
	baz=354						
VRAC				*e*Sg	**Sb**	**11 20 14.7**	**-0.9**
	comp=Z,86nm,0.4s,baz=354						
TREC	**Trest**	**2.38**	**190**	*e*PN	**Pn**	**11 19 43.1**	**+0.1**
TREC				*e*PG	**Pb**	**11 19 46.2**	**-0.3**
TREC				*e*SG	**Sg**	**11 20 17.7**	**-1.4**
	comp=Z,139nm,0.5s						
ZVC	**Zvikov**	**2.52**	**210**	*e*PN	**Pn**	**11 19 44.7**	**-0.2**
ZVC				*e*PG	**Pb**	**11 19 48.5**	**-0.3**
ZVC				*e*SG	**Sg**	**11 20 22.6**	**-0.9**
	comp=Z,87nm,0.6s						
MAUC	**Maruska**	**2.53**	**153**	*e*PN	**Pn**	**11 19 44.9**	**-0.2**
MAUC				*e*PG	**Pb**	**11 19 49.4**	**+0.3**
MAUC				*e*SG	**Sg**	**11 20 23.8**	**-0.2**
	comp=Z,493nm,0.9s						
KRUC	**Moravsky**	**2.59**	**176**	*e*PN	**Pn**	**11 19 45.9**	**0.0**
KRUC				*e*SG	**Sb**	**11 20 22.2**	**-0.1**
KRUC	**Moravsky**	**2.59**	**176**	*e*Pn	**Pn**	**11 19 45.8**	**-0.1**
	baz=358						
KRUC				*e*Sg	**Sb**	**11 20 22.1**	**-0.2**
	comp=Z,69nm,0.5s,baz=358						
NKC	**Novy Kostel**	**2.70**	**240**	*e*PN	**Pn**	**11 19 48.5**	**+1.0**
NKC				*e*PG	**Pb**	**11 19 51.8**	**-0.2**
NKC				*e*SG	**Sg**	**11 20 30.2**	**+0.6**
	comp=Z,296nm,0.7s						
OJC	**Ojcow**	**2.74**	**120**	*e*Pn	**Pn**	**11 19 47.3**	**-0.6**
OJC				*e*Pg	**Pg**	**11 19 54.8**	**-0.4**
OJC				*e*Sg	**Sg**	**11 20 30.3**	**-0.4**
JAVC	**Velka Javorina**	**2.96**	**159**	*e*PN	**Pn**	**11 19 49.9**	**-1.2**
KHC	**Kasperske Hory**	**2.98**	**214**	*e*PN	**Pn**	**11 19 51.5**	**+0.1**
KHC				*e*PG	**Pb**	**11 19 57.0**	**+0.2**
KHC				*e*SN	**Sn**	**11 20 27.6**	**-0.3**
KHC				*e*SG	**Sg**	**11 20 37.8**	**-0.8**
	comp=Z,81nm,0.5s						
CKRC	**Cesky Krumlov**	**3.05**	**203**	*e*PN	**Pn**	**11 19 52.7**	**+0.5**
CKRC				*e*PG	**Pb**	**11 19 58.9**	**+1.0**
CKRC				*e*SG	**Sg**	**11 20 39.2**	**-1.4**
GERES	**GERESS Array B**	**3.19**	**210**	Pn	**Pn**	**11 19 54.6**	**+0.3**
	comp=Z,4.0nm,0.3s,baz=34,slow=13,SNR=24						
GERES				Lg	Lg	11 20 42.8	
	comp=Z,18nm,0.3s,baz=29,slow=26,SNR=9.2						
	comp=Z,12nm,0.4s						
MODS	**Modra-Piesok**	**3.35**	**166**	*e*PN	**Pn**	**11 19 58.6**	**+2.1**
MODS				*e*PG	**Pg**	**11 20 07.1**	**0.0**
MODS				*e*SG	**Sg**	**11 20 51.6**	**+1.1**
NIE	**Niedzica**	**3.48**	**128**	*e*P	**Pg**	**11 20 09.7**	**+0.3**
NIE				*e*S	**Sg**	**11 20 54.8**	**+0.2**
ZST	**Bratislava**	**3.51**	**169**	*e*PG	**Pg**	**11 20 08.8**	**-1.1**
ZST				*e*SG	**Sg**	**11 20 53.7**	**-1.7**
BSD	**Bornholm Skovb**	**3.55**	**349**	*i* P	**Pn**	**11 20 00.9**	**+1.8**
BSD				*i* S	**Sn**	**11 20 40.8**	**-1.0**
BSD				IAML		11 21 37.9	
	comp=Z,7.7nm,0.2s						
VYHS	**Vyhne**	**3.61**	**150**	*e*PN	**Pn**	**11 19 59.8**	**-0.1**
VYHS				*e*PG	**Pg**	**11 20 13.0**	**+1.1**
VYHS				*e*SG	**Sg**	**11 20 57.9**	**-0.7**
CONA	**Conrad Observa**	**3.72**	**182**	*e*Pn	**Pn**	**11 20 01.9**	**+0.4**
	comp=Z,5.0nm,0.3s,SNR=13						
CONA				*e*Sg	**Sg**	**11 20 59.7**	**-2.4**
	comp=Z,85nm,0.6s						
RONA	**Rosalia, Austr**	**3.94**	**178**	*i* Pn	**Pn**	**11 20 05.1**	**+0.5**
	comp=Z,1.7nm,0.3s						
RONA				*e*Sg	**Sg**	**11 21 06.6**	**-2.8**
	comp=Z,46nm,0.5s						
STHS	**Stebnicka Huta**	**3.96**	**122**	*e*PN	**Pn**	**11 20 04.6**	**-0.2**
STHS				*e*PG	**Pg**	**11 20 20.1**	**+1.4**
STHS				*e*SG	**Sg**	**11 21 11.6**	**+1.5**
MOA	**Molln**	**3.97**	**198**	*e*Pn	**Pn**	**11 20 05.5**	**+0.6**
	comp=Z,3.7nm,0.3s,SNR=12						
MOA				*e*Sg	**Sg**	**11 21 09.2**	**-1.2**
	comp=Z,88nm,0.6s						
KECS	**Kecovo**	**4.24**	**136**	*e*PN	**Pn**	**11 20 08.7**	**+0.1**
KECS				*e*PG	**Pg**	**11 20 24.7**	**+0.7**
KECS				*e*SG	**Sg**	**11 21 19.3**	**+0.5**
BIOA	**Bad Ischl, Aus**	**4.26**	**203**	Pn	**Pn**	**11 20 09.5**	**+0.5**
	comp=Z,12nm,0.4s,SNR=13						
BIOA				*e*Sg	**Sg**	**11 21 19.3**	**-0.3**
	comp=Z,103nm,0.5s						
CRVS	**Cervenica-Dubn**	**4.40**	**126**	*e*PN	**Pn**	**11 20 11.9**	**+1.1**
CRVS				*e*PG	**Pg**	**11 20 28.4**	**+1.4**
CRVS				*e*SG	**Sg**	**11 21 27.1**	**+3.2**
ARSA	**Arzberg**	**4.41**	**185**	*e*Pn	**Pn**	**11 20 12.3**	**+1.3**
	comp=Z,4.3nm,0.2s,SNR=5.3						
ARSA				Sg	**Sg**	**11 21 24.9**	**+0.6**
	comp=Z,53nm,0.6s						
BLEU	**Blekinge**	**4.68**	**358**	P	**Pn**	**11 20 15.5**	**+0.9**
BLEU				S	Sn	11 21 00.6	-8.9
BLEU	**Blekinge**	**4.68**	**358**	*i* P	**Pn**	**11 20 15.2**	**+0.6**
BLEU				P	**Pn**	**11 20 15.5**	**+0.9**
BLEU				S	Sn	11 21 00.6	-8.9
BLEU				*i* S	**Sn**	**11 21 06.0**	**-3.6**
LESA	**Schwarzleotal**	**4.77**	**209**	*

	comp=Z,0.5nm,0.8s							
YKA	**Yellowknife Ar**	**59.74**	**336**	P		**P**	**11 29 09.9**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=30,slow=6.3,SNR=6.4							
	comp=Z,0.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**71.35**	**84**	P		**P**	**11 30 25.4**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=311,slow=5.8,SNR=1.2							
	comp=Z,0.5nm,0.4s							
PDAR	**Pinedale Array**	**74.83**	**322**	P		**P**	**11 30 45.8**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=57,slow=5.5,SNR=3.9							
	comp=Z,0.3nm,0.6s							
TXAR	**Lajitas Array**	**83.62**	**310**	P		**P**	**11 31 34.4**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=64,slow=6.1,SNR=2.0							
	comp=Z,0.2nm,0.6s							

IDC ***12*** *11:27:46.5±1.0, 30°.65N×57°.26E, h0km, mb3.7/8, mbtmp3.8/10, ML4.0/2, MS3.8/1, Error ellipse: s-maj=30.3km s-min=20.0km az=106.0*
TEH ***12*** *11:27:46.9, 30°.70N×57°.34E, h8km±.53km, ML3.9*
DSN ***12*** *11:27:50.9±1.0, 30°.74N×56°.50E, h15km, ML3.5/3, Error ellipse: s-maj=336.9km s-min=8.3km az=94.0*

ISC 12 11:27:48.9±0.7, 30°.68N±0°.04×57°.33E±0°.04, h15km, n35, σ1§23/36, mb3.8/8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.74**	**293**	Pg	**Pg**	**11 28 01.8**	**-1.5**
KHGB	**Koh Gabri**	**0.79**	**248**	Pg	**Pg**	**11 28 02.4**	**-1.9**
CHMN	**Cheshme madani**	**0.84**	**167**	Pg	**Pg**	**11 28 03.7**	**-1.5**
TVBK	**TV Kerman**	**0.85**	**215**	Pg	**Pg**	**11 28 04.2**	**-1.2**
NGRK	**Negar Kerman**	**1.15**	**207**	Pg	**Pb**	**11 28 09.9**	**-0.8**
IBAF	**Bafgh**	**1.76**	**302**	Pg	**Pn**	**11 28 19.8**	**+0.8**
KBAM	**BAM**	**1.82**	**147**	Pn	**Pn**	**11 28 20.6**	**+0.8**
BSRN	**Basiran**	**2.00**	**50**	Pn	**Pn**	**11 28 23.5**	**+1.1**
IKOO	**Kooshah**	**2.25**	**39**	Pn	**Pn**	**11 28 26.6**	**+0.7**
TPRV	**Parvadeh(Tabas**	**2.41**	**347**	Pn	**Pn**	**11 28 28.3**	**+0.5**
IMEH	**Mehriz**	**2.44**	**288**	Pn	**Pn**	**11 28 29.3**	**+0.9**
NHDN	**Nehbandan**	**2.44**	**72**	Pn	**Pn**	**11 28 28.5**	**+0.1**
ITEG	**Tejag**	**2.52**	**28**	Pn	**Pn**	**11 28 30.0**	**+0.5**
TKDS	**Koohdasht(Taba**	**2.93**	**357**	Pn	**Pn**	**11 28 36.2**	**+1.1**
AFRZ	**Afriz**	**3.09**	**27**	Pn	**Pn**	**11 28 37.8**	**+0.5**
ZHDN	**Zahedan**	**3.28**	**112**	Pn	**Pn**	**11 28 40.5**	**+0.6**
TNSJ	**Nastanj**	**3.33**	**350**	Pn	**Pn**	**11 28 41.2**	**+0.7**
SHME	**Shamm**	**4.73**	**193**	P	**Pn**	**11 29 01.0**	**+1.3**
IZEF	**Zefreh**	**4.79**	**299**	Pn	**Pn**	**11 29 02.2**	**+1.4**
TBJM	**Torbat-e-JAM**	**5.23**	**28**	Pn	**Pn**	**11 29 07.6**	**+1.0**
MSFE	**Esma-Masafi**	**5.40**	**191**	P	**Pn**	**11 29 11.3**	**+2.3**
UOSS	**Minazif**	**5.80**	**190**	P	**Pn**	**11 29 16.1**	**+1.7**
IAKL	**Akhelmad**	**6.03**	**11**	Pn	**Pn**	**11 29 19.1**	**+1.3**
ASHO	**Ashiyiah**	**6.08**	**191**	P	**Pn**	**11 29 20.2**	**+1.9**
ASHO				S	**Sn**	**11 30 30.3**	**+2.7**
WSAR	**Wadi Sarin**	**7.50**	**171**	Pn	**Pn**	**11 29 38.7**	**+0.9**
	4.3nm,0.3s,baz=6.3,slow=10.0,SNR=35						
WSAR				Sn	**Sn**	**11 31 01.7**	**-0.9**
	0.3nm,0.3s,baz=322,slow=4.1,SNR=1.3						
	19nm,0.5s						
AKTO	**Aktyubinsk**	**19.74**	**1**	P	**P**	**11 32 18.6**	**+0.5**
	0.3nm,0.3s,baz=180,slow=12,SNR=8.6						
	2.3nm,0.6s						
BVAR	**Borovoye Array**	**24.28**	**19**	P	**P**	**11 33 05.7**	**+0.2**
	1.5nm,0.7s,baz=201,slow=7.8,SNR=5.8						
	1.5nm,0.7s						
MKAR	**Makanchi Array**	**25.11**	**43**	P	**P**	**11 33 13.2**	**+0.1**
	0.5nm,0.7s,baz=224,slow=8.5,SNR=4.6						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**25.45**	**32**	P	**P**	**11 33 17.3**	**+1.3**
	0.8nm,0.3s,baz=232,slow=9.0,SNR=2.0						
	0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**30.54**	**32**	P	**P**	**11 34 01.2**	**-0.3**
	1.2nm,0.6s,baz=239,slow=9.7,SNR=6.4						
	1.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**53.95**	**264**	P	**P**	**11 37 11.6**	**-0.7**
	1.2nm,0.7s,baz=52,slow=8.4,SNR=9.3						
	1.2nm,0.7s						
USRK	**Ussuriysk Ar.**	**58.89**	**54**	LR	LR	12 03 15.9	
	comp=Z,76nm,19.3s,baz=207,slow=36						
YKA	**Yellowknife Ar**	**86.93**	**356**	P	**P**	**11 40 33.2**	**+0.3**
	0.2nm,0.6s,baz=352,slow=5.2,SNR=4.5						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**89.43**	**114**	P	**P**	**11 40 44.4**	**-1.1**
	0.2nm,0.7s,baz=317,slow=4.1,SNR=1.8						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**91.11**	**117**	P	**P**	**11 40 54.5**	**+1.2**
	0.5nm,1.0s,baz=306,slow=5.4,SNR=3.2						
	0.5nm,1.0s						

TEH 12 11:42:21.9, 30°.77N×57°.32E, h7km±641km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.70**	**287**	Pg	Pb	11 42 36.8	+0.2
KHGB	**Koh Gabri**	**0.82**	**242**	Pg	Pb	11 42 38.5	-0.3
TVBK	**TV Kerman**	**0.92**	**212**	Pg	Pn	11 42 41.1	-0.5
CHMN	**Cheshme madani**	**0.92**	**168**	Pg	Pb	11 42 41.0	+0.6
NGRK	**Negar Kerman**	**1.23**	**205**	Pg	Pn	11 42 46.9	+1.1
IBAF	**Bafgh**	**1.71**	**299**	Pg	Pg	11 42 54.9	+0.2
KBAM	**BAM**	**1.90**	**149**	Pn	Pb	11 42 57.5	+0.5
BSRN	**Basiran**	**1.95**	**52**	Pn	Pb	11 42 58.3	+0.4
IKOO	**Kooshah**	**2.19**	**41**	Pn	Pb	11 43 01.7	-0.3
TPRV	**Parvadeh(Tabas**	**2.32**	**347**	Pn	Pb	11 43 03.5	-0.6
IMEH	**Mehriz**	**2.40**	**286**	Pn	Pb	11 43 05.2	-0.5
ITEG	**Tejag**	**2.45**	**29**	Pn	Pb	11 43 05.6	-0.7
TKDS	**Koohdasht(Taba**	**2.84**	**357**	Pn	Pb	11 43 10.6	-2.4
AFRZ	**Afriz**	**3.02**	**28**	Pn	Pn	11 43 12.6	+2.4
TNSJ	**Nastanj**	**3.24**	**350**	Pn	Pn	11 43 16.4	+3.1
ISAD	**Sadrabad**	**3.31**	**291**	Pn	Pb	11 43 18.2	-2.9
SHRT	**Shahrakht**	**3.82**	**41**	Pn	Pn	11 43 24.4	+3.2
ANAR	**Anarak**	**3.89**	**309**	Pn	Pn	11 43 25.2	+3.0
IRAM	**Ramesheh**	**4.35**	**285**	Pn	Pn	11 43 31.8	+3.1
TBJM	**Torbat-e-JAM**	**5.15**	**29**	Pn	Pn	11 43 42.4	+2.8

TRN ***12*** *11:55:49.0, 10°.52N×62°.61W, h48km, MD3.2*
FUNV ***12*** *11:55:49.9, 10°.28N×62°.54W, h35km, MW3.0*

ISC 12 11:55:47.4±1.5, 10°.49N±0°.08×62°.62W±0°.04, h83km±16km, n9, σ1§47/15, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUV	**Carupano**	**0.63**	**287**	↑eP	**Pn**	**11 56 03.2**	**+0.6**
CRUV				eS	**Sn**	**11 56 13.4**	**-0.6**
TRN	**Trinidad (W)**	**1.21**	**82**	eP	**Pn**	**11 56 09.9**	**+0.7**
TRN				eS	**Sn**	**11 56 23.6**	**-1.9**
TBH	**Brigand Hill**	**1.53**	**90**	eP	**Pn**	**11 56 13.9**	**+0.6**
TBH				eS	**Sn**	**11 56 33.1**	**+0.3**
GRGR	**Grenville**	**1.89**	**30**	eP	**Pn**	**11 56 19.0**	**+1.0**
GRGR				eS	**Sn**	**11 56 41.5**	**+0.2**
GRHS	**Sauteurs**	**1.98**	**29**	eS	**Sn**	**11 56 42.6**	**-0.7**
PCRV	**Puerto La Cruz**	**2.00**	**261**	eP	**Pn**	**11 56 21.0**	**+1.5**
PCRV				eS	**Sn**	**11 56 43.6**	**-0.4**
GCMP	**Grenada, Carri**	**2.31**	**30**	eP	**Pn**	**11 56 23.8**	**+0.2**
GCMP				eS	**Sn**	**11 56 49.7**	**-1.4**
CACV	**CAICARA DEL OR**	**4.84**	**233**	eP	Pn	11 56 52.5	-5.3
CACV				eS	Sn	11 57 38.9	-14
BAUV	**El Baul**	**5.56**	**254**	eP	**Pn**	**11 57 08.9**	**+1.3**
BAUV				eS	**Sn**	**11 58 07.0**	**-3.3**

JMA ***12*** *12:28:36.0±0.9, 34°.N±2°×14°.2E±°, h27km, MV3.0/22, FAR SE OFF BOSO PEN*
IDC ***12*** *12:28:39.2±4.7, 33°.41N×140°.07E, h0km, mb3.4/6, mbtmp3.3/7, ML2.4/1, Error ellipse: s-maj=184.4km s-min=20.3km az=70.0*

ISC 12 12:28:37.7±1.5, 34°.0N±0°.1×141°.5E±0°.2, h24km, n13, σ1§18/15, mb3.5/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.78**	**327**	P	**Pb**	**12 28 50.9**	**-1.5**
BSO3	**Boso 3**	**1.15**	**315**	P	**Pn**	**12 28 57.1**	**-0.9**
BSO4	**Boso 4**	**1.38**	**316**	P	**Pn**	**12 29 01.0**	**-0.4**
JIZS	**Izushimoda**	**2.28**	**289**	eP	**Pn**	**12 29 13.9**	**0.0**
JOD2	**Odawara 2**	**2.35**	**303**	eP	**Pn**	**12 29 13.8**	**-1.1**
JOD2				eS	**Sn**	**12 29 42.6**	**-0.5**
JYN	**Shimob**	**2.86**	**302**	eP	**Pn**	**12 29 21.7**	**-0.1**
MJAR	**Matsushiro Arr**	**3.70**	**314**	Pn	**Pn**	**12 29 33.9**	**+0.5**
	0.3nm,0.3s,baz=141,slow=12,SNR=19						
MJAR				Sn	**Sn**	**12 30 18.8**	**+2.5**
	0.3nm,0.3s,baz=191,slow=20,SNR=5.2						
	2.3nm,0.3s						
SONM	**Songino Array**	**29.63**	**308**	P	**P**	**12 34 41.2**	**-0.1**
	0.4nm,0.7s,baz=122,slow=11,SNR=2.3						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**44.05**	**315**	P	**P**	**12 36 45.7**	**+2.3**
	0.4nm,0.6s,baz=83,slow=4.9,SNR=2.0						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**45.84**	**305**	P	**P**	**12 36 58.4**	**+0.5**
	0.2nm,0.4s,baz=80,slow=9.5,SNR=2.1						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**47.97**	**310**	P	**P**	**12 37 14.1**	**-0.3**
	0.3nm,0.6s,baz=91,slow=7.7,SNR=2.7						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**54.07**	**188**	P	**P**	**12 38 00.4**	**0.0**
	0.2nm,0.4s,baz=2.9,slow=7.7,SNR=5.8						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**57.80**	**188**	P	**P**	**12 38 27.0**	**-0.1**
	0.4nm,0.9s,baz=8.3,slow=7.0,SNR=2.4						
	0.4nm,0.9s						

SJA ***12*** *12:43:34.0±0.7, 23°.10S×68°.96W, h109km±4km, ML3.7, MW3.7*
GUC ***12*** *12:43:35.7±0.8, 23°.06S×68°.91W, h91km±3km, ML3.7*
NEIC ***12*** *12:43:35.2±2.0, 23°.09S±0°.05×68°.91W±0°.07, h97km±4km, mb4.1/6, Error ellipse: s-maj=8.9km s-min=7.4km az=87.0*

ISC 12 12:43:35.1±0.8, 23°.08S±0°.03×68°.94W±0°.04, h100km±6km, n66, σ1§38/93, mb4.1/4, 6C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.47**	**4**		**Pn**	**12 43 50.8**	**-0.3**
LVC				Sn	**Sn**	**12 44 02.3**	**-0.8**
LVC	**Limon Verde**	**0.47**	**4**	*i* P	**Pn**	**12 43 50.5**	**-0.7**
LVC				eS	**Sn**	**12 44 01.8**	**-1.3**
PB15	**IPOC Station P**	**0.50**	**255**		**Pn**	**12 43 51.3**	**+0.1**
PB15				Sn	**Sn**	**12 44 03.8**	**+0.5**
PB15	**IPOC Station P**	**0.50**	**255**	*e*P	**Pn**	**12 43 51.7**	**+0.5**
PB15				eS	**Sn**	**12 44 04.6**	**+1.3**
PB15	**IPOC Station P**	**0.50**	**255**	↑*i*P	**Pn**	**12 43 51.7**	**+0.5**
PB15				eS	**Sn**	**12 44 03.5**	**+0.2**
PB06	**IPOC Station P**	**0.69**	**302**		**Pn**	**12 43 52.5**	**-0.1**
PB06				Sn	**Sn**	**12 44 05.9**	**+0.2**
PB06	**IPOC Station P**	**0.69**	**302**	*e*P	**Pn**	**12 43 52.9**	**+0.4**
PB06				eS	**Sn**	**12 44 06.1**	**+0.3**
PB06				IAML		12 44 06.3	
	comp=Z,3μm,0.4s						
PB06	**IPOC Station P**	**0.69**	**302**	↑*i*P	**Pn**	**12 43 53.0**	**+0.4**
PB06				eS	**Sn**	**12 44 05.7**	**0.0**
PB06				IAML		12 44 06.4	
	comp=E,6μm,0.1s						
AF01	**San Pedro de A**	**0.71**	**80**		**Pn**	**12 43 52.9**	**-0.1**
AF01	**San Pedro de A**	**0.71**	**80**	*e*P	**Pn**	**12 43 53.0**	**+0.1**
AF01				eS	**Sn**	**12 44 06.1**	**-0.3**
AF01				IAML		12 44 06.9	
	comp=E,8μm,0.4s						
PB05	**IPOC Station P**	**1.18**	**281**	Pn	**Pn**	**12 43 57.8**	**+0.1**
PB09	**IPOC Station P**	**1.30**	**348**	Pn	**Pn**	**12 44 00.2**	**+1.0**
PB09	**IPOC Station P**	**1.30**	**348**	*e*P	**Pn**	**12 43 59.6**	**+0.4**
PB09				eS	**Sn**	**12 44 19.0**	**+1.6**
PB09				IAML		12 44 20.6	
	comp=Z,589nm,0.9s						
PB09	**IPOC Station P**	**1.30**	**348**	↓*i*P	**Pn**	**12 44 00.2**	**+1.0**
PB09				eS	**Sn**	**12 44 18.0**	**+0.6**
PB04	**IPOC Station P**	**1.34**	**303**	Pn	**Pn**	**12 44 00.0**	**+0.5**
PB04	**IPOC Station P**	**1.34**	**303**	*e*P	**Pn**	**12 44 00.0**	**+0.5**
PB04				eS	**Sn**	**12 44 19.1**	**+1.0**
PB04				IAML		12 44 24.7	
	comp=Z,1μm,0.8s						
PB04	**IPOC Station P**	**1.34**	**303**	↑*e*P	**Pn**	**12 44 00.2**	**+0.7**
PB04				eS	**Sn**	**12 44 18.5**	**+0.4**
PB04				IAML		12 44 24.0	
	comp=N,2μm,0.5s						
PB07	**IPOC Station P**	**1.60**	**327**	Pn	**Pn**	**12 44 03.3**	**+0.5**
PB07	**IPOC Station P**	**1.60**	**327**	*e*P	**Pn**	**12 44 03.3**	**+0.5**
PB07				eS	**Sn**	**12 44 24.8**	**+0.9**
PB07				IAML		12 44 27.1	
	comp=Z,556nm,0.3s						
PB07	**IPOC Station P**	**1.60**	**327**	↓*e*P	**Pn**	**12 44 03.5**	**+0.7**
PB07				eS	**Sn**	**12 44 24.0**	**+0.1**
PB07				IAML		12 44 27.7	
	comp=E,743nm,0.3s						
PB02	**IPOC Station P**	**1.96**	**333**	Pn	**Pn**	**12 44 08.0**	**+0.8**
PB02	**IPOC Station P**	**1.96**	**333**	*e*P	**Pn**	**12 44 07.5**	**+0.3**
PB02				eS	**Sn**	**12 44 33.2**	**+1.4**
PB02				IAML		12 44 42.2	
	comp=Z,690nm,0.3s						
PB02	**IPOC Station P**	**1.96**	**333**	↑*e*P	**Pn**	**12 44 08.3**	**+1.0**
PB02				eS	**Sn**	**12 44 31.1**	**-0.7**
PB02				IAML		12 44 35.9	
	comp=E,776nm,0.5s						
PB14	**IPOC Station P**	**2.04**	**221**	Pn	**Pn**	**12 44 08.8**	**+0.3**
PB14	**IPOC Station P**	**2.04**	**221**	*e*P	**Pn**	**12 44 08.6**	**+0.1**
PB14				eS	**Sn**	**12 44 30.8**	**-3.2**
PB14				eS		12 44 35.8	
PB14				IAML		12 44 40.4	
	comp=Z,519nm,0.4s						
PB14	**IPOC Station P**	**2.04**	**221**	*e*P	**Pn**	**12 44 09.6**	**+1.1**
PB14				eS	**Sn**	**12 44 34.9**	**+0.9**
PB14				IAML		12 44 41.6	
	comp=N,300nm,0.5s						
PB01	**IPOC Station P**	**2.09**	**346**	Pn	**Pn**	**12 44 09.3**	**+0.5**
PB01	**IPOC Station P**	**2.09**	**346**	*e*P	**Pn**	**12 44 09.5**	**+0.6**
PB01				eS	**Sn**	**12 44 36.0**	**+1.3**
PB01				IAML		12 44 49.4	
	comp=Z,276nm,0.2s						
PB01	**IPOC Station P**	**2.09**	**346**	↑*i*P	**Pn**	**12 44 09.4**	**+0.5**
PB01				eS	**Sn**	**12 44 33.0**	**-1.7**
PB01				IAML		12 44 41.7	
	comp=E,466nm,0.3s						
GO02	**Mina Guanaco**	**2.16**	**196**	Pn	**Pn**	**12 44 10.8**	**+0.8**
GO02	**Mina Guanaco**	**2.16**	**196**	*e*P	**Pn**	**12 44 10.5**	**+0.5**
GO02				eS	**Sn**	**12 44 39.6**	**+3.0**
GO02				IAML		12 44 41.7	
	comp=Z,345nm,0.3s						
GO02	**Mina Guanaco**	**2.16**	**196**	↑*i*P	**Pn**	**12 44 11.2**	**+1.2**
GO02				eS	**Sn**	**12 44 38.9**	**+2.2**
GO02				IAML		12 44 47.2	
	comp=N,640nm,0.1s						
PATCX	**Punta Patache**	**2.51**	**333**	Pn	**Pn**	**12 44 14.2**	**-0.3**
PATCX	**Punta Patache**	**2.51**	**333**	*e*P	**Pn**	**12 44 14.3**	**-0.2**
PATCX				eS	**Sn**	**12 44 42.1**	**-2.5**
PATCX				IAML		12 44 52.6	
	comp=E,252nm,0.3s						
TA01	**Diego Aracena**	**2.75**	**335**	Pn	**Pn**	**12 44 17.1**	**-0.5**
TA01	**Diego Aracena**	**2.75**	**335**	*e*P	**Pn**	**12 44 16.8**	**-0.7**
TA01				IAML		12 45 13.8	
	comp=E,145nm,0.5s						
PB08	**IPOC Station P**	**2.93**	**356**	Pn	**Pn**	**12 44 20.2**	**0.0**
PB08	**IPOC Station P**	**2.93**	**356**	*e*P	**Pn**	**12 44 20.6**	**+0.3**
PB08				eS	Sn	12 44 36.3	-19
PB08				IAML		12 44 49.1	
	comp=Z,74nm,0.4s						
PB08	**IPOC Station P**	**2.93**	**356**	*e*P	**Pn**	**12 44 20.5**	**+0.3**
YJA	**Yavi**	**3.29**	**75**	*e*P	**Pn**	**12 44 28.1**	**+3.0**
PB11	**IPOC Station P**	**3.37**	**348**	Pn	**Pn**	**12 44 25.1**	**-0.9**
PB11	**IPOC Station P**	**3.37**	**348**	*e*P	**Pn**	**12 44 25.0**	**-0.9**
PB11				eS	Sn	12 44 53.7	-11
PB11				IAML		12 45 32.4	
	comp=Z,98nm,0.9s						
GO01	**Chusmiza**	**3.40**	**356**	Pn	**Pn**	**12 44 26.5**	**-0.2**
AC01	**Pan de Azucar**	**3.41**	**206**	Pn	**Pn**	**12 44 25.8**	**-0.5**
AC01	**Pan de Azucar**	**3.41**	**206**	*e*P	**Pn**	**12 44 26.0**	**-0.3**
AC01				eS	**Sn**	**12 45 05.3**	**-0.6**
AC01	**Pan de Azucar**	**3.41**	**206**	*e*P	**Pn**	**12 44 25.8**	**-0.5**
AC01				eS	**Sn**	**12 45 03.9**	**-2.0**
AC01				IAML		12 45 14.9	
	comp=E,190nm,0.3s						
AC06	**Mina Casimiro**	**4.45**	**196**	Pn	**Pn**	**12 44 39.2**	**-1.2**
PB12	**IPOC Station P**	**4.63**	**343**	Pn	**Pn**	**12 44 42.6**	**-0.3**
GO03	**Copiap**	**4.65**	**194**	Pn	**Pn**	**12 44 42.3**	**-0.8**
GO03	**Copiap**	**4.65**	**194**	*e*P	**Pn**	**12 44 42.5**	**-0.6**
GO03				eS	**Sn**	**12 45 30.8**	**-5.1**
PB16	**IPOC Station P**	**4.75**	**353**	Pn	**Pn**	**12 44 46.6**	**+1.7**
PB16	**IPOC Station P**	**4.75**	**353**	*e*P	**Pn**	**12 44 45.8**	**+0.8**
AC04	**Llanos de Chal**	**5.46**	**200**	Pn	**Pn**	**12 44 51.3**	**-2.7**
AC05	**El Transito**	**5.86**	**192**	Pn	**Pn**	**12 44 58.7**	**-0.9**
LCO	**Las Campanas**	**6.12**	**195**	Pn	**Pn**	**12 45 00.3**	**-2.9**
LPAZ	**La Paz**	**6.80**	**7**	Pn	**Pn**	**12 45 08.5**	**-4.3**
CO01	**Juntas del Tor**	**6.95**	**188**	Pn	**Pn**	**12 45 17.4**	**+2.9**
GO04	**Tololo Observa**	**7.26**	**193**	Pn	**Pn**	**12 45 16.3**	**-2.4**
CO03	**El Pedregal**	**7.89**	**191**	Pn	**Pn**	**12 45 28.1**	**+1.0**
PTLB	**Pontes e Lacer**	**11.97**	**52**		**Pn**	**12 46 20.7**	**-1.6**
GO08	**Villa O'Higgin**	**25.50**	**186**	P	**P**	**12 48 54.9**	**+1.0**
GO08				IAmb	IAmb	12 49 11.9	
	comp=Z,11nm,1.4s						
BOAV	**Boa Vista**	**26.62**	**19**	P	**P**	**12 49 05.1**	**+0.9**
BOAV				IAmb	IAmb	12 49 15.0	
	comp=Z,7.7nm,1.3s						
SNAA	**Sanae**	**60.81**	**161**	P	**P**	**12 53 35.6**	**-0.7**
QSPA	**South Pole Qui**	**67.12**	**180**	P	**P**	**12 54 20.3**	**+2.5**
QSPA				IAmb	IAmb	12 54 34.8	
	comp=Z,3.0nm,1.4s						
TOA0	**Torodi Ar. Sit**	**77.92**	**70**	P	**P**	**12 55 21.9**	**-0.5**
TOA0				IAmb	IAmb	12 55 24.8	
	comp=Z,7.3nm,1.5s						
TORD	**Torodi Ar. Bea**	**77.92**	**70**	P	**P**	**12 55 22.5**	**+0.1**

IDC ***12*** *12:45:38.8±1.9, 20°.00S×68°.99W, h95km±18km, mb3.6/10, mbtmp4.0/13, Error ellipse: s-maj=21.8km s-min=15.1km az=106.0*
SJA ***12*** *12:45:38.1±0.6, 20°.13S×69°.16W, h105km±3km, ML4.1, MW4.0*
NEIC ***12*** *12:45:39.6±1.4, 20°.10S±0°.04×69°.15W±0°.04, h99km±4km, mb4.1/24, Error ellipse: s-maj=5.4km s-min=5.0km az=158.0*
GUC ***12*** *12:45:40.2±0.8, 20°.11S×69°.15W, h95km±3km, ML4.0*

ISC 12 12:45:38.8±0.5, 20°.12S±0°.03×69°.18W±0°.04, h98km±4km, n119, σ1§42/141, mb4.1/13, 2C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.04**	**138**	Pn	**Pn**	**12 45 53.2**	**+0.2**
PB08				Sn	**Sn**	**12 46 04.0**	**+0.7**
PB08	**IPOC Station P**	**0.04**	**138**	*e*P	**Pn**	**12 45 53.7**	**+0.7**
PB08				eS	**Sn**	**12 46 05.8**	**+2.4**
PB08				IAML		12 46 07.5	
	comp=Z,3μm,0.2s						
PB08	**IPOC Station P**	**0.04**	**138**	↓*i*P	**Pn**	**12 45 53.7**	**+0.7**
PB08				*i* S	**Sn**	**12 46 04.1**	**+0.7**
GO01	**Chusmiza**	**0.45**	**358**	Pn	**Pn**	**12 45 55.4**	**+0.8**
GO01				Sn	**Sn**	**12 46 07.5**	**+1.3**
GO01	**Chusmiza**	**0.45**	**358**	*e*P	**Pn**	**12 45 55.4**	**+0.8**
GO01				eS	**Sn**	**12 46 08.3**	**+2.0**
GO01				IAML		12 46 09.8	
	comp=Z,2μm,0.3s						
GO01	**Chusmiza**	**0.45**	**358**	↓*i*P	**Pn**	**12 45 55.3**	**+0.8**
GO01				*i* S	**Sn**	**12 46 07.5**	**+1.3**
GO01				IAML		12 46 07.9	
	comp=N,11μm,0.2s						
PX03	**IPOC Station P**	**0.51**	**236**	*e*P	**Pn**	**12 45 54.3**	**-0.3**
PX03				eS	**Sn**	**12 46 06.8**	**+0.4**
PX03				IAML		12 46 09.3	
	comp=N,8μm,0.2s						
PB11	**IPOC Station P**	**0.57**	**308**	Pn	**Pn**	**12 45 55.8**	**+0.6**
PB11					**Sn**	**12 46 08.4**	**+1.1**
PB11	**IPOC Station P**	**0.57**	**308**	*e*P	**Pn**	**12 45 56.0**	**+0.9**
PB11				eS	**Sn**	**12 46 08.8**	**+1.6**
PB11				IAML		12 46 12.5	
	comp=Z,3μm,0.2s						
PB11	**IPOC Station P**	**0.57**	**308**	↓*i*P	**Pn**	**12 45 55.8**	**+0.6**
PB11				eS	**Sn**	**12 46 08.4**	**+1.1**
PB11				IAML		12 46 10.7	
	comp=E,8μm,0.3s						
HMBC	**Humberstone**	**0.69**	**256**	*e*P	**Pn**	**12 45 56.7**	**+0.7**
HMBC				eS	**Sn**	**12 46 10.5**	**+1.5**
HMBC				IAML		12 46 12.2	
	comp=Z,7μm,0.7s						
HMBC	**Humberstone**	**0.69**	**256**	↓*i*P	**Pn**	**12 45 56.5**	**+0.5**
HMBC				*i* S	**Sn**	**12 46 09.7**	**+0.8**
HMBC				IAML		12 46 12.3	
	comp=E,7μm,0.5s						
TA02	**Huaiquique**	**0.91**	**260**	Pn	**Pn**	**12 45 59.1**	**+1.1**
TA02				Sn	**Sn**	**12 46 14.1**	**+1.6**
TA02	**Huaiquique**	**0.91**	**260**	*e*P	**Pn**	**12 45 59.1**	**+1.1**
TA02				eS	**Sn**	**12 46 14.5**	**+2.0**
TA02				IAML		12 46 15.8	
	comp=Z,5μm,0.6s						
TA02	**Huaiquique**	**0.91**	**260**	*e*P	**Pn**	**12 45 59.0**	**+0.9**
TA02				eS	**Sn**	**12 46 14.1**

CO02	Combarbal	11.16	188	Pn		Pn	12 48 14.9	-0.6
VILB	Vilhena	11.17	52	Pn		Pn	12 48 15.4	-0.2
SAML	Samuel	12.52	28	Pn		Pn	12 48 32.8	-0.8
CPUP	Villa Florida	12.52	122	Pn		Pn	12 48 32.8	-0.8
CPUP	Villa Florida	12.52	122	P		Pn	12 48 31.2	-2.3
	comp=E,5.3nm,1.0s,baz=297,slow=12,SNR=7.0							
LMEL	Las Melosas	13.71	184	Pn		Pn	12 48 48.2	-1.0
BO04	La Punta	13.88	185	Pn		Pn	12 48 51.3	0.0
BI05	Punta Hualpn	16.94	191			Pn	12 49 30.8	+1.0
ITAB	Concordia	17.14	118			Pn	12 49 32.2	-0.1
ITAB				IAmb		IAmb	12 49 33.6	
	comp=Z,31nm,1.5s							
MCRA	Macar, Loja	18.84	325	P		P	12 49 50.4	-1.0
TRQA	Torquato	18.94	162	P		P	12 49 52.7	+0.6
GO06	Curarrehue	19.50	185	P		P	12 49 59.4	+1.0
GO06				IAmb		IAmb	12 50 00.3	
	comp=Z,4.7nm,0.8s							
LR05	Currie	20.20	186	P		P	12 50 07.1	+1.3
LR05				IAmb		IAmb	12 50 21.1	
	comp=Z,20nm,1.4s							
PLCA	Paso Flores	20.59	183	P		P	12 50 10.8	+0.8
PLCA				IAmb		IAmb	12 50 14.4	
	comp=Z,5.7nm,0.9s							
PLCA	Paso Flores	20.59	183	P		Pn	12 50 13.4	+0.3
	comp=Z,2.4nm,0.5s,baz=3.7,slow=10,SNR=7.8							
	comp=Z,2.4nm,0.5s							
BDFB	Brasilia	20.62	81	P		P	12 50 11.4	+0.7
BDFB	Brasilia	20.62	81	P		P	12 50 10.4	-0.2
	comp=Z,1.7nm,0.4s,baz=242,slow=8.4,SNR=3.1							
	comp=Z,1.7nm,0.4s							
BOAV	Boa Vista	23.93	22	P		P	12 50 43.9	-0.1
BOAV				IAmb		IAmb	12 51 07.7	
	comp=Z,7.0nm,1.4s							
PAYG	Puerto Ayora	28.28	311	P		P	12 51 23.5	+0.2
BRU2	Volcan	31.66	334	P		P	12 51 51.8	-1.4
WVT	Waverly	58.66	342	P		P	12 55 25.9	0.0
TXAR	Lajitas Array	59.35	325	P		P	12 55 31.0	-0.1
TXAR	Lajitas Array	59.35	325	P		P	12 55 31.3	+0.3
	comp=Z,0.1nm,0.5s,baz=151,slow=6.5,SNR=4.3							
	comp=Z,0.1nm,0.5s							
TX31	Lajitas Ar. Si	59.36	325	P		P	12 55 30.8	-0.2
425A	Indio Mountain	61.20	325	P		P	12 55 43.1	-0.5
425A				IAmb		IAmb	12 55 44.7	
	comp=Z,1.4nm,0.7s							
SNAA	Sanae	63.66	161	P		P	12 56 00.2	+0.8
SNAA				IAmb		IAmb	12 56 09.2	
	comp=Z,5.7nm,1.3s							
SNAA	Sanae	63.66	161	P		P	12 56 00.1	+0.8
	comp=Z,1.2nm,0.6s,baz=264,slow=9.2,SNR=5.3							
	comp=Z,1.2nm,0.6s							
D62A	Allapoint, All	66.88	0	P		P	12 56 19.5	-0.8
SDCO	Great Sand Dun	66.93	329	P		P	12 56 21.6	+0.3
ECSD	EROS Data Cent	68.34	339	P		P	12 56 29.4	-0.2
ECSD				IAmb		IAmb	12 56 52.5	
	comp=Z,3.3nm,1.2s							
DBIC	Dimbokro	68.59	74	P		P	12 56 30.7	-1.0
DBIC				IAmb		IAmb	12 56 51.4	
	comp=Z,7.4nm,1.2s							
DBIC	Dimbokro	68.59	74	P		P	12 56 30.1	-1.7
	comp=Z,1.4nm,0.5s,baz=245,slow=6.8,SNR=1.9							
	comp=Z,1.4nm,0.5s							
ROSA	Rosais	69.98	33	P		P	12 56 39.3	-0.5
QSPA	South Pole Qui	70.07	180	P		P	12 56 40.8	+0.6
QSPA	South Pole Qui	70.07	180	P		P	12 56 41.4	+1.2
	comp=Z,0.5nm,0.5s,baz=140,slow=4.1,SNR=7.2							
	comp=Z,0.5nm,0.5s							
MSU	Marysvale	70.90	326	P		P	12 56 47.0	+1.2
AGMN	Agassiz Nation	72.17	342	P		P	12 56 53.3	+0.4
AGMN				IAmb		IAmb	12 56 55.1	
	comp=Z,7.0nm,1.2s							
ULM	Lac du Bonnet	73.93	343	P		P	12 57 03.8	+0.6
ULM				IAmb		IAmb	12 57 10.6	
	comp=Z,3.6nm,1.1s							
ULM	Lac du Bonnet	73.93	343	P		P	12 57 02.9	-0.2
	comp=Z,1.5nm,0.5s,baz=137,slow=7.2,SNR=5.3							
	comp=Z,1.5nm,0.5s							
NVAR	Mina Array Bea	74.25	322	P		P	12 57 05.2	-0.4
	comp=Z,0.6nm,0.8s,baz=137,slow=8.0,SNR=4.5							
	comp=Z,0.6nm,0.8s							
TOA0	Torodi Ar. Sit	77.13	71	P		P	12 57 20.9	-1.4
TOA0				IAmb		IAmb	12 57 44.6	
	comp=Z,5.1nm,1.5s							
TORD	Torodi Ar. Bea	77.13	71	P		P	12 57 21.3	-1.0
TORD	Torodi Ar. Bea	77.13	71	P		P	12 57 20.6	-1.6
	comp=Z,0.5nm,0.5s,baz=253,slow=5.2,SNR=7.7							
	comp=Z,0.5nm,0.5s							
YKA	Yellowknife Ar	89.80	341	P		P	12 58 27.0	+1.0
YKA	Yellowknife Ar	89.80	341	P		P	12 58 26.6	+0.6
	comp=Z,1.4nm,0.7s,baz=134,slow=4.3,SNR=31							
	comp=Z,1.4nm,0.7s							
G29M	Pine Creek	100.39	338	Pdif		Pdif	12 59 15.9	+1.7
G19K	Purcell Mounta	107.36	335	Pdif		Pdif	12 59 46.0	+0.8
KIEV	Kiev	110.55	42	Pdif		Pdif	13 00 00.8	+1.1
AKBB	Malin Array Si	110.56	42	Pdif		Pdif	13 00 00.9	+1.1
BRTR	Keskin Array B	112.23	54	Pdif		Pdif	13 00 07.3	-0.4
H11S2	WAKE ISLAND Hy	127.44	278	T		T	15 24 31.0	
	baz=102,slow=74,SNR=22							
H11S1	WAKE ISLAND Hy	127.45	278	T		T	15 24 29.5	
	baz=102,slow=74,SNR=17							
H11S3	WAKE ISLAND Hy	127.46	278	T		T	15 24 25.4	
	baz=102,slow=74,SNR=15							
H11N3	WAKE ISLAND Hy	127.49	280	T		T	15 24 33.6	
	baz=102,slow=74							
H11N2	WAKE ISLAND Hy	127.50	280	T		T	15 24 37.0	
	baz=102,slow=74							
H11N1	WAKE ISLAND Hy	127.50	280	T		T	15 24 29.8	
	baz=102							
ASAR	Alice Springs	131.01	208	PKPdf		PKPdf	13 04 39.9	0.0
ASAR	Alice Springs	131.01	208	PKP		PKPdf	13 04 39.8	-0.2
	comp=Z,0.2nm,0.5s,baz=132,slow=1.7,SNR=4.4							
WRA	Warramunga Arr	134.01	211	PKP		PKPdf	13 04 46.0	+0.4
	comp=Z,0.2nm,0.4s,baz=169,slow=2.6,SNR=2.3							
ZALV	Zalesovo Beam	140.81	24	PKP		PKPdf	13 04 57.3	+0.3
	comp=Z,0.4nm,0.6s,baz=316,slow=4.1,SNR=3.7							
MK31	Makanchi Array	144.65	35	PKPdf		PKPab	13 05 03.3	+0.3
MKAR	Makanchi Array	144.65	35	PKPdf		PKPbc	13 05 03.7	+0.6
MKAR	Makanchi Array	144.65	35	PKP		PKPab	13 05 03.4	+0.4
	comp=Z,0.4nm,0.4s,baz=306,slow=3.1,SNR=8.8							

*IDC **12** 12:52:18.6±4.7, 17.°84S×178.°61W, h549km±54km, mb3.3/11, mbtmp4.2/12, Error ellipse: s-maj=26.1km s-min=18.7km az=123.0*
*NEIC **12** 12:52:18.9±1.5, 17.°8S±0.°1×178.°6W±0.°1, h554km±10km, mb4.4/31, Error ellipse: s-maj=24.3km s-min=17.0km az=139.0*

ISC 12 12:52:18.7±0.5, **17.°8S**±0.°1×**178.°64W**±0.°10, **h550**km, **n49**, σ1°**03**/51, **mb4.2**/28, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.65	61	P	P	12 54 12.7	-0.5
PINNC	Pines Island,	13.91	248	P	P	12 55 19.3	+2.3
DZM	Mont Dzumac	14.66	251	P	P	12 55 24.4	-0.3
DZM	Mont Dzumac	14.66	251	P	P	12 55 24.2	-0.5
	5.0nm,0.5s,baz=119,slow=18,SNR=12						
ONTNC	Ouen Toro	14.71	250	P	P	12 55 27.1	+2.0
KOUNC	Koumac, New Ca	16.36	258	P	P	12 55 42.2	+0.5
KOUNC				IAmb	IAmb	12 55 44.9	
	comp=Z,17nm,0.9s						
LTZ	Lake Taylor	26.08	195	P	P	12 57 07.4	-1.5
LTZ				IAmb	IAmb	12 57 20.1	
	comp=Z,23nm,1.4s						
FOZ	Fox Glacier	27.45	198	P	P	12 57 18.9	-1.9
WKZ	Wanaka	28.87	198	P	P	12 57 30.6	-2.6
EIDS	Eidsvold	29.10	250	P	P	12 57 34.8	-0.6
MLZ	Mavora Lakes	29.63	199	P	P	12 57 39.8	0.0
ARMA	Armidale	29.81	240	P	P	12 57 42.0	+0.3
ARMA				IAmb	IAmb	12 57 43.4	
	comp=Z,8.4nm,0.8s						
CTAO	Charters Tower	33.25	260	P	P	12 58 09.5	-1.5
CTAO				IAmb	IAmb	12 58 50.0	
	comp=Z,20nm,1.3s						
CAN	Canberra	33.60	232	P	P	12 58 13.5	-0.3
CAN				IAmb	IAmb	12 58 21.4	
	comp=Z,14nm,1.3s						
PMG	Port Moresby	34.22	280	P	P	12 58 19.8	+0.5
	comp=Z,9.0nm,0.8s,baz=143,slow=5.1,SNR=3.5						
	comp=Z,9.0nm,0.8s						
COEN	Coen	36.88	270	P	P	12 58 41.0	-0.3
COEN				IAmb	IAmb	12 58 43.0	
	comp=Z,26nm,1.5s						
TOO	Toolangi	37.07	231	P	P	12 58 43.6	+1.0
STKA	Stephens Creek	38.49	241	P	P	12 58 54.6	+0.4
STKA	Stephens Creek	38.49	241	P	P	12 58 54.4	+0.2
	comp=Z,8.6nm,0.5s,baz=88,slow=10,SNR=40						
	comp=Z,8.6nm,0.5s						
BBOO	Buckleboo	43.27	241	P	P	12 59 32.4	+0.3
WR0	Warramunga Arr	44.25	259	P	P	12 59 39.3	-0.6
WR0				IAmb	IAmb	13 00 03.4	
	comp=Z,9.5nm,1.2s						
WB0	Warramunga Arr	44.40	260	P	P	12 59 40.3	-0.8
WB0				IAmb	IAmb	12 59 41.4	
	comp=Z,4.5nm,0.7s						
WB2	Warramunga Arr	44.42	259	P	P	12 59 40.9	-0.4
WB2				IAmb	IAmb	13 00 23.4	
	comp=Z,23nm,1.4s						
WRAB	Tennant Creek	44.43	259	P	P	12 59 40.6	-0.7
WRA	Warramunga Arr	44.44	259	P	P	12 59 40.5	-0.9
WRA	Warramunga Arr	44.44	259	P	P	12 59 40.8	-0.6
	comp=Z,3.0nm,0.5s,baz=92,slow=6.9,SNR=118						
WRA				PcP	PcP	13 01 12.8	-0.3
	comp=Z,0.6nm,0.6s,baz=92,slow=3.4,SNR=1.0						
	comp=Z,3.0nm,0.5s						
AS31	Alice Springs	44.61	254	P	P	12 59 42.7	0.0
AS31				IAmb	IAmb	12 59 43.4	
	comp=Z,12nm,0.7s						
ASAR	Alice Springs	44.61	254	P	P	12 59 42.2	-0.5
ASAR	Alice Springs	44.61	254	P	P	12 59 42.9	+0.2
	comp=Z,43nm,0.5s,baz=88,slow=8.3,SNR=1017						
ASAR				PcP	PcP	13 01 13.0	-0.6
	comp=Z,0.7nm,0.4s,baz=107,slow=3.8,SNR=2.0						
FORT	Forrest	49.86	245	P	P	13 00 21.6	-0.4
KNRA	Kununurra	50.28	264	P	P	13 00 24.9	-0.3
KNRA				IAmb	IAmb	13 00 51.3	
	comp=Z,14nm,1.2s						
FITZ	Fitzroy Crossi	52.83	261	P	P	13 00 43.4	-0.2
PSA00	Pilbara Seismi	57.73	255	P	P	13 01 16.6	-1.0
PSA00				IAmb	IAmb	13 01 42.3	
	comp=Z,8.5nm,1.1s						
VNDA	Vanda	60.54	185	P	P	13 01 37.7	+2.2
QSPA	South Pole Qui	72.26	180	P	P	13 02 48.4	0.0
QSPA	South Pole Qui	72.26	180	P	P	13 02 48.1	-0.2
	comp=Z,2.3nm,0.8s,baz=13,slow=1.6,SNR=17						
	comp=Z,2.3nm,0.8s						
NVAR	Mina Array Bea	79.49	44	P	P	13 03 29.3	+0.5
	comp=Z,0.8nm,0.7s,baz=221,slow=9.9,SNR=6.1						
	comp=Z,0.8nm,0.7s						
J05D	Fort Rock, OR	80.37	39	P	P	13 03 34.1	+0.8
J05D				IAmb	IAmb	13 03 35.1	
	comp=Z,6.2nm,1.0s						
L18K	Granite Mounta	81.62	10	P	P	13 03 39.8	+0.7
L18K				IAmb	IAmb	13 04 19.1	
	comp=Z,9.4nm,1.4s						
BELA	Belgrano 2	82.31	173	P	P	13 03 40.9	-1.5
J17K	VABM Dome	82.36	9	P	P	13 03 42.6	-0.1
J17K				IAmb	IAmb	13 04 10.8	
	comp=Z,11nm,1.5s						
MAW	Mawson	83.89	200	P	P	13 03 49.8	-0.6
	comp=Z,2.3nm,0.9s,baz=115,slow=2.3,SNR=4.0						
	comp=Z,2.3nm,0.9s						
ILAR	Eielson Array	85.83	13	P	P	13 03 59.0	-0.8
	comp=Z,0.4nm,0.4s,baz=221,slow=5.3,SNR=19						
	comp=Z,0.4nm,0.4s						
TXAR	Lajitas Array	86.12	58	P	P	13 04 02.9	+0.7
	comp=Z,0.8nm,0.8s,baz=202,slow=5.9,SNR=9.5						
	comp=Z,0.8nm,0.8s						
PDAR	Pinedale Array	87.42	44	P	P	13 04 08.1	0.0
	comp=Z,0.4nm,0.5s,baz=192,slow=2.1,SNR=7.5						
	comp=Z,0.4nm,0.5s						
CMAR	Chiang Mai Arr	88.64	290	P	P	13 04 16.0	+1.9
	comp=Z,0.4nm,0.6s,baz=76,slow=3.8,SNR=2.0						
	comp=Z,0.4nm,0.6s						
SNAA	Sanae	90.72	179	P	P	13 04 24.8	+2.0
SNAA				IAmb	IAmb	13 05 02.2	
	comp=Z,4.7nm,1.2s						
F31M	Tsiigehtchic	91.14	16	P	P	13 04 24.2	-0.2
F31M				IAmb	IAmb	13 04 33.4	
	comp=Z,6.6nm,1.4s						
YKA	Yellowknife Ar	94.32	25	P	P	13 04 38.0	-1.1
	comp=Z,0.3nm,0.9s,baz=236,slow=4.1,SNR=2.7						
	comp=Z,0.3nm,0.9s						

*SFS **12** 12:54:53.6, 36.°50N×3.°02W, h0km*
*MDD **12** 12:54:54.0±1.2, 36.°50N×3.°06W, h10km±1km, mb_Lg2.5/10, Error ellipse: s-maj=8.7km s-min=3.8km az=179.0*
*CNRM **12** 12:54:53.8, 36.°14N×3.°72W, h11km*

ISC 12 12:54:52.5±1.1, **36.°44N**±0.°03×**3.°07W**±0.°04, **h27**km±12km, **n15**, σ1°**43**/28, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBER	Berja	0.48	18	Pg	Pb	12 55 02.3	-0.4
EBER				Sg	Sb	12 55 08.2	-1.3
EBER				*i* Vmb_Lg		12 55 15.1	
EALB	Alboran	0.50	177	Sg	Sn	12 55 11.0	-0.6
EALB				Pg	Pn	12 55 04.2	+0.3
ELGU	Los Guajares,	0.62	314	Pg	Pn	12 55 04.5	-1.1
ELGU				Sg	Sb	12 55 12.3	-0.9
ELGU				*i* Vmb_Lg		12 55 14.7	
EQTA	Presa de Quent	0.82	339	Sg	Sn	12 55 18.1	-1.7
EQTA				Pg	Pn	12 55 08.1	-0.4
ENIJ	Nijar	0.88	52	Pg	Pb	12 55 09.2	+0.1
ENIJ				Sg	Sn	12 55 20.0	-1.0
ENIJ				*i* Vmb_Lg		12 55 22.6	
EGOR	Sierra Gorda,	1.07	309	Pg	Pb	12 55 12.7	+0.2
EGOR				Sg	Sb	12 55 27.9	+1.8
EGOR				*i* Vmb_Lg		12 55 31.1	
EMAL	Malaga-Limoner	1.14	287	Pn	Pb	12 55 16.0	+2.4
GOG	Mont Gurugu	1.22	177	P	Pb	12 55 15.3	+0.4
GOG				S	Sb	12 55 29.5	-0.7
EQES	Quesada	1.36	0	Pg	Pb	12 55 19.0	+1.5
EQES				Sg	Sn	12 55 33.8	+0.7
EQES				*i* Vmb_Lg		12 55 45.2	
EMIJ	Mijas	1.38	276	Pg	Pn	12 55 15.4	-0.6
EMIJ				Sg	Sn	12 55 30.2	-3.2
TAF	Taforalt	1.71	162	P	Pb	12 55 23.0	-0.2
TAF				S	Sb	12 55 46.5	+2.1
EMUR	La Murta	2.02	46	Pg	Pb	12 55 29.7	+1.1
EMUR				Sn	Sn	12 55 49.1	-0.3
EMUR				*i* Vmb_Lg		12 55 59.4	
EADA	Adamuz	2.10	326	Pg	Pb	12 55 31.8	+1.8
EADA				*i* Vmb_Lg		12 56 00.7	
JBK	JBK	2.14	169	P	Pn	12 55 28.0	+1.4
JBK				S	Sb	12 55 54.6	-2.2
ETOB	Tobarra	2.51	28	Pg	Pb	12 55 37.6	+0.6
ETOB				Sn	Sn	12 56 02.2	+0.7
ETOB				*i* Vmb_Lg		12 56 26.5	

*DJA **12** 13:10:06.4±0.5, 2.°N±4.°×12.°8E±.°, h10km, M4.5/13, mB5.2/4, mb4.5/13, MLv4.5/9, Mw(mB)4.5/4*
*IDC **12** 13:10:08.2±4.1, 2.°27N×128.°22E, h31km±30km, mb3.8/11, mbtmp3.9/11, MS3.5/21, Error ellipse: s-maj=47.9km s-min=13.8km az=71.0*
*NEIC **12** 13:10:09.1±1.2, 2.°31N±0.°08×128.°1E±0.°1, h31km±6km, mb4.6/28, Error ellipse: s-maj=18.8km s-min=11.6km az=83.0*

ISC 12 13:10:09.0±0.5, **2.°31N**±0.°06×**128.°1E**±0.°1, **h35**km, **n81**, σ1°**05**/62, **mb4.5**/25, **MS3.5**/19, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.70	206		Pn	13 10 35.3	-0.9
TNTI	Ternate	1.70	206	P	Pn	13 10 36.0	-0.2
SGSI	Sangihe	2.92	298	P	Pn	13 10 52.3	-0.7
KMSI	Cibinong	4.48	247	P	Pn	13 11 16.2	+1.8
SANI	Sanana	4.83	206	P	Pn	13 11 21.0	+1.8
MRSI	Marisa	6.44	254	P	Pn	13 11 42.9	+1.6
	67nm,0.7s,791nm0.2nm						
BNDI	Bandanaira	7.02	165	P	Pn	13 11 50.9	+1.6
	24nm,0.9s,0.3nm						
TOLI2	Tolitoli	7.43	261		Pn	13 11 54.9	0.0
TTSI	Tana Toraja	9.85	237	P	Pn	13 12 29.1	+0.9
	25nm,1.0s,1µm						
SPSI	Sidrap Palu	10.41	233	P	Pn	13 12 36.8	+0.9
	22nm,0.9s						
SAUI	Saumlaki	10.71	163	P	Pn	13 12 41.4	+1.4
	168nm,0.8s,5µm						
BKSI	Bulukumba	11.01	226	P	Pn	13 12 46.1	+2.0
	13nm,1.0s,318nm						
KAPI	Kappang	11.08	229	LR	LR	13 17 51.8	
	comp=Z,95nm,20.4s,baz=62,slow=42						
MMRI	Maumere	12.35	208	P	Pn	13 13 04.7	+2.2
	25nm,1.3s						
SOEI	Soe	12.58	198	P	Pn	13 13 08.1	+2.3
	29nm,1.2s						
EDFI	Ende, Flores	12.72	210	P	Pn	13 13 07.4	-0.2
	16nm,2.2s						
PLAI	Plampang	15.12	223	P	P	13 13 42.7	-2.2
	28nm,0.8s						
MTN	Manton Dam	15.35	169	Pn	Pn	13 13 43.4	+0.2
SBUM	Sibu	15.88	271	Pn	Pn	13 13 49.7	-0.4
GUMO	Guam	20.00	55	LR	LR	13 20 56.7	
	comp=Z,162nm,21.5s,baz=236,slow=32						
FITZ	Fitzroy Crossi	20.43	187	P	P	13 14 42.3	-1.1
YULB	Yu-li	21.97	343	P	P	13 14 59.3	-0.7
YULB				IAmb	IAmb	13 15 27.2	
	comp=Z,29nm,1.2s						
TPUB	Ta-pu	22.09	341	P	P	13 15 00.5	-0.8
LEM	Lembang	22.38	246	LR	LR	13 24 51.0	
	comp=Z,64nm,18.8s,baz=77,slow=39						
YOJ	Yonaguni jima	22.57	348	P	P	13 15 06.5	+0.2
WB0	Warramunga Arr	22.79	165	P	P	13 15 08.5	-0.3
WRAB	Tennant Creek	22.94	165	P	P	13 15 10.0	-0.2
WRAB				IAmb	IAmb	13 15 26.3	
	comp=Z,28nm,1.5s						
WRA	Warramunga Arr	22.94	165	P	P	13 15 09.6	-0.8
	comp=Z,2.9nm,0.9s,baz=344,slow=10,SNR=13						
	comp=Z,2.9nm,0.9s						
WR0	Warramunga Arr	23.01	164	P	P	13 15 11.0	-0.1
JOW	Kunigami	24.38	0	LR	LR	13 23 23.4	
	comp=Z,191nm,21.7s,baz=116,slow=33						
AS31	Alice Springs	26.43	168	P	P	13 15 43.7	+1.0
ASAR	Alice Springs	26.43	168		P	13 15 43.7	+1.0
ASAR	Alice Springs	26.43	168	P	P	13 15 41.2	-1.5
	comp=Z,0.5nm,0.5s,baz=353,slow=8.1,SNR=14						
ASAR				PcP	PcP	13 19 08.4	+0.7
	comp=Z,0.5nm,0.7s,baz=348,slow=2.5,SNR=1.6						
ASAR				ScP	ScP	13 22 44.6	-0.5
	comp=Z,0.4nm,0.8s,baz=354,slow=2.0,SNR=1.6						
ASAR				LR	LR	13 27 25.7	
	comp=Z,185nm,18.7s,baz=348,slow=39						
	comp=Z,0.5nm,0.5s						
CTA	Charters Tower	28.50	142	LR	LR	13 29 10.7	
	comp=Z,153nm,18.9s,baz=294,slow=40						
JNU	Nakatsue	30.76	5	LR	LR	13 27 56.7	
	comp=Z,107nm,21.4s,baz=166,slow=35						
CMAR	Chiang Mai Arr	32.78	301	P	P	13 16 40.6	+1.5
	comp=Z,0.5nm,0.3s,baz=117,slow=6.3,SNR=5.5						
CMAR				LR	LR	13 29 59.5	
	comp=Z,35nm,20.9s,baz=110,slow=36						
	comp=Z,0.5nm,0.3s						
KSRS	Korea Array	34.97	360	P	P	13 16 57.5	-0.4
	comp=Z,1.7nm,0.7s,baz=175,slow=8.6,SNR=4.6						
KSRS				LR	LR	13 30 36.7	
	comp=Z,70nm,21.6s,baz=170,slow=35						
	comp=Z,1.7nm,0.7s						
MJAR	Matsushiro Arr	35.32	14	LR	LR	13 28 51.6	
	comp=Z,93nm,21.4s,baz=219,slow=32						
BBOO	Buckleboo	35.73	169	P	P	13 17 04.5	0.0
STKA	Stephens Creek	36.33	160	P	P	13 17 09.4	-0.2
STKA	Stephens Creek	36.33	160	P	P	13 17 08.8	-0.8
	comp=Z,2.5nm,0.5s,baz=343,slow=6.3,SNR=7.3						
STKA				LR	LR	13 33 58.7	
	comp=Z,160nm,18.6s,baz=12,slow=40						
	comp=Z,2.5nm,0.5s						
NWAO	Narrogin (SRO)	36.53	195	P	P	13 17 10.9	-0.4
NWAO	Narrogin (SRO)	36.53	195	LR	LR	13 33 08.0	
	comp=Z,46nm,18.1s,baz=32,slow=38						
H11S3	WAKE ISLAND Hy	41.06	64	T	T	14 01 04.2	
	baz=251,slow=78						
H11S2	WAKE ISLAND Hy	41.08	64	T	T	14 01 10.2	
	baz=251,slow=78						
H11S1	WAKE ISLAND Hy	41.08	64	T	T	14 01 00.5	
	baz=251,slow=78						
H11N1	WAKE ISLAND Hy	41.64	63	T	T	14 02 08.4	
	baz=250,slow=75,SNR=18						
H11N2	WAKE ISLAND Hy	41.65	63	T	T	14 02 10.1	
	baz=250,slow=75,SNR=6.1						
H11N3	WAKE ISLAND Hy	41.66	63	T	T	14 01 45.4	
	baz=250,slow=75,SNR=16						
USRK	Ussuriysk Ar.	41.85	4	P	P	13 17 56.0	+0.4
USRK	Ussuriysk Ar.	41.85	4	P	P	13 17 56.3	+0.7
	comp=Z,0.6nm,0.6s,baz=185,slow=5.1,SNR=4.3						
	comp=Z,2.3nm,0.6s						
KLR	Kul'dur	46.85	3	LR	LR	13 36 32.8	
	comp=Z,52nm,21.6s,baz=204,slow=34						
PALK	Pallekele	47.48	278	LR	LR	13 42 08.9	
	comp=Z,21nm,18.3s,baz=190,slow=40						
SONM	Songino Array	49.08	341	P	P	13 18 53.0	0.0
	comp=Z,0.4nm,0.5s,baz=166,slow=7.2,SNR=4.9						
SONM				LR	LR	13 41 00.1	
	comp=Z,64nm,19.2s,baz=86,slow=38						
	comp=Z,0.4nm,0.5s						
MK31	Makanchi Array	59.50	325	P	P	13 20 09.4	+0.6
MK31				IAmb	IAmb	13 20 20.1	
	comp=Z,4.2nm,1.2s						
MKAR	Makanchi Array	59.50	325	P	P	13 20 09.0	+0.3
	comp=Z,2.0nm,0.7s,baz=116,slow=8.4,SNR=20						
	comp=Z,2.0nm,0.7s						
MAKZ	Makanchi	59.69	325	P	P	13 20 10.2	+0.2
MAKZ				IAmb	IAmb	13 20 28.6	
	comp=Z,7.3nm,1.4

EBG	**Ellensburg**	**0.33**	**83**		Pg	13 18 41.1	+0.5
SR41	**SR410 Landslid**	**0.34**	**273**		Pn	13 18 45.3	-1.1
TBM	**Table Mountain**	**0.43**	**46**		Pg	13 18 42.9	+0.4
TBM					Sg	13 18 49.6	+1.6
FMW	**Mount Fremont**	**0.43**	**278**		Pg	13 18 42.5	0.0
LTY	**Liberty**	**0.47**	**33**		Pg	13 18 42.9	-0.3
LTY				IAML		13 18 49.9	
	comp=N,190nm,0.4s						
LTY	**Liberty**	**0.47**	**33**		Sg	13 18 49.6	+0.4
RCS	**Mount Rainier-**	**0.47**	**270**		Pg	13 18 43.2	-0.1
RCM	**Mount Rainier-**	**0.47**	**266**		Pg	13 18 43.2	-0.1
RCM					Sg	13 18 49.6	+0.2
OBSR	**Observation Ro**	**0.53**	**273**		Pg	13 18 44.4	0.8
OBSR					Sg	13 18 51.4	+0.2
LON	**Longmire**	**0.54**	**257**		Pg	13 18 43.7	-0.8
LON	**Longmire**	**0.54**	**257**		Pg	13 18 44.0	-0.5
LON					Sg	13 18 51.0	-0.5
REMR	**Mount Rainier-**	**0.55**	**265**		Pg	13 18 44.4	-0.4
MXC	**Moxie City**	**0.60**	**119**		Pg	13 18 45.4	-0.3
MXC	**Moxie City**	**0.60**	**119**		Sg	13 18 53.9	+0.5
RVC	**Mount Rainier-**	**0.64**	**277**		Pg	13 18 46.3	-0.2
RVC					Sg	13 18 54.9	+0.2
TRW	**Toppenish Ridg**	**0.68**	**149**		Pg	13 18 47.1	0.0
TRW					Sg	13 18 56.4	+0.5
D05A	**Enumclaw**	**0.72**	**297**		Pg	13 18 47.5	-0.5
D05A				IAML		13 18 58.2	
	comp=N,78nm,0.6s						
CDMR	**Cedar Moraine**	**0.73**	**319**		Pg	13 18 47.9	-0.4
RATT	**Rattlesnake La**	**0.76**	**317**		Pg	13 18 48.2	-0.5
BVW	**Beverly**	**0.80**	**94**		Pg	13 18 50.0	+0.5
B941	**Kapowsin**	**0.81**	**279**		Pg	13 18 49.4	-0.4
E07A	**Sunnyside**	**0.88**	**110**		Pg	13 18 50.4	-0.6
ETW	**Entiat**	**0.88**	**33**		Pg	13 18 50.4	-0.7
KOSW	**Kosmos**	**0.89**	**243**		Pg	13 18 50.5	-0.7
MDW	**Midway**	**0.92**	**106**		Pg	13 18 51.3	-0.6
C05A	**Tolt Reservoir**	**0.93**	**332**		Pg	13 18 51.3	-0.8
SLFW	**Sugar Loaf**	**0.96**	**21**		Pg	13 18 51.9	-0.7
TDL	**Tradedollar La**	**0.96**	**238**		Pg	13 18 51.5	-1.1
B202	**Windy Ridge, M**	**0.98**	**231**		Pg	13 18 51.7	-1.3
SOSW	**Source of Smit**	**0.98**	**231**		Pg	13 18 51.9	-1.1
BENWA	**Benson Ranch**	**0.98**	**111**		Pg	13 18 51.9	-1.2
WRW	**Wenatchee Ridg**	**0.99**	**6**		Pg	13 18 52.4	-0.9
JRO	**Jston Ridge Ob**	**1.00**	**234**		Pg	13 18 52.3	-1.1
GBB	**Gable Butte**	**1.01**	**105**		Pg	13 18 52.8	-0.8
B201	**Coldwater, Mou**	**1.01**	**236**		Pg	13 18 52.4	-1.3
ESD	**East Dome**	**1.02**	**229**		Pg	13 18 53.0	-0.7
BOLM	**Sugar Bowl**	**1.02**	**230**		Pg	13 18 52.9	-0.8
CDFW	**Cedar Flats**	**1.02**	**223**		Pg	13 18 52.9	-1.0
VALT	**Mount Saint He**	**1.03**	**231**		Pg	13 18 53.0	-0.9
STD	**Studebaker Rid**	**1.03**	**232**		Pg	13 18 52.8	-1.2
SEPW	**September Lobe**	**1.04**	**230**		Pg	13 18 53.4	-0.7
SNIWA	**Snively Ranch**	**1.04**	**113**		Pg	13 18 53.4	-0.7
HSR	**South Ridge**	**1.05**	**229**		Pg	13 18 53.3	-1.0
JLK	**June Lake**	**1.05**	**227**		Pg	13 18 53.2	-1.1
HTW	**Haystack Looko**	**1.05**	**333**		Pg	13 18 53.5	-0.9
ERK	**Elk Rock**	**1.06**	**238**		Pg	13 18 53.1	-1.4
SWF2	**Southwest Flan**	**1.06**	**230**		Pg	13 18 53.6	-1.0
SHW	**Mount Saint He**	**1.06**	**231**		Pg	13 18 53.7	-1.0
FHE	**Frenchman Hill**	**1.07**	**85**		Pg	13 18 54.4	-0.3
RSW	**Rattlesnake Hi**	**1.11**	**115**		Pg	13 18 54.6	-0.9
WTV	**Waterville**	**1.11**	**42**		Pg	13 18 54.7	-0.9
LOCW	**Locke Island**	**1.12**	**97**		Pg	13 18 55.1	-0.6
FL2	**Flat Top 2**	**1.12**	**234**		Pg	13 18 54.5	-1.3
GBL	**Gable Mountain**	**1.12**	**103**		Pg	13 18 55.0	-0.8
GBL	**Gable Mountain**	**1.12**	**103**		Pg	13 18 55.1	-0.7
BLTW	**Bickleton**	**1.13**	**147**		Pg	13 18 54.4	-1.5
B203	**Quarry, Mount**	**1.13**	**232**		Pg	13 18 54.5	-1.4
CRF	**Corfu**	**1.14**	**92**		Pg	13 18 55.8	-0.3
PRW	**Prosser**	**1.15**	**125**		Pg	13 18 55.1	-1.1
HAWA	**Hanford**	**1.15**	**114**	Pg	Pg	13 18 54.8	-1.4
CBSW	**Chelan Butte S**	**1.16**	**36**		Pg	13 18 55.7	-0.7
MJ2	**May Junction 2**	**1.20**	**104**		Pg	13 18 56.4	-0.9
F07A	**Phinny Hill Vi**	**1.25**	**141**		Pg	13 18 56.4	-1.7
F07A				IAML		13 19 19.1	
	comp=E,55nm,0.5s						
NLW	**Nelson Butte**	**1.30**	**21**		Pg	13 18 58.0	-1.2
F04A	**Amboy**	**1.33**	**226**		Pg	13 18 57.9	-1.9
F04A				IAML		13 19 18.7	
	comp=E,29nm,0.6s						
F04A				IAML		13 19 19.6	
	comp=N,33nm,0.7s						
VGB	**Gordon Butte**	**1.37**	**172**		Pg	13 18 59.2	-1.3
GNW	**Green Mountain**	**1.40**	**300**		Pn	13 18 58.8	-2.0
DHW2	**Dyer Hill 2**	**1.41**	**37**		Pn	13 19 00.1	-1.0
E08A	**Dider Farm, El**	**1.42**	**105**		Pn	13 18 59.3	-1.9
E08A				IAML		13 19 18.8	
	comp=E,61nm,0.3s						
E08A				IAML		13 19 18.8	
	comp=N,74nm,0.2s						
JCW	**Jim Creek**	**1.45**	**336**		Pn	13 19 00.4	-1.3
D08A	**Wollman Farm,**	**1.47**	**82**	Pn	Pn	13 18 59.6	-2.2
D08A				IAML		13 19 20.6	
	comp=E,30nm,0.1s						
D08A				IAML		13 19 21.1	
	comp=N,39nm,0.1s						
C04A	**Brinnon**	**1.56**	**304**		Pn	13 19 02.6	-0.4
F04D	**Rainier, OR**	**1.57**	**241**	Pn	Pn	13 19 01.9	-1.3
HDW	**Hoodsport**	**1.57**	**300**		Pn	13 19 02.1	-1.3
B013	**Quilcene**	**1.58**	**307**		Pn	13 19 02.0	-1.3
B023	**Clatskanie**	**1.60**	**242**		Pn	13 19 02.4	-1.2
HOOD	**Mount Hood Mea**	**1.60**	**195**		Pn	13 19 02.3	-1.5
HOOD				IAML		13 19 39.9	
	comp=E,30nm,1.5s						
RPW	**Rockport**	**1.61**	**349**		Pn	13 19 03.4	-0.4
G05A	**Wamic**	**1.64**	**187**		Pn	13 19 03.2	-1.0
G05A				IAML		13 19 32.5	
	comp=E,54nm,2.9s						
G05A				IAML		13 19 57.1	
	comp=N,34nm,4.7s						
YPT	**Yellepit**	**1.66**	**119**		Pn	13 19 03.1	-1.4
G06A	**Carlson Farm,**	**1.66**	**170**		Pn	13 19 03.3	-1.2
G06A				IAML		13 19 27.7	
	comp=N,24nm,2.6s						
G06A				IAML		13 19 27.9	
	comp=E,31nm,0.4s						
B06A	**Marblemount**	**1.68**	**350**		Pn	13 19 03.5	-1.1
B06A				IAML		13 19 29.2	
	comp=E,33nm,0.4s						
B06A				IAML		13 19 36.8	
	comp=N,33nm,0.3s						
E03A	**Lebam**	**1.76**	**260**	Pn	Pn	13 19 05.7	-0.2
E03A				IAML		13 19 34.8	
	comp=N,35nm,2.5s						
E03A				IAML		13 19 41.1	
	comp=E,32nm,2.1s						
WISH	**Wishkah**	**1.88**	**279**	Pn	Pn	13 19 08.0	+0.5
WISH				IAML		13 19 37.8	
	comp=N,42nm,4.0s						
WISH				IAML		13 19 57.5	
	comp=E,44nm,5.0s						
B08A	**Colville Reser**	**1.89**	**37**		Pn	13 19 06.2	-1.4
B08A	**Colville Reser**	**1.89**	**37**	IAML		13 19 15.2	
	comp=N,325nm,0.8s						
B08A				IAML		13 19 59.7	
	comp=E,3.4nm,0.7s						
RADR	**Rader Ridge**	**1.95**	**258**	Pn	Pn	13 19 08.3	-0.2
RADR				IAML		13 19 38.9	
	comp=N,41nm,1.9s						
F03A	**Seaside**	**1.98**	**243**	Pn	Pn	13 19 08.3	-0.5
NLWA	**Neilton Lookou**	**2.00**	**286**	Pn	Pn	13 19 09.2	+0.1
NLWA				IAML		13 19 51.7	
	comp=N,21nm,3.9s						
NLWA				IAML		13 20 08.2	
	comp=N,16nm,3.6s						
MBW	**Mount Baker**	**2.00**	**344**		Pn	13 19 09.4	+0.1
E09A	**Wood Farm, Sta**	**2.03**	**99**		Pn	13 19 07.9	-1.7
E09A	**Wood Farm, Sta**	**2.03**	**99**	IAML		13 19 37.4	
	comp=N,23nm,0.2s						
E09A				IAML		13 19 43.9	
	comp=E,26nm,0.1s						
B04A	**Port Angeles**	**2.05**	**306**	Pn	Pn	13 19 07.8	-2.0
B04A				IAML		13 20 15.2	
	comp=N,31nm,4.4s						
B04A				IAML		13 20 22.9	
	comp=E,25nm,4.8s						
C09A	**Chrisman Ranch**	**2.10**	**63**	Pn	Pn	13 19 08.4	-2.2
G08A	**Pilot Rock**	**2.15**	**137**	Pn	Pn	13 19 08.6	-2.6
G08A				IAML		13 19 40.3	
	comp=E,16nm,0.5s						
G08A				IAML		13 19 40.4	
	comp=N,16nm,0.2s						
G03D	**McMinnville, O**	**2.27**	**224**	Pn	Pn	13 19 12.6	-0.2
H04A	**Detroit Lake**	**2.33**	**200**	Pn	Pn	13 19 12.0	-1.7
H04A				IAML		13 19 56.2	
	comp=E,14nm,0.6s						
H04A				IAML		13 20 06.4	
	comp=N,13nm,3.6s						
B011	**North Saanich**	**2.41**	**319**		Pn	13 19 15.4	+0.7
PGC	**Sidney**	**2.41**	**319**	Pn	Pn	13 19 14.5	-0.2
PGC				IAML		13 19 40.8	
	comp=E,22nm,5.0s						
PGC				IAML		13 20 29.3	
	comp=N,22nm,4.9s						
I05D	**Terrebonne, OR**	**2.54**	**185**	Pn	Pn	13 19 16.1	-0.5
H04D	**Lebanon**	**2.63**	**207**	Pn	Pn	13 19 17.5	-0.3
F10A	**Beach Ranch, E**	**2.79**	**107**	Pn	Pn	13 19 19.1	-1.0
F10A				IAML		13 20 04.8	
	comp=N,15nm,0.3s						
F10A				IAML		13 20 30.9	
	comp=E,15nm,3.1s						
B926	**Mesachie Lake**	**2.85**	**314**		Pn	13 19 21.3	+0.5
CLRS	**Cowichan Lake**	**2.85**	**314**	Pn	Pn	13 19 21.0	+0.2
CLRS				IAML		13 20 58.9	
	comp=N,18nm,3.0s						
I07A	**Izee**	**2.99**	**158**	Pn	Pn	13 19 21.4	-1.5
BMO	**Blue Mountains**	**3.30**	**126**		Pn	13 19 25.8	-1.4
BMO				IAML		13 20 15.4	
	comp=N,11nm,5.0s						
BMO				IAML		13 21 25.4	
	comp=N,6.5nm,4.9s						
PLID	**Pearl Lake**	**3.94**	**115**	Pn	Pn	13 19 35.3	-0.8
PLID				IAML		13 21 39.5	
	comp=N,7.3nm,4.8s						

*IDC **12** 13:22:37.5±0.8,30°.71N×56°.99E,h0km,mb4.0/14, mbtmp4.0/19,ML3.7/5,MS3.1/7,Error ellipse: s-maj=17.1km s-min=16.5km az=162.0*
*TEH **12** 13:22:38.1,30°.78N×57°.26E,h9km±46km,ML4.2*
*NEIC **12** 13:22:39.3±1.0,30°.67N±0°.03×57°.3E±0°.1,h10km±1km, mb4.4/12,Error ellipse: s-maj=19.4km s-min=5.0km az=89.0*

ISC 12 13:22:39.6±0.5,**30°.74N**±0°.04×**57°.22E**±0°.04,**h11**km,**n81**, σ1§**12**/81,**mb4.1**/20,**MS3.2**/3,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.63**	**291**	Pg	**Pg**	**13 22 51.2**	**-0.7**
KHGB	**Koh Gabri**	**0.73**	**241**	Pg	**Pg**	**13 22 53.5**	**-0.4**
TVBK	**TV Kerman**	**0.85**	**208**	Pg	**Pg**	**13 22 56.5**	**+0.4**
CHMN	**Cheshme madani**	**0.92**	**162**	Pg	**Pg**	**13 22 56.3**	**-1.1**
NGRK	**Negar Kerman**	**1.17**	**201**	Pg	**Pg**	**13 23 02.3**	**+0.1**
NGRK				Sg	**Sn**	**13 23 19.3**	**+0.8**
IBAF	**Bafgh**	**1.65**	**301**	Pg	**Pn**	**13 23 08.9**	**+0.2**
KBAM	**BAM**	**1.93**	**146**	Pn	**Pn**	**13 23 12.9**	**+0.5**
BSRN	**Basiran**	**2.04**	**53**	Pn	**Pn**	**13 23 13.5**	**-0.5**
IKOO	**Kooshah**	**2.27**	**42**	Pn	**Pn**	**13 23 17.1**	**-0.3**
IMEH	**Mehriz**	**2.33**	**287**	Pn	**Pn**	**13 23 19.2**	**+1.1**
TPRV	**Parvadeh(Tabas**	**2.33**	**349**	Pn	**Pn**	**13 23 17.8**	**-0.1**
ITEG	**Tejag**	**2.52**	**31**	Pn	**Pn**	**13 23 20.5**	**-0.1**
NHDN	**Nehbandan**	**2.52**	**74**	Pn	**Pn**	**13 23 20.9**	**+0.2**
TKDS	**Koohdasht(Taba**	**2.87**	**358**	Pn	**Pn**	**13 23 25.6**	**+0.2**
IDAH	**Dahanechah**	**3.01**	**48**	Pn	**Pn**	**13 23 27.1**	**-0.4**
AFRZ	**Afriz**	**3.08**	**29**	Pn	**Pn**	**13 23 28.5**	**+0.1**
ISAD	**Sadrabad**	**3.24**	**292**	Pn	**Pn**	**13 23 31.9**	**+1.2**
TNSJ	**Nastanj**	**3.25**	**351**	Pn	**Pn**	**13 23 30.8**	**+0.1**
ZHDN	**Zahedan**	**3.39**	**112**	Pn	**Pn**	**13 23 33.8**	**+1.2**
ANAR	**Anarak**	**3.84**	**310**	Pn	**Pn**	**13 23 38.7**	**-0.1**
SHRT	**Shahrakht**	**3.90**	**41**	Pn	**Pn**	**13 23 40.0**	**+0.5**
IRAM	**Ramesheh**	**4.27**	**286**	Pn	**Pn**	**13 23 46.2**	**+1.3**
IZEF	**Zefreh**	**4.68**	**299**	Pn	**Pn**	**13 23 51.2**	**+0.7**
KLNJ	**Kolanjah**	**4.84**	**275**	Pn	**Pn**	**13 23 54.9**	**+2.1**
TBJM	**Torbat-e-JAM**	**5.22**	**29**	Pn	**Pn**	**13 23 57.8**	**0.0**
KRSH	**Karshahi**	**5.37**	**308**	Pn	**Pn**	**13 24 00.8**	**+0.9**
IANJ	**Anjilo**	**5.47**	**330**	Pn	**Pn**	**13 24 01.3**	**0.0**
ISFB	**Sefidab**	**5.53**	**312**	Pn	**Pn**	**13 24 03.0**	**+1.0**
HRA	**Herat**	**5.59**	**48**	Pn	**Pn**	**13 24 02.6**	**-0.3**
ZNGN	**Zangian**	**5.61**	**286**	Pn	**Pn**	**13 24 04.4**	**+1.1**
SRVN	**Saravan**	**5.62**	**125**	Pn	**Pn**	**13 24 04.9**	**+1.6**
SBZV	**Sabzevar**	**5.64**	**3**	Pn	**Pn**	**13 24 04.1**	**+0.4**
JRKH	**Jarkhoshk**	**5.78**	**26**	Pn	**Pn**	**13 24 06.7**	**+1.2**
UOSS	**Minazif**	**5.84**	**189**	Pn	**Pn**	**13 24 04.2**	**-2.1**
IAKL	**Akhelmad**	**5.99**	**12**	Pn	**Pn**	**13 24 09.1**	**+0.7**
IFIR	**Firoozkooh**	**6.16**	**324**	Pn	**Pn**	**13 24 11.2**	**+0.5**
IVRN	**Varamin**	**6.27**	**314**	Pn	**Pn**	**13 24 14.0**	**+1.9**
ISFR	**Sfrayin**	**6.33**	**6**	Pn	**Pn**	**13 24 13.6**	**+0.4**
IDMV	**Damavand**	**6.49**	**319**	Pn	**Pn**	**13 24 16.2**	**+0.8**
MRVT	**Maraveh tapeh**	**6.96**	**353**	Pn	**Pn**	**13 24 22.1**	**+0.4**
GEYT	**Alibeck**	**7.21**	**6**	Pn	**Pn**	**13 24 25.6**	**+0.6**
GEYT	**Alibeck**	**7.21**	**6**	Pn	**Pn**	**13 24 26.6**	**+1.6**
	0.5nm,0.3s,baz=196,slow=14,SNR=3.7						
GEYT				Sn	**Sn**	**13 25 51.6**	**+4.7**
	baz=220,slow=35						
GEYT				LR	LR	13 28 04.7	
	comp=Z,38nm,21.6s,baz=166,slow=45 2.1nm,0.5s						
GYA0B	**ALIBECK ARRAY**	**7.21**	**6**	Pn	**Pn**	**13 24 25.4**	**+0.4**
WSAR	**Wadi Sarin**	**7.58**	**170**	Pn	**Pn**	**13 24 29.2**	**-0.9**
	1.4nm,0.3s,baz=6.0,slow=10,SNR=14						
WSAR				Sn	**Sn**	**13 25 56.9**	**+0.9**
	baz=293,slow=11						
WSAR				LR	LR	13 27 49.9	
	comp=Z,28nm,21.4s,baz=239,slow=41 6.0nm,0.5s						
BTK	**Batken**	**14.46**	**46**	Pn	**Pn**	**13 26 03.6**	**-0.7**
ASF	**Jabal al Asfar**	**17.40**	**280**	P	**Pn**	**13 26 39.9**	**-2.6**
	0.3nm,0.3s,baz=75,slow=12,SNR=4.5 2.9nm,0.6s						
AAK	**Ala-Archa**	**18.21**	**45**	P	**Pn**	**13 26 54.3**	**+1.8**
	0.2nm,0.3s,baz=228,slow=13,SNR=8.4						
AAK				LR	LR	13 34 58.3	
	comp=Z,57nm,21.9s,baz=292,slow=40 2.3nm,0.6s						
EIL	**Elat**	**19.27**	**272**	LR	LR	13 35 53.3	
	comp=Z,60nm,18.9s,baz=60,slow=42						
AKTO	**Aktyubinsk**	**19.68**	**2**	P	**P**	**13 27 08.6**	**-0.1**
	1.0nm,0.3s,baz=177,slow=11,SNR=22 5.1nm,0.5s						
BRTR	**Keskin Array B**	**21.20**	**301**	P	**P**	**13 27 25.4**	**+0.1**
BRTR	**Keskin Array B**	**21.20**	**301**	P	**P**	**13 27 23.9**	**-1.5**
	2.0nm,0.7s,baz=119,slow=13,SNR=8.1 2.0nm,0.7s						
ELL	**Elmali**	**23.44**	**292**	P	**P**	**13 27 49.6**	**+0.5**
BRVK	**Borovoye**	**24.25**	**19**	P	**P**	**13 27 56.6**	**+0.1**
BVAR	**Borovoye Array**	**24.25**	**20**	P	**P**	**13 27 57.2**	**+0.6**
	4.0nm,0.5s,baz=190,slow=7.5,SNR=21						
BVAR				LR	LR	13 38 48.8	
	comp=Z,73nm,18.2s,baz=224,slow=40 4.0nm,0.5s						
MAKZ	**Makanchi**	**24.95**	**43**		**P**	**13 28 01.6**	**-1.4**
MAKZ				IAmb	IAmb	13 28 07.2	
	comp=Z,6.5nm,0.9s						
MKAR	**Makanchi Array**	**25.13**	**43**	P	**P**	**13 28 03.6**	**-1.0**
MKAR	**Makanchi Array**	**25.13**	**43**	P	**P**	**13 28 05.1**	**+0.5**
	comp=Z,3.1nm,0.9s,baz=223,slow=8.3,SNR=15 comp=Z,3.1nm,0.8s						
KURBB	**Kurchatov Arra**	**25.45**	**33**	P	**P**	**13 28 07.8**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=232,slow=9.1,SNR=18 comp=Z,3.6nm,0.8s						
KARP	**Karpathos**	**25.57**	**289**	P	**P**	**13 28 07.9**	**-0.8**
ZAA0	**Zalesovo Array**	**30.54**	**33**	P	**P**	**13 28 52.3**	**-0.6**
ZAA0				IAmb	IAmb	13 28 56.4	
	comp=Z,6.6nm,0.7s						
ZALV	**Zalesovo Beam**	**30.54**	**33**	P	**P**	**13 28 52.7**	**-0.3**
ZALV	**Zalesovo Beam**	**30.54**	**33**	P	**P**	**13 28 52.8**	**-0.1**
	comp=Z,6.9nm,0.6s,baz=241,slow=9.3,SNR=18 comp=Z,6.9nm,0.6s						
FINES	**FINESS Array B**	**36.86**	**336**	P	**P**	**13 29 48.0**	**+0.3**
FINES	**FINESS Array B**	**36.86**	**336**	P	**P**	**13 29 45.9**	**-1.8**
	comp=Z,2.0nm,0.7s,baz=132,slow=10,SNR=6.1 comp=Z,2.0nm,0.7s						
GERES	**GERESS Array B**	**37.41**	**312**	P	**P**	**13 29 51.8**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=116,slow=11,SNR=6.0 comp=Z,1.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**39.65**	**98**	P	**P**	**13 30 13.4**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=299,slow=9.2,SNR=5.7 comp=Z,0.5nm,0.3s						
SONM	**Songino Array**	**40.97**	**51**	P	**P**	**13 30 23.3**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=267,slow=8.7,SNR=3.1 comp=Z,0.5nm,0.7s						
TOA0	**Torodi Ar. Sit**	**53.86**	**264**	P	**P**	**13 32 02.7**	**-0.4**
TOA0				IAmb	IAmb	13 32 03.9	
	comp=Z,3.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**53.86**	**264**	P	**P**	**13 32 02.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**53.86**	**264**	P	**P**	**13 32 00.9**	**-2.2**
	comp=Z,2.8nm,0.7s,baz=59,slow=6.7,SNR=20 comp=Z,2.8nm,0.7s						

KSRS	**Korea Array**	**57.70**	**63**	LR	LR	14 02 58.9	
	comp=Z,20nm,18.6s,baz=140,slow=42						
A36M	**Sachs Harbour**	**77.54**	**1**	P	**P**	**13 34 35.0**	**0.0**
A36M				IAmb	IAmb	13 34 41.2	
	comp=Z,4.2nm,0.8s						
TOLK	**Toolik Lake Re**	**78.95**	**10**	P	**P**	**13 34 42.3**	**-0.7**
C36M	**Paulatuk**	**80.20**	**0**	P	**P**	**13 34 48.7**	**-1.0**
F31M	**Tsiigehtchic**	**81.77**	**4**	P	**P**	**13 34 57.9**	**-0.2**
F31M				IAmb	IAmb	13 35 21.1	
	comp=Z,4.0nm,1.3s						
ILAR	**Eielson Array**	**82.95**	**10**	P	**P**	**13 35 05.3**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=330,slow=5.2,SNR=3.3 comp=Z,0.5nm,0.8s						
K29M	**Barlow Dome**	**85.02**	**6**	P	**P**	**13 35 14.8**	**-0.3**
K29M				IAmb	IAmb	13 35 18.8	
	comp=Z,1.8nm,1.0s						
YKA	**Yellowknife Ar**	**86.86**	**356**	P	**P**	**13 35 22.9**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=356,slow=5.2,SNR=6.0 comp=Z,0.4nm,0.9s						
WRA	**Warramunga Arr**	**89.54**	**113**	P	**P**	**13 35 39.7**	**+2.2**
	comp=Z,0.4nm,0.9s,baz=319,slow=4.2,SNR=2.4 comp=Z,0.4nm,0.9s						
ASAR	**Alice Springs**	**91.22**	**117**	P	**P**	**13 35 44.9**	**-0.4**
	comp=Z,0.6nm,1.0s,baz=297,slow=4.1,SNR=3.8 comp=Z,0.6nm,1.0s						
SADO	**Sadowa**	**94.98**	**330**	LR	LR	14 22 32.8	
	comp=Z,41nm,18.2s,baz=66,slow=38						

*TAP **12** 13:28:54.9,24°.03N×122°.46E,h25km,ML3.0,C*
*JMA **12** 13:28:55.1±0.2,24°.N±1°.×122°.5E±0°.5,h23km±3km, MV2.6/13,NW OFF ISHIGAKIJIMA IS*

ISC 12 13:28:55.2±0.9,**24°.01N**±0°.03×**122°.45E**±0°.02,**h30**km±7km, **n76**,σ0§**71**/112,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.17**	**313**	*i* P	**Pb**	**13 29 00.6**	**0.0**
	baz=304						
EOS4				*i* S	**Sb**	**13 29 04.3**	**0.0**
	baz=304						
EOS3	**EOS3**	**0.30**	**337**	*i* P	**Pb**	**13 29 02.4**	**-0.1**
	baz=332						
EOS3				*i* S	**Sb**	**13 29 07.4**	**-0.1**
	baz=332						
EOS2	**EOS2**	**0.46**	**334**	*i* P	**Pb**	**13 29 04.9**	**+0.1**
	baz=331						
EOS2				S	**Sn**	**13 29 11.9**	**-0.7**
	baz=331						
JYNG	**Yonagunijimaku**	**0.63**	**46**	*eP*	**Pb**	**13 29 07.2**	**-0.6**
JYNG				*eS*	**Sb**	**13 29 15.4**	**-0.9**
YOJ	**Yonaguni jima**	**0.68**	**48**	P	**Pb**	**13 29 08.1**	**-0.6**
YOJ				*eS*	**Sb**	**13 29 16.6**	**-1.2**
YOJ	**Yonaguni jima**	**0.68**	**48**	*i* P	**Pb**	**13 29 08.0**	**-0.7**
	baz=48						
YOJ				*i* S	**Sb**	**13 29 16.6**	**-1.3**
	baz=48						
EWUT	**Wuta**	**0.75**	**306**	P	**Pb**	**13 29 09.4**	**-0.4**
	baz=303						
EWUT				S	**Sb**	**13 29 19.4**	**-0.3**
	baz=303						
ETL	**Fush Village**	**0.77**	**281**	P	**Pn**	**13 29 10.7**	**+0.7**
	baz=279						
ETL				*eS*	**Sn**	**13 29 21.2**	**+0.6**
	baz=279						
ENA	**Nanau**	**0.77**	**303**	*i* P	**Pb**	**13 29 10.0**	**-0.1**
	baz=301						
ENA				*i* S	**Sb**	**13 29 20.2**	**-0.1**
	baz=301						
TWD	**Chiawan**	**0.78**	**275**	P	**Pb**	**13 29 09.7**	**-0.6**
	baz=273						
TWD				S	**Sb**	**13 29 20.4**	**-0.2**
	baz=273						
NACB	**Ninganchiao**	**0.80**	**282**	P	**Pb**	**13 29 10.1**	**-0.4**
	baz=280						
NACB				*eS*	**Sn**	**13 29 21.4**	**+0.1**
	baz=280						
TWC	**Suao**	**0.81**	**318**	*i* P	**Pb**	**13 29 10.0**	**-0.7**
	baz=316						
TWC				*i* S	**Sb**	**13 29 19.6**	**-1.8**
	baz=316						
ETM	**Tongmen**	**0.88**	**267**	*eP*	**Pn**	**13 29 12.4**	**+0.9**
	baz=265						
ETLH	**Xiulin Townshi**	**0.91**	**283**	P	**Pb**	**13 29 11.6**	**-0.9**
	baz=281						
ETLH				S	**Sn**	**13 29 24.4**	**+0.3**
	baz=281						
NDS	**Dongshan**	**0.92**	**313**	*i* P	**Pb**	**13 29 12.2**	**

	baz=302							
SXI1	**Grass Mountain**	**1.20**	**334**	P		**Pn**	**13 29 16.2**	**+0.1**
	baz=333							
SXI1				*e*S		**Sn**	**13 29 31.6**	**+0.3**
	baz=333							
TDCB	**Techi**	**1.21**	**282**	*e*P		**Pn**	**13 29 16.3**	**+0.2**
	baz=280							
IRIF	**Iriomote-Funau**	**1.21**	**74**	*e*P		**Pb**	**13 29 17.0**	**-0.5**
IRIF				*e*S		**Sb**	**13 29 32.9**	**0.0**
WUSB	**Renai**	**1.22**	**270**	*e*P		**Pn**	**13 29 17.0**	**+0.7**
	baz=268							
WUSB				*e*S		**Sn**	**13 29 32.5**	**+0.6**
	baz=268							
YULB	**Yu-li**	**1.22**	**240**	*e*P		**Pn**	**13 29 16.3**	**+0.1**
	baz=239							
NWF	**Wu-fen Shan**	**1.22**	**330**	*e*P		**Pn**	**13 29 14.9**	**-1.4**
	baz=329							
WFSB	**Wu-fen Shan**	**1.22**	**330**	*e*P		**Pn**	**13 29 14.5**	**-1.7**
	baz=329							
EYUL	**Yuli**	**1.23**	**238**	*e*P		**Pn**	**13 29 16.4**	**+0.2**
	baz=236							
TWF1	**Yuli**	**1.24**	**239**	P		**Pn**	**13 29 16.7**	**+0.2**
	baz=237							
TWA	**Mucha**	**1.25**	**321**	*e*P		**Pn**	**13 29 16.7**	**0.0**
	baz=320							
NHDH	**Xindian Distri**	**1.27**	**319**	*e*P		**Pb**	**13 29 17.9**	**-0.6**
	baz=317							
NFF	**Wufeng Townshi**	**1.36**	**297**	*e*P		**Pb**	**13 29 20.3**	**+0.1**
	baz=296							
SSLB	**Suanglung**	**1.39**	**261**	*e*P		**Pn**	**13 29 19.1**	**+0.6**
	baz=260							
YM01	**YM01**	**1.39**	**325**	*e*P		**Pb**	**13 29 19.8**	**-0.7**
	baz=323							
WHP	**Taichung City**	**1.40**	**281**	*e*P		**Pb**	**13 29 20.6**	**-0.1**
	baz=280							
WCS	**Beigang Elemen**	**1.41**	**272**	*e*P		**Pb**	**13 29 20.1**	**-0.7**
	baz=271							
YM08	**YM08**	**1.41**	**327**	*e*P		**Pb**	**13 29 20.9**	**-0.1**
	baz=325							
SMLT	**Sun Moon Lake**	**1.42**	**265**	*e*P		**Pb**	**13 29 20.5**	**-0.7**
	baz=263							
JKRS	**Kuro-shima**	**1.44**	**81**	*e*P		**Pb**	**13 29 21.1**	**-0.3**
JKRS				*e*S		**Sb**	**13 29 40.0**	**+0.5**
ANP	**Anpu**	**1.45**	**324**	*e*P		**Pn**	**13 29 19.8**	**+0.4**
	baz=323							
LIOB	**Emei**	**1.45**	**296**	*e*P		**Pb**	**13 29 21.0**	**-0.6**
	baz=294							
NSTT	**Nanjuang**	**1.46**	**295**	*e*P		**Pb**	**13 29 21.3**	**-0.4**
	baz=294							
WHYT	**Xinyi Township**	**1.49**	**258**	*e*P		**Pb**	**13 29 21.4**	**-0.9**
	baz=257							
ELDTW	**Lidau**	**1.55**	**238**	*e*P		**Pn**	**13 29 20.9**	**+0.1**
	baz=237							
TWQ1	**Liyutan**	**1.57**	**283**	*e*P		**Pb**	**13 29 23.0**	**-0.6**
	baz=281							
JIJ	**Ishigaki jima**	**1.59**	**77**	*e*P		**Pn**	**13 29 21.9**	**+0.7**
JIJ				*e*S		**Sn**	**13 29 41.5**	**+0.7**
NMLH	**Miaoli**	**1.60**	**290**	*e*P		**Pb**	**13 29 23.5**	**-0.7**
	baz=288							
TWGBT	**Beinan**	**1.73**	**227**	*e*P		**Pn**	**13 29 23.7**	**+0.5**
	baz=226							
TWG	**Pinlang**	**1.73**	**227**	*e*P		**Pn**	**13 29 24.1**	**+0.9**
	baz=226							
STYH	**Taoyuan**	**1.75**	**242**	*e*P		**Pn**	**13 29 24.8**	**+1.4**
	baz=241							
JISG	**Ishigakijimahi**	**1.79**	**71**	*e*P		**Pn**	**13 29 24.8**	**+0.7**
JISG				*e*S		**Sn**	**13 29 46.4**	**+0.5**
TPUB	**Ta-pu**	**1.81**	**248**	*e*P		**Pb**	**13 29 26.3**	**-1.4**
	baz=246							
WTP	**Ta-pu**	**1.85**	**246**	*e*P		**Pb**	**13 29 26.9**	**-1.3**
	baz=245							
SLGT	**Liugui**	**1.94**	**239**	*e*P		**Pb**	**13 29 28.4**	**-1.4**
	baz=238							
CHN1	**Nanshi**	**1.94**	**245**	*e*P		**Pb**	**13 29 29.2**	**-0.7**
	baz=244							
TWK	**Hsinying**	**1.94**	**248**	*e*P		**Pb**	**13 29 29.0**	**-1.0**
	baz=246							
SNST	**Tainan City**	**1.95**	**247**	*e*P		**Pb**	**13 29 29.2**	**-0.9**
	baz=245							
MASBT	**Mashibuluo**	**2.17**	**231**	*e*P		**Pn**	**13 29 30.5**	**+1.2**
	baz=229							

IDC ***12*** *13:53:50.5±2.2,* **5°.79N**×**126°.25E**, **h0km**, **mb3.3**/3, **mbtmp3.3**/3, **Error ellipse: s-maj=200.5km s-min=26.9km az=66.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.43**	**332**	LR	LR	13 54 51.7	
	comp=Z,56nm,21.0s,baz=332,slow=43						
WRA	**Warramunga Arr**	**26.78**	**163**	P	P	13 59 34.0	+1.6
	0.3nm,0.9s,baz=343,slow=9.9,SNR=5.5						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**30.22**	**166**	P	P	14 00 02.1	-0.9
	0.2nm,0.6s,baz=342,slow=7.3,SNR=7.1						
ASAR				PcP	PcP	14 03 02.6	-1.7
	0.2nm,0.7s,baz=336,slow=3.1,SNR=1.8						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**55.60**	**325**	P	P	14 03 28.4	+0.3
	0.2nm,0.4s,baz=128,slow=7.5,SNR=5.7						
	0.2nm,0.4s						

TEH 12 14:00:31.5, 30°.74N×**57°.30E**, **h9**km±43km, **ML3.5, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.70**	**289**	Pg	Pb	14 00 46.5	+0.5
KHGB	**Koh Gabri**	**0.80**	**243**	Pg	Pb	14 00 48.0	+0.3
TVBK	**TV Kerman**	**0.89**	**212**	Pg	Pn	14 00 50.4	-0.1
TVBK				Sg	Sb	14 01 02.3	+0.9
CHMN	**Cheshme madani**	**0.90**	**167**	Pg	Pb	14 00 49.9	+0.3
NGRK	**Negar Kerman**	**1.20**	**205**	Pg	Pn	14 00 56.2	+1.4
IBAF	**Bafgh**	**1.71**	**300**	Pg	Pg	14 01 05.2	+0.9
KBAM	**BAM**	**1.89**	**148**	Pn	Pg	14 01 07.0	-0.7
BSRN	**Basiran**	**1.98**	**51**	Pn	Pb	14 01 08.6	+0.8
IKOO	**Kooshah**	**2.22**	**40**	Pn	Pb	14 01 11.0	-1.0
TPRV	**Parvadeh(Tabas**	**2.34**	**347**	Pn	Pb	14 01 13.0	-1.0
IMEH	**Mehriz**	**2.40**	**286**	Pn	Pb	14 01 14.5	-0.5
NHDN	**Nehbandan**	**2.44**	**74**	Pn	Pb	14 01 14.4	-1.4
ITEG	**Tejag**	**2.48**	**29**	Pn	Pb	14 01 14.8	-1.5
TKDS	**Koohdasht(Taba**	**2.87**	**357**	Pn	Pn	14 01 20.2	+2.7
IDAH	**Dahanechah**	**2.96**	**47**	Pn	Pb	14 01 22.5	-2.1
AFRZ	**Afriz**	**3.04**	**28**	Pn	Pn	14 01 22.7	+2.7
TNSJ	**Nastanj**	**3.27**	**350**	Pn	Pn	14 01 25.7	+2.7
ISAD	**Sadrabad**	**3.31**	**292**	Pn	Pb	14 01 27.6	-3.0
ZHDN	**Zahedan**	**3.32**	**113**	Pn	Pb	14 01 27.8	-2.9
SHRT	**Shahrakht**	**3.85**	**40**	Pn	Pn	14 01 33.7	+2.8
ANAR	**Anarak**	**3.90**	**310**	Pn	Pn	14 01 35.4	+3.6
TBJM	**Torbat-e-JAM**	**5.18**	**29**	Pn	Pn	14 01 51.8	+2.4

IDC 12 14:04:30.2±2.6, 0°.81S×**132°.72E**, **h0km**, **mb3.2**/2, **mbtmp3.3**/3, **ML3.5**/1, **Error ellipse: s-maj=124.4km s-min=28.6km az=74.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.08**	**175**	P	P	14 08 54.5	0.0
	0.2nm,0.3s,baz=355,slow=11,SNR=15						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**22.75**	**177**	P	P	14 09 34.1	0.0
	0.7nm,0.8s,baz=357,slow=9.4,SNR=24						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**64.70**	**324**	P	P	14 15 10.2	0.0
	0.1nm,0.6s,baz=131,slow=8.2,SNR=1.8						
	0.1nm,0.6s						

IDC ***12*** *14:05:24.3±2.5, 16°.22N*×*95°.32W, h0km, mb3.4/4, mbtmp3.4/5, ML3.5/1, MS3.4/4, Error ellipse: s-maj=43.6km s-min=14.8km az=133.0*

NEIC ***12*** *14:05:26.1±1.9, 15°.94N±0°.05×95°.33W±0°.03, h35km±2km, mb4.5/7, Md4.7/98(MEX), Error ellipse: s-maj=10.2km s-min=3.0km az=210.0*

MEX ***12*** *14:05:27.5±1.3, 16°.05N*×*95°.31W, h58km±16km, MD4.6*

ISC 12 14:05:23.6±2.8, 16°.10N±0°.03×95°.31W±0°.02, h11km±19km, **n101**, **σ1°66**/138, **mb3.7**/8, **MS3.4**/3, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NILT	**Santiago Nilte**	**0.81**	**55**	*e*P	**Pb**	**14 05 39.3**	**-0.5**
NILT				*i* S	**Sb**	**14 05 50.0**	**-0.9**
HUIG	**Huatulco**	**0.83**	**247**		**Pb**	**14 05 40.8**	**+0.7**
HUIG					**Sn**	**14 05 53.2**	**-0.3**
HUIG	**Huatulco**	**0.83**	**247**	*e*P	**Pb**	**14 05 40.8**	**+0.7**
HUIG				*e*S	**Sn**	**14 05 53.2**	**-0.3**
CMIG	**Matias Romero**	**1.07**	**23**	Pg	**Pb**	**14 05 43.3**	**-0.9**
	95nm,0.3s,baz=210,slow=12,SNR=216						
CMIG				LR	LR	14 05 48.1	
	comp=Z,31nm,21.3s,baz=132,slow=25						
CMIG				Lg	Lg	14 05 55.9	
	1µm,0.3s,baz=223,slow=14,SNR=73						
CMIG	**Matias Romero**	**1.07**	**23**	*e*P	**Pb**	**14 05 43.1**	**-1.2**
CMIG				*e*S	**Sb**	**14 05 56.0**	**-2.2**
CARR	**Arriaga**	**1.35**	**83**	*i* P	**Pn**	**14 05 48.5**	**0.0**
CARR				*i* S	**Sn**	**14 06 06.5**	**0.0**
OXLC	**Oaxaca**	**1.64**	**306**	*i* P	**Pn**	**14 05 53.5**	**+0.8**
OXLC				*i* S	**Sn**	**14 06 14.8**	**+0.8**
UXUV	**UXUV**	**1.65**	**42**	*e*P	**Pn**	**14 05 53.4**	**+0.8**
UXUV				*e*S	**Sn**	**14 06 13.8**	**-0.1**
OXIG	**Oaxaca**	**1.67**	**306**		**Pn**	**14 05 53.7**	**+0.7**
OXIG					**Sn**	**14 06 14.5**	**-0.1**
VHO	**Vista Hermosa**	**1.67**	**306**	*e*P	**Pn**	**14 05 53.7**	**+0.7**
VHO				*e*S	**Sn**	**14 06 14.5**	**-0.1**
NEUV	**Arroyo Zacate**	**1.67**	**344**	*i* P	**Pn**	**14 05 52.8**	**-0.1**
NEUV				*e*S	**Sn**	**14 06 13.8**	**-0.5**
PEIG	**Puerto Escondi**	**1.77**	**267**		**Pn**	**14 05 54.7**	**+0.5**
PEIG					**Sn**	**14 06 15.3**	**-1.4**
PEIG	**Puerto Escondi**	**1.77**	**267**	*e*P	**Pn**	**14 05 54.7**	**+0.5**
PEIG				*e*S	**Sn**	**14 06 15.3**	**-1.4**
PCIG		**2.05**	**101**		**Pn**	**14 05 58.7**	**+0.6**
PCIG					**Sn**	**14 06 22.6**	**-1.2**
PCIG		**2.05**	**101**	*e*P	**Pn**	**14 05 58.7**	**+0.6**
PCIG				*e*S	**Sn**	**14 06 22.6**	**-1.2**
TUIG	**Tuzandepetl**	**2.11**	**24**	*e*P	**Pn**	**14 05 59.5**	**+0.6**
TUIG				*e*S	**Sn**	**14 06 25.1**	**+0.1**
TGIG		**2.21**	**72**		**Pn**	**14 06 01.8**	**+1.4**
TGIG					**Sn**	**14 06 28.0**	**+0.3**
TGIG		**2.21**	**72**	*e*P	**Pn**	**14 06 01.8**	**+1.4**
TGIG				*e*S	**Sn**	**14 06 28.0**	**+0.3**
TGBT	**Tuxtla Gutierr**	**2.24**	**72**		**Pb**	**14 06 03.9**	**-0.2**
TGBT					**Sb**	**14 06 32.6**	**+0.8**
TGBT	**Tuxtla Gutierr**	**2.24**	**72**	*e*P	**Pb**	**14 06 03.9**	**-0.2**
TGBT				*i* S	**Sb**	**14 06 32.6**	**+0.8**
YOIG	**Yosondua**	**2.27**	**290**		**Pn**	**14 06 01.9**	**+0.5**
YOIG					**Sn**	**14 06 28.6**	**-0.9**
YOIG	**Yosondua**	**2.27**	**290**	*e*P	**Pn**	**14 06 01.9**	**+0.5**
YOIG				*e*S	**Sn**	**14 06 28.6**	**-0.9**
PMUV	**Sontecomapan**	**2.44**	**4**	*e*P	**Pn**	**14 06 03.8**	**+0.2**
PMUV				*e*S	**Sn**	**14 06 31.5**	**-2.0**
TXIG	**Tlaxiaco**	**2.62**	**296**		**Pn**	**14 06 07.5**	**+1.3**
TXIG					**Sn**	**14 06 35.6**	**-2.5**
TXIG	**Tlaxiaco**	**2.62**	**296**	*e*P	**Pn**	**14 06 07.5**	**+1.3**
TXIG				*e*S	**Sn**	**14 06 35.6**	**-2.5**
PNIG	**Pinotepa**	**2.72**	**277**		**Pn**	**14 06 06.7**	**-0.6**
PNIG					**Sn**	**14 06 36.7**	**-3.6**
PNIG	**Pinotepa**	**2.72**	**277**	*e*P	**Pn**	**14 06 06.7**	**-0.6**
PNIG				*e*S	**Sn**	**14 06 36.7**	**-3.6**
HLIG	**Huajuapan de L**	**2.94**	**306**		**Pn**	**14 06 11.8**	**+1.3**
HLIG					**Sn**	**14 06 44.8**	**-1.2**
HLIG	**Huajuapan de L**	**2.94**	**306**	*e*P	**Pn**	**14 06 11.8**	**+1.3**
HLIG				*e*S	**Sn**	**14 06 44.8**	**-1.2**
TPIG	**Tehuac#an**	**3.03**	**320**		**Pn**	**14 06 15.1**	**+3.4**
TPIG					**Sn**	**14 06 49.1**	**+1.1**
TPIG	**Tehuac#an**	**3.03**	**320**	*e*P	**Pn**	**14 06 15.1**	**+3.4**
TPIG				*e*S	**Sn**	**14 06 49.1**	**+1.1**
CCIG	**Comitan**	**3.06**	**86**		**Pn**	**14 06 12.4**	**+0.3**
CCIG	**Comitan**	**3.06**	**86**	*e*P	**Pn**	**14 06 12.9**	**+0.8**
CCIG				*e*S	**Sn**	**14 06 47.2**	**-1.6**
PATR	**El Naranjo**	**3.12**	**108**	*e*P	**Pn**	**14 06 15.3**	**+2.2**
PATR				*e*S	**Sn**	**14 06 50.8**	**+0.3**
PAVE	**Pavencul**	**3.15**	**106**	*e*P	**Pn**	**14 06 16.3**	**+2.8**
PAVE				*e*S	**Sn**	**14 06 51.3**	**+0.1**
THIG		**3.17**	**111**		**Sn**	**14 06 50.3**	**-1.0**
THIG		**3.17**	**111**	*e*S	**Sn**	**14 06 50.3**	**-1.0**
FTIG	**Fresnillo de T**	**3.24**	**304**		**Pn**	**14 06 15.7**	**+1.0**
FTIG					**Sn**	**14 06 52.7**	**-0.6**
FTIG	**Fresnillo de T**	**3.24**	**304**	*e*P	**Pn**	**14 06 15.7**	**+1.0**
FTIG				*e*S	**Sn**	**14 06 52.7**	**-0.6**
CHUJ	**Union Juarez**	**3.25**	**107**	*e*P	**Pn**	**14 06 16.6**	**+1.9**
CHUJ				*e*S	**Sn**	**14 06 54.3**	**+0.7**
MGIG	**Malinaltepec**	**3.38**	**290**		**Pn**	**14 06 18.3**	**+1.8**
MGIG					**Sn**	**14 06 51.9**	**-4.9**
MGIG	**Malinaltepec**	**3.38**	**290**	*e*P	**Pn**	**14 06 18.3**	**+1.8**
MGIG				*e*S	**Sn**	**14 06 51.9**	**-4.9**
TLIG	**Tlapa**	**3.44**	**296**		**Pn**	**14 06 17.6**	**+0.2**
TLIG	**Tlapa**	**3.44**	**296**	*e*P	**Pn**	**14 06 19.0**	**+1.7**
TLIG				*e*S	**Sn**	**14 06 58.4**	**+0.2**
JAUV	**Jalcomulco**	**3.55**	**337**	*e*P	**Pn**	**14 06 18.4**	**-0.4**
JAUV				*e*S	**Sn**	**14 06 58.9**	**-1.9**
CRIG	**Cruz Grande**	**3.72**	**280**		**Pn**	**14 06 20.5**	**-0.5**
CRIG					**Sn**	**14 07 02.2**	**-2.7**
CRIG	**Cruz Grande**	**3.72**	**280**	*e*P	**Pn**	**14 06 20.5**	**-0.5**
CRIG				*e*S	**Sn**	**14 07 02.2**	**-2.7**
HUEH	**Huehuetenango**	**3.75**	**101**	*e*	**Sn**	**14 07 01.9**	**-4.1**
LVIG	**Laguna Verde**	**3.76**	**344**	*e*P	**Pn**	**14 06 21.2**	**-0.4**
LVIG				*e*S	**Sn**	**14 07 04.7**	**-1.1**
RTAL	**Retalhuleu**	**3.83**	**114**	*e*	Sn	14 06 56.3	-11
DAIG	**Los Arroyos**	**4.26**	**283**		**Pn**	**14 06 25.3**	**-3.2**
DAIG					**Sn**	**14 07 16.3**	**-2.0**
DAIG	**Los Arroyos**	**4.26**	**283**	*e*P	**Pn**	**14 06 25.3**	**-3.2**
DAIG				*e*S	**Sn**	**14 07 16.3**	**-2.0**
PPM	**Popocatepetl**	**4.33**	**314**	*e*P	**Pn**	**14 06 31.1**	**+1.2**
PPM				*e*S	**Sn**	**14 07 20.9**	**+0.3**
PPIG	**Popocatepetl**	**4.33**	**314**		**Pn**	**14 06 31.1**	**+1.2**
PPIG					**Sn**	**14 07 20.9**	**+0.3**
AMVM	**AMECAMECA**	**4.48**	**313**	*e*	**Sn**	**14 07 19.6**	**-4.5**
MEIG	**Mezcala**	**4.50**	**294**		**Pn**	**14 06 32.9**	**+1.0**
MEIG					**Sn**	**14 07 22.0**	**-2.4**
MEIG	**Mezcala**	**4.50**	**294**	*e*P	**Pn**	**14 06 32.9**	**+1.0**
MEIG				*e*S	**Sn**	**14 07 22.0**	**-2.4**
YAIG	**Yautepec**	**4.52**	**308**		**Pn**	**14 06 33.2**	**+1.0**
YAIG					**Sn**	**14 07 24.7**	**-0.1**
YAIG	**Yautepec**	**4.52**	**308**	*e*P	**Pn**	**14 06 33.2**	**+1.0**
YAIG				*e*S	**Sn**	**14 07 24.7**	**-0.1**
PLIG	**Platanillo**	**4.61**	**300**		**Pn**	**14 06 34.5**	**+1.1**
PLIG					**Sn**	**14 07 27.8**	**+0.8**
PLIG	**Platanillo**	**4.61**	**300**	*e*P	**Pn**	**14 06 34.5**	**+1.1**
PLIG				*e*S	**Sn**	**14 07 27.8**	**+0.8**
MPVM	**San Francisco**	**4.69**	**312**	*e*		14 07 36.5	
THVM	**De Xico**	**4.73**	**313**	*e*	**Sn**	**14 07 29.9**	**-0.3**
TLVM	**San Miguel Top**	**4.79**	**311**	*e*		14 07 40.5	
XCVM	**Xochimilco**	**4.80**	**311**	*e*	**Sn**	**14 07 35.1**	**+3.3**
CAIG	**El Cayaco**	**4.84**	**282**		**Sn**	**14 07 32.6**	**-0.1**
CAIG	**El Cayaco**	**4.84**	**282**	*e*S	**Sn**	**14 07 32.6**	**-0.1**
PBVM	**Pinon**	**4.90**	**313**	*e*	**Sn**	**14 07 38.7**	**+4.7**
CJVM	**Cuajimalpa**	**4.99**	**311**	*e*		14 07 47.1	
INVM	**La Marquesa**	**5.01**	**310**	*e*	Pn	14 06 45.6	+6.4
INVM				*e*		14 07 40.7	
ZUVM	**ZUMPANGO**	**5.16**	**317**	*e*		14 07 49.4	
TOVM	**TOLUCA**	**5.23**	**308**	*e*		14 07 52.2	
DEIG	**Demacu**	**5.48**	**320**	*e*	**Pn**	**14 06 47.1**	**+1.7**
DEIG				*e*		14 07 59.4	
ACIG	**Acambay**	**5.81**	**312**	*e*		14 08 10.3	
MTO3	**Montecristo**	**5.99**	**106**	Pn	**Pn**	**14 06 51.7**	**-1.3**
CTUV	**Llano Grande**	**6.07**	**332**	*e*P	**Pn**	**14 06 55.0**	**+1.6**
CTUV				*e*S	**Sn**	**14 08 03.7**	**+0.7**
ZIIG	**Zihuatanejo**	**6.08**	**285**	*e*		14 08 13.9	
MOIG	**Morelia**	**6.63**	**303**	*e*		14 08 33.8	
RPIG	**Rio Verde**	**7.26**	**323**	*e*		14 08 50.5	
GTIG	**Gomez Farias**	**7.83**	**333**	*e*		14 08 55.4	
TEIG	**Tepich**	**7.85**	**57**		**Pn**	**14 07 18.4**	**+0.6**
TEIG	**Tepich**	**7.85**	**57**	Pn	**Pn**	**14 07 19.2**	**+1.4**
	50nm,0.3s,baz=14,slow=1.2,SNR=16						
TEIG				Sn	**Sn**	**14 08 44.2**	**-2.5**
	96nm,0.3s,baz=51,slow=23,SNR=12						
MMIG	**Aquila**	**7.98**	**287**	*e*		14 08 60.0	
LNIG	**Linares**	**9.58**	**337**	*e*		14 09 59.5	
LCR2	**La Lucha 2**	**12.70**	**118**	Pn	Pn	14 08 20.7	-3.9
TXAR	**Lajitas Array**	**15.25**	**331**	Pn	**P**	**14 09 03.2**	**-0.9**
	baz=153,slow=10,SNR=2.1						
	0.7nm,0.8s						
BRDY	**Brady**	**15.49**	**348**	Pn	**Pn**	**14 09 02.2**	**0.0**
BRDY				IAmb	IAmb	14 09 23.6	
	comp=Z,3.2nm,0.8s						
LPIG	**La Paz**	**16.17**	**302**	LR	LR	14 15 35.2	
	comp=Z,70nm,18.6s,baz=32,slow=38						
Z47A	**Carrollton**	**18.25**	**20**		**Pn**	**14 09 34.2**	**-2.7**
Z47A				IAmb	IAmb	14 10 18.7	
	comp=Z,32nm,1.3s						
WCI	**Wyandotte Cave**	**23.44**	**18**	P	**P**	**14 10 32.2**	**-0.7**
WCI				IAmb	IAmb	14 10 35.3	
	comp=Z,24nm,1.4s						
SDV	**Santo Domingo**	**25.12**	**104**	LR	LR	14 21 41.5	
	comp=Z,52nm,20.2s,baz=296,slow=39						
PDAR	**Pinedale Array**	**29.25**	**338**	P	**P**	**14 11 27.6**	**+1.7**
	comp=Z,0.5nm,0.9s,baz=145,slow=6.4,SNR=2.2						
	comp=Z,0.5nm,0.9s						
NVAR	**Mina Array Bea**	**30.05**	**322**	P	**P**	**14 11 35.6**	**+2.5**
	comp=Z,0.4nm,0.6s,baz=135,slow=9.0,SNR=4.2						
NVAR				LR	LR	14 25 36.5	
	comp=Z,90nm,19.5s,baz=66,slow=41						
	comp=Z,0.4nm,0.6s						
REDW	**Red Top Meadow**	**30.23**	**337**	P	**P**	**14 11 33.4**	**-1.2**
REDW				IAmb	IAmb	14 11 54.1	
	comp=Z,72nm,1.4s						
MOOW	**Moose Ponds**	**30.53**	**338**	P	**P**	**14 11 37.9**	**+0.6**
MOOW				IAmb	IAmb	14 11 40.4	
	comp=Z,2.3nm,1.4s						
YBH	**Yreka Blue Hor**	**34.76**	**323**	LR	LR	14 28 00.8	
	comp=Z,110nm,19.3s,baz=200,slow=39						
YKA	**Yellowknife Ar**	**48.30**	**348**	P	**P**	**14 14 05.8**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=152,slow=7.1,SNR=3.5						
	comp=Z,0.2nm,0.6s						
ILAR	**Eielson Array**	**59.67**	**337**	P	**P**	**14 15 28.4**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=125,slow=4.0,SNR=4.2						
	comp=Z,0.3nm,0.8s						
BMAR	**Burnt Mountain**	**60.24**	**340**	P	**P**	**14 15 31.6**	**-0.2**
KTH	**Kantishna Hill**	**60.69**	**335**	P	**P**	**14 15 34.2**	**-0.7**
KTH				IAmb	IAmb	14 15 55.9	
	comp=Z,10nm,1.4s						
FIA1	**FINESS Array S**	**89.94**	**24**	P	**P**	**14 18 23.8**	**+1.0**

IDC ***12*** *14:11:13.5±1.6, 5°.69N*×*124°.01E, h555km±19km, mb3.2/14, mbtmp4.2/14, Error ellipse: s-maj=38.2km s-min=7.8km az=64.0*

NEIC ***12*** *14:11:13.1±1.2, 5°.76N±0°.1*×*123°.9E±0°.1, h535km±10km, mb4.1/61, Error ellipse: s-maj=20.8km s-min=14.5km az=72.0*

ISC 12 14:11:13.3±0.5, 5°.66N±0°.06×**123°.9E±0°.1, h550**km, **n99**, **σ1°05**/106, **mb4.1**/44, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MYLDM	**Lahad Datu**	**5.42**	**265**	P	**P**	**14 12 47.1**	**+0.3**
TOLI2	**Tolitoli**	**5.50**	**215**	P	**P**	**14 12 46.2**	**-1.3**
TNTI	**Ternate**	**5.95**	**145**	P	**P**	**14 12 49.9**	**-1.6**
LUWI	**Luwuk**	**6.75**	**190**	P	**P**	**14 12 57.5**	**-1.5**
LUWI	**Luwuk**	**6.75**	**190**	P	**P**	**14 12 57.5**	**-1.5**
KKM	**Kota Kinabalu**	**7.68**	**273**	P	**P**	**14 13 06.3**	**-1.7**
SANI	**Sanana**	**7.93**	**165**	P	**P**	**14 13 07.1**	**-3.3**
SBUM	**Sibu**	**12.10**	**255**	P	**P**	**14 13 52.2**	**-0.8**
SOEI	**Soe**	**15.32**	**179**	P	**P**	**14 14 25.9**	**-0.4**
SOEI	**Soe**	**15.32**	**179**	P	**P**	**14 14 26.1**	**-0.1**
PLAI	**Plampang**	**15.64**	**203**	P	**P**	**14 14 31.7**	**+2.3**
DLV	**T Lat**	**16.48**	**293**	P	**P**	**14 14 37.4**	**-0.3**
JAGI	**Jajag, Banyuwa**	**17.09**	**215**	P	**P**	**14 14 44.1**	**+1.2**
YULB	**Yu-li**	**17.81**	**352**	P	**P**	**14 14 47.4**	**-2.0**
TPUB	**Ta-pu**	**17.82**	**350**	P	**P**	**14 14 49.2**	**-0.3**
TPUB	**Ta-pu**	**17.82**	**350**	P	**P**	**14 14 49.3**	**-0.3**
SSLB	**Suanglung**	**18.25**	**351**	P	**P**	**14 14 52.9**	**-0.6**
SSLB	**Suanglung**	**18.25**	**351**	P	**P**	**14 14 53.2**	**-0.3**
YHNB	**Yeheng**	**19.06**	**353**	P	**P**	**14 15 00.2**	**-0.8**
YHNB	**Yeheng**	**19.06**	**353**	P	**P**	**14 15 00.5**	**-0.4**
MTN	**Manton Dam**	**19.73**	**159**	P	**P**	**14 15 07.0**	**-0.1**
MTN	**Manton Dam**	**19.73**	**159**	P	**P**	**14 15 06.9**	**-0.1**
KDU	**Kakadu**	**20.11**	**155**	P	**P**	**14 15 10.0**	**-0.5**
KNRA	**Kununurra**	**21.73**	**167**	P	**P**	**14 15 25.2**	**+0.1**
KNRA	**Kununurra**	**21.73**	**167**	P	**P**	**14 15 25.8**	**+0.7**
FITZ	**Fitzroy Crossi**

C18K	**Utukok River**	**79.27**	**21**	P	**P**	**14 22 22.4**	**+0.9**
C18K				IAmb	IAmb	14 22 37.6	
	comp=Z,8.5nm,1.5s						
H18K	**Honhosa River**	**79.73**	**25**	P	**P**	**14 22 24.9**	**+0.8**
H18K				IAmb	IAmb	14 22 25.9	
	comp=Z,6.0nm,1.1s						
C19K	**Lookout Ridge**	**79.93**	**21**	P	**P**	**14 22 26.8**	**+1.7**
C19K				IAmb	IAmb	14 22 51.4	
	comp=Z,13nm,1.5s						
L18K	**Granite Mounta**	**80.07**	**28**	P	**P**	**14 22 27.2**	**+1.4**
L18K				IAmb	IAmb	14 22 38.0	
	comp=Z,18nm,1.5s						
D19K	**Kuna River**	**80.35**	**21**	P	**P**	**14 22 28.5**	**+1.3**
D19K				IAmb	IAmb	14 23 05.2	
	comp=Z,7.3nm,1.4s						
G19K	**Purcell Mounta**	**80.40**	**24**	P	**P**	**14 22 28.7**	**+1.3**
G19K				IAmb	IAmb	14 22 41.7	
	comp=Z,7.0nm,1.5s						
TTA	**Tatalina**	**80.46**	**27**	P	**P**	**14 22 29.5**	**+1.5**
TTA				IAmb	IAmb	14 23 13.4	
	comp=Z,6.8nm,1.4s						
H19K	**Roundabout Mou**	**80.58**	**25**	P	**P**	**14 22 30.2**	**+1.8**
L19K	**White Mountain**	**80.92**	**28**	P	**P**	**14 22 31.7**	**+1.4**
L19K				IAmb	IAmb	14 22 50.4	
	comp=Z,14nm,1.2s						
K20K	**Telida**	**81.38**	**27**	P	**P**	**14 22 33.7**	**+1.1**
K20K				IAmb	IAmb	14 22 53.0	
	comp=Z,7.6nm,1.3s						
J20K	**Nowinta River**	**81.42**	**26**	P	**P**	**14 22 33.9**	**+1.1**
J20K				IAmb	IAmb	14 22 55.6	
	comp=Z,11nm,1.4s						
IMAR	**Indian Mountai**	**81.73**	**24**	P	**P**	**14 22 35.6**	**+1.3**
B21K	**Ikpikpuk River**	**81.75**	**20**	P	**P**	**14 22 35.9**	**+1.6**
B21K				IAmb	IAmb	14 22 56.7	
	comp=Z,9.1nm,1.5s						
E21K	**Killik River**	**81.86**	**22**	P	**P**	**14 22 36.2**	**+1.2**
B22K	**Teshekpuk Lake**	**82.23**	**20**	P	**P**	**14 22 38.1**	**+1.3**
B22K				IAmb	IAmb	14 22 39.2	
	comp=Z,3.4nm,0.8s						
CAST	**Castle Rocks**	**82.28**	**27**	P	**P**	**14 22 37.9**	**+0.7**
CAST				IAmb	IAmb	14 22 58.7	
	comp=Z,8.9nm,1.5s						
D22K	**Ayikyak River**	**82.37**	**21**	P	**P**	**14 22 39.1**	**+1.6**
E22K	**Anaktuvuk Pass**	**82.64**	**22**	P	**P**	**14 22 40.7**	**+1.7**
E22K				IAmb	IAmb	14 23 15.1	
	comp=Z,4.8nm,1.3s						
BPAW	**Bear Paw Mtn.**	**82.79**	**26**	P	**P**	**14 22 40.6**	**+0.8**
C23K	**Itkillik River**	**83.16**	**20**	P	**P**	**14 22 43.0**	**+1.5**
C23K				IAmb	IAmb	14 22 43.6	
	comp=Z,3.7nm,0.6s						
TOLK	**Toolik Lake Re**	**83.49**	**22**	P	**P**	**14 22 44.6**	**+1.4**
SML	**Sawmill**	**83.98**	**29**	P	**P**	**14 22 46.1**	**+0.3**
H24K	**Noodor Dome**	**84.14**	**24**	P	**P**	**14 22 47.7**	**+1.3**
ILAR	**Eielson Array**	**84.58**	**25**	P	**P**	**14 22 47.2**	**-1.4**
	comp=Z,0.2nm,0.7s,baz=231,slow=5.6,SNR=7.2						
	comp=Z,0.2nm,0.7s						
E25K	**Arctic Village**	**84.98**	**22**	P	**P**	**14 22 51.9**	**+1.4**
E25K				IAmb	IAmb	14 22 53.5	
	comp=Z,5.5nm,1.4s						
BMAR	**Burnt Mountain**	**85.39**	**23**	P	**P**	**14 22 54.0**	**+1.5**
VNDA	**Vanda**	**85.69**	**172**	P	**P**	**14 22 53.9**	**+0.2**
VNDA				IAmb	IAmb	14 23 00.2	
	comp=Z,7.8nm,1.5s						
I26K	**Coal Creek Min**	**86.12**	**25**	P	**P**	**14 22 56.4**	**+0.4**
I26K				IAmb	IAmb	14 23 26.2	
	comp=Z,9.9nm,1.4s						
BCAR	**Beaver Creek A**	**86.94**	**27**	P	**P**	**14 23 00.5**	**+0.5**
E28M	**Babbage River**	**87.16**	**21**	P	**P**	**14 23 01.8**	**+1.0**
BARN	**Barnard Glacie**	**87.23**	**29**	P	**P**	**14 23 01.9**	**+0.3**
I28M	**Miner Creek**	**87.45**	**25**	P	**P**	**14 23 02.8**	**+0.4**
ARCES	**ARCESS Array B**	**87.68**	**340**	P	**P**	**14 23 03.1**	**-0.1**
	comp=Z,4.1nm,1.0s,baz=76,slow=3.8,SNR=1.8						
	comp=Z,4.1nm,1.0s						
G29M	**Pine Creek**	**87.99**	**23**	P	**P**	**14 23 05.3**	**+0.5**
G29M				IAmb	IAmb	14 23 07.6	
	comp=Z,7.4nm,1.4s						
FINES	**FINESS Array B**	**88.82**	**332**	P	**P**	**14 23 07.3**	**-1.3**
	comp=Z,3.3nm,0.9s,baz=64,slow=9.4,SNR=4.1						
	comp=Z,3.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**119.66**	**289**	PKP	**PKPdf**	**14 29 00.7**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=64,slow=1.5,SNR=5.0						

*IDC **12** 14:14:10.5±1.1, 13°.28S×166°.82E, h0km, mb4.0/8, mbtmp4.0/9, ML3.3/1, MS3.4/2, Error ellipse: s-maj=39.0km s-min=21.8km az=98.0*

ISC 12 14:14:16.0±1.0, 13°.26S±0°.09×166°.8E±0°.2, h35km, n12, σ1§02/11, mb3.9/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.70**	**299**	LR	LR	14 19 08.7	
	comp=Z,369nm,18.7s,baz=114,slow=38						
DZM	**Mont Dzumac**	**8.77**	**182**	Pn	**Pn**	**14 16 20.2**	**-0.2**
	0.4nm,0.3s,baz=13,slow=3.8,SNR=11						
DZM				Sn	**Sn**	**14 17 59.1**	**+1.0**
	baz=156,slow=21						
	1.6nm,0.4s						
CTA	**Charters Tower**	**20.78**	**248**	LR	LR	14 26 14.9	
	comp=Z,61nm,18.2s,baz=86,slow=35						
STKA	**Stephens Creek**	**29.60**	**227**	P	**P**	**14 20 18.1**	**+0.1**
	1.1nm,0.5s,baz=49,slow=11,SNR=4.4						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**32.77**	**247**	P	**P**	**14 20 44.8**	**-1.3**
	0.3nm,0.5s,baz=76,slow=9.3,SNR=7.2						
	0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**73.92**	**294**	P	**P**	**14 25 49.6**	**+1.4**
	0.4nm,0.4s,baz=111,slow=4.0,SNR=1.9						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**76.75**	**180**	P	**P**	**14 26 03.1**	**-0.7**
	1.3nm,0.7s,baz=80,slow=7.3,SNR=7.6						
	1.3nm,0.7s						
SONM	**Songino Array**	**81.04**	**324**	P	**P**	**14 26 28.0**	**+0.5**
	0.4nm,0.4s,baz=139,slow=6.8,SNR=4.3						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**85.29**	**18**	P	**P**	**14 26 48.5**	**-0.4**
	0.4nm,0.5s,baz=229,slow=5.1,SNR=8.8						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**95.81**	**317**	P	**P**	**14 27 39.3**	**+0.5**
	0.7nm,0.8s,baz=94,slow=6.1,SNR=5.7						
	0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**95.93**	**324**	P	**P**	**14 27 37.9**	**-1.3**
	1.2nm,0.6s,baz=114,slow=6.5,SNR=3.4						
	1.2nm,0.6s						
ARCES	**ARCESS Array B**	**118.72**	**345**	PKP	**PKiKP**	**14 33 00.9**	**+0.9**
	1.6nm,0.7s,baz=72,slow=2.9,SNR=14						

*KRNET **12** 14:27:32.1±0.1, 39°.39N×73°.46E, h17km, mb3.5*
*SOME **12** 14:27:33.9, 39°.55N×73°.50E, h0km*
*NNC **12** 14:27:37.6±1.4, 39°.63N×73°.58E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=10.9km s-min=7.9km az=164.0*

ISC 12 14:27:31.9±1.0, 39°.42N±0°.05×73°.49E±0°.03, h10km, n71, σ2§67/95, 37C-23D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.59**	**1**	⇑*i*P	**Pb**	**14 27 44.1**	**-0.4**
	baz=3.0						
SFK				⇑*i*S	**Sb**	**14 27 52.9**	**-0.2**
	baz=3.0						
OHH	**Osh**	**1.23**	**334**	⇑*i*P	**Pg**	**14 27 55.3**	**-0.3**
	baz=36						
OHH				⇑*i*S	**Sn**	**14 28 12.6**	**+0.6**
	baz=36						
DRK	**Karamyk**	**1.31**	**273**	⇑*e*P	**Pn**	**14 27 56.4**	**-0.2**
	baz=75						
DRK				⇑*e*S	**Sg**	**14 28 14.2**	**-0.1**
	baz=75						
ARSB	**Arslanbob**	**1.94**	**349**	⇑*i*P	**Pg**	**14 28 08.1**	**-1.1**
	baz=49						
ARSB				⇑*i*S	**Sg**	**14 28 34.3**	**0.0**
	baz=49						
BTK	**Batken**	**2.16**	**288**	⇓*i*P	**Pb**	**14 28 10.5**	**-0.7**
	baz=89						
BTK				⇓*i*S	**Sb**	**14 28 38.6**	**+0.6**
	baz=89						
GAR	**Garm**	**2.50**	**261**	⇓*i*P	**Pb**	**14 28 15.6**	**-1.5**
	baz=62						
GAR				⇓*i*S	**Sb**	**14 28 46.2**	**-1.8**
	baz=62						
ARLS	**Aral**	**2.52**	**14**	⇑*i*P	**Pb**	**14 28 16.2**	**-1.1**
	baz=15						
ARLS				⇑*i*S	**Sb**	**14 28 48.5**	**+0.1**
	baz=15						
ARK	**Arkit**	**2.64**	**334**	⇑*i*P	**Pb**	**14 28 17.7**	**-1.8**
	baz=35						
ARK				⇑*i*S	**Sb**	**14 28 51.2**	**-0.8**
	baz=35						
AML	**Almayashu**	**2.71**	**3**	P	**Pb**	**14 28 21.1**	**+0.3**
	SNR=15						
AML	**Almayashu**	**2.71**	**3**	⇑*i*P	**Pb**	**14 28 18.8**	**-2.0**
	baz=4.0						
AML				⇑*i*S	**Sb**	**14 28 53.5**	**-0.7**
	baz=4.0						
AML	**Almayashu**	**2.71**	**3**	⇓Pg	**Pb**	**14 28 21.1**	**+0.3**
	0.5nm,0.4s						
AML				⇑Lg	Lg	14 29 00.1	
	12nm,0.7s						
TRKS	**Terek-Say**	**2.77**	**320**	⇑*i*P	**Pn**	**14 28 18.3**	**+1.8**
	baz=21						
TRKS				⇑*i*S	**Sn**	**14 28 52.2**	**+2.1**
	baz=21						
NRN	**Naryn**	**2.77**	**43**	⇓*i*P	**Pb**	**14 28 19.6**	**-2.2**
	baz=43						
NRN				⇓*i*S	**Sb**	**14 28 54.4**	**-1.6**
	baz=43						
UCH	**Uchtor**	**2.91**	**15**	P	**Pb**	**14 28 24.3**	**+0.1**
	SNR=9.6						
KZA	**Kyzart**	**2.97**	**26**	P	**Pb**	**14 28 25.8**	**+0.6**
	SNR=10						
KZA	**Kyzart**	**2.97**	**26**	⇑*i*P	**Pb**	**14 28 22.3**	**-2.9**
	baz=26						
KZA				⇑*i*S	**Sb**	**14 28 59.7**	**-2.0**
	baz=26						
EKS2	**Erkin-Say**	**3.24**	**4**	⇓*i*P	**Pb**	**14 28 26.4**	**-3.3**
	baz=4.0						
EKS2				⇓*i*S	**Sb**	**14 29 06.0**	**-3.3**
	baz=4.0						
AAK	**Ala-Archa**	**3.30**	**13**	P	**Pb**	**14 28 30.0**	**-0.7**
	SNR=13						
AAK	**Ala-Archa**	**3.30**	**13**	⇑*i*P	**Pb**	**14 28 27.2**	**-3.5**
	baz=13						
AAK				⇑*i*S	**Sb**	**14 29 07.4**	**-3.6**
	baz=13						
MRKS	**Merke**	**3.33**	**357**	*e*Pg	**Pg**	**14 28 34.0**	**-1.6**
	10nm,0.4s						
MRKS				*e*Lg	Lg	14 29 17.1	
	33nm,0.6s						
MRKS	**Merke**	**3.33**	**357**	Pg	**Pg**	**14 28 34.0**	**-1.6**
	10nm,0.4s						
MRKS				Lg	Lg	14 29 17.1	
	33nm,0.6s						
KBK	**Karagaybulak**	**3.41**	**18**	⇓*i*P	**Pn**	**14 28 28.7**	**+3.3**
	baz=19						
KBK				⇓*i*S	**Sb**	**14 29 10.2**	**-4.0**
	baz=19						
CHGR	**Chuyangaron**	**3.46**	**259**	⇓*i*P	**Pn**	**14 28 28.2**	**+2.2**
	baz=59						
CHGR				⇓*i*S	**Sn**	**14 29 09.3**	**+2.2**
	baz=59						
FRU1	**Bishkek**	**3.49**	**14**	⇑*i*P	**Pb**	**14 28 29.9**	**-4.0**
	baz=14						
FRU1				⇑*i*S	**Sb**	**14 29 12.4**	**-4.0**
	baz=14						
ULHL	**Ulahol**	**3.51**	**36**	P	**Pg**	**14 28 37.8**	**-1.3**
	SNR=6.7						
ULHL	**Ulahol**	**3.51**	**36**	⇑*i*P	**Pn**	**14 28 30.1**	**+3.4**
	baz=36						
ULHL				⇑*i*S	**Sb**	**14 29 12.5**	**-4.5**
	baz=36						
BOOM	**Boomskoye usch**	**3.58**	**30**	⇓*i*P	**Pb**	**14 28 31.7**	**-3.8**
	baz=30						
BOOM				⇓*i*S	**Sb**	**14 29 14.5**	**-4.6**
	baz=30						
CHMS	**Chumysh**	**3.70**	**14**	⇑*i*P	**Pn**	**14 28 32.5**	**+3.3**
	baz=15						
CHMS				⇑*i*S	**Sn**	**14 29 16.6**	**+3.8**
	baz=15						
CHMS	**Chumysh**	**3.70**	**14**	⇓Pg	**Pb**	**14 28 39.5**	**+2.1**
	1.3nm,0.3s						
CHMS				⇑Lg	Lg	14 29 29.1	
	56nm,0.8s						
TKM2	**Tokmak 2**	**3.84**	**24**	⇓*i*P	**Pn**	**14 28 34.4**	**+3.1**
	baz=24						
TKM2				⇓*i*S	**Sn**	**14 29 20.4**	**+3.8**
	baz=24						
TKM2	**Tokmak 2**	**3.84**	**24**	⇓Pn	**Pb**	**14 28 37.3**	**-2.6**
	2.1nm,0.5s						
TKM2				⇓Lg	Lg	14 29 33.8	
	26nm,0.8s						
USP	**Ospenovka**	**3.92**	**11**	⇑*i*P	**Pn**	**14 28 35.3**	**+3.1**
	baz=11						
USP				⇑*i*S	**Sn**	**14 29 21.8**	**+3.6**
	baz=11						
TARG	**Taragay, Kyrgy**	**4.01**	**54**	⇓*i*P	**Pn**	**14 28 37.1**	**+3.3**
	baz=53						
TARG				⇓*i*S	**Sn**	**14 29 24.5**	**+3.4**
	baz=53						
KST	**Kastek**	**4.07**	**26**	*e*Pg	**Pg**	**14 28 48.3**	**-1.6**
	4.5nm,0.6s						
KST				*e*Lg	Lg	14 29 41.5	
	54nm,1.0s						
KST	**Kastek**	**4.07**	**26**	Pg	**Pg**	**14 28 48.3**	**-1.6**
	4.5nm,0.6s						
KST				Lg	Lg	14 29 41.4	
	54nm,1.0s						
SGDS	**Sogindy**	**4.12**	**12**	Pg	**Pg**	**14 28 49.1**	**-1.7**
	1.7nm,0.3s						
SGDS				Lg	Lg	14 29 42.5	
	14nm,1.0s						
KK31	**Karatay Array**	**4.31**	**330**	⇑Pn	Pn	14 28 42.3	+4.7
	0.7nm,0.3s,baz=136,slow=12,SNR=31						
KK31				⇑Lg	Lg	14 29 52.1	
	8.3nm,0.6s,baz=142,slow=28,SNR=5.3						
KKAR	**Karatay Array**	**4.31**	**330**	⇑*i*P	**Pn**	**14 28 40.8**	**+3.2**
	baz=30						
KKAR				⇑*i*S	**Sn**	**14 29 30.8**	**+2.9**
	baz=30						
MTBS	**Maitube**	**4.31**	**30**	*e*Pg	**Pg**	**14 28 52.5**	**-2.1**
	7.9nm,0.5s						
MTBS				*e*Lg	Lg	14 29 48.8	
	21nm,0.8s						
MTBS	**Maitube**	**4.31**	**30**	Pg	**Pg**	**14 28 52.5**	**-2.1**
	7.9nm,0.5s						
MTBS				Lg	Lg	14 29 48.8	
	21nm,0.8s						
TNSS	**Tian-Shan**	**4.45**	**35**	*e*Pg	**Pg**	**14 28 55.0**	**-2.3**
	6.0nm,0.7s						
TNSS				*e*Lg	Lg	14 29 53.2	
	15nm,0.7s						
TNSS	**Tian-Shan**	**4.45**	**35**	Pg	**Pg**	**14 28 55.0**	**-2.3**
	6.0nm,0.7s						
TNSS				Lg	Lg	14 29 53.3	
	15nm,0.7s						
KRBS	**Karabastau**	**4.57**	**20**	*e*Pg	**Pg**	**14 28 57.1**	**-2.4**
	4.6nm,0.7s						
KRBS				*e*Lg	Lg	14 29 57.3	
	25nm,0.8s						
KRBS	**Karabastau**	**4.57**	**20**	Pg	**Pg**	**14 28 57.1**	**-2.4**
	4.6nm,0.7s						
KRBS				Lg	Lg	14 29 57.3	
	25nm,0.8s						
MDOK	**Medeo**	**4.60**	**34**	*e*Pg	**Pg**	**14 28 57.5**	**-2.5**
	5.3nm,0.6s						
MDOK				*e*Lg	Lg	14 29 58.2	
	24nm,0.7s						
MDOK	**Medeo**	**4.60**	**34**	Pg	**Pg**	**14 28 57.5**	**-2.5**
	5.3nm,0.6s						
MDOK				Pg	Pb	14 28 57.5	+4.8
	2.4nm,0.4s						
MDOK				Lg	Lg	14 29 56.6	
	28nm,0.8s						
MDOK				Lg	Lg	14 29 58.2	
	24nm,0.7s						
ANVS	**Anan'yevo**	**4.61**	**42**	⇑*e*P	**Pn**	**14 28 45.4**	**+3.6**
	baz=42						
ANVS				⇑*i*S	**Sn**	**14 29 38.8**	**+3.4**
	baz=42						
KOTS	**Kotyrbulak**	**4.68**	**34**	*e*Pg	**Pg**	**14 28 59.5**	**-2.1**
	8.7nm,0.5s						
KOTS				*e*Lg	Lg	14 30 01.1	
	50nm,1.0s						
KOTS	**Kotyrbulak**	**4.68**	**34**	Pg	**Pg**	**14 28 59.5**	**-2.1**
	8.7nm,0.5s						
KOTS				Lg	Lg	14 30 01.1	
	50nm,1.0s						
KUU	**Kurty**	**4.95**	**25**	*e*Pg	**Pg**	**14 29 04.3**	**-2.4**
	3.6nm,0.6s						
KUU				*e*Lg	Lg	14 30 09.1	
	27nm,0.7s						
KUU	**Kurty**	**4.95**	**25**	Pg	**Pg**	**14 29 04.9**	**-1.8**
	3.8nm,0.5s						
KUU				Lg	Lg	14 30 09.7	
	26nm,1.0s						
SATY	**Saty**	**5.19**	**44**	*e*Pg	**Pg**	**14 29 08.8**	**-2.4**
	7.6nm,0.6s						
SATY				*e*Lg	Lg	14 30 16.7	
	23nm,1.6s						
SATY	**Saty**	**5.19**	**44**	Pg	**Pg**	**14 29 08.8**	**-2.4**
	7.6nm,0.6s						
SATY				Lg	Lg	14 30 16.7	
	23nm,1.6s						
KURS	**Kuram**	**5.37**	**39**	*e*Pg	**Pg**	**14 29 12.2**	**-2.5**
	4.1nm,0.8s						
KURS				*e*Lg	Lg	14 30 23.2	
	13nm,1.4s						
KURS	**Kuram**	**5.37**	**39**	Pg	**Pg**	**14 29 12.2**	**-2.5**
	4.1nm,0.8s						
KURS				Lg	Lg	14 30 23.2	
	13nm,1.4s						
UZB	**Uzynbulak**	**5.58**	**46**	*e*Pg	**Pg**	**14 29 16.4**	**-2.5**
	2.4nm,0.1s						
UZB				*e*Lg	Lg	14 30 29.7	
	8.2nm,1.1s						
UZB	**Uzynbulak**	**5.58**	**46**	Pg	**Pg**	**14 29 16.4**	**-2.5**
	2.4nm,0.1s						
UZB				Lg	Lg	14 30 29.7	
	8.2nm,1.1s						
KPKS	**Kokpek**	**5.62**	**42**	*e*Pg	**Pg**	**14 29 16.1**	**-3.4**
	6.1nm,0.4s						
KPKS				*e*Lg	Lg	14 30 29.7	
	22nm,0.6s						
KPKS	**Kokpek**	**5.62**	**42**	Pg	**Pg**	**14 29 16.1**	**-3.4**
	6.1nm,0.4s						
KPKS				Lg	Lg	14 30 29.7	
	22nm,0.6s						
BTLS	**Baital**	**5.63**	**4**	*e*Pg	**Pg**	**14 29 16.8**	**-2.9**
	0.8nm,0.2s						
BTLS				*e*Lg	Lg	14 30 30.4	
	5.3nm,0.7s						
BTLS	**Baital**	**5.63**	**4**	Pg	**Pg**	**14 29 15.8**	**-4.0**
	1.7nm,0.5s						
BTLS				Lg	Lg	14 30 28.7	
	5.3nm,0.7s						
ARXS	**Arharly**	**5.78**	**33**	*e*Pg	**Pg**	**14 29 19.7**	**-2.8**
	3.2nm,0.5s						
ARXS				*e*Lg	Lg	14 30 35.1	
	12nm,0.6s						
ARXS	**Arharly**	**5.78**	**33**	Pg	**Pg**	**14 29 18.1**	**-4.4**
	6.0nm,0.5s						
ARXS				Lg	Lg	14 30 33.0	
	12nm,0.7s						
PDGK	**Podgornoye**	**5.96**	**47**	Pg	**Pg**	**14 29 23.0**	**-3.2**
	1.2nm,0.5s						
PDGK				Lg	Lg	14 30 41.8	
	3.0nm,1.0s						
PDGK	**Podgornoye**	**5.96**	**47**	⇓Pg	**Pb**	**14 29 20.4**	**+4.3**
	0.9nm,0.5s						
PDGK				⇑Lg	Lg	14 30 40.8	
	11nm,0.8s						
BLB	**Baldybastay**	**5.97**	**37**	Pg	**Pg**	**14 29 23.0**	**-3.3**
	9.0nm,0.5s						
BLB				Lg	Lg	14 30 41.1	
	14nm,1.3s						
KNOS	**Konyrlen**	**6.50**	**39**	Pg	**Pg**	**14 29 32.5**	**-4.0**
	6.7nm,1.0s						
KNOS				Lg	Lg	14 30 57.2	
	7.6nm,0.9s						
DJR	**Jarkent**	**6.79**	**42**	*e*Pg	**Pg**	**14 29 38.6**	**-3.4**
	0.8nm,0.1s						
DJR				*e*Lg	Lg	14 31 07.9	
	7.5nm,1.0s						
DJR	**Jarkent**	**6.79**	**42**	Pg	**Pg**	**14 29 38.6**	**-3.4**
	0.8nm,0.1s						
DJR				Lg	Lg	14 31 07.9	
	7.5nm,1.0s						
KAPS	**Kapalarasan**	**7.29**	**35**	*e*Pg	**Pg**	**14 29 48.5**	**-3.0**
	1.3nm,0.2s						
KAPS				*e*Lg	Lg	14 31 24.8	
	6.2nm,0.9s						
KAPS	**Kapalarasan**	**7.29**	**35**	Pg	**Pg**	**14 29 49.4**	**-2.0**
	1.3nm,0.3s						
KAPS				Lg	Lg	14 31 26.1	
	7.0nm,0.7s						

*IDC **12** 14:36:47.6±1.2, 30°.84N×57°.00E, h0km, mb3.6/7, mbtmp3.6/10, ML3.4/3, MS3.7/1, Error ellipse: s-maj=25.5km s-min=22.0km az=128.0*
*TEH **12** 14:36:47.7, 30°.73N×57°.29E, h8km±65km, ML3.9*

ISC 12 14:36:48.7±0.7, 30°.76N±0°.04×57°.21E±0°.05, h10km, n37, σ1§53/37, mb3.5/7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.61**	**290**	Pg	**Pb**	**14 37 01.1**	**-0.6**
KHGB	**Koh Gabri**	**0.73**	**239**	Pg	**Pb**	**14 37 02.8**	**-1.0**
TVBK	**TV Kerman**	**0.86**	**207**	Pg	**Pb**	**14 37 05.5**	**-0.5**
CHMN	**Cheshme madani**	**0.94**	**162**	Pg	**Pg**	**14 37 05.1**	**-1.8**
NGRK	**Negar Kerman**	**1.18**	**200**	Pg	**Pg**	**14 37 11.1**	**-0.5**
NGRK				Sg	**Sn**	**14 37 27.3**	**-0.7**
IBAF	**Bafgh**	**1.63**	**301**	Pg	**Pg**	**14 37 19.6**	**-0.4**
KBAM	**BAM**	**1.95**	**146**	Pn	**Pn**	**14 37 22.1**	**+0.2**
BSRN	**Basiran**	**2.04**	**53**	Pn	**Pn**	**14 37 23.8**	**+0.6**
IKOO	**Kooshah**	**2.26**	**42**	Pn	**Pn**	**14 37 27.0**	**+0.6**
TPRV	**Parvadeh(Tabas**	**2.31**	**349**	Pn	**Pb**	**14 37 29.0**	**-1.4**
IMEH	**Mehriz**	**2.31**	**286**	Pn	**Pb**	**14 37 30.1**	**-0.6**
ITEG	**Tejag**	**2.50**	**31**	Pn	**Pn**	**14 37 31.2**	**+1.5**
NHDN	**Nehbandan**	**2.52**	**75**	Pn	**Pn**	**14 37 29.3**	**-0.6**
TKDS	**Koohdasht(Taba**	**2.85**	**359**	Pn	**Pn**	**14 37 35.2**	**+0.9**
IDAH	**Dahanechah**	**3.01**	**48**	Pn	**Pn**	**14 37 37.7**	**+1.0**
AFRZ	**Afriz**	**3.07**	**30**	Pn	**Pn**	**14 37 38.7**	**+1.2**
ISAD	**Sadrabad**	**3.22**	**292**	Pn	**Pb**	**14 37 42.5**	**-3.8**
TNSJ	**Nastanj**	**3.24**	**351**	Pn	**Pn**	**14 37 41.3**	**+1.7**
ZHDN	**Zahedan**	**3.41**	**113**	Pn	**Pn**	**14 37 42.9**	**+0.8**
ANAR	**Anarak**	**3.82**	**310**	Pn	**Pn**	**14 37 50.3**	**+2.5**
SHRT	**Shahrakht**	**3.89**	**41**	Pn	**Pn**	**14 37 49.9**	**+1.3**
IRAM	**Ramesheh**	**4.26**	**285**	Pn	**Pn**	**14 37 57.2**	**+3.3**
IZEF	**Zefreh**	**4.57**	**298**	Pn	**Pn**	**14 38 01.8**	**+2.4**
TBJM	**Torbat-e-JAM**	**5.21**	**29**	Pn	**Pn**	**14 38 08.5**	**+1.6**
SRVN	**Saravan**	**5.64**	**125**	Pn	**Pn**	**14 38 14.0**	**+1.2**
IAKL	**Akhelmad**	**5.97**	**12**	Pn	**Pn**	**14 38 19.7**	**+2.3**
GEYT	**Alibeck**	**7.19**	**6**	Pn	**Pn**	**14 38 34.7**	**+0.7**
	0.2nm,0.3s,baz=193,slow=19,SNR=2.0						
	1.1nm,0.5s						
WSAR	**Wadi Sarin**	**7.60**	**170**	Pn	**Pn**	**14 38 40

HNR	**Honiara**	**7.72 301**	Pn		**Pn**	**14 39 33.7**	**+1.3**	
	180nm,0.3s,baz=16,slow=3.1,SNR=8.7							
HNR			Sn		**Sn**	**14 40 57.9**	**-2.1**	
	349nm,0.3s,baz=146,slow=20,SNR=3.0							
HNR			LR		LR	14 42 15.4		
	comp=Z,7μm,19.9s,baz=154,slow=36							
MARNC	**Mare, Loyalty**	**8.02 171**	Pn		Pn	14 39 44.1	+7.6	
DZM	**Mont Dzumac**	**8.50 181**	Pn		Pn	14 39 45.6	+2.4	
DZM	**Mont Dzumac**	**8.50 181**	*e*Pn		Pb	14 39 52.1	-15	
	67nm,0.9s							
DZM			*e*Sn		**Sn**	**14 41 18.4**	**-0.8**	
	32nm,0.9s							
DZM			*e*LR		LR	14 41 30.5		
	936nm,23.2s							
DZM	**Mont Dzumac**	**8.50 181**	Pn		**Pn**	**14 39 44.6**	**+1.5**	
	0.8nm,0.3s,baz=276,slow=15,SNR=4.0							
DZM			Sn		**Sn**	**14 41 16.1**	**-3.1**	
	baz=126,slow=24							
ONTNC	**Ouen Toro**	**8.73 181**	Pn		Pn	14 39 49.2	+2.9	
OUENC	**Ouen Island, N**	**8.84 179**	Pn		Pn	14 39 51.5	+3.7	
PINNC	**Pines Island,**	**9.07 175**			Pn	14 39 56.0	+5.2	
PMG	**Port Moresby**	**19.52 280**	P		**P**	**14 42 07.1**	**-0.5**	
	0.3nm,0.3s,baz=44,slow=16,SNR=1.5							
PMG			LR		LR	14 48 28.5		
	comp=Z,114nm,19.4s,baz=94,slow=33							
	5.2nm,0.8s							
CTA	**Charters Tower**	**20.57 249**	P		**P**	**14 42 18.4**	**-0.6**	
	5.8nm,0.8s,baz=80,slow=9.9,SNR=5.4							
CTA			LR		LR	14 49 48.5		
	comp=Z,175nm,18.7s,baz=70,slow=36							
	5.8nm,0.8s							
CTAO	**Charters Tower**	**20.57 249**	P		**P**	**14 42 15.2**	**-3.8**	
CTAO			IAmb		IAmb	14 42 32.5		
	comp=Z,39nm,1.4s							
URZ	**Urewera**	**26.33 161**	LR		LR	14 52 37.8		
	comp=Z,275nm,18.9s,baz=56,slow=34							
STKA	**Stephens Creek**	**29.33 227**	P		**P**	**14 43 44.3**	**+1.4**	
STKA			IAmb		IAmb	14 43 51.5		
	comp=Z,9.0nm,1.3s							
STKA	**Stephens Creek**	**29.33 227**	P		**P**	**14 43 43.5**	**+0.7**	
	comp=Z,3.5nm,0.5s,baz=44,slow=8.3,SNR=18							
STKA			LR		LR	14 55 23.9		
	comp=Z,328nm,18.2s,baz=42,slow=36							
	comp=Z,3.5nm,0.5s							
RPZ	**Rata Peaks**	**30.32 174**	LR		LR	14 54 36.3		
	comp=Z,205nm,19.7s,baz=352,slow=34							
TOO	**Toolangi**	**30.47 214**	P		**P**	**14 43 53.8**	**+0.8**	
WR0	**Warramunga Arr**	**31.36 254**	P		**P**	**14 43 59.9**	**-1.1**	
WR0			IAmb		IAmb	14 44 11.4		
	comp=Z,9.1nm,1.2s							
WB0	**Warramunga Arr**	**31.48 254**	P		**P**	**14 44 01.5**	**-0.6**	
WB0			IAmb		IAmb	14 44 12.5		
	comp=Z,7.0nm,0.8s							
WRAB	**Tennant Creek**	**31.54 254**	P		**P**	**14 44 01.7**	**-0.9**	
WRAB			IAmb		IAmb	14 44 08.1		
	comp=Z,5.9nm,0.9s							
WRA	**Warramunga Arr**	**31.55 254**	P		**P**	**14 44 01.3**	**-1.3**	
WRA	**Warramunga Arr**	**31.55 254**	P		**P**	**14 44 01.8**	**-0.9**	
	comp=Z,2.6nm,0.7s,baz=86,slow=9.2,SNR=31							
WRA			PcP		**PcP**	**14 46 55.2**	**-0.2**	
	comp=Z,1.4nm,0.8s,baz=83,slow=2.9,SNR=6.3							
WRA			ScP		**ScP**	**14 50 38.0**	**-0.9**	
	comp=Z,0.4nm,1.0s,baz=78,slow=3.9,SNR=1.9							
	comp=Z,2.6nm,0.7s							
H11S2	**WAKE ISLAND Hy**	**31.82 0**	T		T	15 18 23.4		
	baz=184							
H11S3	**WAKE ISLAND Hy**	**31.82 0**	T		T	15 18 30.2		
	baz=184							
H11S1	**WAKE ISLAND Hy**	**31.84 0**	T		T	15 18 24.3		
	baz=184							
AS31	**Alice Springs**	**32.55 247**	P		**P**	**14 44 10.1**	**-1.3**	
AS31			IAmb		IAmb	14 44 27.4		
	comp=Z,1.3nm,0.5s							
ASAR	**Alice Springs**	**32.55 247**	P		**P**	**14 44 09.9**	**-1.6**	
ASAR	**Alice Springs**	**32.55 247**	P		**P**	**14 44 10.6**	**-0.9**	
	comp=Z,1.7nm,0.6s,baz=70,slow=9.3,SNR=27							
ASAR			PcP		**PcP**	**14 46 57.8**	**-0.4**	
	comp=Z,0.8nm,0.9s,baz=64,slow=2.8,SNR=4.2							
ASAR			ScP		**ScP**	**14 50 42.1**	**-0.2**	
	comp=Z,1.2nm,0.9s,baz=71,slow=3.0,SNR=5.8							
ASAR			LR		LR	14 57 16.7		
	comp=Z,169nm,18.1s,baz=78,slow=36							
	comp=Z,1.7nm,0.6s							
RAR	**Rarotonga**	**32.90 108**	LR		LR	14 55 09.7		
	comp=Z,116nm,20.0s,baz=320,slow=32							
BBOO	**Buckleboo**	**33.85 230**	P		**P**	**14 44 23.0**	**+0.3**	
GUMO	**Guam**	**34.51 320**	LR		LR	14 57 35.4		
	comp=Z,84nm,20.1s,baz=144,slow=35							
MTN	**Manton Dam**	**34.56 267**	P		**P**	**14 44 28.3**	**-0.7**	
KNRA	**Kununurra**	**36.69 262**	P		**P**	**14 44 47.3**	**0.0**	
FORT	**Forrest**	**39.40 238**	P		**P**	**14 45 10.3**	**+0.3**	
FITZ	**Fitzroy Crossi**	**39.65 258**	P		**P**	**14 45 12.6**	**+0.3**	
PPT2	**Papeete2**	**42.30 101**	*e*LQ		LQ	14 55 51.8		
	comp=Z,230nm,28.0s							
PPT2			*e*LR		LR	14 58 04.0		
	comp=Z,85nm,24.2s							
TBI	**Tubuai**	**42.63 110**	*e*LR		LR	14 58 11.7		
	comp=Z,568nm,26.5s							
PSA00	**Pilbara Seismi**	**45.19 253**	P		**P**	**14 45 57.7**	**+0.3**	
PSA00			IAmb		IAmb	14 46 07.6		
	comp=Z,15nm,1.4s							
MBWA	**Marble Bar**	**45.28 254**	P		**P**	**14 45 59.0**	**+0.9**	
MBWA			IAmb		IAmb	14 46 05.1		
	comp=Z,9.3nm,0.8s							
NWAO	**Narrogin (SRO)**	**48.85 238**	LR		LR	15 06 15.3		
	comp=Z,83nm,19.3s,baz=306,slow=35							
MJAR	**Matsushiro Arr**	**56.56 333**	P		**P**	**14 47 22.4**	**-0.4**	
	comp=Z,6.5nm,1.0s,baz=167,slow=8.1,SNR=5.7							
	comp=Z,6.5nm,1.0s							
CGJI	**Cibinong**	**60.28 270**	P		**P**	**14 47 49.3**	**+0.1**	
	comp=Z,41nm,1.1s							
KSRS	**Korea Array**	**62.41 326**	P		**P**	**14 48 03.8**	**+0.7**	
	comp=Z,2.5nm,0.9s,baz=139,slow=7.6,SNR=5.3							
	comp=Z,2.5nm,0.9s							
VNDA	**Vanda**	**64.04 181**	P		**P**	**14 48 14.1**	**+0.7**	
	comp=Z,1.8nm,0.8s,baz=4.0,slow=6.4,SNR=5.8							
	comp=Z,1.8nm,0.8s							
NJ2	**Nanjing**	**64.40 316**	*e*P		P	14 48 27.8	+11	
NJ2			pmax		pmax			
	comp=Z,7.0nm,2.3s							
USRK	**Ussuriysk Ar.**	**65.55 333**	P		**P**	**14 48 25.3**	**+1.7**	
	comp=Z,16nm,0.9s,baz=142,slow=5.8,SNR=12							
	comp=Z,16nm,0.9s							
SHEM	**Shemya Is, Ala**	**66.30 5**	LR		LR	15 12 07.2		
	comp=Z,54nm,20.9s,baz=98,slow=31							
MDJ	**Mudanjiang**	**66.94 332**	P		P	14 48 46.9	+14	
MDJ			pP		PcP	14 48 59.6	-1.4	
MDJ			sP		pwP	14 49 07.7	+29	
MDJ			PcP		PcP	14 49 23.1	+22	
MDJ			PP		**PP**	**14 51 00.6**	**+0.3**	
MDJ			S		**S**	**14 57 17.7**	**-8.0**	
MDJ			sS		sS	14 57 41.7	+11	
MDJ			ScS		**SKiKP**	**14 58 36.0**	**+1.8**	
HEH	**HeiHe**	**72.22 335**	*e*P		**P**	**14 49 06.4**	**+1.4**	
HEH			pmax		pmax			
	comp=Z,15nm,0.8s							
HEH			pmax		pmax			
	comp=Z,910nm,5.5s							
XAN	**Xi'an**	**72.43 313**	P		P	14 49 00.4	-6.3	
XAN			pmax		pmax			
	comp=Z,10.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**73.91 294**	P		**P**	**14 49 17.2**	**+1.5**	
	comp=Z,3.6nm,0.8s,baz=125,slow=4.7,SNR=31							
	comp=Z,3.6nm,0.8s							
HHC	**Hu-ho-hao-te**	**74.28 320**	*e*P		P	14 49 30.9	+13	
HHC			pmax		pmax			
	comp=Z,45nm,0.8s							
HHC			pmax		pmax			
	comp=Z,410nm,5.8s							
PZH	**PanZhiHua**	**74.54 303**	P		P	14 49 29.3	+10	
PZH			pmax		pmax			
	comp=Z,10.0nm,0.8s							
PZH			pmax		pmax			
	comp=Z,170nm,8.4s							
LZH	**Lanzhou**	**77.07 312**	*e*P		**P**	**14 49 36.2**	**+2.5**	
LZH			pP		PcP	14 49 41.3	-3.3	
LZH			sP		pwP	14 49 44.4	+4.7	
LZH			pmax		pmax			
	comp=Z,16nm,1.1s							
KDAK	**Kodiak Island**	**78.56 21**	LR		LR	15 19 04.1		
	comp=Z,156nm,20.1s,baz=214,slow=32							
SONM	**Songino Array**	**81.17 324**	P		**P**	**14 49 56.9**	**+1.0**	
	comp=Z,4.6nm,0.9s,baz=141,slow=5.6,SNR=17							
	comp=Z,4.6nm,0.9s							
GTA	**Gaotai**	**81.40 314**	*e*P		**P**	**14 49 59.5**	**+2.2**	
GTA			sP		PcP	14 50 10.2	+6.8	
GTA			pmax		pmax			
	comp=Z,8.0nm,1.1s							
MAW	**Mawson**	**82.76 202**	P		P	14 50 10.4	+6.6	
MAW	**Mawson**	**82.76 202**	P		**P**	**14 50 02.5**	**-1.3**	
	comp=Z,1.4nm,0.8s,baz=92,slow=12,SNR=2.0							
MAW			LR		LR	15 20 22.3		
	comp=Z,49nm,22.0s,baz=101,slow=31							
	comp=Z,1.4nm,0.8s							
ILAR	**Eielson Array**	**85.58 18**	P		**P**	**14 50 16.9**	**-1.1**	
	comp=Z,2.4nm,0.5s,baz=240,slow=5.1,SNR=29							
ILAR			LR		LR	15 25 59.2		
	comp=Z,89nm,18.4s,baz=232,slow=34							
	comp=Z,2.4nm,0.5s							
NVAR	**Mina Array Bea**	**86.95 49**	LR		LR	15 23 22.1		
	comp=Z,140nm,18.4s,baz=242,slow=32							
JIRN	**Jiri**	**87.95 299**	*e*P		**P**	**14 50 31.7**	**+0.8**	
	comp=Z,9.7nm,0.5s							
GUN	**Gumba**	**88.28 299**	*e*P		**P**	**14 50 33.2**	**+0.7**	
	comp=Z,14nm,0.7s							
PKI	**Pulchoki**	**88.59 299**	*e*P		**P**	**14 50 34.4**	**+0.5**	
	comp=Z,16nm,0.5s							
PKIN	**Phulchoki**	**88.60 299**	*e*P		**P**	**14 50 34.4**	**+0.5**	
	comp=Z,16nm,0.6s							
DMN	**Daman**	**88.86 299**	*e*P		**P**	**14 50 35.9**	**+0.8**	
	comp=Z,34nm,0.7s							
WMQ	**Urumqi**	**91.46 315**	*e*P		P	14 50 57.7	+11	
TROLL	**Troll, Antarti**	**94.00 185**	⇓P		**P**	**14 50 58.2**	**+0.2**	
	comp=Z,544nm,0.7s							
SNAA	**Sanae**	**94.70 183**	⇓P		**P**	**14 51 01.1**	**-0.1**	
	comp=Z,99nm,1.0s							
SNAA	**Sanae**	**94.70 183**	P		**P**	**14 51 00.3**	**-0.9**	
	comp=Z,5.9nm,1.1s,baz=193,slow=5.9,SNR=6.1							
	comp=Z,5.9nm,1.1s							
VNA3	**Neumayer Olymp**	**95.39 181**	⇓P		**P**	**14 51 03.9**	**-0.3**	
	comp=Z,3.9nm,0.5s							
VNA2	**Neumayer−Watz**	**95.65 182**	⇓P		**P**	**14 51 05.2**	**-0.2**	
	comp=Z,4.2nm,0.6s,baz=190,slow=4.0							
MKAR	**Makanchi Array**	**95.92 317**	P		**P**	**14 51 07.7**	**+0.7**	
	comp=Z,2.6nm,0.8s,baz=100,slow=6.2,SNR=18							
	comp=Z,2.6nm,0.8s							
ZALV	**Zalesovo Beam**	**96.07 324**	P		**P**	**14 51 07.4**	**-0.1**	
	comp=Z,4.5nm,0.9s,baz=108,slow=4.8,SNR=15							
ZALV			LR		LR	15 35 53.3		
	comp=Z,23nm,18.5s,baz=58,slow=36							
	comp=Z,4.5nm,0.9s							
YKA	**Yellowknife Ar**	**96.77 27**	P		**P**	**14 51 10.8**	**+0.3**	
	comp=Z,0.2nm,0.7s,baz=261,slow=4.9,SNR=4.1							
	comp=Z,0.2nm,0.7s							
ARCES	**ARCESS Array B**	**118.94 345**	PKP		**PKiKP**	**14 56 27.9**	**-0.4**	
	comp=Z,3.1nm,0.7s,baz=72,slow=1.9,SNR=23							
FINES	**FINESS Array B**	**124.39 338**	PKP		**PKiKP**	**14 56 38.9**	**-0.2**	
	comp=Z,7.1nm,1.0s,baz=107,slow=3.3,SNR=4.1							
NOA	**NORSAR Array B**	**129.31 345**	PKP		**PKiKP**	**14 56 48.4**	**-0.6**	
	comp=Z,0.2nm,0.5s,baz=28,slow=1.9,SNR=3.0							
HFS	**Hagfors**	**129.40 343**	PKP		**PKiKP**	**14 56 48.5**	**-0.7**	
	comp=Z,4.7nm,1.1s,baz=46,slow=6.2,SNR=1.5							
AKASG	**Malin Array Be**	**129.41 326**	PKP		**PKiKP**	**14 56 48.4**	**-1.0**	
	comp=Z,0.2nm,0.3s,baz=65,slow=1.7,SNR=4.5							
KEST	**Kesra**	**149.90 321**	PKPbc		**PKiKP**	**14 57 30.9**	**-1.1**	
	comp=Z,13nm,0.7s,baz=90,slow=1.9,SNR=14							
ESDC	**Sonseca Array**	**152.67 344**	PKPbc		**PKiKP**	**14 57 37.0**	**-0.6**	
	comp=Z,1.1nm,0.6s,baz=11,slow=3.8,SNR=6.1							
TORD	**Torodi Ar. Bea**	**165.34 270**	PKP		**PKPdf**	**14 57 43.0**	**-2.6**	
	comp=Z,0.6nm,0.8s,baz=102,slow=2.0,SNR=3.7							

*IDC **12** 15:13:44.4±1.8,34.°75N×141.°72E,h0km,mb3.3/4, mbtmp3.4/7,ML2.9/3,MS4.0/1,Error ellipse: s-maj=47.4km s-min=22.5km az=77.0*
*JMA **12** 15:13:46.0±0.5,35.°N±2.°,×14.°2E±.°,h41km±2km,MV2.6/24, FAR SE OFF BOSO PEN*

ISC 12 15:13:49.6±1.3,34.°75N±0.°08×141.°5E±0.°1,h35km,n18, σ1§06/14,mb3.4/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.46**	**258**	P		**Pn**		**15 13 57.4**	**-1.8**
BSO1				X				15 14 05.3	
BSO3	**Boso 3**	**0.83**	**274**	*e*P		**Pn**		**15 14 03.8**	**-0.8**
BSO3				*e*S		**Sn**		**15 14 16.5**	**+0.9**
BSO4	**Boso 4**	**1.00**	**284**	P		**Pn**		**15 14 06.5**	**-0.6**
JKUC	**kamogawauchiur**	**1.16**	**291**	P		**Pn**		**15 14 08.4**	**-0.9**
JKUC				*e*S		**Sn**		**15 14 24.1**	**+0.1**
JHJ	**Hachijo jima 2**	**2.18**	**222**	Pn		**Pn**		**15 14 22.9**	**-0.5**
	16nm,0.3s,baz=100,slow=13,SNR=2.1								
JHJ				Sn		**Sn**		**15 14 48.8**	**-0.3**
	23nm,0.3s,baz=71,slow=16,SNR=1.6								
	288nm,1.0s								
MJAR	**Matsushiro Arr**	**3.24**	**304**	Pn		**Pn**		**15 14 39.0**	**+1.1**
	0.2nm,0.3s,baz=117,slow=9.7,SNR=11								
	1.3nm,0.6s								
ASAJ	**Asahikawa**	**9.39**	**5**	Pn		**Pn**		**15 16 00.7**	**-1.7**
	0.2nm,0.3s,baz=90,slow=16,SNR=1.4								
	13nm,1.1s								
H11N2	**WAKE ISLAND Hy**	**26.97**	**117**	T		T		15 47 36.5	
	baz=309,slow=75,SNR=5.1								
H11N1	**WAKE ISLAND Hy**	**26.97**	**117**	T		T		15 47 36.9	
	baz=309,slow=75,SNR=3.8								
H11N3	**WAKE ISLAND Hy**	**26.98**	**117**	T		T		15 47 40.9	
	baz=309,slow=75,SNR=5.0								
H11S1	**WAKE ISLAND Hy**	**27.60**	**119**	T		T		15 48 24.3	
	baz=313								
H11S3	**WAKE ISLAND Hy**	**27.60**	**119**	T		T		15 48 24.3	
	baz=313								
H11S2	**WAKE ISLAND Hy**	**27.62**	**119**	T		T		15 48 24.3	
	baz=313								
MKAR	**Makanchi Array**	**45.44**	**304**	P		**P**		**15 22 06.4**	**+1.5**
	0.1nm,0.5s,baz=96,slow=7.7,SNR=1.7								
	0.1nm,0.5s								
HNR	**Honiara**	**47.28**	**155**	LR		LR		15 45 25.0	
	comp=Z,153nm,18.0s,baz=57,slow=40								
KURBB	**Kurchatov Arra**	**47.50**	**310**	P		**P**		**15 22 20.8**	**-0.2**
	0.4nm,0.3s,baz=80,slow=7.9,SNR=1.3								
	0.4nm,0.3s								
WRA	**Warramunga Arr**	**54.82**	**188**	P		**P**		**15 23 16.3**	**+0.1**
	0.3nm,0.6s,baz=2.3,slow=7.2,SNR=5.9								
	0.3nm,0.6s								
ASAR	**Alice Springs**	**58.55**	**188**	P		**P**		**15 23 42.9**	**+0.2**
	0.2nm,0.8s,baz=359,slow=5.7,SNR=4.4								
	0.2nm,0.8s								

*CATAC **12** 15:34:14.1±5.0, 18.°51N×95.°49W,h200km±50km,MB5.8, mb5.3,ML5.8*
*MEX **12** 15:34:24.7±1.8, 17.°57N×95.°30W,h121km±9km,MD4.8*
*IDC **12** 15:34:24.1±0.3, 17.°56N×95.°02W,h118km±2km,mb4.1/21, mbtmp4.5/22,MS3.4/14,Error ellipse: s-maj=13.2km s-min=7.3km az=71.0*
*NEIC **12** 15:34:24.1±2.2, 17.°62N±0.°07×95.°22W±0.°07,h106km±5km, mb4.8/183,Md4.7/16(MEX),Error ellipse: s-maj=10.7km s-min=8.0km az=218.0*
*GCMT **12** 15:34:25.1±0.5, 17.°76N±0.°04×95.°21W±0.°04,h133km±5km, MW4.7/79,Moment Tensor Solution. s14,c15; s79,c90; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.63±.06; Mθθ0.63±.11; Mϕϕ1.00±.12; Mrθ-0.10±.09; Mrϕ-0.74±.11; Mθϕ0.21±.09; Best double couple: Mo1.62300×10¹⁶ NP1:ϕs144.00000°,δ49.00000°,λ-88.00000°. NP2: ϕs320.00000°,δ41.00000°,λ-93.00000°. Principal axes: T 1.5990, Plg4.0000°, Azm232.0000°; N 0.0480, Plg2.0000°, Azm322.0000°; P -1.6480, Plg86.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*GCG **12** 15:34:25.2±4.1, 17.°68N×95.°20W,h108km*

ISC 12 15:34:23.8±0.3, 17.°61N±0.°03×95.°29W±0.°03,h117km±2km, h117km:pP-P,n602,σ1§82/603,mb4.7/114,Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEUV	**Arroyo Zacate**	**0.50**	**282**	*i* P		**Pn**		**15 34 41.4**	**0.0**
NEUV				*i* S		**Sn**		**15 34 54.4**	**-0.3**
CMIG	**Matias Romero**	**0.64**	**143**			**Pn**		**15 34 42.8**	**+0.3**
CMIG						**Sn**		**15 34 56.0**	**-0.5**
CMIG	**Matias Romero**	**0.64**	**143**	P		**Pn**		**15 34 42.5**	**0.0**
	13μm,0.3s,baz=305,slow=4.6								
CMIG				S		**Sn**		**15 34 56.4**	**-0.2**
	25μm,0.4s,baz=37,slow=20,SNR=58								
CMIG	**Matias Romero**	**0.64**	**143**	*i* P		**Pn**		**15 34 42.8**	**+0.3**
CMIG				*i* S		**Sn**		**15 34 56.0**	**-0.5**
TUIG	**Tuzandepetl**	**0.93**	**63**	*i* P		**Pn**		**15 34 45.9**	**+1.0**
TUIG				*e*S		**Sn**		**15 35 01.2**	**+0.4**
PMUV	**Sontecomapan**	**0.94**	**10**	*i* P		**Pn**		**15 34 45.6**	**+0.4**
PMUV				*i* S		**Sn**		**15 35 00.9**	**-0.4**
UXUV	**UXUV**	**1.13**	**105**	*i* P		**Pn**		**15 34 47.6**	**+0.7**
UXUV				*i* S		**Sn**		**15 35 03.7**	**-0.7**
NILT	**Santiago Nilte**	**1.22**	**148**	*i* P		**Pn**		**15 34 48.1**	**+0.1**
NILT				*i* S		**Sn**		**15 35 05.7**	**-0.5**
OXLC	**Oaxaca**	**1.46**	**248**	*i* P		**Pn**		**15 34 51.1**	**+0.3**
OXLC				*i* S		**Sn**		**15 35 12.4**	**+1.1**
VHO	**Vista Hermosa**	**1.48**	**249**	*i* P		**Pn**		**15 34 51.5**	**+0.4**
VHO				*e*S		**Sn**		**15 35 12.5**	**+0.8**
CARR	**Arriaga**	**1.89**	**136**	*i* P		**Pn**		**15 34 56.2**	**+0.4**
CARR				*i* S		**Sn**		**15 35 19.3**	**-0.9**
HUIG	**Huatulco**	**1.99**	**203**			**Pn**		**15 34 55.4**	**-1.7**
HUIG						**Sn**		**15 35 20.7**	**-1.8**
HUIG	**Huatulco**	**1.99**	**203**	*e*P		**Pn**		**15 34 55.4**	**-1.7**
HUIG				*e*S		**Sn**		**15 35 20.7**	**-1.8**
OZST	**Orizaba**	**2.12**	**306**	*i* P		**Pn**		**15 34 58.6**	**-0.2**
TPIG	**Tehuac#an**	**2.13**	**293**	*i* P		**Pn**		**15 35 00.1**	**+1.1**
TPIG				*e*S		**Sn**		**15 35 24.9**	**-1.0**
TGIG		**2.23**	**111**	*i* P		**Pn**		**15 35 00.6**	**+0.5**
TGIG				*e*S		**Sn**		**15 35 26.6**	**-1.3**
TGBT	**Tuxtla Gutierr**	**2.26**	**111**	*i* P		**Pn**		**15 35 00.8**	**+0.4**
TGBT				*i* S		**Sn**		**15 35 27.5**	**-0.9**
JAUV	**Jalcomulco**	**2.26**	**321**	*e*P		**Pn**		**15 34 59.9**	**-0.7**
JAUV				*i* S		**Sn**		**15 35 26.9**	**-1.7**
VHSA	**Villahermosa**	**2.27**	**80**	*i* P		**Pn**		**15 35 01.5**	**+1.0**
VHSA				*e*S		**Sn**		**15 35 29.6**	**+1.0**
YOIG	**Yosondua**	**2.28**	**251**	*i* P		**Pn**		**15 35 00.4**	**-0.6**
YOIG				*i* S		**Sn**		**15 35 28.8**	**-0.7**
LVIG	**Laguna Verde**	**2.36**	**333**	*i* P		**Pn**		**15 35 00.6**	**-1.1**
LVIG				*e*S		**Sn**		**15 35 27.5**	**-3.3**
TXIG	**Tlaxiaco**	**2.39**	**262**	*i* P		**Pn**		**15 35 02.4**	**0.0**
TXIG				*i* S		**Sn**		**15 35 31.1**	**-0.9**
PEIG	**Puerto Escondi**	**2.40**	**228**	*i* P		**Pn**		**15 34 59.9**	**-2.3**
PEIG				*e*S		**Sn**		**15 35 29.2**	**-2.5**
HLIG	**Huajuapan de L**	**2.41**	**276**	*i* P		**Pn**		**15 35 03.0**	**+0.5**
HLIG				*e*S		**Sn**		**15 35 29.4**	**-2.8**
XALA	**Xalapa**	**2.45**	**322**	*i* P		**Pn**		**15 35 02.5**	**-0.5**
XALA				*e*S		**Sn**		**15 35 31.8**	**-1.3**
FTIG	**Fresnillo de T**	**2.73**	**277**	*i* P		**Pn**		**15 35 07.3**	**+0.7**
FTIG				*e*S		**Sn**		**15 35 37.7**	**-1.8**
PCIG		**2.74**	**133**	*i* P		**Pn**		**15 35 07.0**	**+0.3**
PCIG				*e*S		**Sn**		**15 35 34.0**	**-5.6**
PNIG	**Pinotepa**	**2.97**	**246**	*i* P		**Pn**		**15 35 07.4**	**-2.3**
PNIG				*e*S		**Sn**		**15 35 40.8**	**-4.3**
PHPU	**Puebla**	**3.09**	**298**	*i* P		**Pn**		**15 35 13.6**	**+2.1**
HMTT	**Tlapaneco**	**3.12**	**274**	*i* P		**Pn**		**15 35 12.2**	**+0.4**
HMTT				*e*S		**Sn**		**15 35 46.5**	**-2.2**
TLIG	**Tlapa**	**3.13**	**270**			**Pn**		**15 35 11.9**	**0.0**
TLIG	**Tlapa**	**3.13**	**270**	*i* P		**Pn**		**15 35 11.9**	**0.0**
TLIG				*e*S		**Sn**		**15 35 45.9**	**-3.0**
TLIG	**Tlapa**	**3.13**	**270**	*i* P		**Pn**		**15 35 11.9**	**0.0**
TLIG				*i* S		**Sn**		**15 35 44.6**	**-4.3**
CCIG	**Comitan**	**3.29**	**113**			**Pn**		**15 35 13.7**	**-0.4**
CCIG	**Comitan**	**3.29**	**113**	*i* P		**Pn**		**15 35 14.6**	**+0.5**
CCIG				*e*S		**Sn**		**15 35 46.9**	**-6.0**
CCIG	**Comitan**	**3.29**	**113**	*i* P		**Pn**		**15 35 14.5**	**+0.5**
CCIG				*i* S		**Sn**		**15 35 46.9**	**-6.0**
CCIG				IAML				15 35 57.9	
	comp=Z,7μm,1.0s								
PPM	**Popocatepetl**	**3.49**	**295**	*i* P		**Pn**		**15 35 19.4**	**+2.4**
PPM				*e*S		**Sn**		**15 35 50.8**	**-7.1**
AMVM	**AMECAMECA**	**3.65**	**295**	*e*P		**Pn**		**15 35 21.5**	**+2.6**
AMVM				*e*S		**Sn**		**15 35 54.2**	**-7.4**
CRIG	**Cruz Grande**	**3.77**	**257**	*i* P		**Pn**		**15 35 18.2**	**-2.1**
CRIG				*e*S		**Sn**		**15 35 59.6**	**-4.5**
YAIG	**Yautepec**	**3.80**	**290**	*i* P		**Pn**		**15 35 22.4**	**+1.5**
YAIG				*e*S		**Sn**		**15 35 59.7**	**-5.3**
PAVE	**Pavencul**	**3.83**	**128**	*e*P		**Pn**		**15 35 24.8**	**+0.6**
PAVE				*e*S		**Sn**

JRQG eS Sn 15 36 51.1 -1.2
ZIIG Zihuatanejo 5.89 271 *i* P Pn 15 35 48.7 -0.1
ZIIG eS Sn 15 36 52.0 -3.0
MOIG Morelia 5.96 291 Pn 15 35 52.4 +2.4
MOIG Morelia 5.96 291 *eP* Pn 15 35 52.5 +2.5
MOIG eS Sn 15 36 52.5 -4.6
MOIG Morelia 5.96 291 *i* P Pn 15 35 52.8 +2.8
RPIG Rio Verde 6.13 315 *eP* Pn 15 35 53.7 +1.6
RPIG eS Sn 15 36 57.3 -3.8
MYIG Mrida 6.21 57 *eP* Pn 15 35 49.9 -3.2
MYIG eS Sn 15 36 58.1 -4.6
UON La Union 6.23 274 *i* P Pn 15 35 54.2 +0.8
NUBE Las Nubes 6.46 124 *i* P Pn 15 35 56.3 -0.3
NUBE *i* S Sn 15 36 33.3 -36
ESQI Esquipulas 6.47 117 Pn 15 35 55.6 -1.2
MTO3 Montecristo 6.53 118 Pn 15 35 55.8 -1.9
MTO3 Montecristo 6.53 118 *i* P Pn 15 35 56.0 -1.7
MTO3 *i* S Sn 15 36 48.9 -22
GTIG Gomez Farias 6.54 327 *eP* Pn 15 35 58.5 +1.0
GTIG eS Sn 15 37 08.1 -2.6
TEIG Tepich 7.13 67 Pn Pn 15 36 03.7 -1.8
TEIG Tepich 7.13 67 P Pn 15 36 04.2 -1.4
comp=Z,4µm,0.6s,baz=214,slow=1.9,SNR=123
TEIG S Sn 15 37 18.5 -6.5
comp=Z,515nm,0.3s,baz=203,slow=7.7,SNR=0.8
TEIG LR LR 15 39 24.5
comp=Z,3µm,18.8s,baz=18,slow=43
MMIG Aquila 7.70 276 *i* P Pn 15 36 13.3 +0.1
MMIG eS Sn 15 37 35.1 -3.8
ZAIG Zacatecas 8.55 308 Pn 15 36 25.5 +0.5
CJM Chamela 9.44 283 *eP* Pn 15 36 37.1 +0.3
CJM eS Sn 15 38 18.5 -2.7
COPN Copaltepe 9.99 122 *i* P Pn 15 36 46.4 +2.1
833A Chaparral WMA, 11.31 341 Pn 15 37 02.0 0.0
833A Chaparral WMA, 11.31 341 P Pn 15 37 03.0 +1.0
baz=159
HZTE Horizontes, Gu 11.63 125 *i* P Pn 15 37 07.9 +1.6
ORTG Ortega, Santa 11.95 126 Pn 15 37 11.0 +0.4
ORTG Ortega, Santa 11.95 126 *i* P Pn 15 37 09.9 -0.7
INDI Punta indio, G 12.23 128 *i* P Pn 15 37 14.9 +0.7
HNDO Hondo 12.41 344 Pn 15 37 17.0 +0.4
SOR Soroa 12.63 64 Pn Pn 15 37 15.6 -3.8
DRIO Del Rio 12.73 338 Pn Pn 15 37 19.2 -1.5
CPMI Catarata Coope 12.85 123 *i* P P 15 37 30.2 +1.5
JACO JACO, Garabito 13.00 126 *i* P Pn 15 37 26.2 +1.9
435B Jarrell 13.28 351 Pn Pn 15 37 28.8 +1.0
435B Jarrell 13.28 351 P Pn 15 37 29.7 +1.9
baz=170
HPIG 13.35 316 P 15 37 36.0 +1.8
JCT Junction City 13.46 343 P P 15 37 37.6 +2.4
JCT Junction City 13.46 343 P Pn 15 37 31.4 +1.2
baz=161,SNR=13
LCR2 La Lucha 2 13.46 124 Pn 15 37 30.5 0.0
CDM Cerro de Muert 13.76 124 *i* P Pn 15 37 34.9 +0.3
SAND Sanderson 13.78 334 Pn Pn 15 37 35.6 +1.3
TXAR Lajitas Array 13.97 328 P Pn 15 37 38.9 +2.1
comp=Z,2.1nm,0.6s,baz=152,slow=11,SNR=20
BRDY Brady 14.03 347 Pn Pn 15 37 34.7 -2.8
NATX Nacogdoches 14.10 2 Pn Pn 15 37 39.0 +0.6
NATX Nacogdoches 14.10 2 P Pn 15 37 39.2 +0.8
baz=182
SRBA San Rafael, Bu 14.27 124 Pn 15 37 40.2 -0.6
SRBA San Rafael, Bu 14.27 124 *i* P Pn 15 37 40.8 0.0
OZNA Ozona 14.28 339 Pn 15 37 41.8 +1.1
WHTX Lake Whitney, 14.45 353 P Pn 15 37 44.2 +1.4
baz=171
ALPN Alpine 14.81 331 Pn Pn 15 37 49.0 +1.4
SGCY Sterling City 15.19 341 P 15 37 53.6 -1.0
BRAL Brewton 15.43 27 P Pn 15 37 55.2 +0.1
baz=210
LPIG La Paz 15.45 297 LR LR 15 44 35.9
comp=Z,84nm,19.8s,baz=166,slow=39
ABTX Abilene, Hawle 15.46 346 P Pn 15 37 56.5 +1.0
baz=164,SNR=9.8
WLAR White Oak Lake 16.13 7 P P 15 38 04.5 -0.3
DWPF Disney Wildern 16.48 48 P Pn 15 38 07.7 -0.5
baz=233
MNTX Cornudas Mount 16.75 329 P P 15 38 13.0 +1.3
baz=144,SNR=11
MIAR Mount Ida 16.94 5 P P 15 38 14.4 +0.7
baz=185,SNR=16
LRAL Lakeview Retre 17.08 24 P 15 38 13.8 -1.5
LRAL Lakeview Retre 17.08 24 P Pn 15 38 16.0 +0.5
baz=208,SNR=11
WMOK Wichita Mounta 17.34 350 P Pn 15 38 20.0 +1.4
baz=168
TIGA Tifton 17.38 35 P Pn 15 38 19.2 0.0
baz=220
MSTX Muleshoe 17.62 339 P Pn 15 38 22.5 +0.4
baz=155,SNR=10
OXF Oxford 17.63 16 P Pn 15 38 22.4 +0.3
baz=198,SNR=9.6
AMTX Amarillo 18.12 343 P Pn 15 38 28.4 +0.3
baz=160
TUL3 Leonard 18.23 359 P Pn 15 38 29.1 -0.2
baz=178
HSIG 18.30 311 P Pn 15 38 30.5 +0.3
121A Cookes Peak, D 18.65 325 P Pn 15 38 35.3 +0.8
baz=140,SNR=17
319A Douglas 18.68 320 P Pn 15 38 35.0 +0.3
GOGA Godfrey 18.98 32 P P 15 38 36.4 +0.1
baz=216,SNR=10
WVT Waverly 19.60 18 P P 15 38 42.0 -0.8
WVT Waverly 19.60 18 P P 15 38 43.1 +0.3
baz=201
ANMO Albuquerque 19.93 332 P P 15 38 47.9 +1.2
baz=147
ANMO Albuquerque 19.93 332 P P 15 38 48.2 +1.5
comp=Z,6.4nm,0.7s,baz=235,slow=11,SNR=15
comp=Z,6.4nm,0.7s
CGM3 Cape Girardeau 20.23 13 P P 15 38 49.0 -0.7
TUC Tucson 20.25 319 P Pn 15 38 52.1 -1.0
TUC Tucson 20.25 319 P Pn 15 38 52.2 -0.9
baz=132
NHSC New Hope 20.57 39 P P 15 38 52.2 -1.1
baz=225
CCM Cathedral Cave 20.68 9 P P 15 38 53.6 -0.8
CCM Cathedral Cave 20.68 9 P P 15 38 54.7 +0.2
baz=191
TKL Tuckaleechee C 20.68 27 P P 15 38 53.1 -1.5
comp=Z,20nm,0.6s,baz=196,slow=12,SNR=15
comp=Z,20nm,0.6s
T25A Trinidad 21.05 339 P P 15 39 00.3 +1.6
baz=155,SNR=29
214A Organ Pipe Nat 21.34 315 P P 15 39 03.2 +1.6
baz=128
KMSC Kings Mountain 21.43 33 P P 15 39 02.1 -0.5
baz=219,SNR=5.5
KSU1 Kansas State U 21.45 357 P P 15 39 03.6 +1.0
baz=176
CBKS Cedar Bluff 21.48 350 P P 15 39 04.1 +0.9
baz=168
TZTN Tazewell 21.53 27 P P 15 39 02.5 -1.1
baz=212,SNR=8.4
W18A Petrified Fore 21.67 326 P P 15 39 06.3 +0.9
baz=140
SDCO Great Sand Dun 21.97 338 P P 15 39 10.4 +1.8
baz=153,SNR=32
WCI Wyandotte Cave 22.00 19 P P 15 39 07.2 -1.4
WCI Wyandotte Cave 22.00 19 P P 15 39 08.2 -0.4
baz=203
CBOC Ciudad Bolivar 22.16 119 *eP* P 15 39 12.3 +1.7
KSCO Kaye Shedlock' 22.26 345 P P 15 39 12.1 +0.7
baz=161
S22A 4UR Ranch, Cre 22.48 335 P P 15 39 15.7 +1.9
baz=150,SNR=14
MVCO Mesa Verde 22.73 332 P P 15 39 17.4 +1.2
MVCO Mesa Verde 22.73 332 P P 15 39 17.8 +1.6
baz=145,SNR=16
WUAZ Wupatki 22.86 324 P P 15 39 19.6 +2.1
WUAZ Wupatki 22.86 324 P P 15 39 19.5 +2.1
baz=137,SNR=16
YOTC Yotoco, Valle 22.98 124 *eP* P 15 39 20.7 +2.0
GUY2C Guyana, Caldas 23.05 120 *eP* P 15 39 21.6 +1.8
PTBC PUERTO BERRIO, 23.12 116 *eP* P 15 39 22.3 +2.4
JAMC Jamundi, Valle 23.19 126 *eP* P 15 39 23.3 +2.5
CNNC Cliffs of the 23.41 38 P P 15 39 21.6 -0.8
baz=226
HDIL Hopedale 23.45 12 P P 15 39 22.1 -0.5
baz=194
BLA Blacksburg 23.51 31 P P 15 39 21.9 -1.5
baz=218,SNR=5.5
BBAC Balboa, Cauca 23.54 129 *eP* P 15 39 26.6 +2.6
POPC Popayan, Colom 23.62 127 *eP* P 15 39 27.2 +2.5
P49A Miami Univ. Ec 23.70 21 P P 15 39 24.4 -0.6
baz=206,SNR=12
SFIN Lafayette 23.77 16 P P 15 39 25.2 -0.3
baz=199,SNR=10
ISCO Idaho Springs 23.86 340 P P 15 39 27.9 +1.1
ISCO Idaho Springs 23.86 340 P P 15 39 28.5 +1.8
baz=155,SNR=12
ORTC Ortega, Tolima 23.90 122 *eP* P 15 39 29.2 +2.2
OTAV Otavalo 23.93 134 P P 15 39 28.7 +1.0
OGNE Ogallala 23.97 347 P P 15 39 29.2 +1.7
baz=164,SNR=18
GCUF Volcan Galeras 24.00 131 *eP* P 15 39 27.9 -0.6
IKP In-Ko-Pah, Jac 24.01 313 P P 15 39 29.6 +1.7
baz=123
ROSC El Rosal 24.13 119 LR LR 15 48 54.6
comp=Z,77nm,20.4s,baz=327,slow=36
BC3 Big Chuckawall 24.13 315 P P 15 39 31.4 +2.3
baz=126,SNR=8.5
O48B Farmland 24.21 19 P P 15 39 28.6 -0.9
baz=204,SNR=15
IRM Iron Mountain 24.23 317 P P 15 39 32.8 +3.0
baz=128,SNR=12
SCIA State Center 24.28 4 P P 15 39 30.5 +0.4
baz=184,SNR=6.0
MONP2 Monument Peak 24.36 313 P P 15 39 33.9 +2.7
baz=123,SNR=8.4
BONI La Bonita 24.41 132 *eP* P 15 39 36.5 +4.6
BELC Belle Mtn. Jos 24.70 315 P P 15 39 35.2 +0.9
baz=126
P52A Corning 24.74 25 P P 15 39 33.5 -0.9
baz=211,SNR=6.9
TPFO Pinon Flats 24.78 314 P P 15 39 36.4 +1.4
baz=124
PFO Pinyon Flats O 24.79 314 P P 15 39 36.1 +1.1
PFO Pinyon Flats O 24.79 314 P P 15 39 36.3 +1.3
baz=124
PFO Pinyon Flats O 24.79 314 LR LR 15 49 47.3
comp=Z,58nm,19.4s,baz=92,slow=37
ACSO Alum Creek Sta 24.93 23 P P 15 39 35.3 -0.8
baz=208,SNR=7.4
GMRC Granite Mounta 24.95 317 P P 15 39 38.6 +2.1
baz=128
N23A Red Feather La 24.96 341 P P 15 39 38.4 +1.7
baz=155
O20A White River Ci 25.09 336 IAmb IAmb 15 39 44.8
comp=Z,15nm,0.9s
O20A White River Ci 25.09 336 P P 15 39 39.1 +1.3
baz=157
MTPU Mount Pierson 25.17 327 IAmb IAmb 15 39 44.0
comp=Z,14nm,0.8s
MURC Murrieta 25.29 313 P P 15 39 41.2 +1.7
baz=123
SZCU Shurtz Canyon 25.32 325 IAmb IAmb 15 39 45.3
comp=Z,27nm,1.7s
Q16A Castle Valley 25.35 330 IAmb IAmb 15 39 43.3
comp=Z,20nm,1.3s
SDV Santo Domingo 25.49 107 P P 15 39 40.9 -0.7
SDV IAmb IAmb 15 39 42.4
comp=Z,17nm,0.8s
SDV Santo Domingo 25.49 107 *eP* P 15 39 40.4 -1.3
SDV Santo Domingo 25.49 107 P P 15 39 39.9 -1.8
comp=Z,18nm,0.7s,baz=299,slow=4.5,SNR=18
SDV pP pP 15 40 05.8 -1.3
comp=Z,11nm,0.8s,baz=312,slow=7.1,SNR=2.6
comp=Z,18nm,0.7s
P18A Preston Nutter 25.50 332 IAmb IAmb 15 39 44.7
comp=Z,21nm,1.5s
TUQ Turquoise Moun 25.52 318 P P 15 39 43.4 +1.7
baz=128
Q56A Snyder Ridge, 25.55 30 IAmb IAmb 15 39 42.0
comp=Z,24nm,0.6s
JFWS Jewell Farm 25.59 9 IAmb IAmb 15 39 46.1
comp=Z,34nm,0.6s
JFWS Jewell Farm 25.59 9 P P 15 39 41.9 -0.1
baz=191
P17A Butcher Ranch, 25.59 331 IAmb IAmb 15 39 45.2
comp=Z,15nm,0.9s
O53A New Philadelph 25.64 25 IAmb IAmb 15 39 42.7
comp=Z,46nm,0.9s
O53A New Philadelph 25.64 25 P P 15 39 41.9 -0.6
baz=212,SNR=6.3
MCWV Mont Chateau 25.74 28 P P 15 39 42.5 -0.9
baz=216
BFSC Mount Baldy Ra 25.97 314 P P 15 39 47.2 +1.5
baz=124
CIS Catalina Islan 26.04 312 P P 15 39 48.3 +1.9
baz=121
ECSD EROS Data Cent 26.07 358 P P 15 39 46.9 +0.6
baz=177
I37A Lemond, Waseca 26.37 3 IAmb IAmb 15 40 31.0
comp=Z,42nm,0.8s
DECC Green Verdugo 26.44 313 P P 15 39 52.5 +2.6
baz=123
P57A Homestead Farm 26.46 31 IAmb IAmb 15 40 32.6
comp=Z,14nm,0.9s
BSUT Blindstream Ca 26.47 333 IAmb IAmb 15 39 57.9
comp=Z,19nm,1.3s
EDW2 Edwards Air Fo 26.55 315 P P 15 39 52.4 +1.5
baz=124
MCRA Macar, Loja 26.57 144 P P 15 39 52.4 +1.2
MCRA Macar, Loja 26.57 144 *eP* P 15 39 51.7 +0.5
TPNV Topopah Spring 26.69 320 P P 15 39 53.6 +1.3
baz=130
K22A Casper 26.73 341 P P 15 39 53.5 +0.9
baz=155
M53A WI Miller and 26.86 25 P P 15 39 52.4 -1.1
baz=212
MPMC Manual Prospec 26.91 317 P P 15 39 55.4 +1.2
baz=127,SNR=6.2
DUG Dugway, Tooele 27.14 330 P P 15 39 56.6 +0.4
baz=141
TCUT Toone Canyon 27.22 333 IAmb IAmb 15 40 00.3
comp=Z,27nm,0.9s
R11B Troy Canyon, C 27.24 323 P P 15 39 56.9 -0.3
baz=134
ISA Isabella, Lake 27.32 316 P P 15 39 58.0 +0.2
baz=125
SSPA Standing Stone 27.42 30 P P 15 39 57.2 -1.3
SSPA IAmb IAmb 15 40 46.0
comp=Z,38nm,1.6s
SSPA Standing Stone 27.42 30 P P 15 39 56.9 -1.6
baz=218
CWC Cottonwood Cre 27.52 317 P P 15 40 01.0 +1.3
baz=127
SPMN Marine on St. 27.61 4 IAmb IAmb 15 40 00.8
comp=Z,23nm,0.7s
SPMN Marine on St. 27.61 4 P P 15 40 00.3 +0.1
baz=185
ERPA Erie 27.71 25 P P 15 40 00.2 -0.9
baz=212
PKM Mcpherson Peak 27.81 313 P P 15 40 04.4 +2.1
baz=122,SNR=5.7
VES Vestal, Richgr 27.83 315 P P 15 40 04.1 +1.9
baz=124
BW06 Boulder Array 27.86 337 IAmb IAmb 15 40 57.1
comp=Z,20nm,1.9s
BW06 Boulder Array 27.86 337 P P 15 40 03.5 +0.8
baz=150
PDAR Pinedale Array 27.86 337 P P 15 40 03.7 +1.0
comp=Z,2.4nm,0.9s,baz=141,slow=11,SNR=11
PDAR pP pP 15 40 31.0 +2.8
comp=Z,1.2nm,0.6s,baz=138,slow=12,SNR=4.2
comp=Z,2.4nm,0.9s
HVU Hansel Valley 28.36 332 IAmb IAmb 15 40 10.1
comp=Z,15nm,0.8s
GLMI Grayling 28.57 16 P P 15 40 08.4 -0.3
baz=201
NVAR Mina Array Bea 28.89 321 P P 15 40 14.7 +2.9
comp=Z,8.7nm,0.8s,baz=137,slow=9.4,SNR=60
NVAR pP pP 15 40 40.0 +2.6
comp=Z,6.1nm,0.8s,baz=130,slow=8.8,SNR=8.8
NVAR PcP PcP 15 43 19.7 +1.3
comp=Z,2.2nm,0.8s,baz=131,slow=3.1,SNR=4.7
NVAR LR LR 15 51 57.9
comp=Z,84nm,20.5s,baz=26,slow=36
comp=Z,8.7nm,0.8s
SNOW Snow King Moun 28.91 336 IAmb IAmb 15 40 14.8
comp=Z,42nm,1.2s
TPAW Teton Pass 29.01 336 IAmb IAmb 15 40 19.1
comp=Z,13nm,1.1s
E38A The Farm, Brul 29.08 5 IAmb IAmb 15 41 06.3
comp=Z,26nm,0.7s
FXWY Fox Creek 29.16 336 IAmb IAmb 15 40 45.0
comp=Z,14nm,1.5s
E28A Huff 29.23 352 IAmb IAmb 15 40 17.4
comp=Z,18nm,0.8s
FLWY Flagg Ranch 29.42 337 IAmb IAmb 15 40 57.7
comp=Z,36nm,1.9s
BINY Binghamton 29.53 30 P P 15 40 16.1 -1.2
baz=220
H17A Grant Village 29.64 338 P P 15 40 20.9 +2.4
baz=149
PAL Palisades 29.70 34 P P 15 40 18.1 -0.6
baz=224
ATAH Atahualpa 29.72 144 LR LR 15 50 47.9
comp=Z,29nm,19.9s,baz=15,slow=33
RLMT Red Lodge 29.82 340 IAmb IAmb 15 40 49.9
comp=Z,13nm,0.9s
RLMT Red Lodge 29.82 340 P P 15 40 21.7 +1.7
baz=152
YMR Madison River 30.02 337 IAmb IAmb 15 40 27.0
comp=Z,7.9nm,1.0s
PNTR Pine Nut 30.09 320 IAmb IAmb 15 40 26.2
comp=Z,39nm,1.8s
SADO Sadowa 30.28 23 LR LR 15 53 21.3
comp=Z,25nm,21.6s,baz=67,slow=38
EMB Emerald Bay 30.33 320 IAmb IAmb 15 40 28.6
comp=Z,17nm,1.0s
MDND Maddock 30.36 354 P P 15 40 25.2 +0.7
baz=172
EYMN Ely 30.41 5 P P 15 40 24.6 -0.3
baz=187
MPK Martis Peak 30.48 320 IAmb IAmb 15 40 29.9
comp=Z,18nm,1.1s
HLID Hailey 30.51 332 IAmb IAmb 15 40 28.9
comp=Z,13nm,1.0s
HLID Hailey 30.51 332 P P 15 40 27.8 +1.7
baz=142,SNR=16
AGMN Agassiz Nation 30.61 359 IAmb IAmb 15 40 28.9
comp=Z,12nm,0.7s
AGMN Agassiz Nation 30.61 359 P P 15 40 26.9 +0.3
baz=179,SNR=6.3
BOZ Bozeman (W) 31.05 337 P P 15 40 32.0 +1.2
baz=148
L61B Northampton 31.37 33 P P 15 40 33.5 +0.1
baz=224
DGMT Dagmar 31.63 349 P P 15 40 36.0 +0.3
baz=163
WVOR Wild Horse Val 31.75 326 IAmb IAmb 15 40 40.5
comp=Z,20nm,1.1s
LONY Lake Ozonia 32.05 28 IAmb IAmb 15 40 39.0
comp=Z,18nm,0.6s
LONY Lake Ozonia 32.05 28 P P 15 40 38.2 -1.1
baz=219
PLID Pearl Lake 32.42 332 IAmb IAmb 15 40 45.3
comp=Z,15nm,0.9s
EGMT Eagleton 32.56 342 P P 15 40 44.3 +0.4
baz=154
ULM Lac du Bonnet 32.56 359 IAmb IAmb 15 40 46.1
comp=Z,29nm,1.6s
ULM Lac du Bonnet 32.56 359 P P 15 40 43.0 -0.8
comp=Z,3.7nm,0.6s,baz=202,slow=7.3,SNR=7.1
comp=Z,3.7nm,0.6s
BMO Blue Mountains 32.83 331 IAmb IAmb 15 40 49.0
comp=Z,13nm,1.4s
MSO Missoula 32.96 336 P P 15 40 48.4 +1.0
baz=146
LBNH Lisbon 33.03 32 P P 15 40 47.7 -0.2
baz=224
I07A Izee 33.35 327 IAmb IAmb 15 40 53.1
comp=Z,6.8nm,0.8s
YBH Yreka Blue Hor 33.59 321 LR LR 15 55 44.2
comp=Z,92nm,19.0s,baz=218,slow=38
F10A Beach Ranch, E 33.65 332 IAmb IAmb 15 40 55.5
comp=Z,24nm,1.1s
L04D Klamath Falls 33.65 322 IAmb IAmb 15 41 25.8
comp=Z,43nm,1.9s
E09A Wood Farm, Sta 34.47 332 IAmb IAmb 15 41 01.9
comp=Z,6.6nm,1.1s
I05D Terrebonne, OR 34.49 326 IAmb IAmb 15 41 03.0
comp=Z,29nm,1.2s
NNA Nana 34.59 147 LR LR 15 52 00.6
comp=Z,39nm,21.9s,baz=344,slow=31
PKME Peaks-Kenny Pk 35.09 33 P P 15 41 05.6 0.0
baz=226
H04A Detroit Lake 35.17 326 IAmb IAmb 15 41 08.9
comp=Z,16nm,0.8s
I03D Drain, OR 35.17 324 IAmb IAmb 15 41 08.7
comp=Z,18nm,0.9s
NEW Newport 35.39 335 P P 15 41 09.4 +1.1
baz=142
C09A Chrisman Ranch 35.51 333 IAmb IAmb 15 41 11.7
comp=Z,24nm,1.4s
LTY Liberty 36.19 330 IAmb IAmb 15 41 17.0
comp=Z,12nm,1.1s
LON Longmire 36.38 329 IAmb IAmb 15 41 22.3
comp=Z,6.4nm,0.8s
FFC Flin Flon 37.40 354 P P 15 41 25.6 +0.3
FFC IAmb IAmb 15 41 26.5
comp=Z,24nm,1.2s
FFC Flin Flon 37.40 354 P P 15 41 25.8 +0.5
FFC pP pP 15 41 50.7 -0.8
FFC sP sP 15 42 03.8 -1.1
ETMB Extrema 39.59 131 P P 15 41 42.9 -1.2
ETMB IAmb IAmb 15 41 45.1
comp=Z,14nm,1.4s
FCC Fort Churchill 41.10 1 P P 15 41 56.0 +0.1
FCC IAmb IAmb 15 41 58.3
comp=Z,28nm,1.5s
SAML Samuel 41.26 127 P P 15 41 56.2 -1.6
SAML IAmb IAmb 15 41 57.5
comp=Z,13nm,1.1s
SAML Samuel 41.26 127 P P 15 41 56.5 -1.4
SAML pP pP 15 42 21.6 -2.9
SAML PcP PcP 15 43 54.3 -0.2
SCHQ Schefferville 43.08 24 P P 15 42 11.1 -1.0
comp=Z,10nm,0.8s,baz=230,slow=7.8,SNR=6.3
SCHQ pP pP 15 42 39.3 +0.1
comp=Z,3.1nm,0.5s,baz=231,slow=12,SNR=1.9
SCHQ LR LR 16 02 45.6
comp=Z,55nm,18.2s,baz=286,slow=40
comp=Z,10nm,0.8s
PB18 Visviri 43.23 143 P P 15 42 16.6 +2.3
PB16 IPOC Station P 43.80 143 P P 15 42 19.9 +0.9
PB16 IAmb IAmb 15 42 26.3
comp=Z,9.3nm,0.8s
PB11 IPOC Station P 44.86 145 IAmb IAmb 15 42 28.8
comp=Z,15nm,0.8s
GO01 Chusmiza 45.05 144 IAmb IAmb 15 42 31.4
comp=Z,13nm,0.8s
VILB Vilhena 46.07 129 IAmb IAmb 15 42 36.9
comp=Z,24nm,0.9s
PB07 IPOC Station P 46.34 147 IAmb IAmb 15 42 40.6
comp=Z,16nm,0.8s
V35K Ketchikan 46.70 332 P P 15 42 43.1 +2.4
baz=129
YKA Yellowknife Ar 46.83 348 P P 15 42 41.2 -0.4
YKA Yellowknife Ar 46.83 348 P P 15 42 41.7 +0.1
comp=Z,4.8nm,0.7s,baz=153,slow=7.3,SNR=80
YKA pP pP 15 43 10.7 +2.0
comp=Z,3.6nm,0.7s,baz=154,slow=7.3,SNR=7.7
YKA PcP PcP 15 44 12.9 +0.2
comp=Z,1.0nm,0.9s,baz=152,slow=3.6,SNR=3.7
comp=Z,4.8nm,0.7s
PB05 IPOC Station P 47.11 148 IAmb IAmb 15 42 46.6
comp=Z,16nm,1.1s
T35M Bob Quinn 47.19 335 P P 15 42 46.2 +1.7
baz=132
KOTAN Kotaneelee Air 47.25 341 P P 15 42 46.3 +1.3
baz=141
LVC Limon Verde 47.58 146 P P 15 42 48.0 -0.4
LVC Limon Verde 47.58 146 P P 15 42 49.9 +1.5
DLBC Dease Lake 48.09 336 IAmb IAmb 15 43 24.2
comp=Z,20nm,0.9s
DLBC Dease Lake 48.09 336 P P 15 42 54.2 +2.7
baz=133
S34M Telegraph Cree 48.17 335 P P 15 42 54.1 +2.0
baz=131
PTLB Pontes e Lacer 48.47 131 IAmb IAmb 15 42 55.5
comp=Z,16nm,0.9s
PB14 IPOC Station P 48.49 149 IAmb IAmb 15 42 57.3
comp=Z,16nm,1.1s
WTLY Watson Lake, Y 48.81 338 IAmb IAmb 15 43 29.2
comp=Z,26nm,1.3s
WTLY Watson Lake, Y 48.81 338 P P 15 42 58.7 +1.7
baz=135
R33M Jennings River 49.10 337 P P 15 43 01.6 +2.3
baz=132
Q32M Nakina River 49.31 336 P P 15 43 03.6 +2.5
baz=131
GO02 Mina Guanaco 49.34 149 IAmb IAmb 15 43 04.1
comp=Z,16nm,0.9s
WRGLY Wrigley 49.55 344 P P 15 43 03.1 +0.7
baz=144
P32M Atlin 50.29 336 P P 15 43 10.0 +1.8
baz=129
P33M Teslin, Yukon 50.34 337 P P 15 43 09.9 +1.2

baz=131
N32M Quiet Lake 51.06 338 P P 15 43 16.2 +2.2
baz=131,SNR=7.2
WHY Whitehorse 51.42 336 P P 15 43 17.9 +1.1
baz=129
FARO Faro, Yukon 51.87 338 IAmb IAmb 15 43 52.1
comp=Z,10nm,1.0s
FARO Faro, Yukon 51.87 338 P P 15 43 21.4 +1.3
baz=132
P30M Million Dollar 51.91 335 P P 15 43 22.5 +2.2
baz=126
P29M Windy Craggy 51.94 334 P P 15 43 23.0 +2.5
baz=125
O30N Mendenhall 51.95 336 P P 15 43 22.3 +1.7
baz=128
LCO Las Campanas 52.08 152 P P 15 43 22.2 0.0
LCO Las Campanas 52.08 152 P P 15 43 23.6 +1.4
LCO sP **sP 15 44 03.2 +0.2**
AC05 El Transito 52.12 152 IAmb IAmb 15 43 24.7
comp=Z,18nm,1.0s
M31M Drury Creek, Y 52.23 338 P P 15 43 24.1 +1.5
baz=130
N31M Braeburn, Yuko 52.28 337 P P 15 43 24.2 +1.2
baz=128
HYT Haines Junctio 52.54 335 P P 15 43 25.6 +0.5
baz=126
O29M Mount Kennedy 52.67 335 P P 15 43 27.3 +1.3
baz=124
N30M Aishikik Lake 52.76 336 P P 15 43 28.6 +2.0
baz=127
YUK6 Outpost Mounta 52.95 335 P P 15 43 29.3 +1.1
baz=125
GO04 Tololo Observa 53.04 153 IAmb IAmb 15 44 11.9
comp=Z,15nm,0.9s
H03N2 Juan Fernandez 53.11 163 T T 16 41 12.2
baz=338,slow=77,SNR=4.4
H03N1 Juan Fernandez 53.12 163 T T 16 41 12.2
baz=338,slow=77,SNR=11
H03N3 Juan Fernandez 53.13 163 T T 16 41 13.3
baz=338,slow=77,SNR=6.6
PINM Pinnacle 53.25 334 P P 15 43 32.2 +2.0
baz=123
YUK4 Talbot Arm 53.30 336 P P 15 43 32.0 +1.3
baz=125
M30M Minto, Yukon 53.33 338 P P 15 43 32.2 +1.4
M30M IAmb IAmb 15 44 02.8
comp=Z,8.9nm,1.1s
M30M Minto, Yukon 53.33 338 P P 15 43 32.2 +1.4
baz=128
MAYO Mayo, Yukon 53.65 339 P P 15 43 34.9 +1.9
baz=129
YUK8 Steele Glacier 53.70 335 P P 15 43 35.4 +1.6
baz=124
M29M Somme Creek 53.87 337 P P 15 43 36.6 +1.9
baz=126
L29M L29M 54.14 338 P P 15 43 38.4 +1.7
baz=127
YUK3 Moose Creek 54.26 335 P P 15 43 39.5 +1.8
baz=123
K29M Barlow Dome 54.37 338 IAmb IAmb 15 43 41.5
comp=Z,9.9nm,1.1s
K29M Barlow Dome 54.37 338 P P 15 43 39.7 +1.3
baz=128
BGLC Bering Glacier 54.56 333 P P 15 43 40.9 +1.3
baz=119
H31M Peel River 54.61 341 P P 15 43 40.7 +0.7
baz=132
C36M Paulatuk 54.71 348 P P 15 43 40.2 -0.3
baz=146
I30M Mount Dempster 54.86 340 P P 15 43 43.2 +1.3
baz=130
MCARA McCarthy VSAT 55.09 334 P P 15 43 45.7 +2.2
baz=120
M27K Edge Creek, AK 55.13 336 P P 15 43 45.7 +1.7
baz=122
ZON Zonda 55.15 152 IAmb IAmb 15 43 47.0
comp=Z,23nm,1.3s
DAWY Dawson 55.17 338 P P 15 43 44.8 +0.8
DAWY IAmb IAmb 15 43 46.1
comp=Z,6.2nm,1.0s
DAWY Dawson 55.17 338 P P 15 43 44.3 +0.3
baz=126
G31M Satah River 55.35 342 P P 15 43 46.0 +0.8
baz=133,SNR=16
L27K Beaver Creek, 55.49 336 P P 15 43 47.6 +1.2
baz=123
BMRM Bremner River 55.55 333 P P 15 43 48.1 +1.3
baz=118
F31M Tsiigehtchic 55.56 343 P P 15 43 47.7 +1.0
baz=134,SNR=6.0
M26K Nabesna, AK 55.60 335 IAmb IAmb 15 44 19.7
comp=Z,13nm,1.1s
M26K Nabesna, AK 55.60 335 P P 15 43 48.4 +1.3
baz=121
EPYK Eagle Plains 55.71 341 IAmb IAmb 15 43 50.8
comp=Z,8.9nm,1.0s
EPYK Eagle Plains 55.71 341 P P 15 43 49.0 +1.2
baz=130
EYAK Cordova Ski Ar 55.84 333 P P 15 43 50.2 +1.4
baz=117
N25K Chitina, Valde 55.85 334 P P 15 43 50.8 +1.8
baz=119
G30M tAoh Zraii Nji 55.96 342 P P 15 43 50.4 +0.8
baz=131
L26K Log Cabin Wild 56.06 336 P P 15 43 52.1 +1.6
baz=121
INK Inuvik 56.11 344 P P 15 43 51.2 +0.6
baz=134,SNR=22
K27K Chicken 56.12 337 P P 15 43 52.1 +1.3
baz=123
H29M Whitestone 56.13 341 IAmb IAmb 15 43 52.8
comp=Z,17nm,1.1s
H29M Whitestone 56.13 341 P P 15 43 51.8 +1.0
baz=128
I28M Miner Creek 56.17 339 P P 15 43 52.3 +1.1
baz=126
EGAK Eagle 56.20 338 IAmb IAmb 15 43 52.9
comp=Z,7.7nm,0.8s
EGAK Eagle 56.20 338 P P 15 43 51.8 +0.4
baz=124
F30M Barrier River 56.25 343 P P 15 43 52.6 +1.0
baz=132
P23K Montague Islan 56.34 332 P P 15 43 53.8 +1.4
baz=115
KLU Klutina 56.36 334 P P 15 43 53.8 +1.2
baz=118
HARP HAARP 56.47 335 P P 15 43 54.7 +1.4
baz=119
BO01 Tunca 56.61 156 IAmb IAmb 15 43 56.2
comp=Z,16nm,0.9s
M24K Tolsona, Glenn 56.75 334 P P 15 43 57.7 +2.4
baz=118
SCRK Sand Creek 56.80 337 IAmb IAmb 15 44 28.2
comp=Z,9.1nm,1.1s
SCRK Sand Creek 56.80 337 P P 15 43 57.3 +1.5
baz=121
I27K Kandik River 56.83 339 P P 15 43 57.2 +1.4
baz=124
PAX Paxson 56.87 335 P P 15 43 57.2 +1.0
baz=119
J26L Joseph Creek 56.92 337 P P 15 43 58.3 +1.8
baz=122
RIDG Independent Ri 57.01 336 P P 15 43 59.0 +1.8
baz=120
RES Resolute Bay 57.09 0 LR LR 16 09 25.1
comp=Z,25nm,21.5s,baz=37,slow=37
BDFB Brasilia 57.12 123 P P 15 43 57.9 -0.8
comp=Z,5.0nm,0.7s,baz=257,slow=8.1,SNR=6.7
comp=Z,5.0nm,0.7s
A36M Sachs Harbour 57.12 349 P P 15 43 57.7 0.0
baz=145
H27K Steamboat Moun 57.16 340 P P 15 43 59.9 +1.7
baz=125
CPUP Villa Florida 57.17 139 P P 15 43 57.6 -1.1
comp=Z,3.2nm,0.8s,baz=323,slow=7.1,SNR=6.6
CPUP pP **pP 15 44 25.0 -1.8**
comp=Z,2.7nm,0.8s,baz=276,slow=5.6,SNR=3.4
CPUP PcP **PcP 15 44 51.1 -0.9**
comp=Z,3.5nm,1.0s,baz=327,slow=4.0,SNR=3.3
CPUP LR LR 16 08 12.9
comp=Z,35nm,18.4s,baz=309,slow=36
comp=Z,3.2nm,0.8s
CPUP Villa Florida 57.17 139 P P 15 43 57.6 -1.1
CPUP pP **pP 15 44 25.1 -1.8**
CPUP sP **sP 15 44 37.8 -2.0**
I26K Coal Creek Min 57.20 338 P P 15 43 59.4 +1.0
baz=123
M23K Glacier View 57.26 333 P P 15 43 58.8 -0.1
baz=116
K24K Donnelly Dome 57.40 336 P P 15 44 00.6 +0.7
baz=119
F28M Old Crow 57.46 341 P P 15 44 01.4 +1.2
baz=127,SNR=25
G27K Doyon Strip 57.54 340 P P 15 44 01.6 +0.8
baz=125
WAT6 Susitna Watana 57.62 334 P P 15 44 02.8 +1.2
baz=116
J25K Salcha River, 57.65 337 IAmb IAmb 15 44 33.7
comp=Z,11nm,1.1s
J25K Salcha River, 57.65 337 P P 15 44 02.0 +0.4
baz=120
DHY Denali Highway 57.69 335 P P 15 44 02.6 +0.5
baz=117
PMR Palmer 57.78 333 P P 15 44 03.2 +0.8
baz=114
E28M Babbage River 57.97 342 P P 15 44 04.7 +0.9
baz=128
WAT1 Susitna Watana 58.06 334 P P 15 44 05.2 +0.7
baz=116
HDA Harding Lake 58.14 336 IAmb IAmb 15 44 36.5
comp=Z,11nm,1.0s
HDA Harding Lake 58.14 336 P P 15 44 05.6 +0.6
baz=118
HDA P **P 15 44 05.6 +0.6**
baz=118
Q20K Shuyak Island 58.18 329 P P 15 44 06.1 +0.8
baz=109
D28M Stokes Point 58.20 343 P P 15 44 06.4 +1.1
baz=129
IL31 58.29 337 IAmb IAmb 15 44 07.4
comp=Z,19nm,1.4s
ILAR Eielson Array 58.29 337 P P 15 44 06.8 +0.7
comp=Z,4.5nm,1.0s,baz=128,slow=4.6,SNR=33
ILAR pP **pP 15 44 35.2 +0.9**
comp=Z,3.8nm,0.9s,baz=114,slow=7.0,SNR=8.9
comp=Z,4.5nm,1.0s
G26K Porcupine Rive 58.31 340 P P 15 44 07.0 +0.9
baz=123
E27K Coleen River 58.32 341 IAmb IAmb 15 44 08.4
comp=Z,16nm,1.1s
E27K Coleen River 58.32 341 P P 15 44 07.7 +1.5
baz=126
CAPN Captain Cook N 58.35 331 P P 15 44 07.9 +1.4
baz=112
SUA Susitna One 58.44 332 P P 15 44 08.7 +1.5
baz=113
CUT Chulitna 58.60 333 P P 15 44 09.2 +1.0
baz=114
MCK McKinley 58.61 335 P P 15 44 09.2 +0.9
baz=116
POKR Poker Plat Res 58.66 337 P P 15 44 09.9 +1.3
baz=116
F26K Sheenjek River 58.84 340 P P 15 44 11.3 +1.5
baz=123
SKT Skwentna 58.98 333 P P 15 44 12.2 +1.4
baz=112
N20K Mount Spurr 58.99 332 P P 15 44 12.4 +1.4
baz=111
G25K Bearman Lake 59.00 339 P P 15 44 12.4 +1.5
baz=120
TRF Thorofare Moun 59.04 335 P P 15 44 13.0 +1.6
baz=114,SNR=5.4
NEA2 Nenana 59.04 336 P P 15 44 12.1 +0.8
baz=116
H24K Noodor Dome 59.17 338 IAmb IAmb 15 44 14.3
comp=Z,12nm,1.1s
H24K Noodor Dome 59.17 338 P P 15 44 13.2 +1.1
baz=118
F25K Christian Rive 59.27 340 P P 15 44 14.4 +1.5
baz=121
I23K Minto, Yukon-K 59.40 337 P P 15 44 14.9 +1.2
baz=116,SNR=10.0
G24K Hadweenzic Riv 59.44 339 P P 15 44 15.0 +1.0
baz=119
E25K Arctic Village 59.52 340 IAmb IAmb 15 44 17.1
comp=Z,12nm,1.2s
E25K Arctic Village 59.52 340 P P 15 44 16.3 +1.8
baz=122,SNR=6.3
BPAW Bear Paw Mtn. 59.59 335 IAmb IAmb 15 44 46.7
comp=Z,14nm,1.0s
BPAW Bear Paw Mtn. 59.59 335 P P 15 44 15.7 +0.7
baz=114
PPLA Purkeypile 59.61 334 P P 15 44 15.4 +0.1
baz=112
O19K Port Alsworth 59.63 330 P P 15 44 15.9 +0.6
baz=108
M20K Styx River 59.65 332 P P 15 44 16.0 +0.5
baz=110
CAST Castle Rocks 59.77 334 P P 15 44 16.6 +0.3
baz=112
Q17K Contact Creek 59.82 328 P P 15 44 18.1 +1.3
baz=106
MLY Manley 59.88 336 IAmb IAmb 15 44 48.9
comp=Z,11nm,0.9s
MLY Manley 59.88 336 P P 15 44 18.2 +1.1
baz=115,SNR=6.1
N19K Bonanza Creek 59.90 331 P P 15 44 18.3 +1.0
baz=109
F24K Squaw Lake 59.98 339 P P 15 44 19.2 +1.6
baz=119
CHUM Lake Minchumin 60.04 335 P P 15 44 19.4 +1.3
baz=112
C26K Camden Bay 60.29 342 P P 15 44 21.4 +1.8
baz=123
G23K Bananza Creek 60.34 338 P P 15 44 21.4 +1.2
baz=116
D25K Kavik River 60.41 341 IAmb IAmb 15 44 22.8
comp=Z,17nm,1.1s
D25K Kavik River 60.41 341 P P 15 44 21.5 +1.0
baz=121
I21K Tanana 60.42 336 P P 15 44 21.0 +0.4
baz=113
ISOG Isortoq, Green 60.42 23 *i* P **P 15 44 20.8 +0.2**
ISOG IAmb IAmb 15 44 22.8
comp=Z,40nm,0.7s
E24K Your Creek 60.45 340 P P 15 44 22.2 +1.3
baz=118
H22K Ishtalitna Cre 60.48 337 P P 15 44 22.2 +1.1
baz=114
L19K White Mountain 60.52 332 P P 15 44 22.4 +1.0
baz=109
N18K Kilae Creek 60.52 330 P P 15 44 21.7 +0.3
baz=107
K20K Telida 60.58 334 P P 15 44 22.6 +0.8
baz=110
COLD Coldfoot 60.63 339 P P 15 44 23.5 +1.4
baz=116,SNR=6.2
M18K Stony River 60.73 331 P P 15 44 24.0 +1.1
baz=108
E23K Chandalar 60.81 340 P P 15 44 25.1 +1.7
baz=117
J20K Nowinta River 60.90 335 IAmb IAmb 15 44 55.5
comp=Z,11nm,0.9s
J20K Nowinta River 60.90 335 P P 15 44 24.5 +0.6
baz=111
H21K Melozitna Rive 60.92 336 P P 15 44 24.8 +0.7
baz=113
G22K Bettles 60.96 338 P P 15 44 25.2 +0.9
baz=115
CHNA Chernabura Isl 61.02 323 P P 15 44 26.0 +1.1
baz=101
TOLK Toolik Lake Re 61.07 340 P P 15 44 25.9 +0.8
TOLK IAmb IAmb 15 44 57.2
comp=Z,12nm,1.1s
TOLK Toolik Lake Re 61.07 340 P P 15 44 26.1 +1.1
baz=118
D24K Happy Valley 61.08 341 P P 15 44 26.4 +1.4
baz=119
P16K Nushagak River 61.08 328 P P 15 44 26.1 +0.9
baz=104
N17K Nushagak Hills 61.09 330 P P 15 44 26.6 +1.4
baz=106
I20K Naghedeneel 61.26 335 P P 15 44 27.6 +1.3
baz=111
TTA Tatalina 61.27 333 P P 15 44 27.3 +0.8
baz=108
O16K Kokwok River B 61.28 329 P P 15 44 27.8 +1.3
baz=104
C24K Franklin Bluff 61.31 341 P P 15 44 27.8 +1.2
baz=119
L18K Granite Mounta 61.34 332 P P 15 44 28.0 +1.0
baz=107
J19K Poorman 61.45 334 P P 15 44 28.5 +0.9
baz=109
F22K John River 61.45 338 P P 15 44 29.1 +1.6
baz=114
M17K Holitna River 61.45 331 P P 15 44 28.6 +0.9
baz=106
G21K Allakaket 61.52 337 IAmb IAmb 15 45 01.0
comp=Z,6.8nm,1.0s
G21K Allakaket 61.52 337 P P 15 44 29.6 +1.5
baz=113
D23K Nanushuk River 61.58 340 P P 15 44 29.9 +1.5
baz=117
E22K Anaktuvuk Pass 61.59 339 P P 15 44 29.4 +0.8
E22K IAmb IAmb 15 44 30.7
comp=Z,13nm,1.1s
E22K Anaktuvuk Pass 61.59 339 P P 15 44 29.8 +1.2
baz=115,SNR=8.2
H20K Anotleneega Mo 61.66 336 P P 15 44 30.0 +0.9
baz=111
ICESG Greenland Ices 61.71 20 *i* P **P 15 44 27.4 -2.3**
ICESG IAmb IAmb 15 44 30.8
comp=Z,12nm,0.9s
J18K Innoko River 61.74 333 P P 15 44 30.7 +1.1
baz=108
F21K Alatna River 61.79 338 P P 15 44 31.8 +1.9
baz=113
N16K Nishlik Lake 61.83 330 P P 15 44 31.6 +1.3
baz=104
C23K Itkillik River 61.95 341 P P 15 44 32.2 +1.3
baz=117
O15K Ungaliktiuk R 62.04 328 P P 15 44 32.4 +0.8
baz=103
L17K Donlin 62.04 332 P P 15 44 32.1 +0.4
baz=106
D22K Ayikyak River 62.19 340 P P 15 44 34.1 +1.6
baz=115
K17K Iditarod 62.21 332 P P 15 44 33.5 +0.8
baz=106
H19K Roundabout Mou 62.29 336 P P 15 44 34.1 +0.9
baz=109
N15K Kwethluk River 62.39 329 P P 15 44 34.4 +0.4
baz=103
PLCA Paso Flores 62.43 159 P P 15 44 35.3 +0.7
PLCA Paso Flores 62.43 159 P P 15 44 35.3 +0.7
comp=Z,14nm,0.9s,baz=330,slow=7.8,SNR=28
comp=Z,14nm,0.9s
PLCA Paso Flores 62.43 159 P P 15 44 35.4 +0.9
PLCA pP **pP 15 45 02.7 -0.5**
PLCA sP **sP 15 45 15.2 -0.7**
E21K Killik River 62.45 339 P P 15 44 35.5 +1.2
baz=113
F20K Avaraart Lake 62.54 337 P P 15 44 36.2 +1.4
baz=111
G19K Purcell Mounta 62.74 336 P P 15 44 37.0 +0.8
baz=109
O14K Tigyukauivet M 62.78 328 P P 15 44 38.0 +1.5
baz=101
C21K Knifeblade Rid 63.00 340 P P 15 44 39.4 +1.6
baz=113
B22K Teshekpuk Lake 63.04 341 P P 15 44 39.4 +1.3
baz=114
RCBR Riachuelo 63.07 106 P P 15 44 40.1 +0.8
RCBR PcP **PcP 15 45 14.4 -1.7**
RCBR sP **sP 15 45 19.4 -1.3**
N14K Kuskokwak Cree 63.12 329 P P 15 44 40.5 +1.7
baz=101
B21K Ikpikpuk River 63.12 340 P P 15 44 39.6 +0.9
baz=113
E20K Nigu River 63.14 339 P P 15 44 39.9 +1.0
baz=111
FALS False Pass 63.21 323 P P 15 44 40.2 +0.8
baz=97
F19K Shaleruckik Mo 63.23 337 P P 15 44 40.6 +1.3
baz=108
E19K Redstone River 63.23 338 P P 15 44 40.6 +1.1
baz=109
G18K Tagagawik 63.27 336 P P 15 44 40.6 +0.9
baz=107
J16K Anvik River 63.37 333 P P 15 44 42.0 +1.6
baz=104
L15K Ungalak Mounta 63.39 331 P P 15 44 41.9 +1.3
baz=102
M14K Bethel 63.42 330 P P 15 44 41.3 +0.6
baz=102
D20K Etivluk River 63.45 339 P P 15 44 41.8 +1.0
baz=110
H17K Granite Mounta 63.50 335 P P 15 44 42.8 +1.6
baz=106
I17K Unalakleet 63.56 333 P P 15 44 43.3 +1.7
baz=104
SUMG Summit 63.65 16 *i* P **P 15 44 40.0 -2.6**
SUMG IAmb IAmb 15 44 44.2
comp=Z,5.2nm,0.7s
NEEM North Greenlan 63.71 10 *i* P **P 15 44 41.2 -1.6**
NEEM IAmb IAmb 15 44 44.5
comp=Z,7.1nm,0.7s
A22K Sinclair Lake 63.78 342 P P 15 44 44.1 +1.2
baz=113
L14K Kuka Creek 63.89 330 P P 15 44 44.9 +1.1
baz=101
D19K Kuna River 63.89 339 P P 15 44 45.2 +1.4
baz=109
G17K Kiwalik Mounta 63.95 335 P P 15 44 45.7 +1.4
baz=105
M13K Dall Lake 64.03 329 P P 15 44 45.3 +0.6
baz=100
B20K Meade River 64.09 340 P P 15 44 46.6 +1.6
baz=111
LL02 Futaleuf 64.22 161 P P 15 44 46.8 +0.6
LL02 IAmb IAmb 15 44 48.2
comp=Z,13nm,1.1s
H16K Elim 64.39 334 P P 15 44 48.2 +1.1
baz=103
F17K Baldwin Pennin 64.44 336 P P 15 44 48.5 +1.1
baz=105
E18K Tukpahlearik C 64.46 337 P P 15 44 48.8 +1.3
baz=106
J14K Nanvaranak Lak 64.56 332 P P 15 44 49.9 +1.7
baz=101
C19K Lookout Ridge 64.59 339 P P 15 44 49.8 +1.4
baz=108
E17K Hotham Inlet 64.83 337 P P 15 44 50.8 +0.9
baz=105,SNR=8.2
UNV Unalaska Valle 64.90 322 P P 15 44 51.8 +1.2
baz=94
C18K Utukok River 65.02 338 P P 15 44 51.7 +0.5
baz=106
AY01 Puyuhuapi 65.10 162 P P 15 44 52.6 +0.8
AY01 IAmb IAmb 15 44 53.5
comp=Z,15nm,0.8s
M11K Mekoryuk 65.42 329 P P 15 44 56.2 +2.4
baz=98
D17K Noatak River 65.45 337 P P 15 44 55.2 +1.3
baz=104
RDOG Red Dog Mine 65.47 338 P P 15 44 55.3 +1.3
baz=104
F15K North Star Dit 65.62 335 P P 15 44 55.6 +0.6
baz=101
C17K DeLong Mountai 65.67 338 P P 15 44 56.3 +0.9
baz=104
ALE Alert 66.22 4 P P 15 44 58.1 -0.6
ALE pP **pP 15 45 26.3 -1.2**
DBG Daneborg 69.13 16 *i* P **P 15 45 15.3 -1.7**
DBG IAmb IAmb 15 45 18.6
comp=Z,3.2nm,0.7s
DAG Danmarks Havn 69.92 14 *i* P **P 15 45 20.0 -1.8**
DAG IAmb IAmb 15 45 22.9
comp=Z,9.6nm,0.9s
NOR Nord 71.03 9 *i* P **P 15 45 25.3 -3.2**
NOR IAmb IAmb 15 45 29.4
comp=Z,3.7nm,0.8s
EKA Eskdalemuir Ar 76.91 36 P P 15 46 02.7 -0.5
comp=Z,1.6nm,0.6s,baz=272,slow=6.0,SNR=4.9
EKA pP **pP 15 46 33.4 +0.6**
comp=Z,5.0nm,0.8s,baz=294,slow=6.3,SNR=5.3
comp=Z,1.6nm,0.6s
SPITS Spitsbergen Ar 77.19 11 P P 15 46 05.0 +0.6
comp=Z,7.2nm,0.8s,baz=248,slow=7.4,SNR=4.2
comp=Z,7.2nm,0.8s
ESDC Sonseca Array 79.97 52 P P 15 46 19.2 -1.2
comp=Z,1.3nm,0.9s,baz=287,slow=6.0,SNR=5.3
ESDC pP **pP 15 46 50.9 +0.7**
comp=Z,1.5nm,0.8s,baz=291,slow=5.8,SNR=3.8
ESDC LR LR 16 19 17.3
comp=Z,61nm,18.3s,baz=315,slow=34
comp=Z,1.3nm,0.9s
NB2 NORSAR Subarra 82.48 28 P P 15 46 33.8 +0.6
comp=Z,10nm,1.2s,baz=294,slow=5.3
NOA NORSAR Array B 82.48 28 P P 15 46 34.0 +0.8
comp=Z,1.8nm,0.9s,baz=296,slow=5.3,SNR=5.8
NOA pP **pP 15 47 04.8 +1.6**
comp=Z,2.7nm,1.0s,baz=291,slow=5.2,SNR=4.6

	comp=Z,1.8nm,0.9s							
ARCES	**ARCESS Array B**	**83.70**	**18**	P	**P**	**15 46 39.9**	**+0.7**	
	comp=Z,9.9nm,0.8s,baz=296,slow=5.5,SNR=11							
ARCES				pP	**pP**	**15 47 10.4**	**+1.1**	
	comp=Z,8.2nm,0.8s,baz=294,slow=4.5,SNR=4.4							
	comp=Z,9.9nm,0.8s							
PETK	**Petropavlovsk-**	**85.89**	**325**	P	**P**	**15 46 52.0**	**+1.5**	
	comp=Z,10nm,1.0s,baz=53,slow=12,SNR=3.3							
PETK				pP	**pP**	**15 47 23.2**	**+2.4**	
	comp=Z,4.6nm,0.7s,baz=72,slow=14,SNR=2.6							
	comp=Z,10nm,1.0s							
TIXI	**Tiksi**	**86.07**	**347**	P	**P**	**15 46 50.8**	**-0.3**	
TIXI				IAmb	IAmb	15 47 23.8		
	comp=Z,9.2nm,0.8s							
DBIC	**Dimbokro**	**88.42**	**84**	P	**P**	**15 47 03.0**	**-0.4**	
	comp=Z,4.4nm,0.9s,baz=129,slow=0.8,SNR=4.6							
	comp=Z,4.4nm,0.9s							
GERES	**GERESS Array B**	**88.81**	**39**	P	**P**	**15 47 03.5**	**-1.3**	
	comp=Z,0.5nm,0.5s,baz=260,slow=3.0,SNR=1.5							
	comp=Z,0.5nm,0.5s							
TORD	**Torodi Ar. Bea**	**92.58**	**75**	P	**P**	**15 47 21.1**	**-1.8**	
	comp=Z,0.3nm,0.4s,baz=319,slow=5.6,SNR=3.1							
TORD				pP	**pP**	**15 47 52.1**	**-1.1**	
	comp=Z,0.7nm,1.0s,baz=302,slow=6.6,SNR=2.2							
	comp=Z,0.3nm,0.4s							
AKASG	**Malin Array Be**	**96.41**	**32**	LR	LR	16 33 16.9		
	comp=Z,24nm,18.4s,baz=224,slow=37							
MDJ	**Mudanjiang**	**105.79**	**328**	P	**Pdif**	**15 48 25.2**	**+3.5**	
MDJ				pmax	pmax			
	comp=Z,26nm,2.0s							
MDJ				pmax	pmax			
	comp=Z,790nm,6.8s							
MKAR	**Makanchi Array**	**115.86**	**2**	PKP	**PKiKP**	**15 52 51.7**	**-1.2**	
	comp=Z,0.4nm,0.6s,baz=2.6,slow=2.7,SNR=4.4							
MKAR				pPKP	**pPKiKP**	**15 53 25.2**	**+0.6**	
	comp=Z,0.3nm,0.6s,baz=350,slow=0.9,SNR=2.3							
HHC	**Hu-ho-hao-te**	**116.72**	**337**	*e*P	**PKiKP**	**15 52 56.1**	**+1.3**	
WMQ	**Urumqi**	**118.81**	**358**	*e*P	**PKiKP**	**15 52 59.4**	**+0.7**	
LZH	**Lanzhou**	**123.61**	**341**	PKP	**PKiKP**	**15 53 08.6**	**+0.1**	
LZH				sPKP		15 53 51.8		
BOSA	**Boshof**	**124.71**	**113**	PKP	**PKPdf**	**15 53 09.7**	**-0.7**	
	comp=Z,3.0nm,0.8s,baz=213,slow=3.1,SNR=4.5							
STKA	**Stephens Creek**	**126.97**	**243**	PKP	**PKPdf**	**15 53 14.1**	**-0.4**	
	comp=Z,1.4nm,0.3s,baz=69,slow=0.8,SNR=7.1							
MAW	**Mawson**	**128.09**	**170**	PKP	**PKPdf**	**15 53 15.3**	**-0.2**	
	comp=Z,5.0nm,0.9s,baz=177,slow=3.5,SNR=8.0							
WRA	**Warramunga Arr**	**133.09**	**259**	PKP	**PKPdf**	**15 53 26.9**	**+0.5**	
	comp=Z,2.4nm,0.7s,baz=84,slow=2.5,SNR=23							
WRA				pPKP	**pPKPdf**	**15 53 59.0**	**+0.8**	
	comp=Z,1.0nm,0.7s,baz=78,slow=2.3,SNR=4.1							
PZH	**PanZhiHua**	**133.13**	**339**	PKP	**PKPdf**	**15 53 26.4**	**-0.2**	
ASAR	**Alice Springs**	**133.75**	**254**	PKhKP	PKPpre	15 53 17.6		
	comp=Z,0.3nm,0.7s,baz=84,slow=4.3,SNR=5.1							
ASAR				PKP	**PKPdf**	**15 53 28.0**	**+0.3**	
	comp=Z,1.5nm,0.7s,baz=77,slow=1.9,SNR=12							
ASAR				pPKP	pPKPdf	15 53 59.4	0.0	
	comp=Z,0.9nm,0.8s,baz=85,slow=2.0,SNR=3.2							
ASAR				PP	**PP**	**15 55 59.9**	**+1.4**	
	comp=Z,0.2nm,0.6s,baz=80,slow=9.0,SNR=4.4							
CMAR	**Chiang Mai Arr**	**141.52**	**338**	PKhKP	PKPpre	15 53 34.2		
	comp=Z,1.1nm,0.9s,baz=342,slow=4.2,SNR=5.9							
ABPO	**Ambohimpanom**	**144.43**	**98**	PKPdf	**PKPdf**	**15 53 46.9**	**-0.5**	
SBUM	**Sibu**	**146.34**	**304**		**PKPbc**	**15 53 51.6**	**-0.3**	
PSA00	**Pilbara Seismi**	**146.71**	**257**		**PKPbc**	**15 53 52.9**	**0.0**	
MBWA	**Marble Bar**	**146.82**	**258**		**PKPbc**	**15 53 52.7**	**-0.4**	

IDC ***12*** *15:38:50.4±1.4,6˚.69S×129˚.77E, h0km, mb3.9/3, mbtmp4.1/5, ML4.6/2, Error ellipse: s-maj=133.2km s-min=22.6km az=67.0*
DJA ***12*** *15:39:07.1±0.2,8˚.5±3˚×12˚9E±˚, h196km±7km, M4.4/14, mb4.3/13, mB5.0/7, MLv4.6/14, Mw(mB)4.4/7*
NEIC ***12*** *15:39:08.0±1.8, 7˚.6S±0˚.1×128˚.74E±0˚.06, h175km±13km, mb4.3/5, Error ellipse: s-maj=15.3km s-min=7.2km az=197.0*
ISC 12 15:39:07.5±0.6,7˚.51S±0˚.06×128˚.67E±0˚.06, h151km, n63, σ1s76/64, mb4.4/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.64**	**100**	Pn	**Pn**	**15 39 51.6**	**+1.1**
SAUI	**Saumlaki**	**2.64**	**100**	P	**Pn**	**15 39 52.4**	**+2.0**
SAUI	**Saumlaki**	**2.64**	**100**	P	**Pn**	**15 39 51.6**	**+1.1**
BNDI	**Bandanaira**	**3.21**	**22**	P	**Pn**	**15 39 59.1**	**+1.5**
BNDI	**Bandanaira**	**3.21**	**22**	P	**Pn**	**15 39 58.8**	**+1.2**
NLAI	**Namlea**	**4.53**	**340**	P	**Pn**	**15 40 15.5**	**+0.8**
SOEI	**Soe**	**4.89**	**243**	Pn	**Pn**	**15 40 20.8**	**+1.1**
SOEI	**Soe**	**4.89**	**243**	P	**Pn**	**15 40 21.3**	**+1.6**
SOEI	**Soe**	**4.89**	**243**	P	**Pn**	**15 40 21.0**	**+1.3**
MTN	**Manton Dam**	**5.83**	**156**		**Pn**	**15 40 31.3**	**-0.6**
MTN	**Manton Dam**	**5.83**	**156**	P	**Pn**	**15 40 31.9**	**0.0**
SANI	**Sanana** 14nm,0.9s,0.1nm	**6.05**	**334**	P	**Pn**	**15 40 37.0**	**+2.1**
KMPI	**Kaimana, Papua** 199nm,0.8s,6µm1.6nm	**6.30**	**53**	P	**Pn**	**15 40 37.0**	**-1.3**
KDU	**Kakadu**	**6.36**	**144**	P	**Pn**	**15 40 38.8**	**-0.2**
MMRI	**Maumere**	**6.47**	**260**	Pn	**Pn**	**15 40 41.1**	**+0.5**
MMRI	**Maumere**	**6.47**	**260**	P	**Pn**	**15 40 42.2**	**+1.7**
MMRI	**Maumere** 27nm,0.7s,0.3nm	**6.47**	**260**	P	**Pn**	**15 40 41.6**	**+1.1**
LBMI	**Labuha** 26nm,1.2s,0.1nm	**6.93**	**350**	P	**Pn**	**15 40 49.6**	**+2.9**
EDFI	**Ende, Flores** 8.9nm,0.5s,733nm0.1nm	**7.02**	**259**	P	**Pn**	**15 40 49.4**	**+1.4**
SWI	**Sorong** 28nm,0.5s,1µm0.2nm	**7.09**	**21**	P	**Pn**	**15 40 48.0**	**-0.8**
KNRA	**Kununurra**	**8.12**	**179**	Pn	**Pn**	**15 41 01.9**	**-0.5**
KNRA	**Kununurra**	**8.12**	**179**	P	**Pn**	**15 41 02.0**	**-0.5**
BASI	**Baing, Sumba** 123nm,1.4s,2µm	**8.44**	**251**	P	**Pn**	**15 41 05.6**	**-1.2**
PLAI	**Plampang**	**10.87**	**262**	P	**Pn**	**15 41 39.1**	**+0.1**
PLAI	**Plampang** 18nm,0.8s	**10.87**	**262**	P	**Pn**	**15 41 37.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**10.93**	**195**	Pn	**Pn**	**15 41 37.4**	**-2.4**
TOLI2	**Tolitoli**	**11.63**	**317**	Pn	**Pn**	**15 41 48.9**	**-0.2**
TWSI	**Taliwang, Sumb** 9.5nm,0.8s	**11.74**	**263**	P	**Pn**	**15 41 49.3**	**-1.1**
WB0	**Warramunga Arr**	**13.39**	**156**	Pn	**Pn**	**15 42 09.1**	**-2.6**
WRAB	**Tennant Creek**	**13.52**	**157**	Pn	**Pn**	**15 42 11.5**	**-1.8**
WRA	**Warramunga Arr**	**13.52**	**157**	Pn	**Pn**	**15 42 09.7**	**-3.7**
WRA	**Warramunga Arr** 3.6nm,0.3s,baz=344,slow=13,SNR=107 8.4nm,0.7s	**13.52**	**157**	Pn	**Pn**	**15 42 09.0**	**-4.4**
WB2	**Warramunga Arr**	**13.53**	**157**	Pn	**Pn**	**15 42 11.0**	**-2.5**
WR0	**Warramunga Arr**	**13.62**	**156**	Pn	**Pn**	**15 42 11.5**	**-3.1**
JAGI	**Jajag, Banyuwa**	**14.41**	**265**	P	**Pn**	**15 42 25.9**	**+1.3**
JAGI	**Jajag, Banyuwa** 20nm,1.5s	**14.41**	**265**	P	**Pn**	**15 42 22.8**	**-1.9**
DAV	**Davao City (W)**	**14.81**	**348**	Pn	**Pn**	**15 42 29.3**	**-0.4**
COEN	**Coen**	**15.62**	**115**		**Pn**	**15 42 39.7**	**+0.1**
COEN	**Coen**	**15.62**	**115**	P	**P**	**15 42 40.3**	**-0.3**
MBWA	**Marble Bar**	**16.09**	**212**		**P**	**15 42 45.3**	**-0.4**
MBWA	comp=Z,13nm,1.1s			IAmb	IAmb	15 43 09.5	
MBWA	**Marble Bar**	**16.09**	**212**	P	**P**	**15 42 46.0**	**+0.3**
PSA00	**Pilbara Seismi**	**16.37**	**210**	P	**Pn**	**15 42 47.7**	**-1.1**
PSA00	comp=Z,11nm,0.7s			IAmb	IAmb	15 42 56.1	
PSA00	**Pilbara Seismi**	**16.37**	**210**	P	**P**	**15 42 49.9**	**+1.0**
QIS	**Mount Isa**	**16.74**	**142**	P	**Pn**	**15 42 53.7**	**+0.4**
AS31	**Alice Springs**	**16.83**	**163**	Pn	**P**	**15 42 53.4**	**-0.6**
ASAR	**Alice Springs**	**16.83**	**163**	Pn	**P**	**15 42 53.5**	**-0.4**
ASAR	**Alice Springs** comp=Z,1.6nm,0.3s,baz=341,slow=10,SNR=129	**16.83**	**163**	P	**Pn**	**15 42 54.7**	**+0.3**
	comp=Z,5.8nm,0.5s						
WRKA	**Warakurna**	**17.43**	**181**	P	**Pn**	**15 43 03.1**	**+1.5**
OOD	**Oodnadatta**	**21.24**	**163**	P	**P**	**15 43 43.2**	**+1.5**
INKA	**Innaminka**	**23.14**	**152**	P	**P**	**15 44 03.9**	**+3.4**
FORT	**Forrest**	**23.16**	**181**	P	**P**	**15 44 02.7**	**+2.1**
MULG	**Mulgathing**	**23.21**	**168**	P	**P**	**15 44 03.2**	**+2.1**
LCRK	**Leigh Creek**	**24.51**	**160**	P	**P**	**15 44 15.1**	**+2.2**
BBOO	**Buckleboo**	**26.09**	**166**	P	**P**	**15 44 29.2**	**+2.0**
STKA	**Stephens Creek** comp=Z,3.5nm,0.7s,baz=334,slow=12,SNR=8.2	**27.07**	**155**	P	**P**	**15 44 37.4**	**+1.4**
	comp=Z,3.5nm,0.7s						
HTT	**Hallett**	**27.48**	**161**	P	**P**	**15 44 42.1**	**+2.4**
CMSA	**Cobar Meteorol**	**28.70**	**149**	P	**P**	**15 44 53.2**	**+2.7**
LIFNC	**LIFOU**	**39.53**	**114**	P	**P**	**15 46 20.1**	**-3.8**
PZH	**PanZhiHua**	**42.73**	**323**	P	**P**	**15 46 50.9**	**+0.8**
PZH	comp=Z,10.0nm,0.5s			pmax	pmax		
PZH	comp=Z,110nm,6.3s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**50.63**	**343**	*e*P	**P**	**15 47 52.4**	**+1.1**
HHC	comp=Z,42nm,0.8s			pmax	pmax		
HHC	comp=Z,480nm,5.7s			pmax	pmax		
WMQ	**Urumqi**	**63.11**	**328**	*e*P	**P**	**15 49 16.5**	**-2.6**
WMQ				PcP	**pP**	**15 49 54.5**	**+0.6**
WMQ	comp=Z,15nm,0.7s			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,0.3nm,0.4s,baz=113,slow=8.1,SNR=7.3	**67.94**	**328**	P	**P**	**15 49 50.7**	**+0.7**
	comp=Z,0.3nm,0.4s						
ZALV	**Zalesovo Beam** comp=Z,0.3nm,0.4s,baz=134,slow=4.2,SNR=2.1	**71.47**	**334**	P	**P**	**15 50 10.9**	**-0.4**
	comp=Z,0.3nm,0.4s						

IDC ***12*** *15:53:33.1±1.0,26˚.06N×128˚.24E, h0km, mb3.6/5, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=47.2km s-min=16.1km az=85.0*
JMA ***12*** *15:53:37.2±0.2,26˚.1N±0˚.7×12˚9E±˚, h39km±2km, MV3.0/13, NEAR OKINAWAJIMA ISLAND*
ISC 12 15:53:33.2±1.4,26˚.02N±0˚.05×128˚.56E±0˚.04, h10km±9km, n18, σ1s67/31, mb3.7/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.69**	**316**	P	**Pn**	**15 53 48.9**	**0.0**
JNTH				S	**Sn**	**15 53 57.9**	**-1.8**
JJT3	**Tamagusuku3**	**0.71**	**280**	P	**Pn**	**15 53 50.5**	**+1.3**
JJT3				S	**Sn**	**15 53 59.7**	**-0.4**
JOW	**Kunigami**	**0.85**	**343**	P	**Pn**	**15 53 51.3**	**+0.2**
JOW				S	**Sn**	**15 54 01.7**	**-1.9**
JOW	**Kunigami** 141nm,0.3s,baz=136,slow=21,SNR=114	**0.85**	**343**	Pn	**Pn**	**15 53 51.3**	**+0.2**
JOW	227nm,0.3s,baz=96,slow=26,SNR=12			Sn	**Sn**	**15 54 01.4**	**-2.2**
JYRO	**Yoronjima**	**1.00**	**354**	*e*P	**Pg**	**15 53 53.6**	**+1.1**
JYRO				*e*S	**Sg**	**15 54 05.6**	**0.0**
JIH	**Iheya**	**1.14**	**332**	P	**Pg**	**15 53 55.9**	**+0.8**
JIH				*e*S	**Sg**	**15 54 08.8**	**-1.1**
JAGN	**Aguni-jima**	**1.31**	**296**	P	**Pg**	**15 53 59.0**	**+0.7**
JAGN				S	**Sg**	**15 54 14.5**	**-0.8**
JOKE	**Okinoerabujima**	**1.33**	**0**	P	**Pb**	**15 53 58.4**	**+0.1**
JOKE				*e*S	**Sn**	**15 54 13.7**	**-2.0**
JKE	**Kume jima 2**	**1.62**	**281**	P	**Pg**	**15 54 03.0**	**-1.3**
JKE				*e*S	**Sg**	**15 54 22.4**	**-2.9**
JTK	**Tokunoshima**	**1.79**	**11**	P	**Pn**	**15 54 04.7**	**+0.6**
JTK				*e*S	**Sn**	**15 54 25.6**	**-1.3**
JMZ	**Minamidaito 2**	**2.41**	**94**	P	**Pn**	**15 54 12.4**	**-0.2**
JMZ				*e*S	**Sn**	**15 54 39.3**	**-2.8**
JKDJ	**Kitadaitoujima**	**2.46**	**91**	P	**Pn**	**15 54 13.3**	**0.0**
JKDJ				S	**Sn**	**15 54 40.6**	**-2.9**
JNU	**Nakatsue** 0.6nm,0.3s,baz=203,slow=7.7,SNR=5.7	**7.36**	**15**	Pn	**Pn**	**15 55 22.3**	**+1.7**
JNU	0.1nm,0.3s,baz=227,slow=18,SNR=1.7 4.6nm,0.8s			Sn	**Sn**	**15 56 40.8**	**-3.5**
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=105,slow=8.6,SNR=2.2 0.2nm,0.6s	**41.89**	**312**	P	**P**	**16 01 22.9**	**-0.7**
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=352,slow=8.3,SNR=9.7 0.4nm,0.4s	**46.03**	**172**	P	**P**	**16 01 58.7**	**+1.6**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=5.1,slow=8.9,SNR=13 0.2nm,0.5s	**49.67**	**174**	P	**P**	**16 02 27.5**	**+2.3**
BVAR	**Borovoye Array** 0.5nm,0.5s,baz=98,slow=9.1,SNR=4.3 0.5nm,0.5s	**50.63**	**318**	P	**P**	**16 02 32.4**	**+0.1**
FINES	**FINESS Array B** 3.3nm,1.0s,baz=76,slow=6.3,SNR=4.4 3.3nm,1.0s	**73.19**	**331**	P	**P**	**16 05 04.9**	**+1.0**

IDC ***12*** *16:05:17.7±4.6, 13˚.25N×49˚.80E, h0km, mb3.8/4, mbtmp3.8/4, MS3.2/10, Error ellipse: s-maj=127.4km s-min=53.3km az=95.0*
OMAN ***12*** *16:05:18.8±0.6, 13˚.75N×49˚.66E, h5km±8km, ml3.4/1, ms1.9/1, Error ellipse: s-maj=10.0km s-min=9.6km az=92.0*
ISC 12 16:05:19.7±2.0, 13˚.5N±0˚.2×49˚.9E±0˚.3, h10km, n18, σ0s78/13, mb3.9/4, MS3.3/8, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut** SNR=7.4	**5.08**	**40**	P	**Pn**	**16 06 35.4**	**-0.7**
ABTO				S	**Sn**	**16 07 35.0**	**+0.1**
RBK	**Rabkut**	**5.79**	**46**	P	**Pn**	**16 06 44.9**	**-0.9**
RBK				S	**Sn**	**16 07 52.5**	**+0.1**
WHFO	**Wadi Hawf** SNR=20	**5.80**	**40**	P	**Pn**	**16 06 45.2**	**-0.8**
WHFO				S	**Sn**	**16 07 52.1**	**-0.7**
DMTO	**DMTO** SNR=5.7	**6.46**	**49**	P	**Pn**	**16 06 54.4**	**-0.6**
DMTO				S	**Sn**	**16 08 09.8**	**+1.0**
SHAO	**Shalim**	**7.16**	**50**	P	**Pn**	**16 07 04.2**	**-0.4**
WSAR	**Wadi Sarin** comp=Z,127nm,18.4s,baz=220,slow=36	**12.79**	**39**	LR	LR	16 13 12.0	
KMBO	**Kilima Mbogo** comp=Z,73nm,19.4s,baz=92,slow=36	**19.15**	**222**	LR	LR	16 16 49.1	
GEYT	**Alibeck** comp=Z,88nm,18.1s,baz=220,slow=41	**25.45**	**15**	LR	LR	16 23 01.0	
PALK	**Palikele** comp=Z,29nm,19.6s,baz=14,slow=31	**30.92**	**98**	LR	LR	16 21 26.6	
LSZ	**Lusaka** comp=Z,35nm,20.9s,baz=326,slow=37	**35.72**	**218**	LR	LR	16 27 10.3	
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=217,slow=6.9,SNR=2.3 0.2nm,0.5s	**42.91**	**33**	P	**P**	**16 13 19.8**	**+1.2**
TSUM	**Tsumeb** comp=Z,42nm,21.8s,baz=346,slow=36	**45.45**	**225**	LR	LR	16 32 13.9	
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=269,slow=7.7,SNR=6.0	**47.33**	**77**	P	**P**	**16 13 54.5**	**+0.3**
CMAR	comp=Z,7.2nm,18.0s,baz=60,slow=36 0.4nm,0.3s			LR	LR	16 34 04.5	
BOSA	**Boshof** comp=Z,51nm,18.3s,baz=16,slow=37	**48.13**	**209**	LR	LR	16 34 50.9	
SUR	**Sutherland** comp=Z,47nm,18.9s,baz=294,slow=38	**53.40**	**211**	LR	LR	16 39 13.6	
NOA	**NORSAR Array B** comp=Z,22nm,18.9s,baz=320,slow=38	**55.12**	**338**	LR	LR	16 39 53.2	
WRA	**Warramunga Arr** 0.8nm,0.8s,baz=301,slow=3.5,SNR=8.3 0.8nm,0.8s	**89.44**	**111**	P	**P**	**16 18 17.5**	**0.0**
ASAR	**Alice Springs** 0.7nm,0.9s,baz=294,slow=4.6,SNR=6.6 0.7nm,0.9s	**89.98**	**114**	P	**P**	**16 18 19.2**	**-0.9**

CNRM ***12*** *16:16:53.0, 36˚.08N×7˚.81W, h0km, ml2.6*
INMG ***12*** *16:17:00.6±1.7, 36˚.39N×7˚.92W, h20km±5km, ML1.8, Error ellipse: s-maj=5.2km s-min=4.3km az=34.0*
MDD ***12*** *16:17:00.7±1.1, 36˚.39N×7˚.90W, h27km±29km, mb_Lg2.3/6, Error ellipse: s-maj=26.1km s-min=5.3km az=28.0*
SFS ***12*** *16:17:01.3, 36˚.50N×7˚.92W, h18km, ML2.8/6, MLv2.5/6*
ISC 12 16:16:54.3±1.6,36˚.20N±0˚.03×7˚.92W±0˚.04, h14km±12km, n34, σ1s85/63, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**1.04**	**360**	*e*P	**Pn**	**16 17 15.7**	**+1.3**
PBDV				*e*S	**Sg**	**16 17 27.4**	**-0.6**
PBDV	14nm,0.5s			A	A	16 17 35.1	
PFVI	**Vila Bisbo**	**1.18**	**322**	*e*P	**Pn**	**16 17 18.9**	**+2.5**
PFVI				*e*S	**Sg**	**16 17 31.7**	**-0.7**
PFVI	14nm,0.6s			A	A	16 17 43.9	
PFVI	**Vila Bisbo**	**1.18**	**322**	Pg	**Pn**	**16 17 18.8**	**+2.5**
PFVI				Sg	**Sg**	**16 17 31.5**	**-0.9**
PVAQ	**Vaqueiros**	**1.21**	**8**	*e*P	**Pn**	**16 17 18.2**	**+1.5**
PVAQ				*e*S	**Sg**	**16 17 31.4**	**-2.0**
PVAQ	**Vaqueiros**	**1.21**	**8**	P	**Pn**	**16 17 19.2**	**+2.4**
PVAQ				S	**Sn**	**16 17 35.1**	**+2.2**
MORF	**Marmelete**	**1.25**	**332**	*e*P	**Pb**	**16 17 18.6**	**+1.0**
MORF				*e*S	**Sg**	**16 17 33.3**	**-1.3**
MORF	12nm,0.2s			A	A	16 17 37.5	
EGRO	**El Granado**	**1.38**	**15**	P	**Pb**	**16 17 20.5**	**+0.8**
EGRO				S	**Sb**	**16 17 35.0**	**-2.1**
EGRO				*i* Vmb_Lg		16 17 42.9	
PCVE	**Castro Verde**	**1.43**	**356**	*e*P	**Pb**	**16 17 21.4**	**+0.7**
PCVE				*e*S	**Sb**	**16 17 36.8**	**-2.0**
PCVE	7.5nm,0.4s			A	A	16 17 44.2	
PCVE	**Castro Verde**	**1.43**	**356**	Sn	**Sb**	**16 17 36.1**	**-2.7**
PCVE				Pn	**Pn**	**16 17 21.3**	**+1.5**
PTEO	**Sao Teotonio**	**1.49**	**335**	*e*P	**Pn**	**16 17 22.1**	**+1.6**
PTEO				*e*S	**Sn**	**16 17 38.5**	**-1.3**
MESJ	**Messejana**	**1.65**	**352**	*e*P	**Pn**	**16 17 24.6**	**+1.8**
MESJ				*e*S	**Sn**	**16 17 42.2**	**-1.6**
MESJ	9.3nm,0.8s			A	A	16 17 51.1	
ESPR	**Espera**	**1.79**	**68**	P	**Pb**	**16 17 27.7**	**+0.8**
ESPR				S	**Sn**	**16 17 48.4**	**+1.2**
ESPR				*i* Vmb_Lg		16 17 49.6	
PBEJ	**Beja**	**1.82**	**1**	*e*Pg	Pg	16 17 34.8	+5.5
PBEJ				*e*Sg	**Sn**	**16 17 48.3**	**+0.3**
EMIN	**Mina Concepcio**	**1.85**	**32**	P	**Pn**	**16 17 27.4**	**+1.8**
EMIN				S	**Sn**	**16 17 46.9**	**-1.9**
EMIN				*i* Vmb_Lg		16 17 57.4	
PNCL	**Nicolau / Gran**	**1.97**	**346**	*e*Pn	**Pn**	**16 17 28.3**	**+1.2**
PNCL				*e*Sn	**Sn**	**16 17 49.5**	**-2.1**
PNCL	5.6nm,0.4s			A	A	16 18 01.0	
PNCL	**Nicolau / Gran**	**1.97**	**346**	Pn	**Pn**	**16 17 28.3**	**+1.2**
PBAR	**Barrancos**	**2.09**	**19**	*e*Pn	**Pn**	**16 17 31.4**	**+2.5**
PBAR				*e*Sn	**Sn**	**16 17 53.5**	**-1.2**
PBAR	3.1nm,0.4s			A	A	16 18 02.5	
PBAR	**Barrancos**	**2.09**	**19**	Pn	**Pn**	**16 17 30.3**	**+1.4**
EBAD	**Badajoz**	**2.65**	**16**	P	**Pn**	**16 17 37.9**	**+1.4**
EBAD				S	**Sn**	**16 18 06.8**	**-1.6**
EBAD				*i* Vmb_Lg		16 18 15.3	
PESTR	**Estremoz**	**2.67**	**6**	*e*Pn	**Pn**	**16 17 39.0**	**+2.1**
PESTR				*e*Sn	**Sn**	**16 18 07.2**	**-1.9**
PESTR				*e*Sg	**Sg**	**16 18 19.3**	**-0.9**
PESTR	2.5nm,0.7s			A	A	16 18 21.5	
PESTR	**Estremoz**	**2.67**	**6**	Pn	**Pn**	**16 17 38.6**	**+1.7**
ECAB	**El Cabril**	**2.74**	**46**	P	**Pn**	**16 17 39.7**	**+2.0**
ECAB				S	**Sn**	**16 18 07.7**	**-2.9**
ECAB				*i* Vmb_Lg		16 18 17.1	
PMTG	**Montargil**	**2.87**	**355**	*e*Pn	**Pn**	**16 17 40.9**	**+1.3**
PMTG				*e*Sn	**Sn**	**16 18 11.5**	**-2.4**
PMTG	3.7nm,0.2s			A	A	16 18 12.5	
ZHG	**ZHG**	**2.94**	**159**	P	**Pn**	**16 17 39.6**	**-1.0**
ZHG				S	**Sn**	**16 18 15.6**	**-0.2**
PMAFR	**Mafra**	**2.95**	**339**	*e*Pn	**Pn**	**16 17 42.9**	**+2.2**
PMAFR				*e*Sn	**Sn**	**16 18 15.1**	**-0.9**
PMAFR	**Mafra**	**2.95**	**339**	Pn	**Pn**	**16 17 42.6**	**+1.9**
PMRV	**Marv??o**	**3.25**	**7**	*e*Pn	**Pn**	**16 17 46.4**	**+1.6**
PMRV				*e*Sn	**Sn**	**16 18 20.8**	**-2.4**
PMRV				*e*Sg	**Sb**	**16 18 34.6**	**+3.5**
EADA	**Adamuz**	**3.31**	**53**	P	**Pn**	**16 17 48.3**	**+2.7**
EADA				S	**Sn**	**16 18 22.8**	**-2.1**
EADA				*i* Vmb_Lg		16 18 26.5	
PSBE	**So Bento**	**3.38**	**348**	*e*Pn	**Pn**	**16 17 48.7**	**+2.1**
PCAS	**Casmilo, Conde**	**3.87**	**353**	*e*Sn	**Sn**	**16 18 36.9**	**-1.7**
PSIM	**Granatula de C**	**4.22**	**50**	P	**Pn**	**16 18 00.3**	**+2.2**
PSIM				S	**Sn**	**16 18 44.8**	**-2.4**
MD31	**MD31**	**4.23**	**141**	P	**Pn**	**16 18 00.6**	**+2.3**
MD31				S	**Sn**	**16 18 45.7**	**-1.8**
OUK	**Oukaimeden**	**4.98**	**179**	P	**Pn**	**16 18 10.7**	**+1.8**
OUK				S	**Sn**	**16 19 05.6**	**-0.9**
OUZM	**OUZ**	**5.37**	**169**	P	**Pn**	**16 18 14.7**	**+0.6**
OUZM				S	**Sn**	**16 19 14.4**	**-1.3**

ISK ***12*** *16:32:51.6, 37˚.12N×28˚.56E, h11km, ML2.7/15*
AFAD ***12*** *16:32:52.5±0.0, 37˚.14N×28˚.57E, h7km±2km, ML2.4*
ATH ***12*** *16:32:53.4±0.6, 37˚.08N×28˚.49E, h10km, ML2.6/6, Manual Solution by N.Liadopoulou This location: 2019/12/22 07:45:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 4 km*
THE ***12*** *16:32:53.0, 37˚.13N×28˚.49E, h0km, ML2.4/5, Error ellipse: s-maj=1.2km s-min=0.9km az=50.0*
ISC 12 16:32:52.3±0.9, 37˚.12N±0˚.02×28˚.55E±0˚.02, h11km±7km, n47, σ0s77/66, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.21**	**274**	Pg	**Pg**	**16 32 56.7**	**-0.2**
YER				Sg	**Sg**	**16 33 00.6**	**+0.5**
YER	**Yerkesik**	**0.21**	**274**	P	**Pg**	**16 32 56.6**	**-0.3**
YER				S	**Sg**	**16 33 00.1**	**0.0**
MULA	**Mugla, Merkez-**	**0.23**	**307**	P	**Pg**	**16 32 57.3**	**+0.1**
DALY	**Dalyan (Mula)**	**0.31**	**165**	P

CHOS	Chios island	2.35	303	P	Pn	16 33 31.9	+1.1
APE	Apeiranthos	2.42	270	P	Pn	16 33 32.2	+0.4
ZKR	Zakros	2.75	224	P	Pn	16 33 37.0	+0.6

IDC ***12*** *16:43:21.1±0.7, 12°.08N×143°.85E, h0km, mb4.0/13, mbtmp4.0/13, Error ellipse: s-maj=28.1km s-min=16.8km az=101.0*

NEIC ***12*** *16:43:24.1±0.9, 12°.17N±0°.07×143°.8E±0°.1, h10km±1km, mb4.6/68, Error ellipse: s-maj=21.2km s-min=10.9km az=262.0*

ISC 12 16:43:25.6±0.6, 12°.14N±0°.08×143°.8E±0°.1, h26km, n94, σ0.81/88, mb4.5/47, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.76**	**35**		**Pn**	**16 43 53.8**	**-0.6**
GUMO	**Guam**	**1.76**	**35**	Pn	**Pn**	**16 43 53.3**	**-1.1**
	231nm,0.3s,baz=189,slow=5.2,SNR=59						
GUMO				Sn	**Sn**	16 44 14.8	**-1.2**
	114nm,0.3s,baz=10,slow=23,SNR=7.6						
H11S3	**WAKE ISLAND Hy**	**22.92**	**71**	T	T	17 12 06.4	
	baz=254						
H11S1	**WAKE ISLAND Hy**	**22.93**	**71**	T	T	17 12 10.9	
	baz=254						
H11S2	**WAKE ISLAND Hy**	**22.93**	**71**	T	T	17 12 07.4	
	baz=254						
H11N1	**WAKE ISLAND Hy**	**23.40**	**68**	T	T	17 12 39.3	
	baz=255						
H11N2	**WAKE ISLAND Hy**	**23.41**	**68**	T	T	17 12 36.4	
	baz=255						
H11N3	**WAKE ISLAND Hy**	**23.41**	**68**	T	T	17 12 43.4	
	baz=255						
WB0	**Warramunga Arr**	**33.04**	**196**	P	**P**	**16 49 58.8**	**-0.3**
WB0				IAmb	IAmb	16 50 17.0	
	comp=Z,9.6nm,1.4s						
WR0	**Warramunga Arr**	**33.18**	**196**	P	**P**	**16 50 00.3**	**0.0**
WR0				IAmb	IAmb	16 50 03.4	
	comp=Z,10nm,1.5s						
WRA	**Warramunga Arr**	**33.22**	**196**	P	**P**	**16 50 01.5**	**+0.8**
WRA	**Warramunga Arr**	**33.22**	**196**	P	**P**	**16 50 00.9**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=19,slow=9.8,SNR=15						
	comp=Z,0.8nm,0.6s						
ASAR	**Alice Springs**	**36.89**	**195**	P	**P**	**16 50 30.6**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=19,slow=10,SNR=3.2						
	comp=Z,0.5nm,0.6s						
DZM	**Mont Dzumac**	**40.59**	**147**	P	**P**	**16 51 03.9**	**+0.5**
DZM				IAmb	IAmb	16 51 45.8	
	comp=Z,9.9nm,1.2s						
MARNC	**Mare, Loyalty**	**41.00**	**144**	P	**P**	**16 51 06.8**	**+0.2**
OUENC	**Ouen Island, N**	**41.09**	**147**	P	**P**	**16 51 07.3**	**-0.1**
STKA	**Stephens Creek**	**43.82**	**183**	P	**P**	**16 51 29.1**	**-0.4**
STKA	**Stephens Creek**	**43.82**	**183**	P	**P**	**16 51 26.4**	**-3.1**
	comp=Z,1.6nm,0.6s,baz=359,slow=8.9,SNR=4.6						
	comp=Z,1.6nm,0.6s						
BBOO	**Buckleboo**	**45.31**	**189**	P	**P**	**16 51 41.5**	**+0.1**
SONM	**Songino Array**	**47.35**	**326**	P	**P**	**16 51 56.1**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=142,slow=6.2,SNR=2.9						
	comp=Z,0.2nm,0.4s						
MORW	**Morawa**	**48.98**	**213**	P	**P**	**16 52 10.5**	**+0.4**
TOO	**Toolangi**	**49.47**	**178**	P	**P**	**16 52 14.1**	**+0.3**
MKAR	**Makanchi Array**	**61.84**	**317**	P	**P**	**16 53 42.7**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=90,slow=9.1,SNR=5.3						
	comp=Z,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**65.08**	**320**	P	**P**	**16 54 03.8**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=104,slow=6.8,SNR=6.1						
	comp=Z,0.8nm,0.7s						
F17K	**Baldwin Pennin**	**65.34**	**21**	P	**P**	**16 54 05.5**	**+0.3**
H18K	**Honhosa River**	**65.82**	**23**	P	**P**	**16 54 08.3**	**-0.2**
N19K	**Bonanza Creek**	**65.83**	**28**	P	**P**	**16 54 09.4**	**+0.7**
G18K	**Tagagawik**	**66.03**	**22**	P	**P**	**16 54 09.9**	**+0.1**
G18K				IAmb	IAmb	16 54 15.9	
	comp=Z,7.5nm,1.4s						
L19K	**White Mountain**	**66.12**	**27**	P	**P**	**16 54 09.9**	**-0.5**
C18K	**Utukok River**	**66.42**	**19**	P	**P**	**16 54 12.3**	**0.0**
C18K				IAmb	IAmb	16 54 26.6	
	comp=Z,8.7nm,1.5s						
H19K	**Roundabout Mou**	**66.71**	**23**	P	**P**	**16 54 14.6**	**+0.5**
H19K				IAmb	IAmb	16 54 43.5	
	comp=Z,5.2nm,1.2s						
G19K	**Purcell Mounta**	**66.72**	**22**	P	**P**	**16 54 14.7**	**+0.5**
G19K				IAmb	IAmb	16 54 40.1	
	comp=Z,8.3nm,1.5s						
J20K	**Nowinta River**	**67.12**	**25**	P	**P**	**16 54 17.6**	**+0.9**
C19K	**Lookout Ridge**	**67.15**	**19**	P	**P**	**16 54 17.9**	**+1.0**
C19K				IAmb	IAmb	16 54 50.1	
	comp=Z,6.7nm,1.4s						
E19K	**Redstone River**	**67.21**	**21**	P	**P**	**16 54 17.9**	**+0.6**
E19K				IAmb	IAmb	16 54 20.3	
	comp=Z,4.9nm,1.4s						
D19K	**Kuna River**	**67.36**	**20**	P	**P**	**16 54 18.3**	**+0.1**
D19K				IAmb	IAmb	16 54 20.2	
	comp=Z,8.1nm,1.4s						
F21K	**Alatna River**	**68.46**	**22**	P	**P**	**16 54 25.6**	**+0.5**
F21K				IAmb	IAmb	16 54 30.6	
	comp=Z,3.8nm,1.4s						
SML	**Sawmill**	**68.95**	**28**	P	**P**	**16 54 28.2**	**-0.2**
B21K	**Ikpikpuk River**	**68.97**	**19**	P	**P**	**16 54 28.3**	**+0.1**
B21K				IAmb	IAmb	16 54 47.4	
	comp=Z,5.0nm,1.2s						
D22K	**Ayikyak River**	**69.33**	**20**	P	**P**	**16 54 31.3**	**+0.8**
D22K				IAmb	IAmb	16 54 42.6	
	comp=Z,5.1nm,1.4s						
E22K	**Anaktuvuk Pass**	**69.37**	**21**	P	**P**	**16 54 31.4**	**+0.6**
E22K				IAmb	IAmb	16 55 00.3	
	comp=Z,5.5nm,1.5s						
I23K	**Minto, Yukon-K**	**69.38**	**25**	P	**P**	**16 54 31.6**	**+0.7**
SCM	**Sheep Creek Mo**	**69.42**	**28**	P	**P**	**16 54 31.7**	**+0.4**
G23K	**Bananza Creek**	**69.58**	**23**	P	**P**	**16 54 32.7**	**+0.6**
B22K	**Teshekpuk Lake**	**69.62**	**19**	P	**P**	**16 54 32.7**	**+0.4**
MDM	**Murphy Dome**	**69.79**	**25**	P	**P**	**16 54 34.6**	**+1.1**
MDM				IAmb	IAmb	16 54 38.0	
	comp=Z,6.9nm,1.2s						
KLU	**Klutina**	**70.01**	**29**	P	**P**	**16 54 35.3**	**+0.4**
IL31		**70.30**	**25**	P	**P**	**16 54 35.2**	**-1.3**
IL31				IAmb	IAmb	16 54 42.3	
	comp=Z,5.6nm,1.4s						
ILAR	**Eielson Array**	**70.30**	**25**	P	**P**	**16 54 35.4**	**-1.1**
ILAR	**Eielson Array**	**70.30**	**25**	P	**P**	**16 54 35.2**	**-1.4**
	comp=Z,1.2nm,0.5s,baz=251,slow=5.8,SNR=34						
	comp=Z,1.2nm,0.5s						
TOLK	**Toolik Lake Re**	**70.32**	**21**	P	**P**	**16 54 37.4**	**+0.7**
C23K	**Itkillik River**	**70.35**	**20**	P	**P**	**16 54 37.4**	**+0.7**
C23K				IAmb	IAmb	16 54 39.1	
	comp=Z,3.9nm,1.0s						
BVAR	**Borovoye Array**	**70.44**	**322**	P	**P**	**16 54 38.3**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=107,slow=7.0,SNR=11						
	comp=Z,1.7nm,0.5s						
BRVK	**Borovoye**	**70.51**	**322**	P	**P**	**16 54 38.5**	**+0.5**
E24K	**Your Creek**	**70.54**	**22**	P	**P**	**16 54 38.5**	**+0.5**
E24K				IAmb	IAmb	16 54 55.1	
	comp=Z,6.7nm,1.5s						
F24K	**Squaw Lake**	**70.61**	**22**	P	**P**	**16 54 39.7**	**+1.3**
D24K	**Happy Valley**	**70.73**	**20**	P	**P**	**16 54 40.2**	**+1.1**
D24K				IAmb	IAmb	16 54 41.7	
	comp=Z,3.4nm,0.6s						
J25K	**Salcha River,**	**70.90**	**26**	P	**P**	**16 54 39.6**	**-0.7**
J25K				IAmb	IAmb	16 55 14.2	
	comp=Z,5.3nm,1.4s						
RIDG	**Independent Ri**	**70.95**	**26**	P	**P**	**16 54 40.6**	**0.0**
VRDI	**Verde Repeater**	**71.13**	**29**	P	**P**	**16 54 41.8**	**0.0**
SCRK	**Sand Creek**	**71.37**	**26**	P	**P**	**16 54 43.7**	**+0.5**
SCRK				IAmb	IAmb	16 55 01.1	
	comp=Z,4.1nm,1.2s						
L26K	**Log Cabin Wild**	**71.48**	**27**	P	**P**	**16 54 44.3**	**+0.6**
L26K				IAmb	IAmb	16 55 13.7	
	comp=Z,7.1nm,1.4s						
E25K	**Arctic Village**	**71.61**	**22**	P	**P**	**16 54 45.4**	**+0.9**
E25K				IAmb	IAmb	16 54 54.7	
	comp=Z,7.2nm,1.5s						
D25K	**Kavik River**	**71.62**	**21**	P	**P**	**16 54 45.1**	**+0.6**
D25K				IAmb	IAmb	16 54 50.6	
	comp=Z,7.4nm,1.2s						
J26L	**Joseph Creek**	**71.64**	**26**	P	**P**	**16 54 44.8**	**0.0**
BMAR	**Burnt Mountain**	**71.82**	**23**	P	**P**	**16 54 46.8**	**+1.0**
M27K	**Edge Creek, AK**	**72.04**	**28**	P	**P**	**16 54 48.0**	**+0.7**
L27K	**Beaver Creek,**	**72.17**	**27**	P	**P**	**16 54 48.5**	**+0.6**
L27K				IAmb	IAmb	16 55 18.4	
	comp=Z,4.6nm,1.4s						
BCAR	**Beaver Creek A**	**72.19**	**27**	P	**P**	**16 54 48.4**	**+0.4**
E27K	**Coleen River**	**73.08**	**22**	P	**P**	**16 54 53.6**	**+0.4**
I28M	**Miner Creek**	**73.32**	**25**	P	**P**	**16 54 55.0**	**+0.3**
D27M	**Malcolm River**	**73.49**	**21**	P	**P**	**16 54 56.9**	**+1.2**
F28M	**Old Crow**	**73.64**	**23**	P	**P**	**16 54 57.5**	**+1.0**
L29M	**L29M**	**73.84**	**28**	P	**P**	**16 54 59.0**	**+1.2**
H29M	**Whitestone**	**74.05**	**24**	P	**P**	**16 54 59.5**	**+0.5**
K29M	**Barlow Dome**	**74.18**	**27**	P	**P**	**16 55 00.8**	**+0.9**
G29M	**Pine Creek**	**74.26**	**24**	P	**P**	**16 55 01.1**	**+0.9**
G29M				IAmb	IAmb	16 55 25.5	
	comp=Z,7.8nm,1.4s						
E29M	**Blow River**	**74.47**	**22**	P	**P**	**16 55 02.4**	**+1.0**
J30M	**Hart River**	**74.75**	**26**	P	**P**	**16 55 04.1**	**+0.9**
M31M	**Drury Creek, Y**	**75.51**	**29**	P	**P**	**16 55 08.2**	**+0.6**
M31M				IAmb	IAmb	16 55 31.4	
	comp=Z,6.4nm,0.8s						
H31M	**Peel River**	**75.66**	**25**	P	**P**	**16 55 09.1**	**+0.8**
H31M				IAmb	IAmb	16 55 36.9	
	comp=Z,5.1nm,1.4s						
G31M	**Satah River**	**75.74**	**24**	P	**P**	**16 55 09.0**	**+0.3**
G31M				IAmb	IAmb	16 55 10.1	
	comp=Z,3.5nm,0.7s						
INK	**Inuvik**	**76.08**	**22**	P	**P**	**16 55 10.9**	**+0.3**
INK				IAmb	IAmb	16 55 11.6	
	comp=Z,3.5nm,0.8s						
H02S1	**DAWSON INLET T**	**76.61**	**38**	T	T	18 20 20.5	
	SNR=8.4						
A36M	**Sachs Harbour**	**78.83**	**18**	P	**P**	**16 55 25.9**	**0.0**
A36M				IAmb	IAmb	16 55 27.5	
	comp=Z,5.9nm,0.8s						
YKA	**Yellowknife Ar**	**84.60**	**27**	P	**P**	**16 55 56.9**	**+0.4**
YKA	**Yellowknife Ar**	**84.60**	**27**	P	**P**	**16 55 57.0**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=286,slow=5.4,SNR=20						
	comp=Z,0.7nm,0.4s						
PINE	**Pine Mountain**	**85.44**	**46**	P	**P**	**16 56 02.4**	**+1.0**
PINE				IAmb	IAmb	16 56 07.8	
	comp=Z,2.5nm,0.8s						
K05A	**Summer Lake**	**85.70**	**47**	P	**P**	**16 56 04.0**	**+1.3**
K05A				IAmb	IAmb	16 56 38.2	
	comp=Z,9.1nm,1.5s						
RES	**Resolute Bay**	**86.19**	**13**	P	**P**	**16 56 05.3**	**+1.1**
RES				IAmb	IAmb	16 56 05.5	
	comp=Z,4.8nm,1.3s						
ARCES	**ARCESS Array B**	**88.14**	**342**	P	**P**	**16 56 14.0**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=67,slow=6.9,SNR=1.1						
	comp=Z,2.2nm,0.9s						
NVAR	**Mina Array Bea**	**88.61**	**51**	P	**P**	**16 56 18.0**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=272,slow=6.0,SNR=7.6						
	comp=Z,1.1nm,0.6s						
FINES	**FINESS Array B**	**92.04**	**335**	P	**P**	**16 56 31.4**	**-0.7**
	comp=Z,4.5nm,0.9s,baz=57,slow=7.0,SNR=7.9						
	comp=Z,4.5nm,0.9s						
PDAR	**Pinedale Array**	**93.70**	**45**	P	**P**	**16 56 41.3**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=247,slow=6.7,SNR=2.4						
	comp=Z,0.2nm,0.5s						

IDC 12 16:43:46.4±10.0, 3°.84S×152°.99E, h143km±68km, mb2.9/2, mbtmp3.4/3, Error ellipse: s-maj=157.6km s-min=64.2km az=120.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.01**	**226**	P	Pn	16 45 40.6	+0.6
	2.7nm,0.5s,baz=278,slow=10,SNR=1.3						
PMG				S	Sn	16 47 08.5	-0.6
	4.6nm,0.8s,baz=349,slow=18,SNR=1.6						
WRA	**Warramunga Arr**	**24.23**	**227**	P	P	16 48 50.3	+0.1
	0.5nm,0.3s,baz=53,slow=9.5,SNR=17						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**26.99**	**221**	P	P	16 49 15.6	+0.5
	0.2nm,0.7s,baz=52,slow=9.6,SNR=1.2						
	0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.17**	**290**	PKPbc	PKPbc	17 03 20.7	-0.9
	0.2nm,0.4s,baz=78,slow=1.3,SNR=1.6						

DSN ***12*** *16:50:16.5±1.1, 31°.37N×56°.33E, h15km, ML3.9/7, Error ellipse: s-maj=66.2km s-min=10.3km az=89.0*

IDC ***12*** *16:50:19.0±0.8, 30°.71N×57°.21E, h0km, mb4.0/16, mbtmp4.0/23, ML3.6/7, MS3.4/15, Error ellipse: s-maj=15.9km s-min=14.2km az=172.0*

TEH ***12*** *16:50:19.3, 30°.79N×57°.29E, h8km±56km, ML4.4*

MOS ***12*** *16:50:20.1±1.2, 30°.76N×57°.35E, h10km, mb4.7/15, Error ellipse: s-maj=7.7km s-min=5.2km az=91.5*

OMAN ***12*** *16:50:20.1±1.2, 31°.03N×57°.09E, h10km, mb4.6/18, ml4.3/1, ms2.7/5, Error ellipse: s-maj=9.6km s-min=9.0km az=82.0*

NEIC ***12*** *16:50:21.6±2.0, 30°.81N±0°.07×57°.37E±0°.09, h10km±1km, mb4.5/42, Error ellipse: s-maj=13.7km s-min=11.2km az=98.0*

ISC 12 16:50:20.9±0.3, 30°.76N±0°.02×57°.28E±0°.03, h10km, n258, σ2.29/273, mb4.3/59, MS3.4/12, 10C-7D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.68**	**288**	**Pg**	**Pg**	**16 50 32.6**	**-1.4**
KHGB	**Koh Gabri**	**0.80**	**241**	Pg	**Pg**	16 50 34.7	-1.6
KHGB				Sg	**Sg**	16 50 45.7	-1.1
TVBK	**TV Kerman**	**0.90**	**210**	Pg	**Pb**	16 50 37.6	-1.2
CHMN	**Cheshme madani**	**0.92**	**166**	Pg	**Pg**	16 50 36.8	-2.0
NGRK	**Negar Kerman**	**1.21**	**203**	Pg	**Pg**	16 50 43.3	-1.0
IBAF	**Bafgh**	**1.69**	**300**	Pg	**Pb**	16 50 51.9	-1.3
KBAM	**BAM**	**1.91**	**148**	Pn	**Pb**	16 50 53.8	-2.1
BSRN	**Basiran**	**1.98**	**52**	Pn	**Pb**	16 50 54.2	-2.9
IKOO	**Kooshah**	**2.21**	**41**	Pn	**Pb**	16 50 57.7	-3.6
TPRV	**Parvadeh(Tabas**	**2.32**	**347**	Pn	**Pb**	16 50 59.0	-3.9
IMEH	**Mehriz**	**2.38**	**286**	Pn	**Pb**	16 51 01.1	-2.9
NHDN	**Nehbandan**	**2.46**	**74**	Pn	**Pn**	16 51 01.4	+0.2
ITEG	**Tejag**	**2.47**	**30**	Pn	**Pn**	16 51 00.8	-0.6
KHNJ	**Kahnooj**	**2.83**	**172**	Pn	**Pb**	16 51 07.8	-3.7
TKDS	**Koohdasht(Taba**	**2.85**	**357**	Pn	**Pn**	16 51 06.3	-0.3
ICHK	**Chekchek**	**2.87**	**302**	Pn	**Pn**	16 51 07.4	+0.5
IDAH	**Dahanechah**	**2.96**	**47**	Pn	**Pn**	16 51 08.0	-0.2
AFRZ	**Afriz**	**3.04**	**28**	Pn	**Pn**	16 51 09.1	-0.1
TNSJ	**Nastanj**	**3.24**	**350**	Pn	**Pn**	16 51 11.6	-0.4
ISAD	**Sadrabad**	**3.29**	**291**	Pn	**Pn**	16 51 13.6	+0.8
ZHDN	**Zahedan**	**3.34**	**113**	Pn	**Pn**	16 51 14.6	+1.1
IBND	**Bandar-abas**	**3.36**	**191**	Pn	**Pn**	16 51 15.8	+2.2
GENO	**Geno**	**3.49**	**196**	Pn	**Pb**	16 51 18.2	-4.7
SHRT	**Shahrakht**	**3.84**	**41**	Pn	**Pn**	16 51 20.5	+0.3
ANAR	**Anarak**	**3.87**	**310**	Pn	**Pn**	16 51 21.1	+0.4
LAR1	**LAR**	**4.00**	**220**	Pn	**Pn**	16 51 23.8	+1.5
SHI	**Shiraz**	**4.28**	**256**	Pn	**Pn**	16 51 27.6	+1.3
IRAM	**Ramesheh**	**4.33**	**285**	Pn	**Pn**	16 51 28.0	+1.0
IZEF	**Zefreh**	**4.72**	**298**	Pn	**Pn**	16 51 33.6	+1.1
IGAR	**Gharneh**	**4.76**	**291**	Pn	**Pn**	16 51 34.5	+1.5
SHME	**Shamm**	**4.80**	**192**	P	**Pn**	16 51 35.7	+2.4
SHME				S	**Sb**	16 52 37.5	-5.6
SHME	**Shamm**	**4.80**	**192**	P	**Pn**	16 51 36.3	+3.0
SHME				S	**Sb**	16 52 37.9	-5.2
KLNJ	**Kolanjah**	**4.90**	**274**	Pn	**Pn**	16 51 36.6	+1.6
JASK	**Jask - Hormozg**	**4.90**	**174**	P	**Pn**	16 51 37.7	+2.9
JASK				S	**Sb**	16 52 39.9	-6.1
TBHD	**Torbat heydari**	**4.92**	**19**	Pn	**Pn**	16 51 35.0	-0.1
TBJM	**Torbat-e-JAM**	**5.17**	**29**	Pn	**Pn**	16 51 38.8	+0.2
KRSH	**Karshahi**	**5.40**	**308**	Pn	**Pn**	16 51 42.4	+0.7
MASF	**Masafi**	**5.46**	**191**	P	**Pn**	16 51 46.2	+3.7
MASF				S	**Sb**	16 52 53.4	-8.7
MSFE	**Esma-Masafi**	**5.47**	**191**	P	**Pn**	16 51 45.1	+2.5
IANJ	**Anjilo**	**5.48**	**330**	Pn	**Pn**	16 51 43.4	+0.6
HRA	**Herat**	**5.53**	**48**	Pn	**Pn**	16 51 43.4	-0.2
ISFB	**Sefidab**	**5.56**	**311**	Pn	**Pn**	16 51 45.7	+1.8
SRVN	**Saravan**	**5.59**	**126**	Pn	**Pn**	16 51 45.7	+1.4
SBZV	**Sabzevar**	**5.62**	**3**	Pn	**Pn**	16 51 44.9	+0.1
ZNGN	**Zangian**	**5.66**	**285**	Pn	**Pn**	16 51 46.4	+1.0
JRKH	**Jarkhoshk**	**5.74**	**26**	Pn	**Pn**	16 51 46.9	+0.6
IPIR	**Pirpir**	**5.77**	**291**	Pn	**Pn**	16 51 49.0	+2.0
QAMS	**Qamsar**	**5.80**	**302**	Pn	**Pn**	16 51 48.4	+1.1
JHBN	**Jahan bin**	**5.84**	**286**	Pn	**Pn**	16 51 49.1	+1.2
IPAY	**Payeh**	**5.85**	**14**	Pn	**Pn**	16 51 48.7	+0.8
ILAS	**Lasjerd**	**5.87**	**323**	Pn	**Pn**	16 51 49.1	+0.9
UOSS	**Minazif**	**5.87**	**190**	Pn	**Pn**	16 51 50.3	+2.3
UOSS	**Minazif**	**5.87**	**190**	P	**Pn**	16 51 49.9	+1.9
UOSS	**Minazif**	**5.87**	**190**	P	**Pn**	16 51 49.7	+1.6
UOSS				S	**Sn**	16 53 02.1	+6.6
NAZ	**Nazwa, Dubai**	**5.93**	**194**	P	**Pn**	16 51 49.6	+0.8
NAZ	**Nazwa, Dubai**	**5.93**	**194**	P	**Pn**	16 51 52.1	+3.3
NAZ				S	**Sn**	16 53 03.9	+7.1
IAKL	**Akhelmad**	**5.95**	**11**	Pn	**Pn**	16 51 49.9	+0.5
HATD	**Hatta, Dubai**	**6.00**	**190**	P	**Pn**	16 51 52.8	+3.0
HATD	**Hatta, Dubai**	**6.00**	**190**	P	Pn	16 51 54.1	+4.2
HATD				S	Sn	16 53 06.9	+8.3
IMYA	**Miami**	**6.04**	**22**	Pn	**Pn**	16 51 51.0	+0.5
ASHO	**Ashiyiah**	**6.15**	**190**	P	**Pn**	16 51 54.2	+2.3
ASHO	**Ashiyiah**	**6.15**	**190**	P	**Pn**	16 51 55.1	+3.1
ASHO				S	**Sn**	16 53 09.0	+6.6
IFIR	**Firoozkooh**	**6.17**	**323**	Pn	**Pn**	16 51 53.0	+0.5
FAQ	**Al Faqa, Dubai**	**6.18**	**194**	P	**Pn**	16 51 53.3	+1.1
FAQ	**Al Faqa, Dubai**	**6.18**	**194**	P	**Pn**	16 51 55.7	+3.4
FAQ				S	**Sn**	16 53 11.1	+8.1
IKRD	**Kardeh**	**6.28**	**17**	Pn	**Pn**	16 51 54.7	+0.8
IVRN	**Varamin**	**6.30**	**314**	Pn	**Pn**	16 51 54.0	0.0
ISFR	**Sfrayin**	**6.30**	**5**	Pn	**Pn**	16 51 53.8	-0.4
ASUD	**Al Ashush, Dub**	**6.35**	**196**	P	**Pn**	16 51 56.3	+1.7
ASUD	**Al Ashush, Dub**	**6.35**	**196**	P	Pn	16 51 59.2	+4.5
ASUD				S	**Sn**	16 53 14.3	+7.1
IGLO	**Ghaloghah**	**6.41**	**334**	Pn	**Pn**	16 51 56.6	+1.0
AJN	**Ajban**	**6.50**	**199**	P	Pn	16 52 00.7	+4.0
AJN				S	**Sn**	16 53 16.4	+5.4
IDMV	**Damavand**	**6.51**	**319**	Pn	**Pn**	16 51 57.9	+0.8
SOHO	**SOHO**	**6.63**	**186**	P	**Pn**	16 52 01.8	+3.2
IMND	**Minoodasht**	**6.66**	**347**	Pn	**Pn**	16 51 59.7	+0.8
ALNE	**Al Ain**	**6.82**	**192**	P	**Pn**	16 52 04.4	+3.4
ALNE				P	**Pn**	16 52 04.4	+3.4
ALNE				S	**Sn**	16 53 22.6	+3.9
ALNE				S	**Sn**	16 53 22.6	+3.9
AMIS	**Naft Sefid**	**6.91**	**280**	Pn	**Pn**	16 52 03.7	+1.4
MRVT	**Maraveh tapeh**	**6.95**	**352**	Pn	**Pn**	16 52 03.4	+0.4
HOQ	**Hoqain**	**7.15**	**180**	P	**Pn**	16 52 09.0	+3.3
HOQ				S	**Sn**	16 53 32.3	+5.4
GEYT	**Alibeck**	**7.18**	**5**	Pn	**Pn**	16 52 05.2	-0.9
GEYT	**Alibeck**	**7.18**	**5**	Pn	**Pn**	16 52 06.5	+0.4
	0.4nm,0.3s,baz=186,slow=16,SNR=5.1						
GEYT				Sn	**Sn**	16 53 27.3	-0.5
	0.8nm,0.3s,baz=210,slow=26,SNR=3.6						
GEYT				Lg	Lg	16 54 07.8	
	0.2nm,0.3s,baz=206,slow=32,SNR=1.6						
	2.4nm,0.5s						
GYA0	**ALIBECK ARRAY**	**7.18**	**5**	P	**Pn**	16 52 04.9	-1.2
GYA0B	**ALIBECK ARRAY**	**7.18**	**5**		**Pn**	16 52 04.9	-1.2
MZPU	**Pul - Mazandar**	**7.40**	**321**	Pn	**Pn**	16 52 10.4	+1.2
SHMA	**Al-Shehemyia**	**7.41**	**230**	P	**Pn**	16 52 07.2	-1.9
SHMA				S	**Sn**	16 53 34.2	+0.9
ARQ	**Araqi**	**7.43**	**185**	P	Pn	16 52 13.5	+4.1
WSAR	**Wadi Sarin**	**7.59**	**171**	P	**Pn**	16 52 13.1	+1.4
	SNR=7.1						
WSAR	**Wadi Sarin**	**7.59**	**171**	Pn	**Pn**	16 52 12.1	+0.4
	3.0nm,0.3s,baz=8.2,slow=9.9,SNR=38						
WSAR				Sn	**Sn**	16 53 37.8	0.0
	baz=293,slow=18						
WSAR				LR	LR	16 55 51.6	
	comp=Z,100nm,20.4s,baz=24,slow=44						
	18nm,0.6s						
SMDO	**Samad**	**7.70**	**175**	P	**Pn**	16 52 14.6	+1.3
SMDO				P	**Pn**	16 52 14.6	+1.3
SMDO				S	**Sn**	16 53 46.8	+6.1
SMDO				S	**Sn**	16 53 46.8	+6.1
KLST	**Kelardasht - M**	**7.74**	**320**	Pn	**Pn**	16 52 15.2	+1.3
BSY	**Bisya**	**7.99**	**181**	P	Pn	16 52 21.1	+4.0
BSY				P	Pn	16 52 21.1	+4.0
BSY				S	**Sn**	16 53 54.7	+7.2
BSY				S	**Sn**	16 53 54.7	+7.2
TRNA	**Turayna**	**8.06**	**223**	P	**Pn**	16 52 18.0	-0.1
	SNR=21						
TRNA				S	**Sn**	16 53 51.2	+1.9
WBK	**Wadi Bani Khal**	**8.26**	**169**	P	**Pn**	16 52 23.1	+2.2
	SNR=15						
WBK	**Wadi Bani Khal**	**8.26**	**169**	Pn	**Pn**	16 52 21.7	+0.8
SMRA	**Abu-Samra**	**8.28**	**225**	P	**Pn**	16 52 21.2	0.0
SMRA				S	**Sn**	16 53 55.3	+0.5
JMDO

ATD	**Arta Tunnel**	**23.35**	**218**	LR	LR	17 06 24.5		
	comp=Z,5.1nm,18.6s,baz=81,slow=42							
ELL	**Elmali**	**23.49**	**292**	P	**P**	**16 55 31.2**	**+0.2**	
ELL	**Elmali**	**23.49**	**292**	P	**P**	**16 55 31.2**	**+0.2**	
ELL				pmax	pmax			
	comp=Z,53nm,0.9s							
GKN	**Gorkha**	**23.97**	**90**	*e*P	**P**	**16 55 36.3**	**+0.5**	
	comp=Z,11nm,0.8s							
BRVK	**Borovoye**	**24.21**	**19**	P	**P**	**16 55 37.1**	**-0.5**	
BRVK				lAmb	lAmb	16 55 41.5		
	comp=Z,14nm,1.3s							
BRVK	**Borovoye**	**24.21**	**19**⇑	*e*P	**P**	**16 55 37.9**	**+0.3**	
BRVK				pmax	pmax			
	comp=Z,13nm,1.3s							
BVAR	**Borovoye Array**	**24.21**	**20**	P	**P**	**16 55 38.3**	**+0.7**	
	comp=Z,4.9nm,0.8s,baz=197,slow=7.6,SNR=18							
BVAR				LR	LR	17 06 29.5		
	comp=Z,174nm,18.1s,baz=217,slow=40							
	comp=Z,4.9nm,0.8s							
PKIN	**Phulchoki**	**24.73**	**90**	*e*P	**P**	**16 55 43.3**	**+0.4**	
	comp=Z,13nm,0.9s							
PKI	**Pulchoki**	**24.74**	**90**	*e*P	**P**	**16 55 43.5**	**+0.4**	
	comp=Z,18nm,1.0s							
MAKZ	**Makanchi**	**24.89**	**43**	P	**P**	**16 55 44.1**	**+0.2**	
MAKZ				lAmb	lAmb	16 55 46.9		
	comp=Z,11nm,0.9s							
MAKZ	**Makanchi**	**24.89**	**43**	P	**P**	**16 55 44.1**	**+0.2**	
MAKZ				pmax	pmax			
	comp=Z,11nm,0.9s							
GUN	**Gumba**	**25.06**	**89**	*e*P	**P**	**16 55 46.6**	**+0.6**	
	comp=Z,65nm,1.1s							
MK31	**Makanchi Array**	**25.07**	**43**	P	**P**	**16 55 45.7**	**+0.2**	
MK31				lAmb	lAmb	16 55 48.5		
	comp=Z,6.3nm,1.1s							
MK31	**Makanchi Array**	**25.07**	**43**	*ce*P	**P**	**16 55 46.6**	**+1.1**	
MKAR	**Makanchi Array**	**25.07**	**43**	P	**P**	**16 55 45.5**	**-0.1**	
MKAR	**Makanchi Array**	**25.07**	**43**	*e*P	**P**	**16 55 46.2**	**+0.7**	
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MKAR	**Makanchi Array**	**25.07**	**43**	P	**P**	**16 55 46.1**	**+0.6**	
	comp=Z,3.6nm,0.8s,baz=224,slow=8.7,SNR=21							
MKAR				LR	LR	17 07 09.5		
	comp=Z,95nm,19.6s,baz=283,slow=40							
	comp=Z,3.6nm,0.8s							
JIRN	**Jiri**	**25.39**	**90**	*e*P	**P**	**16 55 49.5**	**+0.5**	
	comp=Z,20nm,0.8s							
KURBB	**Kurchatov Arra**	**25.40**	**33**	P	**P**	**16 55 49.1**	**+0.8**	
	comp=Z,5.4nm,0.8s,baz=231,slow=9.1,SNR=49							
	comp=Z,5.4nm,0.8s							
KURK	**Kurchatov**	**25.50**	**32**	P	**P**	**16 55 49.7**	**+0.4**	
KURK				lAmb	lAmb	16 55 54.0		
	comp=Z,8.3nm,1.1s							
KURK	**Kurchatov**	**25.50**	**32**	*de*P	**P**	**16 55 50.2**	**+0.9**	
KURK				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KARP	**Karpathos**	**25.61**	**289**	P	**P**	**16 55 50.8**	**+0.2**	
ARU	**Arti**	**25.68**	**2**	*d* i P	**P**	**16 55 53.2**	**+2.4**	
ARU						16 56 24.7		
ARU				S	**S**	**17 00 24.4**	**+5.2**	
ARU				SS	**SnSn**	**17 01 19.3**	**+5.9**	
ARU				pmax	pmax			
	comp=Z,10.0nm,1.1s							
ARU	**Arti**	**25.68**	**2**	LR	LR	17 06 42.0		
	comp=Z,70nm,19.6s,baz=166,slow=38							
RAMN	**Ramite**	**25.92**	**91**	*e*P	**P**	**16 55 54.2**	**+0.5**	
	comp=Z,33nm,0.9s							
SVE	**Sverdlovsk**	**26.16**	**4**	*e*P	**P**	**16 55 56.2**	**+0.9**	
TAPN	**Taplejung**	**26.77**	**90**	*e*P	**P**	**16 56 02.3**	**+0.8**	
	comp=Z,6.1nm,0.7s							
SANT	**Santorini**	**27.03**	**291**	P	**P**	**16 56 02.2**	**-1.1**	
SANT				lAmb	lAmb	16 56 03.5		
	comp=Z,9.1nm,1.0s							
WMQ	**Urumqi**	**27.31**	**53**	*e*P	**P**	**16 56 07.8**	**+1.9**	
IDI	**Anoyia**	**27.46**	**288**	P	**P**	**16 56 06.5**	**-0.8**	
IDI				lAmb	lAmb	16 56 50.5		
	comp=Z,7.4nm,1.1s							
KIRV	**Kirov**	**28.34**	**351**	LR	LR	17 09 52.9		
	comp=Z,98nm,19.9s,baz=164,slow=41							
OBN	**Obninsk**	**28.46**	**335**⇑	*e*P	**P**	**16 56 16.3**	**+0.4**	
OBN				*e*		16 57 08.9		
OBN				pmax	pmax			
	comp=Z,8.0nm,1.0s							
AKASG	**Malin Array Be**	**28.86**	**322**	*e*P	P	16 56 23.1	+3.6	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**28.86**	**322**	P	**P**	**16 56 18.3**	**-1.1**	
	comp=Z,0.4nm,0.4s,baz=126,slow=8.5,SNR=2.7							
	comp=Z,0.4nm,0.4s							
DGZ	**Jazzator, Alta**	**29.50**	**41**⇓	*e*P	**P**	**16 56 26.1**	**+0.7**	
DGZ				pmax	pmax			
	comp=Z,2.0nm,0.9s							
BURAR	**Bucovina Array**	**29.74**	**314**	P	**P**	**16 56 27.8**	**+0.3**	
BURAR	**Bucovina Array**	**29.74**	**314**	P	**P**	**16 56 27.8**	**+0.3**	
BURAR				pmax	pmax			
	comp=Z,2.0nm,1.3s							
ZAA0	**Zalesovo Array**	**30.49**	**33**	P	**P**	**16 56 33.7**	**-0.2**	
ZAA0				lAmb	lAmb	16 56 34.8		
	comp=Z,8.7nm,0.8s							
ZALV	**Zalesovo Beam**	**30.49**	**33**	P	**P**	**16 56 33.6**	**-0.3**	
ZALV	**Zalesovo Beam**	**30.49**	**33**	P	**P**	**16 56 33.9**	**0.0**	
	comp=Z,12nm,0.8s,baz=237,slow=9.4,SNR=46							
ZALV				LR	LR	17 10 42.7		
	comp=Z,58nm,20.7s,baz=135,slow=40							
	comp=Z,12nm,0.8s							
PRGR	**Permogore**	**31.82**	**349**	*e*P	**P**	**16 56 48.1**	**+2.6**	
PRGR				pmax	pmax			
	comp=Z,11nm,0.7s							
PALK	**Pallekele**	**32.04**	**132**	LR	LR	17 09 08.1		
	comp=Z,21nm,18.6s,baz=60,slow=35							
LODK	**Lodwar**	**34.17**	**222**	P	**P**	**16 57 08.4**	**+1.7**	
GTA	**Gaotai**	**35.59**	**64**	*e*P	**P**	**16 57 20.1**	**+1.3**	
GTA				sP	sP	16 57 27.4	+3.7	
GTA				pmax	pmax			
	comp=Z,5.0nm,1.0s							
FINES	**FINESS Array B**	**36.86**	**335**	P	**P**	**16 57 29.4**	**+0.2**	
FINES	**FINESS Array B**	**36.86**	**335**	*e*P	**P**	**16 57 30.2**	**+1.0**	
FINES				pmax	pmax			
	comp=Z,8.0nm,1.0s							
FINES	**FINESS Array B**	**36.86**	**335**	P	**P**	**16 57 29.1**	**0.0**	
	comp=Z,3.2nm,0.7s,baz=130,slow=8.2,SNR=7.5							
	comp=Z,3.2nm,0.7s							
CKRC	**Cesky Krumlov**	**37.04**	**312**	*e*P	**P**	**16 57 33.5**	**+2.5**	
CKRC	**Cesky Krumlov**	**37.04**	**312**	*e*P	**P**	**16 57 33.5**	**+2.5**	
GEC2	**GERESS Array S**	**37.44**	**311**	P	**P**	**16 57 34.8**	**+0.4**	
GEC2				lAmb	lAmb	16 57 35.9		
	comp=Z,3.5nm,0.8s							
GERES	**GERESS Array B**	**37.44**	**311**	*e*P	**P**	**16 57 34.5**	**+0.1**	
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GERES	**GERESS Array B**	**37.44**	**311**	P	**P**	**16 57 34.2**	**-0.2**	
	comp=Z,1.3nm,0.6s,baz=103,slow=9.7,SNR=4.8							
	comp=Z,1.3nm,0.6s							
KHC	**Kasperske Hory**	**37.58**	**312**	P	**P**	**16 57 34.9**	**-0.6**	
KHC				lAmb	lAmb	16 57 38.9		
	comp=Z,3.7nm,0.9s							
KHC	**Kasperske Hory**	**37.58**	**312**	*e*P	**P**	**16 57 35.1**	**-0.4**	
KHC	**Kasperske Hory**	**37.58**	**312**⇑	*e*P	**P**	**16 57 35.8**	**+0.3**	
KHC				pmax	pmax			
	comp=Z,6.0nm,0.9s							
LESA	**Schwarzleotal**	**37.84**	**309**	*e*P	**P**	**16 57 37.7**	**-0.1**	
	comp=Z,3.7nm,0.7s							
CLL	**Collm**	**38.46**	**315**	*e*P	**P**	**16 57 44.0**	**+1.1**	
	comp=Z,6.0nm,0.9s							
CLL	**Collm**	**38.46**	**315**	*e*P	**P**	**16 57 44.0**	**+1.1**	
CLL				pmax	pmax			
	comp=Z,6.0nm,0.9s							
WTTA	**Wattenberg**	**38.51**	**309**	*e*P	**P**	**16 57 42.7**	**-0.9**	
	comp=Z,5.2nm,0.9s							
WATA	**Walderalm**	**38.56**	**309**	*e*P	**P**	**16 57 44.7**	**+0.7**	
	comp=Z,6.6nm,0.8s							
SQTA	**Sankt Quirin**	**38.79**	**308**	*e*P	**P**	**16 57 45.1**	**-0.8**	
	comp=Z,4.2nm,0.6s							
MOTA	**Moosalm**	**38.88**	**309**	*e*P	**P**	**16 57 46.0**	**-0.6**	
	comp=Z,1.7nm,0.5s							
LZH	**Lanzhou**	**38.93**	**69**	*e*P	**P**	**16 57 43.5**	**-3.8**	
LZH				pP	pP	16 57 47.6	-3.2	
LZH				pmax	pmax			
	comp=Z,6.0nm,1.0s							
PZH	**PanZhiHua**	**39.06**	**85**	P	**P**	**16 57 48.3**	**-0.1**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,80nm,8.2s							
FETA	**Feichten**	**39.09**	**308**	*e*P	**P**	**16 57 46.7**	**-1.7**	
	comp=Z,3.6nm,0.9s							
RETA	**Reutte**	**39.13**	**309**	*e*P	**P**	**16 57 47.0**	**-1.7**	
	comp=Z,2.6nm,0.7s							
CHTO	**Chiang Mai**	**39.44**	**98**	P	**P**	**16 57 50.9**	**-0.5**	
CHTO	**Chiang Mai**	**39.44**	**98**	P	**P**	**16 57 50.9**	**-0.5**	
CHTO				pmax	pmax			
	comp=Z,4.0nm,1.1s							
CMAR	**Chiang Mai Arr**	**39.59**	**98**	*e*P	**P**	**16 57 52.9**	**+0.2**	
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**39.59**	**98**	P	**P**	**16 57 52.7**	**0.0**	
	comp=Z,0.6nm,0.7s,baz=300,slow=7.4,SNR=6.6							
CMAR				PcP	**PcP**	**16 59 58.9**	**-1.1**	
	comp=Z,0.4nm,0.6s,baz=292,slow=4.8,SNR=3.1							
	comp=Z,0.6nm,0.7s							
VSL	**Villasalto**	**39.75**	**296**	P	**P**	**16 57 54.8**	**+0.9**	
SONM	**Songino Array**	**40.91**	**51**	*e*P	**P**	**16 58 04.4**	**+0.9**	
SONM				pmax	pmax			
	comp=Z,2.0nm,1.1s							
SONM	**Songino Array**	**40.91**	**51**	P	**P**	**16 58 04.1**	**+0.6**	
	comp=Z,2.2nm,1.1s,baz=258,slow=10.0,SNR=6.9							
	comp=Z,2.2nm,1.1s							
ULN	**Ulaanbaatar**	**41.35**	**51**⇓	*e*P	**P**	**16 58 07.8**	**+0.6**	
ULN				pmax	pmax			
	comp=Z,6.0nm,2.5s							
SENIN	**Lac Senin/Sane**	**41.37**	**307**	P	**P**	**16 58 06.4**	**-1.0**	
KEV	**Kevo**	**42.62**	**345**	P	**P**	**16 58 18.6**	**+1.7**	
KEV	**Kevo**	**42.62**	**345**	P	**P**	**16 58 18.7**	**+1.7**	
KEV				pmax	pmax			
	comp=Z,62nm,1.5s							
ARCES	**ARCESS Array B**	**42.80**	**344**	P	**P**	**16 58 19.4**	**+1.0**	
ARCES				lAmb	lAmb	16 58 59.2		
	comp=Z,24nm,1.4s							
ARCES	**ARCESS Array B**	**42.80**	**344**	P	**P**	**16 58 18.9**	**+0.5**	
	comp=Z,1.7nm,0.7s,baz=129,slow=7.2,SNR=5.4							
	comp=Z,1.7nm,0.7s							
NBO00	**NORSAR Array S**	**42.86**	**329**	P	**P**	**16 58 20.2**	**+1.0**	
NBO00				lAmb	lAmb	16 58 42.0		
	comp=Z,22nm,1.3s							
HHC	**Hu-ho-hao-te**	**44.53**	**61**	*e*P	**P**	**16 58 32.5**	**-0.5**	
HHC				pmax	pmax			
	comp=Z,32nm,0.7s							
HHC				pmax	pmax			
	comp=Z,310nm,5.2s							
ESDC	**Sonseca Array**	**49.97**	**298**	P	**P**	**16 59 12.9**	**-2.5**	
	comp=Z,0.6nm,0.7s,baz=70,slow=7.3,SNR=2.9							
	comp=Z,0.6nm,0.7s							
NJ2	**Nanjing**	**51.92**	**72**	*e*P	**P**	**16 59 29.2**	**-0.8**	
NJ2				sP	**sP**	**16 59 34.6**	**-0.4**	
NJ2				pmax	pmax			
	comp=Z,10.0nm,1.1s							
NJ2				pmax	pmax			
	comp=Z,140nm,4.5s							
TOA0	**Torodi Ar. Sit**	**53.92**	**264**	P	**P**	**16 59 43.7**	**-1.3**	
TOA0				lAmb	lAmb	16 59 46.0		
	comp=Z,5.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**53.92**	**264**	P	**P**	**16 59 43.7**	**-1.3**	
TORD				lAmb	lAmb	16 59 46.0		
	comp=Z,3.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**53.92**	**264**	P	**P**	**16 59 44.2**	**-0.8**	
	comp=Z,5.0nm,0.7s,baz=51,slow=7.5,SNR=33							
	comp=Z,5.0nm,0.7s							
ZEA	**Zeya**	**54.23**	**43**	*e*P	**P**	**16 59 48.5**	**+1.8**	
YAK	**Yakutsk**	**55.14**	**33**	*ce*P	**P**	**16 59 52.7**	**-0.5**	
YAK				pmax	pmax			
	comp=Z,24nm,2.5s							
TIXI	**Tiksi**	**55.33**	**21**	P	**P**	**16 59 54.2**	**-0.2**	
TIXI				lAmb	lAmb	16 59 54.6		
	comp=Z,3.6nm,1.1s							
TIXI	**Tiksi**	**55.33**	**21**	*ce*P	**P**	**16 59 55.1**	**+0.7**	
MDJ	**Mudanjiang**	**57.11**	**54**	P	**P**	**17 00 05.8**	**-1.7**	
MDJ				pmax	pmax			
	comp=Z,13nm,2.4s							
MDJ				pmax	pmax			
	comp=Z,720nm,6.2s							
KLR	**Kul'dur**	**57.63**	**48**	LR	LR	17 27 27.0		
	comp=Z,64nm,20.0s,baz=298,slow=39							
KSRS	**Korea Array**	**57.64**	**63**	LR	LR	17 28 14.3		
	comp=Z,26nm,18.4s,baz=160,slow=39							
SCO	**Scoresbysund**	**57.77**	**337**	P	**P**	**17 00 12.6**	**+0.9**	
SCO	**Scoresbysund**	**57.77**	**337**	P	**P**	**17 00 12.6**	**+0.9**	
SCO				pmax	pmax			
	comp=Z,17nm,1.3s							
SEY	**Seymchan**	**65.32**	**30**	LR	LR	17 32 41.3		
	comp=Z,83nm,18.7s,baz=0.5,slow=39							
MA2	**Magadan**	**65.70**	**34**	P	**P**	**17 01 05.7**	**+0.3**	
MA2	**Magadan**	**65.70**	**34**	P	**P**	**17 01 05.7**	**+0.3**	
MA2				pmax	pmax			
	comp=Z,41nm,1.2s							
BILL	**Bilibino**	**68.52**	**22**⇑	*e*P	P	17 01 26.2	+3.0	
SUR	**Sutherland**	**71.67**	**212**	LR	LR	17 37 05.8		
	comp=Z,39nm,18.6s,baz=336,slow=39							
PETK	**Petropavlovsk-**	**71.81**	**39**	LR	LR	17 35 40.7		
	comp=Z,97nm,18.8s,baz=249,slow=38							
B22K	**Teshekpuk Lake**	**76.80**	**10**	P	**P**	**17 02 12.8**	**+0.5**	
C18K	**Utukok River**	**76.89**	**14**	P	**P**	**17 02 13.3**	**+0.3**	
C18K				lAmb	lAmb	17 02 56.4		
	comp=Z,15nm,1.4s							
A36M	**Sachs Harbour**	**77.52**	**1**	P	**P**	**17 02 16.9**	**+0.5**	
A36M				lAmb	lAmb	17 02 18.8		
	comp=Z,7.3nm,0.9s							
E19K	**Redstone River**	**78.69**	**13**	P	**P**	**17 02 23.3**	**+0.3**	
E19K				lAmb	lAmb	17 02 26.5		
	comp=Z,6.7nm,1.4s							
TOLK	**Toolik Lake Re**	**78.92**	**10**	P	**P**	**17 02 24.4**	**+0.1**	
TOLK				lAmb	lAmb	17 02 27.6		
	comp=Z,6.8nm,1.1s							
E25K	**Arctic Village**	**79.95**	**9**	P	**P**	**17 02 30.5**	**+0.6**	
E25K				lAmb	lAmb	17 02 32.8		
	comp=Z,3.8nm,1.1s							
IMAR	**Indian Mountai**	**80.65**	**12**	P	**P**	**17 02 32.6**	**-1.0**	
BMAR	**Burnt Mountain**	**80.73**	**8**	P	**P**	**17 02 33.4**	**-0.7**	
F31M	**Tsiigehtchic**	**81.75**	**4**	P	**P**	**17 02 40.1**	**+0.7**	
H29M	**Whitestone**	**82.58**	**6**	P	**P**	**17 02 45.0**	**+1.2**	
H29M				lAmb	lAmb	17 03 23.6		
	comp=Z,10nm,1.5s							
ILAR	**Eielson Array**	**82.92**	**10**	P	**P**	**17 02 46.5**	**+0.9**	
ILAR	**Eielson Array**	**82.92**	**10**	P	**P**	**17 02 46.6**	**+0.9**	
ILAR	**Eielson Array**	**82.92**	**10**	P	**P**	**17 02 44.9**	**-0.8**	
	comp=Z,0.3nm,0.9s,baz=331,slow=3.3,SNR=2.2							
	comp=Z,0.3nm,0.9s							
YKA	**Yellowknife Ar**	**86.84**	**356**	*e*P	**P**	**17 03 06.3**	**+0.9**	
YKA				pmax	pmax			
	comp=Z,1.0nm,1.0s							
YKA	**Yellowknife Ar**	**86.84**	**356**	P	**P**	**17 03 05.2**	**-0.2**	
	comp=Z,0.6nm,0.9s,baz=353,slow=4.8,SNR=5.6							
	comp=Z,0.6nm,0.9s							
BCPM	**Bancas Point**	**88.55**	**8**	P	**P**	**17 03 12.6**	**-1.1**	
ASAR	**Alice Springs**	**91.17**	**117**	P	**P**	**17 03 25.9**	**-0.6**	
	comp=Z,0.5nm,0.8s,baz=307,slow=4.9,SNR=4.4							
	comp=Z,0.5nm,0.8s							

DJA 12 16:55:58.2±0.8, 8°S±6′×11°8E±°, h11km±9km, M4.4/8, mb6.1/1, mB5.9/1, MLv3.6/8, Mw(mB)5.5/1, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.74**	**180**	P	Pg	16 56 12.7	+0.1
TWSI	**Taliwang, Sumb**	**1.09**	**233**	P	Pb	16 56 18.9	-0.3
SRBI	**Singaraja**	**2.53**	**270**	P	Pn	16 56 39.4	+0.1
BKSI	**Bulukumba**	**3.60**	**41**	P	Pn	16 56 54.1	+0.1
JAGI	**Jajag, Banyuwa**	**3.60**	**264**	P	Pn	16 56 54.1	+0.1
EDFI	**Ende, Flores**	**3.94**	**100**	P	Pn	16 56 58.4	-0.3
KBKI	**Kotabaru**	**5.01**	**341**	P	Pn	16 57 13.3	-0.1
	2μm,1.0s,11nm						
BBKI	**Banjar Baru**	**5.43**	**327**	P	Pn	16 57 19.0	-0.2

IDC 12 16:59:23.1±2.3, 6°64S×154°18E, h0km, mb3.2/4, mbtmp3.3/5, ML1.5/1, MS3.5/1, Error ellipse: s-maj=87.5km s-min=28.2km az=129.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.48**	**248**	Pn	Pn	17 01 14.9	+1.3
	0.4nm,0.3s,baz=45,slow=14,SNR=1.1						
	6.1nm,0.5s						
WRA	**Warramunga Arr**	**23.37**	**234**	P	P	17 04 33.2	-0.4
	0.3nm,0.7s,baz=58,slow=10,SNR=5.2						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**25.82**	**227**	P	P	17 04 56.0	-0.3
	0.2nm,0.5s,baz=56,slow=9.0,SNR=6.8						
	0.2nm,0.5s						
RAR	**Rarotonga**	**46.79**	**113**	LR	LR	17 23 06.0	
	comp=Z,54nm,20.4s,baz=14,slow=30						
MKAR	**Makanchi Array**	**82.61**	**319**	P	P	17 11 49.4	+1.0
	0.1nm,0.5s,baz=94,slow=6.1,SNR=1.5						
	0.1nm,0.5s						
ILAR	**Eielson Array**	**83.34**	**22**	P	P	17 11 51.0	-0.7
	0.2nm,0.7s,baz=243,slow=3.5,SNR=1.6						
	0.2nm,0.7s						

TEH 12 17:14:29.8, 30.77N×57.29E, h8km±58km, ML3.8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.68**	**287**	Pg	Pg	17 14 43.4	+0.4
ZRDN				Sg	Sb	17 14 53.6	-0.2
KHGB	**Koh Gabri**	**0.81**	**241**	Pg	Pg	17 14 44.7	-0.6
KHGB				Sg	Sg	17 14 55.9	0.0
TVBK	**TV Kerman**	**0.90**	**211**	Pg	Pg	17 14 47.5	+0.3
CHMN	**Cheshme madani**	**0.93**	**167**	Pg	Pg	17 14 46.9	-0.8
NGRK	**Negar Kerman**	**1.22**	**204**	Pg	Pb	17 14 53.3	0.0
NGRK				Sg	Sb	17 15 09.9	+0.5
IBAF	**Bafgh**	**1.69**	**299**	Pg	Pb	17 15 01.1	-0.2
KBAM	**BAM**	**1.91**	**148**	Pn	Pb	17 15 04.4	-0.5
BSRN	**Basiran**	**1.97**	**52**	Pn	Pn	17 15 04.8	+1.2
IKOO	**Kooshan**	**2.21**	**41**	Pn	Pb	17 15 08.6	-1.5
TPRV	**Parvadeh(Tabas**	**2.31**	**347**	Pn	Pn	17 15 09.8	+1.4
IMEH	**Mehriz**	**2.38**	**286**	Pn	Pb	17 15 11.4	-1.7
NHDN	**Nehbandan**	**2.45**	**74**	Pn	Pn	17 15 11.9	+1.8
ITEG	**Tejag**	**2.46**	**30**	Pn	Pn	17 15 11.9	+1.5
KHNJ	**Kahnooj**	**2.83**	**173**	Pn	Pn	17 15 18.4	-2.3
TKDS	**Koohdasht(Taba**	**2.84**	**357**	Pn	Pn	17 15 17.0	+1.4
ICHK	**Chekchek**	**2.87**	**302**	Pn	Pb	17 15 18.9	-2.5
IDAH	**Dahanechah**	**2.95**	**47**	Pn	Pn	17 15 19.1	+1.9
AFRZ	**Afriz**	**3.03**	**28**	Pn	Pn	17 15 20.0	+1.9
TNSJ	**Nastanj**	**3.24**	**350**	Pn	Pn	17 15 22.7	+1.7
ISAD	**Sadrabad**	**3.29**	**291**	Pn	Pn	17 15 23.7	+1.7
ZHDN	**Zahedan**	**3.34**	**113**	Pn	Pn	17 15 25.2	+2.7
SHRT	**Shahrakht**	**3.83**	**41**	Pn	Pn	17 15 30.7	+1.5
ANAR	**Anarak**	**3.88**	**310**	Pn	Pn	17 15 31.2	+1.4
IRAM	**Ramesheh**	**4.33**	**285**	Pn	Pn	17 15 38.7	+2.5
IZEF	**Zefreh**	**4.73**	**298**	Pn	Pn	17 15 44.1	+2.5
TBJM	**Torbat-e-JAM**	**5.16**	**29**	Pn	Pn	17 15 49.8	+2.2
KRSH	**Karshahi**	**5.41**	**308**	Pn	Pn	17 15 52.5	+1.6
ISFB	**Sefidab**	**5.57**	**311**	Pn	Pn	17 15 55.6	+2.6
SRVN	**Saravan**	**5.58**	**126**	Pn	Pn	17 15 55.9	+2.6
SBZV	**Sabzevar**	**5.61**	**3**	Pn	Pn	17 15 56.3	+2.5
IPAY	**Payeh**	**5.84**	**14**	Pn	Pn	17 16 00.1	+3.1
IAKL	**Akhelmad**	**5.95**	**11**	Pn	Pn	17 16 01.4	+2.9
IFIR	**Firoozkooh**	**6.17**	**323**	Pn	Pn	17 16 03.5	+2.0
IKRD	**Kardeh**	**6.27**	**17**	Pn	Pn	17 16 05.3	+2.5
ISFR	**Sfrayin**	**6.30**	**5**	Pn	Pn	17 16 05.3	+2.1
IGLO	**Ghaloghah**	**6.41**	**334**	Pn	Pn	17 16 07.7	+3.0
IDMV	**Damavand**	**6.52**	**319**	Pn	Pn	17 16 07.4	+1.1
MRVT	**Maraveh tapeh**	**6.95**	**352**	Pn	Pn	17 16 14.9	+2.9

IDC ***12*** *17:20:22.5±0.7, 39.34N×74.14E, h0km, mb3.9/15, mbtmp3.8/23, ML3.0/8, MS2.6/1, Error ellipse: s-maj=15.3km s-min=13.8km az=90.0*
SOME ***12*** *17:20:24.6, 39.65N×74.13E, h15km*
MOS ***12*** *17:20:25.1±1.5, 39.53N×74.08E, h12km, mb4.3/6, Error ellipse: s-maj=6.7km s-min=3.8km az=85.8*
KRNET ***12*** *17:20:25.2±0.1, 39.59N×74.07E, h14km, mb4.0*
NNC ***12*** *17:20:30.2±1.3, 39.86N×73.99E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=10.0km s-min=6.8km az=172.0*
NEIC ***12*** *17:20:31.6±1.6, 39.68N±0.04×74.13E±0.04, h49km±8km, mb4.3/27, Error ellipse: s-maj=7.5km s-min=3.3km az=213.0*

ISC 12 17:20:27.4±1.3, 39.50N±0.04×73.97E±0.03, h23km±9km, n216, σ1°73/243, mb4.2/34, 45C-23D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.62**	**325**	⇓ *i* P	**Pb**	**17 20 36.9**	**-2.9**
	baz=15						
SFK				⇓ *i* S	**Sb**	**17 20 45.9**	**-2.4**
	baz=15						
SFK	**Sufi-Kurgan**	**0.62**	**325**	*e*PG	**Pb**	**17 20 36.9**	**-2.9**
OHH	**Osh**	**1.37**	**319**	⇓ *i* P	**Pn**	**17 20 50.9**	**-0.2**
	baz=14						
OHH				⇓ *i* S	**Sb**	**17 21 09.7**	**+0.2**
	baz=14						
OHH	**Osh**	**1.37**	**319**	*e*PG	**Pn**	**17 20 50.9**	**-0.2**
KSH	**Kashi**	**1.55**

baz=11
TRKS ⇑*i*S **Sn** **17 21 50.8 +2.8**
baz=11
TRKS Terek-Say 2.96 314 *i* PN **Pn** **17 21 14.6 +1.5**
TRKS *i* S **Sn** **17 21 50.8 +2.8**
AAK Ala-Archa 3.16 7 P **Pn** **17 21 18.1 +2.3**
SNR=50
AAK Ala-Archa 3.16 7⇓*i*P **Pn** **17 21 16.8 +1.0**
baz=6.0
AAK ⇓*i*S **Sn** **17 21 54.5 +1.7**
baz=6.0
AAK Ala-Archa 3.16 7 **Pn** **17 21 17.9 +2.0**
AAK Ala-Archa 3.16 7*c i*PN **Pn** **17 21 17.6 +1.8**
AAK Ala-Archa 3.16 7 Pn **Pn** **17 21 18.1 +2.3**
comp=E,7.2nm,0.3s,baz=176,slow=7.6,SNR=110
AAK Lg Lg 17 22 01.3
comp=E,20nm,0.3s,baz=296,slow=13,SNR=15
AAK LR LR 17 22 38.1
comp=E,96nm,20.5s,baz=218,slow=41
comp=E,88nm,0.6s
EKS2 Erkin-Say 3.16 357 P **Pn** **17 21 17.8 +2.0**
SNR=30
EKS2 Erkin-Say 3.16 357⇑*i*P **Pn** **17 21 17.1 +1.3**
baz=56
EKS2 ⇑*i*S **Sn** **17 21 55.1 +2.3**
baz=56
EKS2 Erkin-Say 3.16 357 *e*PN **Pn** **17 21 17.1 +1.3**
KBK Karagaybulak 3.24 13 P **Pn** **17 21 19.5 +2.6**
SNR=52
KBK Karagaybulak 3.24 13⇓*i*P **Pn** **17 21 18.0 +1.1**
baz=12
KBK ⇓*i*S **Sn** **17 21 56.9 +2.1**
baz=12
KBK Karagaybulak 3.24 13 *e*PN **Pn** **17 21 18.0 +1.1**
ULHL Ulahol 3.24 31 P **Pn** **17 21 18.8 +1.8**
SNR=9.4
ULHL Ulahol 3.24 31⇑*i*P **Pn** **17 21 17.7 +0.8**
baz=31
ULHL ⇑*i*S **Sn** **17 21 56.4 +1.5**
baz=31
ULHL Ulahol 3.24 31 *i* PN **Pn** **17 21 17.7 +0.8**
ULHL *i* S **Sn** **17 21 56.4 +1.5**
MRKS Merke 3.29 350 *e*Pg **Pb** **17 21 24.0 -1.1**
comp=E,52nm,0.6s
MRKS *e*Lg Lg 17 22 06.5
comp=E,157nm,0.9s
MRKS Merke 3.29 350 Pg **Pb** **17 21 24.0 -1.1**
comp=E,52nm,0.6s
MRKS Lg Lg 17 22 03.7
comp=E,157nm,0.9s
FRU1 Bishkek 3.34 8⇑*i*P **Pn** **17 21 19.6 +1.3**
baz=7.0
FRU1 ⇑*i*S **Sn** **17 21 59.4 +2.1**
baz=7.0
FRU1 Bishkek 3.34 8 **Pn** **17 21 19.3 +1.0**
FRU1 Bishkek 3.34 8 PN **Pn** **17 21 19.3 +1.0**
CHMS Chumysh 3.54 9 P **Pn** **17 21 23.1 +2.1**
SNR=11
CHMS Chumysh 3.54 9⇓*i*P **Pn** **17 21 21.9 +0.9**
baz=8.0
CHMS ⇓*i*S **Sn** **17 22 03.4 +1.2**
baz=8.0
CHMS Chumysh 3.54 9 *e*PN **Pn** **17 21 21.9 +0.9**
CHMS Chumysh 3.54 9 ⇑Pn **Pn** **17 21 22.8 +1.8**
comp=E,8.7nm,0.4s
CHMS ⇓Lg Lg 17 22 13.6
comp=E,132nm,0.8s
TKM2 Tokmak 2 3.63 19 P **Pn** **17 21 24.3 +2.0**
SNR=28
TKM2 Tokmak 2 3.63 19⇑*i*P **Pn** **17 21 23.8 +1.5**
baz=19
TKM2 ⇑*i*S **Sn** **17 22 06.1 +1.6**
baz=19
TKM2 Tokmak 2 3.63 19 *e*PN **Pn** **17 21 23.8 +1.5**
TKM2 Tokmak 2 3.63 19 ⇑Pn **Pn** **17 21 24.1 +1.8**
comp=E,11nm,0.4s
TKM2 ⇓Lg Lg 17 22 15.6
comp=E,77nm,0.8s
TARG Taragay, Kyrgy 3.67 51⇑*i*P **Pn** **17 21 24.2 +1.1**
baz=52
TARG ⇑*i*S **Sn** **17 22 06.4 +0.6**
baz=52
TARG Taragay, Kyrgy 3.67 51 **Pn** **17 21 23.9 +0.8**
TARG Taragay, Kyrgy 3.67 51 PN **Pn** **17 21 23.9 +0.8**
USP Ospenovka 3.78 6 P **Pn** **17 21 26.2 +1.9**
SNR=7.0
USP Ospenovka 3.78 6⇑*i*P **Pn** **17 21 25.7 +1.4**
baz=5.0
USP ⇑*i*S **Sn** **17 22 09.3 +1.2**
baz=5.0
USP Ospenovka 3.78 6 *e*PN **Pn** **17 21 25.7 +1.4**
CHGR Chuyangaron 3.84 259 **Pn** **17 21 29.1 +4.0**
CHGR Chuyangaron 3.84 259 PN **Pn** **17 21 29.1 +4.0**
KST Kastek 3.84 22 *e*Pg **Pb** **17 21 32.2 -2.4**
comp=E,9.4nm,0.5s
KST *e*Lg Lg 17 22 21.5
comp=E,138nm,0.5s
KST Kastek 3.84 22 Pg Pn 17 21 30.2 +5.0
comp=E,30nm,0.5s
KST Lg Lg 17 22 14.6
comp=E,99nm,0.5s
DZA Taraz 3.93 330 *e*Pg **Pb** **17 21 36.7 +0.7**
comp=E,49nm,0.1s
DZA *e*Lg Lg 17 22 28.7
comp=E,88nm,0.6s
DZA Taraz 3.93 330 Pg **Pb** **17 21 34.5 -1.4**
comp=E,84nm,0.1s
DZA Lg Lg 17 22 21.7
comp=E,119nm,0.8s
SGDS Sogindy 3.98 7 Pg **Pb** **17 21 36.1 -0.8**
comp=E,32nm,0.6s
SGDS Lg Lg 17 22 24.5
comp=E,48nm,0.8s
MTBS Maitube 4.07 26 *e*Pg **Pb** **17 21 37.2 -1.2**
comp=E,26nm,0.6s
MTBS *e*Lg Lg 17 22 30.1
comp=E,68nm,0.7s
MTBS Maitube 4.07 26 Pg **Pb** **17 21 38.7 +0.3**
comp=E,26nm,0.6s
MTBS Lg Lg 17 22 29.1
comp=E,68nm,0.7s
TNSS Tian-Shan 4.18 31 *e*Pg **Pb** **17 21 39.4 -1.1**
comp=E,26nm,0.3s
TNSS *e*Lg Lg 17 22 33.5
comp=E,28nm,0.7s
TNSS Tian-Shan 4.18 31 Pg **Pb** **17 21 40.7 +0.2**
comp=E,26nm,0.3s
TNSS Lg Lg 17 22 31.9
comp=E,28nm,0.7s
ANVS Anan'yevo 4.30 39⇑*i*P **Pn** **17 21 32.7 +1.1**
baz=39
ANVS ⇑*i*S **Sn** **17 22 22.0 +0.8**
baz=39
ANVS Anan'yevo 4.30 39 *i* PN **Pn** **17 21 32.7 +1.1**
MDOK Medeo 4.33 31 *e*Pg **Pb** **17 21 42.3 -0.5**
comp=E,34nm,0.6s
MDOK *e*Lg Lg 17 22 38.6
comp=E,53nm,0.7s
MDOK Medeo 4.33 31 PN **Pn** **17 21 33.8 +1.9**
MDOK Medeo 4.33 31 ⇑Pn **Pn** **17 21 33.8 +1.9**
comp=E,15nm,0.4s
MDOK Pg **Pb** **17 21 44.1 +1.3**
comp=E,34nm,0.6s
MDOK Lg Lg 17 22 38.6
comp=E,53nm,0.7s
MDOK Lg Lg 17 22 39.4
comp=E,92nm,0.9s
KNDC Almaty 4.34 30 PN **Pn** **17 21 34.2 +2.2**
KNDC Almaty 4.34 30 ⇓Pn **Pn** **17 21 34.2 +2.2**
comp=E,14nm,0.3s
KNDC ⇑Lg Lg 17 22 39.3
comp=E,167nm,0.8s
KRBS Karabastau 4.38 16 *e*Pg **Pb** **17 21 42.7 -1.0**
comp=E,9.7nm,0.8s
KRBS *e*Lg Lg 17 22 38.6
comp=E,68nm,0.9s
KRBS Karabastau 4.38 16 Pg **Pb** **17 21 43.8 +0.1**
comp=E,9.7nm,0.8s
KRBS Lg Lg 17 22 38.7
comp=E,68nm,0.9s
KOTS Kotyrbulak 4.42 31 *e*Pg **Pb** **17 21 44.1 -0.2**
comp=E,45nm,0.6s
KOTS *e*Lg Lg 17 22 41.4
comp=E,194nm,0.8s
KOTS Kotyrbulak 4.42 31 Pg **Pb** **17 21 45.7 +1.4**
comp=E,45nm,0.6s
KOTS Lg Lg 17 22 41.4
comp=E,194nm,0.8s
KK31 Karatay Array 4.44 325 **Pn** **17 21 35.4 +2.1**
KK31 Karatay Array 4.44 325 PN **Pn** **17 21 35.4 +2.1**
KK31 Karatay Array 4.44 325 Pn **Pn** **17 21 35.6 +2.3**
comp=E,4.5nm,0.3s,baz=133,slow=13,SNR=146
KK31 ⇑Lg Lg 17 22 45.3
comp=E,30nm,0.7s,baz=144,slow=30,SNR=5.1
KKAR Karatay Array 4.44 325⇓*i*P **Pn** **17 21 35.6 +2.3**
baz=24
KKAR ⇓*i*S **Sn** **17 22 27.1 +2.8**
baz=24
KKAR Karatay Array 4.44 325 **Pn** **17 21 35.2 +1.8**
KKAR Karatay Array 4.44 325 **Pn** **17 21 35.4 +2.1**
KKAR Karatay Array 4.44 325 *e*PN **Pn** **17 21 35.6 +2.3**
PRZ Przheval'sk 4.48 47⇓*i*P **Pn** **17 21 35.0 +0.9**
baz=47
PRZ ⇓*i*S **Sn** **17 22 26.0 +0.4**
baz=47
PRZ Przheval'sk 4.48 47 **Pn** **17 21 33.0 -1.1**
PRZ Przheval'sk 4.48 47 PN **Pn** **17 21 33.0 -1.1**
KUU Kurty 4.73 21 *e*Pg **Pb** **17 21 48.8 -0.9**
comp=E,11nm,0.7s
KUU *e*Lg Lg 17 22 49.1
comp=E,54nm,0.5s
KUU Kurty 4.73 21 Pg **Pb** **17 21 50.5 +0.9**
comp=E,11nm,0.7s
KUU Lg Lg 17 22 49.1
comp=E,54nm,0.5s
SATY Saty 4.88 42 *e*Pg **Pb** **17 21 51.9 -0.2**
comp=E,23nm,0.6s
SATY *e*Lg Lg 17 22 54.8
comp=E,43nm,1.2s
SATY Saty 4.88 42 Pg **Pb** **17 21 53.5 +1.3**
comp=E,22nm,0.5s
SATY Lg Lg 17 22 54.2
comp=E,43nm,1.2s
CHKK Chushkaly 4.90 26 *e*Pg **Pb** **17 21 51.8 -0.7**
comp=E,2.7nm,0.2s
CHKK *e*Lg Lg 17 22 54.0
comp=E,37nm,0.9s
CHKK Chushkaly 4.90 26 Pg **Pb** **17 21 53.8 +1.3**
comp=E,2.7nm,0.2s
CHKK Lg Lg 17 22 55.3
comp=E,37nm,0.9s
ZHN Zhinishke 4.97 41 *e*Pg **Pb** **17 21 54.2 +0.4**
comp=E,15nm,0.4s
ZHN *e*Lg Lg 17 22 57.3
comp=E,26nm,0.4s
ZHN Zhinishke 4.97 41 Pg **Pb** **17 21 55.1 +1.3**
comp=E,11nm,0.9s
ZHN Lg Lg 17 22 56.9
comp=E,26nm,0.4s
KURS Kuram 5.08 37 *e*Pg **Pb** **17 21 55.8 +0.2**
comp=E,13nm,0.8s
KURS *e*Lg Lg 17 23 01.8
comp=E,18nm,0.8s
KURS Kuram 5.08 37 Pg **Pb** **17 21 58.5 +3.0**
comp=E,13nm,0.8s
KURS Lg Lg 17 23 03.2
comp=E,18nm,0.8s
UZB Uzynbulak 5.26 45 *e*Pg **Pb** **17 21 58.9 +0.1**
comp=E,15nm,0.7s
UZB *e*Lg Lg 17 23 06.1
comp=E,28nm,0.8s
UZB Uzynbulak 5.26 45 Pg **Pb** **17 22 01.7 +2.9**
comp=E,15nm,0.7s
UZB Lg Lg 17 23 08.2
comp=E,28nm,0.8s
KPKS Kokpek 5.31 40 *e*Pg **Pb** **17 21 59.1 -0.5**
comp=E,14nm,0.8s
KPKS *e*Lg Lg 17 23 06.7
comp=E,39nm,0.7s
KPKS Kokpek 5.31 40 Pg **Pb** **17 22 02.1 +2.6**
comp=E,14nm,0.8s
KPKS Lg Lg 17 23 08.9
comp=E,39nm,0.7s
SHLS Shalkode 5.51 47 Pg Pb 17 22 10.9 +7.9
comp=E,21nm,0.6s
SHLS Lg Lg 17 23 24.0
comp=E,40nm,0.9s
ARXS Arharly 5.52 30 *e*Pg **Pb** **17 22 03.1 0.0**
comp=E,8.1nm,0.4s
ARXS *e*Lg Lg 17 23 13.5
comp=E,28nm,0.6s
ARXS Arharly 5.52 30 Pg **Pb** **17 22 05.9 +2.8**
comp=E,8.1nm,0.4s
ARXS Lg Lg 17 23 15.6
comp=E,28nm,0.6s
BTLS Baital 5.54 1 *e*Pg **Pb** **17 22 04.0 +0.7**
comp=E,4.3nm,0.8s
BTLS *e*Lg Lg 17 23 14.5
comp=E,10nm,0.6s
BTLS Baital 5.54 1 Pg **Pb** **17 22 05.1 +1.8**
comp=E,4.3nm,0.8s
BTLS Lg Lg 17 23 14.5
comp=E,10nm,0.6s
PDGK Podgornoye 5.64 46 PN **Pb** **17 22 05.8 +0.6**
PDGK Podgornoye 5.64 46 Pg **Pb** **17 22 08.2 +3.0**
comp=E,3.3nm,0.6s
PDGK Lg Lg 17 23 19.2
comp=E,16nm,1.1s
PDGK Podgornoye 5.64 46 ⇑Pg **Pb** **17 22 05.8 +0.6**
comp=E,3.0nm,0.5s
PDGK ⇑Lg Lg 17 23 17.8
comp=E,38nm,0.9s
BLB Baldybastay 5.69 35 Pg **Pb** **17 22 09.7 +3.7**
comp=E,18nm,0.9s
BLB Lg Lg 17 23 22.7
comp=E,12nm,0.6s
NIL Nilore 5.87 186 Pn Pn 17 21 57.1 +4.1
NIL Nilore 5.87 186 PN Pn 17 21 57.1 +4.1
KTMS Ketmen 6.20 49 Pg Pb 17 22 19.4 +4.6
comp=E,1.9nm,0.3s
KTMS Lg Lg 17 23 39.2
comp=E,3.3nm,0.1s
KNOS Konyrlen 6.21 37 Pg **Pb** **17 22 18.9 +4.0**
comp=E,11nm,0.8s
KNOS Lg Lg 17 23 38.1
comp=E,13nm,0.7s
KBL Kabul 6.33 220 Pn Pn 17 22 04.6 +5.2
KBL Kabul 6.33 220 PN Pn 17 22 04.6 +5.2
DJR Jarkent 6.49 40 Pg Pb 17 22 24.5 +4.9
comp=E,3.3nm,0.5s
DJR Lg Lg 17 23 48.1
comp=E,8.4nm,0.9s
KAPS Kapalarasan 7.02 33 Pg **Pb** **17 22 32.2 +3.6**
comp=E,1.5nm,0.3s
KAPS Lg Lg 17 24 01.1
comp=E,7.9nm,0.5s
DHRM DHARAMSHALA 7.48 165 *e*P Pn 17 22 18.8 +3.5
DHRM *e*S **Sn** **17 23 42.1 +2.7**
DHRM IAML 17 23 50.4
comp=N,47nm,0.5s
DHRM IAML 17 23 50.9
comp=E,59nm,0.7s
SMLA Simla 8.75 162 *e*P Pn 17 22 35.8 +3.3
SMLA *e*S **Sn** **17 24 09.0 -1.4**
SMLA IAML 17 24 21.6
comp=N,29nm,0.9s
SMLA IAML 17 24 21.7
comp=E,24nm,0.6s
OTUK Ortayu 8.82 353 Pg Pn 17 23 04.6 +31
comp=E,0.7nm,0.9s
OTUK Lg Lg 17 24 57.0
comp=E,6.1nm,1.3s
MAKZ Makanchi 9.35 36 Pn **Pn** **17 22 39.4 -1.3**
MAKZ Makanchi 9.35 36 P **Pn** **17 22 39.4 -1.3**
MK31 Makanchi Array 9.49 37 Pn **Pn** **17 22 42.3 -0.2**
MK31 Makanchi Array 9.49 37 P **Pn** **17 22 42.3 -0.2**
MKAR Makanchi Array 9.49 37 Pn **Pn** **17 22 42.1 -0.4**
MKAR Makanchi Array 9.49 37 Pn **Pn** **17 22 43.8 +1.2**
comp=E,0.1nm,0.3s,baz=227,slow=12,SNR=1.9
comp=E,0.6nm,0.8s
WMQ Urumqi 11.13 63 *e*P **Pn** **17 23 08.1 +2.9**
KUDL Kundal 11.52 169 *e*P Pn 17 23 15.6 +5.2
KUDL *e*S **Sn** **17 25 13.3 -4.9**
KURBB Kurchatov Arra 11.57 15 Pn **Pn** **17 23 10.4 -0.6**
baz=188,slow=12,SNR=3.0
KURBB Lg Lg 17 26 26.4
comp=E,0.1nm,0.3s,baz=204,slow=28,SNR=11
comp=E,0.9nm,0.3s
KURK Kurchatov 11.68 15⇑*e*P **Pn** **17 23 11.0 -1.5**
GEYT Alibeck 12.48 268 Pn **Pn** **17 23 26.5 +2.9**
GEYT Alibeck 12.48 268 P **Pn** **17 23 26.5 +2.9**
GEYT Alibeck 12.48 268 Pn **Pn** **17 23 23.8 +0.2**
comp=E,0.4nm,0.3s,baz=81,slow=19,SNR=2.6
comp=E,1.9nm,0.6s
GYA0 ALIBECK ARRAY 12.48 268 P **Pn** **17 23 25.0 +1.4**
GYA0B ALIBECK ARRAY 12.48 268 Pn **Pn** **17 23 26.1 +2.5**
BVAR Borovoye Array 13.75 351 Pn **Pn** **17 23 38.8 -2.0**
comp=E,0.1nm,0.3s,baz=147,slow=13,SNR=11
BVAR Lg Lg 17 27 36.9
baz=164,slow=27,SNR=4.2
comp=E,1.9nm,0.6s
BRVK Borovoye 13.79 351 Pn **Pn** **17 23 39.2 -2.1**
BRVK Borovoye 13.79 351⇓*e*P **Pn** **17 23 40.0 -1.3**
BRVK pmax pmax
comp=Z,3.0nm,0.9s
ABKAR Akbulak array 13.97 319 Pn **Pn** **17 23 42.2 -1.5**
ABKAR Akbulak array 13.97 319 Pn **Pn** **17 23 42.0 -1.8**
DGZ Jazzator, Alta 13.97 39⇑*e*P **Pn** **17 23 45.8 +1.8**
AKTO Aktyubinsk 15.68 319 Pn **Pn** **17 24 04.8 -1.9**
comp=Z,0.3nm,0.3s,baz=126,slow=14,SNR=3.5
AKTO Sn **Sn** **17 26 52.4 -7.2**
comp=Z,0.1nm,0.3s,baz=74,slow=4.8,SNR=1.4
comp=Z,1.2nm,0.6s
ZAA0 Zalesovo Array 16.22 23 Pn **Pn** **17 24 12.7 -0.9**
ZALV Zalesovo Beam 16.22 23 Pn **Pn** **17 24 12.1 -1.4**
ZALV Zalesovo Beam 16.22 23 Pn **Pn** **17 24 12.0 -1.6**
comp=Z,0.2nm,0.3s,baz=218,slow=11,SNR=2.8
comp=Z,1.0nm,0.4s
ARU Arti 19.75 334*d i*P **P** **17 24 56.2 +0.8**
ARU S **Sn** **17 28 41.0 +3.0**
ARU pmax pmax
comp=Z,8.0nm,1.6s
ARU Arti 19.75 334 P **P** **17 24 55.5 +0.1**
comp=Z,0.3nm,0.3s,baz=92,slow=24,SNR=2.3
comp=Z,0.9nm,0.3s
ONI Oni 23.16 288 P **P** **17 25 34.4 +2.3**
ONI Oni 23.16 288 P **P** **17 25 34.4 +2.3**
ONI pmax pmax
comp=Z,3.0nm,0.7s
AKH Akhalkalaki 23.21 285 P **P** **17 25 34.6 +1.8**
AKH IAmb IAmb 17 25 36.7
comp=Z,8.2nm,0.7s
AKH Akhalkalaki 23.21 285 P **P** **17 25 34.6 +1.8**
AKH pmax pmax
comp=Z,8.0nm,0.7s
KBZ Khabaz 23.54 290 P **P** **17 25 37.8 +2.1**
comp=Z,0.5nm,0.7s,baz=72,slow=19,SNR=1.3
comp=Z,0.5nm,0.7s
KIV Kislovodsk 23.69 291 *e*P **P** **17 25 36.6 -0.7**
KIV pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 25.19 60 P **P** **17 25 49.5 -1.7**
ULN Ulaanbaatar 25.19 60⇑*e*P **P** **17 25 50.3 -0.8**
ULN pmax pmax
comp=Z,1.0nm,0.9s
KOPT Kop Dagi 25.66 282 P **P** **17 25 56.3 +0.7**
KOPT IAmb IAmb 17 26 37.6
comp=Z,4.6nm,0.7s
PZH PanZhiHua 26.54 111 P **P** **17 26 05.3 +1.8**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,120nm,5.8s
HHC Hu-ho-hao-te 28.61 75 *e*P **P** **17 26 23.0 +1.0**
HHC pmax pmax
comp=Z,25nm,0.7s
HHC pmax pmax
comp=Z,580nm,5.4s
AKASG Malin Array Be 33.03 305 P **P** **17 27 02.1 +1.4**
comp=Z,0.2nm,0.3s,baz=80,slow=7.4,SNR=4.0
comp=Z,0.2nm,0.3s
MLR Muntele Rosu 35.48 296 P **P** **17 27 23.1 +1.0**
comp=Z,1.2nm,0.4s,baz=139,slow=20,SNR=1.9
comp=Z,1.2nm,0.4s
BURAR Bucovina Array 35.74 299 P **P** **17 27 25.4 +1.0**
FIA1 FINESS Array S 36.40 323 P **P** **17 27 30.0 +0.4**
FINES FINESS Array B 36.40 323 P **P** **17 27 30.3 +0.7**
FINES FINESS Array B 36.40 323 P **P** **17 27 30.6 +1.0**
comp=Z,2.1nm,0.6s,baz=115,slow=10,SNR=25
comp=Z,2.1nm,0.6s
ARCES ARCESS Array B 39.33 335 P **P** **17 27 54.8 +0.5**
comp=Z,2.0nm,0.8s,baz=16,slow=5.0,SNR=6.3
comp=Z,2.0nm,0.8s
AGG Agios Georgios 39.53 286 P **P** **17 27 57.7 +1.3**
AGG IAmb IAmb 17 27 58.8
comp=Z,7.6nm,1.5s
AGG Agios Georgios 39.53 286 P **P** **17 27 57.7 +1.3**
AGG pmax pmax
comp=Z,8.0nm,1.5s
YAK Yakutsk 40.16 37⇑*e*P **P** **17 28 00.2 -1.0**
YAK pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 42.23 320 P **P** **17 28 18.9 +0.6**
comp=Z,1.4nm,0.4s,baz=91,slow=12,SNR=10
comp=Z,1.4nm,0.4s
GERES GERESS Array B 43.19 303 P **P** **17 28 26.0 -0.3**
comp=Z,0.5nm,0.4s,baz=66,slow=9.8,SNR=1.8
comp=Z,0.5nm,0.4s
NC405 NORSAR Array S 43.22 321 P **P** **17 28 26.8 +0.5**
NB2 NORSAR Subarra 43.46 321 P **P** **17 28 28.8 +0.5**
comp=Z,0.5nm,0.5s,baz=90,slow=8.6
NOA NORSAR Array B 43.46 321 P **P** **17 28 28.7 +0.3**
comp=Z,0.5nm,0.5s,baz=101,slow=7.3,SNR=4.7
comp=Z,0.5nm,0.5s
NC204 NORSAR Array S 43.68 321 P **P** **17 28 30.5 +0.4**
SPITS Spitsbergen Ar 45.14 346 P **P** **17 28 41.4 -0.1**
SPITS pmax pmax
comp=Z,62nm,1.4s
KEST Kesra 50.35 287 P **P** **17 29 20.9 -1.7**
comp=Z,2.5nm,0.8s,baz=274,slow=4.0,SNR=1.9
comp=Z,2.5nm,0.8s
C19K Lookout Ridge 64.75 19 P **P** **17 31 03.3 -0.1**
D19K Kuna River 65.57 19 P **P** **17 31 07.8 -0.9**
E22K Anaktuvuk Pass 67.34 17 P **P** **17 31 19.0 -1.0**
E22K IAmb IAmb 17 31 27.8
comp=Z,4.5nm,1.4s
TOLK Toolik Lake Re 67.42 16 P **P** **17 31 19.7 -0.8**
TOLK IAmb IAmb 17 31 20.9
comp=Z,5.2nm,1.1s
TOA0 Torodi Ar. Sit 68.12 269 P **P** **17 31 26.4 +0.7**
TOA0 IAmb IAmb 17 32 09.3
comp=Z,3.5nm,1.4s
TORD Torodi Ar. Bea 68.12 269 P **P** **17 31 25.2 -0.5**
comp=Z,1.1nm,0.5s,baz=42,slow=5.9,SNR=10
comp=Z,1.1nm,0.5s
IMAR Indian Mountai 68.59 19 P **P** **17 31 26.8 -1.1**
BMAR Burnt Mountain 69.46 15 P **P** **17 31 33.5 +0.2**
E29M Blow River 69.81 12 P **P** **17 31 35.4 0.0**
INK Inuvik 70.55 10 P **P** **17 31 39.8 0.0**
INK IAmb IAmb 17 31 43.6
comp=Z,4.7nm,1.4s
INK Inuvik 70.55 10 P **P** **17 31 39.8 0.0**
INK pmax pmax
comp=Z,5.0nm,1.4s
C36M Paulatuk 70.65 7 P **P** **17 31 39.5 -0.9**
C36M IAmb IAmb 17 31 40.3
comp=Z,2.9nm,0.7s
ILAR Eielson Array 71.24 17 P **P** **17 31 42.8 -1.4**
comp=Z,1.0nm,1.0s,baz=315,slow=4.0,SNR=8.0
comp=Z,1.0nm,1.0s
H29M Whitestone 71.70 13 P **P** **17 31 46.8 -0.1**
RIDG Independent Ri 72.59 17 P **P** **17 31 51.4 -0.9**
RIDG IAmb IAmb 17 32 17.3
comp=Z,5.3nm,1.0s
SCM Sheep Creek Mo 73.63 19 P **P** **17 31 57.3 -1.2**
SCM Sheep Creek Mo 73.63 19 P **P** **17 31 57.3 -1.2**
SCM pmax pmax
comp=Z,23nm,1.3s
BCAR Beaver Creek A 73.85 16 P **P** **17 31 59.5 -0.3**
M29M Somme Creek 75.10 15 P **P** **17 32 07.1 -0.1**
M29M IAmb IAmb 17 32 08.7
comp=Z,9.9nm,1.4s
HYT Haines Junctio 76.76 15 P **P** **17 32 16.9 +0.2**
HYT IAmb IAmb 17 32 17.5
comp=Z,5.5nm,0.9s
YKA Yellowknife Ar 78.12 4 P **P** **17 32 23.1 -0.9**
comp=Z,0.7nm,0.7s,baz=346,slow=5.8,SNR=8.3
comp=Z,0.7nm,0.7s
WRA Warramunga Arr 81.66 124 P **P** **17 32 42.5 -1.3**
comp=Z,0.7nm,0.8s,baz=328,slow=5.1,SNR=8.9
comp=Z,0.7nm,0.8s
WRAB Tennant Creek 81.66 124 P **P** **17 32 44.8 +1.0**
WRAB IAmb IAmb 17 33 19.8
comp=Z,3.8nm,1.1s
WRAB Tennant Creek 81.66 124 P **P** **17 32 44.8 +1.0**
WRAB pmax pmax
comp=Z,4.0nm,1.2s
WR0 Warramunga Arr 81.80 124 P **P** **17 32 46.2 +1.7**
ASAR Alice Springs 84.11 127 P **P** **17 32 55.4 -1.1**
comp=Z,0.4nm,0.9s,baz=318,slow=5.3,SNR=5.4
comp=Z,0.4nm,0.9s

STKA	**Stephens Creek**	**94.73**	**128**	P	**P**	**17 33 43.4**	**-3.3**	
	comp=Z,1.8nm,0.8s,baz=339,slow=14,SNR=2.7							
	comp=Z,1.8nm,0.8s							
VNDA	**Vanda**	**127.75**	**164**	PKP	**PKPdf**	**17 39 27.4**	**-2.0**	
	comp=Z,0.6nm,0.9s,baz=315,slow=1.4,SNR=2.0							

NEIC ***12*** *17:26:10.4±2.0,20°.9S±0°.1×173°.64W±0°.06,h10km±1km, mb4.9/11, Error ellipse: s-maj=17.5km s-min=9.4km az=192.0*
IDC ***12*** *17:26:12.7±1.4,21°.04S×174°.10W,h0km,mb3.6/5, mbtmp3.8/7,ML3.8/2, Error ellipse: s-maj=57.1km s-min=25.5km az=146.0*
NOU ***12*** *17:26:45.6,18°.54S×171°.37W,h0km, MLv4.5/7, Tonga Islands Region*

ISC 12 17:26:09.7±0.6, 20°.79S±0°.09×173°.63W±0°.07, h10km, n25, σ1§38/25, mb4.4/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.87**	**65**		**Pn**	**17 27 11.0**	**+1.7**
NIUE				Sn	**Sn**	**17 27 52.7**	**-2.3**
NIUE	**Niue**	**3.87**	**65**	P	**Pn**	**17 27 12.2**	**+2.8**
AFI	**Afiamalu**	**7.06**	**15**	Pn	**Pn**	**17 27 56.0**	**+2.7**
AFI				Sn	**Sn**	**17 29 11.0**	**-2.8**
RAR	**Rarotonga**	**12.95**	**94**	Pn	**Pn**	**17 29 13.9**	**+0.1**
DZM	**Mont Dzumac**	**18.60**	**262**	P	**P**	**17 30 27.9**	**+0.5**
DZM	**Mont Dzumac**	**18.60**	**262**	P	**Pn**	**17 30 28.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=105,slow=23,SNR=2.3							
	2.8nm,0.7s							
URZ	**Urewera**	**19.17**	**203**	P	**Pn**	**17 30 34.0**	**-0.2**	
	comp=Z,0.5nm,0.3s,baz=317,slow=11,SNR=2.7							
	7.5nm,0.7s							
BFZ	**Birch Farm**	**21.63**	**201**	P	**P**	**17 31 01.4**	**+1.3**	
AMCZ	**Amberley**	**25.11**	**204**	P	**P**	**17 31 33.4**	**-1.2**	
FOZ	**Fox Glacier**	**26.56**	**208**	P	**P**	**17 31 46.4**	**-1.4**	
FOZ				IAmb	IAmb	17 32 07.6		
	comp=Z,46nm,1.4s							
TOO	**Toolangi**	**39.08**	**236**	P	**P**	**17 33 37.8**	**+0.7**	
TOO				IAmb	IAmb	17 33 47.3		
	comp=Z,39nm,1.8s							
STKA	**Stephens Creek**	**41.37**	**245**	P	**P**	**17 33 56.8**	**+0.7**	
	comp=Z,1.0nm,0.6s,baz=70,slow=9.4,SNR=3.4							
	comp=Z,1.0nm,0.6s							
BBOO	**Buckleboo**	**46.10**	**244**	P	**P**	**17 34 32.6**	**-1.6**	
WR0	**Warramunga Arr**	**48.42**	**261**	P	**P**	**17 34 52.2**	**-0.3**	
WR0				IAmb	IAmb	17 34 57.5		
	comp=Z,16nm,1.6s							
ASAR	**Alice Springs**	**48.44**	**256**	P	**P**	**17 34 52.1**	**-0.6**	
ASAR	**Alice Springs**	**48.44**	**256**	P	**P**	**17 34 52.9**	**+0.2**	
	comp=Z,1.0nm,0.8s,baz=103,slow=7.9,SNR=18							
	comp=Z,1.0nm,0.8s							
WB0	**Warramunga Arr**	**48.59**	**262**	P	**P**	**17 34 53.1**	**-0.8**	
WB0				IAmb	IAmb	17 36 20.3		
	comp=Z,27nm,1.9s							
WRA	**Warramunga Arr**	**48.61**	**261**	P	**P**	**17 34 54.1**	**+0.1**	
	comp=Z,0.6nm,0.6s,baz=96,slow=8.1,SNR=13							
	comp=Z,0.6nm,0.6s							
FORT	**Forrest**	**52.94**	**247**	P	**P**	**17 35 26.1**	**-0.4**	
MTN	**Manton Dam**	**53.26**	**269**	P	**P**	**17 35 28.5**	**-0.5**	
MTN				IAmb	IAmb	17 36 15.5		
	comp=Z,16nm,1.4s							
SAUI	**Saumlaki**	**54.60**	**275**	P	**P**	**17 35 39.0**	**+0.1**	
QSPA	**South Pole Qui**	**69.28**	**180**	P	**P**	**17 37 16.5**	**-0.5**	
TXAR	**Lajitas Array**	**83.80**	**56**	P	P	17 38 46.4	+6.6	
	comp=Z,0.1nm,0.4s,baz=218,slow=5.7,SNR=2.1							
	comp=Z,0.1nm,0.4s							
ILAR	**Eielson Array**	**87.75**	**11**	P	P	17 39 05.9	+7.6	
	comp=Z,0.4nm,0.9s,baz=221,slow=6.8,SNR=1.9							
	comp=Z,0.4nm,0.9s							
AKASG	**Malin Array Be**	**145.15**	**334**	PKPbc	**PKiKP**	**17 45 50.6**	**-0.6**	
	comp=Z,0.5nm,0.4s,baz=41,slow=4.3,SNR=6.7							

WEL 12 18:00:52.7±1.0, 37°S±4°×17°.9E±°, h12km, M3.5/22, ML3.8/26, MLv3.5/22, Error ellipse: s-maj=0.0km s-min=0.0km az=89.6, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.90**	**228**	P	Pg	18 01 09.4	-0.6
MXZ				S	Sg	18 01 20.8	-1.0
WMGZ	**Waiomatatini S**	**1.04**	**214**	P	Pn	18 01 13.1	+0.1
WMGZ				S	Sn	18 01 28.3	+0.8
PKGZ	**Pakihiroa**	**1.26**	**222**	P	Pn	18 01 15.9	-0.3
PUZ	**Puketiti**	**1.32**	**212**	P	Pn	18 01 16.5	-0.4
PUZ				S	Sg	18 01 34.9	-0.1
HAZ	**Te Kaha**	**1.35**	**234**	P	Pn	18 01 16.1	-1.2
TWGZ	**Tauwhareparae**	**1.53**	**217**	P	Pn	18 01 20.2	+0.3
TWGZ				S	Sg	18 01 41.2	-0.7
RUGZ	**Raukumara Rang**	**1.54**	**229**	P	Pn	18 01 20.4	+0.3
CNGZ	**Carnagh Statio**	**1.69**	**206**	P	Pn	18 01 22.4	+0.3
TKGZ	**Te Karaka**	**1.80**	**215**	P	Pn	18 01 23.1	-0.4
MWZ	**Matawai**	**1.88**	**223**	P	Pn	18 01 24.8	+0.1
RAGZ	**Rawiri**	**2.06**	**227**	P	Pn	18 01 27.0	-0.1
RIGZ	**Rimuhau**	**2.06**	**212**	P	Pn	18 01 26.4	-0.7
URZ	**Urewera**	**2.07**	**231**	P	Pn	18 01 27.5	+0.3
URZ				S	Sn	18 01 52.8	-0.2
PRGZ	**Paritu Road**	**2.20**	**207**	P	Pn	18 01 28.1	-0.9
KNZ	**Kokohu**	**2.36**	**209**	P	Pn	18 01 29.7	-1.5
RTZ	**Ruatahuna**	**2.38**	**226**	P	Pn	18 01 31.5	-0.1
MHGZ	**Mahia Peninsul**	**2.40**	**204**	P	Pn	18 01 30.7	-1.0
MUGZ	**Murupara**	**2.42**	**231**	P	Pn	18 01 32.0	0.0
TARZ	**Mount Tarawera**	**2.46**	**238**	P	Pn	18 01 33.3	+0.7
KARZ	**Kaharoa**	**2.54**	**245**	P	Pn	18 01 34.1	+0.4
RAHZ	**Arahi**	**2.54**	**219**	P	Pn	18 01 33.5	-0.2
MTHZ	**Maungataniwha**	**2.63**	**223**	P	Pn	18 01 34.8	-0.1
KUZ	**Kuaotunu**	**2.76**	**273**	P	Pn	18 01 35.7	-1.0
NMHZ	**Naumai**	**2.82**	**220**	P	Pn	18 01 37.6	0.0
ARHZ	**Aropaoanui**	**2.86**	**216**	P	Pn	18 01 37.6	-0.4
MRHZ	**Matea Rd**	**2.86**	**228**	P	Pn	18 01 37.9	-0.2
TOZ	**Tahuroa Road**	**3.01**	**254**	P	Pn	18 01 39.6	-0.5
BKZ	**Black Stump Fm**	**3.04**	**223**	P	Pn	18 01 40.3	-0.3
GRZ	**Great Barrier**	**3.06**	**282**	P	Pn	18 01 41.0	+0.3
MCHZ	**McNeill Hill**	**3.14**	**217**	P	Pn	18 01 41.0	-0.9
CKHZ	**Cape Kidnapper**	**3.15**	**211**	P	Pn	18 01 40.3	-1.8
MKAZ	**Moumakai**	**3.20**	**266**	P	Pn	18 01 42.2	-0.5
WIAZ	**Waiheke Island**	**3.23**	**272**	P	Pn	18 01 42.8	-0.3
KWHZ	**Kaweka Forest**	**3.27**	**220**	P	Pn	18 01 43.1	-0.6
KAHZ	**Kahuranaki**	**3.34**	**212**	P	Pn	18 01 42.7	-2.1
ETAZ	**East Tamaki Re**	**3.38**	**269**	P	Pn	18 01 45.7	+0.4
TMVZ	**Te Maari**	**3.47**	**231**	P	Pn	18 01 46.3	-0.3
NTVZ	**North Tongariro**	**3.48**	**231**	P	Pn	18 01 46.5	-0.2
ETVZ	**East Tongariro**	**3.48**	**230**	P	Pn	18 01 46.5	-0.2
ABAZ	**Army Bay**	**3.49**	**275**	P	Pn	18 01 46.9	+0.2
BHHZ	**Black Hill Sta**	**3.50**	**223**	P	Pn	18 01 46.5	-0.5
OTVZ	**Oturere**	**3.52**	**230**	P	Pn	18 01 47.3	0.0
NNVZ	**North Ngauruho**	**3.53**	**231**	P	Pn	18 01 47.9	+0.4
SNVZ	**South Ngauruho**	**3.55**	**230**	P	Pn	18 01 47.4	-0.3
PXZ	**Pawanui**	**3.55**	**210**	P	Pn	18 01 45.1	-2.4
NGZ	**Ngauruhoe**	**3.57**	**231**	P	Pn	18 01 47.7	-0.3
AWAZ	**Awhitu Peninsu**	**3.61**	**267**	P	Pn	18 01 48.7	+0.3
MOVZ	**Moawhango**	**3.62**	**227**	P	Pn	18 01 48.1	-0.6
RVAZ	**Riverhead Bore**	**3.67**	**272**	P	Pn	18 01 48.9	-0.3
PNHZ	**Pukenui**	**3.75**	**217**	P	Pn	18 01 48.4	-2.0
PRHZ	**Porangahau**	**3.84**	**210**	P	Pn	18 01 48.9	-2.7
TSZ	**Takapari Road**	**3.98**	**218**	P	Pn	18 01 51.7	-1.8
WCZ	**Waipu Caves**	**4.01**	**283**	P	Pn	18 01 54.3	+0.5
DVHZ	**Dannevirke**	**4.07**	**214**	P	Pn	18 01 52.0	-2.7
PRWZ	**Pori Road**	**4.36**	**214**	P	Pn	18 01 56.4	-2.4
OUZ	**Omahuta**	**4.82**	**289**	P	Pn	18 02 06.3	+1.3
CTZ	**Chatham Island**	**7.50**	**156**	P	Pn	18 02 40.3	-1.4
MSZ	**Milford Sound**	**11.47**	**224**	P	Pn	18 03 38.5	+2.3

ISN ***12*** *18:02:46.5±0.8,32°.27N×47°.47E,h6km±30km, ML3.0*
TEH ***12*** *18:02:50.9,32°.38N×47°.58E,h23km±46km, MLv3.0*

ISC 12 18:02:49.8±1.1, 32°.29N±0°.06×47°.44E±0°.05, h10km, n18, σ0§99/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAFI	**Al-Rafai**	**1.26**	**244**	*e*Pg	Pn	18 03 11.0	-2.4
RAFI				*e*Sg	**Sn**	**18 03 29.0**	**-1.4**
RAFI				AML	AML	18 03 30.5	
	comp=N,206nm,0.5s						
RAFI				AML	AML	18 03 39.6	
	comp=E,149nm,0.4s						
IKFM	**Kafar-mosalman**	**1.28**	**15**	Pg	**Pb**	**18 03 12.2**	**-1.8**
IBDR	**Badra**	**1.52**	**303**	*e*Pn	**Pn**	**18 03 16.0**	**-1.0**
IBDR				*e*Sn	**Sn**	**18 03 38.0**	**+1.2**
AMIS	**Naft Sefid**	**1.69**	**111**	Pg	**Pb**	**18 03 21.1**	**+0.2**
ILBA	**Ilam Banvizeh**	**1.69**	**322**	Pg	**Pb**	**18 03 21.8**	**+0.8**
IKOM	**Komasi**	**1.89**	**2**	Pg	**Pb**	**18 03 23.3**	**-1.2**
IGHG	**Ghaleghazi**	**2.17**	**341**	Pn	**Pn**	**18 03 27.9**	**+1.8**
IDHR	**Dehrash**	**2.56**	**340**	Pn	**Pn**	**18 03 32.7**	**+1.1**
JHBN	**Jahan bin**	**2.73**	**90**	Pn	**Pn**	**18 03 34.5**	**+0.5**
BHD	**Baghdad**	**2.76**	**292**	*e*Pn	**Pn**	**18 03 34.0**	**-0.1**
BHD				*e*Sn	**Sn**	**18 04 08.0**	**+0.5**
BHD				AML	AML	18 04 12.1	
	comp=E,196nm,0.4s						
ZNGN	**Zangian**	**2.90**	**92**	Pn	**Pn**	**18 03 36.6**	**+0.3**
HAGD	**Aghdareh**	**2.90**	**29**	Pn	**Pn**	**18 03 36.4**	**+0.1**
IPIR	**Pirpir**	**2.94**	**81**	Pn	**Pn**	**18 03 38.0**	**+1.2**
QAMS	**Qamsar**	**3.62**	**65**	Pn	**Pn**	**18 03 46.8**	**+0.6**
IKLH	**Kolahrood**	**3.63**	**72**	Pn	**Pn**	**18 03 46.1**	**-0.3**
KLNJ	**Kolanjah**	**3.76**	**109**	Pn	**Pn**	**18 03 48.5**	**+0.3**
KRSH	**Karshahi**	**4.28**	**66**	Pn	**Pn**	**18 03 54.8**	**-0.4**
IVRN	**Varamin**	**4.48**	**52**	Pn	**Pn**	**18 03 58.1**	**+0.3**

IDC 12 18:09:42.0±2.6, 5°.79N×125°.22E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=247.1km s-min=28.0km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.09**	**161**	P	P	18 15 26.3	-0.4
	0.5nm,1.0s,baz=341,slow=8.6,SNR=2.1						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**30.48**	**164**	P	P	18 15 57.0	+0.3
	0.2nm,0.4s,baz=342,slow=7.4,SNR=6.6						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**55.02**	**325**	P	P	18 19 15.4	0.0
	0.2nm,0.3s,baz=117,slow=6.9,SNR=4.8						
	0.2nm,0.3s						

NEIC ***12*** *18:10:41.7±1.0,17°.85S±0°.2×176°.1W±0°.2,h362km±18km, mb4.1/16, Error ellipse: s-maj=39.7km s-min=8.8km az=134.0*
IDC ***12*** *18:11:03.3±11.0,18°.10S×177°.86W,h480km±124km, mb3.4/5, mbtmp4.3/5, Error ellipse: s-maj=100.6km s-min=46.3km az=156.0*

ISC 12 18:10:40.6±1.1, 18°.05S±0°.3×176°.1W±0°.2, h350km, n23, σ1§23/23, mb4.0/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.78**	**47**		**Pn**	**18 12 09.1**	**0.0**
PINNC	**Pines Island,**	**16.12**	**251**	P	**P**	**18 14 08.0**	**+0.5**
OUENC	**Ouen Island, N**	**16.62**	**252**	P	**P**	**18 14 14.9**	**+2.0**
OUENC				IAmb	IAmb	18 14 23.0	
	comp=Z,19nm,1.2s						
DZM	**Mont Dzumac**	**16.91**	**253**	P	**P**	**18 14 15.7**	**-0.4**
DZM				IAmb	IAmb	18 14 42.9	
	comp=Z,20nm,1.5s						
EIDS	**Eidsvold**	**31.33**	**251**	P	**P**	**18 16 29.3**	**-0.6**
EIDS				IAmb	IAmb	18 17 07.9	
	comp=Z,13nm,1.1s						
ARMA	**Armidale**	**31.84**	**241**	P	**P**	**18 16 35.7**	**+1.3**
ARMA				IAmb	IAmb	18 17 18.7	
	comp=Z,19nm,1.4s						
CTA	**Charters Tower**	**35.61**	**260**	P	**P**	**18 17 05.7**	**-1.0**
	comp=Z,2.8nm,0.6s,baz=98,slow=14,SNR=1.4						
	comp=Z,2.8nm,0.6s						
TOO	**Toolangi**	**38.86**	**232**	P	**P**	**18 17 34.9**	**+1.4**
TOO				IAmb	IAmb	18 17 36.7	
	comp=Z,8.1nm,1.3s						
COEN	**Coen**	**39.31**	**270**	P	**P**	**18 17 36.5**	**-0.9**
STKA	**Stephens Creek**	**40.55**	**242**	P	**P**	**18 17 48.1**	**+0.9**
STKA	**Stephens Creek**	**40.55**	**242**	P	**P**	**18 17 47.6**	**+0.4**
	comp=Z,2.8nm,0.5s,baz=89,slow=11,SNR=9.8						
	comp=Z,2.8nm,0.5s						
BBOO	**Buckleboo**	**45.32**	**241**	P	**P**	**18 18 25.9**	**+0.8**
WB0	**Warramunga Arr**	**46.76**	**260**	P	**P**	**18 18 35.5**	**-0.9**
WB0				IAmb	IAmb	18 19 09.2	
	comp=Z,14nm,1.5s						
WRAB	**Tennant Creek**	**46.78**	**259**	P	**P**	**18 18 35.6**	**-1.0**
WRA	**Warramunga Arr**	**46.79**	**259**	P	**P**	**18 18 35.5**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=98,slow=7.6,SNR=34						
	comp=Z,1.0nm,0.3s						
AS31	**Alice Springs**	**46.90**	**254**	P	**P**	**18 18 36.7**	**-0.8**
ASAR	**Alice Springs**	**46.90**	**254**	P	**P**	**18 18 37.0**	**-0.5**
ASAR	**Alice Springs**	**46.90**	**254**	P	**P**	**18 18 37.0**	**-0.5**
	comp=Z,12nm,0.6s,baz=90,slow=8.2,SNR=260						
ASAR				PcP	**PcP**	**18 20 07.0**	**+3.0**
	comp=Z,0.3nm,0.5s,baz=104,slow=3.5,SNR=3.0						
	comp=Z,12nm,0.6s						
MTN	**Manton Dam**	**51.00**	**268**	P	**P**	**18 19 07.2**	**-1.2**
MTN				IAmb	IAmb	18 19 41.1	
	comp=Z,9.0nm,1.1s						
FITZ	**Fitzroy Crossi**	**55.19**	**260**	P	**P**	**18 19 38.1**	**-0.5**
SOEI	**Soe**	**58.27**	**269**	P	**P**	**18 20 00.6**	**+0.3**
SOEI				IAmb	IAmb	18 20 14.0	
	comp=Z,13nm,1.2s						
CASY	**Casey**	**67.02**	**205**	P	**P**	**18 20 54.9**	**-1.6**
TXAR	**Lajitas Array**	**84.17**	**57**	P	P	18 22 50.8	+17
	comp=Z,0.2nm,0.6s,baz=226,slow=7.3,SNR=3.2						
	comp=Z,0.2nm,0.6s						

IDC 12 18:16:09.2±7.5, 2°.68S×140°.32E, h0km, mb3.1/2, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=292.7km s-min=34.0km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.12**	**198**	P	Pn	18 20 22.8	+0.2
	0.1nm,0.3s,baz=22,slow=12,SNR=6.4						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**21.77**	**196**	P	P	18 21 02.6	-0.1
	0.2nm,0.5s,baz=24,slow=9.1,SNR=2.2						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**70.75**	**322**	P	P	18 27 27.4	0.0
	0.4nm,0.8s,baz=101,slow=4.7,SNR=2.2						
	0.4nm,0.8s						

IDC 12 18:16:51.5±5.5, 17°.69S×174°.64W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=175.7km s-min=108.7km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.89**	**242**	P	P	18 24 44.7	+0.9
	0.6nm,0.3s,baz=89,slow=10,SNR=3.7						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**48.20**	**259**	P	P	18 25 33.6	-0.6
	0.5nm,0.4s,baz=98,slow=6.9,SNR=27						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**48.31**	**254**	P	P	18 25 34.5	-0.5
	1.1nm,0.4s,baz=91,slow=7.5,SNR=26						
ASAR				PcP	PcP	18 27 01.9	-0.1
	0.5nm,1.0s,baz=102,slow=3.9,SNR=2.6						
	1.1nm,0.4s						

IDC ***12*** *18:41:39.9±3.4,21°.46N×143°.78E,h230km±31km, mb3.9/22, mbtmp4.4/25, Error ellipse: s-maj=15.7km s-min=10.1km az=82.0*
NEIC ***12*** *18:41:42.1±1.4,21°.8N±0°.1×143°.6E±0°.1,h232km±8km, mb4.5/63, Error ellipse: s-maj=19.0km s-min=16.5km az=78.0*

ISC 12 18:41:37.3±2.0, 21°.44N±0°.10×143°.8E±0°.1, h206km±16km, n114, σ0§90/126, mb4.4/45, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.81**	**346**	Pn	**Pn**	**18 43 02.0**	**-0.2**
JCJ				Sn	**S**	**18 44 06.0**	**-3.2**
JCJ	**Chichijima**	**5.81**	**346**	P	Pn	18 42 58.4	-3.8
	117nm,0.4s,baz=282,slow=22,SNR=14						
JCJ				S	S	18 44 01.5	-7.7
	102nm,0.4s,baz=107,slow=19,SNR=8.1						
JMN	**Monobe**	**15.04**	**327**		**Pn**	**18 45 02.4**	**+2.6**
JOW	**Kunigami**	**15.12**	**294**	P	**P**	**18 45 02.1**	**+1.0**
	13nm,0.5s,baz=112,slow=14,SNR=2.3						
MJAR	**Matsushiro Arr**	**15.81**	**343**	P	**P**	**18 45 07.8**	**-0.9**
	1.3nm,0.3s,baz=165,slow=9.1,SNR=5.1						
MAJO	**Matsushiro**	**15.81**	**343**	P	**P**	**18 45 09.9**	**+1.3**
MAJO				IAmb	IAmb	18 45 16.5	
	comp=Z,9.5nm,0.7s						
MJB9	**Matsu-Tunnel**	**15.81**	**343**	P	**Pn**	**18 45 10.6**	**+1.6**
MJB9				IAmb	IAmb	18 45 17.4	
	comp=Z,9.5nm,0.7s						

JNU	**Nakatsue**	**16.31**	**318**	P	**Pn**	**18 45 16.2**	**+1.1**	
JNU				IAmb	IAmb	18 45 29.6		
	comp=Z,50nm,1.4s							
JNU	**Nakatsue**	**16.31**	**318**	P	**Pn**	**18 45 16.1**	**+1.1**	
	comp=Z,9.9nm,0.7s,baz=185,slow=5.7,SNR=8.0							
JHS	**Saijyo**	**16.43**	**328**	P	**Pn**	**18 45 17.6**	**+1.2**	
JMM	**Marumori**	**16.57**	**352**	P	**P**	**18 45 18.4**	**+1.5**	
NACB	**Ninganchiao**	**20.62**	**282**	P	**P**	**18 46 00.7**	**-0.2**	
YHNB	**Yeheng**	**20.85**	**283**	P	**P**	**18 46 03.8**	**+0.4**	
YULB	**Yu-li**	**20.86**	**280**	P	**P**	**18 46 04.8**	**+1.3**	
KSRS	**Korea Array**	**21.05**	**323**	P	**P**	**18 46 06.8**	**+1.5**	
	comp=Z,20nm,0.7s,baz=149,slow=8.7,SNR=85							
	comp=Z,20nm,0.7s							
KSAR	**Wonju Array Be**	**21.06**	**323**	P	**P**	**18 46 05.1**	**-0.2**	
KS19	**Wonju Array Si**	**21.11**	**323**	P	**P**	**18 46 05.9**	**0.0**	
SSLB	**Suanglung**	**21.19**	**281**	P	**P**	**18 46 07.2**	**+0.3**	
TPUB	**Ta-pu**	**21.47**	**279**	P	**P**	**18 46 10.4**	**+0.5**	
USRK	**Ussuriysk Ar.**	**24.71**	**339**	P	**P**	**18 46 39.6**	**+0.1**	
	comp=Z,3.4nm,0.8s,baz=149,slow=5.7,SNR=2.3							
	comp=Z,3.4nm,0.8s							
ULN	**Ulaanbaatar**	**39.51**	**321**	P	**P**	**18 48 48.1**	**+0.1**	
SONM	**Songino Array**	**39.88**	**320**	P	**P**	**18 48 51.5**	**+0.4**	
	comp=Z,3.1nm,0.5s,baz=132,slow=7.5,SNR=20							
	comp=Z,3.1nm,0.5s							
CHTO	**Chiang Mai**	**42.06**	**275**	P	**P**	**18 49 08.9**	**-0.3**	
CM31	**Chiang Mai Arr**	**42.13**	**274**	P	**P**	**18 49 09.9**	**+0.2**	
CMAR	**Chiang Mai Arr**	**42.13**	**274**	P	**P**	**18 49 10.2**	**+0.5**	
CMAR	**Chiang Mai Arr**	**42.13**	**274**	P	**P**	**18 49 10.8**	**+1.1**	
	comp=Z,2.7nm,0.6s,baz=90,slow=6.0,SNR=40							
	comp=Z,2.7nm,0.6s							
WRA	**Warramunga Arr**	**42.15**	**193**	P	**P**	**18 49 09.7**	**0.0**	
	comp=Z,1.3nm,0.5s,baz=15,slow=9.2,SNR=19							
	comp=Z,1.3nm,0.5s							
ASAR	**Alice Springs**	**45.85**	**193**	P	**P**	**18 49 38.8**	**-0.3**	
	comp=Z,0.4nm,0.3s,baz=12,slow=6.9,SNR=23							
ASAR				PcP	**PcP**	**18 51 12.1**	**-0.7**	
	comp=Z,0.4nm,0.6s,baz=11,slow=5.9,SNR=1.7							
	comp=Z,0.4nm,0.3s							
SHL	**Shillong**	**47.52**	**286**	P	**P**	**18 49 51.9**	**-0.4**	
LSA	**Lhasa**	**47.83**	**291**	P	**P**	**18 49 55.5**	**+0.5**	
TAPN	**Taplejung**	**51.04**	**288**	*e*P	**P**	**18 50 18.9**	**-0.2**	
	comp=Z,12nm,0.5s							
RAMN	**Ramite**	**52.07**	**288**	*e*P	**P**	**18 50 26.6**	**0.0**	
	comp=Z,9.1nm,0.6s							
JIRN	**Jiri**	**52.35**	**289**	*e*P	**P**	**18 50 29.2**	**+0.4**	
	comp=Z,20nm,0.5s							
GUN	**Gumba**	**52.59**	**289**	*e*P	**P**	**18 50 31.0**	**+0.4**	
	comp=Z,13nm,0.4s							
PKI	**Pulchoki**	**53.05**	**289**	*e*P	**P**	**18 50 33.1**	**-0.8**	
	comp=Z,7.5nm,0.5s							
PKIN	**Phulchoki**	**53.06**	**289**	*e*P	**P**	**18 50 33.6**	**-0.3**	
	comp=Z,8.6nm,0.4s							
STKA	**Stephens Creek**	**53.06**	**182**	P	**P**	**18 50 33.1**	**-0.2**	
	comp=Z,0.5nm,0.3s,baz=0.0,slow=16,SNR=1.1							
	comp=Z,0.5nm,0.3s							
DMN	**Daman**	**53.31**	**289**	*e*P	**P**	**18 50 35.7**	**0.0**	
	comp=Z,8.4nm,0.4s							
GKN	**Gorkha**	**53.67**	**290**	*e*P	**P**	**18 50 38.2**	**0.0**	
	comp=Z,12nm,0.4s							
DANN	**Dangsing**	**54.40**	**290**	*e*P	**P**	**18 50 44.1**	**+0.5**	
	comp=Z,61nm,0.3s							
ZAA0	**Zalesovo Array**	**54.75**	**322**	P	**P**	**18 50 44.9**	**-0.4**	
ZAA0				IAmb	IAmb	18 50 45.8		
	comp=Z,9.2nm,0.9s							
ZAA0				PcP	**PcP**	**18 51 44.2**	**-1.0**	
ZALV	**Zalesovo Beam**	**54.75**	**322**	P	**P**	**18 50 44.7**	**-0.6**	
ZALV				PcP	**PcP**	**18 51 44.4**	**-0.8**	
ZALV	**Zalesovo Beam**	**54.75**	**322**	P	**P**	**18 50 45.0**	**-0.3**	
	comp=Z,8.6nm,0.6s,baz=108,slow=7.9,SNR=37							
ZALV				PcP	**PcP**	**18 51 44.4**	**-0.8**	
	comp=Z,1.3nm,0.5s,baz=120,slow=4.4,SNR=5.0							
	comp=Z,8.6nm,0.6s							
PYUN	**Piuthan**	**55.10**	**290**	*e*P	**P**	**18 50 48.6**	**0.0**	
	comp=Z,8.0nm,0.3s							
MK31	**Makanchi Array**	**55.27**	**313**	P	**P**	**18 50 49.4**	**+0.1**	
MK31				IAmb	IAmb	18 50 50.1		
	comp=Z,4.5nm,0.6s							
MK31				PcP	**PcP**	**18 51 47.3**	**-0.1

	comp=Z,5.7nm,0.7s								
GEYT	**Alibeck**	**73.84**	**305**	P		**P**		**18 52 49.7**	**+0.1**
GEYT	**Alibeck**	**73.84**	**305**	P		**P**		**18 52 50.3**	**+0.7**
	comp=Z,4.4nm,0.8s,baz=172,slow=4.4,SNR=6.1								
	comp=Z,4.4nm,0.8s								
EUNU	**Eureka**	**75.28**	**8**	P		**P**		**18 52 57.1**	**0.0**
YKA	**Yellowknife Ar**	**76.43**	**28**	P		**P**		**18 53 04.2**	**+0.4**
	comp=Z,4.5nm,0.5s,baz=292,slow=6.0,SNR=66								
	comp=Z,4.5nm,0.5s								
K02D	**Willamette Mer**	**77.60**	**49**	P		**P**		**18 53 11.7**	**+0.8**
K02D				IAmb		IAmb		18 53 17.8	
	comp=Z,14nm,1.4s								
KRPM	**Rodgers**	**77.81**	**51**	P		**P**		**18 53 12.9**	**+0.9**
KRPM				IAmb		IAmb		18 53 52.0	
	comp=Z,21nm,1.2s								
KHMM	**Horse Mountain**	**78.11**	**51**	P		**P**		**18 53 15.2**	**+1.5**
KHMM				IAmb		IAmb		18 53 54.4	
	comp=Z,15nm,1.4s								
KCPM	**Cahto Peak**	**78.58**	**52**	P		**P**		**18 53 17.8**	**+1.4**
ARCES	**ARCESS Array B**	**79.33**	**342**	P		**P**		**18 53 19.5**	**-0.3**
ARCES				IAmb		IAmb		18 53 46.7	
	comp=Z,14nm,1.3s								
ARCES	**ARCESS Array B**	**79.33**	**342**	P		**P**		**18 53 19.1**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=70,slow=7.5,SNR=15								
	comp=Z,2.0nm,0.7s								
BMO	**Blue Mountains**	**81.22**	**45**	P		**P**		**18 53 31.1**	**+0.7**
WAKR	**Walker**	**82.02**	**52**	P		**P**		**18 53 36.1**	**+1.3**
KVN	**Kaiserville**	**82.80**	**51**	P		**P**		**18 53 39.5**	**+0.7**
NVAR	**Mina Array Bea**	**82.88**	**52**	P		**P**		**18 53 39.9**	**+0.6**
NVAR	**Mina Array Bea**	**82.88**	**52**	P		**P**		**18 53 40.0**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=277,slow=5.7,SNR=16								
	comp=Z,1.8nm,0.6s								
KBZ	**Khabaz**	**82.94**	**314**	P		**P**		**18 53 39.6**	**+0.5**
	comp=Z,11nm,0.8s,baz=87,slow=3.3,SNR=39								
	comp=Z,11nm,0.8s								
ONI	**Oni**	**83.00**	**313**	P		**P**		**18 53 40.9**	**+1.2**
ONI				IAmb		IAmb		18 53 42.2	
	comp=Z,12nm,0.9s								
FIA1	**FINESS Array S**	**83.64**	**335**	P		**P**		**18 53 41.5**	**-0.9**
FINES	**FINESS Array B**	**83.64**	**335**	P		**P**		**18 53 41.4**	**-1.0**
	comp=Z,3.8nm,0.6s,baz=68,slow=4.6,SNR=38								
	comp=Z,3.8nm,0.6s								
GMN	**Gold Mountain**	**84.06**	**52**	P		**P**		**18 53 46.0**	**+0.7**
YHL	**Hebgen Lake**	**85.22**	**44**	P		**P**		**18 53 52.1**	**+1.0**
YMR	**Madison River**	**85.44**	**44**	P		**P**		**18 53 53.6**	**+1.6**
YMR				IAmb		IAmb		18 53 54.4	
	comp=Z,3.9nm,0.7s								
FCC	**Fort Churchill**	**87.03**	**26**	P		**P**		**18 53 59.0**	**-0.2**
LCMT	**Little Creek M**	**87.12**	**51**	P		**P**		**18 54 01.4**	**+1.1**
PDAR	**Pinedale Array**	**87.19**	**45**	P		**P**		**18 54 00.3**	**-0.4**
PDAR	**Pinedale Array**	**87.19**	**45**	P		**P**		**18 54 00.4**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=292,slow=1.7,SNR=4.5								
	comp=Z,0.2nm,0.4s								
KNB	**Kanab**	**87.43**	**51**	P		**P**		**18 54 01.8**	**0.0**
KNB				IAmb		IAmb		18 54 03.8	
	comp=Z,4.2nm,0.8s								
AKASG	**Malin Array Be**	**88.03**	**325**	P		**P**		**18 54 02.4**	**-1.7**
	comp=Z,0.5nm,0.4s,baz=36,slow=14,SNR=4.7								
	comp=Z,0.5nm,0.4s								
NC405	**NORSAR Array S**	**89.16**	**339**	P		**P**		**18 54 08.9**	**-0.3**
HFS	**Hagfors**	**89.17**	**337**	P		**P**		**18 54 07.2**	**-2.1**
	comp=Z,0.7nm,0.4s,baz=96,slow=6.4,SNR=5.9								
	comp=Z,0.7nm,0.4s								
BRTR	**Keskin Array B**	**90.91**	**314**	P		**P**		**18 54 16.9**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=74,slow=6.6,SNR=5.2								
	comp=Z,1.5nm,0.8s								
TORD	**Torodi Ar. Bea**	**129.32**	**309**	PKP		**PKPdf**		**19 00 21.8**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=52,slow=1.3,SNR=9.7								
PLCA	**Paso Flores**	**145.18**	**131**	PKPbc		**PKPab**		**19 00 50.7**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=216,slow=3.7,SNR=14								

*CATAC **12** 18:57:27.0±0.7, 11.°76N×88.°55W, h0km, ML3.6*
*SNET **12** 18:57:30.7±1.1, 11.°75N×88.°67W, h35km±999km, ML3.1*
ISC 12 18:57:28.1±3.6, **11.°72N**±0.°08×**88.°56W**±0.°05, **h15**km±**26**km, **n28**, σ0°**77**/44, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**1.59**	**38**	*i* P	**Pn**	**18 57 55.5**	**-0.3**
CSGN				IAML		18 58 22.0	
	comp=Z,870nm,1.0s						
POTN	**Potosi Cosigui**	**1.64**	**39**	*i* P	Pn	18 57 46.3	-10
POTN				*i* S	Sn	18 57 59.2	-18
CNCH	**Conchagua**	**1.70**	**25**	*i* P	**Pn**	**18 57 57.0**	**-0.4**
CNCH				*i* S	**Sb**	**18 58 19.9**	**-0.6**
CNCH				IAML		18 58 26.3	
	comp=Z,680nm,1.0s						
PACA	**Pacayal**	**1.75**	**8**	*eP*	**Pn**	**18 57 58.5**	**+0.5**
PACA				*eS*	**Sn**	**18 58 20.8**	**+0.5**
PACA	**Pacayal**	**1.75**	**8**	*i* P	**Pn**	**18 57 58.6**	**+0.5**
PACA				*i* S	**Sn**	**18 58 20.7**	**+0.5**
PACA				IAML		18 58 26.5	
	comp=Z,3μm,1.0s						
TECA	**Tecapa**	**1.77**	**2**	*eP*	**Pn**	**18 57 58.6**	**+0.3**
CRIN	**San Cristobal**	**1.77**	**56**	*i* P	**Pn**	**18 57 58.2**	**-0.1**
CRIN				*i* S	**Sn**	**18 58 20.6**	**0.0**
CRIN				IAML		18 58 30.5	
	comp=Z,580nm,1.0s						
AMPH	**Amapala**	**1.79**	**29**	*i* P	**Pn**	**18 57 58.6**	**+0.2**
AMPH				*i* S	**Sb**	**18 58 22.5**	**-0.3**
TECO	**Alcaldia de Te**	**1.82**	**353**	*eP*	**Pn**	**18 57 58.9**	**0.0**
PQSS	**Presa 15 de Se**	**1.89**	**0**	*eP*	**Pn**	**18 58 00.1**	**+0.2**
PQSS				*eS*	**Sn**	**18 58 24.1**	**+0.6**
PQSS				IAML		18 58 26.0	
	comp=Z,164nm,0.1s						
PQSS	**Presa 15 de Se**	**1.89**	**0**	*i* P	**Pn**	**18 58 00.0**	**+0.2**
PQSS				*i* S	**Sn**	**18 58 23.6**	**+0.1**
PQSS				IAML		18 58 25.8	
	comp=Z,320nm,1.0s						
CNGA	**Al SSO del Vol**	**1.98**	**67**	*i* P	**Pn**	**18 57 59.7**	**-1.4**
CNGA				IAML		18 58 30.3	
	comp=Z,160nm,1.0s						
LOMA	**Loma Larga**	**2.00**	**343**	*eP*	**Pn**	**18 58 01.6**	**0.0**
LOMA				*eS*	**Sn**	**18 58 25.7**	**-0.8**
LOMA	**Loma Larga**	**2.00**	**343**	*i* P	**Pn**	**18 58 02.4**	**+0.9**
LOMA				*i* S	**Sn**	**18 58 25.6**	**-0.8**
LOMA				IAML		18 58 28.0	
	comp=Z,540nm,1.0s						
MOMN	**Momotombo**	**2.09**	**71**	*i* P	**Pn**	**18 58 01.2**	**-1.5**
JAYA	**Jayaque - finc**	**2.11**	**336**	*eP*	**Pn**	**18 58 03.0**	**0.0**
JAYA				*eS*	**Sn**	**18 58 27.5**	**-1.6**
JAYA	**Jayaque - finc**	**2.11**	**336**	*i* P	**Pn**	**18 58 02.9**	**-0.1**
JAYA				*i* S	**Sn**	**18 58 27.9**	**-1.2**
JAYA				IAML		18 58 31.2	
	comp=Z,990nm,1.0s						
PMON	**Piamonte**	**2.11**	**340**	*eP*	**Pn**	**18 58 03.5**	**+0.5**
PMON				*eS*	**Sn**	**18 58 28.3**	**-0.8**
PMON	**Piamonte**	**2.11**	**340**	*i* P	**Pb**	**18 58 06.0**	**-0.2**
PMON				*i* S	**Sn**	**18 58 28.7**	**-0.4**
CEVE	**Cerro Verde**	**2.34**	**334**	*eP*	**Pn**	**18 58 07.0**	**+0.7**
CEVE				*eS*	**Sn**	**18 58 34.0**	**-0.9**
NUBE	**Las Nubes**	**2.47**	**331**	*i* P	**Pn**	**18 58 08.6**	**+0.6**
NUBE				*i* S	**Sn**	**18 58 38.0**	**-0.1**
NUBE				IAML		18 58 42.4	
	comp=Z,210nm,1.0s						
LIMN	**Finca el Limon**	**2.53**	**58**	*i* P	**Pn**	**18 58 09.4**	**+0.7**
SOMN	**Somoto**	**2.54**	**48**	*i* P	**Pn**	**18 58 09.9**	**+0.9**
SOMN				IAML		18 58 11.1	
	comp=Z,57nm,1.0s						
MTO3	**Montecristo**	**2.77**	**344**	*i* P	**Pn**	**18 58 13.1**	**+0.9**
MTO3				*i* S	**Sn**	**18 58 47.1**	**+1.5**
MTO3				IAML		18 58 50.9	
	comp=Z,53nm,1.0s						
YUSH	**Yuscaran**	**2.78**	**37**	*i* P	**Pn**	**18 58 12.3**	**+0.1**
YUSH				*i* S	**Sn**	**18 58 46.9**	**+1.3**
RCPN	**Sur Rio San Ju**	**3.00**	**53**	*i* P	**Pn**	**18 58 15.5**	**+0.2**
INDI	**Punta indio, G**	**3.53**	**121**	*i* P	**Pn**	**18 58 23.3**	**+0.9**
YORHN	**Yoro**	**3.66**	**22**	*i* P	**Pn**	**18 58 25.8**	**+1.5**

*IDC **12** 19:17:18.1±2.8, 30.°53N×57.°21E, h0km, mb3.5/5, mbtmp3.5/6, ML2.8/1, Error ellipse: s-maj=88.2km s-min=28.5km az=143.0*
*TEH **12** 19:17:19.0, 30.°73N×57.°31E, h8km±45km, ML3.7*
ISC 12 19:17:19.9±0.8, **30.°72N**±0.°03×**57.°29E**±0.°03, **h10**km, **n35**, σ1°**84**/35, **mb3.5/5, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.70**	**291**	Pg	**Pb**	**19 17 33.2**	**-1.1**
KHGB	**Koh Gabri**	**0.78**	**244**	Pg	**Pg**	**19 17 34.4**	**-0.7**
TVBK	**TV Kerman**	**0.86**	**212**	Pg	**Pb**	**19 17 36.8**	**-0.4**
CHMN	**Cheshme madani**	**0.88**	**166**	Pg	**Pg**	**19 17 36.2**	**-0.8**
NGRK	**Negar Kerman**	**1.18**	**205**	Pg	**Pn**	**19 17 42.3**	**-0.5**
IBAF	**Bafgh**	**1.71**	**301**	Pg	**Pg**	**19 17 51.5**	**-1.3**
KBAM	**BAM**	**1.87**	**147**	Pn	**Pb**	**19 17 53.3**	**-0.9**
BSRN	**Basiran**	**2.00**	**51**	Pn	**Pb**	**19 17 54.7**	**-1.8**
IKOO	**Kooshah**	**2.24**	**40**	Pn	**Pb**	**19 17 58.6**	**-2.1**
TPRV	**Parvadeh(Tabas**	**2.36**	**348**	Pn	**Pb**	**19 18 00.3**	**-2.3**
IMEH	**Mehriz**	**2.39**	**287**	Pn	**Pb**	**19 18 00.8**	**-2.4**
NHDN	**Nehbandan**	**2.46**	**73**	Pn	**Pb**	**19 18 01.8**	**-2.6**
ITEG	**Tejag**	**2.50**	**29**	Pn	**Pb**	**19 18 02.0**	**-3.1**
TKDS	**Koohdasht(Taba**	**2.89**	**357**	Pn	**Pn**	**19 18 07.5**	**+1.3**
ICHK	**Chekchek**	**2.90**	**302**	Pn	**Pn**	**19 18 08.1**	**+1.8**
IDAH	**Dahanechah**	**2.98**	**47**	Pn	**Pn**	**19 18 09.0**	**+1.5**
AFRZ	**Afriz**	**3.07**	**28**	Pn	**Pn**	**19 18 09.9**	**+1.3**
TNSJ	**Nastanj**	**3.29**	**350**	Pn	**Pn**	**19 18 13.1**	**+1.5**
ISAD	**Sadrabad**	**3.31**	**292**	Pn	**Pn**	**19 18 13.7**	**+1.6**
ZHDN	**Zahedan**	**3.32**	**112**	Pn	**Pn**	**19 18 13.6**	**+1.5**
SHRT	**Shahrakht**	**3.87**	**40**	Pn	**Pn**	**19 18 21.8**	**+2.2**
ANAR	**Anarak**	**3.90**	**310**	Pn	**Pn**	**19 18 21.4**	**+1.3**
IRAM	**Ramesheh**	**4.34**	**286**	Pn	**Pn**	**19 18 27.8**	**+1.6**
IZEF	**Zefreh**	**4.75**	**298**	Pn	**Pn**	**19 18 33.9**	**+2.1**
TBJM	**Torbat-e-JAM**	**5.20**	**29**	Pn	**Pn**	**19 18 39.6**	**+1.6**
ISFB	**Sefidab**	**5.59**	**312**	Pn	**Pn**	**19 18 45.8**	**+2.5**
SBZV	**Sabzevar**	**5.66**	**3**	Pn	**Pn**	**19 18 46.7**	**+2.4**
JRKH	**Jarkhoshk**	**5.77**	**26**	Pn	**Pn**	**19 18 48.1**	**+2.4**
IAKL	**Akhelmad**	**5.99**	**11**	Pn	**Pn**	**19 18 51.3**	**+2.3**
GEYT	**Alibeck**	**7.22**	**5**	Pn	**Pn**	**19 19 07.6**	**+2.0**
	0.2nm,0.3s,baz=209,slow=12,SNR=1.8						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**24.25**	**19**	P	**P**	**19 22 38.6**	**+1.6**
	0.7nm,0.5s,baz=216,slow=7.1,SNR=4.8						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**25.10**	**43**	P	**P**	**19 22 46.3**	**+1.5**
	1.1nm,1.1s,baz=225,slow=8.0,SNR=3.7						
	1.1nm,1.1s						
KURBB	**Kurchatov Arra**	**25.43**	**33**	P	**P**	**19 22 49.4**	**+1.8**
	0.5nm,0.8s,baz=231,slow=8.4,SNR=3.1						
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**30.52**	**33**	P	**P**	**19 23 34.2**	**+1.0**
	0.4nm,0.4s,baz=224,slow=8.1,SNR=2.6						
	0.4nm,0.4s						
TORD	**Torodi Ar. Bea**	**53.92**	**264**	P	**P**	**19 26 43.1**	**-0.9**
	0.4nm,0.6s,baz=57,slow=7.6,SNR=3.8						
	0.4nm,0.6s						

*IDC **12** 19:34:46.6±8.9, 16.°09S×173.°15W, h0km, mb4.2/5, mbtmp4.2/5, Error ellipse: s-maj=164.9km s-min=51.0km az=58.0*
*NEIC **12** 19:35:16.1±2.5, 17.°7S±0.°2×176.°5W±0.°1, h10km±2km, mb4.3/9, Error ellipse: s-maj=28.5km s-min=18.0km az=153.0*
*NOU **12** 19:36:26.5, 13.°87S×172.°04W, h137km, MLv2.3/5, Samoa Islands*
ISC 12 19:35:19.3±0.9, **17.°8S**±0.°1×**176.°5W**±0.°1, **h35**km, **n18**, σ0°**78**/18, **mb4.4/8, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.99**	**50**		**Pn**	**19 36 45.3**	**-0.4**
AFI				Sn	Sn	19 37 41.6	-11
AFI	**Afiamalu**	**5.99**	**50**	P	**Pn**	**19 36 46.2**	**+0.6**
NIUE	**Niue**	**6.40**	**102**	Pn	**Pn**	**19 36 51.4**	**+0.3**
DZM	**Mont Dzumac**	**16.56**	**252**		**P**	**19 39 11.9**	**+0.6**
DZM				IAmb	IAmb	19 39 44.9	
	comp=Z,13nm,1.3s						
DZM	**Mont Dzumac**	**16.56**	**252**	P	P	19 39 24.0	+13
	comp=Z,3.7nm,0.8s,baz=67,slow=18,SNR=2.3						
	comp=Z,3.7nm,0.8s						
URZ	**Urewera**	**21.13**	**194**	P	**P**	**19 40 00.5**	**-0.6**
	comp=Z,9.2nm,0.5s,baz=54,slow=6.4,SNR=11						
	comp=Z,9.2nm,0.5s						
ARMA	**Armidale**	**31.55**	**241**	P	**P**	**19 41 39.7**	**+1.1**
ARMA				IAmb	IAmb	19 42 11.9	
	comp=Z,5.0nm,1.0s						
TOO	**Toolangi**	**38.63**	**232**	P	**P**	**19 42 38.8**	**-0.6**
TOO				IAmb	IAmb	19 43 06.5	
	comp=Z,12nm,1.4s						
STKA	**Stephens Creek**	**40.25**	**242**	P	**P**	**19 42 54.2**	**+1.2**
STKA	**Stephens Creek**	**40.25**	**242**	P	**P**	**19 42 54.1**	**+1.2**
	comp=Z,2.6nm,0.8s,baz=81,slow=9.5,SNR=4.9						
	comp=Z,2.6nm,0.8s						
BBOO	**Buckleboo**	**45.02**	**241**	P	**P**	**19 43 30.8**	**-1.0**
WB0	**Warramunga Arr**	**46.38**	**259**	P	**P**	**19 43 42.1**	**-0.5**
WB0				IAmb	IAmb	19 43 59.7	
	comp=Z,9.2nm,1.4s						
WRA	**Warramunga Arr**	**46.41**	**259**	P	**P**	**19 43 42.0**	**-0.8**
WRA				PcP	**PcP**	**19 45 16.9**	**-0.5**
WRA	**Warramunga Arr**	**46.41**	**259**	P	**P**	**19 43 42.4**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=97,slow=7.1,SNR=23						
	comp=Z,0.7nm,0.5s						
AS31	**Alice Springs**	**46.54**	**254**	P	**P**	**19 43 43.3**	**-0.6**
AS31				IAmb	IAmb	19 43 44.7	
	comp=Z,1.7nm,0.6s						
ASAR	**Alice Springs**	**46.54**	**254**	P	**P**	**19 43 43.1**	**-0.8**
ASAR	**Alice Springs**	**46.54**	**254**	P	**P**	**19 43 43.9**	**-0.1**
	comp=Z,6.0nm,0.7s,baz=90,slow=8.0,SNR=68						
	comp=Z,6.0nm,0.7s						
MTN	**Manton Dam**	**50.59**	**268**	P	**P**	**19 44 14.8**	**-0.3**

*IDC **12** 19:55:35.1±2.9, 7.°03S×130.°69E, h64km±25km, mb4.2/20, mbtmp4.5/22, ML3.9/2, MS3.2/11, Error ellipse: s-maj=19.7km s-min=9.9km az=65.0*
*DJA **12** 19:55:35.8±0.2, 7.°5±2.°×13.°1E±.°, h122km±4km, M4.9/25, mB5.3/13, mb4.9/25, MLv5.2/13, Mw(mB)4.8/13*
*NEIC **12** 19:55:36.6±1.6, 7.°11S±0.°07×130.°65E±0.°07, h81km±6km, mb4.7/75, Error ellipse: s-maj=11.8km s-min=8.3km az=220.0*
ISC 12 19:55:35.9±0.3, **7.°14S**±0.°04×**130.°67E**±0.°04, **h78**km, **n203**, σ1°**58**/206, **mb4.7**/52, **2C-1D, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.04**	**144**	Pn	**Pn**	**19 55 57.6**	**+2.2**
SAUI				Sn	**Sn**	**19 56 10.1**	**+0.1**
SAUI	**Saumlaki**	**1.04**	**144**	P	**Pn**	**19 55 57.4**	**+2.0**
SAUI	**Saumlaki**	**1.04**	**144**	P	**Pn**	**19 55 57.8**	**+2.4**
SAUI				S	**Sn**	**19 56 14.9**	**+4.9**
BNDI	**Bandanaira**	**2.71**	**344**	P	**Pn**	**19 56 19.2**	**+1.9**
BNDI	**Bandanaira**	**2.71**	**344**	P	**Pn**	**19 56 17.5**	**+0.2**
KMPI	**Kaimana, Papua**	**4.59**	**41**	P	**Pn**	**19 56 41.8**	**-1.0**
NLAI	**Namlea**	**5.26**	**317**	P	**Pn**	**19 56 55.0**	**+3.0**
	66nm,0.5s,6μm0.4nm						
MTN	**Manton Dam**	**5.69**	**175**	Pn	**Pn**	**19 56 57.3**	**-0.6**
MTN				Sn	**Sn**	**19 57 59.4**	**-2.4**
MTN	**Manton Dam**	**5.69**	**175**	P	**Pn**	**19 56 58.4**	**+0.5**
KDU	**Kakadu**	**5.79**	**162**	P	**Pn**	**19 56 58.9**	**-0.4**
SWI	**Sorong**	**6.26**	**5**	P	**Pn**	**19 57 03.7**	**-2.0**
	69nm,0.8s,3μm2.2nm						
SOEI	**Soe**	**6.85**	**247**	Pn	**Pn**	**19 57 15.4**	**+1.5**
SOEI				Sn	**Sn**	**19 58 29.8**	**-0.7**
SOEI	**Soe**	**6.85**	**247**	P	**Pn**	**19 57 16.0**	**+2.1**
SOEI	**Soe**	**6.85**	**247**	P	**Pn**	**19 57 15.9**	**+2.1**
	258nm,0.7s,5μm7.9nm						
SANI	**Sanana**	**6.88**	**317**	P	**Pn**	**19 57 18.3**	**+4.1**
SANI	**Sanana**	**6.88**	**317**	P	**Pn**	**19 57 18.7**	**+4.5**
	47nm,0.6s,672nm0.2nm						
LBMI	**Labuha**	**7.19**	**334**	P	**Pn**	**19 57 20.3**	**+1.9**
	108nm,0.8s,0.4nm						
BBSI	**Bau Bau**	**8.22**	**281**	P	**Pn**	**19 57 37.0**	**+4.5**
	85nm,1.0s						
MMRI	**Maumere**	**8.49**	**259**	Pn	**Pn**	**19 57 36.8**	**+0.7**
MMRI	**Maumere**	**8.49**	**259**	P	**Pn**	**19 57 38.6**	**+2.4**
MMRI	**Maumere**	**8.49**	**259**	P	**Pn**	**19 57 38.5**	**+2.4**
	76nm,0.5s,1μm						
KNRA	**Kununurra**	**8.69**	**192**	Pn	**Pn**	**19 57 38.2**	**-0.7**
KNRA	**Kununurra**	**8.69**	**192**	P	**Pn**	**19 57 38.4**	**-0.5**
EDFI	**Ende, Flores**	**9.04**	**259**	P	**Pn**	**19 57 46.3**	**+2.5**
	37nm,0.8s,834nm						
MMPI	**Merauke**	**9.71**	**98**	P	**Pn**	**19 57 50.9**	**-1.9**
	424nm,0.9s						
LUWI	**Luwuk**	**9.94**	**307**	Pn	**Pn**	**19 57 55.4**	**-0.6**
BASI	**Baing, Sumba**	**10.44**	**252**	P	**Pn**	**19 58 03.9**	**+1.1**
	188nm,0.5s,3μm						
BKSI	**Bulukumba**	**10.64**	**279**	P	**Pn**	**19 58 08.1**	**+2.6**
	25nm,0.7s						
TABU	**Tabubil**	**10.65**	**81**	P	**Pn**	**19 58 05.0**	**-0.8**
	7μm,0.5s						
JAY	**Jayapura**	**11.00**	**66**	P	**Pn**	**19 58 09.1**	**-1.4**
	40nm,0.9s						
KAPI	**Kappang**	**11.06**	**280**	Pn	**Pn**	**19 58 09.7**	**-1.6**
KAPI	**Kappang**	**11.06**	**280**	P	**Pn**	**19 58 15.5**	**+4.3**
	5.8nm,0.3s,baz=263,slow=19,SNR=5.9						
KAPI				LR	LR	20 02 46.7	
	comp=Z,78nm,21.2s,baz=108,slow=39						
SPSI	**Sidrap Palu**	**11.30**	**286**	P	**Pn**	**19 58 16.7**	**+2.2**
	48nm,0.7s						
MRSI	**Marisa**	**11.54**	**311**	P	**Pn**	**19 58 21.4**	**+3.7**
	35nm,1.2s						
FITZ	**Fitzroy Crossi**	**11.95**	**204**	Pn	**Pn**	**19 58 20.0**	**-3.3**
TOLI2	**Tolitoli**	**12.83**	**309**	Pn	**Pn**	**19 58 33.3**	**-2.0**
PLAI	**Plampang**	**12.88**	**262**	P	**Pn**	**19 58 35.5**	**-0.5**
PLAI	**Plampang**	**12.88**	**262**	P	**Pn**	**19 58 35.0**	**-1.0**
	61nm,0.5s,1μm						
WB0	**Warramunga Arr**	**13.06**	**164**	Pn	Pn	19 58 33.6	-4.9
WRAB	**Tennant Creek**	**13.21**	**165**		Pn	19 58 35.4	-5.0
WRA	**Warramunga Arr**	**13.22**	**165**	Pn	Pn	19 58 34.6	-5.9
WRA	**Warramunga Arr**	**13.22**	**165**	P	**Pn**	**19 58 35.9**	**-4.6**
	14nm,0.4s,baz=349,slow=13,SNR=115						
WRA				S	Sn	20 00 51.6	-14
	65nm,0.6s,baz=341,slow=22,SNR=8.9						
WB2	**Warramunga Arr**	**13.22**	**165**		Pn	19 58 35.5	-5.1
WR0	**Warramunga Arr**	**13.29**	**164**	Pn	Pn	19 58 36.3	-5.1
TWSI	**Taliwang, Sumb**	**13.75**	**262**	P	**Pn**	**19 58 45.8**	**-1.7**
	27nm,0.6s						
COEN	**Coen**	**14.03**	**120**	Pn	Pn	19 58 46.1	-5.0
SRBI	**Singaraja**	**15.35**	**265**	P	**Pn**	**19 59 08.7**	**+0.5**
	11nm,0.7s						
JAGI	**Jajag, Banyuwa**	**16.42**	**264**	Pn	**Pn**	**19 59 18.2**	**-3.5**
JAGI				IAmb	IAmb	20 00 00.6	
	comp=Z,74nm,1.5s						
JAGI	**Jajag, Banyuwa**	**16.42**	**264**	P	**Pn**	**19 59 21.3**	**-0.4**
JAGI	**Jajag, Banyuwa**	**16.42**	**264**	P	**Pn**	**19 59 20.7**	**-1.0**
	comp=Z,36nm,0.4s						
PMG	**Port Moresby**	**16.47**	**99**	P	**Pn**	**19 59 21.4**	**-0.9**
PMG	**Port Moresby**	**16.47**	**99**	P	**P**	**19 59 23.2**	**-0.5**
PMG	**Port Moresby**	**16.47**	**99**	P	**Pn**	**19 59 21.4**	**-0.9**
	comp=Z,3.8nm,0.3s,baz=290,slow=6.5,SNR=28						
PMG				S	Sn	20 02 10.3	-14
	comp=Z,4.2nm,0.5s,baz=215,slow=21,SNR=1.6						
PMG				LR	LR	20 07 37.8	
	comp=Z,26nm,19.3s,baz=305,slow=44						
	comp=Z,91nm,0.8s						
AS31	**Alice Springs**	**16.72**	**170**		**Pn**	**19 59 22.8**	**-2.6**
ASAR	**Alice Springs**	**16.73**	**170**		**Pn**	**19 59 23.0**	**-2.5**
ASAR	**Alice Springs**	**16.73**	**170**	P	**Pn**	**19 59 23.8**	**-1.6**
	comp=Z,45nm,0.5s,baz=351,slow=10.0,SNR=378						
ASAR				S	Sn	20 02 15.6	-15
	comp=Z,14nm,0.7s,baz=345,slow=19,SNR=11						
MBWA	**Marble Bar**	**17.50**	**216**		**Pn**	**19 59 33.0**	**-1.9**
MBWA				IAmb	IAmb	19 59 38.6	
	comp=Z,20nm,0.6s						
MBWA	**Marble Bar**	**17.50**	**216**	P	**Pn**	**19 59 34.5**	**-0.4**
PSA00	**Pilbara Seismi**	**17.76**	**215**	P	**P**	**19 59 37.2**	**-0.7**
PSA00				IAmb	IAmb	19 59 40.5	
	comp=Z,36nm,0.8s						
PSA00	**Pilbara Seismi**	**17.76**	**215**		**P**	**19 59 36.9**	**-0.9**
PSA00				IAmb	IAmb	19 59 40.5	
	comp=Z,20nm,0.9s						
PSA00	**Pilbara Seismi**	**17.76**	**215**	P	**P**	**19 59 37.9**	**+0.1**
WRKA	**Warakurna**	**17.94**	**187**	P	**P**	**19 59 39.1**	**-0.8**
KKM	**Kota Kinabalu**	**19.48**	**312**	P	**P**	**19 59 57.2**	**+0.3**
KKM				IAmb	IAmb	20 00 37.0	
	comp=Z,24nm,1.0s						
KKM	**Kota Kinabalu**	**19.48**	**312**	P	**Pn**	**19 59 58.0**	**-0.8**
TV1H	**Townsville Har**	**19.77**	**129**	P

comp=Z,260nm,4.6s
JMN Monobe 40.76 4 P **P** **20 03 08.8 -0.6**
PZH PanZhiHua 43.66 321 P **P** **20 03 34.9 +1.7**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,180nm,6.9s
MJAR Matsushiro Arr 44.02 9 P **P** **20 03 34.4 -1.5**
comp=Z,6.9nm,0.9s,baz=187,slow=9.0,SNR=8.7
comp=Z,6.9nm,0.9s
MAJO Matsushiro 44.02 9 P **P** **20 03 34.4 -1.4**
MAJO IAmb IAmb 20 03 35.3
comp=Z,15nm,0.9s
MJB9 Matsu-Tunnel 44.02 9 P **P** **20 03 34.8 -1.1**
MJB9 IAmb IAmb 20 03 36.3
comp=Z,16nm,0.9s
KSRS Korea Array 44.43 357 P **P** **20 03 39.0 0.0**
comp=Z,2.5nm,0.7s,baz=170,slow=8.9,SNR=11
KSRS LR LR 20 22 01.7
comp=Z,23nm,20.6s,baz=75,slow=36
comp=Z,2.5nm,0.7s
XAN Xi'an 45.85 335 P **P** **20 03 47.7 -2.7**
XAN pmax pmax
comp=Z,6.0nm,0.8s
HNS HongShan 46.75 342 *eP* **P** **20 04 01.2 +3.8**
HHC Hu-ho-hao-te 50.88 341 *eP* **P** **20 04 31.1 +2.0**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,340nm,5.5s
USRK Ussuriysk Ar. 51.11 1 P **P** **20 04 30.5 -0.2**
USRK Ussuriysk Ar. 51.11 1 P **P** **20 04 30.7 +0.1**
comp=Z,4.8nm,0.6s,baz=182,slow=6.7,SNR=6.0
comp=Z,4.8nm,0.6s
TUWZ Tuamarina 51.34 139 P **P** **20 04 32.9 +0.5**
TCW Tory Channel 51.45 138 P **P** **20 04 33.0 -0.3**
MDJ Mudanjiang 51.52 359 P **P** **20 04 32.7 -1.0**
MDJ IAmb IAmb 20 04 34.7
comp=Z,6.5nm,0.7s
MDJ Mudanjiang 51.52 359 P **P** **20 04 36.2 +2.5**
MDJ pP pP 20 04 49.8 -1.7
MDJ sP pwP 20 04 55.8 -2.9
MDJ PcP **PcP** **20 05 43.7 -3.1**
MDJ PP **PP** **20 06 34.5 +2.6**
MDJ ScP **ScP** **20 09 37.9 +1.2**
MDJ PcS **PcS** **20 09 42.7 -2.0**
MDJ S S 20 11 59.3 +11
MDJ sS sS 20 12 22.1 +2.5
MDJ ScS **ScS** **20 14 18.2 +1.6**
MDJ Mudanjiang 51.52 359 SS SS 20 15 38.5 +13
MDJ pmax pmax
comp=Z,11nm,2.3s
MDJ pmax pmax
comp=Z,490nm,7.0s
KHZ Kahutara 51.57 140 P **P** **20 04 33.4 -0.8**
SNZO South Karori 51.78 138 P **P** **20 04 34.7 -1.1**
PALK Pallekele 51.85 285 LR LR 20 27 59.1
comp=Z,19nm,18.6s,baz=211,slow=38
LSA Lhasa 52.76 316 P **P** **20 04 44.3 +0.6**
LSA IAmb IAmb 20 04 45.1
comp=Z,5.3nm,0.7s
TAPN Taplejung 53.88 311 *eP* **P** **20 04 51.5 -0.3**
comp=Z,20nm,0.4s
RAMN Ramite 54.49 310 *eP* **P** **20 04 56.7 +0.5**
comp=Z,50nm,0.6s
JIRN Jiri 55.18 311 *eP* **P** **20 05 01.2 -0.1**
comp=Z,11nm,0.6s
GUN Gumba 55.55 311 *eP* **P** **20 05 03.8 -0.1**
comp=Z,38nm,0.7s
PKI Pulchoki 55.72 310 *eP* **P** **20 05 04.7 -0.5**
comp=Z,11nm,0.6s
PKIN Phulchoki 55.73 310 *eP* **P** **20 05 04.9 -0.3**
comp=Z,16nm,0.6s
GKN Gorkha 56.53 310 *eP* **P** **20 05 10.7 0.0**
comp=Z,13nm,0.3s
DANN Dangsing 57.37 310 *eP* **P** **20 05 16.3 -0.5**
comp=Z,24nm,0.9s
PYUN Piuthan 57.83 309 *eP* **P** **20 05 20.2 +0.2**
comp=Z,32nm,0.8s
ULN Ulaanbaatar 58.60 342 **P** **20 05 23.2 -1.7**
ULN IAmb IAmb 20 05 26.8
comp=Z,3.5nm,0.8s
SONM Songino Array 58.78 341 P **P** **20 05 25.9 -0.2**
SONM IAmb IAmb 20 05 56.7
comp=Z,4.5nm,1.3s
SONM Songino Array 58.78 341 P **P** **20 05 26.9 +0.8**
comp=Z,0.5nm,0.4s,baz=158,slow=8.6,SNR=5.6
comp=Z,0.5nm,0.4s
CASY Casey 60.67 189 P **P** **20 05 38.7 +0.1**
WMQ Urumqi 63.87 327 *eP* **P** **20 06 02.9 +2.4**
PEA0B Petropavlovsk- 64.25 18 P **P** **20 06 02.1 -0.5**
PETK Petropavlovsk- 64.25 18 P **P** **20 06 01.2 -1.5**
PETK Petropavlovsk- 64.25 18 P **P** **20 06 03.0 +0.4**
comp=Z,7.3nm,0.8s,baz=186,slow=4.5,SNR=3.9
comp=Z,7.3nm,0.8s
MA2 Magadan 68.41 11 P **P** **20 06 27.6 -1.4**
MA2 Magadan 68.41 11 LR LR 20 38 36.3
comp=Z,21nm,18.1s,baz=88,slow=38
KSH Kashi 68.57 317 P **P** **20 06 32.2 +1.5**
KSH pmax pmax
comp=Z,5.0nm,0.8s
MK31 Makanchi Array 68.71 327 P **P** **20 06 31.7 +0.4**
MKAR Makanchi Array 68.71 327 P **P** **20 06 31.6 +0.3**
MKAR Makanchi Array 68.71 327 P **P** **20 06 31.9 +0.7**
comp=Z,3.4nm,0.4s,baz=116,slow=8.2,SNR=84
comp=Z,3.4nm,0.4s
MAKZ Makanchi 68.89 326 P **P** **20 06 32.8 +0.4**
MAKZ IAmb IAmb 20 06 33.7
comp=Z,3.4nm,0.6s
YAK Yakutsk 68.97 359 P **P** **20 06 32.5 0.0**
YAK IAmb IAmb 20 06 33.0
comp=Z,13nm,0.7s
AAK Ala-Archa 71.08 320 P **P** **20 06 47.6 +1.5**
AAK Ala-Archa 71.08 320 P **P** **20 06 47.1 +1.0**
comp=Z,1.4nm,0.4s,baz=183,slow=5.3,SNR=5.3
comp=Z,1.4nm,0.4s
ARSB Arslanbob 71.44 318 P **P** **20 06 48.8 +0.5**
ZAA0 Zalesovo Array 72.00 334 P **P** **20 06 50.9 -0.2**
ZALV Zalesovo Beam 72.00 334 P **P** **20 06 51.0 -0.1**
comp=Z,2.8nm,0.5s,baz=138,slow=5.8,SNR=16
comp=Z,2.8nm,0.5s
VNDA Vanda 72.23 173 P **P** **20 06 53.1 +0.9**
VNDA IAmb IAmb 20 07 26.9
comp=Z,8.0nm,1.4s
VNDA Vanda 72.23 173 P **P** **20 06 53.3 +1.1**
comp=Z,1.7nm,0.7s,baz=326,slow=5.9,SNR=12
comp=Z,1.7nm,0.7s
GAR Garm 72.24 315 P **P** **20 06 52.4 -0.7**
GAR IAmb IAmb 20 06 54.9
comp=Z,26nm,1.5s
BTK Batken 72.34 316 P **P** **20 06 53.0 -0.6**
BTK IAmb IAmb 20 07 22.8
comp=Z,9.0nm,1.4s
CHGR Chuyangaron 72.92 314 P **P** **20 06 56.8 -0.2**
CHGR IAmb IAmb 20 06 58.2
comp=Z,8.5nm,0.6s
KURBB Kurchatov Arra 72.98 328 P **P** **20 06 57.3 +0.3**
comp=Z,2.6nm,0.4s,baz=125,slow=5.0,SNR=35
comp=Z,2.6nm,0.4s
KURK Kurchatov 72.98 328 P **P** **20 06 57.2 +0.2**
KKAR Karatay Array 73.88 319 P **P** **20 07 02.5 -0.1**
MAW Mawson 75.07 202 P **P** **20 07 09.6 +0.7**
MAW Mawson 75.07 202 P **P** **20 07 10.7 +1.8**
comp=Z,4.4nm,0.5s,baz=68,slow=5.1,SNR=33
MAW LR LR 20 38 20.7
comp=Z,24nm,18.5s,baz=256,slow=34
comp=Z,4.4nm,0.5s
WSAR Wadi Sarin 76.53 296 P **P** **20 07 19.0 +0.9**
comp=Z,3.7nm,0.6s,baz=130,slow=6.1,SNR=6.5
comp=Z,3.7nm,0.6s
BVAR Borovoye Array 78.53 328 P **P** **20 07 29.0 +0.3**
comp=Z,1.1nm,0.3s,baz=104,slow=8.1,SNR=11
comp=Z,1.1nm,0.3s
GEYT Alibeck 80.81 310 P **P** **20 07 40.5 -0.9**
GEYT Alibeck 80.81 310 P **P** **20 07 42.2 +0.8**
comp=Z,1.9nm,0.6s,baz=140,slow=5.4,SNR=3.4
comp=Z,1.9nm,0.6s
GYA0B ALIBECK ARRAY 80.81 310 P **P** **20 07 40.4 -1.0**
VOI Vohitsoka 81.72 249 P **P** **20 07 45.5 -1.2**
QSPA South Pole Qui 82.84 180 P **P** **20 07 52.1 +0.5**
QSPA IAmb IAmb 20 07 53.3
comp=Z,11nm,1.0s
ABKAR Akbulak array 83.03 321 P **P** **20 07 52.4 -0.4**
ABKAR Akbulak array 83.03 321 P **P** **20 07 52.8 0.0**
AKTO Aktyubinsk 84.59 322 P **P** **20 08 01.0 +0.3**
comp=Z,1.7nm,0.7s,baz=155,slow=2.9,SNR=5.8
comp=Z,1.7nm,0.7s
L14K Kuka Creek 85.33 26 P **P** **20 08 04.8 +0.7**
J14K Nanvaranak Lak 85.53 25 P **P** **20 08 03.8 -1.3**
K15K Wolf Creek Mou 86.21 26 P **P** **20 08 08.4 0.0**
J17K VABM Dome 87.66 25 P **P** **20 08 15.8 +0.3**
L18K Granite Mounta 88.30 27 P **P** **20 08 19.5 +1.0**
ELIB Princess Elisa 88.56 197 *dP* **P** **20 08 21.8 +2.0**
comp=Z,6.2nm,0.5s
J18K Innoko River 88.69 25 P **P** **20 08 20.5 +0.1**
J18K IAmb IAmb 20 08 53.9
comp=Z,8.5nm,1.4s
L19K White Mountain 89.11 27 P **P** **20 08 22.5 +0.1**
L19K IAmb IAmb 20 08 24.4
comp=Z,6.3nm,1.0s
G19K Purcell Mounta 89.41 23 P **P** **20 08 22.8 -0.8**
G19K IAmb IAmb 20 08 24.4
comp=Z,8.8nm,1.2s
H19K Roundabout Mou 89.46 23 P **P** **20 08 22.7 -1.2**
H19K IAmb IAmb 20 08 48.5
comp=Z,3.1nm,1.1s
C19K Lookout Ridge 89.54 20 P **P** **20 08 23.3 -1.0**
C19K IAmb IAmb 20 08 25.1
comp=Z,8.8nm,1.1s
D19K Kuna River 89.82 20 P **P** **20 08 24.9 -0.7**
D19K IAmb IAmb 20 08 41.5
comp=Z,5.0nm,1.2s
ILAR Eielson Array 93.19 25 P **P** **20 08 39.6 -1.6**
comp=Z,0.5nm,0.7s,baz=245,slow=4.8,SNR=5.4
comp=Z,0.5nm,0.7s
TROLL Troll, Antarti 94.19 194 ⇑P **P** **20 08 47.7 +1.7**
comp=Z,219nm,0.6s
SNAA Sanae 95.69 193 ⇑P **P** **20 08 53.7 +1.0**
comp=Z,46nm,0.5s
SNAA Sanae 95.69 193 P **P** **20 08 53.8 +1.0**
comp=Z,2.4nm,0.6s,baz=194,slow=8.1,SNR=4.6
comp=Z,2.4nm,0.6s
TORD Torodi Ar. Bea 129.49 281 PKP **PKiKP** **20 14 37.2 -0.3**
comp=Z,0.7nm,0.6s,baz=61,slow=2.7,SNR=4.9
CPUP Villa Florida 145.84 167 PKPbc **PKPab** **20 15 07.9 +0.4**
comp=Z,2.7nm,0.7s,baz=140,slow=2.3,SNR=7.0

IDC ***12*** *19:59:32.3≈1.5,30°.62N×57°.19E,h0km,mb3.8/7, mbtmp3.8/9,ML3.5/2,MS3.4/9,Error ellipse: s-maj=31.3km s-min=24.5km az=159.0*
TEH ***12*** *19:59:32.7,30°.80N×57°.25E,h8km±60km,ML3.9*
ISC 12 19:59:34.0±0.6,30°.80N±0°.03×57°.24E±0°.03,h10km,n50, σ2s02/48,mb3.7/7,MS3.4/6,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.63**	**285**	Pg	**Pb**	**19 59 45.8**	**-1.4**
KHGB	**Koh Gabri**	**0.79**	**237**	Pg	**Pb**	**19 59 48.3**	**-1.6**
KHGB				Sg	**Sb**	**19 59 59.1**	**-1.6**
TVBK	**TV Kerman**	**0.92**	**207**	Pg	**Pb**	**19 59 51.2**	**-1.0**
CHMN	**Cheshme madani**	**0.97**	**165**	Pg	**Pg**	**19 59 51.2**	**-1.7**
NGRK	**Negar Kerman**	**1.24**	**201**	Pg	**Pg**	**19 59 57.1**	**-0.8**
NGRK				Sg	**Sn**	**20 00 13.8**	**-0.9**
IBAF	**Bafgh**	**1.64**	**299**	Pg	**Pg**	**20 00 04.0**	**-1.4**
KBAM	**BAM**	**1.97**	**147**	Pn	**Pb**	**20 00 08.4**	**-1.6**
BSRN	**Basiran**	**1.98**	**54**	Pn	**Pb**	**20 00 08.0**	**-2.3**
IKOO	**Kooshah**	**2.21**	**43**	Pn	**Pb**	**20 00 11.6**	**-2.6**
TPRV	**Parvadeh(Tabas**	**2.27**	**348**	Pn	**Pb**	**20 00 12.7**	**-2.4**
IMEH	**Mehriz**	**2.33**	**285**	Pn	**Pb**	**20 00 14.3**	**-2.0**
ITEG	**Tejag**	**2.45**	**31**	Pn	**Pn**	**20 00 14.4**	**+0.2**
NHDN	**Nehbandan**	**2.48**	**76**	Pn	**Pb**	**20 00 15.9**	**-2.9**
TKDS	**Koohdasht(Taba**	**2.80**	**358**	Pn	**Pn**	**20 00 20.0**	**+1.0**
ICHK	**Chekchek**	**2.81**	**301**	Pn	**Pb**	**20 00 20.9**	**-3.6**
KHNJ	**Kahnooj**	**2.88**	**172**	Pn	**Pb**	**20 00 21.6**	**-3.9**
IDAH	**Dahanechah**	**2.95**	**49**	Pn	**Pn**	**20 00 22.1**	**+0.9**
AFRZ	**Afriz**	**3.02**	**29**	Pn	**Pn**	**20 00 23.1**	**+1.1**
TNSJ	**Nasrtanj**	**3.19**	**351**	Pn	**Pn**	**20 00 25.4**	**+1.0**
ISAD	**Sadrabad**	**3.24**	**291**	Pn	**Pb**	**20 00 27.3**	**-4.5**
ZHDN	**Zahedan**	**3.40**	**113**	Pn	**Pn**	**20 00 28.6**	**+1.3**
ANAR	**Anarak**	**3.82**	**309**	Pn	**Pn**	**20 00 34.7**	**+1.7**
SHRT	**Shahrakht**	**3.83**	**42**	Pn	**Pn**	**20 00 34.7**	**+1.5**
IRAM	**Ramesheh**	**4.28**	**285**	Pn	**Pn**	**20 00 41.3**	**+1.9**
IZEF	**Zefreh**	**4.67**	**298**	Pn	**Pn**	**20 00 46.8**	**+1.9**
KLNJ	**Kolanjah**	**4.86**	**274**	Pn	**Pn**	**20 00 49.9**	**+2.3**
TBJM	**Torbat-e-JAM**	**5.15**	**29**	Pn	**Pn**	**20 00 52.9**	**+1.5**
KRSH	**Karshahi**	**5.35**	**307**	Pn	**Pn**	**20 00 57.0**	**+2.9**
IKLH	**Kolahrood**	**5.42**	**299**	Pn	**Pn**	**20 00 57.0**	**+1.8**
ISFB	**Sefidab**	**5.51**	**311**	Pn	**Pn**	**20 00 58.7**	**+2.5**
SBZV	**Sabzevar**	**5.58**	**3**	Pn	**Pn**	**20 00 59.0**	**+1.7**
SRVN	**Saravan**	**5.64**	**126**	Pn	**Pn**	**20 00 60.0**	**+1.9**
JRKH	**Jarkhoshk**	**5.71**	**26**	Pn	**Pn**	**20 01 01.0**	**+2.0**
IVRN	**Varamin**	**6.24**	**313**	Pn	**Pn**	**20 01 08.5**	**+2.2**
IKRD	**Kardeh**	**6.25**	**17**	Pn	**Pn**	**20 01 08.4**	**+1.8**
ISFR	**Sfrayin**	**6.26**	**6**	Pn	**Pn**	**20 01 08.2**	**+1.4**
GEYT	**Alibeck**	**7.14**	**6**	Pn	**Pn**	**20 01 21.9**	**+3.2**
	0.3nm,0.3s,baz=193,slow=18,SNR=2.0						
GEYT				LR	LR	20 04 32.8	
	comp=Z,222nm,18.4s,baz=167,slow=41						
	0.9nm,0.4s						
WSAR	**Wadi Sarin**	**7.64**	**170**	Pn	**Pn**	**20 01 27.0**	**+1.6**
	2.6nm,0.3s,baz=7.7,slow=9.0,SNR=26						
AAK	**Ala-Archa**	**18.15**	**45**	LR	LR	20 11 50.3	
	comp=Z,49nm,18.5s,baz=298,slow=40						
AKTO	**Aktyubinsk**	**19.62**	**1**	P	**Pn**	**20 04 03.7**	**-0.2**
	0.4nm,0.3s,baz=172,slow=8.0,SNR=8.1						
AKTO				LR	LR	20 13 12.0	
	comp=Z,103nm,18.6s,baz=214,slow=41						
	1.2nm,0.4s						
BVAR	**Borovoye Array**	**24.19**	**20**	P	**P**	**20 04 51.8**	**+1.3**
	0.8nm,0.4s,baz=193,slow=5.8,SNR=8.5						
BVAR				LR	LR	20 15 43.1	
	comp=Z,101nm,18.9s,baz=236,slow=40						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**25.07**	**43**	P	**P**	**20 04 59.7**	**+1.1**
	1.9nm,1.0s,baz=229,slow=9.6,SNR=6.6						
MKAR				LR	LR	20 16 23.9	
	comp=Z,57nm,19.7s,baz=239,slow=40						
	1.9nm,1.0s						
KURBB	**Kurchatov Arra**	**25.38**	**33**	P	**P**	**20 05 02.9**	**+1.6**
	1.6nm,1.0s,baz=231,slow=9.0,SNR=10						
	1.6nm,1.0s						
KIRV	**Kirov**	**28.29**	**351**	LR	LR	20 19 04.4	
	comp=Z,115nm,21.4s,baz=256,slow=41						
ZALV	**Zalesovo Beam**	**30.48**	**33**	P	**P**	**20 05 47.4**	**+0.5**
	2.7nm,0.8s,baz=236,slow=9.8,SNR=14						
ZALV				LR	LR	20 19 36.7	
	comp=Z,56nm,18.0s,baz=104,slow=39						
	2.7nm,0.8s						
FINES	**FINESS Array B**	**36.81**	**335**	P	**P**	**20 06 43.6**	**+1.8**
	5.3nm,0.9s,baz=130,slow=11,SNR=6.8						
	5.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**39.63**	**98**	P	**P**	**20 07 06.6**	**+0.4**
	0.3nm,0.7s,baz=309,slow=8.4,SNR=4.4						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**53.89**	**264**	P	**P**	**20 08 56.8**	**-1.1**
	0.8nm,0.7s,baz=53,slow=7.4,SNR=6.3						
	0.8nm,0.7s						
BOSA	**Boshof**	**66.49**	**211**	LR	LR	20 39 19.8	
	comp=Z,27nm,19.6s,baz=28,slow=36						
KDAK	**Kodiak Island**	**88.26**	**15**	LR	LR	20 59 43.0	
	comp=Z,68nm,21.6s,baz=87,slow=41						

KRNET ***12*** *20:25:29.1±0.1,39°.56N×74°.04E,h13km,mb2.8*
SOME ***12*** *20:25:32.5,39°.78N×74°.22E,h5km*
NNC ***12*** *20:25:33.8±2.5,39°.82N×74°.25E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=17.2km s-min=13.7km az=4.0*
ISC 12 20:25:27.4±1.8,39°.62N±0°.07×74°.19E±0°.04,h13km±16km, n38,σ0s99/51,21C-9D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.66**	**307**	⇑*iP*	**Pb**	**20 25 40.9**	**0.0**
	baz=18						
SFK				⇑*iS*	**Sb**	**20 25 50.2**	**+0.1**
	baz=18						
OHH	**Osh**	**1.41**	**310**	⇑*iP*	**Pg**	**20 25 54.6**	**+0.1**
	baz=15						
OHH				⇑*iS*	**Sg**	**20 26 13.8**	**+1.0**
	baz=15						
DRK	**Karamyk**	**1.85**	**266**	⇓*eP*	**Pb**	**20 26 01.5**	**+0.2**
	baz=68						
DRK				⇓*eS*	**Sb**	**20 26 25.3**	**+0.8**
	baz=68						
ARSB	**Arslanbob**	**1.94**	**332**	⇑*eP*	**Pg**	**20 26 05.3**	**+0.7**
	baz=36						
ARSB				⇑*iS*	**Sg**	**20 26 31.5**	**+1.8**
	baz=36						
ARLS	**Aral**	**2.24**	**3**	⇑*iP*	**Pg**	**20 26 10.3**	**-0.2**
	baz=5.0						
ARLS				⇑*iS*	**Sg**	**20 26 40.3**	**+0.7**
	baz=5.0						
NRN	**Naryn**	**2.28**	**37**	⇑*eP*	**Pg**	**20 26 11.3**	**+0.1**
	baz=38						
NRN				⇑*eS*	**Sg**	**20 26 41.8**	**+1.1**
	baz=38						
AML	**Almayashu**	**2.54**	**352**	⇓*eP*	**Pg**	**20 26 14.6**	**-1.5**
	baz=54						
AML				⇓*iS*	**Sg**	**20 26 47.4**	**-1.7**
	baz=54						
AML	**Almayashu**	**2.54**	**352**	⇑Pg	**Pg**	**20 26 17.6**	**+1.5**
	0.2nm,0.3s						
AML				⇓Lg	Lg	20 26 51.4	
	5.1nm,0.7s						
KZA	**Kyzart**	**2.59**	**18**	⇑*iP*	**Pg**	**20 26 15.8**	**-1.2**
	baz=20						
KZA				⇑*iS*	**Sg**	**20 26 49.6**	**-1.0**
	baz=20						
UCH	**Uchtor**	**2.62**	**5**	⇓*iP*	**Pg**	**20 26 15.9**	**-1.8**
	baz=7.0						
UCH				⇓*iS*	**Sg**	**20 26 49.9**	**-1.7**
	baz=7.0						
BTK	**Batken**	**2.63**	**281**	⇑*eP*	**Pb**	**20 26 13.4**	**-1.1**
	baz=82						
BTK				⇑*eS*	**Sb**	**20 26 45.9**	**-0.8**
	baz=82						
ARK	**Arkit**	**2.76**	**323**	⇑*iP*	**Pb**	**20 26 16.2**	**-0.4**
	baz=25						
ARK				⇑*iS*	**Sb**	**20 26 50.8**	**+0.4**
	baz=25						
KBK	**Karagaybulak**	**3.09**	**10**	⇑*eP*	**Pb**	**20 26 22.4**	**+0.1**
	baz=12						
KBK				⇑*iS*	**Sb**	**20 27 01.1**	**+1.1**
	baz=12						
MRKS	**Merke**	**3.21**	**347**	*e*Pg	**Pg**	**20 26 29.1**	**+0.2**
	2.1nm,0.3s						
MRKS				*e*Lg	Lg	20 27 09.6	
	14nm,0.6s						
MRKS	**Merke**	**3.21**	**347**	Pg	**Pg**	**20 26 27.8**	**-1.0**
	3.2nm,0.4s						
MRKS				Lg	Lg	20 27 08.0	
	7.9nm,0.3s						
TKM2	**Tokmak 2**	**3.47**	**17**	⇓*eP*	**Pb**	**20 26 27.8**	**-1.0**
	baz=19						
TKM2				⇓*iS*	**Sb**	**20 27 10.4**	**-0.4**
	baz=19						
TKM2	**Tokmak 2**	**3.47**	**17**	⇑Pg	**Pb**	**20 26 30.7**	**+1.9**
	1.5nm,0.5s						
TKM2				⇑Lg	Lg	20 27 17.6	
	9.6nm,0.8s						
KST	**Kastek**	**3.67**	**21**	*e*Pg	**Pg**	**20 26 37.2**	**-0.5**
	6.3nm,0.7s						
KST				*e*Lg	Lg	20 27 23.9	
	20nm,0.7s						
KST	**Kastek**	**3.67**	**21**	Pg	**Pb**	**20 26 34.2**	**+1.9**
	8.0nm,0.6s						
KST				Lg	Lg	20 27 18.7	
	34nm,0.5s						
SGDS	**Sogindy**	**3.84**	**5**	Pg	**Pg**	**20 26 41.1**	**0.0**
	3.0nm,0.4s						
SGDS				Lg	Lg	20 27 30.6	
	6.2nm,0.5s						
MTBS	**Maitube**	**3.89**	**25**	*e*Pg	**Pg**	**20 26 42.4**	**+0.4**
	3.0nm,0.2s						
MTBS				*e*Lg	Lg	20 27 32.6	
	7.8nm,0.6s						
MTBS	**Maitube**	**3.89**	**25**	Pg	**Pg**	**20 26 42.4**	**+0.4**
	3.0nm,0.2s						
MTBS				Lg	Lg	20 27 32.6	
	7.8nm,0.6s						
TNSS	**Tian-Shan**	**4.00**	**30**	*e*Pg	**Pg**	**20 26 44.4**	**+0.4**
	7.3nm,0.2s						
TNSS				*e*Lg	Lg	20 27 36.0	
	5.3nm,0.6s						
TNSS	**Tian-Shan**	**4.00**	**30**	Pg	**Pg**	**20 26 44.4**	**+0.4**
	7.3nm,0.2s						
TNSS				Lg	Lg	20 27 36.0	
	5.3nm,0.6s						
MDOK	**Medeo**	**4.14**	**30**	*e*Pg	**Pg**	**20 26 47.0**	**+0.2**
	8.7nm,0.6s						
MDOK				*e*Lg	Lg	20 27 40.3	
	9.5nm,0.7s						
MDOK	**Medeo**	**4.14**	**30**	Pg	**Pg**	**20 26 47.0**	**+0.2**
	8.7nm,0.6s						
MDOK				Lg	Lg	20 27 40.3	
	9.5nm,0.7s						
KRBS	**Karabastau**	**4.22**	**15**	*e*Pg	**Pg**	**20 26 47.5**	**-0.8**
	1.9nm,0.4s						
KRBS				*e*Lg	Lg	20 27 41.7	
	9.2nm,0.8s						
KRBS	**Karabastau**	**4.22**	**15**	Pg	**Pg**	**20 26 47.5**	**-0.8**
	1.9nm,0.4s						
KRBS				Lg	Lg	20 27 41.7	
	9.2nm,0.8s						
KOTS	**Kotyrbulak**	**4.23**	**30**	*e*Pg	**Pg**	**20 26 48.5**	**0.0**
	13nm,0.7s						
KOTS				*e*Lg	Lg	20 27 42.8	
	19nm,0.9s						
KOTS	**Kotyrbulak**	**4.23**	**30**	Pg	**Pg**	**20 26 48.5**	**0.0**
	13nm,0.7s						
KOTS				Lg	Lg	20 27 42.8	
	19nm,0.9s						
KUU	**Kurty**	**4.56**	**20**	*e*Pg	**Pg**	**20 26 53.5**	**-1.3**
	4.3nm,0.7s						
KUU				*e*Lg	Lg	20 27 51.7	
	9.3nm,0.6s						
KUU	**Kurty**	**4.56**	**20**	Pg	**Pg**	**20 26 53.5**	**-1.3**
	4.3nm,0.7s						
KUU				Lg	Lg	20 27 52.2	
	6.5nm,0.7s						
SATY	**Saty**	**4.68**	**41**	*e*Pg	**Pg**	**20 26 56.6**	**-0.5**
	5.7nm,0.8s						
SATY				*e*Lg	Lg	20 27 57.4	
	6.6nm,0.8s						
SATY	**Saty**	**4.68**	**41**	Pg	**Pg**	**20 26 56.6**	**-0.5**
	5.7nm,0.8s						
SATY				Lg	Lg	20 27 57.4	
	6.6nm,0.8s						
CHKK	**Chushkaly**	**4.72**	**25**	*e*Pg	**Pg**	**20 26 57.2**	**-0.6**
	1.7nm,0.3s						
CHKK				*e*Lg	Lg	20 27 58.0	
	5.0nm,0.3s						
CHKK	**Chushkaly**	**4.72**	**25**	Pg	**Pg**	**20 26 57.2**	**-0.6**
	1.7nm,0.3s						
CHKK				Lg	Lg	20 27 58.1	
	5.0nm,0.3s						
KPKS	**Kokpek**	**5.11**	**40**	*e*Pg	**Pg**	**20 27 04.2**	**-1.1**
	3.9nm,0.4s						
KPKS				*e*Lg	Lg	20 28 10.1	
	9.1nm,0.6s						
KPKS	**Kokpek**	**5.11**	**40**	Pg	**Pg**	**20 27 04.2**	**-1.1**
	3.9nm,0.4s						
KPKS				Lg	Lg	20 28 10.1	
	9.1nm,0.6s						

IDC ***12*** *21:24:17.2±3.6,22°.33N×143°.74E,h104km±31km, mb3.8/17,mbtmp4.2/18,MS2.5/1,Error ellipse: s-maj=20.2km s-min=15.1km az=84.0*
NEIC ***12*** *21:24:19.2±1.2,22°.31N±0°.09×143°.7E±0°.1,h114km±7km, mb4.5/54,Error ellipse: s-maj=17.8km s-min=13.1km az=83.0*
ISC 12 21:24:19.0±0.6,22°.34N±0°.08×143°.67E±0°.10,h118km,n98, σ0s81/98,mb4.4/41,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.92**	**344**	Pn	**Pn**	**21 25 30.8**	**-0.1**
JCJ				Sn	**Sn**	**21 26 25.5**	**-1.3**
JCJ	**Chichijima**	**4.92**	**344**	P	**Pn**	**21 25 27.5**	**-3.4**
	45nm,0.4s,baz=328,slow=20,SNR=2.0						
JCJ				LR	LR	21 27 23.9	
	comp=Z,52nm,20.3s,baz=92,slow=38						
JMN	**Monobe**	**14.25**	**325**	Pn	**Pn**	**21 27 36.6**	**+1.1**
MJAR	**Matsushiro Arr**	**14.93**	**343**	P	**P**	**21 27 47.8**	**+1.2**
	1.9nm,0.3s,baz=117,slow=22,SNR=9.3						
MAJO	**Matsushiro**	**14.93**	**343**	Pn	**Pn**	**21 27 44.0**	**0.0**
MJB9	**Matsu-Tunnel**	**14.93**	**343**	Pn	**Pn**	**21 27 45.2**	**+1.2**
JNU	**Nakatsue**	**15.59**	**316**		**P**	**21 27 53.8**	**-0.3**
JNU				IAmb	IAmb	21 28 06.3

KS19	**Wonju Array Si**	**20.35**	**321**	P	**P**	**21 28 46.7**	**+0.7**
KS19				IAmb	IAmb	21 29 10.1	
	comp=Z,33nm,1.3s						
NACB	**Ninganchiao**	**20.36**	**279**	P	**P**	**21 28 46.5**	**+0.2**
NACB				IAmb	IAmb	21 28 48.4	
	comp=Z,18nm,0.9s						
YULB	**Yu-li**	**20.64**	**277**	P	**P**	**21 28 49.5**	**+0.2**
SSLB	**Suanglung**	**20.95**	**278**	P	**P**	**21 28 53.8**	**+1.2**
TPUB	**Ta-pu**	**21.26**	**277**	P	**P**	**21 28 56.0**	**+0.1**
H11S3	**WAKE ISLAND Hy**	**21.90**	**96**	T	T	21 51 30.6	
	baz=283,slow=75,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**21.91**	**96**	T	T	21 51 43.3	
	baz=283,slow=75,SNR=4.6						
H11S2	**WAKE ISLAND Hy**	**21.92**	**96**	T	T	21 51 42.6	
	baz=283,slow=75,SNR=4.2						
USA0B	**Ussuriysk Arra**	**23.84**	**339**	P	**P**	**21 29 21.1**	**-0.1**
USA0B				IAmb	IAmb	21 29 30.6	
	comp=Z,13nm,0.9s						
USRK	**Ussuriysk Ar.**	**23.84**	**339**	P	**P**	**21 29 21.8**	**+0.6**
USRK	**Ussuriysk Ar.**	**23.84**	**339**	P	**P**	**21 29 22.8**	**+1.6**
	comp=Z,6.7nm,0.7s,baz=111,slow=10,SNR=7.1						
	comp=Z,6.7nm,0.7s						
ULN	**Ulaanbaatar**	**38.76**	**320**	P	**P**	**21 31 32.7**	**+0.7**
SONM	**Songino Array**	**39.14**	**320**	P	**P**	**21 31 35.9**	**+0.8**
SONM	**Songino Array**	**39.14**	**320**	P	**P**	**21 31 36.0**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=133,slow=7.5,SNR=15						
	comp=Z,1.9nm,0.5s						
CRAI	**Chiangrai**	**40.30**	**275**	P	**P**	**21 31 44.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**41.99**	**273**	P	**P**	**21 31 59.1**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=63,slow=7.3,SNR=6.5						
	comp=Z,0.8nm,0.6s						
WB0	**Warramunga Arr**	**42.82**	**193**	P	**P**	**21 32 04.1**	**-1.2**
WB0				IAmb	IAmb	21 32 23.9	
	comp=Z,7.3nm,1.2s						
WRA	**Warramunga Arr**	**43.00**	**193**	P	**P**	**21 32 06.2**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=9.5,slow=8.5,SNR=14						
	comp=Z,0.3nm,0.3s						
KULM	**Kulim**	**44.87**	**254**	P	**P**	**21 32 22.5**	**+0.6**
KULM				IAmb	IAmb	21 32 48.1	
	comp=Z,12nm,1.4s						
ASAR	**Alice Springs**	**46.70**	**192**	P	**P**	**21 32 35.9**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=12,slow=7.9,SNR=4.3						
	comp=Z,0.2nm,0.4s						
SHL	**Shillong**	**47.20**	**285**	P	**P**	**21 32 39.5**	**-0.8**
SHL				IAmb	IAmb	21 32 41.5	
	comp=Z,4.5nm,0.6s						
LSA	**Lhasa**	**47.43**	**290**	P	**P**	**21 32 42.5**	**+0.1**
LSA				IAmb	IAmb	21 32 44.6	
	comp=Z,3.5nm,0.7s						
GSI	**Gunungsitoli**	**49.43**	**251**	P	**P**	**21 32 56.9**	**-0.4**
TIXI	**Tiksi**	**50.06**	**354**	P	**P**	**21 33 01.3**	**+0.1**
TIXI				IAmb	IAmb	21 33 05.3	
	comp=Z,5.9nm,1.4s						
TAPN	**Taplejung**	**50.68**	**288**	*e*P	**P**	**21 33 07.2**	**+0.2**
	comp=Z,5.1nm,0.4s						
RAMN	**Ramite**	**51.71**	**287**	*e*P	**P**	**21 33 13.7**	**-1.0**
JIRN	**Jiri**	**51.98**	**288**	*e*P	**P**	**21 33 17.1**	**+0.3**
	comp=Z,9.7nm,0.6s						
GUN	**Gumba**	**52.22**	**289**	*e*P	**P**	**21 33 18.9**	**+0.4**
	comp=Z,5.5nm,0.4s						
PKI	**Pulchoki**	**52.67**	**288**	*e*P	**P**	**21 33 20.8**	**-1.1**
GKN	**Gorkha**	**53.29**	**289**	*e*P	**P**	**21 33 26.2**	**0.0**
	comp=Z,4.4nm,0.3s						
M14K	**Bethel**	**53.55**	**30**	P	**P**	**21 33 27.8**	**+0.5**
ZAA0	**Zalesovo Array**	**53.99**	**321**	P	**P**	**21 33 30.1**	**-0.5**
ZAA0				IAmb	IAmb	21 33 31.2	
	comp=Z,3.2nm,0.7s						
ZALV	**Zalesovo Beam**	**53.99**	**321**	P	**P**	**21 33 30.1**	**-0.5**
ZALV				PcP	**PcP**	**21 34 33.5**	**-0.8**
ZALV	**Zalesovo Beam**	**53.99**	**321**	P	**P**	**21 33 30.4**	**-0.2**
	comp=Z,2.6nm,0.5s,baz=112,slow=8.0,SNR=15						
	comp=Z,2.6nm,0.5s						
DANN	**Dangsing**	**54.01**	**290**	*e*P	**P**	**21 33 32.1**	**+0.5**
	comp=Z,37nm,0.6s						
N15K	**Kwethluk River**	**54.23**	**31**	P	**P**	**21 33 33.4**	**+1.0**
MK31	**Makanchi Array**	**54.60**	**312**	P	**P**	**21 33 35.5**	**+0.2**
MK31				IAmb	IAmb	21 33 36.7	
	comp=Z,7.6nm,1.2s						
MK31				PcP	**PcP**	**21 34 36.6**	**-0.2**
MKAR	**Makanchi Array**	**54.60**	**312**	P	**P**	**21 33 35.9**	**+0.7**
MKAR				PcP	**PcP**	**21 34 36.6**	**-0.3**
MKAR	**Makanchi Array**	**54.60**	**312**	P	**P**	**21 33 35.8**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=86,slow=8.9,SNR=39						
	comp=Z,2.1nm,0.6s						
PYUN	**Piuthan**	**54.72**	**289**	*e*P	**P**	**21 33 36.5**	**-0.1**
	comp=Z,8.4nm,0.5s						
MAKZ	**Makanchi**	**54.82**	**312**	P	**P**	**21 33 37.4**	**+0.6**
MAKZ				IAmb	IAmb	21 33 38.5	
	comp=Z,8.4nm,1.1s						
PRZ	**Przheval'sk**	**57.26**	**307**	P	**P**	**21 33 56.0**	**+1.5**
KURK	**Kurchatov**	**57.32**	**317**	P	**P**	**21 33 54.6**	**+0.1**
KURBB	**Kurchatov Arra**	**57.37**	**317**	P	**P**	**21 33 55.0**	**+0.2**
	comp=Z,14nm,0.7s,baz=92,slow=7.6,SNR=192						
	comp=Z,14nm,0.7s						
E19K	**Redstone River**	**57.86**	**23**	P	**P**	**21 33 58.9**	**+0.9**
E19K				IAmb	IAmb	21 34 23.4	
	comp=Z,5.3nm,1.4s						
IMAR	**Indian Mountai**	**58.72**	**25**	P	**P**	**21 34 04.8**	**+0.8**
NRN	**Naryn**	**59.09**	**306**	P	**P**	**21 34 08.0**	**+0.6**
BPAW	**Bear Paw Mtn.**	**59.39**	**28**	P	**P**	**21 34 09.3**	**+0.6**
TRF	**Thorofare Moun**	**59.57**	**28**	P	**P**	**21 34 09.9**	**-0.2**
TRF				IAmb	IAmb	21 34 28.7	
	comp=Z,5.0nm,1.1s						
AAK	**Ala-Archa**	**60.14**	**307**	P	**P**	**21 34 14.9**	**+0.5**
C23K	**Itkillik River**	**60.89**	**21**	P	**P**	**21 34 20.0**	**+1.2**
C23K				IAmb	IAmb	21 34 21.3	
	comp=Z,8.7nm,1.1s						
ILAR	**Eielson Array**	**61.27**	**27**	P	**P**	**21 34 20.2**	**-1.2**
ILAR	**Eielson Array**	**61.27**	**27**	P	**P**	**21 34 20.5**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=264,slow=5.6,SNR=9.7						
	comp=Z,0.5nm,0.6s						
ARSB	**Arslanbob**	**61.37**	**306**	P	**P**	**21 34 23.0**	**+0.3**
NIL	**Nilore**	**62.14**	**297**	P	**P**	**21 34 28.4**	**+0.5**
NIL				IAmb	IAmb	21 34 29.6	
	comp=Z,7.3nm,1.0s						
D25K	**Kavik River**	**62.23**	**22**	P	**P**	**21 34 28.9**	**+1.0**
D25K				IAmb	IAmb	21 34 29.6	
	comp=Z,3.2nm,0.5s						
SCRK	**Sand Creek**	**62.42**	**28**	P	**P**	**21 34 29.2**	**-0.1**
SCRK				IAmb	IAmb	21 34 45.5	
	comp=Z,7.8nm,1.4s						
BVAR	**Borovoye Array**	**62.48**	**319**	P	**P**	**21 34 30.1**	**+0.4**
	comp=Z,21nm,0.4s,baz=90,slow=7.3,SNR=233						
BRVK	**Borovoye**	**62.54**	**319**	P	**P**	**21 34 30.4**	**+0.2**
BMAR	**Burnt Mountain**	**62.58**	**24**	P	**P**	**21 34 31.1**	**+0.9**
KK31	**Karatay Array**	**63.02**	**308**	P	**P**	**21 34 33.7**	**+0.2**
KK31				IAmb	IAmb	21 34 34.8	
	comp=Z,7.8nm,1.4s						
KKAR	**Karatay Array**	**63.02**	**308**	P	**P**	**21 34 34.1**	**+0.6**
BCAR	**Beaver Creek A**	**63.33**	**29**	P	**P**	**21 34 35.8**	**+0.5**
GAR	**Garm**	**63.67**	**304**	P	**P**	**21 34 38.2**	**+0.1**
GAR				IAmb	IAmb	21 34 39.2	
	comp=Z,5.8nm,0.7s						
D27M	**Malcolm River**	**64.12**	**23**	P	**P**	**21 34 41.8**	**+1.4**
D27M				IAmb	IAmb	21 34 53.9	
	comp=Z,6.2nm,1.3s						
CHGR	**Chuyangaron**	**64.62**	**303**	P	**P**	**21 34 44.6**	**+0.4**
KBL	**Kabul**	**65.42**	**299**	P	**P**	**21 34 49.4**	**-0.2**
KBL				IAmb	IAmb	21 34 50.5	
	comp=Z,7.1nm,0.9s						
INK	**Inuvik**	**66.80**	**24**	P	**P**	**21 34 57.8**	**+0.3**
ARU	**Arti**	**69.02**	**324**	P	**P**	**21 35 11.3**	**-0.3**
ARU				IAmb	IAmb	21 35 12.1	
	comp=Z,7.6nm,0.7s						
ABKAR	**Akbulak array**	**69.41**	**316**	P	**P**	**21 35 13.9**	**-0.3**
ABKAR				IAmb	IAmb	21 35 14.7	
	comp=Z,7.1nm,0.7s						
ABKAR	**Akbulak array**	**69.41**	**316**	P	**P**	**21 35 14.0**	**-0.2**
HRA	**Herat**	**70.94**	**300**	P	**P**	**21 35 24.0**	**-0.1**
EUNU	**Eureka**	**74.40**	**8**	P	**P**	**21 35 43.6**	**0.0**
YKA	**Yellowknife Ar**	**75.68**	**28**	P	**P**	**21 35 51.2**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=291,slow=5.5,SNR=8.9						
	comp=Z,0.7nm,0.6s						
ARCES	**ARCESS Array B**	**78.46**	**342**	P	**P**	**21 36 06.7**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=71,slow=8.9,SNR=19						
	comp=Z,1.9nm,0.5s						
J05D	**Fort Rock, OR**	**78.57**	**48**	P	**P**	**21 36 08.5**	**+0.6**
K05A	**Summer Lake**	**79.00**	**48**	P	**P**	**21 36 10.3**	**+0.1**
K05A				IAmb	IAmb	21 36 21.9	
	comp=Z,13nm,1.5s						
KBZ	**Khabaz**	**82.25**	**314**	P	**P**	**21 36 27.7**	**+0.4**
	comp=Z,6.2nm,0.8s,baz=122,slow=2.4,SNR=18						
	comp=Z,6.2nm,0.8s						
ONI	**Oni**	**82.33**	**313**	P	**P**	**21 36 28.2**	**+0.4**
ONI				IAmb	IAmb	21 36 30.4	
	comp=Z,6.9nm,1.0s						

NVAR	**Mina Array Bea**	**82.39**	**52**	P	**P**	**21 36 28.9**	**+0.4**
NVAR	**Mina Array Bea**	**82.39**	**52**	P	**P**	**21 36 29.2**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=282,slow=5.7,SNR=8.9						
	comp=Z,0.9nm,0.7s						
FINES	**FINESS Array B**	**82.80**	**335**	P	**P**	**21 36 28.7**	**-1.1**
	comp=Z,3.3nm,0.6s,baz=64,slow=4.8,SNR=34						
	comp=Z,3.3nm,0.6s						
FFC	**Flin Flon**	**85.05**	**32**	P	**P**	**21 36 41.7**	**+0.4**
AKASG	**Malin Array Be**	**87.25**	**325**	P	**P**	**21 36 50.5**	**-1.7**
	comp=Z,1.1nm,0.4s,baz=53,slow=5.3,SNR=5.5						
	comp=Z,1.1nm,0.4s						
HFS	**Hagfors**	**88.31**	**337**	P	**P**	**21 36 55.1**	**-1.9**
	comp=Z,1.2nm,0.5s,baz=83,slow=4.6,SNR=7.6						
	comp=Z,1.2nm,0.5s						
NOA	**NORSAR Array B**	**88.51**	**339**	P	**P**	**21 36 56.5**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=45,slow=4.9,SNR=3.5						
	comp=Z,0.9nm,0.7s						
NC602	**NORSAR Array S**	**88.63**	**339**	P	**P**	**21 36 58.6**	**0.0**
PLCA	**Paso Flores**	**145.83**	**130**	PKPbc	**PKPdf**	**21 43 44.2**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=231,slow=2.4,SNR=8.3						

DSN ***12*** *21:41:26.2±1.1,31.0ʺ02N×58.4ʺ42E,h15km,mb6.0/4, ML5.8/11, Error ellipse: s-maj=24.0km s-min=5.3km az=86.0*

TEH ***12*** *21:41:29.7,30.8ʺ80N×57.3ʺ31E,h8km±32km,ML6.0*

IDC ***12*** *21:41:29.4±0.3,30.7ʺ78N×57.5ʺ30E,h0km,mb5.3/34, mbtmp5.3/43,ML4.7/9,MS6.0/80,Error ellipse: s-maj=8.2km s-min=6.9km az=147.0*

MOS ***12*** *21:41:29.6±0.8,30.8ʺ80N×57.2ʺ28E,h11km,mb6.1/98, MS6.1/89,Error ellipse: s-maj=4.0km s-min=2.7km az=121.8*

THR ***12*** *21:41:30.6±1.2,30.2ʺ81N×57.2ʺ27E,h15km±7km,ML5.9*

NEIC ***12*** *21:41:31.1±1.6,30.3ʺ83N±0.0ʺ06×57.3ʺ30E±0.0ʺ08,h8km±1km, mb6.0/251,Ms_20 6.2/1157,Mwb5.9/71,Mww6.0/38,Error ellipse: s-maj=11.4km s-min=10.6km az=299.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr6.09; Mθθ-6.30; Mϕϕ0.20; Mrθ-5.09; Mθϕ3.13; Mϕr3.68; Fault plane solution: Mo9.36000×10¹⁷ NP1:ϕs98.17000°, δ25.32000°,λ,67.67000°. NP2:ϕs302.61000°,δ66.70000°, λ100.19000°. Principal axes: T 8.6958, Plg67.0000°, Azm231.0000°; N 1.2188, Plg9.0000°, Azm119.0000°; P -9.9146, Plg21.0000°, Azm25.0000°;*

NEIC ***12*** *21:41:31.7,31.0ʺ04N×57.1ʺ16E,h12km, Moment Tensor Solution. Duration: 5ᵉ1 Moment tensor: Scale 10¹⁸Nm; Mrr1.32; Mθθ-1.06; Mϕϕ-0.26; Mrθ-0.58; Mθϕ0.43; Mϕr0.41; Fault plane solution: Mo1.47000×10¹⁸ NP1: ϕs298.82000°,δ59.53000°,λ,95.33000°. NP2: ϕs108.39000°,δ30.89000°,λ81.02000°. Principal axes: T 1.5104, Plg75.0000°, Azm223.0000°; N -0.0830, Plg5.0000°, Azm116.0000°; P -1.4274, Plg14.0000°, Azm25.0000°;*

IPGP ***12*** *21:41:31.0,30.8ʺ84N×57.2ʺ27E,h6km,Mw6.0,Fault plane solution: NP1:ϕs291.00000°,δ57.00000°,λ,91.00000°. NP2:ϕs109.00000°,δ33.00000°,λ,89.00000°.*

NEIC ***12*** *21:41:31.7,30.8ʺ84N×57.2ʺ28E,h12km*

BJI ***12*** *21:41:31.8,30.8ʺ80N×57.2ʺ25E,h10km,mb5.5/86,mB6.2/83, Ms6.4/93,Ms7 6.3/88*

GCMT ***12*** *21:41:31.1±0.1,30.7ʺ74N×57.1ʺ13E,h12km,MW6.0/165, Moment Tensor Solution. s162,c332; s165,c615; Duration: 2ᵉ5 Moment tensor: Scale 10¹⁸Nm; Mrr1.20±.01; Mθθ-1.15±.01; Mϕϕ-0.05±.01; Mrθ-0.66±.02; Mθϕ0.45±.01; Mϕr0.18±.02; Best double couple: Mo1.42900×10¹⁸ NP1:ϕs287.00000°,δ59.00000°, λ87.00000°. NP2:ϕs112.00000°,δ31.00000°,λ94.00000°. Principal axes: T 1.3730, Plg76.0000°, Azm190.0000°; N 0.1050, Plg2.0000°, Azm289.0000°; P -1.4840, Plg14.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***12*** *21:41:32,30.8ʺ84N×57.2ʺ28E,h10km*

OMAN ***12*** *21:41:32.2±0.0,30.6ʺ63N×57.2ʺ20E,h10km,mb6.1/47, ml5.9/3,ms5.8/22,Mwp6.4/34,Error ellipse: s-maj=0.7km s-min=0.4km az=289.0*

ISC 12 21:41:30.9±0.3,30.76N±0.0ʺ02×57.24E±0.0ʺ02,h8km±1km, h9km:pP-P,n2638,σ1§60/2503,mb5.9/402,MS6.2/764, 286C-89D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.64**	**289**	Pg	**Pg**	**21 41 43.3**	**-0.1**
ZRDN				Sg	**Sg**	**21 41 53.0**	**+1.1**
KHGB	**Koh Gabri**	**0.77**	**240**	Pg	**Pg**	**21 41 45.3**	**-0.4**
TVBK	**TV Kerman**	**0.88**	**209**	Pg	**Pg**	**21 41 47.8**	**0.0**
KRBR	**Kerman**	**0.88**	**208**	*e*Pg	**Pg**	**21 41 48.0**	**+0.2**
CHMN	**Cheshme madani**	**0.93**	**164**	Pg	**Pg**	**21 41 47.5**	**-1.3**
NGRK	**Negar Kerman**	**1.20**	**202**	Pg	**Pg**	**21 41 53.7**	**-0.2**
NGRK				Sg	**Sn**	**21 42 11.3**	**+0.4**
IBAF	**Bafgh**	**1.66**	**300**	Pg	**Pn**	**21 42 01.0**	**+0.6**
KBAM	**BAM**	**1.93**	**147**	Pn	**Pn**	**21 42 04.6**	**+0.5**
BSRN	**Basiran**	**2.01**	**53**	*e*Pn	**Pn**	**21 42 05.6**	**+0.5**
BSRN				*e*Sg	**Sb**	**21 42 32.8**	**-0.2**
BSRN	**Basiran**	**2.01**	**53**	Pn	**Pn**	**21 42 04.7**	**-0.5**
IKOO	**Kooshah**	**2.24**	**42**	Pn	**Pn**	**21 42 07.9**	**-0.6**
TPRV	**Parvadeh(Tabas**	**2.31**	**348**	Pn	**Pn**	**21 42 09.3**	**0.0**
IMEH	**Mehriz**	**2.34**	**286**	Pn	**Pn**	**21 42 10.9**	**+1.0**
ITEG	**Tejag**	**2.49**	**31**	Pn	**Pn**	**21 42 11.4**	**-0.4**
NHDN	**Nehbandan**	**2.49**	**75**	Pn	**Pn**	**21 42 11.5**	**-0.3**
YZKH	**Yazd**	**2.79**	**306**	*e*Pn	**Pn**	**21 42 16.8**	**+1.0**
YZKH				IAML		21 43 11.3	
	comp=N,42μm,0.9s						
KHNJ	**Kahnooj**	**2.83**	**172**	Pn	**Pn**	**21 42 18.3**	**+1.9**
ICHK	**Chekchek**	**2.84**	**302**	Pn	**Pn**	**21 42 17.4**	**+0.7**
TKDS	**Koohdasht(Taba**	**2.85**	**358**	Pn	**Pn**	**21 42 16.4**	**-0.3**
TABS	**Tabas**	**2.88**	**358**	*e*Pn	**Pn**	**21 42 17.5**	**+0.3**
IDAH	**Dahanechah**	**2.98**	**48**	Pn	**Pn**	**21 42 18.5**	**-0.2**
AFRZ	**Afriz**	**3.05**	**29**	Pn	**Pn**	**21 42 19.3**	**-0.3**
TNSJ	**Nastanj**	**3.24**	**351**	Pn	**Pn**	**21 42 21.9**	**-0.2**
ISAD	**Sadrabad**	**3.25**	**292**	Pn	**Pn**	**21 42 23.6**	**+1.2**
ZHSF	**Zahedan**	**3.26**	**110**	*e*Pn	**Pn**	**21 42 23.3**	**+0.9**
IBND	**Bandar-abas**	**3.36**	**191**	Pn	**Pn**	**21 42 25.4**	**+1.9**
ZHDN	**Zahedan**	**3.38**	**113**	Pn	**Pn**	**21 42 24.3**	**+0.4**
GENO	**Geno**	**3.48**	**196**	Pn	**Pn**	**21 42 27.3**	**+1.9**
BNDS	**Bandar-Abbas**	**3.48**	**196**	*e*Pn	**Pn**	**21 42 28.4**	**+3.0**
ANAR	**Anarak**	**3.85**	**310**	Pn	**Pn**	**21 42 30.5**	**0.0**
SHRT	**Shahrakht**	**3.87**	**41**	*e*Pn	**Pn**	**21 42 31.1**	**+0.5**
SHRT	**Shahrakht**	**3.87**	**41**	Pn	**Pn**	**21 42 30.8**	**+0.2**
JHRM	**Jahrom**	**3.90**	**236**	Pn	**Pn**	**21 42 32.7**	**+1.5**
LAR1	**LAR**	**3.97**	**220**	Pn	**Pn**	**21 42 33.7**	**+1.6**
SHI	**Shiraz**	**4.24**	**256**	Pn	**Pn**	**21 42 37.6**	**+1.7**
NASN	**Na'in**	**4.29**	**299**	*e*Pn	**Pn**	**21 42 37.4**	**+0.7**
IRAM	**Ramesheh**	**4.29**	**285**	Pn	**Pn**	**21 42 38.0**	**+1.3**
QIR1	**Qir**	**4.31**	**239**	Pn	**Pn**	**21 42 38.3**	**+1.6**
GHIR	**Ghir-Karzin**	**4.45**	**237**	*e*Pn	**Pn**	**21 42 40.6**	**+1.8**
IZEF	**Zefreh**	**4.69**	**298**	Pn	**Pn**	**21 42 42.8**	**+0.6**
IGAR	**Gharneh**	**4.73**	**292**	Pn	**Pn**	**21 42 43.8**	**+1.1**
SHME	**Shamm**	**4.79**	**192**	*i* P	**Pn**	**21 42 44.8**	**+1.5**
	SNR=29						
SHME	**Shamm**	**4.79**	**192**	P	**Pn**	**21 42 43.0**	**-0.3**
	SNR=21						
SHME				P	**Pn**	**21 42 43.0**	**-0.3**
	SNR=21						
SHME				S	**Sn**	**21 43 38.9**	**-0.1**
SHME				S	**Sn**	**21 43 38.9**	**-0.1**
KLNJ	**Kolanjah**	**4.87**	**274**	Pn	**Pn**	**21 42 46.4**	**+1.7**
JASK	**Jask - Hormozg**	**4.91**	**173**	P	**Pn**	**21 42 45.0**	**+0.1**
	SNR=113						
JASK				S	**Sn**	**21 43 42.3**	**+0.5**
JASK	**Jask - Hormozg**	**4.91**	**173**	Pn	**Pn**	**21 42 46.7**	**+1.9**
TBHD	**Torbat heydari**	**4.93**	**19**	Pn	**Pn**	**21 42 45.2**	**-0.3**
TBJM	**Torbat-e-JAM**	**5.19**	**29**	Pn	**Pn**	**21 42 49.3**	**+0.3**
IBRJ	**Brojen**	**5.25**	**284**	Pn	**Pn**	**21 42 51.7**	**+1.9**
SHRO	**Shahrood**	**5.32**	**349**	*e*Pn	**Pn**	**21 42 51.0**	**+0.4**
SHRO				IAML		21 44 30.4	
	comp=E,4μm,0.5s						
SHRO				IAML		21 44 30.6	
	comp=N,4μm,0.6s						
KRSH	**Karshahi**	**5.38**	**308**	Pn	**Pn**	**21 42 52.2**	**+0.6**
UMQ	**Umm Al-Quwin**	**5.40**	**195**	*i* P	**Pn**	**21 42 54.6**	**+2.9**
	SNR=21						
UMQ	**Umm Al-Quwin**	**5.40**	**195**	P	**Pn**	**21 42 51.8**	**+0.1**
	SNR=23						
UMQ				P	**Pn**	**21 42 51.8**	**+0.1**
	SNR=23						
UMQ				S	**Sn**	**21 43 54.0**	**+0.1**
UMQ				S	**Sn**	**21 43 54.0**	**+0.1**

IKLH	**Kolahrood**	**5.45**	**299**	Pn	**Pn**	**21 42 53.9**	**+1.4**
MASF	**Masafi**	**5.45**	**190**	P	**Pn**	**21 42 52.5**	**0.0**
	SNR=152						
MASF				P	**Pn**	**21 42 52.5**	**0.0**
	SNR=152						
MASF				S	**Sn**	**21 43 55.0**	**-0.4**
MASF				S	**Sn**	**21 43 55.0**	**-0.4**
IANJ	**Anjilo**	**5.46**	**330**	Pn	**Pn**	**21 42 52.8**	**+0.1**
MSFE	**Esma-Masafi**	**5.46**	**190**	*i* P	**Pn**	**21 42 54.5**	**+1.9**
	SNR=73						
ISFB	**Sefidab**	**5.54**	**312**	Pn	**Pn**	**21 42 54.0**	**+0.4**
HRA	**Herat**	**5.56**	**48**	Pn	**Pn**	**21 42 54.5**	**+0.4**
SRVN	**Saravan**	**5.61**	**125**	Pn	**Pn**	**21 42 55.5**	**+0.8**
IMOG	**Moghan**	**5.62**	**18**	Pn	**Pn**	**21 42 54.6**	**-0.3**
SBZV	**Sabzevar**	**5.62**	**3**	Pn	**Pn**	**21 42 54.8**	**-0.1**
ZNGN	**Zangian**	**5.63**	**286**	Pn	**Pn**	**21 42 56.5**	**+1.4**
DSBU	**Dashti - Bushe**	**5.73**	**247**	Pn	**Pn**	**21 42 57.5**	**+1.1**
IPIR	**Pirpir**	**5.74**	**291**	Pn	**Pn**	**21 42 59.8**	**+3.1**
JRKH	**Jarkhoshk**	**5.75**	**26**	Pn	**Pn**	**21 42 56.9**	**+0.3**
QAMS	**Qamsar**	**5.78**	**302**	Pn	**Pn**	**21 42 58.4**	**+1.4**
JHBN	**Jahan bin**	**5.81**	**286**	Pn	**Pn**	**21 42 58.8**	**+1.3**
ILAS	**Lasjerd**	**5.85**	**323**	Pn	**Pn**	**21 42 58.6**	**+0.6**
UOSS	**Minazif**	**5.87**	**189**		**Pn**	**21 43 00.3**	**+2.3**
UOSS	**Minazif**	**5.87**	**189**	*i* P	**Pn**	**21 42 59.4**	**+1.3**
	SNR=63						
UOSS	**Minazif**	**5.87**	**189**	P	**Pn**	**21 42 58.1**	**0.0**
UOSS				P	**Pn**	**21 42 58.1**	**0.0**
UOSS				S	**Sn**	**21 44 04.6**	**-0.9**
UOSS				S	**Sn**	**21 44 04.6**	**-0.9**
UOSS	**Minazif**	**5.87**	**189**	⇑P	**Pn**	**21 43 00.0**	**+1.9**
CHBR	**Chabahar**	**5.88**	**150**	*e*Pn	**Pn**	**21 42 58.3**	**0.0**
CHBR	**Chabahar**	**5.88**	**150**	Pn	**Pn**	**21 42 57.9**	**-0.4**
NAZ	**Nazwa, Dubai**	**5.92**	**194**	*i* P	**Pn**	**21 43 01.6**	**+2.8**
	SNR=91						
NAZ				S	**Sb**	**21 44 17.1**	**-8.2**
NAZ	**Nazwa, Dubai**	**5.92**	**194**	P	**Pn**	**21 42 58.6**	**-0.2**
	SNR=91						
NAZ				P	**Pn**	**21 42 58.6**	**-0.2**
	SNR=91						
NAZ				S	**Sn**	**21 44 06.1**	**-0.7**
NAZ				S	**Sn**	**21 44 06.1**	**-0.7**
IAKL	**Akhelmad**	**5.96**	**12**	Pn	**Pn**	**21 43 00.3**	**+0.7**
HATD	**Hatta, Dubai**	**5.99**	**190**	*i* P	**Pn**	**21 43 03.0**	**+3.1**
	SNR=80						
HATD	**Hatta, Dubai**	**5.99**	**190**	P	**Pn**	**21 42 59.9**	**0.0**
	SNR=40						
HATD				P	**Pn**	**21 42 59.9**	**0.0**
	SNR=40						
HATD				S	**Sn**	**21 44 08.3**	**-0.3**
HATD				S	**Sn**	**21 44 08.3**	**-0.3**
ABEH	**Behbahan**	**6.02**	**270**	Pn	**Pn**	**21 43 01.4**	**+1.1**
IMYA	**Miami**	**6.06**	**22**	Pn	**Pn**	**21 43 02.1**	**+1.3**
ASHO	**Ashiyiah**	**6.14**	**190**	*i* P	**Pn**	**21 43 04.0**	**+2.1**
	SNR=136						
ASHO	**Ashiyiah**	**6.14**	**190**	P	**Pn**	**21 43 01.8**	**-0.1**
	SNR=119						
ASHO				S	**Sn**	**21 44 11.6**	**-0.8**
IFIR	**Firoozkooh**	**6.15**	**323**	Pn	**Pn**	**21 43 01.8**	**-0.4**
FAQ	**Al Faqa, Dubai**	**6.17**	**194**	*i* P	**Pn**	**21 43 04.6**	**+2.3**
	SNR=20						
FAQ	**Al Faqa, Dubai**	**6.17**	**194**	P	**Pn**	**21 43 02.3**	**0.0**
	SNR=85						
FAQ				P	**Pn**	**21 43 02.3**	**0.0**
	SNR=85						
FAQ				S	**Sn**	**21 44 12.2**	**

SNR=74
WSAR S Sn 21 44 48.2 +0.2
WSAR Wadi Sarin 7.59 170 Pn Pn 21 43 22.6 +0.8
comp=N,105nm,0.3s,baz=13,slow=9.9,SNR=178
WSAR Sn Sn 21 44 49.6 +1.6
comp=N,9.2nm,0.3s,baz=288,slow=21,SNR=1.5
WSAR LR LR 21 47 03.3
comp=N,101μm,18.7s,baz=358,slow=44
comp=N,923nm,0.6s
IRAZ Razeghan 7.69 309 Pn Pn 21 43 23.8 +0.5
SMDO Samad 7.70 174 P Pn 21 43 23.4 0.0
SNR=47
SMDO P Pn 21 43 23.4 0.0
SNR=47
SMDO P Pn 21 43 23.4 0.0
SNR=47
SMDO S Sn 21 44 49.6 -1.4
SMDO S Sn 21 44 49.6 -1.4
SMDO S Sn 21 44 49.6 -1.4
KLST Kelardasht - M 7.72 320 Pn Pn 21 43 23.8 0.0
HAGD Aghdareh 7.93 303 Pn Pn 21 43 28.8 +2.1
BSY Bisya 7.98 180 P Pn 21 43 27.2 0.0
SNR=124
BSY P Pn 21 43 27.2 0.0
SNR=124
BSY P Pn 21 43 27.2 0.0
SNR=124
BSY S Sn 21 44 57.7 0.0
BSY S Sn 21 44 57.7 0.0
BSY S Sn 21 44 57.7 0.0
TRNA Turayna 8.03 223 P Pn 21 43 27.3 -0.5
SNR=19
TRNA S Sn 21 44 58.9 +0.1
SMRA Abu-Samra 8.26 225 P Pn 21 43 31.1 +0.1
SNR=36
SMRA S Sn 21 45 03.9 -0.5
WBK Wadi Bani Khal 8.26 169 P Pn 21 43 31.5 +0.4
SNR=56
WBK P Pn 21 43 31.5 +0.4
SNR=56
WBK P Pn 21 43 31.5 +0.4
SNR=56
WBK S Sn 21 45 04.5 -0.1
WBK S Sn 21 45 04.5 -0.1
WBK S Sn 21 45 04.5 -0.1
WBK Wadi Bani Khal 8.26 169 Pn Pn 21 43 31.2 +0.1
JMDO Jabal Madar 8.39 175 P Pn 21 43 34.7 +1.9
SNR=18
JMDO P Pn 21 43 34.7 +1.9
SNR=18
JMDO P Pn 21 43 34.7 +1.9
SNR=18
JMDO S Sn 21 45 08.1 +0.3
JMDO S Sn 21 45 08.1 +0.3
JMDO S Sn 21 45 08.1 +0.3
MZR Muzera 8.42 204 *i* P Pn 21 43 36.5 +3.3
SNR=10
MZR Muzera 8.42 204 P Pn 21 43 34.6 +1.4
SNR=10
MZR S Sn 21 45 08.3 -0.2
IKFM Kafar-mosalman 8.43 292 Pn Pn 21 43 34.2 +0.9
GIDE GILAN DEYLAMAN 8.66 317 *e*Pn Pn 21 43 38.0 +1.4
JLN Jalan Bani Buh 8.79 167 P Pn 21 43 38.9 +0.7
SNR=54
JLN P Pn 21 43 38.9 +0.7
SNR=54
JLN P Pn 21 43 38.9 +0.7
SNR=54
JLN S Sn 21 45 16.3 -1.2
JLN S Sn 21 45 16.3 -1.2
JLN S Sn 21 45 16.3 -1.2
QSDN Sirdan 8.84 313 Pn Pn 21 43 39.3 +0.3
IKOM Komasi 8.90 295 Pn Pn 21 43 39.7 -0.1
ZNJK Zanjan 9.25 312 *e*Pn Pn 21 43 45.1 +0.4
KCHF Cheshme Sefid, 9.30 295 Pn Pn 21 43 44.8 -0.6
SNGE Sanandaj 9.37 300 *e*Pn Pn 21 43 47.3 +0.9
CSN1 Caspian 9.57 317 Pn Pn 21 43 49.5 +0.6
ILIN Lien 9.59 298 Pn Pn 21 43 49.6 +0.1
IGHG Ghaleghazi 9.69 294 Pn Pn 21 43 50.6 -0.1
MHTO MHTO 9.75 176 P Pn 21 43 52.4 +0.9
SNR=19
MHTO P Pn 21 43 52.4 +0.9
SNR=19
MHTO P Pn 21 43 52.4 +0.9
SNR=19
MHTO S Sn 21 45 40.7 -0.5
MHTO S Sn 21 45 40.7 -0.5
MHTO S Sn 21 45 40.7 -0.5
ILBA Ilam Banvizeh 9.78 290 *e*Pn Pn 21 43 50.9 -0.9
ILBA Ilam Banvizeh 9.78 290 Pn Pn 21 43 50.5 -1.3
IDHR Dehrash 9.95 296 Pn Pn 21 43 53.7 -0.7
GAS1 Astara - Iran 10.29 320 Pn Pn 21 43 58.2 -0.5
KGS1 Ghasr-e-Shirin 10.51 294 Pn Pn 21 44 00.9 -0.9
IHSH Hashtrud 10.54 311 Pn Pn 21 44 02.5 0.0
ISRB Sarab 10.60 314 Pn Pn 21 44 04.0 +0.8
KBL Kabul 10.64 66 Pn Pn 21 44 05.5 +1.8
KBL Kabul 10.64 66 P Pn 21 44 06.4 +2.7
KBL P Pn 21 44 06.4 +2.7
KBL S Sn 21 46 07.1 +4.1
KBL S Sn 21 46 07.1 +4.1
KBL Kabul 10.64 66 P Pn 21 44 05.5 +1.8
GRMI Germi 11.11 319 *e*Pn Pn 21 44 10.8 +0.7
GRMI Germi 11.11 319 Pn Pn 21 44 10.4 +0.3
SDS1 Sardasht. Az. 11.19 302 Pn Pn 21 44 11.5 +0.2
IHRS Heris 11.29 315 Pn Pn 21 44 14.7 +2.0
MAHB Mahabad 11.31 305 Pn Pn 21 44 13.4 +0.5
IAZR Azarshahr 11.59 310 Pn Pn 21 44 18.5 +1.6
ISHB Shabestar 12.17 311 Pn Pn 21 44 25.1 +0.4
IMRD Marand 12.36 313 Pn Pn 21 44 29.7 +2.4
CHGR Chuyangaron 12.57 48 Pn Pn 21 44 29.5 -0.5
CHGR Chuyangaron 12.57 48 P Pn 21 44 29.5 -0.5
SHAO Shalim 12.77 187 *i* P Pn 21 44 33.2 +0.5
SNR=32
SHAO Shalim 12.77 187 P Pn 21 44 32.4 -0.3
SNR=31
SHAO P Pn 21 44 32.4 -0.3
SNR=31
SHAO S Sn 21 46 54.5 -0.6
SHAO S Sn 21 46 54.5 -0.6
DMTO DMTO 13.15 190 P Pn 21 44 38.0 0.0
SNR=42
DMTO P Pn 21 44 38.0 0.0
SNR=42
DMTO P Pn 21 44 38.0 0.0
SNR=42
DMTO S Sn 21 47 02.4 -2.1
DMTO S Sn 21 47 02.4 -2.1
DMTO S Sn 21 47 02.4 -2.1
AKT Akhty 13.16 327 *de*P Pn 21 44 37.8 -0.4
AKT pmax pmax
comp=Z,74nm,1.0s
AKT MLR MLR
comp=Z,21μm,11.0s
WHFO Wadi Hawf 13.17 195 P Pn 21 44 38.1 -0.2
SNR=62
WHFO P Pn 21 44 38.1 -0.2
SNR=62
WHFO S Sn 21 47 03.7 -1.3
WHFO S Sn 21 47 03.7 -1.3
DRN Derbent 13.33 330 *de*P Pn 21 44 40.6 +0.3
DRN MLR MLR
comp=Z,35μm,11.0s
MAKU Maku 13.38 313 *e*Pn Pn 21 44 43.0 +1.8
MAKU Maku 13.38 313 Pn Pn 21 44 41.7 +0.5
RBK Rabkut 13.48 193 P Pn 21 44 42.5 -0.1
SNR=32
RBK P Pn 21 44 42.5 -0.1
SNR=32
RBK S Sn 21 47 11.7 -1.0
RBK S Sn 21 47 11.7 -1.0
GAR Garm 13.51 49 Pn Pn 21 44 42.3 -0.6
ABTO Aybut 13.82 196 P Pn 21 44 44.9 -2.3
SNR=130
ABTO P Pn 21 44 44.9 -2.3
SNR=130
ABTO S Sn 21 47 20.3 -0.6
ABTO S Sn 21 47 20.3 -0.6
GNI Garni 13.83 316 Pn Pn 21 44 48.6 +1.3
GNI Garni 13.83 316 P Pn 21 44 49.5 +2.2
GNI P Pn 21 44 49.5 +2.2
GNI Garni 13.83 316 ⇑P Pn 21 44 49.4 +2.1
GNI Garni 13.83 316 *ce*P Pn 21 44 49.1 +1.8
GNI MLR MLR
comp=Z,44μm,13.0s

NIL Nilore 13.86 74 Pn Pn 21 44 48.3 +0.7
NIL Nilore 13.86 74 P Pn 21 44 49.5 +2.0
NIL Nilore 13.86 74 ⇓P Pn 21 44 49.6 +2.0
NIL Nilore 13.86 74 P Pn 21 44 48.3 +0.7
SIRT Sirnak 13.98 303 Pn Pn 21 44 48.6 -0.7
SIRT Sirnak 13.98 303 ⇑P Pn 21 44 48.5 -0.8
BTK Batken 14.43 46 Pn Pn 21 44 54.2 -1.2
BTK Batken 14.43 46 P Pn 21 44 54.2 -1.2
MAK Makhachkala 14.45 330 *d* P Pn 21 44 55.2 -0.3
MAK *e*S Sn 21 47 37.1 +1.3
MAK pmax pmax
comp=Z,854nm,1.9s
MAK MLR MLR
comp=Z,40μm,13.0s
GURO Guroymak-BITLI 14.72 306 Pn Pn 21 45 00.3 +0.8
KARS Kars 15.13 314 Pn Pn 21 45 06.2 +1.3
KARS Kars 15.13 314 P Pn 21 45 06.2 +1.3
KARS pmax pmax
comp=Z,2.0nm,0.2s
CHM Chimkent 15.20 37 *i* P Pn 21 45 06.1 +0.2
comp=Z,2μm,3.3s,baz=37
CHM LR LR 21 51 01.4
comp=Z,57μm,13.6s,baz=37
CHM Chimkent 15.20 37 *i* P Pn 21 45 06.0 +0.2
CHM pmax pmax
comp=Z,2μm,3.3s
CHM MLR MLR
comp=Z,57μm,14.0s
AJM Ajmer 15.86 101 *e*P Pn 21 45 13.8 -0.7
ZEI Tsey 16.05 322 *e*P Pn 21 45 16.4 -0.6
ZEI pmax pmax
comp=Z,500nm,1.5s
ONI Oni 16.16 321 Pn Pn 21 45 18.5 +0.2
ONI Oni 16.16 321 P Pn 21 45 18.5 +0.2
KK31 Karatay Array 16.23 37 Pn Pn 21 45 16.7 -2.5
KK31 Karatay Array 16.23 37 P Pn 21 45 16.7 -2.5
KK31 pmax pmax
comp=Z,59nm,1.4s
KKAR Karatay Array 16.23 37 ⇓P Pn 21 45 17.1 -2.1
DHRM DHARAMSHALA 16.32 80 *e*P Pn 21 45 21.5 +0.9
DHRM IAmb IAmb 21 45 29.4
comp=Z,1μm,1.1s
BCA Borcka 16.50 315 ⇑P P 21 45 25.1 -0.2
ARSB Arslanbob 16.50 46 Pn Pn 21 45 20.1 -2.7
ARSB Arslanbob 16.50 46 P Pn 21 45 20.1 -2.7
ARSB pmax pmax
comp=Z,227nm,1.3s
DZA Taraz 16.52 39 *i* P Pn 21 45 21.3 -1.6
comp=Z,2μm,2.4s,baz=39
DZA *e*S Sn 21 48 26.2 -0.2
baz=39
DZA Taraz 16.52 39 *i* P Pn 21 45 21.2 -1.6
DZA *e*S Sn 21 48 26.1 -0.3
DZA pmax pmax
comp=Z,2μm,2.4s
NCK Nalchik 16.71 323 *ce*P Pn 21 45 26.1 +0.9
NCK pmax pmax
comp=Z,476nm,1.2s
SMLA Simla 17.10 84 *e*P Pn 21 45 30.6 +0.4
SMLA IAmb IAmb 21 45 40.8
comp=Z,795nm,1.3s
KBZ Khabaz 17.23 323 *c* P Pn 21 45 31.8 0.0
KBZ MLR MLR
comp=Z,17μm,13.0s
KBZ Khabaz 17.23 323 Pn Pn 21 45 32.2 +0.5
comp=Z,0.3nm,0.3s,baz=110,slow=10.0,SNR=65
comp=Z,32nm,0.8s
PYA1 Pyatigorsk 17.36 324 *c* P Pn 21 45 33.2 -0.3
SHA1 Shidzhatmaz 17.36 322 *i* P P 21 45 34.5 -0.6
ASF Jabal al Asfar 17.42 280 Pn Pn 21 45 33.4 -0.9
comp=Z,5.0nm,0.3s,baz=105,slow=10,SNR=75
ASF LR LR 21 53 42.2
comp=Z,42μm,20.2s,baz=93,slow=42
comp=Z,91nm,0.8s
KTUT Trabzon 17.43 311 ⇑P P 21 45 36.2 +0.7
SONA Sohna 17.45 93 *e*P Pn 21 45 34.7 +0.1
NDI New Delhi 17.47 92 *e*P Pn 21 45 35.1 +0.2
KVAR Kislovodsk Arr 17.49 323 Pn P 21 45 35.8 -0.5
baz=311,slow=22
comp=Z,79nm,1.4s
KIV Kislovodsk 17.50 323 ⇑P P 21 45 37.3 +0.9
KIV Kislovodsk 17.50 323 P Pn 21 45 35.3 0.0
KIV Kislovodsk 17.50 323 *i* P P 21 45 35.9 -0.5
SNR=102
KIV Kislovodsk 17.50 323 P P 21 45 37.1 +0.7
KIV P P 21 45 37.1 +0.7
KIV P P 21 45 37.1 +0.7
KIV Kislovodsk 17.50 323 ⇑P Pn 21 45 35.7 +0.5
KIV Kislovodsk 17.50 323 *e*P P 21 45 35.9 -0.5
KIV *e*S Sn 21 48 50.9 +0.7
KIV pmax pmax
comp=Z,552nm,1.0s
KIV MLR MLR
comp=Z,11μm,14.0s
ARPR Arapgir-MALATY 17.57 303 P Pn 21 45 36.2 0.0
KSH Kashi 17.61 55 P Pn 21 45 30.7 -6.0
KSH S Sn 21 48 42.5 -11
KSH pmax pmax
comp=Z,190nm,1.0s
KSH pmax pmax
comp=Z,16μm,4.6s
KSH LR LR
comp=Z,66μm,13.1s
KSH LR LR
comp=Z,112μm,10.6s
KSH LR LR
comp=Z,124μm,13.7s
ARLS Aral 17.64 46 P Pn 21 45 35.6 -1.4
GAZ Gaziantep 17.79 296 P Pn 21 45 39.3 +0.4
GAZ Gaziantep 17.79 296 ⇑P P 21 45 39.6 -0.1
DDI Dehra Dun 17.93 86 *e*P P 21 45 41.5 +0.2
DDI IAmb IAmb 21 45 56.6
comp=Z,3μm,1.9s
GOF Gofitskoye 18.11 326 *c* P Pn 21 45 41.7 -0.9
BEIL Beino 18.13 288 *e*P Pn 21 45 42.9 -0.1
AAK Ala-Archa 18.18 45 P Pn 21 45 42.8 -0.9
AAK Ala-Archa 18.18 45 P Pn 21 45 43.5 -0.2
AAK P Pn 21 45 43.5 -0.2
AAK Ala-Archa 18.18 45 ⇑P Pn 21 45 43.3 -0.4
AAK Ala-Archa 18.18 45 *d* P Pn 21 45 43.4 -0.2
AAK pmax pmax
comp=Z,1μm,2.5s
AAK MLR MLR
comp=Z,115μm,14.0s
AAK Ala-Archa 18.18 45 P P 21 45 43.6 -0.3
comp=Z,1.2nm,0.3s,baz=230,slow=11,SNR=137
AAK LR LR 21 53 51.8
comp=Z,118μm,20.2s,baz=251,slow=41
comp=Z,94nm,1.0s
HWQ Hawqa 18.30 287 *e*P P 21 45 47.2 +1.9
ZAHL Zahle 18.32 285 *e*P P 21 45 46.1 +0.5
RCY Rachaya 18.34 284 *e*P P 21 45 46.1 +0.3
FRU1 Bishkek 18.36 44 P Pn 21 45 45.2 -0.6
FRU1 IAmb IAmb 21 45 50.0
comp=Z,2μm,2.0s
FRU1 Bishkek 18.36 44 P Pn 21 45 45.2 -0.6
FRU1 pmax pmax
comp=Z,2μm,2.0s
SHBL Chebaa 18.41 284 *e*P Pn 21 45 46.8 +0.2
QRWL Qaraoun 18.47 284 *e*P Pn 21 45 47.7 +0.5
GEM Giv'at Ha'Em 18.47 283 ⇑P P 21 45 46.6 -0.5
NRN Naryn 18.49 50 P P 21 45 45.6 -2.0
NRN Naryn 18.49 50 P P 21 45 45.6 -2.0
NRN pmax pmax
comp=Z,316nm,1.2s
BHL Bhannes 18.51 285 *e*P Pn 21 45 49.7 +1.9
DQRL Deir Qamar 18.57 285 *e*P Pn 21 45 49.9 +1.4
GHAJ Ghor Haditha 18.59 277 Pn 21 45 49.7 +1.1
ABKAR Akbulak array 18.59 6 P P 21 45 46.1 -2.2
ABKAR Akbulak array 18.59 6 P P 21 45 46.3 -2.0
ABKAR IAmb IAmb 21 45 55.2
comp=Z,495nm,1.6s
ABKAR Akbulak array 18.59 6 ⇓P P 21 45 46.5 -1.7
VSLR Vesyoloye 18.64 318 *ce*P Pn 21 45 49.9 +0.7
VSLR MLR MLR
comp=Z,14μm,11.0s
MMAI Mount Meron Ar 18.68 283 P Pn 21 45 51.5 +1.7
comp=Z,2.5nm,0.3s,baz=93,slow=14,SNR=61
comp=Z,55nm,0.8s
SGDS Sogindy 18.73 43 *i* P P 21 45 48.8 -1.2
baz=43
SGDS Sogindy 18.73 43 *i* P P 21 45 48.8 -1.2
MSBI Mazada 18.76 277 ⇑P Pn 21 45 52.0 +1.3
SALP Salfit 18.87 280 ⇑P Pn 21 45 53.1 +1.0

SOC Sochi 18.90 317 *e*P P 21 45 51.5 -0.2
SOC *e* 21 49 23.5
SOC pmax pmax
comp=Z,426nm,1.8s
SOC MLR MLR
comp=Z,10μm,13.0s
GUZR Guzeripl' 18.92 319 *c* P Pn 21 45 53.7 +1.1
GUZR pmax pmax
comp=Z,1μm,1.0s
GUZR MLR MLR
comp=Z,226μm,12.0s
AMAZ Amatzia 19.13 278 ⇑P Pn 21 45 56.6 +1.4
EIL Elat 19.30 272 ⇑P Pn 21 45 57.9 +0.7
EIL Elat 19.30 272 P Pn 21 45 57.1 -0.1
comp=Z,2.0nm,0.3s,baz=86,slow=5.4,SNR=154
EIL S S 21 49 36.2 +1.3
comp=Z,20nm,0.9s,baz=21,slow=20,SNR=1.3
EIL LR LR 21 54 40.2
comp=Z,35μm,19.6s,baz=90,slow=41
comp=Z,324nm,1.1s
BNN Bunyan 19.31 301 Pn Pn 21 45 57.3 -0.1
BNN Bunyan 19.31 301 ⇑P Pn 21 45 57.6 +0.1
POO Poona 19.36 125 *e*P Pn 21 45 59.4 +1.3
BTLS Baital 19.41 38 *i* P P 21 45 57.4 0.0
baz=38
BTLS Baital 19.41 38 *i* P P 21 45 57.3 0.0
BHPL Bhopal 19.46 108 *e*P Pn 21 45 59.0 -0.3
BHPL IAmb IAmb 21 46 04.2
comp=Z,510nm,1.3s
KZIT Kziot 19.62 276 ⇑P Pn 21 46 01.9 +0.8
AKTO Aktyubinsk 19.66 1 P P 21 46 00.1 0.0
comp=Z,17nm,0.3s,baz=188,slow=9.3,SNR=230
AKTO S Sn 21 49 42.4 +0.2
comp=Z,17nm,1.0s,baz=52,slow=10,SNR=1.4
AKTO LR LR 21 55 02.0
comp=Z,210μm,18.1s,baz=176,slow=41
comp=Z,105nm,0.6s
TARG Taragay, Kyrgy 19.82 51 P Pn 21 46 02.9 -0.9
TARG IAmb IAmb 21 46 12.0
comp=Z,2μm,1.9s
TARG Taragay, Kyrgy 19.82 51 P Pn 21 46 02.9 -0.9
TARG pmax pmax
comp=Z,2μm,1.9s
PTH Pithoragarh 19.90 88 *e*P P 21 46 03.6 +0.6
TNSS Tian-Shan 19.90 47 *e*P P 21 46 03.4 +0.2
baz=47
TNSS Tian-Shan 19.90 47 *e*P P 21 46 03.4 +0.2
AAA Alma-Ata 19.98 46 *e*P Pn 21 46 04.6 -0.7
comp=Z,774nm,2.3s,baz=46
AAA LR LR 21 53 30.2
comp=Z,74μm,15.0s,baz=46
AAA Alma-Ata 19.98 46 *e*P Pn 21 46 04.6 -0.7
AAA pmax pmax
comp=Z,774nm,2.3s
AAA MLR MLR
comp=Z,74μm,15.0s
KUU Kurty 20.00 44 ⇑*i* P P 21 46 03.9 +0.1
baz=44
KUU LR LR 21 54 24.8
comp=Z,140μm,13.7s,baz=44
KUU Kurty 20.00 44 *c* P P 21 46 03.9 +0.1
KUU MLR MLR
comp=Z,140μm,14.0s
MDOK Medeo 20.03 46 *i* P Pn 21 46 05.0 -1.1
baz=46
MDOK LR LR 21 53 26.9
comp=Z,59μm,14.6s,baz=46
MDOK Medeo 20.03 46 *i* P Pn 21 46 05.0 -1.1
MDOK MLR MLR
comp=Z,59μm,15.0s
CHKK Chushkaly 20.37 45 *e*P P 21 46 08.0 +0.2
baz=45
CHKK Chushkaly 20.37 45 *e*P P 21 46 08.0 +0.2
AKL Akola 20.40 115 *e*P Pn 21 46 10.2 -0.2
CSS Mathiatis 20.51 288 P P 21 46 09.2 -0.2
CSS Mathiatis 20.51 288 ⇑P P 21 46 10.4 +1.1
PRZ Przheval'sk 20.56 49 P 21 46 10.3 +0.2
PRZ IAmb IAmb 21 46 22.9
comp=Z,1μm,1.9s
PRZ IAMs_20 IAMs_20 21 55 17.6
comp=Z,86μm,20.0s
PRZ Przheval'sk 20.56 49 P P 21 46 10.3 +0.2
PRZ pmax pmax
comp=Z,1μm,1.9s
PRZ MLR MLR
comp=Z,86μm,20.0s
DIKM Dikmen 20.75 308 ⇑P P 21 46 13.1 +1.2
SATY Saty 20.84 48 ⇑*i* P P 21 46 13.3 +0.2
baz=48
SATY Saty 20.84 48 *c* P P 21 46 13.2 +0.2
ZHN Zhinishke 20.91 48 ⇑*i* P P 21 46 14.2 +0.3
baz=48
ZHN Zhinishke 20.91 48 *c* P P 21 46 14.1 +0.3
ANN Anapa 20.94 318 *i* P Pn 21 46 15.4 -1.1
ANN *e* 21 46 37.1
ANN *e*S Sn 21 50 12.4 -0.7
ANN *e*SS SnSn 21 50 38.5 +11
ANN pmax pmax
comp=N,1μm,2.8s
ANN pmax pmax
comp=Z,2μm,2.6s
ANN pmax pmax
comp=E,285nm,2.7s
ARXS Arharly 21.07 45 *e*P P 21 46 15.3 -0.2
BR131 Keskin Array S 21.21 301 P P 21 46 16.9 -0.1
BR131 Keskin Array S 21.21 301 P P 21 46 17.2 +0.2
SNR=217
BR131 P P 21 46 17.2 +0.2
SNR=217
BR131 P P 21 46 17.2 +0.2
SNR=217
BR131 Keskin Array S 21.21 301 *c* P P 21 46 17.4 +0.3
BRTR Keskin Array B 21.21 301 P P 21 46 17.1 0.0
BRTR Keskin Array B 21.21 301 P P 21 46 17.4 +0.3
comp=E,144nm,1.0s,baz=120,slow=7.5,SNR=190
BRTR S S 21 50 15.2 +2.2
comp=E,3.4nm,0.9s,baz=114,slow=7.7,SNR=1.2
BRTR LR LR 21 55 31.7
comp=E,61μm,18.5s,baz=102,slow=40
comp=E,144nm,1.0s
KPKS Kokpek 21.21 47 ⇑*i* P P 21 46 17.0 -0.1
comp=E,2μm,3.1s,baz=48
KPKS Kokpek 21.21 47 *c* P P 21 46 17.0 -0.1
KPKS pmax pmax
comp=Z,2μm,3.1s
UZB Uzynbulak 21.28 48 ⇑*i* P P 21 46 18.1 +0.2
comp=Z,2μm,3.2s,baz=49
UZB *e*S S 21 50 14.3 -0.1
baz=49
UZB Uzynbulak 21.28 48 *c* P P 21 46 18.0 +0.2
UZB *e*S S 21 50 14.3 -0.1
UZB pmax pmax
comp=Z,2μm,3.2s
GOA Goa 21.48 131 *e*P P 21 46 22.1 +2.1
GOA IAmb IAmb 21 46 26.3
comp=Z,263nm,0.8s
SHLS Shalkode 21.57 49 ⇑*i* P P 21 46 24.1 +3.2
baz=49
SHLS *e*S Sn 21 50 25.1 -3.2
baz=49
SHLS Shalkode 21.57 49 *c* P P 21 46 24.0 +3.2
SHLS *e*S Sn 21 50 25.1 -3.3
TDK Taldyqorghan 21.85 43 ⇑*i* P P 21 46 23.4 -0.4
comp=Z,2μm,3.0s,baz=44
TDK *e*S S 21 50 25.7 +0.3
baz=44
TDK LR LR 21 55 24.3
comp=Z,112μm,12.7s,baz=44
TDK Taldyqorghan 21.85 43 *c* P P 21 46 23.3 -0.4
TDK *e*S S 21 50 25.6 +0.3
TDK pmax pmax
comp=Z,2μm,3.0s
TDK MLR MLR
comp=Z,112μm,13.0s
ANTO Ankara 21.87 301 ⇑P P 21 46 24.5 +0.4
ANTO Ankara 21.87 301 P P 21 46 24.0 -0.1
ANTO IAmb IAmb 21 46 27.5
comp=Z,1μm,1.8s
ANTO Ankara 21.87 301 ⇑P P 21 46 24.1 -0.1
ANTO Ankara 21.87 301 P P 21 46 24.5 +0.4
BR231 Keskin MP Arra 21.88 301 P P 21 46 23.8 -0.4
BR231 IAmb IAmb 21 46 27.6
comp=Z,1μm,1.8s
BRZS Berezniki 22.43 27 ⇑*i* P P 21 46 29.8 -0.2
comp=Z,2μm,3.0s,baz=27
BRZS Berezniki 22.43 27 *c* P P 21 46 29.8 -0.2

BRZS pmax pmax
comp=Z,2µm,3.0s
PYUN Piuthan 22.57 90 *e*P **P 21 46 30.1 -1.7**
comp=Z,2µm,1.3s
SIM Simferopol' 23.01 314 *e*P **P 21 46 35.7 -0.4**
SIM *e*S **S 21 50 50.0 +3.2**
SIM pmax pmax
comp=Z,3µm,5.0s
SIM pmax pmax
comp=Z,795nm,1.1s
ISP Isparta 23.13 295 P **P 21 46 37.6 +0.1**
ISP Isparta 23.13 295 ⇑P **P 21 46 37.6 +0.1**
ISP Isparta 23.13 295*d i*P **P 21 46 38.9 +1.4**
ISP pmax pmax
comp=Z,2µm,1.7s
ISP MLR MLR
comp=Z,20µm,16.0s
KOLN Koldanda 23.17 91 *e*P **P 21 46 36.7 -1.4**
DANN Dangsing 23.17 89 *e*P **P 21 46 36.3 -2.0**
comp=Z,3µm,1.1s
MDUB Mudurnu 23.21 302 P **P 21 46 37.9 -0.5**
MDUB IAMs_20 IAMs_20 21 56 29.0
comp=Z,88µm,21.0s
MDUB Mudurnu 23.21 302 ⇑P **P 21 46 37.5 -0.9**
ATD Arta Tunnel 23.33 218 P **P 21 46 40.1 +0.5**
ATD IAmb IAmb 21 47 00.5
comp=Z,406nm,1.3s
ATD Arta Tunnel 23.33 218 *e*P P 21 46 32.6 -7.0
ATD Arta Tunnel 23.33 218 *i*P **P 21 46 40.2 +0.6**
ATD *e*P **P 21 46 40.8 +1.2**
ATD *e*S **S 21 51 01.0 +8.4**
ATD IAMs_20 IAMs_20 21 57 30.9
comp=N,353µm,14.7s
ATD Arta Tunnel 23.33 218 *e*P **P 21 46 41.6 +2.0**
ATD *e*S **S 21 51 01.7 +9.0**
ATD Arta Tunnel 23.33 218 P **P 21 46 40.1 +0.5**
SNR=29
ATD Arta Tunnel 23.33 218 ⇑P **P 21 46 40.5 +0.9**
ATD Arta Tunnel 23.33 218 P **P 21 46 40.8 +1.2**
comp=N,3.7nm,1.0s,baz=17,slow=7.4,SNR=17
ATD S **S 21 50 55.2 +2.6**
comp=N,0.8nm,1.0s,baz=107,slow=20,SNR=2.2
ATD LR LR 21 57 45.3
comp=N,7µm,18.1s,baz=34,slow=42
ATD Arta Tunnel 23.33 218 *e*P P 21 46 32.6 -7.0
ATD Arta Tunnel 23.33 218 *e*P **P 21 46 41.6 +2.0**
ATD *e*S **S 21 51 01.7 +9.0**
ATD Arta Tunnel 23.33 218 *i*P **P 21 46 40.2 +0.6**
ATD *e*P **P 21 46 40.8 +1.2**
ATD *e*S **S 21 51 01.0 +8.4**
ATD IAMs_20 IAMs_20 21 57 30.9
comp=N,353µm,14.7s
VRH Novokhopyorsk 23.45 335 *e*P **P 21 46 38.6 -1.9**
VRH *e*S **S 21 50 49.5 -4.5**
VRH pmax pmax
comp=Z,1µm,2.3s
VRH smax smax
comp=N,18µm,9.9s
VRH MLR MLR
comp=Z,23µm,12.0s
ELL Elmali 23.46 292 P **P 21 46 41.0 +0.1**
ELL Elmali 23.46 292 ⇑P **P 21 46 41.1 +0.3**
ELL Elmali 23.46 292 P **P 21 46 41.0 +0.1**
ELL pmax pmax
comp=Z,7µm,1.8s
ELL MLR MLR
comp=Z,37µm,18.0s
HYB Hyderabad 23.50 120 *e*P **P 21 46 41.8 +0.5**
HYB IVmB_BB 21 46 44.7
comp=Z,9µm,4.9s
HYB *es*P **sP 21 46 45.5 -0.2**
HYB *e*PcP **PcP 21 50 26.7 -0.5**
HYB *e*S **S 21 50 57.6 +2.2**
HYB IVMs_BB IVMs_BB 21 59 36.1
comp=Z,12µm,9.8s
KSL Kastellorizon 23.66 291 P **P 21 46 40.2 -2.5**
GKN Gorkha 24.01 90 *e*P **P 21 46 43.9 -2.4**
comp=Z,2µm,1.4s
TEND Ethiopian Broa 24.13 222 *e*P **P 21 46 49.0 +1.6**
TEND *e*S S 21 51 21.3 +16
VORD Divnogorie 24.21 332 *e*P **P 21 46 47.4 -0.3**
VORD *e*S **S 21 51 03.8 -2.2**
VORD pmax pmax
comp=Z,700nm,2.0s
VORD smax smax
comp=N,9µm,9.9s
VORD MLR MLR
comp=Z,10µm,13.0s
BRVK Borovoye 24.23 19 P **P 21 46 47.6 -0.3**
BRVK Borovoye 24.23 19 ⇑P **P 21 46 49.6 +1.7**
BRVK P **P 21 46 49.6 +1.7**
BRVK P **P 21 46 49.6 +1.7**
BRVK Borovoye 24.23 19 ⇑P **P 21 46 47.9 0.0**
BRVK Borovoye 24.23 19*ce*P **P 21 46 48.1 +0.2**
BRVK pmax pmax
comp=Z,967nm,2.5s
BRVK MLR MLR
comp=Z,165µm,17.0s
BVAR Borovoye Array 24.23 20 P **P 21 46 48.1 +0.2**
comp=Z,56nm,0.5s,baz=204,slow=6.5,SNR=238
BVAR PcP **PcP 21 50 28.0 -0.1**
comp=Z,19nm,0.8s,baz=231,slow=2.2,SNR=6.8
BVAR S **S 21 51 07.8 +1.4**
comp=Z,3.6nm,0.7s,baz=198,slow=18,SNR=0.8
BVAR LR LR 21 57 32.8
comp=Z,169µm,18.4s,baz=206,slow=40
comp=Z,56nm,0.5s
HMAD Nubian desert 24.34 249 *i*P **P 21 46 49.0 -0.3**
HMAD *i* 21 46 51.0
baz=192,slow=11
VSR Storozhevoye 24.45 332 *e*P **P 21 46 48.4 -1.6**
VSR *e*S **S 21 51 01.0 -9.0**
VSR pmax pmax
comp=Z,820nm,2.2s
VSR smax smax
comp=N,19µm,13.1s
VSR MLR MLR
comp=Z,23µm,16.0s
DMN Daman 24.50 90 *e*P **P 21 46 49.4 -1.6**
comp=Z,935nm,1.0s
KKN Kakani 24.61 90 *e*P **P 21 46 49.5 -2.4**
KULA Kula-Manisa 24.69 296 P **P 21 46 51.5 -0.9**
PKIN Phulchoki 24.76 90 *e*P **P 21 46 51.4 -1.9**
comp=Z,2µm,1.5s
PKI Pulchoki 24.77 90 *e*P **P 21 46 51.2 -2.3**
comp=Z,1µm,1.3s
VORR Voronezh 24.78 333 *e*P **P 21 46 52.4 -0.6**
VORR *e*S **S 21 51 11.3 -4.0**
VORR pmax pmax
comp=Z,1µm,2.2s
YER Yerkesik 24.80 293 P **P 21 46 52.2 -1.1**
ARG Arkhangelos 24.84 290 P **P 21 46 53.5 -0.1**
ARG Arkhangelos 24.84 290 P **P 21 46 52.3 -1.3**
ARG Arkhangelos 24.84 290 ⇑P **P 21 46 53.4 -0.2**
ARG Arkhangelos 24.84 290 P **P 21 46 53.6 -0.1**
ARG pmax pmax
comp=Z,693nm,1.1s
MAKZ Makanchi 24.92 43 P **P 21 46 54.3 0.0**
MAKZ IAmb IAmb 21 46 58.8
comp=Z,293nm,0.9s
MAKZ Makanchi 24.92 43 ⇑P **P 21 46 54.5 +0.1**
MAKZ Makanchi 24.92 43 P **P 21 46 55.6 +1.3**
ISK Istanbul-Kandi 24.94 302 P **P 21 46 54.0 -0.5**
ISK Istanbul-Kandi 24.94 302 P **P 21 46 54.3 -0.2**
HARA HARA 25.02 214 *e*P **P 21 47 02.2 +6.6**
HARA *e*S S 21 51 41.0 +21
HARA HARA 25.02 214 *e*P **P 21 47 02.2 +6.6**
HARA *e*S S 21 51 41.0 +21
GUN Gumba 25.10 89 *e*P **P 21 46 54.8 -1.7**
comp=Z,2µm,1.1s
MK31 Makanchi Array 25.10 43 P **P 21 46 55.7 -0.2**
MK31 Makanchi Array 25.10 43*ce*P **P 21 46 56.5 +0.6**
MKAR Makanchi Array 25.10 43 P **P 21 46 55.8 -0.1**
MKAR Makanchi Array 25.10 43 P **P 21 46 55.8 -0.1**
MKAR Makanchi Array 25.10 43 P **P 21 46 56.0 +0.1**
comp=Z,103nm,0.9s,baz=228,slow=7.0,SNR=158
MKAR S **S 21 51 21.6 +1.0**
comp=Z,1.7nm,0.8s,baz=247,slow=30,SNR=0.6
MKAR LR LR 21 58 21.7
comp=Z,117µm,18.8s,baz=248,slow=40
MKAR P3KPbc 22 19 58.4
comp=Z,1.2nm,1.0s,baz=10,slow=2.7,SNR=6.1
comp=Z,103nm,0.9s
DAT Datca 25.32 292 P **P 21 46 56.8 -1.3**
JHSG JHARSUGUGA 25.37 104 *e*P **P 21 46 59.9 +1.3**

KURBB Kurchatov Arra 25.42 33 P **P 21 46 59.1 +0.4**
comp=Z,96nm,0.8s,baz=233,slow=8.5,SNR=309
KURBB S **S 21 51 26.3 +0.8**
comp=Z,3.5nm,1.1s,baz=230,slow=23,SNR=1.1
KURBB LR LR 21 58 23.9
comp=Z,96µm,20.6s,baz=234,slow=40
comp=Z,96nm,0.8s
JIRN Jiri 25.42 90 *e*P **P 21 46 57.9 -1.5**
comp=Z,2µm,1.1s
DESE Dese 25.47 224 *e*P **P 21 46 58.7 -1.2**
DESE Dese 25.47 224 *i*P **P 21 47 01.7 +1.9**
DESE *e*P **P 21 47 01.7 +1.9**
DESE *e*S S 21 51 40.6 +13
DESE IVMs_BB IVMs_BB 21 58 18.8
comp=N,57µm,12.9s
DESE Dese 25.47 224 *e*P **P 21 47 03.2 +3.4**
DESE *e*S S 21 51 41.0 +13
DESE Dese 25.47 224 *e*P **P 21 46 58.7 -1.2**
DESE Dese 25.47 224 *e*P **P 21 47 03.2 +3.4**
DESE *e*S S 21 51 41.0 +13
DESE Dese 25.47 224 *e*P **P 21 47 01.7 +1.9**
DESE *i*P **P 21 47 01.7 +1.9**
DESE *e*S S 21 51 40.6 +13
DESE IVMs_BB IVMs_BB 21 58 18.8
comp=N,57µm,12.9s
BALB Balikesir 25.49 298 P **P 21 46 59.3 -0.2**
KURK Kurchatov 25.52 33 P **P 21 46 59.8 +0.1**
KURK Kurchatov 25.52 33 IAMs_20 IAMs_20 21 58 14.3
comp=Z,99µm,20.0s
KURK Kurchatov 25.52 33 P **P 21 47 01.8 +2.1**
KURK P **P 21 47 01.8 +2.1**
KURK Kurchatov 25.52 33 ⇑P **P 21 47 00.0 +0.4**
KURK Kurchatov 25.52 33*c i*P **P 21 47 00.0 +0.4**
KURK pmax pmax
comp=Z,303nm,1.7s
KURK MLR MLR
comp=Z,72µm,14.0s
BODT Bodrum 25.56 292 P **P 21 46 59.2 -1.0**
KARP Karpathos 25.58 289 P **P 21 47 00.6 +0.2**
KARP Karpathos 25.58 289 P **P 21 47 00.2 -0.2**
KARP Karpathos 25.58 289 ⇑P **P 21 47 00.7 +0.3**
LPSR Galich'ya Gora 25.61 334 *e*P **P 21 46 59.9 -0.6**
LPSR *e*S **S 21 51 22.9 -5.7**
LPSR pmax pmax
comp=Z,350nm,1.0s
LPSR smax smax
comp=N,16µm,12.1s
LPSR MLR MLR
comp=Z,21µm,16.0s
ARU Arti 25.68 2 P **P 21 47 00.5 -0.5**
ARU IAmb IAmb 21 47 14.1
comp=Z,466nm,1.5s
ARU Arti 25.68 2 ⇑P **P 21 47 01.1 +0.1**
ARU Arti 25.68 2*c i*P **P 21 47 01.5 +0.5**
ARU 21 47 34.6
ARU 21 50 32.7
ARU S **S 21 51 30.7 +1.2**
ARU SS **SnSn 21 52 23.2 -0.5**
ARU pmax pmax
comp=Z,401nm,1.7s
ARU MLR MLR
comp=Z,43µm,17.0s
ARU Arti 25.68 2 LR LR 21 58 18.6
comp=Z,53µm,19.2s,baz=176,slow=39
MRWI Hamdab 25.79 248 *i*P **P 21 47 03.9 +1.5**
MRWI *i* 21 47 05.0
baz=332,slow=5.1
KOSK Kos Island 25.80 292 P **P 21 47 08.1 +5.8**
EVN Everest 25.89 89 ⇑P **P 21 47 04.7 +0.6**
BLCB Balcova 25.93 295 P **P 21 47 03.2 -0.3**
RAMN Ramite 25.95 91 *e*P **P 21 47 02.5 -1.7**
comp=Z,2µm,1.2s
SMG Samos 26.00 294 P **P 21 47 03.8 -0.4**
SEM Semipalatinsk 26.09 35 *e*P **P 21 47 05.0 -0.1**
baz=35
SEM LR LR 21 57 26.6
comp=Z,35µm,14.2s,baz=35
SEM Semipalatinsk 26.09 35 *e*P **P 21 47 05.0 -0.1**
SEM MLR MLR
comp=Z,35µm,14.0s
MANR Mangalia 26.12 308 ⇑P **P 21 47 06.2 +1.1**
DKL Dikili 26.13 297 ⇑P **P 21 47 05.3 -0.1**
SVE Sverdlovsk 26.17 4*de*P **P 21 47 05.8 +0.3**
SVE *e* 21 47 43.3
SVE *e*S **S 21 51 39.3 +2.0**
SVE pmax pmax
comp=Z,255nm,1.5s
SVE MLR MLR
comp=Z,87µm,16.0s
EFOR EFORIE 26.18 309 ⇓P **P 21 47 06.2 +0.6**
JURR Jurilovca 26.27 310 ⇑P **P 21 47 07.9 +1.5**
BOK Bokaro 26.34 98 *e*P **P 21 47 07.4 0.0**
BOK IAmb IAmb 21 47 08.9
comp=Z,598nm,1.5s
ZKR Zakros 26.34 288 P **P 21 47 06.8 -0.5**
MFTR Murfatlar 26.35 309 ⇑P **P 21 47 07.7 +0.4**
PSN Preselentsi 26.36 307 *i*P **P 21 47 07.3 -0.1**
PURM Purcari 26.37 314 ⇑P **P 21 47 08.0 +0.6**
TIRR Tirgusor 26.46 309 ⇓P **P 21 47 08.8 +0.6**
TIRR Tirgusor 26.46 309 P **P 21 47 08.0 -0.2**
TIRR Tirgusor 26.46 309 ⇑P **P 21 47 08.2 -0.1**
TIRR Tirgusor 26.46 309 ⇓P **P 21 47 08.8 +0.6**
TLCR 26.47 311 ⇑P **P 21 47 09.0 +0.7**
TLCR 26.47 311 P **P 21 47 09.0 +0.7**
TPGR Topolog 26.60 310 ⇑P **P 21 47 10.1 +0.5**
PRK Paraskevi 26.65 297 P **P 21 47 09.1 -0.9**
ODAN Odare 26.66 91 *e*P **P 21 47 09.4 -1.1**
CHOS Chios island 26.70 295 P **P 21 47 08.9 -1.6**
EZN Ezine 26.70 298 P **P 21 47 09.2 -1.3**
PRD Provadia 26.71 306 *i*P **P 21 47 10.7 +0.2**
TLBR Topalu 26.74 309 ⇓P **P 21 47 11.0 +0.3**
FRMA Ierapetra Chan 26.74 288 P **P 21 47 09.3 -1.6**
TAPN Taplejung 26.81 90 *e*P **P 21 47 09.6 -2.3**
comp=Z,1µm,1.7s
EDRB Edirne 26.82 303 P **P 21 47 11.1 -0.5**
HARR Harsova 26.87 309 ⇓P **P 21 47 12.2 +0.3**
HARR Harsova 26.87 309 P **P 21 47 12.2 +0.3**
ZSN Zaisan 26.95 44*ti*P **P 21 47 12.5 -0.2**
baz=44
ZSN Zaisan 26.95 44*c i*P **P 21 47 12.5 -0.2**
SIGR SIGRI 26.96 297 P **P 21 47 11.8 -1.0**
APE Apeiranthos 26.98 292 ⇑P **P 21 47 12.9 -0.2**
APE Apeiranthos 26.98 292 P **P 21 47 11.2 -1.9**
APE Apeiranthos 26.98 292 ⇑P **P 21 47 11.8 -1.3**
APE Apeiranthos 26.98 292*c i*P **P 21 47 12.6 -0.5**
APE pmax pmax
comp=Z,93nm,1.1s
APE MLR MLR
comp=Z,12µm,18.0s
SANT Santorini 27.00 291 ⇓P **P 21 47 13.2 0.0**
SANT Santorini 27.00 291 P **P 21 47 12.3 -0.9**
SANT IAmb IAmb 21 47 17.6
comp=Z,560nm,1.0s
SANT Santorini 27.00 291 P **P 21 47 12.2 -1.0**
SANT Santorini 27.00 291 ⇑P **P 21 47 12.4 -0.8**
ENEZ Enez 27.00 300 P **P 21 47 13.0 -0.2**
VIS Vishakhapatnam 27.02 113 *e*P **P 21 47 14.5 +1.0**
THT2 Imerovigli 27.03 291 P **P 21 47 12.5 -1.0**
CMBO Columbo, Santo 27.04 291 P **P 21 47 12.7 -0.9**
THR3 Thira Island, 27.05 291 P **P 21 47 12.5 -1.1**
THR6 Thira Island, 27.05 290 P **P 21 47 12.4 -1.2**
THR5 Thira Island, 27.09 291 P **P 21 47 13.0 -1.0**
ALN Alexandroupoli 27.12 301 P **P 21 47 14.2 0.0**
ALN IAmb IAmb 21 47 16.0
comp=Z,707nm,1.9s
ALN Alexandroupoli 27.12 301 P **P 21 47 12.9 -1.3**
ALN Alexandroupoli 27.12 301 ⇑P **P 21 47 13.6 -0.6**
ALN Alexandroupoli 27.12 301 P **P 21 47 14.2 0.0**
ALN pmax pmax
comp=Z,707nm,1.9s
ALN MLR MLR
comp=Z,28µm,19.0s
TATR Tatarca 27.13 311 ⇑P **P 21 47 15.3 +1.1**
JMB Yambol 27.14 304 *i*P **P 21 47 13.8 -0.6**
SCTR Scanteiesti 27.19 311 ⇑P **P 21 47 15.5 +0.7**
MILM Milestii Mici 27.20 314*ti*P **P 21 47 14.5 -0.4**
comp=Z,3µm,2.3s
MILM Milestii Mici 27.20 314 ⇑P **P 21 47 15.5 +0.6**
MILM Milestii Mici 27.20 314*c i*P **P 21 47 14.5 -0.4**
MILM *e*S **S 21 51 51.0 -2.7**
MILM pmax pmax
comp=Z,3µm,2.3s
MILM smax smax
comp=E,29µm,11.6s
MILM smax smax
comp=N,9µm,10.7s
VLDR Vladesti 27.21 312 ⇓P **P 21 47 14.9 -0.1**
NEGRR Negrea 27.22 311 ⇑P **P 21 47 15.5 +0.5**
SCHLR Schela 27.22 311 ⇑P **P 21 47 15.5 +0.4**
KIS Kishinev 27.23 315*ti*P **P 21 47 15.4 +0.2**
comp=N,2µm,3.4s
KIS Kishinev 27.23 315 ⇑P **P 21 47 16.8 +1.7**
KIS Kishinev 27.23 315*c i*P **P 21 47 15.4 +0.2**
KIS *i* 21 47 21.0
KIS *e* 21 48 20.0
KIS *i*S **S 21 51 57.0 +2.8**
KIS pmax pmax
comp=Z,2µm,3.4s
KIS pmax pmax
comp=N,4µm,13.0s
KIS pmax pmax
comp=E,12µm,7.2s
SCHL Schela 27.23 311 ⇑P **P 21 47 15.6 +0.4**
AMRR Amara 27.24 309 ⇑P **P 21 47 16.2 +1.0**
AMRR Amara 27.24 309 ⇑P **P 21 47 16.2 +1.0**
IZVR Izvoarele 27.29 311 ⇓P **P 21 47 16.4 +0.7**
SLCR Slobozia Conac 27.31 311 ⇑P **P 21 47 17.2 +1.4**
WMQ Urumqi 27.34 53 P **P 21 47 17.1 +0.8**
WMQ pP sP 21 47 20.8 +0.3
WMQ sP pP 21 47 24.2 +4.9
WMQ S **S 21 51 58.3 +2.0**
WMQ pmax pmax
comp=E,73nm,1.1s
WMQ pmax pmax
comp=E,4µm,9.1s
WMQ LR LR
comp=E,39µm,13.7s
WMQ LR LR
comp=E,30µm,15.9s
WMQ LR LR
comp=E,44µm,21.3s
LOZB Loznitsa 27.34 306 ⇑P **P 21 47 16.5 +0.3**
LEOM Leova 27.36 313 ⇑P **P 21 47 16.8 +0.5**
LEOM Leova 27.36 313 P **P 21 47 16.8 +0.5**
TUDR 27.37 311 ⇓P **P 21 47 16.6 +0.2**
VARL Varlezi 27.38 312 ⇓P **P 21 47 17.6 +1.2**
SMTH Samothraki Isl 27.42 299 P **P 21 47 11.9 -5.0**
IDI Anoyia 27.43 288 ⇑P **P 21 47 17.6 +0.4**
IDI Anoyia 27.43 288 P **P 21 47 16.3 -0.9**
IDI IAmb IAmb 21 47 47.5
comp=Z,272nm,1.1s
IDI Anoyia 27.43 288 P **P 21 47 14.2 -3.0**
IDI Anoyia 27.43 288 P **P 21 47 16.6 -0.6**
IDI Anoyia 27.43 288 ⇑P **P 21 47 16.6 -0.6**
IDI Anoyia 27.43 288 LR LR 22 01 03.0
comp=Z,10µm,21.2s,baz=82,slow=43
RAZG Razgrad 27.46 306 ⇑P **P 21 47 17.6 +0.3**
TMBK Timbaki Herakl 27.53 288 P **P 21 47 17.6 -0.4**
RDO Rodhopi 27.55 301 P **P 21 47 17.8 -0.3**
RDO IAmb IAmb 21 47 19.7
comp=Z,418nm,1.6s
RDO Rodhopi 27.55 301 P **P 21 47 17.1 -0.9**
RDO Rodhopi 27.55 301 ⇑P **P 21 47 17.7 -0.3**
MDRS Chennai 27.57 125 *e*P **P 21 47 20.7 +2.2**
LIA Limnos Island 27.58 298 P **P 21 47 14.7 -3.7**
GTK Tadong 27.58 89 *e*P **P 21 47 19.4 +0.7**
GTK IAmb IAmb 21 47 27.0
comp=Z,234nm,1.3s
WLRA Wolmera 27.63 223 *e*P **P 21 47 22.9 +3.5**
WLRA *e*S S 21 52 30.1 +28
DIM Dimitrovgrad 27.71 303 *i*P **P 21 47 18.9 -0.7**
VASR Vaslui 27.71 313 ⇑P **P 21 47 19.6 +0.1**
GHRR 27.72 312 ⇓P **P 21 47 20.7 +1.1**
ELND Elena 27.72 305 ⇑P **P 21 47 19.8 +0.2**
SZH Strazhitsa 27.75 305 *i*P **P 21 47 19.5 -0.3**
GRER 27.75 310 ⇓P **P 21 47 21.2 +1.4**
KOD Kodaikanal 27.76 133 *e*P **P 21 47 22.1 +1.6**
KDZ Kurdzhali 27.79 302 *i*P **P 21 47 19.7 -0.6**
FURI Furi 27.81 222 P **P 21 47 22.7 +1.7**
FURI IAmb IAmb 21 48 01.8
comp=Z,329nm,1.3s
PANC Panciu 27.82 311 ⇑P **P 21 47 21.7 +1.3**
ODBI Odobesti 27.84 311 ⇑P **P 21 47 22.2 +1.6**
MHLO Agia Marina, M 27.86 291 P **P 21 47 20.0 -0.9**
SKY Skiros Island 27.92 296 P **P 21 47 21.6 +0.1**
ISR Istrita 27.94 310 ⇑P **P 21 47 23.0 +1.4**
ISR Istrita 27.94 310 ⇑P **P 21 47 23.0 +1.4**
BISRR Bisoca 27.98 310 ⇑P **P 21 47 23.7 +1.7**
SULR 27.98 308 ⇑P **P 21 47 22.7 +0.8**
SORM Soroca 28.03 316 ⇑P **P 21 47 22.3 0.0**
SORM Soroca 28.03 316 ⇑P **P 21 47 22.3 0.0**
SGRR Singureni 28.03 307 ⇑P **P 21 47 22.6 +0.2**
THAS Thassos island 28.05 299 P **P 21 47 20.4 -2.2**
VRI Vrincioaia 28.09 311 ⇓P **P 21 47 23.7 +0.8**
VRI ⇑P **P 21 47 24.0 +1.1**
VRI Vrincioaia 28.09 311 P **P 21 47 24.0 +1.1**
GVD Gavdhos 28.09 287 P **P 21 47 20.9 -2.1**
IAS Iasi 28.09 314 ⇑P **P 21 47 24.4 +1.5**
IAS Iasi 28.09 314 ⇑P **P 21 47 24.4 +1.5**
PLOR Plostina 28.13 311 ⇓P **P 21 47 24.5 +1.2**
PLOR Plostina 28.13 311 P **P 21 47 24.5 +1.2**
IMMV Iera Moni Meta 28.17 288 P **P 21 47 21.9 -1.9**
KYMI Kymi, Euboea I 28.25 295 P **P 21 47 25.0 +0.6**
RZN Rozhen 28.25 302 *i*P **P 21 47 24.7 +0.1**
PVL Pavlikeni 28.27 305 *i*P **P 21 47 24.7 +0.2**
KAVA Kavala 28.27 300 P **P 21 47 22.6 -2.0**
DION Dionisos Attik 28.32 294 P **P 21 47 25.3 +0.2**
KIRV Kirov 28.34 351*ce*P **P 21 47 25.0 +0.1**
KIRV Kirov 28.34 351 LR LR 22 01 12.9
comp=Z,138µm,18.1s,baz=165,slow=42
PLD Plovdiv 28.34 303 *i*P **P 21 47 25.2 +0.1**
PLD Plovdiv 28.34 303 P **P 21 47 25.3 +0.1**
PLD pmax pmax
comp=Z,607nm,2.0s
RODP Rodopos 28.36 289 P **P 21 47 23.9 -1.5**
GRD1 Great Renaissa 28.37 231 *e*P **P 21 47 25.9 +0.2**
GRD1 *e*S S 21 52 23.6 +11
PTL Penteli 28.38 294 P **P 21 47 24.5 -1.1**
TESR Tescani 28.38 312 ⇓P **P 21 47 25.8 +0.3**
VLY Voula,Athens 28.42 294 P **P 21 47 24.0 -1.9**
COVR Voineasa-Covas 28.42 311 ⇓P **P 21 47 27.6 +1.7**
ATHU Athens Univers 28.43 294 P **P 21 47 25.2 -0.8**
OBN Obninsk 28.45 335 ⇑P **P 21 47 26.7 +0.8**
OBN Obninsk 28.45 335 P **P 21 47 25.7 -0.2**
OBN Obninsk 28.45 335 P **P 21 47 26.3 +0.4**
OBN Obninsk 28.45 335*c i*P **P 21 47 26.3 +0.4**
OBN *e* 21 48 12.0
OBN *i*S **S 21 52 18.6 +5.4**
OBN pmax pmax
comp=Z,781nm,1.4s
OBN MLR MLR
comp=Z,19µm,18.0s
OBN Obninsk 28.45 335 LR LR 22 00 50.8
comp=Z,22µm,21.3s,baz=144,slow=41
MLR Muntele Rosu 28.46 310 ⇓P **P 21 47 27.1 +0.7**
MLR Muntele Rosu 28.46 310 P **P 21 47 27.2 +0.8**
MLR Muntele Rosu 28.46 310 P **P 21 47 27.2 +0.8**
MLR pmax pmax
comp=Z,940nm,1.9s
ATH Athens Observa 28.49 294 P **P 21 47 25.6 -0.9**
COPA Copaceanca 28.52 307 ⇑P **P 21 47 27.6 +0.9**
OUR Ouranopolis 28.56 299 P **P 21 47 25.7 -1.4**
MOS Moscow 28.57 337 *e*P **P 21 47 23.3 -3.7**
MOS *e*S **S 21 52 13.0 -2.0**
MOS pmax pmax
comp=Z,951nm,2.0s
MOS pmax pmax
comp=N,216nm,1.6s
MOS pmax pmax
comp=E,196nm,1.7s
MOS pmax pmax
comp=Z,5µm,3.6s
MOS pmax pmax
comp=E,2µm,3.6s
MOS pmax pmax
comp=N,4µm,3.6s
TURR Turia 28.62 311 ⇑P **P 21 47 28.3 +0.7**
KOKK Kokkinochori, 28.63 300 P **P 21 47 25.7 -2.0**
ANKY Antikythira Is 28.73 289 P **P 21 47 26.8 -1.9**
PLVB Pleven 28.73 305 ⇑P **P 21 47 28.6 0.0**
OZUR 28.78 311 ⇓P **P 21 47 29.9 +0.8**
TRD Trivandrum 28.79 136 *e*P **P 21 47 31.2 +1.9**
HUMR Humele 28.80 308 ⇑P **P 21 47 29.6 +0.3**
VILL Villia 28.82 294 P **P 21 47 28.0 -1.5**
NVR Nevrokopi 28.82 301 P **P 21 47 30.4 +0.9**

PGB	**Panagyurishte**	**28.84**	**303**	*i*	P		**P**		**21 47 29.9**	**+0.3**
AKASG	**Malin Array Be**	**28.84**	**322**		P		**P**		**21 47 29.1**	**-0.3**
AKASG	**Malin Array Be**	**28.84**	**322**		P		**P**		**21 47 29.4**	**0.0**
	comp=N,16nm,0.6s,baz=125,slow=7.5,SNR=212									
AKASG					LR		LR		22 01 23.9	
	comp=N,12µm,21.8s,baz=115,slow=41									
	comp=N,16nm,0.6s									
AKBB	**Malin Array Si**	**28.84**	**322**		P		**P**		**21 47 29.3**	**-0.1**
AKBB					IAmb		IAmb		21 47 37.8	
	comp=Z,741nm,1.9s									
AKBB	**Malin Array Si**	**28.84**	**322**	*c*	*i*P		**P**		**21 47 29.6**	**+0.1**
KIEV	**Kiev**	**28.84**	**322**		⇑P		**P**		**21 47 30.0**	**+0.5**
KIEV	**Kiev**	**28.84**	**322**		P		**P**		**21 47 29.3**	**-0.2**
KIEV					IAmb		IAmb		21 47 37.9	
	comp=Z,663nm,1.9s									
KIEV	**Kiev**	**28.84**	**322**	*i*	P		**P**		**21 47 29.5**	**+0.1**
	SNR=50									
KIEV	**Kiev**	**28.84**	**322**		⇑P		**P**		**21 47 29.6**	**+0.1**
KIEV	**Kiev**	**28.84**	**322**		P		**P**		**21 47 33.5**	**+4.0**
BOSR	**Bodos**	**28.86**	**311**		⇑P		**P**		**21 47 30.7**	**+1.0**
KRND	**KRANIDI**	**28.90**	**292**		P		**P**		**21 47 27.1**	**-3.0**
EPID	**Epidavros**	**28.93**	**293**		P		**P**		**21 47 27.4**	**-3.1**
MMB	**Musomishta**	**28.94**	**301**	*i*	P		**P**		**21 47 30.4**	**-0.2**
MTUR	**Matau**	**28.96**	**309**		⇓P		**P**		**21 47 31.9**	**+1.1**
MTUR	**Matau**	**28.96**	**309**		P		**P**		**21 47 31.9**	**+1.1**
SRS	**Serrai**	**28.98**	**300**		P		**P**		**21 47 29.8**	**-1.1**
SRS	**Serrai**	**28.98**	**300**		P		**P**		**21 47 30.6**	**-0.3**
SRS					pmax		pmax			
	comp=Z,207nm,2.0s									
DOPR	**Dopca**	**29.00**	**311**		⇓P		**P**		**21 47 32.3**	**+1.3**
NEO	**Neokhori**	**29.00**	**296**		P		**P**		**21 47 27.0**	**-4.1**
XOR	**Xorichti**	**29.03**	**297**		P		**P**		**21 47 29.6**	**-1.8**
VLI	**Veliai**	**29.04**	**291**		P		**P**		**21 47 28.8**	**-2.6**
VOIR		**29.04**	**309**		⇑P		**P**		**21 47 32.0**	**+0.6**
VOIR		**29.04**	**309**		P		**P**		**21 47 32.0**	**+0.6**
VLAD	**Vladila**	**29.05**	**306**		⇓P		**P**		**21 47 31.1**	**-0.3**
LOUT	**Loutraki**	**29.07**	**294**		P		**P**		**21 47 27.6**	**-4.1**
SOH	**Sokhos**	**29.11**	**300**		P		**P**		**21 47 28.7**	**-3.4**
LSA	**Lhasa**	**29.25**	**83**		P		**P**		**21 47 33.6**	**-0.3**
LSA	**Lhasa**	**29.25**	**83**		P		**P**		**21 47 34.0**	**0.0**
LSA					P		**P**		**21 47 34.0**	**0.0**
LSA	**Lhasa**	**29.25**	**83**		P		**P**		**21 47 33.6**	**-0.3**
LSA					pmax		pmax			
	comp=Z,69nm,1.1s									
LSA					MLR		MLR			
	comp=Z,35µm,20.0s									
HORT	**Hortiatis**	**29.27**	**299**		P		**P**		**21 47 32.2**	**-1.3**
ARR	**Arges**	**29.30**	**309**		⇑P		**P**		**21 47 34.6**	**+0.9**
THAL	**Thalero**	**29.32**	**294**		P		**P**		**21 47 29.3**	**-4.6**
MPEP	**Malo Peshtene**	**29.34**	**305**	*i*	P		**P**		**21 47 34.3**	**+0.2**
THE	**Thessaloniki**	**29.37**	**299**		P		**P**		**21 47 34.1**	**-0.2**
AXAR	**Agios Charalam**	**29.38**	**295**		P		**P**		**21 47 32.1**	**-2.4**
KKB	**Krupnik**	**29.46**	**302**	*i*	P		**P**		**21 47 34.7**	**-0.4**
KNT	**Kendrikon**	**29.51**	**300**		P		**P**		**21 47 34.6**	**-0.9**
KNT	**Kendrikon**	**29.51**	**300**		P		**P**		**21 47 35.2**	**-0.3**
DGZ	**Jazzator, Alta**	**29.52**	**41**	*ce*	P		**P**		**21 47 35.8**	**0.0**
DGZ					pmax		pmax			
	comp=Z,39nm,0.9s									
DGZ					MLR		MLR			
	comp=Z,111µm,16.0s									
VTS	**Vitosha**	**29.54**	**303**		P		**P**		**21 47 35.7**	**-0.3**
GUR	**Goura**	**29.57**	**294**		P		**P**		**21 47 32.3**	**-3.9**
PEHC	**Pehcevo**	**29.61**	**301**	*i*	P		**P**		**21 47 35.4**	**-1.2**
HORU	**Horodok**	**29.66**	**317**		P		**P**		**21 47 37.0**	**+0.2**
AGG	**Agios Georgios**	**29.66**	**296**		P		**P**		**21 47 35.2**	**-1.8**
AGG	**Agios Georgios**	**29.66**	**296**		P		**P**		**21 47 32.5**	**-4.5**
AGG	**Agios Georgios**	**29.66**	**296**		⇑P		**P**		**21 47 35.8**	**-1.2**
AGG	**Agios Georgios**	**29.66**	**296**		P		**P**		**21 47 35.2**	**-1.8**
AGG					pmax		pmax			
	comp=Z,132nm,1.7s									
BURAR	**Bucovina Array**	**29.71**	**314**		⇑P		**P**		**21 47 38.6**	**+1.2**
BURAR	**Bucovina Array**	**29.71**	**314**		P		**P**		**21 47 37.8**	**+0.3**
BURAR	**Bucovina Array**	**29.71**	**314**		P		**P**		**21 47 40.4**	**+3.0**
KLV	**Kalavryta, Ach**	**29.73**	**294**		P		P		21 47 32.1	-5.5
BUR08	**Bucovina Ar. S**	**29.74**	**314**		P		**P**		**21 47 37.9**	**+0.3**
BUR08					IAmb		IAmb		21 47 43.5	
	comp=Z,230nm,1.5s									
TGMR	**Targu Mures**	**29.75**	**311**		⇑P		**P**		**21 47 38.5**	**+0.8**
VAY	**Valandovo**	**29.78**	**300**	*i*	P		**P**		**21 47 37.6**	**-0.3**
VAY	**Valandovo**	**29.78**	**300**		P		**P**		**21 47 42.4**	**+4.5**
VAY					pmax		pmax			
	comp=Z,95nm,2.1s									
BAIL	**Bailesti**	**29.79**	**306**		⇓P		**P**		**21 47 39.4**	**+1.5**
TYRN	**Tyrnavos**	**29.81**	**297**		P		**P**		**21 47 35.8**	**-2.4**
TRIZ	**Trizonia**	**29.81**	**294**		P		**P**		**21 47 36.7**	**-1.5**
MAKR	**Makrakomi, Fth**	**29.81**	**296**		P		**P**		**21 47 36.5**	**-1.8**
GRG	**Griva**	**29.84**	**300**		P		**P**		**21 47 35.5**	**-3.1**
GRG	**Griva**	**29.84**	**300**		P		**P**		**21 47 38.1**	**-0.5**
LAKA	**Lakka**	**29.87**	**294**		P		**P**		**21 47 36.3**	**-2.6**
LOT	**Lotru**	**29.90**	**309**		⇑P		**P**		**21 47 39.0**	**-0.1**
ANX	**Ano Chora**	**29.94**	**295**		P		P		21 47 33.6	-5.9
EFP	**Efpalio**	**29.94**	**294**		P		**P**		**21 47 35.2**	**-4.2**
THL	**Klokotos Trika**	**29.96**	**297**		P		**P**		**21 47 37.2**	**-2.3**
PYL	**PYLOS**	**30.00**	**297**		P		**P**		**21 47 37.5**	**-2.5**
DILA	**Dilla**	**30.03**	**220**		*e*P		**P**		**21 47 44.6**	**+4.0**
DILA					eS		S		21 52 54.7	+16
DILA	**Dilla**	**30.03**	**220**		*e*P		**P**		**21 47 44.6**	**+4.0**
DILA					eS		S		21 52 54.7	+16
SRE	**Strehaia**	**30.05**	**307**		⇑P		**P**		**21 47 40.9**	**+0.5**
SRE	**Strehaia**	**30.05**	**307**		⇑P		**P**		**21 47 40.9**	**+0.5**
ARCR	**ARCALIA**	**30.06**	**312**		⇑P		**P**		**21 47 42.0**	**+1.6**
STIP	**Stip**	**30.12**	**301**	*i*	P		**P**		**21 47 39.2**	**-1.7**
PUNG	**Punghina**	**30.14**	**306**		⇑P		**P**		**21 47 41.3**	**+0.2**
PVO	**Paravola**	**30.25**	**295**		P		**P**		**21 47 41.0**	**-1.2**
RLS	**Riolos of Patr**	**30.27**	**294**		P		**P**		**21 47 39.3**	**-3.0**
CJR	**Cluj-Napoca**	**30.42**	**311**		⇑P		**P**		**21 47 45.0**	**+1.4**
CJR	**Cluj-Napoca**	**30.42**	**311**		⇑P		**P**		**21 47 45.0**	**+1.4**
KPRO	**Kipourio**	**30.50**	**297**		P		P		21 47 39.6	-4.8
ZAA0	**Zalesovo Array**	**30.51**	**33**		P		**P**		**21 47 43.9**	**-0.3**
ZAA0					IAmb		IAmb		21 47 48.1	
	comp=Z,171nm,0.8s									
ZAA0					IAMs_20		IAMs_20		22 01 32.3	
	comp=Z,77µm,19.0s									
ZALV	**Zalesovo Beam**	**30.51**	**33**		P		**P**		**21 47 44.0**	**-0.3**
ZALV	**Zalesovo Beam**	**30.51**	**33**		P		**P**		**21 47 44.0**	**-0.3**
	comp=Z,168nm,0.8s,baz=239,slow=9.0,SNR=308									
ZALV					LR		LR		22 01 44.3	
	comp=Z,71µm,19.0s,baz=232,slow=40									
	comp=Z,168nm,0.8s									
DJES	**Djerdap**	**30.53**	**307**		P		**P**		**21 47 44.1**	**-0.4**
GZR	**Gura Zlata**	**30.55**	**308**		⇑P		**P**		**21 47 45.2**	**+0.4**
FNA	**Florina**	**30.59**	**299**		P		**P**		**21 47 44.2**	**-1.0**
FNA	**Florina**	**30.59**	**299**		P		**P**		**21 47 44.2**	**-1.0**
FNA	**Florina**	**30.59**	**299**		⇑P		**P**		**21 47 44.9**	**-0.3**
FNA	**Florina**	**30.59**	**299**		P		**P**		**21 47 44.2**	**-1.0**
FNA					pmax		pmax			
	comp=Z,172nm,1.6s									
FNA					MLR		MLR			
	comp=Z,8µm,19.0s									
DEV	**Deva**	**30.61**	**309**		⇑P		**P**		**21 47 46.4**	**+1.1**
DEV	**Deva**	**30.61**	**309**		⇑P		**P**		**21 47 46.4**	**+1.1**
PENT	**Pentalofos**	**30.70**	**298**		P		**P**		**21 47 42.9**	**-3.3**
MARR	**Marisel-Cluj**	**30.72**	**311**		⇑P		**P**		**21 47 47.4**	**+1.1**
SKO	**Skopje**	**30.72**	**301**	*i*	P		**P**		**21 47 45.9**	**-0.4**
LTHK	**Lithakia**	**30.75**	**293**		P		**P**		**21 47 43.5**	**-3.0**
NEST	**Nestorio**	**30.79**	**298**		P		**P**		**21 47 46.0**	**-1.0**
BMR	**Baia Mare**	**30.82**	**313**		⇓P		**P**		**21 47 48.4**	**+1.4**
BMR	**Baia Mare**	**30.82**	**313**		⇓P		**P**		**21 47 48.4**	**+1.4**
BOVS	**Bovan**	**30.85**	**305**		⇑P		**P**		**21 47 47.3**	**-0.1**
SHL	**Shillong**	**30.89**	**91**		P		**P**		**21 47 46.9**	**-1.3**
SHL					IAmb		IAmb		21 47 48.7	
	comp=Z,188nm,1.2s									
SHL					IAMs_20		IAMs_20		22 02 12.9	
	comp=Z,34µm,18.0s									
SHL	**Shillong**	**30.89**	**91**		P		**P**		**21 47 48.4**	**+0.2**
	SNR=74									
SHL	**Shillong**	**30.89**	**91**		P		**P**		**21 47 46.9**	**-1.3**
SHL					pmax		pmax			
	comp=Z,188nm,1.2s									
SHL					MLR		MLR			
	comp=Z,34µm,18.0s									
SHL	**Shillong**	**30.89**	**91**	*e*	P		**P**		**21 47 46.9**	**-1.3**
VLS	**Valsamata**	**30.96**	**294**		P		**P**		**21 47 45.2**	**-3.3**
MESR	**Meseseni**	**30.98**	**312**		⇑P		**P**		**21 47 49.8**	**+1.3**
KBN	**Korca**	**31.01**	**299**		P		**P**		**21 47 48.6**	**-0.4**
KBN	**Korca**	**31.01**	**299**		P		**P**		**21 47 47.7**	**-1.3**
KBN	**Korca**	**31.01**	**299**		P		**P**		**21 47 48.6**	**-0.4**
KBN					pmax		pmax			
	comp=Z,423nm,1.0s									
KBN					MLR		MLR			
	comp=Z,16µm,20.0s									
OHR	**Ohrid**	**31.07**	**300**	*i*	P		**P**		**21 47 49.1**	**-0.3**
OHR	**Ohrid**	**31.07**	**300**		P		**P**		**21 47 51.0**	**+1.6**
OHR					pmax		pmax			
	comp=Z,235nm,1.4s									
SURR	**Surduc**	**31.09**	**309**		⇑P		**P**		**21 47 49.4**	**-0.1**
KEF4	**Livadi, Kephal**	**31.10**	**294**		P		**P**		**21 47 47.6**	**-2.0**
LSK	**Leskovik**	**31.10**	**298**		P		**P**		**21 47 48.5**	**-1.3**
MDVR	**Moldovita**	**31.11**	**307**		⇓P		**P**		**21 47 50.1**	**+0.4**
MALK	**Mahakanadarawa**	**31.12**	**131**		P		**P**		**21 47 51.2**	**+1.2**
MALK	**Mahakanadarawa**	**31.12**	**131**		⇑P		**P**		**21 47 51.5**	**+1.5**
MORS	**Morshin**	**31.13**	**316**		P		**P**		**21 47 50.9**	**+1.2**
KEF3	**Kipouria, Keph**	**31.15**	**294**		P		**P**		**21 47 46.7**	**-3.4**
IGT	**Igoumenitsa**	**31.25**	**296**		P		**P**		**21 47 47.4**	**-3.6**
IGT	**Igoumenitsa**	**31.25**	**296**		P		**P**		**21 47 50.1**	**-0.9**
IGT					pmax		pmax			
	comp=Z,120nm,1.8s									
TRSU	**Trosnyk**	**31.31**	**313**		P		**P**		**21 47 52.4**	**+1.1**
LVV	**L'vov**	**31.33**	**317**	⇓	*i*P		**P**		**21 47 51.8**	**+0.3**
LVV					*e*				21 48 51.9	
LVV					*e*PPP		PPP		21 49 09.8	
LVV					*e*S		**S**		**21 52 56.6**	**-2.0**
LVV					pmax		pmax			
	comp=Z,600nm,1.9s									
TEZP	**TEZPUR**	**31.38**	**89**	*e*	P		**P**		**21 47 51.4**	**-0.8**
TEZP					IAmb		IAmb		21 47 53.1	
	comp=Z,224nm,1.3s									
BZS	**Buzias**	**31.40**	**308**		⇑P		**P**		**21 47 52.4**	**+0.2**
BZS	**Buzias**	**31.40**	**308**		⇑P		**P**		**21 47 52.1**	**-0.1**
BZS	**Buzias**	**31.40**	**308**		⇑P		**P**		**21 47 52.4**	**+0.2**
SRN	**Sarande**	**31.54**	**297**		P		P		21 47 48.3	-5.1
SIRR	**Siria**	**31.55**	**310**		⇑P		**P**		**21 47 54.0**	**+0.5**
GOMU	**GeErMu**	**31.67**	**70**		P		**P**		**21 47 55.6**	**+0.5**
GOMU					pP		sP		21 48 04.2	+4.9
GOMU					S		**S**		**21 53 07.2**	**+2.3**
GOMU					sS		sS		21 53 18.8	+8.9
GOMU					pmax		pmax			
	comp=Z,55nm,1.3s									
GOMU					LR		LR			
	comp=Z,12µm,17.5s									
GOMU					LR		LR			
	comp=Z,17µm,16.8s									
GOMU					LR		LR			
	comp=Z,22µm,15.7s									
KEK	**Kerkira**	**31.68**	**297**		P		**P**		**21 47 52.2**	**-2.5**
KEK					IAmb		IAmb		21 47 58.2	
	comp=Z,116nm,0.9s									
KEK	**Kerkira**	**31.68**	**297**		⇑P		**P**		**21 47 52.3**	**-2.4**
MNK	**Minsk**	**31.68**	**327**	*i*	P		**P**		**21 47 55.5**	**+0.9**
	comp=E,26nm,0.8s									
MNK				*i*	P		**P**		**21 47 55.5**	**+0.9**
	comp=N,37nm,0.8s									
MNK				*i*	P		**P**		**21 47 55.5**	**+0.9**
	comp=Z,88nm,0.8s,baz=126									
MNK				*i*	PP		**PnPn**		**21 48 59.3**	**+1.0**
MNK				*i*	PPP		PPP		21 49 08.5	
MNK				*i*	S		**S**		**21 53 05.8**	**+1.7**
MNK				*i*	SS		**SnSn**		**21 54 53.3**	**+3.2**
MNK				*i*	LQ		LQ		21 59 37.9	
MNK				*i*	LR		LR		22 00 42.9	
MNK				*i*	LRM		MLR		22 03 04.4	
	comp=E,5µm,15.6s									
MNK				*i*	LRM		MLR		22 03 07.4	
	comp=Z,15µm,15.6s									
MNK				*i*	LRM		MLR		22 03 40.7	
	comp=N,9µm,15.7s									
MNK	**Minsk**	**31.68**	**327**	*i*	P		**P**		**21 47 55.4**	**+0.9**
MNK				*i*					21 48 59.2	
MNK				*i*	PPP		PPP		21 49 08.4	
MNK				*i*					21 50 46.9	
MNK				*i*	S		**S**		**21 53 05.7**	**+1.7**
MNK				*i*	SS		**SnSn**		**21 54 53.2**	**+3.2**
MNK					pmax		pmax			
	comp=N,37nm,0.8s									
MNK					pmax		pmax			
	comp=E,26nm,0.8s									
MNK					pmax		pmax			
	comp=Z,88nm,0.8s									
MNK					MLR		MLR			
	comp=E,5µm,16.0s									
MNK					MLR		MLR			
	comp=Z,15µm,16.0s									
MNK					MLR		MLR			
	comp=N,9µm,16.0s									
TIM	**Timisoara**	**31.70**	**308**		⇑P		**P**		**21 47 56.2**	**+1.4**
TIM	**Timisoara**	**31.70**	**308**		⇑P		**P**		**21 47 56.2**	**+1.4**
PRGR	**Permogore**	**31.81**	**349**	⇓	*i*P		**P**		**21 47 55.6**	**0.0**
PRGR					pmax		pmax			
	comp=Z,278nm,2.0s									
PVY	**Plav**	**31.91**	**302**	⇑	*i*P		**P**		**21 47 54.8**	**-2.1**
SILR	**SILCHAR**	**31.93**	**92**		*e*P		**P**		**21 47 58.3**	**+1.2**
SILR					IAmb		IAmb		21 48 05.5	
	comp=Z,192nm,1.1s									
IVA	**Berane**	**32.00**	**303**	⇑	*i*P		**P**		**21 47 55.8**	**-1.8**
SJES	**Sjenica**	**32.01**	**303**	⇑	*i*P		**P**		**21 47 57.3**	**-0.5**
ITAN	**ITANAGAR**	**32.03**	**87**		*e*P		**P**		**21 47 58.4**	**+0.4**
ITAN					IAmb		IAmb		21 48 08.3	
	comp=Z,214nm,0.9s									
KWP	**Kalwaria Pacla**	**32.04**	**316**		*e*P		**P**		**21 47 58.8**	**+1.0**
KWP					*e*S		**S**		**21 53 15.2**	**+5.5**
KWP					*e*L		L		22 03 19.6	
	comp=Z,10µm,22.7s									
KWP	**Kalwaria Pacla**	**32.04**	**316**		P		**P**		**21 47 57.9**	**+0.1**
KWP	**Kalwaria Pacla**	**32.04**	**316**		⇑P		**P**		**21 47 58.5**	**+0.8**
KWP	**Kalwaria Pacla**	**32.04**	**316**		P		**P**		**21 47 57.9**	**+0.1**
KWP					pmax		pmax			
	comp=Z,437nm,1.1s									
ZIRO	**ZIRO**	**32.05**	**86**	*e*	P		**P**		**21 47 58.3**	**0.0**
ZIRO					IAmb		IAmb		21 48 04.1	
	comp=Z,158nm,0.6s									
PALK	**Pallekele**	**32.07**	**132**		P		**P**		**21 47 58.5**	**+0.1**
PALK	**Pallekele**	**32.07**	**132**		P		**P**		**21 47 59.6**	**+1.2**
PALK					P		**P**		**21 47 59.6**	**+1.2**
PALK	**Pallekele**	**32.07**	**132**		⇑P		**P**		**21 47 60.0**	**+1.5**
PALK	**Pallekele**	**32.07**	**132**		P		**P**		**21 47 59.9**	**+1.5**
PALK	**Pallekele**	**32.07**	**132**		LR		LR		22 01 15.9	
	comp=Z,14µm,20.2s,baz=56,slow=37									
DIVS	**Divibare**	**32.16**	**305**		P		**P**		**21 47 57.4**	**-1.6**
DIVS	**Divibare**	**32.16**	**305**	⇑	*i*P		**P**		**21 47 57.8**	**-1.2**
DIVS	**Divibare**	**32.16**	**305**		⇑P		**P**		**21 47 58.3**	**-0.7**
AMBH	**Ambrzfalva**	**32.19**	**309**		⇑P		**P**		**21 48 00.5**	**+1.4**
KOME	**Kolasin**	**32.27**	**303**	⇑	*i*P		**P**		**21 47 59.0**	**-1.0**
KLMR	**Klimovskoe**	**32.31**	**344**	⇑	*i*P		**P**		**21 47 59.8**	**-0.2**
KLMR				⇑	*i*P		**P**		**21 47 59.8**	**-0.2**
KLMR					*e*P		**P**		**21 47 59.8**	**-0.2**
KLMR					AMP				21 48 01.5	
	comp=Z,749nm,1.7s									
KLMR					*e*PP		**PnPn**		**21 49 06.2**	**-0.1**
KLMR					S		**S**		**21 53 14.4**	**+0.8**
KLMR					S		**S**		**21 53 14.4**	**+0.8**
KLMR					LQ		LQ		21 58 45.7	
KLMR					LQ		LQ		21 58 45.7	
KLMR					LR		LR		22 00 35.8	
KLMR					AMP				22 03 45.0	
	comp=Z,38µm,14.9s									
KLMR	**Klimovskoe**	**32.31**	**344**	*c*	*i*P		**P**		**21 47 59.7**	**-0.2**
KLMR					*e*				21 49 06.2	
KLMR					S		**S**		**21 53 14.3**	**+0.7**
KLMR					pmax		pmax			
	comp=Z,749nm,1.7s									
KLMR					MLR		MLR			
	comp=Z,38µm,15.0s									
ULC	**Ulcinj**	**32.34**	**301**	⇑	*i*P		**P**		**21 48 00.2**	**-0.3**
PDG	**Podgorica**	**32.40**	**302**	⇑	*i*P		**P**		**21 47 59.6**	**-1.4**
DRME	**Dracevica, Mon**	**32.41**	**301**		*e*P		**P**		**21 47 58.3**	**-2.9**
NACGM	**Naroch**	**32.44**	**327**		*i*P		**P**		**21 48 01.5**	**+0.3**
PLE	**Pljevlja**	**32.44**	**303**	⇑	*i*P		**P**		**21 47 59.2**	**-2.4**
RUDO	**Rudo**	**32.51**	**304**		*e*P		P		21 47 57.0	-5.0
FRGS	**Fruska Gora**	**32.51**	**307**		⇑P		**P**		**21 48 02.2**	**+0.2**
FRGS	**Fruska Gora**	**32.51**	**307**	⇑	*i*P		**P**		**21 47 59.7**	**-2.3**
CRVS	**Cervenica-Dubn**	**32.52**	**314**		*e*P		**P**		**21 48 03.2**	**+1.1**
CRVS	**Cervenica-Dubn**	**32.52**	**314**		*e*P		**P**		**21 48 03.2**	**+1.1**
CRVS					pmax		pmax			
	comp=Z,1µm,2.1s									
TEKS	**Tekeris**	**32.58**	**306**		*e*P		**P**		**21 47 59.8**	**-2.8**
BUM	**Brajici-Budva**	**32.64**	**301**	⇑	*i*P		**P**		**21 48 01.4**	**-1.8**
CEME	**Cevo**	**32.66**	**302**	⇑	*i*P		**P**		**21 48 01.7**	**-1.7**
NKME	**Niksic**	**32.67**	**302**	⇑	*i*P		**P**		**21 48 01.6**	**-1.8**
IDID	**Didziasalis**	**32.70**	**328**		*e*P		**P**		**21 48 00.9**	**-2.5**
KOHI	**KOHIMA**	**32.76**	**90**		*e*P		**P**		**21 48 04.4**	**-0.2**
KOHI					IAmb		IAmb		21 48 09.1	
	comp=Z,351nm,1.1s									
BSZH	**Besenyszog**	**32.77**	**311**		⇑P		**P**		**21 48 05.6**	**+1.5**
STHS	**Stebnicka Huta**	**32.84**	**315**		*e*P		**P**		**21 48 05.3**	**+0.5**
STHS	**Stebnicka Huta**	**32.84**	**315**		*e*P		**P**		**21 48 05.3**	**+0.5**
SAIH	**SAIHA**	**32.89**	**96**		*e*P		**P**		**21 48 05.6**	**-0.1**
SAIH					IAmb		IAmb		21 48 07.2	
	comp=Z,395nm,1.7s									
IMP	**Imphal**	**32.90**	**91**		*e*P		**P**		**21 48 06.1**	**+0.4**
IMP					IAmb		IAmb		21 48 07.8	
	comp=Z,349nm,1.3s									
HCY	**Herceg Novi**	**32.95**	**302**	⇑	*i*P		**P**		**21 48 06.3**	**+0.4**
HCY	**Herceg Novi**	**32.95**	**302**	⇑	*i*P		**P**		**21 48 05.5**	**-0.4**
BRY	**Bratogost**	**32.99**	**302**	⇑	*i*P		**P**		**21 48 05.5**	**-0.9**
BRY	**Bratogost**	**32.99**	**302**	⇑	*i*P		**P**		**21 48 04.6**	**-1.8**
KECS	**Kecovo**	**32.99**	**313**		*e*P		**P**		**21 48 07.3**	**+1.2**
KECS	**Kecovo**	**32.99**	**313**		*e*P		**P**		**21 48 07.3**	**+1.2**
KECS					pmax		pmax			
	comp=Z,145nm,1.4s									
TREB	**Trebinje**	**33.10**	**302**		*e*P		**P**		**21 48 03.9**	**-3.3**
ISAL	**Salakas**	**33.13**	**328**		*e*P		**P**		**21 48 08.4**	**+1.2**
PSZ	**Piszkesteto**	**33.19**	**312**		⇑P		**P**		**21 48 08.6**	**+0.6**
PSZ	**Piszkesteto**	**33.19**	**312**		P		**P**		**21 48 08.2**	**+0.2**
PSZ	**Piszkesteto**	**33.19**	**312**		⇑P		**P**		**21 48 08.3**	**+0.4**
PSZ	**Piszkesteto**	**33.19**	**312**		P		**P**		**21 48 11.8**	**+3.8**
NEVS	**Nevesinje**	**33.36**	**303**		*e*P		**P**		**21 48 06.0**	**-3.6**
NIE	**Niedzica**	**33.42**	**315**		*e*P		**P**		**21 48 11.5**	**+1.6**
NIE					*e*S		**S**		**21 53 35.9**	**+4.7**
NIE	**Niedzica**	**33.42**	**315**		P		**P**		**21 48 11.7**	**+1.8**
MORH	**Mrgy, Hungar**	**33.56**	**308**		⇑P		**P**		**21 48 11.3**	**+0.2**
BUD	**Budapest**	**33.63**	**311**		P		**P**		**21 48 12.8**	**+1.1**
BUD					pmax		pmax			
	comp=Z,113nm,2.0s									
SUW	**Suwalki**	**33.73**	**323**		*e*P		**P**		**21 48 12.8**	**+0.3**
SUW					*e*S		**S**		**21 53 38.6**	**+2.8**
SUW					*e*L		L		22 01 26.1	
	comp=Z,20µm,31.6s									
SUW	**Suwalki**	**33.73**	**323**		P		**P**		**21 48 12.0**	**-0.5**
SUW	**Suwalki**	**33.73**	**323**		*e*P		**P**		**21 48 12.0**	**-0.5**
SUW	**Suwalki**	**33.73**	**323**		P		**P**		**21 48 12.9**	**+0.4**
LANS	**Liptovska Anna**	**33.84**	**314**		*e*P		**P**		**21 48 14.7**	**+1.1**
LANS	**Liptovska Anna**	**33.84**	**314**		*e*P		**P**		**21 48 14.7**	**+1.1**
LANS					pmax		pmax			
	comp=Z,44nm,1.3s									
KOVH	**Kovagotottos**	**33.89**	**308**		⇑P		**P**		**21 48 13.6**	**-0.

PAOL IAmb IAmb 21 48 31.7
comp=Z,540nm,1.5s
KRLC Kraliky 35.79 314 *e*P **P** **21 48 30.8 +0.4**
KRLC *e*S **S** **21 54 02.9 -4.9**
KRLC AMS AMS 22 07 10.0
comp=Z,7µm,17.5s
KRLC Kraliky 35.79 314 *e*P **P** **21 48 30.8 +0.4**
KRLC *e*S **S** **21 54 02.9 -4.9**
KRLC MLR MLR
comp=Z,7µm,17.5s
CONA Conrad Observa 35.81 311 *e*P **P** **21 48 30.3 -0.3**
comp=Z,124nm,1.4s,SNR=47
VAE Valguarnera 35.85 293 LR LR 22 04 16.8
comp=Z,5µm,20.2s,baz=84,slow=38
ARSA Arzberg 35.88 309 *e*P **P** **21 48 31.0 -0.2**
comp=Z,146nm,2.0s,SNR=37
ARSA Arzberg 35.88 309 ⇑P **P** **21 48 31.3 0.0**
MTSE Matsula 36.00 331 *e*P **P** **21 48 31.5 -0.5**
SLIT Slitere, Latvi 36.05 328 *e*P **P** **21 48 31.5 -0.9**
SOKA Soboth 36.09 308 *e*P **P** **21 48 32.7 -0.4**
comp=Z,85nm,2.2s,SNR=16
DPC Dobruska-Polom 36.15 315 *e*P **P** **21 48 33.8 +0.3**
DPC *e*S S 21 54 04.1 -9.3
DPC AMS AMS 22 07 20.0
comp=Z,9µm,17.0s
DPC Dobruska-Polom 36.15 315 *e*P **P** **21 48 33.8 +0.3**
DPC *e*S S 21 54 04.1 -9.3
DPC MLR MLR
comp=Z,9µm,17.0s
OSTC Ostas 36.28 315 *e*P **P** **21 48 34.6 0.0**
OSTC *e*S **S** **21 54 07.9 -7.4**
OSTC AMS AMS 22 07 20.0
comp=Z,10µm,16.5s
OSTC Ostas 36.28 315 *e*P **P** **21 48 34.6 0.0**
OSTC *e*S **S** **21 54 07.9 -7.4**
OSTC MLR MLR
comp=Z,10µm,16.5s
KSP Ksiaz 36.32 315 *e*P **P** **21 48 35.7 +0.8**
KSP *e*S **S** **21 54 16.6 +0.9**
KSP *e*L L 22 07 32.7
comp=Z,13µm,18.7s
KSP Ksiaz 36.32 315 ⇑P **P** **21 48 35.6 +0.8**
KSP Ksiaz 36.32 315 P **P** **21 48 35.7 +0.8**
LJU Ljubljana 36.33 307 *i* P **P** **21 48 35.1 +0.1**
LJU *e*S **S** **21 54 13.3 -2.8**
CEY Cerknica 36.34 307 ⇑*i*P **P** **21 48 34.3 -0.9**
TREC Trest 36.38 313 *e*P **P** **21 48 35.6 +0.1**
TREC *e*S **S** **21 54 10.4 -6.5**
TREC AMS AMS 22 06 00.0
comp=Z,12µm,21.5s
TREC Trest 36.38 313 *e*P **P** **21 48 35.6 +0.1**
TREC *e*S **S** **21 54 10.4 -6.5**
TREC MLR MLR
comp=Z,12µm,21.5s
CHVC Chvalec 36.39 315 *e*P **P** **21 48 35.6 +0.1**
CHVC *e*S **S** **21 54 12.9 -4.0**
CHVC AMS AMS 22 07 30.0
comp=Z,10µm,16.7s
CHVC Chvalec 36.39 315 *e*P **P** **21 48 35.6 +0.1**
CHVC *e*S **S** **21 54 12.9 -4.0**
CHVC MLR MLR
comp=Z,10µm,16.7s
UPC Upice 36.39 315 *e*P **P** **21 48 35.7 +0.2**
UPC *e*S S 21 54 07.9 -9.0
UPC AMS AMS 22 07 30.0
comp=Z,12µm,16.0s
UPC Upice 36.39 315 *e*P **P** **21 48 35.7 +0.2**
UPC *e*S S 21 54 07.9 -9.0
UPC MLR MLR
comp=Z,12µm,16.0s
GKP Gorka Klasztor 36.59 320 *e*P **P** **21 48 37.6 +0.4**
GKP *e*S **S** **21 54 24.2 +4.3**
GKP *e*L L 22 06 33.6
comp=Z,18µm,21.8s
GKP Gorka Klasztor 36.59 320 *e*P **P** **21 48 37.0 -0.1**
MEF Metsahovi 36.68 333 *e*P **P** **21 48 37.9 +0.1**
AQU L'Aquila 36.70 301 P **P** **21 48 38.0 -0.2**
AQU L'Aquila 36.70 301 ⇑P **P** **21 48 37.2 -1.1**
AQU L'Aquila 36.70 301 P **P** **21 48 39.8 +1.5**
AQU pmax pmax
comp=Z,302nm,1.1s
CAMP Campotosto 36.70 301 P **P** **21 48 38.5 +0.1**
CAMP IAmb IAmb 21 48 40.0
comp=Z,461nm,1.8s
TNCH TengChong 36.77 89⇑*i*P **P** **21 48 39.8 +0.5**
TNCH pP pP 21 48 43.0 +0.7
TNCH PP **PP** **21 50 09.3 +6.4**
TNCH S **S** **21 54 24.9 +1.3**
TNCH SS **SnSn** **21 56 48.4 -6.1**
TNCH ScS **ScS** **21 58 59.6 +3.7**
TNCH pmax pmax
comp=Z,300nm,1.6s
TNCH pmax pmax
comp=Z,3µm,3.7s
TNCH LR LR
comp=Z,8µm,12.4s
TNCH LR LR
comp=Z,10µm,12.7s
TNCH LR LR
comp=Z,19µm,13.5s
CLTB Caltabellotta 36.80 293 P **P** **21 48 38.3 -1.0**
GUMA Gualdo di Mace 36.80 302 IAMs_20 IAMs_20 22 05 46.6
comp=Z,12µm,20.0s
MOA Molln 36.84 310 *e*P **P** **21 48 39.1 -0.2**
comp=Z,107nm,1.7s,SNR=31
FINES FINESS Array B 36.85 336 P **P** **21 48 39.0 -0.2**
FINES FINESS Array B 36.85 336 P **P** **21 48 39.5 +0.3**
comp=Z,77nm,0.6s,baz=133,slow=9.8,SNR=160
FINES LR LR 22 06 03.7
comp=Z,17µm,20.2s,baz=126,slow=40
comp=Z,77nm,0.6s
CADS Cadrg 36.90 307 *i* P **P** **21 48 39.4 -0.5**
CADS *e*S **S** **21 54 21.6 -3.2**
SABO M.te Sabotino 36.95 307 P **P** **21 48 38.7 -1.7**
SABO IAmb IAmb 21 48 55.4
comp=Z,208nm,1.5s
SABO IAMs_20 IAMs_20 22 06 19.8
comp=Z,10µm,20.0s
FDMO Fiordimonte 36.98 302 P **P** **21 48 40.3 -0.3**
FDMO IAmb IAmb 21 48 43.3
comp=Z,391nm,1.8s
KMBO Kilima Mbogo 36.98 215 P **P** **21 48 41.9 +0.8**
KMBO Kilima Mbogo 36.98 215 IAMs_20 IAMs_20 22 05 47.0
comp=Z,31µm,21.0s
KMBO Kilima Mbogo 36.98 215 *i* P **P** **21 48 42.8 +1.7**
SNR=58
KMBO Kilima Mbogo 36.98 215 *e*P P 21 48 35.9 -5.2
KMBO Kilima Mbogo 36.98 215 *e*P P 21 48 36.3 -4.8
KMBO *i* P pP 21 48 41.0 -3.4
KMBO *e*S **S** **21 54 26.3 -0.6**
KMBO IAMs_20 IAMs_20 22 04 32.6
comp=Z,23µm,15.2s
KMBO Kilima Mbogo 36.98 215 *e*P **P** **21 48 42.6 +1.5**
KMBO *e*S **S** **21 54 33.0 +6.0**
KMBO Kilima Mbogo 36.98 215 P **P** **21 48 42.0 +0.9**
KMBO P **P** **21 48 42.0 +0.9**
KMBO Kilima Mbogo 36.98 215 *e*P **P** **21 48 41.9 +0.8**
KMBO IAmb IAmb 21 48 46.2
comp=Z,3µm,2.5s
KMBO Kilima Mbogo 36.98 215 ⇑P **P** **21 48 43.0 +1.9**
KMBO Kilima Mbogo 36.98 215*c* *i*P **P** **21 48 42.6 +1.5**
KMBO Kilima Mbogo 36.98 215 P **P** **21 48 42.8 +1.7**
comp=Z,35nm,1.0s,baz=26,slow=9.3,SNR=44
KMBO LR LR 22 05 36.9
comp=Z,28µm,18.3s,baz=29,slow=39
comp=Z,35nm,1.0s
KMBO Kilima Mbogo 36.98 215 *e*P P 21 48 35.9 -5.2
KMBO Kilima Mbogo 36.98 215 *e*P **P** **21 48 42.6 +1.5**
KMBO *e*S **S** **21 54 33.0 +6.0**
KMBO Kilima Mbogo 36.98 215 *e*P P 21 48 36.3 -4.8
KMBO *i* P pP 21 48 41.0 -3.4
KMBO *e*S **S** **21 54 26.3 -0.6**
KMBO IAMs_20 IAMs_20 22 04 32.6
comp=Z,23µm,15.2s
GOPC GO Pecny, Ondr 36.98 313 *e*S **S** **21 54 24.2 -1.8**
GOPC AMS AMS 22 06 20.0
comp=Z,12µm,17.0s
CKRC Cesky Krumlov 37.02 312 *e*P **P** **21 48 40.4 -0.5**
CKRC *e*S S 21 54 16.9 -10
CKRC Cesky Krumlov 37.02 312 *e*P **P** **21 48 40.4 -0.5**
CKRC *e*S S 21 54 16.9 -10
MYKA Terra Mystica 37.03 308 *e*P **P** **21 48 40.7 -0.4**
comp=Z,68nm,1.6s,SNR=13
PRED Cave del Predi 37.05 308 P **P** **21 48 40.3 -1.0**

PRU Pruhonice 37.15 314 *e*P **P** **21 48 41.8 -0.2**
PRU *e*S **S** **21 54 21.7 -6.9**
PRU AMS AMS 22 06 30.0
comp=Z,10µm,18.6s
PRU Pruhonice 37.15 314 *e*P **P** **21 48 41.8 -0.2**
PRU *e*S **S** **21 54 21.7 -6.9**
PRU MLR MLR
comp=Z,10µm,18.6s
PTCC Patocco-Chiusa 37.19 307 ⇑P **P** **21 48 42.0 -0.5**
BIOA Bad Ischl, Aus 37.22 310 *e*P **P** **21 48 42.2 -0.4**
comp=Z,130nm,1.7s,SNR=40
ZVC Zvikov 37.24 313 *e*P **P** **21 48 42.6 -0.1**
ZVC *e*S **S** **21 54 34.2 +4.3**
ZVC AMS AMS 22 06 40.0
comp=Z,11µm,22.5s
PRA Prague 37.24 314 *e*S **S** **21 54 21.7 -8.2**
PRA AMS AMS 22 06 50.0
comp=Z,8µm,19.9s
PVCC Panska Ves 37.28 314 *e*P **P** **21 48 43.8 +0.7**
PVCC *e*S **S** **21 54 24.2 -6.2**
PVCC AMS AMS 22 07 50.0
comp=Z,9µm,15.8s
PVCC Panska Ves 37.28 314 *e*P **P** **21 48 43.8 +0.7**
PVCC *e*S **S** **21 54 24.2 -6.2**
PVCC MLR MLR
comp=Z,9µm,15.8s
KBA Koelnbreinsper 37.30 309 *e*P **P** **21 48 43.2 -0.4**
comp=Z,103nm,1.6s
KBA Koelnbreinsper 37.30 309 P **P** **21 48 43.5 -0.1**
CESX Cesi 37.32 301 P **P** **21 48 42.6 -0.9**
CESX IAmb IAmb 21 48 45.9
comp=Z,577nm,1.8s
GEC2 GERESS Array S 37.42 311 P **P** **21 48 43.9 -0.5**
GEC2 IAmb IAmb 21 48 47.5
comp=Z,642nm,1.6s
GEC2 GERESS Array S 37.42 311 P **P** **21 48 44.5 +0.1**
GERES GERESS Array B 37.42 311 P **P** **21 48 44.4 0.0**
comp=Z,82nm,0.9s,baz=99,slow=8.4,SNR=74
comp=Z,82nm,0.9s
KHC Kasperske Hory 37.56 312 P **P** **21 48 44.8 -0.8**
KHC IAmb IAmb 21 48 48.6
comp=Z,832nm,1.8s
KHC Kasperske Hory 37.56 312 ⇑P **P** **21 48 45.4 -0.1**
KHC Kasperske Hory 37.56 312 *e*P **P** **21 48 45.0 -0.5**
KHC *ex* x 21 48 57.5
KHC *e*S **S** **21 54 31.3 -3.5**
KHC AMS AMS 22 07 00.0
comp=Z,10µm,21.3s
KHC Kasperske Hory 37.56 312*c* *i*P **P** **21 48 45.3 -0.2**
KHC pmax pmax
comp=Z,884nm,1.7s
KHC MLR MLR
comp=Z,17µm,19.0s
RICC Richard 37.57 314 *e*P **P** **21 48 46.4 +0.9**
RICC AMS AMS 22 08 00.0
comp=Z,8µm,18.0s
KIBK Kibwezi 37.66 213 P **P** **21 48 47.5 +0.8**
KIBK IAmb IAmb 21 48 51.9
comp=Z,250nm,1.5s
KIBK IAMs_20 IAMs_20 22 06 51.5
comp=Z,31µm,21.0s
KIBK Kibwezi 37.66 213 P **P** **21 48 48.2 +1.5**
SNR=38
KIBK Kibwezi 37.66 213 P **P** **21 48 46.7 0.0**
BRG Berggiesshubel 37.75 315 *i* P P 21 48 40.0 -7.1
BRG Amp 21 48 45.0
comp=Z,177nm,1.5s
BRG Berggiesshubel 37.75 315 P P 21 48 59.2 +12
BRG Amp 21 49 06.0
comp=Z,60nm,1.2s
BRG Berggiesshubel 37.75 315 PP PP 21 50 08.0 -5.1
BRG ⇑PP PcP 21 50 50.7 -13
BRG Amp 21 50 58.9
comp=Z,272nm,2.1s
BRG Berggiesshubel 37.75 315 SS SS 21 57 17.0 -6.1
BRG Amp 22 14 33.0
comp=Z,10nm,11.9s
BRG Amp 22 14 33.0
comp=N,5,5nm,14.4s
BRG Amp 22 14 35.0
comp=E,8.6nm,11.7s
BRG Berggiesshubel 37.75 315 *i* P P 21 48 40.0 -7.1
BRG S **S** **21 54 29.0 -8.7**
BRG SS **SnSn** **21 57 17.0 -0.2**
BRG pmax pmax
comp=Z,177nm,1.5s
BRG MLR MLR
comp=E,9µm,11.7s
BRG MLR MLR
comp=N,5µm,14.4s
CIMO Cimolais 37.80 307 IAMs_20 IAMs_20 22 06 58.7
comp=Z,10µm,20.0s
LESA Schwarzleotal 37.81 309 *e*P **P** **21 48 47.0 -0.8**
comp=Z,42nm,0.7s
ABTA Abfaltersbach 37.81 308 *e*P **P** **21 48 47.1 -0.6**
comp=Z,188nm,2.0s,SNR=31
PBA Port Blair 37.93 112 P **P** **21 48 50.2 +1.2**
PBA Port Blair 37.93 112 P **P** **21 48 49.9 +0.9**
SNR=46
PBA Port Blair 37.93 112 ⇑P **P** **21 48 50.9 +2.0**
PBA Port Blair 37.93 112 *e*P **P** **21 48 51.5 +2.6**
HSKC Hora Svate Kat 38.00 314 *e*P **P** **21 48 48.6 -0.6**
HSKC AMS AMS 22 08 20.0
comp=Z,11µm,16.3s
WET Wettzell 38.01 312 P **P** **21 48 48.8 -0.5**
RAF Rauma 38.20 333 *e*P **P** **21 48 50.4 -0.3**
TEOL Teolo 38.21 306 P **P** **21 48 50.0 -1.1**
MOY Mondy 38.24 44 *e*P **P** **21 48 52.5 +1.2**
MOY pmax pmax
comp=Z,646nm,3.5s
RUE Ruedersdorf 38.30 317 *e*P **P** **21 48 52.0 +0.4**
CLL Collm 38.44 315 P **P** **21 48 52.8 -0.1**
CLL IAmb IAmb 21 48 55.5
comp=Z,668nm,1.5s
CLL Collm 38.44 315⇑*i*P **P** **21 48 53.7 +0.8**
comp=Z,788nm,1.6s
CLL *e*Pmax 21 48 58.0
CLL *e*PP **PnPn** **21 50 22.0 -0.5**
CLL *e*PPIp 21 50 29.0
comp=E,2µm,20.2s
CLL *e*PPIp 21 50 29.0
comp=Z,2µm,19.1s
CLL *ex* x 21 50 35.0
CLL *e*PPP PPP 21 50 39.0
CLL *e*PPPP 21 50 48.0
CLL *e*PcP **PcP** **21 51 05.0 -1.0**
comp=Z,134nm,1.5s
CLL *ex* x 21 51 18.0
CLL *e*S **S** **21 54 48.0 0.0**
comp=N,2µm,19.8s
CLL *e*S **S** **21 54 48.0 0.0**
comp=E,5µm,25.1s
CLL *e*SS **SnSn** **21 57 24.0 -10**
CLL AMS AMS 22 08 00.0
comp=Z,13µm,20.4s
CLL AMS AMS 22 14 00.0
CLL Collm 38.44 315⇑*i*P **P** **21 48 53.7 +0.8**
CLL *e* 21 51 05.0
CLL *e*S **S** **21 54 48.0 0.0**
CLL pmax pmax
comp=Z,788nm,1.6s
CLL MLR MLR
comp=Z,13µm,20.4s
WTTA Wattenberg 38.48 309 *i* P **P** **21 48 52.6 -0.9**
comp=Z,134nm,1.0s,SNR=58
WTTA Wattenberg 38.48 309 P **P** **21 48 52.8 -0.7**
NKC Novy Kostel 38.52 313 *e*P **P** **21 48 53.6 0.0**
NKC *e*S **S** **21 54 44.2 -5.1**
NKC AMS AMS 22 07 10.0
comp=Z,11µm,18.5s
NKC Novy Kostel 38.52 313 *e*P **P** **21 48 53.6 0.0**
NKC *e*S **S** **21 54 44.2 -5.1**
NKC MLR MLR
comp=Z,11µm,18.5s
WATA Walderalm 38.54 309 *i* P **P** **21 48 52.7 -1.2**
comp=Z,167nm,1.5s,SNR=65
BSD Bornholm Skovb 38.54 322 *e*P **P** **21 48 53.8 +0.2**
BSD Bornholm Skovb 38.54 322 P **P** **21 48 52.7 -0.9**
BSD Bornholm Skovb 38.54 322 *i* P **P** **21 48 52.4 -1.2**
BSD IAmb IAmb 21 48 54.2
comp=Z,281nm,1.2s
BSD *e*PP **PP** **21 50 21.0 -0.7**
BSD *i* S **S** **21 54 49.9 +0.5**
SQTA Sankt Quirin 38.77 308 *e*P **P** **21 48 54.5 -1.3**
comp=Z,86nm,0.7s,SNR=45

MOTA Moosalm 38.86 309 *e*P **P** **21 48 55.1 -1.5**
comp=Z,120nm,1.2s,SNR=42
FUR Furstenfeldbru 38.87 310 P **P** **21 48 56.2 -0.3**
LZH Lanzhou 38.97 69⇑*i*P **P** **21 48 58.2 +0.5**
LZH pP sP 21 49 03.0 +1.1
LZH sP pP 21 49 05.8 +5.1
LZH PP **PnPn** **21 50 30.4 +1.2**
LZH S **S** **21 54 57.8 +1.1**
LZH pmax pmax
comp=Z,120nm,1.2s
LZH pmax pmax
comp=Z,4µm,4.6s
LZH LR LR
comp=Z,34µm,14.9s
LZH LR LR
comp=Z,28µm,14.4s
LZH LR LR
comp=Z,47µm,15.6s
VLC Villacollemand 39.02 303 P **P** **21 48 55.5 -2.3**
SALO Salr 39.04 306 ⇑P **P** **21 48 57.6 -0.4**
VIKU Vikbolandet 39.05 327 *e*P **P** **21 48 57.5 -0.4**
FETA Feichten 39.06 308 *i* P **P** **21 48 57.4 -1.0**
comp=Z,114nm,0.9s,SNR=36
PZH PanZhiHua 39.10 85 P **P** **21 48 58.4 -0.4**
PZH PP **PnPn** **21 50 29.6 -1.2**
PZH S **S** **21 54 59.6 +0.9**
PZH ScS **ScS** **21 59 09.2 +0.2**
PZH pmax pmax
comp=Z,100nm,2.6s
PZH pmax pmax
comp=Z,2µm,4.5s
PZH LR LR
comp=Z,15µm,19.6s
PZH LR LR
comp=Z,13µm,15.7s
PZH LR LR
comp=Z,14µm,15.3s
RETA Reutte 39.11 309 *i* P **P** **21 48 57.2 -1.4**
comp=Z,35nm,0.7s,SNR=33
MOX Moxa 39.13 314 P **P** **21 48 59.0 +0.3**
MSF Maaselka 39.16 342 P **P** **21 48 58.9 +0.2**
GRA1 Grafenberg Arr 39.18 312 P **P** **21 48 58.7 -0.4**
GRA1 IAmb IAmb 21 49 02.5
comp=Z,631nm,1.6s
GRF Grafenberg Arr 39.18 312 P **P** **21 48 58.7 -0.4**
GRF pmax pmax
comp=Z,631nm,1.6s
GRF MLR MLR
comp=Z,7µm,22.0s
GRFO Grafenberg 39.18 312 P **P** **21 48 59.0 -0.1**
GRFO IAmb IAmb 21 49 02.5
comp=Z,657nm,1.6s
GRFO Grafenberg 39.18 312 P **P** **21 48 59.0 -0.1**
GRFO pmax pmax
comp=Z,657nm,1.6s
GRFO MLR MLR
comp=Z,7µm,22.0s
RGN Rugen 39.21 320 P **P** **21 48 58.9 -0.3**
RGN Rugen 39.21 320 *e*P **P** **21 49 00.4 +1.2**
UPP Uppsala 39.29 329 *e*P **P** **21 48 59.5 -0.3**
ZAK Zakamensk 39.33 47 *e*P **P** **21 49 00.5 0.0**
ZAK *e* 21 51 06.7
ZAK pmax pmax
comp=Z,70nm,1.7s
FUORN Ofenpass-Fuorn 39.33 307 P **P** **21 49 00.1 -0.7**
OUL Oulu 39.43 340 P **P** **21 49 01.1 +0.2**
APA Apatity 39.46 346⇓*i*P **P** **21 49 00.3 -0.8**
APA *i* 21 50 34.0
APA *i* 21 51 11.0
APA *i* S **S** **21 55 02.0 -0.9**
APA *i* SS **SS** **21 57 55.0 -1.9**
CHTO Chiang Mai 39.47 98 P **P** **21 49 01.2 -0.7**
CHTO IAmb IAmb 21 49 03.5
comp=Z,320nm,1.3s
CHTO Chiang Mai 39.47 98 P **P** **21 49 02.2 +0.3**
CHTO Chiang Mai 39.47 98 P **P** **21 49 03.2 +1.3**
CHTO P **P** **21 49 03.2 +1.3**
CHTO P **P** **21 49 03.2 +1.3**
CHTO Chiang Mai 39.47 98⇑P **P** **21 49 01.5 -0.4**
CHTO Chiang Mai 39.47 98 P **P** **21 49 01.2 -0.7**
CHTO pmax pmax
comp=Z,320nm,1.3s
CHTO MLR MLR
comp=Z,11µm,20.0s
LVZ Lovozero 39.48 347 P **P** **21 49 00.4 -1.0**
LVZ IAmb IAmb 21 49 03.1
comp=Z,456nm,1.6s
LVZ Lovozero 39.48 347⇑P **P** **21 49 01.4 0.0**
LVZ Lovozero 39.48 347*de*P **P** **21 49 02.1 +0.7**
LVZ pmax pmax
comp=Z,262nm,1.7s
LVZ MLR MLR
comp=Z,30µm,15.0s
LUNU Lund 39.51 322 *i* P **P** **21 49 01.0 -0.7**
TATN Tataouine 39.55 285 ⇑P **P** **21 49 03.0 +0.5**
DEL Delary 39.59 323 *e*P **P** **21 49 02.0 -0.4**
DEL Delary 39.59 323 *i* P **P** **21 49 01.0 -1.4**
DAVOX Davos/Dischmat 39.61 308 LR LR 22 09 09.3
comp=Z,11µm,19.2s,baz=82,slow=42
CM31 Chiang Mai Arr 39.62 98 P **P** **21 49 02.6 -0.5**
CM31 Chiang Mai Arr 39.62 98 P **P** **21 49 04.0 +0.8**
SNR=52
CMAR Chiang Mai Arr 39.62 98 P **P** **21 49 02.5 -0.7**
CMAR Chiang Mai Arr 39.62 98 P **P** **21 49 03.0 -0.1**
comp=Z,17nm,0.9s,baz=293,slow=7.1,SNR=118
CMAR PcP **PcP** **21 51 10.4 +0.2**
comp=Z,12nm,0.8s,baz=285,slow=4.4,SNR=5.9
CMAR LR LR 22 08 27.3
comp=Z,8µm,19.6s,baz=295,slow=41
comp=Z,17nm,0.9s
CD2 Chengdu 39.71 77 P **P** **21 49 04.4 +0.6**
CD2 pP sP 21 49 08.3 +0.3
CD2 PP **PnPn** **21 50 41.5 +3.5**
CD2 S **S** **21 55 09.7 +2.0**
CD2 sS sS 21 55 14.7 +1.9
CD2 pmax pmax
comp=Z,80nm,1.0s
CD2 pmax pmax
comp=Z,2µm,3.4s
CD2 LR LR
comp=Z,43µm,21.0s
CD2 LR LR
comp=Z,23µm,21.4s
CD2 LR LR
comp=Z,18µm,15.3s
VSL Villasalto 39.72 296 P **P** **21 49 03.6 -0.2**
VSL IAmb IAmb 21 49 07.0
comp=Z,710nm,1.6s
VSL Villasalto 39.72 296 ⇑P **P** **21 49 03.9 +0.1**
FLTG Flechtingen 39.76 316 ⇑P **P** **21 49 04.5 +0.6**
TUE Stuetta 39.94 307 ⇑P **P** **21 49 04.7 -1.1**
KEST Kesra 40.05 290 P **P** **21 49 07.0 +0.3**
KEST IAmb IAmb 21 49 09.5
comp=Z,462nm,1.6s
KEST Kesra 40.05 290 P **P** **21 49 08.3 +1.6**
SNR=39
KEST P **P** **21 49 08.3 +1.6**
SNR=39
KEST Kesra 40.05 290 P **P** **21 49 07.2 +0.5**
comp=Z,78nm,1.1s,baz=38,slow=4.4,SNR=40
KEST LR LR 22 09 43.2
comp=Z,8µm,18.1s,baz=43,slow=42
comp=Z,78nm,1.1s
COP Copenhagen 40.07 322 P **P** **21 49 07.9 +1.5**
COP Copenhagen 40.07 322 *i* P **P** **21 49 07.0 +0.6**
COP IAmb IAmb 21 49 08.9
comp=Z,6µm,2.5s
TAMR Tamra 40.10 292 P **P** **21 49 04.2 -2.7**
CRAI Chiangrai 40.10 95 P **P** **21 49 06.8 -0.4**
STU Stuttgart 40.33 311 P **P** **21 49 07.6 -1.1**
STU Stuttgart 40.33 311 P **P** **21 49 09.0 +0.3**
IRK Irkutsk 40.35 44 *e*P **P** **21 49 09.4 +0.6**
IRK *e*S **S** **21 55 24.8 +8.1**
IRK pmax pmax
comp=Z,669nm,3.4s
KMI Kunming 40.37 86 ⇑P **P** **21 49 09.2 -0.4**
KMI PP **PP** **21 50 42.9 +0.5**
KMI S **S** **21 55 17.8 -0.3**
KMI pmax pmax
comp=Z,250nm,1.8s
KMI pmax pmax
comp=Z,4µm,3.8s
KMI LR LR
comp=Z,30µm,16.4s
KMI LR LR

	comp=Z,16µm,17.2s									
KMI					LR	LR				
	comp=Z,17µm,15.0s									
DGAR	**Diego Garcia**	**40.66**	**156**		P	**P**	**21**	**49**	**11.8**	**+0.1**
DGAR					IAmb	IAmb	21	49	16.3	
	comp=Z,189nm,1.0s									
DGAR	**Diego Garcia**	**40.66**	**156**		IAMs_20	IAMs_20	22	04	10.0	
	comp=Z,37µm,20.0s									
DGAR	**Diego Garcia**	**40.66**	**156**		P	**P**	**21**	**49**	**12.3**	**+0.6**
DGAR					P	**P**	**21**	**49**	**12.3**	**+0.6**
DGAR	**Diego Garcia**	**40.66**	**156**	*de*	P	**P**	**21**	**49**	**15.5**	**+3.9**
DGAR					pmax	pmax				
	comp=Z,212nm,1.7s									
SLE	**Schleitheim**	**40.66**	**309**		P	**P**	**21**	**49**	**10.1**	**-1.4**
BSEG	**Bad Segeberg**	**40.71**	**319**		P	**P**	**21**	**49**	**12.7**	**+1.0**
MONC	**Moncucco Torin**	**40.83**	**305**	⇓	P	**P**	**21**	**49**	**12.9**	**0.0**
BFO	**Black Forest**	**40.84**	**310**		P	**P**	**21**	**49**	**11.1**	**-1.9**
BFO	**Black Forest**	**40.84**	**310**	⇓	P	**P**	**21**	**49**	**12.2**	**-0.8**
BFO	**Black Forest**	**40.84**	**310**		P	**P**	**21**	**49**	**11.1**	**-1.9**
BFO					pmax	pmax				
	comp=Z,38nm,1.2s									
BFO					MLR	MLR				
	comp=Z,11µm,20.0s									
SONM	**Songino Array**	**40.94**	**51**		P	**P**	**21**	**49**	**13.8**	**-0.1**
SONM	**Songino Array**	**40.94**	**51**		P	**P**	**21**	**49**	**14.3**	**+0.4**
	comp=Z,34nm,1.0s,baz=263,slow=7.4,SNR=123									
SONM					LR	LR	22	08	02.9	
	comp=Z,47µm,18.8s,baz=268,slow=39									
	comp=Z,34nm,1.0s									
SGF	**Sodankyl**	**40.97**	**343**		P	**P**	**21**	**49**	**14.3**	**+0.6**
HFS	**Hagfors**	**41.16**	**328**		P	**P**	**21**	**49**	**15.4**	**0.0**
	comp=Z,34nm,0.9s,baz=118,slow=8.9,SNR=21									
HFS					LR	LR	22	09	02.3	
	comp=Z,19µm,18.0s,baz=120,slow=40									
	comp=Z,34nm,0.9s									
SENIN	**Lac Senin/Sane**	**41.34**	**307**		P	**P**	**21**	**49**	**15.4**	**-2.0**
SENIN					IAmb	IAmb	21	49	29.9	
	comp=Z,248nm,1.2s									
SENIN					IAMs_20	IAMs_20	22	08	48.6	
	comp=Z,40µm,21.0s									
ULN	**Ulaanbaatar**	**41.38**	**51**		P	**P**	**21**	**49**	**17.2**	**-0.4**
ULN	**Ulaanbaatar**	**41.38**	**51**		IAMs_20	IAMs_20	22	08	06.4	
	comp=Z,44µm,19.0s									
ULN	**Ulaanbaatar**	**41.38**	**51**	⇑	P	**P**	**21**	**49**	**17.5**	**-0.1**
ULN	**Ulaanbaatar**	**41.38**	**51**	*ce*	P	**P**	**21**	**49**	**18.0**	**+0.4**
ULN					pmax	pmax				
	comp=Z,162nm,1.7s									
ULN					MLR	MLR				
	comp=Z,42µm,16.0s									
SSRD	**Sdr. Stenderup**	**41.52**	**321**	*i*	P	**P**	**21**	**49**	**19.6**	**+1.3**
SSRD					IAmb	IAmb	21	49	21.1	
	comp=Z,4µm,2.5s									
ECH	**Echery**	**41.60**	**309**		P	**P**	**21**	**49**	**17.6**	**-1.6**
ECH	**Echery**	**41.60**	**309**	⇑	P	**P**	**21**	**49**	**18.0**	**-1.2**
ECH	**Echery**	**41.60**	**309**		P	**P**	**21**	**49**	**18.2**	**-1.0**
BNI	**Bardonecchia**	**41.71**	**305**		P	**P**	**21**	**49**	**18.2**	**-2.1**
BNI					IAmb	IAmb	21	49	23.0	
	comp=Z,354nm,1.6s									
BNI	**Bardonecchia**	**41.71**	**305**	⇑	P	**P**	**21**	**49**	**18.6**	**-1.6**
BNI	**Bardonecchia**	**41.71**	**305**		P	**P**	**21**	**49**	**18.2**	**-2.1**
BNI					pmax	pmax				
	comp=Z,354nm,1.7s									
BNI					MLR	MLR				
	comp=Z,7µm,21.0s									
SRDT	**SRDT**	**41.71**	**103**		P	**P**	**21**	**49**	**20.7**	**+0.3**
IBBN	**Ibbenburen**	**41.84**	**316**	⇑	P	**P**	**21**	**49**	**21.0**	**0.0**
BUG	**Bochum--Univer**	**41.98**	**314**		P	**P**	**21**	**49**	**23.2**	**+1.0**
MUD	**Monsted U'grnd**	**42.05**	**322**	*i*	P	**P**	**21**	**49**	**23.0**	**+0.4**
MUD					IAmb	IAmb	21	49	25.2	
	comp=Z,2µm,2.5s									
ORIF	**Oris-en-Rattie**	**42.27**	**304**		P	**P**	**21**	**49**	**23.3**	**-1.5**
NC602	**NORSAR Array S**	**42.39**	**329**	*e*	P	**P**	**21**	**49**	**25.5**	**+0.1**
NC602					IVmB_BB		21	49	26.8	
	comp=Z,4µm,4.8s									
NC602				*e*	PP	**PP**	**21**	**51**	**01.6**	**-1.8**
NC602				*e*	S	**S**	**21**	**55**	**48.1**	**+1.4**
NC602				*e*	SS	**SS**	**21**	**58**	**56.4**	**+1.1**
NC602					IVMs_BB	IVMs_BB	22	11	53.7	
	comp=Z,9µm,13.3s									
VADS	**Vadso**	**42.40**	**346**	*e*	P	**P**	**21**	**49**	**25.9**	**+0.5**
VADS					IVmBBB		21	49	27.2	
	comp=Z,3µm,1.6s									
VADS				*e*	PP	**PP**	**21**	**51**	**03.2**	**-0.1**
VADS				*e*	S	**S**	**21**	**55**	**45.9**	**-0.7**
VADS				*e*	SS	**SS**	**21**	**58**	**53.2**	**-2.0**
VADS					IVMs_BB	IVMs_BB	22	09	56.5	
	comp=Z,19µm,12.2s									
WLF	**Walferdange**	**42.43**	**311**		P	**P**	**21**	**49**	**25.7**	**-0.2**
WLF	**Walferdange**	**42.43**	**311**	*d*	P	**P**	**21**	**49**	**25.6**	**-0.2**
	comp=Z,31nm,1.2s									
WLF				*dx*		x	21	49	30.4	
WLF	**Walferdange**	**42.43**	**311**		P	**P**	**21**	**49**	**25.5**	**-0.4**
WLF	**Walferdange**	**42.43**	**311**	⇑	P	**P**	**21**	**49**	**25.8**	**-0.2**
WLF	**Walferdange**	**42.43**	**311**		P	**P**	**21**	**49**	**25.7**	**-0.2**
WLF					pmax	pmax				
	comp=Z,191nm,1.6s									
WLF					MLR	MLR				
	comp=Z,8µm,19.0s									
OSL	**Oslo**	**42.45**	**327**	*e*	P	**P**	**21**	**49**	**25.8**	**0.0**
OSL					IVmB_BB		21	49	27.8	
	comp=Z,6µm,4.5s									
OSL				*e*	PP	**PP**	**21**	**51**	**06.5**	**+2.5**
OSL				*e*	S	**S**	**21**	**55**	**50.1**	**+2.5**
OSL				*e*	SS	**SS**	**21**	**58**	**55.2**	**-1.2**
OSL					IVMs_BB	IVMs_BB	22	10	26.9	
	comp=Z,7µm,11.4s									
NC405	**NORSAR Array S**	**42.46**	**329**		P	**P**	**21**	**49**	**25.7**	**-0.4**
NC405					IAmb	IAmb	21	49	27.6	
	comp=Z,718nm,1.9s									
BTNL	**Ternell**	**42.56**	**313**	*d*	P	**P**	**21**	**49**	**27.8**	**+0.8**
	comp=Z,76nm,1.9s									
BHOU	**Houvegnez**	**42.61**	**312**	*d*	P	**P**	**21**	**49**	**28.3**	**+0.9**
	comp=Z,47nm,1.2s									
BHOU				*dx*		x	21	49	30.4	
BHOU				*d*	PcP	**PcP**	**21**	**51**	**17.1**	**-2.4**
KEV	**Kevo**	**42.61**	**345**		P	**P**	**21**	**49**	**26.9**	**-0.2**
KEV					IAmb	IAmb	21	49	29.1	
	comp=Z,644nm,1.5s									
KEV					IAMs_20	IAMs_20	22	09	23.4	
	comp=Z,23µm,20.0s									
KEV	**Kevo**	**42.61**	**345**	⇑	P	**P**	**21**	**49**	**27.4**	**+0.3**
KEV	**Kevo**	**42.61**	**345**		P	**P**	**21**	**49**	**26.9**	**-0.2**
KEV					pmax	pmax				
	comp=Z,644nm,1.5s									
KEV					MLR	MLR				
	comp=Z,23µm,20.0s									
MEM	**Membach**	**42.64**	**313**	*d*	P	**P**	**21**	**49**	**27.6**	**0.0**
	comp=Z,66nm,2.0s									
MEM				*d*	P	**pP**	**21**	**49**	**27.9**	**-2.8**
	comp=Z,2µm,3.7s									
MEM				*dx*		x	21	51	15.4	
MEM				*d*	PcP	**PcP**	**21**	**51**	**16.0**	**-3.6**
MEM	**Membach**	**42.64**	**313**		P	**P**	**21**	**49**	**28.6**	**+1.0**
NB2	**NORSAR Subarra**	**42.66**	**329**		P	**P**	**21**	**49**	**26.8**	**-0.8**
	comp=Z,3µm,5.0s,baz=111,slow=7.9									
NB2	**NORSAR Subarra**	**42.66**	**329**		P	**P**	**21**	**49**	**26.8**	**-0.8**
	baz=111,slow=7.9									
NOA	**NORSAR Array B**	**42.66**	**329**		P	**P**	**21**	**49**	**26.9**	**-0.7**
	comp=Z,12nm,0.9s,baz=114,slow=8.0,SNR=20									
NOA					PP	**PP**	**21**	**51**	**05.2**	**-1.2**
	comp=Z,18nm,1.0s,baz=109,slow=10.0,SNR=3.8									
NOA					LR	LR	22	09	57.6	
	comp=Z,17µm,18.4s,baz=110,slow=40									
	comp=Z,12nm,0.9s									
SLVN	**Son La**	**42.70**	**91**		P	**P**	**21**	**49**	**29.1**	**+0.5**
ARA0	**ARCESS Array S**	**42.79**	**344**	*e*	P	**P**	**21**	**49**	**29.2**	**+0.7**
ARA0					IVmB_BB		21	49	30.8	
	comp=Z,7µm,4.0s									
ARA0				*e*	PP	**PP**	**21**	**51**	**09.2**	**+1.6**
ARA0				*e*	S	**S**	**21**	**55**	**54.7**	**+2.3**
ARA0					IVMs_BB	IVMs_BB	22	09	54.4	
	comp=Z,24µm,13.9s									
ARCES	**ARCESS Array B**	**42.79**	**344**		P	**P**	**21**	**49**	**28.4**	**-0.2**
ARCES					IAmb	IAmb	21	49	30.5	
	comp=Z,835nm,1.9s									
ARCES	**ARCESS Array B**	**42.79**	**344**		P	**P**	**21**	**49**	**28.9**	**+0.3**
	comp=Z,40nm,0.9s,baz=143,slow=3.1,SNR=66									
	comp=Z,40nm,0.9s									
KONO	**Kongsberg**	**42.87**	**327**		P	**P**	**21**	**49**	**28.7**	**-0.6**
KONO	**Kongsberg**	**42.87**	**327**	*e*	P	**P**	**21**	**49**	**29.9**	**+0.6**
KONO					IVmB_BB		21	49	31.6	
	comp=Z,3µm,3.5s									
KONO				*e*	PP	**PP**	**21**	**51**	**10.8**	**+2.2**
KONO				*e*	S	**S**	**21**	**55**	**55.3**	**+1.5**
KONO				*e*	SS	**SS**	**21**	**59**	**08.8**	**+4.0**
KONO					IVMs_BB	IVMs_BB	22	11	32.6	
	comp=Z,9µm,16.7s									
KONO	**Kongsberg**	**42.87**	**327**	⇑	P	**P**	**21**	**49**	**29.8**	**+0.5**
KONO	**Kongsberg**	**42.87**	**327**	⇑	*e*P	**P**	**21**	**49**	**29.0**	**-0.3**
KONO					pmax	pmax				
	comp=Z,207nm,2.5s									
KONO					MLR	MLR				
	comp=Z,19µm,17.0s									
BEBN	**Eben Emael**	**42.87**	**313**	*d*	P	**P**	**21**	**49**	**29.7**	**+0.2**
BEBN				*dx*		x	21	51	17.9	
BSTI	**Sart Tilman**	**42.91**	**313**	*d*	P	**P**	**21**	**49**	**30.3**	**+0.5**
BSTI				*d*	PcP	**PcP**	**21**	**51**	**19.8**	**-0.6**
HOMB	**Homborsund**	**42.94**	**324**	*e*	P	**P**	**21**	**49**	**30.1**	**+0.2**
HOMB					IVmB_BB		21	49	32.2	
	comp=Z,7µm,4.0s									
HOMB				*e*	S	**S**	**21**	**55**	**48.8**	**-6.1**
HOMB				*e*	SS	**SS**	**21**	**59**	**04.3**	**-1.9**
HOMB					IVMs_BB	IVMs_BB	22	10	57.3	
	comp=Z,6µm,17.4s									
HOMB	**Homborsund**	**42.94**	**324**	*i*	P	**P**	**21**	**49**	**32.0**	**+2.1**
KTK1	**Kautokeino**	**42.96**	**343**	*e*	P	**P**	**21**	**49**	**29.7**	**-0.2**
KTK1					IVmB_BB		21	49	31.8	
	comp=Z,6µm,3.9s									
KTK1				*e*	PP	**PP**	**21**	**51**	**09.8**	**+0.4**
KTK1				*e*	S	**S**	**21**	**55**	**56.1**	**+1.2**
KTK1				*e*	SS	**SS**	**21**	**59**	**09.9**	**+3.5**
KTK1					IVMs_BB	IVMs_BB	22	10	14.4	
	comp=Z,28µm,14.4s									
BCLA	**Clavier**	**43.06**	**312**	*d*	P	**P**	**21**	**49**	**31.8**	**+0.8**
	comp=Z,54nm,1.2s									
BCLA				*dx*		x	21	51	12.5	
BCLA				*d*	PcP	**PcP**	**21**	**51**	**21.6**	**+0.6**
RCHB	**Rochefort**	**43.08**	**312**	*d*	P	**P**	**21**	**49**	**30.2**	**-0.9**
	comp=Z,82nm,1.3s									
BGES	**Gesves**	**43.20**	**312**	*d*	P	**P**	**21**	**49**	**32.8**	**+0.7**
	comp=Z,54nm,1.9s									
BGES				*d*	PcP	**PcP**	**21**	**51**	**21.8**	**+0.4**
SSB	**Saint Sauveur**	**43.23**	**305**		P	**P**	**21**	**49**	**31.3**	**-1.2**
SSB	**Saint Sauveur**	**43.23**	**305**	⇑	P	**P**	**21**	**49**	**30.9**	**-1.6**
SSB	**Saint Sauveur**	**43.23**	**305**		P	**P**	**21**	**49**	**31.3**	**-1.2**
SSB					pmax	pmax				
	comp=Z,144nm,1.4s									
SSB					MLR	MLR				
	comp=Z,6µm,21.0s									
GYA	**Guiyang**	**43.32**	**83**	⇑	P	**P**	**21**	**49**	**31.5**	**-2.1**
GYA					PcP	**PcP**	**21**	**51**	**25.2**	**+2.8**
GYA					S	**S**	**21**	**55**	**59.6**	**-1.9**
GYA					SS	**SS**	**21**	**59**	**10.4**	**-4.5**
GYA					pmax	pmax				
	comp=Z,60nm,1.8s									
GYA					pmax	pmax				
	comp=Z,2µm,4.2s									
GYA					LR	LR				
	comp=Z,9µm,14.6s									
GYA					LR	LR				
	comp=Z,15µm,15.9s									
GYA					LR	LR				
	comp=Z,20µm,15.1s									
XAN	**Xi'an**	**43.38**	**72**	⇑	P	**P**	**21**	**49**	**32.9**	**-1.0**
XAN					S	**S**	**21**	**56**	**01.6**	**-0.5**
XAN					SS	**SS**	**21**	**59**	**06.3**	**-9.4**
XAN					pmax	pmax				
	comp=Z,170nm,1.5s									
XAN					pmax	pmax				
	comp=Z,3µm,4.0s									
XAN					LR	LR				
	comp=Z,21µm,14.8s									
XAN					LR	LR				
	comp=Z,35µm,15.6s									
XAN					LR	LR				
	comp=Z,54µm,13.7s									
NONG	**Nongkai**	**43.39**	**96**		P	**P**	**21**	**49**	**34.0**	**0.0**
BMRD	**Maredsous**	**43.39**	**312**	*d*	P	**P**	**21**	**49**	**34.3**	**+0.6**
	comp=Z,62nm,1.9s									
BTO	**Baotou**	**43.41**	**62**	*e*	P	**P**	**21**	**49**	**34.1**	**-0.1**
BTO					pP	**sP**	**21**	**49**	**39.0**	**+0.6**
BTO					sP	**pP**	**21**	**49**	**40.6**	**+3.4**
BTO					S	**S**	**21**	**56**	**03.0**	**+0.4**
BTO					SS	**SS**	**21**	**59**	**10.4**	**-5.9**
BTO					pmax	pmax				
	comp=Z,240nm,1.3s									
BTO					pmax	pmax				
	comp=Z,9µm,4.3s									
BTO					LR	LR				
	comp=Z,103µm,18.1s									
BTO					LR	LR				
	comp=Z,17µm,13.2s									
BTO					LR	LR				
	comp=Z,51µm,19.8s									
DOU	**Dourbes**	**43.48**	**312**	*d*	P	**P**	**21**	**49**	**34.6**	**+0.3**
DOU				*d*	PP	**PP**	**21**	**51**	**16.0**	**+0.7**
NAYO	**Nakonayok**	**43.57**	**102**		P	**P**	**21**	**49**	**36.0**	**+0.5**
SNART	**Snartemo**	**43.62**	**324**	*e*	P	**P**	**21**	**49**	**35.7**	**+0.4**
SNART				*e*	SS	SS	21	59	22.4	+3.1
MAHO	**Mahon**	**43.62**	**297**		P	**P**	**21**	**49**	**35.0**	**-0.7**
LOR	**Lormes**	**43.76**	**308**	⇑	P	**P**	**21**	**49**	**35.2**	**-1.5**
LOR	**Lormes**	**43.76**	**308**		P	**P**	**21**	**49**	**35.4**	**-1.3**
MOR8	**Moi Rana**	**43.81**	**336**	*e*	P	**P**	**21**	**49**	**36.2**	**-0.7**
MOR8					IVmB_BB		21	49	38.2	
	comp=Z,6µm,4.1s									
MOR8				*e*	PP	**PP**	**21**	**51**	**19.2**	**+0.6**
MOR8				*e*	S	**S**	**21**	**56**	**09.1**	**+1.6**
MOR8				*e*	SS	**SS**	**21**	**59**	**21.4**	**-1.7**
MOR8					IVMs_BB	IVMs_BB	22	11	52.3	
	comp=Z,10µm,16.2s									
SKAR	**Skarslia**	**43.84**	**328**	*e*	P	**P**	**21**	**49**	**36.1**	**-1.1**
SKAR					IVmB_BB		21	49	40.0	
	comp=Z,3µm,3.9s									
SKAR				*e*	PP	**PP**	**21**	**51**	**18.3**	**-0.8**
SKAR				*e*	S	**S**	**21**	**56**	**10.1**	**+1.9**
SKAR				*e*	SS	**SS**	**21**	**59**	**27.1**	**+3.3**
SKAR					IVMs_BB	IVMs_BB	22	12	51.1	
	comp=Z,11µm,13.4s									
NSS	**Namsos**	**43.88**	**334**	*e*	P	**P**	**21**	**49**	**37.3**	**-0.1**
NSS					IVmB_BB		21	49	39.2	
	comp=Z,5µm,4.5s									
NSS				*e*	PP	**PcP**	**21**	**51**	**23.1**	**-0.4**
NSS				*e*	S	**S**	**21**	**56**	**08.1**	**-0.3**
NSS				*e*	SS	**SS**	**21**	**59**	**28.1**	**+3.7**
NSS					IVMs_BB	IVMs_BB	22	10	46.8	
	comp=Z,12µm,15.0s									
TBLU	**Trondheim**	**43.98**	**332**	*e*	P	**P**	**21**	**49**	**38.7**	**+0.4**
TBLU					IVmB_BB		21	49	40.2	
	comp=Z,4µm,3.9s									
TBLU				*e*	S	**S**	**21**	**56**	**12.9**	**+2.9**
TBLU					IVMs_BB	IVMs_BB	22	13	06.0	
	comp=Z,11µm,10.7s									
DOMB	**Dombas**	**44.00**	**330**	*e*	P	**P**	**21**	**49**	**38.3**	**-0.2**
DOMB					IVmB_BB		21	49	40.5	
	comp=Z,4µm,4.2s									
DOMB				*e*	PP	**PP**	**21**	**51**	**19.2**	**-1.5**
DOMB				*e*	S	**S**	**21**	**56**	**12.9**	**+2.5**
DOMB				*e*	SS	**SS**	**21**	**59**	**28.1**	**+1.2**
DOMB					IVMs_BB	IVMs_BB	22	13	34.2	
	comp=Z,10µm,9.7s									
HAMF	**Hammerfest**	**44.03**	**345**	*e*	P	**P**	**21**	**49**	**39.3**	**+0.7**
HAMF					IVmB_BB		21	49	40.4	
	comp=Z,6µm,4.2s									
HAMF				*e*	PP	**PcP**	**21**	**51**	**25.9**	**+2.1**
HAMF				*e*	S	**S**	**21**	**56**	**09.1**	**-1.4**
HAMF				*e*	SS	**SS**	**21**	**59**	**25.2**	**-2.0**
HAMF					IVMs_BB	IVMs_BB	22	11	05.5	
	comp=Z,17µm,17.2s									
JETT	**Jettan, Norway**	**44.07**	**342**	*e*	P	**P**	**21**	**49**	**39.5**	**+0.5**
JETT					IVmB_BB		21	49	43.1	
	comp=Z,10µm,3.1s									
JETT				*e*	PP	**PP**	**21**	**51**	**18.3**	**-3.1**
JETT				*e*	S	**S**	**21**	**56**	**12.0**	**+0.7**
JETT				*e*	SS	**SS**	**21**	**59**	**30.0**	**+1.9**
JETT					IVMs_BB	IVMs_BB	22	10	56.6	
	comp=Z,29µm,13.8s									
FAUS	**Fauske**	**44.20**	**338**	*e*	P	**P**	**21**	**49**	**39.9**	**0.0**
FAUS					IVmB_BB		21	49	41.8	
	comp=Z,6µm,3.8s									
FAUS				*e*	PP	**PP**	**21**	**51**	**22.1**	**-0.6**
FAUS				*e*	S	**S**	**21**	**56**	**14.8**	**+1.8**
FAUS				*e*	SS	**SS**	**21**	**59**	**32.8**	**+2.2**
FAUS					IVMs_BB	IVMs_BB	22	11	20.1	
	comp=Z,18µm,14.5s									
BLS5	**Blasjo**	**44.31**	**325**	*e*	P	**P**	**21**	**49**	**41.8**	**+0.8**
BLS5					IVmB_BB		21	49	44.0	
	comp=Z,7µm,4.2s									
BLS5				*e*	PP	**PP**	**21**	**51**	**23.1**	**-1.0**
BLS5				*e*	S	**S**	**21**	**56**	**14.8**	**-0.1**
BLS5				*e*	SS	**SS**	**21**	**59**	**32.8**	**-0.2**
BLS5					IVMs_BB	IVMs_BB	22	12	36.3	
	comp=Z,7µm,15.0s									
ODD1	**Odda**	**44.37**	**326**	*e*	P	**P**	**21**	**49**	**42.8**	**+1.3**
ODD1					IVmB_BB		21	49	44.8	
	comp=Z,7µm,3.6s									
ODD1				*e*	PP	**PcP**	**21**	**51**	**25.9**	**+0.6**
ODD1				*e*	S	**S**	**21**	**56**	**21.5**	**+5.6**
ODD1				*e*	SS	**SS**	**21**	**59**	**34.8**	**+0.4**
ODD1					IVMs_BB	IVMs_BB	22	12	29.1	
	comp=Z,10µm,12.8s									
STOK	**Stokkvaagen**	**44.39**	**336**	*e*	P	**P**	**21**	**49**	**41.3**	**-0.2**
STOK					IVmB_BB		21	49	43.0	
	comp=Z,6µm,4.6s									
STOK				*e*	PP	**PcP**	**21**	**51**	**25.0**	**-0.1**
STOK				*e*	S	**S**	**21**	**56**	**13.9**	**-1.9**
STOK				*e*	SS	**SS**	**21**	**59**	**36.7**	**+2.4**
STOK					IVMs_BB	IVMs_BB	22	11	33.4	
	comp=Z,12µm,11.9s									
KONS	**Konsvik**	**44.44**	**336**	*e*	P	**P**	**21**	**49**	**42.2**	**+0.3**
KONS				*e*	SS	SS	21	59	36.7	+1.4
TRO	**Tromso**	**44.51**	**342**	*e*	P	**P**	**21**	**49**	**42.4**	**+0.1**
TRO					IVmB_BB		21	49	44.2	
	comp=Z,8µm,3.9s									
TRO				*e*	PP	**PP**	**21**	**51**	**25.0**	**-1.0**
TRO				*e*	S	**S**	**21**	**56**	**19.6**	**+2.1**
TRO				*e*	SS	**SS**	**21**	**59**	**33.8**	**-2.8**
TRO					IVMs_BB	IVMs_BB	22	11	12.5	
	comp=Z,28µm,14.1s									
SBV	**Sambava**	**44.52**	**190**		P	**P**	**21**	**49**	**46.7**	**+3.7**
SBV	**Sambava**	**44.52**	**190**		P	**P**	**21**	**49**	**44.9**	**+1.9**
	SNR=12									
STEI	**Steigen**	**44.53**	**339**	⇑	*i*P	**P**	**21**	**49**	**42.5**	**0.0**
STEI					IVmB_BB		21	49	44.5	
	comp=Z,6µm,3.7s									
STEI				*e*	PP	**PP**	**21**	**51**	**25.9**	**-0.3**
STEI				*e*	S	**S**	**21**	**56**	**17.7**	**-0.1**
STEI				*e*	SS	**SS**	**21**	**59**	**37.6**	**+0.6**
STEI					IVMs_BB	IVMs_BB	22	11	17.5	
	comp=Z,21µm,14.0s									
HHC	**Hu-ho-hao-te**	**44.56**	**61**	*e*	P	**P**	**21**	**49**	**44.2**	**+0.8**
HHC					PP	**PP**	**21**	**51**	**31.5**	**+4.3**
HHC					S	**S**	**21**	**56**	**14.2**	**-5.1**
HHC					SS	**SS**	**21**	**59**	**33.1**	**-5.7**
HHC					ScS	**ScS**	**21**	**59**	**39.5**	**-2.4**
HHC					pmax	pmax				
	comp=Z,240nm,1.6s									
HHC					pmax	pmax				
	comp=Z,7µm,4.2s									
HHC					LR	LR				
	comp=Z,26µm,15.3s									
HHC					LR	LR				
	comp=Z,58µm,15.9s									
HHC					LR	LR				
	comp=Z,88µm,16.0s									
ENH	**Enshi**	**44.66**	**77**		P	**P**	**21**	**49**	**44.1**	**-0.2**
ENH					IAMs_20	IAMs_20	22	10	17.6	
	comp=Z,27µm,21.0s									
ENH	**Enshi**	**44.66**	**77**		P	**P**	**21**	**49**	**45.1**	**+0.9**
KMY	**Karmoy**	**44.84**	**325**	*e*	P	**P**	**21**	**49**	**45.3**	**+0.1**
KMY					IVmB_BB		21	49	47.9	
	comp=Z,5µm,4.3s									
KMY				*e*	S	**S**	**21**	**56**	**23.4**	**+0.9**
KMY				*e*	ScS	**SS**	**21**	**59**	**44.3**	**+1.0**
KMY					IVMs_BB	IVMs_BB	22	13	25.1	
	comp=Z,6µm,13.4s									
MOL	**Molde**	**44.85**	**330**	*e*	P	**P**	**21**	**49**	**45.7**	**+0.5**
MOL				*e*	S	**S**	**21**	**56**	**21.5**	**-1.1**
MOL					IVMs_BB	IVMs_BB	22	11	28.5	
	comp=Z,7µm,10.2s									
CLF	**Chambon-Foret**	**44.87**	**309**		P	**P**	**21**	**49**	**45.0**	**-0.5**
CLF					IAmb	IAmb	21	50	54.0	
	comp=Z,224nm,1.9s									
SURA	**Surathani**	**44.90**	**109**		P	**P**	**21**	**49**	**46.6**	**+0.4**
MTLF	**Montolieu**	**44.93**	**302**	⇑	P	**P**	**21**	**49**	**45.0**	**-1.1**
AKN	**Aaknes**	**44.95**	**329**		IVmB_BB		21	49	48.8	
	comp=Z,4µm,4.2s									
AKN

UBPT Khong Chiam 46.63 98 P **P** **21 49 59.5 -0.4**
UBPT Khong Chiam 46.63 98 P **P** **21 49 59.6 -0.2**
UBPT Khong Chiam 46.63 98 ⇑P **P** **21 49 59.1 -0.7**
LMK Market Rasen 46.85 316 *e*P **P** **21 50 00.9 -0.2**
GULI GuiLin 46.85 83 ⇑P **P** **21 50 01.9 +0.3**
GULI S **S** **21 56 51.7 -0.8**
GULI pmax pmax
comp=Z,40nm,1.9s
GULI LR LR
comp=Z,11µm,16.8s
GULI LR LR
comp=Z,8µm,16.3s
GULI LR LR
comp=Z,12µm,15.7s
BOD Bodaibo 46.97 38 *e*P **P** **21 50 02.0 0.0**
BOD pmax pmax
comp=Z,369nm,1.9s
GDLE Glaisdale, N Y 47.23 318 *e*P **P** **21 50 04.3 +0.3**
GDLE IAMs_20 IAMs_20 22 16 44.7
comp=Z,12µm,18.0s
WOL Wolverton 47.26 313 *e*P **P** **21 50 03.1 -1.2**
WOL IAMs_20 IAMs_20 22 18 49.7
comp=Z,10µm,15.1s
CWF Charnwood Fore 47.38 315 *e*P **P** **21 50 04.3 -0.9**
CWF IAMs_20 IAMs_20 22 16 25.0
comp=Z,13µm,16.7s
HNS HongShan 47.43 66 ⇑P **P** **21 50 06.1 +0.2**
HNS PP **PP** **21 51 58.9 +1.9**
HNS S **S** **21 57 01.5 +1.1**
HNS pmax pmax
comp=Z,40nm,2.4s
HNS pmax pmax
comp=Z,2µm,6.4s
HNS LR LR
comp=Z,12µm,14.5s
HNS LR LR
comp=Z,25µm,16.7s
HNS LR LR
comp=Z,27µm,16.9s
SWN1 Swindon 47.62 313 *e*P **P** **21 50 06.1 -1.1**
SWN1 IAmb IAmb 21 50 08.6
comp=Z,2µm,1.9s
SWN1 IAMs_20 IAMs_20 22 19 06.0
comp=Z,13µm,17.1s
XLT XiLinHaoTe 47.65 57 ⇑*i*P **P** **21 50 08.3 +0.7**
XLT pP sP 21 50 12.4 +0.5
XLT PcP **PcP** **21 51 37.3 +0.2**
XLT PP **PP** **21 52 04.3 +5.2**
XLT S **S** **21 57 02.7 -0.9**
XLT sS sS 21 57 11.4 +2.7
XLT SS **SS** **22 00 31.1 -0.3**
XLT pmax pmax
comp=Z,79nm,1.6s
XLT pmax pmax
comp=Z,3µm,4.3s
XLT LR LR
comp=Z,45µm,18.9s
XLT LR LR
comp=Z,65µm,21.6s
HPK Haverah Park 47.66 317 *e*P **P** **21 50 07.2 -0.3**
HPK IAMs_20 IAMs_20 22 16 12.9
comp=Z,13µm,21.1s
LBWR Ladybower, Pea 47.68 316 *e*P **P** **21 50 06.9 -0.7**
LBWR IAMs_20 IAMs_20 22 14 07.2
comp=Z,12µm,18.1s
BJO1 Bjornoya 47.78 347 IVmB_BB 21 50 09.9
comp=Z,6µm,3.8s
BJO1 *e*P **P** **21 50 10.2 +2.1**
BJO1 *e*PP **PP** **21 52 01.0 +1.4**
BJO1 *e*S **S** **21 57 07.1 +2.6**
BJO1 *e*SS **SS** **22 00 32.2 -0.2**
BJO1 IVMs_BB IVMs_BB 22 13 39.6
comp=Z,12µm,11.9s
STRD Stroud 47.86 314 *e*P **P** **21 50 07.5 -1.5**
STRD IAmb IAmb 21 50 10.0
comp=Z,792nm,2.0s
STRD IAMs_20 IAMs_20 22 19 29.3
comp=Z,10µm,13.7s
EDMD Edmundbyers 47.93 318 *e*P **P** **21 50 09.7 +0.2**
EDMD IAmb IAmb 21 50 11.0
comp=Z,927nm,1.6s
EDMD IAMs_20 IAMs_20 22 17 17.1
comp=Z,10µm,18.3s
STNC Stoke 47.95 316 *e*P **P** **21 50 09.6 -0.1**
STNC IAmb IAmb 21 50 14.9
comp=Z,1µm,2.4s
STNC IAMs_20 IAMs_20 22 19 46.5
comp=Z,10µm,15.8s
KULM Kulim 47.98 113 P **P** **21 50 09.6 -0.8**
KULM Kulim 47.98 113 ⇑P **P** **21 50 09.4 -1.0**
CART Cartagena 48.01 295 P **P** **21 50 09.8 -0.6**
OLDB Oldbury-Upon-S 48.10 314 *e*P **P** **21 50 09.4 -1.4**
OLDB IAMs_20 IAMs_20 22 19 44.7
comp=Z,9µm,14.0s
GSI Gunungsitoli 48.12 120 P **P** **21 50 10.9 -0.5**
GSI IAmb IAmb 21 50 15.9
comp=Z,328nm,1.8s
GSI Gunungsitoli 48.12 120 P **P** **21 50 11.7 +0.2**
GSI Gunungsitoli 48.12 120 P **P** **21 50 11.0 -0.5**
comp=Z,112nm,2.0s,comp=Z,2µm
GSI pP **sP** **21 50 18.2 +2.1**
comp=Z,112nm,2.0s,comp=Z,2µm
CNSH ChangSha 48.13 78 ⇓P **P** **21 50 11.3 -0.1**
CNSH PP **PP** **21 52 04.2 +0.6**
CNSH S **S** **21 57 13.4 +2.9**
CNSH pmax pmax
comp=Z,95nm,1.8s
CNSH LR LR
comp=Z,12µm,21.1s
CNSH LR LR
comp=Z,13µm,15.1s
CNSH LR LR
comp=Z,20µm,14.7s
BJT Baijiatuau 48.15 62 P **P** **21 50 10.9 -0.6**
BJT IAmb IAmb 21 51 40.2
comp=Z,127nm,1.6s
BJT Baijiatuau 48.15 62 P **P** **21 50 12.6 +1.2**
BJT Baijiatuau 48.15 62 P **P** **21 50 10.9 -0.6**
BJT pmax pmax
comp=Z,127nm,1.6s
BJT MLR MLR
comp=Z,43µm,21.0s
BJI Beijing 48.15 62 P **P** **21 50 11.5 +0.1**
BJI PcP **PcP** **21 51 38.9 +0.1**
BJI PP **PP** **21 52 01.8 -1.8**
BJI S **S** **21 57 08.8 -1.7**
BJI ScS **ScS** **22 00 06.8 +1.8**
BJI pmax pmax
comp=Z,32nm,1.7s
BJI pmax pmax
comp=Z,1µm,4.3s
BJI LR LR
comp=Z,18µm,16.1s
BJI LR LR
comp=Z,3µm,14.8s
BJI LR LR
comp=Z,24µm,20.6s
PSI Prapat 48.17 117 P **P** **21 50 11.2 -0.8**
PSI Prapat 48.17 117 P **P** **21 50 10.4 -1.6**
PSI pmax pmax
comp=Z,128nm,1.3s
PSI MLR MLR
comp=Z,3µm,21.0s
LRW Lerwick 48.23 325 *e*P **P** **21 50 10.2 -1.5**
LRW IAmb IAmb 21 50 12.8
comp=Z,663nm,1.9s
LRW IAMs_20 IAMs_20 22 13 15.6
comp=Z,15µm,18.7s
RPSI Rantau Prapat 48.24 117 P **P** **21 50 10.4 -2.0**
RPSI IAmb IAmb 21 50 14.0
comp=Z,128nm,1.3s
MONM Monmouth 48.26 314 *e*P **P** **21 50 11.0 -1.1**
MONM IAMs_20 IAMs_20 22 17 10.4
comp=Z,9µm,15.8s
HOPEN Hopen 48.27 350 *e*P **P** **21 50 12.8 +0.9**
HOPEN IVmB_BB 21 50 14.7
comp=Z,10µm,3.7s
HOPEN *e*PP **PP** **21 52 06.4 +2.4**
HOPEN *e*S **S** **21 57 12.5 +1.2**
HOPEN *e*SS **SS** **22 00 43.1 +2.8**
HOPEN IVMs_BB IVMs_BB 22 14 05.7
comp=Z,28µm,15.8s
MCH1 Michaelchurch 48.38 314 *e*P **P** **21 50 11.5 -1.5**
MCH1 IAmb IAmb 21 50 13.7
comp=Z,1µm,2.3s
MCH1 IAMs_20 IAMs_20 22 14 55.9
comp=Z,9µm,20.0s
MCH1 Michaelchurch 48.38 314 ⇑P **P** **21 50 12.9 -0.2**
DRUM Mains of Drumt 48.43 321 *e*P **P** **21 50 13.4 +0.1**
DRUM IAMs_20 IAMs_20 22 16 58.6
comp=Z,10µm,17.0s
FOEL Foel Wylfa 48.54 315 *e*P **P** **21 50 14.2 -0.1**
FOEL IAMs_20 IAMs_20 22 20 59.6
comp=Z,11µm,13.9s
WHN Wuhan 48.65 75 ⇓P **P** **21 50 16.0 +0.6**
WHN PP **PP** **21 52 14.2 +5.9**
WHN S **S** **21 57 19.1 +1.3**
WHN pmax pmax
comp=Z,460nm,2.3s
WHN pmax pmax
comp=Z,2µm,4.8s
WHN LR LR
comp=Z,25µm,12.6s
WHN LR LR
comp=Z,7µm,11.4s
WHN LR LR
comp=Z,29µm,15.8s
EKA Eskdalemuir Ar 48.66 319 P **P** **21 50 15.1 0.0**
comp=Z,40nm,0.8s,baz=103,slow=7.2,SNR=35
comp=Z,40nm,0.8s
ESK Eskdalemuir 48.68 319 *e*P **P** **21 50 14.7 -0.6**
ESK IAMs_20 IAMs_20 22 18 53.3
comp=Z,11µm,13.6s
ESK Eskdalemuir 48.68 319 P **P** **21 50 14.7 -0.6**
ESK IAmb IAmb 21 50 16.9
comp=Z,276nm,1.5s
ESK Eskdalemuir 48.68 319 ⇑P **P** **21 50 15.1 -0.2**
ESK Eskdalemuir 48.68 319 P **P** **21 50 14.7 -0.6**
ESK pmax pmax
comp=Z,276nm,1.5s
ESK MLR MLR
comp=Z,8µm,22.0s
QIZ Qiongzhong 48.73 91 P **P** **21 50 15.7 -0.5**
QIZ IAmb IAmb 21 50 17.6
comp=Z,296nm,1.9s
QIZ Qiongzhong 48.73 91 P **P** **21 50 15.4 -0.8**
QIZ PP **PP** **21 52 08.8 -0.5**
QIZ ScP **ScP** **21 55 37.3 +0.8**
QIZ S **S** **21 57 17.9 -1.4**
QIZ ScS **ScS** **22 00 10.4 +0.9**
QIZ SS **SS** **22 00 49.7 +0.1**
QIZ pmax pmax
comp=Z,60nm,1.7s
QIZ pmax pmax
comp=Z,2µm,4.2s
QIZ LR LR
comp=Z,7µm,18.3s
QIZ LR LR
comp=Z,6µm,18.0s
QIZ LR LR
comp=Z,10µm,15.1s
LLW Llanuwchllyn 48.82 315 *e*P **P** **21 50 16.0 -0.4**
MCD Coleburn Disti 48.92 322 *e*P **P** **21 50 15.6 -1.5**
MCD IAmb IAmb 21 50 18.6
comp=Z,1µm,2.1s
UCM Universidad Co 49.29 299 P **P** **21 50 18.7 -1.6**
WPS Cemaes, Angles 49.34 316 *e*P **P** **21 50 19.9 -0.4**
WPS IAmb IAmb 21 50 25.4
comp=Z,214nm,1.2s
WPS IAMs_20 IAMs_20 22 18 26.0
comp=Z,13µm,12.5s
FIGM Figuig 49.39 288 P **P** **21 50 22.0 +0.7**
PGBU Glenifferbraes 49.44 319 *e*P **P** **21 50 21.0 -0.1**
PGBU IAmb IAmb 21 50 22.7
comp=Z,1µm,1.9s
PGBU IAMs_20 IAMs_20 22 18 41.7
comp=Z,12µm,12.8s
RSBS Rosebush, Pemb 49.46 314 *e*P **P** **21 50 20.9 -0.5**
RSBS IAMs_20 IAMs_20 22 17 53.8
comp=Z,8µm,17.1s
GAL1 Galloway 49.52 318 *e*P **P** **21 50 21.6 0.0**
GAL1 IAmb IAmb 21 50 23.1
comp=Z,2µm,2.6s
GAL1 IAMs_20 IAMs_20 22 18 23.6
comp=Z,13µm,17.5s
PBSI Pulau Batu 49.55 120 P **P** **21 50 21.9 -0.5**
comp=Z,120nm,1.9s
PBSI pP **sP** **21 50 27.2 +0.2**
comp=Z,120nm,1.9s
TIA Tai'an 49.56 67 P **P** **21 50 22.2 -0.1**
TIA S **S** **21 57 32.9 +2.4**
TIA ScS **ScS** **22 00 17.0 +2.4**
TIA pmax pmax
comp=Z,79nm,1.7s
TIA pmax pmax
comp=Z,2µm,3.9s
TIA LR LR
comp=Z,16µm,16.3s
TIA LR LR
comp=Z,18µm,17.3s
TIA LR LR
comp=Z,25µm,18.6s
CHAS Isla Isabel II 49.61 292 P **P** **21 50 21.7 -1.1**
TAF Taforalt 49.68 291 P **P** **21 50 25.0 +1.6**
HIA Hailar 49.84 49 P **P** **21 50 24.7 +0.4**
HIA IAmb IAmb 21 50 25.6
comp=Z,219nm,1.8s
HIA Hailar 49.84 49 IAMs_20 IAMs_20 22 13 13.0
comp=Z,17µm,19.0s
HIA Hailar 49.84 49 P **P** **21 50 25.7 +1.4**
HIA Hailar 49.84 49 P **P** **21 50 24.7 +0.4**
HIA pmax pmax
comp=Z,219nm,1.8s
HIA MLR MLR
comp=Z,18µm,19.0s
ESBB Sonseca Array 49.94 298 P **P** **21 50 24.7 -0.6**
ESBB IAmb IAmb 21 50 27.2
comp=Z,174nm,1.6s
ESDC Sonseca Array 49.94 298 P **P** **21 50 23.8 -1.5**
ESDC IAmb IAmb 21 50 27.1
comp=Z,180nm,1.7s
ESDC Sonseca Array 49.94 298 P **P** **21 50 24.3 -0.9**
comp=Z,40nm,1.1s,baz=66,slow=7.3,SNR=58
ESDC LR LR 22 16 20.6
comp=Z,4µm,18.3s,baz=72,slow=42
comp=Z,40nm,1.1s
LAWE Loch Awe, Argy 49.98 320 *e*P **P** **21 50 25.4 +0.2**
LAWE IAMs_20 IAMs_20 22 16 22.5
comp=Z,15µm,20.1s
OPO Ambohidratompo 49.99 192 LR LR 22 09 51.9
comp=Z,19µm,20.9s,baz=184,slow=34
WMELI Melilla 50.00 292 P **P** **21 50 24.8 -0.9**
GOG Mont Gurugu 50.06 292 P **P** **21 50 27.0 +0.7**
HSPB Hornsund (broa 50.12 349 *e*P **P** **21 50 23.9 -2.1**
HSPB *e*S **S** **21 57 41.9 +4.6**
HSPB *e*SS **SS** **22 01 10.5 +0.6**
HSPB *e*L L 22 14 49.0
comp=Z,29µm,18.1s
GZH Guangzhou 50.17 84 P **P** **21 50 26.3 -0.8**
GZH PP **PP** **21 52 23.4 +1.1**
GZH S **S** **21 57 41.7 +2.4**
GZH pmax pmax
comp=Z,52nm,1.8s
GZH pmax pmax
comp=Z,3µm,3.7s
GZH LR LR
comp=Z,4µm,13.5s
GZH LR LR
comp=Z,4µm,11.9s
KPL Plockton 50.19 321 *e*P **P** **21 50 26.2 -0.5**
KPL IAMs_20 IAMs_20 22 16 57.2
comp=Z,10µm,18.4s
PAB San Pablo 50.26 298 P **P** **21 50 26.7 -1.0**
PAB San Pablo 50.26 298 P **P** **21 50 27.6 -0.1**
PAB San Pablo 50.26 298 ⇑P **P** **21 50 26.5 -1.2**
PAB San Pablo 50.26 298 P **P** **21 50 26.7 -1.0**
PAB pmax pmax
comp=Z,154nm,1.6s
ABPO Ambohimpanom 50.42 192 P **P** **21 50 30.1 +1.0**
ABPO Ambohimpanom 50.42 192 IAMs_20 IAMs_20 22 10 06.2
comp=Z,23µm,20.0s
ABPO Ambohimpanom 50.42 192 *e*P **P** **21 50 30.3 +1.2**
ABPO IAmb IAmb 21 50 34.2
comp=Z,1µm,3.4s
ABPO Ambohimpanom 50.42 192 ⇓P **P** **21 50 30.8 +1.7**
ABPO Ambohimpanom 50.42 192 P **P** **21 50 30.1 +1.0**
ABPO pmax pmax
comp=Z,104nm,1.5s
ABPO MLR MLR
comp=Z,23µm,20.0s
ROCAM Rodrigues Isla 50.57 173 P **P** **21 50 31.1 +1.2**
SPB2 Spitsbergen Ar 50.78 350 P **P** **21 50 31.3 +0.3**
SPB2 IAmb IAmb 21 50 36.1
comp=Z,390nm,1.4s
SPA0 Spitsbergen Ar 50.79 350 *e*P **P** **21 50 31.6 +0.6**
SPA0 IVmB_BB 21 50 33.0
comp=Z,6µm,4.6s
SPA0 *e*PP **PP** **21 52 28.1 +1.2**
SPA0 *e*S **S** **21 57 48.3 +1.7**
SPA0 *e*SS **SS** **22 01 22.1 +1.5**
SPA0 IVMs_BB IVMs_BB 22 15 30.1
comp=Z,20µm,16.7s
SPITS Spitsbergen Ar 50.79 350 P **P** **21 50 30.5 -0.6**
SPITS pmax pmax
comp=Z,372nm,1.3s
SPITS Spitsbergen Ar 50.79 350 P **P** **21 50 30.3 -0.8**
comp=Z,158nm,1.0s,baz=112,slow=6.4,SNR=26
SPITS LR LR 22 15 41.4
comp=Z,51µm,18.7s,baz=107,slow=40
comp=Z,158nm,1.0s
DLV T Lat 50.80 100 P **P** **21 50 31.8 -0.4**
DLV IAmb IAmb 21 50 34.4
comp=Z,616nm,2.0s
DLV T Lat 50.80 100 P **P** **21 50 32.9 +0.7**
EMAL Malaga-Limoner 50.86 294 P **P** **21 50 30.2 -1.9**
AKLM AKL 50.91 291 P **P** **21 50 34.0 +1.2**
PVLZ Peæn de 51.11 292 P **P** **21 50 32.3 -1.7**
BKNI Bangkinang 51.37 118 P **P** **21 50 34.7 -1.6**
BKNI Bangkinang 51.37 118 P **P** **21 50 37.8 +1.5**
BKNI Bangkinang 51.37 118 P **P** **21 50 34.6 -1.6**
comp=Z,115nm,0.5s,comp=Z,3µmcomp=Z,1µm
BKNI Bangkinang 51.37 118 P P 21 50 31.3 -4.9
RER Riviere de l'E 51.64 182 P P **21 50 38.0 -0.2**
RER IAmb IAmb 21 50 41.6
comp=Z,155nm,1.0s
RER Riviere de l'E 51.64 182 P **P** **21 50 39.9 +1.8**
SNR=6.2
RER Riviere de l'E 51.64 182 ⇑P **P** **21 50 39.3 +1.2**
PBRG Braganca 51.67 301 *e*P **P** **21 50 37.9 -0.3**
comp=Z,96nm,1.7s
PDSI Padang 51.74 119 P **P** **21 50 37.2 -1.8**
comp=Z,80nm,1.8s,comp=Z,2µmcomp=Z,2µm
CEU Ceuta 51.79 293 P **P** **21 50 37.0 -2.1**
SMIR Smir Dam 51.85 293 P **P** **21 50 39.0 -0.6**
LCRM LCR 51.92 291 P **P** **21 50 42.0 +1.6**
MDT Midelt 51.94 289 P **P** **21 50 40.9 +0.4**
MDT Midelt 51.94 289 LR LR 22 16 14.9
comp=Z,3µm,20.1s,baz=98,slow=40
KBS Kingsbay 51.95 350 P **P** **21 50 39.1 -0.6**
KBS IAmb IAmb 21 50 43.9
comp=Z,126nm,0.8s
KBS Kingsbay 51.95 350 *e*P **P** **21 50 38.6 -1.1**
KBS *e*PP **PP** **21 52 41.8 +4.3**
KBS *e*S **S** **21 58 04.4 +1.9**
KBS *e*SS **SS** **22 01 40.5 +1.5**
KBS IVMs_BB IVMs_BB 22 16 14.6
comp=Z,21µm,16.9s
KBS Kingsbay 51.95 350 ⇑P **P** **21 50 39.6 -0.1**
KBS Kingsbay 51.95 350*c*eP **P** **21 50 39.7 -0.1**
KBS pmax pmax
comp=Z,165nm,1.0s
KBS MLR MLR
comp=Z,49µm,17.0s
KBS Kingsbay 51.95 350 *i*P **P** **21 50 38.2 -1.6**
NJ2 Nanjing 51.95 72 ⇑P **P** **21 50 39.4 -1.0**
NJ2 PP **PP** **21 52 42.2 +3.9**
NJ2 S **S** **21 58 01.4 -2.4**
NJ2 SS **SS** **22 01 44.0 +3.5**
NJ2 pmax pmax
comp=Z,54nm,1.5s
NJ2 pmax pmax
comp=Z,2µm,4.5s
NJ2 LR LR
comp=Z,26µm,17.1s
NJ2 LR LR
comp=Z,12µm,18.0s
NJ2 LR LR
comp=Z,24µm,20.4s
MVO Moncorvo 51.99 300 *e*P **P** **21 50 39.3 -1.4**
comp=Z,104nm,1.5s
MVO Moncorvo 51.99 300 *e*LQ LQ 22 02 11.8
MVO *e*LR LR 22 11 20.9
comp=Z,4µm,20.0s
IFR Ifrane 52.18 290 P **P** **21 50 42.3 -0.1**
EKNA AfricaArray - 52.21 249⇑*e*P **P** **21 50 44.0 +1.4**
SFS San Fernando 52.31 294 P **P** **21 50 41.8 -1.2**
PVRL Vila Real 52.48 301 *e*P **P** **21 50 44.3 0.0**
comp=Z,198nm,1.7s
DL2 Dalian 52.51 62 P **P** **21 50 44.4 0.0**
DL2 S **S** **21 58 15.7 +4.5**
DL2 SS **SS** **22 01 47.6 -1.4**
DL2 pmax pmax
comp=Z,89nm,1.7s
DL2 pmax pmax
comp=Z,3µm,4.0s
DL2 LR LR
comp=Z,23µm,16.7s
DL2 LR LR
comp=Z,24µm,17.8s
DL2 LR LR
comp=Z,34µm,18.7s
MTE Manteigas 52.51 299 *e*P **P** **21 50 44.3 -0.3**
comp=Z,247nm,1.6s
MTE *e*S **S** **21 58 09.0 -2.5**
MTE *e*LQ LQ 22 02 16.6
MTE *e*LR LR 22 11 57.4
comp=Z,4µm,20.0s
MTE Manteigas 52.51 299 P **P** **21 50 43.7 -0.9**
MTE IAmb IAmb 21 50 47.7
comp=Z,166nm,1.4s
MTE Manteigas 52.51 299 ⇑P **P** **21 50 44.1 -0.5**
POLO Lamas de Olo 52.52 301 *e*P **P** **21 50 44.6 0.0**
comp=Z,68nm,1.6s
PCBR Castelo Branco 52.57 299 *e*P **P** **21 50 44.6 -0.3**
comp=Z,353nm,1.5s
PBAR Barrancos 52.58 297 *e*P **P** **21 50 44.2 -0.8**
comp=Z,333nm,1.7s
PMRV Marv??o 52.59 298 *e*P **P** **21 50 44.8 -0.3**
comp=Z,130nm,1.6s
PMRV *e*S S 21 57 58.6 -14
PMRV *e*LQ LQ 22 02 25.0
PMRV *e*LR LR 22 12 04.3
comp=Z,3µm,20.0s
MYKOM Kota Tinggi 52.63 114 P **P** **21 50 43.9 -1.8**
MYKOM IAmb IAmb 21 50 47.9
comp=Z,189nm,1.4s
PPSI Pulau Pagai 52.64 121 P **P** **21 50 45.5 -0.1**
comp=Z,208nm,1.9s,comp=Z,4µm
PVIS Viseu 52.72 300 *e*P **P** **21 50 45.8 -0.3**
PGAV Gavieira, Arco 52.76 302 *e*P **P** **21 50 45.6 -0.9**
comp=Z,218nm,1.7s
PGAV *e*S **S** **21 58 07.4 -7.5**
PGAV *e*LQ LQ 22 07 16.9
PGAV *e*LR LR 22 09 49.1
comp=Z,6µm,20.0s
PESTR Estremoz 52.86 298 *e*P **P** **21 50 46.9 -0.2**
comp=Z,132nm,1.6s
PESTR Estremoz 52.86 298 P **P** **21 50 45.8 -1.3**
PESTR Estremoz 52.86 298 P **P** **21 50 47.0 -0.2**
VAL Valentia 52.87 314 P **P** **21 50 47.5 +0.7**
PBEJ Beja 53.25 297 *e*P **P** **21 50 49.9 -0.1**
comp=Z,242nm,1.8s
EVO Evora 53.25 297 *e*P **P** **21 50 49.6 -0.4**
comp=Z,159nm,1.7s
EVO Evora 53.25 297 P **P** **21 50 49.4 -0.6**
KRJI Kerinci 53.27 120 P **P** **21 50 49.7 -0.7**
comp=Z,506nm,1.3s,comp=Z,7µmcomp=Z,3µm
PVAQ Vaqueiros 53.28 296 *e*S **S** **21 58 15.1 -6.7**
PVAQ *e*LQ LQ 22 01 47.7
PVAQ Vaqueiros 53.28 296 P **P** **21 50 48.6 -1.6**
PMTG Montargil 53.30 298 *e*P **P** **21 50 49.9 -0.4**
comp=Z,150nm,1.7s
PCAS Casmilo, Conde 53.30 299 *e*P **P** **21 50 50.5 +0.2**
comp=Z,79nm,2.8s
VOI Vohitsoka 53.32 192 P **P** **21 50 51.3 +0.7**
VOI IAmb IAmb 21 50 55.0
comp=Z,236nm,1.6s
VOI IAMs_20 IAMs_20 22 10 54.0
comp=Z,26µm,22.0s
VOI Vohitsoka 53.32 192 P **P** **21 50 52.4 +1.7**
VOI Vohitsoka 53.32 192 P **P** **21 50 53.6 +3.0**
SNR=11
VOI Vohitsoka 53.32 192 *e*P **P** **21 50 51.4 +0.7**
VOI Vohitsoka 53.32 192 ⇑P **P** **21 50 51.2 +0.7**
JMIC Jan Mayen 53.37 338 LR LR 22 15 51.3

comp=Z,11µm,19.0s,baz=96,slow=39
SNY Shenyang 53.39 59 ⇓P **P 21 50 50.5 -0.4**
SNY S **S 21 58 26.6 +3.4**
SNY pmax pmax
comp=Z,46nm,1.3s
SNY pmax pmax
comp=Z,2µm,4.4s
SNY LR LR
comp=Z,15µm,14.7s
SNY LR LR
comp=Z,9µm,23.5s
SNY LR LR
comp=Z,9µm,24.5s
ZHG ZHG 53.42 291 P **P 21 50 53.0 +1.6**
JMI Jan Mayen 53.43 338 *e*P **P 21 50 52.7 +2.0**
RTC Rabat Centre 53.45 291 P **P 21 50 50.9 -0.5**
PCVE Castro Verde 53.48 296 *e*P **P 21 50 50.8 -0.8**
comp=Z,195nm,1.7s
PBDV Barranco-do-Ve 53.48 296 *e*P **P 21 50 50.8 -0.9**
comp=Z,144nm,1.7s
ZGR Zagora 53.54 287 P **P 21 50 53.0 +0.6**
MESJ Messejana 53.57 296 *e*P **P 21 50 51.6 -0.7**
comp=Z,162nm,1.8s
MESJ Messejana 53.57 296 P **P 21 50 51.5 -0.7**
MESJ IAmb IAmb 21 50 54.4
comp=Z,163nm,1.6s
MESJ Messejana 53.57 296 *e*P **P 21 50 51.6 -0.7**
MESJ *e*S **S 21 58 25.7 0.0**
MESJ IAMs_20 IAMs_20 22 15 51.5
comp=Z,4µm,25.0s
MESJ Messejana 53.57 296 *e*P **P 21 50 51.6 -0.7**
MESJ *e*S **S 21 58 25.7 0.0**
LSZ Lusaka 53.63 216 P **P 21 50 53.8 +0.7**
LSZ Lusaka 53.63 216 ⇑P **P 21 50 53.7 +0.7**
LSZ Lusaka 53.63 216 P **P 21 50 53.8 +0.7**
LSZ pmax pmax
comp=Z,44nm,1.1s
LSZ MLR MLR
comp=Z,61µm,19.0s
LSZ Lusaka 53.63 216 LR LR 22 15 55.7
comp=Z,59µm,18.3s,baz=28,slow=38
PSBE So Bento 53.63 299 *e*P **P 21 50 52.5 -0.3**
comp=Z,285nm,2.1s
TPRI Tanjung Pinang 53.70 114 P **P 21 50 52.1 -1.4**
comp=Z,121nm,1.7s,comp=Z,2µm
PNCL Nicolau / Gran 53.74 297 *e*P **P 21 50 52.6 -1.0**
comp=Z,178nm,1.7s
TOA0 Torodi Ar. Sit 53.89 264 P **P 21 50 54.2 -0.7**
TOA0 IAmb IAmb 21 50 57.8
comp=Z,139nm,1.0s
TOA0 Torodi Ar. Sit 53.89 264 P **P 21 50 54.5 -0.5**
SNR=13
TOA0 P **P 21 50 54.5 -0.5**
SNR=13
TORD Torodi Ar. Bea 53.89 264 P **P 21 50 54.0 -0.9**
TORD IAmb IAmb 21 50 57.8
comp=Z,116nm,1.0s
TORD Torodi Ar. Bea 53.89 264 P **P 21 50 54.5 -0.5**
comp=Z,97nm,0.9s,baz=50,slow=8.1,SNR=166
TORD LR LR 22 16 14.4
comp=Z,16µm,20.2s,baz=62,slow=39
comp=Z,97nm,0.9s
QZH Quanzhou 53.98 80 ⇓*i*P **P 21 50 56.6 +1.2**
QZH S **S 21 58 32.2 +0.7**
QZH pmax pmax
comp=Z,1µm,6.3s
QZH LR LR
comp=Z,16µm,20.6s
QZH LR LR
comp=Z,15µm,14.7s
QZH LR LR
comp=Z,25µm,15.9s
PTEO Sao Teotonio 54.02 296 *e*P **P 21 50 55.1 -0.5**
comp=Z,265nm,2.0s
MORF Marmelete 54.03 296 *e*P **P 21 50 55.1 -0.7**
MORF IAMs_20 IAMs_20 22 21 13.6
comp=Z,5µm,18.4s
MORF Marmelete 54.03 296 *e*P **P 21 50 55.0 -0.7**
AVE Averroes 54.08 291 P **P 21 50 56.0 -0.1**
LIS Lisbon 54.08 298 *e*P **P 21 50 55.4 -0.6**
LIS *e*S **S 21 58 32.6 0.0**
LIS IAMs_20 IAMs_20 22 16 27.1
comp=Z,6µm,18.5s
LIS Lisbon 54.08 298 *e*P **P 21 50 55.4 -0.6**
LIS *e*S **S 21 58 32.6 0.0**
PMAFR Mafra 54.13 298 *e*P **P 21 50 55.6 -0.8**
comp=Z,294nm,2.3s
SSE Sheshan 54.13 72 P **P 21 50 55.8 -0.7**
SSE S **S 21 58 32.6 -0.9**
SSE SS **SS 22 02 14.4 -0.6**
SSE pmax pmax
comp=Z,28nm,2.2s
SSE pmax pmax
comp=Z,920nm,5.5s
SSE LR LR
comp=Z,2µm,17.6s
PFVI Vila Bisbo 54.20 296 *e*P **P 21 50 59.6 +2.6**
comp=Z,116nm,2.0s
OUZM OUZ 54.24 288 P **P 21 50 59.1 +1.6**
ZEA Zeya 54.25 43 *ce*P **P 21 50 57.7 +0.7**
ZEA *e* 21 53 06.0
ZEA *e*S **S 21 58 37.2 +2.7**
ZEA *e* 21 58 51.6
ZEA pmax pmax
comp=N,30nm,1.4s
ZEA pmax pmax
comp=E,40nm,1.4s
ZEA pmax pmax
comp=Z,80nm,1.5s
ZEA pmax pmax
comp=E,700nm,4.0s
ZEA pmax pmax
comp=N,600nm,5.3s
ZEA pmax pmax
comp=Z,2µm,4.4s
ZEA smax smax
comp=N,1µm,7.5s
ZEA smax smax
comp=E,3µm,9.8s
ZEA MLR MLR
comp=E,30µm,15.0s
ZEA MLR MLR
comp=Z,37µm,15.0s
SUJ Sinuiju 54.42 60 P **P 21 50 57.3 -1.1**
SUJ S **S 21 58 33.4 -3.7**
SUJ AmB
comp=Z,5µm,4.6s
SUJ AMS AMS
comp=Z,40µm,16.2s
DSRI Dabo 54.61 116 P **P 21 50 58.6 -1.6**
comp=Z,123nm,1.7s,comp=Z,3µm
TIO Tiouine 54.64 288 P **P 21 50 59.2 -1.3**
SRHM Skhour des Reh 54.70 290 P **P 21 51 03.1 +2.4**
HEH HeiHe 54.71 48 *e*P **P 21 51 00.0 -0.5**
HEH pP **sP 21 51 08.4 +0.6**
HEH S **S 21 58 39.0 -1.8**
HEH sS sS 21 58 56.2 +10
HEH ScS **ScS 22 00 47.4 -2.5**
HEH pmax pmax
comp=Z,140nm,1.1s
HEH pmax pmax
comp=Z,3µm,5.0s
YAK Yakutsk 55.16 33 P **P 21 51 02.3 -1.2**
YAK IAmb IAmb 21 51 10.3
comp=Z,106nm,0.9s
YAK Yakutsk 55.16 33 ⇑P **P 21 51 02.4 -1.2**
YAK Yakutsk 55.16 33 *c*⇓P **P 21 51 01.9 -1.6**
YAK *e**PP **sP 21 51 02.4 +0.4**
YAK *e* 21 52 02.5
YAK *e* 21 53 03.6
YAK *e*PPP PPP 21 54 18.3
YAK *e*S **S 21 58 45.8 -0.7**
YAK *e**SS **sS 21 58 56.5 +4.8**
YAK *e* 22 00 49.1
YAK *e*SS **SS 22 02 30.4 +0.4**
YAK *e*SSS SSS 22 04 36.9
YAK pmax pmax
comp=Z,109nm,1.4s
YAK pmax pmax
comp=E,79nm,1.5s
YAK pmax pmax
comp=N,29nm,1.8s
YAK pmax pmax
comp=Z,2µm,4.0s
YAK pmax pmax
comp=E,746nm,3.0s
YAK pmax pmax
comp=N,204nm,2.9s
YAK smax smax
comp=E,3µm,5.8s
YAK smax smax
comp=N,2µm,5.8s
YAK MLR MLR
comp=Z,69µm,20.0s
YAK MLR MLR
comp=E,54µm,20.0s
YAK MLR MLR
comp=N,14µm,14.0s
YAK Yakutsk 55.16 33 P **P 21 51 02.3 -1.2**
comp=N,2.7nm,0.8s,baz=38,slow=3.4,SNR=42
YAK LR LR 22 17 02.1
comp=N,3µm,18.8s,baz=263,slow=39
TIXI Tiksi 55.34 21 P **P 21 51 03.7 -0.9**
TIXI IAmb IAmb 21 51 12.7
comp=Z,378nm,1.7s
TIXI Tiksi 55.34 21 ⇑P **P 21 51 04.1 -0.6**
TIXI Tiksi 55.34 21 *ce*P **P 21 51 04.0 -0.6**
TIXI Tiksi 55.34 21 LR LR 22 18 02.2
comp=Z,1µm,19.9s,baz=294,slow=40
BNX BinXian 55.40 53 ⇑P **P 21 51 04.8 -0.7**
BNX S **S 21 58 47.3 -2.9**
BNX pmax pmax
comp=Z,100nm,2.3s
BNX pmax pmax
comp=Z,3µm,3.9s
BNX LR LR
comp=Z,14µm,11.8s
BNX LR LR
comp=Z,23µm,12.4s
BNX LR LR
comp=Z,35µm,13.5s
PYAG Pyongyang 55.61 61 P **P 21 51 06.8 -0.3**
PYAG S **S 21 58 49.3 -3.9**
PYAG AmB
comp=Z,2µm,2.9s
PYAG AMS AMS
comp=Z,19µm,19.5s
HJU Haeju 55.83 63 P **P 21 51 07.9 -0.8**
HJU S **S 21 58 52.7 -3.4**
HJU AmB
comp=Z,6µm,4.5s
HJU AMS AMS
comp=Z,29µm,18.0s
MNAI Manna 55.88 120 P **P 21 51 08.5 -0.9**
MNAI Manna 55.88 120 P **P 21 51 08.4 -0.9**
comp=Z,426nm,2.0s
LHSI Lahat 55.95 120 P **P 21 51 07.2 -2.6**
comp=Z,130nm,1.7s,comp=Z,3µm
LHSI pP **sP 21 51 15.2 +0.8**
comp=Z,130nm,1.7s,comp=Z,3µm
FOMA Nahampoana Res 56.28 191 P **P 21 51 11.6 -0.3**
TPUB Ta-pu 56.31 81 IAMs_20 IAMs_20 22 18 45.2
comp=Z,12µm,18.0s
PMBI Palembang 56.31 118 P **P 21 51 10.4 -1.9**
SSLB Suanglung 56.40 80 P **P 21 51 11.6 -1.4**
SSLB IAmb IAmb 21 51 15.4
comp=Z,274nm,1.8s
SSLB IAMs_20 IAMs_20 22 16 57.6
comp=Z,12µm,18.0s
SSLB Suanglung 56.40 80 P **P 21 51 14.2 +1.2**
INCN Inchon 56.67 63 P **P 21 51 14.2 -0.6**
INCN IAmb IAmb 21 51 16.0
comp=Z,186nm,1.4s
INCN Inchon 56.67 63 P **P 21 51 15.8 +1.0**
INCN Inchon 56.67 63 P **P 21 51 14.2 -0.6**
INCN pmax pmax
comp=Z,186nm,1.5s
INCN MLR MLR
comp=Z,45µm,18.0s
HHU Hamhung 56.73 60 P **P 21 51 14.4 -0.7**
HHU S **S 21 59 04.2 -3.8**
HHU AmB
comp=Z,2µm,3.0s
HHU AMS AMS
comp=Z,27µm,18.2s
NACB Ninganchiao 56.80 80 IAMs_20 IAMs_20 22 19 08.1
comp=Z,14µm,18.0s
YULB Yu-li 56.84 81 P **P 21 51 15.5 -0.6**
YULB IAmb IAmb 21 51 18.5
comp=Z,417nm,2.0s
YULB IAMs_20 IAMs_20 22 19 18.3
comp=Z,13µm,21.0s
YULB Yu-li 56.84 81 P **P 21 51 17.0 +0.8**
TWG Pinlang 56.87 81 P **P 21 51 15.7 -0.7**
TWG IAmb IAmb 21 52 19.7
comp=Z,133nm,1.4s
PPBI Pangkal Pinang 56.87 116 P **P 21 51 14.9 -1.5**
DAG Danmarks Havn 57.08 345 P **P 21 51 16.6 -0.4**
DAG Danmarks Havn 57.08 345 ⇑P **P 21 51 16.6 -0.4**
DAG Danmarks Havn 57.08 345 P **P 21 51 16.8 -0.2**
DAG Danmarks Havn 57.08 345 *i*P **P 21 51 15.2 -1.8**
DAG IAmb IAmb 21 51 18.0
comp=Z,1µm,2.4s
LWLI Liwa 57.13 120 P **P 21 51 16.0 -2.4**
comp=Z,513nm,1.2s,comp=Z,30µm
LWLI pP **sP 21 51 24.5 +1.5**
comp=Z,513nm,1.2s,comp=Z,30µm
MDJ Mudanjiang 57.14 54 P **P 21 51 17.1 -0.8**
MDJ Mudanjiang 57.14 54 P **P 21 51 17.4 -0.5**
MDJ Mudanjiang 57.14 54 P **P 21 51 17.1 -0.8**
MDJ pP sP 21 51 30.8 +8.6
MDJ PcP **PcP 21 52 09.8 -2.8**
MDJ PP **PP 21 53 30.9 +6.3**
MDJ S **S 21 59 11.6 -1.7**
MDJ ScS **ScS 22 01 09.7 +2.1**
MDJ pmax pmax
comp=Z,62nm,2.0s
MDJ pmax pmax
comp=Z,2µm,3.9s
MDJ LR LR
comp=Z,17µm,11.5s
MDJ LR LR
comp=Z,22µm,18.2s
MDJ LR LR
comp=Z,34µm,17.3s
COCO West Island 57.19 132 P **P 21 51 18.1 -0.5**
COCO IAmb IAmb 21 51 24.5
comp=Z,388nm,1.6s
COCO West Island 57.19 132 P **P 21 51 18.1 -0.5**
COCO pmax pmax
comp=Z,388nm,1.6s
COCO MLR MLR
comp=Z,7µm,20.0s
DBG Daneborg 57.28 342 ⇑P **P 21 51 18.0 -0.5**
DBG Daneborg 57.28 342 *i*P **P 21 51 17.2 -1.3**
DBG IAmb IAmb 21 51 20.5
comp=Z,1µm,2.6s
NOR Nord 57.42 350 *i*P **P 21 51 17.3 -2.1**
NOR IAmb IAmb 21 51 20.5
comp=Z,1µm,2.7s
TJN Taejon 57.54 64 P **P 21 51 20.1 -0.7**
TJN Taejon 57.54 64 *de*P **P 21 51 20.3 -0.6**
KS19 Wonju Array Si 57.61 63 P **P 21 51 20.8 -0.6**
KLJ Kotabumi 57.63 119 P **P 21 51 17.9 -3.8**
KSAR Wonju Array Be 57.64 63 P **P 21 51 20.6 -1.0**
KSAR Wonju Array Be 57.64 63 P **P 21 51 20.6 -1.0**
KLR Kul'dur 57.65 48 *c*⇓P **P 21 51 20.7 -0.8**
KLR pmax pmax
comp=Z,136nm,1.7s
KLR MLR MLR
comp=Z,75µm,16.0s
KLR Kul'dur 57.65 48 P **P 21 51 20.1 -1.3**
comp=Z,36nm,0.9s,baz=284,slow=7.1,SNR=34
KLR LR LR 22 19 08.4
comp=Z,35µm,21.1s,baz=280,slow=39
comp=Z,36nm,0.9s
KSRS Korea Array 57.67 63 P **P 21 51 21.0 -0.7**
comp=Z,21nm,0.8s,baz=279,slow=7.2,SNR=32
KSRS LR LR 22 19 27.5
comp=Z,23µm,19.1s,baz=275,slow=40
comp=Z,21nm,0.8s
SCO Scoresbysund 57.76 337 P **P 21 51 22.3 +0.4**
SCO IAmb IAmb 21 51 24.9
comp=Z,432nm,1.8s
SCO IAMs_20 IAMs_20 22 18 01.8
comp=Z,13µm,18.0s
SCO Scoresbysund 57.76 337 ⇑P **P 21 51 23.0 +1.2**
SCO Scoresbysund 57.76 337 P **P 21 51 22.3 +0.4**
SCO pmax pmax
comp=Z,432nm,1.8s
SCO MLR MLR
comp=Z,13µm,18.0s
SCO Scoresbysund 57.76 337 *i*P **P 21 51 20.5 -1.4**
SCO IAmb IAmb 21 51 24.5
comp=Z,831nm,2.2s
KASI Kota Agung 57.79 120 P **P 21 51 19.9 -3.0**
comp=Z,207nm,1.1s,comp=Z,2µm
KASI pP **pP 21 51 25.0 -1.2**
comp=Z,207nm,1.1s,comp=Z,2µm
BORG Borgarnes 57.80 330 LR LR 22 19 19.8
comp=Z,9µm,18.4s,baz=92,slow=39
MSHR Mys Shultsa 58.72 56 ⇑*e*P **P 21 51 29.9 +0.9**
MSHR pmax pmax
comp=Z,38nm,1.0s
MSHR MLR MLR
comp=Z,33µm,18.0s
USA0B Ussuriysk Arra 58.90 54 P **P 21 51 29.5 -0.8**
USA0B Ussuriysk Arra 58.90 54 P **P 21 51 29.5 -0.8**
USA0B pmax pmax
comp=Z,76nm,1.7s
USA0B MLR MLR
comp=Z,36µm,18.0s
USRK Ussuriysk Ar. 58.90 54 P **P 21 51 29.3 -1.0**
USRK Ussuriysk Ar. 58.90 54 P **P 21 51 29.5 -0.8**
comp=Z,13nm,0.9s,baz=258,slow=4.8,SNR=17
USRK LR LR 22 20 24.8
comp=Z,32µm,18.2s,baz=280,slow=40
comp=Z,13nm,0.9s
MUSN Musina, Limpop 58.93 210 *i*P **P 21 51 32.1 +1.4**
MUSN Musina, Limpop 58.93 210 *e*P **P 21 51 31.9 +1.2**
MUSN IAmb IAmb 21 51 32.5
comp=Z,755nm,2.4s
MUSN Musina, Limpop 58.93 210 *i*P **P 21 51 31.1 +0.4**
SBUM Sibu 58.99 107 P **P 21 51 30.2 -1.0**
SBUM IAmb IAmb 21 51 32.0
comp=Z,129nm,1.8s
SBUM Sibu 58.99 107 ⇑P **P 21 51 30.1 -1.2**
CGJI Cibinong 59.40 120 P **P 21 51 31.3 -2.8**
comp=Z,211nm,1.8s,comp=Z,4µm
CGJI pP **sP 21 51 38.9 +0.2**
comp=Z,211nm,1.8s,comp=Z,4µm
STKI Sintang 59.75 110 P **P 21 51 36.2 -0.4**
comp=Z,147nm,0.9s,comp=Z,10µm
GRNR Gornyy 60.28 46 ⇑*i*P **P 21 51 39.2 -0.5**
GRNR pmax pmax
comp=E,10.0nm,1.0s
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR MLR MLR
comp=N,17µm,16.0s
SKJI Sukabumi 60.30 120 P **P 21 51 37.3 -3.0**
comp=N,216nm,1.8s,comp=N,3µm
KKM Kota Kinabalu 60.36 101 P **P 21 51 40.3 -0.6**
KKM Kota Kinabalu 60.36 101 P **P 21 51 40.8 -0.1**
CNJI Cibinong 60.93 120 P **P 21 51 40.3 -4.3**
comp=N,78nm,1.7s,comp=N,1µm
CNJI pP **sP 21 51 51.7 +2.9**
comp=N,78nm,1.7s,comp=N,1µm
PILG Pilgrimsrest, 60.93 208 *e*P **P 21 51 45.0 +0.4**
PILG IAmb IAmb 21 51 48.2
comp=Z,205nm,1.3s
LEM Lembang 60.98 119 LR LR 22 19 56.8
comp=Z,4µm,19.6s,baz=306,slow=38
LEPH Lephalale, Lim 61.21 211 *e*P **P 21 51 45.7 -0.7**
LEPH IAmb IAmb 21 51 49.1
comp=Z,158nm,1.4s
JNU Nakatsue 61.29 67 P **P 21 51 46.6 -0.4**
JNU IAmb IAmb 21 53 20.8
comp=Z,118nm,1.6s
JNU Nakatsue 61.29 67 P **P 21 51 46.1 -0.9**
comp=Z,17nm,1.1s,baz=236,slow=3.6,SNR=3.5
JNU LR LR 22 22 21.8
comp=Z,14µm,18.4s,baz=294,slow=40
comp=Z,17nm,1.1s
SOEG Soedalen 61.33 335 *i*P **P 21 51 46.0 -0.5**
SOEG IAmb IAmb 21 51 49.5
comp=Z,353nm,1.7s
JOW Kunigami 61.41 74 IAMs_20 IAMs_20 22 21 43.8
comp=Z,13µm,19.0s
JOW Kunigami 61.41 74 LR LR 22 21 54.7
comp=Z,12µm,19.2s,baz=305,slow=40
BBJI Bungbulang 61.42 120 P **P 21 51 48.2 +0.2**
CRLN Carolina, Mapu 62.15 208 *e*P **P 21 51 53.3 +0.5**
CRLN IAmb IAmb 21 51 54.8
comp=Z,314nm,2.2s
CMJI Cimerak 62.23 119 P **P 21 51 49.1 -4.2**
comp=Z,84nm,1.2s,comp=Z,2µm
CMJI pP **sP 21 52 00.7 +3.1**
comp=Z,84nm,1.2s,comp=Z,2µm
KPJI Karang Pucung 62.30 118 P **P 21 51 50.2 -3.6**
comp=Z,39nm,1.6s,comp=Z,1µm
KPJI pP **sP 21 51 57.9 -0.2**
comp=Z,39nm,1.6s,comp=Z,1µm
TSUM Tsumeb 62.62 223 P **P 21 51 56.7 +0.7**
TSUM IAmb IAmb 21 52 00.5
comp=Z,204nm,1.2s
TSUM Tsumeb 62.62 223 *e*P **P 21 51 56.4 +0.4**
TSUM Tsumeb 62.62 223 ⇑P **P 21 51 56.9 +0.9**
TSUM Tsumeb 62.62 223 LR LR 22 22 41.2
comp=Z,28µm,18.1s,baz=38,slow=39
SLR Silverton 62.64 209 *e*P **P 21 51 56.6 +0.5**
SLR IAmb IAmb 21 51 58.0
comp=Z,520nm,2.1s
SUMG Summit 62.65 340 P **P 21 51 56.0 +0.2**
SUMG Summit 62.65 340 ⇑P **P 21 51 56.2 +0.4**
SUMG Summit 62.65 340 P **P 21 51 56.1 +0.2**
SUMG pmax pmax
comp=Z,682nm,1.7s
SUMG Summit 62.65 340 *i*P **P 21 51 55.1 -0.8**
SUMG IAmb IAmb 21 52 02.6
comp=Z,4µm,2.8s
DBIC Dimbokro 62.69 261 P **P 21 51 55.8 -0.7**
DBIC IAmb IAmb 21 51 57.6
comp=Z,207nm,1.4s
DBIC IAMs_20 IAMs_20 22 20 38.8
comp=Z,21µm,20.0s
DBIC Dimbokro 62.69 261 *e*P **P 21 51 56.0 -0.5**
DBIC IAmb IAmb 21 51 57.3
comp=Z,1µm,2.7s
DBIC Dimbokro 62.69 261 ⇑P **P 21 51 55.7 -0.8**
DBIC Dimbokro 62.69 261 P **P 21 51 55.8 -0.8**
DBIC pmax pmax
comp=Z,207nm,1.4s
DBIC MLR MLR
comp=Z,21µm,20.0s
DBIC Dimbokro 62.69 261 P **P 21 51 55.7 -0.8**
comp=Z,70nm,1.1s,baz=55,slow=7.9,SNR=29
DBIC LR LR 22 20 59.4
comp=Z,21µm,19.6s,baz=46,slow=38
comp=Z,70nm,1.1s
POGA Pongola 62.72 206 P **P 21 51 56.6 +0.3**
MYLDM Lahad Datu 62.74 101 P **P 21 51 56.3 -0.6**
MYLDM IAmb IAmb 21 52 00.7
comp=Z,246nm,1.5s
KIC Kosan Boka 62.75 261 ⇓*e*P **P 21 51 56.0 -0.9**
comp=Z,347nm,1.3s
TIC Toumodi 62.84 261 ⇓*e*P **P 21 51 56.7 -0.8**
comp=Z,424nm,1.5s
HRAO HartRAO 63.03 210 *e*P **P 21 51 59.1 +0.4**
HRAO IAmb IAmb 21 52 00.6
comp=Z,582nm,2.0s
LIC Lamto 63.06 261 ⇓*e*P **P 21 51 58.0 -1.0**
comp=Z,351nm,1.3s
MTKI Muara Teweh, K 63.11 109 P **P 21 51 58.1 -1.2**
comp=Z,59nm,1.7s
LBTB Lobatse 63.20 212 P **P 21 52 00.0 +0.3**
LBTB IAmb IAmb 21 52 03.3
comp=Z,167nm,1.4s
LBTB Lobatse 63.20 212 *i*P **P 21 52 01.1 +1.4**
LBTB Lobatse 63.20 212 *e*P **P 21 52 01.1 +1.4**
LBTB IAmb IAmb 21 52 01.9
comp=Z,952nm,2.5s
LBTB Lobatse 63.20 212 ⇑P **P 21 52 00.2 +0.5**
LBTB Lobatse 63.20 212 P **P 21 52 00.0 +0.3**
LBTB pmax pmax
comp=Z,167nm,1.4s
LBTB MLR MLR
comp=Z,27µm,19.0s
LBTB Lobatse 63.20 212 LR LR 22 21 34.6
comp=Z,27µm,19.9s,baz=26,slow=38
LBTB Lobatse 63.20 212 *i*P **P 21 51 58.9 -0.8**
KSR Koster 63.34 211 *e*P **P 21 52 01.1 +0.3**
KSR IAmb IAmb 21 52 04.3
comp=Z,404nm,2.8s
JMN Monobe 63.44 65 P **P 21 52 01.0 -0.4**
JMN IAmb IAmb 21 52 21.0
comp=Z,81nm,1.1s

NWCL Newcastle 63.76 207 *e*P **P** **21 52 03.9 +0.5**
NWCL IAmb IAmb 21 52 15.8
comp=Z,152nm,1.6s
UGM Wanagama 63.88 118 P **P** **21 52 04.1 -0.3**
comp=Z,161nm,1.6s
ICESG Greenland Ices 64.03 337 ⇓P **P** **21 52 05.5 +0.5**
ICESG Greenland Ices 64.03 337 *i* P **P** **21 52 03.1 -1.9**
ICESG IAmb IAmb 21 52 11.7
comp=Z,44nm,1.1s
NEEM North Greenlan 64.06 347 *i* P **P** **21 52 04.1 -0.9**
NEEM IAmb IAmb 21 52 06.4
comp=Z,3µm,2.3s
TYV Tymovskoe 64.07 45 *e*P **P** **21 52 05.7 +0.6**
TYV *e*S **S** **22 00 43.4 +1.7**
TYV pmax pmax
comp=Z,81nm,1.5s
TYV pmax pmax
comp=Z,4µm,4.4s
TYV smax smax
comp=N,4µm,6.1s
TYV smax smax
comp=E,5µm,6.1s
TYV MLR MLR
comp=Z,35µm,14.0s
NGJI Ngawi 64.25 117 P **P** **21 52 05.3 -1.5**
comp=Z,68nm,1.6s
BBKI Banjar Baru 64.54 111 P **P** **21 52 06.9 -1.8**
comp=Z,169nm,1.1s,comp=Z,5µm
ISOG Isortoq, Green 64.92 333 *i* P **P** **21 52 12.1 +1.7**
ISOG IAmb IAmb 21 52 14.6
comp=Z,86nm,0.8s
PWJI Pagerwojo 64.93 117 P **P** **21 52 09.5 -1.7**
comp=Z,11nm,0.7s
BKB Balikpapan 64.93 108 P **P** **21 52 10.4 -0.9**
BKB Balikpapan 64.93 108 P **P** **21 52 11.2 -0.1**
BKB Balikpapan 64.93 108 P **P** **21 52 10.1 -1.2**
comp=Z,239nm,1.7s,comp=Z,4µmcomp=Z,2µm
SNKL Senekal, Frees 65.09 209 *e*P **P** **21 52 12.6 +0.4**
SNKL IAmb IAmb 21 52 15.6
comp=Z,229nm,1.2s
SWZ Schweizer 65.19 211 *e*P **P** **21 52 13.6 +0.8**
SWZ IAmb IAmb 21 52 16.1
comp=Z,143nm,1.1s
SEY Seymchan 65.34 30*ce*P **P** **21 52 13.6 +0.4**
SEY pmax pmax
comp=Z,380nm,2.5s
SEY MLR MLR
comp=Z,72µm,18.0s
SEY Seymchan 65.34 30 LR LR 22 23 54.4
comp=Z,77µm,18.7s,baz=286,slow=39
YSS Yuzh-Sakhalins 65.36 49 P **P** **21 52 12.9 -0.7**
YSS Yuzh-Sakhalins 65.36 49 P **P** **21 52 13.3 -0.3**
YSS Yuzh-Sakhalins 65.36 49⇓ *e*P **P** **21 52 13.4 -0.2**
YSS *e*PPP PPP 21 56 14.6
YSS *e*S **S** **22 00 55.2 -2.6**
YSS *e*PPS PPS 22 01 23.6
YSS pmax pmax
comp=Z,120nm,1.1s
YSS MLR MLR
comp=E,52µm,16.0s
WIN Windhoek 65.54 221 P **P** **21 52 16.0 +0.8**
WIN IAmb IAmb 21 52 19.7
comp=Z,155nm,1.3s
WIN Windhoek 65.54 221 P **P** **21 52 16.0 +0.8**
WIN pmax pmax
comp=Z,155nm,1.3s
WIN MLR MLR
comp=Z,44µm,20.0s
MA2 Magadan 65.72 34 P **P** **21 52 16.3 +0.6**
MA2 IAmb IAmb 21 52 44.7
comp=Z,192nm,1.7s
MA2 IAMs_20 IAMs_20 22 24 15.3
comp=Z,20µm,19.0s
MA2 Magadan 65.72 34*de*P **P** **21 52 15.9 +0.2**
MA2 pmax pmax
comp=Z,38nm,1.3s
MA2 MLR MLR
comp=Z,35µm,15.0s
MA2 Magadan 65.72 34 LR LR 22 24 27.6
comp=Z,17µm,19.8s,baz=292,slow=39
MJB9 Matsu-Tunnel 65.75 61 P **P** **21 52 16.0 -0.4**
MAJO Matsushiro 65.76 61 P **P** **21 52 15.3 -1.1**
MAJO Matsushiro 65.76 61 IAMs_20 IAMs_20 22 24 05.9
comp=Z,14µm,19.0s
MAJO Matsushiro 65.76 61 P **P** **21 52 17.8 +1.4**
MAJO Matsushiro 65.76 61 P **P** **21 52 15.3 -1.1**
MAJO pmax pmax
comp=Z,67nm,1.2s
MAJO MLR MLR
comp=Z,14µm,19.0s
MJAR Matsushiro Arr 65.76 61 P **P** **21 52 16.0 -0.4**
MJAR Matsushiro Arr 65.76 61 P **P** **21 52 16.0 -0.4**
comp=Z,8.4nm,0.9s,baz=300,slow=6.8,SNR=11
MJAR LR LR 22 24 09.2
comp=Z,15µm,19.2s,baz=298,slow=39
comp=Z,8.4nm,0.9s
BLJI Banyuglugur 66.14 116 P **P** **21 52 16.0 -3.0**
comp=Z,40nm,1.7s,comp=Z,2µm
ASAJ Asahikawa 66.22 52 LR LR 22 22 54.5
comp=Z,15µm,19.1s,baz=288,slow=38
JKA Kamikawa-asahi 66.22 52 IAMs_20 IAMs_20 22 22 34.4
comp=Z,18µm,19.0s
JTM Tenmabayashi 66.33 56 P **P** **21 52 18.1 -1.9**
BOSA Boshof 66.45 211 P **P** **21 52 20.7 -0.2**
BOSA IAmb IAmb 21 52 24.6
comp=Z,181nm,1.2s
BOSA IAMs_20 IAMs_20 22 23 42.0
comp=Z,13µm,18.0s
BOSA Boshof 66.45 211 *i* P **P** **21 52 21.9 +1.1**
BOSA Boshof 66.45 211 *e*P **P** **21 52 21.3 +0.4**
BOSA IAmb IAmb 21 52 23.6
comp=Z,242nm,1.4s
BOSA Boshof 66.45 211 ⇑P **P** **21 52 20.9 0.0**
BOSA Boshof 66.45 211 P **P** **21 52 20.8 -0.2**
comp=Z,47nm,0.9s,baz=35,slow=6.7,SNR=27
BOSA LR LR 22 23 52.3
comp=Z,13µm,18.8s,baz=26,slow=38
comp=Z,47nm,0.9s
BOSA Boshof 66.45 211 *i* P **P** **21 52 20.2 -0.7**
ABJI Asem Bagus 66.66 115 P **P** **21 52 20.1 -2.3**
comp=Z,137nm,1.3s,comp=Z,2µm
TOLI2 Tolitoli 66.84 103 P **P** **21 52 22.2 -1.4**
TOLI2 IAmb IAmb 21 52 24.3
comp=Z,134nm,1.5s
JAGI Jajag, Banyuwa 67.02 116 P **P** **21 52 21.4 -3.2**
JAGI IAmb IAmb 21 52 23.4
comp=Z,251nm,1.7s
JAGI Jajag, Banyuwa 67.02 116 P **P** **21 52 22.6 -2.1**
JAGI Jajag, Banyuwa 67.02 116 P **P** **21 52 20.5 -4.2**
comp=Z,75nm,1.7s,comp=Z,2µm
JAGI pP **pP** **21 52 28.3 +0.2**
comp=Z,75nm,1.7s,comp=Z,2µm
JMM Marumori 67.19 59 P **P** **21 52 24.2 -1.3**
JMM IAmb IAmb 21 52 26.2
comp=Z,274nm,1.8s
JMM Marumori 67.19 59 ⇓P **P** **21 52 25.1 -0.4**
UPNV Upernavik 67.41 343 IAmb IAmb 21 52 27.3
comp=Z,287nm,1.7s
UPNV *i* P **P** **21 52 27.9 +1.6**
SRBI Singaraja 67.61 115 P **P** **21 52 25.8 -2.6**
comp=Z,113nm,1.6s,comp=Z,2µm
EUNU Eureka 67.63 354 P **P** **21 52 27.8 +0.1**
ILULI Ilulissat 67.75 339 P **P** **21 52 27.9 -0.6**
ILULI Ilulissat 67.75 339 P **P** **21 52 27.9 -0.6**
ILULI pmax pmax
comp=Z,528nm,2.0s
ILULI Ilulissat 67.75 339 *i* P **P** **21 52 25.3 -3.1**
ILULI IAmb IAmb 21 52 30.1
comp=Z,1µm,2.8s
DAV Davao City (W) 67.81 95 P **P** **21 52 30.5 +0.7**
DAV Davao City (W) 67.81 95 P **P** **21 52 29.7 -0.1**
comp=Z,80nm,0.3s,baz=311,slow=3.2,SNR=9.6
DAV PP **PP** **21 54 59.0 -0.4**
comp=Z,167nm,0.4s,baz=80,slow=9.4,SNR=4.2
DAV LR LR 22 24 16.5
comp=Z,3µm,21.9s,baz=348,slow=38
comp=Z,80nm,0.3s
TULEG Thule 67.92 348 P **P** **21 52 29.0 -0.5**
TULEG IAMs_20 IAMs_20 22 26 24.7
comp=Z,9µm,19.0s
TULEG Thule 67.92 348 *i* P **P** **21 52 27.9 -1.5**
TULEG IAmb IAmb 21 52 30.6
comp=Z,1µm,2.2s
MRSI Marisa 68.15 103 P **P** **21 52 30.3 -1.6**
comp=Z,116nm,1.2s,comp=Z,4µmcomp=Z,2µm
JHJ Hachijo jima 2 68.25 64 LR LR 22 25 03.0
comp=Z,17µm,19.4s,baz=292,slow=38
JHJ2 Mitsune 68.28 64 IAMs_20 IAMs_20 22 24 51.8
comp=Z,16µm,19.0s
TTSI Tana Toraja 68.34 108 P **P** **21 52 30.5 -2.5**
comp=Z,63nm,1.6s,comp=Z,1µm
YUK Yuzh-Kuril'sk 68.44 51 *e*P **P** **21 52 33.0 -0.2**
YUK *e* 21 52 57.9
YUK *e* 21 55 03.8
YUK *e*PPP PPP 21 56 42.6
YUK *e*S **S** **22 01 35.4 +0.3**
YUK *e* 22 02 32.7
YUK *e*SS **SS** **22 06 00.3 +2.2**
YUK pmax pmax
comp=Z,980nm,1.5s
YUK pmax pmax
comp=N,679nm,1.1s
YUK pmax pmax
comp=E,877nm,1.2s
YUK pmax pmax
comp=Z,721nm,1.4s
YUK MLR MLR
comp=Z,28µm,15.0s
YUK MLR MLR
comp=N,20µm,14.0s
YUK MLR MLR
comp=E,18µm,14.0s
KEIM Keimoes 68.50 214 *e*P **P** **21 52 34.6 +0.8**
KEIM IAmb IAmb 21 52 37.8
comp=Z,212nm,1.3s
BILL Bilibino 68.53 22⇑ *e*P **P** **21 52 34.2 +0.8**
SFJD Kangerlussuaq 68.64 336 P **P** **21 52 33.1 -1.0**
SFJD IAmb IAmb 21 53 23.6
comp=Z,102nm,1.4s
SFJD Kangerlussuaq 68.64 336 P **P** **21 52 33.1 -1.0**
SFJD pmax pmax
comp=Z,102nm,1.5s
SFJD Kangerlussuaq 68.64 336 *i* P **P** **21 52 32.9 -1.2**
SFJD IAmb IAmb 21 52 39.8
comp=Z,19nm,0.9s
SFJD Kangerlussuaq 68.64 336 LR LR 22 24 36.5
comp=Z,12µm,19.1s,baz=50,slow=38
SPSI Sidrap Palu 68.82 108 P **P** **21 52 32.8 -3.3**
comp=Z,46nm,1.1s,comp=Z,1µm
NRS Narsarsuaq 69.29 330 P **P** **21 52 38.0 -0.2**
NRS IAmb IAmb 21 52 47.6
comp=Z,266nm,1.5s
NRS Narsarsuaq 69.29 330 P **P** **21 52 38.0 -0.2**
NRS pmax pmax
comp=Z,266nm,1.5s
NRS Narsarsuaq 69.29 330 *i* P **P** **21 52 37.2 -1.1**
NRS IAmb IAmb 21 52 47.5
comp=Z,37nm,1.4s
TWSI Taliwang, Sumb 69.31 114 P **P** **21 52 34.3 -4.7**
comp=Z,42nm,1.4s
MBO M'Bour 69.34 275 P **P** **21 52 38.8 -0.5**
MBO IAmb IAmb 21 52 41.0
comp=Z,266nm,1.4s
MBO M'Bour 69.34 275 IAMs_20 IAMs_20 22 26 09.2
comp=Z,16µm,18.0s
KAPI Kappang 69.41 109 P **P** **21 52 37.8 -1.9**
KAPI IAmb IAmb 21 52 41.5
comp=Z,188nm,1.4s
KAPI Kappang 69.41 109 P **P** **21 52 37.8 -1.9**
KAPI pmax pmax
comp=Z,189nm,1.4s
KAPI MLR MLR
comp=Z,4µm,21.0s
KAPI Kappang 69.41 109 LR LR 22 27 36.3
comp=Z,3µm,19.5s,baz=296,slow=40
SGSI Sangihe 69.49 98 P **P** **21 52 38.5 -1.8**
comp=Z,241nm,2.0s,comp=Z,5µm
LUWI Luwuk 69.67 104 P **P** **21 52 39.4 -1.9**
LUWI Luwuk 69.67 104 P **P** **21 52 38.1 -3.3**
comp=Z,36nm,1.2s,comp=Z,5µm
LUWI Luwuk 69.67 104 P **P** **21 52 37.0 -4.4**
KMSI Cibinong 69.81 102 P **P** **21 52 40.4 -1.8**
comp=Z,200nm,0.4s,comp=Z,4µmcomp=Z,2µm
BFON Badsfontein, M 69.88 210 *e*P **P** **21 52 42.9 +0.6**
BFON IAmb IAmb 21 52 45.8
comp=Z,273nm,1.3s
BKSI Bulukumba 69.89 109 P **P** **21 52 40.8 -1.8**
comp=Z,80nm,1.7s,comp=Z,2µm
SOE Somerset East 69.89 208 P **P** **21 52 42.4 +0.1**
SOE Somerset East 69.89 208 ⇑P **P** **21 52 42.9 +0.6**
SOE ⇑P **pP** **21 52 43.5 -2.3**
GRAF Camdeboo Natio 69.95 209 *e*P **P** **21 52 44.4 +1.7**
GRAF IAmb IAmb 21 52 46.4
comp=Z,16nm,1.0s
GRHM Grahamstown, E 70.06 207 P **P** **21 52 43.2 -0.1**
GRHM IAmb IAmb 21 52 47.5
comp=Z,212nm,1.2s
GRHM Grahamstown, E 70.06 207 *e*P **P** **21 52 43.7 +0.4**
GRHM IAmb IAmb 21 52 47.1
comp=Z,203nm,1.2s
GRHM Grahamstown, E 70.06 207 ⇑P **P** **21 52 43.9 +0.6**
PLAI Plampang 70.07 114 P **P** **21 52 42.1 -1.6**
BRAK Brakfontein 70.21 211 *e*P **P** **21 52 45.5 +1.1**
BRAK IAmb IAmb 21 52 48.3
comp=Z,227nm,1.5s
NUUK Nuuk 70.43 334 *i* P **P** **21 52 44.5 -0.7**
NUUK IAmb IAmb 21 52 49.4
comp=Z,54nm,1.0s
IVI Ivigtut 70.46 330 *i* P **P** **21 52 46.2 +0.8**
IVI IAmb IAmb 21 52 51.0
comp=Z,32nm,0.8s
ROOI Rooidraai Farm 70.54 210 *e*P **P** **21 52 45.9 -0.4**
ROOI IAmb IAmb 21 52 48.5
comp=Z,1µm,2.6s
GRAN Grantham 70.97 211 *e*P **P** **21 52 50.6 +1.6**
GRAN IAmb IAmb 21 52 53.3
comp=Z,84nm,1.6s
FRAZ Fraserburg 71.00 212 *e*P **P** **21 52 50.4 +1.2**
FRAZ IAmb IAmb 21 52 53.4
comp=Z,237nm,1.3s
KOMG Komaggas 71.12 216 *e*P **P** **21 52 49.7 -0.2**
KOMG IAmb IAmb 21 52 51.6
comp=Z,24µm,2.5s
CVNA Calvinia 71.39 213 *e*P **P** **21 52 52.9 +1.4**
CVNA IAmb IAmb 21 52 55.4
comp=Z,216nm,1.4s
MERW Merweville 71.58 211 *e*P **P** **21 52 53.9 +1.2**
MERW IAmb IAmb 21 52 54.9
comp=Z,1µm,2.5s
SUR Sutherland 71.65 212 P **P** **21 52 53.9 +0.7**
SUR IAmb IAmb 21 52 56.0
comp=Z,177nm,1.6s
SUR Sutherland 71.65 212 P **P** **21 52 55.0 +1.8**
SUR P **P** **21 52 55.0 +1.8**
SUR Sutherland 71.65 212 *e*P **P** **21 52 54.2 +1.0**
SUR Sutherland 71.65 212 ⇓P **P** **21 52 54.8 +1.6**
SUR ⇓P **P** **21 52 54.9 +1.6**
SUR Sutherland 71.65 212 LR LR 22 26 53.8
comp=Z,37µm,18.0s,baz=27,slow=38
PEA0B Petropavlovsk- 71.83 39⇓ *e*P **P** **21 52 55.7 +1.8**
PETK Petropavlovsk- 71.83 39 P **P** **21 52 51.4 -2.5**
PETK Petropavlovsk- 71.83 39 P **P** **21 52 53.8 -0.1**
comp=Z,7.3nm,0.9s,baz=144,slow=1.3,SNR=4.5
PETK LR LR 22 27 05.9
comp=Z,24µm,19.1s,baz=300,slow=38
comp=Z,7.3nm,0.9s
BBSI Bau Bau 71.98 108 P **P** **21 52 55.2 -0.2**
comp=Z,73nm,1.8s,comp=Z,2µm
SKR Severo-Kuril's 72.05 41 *e*P **P** **21 52 55.6 +0.4**
SKR MLR MLR
comp=Z,16µm,17.0s
PET Petropavlovsk 72.38 38 IAMs_20 IAMs_20 22 27 01.5
comp=Z,19µm,20.0s
PET Petropavlovsk 72.38 38 *e*P **P** **21 52 58.5 +1.3**
PET *e* 21 55 36.9
PET *e*PPP PPP 21 57 24.6
PET *e*S **S** **22 02 19.5 -1.3**
PET *e*SS **SS** **22 06 54.2 -4.0**
PET pmax pmax
comp=Z,115nm,1.6s
PET pmax pmax
comp=Z,600nm,12.2s
PET smax smax
comp=N,700nm,17.8s
PET smax smax
comp=E,1µm,16.8s
PET MLR MLR
comp=Z,21µm,15.0s
PET MLR MLR
comp=Z,23µm,15.0s
MATJ Matjiesfontein 72.50 212 *e*P **P** **21 52 58.4 +0.2**
MATJ IAmb IAmb 21 52 59.9
comp=Z,1µm,2.4s
TNTI Ternate 72.57 100 P **P** **21 52 57.9 -1.1**
TNTI Ternate 72.57 100 P **P** **21 53 01.6 +2.6**
TNTI Ternate 72.57 100 P **P** **21 52 58.0 -1.0**
comp=Z,288nm,1.9s,comp=Z,6µmcomp=Z,2µm
JCJ Chichijima 72.65 68 LR LR 22 27 53.6
comp=Z,7µm,20.4s,baz=303,slow=38
SANI Sanana 72.91 103 P **P** **21 52 59.9 -1.1**
SANI Sanana 72.91 103 P **P** **21 52 59.6 -1.4**
comp=Z,177nm,1.6s,comp=Z,4µmcomp=Z,2µm
SANI Sanana 72.91 103 P **P** **21 52 58.8 -2.1**
SANI Sanana 72.91 103 ⇑P **P** **21 52 59.7 -1.3**
BASI Baing, Sumba 73.11 113 P **P** **21 53 00.2 -1.8**
comp=Z,310nm,1.9s,comp=Z,5µmcomp=Z,2µm
EDFI Ende, Flores 73.13 111 P **P** **21 52 57.9 -4.5**
comp=Z,76nm,0.7s,comp=Z,1µm
RES Resolute Bay 73.24 353 P **P** **21 53 01.1 -0.8**
RES Resolute Bay 73.24 353 ⇑P **P** **21 53 01.4 -0.5**
RES ⇑P **pP** **21 53 01.7 -3.6**
RES Resolute Bay 73.24 353 P **P** **21 53 01.1 -0.8**
RES pmax pmax
comp=Z,140nm,2.0s
RES MLR MLR
comp=Z,27µm,21.0s
RES Resolute Bay 73.24 353 LR LR 22 28 41.8
comp=Z,24µm,21.4s,baz=13,slow=39
LBMI Labuha 73.43 101 P **P** **21 53 02.9 -1.2**
comp=Z,381nm,2.1s,comp=Z,8µm
MMRI Maumere 73.51 111 P **P** **21 53 02.8 -1.6**
MMRI Maumere 73.51 111 P **P** **21 53 00.7 -3.7**
comp=Z,145nm,1.6s,comp=Z,3µm
NLAI Namlea 74.49 103 P **P** **21 53 09.5 -0.7**
comp=Z,201nm,1.1s,comp=Z,132µm
A21K Barrow 75.44 11 P **P** **21 53 15.3 +0.6**
baz=330
BATI Baumata 75.56 111 LR LR 22 31 02.2
comp=Z,1µm,18.2s,slow=39
A19K Wainwright 75.62 13 P **P** **21 53 16.7 +0.9**
baz=327
SOEI Soe 75.78 111 P **P** **21 53 15.6 -2.2**
SOEI Soe 75.78 111 P **P** **21 53 16.6 -1.2**
SOEI Soe 75.78 111 P **P** **21 53 16.1 -1.7**
comp=Z,323nm,1.1s,comp=Z,4µm
SOEI Soe 75.78 111 P **P** **21 53 15.6 -2.2**
SOEI Soe 75.78 111 ⇑P **P** **21 53 16.0 -1.7**
SOEI ⇑P **pP** **21 53 19.3 -1.7**
SOEI ⇑sP **PcP** **21 53 27.5 -3.0**
A22K Sinclair Lake 75.97 10 P **P** **21 53 18.5 +0.7**
baz=332
B18K Kokolik River 76.18 13 P **P** **21 53 19.9 +0.8**
baz=326
GIRL Giralia 76.20 127 P **P** **21 53 22.1 +2.3**
SHEL Horse Pasture 76.29 242 P **P** **21 53 19.0 -1.5**
SHEL Horse Pasture 76.29 242 IAMs_20 IAMs_20 22 31 31.1
comp=Z,12µm,18.0s
SHEL Horse Pasture 76.29 242 P **P** **21 53 19.0 -1.5**
SHEL pmax pmax
comp=Z,385nm,1.4s
SHEL MLR MLR
comp=Z,12µm,18.0s
C16K Lisburne Hills 76.33 15 P **P** **21 53 19.3 -0.6**
C16K IAmb IAmb 21 53 20.4
comp=Z,142nm,1.4s
C16K IAMs_20 IAMs_20 22 32 12.8
comp=Z,16µm,20.0s
C16K Lisburne Hills 76.33 15 P **P** **21 53 19.5 -0.4**
baz=323,SNR=23
B20K Meade River 76.49 12 P **P** **21 53 21.4 +0.6**
baz=330
FRB Frobisher Bay 76.59 338 ⇑P **P** **21 53 21.2 -0.2**
FRB ⇓P **pP** **21 53 21.6 -3.2**
FRB Frobisher Bay 76.59 338 LR LR 22 29 11.7
comp=Z,5µm,19.2s,baz=40,slow=37
C17K DeLong Mountai 76.64 14 P **P** **21 53 22.0 +0.3**
baz=325
SWI Sorong 76.74 99 P **P** **21 53 22.0 -1.1**
comp=Z,136nm,1.7s,comp=Z,4µmcomp=Z,2µm
B22K Teshekpuk Lake 76.81 10 P **P** **21 53 23.0 +0.5**
baz=333
C19K Lookout Ridge 76.83 13 P **P** **21 53 23.0 +0.1**
baz=328,SNR=28
C18K Utukok River 76.90 14 IAMs_20 IAMs_20 22 32 52.9
comp=Z,16µm,20.0s
C18K Utukok River 76.90 14 P **P** **21 53 23.3 +0.1**
baz=327
RDOG Red Dog Mine 77.04 14 P **P** **21 53 23.2 -0.8**
RDOG Red Dog Mine 77.04 14 P **P** **21 53 23.7 -0.3**
baz=325
B21K Ikpikpuk River 77.26 11 IAMs_20 IAMs_20 22 30 07.3
comp=Z,15µm,22.0s
B21K Ikpikpuk River 77.26 11 P **P** **21 53 25.7 +0.6**
baz=332
A36M Sachs Harbour 77.52 1 P **P** **21 53 26.1 -0.5**
A36M IAMs_20 IAMs_20 22 30 29.2
comp=Z,11µm,21.0s
A36M Sachs Harbour 77.52 1 P **P** **21 53 26.3 -0.2**
baz=358,SNR=38
BNDI Bandanaira 77.53 103 P **P** **21 53 27.1 -0.5**
BNDI Bandanaira 77.53 103 P **P** **21 53 26.0 -1.6**
comp=Z,437nm,0.9s,comp=Z,15µm
BNDI Bandanaira 77.53 103 ⇑P **P** **21 53 26.3 -1.2**
BNDI ⇓P **pP** **21 53 29.0 -1.8**
D19K Kuna River 77.63 13 P **P** **21 53 27.3 0.0**
baz=329
C21K Knifeblade Rid 77.64 11 P **P** **21 53 27.7 +0.4**
baz=332,SNR=39
C23K Itkillik River 77.68 10 IAMs_20 IAMs_20 22 32 10.4
comp=Z,13µm,21.0s
C23K Itkillik River 77.68 10 P **P** **21 53 28.4 +0.9**
baz=336,SNR=85
D20K Etivluk River 77.72 12 P **P** **21 53 27.7 -0.1**
baz=331,SNR=47
TNA Tin City 77.86 18 P **P** **21 53 28.6 +0.1**
baz=321
C24K Franklin Bluff 78.05 9 P **P** **21 53 30.4 +0.9**
baz=337
E18K Tukpahlearik C 78.06 14 P **P** **21 53 29.5 -0.1**
baz=327
E17K Hotham Inlet 78.08 15 P **P** **21 53 29.4 -0.4**
baz=326
GAMB Gambell 78.19 20 P **P** **21 53 30.3 0.0**
baz=318
E20K Nigu River 78.19 12 P **P** **21 53 30.3 -0.2**
baz=331,SNR=43
D22K Ayikyak River 78.23 11 P **P** **21 53 30.9 +0.3**
baz=334,SNR=103
C26K Camden Bay 78.33 8 P **P** **21 53 31.9 +0.8**
baz=341
F14K Arctic Creek 78.34 17 P **P** **21 53 31.4 +0.1**
baz=323
E21K Killik River 78.42 11 P **P** **21 53 31.6 -0.1**
baz=333
D23K Nanushuk River 78.47 10 P **P** **21 53 32.5 +0.6**
baz=336
ASCN Ascension 78.50 254 P **P** **21 53 33.6 +0.6**
ASCN IAmb IAmb 21 53 37.1
comp=Z,168nm,1.2s
D24K Happy Valley 78.56 9 IAMs_20 IAMs_20 22 32 24.6
comp=Z,12µm,20.0s
D24K Happy Valley 78.56 9 P **P** **21 53 32.9 +0.5**
baz=337
F15K North Star Dit 78.57 16 IAMs_20 IAMs_20 22 32 38.0
comp=Z,15µm,21.0s
F15K North Star Dit 78.57 16 P **P** **21 53 32.5 0.0**
baz=324
E19K Redstone River 78.70 13 P **P** **21 53 32.8 -0.4**
baz=330
D25K Kavik River 78.72 8 P **P** **21 53 33.8 +0.4**
baz=339
F17K Baldwin Pennin 78.75 15 P **P** **21 53 33.3 -0.1**
baz=327,SNR=18
TOLK Toolik Lake Re 78.93 10 P **P** **21 53 34.5 0.0**
TOLK IAmb IAmb 21 53 36.7
comp=Z,304nm,1.4s
TOLK Toolik Lake Re 78.93 10 IAMs_20 IAMs_20 22 34 58.4
comp=Z,15µm,19.0s
TOLK Toolik Lake Re 78.93 10 P **P** **21 53 35.0 +0.5**
baz=337
E22K Anaktuvuk Pass 79.05 11 IAMs_20 IAMs_20 22 32 17.6
comp=Z,15µm,21.0s
E22K Anaktuvuk Pass 79.05 11 P **P** **21 53 35.5 +0.3**
baz=335
MBWA Marble Bar 79.13 123 P **P** **21 53 35.5 -0.8**
MBWA IAmb IAmb 21 53 37.8
comp=Z,190nm,1.4s
MBWA Marble Bar 79.13 123 IAMs_20 IAMs_20 22 26 56.3

comp=Z,7µm,20.0s
MBWA Marble Bar 79.13 123 P **P** **21 53 35.4 -0.8**
MBWA Marble Bar 79.13 123 P **P** **21 53 37.3 +1.1**
MBWA P **P** **21 53 37.3 +1.1**
MBWA Marble Bar 79.13 123 ⇑P **P** **21 53 34.9 -1.4**
MBWA ⇓P **P** **21 53 35.5 -0.8**
F19K Shaleruckik Mo 79.14 13 P **P** **21 53 34.8 -0.8**
baz=330,SNR=22
G15K Niukluk 79.30 17 P **P** **21 53 36.8 +0.2**
baz=325
ANM Nome 79.31 17 P **P** **21 53 36.8 +0.2**
ANM IAmb IAmb 21 53 38.9
comp=Z,414nm,1.7s
ANM Nome 79.31 17 P **P** **21 53 37.1 +0.5**
baz=324,SNR=19
ANM Nome 79.31 17 P **P** **21 53 36.8 +0.2**
ANM pmax pmax
comp=Z,414nm,1.7s
ANM MLR MLR
comp=Z,22µm,21.0s
F20K Avaraart Lake 79.34 13 P **P** **21 53 36.4 -0.3**
baz=332
G16K Koyuk River 79.37 16 P **P** **21 53 37.3 +0.4**
baz=326
D27M Malcolm River 79.40 7 P **P** **21 53 37.3 +0.2**
D27M IAMs_20 IAMs_20 22 32 05.6
comp=Z,17µm,22.0s
D27M Malcolm River 79.40 7 P **P** **21 53 37.5 +0.4**
baz=344
E23K Chandalar 79.46 10 P **P** **21 53 37.7 +0.3**
baz=337
PSA00 Pilbara Seismi 79.47 123 P **P** **21 53 36.9 -1.2**
PSA00 IAmb IAmb 21 53 39.6
comp=Z,180nm,1.4s
PSA00 Pilbara Seismi 79.47 123 P **P** **21 53 36.9 -1.2**
PSA00 IAmb IAmb 21 53 39.5
comp=Z,146nm,1.4s
PSA00 Pilbara Seismi 79.47 123 P **P** **21 53 37.4 -0.7**
D28M Stokes Point 79.52 6 P **P** **21 53 38.3 +0.7**
baz=346,SNR=32
F22K John River 79.56 11 P **P** **21 53 38.6 +0.7**
baz=334
F21K Alatna River 79.59 12 IAMs_20 IAMs_20 22 35 46.8
comp=Z,16µm,20.0s
F21K Alatna River 79.59 12 P **P** **21 53 38.4 +0.2**
baz=333
E24K Your Creek 79.61 10 P **P** **21 53 38.4 +0.2**
baz=338
G17K Kiwalik Mounta 79.67 15 P **P** **21 53 38.4 -0.1**
baz=328
G18K Tagagawik 79.77 14 P **P** **21 53 38.6 -0.5**
baz=329
G19K Purcell Mounta 79.88 13 P **P** **21 53 39.3 -0.3**
baz=330,SNR=53
E25K Arctic Village 79.96 8 P **P** **21 53 40.4 +0.3**
baz=340
H16K Elim 80.03 16 P **P** **21 53 40.6 +0.1**
baz=326,SNR=17
COLD Coldfoot 80.13 10 P **P** **21 53 41.3 +0.2**
baz=336
E28M Babbage River 80.16 6 IAMs_20 IAMs_20 22 32 17.6
comp=Z,18µm,22.0s
E28M Babbage River 80.16 6 P **P** **21 53 41.5 +0.3**
baz=345
C36M Paulatuk 80.19 0 P **P** **21 53 40.2 -1.0**
baz=359,SNR=54
G22K Bettles 80.20 11 P **P** **21 53 41.5 +0.2**
baz=335
F24K Squaw Lake 80.21 10 IAMs_20 IAMs_20 22 35 40.1
comp=Z,15µm,20.0s
F24K Squaw Lake 80.21 10 P **P** **21 53 42.0 +0.5**
baz=338,SNR=44
G21K Allakaket 80.23 12 IAMs_20 IAMs_20 22 36 16.5
comp=Z,15µm,19.0s
G21K Allakaket 80.23 12 P **P** **21 53 41.0 -0.6**
baz=334,SNR=27
KMPI Kaimana, Papua 80.28 100 P **P** **21 53 42.3 -0.4**
comp=Z,139nm,0.8s,comp=Z,4µmcomp=Z,2µm
H17K Granite Mounta 80.32 15 P **P** **21 53 41.9 -0.1**
baz=328,SNR=19
E27K Coleen River 80.36 7 IAMs_20 IAMs_20 22 32 00.9
comp=Z,9µm,22.0s
E27K Coleen River 80.36 7 P **P** **21 53 42.6 +0.3**
baz=344
SHEM Shemya Is, Ala 80.36 33 LR LR 22 32 06.7
comp=Z,5µm,18.4s,baz=302,slow=38
F25K Christian Rive 80.45 9 P **P** **21 53 43.5 +0.7**
baz=340,SNR=46
H18K Honhosa River 80.47 14 P **P** **21 53 42.8 -0.1**
baz=330,SNR=18
E29M Blow River 80.51 6 IAMs_20 IAMs_20 22 33 29.2
comp=Z,10µm,22.0s
E29M Blow River 80.51 6 P **P** **21 53 43.2 +0.1**
baz=347,SNR=61
F26K Sheenjek River 80.54 8 P **P** **21 53 43.6 +0.3**
baz=341,SNR=29
H19K Roundabout Mou 80.54 14 P **P** **21 53 43.0 -0.2**
baz=331,SNR=26
SAUI Saumlaki 80.56 105 P **P** **21 53 44.6 +0.4**
SAUI Saumlaki 80.56 105 P **P** **21 53 46.8 +2.6**
SAUI Saumlaki 80.56 105 P **P** **21 53 44.2 +0.1**
comp=Z,505nm,1.2s
SAUI Saumlaki 80.56 105 ⇑P **P** **21 53 44.3 +0.1**
SAUI ⇓p **pP** **21 53 47.0 -0.3**
PAF Port-aux-Franc 80.59 171 IAMs_20 IAMs_20 22 23 52.7
comp=Z,12µm,20.0s
G23K Bananza Creek 80.64 11 IAMs_20 IAMs_20 22 34 40.3
comp=Z,16µm,20.0s
G23K Bananza Creek 80.64 11 P **P** **21 53 43.9 +0.1**
baz=336,SNR=50
IMAR Indian Mountai 80.66 12 P **P** **21 53 43.3 -0.6**
BMAR Burnt Mountain 80.74 8 P **P** **21 53 44.9 +0.5**
H20K Anotleneega Mo 80.89 13 P **P** **21 53 45.0 -0.2**
baz=332,SNR=33
INK Inuvik 80.91 4 P **P** **21 53 44.8 -0.4**
INK IAmb IAmb 21 53 46.6
comp=Z,239nm,1.6s
INK IAMs_20 IAMs_20 22 34 10.7
comp=Z,9µm,22.0s
INK Inuvik 80.91 4 P **P** **21 53 44.7 -0.4**
baz=351,SNR=43
INK Inuvik 80.91 4 P **P** **21 53 44.8 -0.4**
INK pmax pmax
comp=Z,239nm,1.6s
INK MLR MLR
comp=Z,9µm,22.0s
INK Inuvik 80.91 4 LR LR 22 33 59.3
comp=Z,5µm,21.7s,baz=359,slow=39
I17K Unalakleet 81.03 16 IAMs_20 IAMs_20 22 35 45.1
comp=Z,14µm,20.0s
I17K Unalakleet 81.03 16 P **P** **21 53 46.4 +0.6**
baz=328,SNR=25
G24K Hadweenzic Riv 81.03 10 IAMs_20 IAMs_20 22 36 44.1
comp=Z,15µm,20.0s
G24K Hadweenzic Riv 81.03 10 P **P** **21 53 46.6 +0.7**
baz=339,SNR=57
F28M Old Crow 81.09 7 IAMs_20 IAMs_20 22 32 46.2
comp=Z,12µm,22.0s
F28M Old Crow 81.09 7 P **P** **21 53 46.3 +0.1**
baz=345,SNR=47
H21K Melozitna Rive 81.13 12 IAMs_20 IAMs_20 22 35 04.5
comp=Z,15µm,20.0s
H21K Melozitna Rive 81.13 12 P **P** **21 53 46.5 +0.1**
baz=334
GCSA Galena City Sc 81.14 14 P **P** **21 53 46.7 +0.3**
baz=331,SNR=9.0
H22K Ishtalitna Cre 81.16 11 P **P** **21 53 47.4 +0.8**
baz=335
G25K Bearman Lake 81.17 9 P **P** **21 53 47.0 +0.5**
baz=340,SNR=20
GUMO Guam 81.17 79 LR LR 22 31 33.0
comp=Z,3µm,21.8s,baz=320,slow=37
J14K Nanvaranak Lak 81.27 18 P **P** **21 53 47.5 +0.4**
baz=325
G26K Porcupine Rive 81.29 8 P **P** **21 53 47.8 +0.5**
baz=342,SNR=32
F30M Barrier River 81.44 5 P **P** **21 53 47.9 -0.1**
baz=349,SNR=51
DRLN Deer Lake 81.47 323 P **P** **21 53 48.2 -0.3**
DRLN IAmb IAmb 21 53 51.1
comp=Z,347nm,1.9s
J16K Anvik River 81.56 16 IAMs_20 IAMs_20 22 36 27.2
comp=Z,16µm,20.0s
J16K Anvik River 81.56 16 P **P** **21 53 49.0 +0.3**
baz=328
I20K Naaghedeneel 81.58 13 IAMs_20 IAMs_20 22 33 41.4
comp=Z,17µm,22.0s
I20K Naaghedeneel 81.58 13 P **P** **21 53 49.0 +0.2**
baz=333
G27K Doyon Strip 81.68 7 IAMs_20 IAMs_20 22 36 04.8
comp=Z,9µm,20.0s
G27K Doyon Strip 81.68 7 P **P** **21 53 50.1 +0.8**
baz=344
MORW Morawa 81.69 131 P **P** **21 53 49.2 -0.7**
MORW Morawa 81.69 131 P **P** **21 53 50.9 +1.0**
FITZ Fitzroy Crossi 81.70 117 P **P** **21 53 49.5 -0.7**
FITZ Fitzroy Crossi 81.70 117 P **P** **21 53 49.6 -0.5**
I21K Tanana 81.71 12 P **P** **21 53 49.9 +0.4**
baz=335,SNR=14
F31M Tsiigehtchic 81.75 4 IAMs_20 IAMs_20 22 35 22.1
comp=Z,9µm,22.0s
F31M Tsiigehtchic 81.75 4 P **P** **21 53 49.3 -0.3**
baz=350,SNR=47
H24K Noodor Dome 81.78 10 IAMs_20 IAMs_20 22 35 03.8
comp=Z,16µm,21.0s
H24K Noodor Dome 81.78 10 P **P** **21 53 50.3 +0.4**
baz=338
MEEK Meekatharra 81.82 127 P **P** **21 53 49.3 -1.3**
G29M Pine Creek 81.94 6 IAMs_20 IAMs_20 22 33 24.9
comp=Z,11µm,22.0s
G29M Pine Creek 81.94 6 P **P** **21 53 50.5 -0.2**
baz=347,SNR=30
G30M tAoh Zraii Nji 82.03 5 IAMs_20 IAMs_20 22 34 04.4
comp=Z,10µm,21.0s
G30M tAoh Zraii Nji 82.03 5 P **P** **21 53 50.6 -0.6**
baz=348,SNR=63
MLY Manley 82.06 12 P **P** **21 53 51.2 -0.2**
MLY IAmb IAmb 21 53 52.4
comp=Z,136nm,1.6s
MLY IAMs_20 IAMs_20 22 37 05.3
comp=Z,14µm,20.0s
MLY Manley 82.06 12 P **P** **21 53 51.5 +0.1**
baz=336,SNR=27
J19K Poorman 82.07 14 P **P** **21 53 51.4 0.0**
baz=332,SNR=33
K15K Wolf Creek Mou 82.17 17 IAMs_20 IAMs_20 22 36 05.3
comp=Z,9µm,18.0s
K15K Wolf Creek Mou 82.17 17 P **P** **21 53 52.5 +0.5**
baz=327,SNR=9.8
SCHQ Schefferville 82.18 331 P **P** **21 53 51.8 -0.4**
SCHQ Schefferville 82.18 331 P **P** **21 53 52.1 -0.1**
comp=Z,19nm,0.8s,baz=235,slow=0.6,SNR=11
SCHQ LR LR 22 32 04.1
comp=Z,3µm,20.4s,baz=40,slow=37
comp=Z,19nm,0.8s
I23K Minto, Yukon-K 82.19 11 P **P** **21 53 52.5 +0.6**
baz=337,SNR=35
J20K Nowinta River 82.20 13 P **P** **21 53 52.4 +0.3**
baz=333
G31M Satah River 82.23 5 IAMs_20 IAMs_20 22 35 35.7
comp=Z,14µm,21.0s
G31M Satah River 82.23 5 P **P** **21 53 51.7 -0.4**
baz=350,SNR=59
H27K Steamboat Moun 82.25 8 P **P** **21 53 52.8 +0.5**
baz=344
J18K Innoko River 82.30 15 P **P** **21 53 52.9 +0.3**
baz=331,SNR=32
M11K Mekoryuk 82.46 20 P **P** **21 53 53.0 -0.5**
baz=323
POKR Poker Plat Res 82.52 10 P **P** **21 53 53.7 0.0**
POKR IAmb IAmb 21 53 55.7
comp=Z,230nm,1.4s
POKR Poker Plat Res 82.52 10 IAMs_20 IAMs_20 22 37 13.4
comp=Z,13µm,20.0s
POKR Poker Plat Res 82.52 10 P **P** **21 53 54.0 +0.2**
baz=339,SNR=46
MDM Murphy Dome 82.55 11 P **P** **21 53 53.7 -0.2**
MDM IAmb IAmb 21 53 55.5
comp=Z,247nm,1.4s
EPYK Eagle Plains 82.59 6 IAMs_20 IAMs_20 22 34 30.1
comp=Z,10µm,22.0s
EPYK Eagle Plains 82.59 6 P **P** **21 53 53.5 -0.6**
baz=338,SNR=19
H29M Whitestone 82.59 6 IAMs_20 IAMs_20 22 33 42.9
comp=Z,11µm,22.0s
H29M Whitestone 82.59 6 P **P** **21 53 54.1 0.0**
baz=346
K17K Iditarod 82.60 16 IAMs_20 IAMs_20 22 35 13.5
comp=Z,13µm,21.0s
K17K Iditarod 82.60 16 P **P** **21 53 54.5 +0.3**
baz=330
L14K Kuka Creek 82.67 18 P **P** **21 53 55.3 +0.8**
baz=326
COLA College 82.68 11 P **P** **21 53 53.9 -0.7**
COLA IAmb IAmb 21 53 56.0
comp=Z,116nm,1.2s
COLA College 82.68 11 P **P** **21 53 54.4 -0.1**
baz=338
COLA College 82.68 11 P **P** **21 53 53.9 -0.7**
COLA pmax pmax
comp=Z,116nm,1.3s
COLA MLR MLR
comp=Z,18µm,20.0s
L15K Ungalak Mounta 82.70 18 P **P** **21 53 55.3 +0.6**
baz=327
NEA2 Nenana 82.75 11 P **P** **21 53 54.3 -0.6**
baz=337,SNR=26
KNRA Kununurra 82.75 113 P **P** **21 53 55.2 -0.5**
KNRA Kununurra 82.75 113 P **P** **21 53 55.3 -0.3**
CHUM Lake Minchumin 82.82 13 P **P** **21 53 55.3 0.0**
baz=335,SNR=18
I27K Kandik River 82.84 8 P **P** **21 53 55.7 +0.3**
baz=344
BPAW Bear Paw Mtn. 82.87 12 P **P** **21 53 55.5 -0.1**
baz=336,SNR=49
CCB Clear Creek Bu 82.90 11 P **P** **21 53 54.8 -0.9**
TTA Tatalina 82.92 15 P **P** **21 53 55.8 -0.2**
baz=332,SNR=24
ILAR Eielson Array 82.93 10 P **P** **21 53 54.4 -1.5**
ILAR Eielson Array 82.93 10 P **P** **21 53 55.4 -0.5**
comp=Z,11nm,1.0s,baz=330,slow=3.0,SNR=51
ILAR PKPPKP **P'P'df** **22 20 24.3 -5.6**
comp=Z,0.4nm,0.9s,baz=170,slow=0.7,SNR=4.8
ILAR LR LR 22 36 22.1
comp=Z,10µm,19.4s,baz=322,slow=40
comp=Z,11nm,1.0s
I26K Coal Creek Min 82.94 8 IAMs_20 IAMs_20 22 34 45.3
comp=Z,15µm,19.0s
I26K Coal Creek Min 82.94 8 P **P** **21 53 55.8 -0.1**
baz=342
K20K Telida 82.95 14 P **P** **21 53 55.8 -0.2**
baz=333
BWN Browne 83.07 11 IAMs_20 IAMs_20 22 37 46.7
comp=Z,13µm,20.0s
MTN Manton Dam 83.07 109 P **P** **21 53 56.9 -0.5**
MTN Manton Dam 83.07 109 P **P** **21 53 57.5 +0.1**
L17K Donlin 83.10 16 P **P** **21 53 57.3 +0.5**
baz=330
BLDU Ballidu 83.16 132 P **P** **21 53 56.3 -1.2**
I28M Miner Creek 83.18 7 IAMs_20 IAMs_20 22 37 24.6
comp=Z,11µm,20.0s
I28M Miner Creek 83.18 7 P **P** **21 53 56.9 -0.4**
baz=345,SNR=31
L16K Owhat River 83.18 17 IAMs_20 IAMs_20 22 37 15.0
comp=Z,11µm,20.0s
L16K Owhat River 83.18 17 P **P** **21 53 57.3 +0.1**
baz=329,SNR=16
M13K Dall Lake 83.26 19 P **P** **21 53 58.4 +0.8**
baz=326
HDA Harding Lake 83.26 10 P **P** **21 53 56.6 -1.0**
HDA IAMs_20 IAMs_20 22 34 49.9
comp=Z,13µm,22.0s
HDA Harding Lake 83.26 10 P **P** **21 53 56.1 -1.5**
baz=339,SNR=9.9
HDA P **P** **21 53 56.1 -1.5**
baz=339,SNR=9.9
CAST Castle Rocks 83.29 13 P **P** **21 53 57.4 -0.3**
CAST IAMs_20 IAMs_20 22 34 43.7
comp=Z,15µm,22.0s
CAST Castle Rocks 83.29 13 P **P** **21 53 57.7 -0.1**
baz=335,SNR=50
J25K Salcha River, 83.30 10 IAMs_20 IAMs_20 22 35 20.0
comp=Z,12µm,21.0s
J25K Salcha River, 83.30 10 P **P** **21 53 57.6 -0.3**
baz=340,SNR=39
H31M Peel River 83.33 5 IAMs_20 IAMs_20 22 35 45.8
comp=Z,10µm,21.0s
H31M Peel River 83.33 5 P **P** **21 53 57.5 -0.5**
baz=350,SNR=23
M14K Bethel 83.36 18 P **P** **21 53 58.5 +0.4**
baz=327,SNR=8.2
L18K Granite Mounta 83.40 15 P **P** **21 53 57.9 -0.4**
baz=331,SNR=9.0
I29M Ogilvie Camp, 83.43 6 IAMs_20 IAMs_20 22 34 19.5
comp=Z,10µm,22.0s
I29M Ogilvie Camp, 83.43 6 P **P** **21 53 58.0 -0.5**
baz=347,SNR=14
MCK McKinley 83.57 11 P **P** **21 53 58.4 -0.8**
baz=338,SNR=19
TRF Thorofare Moun 83.59 12 P **P** **21 53 59.5 0.0**
TRF Thorofare Moun 83.59 12 P **P** **21 54 00.2 +0.6**
baz=336,SNR=17
J26L Joseph Creek 83.66 9 P **P** **21 53 59.5 -0.3**
baz=342
SPIA Saint Paul Isl 83.68 24 P **P** **21 54 00.0 +0.2**
baz=320
EGAK Eagle 83.69 8 P **P** **21 53 59.4 -0.4**
EGAK IAmb IAmb 21 54 01.4
comp=Z,263nm,1.6s
EGAK IAMs_20 IAMs_20 22 38 35.4
comp=Z,9µm,19.0s
EGAK Eagle 83.69 8 P **P** **21 54 00.0 +0.2**
baz=344,SNR=36
M15K Kasigluk River 83.74 18 P **P** **21 54 00.7 +0.6**
baz=328
PPLA Purkeypile 83.74 13 P **P** **21 53 59.7 -0.6**
baz=335,SNR=14
MUN Mundaring 83.74 133 P **P** **21 53 59.2 -1.3**
I30M Mount Dempster 83.75 6 IAMs_20 IAMs_20 22 36 35.7
comp=Z,10µm,22.0s
I30M Mount Dempster 83.75 6 P **P** **21 53 59.5 -0.8**
baz=348,SNR=38
L20K Farewell, AK 83.78 14 P **P** **21 54 00.1 -0.2**
baz=333
L19K White Mountain 83.84 15 P **P** **21 54 00.6 0.0**
baz=333
RND Reindeer 83.89 11 P **P** **21 53 59.9 -1.0**
RND Reindeer 83.89 11 P **P** **21 53 59.9 -1.0**
RND pmax pmax
comp=Z,266nm,1.5s
RND MLR MLR
comp=Z,15µm,19.0s
M17K Holitna River 83.94 16 IAMs_20 IAMs_20 22 36 36.9
comp=Z,15µm,21.0s
M17K Holitna River 83.94 16 P **P** **21 54 01.6 +0.4**
baz=330
K24K Donnelly Dome 84.01 10 P **P** **21 54 01.1 -0.3**
baz=340
KDU Kakadu 84.08 108 P **P** **21 54 01.6 -0.9**
SCRK Sand Creek 84.10 9 IAMs_20 IAMs_20 22 35 33.2
comp=Z,14µm,21.0s
SCRK Sand Creek 84.10 9 P **P** **21 54 02.2 +0.1**
baz=342,SNR=67
N14K Kuskokwak Cree 84.13 19 P **P** **21 54 02.4 +0.3**
baz=327
RIDG Independent Ri 84.21 10 P **P** **21 54 01.7 -0.8**
RIDG IAmb IAmb 21 54 02.8
comp=Z,127nm,1.6s
RIDG IAMs_20 IAMs_20 22 35 46.9
comp=Z,13µm,21.0s
RIDG Independent Ri 84.21 10 P **P** **21 54 01.9 -0.6**
baz=341,SNR=11
M18K Stony River 84.24 15 P **P** **21 54 03.1 +0.5**
baz=332
K27K Chicken 84.31 8 IAMs_20 IAMs_20 22 36 06.5
comp=Z,11µm,20.0s
K27K Chicken 84.31 8 P **P** **21 54 03.3 +0.4**
baz=343
N15K Kwethluk River 84.34 18 P **P** **21 54 03.9 +0.7**
baz=328
J30M Hart River 84.39 6 IAMs_20 IAMs_20 22 35 14.7
comp=Z,10µm,22.0s
J30M Hart River 84.39 6 P **P** **21 54 03.5 0.0**
baz=348
N16K Nishlik Lake 84.42 17 P **P** **21 54 04.1 +0.5**
baz=330
DHY Denali Highway 84.44 11 P **P** **21 54 03.2 -0.7**
DHY IAmb IAmb 21 54 06.1
comp=Z,212nm,1.9s
DHY IAMs_20 IAMs_20 22 37 38.2
comp=Z,12µm,20.0s
DHY Denali Highway 84.44 11 P **P** **21 54 03.0 -0.8**
baz=339,SNR=13
KLBR Kellerberrin 84.47 132 P **P** **21 54 03.9 -0.3**
comp=Z,136nm,0.9s
M20K Styx River 84.47 14 P **P** **21 54 03.5 -0.4**
baz=334
WAT1 Susitna Watana 84.47 12 P **P** **21 54 02.7 -1.2**
baz=338
CUT Chulitna 84.56 12 P **P** **21 54 03.6 -0.7**
CUT IAmb IAmb 21 54 56.6
comp=Z,254nm,1.7s
CUT Chulitna 84.56 12 P **P** **21 54 03.4 -0.8**
baz=336
DAWY Dawson 84.58 7 P **P** **21 54 03.5 -1.0**
DAWY Dawson 84.58 7 P **P** **21 54 04.3 -0.1**
baz=346,SNR=57
SVW2 Sparrevohn 84.64 15 IAMs_20 IAMs_20 22 37 23.1
comp=Z,14µm,19.0s
SKT Skwentna 84.71 13 IAMs_20 IAMs_20 22 37 42.2
comp=Z,14µm,19.0s
SKT Skwentna 84.71 13 P **P** **21 54 04.3 -0.7**
baz=335,SNR=30
N17K Nushagak Hills 84.77 16 P **P** **21 54 06.2 +0.9**
baz=331
O14K Tigyukauivet M 84.81 19 P **P** **21 54 05.8 +0.3**
baz=328
PAX Paxson 84.84 10 P **P** **21 54 04.9 -0.9**
baz=340,SNR=11
WAT6 Susitna Watana 84.84 11 P **P** **21 54 05.3 -0.6**
baz=339,SNR=19
N18K Kilae Creek 84.94 16 IAMs_20 IAMs_20 22 37 33.5
comp=Z,16µm,22.0s
N18K Kilae Creek 84.94 16 P **P** **21 54 06.6 +0.3**
baz=332
K29M Barlow Dome 85.00 7 IAMs_20 IAMs_20 22 38 23.7
comp=Z,11µm,21.0s
K29M Barlow Dome 85.00 7 P **P** **21 54 06.6 0.0**
baz=347,SNR=35
NWAO Narrogin (SRO) 85.02 133 P **P** **21 54 05.7 -1.2**
NWAO IAmb IAmb 21 54 08.9
comp=Z,117nm,1.1s
NWAO Narrogin (SRO) 85.02 133 P **P** **21 54 05.9 -1.0**
NWAO Narrogin (SRO) 85.02 133 P **P** **21 54 06.1 -0.8**
NWAO P **P** **21 54 06.1 -0.8**
NWAO Narrogin (SRO) 85.02 133 P **P** **21 54 05.7 -1.2**
NWAO pmax pmax
comp=Z,117nm,1.1s
NWAO MLR MLR
comp=Z,2µm,18.0s
NWAO Narrogin (SRO) 85.02 133 LR LR 22 27 54.3
comp=Z,2µm,21.7s,baz=320,slow=33
L26K Log Cabin Wild 85.10 9 P **P** **21 54 07.2 +0.2**
baz=342,SNR=22
MENT Mentasta 85.13 9 IAMs_20 IAMs_20 22 36 17.4
comp=Z,15µm,21.0s
N19K Bonanza Creek 85.14 15 P **P** **21 54 07.6 +0.2**
baz=333,SNR=15
M22K Willow 85.19 13 IAMs_20 IAMs_20 22 35 52.7
comp=Z,13µm,22.0s
M22K Willow 85.19 13 P **P** **21 54 06.8 -0.6**
baz=337
GENI Genyem 85.23 96 P **P** **21 54 09.4 +0.9**
GENI Genyem 85.23 96 P **P** **21 54 07.9 -0.6**
comp=Z,171nm,1.8s
O15K Ungalikthiuk R 85.27 18 P **P** **21 54 07.8 0.0**
baz=329
L27K Beaver Creek, 85.27 9 IAMs_20 IAMs_20 22 36 37.0
comp=Z,13µm,20.0s
L27K Beaver Creek, 85.27 9 P **P** **21 54 08.5 +0.7**
baz=344
BCAR Beaver Creek A 85.27 9 P **P** **21 54 07.8 -0.1**
SUA Susitna One 85.33 13 IAMs_20 IAMs_20 22 35 25.8
comp=Z,11µm,21.0s
SUA Susitna One 85.33 13 P **P** **21 54 07.4 -0.9**
baz=336,SNR=14
O16K Kokwok River B 85.36 17 IAMs_20 IAMs_20 22 38 10.3
comp=Z,16µm,22.0s
O16K Kokwok River B 85.36 17 P **P** **21 54 08.1 -0.2**
baz=330
MAYO Mayo, Yukon 85.39 6 P **P** **21 54 08.4 0.0**
baz=349
HARP HAARP 85.43 10 P **P** **21 54 09.1 +0.5**
baz=341,SNR=12
O17K Koliganek Bris 85.45 17 P **P** **21 54 09.0 +0.3**
baz=331,SNR=5.9
SML Sawmill 85.46 12 P **P** **21 54 08.6 -0.3**
baz=338,SNR=9.8
PMR Palmer 85.52 12 P **P** **21 54 08.8 -0.3**
PMR Palmer 85.52 12 P **P** **21 54 09.0 0.0**
PMR Palmer 85.52 12 P **P** **21 54 08.7 -0.4**

baz=337,SNR=15
PMR Palmer 85.52 12 P P 21 54 08.8 -0.3
PMR pmax pmax
comp=Z,351nm,1.5s
PMR MLR MLR
comp=Z,15µm,20.0s
M24K Tolsona, Glenn 85.55 11 IAMs_20 IAMs_20 22 38 12.4
comp=Z,9µm,21.0s
M24K Tolsona, Glenn 85.55 11 P P 21 54 09.7 +0.4
baz=340,SNR=19
M23K Glacier View 85.58 12 P P 21 54 09.0 -0.5
baz=339,SNR=7.1
SCM Sheep Creek Mo 85.61 11 P P 21 54 09.2 -0.5
SCM IAmb IAmb 21 54 45.5
comp=Z,141nm,1.4s
SCM IAMs_20 IAMs_20 22 39 54.2
comp=Z,10µm,20.0s
SCM Sheep Creek Mo 85.61 11 P P 21 54 09.0 -0.6
baz=339
SCM Sheep Creek Mo 85.61 11 P P 21 54 09.2 -0.5
SCM pmax pmax
comp=Z,141nm,1.4s
SCM MLR MLR
comp=Z,10µm,20.0s
L29M L29M 85.65 7 IAMs_20 IAMs_20 22 40 00.1
comp=Z,10µm,19.0s
L29M L29M 85.65 7 P P 21 54 10.0 +0.2
baz=347,SNR=46
JAY Jayapura 85.66 95 P P 21 54 09.4 -1.2
comp=Z,64nm,1.9s,comp=Z,2µm
FIS Fire Island 85.73 13 IAMs_20 IAMs_20 22 35 36.3
comp=Z,15µm,22.0s
O19K Port Alsworth 85.73 15 P P 21 54 10.2 +0.1
baz=333
M26K Nabesna, AK 85.75 9 P P 21 54 10.0 -0.3
baz=343,SNR=15
KNK Knik Glacier 85.81 12 P P 21 54 10.4 -0.1
KNK Knik Glacier 85.81 12 P P 21 54 10.4 -0.1
baz=338,SNR=12
O18K Koktuh Hills 85.83 16 P P 21 54 10.5 -0.2
baz=332,SNR=7.6
RC01 Rabbit Creek A 85.87 13 P P 21 54 10.5 -0.4
RC01 IAMs_20 IAMs_20 22 36 02.0
comp=Z,16µm,22.0s
RC01 Rabbit Creek A 85.87 13 P P 21 54 10.4 -0.4
baz=337,SNR=7.0
P16K Nushagak River 85.87 17 P P 21 54 11.3 +0.5
baz=330
CAPN Captain Cook N 85.89 14 P P 21 54 11.6 +0.8
baz=336
M27K Edge Creek, AK 85.94 9 IAMs_20 IAMs_20 22 36 39.7
comp=Z,13µm,20.0s
M27K Edge Creek, AK 85.94 9 P P 21 54 11.7 +0.4
baz=344
BVCY Beaver Creek 86.02 8 P P 21 54 12.4 +0.8
baz=344,SNR=16
P17K Kvichak River 86.12 17 P P 21 54 12.4 +0.3
baz=331
KLU Klutina 86.17 11 IAMs_20 IAMs_20 22 39 49.8
comp=Z,9µm,19.0s
KLU Klutina 86.17 11 P P 21 54 12.9 +0.5
baz=340,SNR=16
O20K Slope Mountain 86.21 14 P P 21 54 11.6 -1.0
baz=335
P18K Big Mountain, 86.24 16 IAMs_20 IAMs_20 22 40 01.8
comp=Z,13µm,18.0s
P18K Big Mountain, 86.24 16 P P 21 54 12.0 -0.7
baz=332
M29M Somme Creek 86.27 7 IAMs_20 IAMs_20 22 36 10.4
comp=Z,7µm,22.0s
M29M Somme Creek 86.27 7 P P 21 54 13.1 +0.1
baz=346
N25K Chitina, Valde 86.27 10 P P 21 54 12.6 -0.3
baz=341,SNR=6.7
M30M Minto, Yukon 86.31 6 IAMs_20 IAMs_20 22 39 41.4
comp=Z,12µm,20.0s
M30M Minto, Yukon 86.31 6 P P 21 54 12.7 -0.3
baz=348,SNR=12
WRGLY Wrigley 86.33 0 P P 21 54 13.5 +0.5
baz=359,SNR=36
O22K Cooper Landing 86.44 13 P P 21 54 13.4 -0.2
baz=337
P19K Oil Pt 86.46 15 P P 21 54 12.9 -1.0
baz=334
Q16K King Salmon 86.52 17 P P 21 54 13.9 -0.2
baz=331
GLI Glacier Island 86.55 12 P P 21 54 14.3 +0.1
baz=339
YUK3 Moose Creek 86.68 8 P P 21 54 15.2 +0.1
baz=345,SNR=34
MCARA McCarthy VSAT 86.72 10 P P 21 54 15.0 0.0
baz=343,SNR=5.4
YKAW3 Yellowknife Wh 86.78 356 IAMs_20 IAMs_20 22 37 18.9
comp=Z,14µm,20.0s
HOM Homer 86.80 14 IAMs_20 IAMs_20 22 39 31.6
comp=Z,11µm,21.0s
HOM Homer 86.80 14 P P 21 54 14.7 -0.8
baz=335
VRDI Verde Repeater 86.80 10 IAMs_20 IAMs_20 22 38 26.6
comp=Z,14µm,21.0s
SEW Seward 86.84 13 P P 21 54 15.3 -0.3
baz=337
YKA Yellowknife Ar 86.84 356 P P 21 54 15.2 -0.4
comp=Z,17nm,1.1s,baz=355,slow=4.8,SNR=118
YKA LR LR 22 37 22.1
comp=Z,12µm,21.0s,baz=4.0,slow=39
comp=Z,17nm,1.1s
YKAW1 Yellowknife Wh 86.85 356 IAMs_20 IAMs_20 22 37 20.8
comp=Z,14µm,20.0s
BRLK Bradley Lake 86.86 14 IAMs_20 IAMs_20 22 39 24.5
comp=Z,14µm,20.0s
BMRM Bremner River 86.88 10 P P 21 54 16.0 +0.2
baz=341,SNR=10
M31M Drury Creek, Y 86.89 5 IAMs_20 IAMs_20 22 38 54.8
comp=Z,15µm,22.0s
M31M Drury Creek, Y 86.89 5 P P 21 54 15.6 -0.3
baz=350,SNR=28
BRSE Bradley Lake S 86.91 14 P P 21 54 15.3 -0.7
baz=336
FARO Faro, Yukon 86.94 5 P P 21 54 16.2 0.0
baz=351,SNR=30
Q18K Katmai Hardscr 86.95 16 P P 21 54 14.8 -1.5
baz=333
CNPM China Poot 87.01 14 IAMs_20 IAMs_20 22 39 27.1
comp=Z,13µm,19.0s
Q19K Cape Douglas, 87.02 15 P P 21 54 16.2 -0.4
baz=334
Q17K Contact Creek 87.08 17 P P 21 54 15.7 -1.3
baz=332
EYAK Cordova Ski Ar 87.09 11 P P 21 54 16.7 -0.1
baz=340
BARN Barnard Glacie 87.22 9 IAMs_20 IAMs_20 22 40 56.3
comp=Z,13µm,20.0s
YUK8 Steele Glacier 87.25 8 P P 21 54 18.0 +0.1
baz=345,SNR=8.4
R16K Pilot Point 87.26 18 P P 21 54 16.9 -0.8
baz=331
CRQE Cirque 87.31 10 P P 21 54 17.8 -0.3
baz=343
YUK4 Talbot Arm 87.32 8 P P 21 54 18.0 -0.2
baz=346,SNR=25
P23K Montague Islan 87.32 12 P P 21 54 18.1 +0.1
baz=339
CTG Chitna Glacier 87.35 9 P P 21 54 18.7 +0.4
baz=344,SNR=17
CTGM Chitina Glacie 87.35 9 P P 21 54 18.5 +0.2
N30M Aishikik Lake 87.37 7 P P 21 54 17.9 -0.4
N30M IAMs_20 IAMs_20 22 40 04.6
comp=Z,6µm,18.0s
N30M Aishikik Lake 87.37 7 P P 21 54 18.2 -0.1
baz=348,SNR=14
NIKH Nikolski High 87.46 26 P P 21 54 19.1 +0.3
baz=322
N31M Braeburn, Yuko 87.48 6 IAMs_20 IAMs_20 22 36 49.3
comp=Z,12µm,22.0s
N31M Braeburn, Yuko 87.48 6 P P 21 54 18.5 -0.3
baz=349,SNR=14
R17K Ugashik Creek 87.50 17 P P 21 54 17.6 -1.2
baz=332
TABU Tabubil 87.51 98 P P 21 54 22.7 +3.0
GRNC Granite Creek 87.52 9 IAMs_20 IAMs_20 22 37 43.3
comp=Z,13µm,21.0s
ISLE Juniper Island 87.56 10 P P 21 54 18.4 -0.9
ISLE IAmb IAmb 21 54 27.8
comp=Z,134nm,1.6s
Q20K Shuyak Island 87.59 15 P P 21 54 18.6 -0.7
baz=335
UNV Unalaska Valle 87.62 24 P P 21 54 18.5 -1.0
baz=324
FCC Fort Churchill 87.67 346 P P 21 54 19.3 -0.3
FCC IAmb IAmb 21 54 26.1
comp=Z,124nm,1.6s
FCC Fort Churchill 87.67 346 P P 21 54 19.3 -0.3
FCC pmax pmax
comp=Z,124nm,1.6s
YUK6 Outpost Mounta 87.74 8 P P 21 54 20.3 0.0
baz=347,SNR=12
WRKA Warakurna 87.74 121 P P 21 54 20.1 -0.4
S14K Fog Glacier 87.82 20 P P 21 54 19.5 -1.0
baz=329
SUCK Suckling Hills 87.86 10 IAMs_20 IAMs_20 22 40 32.5
comp=Z,13µm,20.0s
TABL Table Mountain 87.89 9 IAMs_20 IAMs_20 22 37 45.2
comp=Z,13µm,21.0s
KAIM Kayak Island 87.89 11 IAMs_20 IAMs_20 22 41 02.5
comp=Z,12µm,19.0s
KAIM Kayak Island 87.89 11 P P 21 54 20.7 0.0
baz=342
HYT Haines Junctio 87.95 7 P P 21 54 21.5 +0.3
HYT Haines Junctio 87.95 7 P P 21 54 21.8 +0.6
baz=347,SNR=40
MESA MESA 88.03 9 P P 21 54 21.5 -0.1
baz=344
N32M Quiet Lake 88.03 5 IAMs_20 IAMs_20 22 40 57.8
comp=Z,12µm,20.0s
N32M Quiet Lake 88.03 5 P P 21 54 20.8 -0.6
baz=351
Q23K Middleton Isla 88.04 12 P P 21 54 20.6 -0.7
baz=340
R18K Karluk 88.05 16 P P 21 54 20.4 -1.1
baz=333
CHGN Chignik 88.13 19 IAMs_20 IAMs_20 22 38 22.9
comp=Z,13µm,20.0s
CHGN Chignik 88.13 19 P P 21 54 20.6 -1.2
baz=330
O30N Mendenhall 88.15 7 IAMs_20 IAMs_20 22 41 38.2
comp=Z,8µm,19.0s
O30N Mendenhall 88.15 7 P P 21 54 21.7 -0.3
baz=348,SNR=14
KDAK Kodiak Island 88.30 15 P P 21 54 22.8 +0.1
KDAK Kodiak Island 88.30 15 P P 21 54 22.8 +0.1
baz=335
KDAK Kodiak Island 88.30 15 P P 21 54 22.8 +0.1
KDAK pmax pmax
comp=Z,221nm,1.5s
KDAK MLR MLR
comp=Z,19µm,18.0s
KDAK Kodiak Island 88.30 15 LR LR 22 39 47.4
comp=Z,19µm,18.3s,baz=348,slow=40
PINM Pinnacle 88.34 9 P P 21 54 22.7 -0.2
baz=345
O29M Mount Kennedy 88.34 8 IAMs_20 IAMs_20 22 37 37.2
comp=Z,7µm,22.0s
O29M Mount Kennedy 88.34 8 P P 21 54 22.6 -0.4
baz=346
WHY Whitehorse 88.37 6 IAMs_20 IAMs_20 22 38 46.0
comp=Z,11µm,21.0s
WHY Whitehorse 88.37 6 P P 21 54 21.8 -1.3
baz=350,SNR=12
PQI Presque Isle 88.47 326 IAMs_20 IAMs_20 22 36 13.6
comp=Z,6µm,18.0s
OHAK Old Harbor 88.64 16 IAMs_20 IAMs_20 22 38 20.4
comp=Z,10µm,22.0s
OHAK Old Harbor 88.64 16 P P 21 54 23.7 -0.5
baz=334
P30M Million Dollar 88.70 7 P P 21 54 25.3 +0.7
baz=348
PNL Peninsula 88.86 8 P P 21 54 25.6 +0.3
baz=346
LMQ La Malbaie 88.92 328 IAMs_20 IAMs_20 22 36 19.5
comp=Z,7µm,20.0s
YKU2 Yakutat 88.98 9 IAMs_20 IAMs_20 22 42 06.1
comp=Z,12µm,19.0s
P33M Teslin, Yukon 88.99 5 P P 21 54 25.2 -0.8
baz=351,SNR=16
SII Sitkinak Islan 89.02 17 P P 21 54 26.3 +0.2
baz=333
P29M Windy Craggy 89.09 8 IAMs_20 IAMs_20 22 42 20.1
comp=Z,8µm,20.0s
P29M Windy Craggy 89.09 8 P P 21 54 26.0 -0.4
baz=347
F64A Sherman 89.20 325 IAMs_20 IAMs_20 22 36 02.1
comp=Z,7µm,20.0s
G65A Princeton 89.28 325 IAMs_20 IAMs_20 22 36 04.4
comp=Z,6µm,20.0s
CHIR Chirikof Islan 89.31 18 P P 21 54 27.6 +0.1
baz=332
WTLY Watson Lake, Y 89.33 3 P P 21 54 27.7 +0.2
baz=355
FLDN Fort Liard 89.33 0 P P 21 54 28.3 +0.8
FLDN IAmb IAmb 21 54 35.1
comp=Z,94nm,1.0s
FLDN Fort Liard 89.33 0 P P 21 54 27.8 +0.4
baz=359
KOTAN Kotaneelee Air 89.44 1 P P 21 54 28.2 +0.2
baz=359
WB0 Warramunga Arr 89.47 113 P P 21 54 27.5 -1.3
WB0 IAmb IAmb 21 54 30.6
comp=Z,222nm,1.6s
SKAG Skagway 89.51 6 IAMs_20 IAMs_20 22 38 02.2
comp=Z,10µm,22.0s
SKAG Skagway 89.51 6 P P 21 54 29.7 +1.4
comp=Z,44nm,2.4s
SKAG Skagway 89.51 6 P P 21 54 28.6 +0.2
baz=349
WRA Warramunga Arr 89.52 114 P P 21 54 27.5 -1.6
WRA Warramunga Arr 89.52 114 P P 21 54 28.1 -0.9
comp=Z,16nm,0.8s,baz=313,slow=3.8,SNR=58
WRA PKKPbc **PKKPbc 22 12 03.6 +0.4**
comp=Z,1.2nm,1.1s,baz=120,slow=2.4,SNR=7.1
WRA LR LR 22 40 20.9
comp=Z,3µm,18.4s,baz=244,slow=40
comp=Z,16nm,0.8s
P32M Atlin 89.53 6 IAMs_20 IAMs_20 22 38 34.6
comp=Z,7µm,22.0s
P32M Atlin 89.53 6 P P 21 54 28.1 -0.4
baz=351
R33M Jennings River 89.92 4 IAMs_20 IAMs_20 22 41 27.1
comp=Z,8µm,20.0s
R33M Jennings River 89.92 4 P P 21 54 30.1 -0.4
baz=353
PKME Peaks-Kenny Pk 90.09 325 IAMs_20 IAMs_20 22 38 09.7
comp=Z,7µm,19.0s
PKME Peaks-Kenny Pk 90.09 325 P P 21 54 31.6 +0.2
baz=44
LIRD Liard River Hi 90.13 2 P P 21 54 31.5 +0.3
baz=357
Q32M Nakina River 90.27 5 IAMs_20 IAMs_20 22 41 59.9
comp=Z,11µm,19.0s
Q32M Nakina River 90.27 5 P P 21 54 32.3 +0.1
baz=352
R31K City Hall, Gus 90.50 7 P P 21 54 33.5 +0.6
baz=349
R32K Eaglecrest 90.76 6 IAMs_20 IAMs_20 22 43 09.1
comp=Z,9µm,18.0s
R32K Eaglecrest 90.76 6 P P 21 54 34.4 +0.2
baz=350
JIS Juneau Island 90.77 6 P P 21 54 34.7 +0.5
JIS IAmb IAmb 21 54 38.1
comp=Z,168nm,2.0s
JIS IAMs_20 IAMs_20 22 43 09.4
comp=Z,9µm,18.0s
WVL Waterville 90.78 325 IAMs_20 IAMs_20 22 37 17.9
comp=Z,6µm,18.0s
HILA High Level 90.90 357 P P 21 54 34.9 +0.1
FORT Forrest 90.90 126 P P 21 54 35.1 0.0
FORT IAmb IAmb 21 54 38.1
comp=Z,160nm,1.2s
FORT Forrest 90.90 126 P P 21 54 37.1 +1.9
S31K Pelican 90.90 7 IAMs_20 IAMs_20 22 43 36.5
comp=Z,8µm,18.0s
S31K Pelican 90.90 7 P P 21 54 35.6 +0.8
baz=348
DLBC Dease Lake 90.94 4 P P 21 54 35.3 +0.2
baz=354
DLBC Dease Lake 90.94 4 LR LR 22 42 26.2
comp=Z,5µm,18.1s,baz=342,slow=40
AS31 Alice Springs 91.20 117 P P 21 54 35.1 -1.7
ASAR Alice Springs 91.20 117 P P 21 54 35.5 -1.3
ASAR Alice Springs 91.20 117 P P 21 54 35.8 -1.0
comp=Z,26nm,1.1s,baz=304,slow=4.0,SNR=46
ASAR PKKPbc **PKKPbc 22 11 58.2 -1.0**
comp=Z,0.8nm,1.0s,baz=116,slow=2.2,SNR=3.8
ASAR LR LR 22 40 03.5
comp=Z,3µm,18.4s,baz=305,slow=38
comp=Z,26nm,1.1s
AS01 Alice Springs 91.24 117 P P 21 54 36.8 -0.2
comp=Z,30nm,0.9s
S34M Telegraph Cree 91.39 4 IAMs_20 IAMs_20 22 42 19.5
comp=Z,12µm,20.0s
S34M Telegraph Cree 91.39 4 P P 21 54 37.4 +0.3
baz=353
S32K Killisnoo 91.55 6 IAMs_20 IAMs_20 22 43 42.8
comp=Z,11µm,19.0s
S32K Killisnoo 91.55 6 P P 21 54 38.0 +0.2
baz=350
I63A Otisfield 91.61 325 IAMs_20 IAMs_20 22 38 01.7
comp=Z,6µm,19.0s
VLDQ Val d'Or 91.61 332 P P 21 54 38.3 0.0
VLDQ IAmb IAmb 21 54 40.0
comp=Z,180nm,1.8s
VLDQ IAMs_20 IAMs_20 22 39 15.8
comp=Z,6µm,18.0s
TRQ Mont Tremblant 91.84 329 P P 21 54 38.6 -0.9
TRQ IAMs_20 IAMs_20 22 37 24.6
comp=Z,9µm,22.0s
SIT Sitka 91.88 7 IAMs_20 IAMs_20 22 44 17.8
comp=Z,7µm,20.0s
SIT Sitka 91.88 7 P P 21 54 39.7 +0.3
baz=349
I62A Tamworth 92.11 326 IAMs_20 IAMs_20 22 39 11.9
comp=Z,5µm,19.0s
LBNH Lisbon 92.12 326 P P 21 54 40.2 -0.6
LBNH Lisbon 92.12 326 P P 21 54 40.9 +0.1
baz=42
LBNH Lisbon 92.12 326 P P 21 54 40.2 -0.6
LBNH pmax pmax
comp=Z,235nm,1.9s
LBNH MLR MLR
comp=Z,5µm,19.0s
T33K Petersburg 92.34 6 P P 21 54 42.2 +0.7
baz=351
T35M Bob Quinn 92.37 4 P P 21 54 42.5 +0.8
baz=354
VT1 Waterbury 92.45 327 IAMs_20 IAMs_20 22 38 36.0
comp=Z,6µm,20.0s
FRNY Flat Rock 92.46 327 IAMs_20 IAMs_20 22 38 37.0
comp=Z,7µm,19.0s
WRAK Wrangell Islan 92.78 5 P P 21 54 43.0 -0.6
WRAK Wrangell Islan 92.78 5 P P 21 54 43.9 +0.4
baz=352
FFC Flin Flon 93.00 348 P P 21 54 43.0 -1.7
FFC IAmb IAmb 21 54 45.0
comp=Z,99nm,1.8s
FFC Flin Flon 93.00 348 P P 21 54 43.0 -1.7
FFC pmax pmax
comp=Z,99nm,1.8s
FFC MLR MLR
comp=Z,17µm,19.0s
U33K Whale Pass 93.02 6 P P 21 54 44.7 +0.1
baz=351
LONY Lake Ozonia 93.08 328 P P 21 54 43.9 -1.3
LONY IAmb IAmb 21 54 46.4
comp=Z,71nm,1.6s
LONY Lake Ozonia 93.08 328 P P 21 54 44.9 -0.3
baz=40
HRV Adam Dziewonsk 93.23 325 P P 21 54 45.2 -0.8
baz=42
NCB Newcomb 93.41 327 IAMs_20 IAMs_20 22 39 14.2
comp=Z,7µm,19.0s
K62A Royalston 93.44 325 IAMs_20 IAMs_20 22 39 05.3
comp=Z,6µm,19.0s
U35K Hyder 93.45 4 IAMs_20 IAMs_20 22 45 08.0
comp=Z,10µm,18.0s
U35K Hyder 93.45 4 P P 21 54 46.9 +0.2
baz=354
M65A Busby, Falmout 93.46 324 IAMs_20 IAMs_20 22 43 46.0
comp=Z,5µm,18.0s
M65A Busby, Falmout 93.46 324 P P 21 54 47.1 +0.1
baz=43
COEN Coen 93.59 104 P P 21 54 47.5 -0.5
CRAG Craig 93.66 6 IAMs_20 IAMs_20 22 45 16.9
comp=Z,10µm,18.0s
CRAG Craig 93.66 6 P P 21 54 47.8 +0.1
baz=351
QUA2 Belchertown 93.79 325 IAMs_20 IAMs_20 22 39 25.5
comp=Z,6µm,19.0s
L61B Northampton 93.82 325 P P 21 54 48.7 0.0
baz=41
V35K Ketchikan 93.92 5 IAMs_20 IAMs_20 22 44 13.6
comp=Z,10µm,20.0s
V35K Ketchikan 93.92 5 P P 21 54 48.8 0.0
baz=352
J59A Piesco 93.93 327 IAMs_20 IAMs_20 22 39 30.0
comp=Z,7µm,20.0s
QIS Mount Isa 94.04 111 P P 21 54 49.3 -0.7
TRY Troy 94.09 326 IAMs_20 IAMs_20 22 40 54.3
comp=Z,6µm,18.0s
M63A Gales Ferry 94.29 324 IAMs_20 IAMs_20 22 39 12.8
comp=Z,6µm,21.0s
J58A Remsen 94.37 327 IAMs_20 IAMs_20 22 42 18.7
comp=Z,6µm,19.0s
J57A Williamstown 94.66 328 IAMs_20 IAMs_20 22 39 44.3
comp=Z,6µm,21.0s
PMG Port Moresby 94.67 98 P P 21 54 51.9 -1.1
PMG IAmb IAmb 21 54 55.7
comp=Z,125nm,1.3s
PMG Port Moresby 94.67 98 P P 21 54 52.8 -0.2
PMG Port Moresby 94.67 98 P P 21 54 53.0 0.0
PMG Port Moresby 94.67 98*ce***P P 21 54 52.1 -0.9**
PMG pmax pmax
comp=Z,58nm,1.2s
PMG Port Moresby 94.67 98 LR LR 22 42 27.2
comp=Z,1µm,21.4s,baz=302,slow=39
KSCT Kent School, K 94.76 325 IAMs_20 IAMs_20 22 40 50.2
comp=Z,6µm,19.0s
OOD Oodnadatta 94.78 119 P P 21 54 52.1 -1.0
MULG Mulgathing 94.90 122 P P 21 54 53.1 -0.6
SADO Sadowa 94.98 330 IAMs_20 IAMs_20 22 46 05.4
comp=Z,6µm,19.0s
SADO Sadowa 94.98 330 LR LR 22 40 05.8
comp=Z,4µm,20.5s,baz=40,slow=37
J56A Wolcott 95.16 328 IAMs_20 IAMs_20 22 39 38.4
comp=Z,8µm,22.0s
L59A Walton 95.16 326 IAMs_20 IAMs_20 22 40 59.6
comp=Z,7µm,19.0s
BRLDA Berland Lookou 95.37 357 IAMs_20 IAMs_20 22 43 12.2
comp=Z,11µm,19.0s
PAL Palisades 95.52 325 P P 21 54 55.5 -0.9
baz=40
TRNY Table Rock, Ra 95.56 325 IAMs_20 IAMs_20 22 41 14.4
comp=Z,6µm,19.0s
BINY Binghamton 95.60 327 IAMs_20 IAMs_20 22 40 31.1
comp=Z,6µm,18.0s
BINY Binghamton 95.60 327 P P 21 54 55.9 -0.9
baz=39
J55A Hilton 95.60 329 IAMs_20 IAMs_20 22 39 50.0
comp=Z,9µm,22.0s
RCBR Riachuelo 95.64 267 IAMs_20 IAMs_20 22 38 05.9
comp=Z,9µm,21.0s
RCBR Riachuelo 95.64 267 LR LR 22 38 16.6
comp=Z,7µm,20.0s,baz=65,slow=36
E46A Sault Ste Mari 95.72 334 IAMs_20 IAMs_20 22 39 50.7
comp=Z,10µm,21.0s
ODNJ Ogdensburg 95.80 326 IAMs_20 IAMs_20 22 41 20.6
comp=Z,5µm,18.0s
ULM Lac du Bonnet 95.90 343 P P 21 54 56.9 -1.0
ULM IAmb IAmb 21 54 58.2
comp=Z,65nm,1.6s
ULM IAMs_20 IAMs_20 22 40 48.7
comp=Z,12µm,21.0s
ULM Lac du Bonnet 95.90 343 P P 21 54 57.0 -1.0
comp=Z,16nm,1.0s,baz=34,slow=3.9,SNR=15
ULM PP **PP 21 58 48.4 -0.7**
comp=Z,5.6nm,0.9s,baz=26,slow=9.0,SNR=3.5
ULM LR LR 22 41 09.3
comp=Z,10µm,19.9s,baz=18,slow=37
comp=Z,16nm,1.0s
WAKE Wake Island 95.92 64 IAMs_20 IAMs_20 22 38 22.0
comp=Z,6µm,20.0s
J54A Appleton 95.96 329 IAMs_20 IAMs_20 22 39 49.5
comp=Z,6µm,21.0s
MEDO Medina 95.96 329 IAMs_20 IAMs_20 22 39 49.6
comp=Z,7µm,22.0s
EDM Edmonton 95.97 354 P P 21 54 57.9 -0.5
EDM IAmb IAmb 21 54 59.8
comp=Z,160nm,1.8s
EDM IAMs_20 IAMs_20 22 41 59.1
comp=Z,8µm,20.0s
EDM Edmonton 95.97 354 P P 21 54 57.9 -0.5
EDM pmax pmax
comp=Z,160nm,1.8s
EDM MLR MLR

	comp=Z,8µm,20.0s							
KSPA	Keystone Colle	95.99	327	IAMs_20	IAMs_20	22 41 43.7		
	comp=Z,6µm,18.0s							
BRNJ	Basking Ridge	96.08	325	IAMs_20	IAMs_20	22 41 29.2		
	comp=Z,8µm,19.0s							
L56A	Greenwood	96.38	328	IAMs_20	IAMs_20	22 40 27.6		
	comp=Z,8µm,22.0s							
D41A	Chassel	96.63	337	IAMs_20	IAMs_20	22 45 13.5		
	comp=Z,9µm,19.0s							
WVNY	West Valley, N	96.63	329	IAMs_20	IAMs_20	22 40 21.4		
	comp=Z,7µm,22.0s							
E43A	Lone Tree Farm	96.69	336	IAMs_20	IAMs_20	22 40 41.1		
	comp=Z,12µm,21.0s							
EYMN	Ely	96.78	339	P	P	21 55 01.0	-1.1	
EYMN				IAmb	IAmb	21 55 03.0		
	comp=Z,102nm,1.7s							
EYMN	Ely	96.78	339	IAMs_20	IAMs_20	22 42 48.2		
	comp=Z,9µm,19.0s							
EYMN	Ely	96.78	339	P	P	21 55 01.5	-0.6	
	baz=27							
M57A	Sunshine Farm,	96.80	327	IAMs_20	IAMs_20	22 41 17.1		
	comp=Z,5µm,18.0s							
HG4B	Hotspring	96.97	5	IAMs_20	IAMs_20	22 45 22.4		
	comp=Z,8µm,20.0s							
N58A	Sunbury	97.00	327	IAMs_20	IAMs_20	22 42 14.3		
	comp=Z,6µm,19.0s							
B35A	Bob, Littlefor	97.05	341	IAMs_20	IAMs_20	22 40 41.4		
	comp=Z,8µm,22.0s							
GLMI	Grayling	97.14	334	IAMs_20	IAMs_20	22 40 36.3		
	comp=Z,8µm,21.0s							
GLMI	Grayling	97.14	334	P	P	21 55 03.1	-0.7	
	baz=32							
I49A	Point Hope	97.18	332	IAMs_20	IAMs_20	22 42 26.5		
	comp=Z,5µm,18.0s							
BBB	Bella Bella	97.28	3	LR	LR	22 45 19.8		
	comp=Z,5µm,18.5s,baz=350,slow=39							
G45A	Suttons Bay	97.35	334	IAMs_20	IAMs_20	22 42 21.7		
	comp=Z,8µm,20.0s							
M55A	Ridgway	97.45	328	IAMs_20	IAMs_20	22 40 47.1		
	comp=Z,9µm,22.0s							
ERPA	Erie	97.48	329	IAMs_20	IAMs_20	22 40 24.7		
	comp=Z,6µm,22.0s							
MVL	Millersville	97.48	326	IAMs_20	IAMs_20	22 41 41.0		
	comp=Z,6µm,19.0s							
F42A	Maple Grove Fa	97.62	336	IAMs_20	IAMs_20	22 41 09.7		
	comp=Z,9µm,20.0s							
AGMN	Agassiz Nation	97.69	342	P	P	21 55 05.2	-1.0	
AGMN				IAmb	IAmb	21 55 05.8		
	comp=Z,48nm,1.7s							
AGMN				IAMs_20	IAMs_20	22 41 32.2		
	comp=Z,11µm,22.0s							
AGMN	Agassiz Nation	97.69	342	P	P	21 55 05.4	-0.7	
	baz=23							
SSPA	Standing Stone	97.71	327	P	P	21 55 05.6	-0.8	
SSPA				IAmb	IAmb	21 55 07.5		
	comp=Z,120nm,1.9s							
SSPA	Standing Stone	97.71	327	IAMs_20	IAMs_20	22 44 51.0		
	comp=Z,5µm,19.0s							
SSPA	Standing Stone	97.71	327	P	P	21 55 05.8	-0.6	
	baz=38							
E38A	The Farm, Brul	97.99	339	IAMs_20	IAMs_20	22 41 57.4		
	comp=Z,8µm,20.0s							
LCRK	Leigh Creek	98.04	121	P	Pdif	21 55 09.6	+1.6	
	comp=Z,31nm,1.8s							
K50A	Casco	98.06	331	IAMs_20	IAMs_20	22 42 58.9		
	comp=Z,6µm,18.0s							
MAW	Mawson	98.15	178	LR	LR	22 34 03.6		
	comp=Z,5µm,19.7s,baz=346,slow=32							
M53A	WI Miller and	98.33	329	IAMs_20	IAMs_20	22 44 51.2		
	comp=Z,5µm,20.0s							
I45A	Fountain	98.42	334	IAMs_20	IAMs_20	22 41 53.1		
	comp=Z,7µm,20.0s							
M52A	Chesterland	98.54	330	IAMs_20	IAMs_20	22 47 41.8		
	comp=Z,6µm,19.0s							
J47A	Sunmer	98.56	333	IAMs_20	IAMs_20	22 41 21.9		
	comp=Z,6µm,22.0s							
INKA	Innaminka	98.58	117	P	Pdif	21 55 10.5	+0.1	
H43A	Windswept, Lux	98.61	335	IAMs_20	IAMs_20	22 41 40.0		
	comp=Z,11µm,21.0s							
P57A	Homestead Farm	98.68	327	IAMs_20	IAMs_20	22 41 35.7		
	comp=Z,7µm,21.0s							
G40A	Rib Lake	98.75	337	IAMs_20	IAMs_20	22 42 49.5		
	comp=Z,7µm,19.0s							
HOLB	Holberg	98.82	3	IAMs_20	IAMs_20	22 46 50.2		
	comp=Z,7µm,20.0s							
AAM	Ann Arbor	98.88	332	IAMs_20	IAMs_20	22 49 05.5		
	comp=Z,6µm,18.0s							
AAM	Ann Arbor	98.88	332	P	P	21 55 11.2	-0.4	
	baz=33							
N53A	Lisbon	98.91	329	IAMs_20	IAMs_20	22 41 21.7		
	comp=Z,6µm,21.0s							
MDND	Maddock	99.03	344	IAMs_20	IAMs_20	22 43 21.5		
	comp=Z,9µm,19.0s							
MDND	Maddock	99.03	344	P	Pdif	21 55 11.2	-1.1	
	baz=20							
D32A	Dogwood Acres,	99.06	343	IAMs_20	IAMs_20	22 42 33.5		
	comp=Z,12µm,21.0s							
CTA	Charters Tower	99.19	108	LR	LR	22 47 40.3		
	comp=Z,2µm,18.4s,baz=289,slow=40							
O54A	Avella	99.21	328	IAMs_20	IAMs_20	22 41 52.7		
	comp=Z,8µm,22.0s							
F36A	Milaca	99.26	340	IAMs_20	IAMs_20	22 42 46.9		
	comp=Z,7µm,19.0s							
M50A	Fremont	99.37	331	IAMs_20	IAMs_20	22 49 22.7		
	comp=Z,5µm,20.0s							
MCWV	Mont Chateau	99.39	328	IAMs_20	IAMs_20	22 42 30.6		
	comp=Z,8µm,20.0s							
MCWV	Mont Chateau	99.39	328	P	Pdif	21 55 13.7	-0.3	
	baz=36							
DGMT	Dagmar	99.40	348	P	Pdif	21 55 13.5	-0.3	
	baz=16							
N51A	Ashland	99.49	330	IAMs_20	IAMs_20	22 41 36.9		
	comp=Z,6µm,22.0s							
L48A	N Adams	99.49	332	IAMs_20	IAMs_20	22 44 30.8		
	comp=Z,5µm,20.0s							
I42A	Draeger Farm,	99.52	336	IAMs_20	IAMs_20	22 42 18.0		
	comp=Z,10µm,21.0s							
CBB	Campbell River	99.53	2	IAMs_20	IAMs_20	22 46 56.2		
	comp=Z,10µm,19.0s							
O53A	New Philadelph	99.53	329	IAMs_20	IAMs_20	22 41 39.1		
	comp=Z,7µm,21.0s							
Q56A	Snyder Ridge,	99.58	327	IAMs_20	IAMs_20	22 43 34.6		
	comp=Z,5µm,19.0s							
SPMN	Marine on St.	99.62	339	IAMs_20	IAMs_20	22 43 08.4		
	comp=Z,7µm,19.0s							
SPMN	Marine on St.	99.62	339	P	Pdif	21 55 14.2	-0.7	
	baz=26							
T60A	Surry	99.89	324	IAMs_20	IAMs_20	22 43 59.0		
	comp=Z,5µm,19.0s							
O52A	Adamsville	99.92	329	IAMs_20	IAMs_20	22 42 03.2		
	comp=Z,7µm,21.0s							
F33A	5 Mile Ranch,	100.07	342	IAMs_20	IAMs_20	22 42 55.2		
	comp=Z,10µm,22.0s							
I40A	Norwalk	100.10	337	IAMs_20	IAMs_20	22 48 23.4		
	comp=Z,8µm,19.0s							
L46A	Eue Claire	100.17	333	IAMs_20	IAMs_20	22 46 27.6		
	comp=Z,7µm,20.0s							
P53A	Whipple	100.23	329	IAMs_20	IAMs_20	22 42 23.6		
	comp=Z,7µm,22.0s							
N49A	Columbus Grove	100.25	331	IAMs_20	IAMs_20	22 44 32.8		
	comp=Z,6µm,19.0s							
ACSO	Alum Creek Sta	100.32	330	IAMs_20	IAMs_20	22 44 14.8		
	comp=Z,6µm,18.0s							
ACSO	Alum Creek Sta	100.32	330	P	Pdif	21 55 17.3	-0.7	
	baz=34							
K43A	Burlington	100.34	335	IAMs_20	IAMs_20	22 42 42.9		
	comp=Z,11µm,21.0s							
Q54A	Coxs Mills	100.39	328	IAMs_20	IAMs_20	22 42 27.9		
	comp=Z,9µm,22.0s							
P52A	Corning	100.44	329	IAMs_20	IAMs_20	22 46 13.1		
	comp=Z,8µm,20.0s							
P52A	Corning	100.44	329	P	Pdif	21 55 17.7	-1.0	
	baz=35							
E28A	Huff	100.48	345	IAMs_20	IAMs_20	22 44 25.9		
	comp=Z,7µm,19.0s							
S57A	Dark Hollow, R	100.49	326	IAMs_20	IAMs_20	22 43 21.8		
	comp=Z,5µm,19.0s							
OZB	Mount Ozzard	100.60	2	IAMs_20	IAMs_20	22 48 14.4		
	comp=Z,8µm,19.0s							
R55A	Marlinton	100.63	327	IAMs_20	IAMs_20	22 46 29.2		
	comp=Z,6µm,19.0s							
L44A	Lake County Fo	100.64	334	IAMs_20	IAMs_20	22 48 18.0		
	comp=Z,8µm,19.0s							
L44A	Lake County Fo	100.64	334	P	Pdif	21 55 18.4	-1.1	
	baz=30							
EGMT	Eagleton	100.71	351	IAMs_20	IAMs_20	22 45 47.4		
	comp=Z,10µm,20.0s							
CLRS	Cowichan Lake	100.77	1	IAMs_20	IAMs_20	22 45 09.9		
	comp=Z,10µm,21.0s							
JFWS	Jewell Farm	100.84	336	IAMs_20	IAMs_20	22 42 58.7		
	comp=Z,8µm,21.0s							
JFWS	Jewell Farm	100.84	336	P	Pdif	21 55 19.7	-0.7	
	baz=28							
I37A	Lemond, Waseca	100.89	339	IAMs_20	IAMs_20	22 44 00.1		
	comp=Z,10µm,19.0s							
N47A	Urbana	100.90	332	IAMs_20	IAMs_20	22 47 42.9		
	comp=Z,6µm,21.0s							
HQIL	Hanson Quary C	100.95	334	IAMs_20	IAMs_20	22 48 39.1		
	comp=Z,7µm,18.0s							
P51A	Williamsport	100.97	330	IAMs_20	IAMs_20	22 42 35.1		
	comp=Z,6µm,21.0s							
U59A	Littleton	101.03	324	IAMs_20	IAMs_20	22 44 40.3		
	comp=Z,5µm,18.0s							
B06A	Marblemount	101.07	359	IAMs_20	IAMs_20	22 47 09.0		
	comp=Z,10µm,19.0s							
NEW	Newport	101.17	356	P	Pdif	21 55 21.1	-0.6	
	baz=4.9							
NEW	Newport	101.17	356	PP	PP	21 59 29.2	-0.1	
	comp=Z,3.7nm,0.8s,baz=9.8,slow=8.9,SNR=5.2							
O48B	Farmland	101.21	332	IAMs_20	IAMs_20	22 50 34.9		
	comp=Z,7µm,18.0s							
O48B	Farmland	101.21	332	P	Pdif	21 55 22.2	+0.1	
	baz=32							
T57A	Hurt	101.24	326	IAMs_20	IAMs_20	22 43 45.7		
	comp=Z,6µm,20.0s							
STKA	Stephens Creek	101.27	120	P	Pdif	21 55 22.0	-0.3	
STKA	Stephens Creek	101.27	120	P	Pdif	21 55 21.4	-0.9	
	comp=Z,3.2nm,0.9s,baz=289,slow=6.3,SNR=7.2							
M44A	Midewin, Midew	101.38	334	IAMs_20	IAMs_20	22 48 52.4		
	comp=Z,8µm,18.0s							
R53A	Hurricane	101.43	328	IAMs_20	IAMs_20	22 42 59.3		
	comp=Z,9µm,21.0s							
L42A	Oliver, Polo	101.44	335	IAMs_20	IAMs_20	22 43 26.8		
	comp=Z,10µm,21.0s							
Q51A	Peebles	101.47	330	IAMs_20	IAMs_20	22 43 00.4		
	comp=Z,6µm,22.0s							
LAO	LASA Array	101.48	348	IAMs_20	IAMs_20	22 46 33.7		
	comp=Z,9µm,20.0s							
LAO	LASA Array	101.48	348	P	Pdif	21 55 22.5	-0.7	
	baz=14							
S54A	Dingess, Beckl	101.57	328	IAMs_20	IAMs_20	22 46 53.1		
	comp=Z,7µm,21.0s							
BLA	Blacksburg	101.63	327	IAMs_20	IAMs_20	22 43 23.5		
	comp=Z,6µm,20.0s							
P49A	Miami Univ. Ec	101.64	331	P	Pdif	21 55 23.5	-0.4	
	baz=33							
SFIN	Lafayette	101.88	333	IAMs_20	IAMs_20	22 43 31.9		
	comp=Z,8µm,21.0s							
L40A	Anamosa	101.93	337	IAMs_20	IAMs_20	22 49 14.8		
	comp=Z,9µm,18.0s							
CNNC	Cliffs of the	101.95	324	IAMs_20	IAMs_20	22 46 01.7		
	comp=Z,5µm,18.0s							
CNNC	Cliffs of the	101.95	324	P	Pdif	21 55 24.5	-0.9	
	baz=38							
P48A	Milroy	101.99	331	IAMs_20	IAMs_20	22 50 59.9		
	comp=Z,6µm,18.0s							
SUSD	Miller	102.07	343	IAMs_20	IAMs_20	22 44 24.9		
	comp=Z,10µm,22.0s							
SUSD	Miller	102.07	343	P	Pdif	21 55 24.6	-1.3	
	baz=21							
ECSD	EROS Data Cent	102.10	341	IAMs_20	IAMs_20	22 44 07.6		
	comp=Z,9µm,20.0s							
ECSD	EROS Data Cent	102.10	341	P	Pdif	21 55 25.0	-0.9	
	baz=23							
W59A	Clinton	102.29	324	IAMs_20	IAMs_20	22 45 46.6		
	comp=Z,5µm,18.0s							
U56A	King	102.31	326	IAMs_20	IAMs_20	22 51 29.8		
	comp=Z,5µm,20.0s							
LTY	Liberty	102.32	359	IAMs_20	IAMs_20	22 49 12.0		
	comp=Z,9µm,18.0s							
MSO	Missula	102.36	354	IAMs_20	IAMs_20	22 45 15.9		
	comp=Z,7µm,21.0s							
MSO	Missoula	102.36	354	P	Pdif	21 55 26.1	-1.1	
	baz=7.7							
D08A	Wollman Farm,	102.47	357	IAMs_20	IAMs_20	22 46 38.8		
	comp=Z,11µm,20.0s							
WISH	Wishkah	102.48	1	IAMs_20	IAMs_20	22 46 24.1		
	comp=Z,11µm,22.0s							
R50A	Paris	102.52	330	IAMs_20	IAMs_20	22 43 34.0		
	comp=Z,6µm,21.0s							
HDIL	Hopedale	102.57	335	IAMs_20	IAMs_20	22 44 01.6		
	comp=Z,10µm,21.0s							
HDIL	Hopedale	102.57	335	P	Pdif	21 55 27.1	-0.9	
	baz=29							
P46A	Rosedale	102.58	333	IAMs_20	IAMs_20	22 44 13.3		
	comp=Z,8µm,20.0s							
O44A	Mansfield	102.61	334	IAMs_20	IAMs_20	22 49 32.0		
	comp=Z,6µm,19.0s							
BLO	Bloomington	102.69	332	IAMs_20	IAMs_20	22 46 36.2		
	comp=Z,6µm,19.0s							
S51A	Beattyville	102.73	329	IAMs_20	IAMs_20	22 50 09.8		
	comp=Z,7µm,20.0s							
SCIA	State Center	102.73	338	IAMs_20	IAMs_20	22 50 06.9		
	comp=Z,7µm,20.0s							
SCIA	State Center	102.73	338	P	Pdif	21 55 27.9	-0.9	
	baz=26							
U54A	Nelsons Funny	102.84	327	IAMs_20	IAMs_20	22 44 48.0		
	comp=Z,8µm,18.0s							
R49A	Shelbyville	102.87	331	IAMs_20	IAMs_20	22 43 32.3		
	comp=Z,6µm,22.0s							
E07A	Sunnyside	103.00	358	IAMs_20	IAMs_20	22 46 36.9		
	comp=Z,9µm,21.0s							
E03A	Lebam	103.05	1	IAMs_20	IAMs_20	22 46 33.3		
	comp=Z,10µm,21.0s							
Y60A	Bolivia	103.09	323	IAMs_20	IAMs_20	22 44 34.8		
	comp=Z,5µm,20.0s							
V55A	Taylorsville	103.10	326	IAMs_20	IAMs_20	22 44 19.9		
	comp=Z,7µm,20.0s							
HAWA	Hanford	103.15	358	IAMs_20	IAMs_20	22 46 30.0		
	comp=Z,8µm,21.0s							
RADR	Rader Ridge	103.17	1	IAMs_20	IAMs_20	22 46 56.5		
	comp=Z,11µm,22.0s							
BOZ	Bozeman (W)	103.33	352	IAMs_20	IAMs_20	22 45 47.7		
	comp=Z,11µm,22.0s							
BOZ	Bozeman (W)	103.33	352	P	Pdif	21 55 30.1	-1.5	
	baz=9.8							
WCI	Wyandotte Cave	103.39	331	IAMs_20	IAMs_20	22 46 39.1		
	comp=Z,6µm,19.0s							
P43A	Skaggs, Pawnee	103.45	334	IAMs_20	IAMs_20	22 45 26.3		
	comp=Z,8µm,20.0s							
F04D	Rainier, OR	103.52	0	IAMs_20	IAMs_20	22 49 58.6		
	comp=Z,8µm,19.0s							
RSSD	Black Hills	103.54	346	P	Pdif	21 55 31.3	-1.4	
	baz=16							
TZTN	Tazewell	103.62	328	IAMs_20	IAMs_20	22 44 17.0		
	comp=Z,9µm,22.0s							
TZTN	Tazewell	103.62	328	P	Pdif	21 55 32.0	-0.9	
	baz=34							
L34A	Svendsen Farm,	103.66	340	IAMs_20	IAMs_20	22 47 55.2		
	comp=Z,6µm,20.0s							
F03A	Seaside	103.67	1	IAMs_20	IAMs_20	22 47 34.6		
	comp=Z,10µm,21.0s							
F04A	Amboy	103.67	360	IAMs_20	IAMs_20	22 51 56.6		
	comp=Z,9µm,19.0s							
OLIL	Olney	103.69	333	IAMs_20	IAMs_20	22 44 57.8		
	comp=Z,6µm,20.0s							
BIRD	Birdtown, Kers	103.71	325	IAMs_20	IAMs_20	22 47 44.1		
	comp=Z,5µm,18.0s							
KMSC	Kings Mountain	103.73	326	IAMs_20	IAMs_20	22 52 29.6		
	comp=Z,8µm,19.0s							
T50A	Nancy	103.79	330	IAMs_20	IAMs_20	22 52 14.8		
	comp=Z,5µm,19.0s							
Q44A	Meyer Farm, Va	103.90	333	IAMs_20	IAMs_20	22 50 23.3		
	comp=Z,7µm,18.0s							
V53A	Saluda	104.00	327	IAMs_20	IAMs_20	22 51 08.6		
	comp=Z,6µm,19.0s							
YMR	Madison River	104.17	351	IAMs_20	IAMs_20	22 46 15.0		
	comp=Z,11µm,21.0s							
USIN	University of	104.18	332	IAMs_20	IAMs_20	22 49 30.8		
	comp=Z,6µm,21.0s							
V52A	Sevierville	104.22	328	IAMs_20	IAMs_20	22 51 14.3		
	comp=Z,6µm,20.0s							
PAULI	Pauline	104.22	326	IAMs_20	IAMs_20	22 47 22.6		
	comp=Z,7µm,19.0s							
G08A	Pilot Rock	104.23	357	IAMs_20	IAMs_20	22 47 50.6		
	comp=Z,10µm,19.0s							
PLID	Pearl Lake	104.26	355	IAMs_20	IAMs_20	22 45 58.4		
	comp=Z,8µm,22.0s							
G06A	Carlson Farm,	104.34	358	IAMs_20	IAMs_20	22 51 34.4		
	comp=Z,9µm,20.0s							
G05A	Wamic	104.35	359	IAMs_20	IAMs_20	22 50 10.6		
	comp=Z,8µm,19.0s							
JSC	Jenkinsville	104.39	326	IAMs_20	IAMs_20	22 52 54.1		
	comp=Z,5µm,19.0s							
TKL	Tuckaleechee C	104.45	328	IAMs_20	IAMs_20	22 51 31.4		
	comp=Z,5µm,20.0s							
P40A	Paris	104.47	336	IAMs_20	IAMs_20	22 45 11.0		
	comp=Z,9µm,21.0s							
V51A	Loudon	104.59	329	IAMs_20	IAMs_20	22 44 58.1		
	comp=Z,10µm,22.0s							
SLM	Saint Louis	104.60	334	IAMs_20	IAMs_20	22 46 10.6		
	comp=Z,10µm,19.0s							
BG3	Lake Jocassee	104.61	327	IAMs_20	IAMs_20	22 45 34.8		
	comp=Z,7µm,20.0s							
U49A	Red Boiling Sp	104.63	330	IAMs_20	IAMs_20	22 44 38.9		
	comp=Z,6µm,21.0s							
BGNE	Belgrade	104.68	341	IAMs_20	IAMs_20	22 45 49.2		
	comp=Z,11µm,21.0s							
BGNE	Belgrade	104.68	341	P	Pdif	21 55 37.1	-0.5	
	baz=22							
T47A	Sharon Grove	104.79	331	IAMs_20	IAMs_20	22 47 31.9		
	comp=Z,6µm,20.0s							
HODGE	Hodges	104.92	326	IAMs_20	IAMs_20	22 47 52.9		
	comp=Z,6µm,19.0s							
H04A	Detroit Lake	104.92	360	IAMs_20	IAMs_20	22 50 40.6		
	comp=Z,8µm,18.0s							
CPCT	Cooper Cave	104.97	328	IAMs_20	IAMs_20	22 45 09.9		
	comp=Z,9µm,22.0s							
W52A	Murphy	104.99	328	IAMs_20	IAMs_20	22 47 16.7		
	comp=Z,6µm,18.0s							
SIUC	Southern Illin	105.01	333	IAMs_20	IAMs_20	22 52 36.7		
	comp=Z,7µm,18.0s							
COR	Corvallis	105.02	0	IAMs_20	IAMs_20	22 53 06.2		
	comp=Z,8µm,18.0s							
S44A	Carbondale	105.05	333	IAMs_20	IAMs_20	22 52 36.6		
	comp=Z,7µm,18.0s							
H04D	Lebanon	105.08	360	IAMs_20	IAMs_20	22 48 44.9		
	comp=Z,10µm,21.0s							
N33A	J Bar K, Exete	105.10	340	IAMs_20	IAMs_20	22 45 51.4		
	comp=Z,9µm,20.0s							
ELIB	Princess Elisa	105.11	190	dPKP	PKiKP	21 59 16.6	-36	
ELIB				dPKiKP	PP	21 59 55.1	-4.7	
ELIB				dSP	SP	22 09 13.1	+0.7	
CLTN	Cedars of Leba	105.22	330	IAMs_20	IAMs_20	22 46 51.6		
	comp=Z,5µm,19.0s							
FVM	French Village	105.24	334	IAMs_20	IAMs_20	22 50 58.8		
	comp=Z,8µm,20.0s							
I05D	Terrebonne, OR	105.25	359	IAMs_20	IAMs_20	22 50 12.5		
	comp=Z,7µm,19.0s							
T45A	Paducah	105.39	332	IAMs_20	IAMs_20	22 51 27.8		
	comp=Z,6µm,20.0s							
BUCK	Buck Mountain	105.40	0	IAMs_20	IAMs_20	22 53 18.5		
	comp=Z,8µm,19.0s							
K22A	Casper	105.44	348	P	PKiKP	21 59 54.4	-0.2	
	baz=14							
I07A	Izee	105.46	358	IAMs_20	IAMs_20	22 52 38.0		
	comp=Z,10µm,20.0s							
CCM	Cathedral Cave	105.48	335	IAMs_20	IAMs_20	22 46 47.0		
	comp=Z,8µm,19.0s							
CCM	Cathedral Cave	105.48	335	P	PKiKP	21 59 54.6	0.0	
	baz=28							
W50A	Signal Mountai	105.53	329	IAMs_20	IAMs_20	22 45 27.8		
	comp=Z,9µm,22.0s							
CGM3	Cape Girardeau	105.55	333	IAMs_20	IAMs_20	22 51 15.9		
	comp=Z,7µm,20.0s							
HLID	Hailey	105.64	354	IAMs_20	IAMs_20	22 52 21.0		
	comp=Z,7µm,18.0s							
HLID	Hailey	105.64	354	P	PKiKP	21 59 54.8	-0.2	
	baz=7.4							
R40A	Maddies Statio	105.65	336	IAMs_20	IAMs_20	22 45 57.3		
	comp=Z,10µm,21.0s							
SWET	Sewanee	105.79	329	IAMs_20	IAMs_20	22 45 26.6		
	comp=Z,8µm,22.0s							
I04A	Tendick Farm,	105.81	360	IAMs_20	IAMs_20	22 49 07.2		
	comp=Z,10µm,21.0s							
WVT	Waverly	105.82	331	IAMs_20	IAMs_20	22 48 02.3		
	comp=Z,7µm,19.0s							
WVT	Waverly	105.82	331	P	PKiKP	21 59 55.3	+0.1	
	baz=31							
BW06	Boulder Array	105.83	350	P	PKiKP	21 59 55.4	-0.1	
	baz=12							
PDAR	Pinedale Array	105.83	350	PP	PKiKP	21 59 52.7	-2.8	
	comp=Z,0.7nm,0.9s,baz=49,slow=14,SNR=3.9							
X51A	Calhoun	105.85	328	IAMs_20	IAMs_20	22 45 36.5		
	comp=Z,5µm,21.0s							
I03D	Drain, OR	105.90	0	IAMs_20	IAMs_20	22 47 43.7		
	comp=Z,9µm,22.0s							
MFID	Camas Ranch	105.91	355	IAMs_20	IAMs_20	22 50 10.1		
	comp=Z,7µm,18.0s							
HICK	Hickman	106.04	332	IAMs_20	IAMs_20	22 51 54.9		
	comp=Z,6µm,19.0s							
UTMT	University of	106.06	332	IAMs_20	IAMs_20	22 46 31.4		
	comp=Z,7µm,22.0s							
Y52A	Lilburn	106.07	327	IAMs_20	IAMs_20	22 46 38.3		
	comp=Z,9µm,19.0s							
OGNE	Ogallala	106.12	344	IAMs_20	IAMs_20	22 50 54.2		
	comp=Z,6µm,18.0s							
OGNE	Ogallala	106.12	344	P	PKiKP	21 59 55.9	0.0	
	baz=18							
PARMO	Parma	106.14	333

	comp=Z,8µm,19.0s							
TIGA	**Tifton**	**107.84**	**325**	IAMs_20	IAMs_20	22 53 49.4		
	comp=Z,5µm,21.0s							
TIGA	**Tifton**	**107.84**	**325**	P	**PKiKP**	**21 59 59.0**	**-0.2**	
	baz=35							
OXF	**Oxford**	**107.87**	**332**	IAMs_20	IAMs_20	22 54 24.2		
	comp=Z,6µm,18.0s							
OXF	**Oxford**	**107.87**	**332**	P	**PKiKP**	**21 59 59.3**	**+0.1**	
	baz=30							
YBH	**Yreka Blue Hor**	**107.87**	**360**	IAMs_20	IAMs_20	22 49 41.7		
	comp=Z,8µm,21.0s							
RDMU	**Red Mountain**	**107.98**	**349**	IAMs_20	IAMs_20	22 50 22.1		
	comp=Z,9µm,20.0s							
ISCO	**Idaho Springs**	**108.02**	**346**	P	**PKiKP**	**21 59 58.8**	**-0.9**	
	baz=15							
HHAR	**Hobbs**	**108.03**	**336**	IAMs_20	IAMs_20	22 47 41.5		
	comp=Z,9µm,20.0s							
U38A	**Gravette**	**108.05**	**336**	IAMs_20	IAMs_20	22 47 42.8		
	comp=Z,9µm,20.0s							
KRMB	**Red Mountain**	**108.07**	**1**	IAMs_20	IAMs_20	22 51 32.0		
	comp=Z,8µm,20.0s							
KSCO	**Kaye Shedlock'**	**108.10**	**344**	IAMs_20	IAMs_20	22 50 52.5		
	comp=Z,6µm,20.0s							
KSCO	**Kaye Shedlock'**	**108.10**	**344**	P	**PKiKP**	**22 00 00.1**	**+0.5**	
	baz=18							
LRAL	**Lakeview Retre**	**108.10**	**329**	IAMs_20	IAMs_20	22 46 47.5		
	comp=Z,8µm,21.0s							
LRAL	**Lakeview Retre**	**108.10**	**329**	P	**PKiKP**	**21 59 59.5**	**-0.1**	
	baz=32							
BGU	**Big Grassy Mou**	**108.11**	**352**	IAMs_20	IAMs_20	22 49 24.4		
	comp=Z,7µm,20.0s							
O20A	**White River Ci**	**108.19**	**348**	P	**PKiKP**	**21 59 59.7**	**-0.2**	
	baz=13							
WHAR	**Wooly Hollow**	**108.32**	**334**	IAMs_20	IAMs_20	22 52 26.1		
	comp=Z,7µm,18.0s							
T35A	**Sooner Cattle**	**108.33**	**338**	IAMs_20	IAMs_20	22 48 21.0		
	comp=Z,9µm,19.0s							
Z47A	**Carrollton**	**108.43**	**330**	IAMs_20	IAMs_20	22 47 42.6		
	comp=Z,8µm,21.0s							
KRPM	**Rodgers**	**108.43**	**1**	IAMs_20	IAMs_20	22 47 52.7		
	comp=Z,7µm,22.0s							
352A	**Blakely**	**108.45**	**326**	IAMs_20	IAMs_20	22 47 32.4		
	comp=Z,5µm,20.0s							
Y45A	**Yeager Farm, C**	**108.48**	**331**	IAMs_20	IAMs_20	22 55 00.7		
	comp=Z,7µm,19.0s							
ELK	**Elko**	**108.52**	**354**	IAMs_20	IAMs_20	22 51 55.0		
	comp=Z,6µm,20.0s							
ELK	**Elko**	**108.52**	**354**	PP	**PP**	**22 00 17.5**	**-6.6**	
	comp=Z,0.8nm,0.5s,baz=26,slow=7.9,SNR=3.9							
250A	**Grady**	**108.66**	**328**	IAMs_20	IAMs_20	22 48 18.9		
	comp=Z,7µm,19.0s							
KHMM	**Horse Mountain**	**108.72**	**1**	IAMs_20	IAMs_20	22 49 00.2		
	comp=Z,8µm,22.0s							
Q24A	**Divide**	**108.72**	**346**	P	**PKiKP**	**22 00 00.9**	**-0.2**	
	baz=16							
DUG	**Dugway, Tooele**	**108.80**	**352**	IAMs_20	IAMs_20	22 49 14.7		
	comp=Z,9µm,21.0s							
DUG	**Dugway, Tooele**	**108.80**	**352**	P	**PKiKP**	**22 00 01.1**	**+0.2**	
	baz=8.9							
OK051	**E0350 and S346**	**108.81**	**338**	IAMs_20	IAMs_20	22 48 46.7		
	comp=Z,9µm,19.0s							
NLU	**North Lily Min**	**108.95**	**351**	IAMs_20	IAMs_20	22 50 56.6		
	comp=Z,10µm,20.0s							
OK032	**Salt Plains WL**	**108.96**	**339**	IAMs_20	IAMs_20	22 50 16.7		
	comp=Z,9µm,20.0s							
BMN	**Battle Mountai**	**108.98**	**356**	IAMs_20	IAMs_20	22 53 30.3		
	comp=Z,8µm,19.0s							
TUL3	**Leonard**	**109.01**	**337**	IAMs_20	IAMs_20	22 48 11.8		
	comp=Z,6µm,20.0s							
CROK	**Carrier**	**109.17**	**339**	IAMs_20	IAMs_20	22 48 04.2		
	comp=Z,10µm,22.0s							
KMPM	**Mount Pierce**	**109.17**	**1**	IAMs_20	IAMs_20	22 52 15.2		
	comp=Z,10µm,20.0s							
OK035	**E0210 Rd and N**	**109.20**	**340**	IAMs_20	IAMs_20	22 50 54.0		
	comp=Z,7µm,21.0s							
TROLL	**Troll, Antarti**	**109.22**	**196**	⇑PKiKP	**PKiKP**	**22 00 00.7**	**+0.1**	
	comp=Z,134nm,0.7s							
X40A	**Basin Creek Fa**	**109.23**	**334**	IAMs_20	IAMs_20	22 47 59.4		
	comp=Z,7µm,21.0s							
OK033	**Mehan**	**109.26**	**338**	IAMs_20	IAMs_20	22 49 00.7		
	comp=Z,9µm,19.0s							
OK052	**Battle Ridge R**	**109.27**	**338**	IAMs_20	IAMs_20	22 48 51.8		
	comp=Z,9µm,20.0s							
553A	**Crawfordville**	**109.28**	**325**	IAMs_20	IAMs_20	22 55 22.4		
	comp=Z,6µm,20.0s							
CCAR	**Cane Creek**	**109.33**	**333**	IAMs_20	IAMs_20	22 53 06.1		
	comp=Z,7µm,19.0s							
146A	**Union**	**109.34**	**330**	IAMs_20	IAMs_20	22 55 38.5		
	comp=Z,6µm,18.0s							
DWPF	**Disney Wildern**	**109.42**	**322**	P	**PKiKP**	**22 00 02.1**	**-0.1**	
	baz=37							
OK038	**West end E0370**	**109.42**	**340**	IAMs_20	IAMs_20	22 51 44.9		
	comp=Z,8µm,20.0s							
MIAR	**Mount Ida**	**109.46**	**335**	IAMs_20	IAMs_20	22 54 04.3		
	comp=Z,9µm,19.0s							
MIAR	**Mount Ida**	**109.46**	**335**	P	**PKiKP**	**22 00 01.6**	**-0.5**	
	baz=26							
451A	**Vernon**	**109.56**	**327**	IAMs_20	IAMs_20	22 48 25.7		
	comp=Z,5µm,20.0s							
U32A	**Winter Ranch,**	**109.59**	**340**	IAMs_20	IAMs_20	22 51 49.3		
	comp=Z,7µm,21.0s							
OK029	**Liberty Lake**	**109.65**	**338**	IAMs_20	IAMs_20	22 48 29.1		
	comp=Z,10µm,21.0s							
BRAL	**Brewton**	**109.70**	**328**	IAMs_20	IAMs_20	22 48 53.1		
	comp=Z,7µm,20.0s							
BRAL	**Brewton**	**109.70**	**328**	P	**PKiKP**	**22 00 03.1**	**+0.5**	
	baz=32							
PAHR	**Pah Rah Range**	**109.82**	**357**	IAMs_20	IAMs_20	22 51 27.4		
	comp=Z,9µm,20.0s							
SDCO	**Great Sand Dun**	**109.97**	**346**	P	**PKiKP**	**22 00 03.5**	**+0.2**	
	baz=16							
ORV	**Oroville**	**110.03**	**359**	IAMs_20	IAMs_20	22 50 02.1		
	comp=Z,10µm,22.0s							
SPR3	**Spring Creek 3**	**110.16**	**353**	IAMs_20	IAMs_20	22 53 43.5		
	comp=Z,9µm,19.0s							
Q12A	**Willow Creek R**	**110.17**	**353**	IAMs_20	IAMs_20	22 55 23.7		
	comp=Z,9µm,19.0s							
S22A	**4UR Ranch, Cre**	**110.24**	**347**	P	**PKiKP**	**22 00 04.1**	**+0.1**	
	baz=14							
143A	**Socs Landing,**	**110.25**	**332**	IAMs_20	IAMs_20	22 54 31.6		
	comp=Z,7µm,19.0s							
MPK	**Martis Peak**	**110.26**	**358**	IAMs_20	IAMs_20	22 54 10.0		
	comp=Z,9µm,19.0s							
SNAA	**Sanae**	**110.30**	**197**	IAMs_20	IAMs_20	22 47 13.6		
	comp=Z,5µm,20.0s							
SNAA	**Sanae**	**110.30**	**197**	⇑PKiKP	**PKiKP**	**22 00 02.1**	**-0.4**	
	comp=Z,68nm,0.9s							
SNAA	**Sanae**	**110.30**	**197**	PKiKP	**PKiKP**	**22 00 01.1**	**-1.4**	
	comp=Z,4.5nm,1.1s,baz=216,slow=0.4,SNR=7.0							
VBMS	**Vicksburg**	**110.31**	**331**	IAMs_20	IAMs_20	22 54 33.3		
	comp=Z,7µm,18.0s							
TCRU	**Three Creeks R**	**110.32**	**351**	IAMs_20	IAMs_20	22 52 32.9		
	comp=Z,9µm,20.0s							
KVN	**Kaiserville**	**110.41**	**356**	IAMs_20	IAMs_20	22 55 21.2		
	comp=Z,8µm,20.0s							
PNTR	**Pine Nut**	**110.45**	**357**	IAMs_20	IAMs_20	22 51 00.0		
	comp=Z,8µm,21.0s							
YERR	**Yerington**	**110.53**	**357**	IAMs_20	IAMs_20	22 50 52.4		
	comp=Z,8µm,21.0s							
PSUT	**Pine Spring**	**110.56**	**353**	IAMs_20	IAMs_20	22 52 13.3		
	comp=Z,6µm,18.0s							
Q09A	**Carvers**	**110.57**	**355**	IAMs_20	IAMs_20	22 52 50.3		
	comp=Z,7µm,19.0s							
346A	**Big Creek Wild**	**110.59**	**330**	IAMs_20	IAMs_20	22 56 29.6		
	comp=Z,6µm,18.0s							
RYN	**Ryan**	**110.86**	**356**	IAMs_20	IAMs_20	22 51 27.9		
	comp=Z,8µm,22.0s							
R11B	**Troy Canyon, C**	**110.92**	**354**	IAMs_20	IAMs_20	22 55 40.7		
	comp=Z,5µm,18.0s							
NV11	**Mina Array Sit**	**111.03**	**356**	IAMs_20	IAMs_20	22 51 22.5		
	comp=Z,9µm,22.0s							
NVAR	**Mina Array Bea**	**111.04**	**356**	PKKPbc	PKKPbc	22 11 01.3	-1.1	
	comp=Z,0.4nm,0.6s,baz=225,slow=5.7,SNR=2.8							
WMOK	**Wichita Mounta**	**111.05**	**339**	IAMs_20	IAMs_20	22 49 22.6		
	comp=Z,9µm,22.0s							
WMOK	**Wichita Mounta**	**111.05**	**339**	P	**PKiKP**	**22 00 04.7**	**-0.4**	
	baz=22							
VNA2	**Neumayer--Watz**	**111.06**	**199**	⇑PKiKP	**PKiKP**	**22 00 03.5**	**-0.3**	
	comp=Z,6.5nm,0.7s,baz=4.0,slow=2.0							
MVCO	**Mesa Verde**	**111.08**	**348**	IAMs_20	IAMs_20	22 50 38.4		
	comp=Z,9µm,22.0s							
MVCO	**Mesa Verde**	**111.08**	**348**	P	**PKiKP**	**22 00 05.9**	**+0.5**	
	baz=13							
Z38A	**Mt. Pleasant**	**111.12**	**335**	IAMs_20	IAMs_20	22 50 24.3		
	comp=Z,8µm,18.0s							
VNA1	**Neumayer--Stat**	**111.15**	**199**	⇑PKiKP	**PKiKP**	**22 00 04.0**	**0.0**	
	comp=Z,7.9nm,0.8s							
LHV	**Little Huntoon**	**111.23**	**356**	IAMs_20	IAMs_20	22 51 39.8		
	comp=Z,7µm,21.0s							
SZCU	**Shurtz Canyon**	**111.40**	**352**	IAMs_20	IAMs_20	22 52 17.5		
	comp=Z,6µm,20.0s							
MCCM	**Marconi Confer**	**111.45**	**0**	IAMs_20	IAMs_20	22 54 09.6		
	comp=Z,5µm,19.0s							
CMB	**Columbia Colle**	**111.53**	**358**	IAMs_20	IAMs_20	22 51 47.6		
	comp=Z,9µm,21.0s							
S11A	**Rachel**	**111.64**	**354**	IAMs_20	IAMs_20	22 52 18.6		
	comp=Z,6µm,19.0s							
AMTX	**Amarillo**	**111.75**	**341**	P	**PKiKP**	**22 00 06.6**	**0.0**	
	baz=19							
PRN	**Pahroc Range**	**111.81**	**353**	IAMs_20	IAMs_20	22 54 44.1		
	comp=Z,8µm,19.0s							
Z35A	**Perchaven, San**	**111.85**	**337**	IAMs_20	IAMs_20	22 53 45.3		
	comp=Z,7µm,19.0s							
VNA3	**Neumayer Olymp**	**111.86**	**199**	⇑PKiKP	**PKiKP**	**22 00 06.0**	**+0.6**	
	comp=Z,9.6nm,0.8s							
MDPB	**Devils Postpil**	**111.88**	**357**	IAMs_20	IAMs_20	22 52 23.9		
	comp=Z,8µm,21.0s							
OMMB	**Old Mammoth Mi**	**111.89**	**357**	IAMs_20	IAMs_20	22 52 14.3		
	comp=Z,9µm,20.0s							
LCMT	**Little Creek M**	**112.00**	**352**	IAMs_20	IAMs_20	22 53 09.2		
	comp=Z,6µm,21.0s							
FW06	**Azle**	**112.28**	**337**	IAMs_20	IAMs_20	22 55 35.7		
	comp=Z,6µm,19.0s							
NATX	**Nacogdoches**	**112.35**	**334**	IAMs_20	IAMs_20	22 56 42.0		
	comp=Z,7µm,19.0s							
NATX	**Nacogdoches**	**112.35**	**334**	P	**PKiKP**	**22 00 07.8**	**+0.2**	
	baz=26							
TPNV	**Topopah Spring**	**112.37**	**354**	IAMs_20	IAMs_20	22 53 08.0		
	comp=Z,8µm,18.0s							
TPNV	**Topopah Spring**	**112.37**	**354**	P	**PKiKP**	**22 00 07.2**	**-0.6**	
	baz=6.0							
FW03	**Perrin-Whitt E**	**112.38**	**338**	IAMs_20	IAMs_20	22 53 56.4		
	comp=Z,6µm,19.0s							
GRAC	**Grapevine Rang**	**112.41**	**355**	IAMs_20	IAMs_20	22 50 20.0		
	comp=Z,7µm,22.0s							
GRAC	**Grapevine Rang**	**112.41**	**355**	P	**PKiKP**	**22 00 08.1**	**+0.4**	
	baz=5.0							
237A	**Washetta, Mont**	**112.56**	**335**	IAMs_20	IAMs_20	22 50 15.2		
	comp=Z,8µm,21.0s							
FW07	**Weatherford**	**112.60**	**337**	IAMs_20	IAMs_20	22 53 05.2		
	comp=Z,8µm,22.0s							
SHPR	**Sheep Range**	**112.71**	**353**	IAMs_20	IAMs_20	22 55 30.0		
	comp=Z,4µm,19.0s							
SAO	**San Andreas Ge**	**112.82**	**359**	IAMs_20	IAMs_20	22 52 07.8		
	comp=Z,10µm,22.0s							
ANMO	**Albuquerque**	**112.86**	**346**	IAMs_20	IAMs_20	22 54 27.6		
	comp=Z,8µm,19.0s							
ANMO	**Albuquerque**	**112.86**	**346**	P	**PKiKP**	**22 00 08.6**	**-0.2**	
	baz=15							
WHTX	**Lake Whitney,**	**113.14**	**337**	IAMs_20	IAMs_20	22 51 03.6		
	comp=Z,8µm,22.0s							
WHTX	**Lake Whitney,**	**113.14**	**337**	P	**PKiKP**	**22 00 09.3**	**+0.1**	
	baz=23							
GWY	**Greenwater Val**	**113.16**	**355**	IAMs_20	IAMs_20	22 54 43.0		
	comp=Z,7µm,19.0s							
WUAZ	**Wupatki**	**113.21**	**350**	IAMs_20	IAMs_20	22 52 39.5		
	comp=Z,9µm,20.0s							
WUAZ	**Wupatki**	**113.21**	**350**	P	**PKiKP**	**22 00 09.0**	**-0.4**	
	baz=11							
ABTX	**Abilene, Hawle**	**113.27**	**339**	P	**PKiKP**	**22 00 08.8**	**-0.6**	
	baz=21							
W18A	**Petrified Fore**	**113.33**	**348**	IAMs_20	IAMs_20	22 53 53.8		
	comp=Z,7µm,19.0s							
W18A	**Petrified Fore**	**113.33**	**348**	P	**PKiKP**	**22 00 10.1**	**+0.4**	
	baz=12							
MPMC	**Manual Prospec**	**113.35**	**355**	P	**PKiKP**	**22 00 09.7**	**0.0**	
	baz=4.9							
CAMR	**Camarioca**	**113.37**	**318**	IAMs_20	IAMs_20	22 53 01.7		
	comp=Z,4µm,20.0s							
QSM	**Queen of Sheba**	**113.40**	**355**	IAMs_20	IAMs_20	22 55 10.2		
	comp=Z,7µm,19.0s							
V12A	**Nelson**	**113.45**	**353**	IAMs_20	IAMs_20	22 54 19.6		
	comp=Z,6µm,20.0s							
Y22F	**Passcal Instru**	**113.80**	**346**	P	**PKiKP**	**22 00 10.2**	**-0.4**	
	baz=15							
Y22D	**IRIS PASSCAL I**	**113.81**	**346**	P	**PKiKP**	**22 00 10.4**	**-0.2**	
	baz=15							
ISA	**Isabella, Lake**	**113.81**	**356**	IAMs_20	IAMs_20	22 55 56.0		
	comp=Z,7µm,19.0s							
ISA	**Isabella, Lake**	**113.81**	**356**	P	**PKiKP**	**22 00 10.9**	**+0.5**	
	baz=4.0							
TUQ	**Turquoise Moun**	**113.84**	**354**	P	**PKiKP**	**22 00 10.7**	**+0.1**	
	baz=6.3							
LRMC	**Laurel Mtn Rad**	**113.94**	**355**	P	**PKiKP**	**22 00 09.7**	**-1.1**	
	baz=4.7							
X18A	**Snowflake**	**113.95**	**348**	IAMs_20	IAMs_20	22 54 13.0		
	comp=Z,8µm,19.0s							
GSC	**Goldstone, Bar**	**114.05**	**355**	IAMs_20	IAMs_20	22 55 21.5		
	comp=Z,8µm,19.0s							
CCAC	**Calif City Air**	**114.29**	**356**	IAMs_20	IAMs_20	22 54 40.7		
	comp=Z,7µm,21.0s							
435B	**Jarrell**	**114.29**	**336**	P	**PKiKP**	**22 00 10.5**	**-0.9**	
	baz=24							
X16A	**Lo Mia Camp, P**	**114.30**	**350**	IAMs_20	IAMs_20	22 52 51.3		
	comp=Z,8µm,21.0s							
BAUV	**El Baul**	**114.38**	**298**	IAMs_20	IAMs_20	22 54 43.2		
	comp=Z,5µm,20.0s							
HKT	**Hockley**	**114.42**	**334**	IAMs_20	IAMs_20	22 51 01.3		
	comp=Z,7µm,22.0s							
GMRC	**Granite Mounta**	**114.46**	**354**	P	**PKiKP**	**22 00 11.5**	**-0.3**	
	baz=6.6							
HEC	**Hector,Ludlow**	**114.48**	**354**	P	**PKiKP**	**22 00 11.3**	**-0.5**	
	baz=6.0							
EDW2	**Edwards Air Fo**	**114.56**	**356**	P	**PKiKP**	**22 00 11.7**	**-0.2**	
	baz=4.4							
BCW	**Bitter Crk WRg**	**114.57**	**357**	IAMs_20	IAMs_20	22 54 53.3		
	comp=Z,8µm,21.0s							
PKM	**Mcpherson Peak**	**114.64**	**357**	P	**PKiKP**	**22 00 11.8**	**-0.5**	
	baz=2.7							
PDMCI	**Parker Dam,Lak**	**114.78**	**352**	P	PKPdf	22 00 12.4	+0.1	
	baz=8.1							
CBCY	**The Bluff, Cay**	**114.97**	**315**	IAMs_20	IAMs_20	22 48 47.7		
	comp=Z,4µm,21.0s							
IRM	**Iron Mountain**	**115.03**	**353**	P	**PKPdf**	**22 00 13.2**	**+0.4**	
	baz=7.2							
PMD	**Palm Desert**	**115.66**	**354**	IAMs_20	IAMs_20	22 56 05.0		
	comp=Z,7µm,19.0s							
PFO	**Pinyon Flats O**	**115.70**	**354**	IAMs_20	IAMs_20	22 58 20.2		
	comp=Z,7µm,18.0s							
MNTX	**Cornudas Mount**	**115.73**	**344**	P	**PKiKP**	**22 00 14.0**	**-0.2**	
	baz=16							
EPT	**El Paso**	**115.93**	**345**	IAMs_20	IAMs_20	22 56 24.7		
	comp=Z,6µm,20.0s							
CIS	**Catalina Islan**	**116.05**	**356**	P	**PKPdf**	**22 00 15.0**	**+0.2**	
	baz=4.1							
735A	**Kenedy**	**116.12**	**336**	IAMs_20	IAMs_20	22 58 55.7		
	comp=Z,8µm,20.0s							
TUC	**Tucson**	**116.26**	**349**	IAMs_20	IAMs_20	22 55 29.2		
	comp=Z,8µm,20.0s							
TUC	**Tucson**	**116.26**	**349**	P	**PKPdf**	**22 00 15.6**	**+0.4**	
	baz=11							
SNCC	**San Nicolas Is**	**116.27**	**357**	IAMs_20	IAMs_20	22 56 45.0		
	comp=Z,7µm,20.0s							
SWSC	**Sam W. Stewart**	**116.30**	**353**	P	**PKiKP**	**22 00 14.9**	**-0.3**	
	baz=6.6							
MONP2	**Monument Peak**	**116.41**	**354**	P	**PKiKP**	**22 00 15.5**	**-0.3**	
	baz=6.0							
109C	**Camp Elliot, M**	**116.47**	**355**	IAMs_20	IAMs_20	22 58 37.6		
	comp=Z,7µm,18.0s							
UABX	**UABC, Campus M**	**116.57**	**353**	IAMs_20	IAMs_20	22 55 03.3		
	comp=Z,6µm,21.0s							
YUH	**Yuha Desert**	**116.61**	**354**	IAMs_20	IAMs_20	22 59 11.2		
	comp=Z,6µm,19.0s							
IKP	**In-Ko-Pah, Jac**	**116.62**	**354**	P	**PKPdf**	**22 00 15.9**	**-0.1**	
	baz=6.3							
BAR	**Barrett**	**116.64**	**354**	IAMs_20	IAMs_20	22 55 26.1		
	comp=Z,6µm,20.0s							
RMX	**La Rumorosa**	**116.67**	**354**	IAMs_20	IAMs_20	22 59 32.9		
	comp=Z,6µm,19.0s							
TKX	**Tecate**	**116.75**	**354**	IAMs_20	IAMs_20	22 34 19.9		
	comp=Z,6µm,21.0s							
TJX	**Tijuana**	**116.84**	**355**	IAMs_20	IAMs_20	23 00 34.4		
	comp=Z,5µm,18.0s							
214A	**Organ Pipe Nat**	**116.92**	**351**	IAMs_20	IAMs_20	22 55 03.6		
	comp=Z,9µm,22.0s							
214A	**Organ Pipe Nat**	**116.92**	**351**	P	**PKiKP**	**22 00 16.6**	**+0.1**	
	baz=9.5							
DZM	**Mont Dzumac**	**116.92**	**101**	IAMs_20	IAMs_20	22 57 20.6		
	comp=Z,4µm,20.0s							
DZM	**Mont Dzumac**	**116.92**	**101**	*e*PP	PP	22 01 16.8	-9.1	
	comp=Z,116nm,25.1s							
DZM	**Mont Dzumac**	**116.92**	**101**	*e*LR	LR	22 35 38.9		
	comp=Z,5µm,24.3s							
833A	**Chaparral WMA,**	**117.16**	**337**	IAMs_20	IAMs_20	22 57 01.0		
	comp=Z,7µm,20.0s							
833A	**Chaparral WMA,**	**117.16**	**337**	P	**PKPdf**	**22 00 16.7**	**-0.3**	
	baz=22							
ESJX	**Sierra Juarez**	**117.25**	**353**	IAMs_20	IAMs_20	22 55 05.1		
	comp=Z,5µm,21.0s							
KVTX	**Kingsville**	**117.35**	**335**	IAMs_20	IAMs_20	22 55 44.1		
	comp=Z,8µm,19.0s							
PIX	**Pinacate**	**117.40**	**351**	IAMs_20	IAMs_20	22 56 14.2		
	comp=Z,6µm,20.0s							
CCX	**Cicese**	**117.45**	**354**	IAMs_20	IAMs_20	22 54 32.4		
	comp=Z,5µm,22.0s							
TXAR	**Lajitas Array**	**117.53**	**341**		**PKPdf**	**22 00 16.0**	**-1.9**	
TXAR	**Lajitas Array**	**117.53**	**341**	PKP	**PKPdf**	**22 00 17.6**	**-0.2**	
	comp=Z,1.0nm,0.9s,baz=192,slow=1.1,SNR=5.9							
TXAR				PP	**PP**	**22 01 27.7**	**-0.7**	
	comp=Z,1.3nm,0.9s,baz=16,slow=6.7,SNR=2.9							
TXAR				PKKPbc	**PKKPbc**	**22 10 38.6**	**-1.3**	
	comp=Z,0.8nm,1.0s,baz=195,slow=6.5,SNR=3.5							
SFX	**San Felipe**	**118.08**	**352**	IAMs_20	IAMs_20	22 56 40.4		
	comp=Z,6µm,19.0s							
TEIG	**Tepich**	**119.44**	**322**	IAMs_20	IAMs_20	22 56 15.0		
	comp=Z,4µm,21.0s							
HSIG		**119.50**	**348**	IAMs_20	IAMs_20	22 55 44.0		
	comp=Z,6µm,20.0s							
PTLB	**Pontes e Lacer**	**120.24**	**269**	PKPdf	**PKPdf**	**22 00 20.9**	**-2.1**	
PTLB	**Pontes e Lacer**	**120.24**	**269**	*e*P	**PKiKP**	**22 00 23.8**	**+0.6**	
ANTJ	**Antonio Joao (**	**120.32**	**261**	*e*P	**PKiKP**	**22 00 23.8**	**+0.5**	
BDQN	**Bodoquena, MS**	**120.33**	**263**	*e*P	**PKPdf**	**22 00 22.9**	**-0.2**	
ALGR	**Alto Alegre (B**	**120.38**	**253**	*e*P	**PKPdf**	**22 00 22.9**	**-0.2**	
QSPA	**South Pole Qui**	**120.59**	**180**		**PKPdf**	**22 00 21.0**	**-1.3**	
HUH	**Hualalai**	**120.61**	**37**	IAMs_20	IAMs_20	22 53 22.2		
	comp=Z,6µm,19.0s							
SAML	**Samuel**	**120.62**	**278**		**PKPdf**	**22 00 22.5**	**-1.4**	
SAML	**Samuel**	**120.62**	**278**	IAMs_20	IAMs_20	22 56 19.6		
	comp=Z,6µm,20.0s							
SAML	**Samuel**	**120.62**	**278**	PKiKP	**PKPdf**	**22 00 22.5**	**-1.4**	
SAML				MLR	MLR			
	comp=Z,6µm,20.0s							
SAML	**Samuel**	**120.62**	**278**	*e*P	**PKiKP**	**22 00 24.0**	**0.0**	
MLH	**Mauna Loa**	**121.00**	**36**	IAMs_20	IAMs_20	22 54 06.5		
	comp=Z,7µm,21.0s							
UWE	**Uwekahuna**	**121.11**	**36**	IAMs_20	IAMs_20	22 54 08.4		
	comp=Z,7µm,21.0s							
UWB	**Uwekahuna B**	**121.12**	**36**	IAMs_20	IAMs_20	22 50 40.5		
	comp=Z,4µm,18.0s							
WRMHI	**West Rim**	**121.12**	**36**	IAMs_20	IAMs_20	22 54 18.6		
	comp=Z,5µm,20.0s							
NPH	**North Pit**	**121.13**	**36**	IAMs_20	IAMs_20	22 54 26.7		
	comp=Z,6µm,20.0s							
SRIG	**Santa Rosalia**	**121.38**	**349**	IAMs_20	IAMs_20	22 57 20.8		
	comp=Z,5µm,19.0s							
ROSC	**El Rosal**	**121.77**	**299**	IAMs_20	IAMs_20	22 59 30.9		
	comp=Z,5µm,20.0s							
ROSC	**El Rosal**	**121.77**	**299**	PKP	**PKiKP**	**22 00 26.9**	**+0.1**	
	comp=Z,9.8nm,0.4s,baz=61,slow=19,SNR=4.9							
PLTB	**Pedras Altas**	**121.84**	**250**	IAMs_20	IAMs_20	22 54 50.6		
	comp=Z,5µm,20.0s							
BBRB	**Robore, Bolivi**	**122.05**	**267**	*e*P	**PKPdf**	**22 00 26.3**	**-0.3**	
BBSD	**Serra de San D**	**122.27**	**268**	*e*P	**PKPdf**	**22 00 26.5**	**-0.5**	
VNDA	**Vanda**	**122.95**	**165**		**PKPdf**	**22 00 25.6**	**-1.0**	
VNDA				IAMs_20	IAMs_20	22 48 01.5		
	comp=Z,4µm,20.0s							
VNDA	**Vanda**	**122.95**	**165**	PKP	**PKPdf**	**22 00 26.2**	**-0.3**	
	comp=Z,6.3nm,1.1s,baz=289,slow=5.3,SNR=8.0							
PETF	**Flores**	**123.01**	**322**	IAMs_20	IAMs_20	23 01 01.8		
	comp=Z,4µm,21.0s							
CPUP	**Villa Florida**	**123.08**	**257**		**PKPdf**	**22 00 26.8**	**-1.4**	
CPUP				IAMs_20	IAMs_

	comp=Z,4µm,20.0s						
MG01	**Puerto William**	**134.40**	**222**	IAMs_20	IAMs_20	22 55 25.9	
	comp=Z,6µm,21.0s						
AC06	**Mina Casimiro**	**134.41**	**261**	IAMs_20	IAMs_20	23 04 53.3	
	comp=Z,6µm,19.0s						
AC05	**El Transito**	**134.76**	**259**	IAMs_20	IAMs_20	23 05 05.7	
	comp=Z,6µm,20.0s						
CO01	**Juntas del Tor**	**134.91**	**257**		**PKPdf**	**22 00 51.1**	**+0.1**
LCO	**Las Campanas**	**135.17**	**258**	PKPdf	**PKPdf**	**22 00 50.6**	**-0.9**
LCO	**Las Campanas**	**135.17**	**258**	PKIKP	**PKPdf**	**22 00 50.6**	**-0.9**
LCO				MLR	MLR		
	comp=Z,8µm,20.0s						
AC04	**Llanos de Chal**	**135.26**	**260**	IAMs_20	IAMs_20	23 08 38.9	
	comp=Z,5µm,19.0s						
GO04	**Tololo Observa**	**135.55**	**257**		**PKPdf**	**22 00 50.5**	**-1.7**
CO03	**El Pedregal**	**135.62**	**256**	IAMs_20	IAMs_20	23 00 51.5	
	comp=Z,7µm,22.0s						
MT05	**Renca**	**136.22**	**252**	IAMs_20	IAMs_20	23 01 53.3	
	comp=Z,7µm,22.0s						
MT09	**Talagante**	**136.50**	**252**	IAMs_20	IAMs_20	23 02 38.7	
	comp=Z,7µm,22.0s						
MT02	**Curacav**	**136.52**	**253**	IAMs_20	IAMs_20	23 04 18.3	
	comp=Z,6µm,20.0s						
MT01	**Popeta**	**136.73**	**252**	IAMs_20	IAMs_20	23 01 22.8	
	comp=Z,7µm,22.0s						
VA05	**Santo Domingo**	**136.99**	**252**	IAMs_20	IAMs_20	23 01 21.7	
	comp=Z,5µm,22.0s						
PLCA	**Paso Flores**	**137.03**	**242**	PKPdf	**PKPdf**	**22 00 53.7**	**-0.7**
PLCA				IAMs_20	IAMs_20	23 01 48.5	
	comp=Z,6µm,20.0s						
PLCA	**Paso Flores**	**137.03**	**242**	*e*P	**PKPdf**	**22 00 53.7**	**-0.7**
PLCA	**Paso Flores**	**137.03**	**242**	PKP	**PKPdf**	**22 00 54.1**	**-0.3**
	comp=Z,2.8nm,1.0s,baz=46,slow=3.6,SNR=3.0						
LL02	**Futaleuf**	**138.08**	**238**	PKPdf	**PKPdf**	**22 00 55.7**	**-0.4**
COYC	**Coyhaique**	**138.19**	**235**	IAMs_20	IAMs_20	23 00 04.0	
	comp=Z,5µm,20.0s						
LL01	**San Ignacio de**	**138.49**	**239**		**PKPdf**	**22 00 56.0**	**-0.8**
LL01				IAMs_20	IAMs_20	23 03 21.0	
	comp=Z,5µm,20.0s						
AY01	**Puyuhuapi**	**138.64**	**236**		**PKPdf**	**22 00 56.1**	**-1.0**
AY01				IAMs_20	IAMs_20	23 00 58.9	
	comp=Z,6µm,21.0s						
LL05	**Los Muermos**	**139.26**	**241**	IAMs_20	IAMs_20	23 02 37.7	
	comp=Z,5µm,20.0s						
LL07	**Hotel Espejo d**	**139.28**	**239**	IAMs_20	IAMs_20	23 01 28.8	
	comp=Z,5µm,21.0s						
LL06	**Loncomilla**	**139.39**	**240**	IAMs_20	IAMs_20	23 01 20.9	
	comp=Z,5µm,21.0s						
VA04	**Juan Fernndez**	**142.92**	**254**	IAMs_20	IAMs_20	23 05 42.9	
	comp=Z,6µm,20.0s						
RAR	**Rarotonga**	**145.53**	**83**	PKPbc	**PKPdf**	**22 01 09.3**	**-0.8**
	comp=Z,19nm,1.0s,baz=291,slow=8.6,SNR=3.4						
PMOR	**Pomariorio Ree**	**152.13**	**61**	*e*P	**PKiKP**	**22 01 28.0**	**+0.2**
	comp=Z,89nm,1.1s						
PPT	**Papeete**	**152.31**	**68**	PKPbc	**PKiKP**	**22 01 28.2**	**0.0**
	comp=Z,98nm,0.9s,baz=304,slow=5.2,SNR=10						
PPT2	**Papeete2**	**152.33**	**68**	*e*PKIKP	**PKPbc**	**22 01 27.2**	**-0.8**
	comp=Z,114nm,1.1s						
PPT2	**Papeete2**	**152.33**	**68**	*e*LR	LR	22 52 04.1	
PPT2				*e*LR	LR	22 52 14.6	
	comp=Z,7µm,24.8s						
PAE	**Paea**	**152.36**	**68**	*e*PKIKP	**PKiKP**	**22 01 28.5**	**+0.3**
	comp=Z,29nm,1.2s						
TIAR	**Tiarei**	**152.49**	**68**	*e*PKIKP	**PKiKP**	**22 01 28.7**	**+0.1**
	comp=Z,6.6nm,0.9s						
TVO	**Taravao**	**152.69**	**68**	*e*PKIKP	**PKPbc**	**22 01 28.1**	**-0.7**
	comp=Z,34nm,0.9s						
TAOE	**Nuku Hiva Isla**	**152.83**	**40**	*e*PP	PP	22 05 04.2	-7.9
	comp=Z,450nm,25.0s						
TAOE	**Nuku Hiva Isla**	**152.83**	**40**	*e*LR	LR	22 52 16.7	
	comp=Z,7µm,22.8s						
TBI	**Tubuai**	**155.14**	**79**	*e*LR	LR	22 53 18.6	
TBI				*e*LR	LR	22 53 20.5	
	comp=Z,31µm,24.8s						
	comp=Z,9µm,25.2s						

ATH 12 21:44:15.9, 39°54N×23°28E, h8km±3km, ML1.7/4, Error ellipse: s-maj=3.9km s-min=1.1km az=168.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XOR	**Xorichti**	**0.18**	**201**	P	Pg	21 44 19.6	-0.1
XOR				S	Sg	21 44 22.4	+0.1
XOR				AML	AML	21 44 24.1	
	comp=E,462µm,0.2s						
XOR				AML	AML	21 44 24.7	
	comp=N,1156µm,0.3s						
NEO	**Neokhori**	**0.23**	**190**	P	Pg	21 44 20.6	0.0
NEO				S	Sg	21 44 24.1	+0.3
NEO				AML	AML	21 44 25.7	
	comp=N,625µm,0.3s						
NEO				AML	AML	21 44 25.9	
	comp=E,590µm,0.2s						
TYRN	**Tyrnavos**	**0.82**	**282**	P	Pg	21 44 31.0	-0.7
TYRN				S	Sg	21 44 42.6	+0.2
AGG	**Agios Georgios**	**0.90**	**235**	P	Pg	21 44 32.6	-0.5
AXAR	**Agios Charalam**	**0.91**	**212**	P	Pg	21 44 32.8	-0.5
OUR	**Ouranopolis**	**0.96**	**34**	P	Pg	21 44 33.8	-0.6
OUR				S	Sb	21 44 47.5	-0.1
OUR				AML	AML	21 44 50.2	
	comp=E,56µm,0.3s						
OUR				AML	AML	21 44 50.6	
	comp=N,55µm,0.3s						
THL	**Klokotos Trika**	**0.98**	**272**	P	Pg	21 44 34.0	-0.6
THL				S	Sg	21 44 47.6	+0.3
MAKR	**Makrakomi, Fth**	**1.03**	**240**	P	Pg	21 44 35.4	-0.3
MAKR				S	Sb	21 44 49.9	+0.2
MAKR				AML	AML	21 44 53.3	
	comp=N,148µm,0.4s						
MAKR				AML	AML	21 44 54.0	
	comp=E,120µm,0.3s						
VIL2	**Platees**	**1.32**	**180**	P	Pn	21 44 39.9	-0.8

IDC 12 21:45:47.1±53.0, 22°72S×178°07W, h0km, mb4.4/3, mbtmp4.4/3, Error ellipse: s-maj=962.7km s-min=153.5km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.81**	**247**	P	P	21 52 57.1	+0.2
	1.8nm,0.4s,baz=83,slow=7.8,SNR=5.7 1.8nm,0.4s						
ASAR	**Alice Springs**	**43.99**	**259**	P	P	21 53 56.5	-0.2
	3.9nm,0.7s,baz=97,slow=7.9,SNR=39 3.9nm,0.7s						
WRA	**Warramunga Arr**	**44.27**	**264**	P	P	21 53 58.6	-0.3
	5.2nm,0.6s,baz=102,slow=8.3,SNR=79 5.2nm,0.6s						

IDC 12 21:46:39.1±1.3, 30°75N×57°29E, h0km, mb4.3/13, mbtmp4.4/15, ML4.4/2, Error ellipse: s-maj=27.8km s-min=18.9km az=160.0
TEH 12 21:46:40.6, 30°73N×57°20E, h8km±90km, ML4.7
NEIC 12 21:46:41.4±1.7, 30°80N±0°08×57°3E±0°1, h10km±1km, mb4.8/23, Error ellipse: s-maj=19.1km s-min=12.6km az=115.0

ISC 12 21:46:40.8±0.5, 30°76N±0°05×57°23E±0°04, h10km, n58, σ0s94/59, mb4.5/24, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.64**	**290**	Pg	**Pg**	**21 46 52.0**	**-1.2**
ZRDN				Sg	**Sb**	**21 47 02.0**	**-1.1**
KHGB	**Koh Gabri**	**0.75**	**240**	Pg	**Pg**	**21 46 54.9**	**-0.5**
TVBK	**TV Kerman**	**0.87**	**208**	Pg	**Pg**	**21 46 56.9**	**-0.7**
NGRK	**Negar Kerman**	**1.19**	**202**	Pg	**Pg**	**21 47 02.7**	**-1.0**
IBAF	**Bafgh**	**1.65**	**301**	Pg	**Pb**	**21 47 11.0**	**-0.4**
KBAM	**BAM**	**1.93**	**146**	Pn	**Pn**	**21 47 14.6**	**+0.8**
IKOO	**Kooshah**	**2.25**	**42**	Pn	**Pn**	**21 47 19.0**	**+0.7**
IMEH	**Mehriz**	**2.33**	**286**	Pn	**Pb**	**21 47 20.9**	**-2.3**
ITEG	**Tejag**	**2.49**	**31**	Pn	**Pn**	**21 47 23.8**	**+2.2**
NHDN	**Nehbandan**	**2.50**	**75**	Pn	**Pb**	**21 47 24.5**	**-1.4**
IDAH	**Dahanechah**	**2.99**	**48**	Pn	**Pn**	**21 47 31.3**	**+2.7**
ISAD	**Sadrabad**	**3.25**	**292**	Pn	**Pn**	**21 47 33.9**	**+1.8**
HRA	**Herat**	**5.57**	**48**	Pn	**Pn**	**21 48 03.3**	**-0.6**
UOSS	**Minazif**	**5.86**	**189**	Pn	**Pn**	**21 48 09.2**	**+1.5**
GYA0B	**ALIBECK ARRAY**	**7.19**	**6**	Pn	**Pn**	**21 48 26.5**	**+0.5**
WSAR	**Wadi Sarin**	**7.59**	**170**	Pn	**Pn**	**21 48 31.7**	**+0.2**
	5.7nm,0.3s,baz=21,slow=14,SNR=4.3 72nm,0.6s						
ARSB	**Arslanbob**	**16.51**	**46**		**P**	**21 50 34.8**	**-0.5**
ARSB				IAmb	IAmb	21 50 47.5	
	comp=E,63nm,1.5s						
NRN	**Naryn**	**18.50**	**50**		**Pn**	**21 50 57.9**	**+0.4**
NRN				IAmb	IAmb	21 51 06.1	
	comp=Z,103nm,1.5s						
ABKAR	**Akbulak array**	**18.59**	**6**		**Pn**	**21 50 58.7**	**+0.4**
ABKAR				IAmb	IAmb	21 51 14.7	
	comp=Z,123nm,1.4s						
BNN	**Bunyan**	**19.30**	**301**	P	**Pn**	**21 51 07.6**	**+0.5**
AKTO	**Aktyubinsk**	**19.67**	**1**	P	**P**	**21 51 09.3**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=186,slow=10,SNR=4.8 comp=Z,16nm,0.7s						
BR131	**Keskin Array S**	**21.20**	**301**	P	**P**	**21 51 27.6**	**+0.9**
BRTR	**Keskin Array B**	**21.20**	**301**	P	**P**	**21 51 27.3**	**+0.7**
BRTR	**Keskin Array B**	**21.20**	**301**	P	**P**	**21 51 26.4**	**-0.3**
	comp=Z,4.7nm,0.7s,baz=116,slow=12,SNR=3.6 comp=Z,4.7nm,0.7s						
ELL	**Elmali**	**23.45**	**292**	P	**P**	**21 51 51.1**	**+0.6**
BRVK	**Borovoye**	**24.23**	**19**	P	**P**	**21 51 57.8**	**+0.2**
BVAR	**Borovoye Array**	**24.23**	**20**	P	**P**	**21 51 57.2**	**-0.4**
	comp=Z,12nm,0.8s,baz=196,slow=7.0,SNR=4.8 comp=Z,12nm,0.8s						
MAKZ	**Makanchi**	**24.93**	**43**	P	**P**	**21 52 03.5**	**-0.5**
MAKZ				IAmb	IAmb	21 52 06.0	
	comp=Z,32nm,1.0s						
MKAR	**Makanchi Array**	**25.11**	**43**	P	**P**	**21 52 05.2**	**-0.5**
MKAR	**Makanchi Array**	**25.11**	**43**	P	**P**	**21 52 05.3**	**-0.3**
	comp=Z,4.7nm,0.8s,baz=230,slow=10.0,SNR=3.9 comp=Z,4.7nm,0.8s						
KURBB	**Kurchatov Arra**	**25.42**	**33**	P	**P**	**21 52 08.1**	**-0.4**
	comp=Z,13nm,0.8s,baz=232,slow=9.1,SNR=8.5 comp=Z,13nm,0.8s						
KURK	**Kurchatov**	**25.53**	**33**	P	**P**	**21 52 08.8**	**-0.6**
KURK				IAmb	IAmb	21 52 11.3	
	comp=Z,22nm,0.9s						
KARP	**Karpathos**	**25.57**	**289**	P	**P**	**21 52 09.3**	**-0.7**
MLR	**Muntele Rosu**	**28.46**	**310**	P	**P**	**21 52 37.1**	**+1.1**
MLR				IAmb	IAmb	21 53 01.6	
	comp=Z,31nm,1.5s						
AKASG	**Malin Array Be**	**28.83**	**322**	P	**P**	**21 52 39.7**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=125,slow=8.2,SNR=2.2 comp=Z,0.7nm,0.5s						
ZAA0	**Zalesovo Array**	**30.52**	**33**	P	**P**	**21 52 53.1**	**-0.9**
ZAA0				IAmb	IAmb	21 52 54.9	
	comp=Z,21nm,0.9s						
ZALV	**Zalesovo Beam**	**30.52**	**33**	P	**P**	**21 52 53.4**	**-0.6**
	comp=Z,15nm,0.7s,baz=244,slow=10.0,SNR=10 comp=Z,15nm,0.7s						
LODK	**Lodwar**	**34.14**	**221**	P	**P**	**21 53 28.0**	**+1.8**
LODK				IAmb	IAmb	21 53 30.3	
	comp=Z,7.0nm,1.1s						
FINES	**FINESS Array B**	**36.85**	**336**	P	**P**	**21 53 49.1**	**+0.3**
FINES	**FINESS Array B**	**36.85**	**336**	P	**P**	**21 53 49.5**	**+0.7**
	comp=Z,9.0nm,0.9s,baz=123,slow=10,SNR=2.7 comp=Z,9.0nm,0.9s						
KMBO	**Kilima Mbogo**	**36.97**	**215**	P	**P**	**21 53 51.5**	**+0.8**
KMBO				IAmb	IAmb	21 54 14.6	
	comp=Z,12nm,1.4s						
GERES	**GERESS Array B**	**37.41**	**312**	P	**P**	**21 53 54.0**	**0.0**
GERES	**GERESS Array B**	**37.41**	**312**	P	**P**	**21 53 53.8**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=124,slow=9.7,SNR=4.6 comp=Z,2.8nm,0.7s						
CLL	**Collm**	**38.44**	**315**	*i* P	**P**	**21 54 02.3**	**-0.2**
	comp=Z,37nm,1.7s						
FUORN	**Ofenpass-Fuorn**	**39.33**	**307**	P	**P**	**21 54 10.2**	**-0.2**
TUE	**Stuetta**	**39.94**	**307**	P	**P**	**21 54 14.8**	**-0.5**
SONM	**Songino Array**	**40.95**	**51**	P	**P**	**21 54 23.3**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=262,slow=11,SNR=3.2 comp=Z,1.9nm,0.8s						
ULN	**Ulaanbaatar**	**41.39**	**51**	P	**P**	**21 54 26.6**	**-0.7**
ARCES	**ARCESS Array B**	**42.79**	**344**	P	**P**	**21 54 38.2**	**0.0**
	comp=Z,3.7nm,0.8s,baz=143,slow=12,SNR=2.5 comp=Z,3.7nm,0.8s						
EKA	**Eskdalemuir Ar**	**48.65**	**319**	P	**P**	**21 55 25.6**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=95,slow=7.9,SNR=1.9 comp=Z,1.5nm,0.7s						
ESDC	**Sonseca Array**	**49.93**	**298**	P	**P**	**21 55 35.9**	**+1.0**
	comp=Z,1.3nm,0.9s,baz=75,slow=7.7,SNR=2.5 comp=Z,1.3nm,0.9s						
TOA0	**Torodi Ar. Sit**	**53.88**	**264**	P	**P**	**21 56 03.9**	**-0.6**
TOA0				IAmb	IAmb	21 56 11.0	
	comp=Z,5.9nm,1.0s						
TORD	**Torodi Ar. Bea**	**53.88**	**264**	P	**P**	**21 56 03.3**	**-1.2**
TORD	**Torodi Ar. Bea**	**53.88**	**264**	P	**P**	**21 56 03.7**	**-0.8**
	comp=Z,4.3nm,0.8s,baz=49,slow=7.1,SNR=5.6 comp=Z,4.3nm,0.8s						
B22K	**Teshekpuk Lake**	**76.81**	**10**	P	**P**	**21 58 31.6**	**-0.6**
C23K	**Itkillik River**	**77.68**	**10**	P	**P**	**21 58 36.5**	**-0.7**
C23K				IAmb	IAmb	21 58 40.0	
	comp=Z,14nm,1.1s						
TOLK	**Toolik Lake Re**	**78.93**	**10**	P	**P**	**21 58 44.1**	**-0.1**
TOLK				IAmb	IAmb	21 58 48.7	
	comp=Z,19nm,1.5s						
G31M	**Satah River**	**82.24**	**5**	P	**P**	**21 59 01.6**	**-0.2**
G31M				IAmb	IAmb	21 59 03.5	
	comp=Z,12nm,1.1s						

BJI 12 21:49:38.0, 30°78N×56°74E, h27km, mb4.7/27, mB5.6/8, Ms5.6/4, Ms7.5/4
OMAN 12 21:49:39.7±1.4, 31°04N×57°26E, h10km, mb5.5/5, ml5.1/1, Error ellipse: s-maj=16.9km s-min=11.2km az=91.0
IDC 12 21:49:39.3±0.5, 30°79N×57°24E, h0km, mb4.5/28, mbtmp4.5/36, ML3.9/7, Error ellipse: s-maj=12.6km s-min=11.4km az=176.0
MOS 12 21:49:39.2±1.0, 30°78N×57°29E, h11km, mb5.2/48, Error ellipse: s-maj=6.7km s-min=4.4km az=120.9
TEH 12 21:49:40.0, 30°80N×57°24E, h9km±43km, ML5.1
THR 12 21:49:40.4±0.8, 30°83N×57°27E, h14km±5km, ML4.9
NEIC 12 21:49:41.6±1.2, 30°87N±0°07×57°25E±0°10, h10km±1km, mb5.0/63, Error ellipse: s-maj=14.6km s-min=11.3km az=288.0
DSN 12 21:49:47.2±0.8, 30°48N×57°42E, h15km, ML4.9/1, Error ellipse: s-maj=29.9km s-min=7.9km az=99.0

ISC 12 21:49:41.1±0.7, 30°88N±0°03×57°23E±0°03, h9km±4km, n303, σ1s61/337, mb4.9/108, MS5.7/3, 16C-9D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.60**	**279**	Pg	**Pg**	**21 49 52.1**	**-0.7**
ZRDN				Sg	**Sg**	**21 50 01.4**	**+0.7**
KHGB	**Koh Gabri**	**0.81**	**233**	Pg	**Pg**	**21 49 55.1**	**-1.7**
KHGB				Sg	**Sg**	**21 50 05.9**	**-1.5**
TVBK	**TV Kerman**	**0.97**	**204**	Pg	**Pg**	**21 49 58.1**	**-1.8**
KRBR	**Kerman**	**0.98**	**204**	*e*Pg	**Pg**	**21 49 58.0**	**-1.9**
CHMN	**Cheshme madani**	**1.05**	**165**	Pg	**Pg**	**21 49 58.0**	**-3.3**
NGRK	**Negar Kerman**	**1.30**	**199**	Pg	**Pn**	**21 50 03.9**	**-1.9**
NGRK				Sg	**Sb**	**21 50 19.9**	**-2.9**
IBAF	**Bafgh**	**1.59**	**297**	Pg	**Pb**	**21 50 10.4**	**-0.3**
BSRN	**Basiran**	**1.96**	**56**	*e*Pn	**Pn**	**21 50 15.3**	**+0.7**
BSRN				*e*Sg	**Sb**	**21 50 42.1**	**+0.5**
BSRN	**Basiran**	**1.96**	**56**	Pn	**Pn**	**21 50 15.4**	**+0.7**
KBAM	**BAM**	**2.03**	**148**	Pn	**Pn**	**21 50 15.1**	**-0.6**
IKOO	**Kooshah**	**2.17**	**44**	Pn	**Pn**	**21 50 16.6**	**+0.9**
IMEH	**Mehriz**	**2.30**	**284**	Pn	**Pn**	**21 50 20.6**	**+1.2**
ITEG	**Tejag**	**2.40**	**32**	Pn	**Pn**	**21 50 21.6**	**+0.9**
NHDN	**Nehbandan**	**2.48**	**77**	Pn	**Pn**	**21 50 23.1**	**+1.3**
YZKH	**Yazd**	**2.71**	**305**	*e*Pn	**Pn**	**21 50 26.1**	**+1.2**
YZKH				*e*Sg	**Sg**	**21 51 06.7**	**-1.4**
ICHK	**Chekchek**	**2.77**	**300**	Pn	**Pn**	**21 50 26.2**	**+0.4**
TABS	**Tabas**	**2.77**	**358**	*e*Pn	**Pn**	**21 50 26.8**	**+1.0**
TABS				IAML		21 51 21.3	
	comp=N,3µm,0.8s						
IDAH	**Dahanechah**	**2.92**	**50**	Pn	**Pn**	**21 50 28.9**	**+1.0**
KHNJ	**Kahnooj**	**2.95**	**172**	Pn	**Pn**	**21 50 28.3**	**+0.1**
AFRZ	**Afriz**	**2.96**	**30**	Pn	**Pn**	**21 50 29.5**	**+1.0**
TNSJ	**Nastanj**	**3.12**	**351**	Pn	**Pn**	**21 50 32.4**	**+1.8**
ISAD	**Sadrabad**	**3.20**	**290**	Pn	**Pn**	**21 50 33.4**	**+1.5**
ZHSF	**Zahedan**	**3.32**	**111**	*e*Pn	**Pn**	**21 50 33.0**	**-0.4**
ZHDN	**Zahedan**	**3.44**	**114**	Pn	**Pn**	**21 50 34.7**	**-0.4**
IBND	**Bandar-abas**	**3.47**	**190**	Pn	**Pn**	**21 50 35.3**	**+0.1**
GENO	**Geno**	**3.58**	**195**	Pn	**Pn**	**21 50 38.0**	**+1.0**
BNDS	**Bandar-Abbas**	**3.58**	**195**	*e*Pn	**Pn**	**21 50 37.9**	**+0.9**
SHRT	**Shahrakht**	**3.79**	**42**	*e*Pn	**Pn**	**21 50 40.5**	**+0.7**
LAR1	**LAR**	**4.05**	**219**	Pn	**Pn**	**21 50 44.1**	**+0.7**
NASN	**Na'in**	**4.22**	**298**	*e*Pn	**Pn**	**21 50 47.7**	**+1.7**
IRAM	**Ramesheh**	**4.25**	**284**	Pn	**Pn**	**21 50 46.4**	**+0.2**
GHIR	**Ghir-Karzin**	**4.50**	**236**	*e*Pn	**Pn**	**21 50 50.6**	**+1.0**
IGAR	**Gharneh**	**4.67**	**290**	Pn	**Pn**	**21 50 53.5**	**+1.3**
SHME	**Shamm**	**4.90**	**191**	P	**Pn**	**21 50 55.9**	**+0.9**
SHME	**Shamm**	**4.90**	**191**	P	**Pn**	**21 50 56.6**	**+1.6**
SHME				S	**Sn**	**21 51 54.2**	**+2.4**
JASK	**Jask - Hormozg**	**5.02**	**173**	P	**Pn**	**21 50 57.5**	**+0.8**
SHRO	**Shahrood**	**5.20**	**349**	*e*Pn	**Pn**	**21 51 01.3**	**+2.1**
SHRO				IAML		21 52 39.6	
	comp=E,550nm,0.8s						
HRA	**Herat**	**5.49**	**49**	Pn	**Pn**	**21 51 03.5**	**+0.2**
UMQ	**Umm Al-Quwin**	**5.50**	**195**	P	**Pn**	**21 51 04.3**	**+1.1**
UMQ				S	**Sn**	**21 52 08.5**	**+1.8**
MASF	**Masafi**	**5.56**	**190**	P	**Pn**	**21 51 05.5**	**+1.4**
MASF				S	**Sn**	**21 52 11.4**	**+3.2**
MSFE	**Esma-Masafi**	**5.57**	**190**	P	**Pn**	**21 51 04.5**	**+0.2**
IAKL	**Akhelmad**	**5.85**	**12**	Pn	**Pn**	**21 51 10.4**	**+2.1**
UOSS	**Minazif**	**5.98**	**189**	Pn	**Pn**	**21 51 10.0**	**+0.2**
UOSS	**Minazif**	**5.98**	**189**	P	**Pn**	**21 51 09.9**	**+0.2**
UOSS	**Minazif**	**5.98**	**189**	P	**Pn**	**21 51 10.4**	**+0.6**
UOSS				S	**Sn**	**21 52 22.0**	**+3.6**
NAZ	**Nazwa, Dubai**	**6.03**	**194**	P	**Pn**	**21 51 11.4**	**+1.0**
NAZ	**Nazwa, Dubai**	**6.03**	**194**	P	**Pn**	**21 51 12.2**	**+1.8**
NAZ				S	**Sn**	**21 52 26.8**	**+7.2**
HATD	**Hatta, Dubai**	**6.10**	**189**	P	**Pn**	**21 51 13.1**	**+1.5**
HATD	**Hatta, Dubai**	**6.10**	**189**	P	**Pn**	**21 51 14.0**	**+2.5**
HATD				S	**Sn**	**21 52 26.2**	**+4.7**
ASHO	**Ashiyiah**	**6.25**	**190**	P	**Pn**	**21 51 14.4**	**+0.8**
ASHO				S	**Sn**	**21 52 22.9**	**-2.4**
ASHO	**Ashiyiah**	**6.25**	**190**	P	**Pn**	**21 51 15.0**	**+1.4**
ASHO				S	**Sn**	**21 52 27.8**	**+2.5**
FAQ	**Al Faqa, Dubai**	**6.28**	**194**	P	**Pn**	**21 51 14.6**	**+0.8**
FAQ	**Al Faqa, Dubai**	**6.28**	**194**	P	**Pn**	**21 51 15.0**	**+1.1**
FAQ				S	**Sn**	**21 52 32.1**	**+6.4**
ASUD	**Al Ashush, Dub**	**6.45**	**196**	P	**Pn**	**21 51 17.5**	**+1.3**
ASUD	**Al Ashush, Dub**	**6.45**	**196**	P	**Pn**	**21 51 18.0**	**+1.8**
	SNR=13						
ASUD				S	**Sn**	**21 52 35.0**	**+5.1**
NGCH	**Negor - Chabah**	**6.49**	**147**	P	**Pn**	**21 51 16.0**	**-0.8**
AJN	**Ajban**	**6.59**	**198**	P	**Pn**	**21 51 19.3**	**+1.1**
AJN	**Ajban**	**6.59**	**198**	P	**Pn**	**21 51 20.4**	**+2.2**
AJN				S	**Sn**	**21 52 36.1**	**+2.6**
SOHO	**SOHO**	**6.74**	**185**	P	**Pn**	**21 51 20.7**	**+0.4**
SOHO	**SOHO**	**6.74**	**185**	P	**Pn**	**21 51 23.6**	**+3.3**
SOHO				S	**Sn**	**21 52 42.4**	**+5.2**
ALNE	**Al Ain**	**6.92**	**191**	P	**Pn**	**21 51 23.7**	**+1.0**
ALNE	**Al Ain**	**6.92**	**191**	P	**Pn**	**21 51 24.8**	**+2.1**
JRN	**Qarnain Island**	**7.06**	**214**	P	**Pn**	**21 51 25.2**	**+0.5**
GEYT	**Alibeck**	**7.08**	**6**	Pn	**Pn**	**21 51 26.6**	**+1.7**
	comp=E,1.8nm,0.3s,baz=259,slow=13,SNR=1.4 comp=E,18nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**7.08**	**6**	Pn	**Pn**	**21 51 25.7**	**+0.8**
HOQ	**Hoqain**	**7.26**	**179**	P	**Pn**	**21 51 28.8**	**+1.3**
HOQ				S	**Sn**	**21 52 51.2**	**+1.1**
BIDO	**Bidbid**	**7.37**	**174**	P	**Pn**	**21 51 31.4**	**+2.5**
BIDO				S	**Sn**	**21 52 57.7**	**+5.0**
SHMA	**Al-Shehemyia**	**7.44**	**229**	P	**Pn**	**21 51 29.9**	**0.0**
ARQ	**Araqi**	**7.54**	**185**	P	**Pn**	**21 51 33.6**	**+2.3**
ARQ				S	**Sn**	**21 53 04.4**	**+7.6**
WSAR	**Wadi Sarin**	**7.71**	**170**	S	**Sn**	**21 53 02.6**	**+1.6**
WSAR	**Wadi Sarin**	**7.71**	**170**	Pn	**Pn**	**21 51 32.6**	**-1.0**
	comp=E,11nm,0.3s,baz=11,slow=8.3,SNR=20						
WSAR				Sn	**Sn**	**21 52 59.9**	**-1.2**
	comp=E,1.3nm,0.3s,baz=286,slow=17,SNR=1.9 comp=E,135nm,0.7s						
SMDO	**Samad**	**7.82**	**174**	P	**Pn**	**21 51 36.2**	**+1.0**
SMDO				S	**Sn**	**21 53 08.9**	**+5.0**
BSY	**Bisya**	**8.10**	**180**	P	**Pn**	**21 51 43.4**	**+4.4**
BSY				S	**Sn**	**21 53 13.6**	**+3.0**
TRNA	**Turayna**	**8.11**	**222**	P	**Pn**	**21 51 38.6**	**-0.4**
	SNR=49						
SMRA	**Abu-Samra**	**8.33**	**224**	P	**Pn**	**21 51 41.4**	**-0.6**
WBK	**Wadi Bani Khal**	**8.38**	**169**	P	**Pn**	**21 51 41.5**	**-1.3**
WBK				S	**Sn**	**21 53 24.3**	**+6.7**
WBK	**Wadi Bani Khal**	**8.38**	**169**	Pn	**Pn**	**21 51 42.0**	**-0.8**
JMDO	**Jabal Madar**	**8.51**	**174**	P	**Pn**	**21 51 47.5**	**+3.0**
JLN	**Jalan Bani Buh**	**8.91**	**167**	P	**Pn**	**21 51 48

BVAR PcP **PcP** 21 58 37.7 -0.3
comp=Z,1.8nm,0.6s,baz=243,slow=1.5,SNR=4.3
comp=Z,9.6nm,0.5s
ARG Arkhangelos 24.78 290 P **P** 21 55 03.5 +0.2
ARG IAmb IAmb 21 55 03.9
comp=Z,63nm,1.2s
ARG Arkhangelos 24.78 290 P **P** 21 55 03.5 +0.2
ARG pmax pmax
comp=Z,63nm,1.2s
MK31 Makanchi Array 25.02 43 P **P** 21 55 05.4 0.0
MK31 IAmb IAmb 21 55 10.3
comp=Z,53nm,1.4s
MK31 Makanchi Array 25.02 43 P **P** 21 55 05.4 0.0
MK31 pmax pmax
comp=Z,53nm,1.5s
MKAR Makanchi Array 25.02 43 P **P** 21 55 05.5 +0.1
comp=Z,13nm,0.9s,baz=232,slow=9.1,SNR=26
MKAR PcP **PcP** 21 58 40.3 +0.2
comp=Z,0.8nm,0.7s,baz=213,slow=2.0,SNR=2.0
comp=Z,13nm,0.9s
KURBB Kurchatov Arra 25.33 33 P **P** 21 55 08.4 +0.4
comp=Z,16nm,0.9s,baz=231,slow=8.1,SNR=12
KURBB PcP **PcP** 21 58 41.2 +0.5
comp=Z,0.9nm,0.9s,baz=229,slow=2.4,SNR=1.5
comp=Z,16nm,0.9s
BALB Balikesir 25.42 298 P **P** 21 55 08.9 -0.2
BALB IAmb IAmb 21 55 11.9
comp=Z,47nm,1.1s
KURK Kurchatov 25.43 33 P **P** 21 55 08.5 -0.5
KURK Kurchatov 25.43 33⇑ *e*P **P** 21 55 07.0 -2.0
KURK pmax pmax
comp=Z,23nm,1.0s
KARP Karpathos 25.53 289 P **P** 21 55 09.8 -0.3
ARU Arti 25.56 2⇑ *e*P **P** 21 55 10.1 0.0
ARU pmax pmax
comp=Z,96nm,1.7s
SANT Santorini 26.94 290 P **P** 21 55 22.1 -0.8
WMQ Urumqi 27.29 53 *e*P **P** 21 55 28.8 +2.8
IDI Anoyia 27.38 288 P **P** 21 55 26.3 -0.6
IDI IAmb IAmb 21 55 49.8
comp=Z,22nm,1.0s
OBN Obninsk 28.34 335⇑ *e*P **P** 21 55 36.1 +1.0
OBN pmax pmax
comp=Z,36nm,1.1s
MLR Muntele Rosu 28.38 310 P **P** 21 55 36.3 +0.5
MLR IAmb IAmb 21 55 46.2
comp=Z,18nm,1.0s
MLR Muntele Rosu 28.38 310 P **P** 21 55 36.3 +0.5
MLR pmax pmax
comp=Z,18nm,1.0s
AKASG Malin Array Be 28.74 322 *i* P **P** 21 55 41.5 +2.8
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 28.74 322 P **P** 21 55 38.9 +0.2
comp=Z,3.5nm,0.8s,baz=127,slow=8.2,SNR=7.8
comp=Z,3.5nm,0.8s
AKBB Malin Array Si 28.74 322 P **P** 21 55 38.6 -0.1
AKBB IAmb IAmb 21 55 40.3
comp=Z,43nm,1.4s
AKBB Malin Array Si 28.74 322⇓ *e*P **P** 21 55 39.1 +0.4
KIEV Kiev 28.74 322 P **P** 21 55 38.6 -0.2
KIEV IAmb IAmb 21 55 40.3
comp=Z,42nm,1.4s
KIEV Kiev 28.74 322 P **P** 21 55 38.6 -0.2
KIEV pmax pmax
comp=Z,42nm,1.5s
DGZ Jazzator, Alta 29.45 42⇑ *e*P **P** 21 55 44.7 -0.6
DGZ pmax pmax
comp=Z,75nm,2.4s
BURAR Bucovina Array 29.62 313 P **P** 21 55 47.7 +0.9
BURAR Bucovina Array 29.62 313 P **P** 21 55 47.0 +0.2
BURAR pmax pmax
comp=Z,4.0nm,0.8s
BUR08 Bucovina Ar. S 29.64 314 P **P** 21 55 47.9 +0.9
BUR08 IAmb IAmb 21 56 11.2
comp=Z,32nm,1.6s
ZAA0 Zalesovo Array 30.43 33 P **P** 21 55 53.2 -0.5
ZALV Zalesovo Beam 30.43 33 P **P** 21 55 53.7 +0.1
comp=Z,28nm,0.9s,baz=243,slow=9.7,SNR=19
comp=Z,28nm,0.9s
KBN Korca 30.94 298 P **P** 21 55 57.3 -1.2
KBN Korca 30.94 298 P **P** 21 55 57.3 -1.2
KBN pmax pmax
comp=Z,52nm,1.1s
CRVS Cervenica-Dubn 32.43 314 *e*P **P** 21 56 10.6 -0.8
CRVS Cervenica-Dubn 32.43 314 *e*P **P** 21 56 10.6 -0.8
LANS Liptovska Anna 33.75 314 *e*P **P** 21 56 24.8 +1.8
LANS Liptovska Anna 33.75 314 *e*P **P** 21 56 24.8 +1.8
OJC Ojcow 33.91 316 P **P** 21 56 24.6 +0.3
OJC Ojcow 33.91 316 P **P** 21 56 24.6 +0.3
OJC pmax pmax
comp=Z,72nm,1.5s
VYHS Vyhne 33.95 312 *e*P **P** 21 56 25.1 +0.5
VYHS Vyhne 33.95 312 *e*P **P** 21 56 25.1 +0.5
LODK Lodwar 34.23 221 P **P** 21 56 27.6 +0.2
MODS Modra-Piesok 34.91 312 *e*P **P** 21 56 34.1 +1.1
MODS Modra-Piesok 34.91 312 *e*P **P** 21 56 34.1 +1.1
GTA Gaotai 35.58 64 *e*P **P** 21 56 39.9 +0.8
GTA pP sP 21 56 43.9 +0.4
GTA pmax pmax
comp=Z,8.0nm,1.1s
SOKA Soboth 36.01 308 *e*PcP **PcP** 21 59 11.8 +2.8
comp=Z,8.0nm,1.1s
DPC Dobruska-Polom 36.06 315 *e*P **P** 21 56 42.5 -0.4
DPC Dobruska-Polom 36.06 315 *e*P **P** 21 56 42.5 -0.4
CHVC Chvalec 36.29 315 *e*P **P** 21 56 45.5 +0.6
CHVC Chvalec 36.29 315 *e*P **P** 21 56 45.5 +0.6
UPC Upice 36.30 315 *e*P **P** 21 56 48.8 +3.9
UPC Upice 36.30 315 *e*P **P** 21 56 48.8 +3.9
FINES FINESS Array B 36.74 335 P **P** 21 56 48.4 0.0
FINES FINESS Array B 36.74 335 P **P** 21 56 48.8 +0.3
comp=Z,8.6nm,0.7s,baz=131,slow=8.8,SNR=17
comp=Z,8.6nm,0.7s
TNCH TengChong 36.79 89⇑ *i*P **P** 21 56 49.0 -0.6
TNCH pmax pmax
comp=Z,23nm,1.6s
TNCH pmax pmax
comp=Z,130nm,3.7s
TNCH LR LR
comp=Z,6μm,12.8s
TNCH LR LR
comp=Z,3μm,12.3s
TNCH LR LR
comp=Z,11μm,14.6s
KMBO Kilima Mbogo 37.06 215 P **P** 21 56 51.7 -0.3
KMBO Kilima Mbogo 37.06 215 *i* P **P** 21 56 54.2 +2.2
KMBO pmax pmax
comp=Z,5.0nm,0.9s
KMBO Kilima Mbogo 37.06 215 P **P** 21 56 52.5 +0.6
comp=Z,6.2nm,1.1s,baz=40,slow=11,SNR=7.4
comp=Z,6.2nm,1.1s
GERES GERESS Array B 37.33 311 P **P** 21 56 53.4 -0.4
GERES GERESS Array B 37.33 311 P **P** 21 56 54.0 +0.2
comp=Z,5.3nm,0.9s,baz=99,slow=8.4,SNR=7.2
comp=Z,5.3nm,0.9s
CLL Collm 38.35 315 P **P** 21 57 02.8 +0.6
CLL IAmb IAmb 21 57 04.3
comp=Z,37nm,1.2s
CLL Collm 38.35 315 *i* P **P** 21 57 03.2 +1.0
comp=Z,43nm,1.3s
CLL Collm 38.35 315 *i* P **P** 21 57 03.2 +1.0
CLL pmax pmax
comp=Z,43nm,1.3s
WATA Walderalm 38.45 309 *e*PcP **PcP** 21 59 17.8 +1.4
comp=Z,8.3nm,1.1s
SQTA Sankt Quirin 38.68 308 *i* PcP **PcP** 21 59 16.2 -0.9
comp=Z,0.9nm,0.4s
MOTA Moosalm 38.77 308 *e*PcP **PcP** 21 59 16.1 -1.3
comp=Z,2.6nm,0.8s
LZH Lanzhou 38.94 69 *e*P **P** 21 57 09.9 +2.3
LZH pP sP 21 57 16.4 +4.3
LZH pmax pmax
comp=Z,12nm,1.0s
FETA Feichten 38.98 308 *e*PcP **PcP** 21 59 18.1 0.0
comp=Z,3.3nm,0.8s
PZH PanZhiHua 39.10 85 P **P** 21 57 09.0 0.0
PZH pmax pmax
comp=Z,10.0nm,2.2s
FUORN Ofenpass-Fuorn 39.25 307 P **P** 21 57 09.7 -0.5
FUORN IAmb IAmb 21 57 19.1
comp=Z,47nm,1.8s
APA Apatity 39.34 346⇓ *i*P **P** 21 57 06.4 -3.9
APA pmax pmax
comp=Z,28nm,0.8s
APA MLR MLR
comp=Z,9μm,12.0s

CHTO Chiang Mai 39.50 98 P **P** 21 57 11.6 -0.7
CHTO Chiang Mai 39.50 98 P **P** 21 57 11.6 -0.7
CHTO pmax pmax
comp=Z,18nm,1.1s
CMAR Chiang Mai Arr 39.66 98 *i* P **P** 21 57 13.1 -0.5
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 39.66 98 P **P** 21 57 13.0 -0.6
comp=Z,2.5nm,0.7s,baz=294,slow=8.0,SNR=11
CMAR PcP **PcP** 21 59 20.0 -0.5
comp=Z,2.8nm,0.7s,baz=284,slow=4.6,SNR=8.9
comp=Z,2.5nm,0.7s
TUE Stuetta 39.86 307 P **P** 21 57 16.2 +1.0
KEST Kesra 40.00 290 P **P** 21 57 16.8 +0.4
comp=Z,9.0nm,1.1s,baz=325,slow=8.5,SNR=4.3
comp=Z,9.0nm,1.1s
CRAI Chiangrai 40.13 95 P **P** 21 57 16.8 -0.7
KMI Kunming 40.38 87 ⇓P **P** 21 57 19.7 -0.1
KMI pmax pmax
comp=Z,19nm,1.2s
KMI LR LR
comp=Z,4μm,14.8s
KMI LR LR
comp=Z,5μm,17.7s
KMI LR LR
comp=Z,7μm,15.1s
SONM Songino Array 40.88 51 P **P** 21 57 23.6 0.0
comp=Z,8.8nm,1.1s,baz=268,slow=6.8,SNR=9.7
comp=Z,8.8nm,1.1s
HFS Hagfors 41.06 328 P **P** 21 57 24.8 +0.2
comp=Z,3.9nm,0.8s,baz=115,slow=13,SNR=2.5
comp=Z,3.9nm,0.8s
SENIN Lac Senin/Sane 41.26 307 P **P** 21 57 27.8 +0.9
SENIN IAmb IAmb 21 57 33.8
comp=Z,34nm,1.0s
ULN Ulaanbaatar 41.32 51 P **P** 21 57 26.1 -1.1
ULN IAmb IAmb 21 57 32.8
comp=Z,48nm,1.8s
ULN Ulaanbaatar 41.32 51 P **P** 21 57 26.1 -1.1
ULN pmax pmax
comp=Z,48nm,1.8s
MBDF Montbardon 41.55 304 *e*P **P** 21 57 28.0 -1.2
MBDF pmax pmax
comp=Z,10.0nm,0.9s
LPG La Plagne 41.59 305 *e*P **P** 21 57 28.6 -1.1
LPG pmax pmax
comp=Z,15nm,1.2s
LPL La Plagne 41.61 305 *e*P **P** 21 57 29.9 +0.2
LPL pmax pmax
comp=Z,22nm,1.2s
HINF Hinteralfeld 41.68 309 *e*P **P** 21 57 28.5 -1.6
HINF pmax pmax
comp=Z,72nm,2.4s
CABF La Chapelle 42.11 307 *e*P **P** 21 57 35.8 +2.1
CABF pmax pmax
comp=Z,86nm,2.0s
KEV Kevo 42.50 345 P **P** 21 57 36.5 +0.2
KEV IAmb IAmb 21 57 38.0
comp=Z,43nm,1.2s
KEV Kevo 42.50 345 P **P** 21 57 36.5 +0.2
KEV pmax pmax
comp=Z,43nm,1.2s
NB2 NORSAR Subarra 42.55 329 P **P** 21 57 38.2 +1.3
comp=Z,0.9nm,0.7s,baz=116,slow=8.6
NOA NORSAR Array B 42.55 329 P **P** 21 57 36.6 -0.4
comp=Z,2.8nm,0.9s,baz=115,slow=8.0,SNR=4.1
comp=Z,2.8nm,0.9s
ARCES ARCESS Array B 42.67 344 P **P** 21 57 37.6 -0.2
ARCES IAmb IAmb 21 57 39.1
comp=Z,30nm,1.5s
ARCES ARCESS Array B 42.67 344 P **P** 21 57 38.0 +0.2
ARCES ARCESS Array B 42.67 344 P **P** 21 57 38.0 +0.2
comp=Z,10nm,0.9s,baz=146,slow=7.0,SNR=12
comp=Z,10nm,0.9s
VIVF Saint-Julien-l 43.05 304 *e*P **P** 21 57 40.0 -1.2
VIVF pmax pmax
comp=Z,11nm,1.1s
GIVF Givet 43.24 312 *e*P **P** 21 57 43.7 +1.1
GIVF pmax pmax
comp=Z,50nm,1.4s
XAN Xi'an 43.36 72 P **P** 21 57 42.2 -1.7
XAN pmax pmax
comp=Z,14nm,1.1s
BTO Baotou 43.38 62 *e*P **P** 21 57 43.9 -0.1
BTO pP **sP** 21 57 48.9 +0.5
BTO sP **pP** 21 57 50.8 +3.6
BTO PP **PcP** 21 59 29.2 -3.3
BTO S **S** 22 04 13.6 +1.5
BTO pmax pmax
comp=Z,27nm,0.9s
BAIF Baives 43.63 312 *e*P **P** 21 57 45.3 -0.5
BAIF pmax pmax
comp=Z,47nm,1.5s
SMF Signal de Mont 43.66 307 *e*P **P** 21 57 45.5 -0.6
SMF pmax pmax
comp=Z,20nm,1.2s
LOR Lormes 43.67 308 *e*P **P** 21 57 45.4 -0.8
LOR pmax pmax
comp=Z,11nm,1.1s
SSF Saint Saulge 43.91 307 *e*P **P** 21 57 47.5 -0.5
SSF pmax pmax
comp=Z,17nm,1.2s
AVF Avril sur Loir 44.00 307 *e*P **P** 21 57 50.6 +1.8
AVF pmax pmax
comp=Z,76nm,2.2s
HHC Hu-ho-hao-te 44.52 62 *e*P **P** 21 57 52.5 -0.7
HHC pmax pmax
comp=Z,16nm,0.7s
TCF Toulx Ste Croi 44.78 306 *e*P **P** 21 57 54.6 -0.5
TCF pmax pmax
comp=Z,57nm,1.8s
RJF Les Rejaudoux 45.28 305 *e*P **P** 21 58 01.1 +2.0
RJF pmax pmax
comp=Z,22nm,1.2s
LYN LuoYang 46.14 70 *e*P **P** 21 58 06.3 +0.3
LYN pmax pmax
comp=Z,25nm,1.0s
LDF La Druitiere 46.38 309 *e*P **P** 21 58 09.1 +1.4
LDF pmax pmax
comp=Z,88nm,2.1s
ETSF Etsaut 46.91 302 *e*P **P** 21 58 13.5 +1.5
ETSF pmax pmax
comp=Z,20nm,1.4s
SJPF Ste Jean 47.38 302 *e*P **P** 21 58 15.7 +0.1
SJPF pmax pmax
comp=Z,37nm,1.3s
EKA Eskdalemuir Ar 48.56 318 P **P** 21 58 24.4 -0.1
comp=Z,5.9nm,0.9s,baz=99,slow=6.4,SNR=7.2
comp=Z,5.9nm,0.9s
HIA Hailar 49.78 50⇑ *e*P **P** 21 58 33.4 -0.6
HIA pmax pmax
comp=Z,7.0nm,1.2s
ESDC Sonseca Array 49.87 298 P **P** 21 58 33.3 -1.6
ESDC Sonseca Array 49.87 298 P **P** 21 58 33.8 -1.1
comp=Z,3.4nm,0.9s,baz=66,slow=7.3,SNR=12
comp=Z,3.4nm,0.9s
PAB San Pablo 50.19 298 P **P** 21 58 36.7 -0.6
PAB IAmb IAmb 21 58 49.1
comp=Z,28nm,1.6s
PAB San Pablo 50.19 298 P **P** 21 58 36.7 -0.6
PAB pmax pmax
comp=Z,28nm,1.6s
SPITS Spitsbergen Ar 50.67 350 P **P** 21 58 40.8 +0.4
SPITS pmax pmax
comp=Z,166nm,1.7s
KBS Kingsbay 51.83 350 P **P** 21 58 50.3 +1.3
KBS Kingsbay 51.83 350 P **P** 21 58 50.3 +1.3
KBS pmax pmax
comp=Z,31nm,1.0s
NJ2 Nanjing 51.93 72 *e*P **P** 21 58 50.5 +0.1
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
NJ2 pmax pmax
comp=Z,490nm,4.6s
MTE Manteigas 52.44 299 *e*P **P** 21 58 53.4 -0.8
comp=Z,40nm,1.6s
PCBR Castelo Branco 52.50 299 *e*P **P** 21 58 54.3 -0.3
comp=Z,26nm,1.5s
PBAR Barrancos 52.52 297 *e*P **P** 21 58 53.3 -1.4
comp=Z,33nm,1.8s
PMRV Marv??o 52.52 298 *e*P **P** 21 58 53.6 -1.1
comp=Z,29nm,1.5s
EVO Evora 53.19 297 *e*P **P** 21 58 59.2 -0.4
comp=Z,20nm,1.7s
TOA0 Torodi Ar. Sit 53.88 264 P **P** 21 59 03.9 -1.1
TOA0 IAmb IAmb 21 59 06.1

comp=Z,18nm,0.8s
TORD Torodi Ar. Bea 53.88 264 P **P** 21 59 03.5 -1.5
TORD IAmb IAmb 21 59 06.1
comp=Z,12nm,0.8s
TORD Torodi Ar. Bea 53.88 264 P **P** 21 59 03.7 -1.3
comp=Z,16nm,0.8s,baz=54,slow=7.3,SNR=27
comp=Z,16nm,0.8s
HEH HeiHe 54.65 48 *e*P **P** 21 59 09.3 -0.8
HEH pmax pmax
comp=Z,15nm,1.4s
YAK Yakutsk 55.08 33⇑ *e*P **P** 21 59 12.5 -0.5
YAK pmax pmax
comp=Z,17nm,1.0s
MDJ Mudanjiang 57.08 54 P **P** 21 59 26.8 -0.9
MDJ pmax pmax
comp=Z,20nm,2.2s
COCO West Island 57.28 132 P **P** 21 59 28.6 -0.8
COCO West Island 57.28 132 P **P** 21 59 28.6 -0.8
COCO pmax pmax
comp=Z,132nm,1.1s
KLR Kul'dur 57.59 48⇑ *e*P **P** 21 59 30.6 -0.6
KLR pmax pmax
comp=Z,8.0nm,1.0s
KSRS Korea Array 57.63 63 P **P** 21 59 32.0 +0.4
comp=Z,2.4nm,0.8s,baz=281,slow=7.3,SNR=5.9
comp=Z,2.4nm,0.8s
USRK Ussuriysk Ar. 58.85 54 P **P** 21 59 40.3 +0.2
comp=Z,2.7nm,0.8s,baz=282,slow=2.8,SNR=3.6
comp=Z,2.7nm,0.8s
SUMG Summit 62.53 340 P **P** 22 00 05.4 +0.2
SUMG IAmb IAmb 22 00 12.1
comp=Z,7.3nm,1.0s
SUMG Summit 62.53 340 P **P** 22 00 05.4 +0.2
SUMG pmax pmax
comp=Z,7.0nm,1.0s
DBIC Dimbokro 62.69 261 P **P** 22 00 06.2 -0.5
DBIC IAmb IAmb 22 00 16.9
comp=Z,8.7nm,1.1s
DBIC Dimbokro 62.69 261 P **P** 22 00 06.2 -0.5
DBIC pmax pmax
comp=Z,9.0nm,1.1s
DBIC Dimbokro 62.69 261 P **P** 22 00 05.9 -0.8
comp=Z,6.6nm,0.9s,baz=39,slow=7.5,SNR=5.6
comp=Z,6.6nm,0.9s
TSUM Tsumeb 62.69 223 P **P** 22 00 06.3 -0.4
TSUM IAmb IAmb 22 00 09.1
comp=Z,18nm,1.1s
KIC Kosan Boka 62.75 261⇑ *i*P **P** 22 00 05.7 -1.4
comp=Z,14nm,0.8s
TIC Toumodi 62.84 261⇑ *i*P **P** 22 00 07.3 -0.4
comp=Z,3.1nm,0.4s
LIC Lamto 63.06 261⇑ *i*P **P** 22 00 07.8 -1.4
comp=Z,36nm,0.8s
LBTB Lobatse 63.29 212 P **P** 22 00 10.6 +0.2
LBTB IAmb IAmb 22 00 38.4
comp=Z,8.1nm,0.8s
LBTB Lobatse 63.29 212 P **P** 22 00 10.6 +0.2
LBTB pmax pmax
comp=Z,8.0nm,0.9s
SEY Seymchan 65.25 30⇑ *e*P **P** 22 00 22.3 -0.4
SEY pmax pmax
comp=Z,15nm,1.1s
BOSA Boshof 66.55 210 P **P** 22 00 31.7 +0.1
BOSA IAmb IAmb 22 00 33.0
comp=Z,13nm,1.2s
BOSA Boshof 66.55 210 P **P** 22 00 31.7 +0.1
BOSA pmax pmax
comp=Z,13nm,1.2s
BOSA Boshof 66.55 210 P **P** 22 00 31.2 -0.4
comp=Z,5.1nm,0.9s,baz=25,slow=8.2,SNR=5.6
comp=Z,5.1nm,0.9s
EUNU Eureka 67.51 354 P **P** 22 00 38.2 +1.1
EUNU IAmb IAmb 22 00 40.6
comp=Z,7.9nm,0.9s
C16K Lisburne Hills 76.22 15 P **P** 22 01 28.6 -0.8
C16K IAmb IAmb 22 01 30.1
comp=Z,21nm,1.3s
B20K Meade River 76.38 12 P **P** 22 01 30.5 +0.2
RDOG Red Dog Mine 76.93 14 P **P** 22 01 33.1 -0.4
RDOG IAmb IAmb 22 01 34.4
comp=Z,21nm,1.3s
TOLK Toolik Lake Re 78.81 10 P **P** 22 01 44.5 +0.5
TOLK IAmb IAmb 22 01 47.5
comp=Z,18nm,0.8s
IMAR Indian Mountai 80.55 12 P **P** 22 01 52.8 -0.6
BMAR Burnt Mountain 80.63 8 P **P** 22 01 54.1 +0.3
INK Inuvik 80.80 4 P **P** 22 01 53.9 -0.7
INK Inuvik 80.80 4 P **P** 22 01 53.9 -0.7
INK pmax pmax
comp=Z,12nm,1.2s
FITZ Fitzroy Crossi 81.77 117 P **P** 22 01 59.4 -1.2
SCHQ Schefferville 82.07 331 P **P** 22 02 02.6 +0.8
comp=Z,2.9nm,0.6s,baz=56,slow=3.3,SNR=6.6
comp=Z,2.9nm,0.6s
J20K Nowinta River 82.09 13 P **P** 22 02 01.7 +0.1
J20K IAmb IAmb 22 02 39.5
comp=Z,33nm,1.7s
MDM Murphy Dome 82.44 11 P **P** 22 02 04.4 +0.9
MDM IAmb IAmb 22 02 08.3
comp=Z,15nm,1.1s
ILAR Eielson Array 82.82 10 P **P** 22 02 06.3 +0.8
ILAR Eielson Array 82.82 10 P **P** 22 02 06.3 +0.8
ILAR Eielson Array 82.82 10 P **P** 22 02 05.3 -0.1
comp=Z,1.6nm,0.7s,baz=324,slow=4.1,SNR=12
comp=Z,1.6nm,0.7s
CAST Castle Rocks 83.18 13 P **P** 22 02 07.2 -0.2
CAST IAmb IAmb 22 02 10.4
comp=Z,12nm,0.8s
BCAR Beaver Creek A 85.16 9 P **P** 22 02 17.8 +0.4
YKA Yellowknife Ar 86.73 356 P **P** 22 02 25.2 0.0
YKA Yellowknife Ar 86.73 356 *i* P **P** 22 02 27.6 +2.5
YKA pmax pmax
comp=Z,6.0nm,1.1s
YKA Yellowknife Ar 86.73 356 P **P** 22 02 24.5 -0.6
comp=Z,4.6nm,1.0s,baz=356,slow=5.4,SNR=14
comp=Z,4.6nm,1.0s
WB0 Warramunga Arr 89.53 113 P **P** 22 02 38.6 -0.6
WRA Warramunga Arr 89.58 113 P **P** 22 02 39.4 -0.1
WRA Warramunga Arr 89.58 113 *i* P **P** 22 02 38.2 -1.3
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 89.58 113 P **P** 22 02 37.5 -1.9
comp=Z,2.0nm,0.9s,baz=313,slow=3.9,SNR=8.7
WRA PKKPbc **PKKPbc** 22 20 12.4 -0.8
comp=Z,1.1nm,1.1s,baz=143,slow=2.5,SNR=4.8
comp=Z,2.0nm,0.9s
ASAR Alice Springs 91.27 117 P **P** 22 02 45.5 -1.8
comp=Z,1.8nm,0.7s,baz=305,slow=4.6,SNR=11
comp=Z,1.8nm,0.7s
ULM Lac du Bonnet 95.78 343 P **P** 22 03 07.7 +0.1
comp=Z,2.2nm,0.7s,baz=346,slow=3.9,SNR=4.7
comp=Z,2.2nm,0.7s

NOU **12** *21:52:29.5,35.72S×179.11E,h293km,MLv4.4/7,Off E. Coast of N. Island, N.Z.*
WEL **12** *21:52:30.3±0.8,35.2S±12.1×17.9E±1.7,h277km±10km, M3.8/14,mB4.6/3,MLv3.8/14,Mw(mB)3.8/3,Error ellipse: s-maj=0.0km s-min=0.0km az=122.0,confirmed*
ISC 12 21:52:28.7±3.6,35.5S±0.2×178.6E±0.2,h291km±14km,
n54,σ095/78,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.10**	**187**	P		P	**Pn**	**21 53 15.3**	**-0.1**
MXZ				S		S		**21 53 50.1**	**-2.5**
WMGZ	**Waiomatatini S**	**2.35**	**184**	P		P	**Pn**	**21 53 18.4**	**+0.9**
WMGZ				S		S		**21 53 56.8**	**+0.3**
HAZ	**Te Kaha**	**2.38**	**196**	P		P	**Pn**	**21 53 17.6**	**-0.1**
HAZ				S		S		**21 53 53.7**	**-3.2**
PKGZ	**Pakihiroa**	**2.45**	**190**	P		P	**Pn**	**21 53 17.6**	**-0.9**
RUGZ	**Raukumara Rang**	**2.60**	**197**	P		P	**Pn**	**21 53 19.5**	**-0.5**
RUGZ				S		S		**21 54 00.6**	**-0.3**
PUZ	**Puketiti**	**2.61**	**186**	P		P	**Pn**	**21 53 20.7**	**+0.7**
PUZ				S		S		**21 54 00.3**	**-0.6**
TWGZ	**Tauwhareparae**	**2.75**	**191**	P		P	**Pn**	**21 53 22.1**	**+0.8**
TWGZ				S		S		**21 54 03.9**	**+0.6**
MWZ	**Matawai**	**2.99**	**197**	P		P	**Pn**	**21 53 24.5**	**+0.8**
MWZ				S		S		**21 54 07.8**	**+0.3**
CNGZ	**Carnagh Statio**	**3.02**	**186**	P		P	**Pn**	**21 53 25.5**	**+1.5**
CNGZ				S		S		**21 54 05.9**	**-2.1**
TKGZ	**Te Karaka**	**3.03**	**192**	P		P	**Pn**	**21 53 24.6**	**+0.7**
TKGZ				S		S		**21 54 08.0**	**-0.1**
URZ	**Urewera**	**3.04**	**203**	P		P	**Pn**	**21 53 24.3**	**+0.2**
URZ	**Urewera**	**3.04**	**203**	P		P	**Pn**	**21 53 24.2**	**+0.1**

URZ				S	S	21 54 08.3	0.0	
RAGZ	**Rawiri**	**3.17**	**198**	P	**Pn**	**21 53 26.7**	**+1.1**	
RAGZ				S	**S**	**21 54 12.4**	**+1.5**	
RTZ	**Ruatahuna**	**3.40**	**202**	P	**Pn**	**21 53 28.7**	**+0.7**	
RTZ				S	**S**	**21 54 14.9**	**-0.4**	
PRGZ	**Paritu Road**	**3.49**	**190**	P	**Pn**	**21 53 29.4**	**+0.6**	
PRGZ				S	**S**	**21 54 16.6**	**-0.3**	
KNZ	**Kokohu**	**3.62**	**192**	P	**Pn**	**21 53 31.1**	**+0.9**	
KNZ				S	**S**	**21 54 19.1**	**-0.2**	
BKZ	**Black Stump Fm**	**4.06**	**204**	P	**Pn**	**21 53 35.6**	**+0.5**	
HIZ	**Hauiti**	**4.28**	**224**	P	**Pn**	**21 53 40.3**	**+2.8**	
TUVZ	**Tukino**	**4.47**	**211**	P	**Pn**	**21 53 40.0**	**+0.2**	
TUVZ				S	**S**	**21 54 36.1**	**-0.6**	
PNHZ	**Pukenui**	**4.83**	**203**	P	**Pn**	**21 53 43.9**	**0.0**	
PNHZ				S	**S**	**21 54 44.8**	**+0.6**	
PRHZ	**Porangahau**	**5.04**	**198**	P	**Pn**	**21 53 46.8**	**+0.6**	
PRHZ				S	**S**	**21 54 50.7**	**+2.2**	
TSZ	**Takapari Road**	**5.04**	**204**	P	**Pn**	**21 53 46.7**	**+0.5**	
TSZ				S	**S**	**21 54 48.5**	**0.0**	
DVHZ	**Dannevirke**	**5.20**	**201**	P	**Pn**	**21 53 48.1**	**0.0**	
DVHZ				S	**S**	**21 54 52.0**	**+0.1**	
POWZ	**Post Office Ro**	**5.41**	**204**	P	**Pn**	**21 53 50.9**	**+0.3**	
POWZ				S	**S**	**21 54 56.6**	**+0.3**	
PRWZ	**Pori Road**	**5.49**	**202**	P	**Pn**	**21 53 52.3**	**+0.8**	
BFZ	**Birch Farm**	**5.53**	**199**	P	**Pn**	**21 53 52.2**	**+0.2**	
BFZ	**Birch Farm**	**5.53**	**199**	P	**Pn**	**21 53 52.3**	**+0.2**	
BFZ				S	**S**	**21 54 59.6**	**+0.6**	
MRZ	**Mangatainoka R**	**5.71**	**204**	P	**Pn**	**21 53 53.7**	**-0.4**	
MRZ				S	**S**	**21 55 01.5**	**-1.4**	
TIWZ	**Tintock**	**5.72**	**201**	P	**Pn**	**21 53 54.7**	**+0.4**	
TIWZ				S	**S**	**21 55 03.1**	**-0.1**	
CPWZ	**Castlepoint**	**5.75**	**199**	P	**Pn**	**21 53 55.6**	**+1.0**	
HOWZ	**Holdsworth Sta**	**5.95**	**203**	P	**Pn**	**21 53 56.3**	**-0.7**	
HOWZ				S	**S**	**21 55 06.7**	**-1.4**	
OGWZ	**Otaki Gorge**	**5.99**	**206**	P	**Pn**	**21 53 57.0**	**-0.5**	
TMWZ	**Te Maipa**	**6.02**	**200**	P	**Pn**	**21 53 58.0**	**+0.1**	
KIW	**Kapiti Island**	**6.12**	**207**	P	**Pn**	**21 53 58.7**	**-0.5**	
MTW	**Mount Morrison**	**6.18**	**202**	P	**Pn**	**21 53 59.4**	**-0.5**	
CAW	**Cannon Point**	**6.28**	**205**	P	**Pn**	**21 54 00.2**	**-0.8**	
TRWZ	**Traveller**	**6.35**	**200**	P	**Pn**	**21 54 02.4**	**+0.5**	
BHW	**Baring Head**	**6.62**	**205**	P	**Pn**	**21 54 04.0**	**-1.1**	
PLWZ	**Palliser**	**6.64**	**202**	P	**Pn**	**21 54 05.1**	**-0.2**	
TCW	**Tory Channel**	**6.67**	**210**	P	**Pn**	**21 54 04.9**	**-0.9**	
TUWZ	**Tuamarina**	**6.99**	**210**	P	**Pn**	**21 54 08.8**	**-0.8**	
MRNZ	**Matariki Terra**	**7.50**	**216**	P	**Pn**	**21 54 16.6**	**+0.7**	
THZ	**Tophouse**	**7.71**	**214**	P	**Pn**	**21 54 18.8**	**+0.2**	
KHZ	**Kahutara**	**7.99**	**208**	P	**Pn**	**21 54 21.7**	**-0.1**	
KHZ	**Kahutara**	**7.99**	**208**	P	**Pn**	**21 54 21.1**	**-0.7**	
DSZ	**Denniston Nort**	**8.23**	**218**	P	**Pn**	**21 54 24.1**	**-0.8**	
LTZ	**Lake Taylor**	**8.81**	**212**	P	**Pn**	**21 54 31.8**	**-0.2**	
INZ	**Inchbonnie**	**9.14**	**215**	P	**Pn**	**21 54 35.4**	**-0.7**	
OKCZ	**Okains Bay**	**9.29**	**206**	P	**Pn**	**21 54 38.5**	**+0.5**	
MHCZ	**Mount Hutt**	**9.72**	**212**	P	**Pn**	**21 54 42.7**	**-0.6**	
ARCZ	**Arundel**	**10.22**	**212**	P	**Pn**	**21 54 49.0**	**-0.5**	
TMZ	**Timaru**	**10.65**	**211**	P	**Pn**	**21 54 54.7**	**0.0**	
ODZ	**Otahua Downs**	**11.33**	**210**	P	**Pn**	**21 55 05.0**	**+1.9**	
JCZ	**Jackson Bay** 37nm,2.5s	**11.44**	**218**	P	**Pn**	**21 55 05.2**	**+0.7**	

*IDC **12** 21:55:44.2±1.0,30°.66N×57°.32E, h0km,mb3.9/11, mbtmp3.9/14,ML3.6/3, Error ellipse: s-maj=23.3km s-min=20.0km az=140.0*
*TEH **12** 21:55:44.8,30°.71N×57°.31E, h9km±54km, ML4.2*
*NEIC **12** 21:55:47.2±2.2,30°.79N±0°.04×57°.3E±0°.1, h10km±1km, mb4.1/13, Error ellipse: s-maj=18.9km s-min=6.8km az=94.0*
*DSN **12** 21:55:48.1±1.2,30°.51N×58°.09E, h15km, Error ellipse: s-maj=61.8km s-min=10.9km az=110.0*

ISC 12 21:55:46.8±0.5,**30.71N**±0°.03×**57.31E**±0°.04,**h15km**,**n79**, σ1s**15**/83,**mb4.0**/16,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.72**	**292**	Pg	**Pg**	**21 55 58.2**	**-2.6**
ZRDN				Sg	**Sg**	**21 56 09.1**	**-1.3**
KHGB	**Koh Gabri**	**0.79**	**246**	Pg	**Pg**	**21 56 00.3**	**-1.9**
TVBK	**TV Kerman**	**0.86**	**214**	Pg	**Pg**	**21 56 02.2**	**-1.4**
CHMN	**Cheshme madani**	**0.86**	**167**	Pg	**Pg**	**21 56 01.1**	**-2.5**
NGRK	**Negar Kerman**	**1.17**	**206**	Pg	**Pb**	**21 56 07.5**	**-1.5**
NGRK				Sg	**Sb**	**21 56 22.4**	**-1.7**
IBAF	**Bafgh**	**1.74**	**301**	Pg	**Pn**	**21 56 17.0**	**+0.4**
KBAM	**BAM**	**1.85**	**147**	Pn	**Pn**	**21 56 18.1**	**0.0**
BSRN	**Basiran**	**2.00**	**51**	Pn	**Pn**	**21 56 19.9**	**-0.3**
IKOO	**Kooshah**	**2.24**	**40**	Pn	**Pn**	**21 56 23.8**	**+0.2**
TPRV	**Parvadeh(Tabas**	**2.38**	**347**	Pn	**Pn**	**21 56 25.8**	**+0.4**
IMEH	**Mehriz**	**2.42**	**287**	Pn	**Pn**	**21 56 26.9**	**+0.9**
NHDN	**Nehbandan**	**2.45**	**73**	Pn	**Pn**	**21 56 27.3**	**+1.0**
ITEG	**Tejag**	**2.50**	**29**	Pn	**Pn**	**21 56 27.4**	**+0.3**
KHNJ	**Kahnooj**	**2.77**	**173**	Pn	**Pn**	**21 56 32.1**	**+1.5**
TKDS	**Koohdasht(Taba**	**2.91**	**357**	Pn	**Pn**	**21 56 32.8**	**+0.2**
ICHK	**Chekchek**	**2.92**	**302**	Pn	**Pn**	**21 56 34.3**	**+1.4**
IDAH	**Dahanechah**	**2.98**	**46**	Pn	**Pn**	**21 56 33.4**	**-0.3**
AFRZ	**Afriz**	**3.07**	**28**	Pn	**Pn**	**21 56 34.8**	**-0.2**
IMON	**Monand**	**3.19**	**38**	Pn	**Pn**	**21 56 37.4**	**+0.8**
ZHDN	**Zahedan**	**3.30**	**112**	Pn	**Pn**	**21 56 39.1**	**+1.0**
TNSJ	**Nastanj**	**3.30**	**350**	Pn	**Pn**	**21 56 38.3**	**+0.2**
ISAD	**Sadrabad**	**3.33**	**292**	Pn	**Pn**	**21 56 39.9**	**+1.3**
SHRT	**Shahrakht**	**3.87**	**40**	Pn	**Pn**	**21 56 46.1**	**+0.2**
ANAR	**Anarak**	**3.93**	**310**	Pn	**Pn**	**21 56 47.8**	**+1.1**
LAR1	**LAR**	**3.97**	**221**	Pn	**Pn**	**21 56 48.4**	**+1.2**
SHME	**Shamm**	**4.75**	**193**	P	**Pn**	**21 57 00.2**	**+2.3**
SHME				S	**Sn**	**21 57 54.6**	**+1.9**
IZEF	**Zefreh**	**4.77**	**299**	Pn	**Pn**	**21 56 59.3**	**+0.8**
MSFE	**Esma-Masafi**	**5.42**	**191**	P	**Pn**	**21 57 08.9**	**+1.8**
HRA	**Herat**	**5.55**	**47**	Pn	**Pn**	**21 57 09.5**	**+0.4**
UOSS	**Minazif**	**5.82**	**190**	Pn	**Pn**	**21 57 15.1**	**+2.5**
UOSS	**Minazif**	**5.82**	**190**	P	**Pn**	**21 57 13.8**	**+1.2**
QAMS	**Qamsar**	**5.85**	**303**	Pn	**Pn**	**21 57 14.1**	**+0.8**
ILAS	**Lasjerd**	**5.93**	**323**	Pn	**Pn**	**21 57 14.6**	**+0.3**
IAKL	**Akhelmad**	**6.00**	**11**	Pn	**Pn**	**21 57 15.6**	**+0.3**
ASHO	**Ashiyiah**	**6.10**	**191**	P	**Pn**	**21 57 17.4**	**+0.9**
ASHO				S	**Sn**	**21 58 29.5**	**+3.4**
FAQ	**Al Faqa, Dubai**	**6.13**	**195**	P	**Pn**	**21 57 18.6**	**+1.8**
ASUD	**Al Ashush, Dub**	**6.30**	**197**	P	**Pn**	**21 57 21.8**	**+2.5**
IKRD	**Kardeh**	**6.33**	**16**	Pn	**Pn**	**21 57 20.4**	**+0.6**
ISFR	**Sfrayin**	**6.36**	**5**	Pn	**Pn**	**21 57 20.4**	**+0.2**
IGLO	**Ghaloghah**	**6.47**	**334**	Pn	**Pn**	**21 57 22.6**	**+0.9**
SOHO	**SOHO**	**6.58**	**186**	P	**Pn**	**21 57 22.7**	**-0.4**
IPRN	**Peran**	**6.91**	**324**	Pn	**Pn**	**21 57 28.7**	**+1.0**
GEYT	**Alibeck** 0.4nm,0.3s,baz=186,slow=12,SNR=1.1 1.5nm,0.5s	**7.24**	**5**	Pn	**Pn**	**21 57 32.4**	**+0.4**
GYA0B	**ALIBECK ARRAY**	**7.24**	**5**	Pn	**Pn**	**21 57 32.8**	**+0.7**
WSAR	**Wadi Sarin** 1.9nm,0.3s,baz=3.0,slow=12,SNR=11 8.1nm,0.5s	**7.53**	**171**	Pn	**Pn**	**21 57 36.1**	**+0.1**
GAR	**Garm**	**13.50**	**49**	Pn	**Pn**	**21 58 58.9**	**+1.0**
ARSB	**Arslanbob**	**16.50**	**46**	Pn	**Pn**	**21 59 38.7**	**+0.9**
KIV	**Kislovodsk**	**17.58**	**323**	P	**Pn**	**21 59 52.9**	**+1.7**
KIV	comp=Z,31nm,1.3s			IAmb	IAmb	21 59 54.9	
AAK	**Ala-Archa**	**18.18**	**44**		**P**	**22 00 01.3**	**+2.3**
ABKAR	**Akbulak array**	**18.64**	**5**	P	**P**	**22 00 04.2**	**+0.5**
AKTO	**Aktyubinsk** comp=Z,0.3nm,0.3s,baz=167,slow=12,SNR=4.4 comp=Z,1.9nm,0.6s	**19.72**	**1**	P	**P**	**22 00 15.7**	**+0.1**
BR131	**Keskin Array S**	**21.29**	**301**	P	**P**	**22 00 32.2**	**-0.7**
BRTR	**Keskin Array B**	**21.29**	**301**	P	**P**	**22 00 32.0**	**-0.8**
BRTR	**Keskin Array B** comp=Z,1.4nm,0.8s,baz=129,slow=12,SNR=6.7 comp=Z,1.4nm,0.8s	**21.29**	**301**	P	**P**	**22 00 32.9**	**0.0**
ELL	**Elmali**	**23.53**	**292**	P	**P**	**22 00 58.1**	**+1.6**
BVAR	**Borovoye Array** comp=Z,4.2nm,0.9s,baz=205,slow=9.5,SNR=7.2	**24.26**	**19**	P	**P**	**22 01 03.2**	**+0.1**
BVAR				PcP	**PcP**	**22 04 42.0**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=296,slow=2.5,SNR=4.1 comp=Z,4.2nm,0.9s						
MAKZ	**Makanchi** comp=Z,7.3nm,1.4s	**24.92**	**43**	P	**P**	**22 01 09.0**	**-0.2**
MAKZ				IAmb	IAmb	22 01 14.4	
MK31	**Makanchi Array**	**25.10**	**43**	P	**P**	**22 01 11.1**	**+0.2**
MKAR	**Makanchi Array**	**25.10**	**43**	P	**P**	**22 01 11.0**	**+0.2**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.5s,baz=227,slow=9.5,SNR=9.6 comp=Z,0.6nm,0.5s	**25.10**	**43**	P	**P**	**22 01 11.2**	**+0.3**
KURBB	**Kurchatov Arra** comp=Z,1.5nm,0.7s,baz=231,slow=8.8,SNR=13 comp=Z,1.5nm,0.7s	**25.43**	**32**	P	**P**	**22 01 14.1**	**+0.4**
KURK	**Kurchatov**	**25.54**	**32**	P	**P**	**22 01 13.9**	**-0.8**
BURAR	**Bucovina Array**	**29.80**	**314**	P	**P**	**22 01 53.1**	**+0.1**
BURAR	comp=Z,2.8nm,1.2s			IAmb	IAmb	22 02 02.4	
ZAA0	**Zalesovo Array**	**30.53**	**33**	P	**P**	**22 01 58.6**	**-0.7**
ZAA0	comp=Z,3.3nm,1.1s			IAmb	IAmb	22 02 11.1	
ZALV	**Zalesovo Beam**	**30.53**	**33**	P	**P**	**22 01 58.7**	**-0.6**
ZALV	**Zalesovo Beam** comp=Z,3.7nm,0.7s,baz=240,slow=9.4,SNR=11 comp=Z,3.7nm,0.7s	**30.53**	**33**	P	**P**	**22 01 59.0**	**-0.3**
FINES	**FINESS Array B** comp=Z,4.6nm,0.9s,baz=136,slow=9.3,SNR=4.6 comp=Z,4.6nm,0.9s	**36.92**	**335**	P	**P**	**22 02 54.5**	**-0.3**
GERES	**GERESS Array B** comp=Z,1.3nm,0.7s,baz=22,slow=7.5,SNR=4.9 comp=Z,1.3nm,0.7s	**37.50**	**312**	P	**P**	**22 02 59.8**	**-0.1**
CLL	**Collm**	**38.52**	**315**	*e*Px	Px	22 03 07.0	
FUORN	**Ofenpass-Fuorn**	**39.41**	**307**	P	**P**	**22 03 16.3**	**+0.1**
FUORN	comp=Z,6.7nm,1.4s			IAmb	IAmb	22 03 34.7	
ARCES	**ARCESS Array B** comp=Z,3.9nm,0.9s,baz=128,slow=10,SNR=4.2 comp=Z,3.9nm,0.9s	**42.86**	**344**	P	**P**	**22 03 44.2**	**+0.2**
TOA0	**Torodi Ar. Sit**	**53.94**	**264**	P	**P**	**22 05 09.9**	**-0.3**
TOA0	comp=Z,2.4nm,0.8s			IAmb	IAmb	22 05 10.9	
TORD	**Torodi Ar. Bea**	**53.94**	**264**	P	**P**	**22 05 09.8**	**-0.4**
TORD	comp=Z,1.4nm,0.8s			IAmb	IAmb	22 05 11.0	
TORD	**Torodi Ar. Bea** comp=Z,1.4nm,0.7s,baz=50,slow=7.8,SNR=8.0 comp=Z,1.4nm,0.7s	**53.94**	**264**	P	**P**	**22 05 10.0**	**-0.1**
C23K	**Itkillik River**	**77.72**	**10**	P	**P**	**22 07 43.3**	**+0.7**
TOLK	**Toolik Lake Re**	**78.97**	**10**	P	**P**	**22 07 49.6**	**0.0**
BMAR	**Burnt Mountain**	**80.78**	**8**	P	**P**	**22 07 59.8**	**+0.4**
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.4s,baz=37,slow=7.1,SNR=3.5 comp=Z,0.1nm,0.4s	**86.90**	**356**	P	**P**	**22 08 31.0**	**+0.4**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.8s,baz=316,slow=4.1,SNR=2.2 comp=Z,0.3nm,0.8s	**89.45**	**114**	P	**P**	**22 08 42.3**	**-1.2**

*PRU **12** 21:55:56.1,47°.53N×13°.81E, h0km*
VIE 12 21:55:58.5±0.1,**47.65N×13.73E,h2km,mb2.1**/4,**ml1.9**/14, **Error ellipse: s-maj=1.0km s-min=0.9km az=127.0 6 km NW of Bad Aussee,Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIOA	**Bad Ischl, Aus** 32nm,0.1s,SNR=330	**0.07**	**307**	*i* Pg	Pg	21 55 59.7	-0.2
BIOA	172nm,0.2s			*e*Sg	Sg	21 56 01.1	+0.2
MOA	**Molln** 1.3nm,0.2s,SNR=5.7	**0.42**	**61**	*i* Pg	Pg	21 56 06.1	-0.4
MOA	1.8nm,0.2s			*e*Sg	Sg	21 56 12.5	+0.6
KBA	**Koelnbreinsper** 0.3nm,0.1s	**0.62**	**205**	*e*Pg	Pg	21 56 10.2	-0.2
KBA	0.8nm,0.2s			Sg	Sb	21 56 20.2	-1.3
LESA	**Schwarzleotal** 0.8nm,0.2s	**0.74**	**253**	*e*Pg	Pg	21 56 12.6	-0.1
LESA	3.0nm,0.2s			*e*Sg	Sg	21 56 22.3	-0.1
MYKA	**Terra Mystica** 0.9nm,0.2s	**1.02**	**183**	Pg	Pg	21 56 18.1	+0.1
ABTA	**Abfaltersbach** 0.1nm,0.1s	**1.22**	**223**	*e*Pg	Pg	21 56 22.0	+0.1
ABTA	0.6nm,0.2s			*e*Sg	Sb	21 56 38.9	+0.3
CKRC	**Cesky Krumlov** comp=Z,5.9nm,0.4s	**1.24**	**18**	*e*PG	Pg	21 56 20.3	-1.9
CKRC				*e*SG	Sb	21 56 39.1	+0.1
ARSA	**Arzberg** 0.6nm,0.2s	**1.28**	**107**	*e*Pg	Pg	21 56 23.0	0.0
ARSA	5.6nm,0.8s			Sg	Sn	21 56 41.2	0.0
SOKA	**Soboth** 1.4nm,0.5s	**1.32**	**137**	*e*Pg	Pg	21 56 23.7	0.0
CONA	**Conrad Observa** 0.4nm,0.2s,SNR=5.2	**1.47**	**78**	*e*Pn	Pn	21 56 25.8	-0.2
CONA	16nm,0.5s,SNR=7.7			*e*Sn	Sn	21 56 46.9	+1.1
WTTA	**Wattenberg** 0.7nm,0.1s,SNR=4.7	**1.47**	**256**	*e*Pg	Pg	21 56 26.9	+0.3
WTTA	0.7nm,0.2s,SNR=4.9			*e*Sg	Sn	21 56 46.8	+0.7
KHC	**Kasperske Hory** comp=Z,11nm,0.5s	**1.49**	**356**	*e*PG	Pn	21 56 25.3	-1.0
KHC				*e*SG	Sn	21 56 47.1	+0.8
WATA	**Walderalm** 0.4nm,0.2s	**1.49**	**259**	*e*Pg	Pb	21 56 26.8	-0.1
WATA	4.0nm,0.2s			*e*Sg	Sn	21 56 47.5	+1.0
RONA	**Rosalia, Austr** 1.4nm,0.2s	**1.74**	**87**	*e*Pn	Pb	21 56 30.5	-0.6
SQTA	**Sankt Quirin** 0.3nm,0.1s	**1.76**	**257**	*e*Pg	Pb	21 56 31.7	+0.1
SQTA	6.3nm,0.4s			Sg	Sg	21 56 57.2	+2.1
MOTA	**Moosalm** 0.4nm,0.1s	**1.80**	**261**	*e*Pg	Pg	21 56 32.9	-0.2
MOTA	4.5nm,0.5s			*e*Sg	Sg	21 56 58.2	+1.8
ZVC	**Zvikov** comp=Z,6.3nm,0.3s	**1.82**	**10**	*e*PG	Pn	21 56 31.3	+0.5
ZVC				*e*SG	Sg	21 56 56.4	-0.5
TREC	**Trest**	**2.02**	**35**	*e*PG	Pn	21 56 33.9	+0.3
TREC				*e*SG	Sb	21 57 02.1	+0.5
KRUC	**Moravsky**	**2.27**	**51**	*e*PN	Pn	21 56 36.5	-0.6
KRUC				*e*SG	Sb	21 57 07.6	-1.2
PRU	**Pruhonice**	**2.40**	**13**	*e*SG	Sg	21 57 14.9	-0.8
NKC	**Novy Kostel**	**2.72**	**342**	*e*SG	Sg	21 57 25.9	0.0
HSKC	**Hora Svate Kat**	**2.97**	**356**	*e*SG	Sg	21 57 34.6	+0.8
DPC	**Dobruska-Polom**	**3.20**	**31**	*e*SG	Sg	21 57 39.6	-1.6
BRG	**Berggiesshubel**	**3.23**	**2**	*e*P	Pn	21 56 49.6	-0.6
BRG	comp=Z,6.0nm,1.2s			Amp		21 56 50.6	
BRG	**Berggiesshubel**	**3.23**	**2**	*e*P	Pn	21 56 49.6	-0.6
UPC	**Upice**	**3.23**	**27**	*e*SG	Sg	21 57 41.8	-0.5
CHVC	**Chvalec**	**3.32**	**27**	*e*SG	Sg	21 57 44.8	-0.2
OSTC	**Ostas**	**3.34**	**28**	*e*SG	Sg	21 57 44.5	-1.2

*IDC **12** 22:00:29.9±3.3,30°.33N×57°.31E, h0km, mb3.5/4, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=103.8km s-min=30.8km az=140.0*
*TEH **12** 22:00:29.8,30°.75N×57°.27E, h6km±194km, ML3.6*
ISC 12 22:00:32.9±0.9,**30.63N**±0°.05×**57.25E**±0°.05,**h15km**,**n22**, σ1s**29**/22,**mb3.5**/4,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.70**	**299**	Pg	**Pg**	**22 00 44.1**	**-2.6**
KHGB	**Koh Gabri**	**0.72**	**249**	Pg	**Pg**	**22 00 46.0**	**-1.0**
TVBK	**TV Kerman**	**0.77**	**213**	Pg	**Pb**	**22 00 48.5**	**+0.2**
CHMN	**Cheshme madani**	**0.81**	**162**	Pg	**Pb**	**22 00 48.4**	**-0.5**
NGRK	**Negar Kerman**	**1.08**	**205**	Pg	**Pn**	**22 00 54.4**	**+0.4**
IBAF	**Bafgh**	**1.73**	**304**	Pg	**Pn**	**22 01 02.5**	**-0.1**
KBAM	**BAM**	**1.82**	**145**	Pn	**Pb**	**22 01 06.2**	**+0.1**
BSRN	**Basiran**	**2.08**	**50**	Pn	**Pn**	**22 01 06.5**	**-1.0**
IKOO	**Kooshah**	**2.33**	**40**	Pn	**Pn**	**22 01 10.6**	**-0.4**
IMEH	**Mehriz**	**2.39**	**289**	Pn	**Pn**	**22 01 12.3**	**+0.6**
TPRV	**Parvadeh(Tabas**	**2.44**	**349**	Pn	**Pn**	**22 01 11.9**	**-0.4**
ITEG	**Tejag**	**2.59**	**29**	Pn	**Pn**	**22 01 14.1**	**-0.4**
ICHK	**Chekchek**	**2.91**	**304**	Pn	**Pn**	**22 01 19.5**	**+0.7**
TKDS	**Koohdasht(Taba**	**2.97**	**358**	Pn	**Pn**	**22 01 19.7**	**0.0**
IDAH	**Dahanechah**	**3.06**	**46**	Pn	**Pn**	**22 01 21.0**	**-0.1**
AFRZ	**Afriz**	**3.16**	**28**	Pn	**Pn**	**22 01 22.4**	**0.0**
ISAD	**Sadrabad**	**3.31**	**294**	Pn	**Pn**	**22 01 25.3**	**+0.8**
GEYT	**Alibeck** 0.2nm,0.3s,baz=216,slow=22,SNR=1.1 0.8nm,0.6s	**7.31**	**5**	Pn	**Pn**	**22 02 23.0**	**+3.7**
BVAR	**Borovoye Array** 0.4nm,0.5s,baz=238,slow=36,SNR=2.8 0.4nm,0.5s	**24.34**	**19**	P	**P**	**22 05 50.1**	**0.0**
KURBB	**Kurchatov Arra** 0.5nm,0.8s,baz=206,slow=10,SNR=5.1 0.5nm,0.8s	**25.52**	**32**	P	**P**	**22 06 02.3**	**+1.6**
ZALV	**Zalesovo Beam** 0.9nm,0.6s,baz=241,slow=8.1,SNR=4.7 0.9nm,0.6s	**30.61**	**32**	P	**P**	**22 06 48.2**	**+2.0**
TORD	**Torodi Ar. Bea** 0.8nm,1.0s,baz=54,slow=8.8,SNR=1.0 0.8nm,1.0s	**53.88**	**264**	P	**P**	**22 09 55.4**	**-0.5**

*CATAC **12** 22:24:09.9±0.9, 12°.06N×89°.27W, h5km±9km, ML3.6*
*SNET **12** 22:24:11.9±0.9, 12°.14N×89°.31W, h14km±5km, ML3.4*
ISC 12 22:24:10.2±1.9,**12.07N**±0°.08×**89.28W**±0°.07,**h10km**,**n22**, σ0s**62**/36,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJTE	**Alcalda de S**	**1.56**	**10**	*e*P	**Pn**	**22 24 38.0**	**-0.1**
SJTE				*e*S	**Sn**	**22 24 58.7**	**+0.3**
SJTE	**Alcalda de S**	**1.56**	**10**	*i* P	**Pn**	**22 24 38.0**	**-0.1**
SJTE				*i* S	**Sb**	**22 24 59.2**	**+0.2**
SJTE	comp=Z,360nm,1.0s			IAML		22 24 59.5	
JAYA	**Jayaque - finc**	**1.58**	**354**	*e*P	**Pn**	**22 24 38.6**	**+0.1**
JAYA				*e*S	**Sn**	**22 24 58.4**	**-0.8**
JAYA	comp=Z,510nm,0.2s			IAML		22 25 01.2	
JAYA	**Jayaque - finc**	**1.58**	**354**	*i* P	**Pn**	**22 24 38.5**	**0.0**
JAYA				*i* S	**Sn**	**22 24 58.3**	**-0.9**
JAYA	comp=Z,1μm,1.0s			IAML		22 25 01.7	
PMON	**Piamonte**	**1.63**	**359**	*i* P	**Pn**	**22 24 39.4**	**+0.2**
PMON				*i* S	**Sb**	**22 25 01.3**	**+0.1**
PMON	comp=Z,650nm,1.0s			IAML		22 25 04.5	
PAVA	**Las Pavas**	**1.67**	**11**	*e*P	**Pn**	**22 24 40.1**	**+0.4**
PAVA				*e*S	**Sn**	**22 25 01.4**	**+0.3**
PACA	**Pacayal**	**1.67**	**34**	*i* P	**Pn**	**22 24 39.7**	**0.0**
PACA	comp=Z,1μm,1.0s			IAML		22 25 09.7	
CEVE	**Cerro Verde**	**1.78**	**349**	*e*P	**Pn**	**22 24 41.6**	**+0.3**
CEVE				*e*S	**Sb**	**22 25 05.3**	**-0.3**
CEVE	**Cerro Verde**	**1.78**	**349**	*i* P	**Pn**	**22 24 41.6**	**+0.3**
CEVE				*i* S	**Sn**	**22 25 04.1**	**0.0**
CEVE	comp=Z,900nm,1.0s			IAML		22 25 10.2	
LCND	**La Caada**	**1.83**	**48**	*e*P	**Pn**	**22 24 41.6**	**-0.1**
LCND				*e*S	**Sb**	**22 25 06.6**	**-0.2**
LCND	**La Caada**	**1.83**	**48**	*i* P	**Pn**	**22 24 41.7**	**-0.1**
LCND				*i* S	**Sb**	**22 25 06.9**	**+0.1**
LCND	comp=Z,140nm,1.0s			IAML		22 25 11.3	
CNCH	**Conchagua**	**1.85**	**49**	*i* P	**Pn**	**22 24 42.2**	**+0.1**
CNCH	comp=Z,360nm,1.0s			IAML		22 25 19.0	
NUBE	**Las Nubes**	**1.89**	**345**	*e*P	**Pn**	**22 24 42.6**	**0.0**
NUBE				*e*S	**Sn**	**22 25 05.6**	**-1.0**
NUBE	**Las Nubes**	**1.89**	**345**	*i* P	**Pn**	**22 24 42.7**	**0.0**
NUBE				*i* S	**Sn**	**22 25 05.6**	**-1.0**
NUBE	comp=Z,570nm,1.0s			IAML		22 25 07.1	
CSGN	**Cosiguina Volc**	**1.90**	**62**	*i* P	**Pn**	**22 24 42.1**	**-0.8**
CSGN				*i* S	**Sb**	**22 25 08.4**	**-0.6**
CSGN	comp=Z,890nm,1.0s			IAML		22 25 08.5	
MTO3	**Montecristo**	**2.32**	**358**	*i* P	**Pn**	**22 24 49.6**	**+0.9**
MTO3				*i* S	**Sn**	**22 25 19.0**	**+1.7**
MTO3	comp=Z,170nm,1.0s			IAML		22 25 19.4	
COPN	**Copaltepe**	**2.63**	**87**	*i* P	**Pn**	**22 24 52.4**	**-0.3**
COPN	comp=Z,130nm,1.0s			IAML		22 24 58.4	
MOMN	**Momotombo**	**2.70**	**83**	*i* P	**Pn**	**22 24 53.3**	**-0.4**
MOMN	comp=Z,4.2nm,1.0s			IAML		22 25 12.3	
SOMN	**Somoto**	**2.92**	**62**	*i* P	**Pn**	**22 24 58.6**	**+1.6**
SOMN	comp=Z,51nm,1.0s			IAML		22 24 59.2	
LIMN	**Finca el Limon**	**3.01**	**71**	*i* P	**Pn**	**22 24 58.2**	**+0.1**
LIMN	comp=Z,65nm,1.0s			IAML		22 26 14.4	
ORTG	**Ortega, Santa**	**4.11**	**114**	*i* P	**Pn**	**22 25 14.1**	**+0.8**
ORTG	comp=Z,45nm,1.0s			IAML		22 26 09.9	
INDI	**Punta indio, G**	**4.30**	**120**	*i* P	**Pn**	**22 25 15.9**	**+0.1**
INDI	comp=Z,44nm,1.0s			IAML		22 25 25.1	

*IDC **12** 22:34:01.9±1.1,38°.34N×142°.29E, h0km, mb3.7/10, mbtmp3.8/12, ML3.3/2, Error ellipse: s-maj=29.1km s-min=18.5km az=79.0*
*JMA **12** 22:34:11.1±0.1,38°.2N±0°.3×141°.8E

FINES	**FINES Array B**	**68.03**	**332**	P		**P**		**22 45 02.2**	**-0.8**
	comp=N,2.5nm,0.9s,baz=65,slow=9.8,SNR=1.2								
	comp=N,2.5nm,0.9s								
AKASG	**Malin Array Be**	**73.68**	**322**	P		**P**		**22 45 37.4**	**-0.1**
	comp=N,0.5nm,0.5s,baz=43,slow=7.6,SNR=2.3								
	comp=N,0.5nm,0.5s								
TXAR	**Lajitas Array**	**89.08**	**53**	P		**P**		**22 46 58.4**	**-1.1**
	comp=N,0.3nm,0.6s,baz=259,slow=3.3,SNR=4.0								
	comp=N,0.3nm,0.6s								

TEH ***12*** *22:36:02.9, 30°.78N×57°.31E, h9km±66km, ML4.0*
IDC ***12*** *22:36:03.4±1.1, 30°.79N×57°.19E, h0km, mb3.9/10, mbtmp3.9/14, ML3.8/4, Error ellipse: s-maj=23.0km s-min=18.5km az=141.0*
NEIC ***12*** *22:36:05.2±0.9, 30°.78N±0°.05×57°.2E±0°.1, h10km±1km, mb4.1/16, Error ellipse: s-maj=19.8km s-min=7.4km az=100.0*

ISC 12 22:36:04.6±0.5,**30°.77N**±0°.03×**57°.29E**±0°.04,**h10**km,**n87,**
σ0**95**/90,**mb4.0**/17,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time	Res
					Op		ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.68**	**287**	Pg			**Pg**	**22 36 15.9**	**-1.9**
KHGB	**Koh Gabri**	**0.80**	**241**	Pg			**Pg**	**22 36 18.3**	**-1.8**
TVBK	**TV Kerman**	**0.90**	**211**	Pg			**Pg**	**22 36 21.0**	**-1.1**
CHMN	**Cheshme madani**	**0.93**	**166**	Pg			**Pg**	**22 36 20.5**	**-2.0**
CHMN				Sg			**Sg**	**22 36 32.3**	**-2.4**
NGRK	**Negar Kerman**	**1.22**	**204**	Pg			**Pb**	**22 36 26.8**	**-1.1**
NGRK				Sg			**Sb**	**22 36 43.9**	**0.0**
IBAF	**Bafgh**	**1.69**	**300**	Pg			**Pn**	**22 36 34.3**	**-0.1**
KBAM	**BAM**	**1.91**	**148**	Pn			**Pn**	**22 36 37.9**	**+0.5**
BSRN	**Basiran**	**1.97**	**52**	Pn			**Pn**	**22 36 37.7**	**-0.5**
IKOO	**Kooshah**	**2.21**	**41**	Pn			**Pn**	**22 36 41.3**	**-0.3**
TPRV	**Parvadeh(Tabas**	**2.31**	**347**	Pn			**Pn**	**22 36 42.5**	**-0.4**
IMEH	**Mehriz**	**2.38**	**286**	Pn			**Pn**	**22 36 44.5**	**+0.6**
NHDN	**Nehbandan**	**2.45**	**75**	Pn			**Pn**	**22 36 44.9**	**+0.2**
ITEG	**Tejag**	**2.46**	**30**	Pn			**Pn**	**22 36 44.6**	**-0.3**
KHNJ	**Kahnooj**	**2.83**	**173**	Pn			**Pn**	**22 36 51.3**	**+1.3**
TKDS	**Koohdasht(Taba**	**2.84**	**357**	Pn			**Pn**	**22 36 50.2**	**0.0**
ICHK	**Chekchek**	**2.87**	**302**	Pn			**Pn**	**22 36 51.2**	**+0.6**
IDAH	**Dahanechah**	**2.95**	**47**	Pn			**Pn**	**22 36 51.7**	**0.0**
AFRZ	**Afriz**	**3.03**	**28**	Pn			**Pn**	**22 36 52.6**	**-0.2**
TNSJ	**Nastanj**	**3.24**	**350**	Pn			**Pn**	**22 36 55.3**	**-0.3**
ISAD	**Sadrabad**	**3.29**	**291**	Pn			**Pn**	**22 36 57.3**	**+0.8**
ZHDN	**Zahedan**	**3.34**	**113**	Pn			**Pn**	**22 36 57.7**	**+0.6**
GENO	**Geno**	**3.49**	**197**	Pn			**Pn**	**22 37 01.7**	**+2.5**
SHRT	**Shahrakht**	**3.84**	**41**	Pn			**Pn**	**22 37 03.7**	**-0.1**
ANAR	**Anarak**	**3.87**	**310**	Pn			**Pn**	**22 37 04.9**	**+0.6**
IRAM	**Ramesheh**	**4.33**	**285**	Pn			**Pn**	**22 37 11.7**	**+1.0**
IZEF	**Zefreh**	**4.72**	**298**	Pn			**Pn**	**22 37 16.9**	**+0.7**
KLNJ	**Kolanjah**	**4.90**	**274**	Pn			**Pn**	**22 37 20.6**	**+1.9**
JASK	**Jask - Hormozg**	**4.91**	**174**	Pn			**Pn**	**22 37 19.2**	**+0.8**
TBHD	**Torbat heydari**	**4.91**	**19**	Pn			**Pn**	**22 37 18.8**	**+0.1**
TBJM	**Torbat-e-JAM**	**5.16**	**29**	Pn			**Pn**	**22 37 22.5**	**+0.4**
KRSH	**Karshahi**	**5.41**	**308**	Pn			**Pn**	**22 37 26.7**	**+1.2**
IKLH	**Kolahrood**	**5.48**	**299**	Pn			**Pn**	**22 37 27.6**	**+1.1**
HRA	**Herat**	**5.52**	**48**				**Pn**	**22 37 28.1**	**+1.0**
ISFB	**Sefidab**	**5.56**	**311**	Pn			**Pn**	**22 37 28.7**	**+1.1**
SRVN	**Saravan**	**5.59**	**126**	Pn			**Pn**	**22 37 29.5**	**+1.6**
IMOG	**Moghan**	**5.60**	**17**	Pn			**Pn**	**22 37 28.3**	**+0.1**
SBZV	**Sabzevar**	**5.61**	**3**	Pn			**Pn**	**22 37 29.1**	**+0.7**
ZNGN	**Zangian**	**5.66**	**285**	Pn			**Pn**	**22 37 31.1**	**+1.9**
JRKH	**Jarkhoshk**	**5.73**	**26**	Pn			**Pn**	**22 37 30.1**	**+0.2**
UOSS	**Minazif**	**5.88**	**190**	Pn			**Pn**	**22 37 32.7**	**+0.9**
IAKL	**Akhelmad**	**5.95**	**11**	Pn			**Pn**	**22 37 33.6**	**+0.6**
IFIR	**Firoozkooh**	**6.17**	**323**	Pn			**Pn**	**22 37 36.6**	**+0.6**
IKRD	**Kardeh**	**6.27**	**17**	Pn			**Pn**	**22 37 38.5**	**+1.0**
IVRN	**Varamin**	**6.30**	**313**	Pn			**Pn**	**22 37 38.0**	**+0.4**
ISFR	**Sfrayin**	**6.30**	**5**	Pn			**Pn**	**22 37 38.4**	**+0.6**
IGLO	**Ghaloghah**	**6.41**	**334**	Pn			**Pn**	**22 37 39.8**	**+0.6**
IDMV	**Damavand**	**6.51**	**319**	Pn			**Pn**	**22 37 41.8**	**+1.0**
IMND	**Minoodasht**	**6.66**	**347**	Pn			**Pn**	**22 37 43.0**	**+0.5**
IEMG	**Emamgholi**	**6.73**	**9**	Pn			**Pn**	**22 37 44.3**	**+0.6**
IPRN	**Peran**	**6.85**	**324**	Pn			**Pn**	**22 37 46.2**	**+1.0**
MRVT	**Maraveh tapeh**	**6.95**	**352**	Pn			**Pn**	**22 37 47.1**	**+0.6**
GEYT	**Alibeck**	**7.18**	**5**	Pn			**Pn**	**22 37 49.2**	**-0.5**
	0.3nm,0.3s,baz=189,slow=17,SNR=2.0								
	0.9nm,0.3s								
GYA0B	**ALIBECK ARRAY**	**7.18**	**5**	Pn			**Pn**	**22 37 50.2**	**+0.5**
WSAR	**Wadi Sarin**	**7.59**	**171**	Pn			**Pn**	**22 37 56.0**	**+0.6**
	5.0nm,0.3s,baz=12,slow=7.4,SNR=39								
WSAR				Sn			**Sn**	**22 39 24.5**	**+3.0**
	0.3nm,0.3s,baz=15,slow=15,SNR=1.4								
	22nm,0.5s								
BTK	**Batken**	**14.39**	**46**	Pn			**Pn**	**22 39 29.4**	**+0.9**
KKAR	**Karatay Array**	**16.20**	**37**	Pn			**Pn**	**22 39 53.3**	**+1.0**
ARSB	**Arslanbob**	**16.47**	**46**				**Pn**	**22 39 56.4**	**+0.5**
AAK	**Ala-Archa**	**18.14**	**44**	P			**P**	**22 40 17.7**	**+0.6**
	0.1nm,0.3s,baz=230,slow=15,SNR=4.0								
	0.8nm,0.5s								
ABKAR	**Akbulak array**	**18.58**	**5**				**Pn**	**22 40 22.5**	**+0.6**
ABKAR	**Akbulak array**	**18.58**	**5**	P			**Pn**	**22 40 22.1**	**+0.2**
ABKAR				IAmb			IAmb	22 40 25.4	
	comp=Z,5.2nm,1.4s								
AKTO	**Aktyubinsk**	**19.66**	**1**	P			**P**	**22 40 33.5**	**0.0**
	comp=Z,0.8nm,0.3s,baz=185,slow=10,SNR=17								
	comp=Z,3.0nm,0.5s								
TARG	**Taragay, Kyrgy**	**19.79**	**51**	P			**Pn**	**22 40 38.0**	**+1.0**
BRTR	**Keskin Array B**	**21.24**	**301**	P			**P**	**22 40 50.2**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=128,slow=9.9,SNR=4.2								
	comp=Z,1.3nm,0.7s								
ELL	**Elmali**	**23.49**	**292**	P			**P**	**22 41 13.9**	**-0.8**
BRVK	**Borovoye**	**24.21**	**19**	P			**P**	**22 41 20.9**	**-0.4**
BRVK				IAmb			IAmb	22 41 25.0	
	comp=Z,5.4nm,1.4s								
BVAR	**Borovoye Array**	**24.21**	**20**	P			**P**	**22 41 21.8**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=200,slow=7.6,SNR=18								
	comp=Z,1.6nm,0.5s								
MAKZ	**Makanchi**	**24.89**	**43**	P			**P**	**22 41 27.7**	**+0.2**
MAKZ				IAmb			IAmb	22 41 30.1	
	comp=Z,4.4nm,1.0s								
MKAR	**Makanchi Array**	**25.07**	**43**	P			**P**	**22 41 29.6**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=229,slow=9.3,SNR=10								
	comp=Z,1.0nm,0.7s								
KURBB	**Kurchatov Arra**	**25.39**	**33**	P			**P**	**22 41 32.6**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=231,slow=9.1,SNR=27								
	comp=Z,2.2nm,0.7s								
KURK	**Kurchatov**	**25.49**	**32**	P			**P**	**22 41 32.3**	**-0.6**
KURK				IAmb			IAmb	22 41 34.3	
	comp=Z,3.1nm,0.8s								
BURAR	**Bucovina Array**	**29.74**	**314**	P			**P**	**22 42 10.7**	**-0.5**
BURAR				IAmb			IAmb	22 42 17.9	
	comp=Z,1.8nm,1.2s								
BUR08	**Bucovina Ar. S**	**29.76**	**314**	P			**P**	**22 42 09.8**	**-1.5**
BUR08				IAmb			IAmb	22 42 12.6	
	comp=Z,4.1nm,1.3s								
ZAA0	**Zalesovo Array**	**30.49**	**33**	P			**P**	**22 42 17.1**	**-0.4**
ZALV	**Zalesovo Beam**	**30.49**	**33**	P			**P**	**22 42 17.1**	**-0.5**
ZALV	**Zalesovo Beam**	**30.49**	**33**	P			**P**	**22 42 17.7**	**+0.2**
	comp=Z,4.5nm,0.6s,baz=240,slow=9.2,SNR=28								
	comp=Z,4.5nm,0.6s								
FINES	**FINESS Array B**	**36.86**	**335**	P			**P**	**22 43 12.8**	**0.0**
	comp=Z,1.7nm,0.7s,baz=142,slow=9.6,SNR=7.3								
	comp=Z,1.7nm,0.7s								
GEC2	**GERESS Array S**	**37.44**	**311**	P			**P**	**22 43 17.8**	**-0.3**
GEC2				IAmb			IAmb	22 43 41.7	
	comp=Z,5.2nm,1.3s								
GERES	**GERESS Array B**	**37.44**	**311**	P			**P**	**22 43 17.5**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=118,slow=12,SNR=2.4								
	comp=Z,0.8nm,0.8s								
FUORN	**Ofenpass-Fuorn**	**39.36**	**307**	P			**P**	**22 43 33.7**	**-0.7**
FUORN				IAmb			IAmb	22 43 41.1	
	comp=Z,5.6nm,1.4s								
SONM	**Songino Array**	**40.90**	**51**	P			**P**	**22 43 47.8**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=283,slow=9.3,SNR=3.4								
	comp=Z,0.5nm,0.7s								
ARCES	**ARCESS Array B**	**42.79**	**344**	P			**P**	**22 44 02.0**	**-0.1**
	comp=Z,3.4nm,1.1s,baz=141,slow=9.2,SNR=5.9								
	comp=Z,3.4nm,1.1s								
SPB2	**Spitsbergen Ar**	**50.78**	**350**	P			**P**	**22 45 05.9**	**+1.4**
TOA0	**Torodi Ar. Sit**	**53.93**	**264**	P			**P**	**22 45 27.6**	**-1.1**
TORD	**Torodi Ar. Bea**	**53.93**	**264**	P			**P**	**22 45 28.3**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=55,slow=7.8								
	comp=Z,1.4nm,0.7s								
C19K	**Lookout Ridge**	**76.81**	**13**	P			**P**	**22 47 56.5**	**+0.3**
C19K				IAmb			IAmb	22 48 18.9	
	comp=Z,4.8nm,1.2s								
B21K	**Ikpikpuk River**	**77.25**	**11**	P			**P**	**22 47 59.4**	**+0.8**
BMAR	**Burnt Mountain**	**80.72**	**8**	P			**P**	**22 48 18.2**	**+0.4**

IDC ***12*** *22:38:08.7±1.5, 30°.79N×57°.20E, h0km, mb3.7/5, mbtmp3.8/8, ML3.6/3, MS4.3/1, Error ellipse: s-maj=41.1km s-min=24.1km az=118.0*
TEH ***12*** *22:38:08.5, 30°.77N×57°.30E, h8km±67km, ML3.7*

ISC 12 22:38:09.9±0.8,**30°.73N**±0°.05×**57°.27E**±0°.05,**h10**km,**n22,**
σ0**82**/21,**mb3.7**/5,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time	Res
					Op		ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.68**	**291**	Pg			**Pg**	**22 38 22.5**	**-0.5**
KHGB	**Koh Gabri**	**0.77**	**243**	Pg			**Pg**	**22 38 24.5**	**-0.3**
TVBK	**TV Kerman**	**0.86**	**211**	Pg			**Pg**	**22 38 26.0**	**-0.6**
CHMN	**Cheshme madani**	**0.90**	**165**	Pg			**Pg**	**22 38 26.4**	**-0.8**
NGRK	**Negar Kerman**	**1.18**	**204**	Pg			**Pb**	**22 38 32.2**	**-0.3**
IBAF	**Bafgh**	**1.70**	**301**	Pg			**Pb**	**22 38 40.3**	**-1.0**
KBAM	**BAM**	**1.89**	**147**	Pn			**Pb**	**22 38 43.7**	**-0.8**
BSRN	**Basiran**	**2.01**	**52**	Pn			**Pn**	**22 38 44.4**	**+0.4**
IKOO	**Kooshah**	**2.25**	**41**	Pn			**Pn**	**22 38 47.0**	**-0.4**
IMEH	**Mehriz**	**2.38**	**287**	Pn			**Pn**	**22 38 50.0**	**+0.9**
ITEG	**Tejag**	**2.50**	**30**	Pn			**Pn**	**22 38 51.8**	**+1.0**
ICHK	**Chekchek**	**2.88**	**302**	Pn			**Pn**	**22 38 56.7**	**+0.7**
IDAH	**Dahanechah**	**2.98**	**47**	Pn			**Pn**	**22 38 59.1**	**+1.6**
GEYT	**Alibeck**	**7.22**	**5**	Pn			**Pn**	**22 39 56.1**	**+0.6**
	0.3nm,0.3s,baz=252,slow=14,SNR=2.0								
	4.1nm,0.7s								
WSAR	**Wadi Sarin**	**7.56**	**170**	Pn			**Pn**	**22 40 02.0**	**+1.9**
	2.3nm,0.3s,baz=8.3,slow=11,SNR=7.1								
	11nm,0.5s								
AKTO	**Aktyubinsk**	**19.69**	**1**	P			**P**	**22 42 39.3**	**+0.2**
	0.2nm,0.3s,baz=187,slow=10,SNR=5.8								
	2.0nm,0.7s								
BRTR	**Keskin Array B**	**21.24**	**301**	LR			LR	22 51 47.5	
	comp=Z,898nm,19.8s,baz=104,slow=39								
BVAR	**Borovoye Array**	**24.25**	**19**	P			**P**	**22 43 27.0**	**+0.1**
	1.0nm,0.6s,baz=198,slow=7.6,SNR=5.6								
	1.0nm,0.6s								
MKAR	**Makanchi Array**	**25.10**	**43**	P			**P**	**22 43 34.9**	**+0.2**
	0.8nm,0.8s,baz=236,slow=8.1,SNR=5.3								
	0.8nm,0.8s								
KURBB	**Kurchatov Arra**	**25.43**	**33**	P			**P**	**22 43 37.9**	**+0.3**
	1.6nm,0.8s,baz=232,slow=9.1,SNR=9.8								
	1.6nm,0.8s								
ZALV	**Zalesovo Beam**	**30.53**	**33**	P			**P**	**22 44 22.9**	**-0.2**
	2.0nm,0.6s,baz=241,slow=8.9,SNR=9.8								
	2.0nm,0.6s								
TORD	**Torodi Ar. Bea**	**53.91**	**264**	P			**P**	**22 47 33.5**	**-0.3**
	0.8nm,0.9s,baz=50,slow=7.6,SNR=2.9								
	0.8nm,0.9s								

IDC ***12*** *22:38:37.1±2.9, 0°.17N×97°.85E, h0km, mb3.5/6, mbtmp3.6/7, ML4.5/1, Error ellipse: s-maj=116.3km s-min=21.1km az=58.0*
DJA ***12*** *22:38:37.3±1.3, 0°.5±4°×9°.8E±°, h13km±7km, M4.5/13, mb4.7/7, MLv4.3/13*

ISC 12 22:38:38.8±1.2,**0°.05S**±0°.09×**97°.6E**±0°.1,**h25**km,**n29,**
σ1**12**/18,**mb3.5/6,Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time	Res
					Op		ISC	h m s	ISC
PBSI	**Pulau Batu**	**0.71**	**91**	P			**Pn**	**22 38 54.3**	**+0.9**
PBSI				S			**Sb**	**22 38 59.9**	**-2.2**
GSI	**Gunungsitoli**	**1.34**	**0**	P			**Pn**	**22 39 01.4**	**-0.6**
PDSI	**Padang**	**3.02**	**107**	P			**Pn**	**22 39 26.2**	**+1.0**
KCSI	**Kotacane, Aceh**	**3.55**	**3**	P			**Pn**	**22 39 31.5**	**-0.9**
PPSI	**Pulau Pagai**	**3.64**	**138**	P			**Pn**	**22 39 31.7**	**-1.9**
KRJI	**Kerinci**	**4.39**	**118**	P			**Pn**	**22 39 43.6**	**-0.5**
LHMI	**Lhok Sumawe**	**5.28**	**353**	P			**Pn**	**22 39 55.4**	**-0.7**
	42nm,1.2s,1.7nm								
JMBI	**JAMBI**	**6.28**	**105**	P			**Pn**	**22 40 09.7**	**-0.2**
	63nm,0.4s,0.5nm								
MNAI	**Manna**	**6.88**	**129**	P			**Pn**	**22 40 18.0**	**-0.3**
	234nm,1.2s,1.1nm								
LHSI	**Lahat**	**7.04**	**122**	P			**Pn**	**22 40 20.0**	**-0.4**
	14nm,0.7s,0.2nm								
CMAR	**Chiang Mai Arr**	**18.44**	**4**	P			**P**	**22 42 51.6**	**-1.0**
	0.6nm,0.3s,baz=195,slow=11,SNR=7.9								
	1.5nm,0.3s								
H08S2	**Diego Garcia H**	**26.11**	**253**	T			T	23 11 07.5	
	baz=73,slow=74,SNR=267								
H08S3	**Diego Garcia H**	**26.12**	**253**	T			T	23 11 05.5	
	baz=73,slow=74,SNR=525								
H08S1	**Diego Garcia H**	**26.13**	**253**	T			T	23 11 03.9	
	baz=73,slow=74,SNR=82								
H01W3	**Cape Leeuwin H**	**37.96**	**158**	T			T	23 26 10.7	
	baz=333,slow=76,SNR=4.0								
H01W2	**Cape Leeuwin H**	**37.98**	**158**	T			T	23 26 15.4	
	baz=333,slow=76,SNR=4.8								
H01W1	**Cape Leeuwin H**	**37.98**	**158**	T			T	23 26 10.8	
	baz=333,slow=76,SNR=4.9								
WRA	**Warramunga Arr**	**41.08**	**121**	P			**P**	**22 46 21.5**	**+0.6**
	0.8nm,0.7s,baz=302,slow=9.0,SNR=9.2								
	0.8nm,0.7s								
ASAR	**Alice Springs**	**42.36**	**126**	P			**P**	**22 46 32.8**	**+1.4**
	0.3nm,0.7s,baz=311,slow=8.5,SNR=2.2								
	0.3nm,0.7s								
SONM	**Songino Array**	**48.30**	**8**	P			**P**	**22 47 18.1**	**-0.1**
	0.3nm,0.7s,baz=195,slow=12,SNR=2.5								
	0.3nm,0.7s								
MKAR	**Makanchi Array**	**48.53**	**346**	P			**P**	**22 47 20.9**	**+1.0**
	1.0nm,0.5s,baz=161,slow=8.9,SNR=22								
	1.0nm,0.5s								
KURBB	**Kurchatov Arra**	**53.02**	**345**	P			**P**	**22 47 54.5**	**+0.9**
	0.2nm,0.6s,baz=137,slow=9.7,SNR=1.9								
	0.2nm,0.6s								
ZALV	**Zalesovo Beam**	**54.84**	**351**	P			**P**	**22 48 07.6**	**+0.8**
	0.5nm,0.4s,baz=157,slow=7.8,SNR=2.7								
	0.5nm,0.4s								
H04N2	**CROZET ISLANDS**	**60.96**	**215**	T			T	23 54 59.1	
	baz=55,slow=75,SNR=79								
H04N1	**CROZET ISLANDS**	**60.97**	**215**	T			T	23 54 49.1	
	baz=55,slow=75,SNR=72								
H04N3	**CROZET ISLANDS**	**60.98**	**215**	T			T	23 54 58.3	
	baz=55,slow=75,SNR=74								
H04S1	**CROZET ISLANDS**	**61.29**	**214**	T			T	23 55 12.4	
	baz=54,slow=76,SNR=8.6								
H04S3	**CROZET ISLANDS**	**61.30**	**214**	T			T	23 55 10.1	
	baz=54,slow=76,SNR=8.8								
H04S2	**CROZET ISLANDS**	**61.30**	**214**	T			T	23 55 13.0	
	baz=54,slow=76,SNR=8.1								

CATAC ***12*** *22:45:24.7±0.8, 9°.06N×84°.79W, h2km, ML2.9*
UCR ***12*** *22:45:27.8±0.8, 9°.24N×84°.76W, h21km±8km, MW3.6*

ISC 12 22:45:25.7±2.0,**9°.17N**±0°.09×**84°.74W**±0°.04,**h0**km±13km,
n26,σ1**25**/32,**Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time	Res
					Op		ISC	h m s	ISC
JACO	**JACO, Garabito**	**0.50**	**9**	*e*P			**Pg**	**22 45 35.5**	**+0.3**
JACO	**JACO, Garabito**	**0.50**	**9**	*i*P			**Pg**	**22 45 35.5**	**+0.3**
JACO				*i*S			**Sb**	**22 45 44.6**	**-0.5**
CBL1	**Cabuya**	**0.55**	**320**	*e*P			**Pg**	**22 45 36.8**	**+0.6**
LLNJ	**Naranjito**	**0.70**	**64**	*e*P			**Pb**	**22 45 41.4**	**+0.7**
ABE2	**San Pablo**	**0.86**	**51**	*e*P			**Pg**	**22 45 43.5**	**+1.3**
LCR2	**La Lucha 2**	**0.92**	**52**	*e*P			**Pg**	**22 45 43.7**	**+0.4**
LCR2	**La Lucha 2**	**0.92**	**52**	*i*P			**Pg**	**22 45 43.7**	**+0.4**
LCR2				*i*S			**Sb**	**22 45 58.3**	**+0.8**
LCR2				IAML				22 45 59.7	
	comp=Z,220nm,1.0s								
NYURE	**Nandayure**	**0.97**	**328**	*e*P			**Pg**	**22 45 44.2**	**-0.1**
TBLN	**Tablon, Guarco**	**0.98**	**48**	*i*P			**Pg**	**22 45 44.6**	**+0.2**
TBLN				*i*S			**Sb**	**22 45 59.7**	**+0.6**
TBLN				IAML				22 46 00.8	
	comp=Z,500nm,1.0s								
INDI	**Punta indio, G**	**1.03**	**313**	*i*P			**Pb**	**22 45 44.7**	**-1.6**
INDI				*i*S			**Sn**	**22 46 06.8**	**+4.4**
INDI				IAML				22 46 15.9	
	comp=Z,81nm,1.0s								
CDM	**Cerro de Muert**	**1.03**	**68**	*e*P			**Pg**	**22 45 46.6**	**+1.1**
CDM	**Cerro de Muert**	**1.03**	**68**	*i*P			**Pg**	**22 45 46.6**	**+1.1**
CDM				*i*S			**Sn**	**22 46 03.4**	**+0.2**
CDM				IAML				22 46 05.6	
	comp=Z,130nm,1.0s								
RIMA	**Rio Macho**	**1.05**	**55**	*e*P			**Pb**	**22 45 45.6**	**-1.2**
RIMA	**Rio Macho**	**1.05**	**55**	*i*P			**Pb**	**22 45 45.9**	**-0.9**
RIMA				*i*S			**Sn**	**22 46 02.3**	**-0.9**
RIMA				IAML				22 46 02.8	
	comp=Z,170nm,1.0s								
BUS1	**Rivas**	**1.05**	**68**	*e*P			**Pg**	**22 45 46.1**	**+0.3**
VPTE	**Poasito**	**1.13**	**28**	*e*P			**Pb**	**22 45 47.8**	**-0.5**
VPTE	**Poasito**	**1.13**	**28**	*i*P			**Pb**	**22 45 48.0**	**-0.2**
VPTE				IAML				22 45 51.3	
	comp=Z,420nm,1.0s								
CPMI	**Catarata Coope**	**1.16**	**17**	*i*P			**Pb**	**22 45 48.6**	**-0.2**
CPMI				IAML				22 46 26.1	
	comp=Z,170nm,1.0s								
SOCE	**Pocosol**	**1.21**	**5**	*e*P			**Pn**	**22 45 48.4**	**-1.5**
SOCE	**Pocosol**	**1.21**	**5**	*i*P			**Pn**	**22 45 49.4**	**-0.5**
SOCE				IAML				22 45 51.5	
	comp=Z,190nm,1.0s								
JUD3	**Juan Diaz 3**	**1.27**	**321**	*e*P			**Pn**	**22 45 49.2**	**-1.5**
VTCV	**VTCV, Calle Va**	**1.28**	**51**	*e*P			**Pn**	**22 45 50.5**	**-0.5**
PLVR	**Palo Verde**	**1.32**	**333**	*e*P			**Pn**	**22 45 50.2**	**-1.3**
SRBA	**San Rafael, Bu**	**1.36**	**87**	*e*P			**Pn**	**22 45 51.0**	**-1.0**
ORTG	**Ortega, Santa**	**1.39**	**329**	*i*P			**Pg**	**22 45 54.1**	**+1.8**
TRT2	**Tortugero**	**1.70**	**35**	*i*P			**Pb**	**22 45 57.2**	**-0.6**
TRT2				IAML				22 46 07.9	
	comp=Z,110nm,1.0s								

NEIC ***12*** *22:47:44.9±1.3, 18°.40S×172°.64W±0°.04, h10km±1km, mb4.4/8, Error ellipse: s-maj=13.3km s-min=5.8km az=172.0*
IDC ***12*** *22:47:45.0±1.6, 18°.83S×172°.84W, h0km, mb4.0/3, mbtmp4.1/4, ML3.3/1, Error ellipse: s-maj=65.6km s-min=30.3km az=162.0*

ISC 12 22:47:47.8±0.8,**18°.32S**±0°.08×**172°.64W**±0°.07,**h41**km,**n17,**
σ1**26**/18,**mb4.4/7,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time	Res
					Op		ISC	h m s	ISC
NIUE	**Niue**	**2.67**	**107**				**Pn**	**22 48 29.5**	**+1.1**
NIUE					Sn		**Sn**	**22 48 57.7**	**-1.9**
AFI	**Afiamalu**	**4.46**	**11**	Pn			**Pn**	**22 48 53.1**	**+0.1**
AFI					Sn		**Sn**	**22 49 44.0**	**+0.2**
RAR	**Rarotonga**	**12.45**	**105**	Pn			**Pn**	**22 50 40.9**	**-1.5**
RAR	**Rarotonga**	**12.45**	**105**	Pn			**Pn**	**22 50 43.7**	**+1.3**
	1.7nm,0.3s,baz=197,slow=16,SNR=3.4								
	13nm,0.7s								
DZM	**Mont Dzumac**	**19.98**	**256**	P			**P**	**22 52 13.9**	**-3.0**
DZM				IAmb			IAmb	22 52 35.8	
	comp=Z,15nm,1.2s								
URZ	**Urewera**	**21.79**	**202**	P			**P**	**22 52 37.9**	**+1.8**
	comp=Z,10nm,0.9s,baz=31,slow=19,SNR=1.8								
RTZ	**Ruatahuna**	**22.15**	**202**	P			**P**	**22 52 39.7**	**-0.5**
RTZ				IAmb			IAmb	22 53 02.6	
	comp=Z,19nm,1.2s								
THZ	**Tophouse**	**26.43**	**205**	P			**P**	**22 53 20.7**	**0.0**
THZ

LCOCO				*e*S		**Sg**	**22 51 09.5 +0.6**
VTCV	**VTCV, Calle Va**	**0.99 321**	⇓	*e*P		**Pb**	**22 50 56.2 0.0**
PCAYA	**Pacayas**	**0.99 315**	⇑	*i*P		**Pn**	**22 50 57.6 +0.6**
PCAYA				*e*S		**Sn**	**22 51 11.1 0.0**
DVD	**David**	**1.00 140**		*e*P		**Pb**	**22 50 56.4 +0.1**
DVD				*e*S		**Sn**	**22 51 10.6 -0.2**
CVTV	**Tajo**	**1.02 321**	⇓	*e*P		**Pb**	**22 50 56.9 0.0**
PTPM	**Petroterminale**	**1.02 168**		*e*P		**Pn**	**22 50 57.5 +0.4**
PTPM				*e*S		**Sn**	**22 51 12.8 +1.4**
LLNJ	**Naranjito**	**1.02 285**		*e*P		**Pn**	**22 50 57.5 +0.3**
CVTQ	**Turrialba Volc**	**1.03 320**		*e*P		**Pg**	**22 50 57.2 +0.2**
VTLA	**Turrialba Volc**	**1.03 320**	⇓	*i*P		**Pb**	**22 50 57.1 0.0**
VTLO	**VTLO**	**1.04 323**	⇓	*e*P		**Pb**	**22 50 57.0 -0.1**
CVTR	**Volcan Turrial**	**1.04 321**		*e*P		**Pn**	**22 50 57.7 -0.1**
LCR2	**La Lucha 2**	**1.04 301**		*e*P		**Pg**	**22 50 57.2 0.0**
LCR2				*e*S		**Sb**	**22 51 10.4 -0.4**
LOCO3	**Loma Colorada,**	**1.04 140**		*e*P		**Pb**	**22 50 57.1 +0.1**
LOCO3				*e*S		**Sg**	**22 51 11.2 +0.5**
ICR3	**Volcano Irazu**	**1.05 317**	⇓	*i*P		**Pb**	**22 50 57.4 -0.1**
ICR3				*e*S		**Sg**	**22 51 11.7 +0.4**
PEDE3	**Pedregal, Chir**	**1.06 141**		*e*P		**Pb**	**22 50 57.5 +0.2**
PEDE3				*e*S		**Sn**	**22 51 12.2 0.0**
HAYA	**Volcan Irazu**	**1.06 316**		*i*P		**Pb**	**22 50 57.6 0.0**
HAYA				*i*S		**Sn**	**22 51 12.7 -0.3**
HAYA				IAML			22 51 13.6
	comp=Z,3μm,1.0s						
ABE2	**San Pablo**	**1.06 298**		*e*P		**Pb**	**22 50 57.3 -0.2**
ABE2				*e*S		**Sn**	**22 51 12.1 -0.7**
VICA	**Volcano Irazu**	**1.07 317**		*e*P		**Pb**	**22 50 57.7 0.0**
TBLN	**Tablon, Guarco**	**1.08 305**		*i*P		**Pb**	**22 50 57.5 -0.3**
TBLN				*i*S		**Sg**	**22 51 11.8 -0.2**
TBLN				IAML			22 51 12.5
	comp=Z,3μm,1.0s						
OCM	**Ochomogo**	**1.09 309**		*e*P		**Pb**	**22 50 57.9 0.0**
OCM	**Ochomogo**	**1.09 309**		*i*P		**Pb**	**22 50 57.8 -0.2**
OCM				*i*S		**Sg**	**22 51 12.7 +0.3**
OCM				IAML			22 51 13.7
	comp=Z,1μm,1.0s						
LIMO3	**Limones**	**1.12 168**		*e*P		**Pg**	**22 50 59.3 +0.5**
LIMO3				*e*S		**Sn**	**22 51 16.1 +2.2**
CVIMO	**Finca Echandi**	**1.16 314**		*e*P		**Pb**	**22 50 58.1 -1.2**
CORON	**Coronado**	**1.17 311**		*e*P		**Pg**	**22 50 59.9 +0.2**
SJS3	**Mercedes San J**	**1.19 308**		*e*P		**Pn**	**22 50 59.5 -0.1**
LUJA	**Lujan**	**1.20 307**		*e*P		**Pg**	**22 51 00.9 +0.7**
LUPE	**Guadalupe**	**1.20 308**		*e*P		**Pg**	**22 51 00.4 +0.2**
ACOS	**Acosta**	**1.20 299**		*e*P		**Pn**	**22 50 58.8 -1.0**
HDC3	**Heredia 3**	**1.27 308**	⇓	*e*P		**Pg**	**22 51 01.5 -0.1**
HDC	**Heredia**	**1.27 308**		*e*P		**Pg**	**22 51 01.6 -0.1**
BELE	**Belen**	**1.32 306**		*e*P		**Pg**	**22 51 03.4 +0.9**
VPTE	**Poasito**	**1.45 312**		*e*P		**Pb**	**22 51 03.9 -0.1**
VPTE	**Poasito**	**1.45 312**		*i*P		**Pg**	**22 51 05.0 0.0**
TRT2	**Tortugero**	**1.48 335**		*i*P		**Pn**	**22 51 03.6 +0.1**
TRT2				*i*S		**Sb**	**22 51 23.7 +0.4**
JACO	**JACO, Garabito**	**1.60 287**		*e*P		**Pb**	**22 51 06.9 +0.3**
JACO	**JACO, Garabito**	**1.60 287**		*i*P		**Pb**	**22 51 06.9 +0.3**
JACO				IAML			22 51 08.0
	comp=Z,500nm,1.0s						
JACO				*i*S		**Sg**	**22 51 29.4 +0.6**
CPMI	**Catarata Coope**	**1.65 310**		*e*P		**Pb**	**22 51 07.6 0.0**
CPMI	**Catarata Coope**	**1.65 310**		*i*P		**Pg**	**22 51 08.3 -0.6**
CPMI				*i*S		**Sg**	**22 51 30.9 +0.4**
CPMI				IAML			22 51 38.1
	comp=Z,380nm,1.0s						
SOCE	**Pocosol**	**1.90 308**		*e*P		**Pb**	**22 51 11.7 0.0**
SOCE	**Pocosol**	**1.90 308**		*i*P		**Pb**	**22 51 11.7 0.0**
SOCE				*i*S		**Sg**	**22 51 38.8 +0.6**
SOCE				IAML			22 51 44.8
	comp=Z,570nm,1.0s						
COVE	**Coope Vega, Sa**	**1.98 320**		*e*P		**Pb**	**22 51 12.2 -0.8**
COVE	**Coope Vega, Sa**	**1.98 320**		*i*P		**Pb**	**22 51 12.2 -0.8**
COVE				*i*S		**Sg**	**22 51 39.3 -1.4**
COVE				IAML			22 51 49.0
	comp=Z,850nm,1.0s						
VACR	**Volcan Arenal**	**2.00 309**		*e*P		**Pb**	**22 51 13.9 +0.5**
VACR	**Volcan Arenal**	**2.00 309**		*i*P		**Pb**	**22 51 14.2 +0.8**
VACR				*i*S		**Sg**	**22 51 41.8 +0.3**
CBL1	**Cabuya**	**2.00 281**		*e*P		**Pb**	**22 51 12.4 -1.0**
CASO	**Castillo**	**2.02 307**		*e*P		**Pb**	**22 51 13.5 -0.2**
CEDE	**Laguna Cedeo**	**2.03 309**		*e*P		**Pb**	**22 51 14.2 +0.2**
TABAC	**Tabacon**	**2.08 308**		*e*P		**Pb**	**22 51 15.6 +0.7**
TABAC				*e*S		**Sg**	**22 51 44.2 0.0**
COTE	**Lago Cote**	**2.25 307**		*e*P		**Pb**	**22 51 17.4 -0.3**
RSUS3	**Rio de Jesus,**	**2.27 122**		*e*P		**Pn**	**22 51 14.5 +0.1**
RSUS3				*e*S		**Sn**	**22 51 42.7 +0.4**
GMAL	**Guarumal, Vera**	**2.34 128**		*e*P		**Pn**	**22 51 16.0 +0.7**
GMAL				*e*S		**Sn**	**22 51 43.8 -0.1**
GMAL	**Guarumal, Vera**	**2.34 128**		*e*P		**Pn**	**22 51 16.4 +1.1**
STIA3	**Santiago, Vera**	**2.38 117**		*e*P		**Pn**	**22 51 16.1 +0.3**
STIA3				*e*S		**Sn**	**22 51 45.0 +0.2**
ACAL	**Aguas Claras**	**2.38 307**		*e*P		**Pb**	**22 51 19.9 0.0**
ACAL				*e*S		**Sg**	**22 51 51.9 -1.6**
INDI	**Punta indio, G**	**2.46 286**		*e*P		**Pb**	**22 51 18.9 -2.3**
INDI	**Punta indio, G**	**2.46 286**		*i*P		**Pb**	**22 51 22.2 +1.0**
PLVR	**Palo Verde**	**2.49 297**		*e*P		**Pb**	**22 51 19.9 -2.0**
CANAL	**Canalete**	**2.51 310**		*e*P		**Pb**	**22 51 21.1 -1.1**
COLC	**Colonia**	**2.53 305**		*e*P		**Pb**	**22 51 22.3 -0.1**
HORNC	**Hornillas**	**2.54 306**		*e*P		**Pb**	**22 51 22.1 -0.5**
MESS	**Mesas**	**2.56 307**		*e*P		**Pb**	**22 51 22.6 -0.4**
JUD3	**Juan Diaz 3**	**2.59 292**		*e*P		**Pn**	**22 51 20.2 +1.4**
ORTG	**Ortega, Santa**	**2.59 296**		*i*P		**Pb**	**22 51 21.7 -1.9**
ORTG				IAML			22 52 02.9
	comp=Z,130nm,1.0s						
LAPC	**Finca la Perla**	**2.77 304**		*e*P		**Pb**	**22 51 25.8 -0.8**
CACAO	**El Cacao, Vera**	**2.89 130**		*e*P		**Pb**	**22 51 26.0 -2.5**
CACAO				*e*S		**Sn**	**22 51 57.0 -0.5**
CHIT3	**Chitre**	**2.93 115**		*e*P		**Pn**	**22 51 24.1 +0.7**
CHIT3				*e*S		**Sn**	**22 51 57.9 -0.7**
AZU	**Azuero**	**3.13 116**		*e*P		**Pn**	**22 51 26.2 0.0**
AZU				*e*S		**Sn**	**22 52 03.0 -0.4**
BCIP	**Isla Barro Col**	**3.22 90**		*i*P		**Pn**	**22 51 31.2 +3.7**

IDC **12** *22:57:38.5±1.6,27.˝19N×44.˝25W,h0km,mb3.7/6, mbtmp3.7/6,MS4.6/5,Error ellipse: s-maj=56.2km s-min=25.6km az=10.0*

ISC 12 22:57:40.8±1.5,27.°2N±0.°4×44.°3W±0.°2,h16km,n18, σ0s22/7,mb3.9/6,MS4.6/5,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05S1	**Guadeloupe/Mar**	**20.00**	**234**	T	T	23 22 16.6	
	SNR=4.2						
SCHQ	**Schefferville**	**32.18**	**335**	LR	LR	23 17 31.7	
	comp=Z,1μm,18.8s,baz=302,slow=37						
SADO	**Sadowa**	**32.93**	**311**	LR	LR	23 16 38.9	
	comp=Z,1μm,18.5s,baz=18,slow=35						
DBIC	**Dimbokro**	**42.59**	**111**	LR	LR	23 19 46.1	
	comp=Z,570nm,21.5s,baz=302,slow=31						
TORD	**Torodi Ar. Bea**	**45.08**	**99**	P	**P**	**23 05 56.5**	**0.0**
	1.2nm,0.9s,baz=316,slow=7.4,SNR=5.7						
TORD				LR	LR	23 24 31.4	
	comp=Z,438nm,18.3s,baz=296,slow=36 1.2nm,0.9s						
H10N2	**ASCENSION HYDR**	**45.19**	**136**	T	T	23 54 15.3	
	baz=321,slow=75,SNR=326						
H10N3	**ASCENSION HYDR**	**45.19**	**136**	T	T	23 54 07.0	
	baz=321,slow=75,SNR=245						
H10N1	**ASCENSION HYDR**	**45.21**	**136**	T	T	23 54 10.7	
	baz=321,slow=75,SNR=354						
H10S3	**ASCENSION HYDR**	**45.96**	**137**	T	T	23 55 06.3	
	baz=321,slow=74,SNR=148						
H10S2	**ASCENSION HYDR**	**45.98**	**137**	T	T	23 55 07.5	
	baz=259,slow=74,SNR=75						
TXAR	**Lajitas Array**	**51.89**	**287**	P	**P**	**23 06 48.7**	**-0.3**
	0.3nm,0.7s,baz=97,slow=7.4,SNR=3.5 0.3nm,0.7s						
PDAR	**Pinedale Array**	**54.45**	**305**	P	**P**	**23 07 08.1**	**+0.3**
	1.4nm,0.8s,baz=96,slow=5.7,SNR=7.6 1.4nm,0.8s						
YKA	**Yellowknife Ar**	**57.22**	**329**	LR	LR	23 31 41.9	
	comp=Z,666nm,19.1s,baz=94,slow=36						
ARCES	**ARCESS Array B**	**57.75**	**23**	P	**P**	**23 07 30.6**	**-0.1**
	3.2nm,0.9s,baz=268,slow=6.1,SNR=7.1 3.2nm,0.9s						
AKASG	**Malin Array Be**	**59.23**	**45**	P	**P**	**23 07 41.2**	**0.0**
	0.2nm,0.4s,baz=280,slow=5.8,SNR=1.8 0.2nm,0.4s						
H09W1	**TRISTAN DA CUN**	**70.62**	**153**	T	T	00 25 50.2	
	SNR=8.4						
ILAR	**Eielson Array**	**70.92**	**334**	P	**P**	**23 08 57.0**	**0.0**
	0.9nm,0.9s,baz=72,slow=5.8,SNR=3.9 0.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**122.29**	**42**	PKP	**PKPdf**	**23 16 36.1**	**+0.2**
	0.6nm,0.3s,baz=308,slow=3.3,SNR=1.8						

IDC **12** *23:01:48.1±2.8,39.˚03N×142.˚86E,h0km,mb3.4/3, mbtmp3.3/4,ML2.4/1,Error ellipse: s-maj=70.3km s-min=33.1km az=71.0*

JMA **12** *23:01:53.4±0.2,39.˚0N±0.˚4×142.˚4E±0.˚8,h28km±1km, MV3.5/40,E OFF MIYAGI PREF*

ISC 12 23:01:53.0±2.5,38.°98N±0.°07×142.°4E±0.°1,h24km±16km, n21,σ0s83/26,mb3.6/3,6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.60**	**280**	⇓P	**Pb**	**23 02 05.1**	**+0.3**
OFUJ				⇓S	**Sb**	**23 02 13.3**	**+0.4**
JKMT	**Kesennumamotoy**	**0.76**	**258**	⇓P	**Pb**	**23 02 07.4**	**-0.2**
JKMT				⇓S	**Sb**	**23 02 16.6**	**-0.8**
MIYJ	**Miyakonagasawa**	**0.76**	**322**	P	**Pb**	**23 02 07.5**	**-0.1**
MIYJ				S	**Sb**	**23 02 17.4**	**-0.1**
JMK	**Ichinoseki**	**0.94**	**269**	*i*P	**Pn**	**23 02 10.4**	**-0.2**
JMK				S	**Sb**	**23 02 22.4**	**-0.2**
JIO	**Ouri**	**0.99**	**239**	⇓*i*P	**Pn**	**23 02 10.4**	**-0.9**
JIO				⇓S	**Sn**	**23 02 22.0**	**-2.5**
JOM	**Ohasama**	**1.01**	**300**	*i*P	**Pb**	**23 02 12.0**	**+0.2**
JOM				S	**Sb**	**23 02 25.1**	**+0.5**
JTH	**Tanohata**	**1.05**	**336**	P	**Pb**	**23 02 12.5**	**-0.1**
JTH				*e*S	**Sb**	**23 02 25.9**	**0.0**
JKZ	**Kuzumaki**	**1.31**	**320**	P	**Pb**	**23 02 16.8**	**-0.2**
JKZ				S	**Sb**	**23 02 33.1**	**-0.4**
JRG	**Rokugo**	**1.45**	**287**	P	**Pb**	**23 02 19.3**	**0.0**
JRG				S	**Sb**	**23 02 37.6**	**+0.2**
JOU	**Okura**	**1.51**	**247**	P	**Pn**	**23 02 18.8**	**+0.3**
JOU				S	**Sn**	**23 02 37.5**	**+0.2**
JANG	**Nango**	**1.56**	**334**	P	**Pb**	**23 02 20.4**	**-0.8**
JANG				S	**Sb**	**23 02 40.2**	**-0.3**
MJAR	**Matsushiro Arr**	**4.13**	**235**	Pn	**Pn**	**23 02 56.7**	**+2.1**
	0.2nm,0.3s,baz=36,slow=12,SNR=8.4 2.1nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.54**	**125**	T	T	23 38 09.0	
	baz=317,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**28.54**	**125**	T	T	23 38 10.4	
	baz=317,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**28.55**	**125**	T	T	23 38 11.0	
	baz=317,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**29.32**	**127**	T	T	23 39 09.1	
	baz=318,slow=76,SNR=3.1						
H11S3	**WAKE ISLAND Hy**	**29.32**	**127**	T	T	23 39 08.6	
	baz=318,slow=76,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	**29.34**	**127**	T	T	23 39 11.8	
	baz=318,slow=76,SNR=4.2						
MKAR	**Makanchi Array**	**43.79**	**301**	P	**P**	**23 09 57.4**	**+0.8**
	0.2nm,0.5s,baz=84,slow=9.8,SNR=4.5 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**45.46**	**307**	P	**P**	**23 10 10.5**	**+0.7**
	0.5nm,0.5s,baz=81,slow=8.5,SNR=4.4 0.5nm,0.5s						
WRA	**Warramunga Arr**	**59.10**	**189**	P	**P**	**23 11 50.9**	**-0.4**
	0.2nm,0.4s,baz=5.7,slow=7.0,SNR=5.3 0.2nm,0.4s						

TEH 12 23:05:03.6,30.°79N×57.°29E,h6km±999km,ML3.8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.68**	**286**	Pg	Pb	23 05 18.5	+0.5
KHGB	**Koh Gabri**	**0.81**	**240**	Pg	Pb	23 05 20.2	-0.1
TVBK	**TV Kerman**	**0.92**	**210**	Pg	Pb	23 05 22.7	+0.5
CHMN	**Cheshme madani**	**0.95**	**167**	Pg	Pb	23 05 22.6	0.0
NGRK	**Negar Kerman**	**1.24**	**203**	Pg	Pn	23 05 29.0	+1.1
IBAF	**Bafgh**	**1.68**	**299**	Pg	Pg	23 05 36.4	+0.6
KBAM	**BAM**	**1.93**	**148**	Pn	Pg	23 05 40.4	-0.2
BSRN	**Basiran**	**1.96**	**53**	Pn	Pb	23 05 40.1	+0.3
IKOO	**Kooshah**	**2.19**	**41**	Pn	Pb	23 05 44.1	+0.3
TPRV	**Parvadeh(Tabas**	**2.29**	**347**	Pn	Pb	23 05 45.2	-0.3
IMEH	**Mehriz**	**2.38**	**285**	Pn	Pb	23 05 47.0	0.0
ITEG	**Tejag**	**2.44**	**30**	Pn	Pb	23 05 47.0	-1.0
NHDN	**Nehbandan**	**2.44**	**75**	Pn	Pb	23 05 48.2	+0.2
TKDS	**Koohdasht(Taba**	**2.82**	**357**	Pn	Pb	23 05 52.1	-2.4
ICHK	**Chekchek**	**2.86**	**301**	Pn	Pb	23 05 53.5	-1.7
SHRT	**Shahrakht**	**3.82**	**41**	Pn	Pn	23 06 07.2	+4.1

IDC **12** *23:05:33.0±2.4,30.˚60N×57.˚27E,h0km,mb3.7/7, mbtmp3.6/9,ML3.2/2,MS4.5/3,Error ellipse: s-maj=53.9km s-min=24.0km az=149.0*

ISC 12 23:05:34.8±2.2,30.°6N±0.°2×57.°2E±0.°2,h10km,n11, σ0s78/9,mb3.6/7,MS4.6/3,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**7.30**	**5**	Pn	**Pn**	**23 07 22.3**	**+0.8**
	0.3nm,0.3s,baz=167,slow=13,SNR=2.0 1.3nm,0.5s						
AKTO	**Akubinsk**	**19.78**	**1**	P	**Pn**	**23 10 05.0**	**-1.5**
	0.1nm,0.3s,baz=171,slow=9.4,SNR=5.1 1.5nm,0.6s						
BVAR	**Borovoye Array**	**24.34**	**19**	P	**P**	**23 10 52.8**	**+0.2**
	0.7nm,0.6s,baz=193,slow=5.8,SNR=4.3 0.7nm,0.6s						
MKAR	**Makanchi Array**	**25.18**	**43**	P	**P**	**23 11 00.8**	**+0.5**
	0.5nm,0.9s,baz=231,slow=10,SNR=2.1 0.5nm,0.9s						
KURBB	**Kurchatov Arra**	**25.51**	**32**	P	**P**	**23 11 03.3**	**+0.1**
	0.3nm,0.5s,baz=229,slow=9.1,SNR=4.2 0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**30.61**	**33**	P	**P**	**23 11 48.2**	**-0.6**
	0.7nm,0.4s,baz=235,slow=9.8,SNR=4.8 0.7nm,0.4s						
PALK	**Palkekele**	**31.99**	**132**	LR	LR	23 26 47.9	
	comp=Z,479nm,18.3s,baz=113,slow=40						
FINES	**FINESS Array B**	**36.95**	**336**	P	**P**	**23 12 44.1**	**+0.3**
	4.3nm,0.9s,baz=168,slow=7.1,SNR=2.2 4.3nm,0.9s						
GERES	**GERESS Array B**	**37.49**	**312**	P	**P**	**23 12 48.6**	**0.0**
	0.5nm,0.5s,baz=104,slow=12,SNR=3.0 0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**53.87**	**264**	P	**P**	**23 14 58.5**	**0.0**
	0.8nm,0.6s,baz=56,slow=7.5,SNR=6.5						
TORD				LR	LR	23 41 32.5	
	comp=Z,472nm,19.6s,baz=317,slow=40 0.8nm,0.6s						
YKA	**Yellowknife Ar**	**86.96**	**356**	LR	LR	00 01 34.5	
	comp=Z,342nm,20.9s,baz=204,slow=39						

IDC **12** *23:17:36.1±0.6,24.˚16N×122.˚33E,h0km,mb4.1/21, mbtmp4.1/22,ML3.6/1,MS4.1/3,Error ellipse: s-maj=19.1km s-min=13.6km az=65.0*

BJI **12** *23:17:37.6,24.˚08N×122.˚25E,h14km,mb4.0/17,mB4.8/8, ML4.1/7,Ms4.2/10,Ms7 4.1/10*

NEIC **12** *23:17:39.4,24.˚05N×122.˚32E,h23km*

NEIC **12** *23:17:39.1±1.4,24.˚04N±0.˚05×122.˚32E±0.˚02,h21km±5km, mb4.5/27,Mwr4.3/25,Error ellipse: s-maj=6.9km s-min=1.3km az=167.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-2.46; Mθθ 1.17; Mφφ 1.28; Mrθ-0.42; Mrφ 1.94; Mθφ-1.79; Fault plane solution: M0 3.42000×10¹⁵ NP1:φ=25.41000°,δ62.64000°, λ-111.24000°. NP2:φ=245.62000°,δ34.13000°, λ-55.01000°. Principal axes: T 3.5983, Plg15.0000°, Azm131.0000°; N -0.3902, Plg19.0000°, Azm36.0000°; P -3.2081, Plg66.0000°, Azm257.0000°;*

ASIES **12** *23:17:40.5,24.˚09N×122.˚25E,h23km,ML4.5,Mw4.5, Moment Tensor Solution. Moment tensor: Scale 10²²Nm; Mrr-3.20; Mθθ 2.12; Mφφ 3.73; Mrθ 3.81; Mθφ 3.39; Mrφ-0.92; Fault plane solution: M0 6.41770×10²² NP1: φ=249.26000°,δ63.63000°,λ-53.52000°. NP2:φ=10.26000°, δ43.92000°,λ-140.18000°. Principal axes: T Plg11.2590°, Azm313.8850°; N Plg32.1930°, Azm51.0850°; P Plg55.4300°, Azm207.0940°;*

NIED **12** *23:17:40.1,24.˚02N×122.˚29E,h23km,MW4.4,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr-2.08; Mθθ-1.14; Mφφ 3.21; Mrθ 0.47; Mθφ 1.94; Mrφ-2.25; Fault plane solution: M0 4.03000×10¹⁵ NP1: φ=352.00000°,δ70.00000°,λ-126.00000°. NP2: φ=236.00000°,δ41.00000°,λ-32.00000°.*

TAP **12** *23:17:40.5,24.˚09N×122.˚25E,h23km,ML4.5,C*

JMA **12** *23:17:40.1±0.1,24.˚0N±0.˚6×122.˚3E±0.˚2,h23km±2km,*

MD4.7/18,MV4.7/18,TAIWAN REGION

ISC 12 23:17:40.3±0.7,24.°06N±0.°02×122.°29E±0.°01,h28km±5km, n251,σ1s02/357,mb4.3/34,20C-28D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.07**	**25**	⇓*i*P	**Pb**	**23 17 44.4**	**-0.3**
	baz=61						
EOS4				*i*S	**Sb**	**23 17 47.4**	**-0.4**
	baz=61						
EOS3	**EOS3**	**0.23**	**7**	⇓*i*P	**Pb**	**23 17 46.2**	**-0.3**
	baz=354						
EOS3				*i*S	**Sb**	**23 17 50.7**	**-0.1**
	baz=354						
EOS2	**EOS2**	**0.36**	**352**	⇑P	**Pb**	**23 17 48.3**	**-0.1**
	baz=341						
EOS2				*e*S	**Sn**	**23 17 54.2**	**-1.5**
	baz=341						
EWUT	**Wuta**	**0.60**	**310**	⇑*i*P	**Pb**	**23 17 51.3**	**-1.1**
	baz=320						
EWUT				*e*S	**Sb**	**23 18 00.0**	**-0.5**
	baz=320						
ETL	**Fush Village**	**0.61**	**280**	*e*P	**Pb**	**23 17 52.4**	**-0.1**
	baz=261						
ETL				S	**Sn**	**23 18 02.1**	**0.0**
	baz=261						
ENA	**Nanau**	**0.62**	**307**	⇑*i*P	**Pb**	**23 17 51.5**	**-1.1**
	baz=314						
ENA				*e*S	**Sb**	**23 17 59.1**	**-1.9**
	baz=314						
HWA	**Hwalien**	**0.63**	**263**	*e*P	**Pb**	**23 17 53.0**	**+0.3**
	baz=245						
HWA				*e*S	**Sn**	**23 18 02.5**	**+0.1**
	baz=245						
TWD	**Chiawan**	**0.63**	**272**	*e*P	**Pb**	**23 17 52.5**	**-0.3**
	baz=269						
NACB	**Ninganchiao**	**0.64**	**281**		**Pb**	**23 17 52.5**	**-0.4**
NACB				Sg	**Sb**	**23 18 01.8**	**+0.2**
NACB	**Ninganchiao**	**0.64**	**281**	P	**Pb**	**23 17 52.6**	**-0.4**
NACB	**Ninganchiao**	**0.64**	**281**	⇓*i*P	**Pb**	**23 17 52.7**	**-0.3**
	baz=263						
NACB				S	**Sb**	**23 18 00.7**	**-0.9**
	baz=263						
TWC	**Suao**	**0.68**	**324**	⇑*i*P	**Pb**	**23 17 52.2**	**-1.4**
	baz=332						
TWC				*e*S	**Sb**	**23 18 00.2**	**-2.4**
	baz=332						
JYNG	**Yonagunijimaku**	**0.72**	**57**	P	**Pb**	**23 17 53.9**	**-0.4**
JYNG				S	**Sn**	**23 18 04.0**	**-0.7**
JYNG	**Yonagunijimaku**	**0.72**	**57**	A	A	23 17 53.9	
	comp=E,35nm,0.6s,comp=N,37nm,0.6s						
ETM	**Tongmen**	**0.73**	**263**	⇓*i*P	**Pb**	**23 17 53.8**	**-0.6**
	baz=249						
ETM				*e*S	**Sb**	**23 18 04.0**	**-0.2**
	baz=249						
ETLH	**Xiulin Townshi**	**0.75**	**282**	⇓P	**Pb**	**23 17 54.5**	**-0.3**
	baz=267						
ETLH				*e*S	**Sb**	**23 18 05.0**	**+0.3**
	baz=267						
TEGC	**Jichi Village**	**0.77**	**243**	*e*P	**Pb**	**23 17 54.7**	**-0.3**
	baz=240						
TEGC				*e*S	**Sb**	**23 18 05.7**	**+0.7**
	baz=240						
NDS	**Dongshan**	**0.78**	**318**	⇑*i*P	**Pb**	**23 17 54.3**	**-0.9**
	baz=322						
NDS				*e*S	**Sb**	**23 18 04.3**	**-1.1**
	baz=322						
YOJ	**Yonaguni jima**	**0.78**	**58**		**Pb**	**23 17 54.5**	**-0.7**
YOJ				Sg	**Sb**	**23 18 04.0**	**-1.4**
YOJ	**Yonaguni jima**	**0.78**	**58**	P	**Pn**	**23 17 55.1**	**-0.2**
YOJ	**Yonaguni jima**	**0.78**	**58**	P	**Pb**	**23 17 55.0**	**-0.2**
YOJ				*e*S	**Sn**	**23 18 05.5**	**-0.6**
YOJ	**Yonaguni jima**	**0.78**	**58**	A	A	23 17 55.0	
	comp=E,38nm,1.3s,comp=N,37nm,1.0s						
YOJ	**Yonaguni jima**	**0.78**	**58**	⇓P	**Pb**	**23 17 54.9**	**-0.2**
	baz=60						
YOJ				*e*S	**Sn**	**23 18 07.0**	**+0.9**
	baz=60						
LXIB	**Xiulin Townshi**	**0.80**	**268**	⇓*i*P	**Pb**	**23 17 54.8**	**-0.9**
	baz=255						
LXIB				S	**Sb**	**23 18 05.8**	**-0.4**
	baz=255						
ESL	**Shilin**	**0.82**	**253**	⇓*i*P	**Pb**	**23 17 54.8**	**-1.1**
	baz=241						
ESL				*e*S	**Sb**	**23 18 06.5**	**-0.1**
	baz=241						
LATG	**Datong**	**0.84**	**305**	⇑*i*P	**Pb**	**23 17 55.8**	**-0.6**
	baz=303						
LATG				*e*S	**Sb**	**23 18 07.3**	**-0.1**
	baz=303						
EGS		**0.85**	**338**	*e*P	**Pb**	**23 17 55.8**	**-0.7**
	baz=338						
EGS				*e*S	**Sb**	**23 18 06.7**	**-0.8**
	baz=338						
ILA	**Ilan**	**0.86**	**325**	*e*P	**Pb**	**23 17 55.9**	**-0.7**
	baz=325						
ILA				*e*S	**Sn**	**23 18 08.5**	**+0.3**
	baz=325						
TWE	**Neicheng**	**0.87**	**320**	⇑*i*P	**Pb**	**23 17 55.8**	**-1.0**

	baz=305								
TWT	**Tachien**	**1.03**	**281**	*e*P	**Pb**	**23**	**17**	**59.8**	**+0.1**
	baz=267								
EHY	**Hungye**	**1.04**	**238**	⇓*i*P	**Pn**	**23**	**17**	**58.2**	**-0.8**
	baz=228								
EHY				*e*S	**Sb**	**23**	**18**	**12.3**	**-0.6**
	baz=228								
NSK	**Sanguang**	**1.05**	**306**	⇑*i*P	**Pn**	**23**	**17**	**59.1**	**0.0**
	baz=305								
NSK				*e*S	**Sb**	**23**	**18**	**12.7**	**-0.5**
	baz=305								
TDCB	**Techi**	**1.05**	**281**	*e*P	**Pn**	**23**	**17**	**59.4**	**+0.2**
	baz=267								
ECBN	**Changbin**	**1.06**	**226**	⇓P	**Pn**	**23**	**17**	**58.9**	**-0.4**
	baz=225								
ECBN				*e*S	**Sb**	**23**	**18**	**12.9**	**-0.6**
	baz=225								
WUSB	**Renai**	**1.07**	**267**	*e*P	**Pn**	**23**	**17**	**59.5**	**-0.1**
	baz=265								
WUSB				*e*S	**Sb**	**23**	**18**	**12.8**	**-1.1**
	baz=265								
SXI1	**Grass Mountain**	**1.10**	**340**	⇑*i*P	**Pn**	**23**	**17**	**59.7**	**-0.2**
	baz=339								
SXI1				*e*S	**Sb**	**23**	**18**	**13.5**	**-1.2**
	baz=339								
NWF	**Wu-fen Shan**	**1.11**	**336**	*e*P	**Pn**	**23**	**18**	**00.1**	**0.0**
	baz=351								
WFSB	**Wu-fen Shan**	**1.11**	**336**	*e*P	**Pn**	**23**	**17**	**59.9**	**0.0**
	baz=335								
WFSB				S	**Sn**	**23**	**18**	**14.4**	**0.0**
	baz=335								
TWA	**Mucha**	**1.12**	**325**	⇑*i*P	**Pb**	**23**	**18**	**00.8**	**-0.3**
	baz=324								
TWA				S	**Sn**	**23**	**18**	**15.9**	**+1.2**
	baz=324								
YULB	**Yu-li**	**1.12**	**234**		**Pn**	**23**	**17**	**59.2**	**-0.9**
YULB	**Yu-li**	**1.12**	**234**	P	**Pn**	**23**	**17**	**59.6**	**-0.5**
YULB	**Yu-li**	**1.12**	**234**	⇓P	**Pn**	**23**	**17**	**59.6**	**-0.5**
	baz=221								
YULB				*e*S	**Sb**	**23**	**18**	**14.5**	**-0.7**
	baz=221								
EYUL	**Yuli**	**1.13**	**232**	*i* P	**Pn**	**23**	**18**	**00.2**	**-0.1**
	baz=218								
EYUL				*e*S	**Sb**	**23**	**18**	**14.9**	**-0.6**
	baz=218								
NHDH	**Xindian Distri**	**1.14**	**323**	⇑*i*P	**Pb**	**23**	**18**	**01.2**	**-0.1**
	baz=322								
NHDH				*e*S	**Sn**	**23**	**18**	**15.3**	**+0.3**
	baz=322								
TWF1	**Yuli**	**1.15**	**232**	⇓*i*P	**Pn**	**23**	**18**	**00.1**	**-0.4**
	baz=220								
TWF1				*e*S	**Sn**	**23**	**18**	**15.4**	**+0.2**
	baz=220								
TATO	**Taipei**	**1.17**	**322**	Pn	**Pn**	**23**	**18**	**01.1**	**+0.3**
TATO	**Taipei**	**1.17**	**322**	P	**Pb**	**23**	**18**	**01.9**	**+0.1**
NHY	**Taipei**	**1.18**	**326**	*e*P	**Pb**	**23**	**18**	**02.2**	**+0.2**
	baz=343								
TNOU	**National Taiwa**	**1.19**	**337**	*e*P	**Pn**	**23**	**18**	**00.9**	**-0.1**
	baz=349								
TNOU				S	**Sb**	**23**	**18**	**15.5**	**-1.6**
	baz=349								
TAP	**Taipei**	**1.21**	**324**	*e*P	**Pb**	**23**	**18**	**02.9**	**+0.3**
	baz=323								
TAP				*e*S	**Sb**	**23**	**18**	**18.3**	**+0.6**
	baz=323								
NFF	**Wufeng Townshi**	**1.21**	**299**	*e*P	**Pb**	**23**	**18**	**02.1**	**-0.5**
	baz=297								
WHP	**Taichung City**	**1.24**	**280**	*e*P	**Pb**	**23**	**18**	**02.8**	**-0.3**
	baz=268								
FULB	**Fuli**	**1.25**	**227**	⇓*i*P	**Pn**	**23**	**18**	**01.2**	**-0.7**
	baz=213								
FULB				*e*S	**Sn**	**23**	**18**	**17.1**	**-0.6**
	baz=213								
SSLB	**Suanglung**	**1.25**	**258**	Pn	**Pn**	**23**	**18**	**01.4**	**-0.5**
SSLB	**Suanglung**	**1.25**	**258**	P	**Pn**	**23**	**18**	**02.1**	**+0.2**
SSLB	**Suanglung**	**1.25**	**258**	⇓P	**Pn**	**23**	**18**	**01.9**	**0.0**
	baz=244								
WCS	**Beigang Elemen**	**1.26**	**270**	⇓*e*P	**Pn**	**23**	**18**	**02.5**	**+0.6**
	baz=269								
YM01	**YM01**	**1.27**	**329**	*e*P	**Pn**	**23**	**18**	**02.4**	**+0.3**
	baz=346								
CHKT	**Chengkung**	**1.27**	**222**	⇓*i*P	**Pn**	**23**	**18**	**01.2**	**-0.9**
	baz=209								
CHKT				*i* S	**Sn**	**23**	**18**	**16.7**	**-1.7**
	baz=209								
SMLT	**Sun Moon Lake**	**1.28**	**263**	⇓P	**Pn**	**23**	**18**	**02.8**	**+0.4**
	baz=261								
SMLT				*e*S	**Sn**	**23**	**18**	**19.0**	**+0.3**
	baz=261								
YM08	**YM08**	**1.29**	**331**	*e*P	**Pn**	**23**	**18**	**02.5**	**-0.1**
	baz=346								
LIOB	**Emei**	**1.30**	**297**	*e*P	**Pb**	**23**	**18**	**04.1**	**0.0**
	baz=296								
LIOB				*e*S	**Sb**	**23**	**18**	**19.8**	**-0.5**
	baz=296								
NSTT	**Nanjuang**	**1.30**	**296**	⇑*e*P	**Pb**	**23**	**18**	**03.8**	**-0.3**
	baz=295								
NSTT				*e*S	**Sn**	**23**	**18**	**19.7**	**+0.6**
	baz=295								
TWS1	**Kuangyinshan**	**1.31**	**323**	*e*P	**Pb**	**23**	**18**	**03.7**	**-0.5**
	baz=322								
TYC	**Yuchr**	**1.31**	**264**	⇓P	**Pn**	**23**	**18**	**03.2**	**+0.5**
	baz=262								
TYC				*e*S	**Sn**	**23**	**18**	**19.7**	**+0.3**
	baz=262								
ANP	**Anpu**	**1.32**	**328**	*e*P	**Pb**	**23**	**18**	**03.6**	**-0.9**
	baz=328								
EHD	**Haiduan**	**1.34**	**228**	*e*P	**Pn**	**23**	**18**	**02.9**	**-0.2**
	baz=215								
EHD				*e*S	**Sn**	**23**	**18**	**18.8**	**-1.2**
	baz=215								
NTST	**Danshui**	**1.34**	**326**	*e*P	**Pb**	**23**	**18**	**04.2**	**-0.6**
	baz=335								
NTST				*e*S	**Sb**	**23**	**18**	**21.4**	**-0.2**
	baz=335								
IRIF	**Iriomote-Funau**	**1.35**	**78**	P	**Pb**	**23**	**18**	**04.4**	**-0.4**
IRIF				*e*S	**Sb**	**23**	**18**	**22.0**	**+0.3**
IRIF	**Iriomote-Funau**	**1.35**	**78**	A	A	23	18	04.4	
	comp=E,30nm,1.3s,comp=N,27nm,1.0s								
NCUH	**Zhongli**	**1.35**	**312**	*e*P	**Pb**	**23**	**18**	**04.2**	**-0.8**
	baz=311								
NCUH				*e*S	**Sb**	**23**	**18**	**22.0**	**+0.1**
	baz=311								
WHYT	**Xinyi Township**	**1.36**	**255**	⇓P	**Pn**	**23**	**18**	**04.2**	**+0.8**
	baz=245								
TWY	**Chenhua**	**1.36**	**333**	*e*P	**Pb**	**23**	**18**	**04.4**	**-0.8**
	baz=332								
TWY				*e*S	**Sb**	**23**	**18**	**21.8**	**-0.5**
	baz=332								
ECS	**Chishang**	**1.37**	**226**	*e*P	**Pn**	**23**	**18**	**03.8**	**+0.2**
	baz=214								
ECS				*e*S	**Sn**	**23**	**18**	**21.4**	**+0.7**
	baz=214								
HATJ	**Hateruma jima**	**1.39**	**90**	P	**Pb**	**23**	**18**	**05.0**	**-0.6**
HATJ				S	**Sb**	**23**	**18**	**22.6**	**-0.3**
HATJ	**Hateruma jima**	**1.39**	**90**	A	A	23	18	05.0	
	comp=E,47nm,2.3s,comp=N,30nm,4.3s								
SBCB	**Hsinchu**	**1.39**	**302**	*e*P	**Pb**	**23**	**18**	**05.0**	**-0.7**
	baz=301								
EDH	**Donghe**	**1.41**	**220**	*e*P	**Pn**	**23**	**18**	**03.2**	**-0.8**
	baz=209								
EDH				*e*S	**Sn**	**23**	**18**	**20.4**	**-1.2**
	baz=209								
HSN	**Hsinchu**	**1.41**	**302**	*e*P	**Pb**	**23**	**18**	**05.8**	**-0.2**
	baz=302								
HSN				*e*S	**Sb**	**23**	**18**	**23.5**	**0.0**
	baz=302								
TWQ1	**Liyutan**	**1.41**	**282**	*e*P	**Pb**	**23**	**18**	**05.8**	**-0.1**
	baz=281								
NSY	**Sanyi**	**1.44**	**285**	*e*P	**Pb**	**23**	**18**	**06.6**	**+0.1**
	baz=271								
NSY				S	**Sb**	**23**	**18**	**25.6**	**+1.2**
	baz=271								
WJS	**Zhushan**	**1.44**	**261**	*e*P	**Pb**	**23**	**18**	**06.2**	**-0.4**
	baz=260								
WJS				S	**Sb**	**23**	**18**	**26.6**	**+2.1**
	baz=260								
NMLH	**Miaoli**	**1.45**	**290**	*e*P	**Pb**	**23**	**18**	**06.3**	**-0.2**
	baz=288								
NMLH				*e*S	**Sb**	**23**	**18**	**25.4**	**+0.8**
	baz=288								
ELDTW	**Lidau**	**1.45**	**234**	*e*P	**Pn**	**23**	**18**	**04.2**	**-0.6**
	baz=220								
ELDTW				*e*S	**Sn**	**23**	**18**	**22.3**	**-0.6**
	baz=220								
ALS	**Alishan**	**1.46**	**248**	⇓*i*P	**Pn**	**23**	**18**	**05.8**	**+0.7**
	baz=247								
TCU	**Taichung**	**1.47**	**274**	*e*P	**Pb**	**23**	**18**	**06.2**	**-0.8**
	baz=273								
WNT	**Mingjian**	**1.48**	**263**	*e*P	**Pb**	**23**	**18**	**06.7**	**-0.3**
	baz=262								
WNT				S	**Sb**	**23**	**18**	**26.3**	**+0.9**
	baz=262								
WDJ	**Dajia District**	**1.53**	**281**	*e*P	**Pb**	**23**	**18**	**07.4**	**-0.6**
	baz=280								
WDJ				*e*S	**Sb**	**23**	**18**	**27.4**	**+0.4**
	baz=280								
LONT	**Longtian**	**1.56**	**223**	*e*P	**Pn**	**23**	**18**	**05.8**	**-0.4**
	baz=214								
LONT				*e*S	**Sn**	**23**	**18**	**24.8**	**-0.6**
	baz=214								
LDUT	**Ludao**	**1.57**	**209**	*e*P	**Pn**	**23**	**18**	**05.3**	**-0.9**
	baz=209								
LDUT				*e*S	**Sn**	**23**	**18**	**23.5**	**-2.1**
	baz=209								
PCYT	**Pengchaiyu**	**1.58**	**353**	*e*P	**Pn**	**23**	**18**	**07.0**	**+0.6**
	baz=337								
PCYT				*e*S	**Sb**	**23**	**18**	**26.9**	**-1.5**
	baz=337								
WCHH	**Zhanghua**	**1.58**	**271**	*e*P	**Pb**	**23**	**18**	**08.3**	**-0.5**
	baz=270								
WCHH				S	**Sb**	**23**	**18**	**29.5**	**+1.1**
	baz=270								
JKRS	**Kuro-shima**	**1.58**	**83**	P	**Pb**	**23**	**18**	**07.8**	**-1.1**
JKRS				*e*S	**Sb**	**23**	**18**	**28.1**	**-0.4**
JKRS	**Kuro-shima**	**1.58**	**83**	A	A	23	18	07.8	
	comp=E,36nm,5.8s,comp=N,38nm,2.4s								
WGK	**Gukeng**	**1.62**	**257**	*e*P	**Pb**	**23**	**18**	**09.4**	**-0.1**
	baz=256								
WGK				*e*S	**Sb**	**23**	**18**	**30.0**	**+0.5**
	baz=256								
WDLH	**Douliu**	**1.64**	**257**	*e*P	**Pb**	**23**	**18**	**09.0**	**-0.9**
	baz=244								
WDLH				*e*S	**Sb**	**23**	**18**	**31.1**	**+0.9**
	baz=244								
STYH	**Taoyuan**	**1.64**	**238**	⇓P	**Pn**	**23**	**18**	**08.0**	**+0.7**
	baz=237								
STYH				*e*S	**Sn**	**23**	**18**	**28.8**	**+1.3**
	baz=237								
TWGBT	**Beinan**	**1.66**	**222**	P	**Pn**	**23**	**18**	**07.0**	**-0.5**
TWGBT	**Beinan**	**1.66**	**222**	⇓P	**Pn**	**23**	**18**	**06.7**	**-0.8**
	baz=221								
WCKO	**Fanlu**	**1.66**	**249**	*e*P	**Pb**	**23**	**18**	**09.4**	**-0.8**
	baz=237								
WCKO				*e*S	**Sn**	**23**	**18**	**29.9**	**+2.0**
	baz=237								
TWG	**Pinlang**	**1.66**	**222**	Pn	**Pn**	**23**	**18**	**06.3**	**-1.2**
TWG	**Pinlang**	**1.66**	**222**	⇓P	**Pn**	**23**	**18**	**06.8**	**-0.7**
	baz=221								
TTN	**Taitung**	**1.67**	**219**	*e*P	**Pn**	**23**	**18**	**07.4**	**-0.2**
	baz=211								
TTN				*e*S	**Sn**	**23**	**18**	**28.2**	**+0.2**
	baz=211								
TPUB	**Ta-pu**	**1.69**	**244**	Pn	**Pn**	**23**	**18**	**08.4**	**+0.4**
TPUB	**Ta-pu**	**1.69**	**244**	P	**Pn**	**23**	**18**	**09.6**	**+1.6**
TPUB	**Ta-pu**	**1.69**	**244**	*e*P	**Pn**	**23**	**18**	**09.6**	**+1.6**
	baz=243								
TPUB				*e*S	**Sb**	**23**	**18**	**31.3**	**-0.5**
	baz=243								
CHN4	**Tsaushan**	**1.70**	**246**	*e*P	**Pb**	**23**	**18**	**10.0**	**-0.9**
	baz=235								
CHN4				*e*S	**Sb**	**23**	**18**	**31.3**	**-0.7**
	baz=235								
JIJ	**Ishigaki jima**	**1.72**	**79**	P	**Pn**	**23**	**18**	**09.2**	**+0.8**
JIJ				*e*S	**Sn**	**23**	**18**	**30.4**	**+0.9**
JIJ	**Ishigaki jima**	**1.72**	**79**	A	A	23	18	09.2	
	comp=E,7.0nm,3.6s,comp=N,9.0nm,3.3s								
WRL	**Guolierlin Hig**	**1.75**	**265**	*e*P	**Pn**	**23**	**18**	**10.5**	**+1.7**
	baz=264								
WRL				*i* S	**Sb**	**23**	**18**	**33.2**	**-0.1**
	baz=264								
WTK	**Tuku**	**1.77**	**258**	*e*P	**Pb**	**23**	**18**	**11.5**	**-0.7**
	baz=245								
WTK				*i* S	**Sb**	**23**	**18**	**34.4**	**+0.4**
	baz=245								
CHY	**Chiayi**	**1.79**	**252**	*e*P	**Pb**	**23**	**18**	**11.7**	**-0.7**
	baz=251								
CHY				*i* S	**Sb**	**23**	**18**	**35.0**	**+0.4**
	baz=251								
TWK	**Hsinying**	**1.83**	**245**	P	**Pb**	**23**	**18**	**12.1**	**-1.0**
	baz=244								
TWK				*i* S	**Sb**	**23**	**18**	**35.2**	**-0.3**
	baz=244								
CHN1	**Nanshi**	**1.83**	**242**	*i* P	**Pn**	**23**	**18**	**11.8**	**+1.9**
	baz=242								
CHN1				*e*S	**Sb**	**23**	**18**	**35.4**	**-0.2**
	baz=242								
SGST	**Jiashian**	**1.84**	**239**	*e*P	**Pn**	**23**	**18**	**10.7**	**+0.6**
	baz=238								
SGST				S	**Sb**	**23**	**18**	**35.0**	**-0.8**
	baz=238								
SLGT	**Liugui**	**1.84**	**235**	P	**Pn**	**23**	**18**	**11.5**	**+1.5**
	baz=225								
SLGT				*e*S	**Sn**	**23**	**18**	**34.1**	**+1.7**
	baz=225								
SNST	**Tainan City**	**1.84**	**243**	P	**Pb**	**23**	**18**	**12.3**	**-0.9**
	baz=243								
SNST				*e*S	**Sn**	**23**	**18**	**34.7**	**+2.4**
	baz=243								
ECL	**Taimali**	**1.90**	**220**	*e*P	**Pn**	**23**	**18**	**10.1**	**-0.8**
	baz=221								
ECL				*e*S	**Sn**	**23**	**18**	**32.8**	**-1.1**
	baz=221								
JISG	**Ishigakijimahi**	**1.92**	**74**	P	**Pn**	**23**	**18**	**12.0**	**+0.9**
JISG				*e*S	**Sn**	**23**	**18**	**35.5**	**+1.1**
JISG	**Ishigakijimahi**	**1.92**	**74**	A	A	23	18	12.0	
	comp=E,9.0nm,0.7s,comp=N,13nm,0.6s								
WSF	**Szhu**	**1.94**	**258**	*e*P	**Pb**	**23**	**18**	**13.4**	**-1.4**
	baz=257								
WSF				*i* S	**Sb**	**23**	**18**	**38.6**	**0.0**
	baz=257								
WSL	**Shuilin Townsh**	**1.96**	**255**	*e*P	**Pb**	**23**	**18**	**14.0**	**-1.2**
	baz=254								
ICHU	**Yijhu**	**1.96**	**250**	*e*P	**Pn**	**23**	**18**	**13.7**	**+2.0**
	baz=249								
ICHU				*e*S	**Sn**	**23**	**18**	**38.0**	**+2.6**
	baz=249								
SCST	**Cishan**	**2.02**	**235**	*e*P	**Pb**	**23**	**18**	**15.2**	**-1.0**
	baz=224								
TSMG	**Majia**	**2.02**	**229**	*e*P	**Pn**	**23**	**18**	**13.8**	**+1.3**
	baz=218								
CHN8	**Yiju**	**2.03**	**250**	*e*P	**Pn**	**23**	**18**	**13.8**	**+1.2**
	baz=249								
SSHA	**Shanhua**	**2.05**	**244**	*e*P	**Pn**	**23**	**18**	**13.8**	**+0.9**
	baz=243								
SHHT	**Tainan City**	**2.06**	**240**	*e*P	**Pb**	**23**	**18**	**15.4**	**-1.5**
	baz=240								
MASBT	**Mashibuluo**	**2.09**	**227**	*e*P	**Pn**	**23**	**18**	**14.2**	**+0.7**
	baz=218								
MASBT				*e*S	**Sn**	**23**	**18**	**40.1**	**+1.5**
	baz=218								
TWM1	**Shoushan**	**2.11**	**235**	*e*P	**Pb**	**23**	**18**	**16.8**	**-1.0**
	baz=233								
SCLT	**Jiali**	**2.11**	**246**	*e*P	**Pn**	**23**	**18**	**14.3**	**+0.6**
	baz=245								
SCLT				*e*S	**Sb**	**23**	**18**	**42.3**	**-1.3**
	baz=245								
LAY	**Lan-yu**	**2.12**	**199**	*e*P	**Pn**	**23**	**18**	**12.8**	**-1.1**
	baz=199								
TAW	**Tawu**	**2.12**	**217**	*e*P	**Pn**	**23**	**18**	**13.5**	**-0.3**
	baz=217								
EAST	**Anshuo**	**2.13**	**219**	*e*P	**Pn**	**23**	**18**	**13.7**	**-0.3**
	baz=218								
TAWH	**Dawu Township**	**2.14**	**217**	*e*P	**Pn**	**23**	**18**	**13.7**	**-0.4**
	baz=218								
TAWH				*e*S	**Sn**	**23**	**18**	**38.5**	**-1.2**
	baz=218								
LYUB	**Lan-yu**	**2.15**	**198**	P	**Pn**	**23**	**18**	**12.6**	**-1.6**
	baz=198								
TSCK	**Chigu Township**	**2.21**	**246**	*e*P	**Pn**	**23**	**18**	**16.8**	**+1.7**
	baz=245								
SNJT	**Kaohsiung City**	**2.21**	**234**	*e*P	**Pb**	**23**	**18**	**18.8**	**-0.8**
	baz=234								
SCZT	**Fangliau**	**2.27**	**223**	*e*P	**Pn**	**23**	**18**	**17.3**	**+1.4**
	baz=216								
JTJ	**Tarama**	**2.28**	**75**	P	**Pn**	**23**	**18**	**17.8**	**+1.7**
JTJ				S	**Sn**	**23**	**18**	**45.6**	**+2.4**
JTJ	**Tarama**	**2.28**	**75**	A	A	23	18	17.8	
	comp=E,15nm,2.4s,comp=N,12nm,2.6s								
WSSB	**Gushan**	**2.33**	**233**	*e*P	**Pn**	**23**	**18**	**18.8**	**+2.0**
	baz=233								
SMST	**Manzhou Townsh**	**2.43**	**214**	*e*P	**Pn**	**23**	**18**	**19.3**	**+1.2**
	baz=213								
HEN	**Hengchun**	**2.49**	**215**	*e*P	**Pn**	**23**	**18**	**21.2**	**+2.2**
	baz=215								
TSEB	**Hengchuen, Pin**	**2.50**	**211**	*e*P	**Pn**	**23**	**18**	**20.1**	**+1.0**
	baz=213								
TSEB				*e*S	**Sn**	**23**	**18**	**50.3**	**+1.7**
	baz=213								
TWKBT	**Hengchun**	**2.50**	**213**	*e*P	**Pn**	**23**	**18**	**19.6**	**+0.5**
	baz=214								
TWKBT				*e*S	**Sn**	**23**	**18**	**49.3**	**+0.5**
	baz=214								
TWK1	**Hengchun**	**2.51**	**213**	*e*P	**Pn**	**23**	**18**	**19.7**	**+0.5**
	baz=213								
WDGT	**Dungji**	**2.54**	**252**	*e*P	**Pn**	**23**	**18**	**20.9**	**+1.3**
	baz=239								
WDGT				*e*S	**Sn**	**23**	**18**	**50.9**	**+1.4**
	baz=239								
PHUB	**P'eng-hu**	**2.54**	**258**	*e*P	**Pn**	**23**	**18**	**20.2**	**+0.5**
	baz=257								
PHUB				*e*S	**Sn**	**23**	**18**	**51.2**	**+1.4**
	baz=257								
PNG	**Penghu**	**2.55**	**260**	*e*P	**Pn**	**23**	**18**	**20.9**	**+1.1**
	baz=258								
PNG				*e*S	**Sn**	**23**	**18**	**51.3**	**+1.5**
	baz=258								
JIRB	**Irabujima**	**2.74**	**73**	P	**Pn**	**23**	**18**	**23.9**	**+1.5**
JIRB				S	**Sn**	**23**	**18**	**56.4**	**+1.8**
VWUC	**VWUC**	**2.75**	**290**	*e*P	**Pn**	**23**	**18**	**22.3**	**-0.1**
	baz=289								
VCHM	**Qimei**	**2.75**	**253**	*e*P	**Pn**	**23**	**18**	**23.1**	**+0.6**
	baz=240								
VCHM				*e*S	**Sn**	**23**	**18**	**56.1**	**+1.2**
	baz=240								
JIKM	**Ikemajima**	**2.83**	**72**	*e*P	**Pn**	**23**	**18**	**25.5**	**+1.8**
JIKM				*e*S	**Sn**	**23**	**18**	**58.9**	**+2.1**
JOGS	**Gusukube**	**2.93**	**76**	P	**Pn**	**23**	**18**	**26.5**	**+1.5**
JOGS				S	**Sn**	**23**	**19**	**01.1**	**+1.8**
MATB	**Ma-tsu**	**2.98**	**315**	*e*P	**Pn**	**23**	**18**	**25.4**	**-0.3**
	baz=314								
LYJJ	**Jianjiangzhen**	**3.38**	**318**	*e*P	**Pn**	**23**	**18**	**30.5**	**-0.6**
	baz=317								
XPSS	**Dashiqiu**	**3.43**	**327**	*e*P	**Pn**	**23**	**18**	**31.5**	**-0.4**
	baz=336								
QZH	**Quanzhou**	**3.48**	**285**	Pn	**Pn**	**23**	**18**	**32.5**	**0.0**
QZH				Sn	**Sn**	**23**	**19**	**09.9**	**-2.9**
QZH				smax	smax				
	comp=N,380nm,1.1s								
QZH				smax	smax				
	comp=N,270nm,1.0s								
QZH				LR	LR				
	comp=N,3μm,11.5s								
QZH				LR	LR				
	comp=N,3μm,13.1s								
KNM	**Kinmen**	**3.54**	**277**	*e*P	**Pn**	**23**	**18**	**35.1**	**+1.8**
	baz=275								
KNMB	**Chin-men Tao**	**3.58**	**277**	Pn	**Pn**	**23**	**18**	**33.1**	**-0.8**
KNMB	**Chin-men Tao**	**3.58**	**277**	*e*P	**Pn**	**23**	**18**	**33.7**	**-0.3**
	baz=276								
MHZQ	**Yeshan**	**3.58**	**305**	*e*P	**Pn**	**23**	**18**	**33.7**	**-0.3**
	baz=304								
AXDP	**Jialang**	**4.02**	**283**	*e*P	**Pn**	**23**	**18**	**40.0**	**0.0**
	baz=282								
ZPLA	**Ao Xicun**	**4.15**	**269**	*e*P	**Pn**	**23**	**18**	**41.6**	**-0.2**
	baz=267								
DSXP	**Dongshan**	**4.46**	**267**	*e*P	**Pn**	**23**	**18**	**46.2**	**+0.2**
	baz=265								
SXFK	**Yanhouchang**	**4.81**	**300**	*e*P	**Pn**	**23**	**18**	**50.8**	**-0.1**
	baz=298								
JOW	**Kunigami**	**6.08**	**62**	Pn	**Pn**	**23**	**19**	**07.5**	**-0.8**
JOW	**Kunigami**	**6.08**	**62**	Pn	**Pn**	**23**	**19**	**07.0**	**-1.3**
	comp=N,3.4nm,0.3s,baz=173,slow=16,SNR=6.1								
JOW				Sn	**Sn**	**23**	**20**	**16.7**	**-0.2**
	comp=N,1.5nm,0.3s,baz=99,slow=30,SNR=1.0								
	comp=N,17nm,0.5s								
QIZ	**Qiongzhong**	**12.61**	**249**	P	**Pn**	**23**	**20**	**38.7**	**+0.8**
QIZ				S	**Sn**	**23**	**23**	**01.0**	**+3.6**
QIZ				LR	LR				
	comp=N,620nm,13.5s								
QIZ				LR	LR				
	comp=N,660nm,17.7s								
QIZ				LR	LR				
	comp=N,710nm,15.6s								
KSRS	**Korea Array**	**14.20**	**19**	Pn	**Pn**	**23**	**21**	**00.3**	**+0.8**
	comp=N,0.3nm,0.3s,baz=195,slow=12,SNR=1.7								
XAN	**Xi'an**	**15.33**	**313**	P	**P**	**23**	**21**	**21.0**	**+1.7**
XAN				pP	pP	23	21	26.0	+0.1
XAN				pmax	pmax				
	comp=Z,11nm,0.9s								
DAV	**Davao City (W)**	**17.18**	**169**	LR	LR	23	27	56.1	
	comp=Z,388nm,21.9s,baz=36,slow=36								
MJAR	**Matsushiro Arr**	**18.51**	**44**	LR	LR	23	29	24.8	
	comp=Z,234nm,18.9s,baz=218,slow=38								
PZH	**PanZhiHua**	**18.74**	**282**	P	**Pn**	**23**	**21**	**58.8**	**+1.2**
PZH				pmax	pmax				
	comp=Z,10.0nm,0.6s								
PZH				pmax	pmax				
	comp=Z,340nm,8.2s								
HHC	**Hu-ho-hao-te**	**19.01**	**334**	*e*P	**Pn**	**23**	**22**	**01.7**	**+1.0**
HHC				S	**S**	**23**	**25**	**34.2**	**+0.2**
HHC				pmax	pmax				
	comp=Z,32nm,0.7s								
HHC				pmax	pmax				
	comp=Z,650nm,5.9s								
HHC				LR	LR				
	comp=Z,1μm,14.5s								
HHC				LR	LR				
	comp=Z,850nm,15.3s								
HHC				LR	LR				
	comp=Z,1μm,14.7s								
LZH	**Lanzhou**	**19.92**	**311**	*e*P	**Pn**	**23**	**22**	**18.4**	**+6.6**

KKAR	Karatay Array	46.35	307	P		P		23 26 04.1	+0.2
KBL	Kabul	47.13	296	P		P		23 26 09.4	-1.0
KBL				IAmb		IAmb		23 26 23.5	
	comp=Z,13nm,1.1s								
BVAR	Borovoye Array	48.41	321	P		P		23 26 19.4	-0.4
	comp=Z,1.6nm,0.6s,baz=108,slow=8.0,SNR=6.4								
	comp=Z,1.6nm,0.6s								
AS31	Alice Springs	48.76	166	P		P		23 26 22.4	-0.3
AS31				IAmb		IAmb		23 26 24.6	
	comp=Z,2.7nm,1.0s								
ASAR	Alice Springs	48.76	166	P		P		23 26 21.9	-0.9
ASAR	Alice Springs	48.76	166	P		P		23 26 23.6	+0.9
	comp=Z,6.4nm,0.9s,baz=344,slow=6.3,SNR=37								
	comp=Z,6.4nm,0.9s								
ABKAR	Akbulak array	54.25	314	P		P		23 27 02.8	-0.8
GEYT	Alibeck	55.73	301	P		P		23 27 14.9	+0.3
	comp=Z,1.2nm,0.6s,baz=104,slow=12,SNR=2.4								
	comp=Z,1.2nm,0.6s								
STKA	Stephens Creek	58.60	161	P		P		23 27 33.7	-1.0
STKA				IAmb		IAmb		23 27 36.8	
	comp=Z,1.9nm,0.7s								
STKA	Stephens Creek	58.60	161	P		P		23 27 35.5	+0.8
	comp=Z,9.3nm,0.7s,baz=334,slow=6.9,SNR=26								
	comp=Z,9.3nm,0.7s								
TOO	Toolangi	65.07	160	P		P		23 28 17.8	-0.4
ONI	Oni	66.17	308	P		P		23 28 24.9	-0.5
ONI				IAmb		IAmb		23 28 27.6	
	comp=Z,4.9nm,1.2s								
KBZ	Khabaz	66.34	309	P		P		23 28 26.7	+0.3
	comp=Z,2.2nm,1.0s,baz=96,slow=2.9,SNR=5.4								
	comp=Z,2.2nm,1.0s								
ILAR	Eielson Array	68.86	27	P		P		23 28 41.8	-0.3
	comp=Z,0.2nm,0.5s,baz=271,slow=5.7,SNR=4.4								
	comp=Z,0.2nm,0.5s								
SPITS	Spitsbergen Ar	69.82	348	P		P		23 28 46.8	-0.9
	comp=Z,7.2nm,0.9s,baz=75,slow=13,SNR=4.2								
	comp=Z,7.2nm,0.9s								
ARCES	ARCESS Array B	70.03	338	P		P		23 28 49.4	+0.2
	comp=Z,2.8nm,1.0s,baz=90,slow=9.7,SNR=4.2								
	comp=Z,2.8nm,1.0s								
FINES	FINESS Array B	72.06	330	P		P		23 29 01.4	-0.1
	comp=Z,1.3nm,0.9s,baz=77,slow=6.3,SNR=3.6								
	comp=Z,1.3nm,0.9s								
DAWY	Dawson	72.19	27	P		P		23 29 02.0	-0.3
DAWY				IAmb		IAmb		23 29 23.6	
	comp=Z,6.1nm,1.4s								
CTGM	Chitina Glacie	72.28	31	P		P		23 29 03.0	-0.1
INK	Inuvik	72.96	22	P		P		23 29 06.1	-0.7
INK	Inuvik	72.96	22	LR		LR		00 05 29.3	
	comp=Z,384nm,19.6s,baz=180,slow=39								
G31M	Satah River	73.22	24	P		P		23 29 07.3	-1.0
G31M				IAmb		IAmb		23 29 20.8	
	comp=Z,3.5nm,1.2s								
BRTR	Keskin Array B	74.06	307	P		P		23 29 14.2	+0.2
	comp=Z,1.8nm,0.8s,baz=115,slow=5.9,SNR=6.9								
	comp=Z,1.8nm,0.8s								
C36M	Paulatuk	75.59	20	P		P		23 29 20.7	-1.3
ELL	Elmali	77.82	305	P		P		23 29 34.7	-0.8
NC405	NORSAR Array S	78.56	332	P		P		23 29 37.3	-1.7
NOA	NORSAR Array B	78.81	332	P		P		23 29 39.1	-1.2
	comp=Z,0.7nm,0.8s,baz=62,slow=5.3,SNR=2.3								
	comp=Z,0.7nm,0.8s								
YKA	Yellowknife Ar	82.69	23	P		P		23 30 00.5	-0.5
	comp=Z,0.6nm,0.7s,baz=311,slow=5.2,SNR=10.0								
	comp=Z,0.6nm,0.7s								
KMBO	Kilima Mbogo	85.92	267	P		P		23 30 18.9	+0.3
	comp=Z,1.1nm,0.5s,baz=59,slow=12,SNR=5.1								
	comp=Z,1.1nm,0.5s								
NVAR	Mina Array Bea	95.83	43	P		P		23 31 04.8	+0.1
	comp=Z,0.4nm,0.7s,baz=306,slow=4.8,SNR=3.9								
	comp=Z,0.4nm,0.7s								

DSN **12** *23:27:34.6±1.1,30˚82N×58˚23E,h15km,ML4.5/9,Error ellipse: s-maj=64.2km s-min=10.1km az=108.0*

OMAN **12** *23:27:34.8±0.1,30˚95N×57˚54E,h10km,mb5.2/27, ml4.8/1,ms3.6/1,Error ellipse: s-maj=1.8km s-min=0.9km az=250.0*

TEH **12** *23:27:34.6,30˚74N×57˚31E,h8km±63km,ML4.8*

MOS **12** *23:27:35.2±1.1,30˚66N×57˚29E,h12km,mb4.8/25,Error ellipse: s-maj=6.5km s-min=4.4km az=105.7*

IDC **12** *23:27:35.2±0.5,30˚67N×57˚25E,h0km,mb4.2/23, mbtmp4.2/32,ML3.9/9,MS3.9/7,Error ellipse: s-maj=12.8km s-min=11.7km az=172.0*

THR **12** *23:27:36.2±1.2,30˚77N×57˚31E,h14km±8km,ML4.5*

NEIC **12** *23:27:37.2±1.7,30˚77N±0˚07×57˚28E±0˚09,h10km±1km, mb4.5/59,Error ellipse: s-maj=13.3km s-min=11.1km az=266.0*

ISC 12 23:27:36.5±0.3,**30˚72N**±0˚02×**57˚27E**±0˚03,**h10**km,**n371,** σ1**92**/384,**mb4.5**/90,**MS3.9**/4,**17C-9D,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.68	291	Pg	Pg	23 27 48.4	-1.3
KHGB	Koh Gabri	0.77	243	Pg	Pg	23 27 50.2	-1.2
TVBK	TV Kerman	0.86	211	Pg	Pb	23 27 52.5	-1.2
KRBR	Kerman	0.86	211	*e*Pg	Pn	23 27 52.9	-2.1
KRBR				IAML		23 28 13.4	
	comp=N,15μm,0.7s						
KRBR				IAML		23 28 14.3	
	comp=E,13μm,0.4s						
CHMN	Cheshme madani	0.89	165	Pg	Pb	23 27 52.4	-1.9
CHMN				Sg	Sb	23 28 05.4	-0.9
NGRK	Negar Kerman	1.17	204	Pg	Pn	23 27 58.3	-1.1
NGRK				Sg	Sn	23 28 15.3	-0.3
IBAF	Bafgh	1.70	301	Pg	Pb	23 28 06.9	-1.1
KBAM	BAM	1.89	147	Pn	Pb	23 28 09.5	-1.7
BSRN	Basiran	2.01	52	*e*Pn	Pb	23 28 10.3	-3.0
BSRN				*e*Sg	Sg	23 28 38.6	-2.7
BSRN				IAML		23 28 41.4	
	comp=N,4μm,0.3s						
BSRN				IAML		23 28 41.7	
	comp=E,5μm,0.6s						
BSRN	Basiran	2.01	52	Pn	Pb	23 28 10.1	-3.2
IKOO	Kooshah	2.25	41	Pn	Pb	23 28 14.1	-3.3
TPRV	Parvadeh(Tabas	2.35	348	Pn	Pn	23 28 15.1	-0.2
IMEH	Mehriz	2.38	287	Pn	Pb	23 28 16.6	-2.9
NHDN	Nehbandan	2.48	74	Pn	Pb	23 28 17.2	-4.0
ITEG	Tejag	2.50	30	Pn	Pb	23 28 17.3	-4.4
KNJ	Kahnooj	2.79	172	Pn	Pb	23 28 23.0	-3.5
YZKH	Yazd	2.83	307	*e*Pn	Pb	23 28 23.2	-4.0
YZKH				*e*Sg	Sg	23 29 04.8	-2.7
YZKH				IAML		23 29 12.9	
	comp=N,1μm,0.5s						
YZKH				IAML		23 29 16.9	
	comp=E,1μm,0.6s						
ICHK	Chekchek	2.88	303	Pn	Pn	23 28 23.4	+0.7
TKDS	Koohdasht(Taba	2.88	358	Pn	Pn	23 28 22.7	0.0
TABS	Tabas	2.92	357	*e*Pn	Pn	23 28 23.4	+0.2
TABS				IAML		23 29 13.9	
	comp=E,734nm,0.6s						
TABS				IAML		23 29 15.8	
	comp=N,2μm,0.8s						
IDAH	Dahanechah	2.99	47	Pn	Pn	23 28 23.9	-0.3
AFRZ	Afriz	3.07	28	Pn	Pn	23 28 25.6	+0.3
ZHSF	Zahedan	3.23	109	*e*Pn	Pn	23 28 27.8	+0.3
TNSJ	Nastanj	3.28	350	Pn	Pn	23 28 28.2	+0.1
ISAD	Sadrabad	3.29	292	Pn	Pn	23 28 29.7	+1.3
IBND	Bandar-abas	3.33	191	Pn	Pb	23 28 31.5	-4.1
ZHDN	Zahedan	3.34	112	Pn	Pn	23 28 29.7	+0.8
GENO	Geno	3.45	196	Pn	Pb	23 28 33.5	-4.3
BNDS	Bandar-Abbas	3.45	196	*e*Pn	Pb	23 28 34.0	-3.9
BNDS				IAML		23 29 26.4	
	comp=N,766nm,0.5s						
BNDS				IAML		23 29 36.6	
	comp=E,1μm,0.5s						
SHRT	Shahrakht	3.88	41	*e*Pn	Pn	23 28 36.6	+0.3
SHRT	Shahrakht	3.88	41	Pn	Pn	23 28 36.9	+0.6
ANAR	Anarak	3.89	310	Pn	Pn	23 28 37.5	+1.0
JHRM	Jahrom	3.90	236	Pn	Pn	23 28 38.3	+1.6
LAR1	LAR	3.96	220	Pn	Pn	23 28 39.3	+1.9
SHI	Shiraz	4.26	257	Pn	Pn	23 28 43.3	+1.7
QIR1	Qir	4.31	240	Pn	Pn	23 28 43.8	+1.6
IRAM	Ramesheh	4.33	286	Pn	Pn	23 28 44.0	+1.5
NASN	Na'in	4.33	300	*e*Pn	Pn	23 28 44.5	+1.8
GHIR	Ghir-Karzin	4.46	238	*e*Pn	Pn	23 28 46.4	+2.1
GHIR				IAML		23 30 13.8	
	comp=N,196nm,0.6s						
GHIR				IAML		23 30 19.2	
	comp=E,143nm,0.5s						
IZEF	Zefreh	4.73	299	Pn	Pn	23 28 49.4	+1.2
SHME	Shamm	4.76	192	P	Pn	23 28 49.9	+1.5
SHME	Shamm	4.76	192	P	Pn	23 28 51.9	+3.5
IGAR	Gharneh	4.77	292	Pn	Pn	23 28 50.3	+1.7
JASK	Jask - Hormozg	4.87	174	P	Pn	23 28 52.9	+3.1
	SNR=38						
JASK	Jask - Hormozg	4.87	174	Pn	Pn	23 28 52.3	+2.4
KLNJ	Kolanjah	4.89	275	Pn	Pn	23 28 52.5	+2.0
LMD1	Lamerd	4.93	228	Pn	Pn	23 28 52.5	+1.8
TBHD	Torbat heydari	4.96	19	Pn	Pn	23 28 51.4	+0.1
TBJM	Torbat-e-JAM	5.21	29	Pn	Pn	23 28 55.4	+0.7
IBRJ	Brojen	5.28	284	Pn	Pn	23 28 57.9	+2.1
SHRO	Shahrood	5.36	349	*e*Pn	Pn	23 28 57.5	+0.8
SHRO				IAML		23 30 33.4	
	comp=E,260nm,0.6s						
SHRO				IAML		23 30 35.3	
	comp=N,210nm,0.8s						
UMQ	Umm Al-Quwin	5.37	196	P	Pn	23 28 58.2	+1.4
KRSH	Karshahi	5.42	308	Pn	Pn	23 28 58.5	+1.0
MASF	Masafi	5.42	191	P	Pn	23 29 01.2	+3.7
	SNR=15						
MASF				S	Sb	23 30 07.3	-9.3
MSFE	Esma-Masafi	5.43	191	*i* P	Pn	23 29 00.5	+2.9
	SNR=16						
MSFE				S	Sn	23 30 06.5	+6.2
IKLH	Kolahrood	5.48	300	Pn	Pn	23 29 01.0	+2.5
IANJ	Anjilo	5.51	330	Pn	Pn	23 28 59.4	+0.6
HRA	Herat	5.56	48	Pn	Pn	23 28 59.5	-0.1
SRVN	Saravan	5.57	125	Pn	Pn	23 29 01.4	+1.7
ISFB	Sefidab	5.58	312	Pn	Pn	23 29 01.0	+1.3
IMOG	Moghan	5.64	17	Pn	Pn	23 29 01.0	+0.2
SBZV	Sabzevar	5.66	3	Pn	Pn	23 29 01.7	+0.9
ZNGN	Zangian	5.66	286	Pn	Pn	23 29 03.0	+2.0
DSBU	Dashti - Bushe	5.74	247	Pn	Pn	23 29 03.3	+1.4
JRKH	Jarkhoshk	5.78	26	Pn	Pn	23 29 03.3	+0.9
QAMS	Qamsar	5.81	303	Pn	Pn	23 29 04.8	+1.7
UOSS	Minazif	5.83	190	Pn	Pn	23 29 04.5	+1.4
UOSS	Minazif	5.83	190	P	Pn	23 29 04.5	+1.4
UOSS	Minazif	5.83	190	P	Pn	23 29 05.5	+2.3
UOSS				S	Sb	23 30 18.1	-10
JHBN	Jahan bin	5.84	287	Pn	Pn	23 29 05.3	+1.9
CHBR	Chabahar	5.84	150	*e*Pn	Pn	23 29 02.9	-0.3
CHBR	Chabahar	5.84	150	Pn	Pn	23 29 03.4	+0.2
NAZ	Nazwa, Dubai	5.89	194	*i* P	Pn	23 29 07.0	+3.1
	SNR=16						
NAZ	Nazwa, Dubai	5.89	194	P	Pn	23 29 07.6	+3.7
	SNR=16						
NAZ				S	Sb	23 30 21.4	-8.5
ILAS	Lasjerd	5.89	323	Pn	Pn	23 29 05.3	+1.2
HATD	Hatta, Dubai	5.96	190	P	Pn	23 29 07.3	+2.4
HATD	Hatta, Dubai	5.96	190	P	Pn	23 29 10.2	+5.3
	SNR=9.0						
HATD				S	Sn	23 30 15.4	+2.1
	SNR=11						
IAKL	Akhelmad	5.99	12	Pn	Pn	23 29 06.8	+1.2
IMYA	Miami	6.08	22	Pn	Pn	23 29 08.3	+1.6
ASHO	Ashiyiah	6.11	190	*i* P	Pn	23 29 09.5	+2.5
	SNR=24						
ASHO	Ashiyiah	6.11	190	P	Pn	23 29 10.3	+3.3
	SNR=24						
ASHO				S	Sn	23 30 23.6	+6.6
FAQ	Al Faqa, Dubai	6.14	194	*i* P	Pn	23 29 09.9	+2.6
	SNR=18						
FAQ	Al Faqa, Dubai	6.14	194	P	Pn	23 29 10.3	+3.0
	SNR=18						
FAQ				S	Sb	23 30 26.7	-10
IFIR	Firoozkooh	6.20	324	Pn	Pn	23 29 08.9	+0.5
GHVR	GHOM	6.28	308	*e*Pn	Pn	23 29 11.6	+2.2
ASUD	Al Ashush, Dub	6.31	196	*i* P	Pn	23 29 12.8	+3.1
	SNR=26						
ASUD	Al Ashush, Dub	6.31	196	P	Pn	23 29 13.6	+3.9
	SNR=26						
ASUD				S	Sn	23 30 29.4	+7.5
IVRN	Varamin	6.32	314	Pn	Pn	23 29 11.2	+1.4
IKRD	Kardeh	6.32	17	Pn	Pn	23 29 11.5	+1.5
NGCH	Negor - Chabah	6.34	146	P	Pn	23 29 10.4	+0.3
	SNR=6.3						
NGCH	Negor - Chabah	6.34	146	Pn	Pn	23 29 10.4	+0.3
ISFR	Sfrayin	6.34	5	Pn	Pn	23 29 11.3	+0.9
IGLO	Ghaloghah	6.44	334	Pn	Pn	23 29 12.9	+1.2
AJN	Ajban	6.46	199	P	Pn	23 29 14.1	+2.4
AJN				S	Sn	23 30 29.6	+4.0
	SNR=6.0						
IDMV	Damavand	6.54	319	Pn	Pn	23 29 14.1	+1.1
SOHO	SOHO	6.60	186	*i* P	Pn	23 29 14.1	+0.5
	SNR=14						
SOHO	SOHO	6.60	186	P	Pn	23 29 14.5	+0.9
SOHO				S	Sn	23 30 37.4	+8.5
DAMV	Damavand	6.61	319	*e*Pn	Pn	23 29 14.7	+0.7
IQOM	Qom	6.64	310	Pn	Pn	23 29 15.4	+1.0
IMND	Minoodasht	6.70	347	Pn	Pn	23 29 15.8	+0.8
IEMG	Emamgholi	6.77	9	Pn	Pn	23 29 17.1	+0.8
ALNE	Al Ain	6.78	192	*i* P	Pn	23 29 17.8	+1.7
	SNR=22						
ALNE	Al Ain	6.78	192	P	Pn	23 29 19.0	+2.9
	SNR=22						
ALNE				S	Sn	23 30 39.4	+6.0
IPRN	Peran	6.88	324	Pn	Pn	23 29 18.7	+1.2
IHSB	Hasanabad	6.88	315	Pn	Pn	23 29 18.5	+0.8
KHMZ	Khomeyn	6.89	298	*e*Pn	Pn	23 29 19.1	+1.3
AMIS	Naft Sefid	6.91	280	Pn	Pn	23 29 19.3	+1.4
BJRD	Bojnurd	6.96	1	*e*Pn	Pn	23 29 18.9	+0.2
JRN	Qarnain Island	6.96	215	P	Pn	23 29 20.4	+1.8
MRVT	Maraveh tapeh	6.99	352	*e*Pn	Pn	23 29 20.1	+1.1
MRVT	Maraveh tapeh	6.99	352	Pn	Pn	23 29 20.1	+1.1
HOQ	Hoqain	7.11	180	P	Pn	23 29 22.0	+1.2
	SNR=6.9						
HOQ				S	Sn	23 30 48.2	+6.6
HOQ	Hoqain	7.11	180	Pn	Pn	23 29 22.3	+1.6
ASAO	Ashtian	7.20	304	*e*Pn	Pn	23 29 24.8	+2.6
BIDO	Bidbid	7.21	174	P	Pn	23 29 23.2	+1.1
BIDO				S	Sn	23 30 50.5	+6.4
GEYT	Alibeck	7.22	5	Pn	Pn	23 29 23.6	+1.4
	comp=N,1.4nm,0.3s,baz=188,slow=17,SNR=15						
GEYT				LR	LR	23 32 41.0	
	comp=N,986nm,21.6s,baz=190,slow=42						
	comp=N,3.8nm,0.4s						
GYA0	ALIBECK ARRAY	7.22	5	P	Pn	23 29 23.1	+0.9
GYA0B	ALIBECK ARRAY	7.22	5	Pn	Pn	23 29 22.4	+0.2
CHTH	Charan	7.29	317	*e*Pn	Pn	23 29 24.4	+1.1
SHMA	Al-Shehemyia	7.38	230	P	Pn	23 29 28.4	+4.1
ARQ	Araqi	7.39	185	P	Pn	23 29 27.9	+3.4
	SNR=27						
ARQ				S	Sn	23 30 52.2	+3.8
MZPU	Pul - Mazandar	7.42	322	Pn	Pn	23 29 26.3	+1.1
THKV	Tehran--Karaj	7.44	316	*e*Pn	Pn	23 29 26.4	+1.0
WSAR	Wadi Sarin	7.55	170	P	Pn	23 29 27.9	+1.2
	SNR=70						
WSAR				S	Sn	23 30 56.8	+4.3
WSAR	Wadi Sarin	7.55	170	Pn	Pn	23 29 27.7	+0.9
	comp=N,16nm,0.3s,baz=6.7,slow=8.4,SNR=123						
WSAR				Sn	Sn	23 30 53.2	+0.7
	comp=N,1.0nm,0.3s,baz=172,slow=11,SNR=1.8						
	comp=N,102nm,0.7s						
SMDO	Samad	7.67	175	P	Pn	23 29 29.3	+0.9
	SNR=11						
SMDO				S	Sn	23 30 58.1	+2.7
KLST	Kelardasht - M	7.76	320	Pn	Pn	23 29 31.1	+1.3
BSY	Bisya	7.95	180	P	Pn	23 29 35.3	+3.1
	SNR=15						
BSY				S	Sn	23 31 09.3	+7.1
TRNA	Turayna	8.02	223	P	Pn	23 29 33.4	+0.2
	SNR=48						
WBK	Wadi Bani Khal	8.22	169	P	Pn	23 29 36.2	+0.3
	SNR=29						
WBK				S	Sn	23 31 11.9	+2.9
WBK	Wadi Bani Khal	8.22	169	Pn	Pn	23 29 37.1	+1.2
SMRA	Abu-Samra	8.25	225	P	Pn	23 29 36.5	+0.2
	SNR=13						
SMRA				S	Sn	23 31 13.1	+3.5
JMDO	Jabal Madar	8.35	175	P	Pn	23 29 39.7	+2.0
	SNR=9.7						
JMDO				S	Sn	23 31 16.3	+4.1
IKFM	Kafar-mosalman	8.47	292	Pn	Pn	23 29 40.7	+1.5
GIDE	GILAN DEYLAMAN	8.70	317	*e*Pn	Pn	23 29 44.3	+1.7
JLN	Jalan Bani Buh	8.75	167	P	Pn	23 29 43.3	+0.2
	SNR=8.0						
JLN				S	Sn	23 31 27.9	+6.0
QSDN	Sirdan	8.88	313	Pn	Pn	23 29 48.1	+3.0
IKOM	Komasi	8.94	295	Pn	Pn	23 29 47.0	+1.1
ZNJK	Zanjan	9.29	312	*e*Pn	Pn	23 29 51.9	+1.2
SNGE	Sanandaj	9.41	300	*e*Pn	Pn	23 29 54.1	+1.7
MHTO	MHTO	9.72	176	P	Pn	23 29 59.7	+3.2
	SNR=15						
MHTO				S	Sn	23 31 50.1	+4.4
ILBA	Ilam Banvizeh	9.81	290	*e*Pn	Pn	23 29 59.0	+1.2
ILBA	Ilam Banvizeh	9.81	290	Pn	Pn	23 29 59.2	+1.4
ISRB	Sarab	10.64	314	Pn	Pn	23 30 10.7	+1.5
GRMI	Germi	11.15	319	*e*Pn	Pn	23 30 17.8	+1.6
CHGR	Chuyangaron	12.57	48	Pn	Pn	23 30 34.1	-1.5
CHGR	Chuyangaron	12.57	48	P	Pn	23 30 34.1	-1.5
SHAO	Shalim	12.73	187	P	Pn	23 30 38.4	+0.6
	SNR=7.8						
DMTO	DMTO	13.12	190	P	Pn	23 30 41.4	-1.6
WHFO	Wadi Hawf	13.14	195	P	Pn	23 30 42.4	-1.0
	SNR=39						
AKT	Akhty	13.21	327	*e*P	P	23 30 47.5	-6.8
GAR	Garm	13.51	49	Pn	Pn	23 30 46.8	-1.6
ABTO	Aybut	13.79	196	P	Pn	23 30 50.7	-1.6
	SNR=63						
NIL	Nilore	13.85	74	Pn	Pn	23 30 54.1	+1.3
NIL	Nilore	13.85	74	P	Pn	23 30 54.2	+1.3
GNI	Garni	13.87	316	Pn	Pn	23 30 52.3	-1.1
GNI	Garni	13.87	316	P	Pn	23 30 52.3	-1.1
SIRT	Sirnak	14.02	303	Pn	Pn	23 30 55.5	+0.2
BTK	Batken	14.44	46	Pn	Pn	23 30 59.6	-1.4
BTK	Batken	14.44	46	P	Pn	23 30 59.6	-1.4
MAK	Makhachkala	14.49	330	*e*P	Pn	23 31 03.1	+1.5
GURO	Guroymak-BITLI	14.76	306	Pn	P	23 31 07.2	-4.5
ZEI	Tsey	16.09	322	*e*P	P	23 31 26.1	-0.3
ZEI				pmax	pmax		
	comp=Z,24nm,1.5s						
ONI	Oni	16.20	321	Pn	Pn	23 31 23.6	-0.7
ONI	Oni	16.20	321	P	Pn	23 31 23.6	-0.7
ONI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KK31	Karatay Array	16.25	37	Pn	P	23 31 24.6	-3.3
KK31	Karatay Array	16.25	37	P	P	23 31 24.6	-3.3
KK31				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KKAR	Karatay Array	16.25	37	Pn	P	23 31 25.0	-2.9
KKAR	Karatay Array	16.25	37	Pn	P	23 31 24.1	-3.8
KKAR	Karatay Array	16.25	37	P	P	23 31 24.1	-3.8
KKAR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ARSB	Arslanbob	16.51	46	Pn	P	23 31 29.1	-1.9
ARSB	Arslanbob	16.51	46	P	P	23 31 29.1	-1.9
ARSB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NCK	Nalchik	16.75	323	*e*P	P	23 31 33.8	+0.3
KBZ	Khabaz	17.27	323	P	P	23 31 39.8	+0.6
	comp=Z,0.1nm,0.3s,baz=106,slow=9.9,SNR=5.2						
	comp=Z,3.7nm,1.1s						
ASF	Jabal al Asfar	17.45	280	P	P	23 31 40.1	-1.3
	comp=Z,0.6nm,0.3s,baz=140,slow=6.5,SNR=4.9						
	comp=Z,3.7nm,0.6s						
KVAR	Kislovodsk Arr	17.54	323	P	P	23 31 42.2	-0.1
	baz=270,slow=20						
	comp=Z,3.6nm,1.1s						
KIV	Kislovodsk	17.54	323		P	23 31 41.0	-1.3
KIV				IAmb	IAmb	23 31 47.9	
	comp=Z,26nm,1.0s						
KIV	Kislovodsk	17.54	323	*e*P	P	23 31 43.5	+1.2
KIV				pmax	pmax		
	comp=Z,25nm,1.1s						
ARPR	Arapgir-MALATY	17.61	303		P	23 31 43.5	+0.3
KSH	Kashi	17.61	55	P	Pn	23 31 37.1	-5.1
KSH				sP	pP	23 31 44.5	-1.8
KSH				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GAZ	Gaziantep	17.83	297		P	23 31 46.6	+1.0
AAK	Ala-Archa	18.19	44		P	23 31 49.1	-0.4
AAK	Ala-Archa	18.19	44	P	P	23 31 50.4	+0.8
	comp=Z,0.3nm,0.3s,baz=236,slow=6.5,SNR=19						
	comp=Z,5.5nm,0.8s						
NRN	Naryn	18.49	50	P	Pn	23 31 53.5	+0.3
NRN	Naryn	18.49	50	P	Pn	23 31 53.5	+0.3
NRN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GHAJ	Ghor Haditha	18.61	277	P	Pn	23 31 54.8	+0.4
ABKAR	Akbulak array	18.62	5	P	Pn	23 31 53.3	-1.0
ABKAR	Akbulak array	18.62	5	P	Pn	23 31 52.6	-1.7
MMAI	Mount Meron Ar	18.71	283	P	Pn	23 31 55.4	-0.3
	comp=Z,0.2nm,0.3s,baz=90,slow=13,SNR=1.9						
MMAI				LR	LR	23 40 37.2	
	comp=Z,390nm,19.4s,baz=334,slow=42						
	comp=Z,0.8nm,0.5s						
EIL	Elat	19.32	273	P	Pn	23 32 03.0	0.0
	comp=Z,0.2nm,0.3s,baz=75,slow=6.3,SNR=6.3						
	comp=Z,3.9nm,0.7s						
BNN	Bunyan	19.35	301	P	Pn	23 32 03.0	-0.3
BNN				IAmb	IAmb	23 32 07.3	
	comp=Z,29nm,0.9s						
AKTO	Aktyubinsk	19.70	1	P	Pn	23 32 06.6

comp=Z,8.3nm,0.8s
MAKZ Makanchi 24.93 43 ⇓P P 23 33 01.0 +1.2
GUN Gumba 25.07 89 *eP* **P 23 33 02.9 +1.2**
comp=Z,178nm,1.0s
MK31 Makanchi Array 25.11 43 P **P 23 33 00.3 -1.1**
MK31 Makanchi Array 25.11 43 P **P 23 33 00.3 -1.1**
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 25.11 43 P **P 23 33 00.3 -1.1**
MKAR Makanchi Array 25.11 43 P **P 23 33 00.3 -1.1**
MKAR Makanchi Array 25.11 43 P **P 23 33 02.4 +0.9**
comp=Z,2.8nm,0.6s,baz=229,slow=8.5,SNR=38
MKAR PcP **PcP 23 36 35.9 +0.3**
comp=Z,0.7nm,0.8s,baz=63,slow=0.5,SNR=4.0
comp=Z,2.8nm,0.6s
JIRN Jiri 25.40 90 *eP* **P 23 33 05.8 +1.1**
comp=Z,72nm,0.6s
KURBB Kurchatov Arra 25.43 33 P **P 23 33 05.3 +1.0**
comp=Z,8.3nm,0.8s,baz=232,slow=9.0,SNR=80
KURBB PcP **PcP 23 36 36.4 +0.2**
comp=Z,0.7nm,0.8s,baz=238,slow=3.6,SNR=4.5
comp=Z,8.3nm,0.8s
BALB Balikesir 25.53 298 P **P 23 33 04.6 -0.6**
BALB IAmb IAmb 23 33 07.8
comp=Z,20nm,1.0s
KURK Kurchatov 25.54 32 P **P 23 33 05.5 +0.3**
KURK IAmb IAmb 23 33 08.6
comp=Z,7.4nm,0.7s
KURK Kurchatov 25.54 32 P **P 23 33 05.5 +0.3**
KURK pmax pmax
comp=Z,7.0nm,0.7s
KARP Karpathos 25.62 289 P **P 23 33 06.5 +0.4**
ARU Arti 25.71 2 P **P 23 33 07.4 +0.6**
ARU IAmb IAmb 23 33 12.3
comp=Z,9.6nm,1.0s
ARU Arti 25.71 2*c iP* **P 23 33 10.1 +3.3**
ARU 23 33 43.4
ARU 23 36 35.3
ARU S **S 23 37 41.0 +5.7**
ARU SS **SnSn 23 38 36.0 +6.0**
ARU pmax pmax
comp=Z,10.0nm,0.9s
RAMN Ramite 25.93 91 *eP* **P 23 33 10.2 +0.8**
comp=Z,138nm,0.7s
SVE Sverdlovsk 26.20 4 *eP* **P 23 33 13.7 +2.5**
SVE pmax pmax
comp=Z,11nm,1.1s
ODAN Odare 26.63 91 *eP* **P 23 33 16.5 +0.8**
TAPN Taplejung 26.78 90 *eP* **P 23 33 17.7 +0.6**
comp=Z,21nm,0.7s
WMQ Urumqi 27.34 53 *eP* **P 23 33 24.5 +2.7**
WMQ PP **PnPn 23 34 09.1 +3.5**
WMQ pmax pmax
comp=Z,11nm,0.9s
IDI Anoyia 27.46 288 LR LR 23 46 03.8
comp=Z,272nm,20.8s,baz=334,slow=40
RDO Rodhopi 27.58 301 P **P 23 33 24.1 +0.3**
RDO IAmb IAmb 23 33 26.4
comp=Z,15nm,1.2s
SORM Soroca 28.07 316 ⇓P **P 23 33 30.2 +2.1**
SORM Soroca 28.07 316 ⇓P **P 23 33 30.2 +2.1**
VRI Vrincioaia 28.13 311 ⇑P P 23 33 35.7 +7.0
VRI Vrincioaia 28.13 311 ⇑P P 23 33 35.7 +7.0
KIRV Kirov 28.37 351 *eP* P 23 33 33.6 +3.0
KIRV Kirov 28.37 351 LR LR 23 47 11.0
comp=Z,340nm,19.2s,baz=360,slow=41
TESR Tescani 28.43 312 ⇑P **P 23 33 32.7 +1.3**
OBN Obninsk 28.49 335 *iP* **P 23 33 34.5 +2.8**
OBN *e* 23 34 22.4
OBN pmax pmax
comp=Z,18nm,0.7s
MLR Muntele Rosu 28.51 310 ⇑P **P 23 33 34.9 +2.7**
MLR Muntele Rosu 28.51 310 P **P 23 33 33.0 +0.8**
MLR IAmb IAmb 23 33 58.2
comp=Z,9.1nm,1.1s
MLR Muntele Rosu 28.51 310 ⇑P **P 23 33 34.9 +2.7**
MOS Moscow 28.61 337 *eP* **P 23 33 34.3 +1.5**
MOS pmax pmax
comp=Z,23nm,1.2s
TURR Turia 28.66 311 ⇑P **P 23 33 35.1 +1.7**
AKASG Malin Array Be 28.88 322 P **P 23 33 35.8 +0.5**
comp=Z,0.7nm,0.4s,baz=131,slow=8.2,SNR=12
comp=Z,0.7nm,0.4s
AKBB Malin Array Si 28.88 322 P **P 23 33 35.3 0.0**
AKBB IAmb IAmb 23 33 38.3
comp=Z,9.5nm,1.0s
AKBB Malin Array Si 28.88 322 P **P 23 33 35.3 0.0**
AKBB pmax pmax
comp=Z,10.0nm,1.0s
KIEV Kiev 28.89 322 ⇓P **P 23 33 37.5 +2.2**
KIEV Kiev 28.89 322 P **P 23 33 36.1 +0.8**
KIEV IAmb IAmb 23 33 38.2
comp=Z,8.5nm,1.0s
KIEV Kiev 28.89 322 ⇓P **P 23 33 37.5 +2.2**
DOPR Dopca 29.04 311 ⇑P **P 23 33 36.7 -0.1**
VOIR 29.08 309 ⇓P **P 23 33 38.8 +1.5**
VOIR 29.08 309 ⇓P **P 23 33 38.8 +1.5**
DGZ Jazzator, Alta 29.53 41 ⇓*eP* **P 23 33 42.8 +1.5**
DGZ pmax pmax
comp=Z,2.0nm,0.8s
ZAA0 Zalesovo Array 30.53 33 P **P 23 33 49.6 -0.3**
ZALV Zalesovo Beam 30.53 33 P **P 23 33 49.6 -0.3**
ZALV Zalesovo Beam 30.53 33 *iP* **P 23 33 50.1 +0.2**
ZALV pmax pmax
comp=Z,13nm,0.6s
ZALV Zalesovo Beam 30.53 33 P **P 23 33 50.4 +0.6**
comp=Z,13nm,0.6s,baz=239,slow=9.1,SNR=68
ZALV PcP **PcP 23 36 48.3 -0.2**
comp=Z,1.3nm,0.7s,baz=240,slow=2.8,SNR=3.0
comp=Z,13nm,0.6s
SHL Shillong 30.87 91 P **P 23 33 52.5 -0.9**
SHL IAmb IAmb 23 33 53.9
comp=Z,10.0nm,0.7s
SHL Shillong 30.87 91 P **P 23 33 52.5 -0.9**
SHL pmax pmax
comp=Z,10.0nm,0.7s
KBN Korca 31.05 299 P **P 23 33 54.9 +0.2**
KBN Korca 31.05 299 P **P 23 33 54.9 +0.2**
KBN pmax pmax
comp=Z,32nm,1.2s
KWP Kalwaria Pacla 32.08 316 P **P 23 34 04.7 +1.1**
KWP Kalwaria Pacla 32.08 316 P **P 23 34 04.7 +1.1**
KWP pmax pmax
comp=Z,25nm,1.3s
KLMR Klimovskoe 32.35 344 *eP* **P 23 34 05.0 -0.8**
KLMR AMP 23 34 08.4
comp=Z,28nm,1.5s
KLMR Klimovskoe 32.35 344 *eP* **P 23 34 05.0 -0.8**
KLMR pmax pmax
comp=Z,28nm,1.5s
OJC Ojcow 34.04 316 *eP* **P 23 34 21.2 +0.5**
OJC Ojcow 34.04 316 P **P 23 34 20.9 +0.2**
OJC Ojcow 34.04 316 P **P 23 34 20.9 +0.2**
OJC pmax pmax
comp=Z,27nm,1.4s
VYHS Vyhne 34.08 312 *eP* **P 23 34 22.9 +1.8**
VYHS Vyhne 34.08 312 *eP* **P 23 34 22.9 +1.8**
LODK Lodwar 34.14 222 P **P 23 34 23.4 +1.4**
LODK IAmb IAmb 23 34 27.1
comp=Z,4.0nm,0.9s
RONA Rosalia, Austr 35.51 310 *eP* **P 23 34 34.2 +0.7**
comp=Z,3.2nm,0.6s
ARSA Arzberg 35.92 309 *eP* **P 23 34 37.6 +0.6**
comp=Z,2.2nm,0.6s
DPC Dobruska-Polom 36.19 315 *eP* **P 23 34 40.5 +1.2**
DPC Dobruska-Polom 36.19 315 *eP* **P 23 34 40.5 +1.2**
KSP Ksiaz 36.36 315 *eP* **P 23 34 43.5 +2.8**
CHVC Chvalec 36.43 315 *eP* **P 23 34 41.9 +0.6**
CHVC Chvalec 36.43 315 *eP* **P 23 34 41.9 +0.6**
MOA Molln 36.88 310 *eP* **P 23 34 45.5 +0.3**
comp=Z,2.9nm,0.6s
FINES FINESS Array B 36.89 336 P **P 23 34 45.2 +0.2**
comp=Z,5.3nm,0.8s,baz=134,slow=8.2,SNR=11
comp=Z,5.3nm,0.8s
KMBO Kilima Mbogo 36.96 215 P **P 23 34 46.1 -0.3**
comp=Z,1.5nm,0.8s,baz=36,slow=13,SNR=4.4
comp=Z,1.5nm,0.8s
BIOA Bad Ischl, Aus 37.26 310 *eP* **P 23 34 48.8 +0.4**
comp=Z,2.2nm,0.7s
ZVC Zvikov 37.28 313 *eP* **P 23 34 49.0 +0.5**
GEC2 GERESS Array S 37.46 312 P **P 23 34 49.7 -0.5**
GERES GERESS Array B 37.46 312 P **P 23 34 49.2 -0.9**
GERES GERESS Array B 37.46 312 P **P 23 34 50.0 -0.2**
GERES GERESS Array B 37.46 312 P **P 23 34 50.0 -0.2**
comp=Z,4.0nm,0.7s,baz=107,slow=8.9,SNR=12
comp=Z,4.0nm,0.7s
KHC Kasperske Hory 37.60 312 P **P 23 34 51.1 -0.1**
KHC IAmb IAmb 23 34 55.1
comp=Z,5.3nm,0.8s
KHC Kasperske Hory 37.60 312 *eP* **P 23 34 50.3 -1.0**
KHC Kasperske Hory 37.60 312 *eP* **P 23 34 50.3 -1.0**
LESA Schwarzleotal 37.85 309 *eP* **P 23 34 53.1 -0.4**
comp=Z,1.9nm,0.3s
ABTA Abfaltersbach 37.85 308 *eP* **P 23 34 53.6 +0.1**
comp=Z,1.2nm,0.6s
CLL Collm 38.48 315 *eP* **P 23 34 59.0 +0.4**
comp=Z,43nm,1.7s
CLL *e*(sP) **sP 23 35 05.0 +1.3**
comp=Z,25nm,1.5s
CLL Collm 38.48 315 *eP* **P 23 34 59.0 +0.4**
CLL *e* 23 35 05.0
CLL pmax pmax
comp=Z,43nm,1.7s
WTTA Wattenberg 38.53 309 *eP* **P 23 34 58.8 -0.5**
comp=Z,3.5nm,0.6s
WATA Walderalm 38.58 309 *eP* **P 23 34 59.2 -0.5**
comp=Z,4.4nm,0.6s
SQTA Sankt Quirin 38.81 308 *eP* **P 23 35 01.0 -0.6**
comp=Z,2.7nm,0.5s
MOTA Moosalm 38.90 309 *iP* **P 23 35 01.5 -0.9**
comp=Z,3.8nm,0.7s
LZH Lanzhou 38.96 69 *eP* P 23 34 57.0 -6.0
LZH pP pP 23 35 04.3 -2.5
LZH pmax pmax
comp=Z,11nm,1.1s
FETA Feichten 39.10 308 *eP* **P 23 35 03.5 -0.6**
comp=Z,5.8nm,0.8s
CHTO Chiang Mai 39.44 98 P **P 23 35 07.4 +0.3**
CHTO IAmb IAmb 23 35 08.6
comp=Z,15nm,0.9s
CHTO Chiang Mai 39.44 98 P **P 23 35 07.4 +0.3**
CHTO pmax pmax
comp=Z,15nm,0.9s
CM31 Chiang Mai Arr 39.60 98 P **P 23 35 08.7 +0.3**
CM31 IAmb IAmb 23 35 09.8
comp=Z,10nm,1.1s
CMAR Chiang Mai Arr 39.60 98 P **P 23 35 07.8 -0.5**
CMAR Chiang Mai Arr 39.60 98 P **P 23 35 08.7 +0.3**
comp=Z,2.9nm,0.8s,baz=291,slow=8.2,SNR=20
CMAR PcP **PcP 23 37 16.1 +0.4**
comp=Z,0.7nm,0.5s,baz=285,slow=4.8,SNR=4.2
comp=Z,2.9nm,0.8s
CRAI Chiangrai 40.08 95 P **P 23 35 12.8 +0.4**
CRAI IAmb IAmb 23 35 14.1
comp=Z,9.9nm,0.8s
KMI Kunming 40.35 86 ⇓P **P 23 35 15.8 +1.0**
KMI pmax pmax
comp=Z,27nm,0.8s
SONM Songino Array 40.94 51 P **P 23 35 20.5 +1.1**
comp=Z,1.7nm,0.8s,baz=270,slow=9.9,SNR=12
comp=Z,1.7nm,0.8s
HFS Hagfors 41.21 328 P **P 23 35 22.5 +1.4**
comp=Z,4.2nm,1.0s,baz=124,slow=12,SNR=2.0
comp=Z,4.2nm,1.0s
ARCES ARCESS Array B 42.83 344 P **P 23 35 34.8 +0.5**
comp=Z,3.8nm,0.8s,baz=140,slow=6.3,SNR=8.0
comp=Z,3.8nm,0.8s
XAN Xi'an 43.37 72 P **P 23 35 39.3 +0.1**
XAN pmax pmax
comp=Z,12nm,0.9s
HHC Hu-ho-hao-te 44.56 61 *eP* **P 23 35 49.0 +0.2**
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,470nm,5.4s
EKA Eskdalemuir Ar 48.70 319 P **P 23 36 21.5 +0.6**
comp=Z,2.3nm,0.8s,baz=102,slow=7.1,SNR=3.6
comp=Z,2.3nm,0.8s
ESDC Sonseca Array 49.98 298 P **P 23 36 30.6 -0.4**
comp=Z,1.1nm,0.8s,baz=63,slow=7.2,SNR=7.1
comp=Z,1.1nm,0.8s
NJ2 Nanjing 51.94 72 *eP* **P 23 36 45.6 -0.1**
NJ2 pP **sP 23 36 48.4 -2.6**
NJ2 sP **pP 23 36 50.6 +1.0**
NJ2 pmax pmax
comp=Z,22nm,0.5s
NJ2 pmax pmax
comp=Z,350nm,3.7s
TOA0 Torodi Ar. Sit 53.91 264 P **P 23 36 59.6 -0.9**
TOA0 IAmb IAmb 23 37 02.4
comp=Z,7.5nm,0.8s
TOA0 Torodi Ar. Sit 53.91 264 P **P 23 37 00.2 -0.3**
SNR=10
TORD Torodi Ar. Bea 53.91 264 P **P 23 36 58.6 -1.8**
TORD IAmb IAmb 23 37 08.6
comp=Z,8.7nm,0.8s
TORD Torodi Ar. Bea 53.91 264 P **P 23 36 60.0 -0.5**
comp=Z,6.4nm,0.7s,baz=51,slow=8.0,SNR=32
comp=Z,6.4nm,0.7s
YAK Yakutsk 55.18 33 ⇑*eP* **P 23 37 10.5 +1.5**
YAK pmax pmax
comp=Z,23nm,1.7s
TIXI Tiksi 55.37 21 P **P 23 37 11.3 +1.1**
TIXI IAmb IAmb 23 37 14.8
comp=Z,4.3nm,0.9s
TIXI Tiksi 55.37 21 P **P 23 37 11.3 +1.1**
TIXI pmax pmax
comp=Z,4.0nm,0.9s
DAG Danmarks Havn 57.12 345 *iP* **P 23 37 22.0 -0.7**
DAG IAmb IAmb 23 37 25.7
comp=Z,2.0nm,1.0s
MDJ Mudanjiang 57.14 54 P **P 23 37 23.0 -0.4**
MDJ pmax pmax
comp=Z,20nm,2.4s
MDJ pmax pmax
comp=Z,730nm,7.9s
DBG Daneborg 57.32 342 *iP* **P 23 37 24.0 -0.2**
DBG IAmb IAmb 23 37 29.5
comp=Z,2.1nm,1.0s
NOR Nord 57.46 350 *iP* **P 23 37 23.7 -1.4**
NOR IAmb IAmb 23 37 28.1
comp=Z,1.9nm,0.8s
KLR Kul'dur 57.66 48 ⇑*eP* **P 23 37 27.8 +0.8**
KLR pmax pmax
comp=Z,3.0nm,0.7s
KSRS Korea Array 57.66 63 *iP* **P 23 37 27.1 0.0**
comp=Z,2.1nm,0.8s,baz=280,slow=8.2,SNR=2.5
comp=Z,2.1nm,0.8s
SUMG Summit 62.69 340 *iP* **P 23 38 02.4 +0.9**
SUMG IAmb IAmb 23 38 05.3
comp=Z,3.3nm,0.9s
DBIC Dimbokro 62.71 261 P **P 23 38 03.0 +0.9**
DBIC Dimbokro 62.71 261 P **P 23 38 03.0 +0.9**
comp=Z,1.4nm,0.7s,baz=63,slow=4.5,SNR=2.3
comp=Z,1.4nm,0.7s
NEEM North Greenlan 64.10 347 *iP* P 23 38 04.9 -5.8
NEEM IAmb IAmb 23 38 18.8
comp=Z,4.3nm,0.9s
BOSA Boshof 66.44 211 P **P 23 38 26.2 +0.1**
comp=Z,4.0nm,0.9s,baz=22,slow=6.6,SNR=6.2
comp=Z,4.0nm,0.9s
DY2G Dye2 67.38 335 *iP* **P 23 38 31.0 -0.9**
BILL Bilibino 68.56 22 ⇑*eP* **P 23 38 40.8 +1.8**
B22K Teshekpuk Lake 76.84 10 P **P 23 39 28.7 +0.6**
A36M Sachs Harbour 77.56 1 P **P 23 39 31.3 -0.8**
D25K Kavik River 78.75 8 P **P 23 39 39.3 +0.4**
D25K IAmb IAmb 23 39 44.4
comp=Z,3.4nm,1.0s
TOLK Toolik Lake Re 78.96 10 P **P 23 39 39.6 -0.5**
TOLK IAmb IAmb 23 39 44.0
comp=Z,4.5nm,0.8s
E24K Your Creek 79.64 10 P **P 23 39 45.2 +1.4**
E24K IAmb IAmb 23 39 48.2
comp=Z,5.7nm,1.1s
C36M Paulatuk 80.22 0 P **P 23 39 46.6 -0.2**
C36M IAmb IAmb 23 39 58.5
comp=Z,9.6nm,1.4s
E29M Blow River 80.54 6 P **P 23 39 49.2 +0.6**
E29M IAmb IAmb 23 39 52.2
comp=Z,4.6nm,1.2s
BMAR Burnt Mountain 80.77 8 P **P 23 39 50.3 +0.3**
INK Inuvik 80.94 4 P **P 23 39 50.1 -0.6**
INK Inuvik 80.94 4 P **P 23 39 50.1 -0.6**
INK pmax pmax
comp=Z,2.0nm,0.9s
FITZ Fitzroy Crossi 81.66 117 P **P 23 39 55.2 -0.1**
F31M Tsiigehtchic 81.79 4 P **P 23 39 55.0 -0.2**
F31M IAmb IAmb 23 39 59.0
comp=Z,6.9nm,1.1s
G29M Pine Creek 81.98 6 P **P 23 39 56.4 +0.1**
G31M Satah River 82.27 5 P **P 23 39 57.9 +0.2**
G31M IAmb IAmb 23 40 17.6
comp=Z,3.1nm,1.1s
ILAR Eielson Array 82.96 10 P **P 23 40 02.2 +0.8**
ILAR Eielson Array 82.96 10 P **P 23 40 02.2 +0.8**
ILAR Eielson Array 82.96 10 P **P 23 40 01.4 0.0**
comp=Z,0.6nm,0.8s,baz=328,slow=4.1,SNR=7.1
comp=Z,0.6nm,0.8s
CAST Castle Rocks 83.32 13 P **P 23 40 03.8 +0.4**
CAST IAmb IAmb 23 40 06.0
comp=Z,4.8nm,1.0s
YKA Yellowknife Ar 86.88 356 ⇑*eP* **P 23 40 22.1 +0.9**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 86.88 356 P **P 23 40 21.4 +0.2**
comp=Z,1.2nm,0.8s,baz=359,slow=5.1,SNR=10
comp=Z,1.2nm,0.8s
WRA Warramunga Arr 89.49 114 P **P 23 40 34.1 -0.2**
comp=Z,1.1nm,0.8s,baz=317,slow=4.2,SNR=10
comp=Z,1.1nm,0.8s
ASAR Alice Springs 91.17 117 P **P 23 40 42.0 -0.1**
comp=Z,2.1nm,0.9s,baz=300,slow=4.2,SNR=12
comp=Z,2.1nm,0.9s
PLCA Paso Flores 137.03 242 PP **PP 23 49 46.8 +2.6**
comp=Z,0.9nm,0.8s,baz=212,slow=2.7,SNR=3.0

NEIC ***12*** *23:44:53.0±2.5, 40.13N±0.03×108.80W±0.02, h5km±2km, Error ellipse: s-maj=5.0km s-min=3.0km az=12.0*
UUSS 12 23:44:53.0±2.5, 40.13N±0.03×108.83W±0.02, h6km±7km, ML3.1/14, MLB3.0/80(NEIC), Error ellipse: s-maj=4.2km s-min=2.4km az=188.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20A	**White River Ci**	**0.45**	**89**	Pg	Pg	23 45 01.4	-0.3
O20A				Sg	Sg	23 45 05.0	-2.7
O20A				IAML		23 45 16.5	
	comp=E,640nm,0.6s						
RDMU	**Red Mountain**	**0.72**	**308**	Pg	Pg	23 45 06.3	-0.6
RDMU				Sg	Sg	23 45 15.6	-0.7
P18A	**Preston Nutter**	**1.20**	**246**	Pg	Pg	23 45 14.7	-1.4
P18A				Sg	Sg	23 45 30.4	-1.3
P18A				IAML		23 45 40.7	
	comp=E,360nm,0.6s						
ARGU	**Argyle Ridge**	**1.35**	**258**		Pn	23 45 18.0	-0.8
BSUT	**Blindstream Ca**	**1.54**	**286**	Pn	Pn	23 45 21.0	-0.3
BSUT				IAML		23 45 46.9	
	comp=E,94nm,0.4s						
EMUT	**Emma Park**	**1.56**	**259**		Pn	23 45 21.2	-0.3
PV21	**Cone Mtn., Par**	**1.57**	**184**		Pn	23 45 21.8	+0.1
P17A	**Butcher Ranch,**	**1.61**	**247**	Pn	Pn	23 45 22.1	-0.2
P17A				IAML		23 45 47.6	
	comp=N,250nm,0.4s						
P17A				IAML		23 45 51.6	
	comp=E,310nm,0.4s						
SRU	**San Rafael Swe**	**1.66**	**233**	Pn	Pn	23 45 23.3	+0.4
SMCO	**Snowmass**	**1.72**	**123**	Pn	Pn	23 45 23.9	0.0
SMCO				IAML		23 45 51.2	
	comp=E,188nm,0.3s						
SMCO				IAML		23 45 52.9	
	comp=E,258nm,0.5s						
RWWY	**Rawlins**	**1.98**	**38**	Pn	Pn	23 45 26.5	-0.9
RWWY				IAML		23 45 56.5	
	comp=E,117nm,0.8s						
RWWY				IAML		23 46 00.4	
	comp=E,143nm,0.5s						
TMUT	**Trail Mountain**	**2.02**	**246**	Pn	Pb	23 45 29.1	-1.2
MPU	**Maple Canyon**	**2.16**	**268**		Pn	23 45 28.8	-0.9
N23A	**Red Feather La**	**2.33**	**70**	Pn	Pn	23 45 33.8	+1.7
N23A				IAML		23 46 10.0	
	comp=E,100nm,0.5s						
ISCO	**Idaho Springs**	**2.49**	**97**	Pn	Pn	23 45 35.1	+0.7
NLU	**North Lily Min**	**2.50**	**267**	Pn	Pn	23 45 36.3	+1.8
NLU				IAML		23 46 13.5	
	comp=E,36nm,0.5s						
HWUT	**Hardware Ranch**	**2.55**	**306**	Pn	Pn	23 45 36.7	+1.6
HWUT				IAML		23 46 13.2	
	comp=E,84nm,0.5s						
HWUT				IAML		23 46 18.0	
	comp=E,72nm,0.7s						
HMU	**Henry Mountain**	**2.65**	**215**	Pn	Pb	23 45 39.3	-1.7
BW06	**Boulder Array**	**2.69**	**348**	Pn	Pn	23 45 38.0	+0.9
BW06				IAML		23 46 19.9	
	comp=E,61nm,1.0s						
BW06				IAML		23 46 21.2	
	comp=E,31nm,0.5s						
PD31	**Pinedale Array**	**2.69**	**348**	Pn	Pn	23 45 37.9	+0.7
PDAR	**Pinedale Array**	**2.69**	**348**	Pn	Pn	23 45 37.7	+0.5
MVCO	**Mesa Verde**	**2.92**	**175**		Pn	23 45 39.2	-1.2
SPUT	**South Promonto**	**3.00**	**294**	Pn	Pn	23 45 42.4	+1.2
SPUT				IAML		23 46 27.5	
	comp=N,44nm,0.5s						
SPUT				IAML		23 46 32.3	
	comp=E,23nm,1.1s						
DUG	**Dugway, Tooele**	**3.06**	**273**	Pn	Pn	23 45 43.0	+1.0
K22A	**Casper**	**3.06**	**34**	Pn	Pn	23 45 43.2	+1.1
K22A				IAML		23 46 28.0	
	comp=N,60nm,0.3s						
K22A				IAML		23 46 34.8	
	comp=E,58nm,0.6s						
Q24A	**Divide**	**3.07**	**111**	Pn	Pn	23 45 44.1	+1.7
BGU	**Big Grassy Mou**	**3.30**	**285**	Pn	Pn	23 45 46.8	+1.3
BGU				IAML		23 46 43.0	
	comp=E,17nm,5.0s						
HVU	**Hansel Valley**	**3.42**	**300**	Pn	Pn	23 45 48.0	+1.0
HVU				IAML		23 46 41.2	
	comp=E,30nm,0.3s						
HVU				IAML		23 46 41.4	
	comp=N,23nm,0.4s						
SDCO	**Great Sand Dun**	**3.52**	**131**	Pn	Pn	23 45 50.1	+1.6
REDW	**Red Top Meadow**	**3.57**	**336**	Pn	Pn	23 45 48.7	-0.5
TPAW	**Teton Pass**	**3.71**	**335**	Pn	Pn	23 45 51.2	0.0
TPAW				IAML		23 46 57.3	
	comp=N,21nm,1.0s						
TPAW				IAML		23 47 03.0	
	comp=N,40nm,0.7s						
LOHW	**Long Hollow**	**3.73**	**340**	Pn	Pn	23 45 52.2	+0.8
LOHW				IAML		23 46 50.6	
	comp=N,22nm,0.4s						
LOHW				IAML		23 46 58.1	
	comp=N,24nm,0.7s						
FXWY	**Fox Creek**	**3.87**	**336**	Pn	Pn	23 45 53.4	0.0
FXWY				IAML		23 47 15.5	
	comp=N,10nm,4.2s						
MOOW	**Moose Ponds**	**3.89**	**339**	Pn	Pn	23 45 53.8	+0.3
IMW	**Indian Meadow**	**4.08**	**338**	Pn	Pn	23 45 55.6	-0.6
FLWY	**Flagg Ranch**	**4.19**	**341**	Pn	Pn	23 45 56.9	-0.8
FLWY				IAML		23 47 20.3	
	comp=N,20nm,4.9s						
FLWY				IAML		23 48 23.8	
	comp=N,24nm,4.7s						
U15A	**North Rim**	**4.59**	**218**	Pn	Pn	23 46 01.3	-2.0
Q12A	**Willow Creek R**	**4.76**	**259**	Pn	Pn	23 46 07.6	+2.0
Q12A				IAML		23 48 04.2	
	comp=N,16nm,0.0s						
Q12A				IAML		23 48 05.1	
	comp=E,14nm,0.2s						
RLMT	**Red Lodge**	**5.00**	**356**	Pn	Pn	23 46 09.8	+1.0
RLMT				IAML		23 47 34.1	
	comp=E,20nm,4.9s						
RLMT				IAML		23 48 44.9	
	comp=E,16nm,5.0s						
WUAZ	**Wupatki**	**5.03**	**204**	Pn	Pn	23 46 10.9	+1.8
W18A	**Petrified Fore**	**5.05**	**188**	Pn	Pn	23 46 10.8	+1.3
RSSD	**Black Hills**	**5.35**	**40**	Pn	Pn	23 46 12.9	-0.7
RSSD				IAML		23 47 48.6	
	comp=E,14nm,0.7s						
RSSD				IAML		23 48 11.1	
	comp=E,11nm,4.2s						
R11B	**Troy Canyon, C**	**5.54**	**253**	Pn	Pn	23 46 18.6	+2.4
X18A	**Snowflake**	**5.66**	**189**	Pn	Pn	23 46 21.1	+3.2
X16A	**Lo Mia Camp, P**	**6.07**	**201**	Pn	Pn	23 46 25.7	+2.2

NEIC ***12*** *23:55:35.5±0.9, 35.42N±0.01×97.93W±0.02, h5km±5km, Error ellipse: s-maj=2.2km s-min=1.9km az=61.0*
TUL 12 23:55:35±0.8, 35.43N±0.02×97.92W±0.02, h6km±4km, ML2.8, mb_Lg2.4/15(NEIC), ML2.8/28(NEIC), Error ellipse: s-maj=2.2km s-min=2.1km az=142.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCSW	**OKLAHOMA CITY**	**0.39**	**93**	Pg	Pg	23 55 43.1	+0.5
OKCSW				Sg	Sg	23 55 48.1	+0.3
OKCSW				IAML		23 55 51.8	

comp=E,675nm,0.4s
FNO Franklin 0.45 111 Pg Pg 23 55 44.1 +0.3
FNO Sg Sg 23 55 50.7 +1.0
FNO IAML 23 55 53.7
comp=N,586nm,0.4s
ADOK Arcadia Dam 0.50 63 Pg Pg 23 55 44.7 0.0
ADOK Sg Sg 23 55 51.2 0.0
OK029 Liberty Lake 0.53 45 Pg Pg 23 55 45.2 -0.1
OK029 Sg Sg 23 55 52.7 +0.6
OK029 IAML 23 55 56.0
comp=N,467nm,0.3s
WMOK Wichita Mounta 0.98 226 Pg Pg 23 55 52.8 -1.1
WMOK Sg Sg 23 56 05.9 -0.8
OK033 Mehan 1.01 52 Pg Pg 23 55 53.7 -0.6
OK033 Sg Sg 23 56 07.5 +0.1
OK033 IAML 23 56 17.1
comp=N,249nm,0.1s
OK033 IAML 23 56 24.4
comp=N,205nm,0.1s
OK052 Battle Ridge R 1.07 58 Pg Pg 23 55 54.3 -1.2
OK052 Sg Sg 23 56 09.3 -0.1
OK052 IAML 23 56 11.5
comp=N,163nm,0.2s
OK052 IAML 23 56 15.2
comp=N,171nm,0.3s
CROK Carrier 1.08 357 Pg Pg 23 55 55.0 -0.7
CROK Sg Sg 23 56 09.8 +0.1
DEOK Depew 1.23 70 Pg Pg 23 55 57.9 -0.7
DEOK Sg Sg 23 56 14.1 -0.5
DEOK IAML 23 56 19.6
comp=E,190nm,0.2s
QUOK Quay 1.23 52 Pg Pg 23 55 57.6 -1.1
QUOK IAML 23 56 19.3
comp=E,197nm,0.2s
OK038 West end E0370 1.25 328 Pg Pg 23 55 58.0 -0.9
OK048 Pawnee Station 1.27 38 Pg Pn 23 55 58.8 -0.4
OK048 IAML 23 56 19.1
comp=E,210nm,0.5s
U32A Winter Ranch, 1.30 318 Pg Pn 23 55 58.8 -0.9
U32A IAML 23 56 18.1
comp=E,169nm,0.1s
U32A IAML 23 56 21.4
comp=N,199nm,0.2s
ELIS Ellis County 1.38 298 Pn 23 56 00.3 -0.5
OK051 E0350 and S346 1.39 39 Pn 23 56 00.4 -0.5
OK032 Salt Plains WL 1.40 350 Pn 23 56 00.1 -0.9
GC02 Grant County # 1.43 2 Pn 23 56 00.4 -1.0
OK035 E0210 Rd and N 1.43 334 Pn 23 56 01.2 -0.3
BLOK Blackwell 1.45 23 Pn 23 56 01.8 +0.1
LOOK Love County 1.55 157 Pn 23 56 02.9 -0.2
KAN17 Caldwell West 1.62 4 Pn Pn 23 56 04.3 +0.3
KAN13 South Haven SW 1.62 13 Pn Pb 23 56 04.8 -0.5
KAN10 Anthony SW Sta 1.70 355 Pn Pn 23 56 05.4 +0.2
WTFS Witchita Falls 1.71 195 Pn Pn 23 56 05.9 +0.5
KAN09 Caldwell North 1.73 8 Pn Pn 23 56 05.6 +0.1
KAN01 Argonia South 1.73 4 Pn Pn 23 56 05.6 0.0
TUL3 Leonard 1.80 74 Pn Pn 23 56 06.7 +0.2
TUL3 IAmb_Lg 23 56 35.4
comp=Z,23nm,0.8s
KAN08 Anthony NE Sta 1.80 359 Pn Pn 23 56 07.0 +0.5
KAN06 Argonia West S 1.82 1 Pn Pn 23 56 07.0 +0.2
T35A Sooner Cattle 1.87 37 Pn Pn 23 56 08.3 +0.8
SMWD Samnorwood 1.93 261 Pn Pn 23 56 08.9 +0.5
Z35A Perchaven, San 2.16 165 Pn Pn 23 56 12.5 +1.0
X37A Clayton 2.25 111 Pn Pn 23 56 13.9 +1.2
FW03 Perrin-Whitt E 2.38 183 IAmb_Lg 23 56 53.7
comp=Z,17nm,0.8s
FW06 Azle 2.46 173 Pn Pn 23 56 16.4 +0.7
RLO Rose Lookout 2.47 72 Pn Pn 23 56 15.7 0.0
PLPT Palo Pinto 2.63 187 IAmb_Lg 23 57 02.4
comp=Z,12nm,0.8s
APMT Aspermont 2.78 222 Pn Pn 23 56 21.5 +1.5
U38A Gravette 3.04 70 Pn Pn 23 56 24.4 +0.8
R32A Long Quarter, 3.06 348 Pn Pn 23 56 24.4 +0.5
SN01 Snyder 1 3.55 225 IAmb_Lg 23 57 28.6
comp=Z,8.0nm,0.8s
MIAR Mount Ida 3.67 103 Pn Pn 23 56 33.0 +0.8
MIAR IAmb_Lg 23 57 40.0
comp=Z,9.0nm,0.7s
CBKS Cedar Bluff 3.68 337 Pn Pn 23 56 31.7 -0.7
CBKS IAmb_Lg 23 57 35.3
comp=Z,7.7nm,0.7s
RTBA Rita Blanca 4.04 286 IAmb_Lg 23 57 48.4
comp=Z,11nm,1.1s
BRDY Brady 4.23 193 IAmb_Lg 23 57 48.4
comp=Z,7.8nm,0.8s
X40A Basin Creek Fa 4.28 101 IAmb_Lg 23 57 56.2
comp=Z,9.5nm,0.8s
FCAR Ozark Folk Cen 4.74 83 Pn Pn 23 56 47.1 +0.2
JCT Junction City 5.18 198 IAmb_Lg 23 58 34.7
comp=Z,11nm,0.7s
R40A Maddies Statio 5.36 56 Pn Pn 23 56 55.9 +0.5
DRIO Del Rio 6.41 202 IAmb_Lg 23 59 01.0
comp=Z,4.0nm,0.7s
SDCO Great Sand Dun 6.53 293 Pn Pn 23 57 10.6 -1.2
Q24A Divide 6.77 304 Pn Pn 23 57 13.1 -2.0

TEH 13 00:01:07.3,30°69′N×57°32′E,h8km±51km, ML3.6,
Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.73**	**293**	Pg	Pb	00 01 22.0	-0.4
KHGB	**Koh Gabri**	**0.79**	**247**	Pg	Pb	00 01 23.1	-0.3
CHMN	**Cheshme madani**	**0.84**	**167**	Pg	Pb	00 01 24.0	-0.4
TVBK	**TV Kerman**	**0.85**	**215**	Pg	Pb	00 01 25.0	+0.6
NGRK	**Negar Kerman**	**1.16**	**206**	Pg	Pn	00 01 30.5	+0.4
NGRK				Sg	Sn	00 01 45.9	-0.4
IBAF	**Bafgh**	**1.75**	**301**	Pg	Pb	00 01 40.2	+0.4
KBAM	**BAM**	**1.83**	**147**	Pn	Pb	00 01 41.6	+0.5
BSRN	**Basiran**	**2.00**	**50**	Pn	Pb	00 01 43.6	-0.5
IKOO	**Kooshah**	**2.25**	**39**	Pn	Pn	00 01 46.6	+1.6
TPRV	**Parvadeh(Tabas**	**2.40**	**347**	Pn	Pb	00 01 48.9	-1.8
IMEH	**Mehriz**	**2.43**	**287**	Pn	Pb	00 01 49.6	-1.8
ITEG	**Tejag**	**2.52**	**29**	Pn	Pn	00 01 50.5	+1.9
KHNJ	**Kahnooj**	**2.75**	**173**	Pn	Pb	00 01 54.8	-1.9
ICHK	**Chekchek**	**2.93**	**303**	Pn	Pn	00 01 56.7	+2.3
IDAH	**Dahanechah**	**2.98**	**46**	Pn	Pn	00 01 57.3	+2.2
AFRZ	**Afriz**	**3.09**	**27**	Pn	Pn	00 01 58.1	+1.6
ZHDN	**Zahedan**	**3.29**	**112**	Pn	Pn	00 02 01.1	+1.9
TNSJ	**Nastanj**	**3.32**	**350**	Pn	Pn	00 02 01.6	+1.9
ISAD	**Sadrabad**	**3.34**	**292**	Pn	Pn	00 02 02.4	+2.4
SHRT	**Shahrakht**	**3.88**	**40**	Pn	Pn	00 02 09.3	+2.0
ANAR	**Anarak**	**3.94**	**310**	Pn	Pn	00 02 10.0	+1.8
IRAM	**Ramesheh**	**4.37**	**286**	Pn	Pn	00 02 16.9	+2.7
IZEF	**Zefreh**	**4.79**	**299**	Pn	Pn	00 02 21.1	+1.2
TBJM	**Torbat-e-JAM**	**5.22**	**28**	Pn	Pn	00 02 27.2	+1.3
ISFB	**Sefidab**	**5.63**	**312**	Pn	Pn	00 02 33.3	+1.9
SBZV	**Sabzevar**	**5.69**	**2**	Pn	Pn	00 02 34.7	+2.4
IAKL	**Akhelmad**	**6.02**	**11**	Pn	Pn	00 02 39.3	+2.4
IDMV	**Damavand**	**6.59**	**319**	Pn	Pn	00 02 46.6	+1.9

*CNRM **13** 00:03:14.8,37°.18N×4°.51W,h133km,ml2.5*
*IGIL **13** 00:03:15.9,37°.15N×4°.28W,h23km*
*MDD **13** 00:03:15.1±0.2,37°.10N×4°.48W,h0km,mb_Lg2.8/31,*
Error ellipse: s-maj=1.9km s-min=1.2km az=167.0
*SFS **13** 00:03:16.3,36°.94N×4°.41W,h22km,ML2.9/7,ML3.1/4,*
MLv2.8/7
*INMG **13** 00:03:17.2±2.1,37°.14N×4°.33W,h24km±4km,ML2.6,Error*
ellipse: s-maj=3.3km s-min=2.9km az=76.0
ISC 13 00:03:15.2±0.9,37°.10N±0°.02×4°.42W±0°.01,h10km±8km,
n73,σ1§77/161,1C-2D,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGOR	**Sierra Gorda,**	**0.25**	**88**	⇓Pg	**Pg**	**00 03 20.1**	**-0.2**
EGOR				Sg	**Sg**	**00 03 24.6**	**+0.9**
EGOR				*i* Vmb_Lg		00 03 27.1	
EMAL	**Malaga-Limoner**	**0.34**	**181**	Sg	**Sg**	**00 03 24.8**	**-1.7**
EMAL				Pg	**Pg**	**00 03 21.1**	**-0.9**
EMIJ	**Mijas**	**0.61**	**208**	⇑Pg	**Pg**	**00 03 25.2**	**-1.8**
EMIJ				Sg	**Sg**	**00 03 32.3**	**-2.6**
EMIJ				*i* Vmb_Lg		00 03 40.0	
ELGU	**Los Guajares,**	**0.68**	**110**	Pg	**Pg**	**00 03 26.7**	**-1.6**
ELGU				Sg	**Sg**	**00 03 37.5**	**+0.3**
ELGU				*i* Vmb_Lg		00 03 43.2	
EQTA	**Presa de Quent**	**0.79**	**82**	Pg	**Pg**	**00 03 30.6**	**+0.3**
EQTA				Sg	**Sn**	**00 03 42.9**	**-1.5**
EADA	**Adamuz**	**1.07**	**353**	Pg	**Pb**	**00 03 35.9**	**+0.1**
EADA				Sg	**Sn**	**00 03 50.4**	**-0.9**
EADA				*i* Vmb_Lg		00 03 53.0	
ESPR	**Espera**	**1.17**	**259**	Pg	**Pg**	**00 03 39.3**	**+1.5**
ESPR				Sg	**Sb**	**00 03 51.6**	**-1.2**
ESPR				*i* Vmb_Lg		00 04 02.6	
EBER	**Berja**	**1.24**	**99**	Pg	**Pn**	**00 03 38.7**	**-0.1**
EBER				Sg	**Sg**	**00 03 55.8**	**+0.6**
EBER				*i* Vmb_Lg		00 04 02.5	
ECAB	**El Cabril**	**1.25**	**321**	Pg	**Pn**	**00 03 38.6**	**-0.2**
ECAB				Sg	**Sg**	**00 03 56.0**	**+0.4**
ECAB				*i* Vmb_Lg		00 03 57.8	
EQES	**Quesada**	**1.28**	**57**	Pg	**Pg**	**00 03 40.2**	**+0.4**
EQES				Sg	**Sg**	**00 03 58.4**	**+2.0**
EQES				*i* Vmb_Lg		00 04 02.0	
SMIR	**Smir Dam**	**1.62**	**209**	P	**Pn**	**00 03 43.4**	**-0.3**
ENIJ	**Nijar**	**1.77**	**94**	Pn	**Pn**	**00 03 46.1**	**+0.1**
ENIJ				Sn	**Sb**	**00 04 09.2**	**-1.0**
ENIJ				*i* Vmb_Lg		00 04 20.9	
PSIM	**Granatula de C**	**1.79**	**17**	Pn	**Pn**	**00 03 46.4**	**+0.1**
PSIM				Pg	**Pb**	**00 03 48.1**	**0.0**
PSIM				Sn	**Sn**	**00 04 08.9**	**-0.2**
PSIM				Sg	**Sg**	**00 04 11.7**	**-1.2**
EMIN	**Mina Concepcio**	**1.91**	**291**	⇓Pn	**Pn**	**00 03 47.2**	**-0.6**
EMIN				Pg	**Pb**	**00 03 50.1**	**-0.1**
EMIN				Sn	**Sn**	**00 04 11.6**	**-0.4**
EMIN				Sg	**Sb**	**00 04 15.9**	**+1.7**
EMIN				*i* Vmb_Lg		00 04 18.5	
PALE	**Palemas**	**1.92**	**168**	P	**Pn**	**00 03 49.2**	**+1.2**
CHEFC	**Chefchaouen**	**2.13**	**201**	P	**Pb**	**00 03 53.5**	**-0.4**
GOG	**Mont Gurugu**	**2.20**	**148**	P	**Pn**	**00 03 51.3**	**-0.6**
PBAR	**Barrancos**	**2.34**	**298**	*e*Pg	**Pb**	**00 03 58.7**	**+1.3**
PBAR				*e*Sn	**Sn**	**00 04 21.2**	**-1.3**
PBAR				*e*Sg	**Sg**	**00 04 31.1**	**+0.8**
PBAR				A	A	00 04 37.3	
	19nm,0.2s						
PBAR	**Barrancos**	**2.34**	**298**	Sn	**Sn**	**00 04 22.0**	**-0.5**
PBAR				Pn	**Pn**	**00 03 53.2**	**-0.6**
PAB	**San Pablo**	**2.44**	**1**	Pn	**Pn**	**00 03 55.0**	**-0.2**
PAB				Pg	**Pb**	**00 03 59.9**	**+0.7**
PAB				Sn	**Sn**	**00 04 24.8**	**-0.3**
PAB				Sg	**Sb**	**00 04 30.8**	**+1.5**
PAB				*i* Vmb_Lg		00 04 38.4	
EGRO	**El Granado**	**2.48**	**281**	Pn	**Pn**	**00 03 55.0**	**-0.6**
EGRO				Sn	**Sn**	**00 04 24.5**	**-1.4**
EGRO				*i* Vmb_Lg		00 04 31.7	
EGRO				Sg	**Sb**	**00 04 32.3**	**+1.9**
ESDC	**Sonseca Array**	**2.59**	**8**	Pn	**Pn**	**00 03 58.0**	**+0.8**
ESDC				Pg	**Pb**	**00 04 02.0**	**+0.2**
ESDC				Sn	**Sn**	**00 04 28.7**	**-0.2**
ESDC				Sg	**Sb**	**00 04 35.3**	**+1.5**
ESDC				*i* Vmb_Lg		00 04 43.5	
AKLM	**AKL**	**2.63**	**170**	P	**Pn**	**00 03 58.1**	**+0.3**
AKLM				S	**Sn**	**00 04 29.7**	**0.0**
EBAD	**Badajoz**	**2.63**	**310**	Pn	**Pn**	**00 03 57.2**	**-0.6**
EBAD				Pg	**Pb**	**00 04 02.4**	**0.0**
EBAD				Sn	**Sn**	**00 04 28.2**	**-1.5**
EBAD				*i* Vmb_Lg		00 04 44.4	
EMUR	**La Murta**	**2.63**	**73**	Pn	**Pn**	**00 03 58.0**	**+0.2**
EMUR				Sn	**Sn**	**00 04 30.8**	**+0.9**
EMUR				*i* Vmb_Lg		00 04 55.6	
PVAQ	**Vaqueiros**	**2.65**	**278**	*e*Pn	**Pn**	**00 03 57.3**	**-0.7**
PVAQ				*e*Sn	**Sn**	**00 04 27.9**	**-2.2**
PVAQ				*e*Sg	**Sg**	**00 04 39.3**	**-1.0**
ETOB	**Tobarra**	**2.74**	**55**	Pn	**Pn**	**00 03 59.4**	**0.0**
ETOB				Pg	**Pb**	**00 04 04.3**	**-0.1**
ETOB				Sn	**Sn**	**00 04 33.5**	**+0.9**
ETOB				Sg	**Sg**	**00 04 42.0**	**-1.4**
ETOB				*i* Vmb_Lg		00 04 49.8	
CART	**Cartagena**	**2.77**	**79**	P	**Pn**	**00 03 59.4**	**-0.1**
TAF	**Taforalt**	**2.80**	**144**	P	**Pn**	**00 04 00.2**	**0.0**
PBDV	**Barranco-do-Ve**	**2.81**	**274**	*e*Pn	**Pn**	**00 04 00.1**	**-0.1**
PBDV				*e*Sn	**Sn**	**00 04 33.8**	**-0.3**
PBDV				*e*Sg	**Sg**	**00 04 44.0**	**-1.4**
PBDV				A	A	00 04 57.5	
	12nm,0.7s						
PBEJ	**Beja**	**2.89**	**290**	*e*Sn	**Sn**	**00 04 35.9**	**-0.2**
PBEJ				*e*Sg	**Sg**	**00 04 46.4**	**-1.6**
PBEJ				A	A	00 04 51.3	
	9.1nm,0.2s						
PCVE	**Castro Verde**	**2.93**	**281**	*e*Pg	**Pb**	**00 04 09.7**	**+2.2**
PCVE				*e*Sn	**Sn**	**00 04 35.5**	**-1.6**
PCVE				*e*Sg	**Sb**	**00 04 45.2**	**+1.7**
PCVE				A	A	00 04 54.0	
	8.0nm,0.7s						
PCVE	**Castro Verde**	**2.93**	**281**	Sn	**Sn**	**00 04 34.2**	**-2.9**
PCVE				Pn	**Pn**	**00 04 01.4**	**-0.4**
PESTR	**Estremoz**	**3.06**	**306**	*e*Pn	**Pn**	**00 04 03.7**	**0.0**
PESTR	**Estremoz**	**3.06**	**306**	*e*Pg	**Pb**	**00 04 12.1**	**+2.3**
PESTR				*e*Sn	**Sn**	**00 04 38.0**	**-2.4**
PESTR				*e*Sg	**Sg**	**00 04 53.2**	**-0.4**
PESTR				A	A	00 05 03.0	
	17nm,0.4s						
MESJ	**Messejana**	**3.11**	**285**	*e*Pn	**Pn**	**00 04 03.9**	**-0.4**
MESJ	**Messejana**	**3.11**	**285**	*e*Pg	**Pg**	**00 04 15.8**	**-1.0**
MESJ				*e*Sn	**Sn**	**00 04 40.7**	**-0.9**
MESJ				*e*Sg	**Sg**	**00 04 53.5**	**-1.6**
MESJ				A	A	00 04 55.8	
	10nm,0.2s						
MESJ	**Messejana**	**3.11**	**285**	*e*P	**Pn**	**00 04 03.8**	**-0.5**
EVO	**Evora**	**3.18**	**298**	*e*Pn	**Pn**	**00 04 05.2**	**-0.1**
EVO	**Evora**	**3.18**	**298**	*e*Pg	**Pg**	**00 04 16.3**	**+0.1**
EVO				*e*Sn	**Sn**	**00 04 41.8**	**-1.5**
EVO				*e*Sg	**Sg**	**00 04 56.4**	**-1.0**
EVO				A	A	00 04 58.9	
	18nm,0.8s						
PMRV	**Marv??o**	**3.30**	**316**	*e*Pn	**Pn**	**00 04 08.0**	**+1.1**
PMRV	**Marv??o**	**3.30**	**316**	*e*Pg	**Pb**	**00 04 15.5**	**+1.7**
PMRV				*e*Sn	**Sn**	**00 04 43.5**	**-2.5**
PMRV				*e*Sg	**Sg**	**00 05 02.0**	**+0.9**
PMRV				A	A	00 05 08.1	
	17nm,0.5s						
UCM	**Universidad Co**	**3.33**	**16**	Sg	**Sg**	**00 05 00.5**	**-1.7**
UCM				Pn	**Pn**	**00 04 08.3**	**+0.9**
MORF	**Marmelete**	**3.39**	**275**	*e*Pn	**Pn**	**00 04 08.9**	**+0.8**
MORF	**Marmelete**	**3.39**	**275**	*e*Pg	**Pb**	**00 04 18.0**	**+2.7**
MORF				*e*Sn	**Sn**	**00 04 48.1**	**-0.3**
MORF				*e*Sg	**Sb**	**00 05 00.2**	**+3.6**
MORF				A	A	00 05 08.1	
	12nm,0.2s						
PNCL	**Nicolau / Gran**	**3.42**	**288**	*e*Pn	**Pn**	**00 04 08.1**	**-0.4**
PNCL	**Nicolau / Gran**	**3.42**	**288**	*e*Pg	**Pb**	**00 04 18.2**	**+2.4**
PNCL				*e*Sn	**Sn**	**00 04 47.6**	**-1.4**
PNCL				*e*Sg	**Sb**	**00 05 01.8**	**+4.4**
PNCL				A	A	00 05 04.9	
	6.6nm,0.5s						
PNCL	**Nicolau / Gran**	**3.42**	**288**	Pn	**Pn**	**00 04 08.0**	**-0.4**
LCRM	**LCR**	**3.43**	**186**	P	**Pn**	**00 04 07.3**	**-1.5**
PTEO	**Sao Teotonio**	**3.46**	**279**	*e*Pn	**Pn**	**00 04 09.9**	**+0.8**
PTEO	**Sao Teotonio**	**3.46**	**279**	*e*Pg	**Pg**	**00 04 21.2**	**-0.3**
PTEO				*e*Sn	**Sn**	**00 04 49.8**	**-0.3**
PTEO				A	A	00 05 15.5	
	14nm,0.6s						
PFVI	**Vila Bisbo**	**3.52**	**272**	*e*Pn	**Pn**	**00 04 11.4**	**+1.4**
PFVI				*e*Sn	**Sn**	**00 04 50.6**	**-1.1**
PFVI				*e*Sg	**Sg**	**00 05 08.1**	**-0.2**
PFVI				A	A	00 05 32.5	
	8.2nm,0.8s						
PMTG	**Montargil**	**3.59**	**304**	*e*Pn	**Pn**	**00 04 11.3**	**+0.4**
PMTG				*e*Sn	**Sn**	**00 04 51.5**	**-1.8**
PMTG				*e*Sg	**Sg**	**00 05 09.1**	**-1.3**
PMTG				A	A	00 05 12.7	
	9.6nm,0.4s						
PCBR	**Castelo Branco**	**3.64**	**320**	*e*Pn	**Pn**	**00 04 12.7**	**+1.2**
PCBR	**Castelo Branco**	**3.64**	**320**	*e*Pg	**Pg**	**00 04 23.5**	**-1.4**
PCBR				*e*Sn	**Sn**	**00 04 51.9**	**-2.6**
PCBR				*e*Sg	**Sg**	**00 05 09.8**	**-2.2**
PCBR				A	A	00 05 18.6	
	13nm,0.6s						
ECHE	**Chera**	**3.68**	**46**	Sn	**Sn**	**00 04 53.0**	**-2.6**
ECHE				Pn	**Pn**	**00 04 12.4**	**+0.2**
PACT	**Alcochete**	**3.87**	**297**	*e*Pn	**Pn**	**00 04 14.7**	**0.0**
PACT				*e*Sn	**Sn**	**00 04 59.8**	**-0.3**
PACT				*e*Sg	**Sg**	**00 05 22.7**	**+3.4**
PACT				A	A	00 05 30.3	
	14nm,0.8s						
ZHG	**ZHG**	**4.08**	**207**	P	**Pn**	**00 04 18.5**	**+0.8**
MTE	**Manteigas**	**4.10**	**324**	*e*Pn	**Pn**	**00 04 19.1**	**+1.1**
MTE				*e*Sn	**Sn**	**00 05 04.0**	**-2.0**
MTE				*e*Sg	**Sg**	**00 05 22.4**	**-4.4**
MTE				A	A	00 05 29.6	
	12nm,0.5s						
PSBE	**So Bento**	**4.20**	**306**	*e*Pn	**Pn**	**00 04 19.8**	**+0.5**
PSBE				*e*Sn	**Sn**	**00 05 06.4**	**-2.1**
PSBE				A	A	00 05 08.8	
	11nm,0.6s						
PMAFR	**Mafra**	**4.26**	**297**	*e*Pn	**Pn**	**00 04 20.4**	**+0.2**
PMAFR				*e*Sn	**Sn**	**00 05 07.9**	**-2.1**
PMAFR				A	A	00 05 10.8	
	19nm,0.8s						
PMAFR				*e*Sg	**Sg**	**00 05 36.7**	**+4.7**
MDT	**Midelt**	**4.28**	**182**	P	**Pn**	**00 04 20.9**	**+0.4**
MDT				S	**Sn**	**00 05 09.9**	**-0.7**
PCAS	**Casmilo, Conde**	**4.35**	**314**	*e*Pn	**Pn**	**00 04 21.5**	**+0.2**
PCAS				*e*Sn	**Sn**	**00 05 09.9**	**-2.1**
PCAS				*e*Sg	**Sg**	**00 05 33.6**	**-1.1**
PCAS				A	A	00 05 49.3	
	9.1nm,0.9s						
COI	**Coimbra**	**4.40**	**316**	*e*Sn	**Sn**	**00 05 10.8**	**-2.6**
EMOS	**Mosqueruela**	**4.49**	**42**	Sn	**Sn**	**00 05 15.9**	**+0.2**
PVIS	**Viseu**	**4.51**	**324**	*e*Pn	**Pn**	**00 04 24.0**	**+0.4**
PVIS				*e*Sn	**Sn**	**00 05 13.6**	**-2.6**
PVIS				*e*Sg	**Sg**	**00 05 37.7**	**-2.4**
PVIS				A	A	00 05 43.3	
	7.0nm,0.4s						
MVO	**Moncorvo**	**4.54**	**334**	*e*Pn	**Pn**	**00 04 24.9**	**+0.9**
MVO				*e*Sn	**Sn**	**00 05 14.8**	**-2.0**
MVO				*e*Sg	**Sg**	**00 05 36.5**	**-4.3**
MVO				A	A	00 05 41.1	
	13nm,0.4s						
PVRL	**Vila Real**	**4.89**	**329**	*e*Pn	**Pn**	**00 04 29.6**	**+0.8**
PVRL				*e*Sn	**Sn**	**00 05 22.4**	**-3.1**
PVRL				*e*Sg	**Sg**	**00 05 49.9**	**-2.3**
PVRL				A	A	00 05 56.7	
	8.7nm,0.6s						
POLO	**Lamas de Olo**	**5.00**	**329**	*e*Pn	**Pn**	**00 04 31.6**	**+1.2**
POLO				*e*Sn	**Sn**	**00 05 24.9**	**-3.5**
POLO				*e*Sg	**Sg**	**00 05 52.5**	**-3.4**
POLO				A	A	00 05 56.8	
	2.6nm,0.7s						
PBRG	**Braganca**	**5.03**	**340**	*e*Pn	**Pn**	**00 04 31.8**	**+1.1**
PBRG				*e*Sn	**Sn**	**00 05 25.4**	**-3.5**
PBRG				*e*Sg	**Sb**	**00 05 50.0**	**+6.2**
PBRG				A	A	00 06 02.3	
	4.2nm,0.9s						
PCAB	**Cabril**	**5.38**	**330**	*e*Pn	**Pn**	**00 04 37.4**	**+1.8**
PCAB				*e*Sn	**Sn**	**00 05 32.7**	**-4.9**
PCAB				*e*Sg	**Sg**	**00 06 03.6**	**-4.4**
PCAB				A	A	00 06 07.4	
	8.5nm,0.4s						
PGAV	**Gavieira, Arco**	**5.70**	**330**	*e*Pn	**Pn**	**00 04 40.5**	**+0.6**
PGAV				*e*Sn	**Sn**	**00 05 41.0**	**-4.4**
PGAV				*e*Sg	**Sg**	**00 06 14.7**	**-3.3**
PGAV				A	A	00 06 26.3	
	4.8nm,0.9s						
OUZM	**OUZ**	**6.48**	**198**	P	**Pn**	**00 04 50.6**	**-0.1**

*CNRM **13** 00:07:58.8,37°.25N×4°.50W,h124km,ml2.4*
*SFS **13** 00:07:58.7,37°.11N×4°.43W,h0km,ML2.9/12,ML3.0/8,*
MLv2.9/12
*MDD **13** 00:07:59.7±0.3,37°.04N×4°.44W,h12km,mb_Lg2.6/14,*
Error ellipse: s-maj=2.9km s-min=1.7km az=173.0
*IGIL **13** 00:08:00.1,37°.04N×4°.47W,h8km,ML1.8*
*INMG **13** 00:08:01.7±2.0,37°.16N×4°.35W,h24km±3km,ML2.4,Error*
ellipse: s-maj=3.0km s-min=2.6km az=159.0
ISC 13 00:07:58.3±1.0,37°.13N±0°.02×4°.43W±0°.02,h8km±9km,n77,
σ1§43/158,1D,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGOR	**Sierra Gorda,**	**0.26**	**93**	⇓Pg	**Pg**	**00 08 03.9**	**+0.5**
EGOR				Sg	**Sb**	**00 08 08.6**	**-1.3**
EGOR				*i* Vmb_Lg		00 08 10.6	
EMAL	**Malaga-Limoner**	**0.36**	**180**	Sg	**Sg**	**00 08 08.9**	**-1.2**
EMAL				Pg	**Pg**	**00 08 04.7**	**-0.7**
EMIJ	**Mijas**	**0.62**	**206**	Pg	**Pg**	**00 08 08.9**	**-1.4**
EMIJ				Sg	**Sg**	**00 08 16.0**	**-2.5**
EMIJ				*i* Vmb_Lg		00 08 21.3	
ELGU	**Los Guajares,**	**0.69**	**112**	Pg	**Pg**	**00 08 10.9**	**-0.7**
ELGU				Sg	**Sb**	**00 08 21.8**	**-0.6**
ELGU				*i* Vmb_Lg		00 08 26.1	
EQTA	**Presa de Quent**	**0.79**	**84**	Sg	**Sg**	**00 08 24.2**	**+0.4**
EQTA				Pg	**Pg**	**00 08 13.6**	**0.0**
EADA	**Adamuz**	**1.05**	**354**	Pg	**Pn**	**00 08 19.6**	**+0.3**
EADA				Sg	**Sn**	**00 08 34.3**	**+0.1**
ESPR	**Espera**	**1.17**	**258**	Pg	**Pg**	**00 08 20.0**	**-0.8**
ESPR				Sg	**Sg**	**00 08 35.2**	**-0.7**
ESPR				*i* Vmb_Lg		00 08 46.2	
ECAB	**El Cabril**	**1.23**	**321**	Pg	**Pn**	**00 08 22.1**	**+0.2**
ECAB				Sg	**Sn**	**00 08 39.1**	**+0.3**
ECAB				*i* Vmb_Lg		00 08 42.0	
EBER	**Berja**	**1.25**	**100**	Pg	**Pn**	**00 08 22.5**	**+0.2**
EBER				Sg	**Sb**	**00 08 39.2**	**+0.5**
EBER				*i* Vmb_Lg		00 08 47.2	
EQES	**Quesada**	**1.27**	**58**	Pg	**Pb**	**00 08 23.8**	**+1.2**
EQES				Sg	**Sn**	**00 08 42.2**	**+2.3**
EQES				*i* Vmb_Lg		00 08 48.5	
CEU	**Ceuta**	**1.44**	**212**	Pn	**Pg**	**00 08 25.9**	**0.0**
EALB	**Alboran**	**1.63**	**136**	Sn	**Sn**	**00 08 46.9**	**-1.6**
EALB				Pn	**Pn**	**00 08 27.2**	**-0.1**
SMIR	**Smir Dam**	**1.63**	**208**	P	**Pn**	**00 08 27.1**	**-0.2**
PSIM	**Granatula de C**	**1.77**	**17**	Pn	**Pn**	**00 08 30.0**	**+0.6**
PSIM				Pg	**Pg**	**00 08 32.7**	**+0.4**
PSIM				Sn	**Sn**	**00 08 53.0**	**+0.8**
PSIM				Sg	**Sg**	**00 08 55.3**	**-0.1**
ARNO	**Arenosillo**	**1.84**	**270**	Pn	**Pn**	**00 08 30.6**	**+0.3**
EMIN	**Mina Concepcio**	**1.90**	**290**	Pn	**Pn**	**00 08 30.8**	**-0.2**
EMIN				Pg	**Pb**	**00 08 33.8**	**+0.6**
EM

	5.1nm,0.2s							
PCVE	**Castro Verde**	**2.92**	**281**	Pn	**Pn**	**00 08 44.9**	**-0.1**
PESTR	**Estremoz**	**3.04**	**306**	*e*Pn	**Pn**	**00 08 47.4**	**+0.6**
PESTR	**Estremoz**	**3.04**	**306**	*e*Pg	**Pg**	**00 08 55.3**	**-1.3**
PESTR				*e*Sn	**Sn**	**00 09 22.0**	**-1.4**
PESTR				*e*Sg	**Sg**	**00 09 34.8**	**-1.3**
PESTR				A	A	00 09 46.5	
	12nm,0.5s						
PESTR	**Estremoz**	**3.04**	**306**	Pn	**Pn**	**00 08 47.2**	**+0.5**
MESJ	**Messejana**	**3.10**	**284**	*e*Pn	**Pn**	**00 08 47.5**	**0.0**
MESJ	**Messejana**	**3.10**	**284**	*e*Pg	**Pg**	**00 08 57.7**	**0.0**
MESJ				*e*Sn	**Sn**	**00 09 24.5**	**-0.3**
MESJ				*e*Sg	**Sg**	**00 09 38.0**	**+0.2**
MESJ				A	A	00 09 49.3	
	6.0nm,0.3s						
MESJ	**Messejana**	**3.10**	**284**	*e*P	**Pn**	**00 08 47.5**	**0.0**
MESJ				*e*S	**Sn**	**00 09 21.9**	**-2.8**
MESJ				IAML		00 09 25.4	
	comp=N,3.4nm,0.4s						
EVO	**Evora**	**3.17**	**297**	*e*Pn	**Pn**	**00 08 49.1**	**+0.6**
EVO	**Evora**	**3.17**	**297**	*e*Pg	**Pg**	**00 08 59.3**	**+0.3**
EVO				*e*Sn	**Sn**	**00 09 25.5**	**-0.9**
EVO				*e*Sg	**Sg**	**00 09 40.2**	**+0.2**
EVO				A	A	00 09 47.1	
	comp=N,11nm,0.3s						
EVO	**Evora**	**3.17**	**297**	Pn	**Pn**	**00 08 48.9**	**+0.4**
EVO				Sn	**Sn**	**00 09 24.5**	**-1.9**
EVO				Sg	**Sg**	**00 09 39.5**	**-0.5**
PMRV	**Marv??o**	**3.27**	**316**	*e*Pn	**Pn**	**00 08 51.4**	**+1.4**
PMRV	**Marv??o**	**3.27**	**316**	*e*Pg	**Pg**	**00 09 00.6**	**-0.4**
PMRV				*e*Sn	**Sn**	**00 09 27.5**	**-1.6**
PMRV				*e*Sg	**Sg**	**00 09 46.4**	**+2.9**
PMRV				A	A	00 09 51.7	
	comp=N,12nm,0.5s						
UCM	**Universidad Co**	**3.31**	**16**	Sn	**Sn**	**00 09 29.0**	**-1.1**
UCM				Pn	**Pn**	**00 08 50.9**	**+0.4**
UCM				Sg	**Sg**	**00 09 44.1**	**-0.5**
MORF	**Marmelete**	**3.38**	**274**	*e*Pn	**Pn**	**00 08 53.9**	**+2.5**
MORF	**Marmelete**	**3.38**	**274**	*e*Pg	**Pg**	**00 09 03.1**	**+0.1**
MORF				*e*Sn	**Sn**	**00 09 32.1**	**+0.4**
MORF				A	A	00 09 41.9	
	comp=N,4.4nm,0.6s						
MORF				*e*Sg	**Sg**	**00 09 47.2**	**+0.5**
PNCL	**Nicolau / Gran**	**3.40**	**288**	*e*Pn	**Pn**	**00 08 51.7**	**0.0**
PNCL	**Nicolau / Gran**	**3.40**	**288**	*e*Pg	**Pg**	**00 09 03.1**	**-0.4**
PNCL				*e*Sn	**Sn**	**00 09 31.2**	**-1.0**
PNCL				*e*Sg	**Sg**	**00 09 47.4**	**-0.1**
PNCL				A	A	00 09 53.9	
	comp=N,5.0nm,0.6s						
PNCL	**Nicolau / Gran**	**3.40**	**288**	Pn	**Pn**	**00 08 51.7**	**0.0**
PTEO	**Sao Teotonio**	**3.45**	**278**	*e*Pg	**Pg**	**00 09 05.7**	**+1.3**
PTEO				*e*Sn	**Sn**	**00 09 33.5**	**+0.1**
PFVI	**Vila Bisbo**	**3.52**	**271**	*e*Pn	**Pn**	**00 08 56.7**	**+3.5**
PFVI				*e*Sn	**Sn**	**00 09 34.2**	**-0.8**
PFVI				A	A	00 10 11.5	
	comp=N,9.7nm,0.9s						
PMTG	**Montargil**	**3.57**	**304**	*e*Pn	**Pn**	**00 08 54.7**	**+0.7**
PMTG				*e*Sn	**Sn**	**00 09 35.2**	**-1.2**
PMTG				*e*Sg	**Sg**	**00 09 54.5**	**+1.6**
PMTG				A	A	00 10 01.8	
	comp=N,8.6nm,0.8s						
PCBR	**Castelo Branco**	**3.62**	**320**	*e*Pn	**Pn**	**00 08 56.4**	**+1.8**
PCBR				*e*Sn	**Sn**	**00 09 35.7**	**-1.8**
PCBR				*e*Sg	**Sg**	**00 09 55.6**	**+1.2**
PCBR				A	A	00 10 02.3	
	comp=N,8.7nm,0.6s						
IFR	**Ifrane**	**3.65**	**189**	Sn	**Sn**	**00 09 37.1**	**-1.4**
ECHE	**Chera**	**3.67**	**47**	Pn	**Pn**	**00 08 56.1**	**+0.7**
PACT	**Alcochete**	**3.85**	**297**	*e*Pn	**Pn**	**00 08 58.5**	**+0.7**
PACT				*e*Sn	**Sn**	**00 09 43.3**	**+0.1**
PACT				*e*Sg	**Sg**	**00 10 09.5**	**+7.6**
MTE	**Manteigas**	**4.08**	**324**	*e*Pn	**Pn**	**00 09 02.7**	**+1.7**
MTE	**Manteigas**	**4.08**	**324**	*e*Pg	**Pg**	**00 09 15.6**	**-0.8**
MTE				*e*Sn	**Sn**	**00 09 47.9**	**-1.1**
MTE				*e*Sg	**Sg**	**00 10 07.5**	**-1.7**
MTE				A	A	00 10 11.4	
	comp=N,8.4nm,0.5s						
ZHG	**ZHG**	**4.09**	**207**	P	**Pn**	**00 09 03.1**	**+1.9**
PSBE	**So Bento**	**4.18**	**306**	*e*Pn	**Pn**	**00 09 04.0**	**+1.6**
PSBE				*e*Sn	**Sn**	**00 09 50.3**	**-1.2**
PSBE				A	A	00 10 05.8	
	comp=N,9.8nm,0.6s						
PMAFR	**Mafra**	**4.25**	**297**	*e*Pn	**Pn**	**00 09 04.1**	**+0.8**
PMAFR				*e*Sn	**Sn**	**00 09 52.1**	**-1.0**
PMAFR				A	A	00 10 05.4	
	comp=N,14nm,0.6s						
PMAFR	**Mafra**	**4.25**	**297**	Pn	**Pn**	**00 09 03.3**	**0.0**
PMAFR				Sn	**Sn**	**00 09 51.5**	**-1.5**
MDT	**Midelt**	**4.30**	**182**	P	**Pn**	**00 09 05.2**	**+1.1**
PCAS	**Casmilo, Conde**	**4.33**	**314**	*e*Pn	**Pn**	**00 09 05.4**	**+1.0**
PCAS				*e*Sn	**Sn**	**00 09 53.4**	**-1.6**
PCAS				*e*Sg	**Sg**	**00 10 16.9**	**-0.3**
PCAS				A	A	00 10 21.6	
	comp=N,5.2nm,0.4s						
COI	**Coimbra**	**4.38**	**316**	*e*Sn	**Sn**	**00 09 54.5**	**-1.9**
PVIS	**Viseu**	**4.49**	**324**	*e*Pn	**Pn**	**00 09 08.0**	**+1.3**
PVIS				*e*Sn	**Sn**	**00 09 57.4**	**-1.8**
PVIS				*e*Sg	**Sg**	**00 10 19.7**	**-2.8**
PVIS				A	A	00 10 28.9	
	comp=N,5.5nm,0.4s						
MVO	**Moncorvo**	**4.51**	**334**	*e*Pn	**Pn**	**00 09 08.2**	**+1.2**
MVO				*e*Sn	**Sn**	**00 09 58.5**	**-1.2**
MVO				*e*Sg	**Sg**	**00 10 20.2**	**-3.0**
MVO				A	A	00 10 24.8	
	comp=N,9.0nm,0.4s						
PVRL	**Vila Real**	**4.87**	**329**	*e*Sn	**Sn**	**00 10 05.5**	**-3.0**
POLO	**Lamas de Olo**	**4.98**	**329**	*e*Pn	**Pn**	**00 09 15.4**	**+1.9**
POLO				*e*Sn	**Sn**	**00 10 09.3**	**-2.1**
POLO				*e*Sg	**Sg**	**00 10 36.5**	**-1.8**
POLO				A	A	00 10 40.1	
	comp=N,2.3nm,0.6s						
PBRG	**Braganca**	**5.00**	**340**	*e*Sg	**Sg**	**00 10 37.0**	**-2.0**
PCAB	**Cabril**	**5.36**	**330**	*e*Pn	**Pn**	**00 09 21.0**	**+2.4**
PCAB				*e*Sn	**Sn**	**00 10 17.4**	**-3.2**
PCAB				*e*Sg	**Sg**	**00 10 47.3**	**-3.1**
PGAV	**Gavieira, Arco**	**5.67**	**330**	*e*Pn	**Pn**	**00 09 24.3**	**+1.3**
PGAV				*e*Sn	**Sn**	**00 10 24.4**	**-4.0**
PGAV				*e*Sg	**Sg**	**00 10 56.4**	**-4.0**
OUZM	**OUZ**	**6.50**	**198**	P	**Pn**	**00 09 33.5**	**-0.8**

MOS ***13*** *00:07:59.8±1.0,30.˚76N×57.˚23E,h12km,mb4.5/14,Error ellipse: s-maj=8.7km s-min=5.5km az=104.0*
DSN ***13*** *00:08:00.2±1.1,30.˚93N×57.˚89E,h15km,ML4.1/9,Error ellipse: s-maj=44.5km s-min=10.6km az=104.0*
TEH ***13*** *00:08:00.3,30.˚83N×57.˚29E,h9km±36km,ML4.4*
NEIC ***13*** *00:08:01.4±1.3,30.˚78N±0.˚06×57.˚2E±0.˚1,h10km±1km, mb4.3/25,Error ellipse: s-maj=14.8km s-min=10.9km az=261.0*
OMAN ***13*** *00:08:04.9±0.1,30.˚68N×57.˚81E,h10km,mb4.8/21, ml4.3/1,Error ellipse: s-maj=2.0km s-min=1.6km az=285.0*
IDC ***13*** *00:08:04.7±3.0,30.˚73N×57.˚20E,h38km±28km,mb3.8/19, mbtmp4.0/26,ML3.8/7,MS3.7/2,Error ellipse: s-maj=17.7km s-min=12.9km az=176.0*
ISC 13 00:08:02.2±0.4,**30.˚88N**±0.˚04×**57.˚30E**±0.˚04,**h10**km,**n225,** σ1**s49**/228,**mb4.2**/47,**MS4.2**/4,**6C-8D,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.67**	**278**	Pg	Pg	00 08 13.4	-1.8
KHGB	**Koh Gabri**	**0.87**	**235**	Pg	Pg	00 08 15.8	-3.3
KHGB				Sg	**Sg**	**00 08 27.5**	**-2.9**
TVBK	**TV Kerman**	**1.00**	**208**	Pg	Pg	00 08 18.7	-2.9
CHMN	**Cheshme madani**	**1.03**	**168**	Pg	Pg	00 08 19.3	-2.8
NGRK	**Negar Kerman**	**1.32**	**202**	Pg	Pn	00 08 24.5	-2.6
IBAF	**Bafgh**	**1.65**	**296**	Pg	**Pn**	**00 08 31.6**	**+0.2**
BSRN	**Basiran**	**1.90**	**55**	Pn	**Pn**	**00 08 34.5**	**-0.3**
KBAM	**BAM**	**2.00**	**150**	Pn	**Pn**	**00 08 35.3**	**-0.9**
IKOO	**Kooshah**	**2.12**	**43**	Pn	**Pn**	**00 08 38.4**	**+0.4**
TPRV	**Parvadeh(Tabas**	**2.21**	**346**	Pn	**Pn**	**00 08 39.2**	**+0.1**
ITEG	**Tejag**	**2.36**	**31**	Pn	**Pn**	**00 08 41.7**	**+0.4**
IMEH	**Mehriz**	**2.36**	**283**	Pn	**Pn**	**00 08 41.2**	**-0.1**
NHDN	**Nehbandan**	**2.41**	**77**	Pn	**Pn**	**00 08 42.0**	**+0.1**
TKDS	**Koohdasht(Taba**	**2.73**	**357**	Pn	**Pn**	**00 08 47.2**	**+0.9**
ICHK	**Chekchek**	**2.82**	**300**	Pn	**Pn**	**00 08 47.8**	**+0.1**
IDAH	**Dahanechah**	**2.87**	**49**	Pn	**Pn**	**00 08 48.7**	**+0.4**
AFRZ	**Afriz**	**2.93**	**29**	Pn	**Pn**	**00 08 49.9**	**+0.9**
KHNJ	**Kahnooj**	**2.94**	**173**	Pn	**Pn**	**00 08 49.4**	**+0.3**
TNSJ	**Nastanj**	**3.13**	**349**	Pn	**Pn**	**00 08 52.5**	**+0.7**

ISAD	**Sadrabad**	**3.26**	**289**	Pn	**Pn**	**00 08 54.4**	**+0.7**
ZHDN	**Zahedan**	**3.38**	**115**	Pn	**Pn**	**00 08 55.1**	**-0.1**
GENO	**Geno**	**3.60**	**196**	Pn	**Pn**	**00 08 58.1**	**-0.2**
SHRT	**Shahrakht**	**3.75**	**42**	Pn	**Pn**	**00 09 01.0**	**+0.8**
ANAR	**Anarak**	**3.81**	**308**	Pn	**Pn**	**00 09 01.9**	**+0.8**
JHRM	**Jahrom**	**4.01**	**235**	Pn	**Pn**	**00 09 04.2**	**+0.4**
LAR1	**LAR**	**4.09**	**219**	Pn	**Pn**	**00 09 04.5**	**-0.4**
IRAM	**Ramesheh**	**4.31**	**284**	Pn	**Pn**	**00 09 08.9**	**+0.8**
SHI	**Shiraz**	**4.32**	**255**	Pn	**Pn**	**00 09 08.7**	**+0.5**
QIR1	**Qir**	**4.41**	**238**	Pn	**Pn**	**00 09 09.6**	**+0.3**
IZEF	**Zefreh**	**4.69**	**297**	Pn	**Pn**	**00 09 13.8**	**+0.5**
IGAR	**Gharneh**	**4.74**	**290**	Pn	**Pn**	**00 09 15.0**	**+1.0**
TBHD	**Torbat heydari**	**4.81**	**19**	Pn	**Pn**	**00 09 15.6**	**+0.8**
KLNJ	**Kolanjah**	**4.91**	**273**	Pn	**Pn**	**00 09 17.5**	**+1.1**
SHME	**Shamm**	**4.92**	**192**	P	**Pn**	**00 09 17.3**	**+1.1**
SHME	**Shamm**	**4.92**	**192**	P	**Pn**	**00 09 19.2**	**+3.0**
SHME				S	**Sn**	**00 10 15.6**	**+2.4**
JASK	**Jask - Hormozg**	**5.01**	**174**	Pn	**Pn**	**00 09 17.4**	**-0.1**
TBJM	**Torbat-e-JAM**	**5.06**	**29**	Pn	**Pn**	**00 09 19.6**	**+1.2**
IBRJ	**Brojen**	**5.27**	**283**	Pn	**Pn**	**00 09 22.3**	**+1.0**
KRSH	**Karshahi**	**5.35**	**307**	Pn	**Pn**	**00 09 23.2**	**+0.9**
IKLH	**Kolahrood**	**5.43**	**298**	Pn	**Pn**	**00 09 24.7**	**+1.2**
HRA	**Herat**	**5.44**	**49**	Pn	**Pn**	**00 09 24.1**	**+0.5**
IMOG	**Moghan**	**5.49**	**18**	Pn	**Pn**	**00 09 25.5**	**+1.2**
ISFB	**Sefidab**	**5.50**	**310**	Pn	**Pn**	**00 09 24.6**	**+0.3**
SBZV	**Sabzevar**	**5.50**	**3**	Pn	**Pn**	**00 09 25.6**	**+1.1**
UMQ	**Umm Al-Quwin**	**5.52**	**196**	P	**Pn**	**00 09 28.1**	**+3.6**
UMQ				S	**Sn**	**00 10 30.6**	**+2.5**
MASF	**Masafi**	**5.58**	**191**	P	**Pn**	**00 09 26.7**	**+1.4**
MASF				S	**Sn**	**00 10 32.6**	**+3.1**
MSFE	**Esma-Masafi**	**5.59**	**191**	P	**Pn**	**00 09 25.7**	**+0.2**
MSFE				S	**Sn**	**00 10 32.5**	**+2.7**
SRVN	**Saravan**	**5.64**	**127**	Pn	**Pn**	**00 09 27.6**	**+1.3**
QAMS	**Qamsar**	**5.76**	**301**	Pn	**Pn**	**00 09 29.4**	**+1.4**
ILAS	**Lasjerd**	**5.79**	**322**	Pn	**Pn**	**00 09 29.3**	**+0.9**
JHBN	**Jahan bin**	**5.82**	**285**	Pn	**Pn**	**00 09 30.0**	**+1.0**
IAKL	**Akhelmad**	**5.84**	**12**	Pn	**Pn**	**00 09 30.4**	**+1.3**
IMYA	**Miami**	**5.93**	**22**	Pn	**Pn**	**00 09 32.0**	**+1.7**
CHBR	**Chabahar**	**5.96**	**151**	Pn	**Pn**	**00 09 29.8**	**-0.8**
UOSS	**Minazif**	**5.99**	**190**	Pn	Pn	00 09 29.0	-2.0
UOSS	**Minazif**	**5.99**	**190**	P	**Pn**	**00 09 31.1**	**+0.2**
UOSS	**Minazif**	**5.99**	**190**	P	**Pn**	**00 09 32.0**	**+1.0**
UOSS				S	**Sn**	**00 10 41.5**	**+1.9**
NAZ	**Nazwa, Dubai**	**6.04**	**194**	P	**Pn**	**00 09 33.8**	**+2.1**
IFIR	**Firoozkooh**	**6.09**	**322**	Pn	**Pn**	**00 09 33.1**	**+0.5**
HATD	**Hatta, Dubai**	**6.12**	**190**	P	**Pn**	**00 09 33.1**	**+0.4**
HATD	**Hatta, Dubai**	**6.12**	**190**	P	**Pn**	**00 09 34.8**	**+2.1**
HATD				S	**Sn**	**00 10 44.7**	**+1.9**
IKRD	**Kardeh**	**6.17**	**17**	Pn	**Pn**	**00 09 34.9**	**+1.3**
ISFR	**Sfrayin**	**6.19**	**5**	Pn	**Pn**	**00 09 35.4**	**+1.4**
IVRN	**Varamin**	**6.23**	**313**	Pn	**Pn**	**00 09 35.2**	**+0.9**
ASHO	**Ashiyiah**	**6.27**	**190**	P	**Pn**	**00 09 34.4**	**-0.4**
ASHO	**Ashiyiah**	**6.27**	**190**	P	**Pn**	**00 09 36.3**	**+1.5**
ASHO				S	**Sn**	**00 10 49.2**	**+2.6**
FAQ	**Al Faqa, Dubai**	**6.29**	**194**	P	**Pn**	**00 09 35.0**	**-0.2**
FAQ	**Al Faqa, Dubai**	**6.29**	**194**	P	**Pn**	**00 09 36.6**	**+1.5**
FAQ				S	**Sn**	**00 10 47.9**	**+0.8**
IGLO	**Ghaloghah**	**6.31**	**334**	Pn	**Pn**	**00 09 36.9**	**+1.3**
IDMV	**Damavand**	**6.44**	**318**	Pn	**Pn**	**00 09 38.1**	**+0.7**
ASUD	**Al Ashush, Dub**	**6.47**	**196**	P	**Pn**	**00 09 38.0**	**+0.5**
ASUD	**Al Ashush, Dub** SNR=10	**6.47**	**196**	P	**Pn**	**00 09 39.7**	**+2.2**
ASUD				S	**Sn**	**00 10 51.5**	**+0.1**
IMND	**Minoodasht**	**6.56**	**347**	Pn	**Pn**	**00 09 39.6**	**+0.9**
IQOM	**Qom**	**6.57**	**309**	Pn	**Pn**	**00 09 39.0**	**+0.7**
AJN	**Ajban**	**6.62**	**199**	P	**Pn**	**00 09 39.8**	**+0.3**
AJN	**Ajban**	**6.62**	**199**	P	**Pn**	**00 09 42.3**	**+2.7**
AJN				S	**Sn**	**00 10 55.9**	**+0.8**
IEMG	**Emamgholi**	**6.62**	**9**	Pn	**Pn**	**00 09 41.5**	**+1.7**
SOHO	**SOHO**	**6.75**	**186**	P	**Pn**	**00 09 40.1**	**-1.4**
SOHO	**SOHO**	**6.75**	**186**	P	**Pn**	**00 09 41.7**	**+0.3**
SOHO				S	**Sn**	**00 11 01.0**	**+2.6**
IPRN	**Peran**	**6.77**	**324**	Pn	**Pn**	**00 09 42.9**	**+1.2**
MRVT	**Maraveh tapeh**	**6.84**	**352**	Pn	**Pn**	**00 09 44.1**	**+1.4**
ALNE	**Al Ain**	**6.93**	**192**	P	**Pn**	**00 09 44.3**	**+0.4**
ALNE	**Al Ain**	**6.93**	**192**	P	**Pn**	**00 09 45.4**	**+1.5**
ALNE				S	**Sn**	**00 11 04.4**	**+1.5**
GEYT	**Alibeck**	**7.07**	**5**	Pn	**Pn**	**00 09 47.0**	**+1.2**
GEYT	**Alibeck**	**7.07**	**5**	P	**Pn**	**00 09 47.0**	**+1.2**
GEYT	**Alibeck**	**7.07**	**5**	Pn	**Pn**	**00 09 46.5**	**+0.7**
GEYT	0.5nm,0.3s,baz=189,slow=19,SNR=6.4			Sn	**Sn**	**00 11 06.7**	**+0.5**
GEYT	baz=213,slow=11			LR	LR	00 13 00.4	
	comp=Z,503nm,20.8s,baz=53,slow=41 1.5nm,0.5s						
GYA0	**ALIBECK ARRAY**	**7.07**	**5**	P	**Pn**	**00 09 46.0**	**+0.2**
GYA0B	**ALIBECK ARRAY**	**7.07**	**5**	Pn	**Pn**	**00 09 47.0**	**+1.2**
JRN	**Qarnain Island**	**7.10**	**215**	P	**Pn**	**00 09 50.5**	**+4.3**
HOQ	**Hoqain**	**7.26**	**180**	P	**Pn**	**00 09 48.3**	**-0.2**
HOQ				S	**Sn**	**00 11 11.0**	**-0.1**
HOQ	**Hoqain**	**7.26**	**180**	Pn	**Pn**	**00 09 48.0**	**-0.5**
MZDU	**El - Mazandar**	**7.32**	**321**	Pn	**Pn**	**00 09 51.0**	**+1.6**
BIDO	**Bidbid**	**7.36**	**174**	P	**Pn**	**00 09 49.4**	**-0.4**
ARQ	**Araqi** SNR=11	**7.54**	**185**	P	**Pn**	**00 09 54.0**	**+1.7**
KLST	**Kelardasht - M**	**7.66**	**319**	Pn	**Pn**	**00 09 55.7**	**+1.5**
WSAR	**Wadi Sarin** SNR=12	**7.70**	**171**	P	**Pn**	**00 09 54.5**	**0.0**
WSAR	**Wadi Sarin** 12nm,0.3s,baz=8.2,slow=8.6,SNR=88	**7.70**	**171**	Pn	**Pn**	**00 09 53.4**	**-1.1**
WSAR	baz=315,slow=20			Sn	Sn	00 11 12.2	-10
SMDO	**Samad**	**7.81**	**175**	P	**Pn**	**00 09 56.1**	**0.0**
BSY	**Bisya** SNR=7.6	**8.10**	**181**	P	**Pn**	**00 10 01.8**	**+1.8**
TRNA	**Turayna**	**8.15**	**223**	S	**Sn**	**00 11 40.5**	**+7.6**
WBK	**Wadi Bani Khal** SNR=15	**8.37**	**169**	P	**Pn**	**00 10 03.2**	**-0.5**
WBK				S	**Sn**	**00 11 36.2**	**-2.1**
JMDO	**Jabal Madar**	**8.50**	**175**	P	**Pn**	**00 10 05.2**	**-0.3**
MZR	**Muzera**	**8.55**	**204**	P	**Pn**	**00 10 09.7**	**+3.6**
JLN	**Jalan Bani Buh**	**8.89**	**167**	P	**Pn**	**00 10 10.4**	**-0.4**
MHTO	**MHTO**	**9.87**	**176**	P	**Pn**	**00 10 25.1**	**+0.9**
SHAO	**Shalim**	**12.89**	**187**	P	Pn	00 11 02.9	-2.7
AKT	**Akhty**	**13.10**	**327**	*e*P	Pn	00 11 06.1	-2.3
DMTO	**DMTO**	**13.28**	**190**	P	**Pn**	**00 11 09.4**	**-1.4**
WHFO	**Wadi Hawf** SNR=14	**13.29**	**195**	P	Pn	00 11 08.5	-2.7
RBK	**Rabkut**	**13.61**	**193**	P	**Pn**	**00 11 14.4**	**-1.0**
SIRT	**Sirnak**	**13.96**	**302**	Pn	**Pn**	**00 11 18.9**	**-1.3**
GURO	**Guroymak-BITLI**	**14.70**	**306**	P	**P**	**00 11 36.6**	**+0.1**
ZEI	**Tsey**	**15.99**	**322**	*e*P	**P**	**00 11 53.6**	**+2.6**
ZEI	comp=Z,18nm,1.5s			pmax	pmax		
KK31	**Karatay Array**	**16.11**	**37**	Pn	**Pn**	**00 11 49.1**	**+0.4**
KK31	**Karatay Array**	**16.11**	**37**	P	**Pn**	**00 11 49.1**	**+0.4**
KK31	comp=Z,6.0nm,1.2s			pmax	pmax		
KKAR	**Karatay Array**	**16.11**	**37**	Pn	**Pn**	**00 11 49.1**	**+0.4**
KKAR	**Karatay Array**	**16.11**	**37**	P	**Pn**	**00 11 49.1**	**+0.4**
NCK	**Nalchik**	**16.64**	**323**	*e*P	**Pn**	**00 11 55.5**	**-0.1**
KBZ	**Khabaz**	**17.17**	**322**	*e*P	**Pn**	**00 12 00.1**	**-2.0**
KBZ	**Khabaz** comp=Z,0.1nm,0.3s,baz=115,slow=8.9,SNR=5.2 comp=Z,2.1nm,0.9s	**17.17**	**322**	P	**Pn**	**00 12 03.5**	**+1.3**
PYA1	**Pyatigorsk**	**17.30**	**323**	*de*P	**Pn**	**00 12 04.2**	**+0.4**
SHA1	**Shidzhatmaz**	**17.30**	**322**	*e*P	**Pn**	**00 12 05.2**	**+1.1**
KIV	**Kislovodsk**	**17.44**	**323**		**Pn**	**00 12 05.5**	**-0.1**
KIV	comp=Z,18nm,1.1s			IAmb	IAmb	00 12 14.5	
KIV	**Kislovodsk**	**17.44**	**323**	*e*P	**Pn**	**00 12 04.1**	**-1.5**
KIV	comp=Z,14nm,1.0s			pmax	pmax		
ASF	**Jabal al Asfar** comp=Z,1.0nm,0.3s,baz=108,slow=13,SNR=16 comp=Z,4.7nm,0.5s	**17.45**	**280**	P	**Pn**	**00 12 03.8**	**-2.0**
KSH	**Kashi**	**17.50**	**55**	P	Pn	00 12 01.7	-4.8
KSH				pP	P	00 12 05.7	-2.0
KSH	comp=Z,8.0nm,1.4s			pmax	pmax		
AAK	**Ala-Archa**	**18.06**	**45**		**Pn**	**00 12 13.2**	**-0.2**
AAK	**Ala-Archa**	**18.06**	**45**	*e*P	**Pn**	**00 12 14.4**	**+1.0**
AAK	comp=Z,10.0nm,2.5s			pmax	pmax		
AAK	**Ala-Archa** comp=Z,0.1nm,0.3s,baz=240,slow=7.9,SNR=7.6	**18.06**	**45**	P	**Pn**	**00 12 13.9**	**+0.5**
AAK	comp=Z,218nm,18.4s,baz=302,slow=41 comp=Z,1.9nm,0.8s			LR	LR	00 20 39.7	
ABKAR	**Akbulak array**	**18.47**	**5**	P	**P**	**00 12 17.8**	**-0.2**
MMAI	**Mount Meron Ar**	**18.71**	**282**	P	**P**	**00 12 19.1**	**-1.8**

	comp=Z,0.2nm,0.2s,baz=94,slow=11,SNR=2.4							
EIL	**Elat** comp=Z,0.2nm,0.3s,baz=96,slow=8.1,SNR=2.8 comp=Z,7.0nm,1.1s	**19.34**	**272**	P	**P**	**00 12 24.7**	**-3.2**
AKTO	**Aktyubinsk** comp=Z,1.1nm,0.3s,baz=176,slow=9.8,SNR=31 comp=Z,7.6nm,0.6s	**19.55**	**1**	P	**P**	**00 12 29.7**	**-0.2**
ANN	**Anapa**	**20.89**	**317**	*e*P	**P**	**00 12 40.5**	**-4.0**
ANN				*e*S	**S**	**00 16 30.8**	**-6.5**
ANN	comp=Z,131nm,1.3s			pmax	pmax		
ANN	comp=E,692nm,20.0s			MLR	MLR		
ANN	comp=N,1μm,24.0s			MLR	MLR		
BR131	**Keskin Array S**	**21.19**	**301**	P	**P**	**00 12 46.4**	**-1.6**
BR131				IAmb	IAmb	00 12 49.2	
BR131	comp=Z,8.1nm,0.9s **Keskin Array S**	**21.19**	**301**	*de*P	**P**	**00 12 48.1**	**+0.1**
BRTR	**Keskin Array B**	**21.19**	**301**	P	**P**	**00 12 46.1**	**-1.9**
BRTR	**Keskin Array B** comp=Z,4.8nm,0.9s,baz=125,slow=12,SNR=18 comp=Z,4.8nm,0.9s	**21.19**	**301**	P	**P**	**00 12 46.7**	**-1.3**
PYUN	**Piuthan** comp=Z,17nm,0.7s	**22.52**	**91**	*e*P	**P**	**00 13 02.9**	**+0.5**
DANN	**Dangsing**	**23.12**	**90**	*e*P	**P**	**00 13 10.1**	**+1.2**
ISP	**Isparta**	**23.12**	**295**	P	**P**	**00 13 08.3**	**-0.3**
ISP	comp=Z,15nm,0.8s			IAmb	IAmb	00 13 17.2	
ISP	**Isparta**	**23.12**	**295**	P	**P**	**00 13 08.3**	**-0.3**
ISP	comp=Z,15nm,0.8s			pmax	pmax		
VRH	**Novokhopyorsk**	**23.37**	**335**	*e*P	**P**	**00 13 09.3**	**-1.5**
VRH	comp=Z,9.0nm,0.9s			pmax	pmax		
ELL	**Elmali**	**23.46**	**292**	P	**P**	**00 13 11.0**	**-1.0**
ELL	**Elmali**	**23.46**	**292**	P	**P**	**00 13 11.0**	**-1.0**
ELL	comp=Z,37nm,0.6s			pmax	pmax		
BRVK	**Borovoye**	**24.10**	**19**	P	**P**	**00 13 18.4**	**+0.6**
BRVK	**Borovoye**	**24.10**	**19**	*e*P	**P**	**00 13 18.9**	**+1.0**
BRVK	comp=Z,6.0nm,1.3s			pmax	pmax		
BVAR	**Borovoye Array** comp=Z,2.0nm,0.5s,baz=202,slow=7.7,SNR=16 comp=Z,2.0nm,0.5s	**24.10**	**20**	P	**P**	**00 13 18.5**	**+0.6**
VSR	**Storozhevoye**	**24.37**	**332**	*e*P	**P**	**00 13 17.8**	**-2.6**
VSR	comp=Z,10.0nm,2.2s			pmax	pmax		
VORR	**Voronezh**	**24.70**	**332**	*e*P	**P**	**00 13 21.6**	**-1.8**
VORR	comp=Z,7.0nm,0.9s			pmax	pmax		
PKIN	**Phulchoki**	**24.71**	**91**	*e*P	**P**	**00 13 24.3**	**+0.3**
PKI	**Pulchoki**	**24.72**	**91**	*e*P	**P**	**00 13 24.4**	**+0.2**
MAKZ	**Makanchi**	**24.80**	**43**	P	**P**	**00 13 23.7**	**-0.7**
MAKZ	comp=Z,7.0nm,1.1s			IAmb	IAmb	00 13 29.9	
MAKZ	**Makanchi**	**24.80**	**43**	P	**P**	**00 13 23.7**	**-0.7**
MAKZ	comp=Z,7.0nm,1.1s			pmax	pmax		
MK31	**Makanchi Array**	**24.98**	**43**	P	**P**	**00 13 25.4**	**-0.6**
MK31	**Makanchi Array**	**24.98**	**43**	*de*P	**P**	**00 13 26.8**

KMI LR LR
comp=N,180nm,16.6s
KMI LR LR
comp=E,200nm,11.7s
KMI LR LR
comp=E,310nm,21.1s
SONM Songino Array 40.83 51 P **P** **00 15 44.7 +0.6**
comp=Z,1.3nm,1.0s,baz=289,slow=6.1,SNR=5.2
comp=Z,1.3nm,1.0s
HFS Hagfors 41.09 328 P **P** **00 15 45.5 -0.4**
comp=Z,4.3nm,1.1s,baz=122,slow=16,SNR=1.7
comp=Z,4.3nm,1.1s
ARCES ARCESS Array B 42.69 344 P **P** **00 15 57.6 -1.3**
comp=Z,2.4nm,0.8s,baz=134,slow=3.5,SNR=6.8
comp=Z,2.4nm,0.8s
HHC Hu-ho-hao-te 44.47 62 *e*P **P** **00 16 12.3 -1.4**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,830nm,5.7s
HHC LR LR
comp=E,900nm,15.4s
HHC LR LR
comp=Z,1μm,16.1s
EKA Eskdalemuir Ar 48.60 318 P **P** **00 16 44.8 -1.0**
comp=Z,0.7nm,0.5s,baz=64,slow=6.8,SNR=3.6
comp=Z,0.7nm,0.5s
ESDC Sonseca Array 49.93 298 P **P** **00 16 54.7 -1.6**
comp=Z,0.8nm,0.9s,baz=77,slow=7.8,SNR=3.1
comp=Z,0.8nm,0.9s
TOA0 Torodi Ar. Sit 53.95 264 P P 00 17 24.5 -2.0
TOA0 IAmb IAmb 00 17 26.0
comp=Z,3.4nm,0.8s
TORD Torodi Ar. Bea 53.95 264 P P 00 17 23.5 -3.0
TORD IAmb IAmb 00 17 26.1
comp=Z,2.0nm,0.8s
TORD Torodi Ar. Bea 53.95 264 P P 00 17 24.3 -2.2
comp=Z,3.2nm,0.7s,baz=52,slow=8.2,SNR=24
comp=Z,3.2nm,0.7s
YAK Yakutsk 55.04 33 *e*P **P** **00 17 36.0 +2.3**
YAK pmax pmax
comp=Z,9.0nm,1.0s
COCO West Island 57.23 132 P P 00 17 47.9 -2.0
COCO West Island 57.23 132 P P 00 17 47.9 -2.0
A36M Sachs Harbour 77.40 1 P **P** **00 19 56.2 -0.8**
TOLK Toolik Lake Re 78.80 10 P **P** **00 20 05.0 0.0**
C36M Paulatuk 80.07 0 P **P** **00 20 10.2 -1.5**
C36M IAmb IAmb 00 20 15.1
comp=Z,8.5nm,1.4s
BMAR Burnt Mountain 80.61 8 P **P** **00 20 13.7 -1.1**
G31M Satah River 82.11 5 P **P** **00 20 22.1 -0.5**
ILAR Eielson Array 82.81 10 P **P** **00 20 24.5 -1.8**
comp=Z,0.5nm,1.0s,baz=334,slow=6.5,SNR=4.5
comp=Z,0.5nm,1.0s
CAST Castle Rocks 83.16 13 P **P** **00 20 28.1 -0.2**
CAST IAmb IAmb 00 20 34.3
comp=Z,5.3nm,1.0s
YKA Yellowknife Ar 86.73 356 *i* P **P** **00 20 49.5 +3.4**
YKA pmax pmax
comp=Z,1.0nm,1.0s
YKA Yellowknife Ar 86.73 356 P P 00 20 43.9 -2.2
comp=Z,0.4nm,0.8s,baz=358,slow=4.3,SNR=5.0
comp=Z,0.4nm,0.8s
WRA Warramunga Arr 89.52 114 P P 00 20 58.0 -2.1
WRA Warramunga Arr 89.52 114 P P 00 20 58.0 -2.1
comp=Z,0.6nm,0.9s,baz=314,slow=4.0,SNR=3.6
comp=Z,0.6nm,0.9s
ASAR Alice Springs 91.21 117 P **P** **00 21 06.4 -1.6**
comp=Z,0.2nm,0.5s,baz=304,slow=5.0,SNR=1.6
comp=Z,0.2nm,0.5s

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*NOU **13** 00:22:43.3,21.°07S×168.°89E,h0km,MLv3.9/7, Loyalty Islands*
*IDC **13** 00:22:44.4±1.5,21.°21S×168.°75E,h0km,mb4.2/10, mbtmp4.2/11,ML3.9/1,MS3.4/2,Error ellipse: s-maj=54.3km s-min=18.6km az=148.0*
*NEIC **13** 00:22:45.7±1.8,21.°24S±0.°07×168.°77E±0.°03,h10km±1km, mb4.6/12,Error ellipse: s-maj=12.1km s-min=3.9km az=352.0*

ISC 13 00:22:46.2±0.6,**21.°16S**±0.°08×**168.°72E**±0.°07,**h10**km,**n59,** σ1s**15**/59,**mb4.4**/16,**Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.71**	**243**		**Pg**	**00 23 00.1**	**+0.1**
MARNC				Sg	**Sg**	**00 23 09.1**	**-0.2**
MARNC	**Mare, Loyalty**	**0.71**	**243**	P	**Pg**	**00 23 00.5**	**+0.5**
LIFNC	**LIFOU**	**1.43**	**285**		**Pn**	**00 23 10.3**	**-1.9**
LIFNC	**LIFOU**	**1.43**	**285**	P	**Pn**	**00 23 10.4**	**-1.9**
PINNC	**Pines Island,**	**1.86**	**219**	Pn	**Pn**	**00 23 16.3**	**-1.9**
PINNC	**Pines Island,**	**1.86**	**219**	P	**Pn**	**00 23 17.7**	**-0.5**
OUENC	**Ouen Island, N**	**2.14**	**234**	Pn	**Pn**	**00 23 21.5**	**-0.5**
OUENC	**Ouen Island, N**	**2.14**	**234**	P	**Pn**	**00 23 23.1**	**+1.0**
DZM	**Mont Dzumac**	**2.30**	**246**	Pn	**Pn**	**00 23 23.8**	**-0.5**
	33nm,0.3s,baz=114,slow=13,SNR=150						
DZM				Sn	**Sn**	**00 23 52.0**	**-0.7**
	34nm,0.3s,baz=168,slow=21,SNR=8.2						
DZM				LR	LR	00 24 20.0	
	comp=Z,627nm,20.1s,baz=158,slow=42						
	68nm,0.4s						
ONTNC	**Ouen Toro**	**2.39**	**241**	Pn	**Pn**	**00 23 24.8**	**-0.7**
ONTNC	**Ouen Toro**	**2.39**	**241**	P	**Pn**	**00 23 27.2**	**+1.7**
NOUC	**Port Laguerre**	**2.43**	**247**	P	**Pn**	**00 23 26.8**	**+0.8**
KOUNC	**Koumac, New Ca**	**4.19**	**278**	Pn	**Pn**	**00 23 50.2**	**+0.1**
KOUNC	**Koumac, New Ca**	**4.19**	**278**	P	**Pn**	**00 23 51.4**	**+1.2**
CTA	**Charters Tower**	**21.05**	**269**	P	**P**	**00 27 31.2**	**+0.7**
	2.4nm,0.5s,baz=90,slow=5.1,SNR=2.7						
CTA				LR	LR	00 36 02.7	
	comp=Z,129nm,18.2s,baz=200,slow=38						
	2.4nm,0.5s						
COEN	**Coen**	**25.36**	**282**	P	**P**	**00 28 14.3**	**+0.6**
COEN				IAmb	IAmb	00 28 39.0	
	comp=Z,18nm,1.3s						
STKA	**Stephens Creek**	**26.44**	**241**	P	**P**	**00 28 23.3**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=18,slow=11,SNR=3.5						
	comp=Z,1.0nm,0.3s						
BBOO	**Buckleboo**	**31.21**	**241**	P	**P**	**00 29 05.7**	**-0.2**
WR0	**Warramunga Arr**	**31.99**	**266**	P	**P**	**00 29 11.4**	**-1.5**
WR0				IAmb	IAmb	00 29 12.4	
	comp=Z,8.1nm,1.3s						
WB0	**Warramunga Arr**	**32.15**	**266**	P	**P**	**00 29 13.2**	**-1.1**
WB0				IAmb	IAmb	00 29 14.7	
	comp=Z,4.6nm,0.8s						
WB2	**Warramunga Arr**	**32.16**	**266**	P	**P**	**00 29 14.0**	**-0.4**
WB2				IAmb	IAmb	00 29 30.0	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**32.18**	**266**	P	**P**	**00 29 12.8**	**-1.8**
WRA	**Warramunga Arr**	**32.18**	**266**	P	**P**	**00 29 13.8**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=104,slow=7.8,SNR=15						
	comp=Z,2.7nm,0.8s						
AS31	**Alice Springs**	**32.23**	**259**	P	**P**	**00 29 14.5**	**-0.5**
ASAR	**Alice Springs**	**32.23**	**259**	P	**P**	**00 29 14.5**	**-0.5**
ASAR	**Alice Springs**	**32.23**	**259**	P	**P**	**00 29 15.1**	**+0.1**
	comp=Z,7.6nm,0.7s,baz=83,slow=9.3,SNR=85						
	comp=Z,7.6nm,0.7s						
FORT	**Forrest**	**37.61**	**247**	P	**P**	**00 30 01.6**	**+0.3**
FITZ	**Fitzroy Crossi**	**40.60**	**267**	P	**P**	**00 30 27.1**	**+0.7**
PSA00	**Pilbara Seismi**	**45.36**	**260**	P	**P**	**00 31 05.6**	**+0.6**
PSA00				IAmb	IAmb	00 31 06.5	
	comp=Z,11nm,0.9s						
MBWA	**Marble Bar**	**45.53**	**261**	P	**P**	**00 31 04.5**	**-1.9**
MJAR	**Matsushiro Arr**	**64.22**	**333**	P	**P**	**00 33 21.9**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=169,slow=4.2,SNR=4.3						
	comp=Z,1.0nm,0.4s						
USRK	**Ussuriysk Ar.**	**73.22**	**333**	P	**P**	**00 34 18.1**	**+0.8**
	comp=Z,4.7nm,0.8s,baz=108,slow=4.7,SNR=3.8						
	comp=Z,4.7nm,0.8s						
CMAR	**Chiang Mai Ar**	**78.85**	**295**	P	**P**	**00 34 49.9**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=132,slow=6.2,SNR=2.2						
	comp=Z,1.3nm,0.3s						
BELA	**Belgrano 2**	**80.23**	**175**	P	**P**	**00 34 55.2**	**-1.4**
BELA				IAmb	IAmb	00 34 57.0	
	comp=Z,5.4nm,1.2s						
SONM	**Songino Array**	**88.46**	**323**	P	**P**	**00 35 37.8**	**-1.0**
	comp=Z,1.9nm,1.0s,baz=144,slow=5.1,SNR=7.6						
	comp=Z,1.9nm,1.0s						
NVAR	**Mina Array Bea**	**90.43**	**49**	P	**P**	**00 35 48.2**	**-0.3**
	comp=Z,1.7nm,1.1s,baz=240,slow=7.1,SNR=2.3						
	comp=Z,1.7nm,1.1s						
ILAR	**Eielson Array**	**92.20**	**17**	P	**P**	**00 35 53.7**	**-2.0**
	comp=Z,0.4nm,0.9s,baz=244,slow=5.7,SNR=2.4						
	comp=Z,0.4nm,0.9s						
SPITS	**Spitsbergen Ar**	**121.44**	**354**	PKP	**PKPdf**	**00 41 38.9**	**-0.1**
	comp=Z,4.5nm,0.8s,baz=337,slow=10,SNR=5.6						
ARCES	**ARCESS Array B**	**126.79**	**345**	PKP	**PKPdf**	**00 41 49.5**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=62,slow=2.9,SNR=4.0						
AKASG	**Malin Array Be**	**136.74**	**323**	PKP	**PKPdf**	**00 42 09.3**	**+0.6**
	comp=Z,0.2nm,0.2s,baz=76,slow=1.8,SNR=1.9						
DPC	**Dobruska-Polom**	**143.65**	**330**	*e*PKP	PKPab	00 42 20.1	+2.1
BRG	**Berggiesshubel**	**144.35**	**332**	*e*PKP	PKPab	00 42 14.6	-6.0
BRG				Amp		00 42 15.2	
	comp=Z,5.2nm,0.8s						
BRG				Amp		00 42 30.0	
	comp=Z,0.4nm,19.5s						
CLL	**Collm**	**144.43**	**334**	*i* PKPbc	**PKPab**	**00 42 22.0**	**+1.2**
	comp=Z,10.0nm,0.8s						
PRU	**Pruhonice**	**144.73**	**331**	*e*PKP	**PKPab**	**00 42 23.2**	**+1.3**
HSKC	**Hora Svate Kat**	**144.77**	**332**	*e*PKP	**PKPab**	**00 42 23.4**	**+1.3**
ZVC	**Zvikov**	**145.28**	**330**	*e*PKP	**PKPbc**	**00 42 25.3**	**+1.4**
EKA	**Eskdalemuir Ar**	**145.34**	**352**	PKPbc	**PKPbc**	**00 42 22.5**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=354,slow=2.5,SNR=5.6						
CONA	**Conrad Observa**	**145.50**	**327**	*e*PKP	**PKPbc**	**00 42 26.7**	**+1.9**
	comp=Z,12nm,0.9s						
CKRC	**Cesky Krumlov**	**145.66**	**330**	*e*PKP	**PKPdf**	**00 42 26.4**	**+1.5**
KHC	**Kasperske Hory**	**145.78**	**331**	*e*PKP	**PKPdf**	**00 42 26.8**	**+1.7**
GERES	**GERESS Array B**	**145.93**	**330**	PKPbc	**PKPdf**	**00 42 27.0**	**+1.6**
	comp=Z,7.5nm,0.8s,baz=64,slow=3.1,SNR=21						
LESA	**Schwarzleotal**	**147.42**	**329**	*e*PKP	**PKPbc**	**00 42 31.2**	**+0.8**
	comp=Z,5.7nm,0.6s						
MYKA	**Terra Mystica**	**147.50**	**327**	*e*PKP	**PKPdf**	**00 42 31.1**	**+3.0**
	comp=Z,6.4nm,0.8s						
ABTA	**Abfaltersbach**	**147.98**	**328**	*i* PKP	**PKPbc**	**00 42 32.4**	**+0.4**
	comp=Z,5.0nm,0.7s,SNR=4.5						
WATA	**Walderalm**	**148.00**	**330**	*e*PKP	**PKPbc**	**00 42 32.7**	**+0.6**
	comp=Z,2.8nm,0.8s						
WTTA	**Wattenberg**	**148.03**	**330**	*e*PKP	**PKPbc**	**00 42 33.0**	**+0.8**
	comp=Z,9.1nm,1.0s						
MOTA	**Moosalm**	**148.21**	**331**	*i* PKP	**PKPbc**	**00 42 33.5**	**+0.8**
	comp=Z,5.7nm,0.8s,SNR=5.3						
SQTA	**Sankt Quirin**	**148.26**	**330**	*i* PKP	**PKPbc**	**00 42 33.8**	**+1.1**
	comp=Z,6.6nm,0.8s,SNR=6.5						
FETA	**Feichten**	**148.62**	**330**	*e*PKP	**PKPbc**	**00 42 35.0**	**+1.2**
	comp=Z,5.0nm,0.9s						

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*IDC **13** 00:32:00.5±3.7,31.°71S×179.°98E,h350km±32km,mb3.7/5, mbtmp4.3/7,Error ellipse: s-maj=32.3km s-min=18.3km az=43.0*
*NOU **13** 00:32:25.3,33.°29S×178.°71E,h395km,mb4.0/9, South of Kermadec Islands*

ISC 13 00:32:05.4±0.8,**31.°99S**±0.°09×**180.°0W**±0.°1,**h400**km,**n32,** σ1s**95**/38,**mb4.0**/7,**4D**,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUZ	**Omahuta**	**6.24**	**237**	P	**Pn**	**00 33 43.5**	**+3.0**
URZ	**Urewera**	**6.69**	**200**	P	**Pn**	**00 33 47.6**	**+2.2**
URZ	**Urewera**	**6.69**	**200**	P	**Pn**	**00 33 40.8**	**-4.7**
	6.8nm,0.9s,baz=68,slow=19,SNR=1.8						
URZ				S	**S**	**00 35 05.8**	**-1.3**
	18nm,0.5s,baz=298,slow=23,SNR=16						
BKZ	**Black Stump Fm**	**7.71**	**201**	P	**P**	**00 33 59.4**	**+1.9**
BFZ	**Birch Farm**	**9.19**	**198**	P	**P**	**00 34 16.2**	**+2.4**
SNZO	**South Karori**	**10.23**	**203**	P	**Pn**	**00 34 27.2**	**+1.3**
QRZ	**Quartz Range**	**10.67**	**212**	P	**Pn**	**00 34 31.1**	**0.0**
KHZ	**Kahutara**	**11.61**	**204**	P	**Pn**	**00 34 42.4**	**+0.6**
RPZ	**Rata Peaks**	**13.66**	**209**	P	**Pn**	**00 35 05.3**	**-0.4**
RPZ	**Rata Peaks**	**13.66**	**209**	P	**P**	**00 35 01.6**	**-1.5**
	4.3nm,0.5s,baz=28,slow=2.5,SNR=6.6						
RPZ				S	**S**	**00 37 25.9**	**-4.3**
	2.8nm,0.5s,baz=42,slow=22,SNR=1.4						
ODZ	**Otahua Downs**	**14.94**	**207**	P	**P**	**00 35 18.8**	**+1.8**
CTA	**Charters Tower**	**32.43**	**283**	P	**P**	**00 37 59.6**	**-0.7**
	3.4nm,0.4s,baz=107,slow=10,SNR=7.4						
	3.4nm,0.4s						
STKA	**Stephens Creek**	**32.48**	**260**	P	**P**	**00 38 00.3**	**-0.4**
	1.2nm,0.4s,baz=94,slow=14,SNR=4.4						
	1.2nm,0.4s						
ASAR	**Alice Springs**	**41.35**	**270**	P	**P**	**00 39 13.2**	**-1.3**
	3.9nm,0.6s,baz=107,slow=7.3,SNR=43						
ASAR				PcP	**PP**	**00 41 03.5**	**+3.3**
	0.8nm,0.8s,baz=55,slow=9.4,SNR=1.6						
	3.9nm,0.6s						
WRA	**Warramunga Arr**	**42.49**	**275**	P	**P**	**00 39 22.0**	**-1.6**
	5.8nm,0.4s,baz=112,slow=7.9,SNR=95						
WRA				PcP	**PcP**	**00 41 06.8**	**-1.1**
	0.4nm,0.5s,baz=51,slow=7.4,SNR=2.7						
	5.8nm,0.4s						
TROLL	**Troll, Antarti**	**76.27**	**181**	⇓P	**P**	**00 43 13.3**	**+2.3**
	comp=Z,47nm,0.4s						
SNAA	**Sanae**	**76.61**	**179**	⇓P	**P**	**00 43 15.1**	**+2.3**
	comp=Z,14nm,0.3s						
SNAA	**Sanae**	**76.61**	**179**	P	**P**	**00 43 15.0**	**+2.3**
	comp=Z,0.5nm,0.3s,baz=222,slow=6.4,SNR=10						
	comp=Z,0.5nm,0.3s						
VNA3	**Neumayer Olymp**	**76.83**	**177**	⇓P	**P**	**00 43 16.4**	**+2.5**
	comp=Z,5.2nm,0.4s						
VNA2	**Neumayer–Watz**	**77.24**	**178**	⇓P	**P**	**00 43 18.9**	**+2.7**
	comp=Z,3.5nm,0.4s,baz=188,slow=6.0						
MKAR	**Makanchi Array**	**117.48**	**310**	PKP	**PKPdf**	**00 50 03.1**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=154,slow=0.4,SNR=4.9						
KURBB	**Kurchatov Arra**	**120.94**	**313**	PKP	**PKPdf**	**00 50 09.7**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=97,slow=2.1,SNR=7.6						
BVAR	**Borovoye Array**	**126.33**	**315**	PKP	**PKPdf**	**00 50 20.9**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=135,slow=0.6,SNR=6.5						
ARCES	**ARCESS Array B**	**139.75**	**346**	PKP	**PKPdf**	**00 50 43.0**	**-2.4**
	comp=Z,0.6nm,0.5s,baz=4.9,slow=1.4,SNR=5.4						
FINES	**FINESS Array B**	**146.01**	**338**	PKPbc	**PKPdf**	**00 50 57.9**	**+1.2**
	comp=Z,7.3nm,0.4s,baz=44,slow=4.7,SNR=97						
NB2	**NORSAR Subarra**	**150.02**	**349**	PKP	**PKPbc**	**00 51 08.7**	**0.0**
	comp=Z,0.7nm,0.5s,baz=16,slow=2.6						
NOA	**NORSAR Array B**	**150.02**	**349**	PKPbc	**PKPbc**	**00 51 08.8**	**0.0**
	comp=Z,1.1nm,0.6s,baz=14,slow=4.1,SNR=4.1						
MMAI	**Mount Meron Ar**	**150.21**	**282**	PKPbc	**PKPbc**	**00 51 10.4**	**+0.3**
	comp=Z,1.9nm,0.4s,baz=82,slow=6.1,SNR=8.1						
HFS	**Hagfors**	**150.42**	**346**	PKP	**PKPdf**	**00 51 02.8**	**-1.0**
	comp=Z,2.8nm,0.8s,baz=7.6,slow=3.1,SNR=1.9						
HFS				PKPbc	**PKPbc**	**00 51 09.4**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=40,slow=3.2,SNR=6.3						
HFS				PKPab	**PKPab**	**00 51 16.8**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=96,slow=4.5,SNR=9.0						
AKASG	**Malin Array Be**	**151.46**	**319**	PKPbc	**PKPbc**	**00 51 11.9**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=60,slow=2.1,SNR=6.0						
BRTR	**Keskin Array B**	**151.79**	**295**	PKPbc	**PKPbc**	**00 51 13.1**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=142,slow=5.7,SNR=5.3						
TORD	**Torodi Ar. Bea**	**161.18**	**185**	PKPab	**PKPab**	**00 52 06.4**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=179,slow=2.8,SNR=6.7						

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*IDC **13** 00:34:35.1±2.6,3.°75S×153.°80E,h385km±27km,mb3.5/15, mbtmp4.3/17,Error ellipse: s-maj=19.5km s-min=12.4km az=63.0*
*NEIC **13** 00:34:35.4±1.0,3.°77S±0.°10×153.°8E±0.°1,h384km±7km, mb4.1/41,Error ellipse: s-maj=19.7km s-min=13.9km az=95.0*

ISC 13 00:34:36.6±0.5,**3.°80S**±0.°08×**153.°75E**±0.°10,**h400**km,**n78,** σ0s**82**/81,**mb4.0**/34,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.63**	**256**		**Pn**	**00 35 28.2**	**-2.3**
PMG	**Port Moresby**	**8.60**	**229**		**P**	**00 36 40.5**	**+1.8**
PMG	**Port Moresby**	**8.60**	**229**	P	**Pn**	**00 36 37.9**	**-0.6**
	36nm,0.8s,baz=48,slow=5.9,SNR=16						
COEN	**Coen**	**14.52**	**225**	P	**P**	**00 37 46.2**	**+2.2**
CTA	**Charters Tower**	**17.76**	**204**	P	**P**	**00 38 18.0**	**-0.7**
	10nm,0.7s,baz=27,slow=9.4,SNR=9.3						
CTAO	**Charters Tower**	**17.76**	**204**	P	**P**	**00 38 19.6**	**+0.9**
CTAO				IAmb	IAmb	00 38 22.8	
	comp=Z,15nm,0.8s						
DZM	**Mont Dzumac**	**21.94**	**147**	P	**P**	**00 38 58.0**	**-1.0**
DZM	**Mont Dzumac**	**21.94**	**147**	P	**P**	**00 38 58.8**	**-0.1**
	comp=Z,13nm,0.5s,baz=264,slow=6.5,SNR=23						
	comp=Z,13nm,0.5s						
WRA	**Warramunga Arr**	**24.82**	**228**	PcP	**PcP**	**00 42 49.1**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=48,slow=2.1,SNR=8.3						
WRA				S	**S**	**00 43 16.2**	**-1.5**
	comp=Z,0.9nm,1.1s,baz=62,slow=17,SNR=6.5						
WRA				ScP	**ScP**	**00 45 52.0**	**+2.8**
	comp=Z,1.3nm,1.0s,baz=53,slow=3.2,SNR=4.7						
ARMA	**Armidale**	**26.55**	**184**	P	**P**	**00 39 41.4**	**+1.3**
AS31	**Alice Springs**	**27.52**	**222**	P	**P**	**00 39 48.6**	**-0.1**
AS31				IAmb	IAmb	00 39 49.4	
	comp=Z,2.6nm,0.4s						
ASAR	**Alice Springs**	**27.52**	**222**	P	**P**	**00 39 48.5**	**-0.3**
ASAR	**Alice Springs**	**27.52**	**222**	P	**P**	**00 39 48.4**	**-0.4**
	comp=Z,2.8nm,0.4s,baz=55,slow=9.0,SNR=45						
ASAR				PcP	**PcP**	**00 42 55.6**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=53,slow=2.4,SNR=8.3						
ASAR				S	**S**	**00 43 59.1**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=50,slow=15,SNR=8.1						
	comp=Z,2.8nm,0.4s						
STKA	**Stephens Creek**	**30.18**	**201**	PcP	**PcP**	**00 43 01.3**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=325,slow=12,SNR=3.5						
FITZ	**Fitzroy Crossi**	**30.97**	**241**	P	**P**	**00 40 18.6**	**-0.4**
BBOO	**Buckleboo**	**33.27**	**208**	P	**P**	**00 40 38.0**	**-0.7**
FORT	**Forrest**	**36.16**	**219**	P	**P**	**00 41 02.8**	**-0.3**
FORT				IAmb	IAmb	00 41 30.2	
	comp=Z,14nm,1.0s						
URZ	**Urewera**	**40.38**	**151**	P	**P**	**00 41 37.2**	**-0.4**
	comp=Z,3.2nm,0.4s,baz=225,slow=1.4,SNR=3.0						
	comp=Z,3.2nm,0.4s						
RTZ	**Ruatahuna**	**40.60**	**152**	P	**P**	**00 41 39.8**	**+0.2**
RTZ				IAmb	IAmb	00 41 41.8	
	comp=Z,19nm,1.1s						
BFZ	**Birch Farm**	**41.94**	**154**	P	**P**	**00 41 49.5**	**-0.6**
MLZ	**Mavora Lakes**	**43.27**	**165**	P	**P**	**00 42 00.2**	**-0.5**
MLZ				IAmb	IAmb	00 42 18.9	
	comp=Z,7.1nm,1.0s						
MORW	**Morawa**	**43.71**	**231**	P	**P**	**00 42 04.1**	**-0.3**
MORW				IAmb	IAmb	00 42 09.1	
	comp=Z,7.5nm,0.9s						
KSRS	**Korea Array**	**47.56**	**332**	P	**P**	**00 42 33.6**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=142,slow=8.1,SNR=2.1						
	comp=Z,0.8nm,0.3s						
CMAR	**Chiang Mai Arr**	**58.33**	**294**	P	**P**	**00 43 52.3**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=113,slow=4.7,SNR=8.0						
	comp=Z,1.3nm,0.3s						
SONM	**Songino Array**	**66.00**	**327**	P	**P**	**00 44 43.1**	**+1.2**
SONM	**Songino Array**	**66.00**	**327**	P	**P**	**00 44 42.7**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=137,slow=5.5,SNR=8.0						
	comp=Z,0.6nm,0.4s						
L14K	**Kuka Creek**	**73.09**	**20**	P	**P**	**00 45 23.5**	**-0.6**
VNDA	**Vanda**	**73.79**	**178**	P	**P**	**00 45 28.7**	**+0.7**
VNDA				IAmb	IAmb	00 45 29.4	
	comp=Z,3.2nm,0.7s						
VNDA	**Vanda**	**73.79**	**178**	P	**P**	**00 45 28.9**	**+0.9**
	comp=Z,3.7nm,0.8s,baz=343,slow=6.3,SNR=11						
	comp=Z,3.7nm,0.8s						
K15K	**Wolf Creek Mou**	**74.15**	**20**	P	**P**	**00 45 30.7**	**+0.4**
M17K	**Holitna River**	**75.02**	**22**	P	**P**	**00 45 36.0**	**+0.8**
L18K	**Granite Mounta**	**75.81**	**22**	P	**P**	**00 45 40.5**	**+0.8**
L18K				IAmb	IAmb	00 45 51.1	
	comp=Z,2.8nm,1.0s						
TTA	**Tatalina**	**76.50**	**21**	P	**P**	**00 45 43.8**	**+0.2**
TTA				IAmb	IAmb	00 46 09.7	
	comp=Z,3.0nm,1.1s						
M20K	**Styx River**	**76.95**	**23**	P	**P**	**00 45 45.8**	**-0.4**
M20K				IAmb	IAmb	00 45 47.4	
	comp=Z,2.4nm,0.9s						
SUA	**Susitna One**	**77.66**	**24**	P	**P**	**00 45 49.9**	**-0.2**
CAST	**Castle Rocks**	**78.23**	**22**	P	**P**	**00 45 52.6**	**-0.4**
CAST				IAmb	IAmb	00 45 53.5	
	comp=Z,2.6nm,0.6s						
KTH	**Kantishna Hill**	**78.74**	**22**	P	**P**	**00 45 54.7**	**-1.1**
SML	**Sawmill**	**78.83**	**24**	P	**P**	**00 45 56.5**	**+0.2**
E19K	**Redstone River**	**78.95**	**17**	P	**P**	**00 45 57.2**	**+0.4**
E19K				IAmb	IAmb	00 45 58.2	
	comp=Z,3.4nm,0.7s						
IMAR	**Indian Mountai**	**79.13**	**19**	P	**P**	**00 45 58.2**	**+0.4**
G21K	**Allakaket**	**79.53**	**19**	P	**P**	**00 46 00.0**	**+0.1**
MLY	**Manley**	**79.62**	**21**	P	**P**	**00 46 00.6**	**+0.2**
MK31	**Makanchi Array**	**80.21**	**319**	P	**P**	**00 46 04.3**	**+0.3**
MKAR	**Makanchi Array**	**80.21**	**319**	P	**P**	**00 46 04.7**	**+0.7**
MKAR	**Makanchi Array**	**80.21**	**319**	P	**P**	**00 46 04.0**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=102,slow=5.3,SNR=12						
	comp=Z,1.1nm,0.7s						
MAKZ	**Makanchi**	**80.42**	**319**	P	**P**	**00 46 05.1**	**0.0**
MAKZ				IAmb	IAmb	00 46 06.7	
	comp=Z,1.8nm,0.8s						
CCB	**Clear Creek Bu**	**80.48**	**22**	P	**P**	**00 46 03.9**	**-1.0**
B20K	**Meade River**	**80.62**	**15**	P	**P**	**00 46 05.9**	**+0.3**
B20K				IAmb	IAmb	00 46 25.0	
	comp=Z,5.3nm,1.1s						
ZAA0	**Zalesovo Array**	**80.86**	**326**	P	**P**	**00 46 07.2**	**+0.1**
ZALV	**Zalesovo Beam**	**80.86**	**326**	P	**P**	**00 46 07.2**	**+0.1**
ZALV	**Zalesovo Beam**	**80.86**	**326**	P	**P**	**00 46 06.9**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=114,slow=6.4,SNR=6.8						
	comp=Z,0.7nm,0.5s						
ILAR	**Eielson Array**	**80.88**	**22**	P	**P**	**00 46 06.2**	**-0.9**
ILAR	**Eielson Array**	**80.88**	**22**	P	**P**	**00 46 05.7**	**-1.4

comp=Z,107nm,19.6s,baz=239,slow=43
PLAI Plampang 6.10 263 P **Pn** **00 56 45.8 +0.5**
PLAI Plampang 6.10 263 P **Pn** **00 56 45.7 +0.5**
TWSI Taliwang, Sumb 6.98 265 P **Pn** **00 56 56.6 -0.2**
53nm,0.4s,4µm0.5nm
LUWI Luwuk 7.18 351 Pn **Pn** **00 57 01.7 +2.2**
SAUI Saumlaki 7.32 89 Pn **Pn** **00 57 00.7 -0.6**
MTN Manton Dam 8.48 124 Pn **Pn** **00 57 15.8 -1.0**
MTN Manton Dam 8.48 124 P **Pn** **00 57 16.9 +0.1**
SRBI Singaraja 8.61 270 P **Pn** **00 57 18.0 -0.5**
KNRA Kununurra 8.84 148 Pn **Pn** **00 57 19.7 -1.8**
KNRA Kununurra 8.84 148 P **Pn** **00 57 20.7 -0.8**
KDU Kakadu 9.54 119 P **Pn** **00 57 29.9 -0.8**
JAGI Jajag, Banyuwa 9.66 268 Pn **Pn** **00 57 27.9 -4.5**
FITZ Fitzroy Crossi 10.00 170 Pn **Pn** **00 57 34.6 -2.3**
FITZ Fitzroy Crossi 10.00 170 P **Pn** **00 57 35.3 -1.6**
UGM Wanagama 13.26 270 Pn **Pn** **00 58 18.3 -0.9**
UGM Wanagama 13.26 270 P **P** **00 58 23.1 0.0**
MBWA Marble Bar 13.52 197 Pn **Pn** **00 58 22.1 -0.3**
PSA00 Pilbara Seismi 13.88 196 Pn **Pn** **00 58 26.9 0.0**
WB0 Warramunga Arr 15.36 140 Pn **Pn** **00 58 44.3 -1.0**
WB0 IAmb IAmb 00 58 49.6
comp=Z,19nm,1.1s
WRA Warramunga Arr 15.45 140 Pn **Pn** **00 58 44.9 -1.6**
WRA Warramunga Arr 15.45 140 P **Pn** **00 58 45.3 -1.2**
comp=Z,7.5nm,0.4s,baz=315,slow=13,SNR=95
WRA S Sn 01 01 25.8 -13
comp=Z,2.4nm,0.6s,baz=249,slow=21,SNR=6.1
WRAB Tennant Creek 15.45 140 Pn **Pn** **00 58 45.7 -0.8**
WRAB IAmb IAmb 00 59 07.1
comp=Z,10nm,0.8s
WB2 Warramunga Arr 15.46 140 Pn **Pn** **00 58 45.4 -1.1**
WB2 IAmb IAmb 00 59 06.1
comp=Z,15nm,0.9s
WR0 Warramunga Arr 15.59 140 Pn **Pn** **00 58 46.9 -1.3**
WRKA Warakurna 17.28 166 P **Pn** **00 59 10.0 +1.4**
AS31 Alice Springs 18.14 149 P **Pn** **00 59 18.5 -0.2**
ASAR Alice Springs 18.14 149 P **P** **00 59 18.4 +1.5**
ASAR Alice Springs 18.14 149 P **P** **00 59 18.1 +1.1**
comp=Z,6.3nm,0.5s,baz=329,slow=12,SNR=64
ASAR S **S** **01 02 31.2 -5.1**
comp=Z,0.6nm,0.4s,baz=239,slow=29,SNR=2.3
MEEK Meekatharra 19.04 195 P **P** **00 59 27.2 +0.5**
QIS Mount Isa 19.54 131 P **P** **00 59 34.1 +2.0**
COEN Coen 19.75 109 P **P** **00 59 34.6 +0.2**
COEN IAmb IAmb 00 59 48.7
comp=Z,9.3nm,0.7s
COEN Coen 19.75 109 P **P** **00 59 36.3 +1.8**
MORW Morawa 22.06 199 P **P** **00 59 59.1 +0.3**
MORW IAmb IAmb 01 00 28.2
comp=Z,16nm,1.1s
MORW Morawa 22.06 199 P **P** **00 59 59.3 +0.5**
OOD Oodnadatta 22.47 152 P **P** **01 00 04.3 +1.6**
FORT Forrest 22.82 171 P **P** **01 00 06.0 +0.1**
FORT Forrest 22.82 171 P **P** **01 00 06.7 +0.8**
KMBL Kambalda 23.15 184 P **P** **01 00 09.7 +0.8**
BLDU Ballidu 23.32 196 P **P** **01 00 12.1 +1.6**
MULG Mulgathing 23.96 158 P **P** **01 00 17.7 +1.4**
KLBR Kellerberrin 23.99 193 P **P** **01 00 18.3 +1.7**
comp=Z,21nm,0.8s
CTAO Charters Tower 24.65 121 P **P** **01 00 25.8 +3.1**
INKA Innaminka 25.14 143 P **P** **01 00 29.3 +2.3**
NWAO Narrogin (SRO) 25.39 193 P **P** **01 00 28.8 -0.5**
LCRK Leigh Creek 25.89 151 P **P** **01 00 35.1 +1.3**
BBOO Buckleboo 26.98 157 P **P** **01 00 44.4 +0.9**
BBOO Buckleboo 26.98 157 P **P** **01 00 44.6 +1.1**
HTT Hallett 28.71 153 P **P** **01 01 00.8 +1.8**
STKA Stephens Creek 28.75 148 P **P** **01 01 00.3 +1.0**
STKA Stephens Creek 28.75 148 P **P** **01 01 00.9 +1.6**
STKA Stephens Creek 28.75 148 P **P** **01 01 00.2 +0.9**
comp=Z,1.7nm,0.4s,baz=314,slow=11,SNR=7.6
STKA PcP **PcP** **01 04 05.7 +0.2**
comp=Z,2.9nm,0.3s,baz=357,slow=4.1,SNR=6.7
comp=Z,1.7nm,0.4s
CMSA Cobar Meteorol 30.85 142 P **P** **01 01 20.1 +2.3**
EIDS Eidsvold 31.02 127 P **P** **01 01 19.9 +0.4**
EIDS IAmb IAmb 01 01 28.8
comp=Z,6.7nm,0.9s
EIDS Eidsvold 31.02 127 P **P** **01 01 20.7 +1.3**
ARPS Mount Arapiles 32.80 153 P **P** **01 01 37.0 +2.2**
comp=Z,9.1nm,0.6s
BRAT Ballarat 34.41 151 P **P** **01 01 49.7 +1.0**
comp=Z,13nm,0.6s
PZH PanZhiHua 40.64 329 P **P** **01 02 43.7 +2.3**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.5s
MJAR Matsushiro Arr 46.47 16 P **P** **01 03 25.7 -1.9**
comp=Z,1.9nm,0.5s,baz=197,slow=8.4,SNR=5.3
comp=Z,1.9nm,0.5s
LZH Lanzhou 47.91 338 *eP* **P** **01 03 40.9 +1.9**
LZH pP pwP 01 04 19.3 0.0
LZH sP sP 01 04 38.5 +6.3
LZH pmax pmax
comp=Z,15nm,1.4s
TAPN Taplejung 49.76 317 *eP* **P** **01 03 54.7 +1.3**
comp=Z,14nm,0.4s
HHC Hu-ho-hao-te 50.09 348 *eP* **P** **01 03 59.6 +4.1**
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,460nm,5.8s
RAMN Ramite 50.27 315 *eP* **P** **01 03 58.2 +1.0**
comp=Z,17nm,0.5s
JIRN Jiri 51.00 316 *ePg* **P** **01 04 04.2 +1.4**
GUN Gumba 51.37 316 *eP* **P** **01 04 06.8 +1.2**
comp=Z,12nm,0.4s
PKI Pulchoki 51.49 315 *eP* **P** **01 04 07.1 +0.7**
comp=Z,11nm,0.3s
PKIN Phulchoki 51.50 315 *eP* **P** **01 04 07.3 +0.9**
comp=Z,12nm,0.3s
GKN Gorkha 52.29 315 *eP* **P** **01 04 13.3 +1.1**
comp=Z,21nm,0.3s
USRK Ussuriysk Ar. 52.64 7 P **P** **01 04 12.8 -1.4**
comp=Z,2.0nm,0.4s,baz=197,slow=6.8,SNR=8.6
comp=Z,2.0nm,0.4s
DANN Dangsing 53.12 315 *eP* **P** **01 04 19.0 +0.6**
comp=Z,27nm,0.4s
WHZ Wether Hill Ro 53.26 143 P **P** **01 04 20.4 +1.5**
PYUN Piuthan 53.51 314 *eP* **P** **01 04 22.2 +1.0**
comp=Z,16nm,0.4s
RTZ Ruatahuna 56.37 131 P **P** **01 04 42.0 +0.6**
SONM Songino Array 57.88 346 P **P** **01 04 52.2 +0.4**
SONM IAmb IAmb 01 04 53.0
comp=Z,3.1nm,1.0s
SONM Songino Array 57.88 346 P **P** **01 04 51.2 -0.6**
comp=Z,2.9nm,0.9s,baz=163,slow=8.0,SNR=11
comp=Z,2.9nm,0.9s
WMQ Urumqi 61.27 331 *eP* **P** **01 05 18.0 +3.0**
KSH Kashi 64.95 321 P **P** **01 05 40.7 +1.3**
KSH pmax pmax
comp=Z,5.0nm,0.7s
MK31 Makanchi Array 66.06 330 P **P** **01 05 46.4 +0.1**
MK31 IAmb IAmb 01 05 48.1
comp=Z,2.6nm,0.7s
MKAR Makanchi Array 66.06 330 P **P** **01 05 46.5 +0.2**
MKAR Makanchi Array 66.06 330 P **P** **01 05 45.6 -0.7**
comp=Z,3.7nm,0.5s,baz=133,slow=7.3,SNR=81
MKAR PcP **PcP** **01 06 15.5 0.0**
comp=Z,1.7nm,0.7s,baz=142,slow=5.3,SNR=5.1
comp=Z,3.7nm,0.5s
MAKZ Makanchi 66.22 330 P **P** **01 05 47.3 0.0**
KBL Kabul 67.01 313 P **P** **01 05 52.8 0.0**
KBL IAmb IAmb 01 05 55.6
comp=Z,3.2nm,0.7s
PETK Petropavlovsk- 67.46 21 P **P** **01 05 55.9 +0.9**
PETK Petropavlovsk- 67.46 21 P **P** **01 05 52.4 -2.6**
comp=Z,3.8nm,0.6s,baz=231,slow=5.3,SNR=5.7
comp=Z,3.8nm,0.6s
AAK Ala-Archa 67.67 323 P **P** **01 05 56.0 -0.7**
AAK IAmb IAmb 01 05 59.0
comp=Z,4.0nm,0.7s
ARSB Arslanbob 67.85 321 P **P** **01 05 56.3 -1.6**
GAR Garm 68.33 318 P **P** **01 06 00.0 -0.9**
GAR IAmb IAmb 01 06 02.2
comp=Z,2.7nm,0.7s
ZAA0 Zalesovo Array 70.11 337 P **P** **01 06 11.0 -0.3**
ZALV Zalesovo Beam 70.11 337 P **P** **01 06 10.5 -0.8**
ZALV Zalesovo Beam 70.11 337 P **P** **01 06 09.0 -2.3**
comp=Z,2.0nm,0.4s,baz=137,slow=4.4,SNR=13
comp=Z,2.0nm,0.4s
KKAR Karatay Array 70.36 321 P **P** **01 06 13.1 0.0**
KURBB Kurchatov Arra 70.49 331 P **P** **01 06 12.8 -0.9**
comp=Z,1.9nm,0.3s,baz=144,slow=5.2,SNR=10
comp=Z,1.9nm,0.3s
KURK Kurchatov 70.51 331 P **P** **01 06 13.3 -0.5**
KURK IAmb IAmb 01 06 15.3
comp=Z,3.6nm,0.8s
VNDA Vanda 72.08 172 P **P** **01 06 24.2 +1.3**
VNDA Vanda 72.08 172 P **P** **01 06 23.5 +0.7**
comp=Z,1.2nm,0.5s,baz=325,slow=7.9,SNR=8.0
comp=Z,1.2nm,0.5s
BVAR Borovoye Array 75.94 330 P **P** **01 06 44.9 -0.8**
comp=Z,0.6nm,0.4s,baz=116,slow=6.9,SNR=4.8
comp=Z,0.6nm,0.4s
ABKAR Akbulak array 79.75 323 P **P** **01 07 05.6 -1.1**
QSPA South Pole Qui 81.81 180 P **P** **01 07 18.0 +0.4**
QSPA IAmb IAmb 01 07 19.2
comp=Z,5.3nm,1.1s
ARU Arti 83.58 329 P **P** **01 07 26.1 -0.5**
ARU IAmb IAmb 01 07 27.3
comp=Z,4.1nm,0.8s
KBZ Khabaz 89.15 314 P **P** **01 07 54.3 +0.2**
comp=Z,2.0nm,0.8s,baz=60,slow=3.0,SNR=7.0
comp=Z,2.0nm,0.8s
SNAA Sanae 93.06 195 P **P** **01 08 12.8 +0.9**
comp=Z,1.5nm,0.8s,baz=200,slow=3.5,SNR=6.8
comp=Z,1.5nm,0.8s
ILAR Eielson Array 96.99 26 P **P** **01 08 27.2 -2.5**
comp=Z,0.4nm,0.8s,baz=258,slow=4.5,SNR=4.5
comp=Z,0.4nm,0.8s
ARCES ARCESS Array B 100.55 339 P **Pdif** **01 08 44.0 -1.5**
comp=Z,5.8nm,1.2s,baz=27,slow=3.0,SNR=5.3
SPITS Spitsbergen Ar 101.53 348 P **Pdif** **01 08 48.7 -1.1**
comp=Z,8.7nm,0.9s,baz=72,slow=5.4,SNR=1.9
PDAR Pinedale Array 121.97 44 PKP **PKPdf** **01 13 50.6 -1.9**
comp=Z,0.4nm,0.6s,baz=112,slow=1.6,SNR=4.6
TORD Torodi Ar. Bea 123.10 280 PKP **PKPdf** **01 13 53.7 -1.5**
comp=Z,0.9nm,0.6s,baz=67,slow=2.2,SNR=8.1
ULM Lac du Bonnet 126.63 31 PKP **PKPdf** **01 13 59.8 -1.1**
comp=Z,1.6nm,0.6s,baz=209,slow=1.2,SNR=4.2
TXAR Lajitas Array 130.69 58 PKP **PKPdf** **01 14 06.2 -3.2**
comp=Z,0.2nm,0.6s,baz=194,slow=2.8,SNR=4.5
SCHQ Schefferville 132.69 8 PKP **PKPdf** **01 14 08.8 -3.5**
comp=Z,2.4nm,0.3s,baz=343,slow=19,SNR=8.7
CPUP Villa Florida 145.68 178 PKPbc **PKPdf** **01 14 36.0 -0.7**
comp=Z,4.9nm,0.6s,baz=180,slow=2.4,SNR=10

*IDC **13** 01:13:24.0±0.7, 6°.79N×73°.01W, h156km±10km, mb3.3/5, mbtmp4.1/9, Error ellipse: s-maj=26.3km s-min=7.5km az=132.0*
*RSNC **13** 01:13:26.0±1.1, 6°.82N×73°.16W, h147km±4km, ML3.6, Mw3.9*
ISC 13 01:13:24.4±0.8, 6°.85N±0°.03×73°.13W±0°.04, h157km±6km, n52, σ1$80/94, mb3.4/5, 6C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**192**	*i*	*iP*		**Pn**	**01 13 45.9**	**-0.1**
BARC					*eS*		**Sn**	**01 14 00.8**	**-1.6**
BARC					*i*			01 14 02.2	
	comp=Z,2µm,0.3s								
PAMC	**Pamplona, Colo**	**0.64**	**41**	↓	*iP*		**Pn**	**01 13 48.7**	**+0.8**
PAMC					*eS*		**Sn**	**01 14 08.5**	**0.0**
PAMC					*i*			01 14 08.1	
	comp=Z,1µm,0.4s								
PTBC	**PUERTO BERRIO,**	**1.36**	**257**		*eP*		**Pn**	**01 13 52.5**	**-0.6**
PTBC					*eS*		**Sn**	**01 14 13.6**	**-1.4**
PTBC					*i*			01 14 15.4	
	comp=Z,385nm,0.4s								
OCAC	**Ocana**	**1.39**	**352**	↓	*iP*		**Pn**	**01 13 54.1**	**+0.5**
OCAC					*eS*		**Sn**	**01 14 16.3**	**+0.3**
TAMC	**Tame, Arauca**	**1.39**	**107**	↑	*iP*		**Pn**	**01 13 54.1**	**+0.7**
TAMC					*eS*		**Sn**	**01 14 15.6**	**0.0**
TAMC					*i*			01 14 16.8	
	comp=Z,267nm,0.4s								
SPBC	**San Pablo de B**	**1.52**	**218**		*eP*		**Pn**	**01 13 54.9**	**+0.1**
SPBC					*eS*		**Sn**	**01 14 16.7**	**-1.5**
SPBC					*i*			01 14 19.4	
	comp=Z,581nm,0.3s								
ZARC	**Zaragoza, Cauc**	**1.83**	**290**		*eP*		**Pn**	**01 13 58.5**	**+0.5**
ZARC					*eS*		**Sn**	**01 14 24.6**	**+0.7**
ZARC					*i*			01 14 30.2	
	comp=Z,694nm,0.5s								
ROSC	**El Rosal**	**2.33**	**211**		*eP*		**Pn**	**01 14 05.5**	**+1.4**
ROSC					*eS*		**Sn**	**01 14 36.4**	**+1.6**
ROSC					*i*			01 14 41.8	
	comp=Z,473nm,0.3s								
ROSC	**El Rosal**	**2.33**	**211**		P		**Pn**	**01 14 05.4**	**+1.2**
	comp=Z,136nm,0.3s,baz=129,slow=1.5,SNR=81								
ROSC					S		**Sn**	**01 14 34.6**	**-0.2**
	comp=Z,489nm,0.4s,baz=39,slow=21,SNR=20								
CVER	**Cruz Verde, Cu**	**2.50**	**202**	↑	*eP*		**Pn**	**01 14 07.2**	**+0.8**
CVER					*eS*		**Sn**	**01 14 38.5**	**-0.3**
CVER					*i*			01 14 45.6	
	comp=Z,267nm,0.3s								
UREC	**San Jos de Ur**	**2.55**	**291**		*eP*		**Pn**	**01 14 06.0**	**-0.5**
UREC					*eS*		**Sn**	**01 14 37.5**	**-1.4**
UREC					*i*			01 14 39.1	
	comp=Z,368nm,0.1s								
GUY2C	**Guyana, Caldas**	**2.75**	**234**		*eP*		**Pn**	**01 14 10.3**	**+0.9**
GUY2C					*eS*		**Sn**	**01 14 48.3**	**+4.2**
GUY2C					*i*			01 14 52.4	
	comp=Z,341nm,0.5s								
VILC	**Villavicencio,**	**2.78**	**192**		*eP*		**Pn**	**01 14 09.5**	**0.0**
VILC					*eS*		**Sn**	**01 14 43.8**	**-0.6**
VILC					*i*			01 14 49.3	
	comp=Z,465nm,0.4s								
PTGC	**Puerto Gaitan,**	**2.82**	**159**	↑	*iP*		**Pn**	**01 14 08.9**	**-0.9**
PTGC					*eS*		**Sn**	**01 14 42.1**	**-2.8**
PTGC					*i*			01 14 44.8	
	comp=Z,180nm,0.5s								
LL6C	**La Loma 6 Bece**	**2.87**	**357**	↓	*eP*		**Pn**	**01 14 10.6**	**+0.2**
LL6C					*eS*		**Sn**	**01 14 45.2**	**-0.8**
LL6C					*i*			01 14 54.6	
	comp=Z,89nm,0.5s								
NIZA	**Niza - Manizal**	**2.94**	**233**		*eP*		**Pn**	**01 14 14.7**	**+3.1**
NIZA					*eS*		**Sn**	**01 14 52.3**	**+4.3**
CBOC	**Ciudad Bolivar**	**3.03**	**251**	↓	*eP*		**Pn**	**01 14 13.8**	**+1.2**
CBOC					*eS*		**Sn**	**01 14 49.9**	**0.0**
CBOC					*i*			01 14 55.1	
	comp=Z,115nm,0.4s								
DBBC	**Dabeiba**	**3.06**	**273**		*eP*		**Pn**	**01 14 13.8**	**+0.9**
DBBC					*eS*		**Sn**	**01 14 48.8**	**-1.7**
DBBC					*i*			01 14 53.3	
	comp=Z,160nm,0.4s								
ARGC	**Ariguani, Magd**	**3.18**	**340**		*eP*		**Pn**	**01 14 16.5**	**+2.1**
ARGC					*eS*		**Sn**	**01 14 54.9**	**+1.7**
ARGC					*i*			01 14 57.1	
	comp=Z,115nm,0.3s								
SDV	**Santo Domingo**	**3.19**	**51**		*eP*		**Pn**	**01 14 15.3**	**+0.7**
SDV					*eS*		**Sn**	**01 14 50.7**	**-2.9**
SDV					*i*			01 14 55.7	
	comp=Z,62nm,0.4s								
SDV	**Santo Domingo**	**3.19**	**51**		P		**Pn**	**01 14 14.7**	**+0.1**
	comp=Z,107nm,0.3s,baz=232,slow=9.7,SNR=133								
SDV					S		**Sn**	**01 14 52.1**	**-1.5**
	comp=Z,63nm,0.3s,baz=157,slow=9.1,SNR=9.9								
PRAC	**Prado**	**3.58**	**209**		*eP*		**Pn**	**01 14 19.3**	**-0.1**
PRAC					*eS*		**Sn**	**01 15 01.6**	**-0.7**
PRAC					*i*			01 15 07.8	
	comp=Z,354nm,0.4s								
APAC	**Apartado, Choc**	**3.58**	**287**	↑	*iP*		**Pn**	**01 14 20.2**	**+0.8**
APAC					*eS*		**Sn**	**01 15 01.8**	**-0.2**
APAC					*i*			01 15 14.9	
	comp=Z,97nm,0.6s								
ORTC	**Ortega, Tolima**	**3.61**	**216**		*eP*		**Pn**	**01 14 20.1**	**+0.3**
ORTC					*eS*		**Sn**	**01 15 04.1**	**+1.2**
ORTC					*i*			01 15 10.2	
	comp=Z,242nm,0.3s								
SJCC	**San Jacinto, C**	**3.64**	**326**		*eP*		**Pn**	**01 14 20.0**	**-0.3**
SJCC					*eS*		**Sn**	**01 15 01.9**	**-1.8**
SJCC					*i*			01 15 06.0	
	comp=Z,277nm,0.4s								
PLMC	**San Jos del P**	**3.69**	**238**	↑	*iP*		**Pn**	**01 14 21.8**	**+0.9**
PLMC					*eS*		**Sn**	**01 15 01.3**	**-3.5**
PLMC					*i*			01 15 12.5	
	comp=Z,80nm,0.3s								
LCBC	**Los crdobas,**	**3.78**	**302**		*eP*		**Pn**	**01 14 22.1**	**+0.2**
LCBC					*eS*		**Sn**	**01 15 08.4**	**+1.8**
LCBC					*i*			01 15 14.7	
	comp=Z,111nm,0.3s								
CRJC	**Cerrejon, Guaj**	**4.15**	**3**		*eP*		**Pn**	**01 14 26.3**	**-0.6**
CRJC					*eS*		**Sn**	**01 15 13.8**	**-1.7**
CRJC					*i*			01 15 16.6	
	comp=Z,80nm,0.3s								
YOTC	**Yotoco, Valle**	**4.29**	**228**		*eP*		**Pn**	**01 14 28.8**	**0.0**
YOTC					*eS*		**Sn**	**01 15 16.4**	**-2.4**
SMRC	**Santa Marta, M**	**4.42**	**346**		*eP*		**Pn**	**01 14 30.4**	**+0.1**
SMRC					*eS*		**Sn**	**01 15 19.5**	**-2.2**
SMRC					*i*			01 15 25.9	
	comp=Z,42nm,0.3s								
CAPC	**Capurgana**	**4.54**	**293**		*eP*		**Pn**	**01 14 31.1**	**-0.9**
CAPC					*eS*		**Sn**	**01 15 21.4**	**-3.2**
CAPC					*i*			01 15 25.0	
	comp=Z,40nm,0.5s								
PTAC	**Punta Ardita,**	**4.66**	**274**		*eP*		**Pn**	**01 14 33.8**	**+0.4**
BETC	**Betania**	**4.74**	**209**		*eP*		**Pn**	**01 14 33.8**	**-0.9**
BETC					*eS*		**Sn**	**01 15 25.8**	**-3.6**
BETC					*i*			01 15 29.8	
	comp=Z,39nm,0.4s								
URIC	**Uribia, Colomb**	**4.95**	**13**		*eP*		**Pn**	**01 14 36.6**	**-0.6**
URIC					*eS*		**Sn**	**01 15 32.9**	**-1.2**
URIC					*i*			01 15 37.5	
	comp=Z,16nm,0.3s								
MALC	**Bahia Malaga**	**5.05**	**236**		*eP*		**Pn**	**01 14 40.5**	**+1.9**
MALC					*eS*		**Sn**	**01 15 31.9**	**-4.7**
MALC					*i*			01 15 53.7	
	comp=Z,30nm,0.5s								
JAMC	**Jamundi, Valle**	**5.05**	**224**		*eP*		**Pn**	**01 14 39.0**	**+0.2**
JAMC					*eS*		**Sn**	**01 15 33.8**	**-3.2**
JAMC					*i*			01 15 47.1	
	comp=Z,22nm,0.5s								
UPD2	**Meteti**	**5.13**	**289**		*eP*		**Pn**	**01 14 39.3**	**-0.3**
UPD2					*eS*		**Sn**	**01 15 36.0**	**-2.4**
UPD2					*i*			01 15 43.0	
	comp=Z,61nm,0.4s								
GARC	**Garzon, Huila**	**5.20**	**207**		*eP*		**Pn**	**01 14 40.2**	**-0.7**
GARC					*eS*		**Sn**	**01 15 35.7**	**-4.9**
GARC					*i*			01 15 45.3	
	comp=Z,71nm,0.2s								
POPC	**Popayan, Colom**	**5.56**	**220**		*eP*		**Pn**	**01 14 45.9**	**+0.4**
POPC					*eS*		**Sn**	**01 15 43.2**	**-5.8**
POPC					*i*			01 15 54.6	
	comp=Z,12nm,0.4s								
FLOC	**Florencia**	**5.81**	**206**		*eP*		**Pn**	**01 14 49.1**	**+0.4**
FLOC					*eS*		**Sn**	**01 15 52.8**	**-1.9**
FLOC					*i*			01 15 59.9	
	comp=Z,14nm,0.5s								
BBAC	**Balboa, Cauca**	**6.32**	**221**		*eP*		**Pn**	**01 14 55.7**	**+0.1**
BBAC					*eS*		**Sn**	**01 16 05.6**	**-1.5**
BBAC					*i*			01 16 11.3	
	comp=Z,26nm,0.3s								
GCUF	**Volcan Galeras**	**7.00**	**217**		*eP*		**Pn**	**01 15 07.2**	**+2.3**
GCUF					*eS*		**Sn**	**01 16 21.7**	**-2.1**
GCUF					*i*			01 16 27.5	
	comp=Z,17nm,0.4s								
BCIP	**Isla Barro Col**	**7.03**	**290**		*eP*		**Pn**	**01 15 04.0**	**-0.9**
BCIP					*eS*		**Sn**	**01 16 20.7**	**-3.1**
PCRV	**Puerto La Cruz**	**9.02**	**68**		P		**Pn**	**01 15 29.9**	**-1.6**
	comp=Z,4.3nm,0.5s,baz=256,slow=4.2,SNR=7.7								
TEIG	**Tepich**	**19.81**	**314**		P		**P**	**01 17 44.0**	**+1.1**
	comp=Z,54nm,0.8s,baz=203,slow=9.4,SNR=2.2								
TXAR	**Lajitas Array**	**36.43**	**312**		P		**P**	**01 20 15.3**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=128,slow=9.4,SNR=10								
	comp=Z,0.4nm,0.5s								
ULM	**Lac du Bonnet**	**47.25**	**340**		P		**P**	**01 21 42.1**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=156,slow=8.8,SNR=6.6								
	comp=Z,2.2nm,0.5s								
PDAR	**Pinedale Array**	**48.05**	**324**		P		**P**	**01 21 48.0**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=118,slow=10,SNR=5.3								
	comp=Z,0.3nm,0.5s								
NVAR	**Mina Array Bea**	**51.45**	**315**		P		**P**	**01 22 14.4**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=122,slow=3.4,SNR=3.9								
	comp=Z,0.2nm,0.3s								
YKA	**Yellowknife Ar**	**63.23**	**340**		P		**P**	**01 23 36.1**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=133,slow=6.4,SNR=20								
	comp=Z,0.8nm,0.6s								
ASAR	**Alice Springs**	**149.12**	**234**		PKPbc		**PKPbc**	**01 32 54.8**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=104,slow=3.9,SNR=3.0								
WRA	**Warramunga Arr**	**150.35**	**241**		PKPbc		**PKPbc**	**01 32 57.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=106,slow=3.2,SNR=9.2								

IDC 13 01:19:07.9±1.6, 5°.69N×32°.71W, h0km, mb3.8/5, mbtmp3.8/5, MS3.5/5, Error ellipse: s-maj=71.0km s-min=29.2km az=27.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**11.87**	**196**			LR	LR	01 25 03.6	
	comp=Z,101nm,20.2s,baz=27,slow=30								
H10N3	**ASCENSION HYDR**	**22.59**	**126**			T	T	01 47 34.8	
	baz=306,slow=75,SNR=58								
H10N2	**ASCENSION HYDR**	**22.60**	**126**			T	T	01 47 35.1	
	baz=306,slow=75,SNR=83								
H10N1	**ASCENSION HYDR**	**22.61**	**126**			T	T	01 47 44.7	
	baz=306,slow=75,SNR=84								
H10S3	**ASCENSION HYDR**	**23.14**	**129**			T	T	01 48 25.6	
	baz=275,slow=74,SNR=27								
H10S2	**ASCENSION HYDR**	**23.15**	**129**			T	T	01 48 24.0	
	baz=305,slow=74,SNR=12								
BDFB	**Brasilia**	**26.05**	**215**			LR	LR	01 34 10.4	
	comp=Z,104nm,18.2s,baz=75,slow=35								
DBIC	**Dimbokro**	**27.71**	**86**			LR	LR	01 34 29.4	
	comp=Z,137nm,19.2s,baz=16,slow=33								
TORD	**Torodi Ar. Bea**	**34.71**	**75**			P	P	01 26 00.2	+0.3
	1.1nm,0.8s,baz=274,slow=8.2,SNR=8.3								
TORD						LR	LR	01 39 37.3	
	comp=Z,106nm,18.2s,baz=325,slow=35								
	1.1nm,0.8s								
CPUP	**Villa Florida**	**39.78**	**216**			LR	LR	01 42 45.9	
	comp=Z,102nm,19.1s,baz=44,slow=36								
BOSA	**Boshof**	**65.34**	**125**			P	P	01 29 52.4	-0.2
	4.3nm,0.9s,baz=270,slow=4.0,SNR=4.0								
	4.3nm,0.9s								
PDAR	**Pinedale Array**	**76.50**	**312**			P	P	01 31 01.1	+0.8
	0.4nm,0.7s,baz=92,slow=8.0,SNR=4.0								
	0.4nm,0.7s								
YKA	**Yellowknife Ar**	**81.24**	**332**			P	P	01 31 25.7	+0.1
	0.1nm,0.3s,baz=88,slow=6.9,SNR=4.0								
	0.1nm,0.3s								
ILAR	**Eielson Array**	**94.92**	**337**			P	P	01 32 30.5	-1.4
	0.3nm,0.9s,baz=54,slow=4.8,SNR=2.8								
	0.3nm,0.9s								

*NEIC **13** 01:26:00.5±1.9, 40°.26N±0°.02×120°.40W±0°.02, h8km±5km, Error ellipse: s-maj=2.7km s-min=2.0km az=47.0*
*REN **13** 01:26:00.3±2.0, 40°.25N±0°.02×120°.39W±0°.02, h10km±5km, Error ellipse: s-maj=3.1km s-min=2.1km az=225.0*
**NCEDC 13 01:26:00.6±2.1, 40°.27N±0°.02×120°.39W±0°.02, h9km±5km, Md3.0/54, ML3.0/21(REN), ML2.8/56(NEIC), Error ellipse: s-maj=2.6km s-

EMB	**Emerald Bay**	**1.31 170**			Pn	01 26 24.2	-1.1
PNTR	**Pine Nut**	**1.33 152**	Pn		Pn	01 26 24.8	-0.7
PNTR			IAML			01 26 45.1	
	comp=N,181nm,0.5s						
PNTR			IAML			01 26 50.7	
	comp=E,163nm,1.3s						
LTCM	**Tuscan Springs**	**1.33 268**			Pn	01 26 25.1	-0.2
LSHM	**Sage Hen Hill**	**1.36 293**			Pn	01 26 25.2	-0.6
AFDM	**Forest Hills D**	**1.39 199**	Pn		Pn	01 26 25.4	-0.9
AFDM			IAML			01 26 47.9	
	comp=N,122nm,0.3s						
AFDM			IAML			01 26 48.3	
	comp=E,213nm,0.6s						
OSUM	**Sutter Buttes**	**1.50 229**			Pb	01 26 28.6	-0.1
YERR	**Yerington**	**1.56 145**	Pn		Pn	01 26 28.3	-0.4
M03C	**McCloud**	**1.65 308**			Pn	01 26 30.3	+0.3
GCK	**Clark Valley**	**1.73 246**			Pb	01 26 32.0	-0.6
GFC	**Funks Creek**	**1.74 238**			Pb	01 26 32.4	-0.3
GROM	**Round Mountain**	**1.78 259**			Pn	01 26 31.4	-0.3
GVV	**Valley View**	**1.82 255**			Pn	01 26 31.9	-0.4
O02D	**Mt. Diablo Mer**	**1.84 268**			Pn	01 26 31.8	-0.6
N02D	**Trinity Center**	**1.90 293**			Pn	01 26 34.1	+0.9
LBPM	**Beegum Peak**	**1.91 272**			Pn	01 26 33.9	+0.5
WAKR	**Walker**	**1.91 157**	Pn		Pn	01 26 34.2	+0.7
WAKR			IAML			01 27 02.4	
	comp=E,64nm,0.5s						
WAKR			IAML			01 27 03.7	
	comp=N,59nm,0.8s						
GTSM	**Trough Springs**	**1.95 241**			Pn	01 26 34.9	+0.8
LGPM	**Granite Peak**	**1.96 290**			Pn	01 26 34.0	-0.3
GHMM	**Hull Mountain**	**2.10 249**			Pb	01 26 37.9	-1.1
KVN	**Kaiserville**	**2.15 124**	Pn		Pn	01 26 36.4	-0.4
KVN			IAML			01 27 10.7	
	comp=E,68nm,0.8s						
KVN			IAML			01 27 11.5	
	comp=N,54nm,0.4s						
KBNM	**Bluenose Ridge**	**2.18 261**			Pb	01 26 39.2	-1.1
RYN	**Ryan**	**2.19 138**	Pn		Pn	01 26 36.2	-1.1
CMB	**Columbia Colle**	**2.23 180**	Pn		Pn	01 26 37.7	-0.1
CMB			IAML			01 27 10.8	
	comp=E,53nm,0.6s						
CMB			IAML			01 27 11.6	
	comp=N,64nm,0.4s						
YBH	**Yreka Blue Hor**	**2.28 311**	Pn		Pn	01 26 39.1	+0.5
MCUB	**Copperopolis B**	**2.30 185**			Pn	01 26 40.3	+1.6
GHLM	**Highland Sprin**	**2.37 240**			Pn	01 26 41.4	+1.6
DCMP	**DeCamp, Califo**	**2.40 252**			Pn	01 26 41.9	+1.7
L04D	**Klamath Falls**	**2.42 324**	Pn		Pn	01 26 41.0	+0.4
L04D			IAML			01 27 22.1	
	comp=E,46nm,1.3s						
BMN	**Battle Mountai**	**2.43 85**	Pn		Pn	01 26 39.5	-1.2
HOPS	**Hopland Field**	**2.43 239**			Pn	01 26 42.0	+1.5
HOPS	**Hopland Field**	**2.43 239**	IAML			01 26 58.0	
	comp=N,43nm,4.8s						
NVAR	**Mina Array Bea**	**2.45 138**	Pn		Pn	01 26 39.7	-1.3
K05A	**Summer Lake**	**2.48 351**	Pn		Pn	01 26 43.0	+1.6
LHV	**Little Huntoon**	**2.49 143**	Pn		Pn	01 26 41.0	-0.3
LHV			IAML			01 27 24.6	
	comp=E,65nm,0.8s						
NV11	**Mina Array Sit**	**2.52 136**	Pn		Pn	01 26 42.1	+0.2
NV11			IAML			01 27 21.6	
	comp=E,36nm,0.8s						
NV11			IAML			01 27 23.0	
	comp=N,35nm,0.8s						
OMMB	**Old Mammoth Mi**	**2.87 157**	Pn		Pn	01 26 44.6	-2.2
RCCR	**Rock Creek Can**	**3.07 154**			Pn	01 26 50.8	+1.2
HJSM	**John Smith Roa**	**3.52 192**			Pb	01 27 01.7	-1.3
GMN	**Gold Mountain**	**3.84 139**	Pn		Pn	01 27 00.1	0.0
ELK	**Elko**	**3.96 81**	Pn		Pn	01 27 01.6	-0.2
R11B	**Troy Canyon, C**	**4.19 116**	Pn		Pn	01 27 05.7	+0.8
R11B			IAML			01 28 15.2	
	comp=N,7.8nm,0.7s						
SGV	**South Grapevin**	**4.21 140**			Pn	01 27 06.6	+1.5
Q12A	**Willow Creek R**	**4.46 104**	Pn		Pn	01 27 09.9	+1.3
WCT	**Wildcat Mounta**	**4.56 138**	Pn		Pn	01 27 11.0	+1.2
TPNV	**Topopah Spring**	**4.64 134**	Pn		Pn	01 27 11.3	+0.3
TPNV			IAML			01 28 36.3	
	comp=N,11nm,3.3s						
SPR3	**Spring Creek 3**	**4.85 103**	Pn		Pn	01 27 14.5	+0.4
PTAM	**Tassajara Cree**	**4.87 183**			Pn	01 27 11.7	-2.5
AMDNV	**Amargosa**	**5.00 138**			Pn	01 27 18.0	+2.3
PRN	**Pahroc Range**	**5.05 123**	Pn		Pn	01 27 14.7	-2.0
SHPR	**Sheep Range**	**5.57 131**	Pn		Pn	01 27 22.5	-1.3
DUG	**Dugway, Tooele**	**5.80 88**	Pn		Pn	01 27 24.6	-2.4
SPUT	**South Promonto**	**6.12 78**	Pn		Pn	01 27 30.3	-1.0

*IDC **13** 01:39:05.4±0.7,5°.55N×32°.94W, h0km, mb3.9/16, mbtmp3.9/17, ML3.6/1, MS4.0/44, Error ellipse: s-maj=22.9km s-min=17.7km az=140.0*
*NEIC **13** 01:39:10.1±1.9,5°.7N±0°.1×32°.7W±0°.1, h10km±1km, mb4.6/49, Error ellipse: s-maj=25.5km s-min=15.7km az=149.0*
*GCMT **13** 01:39:13.1±0.3,5°.77N±0°.05×32°.87W±0°.03, h19km±1km, MW4.8/83, Moment Tensor Solution. s17,c19; s83,c107; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.18±.18; Mθθ=0.32±.11; Mφφ=1.86±.12; Mrθ=1.15±.32; Mθφ=-0.43±.07; Mφr=0.20±.23; Best double couple: Mo=2.31600×10¹⁶ NP1:φs=324.00000°, δ51.00000°, λ-119.00000°. NP2: φs=185.00000°, δ=48.00000°, λ=-59.00000°. Principal axes: T 1.9770, Plg2.0000°, Azm74.0000°; N 0.6750, Plg22.0000°, Azm344.0000°; P -2.6560, Plg68.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 01:39:08.5±0.5,5°.6N±0°.1×32°.75W±0°.08, h10km, n113, σ1s25/71, mb4.5/39, MS4.0/43, 1D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**11.81**	**195**	Pn	Pn	01 41 52.9	-4.3
	0.4nm,0.3s,baz=158,slow=9.0,SNR=1.8						
RCBR				LR	LR	01 45 15.8	
	comp=Z,488nm,21.4s,baz=38,slow=32						
	14nm,1.2s						
SACV	**Santiago Islan**	**12.92**	**43**	Pn	**Pn**	**01 42 11.4**	**-0.9**
MBO	**M'Bour**	**17.82**	**60**	Pn	**Pn**	**01 43 17.4**	**+0.7**
MBO	**M'Bour**	**17.82**	**60**		**Pn**	**01 43 17.8**	**+1.1**
MBO				IAmb	IAmb	01 43 41.4	
	comp=Z,52nm,1.0s						
H10N3	**ASCENSION HYDR**	**22.59**	**126**	T	T	02 07 37.4	
	baz=306,slow=74,SNR=197						
H10N2	**ASCENSION HYDR**	**22.60**	**126**	T	T	02 07 40.9	
	baz=306,slow=74,SNR=181						
H10N1	**ASCENSION HYDR**	**22.61**	**126**	T	T	02 07 34.6	
	baz=306,slow=74,SNR=237						
H10S3	**ASCENSION HYDR**	**23.13**	**129**	T	T	02 08 19.9	
	baz=305,slow=74,SNR=142						
H10S2	**ASCENSION HYDR**	**23.15**	**129**	T	T	02 08 21.3	
	baz=275,slow=74,SNR=37						
BDFB	**Brasilia**	**25.98**	**215**	P	**P**	**01 44 38.2**	**-3.6**
	comp=Z,2.2nm,1.0s,baz=148,slow=13,SNR=2.1						
BDFB				LR	LR	01 54 10.2	
	comp=Z,410nm,18.1s,baz=42,slow=35						
	comp=Z,2.2nm,1.0s						
DBIC	**Dimbokro**	**27.75**	**86**	P	**P**	**01 44 59.0**	**+1.3**
DBIC				IAmb	IAmb	01 45 37.0	
	comp=Z,22nm,1.4s						
DBIC	**Dimbokro**	**27.75**	**86**	P	**P**	**01 44 58.9**	**+1.2**
	comp=Z,3.9nm,0.8s,baz=265,slow=8.5,SNR=4.9						
DBIC				LR	LR	01 53 39.1	
	comp=Z,288nm,21.3s,baz=250,slow=31						
	comp=Z,3.9nm,0.8s						
BOAV	**Boa Vista**	**27.88**	**265**	P	**P**	**01 45 01.3**	**+2.4**
BOAV				IAmb	IAmb	01 45 09.9	
	comp=Z,10.0nm,1.1s						
H05S1	**Guadeloupe/Mar**	**28.97**	**290**	T	T	02 15 17.8	
	SNR=37						
H05N1	**Guadeloupe/Mar**	**29.70**	**293**	T	T	02 16 09.2	
	SNR=10						
PCRV	**Puerto La Cruz**	**31.89**	**280**	LR	LR	01 58 09.9	
	comp=Z,228nm,18.3s,slow=36						
PTLB	**Pontes e Lacer**	**33.49**	**231**	P	**P**	**01 45 49.5**	**+1.1**
PTLB				IAmb	IAmb	01 45 57.0	
	comp=Z,11nm,1.3s						
SAML	**Samuel**	**33.62**	**245**	P	**P**	**01 45 49.8**	**+0.3**
SAML				IAmb	IAmb	01 45 57.7	
	comp=Z,16nm,1.2s						
TOA0	**Torodi Ar. Sit**	**34.76**	**75**	P	**P**	**01 45 59.6**	**+0.2**
TOA0				IAmb	IAmb	01 46 02.7	
	comp=Z,7.6nm,1.1s						

TORD	**Torodi Ar. Bea**	**34.76**	**75**	P	**P**	**01 45 59.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**34.76**	**75**	P	**P**	**01 46 00.2**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=276,slow=8.2,SNR=19						
TORD				LR	LR	01 58 27.3	
	comp=Z,365nm,19.9s,baz=290,slow=33						
	comp=Z,2.6nm,0.8s						
BAUV	**El Baul**	**35.15**	**278**	P	**P**	**01 46 03.9**	**+1.1**
SIV	**San Ignacio**	**35.32**	**232**	LR	LR	01 59 35.0	
	comp=Z,296nm,19.7s,baz=80,slow=35						
ETMB	**Extrema**	**36.70**	**245**	P	**P**	**01 46 17.0**	**+0.9**
ETMB				IAmb	IAmb	01 46 23.8	
	comp=Z,14nm,1.3s						
MDT	**Midelt**	**37.67**	**41**	LR	LR	02 01 09.8	
	comp=Z,268nm,18.4s,baz=258,slow=35						
SDV	**Santo Domingo**	**37.70**	**277**	P	**P**	**01 46 25.2**	**+0.3**
SDV	**Santo Domingo**	**37.70**	**277**	LR	LR	02 01 31.1	
	comp=Z,135nm,20.6s,baz=115,slow=36						
CPUP	**Villa Florida**	**39.71**	**216**	P	**P**	**01 46 38.9**	**-2.4**
	comp=Z,1.8nm,0.8s,baz=18,slow=4.1,SNR=2.7						
CPUP				LR	LR	02 02 36.2	
	comp=Z,343nm,18.6s,baz=44,slow=36						
	comp=Z,1.8nm,0.8s						
LPAZ	**La Paz**	**41.22**	**238**	P	**P**	**01 46 54.4**	**-0.3**
ROSC	**El Rosal**	**41.40**	**271**	P	**P**	**01 46 57.5**	**+1.6**
ROSC				IAmb	IAmb	01 47 00.1	
	comp=Z,15nm,1.2s						
ROSC	**El Rosal**	**41.40**	**271**	LR	LR	02 05 25.5	
	comp=Z,222nm,18.2s,baz=68,slow=38						
CZSB	**Cruzeiro do Su**	**42.01**	**252**	P	**P**	**01 46 60.0**	**-0.5**
CZSB				IAmb	IAmb	01 47 02.7	
	comp=Z,26nm,1.2s						
ESDC	**Sonseca Array**	**42.68**	**33**	LR	LR	02 03 32.8	
	comp=Z,118nm,18.4s,baz=260,slow=34						
PB16	**IPOC Station P**	**43.37**	**236**	P	**P**	**01 47 11.4**	**-0.6**
LVC	**Limon Verde**	**45.15**	**230**	LR	LR	02 07 02.5	
	comp=Z,130nm,20.8s,baz=56,slow=37						
PB15	**IPOC Station P**	**45.91**	**230**	P	**P**	**01 47 33.5**	**+1.6**
BOSC	**San Juan Bosco**	**46.51**	**260**	P	**P**	**01 47 35.2**	**-1.6**
COHC	**Cochancay**	**47.14**	**261**	P	**P**	**01 47 40.5**	**-1.0**
ATAH	**Atahualpa**	**47.28**	**255**	LR	LR	02 07 56.8	
	comp=Z,364nm,18.4s,baz=45,slow=37						
KEST	**Kesra**	**48.89**	**46**	LR	LR	02 08 45.9	
	comp=Z,252nm,19.2s,baz=242,slow=36						
CFA	**Coronel Fontan**	**50.16**	**220**	LR	LR	02 08 09.4	
	comp=Z,104nm,20.4s,baz=116,slow=35						
CO01	**Juntas del Tor**	**50.35**	**223**	P	**P**	**01 48 08.3**	**+2.1**
CO01				IAmb	IAmb	01 48 15.1	
	comp=Z,14nm,1.3s						
VAE	**Valguarnera**	**53.32**	**47**	LR	LR	02 11 44.8	
	comp=Z,216nm,18.8s,baz=319,slow=37						
EKA	**Eskdalemuir Ar**	**54.94**	**20**	P	**P**	**01 48 39.1**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=207,slow=6.5,SNR=3.7						
	comp=Z,0.7nm,0.6s						
DAVOX	**Davos/Dischmat**	**54.97**	**35**	LR	LR	02 08 49.0	
	comp=Z,137nm,21.5s,baz=258,slow=32						
TSUM	**Tsumeb**	**55.35**	**118**	LR	LR	02 07 01.3	
	comp=Z,185nm,21.1s,baz=328,slow=30						
TKL	**Tuckaleechee C**	**55.50**	**310**	LR	LR	02 09 05.0	
	comp=Z,104nm,19.3s,baz=106,slow=32						
TEIG	**Tepich**	**55.77**	**291**	LR	LR	02 10 45.7	
	comp=Z,437nm,20.1s,baz=259,slow=34						
SADO	**Sadowa**	**56.13**	**322**	LR	LR	02 07 57.8	
	comp=Z,97nm,19.7s,baz=128,slow=31						
SCHQ	**Schefferville**	**56.20**	**337**	LR	LR	02 08 48.2	
	comp=Z,73nm,21.6s,baz=322,slow=32						
PLCA	**Paso Flores**	**57.70**	**213**	LR	LR	02 13 23.4	
	comp=Z,287nm,20.4s,baz=36,slow=36						
GERES	**GERESS Array B**	**58.26**	**34**	P	**P**	**01 49 04.9**	**+1.5**
GERES	**GERESS Array B**	**58.26**	**34**	P	**P**	**01 49 03.8**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=242,slow=6.6,SNR=3.1						
GERES				LR	LR	02 13 01.5	
	comp=Z,76nm,18.4s,baz=222,slow=35						
	comp=Z,1.0nm,0.8s						
VRAC	**Vranov**	**60.13**	**35**	LR	LR	02 13 17.0	
	comp=Z,95nm,20.1s,baz=304,slow=34						
IDI	**Anoyia**	**60.54**	**53**	LR	LR	02 15 51.4	
	comp=Z,148nm,21.6s,baz=279,slow=36						
CMIG	**Matias Romero**	**61.75**	**286**	LR	LR	02 17 48.1	
	comp=Z,65nm,18.7s,baz=22,slow=38						
SUR	**Sutherland**	**63.37**	**130**	LR	LR	02 10 43.6	
	comp=Z,70nm,21.6s,baz=312,slow=30						
LSZ	**Lusaka**	**63.83**	**110**	LR	LR	02 14 02.8	
	comp=Z,72nm,19.1s,baz=300,slow=33						
NBO00	**NORSAR Array S**	**64.13**	**22**	P	**P**	**01 49 42.5**	**-0.3**
NOA	**NORSAR Array B**	**64.30**	**22**	LR	LR	02 15 11.9	
	comp=Z,75nm,19.0s,baz=300,slow=34						
MLR	**Muntele Rosu**	**64.34**	**42**	P	**P**	**01 49 45.9**	**+1.2**
MLR	**Muntele Rosu**	**64.34**	**42**	P	**P**	**01 49 42.5**	**-2.2**
	comp=Z,1.7nm,0.8s,baz=280,slow=17,SNR=1.5						
MLR				LR	LR	02 17 10.5	
	comp=Z,80nm,18.8s,baz=250,slow=35						
	comp=Z,1.7nm,0.8s						
LBTB	**Lobatse**	**64.35**	**121**	LR	LR	02 12 27.7	
	comp=Z,84nm,21.2s,baz=293,slow=31						
HFS	**Hagfors**	**64.69**	**24**	P	**P**	**01 49 44.2**	**-2.3**
	comp=Z,3.1nm,0.9s,baz=153,slow=8.1,SNR=1.6						
	comp=Z,3.1nm,0.9s						
BOSA	**Boshof**	**65.34**	**125**	P	**P**	**01 49 50.5**	**-1.1**
	comp=Z,3.1nm,0.8s,baz=28,slow=15,SNR=2.8						
BOSA				LR	LR	02 12 03.1	
	comp=Z,107nm,21.8s,baz=328,slow=30						
	comp=Z,3.1nm,0.8s						
833A	**Chaparral WMA,**	**66.81**	**298**	P	**P**	**01 50 01.2**	**+0.4**
HNDO	**Hondo**	**66.84**	**300**	P	**P**	**01 50 01.7**	**+0.6**
HNDO				IAmb	IAmb	01 50 16.5	
	comp=Z,4.1nm,0.7s						
EIL	**Elat**	**67.88**	**60**	LR	LR	02 20 20.1	
	comp=Z,126nm,20.3s,baz=253,slow=36						
DRIO	**Del Rio**	**67.99**	**299**	P	**P**	**01 50 09.9**	**+1.6**
DRIO				IAmb	IAmb	01 50 15.9	
	comp=Z,7.5nm,0.4s						
AKASG	**Malin Array Be**	**68.13**	**37**	P	**P**	**01 50 08.1**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=252,slow=6.9,SNR=5.1						
	comp=Z,0.5nm,0.4s						
MMAI	**Mount Meron Ar**	**68.66**	**57**	LR	LR	02 24 28.2	
	comp=Z,42nm,18.4s,baz=272,slow=40						
KMBO	**Kilima Mbogo**	**70.22**	**93**	LR	LR	02 18 56.1	
	comp=Z,116nm,18.8s,baz=337,slow=34						
MSTX	**Muleshoe**	**70.32**	**304**	P	**P**	**01 50 23.1**	**+0.3**
FINES	**FINESS Array B**	**70.55**	**26**	P	**P**	**01 50 23.5**	**0.0**
	comp=Z,4.7nm,1.0s,baz=225,slow=5.1,SNR=2.2						
	comp=Z,4.7nm,1.0s						
TXAR	**Lajitas Array**	**70.63**	**299**	P	P	01 50 21.4	-3.4
	comp=Z,0.2nm,0.9s,baz=90,slow=7.2,SNR=1.8						
TXAR				LR	LR	02 18 10.4	
	comp=Z,26nm,21.7s,baz=26,slow=33						
	comp=Z,0.2nm,0.9s						
425A	**Indio Mountain**	**71.88**	**300**	P	**P**	**01 50 32.9**	**+0.5**
Q24A	**Divide**	**72.80**	**309**	P	**P**	**01 50 38.6**	**+0.7**
Q24A				IAmb	IAmb	01 51 07.3	
	comp=Z,11nm,1.5s						
ANMO	**Albuquerque**	**73.44**	**305**	LR	LR	02 18 37.4	
	comp=Z,144nm,21.7s,baz=160,slow=32						
O20A	**White River Ci**	**75.30**	**310**	P	**P**	**01 50 53.2**	**+0.8**
O20A				IAmb	IAmb	01 51 14.7	
	comp=Z,5.7nm,1.1s						
PDAR	**Pinedale Array**	**76.52**	**312**	P	**P**	**01 50 59.0**	**-0.3**
PDAR	**Pinedale Array**	**76.52**	**312**	P	**P**	**01 50 58.1**	**-1.2**
	comp=Z,0.7nm,0.9s,baz=97,slow=5.7,SNR=3.3						
	comp=Z,0.7nm,0.9s						
LOHW	**Long Hollow**	**77.34**	**313**	P	**P**	**01 51 04.1**	**+0.1**
LOHW				IAmb	IAmb	01 51 06.7	
	comp=Z,5.6nm,1.4s						
X16A	**Lo Mia Camp, P**	**77.52**	**304**	P	**P**	**01 51 05.2**	**+0.2**
YFT	**Old Faithful**	**77.58**	**314**	P	**P**	**01 51 07.0**	**+1.7**
YFT				IAmb	IAmb	01 51 10.3	
	comp=Z,9.1nm,1.3s						
TPAW	**Teton Pass**	**77.59**	**313**	P	**P**	**01 51 06.2**	**+0.7**
TPAW				IAmb	IAmb	01 51 08.4	
	comp=Z,7.0nm,1.3s						
IMW	**Indian Meadow**	**77.61**	**314**	P	**P**	**01 51 05.4**	**-0.1**
IMW				IAmb	IAmb	01 51 18.5	
	comp=Z,4.8nm,1.2s						
YMR	**Madison River**	**77.68**	**314**	P	**P**	**01 51 07.6**	**+1.7**
YMR				IAmb	IAmb	01 51 08.7	
	comp=Z,8.8nm,1.2s						
HWUT	**Hardware Ranch**	**77.92**	**311**	P	**P**	**01 51 07.5**	**+0.2**
HWUT				IAmb	IAmb	01 51 32.2	
	comp=Z,4.6nm,1.2s						
MTPU	**Mount Pierson**	**78.24**	**308**	P	**P**	**01 51 08.8**	**-0.4**
CCUT	**Cedar City**	**79.16**	**307**	P	**P**	**01 51 13.3**	**-0.8**
OVMT	**Ovando**	**79.26**	**317**	P	**P**	**01 51 14.7**	**+0.2**
PRN	**Pahroc Range**	**80.50**	**307**	P	**P**	**01 52 22.5**	**+1.2**
PRN				IAmb	IAmb	01 51 24.8	
	comp=Z,8.2nm,1.4s						
ELK	**Elko**	**80.67**	**310**	LR	LR	02 25 06.8	
	comp=Z,75nm,19.8s,baz=40,slow=34						

RPN	**Rapa Nui**	**80.70**	**241**	LR	LR	02 23 25.6	
	comp=Z,94nm,20.4s,baz=360,slow=33						
R11B	**Troy Canyon, C**	**80.92**	**308**	P	**P**	**01 51 24.0**	**+0.3**
YKA	**Yellowknife Ar**	**81.27**	**332**	P	**P**	**01 51 23.9**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=94,slow=5.6,SNR=2.7						
YKA				LR	LR	02 24 58.1	
	comp=Z,66nm,19.0s,baz=341,slow=34						
	comp=Z,0.2nm,0.7s						
PFO	**Pinyon Flats O**	**81.68**	**303**	LR	LR	02 24 08.8	
	comp=Z,61nm,20.6s,baz=62,slow=33						
WCT	**Wildcat Mounta**	**81.76**	**306**	P	**P**	**01 51 29.3**	**+1.3**
GWY	**Greenwater Val**	**81.80**	**306**	P	**P**	**01 51 29.8**	**+1.4**
GWY				IAmb	IAmb	01 51 34.6	
	comp=Z,5.8nm,1.3s						
QSM	**Queen of Sheba**	**81.97**	**305**	P	**P**	**01 51 28.9**	**-0.1**
QSM				IAmb	IAmb	01 51 32.9	
	comp=Z,7.8nm,1.4s						
BMN	**Battle Mountai**	**82.18**	**310**	P	**P**	**01 51 30.1**	**-0.2**
BMN				IAmb	IAmb	01 51 54.3	
	comp=Z,7.1nm,1.5s						
BMO	**Blue Mountains**	**82.20**	**314**	P	**P**	**01 51 31.5**	**+1.3**
TPH	**Tonopah**	**82.21**	**308**	P	**P**	**01 51 31.0**	**+0.5**
NVAR	**Mina Array Bea**	**83.06**	**308**	P	**P**	**01 51 34.0**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=72,slow=4.8,SNR=4.3						
NVAR				LR	LR	02 29 03.0	
	comp=Z,21nm,18.0s,baz=66,slow=36						
	comp=Z,0.2nm,0.4s						
LHV	**Little Huntoon**	**83.22**	**308**	P	**P**	**01 51 35.8**	**+0.4**
BELA	**Belgrano 2**	**83.39**	**180**	P	**P**	**01 51 36.1**	**+0.6**
PNTR	**Pine Nut**	**84.04**	**309**	P	**P**	**01 51 41.1**	**+1.1**
PNTR				IAmb	IAmb	01 51 46.5	
	comp=Z,5.5nm,1.2s						
ELIB	**Princess Elisa**	**85.38**	**165**	*d*P	**P**	**01 51 48.6**	**+2.7**
	comp=Z,1.5nm,1.5s						
L02F	**Cave Junction**	**86.88**	**312**	P	**P**	**01 51 54.9**	**+1.1**
ILAR	**Eielson Array**	**94.96**	**337**	P	**P**	**01 52 30.2**	**-0.8**
	comp=Z,0.5nm,1.0s,baz=65,slow=5.1,SNR=2.2						
	comp=Z,0.5nm,1.0s						
AAK	**Ala-Archa**	**98.74**	**45**	LR	LR	02 42 42.0	
	comp=Z,31nm,18.9s,baz=324,slow=39						
PZH	**PanZhiHua**	**125.58**	**52**	PKP	**PKPdf**	**01 58 11.4**	**+0.3**
ASAR	**Alice Springs**	**157.94**	**146**	PKP	**PKPdf**	**01 59 03.6**	**-3.0**
	comp=Z,0.4nm,0.9s,baz=273,slow=1.7,SNR=1.4						

IDC 13 01:49:20.5±1.6,7°.66S×127°.37E, h0km, mb3.7/3, mbtmp3.6/5, ML3.7/2, MS3.4/3, Error ellipse: s-maj=274.8km s-min=24.8km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.95**	**152**	Pn	Pn	01 52 38.0	-1.7
	0.4nm,0.3s,baz=326,slow=14,SNR=16						
WRA				Sn	Sn	01 55 02.7	-13
	0.6nm,0.3s,baz=335,slow=22,SNR=8.4						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**17.10**	**159**	P	P	01 53 22.9	-0.1
	0.2nm,0.3s,baz=342,slow=9.9,SNR=9.9						
ASAR				S	Sn	01 56 21.6	-10
	0.2nm,0.3s,baz=317,slow=18,SNR=3.2						
	0.6nm,0.6s						
LEM	**Lembang**	**19.61**	**271**	LR	LR	02 02 57.2	
	comp=Z,32nm,20.4s,baz=298,slow=42						
STKA	**Stephens Creek**	**27.50**	**153**	P	P	01 55 08.6	-0.1
	2.5nm,1.1s,baz=330,slow=8.1,SNR=2.9						
	2.5nm,1.1s						
MKAR	**Makanchi Array**	**67.38**	**328**	P	P	02 00 17.9	+0.2
	0.1nm,0.4s,baz=116,slow=6.5,SNR=1.8						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**71.74**	**330**	P	P	02 00 44.4	-0.1
	0.3nm,0.3s,baz=122,slow=7.3,SNR=1.9						
KURBB				LR	LR	02 32 20.6	
	comp=Z,49nm,20.9s,baz=166,slow=36						
	0.3nm,0.3s						
MAW	**Mawson**	**73.39**	**201**	LR	LR	02 30 18.9	
	comp=Z,36nm,18.0s,baz=252,slow=34						

*IDC **13** 01:52:24.5±2.3,41°.81N×47°.73E, h0km, mb3.4/4, mbtmp3.5/8, ML3.1/4, MS3.3/1, Error ellipse: s-maj=37.4km s-min=12.7km az=7.0*
*AZER **13** 01:52:35.1±0.3,42°.22N×48°.16E, h43km±7km, Error ellipse: s-maj=15.0km s-min=3.3km az=13.0*
*TIF **13** 01:52:37.0,42°.09N×48°.30E, h70km±1km*
*MOS **13** 01:52:36.8,42°.10N×48°.37E, h60km±2km, MPVA4.3*
*DRS **13** 01:52:37.8,42°.13N×48°.85E, h26km*

ISC 13 01:52:35.7±0.7,42°.14N±0°.03×48°.42E±0°.04, h76km±5km, n99, σ2s41/176, mb3.1/4, 11C-4D, Caspian Sea

| Code |

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MAK				e		01 53 12.2	
MAK				pmax	pmax		
	comp=Z,52nm,0.2s						
MAK				smax	smax		
	comp=E,495nm,0.4s						
MAK				smax	smax		
	comp=E,709nm,0.4s						
MAK	Makhachkala	1.06	321	ePg	Pn	01 52 57.2	+1.9
MAK				eSg	Sn	01 53 12.4	+2.5
SIZA	Siyzn	1.12	161	P	Pn	01 52 58.6	+2.4
	SNR=46						
SIZA				S	Sn	01 53 16.8	+5.4
ARKR	Arakani	1.15	294	eP	Pn	01 52 58.2	+1.8
ARKR				eS	Sn	01 53 14.3	+2.4
ARKR				eS		01 53 14.6	
ARKR				pmax	pmax		
	comp=Z,21nm,0.2s						
ARKR				smax	smax		
	comp=N,194nm,0.4s						
ARKR				smax	smax		
	comp=E,126nm,0.3s						
ARKR				smax	smax		
	comp=N,158nm,0.5s						
ARKR	Arakani	1.15	294	ePg	Pn	01 52 58.2	+1.8
	comp=N,20nm,0.2s						
ARKR				eSg	Sn	01 53 14.4	+2.4
	comp=N,753nm,0.6s						
BUJR	Buynaksk	1.19	306	eP	Pn	01 52 58.9	+2.1
BUJR				eS	Sn	01 53 15.9	+3.2
BUJR				eS		01 53 17.3	
BUJR				pmax	pmax		
	comp=Z,31nm,0.3s						
BUJR				smax	smax		
	comp=N,729nm,0.5s						
BUJR				smax	smax		
	comp=E,753nm,0.6s						
BUJR				smax	smax		
	comp=E,369nm,0.9s						
BUJR	Buynaksk	1.19	306	ePg	Pn	01 52 58.9	+2.1
	comp=E,30nm,0.3s						
BUJR				eSg	Sn	01 53 15.9	+3.2
	comp=E,152nm,0.4s						
KANR	Karaman	1.26	327	⇑iP	Pn	01 52 59.9	+2.2
KANR				eS	Sn	01 53 16.8	+2.6
KANR	Karaman	1.26	327	ePg	Pn	01 53 00.5	+2.8
KANR				eSg	Sn	01 53 19.1	+4.9
QBL	Gabala	1.27	200	P	Pn	01 52 59.1	+1.2
	SNR=20						
QBL				S	Sn	01 53 16.9	+2.3
SEKA	Sheki	1.30	225	P	Pn	01 52 59.7	+1.4
	SNR=35						
SEKA				S	Sn	01 53 18.3	+2.9
SEKA	Sheki	1.30	225	P	Pn	01 52 59.8	+1.4
KRNR	Karanay	1.31	302	⇑iP	Pn	01 53 00.6	+2.1
KRNR				eS	Sn	01 53 18.2	+2.5
KRNR				eS		01 53 19.1	
KRNR				pmax	pmax		
	comp=Z,23nm,0.1s						
KRNR				smax	smax		
	comp=N,183nm,0.2s						
KRNR				smax	smax		
	comp=E,153nm,0.4s						
KRNR	Karanay	1.31	302	ePg	Pn	01 53 00.6	+2.1
	comp=E,23nm,0.1s						
KRNR				eSg	Sn	01 53 18.2	+2.5
	comp=E,291nm,0.5s						
HNZR	Khunzah	1.33	289	eP	Pn	01 53 00.9	+2.1
HNZR				eS	Sn	01 53 19.5	+3.4
HNZR				eS		01 53 19.9	
HNZR				pmax	pmax		
	comp=Z,37nm,0.4s						
HNZR				smax	smax		
	comp=E,122nm,0.5s						
HNZR				smax	smax		
	comp=N,128nm,0.5s						
UNCR	Uncukul	1.33	296	eP	Pn	01 53 01.1	+2.4
UNCR				eS	Sn	01 53 19.0	+3.0
UNCR				eS		01 53 19.8	
UNCR				pmax	pmax		
	comp=Z,31nm,0.3s						
UNCR				smax	smax		
	comp=E,155nm,0.4s						
UNCR				smax	smax		
	comp=N,291nm,0.5s						
UNCR				smax	smax		
	comp=N,225nm,0.4s						
UNCR	Uncukul	1.33	296	ePg	Pn	01 53 01.1	+2.4
	comp=N,30nm,0.3s						
UNCR				eSg	Sn	01 53 19.1	+3.0
	comp=N,122nm,0.5s						
XNZR	Khunzakh	1.33	288	ePg	Pn	01 53 01.0	+2.2
	comp=N,37nm,0.4s						
XNZR				eSg	Sn	01 53 19.6	+3.3
	comp=N,564nm,0.5s						
ATGJ	Altiaghaj	1.34	163	Pn	Pn	01 53 02.3	+3.4
	SNR=46						
ATGJ				Sn	Sn	01 53 23.2	+7.0
PQL	Pirkuli	1.36	174	Pn	Pn	01 53 00.9	+1.7
	SNR=25						
PQL				Sn	Sn	01 53 19.5	+2.7
IML	Ismayilli	1.36	188	Pn	Pn	01 53 00.4	+1.3
	SNR=16						
IML				Sn	Sn	01 53 19.0	+2.4
ZKTA	Zakatala	1.43	250	P	Pn	01 53 01.9	+1.9
	SNR=34						
ZKTA				S	Sn	01 53 21.5	+3.2
ZKTA	Zakatala	1.43	250	P	Pn	01 53 01.9	+1.9
DBC	Dubki	1.47	307	⇑eP	Pn	01 53 02.3	+1.8
DBC				eS	Sn	01 53 21.7	+2.5
DBC				pmax	pmax		
	comp=Z,13nm,0.2s						
DBC				smax	smax		
	comp=N,163nm,0.4s						
DBC	Dubki	1.47	307	ePg	Pn	01 53 02.4	+1.9
DBC				eSg	Sn	01 53 21.6	+2.5
DLMR	Dylym	1.61	306	eP	Pn	01 53 05.5	+3.1
DLMR				eS	Sn	01 53 26.9	+4.4
DLMR				eS		01 53 27.4	
DLMR				pmax	pmax		
	comp=Z,55nm,0.2s						
DLMR				smax	smax		
	comp=N,63nm,0.4s						
DLMR				smax	smax		
	comp=E,1μm,0.3s						
DLMR				smax	smax		
	comp=N,1μm,0.4s						
DLMR				smax	smax		
	comp=E,1μm,0.4s						
DLMR	Dylym	1.61	306	ePg	Pn	01 53 05.2	+2.8
DLMR				eSg	Sn	01 53 26.4	+3.9
GBS	Qobustan	1.65	166	Pn	Pn	01 53 06.0	+3.1
	SNR=10						
GBS				Sn	Sn	01 53 29.6	+6.0
MNGR	Mingechevir, A	1.69	217	Pn	Pn	01 53 05.0	+1.6
MNGR				Sn	Sn	01 53 26.8	+2.4
BTLR	Botlikh	1.71	289	deP	Pn	01 53 06.2	+2.5
BTLR				eS	Sn	01 53 27.1	+2.3
BTLR				pmax	pmax		
	comp=Z,19nm,0.5s						
BTLR	Botlikh	1.71	289	ePg	Pn	01 53 06.1	+2.5
BTLR				eSg	Sn	01 53 27.2	+2.3
DVE	Vedeno	1.88	297	eP	Pn	01 53 08.6	+2.7
DVE				eS	Sn	01 53 31.6	+2.7
DVE				pmax	pmax		
	comp=Z,22nm,0.1s						
DVE	Vedeno	1.88	297	ePg	Pn	01 53 09.2	+3.2
DVE				eSg	Sn	01 53 32.3	+3.4
ZRD	Zardab	1.94	197	Pn	Pn	01 53 07.8	+1.1
ZRD				Sn	Sn	01 53 32.4	+2.2
BRDA	Brd	2.10	207	Pn	Pn	01 53 10.1	+1.4
	SNR=22						
BRDA				Sn	Sn	01 53 37.3	+3.4
GANJ	Ganja	2.17	227	Pn	Pn	01 53 09.7	-0.1
	SNR=38						
GANJ				Sn	Sn	01 53 35.5	-0.3
GANJ	Ganja	2.17	227	P	Pn	01 53 09.7	-0.1
AGDM	Agdam	2.26	206	Pn	Pn	01 53 11.7	+0.8
	SNR=51						
AGDM				Sn	Sn	01 53 39.4	+1.5
GDB	GEDABAY	2.45	236	Pn	Pn	01 53 13.1	-0.6
	SNR=121						
GDB				Sn	Sn	01 53 41.6	-1.3
QZX	Qazax, Azerbai	2.53	246	Pn	Pn	01 53 14.6	0.0
	SNR=105						
QZX				Sn	Sn	01 53 44.5	+0.1
QRD	Qoradiz	2.80	198	Pn	Pn	01 53 17.7	-0.6
QRD				Sn	Sn	01 53 50.0	-1.0
GLBA	Clilabad	2.90	180	Pn	Pn	01 53 20.8	+1.3
	SNR=14						
GLBA				Sn	Sn	01 53 54.3	+1.0
GUDG	Gudauri	2.94	278	ePn	Pn	01 53 23.0	+2.6
GUDG				eSn	Sn	01 53 54.1	-0.6
LACR	Lac	3.12	284	ePn	Pn	01 53 23.9	+1.1
LACR				eSn	Sn	01 53 59.0	0.0
YRD	Yardimli	3.22	182	Pn	Pn	01 53 24.6	+0.4
	SNR=5.7						
YRD				Sn	Sn	01 53 59.9	-1.7
ZEI	Tsey	3.40	282	ePn	Pn	01 53 28.2	+1.6
ZEI				eSn	Sn	01 54 05.8	-0.1
GNI	Garni	3.41	236	⇑eP	Pn	01 53 27.9	+1.2
GNI				i S	Sn	01 54 11.5	+5.3
GNI				pmax	pmax		
	comp=Z,10.0nm,1.8s						
GNI	Garni	3.41	236	ePn	Pn	01 53 28.3	+1.6
GNI				eSn	Sn	01 54 05.1	-1.1
STDR	Stavd-Durt	3.43	292	ePn	Pn	01 53 28.2	+1.4
STDR				eSn	Sn	01 54 08.0	+1.6
LKRN	Lenkeran, Azer	3.44	175	Sn	Sn	01 54 06.2	-0.3
LRK	Lerik	3.49	181	Pn	Pn	01 53 28.1	+0.3
	SNR=4.6						
LRK				Sn	Sn	01 54 08.4	+0.3
SBZ	Shahbuz	3.50	219	Pn	Pn	01 53 28.9	+1.1
SBZ				Sn	Sn	01 54 07.8	-0.4
ASTR	Astara	3.59	175	Pn	Pn	01 53 28.7	-0.2
	SNR=15						
ASTR				Sn	Sn	01 54 09.3	-0.8
ORD	Ordubad	3.70	211	Pn	Pn	01 53 31.5	+0.9
ORD				Sn	Sn	01 54 13.8	+0.7
KBTC	Kuba-Taba	4.04	296	ePn	Pn	01 53 37.9	+2.8
KBTC				eSn	Sn	01 54 20.6	-0.6
PYA1	Pyatigorsk	4.34	298	⇑eP	Pn	01 53 42.1	+2.8
PYA1	Pyatigorsk	4.34	298	ePn	Pn	01 53 41.6	+2.4
PYA1				eSn	Sn	01 54 26.0	-2.7
KBZ	Khabaz	4.35	293	⇑eP	Pn	01 53 41.8	+2.5
KBZ	Khabaz	4.35	293	ePn	Pn	01 53 40.8	+1.5
KBZ				eSn	Sn	01 54 26.0	-2.7
KBZ	Khabaz	4.35	293	Pg	Pn	01 53 38.9	-0.4
	comp=Z,0.1nm,0.3s,baz=131,slow=5.3,SNR=1.4						
KBZ				Lg	Lg	01 54 26.0	
	comp=Z,0.3nm,0.3s,baz=139,slow=19,SNR=1.5						
NEUR	Neytrino	4.36	287	ePn	Pn	01 53 41.1	+1.5
NEUR				eSn	Sn	01 54 29.3	+0.1
BEYR	Belyy Ugol+	4.51	296	ePn	Pn	01 53 40.7	-0.8
BEYR				eSn	Sn	01 54 30.1	-2.6
SHA1	Shidzhatmaz	4.52	293	⇓eP	Pn	01 53 42.8	+1.0
SHA1	Shidzhatmaz	4.52	293	ePn	Pn	01 53 43.1	+1.3
SHA1				eSn	Sn	01 54 30.7	-2.6
KVAR	Kislovodsk Arr	4.57	295	Pg	Pn	01 53 45.5	+3.1
	baz=143,slow=23						
KVAR				Lg	Lg	01 54 29.7	
	baz=183,slow=5.6						
KIV	Kislovodsk	4.58	295	eP	Pn	01 53 44.5	+2.0
KIV				eS	Sn	01 54 38.1	+3.7
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KIV	Kislovodsk	4.58	295	ePn	Pn	01 53 44.8	+2.4
KIV				eSn	Sn	01 54 31.4	-2.9
ALER	Alexandrovskoy	4.79	305	ePn	Pn	01 53 47.5	+2.2
ALER				eSn	Sn	01 54 37.4	-2.1
GEYT	Alibeck	8.54	116	Pn	Pn	01 54 36.2	-0.5
	comp=Z,0.2nm,0.3s,baz=306,slow=12,SNR=1.1						
GEYT				Sn	Sn	01 56 07.2	-4.2
	comp=Z,0.2nm,0.3s,baz=78,slow=37,SNR=1.2						
	comp=Z,0.4nm,0.3s						
AKTO	Aktyubinsk	10.62	35	P	Pn	01 55 04.9	+0.1
AKTO				S	Sn	01 56 55.8	-6.1
AKTO	Aktyubinsk	10.62	35	Pn	Pn	01 55 04.1	-0.7
	comp=Z,0.9nm,0.3s,baz=215,slow=7.5,SNR=16						
AKTO				Sn	Sn	01 56 53.6	-8.2
	comp=Z,0.9nm,0.3s,baz=262,slow=23,SNR=7.7						
	comp=Z,1.9nm,0.3s						
AKTO	Aktyubinsk	10.62	35	⇑Pn	Pn	01 55 04.9	+0.1
	comp=Z,1.0nm,0.4s						
AKTO				⇓Sn	Sn	01 56 55.8	-6.1
	comp=Z,2.2nm,0.7s						
AB31	Akbulak array	10.74	45	P	Pn	01 55 05.8	-0.7
AB31				S	Sn	01 57 00.3	-4.6
AB31	Akbulak array	10.74	45	Pn	Pn	01 55 05.8	-0.7
	comp=Z,0.3nm,0.3s,baz=223,slow=12,SNR=37						
AB31				⇑Sn	Sn	01 57 00.3	-4.6
	comp=Z,0.7nm,0.3s,baz=222,slow=22,SNR=6.3						
ARU	Arti	15.73	21	Pn	Pn	01 56 10.6	-1.9
	comp=Z,0.4nm,0.3s,baz=263,slow=13,SNR=3.1						
	comp=Z,0.8nm,0.3s						
BRVK	Borovoye	18.27	46	⇓eP	Pn	01 56 45.3	+1.5
BRVK				pmax	pmax		
	comp=Z,8.0nm,2.2s						
BVAR	Borovoye Array	18.31	46	P	Pn	01 56 45.6	+1.3
	comp=Z,0.1nm,0.3s,baz=226,slow=11,SNR=3.0						
	comp=Z,0.4nm,0.3s						
AAK	Ala-Archa	19.25	80	⇑eP	Pn	01 56 56.9	+1.2
AAK				pmax	pmax		
	comp=Z,4.0nm,1.8s						
KURBB	Kurchatov Arra	22.32	57	P	P	01 57 29.2	+2.4
	comp=Z,0.6nm,0.8s,baz=262,slow=10,SNR=2.6						
	comp=Z,0.6nm,0.8s						
KURK	Kurchatov	22.39	57	P	P	01 57 29.2	+1.6
FINES	FINESS Array B	23.54	333	P	P	01 57 38.1	-0.7
	comp=Z,2.3nm,0.9s,baz=134,slow=9.8,SNR=4.0						
	comp=Z,2.3nm,0.9s						
MKAR	Makanchi Array	24.50	67	P	P	01 57 49.3	+1.6
	comp=Z,0.3nm,0.6s,baz=260,slow=7.0,SNR=2.7						
	comp=Z,0.3nm,0.6s						
ZALV	Zalesovo Beam	26.74	51	P	P	01 58 10.6	+2.7
	comp=Z,0.2nm,0.3s,baz=260,slow=8.9,SNR=1.7						
	comp=Z,0.2nm,0.3s						
TORD	Torodi Ar. Bea	49.63	249	LR	LR	02 27 54.4	
	comp=Z,31nm,19.0s,baz=320,slow=43						

KRSC ***13*** *02:00:36.0±0.7, 55°.74N×161°.49E, h99km±12km, Mc5.3, Ml5.3*

MOS ***13*** *02:00:37.2±1.1, 55°.81N×161°.19E, h105km, mb4.9/62, Error ellipse: s-maj=6.6km s-min=3.4km az=86.6*

BJI ***13*** *02:00:37.3, 55°.80N×161°.10E, h117km, mb4.8/46, mB5.3/22*

IDC ***13*** *02:00:38.6±1.1, 55°.82N×161°.09E, h104km±9km, mb4.4/33, mbtmp4.8/39, MS3.6/31, Error ellipse: s-maj=10.1km s-min=7.6km az=138.0*

NEIC ***13*** *02:00:39.1±1.7, 55°.78N±0°.08×161°.1E±0°.1, h109km±4km, mb4.8/317, Error ellipse: s-maj=12.2km s-min=8.6km az=145.0*

GCMT ***13*** *02:00:41.1±0.3, 55°.87N±0°.03×161°.41E±0°.03, h83km±3km, MW5.0/96, Moment Tensor Solution. s22,c24; s96,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.84±.15; $M_{\theta\theta}$-4.17±.14; $M_{\phi\phi}$2.33±.16; $M_{r\theta}$0.23±.11; $M_{\theta\phi}$-1.33±.15; $M_{\phi r}$1.35±.07; Best double couple: $M_0$4.01600×10^{16} NP1:ϕ_s41.00000°, δ68.00000°, λ31.00000°. NP2: ϕ_s298.00000°, δ61.00000°, λ155.00000°. Principal axes: T 3.5610, Plg37.0000°, Azm262.0000°; N 0.9100, Plg53.0000°, Azm72.0000°; P -4.4710, Plg5.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 02:00:38.5±0.3**, 55°.76N**±0°.03×**161°.32E**±0°.03**, h103**km±2km**, h103**km**:pP-P, n1042,** σ**1.27**/1024**, mb4.8**/273**, 46C-30D,**
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	Zelenaya	0.39	311	eP	Pn	02 00 53.0	-1.0
ZLN	Zelenaya	0.39	311	PN	Pn	02 00 53.0	-1.0
BZP	Bezymyannyi-Pe	0.47	289	i P	Pn	02 00 53.2	-1.3
CIRR	Tsirk	0.48	318	eP	Pn	02 00 53.6	-1.0
CIRR	Tsirk	0.48	318	PN	Pn	02 00 53.6	-1.0
LGNR	Loginova	0.48	312	eP	Pn	02 00 54.0	-0.8
LGNR	Loginova	0.48	312	PN	Pn	02 00 54.0	-0.8
BZWR	Bezymyannyi-We	0.51	294	i P	Pn	02 00 53.5	-1.3
BZWR	Bezymyannyi-We	0.51	294	PN	Pn	02 00 53.5	-1.3
KIRR	Kirishev	0.58	289	eP	Pn	02 00 53.9	-1.5
KIRR	Kirishev	0.58	289	PN	Pn	02 00 53.9	-1.5
KMNR	Kamenistaya	0.61	270	eP	Pn	02 00 54.4	-1.2
KMNR	Kamenistaya	0.61	270	PN	Pn	02 00 54.4	-1.2
KRSR	Krestovskiy	0.62	317	eP	Pn	02 00 54.5	-1.1
KRSR	Krestovskiy	0.62	317	PN	Pn	02 00 54.5	-1.1
KPT	Kopyto	0.65	289	i P	Pn	02 00 54.5	-1.3
KPT				eS	Sn	02 01 07.6	-1.3
KPT	Kopyto	0.65	289	PN	Pn	02 00 54.5	-1.3
KPT				S	Sn	02 01 07.6	-1.3
KLY	Klyuchi	0.67	326	eP	Pn	02 00 54.3	-1.6
KLY				eS	Sn	02 01 06.9	-2.0
KLY	Klyuchi	0.67	326	PN	Pn	02 00 54.3	-1.6
KLY				S	Sn	02 01 06.9	-2.0
TUMD	Tumrok D	0.77	223	eP	Pn	02 00 55.2	-1.6
TUMD				eS	Sn	02 01 08.4	-2.2
BDR	Baidarnaya	0.81	356	eP	Pn	02 00 56.6	-0.7
BDR	Baidarnaya	0.81	356	PN	Pn	02 00 56.6	-0.7
TUMR	Tumrok	0.82	235	PN	Pn	02 00 55.2	-2.2
TUMR				S	Sn	02 01 08.4	-3.3
SMKR	Semkarok	0.82	6	eP	Pn	02 00 56.5	-0.9
SMKR	Semkarok	0.82	6	PN	Pn	02 00 56.5	-0.9
KOZ	Kozyrevsk	0.87	290	i P	Pn	02 00 57.2	-0.5
KOZ				eS	Sn	02 01 12.5	+0.3
KOZ	Kozyrevsk	0.87	290	PN	Pn	02 00 57.3	-0.5
KOZ				S	Sn	02 01 12.5	+0.3
SRKR	Sorokina	0.90	355	eP	Pn	02 00 57.5	-0.6
SRKR	Sorokina	0.90	355	PN	Pn	02 00 57.5	-0.6
KBG	Krutoberegovo	0.92	57	eP	Pn	02 00 56.1	-2.1
KBG				eS	Sn	02 01 10.8	-2.3
KBG	Krutoberegovo	0.92	57	PN	Pn	02 00 56.1	-2.1
KBG				S	Sn	02 01 10.8	-2.3
KBTR	Krutoberegovo	0.95	61	eP	Pn	02 00 56.5	-2.1
KBTR	Krutoberegovo	0.95	61	PN	Pn	02 00 56.5	-2.1
SRDR	Sredinnyy	1.06	302	i P	Pn	02 00 59.2	-0.6
SRDR				eS	Sn	02 01 14.8	-1.1
SRDR	Sredinnyy	1.06	302	PN	Pn	02 00 59.2	-0.6
SRDR				S	Sn	02 01 14.8	-1.1
ESO	Esso	1.49	277	i P	Pn	02 01 05.5	+0.8
ESO				eS	Sn	02 01 25.7	+1.1
ESO	Esso	1.49	277	PN	Pn	02 01 05.5	+0.8
ESO				S	Sn	02 01 25.7	+1.1
TIGL	Tigil	2.48	325	i P	Pn	02 01 17.4	+0.1
BKI	Bering	2.71	100	eS	Sn	02 01 47.7	-4.7
SPN	Mys Shipunski	2.78	196	eP	Pn	02 01 19.1	-2.2
SPN				eS	Sn	02 01 49.3	-4.9
SPN	Mys Shipunski	2.78	196	PN	Pn	02 01 19.1	-2.2
SPN				S	Sn	02 01 49.3	-4.9
NLC	Nalytchevo	2.84	205	eP	Pn	02 01 22.8	+0.7
NLC				eS	Sn	02 01 56.7	+1.0
NLC	Nalytchevo	2.84	205	PN	Pn	02 01 22.8	+0.7
NLC				S	Sn	02 01 56.7	+1.0
KRX	Arik	2.87	214	eP	Pn	02 01 23.3	+0.7
KRX				eS	Sn	02 01 57.6	+1.0
KRX	Arik	2.87	214	PN	Pn	02 01 23.3	+0.7
KRX				S	Sn	02 01 57.6	+1.0
SMAR	Somma	2.91	211	eP	Pn	02 01 23.3	+0.1
SMAR	Somma	2.91	211	PN	Pn	02 01 23.3	+0.1
AVH	Avacha	2.92	212	eP	Pn	02 01 24.2	+0.9
AVH				eS	Sn	02 01 59.6	+1.8
AVH	Avacha	2.92	212	PN	Pn	02 01 24.2	+0.9
AVH				S	Sn	02 01 59.6	+1.8
KOK	Koryaka	2.93	213	eP	Pn	02 01 24.2	+0.8
KOK	Koryaka	2.93	213	PN	Pn	02 01 24.2	+0.8
UGLR	Uglovaya	2.94	211	eP	Pn	02 01 24.1	+0.5
UGLR				eS	Sn	02 01 58.3	-0.1
UGLR	Uglovaya	2.94	211	PN	Pn	02 01 24.1	+0.5
UGLR				S	Sn	02 01 58.3	-0.1
DALK	Dalny	3.12	210	eP	Pn	02 01 25.8	-0.1
DALK				eS	Sn	02 02 02.8	+0.4
DALK	Dalny	3.12	210	PN	Pn	02 01 25.8	-0.1
DALK				S	Sn	02 02 02.8	+0.4
INSR	Institute	3.13	212	eP	Pn	02 01 26.7	+0.6
INSR				eS	Sn	02 02 04.7	+2.0
PET	Petropavlovsk	3.16	211		Pn	02 01 25.7	-0.6
PET	Petropavlovsk	3.16	211	eP	Pn	02 01 26.5	+0.2
PET				eS	Sn	02 02 04.6	+1.4
PET	Petropavlovsk	3.16	211	⇓iPN	Pn	02 01 26.4	+0.1
PET				eS	Sn	02 02 04.2	+1.0
PET				pmax	pmax		
	comp=Z,4μm,1.5s						
PET				pmax	pmax		
	comp=Z,2μm,0.8s						
PET				smax	smax		
	comp=E,3μm,0.6s						
PET				smax	smax		
	comp=N,5μm,0.6s						
PEA0B	Petropavlovsk-	3.40	220	Pn	Pn	02 01 29.1	-0.5
PEA0B	Petropavlovsk-	3.40	220	c iPN	Pn	02 01 29.7	+0.1
PETK	Petropavlovsk-	3.40	220	Pn	Pn	02 01 29.0	-0.6
PETK	Petropavlovsk-	3.40	220	PN	Pn	02 01 29.0	-0.6
PETK	Petropavlovsk-	3.40	220	P	Pn	02 01 28.6	-1.0
	comp=N,81nm,0.5s,baz=60,slow=14,SNR=128						
PETK				S	Sn	02 02 10.7	+1.6
	comp=N,141nm,0.6s,baz=75,slow=23,SNR=4.8						
PALN	Palana	3.41	348	eP	Pn	02 01 29.4	-0.3
PALN				eS	Sn	02 02 08.7	-0.6
PALN	Palana	3.41	348	PN	Pn	02 01 29.4	-0.3
PALN				S	Sn	02 02 08.7	-0.6
KRMR	Karymshinskiy	3.48	214	eP	Pn	02 01 30.8	+0.1
KRMR				eS	Sn	02 02 10.9	-0.1
KRMR	Karymshinskiy	3.48	214	PN	Pn	02 01 30.8	+0.1
KRMR				S	Sn	02 02 10.9	-0.1
OSSR	Ossora	3.62	14	eP	Pn	02 01 32.1	-0.3
OSSR	Ossora	3.62	14	PN	Pn	02 01 32.1	-0.3
GRL	Gorelyy	3.74	212	eP	Pn	02 01 35.2	+0.9
GRL	Gorelyy	3.74	212	PN	Pn	02 01 35.2	+0.9
APC	Apacha	3.75	222	eP	Pn	02 01 35.4	+1.2
APC	Apacha	3.75	222	PN	Pn	02 01 35.4	+1.2
MTVR	Mutnovka	3.77	211	eP	Pn	02 01 35.7	+1.0
MTVR	Mutnovka	3.77	211	PN	Pn	02 01 35.7	+1.0
ASAK	Asacha	3.94	212	eP	Pn	02 01 37.6	+0.7
ASAK				eS	Sn	02 02 23.1	+0.9
ASAK	Asacha	3.94	212	PN	Pn	02 01 37.6	+0.7
ASAK				S	Sn	02 02 23.1	+0.9
KDTR	Khodutka, Kamc	4.40	207	eP	Pn	02 01 42.6	-0.5
KDTR				eS	Sn	02 02 31.2	-2.0
KDTR	Khodutka, Kamc	4.40	207	PN	Pn	02 01 42.6	-0.5
KDTR				S	Sn	02 02 31.2	-2.0
PAU	Pauzhetka	5.07	214	eP	Pn	02 01 53.6	+1.5
PAU	Pauzhetka	5.07	214	PN	Pn	02 01 53.6	+1.5
TILK	Tilichiki	5.35	27	eP	Pn	02 01 56.5	+0.8
TILK				eS	Sn	02 02 54.3	-1.6
TILK	Tilichiki	5.35	27	PN	Pn	02 01 56.5	+0.8
TILK				S	Sn	02 02 54.3	-1.6
SKR	Severo-Kuril's	5.97	214	eP	Pn	02 02 04.2	0.0
SKR				eS	Sn	02 03 09.1	-2.1
SKR	Severo-Kuril's	5.97	214	⇑iPN	Pn	02 02 04.6	+0.3
SKR				eS	Sn	02 03 11.2	0.0
SKR				pmax	pmax		
	comp=Z,112nm,0.5s						
SKR				smax	smax		
	comp=N,690nm,0.8s						
SKR				smax	smax		
	comp=E,441nm,0.8s						
MA2	Magadan	6.83	308	Pn	Pn	02 02 16.1	+0.2
MA2	Magadan	6.83	308	⇓ePN	Pn	02 02 17.2	+1.4
MA2				pmax	pmax		
	comp=Z,158nm,1.7s						
MA2	Magadan	6.83	308	P	Pn	02 02 16.0	+0.2
	comp=Z,62nm,0.8s,baz=119,slow=8.9,SNR=15						
SHEM	Shemya Is, Ala	8.08	107	P	Pn	02 02 34.5	+1.6
	comp=Z,51nm,0.5s,baz=200,slow=13,SNR=2.1						
SHEM				S	Sn	02 03 54.5	-7.8
	comp=Z,124nm,0.5s,baz=272,slow=18,SNR=4.2						
SHEM				LR	LR	02 04 59.0	
	comp=Z,556nm,21.9s,baz=306,slow=32						
SEY	Seymchan	8.51	331	⇑ePN	Pn	02 02 39.0	+0.4
SEY				pmax	pmax		
	comp=Z,32nm,1.1s						
SEY	Seymchan	8.51	331	P	Pn	02 02 38.0	-0.6
	comp=Z,15nm,0.7s,baz=144,slow=13,SNR=18						
SEY				LR	LR	02 06 19.4	
	comp=Z,121nm,19.2s,baz=124,slow=41						
TYV	Tymovskoe	12.18	254	ePN	P	02 03 32.6	-3.8
TYV				pmax	pmax		
	comp=Z,76nm,1.2s						
BILL	Bilibino	12.53	9	⇑ePN	Pn	02 03 36.0	+3.2
KIWB	Kanaga Island	13.29	98	Pn	Pn	02 03 45.8	+3.0
YSS	Yuzh-Sakhalins	14.53	240		Pn	02 04 00.0	+1.2
YSS	Yuzh-Sakhalins	14.53	240	eP	P	02 04 00.8	-1.7
YSS				pmax	pmax		
	comp=Z,80nm,1.1s						
ATKA	Atka Island	14.81	94	Pn	Pn	02 04 03.7	+1.4
GAMB	Gambell	15.66	48	P	Pn	02 04 14.2	+1.2
	baz=252						
GRNR	Gornyy	15.67	262	⇓iP	P	02 04 16.7	+1.5
GRNR				eS	S	02 07 11.6	-2.8

GRNR pmax pmax
comp=E,70nm,0.7s
GRNR pmax pmax
comp=N,30nm,0.8s
GRNR pmax pmax
comp=Z,110nm,0.7s
GRNR smax smax
comp=E,5.0nm,0.5s
GRNR MLR MLR
comp=Z,1µm,15.0s
JKA Kamikawa-asahi 16.70 234 P 02 04 27.6 +1.0
ASAJ Asahikawa 16.70 234 P **P 02 04 26.4 -0.1**
comp=Z,90nm,0.7s,baz=73,slow=10,SNR=28
YAK Yakutsk 17.37 304 P **Pn 02 04 34.7 +0.7**
YAK Yakutsk 17.37 304 *e*P **Pn 02 04 35.2 +1.2**
YAK *e*S **S 02 07 49.1 +0.2**
YAK pmax pmax
comp=Z,114nm,0.9s
YAK pmax pmax
comp=E,58nm,1.2s
YAK pmax pmax
comp=N,15nm,1.0s
YAK smax smax
comp=E,142nm,2.5s
YAK smax smax
comp=N,84nm,2.1s
YAK Yakutsk 17.37 304 P **Pn 02 04 34.4 +0.4**
comp=N,5.2nm,0.9s,baz=104,slow=2.2,SNR=17
M11K Mekoryuk 17.67 61 P **Pn 02 04 38.6 +1.0**
baz=270
TNA Tin City 17.78 44 P **Pn 02 04 40.4 +1.6**
baz=252
ERM Erimo 18.14 228 P **P 02 04 41.9 -0.5**
ERM Erimo 18.14 228 *de*P **P 02 04 42.0 -0.4**
F14K Arctic Creek 18.39 45 P **Pn 02 04 46.5 +0.3**
baz=254
ANM Nome 18.55 48 P **Pn 02 04 48.0 -0.1**
ANM Nome 18.55 48 P **Pn 02 04 49.0 +0.9**
baz=258
ANM Nome 18.55 48 P **Pn 02 04 48.0 -0.1**
UNV Unalaska Valle 18.56 83 P **Pn 02 04 49.2 +1.0**
baz=289
KLR Kul'dur 19.05 262 *de*P **Pn 02 04 52.7 -1.5**
KLR pmax pmax
comp=Z,115nm,1.7s
KLR Kul'dur 19.05 262 P **P 02 04 51.8 -0.6**
comp=Z,37nm,0.7s,baz=62,slow=10,SNR=75
KLR LR LR 02 13 42.4
comp=Z,149nm,18.1s,baz=60,slow=41
J14K Nanvaranak Lak 19.06 54 P **Pn 02 04 54.4 +0.3**
baz=265,SNR=10
M13K Dall Lake 19.08 61 P **Pn 02 04 54.4 0.0**
baz=272
F15K North Star Dit 19.12 45 P **Pn 02 04 55.3 +0.4**
baz=255
G15K Niukluk 19.20 47 P **Pn 02 04 55.8 0.0**
baz=258
L14K Kuka Creek 19.40 59 P **Pn 02 04 57.9 -0.2**
L14K Kuka Creek 19.40 59 P **P 02 04 57.5 +1.5**
baz=270
ZEA Zeya 19.66 278 *e*P **Pn 02 04 59.3 -1.9**
ZEA pmax pmax
comp=Z,30nm,1.0s
C16K Lisburne Hills 19.70 37 P **P 02 05 00.1 +1.0**
baz=248,SNR=16
M14K Bethel 19.76 60 P **Pn 02 05 02.2 -0.1**
M14K Bethel 19.76 60 P **Pn 02 05 01.9 -0.4**
baz=272
H16K Elim 19.89 49 P **Pn 02 05 02.9 -0.9**
baz=261,SNR=15
N14K Kuskokwak Cree 19.94 63 P **Pn 02 05 03.8 -0.7**
baz=274
K15K Wolf Creek Mou 19.97 56 P Pn 02 05 04.2 -0.6
baz=268
G16K Koyuk River 19.98 47 P **P 02 05 03.6 +1.4**
baz=259,SNR=7.4
L15K Ungalak Mounta 19.98 58 P Pn 02 05 04.6 -0.3
baz=270
JTM Tenmabayashi 20.04 230 P **P 02 05 02.4 -0.7**
O14K Tigyukauivet M 20.22 65 P **P 02 05 06.2 +1.4**
baz=277
M15K Kasigluk River 20.39 60 P **P 02 05 07.8 +1.2**
baz=273
J16K Anvik River 20.45 53 P **P 02 05 08.6 +1.3**
baz=266
I17K Unalakleet 20.46 51 P **P 02 05 08.1 +0.7**
I17K Unalakleet 20.46 51 P **P 02 05 08.7 +1.3**
baz=265,SNR=12
RDOG Red Dog Mine 20.47 39 P **P 02 05 07.9 +0.3**
RDOG Red Dog Mine 20.47 39 P **P 02 05 08.1 +0.6**
baz=251,SNR=6.6
C17K DeLong Mountai 20.52 38 P **P 02 05 08.6 +0.5**
baz=250
E17K Hotham Inlet 20.58 42 P **P 02 05 10.3 +1.7**
baz=255,SNR=22
F17K Baldwin Pennin 20.64 44 P Pn 02 05 11.5 -1.0
baz=257,SNR=9.0
G17K Kiwalik Mounta 20.70 47 P Pn 02 05 12.0 -1.2
baz=260,SNR=8.9
N15K Kwethluk River 20.72 62 P Pn 02 05 12.6 -0.9
baz=275
H17K Granite Mounta 20.92 48 P **P 02 05 13.7 +1.4**
baz=263
L16K Owhat River 20.94 57 P **P 02 05 14.5 +1.9**
L16K Owhat River 20.94 57 P **P 02 05 14.0 +1.5**
baz=272,SNR=6.7
O15K Ungalikthiuk R 20.96 65 P **P 02 05 14.6 +1.8**
baz=278
HEH HeiHe 20.99 269 *e*P **P 02 05 11.3 -1.9**
HEH pP **pP 02 05 35.1 +2.3**
HEH sP **sP 02 05 50.2 +4.5**
HEH S **S 02 08 56.8 -4.1**
HEH pmax pmax
comp=Z,140nm,0.9s
HEH pmax pmax
comp=Z,1µm,5.1s
TIXI Tiksi 21.01 332 P **P 02 05 13.9 +0.8**
TIXI Tiksi 21.01 332 *ce*P 02 05 15.0
TIXI Tiksi 21.01 332 P **P 02 05 13.4 +0.2**
comp=Z,0.8nm,0.6s,baz=134,slow=13,SNR=5.6
E18K Tukpahlearik C 21.13 41 P **P 02 05 15.8 +1.3**
baz=256
C18K Utukok River 21.27 38 P **P 02 05 16.9 +0.8**
baz=252
B18K Kokolik River 21.30 36 P **P 02 05 17.6 +1.2**
baz=249,SNR=16
N16K Nishlik Lake 21.35 61 P **P 02 05 18.1 +1.1**
baz=275
K17K Iditarod 21.48 55 P **P 02 05 20.5 +2.2**
baz=270,SNR=12
L17K Donlin 21.48 56 P **P 02 05 20.6 +2.2**
baz=271
G18K Tagagawik 21.58 46 P **P 02 05 20.6 +1.3**
baz=262,SNR=21
H18K Honhosa River 21.60 48 P **P 02 05 21.2 +1.6**
baz=264
S14K Fog Glacier 21.68 72 P **P 02 05 22.6 +2.0**
baz=285
O16K Kokwok River B 21.78 63 P **P 02 05 23.1 +1.5**
baz=278
P16K Nushagak River 21.92 65 P **P 02 05 24.5 +1.6**
baz=279
M17K Holitna River 21.93 58 P **P 02 05 25.7 +2.6**
baz=274,SNR=5.6
USA0B Ussuriysk Arra 21.95 251 P **P 02 05 21.4 -2.0**
USA0B Ussuriysk Arra 21.95 251 P **P 02 05 21.4 -2.0**
USRK Ussuriysk Ar. 21.95 251 P **P 02 05 22.5 -0.9**
USRK Ussuriysk Ar. 21.95 251 P **P 02 05 22.5 -0.9**
USRK Ussuriysk Ar. 21.95 251 P **P 02 05 21.0 -2.4**
comp=Z,13nm,0.9s,baz=46,slow=10,SNR=14
USRK LR LR 02 15 36.3
comp=Z,121nm,18.1s,baz=59,slow=41
comp=Z,13nm,0.9s
C19K Lookout Ridge 21.96 37 P **P 02 05 24.2 +0.7**
baz=253
CHNA Chernabura Isl 22.08 76 P **P 02 05 26.6 +1.9**
baz=289
F19K Shaleruckik Mo 22.08 44 P **P 02 05 25.2 +0.6**
baz=260
N17K Nushagak Hills 22.12 60 P **P 02 05 26.7 +1.6**
baz=276
GCSA Galena City Sc 22.19 49 P **P 02 05 27.3 +1.5**
baz=266
J18K Innoko River 22.21 53 P **P 02 05 27.4 +1.4**
baz=270
L18K Granite Mounta 22.24 56 P **P 02 05 28.0 +1.7**
baz=273
G19K Purcell Mounta 22.25 45 P **P 02 05 26.7 +0.3**
baz=263,SNR=14
O17K Koliganek Bris 22.26 62 P **P 02 05 28.0 +1.5**
baz=278
CHGN Chignik 22.28 72 P **P 02 05 27.4 +0.5**
baz=286
D19K Kuna River 22.31 39 P **P 02 05 27.4 +0.3**
baz=256
E19K Redstone River 22.40 42 P **P 02 05 29.1 +1.1**
baz=259
H19K Roundabout Mou 22.44 47 P **P 02 05 29.1 +0.8**
baz=265,SNR=31
TTA Tatalina 22.53 54 P **P 02 05 30.6 +1.2**
TTA Tatalina 22.53 54 P **P 02 05 30.5 +1.1**
baz=271,SNR=12
TTA Tatalina 22.53 54 P **P 02 05 30.6 +1.2**
JMM Marumori 22.61 226 P **P 02 05 29.9 -0.4**
P17K Kvichak River 22.68 64 P **P 02 05 32.1 +1.2**
baz=280
M18K Stony River 22.69 58 P **P 02 05 32.7 +1.7**
baz=275,SNR=5.0
J19K Poorman 22.70 51 P **P 02 05 31.6 +0.5**
baz=269
N18K Kilae Creek 22.74 60 P **P 02 05 32.6 +1.1**
baz=277
D20K Etivluk River 22.90 39 P **P 02 05 33.4 +0.4**
baz=257
F20K Avaraart Lake 22.91 43 P **P 02 05 33.2 +0.1**
F20K PcP **PcP 02 09 20.2 +0.6**
F20K Avaraart Lake 22.91 43 P **P 02 05 33.6 +0.5**
baz=262,SNR=24
E20K Nigu River 22.95 40 P **P 02 05 33.8 +0.2**
baz=259
R17K Ugashik Creek 23.02 68 P **P 02 05 35.1 +0.9**
baz=284
B20K Meade River 23.05 36 P **P 02 05 34.5 +0.1**
baz=253,SNR=16
H20K Anotleneega Mo 23.08 47 P **P 02 05 35.8 +1.0**
baz=266
L19K White Mountain 23.10 56 P **P 02 05 35.8 +0.8**
baz=274
Q17K Contact Creek 23.14 66 P **P 02 05 36.5 +1.0**
baz=283
O18K Koktuh Hills 23.19 62 P **P 02 05 36.8 +0.9**
O18K Koktuh Hills 23.19 62 P **P 02 05 36.7 +0.9**
baz=279
I20K Naaghedeneel 23.22 49 P **P 02 05 36.7 +0.7**
baz=268
P18K Big Mountain, 23.26 63 P **P 02 05 37.5 +1.0**
baz=280
J20K Nowinta River 23.35 51 P **P 02 05 37.9 +0.6**
baz=270
K20K Telida 23.40 53 P **P 02 05 39.2 +1.4**
baz=272,SNR=8.9
N19K Bonanza Creek 23.41 59 P **P 02 05 38.9 +0.9**
baz=278
Q18K Katmai Hardscr 23.51 65 P **P 02 05 39.8 +0.8**
baz=282
L20K Farewell, AK 23.53 55 P **P 02 05 39.7 +0.7**
baz=274
IMAR Indian Mountai 23.59 46 P **P 02 05 39.8 +0.4**
IMAR PcP **PcP 02 09 21.6 +0.6**
C21K Knifeblade Rid 23.64 38 P **P 02 05 40.7 +0.8**
baz=258,SNR=34
G21K Allakaket 23.72 45 P **P 02 05 41.8 +1.1**
baz=265
E21K Killik River 23.79 40 P **P 02 05 41.8 +0.5**
baz=260
B21K Ikpikpuk River 23.80 37 P **P 02 05 42.0 +0.8**
baz=257,SNR=70
F21K Alatna River 23.80 43 P **P 02 05 42.2 +0.8**
baz=264,SNR=26
CHIR Chirikof Islan 23.92 72 P **P 02 05 42.9 +0.4**
baz=288
M20K Styx River 23.93 56 P **P 02 05 43.6 +1.0**
baz=276
H21K Melozitna Rive 23.95 47 P **P 02 05 43.1 +0.4**
baz=268,SNR=26
A22K Sinclair Lake 24.04 34 P **P 02 05 43.9 +0.5**
baz=254
R18K Karluk 24.05 67 P **P 02 05 44.1 +0.5**
baz=285
Q19K Cape Douglas, 24.15 64 P **P 02 05 45.9 +1.4**
Q19K Cape Douglas, 24.15 64 P **P 02 05 45.3 +0.8**
baz=282
CHUM Lake Minchumin 24.16 51 P **P 02 05 45.6 +1.1**
baz=272,SNR=10
P19K Oil Pt 24.21 62 P **P 02 05 46.5 +1.4**
baz=281
PPLA Purkeypile 24.28 54 P **P 02 05 46.7 +0.9**
baz=275
I21K Tanana 24.29 48 P **P 02 05 46.7 +1.0**
I21K Tanana 24.29 48 P **P 02 05 46.8 +1.1**
baz=270,SNR=14
CAST Castle Rocks 24.29 53 P **P 02 05 46.6 +0.8**
CAST PcP **PcP 02 09 23.1 +0.5**
CAST Castle Rocks 24.29 53 P **P 02 05 46.5 +0.8**
baz=274,SNR=16
D22K Ayikyak River 24.33 39 P **P 02 05 46.9 +0.8**
baz=261,SNR=54
F22K John River 24.34 43 P **P 02 05 46.8 +0.7**
baz=264
B22K Teshekpuk Lake 24.37 36 P **P 02 05 46.8 +0.5**
baz=257,SNR=39
O20K Slope Mountain 24.43 61 P **P 02 05 48.4 +1.3**
baz=281
N20K Mount Spurr 24.45 58 P **P 02 05 48.1 +0.8**
baz=278
SII Sitkinak Islan 24.47 70 P **P 02 05 48.5 +1.0**
baz=287
E22K Anaktuvuk Pass 24.54 41 P **P 02 05 48.3 +0.3**
baz=264,SNR=24
G22K Bettles 24.55 44 P **P 02 05 48.5 +0.5**
baz=266
H22K Ishtalitna Cre 24.55 47 P **P 02 05 48.8 +0.7**
baz=269,SNR=19
SKT Skwentna 24.67 56 P **P 02 05 49.7 +0.4**
SKT Skwentna 24.67 56 P **P 02 05 49.7 +0.4**
baz=277
BPAW Bear Paw Mtn. 24.74 51 P **P 02 05 50.8 +1.0**
BPAW Bear Paw Mtn. 24.74 51 P **P 02 05 50.4 +0.5**
baz=273,SNR=12
KTH Kantishna Hill 24.80 52 P **P 02 05 51.1 +0.6**
MJB9 Matsu-Tunnel 24.81 229 P **P 02 05 50.6 -0.1**
MAJO Matsushiro 24.81 229 P **P 02 05 50.2 -0.5**
MAJO Matsushiro 24.81 229 *de*P **P 02 05 51.1 +0.4**
MAJO pmax pmax
comp=Z,60nm,0.9s
MJAR Matsushiro Arr 24.81 229 P **P 02 05 50.1 -0.7**
comp=Z,22nm,0.8s,baz=25,slow=8.2,SNR=34
MJAR LR LR 02 16 40.8
comp=Z,150nm,18.5s,baz=36,slow=39
comp=Z,22nm,0.8s
MLY Manley 24.82 49 P **P 02 05 51.3 +0.8**
MLY **PcP 02 09 23.8 +0.1**
MLY Manley 24.82 49 P **P 02 05 51.3 +0.8**
baz=271,SNR=24
Q20K Shuyak Island 24.86 64 P **P 02 05 52.1 +1.2**
baz=284
SYI Shuyak Island 24.86 64 P **P 02 05 51.9 +1.0**
KDAK Kodiak Island 24.96 66 P **P 02 05 51.4 -0.5**
KDAK Kodiak Island 24.96 66 P **P 02 05 52.5 +0.6**
baz=285
KDAK Kodiak Island 24.96 66 P **P 02 05 51.4 -0.5**
KDAK pmax pmax
comp=Z,121nm,1.4s
HOM Homer 25.00 62 P **P 02 05 52.2 -0.1**
baz=282
CAPN Captain Cook N 25.03 59 P **P 02 05 53.2 +0.8**
baz=280
D23K Nanushuk River 25.06 39 P **P 02 05 53.4 +0.7**
baz=263
COLD Coldfoot 25.08 43 P **P 02 05 53.3 +0.4**
baz=267,SNR=5.0
TRF Thorofare Moun 25.09 52 P **P 02 05 53.8 +0.5**
TRF IAmb IAmb 02 06 27.8
comp=Z,27nm,0.9s
TRF Thorofare Moun 25.09 52 P **P 02 05 54.2 +1.0**
baz=275,SNR=6.7
SUA Susitna One 25.11 57 P **P 02 05 53.1 -0.2**
SUA PcP **PcP 02 09 24.8 +0.3**
SUA Susitna One 25.11 57 P **P 02 05 53.8 +0.4**
baz=279
G23K Bananza Creek 25.12 45 P **P 02 05 54.1 +0.7**
baz=268,SNR=7.5
CUT Chulitna 25.21 55 P **P 02 05 54.7 +0.6**
CUT IAmb IAmb 02 05 55.4
comp=Z,40nm,0.7s
CUT Chulitna 25.21 55 P **P 02 05 54.6 +0.5**
baz=277
C23K Itkillik River 25.21 37 P **P 02 05 54.5 +0.5**
baz=261,SNR=34
CNPM China Poot 25.23 62 P **P 02 05 54.8 +0.4**
CNPM IAmb IAmb 02 06 10.5
comp=Z,55nm,1.0s
E23K Chandalar 25.36 42 P **P 02 05 56.0 +0.5**
baz=266
M22K Willow 25.37 56 P **P 02 05 56.6 +1.1**
baz=279
I23K Minto, Yukon-K 25.39 48 P **P 02 05 57.0 +1.3**
I23K Minto, Yukon-K 25.39 48 P **P 02 05 56.6 +0.9**
baz=272,SNR=15
BWN Browne 25.40 51 P **P 02 05 56.6 +0.8**
BWN IAmb IAmb 02 06 30.8
comp=Z,36nm,0.9s
TOLK Toolik Lake Re 25.42 40 P **P 02 05 56.6 +0.5**
TOLK Toolik Lake Re 25.42 40 P **P 02 05 56.4 +0.3**
baz=265,SNR=23
BRSE Bradley Lake S 25.43 61 P **P 02 05 55.8 -0.4**
baz=282
NEA2 Nenana 25.55 50 P **P 02 05 57.4 +0.3**
NEA2 Nenana 25.55 50 P **P 02 05 57.6 +0.5**
baz=274,SNR=6.4
BOD Bodaibo 25.59 294 *e*P **P 02 05 56.6 -0.9**
BOD pmax pmax
comp=Z,52nm,1.6s
RC01 Rabbit Creek A 25.66 58 P **P 02 05 57.9 -0.2**
baz=280
MCK McKinley 25.67 52 P **P 02 05 59.3 +1.0**
baz=276
RND Reindeer 25.74 52 P **P 02 05 58.9 -0.1**
RND Reindeer 25.74 52 P **P 02 05 58.9 -0.1**
RND pmax pmax
comp=Z,15nm,0.8s
D24K Happy Valley 25.75 39 P **P 02 05 59.4 +0.5**
baz=264
O22K Cooper Landing 25.78 59 P **P 02 05 59.6 +0.4**
baz=282
E24K Your Creek 25.78 42 P **P 02 05 59.7 +0.4**
baz=267,SNR=33
HIA Hailar 25.81 273 IAmb IAmb 02 06 01.5
comp=Z,20nm,0.7s
HIA Hailar 25.81 273⇑ *e*P **P 02 05 58.3 -1.4**
HIA pmax pmax
comp=Z,27nm,1.1s
C24K Franklin Bluff 25.85 38 P **P 02 06 00.4 +0.6**
baz=263
PMR Palmer 25.86 57 P **P 02 06 00.6 +0.7**
baz=280
MDM Murphy Dome 25.88 49 P **P 02 06 00.9 +0.7**
GHO Glory Hole Cre 25.93 56 P **P 02 06 01.3 +0.6**
WAT1 Susitna Watana 25.94 54 P **P 02 06 01.0 +0.2**
baz=278
F24K Squaw Lake 25.98 43 P **P 02 06 01.3 +0.2**
baz=269
SEW Seward 25.99 60 P **P 02 06 01.3 +0.2**
baz=283
H24K Noodor Dome 25.99 47 P **P 02 06 01.8 +0.6**
baz=272
COLA College 26.05 49 P **P 02 06 01.7 +0.1**
baz=274
CCB Clear Creek Bu 26.09 49 P **P 02 06 02.2 +0.2**
CCB IAmb IAmb 02 06 43.0
comp=Z,48nm,1.4s
G24K Hadweenzic Riv 26.14 45 P **P 02 06 03.1 +0.6**
baz=271,SNR=16
SML Sawmill 26.20 56 P **P 02 06 03.9 +0.8**
SML IAmb IAmb 02 06 37.7
comp=Z,22nm,0.9s
SML Sawmill 26.20 56 P **P 02 06 03.7 +0.6**
baz=280
SML Sawmill 26.20 56 P **P 02 06 03.9 +0.8**
SML pmax pmax
comp=Z,22nm,0.9s
KNK Knik Glacier 26.21 57 P **P 02 06 03.4 +0.3**
KNK IAmb IAmb 02 06 30.0
comp=Z,19nm,0.9s
KNK Knik Glacier 26.21 57 P **P 02 06 03.8 +0.6**
baz=281
POKR Poker Plat Res 26.21 48 P **P 02 06 04.2 +1.1**
POKR Poker Plat Res 26.21 48 P **P 02 06 04.1 +1.0**
baz=274
WAT6 Susitna Watana 26.35 54 P **P 02 06 04.6 +0.1**
baz=279
DHY Denali Highway 26.44 53 P **P 02 06 05.5 +0.1**
DHY IAmb IAmb 02 06 42.5
comp=Z,54nm,1.8s
DHY Denali Highway 26.44 53 P **P 02 06 05.5 +0.1**
baz=278
IL31 26.47 49 P **P 02 06 05.6 +0.2**
ILAR Eielson Array 26.47 49 P **P 02 06 05.3 -0.1**
ILAR PcP **PcP 02 09 25.8 -1.7**
ILAR Eielson Array 26.47 49 P **P 02 06 05.3 -0.1**
ILAR 02 09 25.8
ILAR Eielson Array 26.47 49 P **P 02 06 05.5 +0.1**
comp=Z,5.7nm,0.8s,baz=263,slow=8.0,SNR=70
ILAR PcP **PcP 02 09 26.6 -0.8**
comp=Z,0.5nm,0.6s,baz=291,slow=3.5,SNR=4.6
comp=Z,5.7nm,0.8s
HDA Harding Lake 26.48 50 P **P 02 06 05.7 +0.2**
HDA Harding Lake 26.48 50 P **P 02 06 05.8 +0.3**
baz=276,SNR=6.1
HDA P **P 02 06 05.8 +0.3**
baz=276,SNR=6.1
M23K Glacier View 26.48 56 P **P 02 06 06.2 +0.6**
baz=280
D25K Kavik River 26.63 39 P **P 02 06 07.4 +0.5**
baz=266,SNR=66
SCM Sheep Creek Mo 26.66 56 P **P 02 06 08.2 +0.9**
SCM Sheep Creek Mo 26.66 56 P **P 02 06 08.1 +0.9**
baz=281
SCM Sheep Creek Mo 26.66 56 P **P 02 06 08.2 +0.9**
SCM pmax pmax
comp=Z,92nm,1.5s
G25K Bearman Lake 26.68 45 P **P 02 06 07.9 +0.6**
baz=272
F25K Christian River 26.85 43 P **P 02 06 09.8 +1.0**
baz=271,SNR=12
E25K Arctic Village 26.88 42 P **P 02 06 09.9 +0.8**
E25K Arctic Village 26.88 42 P **P 02 06 10.1 +1.0**
baz=270,SNR=14
GLI Glacier Island 26.96 58 P **P 02 06 11.2 +1.3**
baz=283
K24K Donnelly Dome 27.05 51 P **P 02 06 11.9 +1.2**
baz=278
J25K Salcha River, 27.13 49 P **P 02 06 11.5 0.0**
baz=277
M24K Tolsona, Glenn 27.15 55 P **P 02 06 12.7 +1.1**
baz=281
C26K Camden Bay 27.18 38 P **P 02 06 12.7 +1.0**
baz=267,SNR=16
BMAR Burnt Mountain 27.26 43 P **P 02 06 13.5 +0.9**
PAX Paxson 27.32 53 P **P 02 06 14.3 +1.1**
baz=280
KLU Klutina 27.39 56 P **P 02 06 14.6 +0.8**
baz=282
F26K Sheenjek River 27.42 42 P **P 02 06 15.3 +1.3**
baz=272,SNR=9.6
RIDG Independent Ri 27.47 51 P **P 02 06 14.3 -0.2**
baz=279
HARP HAARP 27.56 54 P **P 02 06 16.2 +1.0**
baz=281
G26K Porcupine Rive 27.59 44 P **P 02 06 16.1 +0.7**
baz=274
EYAK Cordova Ski Ar 27.68 58 P **P 02 06 16.7 +0.4**
baz=284
SCRK Sand Creek 27.82 50 IAmb IAmb 02 06 18.3
comp=Z,33nm,1.5s
SCRK Sand Creek 27.82 50 P **P 02 06 17.2 -0.5**
baz=279,SNR=9.6
J26L Joseph Creek 27.92 49 P **P 02 06 18.7 +0.1**
baz=278
N25K Chitina, Valde 27.98 56 P **P 02 06 19.7 +0.6**
N25K IAmb IAmb 02 07 09.1
comp=Z,34nm,1.4s
N25K Chitina, Valde 27.98 56 P **P 02 06 19.2 +0.1**
baz=283
I26K Coal Creek Min 27.99 48 P **P 02 06 19.1 +0.1**
baz=277
BMRM Bremner River 28.12 57 P **P 02 06 21.0 +0.7**
baz=284
L26K Log Cabin Wild 28.26 52 P **P 02 06 22.5 +1.0**
baz=281
E27K Coleen River 28.36 41 P **P 02 06 23.1 +0.8**

baz=273,SNR=9.7
GLB Gilahina Butte 28.39 56 P P 02 06 23.7 +1.1
GLB IAmb IAmb 02 07 24.7
comp=Z,20nm,1.2s
G27K Doyon Strip 28.44 44 P P 02 06 24.3 +1.3
baz=276
M26K Nabesna, AK 28.55 54 P P 02 06 25.2 +1.1
baz=283
H27K Steamboat Moun 28.55 45 P P 02 06 25.5 +1.5
baz=277,SNR=14
D27M Malcolm River 28.55 39 P P 02 06 24.9 +0.8
baz=272,SNR=7.1
I27K Kandik River 28.59 47 P P 02 06 25.6 +1.2
baz=278
K27K Chicken 28.64 50 P P 02 06 25.5 +0.7
baz=280
MCARA McCarthy VSAT 28.77 56 P P 02 06 26.9 +0.9
baz=284
CRQM Cirque 28.87 57 P P 02 06 28.8 +1.7
CRQE Cirque 28.90 57 P P 02 06 28.1 +0.8
baz=285
EGAK Eagle 28.90 48 P P 02 06 27.2 +0.1
baz=280,SNR=9.7
L27K Beaver Creek, 28.93 52 P P 02 06 29.0 +1.6
baz=282,SNR=6.7
KSRS Korea Array 28.95 245 P P 02 06 26.3 -1.5
comp=Z,8.5nm,0.8s,baz=36,slow=9.0,SNR=19
KSRS PcP **PcP 02 09 34.1 +0.2**
comp=Z,5.3nm,1.0s,baz=8.5,slow=1.5,SNR=9.4
KSRS LR LR 02 18 29.4
comp=Z,58nm,18.5s,baz=65,slow=37
comp=Z,8.5nm,0.8s
BCAR Beaver Creek A 28.95 52 P P 02 06 28.4 +0.8
BCAR PcP **PcP 02 09 34.1 +0.5**
F28M Old Crow 29.05 42 P P 02 06 29.4 +1.0
F28M Old Crow 29.05 42 P P 02 06 29.7 +1.2
baz=276,SNR=8.1
M27K Edge Creek, AK 29.06 53 P P 02 06 29.8 +1.1
baz=283
E28M Babbage River 29.10 40 P P 02 06 30.2 +1.3
baz=274
I28M Miner Creek 29.30 47 P P 02 06 31.4 +0.6
baz=279
D28M Stokes Point 29.34 39 P P 02 06 31.4 +0.5
baz=274
MESA MESA 29.60 58 P P 02 06 34.3 +0.7
baz=287
CTG Chitna Glacier 29.66 56 P P 02 06 34.9 +0.9
baz=286
E29M Blow River 29.72 41 P P 02 06 35.3 +1.0
baz=276
DAWY Dawson 29.79 50 P P 02 06 35.4 +0.4
DAWY Dawson 29.79 50 P P 02 06 35.7 +0.7
baz=282
H29M Whitestone 29.82 45 P P 02 06 35.9 +0.7
baz=279,SNR=8.4
G29M Pine Creek 29.85 44 P P 02 06 36.1 +0.6
baz=278
YUK3 Moose Creek 29.86 54 P P 02 06 36.7 +0.9
baz=285
I29M Ogilvie Camp, 29.99 47 P P 02 06 37.5 +0.7
I29M IAmb IAmb 02 07 23.9
comp=Z,12nm,0.6s
I29M Ogilvie Camp, 29.99 47 P P 02 06 37.5 +0.7
baz=281
PINM Pinnacle 30.43 57 P P 02 06 41.8 +1.0
baz=288
EPYK Eagle Plains 30.45 45 P P 02 06 41.4 +0.6
baz=280,SNR=5.4
G30M tAoh Zraii Nji 30.54 43 P P 02 06 42.8 +1.1
baz=280,SNR=9.0
L29M L29M 30.56 51 P P 02 06 43.2 +1.3
baz=285
M29M Somme Creek 30.58 52 P P 02 06 43.9 +1.7
baz=286
F30M Barrier River 30.61 42 P P 02 06 43.7 +1.5
baz=279,SNR=21
K29M Barlow Dome 30.64 50 P P 02 06 43.8 +1.1
baz=284
YUK4 Talbot Arm 30.81 55 P P 02 06 45.1 +0.9
baz=287
I30M Mount Dempster 30.81 47 P P 02 06 44.7 +0.6
baz=283
J30M Hart River 30.98 48 P P 02 06 46.5 +1.0
baz=284
PNL Peninsula 30.98 58 P P 02 06 46.1 +0.6
baz=290
YUK6 Outpost Mounta 31.06 55 P P 02 06 47.3 +0.8
baz=288
O29M Mount Kennedy 31.16 57 P P 02 06 48.5 +1.3
baz=289
M30M Minto, Yukon 31.29 52 P P 02 06 48.8 +0.5
baz=286
G31M Satah River 31.31 43 P P 02 06 48.5 +0.3
G31M PcP **PcP 02 09 39.9 +0.3**
G31M Satah River 31.31 43 P P 02 06 49.1 +0.9
baz=281,SNR=8.1
INK Inuvik 31.34 40 P P 02 06 48.5 0.0
baz=280,SNR=17
INK Inuvik 31.34 40 P P 02 06 49.8 +1.3
INK pmax pmax
comp=Z,24nm,0.8s
F31M Tsiigehtchic 31.41 42 IAmb IAmb 02 06 51.2
comp=Z,17nm,0.7s
F31M Tsiigehtchic 31.41 42 P P 02 06 49.3 +0.2
baz=281,SNR=17
N30M Aishikik Lake 31.49 54 P P 02 06 50.6 +0.6
baz=288
HYT Haines Junctio 31.50 55 P P 02 06 51.2 +1.0
baz=289,SNR=6.7
H31M Peel River 31.51 45 P P 02 06 50.9 +0.8
baz=283
P29M Windy Craggy 31.79 57 P P 02 06 54.0 +1.4
baz=290
P30M Million Dollar 31.98 56 P P 02 06 55.3 +1.0
baz=290
N31M Braeburn, Yuko 32.08 54 P P 02 06 57.2 +2.1
baz=289
O30N Mendenhall 32.17 55 P P 02 06 56.9 +0.9
O30N Mendenhall 32.17 55 P P 02 06 57.4 +1.4
baz=290
M31M Drury Creek, Y 32.47 52 IAmb IAmb 02 07 01.7
comp=Z,12nm,1.0s
M31M Drury Creek, Y 32.47 52 P P 02 07 00.5 +1.9
baz=289,SNR=10
WHY Whitehorse 32.77 55 IAmb IAmb 02 07 04.4
comp=Z,14nm,0.9s
WHY Whitehorse 32.77 55 P P 02 07 03.6 +2.3
baz=291,SNR=6.9
FARO Faro, Yukon 32.93 52 P P 02 07 04.1 +1.6
baz=289,SNR=5.4
SKAG Skagway 32.99 57 IAmb IAmb 02 07 06.5
comp=Z,16nm,0.9s
SKAG Skagway 32.99 57 P P 02 07 05.3 +2.3
baz=292,SNR=5.2
S31K Pelican 33.14 60 P P 02 07 06.3 +2.0
baz=294
N32M Quiet Lake 33.42 53 P P 02 07 08.2 +1.4
baz=291
A36M Sachs Harbour 33.47 33 P P 02 07 08.1 +1.0
A36M PcP **PcP 02 09 44.6 -0.9**
A36M Sachs Harbour 33.47 33 P P 02 07 08.6 +1.5
baz=281,SNR=42
ULN Ulaanbaatar 33.68 280 *ep* **P P 02 07 09.5 +0.1**
ULN pmax pmax
comp=Z,2.0nm,0.4s
ULN Ulaanbaatar 33.68 280 P P 02 07 10.0 +0.6
ULN PcP **PcP 02 09 47.4 +0.7**
P32M Atlin 33.70 56 P P 02 07 10.7 +1.3
baz=293
R32K Eaglecrest 33.84 59 P P 02 07 12.8 +2.2
R32K IAmb IAmb 02 07 14.2
comp=Z,11nm,0.8s
R32K Eaglecrest 33.84 59 P P 02 07 12.7 +2.2
baz=294
P33M Teslin, Yukon 33.88 55 IAmb IAmb 02 07 18.4
comp=Z,23nm,1.6s
P33M Teslin, Yukon 33.88 55 P P 02 07 12.4 +1.5
baz=292
JIS Juneau Island 33.91 59 P P 02 07 12.6 +1.6
JIS IAmb IAmb 02 07 15.0
comp=Z,16nm,1.0s
SONM Songino Array 34.06 280 P P 02 07 12.1 -0.6
comp=Z,3.7nm,0.5s,baz=62,slow=7.8,SNR=26
SONM PcP **PcP 02 09 47.7 -0.1**
comp=Z,6.3nm,0.9s,baz=65,slow=1.4,SNR=13
SONM ScP **ScP 02 13 23.8 +0.8**
comp=Z,1.5nm,0.9s,baz=62,slow=3.2,SNR=5.1
SONM LR LR 02 21 15.8
comp=Z,49nm,18.0s,baz=287,slow=36
comp=Z,3.7nm,0.5s
S32K Killisnoo 34.15 60 P P 02 07 15.6 +2.5
baz=295
C36M Paulatuk 34.46 37 P P 02 07 16.7 +1.1
C36M Paulatuk 34.46 37 P P 02 07 16.8 +1.1
baz=286,SNR=43
Q32M Nakina River 34.64 57 P P 02 07 20.1 +2.6
baz=294
R33M Jennings River 35.07 55 P P 02 07 23.6 +2.4
baz=295,SNR=5.7
HHC Hu-ho-hao-te 35.46 266 *ep* **P P 02 07 24.8 0.0**
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,340nm,5.4s
TIA Tai'an 35.62 255 P P 02 07 23.8 -2.2
TIA pmax pmax
comp=Z,34nm,0.7s
S34M Telegraph Cree 35.63 58 P P 02 07 27.8 +2.0
baz=296
WRAK Wrangell Islan 35.71 61 P P 02 07 28.4 +1.8
baz=298
WTLY Watson Lake, Y 35.77 54 P P 02 07 28.7 +1.7
WTLY IAmb IAmb 02 07 29.9
comp=E,13nm,0.6s
WTLY Watson Lake, Y 35.77 54 P P 02 07 29.3 +2.2
baz=295,SNR=7.6
DLBC Dease Lake 35.92 57 P P 02 07 30.4 +2.0
DLBC IAmb IAmb 02 07 32.4
comp=Z,9.4nm,0.7s
DLBC Dease Lake 35.92 57 P P 02 07 31.9 +3.4
baz=296,SNR=6.8
HNS HongShan 36.09 259 ⇓**P P 02 07 28.7 -1.3**
HNS pmax pmax
comp=Z,17nm,0.9s
H11N2 WAKE ISLAND Hy 36.22 171 T T 02 45 05.2
baz=355,slow=76,SNR=168
H11N3 WAKE ISLAND Hy 36.23 171 T T 02 45 10.2
baz=355,slow=76,SNR=212
H11N1 WAKE ISLAND Hy 36.24 171 T T 02 45 06.5
baz=355,slow=76,SNR=207
T35M Bob Quinn 36.48 59 P P 02 07 36.6 +3.5
baz=298,SNR=5.1
V35K Ketchikan 36.60 62 P P 02 07 36.1 +2.0
baz=299
WRGLY Wrigley 36.79 47 IAmb IAmb 02 07 50.6
comp=Z,36nm,1.6s
WRGLY Wrigley 36.79 47 P P 02 07 37.8 +2.2
baz=294
LIRD Liard River Hi 37.30 54 P P 02 07 42.5 +2.4
baz=297,SNR=8.3
H11S1 WAKE ISLAND Hy 37.41 172 T T 02 46 38.5
baz=352,slow=76,SNR=3.4
H11S3 WAKE ISLAND Hy 37.43 172 T T 02 46 32.5
baz=352,slow=76,SNR=5.8
H11S2 WAKE ISLAND Hy 37.43 172 T T 02 46 34.1
baz=352,slow=76,SNR=3.0
JOW Kunigami 37.47 233 LR LR 02 23 59.8
comp=Z,110nm,20.7s,baz=100,slow=38
NJ2 Nanjing 37.84 249 *ep* **P 02 07 43.9 -0.9**
NJ2 pP **pP 02 08 07.8 -0.6**
NJ2 sP **sP 02 08 20.6 +0.4**
NJ2 pmax pmax
comp=Z,18nm,0.9s
NJ2 pmax pmax
comp=Z,300nm,3.7s
KOTAN Kotaneelee Air 37.89 52 P P 02 07 47.1 +2.1
baz=298
LYN LuoYang 39.40 258 ⇓**P P 02 07 56.7 -1.2**
LYN pmax pmax
comp=Z,42nm,0.8s
BBB Bella Bella 40.02 65 LR LR 02 24 08.9
comp=Z,57nm,18.4s,baz=12,slow=35
ALE Alert 40.17 8 P P 02 08 04.9 +1.2
RES Resolute Bay 40.58 23 P P 02 08 08.1 +1.0
RES Resolute Bay 40.58 23 P P 02 08 08.1 +1.0
RES pmax pmax
comp=Z,5.0nm,0.7s
RES Resolute Bay 40.58 23 LR LR 02 26 25.0
comp=Z,56nm,18.9s,baz=356,slow=38
YKA Yellowknife Ar 40.73 45 P P 02 08 08.1 -0.5
YKA Yellowknife Ar 40.73 45 *ce* **P 02 08 09.8 +1.3**
YKA pmax pmax
comp=Z,6.0nm,0.8s
YKA Yellowknife Ar 40.73 45 P P 02 08 09.2 +0.7
comp=Z,5.3nm,0.8s,baz=299,slow=8.3,SNR=58
YKA PcP **PcP 02 10 08.2 +0.5**
comp=Z,1.3nm,0.7s,baz=305,slow=3.8,SNR=4.9
YKA ScP **ScP 02 13 49.1 +1.5**
comp=Z,0.5nm,0.7s,baz=298,slow=4.0,SNR=6.3
comp=Z,5.3nm,0.8s
ZAA0 Zalesovo Array 41.98 301 P P 02 08 17.2 -1.7
ZALV Zalesovo Beam 41.98 301 P P 02 08 16.6 -2.2
ZALV Zalesovo Beam 41.98 301 *i* **P P 02 08 18.0 -0.8**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 41.98 301 P P 02 08 17.0 -1.9
comp=Z,3.2nm,0.7s,baz=53,slow=7.9,SNR=16
ZALV PcP **PcP 02 10 09.9 -2.2**
comp=Z,7.0nm,0.8s,baz=46,slow=4.3,SNR=8.4
ZALV ScP **ScP 02 13 53.7 +1.1**
comp=Z,2.0nm,0.8s,baz=29,slow=3.4,SNR=5.9
comp=Z,3.2nm,0.7s
NOR Nord 42.87 360 *i* **P P 02 08 24.4 -1.3**
NOR IAmb IAmb 02 09 07.7
comp=Z,2.2nm,1.0s
LZH Lanzhou 43.12 268 *ep* **P P 02 08 32.1 +3.6**
LZH sP sP 02 09 13.0 +8.6
LZH pmax pmax
comp=Z,20nm,1.0s
DGZ Jazzator, Alta 43.18 294 *ci* **P P 02 08 29.0 +0.2**
DGZ pmax pmax
comp=Z,26nm,0.7s
KBS Kingsbay 44.33 352 P P 02 08 38.5 +1.0
KBS Kingsbay 44.33 352 *ce* **P 02 08 38.6 +1.2**
KBS pmax pmax
comp=Z,21nm,0.9s
KBS Kingsbay 44.33 352 *i* **P P 02 08 38.8 +1.4**
KBS Kingsbay 44.33 352 P P 02 08 38.9 +1.5
KBS pP **pP 02 09 05.0 +3.5**
SPITS Spitsbergen Ar 44.62 350 P P 02 08 40.0 +0.3
comp=Z,34nm,0.5s,baz=66,slow=8.3,SNR=20
SPITS LR LR 02 27 51.4
comp=Z,95nm,18.2s,baz=310,slow=37
comp=Z,34nm,0.5s
SPB2 Spitsbergen Ar 44.62 350 P P 02 08 40.4 +0.6
NLWA Neilton Lookou 45.10 68 P P 02 08 44.5 +0.6
NEEM North Greenlan 45.53 9 *ip* **P 02 08 46.0 -1.3**
NEEM IAmb IAmb 02 08 51.0
comp=Z,14nm,0.7s
ZSN Zaisan 45.92 293 *ep* **P P 02 08 50.4 -0.1**
comp=Z,7.9nm,0.4s,baz=293
ZSN Zaisan 45.92 293 *ep* **P P 02 08 50.3 -0.1**
ZSN pmax pmax
comp=Z,8.0nm,0.4s
SEM Semipalatinsk 46.36 299 *ep* **P 02 08 53.6 -0.6**
comp=Z,12nm,0.7s,baz=299
SEM Semipalatinsk 46.36 299 *ep* **P 02 08 53.5 -0.6**
SEM pmax pmax
comp=Z,12nm,0.7s
EDM Edmonton 46.62 56 IAmb IAmb 02 08 58.4
comp=Z,19nm,0.7s
WMQ Urumqi 46.80 288 *ep* **P P 02 08 57.8 +0.4**
WMQ pmax pmax
comp=Z,36nm,0.9s
WMQ LR LR
comp=Z,72nm,24.9s
KURK Kurchatov 46.97 300 P P 02 08 57.9 -0.6
KURK Kurchatov 46.97 300 *ci* **P P 02 08 57.7 -0.7**
KURK pmax pmax
comp=Z,57nm,0.9s
KURK Kurchatov 46.97 300 P P 02 08 57.8 -0.7
KURK pP **pP 02 09 24.3 +0.8**
KURK PcP **PcP 02 10 28.6 -0.6**
KURK PP **PP 02 10 50.3 +0.7**
KURBB Kurchatov Arra 47.07 300 P P 02 08 58.1 -1.2
comp=Z,40nm,0.7s,baz=56,slow=8.0,SNR=239
KURBB PcP **PcP 02 10 28.1 -1.5**
comp=Z,7.5nm,0.9s,baz=50,slow=3.2,SNR=6.1
KURBB ScP **ScP 02 14 14.0 +0.4**
comp=Z,0.5nm,0.2s,baz=53,slow=3.9,SNR=4.5
comp=Z,40nm,0.7s
MK31 Makanchi Array 47.68 294 IAmb IAmb 02 09 05.4
comp=Z,12nm,0.8s
MK31 Makanchi Array 47.68 294 *ce* P **P 02 09 03.9 -0.2**
MKAR Makanchi Array 47.68 294 P **P 02 09 02.8 -1.4**
comp=Z,10nm,0.5s,baz=51,slow=6.2,SNR=132
comp=Z,10nm,0.5s
DAG Danmarks Havn 47.73 360 P **P 02 09 05.0 +0.9**
DAG pmax pmax
comp=Z,16nm,1.3s
DAG Danmarks Havn 47.73 360 *i* P **P 02 09 03.0 -1.1**
DAG IAmb IAmb 02 09 28.5
comp=Z,6.1nm,0.8s
MAKZ Makanchi 47.83 294 P **P 02 09 04.3 -1.0**
MAKZ IAmb IAmb 02 09 05.5
comp=Z,24nm,1.2s
MAKZ Makanchi 47.83 294 P **P 02 09 04.3 -1.0**
MAKZ pmax pmax
comp=Z,24nm,1.3s
MAKZ Makanchi 47.83 294 P **P 02 09 04.4 -1.0**
NEW Newport 47.99 63 P **P 02 09 07.5 +0.9**
NEW Newport 47.99 63 P **P 02 09 07.8 +1.2**
baz=311
NEW Newport 47.99 63 P **P 02 09 07.5 +0.9**
NEW pmax pmax
comp=Z,9.0nm,1.2s
NEW Newport 47.99 63 LR LR 02 30 30.3
comp=Z,60nm,18.9s,baz=34,slow=37
HAWA Hanford 48.00 66 P **P 02 09 07.5 +0.9**
F07A Phinny Hill Vi 48.13 67 P **P 02 09 08.2 +0.6**
F07A IAmb IAmb 02 09 10.1
comp=Z,13nm,0.9s
GOMU GeErMu 48.14 275 P **P 02 09 09.3 +1.1**
GOMU pmax pmax
comp=Z,12nm,0.8s
E08A Dider Farm, El 48.18 66 P **P 02 09 08.7 +0.8**
I05D Terrebonne, OR 48.44 69 P **P 02 09 11.2 +1.2**
I05D IAmb IAmb 02 09 12.7
comp=Z,33nm,1.6s
E09A Wood Farm, Sta 48.64 65 IAmb IAmb 02 09 13.6
comp=Z,15nm,1.1s
HUMO Hull Mountain 48.75 72 P **P 02 09 13.2 +0.8**
KRMB Red Mountain 48.98 74 P **P 02 09 15.9 +1.6**
J05D Fort Rock, OR 49.21 70 P **P 02 09 17.9 +1.8**
J05D IAmb IAmb 02 09 19.1
comp=Z,24nm,1.3s
J05D PcP **PcP 02 10 38.9 +1.3**
BVAR Borovoye Array 49.32 307 P **P 02 09 15.1 -1.5**
comp=Z,14nm,0.6s,baz=54,slow=7.5,SNR=54
BVAR PcP **PcP 02 10 37.3 -0.4**
comp=Z,8.8nm,0.8s,baz=46,slow=6.4,SNR=5.6
BVAR ScP **ScP 02 14 22.4 -0.8**
comp=Z,2.5nm,0.6s,baz=56,slow=5.6,SNR=6.4
comp=Z,14nm,0.6s
BRVK Borovoye 49.34 307 P **P 02 09 16.0 -0.7**
BRVK Borovoye 49.34 307 *ci* **P P 02 09 16.1 -0.7**
BRVK pmax pmax
comp=Z,26nm,0.8s
BRVK Borovoye 49.34 307 P **P 02 09 16.4 -0.4**
L04D Klamath Falls 49.37 72 P **P 02 09 19.0 +1.7**
L04D IAmb IAmb 02 09 20.7
comp=Z,18nm,0.9s
YBH Yreka Blue Hor 49.48 73 P **P 02 09 19.9 +1.8**
YBH Yreka Blue Hor 49.48 73 P **P 02 09 19.9 +1.8**
YBH pmax pmax
comp=Z,10.0nm,1.3s
K05A Summer Lake 49.77 71 P **P 02 09 21.9 +1.5**
K05A IAmb IAmb 02 10 13.8
comp=Z,25nm,1.5s
K05A PcP **PcP 02 10 40.7 +1.0**
BMO Blue Mountains 50.20 66 IAmb IAmb 02 09 25.9
comp=Z,16nm,1.4s
DBG Daneborg 50.20 1 *i* P **P 02 09 21.4 -1.6**
DBG IAmb IAmb 02 09 50.3
comp=Z,5.0nm,0.8s
BRZS Berezniki 50.31 303 *ep* **P 02 09 23.1 -1.1**
comp=Z,13nm,0.9s,baz=303
BRZS Berezniki 50.31 303 *ep* **P 02 09 23.0 -1.1**
BRZS pmax pmax
comp=Z,13nm,0.9s
KEV Kevo 50.51 341 P **P 02 09 24.6 -0.7**
KEV Kevo 50.51 341 P **P 02 09 24.6 -0.7**
KEV pmax pmax
comp=Z,86nm,1.7s
MSO Missoula 50.55 62 IAmb IAmb 02 09 29.0
comp=Z,16nm,1.2s
MSO Missoula 50.55 62 P **P 02 09 27.3 +1.2**
baz=313,SNR=11
FFC Flin Flon 50.67 48 P **P 02 09 26.0 -0.8**
FFC IAmb IAmb 02 09 28.9
comp=Z,7.9nm,0.8s
FFC Flin Flon 50.67 48 P **P 02 09 26.0 -0.8**
FFC pmax pmax
comp=Z,8.0nm,0.8s
FFC Flin Flon 50.67 48 P **P 02 09 28.4 +1.6**
FFC PcP **PcP 02 10 43.1 +0.5**
PLID Pearl Lake 50.71 65 IAmb IAmb 02 09 29.7
comp=Z,6.6nm,0.7s
SVE Sverdlovsk 50.84 316 ⇓ *ep* **P 02 09 28.2 +0.2**
SVE pmax pmax
comp=Z,28nm,0.8s
CHMT Chamberlain Mo 50.84 62 P **P 02 09 29.0 +0.6**
TDK Taldyqorghan 50.89 295 *ep* **P 02 09 28.6 +0.1**
baz=295
TDK Taldyqorghan 50.89 295 *ep* **P 02 09 28.6 +0.1**
FCC Fort Churchill 50.96 40 IAmb IAmb 02 09 30.7
comp=Z,12nm,0.8s
ARA0 ARCESS Array S 50.97 342 *ep* **P 02 09 28.8 0.0**
ARCES ARCESS Array B 50.97 342 P **P 02 09 28.4 -0.4**
comp=Z,2.2nm,0.4s,baz=38,slow=8.4,SNR=20
comp=Z,2.2nm,0.4s
BPMT Black Pine Rid 51.07 62 P **P 02 09 30.8 +0.5**
BPMT PcP **PcP 02 10 42.1 -2.5**
WVOR Wild Horse Val 51.17 69 IAmb IAmb 02 09 33.6
comp=Z,11nm,1.2s
WVOR Wild Horse Val 51.17 69 P **P 02 09 32.7 +1.8**
WVOR pmax pmax
comp=Z,9.0nm,1.1s
SUMG Summit 51.22 8 P **P 02 09 31.2 +0.1**
SUMG Summit 51.22 8 P **P 02 09 31.2 +0.1**
SUMG pmax pmax
comp=Z,33nm,1.0s
SUMG Summit 51.22 8 *i* P **P 02 09 31.0 -0.1**
SUMG IAmb IAmb 02 09 57.4
comp=Z,16nm,0.8s
PZH PanZhiHua 51.49 261 P **P 02 09 32.6 -0.8**
PZH pmax pmax
comp=Z,6.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.7s
SHLS Shalkode 51.62 292 *ep* **P 02 09 32.8 -1.5**
baz=292
SHLS Shalkode 51.62 292 *ep* **P 02 09 32.7 -1.5**
ORV Oroville 51.67 74 IAmb IAmb 02 09 36.5
comp=Z,12nm,1.4s
EGMT Eagleton 51.79 59 IAmb IAmb 02 09 37.3
comp=Z,17nm,1.3s
EGMT Eagleton 51.79 59 P **P 02 09 35.9 +0.6**
baz=314
KPKS Kokpek 51.81 293 *ep* **P 02 09 35.3 -0.3**
comp=Z,5.6nm,0.7s,baz=293
KPKS Kokpek 51.81 293 *ep* **P 02 09 35.3 -0.3**
KPKS pmax pmax
comp=Z,6.0nm,0.7s
JETT Jettan, Norway 51.81 344 *ep* **P 02 09 35.6 +0.4**
KTK1 Kautokeino 51.83 342 *ep* **P 02 09 35.4 +0.2**
UZB Uzynbulak 51.86 293 *ep* **P 02 09 35.7 -0.3**
baz=293
UZB Uzynbulak 51.86 293 *ep* **P 02 09 35.7 -0.3**
ARU Arti 51.93 317 P **P 02 09 35.5 -0.7**
ARU Arti 51.93 317 *ci* **P P 02 09 35.7 -0.4**
ARU *PP **pP 02 09 57.8 -3.9**
ARU 02 10 42.9
ARU 02 11 34.0
ARU S **S 02 16 51.5 +0.7**
ARU SS **SS 02 20 26.6 -1.5**
ARU pmax pmax
comp=Z,39nm,0.7s
ARU Arti 51.93 317 LR LR 02 32 34.8
comp=Z,107nm,19.7s,baz=28,slow=37
ARU Arti 51.93 317 P **P 02 09 35.9 -0.2**
ARU PcP **PcP 02 10 46.7 -0.5**
TRO Tromso 51.98 344 *ep* **P 02 09 36.6 +0.4**
KMI Kunming 52.02 259 ⇓**P P 02 09 34.0 -3.5**
KMI pmax pmax
comp=Z,11nm,0.7s
ZHN Zhinishke 52.15 293 *ep* **P 02 09 38.0 -0.1**
baz=293

ZHN Zhinishke 52.15 293 *eP* **P** 02 09 38.0 -0.1
SATY Saty 52.24 293 *eP* **P** 02 09 38.8 -0.1
comp=Z,5.7nm,0.8s,baz=293
SATY Saty 52.24 293 *eP* **P** 02 09 38.7 -0.1
SATY pmax pmax
comp=Z,6.0nm,0.8s
CHKK Chushkaly 52.42 295 *eP* **P** 02 09 39.0 -0.9
baz=295
CHKK Chushkaly 52.42 295 *eP* **P** 02 09 39.0 -0.9
BOZ Bozeman (W) 52.56 62 IAmb IAmb 02 09 43.8
comp=Z,13nm,1.4s
BOZ Bozeman (W) 52.56 62 P **P** 02 09 42.3 +1.1
baz=315,SNR=9.0
PRGR Permogore 52.57 327 *eP* **P** 02 09 39.9 -0.8
PRGR pmax pmax
comp=Z,26nm,0.8s
HLID Hailey 52.59 66 P **P** 02 09 42.7 +1.3
baz=315,SNR=5.3
PAHR Pah Rah Range 52.70 72 IAmb IAmb 02 09 45.8
comp=Z,8.6nm,1.0s
KUU Kurty 52.72 295⇑ *iP* **P** 02 09 41.1 -1.2
baz=295
KUU Kurty 52.72 295 *c iP* **P** 02 09 41.0 -1.2
EMB Emerald Bay 52.84 73 IAmb IAmb 02 09 46.4
comp=Z,15nm,1.3s
MDOK Medeo 52.87 294 *eP* **P** 02 09 43.1 -0.5
baz=294
MDOK Medeo 52.87 294 *eP* **P** 02 09 43.0 -0.5
AAA Alma-Ata 52.91 294 *eP* **P** 02 09 43.7 0.0
baz=294
AAA Alma-Ata 52.91 294 *eP* **P** 02 09 43.6 0.0
TNSS Tian-Shan 53.02 294 *eP* **P** 02 09 45.0 +0.1
baz=294
TNSS Tian-Shan 53.02 294 *eP* **P** 02 09 44.9 +0.1
PNTR Pine Nut 53.03 73 P **P** 02 09 46.6 +1.8
PNTR IAmb IAmb 02 09 48.0
comp=Z,15nm,0.9s
ILULI Ilulissat 53.11 14 *i P* **P** 02 09 44.5 -0.1
ILULI IAmb IAmb 02 10 09.6
comp=Z,21nm,0.8s
WUS Wushi 53.14 291 P **P** 02 09 46.2 +0.7
WUS pP **pP** 02 10 13.6 +2.9
WUS PcP **PcP** 02 10 51.7 -0.6
YERR Yerington 53.30 73 IAmb IAmb 02 09 49.9
comp=Z,19nm,1.2s
JMIC Jan Mayen 53.34 356 LR LR 02 33 05.4
comp=Z,73nm,18.1s,baz=26,slow=36
BMN Battle Mountai 53.34 70 IAmb IAmb 02 09 50.1
comp=Z,16nm,1.3s
CMB Columbia Colle 53.36 74 IAmb IAmb 02 09 50.1
comp=Z,14nm,1.4s
WAKR Walker 53.54 73 IAmb IAmb 02 09 51.8
comp=Z,10nm,0.7s
YMR Madison River 53.55 62 P **P** 02 09 49.1 +0.5
YMR IAmb IAmb 02 09 51.3
comp=Z,11nm,1.1s
KIRV Kirov 53.68 323 *ce*P **P** 02 09 48.9 0.0
KVN Kaiserville 53.87 72 IAmb IAmb 02 09 54.0
comp=Z,25nm,1.4s
SGDS Sogindy 53.91 296 *eP* **P** 02 09 50.9 0.0
baz=296
SGDS Sogindy 53.91 296 *eP* **P** 02 09 50.9 0.0
YMP Mirror Lake Pl 53.91 62 IAmb IAmb 02 09 54.8
comp=Z,8.3nm,0.9s
H17A Grant Village 53.94 62 P **P** 02 09 54.1 +2.7
baz=316,SNR=12
RYN Ryan 53.95 73 P **P** 02 09 53.2 +1.8
RYN IAmb IAmb 02 09 54.4
comp=Z,8.7nm,0.6s
RLMT Red Lodge 54.08 61 P **P** 02 09 54.0 +1.6
RLMT Red Lodge 54.08 61 P **P** 02 09 54.4 +2.1
baz=316,SNR=18
IMW Indian Meadow 54.12 63 IAmb IAmb 02 09 56.6
comp=Z,8.9nm,0.9s
LOF Lofoten 54.15 346 *eP* **P** 02 09 52.8 +0.6
ELK Elko 54.17 69 P **P** 02 09 54.5 +1.4
ELK Elko 54.17 69 P **P** 02 09 54.5 +1.4
ELK pmax pmax
comp=Z,7.0nm,1.0s
NVAR Mina Array Bea 54.21 73 P **P** 02 09 54.8 +1.4
comp=Z,6.3nm,0.6s,baz=308,slow=7.8,SNR=49
NVAR PcP **PcP** 02 10 57.3 +0.8
comp=Z,1.9nm,0.7s,baz=316,slow=6.2,SNR=1.6
comp=Z,6.3nm,0.6s
FXWY Fox Creek 54.26 63 IAmb IAmb 02 09 56.7
comp=Z,14nm,1.4s
NV11 Mina Array Sit 54.28 73 P **P** 02 09 56.0 +2.2
NV11 IAmb IAmb 02 09 57.0
comp=Z,7.1nm,0.8s
MDPB Devils Postpil 54.37 74 IAmb IAmb 02 09 58.0
comp=Z,11nm,1.1s
TPAW Teton Pass 54.40 63 P **P** 02 09 56.9 +2.1
TPAW IAmb IAmb 02 09 59.9
comp=Z,20nm,1.4s
LAO LASA Array 54.43 58 P **P** 02 09 56.0 +1.3
baz=316
LOHW Long Hollow 54.49 63 IAmb IAmb 02 09 58.6
comp=Z,17nm,1.4s
ICESG Greenland Ices 54.51 9 *i P* **P** 02 09 55.0 -0.3
ICESG IAmb IAmb 02 10 19.4
comp=Z,22nm,0.7s
AAK Ala-Archa 54.56 295 P **P** 02 09 54.9 -0.9
AAK IAmb IAmb 02 09 57.6
comp=Z,16nm,0.9s
AAK Ala-Archa 54.56 295 *de*P **P** 02 09 55.4 -0.4
AAK pmax pmax
comp=Z,33nm,1.7s
AAK Ala-Archa 54.56 295 P **P** 02 09 55.8 0.0
AAK PcP **PcP** 02 10 57.3 -0.4
FAUS Fauske 54.59 345 *eP* **P** 02 09 55.8 +0.4
FRB Frobisher Bay 54.77 25 LR LR 02 34 36.2
comp=Z,55nm,20.6s,baz=5.0,slow=37
KLMR Klimovskoe 55.00 329 *eP* **P** 02 09 57.9 -0.6
KLMR AMP 02 09 59.5
comp=Z,33nm,1.2s
KLMR *ep*P **pP** 02 10 22.6 -0.9
KLMR Klimovskoe 55.00 329 *eP* **P** 02 09 57.9 -0.6
KLMR *e**PP **pP** 02 10 22.5 -0.9
KLMR pmax pmax
comp=Z,33nm,1.2s
SPUT South Promonto 55.22 66 IAmb IAmb 02 10 03.7
comp=Z,14nm,1.3s
SFJD Kangerlussuaq 55.24 15 LR LR 02 37 56.7
comp=Z,96nm,18.1s,baz=64,slow=40
HWUT Hardware Ranch 55.45 65 P **P** 02 10 03.6 +1.3
HWUT IAmb IAmb 02 10 05.4
comp=Z,22nm,1.3s
SMMC Simmler 55.57 76 P **P** 02 10 05.4 +2.4
baz=318
Q12A Willow Creek R 55.62 70 IAmb IAmb 02 10 12.9
comp=Z,6.7nm,0.8s
BW06 Boulder Array 55.63 63 P **P** 02 10 05.3 +1.7
baz=317,SNR=13
PDAR Pinedale Array 55.63 63 P **P** 02 10 04.0 +0.4
comp=Z,3.5nm,0.6s,baz=326,slow=2.6,SNR=45
comp=Z,3.5nm,0.6s
VES Vestal, Richgr 55.68 75 P **P** 02 10 05.4 +1.7
baz=318
R11B Troy Canyon, C 55.73 71 IAmb IAmb 02 10 36.4
comp=Z,11nm,1.6s
R11B Troy Canyon, C 55.73 71 P **P** 02 10 06.2 +2.0
baz=317,SNR=7.9
GRAC Grapevine Rang 55.76 73 P **P** 02 10 06.8 +2.5
baz=318
CWC Cottonwood Cre 55.78 74 P **P** 02 10 06.2 +1.5
baz=318
DUG Dugway, Tooele 55.84 67 IAmb IAmb 02 10 08.1
comp=Z,14nm,1.0s
DUG Dugway, Tooele 55.84 67 P **P** 02 10 07.2 +2.3
baz=317,SNR=11
DUG Dugway, Tooele 55.84 67 P **P** 02 10 07.3 +2.3
DUG pmax pmax
comp=Z,15nm,1.0s
MOR8 Moi Rana 55.84 344 *eP* **P** 02 10 04.1 -0.4
TCUT Toone Canyon 55.89 66 IAmb IAmb 02 10 14.7
comp=Z,7.0nm,0.8s
DZA Taraz 55.98 298 *eP* **P** 02 10 04.9 -0.9
baz=298
DZA Taraz 55.98 298 *eP* **P** 02 10 04.9 -0.9
PKM Mcpherson Peak 55.98 77 P **P** 02 10 07.9 +1.8
baz=318
CTU Camp Tracy 56.03 66 IAmb IAmb 02 10 09.1
comp=Z,12nm,1.1s
KSH Kashi 56.06 292 P **P** 02 10 09.8 +3.2
KSH pmax pmax
comp=Z,14nm,1.3s

ISA Isabella, Lake 56.14 75 P **P** 02 10 08.6 +1.5
baz=318
S11A Rachel 56.16 72 IAmb IAmb 02 10 39.6
comp=Z,17nm,1.2s
KKAR Karatay Array 56.23 298 P **P** 02 10 06.2 -1.4
KKAR Karatay Array 56.23 298 P **P** 02 10 06.2 -1.4
DY2G Dye2 56.33 13 *i* P **P** 02 10 06.4 -1.8
DY2G IAmb IAmb 02 10 33.4
comp=Z,12nm,1.1s
MPMC Manual Prospec 56.39 74 P **P** 02 10 10.7 +1.7
baz=318,SNR=6.1
NLU North Lily Min 56.40 67 IAmb IAmb 02 10 12.1
comp=Z,8.2nm,0.8s
TPNV Topopah Spring 56.40 72 P **P** 02 10 10.2 +1.1
TPNV IAmb IAmb 02 10 12.2
comp=Z,11nm,1.2s
TPNV Topopah Spring 56.40 72 P **P** 02 10 11.0 +2.0
baz=318,SNR=8.9
TPNV Topopah Spring 56.40 72 P **P** 02 10 10.2 +1.1
TPNV pmax pmax
comp=Z,11nm,1.2s
FURC Furnace Creek, 56.42 73 P **P** 02 10 11.3 +2.4
baz=318,SNR=9.0
ULM Lac du Bonnet 56.49 49 P **P** 02 10 09.8 +0.5
comp=Z,11nm,0.4s,baz=319,slow=7.0,SNR=45
comp=Z,11nm,0.4s
AKTO Aktyubinsk 56.56 312 LR LR 02 37 04.7
comp=Z,95nm,18.6s,baz=204,slow=39
MPU Maple Canyon 56.58 67 IAmb IAmb 02 10 13.5
comp=Z,22nm,1.3s
ABKAR Akbulak array 56.62 310 P **P** 02 10 09.7 -0.5
MDND Maddock 56.65 53 P **P** 02 10 12.6 +2.1
baz=318
PRN Pahroc Range 56.70 71 IAmb IAmb 02 10 14.2
comp=Z,7.5nm,0.6s
LRMC Laurel Mtn Rad 56.71 75 P **P** 02 10 12.9 +1.7
baz=318
GWY Greenwater Val 56.74 73 IAmb IAmb 02 10 14.2
comp=Z,7.5nm,0.8s
EDW2 Edwards Air Fo 56.98 75 P **P** 02 10 14.8 +1.7
baz=318,SNR=8.3
K22A Casper 57.23 61 P **P** 02 10 15.9 +1.0
baz=318
CHM Chimkent 57.26 298 *eP* **P** 02 10 15.6 +0.7
baz=298
CHM Chimkent 57.26 298 *eP* **P** 02 10 15.6 +0.7
GSC Goldstone, Bar 57.32 74 IAmb IAmb 02 10 18.3
comp=Z,7.2nm,0.9s
GSC Goldstone, Bar 57.32 74 P **P** 02 10 17.2 +1.8
baz=318,SNR=8.1
TMUT Trail Mountain 57.34 67 P **P** 02 10 17.7 +1.9
TMUT IAmb IAmb 02 10 51.1
comp=Z,11nm,0.9s
RSSD Black Hills 57.36 58 P **P** 02 10 17.1 +1.3
RSSD Black Hills 57.36 58 P **P** 02 10 17.5 +1.7
baz=318
RSSD Black Hills 57.36 58 P **P** 02 10 17.1 +1.3
RSSD pmax pmax
comp=Z,38nm,1.5s
RSSD Black Hills 57.36 58 P **P** 02 10 17.3 +1.5
P18A Preston Nutter 57.59 66 IAmb IAmb 02 10 58.7
comp=Z,7.6nm,0.9s
BFSC Mount Baldy Ra 57.65 76 P **P** 02 10 19.4 +1.5
baz=319
TUQ Turquoise Moun 57.70 73 P **P** 02 10 20.3 +2.1
baz=319
NSS Namsos 57.75 345 *eP* **P** 02 10 18.7 +0.8
SRU San Rafael Swe 57.83 67 IAmb IAmb 02 10 22.1
comp=Z,12nm,0.8s
CIS Catalina Islan 57.86 77 P **P** 02 10 20.5 +1.3
baz=319
HEC Hector,Ludlow 57.93 74 P **P** 02 10 21.6 +1.9
baz=319,SNR=6.2
FINES FINESS Array B 57.95 336 *i* P **P** 02 10 19.6 +0.2
FINES pmax pmax
comp=Z,7.0nm,0.5s
FINES FINESS Array B 57.95 336 P **P** 02 10 18.6 -0.7
comp=Z,7.3nm,0.5s,baz=32,slow=8.1,SNR=68
FINES LR LR 02 37 47.8
comp=Z,54nm,20.6s,baz=44,slow=38
comp=Z,7.3nm,0.5s
LCMT Little Creek M 57.96 70 IAmb IAmb 02 10 55.8
AGMN Agassiz Nation 57.97 50 IAmb IAmb 02 10 30.8
comp=Z,22nm,1.8s
AGMN Agassiz Nation 57.97 50 P **P** 02 10 20.6 +0.9
comp=Z,14nm,1.3s
V12A Nelson 58.06 72 IAmb IAmb 02 10 23.7
baz=320
KNB Kanab 58.18 70 IAmb IAmb 02 11 14.8
comp=Z,15nm,1.5s
O20A White River Ci 58.24 64 P **P** 02 10 23.9 +1.9
comp=Z,8.9nm,1.0s
GMRC Granite Mounta 58.33 74 P **P** 02 10 24.7 +2.1
baz=319,SNR=12
MURC Murrieta 58.38 76 P **P** 02 10 25.0 +2.2
baz=319,SNR=7.4
BELC Belle Mtn. Jos 58.73 75 P **P** 02 10 27.1 +1.7
baz=319
PFO Pinyon Flats O 58.77 75 P **P** 02 10 26.4 +0.7
PFO IAmb IAmb 02 10 27.4
comp=Z,28nm,2.0s
PFO Pinyon Flats O 58.77 75 P **P** 02 10 26.9 +1.2
baz=319
PFO Pinyon Flats O 58.77 75 P **P** 02 10 26.4 +0.7
PFO pmax pmax
comp=Z,28nm,2.0s
PFO Pinyon Flats O 58.77 75 P **P** 02 10 27.2 +1.6
TPFO Pinon Flats 58.78 75 P **P** 02 10 27.2 +1.5
baz=319
N23A Red Feather La 58.83 62 IAmb IAmb 02 10 29.6
comp=Z,14nm,1.1s
N23A Red Feather La 58.83 62 P **P** 02 10 27.8 +1.6
baz=319,SNR=5.3
U15A North Rim 58.91 70 IAmb IAmb 02 10 29.8
comp=Z,9.9nm,1.3s
IRM Iron Mountain 59.08 74 P **P** 02 10 29.7 +2.0
baz=319
CHTO Chiang Mai 59.16 258 P **P** 02 10 27.8 -0.6
CHTO IAmb IAmb 02 10 28.9
comp=Z,5.3nm,0.7s
CHTO Chiang Mai 59.16 258 P **P** 02 10 27.8 -0.6
CHTO pmax pmax
comp=Z,5.0nm,0.7s
BC3 Big Chuckawall 59.29 74 P **P** 02 10 30.6 +1.4
baz=319
MONP2 Monument Peak 59.34 76 P **P** 02 10 30.9 +1.2
baz=320
GUN Gumba 59.35 275 *eP* **P** 02 10 28.6 -1.4
comp=Z,41nm,0.7s
JIRN Jiri 59.36 275 *eP* **P** 02 10 29.4 -0.7
comp=Z,11nm,0.4s
CMAR Chiang Mai Arr 59.45 258 *ce*P **P** 02 10 30.3 0.0
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 59.45 258 P **P** 02 10 29.5 -0.8
comp=Z,1.6nm,0.4s,baz=24,slow=7.4,SNR=9.1
CMAR PcP **PcP** 02 11 15.1 -1.9
comp=Z,6.2nm,0.7s,baz=11,slow=3.1,SNR=10
comp=Z,1.6nm,0.4s
PDMCI Parker Dam,Lak 59.51 73 P **P** 02 10 32.3 +1.7
baz=319
SMCO Snowmass 59.60 64 IAmb IAmb 02 10 34.3
comp=Z,6.0nm,0.9s
SWSC Sam W. Stewart 59.64 75 P **P** 02 10 33.5 +2.0
baz=320
RAMN Ramite 59.68 274 *eP* **P** 02 10 30.9 -1.2
comp=Z,38nm,0.6s
IKP In-Ko-Pah, Jac 59.69 76 P **P** 02 10 34.1 +2.1
baz=320
YUH Yuha Desert 59.80 76 P **P** 02 10 32.8 +0.2
BORG Borgarnes 59.80 1 LR LR 02 37 48.3
comp=Z,131nm,18.1s,baz=258,slow=37
MOS Moscow 59.80 327 *eP* **P** 02 10 27.8 -4.4
MOS *e* 02 10 56.0
MOS pmax pmax
comp=Z,26nm,0.7s
ISCO Idaho Springs 59.82 63 P **P** 02 10 35.5 +2.4
baz=319,SNR=7.2
ISCO Idaho Springs 59.82 63 P **P** 02 10 35.7 +2.7
ISCO pmax pmax
comp=Z,8.0nm,1.7s
PKI Pulchoki 59.87 275 *eP* **P** 02 10 32.3 -1.3
comp=Z,18nm,0.5s
PKIN Phulchoki 59.87 275 *eP* **P** 02 10 32.3 -1.2
comp=Z,29nm,0.6s
WUAZ Wupatki 60.08 70 IAmb IAmb 02 10 37.9
comp=Z,17nm,1.3s
WUAZ Wupatki 60.08 70 P **P** 02 10 36.7 +2.0
baz=320,SNR=5.1
GLA Glamis 60.09 74 P **P** 02 10 36.5 +1.8
baz=320
EYMN Ely 60.10 48 P **P** 02 10 35.4 +0.9
baz=322,SNR=6.9
DANN Dangsing 60.20 277 *eP* **P** 02 10 34.9 -0.8
comp=Z,46nm,0.7s
MVCO Mesa Verde 60.31 67 P **P** 02 10 37.7 +1.4
baz=320
OBN Obninsk 60.65 327⇑ *eP* **P** 02 10 37.6 -0.4
OBN *e**PP **pP** 02 11 02.1 -1.3
OBN *e**SP **sP** 02 11 12.7 -2.1
OBN *e* 02 11 20.4
OBN *eS* **S** 02 18 45.0 -0.9
OBN pmax pmax
comp=Z,27nm,2.5s
OBN MLR MLR
comp=Z,49nm,15.0s
Q24A Divide 60.69 63 P **P** 02 10 40.7 +1.7
baz=320
OGNE Ogallala 60.73 60 P **P** 02 10 41.0 +2.1
baz=320
S22A 4UR Ranch, Cre 60.76 65 P **P** 02 10 41.9 +2.4
baz=320,SNR=8.1
PYUN Piuthan 60.82 278 *eP* **P** 02 10 38.8 -1.1
comp=Z,86nm,0.9s
ECSD EROS Data Cent 61.14 54 IAmb IAmb 02 10 43.5
comp=Z,6.4nm,0.6s
ECSD EROS Data Cent 61.14 54 P **P** 02 10 42.7 +1.1
baz=321,SNR=8.5
NB2 NORSAR Subarra 61.17 344 P **P** 02 10 41.5 0.0
comp=Z,4.0nm,0.5s,baz=19,slow=6.9
NB2 NORSAR Subarra 61.17 344 P **P** 02 10 41.5 0.0
baz=19,slow=6.9
NOA NORSAR Array B 61.17 344 P **P** 02 10 41.3 -0.3
comp=Z,7.5nm,0.7s,baz=19,slow=6.9,SNR=25
NOA LR LR 02 39 23.7
comp=Z,18nm,18.1s,baz=275,slow=38
comp=Z,7.5nm,0.7s
W18A Petrified Fore 61.25 69 P **P** 02 10 44.1 +1.4
baz=320
NORES NORESS Array B 61.41 344 P **P** 02 10 44.6 +1.5
SDCO Great Sand Dun 61.44 64 P **P** 02 10 46.0 +2.0
baz=320,SNR=6.4
X18A Snowflake 61.59 70 IAmb IAmb 02 10 48.1
comp=Z,13nm,1.0s
HFS Hagfors 61.62 342 P **P** 02 10 43.6 -0.9
comp=Z,7.2nm,0.5s,baz=33,slow=3.5,SNR=53
comp=Z,7.2nm,0.5s
SPMN Marine on St. 61.68 51 P **P** 02 10 46.7 +1.6
baz=322
NIL Nilore 61.91 289 P **P** 02 10 44.6 -2.3
NIL IAmb IAmb 02 11 26.9
comp=Z,9.7nm,0.7s
NIL Nilore 61.91 289 P **P** 02 10 44.6 -2.3
NIL pmax pmax
comp=Z,10.0nm,0.7s
KSCO Kaye Shedlock' 61.92 61 P **P** 02 10 47.6 +0.6
baz=321
SKAR Skarslia 61.95 345 *eP* **P** 02 10 47.4 +0.6
214A Organ Pipe Nat 62.02 74 P **P** 02 10 49.6 +1.9
baz=320
LPSR Galich'ya Gora 62.03 324 *eP* **P** 02 10 45.4 -1.9
LPSR pmax pmax
comp=Z,30nm,0.7s
VRH Novokhopyorsk 62.25 322 *eP* **P** 02 10 46.1 -2.7
VRH pmax pmax
comp=Z,30nm,0.6s
T25A Trinidad 62.46 64 P **P** 02 10 51.9 +1.1
baz=321
VORR Voronezh 62.72 324 *eP* **P** 02 10 49.3 -2.6
VORR pmax pmax
comp=Z,20nm,0.4s
KONO Kongsberg 62.75 344 *eP* **P** 02 10 52.8 +0.8
TUC Tucson 62.84 72 P **P** 02 10 52.4 -0.8
TUC Tucson 62.84 72 P **P** 02 10 54.5 +1.3
baz=321
TUC Tucson 62.84 72 P **P** 02 10 52.4 -0.8
TUC pmax pmax
comp=Z,5.0nm,1.2s
TUC Tucson 62.84 72 P **P** 02 10 55.3 +2.1
SCHQ Schefferville 62.95 29 P **P** 02 10 53.1 -0.4
comp=Z,6.5nm,0.7s,baz=341,slow=6.8,SNR=10
comp=Z,6.5nm,0.7s
ANMO Albuquerque 63.10 67 P **P** 02 10 55.4 +0.3
ANMO Albuquerque 63.10 67 P **P** 02 10 56.8 +1.8
baz=321
ANMO Albuquerque 63.10 67 P **P** 02 10 55.4 +0.3
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO Albuquerque 63.10 67 P **P** 02 10 56.7 +1.7
VSR Storozhevoye 63.12 323 *eP* **P** 02 10 52.3 -2.3
VSR pmax pmax
comp=Z,20nm,0.9s
VORD Divnogorie 63.28 323 *eP* **P** 02 10 54.0 -1.7
VORD pmax pmax
comp=Z,10.0nm,0.5s
KBL Kabul 63.44 293 P **P** 02 10 53.8 -3.5
KBL Kabul 63.44 293 P **P** 02 10 53.8 -3.5
KBL pmax pmax
comp=Z,7.0nm,0.9s
CBKS Cedar Bluff 63.49 60 P **P** 02 10 57.9 +0.6
baz=322
NACGM Naroch 63.61 333 *eP* **P** 02 10 59.3 +1.5
comp=Z,41nm,1.1s,baz=27
MRSI Marisa 63.66 225 P **P** 02 10 59.3 +0.7
comp=Z,55nm,0.6s
MNK Minsk 63.68 332 *i* P **P** 02 10 56.7 -1.5
comp=E,8.0nm,1.7s
MNK *i* P **P** 02 10 56.7 -1.5
comp=N,12nm,1.6s
MNK *i* P **P** 02 10 56.7 -1.5
comp=Z,10.0nm,0.6s,baz=27
MNK *i* pP **pP** 02 11 21.6 -2.2
MNK *i* PP **PP** 02 13 17.9 -0.9
MNK *i* PPP PPP 02 14 48.8
MNK *i* S **S** 02 19 25.9 +2.0
MNK *i* sS **sS** 02 20 07.1 -1.1
MNK *i* SS SS 02 23 06.0 -26
MNK *i* SSS SSS 02 26 25.3
MNK *i* LQ LQ 02 33 39.5
MNK *i* LR LR 02 39 10.6
MNK Minsk 63.68 332 *i* P **P** 02 10 56.7 -1.5
MNK *i* *PP **pP** 02 11 21.6 -2.2
MNK *i* 02 13 17.8
MNK *i* PPP PPP 02 14 48.7
MNK *i* S **S** 02 19 25.9 +2.0
MNK *i* SSS SSS 02 26 25.3
MNK pmax pmax
comp=Z,10.0nm,0.6s
MNK pmax pmax
comp=N,12nm,1.5s
MNK pmax pmax
comp=E,8.0nm,1.7s
RTBA Rita Blanca 63.85 63 IAmb IAmb 02 11 01.7
comp=Z,17nm,1.0s
121A Cookes Peak, D 64.27 70 P **P** 02 11 04.7 +2.0
baz=321
319A Douglas 64.37 72 IAmb IAmb 02 11 06.2
comp=Z,15nm,1.1s
SANI Sanana 64.44 220 P **P** 02 11 04.0 +0.3
comp=Z,26nm,0.7s
KSU1 Kansas State U 64.77 57 P **P** 02 11 05.8 +0.1
baz=323
HNR Honiara 64.96 181 LR LR 02 36 03.0
comp=Z,914nm,18.9s,baz=354,slow=33
VLDQ Val d'Or 65.42 39 P **P** 02 11 08.0 -1.7
MSTX Muleshoe 65.77 65 IAmb IAmb 02 11 14.1
comp=Z,12nm,0.9s
MSTX Muleshoe 65.77 65 P **P** 02 11 13.6 +1.3
baz=322
P38A Dawn 65.80 55 IAmb IAmb 02 11 13.8
comp=Z,24nm,1.2s
PMG Port Moresby 66.00 195 P **P** 02 11 13.5 -0.2
PMG IAmb IAmb 02 11 15.1
comp=Z,18nm,0.8s
PMG Port Moresby 66.00 195 P **P** 02 11 13.5 -0.2
PMG pmax pmax
comp=Z,18nm,0.9s
SMWD Samnorwood 66.15 62 IAmb IAmb 02 11 16.7
comp=Z,19nm,1.0s
MNTX Cornudas Mount 66.19 68 P **P** 02 11 16.7 +1.7
baz=322,SNR=13
GEYT Alibeck 66.24 303 IAmb IAmb 02 11 15.8

comp=Z,17nm,0.8s
GEYT Alibeck 66.24 303 P **P** **02 11 14.3 -0.9**
comp=Z,11nm,0.7s,baz=5.7,slow=1.5,SNR=18
comp=Z,11nm,0.7s
GYA0B ALIBECK ARRAY 66.24 303 IAmb IAmb 02 11 15.8
comp=Z,15nm,0.8s
AKASG Malin Array Be 66.69 329 P **P** **02 11 16.9 -0.9**
comp=Z,4.5nm,0.5s,baz=28,slow=6.8,SNR=13
AKASG LR LR 02 44 09.1
comp=Z,68nm,18.0s,baz=12,slow=39
comp=Z,4.5nm,0.5s
AKBB Malin Array Si 66.69 329 IAmb IAmb 02 11 18.2
comp=Z,25nm,1.6s
AKBB Malin Array Si 66.69 329 *ce*P **P** **02 11 17.0 -0.7**
KIEV Kiev 66.70 329 P **P** **02 11 15.5 -2.3**
KIEV IAmb IAmb 02 11 18.2
comp=Z,22nm,1.6s
KIEV Kiev 66.70 329 P **P** **02 11 15.5 -2.3**
KIEV pmax pmax
comp=Z,22nm,1.6s
KIEV Kiev 66.70 329 P **P** **02 11 17.1 -0.6**
HDIL Hopedale 66.96 51 P **P** **02 11 19.8 +0.1**
baz=325
425A Indio Mountain 67.12 69 IAmb IAmb 02 11 23.6
comp=Z,17nm,1.4s
POST Post 67.13 65 IAmb IAmb 02 11 22.7
comp=Z,12nm,0.8s
WMOK Wichita Mounta 67.17 62 IAmb IAmb 02 11 23.0
comp=Z,15nm,0.9s
S39A Bolivar 67.45 56 IAmb IAmb 02 11 24.0
comp=Z,8.6nm,0.8s
APMT Aspermont 67.62 64 P **P** **02 11 23.6 -0.4**
APMT IAmb IAmb 02 11 25.4
comp=Z,9.6nm,0.8s
TUL3 Leonard 67.70 59 P **P** **02 11 24.9 +0.5**
baz=324
MNHN Monahans 67.84 67 IAmb IAmb 02 11 26.9
comp=Z,6.3nm,0.7s
U38A Gravette 67.95 57 IAmb IAmb 02 11 27.1
comp=Z,23nm,1.4s
KIV Kislovodsk 67.98 317 *e*P **P** **02 11 27.2 +1.1**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV Kislovodsk 67.98 317 P **P** **02 11 26.0 -0.1**
KIV PcP **PcP** **02 11 51.1 -0.6**
KIV pP **pP** **02 11 53.3 +1.1**
KIV sP **sP** **02 12 06.7 +3.1**
KBZ Khabaz 68.09 317 *c i*P **P** **02 11 26.8 +0.2**
KBZ Khabaz 68.09 317 P **P** **02 11 25.1 -1.5**
comp=Z,4.0nm,0.8s,baz=92,slow=2.6,SNR=17
comp=Z,4.0nm,0.8s
CCM Cathedral Cave 68.12 54 P **P** **02 11 26.7 -0.3**
CCM IAmb IAmb 02 11 28.2
comp=Z,14nm,1.0s
CCM Cathedral Cave 68.12 54 P **P** **02 11 26.6 -0.4**
baz=325
CCM Cathedral Cave 68.12 54 P **P** **02 11 26.7 -0.3**
CCM pmax pmax
comp=Z,14nm,1.0s
CCM Cathedral Cave 68.12 54 P **P** **02 11 27.4 +0.4**
ALPN Alpine 68.15 68 IAmb IAmb 02 11 29.6
comp=Z,9.6nm,1.2s
SGCY Sterling City 68.23 65 IAmb IAmb 02 11 29.6
comp=Z,12nm,0.9s
ZKTA Zakatala 68.34 313 P **P** **02 11 25.9 -2.5**
ABTX Abilene, Hawle 68.42 64 IAmb IAmb 02 11 30.7
comp=Z,9.8nm,0.8s
ABTX Abilene, Hawle 68.42 64 P **P** **02 11 29.5 +0.5**
baz=323
SEKA Sheki 68.46 312 P **P** **02 11 26.4 -2.8**
ZEI Tsey 68.48 315 *e*P **P** **02 11 28.3 -1.2**
ZEI pmax pmax
comp=Z,14nm,1.6s
EKA Eskdalemuir Ar 68.54 351 P **P** **02 11 29.3 0.0**
comp=Z,3.5nm,0.5s,baz=17,slow=5.5,SNR=22
comp=Z,3.5nm,0.5s
STKI Sintang 68.57 235 P **P** **02 11 30.8 +0.8**
comp=Z,28nm,0.4s
SPSI Sidrap Palu 68.57 225 P **P** **02 11 30.4 +0.4**
comp=Z,50nm,0.9s
ONI Oni 68.83 316 IAmb IAmb 02 11 33.5
comp=Z,24nm,1.5s
MNGR Mingechevir, A 68.87 312 P **P** **02 11 29.2 -2.4**
TX31 Lajitas Ar. Si 68.96 69 P **P** **02 11 33.2 +0.7**
TX31 IAmb IAmb 02 11 34.9
comp=Z,17nm,0.7s
TXAR Lajitas Array 68.96 69 P **P** **02 11 33.3 +0.8**
comp=Z,6.5nm,0.6s,baz=297,slow=4.8,SNR=98
comp=Z,6.5nm,0.6s
O48B Farmland 69.00 49 P **P** **02 11 31.6 -0.9**
baz=326
ANN Anapa 69.21 321 *e*P **P** **02 11 29.3 -4.3**
ANN *e**PP **PcP** **02 11 56.2 -0.5**
ANN pmax pmax
comp=Z,232nm,1.8s
SORM Soroca 69.24 328 ⇑P **P** **02 11 33.2 -0.5**
SORM Soroca 69.24 328 ⇑P **P** **02 11 33.2 -0.5**
SAND Sanderson 69.28 67 IAmb IAmb 02 11 36.5
comp=Z,7.1nm,1.0s
GANJ Ganja 69.30 313 P **P** **02 11 31.9 -2.4**
SIUC Southern Illin 69.32 53 IAmb IAmb 02 11 35.1
comp=Z,11nm,0.7s
KULM Kulim 69.44 248 IAmb IAmb 02 11 36.3
comp=Z,29nm,1.1s
LONY Lake Ozonia 69.44 39 P **P** **02 11 34.3 -0.7**
baz=330
FCAR Ozark Folk Cen 69.47 56 IAmb IAmb 02 11 36.3
comp=Z,22nm,1.1s
PBMO Poplar Bluff 69.53 54 IAmb IAmb 02 11 37.1
comp=Z,15nm,0.9s
ERPA Erie 69.55 44 P **P** **02 11 35.5 -0.3**
baz=328
OJC Ojcow 69.64 335 P **P** **02 11 35.6 -0.6**
OJC IAmb IAmb 02 11 38.0
comp=Z,18nm,1.2s
OJC Ojcow 69.64 335 P **P** **02 11 35.6 -0.6**
OJC pmax pmax
comp=Z,18nm,1.2s
BKSI Bulukumba 69.67 224 P **P** **02 11 37.3 +0.6**
comp=Z,28nm,0.7s
P49A Miami Univ. Ec 69.79 49 P **P** **02 11 37.2 -0.1**
baz=327
BRDY Brady 69.82 64 IAmb IAmb 02 11 39.1
comp=Z,6.0nm,0.9s
M53A WI Miller and 69.86 45 P **P** **02 11 38.0 +0.3**
baz=328
LKRN Lenkeran, Azer 69.86 310 P **P** **02 11 35.4 -2.3**
MIAR Mount Ida 69.87 58 IAmb IAmb 02 11 39.6
comp=Z,12nm,0.8s
MIAR Mount Ida 69.87 58 P **P** **02 11 38.5 +0.6**
baz=325,SNR=6.4
WHAR Wooly Hollow 69.88 57 IAmb IAmb 02 11 39.3
comp=Z,20nm,0.9s
ACSO Alum Creek Sta 69.93 47 P **P** **02 11 37.6 -0.5**
baz=327
WHTX Lake Whitney, 70.03 62 P **P** **02 11 39.5 +0.6**
baz=324
JCT Junction City 70.06 65 IAmb IAmb 02 11 40.8
comp=Z,18nm,0.8s
JCT Junction City 70.06 65 P **P** **02 11 40.2 +1.1**
baz=324,SNR=5.7
CLL Collm 70.11 339 IAmb IAmb 02 11 40.4
comp=Z,19nm,1.1s
CLL Collm 70.11 339 ⇑ *i*P **P** **02 11 39.1 +0.1**
comp=Z,24nm,1.3s
CLL *e*PcP **PcP** **02 11 59.0 -1.4**
CLL *e*(pP) **pP** **02 12 03.0 -2.0**
CLL *es*P **sP** **02 12 16.0 -0.3**
CLL Collm 70.11 339 ⇑ *i*P **P** **02 11 39.1 +0.1**
CLL *e**PP **pP** **02 12 03.0 -2.0**
CLL pmax pmax
comp=Z,24nm,1.3s
OSTC Ostas 70.14 337 *e*P **P** **02 11 40.1 +0.8**
OSTC Ostas 70.14 337 *e*P **P** **02 11 40.1 +0.8**
CHVC Chvalec 70.15 337 *e*P **P** **02 11 40.1 +0.7**
CHVC Chvalec 70.15 337 *e*P **P** **02 11 40.1 +0.7**
BBKI Banjar Baru 70.18 230 P **P** **02 11 41.0 +1.1**
WCI Wyandotte Cave 70.19 51 P **P** **02 11 40.1 +0.3**
baz=326
UPC Upice 70.23 337 *e*P **P** **02 11 40.8 +1.0**
UPC Upice 70.23 337 *e*P **P** **02 11 40.8 +1.0**
X40A Basin Creek Fa 70.27 58 IAmb IAmb 02 11 42.0
comp=Z,11nm,1.0s
DPC Dobruska-Polom 70.31 337 *e*P **P** **02 11 41.3 +0.9**
DPC *epP **pP** **02 12 06.9 +0.5**
DPC Dobruska-Polom 70.31 337 *e*P **P** **02 11 41.3 +0.9**
DPC *e**PP **pP** **02 12 06.9 +0.5**
BRG Berggiesshubel 70.33 339 *e*P P 02 11 33.1 -7.3
BRG Amp 02 11 34.2
comp=Z,7.8nm,0.9s
BRG Berggiesshubel 70.33 339 *e*P P 02 11 33.1 -7.3
BRG pmax pmax
comp=Z,8.0nm,0.9s
GNI Garni 70.37 313 P **P** **02 11 40.8 -0.2**
GNI IAmb IAmb 02 11 45.1
comp=Z,28nm,1.2s
GNI Garni 70.37 313 ⇓ *e*P **P** **02 11 42.3 +1.3**
GNI pmax pmax
comp=Z,42nm,1.7s
KRLC Kraliky 70.47 337 *e*P **P** **02 11 41.9 +0.6**
KRLC Kraliky 70.47 337 *e*P **P** **02 11 41.9 +0.6**
DRIO Del Rio 70.48 66 IAmb IAmb 02 11 43.2
comp=Z,10nm,0.8s
PVCC Panska Ves 70.53 338 *e*P **P** **02 11 42.6 +1.0**
PVCC Panska Ves 70.53 338 *e*P **P** **02 11 42.6 +1.0**
MORC Moravsky Berou 70.58 336 ⇑P **P** **02 11 43.0 +0.9**
MORC Moravsky Berou 70.58 336 IAmb IAmb 02 11 43.9
comp=Z,13nm,1.0s
MORC Moravsky Berou 70.58 336 *e*P **P** **02 11 42.9 +0.9**
MORC Moravsky Berou 70.58 336 ⇑P **P** **02 11 43.0 +0.9**
BUR08 Bucovina Ar. S 70.59 330 IAmb IAmb 02 12 05.4
comp=Z,24nm,1.9s
RICC Richard 70.61 339 *e*P **P** **02 11 43.2 +1.1**
BURAR Bucovina Array 70.61 330 ⇓P **P** **02 11 42.6 +0.3**
BURAR Bucovina Array 70.61 330 IAmb IAmb 02 11 43.7
comp=Z,7.0nm,0.6s
BURAR Bucovina Array 70.61 330 ⇓P **P** **02 11 42.6 +0.3**
O53A New Philadelph 70.64 46 P **P** **02 11 42.3 -0.2**
baz=328
HSKC Hora Svate Kat 70.68 339 *e*P **P** **02 11 43.4 +0.8**
HSKC *epP **pP** **02 12 08.3 -0.4**
LBNH Lisbon 70.70 38 P **P** **02 11 42.8 0.0**
baz=332
LANS Liptovska Anna 70.71 335 *e*P **P** **02 11 44.5 +1.7**
LANS Liptovska Anna 70.71 335 *e*P **P** **02 11 44.5 +1.7**
LANS pmax pmax
comp=Z,7.0nm,0.8s
P52A Corning 70.79 47 P **P** **02 11 42.2 -1.1**
baz=328
NAX Nakhchivan 70.88 312 P **P** **02 11 41.6 -2.4**
MAUC Maruska 70.90 336 *e*P **P** **02 11 45.1 +1.2**
435B Jarrell 70.94 63 P **P** **02 11 45.5 +1.1**
baz=324
PRU Pruhonice 71.04 338 *e*P **P** **02 11 45.7 +1.0**
PRU *epP **pP** **02 12 10.5 -0.3**
PRU Pruhonice 71.04 338 *e*P **P** **02 11 45.7 +1.0**
PRU *e**PP **pP** **02 12 10.5 -0.3**
GOPC GO Pecny, Ondr 71.06 338 *e*P **P** **02 11 45.6 +0.7**
GOPC GO Pecny, Ondr 71.06 338 *e*P **P** **02 11 45.6 +0.7**
TESR Tescani 71.20 329 ⇑P **P** **02 11 45.3 -0.5**
VRAC Vranov 71.23 336 ⇓P **P** **02 11 47.2 +1.3**
VRAC Vranov 71.23 336 *e*P **P** **02 11 47.0 +1.1**
VRAC Vranov 71.23 336 ⇓P **P** **02 11 47.2 +1.3**
VRAC Vranov 71.23 336 LR LR 02 48 54.5
comp=Z,40nm,19.4s,baz=352,slow=41
NKC Novy Kostel 71.24 339 *e*P **P** **02 11 46.9 +1.0**
NKC Novy Kostel 71.24 339 *e*P **P** **02 11 46.9 +1.0**
WVT Waverly 71.25 53 P **P** **02 11 45.7 -0.5**
WVT IAmb IAmb 02 11 47.8
comp=Z,28nm,1.3s
WVT Waverly 71.25 53 P **P** **02 11 46.7 +0.5**
baz=326
WVT Waverly 71.25 53 P **P** **02 11 45.7 -0.5**
WVT pmax pmax
comp=Z,29nm,1.3s
JAVC Velka Javorina 71.41 336 *e*P **P** **02 11 48.7 +1.7**
VYHS Vyhne 71.47 335 *e*P **P** **02 11 48.2 +0.8**
VYHS Vyhne 71.47 335 *e*P **P** **02 11 48.2 +0.8**
VYHS pmax pmax
comp=Z,25nm,1.8s
KRUC Moravsky 71.51 337 *e*P **P** **02 11 48.4 +0.8**
NATX Nacogdoches 71.61 61 P **P** **02 11 49.4 +0.9**
baz=325
ZVC Zvikov 71.64 338 *e*P **P** **02 11 49.3 +1.0**
MCWV Mont Chateau 71.70 45 P **P** **02 11 49.5 +0.7**
baz=329
VRI Vrincioaia 71.77 328 ⇓P **P** **02 11 49.3 +0.1**
VRI Vrincioaia 71.77 328 ⇓P **P** **02 11 49.3 +0.1**
TURR Turia 71.81 329 ⇑P **P** **02 11 49.2 -0.2**
OXF Oxford 71.87 55 P **P** **02 11 50.5 +0.6**
baz=326
COVR Voineasa-Covas 71.94 329 ⇑P **P** **02 11 51.2 +1.0**
CLTN Cedars of Leba 71.95 52 IAmb IAmb 02 11 51.5
comp=Z,12nm,0.6s
MODS Modra-Piesok 71.95 336 *e*P **P** **02 11 52.2 +1.9**
MODS Modra-Piesok 71.95 336 *e*P **P** **02 11 52.2 +1.9**
CFR Carcaliu 71.96 327 ⇑P **P** **02 11 49.7 -0.6**
CFR Carcaliu 71.96 327 ⇑P **P** **02 11 49.7 -0.6**
GRA1 Grafenberg Arr 71.99 340 IAmb IAmb 02 11 52.6
comp=Z,20nm,0.9s
GRFO Grafenberg 71.99 340 P **P** **02 11 51.0 +0.5**
GRFO IAmb IAmb 02 11 52.6
comp=Z,19nm,0.9s
GRFO Grafenberg 71.99 340 P **P** **02 11 51.0 +0.5**
GRFO pmax pmax
comp=Z,19nm,0.9s
L61B Northampton 72.01 39 P **P** **02 11 50.4 -0.3**
baz=332
MEM Membach 72.02 344 *d*P **P** **02 11 50.8 +0.2**
MEM *dp**P **pP** **02 12 15.5 -1.2**
BTNL Ternell 72.03 344 *d*P **P** **02 11 50.6 -0.1**
comp=Z,8.8nm,1.1s
BTNL *dp**P **pP** **02 12 15.0 -1.7**
V48A Smith Brothers 72.03 53 IAmb IAmb 02 11 52.3
comp=Z,46nm,1.7s
KHC Kasperske Hory 72.06 338 IAmb IAmb 02 11 53.0
comp=Z,12nm,1.0s
KHC Kasperske Hory 72.06 338 *e*P **P** **02 11 51.6 +0.7**
KHC *epP **pP** **02 12 16.4 -0.6**
KHC Kasperske Hory 72.06 338 ⇑ *e*P **P** **02 11 51.3 +0.4**
KHC *i**PP **pP** **02 12 16.5 -0.6**
KHC pmax pmax
comp=Z,48nm,1.7s
BSTI Sart Tilman 72.12 344 *d*P **P** **02 11 52.0 +0.8**
comp=Z,3.3nm,1.2s
BSTI *dp**P **pP** **02 12 18.1 +0.8**
ZST Bratislava 72.16 336 *e*P **P** **02 11 53.3 +1.8**
ZST Bratislava 72.16 336 *e*P **P** **02 11 53.3 +1.8**
CKRC Cesky Krumlov 72.20 338 *e*P **P** **02 11 52.6 +0.9**
CKRC Cesky Krumlov 72.20 338 *e*P **P** **02 11 52.6 +0.9**
EDFI Ende, Flores 72.20 221 P **P** **02 11 50.8 -1.4**
GERES GERESS Array B 72.30 338 P **P** **02 11 52.1 -0.4**
comp=Z,4.7nm,0.8s,baz=35,slow=4.9,SNR=12
comp=Z,4.7nm,0.8s
MLR Muntele Rosu 72.34 329 ⇑P **P** **02 11 53.9 +1.1**
MLR Muntele Rosu 72.34 329 P **P** **02 11 51.6 -1.2**
MLR Muntele Rosu 72.34 329 P **P** **02 11 51.6 -1.2**
MLR pmax pmax
comp=Z,6.0nm,0.7s
HRV Adam Dziewonsk 72.35 38 P **P** **02 11 52.8 +0.1**
baz=332
RPSI Rantau Prapat 72.53 248 IAmb IAmb 02 11 54.0
comp=Z,23nm,1.0s
VOIR 72.65 329 ⇑P **P** **02 11 55.3 +0.8**
VOIR 72.65 329 ⇑P **P** **02 11 55.3 +0.8**
CONA Conrad Observa 72.70 336 *e*P **P** **02 11 55.9 +1.1**
comp=Z,7.4nm,1.0s
TZTN Tazewell 72.80 50 P **P** **02 11 55.7 +0.3**
baz=328
RONA Rosalia, Austr 72.81 336 *e*P **P** **02 11 56.8 +1.3**
comp=Z,13nm,1.6s
PAL Palisades 72.83 41 P **P** **02 11 55.5 0.0**
baz=331
ARR Arges 72.83 330 ⇑P **P** **02 11 56.8 +1.2**
X48A Hartselle 73.00 53 IAmb IAmb 02 11 57.7
comp=Z,41nm,1.5s
MOA Mollin 73.12 337 *e*P **P** **02 11 58.1 +0.8**
comp=Z,12nm,1.8s
GZR Gura Zlata 73.33 331 ⇑P **P** **02 11 58.9 +0.4**
GZR Gura Zlata 73.33 331 ⇑P **P** **02 11 58.9 +0.4**
HBVL Hebbronville 73.39 66 IAmb IAmb 02 12 02.3
comp=Z,8.1nm,0.8s
BIOA Bad Ischl, Aus 73.41 338 *e*P **P** **02 12 00.6 +1.7**
comp=Z,2.1nm,0.5s
ARSA Arzberg 73.41 336 *e*P **P** **02 11 59.8 +0.9**
comp=Z,4.8nm,1.0s
BZS Buzias 73.44 332 ⇑P **P** **02 11 59.3 +0.2**
BZS Buzias 73.44 332 ⇑P **P** **02 11 59.3 +0.2**
FPAL Fort Paine 73.57 52 IAmb IAmb 02 12 01.3
comp=Z,25nm,1.1s
MORH Mrgy, Hungar 73.65 334 ⇑P **P** **02 12 00.9 +0.7**
PLAI Plampang 73.79 225 P **P** **02 12 00.2 -1.2**
ARPR Arapgir-MALATY 73.82 317 IAmb IAmb 02 12 04.3
comp=Z,15nm,1.3s
SOKA Soboth 74.06 337 *i* P **P** **02 12 03.9 +1.0**
comp=Z,2.2nm,0.4s
ECH Echery 74.15 342 P **P** **02 12 02.6 -0.7**
ECH IAmb IAmb 02 12 05.2
comp=Z,18nm,1.3s
ECH Echery 74.15 342 P **P** **02 12 02.6 -0.7**
ECH pmax pmax
comp=Z,18nm,1.3s
WATA Walderalm 74.18 339 *i* P **P** **02 12 04.4 +0.8**
comp=Z,2.4nm,0.6s,SNR=4.2
MDVR Moldovita 74.18 331 ⇑P **P** **02 12 03.4 -0.1**
LRAL Lakeview Retre 74.20 54 IAmb IAmb 02 12 04.1
comp=Z,10nm,0.7s
LRAL Lakeview Retre 74.20 54 P **P** **02 12 03.8 +0.1**
baz=327
WTTA Wattenberg 74.23 339 *e*P **P** **02 12 05.0 +1.1**
comp=Z,6.6nm,0.8s,SNR=6.0
MOTA Moosalm 74.26 339 *e*P **P** **02 12 04.6 +0.6**
comp=Z,7.7nm,0.9s,SNR=9.6
FRGS Fruska Gora 74.34 333 ⇑P **P** **02 12 04.5 +0.2**
SQTA Sankt Quirin 74.36 339 *i* P **P** **02 12 05.8 +1.2**
comp=Z,7.9nm,0.8s,SNR=4.5
MYKA Terra Mystica 74.42 338 *i* P **P** **02 12 06.2 +1.4**
comp=Z,1.9nm,0.4s
GSI Gunungsitoli 74.42 249 P **P** **02 12 07.0 +1.8**
comp=Z,44nm,0.8s,comp=Z,2um
ABTA Abfaltersbach 74.55 338 *i* P **P** **02 12 06.4 +0.8**
comp=Z,8.6nm,1.0s,SNR=7.5
PRED Cave del Predi 74.61 338 IAmb IAmb 02 12 07.2
comp=Z,11nm,0.9s
FETA Feichten 74.64 340 *i* P **P** **02 12 07.2 +0.9**
comp=Z,8.0nm,0.8s
PLVB Pleven 74.64 329 ⇑P **P** **02 12 06.2 +0.1**
KMSC Kings Mountain 74.93 49 P **P** **02 12 07.9 0.0**
baz=329
BNN Bunyan 74.97 319 IAmb IAmb 02 12 09.7
comp=Z,17nm,0.9s
BR131 Keskin Array S 75.01 321 *de*P **P** **02 12 08.4 -0.1**
BRTR Keskin Array B 75.01 321 *ce*P **P** **02 12 08.1 -0.4**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 75.01 321 P **P** **02 12 07.7 -0.8**
comp=Z,2.7nm,0.7s,baz=47,slow=2.1,SNR=10
comp=Z,2.7nm,0.7s
DAVOX Davos/Dischmat 75.04 340 LR LR 02 50 09.1
comp=Z,37nm,18.3s,baz=65,slow=40
GOGA Godfrey 75.48 51 P **P** **02 12 11.1 0.0**
baz=328
BRAL Brewton 75.74 55 P **P** **02 12 13.2 +0.6**
baz=327
CTA Charters Tower 76.63 195 LR LR 02 40 01.4
comp=Z,24nm,20.6s,baz=84,slow=31
CTAO Charters Tower 76.63 195 P **P** **02 12 17.1 -0.4**
CTAO IAmb IAmb 02 12 18.8
comp=Z,19nm,0.8s
CTAO Charters Tower 76.63 195 P **P** **02 12 17.1 -0.4**
CTAO pmax pmax
comp=Z,19nm,0.8s
TIGA Tifton 77.09 53 P **P** **02 12 20.7 +0.5**
baz=329
NHSC New Hope 77.17 49 P **P** **02 12 20.9 +0.3**
baz=330
DZM Mont Dzumac 77.64 175 IAmb IAmb 02 12 26.4
comp=Z,39nm,1.5s
DZM Mont Dzumac 77.64 175 *e*LR LR 02 36 19.5
comp=Z,135nm,31.8s
DZM Mont Dzumac 77.64 175 LR LR 02 41 53.8
comp=Z,71nm,20.3s,baz=322,slow=32
FDMO Fiordimonte 77.96 337 IAmb IAmb 02 12 26.5
comp=Z,22nm,0.8s
WB0 Warramunga Arr 78.62 206 P **P** **02 12 28.1 -0.5**
WB0 IAmb IAmb 02 12 31.3
comp=Z,13nm,0.8s
PALK Pallekele 78.75 266 P **P** **02 12 27.8 -1.8**
PALK IAmb IAmb 02 12 29.4
comp=Z,10.0nm,0.8s
PALK Pallekele 78.75 266 ⇑P **P** **02 12 28.6 -1.0**
WR0 Warramunga Arr 78.77 206 IAmb IAmb 02 12 31.2
comp=Z,48nm,1.8s
WRAB Tennant Creek 78.80 206 P **P** **02 12 28.2 -1.4**
WRAB Tennant Creek 78.80 206 P **P** **02 12 28.2 -1.4**
WRAB pmax pmax
comp=Z,96nm,1.9s
WB2 Warramunga Arr 78.80 206 P **P** **02 12 29.3 -0.3**
WB2 IAmb IAmb 02 12 32.3
comp=Z,16nm,0.9s
WRA Warramunga Arr 78.81 206 P **P** **02 12 29.2 -0.4**
WRA Warramunga Arr 78.81 206 P **P** **02 12 29.2 -0.4**
WRA pmax pmax
comp=Z,6.0nm,2.0s
WRA Warramunga Arr 78.81 206 P **P** **02 12 29.7 0.0**
comp=Z,8.2nm,0.6s,baz=10,slow=5.8,SNR=83
comp=Z,8.2nm,0.6s
MMAI Mount Meron Ar 80.28 316 P **P** **02 12 36.4 -1.4**
comp=Z,4.2nm,0.6s,baz=22,slow=5.4,SNR=10
MMAI LR LR 02 54 13.0
comp=Z,33nm,18.9s,baz=344,slow=40
comp=Z,4.2nm,0.6s
PMOR Pomariorio Ree 82.35 131 *e*T T 03 43 22.2
comp=Z,3.6nm,0.2s
ASAR Alice Springs 82.49 205 P **P** **02 12 49.5 +0.3**
comp=Z,12nm,0.8s,baz=13,slow=5.2,SNR=70
comp=Z,12nm,0.8s
POLO Lamas de Olo 82.79 352 *e*P **P** **02 12 51.7 +0.8**
comp=Z,24nm,1.7s
PVRL Vila Real 82.88 352 *e*P **P** **02 12 52.4 +1.1**
comp=Z,49nm,1.9s
MVO Moncorvo 82.94 351 *e*P **P** **02 12 49.3 -2.3**
comp=Z,37nm,1.8s
EIL Elat 83.42 315 LR LR 02 56 09.4
comp=Z,32nm,19.0s,baz=72,slow=40
PVIS Viseu 83.45 352 *e*P **P** **02 12 58.4 +4.2**
RAR Rarotonga 83.48 144 LR LR 02 41 39.3
comp=Z,52nm,21.2s,baz=176,slow=29
PPT2 Papeete2 83.96 134 *e*LR LR 02 39 57.2
comp=Z,52nm,22.0s
COI Coimbra 84.00 352 *e*P **P** **02 12 58.2 +1.3**
comp=Z,61nm,1.7s
ESBB Sonseca Array 84.11 349 IAmb IAmb 02 12 59.1
comp=Z,16nm,1.1s
ESDC Sonseca Array 84.11 349 IAmb IAmb 02 12 59.6
comp=Z,11nm,1.1s
ESDC Sonseca Array 84.11 349 P **P** **02 12 57.8 +0.2**
comp=Z,7.3nm,0.9s,baz=3.6,slow=4.8,SNR=30
comp=Z,7.3nm,0.9s
PCAS Casmilo, Conde 84.16 352 *e*P **P** **02 12 58.7 +0.9**
comp=Z,66nm,1.4s
PCAS *epP **pP** **02 13 23.2 -1.3**
PCBR Castelo Branco 84.29 351 *e*P **P** **02 12 59.3 +0.9**
comp=Z,32nm,1.7s
PCBR *epP **pP** **02 13 24.1 -1.1**
MBWA Marble Bar 84.35 219 P **P** **02 12 58.1 -0.6**
PSA00 Pilbara Seismi 84.69 218 P **P** **02 12 59.3 -1.2**
PSA00 IAmb IAmb 02 13 02.2
comp=Z,21nm,0.9s
PMRV Marv??o 84.69 351 *e*P P 02 13 06.4 +5.9
comp=Z,24nm,2.1s
PSBE So Bento 84.72 352 *e*P **P** **02 13 01.7 +1.1**
comp=Z,65nm,1.8s
PMTG Montargil 85.11 352 *e*P **P** **02 13 03.1 +0.5**
comp=Z,28nm,1.9s
PMTG *epP **pP** **02 13 27.9 -1.5**
PESTR Estremoz 85.26 351 *e*P **P** **02 13 04.0 +0.6**
comp=Z,32nm,1.7s
EVO Evora 85.63 352 *e*P **P** **02 13 06.2 +1.0**
comp=Z,22nm,1.8s
EVO *epP **pP** **02 13 30.8 -1.2**
KEST Kesra 85.77 337 P **P** **02 13 05.9 -0.1**
comp=Z,4.5nm,0.8s,baz=295,slow=4.3,SNR=19
KEST LR LR 02 58 07.2
comp=Z,30nm,19.2s,baz=243,slow=40
comp=Z,4.5nm,0.8s
PBAR Barrancos 85.90 351 *e*P **P** **02 13 07.5 +1.0**
comp=Z,30nm,1.7s
PBAR *epP **pP** **02 13 32.1 -1.3**
STKA Stephens Creek 88.91 197 P **P** **02 13 20.6 -0.1**
STKA Stephens Creek 88.91 197 P **P** **02 13 20.6 -0.1**
STKA pmax pmax
comp=Z,7.0nm,1.9s
STKA Stephens Creek 88.91 197 P **P** **02 13 20.8 +0.1**
comp=Z,1.9nm,0.5s,baz=2.2,slow=8.4,SNR=6.5
STKA LR LR 02 49 27.5
comp=Z,23nm,21.8s,baz=29,slow=33

comp=Z,1.9nm,0.5s
TBI Tubuai 89.19 136 *e*LR LR 02 41 43.2
comp=Z,527nm,36.8s
RPZ Rata Peaks 99.45 173 LR LR 02 50 21.6
comp=Z,54nm,21.2s,baz=32,slow=30
YOTC Yotoco, Valle 104.16 60 *e*P **PP 02 18 52.3 +3.1**
JAMC Jamundi, Valle 104.66 61 *e*P **PKiKP 02 18 44.5 -3.6**
POPC Popayan, Colom 105.24 61 *e*P PKiKP 02 18 35.7 -13
TORD Torodi Ar. Bea 109.25 339 PKiKP **PKiKP 02 18 55.5 -0.8**
comp=Z,0.3nm,0.5s,baz=12,slow=2.6,SNR=7.6
VNDA Vanda 133.02 180 PKP **PKiKP 02 19 41.1 +0.1**
comp=Z,1.5nm,0.9s,baz=360,slow=10,SNR=2.1
BOSA Boshof 138.67 293 PKP **PKPdf 02 19 52.0 +0.1**
comp=Z,6.6nm,1.2s,baz=99,slow=1.8,SNR=7.4
MAW Mawson 142.54 219 PKP **PKPdf 02 19 55.5 -1.9**
comp=Z,1.5nm,0.5s,baz=343,slow=6.8,SNR=3.7
ELIB Princess Elisa 156.17 211 *d*PKP **PKPab 02 20 47.3 -0.3**
TROLL Troll, Antarti 161.42 201 ⇓PKPab **PKPab 02 21 10.4 0.0**
comp=Z,723nm,0.6s
SNAA Sanae 162.67 197 ⇓PKPab **PKPab 02 21 15.3 -0.5**
comp=Z,111nm,1.0s
SNAA Sanae 162.67 197 PKPab **PKPab 02 21 14.8 -1.0**
comp=Z,2.4nm,0.8s,baz=164,slow=2.0,SNR=3.2
VNA2 Neumayer--Watz 164.01 194 ⇓PKPab **PKPab 02 21 20.8 -0.8**
comp=Z,6.0nm,0.7s,baz=160,slow=4.0

IDC ***13*** *02:15:17.8±1.2,35.°14S×72.°78W,h0km,mb3.7/4, mbtmp3.8/6,ML4.3/2, Error ellipse: s-maj=36.5km s-min=25.5km az=83.0*
NEIC ***13*** *02:15:20.5±1.1,35.°19S±0.°04×72.°77W±0.°07,h20km±3km, mb4.5/9, Error ellipse: s-maj=8.6km s-min=5.5km az=108.0*
GUC ***13*** *02:15:21.5±0.6,35.°20S×72.°61W,h24km±3km,ML4.3*

ISC 13 02:15:17.5±2.1,35.°14S±0.°04×72.°86W±0.°05,h2km±13km, n86,σ1°14/104,mb4.4/10,8C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	**Huala**	**0.77**	**81**	Pg	**Pb**	**02 15 34.0**	**+0.3**
GO05				Sg	**Sg**	**02 15 42.6**	**+0.3**
GO05	**Huala**	**0.77**	**81**	*i* P	**Pb**	**02 15 33.9**	**+0.3**
GO05				*e*S	**Sg**	**02 15 42.9**	**+0.6**
BO03	**Pichilemu**	**0.98**	**49**	⇓*i* P	**Pn**	**02 15 38.4**	**+0.1**
BO03				*i* S	**Sn**	**02 15 51.3**	**-1.4**
BO03				IAML		02 15 53.5	
	comp=N,15μm,0.8s						
ML02	**Panimavida**	**1.33**	**118**		**Pn**	**02 15 42.2**	**-0.9**
ML02	**Panimavida**	**1.33**	**118**	*i* P	**Pn**	**02 15 42.3**	**-0.9**
ML02				*e*S	**Sb**	**02 15 58.6**	**-2.1**
ML02				IAML		02 16 04.2	
	comp=N,9μm,0.5s						
BI05	**Punta Hualpn**	**1.63**	**189**	Pn	**Pn**	**02 15 46.7**	**-0.5**
BI05	**Punta Hualpn**	**1.63**	**189**	⇑*i* P	**Pn**	**02 15 46.8**	**-0.5**
BI05				*i* S	**Sn**	**02 16 06.3**	**-2.5**
BI05				IAML		02 16 14.5	
	comp=E,6μm,0.4s						
BO01	**Tunca**	**1.64**	**64**	Pn	**Pn**	**02 15 47.7**	**+0.3**
BO01	**Tunca**	**1.64**	**64**	⇓*i* P	**Pn**	**02 15 47.6**	**+0.3**
BO01				*i* S	**Sn**	**02 16 06.9**	**-2.2**
CCSP	**San Pedro de C**	**1.71**	**187**	*i* P	**Pn**	**02 15 48.4**	**0.0**
CCSP				*i* S	**Sb**	**02 16 11.8**	**+0.1**
CCSP				IAML		02 16 17.8	
	comp=N,5μm,0.6s						
BO02	**Sierra Bellavi**	**1.74**	**79**	Pn	**Pn**	**02 15 49.1**	**+0.3**
BO02	**Sierra Bellavi**	**1.74**	**79**	⇓*i* P	**Pn**	**02 15 49.1**	**+0.3**
BO02				*i* S	**Sb**	**02 16 11.2**	**-1.4**
BO02				IAML		02 16 14.6	
	comp=N,20μm,0.3s						
VA05	**Santo Domingo**	**1.80**	**35**	Pn	**Pn**	**02 15 50.1**	**+0.5**
VA05	**Santo Domingo**	**1.80**	**35**	*e*P	**Pn**	**02 15 50.2**	**+0.7**
MT01	**Popeta**	**1.84**	**47**	Pn	**Pn**	**02 15 50.1**	**0.0**
MT01	**Popeta**	**1.84**	**47**	⇑*i* P	**Pn**	**02 15 50.2**	**+0.1**
MT01				*e*S	**Sg**	**02 16 16.8**	**+0.3**
MT01				IAML		02 16 20.4	
	comp=E,2μm,0.5s						
MT09	**Talagante**	**2.06**	**49**	Pn	**Pn**	**02 15 53.6**	**+0.3**
MT09	**Talagante**	**2.06**	**49**	⇑*i* P	**Pn**	**02 15 53.8**	**+0.6**
BO04	**La Punta**	**2.18**	**59**	Pn	**Pn**	**02 15 55.2**	**+0.3**
BO04	**La Punta**	**2.18**	**59**	⇑*i* P	**Pn**	**02 15 55.8**	**+0.9**
BO04				*i* S	**Sn**	**02 16 22.4**	**-0.1**
BO04				IAML		02 16 32.0	
	comp=N,4μm,0.8s						
MT02	**Curacav**	**2.35**	**38**	Pn	**Pn**	**02 15 57.8**	**+0.6**
MT02	**Curacav**	**2.35**	**38**	⇑*i* P	**Pn**	**02 15 57.6**	**+0.3**
MT02				*e*S	**Sb**	**02 16 30.8**	**+0.5**
MT05	**Renca**	**2.47**	**46**	Pn	**Pn**	**02 15 59.8**	**+0.9**
MT05	**Renca**	**2.47**	**46**	*e*P	**Pb**	**02 16 01.6**	**-1.2**
MT15	**Las Vizcachas**	**2.48**	**52**	*e*S	**Sb**	**02 16 33.5**	**-0.4**
MT13	**San Alfonso**	**2.54**	**58**	Pn	**Pn**	**02 16 00.5**	**+0.6**
MT13	**San Alfonso**	**2.54**	**58**	*e*P	**Pn**	**02 16 01.1**	**+1.2**
MT13				IAML		02 16 41.1	
	comp=E,3μm,0.3s						
LMEL	**Las Melosas**	**2.54**	**60**	Pn	**Pn**	**02 16 00.9**	**+0.9**
LMEL	**Las Melosas**	**2.54**	**60**	*e*P	**Pb**	**02 16 03.3**	**-0.7**
LMEL				*e*S	**Sb**	**02 16 37.5**	**+1.7**
LMEL				IAML		02 16 39.2	
	comp=N,3μm,0.3s						
MT03	**Universidad Ad**	**2.54**	**51**	Pn	**Pn**	**02 16 00.4**	**+0.5**
MT03	**Universidad Ad**	**2.54**	**51**	*e*P	**Pn**	**02 16 00.4**	**+0.5**
MT03				*e*S	**Sb**	**02 16 34.4**	**-1.4**
MT03				IAML		02 16 38.5	
	comp=E,3μm,0.4s						
MT14	**Cerro Cal¡n**	**2.59**	**49**	*e*P	**Pn**	**02 16 00.5**	**0.0**
MT14				*e*S	**Sb**	**02 16 36.2**	**-0.9**
MT14				IAML		02 16 44.7	
	comp=E,3μm,0.4s						
ROC1	**El Roble**	**2.64**	**36**	Pn	**Pn**	**02 16 02.2**	**+0.8**
ROCH	**El Roble**	**2.65**	**36**	*e*P	**Pn**	**02 16 02.4**	**+0.9**
ROCH				*e*P	**Pb**	**02 16 02.5**	**-3.3**
ROCH				IAML		02 16 47.2	
	comp=N,2μm,0.6s						
ROCH				IAML		02 16 48.6	
	comp=N,1μm,0.4s						
MT10	**Hacienda Santa**	**2.68**	**47**	*e*P	**Pn**	**02 16 03.0**	**+1.2**
PEL	**Peldehue**	**2.69**	**43**	Pn	**Pn**	**02 16 02.9**	**+1.1**
PEL	**Peldehue**	**2.69**	**43**	*e*P	**Pn**	**02 16 03.5**	**+1.7**
FCH	**Farellones**	**2.79**	**50**	⇑*i* P	**Pn**	**02 16 04.3**	**+0.8**
FCH				*i* S	**Sb**	**02 16 41.6**	**-1.5**
FCH				IAML		02 16 48.2	
	comp=N,1μm,0.4s						
MT04	**Ro Olivares**	**2.84**	**53**	*e*P	**Pn**	**02 16 05.4**	**+1.3**
MT04				IAML		02 16 48.5	
	comp=N,1μm,0.7s						
MT08	**Bocatoma Ro**	**2.90**	**55**	Pn	**Pn**	**02 16 05.8**	**+0.9**
MT08	**Bocatoma Ro**	**2.90**	**55**	*e*P	**Pn**	**02 16 06.9**	**+2.0**
MT08				*e*S	**Sb**	**02 16 43.5**	**-2.5**
LC02	**Puerto Saavedr**	**3.67**	**186**	Pn	**Pn**	**02 16 15.5**	**+0.2**
CO02	**Combarbal**	**4.22**	**22**	Pn	**Pn**	**02 16 23.9**	**+0.9**
LR03	**Panguipulli**	**4.50**	**175**	*e*P	**Pn**	**02 16 27.7**	**+0.9**
GO06	**Curarrehue**	**4.57**	**166**	Pn	**Pn**	**02 16 27.9**	**+0.1**
GO06	**Curarrehue**	**4.57**	**166**	*e*P	**Pn**	**02 16 28.8**	**+0.9**
CO03	**El Pedregal**	**4.66**	**24**	Pn	**Pn**	**02 16 30.2**	**+1.2**
LR04	**Corral**	**4.76**	**185**	*i* P	**Pn**	**02 16 30.1**	**0.0**
ZON	**Zonda**	**5.01**	**45**	Pn	**Pn**	**02 16 35.5**	**+1.7**
VA04	**Juan Fernndez**	**5.16**	**285**	Pn	**Pn**	**02 16 38.5**	**+2.7**
CFA	**Coronel Fontan**	**5.23**	**49**	Pn	**Pn**	**02 16 37.7**	**+0.9**
	comp=N,12nm,0.3s,baz=223,slow=14,SNR=110						
CFA				Sn	**Sn**	**02 17 38.5**	**+0.7**
	comp=N,5.5nm,0.3s,baz=241,slow=12,SNR=3.7						
CFA				Lg	Lg	02 17 51.9	
	comp=N,19nm,0.3s,baz=133,slow=20,SNR=7.1						
	comp=N,27nm,0.3s						
GO04	**Tololo Observa**	**5.25**	**20**	Pn	**Pn**	**02 16 38.1**	**+0.9**
GO04	**Tololo Observa**	**5.25**	**20**	*e*P	**Pn**	**02 16 38.4**	**+1.2**
CO05	**La Serena**	**5.38**	**15**	Pn	**Pn**	**02 16 39.2**	**+0.4**
CO01	**Juntas del Tor**	**5.65**	**25**	Pn	**Pn**	**02 16 44.2**	**+1.4**
PLCA	**Paso Flores**	**5.88**	**163**	Pn	**Pn**	**02 16 46.8**	**+1.1**
	comp=N,1.5nm,0.3s,baz=342,slow=13,SNR=28						
PLCA				Lg	Lg	02 18 16.9	
	comp=N,3.0nm,0.3s,baz=75,slow=24,SNR=5.5						
	comp=N,8.1nm,0.6s						
LL05	**Los Muermos**	**6.28**	**184**	Pn	**Pn**	**02 16 49.7**	**-1.3**
LCO	**Las Campanas**	**6.38**	**17**	Pn	**Pn**	**02 16 52.5**	**-0.2**
AC05	**El Transito**	**6.66**	**20**	Pn	**Pn**	**02 16 57.4**	**+0.9**
AC04	**Llanos de Chal**	**7.08**	**13**	Pn	**Pn**	**02 17 01.6**	**-0.6**
LL01	**San Ignacio de**	**7.24**	**177**	Pn	**Pn**	**02 17 03.6**	**-0.6**
GO03	**Copiap**	**7.85**	**17**	Pn	**Pn**	**02 17 13.1**	**+0.4**
AC06	**Mina Casimiro**	**8.05**	**16**	Pn	**Pn**	**02 17 15.1**	**-0.4**
AC01	**Pan de Azucar**	**9.17**	**13**	Pn	**Pn**	**02 17 29.2**	**-1.7**
GO02	**Mina Guanaco**	**10.34**	**17**	Pn	**Pn**	**02 17 44.9**	**-2.2**

PB07	**IPOC Station P**	**13.61**	**12**	Pn	**Pn**	**02 18 34.4**	**+2.6**
PB09	**IPOC Station P**	**13.67**	**14**	Pn	**Pn**	**02 18 30.4**	**-2.2**
PB11	**IPOC Station P**	**15.58**	**11**	P	**P**	**02 19 02.8**	**-0.1**
PB11				IAmb	IAmb	02 19 07.0	
	comp=Z,15nm,0.8s						
CPUP	**Villa Florida**	**15.96**	**61**	Pn	**P**	**02 19 09.3**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=168,slow=8.1,SNR=2.4						
PB16	**IPOC Station P**	**17.00**	**11**	P	**P**	**02 19 19.6**	**+0.5**
BOAV	**Boa Vista**	**39.09**	**20**	P	**P**	**02 22 46.6**	**+0.4**
BOAV				IAmb	IAmb	02 23 14.7	
	comp=Z,14nm,1.5s						
BAUV	**El Baul**	**44.08**	**7**	P	**P**	**02 23 27.2**	**+0.1**
BAUV				IAmb	IAmb	02 23 29.0	
	comp=Z,8.0nm,0.7s						
VNA3	**Neumayer Olymp**	**48.57**	**157**	P	**P**	**02 24 03.0**	**+1.1**
	comp=Z,2.6nm,0.8s						
VNA1	**Neumayer--Stat**	**48.90**	**156**	P	**P**	**02 24 05.2**	**+0.9**
	comp=Z,27nm,1.1s						
SNAA	**Sanae**	**50.79**	**157**	P	**P**	**02 24 18.6**	**-0.3**
SNAA	**Sanae**	**50.79**	**157**	⇑P	**P**	**02 24 19.3**	**+0.4**
	comp=Z,17nm,0.3s						
SNAA	**Sanae**	**50.79**	**157**	P	**P**	**02 24 19.1**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=295,slow=7.6,SNR=3.6						
	comp=Z,2.0nm,0.9s						
FDF	**Fort de France**	**50.83**	**15**	P	**P**	**02 24 19.1**	**-0.6**
TROLL	**Troll, Antarti**	**52.49**	**158**	⇑P	**P**	**02 24 32.2**	**+0.5**
	comp=Z,109nm,0.5s						
TXAR	**Lajitas Array**	**70.40**	**332**	P	**P**	**02 26 32.4**	**-0.8**
TXAR	**Lajitas Array**	**70.40**	**332**	P	**P**	**02 26 35.0**	**+1.9**
	comp=Z,0.6nm,0.7s,baz=152,slow=8.2,SNR=5.7						
	comp=Z,0.6nm,0.7s						
CPCT	**Cooper Cave**	**71.06**	**350**	P	**P**	**02 26 36.7**	**-0.2**
CPCT				IAmb	IAmb	02 26 57.1	
	comp=Z,7.1nm,1.1s						
WVT	**Waverly**	**72.26**	**347**	P	**P**	**02 26 45.5**	**+1.3**
LCAR	**Lake Charles**	**72.87**	**345**	P	**P**	**02 26 48.1**	**+0.4**
LCAR				IAmb	IAmb	02 27 14.8	
	comp=Z,6.7nm,1.3s						
PDAR	**Pinedale Array**	**84.47**	**334**	P	**P**	**02 27 51.2**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=135,slow=4.5,SNR=2.0						
	comp=Z,0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**85.23**	**70**	P	**P**	**02 27 55.6**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=241,slow=3.7,SNR=1.8						
	comp=Z,0.2nm,0.5s						

IDC 13 02:23:49.3±3.0,29.°54S×178.°06W,h0km,mb3.3/2, mbtmp3.3/2,Error ellipse: s-maj=116.1km s-min=49.6km az=21.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.11**	**266**	P	P	02 31 50.8	-0.8
	0.2nm,0.4s,baz=104,slow=7.7,SNR=2.0						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.02**	**271**	P	P	02 31 59.4	+0.4
	0.4nm,0.7s,baz=111,slow=7.8,SNR=4.8						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**144.32**	**340**	PKP	PKPdf	02 43 26.1	-0.5
	4.4nm,1.0s,baz=29,slow=1.8,SNR=6.0						
TORD	**Torodi Ar. Bea**	**163.69**	**179**	PKPab	PKPab	02 44 46.1	-0.4
	0.3nm,0.5s,baz=195,slow=2.9,SNR=5.0						

TEH ***13*** *03:39:57.9,38.°22N×57.°45E,h8km±890km,ML3.3*
NNC ***13*** *03:39:59.2±1.1,38.°21N×57.°63E,h51km±22km,mb3.3, Error ellipse: s-maj=17.8km s-min=14.6km az=124.0*

ISC 13 03:39:57.7±0.8,38.°37N±0.°05×57.°50E±0.°05,h10km,n15, σ1°50/19,3C-4D,Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GYA0B	**ALIBECK ARRAY**	**0.66**	**132**	⇑P	**Pb**	**03 40 11.4**	**0.0**
GYA0B				⇑S	**Sb**	**03 40 20.5**	**-0.1**
MRVT	**Maraveh tapeh**	**1.32**	**238**	Pg	**Pn**	**03 40 21.8**	**-0.5**
IEMG	**Emamgholi**	**1.32**	**136**	Pg	**Pg**	**03 40 23.0**	**-0.1**
SBZV	**Sabzevar**	**1.98**	**177**	Pn	**Pb**	**03 40 33.5**	**-0.5**
IMND	**Minoodasht**	**1.99**	**237**	Pn	**Pb**	**03 40 33.7**	**-0.3**
IAKL	**Akhelmad**	**2.03**	**150**	Pn	**Pb**	**03 40 35.4**	**+0.5**
IPAY	**Payeh**	**2.26**	**148**	Pn	**Pb**	**03 40 37.7**	**-1.0**
IKRD	**Kardeh**	**2.26**	**134**	Pn	**Pb**	**03 40 38.1**	**-0.7**
IMOG	**Moghan**	**2.70**	**146**	Pn	**Pn**	**03 40 43.2**	**+1.7**
IMYA	**Miami**	**2.90**	**134**	Pn	**Pb**	**03 40 47.4**	**-2.2**
JRKH	**Jarkhoshk**	**3.35**	**136**	Pn	**Pn**	**03 40 52.7**	**+2.4**
TNSJ	**Nastanj**	**4.46**	**190**	Pn	**Pn**	**03 41 07.0**	**+1.6**
KK31	**Karatay Array**	**10.95**	**60**	⇓Pn	**Pn**	**03 42 31.7**	**-2.6**
	0.3nm,0.5s						
KK31				⇓Sn	**Sn**	**03 44 35.6**	**-1.2**
	0.8nm,0.5s						
AB31	**Akbulak array**	**11.02**	**8**	Pn	**Pn**	**03 42 36.0**	**+0.7**
	0.1nm,0.2s,baz=192,slow=13,SNR=8.5						
AB31				⇓Sn	**Sn**	**03 44 41.2**	**+2.6**
	0.2nm,0.3s,baz=263,slow=66,SNR=4.1						
AKTO	**Aktyubinsk**	**12.07**	**2**	⇓Pn	**Pn**	**03 42 50.6**	**+1.0**
	0.7nm,0.4s						
AKTO				⇑Sn	**Sn**	**03 45 05.0**	**+0.8**
	1.1nm,0.7s						

AUST 13 03:41:13.1±0.8,32.°76S×138.°40E,h10km,2D,Error ellipse: s-maj=7.4km s-min=6.3km az=139.0,Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTT	**Hallett**	**0.80**	**147**	⇓P	Pg	03 41 28.5	-0.1
	baz=0.8,SNR=54						
HTT				S	Sg	03 41 39.3	+0.3
	baz=0.8,SNR=6.5						
BBOO	**Buckleboo**	**1.97**	**268**	⇓P	Pn	03 41 46.6	0.0
	baz=2.0,SNR=37						
BBOO				S	Sn	03 42 10.5	-0.9
	baz=2.0,SNR=11						
LCRK	**Leigh Creek**	**2.31**	**356**	P	Pn	03 41 51.3	0.0
	baz=2.3,SNR=4.3						
LCRK				S	Sn	03 42 19.4	-0.4
	baz=2.3						
STKA	**Stephens Creek**	**2.85**	**73**	P	Pn	03 41 58.6	0.0
	baz=2.8,SNR=5.2						
STKA				S	Sn	03 42 32.9	-0.1
	baz=2.8						
MULG	**Mulgathing**	**4.45**	**303**	P	Pn	03 42 20.0	-0.7
	baz=4.4						
MULG				S	Sn	03 43 09.6	-3.0
	baz=4.4						
ARPS	**Mount Arapiles**	**4.90**	**146**	P	Pn	03 42 26.8	-0.1
	baz=4.9						
ARPS				S	Sn	03 43 20.5	-3.1
	baz=4.9						
OOD	**Oodnadatta**	**5.48**	**334**	P	Pn	03 42 34.2	-0.6
	baz=5.5						
FORT	**Forrest**	**9.02**	**280**	P	Pn	03 43 22.1	-1.4
	baz=9.0						
NFK	**Norfolk Island**	**25.58**	**90**	P	P	03 46 39.6	-2.8
	baz=26,SNR=3.8						
XMI	**Christmas Isla**	**37.40**	**299**	S	S	03 54 26.1	+11
	baz=37,SNR=5.6						

IDC ***13*** *03:57:24.9±5.8,7.°09S×131.°75E,h57km±66km,mb3.8/5, mbtmp4.1/8,ML3.7/3,MS3.3/2,Error ellipse: s-maj=55.8km s-min=27.2km az=34.0*
DJA ***13*** *03:57:24.7±1.5,7.°5±3.°×13.°2E±.°,h22km±13km,M4.6/7, mb4.7/7,mB5.1/6,MLv4.7/7,Mw(mB)4.5/6,MwMwp6.0/1, Mwp6.1/1*
NEIC ***13*** *03:57:28.9±1.9,7.°07S±0.°08×131.°6E±0.°2,h98km±8km, mb4.0/5,Error ellipse: s-maj=21.8km s-min=10.9km az=97.0*

ISC 13 03:57:24.1±0.6,6.°87S±0.°05×131.°59E±0.°07,h36km,n47, σ2°10/45,mb4.1/6,1C,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.14**	**194**		Pn	03 57 48.6	+5.0
SAUI	**Saumlaki**	**1.14**	**194**	P	Pn	03 57 48.9	+5.3
SAUI	**Saumlaki**	**1.14**	**194**	P	**Pn**	**03 57 46.9**	**+3.3**
SAUI				S	**Sn**	**03 58 01.6**	**+3.5**
BNDI	**Bandanaira**	**2.87**	**324**	P	**Pn**	**03 58 11.1**	**+3.8**
BNDI	**Bandanaira**	**2.87**	**324**	P	**Pn**	**03 58 09.0**	**+1.7**
BNDI				S	**Sn**	**03 58 43.0**	**+2.4**
KMPI	**Kaimana, Papua**	**3.82**	**34**	P	**Pn**	**03 58 22.2**	**+1.8**
KMPI				S	**Sn**	**03 59 07.1**	**+3.0**
KDU	**Kakadu**	**5.85**	**171**	P	**Pn**	**03 58 50.0**	**+1.7**
MTN	**Manton Dam**	**5.96**	**184**	Pn	**Pn**	**03 58 52.4**	**+2.6**
MTN	**Manton Dam**	**5.96**	**184**	P	**Pn**	**03 58 52.5**	**+2.6**

SWI	**Sorong**	**5.97**	**357**	P	**Pn**	**03 58 51.6**	**+1.6**
	41nm,0.7s,3μm1.5nm						
SANI	**Sanana**	**7.35**	**310**	P	**Pn**	**03 59 10.3**	**+1.3**
	35nm,0.8s,765nm0.2nm						
SOEI	**Soe**	**7.79**	**248**	Pn	**Pn**	**03 59 16.8**	**+1.7**
SOEI	**Soe**	**7.79**	**248**	P	**Pn**	**03 59 16.4**	**+1.3**
	80nm,0.6s,1μm0.4nm						
BATI	**Baumata**	**8.51**	**246**	P	**Pn**	**03 59 27.1**	**+2.2**
KNRA	**Kununurra**	**9.18**	**197**	Pn	**Pn**	**03 59 36.1**	**+2.0**
KNRA	**Kununurra**	**9.18**	**197**	P	**Pn**	**03 59 36.1**	**+2.0**
WB0	**Warramunga Arr**	**13.11**	**168**	Pn	**Pn**	**04 00 26.2**	**-1.7**
WRA	**Warramunga Arr**	**13.27**	**169**	Pn	**Pn**	**04 00 27.7**	**-2.4**
WRA	**Warramunga Arr**	**13.27**	**169**	P	**Pn**	**04 00 27.3**	**-2.8**
	0.8nm,0.3s,baz=352,slow=13,SNR=38						
WRA				S	Sn	04 02 40.2	-16
	1.6nm,0.5s,baz=300,slow=4.7,SNR=1.8						
	3.1nm,0.6s						
WB2	**Warramunga Arr**	**13.27**	**169**	Pn	**Pn**	**04 00 28.2**	**-1.9**
WR0	**Warramunga Arr**	**13.33**	**168**	Pn	**Pn**	**04 00 29.4**	**-1.5**
COEN	**Coen**	**13.40**	**123**	Pn	**Pn**	**04 00 32.2**	**+0.4**
COEN	**Coen**	**13.40**	**123**	P	**Pn**	**04 00 33.7**	**+1.9**
PLAI	**Plampang**	**13.82**	**261**	P	**Pn**	**04 00 36.9**	**-0.7**
QIS	**Mount Isa**	**15.67**	**151**	P	**Pn**	**04 01 02.3**	**-0.1**
AS31	**Alice Springs**	**16.85**	**173**		**Pn**	**04 01 16.6**	**-0.8**
ASAR	**Alice Springs**	**16.85**	**173**	P	**Pn**	**04 01 17.6**	**+0.2**
ASAR	**Alice Springs**	**16.85**	**173**	P	**Pn**	**04 01 14.1**	**-3.3**
	0.8nm,0.3s,baz=346,slow=8.6,SNR=36						
ASAR				S	Sn	04 04 11.5	-12
	4.6nm,0.7s,baz=354,slow=27,SNR=9.7						
	1.5nm,0.5s						
AS01	**Alice Springs**	**16.86**	**172**	P	**Pn**	**04 01 18.3**	**+0.8**
	10nm,0.7s						
MBWA	**Marble Bar**	**18.26**	**218**	P	**P**	**04 01 31.2**	**-3.5**
MBWA				IAmb	IAmb	04 01 37.0	
	comp=Z,12nm,1.1s						
MBWA	**Marble Bar**	**18.26**	**218**	P	**P**	**04 01 33.1**	**-1.6**
WRKA	**Warakurna**	**18.34**	**190**	P	**P**	**04 01 34.7**	**-0.9**
PSA00	**Pilbara Seismi**	**18.51**	**217**	P	**P**	**04 01 35.4**	**-2.0**
PSA00	**Pilbara Seismi**	**18.51**	**217**	P	**P**	**04 01 35.4**	**-2.0**
PSA00				IAmb	IAmb	04 02 07.8	
	comp=Z,8.3nm,1.3s						
PSA00	**Pilbara Seismi**	**18.51**	**217**	P	**P**	**04 01 37.4**	**0.0**
CTA	**Charters Tower**	**19.37**	**134**	P	**P**	**04 01 42.9**	**-4.1**
	baz=311,slow=11,SNR=3.1						
	comp=Z,5.9nm,1.0s						
STKA	**Stephens Creek**	**26.58**	**161**	LR	LR	04 14 08.3	
	comp=Z,30nm,18.6s,baz=26,slow=38						
CMAR	**Chiang Mai Arr**	**40.87**	**309**	P	**P**	**04 05 02.4**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=142,slow=7.3,SNR=4.8						
	comp=Z,0.8nm,0.3s						
MJAR	**Matsushiro Arr**	**43.62**	**8**	P	**P**	**04 05 24.8**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=178,slow=11,SNR=4.7						
	comp=Z,2.8nm,0.8s						
SONM	**Songino Array**	**58.83**	**340**	P	**P**	**04 07 20.3**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=151,slow=8.5,SNR=6.3						
	comp=Z,1.2nm,0.7s						
MK31	**Makanchi Array**	**68.98**	**326**	P	**P**	**04 08 25.3**	**-0.6**
MK31				IAmb	IAmb	04 08 41.3	
	comp=Z,2.2nm,0.8s						
MK31	**Makanchi Array**	**68.98**	**326**	*ce*P	P	04 08 41.7	+16
MKAR	**Makanchi Array**	**68.98**	**326**	P	**P**	**04 08 23.8**	**-2.1**
MKAR	**Makanchi Array**	**68.98**	**326**	P	**P**	**04 08 26.6**	**+0.7**
	comp=Z,2.6nm,0.6s,baz=120,slow=8.1,SNR=31						
	comp=Z,2.6nm,0.6s						
ZALV	**Zalesovo Beam**	**72.17**	**333**	P	**P**	**04 08 43.6**	**-1.5**
ZALV	**Zalesovo Beam**	**72.17**	**333**	P	**P**	**04 08 44.9**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=119,slow=5.1,SNR=5.4						
	comp=Z,1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**73.23**	**328**	LR	LR	04 45 50.2	
	comp=Z,41nm,18.4s,baz=176,slow=40						

OMAN ***13*** *04:03:12.5±0.3,31.°23N×57.°59E,h10km,mb5.0/13, ml4.3/1,ms2.9/5,Error ellipse: s-maj=8.2km s-min=6.6km az=241.0*
IDC ***13*** *04:03:13.7±0.8,30.°69N×57.°23E,h0km,mb4.1/17, mbtmp4.1/25,ML3.9/8,MS3.7/30,Error ellipse: s-maj=16.1km s-min=13.2km az=177.0*
MOS ***13*** *04:03:14.7±1.1,30.°71N×57.°22E,h17km,mb4.7/16,Error ellipse: s-maj=8.0km s-min=6.0km az=100.1*
TEH

ASHO Ashiyiah 6.27 190 P Pn 04 04 44.8 -4.9
ASHO S **Sn** **04 06 02.0 +0.6**
IGLO Ghaloghah 6.28 334 Pn **Pn** **04 04 51.2 +1.2**
FAQ Al Faqa, Dubai 6.29 194 P **Pn** **04 04 49.8 -0.2**
FAQ Al Faqa, Dubai 6.29 194 P **Pn** **04 04 50.3 +0.4**
FAQ S **Sn** **04 06 06.3 +4.4**
IDMV Damavand 6.39 318 Pn **Pn** **04 04 52.6 +1.0**
ASUD Al Ashush, Dub 6.46 196 P **Pn** **04 04 53.1 +0.8**
ASUD Al Ashush, Dub 6.46 196 P **Pn** **04 04 54.3 +1.9**
NGCH Negor - Chabah 6.49 147 P Pn 04 04 49.9 -2.8
NGCH S **Sn** **04 06 06.9 0.0**
IMND Minoodasht 6.53 347 Pn **Pn** **04 04 54.2 +0.9**
IEMG Emamgholi 6.62 10 Pn **Pn** **04 04 56.1 +1.5**
SOHO SOHO 6.76 185 P **Pn** **04 04 57.4 +1.0**
SOHO P **Pn** **04 04 57.4 +1.0**
SOHO S **Sn** **04 06 17.9 +4.5**
SOHO S **Sn** **04 06 17.9 +4.5**
MRVT Maraveh tapeh 6.82 352 Pn **Pn** **04 04 58.3 +1.0**
ALNE Al Ain 6.93 191 P **Pn** **04 04 59.6 +0.8**
ALNE S **Sn** **04 06 22.8 +5.0**
GEYT Alibeck 7.06 6 Pn **Pn** **04 05 02.3 +1.8**
GEYT Alibeck 7.06 6 P **Pn** **04 05 02.3 +1.8**
GEYT Alibeck 7.06 6 Pn **Pn** **04 05 02.1 +1.5**
0.8nm,0.3s,baz=175,slow=19,SNR=2.4
GEYT Sn **Sn** **04 06 23.8 +2.9**
0.6nm,0.3s,baz=64,slow=38,SNR=2.0
GEYT Lg Lg 04 07 04.2
0.9nm,0.3s,baz=179,slow=19,SNR=1.6
GEYT LR LR 04 08 15.5
comp=Z,697nm,21.8s,baz=192,slow=42
1.4nm,0.3s
GYA0B ALIBECK ARRAY 7.06 6 **Pn** **04 05 02.0 +1.5**
HOQ Hoqain 7.28 179 P **Pn** **04 05 04.3 +0.7**
HOQ P **Pn** **04 05 04.3 +0.7**
HOQ S **Sn** **04 06 34.4 +8.1**
HOQ S **Sn** **04 06 34.4 +8.1**
MZPU Pul - Mazandar 7.28 321 Pn **Pn** **04 05 05.1 +1.4**
SHMA Al-Shehemyia 7.46 229 P **Pn** **04 05 08.3 +2.3**
SHMA S **Sn** **04 06 36.5 +5.8**
ARQ Araqi 7.55 185 P **Pn** **04 05 08.2 +1.0**
ARQ P **Pn** **04 05 08.2 +1.0**
ARQ S Sn 04 06 42.1 +9.2
ARQ S Sn 04 06 42.1 +9.2
WSAR Wadi Sarin 7.72 170 P **Pn** **04 05 09.1 -0.5**
SNR=7.4
WSAR S **Sn** **04 06 44.2 +7.1**
WSAR Wadi Sarin 7.72 170 Pn Pn 04 05 06.5 -3.1
6.3nm,0.3s,baz=6.4,slow=9.0,SNR=27
35nm,0.7s
SMDO Samad 7.83 175 P **Pn** **04 05 10.2 -1.0**
SMDO S **Sn** **04 06 45.8 +5.8**
BSY Bisya 8.11 180 P **Pn** **04 05 15.9 +0.9**
TRNA Turayna 8.12 223 P **Pn** **04 05 13.5 -1.6**
SNR=9.1
TRNA S **Sn** **04 06 52.5 +5.5**
SMRA Abu-Samra 8.35 224 P **Pn** **04 05 16.7 -1.4**
WBK Wadi Bani Khal 8.39 169 P **Pn** **04 05 18.0 -0.8**
SNR=7.0
JMDO Jabal Madar 8.52 175 P **Pn** **04 05 19.0 -1.6**
IKOM Komasi 8.84 294 Pn **Pn** **04 05 26.1 +1.0**
JLN Jalan Bani Buh 8.92 167 P Pn 04 05 24.0 -2.0
MHTO MHTO 9.88 176 P **Pn** **04 05 38.7 -0.5**
WHFO Wadi Hawf 13.29 195 P Pn 04 06 23.3 -2.7
SNR=10
GAR Garm 13.43 49 **Pn** **04 06 26.7 -1.1**
ABTO Aybut 13.94 196 P Pn 04 06 30.1 -4.8
SNR=6.5
BTK Batken 14.34 47 Pn **Pn** **04 06 39.5 -0.8**
BTK Batken 14.34 47 P **Pn** **04 06 39.5 -0.8**
GURO Guroymak-BITLI 14.65 306 Pn **Pn** **04 06 44.5 +0.1**
ZEI Tsey 15.95 322 *eP* **Pn** **04 06 59.5 -2.2**
ZEI pmax pmax
comp=Z,8.0nm,0.8s
ONI Oni 16.05 320 **Pn** **04 07 01.2 -1.8**
ONI Oni 16.05 320 P **Pn** **04 07 01.2 -1.8**
ONI pmax pmax
comp=Z,11nm,1.4s
KKAR Karatay Array 16.13 37 Pn **Pn** **04 07 02.4 -1.5**
KKAR Karatay Array 16.13 37 P **Pn** **04 07 02.4 -1.5**
ARSB Arslanbob 16.41 46 P **Pn** **04 07 07.2 -0.5**
ARSB Arslanbob 16.41 46 P **Pn** **04 07 07.2 -0.5**
ARSB pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 17.13 322 ‖ *eP* **Pn** **04 07 17.3 +0.8**
KBZ Khabaz 17.13 322 P **Pn** **04 07 17.9 +1.5**
comp=Z,0.1nm,0.3s,baz=150,slow=12,SNR=4.9
comp=Z,3.0nm,0.9s
ASF Jabal al Asfar 17.39 280 P **Pn** **04 07 18.7 -1.3**
comp=Z,1.0nm,0.3s,baz=78,slow=6.8,SNR=10.0
comp=Z,4.8nm,0.5s
KIV Kislovodsk 17.39 323 P **Pn** **04 07 19.8 -0.1**
KIV IAmb IAmb 04 07 27.0
comp=Z,27nm,1.2s
KIV Kislovodsk 17.39 323 *eP* **Pn** **04 07 21.6 +1.7**
KIV pmax pmax
comp=Z,15nm,1.1s
KSH Kashi 17.54 56 P Pn 04 07 15.8 -6.0
AAK Ala-Archa 18.09 45 P **Pn** **04 07 27.7 -0.9**
AAK Ala-Archa 18.09 45 *deP* **Pn** **04 07 29.4 +0.8**
AAK pmax pmax
comp=Z,12nm,1.7s
AAK Ala-Archa 18.09 45 P **Pn** **04 07 27.7 -0.9**
comp=Z,0.1nm,0.3s,baz=234,slow=12,SNR=5.0
AAK LR LR 04 15 34.4
comp=Z,273nm,19.9s,baz=258,slow=41
comp=Z,1.8nm,0.8s
ABKAR Akbulak array 18.46 6 P **P** **04 07 31.8 -1.1**
ABKAR Akbulak array 18.46 6 P **P** **04 07 30.8 -2.0**
GHAJ Ghor Haditha 18.57 277 P **P** **04 07 33.4 -0.7**
GHAJ IAmb IAmb 04 07 40.5
comp=Z,25nm,1.2s
MMAI Mount Meron Ar 18.65 282 P **P** **04 07 33.3 -1.8**
comp=Z,0.6nm,0.3s,baz=79,slow=18,SNR=3.9
MMAI LR LR 04 16 18.1
comp=Z,40nm,20.5s,baz=64,slow=42
comp=Z,1.0nm,0.6s
SOC Sochi 18.80 317 *eP* **P** **04 07 37.6 +1.0**
SOC *e* 04 11 12.9
SOC MLR MLR
comp=Z,56nm,13.0s
EIL Elat 19.29 272 P **P** **04 07 41.5 -0.6**
comp=Z,0.2nm,0.3s,baz=74,slow=7.4,SNR=4.8
EIL LR LR 04 16 30.7
comp=Z,209nm,18.6s,baz=86,slow=41
comp=Z,15nm,1.1s
AKTO Aktyubinsk 19.54 1 P **P** **04 07 44.9 +0.2**
comp=Z,1.1nm,0.3s,baz=179,slow=9.4,SNR=34
AKTO LR LR 04 16 43.3
comp=Z,272nm,18.1s,baz=9.0,slow=41
comp=Z,7.9nm,0.6s
CSS Mathiatis 20.46 288 P **P** **04 07 53.1 -1.8**
CSS IAmb IAmb 04 08 00.4
comp=Z,23nm,1.1s
BR131 Keskin Array S 21.14 301 P **P** **04 08 00.3 -2.0**
BR131 IAmb IAmb 04 08 06.9
comp=Z,11nm,1.1s
BR131 Keskin Array S 21.14 301 *d iP* **P** **04 08 02.4 +0.2**
BRTR Keskin Array B 21.14 301 P **P** **04 08 01.3 -1.0**
BRTR Keskin Array B 21.14 301 *ceP* **P** **04 08 02.5 +0.2**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
BRTR Keskin Array B 21.14 301 P **P** **04 08 02.3 0.0**
comp=Z,6.1nm,1.0s,baz=122,slow=12,SNR=19
comp=Z,6.1nm,1.0s
SIM Simferopol' 22.91 314 *eP* **P** **04 08 21.4 +0.3**
SIM pmax pmax
comp=Z,36nm,1.0s
ELL Elmali 23.41 292 **P** **04 08 26.0 -0.3**
ELL Elmali 23.41 292 P **P** **04 08 26.0 -0.3**
ELL pmax pmax
comp=Z,39nm,0.8s
ATD Arta Tunnel 23.43 218 LR LR 04 19 21.4
comp=Z,9.7nm,20.2s,baz=24,slow=42
BRVK Borovoye 24.11 19 ‖ *eP* **P** **04 08 32.9 +0.1**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 24.11 20 P **P** **04 08 33.0 +0.2**
comp=Z,3.6nm,0.6s,baz=205,slow=9.0,SNR=9.5
BVAR LR LR 04 19 15.8
comp=Z,326nm,18.6s,baz=210,slow=40
comp=Z,3.6nm,0.6s
MAKZ Makanchi 24.83 43 P **P** **04 08 39.2 -0.2**
MAKZ IAmb IAmb 04 08 40.7
comp=Z,6.9nm,1.0s
MAKZ Makanchi 24.83 43 P **P** **04 08 39.2 -0.2**
MAKZ pmax pmax
comp=Z,7.0nm,1.0s
MK31 Makanchi Array 25.01 43 P **P** **04 08 40.6 -0.5**
MKAR Makanchi Array 25.01 43 P **P** **04 08 40.2 -0.8**
MKAR Makanchi Array 25.01 43 *ceP* **P** **04 08 40.9 -0.2**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 25.01 43 P **P** **04 08 41.1 0.0**
comp=Z,1.8nm,0.7s,baz=234,slow=11,SNR=13
MKAR LR LR 04 20 04.1
comp=Z,217nm,19.1s,baz=231,slow=40
comp=Z,1.8nm,0.7s
KURBB Kurchatov Arra 25.31 33 P **P** **04 08 43.9 +0.1**
comp=Z,2.9nm,0.7s,baz=233,slow=9.0,SNR=23
comp=Z,2.9nm,0.7s
KURK Kurchatov 25.41 33 P **P** **04 08 44.3 -0.3**
KURK IAmb IAmb 04 08 47.9
comp=Z,4.4nm,0.9s
KURK Kurchatov 25.41 33 ‖ *eP* **P** **04 08 44.7 0.0**
KURK pmax pmax
comp=Z,10.0nm,1.7s
ARU Arti 25.55 2 *c iP* **P** **04 08 46.8 +1.0**
ARU 04 09 20.8
ARU S **S** **04 13 18.1 +4.8**
ARU SS **SnSn** **04 14 13.5 +7.0**
ARU pmax pmax
comp=Z,14nm,1.4s
ARU Arti 25.55 2 LR LR 04 20 01.2
comp=Z,130nm,18.2s,baz=180,slow=39
IDI Anoyia 27.39 288 LR LR 04 23 24.5
comp=Z,46nm,19.5s,baz=105,slow=44
KIRV Kirov 28.21 351 LR LR 04 22 56.0
comp=Z,122nm,19.2s,baz=184,slow=42
OBN Obninsk 28.33 335 ‖ *iP* **P** **04 09 11.4 +0.6**
OBN *e**PP **pP** **04 09 14.9 +0.6**
OBN *SP **sP** **04 09 18.0 +2.2**
OBN *e* 04 09 59.1
OBN S **S** **04 13 56.0 -1.2**
OBN *e*SS **SnSn** **04 15 18.3 +4.0**
OBN pmax pmax
comp=Z,6.0nm,0.4s
OBN MLR MLR
comp=Z,66nm,13.0s
MLR Muntele Rosu 28.38 310 LR LR 04 22 46.7
comp=Z,84nm,18.5s,baz=332,slow=41
AKASG Malin Array Be 28.73 322 P **P** **04 09 13.5 -1.0**
comp=Z,0.6nm,0.4s,baz=112,slow=7.8,SNR=4.2
comp=Z,0.6nm,0.4s
DGZ Jazzator, Alta 29.43 42 ‖ *eP* **P** **04 09 21.0 +0.1**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
BUR08 Bucovina Ar. S 29.64 314 P **P** **04 09 21.8 -1.0**
BUR08 IAmb IAmb 04 09 25.9
comp=Z,8.1nm,1.3s
ZAA0 Zalesovo Array 30.41 33 **P** **04 09 28.0 -1.3**
ZAA0 IAmb IAmb 04 09 29.6
comp=Z,5.1nm,0.7s
ZALV Zalesovo Beam 30.41 33 **P** **04 09 27.9 -1.4**
ZALV Zalesovo Beam 30.41 33 *i* P **P** **04 09 29.0 -0.3**
ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV Zalesovo Beam 30.41 33 P **P** **04 09 28.9 -0.3**
comp=Z,5.2nm,0.6s,baz=237,slow=9.4,SNR=26
ZALV LR LR 04 23 16.8
comp=Z,163nm,18.5s,baz=264,slow=39
comp=Z,5.2nm,0.6s
KBN Korca 30.95 298 P P 04 09 31.9 -2.5
KBN Korca 30.95 298 P P 04 09 31.9 -2.5
KBN pmax pmax
comp=Z,26nm,1.1s
KWP Kalwaria Pacla 31.94 316 P **P** **04 09 41.4 -1.5**
KWP Kalwaria Pacla 31.94 316 P **P** **04 09 41.4 -1.5**
KWP pmax pmax
comp=Z,19nm,1.2s
OJC Ojcow 33.91 316 P **P** **04 09 58.6 -1.5**
OJC Ojcow 33.91 316 P **P** **04 09 58.6 -1.5**
OJC pmax pmax
comp=Z,6.0nm,0.8s
ARSA Arzberg 35.80 309 *ep* P **P** **04 10 15.4 -1.1**
comp=Z,1.5nm,0.5s
FINES FINESS Array B 36.73 335 *i* P **P** **04 10 24.1 -0.1**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 36.73 335 P **P** **04 10 23.5 -0.7**
comp=Z,2.8nm,0.6s,baz=124,slow=9.3,SNR=7.7
comp=Z,2.8nm,0.6s
MOA Molln 36.75 310 *i* pP **P** **04 10 23.6 -1.0**
comp=Z,0.9nm,0.4s
KMBO Kilima Mbogo 37.08 215 LR LR 04 28 53.5
comp=Z,51nm,18.3s,baz=86,slow=42
GEC2 GERESS Array S 37.33 311 P **P** **04 10 28.6 -0.9**
GEC2 IAmb IAmb 04 10 29.6
comp=Z,4.5nm,0.9s
GERES GERESS Array B 37.33 311 P **P** **04 10 28.7 -0.9**
comp=Z,3.8nm,0.8s,baz=106,slow=10.0,SNR=8.9
comp=Z,3.8nm,0.8s
KHC Kasperske Hory 37.47 312 *deP* **P** **04 10 30.5 -0.2**
KHC pmax pmax
comp=Z,21nm,2.5s
LESA Schwarzleotal 37.73 309 *i* pP **P** **04 10 31.9 -1.1**
comp=Z,2.1nm,0.6s
ABTA Abtersbach 37.73 308 *ep* P **P** **04 10 31.8 -1.2**
comp=Z,1.2nm,0.5s
CLL Collm 38.35 315 *i* P **P** **04 10 38.5 +0.5**
comp=Z,9.0nm,1.1s
CLL Collm 38.35 315 *i* P **P** **04 10 38.5 +0.5**
CLL pmax pmax
comp=Z,9.0nm,1.1s
WTTA Wattenberg 38.40 308 *ep* P **P** **04 10 37.5 -1.3**
comp=Z,5.5nm,0.8s
WATA Walderalm 38.45 309 *eP* **P** **04 10 37.3 -1.9**
comp=Z,1.8nm,0.5s
SQTA Sankt Quirin 38.69 308 *i* pP **P** **04 10 39.8 -1.3**
comp=Z,2.1nm,0.3s
MOTA Moosalm 38.77 308 *i* pP **P** **04 10 40.8 -1.1**
comp=Z,2.4nm,0.6s
FETA Feichten 38.98 308 *ep* P **P** **04 10 42.1 -1.6**
comp=Z,3.6nm,0.6s
CHTO Chiang Mai 39.49 98 P P 04 10 45.5 -2.5
CHTO IAmb IAmb 04 10 51.8
comp=Z,5.0nm,1.0s
CHTO Chiang Mai 39.49 98 P P 04 10 45.5 -2.5
CHTO pmax pmax
comp=Z,5.0nm,1.0s
CMAR Chiang Mai Arr 39.65 98 P **P** **04 10 48.0 -1.3**
CMAR Chiang Mai Arr 39.65 98 P **P** **04 10 48.0 -1.3**
comp=Z,0.9nm,0.3s,baz=283,slow=10,SNR=5.8
comp=Z,0.9nm,0.3s
SONM Songino Array 40.86 51 P **P** **04 10 58.5 -0.7**
comp=Z,1.1nm,1.0s,baz=232,slow=7.1,SNR=4.8
SONM LR LR 04 29 45.7
comp=Z,75nm,20.3s,baz=288,slow=39
comp=Z,1.1nm,1.0s
HFS Hagfors 41.05 328 P **P** **04 10 59.7 -0.8**
comp=Z,4.7nm,0.9s,baz=110,slow=11,SNR=2.5
comp=Z,4.7nm,0.9s
ULN Ulaanbaatar 41.30 51 ‖ *eP* **P** **04 11 03.2 +0.3**
ULN pmax pmax
comp=Z,12nm,2.5s
ARCES ARCESS Array B 42.66 344 LR LR 04 31 49.0
comp=Z,81nm,19.4s,baz=38,slow=40
EKA Eskdalemuir Ar 48.56 318 P **P** **04 11 58.7 -1.6**
comp=Z,3.7nm,1.0s,baz=98,slow=7.4,SNR=5.2
comp=Z,3.7nm,1.0s
ESDC Sonseca Array 49.88 298 P **P** **04 12 08.9 -1.8**
comp=Z,1.3nm,0.9s,baz=64,slow=7.1,SNR=5.9
comp=Z,1.3nm,0.9s
LSZ Lusaka 53.73 216 LR LR 04 37 41.1
comp=Z,135nm,18.0s,baz=344,slow=39
TOA0 Torodi Ar. Sit 53.90 264 P P 04 12 38.8 -2.2
TORD Torodi Ar. Bea 53.90 264 P P 04 12 38.8 -2.2
TORD IAmb IAmb 04 12 39.8
comp=Z,3.6nm,0.8s
TORD Torodi Ar. Bea 53.90 264 P P 04 12 38.8 -2.2
comp=Z,5.5nm,0.8s,baz=54,slow=8.0,SNR=38
TORD LR LR 04 36 59.7
comp=Z,62nm,19.3s,baz=104,slow=38
comp=Z,5.5nm,0.8s
YAK Yakutsk 55.06 33 ‖ *eP* **P** **04 12 50.1 +1.4**
YAK pmax pmax
comp=Z,6.0nm,0.7s
YAK Yakutsk 55.06 33 LR LR 04 38 45.1
comp=Z,5.2nm,19.1s,baz=289,slow=39
KLR Kul'dur 57.57 48 ‖ *eP* **P** **04 13 06.4 -0.5**
KLR pmax pmax
comp=Z,2.0nm,1.0s
KLR Kul'dur 57.57 48 LR LR 04 40 21.4
comp=Z,175nm,18.5s,baz=282,slow=39
KSRS Korea Array 57.61 63 LR LR 04 41 10.6
comp=Z,57nm,18.6s,baz=305,slow=40
DBIC Dimbokro 62.70 261 LR LR 04 41 59.4
comp=Z,79nm,19.4s,baz=4.0,slow=37
TSUM Tsumeb 62.71 223 LR LR 04 42 07.4
comp=Z,65nm,18.6s,baz=342,slow=37
LBTB Lobatse 63.31 212 LR LR 04 43 18.2
comp=Z,75nm,18.1s,baz=21,slow=38
SEY Seymchan 65.23 30 LR LR 04 45 46.2
comp=Z,126nm,18.8s,baz=322,slow=39
MA2 Magadan 65.62 34 LR LR 04 46 02.0
comp=Z,58nm,19.5s,baz=310,slow=39
MJAR Matsushiro Arr 65.70 61 LR LR 04 44 15.4
comp=Z,24nm,20.6s,baz=344,slow=37
BOSA Boshof 66.56 211 LR LR 04 43 49.0
comp=Z,37nm,18.4s,baz=16,slow=37
PETK Petropavlovsk- 71.73 39 LR LR 04 46 55.6
comp=Z,53nm,19.4s,baz=252,slow=36
SUR Sutherland 71.76 212 LR LR 04 48 37.3
comp=Z,76nm,18.4s,baz=357,slow=38
ILAR Eielson Array 82.80 10 LR LR 04 57 42.8
comp=Z,29nm,18.5s,baz=53,slow=39
YKA Yellowknife Ar 86.72 356 P **P** **04 15 59.7 -1.2**
comp=Z,1.4nm,1.1s,baz=357,slow=5.6,SNR=9.9
comp=Z,1.4nm,1.1s
WRA Warramunga Arr 89.58 114 P P 04 16 12.2 -3.1
comp=Z,1.0nm,1.0s,baz=323,slow=4.4,SNR=4.8
comp=Z,1.0nm,1.0s
ASAR Alice Springs 91.27 117 P P 04 16 19.6 -3.5
comp=Z,0.8nm,0.8s,baz=315,slow=3.6,SNR=5.3
comp=Z,0.8nm,0.8s
RCBR Riachuelo 95.65 267 LR LR 04 59 33.2
comp=Z,37nm,19.1s,baz=81,slow=35

IDC ***13*** *04:04:57.9±3.1, 50°.51N×154°.32E, h194km±26km, mb3.0/7, mbtmp3.5/8, Error ellipse: s-maj=35.2km s-min=17.6km az=167.0*

ISC 13 04:04:57.1±1.1, 50°.6N±0°.2×154°.4E±0°.2, h183km, n8, σ1§80/9, mb3.3/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**3.26**	**38**	P		P	**Pn**	**04 05 51.4**	**+2.4**
	8.2nm,1.1s,baz=171,slow=9.8,SNR=2.1								
PETK				S		**Sn**	**Sn**	**04 06 26.0**	**-3.5**
	4.3nm,0.8s,baz=180,slow=8.2,SNR=1.3								
ILAR	**Eielson Array**	**33.08**	**42**	P		P	**P**	**04 11 15.2**	**+0.2**
	0.5nm,0.7s,baz=262,slow=5.6,SNR=11								
	0.5nm,0.7s								
MKAR	**Makanchi Array**	**45.98**	**295**	P		P	**P**	**04 13 01.6**	**-0.2**
	0.4nm,0.4s,baz=38,slow=5.3,SNR=8.6								
	0.4nm,0.4s								
KURBB	**Kurchatov Arra**	**46.09**	**301**	P		P	**P**	**04 13 02.4**	**-0.1**
	0.5nm,0.3s,baz=66,slow=8.1,SNR=3.8								
	0.5nm,0.3s								
YKA	**Yellowknife Ar**	**47.38**	**39**	P		P	**P**	**04 13 12.4**	**+0.1**
	0.2nm,0.6s,baz=304,slow=8.0,SNR=3.1								
	0.2nm,0.6s								
PDAR	**Pinedale Array**	**61.86**	**56**	P		P	**P**	**04 14 57.0**	**0.0**
	0.4nm,0.6s,baz=276,slow=0.8,SNR=6.6								
	0.4nm,0.6s								
WRA	**Warramunga Arr**	**72.42**	**200**	P		P	**P**	**04 16 02.1**	**-1.1**
	0.3nm,0.8s,baz=16,slow=6.3,SNR=1.8								
	0.3nm,0.8s								
TXAR	**Lajitas Array**	**74.92**	**62**	P		P	**P**	**04 16 18.3**	**+0.3**
	0.4nm,0.5s,baz=299,slow=5.4,SNR=8.4								
	0.4nm,0.5s								

NOU 13 04:08:49.1, 21°.23S×167°.93E, h0km, MLv3.0/7, Loyalty Islands, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.27**	**159**	P		P	Pg	04 08 54.3	+0.1
LIFNC	**LIFOU**	**0.79**	**305**	P		P	Pn	04 09 14.0	+6.5
LIFNC	**LIFOU**	**0.79**	**305**	P		P	Pg	04 09 04.0	-0.2
YATNC	**Mamie plateau,**	**1.27**	**229**	P		P	Pg	04 09 13.3	-0.2
YATNC	**Mamie plateau,**	**1.27**	**229**	P		P	Pg	04 09 11.7	-1.8
PINNC	**Pines Island,**	**1.45**	**198**	P		P	Pn	04 09 13.1	-3.5
OUENC	**Ouen Island, N**	**1.56**	**220**	P		P	Pn	04 09 17.4	-0.7
OUENC	**Ouen Island, N**	**1.56**	**220**	P		P	Pn	04 09 17.0	-1.1
DZM	**Mont Dzumac**	**1.62**	**239**	P		P	Pn	04 09 18.1	-0.9
ONTNC	**Ouen Toro**	**1.74**	**232**	P		P	Pn	04 09 21.0	+0.4
ONTNC	**Ouen Toro**	**1.74**	**232**	P		P	Pn	04 09 20.9	+0.3
NOUC	**Port Laguerre**	**1.74**	**240**	P		P	Pn	04 09 20.8	+0.2
NOUC	**Port Laguerre**	**1.74**	**240**	P		P	Pn	04 09 20.3	-0.3

CATAC ***13*** *04:11:41.2±0.3, 11°.92N×88°.54W, h10km, ML3.6*
SNET ***13*** *04:11:42.1±0.8, 11°.91N×88°.57W, h14km±999km, ML3.4*

ISC 13 04:11:38.2±2.3, 11°.80N±0°.04×88°.60W±0°.04, h4km±15km, n64, σ1§43/98, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**1.51**	**1**	*i* P		P	**Pn**	**04 12 06.3**	**+0.2**
ALJI				*i* S		**Sb**	**04 12 25.7**		**-0.7**
ALJI				IAML			04 12 29.6		
	comp=Z,510nm,1.0s								
CSGN	**Cosiguina Volc**	**1.54**	**41**	*i* P		P	**Pn**	**04 12 07.3**	**+0.7**
CSGN				IAML			04 12 34.8		
	comp=Z,1μm,1.0s								
CNCH	**Conchagua**	**1.64**	**27**	*i* P		P	**Pn**	**04 12 08.0**	**0.0**
CNCH				IAML			04 12 40.7		
	comp=Z,790nm,1.0s								
VSM	**San Miguel**	**1.65**	**11**	*eP*		P	**Pb**	**04 12 09.5**	**+0.3**
VSM				IAML			04 12 36.9		
	comp=Z,1μm,0.2s								
LCND	**La Caada**	**1.65**	**25**	*eP*		P	**Pn**	**04 12 08.6**	**+0.7**
LCND				IAML			04 12 35.6		
	comp=Z,379nm,0.4s								
LCND	**La Caada**	**1.65**	**25**	*i* P		P	**Pn**	**04 12 08.9**	**+1.0**
LCND				IAML			04 12 35.3		
	comp=Z,400nm,1.0s								
RANC	**El Ranchito**	**1.65**	**11**	*eP*		P	**Pb**	**04 12 09.3**	**0.0**
PACA	**Pacayal**	**1.68**	**9**	*eP*		P	**Pb**	**04 12 10.0**	**+0.3**
PACA	**Pacayal**	**1.68**	**9**	*i* P		P	**Pb**	**04 12 10.3**	**+0.6**
PACA				*i* S		**Sb**	**04 12 30.5**		**-0.7**
PACA				IAML			04 12 37.5		
	comp=Z,5μm,1.0s								
TECA	**Tecapa**	**1.68**	**3**	*eP*		P	**Pn**	**04 12 09.2**	**+0.6**
CNRM	**Centro Naciona**	**1.71**	**14**	*i* S		P	**Sg**	**04 12 31.8**	**-1.5**
TECO	**Alcaldia de Te**	**1.73**	**354**	*i* P		P	**Pn**	**04 12 09.5**	**+0.4**
TECO				*i* S		**Sn**	**04 12 31.0**		**-0.7**
TECO				IAML			04 12 36.7		
	comp=Z,320nm,1.0s								
AMPH	**Amapala**	**1.73**	**32**	*i* P		P	**Pn**	**04 12 10.2**	**+1.1**
AMPH				*i* S		**Sg**	**04 12 32.5**		**-1.5**
CRIN	**San Cristobal**	**1.76**	**59**	*eP*		P	**Pn**	**04 12 10.8**	**+1.3**
CRIN	**San Cristobal**	**1.76**	**59**	*i* P		P	**Pb**	**04 12 11.3**	**+0.3**
CRIN				IAML			04 12 40.8		
	comp=Z,2μm,1.0s								
PQSS	**Presa 15 de Se**	**1.81**	**1**	*i* P		P	**Pn**	**04 12 10.7**	**+0.5**
PQSS				*i* S		**Sn**	**04 12 33.0**		**-0.6**
PQSS				IAML			04 12 34.5		
	comp=Z,890nm,1.0s								
COEG	**Centro de Oper**	**1.82**	**351**	*eP*		P	**Pn**	**04 12 11.0**	**+0.6**
COEG	**Centro de Oper**	**1.82**	**351**	*i* P		P	**Pn**	**04 12 11.4**	**+0.9**
COEG				IAML			04 12 37.5		
	comp=Z,420nm,1.0s								
UESV	**Universidad de**	**1.83**	**354**	*i* S		P	**Sn**	**04 12 33.6**	**-0.5**
SJTE	**Alcalda de S**	**1.84**	**348**	*i* P		P	**Pb**	**04 12 13.6**	**+1.1**
SJTE				*i* S		**Sn**	**04 12 33.7**		**-0.8**
PANCS	**Alcalda de**	**1.88**	**343**	*i* S		P	**Sn**	**04 12 33.2**	**-2.3**
SCLA	**Alcaldia de Sa**	**1.89**	**356**	*eP*		P	**Pn**	**04 12 12.7**	**+1.4**
SCLA	**Alcaldia de Sa**	**1.89**	**356**	*i* P		P	**Pn**	**04 12 12.9**	**+1.6**
SCLA				*i* S		**Sb**	**04 12 36.7**		**-0.6**
SCLA				IAML			04 12 38.5		
	comp=Z,210nm,1.0s								
LOMA	**Loma Larga**	**1.91**	**343**	*i* P		P	**Pn**	**04 12 12.4**	**+0.7**
LOMA				*i* S		**Sn**	**04 12 35.1**		**-1.2**
LOMA				IAML			04 12 37.3		
	comp=Z,430nm,1.0s								
PAVA	**Las Pavas**	**1.93**	**350**	*i* P		P	**Pn**	**04 12 13.4**	**+1.5**
PAVA				*i* S		**Sn**	**04 12 35.3**		**-1.3**
PAVA				IAML			04 12 38.9		
	comp=Z,1μm,1.0s								
ROCN	**Rota Cerro Neg**	**1.95**	**68**	*i* P		P	**Pn**	**04 12 13.3**	**+1.2**
ROCN				IAML			04 12 42.4		
	comp=Z,170nm,1.0s								
SNET	**Serv Nac Est T**	**1.97**	**342**	*i* P		P	**Pn**	**04 12 13.3**	**+0.8**
SNET				*i* S		**Sn**	**04 12 36.0**		**-1.7**
SNET				IAML			04 12 41.4		

	comp=Z,760nm,1.0s							
ITCA	**Escuela Especi**	**1.97**	**340**	*i*	S	**Sn**	**04 12 36.6**	**-1.2**
UDBS	**Universidad Do**	**1.98**	**344**	*i*	P	**Pn**	**04 12 14.4**	**+1.9**
UDBS					S	**Sn**	**04 12 36.6**	**-1.2**
CNGA	**AI SSO del Vol**	**1.98**	**70**	*i*	P	**Pn**	**04 12 13.6**	**+1.1**
CNGA					S	**Sn**	**04 12 38.2**	**+0.4**
CNGA					IAML		04 12 48.1	
	comp=Z,290nm,1.0s							
CNGN	**Cerro Negro**	**1.98**	**69**	*i*	P	**Pn**	**04 12 13.7**	**+1.1**
CNGN					IAML		04 12 50.1	
	comp=Z,290nm,1.0s							
COPN	**Copaltepe**	**2.00**	**79**	*i*	P	**Pn**	**04 12 13.8**	**+1.0**
COPN					IAML		04 12 14.0	
	comp=Z,560nm,1.0s							
UEES	**Universidad Ev**	**2.00**	**342**	*i*	P	**Pb**	**04 12 15.5**	**+0.3**
JAYA	**Jayaque - finc**	**2.02**	**336**	*eP*		**Pn**	**04 12 13.9**	**+0.7**
JAYA	**Jayaque - finc**	**2.02**	**336**	*i*	P	**Pn**	**04 12 13.9**	**+0.7**
JAYA					S	**Sn**	**04 12 36.6**	**-2.3**
JAYA					IAML		04 12 44.4	
	comp=Z,1μm,1.0s							
PMON	**Piamonte**	**2.02**	**340**	*eP*		**Pn**	**04 12 14.3**	**+1.2**
PMON	**Piamonte**	**2.02**	**340**	*i*	P	**Pn**	**04 12 14.4**	**+1.2**
PMON					S	**Sn**	**04 12 38.5**	**-0.5**
PMON					IAML		04 12 45.0	
	comp=Z,490nm,1.0s							
LEVN	**Ruinas Leon Vi**	**2.03**	**73**	*i*	P	**Pn**	**04 12 15.0**	**+1.9**
LEVN					S	**Sn**	**04 12 39.3**	**+0.4**
LEVN					IAML		04 12 45.9	
	comp=Z,290nm,1.0s							
MOMN	**Momotombo**	**2.10**	**73**	*i*	P	**Pn**	**04 12 15.1**	**+0.9**
MOMN					IAML		04 12 16.7	
	comp=Z,14nm,1.0s							
MOMN					S	**Sn**	**04 12 39.4**	**-1.4**
QUEZ	**Alcaldia de Qu**	**2.12**	**342**	*i*	S	**Sn**	**04 12 40.3**	**-1.1**
MOM2	**El Cardon**	**2.16**	**73**	*i*	P	**Pn**	**04 12 15.7**	**+0.7**
MOM2					IAML		04 12 17.7	
	comp=Z,220nm,1.0s							
MOM2					S	**Sn**	**04 12 41.5**	**-0.7**
APYN	**Apoyeque**	**2.24**	**79**	*i*	S	**Sn**	**04 12 44.1**	**-0.2**
CEVE	**Cerro Verde**	**2.25**	**334**	*i*	P	**Pn**	**04 12 17.7**	**+1.3**
CEVE					IAML		04 12 54.4	
	comp=Z,380nm,1.0s							
UNAN	**Cigeo UNAN**	**2.30**	**82**	*i*	P	**Pn**	**04 12 17.6**	**+0.7**
UNAN					IAML		04 12 18.0	
	comp=Z,1μm,1.0s							
UNAN					S	**Sn**	**04 12 45.3**	**-0.4**
UNIC	**Universidad Ca**	**2.35**	**337**	*i*	P	**Pn**	**04 12 18.9**	**+1.2**
UNIC					S	**Sn**	**04 12 46.4**	**-0.7**
UNIC					IAML		04 12 58.6	
	comp=Z,160nm,1.0s							
LLGN	**La Laguna**	**2.37**	**352**	*i*	P	**Pn**	**04 12 19.7**	**+1.7**
LLGN					S	**Sn**	**04 12 47.4**	**-0.1**
LLGN					IAML		04 12 50.0	
	comp=Z,310nm,1.0s							
BRAN	**Las Pilas**	**2.38**	**67**	*i*	P	**Pn**	**04 12 16.8**	**-1.2**
BRAN					IAML		04 12 17.5	
	comp=Z,580nm,1.0s							
BRAN					S	**Sn**	**04 12 45.1**	**-2.5**
MAS3	**AI N del Volca**	**2.38**	**84**	*i*	P	**Pn**	**04 12 18.1**	**0.0**
MAS3					S	**Sn**	**04 12 46.8**	**-0.9**
NUBE	**Las Nubes**	**2.38**	**331**	*eP*		**Pn**	**04 12 19.3**	**+1.1**
NUBE					IAML		04 12 48.5	
	comp=Z,81nm,0.2s							
WILN	**Americas 2**	**2.38**	**81**	*i*	P	**Pn**	**04 12 18.5**	**+0.4**
WILN					IAML		04 12 19.2	
	comp=Z,310nm,1.0s							
WILN					S	**Sn**	**04 12 48.7**	**+0.9**
SLOZ	**Alcaldia de Sa**	**2.49**	**333**	*eP*		**Pn**	**04 12 21.4**	**+1.8**
LIMN	**Finca el Limon**	**2.51**	**60**	*i*	P	**Pn**	**04 12 20.7**	**+0.8**
LIMN					IAML		04 12 21.1	
	comp=Z,150nm,1.0s							
LIMN					S	**Sn**	**04 12 51.9**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.58**	**30**	*i*	P	**Pn**	**04 12 22.5**	**+1.5**
TGUH					IAML		04 12 34.3	
	comp=Z,180nm,1.0s							
TGUH					S	**Sn**	**04 12 51.9**	**-1.0**
MTO3	**Montecristo**	**2.68**	**344**	*i*	P	**Pn**	**04 12 23.9**	**+1.5**
MTO3					IAML		04 12 35.2	
	comp=Z,70nm,1.0s							
COMHN	**El Horno**	**2.81**	**21**	*i*	P	**Pn**	**04 12 25.7**	**+1.5**
COMHN					S	**Sn**	**04 12 57.4**	**-1.2**
SARH	**Santa Rosa de**	**2.96**	**357**	*i*	P	**Pn**	**04 12 29.3**	**+3.3**
HZTE	**Horizontes, Gu**	**3.14**	**110**	*i*	P	**Pn**	**04 12 30.0**	**+1.5**
HZTE					S	**Sn**	**04 13 03.6**	**-2.8**
HZTE					IAML		04 14 11.0	
	comp=Z,170nm,1.0s							
ORTG	**Ortega, Santa**	**3.40**	**115**	*i*	P	**Pn**	**04 12 34.1**	**+2.0**
ORTG					S	**Sn**	**04 13 10.1**	**-2.8**
ORTG					IAML		04 14 41.4	
	comp=Z,55nm,1.0s							
YORHN	**Yoro**	**3.60**	**23**	*i*	P	**Pn**	**04 12 37.1**	**+2.3**
YORHN					S	**Sn**	**04 13 18.8**	**+1.0**
INDI	**Punta indio, G**	**3.60**	**122**	*i*	P	**Pn**	**04 12 35.7**	**+0.9**
INDI					S	**Sn**	**04 13 14.3**	**-3.5**
INDI					IAML		04 14 07.1	
	comp=Z,49nm,1.0s							
JUTIH	**Juticalpa Olan**	**3.67**	**39**	*i*	P	**Pn**	**04 12 38.4**	**+2.5**
JUTIH					S	**Sn**	**04 13 20.9**	**+1.2**
JACO	**JACO, Garabito**	**4.42**	**118**	*i*	P	**Pn**	**04 12 49.3**	**+3.2**
JACO					S	**Sn**	**04 13 35.8**	**-2.2**
JACO					IAML		04 14 38.0	
	comp=Z,70nm,1.0s							
LCR2	**La Lucha 2**	**4.96**	**114**	*i*	P	**Pn**	**04 12 56.7**	**+3.0**
LCR2					IAML		04 13 00.6	
	comp=Z,48nm,1.0s							
LCR2					S	**Sn**	**04 13 50.1**	**-1.5**
RIMA	**Rio Macho**	**5.07**	**113**	*i*	P	**Pn**	**04 12 58.2**	**+2.9**
RIMA					S	**Sn**	**04 13 53.8**	**-0.7**

*IDC **13** 04:16:52.6±2.7,0.°65N×99.°32E, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=125.2km s-min=20.2km az=55.0*
*DJA **13** 04:17:13.6±1.7,1.°N±4.°×10.°0E±.°, h27km±16km, M3.7/7, MLv3.7/7*
ISC 13 04:17:10.6±1.0, 0.°76N±0.°08×99.°47E±0.°09, h150km, n12, σ0°66/12, mb3.9/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**1.44**	**236**	P	**Pn**	**04 17 40.5**	**+0.9**
PBSI				S	**Sn**	**04 18 01.3**	**-0.4**
BKNI	**Bangkinang**	**1.63**	**105**	P	Pn	04 17 40.9	-0.6
PDSI	**Padang**	**1.93**	**149**	P	**Pn**	**04 17 45.6**	**+0.6**
PDSI				S	**Sn**	**04 18 11.3**	**-0.2**
GSI	**Gunungsitoli**	**1.97**	**286**	P	**Pn**	**04 17 46.0**	**+0.6**
GSI				S	**Sn**	**04 18 11.7**	**-0.4**
KCSI	**Kotacane, Aceh**	**3.23**	**328**	P	**Pn**	**04 18 01.9**	**+1.0**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=303,slow=9.0,SNR=7.1 0.3nm,0.3s	**39.88**	**123**	P	P	04 24 28.9	-1.2
ASAR	**Alice Springs** 0.5nm,0.6s,baz=311,slow=7.3,SNR=4.7 0.5nm,0.6s	**41.33**	**128**	P	P	04 24 40.7	-1.2
SONM	**Songino Array** 0.7nm,0.5s,baz=180,slow=8.8,SNR=5.6 0.7nm,0.5s	**47.27**	**6**	P	**P**	**04 25 29.1**	**+0.2**
MKAR	**Makanchi Array** 0.8nm,0.3s,baz=158,slow=8.3,SNR=35 0.8nm,0.3s	**48.25**	**344**	P	**P**	**04 25 36.0**	**-0.3**
KURBB	**Kurchatov Arra** 1.0nm,0.2s,baz=158,slow=7.7,SNR=1.5 1.0nm,0.2s	**52.77**	**343**	P	**P**	**04 26 10.1**	**0.0**
ZALV	**Zalesovo Beam** 1.2nm,0.4s,baz=163,slow=5.4,SNR=7.0 1.2nm,0.4s	**54.38**	**349**	P	**P**	**04 26 21.5**	**-0.2**
BVAR	**Borovoye Array** 1.4nm,0.4s,baz=150,slow=8.3,SNR=5.0 1.4nm,0.4s	**57.43**	**340**	P	**P**	**04 26 42.6**	**-0.9**

*SSNC **13** 04:32:55.8±1.0, 18.°98N×77.°32W, h19km±10km, MD2.8, ML2.0*
*JSN **13** 04:32:56.2±0.6, 18.°75N×77.°05W, h0km±323km, MD3.1*
ISC 13 04:32:52.7±1.0, 18.°93N±0.°04×77.°06W±0.°07, h10km, n6, σ1°34/11, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTDJ	**Mount Denham**	**0.83**	**213**	*i* P	**Pb**	**04 33 09.5**	**+0.2**
MTDJ				*i* S	**Sg**	**04 33 19.3**	**-0.4**
MTDJ	**Mount Denham**	**0.83**	**213**	*eP*	**Pg**	**04 33 09.2**	**+0.4**
MTDJ				*eS*	**Sg**	**04 33 18.8**	**-0.9**
MTDJ				IAML		04 33 20.3	
	comp=Z,226nm,0.3s						
MTDJ				IAML		04 33 20.3	
	421nm,0.3s						
STH	**Stony Hill**	**0.88**	**164**	*i* P	**Pg**	**04 33 09.2**	**-0.5**
STH				*i* S	**Sg**	**04 33 19.7**	**-1.5**
HOJ	**Hope**	**0.96**	**162**	*i* P	**Pg**	**04 33 11.2**	**-0.1**
LMGC	**Las Mercedes**	**1.13**	**3**	*eP*	**Pb**	**04 33 14.6**	**+0.2**
LMGC				*eS*	**Sb**	**04 33 26.8**	**-2.3**
LMGC				*eSg*	**Sg**	**04 33 28.2**	**-0.9**
LMGC				IAML		04 33 30.3	
	comp=N,8.5nm,0.1s						
LMGC				IAML		04 33 30.3	
	comp=E,7.8nm,0.1s						
RCC	**Rio Carpintero**	**1.67**	**50**	*eP*	**Pn**	**04 33 24.1**	**+2.1**

*UPA **13** 04:55:57.6±0.4, 8.°23N×84.°33W, h8km±43km, MW4.1*
*CATAC **13** 04:55:57.7±0.3, 9.°58N×84.°30W, h22km±2km, ML3.3*
*UCR **13** 04:55:58.6±1.1, 9.°60N×84.°27W, h42km±2km, MW3.5*
ISC 13 04:55:58.7±1.0, 9.°57N±0.°03×84.°28W±0.°02, h33km±2km, n107, σ0°86/140, 7C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVQ2	**Quepos**	**0.18**	**140**	*eP*	**Pb**	**04 56 05.7**	**+0.6**
LLNJ	**Naranjito**	**0.20**	**117**	*eP*	**Pb**	**04 56 06.1**	**+0.7**
LLNJ				*eS*	**Sb**	**04 56 12.6**	**+2.6**
ACOS	**Acosta**	**0.26**	**27**	*eP*	**Pn**	**04 56 06.0**	**+0.1**
ACOS				*eS*	**Sb**	**04 56 11.9**	**+0.7**
ABE2	**San Pablo**	**0.26**	**59**	*eP*	**Pn**	**04 56 06.2**	**+0.2**
ABE2				*eS*	**Sb**	**04 56 12.5**	**+1.0**
RAZU	**San Marcos de**	**0.27**	**70**	*eP*	**Pn**	**04 56 06.3**	**0.0**
RAZU				*eS*	**Sb**	**04 56 12.7**	**+1.2**
LCR2	**La Lucha 2**	**0.32**	**58**	*eP*	**Pn**	**04 56 06.6**	**-0.6**
LCR2	**La Lucha 2**	**0.32**	**58**	*i* P	**Pn**	**04 56 06.5**	**-0.7**
LCR2				IAML		04 56 06.7	
	comp=Z,1μm,1.0s						
LCR2				*i* S	**Sb**	**04 56 12.9**	**+0.2**
TRB2	**Turrubares**	**0.38**	**335**	*eP*	**Pb**	**04 56 07.1**	**-0.6**
JACO	**JACO, Garabito**	**0.38**	**284**	*eP*	**Pb**	**04 56 07.6**	**-0.1**
JACO	**JACO, Garabito**	**0.38**	**284**	*i* P	**Pb**	**04 56 07.4**	**-0.2**
JACO				IAML		04 56 07.8	
	comp=Z,2μm,1.0s						
JACO				*i* S	**Sb**	**04 56 14.4**	**+0.7**
LUJA	**Lujan**	**0.41**	**30**	*eP*	**Pb**	**04 56 08.7**	**+0.5**
BELE	**Belen**	**0.42**	**13**	*eP*	**Pb**	**04 56 08.5**	**+0.3**
MEXI	**Barrio Mexico**	**0.42**	**28**	*eP*	**Pb**	**04 56 07.9**	**-0.4**
SJS	**Escuela Geolog**	**0.43**	**31**	*eP*	**Pb**	**04 56 08.1**	**-0.4**
SJS3	**Mercedes San J**	**0.43**	**32**	*eP*	**Pb**	**04 56 08.2**	**-0.2**
LUPE	**Guadalupe**	**0.44**	**31**	*eP*	**Pb**	**04 56 08.2**	**-0.4**
TRIO	**Tres Rios**	**0.44**	**40**	*eP*	**Pb**	**04 56 08.0**	**-0.6**
TIBA	**Tibas**	**0.44**	**28**	*eP*	**Pb**	**04 56 08.2**	**-0.4**
DOMI	**Santo Domingo**	**0.45**	**25**	*eP*	**Pb**	**04 56 08.4**	**-0.3**
OCM	**Ochomogo**	**0.46**	**44**	*eP*	**Pb**	**04 56 08.1**	**-0.7**
OCM	**Ochomogo**	**0.46**	**44**	*i* P	**Pb**	**04 56 08.0**	**-0.8**
OCM				*i* S	**Sb**	**04 56 15.6**	**-0.2**
OCM				IAML		04 56 16.2	
	comp=Z,2μm,1.0s						
RIMA	**Rio Macho**	**0.46**	**64**	*eP*	**Pb**	**04 56 08.2**	**-0.8**
RIMA	**Rio Macho**	**0.46**	**64**	*i* P	**Pb**	**04 56 08.1**	**-0.8**
RIMA				IAML		04 56 08.3	
	comp=Z,3μm,1.0s						
RIMA				*i* S	**Sb**	**04 56 15.7**	**-0.2**
HDC	**Heredia**	**0.46**	**21**	*eP*	**Sb**	**04 56 08.3**	**-0.6**
TAGO	**Cartago**	**0.46**	**50**	*eP*	**Pb**	**04 56 08.6**	**-0.3**
HDC3	**Heredia 3**	**0.46**	**21**	*eP*	**Pb**	**04 56 08.4**	**-0.6**
HDC3	**Heredia 3**	**0.46**	**21**	*i* P	**Pb**	**04 56 08.3**	**-0.6**
HDC3				*i* S	**Sb**	**04 56 16.0**	**0.0**
HDC3				IAML		04 56 18.1	
	comp=Z,2μm,1.0s						
TCS1	**Tacares**	**0.47**	**358**	*eP*	**Pb**	**04 56 08.5**	**-0.5**
TCS1	**Tacares**	**0.47**	**358**	*i* P	**Pb**	**04 56 08.4**	**-0.6**
TCS1				IAML		04 56 17.8	
	comp=Z,13μm,1.0s						
REPA	**Paraso**	**0.48**	**58**	*eP*	**Pn**	**04 56 09.8**	**+0.3**
CDM	**Cerro de Muert**	**0.51**	**91**	*eP*	**Pb**	**04 56 09.5**	**-0.4**
CDM	**Cerro de Muert**	**0.51**	**91**	*i* P	**Pb**	**04 56 09.4**	**-0.5**
CDM				*i* S	**Sb**	**04 56 17.9**	**+0.3**
CDM				IAML		04 56 21.6	
	comp=Z,930nm,1.0s						
BUS1	**Rivas**	**0.53**	**91**	*eP*	**Pn**	**04 56 09.6**	**-0.7**
RAMO	**San Ramon**	**0.55**	**341**	*eP*	**Pn**	**04 56 10.4**	**+0.1**
CVIMO	**Finca Echandi**	**0.56**	**36**	*eP*	**Pn**	**04 56 09.8**	**-0.7**
ARZA	**Esparza**	**0.57**	**318**	*eP*	**Pn**	**04 56 10.2**	**-0.2**
PCAYA	**Pacayas**	**0.58**	**53**	*eP*	**Pb**	**04 56 11.2**	**+0.4**
HAYA	**Volcan Irazu**	**0.60**	**47**	*i* P	**Pn**	**04 56 10.4**	**-0.8**
HAYA				IAML		04 56 10.6	
	comp=Z,2μm,1.0s						
HAYA				*i* S	**Sn**	**04 56 19.7**	**-0.3**
VICA	**Volcano Irazu**	**0.60**	**46**	*eP*	**Pn**	**04 56 10.5**	**-0.7**
ICR3	**Volcano Irazu**	**0.60**	**47**	*eP*	**Pn**	**04 56 10.6**	**-0.7**
VPTE	**Poasito**	**0.61**	**8**	*eP*	**Pn**	**04 56 10.6**	**-0.6**
VPTE	**Poasito**	**0.61**	**8**	*i* P	**Pn**	**04 56 10.6**	**-0.6**
VPTE				*i* S	**Sn**	**04 56 19.7**	**-0.3**
VPTE				IAML		04 56 20.4	
	comp=Z,1μm,1.0s						
VINA	**Juan Vinas**	**0.62**	**58**	*eP*	**Pn**	**04 56 10.7**	**-0.6**
ZARE	**Zarcero**	**0.62**	**350**	*eP*	**Pn**	**04 56 10.8**	**-0.6**
CVTQ	**Turrialba Volc**	**0.67**	**49**	*eP*	**Pn**	**04 56 11.8**	**-0.4**
TURIB	**Turrialba**	**0.68**	**60**	*eP*	**Pn**	**04 56 12.2**	**+0.2**
CVTV	**Tajo**	**0.68**	**50**	*eP*	**Pn**	**04 56 11.7**	**-0.6**
VTCV	**VTCV, Calle Va**	**0.69**	**53**	*eP*	**Pn**	**04 56 11.6**	**-0.6**
VERB	**Verbena**	**0.69**	**57**	*eP*	**Pn**	**04 56 11.7**	**-0.6**
CPMI	**Catarata Coope**	**0.72**	**352**	*eP*	**Pn**	**04 56 11.7**	**-1.0**
CPMI	**Catarata Coope**	**0.72**	**352**	*i* P	**Pn**	**04 56 11.7**	**-1.0**
CPMI				*i* S	**Sn**	**04 56 22.0**	**-0.7**
CPMI				IAML		04 56 23.1	
	comp=Z,1μm,1.0s						
VTLO	**VTLO**	**0.72**	**49**	*eP*	**Pn**	**04 56 12.4**	**-0.5**
RVSTA	**Santa Teresita**	**0.75**	**57**	*eP*	**Pn**	**04 56 12.5**	**-0.5**
CBL1	**Cabuya**	**0.80**	**272**	*eP*	**Pn**	**04 56 12.3**	**-1.3**
RIFO	**Rio Frio, Sara**	**0.82**	**25**	*eP*	**Pn**	**04 56 13.3**	**-0.7**
RIFO	**Rio Frio, Sara**	**0.82**	**25**	*i* P	**Pn**	**04 56 13.2**	**-0.8**
RIFO				*i* S	**Sn**	**04 56 25.5**	**+0.5**
RIFO				IAML		04 56 27.0	
	comp=Z,700nm,1.0s						
SOCE	**Pocosol**	**0.88**	**338**	*i* P	**Pn**	**04 56 14.2**	**-0.5**
SOCE				*i* S	**Sn**	**04 56 26.3**	**0.0**
SOCE				IAML		04 56 30.1	
	comp=Z,2μm,1.0s						
LCOCO	**El Coco**	**0.88**	**54**	*eP*	**Pn**	**04 56 14.6**	**-0.2**
MONTE	**Monteverde**	**0.90**	**325**	*eP*	**Pn**	**04 56 14.6**	**-0.6**
MONTE				*eS*	**Sb**	**04 56 28.0**	**+0.2**
CASO	**Castillo**	**0.97**	**333**	*eP*	**Pn**	**04 56 15.7**	**-0.4**
CASO				*eS*	**Sb**	**04 56 29.8**	**+0.1**
FORC	**Fortuna**	**0.97**	**337**	*eP*	**Pn**	**04 56 15.8**	**-0.3**
JUNT	**Juntas**	**0.97**	**317**	*eP*	**Pn**	**04 56 15.7**	**-0.4**
VACR	**Volcan Arenal**	**0.98**	**337**	*eP*	**Pn**	**04 56 15.8**	**-0.4**
VACR	**Volcan Arenal**	**0.98**	**337**	*i* P	**Pn**	**04 56 15.8**	**-0.4**
VACR				*i* S	**Sb**	**04 56 30.1**	**+0.1**
VACR				IAML		04 56 35.8	
	comp=Z,990nm,1.0s						
ARE1	**Arenal 1**	**0.99**	**334**	*eP*	**Pn**	**04 56 16.1**	**-0.2**
CEDE	**Laguna Cedeo**	**1.00**	**336**	*eP*	**Pn**	**04 56 16.4**	**-0.1**
CEDE				*eS*	**Sb**	**04 56 31.9**	**+1.2**
EDPN	**Palmar Norte**	**1.01**	**126**	*eP*	**Pn**	**04 56 16.5**	**-0.1**
TABAC	**Tabacon**	**1.04**	**333**	*eP*	**Pn**	**04 56 17.5**	**+0.4**
EDBA	**Buenos Aires**	**1.07**	**112**	*eP*	**Pn**	**04 56 17.2**	**-0.2**
TRT2	**Tortugero**	**1.12**	**29**	*i* P	**Pn**	**04 56 17.6**	**-0.5**
TRT2				*i* S	**Sn**	**04 56 33.1**	**+0.7**
TRT2				IAML		04 56 34.3	
	comp=Z,450nm,1.0s						
COVE	**Coope Vega, Sa**	**1.15**	**354**	*eP*	**Pn**	**04 56 18.0**	**-0.5**
COVE	**Coope Vega, Sa**	**1.15**	**354**	*i* P	**Pn**	**04 56 17.9**	**-0.6**
COVE				*i* S	**Sn**	**04 56 34.2**	**+1.1**
COVE				IAML		04 56 40.9	
	comp=Z,520nm,1.0s						
COTE	**Lago Cote**	**1.18**	**328**	*eP*	**Pn**	**04 56 19.2**	**+0.3**
COTE				*eS*	**Sb**	**04 56 36.3**	**+0.6**
CMARA	**Lajas Hojancha**	**1.21**	**292**	*eP*	**Pn**	**04 56 18.3**	**-1.1**
INDI	**Punta indio, G**	**1.24**	**284**	*i* S	**Sn**	**04 56 34.6**	**-0.7**
POTG	**Potrero Grande**	**1.26**	**114**	*eP*	**Pn**	**04 56 20.2**	**+0.2**
POTG	**Potrero Grande**	**1.26**	**114**	*i* P	**Pn**	**04 56 20.2**	**+0.2**
POTG				*i* S	**Sb**	**04 56 38.0**	**+0.1**
POTG				IAML		04 56 40.0	
	comp=Z,740nm,1.0s						
ACAL	**Aguas Claras**	**1.29**	**325**	*i* P	**Pn**	**04 56 21.1**	**+0.5**
ACAL				*eS*	**Sb**	**04 56 38.5**	**-0.5**
PLVR	**Palo Verde**	**1.31**	**306**	*eP*	**Pn**	**04 56 20.8**	**0.0**
PTEN	**Parque Tenorio**	**1.33**	**329**	*eP*	**Pn**	**04 56 21.4**	**+0.3**
PTEN				*eS*	**Sb**	**04 56 39.8**	**-0.3**
JUD3	**Juan Diaz 3**	**1.37**	**296**	*eP*	**Pn**	**04 56 20.8**	**-0.8**
CUI	**Cuipilapa**	**1.39**	**321**	*eP*	**Pn**	**04 56 21.8**	**0.0**
ORTG	**Ortega, Santa**	**1.40**	**304**	*eP*	**Pn**	**04 56 22.0**	**-0.1**
ORTG	**Ortega, Santa**	**1.40**	**304**	*i* P	**Pn**	**04 56 22.0**	**-0.1**
ORTG				IAML		04 56 23.8	
	comp=Z,120nm,1.0s						
ORTG				*i* S	**Sn**	**04 56 40.4**	**+1.0**
VERA	**Finca Concepci**	**1.40**	**336**	*eP*	**Pn**	**04 56 21.9**	**0.0**
VERA				*eS*	**Sn**	**04 56 41.1**	**+1.8**
COLC	**Colonia**	**1.42**	**320**	*eP*	**Pn**	**04 56 23.1**	**+0.8**
COLC				*eS*	**Sn**	**04 56 41.2**	**+1.4**
EDAD	**Golfito**	**1.43**	**129**	*eP*	**Pn**	**04 56 22.0**	**-0.3**
HORNC	**Hornillas**	**1.44**	**322**	*eP*	**Pn**	**04 56 22.5**	**0.0**
CANAL	**Canalete**	**1.47**	**329**	*eP*	**Pn**	**04 56 22.8**	**+0.1**
MESS	**Mesas**	**1.47**	**322**	*eP*	**Pn**	**04 56 23.1**	**+0.1**
MESS				*eS*	**Sn**	**04 56 41.1**	**0.0**
VMAR	**Armenia, Volca**	**1.48**	**327**	*eP*	**Pn**	**04 56 23.1**	**0.0**
VMAR	**Armenia, Volca**	**1.48**	**327**	*i* P	**Pn**	**04 56 23.3**	**+0.2**
VMAR				*i* S	**Sb**	**04 56 43.6**	**-0.7**
VMAR				IAML		04 56 50.5	
	comp=Z,300nm,1.0s						
SAJU	**San Juanillo,**	**1.49**	**290**	*eP*	**Pn**	**04 56 23.4**	**+0.2**
GP77	**Hacienda Santa**	**1.57**	**319**	*eP*	**Pn**	**04 56 25.3**	**+0.9**
GPS2	**Hotel Rincn d**	**1.58**	**318**	*eP*	**Pn**	**04 56 25.3**	**+0.8**
GPS3	**Bodega del ICE**	**1.59**	**318**	*eP*	**Pn**	**04 56 25.8**	**+1.1**
BUAI	**Buenos Aires**	**1.66**	**322**	*eP*	**Pn**	**04 56 25.7**	**+0.1**
CDITO	**Canoas**	**1.71**	**125**	*eP*	**Pn**	**04 56 24.6**	**-1.6**
HZTE	**Horizontes, Gu**	**1.72**	**312**	*eP*	**Pn**	**04 56 27.3**	**+0.9**
BRU2	**Volcan**	**1.75**	**116**	*eP*	**Pn**	**04 56 27.0**	**+0.1**
BRU2				*eS*	**Sn**	**04 56 49.7**	**+1.6**
CNI2	**El Empalme, Bo**	**1.79**	**94**	*eP*	**Pb**	**04 56 32.8**	**+1.8**
BC3P	**Paso Ancho**	**1.81**	**114**	*eP*	**Pb**	**04 56 28.5**	**+0.7**
BCO2	**Palmira**	**1.93**	**116**	*eP*	**Pn**	**04 56 30.0**	**+0.7**
BCO2				*eS*	**Sn**	**04 56 53.6**	**+1.1**
PTPM	**Petroterminale**	**1.94**	**134**	*eP*	Pn	04 56 22.9	-6.4
PTPM				*eS*	Sn	04 56 41.9	-11
DVD	**David**	**2.13**	**122**	*eP*	**Pn**	**04 56 28.8**	**-3.1**
DVD				*eS*	**Sn**	**04 56 52.4**	**-4.9**
CHGR2	**Aguacate**	**2.20**	**106**	*eP*	**Pn**	**04 56 34.3**	**+1.4**
CHGR2				*eS*	**Sb**	**04 57 03.0**	**-1.8**
ACON	**Acoyapa**	**2.54**	**340**	*eP*	**Pn**	**04 56 37.6**	**0.0**

TEH 13 05:02:11.0, 30.°74N×57.°27E, h8km±17km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.67**	**290**	Pg	Pb	05 02 25.2	+0.1
KHGB	**Koh Gabri**	**0.77**	**242**	Pg	Pb	05 02 26.8	0.0
TVBK	**TV Kerman**	**0.87**	**210**	Pg	Pn	05 02 29.5	-0.3
CHMN	**Cheshme madani**	**0.91**	**165**	Pg	Pn	05 02 30.0	-0.3
NGRK	**Negar Kerman**	**1.19**	**203**	Pg	Pn	05 02 35.4	+1.2
NGRK				Sg	Sn	05 02 51.9	+1.2
IBAF	**Bafgh**	**1.69**	**301**	Pg	Pg	05 02 43.9	+0.6
KBAM	**BAM**	**1.90**	**147**	Pg	Pb	05 02 47.0	-0.5
BSRN	**Basiran**	**2.01**	**52**	Pn	Pb	05 02 47.8	0.0
IKOO	**Kooshah**	**2.24**	**41**	Pn	Pb	05 02 51.4	-0.5
TPRV	**Parvadeh(Tabas**	**2.33**	**348**	Pn	Pb	05 02 52.8	-0.6
IMEH	**Mehriz**	**2.37**	**287**	Pn	Pb	05 02 53.5	-0.5
NHDN	**Nehbandan**	**2.48**	**74**	Pn	Pb	05 02 54.6	-1.2
ITEG	**Tejag**	**2.49**	**30**	Pn	Pb	05 02 54.7	-1.4
BAGH	**Bagheran - Bir**	**2.62**	**39**	Pn	Pn	05 02 55.8	+1.8
ICHK	**Chekchek**	**2.87**	**302**	Pn	Pb	05 03 01.1	-1.5
TKDS	**Koohdasht(Taba**	**2.87**	**358**	P

H11S2 **WAKE ISLAND Hy 26.69 69** T T 06 05 15.3
baz=255,slow=75,SNR=1876
H11N1 **WAKE ISLAND Hy 27.19 66** T T 06 06 02.4
baz=253,slow=75,SNR=415
H11N2 **WAKE ISLAND Hy 27.20 66** T T 06 06 03.4
baz=253,slow=75,SNR=204
H11N3 **WAKE ISLAND Hy 27.21 66** T T 06 06 04.4
baz=253,slow=75,SNR=269
HNR **Honiara 27.27 134** LR LR 05 46 30.6
comp=Z,1μm,21.9s,baz=322,slow=33
KSRS **Korea Array 29.64 339** LR LR 05 49 52.3
comp=Z,31nm,18.7s,baz=155,slow=37
WRA **Warramunga Arr 30.35 192** P **P** **05 37 46.4 +0.1**
0.7nm,0.8s,baz=12,slow=9.8,SNR=5.0
0.7nm,0.8s
CTA **Charters Tower 30.39 169** LR LR 05 48 49.6
comp=Z,105nm,19.7s,baz=348,slow=34
ASAR **Alice Springs 34.06 191** P **P** **05 38 19.1 +0.4**
0.5nm,0.7s,baz=18,slow=12,SNR=2.9
0.5nm,0.7s
ASAJ **Asahikawa 34.06 3** LR LR 05 51 29.4
comp=Z,40nm,19.0s,baz=162,slow=35
USRK **Ussuriysk Ar. 34.90 349** LR LR 05 50 42.1
comp=Z,51nm,21.8s,baz=180,slow=33
DZM **Mont Dzumac 40.73 142** *eS* S 05 44 42.3 -42
72nm,23.3s
DZM *eLR* LR 05 50 06.3
164nm,28.1s
DZM **Mont Dzumac 40.73 142** LR LR 05 53 07.8
comp=Z,98nm,18.8s,baz=336,slow=32
CMAR **Chiang Mai Arr 41.13 287** P **P** **05 39 17.9 -0.9**
1.0nm,0.3s,baz=88,slow=7.3,SNR=1.5
CMAR LR LR 05 54 48.2
comp=Z,56nm,21.2s,baz=100,slow=34
1.0nm,0.3s
STKA **Stephens Creek 41.62 179** LR LR 05 56 58.5
comp=Z,59nm,20.8s,baz=23,slow=37
SONM **Songino Array 47.45 329** P **P** **05 40 10.0 +1.0**
0.6nm,0.7s,baz=148,slow=8.4,SNR=4.3
SONM LR LR 06 00 27.8
comp=Z,59nm,20.1s,baz=66,slow=37
0.6nm,0.7s
NWAO **Narrogin (SRO) 48.11 207** LR LR 06 01 05.2
comp=Z,54nm,20.4s,baz=146,slow=37
MA2 **Magadan 50.09 7** LR LR 05 57 29.0
comp=Z,23nm,22.0s,baz=126,slow=31
SEY **Seymchan 53.55 7** LR LR 06 02 27.4
comp=Z,25nm,21.4s,baz=170,slow=35
PALK **Pallekele 59.18 273** LR LR 06 03 58.0
comp=Z,32nm,22.0s,baz=155,slow=33
RPZ **Rata Peaks 60.20 155** LR LR 06 06 13.0
comp=Z,36nm,19.7s,baz=346,slow=35
MKAR **Makanchi Array 61.25 318** P **P** **05 41 49.4 0.0**
0.4nm,0.5s,baz=117,slow=6.9,SNR=5.6
0.4nm,0.5s
ZALV **Zalesovo Beam 62.19 326** P **P** **05 41 56.5 +1.0**
0.3nm,0.3s,baz=114,slow=5.8,SNR=2.1
0.3nm,0.3s
KURBB **Kurchatov Arra 64.73 322** P **P** **05 42 12.1 -0.2**
1.1nm,0.9s,baz=105,slow=6.4,SNR=6.8
1.1nm,0.9s
RAR **Rarotonga 66.28 118** LR LR 06 06 18.2
comp=Z,52nm,21.2s,baz=344,slow=32
BVAR **Borovoye Array 70.19 323** P **P** **05 42 46.6 -0.2**
1.5nm,0.7s,baz=258,slow=41,SNR=3.9
1.5nm,0.7s
ILAR **Eielson Array 73.62 25** P **P** **05 43 06.2 -1.0**
0.3nm,0.6s,baz=247,slow=5.9,SNR=9.5
ILAR LR LR 06 12 18.4
comp=Z,36nm,21.0s,baz=324,slow=33
0.3nm,0.6s
PPT **Papeete 74.22 111** LR LR 06 08 21.3
comp=Z,76nm,21.5s,baz=284,slow=30
PPT2 **Papeete2 74.23 111** *eLR* LR 06 05 30.9
146nm,29.2s
PPT2 *eLR* LR 06 05 43.6
72nm,21.2s
TBI **Tubuai 75.98 117** *eLR* LR 06 06 13.2
453nm,26.5s
ARU **Arti 77.34 326** LR LR 06 18 45.3
comp=Z,66nm,19.9s,baz=327,slow=37
TAOE **Nuku Hiva Isla 81.11 101** *eLR* LR 06 08 44.2
48nm,23.7s
SPITS **Spitsbergen Ar 86.89 350** LR LR 06 25 57.7
comp=Z,96nm,18.0s,baz=193,slow=38
YKA **Yellowknife Ar 87.98 27** P **P** **05 44 24.1 +0.2**
0.7nm,0.9s,baz=287,slow=5.4,SNR=6.0
0.7nm,0.9s
VNDA **Vanda 88.18 175** LR LR 06 22 28.1
comp=Z,25nm,20.6s,baz=306,slow=35
NEW **Newport 90.71 41** LR LR 06 17 39.3
comp=Z,27nm,20.6s,baz=337,slow=30
OPO **Ambohidratompo 96.28 252** LR LR 06 28 38.3
comp=Z,50nm,18.6s,baz=326,slow=36
QSPA **South Pole Qui 99.83 180** LR LR 06 29 13.1
comp=Z,52nm,20.9s,baz=32,slow=35

IDC 13 05:32:20.7±7.2, 27°52S×23°19E, h0km, mbtmp1.8/1, ML1.7/1, Error ellipse: s-maj=45.9km s-min=42.4km az=29.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I47ZA	**BOSHOF INFRASO 2.12 122**			I	I	05 44 30.0	
	0.2nm,0.7s,baz=301,slow=318,SNR=2.1						
BOSA	**Boshof 2.13 121**			Pn	Pn	05 32 57.6	0.0
	0.1nm,0.3s,baz=304,slow=17,SNR=1.2						
BOSA				Lg	Lg	05 33 28.6	
	0.7nm,0.3s,baz=26,slow=21,SNR=15						
BOSA				Rg	Rg	05 33 36.1	
	3.6nm,0.4s,baz=24,slow=19,SNR=10						
	0.9nm,0.5s						
I35NA	**TSUMEB INFRASO 9.76 327**			I	I	06 30 10.0	
	baz=153,slow=318,SNR=1.3						

*IDC **13** 05:46:39.5±9.6, 27°35N×51°94E, h0km, mb3.9/4, mbtmp4.0/5, MS3.4/1, Error ellipse: s-maj=156.2km s-min=106.4km az=46.0*
*TEH **13** 05:47:16.3, 30°72N×57°29E, h8km±56km, ML4.2*
ISC 13 05:47:16.7±1.0, 30°70N±0°04×57°32E±0°04, h10km, n38, σ1°54/33, mb3.7/4, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman 0.73 291**			Pg	**Pg**	**05 47 29.7**	**-1.2**
KHGB	**Koh Gabri 0.80 246**			Pg	**Pg**	**05 47 30.8**	**-1.4**
CHMN	**Cheshme madani 0.86 167**			Pg	**Pg**	**05 47 32.6**	**-0.8**
TVBK	**TV Kerman 0.87 214**			Pg	**Pb**	**05 47 33.3**	**-0.8**
NGRK	**Negar Kerman 1.18 206**			Pg	**Pg**	**05 47 38.9**	**-0.4**
IBAF	**Bafgh 1.75 301**			Pg	**Pb**	**05 47 48.5**	**-0.5**
KBAM	**BAM 1.84 148**			Pn	**Pb**	**05 47 50.0**	**-0.6**
BSRN	**Basiran 1.99 50**			Pn	**Pb**	**05 47 51.9**	**-1.2**
IKOO	**Kooshah 2.23 39**			Pn	**Pb**	**05 47 55.9**	**-1.5**
TPRV	**Parvadeh(Tabas 2.38 347**			Pn	**Pn**	**05 47 56.9**	**+1.0**
IMEH	**Mehriz 2.42 287**			Pn	**Pn**	**05 47 57.3**	**+0.6**
NHDN	**Nehbandan 2.44 73**			Pn	**Pb**	**05 47 59.1**	**-1.7**
ITEG	**Tejag 2.50 29**			Pn	**Pn**	**05 47 59.1**	**+1.4**
BAGH	**Bagheran - Bir 2.62 37**			Pn	**Pn**	**05 48 01.1**	**+1.7**
KHNJ	**Kahnooj 2.77 173**			Pn	**Pn**	**05 48 01.8**	**+0.7**
TKDS	**Koohdasht(Taba 2.91 357**			Pn	**Pn**	**05 48 04.3**	**+1.1**
ICHK	**Chekchek 2.93 302**			Pn	**Pn**	**05 48 05.4**	**+1.9**
AFRZ	**Afriz 3.07 27**			Pn	**Pn**	**05 48 07.1**	**+1.6**
TNSJ	**Nastanj 3.31 350**			Pn	**Pn**	**05 48 10.0**	**+1.3**
ISAD	**Sadrabad 3.34 292**			Pn	**Pn**	**05 48 10.9**	**+1.6**
GENO	**Geno 3.44 197**			Pn	**Pn**	**05 48 12.6**	**+2.0**
SHRT	**Shahrakht 3.86 40**			Pn	**Pn**	**05 48 18.2**	**+1.9**
ANAR	**Anarak 3.94 310**			Pn	**Pn**	**05 48 18.6**	**+1.3**
IRAM	**Ramesheh 4.37 286**			Pn	**Pn**	**05 48 24.8**	**+1.4**
IZEF	**Zefreh 4.78 298**			Pn	**Pn**	**05 48 30.8**	**+1.7**
JASK	**Jask - Hormozg 4.84 174**			Pn	**Pn**	**05 48 30.7**	**+0.9**
TBJM	**Torbat-e-JAM 5.20 28**			Pn	**Pn**	**05 48 36.5**	**+1.7**
KRSH	**Karshahi 5.47 308**			Pn	**Pn**	**05 48 39.1**	**+0.6**
SRVN	**Saravan 5.53 125**			Pn	**Pn**	**05 48 41.5**	**+2.3**
IKLH	**Kolahrood 5.53 300**			Pn	**Pn**	**05 48 41.4**	**+2.0**
ISFB	**Sefidab 5.63 312**			Pn	**Pn**	**05 48 42.1**	**+1.5**
SBZV	**Sabzevar 5.67 2**			Pn	**Pn**	**05 48 43.7**	**+2.4**
MRVT	**Maraveh tapeh 7.01 352**			Pn	**Pn**	**05 49 01.8**	**+2.3**
GEYT	**Alibeck 7.24 5**			Pn	Pb	05 49 28.1	+5.6
	2.2nm,0.3s,baz=212,slow=19,SNR=3.9						
BVAR	**Borovoye Array 24.26 19**			P	P	05 52 43.4	+10
	1.8nm,0.6s,baz=190,slow=6.0,SNR=7.8						
	1.8nm,0.6s						
MKAR	**Makanchi Array 25.09 43**			P	P	05 52 54.5	+13
	0.5nm,0.7s,baz=224,slow=8.7,SNR=2.7						
MKAR				LR	LR	06 07 11.5	
	comp=Z,61nm,19.3s,baz=32,slow=40						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra 25.43 32**			P	P	05 52 55.4	+11
	1.0nm,0.7s,baz=232,slow=9.4,SNR=6.4						
	1.0nm,0.7s						
ZALV	**Zalesovo Beam 30.52 33**			P	P	05 53 42.0	+12
	1.9nm,0.6s,baz=242,slow=9.4,SNR=9.2						
	1.9nm,0.6s						

*SOME **13** 06:04:56.9, 42°57N×75°10E, h10km*
*NNC **13** 06:04:57.4±1.5, 42°62N×75°11E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=10.1km s-min=5.3km az=14.0*
ISC 13 06:04:56.0±1.7, 42°57N±0°08×75°11E±0°04, h19km±5km, n15, σ0°56/28, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KST	**Kastek 0.78 53**			*e*P	**Pg**	**06 05 11.7**	**+0.3**
	1.6nm,0.2s						
KST				*e*S	**Sg**	**06 05 22.5**	**+0.7**
	6.5nm,0.2s						
KST	**Kastek 0.78 53**			P	**Pg**	**06 05 11.7**	**+0.3**
	1.6nm,0.2s						
KST				S	**Sg**	**06 05 22.5**	**+0.7**
	6.5nm,0.2s						
DGS	**Degeres 0.83 36**			*e*P	**Pn**	**06 05 12.6**	**-0.2**
	0.9nm,0.1s						
DGS				*e*S	**Sn**	**06 05 23.9**	**-0.7**
	4.2nm,0.1s						
DGS	**Degeres 0.83 36**			P	**Pn**	**06 05 12.6**	**-0.2**
	0.9nm,0.1s						
DGS				S	**Sn**	**06 05 23.9**	**-0.7**
	4.2nm,0.1s						
SGDS	**Sogindy 0.95 338**			P	**Pn**	**06 05 14.7**	**+0.2**
	1.4nm,0.1s						
SGDS				S	**Sn**	**06 05 27.4**	**-0.1**
	2.3nm,0.1s						
MTBS	**Maitube 1.12 60**			*e*P	**Pg**	**06 05 17.8**	**+0.1**
	1.4nm,0.1s						
MTBS				*e*S	**Sg**	**06 05 32.9**	**+0.5**
	7.6nm,0.1s						
MTBS	**Maitube 1.12 60**			P	**Pg**	**06 05 17.8**	**+0.1**
	1.5nm,0.1s						
MTBS				S	**Sg**	**06 05 32.9**	**+0.5**
	7.6nm,0.1s						
KRBS	**Karabastau 1.20 20**			*e*P	**Pg**	**06 05 19.1**	**-0.1**
	1.0nm,0.1s						
KRBS				*e*S	**Sg**	**06 05 35.3**	**+0.4**
	1.7nm,0.1s						
KRBS	**Karabastau 1.20 20**			P	**Pg**	**06 05 19.1**	**-0.1**
	1.0nm,0.1s						
KRBS				S	**Sg**	**06 05 35.3**	**+0.4**
	1.7nm,0.1s						
MRKS	**Merke 1.40 278**			*e*P	**Pb**	**06 05 22.5**	**+0.8**
	0.7nm,0.1s						
MRKS				*e*S	**Sg**	**06 05 40.8**	**-0.6**
	1.8nm,0.2s						
MDOK	**Medeo 1.54 67**			*e*P	**Pg**	**06 05 25.4**	**-0.3**
	2.0nm,0.3s						
MDOK				*e*S	**Sg**	**06 05 46.0**	**+0.1**
	2.4nm,0.2s						
CHKK	**Chushkaly 1.88 46**			*e*P	**Pg**	**06 05 31.6**	**-0.5**
	0.5nm,0.1s						
CHKK				*e*S	**Sg**	**06 05 56.7**	**+0.1**
	9.4nm,0.1s						
CHKK	**Chushkaly 1.88 46**			P	**Pg**	**06 05 31.6**	**-0.5**
	0.5nm,0.1s						
CHKK				S	**Sg**	**06 05 56.7**	**+0.1**
	8.3nm,0.1s						
ARXS	**Arharly 2.57 49**			*e*Pg	**Pg**	**06 05 44.2**	**-1.1**
	0.8nm,0.2s						
ARXS				*e*Lg	Lg	06 06 18.2	
	2.9nm,0.2s						
ARXS	**Arharly 2.57 49**			Pg	**Pg**	**06 05 44.2**	**-1.1**
	0.8nm,0.2s						
ARXS				Lg	Lg	06 06 18.2	
	2.9nm,0.3s						

*TEH **13** 06:05:46.5, 33°83N×47°63E, h6km±40km, ML4.0*
*IDC **13** 06:05:47.1±1.0, 33°89N×47°51E, h0km, mb4.0/17, mbtmp4.0/21, ML4.0/4, MS3.1/3, Error ellipse: s-maj=23.6km s-min=13.3km az=167.0*
*NEIC **13** 06:05:48.0±2.6, 33°6N±0°1×47°7E±0°1, h10km±2km, mb4.1/18, Error ellipse: s-maj=19.0km s-min=15.1km az=164.0*
*AZER **13** 06:05:53.3±1.0, 33°97N×47°85E, h6km, Error ellipse: s-maj=10.4km s-min=6.6km az=95.0*
ISC 13 06:05:48.4±0.5, 33°79N±0°04×47°58E±0°04, h10km, n80, σ1°46/85, mb4.0/22, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman 0.34 139**			Pg	**Pg**	**06 05 55.0**	**-0.2**
IKFM				Sg	**Sg**	**06 06 00.8**	**+1.0**
IKOM	**Komasi 0.39 352**			Pg	Pg	06 05 54.8	-1.4
IKOM				Sg	**Sg**	**06 06 00.4**	**-1.0**
KCHF	**Cheshme Sefid, 0.66 318**			Pg	**Pg**	**06 06 00.1**	**-1.2**
KCHF				Sg	**Sg**	**06 06 10.4**	**+0.4**
IGHG	**Ghaleghazi 1.00 303**			Pg	**Pg**	**06 06 07.0**	**-0.7**
IGHG				Sg	**Sg**	**06 06 23.5**	**+2.8**
ILBA	**Ilam Banvizeh 1.15 262**			Pg	**Pb**	**06 06 10.6**	**+0.1**
ILIN	**Lien 1.24 336**			Pg	Pn	06 06 10.5	-1.5
IDHR	**Dehrash 1.34 313**			Pg	**Pn**	**06 06 12.9**	**-0.5**
HAGD	**Aghdareh 1.66 51**			Pg	**Pn**	**06 06 16.4**	**-1.4**
KGS1	**Ghasr-e-Shirin 1.80 294**			Pn	**Pn**	**06 06 22.3**	**+2.8**
IRAZ	**Razeghan 2.52 50**			Pn	**Pn**	**06 06 31.0**	**+1.3**
AMIS	**Naft Sefid 2.56 145**			Pn	**Pn**	**06 06 31.7**	**+1.7**
IPIR	**Pirpir 2.99 111**			Pn	**Pn**	**06 06 37.6**	**+1.5**
QSDN	**Sirdan 3.01 25**			Pn	**Pn**	**06 06 38.1**	**+1.7**
JHBN	**Jahan bin 3.02 120**			Pn	**Pn**	**06 06 38.1**	**+1.5**
IQOM	**Qom 3.08 69**			Pn	**Pn**	**06 06 38.4**	**+1.1**
IMHD	**Mahdasht 3.17 52**			Pn	**Pn**	**06 06 39.6**	**+1.0**
QAMS	**Qamsar 3.18 90**			Pn	**Pn**	**06 06 40.2**	**+1.5**
ZNGN	**Zangian 3.22 120**			Pn	**Pn**	**06 06 40.3**	**+1.0**
MAHB	**Mahabad 3.35 333**			Pn	**Pn**	**06 06 42.5**	**+1.6**
IKLH	**Kolahrood 3.37 97**			Pn	**Pn**	**06 06 43.2**	**+1.8**
IHSB	**Hasanabad 3.47 61**			Pn	**Pn**	**06 06 43.3**	**+0.7**
IHSH	**Hashtrud 3.52 356**			Pn	**Pn**	**06 06 45.2**	**+1.7**
IBRJ	**Brojen 3.62 120**			Pn	**Pn**	**06 06 46.3**	**+1.5**
IVRN	**Varamin 3.64 69**			Pn	**Pn**	**06 06 45.8**	**+0.9**
KRSH	**Karshahi 3.79 86**			Pn	**Pn**	**06 06 48.7**	**+1.6**
ISFB	**Sefidab 3.91 80**			Pn	**Pn**	**06 06 49.5**	**+0.9**
KLST	**Kelardasht - M 3.94 45**			Pn	**Pn**	**06 06 50.4**	**+1.1**
IQAR	**Gharneh 3.99 109**			Pn	**Pn**	**06 06 51.7**	**+1.8**
IZEF	**Zefreh 4.07 101**			Pn	**Pn**	**06 06 52.5**	**+1.5**
IDMV	**Damavand 4.08 63**			Pn	**Pn**	**06 06 52.2**	**+1.0**
MZPU	**Pul - Mazandar 4.21 50**			Pn	**Pn**	**06 06 54.5**	**+1.6**
KLNJ	**Kolanjah 4.38 128**			Pn	**Pn**	**06 06 56.4**	**+1.0**
IFIR	**Firoozkooh 4.65 65**			Pn	**Pn**	**06 06 59.6**	**+0.7**
ASTR	**Astara 4.87 11**			P	**Pn**	**06 07 04.1**	**+2.5**
	SNR=5.9						
ASTR				S	**Sn**	**06 07 59.7**	**+1.7**
LRK	**Lerik 4.89 7**			P	**Pn**	**06 07 04.8**	**+2.7**
	SNR=9.9						
LRK				S	**Sn**	**06 08 00.6**	**+1.8**
YRD	**Yardimli 5.15 6**			P	**Pn**	**06 07 08.4**	**+2.6**
YRD				S	**Sn**	**06 08 07.3**	**+1.9**
ORD	**Ordubad 5.29 346**			P	**Pn**	**06 07 11.7**	**+4.1**
	SNR=20						
ORD				S	**Sn**	**06 08 12.9**	**+4.2**
IGLO	**Ghaloghah 5.79 60**			Pn	**Pn**	**06 07 16.0**	**+1.4**
MAKU	**Maku 6.03 338**			Pn	**Pn**	**06 07 19.4**	**+1.6**
ASF	**Jabal al Asfar 9.12 263**			Pn	**Pn**	**06 08 00.1**	**0.0**
	0.6nm,0.3s,baz=138,slow=18,SNR=2.0						
ASF				Sn	**Sn**	**06 09 40.1**	**-2.8**
	0.5nm,0.3s,baz=184,slow=19,SNR=1.9						
ASF				Lg	Lg	06 10 37.3	
	0.4nm,0.3s,baz=225,slow=20,SNR=1.7						
	1.5nm,0.4s						
GEYT	**Alibeck 9.50 61**			Pn	Pn	06 08 11.2	+5.9
	1.3nm,0.3s,baz=164,slow=18,SNR=3.0						
EIL	**Elat 11.51 253**			Pn	**Pn**	**06 08 33.5**	**+0.7**
	0.7nm,0.3s,baz=85,slow=11,SNR=2.8						
EIL				Lg	Lg	06 11 49.6	
	0.2nm,0.3s,baz=156,slow=20,SNR=2.2						
EIL				LR	LR	06 13 09.1	
	comp=Z,34nm,18.8s,baz=66,slow=38						
	3.3nm,0.5s						
WSAR	**Wadi Sarin 14.30 134**			Pn	Pn	06 09 08.6	-2.4
	0.5nm,0.3s,baz=315,slow=8.6,SNR=1.6						
ABKAR	**Akbulak array 17.98 27**			Pn	**Pn**	**06 09 57.5**	**-0.9**
AKTO	**Aktyubinsk 18.32 22**			P	**Pn**	**06 10 01.4**	**-1.1**
	0.4nm,0.3s,baz=194,slow=8.1,SNR=4.8						
	1.8nm,0.5s						
IDI	**Anoyia 18.75 281**			P	**P**	**06 10 07.8**	**+0.3**
	1.5nm,0.3s,baz=147,slow=11,SNR=6.7						
	3.7nm,0.4s						
BTK	**Batken 19.58 65**			P	**P**	**06 10 17.8**	**+1.1**
BTK				IAmb	IAmb	06 10 33.8	
	comp=Z,8.2nm,1.3s						
KK31	**Karatay Array 20.18 56**			P	**P**	**06 10 23.1**	**0.0**
KKAR	**Karatay Array 20.18 56**			P	**P**	**06 10 23.5**	**+0.4**
MLR	**Muntele Rosu 20.28 312**			P	**P**	**06 10 24.3**	**0.0**
	comp=Z,1.1nm,0.5s,baz=171,slow=19,SNR=1.6						
	comp=Z,1.1nm,0.5s						
NIL	**Nilore 21.34 83**			P	**P**	**06 10 34.4**	**-1.4**
AKASG	**Malin Array Be 21.59 327**			P	**P**	**06 10 38.9**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=137,slow=8.6,SNR=5.4						
	comp=Z,0.4nm,0.4s						
BURAR	**Bucovina Array 21.77 316**			P	**P**	**06 10 41.0**	**+0.7**
BUR08	**Bucovina Ar. S 21.79 316**			P	**P**	**06 10 40.9**	**+0.3**
BUR08				IAmb	IAmb	06 11 08.2	
	comp=Z,5.3nm,0.9s						
FNA	**Florina 21.94 296**			P	**P**	**06 10 43.3**	**+1.2**
FNA				IAmb	IAmb	06 11 07.5	
	comp=Z,7.1nm,1.5s						
KIRV	**Kirov 24.84 2**			LR	LR	06 23 44.7	
	comp=Z,101nm,19.2s,baz=310,slow=44						
TARG	**Taragay, Kyrgy 25.09 63**			P	**P**	**06 11 14.0**	**+0.4**
TARG				IAmb	IAmb	06 11 20.8	
	comp=Z,8.3nm,1.0s						
BRVK	**Borovoye 25.17 33**			P	**P**	**06 11 14.1**	**+0.4**
BRVK				IAmb	IAmb	06 11 20.0	
	comp=Z,8.4nm,1.4s						
BVAR	**Borovoye Array 25.20 33**			P	**P**	**06 11 14.1**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=239,slow=9.8,SNR=9.0						
BVAR				LR	LR	06 23 26.8	
	comp=Z,48nm,19.5s,baz=308,slow=42						
	comp=Z,3.0nm,0.8s						
KURBB	**Kurchatov Arra 28.16 44**			P	**P**	**06 11 41.3**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=249,slow=9.2,SNR=11						
KURBB				PcP	**PcP**	**06 14 53.0**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=239,slow=2.8,SNR=2.6						
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov 28.25 44**			P	**P**	**06 11 43.7**	**+2.2**
KURK				IAmb	IAmb	06 11 47.5	
	comp=Z,2.7nm,0.8s						
MK31	**Makanchi Array 29.24 53**			P	**P**	**06 11 50.6**	**+0.1**
MK31				IAmb	IAmb	06 11 54.5	
	comp=Z,2.4nm,0.8s						
MKAR	**Makanchi Array 29.24 53**			P	**P**	**06 11 50.7**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=243,slow=6.7,SNR=15						
	comp=Z,2.4nm,0.7s						
FINES	**FINESS Array B 30.93 340**			P	**P**	**06 12 03.9**	**-1.3**
	comp=Z,3.1nm,0.8s,baz=145,slow=9.6,SNR=5.6						
	comp=Z,3.1nm,0.8s						
ZAA0	**Zalesovo Array 33.03 41**			P	**P**	**06 12 24.8**	**+1.1**
ZALV	**Zalesovo Beam 33.03 41**			P	**P**	**06 12 25.1**	**+1.4**
ZALV	**Zalesovo Beam 33.03 41**			P	**P**	**06 12 23.6**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=255,slow=10,SNR=10.0						
	comp=Z,1.3nm,0.4s						
BNI	**Bardonecchia 33.21 302**			P	**P**	**06 12 25.5**	**-0.1**
HFS	**Hagfors 34.39 330**			P	**P**	**06 12 34.4**	**-1.0**
	comp=Z,2.1nm,0.3s,baz=124,slow=8.4,SNR=18						
	comp=Z,2.1nm,0.3s						
NOA	**NORSAR Array B 35.91 331**			P	P	06 12 46.9	-1.7
	comp=Z,1.0nm,0.8s,baz=123,slow=8.2,SNR=2.0						
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B 37.85 348**			P	**P**	**06 13 04.3**	**-0.7**
	comp=Z,2.8nm,0.9s,baz=153,slow=8.1,SNR=4.1						
	comp=Z,2.8nm,0.9s						
EKA	**Eskdalemuir Ar 40.94 318**			P	**P**	**06 13 29.5**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=108,slow=8.4,SNR=3.8						
	comp=Z,0.8nm,0.5s						
ESDC	**Sonseca Array 41.26 294**			P	**P**	**06 13 33.1**	**-0.7**
	comp=Z,2.0nm,0.9s,baz=69,slow=8.2,SNR=9.0						
	comp=Z,2.0nm,0.9s						
TOA0	**Torodi Ar. Sit 46.38 255**			P	**P**	**06 14 15.4**	**+0.2**
TORD	**Torodi Ar. Bea 46.38 255**			P	**P**	**06 14 15.3**	**+0.1**
TORD				IAmb	IAmb	06 14 16.0	
	comp=Z,3.1nm,1.1s						
TORD	**Torodi Ar. Bea 46.38 255**			P	**P**	**06 14 15.0**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=49,slow=8.5,SNR=17						
TORD				PcP	**PcP**	**06 15 49.5**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=39,slow=2.1,SNR=3.5						
	comp=Z,2.1nm,0.6s						
SPITS	**Spitsbergen Ar 46.49 352**			P	**P**	**06 14 15.0**	**-0.3**
	comp=Z,6.7nm,0.8s,baz=142,slow=12,SNR=1.5						
	comp=Z,6.7nm,0.8s						
CMAR	**Chiang Mai Arr 48.10 95**			P	**P**	**06 14 30.4**	**+1.7**
	comp=Z,1.5nm,0.3s,baz=300,slow=7.2,SNR=8.0						
	comp=Z,1.5nm,0.3s						
ILAR	**Eielson Array 81.11 6**			P	**P**	**06 18 02.4**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=342,slow=2.9,SNR=5.3						
	comp=Z,0.5nm,0.8s						
YKA	**Yellowknife Ar 82.99 352**			P	**P**	**06 18 12.4**	**-1.0**
	comp=Z,0.6nm,1.0s,baz=12,slow=4.1,SNR=6.8						
	comp=Z,0.6nm,1.0s						

*MDD **13** 06:29:24.8±1.1, 30°10N×15°09W, h0km, mb_Lg3.6/11, Error ellipse: s-maj=10.3km s-min=8.2km az=158.0*
*CNRM **13** 06:29:42.8, 30°24N×13°58W, h210km, ml3.1*
ISC 13 06:29:13.6±2.1, 30°42N±0°08×14°97W±0°05, h13km±12km, n21, σ0°99/32, 3C-1D, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFUE	**Fuerteventura 1.98 153**			⇑P	**Pg**	**06 29 52.4**	**+0.7**
CFUE				S	**Sn**	**06 30 11.7**	**+0.2**
CFUE				*i* Vmb_Lg		06 30 13.0	
CFTV	**Fuerteventura 2.14 159**			S	**Sn**	**06 30 14.9**	**-0.6**
CFTV				*i* Vmb_Lg		06 30 17.3	
EBAJ	**Bajamar 2.22 213**			⇑P	**Pg**	**06 29 55.5**	**-0.8**
EBAJ				S	**Sn**	**06 30 18.0**	**+0.5**
EBAJ				*i* Vmb_Lg		06 30 18.7	
EOSO	**Osorio 2.39 192**			P	**Pb**	**06 29 57.5**	**+0.9**
EOSO				S	**Sn**	**06 30 21.3**	**-0.5**
EOSO				*i* Vmb_L

ZAA0	**Zalesovo Array**	**2.00**	**276**	⇑Pn	Pn	06 39 50.5	+0.3
	1.2nm,0.8s,baz=94,slow=10							
ZAA0				⇓Sn	Sg	06 40 19.0	-0.3
	1.1nm,0.4s							
ZALV	**Zalesovo Beam**	**2.00**	**276**	Pn	Pn	06 39 50.7	+0.5
	0.8nm,0.3s,baz=92,slow=13,SNR=17							
ZALV				Lg	Lg	06 40 18.2		
	1.7nm,0.3s,baz=97,slow=23,SNR=11							
	4.6nm,0.7s							
KURBB	**Kurchatov Arra**	**6.73**	**246**	Pn	Pn	06 40 55.2	+0.1
	0.1nm,0.3s,baz=62,slow=14,SNR=7.4							
KURBB				Sn	Sn	06 42 11.5	-0.8	
	baz=50,slow=32,SNR=1.3							
KURBB				Lg	Lg	06 42 49.0		
	baz=62,slow=34,SNR=5.3							
	0.5nm,0.3s							
KURBB	**Kurchatov Arra**	**6.73**	**246**	⇓Pn	Pn	06 40 56.3	+1.2	
	0.8nm,0.3s							
KURBB				⇑Sn	Sn	06 42 11.1	-1.3	
	2.3nm,0.7s							
KURBB				⇑Lg	Lg	06 42 47.7		
	6.0nm,1.1s							
MKAR	**Makanchi Array**	**7.95**	**211**	Pn	Pn	06 41 13.5	+1.6	
	0.1nm,0.3s,baz=24,slow=12,SNR=1.7							
MKAR				Sn	Sn	06 42 34.8	-7.9	
	0.1nm,0.3s,baz=104,slow=36,SNR=3.8							
MKAR				Lg	Lg	06 43 24.5		
	baz=35,slow=16,SNR=3.7							
	0.1nm,0.4s							

TEH 13 07:09:06.1,34.61N×46.24E,h6km±23km,ML3.6, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Derash**	**0.15**	**55**	Pg	Pg	07 09 10.7	+1.4
IDHR				Sg	Sg	07 09 13.8	+2.3
IGHG	**Ghaleghazi**	**0.39**	**135**	Pg	Pb	07 09 15.2	-0.4
KGS1	**Ghasr-e-Shirin**	**0.54**	**259**	Pg	Pb	07 09 17.6	-0.4
ILIN	**Lien**	**0.67**	**63**	Pg	Pb	07 09 20.2	-0.2
KCHF	**Cheshme Sefid,**	**0.74**	**117**	Pg	Pb	07 09 21.3	-0.3
KCHF				Sg	Sb	07 09 33.2	+1.1
ILBA	**Ilam Banvizeh**	**0.98**	**181**	Pg	Pb	07 09 25.8	+0.2
IKOM	**Komasi**	**1.14**	**112**	Pg	Pn	07 09 29.2	+0.5
SDS1	**Sardasht. Az.**	**1.65**	**338**	Pg	Pg	07 09 38.3	+0.5
IKFM	**Kafar-mosalman**	**1.72**	**129**	Pg	Pg	07 09 39.8	+0.7
MAHB	**Mahabad**	**2.19**	**349**	Pn	Pb	07 09 46.7	+0.5
IHSH	**Hashtrud**	**2.81**	**17**	Pn	Pb	07 09 55.4	-1.6
IAZR	**Azarshahr**	**3.07**	**356**	Pn	Pb	07 09 59.3	-2.0
ISRB	**Sarab**	**3.41**	**19**	Pn	Pn	07 10 03.2	+3.2
ISHB	**Shabestar**	**3.70**	**352**	Pn	Pn	07 10 07.2	+3.1
AMIS	**Naft Sefid**	**3.90**	**138**	Pn	Pn	07 10 09.1	+2.6
IPIR	**Pirpir**	**4.33**	**115**	Pn	Pn	07 10 15.3	+2.5
GRMI	**Germi**	**4.40**	**17**	Pn	Pn	07 10 17.1	+3.6
JHBN	**Jahan bin**	**4.40**	**121**	Pn	Pn	07 10 16.7	+3.0

*NNC **13** 07:13:59.7±0.3,50.01N×78.69E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=3.2km s-min=1.4km az=77.0, Suspected Mining explosion.*
*IDC **13** 07:14:01.0±0.8,50.07N×78.85E,h0km,mbtmp3.1/3, ML2.5/3,Error ellipse: s-maj=12.2km s-min=5.7km az=57.0*

ISC 13 07:13:57.5±0.8,49.90N±0.03×78.96E±0.03,h0km,n37, σ1s50/54,25C-7D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.74**	**338**	⇑P	**Pg**	**07 14 11.0**	**-0.6**
KUR07				⇑S	**Sg**	**07 14 19.5**	**-1.7**
KUR14	**Kurchatov Arra**	**0.75**	**342**	⇑P	**Pg**	**07 14 11.1**	**-0.8**
KUR14				⇓S	**Sg**	**07 14 20.2**	**-1.4**
KUR06	**Kurchatov Arra**	**0.76**	**338**	⇑P	**Pg**	**07 14 11.3**	**-0.7**
KUR06				⇑S	**Sg**	**07 14 20.5**	**-1.3**
KUR15	**Kurchatov Arra**	**0.76**	**341**	⇑P	**Pg**	**07 14 11.3**	**-0.8**
KUR15				⇓S	**Sg**	**07 14 20.8**	**-1.1**
KURBB	**Kurchatov Arra**	**0.77**	**339**	Pg	**Pg**	**07 14 11.9**	**-0.3**
	4.1nm,0.3s,baz=164,slow=19,SNR=226						
KURBB				Lg	Lg	07 14 21.4	
	4.0nm,0.3s,baz=165,slow=32,SNR=9.8						
KURBB	**Kurchatov Arra**	**0.77**	**339**	⇑P	**Pg**	**07 14 11.6**	**-0.6**
	36nm,0.3s						
KURBB				⇑S	**Sg**	**07 14 21.5**	**-0.8**
	153nm,0.6s						
KUR16	**Kurchatov Arra**	**0.78**	**338**	⇑P	**Pg**	**07 14 11.7**	**-0.7**
KUR16				⇓S	**Sg**	**07 14 21.0**	**-1.7**
KUR05	**Kurchatov Arra**	**0.79**	**340**	⇑P	**Pg**	**07 14 11.9**	**-0.7**
KUR05				⇑S	**Sg**	**07 14 20.7**	**-2.1**
KUR17	**Kurchatov Arra**	**0.80**	**337**	⇑P	**Pg**	**07 14 11.8**	**-0.9**
KUR17				⇑S	**Sg**	**07 14 21.7**	**-1.3**
KUR04	**Kurchatov Arra**	**0.81**	**341**	⇑P	**Pg**	**07 14 12.3**	**-0.6**
KUR04				⇑S	**Sg**	**07 14 21.4**	**-2.0**
KURK	**Kurchatov**	**0.84**	**345**	⇑P	**Pg**	**07 14 12.9**	**-0.7**
	20nm,0.5s						
KURK				⇓S	**Sg**	**07 14 23.4**	**-1.1**
	58nm,0.6s						
SEM	**Semipalatinsk**	**0.97**	**58**	P	**Pn**	**07 14 20.7**	**+2.1**
	11nm,0.1s						
SEM				S	**Sn**	**07 14 34.9**	**+1.7**
	81nm,0.1s						
MAKZ	**Makanchi**	**3.69**	**146**	⇓Pn	**Pb**	**07 15 01.6**	**-1.9**
	0.2nm,0.2s						
MAKZ				⇑Pg	**Pg**	**07 16 10.0**	**+1.8**
	2.9nm,0.6s						
MAKZ				⇑Lg	Lg	07 16 02.9	
	13nm,0.6s						
MK31	**Makanchi Array**	**3.82**	**143**	⇑Pn	**Pb**	**07 15 03.4**	**-2.4**
	0.2nm,0.1s,baz=321,slow=10,SNR=50						
MK31				⇑Pg	**Pg**	**07 15 11.1**	**+0.5**
	2.2nm,0.4s,baz=323,slow=13,SNR=20						
MK31				⇓Sn	**Sb**	**07 15 52.5**	**-0.1**
	1.5nm,0.5s,baz=348,slow=24,SNR=5.5						
MK31				⇑Lg	Lg	07 16 06.6	
	9.3nm,0.5s,baz=337,slow=27,SNR=16						
MKAR	**Makanchi Array**	**3.82**	**143**	Pn	**Pb**	**07 15 03.9**	**-1.8**
	0.7nm,0.3s,baz=326,slow=10,SNR=58						
MKAR				Pg	**Pg**	**07 15 11.0**	**+0.3**
	1.4nm,0.3s,baz=322,slow=15,SNR=15						
MKAR				Sn	**Sb**	**07 15 51.4**	**-1.1**
	0.8nm,0.3s,baz=327,slow=24,SNR=3.4						
MKAR				Lg	Lg	07 16 05.2	
	3.4nm,0.3s,baz=328,slow=27,SNR=15						
	0.7nm,0.3s						
BRZS	**Berezniki**	**4.06**	**274**	Pg	**Pb**	**07 15 10.4**	**+0.6**
	3.7nm,0.2s						
BRZS				Lg	Lg	07 16 00.3	
	4.7nm,0.2s						
ZSN	**Zaisan**	**4.62**	**120**	Pg	**Pg**	**07 15 24.3**	**-1.6**
	2.9nm,0.2s						
ZSN				Lg	Lg	07 16 24.5	
	13nm,0.3s						
KAPS	**Kapalarasan**	**4.63**	**177**	Pg	**Pg**	**07 15 24.8**	**-1.3**
	2.2nm,0.2s						
KAPS				Lg	Lg	07 16 25.4	
	16nm,0.3s						
OTUK	**Ortayu**	**4.66**	**252**	Pg	**Pb**	**07 15 22.7**	**+2.7**
	1.3nm,0.2s						
OTUK				Lg	Lg	07 16 21.7	
	2.0nm,0.3s						
OTUK	**Ortayu**	**4.66**	**252**	⇓Pn	**Pn**	**07 15 10.3**	**+1.2**
	2.7nm,0.4s						
OTUK				⇑Pg	**Pb**	**07 15 22.8**	**+2.8**
	0.9nm,0.3s						
OTUK				⇑Lg	Lg	07 16 23.9	
	2.9nm,0.5s						
I46RU	**ZALESOVO INFRA**	**5.44**	**40**	I	I	07 47 50.0	
	baz=220,slow=331,SNR=1.9						
ZALV	**Zalesovo Beam**	**5.44**	**40**	Pn	**Pn**	**07 15 22.7**	**+3.1**
	1.3nm,0.3s,baz=229,slow=13,SNR=13						
ZALV				Lg	Lg	07 16 48.1	
	baz=222,slow=25						
	2.4nm,0.3s						
KNOS	**Konyrlen**	**5.55**	**178**	Pg	**Pg**	**07 15 43.6**	**-0.1**
	3.0nm,0.3s						
KNOS				Lg	Lg	07 16 57.1	
	5.5nm,0.3s						
ARXS	**Arharly**	**5.74**	**188**	Pg	**Pg**	**07 15 46.8**	**-0.7**
	2.7nm,0.2s						
ARXS				Lg	Lg	07 17 02.4	
	17nm,0.3s						
BLB	**Baldybastay**	**5.82**	**183**	Pg	**Pg**	**07 15 48.2**	**-0.7**
	4.7nm,0.3s						
BLB				Lg	Lg	07 17 05.4	
	6.0nm,0.3s						
CHKK	**Chushkaly**	**6.20**	**193**	Pg	**Pg**	**07 15 56.2**	**0.0**
	1.4nm,0.2s						
CHKK				Lg	Lg	07 17 18.9	
	10.0nm,0.3s						
BVA0	**Borovoye Array**	**6.20**	**304**	⇑Sn	**Sn**	**07 16 39.0**	**-2.8**
	1.8nm,0.6s,baz=113,slow=23,SNR=5.0						
BVA0				⇑Lg	Lg	07 17 09.3	
	3.3nm,1.1s,baz=106,slow=15,SNR=5.6						
BVAR	**Borovoye Array**	**6.20**	**304**	Pn	**Pn**	**07 15 30.9**	**+0.7**
	baz=122,slow=14,SNR=2.8						
BVAR				Sn	**Sn**	**07 16 40.8**	**-1.0**
	0.1nm,0.3s,baz=111,slow=23,SNR=7.3						
BVAR				Lg	Lg	07 17 10.0	
	0.1nm,0.3s,baz=116,slow=27,SNR=3.5						
	0.4nm,0.3s						
KUU	**Kurty**	**6.27**	**198**	Pg	**Pg**	**07 15 56.1**	**-1.5**
	1.2nm,0.2s						
KUU				Lg	Lg	07 17 19.0	
	9.4nm,0.3s						
KURS	**Kuram**	**6.44**	**185**	Pg	**Pg**	**07 16 01.7**	**+0.9**
	4.5nm,0.5s						
KURS				Lg	Lg	07 17 28.2	
	4.2nm,0.4s						
KPKS	**Kokpek**	**6.44**	**182**	Pg	**Pg**	**07 16 01.5**	**+0.7**
	2.0nm,0.2s						
KPKS				Lg	Lg	07 17 28.0	
	13nm,0.3s						
KRBS	**Karabastau**	**6.60**	**201**	Pg	**Pg**	**07 16 02.9**	**-1.0**
	1.3nm,0.2s						
KRBS				Lg	Lg	07 17 30.7	
	4.8nm,0.3s						
UZB	**Uzynbulak**	**6.76**	**180**	Pg	**Pg**	**07 16 07.3**	**+0.4**
	3.9nm,0.3s						
UZB				Lg	Lg	07 17 37.9	
	6.8nm,0.5s						
SATY	**Saty**	**6.86**	**183**	Pg	**Pg**	**07 16 08.4**	**-0.3**
	3.5nm,0.5s						
SATY				Lg	Lg	07 17 39.7	
	6.4nm,0.3s						
DGS	**Degeres**	**7.01**	**199**	Pg	**Pg**	**07 16 08.4**	**-3.4**
	4.6nm,0.2s						
DGS				Lg	Lg	07 17 40.2	
	12nm,0.4s						
SGDS	**Sogindy**	**7.11**	**206**	Pg	**Pg**	**07 16 11.8**	**-1.7**
	1.7nm,0.4s						
SGDS				Lg	Lg	07 17 45.7	
	3.4nm,0.5s						
KST	**Kastek**	**7.17**	**198**	Pg	**Pg**	**07 16 12.9**	**-1.8**
	2.3nm,0.3s						
KST				Lg	Lg	07 17 47.5	
	6.2nm,0.4s						

NNC 13 07:16:24.5±0.9,49.45N×81.08E,h0km,mb3.6,mpv3.3, 4C-4D,Error ellipse: s-maj=16.1km s-min=5.0km az=62.0,Suspected Mining explosion.,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**1.09**	**331**	P	Pg	07 16 45.2	-0.3
	12nm,0.1s						
SEM				S	Sg	07 16 60.0	+0.3
	32nm,0.2s						
KURBB	**Kurchatov Arra**	**2.02**	**306**	⇓Pg	Pb	07 17 01.3	-0.7
	17nm,1.1s						
KURBB				⇑Lg	Lg	07 17 30.6	
	65nm,0.8s						
KURK	**Kurchatov**	**2.02**	**310**	⇑Pg	Pb	07 17 01.4	-0.7
	11nm,0.7s						
KURK				⇓Lg	Lg	07 17 30.6	
	29nm,0.9s						
MAKZ	**Makanchi**	**2.71**	**167**	⇑Pg	Pb	07 17 13.8	-0.2
	3.3nm,0.9s						
MAKZ				⇓Lg	Lg	07 17 53.7	
	19nm,1.2s						
MK31	**Makanchi Array**	**2.78**	**163**	⇑Pg	Pb	07 17 15.2	+0.1
	1.8nm,0.5s,baz=0.8,slow=21,SNR=10						
MK31				⇓Lg	Lg	07 17 54.4	
	9.5nm,0.7s,baz=354,slow=75,SNR=4.4						
ZSN	**Zaisan**	**3.22**	**127**	Pg	Pb	07 17 20.5	-2.0
	5.5nm,0.2s						
ZSN				Lg	Lg	07 18 01.2	
	16nm,0.6s						
KAPS	**Kapalarasan**	**4.33**	**196**	Pg	Pb	07 17 40.9	-0.6
	1.9nm,0.3s						
KAPS				Lg	Lg	07 18 35.5	
	4.9nm,0.6s						
KNOS	**Konyrlen**	**5.26**	**195**	Pg	Pb	07 17 58.7	+1.3
	2.0nm,0.4s						
KNOS				Lg	Lg	07 19 06.9	
	1.9nm,0.5s						
KPKS	**Kokpek**	**6.21**	**196**	Pg	Pb	07 18 18.2	+4.6
	3.3nm,0.5s						
KPKS				Lg	Lg	07 19 40.2	
	3.2nm,0.7s						
PDGK	**Podgornoye**	**6.22**	**191**	Pg	Pb	07 18 17.8	+4.0
	1.2nm,0.3s						
PDGK				Lg	Lg	07 19 38.9	
	1.6nm,0.3s						
KUU	**Kurty**	**6.45**	**212**	Pg	Pb	07 18 21.3	+3.8
	1.8nm,0.4s						
KUU				Lg	Lg	07 19 45.2	
	4.9nm,0.8s						

*IDC **13** 07:22:32.4±1.0,20.36S×173.16W,h0km,mb4.0/8, mbtmp4.1/11,ML3.9/3,MS3.6/4,Error ellipse: s-maj=44.9km s-min=19.4km az=156.0*
*NEIC **13** 07:22:36.5±1.3,20.0S±0.1×173.1W±0.1,h26km±7km, mb4.6/17,Error ellipse: s-maj=18.4km s-min=15.4km az=172.0*

ISC 13 07:22:37.3±0.6,20.2S±0.1×173.12W±0.08,h35km,n43, σ1s16/36,mb4.5/13,MS3.4/3,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.20**	**71**		**Pn**	**07 23 24.3**	**-0.8**
AFI	**Afiamalu**	**6.36**	**12**		**Pn**	**07 24 06.2**	**-2.4**
RAR	**Rarotonga**	**12.53**	**97**	Pn	**Pn**	**07 25 31.7**	**-1.5**
RAR	**Rarotonga**	**12.53**	**97**	Pn	**Pn**	**07 25 31.4**	**-1.8**
	2.2nm,0.3s,baz=279,slow=10,SNR=10.0						
RAR				LR	LR	07 29 56.9	
	comp=Z,165nm,18.0s,baz=308,slow=35						
	7.2nm,0.4s						
PINNC	**Pines Island,**	**18.26**	**259**	P	**P**	**07 26 48.3**	**+0.3**
PINNC				IAmb	IAmb	07 26 48.6	
	comp=Z,24nm,0.9s						
OUENC	**Ouen Island, N**	**18.81**	**260**	P	**P**	**07 26 53.6**	**-0.4**
OUENC				IAmb	IAmb	07 27 07.1	
	comp=Z,27nm,1.1s						
DZM	**Mont Dzumac**	**19.16**	**261**	P	**P**	**07 26 57.3**	**-0.6**
DZM				IAmb	IAmb	07 27 14.6	
	comp=Z,12nm,1.0s						
DZM	**Mont Dzumac**	**19.16**	**261**	eLR	LR	07 31 29.0	
	comp=Z,105nm,22.0s						
DZM	**Mont Dzumac**	**19.16**	**261**	P	**P**	**07 26 55.5**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=51,slow=14,SNR=2.6						
	comp=Z,5.3nm,0.7s						
URZ	**Urewera**	**19.92**	**203**	P	**P**	**07 27 04.6**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=111,slow=6.3,SNR=1.5						
	comp=Z,19nm,1.1s						
TBI	**Tubuai**	**22.19**	**102**	eLR	LR	07 32 42.8	
	comp=Z,420nm,24.8s						
PPT2	**Papeete2**	**22.42**	**87**	eLR	LR	07 32 49.7	
	comp=Z,103nm,26.2s						
PPT2				eLR	LR	07 33 06.6	
	comp=Z,87nm,21.2s						
PPT	**Papeete**	**22.42**	**87**	LR	LR	07 34 29.5	
	comp=Z,104nm,19.6s,baz=252,slow=32						
TUWZ	**Tuamarina**	**23.88**	**205**	P	**P**	**07 27 47.6**	**0.0**
TKNZ	**Takaka Hill**	**23.94**	**207**	P	**P**	**07 27 49.5**	**+1.3**
HNR	**Honiara**	**28.10**	**288**	LR	LR	07 38 40.1	
	comp=Z,607nm,19.9s,baz=134,slow=34						
ARMA	**Armidale**	**33.35**	**245**	P	**P**	**07 29 12.8**	**+0.4**
ARMA				IAmb	IAmb	07 29 16.1	
	comp=Z,12nm,1.4s						
EIDS	**Eidsvold**	**33.35**	**254**	P	**P**	**07 29 11.9**	**-0.4**
TAOE	**Nuku Hiva Isla**	**33.77**	**75**	eLR	LR	07 38 18.1	
	comp=Z,76nm,21.1s						
CAN	**Canberra**	**36.52**	**238**	P	**P**	**07 29 40.6**	**+0.9**
CAN				IAmb	IAmb	07 30 09.9	
	comp=Z,22nm,1.4s						
CTA	**Charters Tower**	**38.08**	**263**	P	**P**	**07 29 51.6**	**-1.3**
	comp=Z,2.9nm,0.6s,baz=87,slow=10,SNR=2.0						
	comp=Z,2.9nm,0.6s						
CTAO	**Charters Tower**	**38.08**	**263**	P	**P**	**07 29 52.1**	**-0.9**
CTAO				IAmb	IAmb	07 30 26.4	

	comp=Z,31nm,1.5s							
PMG	**Port Moresby**	**39.77**	**280**	LR	LR	07 44 45.6		
	comp=Z,51nm,20.1s,baz=122,slow=34							
TOO	**Toolangi**	**39.82**	**235**	P	**P**	**07 30 08.1**	**+0.8**	
TOO				IAmb	IAmb	07 30 08.9		
	comp=Z,5.5nm,0.6s							
STKA	**Stephens Creek**	**42.06**	**244**	P	**P**	**07 30 25.5**	**-0.4**	
STKA	**Stephens Creek**	**42.06**	**244**	P	**P**	**07 30 25.1**	**-0.8**	
	comp=Z,4.0nm,0.9s,baz=90,slow=7.1,SNR=5.7							
	comp=Z,4.0nm,0.9s							
BBOO	**Buckleboo**	**46.80**	**244**	P	**P**	**07 31 03.9**	**+0.2**	
WR0	**Warramunga Arr**	**48.99**	**261**	P	**P**	**07 31 19.8**	**-1.1**	
WR0				IAmb	IAmb	07 31 21.3		
	comp=Z,8.0nm,1.2s							
AS31	**Alice Springs**	**49.05**	**256**	P	**P**	**07 31 21.5**	**+0.1**	
ASAR	**Alice Springs**	**49.05**	**256**	P	**P**	**07 31 20.7**	**-0.7**	
ASAR	**Alice Springs**	**49.05**	**256**	P	**P**	**07 31 20.8**	**-0.5**	
	comp=Z,2.6nm,0.8s,baz=90,slow=7.8,SNR=30							
	comp=Z,2.6nm,0.8s							
WB0	**Warramunga Arr**	**49.16**	**261**	P	**P**	**07 31 21.4**	**-0.8**	
WB0				IAmb	IAmb	07 31 21.8		
	comp=Z,13nm,1.4s							
WB2	**Warramunga Arr**	**49.17**	**261**	P	**P**	**07 31 21.8**	**-0.4**	
WRA	**Warramunga Arr**	**49.18**	**261**	P	**P**	**07 31 21.9**	**-0.4**	
WRA	**Warramunga Arr**	**49.18**	**261**	P	**P**	**07 31 21.8**	**-0.6**	
	comp=Z,2.3nm,0.6s,baz=96,slow=7.0,SNR=46							
	comp=Z,2.3nm,0.6s							
FITZ	**Fitzroy Crossi**	**57.61**	**261**	P	**P**	**07 32 24.2**	**0.0**	
AKUT	**Akutan**	**74.27**	**4**	P	**P**	**07 34 10.7**	**+0.2**	
NVAR	**Mina Array Bea**	**77.70**	**41**	P	**P**	**07 34 31.4**	**+0.6**	
	comp=Z,0.2nm,0.7s,baz=236,slow=6.4,SNR=1.5							
	comp=Z,0.2nm,0.7s							
TXAR	**Lajitas Array**	**83.06**	**55**	P	**P**	**07 35 00.8**	**+1.2**	
	comp=Z,0.2nm,0.9s,baz=235,slow=3.2,SNR=1.6							
	comp=Z,0.2nm,0.9s							
ILAR	**Eielson Array**	**87.05**	**11**	P	**P**	**07 35 21.3**	**+2.6**	
	comp=Z,0.4nm,0.9s,baz=201,slow=4.8,SNR=2.2							
	comp=Z,0.4nm,0.9s							
CMAR	**Chiang Mai Arr**	**94.35**	**288**	P	**P**	**07 35 56.0**	**+2.0**	
	comp=Z,0.8nm,0.2s,baz=116,slow=3.1,SNR=6.2							
	comp=Z,0.8nm,0.2s							
AKASG	**Malin Array Be**	**144.79**	**335**	PKP	**PKPdf**	**07 42 11.3**	**+0.9**	
	comp=Z,0.3nm,0.3s,baz=38,slow=3.6,SNR=4.7							
CLL	**Collm**	**148.55**	**353**	*e*PKPbc	**PKiKP**	**07 42 22.0**	**+0.2**	

IDC 13 07:27:54.7±9.6,5.75S×154.54E,h444km±118km,mb3.1/5, mbtmp4.0/6,Error ellipse: s-maj=54.1km s-min=43.5km az=133.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.37**	**209**	P	P	07 31 21.3	+0.7
	4.6nm,0.5s,baz=29,slow=10,SNR=6.0						
WRA	**Warramunga Arr**	**24.18**	**232**	P	P	07 32 34.4	-0.1
	1.1nm,0.4s,baz=55,slow=9.6,SNR=13						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**26.68**	**226**	P	P	07 32 56.4	-0.2
	1.1nm,0.3s,baz=55,slow=9.2,SNR=21						
	1.1nm,0.3s						
STKA	**Stephens Creek**	**28.68**	**203**	P	P	07 33 13.9	-0.1
	0.9nm,0.5s,baz=33,slow=10,SNR=3.5						
	0.9nm,0.5s						
SONM	**Songino Array**	**68.06**	**327**	P	P	07 38 09.8	+1.0
	0.4nm,0.5s,baz=132,slow=4.3,SNR=2.1						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**82.39**	**22**	P	P	07 39 28.4	-0.3
	0.7nm,0.6s,baz=248,slow=5.2,SNR=16						
	0.7nm,0.6s						

*GII **13** 07:29:57.1±0.5,34.68N×23.83E,h40km,mb4.8/2, MD4.9/2,Mm4.7/17*
*BJI **13** 07:30:01.9,34.71N×23.37E,h40km,mb4.9/52,mB5.3/27, Ms4.4/2,Ms7 4.1/5*
*AFAD **13** 07:30:04.6±0.0,35.03N×23.90E,h10km±4km,MW4.7*
*THE **13** 07:30:05.4,34.65N×23.65E,h9km±1km,ML4.6/5,Error ellipse: s-maj=2.3km s-min=1.4km az=38.0*
*ISK **13** 07:30:06.1,34.54N×24.08E,h43km,ML4.9/10*
*NEIC **13** 07:30:06.9±2.4,34.89N±0.08×23.78E±0.07,h36km±5km, mb4.9/117,Error ellipse: s-maj=11.4km s-min=8.6km az=185.0*
*MED_RC **13** 07:30:06.0±0.7,34.92N×24.14E,h33km±2km,MW4.8/17, Moment Tensor Solution. Body waves: s1,c1;Mantle waves: s17,c22; Duration: 1±1 Moment tensor: Scale 10^{16}Nm; M_{rr}1.20±.20; $M_{\theta\theta}$-0.12±.16; $M_{\phi\phi}$-1.08±.16; $M_{r\theta}$1.35±.11; $M_{r\phi}$0.57±.11; $M_{\theta\phi}$-1.00±.09; Best double couple: $M_0$2.11000×10^{16} NP1:ϕ_s133.00000°,δ72.00000°, λ75.00000°. NP2:ϕ_s355.00000°,δ23.00000°,λ129.00000°. Principal axes: T 2.1400, Plg60.0000°, Azm22.0000°; N -0.0700, Plg14.0000°, Azm138.0000°; P -2.0700, Plg26.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*PDG **13** 07:30:06.5±0.7,34.79N×23.75E,h38km±3km,ML4.9/10 Error ellipse: s-maj=3.3km s-min=1.6km az=90.0*
*MOS **13** 07:30:07.2±1.2,34.90N×23.88E,h56km,mb5.1/30, MS4.0/16,Error ellipse: s-maj=4.6km s-min=2.5km az=83.1*
*ATH **13** 07:30:07.3,34.77N×23.78E,h23km±2km,ML4.9/11, Manual Solution by M.Kolligri This location: 2019/12/30 11:16:22 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 2 km*
*BEO **13** 07:30:07.1±0.8,35.03N×23.28E,h0km,ML4.4/3*
*IDC **13** 07:30:09.0±1.0,34.87N×23.73E,h63km±8km,mb4.3/23, mbtmp4.5/31,MS4.1/69,Error ellipse: s-maj=11.9km s-min=9.6km az=176.0*

ISC 13 07:30:06.4±0.3,34.75N±0.03×23.77E±0.03,h37km, h39km:pP-P,n900,σ1s73/875,mb4.8/122,MS4.1/62, 54C-27D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.28**	**72**	P	**Pn**	**07 30 14.3**	**-0.4**
GVD				S	**Sn**	**07 30 30.2**	**-1.9**
GVD	**Gavdhos**	**0.28**	**72**	P	**Pn**	**07 30 14.2**	**-0.4**
GVD				S	**Sn**	**07 30 18.1**	**-4.0**
IMMV	**Iera Moni Meta**	**0.73**	**14**	P	**Pn**	**07 30 20.6**	**+0.4**
IMMV				S	**Sn**	**07 30 34.1**	**+4.0**
	97μm,0.4s						
IMMV	**Iera Moni Meta**	**0.73**

FRMA	**Ierapetra Chan**	**1.64**	**80**	P		**Pn**	**07 30 37.1**	**+4.5**
FRMA				S		**Sn**	**07 30 57.1**	**+4.7**
MHLO	**Agia Marina, M**	**2.00**	**15**	P		**Pn**	**07 30 37.8**	**+0.2**
MNVA	**Monemvasia**	**2.02**	**343**	P		**Pn**	**07 30 40.1**	**+2.2**
ZKR	**Zakros**	**2.04**	**79**	P		**Pn**	**07 30 40.6**	**+2.3**
ZKR	**Zakros**	**2.04**	**79**	P		**Pn**	**07 30 40.5**	**+2.3**
THR9	**Santorini-Faro**	**2.06**	**38**	P		**Pn**	**07 30 40.1**	**+1.7**
VLI	**Veliai**	**2.08**	**341**	P		**Pn**	**07 30 41.2**	**+2.5**
VLI				S		**Sn**	**07 31 08.0**	**+4.7**
	3µm,0.7s							
VLI	**Veliai**	**2.08**	**341**	P		**Pn**	**07 30 41.5**	**+2.8**
THR6	**Thira Island,**	**2.08**	**39**	P		**Pn**	**07 30 40.4**	**+1.7**
THR5	**Thira Island,**	**2.10**	**37**	P		**Pn**	**07 30 40.2**	**+1.2**
THR3	**Thira Island,**	**2.12**	**38**	P		**Pn**	**07 30 40.5**	**+1.2**
SANT	**Santorini**	**2.12**	**40**	⇓P		**Pn**	**07 30 40.4**	**+1.1**
SANT	**Santorini**	**2.12**	**40**	Pn		**Pn**	**07 30 39.7**	**+0.3**
SANT	**Santorini**	**2.12**	**40**	P		**Pn**	**07 30 40.6**	**+1.3**
SANT				S		Sn	07 31 17.0	+13
SANT	**Santorini**	**2.12**	**40**	P		**Pn**	**07 30 40.8**	**+1.4**
THR8	**Santorini-Mono**	**2.16**	**40**	P		**Pn**	**07 30 40.7**	**+0.9**
THR2	**Thira island,**	**2.17**	**38**	P		**Pn**	**07 30 41.1**	**+1.2**
PYL	**PYLOS**	**2.70**	**323**	P		**Pn**	**07 30 47.1**	**-0.2**
APE	**Apeiranthos**	**2.72**	**31**	⇑P		**Pn**	**07 30 47.8**	**+0.3**
APE	**Apeiranthos**	**2.72**	**31**	Pn		**Pn**	**07 30 47.4**	**-0.2**
APE	**Apeiranthos**	**2.72**	**31**	P		**Pn**	**07 30 47.3**	**-0.2**
APE				S		**Sn**	**07 31 19.5**	**+0.4**
APE	**Apeiranthos**	**2.72**	**31**	*c iP*		**Pn**	**07 30 47.6**	**0.0**
KARP	**Karpathos**	**2.89**	**73**	Pn		**Pn**	**07 30 51.7**	**+1.7**
KARP	**Karpathos**	**2.89**	**73**	P		**Pn**	**07 30 51.6**	**+1.7**
KARP	**Karpathos**	**2.89**	**73**	P		**Pn**	**07 30 49.2**	**-0.7**
KARP	**Karpathos**	**2.89**	**73**	P		**Pn**	**07 30 51.5**	**+1.6**
ATH	**Athens Observa**	**3.21**	**359**	P		**Pn**	**07 30 54.8**	**+0.5**
BODT	**Bodrum**	**3.68**	**50**	P		**Pn**	**07 31 01.3**	**+0.5**
BODT				S		**Sn**	**07 31 43.8**	**+0.8**
BODT				*i* AML	AML		07 32 11.0	
	comp=N,380nm,1.6s							
BODT				*i* AML	AML		07 32 20.0	
	comp=E,313nm,0.8s							
BDRM	**Kayabasi**	**3.77**	**51**	P		**Pn**	**07 31 00.6**	**-1.4**
BDRM				S		Sn	07 31 59.5	+14
BDRM				*i* AML	AML		07 32 14.0	
	comp=E,333nm,1.0s							
ARG	**Arkhangelos**	**3.84**	**66**	Pn		**Pn**	**07 31 03.1**	**+0.1**
ARG	**Arkhangelos**	**3.84**	**66**	Pn		**Pn**	**07 31 04.2**	**+1.3**
ARG	**Arkhangelos**	**3.84**	**66**	P		**Pn**	**07 31 04.3**	**+1.3**
ARG	**Arkhangelos**	**3.84**	**66**	P		**Pn**	**07 31 04.3**	**+1.3**
DDIM	**Aydin, Didim**	**3.90**	**45**	P		**Pn**	**07 31 04.4**	**+0.7**
DDIM				S		Sn	07 32 04.2	+16
DDIM				*i* AML	AML		07 32 36.0	
	comp=N,1µm,1.3s							
DDIM				*i* AML	AML		07 32 39.0	
	comp=E,944nm,1.3s							
GCAM	**G?zelcaml?**	**4.06**	**43**	P		**Pn**	**07 31 06.2**	**+0.2**
GCAM				S		Sn	07 32 07.6	+15
GCAM				*i* AML	AML		07 32 25.0	
	comp=E,470nm,1.2s							
GCAM				*i* AML	AML		07 32 36.0	
	comp=N,314nm,1.0s							
ZEYE	**Izmir, Urla-Ze**	**4.12**	**32**	P		**Pn**	**07 31 06.4**	**-0.3**
ZEYE				*i* AML	AML		07 32 30.0	
	comp=N,584nm,1.1s							
ZEYE				*i* AML	AML		07 32 31.0	
	comp=E,286nm,1.2s							
MLSB	**Milas**	**4.12**	**51**	P		**Pn**	**07 31 06.1**	**-0.7**
MLSB				S		**Sn**	**07 31 55.0**	**+1.2**
MLSB				*i* AML	AML		07 32 32.0	
	comp=E,121nm,1.2s							
MLSB				*i* AML	AML		07 32 53.0	
	comp=N,40nm,1.8s							
DGB	**zmir**	**4.14**	**36**	P		**Pn**	**07 31 06.8**	**-0.2**
DGB				S		Sn	07 32 07.2	+13
DGB				*i* AML	AML		07 32 26.0	
	comp=N,194nm,0.8s							
DGB				*i* AML	AML		07 32 33.0	
	comp=E,231nm,0.9s							
TURN	**Turunc**	**4.16**	**60**	Pn		**Pn**	**07 31 08.3**	**+1.0**
TURN				Sn		**Sn**	**07 31 53.3**	**-1.4**
TURN	**Turunc**	**4.16**	**60**	P		**Pn**	**07 31 08.1**	**+0.8**
TURN				S		**Sn**	**07 31 54.0**	**-0.7**
TURN				*i* AML	AML		07 31 55.0	
	comp=E,518nm,0.7s							
TURN				*i* AML	AML		07 31 58.0	
	comp=N,813nm,0.6s							
URLA	**Izmir**	**4.26**	**31**	P		**Pn**	**07 31 08.6**	**-0.1**
VLS	**Valsamata**	**4.27**	**324**	P		**Pn**	**07 31 09.0**	**+0.1**
YER	**Yerkesik**	**4.37**	**56**	Pn		**Pn**	**07 31 11.4**	**+1.2**
YER				Sn		**Sn**	**07 31 59.1**	**-0.7**
YER	**Yerkesik**	**4.37**	**56**	P		**Pn**	**07 31 11.8**	**+1.6**
YER				S		**Sn**	**07 32 00.0**	**+0.2**
YER				*i* AML	AML		07 32 04.0	
	comp=N,297nm,0.8s							
YER				*i* AML	AML		07 32 05.0	
	comp=E,158nm,0.8s							
YER	**Yerkesik**	**4.37**	**56**	P		**Pn**	**07 31 12.1**	**+1.9**
AGG	**Agios Georgios**	**4.42**	**345**	Pn		**Pn**	**07 31 11.9**	**+1.0**
AGG	**Agios Georgios**	**4.42**	**345**	P		**Pn**	**07 31 10.2**	**-0.7**
AGG				S		**Sn**	**07 32 02.5**	**+1.5**
AGG				*i* AML	AML		07 32 22.0	
	comp=E,106nm,0.4s							
AGG				*i* AML	AML		07 32 24.0	
	comp=N,81nm,0.7s							
AGG	**Agios Georgios**	**4.42**	**345**	P		**Pn**	**07 31 11.9**	**+1.0**
KARB	**zmir-Karabur**	**4.44**	**28**	P		**Pn**	**07 31 11.0**	**-0.2**
KARB				S		Sn	07 32 27.6	+26
KARB				*i* AML	AML		07 32 40.0	
	comp=N,223nm,1.1s							
KARB				*i* AML	AML		07 32 52.0	
	comp=E,317nm,1.5s							
MULA	**Mugla, Merkez-**	**4.46**	**55**	P		**Pn**	**07 31 12.9**	**+1.4**
MULA				S		**Sn**	**07 32 03.2**	**+1.1**
MULA				*i* AML	AML		07 32 07.0	
	comp=N,270nm,1.0s							
MULA				*i* AML	AML		07 32 09.0	
	comp=E,730nm,0.8s							
DALY	**Dalyan (Mula)**	**4.47**	**61**	Pn		**Pn**	**07 31 13.3**	**+1.7**
DALY				Sn		**Sn**	**07 32 00.3**	**-2.1**
BLCB	**Balcova**	**4.48**	**35**	P		**Pn**	**07 31 11.3**	**-0.4**
BLCB				S		Sn	07 32 16.5	+14
BLCB				*i* AML	AML		07 32 44.0	
	comp=N,425nm,0.9s							
BLCB				*i* AML	AML		07 33 01.0	
	comp=E,344nm,1.4s							
FETY	**Fethiye**	**4.71**	**65**	Pn		**Pn**	**07 31 15.6**	**+0.6**
FETY				Sn		**Sn**	**07 32 05.8**	**-2.6**
IZZE	**Mula-Seydike**	**4.75**	**68**	P		**Pn**	**07 31 14.4**	**-0.1**
IZZE				S		**Sn**	**07 32 07.6**	**-1.7**
IZZE				*i* AML	AML		07 32 10.0	
	comp=N,2µm,0.8s							
PRK	**Paraskevi**	**4.91**	**23**	P		**Pn**	**07 31 18.1**	**+0.5**
TAVA	**DENIZLI_Tavas**	**4.97**	**55**	P		**Pn**	**07 31 19.9**	**+1.4**
TAVA				S		**Sn**	**07 32 18.6**	**+3.9**
TAVA				*i* AML	AML		07 32 27.0	
	comp=N,270nm,0.9s							
TAVA				*i* AML	AML		07 32 54.0	
	comp=E,282nm,1.6s							
DKL	**Dikili**	**4.99**	**29**	P		**Pn**	**07 31 19.2**	**+0.5**
DKL				*i* AML	AML		07 33 13.0	
	comp=N,276nm,2.4s							
DKL				*i* AML	AML		07 33 16.0	
	comp=E,228nm,1.3s							
CAME	**Cameli-Denizli**	**5.00**	**62**	Pn		**Pn**	**07 31 20.0**	**+1.0**
CAME				Sn		**Sn**	**07 32 13.2**	**-2.3**
CAEL	**Denizli, Camel**	**5.09**	**61**	P		**Pn**	**07 31 21.3**	**+1.1**
CAEL				*i* AML	AML		07 32 31.0	
	comp=N,1µm,0.6s							
CAEL				*i* AML	AML		07 32 32.0	
	comp=E,2µm,0.8s							
AYVA	**Ayvalik**	**5.11**	**26**	P		**Pn**	**07 31 17.5**	**-2.9**
AYVA				S		Sn	07 32 29.5	+11
APMY	**Acipayam-Deniz**	**5.24**	**57**	Pn		**Pn**	**07 31 23.3**	**+1.1**
GOLH	**Golhisar**	**5.31**	**60**	P		**Pn**	**07 31 23.7**	**+0.5**
GOLH				S		**Sn**	**07 32 22.3**	**-0.9**
GOLH				*i* AML	AML		07 32 26.0	
	comp=N,550nm,1.1s							
GOLH				*i* AML	AML		07 32 27.0	
	comp=E,637nm,0.7s							
MANT	**Manisa**	**5.36**	**45**	P		**Pn**	**07 31 23.2**	**-0.8**
MANT				*i* AML	AML		07 33 18.0	
	comp=N,106nm,2.1s							
MANT				*i* AML	AML		07 33 18.0	
	comp=E,152nm,2.1s							
ELL	**Elmali**	**5.38**	**66**	Pn		**Pn**	**07 31 24.9**	**+0.8**
ELL				Sn		**Sn**	**07 32 22.1**	**-2.7**
ELL	**Elmali**	**5.38**	**66**	Pn		**Pn**	**07 31 25.2**	**+1.1**
ELL	**Elmali**	**5.38**	**66**	P		**Pn**	**07 31 25.2**	**+1.1**
JAN	**Janina**	**5.42**	**335**	P		**Pn**	**07 31 27.7**	**+3.0**
KULA	**Kula-Manisa**	**5.44**	**45**	Pn		**Pn**	**07 31 26.8**	**+1.9**
KULA	**Kula-Manisa**	**5.44**	**45**	P		**Pn**	**07 31 25.6**	**+0.7**
KULA				S		Sn	07 32 48.8	+23
KULA				*i* AML	AML		07 33 22.0	
	comp=E,101nm,2.2s							
KULA				*i* AML	AML		07 33 24.0	
	comp=N,82nm,1.5s							
IGT	**Igoumenitsa**	**5.50**	**331**	*e*Pn		**Pn**	**07 31 25.0**	**-0.8**
IGT				*e*Sn		**Sn**	**07 32 22.9**	**-4.9**
IGT	**Igoumenitsa**	**5.50**	**331**	P		**Pn**	**07 31 26.5**	**+0.7**
OUR	**Ouranopolis**	**5.58**	**2**	P		**Pn**	**07 31 27.3**	**+0.6**
USAK	**Uak-Merkez**	**5.78**	**45**	P		**Pn**	**07 31 31.5**	**+1.9**
KORT	**Korkueli**	**5.79**	**65**	Pn		**Pn**	**07 31 30.8**	**+0.9**
PASA	**Karahalli, USA**	**5.83**	**50**	P		**Pn**	**07 31 30.5**	**+0.1**
PASA				S		**Sn**	**07 32 34.9**	**-1.2**
PASA				*i* AML	AML		07 32 38.0	
	comp=E,127nm,0.8s							
PASA				*i* AML	AML		07 33 35.0	
	comp=N,63nm,1.4s							
KEK	**Kerkira**	**5.88**	**329**	Pn		**Pn**	**07 31 30.2**	**-0.7**
THE	**Thessaloniki**	**5.90**	**354**	P		**Pn**	**07 31 31.1**	**-0.2**
THE				pmax	pmax			
	comp=Z,69nm,1.3s							
BASM	**Basmaki-Afyon**	**5.97**	**56**	Pn		**Pn**	**07 31 33.5**	**+1.2**
SOH	**Sokhos**	**6.07**	**357**	P		**Pn**	**07 31 34.2**	**+0.6**
SOH				pmax	pmax			
	comp=Z,50nm,1.2s							
ISP	**Isparta**	**6.25**	**59**	Pn		**Pn**	**07 31 37.4**	**+1.2**
ISP	**Isparta**	**6.25**	**59**			**Pn**	**07 31 35.9**	**-0.3**
ISP	**Isparta**	**6.25**	**59**	Pn		Pn	07 31 26.6	-10
ISP	**Isparta**	**6.25**	**59**	*ce*P		**Pn**	**07 31 36.8**	**+0.6**
ISP				pmax	pmax			
	comp=Z,33nm,0.6s							
GRG	**Griva**	**6.29**	**350**	P		**Pn**	**07 31 37.1**	**+0.5**
GDZ	**Gediz**	**6.30**	**45**	P		**Pn**	**07 31 37.1**	**+0.3**
GDZ				*i* AML	AML		07 33 57.0	
	comp=Z,121nm,2.0s							
GDZ				*i* AML	AML		07 33 58.0	
	comp=Z,86nm,2.7s							
FNA	**Florina**	**6.31**	**343**			**Pn**	**07 31 35.5**	**-1.4**
FNA	**Florina**	**6.31**	**343**	*e*Pn		**Pn**	**07 31 35.0**	**-1.9**
FNA				*e*Sn		**Sn**	**07 32 40.3**	**-7.5**
FNA	**Florina**	**6.31**	**343**	P		**Pn**	**07 31 35.5**	**-1.4**
SRS	**Serrai**	**6.36**	**359**	*e*Pn		**Pn**	**07 31 37.5**	**0.0**
SRS	**Serrai**	**6.36**	**359**	P		**Pn**	**07 31 37.7**	**+0.2**
SRS				pmax	pmax			
	comp=Z,114nm,1.3s							
ALN	**Alexandroupoli**	**6.39**	**16**	Pn		**Pn**	**07 31 37.5**	**-0.4**
ALN	**Alexandroupoli**	**6.39**	**16**	P		**Pn**	**07 31 37.6**	**-0.4**
KNT	**Kendrikon**	**6.44**	**354**	P		**Pn**	**07 31 39.1**	**+0.5**
KNT				pmax	pmax			
	comp=Z,107nm,1.4s							
TVSB	**Tavsanli**	**6.53**	**42**	Pn		**Pn**	**07 31 41.8**	**+1.8**
RDO	**Rodhopi**	**6.53**	**12**			**Pn**	**07 31 39.3**	**-0.6**
VAY	**Valandovo**	**6.63**	**352**	*i* Pn		**Pn**	**07 31 40.9**	**-0.3**
VAY	**Valandovo**	**6.63**	**352**	P		**Pn**	**07 31 42.9**	**+1.7**
VAY				pmax	pmax			
	comp=Z,55nm,0.8s							
OHR	**Ohrid**	**6.77**	**341**	*i* Pn		**Pn**	**07 31 43.1**	**-0.1**
OHR	**Ohrid**	**6.77**	**341**	P		**Pn**	**07 31 43.8**	**+0.6**
OHR				pmax	pmax			
	comp=Z,54nm,1.0s							
MMB	**Musomishta**	**6.78**	**360**	P		**Pn**	**07 31 43.6**	**+0.2**
RZN	**Rozhen**	**6.97**	**6**	P		**Pn**	**07 31 46.5**	**+0.4**
STIP	**Stip**	**7.04**	**350**	*i* Pn		**Pn**	**07 31 47.9**	**+1.0**
PEHC	**Pehcevo**	**7.05**	**355**	*i* Pn		**Pn**	**07 31 47.1**	**0.0**
SEYD	**Seydisehir-KON**	**7.05**	**66**	Pn		**Pn**	**07 31 47.6**	**+0.5**
KKB	**Krupnik**	**7.10**	**356**	P		**Pn**	**07 31 47.6**	**-0.1**
GAZI	**Gazipasa**	**7.13**	**76**	Pn		**Pn**	**07 31 46.9**	**-1.2**
TIP	**Timpagrande**	**7.14**	**310**			**Pn**	**07 31 47.7**	**-0.7**
CEL	**Celeste**	**7.24**	**301**	Pn		**Pn**	**07 31 50.5**	**+0.7**
TIR	**Tirane**	**7.27**	**336**	Pn		**Pn**	**07 31 48.5**	**-1.4**
TIR	**Tirane**	**7.27**	**336**	P		**Pn**	**07 31 48.6**	**-1.4**
HDMB	**Hadim**	**7.41**	**70**	Pn		**Pn**	**07 31 52.1**	**-0.1**
HDMB				Sn		**Sn**	**07 33 09.3**	**-5.8**
PLD	**Plovdiv**	**7.42**	**6**	*e*Pn		**Pn**	**07 31 52.4**	**+0.3**
PLD	**Plovdiv**	**7.42**	**6**	P		**Pn**	**07 31 52.2**	**+0.1**
PLD	**Plovdiv**	**7.42**	**6**	P		**Pn**	**07 31 52.7**	**+0.6**
PLD				pmax	pmax			
	comp=Z,235nm,1.0s							
CIFT	**Cifteler, Eski**	**7.42**	**50**	Pn		**Pn**	**07 31 53.0**	**+0.8**
SKO	**Skopje**	**7.44**	**346**	*i* Pn		**Pn**	**07 31 51.2**	**-1.1**
LEF	**Lefka**	**7.50**	**85**	Pn		**Pn**	**07 31 50.9**	**-2.3**
LEF				Sn		**Sn**	**07 33 09.1**	**-7.8**
ISK	**Istanbul-Kandi**	**7.56**	**32**	P		**Pn**	**07 31 54.8**	**+0.8**
ISK				pmax	pmax			
	comp=Z,73nm,1.3s							
AKDN	**Akdeniz- Kbrı**	**7.57**	**83**	Pn		**Pn**	**07 31 52.8**	**-1.3**
KONT	**Konya--Tatoy**	**7.63**	**63**	Pn		**Pn**	**07 31 55.8**	**+0.8**
KIZT	**Kizilcal**	**7.70**	**55**	Pn		**Pn**	**07 31 55.6**	**-0.4**
LADK	**Ladik-KONYA**	**7.73**	**61**	Pn		**Pn**	**07 31 57.0**	**+0.5**
TEKE	**Tekeli-Mersin**	**7.75**	**77**	Pn		**Pn**	**07 31 55.3**	**-1.3**
SVRH	**Sivrihisar-ESK**	**7.77**	**51**	Pn		**Pn**	**07 31 58.5**	**+1.6**
PRVS	**Prvonek**	**7.86**	**351**	*e*Pn		**Pn**	**07 31 58.3**	**+0.2**
CSS	**Mathiatis**	**7.86**	**86**	Pn		**Pn**	**07 31 56.1**	**-2.1**
CSS	**Mathiatis**	**7.86**	**86**	Pn		Pn	07 31 51.5	-6.7
CSS				Sn		Sn	07 33 16.2	-10
CSS	**Mathiatis**	**7.86**	**86**	P		**Pn**	**07 31 57.5**	**-0.7**
VTS	**Vitosha**	**7.87**	**357**	*e*Pn		**Pn**	**07 31 58.0**	**-0.3**
VTS	**Vitosha**	**7.87**	**357**	P		**Pn**	**07 31 59.2**	**+0.9**
BERE	**Bereket-Mersin**	**7.87**	**76**	Pn		**Pn**	**07 31 57.7**	**-0.7**
RAFF	**Raffo Rosso**	**8.01**	**291**	Pn		**Pn**	**07 31 59.8**	**-0.5**
ULC	**Ulcinj**	**8.03**	**335**	⇓Pn		**Pn**	**07 31 59.0**	**-1.4**
ULC				*i* Sn		**Sn**	**07 33 26.8**	**-3.1**
VAE	**Valguarnera**	**8.05**	**292**	P		**Pn**	**07 32 03.0**	**+2.2**
	comp=Z,4.7nm,0.3s,baz=60,slow=14,SNR=1.5							
VAE				S		**Sn**	**07 33 23.9**	**-6.5**
	comp=Z,92nm,0.7s,baz=166,slow=3.4,SNR=9.3							
TEVE	**Tevekalti-Mers**	**8.06**	**75**	Pn		**Pn**	**07 32 00.5**	**-0.4**
MDUB	**Mudurnu**	**8.20**	**44**			**Pn**	**07 32 03.6**	**+0.7**
CUC	**Castrocucco**	**8.21**	**312**	Pn		**Pn**	**07 32 04.3**	**+1.3**
DRME	**Dracevica, Mon**	**8.25**	**336**	⇑*i*Pn		**Pn**	**07 32 01.3**	**-2.1**
DRME	**Dracevica, Mon**	**8.25**	**336**	⇓*i*Pn		**Pn**	**07 32 01.6**	**-1.8**
DRME				*i* Sn		**Sn**	**07 33 30.9**	**-4.4**
CHBY	**Cihanbeyli**	**8.26**	**60**	Pn		**Pn**	**07 32 04.3**	**+0.5**
ELND	**Elena**	**8.33**	**11**	⇑P		**Pn**	**07 32 05.2**	**+0.7**
PVY	**Plav**	**8.38**	**340**	⇑*i*Pn		**Pn**	**07 32 04.0**	**-1.3**
PVY				*i* Sn		**Sn**	**07 33 35.7**	**-2.9**
PDG	**Podgorica**	**8.44**	**337**	⇑P		**Pn**	**07 32 05.3**	**-0.7**
PDG	**Podgorica**	**8.44**	**337**	*e*Pn		**Pn**	**07 32 04.2**	**-1.8**
PDG	**Podgorica**	**8.44**	**337**	⇑*i*Pn		**Pn**	**07 32 06.6**	**+0.6**
PDG				*i* Sn		**Sn**	**07 33 38.2**	**-1.8**
ZAPS	**Zavoj**	**8.55**	**354**	*e*Pn		**Pn**	**07 32 07.8**	**+0.1**
MPEP	**Malo Peshtene**	**8.59**	**360**	P		**Pn**	**07 32 09.8**	**+1.7**
PLVB	**Pleven**	**8.65**	**4**	⇓P		**Pn**	**07 32 08.7**	**-0.2**
IVA	**Berane**	**8.65**	**341**	⇑*i*Pn		**Pn**	**07 32 07.5**	**-1.6**
IVA				*i* Sn		**Sn**	**07 33 42.6**	**-2.7**
CEME	**Cevo**	**8.66**	**335**	⇑*i*Pn		**Pn**	**07 32 06.4**	**-2.7**
CEME				*i* Sn		**Sn**	**07 33 40.7**	**-4.7**
SZH	**Strazhitsa**	**8.67**	**11**	P		**Pn**	**07 32 08.8**	**-0.5**
SELS	**Selova**	**8.70**	**347**	*e*Pn		**Pn**	**07 32 07.2**	**-2.5**
HCY	**Herceg Novi**	**8.72**	**333**	*e*Pn		**Pn**	**07 32 06.8**	**-3.1**
HCY	**Herceg Novi**	**8.72**	**333**	⇑*i*Pn		**Pn**	**07 32 09.1**	**-0.8**
HCY				*i* Sn		**Sn**	**07 33 42.7**	**-4.2**
KOME	**Kolasin**	**8.74**	**339**	⇑*i*Pn		**Pn**	**07 32 08.4**	**-1.9**
KOME				*i* Sn		**Sn**	**07 33 42.6**	**-4.9**
BR231	**Keskin MP Arra**	**8.79**	**52**			**Pn**	**07 32 12.7**	**+1.7**
ANTO	**Ankara**	**8.82**	**52**	⇓P		**Pn**	**07 32 12.6**	**+1.3**
ANTO	**Ankara**	**8.82**	**52**	Pn		**Pn**	**07 32 12.3**	**+1.0**
ANTO	**Ankara**	**8.82**	**52**	⇓P		**Pn**	**07 32 12.6**	**+1.3**
NKME	**Niksic**	**8.84**	**336**	⇑*i*Pn		**Pn**	**07 32 11.0**	**-0.6**
NKME				*i* Sn		**Sn**	**07 33 46.3**	**-3.6**
PRD	**Provadia**	**8.86**	**18**	P		**Pn**	**07 32 11.6**	**-0.2**
SJES	**Sjenica**	**8.99**	**342**	*e*Pn		**Pn**	**07 32 11.6**	**-2.2**
SJES				*e*Sn		**Sn**	**07 33 46.7**	**-7.1**
SJES	**Sjenica**	**8.99**	**342**	*e*Pn		**Pn**	**07 32 11.1**	**-2.7**
TREB	**Trebinje**	**9.01**	**334**	*e*Pn		**Pn**	**07 32 09.7**	**-4.1**
BOVS	**Bovan**	**9.01**	**350**	⇓P		**Pn**	**07 32 12.9**	**-1.0**
BRY	**Bratogost**	**9.10**	**335**	*e*Pn		**Pn**	**07 32 12.3**	**-3.0**
ZAGS	**Zajecar**	**9.13**	**353**	*e*Pn		**Pn**	**07 32 15.4**	**-0.1**
PLE	**Pljevlja**	**9.22**	**340**	⇑*i*Pn		**Pn**	**07 32 14.4**	**-2.4**
PLE				*i* Sn		**Sn**	**07 33 53.6**	**-5.6**
IVAS	**Ivanjica**	**9.25**	**343**	*e*Pn		**Pn**	**07 32 14.1**	**-3.1**
IVAS				*e*Sn		Sn	07 33 50.9	-9.0
BR131	**Keskin Array S**	**9.30**	**55**	*i* P		**Pn**	**07 32 17.9**	**-0.1**
BRTR	**Keskin Array B**	**9.30**	**55**	*i* P		**Pn**	**07 32 18.8**	**+0.8**
BRTR				pmax	pmax			
	comp=Z,18nm,0.9s							
BRTR	**Keskin Array B**	**9.30**	**55**	P		**Pn**	**07 32 18.9**	**+0.9**
	comp=Z,18nm,0.9s,baz=234,slow=14,SNR=41							
BRTR				S		**Sn**	**07 33 57.6**	**-3.8**
	comp=Z,16nm,0.9s,baz=232,slow=27,SNR=5.3							
BRTR				LR	LR		07 36 54.2	
	comp=Z,2µm,19.2s,baz=240,slow=44							
GRUS	**Gruza**	**9.42**	**346**	*e*Pn		**Pn**	**07 32 16.8**	**-2.8**
GRUS				*e*Sn		Sn	07 33 54.9	-9.3
RUDO	**Rudo**	**9.49**	**340**	*e*Pn		**Pn**	**07 32 16.4**	**-4.0**
OFRI	**`Ofer**	**9.58**	**100**	Pn		Pn	07 32 12.4	-9.4
OFRI				Sn		Sn	07 33 58.2	-10
NEVS	**Nevesinje**	**9.60**	**334**	*e*Pn		**Pn**	**07 32 19.4**	**-2.7**
HNTI	**Hanita**	**9.62**	**97**	Pn		Pn	07 32 12.1	-10
HNTI				Sn		Sn	07 33 59.9	-9.3
BLGI	**Bet Lehem HaGe**	**9.72**	**99**	Sn		Sn	07 34 01.5	-10
KZIT	**Kziot**	**9.73**	**110**	Pn		Pn	07 32 14.3	-9.5
KZIT				Sn		Sn	07 34 01.5	-10
SLTI	**Sal'it**	**9.74**	**102**	Pn		Pn	07 32 14.0	-10
SLTI				Sn		Sn	07 34 01.5	-11
SLTI	**Sal'it**	**9.74**	**102**	P		**Pn**	**07 32 21.9**	**-2.0**
DIVS	**Divibare**	**9.78**	**344**	*e*Pn		**Pn**	**07 32 21.4**	**-3.0**
DIVS				*e*Sn		Sn	07 34 04.0	-9.0
DIVS	**Divibare**	**9.78**	**344**	*e*Pn		**Pn**	**07 32 21.5**	**-3.0**
MMA0B	**Mount Meron ar**	**9.83**	**97**	Sn		Sn	07 34 05.2	-9.0
MMAI	**Mount Meron Ar**	**9.83**	**97**	P		**Pn**	**07 32 22.6**	**-2.5**
	comp=Z,5.9nm,0.3s,baz=307,slow=12,SNR=17							
MMAI				S		**Sn**	**07 34 07.5**	**-6.7**
	comp=Z,24nm,0.5s,baz=274,slow=22,SNR=4.9							
MMAI				LR	LR		07 38 38.0	
	comp=Z,475nm,19.5s,baz=272,slow=52							
SALP	**Salfit**	**9.91**	**102**	Pn		Pn	07 32 16.7	-10
SALP				Sn		Sn	07 34 05.9	-10
GEM	**Giv'at Ha'Em**	**10.00**	**95**	Pn		Pn	07 32 18.0	-9.4
GEM				Sn		Sn	07 34 08.4	-10
NATI	**Neve Ativ**	**10.04**	**95**	Pn		Pn	07 32 18.1	-10
NATI				Sn		Sn	07 34 09.9	-10
YTIR	**Yattir**	**10.10**	**106**	Pn		Pn	07 32 19.9	-9.1
YTIR				Sn		Sn	07 34 10.2	-10
HMDT	**Nahal Hemdat**	**10.13**	**101**	Pn		Pn	07 32 20.0	-9.2
HMDT				Sn		Sn	07 34 11.9	-10
MDVR	**Moldovita**	**10.14**	**352**	⇑P		**Pn**	**07 32 28.8**	**-0.6**
QRNJ	**Al-Qirein**	**10.14**	**100**	P		**Pn**	**07 32 28.2**	**-1.2**
KSHT	**Keshet**	**10.17**	**97**	Pn		Pn	07 32 19.3	-11
UJAP	**Al Uja**	**10.17**	**103**	Sn		Sn	07 34 12.7	-10
DSI	**Dead S

SOC MLR MLR
comp=Z,353nm,15.0s
MAUC Maruska 15.25 345 *e*P **P** **07 33 43.8 +0.5**
KRUC Moravsky 15.30 341 *e*P **P** **07 33 42.7 -1.2**
VSLR Vesyoloye 15.31 51 *i* P **Pn** **07 33 38.6 -1.1**
WTTA Wattenberg 15.47 328 *e*Pn **Pn** **07 33 41.3 -0.6**
comp=Z,26nm,1.1s,SNR=8.0
WTTA Wattenberg 15.47 328 P **P** **07 33 45.3 -0.7**
WTTA pmax pmax
comp=Z,66nm,1.2s
VRAC Vranov 15.48 342 ⇓P **Pn** **07 33 42.4 +0.5**
VRAC Vranov 15.48 342 *e*P **P** **07 33 45.3 -0.6**
VRAC Vranov 15.48 342 ⇓P **Pn** **07 33 42.4 +0.5**
VRAC Vranov 15.48 342 P **Pn** **07 33 42.0 +0.1**
comp=Z,13nm,0.5s,baz=150,slow=12,SNR=14
VRAC LR LR 07 41 31.7
comp=Z,2µm,20.6s,baz=168,slow=44
WATA Walderalm 15.55 328 *e*Pn **Pn** **07 33 41.8 -1.1**
comp=Z,30nm,1.3s
SQTA Sankt Quirin 15.63 327 *e*Pn **Pn** **07 33 43.8 -0.2**
comp=Z,3.6nm,0.4s
OKC Ostrava-Krasne 15.63 346 *e*P **P** **07 33 47.6 +0.1**
OKC Ostrava-Krasne 15.63 346 *e*P **P** **07 33 47.6 +0.1**
FUORN Ofenpass-Fuorn 15.64 323 Pn **Pn** **07 33 44.6 +0.4**
MORC Moravsky Berou 15.70 345 ⇑P **Pn** **07 33 45.2 +0.5**
MORC Moravsky Berou 15.70 345 *e*P **P** **07 33 48.1 -0.2**
MORC Moravsky Berou 15.70 345 ⇑P **Pn** **07 33 45.2 +0.5**
FETA Feichten 15.70 325 *e*Pn **Pn** **07 33 44.4 -0.5**
comp=Z,9.8nm,0.6s,SNR=13
CKRC Cesky Krumlov 15.71 336 *e*P **P** **07 33 49.2 +0.8**
CKRC AMS AMS 07 40 40.0
comp=Z,1µm,16.4s
CKRC Cesky Krumlov 15.71 336 *e*P **P** **07 33 49.2 +0.8**
CKRC MLR MLR
comp=Z,1µm,16.4s
OJC Ojcow 15.73 351 *e*P **Pn** **07 33 43.6 -1.5**
TREC Trest 15.77 340 *e*P **P** **07 33 49.1 0.0**
TREC Trest 15.77 340 *e*P **P** **07 33 49.1 0.0**
MOTA Moosalm 15.77 327 *e*Pn **Pn** **07 33 44.4 -1.4**
comp=Z,5.0nm,0.5s,SNR=5.7
GERES GERESS Array B 15.94 335 P **Pn** **07 33 47.9 +0.1**
GERES GERESS Array B 15.94 335 P **Pn** **07 33 48.2 +0.4**
comp=Z,20nm,0.6s,baz=156,slow=13,SNR=4.1
GERES S Sn 07 36 32.2 -11
comp=Z,0.9nm,0.5s,baz=142,slow=26,SNR=1.9
GERES LR LR 07 41 30.7
comp=Z,1µm,18.7s,baz=149,slow=43
DAVOX Davos/Dischmat 15.94 323 P **Pn** **07 33 49.0 +1.0**
comp=Z,2.6nm,0.6s,baz=141,slow=14,SNR=2.9
DAVOX S **Sn** **07 36 34.1 -9.4**
comp=Z,1.9nm,0.4s,baz=324,slow=15,SNR=2.0
DAVOX LR LR 07 41 38.3
comp=Z,506nm,18.2s,baz=122,slow=44
KRLC Kraliky 16.15 344 *e*P **P** **07 33 52.3 -1.0**
KRLC AMS AMS 07 41 30.0
comp=Z,1µm,20.8s
KRLC Kraliky 16.15 344 *e*P **P** **07 33 52.3 -1.0**
KRLC MLR MLR
comp=Z,1µm,20.8s
KHC Kasperske Hory 16.22 335 *e*P **P** **07 33 54.8 +0.7**
KHC AMS AMS 07 41 00.0
comp=Z,1µm,18.8s
KHC Kasperske Hory 16.22 335 *e*P **P** **07 33 54.8 +0.7**
KHC MLR MLR
comp=Z,1µm,18.8s
ZVC Zvikov 16.28 337 *e*P **Pn** **07 33 53.1 +0.9**
FUR Furstenfeldbru 16.32 329 P **P** **07 33 55.4 +0.2**
FUR pmax pmax
comp=Z,84nm,1.1s
KIEV Kiev 16.42 12 Pn **Pn** **07 33 51.7 -2.1**
KIEV Kiev 16.42 12 P **Pn** **07 33 51.7 -2.1**
KIEV pmax pmax
comp=Z,28nm,0.9s
AKASG Malin Array Be 16.43 12 P **Pn** **07 33 50.9 -3.0**
comp=Z,2.2nm,0.3s,baz=203,slow=9.3,SNR=18
AKASG S **Sn** **07 36 54.4 -0.6**
comp=Z,0.2nm,0.3s,baz=200,slow=18,SNR=1.7
AKASG LR LR 07 40 43.9
comp=Z,385nm,20.2s,baz=208,slow=39
AKBB Malin Array Si 16.43 12*ce*P **Pn** **07 33 50.7 -3.2**
AKBB pmax pmax
comp=Z,38nm,0.9s
WET Wettzell 16.48 334 P **P** **07 33 57.5 +0.5**
WET pmax pmax
comp=Z,63nm,1.4s
DPC Dobruska-Polom 16.51 343 *e*P **P** **07 33 56.7 -0.6**
DPC AMS AMS 07 41 40.0
comp=Z,2µm,19.8s
DPC Dobruska-Polom 16.51 343 *e*P **P** **07 33 56.7 -0.6**
DPC MLR MLR
comp=Z,2µm,19.8s
GOPC GO Pecny, Ondr 16.52 339 *e*P **P** **07 33 57.6 +0.2**
GOPC GO Pecny, Ondr 16.52 339 *e*P **P** **07 33 57.6 +0.2**
PRU Pruhonice 16.66 339 *e*P **P** **07 33 59.2 +0.3**
PRU AMS AMS 07 41 30.0
comp=Z,1µm,13.4s
PRU Pruhonice 16.66 339 *e*P **P** **07 33 59.2 +0.3**
PRU MLR MLR
comp=Z,1µm,13.4s
OSTC Ostas 16.73 343 *e*P **P** **07 33 59.9 +0.2**
OSTC AMS AMS 07 41 50.0
comp=Z,1µm,16.5s
OSTC Ostas 16.73 343 *e*P **P** **07 33 59.9 +0.2**
OSTC MLR MLR
comp=Z,1µm,16.5s
UPC Upice 16.73 343 *e*P **P** **07 33 59.4 -0.3**
UPC AMS AMS 07 41 50.0
comp=Z,1µm,14.7s
UPC Upice 16.73 343 *e*P **P** **07 33 59.4 -0.3**
UPC MLR MLR
comp=Z,1µm,14.7s
PRA Prague 16.77 339 *e*P **P** **07 33 59.7 -0.4**
PRA AMS AMS 07 41 20.0
comp=Z,1µm,21.0s
PRA Prague 16.77 339 *e*P **P** **07 33 59.7 -0.4**
PRA MLR MLR
comp=Z,1µm,21.0s
CHVC Chvalec 16.80 343 *e*P **P** **07 34 01.2 +0.7**
CHVC AMS AMS 07 41 40.0
comp=Z,2µm,18.4s
CHVC Chvalec 16.80 343 *e*P **P** **07 34 01.2 +0.7**
CHVC MLR MLR
comp=Z,2µm,18.4s
KSP Ksiaz 16.98 344 *e*P **P** **07 34 02.1 -0.3**
KSP Ksiaz 16.98 344 P **P** **07 34 02.5 +0.1**
KSP pmax pmax
comp=Z,22nm,1.4s
SENIN Lac Senin/Sane 17.02 318 P **Pn** **07 34 01.8 +0.1**
HMAD Nubian desert 17.08 149 *i* P **P** **07 34 03.8 -0.1**
HMAD *i* 07 34 06.6
baz=351,slow=12
SHA1 Shidzhatmaz 17.13 53 *i* P **P** **07 34 04.1 -0.4**
PVCC Panska Ves 17.14 340 AMS AMS 07 41 40.0
comp=Z,1µm,24.5s
PVCC Panska Ves 17.14 340 P **P** **07 34 04.6 +0.4**
PVCC pmax pmax
comp=Z,51nm,1.3s
ONI Oni 17.22 57 **Pn** **07 34 04.0 -0.1**
ONI Oni 17.22 57 P **Pn** **07 34 04.0 -0.1**
ONI pmax pmax
comp=Z,75nm,1.7s
KIV Kislovodsk 17.25 52 P **Pn** **07 34 04.3 0.0**
KIV IAmb IAmb 07 34 07.3
comp=Z,203nm,1.3s
KIV Kislovodsk 17.25 52 *e*P **P** **07 34 05.3 -0.3**
KIV *e*S **Sn** **07 37 17.6 +2.5**
KIV pmax pmax
comp=Z,102nm,1.0s
KIV MLR MLR
comp=Z,252nm,14.0s
KVAR Kislovodsk Arr 17.25 52 P **Pn** **07 34 03.4 -1.1**
comp=Z,26nm,0.9s,baz=264,slow=18,SNR=6.7
KVAR LR LR 07 42 47.7
comp=Z,305nm,20.2s,baz=161,slow=44
RICC Richard 17.29 339 AMS AMS 07 42 10.0
comp=Z,900nm,16.5s
KBZ Khabaz 17.29 53 P **Pn** **07 34 04.5 -0.2**
comp=Z,108nm,1.2s,baz=256,slow=9.5,SNR=58
KBZ LR LR 07 42 15.5
comp=Z,572nm,20.1s,baz=270,slow=42
SLE Schleitheim 17.30 323 P **P** **07 34 06.0 -0.1**
SLE pmax pmax
comp=Z,33nm,0.9s
GNI Garni 17.49 66 P **Pn** **07 34 07.5 0.0**
GNI Garni 17.49 66 P **Pn** **07 34 07.5 0.0**
GNI pmax pmax
comp=Z,59nm,1.3s
HSKC Hora Svate Kat 17.54 338 AMS AMS 07 41 30.0
comp=Z,1µm,16.0s
GRFO Grafenberg 17.55 332 P **P** **07 34 09.3 +0.5**
GRFO IAmb IAmb 07 34 11.5
comp=Z,214nm,1.5s
GRFO Grafenberg 17.55 332 P **P** **07 34 09.3 +0.5**
GRFO pmax pmax
comp=Z,214nm,1.5s
NKC Novy Kostel 17.55 335 *e*P **Pn** **07 34 07.2 -0.8**
NKC Novy Kostel 17.55 335 *e*P **Pn** **07 34 07.2 -0.8**
GRA1 Grafenberg Arr 17.55 332 IAmb IAmb 07 34 11.6
comp=Z,208nm,1.5s
GRF Grafenberg Arr 17.55 332 P **P** **07 34 10.0 +1.2**
GRF pmax pmax
comp=Z,73nm,1.2s
ZEI Tsey 17.60 57 *e*P **Pn** **07 34 07.0 -1.9**
ZEI pmax pmax
comp=Z,51nm,1.5s
BRG Berggiesshubel 17.62 339 *e*P Pn 07 34 01.5 -7.4
BRG Amp 07 34 03.5
comp=Z,16nm,0.9s
BRG Berggiesshubel 17.62 339 P **P** **07 34 11.1 +1.6**
BRG Amp 07 34 12.2
comp=Z,19nm,1.0s
BRG Amp 07 42 00.0
comp=Z,1.1nm,22.8s
BRG Amp 07 42 04.0
comp=E,0.6nm,14.1s
BRG Amp 07 42 07.0
comp=N,0.6nm,23.0s
BRG Berggiesshubel 17.62 339 *e*P Pn 07 34 01.5 -7.4
BRG pmax pmax
comp=Z,16nm,0.9s
BRG MLR MLR
comp=Z,1µm,22.8s
BRG MLR MLR
comp=E,585nm,14.1s
BRG MLR MLR
comp=N,610nm,23.0s
NCK Nalchik 17.66 54 *i* P **P** **07 34 10.9 +0.9**
NCK pmax pmax
comp=Z,167nm,1.0s
MRWI Hamdab 17.67 153 *i* P **Pn** **07 34 06.9 -2.8**
MRWI *i* 07 34 10.1
baz=339,slow=6.5
MRWI *i* S **S** **07 37 33.3 +1.5**
BFO Black Forest 17.77 324 P **P** **07 34 11.7 +0.4**
BFO Black Forest 17.77 324 P **P** **07 34 11.7 +0.4**
BFO pmax pmax
comp=Z,9.0nm,0.7s
GOF Gofitskoye 17.97 49*ce*P **P** **07 34 14.7 +1.2**
MOX Moxa 18.18 335 P **Pn** **07 34 16.5 +0.7**
MOX pmax pmax
comp=Z,18nm,1.4s
ECH Echery 18.27 322 P **P** **07 34 16.5 -0.3**
ECH Echery 18.27 322 P **P** **07 34 16.5 -0.3**
ECH pmax pmax
comp=Z,25nm,1.4s
CLL Collm 18.29 338 *i* P **Pn** **07 34 17.3 +0.3**
CLL *i* Pmax 07 34 18.7
comp=Z,37nm,1.0s
CLL *es*P **sP** **07 34 31.0 -0.1**
CLL *e*PPP PPP 07 34 38.0
CLL AMS AMS 07 42 00.0
comp=N,800nm,21.9s
CLL AMS AMS 07 42 00.0
comp=E,500nm,19.8s
CLL Collm 18.29 338 *i* P **Pn** **07 34 17.3 +0.3**
TNS Taunus Mts 19.09 329 P **Pn** **07 34 27.1 +0.3**
TNS pmax pmax
comp=Z,28nm,1.0s
SUW Suwalki 19.26 359 *e*P **P** **07 34 26.4 -1.1**
SUW Suwalki 19.26 359 P **P** **07 34 25.6 -1.9**
SUW Suwalki 19.26 359 *e*P **P** **07 34 26.8 -0.7**
SUW Suwalki 19.26 359 P **P** **07 34 25.6 -1.9**
SUW pmax pmax
comp=Z,163nm,1.0s
VORD Divnogorie 19.73 30 *e*P **P** **07 34 30.3 -2.4**
VORD pmax pmax
comp=Z,50nm,1.2s
WLF Walferdange 19.73 324 IAmb IAmb 07 34 38.1
comp=Z,142nm,1.7s
WLF Walferdange 19.73 324 *d*P **Pn** **07 34 36.6 +2.2**
comp=Z,23nm,1.0s
WLF Walferdange 19.73 324 P **Pn** **07 34 35.5 +1.1**
WLF pmax pmax
comp=Z,35nm,0.8s
VSR Storozhevoye 19.87 29 *e*P **P** **07 34 31.3 -2.9**
VSR pmax pmax
comp=Z,10.0nm,0.5s
TAM Tamanrasset 19.91 238 P **Pn** **07 34 37.7 +0.8**
TAM Tamanrasset 19.91 238 P **Pn** **07 34 37.7 +0.8**
TAM pmax pmax
comp=Z,6.0nm,0.9s
MNK Minsk 19.96 7 *i* P **P** **07 34 32.7 -2.4**
MNK comp=E,23nm,1.2s *i* P **P** **07 34 32.7 -2.4**
MNK comp=N,95nm,1.2s *i* P **P** **07 34 32.7 -2.4**
MNK comp=Z,88nm,1.1s,baz=190 *i* PP **PnPn** **07 34 52.1 +0.5**
MNK *i* S **S** **07 38 18.6 +1.2**
MNK *i* SS **SnSn** **07 38 35.3 +0.4**
MNK *i* LQ LQ 07 40 35.7
MNK *i* LR LR 07 41 38.1
MNK *i* LRM MLR 07 42 28.3
MNK comp=Z,634nm,23.4s *i* LRM MLR 07 42 31.0
MNK comp=N,531nm,27.1s *i* LRM MLR 07 42 51.4
comp=E,177nm,26.5s
MNK Minsk 19.96 7 *i* P **P** **07 34 32.7 -2.4**
MNK *i* S **S** **07 38 18.6 +1.2**
MNK pmax pmax
comp=Z,88nm,1.1s
MNK pmax pmax
comp=N,95nm,1.2s
MNK pmax pmax
comp=E,23nm,1.2s
MNK MLR MLR
comp=Z,634nm,23.0s
MNK MLR MLR
comp=N,531nm,27.0s
MNK MLR MLR
comp=E,177nm,26.0s
AKT Akhty 19.98 63 *i* P **P** **07 34 33.8 -1.8**
MAK Makhachkala 20.17 59 *e*P **P** **07 34 36.6 -1.0**
MAK *es* **S** **07 38 22.3 +0.4**
MAK pmax pmax
comp=Z,295nm,1.2s
MAK MLR MLR
comp=Z,485nm,19.0s
VORR Voronezh 20.24 29 *e*P **P** **07 34 37.2 -1.0**
VORR pmax pmax
comp=Z,80nm,0.4s
NACGM Naroch 20.26 5 *i* P **P** **07 34 37.0 -1.4**
BTNL Ternell 20.38 326 *d*P Pn 07 34 42.2 +0.1
comp=Z,14nm,0.9s
MEM Membach 20.45 326 *d*P **P** **07 34 41.0 +0.4**
comp=Z,20nm,1.0s
MEM Membach 20.45 326 P Pn 07 34 42.1 -0.7
MEM pmax pmax
comp=Z,33nm,1.0s
BUG Bochum--Univer 20.50 329 P **P** **07 34 41.6 +0.6**
BUG pmax pmax
comp=Z,30nm,0.9s
RCHB Rochefort 20.51 324 *d*P **P** **07 34 40.7 -0.4**
BCLA Clavier 20.65 325 *d*P **P** **07 34 43.0 +0.3**
IDID Didziasalis 20.66 5 *e*P **P** **07 34 39.1 -3.7**
PABE Paberze 20.75 0 P **P** **07 34 41.0 -2.7**
PABE Paberze 20.75 0 *e*P **P** **07 34 42.0 -1.7**
DOU Dourbes 20.77 323 *d*P **P** **07 34 44.7 +0.6**
LPSR Galich'ya Gora 20.86 27 *e*P **P** **07 34 40.9 -4.1**
LPSR pmax pmax
comp=Z,50nm,0.9s
VRH Novokhopyorsk 20.95 33 *e*P **P** **07 34 43.8 -2.1**
VRH *es* **S** **07 38 29.0 -8.2**
VRH pmax pmax
comp=Z,47nm,0.6s
VRH smax smax
comp=N,100nm,1.7s
VSVD Vaisvydziai 21.23 0 *e*P **P** **07 34 48.3 -0.6**
BSD Bornholm Skovb 21.27 346 *e*P **P** **07 34 47.2 -2.1**
BSD Bornholm Skovb 21.27 346 *i* P **P** **07 34 45.0 -4.3**
BSD IAmb IAmb 07 34 57.5
comp=Z,3.9nm,0.3s
PBUR Paburge 21.31 357 *e*P **P** **07 34 47.1 -2.6**
BSEG Bad Segeberg 21.39 338 P **P** **07 34 49.4 -1.1**
BSEG pmax pmax
comp=Z,66nm,1.2s
LUNU Lund 22.06 344 *i* P **P** **07 34 55.4 -2.4**
OBN Obninsk 22.22 20 P **P** **07 34 56.7 -2.7**
OBN IAmb IAmb 07 35 00.5
comp=Z,80nm,1.1s
OBN Obninsk 22.22 20*c i* P **P** **07 34 58.7 -0.7**
OBN *e**PP **pP** **07 35 10.1 +1.3**
OBN *e* 07 35 22.9
OBN *e*S **S** **07 39 00.0 -1.6**
OBN SS **SnSn** **07 39 35.0 +4.8**
OBN pmax pmax
comp=Z,96nm,1.2s
OBN MLR MLR
comp=Z,625nm,24.0s
OBN Obninsk 22.22 20 P **P** **07 34 57.5 -2.0**
comp=Z,17nm,0.3s,baz=180,slow=7.1,SNR=12
OBN LR LR 07 44 14.2
comp=Z,405nm,18.6s,baz=192,slow=38
comp=Z,17nm,0.3s
BLEU Blekinge 22.23 348 *i* P **P** **07 34 56.0 -3.6**
BJUU Bjuv 22.56 344 *i* P **P** **07 35 00.7 -2.5**
ESDC Sonseca Array 22.58 291 P **P** **07 35 04.2 +0.6**
ESDC Sonseca Array 22.58 291 P **P** **07 35 03.4 -0.2**
comp=Z,2.9nm,0.8s,baz=83,slow=9.1,SNR=17
comp=Z,2.9nm,0.8s
DEL Delary 22.75 346 *e*P **P** **07 35 02.9 -2.2**
DEL Delary 22.75 346 *i* P **P** **07 35 02.0 -3.1**
PAB San Pablo 22.87 290 P **P** **07 35 04.7 -2.0**
PAB San Pablo 22.87 290 P **P** **07 35 04.7 -2.0**
PAB pmax pmax
comp=Z,25nm,1.2s
SLIT Slitere, Latvi 22.90 358 *e*P **P** **07 35 05.6 -1.1**
MOS Moscow 23.06 20 *e*P **P** **07 35 04.2 -4.1**
MOS *e* 07 35 28.6
MOS *e*PPP PPP 07 35 38.2
MOS *e*S **S** **07 39 10.5 -5.9**
MOS pmax pmax
comp=Z,200nm,1.4s
MOS pmax pmax
comp=Z,131nm,1.1s
FABU Falkenberg 23.48 345 *i* P **P** **07 35 11.5 -1.0**
MDT Midelt 23.64 273 LR LR 07 46 01.8
comp=Z,224nm,20.5s,baz=90,slow=40
VSU Vasula 23.80 4 *e*P **P** **07 35 12.6 -2.9**
MTSE Matsula 23.97 0 *e*P **P** **07 35 16.1 -0.9**
ONAU Onsala 24.02 344 *i* P **P** **07 35 16.2 -1.3**
BORU Boraas 24.06 345 *i* P **P** **07 35 15.8 -2.1**
VIKU Vikbolandet 24.22 351 *e*P **P** **07 35 17.3 -2.1**
TJOU Tjoern 24.67 344 *i* P **P** **07 35 23.6 +0.2**
PBRG Braganca 24.88 296 *e*pP pP 07 35 35.2 +0.1
PBAR Barrancos 24.95 287 *e*P **P** **07 35 27.5 +1.2**
comp=Z,45nm,1.5s
PBAR *e*pP **pP** **07 35 34.6 -1.1**
MVO Moncorvo 25.03 294 *e*P **P** **07 35 29.2 +2.2**
comp=Z,12nm,0.9s
MVO *e*pP **pP** **07 35 36.5 0.0**
PMRV Marv??o 25.22 290 *e*P **P** **07 35 29.6 +0.9**
comp=Z,11nm,0.9s
PCBR Castelo Branco 25.30 291 *e*P **P** **07 35 33.1 +3.8**
comp=Z,5.7nm,0.9s
MTE Manteigas 25.37 292 *e*P **P** **07 35 35.0 +4.9**
comp=Z,8.5nm,1.1s
PUL Pulkovo 25.40 8*ce*P **P** **07 35 30.0 0.0**
PUL pmax pmax
comp=Z,147nm,0.5s
MEF Metsahovi 25.48 1 *e*P **P** **07 35 29.4 -1.4**
POLO Lamas de Olo 25.62 294 *e*pP pP 07 35 41.7 -0.2
HOMB Homborsund 25.64 341 *e*P **P** **07 35 32.0 -0.2**
HOMB Homborsund 25.64 341 *i* P **P** **07 35 31.0 -1.2**
PVIS Viseu 25.65 293 *e*P **P** **07 35 35.1 +2.5**
PVIS *e*pP **pP** **07 35 41.1 -1.0**
STRU Stroemstad 25.68 345 *i* P **P** **07 35 30.3 -2.3**
PBDV Barranco-do-Ve 25.71 285 *e*pP pP 07 35 39.9 -2.8
EVO Evora 25.71 288 *e*P **P** **07 35 37.9 +4.8**
comp=Z,6.3nm,0.8s
PCVE Castro Verde 25.77 286 *e*P **P** **07 35 35.2 +1.5**
comp=Z,8.7nm,0.8s
PMTG Montargil 25.87 289 *e*pP pP 07 35 42.5 -1.5
SNART Snartemo 26.05 340 *e*P **P** **07 35 36.0 0.0**
SNART Snartemo 26.05 340 *i* P **P** **07 35 35.8 -0.2**
PNCL Nicolau / Gran 26.13 287 *e*pP pP 07 35 44.2 -2.2
HFS Hagfors 26.23 349 P **P** **07 35 35.9 -1.7**
comp=Z,18nm,0.4s,baz=155,slow=12,SNR=90
HFS LR LR 07 48 12.1
comp=Z,649nm,18.7s,baz=180,slow=42
comp=Z,18nm,0.4s
RAF Rauma 26.32 358 *e*P **P** **07 35 36.9 -1.4**
KONO Kongsberg 26.59 344 *e*P **P** **07 35 39.4 -1.4**
FINES FINESS Array B 26.75 2 P **P** **07 35 39.8 -2.5**
FINES FINESS Array B 26.75 2 P **P** **07 35 40.5 -1.7**
comp=Z,3.6nm,0.4s,baz=167,slow=12,SNR=33
FINES LR LR 07 47 20.2
comp=Z,564nm,19.9s,baz=194,slow=39
comp=Z,3.6nm,0.4s
NC602 NORSAR Array S 27.17 347 *e*P **P** **07 35 44.7 -1.4**
NORES NORESS Array B 27.17 347 P **P** **07 35 47.0 +0.9**
BLS5 Blasjo 27.18 341 *e*P **P** **07 35 46.7 +0.5**
NAO01 NORSAR Array S 27.40 346 IAmb IAmb 07 35 52.9
comp=Z,45nm,1.2s
NC405 NORSAR Array S 27.49 347 P **P** **07 35 47.3 -1.6**
NC405 IAmb IAmb 07 35 54.5
comp=Z,42nm,1.5s
NB201 NORSAR Array S 27.51 347 IAmb IAmb 07 36 22.7
comp=Z,63nm,1.4s
NOA NORSAR Array B 27.52 347 P **P** **07 35 47.8 -1.4**
comp=Z,4.7nm,0.6s,baz=150,slow=9.7,SNR=33
NOA LR LR 07 49 14.1
comp=Z,495nm,18.4s,baz=165,slow=42
comp=Z,4.7nm,0.6s
ODD1 Odda 27.55 341 *e*P **P** **07 35 48.9 -0.7**
NBO00 NORSAR Array S 27.59 346 P **P** **07 35 48.7 -1.1**
EKA Eskdalemuir Ar 27.73 326 P **P** **07 35 50.8 -0.3**
comp=Z,2.5nm,0.4s,baz=129,slow=7.6,SNR=16
comp=Z,2.5nm,0.4s
GEYT Alibeck 27.76 73 IAmb IAmb 07 36 21.8
comp=Z,19nm,0.9s
GEYT Alibeck 27.76 73 P **P** **07 35 51.0 -0.6**
comp=Z,2.6nm,0.6s,baz=300,slow=10,SNR=8.4
comp=Z,2.6nm,0.6s
GYA0B ALIBECK ARRAY 27.76 73 IAmb IAmb 07 36 22.2
comp=Z,27nm,1.1s
SKAR Skarslia 27.80 344 *e*P **P** **07 35 51.6 -0.2**
NC204 NORSAR Array S 27.82 347 IAmb IAmb 07 36 04.8
comp=Z,35nm,1.2s
KLMR Klimovskoe 28.02 16 *e*P **P** **07 35 49.3 -4.4**
KLMR AMP 07 35 52.7
comp=Z,27nm,0.9s
KLMR Klimovskoe 28.02 16 *e*P **P** **07 35 49.2 -4.4**
KLMR pmax pmax
comp=Z,27nm,0.9s
DOMB Dombas 28.86 346 *e*P **P** **07 36 00.9 -0.2**
ATD Arta Tunnel 28.91 138 P **P** **07 36 05.5 +3.5**
KIRV Kirov 29.29 28*ce*P **P** **07 36 02.4 -2.5**
KIRV Kirov 29.29 28 LR LR 07 48 40.1
comp=Z,297nm,21.9s,baz=255,slow=38
TOA0 Torodi Ar. Sit 29.36 228 P **P** **07 36 06.2 +0.2**
TOA0 IAmb IAmb 07 36 07.3
comp=Z,21nm,1.4s
TORD Torodi Ar. Bea 29.36 228 P **P** **07 36 06.2 +0.2**
TORD Torodi Ar. Bea 29.36 228 P **P** **07 36 06.2 +0.2**
comp=Z,4.1nm,0.5s,baz=34,slow=9.8,SNR=33
TORD LR LR 07 50 47.5
comp=Z,356nm,20.3s,baz=34,slow=42
comp=Z,4.1nm,0.5s
AKTO Aktyubinsk 29.36 47 P **P** **07 36 04.3 -1.4**
AKTO Aktyubinsk 29.36 47 LR LR 07 50 39.6
comp=Z,142nm,19.0s,baz=257,slow=42
AB31 Akbulak array 30.21 50 *i* P **P** **07 36 12.1 -1.1**
ABKAR Akbulak array 30.21 50 P **P** **07 36 12.0 -1.2**
ABKAR Akbulak array 30.21 50 P **P** **07 36 11.5 -1.7**
ABKAR IAmb IAmb 07 36 13.3
comp=Z,24nm,1.4s
PRGR Permogore 30.29 21 *e*P **P** **07 36 09.4 -4.3**
PRGR pmax pmax
comp=Z,36nm,0.8s
NSS Namsos 30.66 350 *e*P **P** **07 36 16.1 -0.9**
MOR8 Moi Rana 31.94 353 *e*P **P** **07 36 27.6 -0.7**
ARU Arti 32.06 37 P **P** **07 36 27.5 -1.9**
ARU IAmb IAmb 07 36 29.6

comp=Z,22nm,1.0s
ARU Arti 32.06 37 *c i* P P 07 36 27.5 -1.9
ARU 07 37 29.4
ARU S **S** 07 41 38.1 -0.7
ARU SS **SnSn** 07 43 26.0 -4.2
ARU pmax pmax
comp=Z,42nm,1.4s
ARU Arti 32.06 37 LR LR 07 51 05.3
comp=Z,190nm,19.2s,baz=256,slow=39
STOK Stokkvaagen 32.25 352 *e* P P 07 36 30.1 -0.8
KONS Konsvik 32.40 352 *e* P P 07 36 31.5 -0.7
WSAR Wadi Sarin 32.42 101 LR LR 07 54 13.1
comp=Z,222nm,20.5s,baz=294,slow=44
LODK Lodwar 32.98 158 P P 07 36 38.4 +0.4
FAUS Fauske 33.04 354 *e* P P 07 36 36.8 -1.1
SVE Sverdlovsk 33.26 37⇑ *e* P P 07 36 38.9 -1.1
SVE pmax pmax
comp=Z,53nm,1.0s
STEI Steigen 33.58 354 *e* P P 07 36 41.5 -1.1
LOF Lofoten 33.93 353 *e* P P 07 36 44.0 -1.6
KTK1 Kautokeino 34.31 360 *e* P P 07 36 47.5 -1.4
ARA0 ARCESS Array S 34.85 1 *e* P P 07 36 52.6 -1.0
ARCES ARCESS Array B 34.85 1 P P 07 36 51.8 -1.8
comp=Z,3.7nm,0.5s,baz=180,slow=8.4,SNR=36
ARCES LR LR 07 52 01.4
comp=Z,694nm,20.8s,baz=184,slow=38
comp=Z,3.7nm,0.5s
KEV Kevo 35.10 2 P P 07 36 55.0 -0.7
KEV pP **pP** 07 37 05.9 0.0
KEV sP **sP** 07 37 10.2 -0.6
KK31 Karatay Array 36.91 63 *i* P P 07 37 11.3 -0.2
BRVK Borovoye 37.40 46 P P 07 37 14.8 -0.7
BRVK IAmb IAmb 07 37 16.6
comp=Z,24nm,0.9s
BRVK Borovoye 37.40 46 *ce* P P 07 37 13.8 -1.7
BRVK pmax pmax
comp=Z,32nm,1.0s
BRVK Borovoye 37.40 46 P P 07 37 14.9 -0.7
BVA0 Borovoye Array 37.45 46 *i* P P 07 37 15.3 -0.7
BVAR Borovoye Array 37.45 46 P P 07 37 15.5 -0.5
comp=Z,12nm,0.7s,baz=260,slow=5.9,SNR=57
BVAR LR LR 07 54 48.5
comp=Z,179nm,21.2s,baz=264,slow=40
comp=Z,12nm,0.7s
DZA Taraz 37.52 63 *e* P P 07 37 16.4 -0.3
comp=Z,12nm,0.9s,baz=63
DZA Taraz 37.52 63 *e* P P 07 37 16.4 -0.3
DZA pmax pmax
comp=Z,12nm,0.9s
KMBO Kilima Mbogo 37.86 158 P P 07 37 21.2 +1.1
comp=Z,1.0nm,0.3s,baz=46,slow=10,SNR=3.4
KMBO LR LR 07 55 09.1
comp=Z,178nm,18.9s,baz=284,slow=40
comp=Z,1.0nm,0.3s
OTUK Ortayu 38.16 54 P P 07 37 21.6 -0.5
DBIC Dimbokro 38.43 230 P P 07 37 24.4 -0.1
comp=Z,3.5nm,0.6s,baz=24,slow=9.3,SNR=7.1
DBIC LR LR 07 55 39.9
comp=Z,194nm,18.8s,baz=38,slow=40
comp=Z,3.5nm,0.6s
DBIC Dimbokro 38.43 230 P P 07 37 24.5 -0.1
DBIC pP **pP** 07 37 34.7 +0.4
DBIC sP **sP** 07 37 39.5 +1.0
BRZS Berezniki 38.49 51 *e* P P 07 37 24.1 -0.8
comp=Z,11nm,1.2s,baz=51
BRZS Berezniki 38.49 51 *e* P P 07 37 24.0 -0.8
BRZS pmax pmax
comp=Z,11nm,1.2s
TIC Toumodi 38.55 230⇑ *e* P P 07 37 25.0 -0.7
comp=Z,4.2nm,0.3s
KIC Kosan Boka 38.59 230⇓ *i* P P 07 37 25.8 -0.2
comp=Z,6.3nm,0.5s
LIC Lamto 38.88 230⇑ *e* P P 07 37 27.1 -1.3
comp=Z,10nm,0.6s
AML Almayashu 39.32 64 P P 07 37 32.8 +0.5
SNR=6.9
AML Almayashu 39.32 64 P P 07 37 31.7 -0.7
EKS2 Erkin-Say 39.33 63 P P 07 37 32.6 +0.5
SNR=10
USP Ospenovka 39.80 62 P P 07 37 35.5 -0.4
SNR=9.5
AAK Ala-Archa 39.86 63 P P 07 37 37.0 +0.4
SNR=14
AAK Ala-Archa 39.86 63 P P 07 37 37.0 +0.4
AAK IAmb IAmb 07 37 49.8
comp=Z,33nm,1.4s
AAK Ala-Archa 39.86 63 *ce* P P 07 37 36.3 -0.2
AAK pmax pmax
comp=Z,33nm,1.7s
AAK Ala-Archa 39.86 63 LR LR 07 57 59.3
comp=Z,143nm,19.7s,baz=296,slow=42
AAK Ala-Archa 39.86 63 P P 07 37 37.0 +0.4
AAK pP **pP** 07 37 47.1 -0.2
SGDS Sogindy 39.88 62 *e* P P 07 37 36.3 -0.3
baz=62
SGDS Sogindy 39.88 62 *e* P P 07 37 36.3 -0.3
UCH Uchtor 39.92 64 P P 07 37 37.8 +0.4
SNR=6.1
CHMS Chumysh 40.01 62 P P 07 37 37.9 +0.2
SNR=7.6
JMIC Jan Mayen 40.16 344 LR LR 07 54 54.8
comp=Z,172nm,19.0s,baz=126,slow=37
KBK Karagaybulak 40.19 63 P P 07 37 39.9 +0.6
SNR=7.2
BORG Borgarnes 40.37 332 LR LR 07 56 33.1
comp=Z,199nm,19.9s,baz=128,slow=39
KZA Kyzart 40.48 64 P P 07 37 42.5 +0.6
SNR=11
NIL Nilore 40.61 77 P P 07 37 43.2 +0.5
NIL Nilore 40.61 77 P P 07 37 43.2 +0.5
NIL pmax pmax
comp=Z,68nm,1.3s
NIL Nilore 40.61 77 P P 07 37 43.3 +0.5
TKM2 Tokmak 2 40.64 62 P P 07 37 43.1 +0.1
SNR=9.3
TKM2 Tokmak 2 40.64 62 P P 07 37 41.9 -1.1
BOOM Boomskoye usch 40.94 63 IAmb IAmb 07 38 00.1
comp=Z,19nm,1.2s
KUU Kurty 41.07 61 *e* P P 07 37 46.0 -0.5
baz=61
KUU Kurty 41.07 61 *e* P P 07 37 45.9 -0.5
KSH Kashi 41.41 68 P P 07 37 47.8 -1.6
KSH pP pP 07 37 56.0 -4.1
KSH sP sP 07 38 06.0 +1.5
KSH pmax pmax
comp=Z,14nm,1.1s
CHKK Chushkaly 41.55 61 *e* P P 07 37 49.7 -0.5
baz=61
CHKK Chushkaly 41.55 61 *e* P P 07 37 49.7 -0.5
AAA Alma-Ata 41.56 62 *e* P P 07 37 50.5 0.0
baz=62
AAA Alma-Ata 41.56 62 *e* P P 07 37 50.5 0.0
TNSS Tian-Shan 41.61 62 *e* P P 07 37 51.1 -0.1
baz=62
TNSS Tian-Shan 41.61 62 *e* P P 07 37 51.1 -0.1
MDOK Medeo 41.67 62 *e* P P 07 37 51.4 -0.1
baz=62
MDOK Medeo 41.67 62 *e* P P 07 37 51.3 -0.1
KURBB Kurchatov Arra 42.26 51 P P 07 37 54.9 -1.1
KURBB Kurchatov Arra 42.26 51 P P 07 37 55.1 -0.8
comp=Z,29nm,0.9s,baz=279,slow=8.9,SNR=84
KURBB LR LR 07 58 46.3
comp=Z,171nm,19.4s,baz=152,slow=41
comp=Z,29nm,0.9s
KURK Kurchatov 42.32 51 P P 07 37 55.7 -0.8
KURK Kurchatov 42.32 51 *ce* P P 07 37 55.6 -0.8
KURK pmax pmax
comp=Z,41nm,1.0s
KURK Kurchatov 42.32 51 P P 07 37 55.4 -1.1
KURK pP **pP** 07 38 05.9 -1.1
TDK Taldyqorghan 42.44 59 *e* P P 07 37 57.2 -0.4
baz=59
TDK Taldyqorghan 42.44 59 *e* P P 07 37 57.1 -0.4
SATY Saty 42.67 62 *i* P P 07 37 59.4 -0.1
comp=Z,22nm,1.3s,baz=62
SATY Saty 42.67 62 *i* P P 07 37 59.4 -0.1
SATY pmax pmax
comp=Z,22nm,1.3s
ZHN Zhinishke 42.67 62 *e* P P 07 37 59.5 -0.1
baz=62
ZHN Zhinishke 42.67 62 *e* P P 07 37 59.4 -0.1
KPKS Kokpek 42.81 61 *e* P P 07 38 00.3 -0.4
baz=61
KPKS Kokpek 42.81 61 *e* P P 07 38 00.3 -0.4
UZB Uzynbulak 43.10 62 *e* P P 07 38 02.5 -0.6
baz=62
UZB Uzynbulak 43.10 62 *e* P P 07 38 02.5 -0.6
SEM Semipalatinsk 43.36 51 *e* P P 07 38 04.9 -0.3
comp=Z,15nm,1.2s,baz=51
SEM Semipalatinsk 43.36 51 *e* P P 07 38 04.9 -0.3
SEM pmax pmax
comp=Z,15nm,1.2s
PDGK Podgornoye 43.41 61 P P 07 38 04.1 -1.5
SHLS Shalkode 43.42 62 *e* P P 07 38 07.0 +1.4
baz=62
SHLS Shalkode 43.42 62 *e* P P 07 38 07.0 +1.4
WUS Wushi 43.55 64 P P 07 38 07.1 +0.3
WUS pP **pP** 07 38 17.1 -0.4
WUS sP **sP** 07 38 21.9 -0.3
SPA0 Spitsbergen Ar 43.65 358 *e* P P 07 38 06.3 -0.6
SPITS Spitsbergen Ar 43.65 358 P P 07 38 05.6 -1.3
comp=Z,2.5nm,0.4s,baz=154,slow=12,SNR=20
SPITS LR LR 07 57 33.4
comp=Z,500nm,21.9s,baz=146,slow=38
comp=Z,2.5nm,0.4s
KBS Kingsbay 44.56 357 *i* P P 07 38 12.6 -1.5
KBS Kingsbay 44.56 357 P P 07 38 13.9 -0.2
KBS pP **pP** 07 38 24.8 0.0
MAKZ Makanchi 44.73 56 P P 07 38 15.8 -0.2
MAKZ IAmb IAmb 07 38 16.8
comp=Z,38nm,1.4s
MAKZ Makanchi 44.73 56 P P 07 38 15.8 -0.2
MAKZ pmax pmax
comp=Z,38nm,1.4s
MAKZ Makanchi 44.73 56⇑ P P 07 38 15.6 -0.4
MK31 Makanchi Array 44.95 56 *e* P P 07 38 17.3 -0.4
MKAR Makanchi Array 44.95 56 P P 07 38 17.5 -0.2
MKAR Makanchi Array 44.95 56 P P 07 38 17.5 -0.2
MKAR Makanchi Array 44.95 56 P P 07 38 17.4 -0.3
comp=Z,24nm,0.5s,baz=266,slow=7.4,SNR=214
MKAR LR LR 08 00 50.1
comp=Z,140nm,18.9s,baz=313,slow=41
comp=Z,24nm,0.5s
DBG Daneborg 44.99 344 *i* P P 07 38 18.9 +1.4
DBG IAmb IAmb 07 38 48.3
comp=Z,1.8nm,0.9s
ZALV Zalesovo Beam 46.11 46 LR LR 07 59 48.3
comp=Z,186nm,21.9s,baz=279,slow=39
DAG Danmarks Havn 46.20 348 *i* P P 07 38 26.0 -1.1
DAG IAmb IAmb 07 39 12.3
comp=Z,2.1nm,1.0s
ZSN Zaisan 46.62 55 *e* P P 07 38 30.7 -0.2
comp=Z,13nm,1.0s,baz=55
ZSN Zaisan 46.62 55 *e* P P 07 38 30.6 -0.2
ZSN pmax pmax
comp=Z,13nm,1.0s
DGZ Jazzator, Alta 48.03 52 *i* P P 07 38 41.2 -0.8
DGZ pmax pmax
comp=Z,24nm,1.4s
SUMG Summit 48.95 339 *i* P P 07 38 52.4 +3.4
SUMG IAmb IAmb 07 39 10.6
comp=Z,4.3nm,1.0s
WMQ Urumqi 49.19 59 *e* P P 07 38 51.8 +0.9
WMQ pP pP 07 39 03.8 +2.1
WMQ sP sP 07 39 09.0 +2.8
WMQ pmax pmax
comp=Z,29nm,0.9s
WMQ LR LR
comp=Z,230nm,23.7s
NOR Nord 49.20 353 *i* P P 07 38 47.6 -2.7
NOR IAmb IAmb 07 38 51.0
comp=Z,6.5nm,1.4s
PYUN Piuthan 50.35 80 *e* P P 07 39 00.0 -0.1
comp=Z,36nm,0.5s
DANN Dangsing 50.87 80 *e* P P 07 39 04.2 +0.1
comp=Z,86nm,0.6s
KOLN Koldanda 50.97 80 *e* P P 07 39 04.2 -0.6
GKN Gorkha 51.72 80 *e* P P 07 39 09.7 -0.6
comp=Z,44nm,0.6s
DMN Daman 52.26 80 *e* P P 07 39 14.1 -0.4
KKN Kakani 52.33 80 *e* P P 07 39 14.6 -0.3
SFJD Kangerlussuaq 52.49 331 LR LR 08 03 07.7
comp=Z,240nm,18.4s,baz=86,slow=38
PKIN Phulchoki 52.51 80 *e* P P 07 39 15.7 -0.6
PKI Pulchoki 52.52 80 *e* P P 07 39 15.7 -0.8
GUN Gumba 52.76 79 *e* P P 07 39 17.8 -0.5
comp=Z,33nm,0.5s
NEEM North Greenlan 53.07 345 *i* P P 07 39 18.3 -1.5
NEEM IAmb IAmb 07 39 39.1
comp=Z,7.3nm,0.7s
JIRN Jiri 53.12 79 *e* P P 07 39 20.5 -0.4
comp=Z,26nm,0.5s
RAMN Ramite 53.74 80 *e* P P 07 39 24.5 -0.9
TSUM Tsumeb 53.98 187 LR LR 08 05 28.4
comp=Z,423nm,18.5s,baz=344,slow=39
MOY Mondy 56.13 47 *e* P P 07 39 41.3 -0.8
MOY pmax pmax
comp=Z,27nm,1.9s
GOMU GeErMu 56.63 66 P P 07 39 47.8 +1.5
GOMU pmax pmax
comp=Z,7.0nm,1.3s
ZAK Zakamensk 57.87 48 *e* P P 07 39 53.3 -1.1
ZAK pmax pmax
comp=Z,10.0nm,1.2s
PALK Pallekele 58.86 104 LR LR 08 08 44.9
comp=Z,138nm,19.4s,baz=61,slow=39
GTA Gaotai 59.16 61 *e* P P 07 40 03.5 -0.1
GTA pP pP 07 40 12.8 -1.7
GTA sP sP 07 40 18.6 +0.1
GTA pmax pmax
comp=Z,7.0nm,1.0s
LBTB Lobatse 59.47 178 LR LR 08 08 21.6
comp=Z,158nm,19.3s,baz=1.5,slow=38
LBTB Lobatse 59.47 178 P P 07 40 06.6 +0.9
LBTB pP **pwP** 07 40 17.9 -1.8
FRB Frobisher Bay 60.43 329 LR LR 08 08 04.2
comp=Z,157nm,19.3s,baz=13,slow=38
SONM Songino Array 60.62 50 P P 07 40 13.1 -0.5
SONM IAmb IAmb 07 40 14.4
comp=Z,12nm,1.1s
SONM Songino Array 60.62 50 P P 07 40 13.1 -0.5
comp=Z,4.8nm,0.6s,baz=278,slow=7.8,SNR=29
SONM LR LR 08 09 53.9
comp=Z,181nm,19.4s,baz=313,slow=39
comp=Z,4.8nm,0.6s
ULN Ulaanbaatar 61.03 50 P P 07 40 15.6 -0.8
ULN IAmb IAmb 07 40 30.5
comp=Z,10nm,0.7s
ULN Ulaanbaatar 61.03 50 *ce* P P 07 40 15.9 -0.5
ULN pmax pmax
comp=Z,12nm,1.0s
ULN Ulaanbaatar 61.03 50 P P 07 40 15.8 -0.5
ULN pP **pP** 07 40 26.2 -1.1
ULN sP **sP** 07 40 30.0 -1.4
BOD Bodaibo 61.47 38 *e* P P 07 40 17.4 -1.6
BOD pmax pmax
comp=Z,15nm,1.0s
TIXI Tiksi 61.95 20 P P 07 40 20.6 -1.3
TIXI Tiksi 61.95 20 *ce* P P 07 40 21.0 -0.9
TIXI Tiksi 61.95 20 LR LR 08 10 40.6
comp=Z,16nm,19.8s,baz=346,slow=39
TIXI Tiksi 61.95 20 P P 07 40 21.0 -0.9
SCHQ Schefferville 62.75 319 P P 07 40 27.6 0.0
comp=Z,3.0nm,0.4s,baz=66,slow=4.1,SNR=14
comp=Z,3.0nm,0.4s
BOSA Boshof 63.04 179 P P 07 40 29.9 +0.1
comp=Z,1.9nm,0.5s,baz=12,slow=7.6,SNR=8.4
BOSA LR LR 08 10 30.1
comp=Z,139nm,18.9s,baz=11,slow=38
comp=Z,1.9nm,0.5s
BOSA Boshof 63.04 179 P P 07 40 30.1 +0.3
LZH Lanzhou 63.40 63⇑ P P 07 40 33.5 +1.1
LZH pP pP 07 40 45.3 +1.8
LZH pmax pmax
comp=Z,20nm,1.2s
RES Resolute Bay 63.76 345 LR LR 08 10 03.7
comp=Z,116nm,18.4s,baz=8.0,slow=38
BTO Baotou 65.87 56 *e* P P 07 40 48.1 -0.3
BTO pP **pwP** 07 41 01.9 +0.5
BTO sP **sP** 07 41 07.1 +3.8
BTO PP **PP** 07 43 13.3 0.0
BTO S **S** 07 49 31.5 -1.3
BTO pmax pmax
comp=Z,14nm,0.7s
BTO pmax pmax
comp=Z,300nm,6.3s
PZH PanZhiHua 66.07 74 P P 07 40 48.4 -1.5
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.5s
YAK Yakutsk 66.80 30 LR LR 08 13 05.4
comp=Z,5.3nm,18.8s,baz=312,slow=39
HHC Hu-ho-hao-te 66.81 56 *e* P P 07 40 54.8 +0.4
HHC pmax pmax
comp=Z,26nm,0.9s
HHC pmax pmax
comp=Z,430nm,4.3s
SUR Sutherland 66.84 183 LR LR 08 13 22.5
comp=Z,305nm,18.5s,baz=348,slow=39
KMI Kunming 67.52 74⇓ P P 07 40 58.3 -1.0
KMI pP pP 07 41 11.0 +0.9
KMI pmax pmax
comp=Z,13nm,0.9s
CMAR Chiang Mai Arr 67.75 82 *i* P P 07 41 00.5 -0.1
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 67.75 82 P P 07 41 00.0 -0.6
comp=Z,2.3nm,0.4s,baz=299,slow=7.8,SNR=15
comp=Z,2.3nm,0.4s
XAN Xi'an 68.04 63 P P 07 41 02.5 +0.3
XAN pP pwP 07 41 15.6 +0.4
XAN pmax pmax
comp=Z,13nm,0.7s
XLT XiLinHaoTe 68.40 51 *e* P P 07 41 04.5 +0.1
XLT pmax pmax
comp=Z,11nm,1.0s
XLT pmax pmax
comp=Z,290nm,6.3s
GYA Guiyang 69.95 71 *e* P P 07 41 14.3 0.0
GYA pmax pmax
comp=Z,16nm,1.2s
HNS HongShan 70.58 58 *e* P P 07 41 18.0 +0.2
A36M Sachs Harbour 71.36 350 IAmb IAmb 07 41 54.2
comp=Z,8.7nm,0.7s
A36M Sachs Harbour 71.36 350 P P 07 41 21.5 -0.4
baz=26
LONY Lake Ozonia 71.83 312 P P 07 41 24.2 -1.1
baz=59
HEH HeiHe 71.92 41 *e* P P 07 41 25.1 -0.6
HEH pmax pmax
comp=Z,10.0nm,1.0s
HEH pmax pmax
comp=Z,370nm,5.5s
C36M Paulatuk 73.55 349 P P 07 41 34.8 -0.2
C36M IAmb IAmb 07 42 02.1
comp=Z,12nm,1.4s
C36M Paulatuk 73.55 349 P P 07 41 34.8 -0.2
baz=27,SNR=6.7
SEY Seymchan 74.36 22 LR LR 08 17 32.5
comp=Z,145nm,20.0s,baz=318,slow=38
SADO Sadowa 74.50 314 LR LR 08 14 41.1
comp=Z,62nm,18.0s,baz=110,slow=36
A22K Sinclair Lake 74.54 360 P P 07 41 40.0 -0.7
baz=1.1
B22K Teshekpuk Lake 75.19 359 P P 07 41 44.8 +0.3
baz=2.4
C26K Camden Bay 75.31 356 P P 07 41 45.3 +0.1
baz=9.6
D28M Stokes Point 75.43 354 P P 07 41 46.0 +0.2
baz=15
B20K Meade River 75.54 0 P P 07 41 46.8 +0.3
baz=359
C23K Itkillik River 75.64 358 P P 07 41 48.0 +0.9
baz=4.8
C24K Franklin Bluff 75.69 357 P P 07 41 48.1 +0.7
baz=6.4
D27M Malcolm River 75.70 354 P P 07 41 47.0 -0.6
baz=13
INK Inuvik 75.86 351 P P 07 41 47.8 -0.5
INK IAmb IAmb 07 42 12.4
comp=Z,16nm,1.6s
INK Inuvik 75.86 351 P P 07 41 47.9 -0.4
baz=19
INK Inuvik 75.86 351 P P 07 41 47.8 -0.5
INK pmax pmax
comp=Z,16nm,1.6s
INK Inuvik 75.86 351 LR LR 08 17 59.7
comp=Z,165nm,20.6s,baz=1.0,slow=38
B21K Ikpikpuk River 75.92 359 IAmb IAmb 07 42 19.6
comp=Z,9.2nm,1.0s
B21K Ikpikpuk River 75.92 359 P P 07 41 49.0 +0.3
baz=1.4
D25K Kavik River 75.98 356 IAmb IAmb 07 42 20.8
comp=Z,11nm,1.2s
D25K Kavik River 75.98 356 P P 07 41 47.8 -1.4
baz=8.3
B18K Kokolik River 76.11 2 P P 07 41 50.3 +0.5
baz=355
E28M Babbage River 76.20 354 IAmb IAmb 07 42 05.8
comp=Z,16nm,1.6s
E28M Babbage River 76.20 354 P P 07 41 50.5 +0.1
baz=14
NJ2 Nanjing 76.25 61 *e* P P 07 41 52.4 +1.1
NJ2 pP **pP** 07 42 02.1 -0.1
NJ2 sP **sP** 07 42 05.3 -1.3
NJ2 pmax pmax
comp=Z,13nm,0.6s
NJ2 pmax pmax
comp=Z,250nm,4.6s
D24K Happy Valley 76.26 357 IAmb IAmb 07 41 52.1
comp=Z,18nm,1.4s
D24K Happy Valley 76.26 357 P P 07 41 51.2 +0.6
baz=6.3
E29M Blow River 76.26 353 P P 07 41 51.2 +0.5
baz=15,SNR=22
MDJ Mudanjiang 76.30 45 P P 07 41 58.4 +7.0
MDJ pmax pmax
comp=Z,34nm,2.1s
MDJ pmax pmax
comp=Z,510nm,5.5s
MA2 Magadan 76.33 25 LR LR 08 18 35.7
comp=Z,111nm,19.8s,baz=304,slow=38
C21K Knifeblade Rid 76.39 359 P P 07 41 51.8 +0.3
baz=1.2
C19K Lookout Ridge 76.42 1 P P 07 41 52.2 +0.5
baz=357
D23K Nanushuk River 76.51 358 P P 07 41 52.9 +0.8
baz=4.7
D22K Ayikyak River 76.64 359 IAmb IAmb 07 42 06.1
comp=Z,24nm,1.6s
D22K Ayikyak River 76.64 359 P P 07 41 53.4 +0.5
baz=3.0
F31M Tsiigehtchic 76.70 351 IAmb IAmb 07 42 23.2
comp=Z,16nm,1.1s
F31M Tsiigehtchic 76.70 351 P P 07 41 53.3 +0.1
baz=19,SNR=9.5
F30M Barrier River 76.79 352 P P 07 41 53.6 -0.1
baz=17,SNR=6.7
E27K Coleen River 76.79 354 IAmb IAmb 07 42 17.4
comp=Z,30nm,1.9s
E27K Coleen River 76.79 354 P P 07 41 53.8 +0.1
baz=12
TOLK Toolik Lake Re 76.80 358 P P 07 41 54.0 +0.1
baz=5.6
C18K Utukok River 76.84 2 IAmb IAmb 07 41 56.3
comp=Z,16nm,1.1s
C18K Utukok River 76.84 2 P P 07 41 54.2 +0.1
baz=356
D20K Etivluk River 76.84 0 P P 07 41 54.2 +0.2
baz=360
C17K DeLong Mountai 76.95 3 P P 07 41 55.0 +0.3
baz=354
D19K Kuna River 77.06 1 P P 07 41 55.6 +0.4
baz=358
C16K Lisburne Hills 77.06 3 P P 07 41 55.0 -0.2
baz=352
E21K Killik River 77.10 359 P P 07 41 55.1 -0.4
baz=1.9
E25K Arctic Village 77.13 356 IAmb IAmb 07 42 18.9
comp=Z,12nm,1.2s
E25K Arctic Village 77.13 356 P P 07 41 56.4 +0.7
baz=9.0
F28M Old Crow 77.20 354 P P 07 41 55.8 -0.3
baz=14
G31M Satah River 77.26 351 IAmb IAmb 07 41 57.2
comp=Z,29nm,1.7s
G31M Satah River 77.26 351 P P 07 41 56.0 -0.3
baz=18
E20K Nigu River 77.30 360 P P 07 41 56.7 0.0
baz=0.1,SNR=6.2
E24K Your Creek 77.32 357 P P 07 41 56.9 +0.1
baz=6.5
E22K Anaktuvuk Pass 77.37 358 IAmb IAmb 07 42 19.5
comp=Z,9.7nm,1.2s
E22K Anaktuvuk Pass 77.37 358 P P 07 41 57.2 +0.1
baz=3.7,SNR=5.6
E23K Chandalar 77.38 357 P P 07 41 57.7 +0.6
baz=5.6

RDOG	**Red Dog Mine**	**77.38**	**3**	P	**P**	**07 41 57.5**	**+0.4**
	baz=354						
G30M	**tAoh Zraii Nji**	**77.44**	**352**	IAmb	IAmb	07 41 58.2	
	comp=Z,25nm,1.6s						
G30M	**tAoh Zraii Nji**	**77.44**	**352**	P	**P**	**07 41 57.6**	**+0.2**
	baz=17						
F26K	**Sheenjek River**	**77.46**	**355**	P	**P**	**07 41 58.1**	**+0.6**
	baz=10,SNR=6.0						
YKA	**Yellowknife Ar**	**77.48**	**342**	P	**P**	**07 41 57.4**	**-0.3**
	comp=Z,1.2nm,0.9s,baz=30,slow=5.4,SNR=12						
YKA				LR	LR	08 18 16.8	
	comp=Z,143nm,19.1s,baz=54,slow=37						
	comp=Z,1.2nm,0.9s						
F25K	**Christian Rive**	**77.66**	**356**	P	**P**	**07 41 58.9**	**+0.2**
	baz=8.9						
G29M	**Pine Creek**	**77.70**	**353**	P	**P**	**07 41 58.8**	**0.0**
	baz=15						
F24K	**Squaw Lake**	**77.85**	**357**	IAmb	IAmb	07 42 22.8	
	comp=Z,13nm,1.1s						
F24K	**Squaw Lake**	**77.85**	**357**	P	**P**	**07 42 00.4**	**+0.7**
	baz=7.0						
USRK	**Ussuriysk Ar.**	**77.93**	**44**	P	**P**	**07 41 59.5**	**-1.0**
	comp=Z,3.8nm,0.5s,baz=278,slow=4.3,SNR=9.0						
USRK				LR	LR	08 20 13.6	
	comp=Z,94nm,20.4s,baz=341,slow=39						
	comp=Z,3.8nm,0.5s						
F22K	**John River**	**78.01**	**358**	P	**P**	**07 42 01.4**	**+0.9**
	baz=3.4						
EPYK	**Eagle Plains**	**78.08**	**352**	P	**P**	**07 42 00.7**	**-0.3**
	baz=16						
E18K	**Tukpahlearik C**	**78.09**	**2**	P	**P**	**07 42 01.3**	**+0.3**
E18K				IAmb	IAmb	07 42 31.1	
	comp=Z,8.1nm,0.9s						
E18K	**Tukpahlearik C**	**78.09**	**2**	P	**P**	**07 42 01.2**	**+0.3**
	baz=356						
E19K	**Redstone River**	**78.10**	**0**	P	**P**	**07 42 01.6**	**+0.5**
	baz=359						
G27K	**Doyon Strip**	**78.14**	**354**	P	**P**	**07 42 01.7**	**+0.4**
	baz=12						
G26K	**Porcupine Rive**	**78.17**	**355**	P	**P**	**07 42 02.1**	**+0.7**
	baz=10						
COLD	**Coldfoot**	**78.23**	**358**	P	**P**	**07 42 02.1**	**+0.3**
	baz=5.1						
F21K	**Alatna River**	**78.32**	**359**	P	**P**	**07 42 02.9**	**+0.6**
	baz=2.3						
O53A	**New Philadelph**	**78.33**	**311**	P	**P**	**07 42 02.7**	**-0.1**
	baz=54						
H31M	**Peel River**	**78.34**	**351**	P	**P**	**07 42 02.3**	**-0.2**
	baz=18						
E17K	**Hotham Inlet**	**78.39**	**2**	P	**P**	**07 42 03.1**	**+0.5**
	baz=355						
H29M	**Whitestone**	**78.41**	**353**	P	**P**	**07 42 02.9**	**+0.1**
	baz=15						
G25K	**Bearman Lake**	**78.50**	**356**	P	**P**	**07 42 03.7**	**+0.5**
	baz=8.5						
F20K	**Avaraart Lake**	**78.52**	**360**	P	**P**	**07 42 03.6**	**+0.3**
	baz=0.4						
G22K	**Bettles**	**78.58**	**358**	P	**P**	**07 42 03.9**	**+0.2**
	baz=4.0						
G24K	**Hadweenzic Riv**	**78.64**	**356**	P	**P**	**07 42 04.6**	**+0.5**
	baz=7.3						
H27K	**Steamboat Moun**	**78.70**	**354**	P	**P**	**07 42 05.2**	**+0.7**
	baz=12,SNR=6.5						
F19K	**Shalerucki Mo**	**78.73**	**1**	P	**P**	**07 42 04.5**	**0.0**
	baz=359						
G23K	**Bananza Creek**	**78.75**	**357**	IAmb	IAmb	07 42 36.6	
	comp=Z,12nm,1.2s						
G23K	**Bananza Creek**	**78.75**	**357**	P	**P**	**07 42 05.4**	**+0.7**
	baz=5.2,SNR=6.1						
WRGLY	**Wrigley**	**78.91**	**346**	IAmb	IAmb	07 42 22.3	
	comp=Z,14nm,1.0s						
WRGLY	**Wrigley**	**78.91**	**346**	P	**P**	**07 42 06.0**	**+0.5**
	baz=27						
F18K	**Selawik**	**78.93**	**1**	P	**P**	**07 42 05.5**	**-0.1**
	baz=357						
G21K	**Allakaket**	**79.03**	**359**	IAmb	IAmb	07 42 37.3	
	comp=Z,7.8nm,0.9s						
G21K	**Allakaket**	**79.03**	**359**	P	**P**	**07 42 06.7**	**+0.5**
	baz=2.3						
F17K	**Baldwin Pennin**	**79.05**	**2**	P	**P**	**07 42 06.5**	**+0.3**
	baz=356						
I30M	**Mount Dempster**	**79.15**	**352**	IAmb	IAmb	07 42 08.4	
	comp=Z,22nm,1.6s						
I30M	**Mount Dempster**	**79.15**	**352**	P	**P**	**07 42 07.1**	**0.0**
	baz=16						
I29M	**Ogilvie Camp,**	**79.24**	**352**	IAmb	IAmb	07 42 08.6	
	comp=Z,25nm,1.6s						
I29M	**Ogilvie Camp,**	**79.24**	**352**	P	**P**	**07 42 07.5**	**+0.2**
	baz=15						
I28M	**Miner Creek**	**79.32**	**353**	IAmb	IAmb	07 42 29.1	
	comp=Z,27nm,1.8s						
I28M	**Miner Creek**	**79.32**	**353**	P	**P**	**07 42 08.0**	**+0.1**
	baz=14						
I27K	**Kandik River**	**79.32**	**354**	P	**P**	**07 42 08.0**	**+0.1**
	baz=12						
G19K	**Purcell Mounta**	**79.42**	**0**	P	**P**	**07 42 08.8**	**+0.4**
	baz=359						
KSRS	**Korea Array**	**79.43**	**52**	P	**P**	**07 42 08.1**	**-0.8**
	comp=Z,2.4nm,0.6s,baz=310,slow=4.2,SNR=6.8						
KSRS				LR	LR	08 22 08.9	
	comp=Z,97nm,18.7s,baz=310,slow=39						
	comp=Z,2.4nm,0.6s						
H24K	**Noodor Dome**	**79.53**	**357**	P	**P**	**07 42 09.6**	**+0.6**
	baz=7.0						
H22K	**Ishtalitna Cre**	**79.61**	**358**	P	**P**	**07 42 10.3**	**+1.0**
	baz=4.1						
F15K	**North Star Dit**	**79.65**	**4**	P	**P**	**07 42 10.1**	**+0.6**
	baz=353						
G18K	**Tagagawik**	**79.66**	**1**	IAmb	IAmb	07 42 11.6	
	comp=Z,14nm,1.2s						
G18K	**Tagagawik**	**79.66**	**1**	P	**P**	**07 42 10.3**	**+0.6**
	baz=358						
I26K	**Coal Creek Min**	**79.75**	**354**	IAmb	IAmb	07 42 16.7	
	comp=Z,39nm,1.8s						
I26K	**Coal Creek Min**	**79.75**	**354**	P	**P**	**07 42 10.9**	**+0.8**
	baz=11						
J30M	**Hart River**	**79.77**	**351**	IAmb	IAmb	07 42 24.8	
	comp=Z,14nm,1.1s						
J30M	**Hart River**	**79.77**	**351**	P	**P**	**07 42 10.9**	**+0.5**
	baz=16						
F14K	**Arctic Creek**	**79.79**	**4**	P	**P**	**07 42 11.5**	**+1.1**
	baz=352						
H21K	**Melozitna Rive**	**79.88**	**359**	IAmb	IAmb	07 42 26.4	
	comp=Z,9.5nm,0.9s						
H21K	**Melozitna Rive**	**79.88**	**359**	P	**P**	**07 42 11.6**	**+0.8**
	baz=2.9,SNR=7.4						
ULM	**Lac du Bonnet**	**80.00**	**325**	LR	LR	08 18 03.8	
	comp=Z,186nm,20.2s,baz=34,slow=36						
G17K	**Kiwalik Mounta**	**80.01**	**2**	P	**P**	**07 42 11.6**	**+0.1**
	baz=356						
H19K	**Roundabout Mou**	**80.05**	**0**	P	**P**	**07 42 11.9**	**+0.3**
	baz=360						
G16K	**Koyuk River**	**80.06**	**3**	P	**P**	**07 42 10.4**	**-1.4**
G16K				IAmb	IAmb	07 42 13.3	
	comp=Z,28nm,1.5s						
G16K	**Koyuk River**	**80.06**	**3**	P	**P**	**07 42 12.2**	**+0.4**
	baz=355						
H20K	**Anotleneega Mo**	**80.08**	**359**	P	**P**	**07 42 12.4**	**+0.5**
	baz=1.1						
EGAK	**Eagle**	**80.09**	**354**	P	**P**	**07 42 11.5**	**-0.5**
	baz=12						
POKR	**Poker Plat Res**	**80.22**	**356**	P	**P**	**07 42 13.1**	**+0.4**
	baz=7.3						
I23K	**Minto, Yukon-K**	**80.28**	**357**	P	**P**	**07 42 13.3**	**+0.4**
	baz=5.7						
I21K	**Tanana**	**80.34**	**358**	P	**P**	**07 42 14.1**	**+0.8**
	baz=3.5						
G15K	**Niukluk**	**80.39**	**3**	P	**P**	**07 42 14.6**	**+1.0**
	baz=354						
H18K	**Honhosa River**	**80.41**	**1**	P	**P**	**07 42 14.0**	**+0.3**
	baz=358						
MDM	**Murphy Dome**	**80.42**	**357**	IAmb	IAmb	07 42 25.6	
	comp=Z,35nm,1.7s						
MLY	**Manley**	**80.45**	**358**	P	**P**	**07 42 14.2**	**+0.2**
	baz=4.6						
ILAR	**Eielson Array**	**80.53**	**356**	P	**P**	**07 42 14.4**	**0.0**
	comp=Z,1.0nm,1.0s,baz=350,slow=3.5,SNR=8.0						
ILAR				LR	LR	08 22 05.3	
	comp=Z,74nm,18.4s,baz=353,slow=39						
	comp=Z,1.0nm,1.0s						
J26L	**Joseph Creek**	**80.57**	**354**	IAmb	IAmb	07 42 29.9	
	comp=Z,37nm,1.9s						
J26L	**Joseph Creek**	**80.57**	**354**	P	**P**	**07 42 14.7**	**0.0**
	baz=10						
J25K	**Salcha River,**	**80.59**	**355**	P	**P**	**07 42 14.2**	**-0.6**
	baz=9.0						
H17K	**Granite Mounta**	**80.60**	**2**	P	**P**	**07 42 13.2**	**-1.5**
	baz=357						
DAWY	**Dawson**	**80.61**	**353**	P	**P**	**07 42 14.9**	**+0.1**
DAWY				IAmb	IAmb	07 42 16.5	
	comp=Z,23nm,1.6s						
DAWY	**Dawson**	**80.61**	**353**	P	**P**	**07 42 15.1**	**+0.3**
	baz=14						
K29M	**Barlow Dome**	**80.62**	**352**	P	**P**	**07 42 15.1**	**+0.2**
	baz=16						
MAYO	**Mayo, Yukon**	**80.66**	**351**	P	**P**	**07 42 15.3**	**+0.3**
	baz=17						
O48B	**Farmland**	**80.74**	**313**	P	**P**	**07 42 16.3**	**+0.3**
	baz=52						
ANM	**Nome**	**80.75**	**4**	P	**P**	**07 42 15.6**	**+0.1**
	baz=352						
H16K	**Elim**	**80.83**	**3**	P	**P**	**07 42 16.1**	**+0.2**
	baz=355						
GCSA	**Galena City Sc**	**80.83**	**0**	P	**P**	**07 42 15.6**	**-0.3**
	baz=360						
HDA	**Harding Lake**	**80.90**	**356**	IAmb	IAmb	07 42 31.0	
	comp=Z,6.8nm,0.8s						
HDA	**Harding Lake**	**80.90**	**356**	P	**P**	**07 42 16.4**	**+0.1**
	baz=7.7						
HDA				P	**P**	**07 42 16.4**	**+0.1**
	baz=7.7						
K27K	**Chicken**	**80.91**	**354**	IAmb	IAmb	07 42 31.6	
	comp=Z,16nm,1.1s						
K27K	**Chicken**	**80.91**	**354**	P	**P**	**07 42 17.3**	**+0.9**
	baz=12						
GAMB	**Gambell**	**81.04**	**7**	P	**P**	**07 42 16.8**	**-0.2**
	baz=347						
SCRK	**Sand Creek**	**81.12**	**355**	P	**P**	**07 42 18.5**	**+0.8**
	baz=10						
J20K	**Nowinta River**	**81.39**	**359**	P	**P**	**07 42 20.0**	**+1.1**
	baz=1.7						
BPAW	**Bear Paw Mtn.**	**81.39**	**358**	IAmb	IAmb	07 42 40.1	
	comp=Z,28nm,1.6s						
BPAW	**Bear Paw Mtn.**	**81.39**	**358**	P	**P**	**07 42 19.1**	**+0.2**
	baz=4.4						
L29M	**L29M**	**81.40**	**352**	P	**P**	**07 42 20.0**	**+0.9**
	baz=15						
RIDG	**Independent Ri**	**81.42**	**355**	P	**P**	**07 42 20.3**	**+1.1**
	baz=9.4						
J19K	**Poorman**	**81.58**	**360**	IAmb	IAmb	07 42 43.3	
	comp=Z,18nm,1.1s						
J19K	**Poorman**	**81.58**	**360**	P	**P**	**07 42 21.0**	**+1.0**
	baz=0.5						
FARO	**Faro, Yukon**	**81.60**	**349**	IAmb	IAmb	07 42 33.6	
	comp=Z,20nm,1.6s						
FARO	**Faro, Yukon**	**81.60**	**349**	P	**P**	**07 42 21.4**	**+1.3**
	baz=19						
I17K	**Unalakleet**	**81.63**	**2**	P	**P**	**07 42 20.5**	**+0.4**
	baz=356						
CHUM	**Lake Minchumin**	**81.65**	**358**	P	**P**	**07 42 20.8**	**+0.6**
	baz=3.3						
MCK	**McKinley**	**81.68**	**357**	P	**P**	**07 42 21.4**	**+1.0**
	baz=6.0						
M30M	**Milo, Yukon**	**81.75**	**351**	P	**P**	**07 42 20.8**	**-0.1**
	baz=16						
M31M	**Drury Creek, Y**	**81.78**	**350**	P	**P**	**07 42 21.8**	**+0.7**
	baz=18						
L27K	**Beaver Creek,**	**81.84**	**353**	P	**P**	**07 42 21.9**	**+0.5**
	baz=12						
NHSC	**New Hope**	**81.84**	**305**	P	**P**	**07 42 21.6**	**-0.2**
	baz=54						
TZTN	**Tazewell**	**82.01**	**309**	P	**P**	**07 42 22.9**	**+0.2**
	baz=52						
L26K	**Log Cabin Wild**	**82.01**	**354**	P	**P**	**07 42 22.5**	**+0.3**
	baz=11						
TRF	**Thorofare Moun**	**82.02**	**357**	P	**P**	**07 42 22.0**	**-0.5**
	baz=4.9						
M29M	**Somme Creek**	**82.09**	**352**	IAmb	IAmb	07 42 37.5	
	comp=Z,6.9nm,0.7s						
M29M	**Somme Creek**	**82.09**	**352**	P	**P**	**07 42 23.1**	**+0.3**
	baz=15						
CAST	**Castle Rocks**	**82.11**	**358**	P	**P**	**07 42 22.6**	**-0.2**
	baz=3.4						
J18K	**Innoko River**	**82.12**	**0**	P	**P**	**07 42 21.4**	**-1.4**
	baz=360						
K20K	**Telida**	**82.21**	**359**	P	**P**	**07 42 23.3**	**0.0**
	baz=1.8						
PAX	**Paxson**	**82.23**	**355**	P	**P**	**07 42 23.5**	**0.0**
	baz=8.9						
J16K	**Anvik River**	**82.23**	**2**	P	**P**	**07 42 23.5**	**+0.1**
	baz=356						
DHY	**Denali Highway**	**82.25**	**356**	P	**P**	**07 42 23.6**	**-0.1**
	baz=7.3						
WAT1	**Susitna Watana**	**82.56**	**356**	P	**P**	**07 42 24.8**	**-0.3**
	baz=6.4						
N32M	**Quiet Lake**	**82.58**	**349**	P	**P**	**07 42 25.6**	**+0.2**
	baz=19						
M26K	**Nabesna, AK**	**82.60**	**354**	P	**P**	**07 42 25.9**	**+0.5**
	baz=11						
PPLA	**Purkypile**	**82.63**	**358**	P	**P**	**07 42 26.1**	**+0.4**
	baz=3.4						
TTA	**Tatalina**	**82.65**	**360**	P	**P**	**07 42 25.6**	**-0.1**
	baz=0.2						
WAT6	**Susitna Watana**	**82.76**	**356**	P	**P**	**07 42 26.2**	**-0.1**
	baz=7.0						
K17K	**Iditarod**	**82.85**	**1**	P	**P**	**07 42 27.5**	**+0.9**
	baz=358						
LIRD	**Liard River Hi**	**82.91**	**345**	P	**P**	**07 42 27.3**	**+0.3**
	baz=24						
YUK3	**Moose Creek**	**82.96**	**353**	P	**P**	**07 42 27.9**	**+0.4**
	baz=13						
CUT	**Chulitna**	**83.06**	**357**	P	**P**	**07 42 28.5**	**+0.8**
	baz=4.9						
YUK4	**Talbot Arm**	**83.18**	**352**	P	**P**	**07 42 29.3**	**+0.7**
	baz=15						
L18K	**Granite Mounta**	**83.37**	**0**	P	**P**	**07 42 30.4**	**+1.1**
	baz=360						
O30N	**Mendenhall**	**83.40**	**350**	P	**P**	**07 42 29.5**	**0.0**
	baz=16						
L19K	**White Mountain**	**83.40**	**359**	P	**P**	**07 42 30.9**	**+1.4**
	baz=1.1						
P33M	**Teslin, Yukon**	**83.43**	**348**	P	**P**	**07 42 28.6**	**-1.2**
	baz=19						
L17K	**Donlin**	**83.44**	**1**	P	**P**	**07 42 30.5**	**+0.9**
	baz=358						
SCM	**Sheep Creek Mo**	**83.48**	**356**	P	**P**	**07 42 31.1**	**+1.1**
	baz=7.3						
N25K	**Chitina, Valde**	**83.52**	**354**	P	**P**	**07 42 30.5**	**+0.3**
	baz=9.6						
YUK6	**Outpost Mounta**	**83.53**	**351**	P	**P**	**07 42 31.3**	**+0.9**
	baz=15						
SKT	**Skwentna**	**83.53**	**358**	P	**P**	**07 42 29.8**	**-0.3**
	baz=3.9						
HYT	**Haines Junctio**	**83.54**	**351**	P	**P**	**07 42 30.8**	**+0.4**
	baz=15						
M23K	**Glacier View**	**83.55**	**356**	P	**P**	**07 42 30.5**	**+0.3**
	baz=7.0						
M20K	**Styx River**	**83.67**	**359**	P	**P**	**07 42 31.3**	**+0.3**
	baz=2.6						
M22K	**Willow**	**83.71**	**357**	P	**P**	**07 42 31.9**	**+0.9**
	baz=5.0						
PETK	**Petropavlovsk-**	**83.78**	**26**	LR	LR	08 22 54.2	
	comp=Z,92nm,20.0s,baz=315,slow=38						
L15K	**Ungalak Mounta**	**83.81**	**3**	P	**P**	**07 42 32.2**	**+0.6**
	baz=356						
ASAJ	**Asahikawa**	**83.82**	**39**	LR	LR	08 24 20.7	
	comp=Z,154nm,18.1s,baz=336,slow=39						
CTG	**Chitna Glacier**	**83.85**	**353**	P	**P**	**07 42 32.7**	**+0.7**
	baz=12						
GOGA	**Godfrey**	**83.86**	**307**	P	**P**	**07 42 32.7**	**+0.3**
	baz=52						
JNU	**Nakatsue**	**83.95**	**54**	LR	LR	08 24 00.0	
	comp=Z,75nm,18.4s,baz=294,slow=38						
KNK	**Knik Glacier**	**83.97**	**356**	P	**P**	**07 42 32.4**	**0.0**
	baz=5.4						
SUA	**Susitna One**	**84.02**	**357**	P	**P**	**07 42 33.2**	**+0.4**
	baz=4.5						
P32M	**Atlin**	**84.17**	**349**	P	**P**	**07 42 33.2**	**-0.3**
	baz=18						
N20K	**Mount Spurr**	**84.33**	**358**	P	**P**	**07 42 34.1**	**-0.2**
	baz=3.3						
BDFB	**Brasilia**	**84.49**	**247**	LR	LR	08 21 38.2	
	comp=Z,133nm,19.6s,baz=91,slow=37						
Q32M	**Nakina River**	**84.52**	**348**	P	**P**	**07 42 34.5**	**-1.0**
	baz=20						
M16K	**Timber Creek**	**84.54**	**1**	P	**P**	**07 42 34.4**	**-0.9**
	baz=358						
SKAG	**Skagway**	**84.55**	**349**	P	**P**	**07 42 35.2**	**-0.1**
	baz=17						
DLBC	**Dease Lake**	**84.61**	**347**	LR	LR	08 21 18.6	
	comp=Z,160nm,20.0s,baz=38,slow=36						
MJAR	**Matsushiro Arr**	**86.44**	**47**	LR	LR	08 24 25.5	
	comp=Z,70nm,22.0s,baz=318,slow=38						
SHEM	**Shemya Is, Ala**	**89.12**	**18**	LR	LR	08 26 18.0	
	comp=Z,89nm,20.0s,baz=108,slow=38						
BBB	**Bella Bella**	**90.00**	**343**	LR	LR	08 25 17.3	
	comp=Z,74nm,18.0s,baz=30,slow=37						
NEW	**Newport**	**90.27**	**335**	P	**P**	**07 43 03.1**	**-0.2**
	baz=31						
NEW	**Newport**	**90.27**	**335**	LR	LR	08 26 11.6	
	comp=Z,80nm,18.4s,baz=12,slow=37						
BW06	**Boulder Array**	**91.84**	**328**	P	**P**	**07 43 10.5**	**-0.4**
	baz=37						
PDAR	**Pinedale Array**	**91.84**	**328**	LR	LR	08 27 15.2	
	comp=Z,126nm,18.6s,baz=26,slow=37						
S22A	**4UR Ranch, Cre**	**94.52**	**323**	P	**P**	**07 43 23.6**	**+0.2**
	baz=39						
SIV	**San Ignacio**	**94.83**	**254**	LR	LR	08 26 46.7	
	comp=Z,73nm,20.5s,baz=50,slow=36						
JCJ	**Chichijima**	**95.29**	**52**	LR	LR	08 29 44.3	
	comp=Z,91nm,21.3s,baz=17,slow=38						
TEIG	**Tepich**	**95.46**	**299**	LR	LR	08 23 50.4	
	comp=Z,316nm,19.0s,baz=168,slow=34						
DAV	**Davao City (W)**	**95.62**	**77**	LR	LR	08 34 06.3	
	comp=Z,36nm,18.7s,baz=330,slow=40						
ELK	**Elko**	**95.93**	**330**	LR	LR	08 28 21.5	
	comp=Z,80nm,21.4s,baz=32,slow=36						
KAPI	**Kappang**	**97.75**	**91**	LR	LR	08 32 57.2	
	comp=Z,21nm,20.9s,baz=294,slow=38						
CPUP	**Villa Florida**	**97.82**	**244**	LR	LR	08 28 23.2	
	comp=Z,69nm,20.6s,baz=54,slow=36						
YBH	**Yreka Blue Hor**	**97.90**	**335**	LR	LR	08 33 03.7	
	comp=Z,64nm,18.4s,baz=28,slow=39						
NVAR	**Mina Array Bea**	**99.14**	**331**	LR	LR	08 30 39.8	
	comp=Z,75nm,18.2s,baz=28,slow=37						
WRA	**Warramunga Arr**	**117.68**	**96**	PKP	**PKiKP**	**07 48 49.5**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=306,slow=1.6,SNR=6.8						
ASAR	**Alice Springs**	**119.10**	**100**	PKP	**PKiKP**	**07 48 52.5**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=327,slow=1.5,SNR=12						
DZM	**Mont Dzumac**	**145.02**	**79**	*e*LR	LR	08 37 26.4	
	comp=Z,74nm,25.7s						
TAOE	**Nuku Hiva Isla**	**150.30**	**326**	*e*LR	LR	08 39 23.2	
	comp=Z,164nm,27.5s						
PPT2	**Papeete2**	**161.90**	**339**	*e*LR	LR	08 45 20.8	
	comp=Z,104nm,25.8s						
TBI	**Tubuai**	**167.19**	**331**	*e*LR	LR	08 47 09.6	
	comp=Z,402nm,25.5s						

IDC 13 07:48:43.1±2.7, 54°03N×86°48E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=22.4km s-min=13.3km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**266**	I	I	07 54 44.0	
	baz=85,slow=349,SNR=4.3						
ZALV	**Zalesovo Beam**	**0.99**	**266**	Pg	Pg	07 49 00.8	-1.2
	1.0nm,0.3s,baz=84,slow=17,SNR=9.1						
ZALV				Lg	Lg	07 49 16.4	
	1.0nm,0.3s,baz=84,slow=26,SNR=7.0						
KURBB	**Kurchatov Arra**	**5.95**	**238**	Pn	Pn	07 50 13.2	+0.8
	0.1nm,0.3s,baz=57,slow=14,SNR=4.1						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.72**	**202**	Pn	Pn	07 50 38.0	+1.2
	0.1nm,0.3s,baz=25,slow=14,SNR=7.4						
	0.1nm,0.3s						

DNK ***13*** *07:50:41.7±0.8, 59°.93N×24°.55E, h0km, ML2.2(UPP), Suspected explosion*
UPP ***13*** *07:50:43.5±2.7, 59°.94N×24°.32E, h0km, ML2.2*
IDC ***13*** *07:50:44.5±2.5, 59°.98N×24°.37E, h0km, mbtmp3.1/3, ML1.9/3, Error ellipse: s-maj=30.3km s-min=7.5km az=144.0*
HEL ***13*** *07:50:44.3±0.0, 59°.98N×24°.27E, h0km, ML2.1, Explosion*
EST ***13*** *07:50:44.3, 59°.98N×24°.27E, h0km, ML2.1(HEL), Explosion*

ISC 13 07:50:42.6±0.8, 59°.95N±0°.02×24°.37E±0°.03, h0km, n40, σ0°87/54, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.27**	**3**	*e*P	**Pg**	**07 50 48.3**	**+0.6**
MEF	**Metsahovi**	**0.27**	**3**	*e*P	**Pg**	**07 50 48.6**	**+0.9**
MEF				*e*S	**Sg**	**07 50 51.7**	**+0.6**
HEL1	**Helsinki**	**0.34**	**49**	*e*P	**Pb**	**07 50 50.8**	**-0.8**
HEL1				*e*S	**Sb**	**07 50 55.8**	**-1.7**
NUR	**Nurmijrvi**	**0.57**	**14**	*e*P	**Pg**	**07 50 54.3**	**+0.7**
NUR				*e*S	**Sg**	**07 51 01.7**	**+0.7**
EE01	**Perakula, Nova**	**0.84**	**207**	*e*P	**Pg**	**07 50 58.7**	**0.0**
EE01				*e*S	**Sg**	**07 51 10.6**	**+1.0**
PVF	**Pernaja**	**0.95**	**51**	*e*P	**Pb**	**07 51 01.8**	**-0.2**
PVF				*e*S	**Sg**	**07 51 12.8**	**-0.4**
ARBE	**Arbavere**	**0.97**	**122**	*e*P	**Pg**	**07 51 02.8**	**+0.6**
MTSE	**Matsula**	**1.27**	**193**	*e*P	**Pg**	**07 51 06.9**	**-0.1**
MTSE	**Matsula**	**1.27**	**193**	*e*P	**Pg**	**07 51 07.2**	**+0.2**
MTSE				*e*S	**Sg**	**07 51 24.2**	**+0.7**
EE08	**Sarghaua, Vand**	**1.38**	**161**	*e*P	**Pb**	**07 51 09.3**	**+0.1**
EE08				*e*S	**Sn**	**07 51 27.9**	**0.0**
EE03	**Tooma soojaam,**	**1.46**	**137**	*e*P	**Pb**	**07 51 11.2**	**+0.7**
EE03				*e*S	**Sn**	**07 51 30.8**	**+0.8**
RAF	**Rauma**	**1.68**	**311**	*e*P	**Pn**	**07 51 13.0**	**-0.2**
RAF	**Rauma**	**1.68**	**311**	*e*P	**Pn**	**07 51 12.9**	**-0.2**
RAF				*e*SG	**Sn**	**07 51 34.3**	**-1.1**
VJF	**Virojoki**	**1.69**	**68**	MSG		07 51 43.0	
	comp=Z,14nm,0.1s						
FIA0	**FINESS Array S**	**1.71**	**29**	*e*PG	**Pb**	**07 51 15.1**	**+0.1**
FIA0				*e*SN	**Sg**	**07 51 37.7**	**0.0**
FIA0				MSG		07 51 41.4	
	comp=Z,15nm,0.1s						
FINES	**FINESS Array B**	**1.71**	**29**	Pg	**Pb**	**07 51 15.1**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=209,slow=16,SNR=42						
FINES				Lg	Lg	07 51 37.2	
	comp=Z,3.0nm,0.3s,baz=208,slow=25,SNR=20						
FIA1	**FINESS Array S**	**1.72**	**29**	*e*PG	**Pb**	**07 51 15.1**	**+0.1**
FIA1				*e*SN	**Sg**	**07 51 37.7**	**0.0**
FIA1				MSG		07 51 41.4	
	comp=Z,11nm,0.1s						
VSU	**Vasula**	**1.93**	**140**	*e*PB	**Pg**	**07 51 19.3**	**-0.3**
AAL	**Aland**	**2.21**	**278**	P	**Pn**	**07 51 21.0**	**+0.6**
AAL				S	**Sn**	**07 51 49.6**	**+1.2**
AAL	**Aland**	**2.21**	**278**	P	**Pn**	**07 51 21.0**	**+0.6**
AAL				S	**Sn**	**07 51 49.6**	**+1.2**
SLIT	**Slitere, Latvi**	**2.57**	**206**	*e*P	**Pb**	**07 51 28.2**	**-1.4**
EE07	**Piusa Caves, O**	**2.66**	**141**	*e*PG	**Pb**	**07 51 32.2**	**+1.2**
EE07				*e*SB	**Sg**	**07 52 06.3**	**-1.7**
NRTU	**Norrtaelje**	**2.91**	**267**	P	**Pn**	**07 51 30.1**	**0.0**
NRTU	**Norrtaelje**	**2.91**	**267**	P	**Pn**	**07 51 30.1**	**0.0**
FLYU	**Flymyra**	**3.26**	**276**	P	**Pn**	**07 51 35.3**	**+0.4**
FLYU	**Flymyra**	**3.

2.8nm,0.6s,baz=85,slow=8.6,SNR=34
WRA PcP **PcP** **08 08 35.1 -0.3**
0.3nm,0.4s,baz=89,slow=3.4,SNR=2.7
WRA ScP **ScP** **08 11 25.2 +0.8**
0.2nm,0.8s,baz=83,slow=3.8,SNR=4.9
2.8nm,0.6s
ASAR Alice Springs 35.38 248 P **P** **08 06 26.0 +0.9**
3.5nm,0.5s,baz=72,slow=9.8,SNR=67
ASAR PcP **PcP** **08 08 37.3 -0.6**
0.6nm,0.7s,baz=75,slow=3.9,SNR=5.2
ASAR S **S** **08 11 16.6 -1.9**
0.3nm,0.6s,baz=78,slow=16,SNR=4.7
ASAR ScP **ScP** **08 11 27.9 +0.3**
0.7nm,0.7s,baz=81,slow=4.1,SNR=8.9
3.5nm,0.5s
ILAR Eielson Array 84.84 17 P **P** **08 11 49.6 -0.2**
0.3nm,0.9s,baz=235,slow=3.2,SNR=1.8
0.3nm,0.9s
ARCES ARCESS Array B 119.92 346 PKP **PKPdf** **08 17 60.0 -0.6**
2.9nm,1.0s,baz=14,slow=1.5,SNR=5.6

*SNET **13** 08:03:36.6±14.0, 13.05N×90.00W, h52km, ML3.8*
*CATAC **13** 08:03:44.1±0.5, 12.99N×89.02W, h24km±3km, ML3.9*
ISC 13 08:03:44.2±2.8, 12.95N±0.06×89.04W±0.04, h33km±10km, n60, σ0.945/94, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.64**	**23**	*i* P	**Pn**		**08 03 56.9**	**-0.1**
TECO	**Alcaldia de Te**	**0.64**	**23**	*i* P	**Pn**		**08 03 56.7**	**-0.3**
TECO				IAML			08 03 57.0	
	comp=Z,4μm,1.0s							
TECO				*i* S		**Sn**	**08 04 06.0**	**-0.1**
SJTE	**Alcalda de S**	**0.67**	**2**	*e*P	**Pn**		**08 03 57.2**	**-0.2**
SJTE				*e*S		**Sn**	**08 04 06.8**	**0.0**
SJTE	**Alcalda de S**	**0.67**	**2**	*i* P	**Pn**		**08 03 57.1**	**-0.3**
SJTE				*i* S		**Sn**	**08 04 06.6**	**-0.2**
SJTE				IAML			08 04 08.0	
	comp=Z,2μm,1.0s							
PANCS	**Alcalda de**	**0.68**	**348**	*i* P	**Pn**		**08 03 57.1**	**-0.5**
PANCS				*i* S		**Sn**	**08 04 06.6**	**-0.5**
PANCS				IAML			08 04 07.6	
	comp=Z,4μm,1.0s							
COEG	**Centro de Oper**	**0.69**	**13**	*e*P	**Pn**		**08 03 57.5**	**-0.3**
COEG				*e*S		**Sn**	**08 04 07.3**	**-0.1**
COEG	**Centro de Oper**	**0.69**	**13**	*i* P	**Pn**		**08 03 57.4**	**-0.3**
COEG				*i* S		**Sn**	**08 04 07.2**	**-0.1**
COEG				IAML			08 04 11.0	
	comp=Z,4μm,1.0s							
LOMA	**Loma Larga**	**0.71**	**349**	*i* P	**Pn**		**08 03 57.9**	**-0.2**
LOMA				*e*S		**Sn**	**08 04 07.8**	**-0.1**
LOMA	**Loma Larga**	**0.71**	**349**	*i* P	**Pn**		**08 03 57.8**	**-0.2**
LOMA				*i* S		**Sn**	**08 04 07.8**	**-0.1**
LOMA				IAML			08 04 08.8	
	comp=Z,4μm,1.0s							
UESV	**Universidad de**	**0.73**	**19**	*i* P	**Pn**		**08 03 58.1**	**-0.2**
UESV				IAML			08 03 58.5	
	comp=Z,9μm,1.0s							
UESV				*i* S		**Sn**	**08 04 08.6**	**+0.3**
TECA	**Tecapa**	**0.75**	**44**	*i* P	**Pn**		**08 03 58.9**	**+0.1**
ITCA	**Escuela Especi**	**0.76**	**342**	*i* S	**Sn**		**08 04 08.9**	**-0.3**
SNET	**Serv Nac Est T**	**0.76**	**346**	*i* P	**Pn**		**08 03 58.5**	**-0.3**
SNET				*i* S		**Sn**	**08 04 08.6**	**-0.6**
SNET				IAML			08 04 11.7	
	comp=Z,4μm,1.0s							
UTEC	**Universidad Te**	**0.77**	**348**	*i* P	**Pn**		**08 03 58.6**	**-0.3**
UTEC				*i* S		**Sn**	**08 04 09.2**	**-0.1**
UTEC				IAML			08 04 11.6	
	comp=Z,2μm,1.0s							
PAVA	**Las Pavas**	**0.77**	**7**	*e*P	**Pn**		**08 03 58.7**	**-0.2**
PAVA	**Las Pavas**	**0.77**	**7**	*i* P	**Pn**		**08 03 58.7**	**-0.2**
PAVA				IAML			08 03 59.1	
	comp=Z,5μm,1.0s							
PAVA				*i* S		**Sn**	**08 04 09.7**	**+0.3**
UDBS	**Universidad Do**	**0.77**	**351**	*i* P	**Pn**		**08 03 58.6**	**-0.3**
UDBS				*i* S		**Sn**	**08 04 09.5**	**0.0**
UDBS				IAML			08 04 11.0	
	comp=Z,2μm,1.0s							
SEMO	**Seminario San**	**0.78**	**346**	*i* P	**Pn**		**08 03 58.8**	**-0.2**
SEMO				IAML			08 04 11.6	
	comp=Z,8μm,1.0s							
UEES	**Universidad Ev**	**0.79**	**346**	*e*P	**Pn**		**08 03 59.0**	**-0.1**
UEES	**Universidad Ev**	**0.79**	**346**	*i* P	**Pn**		**08 03 59.1**	**-0.1**
UEES				*i* S		**Sn**	**08 04 09.6**	**-0.3**
UEES				IAML			08 04 12.5	
	comp=Z,2μm,1.0s							
LFU	**La Fuente**	**0.80**	**355**	*e*P	**Pn**		**08 03 59.3**	**-0.1**
PMON	**Piamonte**	**0.81**	**340**	*e*P	**Pn**		**08 03 59.3**	**-0.1**
PMON	**Piamonte**	**0.81**	**340**	*i* P	**Pn**		**08 03 59.4**	**-0.1**
PMON				*i* S		**Sn**	**08 04 10.0**	**-0.4**
PMON				IAML			08 04 12.9	
	comp=Z,4μm,1.0s							
SCLA	**Alcaldia de Sa**	**0.81**	**22**	*i* P	**Pn**		**08 03 59.5**	**+0.1**
SCLA	**Alcaldia de Sa**	**0.81**	**22**	*i* P	**Pn**		**08 03 59.5**	**+0.1**
SCLA				*i* S		**Sn**	**08 04 10.6**	**+0.3**
SCLA				IAML			08 04 11.8	
	comp=Z,1μm,1.0s							
JAYA	**Jayaque - finc**	**0.81**	**330**	*e*P	**Pn**		**08 03 59.5**	**-0.1**
JAYA	**Jayaque - finc**	**0.81**	**330**	*i* P	**Pn**		**08 03 59.4**	**-0.1**
JAYA				*i* S		**Sn**	**08 04 10.6**	**+0.1**
JAYA				IAML			08 04 10.8	
	comp=Z,14μm,1.0s							
PQSS	**Presa 15 de Se**	**0.82**	**34**	*i* P	**Pn**		**08 03 59.6**	**+0.1**
PQSS	**Presa 15 de Se**	**0.82**	**34**	*i* P	**Pn**		**08 03 59.6**	**+0.1**
PQSS				*i* S		**Sn**	**08 04 11.0**	**+0.6**
PQSS				IAML			08 04 12.2	
	comp=Z,11μm,1.0s							
BOQS	**Boqueron**	**0.82**	**343**	*e*P	**Pn**		**08 03 59.6**	**-0.1**
LCY	**Lacayo**	**0.86**	**57**	*e*P	**Pn**		**08 04 00.4**	**+0.2**
PACA	**Pacayal**	**0.87**	**53**	*e*P	**Pn**		**08 04 00.7**	**+0.4**
PACA	**Pacayal**	**0.87**	**53**	*i* P	**Pn**		**08 04 00.8**	**+0.5**
PACA				*i* S		**Sb**	**08 04 12.5**	**+0.1**
PACA				IAML			08 04 13.2	
	comp=Z,51μm,1.0s							
RANC	**El Ranchito**	**0.88**	**56**	*i* P	**Pn**		**08 04 00.5**	**+0.1**
VSM	**San Miguel**	**0.88**	**57**	*i* P	**Pn**		**08 04 00.8**	**+0.2**
QUEZ	**Alcaldia de Qu**	**0.91**	**345**	*i* P	**Pn**		**08 04 00.7**	**-0.1**
QUEZ				*i* S		**Sn**	**08 04 13.2**	**+0.3**
QUEZ				IAML			08 04 22.3	
	comp=Z,4μm,1.0s							
CEDA	**San Andres**	**0.92**	**338**	*i* P	**Pn**		**08 04 01.2**	**+0.3**
CEDA				*i* S		**Sn**	**08 04 13.3**	**+0.2**
CEDA				IAML			08 04 19.1	
	comp=Z,5μm,1.0s							
CNRM	**Centro Naciona**	**0.99**	**58**	*i* P	**Pn**		**08 04 02.2**	**+0.3**
CNRM				*i* S		**Sn**	**08 04 15.5**	**+0.7**
CNRM				IAML			08 04 27.6	
	comp=Z,6μm,1.0s							
CEVE	**Cerro Verde**	**1.05**	**327**	*i* P	**Pn**		**08 04 03.3**	**+0.4**
CEVE				*i* S		**Sn**	**08 04 17.2**	**+0.7**
CEVE				IAML			08 04 18.5	
	comp=Z,2μm,1.0s							
RTR	**El Retiro**	**1.12**	**328**	*e*P	**Pn**		**08 04 04.2**	**+0.5**
UNIC	**Universidad Ca**	**1.14**	**334**	*i* P	**Pn**		**08 04 04.2**	**+0.2**
UNIC				IAML			08 04 04.5	
	comp=Z,1μm,1.0s							
UNIC				*i* S		**Sn**	**08 04 19.1**	**+0.5**
CAHU	**Cacacuatique**	**1.15**	**44**	*e*P	**Pn**		**08 04 04.1**	**-0.1**
LCND	**La Caada**	**1.17**	**72**	*e*P	**Pn**		**08 04 04.3**	**0.0**
LCND				*e*S		**Sn**	**08 04 19.8**	**+0.6**
LCND	**La Caada**	**1.17**	**72**	*i* P	**Pn**		**08 04 04.3**	**0.0**
LCND				*i* S		**Sn**	**08 04 19.8**	**+0.6**
LCND				IAML			08 04 22.8	
	comp=Z,2μm,1.0s							
NUBE	**Las Nubes**	**1.20**	**323**	*e*P	**Pn**		**08 04 04.8**	**0.0**
NUBE				*e*S		**Sn**	**08 04 19.8**	**-0.2**
NUBE	**Las Nubes**	**1.20**	**323**	*i* P	**Pn**		**08 04 04.7**	**-0.1**
NUBE				*i* S		**Sn**	**08 04 20.0**	**0.0**
NUBE				IAML			08 04 21.3	
	comp=Z,2μm,1.0s							
LLGN	**La Laguna**	**1.21**	**4**	*i* P	**Pn**		**08 04 04.7**	**-0.3**
LLGN				IAML			08 04 05.1	
	comp=Z,850nm,1.0s							
CNCH	**Conchagua**	**1.22**	**74**	*e*P	**Pn**		**08 04 04.9**	**-0.2**
CNCH	**Conchagua**	**1.22**	**74**	*i* P	**Pn**		**08 04 05.1**	**0.0**
CNCH				*i* S		**Sn**	**08 04 20.5**	**0.0**
CNCH				IAML			08 04 26.9	
	comp=Z,4μm,1.0s							
AMPH	**Amapala**	**1.38**	**76**	*i* P	**Pn**		**08 04 07.2**	**0.0**
AMPH				*i* S		**Sn**	**08 04 24.2**	**-0.2**
CSGN	**Cosiguina Volc**	**1.44**	**89**	*i* P	**Pn**		**08 04 08.2**	**+0.1**
CSGN				IAML			08 04 31.2	
	comp=Z,3μm,1.0s							
MTO3	**Montecristo**	**1.48**	**348**	*i* P	**Pn**		**08 04 08.5**	**-0.3**
MTO3				IAML			08 04 09.0	
	comp=Z,270nm,1.0s							
SARH	**Santa Rosa de**	**1.84**	**8**	*i* P	**Pn**		**08 04 13.9**	**+0.3**
CRIN	**San Cristobal**	**1.95**	**97**	*i* P	**Pn**		**08 04 15.9**	**+0.8**
CRIN				*i* S		**Sn**	**08 04 39.3**	**+0.7**
CRIN				IAML			08 04 42.9	
	comp=Z,2μm,1.0s							
TGUH	**Tegucigalpa,Un**	**2.04**	**57**	*i* P	**Pn**		**08 04 16.2**	**-0.2**
TGUH				IAML			08 04 45.3	
	comp=Z,300nm,1.0s							
COMHN	**El Horno**	**2.07**	**44**	*i* P	**Pn**		**08 04 16.1**	**-0.8**
ROCN	**Rota Cerro Neg**	**2.28**	**100**	*i* P	**Pn**		**08 04 19.7**	**+0.1**
ROCN				*i* S		**Sn**	**08 04 44.2**	**-2.3**
ROCN				IAML			08 04 59.7	
	comp=Z,260nm,1.0s							
CNGA	**Al SSO del Vol**	**2.32**	**101**	*i* P	**Pn**		**08 04 20.6**	**+0.4**
CNGA				*i* S		**Sn**	**08 04 46.1**	**-1.6**
CNGA				IAML			08 04 57.0	
	comp=Z,470nm,1.0s							
CNGN	**Cerro Negro**	**2.32**	**101**	*i* P	**Pn**		**08 04 21.3**	**+1.1**
CNGN				*i* S		**Sn**	**08 04 46.7**	**-1.0**
CNGN				IAML			08 04 57.6	
	comp=Z,590nm,1.0s							
YUSH	**Yuscaran**	**2.36**	**65**	*i* P	**Pn**		**08 04 20.5**	**-0.3**

*IDC **13** 08:11:20.4±1.2, 12.15N×143.91E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=54.9km s-min=21.9km az=119.0*
ISC 13 08:11:24.5±1.1, 12.1N±0.2×143.9E±0.3, h26km, n6, σ0.80/7, mb3.7/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.73**	**34**	Pn	**Pn**		**08 11 52.6**	**-0.3**
	41nm,0.3s,baz=179,slow=11,SNR=20							
GUMO				Sn		**Sn**	**08 12 14.4**	**+0.3**
	50nm,0.3s,baz=168,slow=23,SNR=13							
WRA	**Warramunga Arr**	**33.24**	**197**	P	**P**		**08 17 59.6**	**-0.1**
	0.4nm,0.8s,baz=21,slow=9.5,SNR=4.8							
	0.4nm,0.8s							
KURBB	**Kurchatov Arra**	**65.11**	**320**	P	**P**		**08 22 03.1**	**+0.1**
	0.4nm,0.7s,baz=105,slow=6.8,SNR=2.6							
	0.4nm,0.7s							
ILAR	**Eielson Array**	**70.28**	**25**	P	**P**		**08 22 34.1**	**-1.2**
	0.3nm,0.4s,baz=251,slow=5.8,SNR=12							
	0.3nm,0.4s							
YKA	**Yellowknife Ar**	**84.58**	**27**	P	**P**		**08 23 56.2**	**+1.0**
	0.2nm,0.4s,baz=287,slow=5.3,SNR=16							
	0.2nm,0.4s							
NVAR	**Mina Array Bea**	**88.57**	**51**	P	**P**		**08 24 15.9**	**+0.3**
	0.3nm,0.6s,baz=242,slow=3.2,SNR=3.6							
	0.3nm,0.6s							

*NNC **13** 08:18:09.9±1.1, 51.59N×75.31E, h0km, mb3.3, mpv2.8, Error ellipse: s-maj=34.8km s-min=7.0km az=27.0, Suspected Mining explosion.*
*IDC **13** 08:18:11.7±1.0, 51.72N×75.44E, h0km, mbtmp2.5/4, ML2.0/4, Error ellipse: s-maj=22.5km s-min=8.2km az=29.0*
ISC 13 08:18:11.0±1.1, 51.6N±0.1×75.40E±0.07, h0km, n11, σ0.95/9, 3C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.22**	**116**	Pn	**Pn**		**08 18 50.0**	**+0.9**
	0.3nm,0.3s,baz=305,slow=19,SNR=29							
KURBB				Lg	Lg		08 19 22.5	
	0.7nm,0.3s,baz=304,slow=33,SNR=14							
	1.6nm,0.5s							
KURBB	**Kurchatov Arra**	**2.22**	**116**	⇑Pg	**Pb**		**08 18 51.5**	**-0.5**
	6.9nm,0.8s							
KURBB				⇓Lg	Lg		08 19 22.1	
	32nm,0.5s							
KURK	**Kurchatov**	**2.23**	**113**	⇓Pg	**Pb**		**08 18 51.3**	**-0.8**
	5.1nm,0.8s							
KURK				⇓Lg	Lg		08 19 19.6	
	7.9nm,0.5s							
BVA0	**Borovoye Array**	**3.37**	**296**	Lg	Lg		08 19 56.6	
	3.4nm,0.8s,baz=143,slow=57,SNR=4.3							
BVAR	**Borovoye Array**	**3.37**	**296**	Pn	**Pn**		**08 19 05.7**	**+0.8**
	0.1nm,0.3s,baz=109,slow=17,SNR=2.4							
BVAR				Sn		**Sn**	**08 19 44.6**	**-1.1**
	0.1nm,0.3s,baz=115,slow=17,SNR=2.1							
BVAR				Lg	Lg		08 19 56.4	
	0.2nm,0.3s,baz=111,slow=27,SNR=5.9							
	0.8nm,0.4s							
BRVK	**Borovoye**	**3.44**	**296**	⇓Lg	Lg		08 19 57.1	
	6.3nm,0.7s							
I46RU	**ZALESOVO INFRA**	**6.16**	**64**	I	I		08 56 00.0	
	baz=248,slow=316,SNR=2.4							
ZALV	**Zalesovo Beam**	**6.16**	**64**	Pn	**Pn**		**08 19 44.0**	**+0.8**
	0.2nm,0.3s,baz=256,slow=12,SNR=4.5							
ZALV				Lg	Lg		08 21 24.8	
	0.1nm,0.3s,baz=252,slow=26,SNR=1.7							
	0.8nm,0.5s							
MAKZ	**Makanchi**	**6.47**	**136**	⇑Lg	Lg		08 21 34.7	
	6.1nm,0.8s							
MK31	**Makanchi Array**	**6.62**	**134**	Sn	**Sn**		**08 21 06.0**	**+0.2**
	0.4nm,0.4s,baz=102,slow=30,SNR=5.1							
MK31				⇑Lg	Lg		08 21 39.3	
	1.1nm,0.5s,baz=318,slow=28,SNR=5.7							
MKAR	**Makanchi Array**	**6.62**	**134**	Pn	**Pn**		**08 19 50.4**	**+0.8**
	0.1nm,0.3s,baz=325,slow=10,SNR=3.8							
MKAR				Sn		**Sn**	**08 21 05.0**	**-0.8**
	0.2nm,0.3s,baz=327,slow=29,SNR=6.7							
MKAR				Lg	Lg		08 21 38.9	
	0.4nm,0.3s,baz=317,slow=27,SNR=8.7							
	0.2nm,0.5s							

ISC 13 08:31:49.2±1.1, 48.99N±0.05×18.10E±0.04, h10km, n6, σ0.49/10, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.31**	**246**	*e*PG	**Pg**		**08 31 55.1**	**-0.3**
JAVC				*e*SG		**Sg**	**08 31 59.9**	**+0.3**
VYHS	**Vyhne**	**0.69**	**135**	*e*PG	**Pg**		**08 32 01.8**	**-0.7**
VYHS				*e*SG		**Sb**	**08 32 13.8**	**+0.9**
MODS	**Modra-Piesok**	**0.82**	**222**	*e*PG	**Pn**		**08 32 06.9**	**+0.1**
MODS				*e*SG		**Sn**	**08 32 19.0**	**0.0**
MORC	**Moravsky Berou**	**0.87**	**335**	*e*PG	**Pg**		**08 32 05.8**	**-0.2**
LANS	**Liptovska Anna**	**0.91**	**79**	*e*PG	**Pn**		**08 32 08.2**	**+0.1**
VRAC	**Vranov**	**1.04**	**289**	*e*PG	**Pg**		**08 32 08.8**	**-0.4**
VRAC				*e*SG		**Sb**	**08 32 22.8**	**-0.2**

*IDC **13** 08:36:26.2±2.6, 9.33S×113.29E, h0km, mb3.7/6, mbtmp3.7/6, MS2.6/2, Error ellipse: s-maj=147.4km s-min=19.4km az=52.0*
*DJA **13** 08:36:29.4±0.3, 10.S±3.×11.3E±., h10km, M4.3/15, mb4.4/7, mB4.8/1, MLv4.2/15, Mw(mB)4.0/1*
ISC 13 08:36:30.7±0.9, 9.54S±0.10×113.26E±0.06, h26km, n24, σ1.893/22, mb3.9/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.38**	**40**	P	**Pb**		**08 36 55.2**	**-0.7**
BLJI	**Banyuglugur**	**1.82**	**10**	P	**Pb**		**08 37 03.1**	**-0.2**
ABJI	**Asem Bagus**	**1.98**	**29**	P	**Pb**		**08 37 05.8**	**-0.4**
IGBI	**Denpasar**	**1.99**	**69**	P	**Pn**		**08 37 04.3**	**+1.5**
DNP	**Denpasar**	**2.11**	**66**	P	**Pb**		**08 37 06.9**	**-1.4**
SRBI	**Singaraja**	**2.41**	**53**	P	**Pn**		**08 37 10.8**	**+2.3**
NGJI	**Ngawi**	**2.80**	**320**	P	**Pb**		**08 37 18.4**	**-1.7**
UGM	**Wanagama**	**3.16**	**301**	P	**Pn**		**08 37 20.8**	**+2.0**
TWSI	**Taliwang, Sumb**	**3.66**	**78**	P	**Pn**		**08 37 27.8**	**+2.1**
BWJI	**Bawean**	**3.72**	**351**	P	**Pn**		**08 37 29.3**	**+2.8**
PLAI	**Plampang**	**4.51**	**81**	P	**Pn**		**08 37 39.3**	**+1.8**
KPJI	**Karang Pucung**	**4.81**	**297**	P	**Pn**		**08 37 44.2**	**+2.6**
CMJI	**Cimerak**	**5.07**	**290**	P	**Pn**		**08 37 46.9**	**+1.8**
	42nm,1.6s,0.3nm							
LEM	**Lembang**	**6.21**	**295**	LR	LR		08 40 41.7	
	comp=Z,42nm,21.3s,baz=74,slow=42							
CNJI	**Cibinong**	**6.46**	**290**	P	**Pn**		**08 38 07.3**	**+3.1**
	45nm,1.4s,0.2nm							
KAPI	**Kappang**	**7.85**	**55**	LR	LR		08 41 50.1	
	comp=Z,45nm,18.7s,baz=274,slow=42							
CGJI	**Cibinong**	**8.04**	**291**	P	**Pn**		**08 38 28.3**	**+2.4**
	36nm,0.9s							
EDFI	**Ende, Flores**	**8.36**	**85**	P	**Pn**		**08 38 30.7**	**+0.3**
WRA	**Warramunga Arr**	**22.83**	**119**	P	**P**		**08 41 31.7**	**-0.3**
	0.7nm,0.6s,baz=296,slow=11,SNR=13							
	0.7nm,0.6s							
ASAR	**Alice Springs**	**24.21**	**128**	P	**P**		**08 41 45.9**	**+0.3**
	0.8nm,0.6s,baz=302,slow=8.7,SNR=16							
	0.8nm,0.6s							
STKA	**Stephens Creek**	**34.39**	**134**	P	**P**		**08 43 16.8**	**+0.9**
	0.6nm,0.4s,baz=320,slow=9.5,SNR=3.7							
	0.6nm,0.4s							
SONM	**Songino Array**	**57.45**	**355**	P	**P**		**08 46 16.1**	**-1.3**
	0.6nm,0.5s,baz=176,slow=9.1,SNR=2.8							
	0.6nm,0.5s							
MKAR	**Makanchi Array**	**62.52**	**337**	P	**P**		**08 46 50.8**	**-1.4**
	0.5nm,0.5s,baz=151,slow=6.9,SNR=8.9							
	0.5nm,0.5s							
ZALV	**Zalesovo Beam**	**67.68**	**342**	P	**P**		**08 47 22.6**	**-2.9**
	0.5nm,0.4s,baz=159,slow=6.2,SNR=2.1							
	0.5nm,0.4s							

*ISK **13** 08:42:59.1, 35.97N×31.50E, h19km, ML3.0/27*
*NIC **13** 08:43:01.6, 36.01N×32.00E, h13km±2km, Ml2.4/5*
*THE **13** 08:43:02.1, 35.94N×31.26E, h10km±13km, ML2.4/2, Error ellipse: s-maj=17.8km s-min=1.2km az=101.0*
ISC 13 08:42:58.8±1.1, 36.03N±0.04×31.51E±0.03, h32km±13km, n39, σ1.921/49, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.68**	**72**	Pg	**Pn**		**08 43 13.5**	**+1.2**
AKMS	**Akamas**	**1.21**	**146**	P	**Pb**		**08 43 22.8**	**+1.6**
AKMS				S	**Sb**		**08 43 37.1**	**+0.7**
AKMS				AML	AML		08 43 43.7	
	0.4nm,0.4s							
AKMS				AML	AML		08 43 46.1	
	0.3nm,0.5s							
ALFC	**Alefka**	**1.24**	**134**	P	**Pn**		**08 43 20.1**	**+0.1**
ALFC				S	**Sn**		**08 43 33.9**	**-1.7**
ALFC				AML	AML		08 43 40.5	
	0.3nm,0.2s							
ALFC				AML	AML		08 43 42.2	
	0.2nm,0.3s							
TEKE	**Tekeli-Mersin**	**1.30**	**84**	Pn	**Pb**		**08 43 22.9**	**+0.2**
SEYD	**Seydisehir-KON**	**1.40**	**11**	Pn	**Pb**		**08 43 24.8**	**+0.3**
LEF	**Lefka**	**1.44**	**128**	Pn	**Pb**		**08 43 24.3**	**-0.8**
ELL	**Elmali**	**1.48**	**300**	P	Pb		08 43 32.6	+6.8
NATA	**Nata**	**1.51**	**145**	AML	AML		08 43 57.1	
	0.6nm,0.7s							
NATA				AML	AML		08 44 01.5	
	0.6nm,0.7s							
TROD	**Troodos**	**1.54**	**134**	P	**Pn**		**08 43 24.9**	**+0.7**
TROD				S	**Sn**		**08 43 42.5**	**-0.8**
TROD				AML	AML		08 44 01.6	
	0.1nm,0.7s							
AKAS	**Kas**	**1.56**	**278**	Pn	**Pb**		**08 43 26.4**	**-0.7**
KSL	**Kastellorizon**	**1.57**	**275**	P	**Pb**		**08 43 25.6**	**-1.6**
KSL				S	**Sn**		**08 43 43.5**	**-0.1**
	50nm,0.5s							
OREN	**Orenkoy-Mersin**	**1.59**	**83**	Pn	**Pb**		**08 43 27.2**	**-0.3**
TEVE	**Tevekalti-Mers**	**1.61**	**75**	Pn	**Pb**		**08 43 28.0**	**0.0**
TEVE				Sn	**Sb**		**08 43 48.6**	**+0.5**
AKK1	**Akkuyu-Mersin**	**1.65**	**85**	Pn	**Pb**		**08 43 28.3**	**-0.2**
AKK2	**Akkuyu-Mersin**	**1.65**	**86**	Pn	**Pb**		**08 43 28.0**	**-0.6**
AKK2				Sn	**Sb**		**08 43 49.1**	**0.0**
AKKU	**Akkuyu-Mersin**	**1.66**	**85**	Pn	**Pb**		**08 43 28.2**	**-0.5**
TEPK	**Tepekoy-MERSIN**	**1.66**	**83**	Pn	**Pb**		**08 43 28.2**	**-0.6**
TISA	**Tisan-Mersin**	**1.76**	**85**	Pn	**Pb**		**08 43 29.6**	**-0.8**
IKL	**Isikli**	**1.77**	**82**	Pn	**Pb**		**08 43 30.0**	**-0.7**
KARG	**Kargicak-Mersi**	**1.79**	**84**	Pn	**Pb**		**08 43 30.1**	**-0.8**
LFK	**Lefkose**	**1.81**	**114**	Pn	**Pb**		**08 43 30.4**	**-0.9**
KRMN	**Karaman**	**1.82**	**50**	Pn	**Pb**		**08 43 30.9**	**-0.6**
CSS	**Mathiatis**	**1.82**	**125**	Pn	**Pb**		**08 43 30.3**	**-1.3**
KEBE	**Keben-Mersin**	**1.83**	**76**	Pn	**Pb**		**08 43 31.1**	**-0.6**
KEBE				Sn	**Sb**		**08 43 54.3**	**+0.1**
ASGA	**Asgata**	**1.88**	**131**	S	**Sn**		**08 43 51.2**	**-0.2**
SILI	**Silifke-Mersin**	**1.98**	**79**	Pn	**Pb**		**08 43 32.6**	**-1.6**
MVOU	**Mavrovouni**	**2.00**	**120**	P	**Pn**		**08 43 30.9**	**+0.5**
MVOU				S	**Sn**		**08 43 53.0**	**-1.3**
MVOU				AML	AML		08 44 08.7	
	0.1nm,0.5s							
CAME	**Cameli-Denizli**	**2.00**	**298**	Pn	**Pb**		**08 43 33.3**	**-1.4**
KONT	**Konya--Tatoy**	**2.03**	**19**	Pn	**Pb**		**08 43 34.4**	**-0.7**
FETY	**Fethiye**	**2.05**	**288**	Pn	**Pb**		**08 43 32.8**	**+1.7**
BASM	**Basmaki-Afyon**	**2.22**	**329**	Pn	**Pb**		**08 43 36.8**	**-1.6**
LADK	**Ladik-KONYA**	**2.28**	**17**	Pn	**Pb**		**08 43 38.3**	**-1.0**
YESY	**Yesilyurt**	**2.50**	**45**	Pn	**Pb**		**08 43 41.0**	**-2.2**
ARG	**Arkhangelos**	**2.75**	**275**	P	**Pn**		**08 43 41.6**	**+1.0**
ARG				S	**Sn**		**08 44 13.0**	**+0.3**
	82nm,0.2s							
CHBY	**Cihanbeyli**	**2.78**	**23**	Pn	**Pb**		**08 43 44.8**	**-3.0**
YER	**Yerkesik**	**2.83**	**294**	P	**Pn**		**08 43 43.7**	**+1

I46RU	**ZALESOVO INFRA**	**0.84**	**247**	I		I	09 00 10.0	
	baz=68,slow=344,SNR=5.1							
ZALV	**Zalesovo Beam**	**0.84**	**247**	Pg		Pg	08 55 27.7	-1.3
	2.6nm,0.3s,baz=64,slow=17,SNR=15							
ZALV				Lg		Lg	08 55 41.1	
	9.3nm,0.3s,baz=65,slow=17,SNR=9.3							
KURBB	**Kurchatov Arra**	**5.92**	**235**	Pn		Pn	08 56 42.5	+0.8
	0.2nm,0.3s,baz=51,slow=13,SNR=8.9							
KURBB				Lg		Lg	08 58 22.9	
	baz=54,slow=34,SNR=1.8							
	0.8nm,0.4s							
MKAR	**Makanchi Array**	**7.89**	**200**	Pn		Pn	08 57 09.8	+1.0
	0.5nm,0.3s,baz=20,slow=12,SNR=13							
MKAR				Sn		Sn	08 58 38.7	0.0
	0.2nm,0.3s,baz=19,slow=23,SNR=1.6							
MKAR				Lg		Lg	08 59 24.4	
	baz=11,slow=31							
	0.5nm,0.3s							

MIRAS 13 08:57:52.0, 56°.58N × 60°.05E, h0km, ML2.2/2, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVE	**Sverdlovsk**	**0.41**	**52**	*i* P	Pg	08 57 54.6	-5.2
	baz=120						
SVE				*i* S	Sg	08 58 00.7	-4.3
	baz=120						
SVE				*i* S	Sg	08 58 00.7	-4.3
	baz=120						
SVE				*i* S	Sg	08 58 00.7	-4.3
	baz=120						
SVE				*i* AML	AML	08 58 08.0	
	133nm,0.9s						
KAUR	**Kamensk Uralsk**	**0.82**	**100**	*i* P	Pn	08 58 11.1	+0.4
	baz=126						
KAUR				*i* S	Sn	08 58 22.3	-1.2
	baz=126						
KAUR				*i* S	Sn	08 58 22.3	-1.2
	baz=126						
KAUR				*i* S	Sn	08 58 22.3	-1.2
	baz=126						
KAUR				*i* AML	AML	08 58 27.1	
	82nm,0.9s						
ARU	**Arti**	**0.84**	**260**	*i* P	Pn	08 58 14.5	+3.4
	baz=241						
ARU				*i* S	Sn	08 58 26.6	+2.4
	baz=241						
ARU				*i* S	Sn	08 58 26.6	+2.4
	baz=241						
ARU				*i* S	Sn	08 58 26.6	+2.4
	baz=241						
ARU				*i* AML	AML	08 58 35.7	

UPA 13 09:05:55.7±1.1, 7°.47N × 81°.01W, h6km±3km, MW4.4, 2C-4D, Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARI3	**Mariato, Verag**	**0.18**	**6**	⇓*i* P	Pg	09 06 01.4	+2.0
CACAO	**El Cacao, Vera**	**0.19**	**129**	*e*P	Pg	09 05 59.9	+0.4
CACAO				*e*S	Sg	09 06 03.6	+1.5
GMAL	**Guarumal, Vera**	**0.37**	**323**	⇑*i* P	Pg	09 06 03.6	+0.8
GMAL				*e*S	Sb	09 06 10.8	+0.1
PESE3	**Pese, Herrera**	**0.59**	**42**	*e*P	Pb	09 06 08.1	-0.3
STIA3	**Santiago, Vera**	**0.63**	**3**	*e*P	Pb	09 06 08.6	-0.6
STIA3				*e*S	Sb	09 06 18.0	-0.2
CHIT3	**Chitre**	**0.76**	**50**	⇓*i* P	Pg	09 06 10.8	+0.4
CHIT3				*e*S	Sb	09 06 22.8	+0.8
SFRA3	**San Francisco,**	**0.78**	**3**	*e*P	Pg	09 06 11.0	+0.3
SFRA3				*e*S	Sb	09 06 21.8	-0.7
AZU	**Azuero**	**0.80**	**66**	⇓*i* P	Pg	09 06 11.3	+0.2
AZU				*e*S	Sb	09 06 23.8	+0.8
ACHO3	**Achotines, Los**	**0.83**	**93**	*e*P	Pb	09 06 12.2	-0.3
CALO3	**Calobre, Verag**	**0.87**	**11**	⇓*i* P	Pg	09 06 12.5	+0.2
CRIS3	**El Cristo, Coc**	**0.87**	**26**	⇑*i* P	Pg	09 06 12.8	+0.3
NANC3	**Nancito, Chiri**	**1.05**	**317**	*e*P	Pg	09 06 13.6	-2.3
PNME	**Penonome**	**1.22**	**34**	*e*P	Pg	09 06 18.7	-0.4
PEDE3	**Pedregal, Chir**	**1.67**	**303**	*e*P	Pn	09 06 25.5	0.0
LOCO3	**Loma Colorada,**	**1.68**	**304**	*e*P	Pn	09 06 25.4	-0.2
DVD	**David**	**1.72**	**304**	*e*P	Pn	09 06 25.2	-1.0
DVD				*e*S	Sn	09 06 48.3	-0.2
CHGR2	**Aguacate**	**1.84**	**323**	*e*P	Pn	09 06 27.2	-0.7
CHGR2				*e*S	Sn	09 06 50.5	-1.1
CHOR3	**La Chorrera**	**1.88**	**41**	*e*P	Pb	09 06 30.2	-0.3
PTAR3	**Potrerillos Ar**	**1.91**	**310**	*e*P	Pn	09 06 28.2	-0.7
PTAR3				*e*S	Sn	09 06 52.8	-0.5
LNBQ3	**Los Naranjos,**	**1.93**	**313**	*e*P	Pn	09 06 28.2	-1.0
BCO2	**Palmira**	**1.95**	**310**	*e*P	Pn	09 06 28.8	-0.8
BCO2				*e*S	Sn	09 06 54.7	+0.3
PTPM	**Petroterminale**	**1.99**	**292**	*e*P	Pn	09 06 29.6	-0.4
PTPM				*e*S	Sn	09 06 55.0	-0.2
BCIP	**Isla Barro Col**	**2.05**	**34**	*e*P	Pb	09 06 32.3	-1.1
BCIP				*e*S	Sn	09 06 55.9	-0.7
BC3P	**Paso Ancho**	**2.08**	**310**	*e*P	Pn	09 06 30.7	-0.6
UPA	**Univ. de Panam**	**2.10**	**44**	*e*P	Pn	09 06 32.7	+1.4
UPA				*e*S	Sn	09 06 57.6	-0.1
BRU2	**Volcan**	**2.12**	**309**	*e*P	Pn	09 06 31.2	-0.6
BRU2				*e*S	Sn	09 06 58.5	-0.2
CDITO	**Canoas**	**2.15**	**301**	*e*P	Pn	09 06 31.2	-0.9
CNI2	**El Empalme, Bo**	**2.42**	**323**	*e*P	Pn	09 06 35.5	-0.3
TOTI	**Torti**	**3.04**	**61**	*e*P	Pn	09 06 43.0	-1.4
TOTI				*e*S	Sn	09 07 20.3	-0.8
UPD2	**Meteti**	**3.15**	**70**	*e*P	Pn	09 06 45.9	-0.1

*TEH **13** 09:09:31.1, 30°.84N × 57°.31E, h6km±188km, ML3.7*
*IDC **13** 09:09:32.9±1.1, 30°.84N × 57°.15E, h0km, mb3.7/8, mbtmp3.8/11, ML3.9/3, MS3.5/1, Error ellipse: s-maj=26.6km s-min=20.4km az=90.0*
ISC 13 09:09:33.8±0.6, 30°.81N±0°.04 × 57°.28E±0°.04, h10km, n40, σ0°92/40, mb3.7/8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.66**	**284**	Pg	**Pg**	**09 09 45.6**	**-1.1**
KHGB	**Koh Gabri**	**0.82**	**238**	Pg	**Pg**	**09 09 48.4**	**-1.3**
TVBK	**TV Kerman**	**0.94**	**209**	Pg	**Pg**	**09 09 51.5**	**-0.4**
CHMN	**Cheshme madani**	**0.97**	**167**	Pg	**Pg**	**09 09 51.3**	**-1.3**
NGRK	**Negar Kerman**	**1.26**	**203**	Pg	**Pn**	**09 09 57.3**	**-0.6**
IBAF	**Bafgh**	**1.66**	**298**	Pg	**Pb**	**09 10 03.4**	**-1.3**
BSRN	**Basiran**	**1.95**	**53**	Pn	**Pn**	**09 10 06.7**	**-0.4**
KBAM	**BAM**	**1.95**	**148**	Pn	**Pn**	**09 10 07.6**	**+0.5**
IKOO	**Kooshah**	**2.18**	**42**	Pn	**Pn**	**09 10 10.6**	**+0.2**
TPRV	**Parvadeh(Tabas**	**2.27**	**347**	Pn	**Pn**	**09 10 11.3**	**-0.2**
IMEH	**Mehriz**	**2.36**	**285**	Pn	**Pn**	**09 10 13.8**	**+0.9**
ITEG	**Tejag**	**2.42**	**31**	Pn	**Pn**	**09 10 13.9**	**+0.2**
NHDN	**Nehbandan**	**2.44**	**76**	Pn	**Pn**	**09 10 15.2**	**+1.2**
TKDS	**Koohdasht(Taba**	**2.80**	**357**	Pn	**Pn**	**09 10 19.1**	**+0.3**
ICHK	**Chekchek**	**2.84**	**301**	Pn	**Pn**	**09 10 20.7**	**+1.2**
IDAH	**Dahanechah**	**2.92**	**48**	Pn	**Pn**	**09 10 20.3**	**-0.3**
AFRZ	**Afriz**	**2.99**	**29**	Pn	**Pn**	**09 10 22.2**	**+0.7**
TNSJ	**Nastanj**	**3.19**	**350**	Pn	**Pn**	**09 10 24.3**	**0.0**
ISAD	**Sadrabad**	**3.27**	**291**	Pn	**Pn**	**09 10 26.8**	**+1.4**
SHRT	**Shahrakht**	**3.81**	**41**	Pn	**Pn**	**09 10 32.9**	**+0.3**
ANAR	**Anarak**	**3.84**	**309**	Pn	**Pn**	**09 10 33.6**	**+0.4**
IRAM	**Ramesheh**	**4.31**	**285**	Pn	**Pn**	**09 10 40.9**	**+1.2**
IZEF	**Zefreh**	**4.70**	**298**	Pn	**Pn**	**09 10 46.5**	**+1.4**
TBJM	**Torbat-e-JAM**	**5.13**	**29**	Pn	**Pn**	**09 10 51.9**	**+1.0**
KRSH	**Karshahi**	**5.37**	**307**	Pn	**Pn**	**09 10 55.6**	**+1.4**
SBZV	**Sabzevar**	**5.57**	**3**	Pn	**Pn**	**09 10 57.2**	**+0.2**
IGLO	**Ghaloghah**	**6.37**	**334**	Pn	**Pn**	**09 11 08.1**	**+0.2**
IDMV	**Damavand**	**6.48**	**319**	Pn	**Pn**	**09 11 10.0**	**+0.5**
GEYT	**Alibeck**	**7.13**	**5**	Pn	**Pn**	**09 11 18.2**	**-0.1**
	1.8nm,0.3s,baz=238,slow=13,SNR=2.3						
GEYT				Lg	Lg	09 13 18.8	
	0.8nm,0.3s,baz=197,slow=33,SNR=1.2						
	2.4nm,0.3s						
WSAR	**Wadi Sarin**	**7.64**	**171**	Pn	**Pn**	**09 11 25.9**	**+0.7**
	1.2nm,0.3s,baz=15,slow=9.0,SNR=8.7						
WSAR				Sn	**Sn**	**09 12 51.1**	**-0.7**
	baz=18,slow=16,SNR=1.0						
	7.2nm,0.5s						
AKTO	**Aktyubinsk**	**19.61**	**1**	P	**Pn**	**09 14 02.6**	**-1.0**
	0.5nm,0.3s,baz=170,slow=9.7,SNR=7.8						
	2.2nm,0.5s						
BRTR	**Keskin Array B**	**21.21**	**301**	P	**P**	**09 14 20.5**	**+0.7**
	0.9nm,0.7s,baz=106,slow=9.7,SNR=2.1						
	0.9nm,0.7s						
BVAR	**Borovoye Array**	**24.17**	**20**	P	**P**	**09 14 50.2**	**+0.1**
	1.0nm,0.6s,baz=189,slow=5.6,SNR=4.0						
	1.0nm,0.6s						

MKAR	**Makanchi Array**	**25.04**	**43**	LR		LR	09 25 10.9	
	comp=Z,93nm,18.1s,baz=320,slow=37							
FINES	**FINESS Array B**	**36.82**	**335**	P		**P**	**09 16 41.7**	**0.0**
	1.6nm,0.7s,baz=134,slow=11,SNR=6.4							
	1.6nm,0.7s							
CMAR	**Chiang Mai Arr**	**39.60**	**98**	P		**P**	**09 17 07.7**	**+2.0**
	0.8nm,0.3s,baz=284,slow=8.2,SNR=1.8							
	0.8nm,0.3s							
ARCES	**ARCESS Array B**	**42.75**	**344**	P		**P**	**09 17 30.5**	**-0.5**
	4.7nm,1.1s,baz=149,slow=7.2,SNR=3.8							
	4.7nm,1.1s							
TORD	**Torodi Ar. Bea**	**53.93**	**264**	P		**P**	**09 18 57.1**	**-0.8**
	1.3nm,0.7s,baz=51,slow=7.8,SNR=7.9							
	1.3nm,0.7s							
ILAR	**Eielson Array**	**82.87**	**10**	P		**P**	**09 21 57.9**	**-0.4**
	0.2nm,0.5s,baz=318,slow=5.6,SNR=2.3							
	0.2nm,0.5s							
YKA	**Yellowknife Ar**	**86.79**	**356**	P		**P**	**09 22 19.7**	**+1.7**
	0.3nm,0.9s,baz=355,slow=4.3,SNR=4.6							
	0.3nm,0.9s							

*NNC **13** 09:11:55.3±2.7, 53°.71N × 92°.58E, h0km, mb3.7, mpv2.8, Error ellipse: s-maj=21.8km s-min=19.5km az=107.0*
*IDC **13** 09:12:22.9±3.2, 53°.65N × 90°.80E, h0km, mbtmp3.6/3, ML2.9/3, Error ellipse: s-maj=28.1km s-min=23.5km az=50.0*
ISC 13 09:12:26.9±4.3, 53°.5N±0°.1 × 90°.6E±0°.2, h10km, n10, σ1°68/8, 6C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**3.45**	**279**	⇑Pn	Pn	09 13 06.5	-14
	0.4nm,0.5s						
ZAA0				⇑Pg	Pb	09 13 20.1	-8.0
	3.2nm,0.8s						
ZAA0				⇓Lg	Lg	09 14 21.8	
	12nm,1.1s						
ZALV	**Zalesovo Beam**	**3.45**	**279**	Pn	**Pn**	**09 13 20.9**	**+0.2**
	2.0nm,0.3s,baz=95,slow=13,SNR=15						
ZALV				Lg	Lg	09 14 14.9	
	3.9nm,0.3s,baz=92,slow=26,SNR=11						
	5.1nm,0.3s						
KURK	**Kurchatov**	**7.88**	**254**	⇑Pn	Pn	09 14 08.2	-13
	4.6nm,0.9s						
KURK				⇓Sn	**Sn**	**09 15 51.1**	**+0.5**
	12nm,0.8s						
KURK				⇑Lg	Lg	09 16 44.3	
	34nm,0.8s						
KURBB	**Kurchatov Arra**	**7.98**	**254**	Pn	**Pn**	**09 14 21.6**	**-1.1**
	0.2nm,0.3s,baz=64,slow=14,SNR=14						
KURBB				Sn	**Sn**	**09 15 53.5**	**+0.6**
	baz=67,slow=24,SNR=0.8						
KURBB				Lg	Lg	09 16 42.0	
	0.1nm,0.3s,baz=70,slow=35,SNR=8.7						
	3.0nm,0.5s						
KURBB	**Kurchatov Arra**	**7.98**	**254**	⇓Pn	Pn	09 14 05.9	-17
	2.2nm,0.7s						
KURBB				⇓Sn	**Sn**	**09 15 53.3**	**+0.4**
	44nm,0.8s						
KURBB				⇑Lg	Lg	09 16 46.8	
	32nm,0.8s						
MK31	**Makanchi Array**	**8.58**	**222**	Pn	Pn	09 14 15.2	-16
	0.8nm,0.8s,baz=0.0,slow=0.1,SNR=6.4						
MK31				⇑Pg	Pg	09 14 46.2	-25
	2.2nm,0.8s,baz=42,slow=13,SNR=5.4						
MK31				⇓Lg	Lg	09 17 00.0	
	17nm,0.9s,baz=36,slow=27,SNR=3.6						
MKAR	**Makanchi Array**	**8.58**	**222**	Pn	**Pn**	**09 14 31.6**	**+0.5**
	0.3nm,0.3s,baz=42,slow=14,SNR=11						
MKAR				Sn	**Sn**	**09 16 10.0**	**+2.1**
	0.1nm,0.3s,baz=38,slow=22,SNR=1.5						
MKAR				Lg	Lg	09 16 57.7	
	0.1nm,0.3s,baz=33,slow=25,SNR=4.5						
	1.3nm,0.6s						
MAKZ	**Makanchi**	**8.69**	**223**	⇓Sn	**Sn**	**09 16 08.0**	**-2.7**
	4.7nm,0.8s						
MAKZ				⇓Lg	Lg	09 17 02.5	
	18nm,1.3s						
SONM	**Songino Array**	**11.52**	**113**	Lg	Lg	09 18 17.9	
	0.1nm,0.3s,baz=296,slow=28,SNR=10						
I34MN	**SONGINO INFRAS**	**11.55**	**113**	I	I	10 18 10.0	
	baz=311,slow=327,SNR=1.5						

*IDC **13** 09:13:07.2±0.6, 13°.17N × 144°.02E, h153km±6km, mb3.8/17, mbtmp4.3/17, MS3.5/1, Error ellipse: s-maj=18.4km s-min=13.3km az=91.0*
*NEIC **13** 09:13:07.5±1.4, 13°.2N±0°.1 × 143°.9E±0°.1, h147km±7km, mb4.5/53, Error ellipse: s-maj=18.3km s-min=14.1km az=108.0*
ISC 13 09:13:06.3±0.4, 13°.13N±0°.07 × 143°.88E±0°.08, h138km, n219, σ0°82/221, mb4.5/52, 1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.06**	**64**	LR	LR	09 13 31.7	
	comp=Z,31nm,21.9s,baz=312,slow=26						
GUMO				P	**Pn**	**09 13 32.6**	**+2.2**
	400nm,0.3s,baz=306,slow=8.7,SNR=53						
GUMO				S	**Sn**	**09 13 50.6**	**+1.8**
	3µm,0.3s,baz=150,slow=20,SNR=23						
PATS	**Pohnpei**	**15.52**	**112**	P	**P**	**09 16 41.2**	**+2.0**
H11N1	**WAKE ISLAND Hy**	**23.00**	**70**	T	T	09 41 52.9	
	baz=255,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**23.01**	**70**	T	T	09 41 54.3	
	baz=255,slow=75,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**23.02**	**70**	T	T	09 41 54.0	
	baz=255,slow=75,SNR=6.3						
MJAR	**Matsushiro Arr**	**23.86**	**349**	P	**P**	**09 18 06.1**	**-0.9**
	2.9nm,0.6s,baz=168,slow=8.0,SNR=4.1						
	2.9nm,0.6s						
MAJO	**Matsushiro**	**23.86**	**349**	P	**P**	**09 18 05.2**	**-1.8**
MAJO				IAmb	IAmb	09 18 09.2	
	comp=Z,26nm,1.4s						
MJB9	**Matsu-Tunnel**	**23.87**	**349**	P	**P**	**09 18 06.1**	**-0.9**
MJB9				IAmb	IAmb	09 18 10.2	
	comp=Z,28nm,1.4s						
KSRS	**Korea Array**	**28.11**	**332**	P	**P**	**09 18 45.9**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=138,slow=9.2,SNR=5.3						
	comp=Z,1.9nm,0.7s						
NJ2	**Nanjing**	**29.68**	**313**	*e*P	**P**	**09 18 58.9**	**-0.2**
NJ2				pP	**pP**	**09 19 29.1**	**+1.7**
NJ2				sP	**sP**	**09 19 46.3**	**+3.5**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,290nm,4.2s						
MDJ	**Mudanjiang**	**33.67**	**341**	P	**P**	**09 19 33.8**	**-0.1**
MDJ				pP	pwP	09 20 05.4	-2.2
MDJ				PP	**PnPn**	**09 20 49.4**	**-1.8**
MDJ				S	**S**	**09 24 46.9**	**+0.2**
MDJ				ScP	**ScP**	**09 25 40.3**	**-2.3**
MDJ				sS	sS	09 25 42.0	+4.8
MDJ				SS	**SnSn**	**09 27 10.8**	**+3.8**
MDJ				pmax	pmax		
	comp=Z,19nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,1µm,4.3s						
WB0	**Warramunga Arr**	**34.00**	**196**	P	**P**	**09 19 36.9**	**-0.1**
WR0	**Warramunga Ar**	**34.14**	**196**	P	**P**	**09 19 38.3**	**+0.1**
WRA	**Warramunga Ar**	**34.18**	**196**	P	**P**	**09 19 38.3**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=20,slow=9.4,SNR=12						
WRA				PcP	**PcP**	**09 22 12.1**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=5.4,slow=3.0,SNR=1.1						
	comp=Z,1.7nm,0.9s						
HNS	**HongShan**	**35.52**	**318**	⇓P	**P**	**09 19 50.8**	**+0.9**
HNS				pmax	pmax		
	comp=Z,11nm,0.7s						
LYN	**LuoYang**	**35.55**	**312**	*e*P	**P**	**09 19 50.6**	**+0.4**
LYN				pmax	pmax		
	comp=Z,14nm,0.8s						
FITZ	**Fitzroy Crossi**	**35.87**	**211**	P	**P**	**09 19 53.8**	**+0.7**
GYA	**Guiyang**	**37.30**	**297**	*e*P	**P**	**09 20 06.8**	**+1.4**
GYA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ASAR	**Alice Springs**	**37.85**	**195**	P	**P**	**09 20 09.7**	**-0.2**
ASAR	**Alice Springs**	**37.85**	**195**	P	**P**	**09 20 09.4**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=19,slow=13,SNR=8.2						
ASAR				PcP	**PcP**	**09 22 23.0**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=32,slow=2.6,SNR=1.3						
	comp=Z,0.2nm,0.4s						
HHC	**Hu-ho-hao-te**	**39.50**	**320**	*e*P	**P**	**09 20 24.3**	**+0.8**
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		

	comp=Z,480nm,5.5s							
MBWA	**Marble Bar**	**41.52**	**215**	P		**P**	**09 20 40.0**	**-0.2**
MBWA				IAmb		IAmb	09 21 13.9	
	comp=Z,21nm,1.4s							
PZH	**PanZhiHua**	**41.63**	**295**	P		**P**	**09 20 41.3**	**+0.1**
PZH				pmax		pmax		
	comp=Z,8.0nm,0.9s							
PZH				pmax		pmax		
	comp=Z,100nm,4.8s							
LZH	**Lanzhou**	**42.57**	**310**	*e*P		**P**	**09 20 49.8**	**+1.0**
LZH				pP		pP	09 21 19.9	+1.5
LZH				sP		sP	09 21 33.5	0.0
LZH				pmax		pmax		
	comp=Z,19nm,1.3s							
CMAR	**Chiang Mai Arr**	**43.48**	**283**	P		**P**	**09 20 56.8**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=78,slow=8.4,SNR=1.4							
CMAR				PcP		**PcP**	**09 22 42.0**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=85,slow=1.5,SNR=5.6							
	comp=Z,0.8nm,0.4s							
SONM	**Songino Array**	**46.56**	**326**	P		**P**	**09 21 20.4**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=143,slow=7.0,SNR=5.4							
	comp=Z,1.1nm,0.5s							
NWAO	**Narrogin (SRO)**	**52.40**	**208**	P		**P**	**09 22 06.3**	**+1.9**
WMQ	**Urumqi**	**56.76**	**314**	*e*P		**P**	**09 22 37.5**	**+1.5**
WMQ				pmax		pmax		
	comp=Z,17nm,0.8s							
TIXI	**Tiksi**	**59.19**	**355**	P		**P**	**09 22 53.4**	**+1.0**
SDPT	**Sand Point**	**60.05**	**33**	P		**P**	**09 22 57.5**	**-1.0**
TKNZ	**Takaka Hill**	**60.23**	**155**	P		**P**	**09 22 59.9**	**0.0**
TUWZ	**Tuamarina**	**60.97**	**154**	P		**P**	**09 23 04.5**	**-0.3**
MK31	**Makanchi Array**	**61.16**	**316**	P		**P**	**09 23 06.4**	**+0.2**
MKAR	**Makanchi Array**	**61.16**	**316**	P		**P**	**09 23 06.4**	**+0.2**
MKAR	**Makanchi Array**	**61.16**	**316**	P		**P**	**09 23 06.2**	**0.0**
	comp=Z,1.8nm,0.5s,baz=90,slow=8.3,SNR=20							
MKAR				PcP		**PcP**	**09 23 46.9**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=117,slow=1.6,SNR=2.3							
	comp=Z,1.8nm,0.5s							
MAKZ	**Makanchi**	**61.37**	**316**	P		**P**	**09 23 06.7**	**-0.9**
MAKZ				IAmb		IAmb	09 23 09.0	
	comp=Z,6.2nm,1.2s							
ZAA0	**Zalesovo Array**	**61.44**	**325**	P		**P**	**09 23 08.6**	**+0.7**
ZALV	**Zalesovo Beam**	**61.44**	**325**	P		**P**	**09 23 07.2**	**-0.7**
ZALV	**Zalesovo Beam**	**61.44**	**325**	P		**P**	**09 23 07.0**	**-0.9**
	comp=Z,1.3nm,0.4s,baz=118,slow=6.1,SNR=7.5							
ZALV				PcP		**PcP**	**09 23 46.8**	**-1.8**
	comp=Z,1.6nm,0.4s,baz=118,slow=4.5,SNR=8.0							
	comp=Z,1.3nm,0.4s							
I17K	**Unalakleet**	**63.44**	**24**	P		**P**	**09 23 20.5**	**-0.5**
	baz=244							
P17K	**Kvichak River**	**63.47**	**30**	P		**P**	**09 23 20.0**	**-1.2**
	baz=250							
SII	**Sitkinak Islan**	**63.78**	**33**	P		**P**	**09 23 21.7**	**-1.8**
	baz=253							
M17K	**Holitna River**	**63.80**	**27**	P		**P**	**09 23 21.4**	**-2.0**
	baz=248							
C16K	**Lisburne Hills**	**63.97**	**19**	P		**P**	**09 23 24.6**	**+0.2**
C16K				IAmb		IAmb	09 23 58.6	
	comp=Z,9.1nm,1.2s							
C16K	**Lisburne Hills**	**63.97**	**19**	P		**P**	**09 23 22.5**	**-1.9**
	baz=237							
KURK	**Kurchatov**	**64.32**	**320**	P		**P**	**09 23 26.5**	**-0.5**
KURBB	**Kurchatov Arra**	**64.36**	**320**	P		**P**	**09 23 26.6**	**-0.6**
	comp=Z,4.0nm,0.4s,baz=105,slow=6.6,SNR=21							
	comp=Z,4.0nm,0.4s							
F17K	**Baldwin Pennin**	**64.40**	**21**	P		**P**	**09 23 26.5**	**-0.8**
	baz=242							
L18K	**Granite Mounta**	**64.43**	**27**	P		**P**	**09 23 27.2**	**-0.4**
	baz=248							
E17K	**Hotham Inlet**	**64.51**	**21**	P		**P**	**09 23 27.4**	**-0.6**
	baz=241							
RDOG	**Red Dog Mine**	**64.63**	**19**	P		**P**	**09 23 28.6**	**-0.2**
	baz=240							
Q19K	**Cape Douglas,**	**64.75**	**31**	P		**P**	**09 23 30.0**	**+0.2**
	baz=253							
E18K	**Tukpahlearik C**	**65.09**	**21**	P		**P**	**09 23 31.8**	**+0.1**
	baz=242							
G18K	**Tagagawik**	**65.10**	**22**	P		**P**	**09 23 31.7**	**-0.2**
	baz=245							
B18K	**Kokolik River**	**65.64**	**18**	P		**P**	**09 23 33.7**	**-1.5**
	baz=240							
H19K	**Roundabout Mou**	**65.79**	**23**	P		**P**	**09 23 35.9**	**-0.3**
	baz=247							
G19K	**Purcell Mounta**	**65.79**	**22**	P		**P**	**09 23 35.9**	**-0.3**
	baz=246							
C19K	**Lookout Ridge**	**66.21**	**19**	P		**P**	**09 23 38.5**	**-0.5**
	baz=243							
J20K	**Nowinta River**	**66.21**	**25**	P		**P**	**09 23 38.9**	**0.0**
	baz=250							
H20K	**Anotleneega Mo**	**66.38**	**24**	P		**P**	**09 23 39.9**	**-0.1**
	baz=249							
D19K	**Kuna River**	**66.41**	**20**	P		**P**	**09 23 39.8**	**-0.5**
	baz=244							
NIL	**Nilore**	**66.80**	**301**	P		**P**	**09 23 42.4**	**-1.0**
NIL				IAmb		IAmb	09 23 44.9	
	comp=Z,7.4nm,0.9s							
CAST	**Castle Rocks**	**66.83**	**26**	P		**P**	**

	baz=256								
J26L	**Joseph Creek**	70.74	26	P		P	09 24 06.8	-0.5	
	baz=260								
G26K	**Porcupine Rive**	71.10	23	P		P	09 24 09.6	+0.4	
	baz=259								
F26K	**Sheenjek River**	71.11	23	P		P	09 24 09.7	+0.3	
	baz=258								
L27K	**Beaver Creek,**	71.27	28	P		P	09 24 10.3	-0.1	
	baz=262								
C26K	**Camden Bay**	71.32	20	P		P	09 24 11.3	+0.8	
	baz=257								
I27K	**Kandik River**	71.73	25	P		P	09 24 13.1	-0.1	
	baz=261								
EGAK	**Eagle**	71.80	26	P		P	09 24 14.2	+0.7	
	baz=262								
H27K	**Steamboat Moun**	71.86	24	P		P	09 24 14.2	+0.3	
	baz=261								
E27K	**Coleen River**	72.15	22	P		P	09 24 15.4	-0.2	
	baz=260								
I28M	**Miner Creek**	72.41	25	P		P	09 24 16.9	-0.3	
	baz=263								
DAWY	**Dawson**	72.48	27	P		P	09 24 17.6	0.0	
	baz=264								
D27M	**Malcolm River**	72.55	21	P		P	09 24 18.2	+0.3	
	baz=261								
F28M	**Old Crow**	72.71	23	P		P	09 24 18.8	0.0	
	baz=262								
L29M	**L29M**	72.95	28	P		P	09 24 20.1	-0.3	
	baz=265								
E28M	**Babbage River**	72.97	22	P		P	09 24 20.6	+0.2	
	baz=262								
I29M	**Ogilvie Camp,**	73.07	25	P		P	09 24 20.2	-0.9	
	baz=264								
H29M	**Whitestone**	73.13	24	P		P	09 24 21.7	+0.3	
	baz=264								
K29M	**Barlow Dome**	73.28	27	P		P	09 24 22.4	0.0	
	baz=266								
G29M	**Pine Creek**	73.34	24	P		P	09 24 22.5	-0.1	
	baz=264								
D28M	**Stokes Point**	73.35	21	P		P	09 24 22.4	-0.1	
	baz=263								
E29M	**Blow River**	73.54	22	P		P	09 24 23.6	-0.1	
	baz=264								
EPYK	**Eagle Plains**	73.81	24	P		P	09 24 24.8	-0.6	
	baz=266								
J30M	**Hart River**	73.85	26	P		P	09 24 25.4	-0.4	
	baz=266								
I30M	**Mount Dempster**	73.87	26	P		P	09 24 25.5	-0.3	
	baz=266								
G30M	**tAoh Zraii Nji**	74.05	24	P		P	09 24 26.4	-0.3	
	baz=266								
F30M	**Barrier River**	74.27	23	P		P	09 24 27.6	-0.4	
	baz=266								
WHY	**Whitehorse**	74.36	30	P		P	09 24 28.0	-0.8	
	baz=269								
M31M	**Drury Creek, Y**	74.63	29	P		P	09 24 29.9	-0.3	
	baz=269								
H31M	**Peel River**	74.75	25	P		P	09 24 30.6	-0.2	
	baz=268								
G31M	**Satah River**	74.82	24	P		P	09 24 30.6	-0.5	
G31M				IAmb		IAmb	09 24 31.0		
	comp=Z,6.7nm,0.8s								
G31M	**Satah River**	74.82	24	P		P	09 24 30.5	-0.5	
	baz=268								
F31M	**Tsiigehtchic**	75.04	23	P		P	09 24 31.6	-0.8	
	baz=268								
FARO	**Faro, Yukon**	75.12	29	P		P	09 24 32.2	-0.7	
	baz=270								
INK	**Inuvik**	75.15	22	P		P	09 24 32.4	-0.6	
	baz=268								
P33M	**Teslin, Yukon**	75.39	31	P		P	09 24 34.1	-0.5	
	baz=271								
WRAK	**Wrangell Islan**	75.73	35	P		P	09 24 36.6	+0.1	
	baz=272								
V35K	**Ketchikan**	76.20	36	P		P	09 24 38.9	-0.3	
	baz=273								
ABKAR	**Akbulak array**	76.24	318	P		P	09 24 38.4	-1.1	
R33M	**Jennings River**	76.34	32	P		P	09 24 39.8	-0.4	
	baz=273								
U35K	**Hyder**	77.06	35	P		P	09 24 44.2	+0.2	
	baz=274								
WTLY	**Watson Lake, Y**	77.40	31	P		P	09 24 46.0	+0.1	
	baz=274								
A36M	**Sachs Harbour**	77.88	19	P		P	09 24 47.8	-0.6	
A36M				IAmb		IAmb	09 24 48.2		
	comp=Z,6.0nm,0.6s								
A36M	**Sachs Harbour**	77.88	19	P		P	09 24 47.7	-0.6	
	baz=275								
C36M	**Paulatuk**	78.54	21	P		P	09 24 50.9	-1.0	
C36M				IAmb		IAmb	09 24 52.2		
	comp=Z,4.3nm,0.5s								
C36M	**Paulatuk**	78.54	21	P		P	09 24 51.3	-0.6	
	baz=277								
GEYT	**Alibeck**	78.75	306	P		P	09 24 54.0	+0.1	
	comp=Z,1.9nm,0.4s,baz=64,slow=6.6,SNR=1.8								
	comp=Z,1.9nm,0.4s								
LIRD	**Liard River Hi**	78.83	31	P		P	09 24 54.1	+0.3	
	baz=277								
WRGLY	**Wrigley**	79.58	27	P		P	09 24 57.8	+0.1	
	baz=278								
WSAR	**Wadi Sarin**	80.64	292	LR		LR	10 04 24.8		
	comp=Z,26nm,18.6s,baz=238,slow=38								
GNW	**Green Mountain**	82.63	43	P		P	09 25 14.7	+0.4	
GNW				IAmb		IAmb	09 25 15.8		
	comp=Z,11nm,1.1s								
H04A	**Detroit Lake**	83.65	46	P		P	09 25 19.0	-0.6	
H04A				IAmb		IAmb	09 25 20.3		
	comp=Z,4.9nm,0.7s								
YKA	**Yellowknife Ar**	83.70	27	P		P	09 25 18.4	-1.0	
	comp=Z,1.4nm,0.4s,baz=287,slow=5.3,SNR=65								
	comp=Z,1.4nm,0.4s								
YBH	**Yreka Blue Hor**	83.89	49	P		P	09 25 21.2	+0.2	
YBH				IAmb		IAmb	09 25 22.2		
	comp=Z,5.6nm,0.8s								
LTY	**Liberty**	84.13	43	IAmb		IAmb	09 25 22.1		
	comp=Z,3.8nm,0.6s								
SPITS	**Spitsbergen Ar**	84.34	351	P		P	09 25 22.0	-0.5	
	comp=Z,2.1nm,0.7s,baz=67,slow=6.6,SNR=0.8								
	comp=Z,2.1nm,0.7s								
J05D	**Fort Rock, OR**	84.63	47	P		P	09 25 24.6	-0.2	
J05D				IAmb		IAmb	09 25 25.4		
	comp=Z,5.7nm,0.8s								
E07A	**Sunnyside**	84.83	44	P		P	09 25 25.7	+0.2	
E07A				IAmb		IAmb	09 25 28.2		
	comp=Z,5.3nm,0.8s								
K05A	**Summer Lake**	85.00	47	P		P	09 25 26.7	+0.1	
K05A				IAmb		IAmb	09 25 27.0		
	comp=Z,4.9nm,0.7s								
HAWA	**Hanford**	85.09	44	P		P	09 25 26.6	-0.1	
HAWA				IAmb		IAmb	09 25 27.5		
	comp=Z,5.2nm,1.1s								
RES	**Resolute Bay**	85.22	13	IAmb		IAmb	09 25 27.5		
	comp=Z,4.9nm,1.0s								
D08A	**Wollman Farm,**	85.34	43	IAmb		IAmb	09 25 29.0		
	comp=Z,6.3nm,1.0s								
G08A	**Pilot Rock**	85.75	45	P		P	09 25 29.8	-0.4	
NEW	**Newport**	86.21	41	P		P	09 25 31.7	-0.6	
NEW	**Newport**	86.21	41	P		P	09 25 31.9	-0.4	
	baz=285,SNR=9.3								
J08A	**Circle Bar Ran**	86.56	46	P		P	09 25 33.9	-0.4	
J08A				IAmb		IAmb	09 25 35.3		
	comp=Z,5.0nm,0.8s								
EDM	**Edmonton**	87.08	36	P		P	09 25 35.3	-1.1	
EDM				IAmb		IAmb	09 25 36.5		
	comp=Z,5.4nm,0.7s								
ARCES	**ARCESS Array B**	87.22	342	P		P	09 25 35.7	-1.0	
	comp=Z,3.1nm,0.9s,baz=82,slow=7.7,SNR=1.9								
	comp=Z,3.1nm,0.9s								
SMMC	**Simmler**	87.42	54	P		P	09 25 38.2	-0.3	
	baz=284								
PKM	**Mcpherson Peak**	87.67	55	P		P	09 25 40.3	+0.4	
	baz=284								
PLID	**Pearl Lake**	87.82	44	IAmb		IAmb	09 25 40.5		
	comp=Z,5.9nm,1.0s								
SBC	**Santa Barbara**	87.86	55	P		P	09 25 40.8	+0.3	
	baz=284								
NVAR	**Mina Array Bea**	87.95	51	P		P	09 25 41.1	0.0	
	comp=Z,11nm,0.7s,baz=264,slow=5.9,SNR=73								
VES	**Vestal, Richgr**	88.01	54	P		P	09 25 40.7	-0.5	
	baz=285								
ARVC	**Arvin**	88.39	54	P		P	09 25 43.3	+0.3	
	baz=285								
MFID	**Camas Ranch**	88.41	46	P		P	09 25 42.5	-0.6	
ISA	**Isabella, Lake**	88.54	54	P		P	09 25 43.6	-0.2	
	baz=285								
CWC	**Cottonwood Cre**	88.64	53	P		P	09 25 44.3	-0.1	
	baz=285								
EDW2	**Edwards Air Fo**	89.12	54	P		P	09 25 46.5	0.0	
	baz=285								
CIS	**Catalina Islan**	89.17	56	P		P	09 25 46.7	0.0	
	baz=285								
MPMC	**Manual Prospec**	89.21	53	P		P	09 25 47.2	+0.1	
	baz=286,SNR=12								
LRMC	**Laurel Mtn Rad**	89.21	54	P		P	09 25 47.1	+0.1	
	baz=286,SNR=8.0								
HLID	**Hailey**	89.35	45	P		P	09 25 46.8	-0.7	
HLID				IAmb		IAmb	09 25 48.3		
	comp=Z,5.0nm,0.8s								
HLID	**Hailey**	89.35	45	P		P	09 25 47.5	-0.1	
	baz=288,SNR=7.5								
BFSC	**Mount Baldy Ra**	89.56	55	P		P	09 25 48.1	-0.6	
	baz=286								
FURC	**Furnace Creek,**	89.58	53	P		P	09 25 48.8	+0.3	
	baz=286,SNR=11								
TPNV	**Topopah Spring**	89.92	52	P		P	09 25 50.4	0.0	
	baz=286,SNR=18								
GSC	**Goldstone, Bar**	89.95	54	P		P	09 25 50.4	0.0	
	baz=286,SNR=7.8								
R11B	**Troy Canyon, C**	90.03	51	P		P	09 25 50.8	-0.1	
	baz=287								
MURC	**Murrieta**	90.10	56	P		P	09 25 50.3	-0.8	
	baz=286								
109C	**Camp Elliot, M**	90.37	56	P		P	09 25 52.1	-0.2	
	baz=286								
HEC	**Hector,Ludlow**	90.45	54	P		P	09 25 52.7	0.0	
	baz=286,SNR=6.1								
BOZ	**Bozeman (W)**	90.59	43	P		P	09 25 52.8	-0.5	
	baz=290								
TUQ	**Turquoise Moun**	90.60	53	P		P	09 25 53.5	-0.1	
	baz=287								
PFO	**Pinyon Flats O**	90.69	55	P		P	09 25 53.4	-0.5	
PFO	**Pinyon Flats O**	90.69	55	P		P	09 25 53.9	-0.1	
	baz=286								
TPFO	**Pinon Flats**	90.69	55	P		P	09 25 53.8	-0.2	
	baz=286								
MONP2	**Monument Peak**	90.92	56	P		P	09 25 54.6	-0.5	
	baz=286,SNR=7.7								
BELC	**Belle Mtn. Jos**	90.95	55	P		P	09 25 54.6	-0.5	
	baz=287								
EGMT	**Eagleton**	90.97	40	P		P	09 25 54.8	-0.1	
	baz=291								
GMRC	**Granite Mounta**	90.99	54	P		P	09 25 55.4	+0.1	
	baz=287,SNR=5.1								
FINES	**FINESS Array B**	91.17	335	P		P	09 25 53.0	-2.4	
	comp=Z,2.2nm,0.6s,baz=70,slow=6.3,SNR=4.8								
	comp=Z,2.2nm,0.6s								
IKP	**In-Ko-Pah, Jac**	91.24	56	P		P	09 25 56.2	-0.2	
	baz=286								
SWSC	**Sam W. Stewart**	91.41	56	P		P	09 25 57.0	-0.1	
	baz=287								
BC3	**Big Chuckawall**	91.48	55	P		P	09 25 57.3	-0.3	
	baz=287								
DUG	**Dugway, Tooele**	91.52	48	P		P	09 25 57.3	-0.4	
	baz=289								
IRM	**Iron Mountain**	91.58	55	P		P	09 25 57.9	-0.1	
	baz=287								
H17A	**Grant Village**	91.70	44	P		P	09 25 59.3	+0.7	
	baz=290								
RLMT	**Red Lodge**	92.32	43	P		P	09 26 01.3	-0.1	
	baz=291								
PDMCI	**Parker Dam,Lak**	92.33	54	P		P	09 26 01.0	-0.4	
	baz=288								
BW06	**Boulder Array**	92.97	45	P		P	09 26 03.8	-0.6	
	baz=289								
PDAR	**Pinedale Array**	92.97	45	P		P	09 26 03.2	-1.2	
	comp=Z,1.0nm,0.5s,baz=247,slow=2.1,SNR=14								
	comp=Z,1.0nm,0.5s								
LAO	**LASA Array**	93.70	40	P		P	09 26 07.2	-0.3	
	baz=294								
214A	**Organ Pipe Nat**	94.11	56	P		P	09 26 09.2	-0.5	
	baz=288								
WUAZ	**Wupatki**	94.11	52	P		P	09 26 09.6	-0.2	
	baz=289								
DGMT	**Dagmar**	94.22	38	P		P	09 26 08.8	-1.0	
	baz=295								
TUC	**Tucson**	95.63	55	P		P	09 26 16.8	+0.2	
	baz=289								
MNTX	**Cornudas Mount**	100.14	54	P		Pdif	09 26 36.4	-0.4	
	baz=286								
AMTX	**Amarillo**	101.70	50	P		Pdif	09 26 41.3	-2.5	
	baz=295								
TORD	**Torodi Ar. Bea**	134.32	303	PKP		PKPdf	09 32 08.7	-0.1	
	comp=Z,0.8nm,0.5s,baz=48,slow=3.4,SNR=6.6								
PLCA	**Paso Flores**	139.23	139	PKP		PKPdf	09 32 17.4	+0.1	
	comp=Z,1.0nm,0.6s,baz=224,slow=5.9,SNR=4.4								
DBIC	**Dimbokro**	143.24	301	PKP		PKPab	09 32 21.4	+0.2	
	comp=Z,1.3nm,0.3s,baz=92,slow=4.6,SNR=4.4								

*EST **13** 09:20:51.9,59°.97N×24°.25E,h0km,ML2.0(HEL), Explosion*
*HEL **13** 09:20:51.9±0.0,59°.97N×24°.25E,h0km,ML2.0,Explosion*
*IDC **13** 09:20:53.1±2.2,59°.99N×24°.27E,h0km,mbtmp3.1/3, ML2.3/3,Error ellipse: s-maj=23.1km s-min=6.2km az=150.0*

ISC 13 09:20:50.2±0.8,59°.94N±0°.03×24°.23E±0°.03,h0km,n23, σ1°25/36,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MEF	**Metsahovi**	0.29	17	*e*P	**Pg**		09 20 56.3	+0.6
MEF	**Metsahovi**	0.29	17	*e*P	**Pg**		09 20 56.5	+0.8
MEF				*e*S	**Sg**		09 21 00.1	+0.6
HEL1	**Helsinki**	0.41	54	*e*P	**Pg**		09 20 58.7	+0.8
HEL1				*e*S	**Sg**		09 21 03.8	+0.7
NUR	**Nurmijrvi**	0.61	20	*e*P	**Pg**		09 21 02.3	+0.5
NUR				*e*S	**Sg**		09 21 09.9	+0.2
EE01	**Perakula, Nova**	0.80	203	*e*P	**Pb**		09 21 06.7	-0.2
EE01				*e*S	**Sg**		09 21 16.5	+0.7
PVF	**Pernaja**	1.01	53	*e*P	**Pg**		09 21 09.7	+0.1
PVF				*e*S	**Sg**		09 21 21.3	-1.5
MTSE	**Matsula**	1.25	190	*e*P	**Pb**		09 21 14.6	0.0
MTSE	**Matsula**	1.25	190	*e*P	**Pb**		09 21 14.7	+0.1
MTSE				*e*SB	**Sn**		09 21 32.2	-0.2
EE08	**Sarghaua, Vand**	1.39	158	*e*P	**Pg**		09 21 16.9	0.0
EE08				*e*S	**Sb**		09 21 35.1	-0.2
EE03	**Tooma soojaam,**	1.50	135	*e*P	**Pn**		09 21 18.7	+0.4
EE03				*e*S	**Sb**		09 21 38.4	-0.1
RAF	**Rauma**	1.63	313	*e*P	**Pn**		09 21 20.9	+0.8
RAF	**Rauma**	1.63	313	*e*P	**Pn**		09 21 20.8	+0.7
RAF				*e*S	**Sn**		09 21 42.0	+0.3
FIA0	**FINESS Array S**	1.76	30	*e*PG	**Pn**		09 21 22.9	+1.0
FIA0				*e*SG	**Sn**		09 21 45.2	+0.2
FIA0				MSG			09 21 49.7	
	comp=Z,9.7nm,0.2s							
FINES	**FINESS Array B**	1.76	30	Pg	**Pn**		09 21 22.9	+1.0
	comp=Z,1.8nm,0.3s,baz=209,slow=16,SNR=66							
FINES				Lg	Lg		09 21 46.7	
	comp=Z,6.1nm,0.3s,baz=211,slow=26,SNR=27							
FIA1	**FINESS Array S**	1.76	30	MSG			09 21 49.0	
	comp=Z,12nm,0.2s							
VJF	**Virojoki**	1.77	69	MSG			09 21 50.1	
	comp=Z,14nm,0.3s							
VSU	**Vasula**	1.97	138	*e*P	**Pb**		09 21 27.2	+0.4
VSU	**Vasula**	1.97	138	*e*P	**Pb**		09 21 26.8	0.0
VSU				*e*SG	**Sg**		09 21 53.3	-0.1
SLIT	**Slitere, Latvi**	2.53	204	*e*P	**Pb**		09 21 36.1	-0.3
EE07	**Piusa Caves, O**	2.70	140	*e*PG	**Pb**		09 21 39.8	+0.5
EE07				*e*SB	**Sb**		09 22 13.9	+1.0
HFS	**Hagfors**	5.28	277	Pn	**Pn**		09 22 12.4	+2.1
	comp=Z,0.2nm,0.3s,baz=85,slow=17,SNR=1.5							
HFS				Sn	**Sn**		09 23 12.0	+0.2
	comp=Z,0.4nm,0.3s,baz=87,slow=28,SNR=2.0							
HFS				Lg	Lg		09 23 36.2	
	comp=Z,0.5nm,0.3s,baz=99,slow=36,SNR=2.0							
	comp=Z,2.7nm,0.9s							
NOA	**NORSAR Array B**	6.52	285	Pn	**Pn**		09 22 27.6	+0.2
	baz=93,slow=14,SNR=4.3							
NOA				Sn	**Sn**		09 23 41.6	-0.7
	baz=134,slow=19,SNR=3.8							
NOA				Lg	Lg		09 24 16.8	
	baz=125,slow=23,SNR=3.9							
	comp=Z,1.4nm,0.9s							
ARCES	**ARCESS Array B**	9.65	3	Pn	**Pn**		09 23 11.2	+1.1
	comp=Z,0.2nm,0.3s,baz=184,slow=13,SNR=23							
ARCES				Sn	**Sn**		09 24 53.1	-5.9
	comp=Z,0.1nm,0.3s,baz=180,slow=33,SNR=2.1							
	comp=Z,0.4nm,0.3s							

*IDC **13** 09:22:32.7±1.1,10°.02N×140°.18E,h0km,mb3.5/5, mbtmp3.7/6,ML4.3/1,MS2.8/3,Error ellipse: s-maj=40.9km s-min=23.1km az=115.0*

ISC 13 09:22:37.6±1.0,10°.0N±0°.2×140°.4E±0°.2,h35km,n14, σ1°51/7,mb3.4/5,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GUMO	**Guam**	5.65	51	Pn	**Pn**		09 23 59.2	+0.1
	9.2nm,0.3s,baz=230,slow=7.9,SNR=8.5							
GUMO				Sn	**Sn**		09 25 01.3	-1.6
	3.9nm,0.3s,baz=198,slow=21,SNR=2.2							
GUMO				LR	LR		09 26 31.9	
	comp=Z,30nm,21.2s,baz=278,slow=41							
	44nm,0.5s							
H11S3	**WAKE ISLAND Hy**	26.83	69	T	T		09 56 21.5	
	baz=255,slow=75,SNR=446							
H11S1	**WAKE ISLAND Hy**	26.85	69	T	T		09 56 23.3	
	baz=255,slow=75,SNR=265							
H11S2	**WAKE ISLAND Hy**	26.85	69	T	T		09 56 23.7	
	baz=255,slow=75,SNR=552							
H11N1	**WAKE ISLAND Hy**	27.35	66	T	T		09 57 02.4	
	baz=253,slow=75,SNR=137							
H11N2	**WAKE ISLAND Hy**	27.36	66	T	T		09 57 01.6	
	baz=253,slow=75,SNR=106							
H11N3	**WAKE ISLAND Hy**	27.37	66	T	T		09 57 05.2	
	baz=253,slow=75,SNR=89							
KSRS	**Korea Array**	29.52	340	LR	LR		09 39 10.9	
	comp=Z,23nm,19.2s,baz=230,slow=34							
WRA	**Warramunga Arr**	30.36	191	P	**P**		09 28 45.2	-1.2
	0.5nm,0.7s,baz=10,slow=9.6,SNR=3.6							
	0.5nm,0.7s							
ASAR	**Alice Springs**	34.08	191	P	**P**		09 29 19.5	+0.6
	0.3nm,0.8s,baz=16,slow=12,SNR=9.5							
	0.3nm,0.8s							
CMAR	**Chiang Mai Arr**	40.94	287	P	**P**		09 30 15.9	-1.1
	0.9nm,0.3s,baz=106,slow=6.7,SNR=1.2							
	0.9nm,0.3s							
STKA	**Stephens Creek**	41.68	178	LR	LR		09 48 03.5	
	comp=Z,37nm,18.4s,baz=22,slow=37							
ILAR	**Eielson Array**	73.65	25	P	**P**		09 34 09.1	+1.8
	0.3nm,0.8s,baz=248,slow=5.6,SNR=4.3							
	0.3nm,0.8s							
YKA	**Yellowknife Ar**	88.02	27	P	**P**		09 35 24.4	+0.5
	0.2nm,0.7s,baz=286,slow=5.1,SNR=4.1							
	0.2nm,0.7s							

IDC 13 09:29:05.7±1.6,54°.59N×83°.84E,h0km,mbtmp2.9/3, ML2.4/3,Error ellipse: s-maj=14.0km s-min=9.3km az=179.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	0.86	138	I	I		09 34 35.5	
	0.2nm,2.5s,baz=318,slow=331,SNR=4.6							
ZALV	**Zalesovo Beam**	0.86	138	Pg	Pg		09 29 21.4	-0.8
	1.9nm,0.3s,baz=319,slow=18,SNR=16							
ZALV				Lg	Lg		09 29 35.6	
	9.7nm,0.3s,baz=320,slow=29,SNR=9.8							
KURBB	**Kurchatov Arra**	5.12	221	Pn	Pn		09 30 24.9	+1.3
	0.1nm,0.3s,baz=42,slow=14,SNR=2.0							
KURBB				Sn	Sn		09 31 21.3	-2.1
	baz=36,slow=27							
KURBB				Lg	Lg		09 31 49.8	
	0.1nm,0.3s,baz=44,slow=31,SNR=6.4							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	7.87	188	Pn	Pn		09 31 01.5	+0.2
	0.1nm,0.3s,baz=11,slow=12,SNR=2.5							
MKAR				Lg	Lg		09 33 11.5	
	0.2nm,0.3s,baz=11,slow=30,SNR=5.0							
	0.1nm,0.4s							
BVAR	**Borovoye Array**	8.12	264	Pn	Pn		09 31 03.4	-1.3
	baz=67,slow=15,SNR=2.3							
	0.8nm,0.4s							

*UPP **13** 09:30:38.4±2.7,59°.99N×24°.41E,h0km,ML2.0*
*IDC **13** 09:30:39.5±2.2,59°.89N×24°.42E,h0km,mbtmp3.1/3, ML2.1/3,Error ellipse: s-maj=22.5km s-min=6.9km az=147.0*
*EST **13** 09:30:40.0,59°.97N×24°.22E,h0km,ML1.9(HEL), Explosion*
*HEL **13** 09:30:40.0±0.1,59°.97N×24°.22E,h0km,ML1.9,Explosion*

ISC 13 09:30:38.4±0.7,59°.95N±0°.03×24°.23E±0°.03,h0km,n36, σ1°13/46,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MEF	**Metsahovi**	0.28	17	*e*P	**Pg**		09 30 44.4	+0.6
MEF	**Metsahovi**	0.28	17	*e*P	**Pg**		09 30 44.6	+0.8
MEF				*e*S	**Sg**		09 30 48.1	+0.7
HEL1	**Helsinki**	0.40	55	*e*P	**Pg**		09 30 46.8	+0.7
HEL1				*e*S	**Sg**		09 30 52.0	+0.8
NUR	**Nurmijrvi**	0.60	20	*e*P	**Pg**		09 30 50.3	+0.5
NUR				*e*S	**Sg**		09 30 58.0	+0.3
EE01	**Perakula, Nova**	0.81	203	*e*P	**Pg**		09 30 54.3	+0.5
PVF	**Pernaja**	1.01	53	*e*P	**Pg**		09 30 57.8	+0.1
PVF				*e*S	**Sg**		09 31 11.3	+0.5
ARBE	**Arbavere**	1.03	119	*e*P	**Pb**		09 30 58.9	-0.1
ARBE				*e*S	**Sb**		09 31 12.5	-0.5
MTSE	**Matsula**	1.25	190	*e*P	**Pg**		09 31 02.8	+0.4
MTSE	**Matsula**	1.25	190	*e*P	**Pg**		09 31 02.8	+0.4
MTSE				*e*S	**Sb**		09 31 19.4	-0.1
EE08	**Sarghaua, Vand**	1.40	158	*e*P	**Pg**		09 31 05.1	0.0
EE08				*e*S	**Sn**		09 31 23.7	-0.5
EE03	**Tooma soojaam,**	1.50	135	*e*P	**Pb**		09 31 07.0	-0.1
EE03				*e*S	**Sn**		09 31 26.8	0.0
RAF	**Rauma**	1.63	313	*e*P	**Pn**		09 31 08.7	+0.5
RAF	**Rauma**	1.63	313	*e*P	**Pn**		09 31 08.7	+0.5
RAF				*e*S	**Sn**		09 31 30.0	+0.1
FIA0	**FINESS Array S**	1.75	30	MSG		

KECS eSG Sg 09 38 37.6 +2.3
ABAH Abaujker 0.40 129 Pg Pb 09 38 37.9 -0.9
comp=Z,8.4nm,SNR=2.8
ABAH Lg Lg 09 38 43.4
CRVS Cervenica-Dubn 0.58 52 Pg Pg 09 38 40.4 +0.5
comp=Z,1.5nm,SNR=1.8
CRVS Lg Lg 09 38 48.2
CRVS Cervenica-Dubn 0.58 52 ePG Pg 09 38 40.4 +0.5
CRVS eSG Sg 09 38 48.2 +0.8
PSZ Piszkesteto 0.86 223 Pg Pb 09 38 46.0 -0.7
comp=Z,6.0nm,SNR=1.6
PSZ Lg Lg 09 39 00.5
STHS Stebnicka Huta 0.92 19 Pg Pg 09 38 46.4 -0.1
comp=Z,6.6nm,SNR=2.7
STHS Lg Lg 09 38 59.8
STHS Stebnicka Huta 0.92 19 ePG Pg 09 38 46.4 -0.1
LANS Liptovska Anna 1.05 305 Pg Pg 09 38 49.3 +0.2
comp=Z,3.0nm,SNR=2.2
LANS Liptovska Anna 1.05 305 ePG Pg 09 38 49.2 +0.2
LANS eSG Sg 09 39 02.8 +0.1
A336A Medovarce 1.22 256 Pg Pn 09 38 53.9 +0.7
comp=Z,6.8nm,SNR=2.1
A336A Lg Lg 09 39 11.4
VYHS Vyhne 1.29 268 Pg Pn 09 38 54.6 +0.5
comp=Z,1.0nm,SNR=1.8
VYHS Sn Sn 09 39 12.1 0.0
VYHS Vyhne 1.29 268 eSG Sb 09 39 11.5 +0.4
VYHS Vyhne 1.29 268 ePG Pn 09 38 54.2 +0.1

IDC ***13*** *09:51:54.0±0.8,30°.65N×57°.25E,h0km,mb4.2/18, mbtmp4.2/25,ML3.8/7,MS3.7/27,Error ellipse: s-maj=17.6km s-min=13.4km az=175.0*
DSN ***13*** *09:51:54.3±1.6,30°.77N×58°.60E,h15km,ML3.8/9,Ms3.1/5, Error ellipse: s-maj=75.6km s-min=14.9km az=114.0*
TEH ***13*** *09:51:55.0,30°.79N×57°.32E,h8km±56km,ML4.5*
MOS ***13*** *09:51:56.1±1.2,30°.79N×57°.27E,h18km,mb4.6/17,Error ellipse: s-maj=6.9km s-min=5.7km az=78.8*
NEIC ***13*** *09:51:56.8±1.4,30°.78N±0°.04×57°.21E±0°.10,h10km±1km, mb4.3/39,Error ellipse: s-maj=14.1km s-min=6.8km az=96.0*
ISC 13 09:51:56.7±0.4,**30°.76N**±0°.03×**57°.27E**±0°.04,**h10**km,**n228,**
σ1°**22**/217,**mb4.3**/51,**MS3.8**/24,**7C**,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.66**	**288**	Pg	**Pg**	**09 52 08.2**	**-1.3**
ZRDN				Sg	**Sg**	**09 52 19.6**	**+1.4**
KHGB	**Koh Gabri**	**0.78**	**241**	Pg	**Pg**	**09 52 10.5**	**-1.4**
KHGB				Sg	**Sg**	**09 52 22.7**	**+0.6**
TVBK	**TV Kerman**	**0.89**	**209**	Pg	**Pg**	**09 52 13.0**	**-0.9**
CHMN	**Cheshme madani**	**0.93**	**165**	Pg	Pg	09 52 12.4	-2.3
NGRK	**Negar Kerman**	**1.21**	**203**	Pg	**Pb**	**09 52 19.0**	**-0.9**
NGRK				Sg	**Sg**	**09 52 36.4**	**+0.8**
IBAF	**Bafgh**	**1.67**	**300**	Pg	**Pn**	**09 52 26.4**	**+0.2**
IBAF				Sg	**Sn**	**09 52 49.5**	**+1.7**
KBAM	**BAM**	**1.92**	**147**	Pn	**Pn**	**09 52 29.6**	**+0.1**
BSRN	**Basiran**	**1.99**	**53**	Pn	**Pn**	**09 52 30.0**	**-0.6**
IKOO	**Kooshah**	**2.22**	**41**	Pn	**Pn**	**09 52 33.6**	**-0.3**
TPRV	**Parvadeh(Tabas**	**2.31**	**348**	Pn	**Pn**	**09 52 34.7**	**-0.2**
IMEH	**Mehriz**	**2.36**	**286**	Pn	**Pn**	**09 52 36.5**	**+0.7**
NHDN	**Nehbandan**	**2.47**	**75**	Pn	**Pn**	**09 52 37.1**	**-0.1**
ITEG	**Tejag**	**2.47**	**30**	Pn	**Pn**	**09 52 36.7**	**-0.5**
KHNJ	**Kahnooj**	**2.83**	**172**	Pn	**Pn**	**09 52 42.2**	**+0.2**
TKDS	**Koohdasht(Taba**	**2.84**	**358**	Pn	**Pn**	**09 52 42.3**	**0.0**
ICHK	**Chekchek**	**2.85**	**302**	Pn	**Pn**	**09 52 43.2**	**+0.7**
IDAH	**Dahanechah**	**2.97**	**48**	Pn	**Pn**	**09 52 43.7**	**-0.4**
AFRZ	**Afriz**	**3.04**	**29**	Pn	**Pn**	**09 52 44.8**	**-0.2**
TNSJ	**Nastanj**	**3.24**	**350**	Pn	**Pn**	**09 52 47.5**	**-0.2**
ISAD	**Sadrabad**	**3.27**	**291**	Pn	**Pn**	**09 52 49.0**	**+0.7**
SHRT	**Shahrakht**	**3.85**	**41**	Pn	**Pn**	**09 52 55.9**	**-0.2**
ANAR	**Anarak**	**3.86**	**310**	Pn	**Pn**	**09 52 56.8**	**+0.6**
IRAM	**Ramesheh**	**4.31**	**285**	Pn	**Pn**	**09 53 03.5**	**+1.0**
IZEF	**Zefreh**	**4.71**	**298**	Pn	**Pn**	**09 53 09.1**	**+1.1**
SHME	**Shamm**	**4.80**	**192**	P	**Pn**	**09 53 11.2**	**+2.1**
KLNJ	**Kolanjah**	**4.88**	**274**	Pn	**Pn**	**09 53 11.4**	**+0.9**
BANOM	**Banah**	**4.90**	**190**	P	**Pn**	**09 53 13.2**	**+2.7**
BANOM				S	**Sn**	**09 54 13.5**	**+6.3**
JASK	**Jask - Hormozg**	**4.91**	**174**	Pn	**Pn**	**09 53 11.7**	**+1.2**
TBHD	**Torbat heydari**	**4.92**	**19**	Pn	**Pn**	**09 53 11.7**	**+0.8**
TBJM	**Torbat-e-JAM**	**5.18**	**29**	Pn	**Pn**	**09 53 14.4**	**0.0**
IBRJ	**Brojen**	**5.26**	**284**	Pn	**Pn**	**09 53 17.7**	**+2.0**
KRSH	**Karshahi**	**5.39**	**308**	Pn	**Pn**	**09 53 17.8**	**+0.4**
IKLH	**Kolahrood**	**5.46**	**299**	Pn	**Pn**	**09 53 19.7**	**+1.3**
IANJ	**Anjilo**	**5.47**	**330**	Pn	**Pn**	**09 53 19.0**	**+0.5**
MSFE	**Esma-Masafi**	**5.47**	**191**	P	**Pn**	**09 53 19.7**	**+1.3**
HRA	**Herat**	**5.54**	**48**	Pn	**Pn**	**09 53 20.2**	**+0.7**
ISFB	**Sefidab**	**5.55**	**311**	Pn	**Pn**	**09 53 19.3**	**-0.2**
SRVN	**Saravan**	**5.60**	**125**	Pn	**Pn**	**09 53 21.3**	**+1.0**
IMOG	**Moghan**	**5.61**	**17**	Pn	**Pn**	**09 53 20.6**	**+0.2**
SBZV	**Sabzevar**	**5.62**	**3**	Pn	**Pn**	**09 53 21.2**	**+0.7**
ZNGN	**Zangian**	**5.64**	**285**	Pn	**Pn**	**09 53 22.4**	**+1.5**
JRKH	**Jarkhoshk**	**5.74**	**26**	Pn	**Pn**	**09 53 22.3**	**+0.2**
QAMS	**Qamsar**	**5.79**	**302**	Pn	**Pn**	**09 53 23.2**	**+0.3**
JHBN	**Jahan bin**	**5.82**	**286**	Pn	**Pn**	**09 53 24.6**	**+1.2**
IPAY	**Payeh**	**5.85**	**14**	Pn	**Pn**	**09 53 25.3**	**+1.6**
UOSS	**Minazif**	**5.87**	**189**	Pn	**Pn**	**09 53 23.3**	**-0.5**
IAKL	**Akhelmad**	**5.96**	**12**	Pn	**Pn**	**09 53 24.8**	**-0.4**
HATD	**Hatta, Dubai**	**6.00**	**190**	P	**Pn**	**09 53 27.8**	**+2.2**
IMYA	**Miami**	**6.05**	**22**	Pn	**Pn**	**09 53 27.4**	**+1.1**
ASHO	**Ashiyiah**	**6.15**	**190**	P	**Pn**	**09 53 29.9**	**+2.3**
IFIR	**Firoozkooh**	**6.16**	**323**	Pn	**Pn**	**09 53 28.9**	**+0.4**
IFAQ	**Al Faqa, Dubai**	**6.18**	**194**	P	**Pn**	**09 53 30.5**	**+2.5**
IKRD	**Kardeh**	**6.28**	**17**	Pn	**Pn**	**09 53 30.0**	**+0.4**
IVRN	**Varamin**	**6.28**	**314**	Pn	**Pn**	**09 53 30.1**	**+0.6**
ISFR	**Sfrayin**	**6.30**	**5**	Pn	**Pn**	**09 53 31.2**	**+1.2**
ASUD	**Al Ashush, Dub**	**6.35**	**196**	P	**Pn**	**09 53 32.2**	**+1.8**
IGLO	**Ghalloghah**	**6.40**	**334**	Pn	**Pn**	**09 53 32.1**	**+0.9**
IDMV	**Damavand**	**6.50**	**319**	Pn	**Pn**	**09 53 32.9**	**+0.2**
SOHO	**SOHO**	**6.64**	**186**	P	**Pn**	**09 53 33.5**	**-0.8**
IMND	**Minoodasht**	**6.66**	**347**	Pn	**Pn**	**09 53 35.0**	**+0.4**
IEMG	**Emamgholi**	**6.73**	**9**	Pn	**Pn**	**09 53 36.4**	**+0.4**
ALNE	**Al Ain**	**6.81**	**192**	P	**Pn**	**09 53 39.2**	**+2.4**
MRVT	**Maraveh tapeh**	**6.95**	**352**	Pn	**Pn**	**09 53 39.5**	**+0.9**
GEYT	**Alibeck**	**7.18**	**5**	Pn	**Pn**	**09 53 42.3**	**+0.4**
	0.9nm,0.3s,baz=181,slow=14,SNR=2.0						
GEYT				Sn	**Sn**	**09 55 06.7**	**+3.2**
	0.7nm,0.3s,baz=225,slow=25,SNR=1.8						
GEYT				Lg	Lg	09 55 45.1	
	1.3nm,0.3s,baz=212,slow=32,SNR=1.2						
GEYT				LR	LR	09 56 55.5	
	comp=Z,741nm,18.3s,baz=188,slow=41 2.1nm,0.3s						
GYA0B	**ALIBECK ARRAY**	**7.18**	**5**	Pn	**Pn**	**09 53 41.7**	**-0.2**
MZPU	**Pul - Mazandar**	**7.39**	**322**	Pn	**Pn**	**09 53 45.1**	**+0.2**
WSAR	**Wadi Sarin**	**7.59**	**170**	Pn	**Pn**	**09 53 48.1**	**+0.6**
	7.6nm,0.3s,baz=1.0,slow=11,SNR=44						
WSAR				Sn	**Sn**	**09 55 13.8**	**+0.2**
	0.9nm,0.3s,baz=266,slow=15,SNR=2.0						
KLST	**Kelardasht - M**	**7.72**	**320**	Pn	**Pn**	**09 53 51.0**	**+1.5**
WBK	**Wadi Bani Khal**	**8.26**	**169**	Pn	**Pn**	**09 53 57.3**	**+0.6**
IGHG	**Ghaleghazi**	**9.70**	**294**	Pn	**Pn**	**09 54 17.2**	**+0.6**
KBL	**Kabul**	**10.62**	**66**	Pn	**Pn**	**09 54 28.4**	**-0.7**
KBL	**Kabul**	**10.62**	**66**	P	**Pn**	**09 54 28.4**	**-0.7**
CHGR	**Chuyangaron**	**12.55**	**48**	Pn	**Pn**	**09 54 55.2**	**-0.2**
CHGR	**Chuyangaron**	**12.55**	**48**	P	**Pn**	**09 54 55.2**	**-0.2**
GAR	**Garm**	**13.49**	**49**		**Pn**	**09 55 08.3**	**0.0**
NIL	**Nilore**	**13.84**	**74**	Pn	**Pn**	**09 55 14.4**	**+1.4**
NIL	**Nilore**	**13.84**	**74**	P	**Pn**	**09 55 14.4**	**+1.4**
SIRT	**Sirnak**	**13.99**	**303**	Pn	**Pn**	**09 55 13.9**	**-1.2**
BTK	**Batken**	**14.41**	**46**	Pn	**Pn**	**09 55 20.2**	**-0.7**
BTK	**Batken**	**14.41**	**46**	P	**Pn**	**09 55 20.2**	**-0.7**
ZEI	**Tsey**	**16.06**	**322**	eP	**P**	**09 55 47.6**	**+1.4**
ZEI				pmax	pmax		
	comp=Z,18nm,1.4s						
ONI	**Oni**	**16.16**	**321**	Pn	**Pn**	**09 55 43.4**	**-0.6**
ONI	**Oni**	**16.16**	**321**	P	**Pn**	**09 55 43.4**	**-0.6**
ONI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KK31	**Karatay Array**	**16.22**	**37**		**Pn**	**09 55 44.5**	**-0.1**
KK31	**Karatay Array**	**16.22**	**37**	P	**Pn**	**09 55 44.5**	**-0.1**
KK31				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KKAR	**Karatay Array**	**16.22**	**37**		**Pn**	**09 55 44.4**	**-0.3**
KKAR	**Karatay Array**	**16.22**	**37**	P	**Pn**	**09 55 44.4**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARSB	**Arslanbob**	**16.49**	**46**		**Pn**	**09 55 47.6**	**-0.6**
ARSB	**Arslanbob**	**16.49**	**46**	P	**Pn**	**09 55 47.6**	**-0.6**
ARSB				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KBZ	**Khabaz**	**17.24**	**323**	*i* P	**Pn**	**09 55 58.4**	**+0.9**
KBZ	**Khabaz**	**17.24**	**323**	P	**Pn**	**09 55 59.2**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=95,slow=6.6,SNR=4.1 comp=Z,2.8nm,0.9s						
ASF	**Jabal al Asfar**	**17.43**	**280**	P	**Pn**	**09 55 58.1**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=87,slow=7.4,SNR=7.7 comp=Z,5.8nm,0.7s						
KIV	**Kislovodsk**	**17.50**	**323**	eP	**Pn**	**09 56 02.1**	**+1.2**
KIV				pmax	pmax		
	comp=Z,19nm,1.0s						
KSH	**Kashi**	**17.59**	**55**	P	Pn	09 55 56.6	-5.5
KSH				pP	P	09 56 01.1	-2.0
KSH				pmax	pmax		
	comp=Z,16nm,1.0s						
AAK	**Ala-Archa**	**18.16**	**45**		**Pn**	**09 56 07.9**	**-1.3**
AAK	**Ala-Archa**	**18.16**	**45**	*ce*P	**Pn**	**09 56 09.0**	**-0.1**
AAK				pmax	pmax		
	comp=Z,22nm,2.5s						
AAK	**Ala-Archa**	**18.16**	**45**	P	**Pn**	**09 56 07.6**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=235,slow=7.5,SNR=11						
AAK				LR	LR	10 04 15.1	
	comp=Z,236nm,20.2s,baz=280,slow=41 comp=Z,4.8nm,0.9s						
ABKAR	**Akbulak array**	**18.58**	**6**		**P**	**09 56 10.5**	**-3.3**
MMAI	**Mount Meron Ar**	**18.70**	**283**	P	**P**	**09 56 13.5**	**-1.8**
	comp=Z,1.1nm,0.3s,baz=108,slow=14,SNR=1.8						
MMAI				LR	LR	10 05 18.4	
	comp=Z,63nm,19.0s,baz=70,slow=43 comp=Z,0.7nm,0.4s						
SOC	**Sochi**	**18.91**	**317**	eP	**P**	**09 56 14.9**	**-2.5**
SOC				*e*		09 59 45.1	
SOC				MLR	MLR		
	comp=Z,89nm,18.0s						
EIL	**Elat**	**19.31**	**272**	P	**P**	**09 56 20.6**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=19,slow=18,SNR=2.2						
EIL				LR	LR	10 05 12.0	
	comp=Z,135nm,18.9s,baz=66,slow=41 comp=Z,4.8nm,0.6s						
BNN	**Bunyan**	**19.32**	**300**	P	**P**	**09 56 20.2**	**-2.0**
BNN				IAmb	IAmb	09 56 28.8	
	comp=Z,21nm,1.0s						
AKTO	**Aktyubinsk**	**19.66**	**1**	P	**P**	**09 56 25.6**	**0.0**
	comp=Z,0.8nm,0.3s,baz=180,slow=9.1,SNR=26						
AKTO				LR	LR	10 05 25.8	
	comp=Z,220nm,21.0s,baz=232,slow=41 comp=Z,8.5nm,0.7s						
TARG	**Taragay, Kyrgy**	**19.80**	**51**	P	**P**	**09 56 27.7**	**0.0**
TARG	**Taragay, Kyrgy**	**19.80**	**51**	P	**P**	**09 56 27.7**	**0.0**
TARG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PRZ	**Przheval'sk**	**20.55**	**49**	P	**P**	**09 56 34.5**	**-1.1**
PRZ				IAmb	IAmb	09 56 54.5	
	comp=Z,11nm,1.0s						
PRZ	**Przheval'sk**	**20.55**	**49**	P	**P**	**09 56 34.5**	**-1.1**
PRZ				pmax	pmax		
	comp=Z,11nm,1.0s						
BR131	**Keskin Array S**	**21.22**	**301**	P	**P**	**09 56 41.7**	**-1.1**
BR131				IAmb	IAmb	09 56 44.3	
	comp=Z,12nm,1.0s						
BR131	**Keskin Array S**	**21.22**	**301**	P	**P**	**09 56 43.2**	**+0.4**
BRTR	**Keskin Array B**	**21.22**	**301**	P	**P**	**09 56 41.9**	**-0.9**
BRTR	**Keskin Array B**	**21.22**	**301**	eP	**P**	**09 56 43.5**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BRTR	**Keskin Array B**	**21.22**	**301**	P	**P**	**09 56 43.3**	**+0.5**
	comp=Z,5.3nm,0.9s,baz=125,slow=12,SNR=19 comp=Z,5.3nm,0.9s						
PYUN	**Piuthan**	**22.55**	**90**	eP	**P**	**09 56 59.2**	**+2.0**
	comp=Z,21nm,0.6s						
SIM	**Simferopol'**	**23.02**	**314**	eP	**P**	**09 57 02.9**	**+1.1**
SIM				pmax	pmax		
	comp=Z,37nm,1.1s						
ISP	**Isparta**	**23.14**	**295**	P	**P**	**09 57 01.5**	**-1.8**
ISP	**Isparta**	**23.14**	**295**	*ce*P	**P**	**09 57 03.6**	**+0.4**
ISP				pmax	pmax		
	comp=Z,16nm,0.6s						
KOLN	**Koldanda**	**23.15**	**91**	eP	**P**	**09 57 04.3**	**+0.8**
	comp=Z,56nm,1.5s						
DANN	**Dangsing**	**23.16**	**89**	eP	**P**	**09 57 04.7**	**+1.0**
	comp=Z,72nm,1.0s						
ATD	**Arta Tunnel**	**23.34**	**218**	LR	LR	10 08 00.0	
	comp=Z,8.3nm,19.9s,baz=23,slow=42						
ELL	**Elmali**	**23.47**	**292**	P	**P**	**09 57 05.9**	**-0.7**
ELL	**Elmali**	**23.47**	**292**	P	**P**	**09 57 05.9**	**-0.7**
ELL				pmax	pmax		
	comp=Z,66nm,0.8s						
BORA	**Eskisehir**	**23.62**	**300**	P	**P**	**09 57 06.3**	**-1.8**
BORA				IAmb	IAmb	09 57 14.1	
	comp=Z,14nm,0.7s						
GKN	**Gorkha**	**23.99**	**90**	eP	**P**	**09 57 12.0**	**+0.3**
	comp=Z,9.7nm,0.4s						
BRVK	**Borovoye**	**24.22**	**19**	P	**P**	**09 57 13.5**	**0.0**
BRVK				IAmb	IAmb	09 57 17.2	
	comp=Z,6.7nm,1.0s						
BRVK	**Borovoye**	**24.22**	**19**	*ce*P	**P**	**09 57 13.4**	**0.0**
BRVK				pmax	pmax		
	comp=Z,12nm,1.3s						
BVAR	**Bovoye Array**	**24.22**	**20**	P	**P**	**09 57 13.7**	**+0.3**
	comp=Z,5.4nm,0.6s,baz=199,slow=7.8,SNR=21						
BVAR				PcP	**PcP**	**10 00 52.7**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=252,slow=2.3,SNR=3.5						
BVAR				LR	LR	10 08 05.7	
	comp=Z,309nm,18.2s,baz=225,slow=40 comp=Z,5.4nm,0.6s						
DMN	**Daman**	**24.48**	**90**	eP	**P**	**09 57 16.5**	**+0.1**
PKI	**Pulchoki**	**24.75**	**90**	eP	**P**	**09 57 19.1**	**+0.1**
	comp=Z,9.5nm,0.5s						
MAKZ	**Makanchi**	**24.91**	**43**	P	**P**	**09 57 20.0**	**+0.2**
MAKZ				IAmb	IAmb	09 57 42.1	
	comp=Z,8.8nm,0.7s						
MAKZ	**Makanchi**	**24.91**	**43**	P	**P**	**09 57 20.0**	**+0.2**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GUN	**Gumba**	**25.08**	**89**	eP	**P**	**09 57 22.6**	**+0.7**
	comp=Z,49nm,1.0s						
MK31	**Makanchi Array**	**25.08**	**43**	P	**P**	**09 57 21.6**	**+0.3**
MK31	**Makanchi Array**	**25.08**	**43**	*i* P	**P**	**09 57 20.8**	**-0.6**
MKAR	**Makanchi Array**	**25.08**	**43**	P	**P**	**09 57 21.4**	**+0.1**
MKAR	**Makanchi Array**	**25.08**	**43**	eP	**P**	**09 57 21.9**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**25.08**	**43**	P	**P**	**09 57 21.6**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=230,slow=9.5,SNR=24						
MKAR				LR	LR	10 08 44.9	
	comp=Z,168nm,18.8s,baz=314,slow=40 comp=Z,1.8nm,0.5s						
KURBB	**Kurchatov Arra**	**25.40**	**33**	P	**P**	**09 57 24.4**	**+0.3**
	comp=Z,4.8nm,0.7s,baz=232,slow=9.0,SNR=32						
KURBB				LR	LR	10 08 47.5	
	comp=Z,174nm,21.5s,baz=180,slow=40 comp=Z,4.8nm,0.7s						
JIRN	**Jiri**	**25.41**	**90**	eP	**P**	**09 57 25.3**	**+0.4**
	comp=Z,38nm,0.8s						
KURK	**Kurchatov**	**25.51**	**33**	P	**P**	**09 57 24.9**	**-0.2**
KURK				IAmb	IAmb	09 57 26.6	
	comp=Z,4.7nm,0.7s						
KURK	**Kurchatov**	**25.51**	**33**	*ce*P	**P**	**09 57 25.1**	**0.0**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KARP	**Karpathos**	**25.60**	**289**	P	**P**	**09 57 25.6**	**-0.5**
ARU	**Arti**	**25.67**	**2**	*c i* P	**P**	**09 57 28.9**	**+2.3**
ARU						09 58 03.1	
ARU				S	**S**	**10 01 59.6**	**+4.7**
ARU				SS	**SnSn**	**10 02 52.3**	**+3.1**
ARU				pmax	pmax		
	comp=Z,14nm,1.7s						
ARU	**Arti**	**25.67**	**2**	LR	LR	10 09 37.1	
	comp=Z,60nm,20.6s,baz=188,slow=41						
RAMN	**Ramite**	**25.94**	**91**	eP	**P**	**09 57 29.8**	**+0.2**
	comp=Z,32nm,0.6s						
KIRV	**Kirov**	**28.33**	**351**	LR	LR	10 10 00.4	
	comp=Z,85nm,21.4s,baz=107,slow=38						
OBN	**Obninsk**	**28.45**	**335**	P	**P**	**09 57 50.4**	**-1.1**
OBN	**Obninsk**	**28.45**	**335**	*ce*P	**P**	**09 57 51.1**	**-0.4**
OBN						09 58 45.0	
OBN				PPP	PPP	09 58 51.0	
OBN				pmax	pmax		
	comp=Z,29nm,1.3s						
OBN				MLR	MLR		
	comp=Z,112nm,19.0s						
AKASG	**Malin Array Be**	**28.84**	**322**	eP	**P**	**09 57 55.2**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**28.84**	**322**	P	**P**	**09 57 54.8**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=129,slow=7.9,SNR=7.5 comp=Z,1.0nm,0.5s						
AKBB	**Malin Array Si**	**28.84**	**322**	P	**P**	**09 57 54.4**	**-0.7**
AKBB				IAmb	IAmb	09 57 55.8	
	comp=Z,5.0nm,0.6s						
AKBB	**Malin Array Si**	**28.84**	**322**	eP	**P**	**09 57 54.2**	**-0.9**
KIEV	**Kiev**	**28.85**	**322**	P	**P**	**09 57 54.3**	**-0.9**
KIEV				IAmb	IAmb	09 57 55.8	
	comp=Z,4.4nm,0.7s						
KIEV	**Kiev**	**28.85**	**322**	P	**P**	**09 57 54.3**	**-0.9**
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
DGZ	**Jazzator, Alta**	**29.51**	**41**	*i* P	**P**	**09 58 01.0**	**-0.2**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BURAR	**Bucovina Array**	**29.72**	**314**	P	**P**	**09 58 02.1**	**-1.0**
BUR08	**Bucovina Ar. S**	**29.75**	**314**	P	**P**	**09 58 03.4**	**+0.1**
BUR08				IAmb	IAmb	09 58 05.7	
	comp=Z,2.7nm,0.9s						
ZAA0	**Zalesovo Array**	**30.50**	**33**	P	**P**	**09 58 09.1**	**-0.7**
ZALV	**Zalesovo Beam**	**30.50**	**33**	P	**P**	**09 58 09.7**	**0.0**
	comp=Z,9.1nm,0.6s,baz=238,slow=9.4,SNR=50						
ZALV				LR	LR	10 11 58.9	
	comp=Z,188nm,18.4s,baz=280,slow=39 comp=Z,9.1nm,0.6s						
SHL	**Shillong**	**30.88**	**91**	P	**P**	**09 58 12.6**	**-1.0**
SHL				IAmb	IAmb	09 58 15.0	
	comp=Z,5.0nm,0.9s						
SHL	**Shillong**	**30.88**	**91**	P	**P**	**09 58 12.6**	**-1.0**
SHL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
OJC	**Ojcow**	**34.01**	**316**	P	**P**	**09 58 39.2**	**-1.4**
OJC				IAmb	IAmb	09 58 41.7	
	comp=Z,10nm,1.1s						
OJC	**Ojcow**	**34.01**	**316**	P	**P**	**09 58 39.2**	**-1.4**
OJC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
RONA	**Rosalia, Austr**	**35.48**	**310**	*i* pP	**P**	**09 58 53.2**	**-0.2**
	comp=Z,4.4nm,0.8s						
GTA	**Gaotai**	**35.60**	**64**	eP	**P**	**09 58 55.6**	**+1.0**
GTA				pP	pP	09 58 59.9	+1.7
GTA				sP	sP	09 59 02.3	+2.7
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
DPC	**Dobruska-Polom**	**36.16**	**315**	eP	**P**	**09 59 02.9**	**+3.7**
DPC	**Dobruska-Polom**	**36.16**	**315**	eP	**P**	**09 59 02.9**	**+3.7**
MOA	**Molln**	**36.85**	**310**	*ep*P	**P**	**09 59 05.0**	**0.0**
	comp=Z,6.9nm,0.9s						
FINES	**FINESS Array B**	**36.85**	**335**	eP	**P**	**09 59 05.4**	**+0.6**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FINES	**FINESS Array B**	**36.85**	**335**	P	**P**	**09 59 04.7**	**-0.1**
	comp=Z,5.8nm,0.7s,baz=138,slow=8.9,SNR=16 comp=Z,5.8nm,0.7s						
KMBO	**Kilima Mbogo**	**36.99**	**215**	LR	LR	10 15 30.9	
	comp=Z,54nm,18.3s,baz=93,slow=38						
CKRC	**Cesky Krumlov**	**37.03**	**312**	eP	**P**	**09 59 06.7**	**+0.1**
CKRC	**Cesky Krumlov**	**37.03**	**312**	eP	**P**	**09 59 06.7**	**+0.1**
ZVC	**Zvikov**	**37.25**	**313**	eP	**P**	**09 59 08.6**	**+0.2**
KBA	**Koelnbreinsper**	**37.32**	**309**	*ep*P	**P**	**09 59 09.3**	**0.0**
	comp=Z,3.5nm,0.6s						
GERES	**GERESS Array B**	**37.43**	**311**	P	**P**	**09 59 09.8**	**-0.2**
	comp=Z,4.7nm,0.7s,baz=98,slow=9.6,SNR=10 comp=Z,4.7nm,0.7s						
KHC	**Kasperske Hory**	**37.57**	**312**	P	**P**	**09 59 10.3**	**-0.9**
KHC				IAmb	IAmb	09 59 12.2	
	comp=Z,3.7nm,0.8s						
KHC	**Kasperske Hory**	**37.57**	**312**	eP	**P**	**09 59 11.0**	**-0.2**
KHC	**Kasperske Hory**	**37.57**	**312**	*ce*P	**P**	**09 59 09.4**	**-1.8**
KHC				pmax	pmax		
	comp=Z,16nm,1.7s						
KIBK	**Kibwezi**	**37.67**	**213**	P	**P**	**09 59 11.2**	**-1.2**
KIBK				IAmb	IAmb	09 59 18.3	
	comp=Z,2.8nm,1.0s						
CIMO	**Cimolais**	**37.81**	**307**	P	**P**	**09 59 11.9**	**-1.3**
CIMO				IAmb	IAmb	09 59 13.5	
	comp=Z,3.8nm,0.8s						
LESA	**Schwarzleotal**	**37.82**	**309**	*ep*P	**P**	**09 59 13.2**	**-0.3**
	comp=Z,5.8nm,0.7s						
CLL	**Collm**	**38.45**	**315**	eP	**P**	**09 59 20.0**	**+1.5**
CLL				*es*P	**pP**	**09 59 23.0**	**+0.8**
CLL	**Collm**	**38.45**	**315**	eP	**P**	**09 59 20.0**	**+1.5**
WTTA	**Wattenberg**	**38.50**	**309**	*i* pP	**P**	**09 59

SUR	**Sutherland**	**71.66**	**212**	LR	LR	10 39 21.4	
	comp=Z,46nm,19.2s,baz=0.5,slow=40						
SCHQ	**Schefferville**	**82.19**	**331**	P	**P**	**10 04 16.7**	**-1.1**
	comp=Z,8.0nm,1.0s,baz=43,slow=4.7,SNR=4.0						
	comp=Z,8.0nm,1.0s						
ILAR	**Eielson Array**	**82.92**	**10**	*e*P	**P**	**10 04 21.2**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**82.92**	**10**	P	**P**	**10 04 20.1**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=316,slow=4.4,SNR=8.3						
	comp=Z,0.6nm,0.7s						
YKA	**Yellowknife Ar**	**86.84**	**356**	*e*P	**P**	**10 04 40.6**	**-0.5**
YKA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
YKA	**Yellowknife Ar**	**86.84**	**356**	P	**P**	**10 04 39.9**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=358,slow=5.0,SNR=11						
	comp=Z,0.9nm,0.9s						
KDAK	**Kodiak Island**	**88.29**	**15**	LR	LR	10 50 02.6	
	comp=Z,80nm,18.4s,baz=62,slow=40						
WRA	**Warramunga Arr**	**89.51**	**114**	*e*P	**P**	**10 04 55.6**	**+1.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**89.51**	**114**	P	**P**	**10 04 53.1**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=316,slow=4.3,SNR=7.3						
	comp=Z,0.5nm,0.6s						
ASAR	**Alice Springs**	**91.19**	**117**	P	**P**	**10 05 01.0**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=310,slow=5.3,SNR=6.9						
	comp=Z,0.9nm,0.9s						

MOS ***13*** *09:56:53.4±1.9, 44.°85N×79.°95E, h12km, mb4.4/2, Error ellipse: s-maj=22.7km s-min=8.4km az=65.8*
NNC ***13*** *09:56:54.7±0.5, 44.°73N×80.°00E, h1km, 2km, mb4.2, mpv4.1, Error ellipse: s-maj=3.4km s-min=2.2km az=69.0*
SOME ***13*** *09:56:55.0, 44.°72N×80.°03E, h15km*

ISC 13 09:56:52.7±1.2, 44.°73N±0.°02×80.°15E±0.°04, h5km±9km, n77, σ1°8/99, 10C-8D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**0.47**	**213**	*e*P	**Pb**	**09 57 03.8**	**+0.2**
DJR	778nm,0.2s			*e*S	**Sb**	**09 57 10.1**	**-0.9**
	2μm,0.2s						
DJR	**Jarkent**	**0.47**	**213**	P	**Pb**	**09 57 03.8**	**+0.2**
DJR	778nm,0.2s			S	**Sb**	**09 57 10.1**	**-0.9**
	2μm,0.2s						
KNOS	**Konyrlen**	**0.79**	**242**	P	**Pb**	**09 57 08.6**	**-0.4**
KNOS	128nm,0.2s			S	**Sg**	**09 57 18.3**	**+0.3**
	185nm,0.2s						
KAPS	**Kapalarasan**	**0.79**	**315**	*e*P	**Pb**	**09 57 08.9**	**-0.1**
KAPS	60nm,0.1s			*e*S	**Sg**	**09 57 18.8**	**+0.8**
	146nm,0.2s						
KAPS	**Kapalarasan**	**0.79**	**315**	P	**Pb**	**09 57 08.9**	**-0.1**
KAPS	60nm,0.1s			S	**Sg**	**09 57 18.8**	**+0.8**
	146nm,0.2s						
TDK	**Taldyqorghan**	**1.27**	**283**	*e*P	**Pg**	**09 57 16.8**	**-0.2**
TDK	146nm,0.5s			*e*S	**Sg**	**09 57 32.5**	**-1.0**
	474nm,0.3s						
TDK	**Taldyqorghan**	**1.27**	**283**	P	**Pg**	**09 57 16.8**	**-0.2**
TDK	146nm,0.5s			S	**Sg**	**09 57 32.5**	**-1.0**
	474nm,0.3s						
KTMS	**Ketmen**	**1.29**	**173**	*e*P	**Pn**	**09 57 18.2**	**+0.6**
KTMS	31nm,0.1s			*e*S	**Sn**	**09 57 34.9**	**-0.5**
	178nm,0.2s						
KTMS	**Ketmen**	**1.29**	**173**	P	**Pn**	**09 57 18.2**	**+0.6**
KTMS	31nm,0.1s			S	**Sn**	**09 57 34.9**	**-0.5**
	178nm,0.2s						
BLB	**Baldybastay**	**1.35**	**243**	P	**Pg**	**09 57 18.4**	**-0.2**
BLB	241nm,0.2s			S	**Sg**	**09 57 35.2**	**-1.0**
	212nm,0.2s						
PDGK	**Podgornoye**	**1.48**	**199**	PN	**Pb**	**09 57 21.4**	**+0.6**
PDGK				S	**Sn**	**09 57 41.1**	**+1.1**
PDGK	**Podgornoye**	**1.48**	**199**	P	**Pb**	**09 57 21.7**	**+0.9**
PDGK	15nm,0.1s			S	**Sn**	**09 57 40.8**	**+0.8**
	121nm,0.2s						
PDGK	**Podgornoye**	**1.48**	**199**	⇓P	**Pb**	**09 57 21.4**	**+0.6**
PDGK	10nm,0.3s			⇑S	**Sn**	**09 57 41.0**	**+1.1**
	275nm,0.8s						
KPKS	**Kokpek**	**1.65**	**220**	*e*P	**Pg**	**09 57 24.4**	**+0.2**
KPKS	261nm,0.3s			*e*S	**Sg**	**09 57 45.5**	**-0.2**
	718nm,0.4s						
KPKS	**Kokpek**	**1.65**	**220**	*e*PN	**Pg**	**09 57 24.3**	**0.0**
KPKS	**Kokpek**	**1.65**	**220**	P	**Pg**	**09 57 24.4**	**+0.2**
KPKS	261nm,0.3s			S	**Sg**	**09 57 45.4**	**-0.2**
	718nm,0.4s						
SHLS	**Shalkode**	**1.65**	**198**	*e*P	**Pg**	**09 57 23.9**	**-0.4**
SHLS	29nm,0.2s			*e*S	**Sn**	**09 57 44.5**	**+0.4**
	631nm,0.5s						
SHLS	**Shalkode**	**1.65**	**198**	*e*PN	**Pb**	**09 57 23.7**	**0.0**
SHLS	**Shalkode**	**1.65**	**198**	P	**Pg**	**09 57 23.9**	**-0.4**
SHLS	29nm,0.2s			S	**Sn**	**09 57 44.5**	**+0.4**
	631nm,0.5s						
ARXS	**Arharly**	**1.74**	**253**	*e*P	**Pb**	**09 57 25.6**	**+0.3**
ARXS	100nm,0.3s			*e*S	**Sb**	**09 57 47.7**	**+0.3**
	257nm,0.3s						
ARXS	**Arharly**	**1.74**	**253**	*e*PN	**Pb**	**09 57 25.0**	**-0.2**
ARXS	**Arharly**	**1.74**	**253**	P	**Pb**	**09 57 25.6**	**+0.3**
ARXS	100nm,0.3s			S	**Sb**	**09 57 47.7**	**+0.3**
	257nm,0.3s						
UZB	**Uzynbulak**	**1.78**	**208**	*e*P	**Pg**	**09 57 26.9**	**0.0**
UZB	108nm,0.1s			*e*S	**Sg**	**09 57 49.8**	**-0.1**
	803nm,0.2s						
UZB	**Uzynbulak**	**1.78**	**208**	*e*PN	**Pg**	**09 57 26.3**	**-0.5**
UZB	**Uzynbulak**	**1.78**	**208**	P	**Pg**	**09 57 26.9**	**0.0**
UZB	108nm,0.1s			S	**Sg**	**09 57 49.8**	**-0.1**
	803nm,0.2s						
KURS	**Kuram**	**1.89**	**230**	*e*P	**Pb**	**09 57 28.2**	**+0.4**
KURS	32nm,0.1s			*e*S	**Sb**	**09 57 52.2**	**+0.5**
	57nm,0.3s						
KURS	**Kuram**	**1.89**	**230**	P	**Pb**	**09 57 28.2**	**+0.4**
KURS	32nm,0.1s			S	**Sb**	**09 57 52.2**	**+0.5**
	57nm,0.3s						
ZHN	**Zhinishke**	**1.99**	**219**	*e*P	**Pg**	**09 57 30.1**	**-0.8**
ZHN	185nm,0.2s			*e*S	**Sb**	**09 57 55.1**	**+0.4**
	514nm,0.1s						
ZHN	**Zhinishke**	**1.99**	**219**	P	**Pg**	**09 57 30.1**	**-0.8**
ZHN	185nm,0.2s			S	**Sb**	**09 57 55.1**	**+0.4**
	514nm,0.1s						
SATY	**Saty**	**2.09**	**218**	*e*Pg	**Pb**	**09 57 31.4**	**+0.2**
SATY	82nm,0.1s			*e*Lg	Lg	09 57 57.8	
	453nm,0.1s						
SATY	**Saty**	**2.09**	**218**	Pg	**Pb**	**09 57 31.4**	**+0.2**
SATY	82nm,0.1s			Lg	Lg	09 57 57.8	
	453nm,0.1s						
CHKK	**Chushkaly**	**2.43**	**250**	*e*Pg	**Pb**	**09 57 37.5**	**+0.5**
CHKK	32nm,0.1s			*e*Lg	Lg	09 58 07.9	
	188nm,0.1s						
CHKK	**Chushkaly**	**2.43**	**250**	Pg	**Pb**	**09 57 37.5**	**+0.5**
CHKK	32nm,0.1s			Lg	Lg	09 58 07.9	
	188nm,0.1s						
MAKZ	**Makanchi**	**2.44**	**31**	PN	**Pb**	**09 57 37.5**	**+0.4**
MK31	**Makanchi Array**	**2.55**	**35**	*i* PN	**Pb**	**09 57 38.7**	**-0.3**
KOTS	**Kotyrbulak**	**2.65**	**237**	*e*Pg	**Pb**	**09 57 41.2**	**+0.4**
KOTS	40nm,0.2s			*e*Lg	Lg	09 58 14.2	
	107nm,0.2s						
KOTS	**Kotyrbulak**	**2.65**	**237**	Pg	**Pb**	**09 57 41.2**	**+0.4**
KOTS	40nm,0.2s			Lg	Lg	09 58 14.2	
	107nm,0.2s						
MDOK	**Medeo**	**2.73**	**236**	*e*Pg	**Pb**	**09 57 42.8**	**+0.6**
MDOK	52nm,0.3s			*e*Lg	Lg	09 58 17.1	
	43nm,0.1s						
MDOK	**Medeo**	**2.73**	**236**	PN	**Pb**	**09 57 41.2**	**-1.0**
MDOK	**Medeo**	**2.73**	**236**	⇑Pg	**Pb**	**09 57 41.2**	**-1.0**
MDOK	35nm,0.5s			Pg	**Pb**	**09 57 42.8**	**+0.6**
MDOK	52nm,0.3s			Lg	Lg	09 58 17.0	
MDOK	43nm,0.1s			⇑Lg	Lg	09 58 19.2	
	23nm,0.6s						
KNDC	**Almaty**	**2.75**	**238**	PN	**Pb**	**09 57 41.2**	**-1.2**
KNDC	**Almaty**	**2.75**	**238**	⇓Pg	**Pb**	**09 57 41.2**	**-1.2**
KNDC	35nm,0.3s			⇓Lg	Lg	09 58 19.2	
	100nm,0.7s						
KUU	**Kurty**	**2.86**	**254**	*e*Pg	**Pb**	**09 57 45.0**	**+0.7**
KUU	13nm,0.2s			*e*Lg	Lg	09 58 20.8	
	116nm,0.3s						
KUU	**Kurty**	**2.86**	**254**	Pg	**Pb**	**09 57 45.0**	**+0.7**
KUU	15nm,0.1s			Lg	Lg	09 58 20.8	
	116nm,0.3s						
TNSS	**Tian-Shan**	**2.87**	**235**	*e*Pg	**Pb**	**09 57 45.7**	**+1.1**
TNSS	20nm,0.2s			*e*Lg	Lg	09 58 22.1	
	29nm,0.2s						
TNSS	**Tian-Shan**	**2.87**	**235**	Pg	**Pb**	**09 57 45.7**	**+1.1**
TNSS	20nm,0.2s			Lg	Lg	09 58 22.1	
	29nm,0.2s						
MTBS	**Maitube**	**3.13**	**240**	*e*Pg	**Pb**	**09 57 50.3**	**+1.4**
MTBS	19nm,0.2s			*e*Lg	Lg	09 58 29.8	
	82nm,0.2s						
MTBS	**Maitube**	**3.13**	**240**	Pg	**Pb**	**09 57 50.3**	**+1.4**
MTBS	19nm,0.2s			Lg	Lg	09 58 29.8	
	82nm,0.2s						
KST	**Kastek**	**3.46**	**242**	*e*Pg	**Pb**	**09 57 56.2**	**+1.6**
KST	8.4nm,0.2s			*e*Lg	Lg	09 58 40.0	
	39nm,0.5s						
KST	**Kastek**	**3.46**	**242**	Pg	**Pb**	**09 57 56.2**	**+1.6**
KST	8.4nm,0.2s			Lg	Lg	09 58 40.0	
	39nm,0.5s						
DGS	**Degeres**	**3.49**	**246**	*e*Pg	**Pb**	**09 57 56.4**	**+1.4**
DGS	23nm,0.2s			*e*Lg	Lg	09 58 40.5	
	67nm,0.3s						
DGS	**Degeres**	**3.49**	**246**	Pg	**Pb**	**09 57 56.4**	**+1.4**
DGS	23nm,0.2s			Lg	Lg	09 58 40.5	
	67nm,0.3s						
TKM2	**Tokmak 2**	**3.76**	**243**	P	**Pb**	**09 57 59.5**	**-0.2**
	SNR=10						
TKM2	**Tokmak 2**	**3.76**	**243**	PN	**Pb**	**09 58 02.2**	**+2.5**
TKM2	**Tokmak 2**	**3.76**	**243**	⇓Pg	**Pb**	**09 58 02.2**	**+2.5**
TKM2	6.9nm,0.3s			⇑Lg	Lg	09 58 50.2	
	15nm,0.7s						
ULHL	**Ulahol**	**3.77**	**230**	P	**Pg**	**09 58 04.4**	**-0.6**
	SNR=7.9						
SGDS	**Sogindy**	**4.17**	**254**	Pg	**Pb**	**09 58 09.1**	**+2.4**
SGDS	5.3nm,0.3s			Lg	Lg	09 59 02.2	
	26nm,0.3s						
ZSN	**Zaisan**	**4.26**	**49**	*e*Pg	**Pb**	**09 58 08.8**	**+0.7**
ZSN	9.0nm,0.3s			*e*Lg	Lg	09 59 02.0	
	8.0nm,0.4s						
ZSN	**Zaisan**	**4.26**	**49**	Pg	**Pb**	**09 58 08.8**	**+0.7**
ZSN	9.0nm,0.3s			Lg	Lg	09 59 02.0	
	8.0nm,0.4s						
CHMS	**Chumysh**	**4.27**	**248**	PN	**Pb**	**09 58 09.6**	**+1.3**
CHMS	**Chumysh**	**4.27**	**248**	⇓Pg	**Pb**	**09 58 09.6**	**+1.3**
CHMS	6.9nm,0.5s			⇓Lg	Lg	09 59 06.1	
	13nm,0.5s						
KBK	**Karagaybulak**	**4.30**	**243**	P	**Pb**	**09 58 11.8**	**+2.9**
	SNR=5.3						
USP	**Ospenovka**	**4.33**	**252**	P	**Pb**	**09 58 11.7**	**+2.3**
	SNR=8.7						
KZA	**Kyzart**	**4.45**	**235**	P	**Pg**	**09 58 16.7**	**-1.2**
	SNR=7.6						
AAK	**Ala-Archa**	**4.60**	**245**	P	**Pb**	**09 58 15.9**	**+1.9**
	SNR=9.2						
UCH	**Uchtor**	**4.80**	**241**	P	**Pb**	**09 58 20.6**	**+2.9**
	SNR=8.8						
AML	**Almayashu**	**5.37**	**243**	⇑Pg	**Pb**	**09 58 29.9**	**+2.6**
AML	0.5nm,0.6s			⇑Lg	Lg	09 59 43.1	
	0.8nm,0.5s						
MRKS	**Merke**	**5.39**	**251**	*e*Pg	**Pg**	**09 58 33.9**	**-2.1**
MRKS	5.5nm,0.3s			*e*Lg	Lg	09 59 44.3	
	8.4nm,0.3s						
MRKS	**Merke**	**5.39**	**251**	Pg	**Pg**	**09 58 33.9**	**-2.1**
MRKS	5.5nm,0.3s			Lg	Lg	09 59 44.3	
	8.4nm,0.3s						
KURBB	**Kurchatov Arra**	**6.00**	**350**	⇓Lg	Lg	10 00 04.0	
	36nm,0.8s						
KURK	**Kurchatov**	**6.08**	**351**	⇑Lg	Lg	10 00 04.8	
	25nm,0.7s						
OTUK	**Ortayu**	**6.43**	**306**	⇑Lg	Lg	10 00 15.2	
	7.1nm,0.5s						
DGZ	**Jazzator, Alta**	**7.02**	**42**	*i* PN	**Pn**	**09 58 38.1**	**+1.8**
KK31	**Karatay Array**	**7.14**	**260**	P*	Pb	09 59 02.6	+5.3
KK31	**Karatay Array**	**7.14**	**260**	⇓Pg	Pb	09 59 02.6	+5.4
	0.4nm,0.5s,baz=68,slow=18,SNR=3.9						
KK31				⇑Lg	Lg	10 00 37.1	
	3.7nm,0.8s						
KBZ	**Khabaz**	**26.56**	**281**	*i* P	**P**	**10 02 30.0**	**-1.5**
KBZ				pmax	pmax		
	comp=Z,3.0nm,1.5s						
OBN	**Obninsk**	**29.45**	**306**	⇑*e*P	**P**	**10 02 56.4**	**-0.8**
OBN						10 03 50.0	
OBN				S	**S**	**10 07 51.0**	**-0.6**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,67nm,12.0s						

BER ***13*** *10:05:20.1±2.4, 81.°59N×3.°46W, h10km, mb(Pn)3.3, ML1.7(DNK), Confirmed Earthquake*
DNK ***13*** *10:05:20.0±1.8, 81.°71N×3.°27W, h35km±18km, ML1.7*
IEPN ***13*** *10:05:22.0, 81.°35N×2.°86W, h10km*
KOLA ***13*** *10:05:26.8, 81.°38N×1.°28W, h0km, ML2.1, Error ellipse: s-maj=81.0km s-min=18.4km az=40.0, Greenland sea, Arctic Ocean, Knipovich ridge, north*

ISC 13 10:05:14.9±1.1, 81.°66N±0.°08×3.°68W±0.°05, h10km, n22, σ2°76/32, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**1.90**	**275**	*e*P	**Pn**	**10 05 49.9**	**+2.6**
NOR	**Nord**	**1.90**	**275**	*i* P	**Pn**	**10 05 49.6**	**+2.2**
NOR				IAML		10 06 13.7	
	comp=Z,8.8nm,0.4s						
KBS	**Kingsbay**	**3.80**	**128**	*e*P	**Pn**	**10 06 15.5**	**+2.1**
KBS				*e*S	**Sn**	**10 06 54.8**	**-3.2**
KBS	**Kingsbay**	**3.80**	**128**	P	**Pn**	**10 06 15.7**	**+2.3**
KBS				S	**Sn**	**10 06 55.2**	**-2.7**
KBS	**Kingsbay**	**3.80**	**128**	*e*P	**Pn**	**10 06 16.0**	**+2.7**
KBS				*e*S	**Sn**	**10 06 55.5**	**-2.5**
KBS				IAML		10 07 02.3	
	comp=Z,4.1nm,0.2s						
KBS	**Kingsbay**	**3.80**	**128**	*i* P	**Pn**	**10 06 15.2**	**+1.8**
KBS				*i* S	**Sn**	**10 06 55.7**	**-2.3**
BRBB	**Barentsburg B**	**4.74**	**130**	P	**Pn**	**10 06 30.0**	**+3.7**
BRBB				S	**Sn**	**10 07 19.4**	**-1.9**
BRBB	**Barentsburg B**	**4.74**	**130**	*e*P	**Pn**	**10 06 30.8**	**+4.4**
SPA0	**Spitsbergen Ar**	**4.93**	**125**	*e*P	**Pn**	**10 06 30.9**	**+2.0**
SPA0				*e*S	**Sn**	**10 07 22.0**	**-3.8**
SPA0	**Spitsbergen Ar**	**4.93**	**125**	*e*P	**Pn**	**10 06 31.2**	**+2.4**
SPA0				*e*S	**Sn**	**10 07 23.8**	**-2.0**
SPA0				IAML		10 07 43.6	
	comp=Z,4.5nm,1.0s						
SPITS	**Spitsbergen Ar**	**4.93**	**125**	P	**Pn**	**10 06 31.4**	**+2.5**
SPITS				S	**Sn**	**10 07 24.0**	**-1.8**
DAG	**Danmarks Havn**	**5.63**	**217**	*e*P	**Pn**	**10 06 41.9**	**+3.4**
DAG				*e*S	**Sn**	**10 07 40.3**	**-2.8**
DAG	**Danmarks Havn**	**5.63**	**217**	*e*	Pn	10 06 37.7	-0.8
	baz=30,slow=14						
DAG				*i* P	**Pn**	**10 06 41.5**	**+3.0**
DAG				*i* P	**Pn**	**10 06 42.0**	**+3.5**
DAG				*i* S	**Sn**	**10 07 40.4**	**-2.8**
DAG				IAML		10 07 49.6	
	comp=Z,4.3nm,0.4s						
HSPB	**Hornsund (broa**	**5.84**	**133**	P	**Pn**	**10 06 45.1**	**+3.8**
ZFI2	**Zemlya Franca-**	**7.66**	**70**	*e*P	**Pn**	**10 07 07.1**	**+0.8**
ZFI2				*e*S	Sn	10 08 27.2	-5.7
OMEGA	**Omega**	**7.68**	**70**	*e*P	**Pn**	**10 07 07.1**	**+0.5**
OMEGA				*e*S	Sn	10 08 26.7	-6.8
	comp=Z,23nm,1.9s						
DBG	**Daneborg**	**8.10**	**213**	*e*P	**Pn**	**10 07 14.4**	**+2.1**
DBG				*e*S	Sn	10 08 37.5	-6.3
DBG	**Daneborg**	**8.10**	**213**	*e*P	**Pn**	**10 07 14.0**	**+1.7**
DBG				*i* S	**Sn**	**10 08 40.0**	**-3.7**
DBG				IAML		10 08 46.5	
	comp=Z,2.2nm,0.4s						
NEEM	**North Greenlan**	**9.27**	**269**	*e*S	Sn	10 09 04.6	-8.2
NEEM				IAML		10 09 11.3	
	comp=Z,1.1nm,0.3s						
NEEM	**North Greenlan**	**9.27**	**269**	*e*S	Sn	10 09 04.6	-8.2
NEEM				IAML		10 09 11.3	
	comp=Z,1.1nm,0.3s						
SUMG	**Summit**	**11.63**	**238**	*e*P	**Pn**	**10 08 02.3**	**+1.2**
SUMG				IAML		10 10 12.1	
	comp=Z,0.9nm,0.3s						
SUMG	**Summit**	**11.63**	**238**	*e*P	**Pn**	**10 08 02.3**	**+1.2**
SUMG				IAML		10 10 12.1	
	comp=Z,0.9nm,0.3s						

IDC 13 10:28:50.0±396.0, 57.°66N×31.°91E, h0km, Error ellipse: s-maj=162.1km s-min=87.6km az=100.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**3.04**	**106**	I	I	10 48 00.0	
	0.2nm,0.9s,baz=289,slow=297,SNR=2.0						
I37NO	**I37NO**	**12.87**	**338**	I	I	11 41 20.0	
	baz=140,slow=337,SNR=1.3						
I31KZ	**AKTYUBINSK INF**	**16.90**	**104**	I	I	12 11 40.0	
	baz=304,slow=333,SNR=0.9						
I46RU	**ZALESOVO INFRA**	**29.33**	**74**	I	I	13 32 10.0	
	baz=297,slow=331,SNR=1.4						
I34MN	**SONGINO INFRAS**	**43.98**	**69**	I	I	15 00 00.0	
	baz=309,slow=334,SNR=0.5						

IDC 13 10:29:32.1±955.0, 54.°29N×3.°71E, h0km, Error ellipse: s-maj=426.0km s-min=157.1km az=114.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**8.28**	**127**	I	I	11 22 10.0	
	0.1nm,0.7s,baz=313,slow=323,SNR=1.1						
I43RU	**DUBNA INFRASON**	**19.02**	**69**	I	I	12 22 20.0	
	baz=274,slow=312,SNR=1.1						
I31KZ	**AKTYUBINSK INF**	**32.72**	**74**	I	I	13 47 20.0	
	baz=298,slow=337,SNR=2.4						

UPP ***13*** *10:32:30.7±2.7, 59.°98N×24.°27E, h0km, ML2.0*
IDC ***13*** *10:32:30.9±2.7, 59.°90N×24.°51E, h0km, mbtmp3.3/2, ML2.1/2, Error ellipse: s-maj=25.1km s-min=8.4km az=148.0*
EST ***13*** *10:32:31.4, 59.°98N×24.°24E, h0km, ML1.8(HEL), Explosion*
HEL ***13*** *10:32:31.4±0.1, 59.°98N×24.°24E, h0km, ML1.8, Explosion*

ISC 13 10:32:29.9±0.8, 59.°94N±0.°03×24.°25E±0.°03, h0km, n34, σ0°90/45, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.29**	**15**	*e*P	**Pg**	**10 32 35.9**	**+0.5**
MEF	**Metsahovi**	**0.29**	**15**	*e*P	**Pg**	**10 32 35.9**	**+0.5**
MEF				*e*S	**Sg**	**10 32 39.4**	**+0.3**
HEL1	**Helsinki**	**0.40**	**53**	*e*P	**Pg**	**10 32 38.0**	**+0.5**
HEL1				*e*S	**Sg**	**10 32 43.3**	**+0.7**
NUR	**Nurmijrvi**	**0.60**	**19**	*e*P	**Pg**	**10 32 41.6**	**+0.1**
NUR				*e*S	**Sg**	**10 32 48.8**	**-0.5**
EE01	**Perakula, Nova**	**0.80**	**204**	*e*P	**Pg**	**10 32 45.4**	**+0.1**
PVF	**Pernaja**	**1.01**	**52**	*e*P	**Pg**	**10 32 49.1**	**-0.1**
PVF				*e*S	**Sg**	**10 33 02.2**	**0.0**
ARBE	**Arbavere**	**1.01**	**119**	*e*P	**Pb**	**10 32 50.3**	**0.0**
MTSE	**Matsula**	**1.25**	**190**	*e*P	**Pg**	**10 32 54.2**	**+0.3**
MTSE	**Matsula**	**1.25**	**190**	*e*P	**Pg**	**10 32 54.0**	**+0.2**
MTSE				*e*S	**Sb**	**10 33 11.1**	**+0.1**
EE08	**Sarghaua, Vand**	**1.38**	**158**	*e*P	**Pg**	**10 32 56.1**	**-0.3**
EE03	**Tooma soojaam,**	**1.49**	**135**	*e*P	**Pn**	**10 32 58.1**	**+0.2**
EE03				*e*S	**Sn**	**10 33 17.8**	**-0.2**
RAF	**Rauma**	**1.64**	**312**	*e*P	**Pn**	**10 33 00.1**	**+0.1**
RAF	**Rauma**	**1.64**	**312**	*e*P	**Pn**	**10 33 00.0**	**+0.1**
RAF				*e*S	**Sn**	**10 33 21.2**	**-0.5**
VJF	**Virojoki**	**1.75**	**69**	MSG		10 33 27.5	
	comp=Z,6.7nm,0.1s						
FIA0	**FINESS Array S**	**1.75**	**30**	*e*PG	**Pn**	**10 33 02.3**	**+0.7**
FIA0				*e*SG	**Sn**	**10 33 24.5**	**-0.1**
FINES	**FINESS Array B**	**1.75**	**30**	Pg	**Pn**	**10 33 02.3**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=204,slow=16,SNR=28						
FINES				Lg	Lg	10 33 24.6	
	comp=Z,2.7nm,0.3s,baz=208,slow=23,SNR=25						
FIA1	**FINESS Array S**	**1.76**	**30**	*e*PG	**Pn**	**10 33 02.4**	**+0.8**
FIA1				*e*SG	**Sn**	**10 33 24.5**	**-0.1**
FIA1				MSG		10 33 30.2	
	comp=Z,5.6nm,0.1s						
VSU	**Vasula**	**1.96**	**138**	*e*P	**Pb**	**10 33 06.2**	**-0.2**
VSU	**Vasula**	**1.96**	**138**	*e*P	**Pb**	**10 33 06.2**	**-0.2**
AAL	**Aland**	**2.15**	**278**	P	**Pn**	**10 33 07.9**	**+1.0**
AAL				S	**Sn**	**10 33 36.1**	**+1.9**
KPF	**Kankaanpaa**	**2.18**	**332**	MSG		10 33 40.9	
	comp=Z,7.2nm,0.1s						
SLIT	**Slitere, Latvi**	**2.53**	**205**	*e*P	**Pb**	**10 33 15.2**	**-1.1**
SLIT	**Slitere, Latvi**	**2.53**	**205**	*e*PB	**Pb**	**10 33 15.1**	**-1.1**
EE07	**Piusa Caves, O**	**2.69**	**140**	*e*PB	**Pb**	**10 33 18.6**	**-0.2**
EE07				*e*SB	**Sb**	**10 33 52.9**	**+0.6**
NRTU	**Norrtaelje**	**2.85**	**267**	P	**Pn**	**10 33 17.2**	**+0.6**
GRAU	**Graesoe**	**2.88**	**280**	P	**Pn**	**10 33 17.4**	**+0.3**
NYNU	**Nynaeshamn**	**3.32**	**256**	P	**Pn**	**10 33 24.2**	**+1.1**
FIBU	**Brunna**	**3.47**	**272**	P	**Pn**	**10 33 26.1**	**+1.0**
IGGU	**Iggoen**	**3.56**	**288**	P	**Pn**	**10 33 27.2**	**+0.8**
OSTU	**Oestervaala**	**3.58**	**278**	P	**Pn**	**10 33 27.8**	**+1.3**
BACU	**Backbrunna**	**3.60**	**272**	P	**Pn**	**10 33 27.7**	**+0.9**
VIKU	**Vikbolandet**	**4.14**	**253**	*e*P	**Pn**	**10 33 36.0**	**+1.7**
NOA	**NORSAR Array B**	**6.54**	**285**	Pn	**Pn**	**10 34 06.3**	**-0.9**
	baz=108,slow=13,SNR=1.5						
NOA				Sn	**Sn**	**10 35 23.2**	**+0.8**
	baz=114,slow=21,SNR=0.9						
NOA				Lg	Lg	10 35 57.2	
	baz=42,slow=

PVF	**Pernaja**	**0.98**	**52**	*eP*		**Pg**	**10 39 25.0**	**-0.4**
ARBE	**Arbavere**	**1.00**	**121**	*eS*		**Sg**	**10 39 37.9**	**-0.8**
MTSE	**Matsula**	**1.27**	**192**	*eP*		**Pg**	**10 39 30.9**	**-0.1**
MTSE				*eS*		**Sg**	**10 39 46.9**	**-0.5**
EE08	**Sarghaua, Vand**	**1.39**	**159**	*eP*		**Pn**	**10 39 32.5**	**-0.7**
EE08				*eS*		**Sg**	**10 39 51.4**	**+0.2**
EE03	**Tooma soojaam,**	**1.48**	**136**	*eP*		**Pn**	**10 39 34.6**	**0.0**
EE03				*eS*		**Sg**	**10 39 54.3**	**+0.1**
RAF	**Rauma**	**1.65**	**312**	*eP*		**Pn**	**10 39 36.2**	**-0.7**
RAF				*eSG*		**Sn**	**10 39 57.5**	**-1.3**
RAF				MSG			10 40 02.7	
	comp=Z,4.1nm,0.1s							
VJF	**Virojoki**	**1.72**	**69**	MSG			10 40 05.0	
	comp=Z,3.8nm,0.1s							
FIA0	**FINESS Array S**	**1.73**	**29**	*e*PN		**Pn**	**10 39 38.5**	**+0.5**
FIA0				*eSG*		**Sn**	**10 40 00.4**	**-0.3**
FIA0				MSG			10 40 05.2	
	comp=Z,6.7nm,0.1s							
FINES	**FINESS Array B**	**1.73**	**29**	Pg		**Pn**	**10 39 38.3**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=205,slow=16,SNR=26							
FINES				Lg	Lg		10 40 02.5	
	comp=Z,0.9nm,0.3s,baz=198,slow=20,SNR=14							
EE07	**Piusa Caves, O**	**2.68**	**141**	*eSB*		**Sb**	**10 40 29.9**	**+1.1**
NOA	**NORSAR Array B**	**6.56**	**285**	Pn		**Pn**	**10 40 44.8**	**+0.5**
	baz=94,slow=16,SNR=2.0							
NOA				Sn		**Sn**	**10 42 01.8**	**+2.1**
	baz=152,slow=17,SNR=0.9							
	comp=Z,0.5nm,0.8s							
ARCES	**ARCESS Array B**	**9.63**	**3**	Pn		**Pn**	**10 41 26.4**	**0.0**
	baz=179,slow=14,SNR=1.7							
	comp=Z,2.2nm,1.0s							

HEL ***13*** *10:42:09.2±0.1,59.98N×24.23E, h0km, ML2.2, Explosion*
EST ***13*** *10:42:09.2, 59.98N×24.23E, h0km, ML2.2(HEL), Explosion*
IDC ***13*** *10:42:10.0±2.1, 60.03N×24.28E, h0km, mbtmp3.1/3, ML2.1/3, Error ellipse: s-maj=23.2km s-min=6.5km az=149.0*

ISC 13 10:42:07.2±0.7, 59.95N±0.02×24.19E±0.03, h0km, n24, σ1s26/37, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.29**	**21**	*eP*	**Pg**	**10 42 13.3**	**+0.6**
MEF	**Metsahovi**	**0.29**	**21**	*eP*	**Pg**	**10 42 13.7**	**+1.0**
MEF				*eS*	**Sg**	**10 42 17.0**	**+0.6**
HEL1	**Helsinki**	**0.41**	**57**	*eP*	**Pg**	**10 42 15.8**	**+0.7**
HEL1				*eS*	**Sg**	**10 42 20.9**	**+0.4**
NUR	**Nurmijrvi**	**0.60**	**22**	*eP*	**Pg**	**10 42 19.3**	**+0.5**
NUR				*eS*	**Sg**	**10 42 26.4**	**-0.2**
EE01	**Perakula, Nova**	**0.80**	**201**	*eP*	**Pb**	**10 42 23.6**	**-0.3**
EE01				*eS*	**Sb**	**10 42 34.8**	**-0.5**
PVF	**Pernaja**	**1.02**	**54**	*eP*	**Pg**	**10 42 26.9**	**+0.1**
PVF				*eS*	**Sg**	**10 42 40.0**	**-0.1**
ARBE	**Arbavere**	**1.05**	**119**	*eP*	**Pb**	**10 42 28.2**	**0.0**
ARBE				*eS*	**Sg**	**10 42 41.0**	**+0.2**
MTSE	**Matsula**	**1.26**	**189**	*eP*	**Pn**	**10 42 32.1**	**+0.2**
MTSE				*eS*	**Sn**	**10 42 49.4**	**-0.2**
EE08	**Sarghaua, Vand**	**1.41**	**157**	*eP*	**Pg**	**10 42 34.3**	**+0.2**
EE08				*eS*	**Sb**	**10 42 52.7**	**0.0**
EE03	**Tooma soojaam,**	**1.52**	**135**	*eP*	**Pb**	**10 42 36.2**	**0.0**
EE03				*eS*	**Sn**	**10 42 56.7**	**+0.7**
RAF	**Rauma**	**1.61**	**313**	*eP*	**Pb**	**10 42 37.9**	**+0.1**
RAF	**Rauma**	**1.61**	**313**	*eP*	**Pb**	**10 42 38.0**	**+0.1**
RAF				*eS*	**Sg**	**10 42 59.2**	**+0.2**
FIA0	**FINESS Array S**	**1.76**	**31**	*e*PG	**Pb**	**10 42 40.1**	**-0.2**
FIA0				*eS*	**Sn**	**10 43 01.8**	**-0.3**
FIA0				MSG		10 43 06.5	
	comp=Z,26nm,0.1s						
FINES	**FINESS Array B**	**1.76**	**31**	Pg	**Pb**	**10 42 40.1**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=211,slow=16,SNR=46						
FINES				Lg	Lg	10 43 01.8	
	comp=Z,3.3nm,0.3s,baz=212,slow=28,SNR=24						
FIA1	**FINESS Array S**	**1.76**	**31**	MSG		10 43 07.2	
	comp=Z,22nm,0.1s						
VSU	**Vasula**	**1.99**	**138**	*eP*	**Pb**	**10 42 44.3**	**+0.1**
VSU	**Vasula**	**1.99**	**138**	*eP*	**Pb**	**10 42 44.3**	**+0.1**
KPF	**Kankaanpaa**	**2.15**	**332**	MSG		10 43 18.0	
	comp=Z,12nm,0.1s						
SLIT	**Slitere, Latvi**	**2.53**	**204**	*e*PB	**Pb**	**10 42 53.3**	**-0.2**
EE07	**Piusa Caves, O**	**2.72**	**140**	*e*PG	**Pg**	**10 42 58.6**	**-0.6**
EE07				*eS*B	**Sb**	**10 43 31.2**	**+0.9**
VIKU	**Vikbolandet**	**4.11**	**253**	*eP*	**Pn**	**10 43 15.2**	**+4.0**
HFS	**Hagfors**	**5.26**	**277**	Pn	**Pn**	**10 43 28.9**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=97,slow=12,SNR=1.6						
HFS				Sn	**Sn**	**10 44 28.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=98,slow=28,SNR=1.4						
HFS				Lg	Lg	10 44 50.4	
	comp=Z,0.4nm,0.3s,baz=78,slow=33,SNR=6.0						
	comp=Z,3.1nm,0.8s						
NOA	**NORSAR Array B**	**6.50**	**285**	Pn	**Pn**	**10 43 44.8**	**+0.7**
	baz=106,slow=19,SNR=4.5						
NOA				Sn	**Sn**	**10 44 57.1**	**-1.8**
	baz=97,slow=14,SNR=4.6						
NOA				Lg	Lg	10 45 33.1	
	baz=103,slow=17,SNR=3.3						
	comp=Z,0.6nm,0.8s						
ARCES	**ARCESS Array B**	**9.64**	**3**	Pn	**Pn**	**10 44 26.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=185,slow=13,SNR=16						
ARCES				Sn	**Sn**	**10 46 10.7**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=181,slow=22,SNR=1.7						
	comp=Z,1.8nm,0.9s						

SKHL ***13*** *10:44:15.0±0.5, 46.00N×153.10E, h47km±4km, mb4.6/3*
IDC ***13*** *10:44:29.6±4.7, 47.60N×151.31E, h54km±47km, mb3.2/1, mbtmp3.8/5, ML3.5/3, Error ellipse: s-maj=137.4km s-min=28.9km az=138.0*

ISC 13 10:44:19.2±2.8, 46.3N±0.3×152.7E±0.3, h50km, n19, σ1s86/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.51**	**255**	*eP*	**Pn**	**10 45 10.5**	**-0.7**
KUR				*eS*	**Sn**	**10 45 52.5**	**+1.1**
KUR				A	A	10 46 10.3	
	130nm,0.3s						
KUR				A	A	10 46 10.3	
	80nm,0.3s						
SHO	**Shikotan**	**4.77**	**242**	*eP*	Pn	10 45 26.7	-1.7
SHO				AMB	AMB	10 45 29.9	
	30nm,0.4s						
SHO				*eS*	**Sn**	**10 46 20.9**	**-1.5**
SHO				A	A	10 46 29.5	
	20nm,0.3s						
SHO				A	A	10 46 29.5	
	40nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.30**	**248**	*eP*	**Pn**	**10 45 35.3**	**-0.4**
YUK				AMB	AMB	10 45 37.0	
	50nm,0.5s						
YUK				*eS*	**Sn**	**10 46 35.1**	**-0.3**
YUK				A	A	10 46 39.9	
	70nm,0.5s						
YUK				A	A	10 46 39.9	
	110nm,0.5s						
NMR	**Nemuro--Hokkai**	**5.71**	**242**	*eP*	Pn	10 45 40.2	-1.2
NMR				AMB	AMB	10 45 43.2	
	20nm,0.3s						
NMR				*eS*	**Sn**	**10 46 44.3**	**-1.3**
AKK	**Akkeshi**	**6.45**	**243**	*eP*	**Pn**	**10 45 52.2**	**+0.7**
ASAJ	**Asahikawa**	**7.43**	**257**	P	**Pn**	**10 46 09.1**	**+4.2**
	0.8nm,0.3s,baz=79,slow=10,SNR=2.5						
	28nm,1.0s						
PETK	**Petropavlovsk-**	**7.60**	**24**	P	**Pn**	**10 46 07.6**	**+0.3**
	6.9nm,1.1s,baz=190,slow=9.3,SNR=1.6						
USRK	**Ussuriysk Ar.**	**14.71**	**269**	P	**Pn**	**10 47 43.3**	**-0.8**
	0.2nm,0.3s,baz=72,slow=14,SNR=2.2						
	2.3nm,0.8s						
KSRS	**Korea Array**	**20.35**	**253**	P	Pn	10 48 57.5	+3.8
	0.1nm,0.3s,baz=56,slow=11,SNR=5.2						
	1.4nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.92**	**151**	T	T	11 21 41.1	
	baz=340,slow=76,SNR=171						
H11N1	**WAKE ISLAND Hy**	**28.94**	**151**	T	T	11 21 41.4	
	baz=340,slow=76,SNR=125						
H11N3	**WAKE ISLAND Hy**	**28.94**	**151**	T	T	11 21 40.3	
	baz=340,slow=76,SNR=102						
H11S1	**WAKE ISLAND Hy**	**30.00**	**153**	T	T	11 22 57.7	
	baz=340,slow=76,SNR=137						
H11S3	**WAKE ISLAND Hy**	**30.01**	**153**	T	T	11 22 57.6	
	baz=340,slow=76,SNR=131						
H11S2	**WAKE ISLAND Hy**	**30.02**	**153**	T	T	11 23 01.8	
	baz=340,slow=76,SNR=125						
MKAR	**Makanchi Array**	**46.90**	**298**	P	**P**	**10 52 42.7**	**-1.7**
	0.5nm,0.7s,baz=63,slow=6.9,SNR=3.3						
	0.5nm,0.7s						
H03N2	**Juan Fernandez**	**139.06**	**91**	T	T	13 39 07.0	
	baz=308,slow=77,SNR=43						
H03N1	**Juan Fernandez**	**139.07**	**91**	T	T	13 39 12.8	
	baz=308,slow=77,SNR=66						
H03N3	**Juan Fernandez**	**139.07**	**91**	T	T	13 39 07.0	
	baz=308,slow=77,SNR=46						

IDC ***13*** *10:45:29.0±0.8, 21.38S×66.58W, h207km±8km, mb3.8/11, mbtmp4.3/16, MS2.6/1, Error ellipse: s-maj=13.0km s-min=11.2km az=137.0*
NEIC ***13*** *10:45:29.9±1.7, 21.48S±0.07×66.63W±0.08, h217km±9km, mb4.4/44, Error ellipse: s-maj=11.7km s-min=9.7km az=58.0*
SJA ***13*** *10:45:29.9±0.6, 21.43S×66.76W, h230km±3km, ML4.4, MW4.0*
VAO ***13*** *10:45:30.8±0.2, 21.18S×66.78W, h210km, mb4.2*
SCB ***13*** *10:45:31.3±1.5, 21.41S×66.77W, h212km±9km, ML4.4/6, MW4.5, Error ellipse: s-maj=4.8km s-min=3.2km az=0.0*

ISC 13 10:45:30.1±0.5, 21.42S±0.04×66.74W±0.04, h220km±5km, n193, σ1s33/221, mb4.3/32, 1C-1D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.04**	**81**	Pg	**Pn**	**10 46 04.2**	**+1.5**
MOCB				Sg	**S**	**10 46 27.8**	**-0.2**
MOCB				IAML		10 46 29.2	
	5μm,0.4s						
YJA	**Yavi**	**1.37**	**124**	*i* P	**Pn**	**10 46 06.6**	**+1.6**
YJA				*i* S	**S**	**10 46 34.0**	**+1.8**
AOVT	**TarijaAcel**	**1.90**	**94**	Pg	**Pn**	**10 46 10.4**	**+1.0**
AF01	**San Pedro de A**	**2.02**	**221**		**Pn**	**10 46 09.7**	**-0.9**
AF01	**San Pedro de A**	**2.02**	**221**	Pg	**Pn**	**10 46 12.4**	**+1.7**
LVC	**Limon Verde**	**2.33**	**239**		**Pn**	**10 46 14.9**	**+1.0**
LVC				Sn	**S**	**10 46 48.5**	**+0.6**
LVC	**Limon Verde**	**2.33**	**239**	Pg	**Pn**	**10 46 15.4**	**+1.5**
LVC	**Limon Verde**	**2.33**	**239**	*i* P	**Pn**	**10 46 14.7**	**+0.8**
LVC	**Limon Verde**	**2.33**	**239**	*e*P	**Pn**	**10 46 15.6**	**+1.8**
LVC				*eS*	**S**	**10 46 48.9**	**+1.0**
LVC	**Limon Verde**	**2.33**	**239**	P	**Pn**	**10 46 15.2**	**+1.4**
	53nm,0.5s,baz=50,slow=7.3,SNR=91						
LVC				S	**S**	**10 46 48.4**	**+0.6**
	168nm,0.4s,baz=127,slow=20,SNR=52						
LVC				LR	LR	10 47 04.3	
	comp=Z,108nm,18.3s,baz=120,slow=38						
PB09	**IPOC Station P**	**2.35**	**260**	Pn	**Pn**	**10 46 15.0**	**+1.2**
PB09	**IPOC Station P**	**2.35**	**260**	Pg	**Pn**	**10 46 15.6**	**+1.7**
PB09	**IPOC Station P**	**2.35**	**260**	*i* P	**Pn**	**10 46 14.8**	**+1.0**
PB09				*i* S	**S**	**10 46 48.0**	**+0.1**
PB09	**IPOC Station P**	**2.35**	**260**	*e*P	**Pn**	**10 46 15.4**	**+1.6**
PB09				*eS*	**S**	**10 46 49.0**	**+1.2**
PB09				IAML		10 46 53.9	
	comp=E,296nm,0.3s						
PB01	**IPOC Station P**	**2.59**	**278**		**Pn**	**10 46 17.0**	**+0.7**
PB01	**IPOC Station P**	**2.59**	**278**	Pg	**Pn**	**10 46 17.5**	**+1.2**
PB01				Sg	**S**	**10 46 52.2**	**+0.1**
PB01				IAML		10 46 53.5	
	comp=E,809nm,0.2s						
PB01	**IPOC Station P**	**2.59**	**278**	*i* P	**Pn**	**10 46 16.9**	**+0.7**
PB01				*i* S	**S**	**10 46 52.0**	**-0.2**
PB01				IAML		10 46 54.3	
	comp=Z,519nm,0.2s						
PB01	**IPOC Station P**	**2.59**	**278**	*e*P	**Pn**	**10 46 17.3**	**+1.0**
PB01				*eS*	**S**	**10 46 52.1**	**0.0**
PB01				IAML		10 46 53.4	
	comp=N,801nm,0.1s						
PB08	**IPOC Station P**	**2.59**	**299**		**Pn**	**10 46 17.7**	**+1.1**
PB08	**IPOC Station P**	**2.59**	**299**	Pg	**Pn**	**10 46 18.4**	**+1.8**
PB08	**IPOC Station P**	**2.59**	**299**	*i* P	**Pn**	**10 46 17.8**	**+1.2**
PB08				*i* S	**S**	**10 46 52.8**	**+0.1**
GO01	**Chusmiza**	**2.88**	**307**		**Pn**	**10 46 20.8**	**+0.8**
GO01	**Chusmiza**	**2.88**	**307**	Pg	**Pn**	**10 46 21.5**	**+1.5**
GO01	**Chusmiza**	**2.88**	**307**	*i* P	**Pn**	**10 46 20.9**	**+1.0**
GO01				*i* S	**S**	**10 46 58.8**	**+0.1**
PB06	**IPOC Station P**	**2.92**	**243**		**Pn**	**10 46 21.0**	**+0.9**
PB06	**IPOC Station P**	**2.92**	**243**	Pg	**Pn**	**10 46 21.8**	**+1.8**
PB06	**IPOC Station P**	**2.92**	**243**	*i* P	**Pn**	**10 46 20.9**	**+0.9**
PB06				*i* S	**S**	**10 46 58.2**	**-0.7**
PB02	**IPOC Station P**	**2.94**	**271**		**Pn**	**10 46 21.1**	**+1.0**
PB02	**IPOC Station P**	**2.94**	**271**	Pn	**Pn**	**10 46 21.2**	**+1.0**
PB02				Sg	**S**	**10 46 58.3**	**-0.9**
PB02				IAML		10 46 59.2	
	comp=N,3μm,0.4s						
PB02	**IPOC Station P**	**2.94**	**271**	⇓*i* P	**Pn**	**10 46 21.1**	**+1.0**
PB02				*i* S	**S**	**10 46 58.9**	**-0.3**
PB02	**IPOC Station P**	**2.94**	**271**	⇑*i* P	**Pn**	**10 46 21.2**	**+1.0**
PB02				*eS*	**S**	**10 46 58.2**	**-1.0**
PB02				IAML		10 46 59.2	
	comp=N,4μm,0.5s						
PB07	**IPOC Station P**	**2.94**	**263**		**Pn**	**10 46 20.5**	**+0.3**
PB07	**IPOC Station P**	**2.94**	**263**	Pg	**Pn**	**10 46 21.6**	**+1.3**
PB07				Sg	**S**	**10 46 58.3**	**-1.1**
PB07				IAML		10 46 59.8	
	comp=N,873nm,0.6s						
PB07	**IPOC Station P**	**2.94**	**263**	*i* P	**Pn**	**10 46 21.4**	**+1.1**
PB07				*i* S	**S**	**10 46 58.7**	**-0.7**
PB07				IAML		10 46 59.6	
	comp=Z,1μm,0.4s						
SOEO	**Opoqueri**	**3.04**	**339**	Pg	**Pn**	**10 46 23.5**	**+1.8**
PB15	**IPOC Station P**	**3.09**	**234**		**Pn**	**10 46 23.0**	**+1.0**
PB15	**IPOC Station P**	**3.09**	**234**	Pg	**Pn**	**10 46 23.1**	**+1.0**
PB15	**IPOC Station P**	**3.09**	**234**	*i* P	**Pn**	**10 46 22.8**	**+0.8**
PB15				*i* S	**S**	**10 47 02.1**	**-0.4**
HMBC	**Humberstone**	**3.15**	**291**	Pg	**Pn**	**10 46 23.0**	**+0.3**
HMBC				Sg	**S**	**10 47 02.4**	**-1.2**
HMBC				IAML		10 47 04.2	
	comp=Z,874nm,0.4s						
HMBC	**Humberstone**	**3.15**	**291**	*i* P	**Pn**	**10 46 23.1**	**+0.5**
HMBC				*i* S	**S**	**10 47 03.3**	**-0.3**
HMBC				IAML		10 47 05.0	
	comp=Z,911nm,0.5s						
PB11	**IPOC Station P**	**3.19**	**301**	Pn	**Pn**	**10 46 23.6**	**+0.4**
PB11	**IPOC Station P**	**3.19**	**301**	Pg	**Pn**	**10 46 24.0**	**+0.9**
PB11	**IPOC Station P**	**3.19**	**301**	*i* P	**Pn**	**10 46 23.8**	**+0.7**
PB11				*i* S	**S**	**10 47 03.6**	**-0.8**
PB11				IAML		10 47 05.6	
	comp=Z,528nm,0.1s						
AZAP	**Zapla**	**3.19**	**151**	*i* P	**Pn**	**10 46 24.8**	**+1.5**
AZAP				*i* S	**S**	**10 47 04.5**	**-0.4**
AZAP				IAML		10 47 10.2	
	comp=Z,905nm,0.5s						
PATCX	**Punta Patache**	**3.24**	**280**		**Pn**	**10 46 23.4**	**-0.2**
PATCX	**Punta Patache**	**3.24**	**280**	*i* P	**Pn**	**10 46 24.4**	**+0.8**
PATCX				*i* S	**S**	**10 47 04.9**	**-0.5**
PATCX				IAML		10 47 07.2	
	comp=Z,387nm,0.2s						
ASTB	**Santa Barbara**	**3.29**	**140**	*i* P	**Pn**	**10 46 25.7**	**+1.4**
PB04	**IPOC Station P**	**3.29**	**253**		**Pn**	**10 46 24.3**	**-0.1**
PB04	**IPOC Station P**	**3.29**	**253**	Pg	**Pn**	**10 46 25.3**	**+1.0**
PB04	**IPOC Station P**	**3.29**	**253**	*i* P	**Pn**	**10 46 25.0**	**+0.7**
PB04				*i* S	**S**	**10 47 05.8**	**-0.8**
PB04				IAML		10 47 08.6	
	comp=Z,548nm,0.2s						
SOTI	**Planta Incahua**	**3.30**	**62**	Pg	**Pn**	**10 46 25.4**	**+1.0**
TA01	**Diego Aracena**	**3.32**	**284**	Pn	**Pn**	**10 46 24.3**	**-0.2**
TA01	**Diego Aracena**	**3.32**	**284**	Pg	**Pn**	**10 46 25.0**	**+0.5**
TA01	**Diego Aracena**	**3.32**	**284**	*i* P	**Pn**	**10 46 24.8**	**+0.4**
TA01				*i* S	**S**	**10 47 06.2**	**-0.7**
TA02	**Huaiquique**	**3.37**	**289**		**Pn**	**10 46 25.1**	**0.0**
TA02	**Huaiquique**	**3.37**	**289**	*i* P	**Pn**	**10 46 25.4**	**+0.3**
TA02				*i* S	**S**	**10 47 07.1**	**-0.9**
TA02				IAML		10 47 07.9	
	comp=Z,654nm,0.1s						
SOET	**ToroToro**	**3.40**	**15**	Pg	**Pn**	**10 46 27.2**	**+1.4**
SOET				Sg	**S**	**10 47 08.9**	**-0.5**
SOET				IAML		10 47 12.4	
	comp=Z,67nm,0.4s						
SLA	**San Lorenzo**	**3.48**	**161**	*i* P	**Pn**	**10 46 27.9**	**+1.4**
ALOL	**LOMAS DE OLMED**	**3.49**	**134**	*i* P	**Pn**	**10 46 27.2**	**+0.7**
PB05	**IPOC Station P**	**3.51**	**245**		**Pn**	**10 46 27.3**	**+0.4**
PB05	**IPOC Station P**	**3.51**	**245**	Pg	**Pn**	**10 46 27.9**	**+1.1**
PB05	**IPOC Station P**	**3.51**	**245**	*i* P	**Pn**	**10 46 27.0**	**+0.2**
PB05				*i* S	**S**	**10 47 10.1**	**-1.1**
PB05				IAML		10 47 14.3	
	comp=Z,277nm,0.3s						
AOEA	**Aiguile**	**3.52**	**24**	Pg	**Pn**	**10 46 27.9**	**+0.7**
PB16	**IPOC Station P**	**4.02**	**319**		**Pn**	**10 46 34.8**	**+1.4**
PB16	**IPOC Station P**	**4.02**	**319**	Pg	**Pn**	**10 46 35.3**	**+1.8**
PB16	**IPOC Station P**	**4.02**	**319**	*i* P	**Pn**	**10 46 34.6**	**+1.1**
PB12	**IPOC Station P**	**4.37**	**309**		**Pn**	**10 46 36.8**	**-0.5**
GO02	**Mina Guanaco**	**4.55**	**215**	Pn	**Pn**	**10 46 40.1**	**+0.4**
GO02	**Mina Guanaco**	**4.55**	**215**	Pg	**Pn**	**10 46 40.7**	**+1.0**
GO02	**Mina Guanaco**	**4.55**	**215**	*i* P	**Pn**	**10 46 40.5**	**+0.8**
GO02				*i* S	**S**	**10 47 32.6**	**-1.9**
PB18	**Visviri**	**4.60**	**325**		**Pn**	**10 46 42.6**	**+2.1**
SOEJ	**Jacaque**	**4.62**	**343**	Pg	**Pn**	**10 46 42.9**	**+2.0**
PB14	**IPOC Station P**	**4.64**	**226**	Pn	**Pn**	**10 46 41.0**	**+0.2**
PB14	**IPOC Station P**	**4.64**	**226**	*i* P	**Pn**	**10 46 41.2**	**+0.4**
PB14				*i* S	**S**	**10 47 33.9**	**-2.6**
BBOE	**La Paz, Chanca**	**4.73**	**345**	Pg	**Pn**	**10 46 44.1**	**+1.9**
LPAZ	**La Paz**	**5.27**	**345**		**Pn**	**10 46 50.3**	**+1.3**
LPAZ	**La Paz**	**5.27**	**345**	Pg	**Pn**	**10 46 50.5**	**+1.5**
LPAZ	**La Paz**	**5.27**	**345**	*i* P	**Pn**	**10 46 50.1**	**+1.1**
AC01	**Pan de Azucar**	**5.88**	**216**	Pn	**Pn**	**10 46 55.4**	**-0.7**
AC06	**Mina Casimiro**	**6.77**	**208**		**Pn**	**10 47 06.2**	**-1.3**
GO03	**Copiap**	**6.92**	**207**		**Pn**	**10 47 07.9**	**-1.6**
BBSD	**Serra de San D**	**7.16**	**55**	*e*P	**Pn**	**10 47 11.0**	**-1.6**
SIV	**San Ignacio**	**7.62**	**46**	P	**Pn**	**10 47 17.1**	**-1.4**
	comp=Z,93nm,0.7s,baz=219,slow=12,SNR=327						
SIV				S	**S**	**10 48 40.5**	**-4.6**
	comp=Z,4.7nm,0.4s,baz=310,slow=23,SNR=1.4						
AC04	**Llanos de Chal**	**7.82**	**209**		**Pn**	**10 47 18.8**	**-2.2**
AC05	**El Transito**	**8.05**	**203**	Pn	**Pn**	**10 47 23.1**	**-1.0**
MURT	**Porto Murtinho**	**8.51**	**93**	*e*P	**Pn**	**10 47 29.5**	**-0.4**
CO01	**Juntas del Tor**	**9.04**	**199**		**Pn**	**10 47 36.5**	**-0.5**
PTLB	**Pontes e Lacer**	**9.35**	**52**	*e*P	**Pn**	**10 47 39.1**	**-1.6**
GO04	**Tololo Observa**	**9.45**	**202**		**Pn**	**10 47 39.8**	**-2.4**
CPUP	**Villa Florida**	**9.90**	**121**	*e*P	**P**	**10 47 51.5**	**-3.4**
CPUP	**Villa Florida**	**9.90**	**121**	P	**Pn**	**10 47 49.1**	**+1.3**
	comp=Z,1.7nm,0.3s,baz=290,slow=8.5,SNR=6.1						
ANTJ	**Antonio Joao (**	**10.00**	**95**	*e*P	**Pn**	**10 47 52.2**	**+3.0**
CO03	**El Pedregal**	**10.03**	**200**		**Pn**	**10 47 47.3**	**-2.2**
CFA	**Coronel Fontan**	**10.23**	**187**	P	**Pn**	**10 47 50.7**	**-1.3**
	comp=Z,15nm,0.3s,baz=35,slow=17,SNR=53						
CFA				S	**S**	**10 49 38.7**	**-8.2**
	comp=Z,6.7nm,0.3s,baz=307,slow=20,SNR=4.3						
VILB	**Vilhena**	**10.48**	**38**		**Pn**	**10 47 55.9**	**+0.6**
VILB	**Vilhena**	**10.48**	**38**	*e*P	**Pn**	**10 47 55.2**	**-0.2**
ETMB	**Extrema**	**11.54**	**3**		**Pn**	**10 48 07.1**	**-1.7**
ETMB	**Extrema**	**11.54**	**3**	*e*P	**Pn**	**10 48 07.9**	**-0.9**
SALV	**Santo Antonio**	**11.82**	**64**	*e*P	**Pn**	**10 48 12.2**	**0.0**
ROC1	**El Roble**	**12.12**	**197**		**Pn**	**10 48 15.5**	**-0.6**
MT03	**Universidad Ad**	**12.48**	**195**	P	**Pn**	**10 48 21.5**	**+1.0**
MT13	**San Alfonso**	**12.67**	**194**	P	**Pn**	**10 48 24.0**	**+1.1**
LMEL	**Las Melosas**	**12.76**	**193**	P	**P**	**10 48 25.5**	**-1.4**
SAML	**Samuel**	**12.86**	**16**		**Pn**	**10 48 24.6**	**-0.8**
MT09	**Talagante**	**12.87**	**196**		**Pn**	**10 48 24.3**	**-1.1**
VA05	**Santo Domingo**	**12.93**	**198**	P	**Pn**	**10 48 26.6**	**+0.6**
BO04	**La Punta**	**12.98**	**194**	P	**Pn**	**10 48 27.2**	**+0.5**
MT01	**Popeta**	**13.02**	**197**	P	**Pn**	**10 48 26.5**	**-0.7**
BO01	**Tunca**	**13.48**	**196**	P	**Pn**	**10 48 32.1**	**-0.7**
RODS	**Rosario do Sul**	**13.67**	**133**	*e*P	**P**	**10 48 39.3**	**+2.3**
PDRB	**Porto dos Gac**	**13.68**	**46**	*e*P	**Pn**	**10 48 34.3**	**-1.2**
BO02	**Sierra Bellavi**	**13.79**	**194**	P	**P**	**10 48 37.7**	**-0.7**
GO05	**Huala**	**14.29**	**197**	P	**Pn**	**10 48 41.9**	**-0.9**
PCMB	**Pacaembu**	**14.41**	**94**	*e*P	**P**	**10 48 47.9**	**+2.6**
ALGR	**Alto Alegre (B**	**14.43**	**123**	*e*P	**P**	**10 48 47.9**	**+2.4**
ITAB	**Concordia**	**14.52**	**116**	*e*P	**P**	**10 48 49.1**	**+2.7**
LDASE	**Londrina, Braz**	**14.59**	**101**	*e*P	**P**	**10 48 49.9**	**+2.7**
CZSB	**Cruzeiro do Su**	**14.77**	**336**	*e*P	**Pn**	**10 48 45.3**	**-3.6**
ML02	**Panimavida**	**14.87**	**195**	P	**Pn**	**10 48 50.0**	**+0.2**
CPSB	**Cacapava Do Su**	**14.94**	**130**	*e*P	**P**	**10 48 53.4**	**+2.4**
PLTB	**Pedras Altas**	**15.62**	**134**	*e*P

KNB	**Kanab**	**72.56 323**	IAmb	IAmb	10 56 36.9	
	comp=Z,111nm,0.9s					
MSU	**Marysvale**	**73.27 324**	P	**P**	**10 56 38.1**	**+0.4**
BSUT	**Blindstream Ca**	**74.00 327**	IAmb	IAmb	10 56 44.7	
	comp=Z,5.1nm,0.8s					
ISA	**Isabella, Lake**	**74.97 319**	P	**P**	**10 56 49.2**	**+1.8**
ISA			IAmb	IAmb	10 56 50.4	
	comp=Z,4.0nm,0.7s					
PDAR	**Pinedale Array**	**75.06 329**	P	**P**	**10 56 48.5**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=126,slow=7.3,SNR=14					
	comp=Z,0.9nm,0.5s					
TORD	**Torodi Ar. Bea**	**75.43 69**	P	**P**	**10 56 49.6**	**-0.7**
	comp=Z,8.1nm,0.6s,baz=261,slow=5.3,SNR=75					
	comp=Z,8.1nm,0.6s					
ULM	**Lac du Bonnet**	**75.87 341**	P	**P**	**10 56 51.7**	**-0.2**
	comp=Z,4.3nm,0.6s,baz=154,slow=5.2,SNR=14					
	comp=Z,4.3nm,0.6s					
SCHQ	**Schefferville**	**75.94 360**	P	**P**	**10 56 51.9**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=218,slow=6.6,SNR=4.2					
	comp=Z,2.5nm,0.7s					
NVAR	**Mina Array Bea**	**76.69 321**	P	**P**	**10 56 58.7**	**+1.5**
	comp=Z,1.3nm,0.8s,baz=170,slow=5.8,SNR=11					
	comp=Z,1.3nm,0.8s					
BOSA	**Boshof**	**81.70 117**	P	**P**	**10 57 24.7**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=292,slow=3.5,SNR=5.8					
	comp=Z,2.8nm,0.8s					
ESDC	**Sonseca Array**	**84.37 44**	P	**P**	**10 57 38.1**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=246,slow=6.3,SNR=2.7					
	comp=Z,0.7nm,0.9s					
YKA	**Yellowknife Ar**	**91.79 340**	P	**P**	**10 58 12.9**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=128,slow=4.3,SNR=44					
	comp=Z,2.2nm,0.8s					
ASAR	**Alice Springs**	**130.88 205**	PKP	**PKPdf**	**11 04 16.0**	**0.0**
	comp=Z,0.7nm,0.5s,baz=138,slow=1.7,SNR=15					
ASAR			SKPbc	**SKPbc**	**11 07 19.5**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=150,slow=3.8,SNR=6.7					
WRA	**Warramunga Arr**	**134.01 208**	PKP	**PKPdf**	**11 04 22.3**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=153,slow=2.0,SNR=19					
KURBB	**Kurchatov Arra**	**140.14 34**	PKP	**PKPdf**	**11 04 33.0**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=300,slow=2.6,SNR=5.8					
ZALV	**Zalesovo Beam**	**141.00 27**	PKP	**PKPdf**	**11 04 34.1**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=336,slow=3.3,SNR=8.3					
MKAR	**Makanchi Array**	**144.36 37**	PKP	**PKPdf**	**11 04 39.6**	**-0.3**
	comp=Z,20nm,1.1s,baz=316,slow=3.6,SNR=51					
SONM	**Songino Array**	**153.07 10**	PKP	**PKPdf**	**11 04 55.0**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=357,slow=2.0,SNR=5.3					
SONM			PKPbc	**PKiKP**	**11 05 02.4**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=325,slow=0.8,SNR=9.1					
SONM			PKPab	**PKPab**	**11 05 13.6**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=346,slow=4.4,SNR=5.6					

IDC 13 10:54:22.9±973.0, 53.94N×4.26E, h0km, Error ellipse: s-maj=436.1km s-min=163.1km az=113.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**7.80**	**127**	I	I	11 42 32.1	
	0.1nm,0.7s,baz=313,slow=320,SNR=0.9						
I43RU	**DUBNA INFRASONI**	**8.85**	**68**	I	I	12 48 00.0	
	baz=274,slow=310,SNR=0.9						
I31KZ	**AKTYUBINSK INF**	**32.51**	**74**	I	I	14 11 25.5	
	baz=297,slow=339,SNR=1.9						

IDC ***13*** *11:24:24.7±2.6, 59.78N×24.62E, h0km, mbtmp3.3/3, ML2.1/3, Error ellipse: s-maj=32.6km s-min=9.1km az=136.0*
DNK ***13*** *11:24:24.9±1.8, 59.81N×24.47E, h0km, ML2.2(UPP), Suspected explosion*
EST ***13*** *11:24:26.4, 59.98N×24.25E, h0km, ML1.9(HEL), Explosion*
HEL ***13*** *11:24:26.4±0.1, 59.98N×24.25E, h0km, ML1.9, Explosion*
UPP ***13*** *11:24:26.7±2.5, 59.64N×24.19E, h0km, ML2.2*

ISC 13 11:24:25.5±0.8, 59.96N±0.02×24.28E±0.03, h0km, n40, σ0.96/51, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.27**	**12**	*e*P	**Pg**	**11 24 30.9**	**+0.4**
MEF	**Metsahovi**	**0.27**	**12**	*e*P	**Pg**	**11 24 30.9**	**+0.4**
MEF				*e*S	**Sg**	**11 24 34.3**	**+0.3**
HEL1	**Helsinki**	**0.37**	**53**	*e*P	**Pg**	**11 24 33.0**	**+0.4**
HEL1				*e*S	**Sg**	**11 24 37.9**	**+0.5**
NUR	**Nurmijrvi**	**0.58**	**18**	*e*P	**Pg**	**11 24 36.2**	**-0.4**
NUR				*e*S	**Sg**	**11 24 43.8**	**-0.4**
EE01	**Perakula, Nova**	**0.82**	**204**	*e*P	**Pg**	**11 24 41.1**	**-0.2**
EE01				*e*S	**Sg**	**11 24 52.1**	**+0.2**
PVF	**Pernaja**	**0.98**	**52**	*e*P	**Pg**	**11 24 44.1**	**-0.2**
PVF				*e*S	**Sg**	**11 24 56.5**	**-0.6**
ARBE	**Arbavere**	**1.01**	**120**	*e*P	**Pb**	**11 24 45.2**	**-0.6**
MTSE	**Matsula**	**1.27**	**191**	*e*P	**Pg**	**11 24 49.3**	**-0.5**
MTSE	**Matsula**	**1.27**	**191**	*e*P	**Pg**	**11 24 49.6**	**-0.2**
EE08	**Sarghaua, Vand**	**1.39**	**159**	*e*P	**Pg**	**11 24 51.6**	**-0.5**
EE08				*e*S	**Sb**	**11 25 10.2**	**-0.4**
EE03	**Tooma soojaam,**	**1.49**	**136**	*e*P	**Pn**	**11 24 53.4**	**0.0**
EE03				*e*S	**Sn**	**11 25 13.4**	**-0.2**
RAF	**Rauma**	**1.64**	**312**	*e*P	**Pn**	**11 24 55.1**	**-0.4**
RAF	**Rauma**	**1.64**	**312**	*e*P	**Pn**	**11 24 55.4**	**-0.1**
RAF				*e*S	**Sn**	**11 25 16.9**	**-0.5**
VJF	**Virojoki**	**1.73**	**69**	MSG		11 25 24.6	
	comp=Z,10nm,0.1s						
FIA0	**FINESS Array S**	**1.73**	**30**	*e*PN	**Pn**	**11 24 57.5**	**+0.7**
FIA0				*e*SN	**Sn**	**11 25 20.0**	**+0.4**
FIA0				MSG		11 25 24.6	
	comp=Z,9.4nm,0.1s						
FINES	**FINESS Array B**	**1.73**	**30**	Pg	**Pn**	**11 24 57.0**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=205,slow=15,SNR=30						
FINES				Lg	Lg	11 25 22.0	
	comp=Z,3.4nm,0.3s,baz=205,slow=24,SNR=28						
FIA1	**FINESS Array S**	**1.73**	**30**	MSG		11 25 25.2	
	comp=Z,8.8nm,0.1s						
VSU	**Vasula**	**1.96**	**139**	*e*P	**Pb**	**11 25 01.1**	**-0.8**
VSU	**Vasula**	**1.96**	**139**	*e*P	**Pb**	**11 25 01.7**	**-0.3**
AAL	**Aland**	**2.16**	**278**	P	**Pn**	**11 25 03.9**	**+1.2**
AAL				S	**Sn**	**11 25 32.0**	**+1.9**
AAL	**Aland**	**2.16**	**278**	P	**Pn**	**11 25 03.9**	**+1.2**
AAL				S	**Sn**	**11 25 32.0**	**+1.9**
SLIT	**Slitere, Latvi**	**2.56**	**205**	*e*PB	**Pb**	**11 25 10.7**	**-1.4**
EE07	**Piusa Caves, O**	**2.69**	**141**	*e*SG	**Sb**	**11 25 49.2**	**+1.3**
RUF	**Ruokolahti**	**2.73**	**55**	*e*P	**Pn**	**11 25 10.7**	**+0.3**
NRTU	**Norrtaelje**	**2.87**	**267**	P	**Pn**	**11 25 12.9**	**+0.5**
NRTU				S	**Sn**	**11 25 48.9**	**+1.3**
NRTU	**Norrtaelje**	**2.87**	**267**	P	**Pn**	**11 25 12.9**	**+0.5**
NRTU				S	**Sn**	**11 25 48.9**	**+1.3**
GRAU	**Graesoe**	**2.90**	**280**	P	**Pn**	**11 25 13.5**	**+0.7**
GRAU	**Graesoe**	**2.90**	**280**	P	**Pn**	**11 25 13.5**	**+0.7**
FORU	**Forsmark**	**3.08**	**281**	P	**Pb**	**11 25 19.2**	**-1.8**
FORU	**Forsmark**	**3.08**	**281**	P	**Pb**	**11 25 19.2**	**-1.8**
FLYU	**Flymyra**	**3.21**	**276**	P	**Pn**	**11 25 18.0**	**+0.9**
FLYU	**Flymyra**	**3.21**	**276**	P	**Pn**	**11 25 18.0**	**+0.9**
FIBU	**Brunna**	**3.49**	**272**	P	**Pn**	**11 25 22.4**	**+1.5**
FIBU	**Brunna**	**3.49**	**272**	P	**Pn**	**11 25 22.4**	**+1.5**
OSTU	**Oestervaala**	**3.59**	**277**	P	**Pn**	**11 25 22.9**	**+0.6**
OSTU	**Oestervaala**	**3.59**	**277**	P	**Pn**	**11 25 22.9**	**+0.6**
VIKU	**Vikbolandet**	**4.16**	**253**	*e*P	**Pn**	**11 25 32.8**	**+2.6**
HFS	**Hagfors**	**5.31**	**276**	Pn	**Pn**	**11 25 46.1**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=72,slow=16,SNR=1.3						
	comp=Z,3.9nm,1.1s						
NOA	**NORSAR Array B**	**6.55**	**285**	Pn	**Pn**	**11 26 02.3**	**-0.7**
	baz=94,slow=15,SNR=2.1						
	comp=Z,1.0nm,0.9s						
ARCES	**ARCESS Array B**	**9.63**	**3**	Pn	**Pn**	**11 26 44.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=180,slow=14,SNR=8.2						
	comp=Z,3.7nm,1.0s						

IDC ***13*** *11:42:28.3±1.7, 63.04N×28.08E, h0km, mbtmp3.3/3, ML2.1/3, Error ellipse: s-maj=25.4km s-min=6.3km az=105.0*
HEL ***13*** *11:42:28.6±0.1, 63.11N×27.72E, h0km, ML1.8, Suspected explosion*
UPP ***13*** *11:42:29.6±2.6, 63.12N×27.62E, h0km, ML1.8*

ISC 13 11:42:28.2±0.8, 63.08N±0.02×27.79E±0.04, h0km, n41, σ1.22/64, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.31**	**2**	PG	**Pg**	**11 42 33.6**	**-0.6**
NIF				SG	**Sg**	**11 42 37.5**	**-0.7**
KAF	**Kangasniemi**	**1.19**	**216**	PB	**Pg**	**11 42 50.5**	**-0.5**
KAF				MSG		11 43 04.9	
	comp=Z,7.3nm,0.2s						
KAF				SN	**Sb**	**11 43 07.3**	**-0.2**
RMF	**Romuvaara**	**1.49**	**39**	PG	**Pn**	**11 42 55.5**	**-0.7**
	baz=225						
RMF				MSG		11 43 13.2	
	comp=Z,9.0nm,0.2s						
JOF	**Joensuu**	**1.62**	**94**	PG	**Pn**	**11 42 58.2**	**+0.2**
	baz=277						
JOF				SN	**Sn**	**11 43 19.8**	**+0.3**
KEF	**Keuruu**	**1.63**	**237**	PN	**Pn**	**11 42 58.3**	**+0.2**
KEF				MSG		11 43 17.1	
	comp=Z,5.6nm,0.2s						
KEF				SN	**Sg**	**11 43 19.9**	**-0.6**
RUF	**Ruokolahti**	**1.75**	**161**	PG	**Pb**	**11 43 00.5**	**-0.7**
RUF				MSG		11 43 22.0	
	comp=Z,5.5nm,0.2s						
FIA0	**FINESS Array S**	**1.83**	**207**	PG	**Pb**	**11 43 01.5**	**-1.0**
	baz=21						
FIA0				MSG		11 43 23.6	
	comp=Z,4.8nm,0.2s						
FIA0				SN	**Sg**	**11 43 26.0**	**-0.8**
FINES	**FINESS Array B**	**1.83**	**207**	Pg	**Pb**	**11 43 01.9**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=29,slow=16,SNR=32						
FINES				Lg	Lg	11 43 26.3	
	comp=Z,1.7nm,0.3s,baz=31,slow=28,SNR=26						
OUF	**Merijarvi**	**1.88**	**315**	PG	**Pn**	**11 43 01.4**	**-0.1**
OUF				MSG		11 43 23.0	
	comp=Z,9.2nm,0.2s						
OUF				SG	**Sn**	**11 43 26.3**	**+0.5**
OBF4	**Vikkela, Lumij**	**2.10**	**327**	PG	**Pn**	**11 43 05.6**	**+1.0**
OBF4				MSG		11 43 29.8	
	comp=Z,5.5nm,0.2s						
OBF0	**Syolatti, Pyha**	**2.12**	**314**	PG	**Pn**	**11 43 05.6**	**+0.7**
OBF0				MSG		11 43 30.3	
	comp=Z,5.0nm,0.2s						
OBF0				SG	**Sb**	**11 43 34.6**	**+0.2**
OUL	**Oulu**	**2.18**	**338**	PG	**Pn**	**11 43 06.4**	**+0.8**
OUL				SG	**Sn**	**11 43 34.4**	**+1.2**
OBF8	**Ulkokalla**	**2.30**	**305**	PG	**Pn**	**11 43 09.2**	**+1.8**
OBF8				MSG		11 43 35.5	
	comp=Z,7.7nm,0.2s						
OBF8				SG	**Sb**	**11 43 39.6**	**0.0**
VAF	**Ylistaro**	**2.33**	**271**	PG	**Pn**	**11 43 09.3**	**+1.6**
	baz=85						
VAF				MSG		11 43 36.8	
	comp=Z,8.1nm,0.2s						
VAF				SG	**Sb**	**11 43 39.8**	**-0.5**
VJF	**Virojoki**	**2.55**	**183**	PG	**Pb**	**11 43 14.5**	**-0.3**
VJF				MSG		11 43 44.8	
	comp=Z,3.5nm,0.2s						
VJF				SG	**Sb**	**11 43 47.2**	**+0.5**
PVF	**Pernaja**	**2.70**	**201**	PG	**Pb**	**11 43 16.0**	**-1.4**
	baz=21						
PVF				MSG		11 43 48.9	
	comp=Z,2.8nm,0.2s						
PVF				SG	**Sb**	**11 43 51.8**	**+0.8**
MSF	**Maaselka**	**2.89**	**10**	PB	**Pn**	**11 43 16.4**	**+0.9**
	baz=190						
MSF				SB	**Sn**	**11 43 52.0**	**+1.0**
KU6	**Riekki**	**3.09**	**16**	PB	**Pn**	**11 43 19.2**	**+0.9**
KU6				SB	**Sn**	**11 43 58.5**	**+2.6**
KU6				MSG		11 43 58.8	
	comp=Z,2.4nm,0.2s						
BURU	**Burvik**	**3.22**	**301**	P	**Pn**	**11 43 19.7**	**-0.2**
BURU				S	**Sn**	**11 43 59.4**	**+0.6**
BURU	**Burvik**	**3.22**	**301**	PN	**Pn**	**11 43 19.8**	**-0.1**
	baz=112						
BURU				SG	**Sb**	**11 44 08.1**	**+2.3**
UMAU	**Umeaa**	**3.29**	**287**	P	**Pn**	**11 43 21.1**	**+0.2**
UMAU	**Umeaa**	**3.29**	**287**	PN	**Pn**	**11 43 20.9**	**0.0**
UMAU				SB	**Sn**	**11 44 02.7**	**+2.0**
OLKF	**Oulanka, Finla**	**3.33**	**11**	PN	**Pn**	**11 43 22.7**	**+1.3**
OLKF				SB	**Sn**	**11 44 06.3**	**+4.7**
TOF	**Tornio**	**3.36**	**335**	PB	**Pn**	**11 43 23.2**	**+1.3**
KALU	**Kalix**	**3.38**	**327**	P	**Pn**	**11 43 22.8**	**+0.5**
KALU	**Kalix**	**3.38**	**327**	PN	**Pn**	**11 43 23.0**	**+0.8**
ODEU	**Stanfors**	**3.41**	**296**	P	**Pn**	**11 43 22.5**	**-0.1**
RAF	**Rauma**	**3.51**	**237**	SB	**Sn**	**11 44 09.0**	**+2.9**
RNF	**Rovaniemi**	**3.62**	**349**	PN	**Pn**	**11 43 25.7**	**+0.2**
RNF				SB	**Sb**	**11 44 14.6**	**-2.9**
SJUU	**Sjulsmark**	**3.63**	**315**	P	**Pn**	**11 43 26.1**	**+0.5**
HUSU	**Husum**	**3.89**	**278**	P	**Pn**	**11 43 29.8**	**+0.7**
SVAU	**Svanoeiden**	**3.91**	**295**	P	**Pn**	**11 43 29.4**	**0.0**
LILU	**Lilltraesk**	**4.12**	**306**	P	**Pn**	**11 43 31.9**	**-0.4**
LILU				S	**Sn**	**11 44 20.7**	**-0.4**
ERTU	**Ertsjaerv**	**4.23**	**328**	PG	**Pb**	**11 43 43.7**	**+0.3**
SGF	**Sodankyl**	**4.41**	**354**	PN	**Pn**	**11 43 37.1**	**+0.7**
PAJU	**Pajala**	**4.43**	**336**	PN	**Pn**	**11 43 37.5**	**+0.9**
PAJU				SN	**Sn**	**11 44 28.5**	**-0.3**
KLF	**Kolari**	**4.47**	**341**	PN	**Pn**	**11 43 37.8**	**+0.6**
	baz=155						
KLF				SN	**Sn**	**11 44 29.6**	**-0.2**
HEMU	**Hemsoen**	**4.48**	**269**	PN	**Pn**	**11 43 37.7**	**+0.4**
ARCES	**ARCESS Array B**	**6.55**	**353**	Pn	**Pn**	**11 44 05.4**	**-0.2**
	baz=169,slow=15,SNR=12						
ARCES				Sn	**Sn**	**11 45 18.2**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=170,slow=21,SNR=5.6						
ARCES				Lg	Lg	11 45 52.6	
	comp=Z,0.1nm,0.3s,baz=184,slow=30,SNR=1.3						
	comp=Z,2.4nm,0.9s						
HFS	**Hagfors**	**7.34**	**253**	Pn	**Pn**	**11 44 16.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=85,slow=12,SNR=1.1						
	comp=Z,6.3nm,1.1s						
NOA	**NORSAR Array B**	**8.04**	**263**	Pn	**Pn**	**11 44 25.6**	**-0.6**
	baz=71,slow=14,SNR=2.9						
	comp=Z,0.7nm,0.9s						

ROM 13 11:52:16.9±0.2, 36.51N±0.01×14.66E±0.02, h18km±2km, ML3.5/8, 3C-3D, Error ellipse: s-maj=1.6km s-min=1.2km az=100.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPAC	**Pachino**	**0.41**	**62**	⇑P	Pg	11 52 24.1	-1.3
HPAC				S	Sg	11 52 31.1	0.0
WDD	**Wied Dalam**	**0.68**	**189**	⇑P	Pb	11 52 30.0	-0.2
WDD				S	Sn	11 52 41.1	-0.7
SSY	**Sortino**	**0.73**	**27**	⇑P	Pb	11 52 30.0	-1.1
SSY				S	Sg	11 52 41.5	+0.6
RAFF	**Raffo Rosso**	**0.75**	**342**	⇓P	Pb	11 52 30.5	-1.1
RAFF				S	Sn	11 52 43.4	-0.3
HLNI	**Lentini**	**0.86**	**11**	P	Pb	11 52 32.1	-1.2
HLNI				S	Sg	11 52 44.8	-0.2
HAGA	**Augusta**	**0.87**	**27**	P	Pb	11 52 31.9	-1.7
HAGA				S	Sg	11 52 45.4	-0.1
AGST	**Augusta-Monte**	**0.88**	**31**	P	Pb	11 52 32.3	-1.4
AGST				S	Sg	11 52 45.5	-0.1
EPOZ	**Pozzillo**	**1.06**	**19**	P	Pg	11 52 40.9	+3.4
ESML	**S. M. di Licod**	**1.12**	**9**	P	Pn	11 52 37.5	-0.3
GALF	**Gagliano Caste**	**1.20**	**357**	⇓P	Pb	11 52 39.2	-0.1
ESLN	**Serra La Nave**	**1.21**	**12**	P	Pn	11 52 39.2	-0.1
RESU	**Resuttano**	**1.24**	**337**	P	Pg	11 52 40.4	-0.5
EPZF	**Pizzo Felice**	**1.32**	**7**	P	Pg	11 52 42.1	-0.5
EMSG	**Monte Spagnolo**	**1.33**	**10**	P	Pg	11 52 42.2	-0.5
PETRA	**Petralia Sopra**	**1.39**	**342**	⇓P	Pb	11 52 42.4	-0.2
PETRA				AML	AML		
	comp=E,1515μm,0.9s						
PETRA				AML	AML		
	comp=N,1535μm,1.6s						
PETRA				AML	AML		
	comp=N,1538μm,0.5s						
PETRA				AML	AML		
	comp=E,1515μm,0.9s						
ALJA	**Alia**	**1.44**	**330**	P	Pg	11 52 44.1	-0.5
CSLB	**Castelbuono**	**1.51**	**342**	P	Pb	11 52 43.8	-0.6
MSFR	**San Fratello**	**1.52**	**358**	P	Pn	11 52 44.0	+0.6
MSFR				AML	AML		
	comp=E,650μm,1.0s						
MSFR				AML	AML		
	comp=N,658μm,0.8s						
MSFR				AML	AML		
	comp=N,659μm,0.8s						
MSFR				AML	AML		
	comp=E,650μm,1.0s						
AIO	**Antillo**	**1.53**	**17**	P	Pn	11 52 44.1	+0.6
AIO				AML	AML		
	comp=E,1030μm,0.6s						
AIO				AML	AML		
	comp=N,910μm,1.5s						
AIO				AML	AML		
	comp=E,1030μm,1.4s						
AIO				AML	AML		
	comp=E,1031μm,0.6s						
AIO				AML	AML		
	comp=N,822μm,0.8s						

PLLN	**Pollina**	**1.54**	**345**	P	Pb	11 52 44.6 -0.4
MUCR	**Ucria**	**1.54**	**6**	P	Pb	11 52 44.5 -0.6
MUCR				AML	AML	
	comp=E,1320μm,1.6s					
MUCR				AML	AML	
	comp=N,1140μm,0.9s					
MUCR				AML	AML	
	comp=E,1320μm,0.4s					
MUCR				AML	AML	
	comp=N,1140μm,1.1s					
MUCR				AML	AML	
	comp=N,1142μm,0.9s					
MUCR				AML	AML	
	comp=E,1316μm,0.6s					
GIB	**Gibilmanna**	**1.56**	**341**	P	Pb	11 52 44.9 -0.5
NOV	**Novara**	**1.57**	**14**	P	Pb	11 52 45.1 -0.3
NOV				AML	AML	
	comp=N,1515μm,1.0s					
NOV				AML	AML	
	comp=E,3715μm,1.6s					
NOV				AML	AML	
	comp=N,1515μm,1.0s					
NOV				AML	AML	
	comp=N,1512μm,1.0s					
NOV				AML	AML	
	comp=E,3552μm,0.8s					
LINA	**Linosa Island**	**1.58**	**247**	P	Pn	11 52 43.5 -0.6
MTTG	**Motta San Giov**	**1.71**	**29**	P	Pn	11 52 46.2 +0.3
MMGO	**Monte Magaggia**	**1.77**	**311**	P	Pn	11 52 47.2 +0.4
SOLUN	**Soluntо**	**1.82**	**331**	P	Pn	11 52 47.7 +0.3
MILZ	**Milazzo**	**1.82**	**14**	P	Pb	11 52 48.8 -0.9
MSRU	**Castanea**	**1.88**	**21**	P	Pn	11 52 49.4 +1.2
SOI	**Samo**	**1.92**	**35**	P	Pn	11 52 48.3 -0.5
CEL	**Celeste**	**2.01**	**29**	P	Pn	11 52 49.9 -0.1
PLAC	**Placanica**	**2.40**	**36**	P	Pn	11 52 55.7 +0.3
VULT	**Monte Vulture**	**4.50**	**9**	AML	AML	
	comp=E,151μm,1.6s					
VULT				AML	AML	
	comp=N,172μm,0.8s					
TERO	**Teramo**	**6.16**	**353**	AML	AML	
	comp=N,215μm,0.1s					
TERO				AML	AML	
	comp=E,154μm,0.1s					
SMA1	**SAN MARTINO**	**6.20**	**351**	AML	AML	
	comp=E,314μm,1.2s					
SMA1				AML	AML	
	comp=N,180μm,0.1s					
LNSS	**Leonessa**	**6.21**	**349**	AML	AML	
	comp=N,232μm,0.5s					
LNSS				AML	AML	
	comp=E,132μm,0.6s					
LNSS				AML	AML	
	comp=N,222μm,0.1s					
NRCA	**Norcia**	**6.43**	**350**	AML	AML	
	comp=N,93μm,0.2s					
NRCA				AML	AML	
	comp=E,141μm,1.3s					

IDC 13 12:21:29.3±2.3, 1.57N×127.12E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=179.1km s-min=26.5km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.52**	**162**	P	P	12 26 31.3	+0.4
	0.9nm,0.4s,baz=341,slow=11,SNR=19						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**25.94**	**166**	P	P	12 27 03.2	-0.4
	0.2nm,0.3s,baz=348,slow=8.3,SNR=8.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**59.55**	**326**	P	P	12 31 34.8	0.0
	0.3nm,0.6s,baz=112,slow=8.1,SNR=4.3						
	0.3nm,0.6s						

IDC 13 12:22:01.8±19.0, 15.54S×174.80W, h254km±167km, mb3.1/4, mbtmp3.7/4, Error ellipse: s-maj=143.6km s-min=30.7km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.49**	**257**	P	P	12 30 19.4	-0.3
	0.3nm,0.6s,baz=92,slow=7.1,SNR=11						
WRA				PcP	PcP	12 31 41.5	-0.1
	0.5nm,0.8s,baz=107,slow=3.5,SNR=3.0						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**48.78**	**252**	P	P	12 30 21.9	+0.1
	2.0nm,0.5s,baz=89,slow=7.9,SNR=58						
ASAR				PcP	PcP	12 31 42.2	-0.5
	0.1nm,0.3s,baz=124,slow=2.5,SNR=2.1						
	2.0nm,0.5s						
ILAR	**Eielson Array**	**82.85**	**12**	P	P	12 33 57.5	0.0
	0.2nm,0.4s,baz=208,slow=5.5,SNR=9.2						
	2.0nm,0.4s						
PDAR	**Pinedale Array**	**83.28**	**42**	P	P	12 34 00.6	+0.1
	0.3nm,0.7s,baz=228,slow=3.8,SNR=3.8						
	0.3nm,0.7s						

IDC ***13*** *12:53:27.2±3.3, 11.57S×166.48E, h136km±26km, mb3.8/12, mbtmp4.2/14, MS3.6/3, Error ellipse: s-maj=28.1km s-min=13.8km az=68.0*
NEIC ***13*** *12:53:30.5±2.2, 11.6S±0.1×166.3E±0.1, h161km±8km, mb4.3/34, Error ellipse: s-maj=20.3km s-min=14.7km az=80.0*

ISC 13 12:53:28.8±0.6, 11.61S±0.06×166.37E±0.09, h150km, n57, σ1.20/59, mb4.2/28, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.68**	**288**	P	**Pn**	**12 55 04.7**	**+0.2**
	393nm,0.4s,baz=189,slow=9.4,SNR=1.5						
HNR				S	**Sn**	**12 56 21.3**	**+1.7**
	499nm,0.5s,baz=176,slow=13,SNR=1.4						
HNR				LR	LR	12 57 28.5	
	comp=Z,695nm,21.7s,baz=88,slow=36						
KOUNC	**Koumac, New Ca**	**9.12**	**192**	Pn	**Pn**	**12 55 40.1**	**+3.1**
DZM	**Mont Dzumac**	**10.40**	**180**	Pn	**Pn**	**12 55 55.1**	**+0.9**
DZM	**Mont Dzumac**	**10.40**	**180**	P	**Pn**	**12 55 54.7**	**+0.5**
	3.1nm,0.3s,baz=302,slow=15,SNR=40						
DZM				S	**Sn**	**12

BBOO	**Buckleboo**	**34.90**	**228**	P	**P**	**13 00 06.7**	**+0.5**
BBOO				IAmb	IAmb	13 00 15.6		
	comp=Z,9.5nm,1.1s							
FITZ	**Fitzroy Crossi**	**39.83**	**256**	P	**P**	**13 00 45.9**	**-1.9**
PSA00	**Pilbara Seismi**	**45.53**	**251**	P	**P**	**13 01 34.9**	**+1.2**
PSA00				IAmb	IAmb	13 02 03.4		
	comp=Z,6.0nm,1.0s							
MBWA	**Marble Bar**	**45.60**	**252**	P	**P**	**13 01 35.2**	**+0.9**
MBWA				IAmb	IAmb	13 01 44.6		
	comp=Z,7.0nm,1.0s							
MORW	**Morawa**	**49.90**	**242**	P	**P**	**13 02 07.2**	**-0.1**
MORW				IAmb	IAmb	13 02 23.9		
	comp=Z,9.0nm,1.1s							
JMN	**Monobe**	**54.67**	**327**	P	**P**	**13 02 42.7**	**+0.3**
JNU	**Nakatsue**	**55.90**	**324**	P	**P**	**13 02 51.0**	**-0.1**
JNU	**Nakatsue**	**55.90**	**324**	P	**P**	**13 02 50.8**	**-0.4**
	comp=Z,8.1nm,0.8s,baz=135,slow=7.1,SNR=2.6							
	comp=Z,8.1nm,0.8s							
TPUB	**Ta-pu**	**56.63**	**308**	P	**P**	**13 02 56.1**	**-0.4**
JKA	**Kamikawa-asahi**	**59.53**	**340**	P	**P**	**13 03 15.9**	**-0.4**
KSRS	**Korea Array**	**60.69**	**325**	P	**P**	**13 03 24.1**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=128,slow=7.2,SNR=5.6							
	comp=Z,1.1nm,0.6s							
VNDA	**Vanda**	**65.94**	**181**	P	**P**	**13 03 59.4**	**+1.1**
VNDA	**Vanda**	**65.94**	**181**	P	**P**	**13 03 59.1**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=348,slow=9.0,SNR=8.4							
VNDA				LR	LR	13 28 02.1		
	comp=Z,129nm,20.8s,baz=154,slow=31							
	comp=Z,1.2nm,0.7s							
CMAR	**Chiang Mai Arr**	**72.90**	**294**	P	**P**	**13 04 40.6**	**-1.4**
CMAR	**Chiang Mai Arr**	**72.90**	**294**	P	**P**	**13 04 43.5**	**+1.4**
	comp=Z,2.2nm,0.8s,baz=122,slow=4.4,SNR=14							
	comp=Z,2.2nm,0.8s							
L16K	**Owhat River**	**77.85**	**16**	P	**P**	**13 05 09.7**	**+0.4**
L16K				IAmb	IAmb	13 05 27.6		
	comp=Z,5.7nm,1.1s							
N18K	**Kilae Creek**	**78.03**	**18**	P	**P**	**13 05 10.2**	**-0.2**
N18K				IAmb	IAmb	13 05 12.7		
	comp=Z,9.9nm,1.1s							
QSPA	**South Pole Qui**	**78.40**	**180**	P	**P**	**13 05 13.1**	**+0.5**
QSPA				IAmb	IAmb	13 05 13.8		
	comp=Z,5.7nm,1.1s							
QSPA	**South Pole Qui**	**78.40**	**180**	P	**P**	**13 05 13.0**	**+0.3**
	comp=Z,3.2nm,0.9s,baz=357,slow=4.3,SNR=11							
	comp=Z,3.2nm,0.9s							
SONM	**Songino Array**	**79.48**	**324**	P	**P**	**13 05 18.4**	**-0.3**
SONM	**Songino Array**	**79.48**	**324**	P	**P**	**13 05 19.0**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=139,slow=5.4,SNR=6.9							
	comp=Z,0.6nm,0.4s							
L19K	**White Mountain**	**79.53**	**17**	P	**P**	**13 05 19.5**	**+1.0**
ILAR	**Eielson Array**	**83.85**	**18**	P	**P**	**13 05 40.2**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=250,slow=5.2,SNR=4.7							
	comp=Z,0.3nm,0.6s							
C19K	**Lookout Ridge**	**83.99**	**12**	P	**P**	**13 05 42.3**	**+0.4**
BELA	**Belgrano 2**	**89.88**	**176**	P	**P**	**13 06 09.6**	**-0.7**
BELA				IAmb	IAmb	13 06 22.5		
	comp=Z,3.1nm,1.1s							
MK31	**Makanchi Array**	**94.35**	**317**	P	**P**	**13 06 31.8**	**+0.4**
MK31				IAmb	IAmb	13 06 32.3		
	comp=Z,2.6nm,0.8s							
MKAR	**Makanchi Array**	**94.35**	**317**	P	**P**	**13 06 31.8**	**+0.4**
MKAR	**Makanchi Array**	**94.35**	**317**	P	**P**	**13 06 31.6**	**+0.1**
	comp=Z,3.6nm,0.6s,baz=86,slow=6.4,SNR=43							
	comp=Z,3.6nm,0.6s							
ZALV	**Zalesovo Beam**	**94.37**	**324**	P	**P**	**13 06 30.2**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=124,slow=3.9,SNR=5.3							
	comp=Z,0.8nm,0.6s							
A36M	**Sachs Harbour**	**94.46**	**17**	P	**P**	**13 06 32.0**	**+0.7**
A36M				IAmb	IAmb	13 06 37.0		
	comp=Z,3.5nm,0.9s							
MAKZ	**Makanchi**	**94.56**	**317**	P	**P**	**13 06 32.0**	**-0.4**
MAKZ				IAmb	IAmb	13 06 33.3		
	comp=Z,2.3nm,0.9s							
KURBB	**Kurchatov Arra**	**97.51**	**320**	P	**P**	**13 06 44.6**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=106,slow=3.7,SNR=2.6							
	comp=Z,0.2nm,0.4s							
ARCES	**ARCESS Array B**	**117.03**	**346**	PKP	**PKPdf**	**13 11 54.9**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=57,slow=2.5,SNR=9.7							

CATAC 13 13:02:30.8±0.4, 11°.17N×87°.64W, h10km, ML3.7, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LEVN	**Ruinas Leon Vi**	**1.58**	**39**	*i* P		Pn	13 02 58.6	-0.3
LEVN				*i* S		Sb	13 03 20.0	-0.1
LEVN				IAML			13 03 26.1	
	comp=Z,1μm,1.0s							
ROCN	**Rota Cerro Neg**	**1.60**	**33**	*i* P		Pn	13 02 59.2	0.0
ROCN				*i* S		Sb	13 03 20.6	-0.2
ROCN				IAML			13 03 25.7	
	comp=Z,440nm,1.0s							
CNGA	**Al SSO del Vol**	**1.60**	**35**	*i* P		Pn	13 02 59.2	0.0
CNGA				*i* S		Sb	13 03 20.5	-0.4
CNGA				IAML			13 03 24.7	
	comp=Z,1μm,1.0s							
CNGN	**Cerro Negro**	**1.61**	**35**	*i* P		Pn	13 02 59.3	0.0
CNGN				IAML			13 03 22.7	
	comp=Z,530nm,1.0s							
CRIN	**San Cristobal**	**1.62**	**21**	*i* P		Pn	13 02 59.6	0.0
CRIN				*i* S		Sb	13 03 21.1	-0.4
CRIN				IAML			13 03 23.9	
	comp=Z,1μm,1.0s							
MOMN	**Momotombo**	**1.63**	**41**	*i* P		Pn	13 02 59.2	-0.5
MOMN				*i* S		Sb	13 03 21.6	-0.1
MOMN				IAML			13 03 24.9	
	comp=Z,35nm,1.0s							
MOM2	**El Cardon**	**1.69**	**42**	*i* P		Pn	13 03 00.3	-0.1
MOM2				*i* S		Sb	13 03 22.8	-0.5
MOM2				IAML			13 03 25.3	
	comp=Z,410nm,1.0s							
CSGN	**Cosiguina Volc**	**1.79**	**2**	*i* P		Pn	13 03 01.7	-0.2
CSGN				IAML			13 03 28.6	
	comp=Z,6μm,1.0s							
HZTE	**Horizontes, Gu**	**2.06**	**103**	*i* P		Pn	13 03 05.7	+0.3
HZTE				IAML			13 03 35.9	
	comp=Z,320nm,1.0s							
CNCH	**Conchagua**	**2.10**	**355**	*i* P		Pn	13 03 05.3	-0.9
CNCH				*i* S		Sn	13 03 30.5	-2.0
CNCH				IAML			13 03 34.4	
	comp=Z,770nm,1.0s							
AMPH	**Amapala**	**2.10**	**359**	*i* S		Sn	13 03 31.9	-0.4
LIMN	**Finca el Limon**	**2.25**	**33**	*i* P		Pn	13 03 07.9	-0.3
LIMN				IAML			13 03 46.2	
	comp=Z,100nm,1.0s							
ORTG	**Ortega, Santa**	**2.29**	**110**	*i* P		Pn	13 03 07.5	-1.2
ORTG				*i* S		Sn	13 03 34.0	-3.0
ORTG				IAML			13 03 34.7	
	comp=Z,82nm,1.0s							
MATN	**Matagalpa**	**2.42**	**44**	*i* P		Pn	13 03 10.1	-0.4
MATN				*i* S		Sn	13 03 40.5	+0.2
MATN				IAML			13 03 43.5	
	comp=Z,71nm,1.0s							
YUSH	**Yuscaran**	**2.87**	**16**	*i* P		Pn	13 03 17.1	+0.3
YUSH				*i* S		Sn	13 03 52.6	+1.1
CPMI	**Catarata Coope**	**3.32**	**105**	*i* P		Pn	13 03 22.1	-0.9
CPMI				IAML			13 03 26.6	
	comp=Z,100nm,1.0s							
CPMI				*i* S		Sn	13 04 02.4	-0.3
NUBE	**Las Nubes**	**3.43**	**323**	*i* P		Pn	13 03 24.3	-0.2
NUBE				IAML			13 05 00.4	
	comp=Z,300nm,1.0s							
JUTIH	**Juticalpa Olan**	**3.75**	**21**	*i* P		Pn	13 03 29.8	+1.1
LCR2	**La Lucha 2**	**3.84**	**111**	*i* P		Pn	13 03 31.4	+1.1
LCR2				IAML			13 04 18.6	
	comp=Z,89nm,1.0s							
RIMA	**Rio Macho**	**3.96**	**110**	*i* P		Pn	13 03 33.4	+1.5
RIMA				IAML			13 03 34.8	
	comp=Z,110nm,1.0s							
CDM	**Cerro de Muert**	**4.13**	**113**	*i* P		Pn	13 03 35.5	+1.0
CDM				IAML			13 03 36.1	
	comp=Z,150nm,1.0s							
SRBA	**San Rafael, Bu**	**4.63**	**114**	*i* P		Pn	13 03 42.0	+1.0
SRBA				IAML			13 03 43.8	
	comp=Z,68nm,1.0s							

TEH 13 13:08:37.1, 30°.76N×57°.30E, h12km±35km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZRDN	**Zarand Kerman**	**0.69**	**288**	Pg		Pb	13 08 52.0	+0.7
KHGB	**Koh Gabri**	**0.81**	**242**	Pg		Pn	13 08 54.3	-0.2
KHGB				Sg		Sb	13 09 05.2	+1.1
TVBK	**TV Kerman**	**0.90**	**211**	Pg		Pn	13 08 56.7	+0.7
CHMN	**Cheshme madani**	**0.92**	**167**	Pg		Pn	13 08 55.8	-0.4
NGRK	**Negar Kerman**	**1.22**	**204**	Pg		Pg	13 09 02.2	+1.7
IBAF	**Bafgh**	**1.70**	**300**	Pg		Pg	13 09 10.4	+0.6
KBAM	**BAM**	**1.90**	**148**	Pn		Pb	13 09 12.2	+0.4
BSRN	**Basiran**	**1.97**	**52**	Pn		Pb	13 09 13.4	+0.4
IKOO	**Kooshah**	**2.21**	**41**	Pn		Pb	13 09 16.3	-0.9
TPRV	**Parvadeh(Tabas**	**2.32**	**347**	Pn		Pb	13 09 18.2	-0.9
IMEH	**Mehriz**	**2.39**	**286**	Pn		Pb	13 09 19.7	-0.5
NHDN	**Nehbandan**	**2.44**	**74**	Pn		Pb	13 09 20.0	-1.1
ITEG	**Tejag**	**2.46**	**30**	Pn		Pb	13 09 20.1	-1.4
BAGH	**Bagheran - Bir**	**2.59**	**38**	Pn		Pb	13 09 23.1	-0.7
TKDS	**Koohdasht(Taba**	**2.85**	**357**	Pn		Pb	13 09 25.6	-2.4
AFRZ	**Afriz**	**3.03**	**28**	Pn		Pb	13 09 27.8	+2.7
ISAD	**Sadrabad**	**3.30**	**291**	Pn		Pb	13 09 33.4	-2.4
ZHDN	**Zahedan**	**3.33**	**113**	Pn		Pn	13 09 32.7	+3.4
SHRT	**Shahrakht**	**3.84**	**41**	Pn		Pn	13 09 39.6	+3.5
ANAR	**Anarak**	**3.88**	**310**	Pn		Pb	13 09 41.3	-4.4
IRAM	**Ramesheh**	**4.34**	**285**	Pn		Pn	13 09 47.5	+4.3
TBJM	**Torbat-e-JAM**	**5.17**	**29**	Pn		Pn	13 09 58.4	+3.9
SBZV	**Sabzevar**	**5.62**	**3**	Pn		Pn	13 10 05.0	+4.3

IDC 13 13:15:44.5±819.0, 54°.50N×2°.38E, h0km, Error ellipse: s-maj=382.7km s-min=145.3km az=118.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I26DE	**FREYUNG INFRAS**	**9.03**	**124**	I		I	14 11 30.0	
	baz=318,slow=328,SNR=0.3							
I48TN	**KESRA INFRASON**	**19.31**	**163**	I		I	15 04 20.0	
	baz=344,slow=305,SNR=0.6							
I43RU	**DUBNA INFRASON**	**19.68**	**69**	I		I	15 15 40.0	
	baz=275,slow=316,SNR=1.4							
I31KZ	**AKTYUBINSK INF**	**33.41**	**74**	I		I	16 40 40.0	
	baz=299,slow=335,SNR=1.5							

*NOU **13** 13:36:38.8, 30°.05S×177°.21W, h219km, mb4.3/18, Kermadec Islands, New Zealand*
*IDC **13** 13:36:41.4±0.3, 29°.34S×178°.75W, h201km±3km, mb4.0/15, mbtmp4.5/16, Error ellipse: s-maj=14.1km s-min=9.5km az=166.0*
*NEIC **13** 13:36:42.1±2.0, 29°.5S±0°.1×178°.6W±0°.1, h204km±6km, mb4.6/22, Error ellipse: s-maj=17.1km s-min=13.8km az=119.0*

ISC 13 13:36:40.6±0.3, 29°.77S±0°.05×178°.81W±0°.06, h200km, n183, σ2°.45/199, mb4.4/23, 2D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GLKZ	**Green Lake**	**0.92**	**57**	P		**Pn**	**13 37 10.5**	**+0.6**
GLKZ				S		**Sn**	**13 37 31.2**	**-1.2**
RAO	**Raoul Island**	**0.93**	**57**			**Pn**	**13 37 10.5**	**+0.6**
RAO	**Raoul Island**	**0.93**	**57**	P		**Pn**	**13 37 10.7**	**+0.8**
RAO	**Raoul Island**	**0.93**	**57**	P		**Pn**	**13 37 10.6**	**+0.8**
	5μm,0.4s,baz=104,slow=6.7,SNR=122							
RAO				S		**Sn**	**13 37 31.8**	**-0.7**
	9μm,0.4s,baz=85,slow=22,SNR=15							
MXZ	**Matakaoa Point**	**8.14**	**196**	Pn		Pn	13 38 41.9	+6.4
MXZ	**Matakaoa Point**	**8.14**	**196**	S		**Sn**	**13 40 07.7**	**+0.5**
KUZ	**Kuaotunu**	**8.33**	**212**	P		Pn	13 38 44.3	+6.2
WMGZ	**Waiomatatini S**	**8.36**	**195**	P		**Pn**	**13 38 39.3**	**+0.9**
WMGZ				S		**Sn**	**13 40 13.9**	**+1.5**
OUZ	**Omahuta**	**8.41**	**228**	P		Pn	13 38 47.8	+8.7
PUZ	**Puketiti**	**8.63**	**196**	P		**Pn**	**13 38 41.5**	**-0.5**
RUGZ	**Raukumara Rang**	**8.68**	**199**	P		**Pn**	**13 38 43.7**	**+0.9**
TWGZ	**Tauwhareparae**	**8.80**	**197**	P		**Pn**	**13 38 44.8**	**+0.5**
CNGZ	**Carnagh Statio**	**9.04**	**195**	P		**Pn**	**13 38 47.0**	**-0.3**
MWZ	**Matawai**	**9.07**	**199**	P		**Pn**	**13 38 46.8**	**-1.0**
TKGZ	**Te Karaka**	**9.08**	**197**	P		**Pn**	**13 38 47.8**	**-0.1**
URZ	**Urewera**	**9.12**	**201**	P		**Pn**	**13 38 49.3**	**+0.9**
URZ	**Urewera**	**9.12**	**201**	P		**Pn**	**13 38 48.5**	**+0.2**
	3.0nm,0.4s,baz=122,slow=22,SNR=11							
URZ				S		**Sn**	**13 40 32.1**	**+1.6**
	106nm,0.5s,baz=282,slow=22,SNR=14							
URZ	**Urewera**	**9.12**	**201**	P		**Pn**	**13 38 48.5**	**+0.2**
TOZ	**Tahuroa Road**	**9.25**	**209**	Pn		Pn	13 38 54.9	+4.9
RAGZ	**Rawiri**	**9.25**	**199**	P		**Pn**	**13 38 54.0**	**+3.9**
RIGZ	**Rimuhau**	**9.36**	**197**	P		**Pn**	**13 38 50.4**	**-1.0**
MUGZ	**Murupara**	**9.43**	**202**	P		**Pn**	**13 38 51.8**	**-0.6**
RTZ	**Ruatahuna**	**9.49**	**200**	P		**Pn**	**13 38 53.6**	**+0.3**
SNGZ	**Shannon Statio**	**9.54**	**198**	P		**Pn**	**13 38 54.3**	**+0.5**
SNGZ	**Shannon Statio**	**9.54**	**198**	P		**Pn**	**13 38 53.7**	**-0.1**
RAHZ	**Arahi**	**9.74**	**199**	P		**Pn**	**13 38 55.2**	**-1.2**
RAHZ	**Arahi**	**9.74**	**199**	P		**Pn**	**13 38 54.0**	**-2.3**
RAHZ				S		**Sn**	**13 40 43.5**	**-1.7**
TLZ	**Tolley Road**	**9.74**	**207**	P		Pn	13 39 02.6	+6.1
MTHZ	**Maungataniwha**	**9.75**	**200**	P		**Pn**	**13 38 56.2**	**-0.4**
MTHZ	**Maungataniwha**	**9.75**	**200**	P		**Pn**	**13 38 58.0**	**+1.4**
WHHZ	**Waihua**	**9.85**	**198**	P		**Pn**	**13 39 00.0**	**+2.3**
MRHZ	**Matea Rd**	**9.87**	**202**	P		**Pn**	**13 38 59.6**	**+1.5**
NMHZ	**Naumai**	**9.99**	**200**	P		**Pn**	**13 38 59.4**	**-0.2**
NMHZ	**Naumai**	**9.99**	**200**	P		**Pn**	**13 38 55.8**	**-3.8**
ARHZ	**Aropaoanui**	**10.09**	**199**	P		**Pn**	**13 38 57.2**	**-3.6**
ARHZ				S		**Sn**	**13 40 52.9**	**-0.6**
BKZ	**Black Stump Fm**	**10.14**	**201**	P		**Pn**	**13 39 05.0**	**+3.3**
BKZ	**Black Stump Fm**	**10.14**	**201**	P		**Pn**	**13 39 05.3**	**+3.6**
BKZ	**Black Stump Fm**	**10.14**	**201**	P		**Pn**	**13 39 02.9**	**+1.2**
BKZ				S		**Sn**	**13 40 54.6**	**-0.4**
HIZ	**Hauiti**	**10.18**	**209**	P		**P**	**13 39 07.7**	**-2.2**
HIZ	**Hauiti**	**10.18**	**209**	P		**P**	**13 39 09.6**	**-0.3**
MCHZ	**McNeill Hill**	**10.34**	**200**	P		**Pn**	**13 39 04.7**	**+0.6**
MCHZ	**McNeill Hill**	**10.34**	**200**	P		**Pn**	**13 39 01.4**	**-2.7**
MCHZ				S		**Sn**	**13 40 57.1**	**-2.5**
NTVZ	**North Tongarir**	**10.36**	**205**	P		**Pn**	**13 39 07.1**	**+2.5**
TMVZ	**Te Maari**	**10.37**	**204**	P		**Pn**	**13 39 05.6**	**+1.0**
ETVZ	**East Tongariro**	**10.38**	**204**	P		**Pn**	**13 39 06.1**	**+1.3**
ETVZ	**East Tongariro**	**10.38**	**204**	P		**Pn**	**13 39 04.4**	**-0.4**
KWHZ	**Kaweka Forest**	**10.40**	**201**	P		**Pn**	**13 39 07.4**	**+2.4**
KWHZ	**Kaweka Forest**	**10.40**	**201**	P		**Pn**	**13 39 07.4**	**+2.4**
KWHZ				S		**Sn**	**13 40 59.7**	**-1.5**
NNVZ	**North Ngauruho**	**10.41**	**205**	P		**P**	**13 39 09.4**	**-3.2**
NNVZ	**North Ngauruho**	**10.41**	**205**	P		**Pn**	**13 39 08.3**	**+3.0**
OTVZ	**Oturere**	**10.42**	**204**	P		**Pn**	**13 39 04.9**	**-0.5**
CKHZ	**Cape Kidnapper**	**10.43**	**198**	S		**Sn**	**13 40 59.3**	**-2.4**
SNVZ	**South Ngauruho**	**10.45**	**204**	P		**Pn**	**13 39 06.9**	**+1.2**
COVZ	**Chateau Observ**	**10.50**	**205**	P		**P**	**13 39 10.0**	**-3.6**
BHHZ	**Black Hill Sta**	**10.58**	**202**	P		**Pn**	**13 39 07.6**	**+0.3**
BHHZ	**Black Hill Sta**	**10.58**	**202**	P		**Pn**	**13 39 04.9**	**-2.4**
BHHZ				S		**Sn**	**13 41 00.5**	**-4.8**
TRVZ	**Turoa**	**10.59**	**205**	P		**P**	**13 39 11.7**	**-3.0**
WNVZ	**Wahianoa**	**10.59**	**204**	P		**Pn**	**13 39 07.8**	**+0.3**
MOVZ	**Moawhango**	**10.61**	**204**	P		**Pn**	**13 39 08.9**	**+1.2**
KAHZ	**Kahuranaki**	**10.61**	**198**	P		**Pn**	**13 39 08.1**	**+0.4**
KAHZ	**Kahuranaki**	**10.61**	**198**	P		**Pn**	**13 39 05.3**	**-2.4**
KAHZ				S		**Sn**	**13 41 02.1**	**-4.0**
KRHZ	**Kereru**	**10.62**	**201**	P		**Pn**	**13 39 05.8**	**-2.0**
KRHZ	**Kereru**	**10.62**	**201**	P		**Pn**	**13 39 05.0**	**-2.8**
KRHZ				S		**Sn**	**13 40 57.3**	**-9.0**
PKVZ	**Pokaka**	**10.65**	**205**	P		**Pn**	**13 39 10.7**	**+2.5**
VRZ	**Vera Road**	**10.74**	**208**	P		**P**	**13 39 14.1**	**-2.0**
PXZ	**Pawanui**	**10.84**	**198**	P		**Pn**	**13 39 11.6**	**+1.1**
PXZ	**Pawanui**	**10.84**	**198**	P		**Pn**	**13 39 09.4**	**-1.1**
PXZ				S		**Sn**	**13 41 05.6**	**-5.8**
PNHZ	**Pukenui**	**10.92**	**201**	P		**Pn**	**13 39 12.5**	**+0.9**
PNHZ	**Pukenui**	**10.92**	**201**	P		**Pn**	**13 39 11.1**	**-0.5**
PNHZ				S		**Sn**	**13 41 05.6**	**-7.8**
WPHZ	**Waipukurau**	**10.99**	**199**	S		**Sn**	**13 41 12.2**	**-2.8**
PRHZ	**Porangahau**	**11.12**	**198**	P		**Pn**	**13 39 13.7**	**-0.5**
PRHZ	**Porangahau**	**11.12**	**198**	P		**Pn**	**13 39 14.1**	**-0.1**
TSZ	**Takapari Road**	**11.13**	**201**	P		Pn	13 39 07.0	-7.3
TSZ	**Takapari Road**	**11.13**	**201**	P		**Pn**	**13 39 14.3**	**0.0**
TSZ				S		**Sn**	**13 41 09.9**	**-8.4**
NEZ	**North Egmont**	**11.14**	**210**	P		**P**	**13 39 21.2**	**+0.6**
WAZ	**Wanganui**	**11.19**	**205**	P		**Pn**	**13 39 14.8**	**-0.3**
WAZ				S		**Sn**	**13 41 18.3**	**-1.5**
DVHZ	**Dannevirke**	**11.28**	**200**	P		**Pn**	**13 39 18.2**	**+1.9**
DVHZ	**Dannevirke**	**11.28**	**200**	P		**Pn**	**13 39 16.8**	**+0.5**
DVHZ				S		**Sn**	**13 41 14.7**	**-7.4**
ANWZ	**Angora Road**	**11.34**	**199**	P		**Pn**	**13 39 18.3**	**+1.3**
ANWZ	**Angora Road**	**11.34**	**199**	P		**Pn**	**13 39 18.2**	**+1.2**
ANWZ				S		**Sn**	**13 41 16.6**	**-6.8**
POWZ	**Post Office Ro**	**11.49**	**201**	P		**Pn**	**13 39 19.4**	**+0.5**
POWZ				S		Sn	13 41 16.2	-11
PRWZ	**Pori Road**	**11.58**	**200**	P		**Pn**	**13 39 18.3**	**-1.7**
PRWZ				S		**Sn**	**13 41 20.7**	**-8.3**
BFZ	**Birch Farm**	**11.61**	**199**	P		**Pn**	**13 39 20.9**	**+0.4**
MRZ	**Mangatainoka R**	**11.79**	**201**	P		**Pn**	**13 39 20.1**	**-2.6**
MRZ				S		**Sn**	**13 41 26.4**	**-7.8**
CAW	**Cannon Point**	**12.36**	**202**	P		**Pn**	**13 39 26.1**	**-3.9**
CAW				S		**Sn**	**13 41 40.3**	**-7.5**
SNZO	**South Karori**	**12.67**	**203**	P		**Pn**	**13 39 35.1**	**+1.3**
QRZ	**Quartz Range**	**13.10**	**210**	P		**P**	**13 39 42.4**	**+0.1**
KHZ	**Kahutara**	**14.05**	**204**	P		**P**	**13 39 53.1**	**+0.3**
CTZ	**Chatham Island**	**14.05**	**173**	P		**P**	**13 39 56.9**	**+4.1**
YATNC	**Mamie plateau,**	**14.97**	**298**	P		**P**	13 40 16.6	+13
DZM	**Mont Dzumac**	**15.31**	**297**	P		**P**	**13 40 11.0**	**+3.8**
DZM	**Mont Dzumac**	**15.31**	**297**	P		**P**	13 40 19.1	+12
DZM	**Mont Dzumac**	**15.31**	**297**	P		**Pn**	**13 40 02.3**	**-4.6**
	2.2nm,0.5s,baz=114,slow=21,SNR=6.1							
NOUC	**Port Laguerre**	**15.41**	**296**	P		P	13 40 19.8	+12
LIFNC	**LIFOU**	**15.46**	**302**	P		P	13 40 19.7	+11
RPZ	**Rata Peaks**	**16.10**	**207**	P		**Pn**	**13 40 18.0**	**+2.0**
RPZ	**Rata Peaks**	**16.10**	**207**	P		**Pn**	**13 40 16.6**	**+0.6**
	7.0nm,0.6s,baz=236,slow=3.0,SNR=7.3							
RPZ				S		**S**	**13 43 06.7**	**-7.4**
	13nm,0.5s,baz=20,slow=16,SNR=8.6							
FOZ	**Fox Glacier**	**16.47**	**210**	P		**Pn**	**13 40 22.5**	**+2.1**
FOZ				IAmb		IAmb	13 40 53.8	
	comp=Z,75nm,1.5s							
AFI	**Afiamalu**	**17.07**	**24**	P		**P**	**13 40 22.8**	**-3.6**
AFI				IAmb		IAmb	13 40 25.5	
	comp=Z,67nm,1.4s							
JCZ	**Jackson Bay**	**17.36**	**211**	P		**Pn**	**13 40 31.5**	**+0.4**
ODZ	**Otahua Downs**	**17.38**	**206**	P		**Pn**	**13 40 32.4**	**+1.3**
ODZ				IAmb		IAmb	13 41 04.3	
	comp=Z,31nm,1.3s							
ODZ	**Otahua Downs**	**17.38**	**206**	P		**P**	**13 40 29.9**	**+0.4**
KOUNC	**Koumac, New Ca**	**17.83**	**297**	P		Pn	13 40 46.1	+9.4
RAR	**Rarotonga**	**19.16**	**68**	P		**P**	**13 40 47.4**	**-1.6**
RAR	**Rarotonga**	**19.16**	**68**	P		**P**	**13 40 47.1**	**-1.9**
	comp=Z,31nm,0.9s,baz=239,slow=18,SNR=3.3							
RAR				S		**S**	**13 44 13.5**	**-1.9**
	comp=Z,4.5nm,0.6s,baz=159,slow=20,SNR=1.5							
ARMA	**Armidale**	**25.56**	**261**	P		**P**	**13 41 56.8**	**+5.5**
ARMA				IAmb		IAmb	13 42 27.5	
	comp=Z,23nm,1.5s							
CTAO	**Charters Tower**	**33.01**	**279**	P		**P**	**13 42 59.7**	**+2.6**
CTAO				IAmb		IAmb	13 43 01.6	
	comp=Z,13nm,1.2s							
STKA	**Stephens Creek**	**33.95**	**256**	P		**P**	**13 43 08.1**	**+3.1**
STKA	**Stephens Creek**	**33.95**	**256**	P		**P**	**13 43 08.4**	**+3.4**
	comp=Z,2.2nm,0.6s,baz=109,slow=13,SNR=6.6							
	comp=Z,2.2nm,0.6s							
AS31	**Alice Springs**	**42.45**	**267**	P		**P**	**13 44 17.2**	**+1.2**
ASAR	**Alice Springs**	**42.45**	**267**	P		**P**	**13 44 16.7**	**+0.6**
ASAR	**Alice Springs**	**42.45**	**267**	P		**P**	**13 44 17.5**	**+1.4**
	comp=Z,3.0nm,1.0s,baz=103,slow=7.4,SNR=33							
ASAR				PcP		**PcP**	**13 46 06.1**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=115,slow=4.5,SNR=1.7							
ASAR				ScP	

KOPR	Koprukoy-ERZUR	145.38	298	*e*P		PKPbc	13 55 55.2	0.0
BCA	Borcka	145.42	301	*e*P		PKPdf	13 55 54.2	-0.4
BNGB	Bingl	146.36	297	*e*P		PKPbc	13 55 58.3	+0.3
NB2	NORSAR Subarra	148.02	351	PKP		PKPbc	13 56 00.3	-1.5
	comp=Z,4.2nm,0.6s,baz=12,slow=2.9							
NOA	NORSAR Array B	148.02	351	PKPbc		PKPbc	13 56 00.2	-1.5
	comp=Z,6.0nm,0.7s,baz=15,slow=4.4,SNR=18							
HFS	Hagfors	148.48	348	PKPbc		PKPbc	13 56 01.7	-1.2
	comp=Z,12nm,0.8s,baz=75,slow=1.7,SNR=11							
AKASG	Malin Array Be	150.38	323	PKPbc		PKPbc	13 56 07.3	-0.5
	comp=Z,5.1nm,0.5s,baz=46,slow=2.8,SNR=26							
AKASG				PKPab		PKPab	13 56 14.2	-0.8
	comp=Z,8.0nm,0.6s,baz=47,slow=4.3,SNR=26							
MMAI	Mount Meron Ar	150.69	285	PKPbc		PKiKP	13 56 10.8	+1.0
	comp=Z,20nm,0.5s,baz=78,slow=6.1,SNR=35							
BRTR	Keskin Array B	151.68	299	PKPbc		PKPbc	13 56 11.2	-0.3
	comp=Z,5.1nm,0.9s,baz=134,slow=3.6,SNR=16							
BRTR				PKPab		PKPab	13 56 20.4	-0.7
	comp=Z,2.0nm,0.8s,baz=125,slow=3.5,SNR=4.0							
EKA	Eskdalemuir Ar	154.26	6	PKPab		PKPab	13 56 30.1	-1.0
	comp=Z,5.4nm,0.8s,baz=308,slow=4.1,SNR=4.4							
DBIC	Dimbokro	156.33	165	PKP		PKPdf	13 56 11.9	-0.2
	comp=Z,1.2nm,0.8s,baz=91,slow=5.2,SNR=3.3							
DBIC				PKPab		PKPab	13 56 43.1	+2.0
	comp=Z,1.7nm,0.5s,baz=178,slow=3.0,SNR=4.3							
CLL	Collm	156.74	341	*i* PKPab		PKPab	13 56 40.6	-1.3
	comp=Z,9.0nm,0.9s							
BRG	Berggiesshubel	156.85	339	*e*PKP		PKPab	13 56 34.2	-8.2
BRG				Amp			13 56 34.8	
	comp=Z,4.5nm,0.8s							
CONA	Conrad Observa	158.63	332	*e*PKP		PKPab	13 56 50.4	+0.1
	comp=Z,4.7nm,1.0s							
RONA	Rosalia, Austr	158.63	331	*e*PKP		PKPab	13 56 50.3	0.0
	comp=Z,6.6nm,1.1s							
ARSA	Arzberg	159.31	331	*e*PKP		PKPab	13 56 53.7	+0.5
	comp=Z,6.7nm,1.1s							
LESA	Schwarzleotal	160.25	336	*e*PKP		PKPab	13 56 57.0	-0.4
	comp=Z,3.3nm,0.8s							
KBA	Koelnbreinsper	160.31	335	*e*PKP		PKPab	13 56 57.8	0.0
	comp=Z,1.0nm,0.4s							
WTTA	Wattenberg	160.75	338	PKP		PKPab	13 56 58.5	-1.2
	comp=Z,4.3nm,0.7s							
RETA	Reutte	160.82	340	*e*PKP		PKPab	13 56 59.4	-0.5
	comp=Z,5.8nm,0.9s							
MOTA	Moosalm	160.84	339	*e*PKP		PKPab	13 56 59.9	-0.1
	comp=Z,12nm,1.2s							
ABTA	Abfaltersbach	160.89	336	*e*PKP		PKPab	13 56 59.2	-1.0
	comp=Z,7.8nm,1.0s							
FETA	Feichten	161.25	339	PKP		PKPab	13 57 01.4	-0.5
	comp=Z,6.6nm,1.2s							
TORD	Torodi Ar. Bea	163.46	182	PKP		PKPdf	13 56 20.0	0.0
	comp=Z,1.0nm,0.8s,baz=222,slow=1.9,SNR=6.0							
TORD				PKPab		PKPab	13 57 13.9	+1.9
	comp=Z,7.1nm,0.9s,baz=164,slow=2.8,SNR=25							
ESDC	Sonseca Array	169.25	22	PKP		PKPdf	13 56 24.3	+0.4
	comp=Z,0.5nm,0.8s,baz=316,slow=2.2,SNR=3.1							
ESDC				PKPab		sPKPdf	13 57 36.0	+0.6
	comp=Z,1.5nm,1.0s,baz=345,slow=3.5,SNR=4.9							

IDC 13 13:37:13.5±999.0, 54.45N×2.78E, h0km, Error ellipse: s-maj=504.1km s-min=187.2km az=108.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	8.81	125	I	I	14 30 50.0	
	0.1nm,0.8s,baz=313,slow=322,SNR=1.8						
I43RU	DUBNA INFRASON	19.48	69	I	I	15 34 00.0	
	baz=277,slow=317,SNR=1.7						
I31KZ	AKTYUBINSK INF	33.20	74	I	I	16 59 20.0	
	baz=298,slow=340,SNR=0.9						

*DJA **13** 13:37:29.3±0.3,2°N±3°×9°9E±°, h155km±4km, M4.9/15, mb4.8/10, mB5.5/4, MLv4.9/15, Mw(mB)5.0/4*
*IDC **13** 13:37:31.7±1.9,2.39N×99.04E, h151km±17km, mb4.1/29, mbtmp4.5/31, MS3.6/5, Error ellipse: s-maj=13.1km s-min=8.8km az=60.0*
*NEIC **13** 13:37:31.1±1.7,2.40N±0.06°×98.95E±0.02, h134km±6km, mb4.6/39, Error ellipse: s-maj=9.3km s-min=2.6km az=167.0*

ISC 13 13:37:31.5±0.3, 2.35N±0.04°×98.96E±0.05, h150km, n146, σ1°50/154, mb4.4/49, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPSI	Rantau Prapat	0.35	353		Pn	13 37 50.4	-1.9
PSI	Prapat	0.45	355	P	Pn	13 37 50.6	-2.2
GSI	Gunungsitoli	1.73	233		Pn	13 38 01.9	-1.6
GSI	Gunungsitoli	1.73	233	P	Pn	13 38 02.2	-1.4
GSI	Gunungsitoli	1.73	233	P	Pn	13 38 02.1	-1.5
PBSI	Pulau Batu	2.48	196	P	Pn	13 38 10.5	-1.9
BKNI	Bangkinang	2.89	134		Pn	13 38 16.7	-0.8
BKNI	Bangkinang	2.89	134	P	Pn	13 38 16.8	-0.7
MLSI	Meulaboh, Aceh	3.19	307	P	Pn	13 38 19.9	-1.4
KUM	Kulim	3.37	30	Pn	Pn	13 38 22.2	-1.4
LHMI	Lhok Sumawe	3.50	325		Pn	13 38 24.1	-1.1
LHMI	Lhok Sumawe	3.50	325	P	Pn	13 38 24.7	-0.6
LHMI	Lhok Sumawe	3.50	325	P	Pn	13 38 24.4	-0.9
PDSI	Padang	3.56	155	P	Pn	13 38 25.0	-1.2
MYKOM	Kota Tinggi	4.91	96	Pn	Pn	13 38 43.2	-0.6
KRJI	Kerinci	5.07	150	P	Pn	13 38 45.6	-0.3
	191nm,0.6s,7μm3.0nm						
PPSI	Pulau Pagai	5.18	168	P	Pn	13 38 45.0	-2.4
	134nm,1.4s,8μm2.7nm						
TPRI	Tanjung Pinang	5.74	104	P	Pn	13 38 53.3	-1.5
	69nm,0.5s,0.4nm						
LHSI	Lahat	7.64	143	P	Pn	13 39 18.3	-1.8
	131nm,0.7s,2μm0.6nm						
MNAI	Manna	7.76	149		Pn	13 39 19.3	-2.5
MNAI	Manna	7.76	149	P	Pn	13 39 19.3	-2.5
MNAI	Manna	7.76	149	P	Pn	13 39 19.2	-2.6
	429nm,1.4s,4.2nm						
KASI	Kota Agung	9.57	145	P	Pn	13 39 42.7	-3.2
	37nm,1.0s						
CGJI	Cibinong	11.15	143	P	Pn	13 40 01.1	-5.7
NAYO	Nakonayok	12.12	11	P	Pn	13 40 21.2	+1.8
SBUM	Sibu	13.24	89	Pn	Pn	13 40 34.3	+0.4
DLV	T Lat	13.42	44	Pn	Pn	13 40 36.7	+0.4
CMJI	Cimerak	13.81	137	P	Pn	13 40 35.9	-5.2
	53nm,0.9s						
KPJI	Karang Pucung	13.83	134	P	Pn	13 40 38.8	-2.6
	13nm,1.2s						
UBPT	Khong Chiam	14.37	26		Pn	13 40 48.1	+0.1
UGM	Wanagama	15.39	132	P	Pn	13 40 58.8	-2.1
UGM	Wanagama	15.39	132	P	Pn	13 40 57.6	-3.3
CM31	Chiang Mai Arr	16.01	360	P	P	13 41 08.6	-0.4
CM31				IAmb	IAmb	13 41 37.3	
	comp=Z,22nm,1.2s						
CMAR	Chiang Mai Arr	16.01	360		P	13 41 08.9	-0.1
CMAR	Chiang Mai Arr	16.01	360	P	P	13 41 09.4	+0.4
	comp=Z,8.1nm,1.0s,baz=190,slow=10,SNR=48						
CMAR				ScP	ScP	13 49 17.8	+1.2
	comp=Z,1.4nm,0.7s,baz=214,slow=3.2,SNR=9.8						
CHTO	Chiang Mai	16.37	360	P	P	13 41 14.0	+1.1
KKM	Kota Kinabalu	17.59	77	P	Pn	13 41 27.7	0.0
KKM				IAmb	IAmb	13 41 32.1	
	comp=Z,45nm,0.9s						
KKM	Kota Kinabalu	17.59	77	P	Pn	13 41 28.4	+0.7
CRAI	Chiangrai	17.83	4	P	Pn	13 41 28.9	-1.4
CRAI				IAmb	IAmb	13 41 32.5	
	comp=Z,19nm,1.1s						
JAGI	Jajag, Banyuwa	18.57	126		Pn	13 41 39.2	+0.1
JAGI				IAmb	IAmb	13 41 42.2	
	comp=Z,29nm,0.8s						
PALK	Pallekele	18.84	286	P	Pn	13 41 42.3	-0.1
	comp=Z,3.4nm,0.7s,baz=199,slow=12,SNR=2.6						
PALK				S	S	13 45 02.2	-4.5
	comp=Z,3.6nm,0.5s,baz=291,slow=9.3,SNR=2.1						
SLVN	Son La	19.48	14	P	P	13 41 46.8	-0.2
SLVN				IAmb	IAmb	13 41 52.9	
	comp=Z,20nm,0.9s						
MYLDM	Lahad Datu	19.70	81	P	Pn	13 41 50.9	-1.4
PLAI	Plampang	21.79	121	P	P	13 42 11.2	-0.6
TOLI2	Tolitoli	21.84	93	P	P	13 42 12.2	-0.1
TOLI2				IAmb	IAmb	13 42 12.9	
	comp=Z,32nm,1.0s						
TOLI2	Tolitoli	21.84	93	P	P	13 42 12.9	+0.6
KAPI	Kappang	22.02	109	P	P	13 42 14.2	+0.1
KAPI				IAmb	IAmb	13 42 18.2	
	comp=Z,39nm,1.0s						
KAPI	Kappang	22.02	109	P	P	13 42 14.8	+0.7
	comp=Z,31nm,0.3s,baz=262,slow=10,SNR=9.4						
	comp=Z,31nm,0.3s						
SHL	Shillong	24.07	344	P	P	13 42 33.5	+0.1
SHL				IAmb	IAmb	13 43 05.1	
	comp=Z,35nm,1.2s						
SOEI	Soe	27.92	116	P	P	13 43 08.0	-0.1
SOEI				IAmb	IAmb	13 43 19.9	
	comp=Z,9.7nm,0.6s						
SOEI	Soe	27.92	116	P	P	13 43 10.2	+2.2
MBWA	Marble Bar	30.97	140	P	P	13 43 35.5	+0.7
MBWA				IAmb	IAmb	13 44 13.3	
	comp=Z,24nm,1.4s						
MBWA	Marble Bar	30.97	140	P	P	13 43 36.0	+1.3
XAN	Xi'an	32.88	15	P	P	13 43 49.8	-1.5
XAN				pP	pP	13 44 22.1	-1.2
XAN				pmax	pmax		
	comp=Z,32nm,1.0s						
FITZ	Fitzroy Crossi	33.21	129	P	P	13 43 54.2	-0.1
FITZ				IAmb	IAmb	13 43 55.9	
	comp=Z,5.3nm,0.8s						
FITZ	Fitzroy Crossi	33.21	129	P	P	13 43 55.4	+1.0
LZH	Lanzhou	33.88	7	*e*P	P	13 43 59.8	-0.3
LZH				pP	pP	13 44 32.3	+0.1
LZH				sP	sP	13 44 48.9	-0.6
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
MEEK	Meekatharra	34.50	148	P	P	13 44 05.5	0.0
NJ2	Nanjing	34.98	30	*e*P	P	13 44 11.8	+2.3
NJ2				pP	pP	13 44 40.0	-1.7
NJ2				sP	sP	13 44 54.8	-4.1
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,230nm,5.3s						
MORW	Morawa	35.27	154	P	P	13 44 12.5	+0.6
MTN	Manton Dam	35.32	116	P	P	13 44 13.3	+0.7
GTA	Gaotai	36.90	1	*e*P	P	13 44 25.4	-0.5
GTA				pP	pP	13 44 57.4	-1.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
HNS	HongShan	37.77	21	pP	P	13 44 33.1	+0.1
MUN	Mundaring	37.86	156	P	P	13 44 35.1	+1.2
NWAO	Narrogin (SRO)	39.11	155	P	P	13 44 44.5	+0.3
NWAO	Narrogin (SRO)	39.11	155	P	P	13 44 45.5	+1.2
HHC	Hu-ho-hao-te	39.99	15	*e*P	P	13 44 54.1	+2.5
HHC				pmax	pmax		
	comp=Z,18nm,0.5s						
HHC				pmax	pmax		
	comp=Z,270nm,5.1s						
KMBL	Kambalda	39.99	149	P	P	13 44 52.6	+1.0
BJI	Beijing	40.64	20	P	P	13 44 57.3	+0.5
BJI				pP	pP	13 45 29.6	-0.2
BJI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WB0	Warramunga Arr	41.14	124	P	P	13 45 01.1	-0.1
WRA	Warramunga Arr	41.18	124	P	P	13 45 01.7	+0.1
WRA	Warramunga Arr	41.18	124	P	P	13 45 00.6	-1.0
	comp=Z,9.5nm,0.3s,baz=301,slow=8.7,SNR=52						
WRA				S	S	13 50 56.8	-7.3
	comp=Z,4.0nm,1.0s,baz=294,slow=17,SNR=13						
	comp=Z,9.5nm,0.3s						
WMQ	Urumqi	42.49	348	*e*P	P	13 45 12.8	+0.8
WMQ				pmax	pmax		
	comp=Z,13nm,0.9s						
ASAR	Alice Springs	42.71	129	P	P	13 45 13.9	-0.1
ASAR	Alice Springs	42.71	129	P	P	13 45 12.9	-1.1
	comp=Z,5.7nm,0.4s,baz=296,slow=7.6,SNR=46						
ASAR				PcP	PcP	13 47 03.3	+0.2
	comp=Z,0.3nm,0.3s,baz=350,slow=4.7,SNR=1.9						
ASAR				ScP	ScP	13 50 39.2	-0.9
	comp=Z,0.5nm,0.6s,baz=305,slow=4.1,SNR=5.8						
ASAR				S	S	13 51 20.1	-6.5
	comp=Z,0.9nm,0.9s,baz=298,slow=15,SNR=1.8						
	comp=Z,5.7nm,0.4s						
AS31	Alice Springs	42.71	129	P	P	13 45 14.5	+0.4
AS31				IAmb	IAmb	13 45 15.8	
	comp=Z,3.9nm,0.6s						
AS01	Alice Springs	42.75	129	P	P	13 45 14.9	+0.6
	comp=Z,13nm,0.9s						
FORT	Forrest	43.05	142	P	P	13 45 18.3	+1.7
KSRS	Korea Array	43.92	34	P	P	13 45 22.9	-0.5
	comp=Z,3.0nm,0.7s,baz=217,slow=9.1,SNR=10						
KSRS				LR	LR	14 07 23.6	
	comp=Z,34nm,19.0s,baz=175,slow=41						
	comp=Z,3.0nm,0.7s						
ARSB	Arslanbob	45.31	332	P	P	13 45 35.0	+0.3
AAK	Ala-Archa	45.69	335	P	P	13 45 39.3	+1.7
AAK	Ala-Archa	45.69	335	LR	LR	14 06 47.3	
	comp=Z,62nm,19.1s,baz=316,slow=38						
SONM	Songino Array	45.77	7	P	P	13 45 37.5	-0.5
SONM	Songino Array	45.77	7	P	P	13 45 38.4	+0.4
	comp=Z,1.3nm,0.3s,baz=181,slow=10,SNR=11						
	comp=Z,1.3nm,0.3s						
QIS	Mount Isa	45.87	122	P	P	13 45 39.8	+0.6
OOD	Oodnadatta	46.32	133	P	P	13 45 43.3	+0.8
MK31	Makanchi Array	46.59	344	P	P	13 45 44.4	0.0
MKAR	Makanchi Array	46.59	344	P	P	13 45 44.6	+0.2
MKAR	Makanchi Array	46.59	344	P	P	13 45 44.1	-0.3
	comp=Z,3.4nm,0.5s,baz=155,slow=7.7,SNR=39						
MKAR				LR	LR	14 10 40.6	
	comp=Z,49nm,18.1s,baz=304,slow=43						
	comp=Z,3.4nm,0.5s						
MULG	Mulgathing	46.62	137	P	P	13 45 45.7	+0.8
COEN	Coen	46.72	112	P	P	13 45 46.6	+0.7
BBOO	Buckleboo	49.52	138	P	P	13 46 09.0	+1.9
MJAR	Matsushiro Arr	49.66	42	P	P	13 46 08.2	+0.1
	comp=Z,2.0nm,0.8s,baz=220,slow=6.7,SNR=3.2						
	comp=Z,2.0nm,0.8s						
MDJ	Mudanjiang	50.02	28	P	P	13 46 11.3	+0.6
MDJ				pmax	pmax		
	comp=Z,12nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,790nm,5.8s						
INKA	Innaminka	50.09	130	P	P	13 46 13.2	+1.7
KURBB	Kurchatov Arra	51.12	343	P	P	13 46 18.9	+0.2
	comp=Z,3.4nm,0.7s,baz=166,slow=7.4,SNR=40						
	comp=Z,3.4nm,0.7s						
KURK	Kurchatov	51.17	344	P	P	13 46 19.3	+0.2
KURK				IAmb	IAmb	13 46 20.5	
	comp=Z,6.4nm,0.8s						
GEYT	Ailbeck	51.50	319	P	P	13 46 22.4	+0.5
	comp=Z,3.5nm,0.9s,baz=166,slow=8.8,SNR=6.0						
	comp=Z,3.5nm,0.9s						
HTT	Hallett	51.82	137	P	P	13 46 24.9	+0.5
QLP	Quilpie	52.30	126	P	P	13 46 28.8	+0.9
ZAA0	Zalesovo Array	52.73	350	P	P	13 46 30.3	-0.3
ZAA0				IAmb	IAmb	13 46 31.2	
	comp=Z,10nm,0.9s						
ZALV	Zalesovo Beam	52.73	350	P	P	13 46 30.3	-0.4
	comp=Z,4.3nm,0.3s,baz=173,slow=6.0,SNR=38						
ZALV				S	S	13 53 46.4	-0.5
	comp=Z,0.4nm,0.4s,baz=153,slow=13,SNR=3.7						
	comp=Z,4.3nm,0.3s						
STKA	Stephens Creek	52.84	134	P	P	13 46 31.1	-0.8
STKA	Stephens Creek	52.84	134	P	P	13 46 32.6	+0.7
STKA	Stephens Creek	52.84	134	P	P	13 46 31.2	-0.6
	comp=Z,2.2nm,0.3s,baz=347,slow=2.4,SNR=9.5						
	comp=Z,2.2nm,0.3s						
KLR	Kul'dur	54.45	26	LR	LR	14 14 36.2	
	comp=Z,79nm,18.0s,baz=264,slow=41						
CMSA	Cobar Meteorol	55.69	131	P	P	13 46 52.5	0.0
BVAR	Borovoye Array	55.78	340	P	P	13 46 52.4	-0.3
	comp=Z,3.0nm,0.8s,baz=134,slow=8.5,SNR=7.7						
BVAR				PcP	PcP	13 47 50.2	+0.2
	comp=Z,1.9nm,0.8s,baz=199,slow=3.1,SNR=3.7						
BVAR				LR	LR	14 15 15.6	
	comp=Z,74nm,18.8s,baz=309,slow=41						
	comp=Z,3.0nm,0.8s						
VOI	Vohitsoka	56.36	242	P	P	13 46 58.5	+1.0
ABKAR	Akbulak array	57.36	331	P	P	13 47 03.2	-0.8
ABKAR				IAmb	IAmb	13 47 08.1	
	comp=Z,3.8nm,1.1s						
EIDS	Eidsvold	57.47	122	P	P	13 47 06.1	+0.9
EIDS	Eidsvold	57.47	122	P	P	13 47 07.3	+2.1
ARMA	Armidale	59.80	127	P	P	13 47 24.2	+2.8
ARMA				IAmb	IAmb	13 47 26.0	
	comp=Z,9.4nm,1.0s						
CAN	Canberra	59.91	134	P	P	13 47 24.2	+2.3
CAN	Canberra	59.91	134	P	P	13 47 23.9	+2.0
KMBO	Kilima Mbogo	61.80	267	P	P	13 47 36.0	+0.7
	comp=Z,2.5nm,0.5s,baz=56,slow=8.8,SNR=9.3						
	comp=Z,2.5nm,0.5s						
KBZ	Khabaz	64.38	318	P	P	13 47 51.6	+0.1
	comp=Z,3.2nm,0.8s,baz=124,slow=3.8,SNR=7.1						
	comp=Z,3.2nm,0.8s						
BRTR	Keskin Array B	69.66	312	P	P	13 48 24.3	-0.9
BRTR	Keskin Array B	69.66	312	P	P	13 48 24.4	-0.7
	comp=Z,1.3nm,0.7s,baz=132,slow=8.5,SNR=6.2						
	comp=Z,1.3nm,0.7s						
PEA0B	Petropavlovsk-	69.81	33	P	P	13 48 26.2	+0.6
PETK	Petropavlovsk-	69.81	33	P	P	13 48 25.9	+0.3
TIXI	Tiksi	71.77	10	P	P	13 48 37.0	0.0
TIXI				IAmb	IAmb	13 48 37.4	
	comp=Z,11nm,1.0s						
LSZ	Lusaka	72.13	253	P	P	13 48 41.0	+0.6
	comp=Z,3.1nm,0.4s,baz=98,slow=6.1,SNR=3.6						
	comp=Z,3.1nm,0.4s						
MAW	Mawson	74.23	194	P	P	13 48 51.7	+0.2
	comp=Z,6.4nm,0.6s,baz=14,slow=6.2,SNR=7.7						
	comp=Z,6.4nm,0.6s						
AKASG	Malin Array Be	75.44	322	P	P	13 48 57.9	-1.0
	comp=Z,0.2nm,0.3s,baz=92,slow=4.1,SNR=5.8						
	comp=Z,0.2nm,0.3s						
BOSA	Boshof	76.88	240	P	P	13 49 08.2	+0.6
BOSA				IAmb	IAmb	13 49 22.8	
	comp=Z,7.4nm,0.8s						
BOSA	Boshof	76.88	240	P	P	13 49 08.5	+0.8
	comp=Z,5.4nm,0.7s,baz=90,slow=4.3,SNR=7.2						
	comp=Z,5.4nm,0.7s						
BURAR	Bucovina Array	77.34	318	P	P	13 49 11.1	+1.3
BUR08	Bucovina Ar. S	77.36	318	P	P	13 49 10.5	+0.6
RPZ	Rata Peaks	78.77	135	P	P	13 49 18.5	+0.8
	comp=Z,3.2nm,0.5s,baz=318,slow=21,SNR=1.3						
	comp=Z,3.2nm,0.5s						
FINES	FINESS Array B	79.81	332	P	P	13 49 22.6	-0.2
	comp=Z,1.8nm,0.7s,baz=117,slow=9.0,SNR=10.0						
	comp=Z,1.8nm,0.7s						
SUR	Sutherland	81.26	237	P	P	13 49 32.7	+1.1
	comp=Z,5.6nm,0.7s,baz=126,slow=9.1,SNR=5.9						
	comp=Z,5.6nm,0.7s						
ARCES	ARCESS Array B	82.06	340	P	P	13 49 34.3	-0.4
	comp=Z,4.2nm,1.0s,baz=93,slow=4.9,SNR=6.1						
	comp=Z,4.2nm,1.0s						
HFS	Hagfors	85.62	330	P	P	13 49 52.1	-0.8
	comp=Z,1.7nm,0.4s,baz=113,slow=3.9,SNR=11						
	comp=Z,1.7nm,0.4s						
SPITS	Spitsbergen Ar	86.20	348	P	P	13 49 55.1	-0.4
	comp=Z,10nm,1.0s,baz=107,slow=11,SNR=5.1						
	comp=Z,10nm,1.0s						
NOA	NORSAR Array B	86.87	331	P	P	13 50 00.2	+1.1
	comp=Z,1.0nm,0.8s,baz=90,slow=1.2,SNR=1.7						
	comp=Z,1.0nm,0.8s						
KEST	Kesra	88.33	306	P	P	13 50 08.2	+1.5
	comp=Z,4.6nm,0.9s,baz=289,slow=9.4,SNR=4.2						
	comp=Z,4.6nm,0.9s						
QSPA	South Pole Qui	92.28	180	P	P	13 50 25.5	+1.1
	comp=Z,1.0nm,0.5s,baz=215,slow=1.5,SNR=6.3						
	comp=Z,1.0nm,0.5s						
TORD	Torodi Ar. Bea	96.54	283	P	P	13 50 44.7	-0.2
	comp=Z,0.3nm,0.5s,baz=33,slow=5.5,SNR=2.0						
	comp=Z,0.3nm,0.5s						
NVAR	Mina Array Bea	126.82	36	PKP	PKiKP	13 56 18.3	-0.4
	comp=Z,0.1nm,0.3s,baz=250,slow=4.3,SNR=3.0						
PDAR	Pinedale Array	128.24	27	PKP	PKiKP	13 56 21.1	-0.3
	comp=Z,0.1nm,0.4s,baz=140,slow=3.2,SNR=3.7						
PDAR				PKKP	PKKPdf	14 06 33.8	+2.8
	comp=Z,0.3nm,0.6s,baz=119,slow=4.2,SNR=3.8						
TXAR	Lajitas Array	141.76	33	PKhKP	PKPpre	13 56 42.8	
	comp=Z,0.1nm,0.3s,baz=235,slow=0.4,SNR=5.3						
TXAR				SKPbc	SKiKP	14 00 10.2	-1.1
	comp=Z,4.6nm,0.9s,baz=260,slow=1.2,SNR=26						
BDFB	Brasilia	144.89	246	PKP	PKPdf	13 56 51.6	-0.3
	comp=Z,8.1nm,0.6s,baz=99,slow=3.5,SNR=9.5						
CPUP	Villa Florida	147.03	222	PKPbc	PKPbc	13 56 57.8	+0.3
	comp=Z,6.3nm,0.9s,baz=124,slow=2.7,SNR=9.2						
MT01	Popeta	147.34	195		PKPbc	13 56 57.9	-0.2
CO02	Combarbal	149.77	197		PKPbc	13 57 03.3	-1.2

*IDC **13** 13:45:44.6±0.8, 12.46N×143.59E, h0km, mb4.0/11, mbtmp4.0/11, Error ellipse: s-maj=32.3km s-min=17.8km az=121.0*

ISC 13 13:45:48.9±0.9, 12.4N±0.2×143.6E±0.2, h27km, n15, σ0°86/13, mb3.9/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.68	46	Pn	Pn	13 46 16.6	+0.1
	140nm,0.3s,baz=139,slow=2.0,SNR=71						
GUMO				Sn	Sb	13 46 39.9	+0.1
	109nm,0.3s,baz=343,slow=24,SNR=19						
H11N1	WAKE ISLAND Hy	23.49	69	T	T	14 15 28.9	
	baz=255						
H11N2	WAKE ISLAND Hy	23.50	69	T	T	14 15 30.9	
	baz=255						
H11N3	WAKE ISLAND Hy	23.51	69	T	T	14 15 37.0	
	baz=255						
WRA	Warramunga Arr	33.44	196	P	P	13 52 24.9	-0.8
	0.4nm,0.6s,baz=20,slow=9.8,SNR=6.8						
	0.4nm,0.6s						

comp=Z,83nm,18.2s,baz=82,slow=35
KURBB Kurchatov Arra 52.04 9 P **P** **14 14 37.4 -0.3**
1.1nm,1.0s,baz=203,slow=7.5,SNR=5.4
1.1nm,1.0s
BVAR Borovoye Array 53.59 2 P **P** **14 14 49.7 +0.5**
0.3nm,0.5s,baz=336,slow=3.2,SNR=1.6
BVAR LR LR 14 39 43.6
comp=Z,55nm,18.2s,baz=300,slow=38
0.3nm,0.5s
SUR Sutherland 53.77 229 LR LR 14 35 02.8
comp=Z,65nm,20.7s,baz=358,slow=33
ZALV Zalesovo Beam 56.40 12 P **P** **14 15 08.8 -0.6**
1.1nm,0.7s,baz=191,slow=7.2,SNR=4.2
1.1nm,0.7s
SONM Songino Array 59.16 30 P **P** **14 15 29.7 +0.5**
1.4nm,0.9s,baz=223,slow=9.1,SNR=6.2
1.4nm,0.9s
WRA Warramunga Arr 68.41 111 P **P** **14 16 30.9 +0.3**
0.8nm,0.8s,baz=293,slow=5.9,SNR=5.2
0.8nm,0.8s
ASAR Alice Springs 68.54 115 P **P** **14 16 31.2 -0.2**
0.6nm,0.8s,baz=280,slow=7.0,SNR=5.7
0.6nm,0.8s
TXAR Lajitas Array 150.18 344 PKPbc **PKPbc** **14 25 19.9 -0.2**
0.5nm,0.9s,baz=50,slow=2.1,SNR=4.5

CATAC ***13*** *14:15:24.3±1.4, 14°.03N×90°.01W, h5km±5km, ML2.9*
SNET ***13*** *14:15:26.2±0.6, 14°.01N×89°.83W, h11km±1km, ML2.2*
ISC 13 14:15:24.8±3.0, 14°.04N±0°.04×90°.0W±0°.2, h12km±8km, n15, σ0s57/26, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
SLOZ	**Alcaldia de Sa**	**0.16**	**93**	*eP*		**Pg**		**14 15 28.6**	**0.0**
SLOZ				*eS*		**Sg**		**14 15 30.9**	**-0.4**
LOAL	**Lomas de Alarc**	**0.17**	**102**	*i P*		**Pg**		**14 15 28.7**	**0.0**
LOAL				*i S*		**Sg**		**14 15 32.4**	**+1.0**
LOAL				IAML				14 15 34.3	
comp=Z,14μm,1.0s									
NUBE	**Las Nubes**	**0.21**	**129**	*eP*		**Pg**		**14 15 29.6**	**+0.1**
NUBE				*eS*		**Sg**		**14 15 32.1**	**-0.6**
NUBE	**Las Nubes**	**0.21**	**129**	*i P*		**Pg**		**14 15 29.6**	**+0.1**
NUBE				*i S*		**Sg**		**14 15 32.5**	**-0.2**
NUBE				IAML				14 15 35.6	
comp=Z,4μm,1.0s									
RTR	**El Retiro**	**0.33**	**115**	*eP*		**Pb**		**14 15 32.0**	**-0.6**
SNJE	**San Jose**	**0.37**	**116**	*eP*		**Pg**		**14 15 32.7**	**+0.4**
SNJE				*eS*		**Sb**		**14 15 38.0**	**-1.3**
CEVE	**Cerro Verde**	**0.38**	**123**	*eP*		**Pg**		**14 15 32.8**	**+0.3**
CEVE				*eS*		**Sg**		**14 15 38.0**	**+0.5**
CEVE				IAML				14 15 46.3	
comp=Z,1μm,0.3s									
CEVE	**Cerro Verde**	**0.38**	**123**	*i P*		**Pb**		**14 15 33.0**	**-0.6**
CEVE				*i S*		**Sb**		**14 15 39.6**	**+0.1**
CEVE				IAML				14 15 46.0	
comp=Z,860nm,1.0s									
JUAM	**Asuncion Mita**	**0.38**	**38**	*i P*		**Pg**		**14 15 32.2**	**-0.3**
JUAM				*i S*		**Sb**		**14 15 39.8**	**+0.4**
JUAM				IAML				14 15 40.7	
comp=Z,1μm,1.0s									
UNIC	**Universidad Ca**	**0.39**	**98**	*i P*		**Pb**		**14 15 33.3**	**-0.5**
UNIC				IAML				14 15 44.7	
comp=Z,410nm,1.0s									
JAYA	**Jayaque - finc**	**0.62**	**128**	*i P*		**Pb**		**14 15 37.7**	**+0.1**
JAYA				*i S*		**Sb**		**14 15 47.4**	**+1.1**
JAYA				IAML				14 15 48.0	
comp=Z,430nm,1.0s									
MTO3	**Montecristo**	**0.68**	**58**	*eP*		**Pb**		**14 15 38.6**	**-0.1**
MTO3				*eS*		**Sb**		**14 15 47.8**	**-0.3**
MTO3				IAML				14 15 49.0	
comp=Z,46nm,0.2s									
MTO3	**Montecristo**	**0.68**	**58**	*i P*		**Pb**		**14 15 38.7**	**0.0**
MTO3				*i S*		**Sb**		**14 15 48.0**	**-0.1**
MTO3				IAML				14 15 48.4	
comp=Z,160nm,1.0s									
ESQI	**Esquipulas**	**0.79**	**48**	*i S*		**Sb**		**14 15 52.1**	**+0.9**
COMHN	**El Horno**	**2.36**	**80**	*i P*		**Pb**		**14 16 07.2**	**-0.1**

IDC 13 14:21:25.3±1.9, 11°.50N×139°.40E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=275.6km s-min=22.2km az=104.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
WRA	**Warramunga Arr**	**31.64**	**189**	P		P	P	14 27 49.6	-0.8
	0.2nm,0.5s,baz=6.2,slow=9.6,SNR=5.7								
	0.2nm,0.5s								
ASAR	**Alice Springs**	**35.37**	**189**	P		P	P	14 28 23.3	+0.5
	0.3nm,0.6s,baz=17,slow=12,SNR=9.4								
	0.3nm,0.6s								
PETK	**Petropavlovsk-**	**44.02**	**16**	P		P	P	14 29 34.6	+0.1
	5.4nm,1.0s,baz=217,slow=9.1,SNR=1.5								
	5.4nm,1.0s								
ILAR	**Eielson Array**	**72.73**	**26**	P		P	P	14 32 54.8	-0.3
	0.2nm,0.6s,baz=243,slow=6.4,SNR=4.5								
	0.2nm,0.6s								
YKA	**Yellowknife Ar**	**87.13**	**27**	P		P	P	14 34 13.2	+0.2
	0.1nm,0.5s,baz=293,slow=5.3,SNR=2.6								
	0.1nm,0.5s								

PDG ***13*** *14:35:25.8±0.5, 44°.25N×16°.58E, h9km±1km, ML3.1/9,*
Error ellipse: s-maj=1.5km s-min=1.8km az=0.0
PRU ***13*** *14:35:25.9, 44°.20N×16°.48E, h1km*
RHSSO ***13*** *14:35:26.1±0.3, 44°.24N×16°.60E, h5km±1km, ML2.8/14*
BEO ***13*** *14:35:27.0±0.6, 44°.28N×16°.64E, h1km±3km, ML2.5/3*
ISC 13 14:35:24.7±1.0, 44°.20N±0°.01×16°.56E±0°.02, h5km±9km, n91, σ1s40/153, 9C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
KIJV	**Kijevo**	**0.23**	**210**	*i* Pg		**Pg**		**14 35 29.0**	**0.0**
KIJV						Sg		**14 35 33.0**	**+1.0**
A050A	**Klekovaca**	**0.28**	**355**	*e*Pg		**Pg**		**14 35 30.2**	**0.0**
A050A				*e*Sg		**Sg**		**14 35 35.5**	**+1.5**
MGRS	**Mrkonjic Grad**	**0.43**	**60**	⇓*i*Pg		**Pg**		**14 35 32.6**	**-0.4**
MGRS				*e*Sg		**Sg**		**14 35 39.1**	**+0.4**
UDBI	**Udbina**	**0.66**	**300**	*i* Pg		**Pg**		**14 35 37.5**	**+0.1**
UDBI				Sg		**Sb**		**14 35 47.5**	**-0.8**
MORI	**Morici**	**0.70**	**242**	*e*Pg		**Pg**		**14 35 37.8**	**-0.4**
MORI				Sg		**Sb**		**14 35 49.0**	**-0.4**
BLY	**Banja Luka**	**0.71**	**39**	*e*Pg		**Pg**		**14 35 38.6**	**+0.3**
BLY				*e*Sg		**Sb**		**14 35 48.8**	**-0.8**
BLY	**Banja Luka**	**0.71**	**39**	⇑*i*Pg		**Pg**		**14 35 38.5**	**+0.3**
BLY				*e*Sg		**Sg**		**14 35 47.8**	**+0.4**
PRIJ	**Prijedor**	**0.79**	**8**	⇑*i*Pg		**Pg**		**14 35 39.8**	**0.0**
PRIJ				*e*Sg		**Sg**		**14 35 49.7**	**-0.2**
RICI	**Ricice**	**0.82**	**149**	*e*Pg		**Pg**		**14 35 39.1**	**-1.2**
RICI				Sg		**Sg**		**14 35 49.3**	**-1.6**
ZIRJ	**Zirje**	**0.86**	**231**	*e*Pg		**Pg**		**14 35 40.4**	**-0.7**
ZIRJ				Sg		**Sb**		**14 35 54.0**	**+0.1**
A251A	**Rujevac**	**0.95**	**347**	*i* Pg		**Pg**		**14 35 43.4**	**+0.4**
A251A				Sg		**Sb**		**14 35 56.0**	**-0.6**
PLIT	**Plitvice**	**0.95**	**316**	*e*Pg		**Pg**		**14 35 42.6**	**-0.4**
PLIT				Sg		**Sg**		**14 35 55.9**	**+0.5**
MAKA	**Makarska**	**0.97**	**160**	*e*Pg		**Pg**		**14 35 42.0**	**-1.2**
MAKA				Sg		**Sg**		**14 35 54.4**	**-1.4**
HVAR	**Hvar**	**1.02**	**185**	*e*Pg		**Pg**		**14 35 43.1**	**-1.2**
HVAR				Sg		**Sg**		**14 35 58.3**	**+0.7**
VIRC	**Vir**	**1.09**	**275**	*e*Pg		**Pb**		**14 35 45.6**	**-0.4**
VIRC				Sg		**Sn**		**14 36 01.7**	**-0.3**
DUGI	**Dugi Otok**	**1.10**	**260**	*e*Pg		**Pb**		**14 35 45.3**	**-1.0**
DUGI				Sg		**Sg**		**14 36 00.8**	**+0.6**
DOB	**Doboj**	**1.22**	**64**	*e*Pg		**Pn**		**14 35 47.7**	**-0.8**
DOB				*e*Sg		**Sb**		**14 36 03.6**	**-0.8**
A254A	**Petrova Gora**	**1.24**	**334**	*i* Pg		**Pn**		**14 35 48.4**	**-0.4**
A254A				Sg		**Sg**		**14 36 04.2**	**-0.8**
NVLJ	**Novalja**	**1.27**	**287**	*e*Pg		**Pn**		**14 35 48.5**	**-0.6**
RABC	**Rab**	**1.39**	**294**	*e*Pg		**Pb**		**14 35 51.1**	**0.0**
MOSL	**Moslavina**	**1.42**	**5**	*e*Pg		**Pb**		**14 35 51.3**	**-0.5**
MOSL				Sg		**Sb**		**14 36 09.8**	**-0.3**
NEVS	**Nevesinje**	**1.43**	**128**	*e*Pg		**Pn**		**14 35 51.4**	**-0.1**
NEVS				*e*Sg		**Sg**		**14 36 12.2**	**+1.5**
LSTV	**Lastovo**	**1.45**	**170**	*e*Pg		**Pn**		**14 35 51.8**	**+0.3**
A252A	**Venje**	**1.54**	**36**	*e*Pn		**Pn**		**14 35 52.3**	**-0.5**
STON	**Ston**	**1.56**	**148**	*e*Pn		**Pn**		**14 35 52.1**	**-1.0**
STON						Sn		**14 36 14.6**	**+0.4**
STON	**Ston**	**1.56**	**148**	*e*Pg		**Pb**		**14 35 54.1**	**0.0**
STON				*e*Sg		**Sg**		**14 36 17.7**	**+2.8**
STON	**Ston**	**1.56**	**148**	*e*Pn		**Pb**		**14 35 54.1**	**0.0**
STON				*e*Sn		**Sg**		**14 36 15.5**	**+0.6**
BOJS	**Bojanci**	**1.60**	**325**	⇑*i*Pn		**Pb**		**14 35 54.5**	**-0.3**
BOJS				*e*Sn		**Sg**		**14 36 16.0**	**-0.2**
BOJS	**Bojanci**	**1.60**	**325**	*i* Pn		**Pb**		**14 35 54.7**	**-0.1**
BOJS				*e*Sn		**Sg**		**14 36 16.6**	**+0.4**
BOJS				IAML				14 36 25.0	
comp=Z,66nm,0.4s									
OZLJ	**Ozalj**	**1.62**	**332**	*e*Pn		**Pb**		**14 35 54.8**	**-0.2**
OZLJ				Sn		**Sg**		**14 36 16.6**	**0.0**
PTJ	**Puntijarka**	**1.76**	**346**	*e*Pn		**Pn**		**14 35 56.3**	**+0.3**
PTJ				Sn		**Sg**		**14 36 20.9**	**-0.3**
CRES	**Cresnjev**	**1.81**	**335**	⇑*i*Pn		**Pb**		**14 35 57.3**	**-1.0**
CRES				*e*Sn		**Sb**		**14 36 21.1**	**-0.2**
CRES	**Cresnjev**	**1.81**	**335**	*e*Pn		**Pb**		**14 35 57.7**	**-0.6**
CRES				*e*Sn		**Sb**		**14 36 21.0**	**-0.2**
CRES				IAML				14 36 30.6	
comp=Z,124nm,0.7s									
KALN	**Kalnik**	**1.93**	**358**	*e*Pn		**Pn**		**14 35 58.5**	**+0.1**
KALN				Sn		**Sb**		**14 36 23.3**	**-1.6**
BRY	**Bratogost**	**1.94**	**131**	*e*Pn		**Pn**		**14 35 59.4**	**+1.0**
BRY				*e*Sn		**Sb**		**14 36 24.1**	**-1.0**
BRY	**Bratogost**	**1.94**	**131**	*e*Pn		**Pb**		**14 35 59.9**	**-0.7**
BRY				*i* Sn		**Sg**		**14 36 26.6**	**-0.3**
TREB	**Trebinje**	**1.97**	**138**	*e*Pn		**Pb**		**14 36 01.4**	**+0.3**
TREB				*e*Sn		**Sg**		**14 36 28.6**	**+0.6**
TREB	**Trebinje**	**1.97**	**138**	*e*Pn		**Pb**		**14 36 00.3**	**-0.8**
TREB				*e*Sn		**Sb**		**14 36 25.8**	**-0.2**
LOBO	**Lobor**	**1.99**	**350**	*e*Pn		**Pn**		**14 35 59.3**	**+0.3**
LOBO				Sn		**Sb**		**14 36 24.9**	**-1.5**
RUDO	**Rudo**	**2.11**	**105**	*e*Pn		**Pn**		**14 36 01.9**	**-1.6**
RUDO				*e*Sn		**Sb**		**14 36 28.6**	**-1.4**
BRJN	**Brijuni**	**2.13**	**290**	*e*Pn		**Pb**		**14 36 02.9**	**-0.9**
TEKS	**Tekeris**	**2.15**	**80**	*e*Pn		**Pn**		**14 36 02.3**	**+1.0**
TEKS	**Tekeris**	**2.15**	**80**	*e*Pg		**Pb**		**14 36 04.8**	**+0.6**
TEKS				*e*Sn		**Sn**		**14 36 29.1**	**+0.6**
TEKS	**Tekeris**	**2.15**	**80**	*e*Pn		**Pn**		**14 36 01.7**	**+0.4**
TEKS				*e*Sn		**Sn**		**14 36 28.5**	**0.0**
CEY	**Cerknica**	**2.16**	**316**	⇑*i*Pn		**Pb**		**14 36 03.1**	**-1.2**
CEY				*e*Sn		**Sb**		**14 36 29.7**	**-1.7**
PLE	**Pljevlja**	**2.22**	**112**	⇓*i*Pn		**Pb**		**14 36 04.4**	**-1.1**
PLE				*i* Sn		**Sb**		**14 36 33.7**	**+0.4**
NKME	**Niksic**	**2.25**	**129**	*e*Pn		**Pb**		**14 36 05.0**	**-0.9**
NKME				*i* Sn		**Sb**		**14 36 34.7**	**+0.6**
BEHE	**Becsehely**	**2.28**	**4**	⇑*i*Pn		**Pn**		**14 36 04.1**	**+1.1**
BEHE				*e*Sn		**Sn**		**14 36 31.9**	**+0.5**
CEME	**Cevo**	**2.38**	**133**	*e*Pn		**Pb**		**14 36 06.8**	**-1.3**
CEME				*i* Sn		**Sb**		**14 36 37.9**	**+0.1**
DIVS	**Divibare**	**2.47**	**91**	*e*Pn		**Pn**		**14 36 06.1**	**+0.4**
DIVS	**Divibare**	**2.47**	**91**	*e*Pg		**Pb**		**14 36 10.0**	**+0.4**
DIVS	**Divibare**	**2.47**	**91**	⇑*i*Pn		**Pn**		**14 36 06.4**	**+0.7**
DIVS				*e*Sn		**Sn**		**14 36 37.3**	**+1.0**
MORH	**Mrgy, Hungar**	**2.50**	**35**	*e*Pn		**Pn**		**14 36 06.2**	**+0.2**
MORH				*e*Sn		**Sn**		**14 36 37.3**	**+0.5**
FRGS	**Fruska Gora**	**2.51**	**66**	⇑*i*Pn		**Pn**		**14 36 07.1**	**+0.9**
FRGS				*e*Sn		**Sn**		**14 36 37.4**	**+0.3**
KOME	**Kolasin**	**2.54**	**121**	⇑*i*Pn		**Pb**		**14 36 08.8**	**-1.9**
KOME				*i* Sn		**Sb**		**14 36 41.3**	**-1.0**
PDG	**Podgorica**	**2.64**	**131**	*e*Pn		**Pb**		**14 36 12.7**	**+0.2**
PDG	**Podgorica**	**2.64**	**131**	*e*Pn		**Pn**		**14 36 10.1**	**+2.1**
PDG				*e*Sn		**Sb**		**14 36 42.5**	**-2.8**
PDG	**Podgorica**	**2.64**	**131**	*e*Pn		**Pb**		**14 36 10.5**	**-2.0**
PDG				*i* Sn		**Sb**		**14 36 44.2**	**-1.1**
SJES	**Sjenica**	**2.64**	**110**	*e*Pn		**Pb**		**14 36 11.0**	**-1.6**
SJES	**Sjenica**	**2.64**	**110**	*e*Pg		**Pg**		**14 36 14.5**	**-0.8**
SJES	**Sjenica**	**2.64**	**110**	*e*Pn		**Pn**		**14 36 09.4**	**+1.3**
SJES				*e*Sn		**Sn**		**14 36 41.8**	**+1.1**
SOKA	**Soboth**	**2.70**	**337**	*e*Pn		**Pn**		**14 36 10.2**	**+1.2**
comp=Z,6.6nm,0.3s,SNR=5.5									
SOKA				*e*Sn		**Sn**		**14 36 42.1**	**0.0**
comp=Z,25nm,0.6s									
OBKA	**Obir**	**2.71**	**329**	Pn		**Pb**		**14 36 11.2**	**-2.5**
comp=Z,3.1nm,0.2s									
OBKA				Sn		**Sg**		**14 36 50.6**	**-1.2**
comp=Z,29nm,0.7s									
OBKA	**Obir**	**2.71**	**329**	*e*Pn		**Pn**		**14 36 09.9**	**+0.9**
OBKA				*e*Sn		**Sn**		**14 36 43.5**	**+1.2**
IVA	**Berane**	**2.76**	**118**	*e*Pn		**Pn**		**14 36 11.9**	**+2.2**
IVA				*i* Sn		**Sb**		**14 36 46.8**	**-2.0**
TRUS	**Trudelj**	**2.76**	**88**	*e*Pn		**Pn**		**14 36 10.8**	**+1.1**
DRME	**Dracevica, Mon**	**2.78**	**135**	*e*Pn		**Pn**		**14 36 12.0**	**+2.1**
DRME				*e*Sn		**Sn**		**14 36 45.9**	**+2.1**
DRME	**Dracevica, Mon**	**2.78**	**135**	⇓*i*Pn		**Pb**		**14 36 12.4**	**-2.4**
DRME				*i* Sn		**Sb**		**14 36 47.6**	**-1.6**
PVY	**Plav**	**2.95**	**122**	*e*Pn		**Pn**		**14 36 14.5**	**+2.2**
PVY				*i* Sn		**Sb**		**14 36 51.4**	**-2.8**
GRUS	**Gruza**	**3.01**	**94**	*e*Pn		**Pn**		**14 36 14.5**	**+1.4**
ARSA	**Arzberg**	**3.14**	**347**	*i* Pn		**Pn**		**14 36 16.2**	**+1.4**
comp=Z,3.6nm,0.2s,SNR=4.1									
ARSA	**Arzberg**	**3.14**	**347**	*e*Pn		**Pn**		**14 36 15.3**	**+0.5**
ARSA				*e*Sn		**Sn**		**14 36 52.3**	**-0.4**
MYKA	**Terra Mystica**	**3.18**	**321**	*e*Pn		**Pb**		**14 36 19.2**	**-2.6**
comp=Z,3.5nm,0.4s									
MYKA				*e*Sn		**Sg**		**14 37 11.5**	**+4.6**
comp=Z,8.9nm,0.5s									
SVIS	**Svilajnac**	**3.34**	**87**	*e*Pn		**Pn**		**14 36 20.5**	**+2.9**
SELS	**Selova**	**3.45**	**105**	*e*Pn		**Pn**		**14 36 20.7**	**+1.6**
RONA	**Rosalia, Austr**	**3.51**	**357**	*i* Pn		**Pn**		**14 36 21.1**	**+1.2**
comp=Z,6.9nm,0.3s,SNR=9.8									
CONA	**Conrad Observa**	**3.76**	**353**	*i* Pn		**Pn**		**14 36 24.5**	**+1.0**
comp=Z,3.1nm,0.3s,SNR=8.8									
MOA	**Molln**	**3.99**	**337**	*i* Pn		**Pn**		**14 36 28.9**	**+2.4**
comp=Z,1.6nm,0.2s,SNR=5.0									
MOA	**Molln**	**3.99**	**337**	*e*Pn		**Pn**		**14 36 28.8**	**+2.3**
MOA				*e*Sn		**Sn**		**14 37 14.4**	**+0.8**
BARS	**Barje**	**4.06**	**108**	*e*Pn		**Pn**		**14 36 29.6**	**+2.1**
ZAGS	**Zajecar**	**4.11**	**93**	*e*Pn		**Pn**		**14 36 29.9**	**+1.8**
MODS	**Modra-Piesok**	**4.21**	**7**	*e*PN		**Pn**		**14 36 30.3**	**+0.8**
MODS				*e*SN		**Sn**		**14 37 16.5**	**-2.5**
LESA	**Schwarzleotal**	**4.22**	**321**	*e*Pn		Pn		14 36 34.4	+4.6
comp=Z,3.4nm,0.5s									
PRVS	**Prvonek**	**4.36**	**111**	*e*Pn		**Pn**		**14 36 34.6**	**+2.9**
VYHS	**Vyhne**	**4.58**	**19**	*e*PN		**Pn**		**14 36 37.2**	**+2.6**
VYHS				*e*SN		**Sn**		**14 37 26.3**	**-1.8**
WTTA	**Wattenberg**	**4.61**	**313**	*e*Pn		**Pn**		**14 36 38.9**	**+3.6**
comp=Z,2.9nm,0.3s									
WATA	**Walderalm**	**4.69**	**314**	Pn		Pb		14 36 42.3	-5.2
comp=Z,3.1nm,0.4s									
CKRC	**Cesky Krumlov**	**4.88**	**342**	*e*SN		**Sn**		**14 37 34.0**	**-1.6**
FNA	**Florina**	**4.93**	**132**	*e*Pn		**Pn**		**14 36 42.7**	**+3.2**
FNA				*e*Sn		**Sn**		**14 37 39.4**	**+2.4**
MOTA	**Moosalm**	**4.95**	**311**	*e*Pn		**Pn**		**14 36 44.4**	**+4.5**
comp=Z,2.5nm,0.4s									
KHC	**Kasperske Hory**	**5.34**	**338**	*e*PN		**Pn**		**14 36 46.7**	**+1.5**
KHC				*e*SN		**Sn**		**14 37 44.8**	**-2.3**

IDC ***13*** *14:43:10.6±21.0, 16°.61N×92°.62W, h0km, mb3.4/3,*
mbtmp3.4/3, Error ellipse: s-maj=421.0km s-min=129.7km
az=170.0
MEX ***13*** *14:43:34.4±1.0, 16°.93N×93°.99W, h159km±6km, MD4.2*
ISC 13 14:43:33.8±0.9, 16°.89N±0°.08×93°.98W±0°.05, h152km±7km, n12, σ1s11/21, mb3.3/3, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
UXUV	**UXUV**	**0.45**	**340**	*i* P		**Pn**		**14 43 55.4**	**+0.2**
UXUV				*e*S		**Sn**		**14 44 10.5**	**-1.0**
NILT	**Santiago Nilte**	**0.69**	**242**	*i* P		**Pn**		**14 43 56.8**	**+0.4**
NILT				*i* S		**Sn**		**14 44 15.1**	**+1.4**
TGIG		**0.83**	**98**	*i* P		**Pn**		**14 43 57.3**	**-0.1**
TGIG				*i* S		**Sn**		**14 44 14.7**	**-0.8**
TGBT	**Tuxtla Gutierr**	**0.86**	**98**	*i* P		**Pn**		**14 43 57.5**	**-0.1**
TGBT				*i* S		**Sn**		**14 44 15.2**	**-0.6**
CMIG	**Matias Romero**	**0.89**	**283**	*i* P		**Pn**		**14 43 57.9**	**+0.1**
CMIG				*i* S		**Sn**		**14 44 16.4**	**+0.2**
PCIG		**1.39**	**148**	*i* P		**Pn**		**14 44 02.7**	**+0.3**
PCIG				*i* S		**Sn**		**14 44 24.4**	**+0.1**
NEUV	**Arroyo Zacate**	**1.92**	**295**	*i* P		**Pn**		**14 44 07.5**	**-0.6**
NEUV				*i* S		**Sn**		**14 44 32.9**	**-1.6**
HUIG	**Huatulco**	**2.33**	**242**	*e*P		**Pn**		**14 44 10.9**	**-2.1**
HUIG				*e*S		**Sn**		**14 44 42.4**	**-0.7**
OXLC	**Oaxaca**	**2.61**	**274**	*i* P		**Pn**		**14 44 17.6**	**+1.1**
OXLC				*i* S		**Sn**		**14 44 50.0**	**+0.5**
NVAR	**Mina Array Bea**	**30.24**	**320**	P		**P**		**14 49 32.6**	**+2.2**
0.4nm,0.6s,baz=163,slow=3.4,SNR=2.4									
0.4nm,0.6s									
YKA	**Yellowknife Ar**	**47.79**	**347**	P		**P**		**14 51 53.7**	**-1.7**
0.6nm,0.8s,baz=150,slow=7.4,SNR=7.5									
0.6nm,0.8s									
ILAR	**Eielson Array**	**59.44**	**337**	P		**P**		**14 53 20.2**	**+0.1**
0.2nm,0.7s,baz=161,slow=5.3,SNR=4.8									
0.2nm,0.7s									

IDC 13 14:47:34.4±9.5, 0°.67S×67°.27E, h0km, mb3.5/5, mbtmp3.5/5, MS3.4/7, Error ellipse: s-maj=301.8km s-min=30.8km az=69.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
PALK	**Pallekele**	**15.55**	**59**	LR		LR	LR	14 55 21.8	
	comp=Z,62nm,18.5s,baz=6.7,slow=30								
CMAR	**Chiang Mai Arr**	**36.48**	**57**	LR		LR	LR	15 07 58.4	
	comp=Z,24nm,20.8s,baz=245,slow=34								
LSZ	**Lusaka**	**41.22**	**247**	LR		LR	LR	15 09 43.9	
	comp=Z,80nm,18.4s,baz=64,slow=32								
LBTB	**Lobatse**	**46.95**	**236**	LR		LR	LR	15 14 27.8	
	comp=Z,42nm,18.2s,baz=5.5,slow=34								
H04N2	**CROZET ISLANDS**	**47.30**	**195**	T		T	T	15 46 25.5	
	baz=18								
H04N1	**CROZET ISLANDS**	**47.30**	**195**	T		T	T	15 46 26.3	
	baz=18								
H04N3	**CROZET ISLANDS**	**47.31**	**195**	T		T	T	15 46 25.1	
	baz=18								
BOSA	**Boshof**	**48.79**	**231**	LR		LR	LR	15 15 12.1	
	comp=Z,55nm,18.4s,baz=16,slow=34								
MKAR	**Makanchi Array**	**49.08**	**14**	P		P	P	14 56 23.4	-0.1
	0.2nm,0.6s,baz=218,slow=6.1,SNR=1.8								
	0.2nm,0.6s								
KURBB	**Kurchatov Arra**	**52.00**	**9**	P		P	P	14 56 45.4	0.0
	0.4nm,0.7s,baz=208,slow=7.4,SNR=3.1								
	0.4nm,0.7s								
TSUM	**Tsumeb**	**52.03**	**246**	LR		LR	LR	15 17 27.5	
	comp=Z,30nm,18.1s,baz=326,slow=34								
SUR	**Sutherland**	**53.91**	**229**	LR		LR	LR	15 16 39.8	
	comp=Z,39nm,20.9s,baz=358,slow=32								
SONM	**Songino Array**	**59.07**	**30**	P		P	P	14 57 36.4	-0.2
	1.1nm,1.1s,baz=225,slow=7.5,SNR=3.9								
	1.1nm,1.1s								
WRA	**Warramunga Arr**	**68.26**	**111**	P		P	P	14 58 38.5	+0.8
	1.2nm,0.9s,baz=288,slow=5.7,SNR=5.4								
	1.2nm,0.9s								
ASAR	**Alice Springs**	**68.39**	**115**	P		P	P	14 58 37.9	-0.6
	0.3nm,0.7s,baz=290,slow=5.9,SNR=6.8								
	0.3nm,0.7s								

SJA ***13*** *15:20:56.9±1.9, 21°.36S×68°.59W, h100km, ML3.5, MW3.5*
GUC ***13*** *15:20:57.6±0.6, 21°.36S×68°.64W, h117km±4km, ML3.5*
ISC 13 15:20:57.2±1.5, 21°.35S±0°.03×68°.73W±0°.06, h125km±10km, n34, σ0s59/66, 10C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
PB09	**IPOC Station P**	**0.66**	**227**	*e*P		**Pn**		**15 21 16.9**	**-0.1**
PB09				*e*S		**Sn**		**15 21 32.0**	**+0.1**
PB09				IAML				15 21 32.7	
comp=Z,940nm,0.7s									
PB09	**IPOC Station P**	**0.66**	**227**	⇑*i*P		**Pn**		**15 21 16.9**	**-0.1**
PB09				*i* S		**Sn**		**15 21 31.7**	**-0.2**
PB09				IAML				15 21 32.7	
comp=N,713nm

PB05				IAML		15 22 03.7	
	comp=E,94nm,0.2s						
PB16	**IPOC Station P**	**3.08**	**346**	*eP*	**Pn**	**15 21 45.8**	**+0.4**
PB16				*eS*	**Sn**	**15 22 22.6**	**+0.2**
YJA	**Yavi**	**3.10**	**106**	*eP*	**Pn**	**15 21 45.3**	**0.0**
YJA				*eS*	Sn	15 22 06.4	-16
PB12	**IPOC Station P**	**3.11**	**331**	*eP*	**Pn**	**15 21 43.8**	**-1.5**
PB12				*eS*	**Sn**	**15 22 22.1**	**-0.2**
PB14	**IPOC Station P**	**3.61**	**205**	*eP*	**Pn**	**15 21 52.3**	**+0.3**

IDC 13 15:37:47.5±2.8, 6°35′S×130°50′E, *h0*km, mb3.1/1, mbtmp3.3/3, ML3.5/2, Error ellipse: s-maj=180.4km s-min=34.3km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.01**	**165**	Pn	Pn	15 41 07.4	-0.1
	0.3nm,0.3s,baz=348,slow=13,SNR=10.0						
WRA				Sn	Sn	15 43 29.6	-14
	0.1nm,0.3s,baz=344,slow=21,SNR=2.4						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**17.52**	**170**	Pn	Pn	15 41 53.5	+0.1
	0.1nm,0.3s,baz=344,slow=9.2,SNR=9.7						
ASAR				Sn	Sn	15 44 55.4	-14
	0.1nm,0.3s,baz=247,slow=36,SNR=2.4						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**67.96**	**326**	P	P	15 48 48.4	0.0
	0.1nm,0.5s,baz=122,slow=7.5,SNR=1.5						
	0.1nm,0.5s						

*IDC **13** 15:48:40.5±2.1, 2°80′S×128°87′E, h0km, mb3.4/2, mbtmp3.5/3, ML3.7/1, MS4.0/2, Error ellipse: s-maj=116.0km s-min=16.2km az=70.0*
*DJA **13** 15:48:41.2±0.5, 3°S±4°×12°7′E±°, h33km±12km, M4.1/11, mb4.5/2, mB4.7/2, MLv3.9/11, Mw(mB)3.9/2*
ISC 13 15:48:41.0±1.2, 2.77S±0.06×127.44E±0.08, h35km, n12, σ2°33/11, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.58**	**217**	P	**Pn**	**15 48 54.0**	**+1.2**
NLAI				S	**Sn**	**15 49 03.5**	**+2.5**
SANI	**Sanana**	**1.62**	**296**	P	**Pn**	**15 49 06.4**	**-0.7**
LBMI	**Labuha**	**2.12**	**2**	P	**Pn**	**15 49 15.5**	**+1.5**
BNDI	**Bandanaira**	**3.01**	**125**	P	**Pn**	**15 49 27.7**	**+1.5**
SWI	**Sorong**	**4.26**	**64**	P	**Pn**	**15 49 43.7**	**+0.3**
MRSI	**Marisa**	**6.38**	**300**	P	**Pn**	**15 50 12.1**	**-0.5**
DAV	**Davao City (W)**	**9.95**	**349**	LR	LR	15 54 31.3	
	comp=Z,22nm,21.3s,baz=9.5,slow=34						
WRA	**Warramunga Arr**	**18.35**	**159**	P	**P**	**15 52 52.2**	**-0.5**
	0.3nm,0.3s,baz=340,slow=11,SNR=19						
WRA				S	**Sn**	**15 56 11.5**	**-5.4**
	0.7nm,1.2s,baz=354,slow=21,SNR=1.4						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**21.69**	**164**	P	**P**	**15 53 29.8**	**+0.8**
	0.6nm,0.4s,baz=344,slow=11,SNR=16						
ASAR				S	**S**	**15 57 26.8**	**-0.6**
	0.3nm,0.6s,baz=338,slow=17,SNR=2.5						
	0.6nm,0.4s						
JOW	**Kunigami**	**29.44**	**2**	LR	LR	16 05 20.2	
	comp=Z,137nm,21.7s,baz=94,slow=34						
RAO	**Raoul Island**	**58.09**	**123**	LR	LR	16 22 43.3	
	comp=Z,238nm,19.1s,baz=274,slow=36						
MKAR	**Makanchi Array**	**63.32**	**327**	P	P	15 59 16.8	+10
	0.4nm,0.7s,baz=134,slow=6.9,SNR=3.7						
	0.4nm,0.7s						

*IDC **13** 15:51:48.5±1.4, 33°.66N×47°.63E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=42.5km s-min=21.1km az=168.0*
*TEH **13** 15:51:49.8, 33°.85N×47°.61E, h5km, ML3.5*
ISC 13 15:51:51.1±1.7, 33°.90N±0°.05×47°.56E±0°.04, h13km±12km, n35, σ1°9′61/34, mb3.8/8, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKOM	**Komasi**	**0.28**	**351**	Pg	**Pb**	**15 51 57.5**	**-0.6**
IKFM	**Kafar-mosalman**	**0.45**	**148**	Pg	Pg	15 51 57.8	-2.2
KCHF	**Cheshme Sefid,**	**0.57**	**311**	Pg	**Pb**	**15 52 02.9**	**-0.2**
IGHG	**Ghaleghazi**	**0.93**	**298**	Pg	**Pn**	**15 52 09.8**	**-0.4**
ILIN	**Lien**	**1.13**	**334**	Pg	**Pn**	**15 52 13.4**	**+0.4**
ILBA	**Ilam Banvizeh**	**1.16**	**257**	Pg	**Pn**	**15 52 14.1**	**+0.9**
IDHR	**Dehrash**	**1.26**	**310**	Pg	**Pg**	**15 52 16.3**	**+0.9**
HAGD	**Aghdareh**	**1.60**	**54**	Pg	**Pn**	**15 52 19.0**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**1.74**	**291**	Pg	**Pg**	**15 52 23.9**	**-0.7**
IRAZ	**Razeghan**	**2.46**	**52**	Pn	**Pb**	**15 52 33.7**	**-1.7**
AMIS	**Naft Sefid**	**2.66**	**146**	Pn	**Pn**	**15 52 35.3**	**+1.5**
QSDN	**Sirdan**	**2.91**	**27**	Pn	**Pb**	**15 52 40.3**	**-2.8**
IPIR	**Pirpir**	**3.04**	**113**	Pn	**Pn**	**15 52 40.5**	**+1.2**
JHBN	**Jahan bin**	**3.09**	**122**	Pn	**Pn**	**15 52 41.0**	**+1.0**
QAMS	**Qamsar**	**3.20**	**92**	Pn	**Pn**	**15 52 43.0**	**+1.6**
IKLH	**Kolahrood**	**3.40**	**99**	Pn	**Pn**	**15 52 45.6**	**+1.4**
IVRN	**Varamin**	**3.61**	**71**	Pn	**Pn**	**15 52 48.1**	**+1.2**
IBRJ	**Brojen**	**3.69**	**122**	Pn	**Pn**	**15 52 49.3**	**+1.1**
KRSH	**Karshahi**	**3.80**	**88**	Pn	**Pn**	**15 52 51.5**	**+1.9**
KLST	**Kelardasht - M**	**3.88**	**47**	Pn	**Pn**	**15 52 53.3**	**+2.6**
IDMV	**Damavand**	**4.04**	**64**	Pn	**Pn**	**15 52 54.8**	**+1.7**
IZEF	**Zefreh**	**4.11**	**103**	Pn	**Pn**	**15 52 56.3**	**+2.4**
IHRS	**Heris**	**4.43**	**355**	Pn	**Pn**	**15 53 01.5**	**+3.2**
KLNJ	**Kolanjah**	**4.46**	**129**	Pn	**Pn**	**15 53 00.4**	**+1.5**
IPRN	**Peran**	**4.56**	**58**	Pn	**Pn**	**15 53 01.4**	**+1.4**
IRAM	**Ramesheh**	**4.56**	**116**	Pn	**Pn**	**15 53 01.8**	**+1.7**
IFIR	**Firoozkooh**	**4.61**	**66**	Pn	**Pn**	**15 53 02.5**	**+1.7**
BVAR	**Borovoye Array**	**25.11**	**34**	P	**P**	**15 57 17.8**	**+2.2**
	1.2nm,0.7s,baz=231,slow=7.6,SNR=4.8						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**29.19**	**53**	P	**P**	**15 57 53.2**	**+1.0**
	1.3nm,0.9s,baz=251,slow=7.6,SNR=8.2						
	1.3nm,0.9s						
ZALV	**Zalesovo Beam**	**32.95**	**41**	P	**P**	**15 58 25.7**	**+0.4**
	0.6nm,0.5s,baz=256,slow=7.5,SNR=1.6						
	0.6nm,0.5s						
HFS	**Hagfors**	**34.28**	**330**	P	**P**	**15 58 36.8**	**0.0**
	2.3nm,0.9s,baz=110,slow=12,SNR=1.4						
	2.3nm,0.9s						
ESDC	**Sonseca Array**	**41.20**	**293**	P	**P**	**15 59 36.2**	**+0.6**
	1.6nm,1.0s,baz=64,slow=8.7,SNR=3.7						
	1.6nm,1.0s						
TORD	**Torodi Ar. Bea**	**46.40**	**255**	P	**P**	**16 00 17.3**	**-0.3**
	0.9nm,0.9s,baz=45,slow=9.4,SNR=4.9						
	0.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**48.13**	**95**	P	**P**	**16 00 29.7**	**-1.4**
	0.5nm,0.5s,baz=297,slow=8.8,SNR=1.7						
	0.5nm,0.5s						
KSRS	**Korea Array**	**63.45**	**61**	P	**P**	**16 02 18.7**	**-2.0**
	0.8nm,0.6s,baz=289,slow=5.9,SNR=2.7						
	0.8nm,0.6s						

*IDC **13** 16:27:50.3±0.7, 10°.00N×140°.31E, h0km, mb3.8/12, mbtmp3.9/13, ML4.5/1, Error ellipse: s-maj=24.0km s-min=17.1km az=101.0*
ISC 13 16:27:54.2±0.8, 10°.0N±0°.1×140°.3E±0°.1, h26km, n19, σ1°9′10/17, mb3.9/12, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.74**	**51**	Pn	**Pn**	**16 29 18.3**	**+0.5**
	15nm,0.3s,baz=347,slow=18,SNR=9.1						
GUMO				Sn	**Sn**	**16 30 22.2**	**-0.5**
	4.9nm,0.3s,baz=213,slow=22,SNR=1.2						
	48nm,0.3s						
H11S3	**WAKE ISLAND Hy 26.91**	**69**		T	T	17 01 42.8	
	baz=255,slow=75,SNR=1059						
H11S1	**WAKE ISLAND Hy 26.93**	**69**		T	T	17 01 49.6	
	baz=255,slow=75,SNR=416						
H11S2	**WAKE ISLAND Hy 26.93**	**69**		T	T	17 01 47.8	
	baz=255,slow=75,SNR=658						
H11N1	**WAKE ISLAND Hy 27.43**	**66**		T	T	17 02 23.4	
	baz=243,slow=78,SNR=191						
H11N2	**WAKE ISLAND Hy 27.44**	**66**		T	T	17 02 22.6	
	baz=243,slow=78,SNR=194						
H11N3	**WAKE ISLAND Hy 27.45**	**66**		T	T	17 02 23.5	
	baz=243,slow=78,SNR=89						
WRA	**Warramunga Arr**	**30.30**	**191**	P	**P**	**16 34 03.2**	**-0.4**
	1.3nm,0.8s,baz=10,slow=10,SNR=15						
WRA				PcP	**PcP**	**16 37 04.1**	**+0.3**
	0.4nm,0.9s,baz=360,slow=2.6,SNR=2.0						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**34.02**	**191**	P	**P**	**16 34 36.6**	**+0.5**
	1.0nm,0.6s,baz=17,slow=12,SNR=35						
ASAR				PcP	**PcP**	**16 37 14.2**	**+0.3**
	0.5nm,0.7s,baz=31,slow=1.8,SNR=5.3						
	1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**40.88**	**287**	P	**P**	**16 35 35.4**	**+0.9**
	1.0nm,0.6s,baz=90,slow=6.8,SNR=14						
	1.0nm,0.6s						
PETK	**Petropavlovsk-**	**45.25**	**15**	P	**P**	**16 36 10.1**	**+0.8**
	5.3nm,0.9s,baz=222,slow=7.8,SNR=2.0						
	5.3nm,0.9s						
SONM	**Songino Array**	**47.31**	**329**	P	**P**	**16 36 26.0**	**+0.3**
	0.6nm,1.0s,baz=111,slow=7.9,SNR=2.3						
SONM				PcP	**PcP**	**16 37 53.0**	**-3.5**
	0.2nm,0.4s,baz=123,slow=5.3,SNR=2.0						
	0.6nm,1.0s						
MKAR	**Makanchi Array**	**61.08**	**318**	P	**P**	**16 38 06.0**	**-0.1**
	0.5nm,0.7s,baz=96,slow=7.5,SNR=5.4						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**62.04**	**327**	P	**P**	**16 38 12.8**	**+0.5**
	0.5nm,0.5s,baz=120,slow=8.5,SNR=1.9						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**64.56**	**322**	P	**P**	**16 38 28.2**	**-0.9**
	0.5nm,0.5s,baz=106,slow=6.9,SNR=4.2						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**70.03**	**323**	P	**P**	**16 39 03.3**	**-0.4**
	0.8nm,0.7s,baz=96,slow=7.4,SNR=5.6						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**73.72**	**25**	P	**P**	**16 39 24.9**	**-0.8**
	0.5nm,0.7s,baz=255,slow=5.8,SNR=6.0						
	0.5nm,0.7s						
YKA	**Yellowknife Ar**	**88.09**	**27**	P	**P**	**16 40 42.9**	**+0.6**
	0.3nm,0.7s,baz=290,slow=5.5,SNR=4.3						
	0.7nm,0.7s						
NVAR	**Mina Array Bea**	**92.66**	**50**	P	**P**	**16 41 04.7**	**+0.3**
	0.4nm,0.8s,baz=265,slow=5.4,SNR=2.7						
	0.4nm,0.8s						

*CATAC **13** 16:52:13.4±0.5, 9°.39N×84°.62W, h5km±3km, ML3.2*
*UCR **13** 16:52:13.1±1.1, 9°.40N×84°.63W, h0km±4km, MW3.9*
ISC 13 16:52:13.6±1.3, 9°.38N±0°.04×84°.62W±0°.03, h12km±11km, n71, σ0°80/78, 3C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JACO	**JACO, Garabito**	**0.28**	**352**	*iP*	**Pg**	**16 52 19.3**	**-0.2**
JACO				*eS*	**Sb**	**16 52 24.1**	**-1.2**
JACO	**JACO, Garabito**	**0.28**	**352**	*i* P	**Pg**	**16 52 18.8**	**-0.7**
JACO				*i* S	**Sb**	**16 52 24.0**	**-1.3**
JACO				IAML		16 52 24.4	
	comp=Z,8μm,1.0s						
CBL1	**Cabuya**	**0.51**	**294**	*iP*	**Pb**	**16 52 24.2**	**-0.3**
LLNJ	**Naranjito**	**0.52**	**80**	*eP*	**Pb**	**16 52 24.4**	**-0.4**
TRB2	**Turrubares**	**0.56**	**18**	*eP*	**Pg**	**16 52 23.4**	**-1.1**
ABE2	**San Pablo**	**0.65**	**60**	*eP*	**Pg**	**16 52 26.3**	**0.0**
ABE2				*eS*	**Sb**	**16 52 36.4**	**+0.3**
LCR2	**La Lucha 2**	**0.70**	**60**	*iP*	**Pg**	**16 52 27.0**	**-0.4**
LCR2	**La Lucha 2**	**0.70**	**60**	*i* P	**Pg**	**16 52 26.9**	**-0.4**
LCR2				IAML		16 52 44.0	
	comp=Z,430nm,1.0s						
TBLN	**Tablon, Guarco**	**0.75**	**54**	*i* P	**Pg**	**16 52 27.5**	**-0.8**
TBLN				*i* S	**Sg**	**16 52 38.0**	**-0.3**
TBLN				IAML		16 52 39.2	
	comp=Z,1μm,1.0s						
OCM	**Ochomogo**	**0.83**	**52**	*eP*	**Pg**	**16 52 29.0**	**-0.7**
OCM	**Ochomogo**	**0.83**	**52**	*i* P	**Pg**	**16 52 28.6**	**-1.1**
OCM				IAML		16 52 52.8	
	comp=Z,320nm,1.0s						
RIMA	**Rio Macho**	**0.84**	**63**	*eP*	**Pg**	**16 52 29.2**	**-0.8**
RIMA	**Rio Macho**	**0.84**	**63**	*i* P	**Pg**	**16 52 28.6**	**-1.3**
RIMA				IAML		16 52 31.9	
	comp=Z,460nm,1.0s						
RIMA				*i* S	**Sb**	**16 52 41.6**	**0.0**
CDM	**Cerro de Muert**	**0.86**	**79**	*eP*	**Pg**	**16 52 30.0**	**-0.4**
CDM	**Cerro de Muert**	**0.86**	**79**	*i* P	**Pg**	**16 52 29.4**	**-1.0**
CDM				IAML		16 52 32.7	
	comp=Z,960nm,1.0s						
NYURE	**Nandayure**	**0.87**	**314**	*iP*	**Pg**	**16 52 30.3**	**-0.2**
BUS1	**Rivas**	**0.88**	**79**	*eP*	**Pg**	**16 52 30.1**	**-0.6**
VPTE	**Poasito**	**0.89**	**28**	*eP*	**Pg**	**16 52 30.7**	**-0.1**
VPTE	**Poasito**	**0.89**	**28**	*i* P	**Pg**	**16 52 30.6**	**-0.3**
VPTE				IAML		16 52 53.2	
	comp=Z,750nm,1.0s						
POA5	**Crater Von Fra**	**0.90**	**25**	*eP*	**Pg**	**16 52 30.9**	**-0.3**
CVIMO	**Finca Echandi**	**0.92**	**46**	*eP*	**Pg**	**16 52 30.9**	**-0.6**
CPMI	**Catarata Coope**	**0.93**	**15**	*eP*	**Pg**	**16 52 31.0**	**-0.5**
CPMI	**Catarata Coope**	**0.93**	**15**	*i* P	**Pg**	**16 52 30.9**	**-0.7**
CPMI				*i* S	**Sg**	**16 52 43.6**	**-0.1**
CPMI				IAML		16 52 55.4	
	comp=Z,520nm,1.0s						
HAYA	**Volcan Irazu**	**0.97**	**52**	*i* P	**Pn**	**16 52 33.9**	**+0.4**
HAYA				IAML		16 52 34.6	
	comp=Z,1μm,1.0s						
VICA	**Volcano Irazu**	**0.97**	**52**	*eP*	**Pn**	**16 52 34.2**	**+0.7**
ICR3	**Volcano Irazu**	**0.98**	**53**	*eP*	**Pg**	**16 52 32.5**	**-0.1**
INDI	**Punta indio, G**	**0.99**	**299**	*eP*	**Pg**	**16 52 32.3**	**-0.5**
INDI	**Punta indio, G**	**0.99**	**299**	*i* P	**Pg**	**16 52 32.5**	**-0.3**
INDI				IAML		16 52 54.0	
	comp=Z,450nm,1.0s						
SOCE	**Pocosol**	**0.99**	**0**	*eP*	**Pb**	**16 52 32.7**	**-0.1**
SOCE	**Pocosol**	**0.99**	**0**	*i* P	**Pb**	**16 52 32.8**	**-0.1**
SOCE				IAML		16 52 52.3	
	comp=Z,710nm,1.0s						
OCHAL	**Ojochal**	**1.00**	**106**	*i* P	**Pb**	**16 52 33.1**	**+0.1**
OCHAL				IAML		16 52 34.0	
	comp=Z,7.1nm,1.0s						
CMARA	**Lajas Hojancha**	**1.01**	**309**	*eP*	**Pg**	**16 52 32.5**	**-0.7**
CVTQ	**Turrialba Volc**	**1.04**	**54**	*eP*	**Pn**	**16 52 35.0**	**+0.6**
CVTV	**Tajo**	**1.06**	**54**	*eP*	**Pb**	**16 52 34.1**	**0.0**
VTCV	**VTCV, Calle Va**	**1.06**	**56**	*eP*	**Pg**	**16 52 33.5**	**-0.8**
VERB	**Verbena**	**1.07**	**58**	*eP*	**Pg**	**16 52 33.9**	**-0.4**
ARE1	**Arenal 1**	**1.08**	**355**	*eP*	**Pg**	**16 52 33.7**	**-0.7**
VACR	**Volcan Arenal**	**1.08**	**357**	*eP*	**Pb**	**16 52 34.4**	**0.0**
VACR	**Volcan Arenal**	**1.08**	**357**	*i* P	**Pn**	**16 52 35.3**	**+0.6**
VACR				IAML		16 53 08.2	
	comp=Z,430nm,1.0s						
VTLO	**VTLO**	**1.10**	**53**	*eP*	**Pg**	**16 52 34.5**	**-0.3**
NICO	**Nicoya**	**1.10**	**313**	*eP*	**Pn**	**16 52 35.5**	**+0.5**
TABAC	**Tabacon**	**1.12**	**353**	*eP*	**Pg**	**16 52 34.6**	**-0.6**
RVSTA	**Santa Teresita**	**1.13**	**58**	*eP*	**Pg**	**16 52 34.7**	**-0.7**
RIFO	**Rio Frio, Sara**	**1.16**	**36**	*iP*	**Pg**	**16 52 35.3**	**-0.7**
RIFO	**Rio Frio, Sara**	**1.16**	**36**	*i* P	**Pg**	**16 52 34.7**	**-1.2**
RIFO				IAML		16 52 53.5	
	comp=Z,560nm,1.0s						
JUD3	**Juan Diaz 3**	**1.19**	**311**	*eP*	**Pg**	**16 52 36.0**	**-0.6**
PLVR	**Palo Verde**	**1.20**	**323**	*eP*	**Pg**	**16 52 35.5**	**-1.3**
COTE	**Lago Cote**	**1.22**	**346**	*eP*	**Pg**	**16 52 36.2**	**-1.0**
SRBA	**San Rafael, Bu**	**1.25**	**97**	*eP*	**Pg**	**16 52 37.0**	**-0.8**
LCOCO	**El Coco**	**1.26**	**56**	*eP*	**Pb**	**16 52 37.7**	**+0.3**
ORTG	**Ortega, Santa**	**1.28**	**320**	*eP*	**Pg**	**16 52 37.2**	**-1.0**
ORTG	**Ortega, Santa**	**1.28**	**320**	*i* P	**Pg**	**16 52 36.5**	**-1.7**
ORTG				IAML		16 53 02.5	
	comp=Z,290nm,1.0s						
ACAL	**Aguas Claras**	**1.31**	**342**	*eP*	**Pg**	**16 52 37.4**	**-1.5**
EDBA	**Buenos Aires**	**1.35**	**99**	*eP*	**Pn**	**16 52 39.0**	**+0.7**
MOTZ	**Rio Naranjo**	**1.37**	**341**	*eP*	**Pn**	**16 52 38.5**	**-0.2**
PTEN	**Parque Tenorio**	**1.37**	**345**	*eP*	**Pn**	**16 52 38.5**	**-0.2**
COLC	**Colonia**	**1.40**	**336**	*eP*	**Pb**	**16 52 41.1**	**+1.4**
HORNC	**Hornillas**	**1.43**	**338**	*eP*	**Pn**	**16 52 39.0**	**-0.5**
TRT2	**Tortugero**	**1.46**	**37**	*i* P	**Pn**	**16 52 39.5**	**-0.3**
TRT2				IAML		16 53 10.4	
	comp=Z,330nm,1.0s						
MESS	**Mesas**	**1.46**	**337**	*eP*	**Pn**	**16 52 39.8**	**-0.1**
VERA	**Finca Concepci**	**1.48**	**351**	*eP*	**Pg**	**16 52 43.6**	**+1.4**
CANAL	**Canalete**	**1.50**	**344**	*eP*	**Pn**	**16 52 40.9**	**+0.5**
CANAL				*eS*	**Sg**	**16 53 05.2**	**+3.1**
POTG	**Potrero Grande**	**1.52**	**102**	*iP*	**Pn**	**16 52 41.5**	**+0.8**
POTG	**Potrero Grande**	**1.52**	**102**	*i* P	**Pn**	**16 52 40.8**	**+0.1**
POTG				IAML		16 53 12.0	
	comp=Z,300nm,1.0s						
GPS2	**Hotel Rincn d**	**1.54**	**332**	*eP*	**Pb**	**16 52 42.3**	**+0.1**
GPS1	**Guardaparques**	**1.56**	**333**	*eP*	**Pn**	**16 52 41.5**	**+0.2**
LAPC	**Finca la Perla**	**1.59**	**330**	*eP*	**Pn**	**16 52 41.4**	**-0.3**
BUEV	**Buena Vista**	**1.60**	**331**	*eP*	**Pn**	**16 52 42.4**	**+0.5**
HZTE	**Horizontes, Gu**	**1.63**	**324**	*eP*	**Pn**	**16 52 42.9**	**+0.6**
HZTE	**Horizontes, Gu**	**1.63**	**324**	*i* P	**Pn**	**16 52 42.0**	**-0.3**
HZTE				IAML		16 53 20.2	
	comp=Z,300nm,1.0s						
CTCR	**Cotoan**	**1.90**	**105**	*i* P	**Pn**	**16 52 46.9**	**+0.8**
CTCR				IAML		16 53 26.9	
	comp=Z,560nm,1.0s						

*NEIC **13** 17:09:31.1±1.0, 19°.48N±0°.05×155°.90W±0°.04, h28km±12km, Error ellipse: s-maj=7.8km s-min=4.3km az=210.0*

HVO 13 17:09:33.0±1.3, 19°.46N±0°.01×155°.88W±0°.02, h13km±2km, ML2.8/27, ML2.9/50(NEIC), Error ellipse: s-maj=2.2km s-min=1.4km az=73.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPH	**Captain Cook**	**0.04**	**304**		Pg	17 09 35.4	-0.1
KHLU	**Kahalu`u**	**0.13**	**354**		Pg	17 09 36.4	-0.2
KHLU				IAML		17 09 40.0	
	comp=N,4μm,0.1s						
HUH	**Hualalai**	**0.22**	**11**		Sg	17 09 40.5	-1.0
KKH	**Kailua Kona**	**0.23**	**326**		Pg	17 09 38.2	+0.2
ALEP	**Alea Permanent**	**0.23**	**71**		Pg	17 09 38.5	+0.2
ALEP					Sg	17 09 42.4	+0.5
MWH	**Moku'aweowe**	**0.27**	**85**		Pg	17 09 38.7	-0.2
MWH				IAML		17 09 47.3	
	comp=N,2μm,0.2s						
MLOA	**Mauna Loa Obse**	**0.29**	**76**		Pg	17 09 39.0	-0.3
MLOA				IAML		17 09 47.9	
	comp=E,2μm,0.3s						
KHU	**Kahuku**	**0.33**	**131**		Sg	17 09 44.7	+0.2
KHU	**Kahuku**	**0.33**	**131**		Pg	17 09 39.6	-0.3
KHU	**Kahuku**	**0.33**	**131**	IAML		17 09 45.5	
	comp=E,1μm,0.5s						
KHU				IAML		17 09 48.6	
	comp=N,590nm,1.3s						
HMH	**Humu'ula Sheep**	**0.40**	**70**		Sg	17 09 46.8	+0.3
HMH	**Humu'ula Sheep**	**0.40**	**70**		Pg	17 09 40.8	-0.3
HMH	**Humu'ula Sheep**	**0.40**	**70**	IAML		17 09 54.0	
	comp=N,2μm,0.5s						
HMH				IAML		17 09 54.6	
	comp=E,2μm,0.4s						
POHA	**Pohakuloa**	**0.44**	**48**		Sg	17 09 48.3	+0.5
POHA	**Pohakuloa**	**0.44**	**48**		Pg	17 09 41.4	-0.4
POHA	**Pohakuloa**	**0.44**	**48**	IAML		17 09 54.2	
	comp=E,2μm,0.6s						
POHA				IAML		17 09 55.2	
	comp=E,2μm,0.7s						
MLH	**Mauna Loa**	**0.47**	**86**		Sg	17 09 48.1	-0.5
MLH	**Mauna Loa**	**0.47**	**86**		Pg	17 09 41.6	-0.8
MLH	**Mauna Loa**	**0.47**	**86**	IAML		17 09 54.8	
	comp=N,1μm,0.4s						
MLH				IAML		17 09 55.2	
	comp=E,866nm,0.5s						
HTC	**Hot Caves**	**0.51**	**116**		Pg	17 09 42.1	-0.9
UWE	**Uwekahuna**	**0.56**	**94**		Pg	17 09 43.1	-0.9
HLP	**Hilina Pali**	**0.56**	**107**		Pg	17 09 42.7	-1.4
HLP				IAML		17 09 57.8	
	comp=E,915nm,0.6s						
HLP				IAML		17 10 01.8	
	comp=N,1μm,0.5s						
NPH	**North Pit**	**0.57**	**95**		Pg	17 09 43.0	-1.2
NPH				IAML		17 10 00.5	
	comp=N,607nm,0.5s						
RSD	**Rainshed**	**0.57**	**90**		Pg	17 09 43.0	-1.2
RSD				IAML		17 09 53.1	
	comp=E,658nm,0.4s						
RSD				IAML		17 09 57.1	
	comp=N,734nm,0.7s						
UWB	**Uwekahuna B**	**0.57**	**94**		Pg	17 09 42.8	-1.5
RIM	**Rim**	**0.57**	**97**		Pg	17 09 43.1	-1.3
RIM				IAML		17 10 02.5	
	comp=E,753nm,0.7s						
SBLHI	**Steaming Bluff**	**0.58**	**94**	IAML		17 10 01.5	
	comp=N,773nm,0.4s						
SBLHI				IAML		17 10 01.5	
	comp=E,701nm,0.4s						
KKO	**Keanakako`i**	**0.58**	**96**	IAML		17 10 05.4	
	comp=E,735nm,1.1s						
HATHI	**Halema'uma'u T**	**0.58**	**94**	IAML		17 10 00.1	
	comp=E,950nm,0.4s						
HATHI				IAML		17 10 04.0	
	comp=N,711nm,1.0s						
BYL	**Byron's Ledge**	**0.59**	**95**	IAML		17 09 59.8	
	comp=N,675nm,1.1s						
BYL				IAML		17 10 02.9	
	comp=E,618nm,0.7s						
HPAH	**Hawaii Prepara**	**0.59**	**17**		Pg	17 09 43.4	-1.2
PUH	**Pauahi**	**0.63**	**98**		Sg	17 09 52.8	-1.0
PUH	**Pauahi**	**0.63**	**98**		Pg	17 09 43.8	-1.7
PUH	**Pauahi**	**0.63**	**98**	IAML		17 09 56.3	

OUENC	**Ouen Island, N**	3.61	277	P		Pn		17 27 46.1	+0.4
YATNC	**Mamie plateau,**	3.63	283	P		Pn		17 27 45.7	-0.3
YATNC	**Mamie plateau,**	3.63	283	P		Pn		17 27 46.3	+0.3
ONTNC	**Ouen Toro**	3.98	278			Pn		17 27 50.5	-0.2
ONTNC	**Ouen Toro**	3.98	278	P		Pn		17 27 52.1	+1.3
ONTNC	**Ouen Toro**	3.98	278	P		Pn		17 27 53.2	+2.4
DZM	**Mont Dzumac**	4.04	281	P		Pn		17 27 51.4	-0.2
DZM	**Mont Dzumac**	4.04	281	P		Pn		17 27 51.5	-0.2
DZM	**Mont Dzumac**	4.04	281	Pn		Pn		17 27 51.2	-0.5
	5.6nm,0.3s,baz=90,slow=19,SNR=76								
DZM				Sn		Sn		17 28 37.7	-1.4
	24nm,0.3s,baz=99,slow=19,SNR=9.6								
	23nm,0.4s								
NOUC	**Port Laguerre**	4.16	280	P		Pn		17 27 52.9	-0.3
NOUC	**Port Laguerre**	4.16	280	P		Pn		17 27 53.3	+0.1
KOUNC	**Koumac, New Ca**	6.42	290			Pn		17 28 24.1	-0.2
KOUNC	**Koumac, New Ca**	6.42	290	P		Pn		17 28 24.4	+0.1
MXZ	**Matakaoa Point**	16.01	158	Pn		Pn		17 30 31.4	-3.5
URZ	**Urewera**	16.26	162	Pn		P		17 30 43.1	+1.8
	0.2nm,0.3s,baz=333,slow=16,SNR=4.4								
URZ				LR		LR		17 35 28.9	
	comp=Z,156nm,19.9s,baz=172,slow=31								
	17nm,0.9s								
BSWZ	**Blackbirch Sta**	18.95	173	P		P		17 31 07.8	-3.1
RPZ	**Rata Peaks**	20.76	179	P		P		17 31 32.4	+1.7
	16nm,0.8s,baz=48,slow=10,SNR=7.1								
RPZ				LR		LR		17 37 56.6	
	comp=Z,91nm,21.6s,baz=344,slow=32								
CTA	**Charters Tower**	22.92	272	LR		LR		17 39 58.9	
	comp=Z,51nm,18.5s,baz=84,slow=34								
STKA	**Stephens Creek**	27.29	245	P		P		17 32 34.9	+0.4
	2.5nm,0.8s,baz=79,slow=10,SNR=1.8								
STKA				LR		LR		17 42 36.5	
	comp=Z,38nm,20.3s,baz=32,slow=34								
	2.5nm,0.8s								
AS31	**Alice Springs**	33.76	261	P		P		17 33 30.4	-1.4
ASAR	**Alice Springs**	33.76	261	P		P		17 33 32.4	+0.6
	2.0nm,0.9s,baz=93,slow=8.4,SNR=11								
	2.0nm,0.9s								
WRA	**Warramunga Arr**	33.94	268	P		P		17 33 32.3	-1.1
	0.2nm,0.4s,baz=92,slow=8.5,SNR=9.9								
	0.2nm,0.4s								
PETK	**Petropavlovsk-**	76.53	352	P		P		17 38 37.9	-1.8
	5.0nm,0.8s,baz=119,slow=5.9,SNR=8.1								
	5.0nm,0.8s								
CRAI	**Chiangrai**	80.89	296	P		P		17 39 04.2	-0.3
CRAI				IAmb		IAmb		17 39 20.4	
	comp=Z,7.5nm,1.5s								
CM31	**Chiang Mai Arr**	81.25	294	P		P		17 39 07.0	+0.6
CM31				IAmb		IAmb		17 39 19.2	
	comp=Z,2.5nm,0.8s								
CMAR	**Chiang Mai Arr**	81.25	294	P		P		17 39 07.6	+1.1
	comp=Z,0.9nm,0.6s,baz=136,slow=4.0,SNR=10.0								
	comp=Z,0.9nm,0.6s								
CHTO	**Chiang Mai**	81.42	295	P		P		17 39 05.1	-2.2
CHTO				IAmb		IAmb		17 39 18.1	
	comp=Z,3.1nm,0.9s								
NVAR	**Mina Array Bea**	90.20	48	P		P		17 39 49.3	-1.5
	comp=Z,0.7nm,0.5s,baz=229,slow=7.3,SNR=6.8								
	comp=Z,0.7nm,0.5s								
SONM	**Songino Array**	90.96	323	P		P		17 39 52.7	-1.2
	comp=Z,0.9nm,1.0s,baz=113,slow=3.4,SNR=4.4								
	comp=Z,0.9nm,1.0s								
ILAR	**Eielson Array**	93.31	17	P		P		17 40 01.4	-2.8
	comp=Z,0.2nm,0.6s,baz=220,slow=5.8,SNR=1.7								
	comp=Z,0.2nm,0.6s								
ARCES	**ARCESS Array B**	128.94	345	PKP		PKPdf		17 45 54.7	-2.3
	comp=Z,1.1nm,0.6s,baz=90,slow=1.2,SNR=6.5								
EKA	**Eskdalemuir Ar**	147.29	354	PKPbc		PKPdf		17 46 31.5	+0.7
	comp=Z,3.1nm,0.5s,baz=360,slow=3.0,SNR=15								
ZVC	**Zvikov**	147.69	331	*e*PKP		PKPdf		17 46 35.1	+3.5
CKRC	**Cesky Krumlov**	148.09	330	*e*PKP		PKPdf		17 46 34.8	+2.5
KHC	**Kasperske Hory**	148.19	331	*e*PKP		PKPdf		17 46 36.4	+3.9
GERES	**GERESS Array B**	148.35	331	PKPbc		PKPdf		17 46 35.1	+2.2
	comp=Z,1.5nm,0.6s,baz=35,slow=3.6,SNR=4.6								
KBA	**Koelnbreinsper**	149.78	328	*e*PKP		PKiKP		17 46 43.2	+2.1
	comp=Z,1.5nm,0.5s								
LESA	**Schwarzleotal**	149.85	330	*e*PKP		PKPdf		17 46 39.0	+3.6
	comp=Z,3.0nm,0.5s								
ABTA	**Abfaltersbach**	150.42	329	*e*PKP		PKPdf		17 46 40.0	+3.8
	comp=Z,1.8nm,0.6s								
MOTA	**Moosalm**	150.63	331	*e*PKP		PKPbc		17 46 41.8	-0.3
	comp=Z,2.5nm,0.6s								
SQTA	**Sankt Quirin**	150.68	331	*e*PKP		PKPdf		17 46 41.0	+4.4
	comp=Z,3.5nm,0.5s								
FETA	**Feichten**	151.04	331	*e*PKP		PKPdf		17 46 42.1	+4.8
	comp=Z,2.0nm,0.7s								
TORD	**Torodi Ar. Bea**	165.76	229	PKP		PKPdf		17 46 56.7	+1.1
	comp=Z,0.2nm,0.7s,baz=116,slow=6.6,SNR=1.6								
TORD				PKPab		PKPab		17 47 57.9	+3.2
	comp=Z,1.2nm,1.0s,baz=145,slow=5.3,SNR=2.8								

NOU 13 17:30:37.2,21°32S×168°35E,h0km,MLv3.7/7,Loyalty Islands,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	1.54	213	P	Pn	17 31 04.7	-1.2
PINNC	**Pines Island,**	1.54	213	P	Pn	17 31 04.5	-1.4
YATNC	**Mamie plateau,**	1.54	241	P	Pn	17 31 04.3	-1.7
YATNC	**Mamie plateau,**	1.54	241	P	Pn	17 31 03.9	-2.1
OUENC	**Ouen Island, N**	1.78	232	P	Pn	17 31 08.9	-0.3
OUENC	**Ouen Island, N**	1.78	232	P	Pn	17 31 08.7	-0.5
DZM	**Mont Dzumac**	1.92	247	P	Pn	17 31 11.1	-0.2
DZM	**Mont Dzumac**	1.92	247	P	Pn	17 31 10.9	-0.4
ONTNC	**Ouen Toro**	2.02	241	P	Pn	17 31 13.0	+0.5
ONTNC	**Ouen Toro**	2.02	241	P	Pn	17 31 12.7	+0.2
NOUC	**Port Laguerre**	2.06	247	P	Pn	17 31 13.5	+0.5
NOUC	**Port Laguerre**	2.06	247	P	Pn	17 31 13.3	+0.3
KOUNC	**Koumac, New Ca**	3.88	281	P	Pn	17 31 37.6	-0.5

IDC 13 17:59:11.8±948.0,54°02N×3°99E,h0km,Error ellipse: s-maj=423.3km s-min=156.8km az=113.0,North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	7.98	126	I	I	18 48 10.0	
	baz=313,slow=332,SNR=0.3						
I43RU	**DUBNA INFRASON**	18.97	68	I	I	19 52 55.9	
	0.1nm,1.6s,baz=274,slow=319,SNR=4.5						
I31KZ	**AKTYUBINSK INF**	32.64	74	I	I	21 17 30.0	
	baz=298,slow=342,SNR=1.0						

*UCR **13** 17:59:53.5±0.9,9°58N×83°99W,h68km±2km,MW3.6*
*CATAC **13** 17:59:54.1±0.3,9°57N×84°04W,h46km±4km,ML3.2*

ISC 13 17:59:54.2±1.3,9°56N±0°04×84°01W±0°03,h61km±6km, n75,σ0°67/100,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAZU	**San Marcos de**	0.10	354	*e*P	Pn	18 00 03.2	-0.4
RAZU				*e*S	Sn	18 00 10.9	+0.6
LLNJ	**Naranjito**	0.12	224	*e*P	Pn	18 00 03.5	+0.1
LLNJ				*e*S	Sn	18 00 11.8	+1.7
ABE2	**San Pablo**	0.14	344	*e*P	Pn	18 00 03.4	-0.5
ABE2				*e*S	Sn	18 00 11.4	+0.6
LCR2	**La Lucha 2**	0.18	3	*e*P	Pn	18 00 03.4	-0.6
LCR2				*e*S	Sn	18 00 11.0	+0.1
LCR2	**La Lucha 2**	0.18	3	*i*P	Pn	18 00 03.3	-0.7
LCR2				IAML		18 00 03.4	
	comp=Z,2μm,1.0s						
LCR2				*i*S	Sn	18 00 11.0	+0.1
CDM	**Cerro de Muert**	0.25	92	*e*P	Pn	18 00 04.1	-0.5
CDM	**Cerro de Muert**	0.25	92	*i*P	Pn	18 00 04.1	-0.5
CDM				IAML		18 00 04.1	
	comp=Z,2μm,1.0s						
CDM				*i*S	Sn	18 00 12.4	+0.3
RIMA	**Rio Macho**	0.25	36	*e*P	Pn	18 00 03.6	-0.8
RIMA	**Rio Macho**	0.25	36	*i*P	Pn	18 00 03.6	-0.8
RIMA				*i*S	Sn	18 00 11.6	0.0
RIMA				IAML		18 00 12.4	
	comp=Z,1μm,1.0s						
TBLN	**Tablon, Guarco**	0.26	3	*i*P	Pn	18 00 03.8	-0.6
TBLN				*i*S	Sn	18 00 11.7	0.0
TBLN				IAML		18 00 12.4	
	comp=Z,3μm,1.0s						
BUS1	**Rivas**	0.26	92	*e*P	Pn	18 00 04.2	-0.6
REPA	**Paraso**	0.30	29	*e*P	Pn	18 00 05.2	+0.6
OCM	**Ochomogo**	0.33	9	*e*P	Pn	18 00 04.3	-0.7
OCM	**Ochomogo**	0.33	9	*i*P	Pn	18 00 04.2	-0.7
OCM				*i*S	Sn	18 00 12.3	-0.4
OCM				IAML		18 00 15.8	
	comp=Z,910nm,1.0s						

ZELE	**Perez Zeledon**	0.36	122	*e*P		Pn		18 00 05.1	+0.1
PCAYA	**Pacayas**	0.40	30	*e*P		Pn		18 00 06.1	+0.5
CORON	**Coronado**	0.41	1	*e*P		Pn		18 00 05.6	0.0
VINA	**Juan Vinas**	0.42	39	*e*P		Pn		18 00 05.0	-0.6
BELE	**Belen**	0.44	337	*e*P		Pn		18 00 06.5	+0.7
HAYA	**Volcan Irazu**	0.45	22	*i*P		Pn		18 00 05.5	-0.7
HAYA				IAML				18 00 08.0	
	comp=Z,1μm,1.0s								
HDC	**Heredia**	0.45	347	*e*P		Pn		18 00 05.7	-0.2
HDC3	**Heredia 3**	0.45	348	*e*P		Pn		18 00 05.7	-0.2
HDC3	**Heredia 3**	0.45	348	*i*P		Pn		18 00 05.6	-0.2
HDC3				*i*S		Sn		18 00 15.1	+0.8
HDC3				IAML				18 00 20.5	
	comp=Z,990nm,1.0s								
VICA	**Volcan Irazu**	0.45	22	*e*P		Pn		18 00 05.7	-0.6
CVIMO	**Finca Echandi**	0.46	9	*e*P		Pn		18 00 05.8	-0.4
VERB	**Verbena**	0.49	40	*e*P		Pn		18 00 05.8	-0.5
VTLA	**Turrialba Volc**	0.49	28	*e*P		Pn		18 00 06.2	-0.4
CVTQ	**Turrialba Volc**	0.50	29	*e*P		Pn		18 00 06.3	-0.4
VTCV	**VTCV, Calle Va**	0.50	34	*e*P		Pn		18 00 06.1	-0.4
CVTV	**Tajo**	0.51	31	*e*P		Pn		18 00 06.4	-0.3
CVTR	**Volcan Turrial**	0.52	29	*e*P		Pn		18 00 06.5	-0.5
TCS1	**Tacares**	0.55	329	*e*P		Pn		18 00 07.0	+0.1
TCS1	**Tacares**	0.55	329	*i*P		Pn		18 00 06.9	-0.1
TCS1				IAML				18 00 19.1	
	comp=Z,13μm,1.0s								
VTLO	**VTLO**	0.55	31	*e*P		Pn		18 00 06.8	-0.4
OCHAL	**Ojochal**	0.59	142	*i*P		Pn		18 00 07.3	+0.1
OCHAL				*i*S		Sn		18 00 17.7	+1.0
OCHAL				IAML				18 00 19.1	
	comp=Z,27nm,1.0s								
MRVA	**Moravia de Chi**	0.62	65	*i*P		Pn		18 00 02.2	-5.5
VPTE	**Poasito**	0.63	343	*e*P		Pn		18 00 08.1	+0.1
VPTE	**Poasito**	0.63	343	*i*P		Pn		18 00 08.1	+0.1
VPTE				*i*S		Sn		18 00 17.0	-1.0
VPTE				IAML				18 00 20.9	
	comp=Z,3μm,1.0s								
JACO	**JACO, Garabito**	0.64	279	*e*P		Pn		18 00 07.6	-0.3
JACO	**JACO, Garabito**	0.64	279	*i*P		Pn		18 00 07.6	-0.3
JACO				*i*S		Sn		18 00 17.9	+0.1
JACO				IAML				18 00 21.9	
	comp=Z,370nm,1.0s								
LCOCO	**El Coco**	0.69	41	*e*P		Pn		18 00 08.2	-0.2
SRBA	**San Rafael, Bu**	0.72	117	*e*P		Pn		18 00 08.3	-0.6
SRBA	**San Rafael, Bu**	0.72	117	*i*P		Pn		18 00 08.3	-0.6
SRBA				*i*S		Sn		18 00 19.2	-0.5
SRBA				IAML				18 00 20.2	
	comp=Z,3μm,1.0s								
IRES	**Siquirres**	0.73	43	*e*P		Pn		18 00 08.7	-0.1
RIFO	**Rio Frio, Sara**	0.75	7	*e*P		Pn		18 00 08.9	-0.3
RIFO	**Rio Frio, Sara**	0.75	7	*i*P		Pn		18 00 08.9	-0.3
RIFO				*i*S		Sn		18 00 20.3	+0.1
RIFO				IAML				18 00 22.2	
	comp=Z,3μm,1.0s								
CPMI	**Catarata Coope**	0.80	333	*i*P		Pn		18 00 09.9	-0.1
CPMI				*i*S		Sn		18 00 21.2	-0.3
CPMI				IAML				18 00 24.4	
	comp=Z,710nm,1.0s								
EDBA	**Buenos Aires**	0.83	119	*e*P		Pn		18 00 09.4	-0.7
SOCE	**Pocosol**	1.01	324	*e*P		Pn		18 00 12.5	0.0
SOCE	**Pocosol**	1.01	324	*i*P		Pn		18 00 12.7	+0.2
SOCE				IAML				18 00 13.1	
	comp=Z,3μm,1.0s								
POTG	**Potrero Grande**	1.02	120	*e*P		Pn		18 00 12.3	-0.4
POTG	**Potrero Grande**	1.02	120	*i*P		Pn		18 00 12.2	-0.4
POTG				*i*S		Sn		18 00 26.5	+0.2
TRT2	**Tortugero**	1.02	15	*i*P		Pn		18 00 11.8	-0.8
TRT2				*i*S		Sn		18 00 26.1	-0.2
TRT2				IAML				18 00 28.0	
	comp=Z,400nm,1.0s								
CBL1	**Cabuya**	1.06	271	*e*P		Pn		18 00 12.0	-1.1
MONTE	**Monteverde**	1.08	313	*e*P		Pn		18 00 13.8	+0.3
FORC	**Fortuna**	1.10	324	*e*P		Pn		18 00 13.7	0.0
FORC				*e*S		Sn		18 00 29.7	+1.5
VACR	**Volcan Arenal**	1.11	324	*e*P		Pn		18 00 13.9	+0.1
ARE1	**Arenal 1**	1.13	322	*e*P		Pn		18 00 14.3	+0.2
CEDE	**Laguna Cedeo**	1.14	324	*e*P		Pn		18 00 14.5	+0.2
CEDE				*e*S		Sn		18 00 31.6	+2.5
TABAC	**Tabacon**	1.19	321	*e*P		Pn		18 00 15.1	+0.2
EDAD	**Golfito**	1.23	137	*e*P		Pn		18 00 14.1	-1.4
PIRO	**Carate, Puerto**	1.33	150	*i*P		Pn		18 00 21.7	+5.0
COTE	**Lago Cote**	1.34	319	*e*P		Pn		18 00 17.1	+0.2
CTCR	**Cotoan**	1.41	118	*i*P		Pn		18 00 17.6	-0.2
CTCR				*i*S		Sn		18 00 35.5	-0.1
CTCR				IAML				18 00 36.7	
	comp=Z,3μm,1.0s								
ACAL	**Aguas Claras**	1.46	317	*e*P		Pn		18 00 18.6	+0.1
ACAL				*e*S		Sn		18 00 38.4	+1.6
INDI	**Punta indio, G**	1.50	282	*e*P		Pn		18 00 17.8	-1.2
INDI	**Punta indio, G**	1.50	282	*i*P		Pn		18 00 17.7	-1.2
INDI				*i*S		Sn		18 00 36.0	-1.5
INDI				IAML				18 00 38.2	
	comp=Z,140nm,1.0s								
BRU2	**Volcan**	1.51	120	*e*P		Pn		18 00 18.9	-0.3
BRU2	**Volcan**	1.51	120	*i*P		Pn		18 00 19.0	-0.3
BRU2				*i*S		Sn		18 00 38.5	+0.4
BRU2				IAML				18 00 41.8	
	comp=Z,400nm,1.0s								
CCOL	**Caracol de Cor**	1.54	138	*e*P		Pn		18 00 21.0	+1.5
CCOL	**Caracol de Cor**	1.54	138	*i*P		Pn		18 00 20.2	+0.7
CCOL				IAML				18 00 21.2	
	comp=Z,1μm,1.0s								
CCOL				*i*S		Sn		18 00 39.6	+1.0
CUI	**Cuipilapa**	1.57	314	*e*P		Pn		18 00 19.9	0.0
CUI				*e*S		Sn		18 00 40.0	+0.6
HORNC	**Hornillas**	1.62	315	*e*P		Pn		18 00 20.2	-0.4
ORTG	**Ortega, Santa**	1.63	299	*i*P		Pn		18 00 20.1	-0.7
ORTG				*i*S		Sn		18 00 40.1	-0.7
ORTG				IAML				18 01 30.0	
	comp=Z,66nm,1.0s								
GB1A	**Borinquen Arri**	1.85	313	*e*P		Pn		18 00 23.4	-0.4

*MOS **13** 18:03:41.7±1.6,54°26S×2°04E,h10km,mb6.0/28, MS6.0/30,Error ellipse: s-maj=14.9km s-min=8.9km az=84.3*
*NEIC **13** 18:03:42.8,54°22S×2°17E,h10km*
*NEIC **13** 18:03:42.6,54°60S×2°14E,h30km,Moment Tensor Solution. Duration: 9s4 Moment tensor: Scale 10^18Nm; Mrr-0.75; Mθθ8.35; Mφφ-7.60; Mrθ0.11; Mθφ0.52; Mφr1.81; Fault plane solution: M0 8.22000×10^18 NP1: φs223.97000°,δ81.03000°,λ-169.35000°. NP2: φs132.29000°,δ79.48000°,λ-9.13000°. Principal axes: T 8.3689, Plg1.0000°, Azm358.0000°; N -0.3069, Plg76.0000°, Azm264.0000°; P -8.0620, Plg14.0000°, Azm88.0000°;*
*NEIC **13** 18:03:42.6,54°20S×2°14E,h30km*
*IPGP **13** 18:03:43.0,54°21S×2°14E,h11km,Mw6.5,Fault plane solution: NP1:φs225.00000°,δ84.00000°,λ174.00000°. NP2:φs316.00000°,δ84.00000°,λ6.00000°.*
*NEIC **13** 18:03:43.9±2.0,54°22S±0°09×2°2E±0°1,h17km±1km, mb6.0/180,Ms_20 6.2/524,Mwb6.3/40,Mww6.5/57,Error ellipse: s-maj=15.5km s-min=14.1km az=193.0,Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr0.24; Mθθ3.93; Mφφ-4.16; Mrθ-0.31; Mθφ0.34; Mφr0.22; Fault plane solution: M0 4.08000×10^18 NP1: φs222.58000°,δ84.60000°,λ178.87000°. NP2: φs312.69000°,δ88.88000°,λ5.40000°. Principal axes: T 3.9667, Plg5.0000°, Azm178.0000°; N 0.2237, Plg84.0000°, Azm324.0000°; P -4.1904, Plg3.0000°, Azm88.0000°;*
*IDC **13** 18:03:45.0±0.4,54°37S×1°90E,h0km,mb5.1/21, mbtmp5.1/21,ML5.4/1,MS6.0/40 Error ellipse: s-maj=15.4km s-min=13.7km az=50.0*
*GCMT **13** 18:03:53.9±0.0,54°40S×2°28E,h20km,MW6.5/172, Moment Tensor Solution. s170,c399; s172,c754; Duration: 4s3 Moment tensor: Scale 10^18Nm; Mrr-0.93±.03; Mθθ7.41±.03; Mφφ-6.47±.03; Mrθ0.30±.06; Mθφ0.04±.02; Mφr1.07±.06; Best double couple: M0 7.04500×10^18 NP1:φs225.00000°,δ84.00000°, λ-171.00000°. NP2:φs134.00000°,δ81.00000°, λ-6.00000°. Principal axes: T 7.4210, Plg2.0000°, Azm360.0000°; N -0.7450, Plg79.0000°, Azm259.0000°; P -6.6700, Plg11.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 13 18:03:44.6±0.2,54°46S±0°04×2°04E±0°04,h10km,n950, σ2°72/673,mb5.9/141,MS6.1/327,23C-18D,Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	16.89	192	P	P	18 07 45.3	+2.7
	comp=Z,2μm,1.0s						
VNA1				S	Sn	18 10 40.0	-8.0
	comp=Z,425nm,0.7s						
NVL	**N'lazarevskaya**	16.94	169	*e*P	P	18 07 42.1	-1.2
NVL				pmax	pmax		
	comp=Z,2μm,1.9s						
VNA2	**Neumayer--Watz**	17.05	191	P	P	18 07 46.6	+2.1
	comp=Z,1μm,0.4s,baz=17,slow=14						
VNA2				S	Sn	18 10 42.8	-9.1
	comp=Z,284nm,0.7s,baz=18,slow=18						
SNAA	**Sanae**	17.41	185		P	18 07 48.3	-0.3
SNAA	**Sanae**	17.41	185	P	P	18 07 52.0	+3.4
	comp=Z,16μm,0.6s						
SNAA	**Sanae**	17.41	185	P	P	18 07 48.3	-0.3
SNAA				pmax	pmax		
	comp=Z,5μm,1.5s						
SNAA	**Sanae**	17.41	185	P	P	18 07 50.0	+1.4
	comp=Z,13nm,0.3s,baz=7.7,slow=13,SNR=62						
SNAA				S	Sn	18 10 51.9	-8.9
	comp=Z,62nm,0.8s,baz=276,slow=16,SNR=2.3						
SNAA				LR	LR	18 13 01.6	
	comp=Z,77μm,20.7s,baz=9.0,slow=32						
VNA3	**Neumayer Olymp**	17.61	193	P	P	18 07 53.3	+2.6
	comp=Z,754nm,0.7s						
VNA3				S	Sn	18 10 55.6	-10
	comp=Z,239nm,0.7s						
TROLL	**Troll, Antarti**	17.62	179	P	P	18 07 54.1	+3.1
	comp=Z,53μm,0.9s						
TROLL				S	Sn	18 10 59.4	-6.7
	comp=Z,4μm,0.4s						
ELIB	**Princess Elisa**	19.79	160	*d*P	Pn	18 08 15.6	-0.6
	comp=Z,468nm,1.2s						
ELIB				*d*PP	PnPn	18 08 28.5	-1.4
ELIB				*d*S	S	18 11 44.5	-13
H09W1	**TRISTAN DA CUN**	19.98	324	T	T	18 28 54.8	
	SNR=15						
TRIS	**Tristan da Cun**	20.00	325	P	P	18 08 12.9	-4.2
HOPE	**Hope Point**	22.26	255	P	P	18 08 39.3	-2.1
HOPE	**Hope Point**	22.26	255	⇑P	P	18 08 43.9	+2.5
HOPE	**Hope Point**	22.26	255	P	P	18 08 39.3	-2.1
HOPE				pmax	pmax		
	comp=Z,1μm,1.4s						
CER	**Ceres**	24.35	37	*e*P	P	18 09 01.6	-1.0
CER				IAmb	IAmb	18 09 23.6	
	comp=Z,57nm,1.1s						
PRTV	**Porterville,We**	24.55	36	*e*P	P	18 09 05.7	+1.3
PRTV				IAmb	IAmb	18 09 34.5	
	comp=Z,108nm,1.0s						
MATJ	**Matjiesfontein**	24.91	39	*e*P	P	18 09 09.1	+1.4
MATJ				IAmb	IAmb	18 09 32.6	
	comp=Z,246nm,1.0s						
ORCD	**Orcadas**	25.37	237	P	P	18 09 10.2	-1.2
SUR	**Sutherland**	25.78	39	P	P	18 09 11.6	-4.1
SUR	**Sutherland**	25.78	39	P	P	18 09 15.9	+0.2
SUR				P	P	18 09 15.9	+0.2
SUR	**Sutherland**	25.78	39	*e*P	P	18 09 19.5	+3.8
SUR	**Sutherland**	25.78	39	⇑P	P	18 09 15.7	-0.1
MERW	**Merweville**	25.79	40	*e*P	P	18 09 16.7	+1.1
MERW				IAmb	IAmb	18 09 40.4	
	comp=Z,198nm,1.2s						
CVNA	**Calvinia**	26.22	36	*e*P	P	18 09 21.3	+1.6
CVNA				IAmb	IAmb	18 09 44.2	
	comp=Z,221nm,1.4s						
GRAN	**Grantham**	26.36	41	*e*P	P	18 09 24.1	+3.2
GRAN				IAmb	IAmb	18 09 36.4	
	comp=Z,42nm,0.8s						
FRAZ	**Fraserburg**	26.41	39	*e*P	P	18 09 20.1	-1.2
FRAZ				IAmb	IAmb	18 09 46.5	
	comp=Z,268nm,1.6s						
BELA	**Belgrano 2**	26.81	196	P	P	18 09 26.9	+2.5
KOMG	**Komaggas**	27.05	31	*e*P	P	18 09 29.4	+2.4
KOMG				IAmb	IAmb	18 09 36.3	
	comp=Z,54μm,3.2s						
BRAK	**Brakfontein**	27.10	42	*e*P	P	18 09 27.1	-0.4
BRAK				IAmb	IAmb	18 10 09.5	
	comp=Z,286nm,1.8s						
GRHM	**Grahamstown, E**	27.25	49	P	P	18 09 24.4	-4.4
GRAF	**Camdeboo Natio**	27.30	45	*e*P	P	18 09 31.1	+1.8
GRAF				IAmb	IAmb	18 09 39.4	
	comp=Z,213nm,1.2s						
SOE	**Somerset East**	27.38	47	P	P	18 09 25.2	-4.8
BFON	**Badsfontein, M**	27.40	43	*e*P	P	18 09 29.8	-0.5
BFON				IAmb	IAmb	18 10 03.3	
	comp=Z,540nm,2.3s				

EFI pmax pmax
comp=Z,384nm,1.5s
QSPA South Pole Qui 35.78 180 P **P** **18 10 45.1 +1.5**
QSPA South Pole Qui 35.78 180 P **P** **18 10 45.9 +2.3**
comp=Z,76nm,1.1s,baz=224,slow=4.8,SNR=51
QSPA LR LR 18 25 36.6
comp=Z,44µm,18.2s,baz=208,slow=37
comp=Z,76nm,1.1s
LEPH Lephalale, Lim 36.10 42 *e*P **P** **18 10 45.3 -1.3**
LEPH IAmb IAmb 18 11 10.7
comp=Z,342nm,1.2s
TSUM Tsumeb 37.15 25 P **P** **18 10 52.5 -3.1**
TSUM IAmb IAmb 18 11 06.5
comp=Z,207nm,1.1s
TSUM Tsumeb 37.15 25 *e*P **P** **18 10 55.7 +0.1**
TSUM Tsumeb 37.15 25 ⇓P **P** **18 10 54.7 -0.9**
TSUM Tsumeb 37.15 25 LR LR 18 23 00.9
comp=Z,14µm,20.4s,baz=202,slow=31
MOPA Mopani 37.89 47 *e*P **P** **18 11 01.1 -0.6**
MUSN Musina, Limpop 38.34 44 *e*P **P** **18 11 04.5 -1.0**
MUSN IAmb IAmb 18 11 30.1
comp=Z,150nm,1.2s
MG01 Puerto William 38.73 240 P **P** **18 11 09.1 +0.7**
SHEL Horse Pasture 38.89 348 P **P** **18 11 06.5 -3.7**
SHEL Horse Pasture 38.89 348 P **P** **18 11 06.5 -3.7**
SHEL pmax pmax
comp=Z,148nm,0.9s
SHEL MLR MLR
comp=Z,5µm,18.0s
USHA Ushuaia 39.19 240 LR LR 18 23 28.2
comp=Z,64µm,21.7s,baz=118,slow=30
MATP Matopo 39.47 41 LR LR 18 26 13.9
comp=Z,2µm,18.8s,baz=200,slow=34
MG02 Cerro Sombrero 40.64 242 P **P** **18 11 23.3 -1.1**
MG02 IAMs_20 IAMs_20 18 24 30.6
comp=Z,35µm,20.0s
MG02 Cerro Sombrero 40.64 242 ⇓P P 18 11 32.8 +8.4
GO10 Punta Arenas 41.38 241 P **P** **18 11 32.0 +1.5**
GO10 Punta Arenas 41.38 241 ⇓P P 18 11 37.1 +6.6
MG04 Isla Riesco 41.80 241 P **P** **18 11 35.3 +1.4**
MG04 IAmb IAmb 18 11 48.6
comp=Z,386nm,1.1s
GO09 Cerro Castillo 43.08 242 P **P** **18 11 45.4 +1.1**
GO09 IAmb IAmb 18 12 03.1
comp=Z,398nm,1.9s
LSZ Lusaka 44.08 38 P **P** **18 11 50.0 -2.8**
LSZ Lusaka 44.08 38 P **P** **18 11 52.5 -0.4**
LSZ P **P** **18 11 52.5 -0.4**
LSZ Lusaka 44.08 38 ⇑P **P** **18 11 52.9 +0.1**
LSZ Lusaka 44.08 38 P **P** **18 11 50.0 -2.8**
LSZ pmax pmax
comp=Z,160nm,1.4s
LSZ MLR MLR
comp=Z,15µm,19.0s
LSZ Lusaka 44.08 38 LR LR 18 26 44.1
comp=Z,13µm,21.1s,baz=208,slow=31
FOMA Nahampoana Res 44.28 67 P **P** **18 11 52.5 -1.8**
FOMA Nahampoana Res 44.28 67 P P 18 11 59.1 +4.8
GO08 Villa O'Higgin 44.84 246 P **P** **18 11 57.9 -0.6**
GO08 IAMs_20 IAMs_20 18 26 20.3
comp=Z,26µm,21.0s
PLTB Pedras Altas 45.09 277 P **P** **18 11 59.0 -1.7**
PLTB IAMs_20 IAMs_20 18 26 01.7
comp=Z,22µm,22.0s
PLTB Pedras Altas 45.09 277 *e*P **P** **18 12 01.0 +0.3**
LPA La Plata 45.36 270 *e*P P 18 11 55.4 -7.4
LPA pP sP 18 12 06.7 +0.7
LPA sP pwP 18 12 13.8 +5.1
LPA PCP **PcP** **18 13 43.0 +0.9**
LPA PP **PP** **18 13 53.8 +5.1**
LPA pPP 18 14 14.5
LPA PPP PPP 18 14 26.9
LPA S **S** **18 18 37.5 -5.9**
LPA PS 18 18 47.1
LPA sS sS 18 18 55.7 +8.7
LPA PPS PPS 18 19 03.6
LPA PSP PSP 18 19 09.8
LPA PKIKP PKiKP 18 20 31.2 -8.5
LPA SCS **ScS** **18 21 51.7 -7.6**
LPA SS SS 18 22 17.1 +11
LPA SSS SSS 18 22 54.6
LPA SKIKP 18 25 01.4
LPA PKIKS 18 25 15.2
LPA SKIKS 18 27 27.3
TRQA Tornquist 45.55 264 P **P** **18 12 03.8 -0.5**
TRQA IAmb IAmb 18 12 19.9
comp=Z,203nm,1.1s
TRQA Tornquist 45.55 264 P **P** **18 12 03.8 -0.5**
TRQA pmax pmax
comp=Z,203nm,1.1s
TRQA MLR MLR
comp=Z,14µm,22.0s
TRQA Tornquist 45.55 264 *e*P **P** **18 12 03.4 -0.9**
AY03 Cochrane 45.59 247 P **P** **18 12 02.9 -1.6**
AY03 IAmb IAmb 18 12 21.2
comp=Z,134nm,1.0s
CPSB Cacapava Do Su 45.99 278 *e*P **P** **18 12 08.9 +1.0**
COYC Coyhaique 46.36 249 P **P** **18 12 09.7 -0.9**
COYC IAmb IAmb 18 12 40.8
comp=Z,132nm,0.9s
COYC Coyhaique 46.36 249 IAMs_20 IAMs_20 18 27 34.4
comp=Z,20µm,21.0s
COYC Coyhaique 46.36 249 ⇑P P 18 12 17.1 +6.5
AY02 Valle Explorad 46.39 247 P **P** **18 12 12.1 +1.3**
VOI Vohitsoka 46.67 64 P **P** **18 12 10.6 -2.8**
VOI IAmb IAmb 18 12 24.8
comp=Z,157nm,1.4s
VOI Vohitsoka 46.67 64 P **P** **18 12 15.8 +2.4**
VOI Vohitsoka 46.67 64 P **P** **18 12 13.4 +0.1**
SNR=12
VOI Vohitsoka 46.67 64 *e*P **P** **18 12 15.4 +2.0**
VOI Vohitsoka 46.67 64 ⇑P **P** **18 12 13.5 +0.1**
ALF01 Guarapari-ES 46.71 299 *e*P **P** **18 12 14.5 +0.9**
RODS Rosario do Sul 47.05 277 *e*P **P** **18 12 17.9 +1.6**
PARB Paraibuna 47.06 292 *e*P **P** **18 12 19.2 +2.8**
PET01 Itanhaem-SP 47.20 289 *e*P **P** **18 12 18.5 +1.1**
H10S2 ASCENSION HYDRA 47.30 337 T T 19 02 57.8
baz=54,slow=74,SNR=59
H10S3 ASCENSION HYDRA 47.31 337 T T 19 02 55.4
baz=166,slow=74,SNR=44
AY01 Puyuhuapi 47.41 250 P **P** **18 12 19.4 +0.6**
AY01 IAMs_20 IAMs_20 18 29 16.0
comp=Z,28µm,20.0s
SBA Scott Base 47.62 176 P **P** **18 12 21.5 +1.5**
SBA Scott Base 47.62 176 IAMs_20 IAMs_20 18 31 10.5
comp=Z,31µm,20.0s
SBA Scott Base 47.62 176 P **P** **18 12 21.5 +1.5**
SBA pmax pmax
comp=Z,277nm,1.2s
SBA MLR MLR
comp=Z,31µm,20.0s
RIB01 Linhares ES 47.63 300 *e*P **P** **18 12 22.9 +2.1**
ITAB Concordia 47.63 282 P **P** **18 12 20.2 -0.6**
VNDA Vanda 47.69 174 P **P** **18 12 21.1 +0.6**
VNDA IAmb IAmb 18 12 36.9
comp=Z,128nm,1.1s
VNDA Vanda 47.69 174 P **P** **18 12 21.1 +0.6**
VNDA pmax pmax
comp=Z,128nm,1.1s
VNDA Vanda 47.69 174 P **P** **18 12 22.8 +2.2**
comp=Z,52nm,0.8s,baz=216,slow=7.4,SNR=65
VNDA LR LR 18 32 18.9
comp=Z,26µm,20.3s,baz=186,slow=36
comp=Z,52nm,0.8s
LL02 Futaleuf 47.76 252 P **P** **18 12 22.2 +0.6**
LL02 IAMs_20 IAMs_20 18 28 37.3
comp=Z,20µm,21.0s
LL02 Futaleuf 47.76 252 ⇑P **P** **18 12 23.6 +2.0**
SPB Sao Paulo 47.84 290 P **P** **18 12 21.0 -1.3**
SPB IAmb IAmb 18 12 33.7
comp=Z,92nm,0.9s
UNIS Unistalda (Bra 47.93 278 *e*P **P** **18 12 24.8 +1.7**
CASY Casey 48.13 149 P **P** **18 12 25.4 +1.3**
CASY IAmb IAmb 18 12 40.7
comp=Z,118nm,1.1s
CASY Casey 48.13 149 ⇑P **P** **18 12 27.2 +3.1**
ITQB Itaqui 48.38 276 P **P** **18 12 26.0 -0.5**
ITQB IAmb IAmb 18 12 29.8
comp=Z,214nm,1.4s
ITQB Itaqui 48.38 276 *e*P **P** **18 12 27.6 +1.1**
BSCB Bom Sucesso 48.50 295 *e*P **P** **18 12 28.8 +1.2**
SJMB Sao Joao De Ma 48.54 300 *e*P **P** **18 12 28.2 +0.4**
LL01 San Ignacio de 48.61 252 P **P** **18 12 26.8 -1.3**
LL01 IAmb IAmb 18 12 46.0
comp=Z,239nm,1.6s
LL01 IAMs_20 IAMs_20 18 29 15.6
comp=Z,20µm,21.0s
PLCA Paso Flores 48.66 255 P **P** **18 12 27.1 -1.6**
PLCA Paso Flores 48.66 255 P **P** **18 12 27.1 -1.6**
PLCA pmax pmax
comp=Z,83nm,1.1s
PLCA Paso Flores 48.66 255 P **P** **18 12 29.7 +1.0**
comp=Z,7.9nm,1.1s,baz=134,slow=8.3,SNR=17
PLCA LR LR 18 31 27.4
comp=Z,12µm,19.0s,baz=134,slow=34
comp=Z,7.9nm,1.1s
GO07 Millades Hill, 48.82 251 P **P** **18 12 30.7 +1.0**
GO07 IAMs_20 IAMs_20 18 30 19.2
comp=Z,18µm,19.0s
LL07 Hotel Espejo d 48.90 251 P **P** **18 12 32.0 +1.7**
LL07 IAMs_20 IAMs_20 18 30 15.4
comp=Z,16µm,19.0s
FRBT Francisco Belt 49.13 283 *e*P **P** **18 12 33.8 +1.4**
FRTB Fartura 49.22 288 *e*P **P** **18 12 35.0 +2.0**
ABPO Ambohimpanom 49.29 62 P **P** **18 12 30.8 -3.0**
ABPO Ambohimpanom 49.29 62 *e*P **P** **18 12 33.9 +0.2**
ABPO IAmb IAmb 18 12 41.4
comp=Z,52nm,1.2s
ABPO Ambohimpanom 49.29 62 P **P** **18 12 30.8 -3.0**
ABPO pmax pmax
comp=Z,54nm,1.2s
ABPO MLR MLR
comp=Z,10µm,19.0s
LL06 Loncomilla 49.39 251 P **P** **18 12 34.9 +0.8**
LL06 IAmb IAmb 18 13 46.7
comp=Z,300nm,1.4s
LL03 Petrohue 49.43 253 P **P** **18 12 34.6 +0.2**
LL03 IAMs_20 IAMs_20 18 29 41.3
comp=Z,18µm,19.0s
PTGB Pitanga 49.54 284 *e*P **P** **18 12 36.2 +0.7**
MECA Mercedes 49.56 275 *e*P **P** **18 12 35.5 -0.1**
GUA01 Guaratinga, BA 49.65 303 *e*P **P** **18 12 39.1 +2.7**
LR05 Currie 49.82 254 P **P** **18 12 37.6 +0.2**
LL05 Los Muermos 49.85 252 P **P** **18 12 36.6 -1.0**
LL05 IAmb IAmb 18 14 31.7
comp=Z,180nm,1.2s
GO06 Curarrehue 49.96 255 P **P** **18 12 37.4 -1.2**
GO06 IAMs_20 IAMs_20 18 31 26.1
comp=Z,14µm,20.0s
GO06 Curarrehue 49.96 255 ⇓P P 18 12 45.6 +7.0
DIAM Diamantina, MG 50.16 298 *e*P **P** **18 12 42.0 +1.7**
BB19B Bebedouro 50.47 291 *e*P **P** **18 12 44.4 +1.8**
MCR1 Marechal Candi 50.86 283 *e*P **P** **18 12 46.8 +1.3**
CPUP Villa Florida 51.31 278 P **P** **18 12 48.1 -0.7**
CPUP IAmb IAmb 18 12 51.8
comp=Z,295nm,1.5s
CPUP Villa Florida 51.31 278 P **P** **18 12 48.1 -0.7**
CPUP pmax pmax
comp=Z,295nm,1.5s
CPUP Villa Florida 51.31 278 P **P** **18 12 49.6 +0.9**
comp=Z,95nm,1.2s,baz=139,slow=7.0,SNR=49
CPUP LR LR 18 31 05.3
comp=Z,17µm,22.0s,baz=147,slow=32
comp=Z,95nm,1.2s
PCMB Pacaembu 51.54 288 *e*P **P** **18 12 52.0 +1.4**
LC02 Puerto Saavedr 51.58 255 P **P** **18 12 51.1 +0.4**
RER Riviere de l'E 52.13 72 P **P** **18 12 53.0 -2.1**
RER IAmb IAmb 18 13 17.9
comp=Z,190nm,1.3s
VACA Villa Angela C 52.27 274 *e*P **P** **18 12 57.7 +1.8**
ML02 Panimavida 52.59 259 P **P** **18 12 57.6 -0.6**
ML02 IAmb IAmb 18 13 25.4
comp=Z,355nm,1.4s
IPMB Ipameri, GO 52.81 293 *e*P **P** **18 13 00.1 0.0**
BI05 Punta Hualpn 52.90 257 P **P** **18 12 59.8 -0.8**
BI05 IAmb IAmb 18 13 20.1
comp=Z,200nm,1.3s
BO02 Sierra Bellavi 52.91 260 P **P** **18 12 58.9 -1.9**
BO02 IAmb IAmb 18 13 20.7
comp=Z,313nm,1.4s
BO02 IAMs_20 IAMs_20 18 34 02.8
comp=Z,16µm,19.0s
BO02 Sierra Bellavi 52.91 260 ⇑P **P** **18 13 02.2 +1.5**
ESFA Espinillo Form 53.03 278 *e*P **P** **18 13 03.6 +2.1**
JANB Januaria 53.20 299 *e*P **P** **18 13 03.3 +0.3**
LMEL Las Melosas 53.25 262 P **P** **18 13 02.1 -1.3**
LMEL IAmb IAmb 18 13 23.3
comp=Z,144nm,1.1s
BO01 Tunca 53.37 260 P **P** **18 13 03.1 -0.9**
BO01 IAmb IAmb 18 13 23.1
comp=Z,235nm,1.5s
MT13 San Alfonso 53.37 262 P **P** **18 13 03.1 -1.1**
BO04 La Punta 53.38 261 P **P** **18 13 03.2 -1.0**
GO05 Huala 53.41 259 P **P** **18 13 03.5 -0.9**
MT03 Universidad Ad 53.68 262 P **P** **18 13 04.9 -1.6**
MT03 IAmb IAmb 18 13 26.1
comp=Z,208nm,1.1s
MT09 Talagante 53.76 261 P **P** **18 13 04.8 -2.2**
MT09 IAmb IAmb 18 13 22.4
comp=Z,188nm,1.1s
MT09 IAMs_20 IAMs_20 18 33 14.1
comp=Z,12µm,19.0s
MT01 Popeta 53.84 261 P **P** **18 13 04.7 -2.9**
MT01 IAmb IAmb 18 13 29.7
comp=Z,299nm,1.5s
MT05 Renca 53.89 262 P **P** **18 13 04.8 -3.1**
MT05 IAmb IAmb 18 13 23.9
comp=Z,227nm,1.2s
ANTJ Antonio Joao (53.90 283 *e*P **P** **18 13 08.8 +0.8**
ZON Zonda 54.03 265 P **P** **18 13 07.8 -1.2**
ZON IAmb IAmb 18 13 28.6
comp=Z,373nm,2.0s
ZON Zonda 54.03 265 P **P** **18 13 07.8 -1.2**
ZON pmax pmax
comp=Z,373nm,2.0s
PEL Peldehue 54.04 262 P **P** **18 13 07.9 -1.1**
PEL IAmb IAmb 18 13 24.5
comp=Z,152nm,1.0s
PEL IAMs_20 IAMs_20 18 33 40.2
comp=Z,15µm,20.0s
PEL Peldehue 54.04 262 P **P** **18 13 07.9 -1.1**
PEL pmax pmax
comp=Z,152nm,1.0s
PEL MLR MLR
comp=Z,14µm,20.0s
VA05 Santo Domingo 54.20 261 P **P** **18 13 08.6 -1.5**
VA05 IAmb IAmb 18 13 29.3
comp=Z,214nm,1.4s
MT02 Curacav 54.22 261 P **P** **18 13 09.8 -0.4**
MT02 IAmb IAmb 18 13 31.0
comp=Z,237nm,1.6s
ROC1 El Roble 54.35 262 P **P** **18 13 09.5 -2.0**
BDFB Brasilia 54.64 295 P **P** **18 13 13.1 -0.5**
BDFB IAmb IAmb 18 13 30.8
comp=Z,131nm,1.1s
BDFB Brasilia 54.64 295 P **P** **18 13 13.1 -0.5**
BDFB pmax pmax
comp=Z,131nm,1.1s
BDFB Brasilia 54.64 295 P **P** **18 13 14.3 +0.8**
comp=Z,56nm,0.9s,baz=141,slow=5.5,SNR=35
BDFB LR LR 18 31 38.3
comp=Z,44µm,20.9s,baz=146,slow=31
comp=Z,56nm,0.9s
AQDB Aquidauana 54.93 284 P **P** **18 13 14.1 -1.4**
AQDB IAmb IAmb 18 13 30.6
comp=Z,116nm,1.0s
AQDB Aquidauana 54.93 284 *e*P **P** **18 13 15.3 -0.2**
MURT Porto Murtinho 55.08 282 *e*P **P** **18 13 17.2 +0.6**
DODT Dodoma, Tanzan 55.26 42 *i*P **P** **18 13 19.3 +1.2**
SBV Sambava 55.34 61 P P 18 13 26.0 +7.5
CO02 Combarbal 55.63 263 P **P** **18 13 19.4 -1.2**
CO02 IAmb IAmb 18 13 56.8
comp=Z,112nm,1.1s
RVDE Rio Verde (Bra 55.66 286 *e*P **P** **18 13 22.3 +1.5**
CO03 El Pedregal 55.72 264 P **P** **18 13 19.4 -1.8**
CO03 IAMs_20 IAMs_20 18 35 41.8
comp=Z,21µm,19.0s
CO01 Juntas del Tor 56.01 265 P **P** **18 13 22.3 -1.2**
CO01 IAmb IAmb 18 13 46.1
comp=Z,188nm,1.3s
GO04 Tololo Observa 56.28 264 P **P** **18 13 23.9 -1.5**
GO04 IAmb IAmb 18 13 47.7
comp=Z,153nm,0.9s
GO04 Tololo Observa 56.28 264 ⇑P **P** **18 13 26.7 +1.3**
CO05 La Serena 56.72 264 P **P** **18 13 26.3 -1.9**
CO05 IAmb IAmb 18 14 06.5
comp=Z,148nm,1.2s
PP1B Ponte de Pedra 56.77 287 *e*P **P** **18 13 30.6 +1.9**
AC05 El Transito 56.96 266 P **P** **18 13 29.3 -0.9**
AC05 IAmb IAmb 18 13 46.3
comp=Z,139nm,1.0s
LCO Las Campanas 57.08 265 P **P** **18 13 29.6 -1.6**
LCO Las Campanas 57.08 265 IAMs_20 IAMs_20 18 35 57.6
comp=Z,17µm,18.0s
LCO Las Campanas 57.08 265 ⇑P **P** **18 13 32.4 +1.2**
LCO Las Campanas 57.08 265 P **P** **18 13 29.6 -1.6**
LCO pmax pmax
comp=Z,71nm,1.0s
LCO MLR MLR
comp=Z,17µm,18.0s
RCBR Riachuelo 57.31 313 *e*P **P** **18 13 36.2 +3.6**
RCBR Riachuelo 57.31 313 LR LR 18 31 48.1
comp=Z,7µm,20.6s,baz=157,slow=29
GO03 Copiap 57.87 267 P **P** **18 13 35.5 -1.0**
AC04 Llanos de Chal 57.90 266 P **P** **18 13 35.2 -1.4**
AC06 Mina Casimiro 58.12 267 P **P** **18 13 37.6 -0.6**
VA04 Juan Fernndez 58.33 255 IAMs_20 IAMs_20 18 34 24.8
comp=Z,11µm,20.0s
SALV Santo Antonio 58.60 288 *e*P **P** **18 13 41.5 -0.2**
EKNA AfricaArray - 58.80 9 ⇓*e*P **P** **18 13 45.3 +2.3**
BBRB Robore, Bolivi 59.01 282 *e*P **P** **18 13 45.2 +0.7**
AC01 Pan de Azucar 59.17 267 P **P** **18 13 43.3 -2.3**
GO02 Mina Guanaco 59.33 269 P **P** **18 13 44.7 -2.3**
GO02 IAmb IAmb 18 14 04.4
comp=Z,99nm,1.0s
GO02 Mina Guanaco 59.33 269 ⇑P **P** **18 13 48.6 +1.6**
SNDB Serra Nova Dou 59.43 294 *e*P **P** **18 13 48.4 +1.0**
KIBK Kibwezi 59.68 43 P **P** **18 13 46.5 -2.7**
KIBK IAmb IAmb 18 14 17.8
comp=Z,163nm,1.6s
KIBK IAMs_20 IAMs_20 18 33 43.0
comp=Z,13µm,20.0s
KIBK Kibwezi 59.68 43 P **P** **18 13 50.9 +1.7**
SNR=14
KIBK Kibwezi 59.68 43 P P 18 13 54.4 +5.2
AF01 San Pedro de A 60.20 272 P **P** **18 13 51.0 -2.1**
PB14 IPOC Station P 60.22 269 P **P** **18 13 51.9 -1.3**
PB14 IPOC Station P 60.22 269 P **P** **18 13 51.5 -1.6**
BBSD Serra de San D 60.34 282 *e*P **P** **18 13 54.4 +0.7**
KMBO Kilima Mbogo 60.48 41 P **P** **18 13 51.3 -3.6**
KMBO Kilima Mbogo 60.48 41 IAMs_20 IAMs_20 18 37 55.3
comp=Z,10µm,18.0s
KMBO Kilima Mbogo 60.48 41 *e*P **P** **18 13 54.0 -0.9**
KMBO Kilima Mbogo 60.48 41 *e*P P 18 14 01.2 +6.4
KMBO *e*S S 18 22 23.6 +13
KMBO Kilima Mbogo 60.48 41 *e*P **P** **18 13 58.1 +3.3**
KMBO Kilima Mbogo 60.48 41 P **P** **18 13 51.3 -3.6**
KMBO pmax pmax
comp=Z,105nm,1.8s
KMBO MLR MLR
comp=Z,10µm,18.0s
KMBO Kilima Mbogo 60.48 41 P **P** **18 13 56.2 +1.4**
comp=Z,3.1nm,0.9s,baz=188,slow=11,SNR=7.8
KMBO LR LR 18 38 06.4
comp=Z,7µm,18.8s,baz=188,slow=34
KMBO PKP2bc 18 43 28.4
comp=Z,0.5nm,0.2s,baz=7.9,slow=4.2,SNR=3.5
comp=Z,3.1nm,0.9s
KMBO Kilima Mbogo 60.48 41 *e*P P 18 14 01.2 +6.4
KMBO *e*S S 18 22 23.6 +13
KMBO Kilima Mbogo 60.48 41 *e*P **P** **18 13 54.0 -0.9**
LIC Lamto 60.75 352 ⇓*e*PKP1 **P** **18 13 57.2 +0.9**
comp=Z,130nm,1.0s
PB15 IPOC Station P 60.76 271 P **P** **18 13 55.0 -1.7**
PB15 IAmb IAmb 18 14 13.2
comp=Z,201nm,1.3s
KIC Kosan Boka 60.86 352 ⇓*e*PKP1 **P** **18 13 57.7 +0.6**
comp=Z,94nm,1.6s
LVC Limon Verde 60.89 271 P **P** **18 13 55.3 -2.5**
LVC IAmb IAmb 18 14 20.7
comp=Z,65nm,0.8s
LVC Limon Verde 60.89 271 ⇓P **P** **18 13 59.3 +1.5**
LVC Limon Verde 60.89 271 P **P** **18 13 55.3 -2.5**
LVC pmax pmax
comp=Z,65nm,0.9s
LVC MLR MLR
comp=Z,9µm,20.0s
LVC Limon Verde 60.89 271 *e*P **P** **18 13 58.7 +0.9**
LVC Limon Verde 60.89 271 P **P** **18 13 58.7 +0.9**
comp=Z,25nm,0.9s,baz=134,slow=5.4,SNR=20
LVC LR LR 18 38 49.5
comp=Z,7µm,20.1s,baz=140,slow=35
comp=Z,25nm,0.9s
PTLB Pontes e Lacer 60.90 285 P **P** **18 13 55.0 -2.4**
PTLB IAmb IAmb 18 14 12.4
comp=Z,69nm,0.9s
TIC Toumodi 61.16 352 ⇑*e*PKP1 **P** **18 13 58.1 -1.1**
comp=Z,107nm,1.0s
DBIC Dimbokro 61.17 352 P **P** **18 13 56.8 -2.4**
DBIC IAmb IAmb 18 14 14.5
comp=Z,184nm,1.5s
DBIC Dimbokro 61.17 352 P **P** **18 13 56.8 -2.4**
DBIC pmax pmax
comp=Z,184nm,1.5s
DBIC Dimbokro 61.17 352 P **P** **18 13 59.9 +0.6**
comp=Z,35nm,1.0s,baz=159,slow=7.5,SNR=35
DBIC LR LR 18 34 12.0
comp=Z,7µm,21.1s,baz=153,slow=30
comp=Z,35nm,1.0s
PB06 IPOC Station P 61.20 271 P **P** **18 13 57.9 -1.8**
PB06 IAmb IAmb 18 14 15.2
comp=Z,133nm,1.2s
PB05 IPOC Station P 61.46 270 P **P** **18 13 59.6 -1.8**
PB05 IAmb IAmb 18 14 21.8
comp=Z,97nm,1.1s
SIV San Ignacio 61.56 283 P **P** **18 14 02.4 +0.4**
comp=Z,28nm,1.2s,baz=148,slow=6.2,SNR=41
SIV LR LR 18 37 08.8
comp=Z,26µm,20.0s,baz=148,slow=33
comp=Z,28nm,1.2s
PB09 IPOC Station P 61.71 272 P **P** **18 14 00.8 -2.4**
PB09 IAmb IAmb 18 14 27.5
comp=Z,135nm,1.1s
PB04 IPOC Station P 61.83 271 P **P** **18 14 01.8 -2.1**
PB04 IAmb IAmb 18 14 10.3
comp=Z,226nm,1.5s
PB07 IPOC Station P 62.14 271 P **P** **18 14 03.4 -2.6**
PB07 IAmb IAmb 18 14 29.0
comp=Z,128nm,1.2s
PB07 IPOC Station P 62.14 271 P **P** **18 14 07.2 +1.1**
PB01 IPOC Station P 62.44 272 P **P** **18 14 04.9 -3.1**
PB01 IAmb IAmb 18 14 28.9
comp=Z,97nm,1.3s
PB02 IPOC Station P 62.47 272 P **P** **18 14 05.2 -3.0**
PB02 IAmb IAmb 18 14 28.9
comp=Z,186nm,1.6s
PDRB Porto dos Gac 62.68 289 *e*P **P** **18 14 11.0 +1.5**
CLDB Colider 62.77 291 *e*P **P** **18 14 10.8 +0.7**
PB08 IPOC Station P 62.95 273 P **P** **18 14 09.5 -2.2**
PB08 IAmb IAmb 18 14 32.9
comp=Z,133nm,1.5s
PB08 IPOC Station P 62.95 273 P **P** **18 14 14.4 +2.7**
PATCX Punta Patache 63.00 272 P **P** **18 14 08.7 -3.0**
TA01 Diego Aracena 63.22 272 P **P** **18 14 10.5 -2.5**
TA01 IAmb IAmb 18 14 34.6
comp=Z,87nm,1.2s
GO01 Chusmiza 63.34 273 P **P** **18 14 11.8 -2.6**
TA02 Huaiquique 63.42 272 P **P** **18 14 11.6 -2.7**
VILB Vilhena 63.52 285 P **P** **18 14 11.8 -3.2**
VILB IAmb IAmb 18 14 45.4
comp=Z,182nm,1.2s
VILB Vilhena 63.52 285 *e*P **P** **18 14 16.8 +1.7**
PB11 IPOC Station P 63.54 273 P **P** **18 14 12.6 -2.7**
PB11 IAmb IAmb 18 14 36.7
comp=Z,130nm,1.2s
ROSB Rosrio 63.60 306 *e*P **P** **18 14 18.7 +3.1**
LODK Lodwar 63.97 38 P **P** **18 14 15.2 -2.8**
LODK IAMs_20 IAMs_20 18 37 26.8
comp=Z,10µm,21.0s
LODK Lodwar 63.97 38 *e*P **P** **18 14 22.4 +4.4**
LODK Lodwar 63.97 38 *e*P **P** **18 14 21.1 +3.1**
LODK *e*S S 18 23 06.9 +13
LODK Lodwar 63.97 38 P **P** **18 14 20.7 +2.7**
SNR=12
LODK Lodwar 63.97 38 *e*P **P** **18 14 21.1 +3.1**
LODK *e*S S 18 23 06.9 +13
LODK Lodwar 63.97 38 *e*P **P** **18 14 22.4 +4.4**
PB16 IPOC Station P 64.57 274 P **P** **18 14 22.9 +0.3**
PB12 IPOC Station P 64.83 273 P **P** **18 14 22.2 -1.5**
PB12 IAmb IAmb 18 14 53.9
comp=Z,167nm,1.7s
PB18 Visviri 65.14 274 P **P** **18 14 24.0 -2.3**
LPAZ La Paz 65.38 276 P **P** **18 14 26.5 -1.5**
LPAZ La Paz 65.38 276 P **P** **18 14 26.5 -1.5**

MSEY Mahe Island 65.65 62 P P 18 14 25.1 -3.9
MSEY IAmb IAmb 18 14 45.2
comp=Z,167nm,1.8s
MSEY Mahe Island 65.65 62 P P 18 14 25.1 -3.9
MSEY pmax pmax
comp=Z,167nm,1.8s
MSEY MLR MLR
comp=Z,8µm,20.0s
NPGB Novo Progresso 65.72 293 *e*P **P 18 14 31.0 +1.6**
TOA0 Torodi Ar. Sit 67.34 360 P **P 18 14 35.4 -4.2**
TOA0 IAmb IAmb 18 15 07.5
comp=Z,301nm,2.2s
TOA0 Torodi Ar. Sit 67.34 360 P **P 18 14 40.4 +0.8**
SNR=12
TORD Torodi Ar. Bea 67.34 360 P **P 18 14 39.3 -0.3**
comp=Z,7.8nm,0.8s,baz=182,slow=4.1,SNR=44
TORD LR LR 18 39 03.5
comp=Z,7µm,19.5s,baz=165,slow=32
TORD PKP2bc 18 43 08.4
comp=Z,1.0nm,0.9s,baz=14,slow=5.4,SNR=4.5
comp=Z,7.8nm,0.8s
ITTB Itaituba 68.17 295 *e*P **P 18 14 45.9 +0.9**
SAML Samuel 68.45 285 P **P 18 14 46.2 -0.6**
SAML IAmb IAmb 18 14 59.7
comp=Z,99nm,1.1s
SAML Samuel 68.45 285 P **P 18 14 46.2 -0.6**
SAML pmax pmax
comp=Z,99nm,1.1s
SAML MLR MLR
comp=Z,28µm,22.0s
ETMB Extrema 69.47 282 P **P 18 14 50.9 -2.2**
ETMB IAmb IAmb 18 15 05.8
comp=Z,70nm,1.0s
FURI Furi 70.23 39 P **P 18 14 55.7 -2.4**
FURI IAmb IAmb 18 15 31.1
comp=Z,174nm,1.8s
FURI Furi 70.23 39 IAMs_20 IAMs_20 18 39 41.8
comp=Z,11µm,21.0s
FURI Furi 70.23 39 *e*P **P 18 15 02.7 +4.6**
FURI Furi 70.23 39 *e*P P 18 15 03.8 +5.7
FURI eS S 18 24 20.4 +10
FURI Furi 70.23 39 *e*P P 18 15 03.8 +5.7
FURI eS S 18 24 20.4 +10
FURI Furi 70.23 39 *e*P **P 18 15 02.7 +4.6**
MACA Manacapuru-AM 71.84 291 P **P 18 15 05.4 -2.2**
MACA IAmb IAmb 18 15 24.0
comp=Z,355nm,1.8s
MACA Manacapuru-AM 71.84 291 *e*P **P 18 15 08.7 +1.2**
SACV Santiago Islan 72.52 334 P **P 18 15 07.1 -4.4**
SACV IAmb IAmb 18 15 38.1
comp=Z,182nm,1.5s
DESE Dese 72.63 39 *e*P P 18 15 21.7 +9.2
DESE Dese 72.63 39 *e*P P 18 15 18.1 +5.6
DESE eS **SKiKP 18 24 47.7 +0.8**
DESE Dese 72.63 39 *e*P P 18 15 18.1 +5.6
DESE eS **SKiKP 18 24 47.7 +0.8**
DESE Dese 72.63 39 *e*P P 18 15 21.7 +9.2
DGAR Diego Garcia 72.65 78 P **P 18 15 08.8 -3.6**
DGAR Diego Garcia 72.65 78 P **P 18 15 08.8 -3.6**
DGAR pmax pmax
comp=Z,486nm,1.9s
DGAR MLR MLR
comp=Z,7µm,20.0s
H01W2 Cape Leeuwin H 73.63 127 T T 19 37 14.3
baz=215,slow=75,SNR=79
H01W3 Cape Leeuwin H 73.64 127 T T 19 37 13.7
baz=215,slow=75,SNR=84
H01W1 Cape Leeuwin H 73.64 127 T T 19 37 15.4
baz=215,slow=75,SNR=200
TEFE Tefe 73.73 287 *e*P **P 18 15 19.7 +1.0**
NNA Nana 73.88 272 P **P 18 15 18.7 -1.0**
NNA Nana 73.88 272 IAMs_20 IAMs_20 18 45 36.8
comp=Z,10µm,21.0s
NNA Nana 73.88 272 P **P 18 15 18.7 -1.0**
NNA pmax pmax
comp=Z,76nm,1.3s
NNA MLR MLR
comp=Z,10µm,21.0s
NNA Nana 73.88 272 P **P 18 15 21.6 +1.9**
comp=Z,5.7nm,0.3s,baz=140,slow=7.5,SNR=4.7
NNA LR LR 18 45 49.8
comp=Z,10µm,21.8s,baz=140,slow=34
comp=Z,5.7nm,0.3s
ATD Arta Tunnel 74.22 42 *e*P **P 18 15 24.1 +2.5**
ATD Arta Tunnel 74.22 42 *e*P **P 18 15 25.2 +3.6**
ATD eS **S 18 25 01.0 +5.9**
ATD Arta Tunnel 74.22 42 P P 18 15 27.6 +6.0
ATD Arta Tunnel 74.22 42 LR LR 18 46 53.9
comp=Z,329nm,18.9s,baz=196,slow=35
ATD Arta Tunnel 74.22 42 *e*P **P 18 15 25.2 +3.6**
ATD eS **S 18 25 01.0 +5.9**
ATD Arta Tunnel 74.22 42 *e*P **P 18 15 24.1 +2.5**
CZSB Cruzeiro do Su 74.89 278 P **P 18 15 23.1 -2.4**
CZSB Cruzeiro do Su 74.89 278 *e*P **P 18 15 26.7 +1.2**
TBTG Tabatinga, AM 76.15 282 P **P 18 15 30.7 -2.1**
TBTG IAmb IAmb 18 15 45.1
comp=Z,163nm,0.9s
BOAV Boa Vista 76.40 294 P **P 18 15 31.1 -3.0**
BOAV Boa Vista 76.40 294 *e*P **P 18 15 36.0 +1.8**
BOAV Boa Vista 76.40 294 *e*P **P 18 15 36.2 +2.0**
NWAO Narrogin (SRO) 76.69 129 P **P 18 15 37.7 +2.0**
baz=76,SNR=4.9
NWAO P P **18 15 37.7 +2.0**
baz=76,SNR=4.9
NWAO Narrogin (SRO) 76.69 129 P **P 18 15 33.0 -2.7**
NWAO Narrogin (SRO) 76.69 129 P **P 18 15 33.0 -2.7**
NWAO IAmb IAmb 18 15 53.4
comp=Z,90nm,1.2s
NWAO Narrogin (SRO) 76.69 129 P P 18 15 42.5 +6.8
NWAO P P 18 15 42.5 +6.8
NWAO Narrogin (SRO) 76.69 129 P **P 18 15 33.0 -2.7**
NWAO pmax pmax
comp=Z,295nm,1.2s
NWAO Narrogin (SRO) 76.69 129 LR LR 18 41 57.6
comp=Z,10µm,22.0s,baz=206,slow=30
TAM Tamanrasset 76.99 3 P **P 18 15 33.6 -3.8**
TAM Tamanrasset 76.99 3 P **P 18 15 33.6 -3.8**
TAM pmax pmax
comp=Z,46nm,1.3s
TAM MLR MLR
comp=Z,4µm,22.0s
MUN Mundaring 77.02 127 P **P 18 15 39.6 +2.1**
baz=77,SNR=7.7
MUN Mundaring 77.02 127 P **P 18 15 41.2 +3.7**
KLBR Kellerberrin 78.05 128 P **P 18 15 45.3 +2.0**
baz=78,SNR=4.4
TAU Tasmania Unive 78.57 155 P **P 18 15 44.5 -1.5**
TAU IAmb IAmb 18 15 57.9
comp=Z,215nm,1.4s
TAU Tasmania Unive 78.57 155 ⇓P **P 18 15 47.6 +1.6**
TAU Tasmania Unive 78.57 155 P **P 18 15 44.5 -1.5**
TAU pmax pmax
comp=Z,215nm,1.5s
TAU MLR MLR
comp=Z,19µm,18.0s
ATAH Atahualpa 78.67 274 P **P 18 15 50.6 +3.2**
comp=Z,18nm,0.9s,baz=158,slow=5.3,SNR=19
ATAH LR LR 18 49 37.5
comp=Z,5µm,21.3s,baz=165,slow=35
comp=Z,18nm,0.9s
PYZ Puysegur Point 78.91 169 P **P 18 15 47.0 -0.7**
PYZ IAmb IAmb 18 16 19.0
comp=Z,150nm,1.3s
PYZ IAMs_20 IAMs_20 18 48 13.6
comp=Z,13µm,20.0s
MOO Moorlands 78.98 154 P **P 18 15 49.3 +1.1**
baz=79,SNR=7.1
WHZ Wether Hill Ro 79.31 170 P **P 18 15 49.5 -0.5**
MORW Morawa 79.37 126 P **P 18 15 52.2 +1.6**
baz=79,SNR=3.2
MORW Morawa 79.37 126 P **P 18 15 49.3 -1.3**
MLZ Mavora Lakes 79.85 170 P **P 18 15 51.9 -1.1**
MLZ IAmb IAmb 18 16 09.8
comp=Z,160nm,1.0s
ODZ Otahua Downs 80.40 172 P **P 18 15 54.6 -1.3**
ODZ IAmb IAmb 18 16 11.6
comp=Z,395nm,2.2s
WKZ Wanaka 80.47 171 P **P 18 15 56.2 -0.1**
WKZ IAmb IAmb 18 16 12.4
comp=Z,257nm,1.5s
LBZ Lake Benmore 81.02 171 P **P 18 15 58.0 -1.3**
LBZ IAmb IAmb 18 16 17.6
comp=Z,146nm,1.2s
RPZ Rata Peaks 81.75 172 P **P 18 16 01.6 -1.6**
RPZ IAmb IAmb 18 16 19.2
comp=Z,108nm,1.1s
RPZ Rata Peaks 81.75 172 LR LR 18 49 56.6
comp=Z,18µm,20.3s,baz=200,slow=34
MCRA Macar, Loja 81.80 274 P **P 18 16 01.4 -2.5**
MCRA Macar, Loja 81.80 274 *e*P **P 18 16 02.4 -1.4**
BOSC San Juan Bosco 81.94 276 P **P 18 16 01.9 -2.8**
PTLC Puerto Leguiza 82.50 281 *e*P **P 18 16 05.8 -1.6**
MEEK Meekatharra 82.63 126 P **P 18 16 08.6 +0.5**
baz=82,SNR=4.2
GVZ Greta Valley S 82.64 173 P **P 18 16 06.7 -1.1**
INZ Inchbonnie 82.77 172 P **P 18 16 06.8 -1.7**
ARPS Mount Arapiles 82.78 149 P **P 18 16 11.3 +2.7**
baz=83,SNR=10.0
LTZ Lake Taylor 82.78 173 P **P 18 16 06.6 -2.0**
LTZ IAmb IAmb 18 16 26.2
comp=Z,202nm,1.5s
COHC Cochancay 82.93 276 P **P 18 16 09.1 -0.6**
COHC Cochancay 82.93 276 *e*P **P 18 16 12.4 +2.8**
TOO Toolangi 83.10 152 P **P 18 16 12.4 +2.1**
baz=83,SNR=4.9
TOO Toolangi 83.10 152 P **P 18 16 08.7 -1.6**
TOO IAmb IAmb 18 16 41.7
comp=Z,174nm,1.9s
TOO IAMs_20 IAMs_20 18 47 32.1
comp=Z,13µm,22.0s
TOO Toolangi 83.10 152 P **P 18 16 08.7 -1.6**
TOO pmax pmax
comp=Z,174nm,1.9s
TOO MLR MLR
comp=Z,13µm,22.0s
FORT Forrest 83.23 135 P **P 18 16 09.3 -1.8**
FORT IAmb IAmb 18 16 30.4
comp=Z,96nm,0.9s
FORT IAMs_20 IAMs_20 18 43 36.9
comp=Z,8µm,22.0s
FORT Forrest 83.23 135 ⇑P P 18 16 19.1 +8.0
CHSH Refugio Sur-Vo 83.50 277 P **P 18 16 14.1 +0.8**
CHSH IAmb IAmb 18 16 48.2
comp=Z,70nm,1.1s
PIAT Ana Tenorio 83.55 277 *e*P **P 18 16 15.6 +2.2**
DSZ Denniston Nort 83.77 172 P **P 18 16 12.3 -1.4**
ABTO Aybut 83.78 49 P **P 18 16 15.7 +1.7**
SNR=5.8
ABTO P P **18 16 15.7 +1.7**
SNR=5.8
TRN Trinidad (W) 83.82 298 *e*P P 18 16 22.8 +8.6
THZ Tophouse 83.83 173 P **P 18 16 12.3 -1.8**
THZ IAmb IAmb 18 16 29.7
comp=Z,114nm,0.9s
GIRL Giralia 83.86 121 IAMs_20 IAMs_20 18 44 11.7
comp=Z,7µm,22.0s
SLOR San Lorenzo - 83.90 277 P **P 18 16 11.7 -3.5**
SLOR IAMs_20 IAMs_20 18 52 31.9
comp=Z,7µm,21.0s
BSWZ Blackbirch Sta 83.95 174 P **P 18 16 13.4 -1.1**
FLOC Florencia 84.14 281 *e*P **P 18 16 14.7 -1.2**
SALI Salinas 84.17 274 P **P 18 16 15.1 -1.0**
SALI IAmb IAmb 18 16 32.7
comp=Z,133nm,1.0s
MRNZ Matariki Terra 84.19 173 P **P 18 16 14.4 -1.4**
TUWZ Tuamarina 84.23 174 P **P 18 16 14.9 -1.1**
PTGC Puerto Gaitan, 84.27 285 *e*P **P 18 16 16.7 +0.1**
BONI La Bonita 84.30 279 *e*P **P 18 16 17.8 +0.8**
BHW Baring Head 84.31 175 P **P 18 16 14.5 -1.9**
RBK Rabkut 84.31 49 P P 18 16 23.9 +7.3
SNR=5.3
RBK P P 18 16 23.9 +7.3
SNR=5.3
NNZ Nelson 84.41 173 P **P 18 16 13.8 -3.1**
BBOO Buckleboo 84.48 143 P **P 18 16 15.7 -1.8**
WHFO Wadi Hawf 84.49 49 P P 18 16 23.9 +6.4
WHFO P P 18 16 23.9 +6.4
PULU Pululahua 84.51 278 P **P 18 16 19.3 +1.0**
GARC Garzon, Huila 84.54 281 *e*P **P 18 16 16.5 -1.7**
IMBA Imbabura, San 84.54 278 P **P 18 16 19.7 +1.2**
MILA Mila 84.56 154 P **P 18 16 20.2 +2.3**
baz=84,SNR=3.5
OTAV Otavalo 84.66 278 P **P 18 16 20.2 +1.2**
OTAV Otavalo 84.66 278 *e*P **P 18 16 17.5 -1.5**
OTAV Otavalo 84.66 278 ⇓P **P 18 16 21.3 +2.3**
OTAV Otavalo 84.66 278 P **P 18 16 20.2 +1.2**
OTAV pmax pmax
comp=Z,295nm,1.5s
OTAV MLR MLR
comp=Z,16µm,22.0s
OTAV Otavalo 84.66 278 *e*P **P 18 16 21.6 +2.5**
TULM Tulcn-Chalpat 84.66 279 P **P 18 16 18.4 -0.7**
TULM Tulcn-Chalpat 84.66 279 *e*P **P 18 16 20.5 +1.4**
CUSE Cuicocha Este 84.68 278 *e*P **P 18 16 22.4 +3.2**
GCUF Volcan Galeras 84.82 279 *e*P **P 18 16 18.7 -1.2**
DMTO DMTO 84.83 50 P P 18 16 25.0 +5.8
CRUC La Cruz 84.87 280 *e*P P 18 16 27.6 +7.6
PAC1 Pacto, Paraso 84.88 270 *e*P **P 18 16 20.5 +0.7**
HTT Hallett 84.91 145 P **P 18 16 21.0 +1.4**
baz=85,SNR=6.9
BBGH Gun Hill 85.00 301 *e* P 18 16 27.8 +7.7
VILC Villavicencio, 85.08 284 *e*P **P 18 16 23.9 +3.1**
MRZ Mangatainoka R 85.09 175 P **P 18 16 21.7 +1.3**
MRZ IAmb IAmb 18 16 36.6
comp=Z,102nm,1.0s
BFZ Birch Farm 85.10 176 P **P 18 16 19.2 -1.3**
PCRV Puerto La Cruz 85.12 295 LR LR 18 50 13.0
comp=Z,31µm,21.1s,slow=33
GRGR Grenville 85.21 298 IAMs_20 IAMs_20 18 50 17.3
comp=Z,9µm,21.0s
GRGR Grenville 85.21 298 *e*P **P 18 16 25.7 +4.6**
GRGR Grenville 85.21 298 *e*P P 18 16 32.1 +11
GRHS Sauteurs 85.28 298 *e*P P 18 16 26.9 +5.4
GCMP Grenada, Carri 85.39 299 *e*P P 18 16 31.9 +10
SHAO Shalim 85.40 50 P P 18 16 29.2 +7.1
SHAO P P 18 16 29.2 +7.1
BBAC Balboa, Cauca 85.41 280 *e*P P 18 16 32.1 +10
PRAC Prado 85.43 283 *e*P **P 18 16 19.4 -3.0**
POPC Popayan, Colom 85.50 281 *e*P **P 18 16 24.7 +1.7**
CVER Cruz Verde, Cu 85.63 284 *e*P **P 18 16 24.7 +0.8**
ORTC Ortega, Tolima 85.80 283 *e*P **P 18 16 23.6 -0.7**
TAMC Tame, Arauca 85.92 287 *e*P **P 18 16 28.0 +3.2**
BAUV El Baul 85.92 291 P **P 18 16 22.0 -2.8**
BAUV El Baul 85.92 291 *e*P **P 18 16 26.1 +1.4**
SVB Belmont 85.97 299 *e*P **P 18 16 22.6 -2.3**
ROSC El Rosal 86.03 284 P **P 18 16 23.5 -2.3**
ROSC IAmb IAmb 18 17 03.6
comp=Z,84nm,1.4s
ROSC El Rosal 86.03 284 *e*P P 18 16 20.9 -4.9
ROSC El Rosal 86.03 284 P **P 18 16 23.5 -2.3**
ROSC pmax pmax
comp=Z,84nm,1.4s
ROSC El Rosal 86.03 284 P **P 18 16 27.9 +2.0**
comp=Z,8.1nm,0.4s,baz=153,slow=18,SNR=2.4
ROSC LR LR 18 53 04.1
comp=Z,36µm,18.7s,baz=184,slow=34
comp=Z,8.1nm,0.4s
JAMC Jamundi, Valle 86.05 281 *e*P **P 18 16 25.9 +0.2**
TUMC Tumaco 86.10 279 *e*P **P 18 16 28.7 +3.0**
CAN Canberra 86.16 153 P **P 18 16 23.7 -2.1**
CAN IAmb IAmb 18 16 37.4
comp=Z,216nm,1.9s
CAN Canberra 86.16 153 P **P 18 16 23.7 -2.1**
CAN pmax pmax
comp=Z,216nm,1.9s
CAN MLR MLR
comp=Z,12µm,20.0s
SLBI Saint Lucia, B 86.46 300 *e*P P 18 16 36.6 +9.3
YOTC Yotoco, Valle 86.49 282 *e*P **P 18 16 27.3 -0.4**
SPBC San Pablo de B 86.56 285 *e*P **P 18 16 23.7 -4.3**
BKZ Black Stump Fm 86.63 176 P **P 18 16 29.0 +0.9**
GR1C Gorgona, Isla 86.73 280 *e*P **P 18 16 26.9 -1.9**
BIM Bigot 86.93 300 *e*P P 18 16 37.1 +7.4
GUY2C Guyana, Caldas 86.94 283 *e*P **P 18 16 27.5 -2.9**
MALC Bahia Malaga 87.08 281 *e*P P 18 16 36.4 +5.9
MDT Midelt 87.10 354 LR LR 18 50 08.9
comp=Z,8µm,21.8s,baz=188,slow=32
FDF Fort de France 87.15 300 **P 18 16 27.2 -3.6**
FDF IAmb IAmb 18 16 59.7
comp=Z,155nm,1.2s
FDF Fort de France 87.15 300 P **P 18 16 27.2 -3.6**
FDF pmax pmax
comp=Z,155nm,1.2s
FDF Fort de France 87.15 300 *e*P **P 18 16 35.4 +4.6**
PAMC Pamplona, Colo 87.17 287 *e*P P 18 16 36.9 +5.4
HIZ Hauiti 87.19 174 IAMs_20 IAMs_20 18 54 39.2
comp=Z,11µm,18.0s
RTZ Ruatahuna 87.19 176 P **P 18 16 30.9 0.0**
PLMC San Jos del P 87.20 282 *e*P **P 18 16 27.2 -3.9**
STKA Stephens Creek 87.22 146 P **P 18 16 33.4 +2.4**
baz=87,SNR=13
STKA Stephens Creek 87.22 146 **P 18 16 31.2 +0.2**
STKA Stephens Creek 87.22 146 *c i*P **P 18 16 30.3 -0.7**
STKA Stephens Creek 87.22 146 P **P 18 16 33.5 +2.4**
comp=Z,26nm,1.1s,baz=176,slow=4.4,SNR=14
STKA LR LR 18 50 25.2
comp=Z,3µm,20.8s,baz=197,slow=32
comp=Z,26nm,1.1s
SVN Savane Anatole 87.25 300 *e*P **P 18 16 35.0 +3.8**
SDV Santo Domingo 87.29 289 P **P 18 16 29.5 -2.2**
SDV IAmb IAmb 18 16 46.3
comp=Z,237nm,1.9s
SDV Santo Domingo 87.29 289 *e*P **P 18 16 32.4 +0.7**
SDV Santo Domingo 87.29 289 LR LR 18 54 12.8
comp=Z,16µm,18.4s,baz=150,slow=35
PTBC PUERTO BERRIO, 87.50 285 *e*P P 18 16 26.8 -5.7
PSA00 Pilbara Seismi 87.52 125 P **P 18 16 30.2 -2.4**
PSA00 Pilbara Seismi 87.52 125 P **P 18 16 31.5 -1.1**
PSA00 IAmb IAmb 18 16 50.9
comp=Z,80nm,1.6s
URZ Urewera 87.56 176 LR LR 18 51 34.9
comp=Z,30µm,21.9s,baz=254,slow=33
AVE Averroes 87.78 352 IAMs_20 IAMs_20 18 50 45.3
comp=Z,6µm,21.0s
MBWA Marble Bar 87.82 124 P **P 18 16 32.7 -1.4**
MBWA Marble Bar 87.82 124 P P 18 16 41.8 +7.7
MBWA P P 18 16 41.8 +7.7
MBWA Marble Bar 87.82 124 ⇓P P 18 16 42.7 +8.7
CBOC Ciudad Bolivar 87.83 283 *e*P **P 18 16 35.0 +0.7**
PIZC Pizarro, Choco 87.87 281 *e*P P 18 16 40.8 +6.6
TOZ Tahuroa Road 88.01 175 P **P 18 16 31.2 -3.4**
TOZ IAmb IAmb 18 16 52.2
comp=Z,230nm,2.1s
MAGL Barre de l'ile 88.25 301 *e*P **P 18 16 38.8 +2.8**
MAGL Barre de l'ile 88.25 301 *e* 18 27 35.8
WRKA Warakurna 88.37 133 P **P 18 16 38.8 +2.1**
baz=88,SNR=6.3
WRKA Warakurna 88.37 133 ⇓P **P 18 16 41.1 +4.4**
GDSD La Dsirade Is 88.45 301 P **P 18 16 33.7 -3.2**
GDSD IAmb IAmb 18 17 07.0
comp=Z,93nm,1.4s
EIL Elat 88.47 28 ⇑P **P 18 16 41.0 +4.3**
EIL Elat 88.47 28 LR LR 18 53 17.5
comp=Z,5µm,21.2s,baz=202,slow=34
ZARC Zaragoza, Cauc 88.50 285 *e*P **P 18 16 38.1 +0.8**
CBE Ff, Capester 88.52 300 *e*P P 18 16 42.9 +5.6
CMSA Cobar Meteorol 88.80 150 P **P 18 16 41.4 +2.9**
baz=89,SNR=14
ABD La Joyeuse, An 88.80 301 *e*P P 18 16 43.7 +5.2
DBBC Dabeiba 88.88 284 *e*P **P 18 16 39.6 +0.4**
MHTO MHTO 89.05 51 P P 18 16 47.8 +8.2
MHTO P P 18 16 47.8 +8.2
UREC San Jos de Ur 89.10 285 *e*P **P 18 16 40.1 0.0**
HATO Hato, Curacao 89.10 292 IAMs_20 IAMs_20 18 54 31.3
comp=Z,10µm,21.0s
SMRA Abu-Samra 89.32 43 P **P 18 16 45.4 +4.6**
PALK Pallekele 89.33 77 IAMs_20 IAMs_20 18 46 13.2
comp=Z,8µm,22.0s
PALK Pallekele 89.33 77 P **P 18 16 43.1 +1.9**
PALK Pallekele 89.33 77 *i* P **P 18 16 39.4 -1.8**
PALK pmax pmax
comp=Z,92nm,1.8s
PALK Pallekele 89.33 77 LR LR 18 46 34.3
comp=Z,8µm,21.8s,baz=322,slow=29
XMIS Christmas Isla 89.34 107 IAMs_20 IAMs_20 18 46 29.8
comp=Z,6µm,22.0s
CHAS Isla Isabel II 89.36 356 P P 18 16 50.6 +10
MBFL Flemmings, Mon 89.40 300 *e*P **P 18 16 38.3 -3.0**
ANBD Bethesda, Anti 89.42 301 *e*P **P 18 16 42.5 +1.0**
ANBD Bethesda, Anti 89.42 301 *e* 18 27 31.2
TRNA Turayna 89.47 43 P **P 18 16 46.2 +4.7**
KZIT Kziot 89.48 27 ⇓P P 18 16 46.6 +5.2
PTAC Punta Ardita, 89.90 282 *e*P **P 18 16 47.0 +3.2**
KEST Kesra 90.05 6 P **P 18 16 46.4 +2.4**
comp=Z,8.2nm,1.0s,baz=207,slow=5.5,SNR=5.4
KEST LR LR 18 56 36.5
comp=Z,3µm,18.3s,baz=125,slow=35
comp=Z,8.2nm,1.0s
ARGC Ariguani, Magd 90.09 287 *e*P **P 18 16 48.9 +4.2**
GHAJ Ghor Haditha 90.18 28 IAMs_20 IAMs_20 18 54 41.7
comp=Z,9µm,19.0s
BSY Bisya 90.24 49 P P 18 16 53.2 +8.0
SNR=5.6
BSY P P 18 16 53.2 +8.0
SNR=5.6
CRJC Cerrejon, Guaj 90.29 289 *e*P **P 18 16 46.0 +0.3**
SAKB Bahrain 90.31 42 P P 18 16 52.8 +7.5
JMDO Jabal Madar 90.31 50 P P 18 16 50.4 +4.9
JMDO P P 18 16 50.4 +4.9
JRN Qarnain Island 90.32 45 P **P 18 16 47.7 +2.2**
URIC Uribia, Colomb 90.36 290 *e*P **P 18 16 45.5 -0.4**
SHMA Al-Shehemyia 90.37 43 P **P 18 16 46.7 +1.0**
OUZ Omahuta 90.39 173 IAMs_20 IAMs_20 18 58 13.8
comp=Z,9µm,18.0s
ARQ Araqi 90.46 48 P P 18 16 52.2 +6.0
ARQ P P 18 16 52.2 +6.0
SJCC San Jacinto, C 90.65 286 *e*P **P 18 16 48.1 +0.8**
ALNE Al Ain 90.75 47 P **P 18 16 51.9 +4.3**
ALNE P **P 18 16 51.9 +4.3**
AJN Ajban 90.87 47 P P 18 16 55.0 +7.0
SMDO Samad 90.89 50 P P 18 16 55.0 +6.6
SMDO P P 18 16 55.0 +6.6
WBK Wadi Bani Khal 90.91 51 P P 18 16 53.3 +5.0
SMRT St. Maarten 90.93 300 P **P 18 16 46.5 -2.0**
HOQ Hoqain 91.02 49 P P 18 16 56.6 +7.8
HOQ P P 18 16 56.6 +7.8
ASUD Al Ashush, Dub 91.08 47 P P 18 16 54.8 +5.9
SMRC Santa Marta, M 91.15 288 *e*P **P 18 16 51.4 +1.7**
SOHO SOHO 91.16 48 P P 18 16 55.3 +5.9
SOHO P P 18 16 55.3 +5.9
ASHO Ashiyiah 91.44 47 P **P 18 16 55.2 +4.5**
ASHO P **P 18 16 55.2 +4.5**
ARMA Armidale 91.49 154 P **P 18 16 49.4 -1.9**
HATD Hatta, Dubai 91.59 47 P **P 18 16 55.8 +4.4**
HATD P **P 18 16 55.8 +4.4**
CART Cartagena 91.71 358 IAMs_20 IAMs_20 18 53 41.3
comp=Z,5µm,20.0s
UOSS Minazif 91.73 47 P P 18 16 58.4 +6.3
MMAI Mount Meron Ar 91.75 28 P **P 18 16 55.0 +3.0**
comp=Z,7.7nm,1.0s,baz=216,slow=14,SNR=3.0
MMAI LR LR 18 56 12.0
comp=Z,10µm,20.5s,baz=169,slow=34
comp=Z,7.7nm,1.0s
MORF Marmelete 91.86 351 *e*P P 18 17 12.6 +20
comp=Z,134nm,1.5s
MORF Marmelete 91.86 351 IAMs_20 IAMs_20 18 52 44.3
comp=Z,7µm,20.0s
ASAR Alice Springs 91.91 137 P **P 18 16 55.0 +1.8**
comp=Z,14nm,1.1s,baz=202,slow=4.6,SNR=23
ASAR PKKPbc **PKKPbc 18 34 13.6 +5.7**
comp=Z,0.8nm,0.9s,baz=26,slow=2.4,SNR=7.4
ASAR LR LR 18 51 43.5
comp=Z,8µm,21.4s,baz=206,slow=31
comp=Z,14nm,1.1s
PCVE Castro Verde 92.13 352 *e*P P 18 17 13.4 +20
comp=Z,65nm,1.4s
VAE Valguarnera 92.19 10 LR LR 18 54 49.2
comp=Z,4µm,20.5s,baz=171,slow=33
KARP Karpathos 92.22 20 IAMs_20 IAMs_20 19 00 17.6
comp=Z,5µm,19.0s
MESJ Messejana 92.35 352 *e*P P 18 17 09.8 +15
comp=Z,80nm,1.7s
MESJ Messejana 92.35 352 IAMs_20 IAMs_20 18 52 53.4
comp=Z,5µm,21.0s
PBEJ Beja 92.51 352 *e*P P 18 17 11.1 +16
comp=Z,49nm,2.0s
CGJI Cibinong 92.53 105 P **P 18 16 59.7 +3.6**
comp=Z,55nm,1.3s,comp=Z,1µm
SJG San Juan 92.55 298 P **P 18 16 53.8 -2.2**
SJG San Juan 92.55 298 P P 18 16 53.8 -2.2
SJG pmax pmax
comp=Z,36nm,1.3s
SJG MLR MLR
comp=Z,13µm,21.0s
SJG San Juan 92.55 298 *e* P 18 16 49.2 -6.8
SJG San Juan 92.55 298 LR LR 18 54 20.7
comp=Z,12µm,21.4s,baz=150,slow=33
PBAR Barrancos 92.59 353 *e*P P 18 17 11.2 +16
comp=Z,42nm,1.5s
PNCL Nicolau / Gran 92.65 352 *e*P P 18 17 11.6 +16
comp=Z,41nm,1.4s
SHME Shamm 92.67 47 P **P 18 16 59.1 +2.7**
BCIP Isla Barro Col 92.69 282 IAMs_20 IAMs_20 18 55 27.1
comp=Z,8µm,20.0s

QLP	**Quilpie**	**92.97**	**147**		P		**P**	18 17 00.7	+2.7	
	baz=93,SNR=4.9									
QLP	**Quilpie**	**92.97**	**147**	⇓	P		P	18 17 04.4	+6.4	
JASK	**Jask - Hormozg**	**93.26**	**48**		P		P	18 17 04.9	+5.8	
PESTR	**Estremoz**	**93.32**	**352**		A		A	18 53 50.2		
	comp=Z,5µm,22.0s									
PESTR	**Estremoz**	**93.32**	**352**		IAMs_20		IAMs_20	18 52 55.1		
	comp=Z,6µm,22.0s									
APE	**Apeiranthos**	**93.38**	**19**	*i*	P		**P**	18 16 57.0	-2.4	
APE					pmax		pmax			
	comp=Z,50nm,1.3s									
LEM	**Lembang**	**93.43**	**107**		LR		LR	18 49 29.0		
	comp=Z,6µm,21.1s,baz=210,slow=29									
PMTG	**Montargil**	**93.57**	**352**	*e*	P		P	18 17 19.9	+20	
	comp=Z,59nm,1.7s									
PAB	**San Pablo**	**93.79**	**355**		IAMs_20		IAMs_20	18 54 17.4		
	comp=Z,6µm,21.0s									
PMRV	**Marv??o**	**93.86**	**353**	*e*	P		P	18 17 13.4	+12	
ESDC	**Sonseca Array**	**93.90**	**355**		P		**P**	18 17 04.5	+2.8	
	comp=Z,6.9nm,1.1s,baz=180,slow=4.5,SNR=16									
ESDC					LR		LR	18 54 23.6		
	comp=Z,4µm,21.8s,baz=174,slow=32									
	comp=Z,6.9nm,1.1s									
AGG	**Agios Georgios**	**94.73**	**16**	⇑	P		**P**	18 17 10.2	+4.7	
SRBA	**San Rafael, Bu**	**94.77**	**279**		IAMs_20		IAMs_20	18 58 01.8		
	comp=Z,6µm,20.0s									
MTE	**Manteigas**	**94.84**	**353**		IAMs_20		IAMs_20	18 54 20.3		
	comp=Z,6µm,20.0s									
WRA	**Warramunga Arr**	**95.42**	**136**		P		**P**	18 17 12.7	+3.3	
	comp=Z,3.2nm,1.2s,baz=206,slow=4.0,SNR=8.4									
WRA					PP		**PP**	18 21 03.1	+3.9	
	comp=Z,3.1nm,1.1s,baz=214,slow=6.5,SNR=5.0									
WRA					PKKPbc		**PKKPbc**	18 34 04.2	+5.4	
	comp=Z,2.0nm,1.0s,baz=18,slow=2.6,SNR=9.7									
	comp=Z,3.2nm,1.2s									
RIMA	**Rio Macho**	**95.49**	**279**		IAMs_20		IAMs_20	18 58 52.9		
	comp=Z,6µm,20.0s									
BKNI	**Bangkinang**	**95.51**	**97**		IAMs_20		IAMs_20	18 50 56.6		
	comp=Z,6µm,20.0s									
HDC	**Heredia**	**95.82**	**279**		IAMs_20		IAMs_20	18 59 20.7		
	comp=Z,6µm,19.0s									
JACO	**JACO, Garabito**	**95.87**	**278**		IAMs_20		IAMs_20	18 59 26.9		
	comp=Z,6µm,20.0s									
SDDR	**Presa de Saban**	**95.97**	**294**		IAMs_20		IAMs_20	18 55 46.6		
	comp=Z,9µm,21.0s									
EIDS	**Eidsvold**	**96.15**	**152**		P		**P**	18 17 09.6	-3.0	
GAZ	**Gaziantep**	**96.15**	**28**		IAMs_20		IAMs_20	18 57 57.0		
	comp=Z,8µm,21.0s									
HYB	**Hyderabad**	**96.40**	**69**	*e*	P		**P**	18 17 11.1	-2.6	
HYB				*e*	PP		**PP**	18 21 04.6	-3.1	
HYB				*e*	SKSac		**SKSac**	18 27 46.8	-3.5	
HYB				*e*	PS		**PS**	18 29 52.4	-2.4	
RAO	**Raoul Island**	**96.64**	**180**		IAMs_20		IAMs_20	18 58 26.6		
	comp=Z,9µm,21.0s									
RAO	**Raoul Island**	**96.64**	**180**		LR		LR	19 00 09.2		
	comp=Z,6µm,18.0s,baz=172,slow=35									
TIR	**Tirane**	**96.65**	**13**		IAMs_20		IAMs_20	18 57 00.7		
	comp=Z,5µm,22.0s									
GUMA	**Gualdo di Mace**	**97.62**	**8**		IAMs_20		IAMs_20	18 59 50.6		
	comp=Z,2µm,19.0s									
BR131	**Keskin Array S**	**97.66**	**24**	*i*	P		**P**	18 17 18.9	-0.1	
BRTR	**Keskin Array B**	**97.66**	**24**		P		Pdif	18 17 21.8	+2.7	
	comp=Z,3.3nm,0.9s,baz=193,slow=5.1,SNR=9.7									
BRTR					PP		**PP**	18 21 14.9	-2.5	
	comp=Z,1.3nm,0.8s,baz=197,slow=3.9,SNR=4.2									
	comp=Z,3.3nm,0.9s									
ARPR	**Arapgir-MALATY**	**98.26**	**28**		IAMs_20		IAMs_20	19 00 17.7		
	comp=Z,5µm,20.0s									
MYKOM	**Kota Tinggi**	**98.32**	**99**		IAMs_20		IAMs_20	18 53 36.9		
	comp=Z,6µm,20.0s									
TBI	**Tubuai**	**98.72**	**206**	*e*	P		Pdif	18 17 28.8	+4.6	
	comp=Z,359nm,22.2s									
TBI	**Tubuai**	**98.72**	**206**	*e*	PP		PP	18 21 08.1	-16	
	comp=Z,3µm,30.2s									
TBI				*e*	S		S	18 29 05.8	+12	
	comp=Z,14µm,34.5s									
TBI				*e*	SS		SS	18 35 54.6	+17	
	comp=Z,30µm,30.5s									
TBI				*e*	LQ		LQ	18 45 08.6		
	comp=Z,59µm,35.5s									
TBI				*e*	LR		LR	18 49 22.0		
	comp=Z,70µm,39.5s									
TBI				*e*	LR		LR	18 49 25.2		
	comp=Z,11µm,40.5s									
ZCCA	**Zocca**	**98.73**	**6**		IAMs_20		IAMs_20	18 55 17.8		
	comp=Z,8µm,20.0s									
MTDJ	**Mount Denham**	**98.74**	**289**		IAMs_20		IAMs_20	19 00 32.6		
	comp=Z,8µm,19.0s									
GTBY	**Guantanamo Bay**	**98.79**	**292**		IAMs_20		IAMs_20	18 58 38.7		
	comp=Z,8µm,20.0s									
GURO	**Guroymak-BITLI**	**98.81**	**31**		P		**P**	18 17 23.6	-0.6	
CTAO	**Charters Tower**	**99.67**	**146**		IAMs_20		IAMs_20	19 02 00.7		
	comp=Z,8µm,19.0s									
PBA	**Port Blair**	**99.79**	**84**		IAMs_20		IAMs_20	18 59 26.6		
	comp=Z,6µm,18.0s									
SOEI	**Soe**	**99.81**	**122**		IAMs_20		IAMs_20	18 54 43.9		
	comp=Z,10µm,22.0s									
TIRR	**Tirgusor**	**101.07**	**19**		IAMs_20		IAMs_20	18 59 40.2		
	comp=Z,6µm,22.0s									
DAVOX	**Davos/Dischmat**	**101.08**	**5**		P		**Pdif**	18 17 36.9	+2.7	
	comp=Z,2.0nm,0.8s,baz=180,slow=20,SNR=1.7									
GNI	**Garni**	**101.10**	**32**		IAMs_20		IAMs_20	19 00 54.2		
	comp=Z,5µm,20.0s									
MLR	**Muntele Rosu**	**101.63**	**17**		PP		**PP**	18 21 48.2	+0.7	
	comp=Z,1.1nm,0.5s,baz=268,slow=4.2,SNR=4.1									
SNET	**Serv Nac Est T**	**101.74**	**277**		IAMs_20		IAMs_20	19 01 20.2		
	comp=Z,5µm,20.0s									
DZM	**Mont Dzumac**	**102.61**	**165**	*e*	P		**Pdif**	18 17 42.6	+0.9	
	comp=Z,200nm,26.4s									
DZM	**Mont Dzumac**	**102.61**	**165**	*e*	PP		**PKiKP**	18 21 59.3	-3.3	
	comp=Z,798nm,24.5s									
DZM	**Mont Dzumac**	**102.61**	**165**	*e*	SS		SS	18 36 44.3	+12	
	comp=Z,19µm,27.4s									
DZM	**Mont Dzumac**	**102.61**	**165**	*e*	LR		LR	18 51 16.7		
	comp=Z,29µm,23.6s									
SOC	**Sochi**	**102.82**	**27**	*e*	P		**Pdif**	18 17 41.3	-0.4	
SOC				*e*				18 21 53.8		
GERES	**GERESS Array B**	**103.40**	**8**		PP		**PKiKP**	18 22 02.4	-0.6	
	comp=Z,0.9nm,0.3s,baz=162,slow=13,SNR=1.1									
CKRC	**Cesky Krumlov**	**103.42**	**8**	*e*	PS		PS	18 31 09.4	-0.1	
MILM	**Milestii Mici**	**103.52**	**19**	*e*	PP		**PKiKP**	18 22 03.0	-0.2	
MILM	**Milestii Mici**	**103.52**	**19**	*e*	PS		PS	18 31 12.0	+1.5	
KIS	**Kishinev**	**103.59**	**18**	*e*	PP		**PKiKP**	18 22 07.0	+3.7	
KIS	**Kishinev**	**103.59**	**18**	*e*	PS		PS	18 31 18.0	+6.7	
KIS				*i*	SS		SS	18 36 39.0	-8.2	
KIS				*e*	L		L	19 01 02.0		
KIS					LQM			19 01 32.0		
	comp=Z,700nm,22.0s									
KIS					LRM		MLR	19 08 14.0		
	comp=Z,500nm,19.0s									
KHC	**Kasperske Hory**	**103.67**	**8**	*e*	PP		**PKiKP**	18 22 05.0	+1.5	
KHC				*e*	SKS		**SKSac**	18 28 30.1	+5.5	
KHC					AMS		AMS	18 55 00.0		
	comp=Z,5µm,26.3s									
JAVC	**Velka Javorina**	**103.78**	**11**	*e*	PP		**PKiKP**	18 22 06.6	+2.9	
KIV	**Kislovodsk**	**103.98**	**29**	*e*	P		**Pdif**	18 17 47.1	+0.1	
KIV				*i*				18 22 04.4		
KIV				*e*				18 28 26.2		
KIV				*e*	PS		**PS**	18 31 14.6	-1.1	
KIV				*e*	SS		SS	18 36 50.6	-2.2	
KIV					pmax		pmax			
	comp=Z,10.0nm,1.1s									
VRAC	**Vranov**	**104.12**	**10**	*e*	PP		**PKiKP**	18 22 06.4	+2.2	
PPT2	**Papeete2**	**104.25**	**208**	*e*	P		**Pdif**	18 17 49.7	+0.7	
	comp=Z,142nm,24.2s									
PPT2	**Papeete2**	**104.25**	**208**	*e*	PP		**PP**	18 22 13.0	+6.8	
	comp=Z,661nm,31.0s									
PPT2				*e*	S		**Sdif**	18 29 42.8	+2.5	
	comp=Z,4µm,27.0s									
PPT2				*e*	SS		**SKKPbc**	18 37 13.6	+1.9	
	comp=Z,8µm,27.2s									
PPT2	**Papeete2**	**104.25**	**208**	*e*	LQ		LQ	18 47 37.9		
	comp=Z,24µm,35.8s									
PPT2				*e*	LR		LR	18 51 49.8		
	comp=Z,16µm,24.8s									
PPT2				*e*	LR		LR	18 52 01.9		
	comp=Z,12µm,25.8s									
COEN	**Coen**	**104.29**	**141**		IAMs_20		IAMs_20	19 07 11.8		
	comp=Z,8µm,20.0s									
MAK	**Makhachkala**	**104.52**	**33**	*e*	P		**Pdif**	18 17 53.8	+4.6	
MAK				*e*				18 22 01.9		
MAK				*e*				18 28 20.6		
MAK				*e*	PS		**PS**	18 31 20.9	-0.1	
MAK				*e*	SS		SS	18 36 52.0	-8.0	
MAK				*e*	SSS		SSS	18 40 53.2		
MAK					pmax		pmax			
	comp=Z,185nm,1.2s									
PRU	**Pruhonice**	**104.60**	**8**	*e*	PS		PS	18 31 23.1	+1.3	
PRU					AMS		AMS	19 01 30.0		
	comp=Z,3µm,21.9s									
MORC	**Moravsky Berou**	**104.68**	**10**	*e*	PP		**PKiKP**	18 22 03.4	-1.9	
KRLC	**Kraliky**	**104.89**	**10**	*e*	PS		PS	18 31 32.3	+7.3	
UPC	**Upice**	**105.25**	**9**	*e*	PS		PS	18 31 29.7	+1.2	
BRG	**Berggiesshubel**	**105.43**	**8**	*e*	PKP		PKiKP	18 21 57.4	-9.2	
BRG					Amp			18 21 59.2		
	comp=Z,3.4nm,0.9s									
CLL	**Collm**	**105.79**	**7**	*e*	PP		**PKiKP**	18 22 10.0	+2.8	
CLL				*es*	PP			18 22 25.0		
CLL				*ex*			x	18 24 00.0		
CLL				*es*	SKSac		sSKSac	18 28 44.0	+5.6	
CLL				*e*	PS		**PS**	18 31 38.0	+3.9	
CLL				*e*	PPS		PPS	18 32 36.0		
CLL				*e*	SS		**SS**	18 37 18.0	+0.8	
CLL				*e*	SSS		SSS	18 40 54.0		
CLL				*ex*			x	18 41 48.0		
CLL	**Collm**	**105.79**	**7**	*e*	P		**Pdif**	18 17 48.0	-6.7	
AKASG	**Malin Array Be**	**107.23**	**18**		PP		**PP**	18 22 27.3	-1.6	
	comp=Z,0.6nm,0.4s,baz=200,slow=6.9,SNR=6.5									
AKASG					PKKPbc		**PKKPbc**	18 33 29.7	+3.8	
	comp=Z,0.1nm,0.3s,baz=16,slow=3.9,SNR=1.1									
CMAR	**Chiang Mai Arr**	**108.79**	**84**		PP		**PP**	18 22 40.0	-0.7	
	comp=Z,1.1nm,0.4s,baz=226,slow=5.4,SNR=8.4									
CMAR					PKKPbc		**PKKPbc**	18 33 23.1	+3.0	
	comp=Z,0.2nm,0.3s,baz=28,slow=4.1,SNR=1.2									
TAOE	**Nuku Hiva Isla**	**109.37**	**220**	*e*	PP		**PP**	18 22 48.3	+4.2	
	comp=Z,345nm,35.0s									
TAOE				*e*	S		**SKKSac**	18 29 53.3	+4.8	
	comp=Z,896nm,27.0s									
TAOE				*e*	SS		**SS**	18 37 58.8	-6.1	
	comp=Z,3µm,24.2s									
TAOE	**Nuku Hiva Isla**	**109.37**	**220**	*e*	LQ		LQ	18 49 24.7		
	comp=Z,19µm,33.2s									
TAOE				*e*	LR		LR	18 54 28.0		
	comp=Z,10µm,29.6s									
PMG	**Port Moresby**	**109.93**	**143**		IAMs_20		IAMs_20	19 07 31.3		
	comp=Z,6µm,19.0s									
TLIG	**Tlapa**	**110.24**	**272**		IAMs_20		IAMs_20	19 05 03.2		
	comp=Z,6µm,20.0s									
SHL	**Shillong**	**110.31**	**74**		IAMs_20		IAMs_20	19 04 10.0		
	comp=Z,5µm,20.0s									
MNK	**Minsk**	**110.67**	**16**	*i*	P		**Pdif**	18 18 16.8	+0.5	
MNK	comp=E,4.0nm,1.1s									
				i	P		**Pdif**	18 18 16.8	+0.5	
MNK	comp=N,20nm,1.0s									
				i	P		**Pdif**	18 18 16.8	+0.5	
MNK	comp=Z,18nm,0.7s,baz=196									
MNK				*i*	PP		**PP**	18 22 53.5	-0.3	
MNK				*i*	PPP		PPP	18 25 12.5		
MNK				*i*	SKS		**SKSac**	18 28 45.2	-10	
MNK				*i*	PS		**PS**	18 32 23.4	+0.1	
MNK				*i*	SS		**SS**	18 38 17.7	-5.3	
MNK				*i*	SSS		SSS	18 42 30.1		
MNK				*i*	LQ		LQ	19 02 14.7		
MNK				*i*	LR		LR	19 07 20.5		
MNK				*i*	LRM		MLR	19 09 24.5		
	comp=Z,524nm,14.1s									
MNK				*i*	LRM		MLR	19 09 28.3		
	comp=E,368nm,19.1s									
MNK				*i*	LRM		MLR	19 09 37.2		
	comp=N,1µm,19.2s									
MNK	**Minsk**	**110.67**	**16**	*i*	P		**Pdif**	18 18 16.8	+0.5	
MNK				*i*				18 22 53.5		
MNK				*i*	PPP		PPP	18 25 12.5		
MNK				*i*	PS		**PS**	18 32 23.3	+0.1	
MNK				*i*	SS		SS	18 38 17.6	-5.4	
MNK				*i*	SSS		SSS	18 42 30.0		
MNK					pmax		pmax			
	comp=E,4.0nm,1.1s									
MNK					pmax		pmax			
	comp=N,20nm,1.0s									
MNK					pmax		pmax			
	comp=Z,18nm,0.6s									
MNK					MLR		MLR			
	comp=Z,524nm,14.0s									
MNK					MLR		MLR			
	comp=E,368nm,19.0s									
MNK					MLR		MLR			
	comp=N,1µm,19.0s									
NACGM	**Naroch**	**110.89**	**15**	*e*	Pdif		**Pdif**	18 18 18.4	+1.1	
	comp=Z,42nm,0.9s,baz=195									
PABE	**Paberze**	**111.07**	**13**		IAMs_20		IAMs_20	19 08 08.3		
	comp=Z,4µm,19.0s									
AFI	**Afiamalu**	**111.70**	**186**		IAMs_20		IAMs_20	19 05 31.4		
	comp=Z,6µm,21.0s									
UNM	**Universidad Na**	**111.98**	**273**		IAMs_20		IAMs_20	19 06 20.7		
	comp=Z,4µm,20.0s									
NHSC	**New Hope**	**112.02**	**296**		IAMs_20		IAMs_20	19 03 21.8		
	comp=Z,6µm,22.0s									
CNNC	**Cliffs of the**	**112.50**	**299**		IAMs_20		IAMs_20	19 04 34.2		
	comp=Z,4µm,21.0s									
KSH	**Kashi**	**112.92**	**54**		PKP		**PKiKP**	18 22 20.4	-0.8	
KSH					LR		LR			
	comp=Z,2µm,17.9s									
KSH					LR		LR			
	comp=Z,970nm,19.9s									
KSH					LR		LR			
	comp=Z,3µm,18.2s									
LSA	**Lhasa**	**113.10**	**71**		IAMs_20		IAMs_20	19 03 58.0		
	comp=Z,4µm,22.0s									
MOIG	**Morelia**	**113.43**	**271**		IAMs_20		IAMs_20	19 05 57.7		
	comp=Z,5µm,20.0s									
TNCH	**TengChong**	**113.66**	**80**	*e*	PKP		**PKiKP**	18 22 25.9	+2.8	
TNCH					AMB		AMB			
	comp=Z,190nm,7.8s									
TNCH					LR		LR			
	comp=Z,690nm,19.8s									
TNCH					LR		LR			
	comp=Z,570nm,21.5s									
TNCH					LR		LR			
	comp=Z,2µm,20.1s									
KONO	**Kongsberg**	**113.92**	**4**		IAMs_20		IAMs_20	19 06 57.1		
	comp=Z,4µm,20.0s									
GOGA	**Godfrey**	**114.00**	**294**		IAMs_20		IAMs_20	19 08 07.1		
	comp=Z,8µm,22.0s									
AAK	**Ala-Archa**	**114.71**	**51**	*i*	PKIKP		PKPdf	18 22 22.4	-2.2	
BLA	**Blacksburg**	**115.32**	**299**		IAMs_20		IAMs_20	19 13 51.6		
	comp=Z,4µm,20.0s									
L61B	**Northampton**	**115.60**	**308**		IAMs_20		IAMs_20	18 59 05.9		
	comp=Z,4µm,19.0s									
QIZ	**Qiongzhong**	**115.60**	**93**		PKP		**PKPdf**	18 22 24.3	-2.5	
QIZ					PP		**PP**	18 23 26.8	-2.4	
QIZ					LR		LR			
	comp=Z,2µm,21.6s									
QIZ					LR		LR			
	comp=Z,2µm,23.3s									
QIZ					LR		LR			
	comp=Z,4µm,35.1s									
KMI	**Kunming**	**116.17**	**83**	⇑	PKP		**PKPdf**	18 22 22.3	-5.7	
KMI					SS		SS	18 39 35.3	-1.6	
KMI					LR		LR			
	comp=Z,2µm,24.8s									
KMI					LR		LR			
	comp=Z,2µm,26.0s									
KMI					LR		LR			
	comp=Z,6µm,43.2s									
TZTN	**Tazewell**	**116.43**	**296**		IAMs_20		IAMs_20	19 11 59.3		
	comp=Z,7µm,19.0s									
ZAIG	**Zacatecas**	**116.63**	**272**		IAMs_20		IAMs_20	19 03 46.6		
	comp=Z,5µm,22.0s									
PZH	**PanZhiHua**	**116.65**	**81**		PKP		**PKiKP**	18 22 29.8	+1.0	
PZH					AMB		AMB			
	comp=Z,260nm,7.2s									
PZH					LR		LR			
	comp=Z,2µm,22.4s									
PZH					LR		LR			
	comp=Z,2µm,20.0s									
PZH					LR		LR			
	comp=Z,2µm,20.8s									
BINY	**Binghamton**	**116.95**	**305**		IAMs_20		IAMs_20	19 07 31.1		
	comp=Z,7µm,22.0s									
KVTX	**Kingsville**	**117.57**	**279**		IAMs_20		IAMs_20	19 11 51.5		
	comp=Z,5µm,20.0s									
PLAL	**Pickwick Lake**	**117.66**	**292**		IAMs_20		IAMs_20	19 11 18.7		
	comp=Z,5µm,20.0s									
O53A	**New Philadelph**	**118.03**	**301**		IAMs_20		IAMs_20	19 08 42.2		
	comp=Z,6µm,22.0s									
P52A	**Corning**	**118.03**	**300**		IAMs_20		IAMs_20	19 06 57.4		
	comp=Z,7µm,22.0s									
HKT	**Hockley**	**118.21**	**283**		IAMs_20		IAMs_20	19 12 10.3		
	comp=Z,4µm,22.0s									
WVT	**Waverly**	**118.39**	**293**		IAMs_20		IAMs_20	19 07 47.8		
	comp=Z,5µm,22.0s									
M53A	**WI Miller and**	**118.66**	**302**		IAMs_20		IAMs_20	19 10 17.6		
	comp=Z,6µm,22.0s									
KLMR	**Klimovskoe**	**118.75**	**20**	*e*	PKPdf		**PKPdf**	18 22 31.4	-0.1	
KLMR					AMP			18 22 48.5		
	comp=Z,28nm,1.5s									
KLMR				*e*	PP		**PP**	18 23 48.6	-2.2	
KLMR					SKP			18 26 06.7		
KLMR					PS		**PKKPdf**	18 33 19.3	+1.6	
KLMR					PS		**PKKPdf**	18 33 19.3	+1.6	
KLMR					SP		SP	18 33 28.6	-6.9	
KLMR					SS		**SS**	18 40 05.6	-3.7	
KLMR					SS		**SS**	18 40 05.6	-3.7	
KLMR					LQ		LQ	19 01 40.3		
KLMR					LQ		LQ	19 01 40.3		
KLMR					LR		LR	19 06 39.0		
KLMR					AMP			19 09 15.0		
	comp=Z,3µm,25.7s									
KLMR	**Klimovskoe**	**118.75**	**20**	*e*	PKIKP		**PKPdf**	18 22 31.4	-0.1	
KLMR				*e*				18 23 48.6		
KLMR					SP		SP	18 33 28.5	-7.0	
KLMR					SS		**SS**	18 40 05.5	-3.7	
KLMR					pmax		pmax			
	comp=Z,28nm,1.5s									
ERPA	**Erie**	**118.83**	**303**		IAMs_20		IAMs_20	19 09 46.0		
	comp=Z,5µm,22.0s									
NATX	**Nacogdoches**	**118.90**	**285**		IAMs_20		IAMs_20	19 09 11.1		
	comp=Z,4µm,22.0s									
ACSO	**Alum Creek Sta**	**118.91**	**299**		IAMs_20		IAMs_20	19 07 23.7		
	comp=Z,6µm,21.0s									
KIRV	**Kirov**	**118.98**	**26**	*i*	PKIKP		**PKPdf**	18 22 30.4	-1.6	
WCI	**Wyandotte Cave**	**119.14**	**296**		IAMs_20		IAMs_20	19 09 46.0		
	comp=Z,4µm,22.0s									
P49A	**Miami Univ. Ec**	**119.28**	**298**		IAMs_20		IAMs_20	19 14 23.7		
	comp=Z,6µm,20.0s									
GYA	**Guiyang**	**119.47**	**85**		PKP		**PKiKP**	18 22 34.9	+0.6	
GYA					PP		**PP**	18 23 57.6	+1.2	
GYA					SKS		**SKSdf**	18 29 42.0	-4.2	
GYA					SKKS		**SKKSac**	18 30 53.4	-2.7	
GYA					AMB		AMB			
	comp=Z,240nm,13.5s									
GYA					LR		LR			
	comp=Z,1µm,16.8s									
GYA					LR		LR			
	comp=Z,1µm,18.4s									
GYA					LR		LR			
	comp=Z,2µm,17.1s									
ARU	**Arti**	**119.74**	**32**	*i*	PKIKP		**PKPdf**	18 22 31.7	-1.9	
ARU								18 23 52.4		
ARU								18 29 43.7		
ARU					MLR		MLR			
	comp=Z,2µm,22.0s									
435B	**Jarrell**	**119.83**	**282**		IAMs_20		IAMs_20	19 11 52.0		
	comp=Z,5µm,22.0s									
GOMU	**GeErMu**	**120.02**	**69**		PKP		PKiKP	18 22 45.1	+10	
GOMU					pPKP		PP	18 23 25.5	-35	
GOMU					sPKP			18 24 06.9		
GOMU					SKS		**SKSdf**	18 29 42.1	-5.2	
GOMU	**GeErMu**	**120.02**	**69**		SS		SS	18 40 13.3	-14	
GOMU					AMB		AMB			
	comp=Z,150nm,7.3s									
GOMU					LR		LR			
	comp=N,1µm,17.7s									
GOMU					LR		LR			
	comp=E,610nm,15.3s									
GOMU					LR		LR			
	comp=Z,2µm,17.7s									
O48B	**Farmland**	**120.05**	**298**		IAMs_20		IAMs_20	19 08 33.8		
	comp=Z,7µm,22.0s									
HKPS	**Hong Kong Po S**	**120.63**	**94**		IAMs_20		IAMs_20	19 06 10.9		
	comp=Z,4µm,21.0s									
SVE	**Sverdlovsk**	**120.72**	**33**	*i*	PKIKP		**PKiKP**	18 22 42.7	+7.2	
SVE				*e*				18 40 49.0		
SVE					pmax		pmax			
	comp=Z,16nm,1.5s									
SVE					MLR		MLR			
	comp=Z,4µm,23.0s									
PRGR	**Permogore**	**120.75**	**23**	*e*	PKIKP		**PKiKP**	18 22 41.6	+6.2	
PRGR					pmax		pmax			
	comp=Z,17nm,1.1s									
AAM	**Ann Arbor**	**120.79**	**301**		IAMs_20		IAMs_20	19 10 38.1		
	comp=Z,6µm,21.0s									
JCT	**Junction City**	**120.87**	**280**		IAMs_20		IAMs_20	19 14 15.9		
	comp=Z,4µm,22.0s									
BRVK	**Borovoye**	**121.11**	**41**	*i*	PKIKP		**PKPdf**	18 22 33.9	-2.4	
BVAR	**Borovoye Array**	**121.12**	**41**		PKP		**PKPdf**	18 22 36.5	+0.1	
	comp=Z,2.8nm,0.6s,baz=147,slow=2.9,SNR=9.5									
BVAR					PKKPbc		**PKKPbc**	18 32 42.3	+4.1	
	comp=Z,2.1nm,0.8s,baz=46,slow=3.2,SNR=6.6									
CD2

DGZ **Jazzator, Alta** 125.94 53 *i* PKIKP **PKPdf** 18 22 45.8 -0.1
DGZ MLR MLR
comp=Z,3µm,21.0s
DY2G **Dye2** 125.99 338 *i* P **PKiKP** 18 22 46.7 +0.7
XAN **Xi'an** 126.38 81 PKP **PKiKP** 18 22 55.3 +7.7
XAN pPKP PP 18 24 36.4 -6.6
XAN PP **PP** 18 24 47.5 +4.5
XAN SKS 18 31 17.1
XAN **Xi'an** 126.38 81 SS SS 18 41 29.8 -17
XAN AMB AMB
comp=Z,370nm,10.3s
XAN LR LR
comp=N,3µm,22.8s
XAN LR LR
comp=E,1µm,21.1s
XAN LR LR
comp=Z,4µm,22.3s
ICESG **Greenland Ices** 126.95 343 *i* P **PKiKP** 18 22 48.2 +0.2
121A **Cookes Peak, D** 127.00 276 IAMs_20 IAMs_20 19 11 35.7
comp=Z,6µm,22.0s
WHN **Wuhan** 127.00 88 PKP **PKiKP** 18 22 51.3 +2.5
WHN LR LR
comp=Z,12µm,33.0s
319A **Douglas** 127.03 274 IAMs_20 IAMs_20 19 18 45.7
comp=Z,4µm,19.0s
SFJD **Kangerlussuaq** 127.39 337 PKP **PKiKP** 18 22 51.7 +3.3
comp=Z,7.8nm,0.8s,baz=151,slow=9.6,SNR=2.2
Y22D **IRIS PASSCAL I** 127.60 278 IAMs_20 IAMs_20 19 16 31.6
comp=Z,5µm,19.0s
ZALV **Zalesovo Beam** 127.69 48 PKP **PKiKP** 18 22 52.1 +2.7
comp=Z,1.1nm,0.6s,baz=284,slow=1.2,SNR=4.6
ZALV SKKPbc SKKPbc 18 36 11.0 +5.4
comp=Z,0.7nm,0.8s,baz=243,slow=0.3,SNR=4.0
ANMO **Albuquerque** 127.96 279 IAMs_20 IAMs_20 19 17 10.6
comp=Z,4µm,20.0s
ANMO **Albuquerque** 127.96 279 *i* PKIKP **PKPdf** 18 22 49.5 -0.8
ECSD **EROS Data Cent** 128.53 294 IAMs_20 IAMs_20 19 13 45.1
comp=Z,3µm,20.0s
TUC **Tucson** 128.58 273 IAMs_20 IAMs_20 19 15 20.0
comp=Z,4µm,22.0s
EYMN **Ely** 128.69 301 IAMs_20 IAMs_20 19 21 07.5
comp=Z,5µm,19.0s
EYMN **Ely** 128.69 301 ⇑P **Pdif** 18 19 33.5 -3.2
LYN **LuoYang** 128.80 83 ⇑PKP PKiKP 18 23 00.8 +8.5
LYN PP PP 18 25 10.5 +12
LYN **LuoYang** 128.80 83 SS SS 18 42 09.6 -7.4
LYN AMB AMB
comp=Z,580nm,5.5s
DBG **Daneborg** 129.35 352 *i* P **PKiKP** 18 22 52.9 +0.7
DBG IAmb IAmb 18 23 10.9
comp=Z,8.0nm,0.9s
SDCO **Great Sand Dun** 129.37 282 IAMs_20 IAMs_20 19 17 10.7
comp=Z,6µm,22.0s
OGNE **Ogallala** 129.61 288 IAMs_20 IAMs_20 19 16 49.3
comp=Z,5µm,21.0s
X18A **Snowflake** 129.68 276 IAMs_20 IAMs_20 19 14 12.9
comp=Z,4µm,22.0s
SUMG **Summit** 129.82 345 *i* P **PKiKP** 18 22 54.1 +0.4
W18A **Petrified Fore** 129.98 277 IAMs_20 IAMs_20 19 21 22.5
comp=Z,4µm,19.0s
X16A **Lo Mia Camp, P** 130.47 275 IAMs_20 IAMs_20 19 14 02.9
comp=Z,5µm,22.0s
BRIGG **Briggsdale** 130.64 286 IAMs_20 IAMs_20 19 19 19.9
comp=Z,5µm,20.0s
MVCO **Mesa Verde** 130.72 279 IAMs_20 IAMs_20 19 20 59.4
comp=Z,6µm,20.0s
MVCO **Mesa Verde** 130.72 279 ⇑P **Pdif** 18 19 40.4 -5.9
NJ2 **Nanjing** 130.72 90 *e*PKP **PKPdf** 18 22 55.1 -0.3
NJ2 AMB AMB
comp=Z,310nm,4.7s
NJ2 LR LR
comp=Z,2µm,21.8s
NJ2 LR LR
comp=Z,2µm,20.8s
NJ2 LR LR
comp=Z,3µm,24.0s
ISCO **Idaho Springs** 130.84 284 IAMs_20 IAMs_20 19 17 51.4
comp=Z,6µm,21.0s
Y14A **Wickenburg** 131.04 273 IAMs_20 IAMs_20 19 13 56.2
comp=Z,3µm,21.0s
AGMN **Agassiz Nation** 131.14 299 IAMs_20 IAMs_20 19 22 50.5
comp=Z,4µm,19.0s
AGMN **Agassiz Nation** 131.14 299 ⇑P **Pdif** 18 19 58.9 +11
CPBX **Cerro Prieto** 131.30 270 IAMs_20 IAMs_20 19 14 32.2
comp=Z,3µm,21.0s
ESJX **Sierra Juarez** 131.37 269 IAMs_20 IAMs_20 19 15 45.3
comp=Z,3µm,21.0s
SSE **Sheshan** 131.39 93 PKP **PKPdf** 18 22 53.4 -3.3
SSE PP **PP** 18 25 20.1 +4.4
SSE SS SS 18 42 43.8 -5.0
SSE AMB AMB
comp=Z,130nm,4.0s
SSE LR LR
comp=Z,460nm,19.0s
SSE LR LR
comp=Z,860nm,19.5s
BTO **Baotou** 131.57 75 *e*PKP **PKPdf** 18 22 54.0 -2.9
BTO PP **PP** 18 25 18.6 +1.6
BTO LR LR
comp=Z,2µm,18.6s
BTO LR LR
comp=Z,3µm,18.6s
BTO LR LR
comp=Z,2µm,22.8s
DAG **Danmarks Havn** 131.62 354 *i* P **PKiKP** 18 23 00.3 +3.6
PHWY **Pilot Hill** 131.76 286 IAMs_20 IAMs_20 19 19 48.6
comp=Z,4µm,21.0s
YUH **Yuha Desert** 131.82 269 IAMs_20 IAMs_20 19 13 35.1
comp=Z,3µm,22.0s
RMX **La Rumorosa** 131.88 269 IAMs_20 IAMs_20 19 12 02.0
comp=Z,3µm,21.0s
HNS **HongShan** 132.08 82 *e*PKP **PKPdf** 18 22 56.9 -0.9
HNS PP **PP** 18 25 22.8 +2.7
HNS PKS **PKSdf** 18 26 30.8 -3.3
HNS LR LR
comp=Z,730nm,17.6s
HNS LR LR
comp=Z,1µm,21.1s
HNS LR LR
comp=Z,2µm,22.6s
BAR **Barrett** 132.28 269 IAMs_20 IAMs_20 19 14 03.4
comp=Z,3µm,22.0s
U15A **North Rim** 132.38 276 IAMs_20 IAMs_20 19 19 53.1
comp=Z,4µm,22.0s
ULM **Lac du Bonnet** 132.38 301 PKP **PKiKP** 18 23 00.8 +1.7
comp=Z,2.4nm,0.7s,baz=172,slow=19,SNR=1.9
HHC **Hu-ho-hao-te** 132.61 76 *e*PKP **PKPdf** 18 22 53.8 -5.0
HHC SS SS 18 43 02.1 -1.9
HHC LR LR
comp=Z,2µm,19.9s
HHC LR LR
comp=Z,3µm,20.6s
HHC LR LR
comp=Z,4µm,19.9s
TIA **Tai'an** 132.67 85 ‖PKP PKiKP 18 23 08.5 +8.4
109C **Camp Elliot, M** 132.69 269 IAMs_20 IAMs_20 19 09 41.1
comp=Z,3µm,22.0s
PMD **Palm Desert** 132.81 270 IAMs_20 IAMs_20 19 12 58.1
comp=Z,3µm,19.0s
RWWY **Rawlins** 133.01 285 IAMs_20 IAMs_20 19 20 40.6
comp=Z,6µm,20.0s
KNB **Kanab** 133.09 276 IAMs_20 IAMs_20 19 23 26.0
comp=Z,3µm,20.0s
LCMT **Little Creek M** 133.33 276 IAMs_20 IAMs_20 19 20 10.4
comp=Z,4µm,21.0s
SZCU **Shurtz Canyon** 133.64 276 **PKPdf** 18 22 57.5 -3.6
SZCU IAMs_20 IAMs_20 19 20 08.5
comp=Z,5µm,22.0s
CCUT **Cedar City** 133.77 276 IAMs_20 IAMs_20 19 23 36.0
comp=Z,4µm,19.0s
ZAK **Zakamensk** 134.15 61 *e*PKIKP **PKiKP** 18 23 05.2 +2.5
ZAK pmax pmax
comp=Z,13nm,1.7s
SONM **Songino Array** 134.22 66 PKP **PKiKP** 18 23 03.8 +0.8
comp=Z,0.8nm,0.7s,baz=222,slow=1.9,SNR=4.9
SONM PP **PP** 18 25 35.5 +1.6
comp=Z,0.6nm,0.7s,baz=215,slow=4.8,SNR=1.8
ULN **Ulaanbaatar** 134.59 66 *i* PKIKP **PKPdf** 18 23 01.9 -0.5
PRN **Pahroc Range** 134.65 275 IAMs_20 IAMs_20 19 18 50.5
comp=Z,5µm,22.0s
QSM **Queen of Sheba** 134.72 272 IAMs_20 IAMs_20 19 20 30.6
comp=Z,3µm,21.0s
GWY **Greenwater Val** 134.76 272 IAMs_20 IAMs_20 19 21 27.6
comp=Z,3µm,19.0s
CCAC **Calif City Air** 134.82 270 IAMs_20 IAMs_20 19 24 45.6
comp=Z,4µm,20.0s

PDAR **Pinedale Array** 135.03 284 PKhKP PKPpre 18 22 58.4
comp=Z,0.5nm,0.7s,baz=188,slow=9.0,SNR=3.6
PDAR PKP **PKiKP** 18 23 04.4 -0.6
comp=Z,2.0nm,0.9s,baz=126,slow=3.8,SNR=8.9
PDAR PP **PP** 18 25 38.4 -0.9
comp=Z,1.0nm,1.0s,baz=108,slow=4.8,SNR=2.1
PDAR SKKPbc SKKPbc 18 35 27.9 -10
comp=Z,0.6nm,0.9s,baz=17,slow=1.5,SNR=4.0
BW06 **Boulder Array** 135.03 284 IAMs_20 IAMs_20 19 19 26.2
comp=Z,6µm,21.0s
TPNV **Topopah Spring** 135.04 273 IAMs_20 IAMs_20 19 21 23.8
comp=Z,3µm,21.0s
S11A **Rachel** 135.22 274 IAMs_20 IAMs_20 19 21 49.5
comp=Z,3µm,21.0s
DUG **Dugway, Tooele** 135.22 279 IAMs_20 IAMs_20 19 21 03.9
comp=Z,6µm,22.0s
HWUT **Hardware Ranch** 135.43 282 IAMs_20 IAMs_20 19 21 01.0
comp=Z,5µm,20.0s
BCW **Bitter Crk WRg** 135.49 269 IAMs_20 IAMs_20 19 13 10.3
comp=Z,4µm,20.0s
DGMT **Dagmar** 135.61 294 IAMs_20 IAMs_20 19 18 37.3
comp=Z,6µm,22.0s
Q12A **Willow Creek R** 135.62 277 IAMs_20 IAMs_20 19 22 49.0
comp=Z,5µm,21.0s
LAO **LASA Array** 135.63 291 IAMs_20 IAMs_20 19 18 53.2
comp=Z,4µm,20.0s
NEEM **North Greenlan** 135.68 345 *i* P **PKiKP** 18 23 08.4 +3.0
GRAC **Grapevine Rang** 135.72 273 IAMs_20 IAMs_20 19 22 15.0
comp=Z,4µm,19.0s
AHID **Auburn Hatcher** 135.91 283 IAMs_20 IAMs_20 19 20 15.5
comp=Z,4µm,21.0s
SNOW **Snow King Moun** 136.15 284 IAMs_20 IAMs_20 19 22 43.8
comp=Z,4µm,20.0s
LOHW **Long Hollow** 136.16 285 IAMs_20 IAMs_20 19 21 38.0
comp=Z,3µm,21.0s
NOR **Nord** 136.19 356 *i* P **PKiKP** 18 23 09.7 +3.8
TPAW **Teton Pass** 136.28 284 IAMs_20 IAMs_20 19 22 19.3
comp=Z,4µm,21.0s
MOOW **Moose Ponds** 136.32 285 PKPdf **PKPdf** 18 23 02.5 -3.3
MOOW IAMs_20 IAMs_20 19 21 34.4
comp=Z,4µm,21.0s
RLMT **Red Lodge** 136.35 287 IAMs_20 IAMs_20 19 18 10.7
comp=Z,4µm,21.0s
FXWY **Fox Creek** 136.41 284 IAMs_20 IAMs_20 19 22 20.8
comp=Z,3µm,20.0s
FLWY **Flagg Ranch** 136.51 285 IAMs_20 IAMs_20 19 22 11.2
comp=Z,5µm,21.0s
IMW **Indian Meadow** 136.53 285 IAMs_20 IAMs_20 19 21 39.8
comp=Z,5µm,21.0s
Q09A **Carvers** 136.85 275 IAMs_20 IAMs_20 19 25 18.8
comp=Z,5µm,20.0s
ELK **Elko** 136.98 278 IAMs_20 IAMs_20 19 22 33.5
comp=Z,4µm,20.0s
OMMB **Old Mammoth Mi** 137.09 272 IAMs_20 IAMs_20 19 23 11.5
comp=Z,6µm,22.0s
DL2 **Dalian** 137.12 86 *e*PKP **PKPdf** 18 23 04.5 -2.6
DL2 *e*PP **PP** 18 25 51.1 -0.9
DL2 SS SS 18 43 57.3 -0.6
DL2 AMB AMB
comp=Z,220nm,7.5s
DL2 LR LR
comp=Z,2µm,30.0s
DL2 LR LR
comp=Z,1µm,24.6s
DL2 LR LR
comp=Z,4µm,35.0s
XLT **XiLinHaoTe** 137.13 76 *e*PKP PKiKP 18 23 17.6 +8.6
XLT PP PP 18 26 14.9 +23
XLT SKKS 18 32 28.9
MDPB **Devils Postpil** 137.15 272 IAMs_20 IAMs_20 19 23 25.0
comp=Z,5µm,22.0s
PMPB **Monarch Peak** 137.19 269 IAMs_20 IAMs_20 19 14 46.3
comp=Z,4µm,22.0s
LHV **Little Huntoon** 137.23 273 IAMs_20 IAMs_20 19 22 49.1
comp=Z,6µm,22.0s
NVAR **Mina Array Bea** 137.24 273 PKP **PKiKP** 18 23 09.5 -0.1
comp=Z,1.5nm,0.7s,baz=198,slow=5.7,SNR=1.6
YHL **Hebgen Lake** 137.25 286 IAMs_20 IAMs_20 19 19 16.3
comp=Z,4µm,20.0s
RYN **Ryan** 137.50 273 IAMs_20 IAMs_20 19 23 58.0
comp=Z,5µm,21.0s
KVN **Kaiserville** 137.53 274 IAMs_20 IAMs_20 19 25 31.8
comp=Z,5µm,20.0s
BBGB **Big Mountain B** 137.58 269 IAMs_20 IAMs_20 19 15 07.6
comp=Z,4µm,22.0s
BMN **Battle Mountai** 137.93 276 IAMs_20 IAMs_20 19 23 19.0
comp=Z,5µm,22.0s
SAO **San Andreas Ge** 137.94 269 IAMs_20 IAMs_20 19 15 05.3
comp=Z,3µm,20.0s
WAKR **Walker** 137.95 273 IAMs_20 IAMs_20 19 26 45.0
comp=Z,5µm,20.0s
BOZ **Bozeman (W)** 137.96 286 IAMs_20 IAMs_20 19 24 30.4
comp=Z,4µm,19.0s
YERR **Yerington** 138.15 273 IAMs_20 IAMs_20 19 26 10.4
comp=Z,4µm,21.0s
CMB **Columbia Colle** 138.19 271 IAMs_20 IAMs_20 19 21 56.5
comp=Z,4µm,22.0s
HLID **Hailey** 138.29 282 IAMs_20 IAMs_20 19 23 38.8
comp=Z,4µm,20.0s
EGMT **Eagleton** 138.35 290 IAMs_20 IAMs_20 19 23 44.3
comp=Z,4µm,21.0s
PNTR **Pine Nut** 138.43 273 IAMs_20 IAMs_20 19 25 28.7
comp=Z,4µm,20.0s
EMB **Emerald Bay** 138.65 273 IAMs_20 IAMs_20 19 23 53.5
comp=Z,4µm,22.0s
PAHR **Pah Rah Range** 138.71 274 IAMs_20 IAMs_20 19 23 39.2
comp=Z,5µm,21.0s
MPK **Martis Peak** 138.82 273 IAMs_20 IAMs_20 19 24 50.0
comp=Z,4µm,20.0s
MFID **Camas Ranch** 139.01 281 IAMs_20 IAMs_20 19 25 08.0
comp=Z,5µm,20.0s
AFDM **Forest Hills D** 139.14 272 IAMs_20 IAMs_20 19 27 32.5
comp=Z,4µm,20.0s
MCCM **Marconi Confer** 139.72 269 IAMs_20 IAMs_20 19 25 09.2
comp=Z,4µm,21.0s
KSRS **Korea Array** 139.82 92 PKP **PKiKP** 18 23 13.7 -0.8
comp=Z,2.4nm,1.0s,baz=219,slow=2.8,SNR=2.4
ORV **Oroville** 139.85 272 IAMs_20 IAMs_20 19 25 23.3
comp=Z,4µm,20.0s
MSO **Missoula** 139.98 286 IAMs_20 IAMs_20 19 21 36.0
comp=Z,5µm,20.0s
WVOR **Wild Horse Val** 140.02 278 PKPdf **PKPdf** 18 23 08.6 -4.0
WVOR IAMs_20 IAMs_20 19 24 31.0
comp=Z,5µm,22.0s
WVOR **Wild Horse Val** 140.02 278 PKIKP **PKPdf** 18 23 08.6 -4.0
WVOR MLR MLR
comp=Z,5µm,22.0s
GDXM **Geysers** 140.11 270 IAMs_20 IAMs_20 19 28 38.5
comp=Z,5µm,20.0s
PLID **Pearl Lake** 140.12 283 PKPdf **PKPdf** 18 23 09.1 -3.7
HOPS **Hopland Field** 140.40 270 IAMs_20 IAMs_20 19 25 19.0
comp=Z,5µm,22.0s
J08A **Circle Bar Ran** 140.50 279 PKPdf **PKPdf** 18 23 10.3 -3.0
BMO **Blue Mountains** 140.73 282 PKPdf **PKPdf** 18 23 09.9 -3.8
BMO IAMs_20 IAMs_20 19 21 00.3
comp=Z,5µm,22.0s
BMO **Blue Mountains** 140.73 282 PKIKP **PKPdf** 18 23 09.9 -3.8
BMO MLR MLR
comp=Z,5µm,22.0s
F10A **Beach Ranch, E** 141.34 283 PKPdf **PKPdf** 18 23 11.4 -3.4
K05A **Summer Lake** 141.51 276 **PKPdf** 18 23 09.8 -5.5
K05A IAMs_20 IAMs_20 19 23 26.8
comp=Z,5µm,22.0s
I07A **Izee** 141.53 279 PKPdf **PKPdf** 18 23 11.2 -4.1
G08A **Pilot Rock** 141.93 281 PKPdf **PKPdf** 18 23 12.9 -3.0
KMPM **Mount Pierce** 141.94 271 IAMs_20 IAMs_20 19 27 32.7
comp=Z,5µm,21.0s
K04D **Chiloquin, OR** 141.95 276 **PKPdf** 18 23 12.5 -3.5
K04D IAMs_20 IAMs_20 19 24 20.5
comp=Z,4µm,22.0s
YBH **Yreka Blue Hor** 141.95 274 PKPdf **PKPdf** 18 23 12.3 -3.7
YBH IAMs_20 IAMs_20 19 23 58.8
comp=Z,3µm,22.0s
YBH **Yreka Blue Hor** 141.95 274 PKIKP **PKPdf** 18 23 12.3 -3.7
YBH MLR MLR
comp=Z,3µm,22.0s
KHMM **Horse Mountain** 142.00 272 **PKPdf** 18 23 11.6 -4.6
KHMM IAMs_20 IAMs_20 19 28 07.4
comp=Z,4µm,20.0s
L04D **Klamath Falls** 142.02 275 PKPdf **PKPdf** 18 23 11.9 -4.2
L04D IAMs_20 IAMs_20 19 28 02.4
comp=Z,3µm,20.0s
J05D **Fort Rock, OR** 142.05 277 PKPdf **PKPdf** 18 23 12.7 -3.5
JCC **Jacoby Creek,** 142.14 272 IAMs_20 IAMs_20 19 22 59.0
comp=Z,3µm,22.0s
E09A **Wood Farm, Sta** 142.17 283 PKPdf **PKPdf** 18 23 11.9 -4.2
PINE **Pine Mountain** 142.19 278 **PKPdf** 18 23 10.8 -5.7

HIA **Hailar** 142.30 72 **PKPdf** 18 23 11.0 -5.3
HIA **Hailar** 142.30 72 IAMs_20 IAMs_20 19 21 47.1
comp=Z,3µm,21.0s
HIA **Hailar** 142.30 72 PKIKP **PKPdf** 18 23 11.0 -5.3
HIA MLR MLR
comp=Z,3µm,21.0s
KRPM **Rodgers** 142.35 272 IAMs_20 IAMs_20 19 26 49.6
comp=Z,4µm,21.0s
KRMB **Red Mountain** 142.52 273 IAMs_20 IAMs_20 19 27 09.9
comp=Z,4µm,21.0s
NEW **Newport** 142.57 286 PKPdf **PKPdf** 18 23 11.3 -5.5
NEW **Newport** 142.57 286 IAMs_20 IAMs_20 19 28 02.5
comp=Z,5µm,20.0s
NEW **Newport** 142.57 286 PKIKP **PKPdf** 18 23 11.3 -5.5
NEW MLR MLR
comp=Z,4µm,20.0s
NEW **Newport** 142.57 286 PKP **PKiKP** 18 23 18.6 -1.3
comp=Z,2.6nm,0.8s,baz=149,slow=5.9,SNR=1.5
HUMO **Hull Mountain** 142.64 275 PKPpre 18 23 10.8
HUMO IAMs_20 IAMs_20 19 25 22.8
comp=Z,4µm,21.0s
E08A **Dider Farm, El** 142.68 283 **PKPdf** 18 23 11.2 -5.8
KSXB **Camp Six Broad** 142.69 273 IAMs_20 IAMs_20 19 26 50.5
comp=Z,4µm,20.0s
L02F **Cave Junction** 142.69 274 **PKPdf** 18 23 12.1 -5.1
L02F IAMs_20 IAMs_20 19 30 14.5
comp=Z,4µm,21.0s
G06A **Carlson Farm,** 142.86 280 PKPdf **PKPdf** 18 23 11.2 -6.3
D08A **Wollman Farm,** 142.92 283 PKPdf **PKPdf** 18 23 11.8 -5.6
I04A **Tendick Farm,** 143.04 277 PKPab 18 23 13.0 -0.1
EDM **Edmonton** 143.05 295 PKPdf PKPab 18 23 12.6 -0.3
EDM **Edmonton** 143.05 295 PKIKP PKPab 18 23 12.6 -0.3
K02D **Willamette Mer** 143.10 274 PKPdf PKPab 18 23 11.4 -2.1
K02D IAMs_20 IAMs_20 19 28 47.2
comp=Z,4µm,20.0s
DBO **Dodson Butte** 143.12 275 PKPab 18 23 11.8 -1.8
DBO IAMs_20 IAMs_20 19 26 58.5
comp=Z,4µm,20.0s
KBO **Bosley Butte** 143.13 273 IAMs_20 IAMs_20 19 27 10.1
comp=Z,3µm,22.0s
RES **Resolute Bay** 143.26 334 PKPdf PKPab 18 23 12.9 -0.1
RES **Resolute Bay** 143.26 334 PKIKP PKPab 18 23 12.9 -0.1
RES **Resolute Bay** 143.26 334 PKP **PKPdf** 18 23 17.7 +0.5
comp=Z,2.2nm,0.6s,baz=97,slow=3.0,SNR=5.0
BOD **Bodaibo** 143.39 56 *e*PKIKP PKPbc 18 23 15.2 +0.1
BOD pmax pmax
comp=Z,58nm,1.6s
I03D **Drain, OR** 143.53 276 IAMs_20 IAMs_20 19 23 39.2
comp=Z,4µm,22.0s
J01E **Myrtle Point** 143.54 275 IAMs_20 IAMs_20 19 27 13.8
comp=Z,5µm,21.0s
KEBM **Edson Butte** 143.60 274 IAMs_20 IAMs_20 19 25 19.4
comp=Z,4µm,20.0s
BUCK **Buck Mountain** 143.61 277 PKPdf PKPab 18 23 12.3 -3.2
H04D **Lebanon** 143.66 277 **PKPdf** 18 23 17.9 -0.9
COR **Corvallis** 144.03 277 IAMs_20 IAMs_20 19 27 08.1
comp=Z,4µm,21.0s
LTY **Liberty** 144.03 283 **PKPab** 18 23 16.8 -0.1
F04A **Amboy** 144.29 280 PKPbc 18 23 18.0 -0.2
G03D **McMinnville, O** 144.37 278 **PKPab** 18 23 18.1 -0.1
LON **Longmire** 144.40 281 **PKPab** 18 23 17.6 -0.7
LON **Longmire** 144.40 281 PKIKP **PKPab** 18 23 17.6 -0.7
BNX **BinXian** 144.71 81 ⇑P **PKiKP** 18 23 25.4 +1.1
BNX pmax pmax
comp=Z,27nm,2.1s
BNX pmax pmax
comp=Z,500nm,3.8s
F04D **Rainier, OR** 144.72 279 **PKPab** 18 23 18.2 -1.2
D05A **Enumclaw** 144.74 282 PKPdf **PKPab** 18 23 17.4 -2.1
MSHR **Mys Shultsa** 145.03 88 *i* PKIKP **PKPbc** 18 23 17.9 -2.7
MAJO **Matsushiro** 145.13 103 **PKPbc** 18 23 17.5 -3.8
MAJO **Matsushiro** 145.13 103 PKP2 **PKPbc** 18 23 17.5 -3.8
MJAR **Matsushiro Arr** 145.13 103 PKPbc **PKPdf** 18 23 23.3 +1.6
comp=Z,21nm,1.0s,baz=216,slow=3.0,SNR=15
B06A **Marblemount** 145.16 284 **PKPbc** 18 23 17.1 -3.8
E03A **Lebam** 145.29 280 **PKPbc** 18 23 17.9 -3.5
MDJ **Mudanjiang** 145.33 84 **PKPbc** 18 23 18.8 -2.8
MDJ **Mudanjiang** 145.33 84 PKPbc **PKPbc** 18 23 20.8 -0.8
MDJ pPKP pPKPab 18 23 23.8 -0.4
MDJ sPKP 18 23 26.4
MDJ PP **PP** 18 26 40.9 -1.2
MDJ SS SS 18 45 33.8 +0.3
MDJ AMB AMB
comp=Z,930nm,5.0s
MDJ LR LR
comp=Z,2µm,23.5s
MDJ LR LR
comp=Z,1µm,23.3s
MDJ LR LR
comp=Z,5µm,23.1s
RADR **Rader Ridge** 145.36 279 **PKPbc** 18 23 18.7 -2.9
GNW **Green Mountain** 145.42 282 PKPdf **PKPdf** 18 23 19.0 -2.7
BRLDA **Berland Lookou** 145.60 295 **PKPdf** 18 23 19.1 -2.9
WISH **Wishkah** 145.72 280 **PKPdf** 18 23 19.8 -2.5
NLWA **Neilton Lookou** 145.93 281 **PKPdf** 18 23 20.6 -2.1
NLWA IAMs_20 IAMs_20 19 24 24.9
comp=Z,4µm,21.0s
B04A **Port Angeles** 146.07 282 PKPdf **PKPdf** 18 23 19.4 -3.4
C03A **Quillayute Air** 146.62 281 **PKPdf** 18 23 22.9 -0.9
HEH **HeiHe** 147.09 74 PKPbc **PKPbc** 18 23 26.1 -0.5
HEH pPKP **pPKPbc** 18 23 29.4 +0.2
HEH AMB AMB
comp=Z,1µm,6.5s
HEH LR LR
comp=Z,1µm,20.2s
HEH LR LR
comp=Z,2µm,19.8s
HEH LR LR
comp=Z,3µm,21.1s
HILA **High Level** 147.14 302 **PKPdf** 18 23 23.7 -0.6
YKA **Yellowknife Ar** 147.20 310 PKPbc **PKPbc** 18 23 26.9 +0.3
comp=Z,18nm,1.0s,baz=102,slow=2.6,SNR=44
JMM **Marumori** 147.53 104 PKPdf **PKPdf** 18 23 20.0 -5.7
OZB **Mount Ozzard** 147.67 282 PKPdf **PKPdf** 18 23 21.8 -3.7
ZEA **Zeya** 148.55 68 *i* PKP2 **PKPab** 18 23 35.1 +1.1
ZEA pmax pmax
comp=Z,40nm,1.5s
KLR **Kul'dur** 149.05 79 *i* PKIKP **PKPdf** 18 23 27.1 -0.7
TIXI **Tiksi** 151.75 32 PKPdf **PKPdf** 18 23 32.5 +1.2
TIXI **Tiksi** 151.75 32 IAMs_20 IAMs_20 19 34 20.9
comp=Z,4µm,21.0s
TIXI **Tiksi** 151.75 32 PKIKP **PKPdf** 18 23 32.5 +1.2
TIXI MLR MLR
comp=Z,4µm,21.0s
TIXI **Tiksi** 151.75 32 PKPbc **PKiKP** 18 23 39.3 +1.3
comp=Z,0.1nm,0.5s,baz=290,slow=4.9,SNR=3.1
C36M **Paulatuk** 151.78 323 IAMs_20 IAMs_20 19 37 52.8
comp=Z,3µm,19.0s
A36M **Sachs Harbour** 151.83 328 IAMs_20 IAMs_20 19 33 11.6
comp=Z,4µm,21.0s
YAK **Yakutsk** 152.14 53 PKPdf **PKPdf** 18 23 29.7 -2.4
YAK **Yakutsk** 152.14 53 IAMs_20 IAMs_20 19 45 27.2
comp=Z,3µm,22.0s
YAK **Yakutsk** 152.14 53 *e*PKIKP **PKPbc** 18 23 37.0 -1.8
YAK *e* 18 27 23.4
YAK pmax pmax
comp=Z,44nm,1.1s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=Z,730nm,5.3s
GRNB **Grenville Isla** 152.31 289 **PKiKP** 18 23 41.9 +2.2
RUBB **Prince Rupert** 152.64 289 **PKPdf** 18 23 31.0 -2.0
WTLY **Watson Lake, Y** 153.37 302 **PKPdf** 18 23 32.4 -1.7
T35M **Bob Quinn** 153.44 295 **PKPdf** 18 23 31.8 -2.4
DLBC **Dease Lake** 153.66 298 PKPbc **PKiKP** 18 23 42.9 +0.4
comp=Z,4.5nm,1.0s,baz=83,slow=7.0,SNR=3.6
V35K **Ketchikan** 153.71 291 IAMs_20 IAMs_20 19 30 20.4
comp=Z,4µm,20.0s
YSS **Yuzh-Sakhalins** 154.29 91 *e*PKIKP **PKPdf** 18 23 39.2 +3.5
YSS *e* 18 48 06.6
YSS pmax pmax
comp=Z,2µm,4.6s
R33M **Jennings River** 154.33 300 PKPdf **PKPdf** 18 23 33.2 -2.4
R33M IAMs_20 IAMs_20 19 36 35.7
comp=Z,4µm,19.0s
WRAK **Wrangell Islan** 154.41 293 IAMs_20 IAMs_20 19 28 35.5
comp=Z,5µm,22.0s
U33K **Whale Pass** 154.75 292 IAMs_20 IAMs_20 19 40 25.5
comp=Z,4µm,20.0s
Q32M **Nakina River** 154.91 299 IAMs_20 IAMs_20 19 35 49.4
comp=Z,5µm,21.0s
INK **Inuvik** 155.32 321 PKPdf **PKPdf** 18 23 34.2 -2.3

INK	**Inuvik**	**155.32**	**321**	PKIKP	**PKPdf**	**18**	**23**	**34.2 -2.3**
INK	**Inuvik**	**155.32**	**321**	PKP	**PKPdf**	**18**	**23**	**39.3 +2.8**
	comp=Z,1.2nm,0.7s,baz=50,slow=5.8,SNR=3.2							
P33M	**Teslin, Yukon**	**155.37**	**302**	IAMs_20	IAMs_20	19	45	26.6
	comp=Z,3μm,20.0s							
P32M	**Atlin**	**155.74**	**300**	IAMs_20	IAMs_20	19	37	00.7
	comp=Z,4μm,18.0s							
G31M	**Satah River**	**155.86**	**318**	IAMs_20	IAMs_20	19	46	49.0
	comp=Z,5μm,22.0s							
H31M	**Peel River**	**156.05**	**316**	IAMs_20	IAMs_20	19	30	53.7
	comp=Z,4μm,22.0s							
G30M	**tAoh Zraii Nji**	**156.60**	**319**		**PKPdf**	**18**	**23**	**35.7 -2.7**
G30M				PKPab	**PKPab**	**18**	**24**	**05.0 -2.6**
G30M				IAMs_20	IAMs_20	19	38	08.8
	comp=Z,4μm,22.0s							
EPYK	**Eagle Plains**	**156.91**	**317**	IAMs_20	IAMs_20	19	31	10.1
	comp=Z,4μm,22.0s							
I30M	**Mount Dempster**	**156.97**	**314**	IAMs_20	IAMs_20	19	39	18.1
	comp=Z,4μm,20.0s							
J30M	**Hart River**	**157.03**	**313**	IAMs_20	IAMs_20	19	45	02.7
	comp=Z,4μm,20.0s							
O30N	**Mendenhall**	**157.03**	**303**	IAMs_20	IAMs_20	19	30	23.3
	comp=Z,4μm,22.0s							
G29M	**Pine Creek**	**157.31**	**319**	IAMs_20	IAMs_20	19	38	50.5
	comp=Z,4μm,21.0s							
E28M	**Babbage River**	**157.38**	**324**	IAMs_20	IAMs_20	19	45	16.3
	comp=Z,4μm,22.0s							
H29M	**Whitestone**	**157.60**	**317**	IAMs_20	IAMs_20	19	30	00.2
	comp=Z,3μm,22.0s							
D27M	**Malcolm River**	**157.63**	**326**	IAMs_20	IAMs_20	19	31	52.1
	comp=Z,4μm,22.0s							
I29M	**Ogilvie Camp,**	**157.74**	**315**	IAMs_20	IAMs_20	19	28	01.3
	comp=Z,4μm,22.0s							
P29M	**Windy Craggy**	**157.78**	**300**	IAMs_20	IAMs_20	19	38	05.1
	comp=Z,4μm,21.0s							
L29M	**L29M**	**157.96**	**309**	IAMs_20	IAMs_20	19	31	22.0
	comp=Z,4μm,21.0s							
E27K	**Coleen River**	**158.24**	**323**	IAMs_20	IAMs_20	19	40	29.1
	comp=Z,4μm,20.0s							
I28M	**Miner Creek**	**158.40**	**316**	IAMs_20	IAMs_20	19	33	18.4
	comp=Z,4μm,20.0s							
G27K	**Doyon Strip**	**158.72**	**320**	IAMs_20	IAMs_20	19	40	02.3
	comp=Z,3μm,20.0s							
LOGN	**Logan Glacier**	**159.44**	**303**	IAMs_20	IAMs_20	19	33	16.0
	comp=Z,5μm,22.0s							
L27K	**Beaver Creek,**	**159.64**	**309**	IAMs_20	IAMs_20	19	35	50.2
	comp=Z,5μm,22.0s							
I26K	**Coal Creek Min**	**159.74**	**316**	IAMs_20	IAMs_20	19	47	32.8
	comp=Z,4μm,20.0s							
M27K	**Edge Creek, AK**	**159.75**	**307**	IAMs_20	IAMs_20	19	33	23.8
	comp=Z,4μm,19.0s							
SCRK	**Sand Creek**	**160.42**	**313**		**PKPdf**	**18**	**23**	**41.0 -2.1**
SCRK				PKPab	**PKPab**	**18**	**24**	**21.9 -2.4**
J25K	**Salcha River,**	**160.84**	**315**		**PKPdf**	**18**	**23**	**41.2 -2.2**
J25K					**PKPab**	**18**	**24**	**22.8 -3.2**
ILAR	**Eielson Array**	**161.41**	**316**	PKIKP	**PKPdf**	**18**	**23**	**47.0 +3.0**
ILAR	**Eielson Array**	**161.41**	**316**	PKP	**PKPdf**	**18**	**23**	**47.0 +3.0**
	comp=Z,1.1nm,0.9s,baz=340,slow=1.5,SNR=8.0							
ILAR				PKPab	**pPKPab**	**18**	**24**	**30.6 -0.5**
	comp=Z,3.3nm,0.9s,baz=70,slow=2.0,SNR=7.5							
ILAR				PP	**PP**	**18**	**28**	**14.8 +2.3**
	comp=Z,1.9nm,1.0s,baz=49,slow=1.4,SNR=2.9							
SEY	**Seymchan**	**162.56**	**49**	PKPab	**PKPab**	**18**	**24**	**35.1 +1.6**
	comp=Z,2.4nm,0.8s,baz=223,slow=14,SNR=1.3							
PETK	**Petropavlovsk-**	**165.57**	**85**	PKP	**PKPdf**	**18**	**23**	**49.1 +0.9**
	comp=Z,5.0nm,1.0s,baz=276,slow=2.8,SNR=1.2							
PETK				PP	**PP**	**18**	**28**	**36.0 +1.1**
	comp=Z,6.8nm,1.0s,baz=276,slow=14,SNR=2.1							

UPP ***13*** *18:16:55.6±2.8, 62°.73N×4°.41E, h0km, ML2.6*
IDC ***13*** *18:16:58.9±2.0, 62°.91N×5°.83E, h0km, mbtmp3.4/4, ML2.5/5, Error ellipse: s-maj=19.4km s-min=14.8km az=53.0*
DNK ***13*** *18:17:01.6±2.0, 62°.65N×5°.70E, h0km, ML2.8, Suspected explosion*
BER ***13*** *18:17:02.5±2.9, 62°.79N×5°.39E, h13km±10km, ML2.9, ML2.9(NAO), Confirmed Earthquake*
NAO ***13*** *18:17:02.0±2.3, 62°.72N×5°.52E, h12km±14km, ML2.9*
ISC 13 18:16:59.3±1.0, 62°.65N±0'.04×5°.36E±0'.04, h0km, n79, σ2s17/125, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AKN	**Aaknes**	**0.89**	**121**	Pg		**Pn**	**18 17 20.3**	**+1.1**
AKN				Sg		**Sb**	**18 17 31.9**	**+1.7**
AKN	**Aaknes**	**0.89**	**121**	Pg		**Pn**	**18 17 20.3**	**+1.1**
AKN				Lg		Lg	18 17 31.9	
MOL	**Molde**	**1.01**	**93**	*e*P		**Pn**	**18 17 21.4**	**+0.7**
MOL				*e*S		**Sb**	**18 17 34.0**	**+0.5**
MOL				IAML			18 17 35.0	
	comp=Z,336nm,0.3s							
MOL	**Molde**	**1.01**	**93**	Pg		**Pn**	**18 17 21.6**	**+0.9**
MOL				Lg		Lg	18 17 33.8	
FOO	**Floro**	**1.06**	**188**	*e*P		**Pn**	**18 17 24.1**	**+2.7**
FOO				*e*S		**Sn**	**18 17 38.2**	**+1.4**
FOO				IAML			18 17 39.9	
	comp=Z,406nm,0.4s							
FOO	**Floro**	**1.06**	**188**	Pn		**Pn**	**18 17 24.3**	**+3.0**
FOO				Sn		**Sn**	**18 17 38.1**	**+1.4**
HYA	**Hoyanger**	**1.54**	**165**	*e*P		**Pg**	**18 17 29.8**	**+1.1**
HYA				*e*Sg		**Sg**	**18 17 52.4**	**+3.9**
HYA				IAML			18 17 53.4	
	comp=Z,546nm,0.3s							
HYA	**Hoyanger**	**1.54**	**165**	Pn		**Pg**	**18 17 29.8**	**+1.1**
HYA				Sn		**Sg**	**18 17 52.3**	**+3.8**
SUE	**Sulen**	**1.62**	**190**	*e*P		**Pg**	**18 17 31.3**	**+1.0**
SUE				*e*Sg		**Sg**	**18 17 54.8**	**+3.6**
SUE				IAML			18 18 00.2	
	comp=Z,108nm,0.3s							
DOMB	**Dombas**	**1.83**	**108**	*e*P		**Pb**	**18 17 33.2**	**-0.4**
DOMB				*e*			18 17 35.9	
DOMB				*e*Sg		**Sb**	**18 17 58.5**	**+1.4**
DOMB				IAML			18 17 58.6	
	comp=Z,230nm,0.4s							
DOMB	**Dombas**	**1.83**	**108**	Pn		**Pn**	**18 17 33.0**	**+1.0**
DOMB				Pg		**Pg**	**18 17 36.4**	**+2.1**
DOMB				Sn		**Sb**	**18 17 58.2**	**+1.1**
ASK	**Askoy**	**2.17**	**182**	*e*P		**Pb**	**18 17 39.8**	**+0.4**
ASK				*e*Sg		**Sg**	**18 18 12.7**	**+3.7**
ASK				IAML			18 18 18.5	
	comp=Z,139nm,0.3s							
BER	**Bergen**	**2.27**	**180**	*e*Pg		**Pg**	**18 17 43.6**	**+0.9**
BER				*e*Sg		**Sg**	**18 18 13.8**	**+1.7**
BER				IAML			18 18 16.1	
	comp=Z,109nm,0.4s							
SKAR	**Skarslia**	**2.42**	**143**	*e*Pg		**Pg**	**18 17 45.3**	**-0.3**
SKAR				*e*Sg		**Sg**	**18 18 17.7**	**+0.8**
SKAR				IAML			18 18 18.8	
	comp=Z,198nm,0.2s							
ODD1	**Odda**	**2.81**	**167**	*e*P		**Pn**	**18 17 47.5**	**+2.0**
ODD1				*e*Pg		**Pb**	**18 17 52.1**	**+1.8**
ODD1				*e*Sg		**Sg**	**18 18 29.0**	**-0.5**
ODD1				IAML			18 18 34.9	
	comp=Z,70nm,0.3s							
NC204	**NORSAR Array S**	**2.90**	**116**	*e*P		**Pn**	**18 17 47.7**	**+1.0**
NC204				*e*Pg		**Pb**	**18 17 53.0**	**+1.2**
NC204				*e*Sg		**Sb**	**18 18 29.3**	**+1.5**
NC204				IAML			18 18 33.9	
	comp=Z,82nm,0.3s							
NC2	**NORSAR Subarra**	**2.93**	**115**	Pn		**Pn**	**18 17 48.0**	**+0.9**
NC2				Pg		**Pb**	**18 17 54.2**	**+2.0**
NC2				Lg		Lg	18 18 29.9	
NBO	**NORSAR Subarra**	**3.04**	**120**	Pn		**Pn**	**18 17 49.9**	**+1.3**
NBO				Lg		Lg	18 18 32.6	
NBO00	**NORSAR Array S**	**3.04**	**120**	*e*P		**Pn**	**18 17 49.6**	**+1.0**
NBO00				*e*Sg		**Sb**	**18 18 34.0**	**+2.3**
NBO00				IAML			18 18 34.3	
	comp=Z,82nm,0.3s							
NC3	**NORSAR Subarra**	**3.18**	**113**	Pn		**Pn**	**18 17 51.6**	**+1.1**
NC3				Pg		**Pb**	**18 17 58.4**	**+1.8**
NC3				Lg		Lg	18 18 37.9	
NAO	**NORSAR Subarra**	**3.18**	**123**	Pn		**Pn**	**18 17 51.8**	**+1.3**
NAO				Lg		Lg	18 18 37.7	
NAO01	**NORSAR Array S**	**3.19**	**122**	*e*P		**Pn**	**18 17 51.7**	**+1.1**
NAO01				*e*Pg		**Pb**	**18 17 58.5**	**+1.8**
NAO01				*e*Sg		**Sb**	**18 18 38.5**	**+2.3**
NAO01				IAML			18 18 46.5	
	comp=Z,83nm,0.3s							
NB2	**NORSAR Subarra**	**3.21**	**118**	Pn		**Pn**	**18 17 51.7**	**+0.8**
	baz=306,slow=14							
NB2				Pg		**Pg**	**18 17 59.6**	**-1.1**
	baz=307,slow=18							
NB2				Sg		**Sb**	**18 18 38.4**	**+1.7**
	baz=304,slow=37							
NB2	**NORSAR Subarra**	**3.21**	**118**	Pn		**Pn**	**18 17 51.7**	**+0.8**
	baz=306,slow=14							
NB2				Pg		**Pg**	**18 17 59.6**	**-1.1**
	baz=307,slow=18							
NB2				Lg		Lg	18 18 38.4	
	baz=304,slow=37							
NOA	**NORSAR Array B**	**3.21**	**118**	Pn		**Pn**	**18 17 47.7**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=306,slow=14,SNR=1.7							
NOA				Pg		**Pb**	**18 17 55.2**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=310,slow=16,SNR=25							
NOA				Lg		Lg	18 18 38.4	
	comp=Z,2.4nm,0.3s,baz=313,slow=22,SNR=6.0							
NB201	**NORSAR Array S**	**3.24**	**117**	IAML			18 18 48.5	
	comp=Z,168nm,0.5s							
BLS5	**Blasjo**	**3.28**	**170**	*e*P		**Pn**	**18 17 53.9**	**+2.1**
NC4	**NORSAR Subarra**	**3.40**	**115**	Pn		**Pn**	**18 17 54.1**	**+0.6**
NC4				Pg		**Pb**	**18 18 02.4**	**+2.1**
NC4				Lg		Lg	18 18 44.8	
KMY	**Karmoy**	**3.45**	**181**	*e*P		**Pn**	**18 17 55.1**	**+0.9**
NC6	**NORSAR Subarra**	**3.47**	**121**	Pn		**Pn**	**18 17 55.2**	**+0.7**
NC6				Pg		**Pb**	**18 18 03.5**	**+2.0**
NC6				Lg		Lg	18 18 46.7	
NRA0	**NORESS Array S**	**3.51**	**120**	Pn		**Pn**	**18 17 55.6**	**+0.6**
	baz=316,slow=14							
NRA0				Pg		**Pb**	**18 18 04.2**	**+2.0**
	baz=314,slow=18							
NRA0				Sg		**Sb**	**18 18 47.6**	**+2.2**
	baz=308,slow=28							
NRA0	**NORESS Array S**	**3.51**	**120**	Pn		**Pn**	**18 17 55.6**	**+0.6**
	baz=316,slow=14							
NRA0				Pg		**Pb**	**18 18 04.2**	**+2.0**
	baz=314,slow=18							
NRA0				Lg		Lg	18 18 47.6	
	baz=308,slow=28							
LRW	**Lerwick**	**4.03**	**234**	Pn		**Pn**	**18 18 03.6**	**+1.5**
LRW				Sn		**Sn**	**18 18 46.2**	**-3.8**
LRW	**Lerwick**	**4.03**	**234**	Pn		**Pn**	**18 18 03.6**	**+1.5**
LRW				Sn		**Sn**	**18 18 46.2**	**-3.8**
NOD	**Norderasen**	**4.40**	**75**	P		**Pn**	**18 18 08.3**	**+1.1**
NOD				S		**Sb**	**18 19 13.6**	**+2.7**
NOD	**Norderasen**	**4.40**	**75**	P		**Pn**	**18 18 08.3**	**+1.1**
NOD				S		**Sb**	**18 19 13.6**	**+2.7**
SNART	**Snartemo**	**4.42**	**167**	*e*P		**Pn**	**18 18 09.6**	**+2.1**
SNART				*e*Pg		**Pb**	**18 18 17.3**	**-0.3**
SNART				*e*Sg		**Sg**	**18 19 19.9**	**-1.2**
SNART				IAML			18 19 24.1	
	comp=Z,58nm,0.6s							
SNART	**Snartemo**	**4.42**	**167**	*i* P		**Pb**	**18 18 16.1**	**-1.5**
SNART				*i* S		**Sb**	**18 19 16.6**	**+5.2**
STRU	**Stroemstad**	**4.61**	**139**	P		**Pn**	**18 18 10.9**	**+0.8**
STRU				S		**Sn**	**18 19 01.8**	**-2.4**
STRU	**Stroemstad**	**4.61**	**139**	P		**Pn**	**18 18 10.9**	**+0.8**
STRU				*i* P		Pb	18 18 11.6	-9.3
STRU				S		**Sn**	**18 19 01.8**	**-2.4**
STRU				*i* S		Sb	18 19 02.6	-14
HOMB	**Homborsund**	**4.66**	**159**	*i* P		**Pn**	**18 18 13.2**	**+2.5**
HOMB				*i* S		**Sb**	**18 19 14.0**	**-4.3**
UDD	**Uddeholm**	**4.72**	**119**	P		**Pn**	**18 18 12.8**	**+1.1**
UDD	**Uddeholm**	**4.72**	**119**	P		**Pn**	**18 18 12.8**	**+1.1**
HFS	**Hagfors**	**4.73**	**118**	Pn		**Pn**	**18 18 12.1**	**+0.3**
	baz=306,slow=14							
HFS				Pg		**Pb**	**18 18 21.9**	**-1.1**
	baz=296,slow=14							
HFS				Sn		**Sn**	**18 19 05.2**	**-2.1**
	baz=294,slow=22							
HFS	**Hagfors**	**4.73**	**118**	Pn		**Pn**	**18 18 11.6**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=307,slow=14,SNR=15							
HFS				Lg		Lg	18 19 25.7	
	comp=Z,12nm,0.3s,baz=311,slow=31,SNR=12							
	comp=Z,1.5nm,0.4s							
HFS	**Hagfors**	**4.73**	**118**	Pn		**Pn**	**18 18 12.1**	**+0.3**
	baz=306,slow=14							
HFS				Pg		**Pb**	**18 18 21.9**	**-1.1**
	baz=296,slow=14							
HFS				Sn		**Sn**	**18 19 05.2**	**-2.1**
	baz=294,slow=22							
HFS				Lg		Lg	18 19 26.8	
	baz=312,slow=22							
FINU	**Finntorp**	**4.75**	**130**	P		**Pn**	**18 18 13.0**	**+1.0**
FINU	**Finntorp**	**4.75**	**130**	P		**Pn**	**18 18 13.0**	**+1.0**
ROTU	**Roteberg**	**5.07**	**99**	P		**Pn**	**18 18 17.2**	**+0.8**
ROTU	**Roteberg**	**5.07**	**99**	P		**Pn**	**18 18 17.2**	**+0.8**
HASU	**Hassela**	**5.26**	**90**	P		**Pn**	**18 18 19.7**	**+0.7**
HASU	**Hassela**	**5.26**	**90**	P		**Pn**	**18 18 19.7**	**+0.7**
VANU	**Vaenersborg**	**5.32**	**139**	P		**Pn**	**18 18 20.3**	**+0.5**
VANU	**Vaenersborg**	**5.32**	**139**	P		**Pn**	**18 18 20.3**	**+0.5**
FALU	**Falun**	**5.45**	**109**	P		**Pn**	**18 18 22.4**	**+0.8**
FALU	**Falun**	**5.45**	**109**	P		**Pn**	**18 18 22.4**	**+0.8**
SOLU	**Sollefteaa**	**5.46**	**78**	P		**Pn**	**18 18 22.3**	**+0.5**
SOLU	**Sollefteaa**	**5.46**	**78**	P		**Pn**	**18 18 22.3**	**+0.5**
ARNU	**Arnoeviken**	**5.71**	**94**	P		**Pn**	**18 18 25.8**	**+0.6**
ARNU	**Arnoeviken**	**5.71**	**94**	P		**Pn**	**18 18 25.8**	**+0.6**
HEMU	**Hemsoen**	**5.84**	**84**	P		**Pn**	**18 18 26.7**	**-0.3**
HEMU	**Hemsoen**	**5.84**	**84**	P		**Pn**	**18 18 26.7**	**-0.3**
BREU	**Bredtraesk**	**6.09**	**72**	P		**Pn**	**18 18 30.9**	**+0.5**
BREU	**Bredtraesk**	**6.09**	**72**	P		**Pn**	**18 18 30.9**	**+0.5**
ONAU	**Onsala**	**6.20**	**145**	*i* P		**Pn**	**18 18 32.5**	**+0.5**
ONAU				*i* S		**Sn**	**18 19 41.3**	**-2.2**
BORU	**Boraas**	**6.24**	**140**	*i* P		**Pn**	**18 18 33.9**	**+1.4**
BORU				*i* S		**Sn**	**18 19 39.0**	**-5.4**
MUD	**Monsted U'grnd**	**6.50**	**161**	*e*S		**Sb**	**18 20 07.0**	**-4.4**
FABU	**Falkenberg**	**6.76**	**143**	*i* S		Sn	18 19 47.8	-9.5
DRUM	**Mains of Drumt**	**6.98**	**218**	*e*P		**Pn**	**18 18 44.8**	**+2.2**
DRUM				*e*S		**Sn**	**18 19 56.8**	**-5.8**
DEL	**Delary**	**7.55**	**141**	*i* P		**Pn**	**18 18 48.6**	**-1.8**
DEL				*i* S		**Sn**	**18 20 09.4**	**-7.2**
BJUU	**Bjuv**	**7.66**	**146**	*i* P		**Pn**	**18 18 51.6**	**-0.3**
BJUU				*i* S		**Sn**	**18 20 12.4**	**-7.0**
LUNU	**Lund**	**8.16**	**146**	*e*P		**Pn**	**18 18 59.5**	**+0.6**
LUNU				*i* S		**Sn**	**18 20 27.9**	**-3.9**
BLEU	**Blekinge**	**8.28**	**135**	*i* S		Sn	18 20 25.5	-9.1
EKA	**Eskdalemuir Ar**	**8.54**	**215**	Pn		**Pn**	**18 19 06.2**	**+2.1**
	baz=25,slow=12							
	comp=Z,0.3nm,0.4s							
BSD	**Bornholm Skovb**	**9.02**	**143**	*e*S		Sn	18 20 44.1	-8.6
BSD				IAML			18 21 51.1	
	comp=Z,2.3nm,0.3s							
FINES	**FINESS Array B**	**9.79**	**88**	Pn		**Pn**	**18 19 17.3**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=286,slow=14,SNR=1.3							
FINES				Lg		Lg	18 21 58.3	
	comp=Z,0.4nm,0.3s,baz=291,slow=24,SNR=2.2							
	comp=Z,2.5nm,0.9s							
ARA0	**ARCESS Array S**	**10.65**	**41**	Pn		**Pn**	**18 19 30.2**	**-2.6**
	baz=236,slow=14							
ARA0	**ARCESS Array S**	**10.65**	**41**	Pn		**Pn**	**18 19 30.9**	**-1.9**
	baz=236,slow=14							
ARCES	**ARCESS Array B**	**10.65**	**41**	Pn		Pn	18 19 27.5	-5.3
	comp=Z,0.1nm,0.3s,baz=239,slow=12,SNR=2.4							
	comp=Z,3.1nm,0.8s							

SJA ***13*** *18:36:14.2±0.7, 22°.09S×68°.62W, h123km±3km, ML3.6, MW3.6*
GUC ***13*** *18:36:16.9±0.7, 22°.08S×68°.64W, h106km±4km, ML3.5*
ISC 13 18:36:15.8±1.4, 22°.11S±0'.03×68°.72W±0'.05, h121km±9km, n37, σ1s10/69, 9C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LVC	**Limon Verde**	**0.53**	**199**	*e*P		**Pn**	**18 36 34.0**	**-0.5**
LVC				*e*S		**Sn**	**18 36 48.2**	**-0.4**
LVC				IAML			18 36 49.1	
	comp=Z,668nm,0.5s							
LVC	**Limon Verde**	**0.53**	**199**	*i* P		**Pn**	**18 36 34.0**	**-0.5**
LVC				*e*S		**Sn**	**18 36 47.5**	**-1.2**
LVC				IAML			18 36 48.7	
	comp=Z,5μm,0.1s							
PB09	**IPOC Station P**	**0.58**	**302**	*e*P		**Pn**	**18 36 34.5**	**-0.1**
PB09				*e*S		**Sn**	**18 36 49.0**	**+0.3**
PB09				IAML			18 36 49.0	
	comp=Z,1μm,0.4s							
PB09				*e*S			18 36 49.5	
PB09	**IPOC Station P**	**0.58**	**302**	⇑*i*P		**Pn**	**18 36 34.5**	**-0.1**
PB09				*e*S		**Sn**	**18 36 48.3**	**-0.4**
PB09				IAML			18 36 50.3	
	comp=E,961nm,0.4s							
AF01	**San Pedro de A**	**0.98**	**149**	*e*P		**Pn**	**18 36 38.3**	**+0.3**
AF01				*i* S		**Sn**	**18 36 54.6**	**-0.3**
AF01				IAML			18 37 10.0	
	comp=E,776nm,0.6s							
PB06	**IPOC Station P**	**0.99**	**233**	*e*P		**Pn**	**18 36 37.9**	**-0.1**
PB06				*e*S		**Sn**	**18 36 56.0**	**+1.2**
PB06				IAML			18 36 57.9	
	comp=Z,709nm,0.5s							
PB06	**IPOC Station P**	**0.99**	**233**	⇑*i*P		**Pn**	**18 36 38.6**	**+0.6**
PB06				*e*S		**Sn**	**18 36 55.4**	**+0.6**
PB06				IAML			18 36 56.2	
	comp=E,2μm,0.2s							
PB07	**IPOC Station P**	**1.15**	**289**	*e*P		**Pn**	**18 36 39.8**	**+0.2**
PB07				*e*S		**Sn**	**18 36 59.0**	**+1.3**
PB07				IAML			18 36 59.3	
	comp=Z,839nm,0.2s							
PB07	**IPOC Station P**	**1.15**	**289**	⇑*i*P		**Pn**	**18 36 39.9**	**+0.2**
PB07				*i* S		**Sn**	**18 36 57.5**	**-0.1**
PB07				IAML			18 36 59.3	
	comp=E,1μm,0.2s							
PB01	**IPOC Station P**	**1.28**	**326**	*e*P		**Pn**	**18 36 40.6**	**-0.3**
PB01				*e*S		**Sn**	**18 37 00.1**	**+0.2**
PB01				IAML			18 37 02.6	
	comp=Z,633nm,0.2s							
PB01	**IPOC Station P**	**1.28**	**326**	⇑*i*P		**Pn**	**18 36 40.4**	**-0.5**
PB01				*e*S		**Sn**	**18 36 59.0**	**-0.9**
PB01				IAML			18 37 00.0	
	comp=N,1μm,0.3s							
PB15	**IPOC Station P**	**1.30**	**212**	*e*P		**Pn**	**18 36 36.8**	**-4.5**
PB15				*e*P			18 36 41.7	
PB15				*e*P			18 36 42.1	
PB15				*e*S		**Sn**	**18 37 02.2**	**+1.6**
PB15				IAML			18 37 04.8	
	comp=Z,3μm,0.2s							
PB15	**IPOC Station P**	**1.30**	**212**	*e*P		**Pn**	**18 36 42.0**	**+0.7**
PB15				*e*S		**Sn**	**18 37 02.0**	**+1.5**
PB04	**IPOC Station P**	**1.34**	**260**	*e*P		**Pn**	**18 36 42.1**	**+0.4**
PB04				*e*S		**Sn**	**18 37 02.9**	**+1.5**
PB04				IAML			18 37 03.2	
	comp=Z,644nm,0.2s							
PB04	**IPOC Station P**	**1.34**	**260**	⇑*i*P		**Pn**	**18 36 42.1**	**+0.4**
PB04				*e*S		**Sn**	**18 37 01.7**	**+0.3**
PB04				IAML			18 37 06.2	
	comp=E,836nm,0.3s							
PB02	**IPOC Station P**	**1.35**	**305**	*e*P		**Pn**	**18 36 41.6**	**-0.1**
PB02				*e*S		**Sn**	**18 37 02.1**	**+0.8**
PB02				IAML			18 37 03.5	
	comp=Z,1μm,0.4s							
PB02	**IPOC Station P**	**1.35**	**305**	⇑*i*P		**Pn**	**18 36 41.6**	**-0.1**
PB02				*e*S		**Sn**	**18 37 00.5**	**-0.8**
PB02				IAML			18 37 02.2	
	comp=E,1μm,0.3s							
PB05	**IPOC Station P**	**1.56**	**241**	*e*P		**Pn**	**18 36 44.7**	**+0.6**
PB05				*e*S		**Sn**	**18 37 06.4**	**+0.7**
PB05	**IPOC Station P**	**1.56**	**241**	*e*P		**Pn**	**18 36 44.7**	**+0.6**
PB05				*e*S		**Sn**	**18 37 05.8**	**+0.1**
PB05				IAML			18 37 11.5	
	comp=E,323nm,0.2s							
PATCX	**Punta Patache**	**1.85**	**313**	*e*P		**Pn**	**18 36 47.3**	**-0.3**
PATCX				*e*S		**Sn**	**18 37 13.3**	**+1.5**
PATCX				IAML			18 37 14.1	
	comp=Z,287nm,0.3s							
PATCX	**Punta Patache**	**1.85**	**313**	⇑*i*P		**Pn**	**18 36 47.3**	**-0.3**
PATCX				*e*S		**Sn**	**18 37 12.3**	**+0.5**
PATCX				IAML			18 37 16.2	
	comp=N,329nm,0.2s							
PX03	**IPOC Station P**	**1.90**	**333**	*i* P		**Pn**	**18 36 47.1**	**-1.1**
PX03				*e*S		**Sn**	**18 37 11.2**	**-1.7**
PB08	**IPOC Station P**	**2.00**	**348**	*e*P		**Pn**	**18 36 49.4**	**-0.3**
PB08				*e*S		**Sn**	**18 37 16.5**	**+1.0**
PB08				IAML			18 37 19.0	
	comp=Z,191nm,0.2s							
PB08	**IPOC Station P**	**2.00**	**348**	⇑*i*P		**Pn**	**18 36 50.0**	**+0.4**
PB08				*e*S		**Sn**	**18 37 15.1**	**-0.4**
PB08				IAML			18 37 19.0	
	comp=N,291nm,0.2s							
TA01	**Diego Aracena**	**2.05**	**318**	*e*P		**Pn**	**18 36 49.5**	**-0.5**
TA01				*e*S		**Sn**	**18 37 16.3**	**+0.2**
TA01				IAML			18 37 17.0	
	comp=Z,315nm,0.3s							
TA01	**Diego Aracena**	**2.05**	**318**	*e*P		**Pn**	**18 36 49.7**	**-0.3**
TA01				*e*S		**Sn**	**18 37 15.1**	**-0.9**
TA01				IAML			18 37 17.5	

DORK S **Sb** 18 43 51.2 +0.1

IDC ***13*** *18:49:55.9±2.3, 32°.20N×141°.71E, h0km, mb3.4/5, mbtmp3.4/6, ML2.6/1, Error ellipse: s-maj=73.3km s-min=20.0km az=60.0*
JMA ***13*** *18:49:58.5±0.2, 32°.4N±0°.7×141°.9E±0°.8, h89km, MV3.0/13, E OFF HACHIJOJIMA ISLAND*
ISC 13 18:50:00.6±1.3, 32°.34N±0°.08×141°.9E±0°.1, h39km, n15, σ0s59/22, mb3.5/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.90**	**293**	*eP*		**Pn**	**18 50 29.9**	**-0.6**
JHCJ				*eS*		**Sn**	**18 50 53.5**	**+0.5**
JHJ2	**Mitsune**	**1.90**	**295**	*eP*		**Pn**	**18 50 30.2**	**-0.2**
JHJ2				*eS*		**Sn**	**18 50 54.1**	**+1.0**
JHJ	**Hachijo jima 2**	**1.93**	**294**	Pn		**Pn**	**18 50 29.7**	**-1.1**
	26nm,0.3s,baz=77,slow=19,SNR=8.1							
JHJ				Sn		**Sn**	**18 50 53.5**	**-0.3**
	15nm,0.3s,baz=67,slow=15,SNR=1.9							
BSO1	**Boso 1**	**2.43**	**342**	*eP*		**Pn**	**18 50 36.9**	**-0.3**
BSO1				*eS*		**Sn**	**18 51 06.0**	**+0.6**
BSO3	**Boso 3**	**2.71**	**336**	*eP*		**Pn**	**18 50 40.8**	**-0.6**
JKUC	**kamogawauchiur**	**3.14**	**334**	*eP*		**Pn**	**18 50 46.8**	**-0.7**
JKUC				*eS*		**Sn**	**18 51 24.1**	**+0.4**
JOD2	**Odawara 2**	**3.73**	**322**	*eP*		**Pn**	**18 50 55.0**	**-0.6**
JOD2				*eS*		**Sn**	**18 51 37.5**	**-0.7**
JRY	**Ryogami san**	**4.42**	**327**	*eP*		**Pn**	**18 51 05.2**	**+0.1**
JAG	**Ashikaga**	**4.54**	**335**	*eP*		**Pn**	**18 51 06.1**	**-0.7**
JAG				*eS*		**Sn**	**18 51 58.1**	**-0.2**
MJAR	**Matsushiro Arr**	**5.17**	**325**	Pn		**Pn**	**18 51 15.2**	**-0.3**
	0.2nm,0.3s,baz=152,slow=12,SNR=10.0							
	1.5nm,0.4s							
SONM	**Songino Array**	**30.92**	**310**	P		**P**	**18 56 14.2**	**+0.4**
	0.3nm,0.6s,baz=108,slow=9.4,SNR=2.1							
	0.3nm,0.6s							
MKAR	**Makanchi Array**	**47.06**	**306**	P		**P**	**18 58 28.6**	**+0.3**
	0.4nm,0.6s,baz=86,slow=8.7,SNR=4.3							
	0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**49.28**	**311**	P		**P**	**18 58 45.6**	**+0.3**
	0.3nm,0.5s,baz=90,slow=8.6,SNR=5.7							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**52.48**	**189**	P		**P**	**18 59 09.1**	**-0.7**
	0.3nm,0.5s,baz=5.9,slow=7.7,SNR=6.2							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**56.21**	**189**	P		**P**	**18 59 37.3**	**+0.5**
	0.1nm,0.4s,baz=0.0,slow=4.9,SNR=1.3							
	0.1nm,0.4s							

IDC ***13*** *18:51:15.3±4.7, 15°.23S×167°.60E, h132km±41km, mb3.5/9, mbtmp3.9/10, Error ellipse: s-maj=31.0km s-min=29.8km az=52.0*
NEIC ***13*** *18:51:18.9±2.0, 15°.3S±0°.1×167°.6E±0°.2, h158km±10km, mb4.6/17, Error ellipse: s-maj=25.1km s-min=17.4km az=82.0*
ISC 13 18:51:15.5±0.7, 15°.21S±0°.08×167°.5E±0°.1, h129km, n33, σ1s13/33, mb4.3/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KOUNC	**Koumac, New Ca**	**6.14**	**210**			**Pn**	**18 52 43.4**	**-0.5**
MARNC	**Mare, Loyalty**	**6.26**	**176**	Pn		**Pn**	**18 52 44.4**	**-1.1**
DZM	**Mont Dzumac**	**6.90**	**188**	P		**Pn**	**18 52 54.4**	**+0.1**
	16nm,0.3s,baz=59,slow=7.5,SNR=60							
DZM				S		**Sn**	**18 54 11.2**	**-0.3**
	15nm,0.3s,baz=315,slow=23,SNR=13							
ONTNC	**Ouen Toro**	**7.13**	**188**	Pn		**Pn**	**18 52 59.8**	**+2.5**
OUENC	**Ouen Island, N**	**7.20**	**185**	Pn		**Pn**	**18 52 58.5**	**+0.3**
PINNC	**Pines Island,**	**7.37**	**180**	Pn		**Pn**	**18 53 00.8**	**+0.4**
RTZ	**Ruatahuna**	**24.77**	**162**	P		**P**	**18 56 24.3**	**-1.0**
RTZ				IAmb		IAmb	18 56 51.0	
	comp=Z,33nm,1.2s							
BKZ	**Black Stump Fm**	**25.14**	**163**	P		**P**	**18 56 29.2**	**+0.6**
BKZ				IAmb		IAmb	18 57 06.3	
	comp=Z,21nm,1.1s							
MRZ	**Mangatainoka R**	**26.32**	**166**	P		**P**	**18 56 38.2**	**-1.0**
THZ	**Tophouse**	**26.87**	**171**	P		**P**	**18 56 43.2**	**-1.0**
THZ				IAmb		IAmb	18 57 24.6	
	comp=Z,40nm,1.5s							
LTZ	**Lake Taylor**	**27.78**	**172**	P		**P**	**18 56 52.8**	**+0.5**
STKA	**Stephens Creek**	**28.87**	**230**	P		**P**	**18 57 03.9**	**+1.9**
STKA	**Stephens Creek**	**28.87**	**230**	P		**P**	**18 57 03.3**	**+1.3**
	comp=Z,1.2nm,0.4s,baz=48,slow=6.6,SNR=6.2							
	comp=Z,1.2nm,0.4s							
WB0	**Warramunga Arr**	**31.88**	**257**	P		**P**	**18 57 28.6**	**-0.1**
WRA	**Warramunga Arr**	**31.94**	**257**	P		**P**	**18 57 28.8**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=88,slow=9.1,SNR=2.2							
	comp=Z,0.2nm,0.5s							
AS31	**Alice Springs**	**32.72**	**250**	P		**P**	**18 57 36.2**	**+0.1**
ASAR	**Alice Springs**	**32.72**	**250**	P		**P**	**18 57 36.1**	**0.0**
	comp=Z,1.4nm,0.5s,baz=78,slow=8.9,SNR=36							
	comp=Z,1.4nm,0.5s							
BBOO	**Buckleboo**	**33.47**	**233**	P		**P**	**18 57 43.9**	**+1.4**
BBOO				IAmb		IAmb	18 58 21.5	
	comp=Z,17nm,1.2s							
FORT	**Forrest**	**39.26**	**240**	P		**P**	**18 58 32.5**	**+0.9**
FORT				IAmb		IAmb	18 58 48.4	
	comp=Z,15nm,0.9s							
VNDA	**Vanda**	**62.39**	**181**	P		**P**	**19 01 23.6**	**-0.5**
VNDA				IAmb		IAmb	19 01 36.3	
	comp=Z,6.6nm,1.4s							
VNDA	**Vanda**	**62.39**	**181**	P		**P**	**19 01 22.4**	**-1.7**
	comp=Z,2.5nm,1.1s,baz=6.3,slow=9.2,SNR=2.3							
	comp=Z,2.5nm,1.1s							
CASY	**Casey**	**63.18**	**202**	P		**P**	**19 01 29.5**	**+0.1**
MNAI	**Manna**	**64.32**	**272**	P		**P**	**19 01 36.3**	**-1.6**
QSPA	**South Pole Qui**	**74.82**	**180**	P		**P**	**19 02 42.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**75.35**	**294**	P		**P**	**19 02 44.2**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=104,slow=3.8,SNR=2.1							
	comp=Z,0.2nm,0.7s							
SONM	**Songino Array**	**83.02**	**324**	P		**P**	**19 03 26.5**	**0.0**
	comp=Z,0.6nm,0.7s,baz=137,slow=5.0,SNR=3.2							
	comp=Z,0.6nm,0.7s							
I03D	**Drain, OR**	**85.99**	**43**	P		**P**	**19 03 41.6**	**+0.3**
I03D				IAmb		IAmb	19 03 51.0	
	comp=Z,16nm,1.3s							
BELA	**Belgrano 2**	**86.23**	**175**	P		**P**	**19 03 41.9**	**-0.2**
BELA				IAmb		IAmb	19 04 23.7	
	comp=Z,6.3nm,1.2s							
E19K	**Redstone River**	**86.36**	**13**	P		**P**	**19 03 45.8**	**+3.1**
E19K				IAmb		IAmb	19 04 25.1	
	comp=Z,8.1nm,1.4s							
ILAR	**Eielson Array**	**86.91**	**18**	P		**P**	**19 03 44.4**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=224,slow=7.4,SNR=1.9							
	comp=Z,0.3nm,0.8s							
SNAA	**Sanae**	**93.09**	**183**	P		**P**	**19 04 14.2**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=204,slow=18,SNR=1.4							
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**97.71**	**316**	P		Pdif	19 04 36.7	+0.9
	comp=Z,0.2nm,0.5s,baz=87,slow=5.6,SNR=4.7							
	comp=Z,0.2nm,0.5s							
ARCES	**ARCESS Array B**	**120.77**	**345**	PKP		**PKPdf**	**19 09 51.6**	**-0.1**
	comp=Z,3.8nm,0.9s,baz=63,slow=1.9,SNR=12							

MEX ***13*** *18:54:44.5±0.9, 14°.77N×93°.92W, h15km±11km, MD4.2*
IDC ***13*** *18:54:45.7±1.9, 15°.34N×93°.81W, h0km, mb3.8/5, mbtmp3.8/8, ML3.8/3, Error ellipse: s-maj=38.5km s-min=24.0km az=29.0*
NEIC ***13*** *18:54:46.2±2.5, 14°.87N±0°.08×93°.79W±0°.05, h33km±9km, mb4.2/27, Md4.3/14(MEX), Error ellipse: s-maj=12.0km s-min=6.6km az=202.0*
GCG ***13*** *18:54:47.6±0.3, 15°.41N×93°.40W, h113km±12km, MD4.3*
CATAC ***13*** *18:54:49.5±0.9, 14°.80N×93°.54W, h10km, ML4.4*
ISC 13 18:54:42.4±1.7, 14°.95N±0°.05×93°.83W±0°.03, h8km±10km, n87, σ1s64/113, mb4.2/11, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCIG		**0.96**	**38**			**Pn**	**18 55 02.7**	**+0.5**
PCIG						**Sn**	**18 55 15.6**	**-0.5**
PCIG		**0.96**	**38**	*i* P		**Pn**	**18 55 02.7**	**+0.5**
PCIG				*eS*		**Sn**	**18 55 15.6**	**-0.5**
CARR	**Arriaga**	**1.30**	**356**	*eP*		**Pn**	**18 55 07.2**	**+0.3**
CARR				*eS*		**Sg**	**18 55 24.5**	**+0.3**
THIG		**1.51**	**91**			**Pn**	**18 55 08.8**	**-1.1**
THIG						**Sn**	**18 55 25.3**	**-4.5**
THIG		**1.51**	**91**	*eP*		**Pn**	**18 55 08.8**	**-1.1**
THIG				*eS*		**Sn**	**18 55 25.3**	**-4.5**
PATR	**El Naranjo**	**1.55**	**83**	*eP*		**Pn**	**18 55 09.8**	**-0.8**
PATR				*eS*		**Sn**	**18 55 30.1**	**-1.0**
PAVE	**Pavencul**	**1.61**	**81**	*i* P		**Pn**	**18 55 11.3**	**-0.1**
PAVE				*i* S		**Sn**	**18 55 31.4**	**-1.3**
CHUJ	**Union Juarez**	**1.67**	**85**	*eP*		**Pn**	**18 55 11.6**	**-0.7**
CHUJ				*eS*		**Sn**	**18 55 32.7**	**-1.3**
SMCA	**Catarina**	**1.70**	**93**	*i* P		**Pn**	**18 55 11.3**	**-1.1**
SMCA				*i* S		**Sn**	**18 55 32.8**	**-1.6**
SMCA				IAML			18 55 39.6	
	comp=Z,2μm,1.0s							
NILT	**Santiago Nilte**	**1.78**	**335**	*eP*		**Pn**	**18 55 13.7**	**+0.2**
NILT				*eS*		**Sb**	**18 55 37.9**	**+0.1**
TGIG		**1.94**	**20**			**Pb**	**18 55 18.4**	**+0.2**
TGIG						**Sg**	**18 55 43.8**	**-1.2**
TGIG		**1.94**	**20**	*eP*		**Pb**	**18 55 18.4**	**+0.2**
TGIG				*eS*		**Sg**	**18 55 43.8**	**-1.2**
CCIG	**Comitan**	**2.10**	**51**			**Pg**	**18 55 22.0**	**-0.8**
CCIG	**Comitan**	**2.10**	**51**	*eP*		**Pb**	**18 55 21.0**	**0.0**
CCIG				*eS*		**Sg**	**18 55 48.2**	**-1.9**
CCIG	**Comitan**	**2.10**	**51**	*i* P		**Pg**	**18 55 23.4**	**+0.6**
CCIG				*i* S		**Sg**	**18 55 49.9**	**-0.2**
CCIG				IAML			18 55 52.2	
	comp=Z,5μm,1.0s							
RTAL	**Retalhuleu**	**2.11**	**101**	Pn		**Pn**	**18 55 18.5**	**+0.5**
RTAL	**Retalhuleu**	**2.11**	**101**	*i* P		**Pb**	**18 55 20.2**	**-0.7**
RTAL				*i* S		**Sn**	**18 55 45.0**	**+0.5**
RTAL				IAML			18 55 53.3	
	comp=Z,2μm,1.0s							
STG3	**Santiaguito 3,**	**2.20**	**96**	*eP*		**Pn**	**18 55 20.4**	**+0.9**
STG3				*eS*		**Sn**	**18 55 46.2**	**-0.8**
HUEH	**Huehuetenango**	**2.28**	**80**			**Pb**	**18 55 22.8**	**-1.2**
HUEH	**Huehuetenango**	**2.28**	**80**	*i* P		**Pb**	**18 55 24.5**	**+0.5**
HUEH				*i* S		**Sb**	**18 55 51.0**	**-1.4**
HUEH				IAML			18 55 58.9	
	comp=Z,7μm,1.0s							
SULM	**Suchitepequez,**	**2.28**	**106**	*eP*		**Pn**	**18 55 22.3**	**+1.8**
SULM				*eS*		**Sn**	**18 55 49.0**	**+0.2**
HUIG	**Huatulco**	**2.35**	**291**	*eP*		**Pn**	**18 55 19.2**	**-2.1**
HUIG				*eS*		**Sn**	**18 55 45.4**	**-5.0**
SOKI	**Kika Raxquin**	**2.35**	**93**	*i* P		**Pb**	**18 55 23.7**	**-1.6**
SOKI				IAML			18 56 12.9	
	comp=Z,1μm,1.0s							
CMIG	**Matias Romero**	**2.36**	**335**	Pn		**Pn**	**18 55 21.7**	**+0.1**
	comp=Z,44nm,0.3s,baz=154,slow=9.9,SNR=148							
CMIG				Sn		**Sn**	**18 55 49.7**	**-1.0**
	comp=Z,179nm,0.3s,baz=102,slow=9.7,SNR=18							
	comp=Z,84nm,0.3s							
CMIG	**Matias Romero**	**2.36**	**335**	*eP*		**Pn**	**18 55 21.6**	**+0.1**
CMIG				*eS*		**Sn**	**18 55 49.8**	**-1.0**
UXUV	**UXUV**	**2.38**	**353**	*eP*		**Pb**	**18 55 24.2**	**-1.3**
UXUV				*eS*		**Sb**	**18 55 54.0**	**-1.1**
QUIS	**Sacapulas**	**2.67**	**82**	*i* P		**Pb**	**18 55 29.2**	**-1.3**
QUIS				IAML			18 56 08.3	
	comp=Z,2μm,1.0s							
FUG	**Fuego 3**	**2.93**	**99**	*eP*		**Pn**	**18 55 30.3**	**+0.7**
FUG				*eS*		**Sn**	**18 56 03.3**	**-1.8**
PCG	**Pacaya**	**3.17**	**100**	*eP*		**Pn**	**18 55 33.5**	**+0.6**
PCG				*eS*		**Sn**	**18 56 09.6**	**-1.4**
NEUV	**Arroyo Zacate**	**3.34**	**326**	*eP*		**Pn**	**18 55 33.7**	**-1.3**
NEUV				*eS*		**Sn**	**18 56 12.7**	**-2.3**
PEIG	**Puerto Escondi**	**3.37**	**289**	*eP*		**Pn**	**18 55 33.4**	**-2.0**
PEIG				*eS*		Sn	18 56 07.4	-8.2
PMUV	**Sontecomapan**	**3.79**	**341**	*eS*		**Sn**	**18 56 25.9**	**-0.2**
YOIG	**Yosondua**	**4.05**	**298**	*eP*		**Pn**	**18 55 45.9**	**+0.9**
YOIG				*eS*		**Sn**	**18 56 32.3**	**-0.6**
NUBE	**Las Nubes**	**4.06**	**104**	*i* P		**Pn**	**18 55 49.3**	**+4.3**
NUBE				IAML			18 56 47.7	
	comp=Z,400nm,1.0s							
CEVE	**Cerro Verde**	**4.22**	**105**	*i* P		**Pn**	**18 55 51.4**	**+4.0**
CEVE				IAML			18 56 51.8	
	comp=Z,450nm,1.0s							
PETF	**Flores**	**4.29**	**62**			**Pn**	**18 55 49.2**	**+1.2**
ESQI	**Esquipulas**	**4.36**	**94**			**Pn**	**18 55 49.2**	**+0.1**
MTO3	**Montecristo**	**4.36**	**97**			**Pn**	**18 55 50.0**	**+0.8**
MTO3	**Montecristo**	**4.36**	**97**	*i* P		**Pn**	**18 55 52.1**	**+2.9**
MTO3				IAML			18 57 04.7	
	comp=Z,140nm,1.0s							
TLIG	**Tlapa**	**5.24**	**300**	Pn		**Pn**	**18 56 03.2**	**+2.0**
NISHN	**Nisperales Com**	**5.79**	**81**	*i* P		**Pn**	**18 56 11.7**	**+2.9**
YORHN	**Yoro**	**6.48**	**88**	*i* P		**Pn**	**18 56 20.0**	**+1.7**
CRIN	**San Cristobal**	**6.95**	**108**	Pn		**Pn**	**18 56 27.0**	**+2.3**
TEIG	**Tepich**	**7.46**	**44**	Pn		**Pn**	**18 56 32.3**	**+0.7**
TEIG	**Tepich**	**7.46**	**44**	Pn		**Pn**	**18 56 33.3**	**+1.7**
	comp=Z,104nm,0.3s,baz=299,slow=13,SNR=35							
TEIG				Sn		**Sn**	**18 57 54.7**	**-1.7**
	comp=Z,69nm,0.3s,baz=185,slow=20,SNR=1.7							
MOIG	**Morelia**	**8.46**	**305**	Pn		**Pn**	**18 56 46.7**	**+1.1**
JTS	**Las Juntas de**	**9.82**	**117**	Pn		Pn	18 57 11.9	+7.8
	comp=Z,0.5nm,0.3s,baz=267,slow=18,SNR=2.4							
	comp=Z,3.0nm,0.4s							
SOR	**Soroa**	**12.87**	**51**	Pn		**Pn**	**18 57 44.6**	**-1.2**
833A	**Chaparral WMA,**	**14.28**	**340**	Pn		**Pn**	**18 58 07.3**	**+2.3**
SAND	**Sanderson**	**16.78**	**334**	P		**P**	**18 58 41.4**	**+1.2**
SAND				IAmb		IAmb	18 59 01.2	
	comp=Z,5.9nm,1.1s							
BRDY	**Brady**	**16.94**	**345**	P		**Pn**	**18 58 41.3**	**+1.4**
BRDY				IAmb		IAmb	18 58 59.3	
	comp=Z,6.1nm,0.8s							
TXAR	**Lajitas Array**	**16.96**	**329**	Pn		**P**	**18 58 42.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=149,slow=12,SNR=11							
	comp=Z,0.8nm,0.6s							
OZNA	**Ozona**	**17.25**	**338**	P		**P**	**18 58 46.2**	**+0.7**
OZNA				IAmb		IAmb	18 58 50.1	
	comp=Z,16nm,1.1s							
ALPN	**Alpine**	**17.81**	**331**	P		**P**	**18 58 52.4**	**+0.7**
ALPN				IAmb		IAmb	18 59 02.3	
	comp=Z,5.5nm,0.8s							
SGCY	**Sterling City**	**18.16**	**340**			**P**	**18 58 56.3**	**+0.8**
SGCY				IAmb		IAmb	18 59 05.7	
	comp=Z,11nm,0.7s							
PLPT	**Palo Pinto**	**18.25**	**348**	P		**Pn**	**18 58 56.5**	**+0.3**
PLPT				IAmb		IAmb	18 59 14.1	
	comp=Z,8.3nm,0.6s							
MNHN	**Monahans**	**18.25**	**335**	P		**P**	**18 58 57.9**	**+1.3**
MNHN				IAmb		IAmb	18 59 06.1	
	comp=Z,8.5nm,0.8s							
ABTX	**Abilene, Hawle**	**18.38**	**344**	P		**Pn**	**18 58 56.5**	**-1.3**
ABTX				IAmb		IAmb	18 59 14.1	
	comp=Z,18nm,1.2s							
ODSA	**Odessa**	**18.86**	**337**	Pn		**Pn**	**18 59 06.3**	**+2.6**
ODSA				IAmb		IAmb	18 59 24.6	
	comp=Z,31nm,1.3s							
MIAR	**Mount Ida**	**19.52**	**1**	P		**Pn**	**18 59 12.8**	**+1.3**
HTMS	**Hat Mesa**	**19.60**	**335**	P		**P**	**18 59 11.1**	**-0.3**
X37A	**Clayton**	**19.61**	**356**	P		**Pn**	**18 59 13.2**	**+0.6**
X37A				IAmb		IAmb	18 59 46.0	
	comp=Z,11nm,1.1s							
GDL2	**Guadalupe Moun**	**19.68**	**333**	P		**Pn**	**18 59 14.8**	**+1.1**
DKNS	**Dickens**	**19.72**	**342**	P		**Pn**	**18 59 14.6**	**+0.6**
DKNS				IAmb		IAmb	18 59 28.4	
	comp=Z,10nm,0.9s							
MSTX	**Muleshoe**	**20.60**	**338**	P		**P**	**18 59 23.6**	**+1.4**
MSTX				IAmb		IAmb	18 59 31.2	
	comp=Z,19nm,1.0s							
SMWD	**Samnorwood**	**20.89**	**345**	P		**P**	**18 59 26.2**	**+1.0**
SMWD				IAmb		IAmb	18 59 43.3	
	comp=Z,12nm,0.8s							
AMTX	**Amarillo**	**21.07**	**342**	P		**P**	**18 59 28.1**	**+0.8**
121A	**Cookes Peak, D**	**21.63**	**326**	P		**P**	**18 59 35.1**	**+1.6**
121A				IAmb		IAmb	18 59 45.3	
	comp=Z,10nm,0.9s							
CROK	**Carrier**	**21.79**	**351**	P		**P**	**18 59 34.1**	**-0.8**
U32A	**Winter Ranch,**	**21.84**	**349**	P		**P**	**18 59 35.9**	**+0.4**
TKL	**Tuckaleechee C**	**22.51**	**22**	P		**P**	**18 59 42.7**	**0.0**
	comp=Z,1.9nm,0.6s,baz=278,slow=19,SNR=1.6							
	comp=Z,1.9nm,0.6s							
U49A	**Red Boiling Sp**	**22.65**	**17**	P		**P**	**18 59 44.8**	**+0.7**
U49A				IAmb		IAmb	19 00 20.4	
	comp=Z,12nm,0.9s							
S39A	**Bolivar**	**22.66**	**1**	P		**P**	**18 59 45.2**	**+1.0**
S39A				IAmb		IAmb	18 59 53.6	
	comp=Z,6.8nm,0.8s							
V52A	**Sevierville**	**22.74**	**22**	P		**P**	**18 59 43.8**	**-1.3**
V52A				IAmb		IAmb	19 00 19.8	
	comp=Z,15nm,1.1s							
RTBA	**Rita Blanca**	**22.84**	**341**	P		**P**	**18 59 46.6**	**+0.4**
RTBA				IAmb		IAmb	19 00 02.0	
	comp=Z,22nm,1.4s							
V53A	**Saluda**	**22.88**	**24**	P		**P**	**18 59 43.7**	**-2.9**
S44A	**Carbondale**	**23.02**	**9**	P		**P**	**18 59 49.6**	**+1.7**
BOSC	**San Juan Bosco**	**23.54**	**139**	P		**P**	**18 59 52.2**	**-1.4**
S22A	**4UR Ranch, Cre**	**25.47**	**335**	P		**P**	**19 00 08.2**	**-3.2**
S22A				IAmb		IAmb	19 00 24.7	
	comp=Z,11nm,1.3s							
BGNE	**Belgrade**	**26.63**	**353**	P		**P**	**19 00 21.7**	**+0.1**
NVAR	**Mina Array Bea**	**31.83**	**322**	P		**P**	**19 01 09.4**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=135,slow=9.6,SNR=5.6							
	comp=Z,0.5nm,0.7s							
YKA	**Yellowknife Ar**	**49.72**	**348**	P		**P**	**19 03 34.6**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=152,slow=7.1,SNR=14							
	comp=Z,0.8nm,0.7s							
ILAR	**Eielson Array**	**61.28**	**337**	P		**P**	**19 05 01.7**	**+3.6**
	comp=Z,0.4nm,0.8s,baz=121,slow=5.8,SNR=9.0							
	comp=Z,0.4nm,0.8s							
ARCES	**ARCESS Array B**	**85.79**	**18**	P		**P**	**19 07 23.9**	**+1.7**
	comp=Z,4.2nm,1.0s,baz=284,slow=7.3,SNR=2.0							
	comp=Z,4.2nm,1.0s							
LZH	**Lanzhou**	**126.56**	**342**	*e*PKP		**PKPdf**	**19 13 43.1**	**-4.0**
LZH				sPKP			19 13 59.3	
PZH	**PanZhiHua**	**136.11**	**340**	PKP		**PKPdf**	**19 14 03.6**	**-1.7**
CMAR	**Chiang Mai Arr**	**144.50**	**339**	PKP		**PKiKP**	**19 14 24.0**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=349,slow=3.5,SNR=7.9							

IDC 13 18:59:05.2±2.4, 6°.14S×130°.19E, h0km, mb3.8/1, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=154.1km s-min=31.0km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.30**	**164**	Pn		Pn	19 02 28.8	-0.4
	0.1nm,0.3s,baz=347,slow=13,SNR=1.3							
WRA				Sn		Sn	19 04 54.9	-14
	0.4nm,0.3s,baz=342,slow=22,SNR=12							
	0.2nm,0.7s							
ASAR	**Alice Springs**	**17.79**	**169**	P		Pn	19 03 14.6	+0.1
	0.1nm,0.3s,baz=349,slow=11,SNR=12							
ASAR				S		Sn	19 06 17.9	-16
	0.5nm,0.9s,baz=351,slow=25,SNR=2.7							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**67.61**	**327**	P		P	19 10 04.0	0.0
	0.3nm,0.4s,baz=116,slow=7.0,SNR=9.0							
	0.3nm,0.4s							

KRSC 13 19:05:01.8±1.2, 49°.74N×156°.71E, h16km±14km, Ml4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.02**	**338**	*eP*		Pb	19 05 19.8	-1.3
SKR				*eS*		Sb	19 05 32.9	-1.5
PAU	**Pauzhetka**	**1.73**	**2**	*eP*		Pb	19 05 32.9	-0.4
PAU				*eS*		Sb	19 05 55.2	+0.3
KDTR	**Khodutka, Kamc**	**2.25**	**22**	*eS*		Sn	19 06 07.6	+1.8
ASAK	**Asacha**	**2.76**	**15**	*eP*		Pn	19 05 47.6	+2.1
ASAK				*eS*		Sb	19 06 21.8	-2.6
MTVR	**Mutnovka**	**2.90**	**18**	*eP*		Pn	19 05 50.3	+2.8
GRL	**Gorelyy**	**2.95**	**16**	*eP*		Pn	19 05 50.2	+2.1
GRL				*eS*		Sn	19 06 26.0	+2.8
KRMR	**Karymshinskiy**	**3.23**	**16**	*eP*		Pn	19 05 54.7	+2.9
PET	**Petropavlovsk**	**3.51**	**20**	*eS*		Sn	19 06 40.2	+3.4
DALK	**Dalny**	**3.54**	**20**	*eP*		Pn	19 05 59.5	+3.4
DALK				*eS*		Sn	19 06 42.0	+4.4
UGLR	**Uglovaya**	**3.72**	**20**	*eP*		Pn	19 06 02.4	+3.7
AVH	**Avacha**	**3.75**	**19**	*eP*		Pn	19 06 02.8	+3.6
AVH				*eS*		Sb	19 06 48.4	-4.7
KOK	**Koryaka**	**3.76**	**18**	*eP*		Pn	19 06 03.0	+3.8
KOK				*eS*		Sn	19 06 47.7	+4.5
SMAR	**Somma**	**3.77**	**20**	*eP*		Pn	19 06 03.0	+3.5
KRX	**Arik**	**3.83**	**18**	*eP*		Pn	19 06 03.7	+3.5
KRX				*eS*		Sb	19 06 50.7	-4.4
SPN	**Mys Shipunski**	**3.96**	**30**	*eS*		Sn	19 06 51.8	+3.9

IDC ***13*** *19:08:19.9±1.4, 13°.79N×121°.26E, h0km, mb3.3/6, mbtmp3.3/6, Error ellipse: s-maj=65.4km s-min=21.6km az=59.0*
ISC 13 19:08:25.0±1.5, 13°.8N±0°.3×121°.2E±0°.4, h35km, n6, σ0s38/6, mb3.3/6, Mindoro

MTBS					Lg	Lg	19 24 17.7					
	8.4nm,0.5s											
TNSS	**Tian-Shan**	**6.12**	**37**	*e*Pg	**Pb**	**19 23 07.9**	**+0.4**					
	1.8nm,0.2s											
TNSS					*e*Lg	Lg	19 24 23.5					
	4.1nm,0.6s											
TNSS	**Tian-Shan**	**6.12**	**37**	Pg	**Pb**	**19 23 07.9**	**+0.4**					
	1.8nm,0.2s											
TNSS					Lg	Lg	19 24 23.5					
	4.1nm,0.6s											
MDOK	**Medeo**	**6.26**	**36**	*e*Pg	**Pb**	**19 23 11.6**	**+1.8**					
	2.8nm,0.5s											
MDOK					*e*Lg	Lg	19 24 29.8					
	9.1nm,0.4s											
MDOK	**Medeo**	**6.26**	**36**	Pg	**Pb**	**19 23 11.6**	**+1.8**					
	2.8nm,0.5s											
MDOK					Pg	**Pg**	**19 23 16.2**	**-4.3**				
	2.9nm,0.6s											
MDOK					Lg	Lg	19 24 29.8					
	9.1nm,0.4s											
MDOK					⇑Lg	Lg	19 24 35.5					
	11nm,0.8s											
KOTS	**Kotyrbulak**	**6.35**	**36**	*e*Pg	**Pb**	**19 23 12.8**	**+1.5**					
	4.2nm,0.3s											
KOTS					*e*Lg	Lg	19 24 32.1					
	11nm,0.6s											
KOTS	**Kotyrbulak**	**6.35**	**36**	Pg	**Pb**	**19 23 12.7**	**+1.5**					
	4.2nm,0.3s											
KOTS					Lg	Lg	19 24 32.1					
	11nm,0.6s											
MKAR	**Makanchi Array**	**11.45**	**38**	Pn	**Pn**	**19 24 05.4**	**+1.2**					
	baz=218,slow=7.7,SNR=5.0											
	0.6nm,0.9s											
AB31	**Akbulak array**	**14.02**	**326**	P	**Pn**	**19 24 36.5**	**-2.6**					
	2.9nm,1.1s,baz=132,slow=12,SNR=11											
BVAR	**Borovoye Array**	**14.85**	**356**	Pn	**Pn**	**19 24 48.7**	**-1.8**					
	baz=165,slow=12,SNR=2.6											
	0.4nm,0.5s											
AKTO	**Aktyubinsk**	**15.74**	**325**	Pn	**Pn**	**19 25 01.7**	**-0.5**					
	0.1nm,0.3s,baz=128,slow=8.0,SNR=2.2											
	1.1nm,0.8s											
AKTO	**Aktyubinsk**	**15.74**	**325**	⇑P	**P**	**19 25 05.5**	**-0.7**					
	1.7nm,0.8s											
ZALV	**Zalesovo Beam**	**18.03**	**25**	P	**P**	**19 25 29.7**	**-1.8**					
	0.2nm,0.3s,baz=212,slow=9.9,SNR=4.7											
	0.5nm,0.3s											
FINES	**FINESS Array B**	**36.51**	**325**	P	**P**	**19 28 25.9**	**+0.1**					
	9.0nm,1.1s,baz=163,slow=2.0,SNR=5.9											
	9.0nm,1.1s											
ARCES	**ARCESS Array B**	**39.86**	**337**	P	**P**	**19 28 54.6**	**+0.7**					
	3.2nm,1.0s,baz=101,slow=9.3,SNR=1.6											
	3.2nm,1.0s											
HFS	**Hagfors**	**42.21**	**321**	P	**P**	**19 29 14.8**	**+1.5**					
	2.1nm,0.7s,baz=98,slow=11,SNR=8.1											
	2.1nm,0.7s											
NOA	**NORSAR Array B**	**43.49**	**322**	P	**P**	**19 29 23.8**	**0.0**					
	0.5nm,0.7s,baz=90,slow=8.9,SNR=2.2											
	0.5nm,0.7s											
WRA	**Warramunga Arr**	**82.26**	**123**	P	**P**	**19 33 42.5**	**+0.1**					
	0.1nm,0.2s,baz=330,slow=5.5,SNR=11											
	0.1nm,0.2s											

SOME ***13*** *19:26:07.8,38˚.57N×72˚.50E,h10km*
IDC ***13*** *19:26:08.9±4.2,37˚.45N×72˚.15E,h188km±34km, mb3.5/2, mbtmp4.0/9,MS4.1/2,Error ellipse: s-maj=52.6km s-min=23.5km az=145.0*

ISC 13 19:26:04.2±0.8,37˚.20N±0˚.07×72˚.24E±0˚.07,h150km,n38,
σ2ᵉ49/38,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.06**	**12**	P	**Pn**	**19 27 20.7**	**+2.0**
	SNR=163						
UCH	**Uchtor**	**5.32**	**19**	P	**Pn**	**19 27 24.5**	**+2.2**
	SNR=27						
KZA	**Kyzart**	**5.40**	**25**	P	**Pn**	**19 27 25.2**	**+1.9**
	SNR=13						
CHM	**Chimkent**	**5.50**	**339**	*e*Pg	**Pn**	**19 27 26.9**	**+2.6**
	231nm,0.4s						
CHM				*e*Lg	Lg	19 28 23.9	
	225nm,0.4s						
EKS2	**Erkin-Say**	**5.59**	**12**	P	**Pn**	**19 27 27.5**	**+2.0**
	SNR=28						
MRKS	**Merke**	**5.59**	**8**	*e*Pg	**Pn**	**19 27 27.3**	**+1.7**
	54nm,0.3s						
MRKS				*e*Lg	Lg	19 28 24.7	
	178nm,0.6s						
AAK	**Ala-Archa**	**5.71**	**17**	P	**Pn**	**19 27 29.5**	**+2.4**
	SNR=11						
AAK	**Ala-Archa**	**5.71**	**17**	P	**Pn**	**19 27 29.4**	**+2.4**
	9.4nm,0.3s,baz=185,slow=5.9,SNR=49						
AAK				S	**Sn**	**19 28 29.1**	**-2.7**
	28nm,0.5s,baz=195,slow=14,SNR=34						
DZA	**Taraz**	**5.73**	**353**	*e*Pg	**Pn**	**19 27 29.4**	**+2.1**
	278nm,0.3s						
DZA				*e*Lg	Lg	19 28 28.3	
	179nm,0.2s						
KBK	**Karagaybulak**	**5.84**	**20**	P	**Pn**	**19 27 31.7**	**+2.8**
	SNR=7.9						
ULHL	**Ulahol**	**5.91**	**30**	P	**Pn**	**19 27 31.7**	**+1.8**
	SNR=9.1						
CHMS	**Chumysh**	**6.11**	**18**	P	**Pn**	**19 27 34.3**	**+2.0**
	SNR=5.3						
TKM2	**Tokmak 2**	**6.27**	**23**	P	**Pn**	**19 27 37.1**	**+2.4**
	SNR=7.0						
USP	**Ospenovka**	**6.31**	**15**	P	**Pn**	**19 27 36.1**	**+1.1**
	SNR=16						
KST	**Kastek**	**6.50**	**25**	*e*Pg	Pn	19 27 42.2	+4.6
	4.7nm,0.3s						
KST				*e*Lg	Lg	19 28 50.1	
	25nm,0.4s						
TNSS	**Tian-Shan**	**6.86**	**30**	*e*Pg	Pn	19 27 51.1	+8.4
	3.0nm,0.2s						
TNSS				*e*Lg	Lg	19 29 05.3	
	6.4nm,0.7s						
BTLS	**Baital**	**7.96**	**9**	*e*Pg	Pn	19 28 10.1	+13
	1.1nm,0.1s						
BTLS				*e*Lg	Lg	19 29 38.3	
	13nm,0.4s						
GEYT	**Alibeck**	**11.23**	**278**	P	**Pn**	**19 28 42.8**	**+2.3**
	0.9nm,0.5s,baz=92,slow=13,SNR=1.8						
GEYT				S	**Sn**	**19 30 40.9**	**-3.8**
	1.4nm,0.6s,baz=76,slow=24,SNR=2.2						
GEYT				LR	LR	19 34 35.5	
	comp=Z,619nm,19.8s,baz=140,slow=46						
MKAR	**Makanchi Array**	**12.15**	**35**	P	**Pn**	**19 28 53.5**	**+1.1**
	0.3nm,0.7s,baz=224,slow=12,SNR=1.8						
PYUN	**Piuthan**	**12.81**	**132**	*e*P	**P**	**19 29 04.9**	**-1.5**
	17nm,0.4s						
PYUN				*e*S	**Sn**	**19 31 20.4**	**-2.6**
DANN	**Dangsing**	**13.10**	**129**	*e*P	**P**	**19 29 08.7**	**-0.9**
	14nm,0.3s						
KOLN	**Koldanda**	**13.42**	**131**	*e*P	**P**	**19 29 13.1**	**0.0**
GKN	**Gorkha**	**13.89**	**128**	*e*P	**P**	**19 29 19.2**	**+0.9**
	31nm,0.5s						
GKN				*e*S	**Sn**	**19 31 46.0**	**-2.9**
KURBB	**Kurchatov Arra**	**14.16**	**17**	P	**P**	**19 29 19.4**	**-1.5**
	1.8nm,0.6s,baz=207,slow=11,SNR=10						
KKN	**Kakani**	**14.45**	**127**	*e*P	**P**	**19 29 26.6**	**+2.0**
DMN	**Daman**	**14.46**	**128**	*e*P	**P**	**19 29 27.6**	**+2.8**
	21nm,0.5s						
PKIN	**Phulchoki**	**14.67**	**127**	*e*P	**P**	**19 29 30.0**	**+2.9**
	19nm,0.5s						
PKI	**Pulchoki**	**14.68**	**127**	*e*P	**P**	**19 29 30.3**	**+3.0**
	14nm,0.4s						
GUN	**Gumba**	**14.75**	**125**	*e*P	**P**	**19 29 30.5**	**+2.4**
	16nm,0.4s						
JIRN	**Jiri**	**15.12**	**125**	*e*P	**P**	**19 29 34.4**	**+2.2**
	39nm,0.5s						
RAMN	**Ramite**	**15.87**	**126**	*e*P	**P**	**19 29 45.3**	**+4.9**
	32nm,0.6s						
BVAR	**Borovoye Array**	**15.88**	**356**	P	**Pn**	**19 29 37.3**	**-2.0**
	4.5nm,0.7s,baz=164,slow=12,SNR=21						
TAPN	**Taplejung**	**16.34**	**122**	*e*P	**P**	**19 29 51.3**	**+5.7**
	11nm,0.5s						
AKTO	**Aktyubinsk**	**16.71**	**327**	P	**Pn**	**19 29 49.2**	**-0.2**
	4.3nm,0.4s,baz=126,slow=7.8,SNR=21						
ZALV	**Zalesovo Beam**	**18.88**	**23**	P	**P**	**19 30 12.7**	**-0.1**
	4.0nm,0.4s,baz=223,slow=10.0,SNR=23						
ARU	**Arti**	**21.32**	**339**	P	**P**	**19 30 37.8**	**-1.2**
	1.0nm,0.3s,baz=117,slow=18,SNR=3.7						
	1.0nm,0.3s						
TORD	**Torodi Ar. Bea**	**66.72**	**269**	P	**P**	**19 36 39.7**	**+0.2**
	1.3nm,0.4s,baz=45,slow=6.1,SNR=16						
	1.3nm,0.4s						
TSUM	**Tsumeb**	**76.13**	**233**	LR	LR	20 12 36.4	
	comp=Z,207nm,21.7s,baz=40,slow=37						

NOU ***13*** *20:10:36.9,21˚.23S×169˚.05E,h0km,MLv4.1/8, Southeast of Loyalty Islands*
IDC ***13*** *20:10:40.8±4.8,21˚.44S×168˚.69E,h0km,mb3.7/4, mbtmp3.7/5,ML4.1/1,MS4.4/1,Error ellipse: s-maj=169.2km s-min=30.5km az=148.0*

ISC 13 20:10:43.6±1.3,21˚.35S±0˚.1×168˚.6E±0˚.1,h10km,n20,
σ1ᵉ49/21,mb3.8/4,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**0.58**	**254**	P	**Pg**	**20 10 55.8**	**+0.9**
PINNC	**Pines Island,**	**1.69**	**220**	P	**Pn**	**20 11 53.3**	**-0.9**
YATNC	**Mamie plateau,**	**1.78**	**245**	P	**Pn**	**20 11 12.8**	**-1.6**
OUENC	**Ouen Island, N**	**1.99**	**236**	P	**Pn**	**20 11 17.4**	**+0.1**
DZM	**Mont Dzumac**	**2.17**	**250**	P	**Pn**	**20 11 19.6**	**-0.2**
DZM	**Mont Dzumac**	**2.17**	**250**	Pn	**Pn**	**20 11 19.3**	**-0.5**
	63nm,0.3s,baz=112,slow=11,SNR=932						
DZM				Sn	**Sn**	**20 11 47.3**	**+0.5**
	150nm,0.3s,baz=162,slow=20,SNR=14						
	135nm,0.3s						
ONTNC	**Ouen Toro**	**2.25**	**244**	P	**Pn**	**20 11 21.2**	**+0.4**
NOUC	**Port Laguerre**	**2.30**	**250**	P	**Pn**	**20 11 21.8**	**+0.3**
KOUNC	**Koumac, New Ca**	**4.13**	**280**	P	**Pn**	**20 11 46.4**	**-0.4**
WRA	**Warramunga Arr**	**32.09**	**266**	P	**P**	**20 17 09.5**	**-1.5**
	0.2nm,0.6s,baz=103,slow=7.8,SNR=6.0						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**32.12**	**259**	P	**P**	**20 17 10.5**	**-0.9**
	0.9nm,0.6s,baz=86,slow=9.5,SNR=18						
ASAR				LR	LR	20 29 11.8	
	comp=Z,652nm,21.8s,baz=23,slow=34						
	0.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**78.85**	**295**	P	**P**	**20 22 46.6**	**-0.8**
	0.4nm,0.3s,baz=119,slow=5.5,SNR=2.4						
	0.4nm,0.3s						
SONM	**Songino Array**	**88.54**	**323**	P	**P**	**20 23 36.2**	**-0.3**
	0.3nm,0.6s,baz=123,slow=4.4,SNR=1.9						
	0.3nm,0.6s						
GERES	**GERESS Array B**	**146.03**	**330**	PKPbc	**PKPdf**	**20 30 22.6**	**-0.4**
	2.2nm,0.7s,baz=44,slow=4.1,SNR=4.5						
KBA	**Koelnbreinsper**	**147.43**	**328**	*e*PKP	**PKPdf**	**20 30 24.7**	**-0.7**
	0.9nm,0.5s						
LESA	**Schwarzleotal**	**147.52**	**329**	*e*PKP	**PKPdf**	**20 30 27.1**	**+1.7**
	1.2nm,0.4s						
ABTA	**Abfaltersbach**	**148.07**	**328**	*e*PKP	**PKPdf**	**20 30 28.1**	**+1.6**
	2.0nm,0.8s						
MOTA	**Moosalm**	**148.32**	**330**	*e*PKP	**PKPdf**	**20 30 29.4**	**+2.5**
	2.4nm,0.6s						
SQTA	**Sankt Quirin**	**148.36**	**330**	*e*PKP	**PKPdf**	**20 30 29.8**	**+2.9**
	2.0nm,0.4s						
FETA	**Feichten**	**148.73**	**330**	*e*PKP	**PKPdf**	**20 30 30.8**	**+3.2**
	2.0nm,0.6s						

DJA ***13*** *20:31:15.9±0.3,6˚.5S×12˚.8E±˚,h346km±8km, M4.1/12, mb4.0/10,mB4.7/3,MLv4.2/12,Mw(mB)3.9/3*
NEIC ***13*** *20:31:17.8±1.8,6˚.8S±0˚.1×128˚.35E±0˚.08,h295km±19km, mb4.3/5,Error ellipse: s-maj=18.9km s-min=11.5km az=181.0*
IDC ***13*** *20:31:21.2±4.4,6˚.22S×129˚.33E,h393km±53km, mb3.0/3, mbtmp3.8/5,Error ellipse: s-maj=100.5km s-min=14.0km az=73.0*

ISC 13 20:31:15.9±0.7,6˚.60S±0˚.07×128˚.35E±0˚.07,h334km,n30,
σ1ᵉ86/34,mb3.4/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.58**	**37**	P	**Pn**	**20 32 10.9**	**+0.6**
SAUI	**Saumlaki**	**3.24**	**115**	Pn	**Pn**	**20 32 14.3**	**-2.0**
SAUI					S	**20 32 59.2**	**-5.6**
SAUI	**Saumlaki**	**3.24**	**115**	P	**Pn**	**20 32 18.8**	**+2.5**
NLAI	**Namlea**	**3.56**	**339**	P	**Pn**	**20 32 20.1**	**+0.6**
SANI	**Sanana**	**5.09**	**332**	P	**Pn**	**20 32 35.3**	**-0.6**
SOEI	**Soe**	**5.12**	**232**	Pn	**Pn**	**20 32 37.0**	**+0.8**
SOEI					S	**20 33 37.0**	**-4.1**
SOEI	**Soe**	**5.12**	**232**	P	**Pn**	**20 32 37.4**	**+1.2**
	13nm,0.4s,1μm1.2nm						
LBMI	**Labuha**	**5.98**	**352**	P	**Pn**	**20 32 45.4**	**-0.6**
	56nm,1.1s,0.2nm						
KMPI	**Kaimana, Papua**	**6.08**	**62**	P	**Pn**	**20 32 47.3**	**+0.1**
	147nm,0.7s,2μm0.5nm						
SWI	**Sorong**	**6.39**	**27**	P	**Pn**	**20 32 50.0**	**-0.8**
	8.9nm,0.6s,0.1nm						
MTN	**Manton Dam**	**6.79**	**156**	Pn	**Pn**	**20 32 57.9**	**+2.5**
EDFI	**Ende, Flores**	**6.94**	**252**	P	**Pn**	**20 32 57.7**	**+0.4**
	5.7nm,1.0s,0.0nm						
LUWI	**Luwuk**	**7.83**	**315**	Pn	**Pn**	**20 33 10.4**	**+2.5**
BASI	**Baing, Sumba**	**8.49**	**244**	P	**Pn**	**20 33 15.7**	**0.0**
	30nm,0.6s						
KNRA	**Kununurra**	**9.04**	**177**	Pn	**Pn**	**20 33 22.0**	**-0.2**
PLAI	**Plampang**	**10.71**	**257**	P	**Pn**	**20 33 41.9**	**-0.6**
	10nm,0.7s						
TWSI	**Taliwang, Sumb**	**11.56**	**259**	P	**Pn**	**20 33 51.3**	**-1.4**
FITZ	**Fitzroy Crossi**	**11.73**	**193**		**P**	**20 33 58.0**	**+2.7**
WB0	**Warramunga Arr**	**14.35**	**156**	P	**Pn**	**20 34 27.5**	**+1.8**
WRA	**Warramunga Arr**	**14.49**	**157**	P	**Pn**	**20 34 27.4**	**0.0**
	1.0nm,0.6s,baz=341,slow=12,SNR=13						
WRA				S	**S**	**20 37 05.2**	**+1.9**
	1.3nm,0.8s,baz=343,slow=21,SNR=5.1						
WB2	**Warramunga Arr**	**14.49**	**157**	P	**Pn**	**20 34 27.4**	**0.0**
COEN	**Coen**	**16.31**	**118**	P	**Pn**	**20 34 49.0**	**+0.4**
MBWA	**Marble Bar**	**16.71**	**209**	P	**Pn**	**20 34 51.6**	**-1.5**
MBWA				IAmb	IAmb	20 34 53.2	
	comp=Z,28nm,1.5s						
PSA00	**Pilbara Seismi**	**17.01**	**208**	P	**Pn**	**20 34 54.8**	**-1.6**
PSA00				IAmb	IAmb	20 35 10.0	
	comp=Z,22nm,1.2s						
PSA00	**Pilbara Seismi**	**17.01**	**208**	P	**P**	**20 34 54.0**	**+0.9**
PSA00				IAmb	IAmb	20 35 30.0	
	comp=Z,6.9nm,1.2s						
AS31	**Alice Springs**	**17.79**	**163**	P	**Pn**	**20 35 04.5**	**-1.1**
ASAR	**Alice Springs**	**17.80**	**163**	P	**Pn**	**20 35 05.2**	**-0.5**
	comp=Z,3.4nm,0.5s,baz=341,slow=10,SNR=42						
ASAR				S	**S**	**20 38 11.4**	**+2.6**
	comp=Z,2.0nm,0.9s,baz=342,slow=19,SNR=12						
SONM	**Songino Array**	**57.55**	**343**	P	**P**	**20 40 32.9**	**+1.3**
	comp=Z,2.2nm,0.4s,baz=152,slow=6.5,SNR=2.8						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**67.00**	**327**	P	**P**	**20 41 33.8**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=129,slow=7.6,SNR=10						
	comp=Z,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**70.50**	**334**	P	**P**	**20 41 54.7**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=134,slow=4.2,SNR=2.1						
	comp=Z,0.4nm,0.5s						

IDC ***13*** *20:35:38.2±2.3,4˚.79S×145˚.14E,h87km±19km, mb3.7/11, mbtmp4.1/13,Error ellipse: s-maj=31.5km s-min=15.2km az=85.0*
NEIC ***13*** *20:35:38.9±2.4,4˚.73S±0˚.10×145˚.1E±0˚.1,h93km±8km, mb4.6/30,Error ellipse: s-maj=16.9km s-min=12.6km az=55.0*

ISC 13 20:35:39.1±0.9,4˚.83S±0˚.10×145˚.08E±0˚.10,h100km,n49,
σ1ᵉ37/38,mb4.5/23,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.99**	**156**		**Pn**	**20 36 51.6**	**-0.2**
PMG				Sn	**Sn**	**20 37 46.3**	**-2.1**
PMG	**Port Moresby**	**4.99**	**156**	P	**Pn**	**20 36 51.9**	**+0.1**
	28nm,0.4s,baz=38,slow=4.8,SNR=16						
PMG				S	**Sn**	**20 37 45.1**	**-3.2**
	157nm,0.5s,baz=14,slow=16,SNR=31						
COEN	**Coen**	**9.26**	**192**		**Pn**	**20 37 51.6**	**+1.7**
CTAO	**Charters Tower**	**15.21**	**176**		**P**	**20 39 12.1**	**+0.8**
MTN	**Manton Dam**	**15.90**	**239**	Pn	**P**	**20 39 17.6**	**-1.4**
MTN				IAmb	IAmb	20 39 31.3	
	comp=Z,50nm,1.5s						
WB0	**Warramunga Arr**	**18.13**	**214**	P	**Pn**	**20 39 42.2**	**-2.3**
WR0	**Warramunga Arr**	**18.20**	**213**	P	**Pn**	**20 39 43.2**	**-2.2**
WRAB	**Tennant Creek**	**18.29**	**214**	P	**Pn**	**20 39 44.2**	**-2.3**
WRAB				IAmb	IAmb	20 39 48.6	
	comp=Z,36nm,1.5s						
WB2	**Warramunga Arr**	**18.30**	**214**	P	**Pn**	**20 39 44.9**	**-1.7**
WRA	**Warramunga Arr**	**18.30**	**214**	P	**Pn**	**20 39 45.6**	**-1.0**
	comp=Z,4.9nm,0.6s,baz=41,slow=12,SNR=26						
WRA				ScP	**ScP**	**20 47 42.0**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=22,slow=2.2,SNR=1.6						
KNRA	**Kununurra**	**19.32**	**235**	P	**Pn**	**20 39 58.0**	**-0.7**
KNRA				IAmb	IAmb	20 40 25.6	
	comp=Z,32nm,1.0s						
SOEI	**Soe**	**21.21**	**255**	P	**P**	**20 40 16.4**	**-0.7**
SOEI				IAmb	IAmb	20 40 59.9	
	comp=Z,50nm,1.0s						

EIDS	**Eidsvold**	**21.22**	**165**	P	**P**	**20 40 17.8**	**+0.7**					
EIDS				IAmb	IAmb	20 40 20.7						
	comp=Z,35nm,1.2s											
AS31	**Alice Springs**	**21.60**	**209**	P	**P**	**20 40 20.7**	**-0.5**					
ASAR	**Alice Springs**	**21.61**	**209**	P	**P**	**20 40 21.4**	**+0.1**					
	comp=Z,3.7nm,0.7s,baz=41,slow=7.4,SNR=23											
ASAR				ScP	**ScP**	**20 47 49.3**	**+1.6**					
	comp=Z,1.1nm,0.9s,baz=29,slow=2.9,SNR=5.5											
	comp=Z,3.7nm,0.7s											
LUWI	**Luwuk**	**22.59**	**279**	P	**P**	**20 40 31.5**	**-0.1**					
FITZ	**Fitzroy Crossi**	**23.13**	**234**	P	**P**	**20 40 37.5**	**+0.6**					
KOUNC	**Koumac, New Ca**	**24.35**	**132**	P	**P**	**20 40 49.2**	**+1.3**					
KOUNC				IAmb	IAmb	20 41 27.6						
	comp=Z,23nm,1.2s											
TOLI2	**Tolitoli**	**24.98**	**283**	P	**P**	**20 40 52.4**	**-1.3**					
TOLI2				IAmb	IAmb	20 40 57.0						
	comp=Z,14nm,0.7s											
ARMA	**Armidale**	**26.19**	**167**	P	**P**	**20 41 06.9**	**+2.2**					
ARMA				IAmb	IAmb	20 41 08.2						
	comp=Z,20nm,1.2s											
DZM	**Mont Dzumac**	**26.87**	**132**	P	**P**	**20 41 11.6**	**+0.7**					
DZM				IAmb	IAmb	20 41 12.8						
	comp=Z,11nm,0.8s											
STKA	**Stephens Creek**	**27.10**	**187**	P	**P**	**20 41 13.2**	**+0.6**					
STKA	**Stephens Creek**	**27.10**	**187**	P	**P**	**20 41 13.3**	**+0.6**					
	comp=Z,3.8nm,0.6s,baz=357,slow=9.4,SNR=11											
	comp=Z,3.8nm,0.6s											
BBOO	**Buckleboo**	**29.08**	**196**	P	**P**	**20 41 30.9**	**+0.5**					
BBOO				IAmb	IAmb	20 41 40.9						
	comp=Z,12nm,1.2s											
FORT	**Forrest**	**30.38**	**210**	P	**P**	**20 41 42.6**	**+0.8**					
FORT				IAmb	IAmb	20 41 43.6						
	comp=Z,16nm,0.7s											
CAN	**Canberra**	**30.56**	**174**	P	**P**	**20 41 44.5**	**+1.1**					
CAN				IAmb	IAmb	20 42 19.2						
	comp=Z,29nm,1.4s											
MORW	**Morawa**	**36.57**	**225**	P	**P**	**20 42 36.2**	**+0.6**					
QRZ	**Quartz Range**	**43.49**	**149**	P	P	20 43 35.7	+3.1					
TKNZ	**Takaka Hill**	**43.86**	**149**	P	P	20 43 38.2	+2.6					
TUWZ	**Tuamarina**	**44.65**	**149**	P	P	20 43 43.2	+1.3					
TCW	**Tory Channel**	**44.67**	**148**	P	**P**	**20 43 42.5**	**+0.5**					
BSWZ	**Blackbirch Sta**	**44.83**	**149**	P	P	20 43 44.6	+1.3					
MRZ	**Mangatainoka R**	**44.97**	**147**	P	P	20 43 45.6	+1.4					
RPZ	**Rata Peaks**	**44.99**	**153**	P	P	20 43 46.5	+1.9					
RPSI	**Rantau Prapat**	**46.71**	**278**	P	**P**	**20 43 57.8**	**-0.8**					
RPSI				IAmb	IAmb	20 43 59.4						
	comp=Z,9.4nm,1.2s											
GSI	**Gunungsitoli**	**47.84**	**276**	P	**P**	**20 44 06.7**	**-0.6**					
GSI				IAmb	IAmb	20 44 07.5						
	comp=Z,12nm,0.6s											
CMAR	**Chiang Mai Arr**	**51.01**	**298**	P	P	20 44 32.8	+1.4					
	comp=Z,0.9nm,0.6s,baz=122,slow=5.9,SNR=8.8											
	comp=Z,0.9nm,0.6s											
PETK	**Petropavlovsk-**	**58.70**	**9**	P	P	20 45 25.8	-0.3					
	comp=Z,6.1nm,1.1s,baz=208,slow=5.7,SNR=1.6											
	comp=Z,6.1nm,1.1s											
SONM	**Songino Array**	**62.47**	**332**	P	P	20 45 51.7	-0.4					
	comp=Z,0.5nm,0.8s,baz=147,slow=6.7,SNR=3.3											
	comp=Z,0.5nm,0.8s											
CASY	**Casey**	**65.89**	**195**	P	**P**	**20 46 14.3**	**+0.4**					
AKUT	**Akutan**	**71.58**	**28**	P	**P**	**20 46 47.5**	**-1.9**					
VNDA	**Vanda**	**73.19**	**176**	P	P	20 46 59.8	+1.1					
VNDA				IAmb	IAmb	20 47 00.4						
	comp=Z,5.6nm,0.8s											
VNDA	**Vanda**	**73.19**	**176**	P	P	20 46 59.8	+1.1					
	comp=Z,2.9nm,0.6s,baz=326,slow=7.6,SNR=15											
	comp=Z,2.9nm,0.6s											
MKAR	**Makanchi Array**	**75.39**	**321**	P	P	20 47 12.8	+0.8					
	comp=Z,0.2nm,0.4s,baz=101,slow=8.1,SNR=5.6											
	comp=Z,0.2nm,0.4s											
KURBB	**Kurchatov Arra**	**79.16**	**323**	P	P	20 47 33.9	+1.1					
	comp=Z,0.3nm,0.2s,baz=96,slow=9.4,SNR=1.9											
	comp=Z,0.3nm,0.2s					

2.6nm,0.8s,baz=136,slow=7.2,SNR=5.3
2.6nm,0.8s
ZALV Zalesovo Beam 33.28 43 P **P** **21 00 50.1 +1.6**
0.7nm,0.6s,baz=246,slow=11,SNR=3.6
0.7nm,0.6s
ESDC Sonseca Array 39.32 292 P **P** **21 01 40.5 +0.1**
0.5nm,0.9s,baz=88,slow=12,SNR=2.0
0.5nm,0.9s
TORD Torodi Ar. Bea 45.13 252 P **P** **21 02 27.9 0.0**
0.3nm,0.8s,baz=40,slow=7.0,SNR=2.2
0.3nm,0.8s
CMAR Chiang Mai Arr 49.83 95 P **P** **21 03 04.3 -0.1**
0.5nm,0.4s,baz=292,slow=9.1,SNR=4.8
0.5nm,0.4s

IDC ***13*** *21:02:41.9±1.9, 43°.84N×105°.64W, h0km, mb3.8/2, mbtmp3.5/7, ML3.2/4, Error ellipse: s-maj=60.5km s-min=8.9km az=147.0*
NEIC ***13*** *21:02:43.1±1.0, 43°.77N±0°.05×105°.34W±0°.07, h0km±2km, ML3.1/70, Error ellipse: s-maj=9.2km s-min=7.1km az=317.0*
ISC 13 21:02:41.9±0.9**, 43°.78N**±0°.05×**105°.37W**±0°.05**, h0**km**, n45, σ1§31/45, Wyoming**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.03**	**70**	Pg	**Pg**		**Pg**	**21 03 01.4**	**-0.1**
K22A	**Casper**	**1.41**	**217**				**Pg**	**21 03 08.0**	**-0.8**
K22A				IAML				21 03 32.8	
	comp=N,423nm,0.3s								
K22A				IAML				21 03 33.4	
	comp=E,423nm,0.3s								
PHWY	**Pilot Hill**	**2.48**	**181**				**Pn**	**21 03 24.4**	**+0.7**
PHWY				IAML				21 04 00.3	
	comp=E,84nm,0.3s								
PHWY				IAML				21 04 02.8	
	comp=E,101nm,0.3s								
RWWY	**Rawlins**	**2.49**	**214**				**Pn**	**21 03 24.6**	**+0.7**
RWWY				IAML				21 04 01.7	
	comp=E,116nm,0.7s								
RWWY				IAML				21 04 04.5	
	comp=E,117nm,0.3s								
N23A	**Red Feather La**	**2.91**	**189**	Pn			**Pn**	**21 03 31.1**	**+1.4**
N23A				IAML				21 04 20.0	
	comp=E,77nm,0.6s								
LAO	**LASA Array**	**2.97**	**349**				**Pn**	**21 03 31.6**	**+1.3**
RLMT	**Red Lodge**	**3.10**	**297**	Pn			**Pn**	**21 03 33.1**	**+0.9**
RLMT				IAML				21 04 24.9	
	comp=E,57nm,0.3s								
RLMT				IAML				21 04 26.6	
	comp=E,54nm,0.4s								
PD31	**Pinedale Array**	**3.22**	**253**	Pn			**Pn**	**21 03 35.3**	**+1.4**
PDAR	**Pinedale Array**	**3.22**	**253**	Pn			**Pn**	**21 03 35.2**	**+1.4**
	comp=E,6.6nm,0.3s,baz=70,slow=16,SNR=100								
PDAR				Lg			Lg	21 04 16.4	
	comp=E,4.4nm,0.3s,baz=76,slow=34,SNR=1.2								
BW06	**Boulder Array**	**3.22**	**253**				**Pn**	**21 03 35.4**	**+1.5**
BW06				IAML				21 04 22.3	
	comp=E,46nm,0.3s								
BW06				IAML				21 04 25.9	
	comp=E,39nm,0.7s								
BRIGG	**Briggsdale**	**3.29**	**166**				**Pn**	**21 03 36.1**	**+1.4**
YMP	**Mirror Lake Pl**	**3.57**	**287**				**Pn**	**21 03 40.4**	**+1.6**
OGNE	**Ogallala**	**3.76**	**138**				**Pn**	**21 03 42.6**	**+1.4**
LOHW	**Long Hollow**	**3.80**	**269**				**Pn**	**21 03 45.0**	**+3.2**
H17A	**Grant Village**	**3.80**	**281**				**Pn**	**21 03 44.0**	**+2.2**
H17A				IAML				21 04 46.1	
	comp=N,26nm,0.3s								
FLWY	**Flagg Ranch**	**3.86**	**276**				**Pn**	**21 03 43.8**	**+1.2**
FLWY				IAML				21 04 51.4	
	comp=N,32nm,2.7s								
FLWY				IAML				21 04 58.5	
	comp=N,24nm,1.8s								
MOOW	**Moose Ponds**	**3.89**	**271**				**Pn**	**21 03 44.6**	**+1.5**
ISCO	**Idaho Springs**	**3.98**	**183**				**Pn**	**21 03 45.3**	**+0.9**
YHH	**Holmes Hill**	**4.06**	**286**				**Pn**	**21 03 47.3**	**+1.8**
O20A	**White River Ci**	**4.22**	**211**				**Pn**	**21 03 48.8**	**+1.1**
O20A				IAML				21 04 59.0	
	comp=E,30nm,0.7s								
AHID	**Auburn Hatcher**	**4.30**	**258**				**Pn**	**21 03 50.3**	**+1.6**
AHID				IAML				21 05 05.4	
	comp=E,25nm,0.7s								
AHID				IAML				21 05 09.8	
	comp=E,25nm,0.8s								
YHL	**Hebgen Lake**	**4.30**	**286**				**Pn**	**21 03 50.1**	**+1.2**
YHL				IAML				21 05 04.8	
	comp=N,16nm,1.3s								
YHL				IAML				21 05 19.6	
	comp=E,20nm,1.1s								
E28A	**Huff**	**4.33**	**48**				**Pn**	**21 03 50.1**	**+1.1**
K30B	**Basset**	**4.35**	**103**				**Pn**	**21 03 51.0**	**+1.7**
DGMT	**Dagmar**	**4.76**	**9**				**Pn**	**21 03 56.2**	**+1.3**
Q24A	**Divide**	**4.81**	**178**	Pn			**Pn**	**21 03 56.5**	**+0.6**
Q24A				IAML				21 05 20.2	
	comp=N,18nm,0.7s								
BOZ	**Bozeman (W)**	**4.82**	**294**				**Pn**	**21 03 56.8**	**+1.0**
HWUT	**Hardware Ranch**	**5.05**	**247**				**Pn**	**21 03 59.7**	**+0.7**
HWUT				IAML				21 05 27.7	
	comp=N,17nm,0.9s								
HWUT				IAML				21 05 41.1	
	comp=N,13nm,2.4s								
BSUT	**Blindstream Ca**	**5.15**	**233**				**Pn**	**21 04 01.4**	**+0.9**
BSUT				IAML				21 04 41.3	
	comp=N,8.9nm,4.9s								
BSUT				IAML				21 05 45.5	
	comp=E,10nm,3.1s								
KSCO	**Kaye Shedlock'**	**5.19**	**156**				**Pn**	**21 04 00.8**	**-0.1**
EGMT	**Eagleton**	**5.23**	**326**				**Pn**	**21 04 01.7**	**+0.3**
MDND	**Maddock**	**5.73**	**43**	Pn			**Pn**	**21 04 08.6**	**+0.4**
ELMT	**Elliston**	**5.74**	**301**				**Pn**	**21 04 09.7**	**+1.3**
SDCO	**Great Sand Dun**	**6.03**	**181**				**Pn**	**21 04 13.3**	**+0.8**
S22A	**4UR Ranch, Cre**	**6.13**	**191**	Pn			**Pn**	**21 04 15.5**	**+1.6**
ECSD	**EROS Data Cent**	**6.34**	**87**				**Pn**	**21 04 17.1**	**+0.5**
DUG	**Dugway, Tooele**	**6.60**	**240**				**Pn**	**21 04 21.2**	**+1.0**
T25A	**Trinidad**	**6.67**	**173**				**Pn**	**21 04 21.9**	**+0.6**
MVCO	**Mesa Verde**	**6.98**	**201**	Pn			**Pn**	**21 04 27.1**	**+1.6**
ELK	**Elko**	**7.92**	**251**	Pn			**Pn**	**21 04 38.2**	**-0.3**
	comp=E,0.2nm,0.3s,baz=75,slow=9.3,SNR=2.8								
	comp=E,0.4nm,0.3s								
ULM	**Lac du Bonnet**	**9.16**	**42**	Pn			**Pn**	**21 04 54.1**	**-1.1**
	comp=E,4.2nm,0.3s,baz=225,slow=12,SNR=42								
	comp=E,6.7nm,0.3s								
NVAR	**Mina Array Bea**	**11.12**	**246**	Pn			**Pn**	**21 05 23.9**	**+1.6**
	comp=E,0.1nm,0.3s,baz=51,slow=12,SNR=4.1								
	comp=E,0.3nm,0.6s								
YKA	**Yellowknife Ar**	**19.51**	**347**	P			**P**	**21 07 10.8**	**+0.4**
	comp=E,0.1nm,0.3s,baz=147,slow=33,SNR=4.8								
	comp=E,0.2nm,0.6s								
ZALV	**Zalesovo Beam**	**82.26**	**354**	P			**P**	**21 15 02.7**	**-2.1**
	comp=E,0.3nm,0.3s,baz=352,slow=4.4,SNR=2.2								
	comp=E,0.3nm,0.3s								
MKAR	**Makanchi Array**	**89.56**	**355**	P			**P**	**21 15 40.8**	**-0.2**
	comp=E,0.3nm,0.6s,baz=356,slow=4.7,SNR=3.1								
	comp=E,0.3nm,0.6s								

IDC ***13*** *21:58:26.2±1.2, 28°.14N×128°.45E, h0km, mb3.6/6, mbtmp3.6/7, ML3.0/1, Error ellipse: s-maj=47.5km s-min=20.8km az=67.0*
JMA ***13*** *21:58:34.5±0.2, 28°.5N±0°.7×12°.9E±°, h62km±2km, MV3.8/27, NEAR AMAMI-OSHIMA ISLAND*
JMA Felt II J1 at NEAR AMAMI-OSHIMA ISLAND.
ISC 13 21:58:34.0±0.8**, 28°.45N**±0°.03×**129°.13E**±0°.05**, h72**km±6km**, n30, σ1§30/44, mb3.5/6, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.21**	**168**	P			**Pn**	**21 58 44.8**	**-0.1**
JAMN				S			**Sn**	**21 58 51.9**	**-0.8**
JAM	**Amami Oshima**	**0.42**	**95**	P			**Pn**	**21 58 46.2**	**-0.1**
JAM				*eS*			**Sn**	**21 58 55.5**	**+0.2**
JTK	**Tokunoshima**	**0.68**	**193**	P			**Pn**	**21 58 49.0**	**+0.2**
JTK				S			**Sn**	**21 58 59.6**	**0.0**
JTAJ	**Takarajima**	**0.71**	**5**	P			**Pn**	**21 58 48.7**	**-0.4**
JTAJ				S			**Sn**	**21 58 59.5**	**-0.7**
JZK	**Kikaishima**	**0.76**	**100**	P			**Pn**	**21 58 51.6**	**+2.0**
JZK				S			**Sn**	**21 59 05.8**	**+4.6**
JOKE	**Okinoerabujima**	**1.19**	**205**	*i* P			**Pn**	**21 58 55.5**	**+0.5**
JOKE				S			**Sn**	**21 59 11.0**	**+0.3**
JNN	**Nakanoshima**	**1.54**	**25**	P			**Pn**	**21 58 59.7**	**+0.3**
JNN				S			**Sn**	**21 59 19.0**	**+0.3**
JYRO	**Yoronjima**	**1.54**	**203**	P			**Pn**	**21 59 00.2**	**+0.7**
JYRO				S			**Sn**	**21 59 19.7**	**+1.0**
JIH	**Iheya**	**1.74**	**216**	*i* P			**Pn**	**21 59 02.7**	**+0.5**
JIH				S			**Sn**	**21 59 23.2**	**-0.3**
JOW	**Kunigami**	**1.78**	**205**	P			**Pn**	**21 59 03.4**	**+0.7**
JOW				S			**Sn**	**21 59 25.9**	**+1.5**
JYAK	**Yakushimahirau**	**2.15**	**34**	P			**Pn**	**21 59 08.1**	**+0.4**
JYAK				S			**Sn**	**21 59 33.9**	**+0.4**
JNTH	**Nagotoyohara**	**2.16**	**207**	P			**Pn**	**21 59 09.3**	**+1.6**
JKC	**Kuchinoerabu**	**2.21**	**25**	P			**Pn**	**21 59 09.2**	**+0.7**
JMTN	**Minamitane**	**2.48**	**38**	P			**Pn**	**21 59 13.3**	**+1.1**
JMTN				S			**Sn**	**21 59 43.3**	**+1.8**
JAGN	**Aguni-jima**	**2.50**	**223**	P			**Pn**	**21 59 13.6**	**+1.3**
JAGN				*eS*			**Sn**	**21 59 42.9**	**+1.1**
JJT3	**Tamagusuku3**	**2.59**	**208**	P			**Pn**	**21 59 15.2**	**+1.7**
JJT3				*eS*			**Sn**	**21 59 45.7**	**+1.7**
JTN	**Tanegashima 3**	**2.73**	**36**	P			**Pn**	**21 59 17.0**	**+1.5**
JTN				*eS*			**Sn**	**21 59 48.5**	**+1.0**
JKE	**Kume jima 2**	**2.96**	**225**	P			**Pn**	**21 59 19.6**	**+0.9**
JKE				S			**Sn**	**21 59 54.0**	**+0.8**
JKDJ	**Kitadaitoujima**	**3.15**	**142**	P			**Pn**	**21 59 21.6**	**+0.3**
JKDJ				S			**Sn**	**21 59 56.2**	**-1.5**
JMZ	**Minamidaito 2**	**3.21**	**144**	*i* P			**Pn**	**21 59 22.1**	**0.0**
JMZ				*eS*			**Sn**	**21 59 56.4**	**-2.9**
MJAR	**Matsushiro Arr**	**11.13**	**41**	Pn			Pn	22 01 15.6	+5.4
	0.1nm,0.3s,baz=246,slow=14,SNR=5.3								
	0.9nm,0.5s								
SONM	**Songino Array**	**26.18**	**324**	P			**P**	**22 04 02.1**	**+0.3**
	0.4nm,0.6s,baz=116,slow=6.6,SNR=2.7								
	0.4nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**35.44**	**96**	T			T	22 43 11.3	
	baz=290								
H11N1	**WAKE ISLAND Hy**	**35.44**	**96**	T			T	22 43 05.0	
	baz=290								
H11N3	**WAKE ISLAND Hy**	**35.45**	**96**	T			T	22 43 06.7	
	baz=290								
MKAR	**Makanchi Array**	**40.69**	**310**	P			**P**	**22 06 07.0**	**-0.4**
	0.3nm,0.5s,baz=91,slow=10,SNR=9.1								
	0.3nm,0.5s								
ZALV	**Zalesovo Beam**	**41.00**	**321**	P			**P**	**22 06 08.4**	**-1.3**
	0.4nm,0.5s,baz=116,slow=9.8,SNR=1.8								
	0.4nm,0.5s								
KURBB	**Kurchatov Arra**	**43.83**	**315**	P			**P**	**22 06 31.6**	**-1.2**
	0.8nm,0.3s,baz=93,slow=6.5,SNR=1.8								
	0.8nm,0.3s								
WRA	**Warramunga Arr**	**48.37**	**173**	P			**P**	**22 07 07.4**	**-1.3**
	0.6nm,0.7s,baz=353,slow=8.1,SNR=5.0								
	0.6nm,0.7s								
ASAR	**Alice Springs**	**52.02**	**174**	P			**P**	**22 07 36.3**	**+0.1**
	0.3nm,0.8s,baz=4.7,slow=14,SNR=5.6								
	0.3nm,0.8s								

IDC ***13*** *22:01:07.3±17.0, 0°.68S×128°.15E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=268.5km s-min=171.7km az=150.0*
DJA ***13*** *22:01:29.6±0.5, 3°.5±7°×12°.7E±°, h10km, M2.7/3, MLv2.7/3*
ISC 13 22:01:21.6±1.9**, 2°.3S**±0°.1×**127°.3E**±0°.1**, h10**km**, n6**, σ3§02/7**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.95**	**193**	P			**Pn**	**22 01 43.1**	**+2.1**
NLAI				S			**Sb**	**22 01 51.5**	**-1.3**
SANI	**Sanana**	**1.34**	**281**	P			**Pg**	**22 01 49.6**	**+2.1**
SANI				S			**Sn**	**22 02 00.7**	**-3.7**
LBMI	**Labuha**	**1.67**	**7**	P			Pg	22 02 06.9	+13
WRA	**Warramunga Arr**	**18.83**	**159**	P			**P**	**22 05 42.8**	**+1.0**
	0.4nm,0.8s,baz=342,slow=12,SNR=2.8								
	0.4nm,0.8s								
ASAR	**Alice Springs**	**22.17**	**164**	P			**P**	**22 06 19.7**	**+1.7**
	0.4nm,0.7s,baz=342,slow=11,SNR=2.7								
	0.4nm,0.7s								
STKA	**Stephens Creek**	**32.35**	**157**	P			**P**	**22 07 48.4**	**-2.9**
	0.8nm,0.5s,baz=337,slow=13,SNR=1.4								
	0.8nm,0.5s								

IDC 13 22:07:16.1±5.6**, 6°.28S**×**153°.91E, h0**km**, mb3.4**/3**, mbtmp3.4**/3**, Error ellipse: s-maj=165.6km s-min=41.8km az=111.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.36**	**233**	P			P	22 12 26.6	+0.1
	0.8nm,0.8s,baz=57,slow=9.7,SNR=8.0								
	0.8nm,0.8s								
ASAR	**Alice Springs**	**25.86**	**226**	P			P	22 12 49.4	-0.4
	0.2nm,0.4s,baz=57,slow=9.4,SNR=6.7								
	0.2nm,0.4s								
MKAR	**Makanchi Array**	**82.16**	**319**	P			P	22 19 39.3	+0.3
	0.4nm,0.8s,baz=116,slow=6.7,SNR=2.4								
	0.4nm,0.8s								

SDD ***13*** *22:10:22.8±1.7, 18°.41N×73°.08W, h15km±541km, MD3.7, ML3.9, MW5.0*
NEIC ***13*** *22:10:24±1.0, 18°.49N±0°.05×72°.97W±0°.04, h10km±2km, ML3.6/10, Error ellipse: s-maj=8.6km s-min=5.5km az=198.0*
SSNC ***13*** *22:10:24.1±1.3, 18°.16N×72°.94W, h5km, MD2.9, ML3.5*
OSPL ***13*** *22:10:25.5±1.9, 18°.46N×72°.95W, h2km±8km, ML3.5*
ISC 13 22:10:23.7±1.4**, 18°.45N**±0°.04×**72°.96W**±0°.03**, h6**km±11**km, n41, σ1§08/64, 12C-5D, Haiti region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PAPH	**Port-au-Prince**	**0.63**	**83**	Pg			**Pg**	**22 10 36.1**	**+0.4**
PAPH				Sg			**Sg**	**22 10 44.8**	**+0.8**
PAPH	**Port-au-Prince**	**0.63**	**83**	*i*Pg			**Pg**	**22 10 36.2**	**+0.4**
PAPH				IAML				22 10 48.0	
	comp=N,13μm,0.2s								
PAPH	**Port-au-Prince**	**0.63**	**83**	*i* P			**Pg**	**22 10 36.2**	**+0.4**
PAPH				*eS*			**Sb**	**22 10 45.3**	**-0.8**
PAPH				IAML				22 10 45.7	
	comp=Z,4μm,0.2s								
PAPH	**Port-au-Prince**	**0.63**	**83**	*eP*			**Pg**	**22 10 36.1**	**+0.4**
PAPH				*eS*			**Sb**	**22 10 45.2**	**-0.8**
PAPH				IAML				22 10 45.5	
	comp=N,5μm,0.2s								
PAPH				IAML				22 10 46.2	
	comp=E,6μm,0.1s								
LOPE2	**Hotel El Peder**	**1.22**	**110**	⇑*e*Pg			**Pn**	**22 10 45.9**	**-1.4**
LOPE2				⇑*e*Sg			**Sb**	**22 11 02.4**	**-0.9**
LOPE2	**Hotel El Peder**	**1.22**	**110**	*i* P			**Pn**	**22 10 45.9**	**-1.4**
LOPE2				*eS*			**Sb**	**22 11 02.3**	**-0.9**
LOPE2				IAML				22 11 05.8	
	comp=Z,849nm,0.4s								
LODA1	**ITESIL, Dajabo**	**1.61**	**47**	⇓*e*Pg			**Pn**	**22 10 52.9**	**+0.3**
LODA1				⇓*e*Sg			**Sb**	**22 11 13.6**	**-0.7**
LODA1				IAML				22 11 22.1	
	comp=N,4μm,0.5s								
LODA1	**ITESIL, Dajabo**	**1.61**	**47**	*i* P			**Pb**	**22 10 53.3**	**-0.5**
LODA1				*eS*			**Sn**	**22 11 12.4**	**-1.2**
LODA1				IAML				22 11 15.2	
	comp=Z,1μm,1.0s								
SDDR	**Presa de Saban**	**1.67**	**71**	Pn			**Pn**	**22 10 53.1**	**-0.4**
SDDR				IAML				22 11 19.4	
	comp=Z,520nm,0.8s								
SDDR				IAML				22 11 21.3	
	comp=Z,592nm,0.7s								
SDDR	**Presa de Saban**	**1.67**	**71**	⇑*e*Pg			**Pb**	**22 10 54.1**	**-0.7**
SDDR				⇑*e*Sg			**Sg**	**22 11 16.7**	**-0.6**
SDDR				IAML				22 11 19.2	
	comp=N,461nm,1.0s								
SDDR				IAML				22 11 21.0	
	comp=E,523nm,0.8s								
SDDR	**Presa de Saban**	**1.67**	**71**	*i* P			**Pn**	**22 10 53.8**	**+0.3**
SDDR				*eS*			**Sn**	**22 11 15.0**	**-0.2**
SDDR				IAML				22 11 20.8	
	comp=Z,527nm,0.5s								
SDDR	**Presa de Saban**	**1.67**	**71**	*eP*			**Pn**	**22 10 53.7**	**+0.3**
SDDR				*eS*			**Sg**	**22 11 16.5**	**-0.8**
SDDR				IAML				22 11 18.5	
	comp=Z,429nm,0.5s								
SDDR				IAML				22 11 20.9	
	comp=Z,449nm,0.5s								
LOBA2	**Hotel Casa Bon**	**1.81**	**101**	⇑*e*Pg			**Pn**	**22 10 55.4**	**+0.1**
LOBA2				⇑*e*Sg			**Sb**	**22 11 20.7**	**+0.7**
MCDR	**Montecristi**	**1.89**	**40**	⇓*e*Pg			**Pb**	**22 10 57.7**	**-0.9**
MCDR				⇑*e*Sg			**Sb**	**22 11 22.4**	**+0.1**
MCDR				IAML				22 11 25.9	
	comp=N,585nm,0.9s								
MCDR				IAML				22 11 29.2	
	comp=E,557nm,0.8s								
MASC	**Masc**	**2.10**	**325**	*i* P			**Pn**	**22 10 59.4**	**0.0**
MASC				*eS*			**Sn**	**22 11 23.6**	**-2.0**
MASC				IAML				22 11 29.1	
	comp=Z,82nm,0.4s								
MASC	**Masc**	**2.10**	**325**	*eP*			**Pn**	**22 10 59.3**	**0.0**
MASC				*eS*			**Sn**	**22 11 24.6**	**-1.1**
MASC				IAML				22 11 25.8	
	comp=E,173nm,0.4s								
MASC				IAML				22 11 26.2	
	comp=N,78nm,0.5s								
ABDR	**Alto Bandera**	**2.24**	**80**	*e*Pg			**Pb**	**22 11 03.0**	**-1.7**
ABDR				*e*Sg			**Sb**	**22 11 32.3**	**-0.5**
ABDR				IAML				22 11 35.1	
	comp=E,632nm,0.8s								
ABDR				IAML				22 11 44.2	
	comp=N,602nm,0.6s								
SC01	**Santiago de Io**	**2.32**	**65**	⇑*e*Pg			**Pn**	**22 11 03.7**	**+1.2**
SC01				⇑*e*Sg			**Sg**	**22 11 37.1**	**-1.2**
SC01				IAML				22 11 44.9	
	comp=N,445nm,0.4s								
SC01				IAML				22 11 56.8	
	comp=E,413nm,0.9s								
SC01	**Santiago de Io**	**2.32**	**65**	*i* P			**Pn**	**22 11 03.7**	**+1.2**
SC01				IAML				22 11 51.2	
	comp=Z,503nm,0.7s								
GNEO	**Boca de Quibij**	**2.42**	**321**	*eP*			**Pn**	**22 11 04.2**	**+0.3**
GNEO				*eS*			**Sb**	**22 11 38.0**	**+0.1**
BANI	**BANI**	**2.47**	**91**	⇑*e*Pg			**Pb**	**22 11 07.0**	**-1.5**
BANI				⇑*e*Sg			**Sb**	**22 11 40.3**	**+1.1**
BANI				IAML				22 11 41.0	
	comp=E,684nm,0.6s								
BANI				IAML				22 11 41.8	
	comp=N,929nm,0.7s								
GTBY	**Guantanamo Bay**	**2.51**	**306**	Pn			**Pn**	**22 11 05.0**	**0.0**
GTBY				IAML				22 11 43.8	
	comp=N,255nm,0.7s								
GTBY	**Guantanamo Bay**	**2.51**	**306**	*i* P			**Pn**	**22 11 05.6**	**+0.6**
GTBY				*eS*			**Sn**	**22 11 35.5**	**-0.5**
GTBY				IAML				22 11 49.0	
	comp=Z,52nm,1.4s								
GTBY	**Guantanamo Bay**	**2.51**	**306**	*eP*			**Pn**	**22 11 05.3**	**+0.3**
GTBY				*eS*			**Sn**	**22 11 37.0**	**+1.0**
SFDR	**San Fco. de Ma**	**2.70**	**72**	⇓*e*Pg			**Pb**	**22 11 11.6**	**-0.8**
SFDR				⇑*e*Sg			**Sb**	**22 11 47.1**	**+1.3**
SFDR				IAML				22 11 55.8	
	comp=N,548nm,0.9s								
NMDO	**Nuevo Mundo**	**2.84**	**318**	*eP*			**Pn**	**22 11 10.5**	**+1.0**
NMDO				*eS*			**Sb**	**22 11 47.1**	**-2.7**
MOAC	**Moa**	**2.90**	**320**	*eP*			**Pn**	**22 11 12.2**	**+1.8**
MOAC				*eS*			**Sn**	**22 11 47.2**	**+1.7**
MTDJ	**Mount Denham**	**4.36**	**268**				**Pn**	**22 11 29.1**	**-1.4**
MTDJ				IAML				22 12 04.4	
	comp=N,130nm,2.6s								
MTDJ				IAML				22 12 54.6	
	comp=N,127nm,3.0s								
CRPR	**Cabo Rojo, PR**	**5.57**	**94**	*i* P			**Pn**	**22 11 47.7**	**+0.5**
SJG	**San Juan**	**6.47**	**92**	Pn			**Pn**	**22 11 57.5**	**-2.0**
URIC	**Aribia, Colomb**	**6.78**	**172**	*eP*			**Pn**	**22 12 03.1**	**-0.6**
HATO	**Hato, Curacao**	**7.33**	**148**	Pn			**Pn**	**22 12 11.3**	**0.0**
SDV	**Santo Domingo**	**9.77**	**166**	Pn			**Pn**	**22 12 44.5**	**-0.5**
BAUV	**El Baul**	**10.59**	**153**	Pn			**Pn**	**22 12 55.9**	**-0.1**
UREC	**San Jos de Ur**	**10.93**	**194**	*eP*			**Pn**	**22 13 01.3**	**+0.6**
CBE	**Ff, Capester**	**11.10**	**101**	Pn			**Pn**	**22 13 03.3**	**+0.3**
BCIP	**Isla Barro Col**	**11.39**	**217**	Pn			**Pn**	**22 13 07.3**	**+0.3**
CBOC	**Ciudad Bolivar**	**12.86**	**194**	*eP*			**Pn**	**22 13 29.2**	**+1.9**
GUY2C	**Guyana, Caldas**	**13.36**	**190**	*eP*			**Pn**	**22 13 35.5**	**+1.2**
ORTC	**Ortega, Tolima**	**14.63**	**189**	*eP*			**Pn**	**22 13 53.7**	**+2.4**
PRAC	**Prado**	**14.77**	**188**	*eP*			**Pn**	**22 13 55.2**	**+1.9**

NOU ***13*** *22:24:07.6, 37°.24S×179°.56E, h8km, MLv4.2/8, Off E. Coast of N. Island, N.Z.*
IDC ***13*** *22:24:10.1±2.6, 36°.85S×178°.98E, h0km, mb4.0/2, mbtmp4.0/3, ML3.8/1, MS3.0/2, Error ellipse: s-maj=66.9km s-min=39.2km az=134.0*
WEL ***13*** *22:24:15.2±0.9, 37°.5±4°×17°.9E±°, h12km, M3.6/19, ML3.8/19, MLv3.6/19, Error ellipse: s-maj=0.0km s-min=0.0km az=96.5, confirmed*
ISC 13 22:24:12.3±2.2**, 37°.23S**±0°.07×**179°.09E**±0°.09**, h17**km±10**km, n78, σ1§25/83, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.71**	**242**	P			**Pn**	**22 24 27.5**	**0.0**
MXZ	**Matakaoa Point**	**0.71**	**242**	P			**Pn**	**22 24 27.5**	**0.0**
MXZ				S			**Sg**	**22 24 35.0**	**-0.5**
WMGZ	**Waiomatatini S**	**0.80**	**222**	P			**Pn**	**22 24 31.0**	**+2.2**
WMGZ				S			**Sn**	**22 24 42.3**	**+2.0**
PKGZ	**Pakihiroa**	**1.04**	**230**	P			**Pn**	**22 24 33.8**	**+1.6**
PKGZ				S			**Sn**	**22 24 46.9**	**+0.5**
PUZ	**Puketiti**	**1.07**	**218**	P			**Pn**	**22 24 34.5**	**+1.9**
HAZ	**Te Kaha**	**1.16**

OUZ	**Omahuta**	**4.87**	**293**	P	**Pn**	**22 25 26.9**	**+2.1**
TKNZ	**Takaka Hill**	**6.09**	**230**	P	**Pn**	**22 25 40.4**	**-1.2**
QRZ	**Quartz Range**	**6.24**	**233**	P	**Pn**	**22 25 42.3**	**-1.3**
QRZ	**Quartz Range**	**6.24**	**233**	P	**Pn**	**22 25 42.1**	**-1.6**
CTZ	**Chatham Island**	**7.28**	**155**	P	**Pn**	**22 26 01.7**	**+3.9**
ASAR	**Alice Springs**	**40.86**	**276**	P	**P**	**22 31 52.7**	**-0.8**
	1.3nm,0.8s,baz=118,slow=7.5,SNR=9.9						
	1.3nm,0.8s						
WRA	**Warramunga Arr**	**42.48**	**281**	P	**P**	**22 32 06.0**	**-0.7**
	1.4nm,0.4s,baz=121,slow=7.9,SNR=39						
	1.4nm,0.4s						
KAPI	**Kappang**	**62.75**	**285**	LR	LR	23 03 06.5	
	comp=Z,15nm,18.8s,baz=288,slow=37						
H03N3	**Juan Fernandez**	**78.93**	**124**	T	T	00 03 04.7	
	baz=234,slow=72,SNR=5.9						
H03N2	**Juan Fernandez**	**78.94**	**124**	T	T	00 03 03.0	
	baz=234,slow=72,SNR=6.2						
H03N1	**Juan Fernandez**	**78.95**	**124**	T	T	00 03 01.8	
	baz=234,slow=72,SNR=5.7						
ARCES	**ARCESS Array B**	**144.62**	**344**	PKP	**PKPab**	**22 43 45.6**	**+0.1**
	0.9nm,0.5s,baz=16,slow=3.5,SNR=5.2						
FINES	**FINESS Array B**	**150.47**	**334**	PKPbc	**PKPbc**	**22 44 01.6**	**-0.4**
	3.3nm,0.9s,baz=48,slow=4.1,SNR=4.6						

CATAC ***13*** *22:40:55.9±0.8, 13°.67N×90°.49W, h42km±15km, ML3.4*
GCG ***13*** *22:40:56.3±0.3, 13°.70N×90°.63W, h32km±3km, MD3.7*
SNET ***13*** *22:40:58.0±0.9, 13°.47N×90°.26W, h18km±134km, ML3.1*

ISC 13 22:40:54.7±2.0, 13°.60N±0°.09×90°.53W±0°.05, h32km±13km, n24, σ0°80/40, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**0.79**	**67**	***e*P**	**Pn**	**22 41 09.8**	**+0.1**
NUBE				*e*S	**Sb**	**22 41 19.4**	**-1.3**
NUBE	**Las Nubes**	**0.79**	**67**	***i*P**	**Pn**	**22 41 10.0**	**+0.3**
NUBE				IAML		22 41 11.7	
	comp=Z,670nm,1.0s						
NUBE				*i*S	**Sn**	**22 41 21.8**	**+1.3**
PCG	**Pacaya**	**0.79**	**355**	***e*P**	**Pn**	**22 41 10.4**	**+0.6**
LOAL	**Lomas de Alarc**	**0.83**	**61**	***i*P**	**Pn**	**22 41 10.9**	**+0.7**
LOAL				IAML		22 41 11.1	
	comp=Z,4μm,1.0s						
LOAL				*i*S	**Sn**	**22 41 22.2**	**+0.8**
SLOZ	**Alcaldia de Sa**	**0.84**	**60**	***e*P**	**Pn**	**22 41 10.9**	**+0.6**
SLOZ				*e*S	**Sb**	**22 41 22.3**	**+0.3**
FUG	**Fuego 3**	**0.90**	**341**	***e*P**	**Pn**	**22 41 11.3**	**+0.1**
CEVE	**Cerro Verde**	**0.91**	**75**	***e*P**	**Pn**	**22 41 11.9**	**+0.4**
CEVE				*e*S	**Sn**	**22 41 22.6**	**-1.1**
CEVE				IAML		22 41 27.5	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**0.91**	**75**	***i*P**	**Pn**	**22 41 12.0**	**+0.5**
CEVE				*i*S	**Sb**	**22 41 24.2**	**0.0**
CEVE				IAML		22 41 27.4	
	comp=Z,2μm,1.0s						
RTR	**El Retiro**	**0.91**	**71**	***e*P**	**Pn**	**22 41 12.1**	**+0.6**
RTR				*e*S	**Sn**	**22 41 23.5**	**-0.1**
SBLS	**San Blas**	**0.92**	**75**	***e*P**	**Pn**	**22 41 11.8**	**+0.3**
SBLS				*e*S	**Sn**	**22 41 23.2**	**-0.5**
SNJE	**San Jose**	**0.94**	**73**	***e*P**	**Pn**	**22 41 12.2**	**+0.4**
NBG	**Las Nubes**	**1.00**	**10**	***e*P**	**Pb**	**22 41 13.9**	**+0.2**
GUNB	**GUNB**	**1.01**	**10**	***i*P**	**Pn**	**22 41 12.4**	**-0.4**
GUNB				*i*S	**Sn**	**22 41 26.0**	**-0.1**
GUNB				IAML		22 41 28.1	
	comp=Z,540nm,1.0s						
JAYA	**Jayaque - finc**	**1.06**	**87**	***e*P**	**Pn**	**22 41 13.1**	**-0.3**
JAYA				*e*S	**Sn**	**22 41 24.6**	**-2.4**
JAYA				IAML		22 41 30.1	
	comp=Z,824nm,0.2s						
JAYA	**Jayaque - finc**	**1.06**	**87**	***i*P**	**Pn**	**22 41 13.5**	**+0.1**
JAYA				*i*S	**Sn**	**22 41 26.8**	**-0.3**
JAYA				IAML		22 41 29.9	
	comp=Z,2μm,1.0s						
PMON	**Piamonte**	**1.19**	**84**	***i*P**	**Pn**	**22 41 15.9**	**+0.7**
PMON				*i*S	**Sn**	**22 41 30.6**	**+0.3**
PMON				IAML		22 41 39.0	
	comp=Z,730nm,1.0s						
SULM	**Suchitepequez,**	**1.22**	**305**	***e*P**	**Pn**	**22 41 15.4**	**-0.1**
LOMA	**Loma Larga**	**1.33**	**88**	***e*P**	**Pn**	**22 41 17.9**	**+0.8**
LOMA				*e*S	**Sn**	**22 41 32.0**	**-1.6**
LOMA				IAML		22 41 37.6	
	comp=Z,466nm,0.2s						
MTO3	**Montecristo**	**1.39**	**55**	***i*P**	**Pn**	**22 41 17.7**	**-0.3**
MTO3				IAML		22 41 36.7	
	comp=Z,93nm,1.0s						
LFRS	**El Faro**	**1.43**	**89**	***e*P**	**Pn**	**22 41 19.5**	**+1.0**
LFRS				*e*S	**Sn**	**22 41 35.5**	**-0.8**
SOKI	**Kika Raxquin**	**1.48**	**325**	***i*P**	**Pn**	**22 41 20.2**	**+0.8**
SOKI				*i*S	**Sn**	**22 41 37.6**	**-0.3**
SOKI				IAML		22 41 39.3	
	comp=Z,380nm,1.0s						
SJTE	**Alcalda de S**	**1.48**	**89**	***e*P**	**Pn**	**22 41 20.3**	**+1.1**
SJTE				IAML		22 41 41.6	
	comp=Z,96nm,0.2s						
STG3	**Santiaguito 3,**	**1.50**	**318**	***e*P**	**Pn**	**22 41 19.6**	**+0.2**
STG3				*e*S	**Sn**	**22 41 37.8**	**-0.2**
COEG	**Centro de Oper**	**1.61**	**89**	***e*P**	**Pn**	**22 41 22.0**	**+1.1**

IDC 13 22:53:07.3±2.4, 9°.04S×123°.08E, h0km, mb3.2/1, mbtmp3.2/3, ML2.9/2, MS3.2/1, Error ellipse: s-maj=258.0km s-min=33.8km az=55.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.36**	**136**	Pn	Pn	22 56 43.7	-1.9
	baz=315,slow=13,SNR=1.9						
WRA				Sn	Sn	22 59 27.2	-9.4
	0.1nm,0.3s,baz=314,slow=26,SNR=5.0						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**17.85**	**146**	P	P	22 57 18.5	+0.4
	baz=318,slow=11,SNR=1.9						
	0.2nm,0.4s						
STKA	**Stephens Creek**	**28.49**	**146**	LR	LR	23 12 35.4	
	comp=Z,44nm,18.2s,baz=25,slow=41						
MKAR	**Makanchi Array**	**66.40**	**331**	P	P	23 03 58.3	0.0
	0.1nm,0.4s,baz=132,slow=8.0,SNR=2.1						
	0.1nm,0.4s						

IDC ***13*** *22:55:12.8±1.1, 22°.69N×123°.23E, h0km, mb3.4/5, mbtmp3.6/8, ML3.3/3, Error ellipse: s-maj=34.2km s-min=21.0km az=78.0*
JMA ***13*** *22:55:14.7±0.3, 23°.2°N×123°.0E±1°.0, h57km, MV4.0/17, FAR S OFF ISHIGAKIJIMA*
TAP ***13*** *22:55:14.9, 22°.68N×123°.00E, h92km, ML3.9, D*

ISC 13 22:55:11.8±3.1, 22°.66N±0°.04×123°.06E±0°.03, h3km±21km, n115, σ1°97/194, mb3.5/5, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LDUT	**Ludao**	**1.47**	**271**	***i*P**	**Pn**	**22 55 38.1**	**-1.1**
	baz=270						
LYUB	**Lan-yu**	**1.51**	**245**	P	**Pn**	**22 55 39.3**	**-0.5**
	baz=242						
LYUB				*e*S	**Sn**	**22 55 57.0**	**-3.1**
	baz=242						
LAY	**Lan-yu**	**1.52**	**246**	***e*P**	**Pn**	**22 55 39.5**	**-0.5**
	baz=244						
LAY				*e*S	**Sn**	**22 55 57.2**	**-3.2**
	baz=244						
HATJ	**Hateruma jima**	**1.56**	**26**	P	**Pn**	**22 55 40.8**	**+0.4**
HATJ				S	**Sn**	**22 55 59.0**	**-2.2**
EOS4	**EOS4**	**1.61**	**335**	P	**Pn**	**22 55 40.9**	**+0.1**
	baz=336						
EOS4				S	**Sn**	**22 55 59.2**	**-2.7**
	baz=336						
CHKT	**Chengkung**	**1.62**	**286**	***e*P**	**Pn**	**22 55 38.9**	**-2.4**
	baz=283						
CHKT				*e*S	**Sn**	**22 55 58.1**	**-4.6**
	baz=283						
FULB	**Fuli**	**1.71**	**289**	***e*P**	**Pn**	**22 55 41.6**	**-1.0**
	baz=294						
FULB				*e*S	**Sn**	**22 56 00.2**	**-4.8**
	baz=294						
HGSD	**Ruisui**	**1.72**	**299**	P	**Pn**	**22 55 41.9**	**-0.8**
	baz=299						
EYUL	**Yuli**	**1.74**	**294**	***e*P**	**Pn**	**22 55 42.8**	**-0.2**
	baz=293						
EYUL				*e*S	**Sn**	**22 56 02.1**	**-3.7**
	baz=293						
ECS	**Chishang**	**1.75**	**285**	P	**Pn**	**22 55 43.8**	**+0.6**
	baz=280						
ECS				*e*S	**Sn**	**22 56 03.0**	**-2.9**
	baz=280						
EOS3	**EOS3**	**1.76**	**337**	***i*P**	**Pn**	**22 55 43.6**	**+0.5**
	baz=336						
EOS3				*e*S	**Sn**	**22 56 04.3**	**-1.7**
	baz=336						
TWF1	**Yuli**	**1.76**	**293**	***e*P**	**Pn**	**22 55 42.7**	**-0.6**
	baz=293						
TWF1				*e*S	**Sn**	**22 56 03.4**	**-2.9**
	baz=293						
EHD	**Haiduan**	**1.77**	**286**	***e*P**	**Pn**	**22 55 43.6**	**+0.2**
	baz=281						
YULB	**Yu-li**	**1.78**	**295**	***e*P**	**Pn**	**22 55 43.2**	**-0.3**
	baz=290						
YULB				*e*S	**Sn**	**22 56 04.0**	**-2.7**
	baz=290						
IRIF	**Iriomote-Funau**	**1.78**	**20**	P	**Pn**	**22 55 44.1**	**+0.5**
IRIF				*e*S	**Sn**	**22 56 04.5**	**-2.2**
JYNG	**Yonagunijimaku**	**1.79**	**357**	***e*P**	**Pn**	**22 55 44.2**	**+0.5**
JYNG				S	**Sn**	**22 56 04.9**	**-2.1**
LONT	**Longtian**	**1.79**	**278**	P	**Pn**	**22 55 44.1**	**+0.4**
	baz=277						
LONT				*e*S	**Sn**	**22 56 04.7**	**-2.4**
	baz=277						
YOJ	**Yonaguni jima**	**1.80**	**359**	P	**Pn**	**22 55 44.3**	**+0.5**
YOJ				*e*S	**Sn**	**22 56 05.5**	**-1.6**
YOJ	**Yonaguni jima**	**1.80**	**359**	P	**Pn**	**22 55 44.2**	**+0.4**
	baz=360						
YOJ				*e*S	**Sn**	**22 56 04.6**	**-2.5**
	baz=360						
JKRS	**Kuro-shima**	**1.80**	**29**	P	**Pn**	**22 55 44.5**	**+0.7**
JKRS				*e*S	**Sn**	**22 56 05.0**	**-2.2**
EGFH	**Guangfu**	**1.81**	**304**	***e*P**	**Pn**	**22 55 43.6**	**-0.3**
	baz=310						
EGFH				*e*S	**Sn**	**22 56 04.7**	**-2.7**
	baz=310						
EHY	**Hungye**	**1.81**	**298**	***e*P**	**Pn**	**22 55 43.8**	**-0.1**
	baz=301						
EHY				S	**Sn**	**22 56 04.8**	**-2.6**
	baz=301						
TWGBT	**Beinan**	**1.83**	**275**	P	**Pn**	**22 55 44.3**	**+0.1**
	baz=277						
TWGBT				*e*S	**Sn**	**22 56 04.1**	**-3.9**
	baz=277						
TWG	**Pinlang**	**1.84**	**275**	***e*P**	**Pn**	**22 55 44.3**	**0.0**
	baz=277						
TWG				*e*S	**Sn**	**22 56 03.8**	**-4.3**
	baz=277						
WARBT	**Fenglin Townsh**	**1.86**	**305**	P	**Pn**	**22 55 44.1**	**-0.6**
	baz=310						
WARBT				*e*S	**Sn**	**22 56 05.1**	**-3.7**
	baz=310						
ESL	**Shilin**	**1.89**	**308**	***e*P**	**Pn**	**22 55 44.0**	**-1.0**
	baz=308						
ESL				*e*S	**Sn**	**22 56 05.2**	**-4.1**
	baz=308						
EOS2	**EOS2**	**1.91**	**337**	P	**Pn**	**22 55 46.0**	**+0.9**
	baz=335						
EOS2				S	**Sn**	**22 56 08.5**	**-1.2**
	baz=335						
ETM	**Tongmen**	**1.94**	**313**	***e*P**	**Pn**	**22 55 44.8**	**-0.9**
	baz=317						
ETM				*e*S	**Sn**	**22 56 06.3**	**-4.4**
	baz=317						
ECL	**Taimali**	**1.94**	**269**	***e*P**	**Pn**	**22 55 45.5**	**-0.3**
	baz=275						
ECL				*e*S	**Sn**	**22 56 06.9**	**-3.8**
	baz=275						
TWD	**Chiawan**	**1.95**	**317**	***e*P**	**Pn**	**22 55 44.5**	**-1.4**
	baz=313						
ELDTW	**Lidau**	**1.95**	**286**	***e*P**	**Pn**	**22 55 45.6**	**-0.4**
	baz=293						
ELDTW				*e*S	**Sn**	**22 56 06.7**	**-4.4**
	baz=293						
JIJ	**Ishigaki jima**	**1.97**	**30**	P	**Pn**	**22 55 46.2**	**+0.1**
JIJ				S	**Sn**	**22 56 08.6**	**-2.8**
NACB	**Ninganchiao**	**2.02**	**319**	P	**Pn**	**22 55 46.2**	**-0.6**
	baz=315						
NACB				*e*S	**Sn**	**22 56 07.8**	**-4.8**
	baz=315						
TAWH	**Dawu Township**	**2.03**	**261**	***e*P**	**Pn**	**22 55 47.2**	**+0.3**
	baz=252						
TAWH				*e*S	**Sn**	**22 56 10.4**	**-2.4**
	baz=252						
LXIB	**Xiulin Townshi**	**2.03**	**312**	***e*P**	**Pn**	**22 55 46.7**	**-0.4**
	baz=318						
EAST	**Anshuo**	**2.06**	**263**	***e*P**	**Pn**	**22 55 48.2**	**+0.8**
	baz=254						
EAST				S	**Sn**	**22 56 11.4**	**-2.3**
	baz=254						
VWDT	**VWDT**	**2.07**	**302**	***e*P**	**Pn**	**22 55 47.8**	**+0.2**
	baz=298						
VWDT				S	**Sn**	**22 56 11.4**	**-2.5**
	baz=298						
ETLH	**Xiulin Townshi**	**2.11**	**317**	***e*P**	**Pn**	**22 55 47.8**	**-0.5**
	baz=320						
ETLH				*e*S	**Sn**	**22 56 12.1**	**-3.0**
	baz=320						
EWUT	**Wuta**	**2.13**	**327**	***e*P**	**Pn**	**22 55 48.6**	**+0.3**
	baz=327						
EWUT				*e*S	**Sn**	**22 56 12.6**	**-2.7**
	baz=327						
ENA	**Nanau**	**2.14**	**326**	***e*P**	**Pn**	**22 55 48.5**	**+0.1**
	baz=326						
ENA				*e*S	**Sn**	**22 56 12.6**	**-2.9**
	baz=326						
SMST	**Manzhou Townsh**	**2.15**	**253**	*e*S	**Sn**	**22 56 12.9**	**-2.9**
	baz=257						
OWD	**Renai**	**2.16**	**307**	***e*P**	**Pn**	**22 55 48.9**	**0.0**
	baz=307						
STYH	**Taoyuan**	**2.16**	**284**	***e*P**	**Pn**	**22 55 49.9**	**+1.1**
	baz=283						
STYH				*e*S	**Sn**	**22 56 13.3**	**-2.8**
	baz=283						
TWKBT	**Hengchun**	**2.20**	**251**	***e*P**	**Pn**	**22 55 49.6**	**+0.4**
	baz=256						
TWKBT				*e*S	**Sn**	**22 56 15.1**	**-1.9**
	baz=256						
WHF	**Hehuan Shan**	**2.21**	**312**	***e*P**	**Pn**	**22 55 49.7**	**-0.2**
	baz=313						
CHGB	**Renai**	**2.22**	**309**	P	**Pn**	**22 55 50.1**	**+0.3**
	baz=315						
CHGB				*e*S	**Sn**	**22 56 14.3**	**-3.6**
	baz=315						
WUSB	**Renai**	**2.22**	**307**	***e*P**	**Pn**	**22 55 49.9**	**+0.2**
	baz=311						
TSMG	**Majia**	**2.23**	**272**	***e*P**	**Pn**	**22 55 50.5**	**+0.9**
	baz=271						
SSLB	**Suanglung**	**2.24**	**301**	***e*P**	**Pn**	**22 55 50.1**	**+0.2**
	baz=300						
SSLB				*e*S	**Sn**	**22 56 13.4**	**-4.7**
	baz=300						
TWC	**Suao**	**2.24**	**331**	***e*P**	**Pn**	**22 55 51.1**	**+1.3**
	baz=338						
TWC				*e*S	**Sn**	**22 56 15.2**	**-2.8**
	baz=338						
MASBT	**Mashibuluo**	**2.24**	**269**	***e*P**	**Pn**	**22 55 50.2**	**+0.4**
	baz=270						
ALS	**Alishan**	**2.24**	**293**	***e*P**	**Pn**	**22 55 51.6**	**+1.5**
	baz=292						
ALS				*e*S	**Sn**	**22 56 16.2**	**-2.3**
	baz=292						
JISG	**Ishigakijimahi**	**2.24**	**31**	P	**Pn**	**22 55 49.6**	**-0.2**
JISG				*e*S	**Sn**	**22 56 15.4**	**-2.6**
HEN	**Hengchun**	**2.24**	**254**	***e*P**	**Pn**	**22 55 50.0**	**+0.1**
	baz=255						
HEN				*e*S	**Sn**	**22 56 15.8**	**-2.2**
	baz=255						
SLGT	**Liugui**	**2.25**	**279**	P	**Pn**	**22 55 51.0**	**+1.0**
	baz=277						
SCZT	**Fangliau**	**2.27**	**263**	***e*P**	**Pn**	**22 55 51.5**	**+1.3**
	baz=255						
WHYT	**Xinyi Township**	**2.28**	**297**	***e*P**	**Pn**	**22 55 51.2**	**+0.8**
	baz=299						
WHYT				*e*S	**Sn**	**22 56 16.9**	**-2.1**
	baz=299						
SGST	**Jiashian**	**2.32**	**281**	***e*P**	**Pn**	**22 55 51.8**	**+0.8**
	baz=287						
SGST				*e*S	**Sn**	**22 56 18.2**	**-1.9**
	baz=287						
NDS	**Dongshan**	**2.32**	**328**	***e*P**	**Pn**	**22 55 51.9**	**+1.0**
	baz=335						
NDS				*e*S	**Sn**	**22 56 17.8**	**-2.2**
	baz=335						
TPUB	**Ta-pu**	**2.33**	**286**	***e*P**	**Pn**	**22 55 52.6**	**+1.5**
	baz=290						
TPUB				*e*S	**Sn**	**22 56 20.1**	**-0.1**
	baz=290						
WTP	**Ta-pu**	**2.33**	**285**	***e*P**	**Pn**	**22 55 52.9**	**+1.8**
	baz=284						
SMLT	**Sun Moon Lake**	**2.33**	**302**	***e*P**	**Pn**	**22 55 52.5**	**+1.3**
	baz=305						
LATG	**Datong**	**2.34**	**323**	***e*P**	**Pn**	**22 55 51.5**	**+0.2**
	baz=324						
NNSB	**Datong**	**2.34**	**319**	***e*P**	**Pn**	**22 55 51.6**	**+0.3**
	baz=315						
NNSB				*e*S	**Sn**	**22 56 17.9**	**-2.8**
	baz=315						
TWT	**Tachien**	**2.35**	**313**	***e*P**	**Pn**	**22 55 52.2**	**+0.7**
	baz=317						
NNS	**Nan Shan**	**2.35**	**319**	***e*P**	**Pn**	**22 55 52.2**	**+0.7**
	baz=315						
NNS				*e*S	**Sn**	**22 56 18.4**	**-2.7**
	baz=315						
TDCB	**Techi**	**2.36**	**313**	***e*P**	**Pn**	**22 55 52.2**	**+0.6**
	baz=318						
TDCB				*e*S	**Sn**	**22 56 18.1**	**-3.1**
	baz=318						
CHN4	**Tsaushan**	**2.37**	**287**	***e*P**	**Pn**	**22 55 54.0**	**+2.4**
	baz=291						
CHN4				*e*S	**Sn**	**22 56 22.3**	**+1.0**
	baz=291						
TYC	**Yuchr**	**2.37**	**302**	***e*P**	**Pn**	**22 55 52.9**	**+1.2**
	baz=305						
SCST	**Cishan**	**2.38**	**276**	***e*P**	**Pn**	**22 55 53.8**	**+2.1**
	baz=275						
WCKO	**Fanlu**	**2.39**	**290**	***e*P**	**Pn**	**22 55 53.3**	**+1.4**
	baz=292						
WCKO				*e*S	**Sn**	**22 56 22.6**	**+0.8**
	baz=292						
CHN1	**Nanshi**	**2.39**	**283**	***e*P**	**Pn**	**22 55 53.9**	**+2.0**
	baz=289						
CHN1				*e*S	**Sn**	**22 56 22.4**	**+0.6**
	baz=289						
ENTT	**Nioudou**	**2.40**	**326**	***e*P**	**Pn**	**22 55 53.4**	**+1.3**
	baz=326						
ENTT				*e*S	**Sn**	**22 56 19.5**	**-2.5**
	baz=326						
WCS	**Beigang Elemen**	**2.41**	**306**	***e*P**	**Pn**	**22 55 53.1**	**+0.9**
	baz=309						
TWE	**Neicheng**	**2.42**	**329**	***e*P**	**Pn**	**22 55 53.1**	**+0.9**
	baz=335						
TWE				*e*S	**Sn**	**22 56 20.4**	**-2.1**
	baz=335						
SNST	**Tainan City**	**2.42**	**284**	***e*P**	**Pb**	**22 55 55.2**	**-0.9**
	baz=283						
SNST				*i*S	**Sn**	**22 56 23.7**	**+1.1**
	baz=283						
TWK	**Hsinying**	**2.44**	**285**	***e*P**	**Pb**	**22 55 55.6**	**-0.8**
	baz=284						
TWK				S	**Sn**	**22 56 23.9**	**+0.8**
	baz=284						
JTJ	**Tarama**	**2.49**	**37**	P	**Pn**	**22 55 53.3**	**+0.1**
JTJ				S	**Sn**	**22 56 21.6**	**-2.5**
FUSB	**Fushanzhiwuyua**	**2.49**	**328**	***e*P**	**Pn**	**22 55 54.4**	**+1.1**
	baz=334						
FUSB				*e*S	**Sn**	**22 56 24.1**	**-0.2**
	baz=334						
WHP	**Taichung City**	**2.52**	**310**	***e*P**	**Pn**	**22 55 55.4**	**+1.6**
	baz=316						
WHP				*e*S	**Sn**	**22 56 25.0**	**-0.2**
	baz=316						
SHHT	**Tainan City**	**2.52**	**279**	***e*P**	**Pn**	**22 55 56.0**	**+2.3**
	baz=278						
YHNB	**Yeheng**	**2.53**	**323**	***e*P**	**Pn**	**22 55 54.8**	**+0.9**
	baz=315						
YHNB				*e*S	**Sn**	**22 56 22.9**	**-2.4**
	baz=315						
NSK	**Sanguang**	**2.54**	**323**	***e*P**	**Pn**	**22 55 54.9**	**+0.8**
	baz=315						
NSK				*e*S	**Sn**	**22 56 23.2**	**-2.4**
	baz=315						
NWLT	**Wulai**	**2.55**	**326**	***e*P**	**Pn**	**22 55 55.2**	**+1.1**
	baz=331						
NWLT				*e*S	**Sn**	**22 56 23.0**	**-2.7**
	baz=331						
CHY	**Chiayi**	**2.56**	**290**	***e*P**	**Pn**	**22 55 56.6**	**+2.3**
	baz=289						
TIPB	**Shuangxi**	**2.56**	**334**	***e*P**	**Pn**	**22 55 54.9**	**+0.6**
	baz=340						
TIPB				*e*S	**Sn**	**22 56 24.1**	**-2.0**
	baz=340						
TCU	**Taichung**	**2.64**	**305**	***e*P**	**Pb**	**22 55 58.6**	**-1.2**
	baz=314						
TCU				*e*S	**Sn**	**22 56 29.1**	**+1.2**
	baz=314						
NFF	**Wufeng Townshi**	**2.65**	**318**	***e*P**	**Pn**	**22 55 57.4**	**+1.9**
	baz=315						
NFF				*e*S	**Sn**	**22 56 27.6**	**-0.7**
	baz=315						
ICHU	**Yijhu**	**2.65**	**286**	***e*P**	**Pb**	**22 55 58.8**	**-1.2**
	baz=285						
SXI1	**Grass Mountain**	**2.66**	**336**	P	**Pn**	**22 55 55.8**	**+0.2**
	baz=345						
SXI1				*e*S	**Sn**	**22 56 25.7**	**-2.8**
	baz=345						
WFSB	**Wu-fen Shan**	**2.67**	**334**	***e*P**	**Pn**	**22 55 57.3**	**+1.6**
	baz=344						
WFSB				*e*S	**Sn**	**22 56 27.0**	**-1.7**
	baz=344						
TWA	**Mucha**	**2.68**	**330**	***e*P**	**Pn**	**22 55 57.1**	**+1.2**
	baz=337						
TWA				*e*S	**Sn**	**22 56 27.9**	**-1.0**
	baz=337						
TWQ1	**Liyutan**	**2.69**	**309**	***e*P**	**Pn**	**22 55 58.2**	**+2.1**
	baz=317						
NSTT	**Nanjuang**	**2.72**	**317**	***e*P**	**Pn**	**22 55 58.3**	**+1.8**
	baz=317						
NSTT				*e*S	**Sn**	**22 56 28.2**	**-1.8**
	baz=317						
LIOB	**Emei**	**2.72**	**317**	***e*P**	**Pn**	**22 55 58.5**	**+2.0**
	baz=327						
WRL	**Guolierlin Hig**	**2.76**	**297**	***e*S**	**Sn**	**22 56 30.9**	**+0.1**
	baz=297						
WDJ	**Dajia District**	**2.78**	**308**	***e*P**	**Pn**	**22 55 58.9**	**+1.6**
	baz=319						
YM01	**YM01**	**2.83**	**332**	***e*P**	**Pn**	**22 56 00.0**	**+2.0**
	baz=342						
YM01				*e*S	**Sn**	**22 56 32.5**	**-0.1**
	baz=342						
ANP	**Anpu**	**2.88**	**331**	*e*S	**Sn**	**22 56 33.4**	**-0.7**
	baz=342						
JIRB	**Irabujima**	**2.91**	**41**	P	**Pn**	**22 55 58.9**	**-0.1**
JIRB				*e*S	**Sn**	**22 56 31.7**	**-2.8**
JMJ2	**Miyako jima3**	**2.94**	**45**	P	**Pn**	**22 55 59.5**	**0.0**
JMJ2				*e*S	**Sn**	**22 56 33.1**	**-2.2**
JIKM	**Ikemajima**	**3.02**	**41**	***e*P**	**Pn**	**22 56 00.3**	**-0.2**
JIKM				*e*S	**Sn**	**22 56 34.9**	**-2.4**
PHUB	**P'eng-hu**	**3.32**	**286**	***e*P**	**Pn**	**22 56 06.0**	**+1.3**
	baz=285						
PHUB				*e*S	**Sn**	**22 56 41.4**	**-3.3**
	baz=285						
PNG	**Penghu**	**3.35**	**286**	***e*P**	**Pn**	**22 56 06.8**	**+1.7**
	baz=286						
PNG				*e*S	**Sn**	**22 56 43.1**	**-2.3**
	baz=286			

0.3nm,0.8s
ASAR Alice Springs 47.24 166 P P 23 03 48.1 +1.8
0.3nm,0.6s,baz=352,slow=13,SNR=5.1
0.3nm,0.6s

*IDC **13** 23:06:40.8±1.6, 49°.87N×28°.94W, h0km, mb3.6/5, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=41.4km s-min=33.9km az=1.0*
ISC 13 23:06:42.2±1.3, 49°.9N±0°.2×28°.9W±0°.2, h10km, n6, σ1s 36/6, mb3.6/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16.49**	**61**	Pn	**Pn**	**23 10 32.5**	**-0.8**
	baz=258,slow=10 1.2nm,0.8s						
FINES	**FINESS Array B**	**32.07**	**48**	P	**P**	**23 13 08.1**	**-0.8**
	3.7nm,0.9s,baz=274,slow=8.4,SNR=5.0 3.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**44.38**	**135**	P	**P**	**23 14 52.8**	**-0.1**
	0.2nm,0.4s,baz=340,slow=8.8,SNR=2.2 0.2nm,0.4s						
PDAR	**Pinedale Array**	**53.61**	**295**	P	**P**	**23 16 03.2**	**-0.5**
	0.5nm,0.9s,baz=60,slow=7.4,SNR=2.8 0.5nm,0.9s						
KURBB	**Kurchatov Arra**	**62.30**	**43**	P	**P**	**23 17 05.5**	**+1.3**
	0.4nm,0.6s,baz=320,slow=7.1,SNR=3.5 0.4nm,0.6s						
MKAR	**Makanchi Array**	**66.81**	**44**	P	**P**	**23 17 35.3**	**+1.5**
	0.3nm,0.7s,baz=324,slow=5.7,SNR=2.1 0.3nm,0.7s						

*AFAD **13** 23:10:54.9±0.0, 40°.08N×27°.74E, h12km, MW3.5*
*ISK **13** 23:10:54.5, 40°.10N×27°.76E, h11km, ML3.7/32*
*BEO **13** 23:10:56.7±0.9, 40°.13N×27°.72E, h13km±3km, ML3.4/4*
*SOF **13** 23:10:57.0, 40°.20N×27°.53E, h15km, MD3.6*
ISC 13 23:10:55.1±0.8, 40°.11N±0°.02×27°.75E±0°.01, h15km±6km, n125, σ1s 14/167, 18C-18D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GONE	**Gonen-Balikesi**	**0.08**	**218**	Pg	**Pg**	**23 10 57.9**	**-0.2**
EDC	**Edincik**	**0.25**	**20**	Pg	**Pg**	**23 11 00.9**	**+0.3**
EDC				Sg	**Sg**	**23 11 04.4**	**+0.1**
BAND	**Balkesir-Ban**	**0.36**	**47**	P	**Pb**	**23 11 02.6**	**-0.7**
BAND				S	**Sb**	**23 11 07.5**	**-1.2**
BALY	**Balya**	**0.38**	**195**	P	**Pg**	**23 11 02.7**	**-0.1**
BALY				S	**Sg**	**23 11 08.1**	**0.0**
BKES	**Balkesir-Mer**	**0.40**	**160**	P	**Pg**	**23 11 03.3**	**+0.1**
BKES				S	**Sg**	**23 11 08.6**	**0.0**
KRBG	**Karabiga-Canak**	**0.45**	**309**	Pg	**Pb**	**23 11 04.2**	**-0.5**
KCTX	**Karacabey (Bur**	**0.49**	**71**	Pg	**Pb**	**23 11 04.6**	**-0.8**
KCTX				Sg	**Sb**	**23 11 11.3**	**-1.1**
CANM	**Can-anakkale**	**0.54**	**260**	Pg	**Pg**	**23 11 05.7**	**-0.1**
CANM				Sg	**Sg**	**23 11 13.8**	**+0.8**
SART	**Tekirdag**	**0.72**	**323**	P	**Pb**	**23 11 09.5**	**+0.1**
SART				S	**Sb**	**23 11 19.1**	**-0.1**
STEP	**BALIKESIR_Sava**	**0.73**	**182**	P	**Pg**	**23 11 08.9**	**-0.4**
STEP				S	**Sg**	**23 11 19.2**	**+0.2**
DURS	**Dursunbey**	**0.75**	**132**	P	**Pg**	**23 11 09.5**	**-0.2**
DURS				S	**Sg**	**23 11 19.1**	**-0.6**
BUHA	**Balikesir, Bur**	**0.80**	**221**	P	**Pg**	**23 11 10.4**	**-0.2**
BUHA				S	**Sg**	**23 11 20.2**	**-0.9**
DST	**Dursunbey**	**0.84**	**127**	Pg	**Pg**	**23 11 10.6**	**-0.7**
ORLT	**Orhaneli**	**0.88**	**94**	Pg	**Pb**	**23 11 11.8**	**-0.3**
MDNY	**Mudanya-Bursa**	**0.91**	**73**	Pg	**Pb**	**23 11 12.1**	**-0.4**
ARMT	**Armutlu**	**0.96**	**61**	Pg	**Pb**	**23 11 13.3**	**-0.2**
COMU	**Canakkale**	**0.98**	**270**	Pg	**Pg**	**23 11 13.3**	**-0.7**
BAYC	**CANAKKALE_Bayr**	**1.00**	**249**	P	**Pg**	**23 11 13.6**	**-0.7**
BAYC				S	**Sg**	**23 11 26.2**	**-1.1**
CRLT	**Corlu**	**1.02**	**359**	Pg	**Pn**	**23 11 15.2**	**+0.4**
CNKL	**anakkale-Mer**	**1.05**	**268**	P	**Pg**	**23 11 14.5**	**-0.7**
CNKL				P	**Pg**	**23 11 14.6**	**-0.7**
CNKL				S	**Sg**	**23 11 28.4**	**-0.5**
CNKL				S	**Sg**	**23 11 28.5**	**-0.5**
ULDT	**Uludag**	**1.06**	**88**	P	**Pg**	**23 11 14.5**	**-1.1**
ULDT				S	**Sb**	**23 11 29.3**	**+0.2**
IGD	**Bursa**	**1.12**	**82**	P	**Pb**	**23 11 16.2**	**+0.1**
IGD				S	**Sb**	**23 11 31.4**	**+0.8**
AYVA	**Ayvalik**	**1.14**	**226**	P	**Pg**	**23 11 16.4**	**-0.7**
AYVA				S	**Sg**	**23 11 31.9**	**-0.1**
AVCI	**Avcilar-stanb**	**1.16**	**40**	Pn	**Pn**	**23 11 17.7**	**+1.0**
ELBA	**Catalca**	**1.16**	**26**	P	**Pn**	**23 11 17.1**	**+0.4**
ELBA				S	**Sn**	**23 11 32.4**	**+0.1**
RFT1	**Sazli**	**1.16**	**241**	Pn	**Pg**	**23 11 16.9**	**-0.5**
SLVT	**Silivri**	**1.17**	**17**	Pn	**Pg**	**23 11 17.5**	**-0.6**
ECEA	**Canakkale, Ece**	**1.21**	**267**	P	**Pg**	**23 11 17.9**	**-0.4**
ECEA				S	**Sg**	**23 11 33.8**	**-0.4**
KURT	**Yalova, Merkez**	**1.21**	**66**	P	**Pg**	**23 11 17.0**	**-1.4**
KURT				S	**Sb**	**23 11 33.6**	**+0.4**
DKL	**Dikili**	**1.23**	**212**	Pn	**Pg**	**23 11 18.1**	**-0.6**
AKS	**Akhisar**	**1.23**	**178**	Pn	**Pg**	**23 11 17.8**	**-0.9**
ZEDA	**zmir-Bergama**	**1.25**	**205**	P	**Pg**	**23 11 18.0**	**-1.2**
ZEDA				S	**Sg**	**23 11 34.8**	**-0.7**
CTKS	**Kestanelik-??a**	**1.26**	**27**	Pn	**Pn**	**23 11 18.5**	**+0.3**
DEMI	**Demirci**	**1.30**	**145**	P	**Pg**	**23 11 19.2**	**-1.0**
DEMI				S	**Sg**	**23 11 36.2**	**-0.9**
RFT7	**Candarli**	**1.32**	**209**	Pn	**Pn**	**23 11 18.9**	**0.0**
ENZZ	**Sultanice-Enez**	**1.33**	**293**	Pn	**Pb**	**23 11 19.9**	**+0.3**
UKOP	**Uzunkopru-Edir**	**1.33**	**320**	Pn	**Pb**	**23 11 20.1**	**+0.4**
BOZC	**Bozcaada**	**1.33**	**259**	P	**Pn**	**23 11 18.9**	**-0.2**
BOZC				S	**Sg**	**23 11 37.1**	**-0.9**
CAVK	**Edirne/Enez-Ca**	**1.34**	**296**	P	**Pg**	**23 11 19.3**	**-1.8**
CAVK				S	**Sg**	**23 11 36.7**	**-1.7**
CAND	**Candarli**	**1.37**	**213**	Pn	**Pn**	**23 11 19.8**	**+0.2**
KAVV	**Kandilli-Istan**	**1.38**	**46**	Pn	**Pn**	**23 11 19.5**	**-0.3**
ISK	**Istanbul-Kandi**	**1.38**	**46**	Pn	**Pn**	**23 11 19.7**	**-0.1**
KOCA	**Canakkale, Ayv**	**1.38**	**244**	P	**Pn**	**23 11 20.1**	**+0.3**
KOCA				S	**Sg**	**23 11 38.2**	**-1.4**
SIMA	**Simav-Kutahya**	**1.40**	**137**	Pn	**Pn**	**23 11 20.8**	**+0.7**
GOMA	**Golmarmara-Man**	**1.41**	**175**	Pn	**Pn**	**23 11 20.3**	**+0.2**
GPNR	**Gulpinar-Canak**	**1.41**	**243**	Pn	**Pn**	**23 11 20.8**	**+0.7**
GOKC	**Gokceada-Canak**	**1.41**	**274**	Pn	**Pn**	**23 11 20.9**	**+0.8**
EMET	**Ktahya-Emet**	**1.42**	**121**	P	**Pn**	**23 11 21.1**	**+0.7**
EMET				S	**Sg**	**23 11 39.6**	**-1.1**
CTYL	**Yalikoy Yolu**	**1.42**	**17**	Pn	**Pn**	**23 11 20.6**	**+0.2**
VIZE	**Kirklareli, Vi**	**1.47**	**3**	P	**Pn**	**23 11 21.3**	**+0.3**
VIZE				S	**Sn**	**23 11 42.1**	**+2.1**
TVSB	**Tavsanli**	**1.47**	**116**	Pn	**Pn**	**23 11 21.6**	**+0.4**
KLYT	**Kilyos**	**1.51**	**40**	Pn	**Pn**	**23 11 21.3**	**-0.2**
ALN	**Alexandroupoli**	**1.52**	**302**	Pn	**Pn**	**23 11 22.2**	**+0.5**
DOMA	**Ktahya-Doman**	**1.53**	**102**	P	**Pn**	**23 11 22.4**	**+0.5**
DOMA				S	**Sg**	**23 11 43.6**	**-0.8**
OSMT	**Osmaniye**	**1.57**	**71**	Pn	**Pn**	**23 11 23.1**	**+0.6**
FOCM	**Foa**	**1.60**	**210**	Pn	**Pn**	**23 11 22.9**	**+0.1**
BILE	**Bilecik/Merkez**	**1.63**	**87**	P	**Pn**	**23 11 23.0**	**-0.3**
BILE				S	**Sg**	**23 11 47.8**	**+0.2**
GDZ	**Gediz**	**1.68**	**127**	P	**Pb**	**23 11 25.9**	**+0.1**
GDZ				S	**Sn**	**23 11 47.3**	**+1.8**
USAK	**Uak-Merkez**	**1.71**	**144**	P	**Pn**	**23 11 24.3**	**0.0**
USAK				S	**Sn**	**23 11 46.8**	**+0.9**
SIGR	**SIGRI**	**1.72**	**239**	Pn	**Pn**	**23 11 24.6**	**+0.2**
MANT	**Manisa**	**1.73**	**159**	P	**Pb**	**23 11 27.2**	**+0.5**
MANT				S	**Sn**	**23 11 47.7**	**+0.8**
KIRK	**Kirklareli**	**1.74**	**344**	P	**Pn**	**23 11 24.6**	**-0.1**
KIRK				S	**Sn**	**23 11 46.1**	**-0.6**
KULA	**Kula-Manisa**	**1.74**	**156**	Pn	**Pn**	**23 11 25.2**	**+0.3**
SILT	**Sile**	**1.78**	**54**	Pn	**Pn**	**23 11 25.4**	**+0.1**
BLCB	**Balcova**	**1.81**	**198**	Pn	**Pn**	**23 11 25.7**	**0.0**
URLA	**Izmir**	**1.96**	**208**	Pn	**Pn**	**23 11 28.6**	**+0.8**
GPA	**Golpazari**	**1.97**	**84**	Pn	**Pn**	**23 11 28.5**	**+0.6**
RDO	**Rodhopi**	**1.98**	**302**	Pn	**Pn**	**23 11 28.8**	**+0.8**
CESE	**eme**	**2.10**	**213**	Pn	**Pn**	**23 11 30.2**	**+0.5**
GMLD	**Gumuldur**	**2.13**	**198**	Pn	**Pn**	**23 11 31.2**	**+1.1**
CHOS	**Chios island**	**2.17**	**218**	Pn	**Pn**	**23 11 30.5**	**-0.2**
KDZ	**Kurdzhali**	**2.38**	**311**	*i* P	**Pn**	**23 11 34.0**	**+0.5**
DIM	**Dimitrovgrad**	**2.54**	**320**	P	**Pn**	**23 11 37.3**	**+1.6**
RZN	**Rozhen**	**2.78**	**306**	*i* P	**Pn**	**23 11 40.2**	**+1.0**
PLD	**Plovdiv**	**3.05**	**313**	*e*Pn	**Pn**	**23 11 43.7**	**+1.0**
PLD				*e*Sn	**Sn**	**23 12 19.5**	**+0.6**
PLD				*e*Lg	Lg	23 12 31.7	
PLD	**Plovdiv**	**3.05**	**313**	*i* P	**Pn**	**23 11 43.6**	**+0.9**
ELND	**Elena**	**3.15**	**334**	⇓P	**Pn**	**23 11 45.2**	**+1.1**
ELND				⇑S	**Sn**	**23 12 22.5**	**+1.1**
SRS	**Serrai**	**3.32**	**289**	*e*Pn	**Pn**	**23 11 47.0**	**+0.5**
SRS				*e*Lg	Lg	23 12 39.9	
MMB	**Musomishta**	**3.36**	**297**	*i* P	**Pn**	**23 11 48.1**	**+1.1**
SZH	**Strazhitsa**	**3.42**	**338**	P	**Pn**	**23 11 50.2**	**+2.3**
APE	**Apeiranthos**	**3.50**	**211**	⇓P	**Pg**	**23 12 02.6**	**+0.5**
APE				⇓S	**Sg**	**23 12 48.7**	**+1.3**
RAZG	**Razgrad**	**3.58**	**345**	⇑P	**Pn**	**23 11 53.5**	**+3.4**
ANTO	**Ankara**	**3.88**	**92**	⇓P	**Pg**	**23 12 08.1**	**-1.3**
KKB	**Krupnik**	**3.90**	**298**	P	**Pn**	**23 11 55.7**	**+1.2**
PLVB	**Pleven**	**4.03**	**325**	⇓P	**Pn**	**23 11 57.4**	**+1.3**
PEHC	**Pehcevo**	**4.03**	**296**	*i* Pn	**Pn**	**23 11 58.1**	**+1.7**
VTS	**Vitosha**	**4.22**	**308**	*e*Pn	**Pn**	**23 12 00.2**	**+1.2**
VTS				*e*Sn	**Sn**	**23 12 48.5**	**+0.4**
VTS				*e*Lg	Lg	23 13 08.3	
VTS	**Vitosha**	**4.22**	**308**	P	**Pn**	**23 12 00.2**	**+1.2**
SGRR	**Singureni**	**4.32**	**343**	⇓P	**Pg**	**23 12 20.4**	**+2.7**
TIRR	**Tirgusor**	**4.37**	**6**	⇓P	**Pn**	**23 12 01.4**	**+0.5**
TIRR				⇓S	**Sn**	**23 12 50.8**	**-0.8**
MPEP	**Malo Peshtene**	**4.42**	**319**	P	**Pn**	**23 12 01.9**	**+0.3**
STIP	**Stip**	**4.50**	**292**	*i* Pn	**Pn**	**23 12 01.8**	**-0.9**
TPGR	**Topolog**	**4.77**	**6**	⇑P	**Pn**	**23 12 07.2**	**+0.8**
HUMR	**Humele**	**4.87**	**336**	⇑P	**Pb**	**23 12 18.1**	**-1.9**
PRVS	**Prvonek**	**4.90**	**301**	*e*Pn	**Pn**	**23 12 09.9**	**+1.7**
PRVS				*e*Sn	**Sn**	**23 13 03.6**	**-1.0**
PRVS				*e*Lg	Lg	23 13 29.0	
FNA	**Florina**	**4.91**	**280**	*e*Pn	**Pn**	**23 12 10.1**	**+1.7**
CFR	**Carcaliu**	**5.07**	**3**	⇑P	**Pn**	**23 12 11.4**	**+0.9**
BLKB	**Belogradchik**	**5.17**	**314**	⇑S	**Sg**	**23 13 41.0**	**+0.2**
BARS	**Barje**	**5.21**	**303**	*e*Pn	**Pn**	**23 12 14.1**	**+1.6**
BARS				*e*Sn	**Sn**	**23 13 11.1**	**-1.3**
BARS				*e*Lg	Lg	23 13 38.5	
ZAGS	**Zajecar**	**5.53**	**314**	*e*Pn	**Pn**	**23 12 16.8**	**0.0**
MLR	**Muntele Rosu**	**5.54**	**347**	⇑P	**Pn**	**23 12 20.3**	**+3.2**
VOIR		**5.68**	**340**	⇑P	**Pn**	**23 12 21.5**	**+2.5**
ARR	**Arges**	**5.73**	**337**	⇓P	**Pn**	**23 12 22.9**	**+3.3**
ARR				⇓S	**Sn**	**23 13 23.7**	**-1.5**
VLDR	**Vladesti**	**5.74**	**2**	⇑P	**Pn**	**23 12 21.1**	**+1.4**
VARL	**Varlezi**	**5.79**	**1**	⇑P	**Pn**	**23 12 21.8**	**+1.4**
PLOR	**Plostina**	**5.79**	**352**	⇑P	**Pn**	**23 12 23.7**	**+3.2**
VRI	**Vrincioaia**	**5.80**	**353**	⇓P	**Pn**	**23 12 22.5**	**+1.9**
COVR	**Voineasa-Covas**	**5.84**	**349**	⇓P	**Pn**	**23 12 24.3**	**+3.1**
SELS	**Selova**	**5.86**	**304**	*e*Pn	**Pn**	**23 12 22.2**	**+0.8**
TURR	**Turia**	**6.08**	**349**	⇑P	**Pn**	**23 12 26.8**	**+2.4**
LOT	**Lotru**	**6.09**	**333**	⇓P	**Pn**	**23 12 25.4**	**+0.8**
DOPR	**Dopca**	**6.11**	**344**	⇑P	**Pn**	**23 12 27.5**	**+2.7**
HERR	**Herculane**	**6.19**	**322**	⇑P	**Pn**	**23 12 25.7**	**-0.1**
GZR	**Gura Zlata**	**6.42**	**327**	⇓P	**Pn**	**23 12 30.3**	**+1.1**
TESR	**Tescani**	**6.45**	**353**	⇓P	**Pn**	**23 12 31.3**	**+1.8**
GRUS	**Gruza**	**6.46**	**308**	*e*Pn	**Pn**	**23 12 30.6**	**+1.0**
GRUS				*e*Sn	**Sn**	**23 13 41.1**	**-1.9**
MDVR	**Moldovita**	**6.46**	**318**	⇑P	**Pn**	**23 12 30.2**	**+0.5**
SJES	**Sjenica**	**6.62**	**301**	*e*Pn	**Pn**	**23 12 32.4**	**+0.5**
BIZ	**Bicaz**	**6.93**	**351**	⇓P	**Pn**	**23 12 38.5**	**+2.4**
SURR	**Surduc**	**6.99**	**326**	⇓P	**Pn**	**23 12 38.5**	**+1.7**
BZS	**Buzias**	**7.11**	**323**	⇓P	**Pn**	**23 12 38.6**	**0.0**
BZS	**Buzias**	**7.11**	**323**	*e*Pn	**Pn**	**23 12 39.3**	**+0.8**
BURAR	**Bucovina Array**	**7.72**	**347**	⇑P	**Pn**	**23 12 49.7**	**+2.7**
SORM	**Soroca**	**8.04**	**3**	⇑P	**Pn**	**23 12 50.9**	**-0.2**
MORH	**Mrgy, Hungar**	**9.03**	**316**	⇑P	**Pn**	**23 13 05.2**	**+0.5**

IDC 13 23:56:47.5±2.8, 7°.06S×128°.32E, h0km, mb3.2/1, mbtmp3.4/3, ML3.6/2, Error ellipse: s-maj=302.3km s-min=33.1km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.07**	**156**	Pn	**Pn**	**00 00 07.0**	**-1.3**
	0.3nm,0.3s,baz=332,slow=13,SNR=10.0						
WRA				Sn	Sn	00 02 32.1	-13
	0.3nm,0.3s,baz=101,slow=14,SNR=8.0 0.5nm,0.5s						
ASAR	**Alice Springs**	**17.36**	**163**	P	P	00 00 52.4	-0.5
	0.2nm,0.3s,baz=344,slow=10.0,SNR=14 1.1nm,0.7s						
MKAR	**Makanchi Array**	**67.37**	**328**	P	P	00 07 44.6	0.0
	0.1nm,0.5s,baz=114,slow=7.0,SNR=2.2 0.1nm,0.5s						

*IDC **14** 00:17:58.8±2.1, 15°.42N×145°.83E, h213km±22km, mb3.8/9, mbtmp4.4/10, Error ellipse: s-maj=29.8km s-min=24.8km az=81.0*
*NEIC **14** 00:17:59.9±0.9, 15°.1N±0°.1×145°.67E±0°.04, h224km±4km, mb4.1/17, Error ellipse: s-maj=18.0km s-min=2.7km az=162.0*
ISC 14 00:17:58.7±0.9, 15°.47N±0°.09×145°.5E±0°.2, h200km, n29, σ0s 9 1/31, mb4.1/19, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.96**	**198**	Pn	**Pn**	**00 18 37.0**	**+0.2**
GUMO				Sn	**Sn**	**00 19 07.0**	**+0.4**
GUMO	**Guam**	**1.96**	**198**	P	**Pn**	**00 18 38.8**	**+2.0**
	190nm,0.3s,baz=336,slow=22,SNR=6.5						
GUMO				S	**Sn**	**00 19 06.9**	**+0.4**
	186nm,0.3s,baz=56,slow=20,SNR=6.6						
KSRS	**Korea Array**	**26.86**	**328**	P	**P**	**00 23 21.1**	**+0.3**
	1.2nm,0.4s,baz=149,slow=9.8,SNR=4.3 1.2nm,0.4s						
WRA	**Warramunga Arr**	**36.85**	**198**	P	**P**	**00 24 47.3**	**-0.7**
	0.3nm,0.3s,baz=21,slow=8.0,SNR=1.5						
SONM	**Songino Array**	**45.56**	**323**	P	**P**	**00 25 59.8**	**+1.1**
	0.3nm,0.3s,baz=124,slow=5.4,SNR=4.8 0.3nm,0.3s						
BKNI	**Bangkinang**	**46.37**	**255**	P	**P**	**00 26 03.2**	**-2.2**
ZALV	**Zalesovo Beam**	**60.46**	**324**	P	**P**	**00 27 47.4**	**+0.2**
	0.8nm,0.5s,baz=94,slow=7.6,SNR=6.2 0.8nm,0.5s						
MK31	**Makanchi Array**	**60.57**	**315**	P	**P**	**00 27 49.2**	**+1.1**
MKAR	**Makanchi Array**	**60.57**	**315**	P	**P**	**00 27 49.2**	**+1.1**
	1.3nm,0.3s,baz=90,slow=8.6,SNR=42 1.3nm,0.3s						
MAKZ	**Makanchi**	**60.78**	**315**	P	**P**	**00 27 50.7**	**+1.1**
MAKZ				IAmb	IAmb	00 27 51.9	
	comp=Z,3.6nm,0.8s						
KURK	**Kurchatov**	**63.55**	**319**	P	**P**	**00 28 08.3**	**+0.5**
KURBB	**Kurchatov Arra**	**63.59**	**319**	P	**P**	**00 28 08.6**	**+0.4**
	comp=Z,7.3nm,0.6s,baz=99,slow=6.9,SNR=67 comp=Z,7.3nm,0.6s						
D19K	**Kuna River**	**63.70**	**20**	P	**P**	**00 28 08.6**	**0.0**
D19K				IAmb	IAmb	00 28 13.3	
	comp=Z,5.9nm,1.5s						
SKT	**Skwentna**	**63.87**	**28**	P	**P**	**00 28 08.9**	**-0.9**
CAST	**Castle Rocks**	**64.06**	**26**	P	**P**	**00 28 11.0**	**0.0**
CAST				IAmb	IAmb	00 28 14.5	
	comp=Z,3.4nm,1.2s						
H21K	**Melozitna Rive**	**64.50**	**24**	P	**P**	**00 28 14.3**	**+0.5**
H21K				IAmb	IAmb	00 28 21.6	
	comp=Z,3.8nm,1.4s						
ILAR	**Eielson Array**	**66.63**	**26**	P	**P**	**00 28 25.7**	**-1.7**
	comp=Z,0.5nm,0.4s,baz=248,slow=6.0,SNR=14 comp=Z,0.5nm,0.4s						
TOLK	**Toolik Lake Re**	**66.66**	**21**	P	**P**	**00 28 28.2**	**+0.6**
TOLK				IAmb	IAmb	00 28 33.3	
	comp=Z,6.5nm,1.5s						
ARSB	**Arslanbob**	**66.87**	**309**	P	**P**	**00 28 30.1**	**+0.5**
SCRK	**Sand Creek**	**67.69**	**27**	P	**P**	**00 28 34.3**	**0.0**
SCRK				IAmb	IAmb	00 29 02.5	
	comp=Z,4.5nm,1.5s						
KK31	**Karatay Array**	**68.68**	**311**	P	**P**	**00 28 40.8**	**+0.1**
BVAR	**Borovoye Array**	**68.83**	**321**	P	**P**	**00 28 41.9**	**+0.4**
	comp=Z,2.9nm,0.4s,baz=100,slow=7.9,SNR=24 comp=Z,2.9nm,0.4s						
BRVK	**Borovoye**	**68.90**	**321**	P	**P**	**00 28 42.5**	**+0.7**
BRVK				IAmb	IAmb	00 28 43.0	
	comp=Z,2.7nm,0.7s						
CHGR	**Chuyangaron**	**69.92**	**306**	P	**P**	**00 28 48.8**	**+0.3**
ABKAR	**Akbulak array**	**75.56**	**318**	P	**P**	**00 29 21.2**	**-0.1**
ABKAR				IAmb	IAmb	00 29 21.6	
	comp=Z,2.1nm,0.6s						
ARU	**Arti**	**75.57**	**325**	P	**P**	**00 29 21.4**	**+0.1**
ARU				IAmb	IAmb	00 29 21.9	
	comp=Z,2.2nm,0.6s						
RES	**Resolute Bay**	**82.60**	**13**	P	**P**	**00 29 59.1**	**+0.1**
ARCES	**ARCESS Array B**	**85.49**	**342**	P	**P**	**00 30 13.2**	**-0.5**
	comp=Z,6.0nm,1.1s,baz=37,slow=6.1,SNR=4.1 comp=Z,6.0nm,1.1s						
FINES	**FINESS Array B**	**89.72**	**335**	P	**P**	**00 30 32.4**	**-1.5**
	comp=Z,10nm,1.2s,baz=74,slow=2.0,SNR=6.6 comp=Z,10nm,1.2s						

*IDC **14** 00:51:22.1±1.5, 49°.20S×120°.48E, h0km, mb3.9/6, mbtmp3.9/6, MS3.5/5, Error ellipse: s-maj=74.6km s-min=18.6km az=108.0*
ISC 14 00:51:24.2±0.9, 49°.30S±0°.09×120°.9E±0°.2, h10km, n17, σ0s 8 1/11, mb3.8/6, MS3.5/4, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKGY	**Rocky Gully**	**14.96**	**348**	P	**Pn**	**00 54 55.7**	**+0.1**
	baz=0.6						
H01W1	**Cape Leeuwin H**	**15.22**	**339**	T	T	01 10 27.7	
	baz=161,slow=74,SNR=138						
H01W2	**Cape Leeuwin H**	**15.22**	**339**	T	T	01 10 30.0	
	baz=161,slow=74,SNR=123						
H01W3	**Cape Leeuwin H**	**15.23**	**339**	T	T	01 10 26.5	
	baz=161,slow=74,SNR=152						
NWAO	**Narrogin (SRO)**	**16.58**	**349**	P	**P**	**00 55 18.7**	**-0.5**
	baz=1.8						
NWAO				P	**P**	**00 55 18.7**	**-0.5**
	baz=1.8						
NWAO	**Narrogin (SRO)**	**16.58**	**349**	LR	LR	01 00 09.0	
	comp=Z,234nm,18.1s,baz=142,slow=32						
KLBR	**Kellerberrin**	**17.84**	**351**	P	**P**	**00 55 34.7**	**+1.5**
	baz=3.1						
STKA	**Stephens Creek**	**23.35**	**49**	P	**P**	**00 56 33.3**	**+0.7**
	2.2nm,0.8s,baz=208,slow=15,SNR=4.3 2.2nm,0.8s						
ASAR	**Alice Springs**	**27.57**	**27**	P	**P**	**00 57 10.4**	**-1.0**
	1.1nm,0.9s,baz=205,slow=10.0,SNR=8.4 1.1nm,0.9s						
WRA	**Warramunga Arr**	**31.23**	**25**	P	**P**	**00 57 43.2**	**-0.6**
	0.4nm,0.8s,baz=206,slow=9.3,SNR=2.1 0.4nm,0.8s						
VNDA	**Vanda**	**32.29**	**165**	P	**P**	**00 57 53.0**	**+0.4**
	1.2nm,0.7s,baz=318,slow=11,SNR=6.5						
VNDA				LR	LR	01 10 14.4	
	comp=Z,128nm,18.4s,baz=332,slow=35 1.2nm,0.7s						
RPZ	**Rata Peaks**	**34.48**	**100**	LR	LR	01 10 36.7	
	comp=Z,45nm,18.1s,baz=290,slow=33						
QSPA	**South Pole Qui**	**40.82**	**180**	P	**P**	**00 59 04.9**	**-0.6**
	2.2nm,0.4s,baz=352,slow=4.7 2.2nm,0.4s						
LEM	**Lembang**	**43.78**	**341**	LR	LR	01 15 40.7	
	comp=Z,32nm,18.6s,baz=290,slow=34						
SNAA	**Sanae**	**52.97**	**199**	P	**P**	**01 00 40.6**	**+0.3**
	4.9nm,1.0s,baz=147,slow=14,SNR=6.3 4.9nm,1.0s						
LBTB	**Lobatse**	**74.72**	**249**	LR	LR	01 29 54.5	
	comp=Z,32nm,18.3s,baz=332,slow=31						
YKA	**Yellowknife Ar**	**147.34**	**45**	PKPbc	**PKPbc**	**01 11 06.7**	**0.0**
	0.5nm,0.6s,baz=270,slow=2.9,SNR=7.5						

*IDC **14** 00:56:33.3±2.1, 6°.07S×147°.96E, h60km±17km, mb3.8/9, mbtmp4.2/12, MS3.1/2, Error ellipse: s-maj=41.4km s-min=13.3km az=97.0*
*NEIC **14** 00:56:36.5±2.3, 6°.13S±0°.06×147°.8E±0°.2, h72km±8km, mb4.5/19, Error ellipse: s-maj=26.3km s-min=8.5km az=98.0*
ISC 14 00:56:34.3±0.7, 6°.06S±0°.06×147°.8E±0°.1, h60km, n35, σ1s 19/41, mb4.3/20, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.37**	**190**	P	**Pn**	**00 57 25.8**	**+1.3**
PMG				Sn	**Sn**	**00 58 03.2**	**-0.2**
PMG	**Port Moresby**	**3.37**	**190**	P	**Pn**	**00 57 25.8**	**+1.3**
	227nm,0.3s,baz=15,slow=7.4,SNR=42						
PMG				S	**Sn**	**00 58 02.8**	**-0.5**
	231nm,0.4s,baz=206,slow=23,SNR=9.3						
CTA	**Charters Tower**	**14.02**	**186**	P	**Pn**	**00 59 50.5**	**+0.5**
	3.8nm,0.7s,baz=3.4,slow=16,SNR=2.9						
CTA				LR	LR	01 05 04.4	
	comp=Z,65nm,20.0s,baz=298,slow=36						
CTAO	**Charters Tower**	**14.02**	**186**	Pn	**Pn**	**00 59 49.8**	**-0.2**
WB0	**Warramunga Arr**	**18.82**	**222**	P	**P**	**01

$M_{\phi\phi}$-1.30; $M_{\theta\theta}$0.05; $M_{\theta\theta}$0.97; $M_{\theta\theta}$0.69; Fault plane solution: M_o1.70000×10^{16} NP1:ϕ_s205.36000°,δ87.29000°, λ-157.99000°. NP2:ϕ_s114.26000°,δ68.02000°, λ-2.92000°. Principal axes: T 1.4963, Plg13.0000°, Azm338.0000°; N 0.3461, Plg68.0000°, Azm212.0000°; P -1.8424, Plg17.0000°, Azm72.0000°;

*GCMT **14** 01:11:11.4±0.4, 7.34N±0.02×80.92W±0.02, h14km±2km, MW4.8/83, Moment Tensor Solution. s11,c11; s83,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.57±.09; $M_{\theta\theta}$0.84±.07; $M_{\phi\phi}$-1.41±.11; $M_{r\theta}$-0.37±.19; $M_{r\phi}$1.30±.07; $M_{\theta\gamma}$0.29±.17; Best double couple: M_o1.78100×10^{16} NP1:ϕ_s292.00000°,δ86.00000°,λ16.00000°. NP2: ϕ_s200.00000°,δ74.00000°,λ176.00000°. Principal axes: T 1.4940, Plg14.0000°, Azm157.0000°; N 0.5760, Plg73.0000°, Azm303.0000°; P -2.0690, Plg9.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **14** 01:11:11.5±2.2, 7.34N×81.10W, h40km±20km, mb4.1/14, mbtmp4.5/23, ML4.3/8, MS4.0/40 Error ellipse: s-maj=20.7km s-min=12.4km az=48.0*

ISC 14 01:11:07.9±0.8, **7.33N**±0.03×**80.98W**±0.02, **h13**km±5km, **n632**, **σ1s08**/566, **mb4.7**/133, **MS4.1**/34, **8C-18D, Panama**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CACAO	**El Cacao, Vera**	**0.12**	**81**	*i*P		**Pg**		**01 11 11.1**	**0.0**
CACAO				*e*S		**Sg**		**01 11 13.3**	**-0.1**
CACAO	**El Cacao, Vera**	**0.12**	**81**	*e*P		**Pg**		**01 11 10.8**	**-0.4**
CACAO				*e*S		**Sb**		**01 11 14.8**	**0.0**
MARI3	**Mariato, Verag**	**0.32**	**359**	*e*P		**Pg**		**01 11 14.4**	**-0.1**
MARI3				*e*S		**Sg**		**01 11 18.8**	**0.0**
GMAL	**Guarumal, Vera**	**0.50**	**330**	*i*P		**Pg**		**01 11 17.1**	**-0.6**
GMAL				*i*S		**Sb**		**01 11 25.4**	**-0.4**
GMAL	**Guarumal, Vera**	**0.50**	**330**	*i*P		**Pg**		**01 11 17.1**	**-0.6**
GMAL				*e*S		**Sb**		**01 11 25.6**	**-0.2**
GMAL				*i*				01 11 26.6	
	comp=Z,13μm,0.4s								
RSUS3	**Rio de Jesus,**	**0.68**	**345**	*i*P		**Pg**		**01 11 19.9**	**-1.2**
RSUS3				*e*S		**Sg**		**01 11 30.2**	**+0.2**
PESE3	**Pese, Herrera**	**0.69**	**32**	*i*P		**Pg**		**01 11 20.6**	**-0.7**
PESE3				*i*S		**Sb**		**01 11 31.2**	**+0.1**
STIA3	**Santiago, Vera**	**0.77**	**1**	*i*P		**Pg**		**01 11 21.7**	**-1.1**
STIA3				*e*S		**Sb**		**01 11 33.8**	**+0.3**
ACHO3	**Achotines, Los**	**0.81**	**84**	*i*P		**Pg**		**01 11 22.1**	**-1.4**
ACHO3				*i*S		**Sn**		**01 11 36.9**	**0.0**
CHIT3	**Chitre**	**0.84**	**42**	*i*P		**Pg**		**01 11 23.0**	**-1.2**
CHIT3				*e*S		**Sb**		**01 11 36.2**	**+0.7**
AZU	**Azuero**	**0.84**	**57**	*i*P		**Pg**		**01 11 22.9**	**-1.3**
AZU				*e*S		**Sn**		**01 11 37.6**	**-0.1**
AZU	**Azuero**	**0.84**	**57**	*i*P		**Pg**		**01 11 22.9**	**-1.3**
AZU				*e*S		**Sn**		**01 11 37.6**	**-0.1**
AZU				*i*				01 11 39.7	
	comp=Z,19μm,0.6s								
SFRA3	**San Francisco,**	**0.92**	**1**	*i*P		**Pb**		**01 11 24.1**	**-1.5**
SFRA3				*e*S		**Sg**		**01 11 37.3**	**-0.4**
PEDA3	**Pedasi**	**0.97**	**78**	*i*P		**Pb**		**01 11 24.6**	**-2.0**
PEDA3				*i*S		**Sb**		**01 11 39.1**	**-0.2**
PEDA3				*e*S		**Sn**		**01 11 41.4**	**+0.5**
CRIS3	**El Cristo, Coc**	**0.99**	**21**	*e*P		**Pb**		**01 11 25.5**	**-1.5**
CALO3	**Calobre, Verag**	**1.00**	**8**	*i*P		**Pb**		**01 11 25.6**	**-1.5**
CALO3				*i*S		**Sg**		**01 11 41.1**	**+0.8**
SAFE3	**Santa Fe, Vera**	**1.19**	**355**	*i*P		**Pn**		**01 11 28.4**	**-1.9**
SAFE3				*e*S		**Sb**		**01 11 45.0**	**-0.7**
PNME	**Penonome**	**1.32**	**29**	*e*P		**Pn**		**01 11 31.2**	**-0.9**
PNME				*i*				01 11 52.7	
	comp=Z,9μm,0.5s								
GUAL3	**Gualaca, Chiri**	**1.77**	**313**	*i*P		**Pn**		**01 11 37.1**	**-1.2**
CHGR2	**Aguacate**	**1.97**	**324**	*e*P		**Pn**		**01 11 40.2**	**-0.8**
CHGR2				*i*S		**Sn**		**01 12 06.3**	**+0.7**
LNBQ3	**Los Naranjos,**	**2.05**	**315**	*e*P		**Pn**		**01 11 41.4**	**-0.8**
BCO2	**Palmira**	**2.06**	**312**	*i*P		**Pn**		**01 11 42.2**	**-0.2**
PTPM	**Petroterminale**	**2.07**	**295**	*e*P		**Pn**		**01 11 40.8**	**-1.6**
ARRA3	**Arraijan, Pana**	**2.09**	**39**	*e*P		**Pn**		**01 11 43.6**	**+0.9**
ARRA3				*e*S		**Sb**		**01 12 11.6**	**-0.1**
BCIP	**Isla Barro Col**	**2.15**	**32**	Pn		**Pn**		**01 11 44.5**	**+1.0**
BCIP				Sn		**Sn**		**01 12 11.4**	**+1.3**
BCIP	**Isla Barro Col**	**2.15**	**32**	*i*P		**Pn**		**01 11 45.0**	**+1.5**
BCIP	**Isla Barro Col**	**2.15**	**32**	*e*P		**Pn**		**01 11 44.5**	**+1.0**
BCIP				*e*S		**Sb**		**01 12 14.0**	**+0.6**
BCIP				*i*				01 12 23.2	
	comp=Z,3μm,0.6s								
BCIP	**Isla Barro Col**	**2.15**	**32**	*i*P		**Pn**		**01 11 44.7**	**+1.2**
BCIP				*i*S		**Sb**		**01 12 14.9**	**+1.5**
BCIP				IAML				01 12 22.9	
	comp=Z,16μm,1.0s								
UPA	**Univ. de Panam**	**2.18**	**41**	*e*P		**Pn**		**01 11 45.0**	**+1.1**
UPA				*e*S		**Sb**		**01 12 13.5**	**-0.8**
BC3P	**Paso Ancho**	**2.19**	**313**	*i*P		**Pn**		**01 11 43.7**	**-0.5**
BRU2	**Volcan**	**2.23**	**311**	Pn		**Pn**		**01 11 44.4**	**-0.4**
BRU2	**Volcan**	**2.23**	**311**	*e*P		**Pn**		**01 11 44.4**	**-0.4**
BRU2				*i*S		**Sb**		**01 12 15.7**	**-0.2**
BRU2	**Volcan**	**2.23**	**311**	*i*P		**Pn**		**01 11 45.0**	**+0.2**
BRU2				*i*S		**Sb**		**01 12 14.6**	**-1.3**
BRU2				IAML				01 12 41.4	
	comp=Z,13μm,1.0s								
CDITO	**Canoas**	**2.25**	**304**	Pn		**Pn**		**01 11 44.2**	**-0.6**
CDITO				Sn		**Sn**		**01 12 13.6**	**+1.2**
CDITO	**Canoas**	**2.25**	**304**	*i*P		**Pn**		**01 11 44.5**	**-0.3**
CDITO				*i*S		**Sb**		**01 12 14.8**	**-1.3**
CDITO				IAML				01 12 20.4	
	comp=Z,17μm,1.0s								
CHPO	**Chepo, Panama**	**2.60**	**45**	*i*P		**Pn**		**01 11 50.7**	**+1.0**
POTG	**Potrero Grande**	**2.72**	**309**	*i*P		**Pn**		**01 11 51.7**	**+0.3**
POTG				IAML				01 12 42.8	
	comp=Z,9μm,1.0s								
RGM0	**Gandoca**	**2.77**	**325**			**Pn**		**01 11 53.2**	**+1.3**
CNTA3	**Canitas, Panam**	**2.80**	**48**	*i*P		**Pn**		**01 11 53.0**	**+0.6**
TOTI	**Torti**	**3.09**	**59**	*e*P		**Pn**		**01 11 56.8**	**+0.4**
PTAC	**Punta Ardita,**	**3.15**	**93**	*e*P		**Pn**		**01 11 55.3**	**-2.0**
OCHAL	**Ojochal**	**3.17**	**304**	*i*P		**Pn**		**01 11 58.2**	**+0.7**
OCHAL				IAML				01 12 10.2	
	comp=Z,22nm,1.0s								
UPD2	**Meteti**	**3.18**	**67**	*e*P		**Pn**		**01 11 58.4**	**+0.8**
CDM	**Cerro de Muert**	**3.53**	**309**	*i*P		**Pn**		**01 12 03.7**	**+0.8**
CDM				IAML				01 13 08.0	
	comp=Z,3μm,1.0s								
SOLC	**Bahia Solano**	**3.71**	**107**	*e*P		**Pn**		**01 12 02.7**	**-2.3**
RIMA	**Rio Macho**	**3.74**	**311**			**Pn**		**01 12 06.0**	**+0.5**
RIMA	**Rio Macho**	**3.74**	**311**	*i*P		**Pn**		**01 12 07.2**	**+1.6**
RIMA				IAML				01 13 12.9	
	comp=Z,2μm,1.0s								
CAPC	**Capurgana**	**3.82**	**70**	*e*P		**Pn**		**01 12 06.3**	**-0.2**
CAPC				*i*				01 13 25.4	
	comp=Z,175nm,0.7s								
LCR2	**La Lucha 2**	**3.83**	**309**			**Pn**		**01 12 07.6**	**+0.8**
LCR2	**La Lucha 2**	**3.83**	**309**	*i*P		**Pn**		**01 12 08.3**	**+1.5**
LCR2				IAML				01 13 18.4	
	comp=Z,2μm,1.0s								
TBLN	**Tablon, Guarco**	**3.88**	**310**	*i*P		**Pn**		**01 12 09.2**	**+1.7**
TBLN				IAML				01 12 16.5	
	comp=Z,2μm,1.0s								
OCM	**Ochomogo**	**3.90**	**311**	*i*P		**Pn**		**01 12 09.9**	**+2.2**
OCM				IAML				01 13 20.8	
	comp=Z,2μm,1.0s								
HDC3	**Heredia 3**	**4.08**	**311**	*i*P		**Pn**		**01 12 11.3**	**+1.2**
HDC3				IAML				01 12 25.0	
	comp=Z,4μm,1.0s								
HDC	**Heredia**	**4.08**	**311**			**Pn**		**01 12 12.0**	**+1.8**
HDC	**Heredia**	**4.08**	**311**	*i*P		**Pn**		**01 12 13.0**	**+2.9**
HDC				*e*S		**Sb**		**01 13 12.4**	**+3.3**
RIFO	**Rio Frio, Sara**	**4.16**	**316**	*i*P		**Pn**		**01 12 14.3**	**+3.2**
RIFO				IAML				01 13 25.5	
	comp=Z,2μm,1.0s								
TRT2	**Tortugero**	**4.21**	**320**	*i*P		**Pn**		**01 12 12.6**	**+0.8**
TRT2				IAML				01 13 37.4	
	comp=Z,1μm,1.0s								
TCS1	**Tacares**	**4.25**	**310**	*i*P		**Pn**		**01 12 14.9**	**+2.5**
TCS1				IAML				01 13 29.2	
	comp=Z,15μm,1.0s								
VPTE	**Poasito**	**4.25**	**312**	*i*P		**Pn**		**01 12 15.6**	**+2.9**
VPTE				IAML				01 12 29.6	
	comp=Z,3μm,1.0s								
PIZC	**Pizarro, Choco**	**4.30**	**123**	*e*P		**Pn**		**01 12 10.3**	**-2.7**
PIZC				*i*				01 13 06.9	
	comp=Z,349nm,0.4s								
JACO	**JACO, Garabito**	**4.32**	**303**			**Pn**		**01 12 15.0**	**+1.7**
JACO	**JACO, Garabito**	**4.32**	**303**	*i*P		**Pn**		**01 12 14.9**	**+1.7**
JACO				IAML				01 13 30.6	
	comp=Z,1μm,1.0s								
APAC	**Apartado, Choc**	**4.40**	**82**	*e*P		**Pn**		**01 12 16.0**	**+1.5**
CPMI	**Catarata Coope**	**4.46**	**311**	*i*P		**Pn**		**01 12 18.7**	**+3.2**
CPMI				IAML				01 14 01.6	
	comp=Z,2μm,1.0s								
SOCE	**Pocosol**	**4.71**	**310**			**Pn**		**01 12 20.2**	**+1.6**
SOCE	**Pocosol**	**4.71**	**310**	*i*P		**Pn**		**01 12 22.8**	**+4.1**
SOCE				IAML				01 12 42.6	
	comp=Z,1μm,1.0s								
DBBC	**Dabeiba**	**4.75**	**93**	*e*P		**Pn**		**01 12 19.1**	**-0.2**
DBBC				*i*				01 13 19.5	
	comp=Z,86nm,0.7s								
COVE	**Coope Vega, Sa**	**4.77**	**315**			**Pn**		**01 12 21.6**	**+2.0**
COVE	**Coope Vega, Sa**	**4.77**	**315**	*i*P		**Pn**		**01 12 21.1**	**+1.5**
VACR	**Volcan Arenal**	**4.81**	**311**	*i*P		**Pn**		**01 12 24.0**	**+3.9**
VACR				IAML				01 12 40.6	
	comp=Z,1μm,1.0s								
LCBC	**Los crdobas,**	**4.82**	**71**	*e*P		**Pn**		**01 12 22.9**	**+2.7**
ARE1	**Arenal 1**	**4.83**	**310**			**Pn**		**01 12 22.4**	**+2.0**
MALC	**Bahia Malaga**	**4.90**	**132**	*e*P		**Pn**		**01 12 19.9**	**-1.4**
JTS	**Las Juntas de**	**4.91**	**307**			**Pn**		**01 12 22.2**	**+0.8**
JTS	**Las Juntas de**	**4.91**	**307**	*i*P		**Pn**		**01 12 24.2**	**+2.8**
JTS	**Las Juntas de**	**4.91**	**307**	*e*P		**Pn**		**01 12 23.9**	**+2.5**
JTS	**Las Juntas de**	**4.91**	**307**	Pn		**Pn**		**01 12 23.0**	**+1.5**
	comp=Z,24nm,0.3s,baz=260,slow=12,SNR=46								
JTS				Sn		**Sn**		**01 13 16.2**	**-2.0**
	baz=319,slow=21								
JTS				Lg		Lg		01 13 38.0	
	comp=Z,9.1nm,0.3s,baz=183,slow=20,SNR=1.7								
	comp=Z,121nm,0.5s								
GR1C	**Gorgona, Isla**	**5.13**	**147**	*e*P		**Pn**		**01 12 21.7**	**-2.8**
CBOC	**Ciudad Bolivar**	**5.15**	**106**	*e*P		**Pn**		**01 12 23.6**	**-1.3**
DUNO	**Dulce Nombre,**	**5.23**	**302**			**Pn**		**01 12 27.1**	**+1.2**
DUNO	**Dulce Nombre,**	**5.23**	**302**	*i*P		**Pn**		**01 12 27.2**	**+1.3**
DUNO				IAmb		IAmb		01 12 52.3	
	comp=Z,240nm,1.0s								
DUNO				IAML				01 14 19.9	
	comp=Z,790nm,1.0s								
PLMC	**San Jos del P**	**5.25**	**117**	*e*P		**Pn**		**01 12 24.0**	**-2.3**
PLMC				*i*				01 13 27.8	
	comp=Z,205nm,0.4s								
ORTG	**Ortega, Santa**	**5.36**	**305**			**Pn**		**01 12 28.7**	**+1.1**
ORTG	**Ortega, Santa**	**5.36**	**305**	*i*P		**Pn**		**01 12 28.2**	**+0.6**
ORTG				IVmB_BB				01 12 46.9	
	comp=Z,2μm,1.0s								
ORTG				IAmb		IAmb		01 12 57.3	
	comp=Z,240nm,1.0s								
ORTG				IAML				01 14 19.2	
	comp=Z,500nm,1.0s								
UREC	**San Jos de Ur**	**5.42**	**85**	*e*P		**Pn**		**01 12 29.2**	**+0.8**
HZTE	**Horizontes, Gu**	**5.67**	**307**	Pn		**Pn**		**01 12 34.1**	**+2.3**
YOTC	**Yotoco, Valle**	**5.69**	**125**	*e*P		**Pn**		**01 12 30.6**	**-1.6**
YOTC				*i*				01 13 39.2	
	comp=Z,79nm,0.5s								
ESPN	**Las Esperanzas**	**5.84**	**326**			**Pn**		**01 12 35.9**	**+1.6**
JAMC	**Jamundi, Valle**	**5.92**	**133**	*e*P		**Pn**		**01 12 33.0**	**-2.5**
JAMC				*i*				01 13 48.2	
	comp=Z,70nm,0.8s								
GUY2C	**Guyana, Caldas**	**5.96**	**110**	*e*P		**Pn**		**01 12 36.6**	**+0.3**
ZARC	**Zaragoza, Cauc**	**6.08**	**88**	*e*P		**Pn**		**01 12 38.1**	**+0.6**
ACON	**Acoyapa**	**6.19**	**318**			**Pn**		**01 12 39.0**	**-0.1**
ACON	**Acoyapa**	**6.19**	**318**	*e*P		**Pn**		**01 12 40.5**	**+1.4**
ACON	**Acoyapa**	**6.19**	**318**	*i*P		**Pn**		**01 12 40.5**	**+1.4**
ACON				IAmb		IAmb		01 13 09.6	
	comp=Z,300nm,0.9s								
ACON				IAML				01 14 26.0	
	comp=Z,400nm,1.0s								
ANIL	**Santa Ana**	**6.22**	**117**	*e*P		**Pn**		**01 12 39.7**	**-0.1**
ANIL				*i*				01 13 58.8	
	comp=Z,280nm,0.4s								
SJCC	**San Jacinto, C**	**6.28**	**66**	*e*P		**Pn**		**01 12 41.1**	**+0.7**
SJCC				*i*				01 14 02.3	
	comp=Z,30nm,0.5s								
POPC	**Popayan, Colom**	**6.40**	**138**	*e*P		**Pn**		**01 12 40.3**	**-1.9**
BBAC	**Balboa, Cauca**	**6.45**	**145**	*e*P		**Pn**		**01 12 41.2**	**-1.6**
PTBC	**PUERTO BERRIO,**	**6.53**	**96**	*e*P		**Pn**		**01 12 44.4**	**+0.7**
ORTC	**Ortega, Tolima**	**6.64**	**120**	*e*P		**Pn**		**01 12 45.9**	**+0.6**
PRAC	**Prado**	**7.05**	**120**	*e*P		**Pn**		**01 12 51.6**	**+0.7**
GCUF	**Volcan Galeras**	**7.06**	**149**	*e*P		**Pn**		**01 12 52.3**	**+0.8**
SPBC	**San Pablo de B**	**7.07**	**103**	*e*P		**Pn**		**01 12 52.9**	**+1.7**
ROSC	**El Rosal**	**7.07**	**110**	*e*P		**Pn**		**01 12 51.0**	**-0.5**
ROSC	**El Rosal**	**7.07**	**110**	Pn		**Pn**		**01 12 54.5**	**+3.0**
	comp=Z,12nm,0.4s,baz=28,slow=2,SNR=4.8								
CMBC	**Cumbal**	**7.08**	**153**	*e*P		**Pn**		**01 12 51.6**	**-0.1**
ARGC	**Ariguani, Magd**	**7.12**	**69**	*e*P		**Pn**		**01 12 52.9**	**+1.0**
BETC	**Betania**	**7.19**	**130**	*e*P		**Pn**		**01 12 54.3**	**+1.4**
PAC1	**Pacto, Paraso**	**7.34**	**163**	*e*P		**Pn**		**01 12 53.4**	**-1.7**
MATN	**Matagalpa**	**7.39**	**319**			**Pn**		**01 12 56.3**	**+0.6**
CVER	**Cruz Verde, Cu**	**7.42**	**112**	*e*P		**Pn**		**01 12 59.2**	**+2.9**
CUSE	**Cuicocha Este**	**7.43**	**160**	*e*P		**Pn**		**01 12 55.7**	**-0.8**
OTAV	**Otavalo**	**7.48**	**160**	*e*P		Pn		01 12 45.5	-12
GARC	**Garzon, Huila**	**7.48**	**133**	*e*P		**Pn**		**01 12 58.0**	**+1.0**
BONI	**La Bonita**	**7.65**	**153**	*e*P		**Pn**		**01 13 00.4**	**+1.1**
OCAC	**Ocana**	**7.65**	**83**	*e*P		**Pn**		**01 12 59.6**	**+0.4**
PULU	**Pululahua**	**7.67**	**161**			**Pn**		**01 13 00.1**	**+0.4**
SMRC	**Santa Marta, M**	**7.68**	**60**	*e*P		**Pn**		**01 12 59.5**	**0.0**
BARC	**Barichara**	**7.78**	**95**	*e*P		**Pn**		**01 13 02.4**	**+1.4**
FLOC	**Florencia**	**7.79**	**137**	*e*P		**Pn**		**01 13 02.0**	**+0.9**
VILC	**Villavicencio,**	**7.92**	**113**	*e*P		**Pn**		**01 13 07.3**	**+4.3**
LLSC	**La Loma 6 Bece**	**7.99**	**72**	*e*P		**Pn**		**01 13 04.8**	**+0.9**
PAMC	**Pamplona, Colo**	**8.22**	**89**	*e*P		**Pn**		**01 13 08.4**	**+1.0**
MACC	**Macarena, Meta**	**8.78**	**126**	*e*P		**Pg**		**01 13 56.8**	**+0.9**
CRJC	**Cerrejon, Guaj**	**8.80**	**65**	*e*P		**Pn**		**01 13 14.9**	**-0.1**
CHSH	**Refugio Sur-Vo**	**9.01**	**166**			**Pn**		**01 13 19.5**	**+1.1**
TAMC	**Tame, Arauca**	**9.17**	**95**	*e*P		**Pn**		**01 13 20.8**	**+0.8**
PTGC	**Puerto Gaitan,**	**9.34**	**109**	*e*P		**Pn**		**01 13 20.6**	**-1.6**
PTLC	**Puerto Leguiza**	**9.41**	**139**	*e*P		Pn		01 13 28.2	+4.9
URIC	**Uribia, Colomb**	**9.87**	**63**	*e*P		**Pn**		**01 13 30.4**	**+0.7**
COHC	**Cochancay**	**9.88**	**170**			**Pn**		**01 13 29.4**	**-0.3**
COHC	**Cochancay**	**9.88**	**170**	*e*P		**Pn**		**01 13 29.7**	**0.0**
SDV	**Santo Domingo**	**10.36**	**81**	Pn		**Pn**		**01 13 36.9**	**+0.4**
SDV	**Santo Domingo**	**10.36**	**81**	*e*P		**Pn**		**01 13 38.8**	**+2.3**
SDV	**Santo Domingo**	**10.36**	**81**	Pn		**Pn**		**01 13 38.1**	**+1.6**
	comp=Z,2.3nm,0.3s,baz=284,slow=12,SNR=16								
SDV				Sn		**Sn**		**01 15 30.1**	**-2.7**
	comp=Z,1.8nm,0.3s,baz=308,slow=3,SNR=1.2								
SDV				LR		LR		01 18 48.1	
	comp=Z,931nm,19.1s,baz=250,slow=44								
	comp=Z,20nm,0.6s								
BOSC	**San Juan Bosco**	**10.70**	**167**	Pn		**Pn**		**01 13 42.9**	**+1.8**
MTO3	**Montecristo**	**10.82**	**311**			**Pn**		**01 13 42.5**	**-0.3**
ARNL	**Arenillas**	**10.84**	**175**			**Pn**		**01 13 42.2**	**-0.7**
MCRA	**Macar, Loja**	**11.66**	**175**	Pn		**Pn**		**01 13 55.1**	**+0.8**
MCRA	**Macar, Loja**	**11.66**	**175**	*e*P		**Pn**		**01 13 56.5**	**+2.3**
HATO	**Hato, Curacao**	**12.79**	**67**			**Pn**		**01 14 10.6**	**+1.0**
BAUV	**El Baul**	**12.91**	**82**	Pn		**Pn**		**01 14 09.0**	**-2.3**
PAPH	**Port-au-Prince**	**13.97**	**36**			**Pn**		**01 14 26.7**	**+0.9**
CCIG	**Comitan**	**14.08**	**310**	Pn		**Pn**		**01 14 28.4**	**+1.0**
ATAH	**Atahualpa**	**14.60**	**170**	Pn		**Pn**		**01 14 36.4**	**+1.7**
	comp=Z,1.5nm,0.3s,baz=5.7,slow=11,SNR=15								
ATAH				Sn		**Sn**		**01 17 18.7**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=172,slow=20,SNR=1.7								
ATAH				LR		LR		01 19 40.9	
	comp=Z,606nm,19.6s,baz=353,slow=35								
	comp=Z,20nm,0.6s								
TEIG	**Tepich**	**14.64**	**332**	Pn		**Pn**		**01 14 36.4**	**+1.5**
TEIG	**Tepich**	**14.64**	**332**	Pn		**Pn**		**01 14 34.6**	**-0.3**
	comp=Z,2.7nm,0.3s,baz=102,slow=16,SNR=2.4								
TEIG				LR		LR		01 20 10.0	
	comp=Z,5μm,18.7s,baz=269,slow=37								
	comp=Z,45nm,0.8s								
SDDR	**Presa de Saban**	**14.94**	**38**	Pn		**Pn**		**01 14 40.0**	**+1.0**
SDDR	**Presa de Saban**	**14.94**	**38**	*e*P		**Pn**		**01 14 39.9**	**+1.0**
TBTG	**Tabatinga, AM**	**15.90**	**136**	Pn		**Pn**		**01 14 49.3**	**-2.3**
TBTG	**Tabatinga, AM**	**15.90**	**136**	*e*P		**P**		**01 14 55.4**	**+0.2**
PCRV	**Puerto La Cruz**	**16.40**	**79**	Pn		**P**		**01 15 01.0**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=270,slow=5.1,SNR=2.1								
PCRV				LR		LR		01 23 18.0	
	comp=Z,1μm,18.9s,slow=44								
	comp=Z,18nm,0.9s								
CMIG	**Matias Romero**	**16.68**	**307**	Pn		**Pn**		**01 15 02.2**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=129,slow=6.5,SNR=5.4								
	comp=Z,6.9nm,0.7s								
CZSB	**Cruzeiro do Su**	**17.08**	**151**	P		**Pn**		**01 15 04.7**	**-2.0**
SJG	**San Juan**	**17.99**	**52**	P		**Pn**		**01 15 17.8**	**-0.1**
SJG				IAmb		IAmb		01 15 26.6	
	comp=Z,96nm,1.1s								
SJG	**San Juan**	**17.99**	**52**	P		**P**		**01 15 20.6**	**+2.3**
	comp=Z,1.9nm,0.3s,baz=236,slow=7.7,SNR=10								
SJG				LR		LR		01 22 45.1	
	comp=Z,216nm,20.8s,baz=233,slow=38								
	comp=Z,23nm,0.6s								
NNA	**Nana**	**19.62**	**168**	P		**Pn**		**01 15 37.4**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=309,slow=14,SNR=4.5								
NNA				LR		LR		01 23 18.1	
	comp=Z,247nm,18.9s,baz=330,slow=37								
	comp=Z,11nm,0.7s								
TLIG	**Tlapa**	**19.94**	**302**	P		**P**		**01 15 38.9**	**-1.0**
SMRT	**St. Maarten**	**20.44**	**57**	P		Pn		01 15 46.9	-0.5
SMRT				IAmb		IAmb		01 15 50.2	
	comp=Z,75nm,1.2s								
BOAV	**Boa Vista**	**20.96**	**102**			**P**		**01 15 51.9**	**+1.0**
BOAV				IAmb		IAmb		01 16 04.7	
	comp=Z,22nm,1.0s								
ETMB	**Extrema**	**22.50**	**139**	P		**P**		**01 16 08.2**	**+0.8**
ETMB				IAmb		IAmb		01 16 09.3	
	comp=Z,33nm,0.8s								
MACA	**Manacapuru-AM**	**22.78**	**117**	P		**P**		**01 16 09.8**	**-0.6**
MACA				IAmb		IAmb		01 16 24.2	
	comp=Z,31nm,0.9s								
BRAL	**Brewton**	**24.39**	**347**	P		**P**		**01 16 24.9**	**-1.1**
	baz=165								
NHSC	**New Hope**	**25.66**	**2**	P		**P**		**01 16 36.7**	**-0.8**
	baz=182								
HBVL	**Hebbronville**	**25.84**	**322**	P		**P**		**01 16 39.3**	**+0.1**
HBVL				IAmb		IAmb		01 16 45.6	
	comp=Z,17nm,0.9s								
GOGA	**Godfrey**	**26.06**	**355**	P		**P**		**01 16 40.1**	**-1.0**
	baz=174								
LRAL	**Lakeview Retre**	**26.18**	**348**	P		**P**		**01 16 41.0**	**-1.2**
	baz=166								
HKT	**Hockley**	**26.48**	**330**	P		**P**		**01 16 44.0**	**-1.0**
HKT				IAmb		IAmb		01 16 52.5	
	comp=Z,14nm,1.1s								
833A	**Chaparral WMA,**	**27.19**	**322**	P		**P**		**01 16 51.5**	**+0.1**
833A				IAmb		IAmb		01 17 30.9	
	comp=Z,23nm,1.1s								
833A	**Chaparral WMA,**	**27.19**	**322**	P		**P**		**01 16 53.2**	**+1.8**
	baz=137								
PB16	**IPOC Station P**	**27.90**	**156**	P		**P**		**01 16 57.3**	**-1.2**
PB16				IAmb		IAmb		01 17 05.1	
	comp=Z,13nm,1.0s								

KSCO **Kaye Shedlock'** **37.09 332** P **P** **01 18 18.2 +0.1**
KSCO **Kaye Shedlock'** **37.09 332** P **P** **01 18 17.3 -0.9**
baz=143
TUC **Tucson** **37.23 316** P **P** **01 18 19.7 +0.3**
baz=126
SADO **Sadowa** **37.33 2** LR LR 01 33 24.1
comp=Z,326nm,21.3s,baz=182,slow=36
GLMI **Grayling** **37.49 356** P **P** **01 18 20.9 -0.5**
baz=174
SDCO **Great Sand Dun** **37.57 327** P **P** **01 18 22.5 +0.1**
SDCO IAmb IAmb 01 18 23.4
comp=Z,6.1nm,0.8s
SDCO **Great Sand Dun** **37.57 327** P **P** **01 18 22.5 +0.1**
baz=138,SNR=14
X18A **Snowflake** **38.00 320** P **P** **01 18 25.8 -0.2**
W18A **Petrified Fore** **38.24 320** P **P** **01 18 27.6 -0.5**
W18A **Petrified Fore** **38.24 320** P **P** **01 18 27.6 -0.5**
baz=130
S22A **4UR Ranch, Cre** **38.29 326** P **P** **01 18 28.8 +0.2**
S22A **4UR Ranch, Cre** **38.29 326** P **P** **01 18 28.8 +0.2**
baz=136,SNR=8.3
Q24A **Divide** **38.29 329** P **P** **01 18 28.3 -0.3**
Q24A IAmb IAmb 01 18 29.2
comp=Z,8.5nm,0.9s
Q24A **Divide** **38.29 329** P **P** **01 18 28.2 -0.3**
baz=139
OGNE **Ogallala** **38.38 334** P **P** **01 18 29.0 0.0**
OGNE **Ogallala** **38.38 334** P **P** **01 18 28.9 0.0**
baz=145
214A **Organ Pipe Nat** **38.45 314** P **P** **01 18 28.9 -0.8**
214A IAmb IAmb 01 18 35.4
comp=Z,8.9nm,0.8s
214A **Organ Pipe Nat** **38.45 314** P **P** **01 18 30.7 +1.0**
baz=123,SNR=5.5
ECSD **EROS Data Cent** **38.77 342** P **P** **01 18 31.6 -0.5**
baz=155
K30B **Basset** **38.85 338** P **P** **01 18 32.1 -0.8**
MVCO **Mesa Verde** **38.87 324** P **P** **01 18 31.6 -1.8**
MVCO IAmb IAmb 01 18 38.2
comp=Z,43nm,1.9s
MVCO **Mesa Verde** **38.87 324** P **P** **01 18 33.4 +0.1**
baz=133
X16A **Lo Mia Camp, P** **38.91 318** P **P** **01 18 33.4 -0.3**
ISCO **Idaho Springs** **39.16 329** P **P** **01 18 35.8 0.0**
ISCO **Idaho Springs** **39.16 329** P **P** **01 18 35.8 0.0**
baz=139
SMCO **Snowmass** **39.40 328** P **P** **01 18 37.5 -0.5**
WUAZ **Wupatki** **39.53 320** P **P** **01 18 39.4 +0.5**
WUAZ IAmb IAmb 01 18 44.1
comp=Z,8.9nm,0.9s
WUAZ **Wupatki** **39.53 320** P **P** **01 18 39.4 +0.5**
baz=128
Y14A **Wickenburg** **39.68 316** P **P** **01 18 40.3 +0.3**
BDFB **Brasilia** **39.84 125** P **P** **01 18 41.2 -0.4**
comp=Z,1.8nm,0.7s,baz=66,slow=3.7,SNR=2.2
BDFB LR LR 01 35 44.5
comp=Z,619nm,18.6s,baz=312,slow=37
comp=Z,1.8nm,0.7s
N23A **Red Feather La** **40.15 330** P **P** **01 18 43.8 -0.2**
N23A IAmb IAmb 01 19 13.5
comp=Z,16nm,1.6s
N23A **Red Feather La** **40.15 330** P **P** **01 18 43.5 -0.5**
baz=140
VTX **Valle De La Tr** **40.34 311** P **P** **01 18 45.6 +0.1**
CPUP **Villa Florida** **40.58 146** LR LR 01 35 06.7
comp=Z,116nm,19.5s,baz=330,slow=35
CFA **Coronel Fontan** **40.58 163** LR LR 01 37 07.6
comp=Z,71nm,19.2s,baz=308,slow=38
PDMCI **Parker Dam,Lak** **40.67 316** P **P** **01 18 48.5 +0.4**
baz=124
HMU **Henry Mountain** **40.67 323** P **P** **01 18 47.3 -1.1**
HMU IAmb IAmb 01 18 52.2
comp=Z,7.6nm,0.8s
U15A **North Rim** **40.68 320** P **P** **01 18 48.4 -0.1**
ESJX **Sierra Juarez** **40.76 312** P **P** **01 18 47.9 -1.2**
O20A **White River Ci** **40.77 327** P **P** **01 18 48.9 -0.2**
O20A IAmb IAmb 01 18 53.6
comp=Z,12nm,0.9s
O20A **White River Ci** **40.77 327** P **P** **01 18 48.7 -0.4**
baz=136,SNR=9.4
SWSC **Sam W. Stewart** **41.12 313** P **P** **01 18 52.3 +0.5**
baz=121
IKP **In-Ko-Pah, Jac** **41.20 313** P **P** **01 18 53.1 +0.5**
baz=120
BC3 **Big Chuckawall** **41.24 314** P **P** **01 18 53.7 +0.7**
baz=122
IRM **Iron Mountain** **41.29 315** P **P** **01 18 54.2 +1.0**
baz=122,SNR=5.3
PKCU **Pink Cliffs** **41.32 321** IAmb IAmb 01 18 58.5
comp=Z,10nm,1.0s
SRU **San Rafael Swe** **41.32 324** IAmb IAmb 01 18 57.9
comp=Z,10nm,1.0s
RWWY **Rawlins** **41.38 330** IAmb IAmb 01 18 58.1
comp=Z,10.0nm,0.8s
EYMN **Ely** **41.46 349** P **P** **01 18 54.2 -0.2**
baz=164
MONP2 **Monument Peak** **41.55 313** P **P** **01 18 56.3 +0.7**
baz=120
K22A **Casper** **41.77 331** IAmb IAmb 01 18 57.8
comp=Z,10nm,0.8s
K22A **Casper** **41.77 331** P **P** **01 18 56.9 -0.4**
baz=140
RDMU **Red Mountain** **41.79 327** IAmb IAmb 01 18 57.9
comp=Z,8.1nm,0.8s
BELC **Belle Mtn. Jos** **41.80 314** P **P** **01 18 58.1 +0.5**
baz=122
RSSD **Black Hills** **41.82 335** P **P** **01 18 57.4 -0.3**
RSSD **Black Hills** **41.82 335** P **P** **01 18 57.6 -0.1**
baz=144
TPFO **Pinon Flats** **41.93 314** P **P** **01 18 59.6 +0.9**
baz=121
PFO **Pinyon Flats O** **41.94 314** P **P** **01 18 58.4 -0.3**
PFO **Pinyon Flats O** **41.94 314** P **P** **01 18 59.6 +0.9**
baz=121
PFO **Pinyon Flats O** **41.94 314** LR LR 01 39 02.2
comp=Z,166nm,18.6s,baz=134,slow=40
GMRC **Granite Mounta** **41.98 316** P **P** **01 18 59.6 +0.6**
baz=123
BO04 **La Punta** **42.25 167** P **P** **01 19 01.0 0.0**
BO04 IAmb IAmb 01 19 13.1
comp=Z,13nm,0.9s
MURC **Murrieta** **42.46 313** P **P** **01 19 04.1 +1.2**
baz=120
HEC **Hector,Ludlow** **42.48 315** P **P** **01 19 04.0 +1.0**
baz=122
TUQ **Turquoise Moun** **42.51 316** P **P** **01 19 03.5 +0.1**
baz=123
BBRC **Big Bear Solar** **42.59 314** P **P** **01 19 05.0 +0.8**
baz=121
ELS **Elsinore Mount** **42.65 313** P **P** **01 19 03.7 -0.7**
AGMN **Agassiz Nation** **42.74 345** P **P** **01 19 04.3 -0.5**
baz=158
GSC **Goldstone, Bar** **43.05 315** IAmb IAmb 01 19 09.9
comp=Z,21nm,1.6s
GSC **Goldstone, Bar** **43.05 315** P **P** **01 19 08.2 +0.5**
baz=122,SNR=5.8
CTU **Camp Tracy** **43.08 325** P **P** **01 19 07.9 -0.1**
CTU IAmb IAmb 01 19 12.8
comp=Z,9.6nm,1.1s
BFSC **Mount Baldy Ra** **43.11 314** P **P** **01 19 08.6 +0.4**
baz=120
TCUT **Toone Canyon** **43.18 326** IAmb IAmb 01 19 13.8
comp=Z,16nm,0.9s
CIS **Catalina Islan** **43.26 312** P **P** **01 19 10.2 +0.9**
baz=118
BW06 **Boulder Array** **43.35 329** P **P** **01 19 09.6 -0.6**
baz=136,SNR=8.1
PDAR **Pinedale Array** **43.35 329** P **P** **01 19 09.3 -0.8**
comp=Z,2.7nm,0.6s,baz=127,slow=10,SNR=24
PDAR PcP **PcP** **01 20 59.7 +0.8**
comp=Z,0.8nm,0.9s,baz=140,slow=5.8,SNR=2.2
PDAR LR LR 01 42 05.8
comp=Z,171nm,19.0s,baz=124,slow=43
comp=Z,2.7nm,0.6s
DUG **Dugway, Tooele** **43.37 324** P **P** **01 19 10.6 +0.3**
baz=130
TPNV **Topopah Spring** **43.56 318** P **P** **01 19 12.5 +0.6**
baz=124
HWUT **Hardware Ranch** **43.60 326** IAmb IAmb 01 19 21.6
comp=Z,9.3nm,1.1s
ITQB **Itaqui** **43.61 149** P **P** **01 19 11.9 -0.1**
EDW2 **Edwards Air Fo** **43.67 314** P **P** **01 19 13.5 +0.9**
baz=120,SNR=13
FURC **Furnace Creek,** **43.71 317** P **P** **01 19 14.0 +1.1**
baz=123
LRMC **Laurel Mtn Rad** **43.76 315** P **P** **01 19 13.6 +0.2**
baz=121

CCAC **Calif City Air** **43.82 315** IAmb IAmb 01 19 21.1
comp=Z,18nm,0.8s
RPN **Rapa Nui** **43.90 218** LR LR 01 33 07.7
comp=Z,70nm,19.3s,baz=349,slow=30
MPMC **Manual Prospec** **43.92 316** P **P** **01 19 15.1 +0.2**
baz=122
R11B **Troy Canyon, C** **43.93 320** P **P** **01 19 15.1 +0.3**
baz=126
BGU **Big Grassy Mou** **43.97 325** IAmb IAmb 01 19 19.9
comp=Z,35nm,1.9s
GRAC **Grapevine Rang** **44.34 317** P **P** **01 19 18.9 +0.9**
baz=123
HVU **Hansel Valley** **44.38 326** IAmb IAmb 01 19 23.4
comp=Z,6.8nm,0.9s
ARVC **Arvin** **44.39 314** P **P** **01 19 19.1 +0.8**
baz=120
ISA **Isabella, Lake** **44.40 315** P **P** **01 19 19.0 +0.5**
baz=120
SNOW **Snow King Moun** **44.46 329** IAmb IAmb 01 19 27.1
comp=Z,7.4nm,0.8s
LOHW **Long Hollow** **44.49 329** IAmb IAmb 01 19 21.1
comp=Z,5.3nm,0.7s
CWC **Cottonwood Cre** **44.53 316** P **P** **01 19 20.2 +0.5**
baz=122
ULM **Lac du Bonnet** **44.56 346** P **P** **01 19 17.4 -2.1**
comp=Z,4.3nm,0.7s,baz=145,slow=9.5,SNR=7.0
comp=Z,4.3nm,0.7s
TPAW **Teton Pass** **44.58 329** IAmb IAmb 01 19 26.0
comp=Z,6.4nm,0.8s
MOOW **Moose Ponds** **44.66 329** IAmb IAmb 01 19 25.0
comp=Z,5.7nm,0.8s
IMW **Indian Meadow** **44.86 329** IAmb IAmb 01 19 26.2
comp=Z,10nm,0.7s
RLMT **Red Lodge** **44.94 332** P **P** **01 19 22.1 -0.7**
baz=138,SNR=11
PKM **Mcpherson Peak** **44.98 313** P **P** **01 19 24.3 +1.0**
baz=118
H17A **Grant Village** **45.04 330** IAmb IAmb 01 20 06.0
comp=Z,12nm,1.6s
H17A **Grant Village** **45.04 330** P **P** **01 19 23.7 0.0**
baz=136
YMP **Mirror Lake Pl** **45.08 331** IAmb IAmb 01 19 36.7
comp=Z,16nm,1.4s
ELK **Elko** **45.15 323** LR LR 01 42 59.6
comp=Z,129nm,19.4s,baz=156,slow=42
YMR **Madison River** **45.43 330** IAmb IAmb 01 19 32.8
comp=Z,11nm,0.8s
YHL **Hebgen Lake** **45.67 330** IAmb IAmb 01 19 34.4
comp=Z,12nm,1.0s
OMMB **Old Mammoth Mi** **45.77 317** IAmb IAmb 01 19 31.4
comp=Z,9.5nm,1.4s
LHV **Little Huntoon** **45.77 318** IAmb IAmb 01 19 49.8
comp=Z,13nm,1.3s
MDPB **Devils Postpil** **45.83 317** IAmb IAmb 01 19 35.9
comp=Z,10nm,0.9s
BOZ **Bozeman (W)** **46.42 330** IAmb IAmb 01 19 35.2
comp=Z,5.1nm,0.7s
BOZ **Bozeman (W)** **46.42 330** P **P** **01 19 34.0 -0.5**
baz=136,SNR=10
HLID **Hailey** **46.47 326** IAmb IAmb 01 19 39.2
comp=Z,6.9nm,0.8s
HLID **Hailey** **46.47 326** P **P** **01 19 34.7 -0.2**
baz=131,SNR=16
WAKR **Walker** **46.53 318** IAmb IAmb 01 19 41.6
comp=Z,14nm,1.2s
YERR **Yerington** **46.65 318** IAmb IAmb 01 19 42.2
comp=Z,13nm,1.1s
RCBR **Riachuelo** **46.84 105** LR LR 01 41 17.4
comp=Z,202nm,19.1s,baz=308,slow=38
PNTR **Pine Nut** **46.95 318** P **P** **01 19 39.5 +0.7**
PNTR IAmb IAmb 01 19 46.7
comp=Z,8.7nm,0.9s
PAHR **Pah Rah Range** **47.13 319** IAmb IAmb 01 19 45.6
comp=Z,12nm,1.1s
MFID **Camas Ranch** **47.16 325** IAmb IAmb 01 19 44.5
comp=Z,4.5nm,0.8s
EMB **Emerald Bay** **47.22 318** IAmb IAmb 01 19 47.5
comp=Z,12nm,1.1s
EGMT **Eagleton** **47.35 334** P **P** **01 19 41.1 -0.5**
baz=140
AFDM **Forest Hills D** **47.78 317** IAmb IAmb 01 19 49.7
comp=Z,6.8nm,1.2s
PLID **Pearl Lake** **48.33 327** IAmb IAmb 01 19 52.8
comp=Z,5.3nm,0.8s
MSO **Missoula** **48.43 330** P **P** **01 19 49.3 -0.8**
baz=134
ORV **Oroville** **48.45 318** P **P** **01 19 50.3 +0.1**
ORV IAmb IAmb 01 19 56.0
comp=Z,12nm,0.9s
J08A **Circle Bar Ran** **48.65 324** IAmb IAmb 01 19 56.0
comp=Z,7.4nm,1.1s
SCHQ **Schafferville** **48.72 11** P **P** **01 19 51.6 -0.4**
comp=Z,7.0nm,0.8s,baz=197,slow=11,SNR=3.6
SCHQ LR LR 01 42 44.6
comp=Z,202nm,19.0s,baz=183,slow=39
comp=Z,7.0nm,0.8s
PLCA **Paso Flores** **48.78 169** P **P** **01 19 52.5 -0.1**
comp=Z,2.1nm,0.6s,baz=338,slow=6.2,SNR=9.2
PLCA LR LR 01 37 16.3
comp=Z,86nm,20.1s,baz=356,slow=32
comp=Z,2.1nm,0.6s
F10A **Beach Ranch, E** **49.56 327** IAmb IAmb 01 20 08.6
comp=Z,7.1nm,0.8s
I07A **Izee** **49.68 324** IAmb IAmb 01 20 03.3
comp=Z,5.3nm,0.8s
G08A **Pilot Rock** **50.08 326** IAmb IAmb 01 20 07.4
comp=Z,4.8nm,0.8s
J05D **Fort Rock, OR** **50.26 322** IAmb IAmb 01 20 39.6
comp=Z,8.4nm,1.2s
YBH **Yreka Blue Hor** **50.35 320** IAmb IAmb 01 20 07.3
comp=Z,6.0nm,0.9s
PINE **Pine Mountain** **50.36 323** IAmb IAmb 01 20 09.6
comp=Z,7.0nm,0.8s
E09A **Wood Farm, Sta** **50.39 327** IAmb IAmb 01 20 09.2
comp=Z,11nm,0.8s
NEW **Newport** **50.99 330** P **P** **01 20 08.5 -0.9**
baz=131
F07A **Phinny Hill Vi** **50.99 326** IAmb IAmb 01 20 14.1
comp=Z,10nm,0.8s
G06A **Carlson Farm,** **51.00 325** IAmb IAmb 01 20 15.1
comp=Z,6.3nm,0.9s
HAWA **Hanford** **51.07 326** IAmb IAmb 01 20 10.7
comp=Z,7.2nm,1.1s
D08A **Wollman Farm,** **51.15 327** IAmb IAmb 01 20 14.4
comp=Z,7.5nm,1.0s
I04A **Tendick Farm,** **51.25 322** IAmb IAmb 01 20 15.1
comp=Z,8.8nm,0.9s
C09A **Chsman Ranch** **51.27 328** IAmb IAmb 01 20 15.8
comp=Z,4.7nm,0.8s
E07A **Sunnyside** **51.35 326** IAmb IAmb 01 20 16.1
comp=Z,13nm,0.8s
LON **Longmire** **52.55 326** IAmb IAmb 01 20 25.5
comp=Z,7.9nm,0.8s
EDM **Edmonton** **52.77 336** IAmb IAmb 01 20 25.8
comp=Z,9.6nm,0.8s
GNW **Green Mountain** **53.58 326** IAmb IAmb 01 20 32.6
comp=Z,5.5nm,0.8s
CBB **Campbell River** **56.36 327** IAmb IAmb 01 20 54.4
comp=Z,11nm,0.9s
FRB **Frobisher Bay** **57.03 7** LR LR 01 46 08.2
comp=Z,130nm,18.6s,baz=45,slow=37
BBB **Bella Bella** **58.98 328** LR LR 01 51 16.6
comp=Z,133nm,18.3s,baz=120,slow=41
YKA **Yellowknife Ar** **60.28 343** P **P** **01 21 14.5 -1.4**
comp=Z,1.9nm,0.9s,baz=136,slow=6.7,SNR=26
comp=Z,1.9nm,0.9s
NUUK **Nuuk** **60.47 14** *i* P **P** **01 21 17.5 +0.4**
NUUK IAmb IAmb 01 21 21.1
comp=Z,13nm,0.7s
TAOE **Nuku Hiva Isla** **61.11 256** *e*LR LR 01 39 38.5
comp=Z,192nm,24.8s
T35M **Bob Quinn** **62.59 332** P **P** **01 21 30.6 -1.0**
baz=122
DLBC **Dease Lake** **63.27 334** P **P** **01 21 37.0 +0.7**
DLBC **Dease Lake** **63.27 334** P **P** **01 21 36.2 -0.1**
baz=123
DLBC **Dease Lake** **63.27 334** LR LR 01 53 58.3
comp=Z,165nm,18.3s,baz=106,slow=41
WRAK **Wrangell Islan** **63.29 331** P **P** **01 21 35.5 -0.8**
baz=120
S34M **Telegraph Cree** **63.49 333** P **P** **01 21 37.2 -0.4**
baz=122
DY2G **Dye2** **63.69 15** *i* P **P** **01 21 38.6 -0.4**
DY2G IAmb IAmb 01 21 41.8
comp=Z,10.0nm,0.6s
WTLY **Watson Lake, Y** **63.69 336** IAmb IAmb 01 21 42.1
comp=Z,8.1nm,1.0s
WTLY **Watson Lake, Y** **63.69 336** P **P** **01 21 38.9 0.0**

baz=125
R33M **Jennings River** **64.20 334** P **P** **01 21 42.1 -0.4**
baz=122
Q32M **Nakina River** **64.55 333** P **P** **01 21 44.4 -0.4**
baz=121
N32M **Quiet Lake** **66.03 335** P **P** **01 21 53.7 -0.5**
baz=121
M31M **Drury Creek, Y** **67.10 336** P **P** **01 22 01.2 +0.2**
baz=120
O30N **Mendenhall** **67.12 334** P **P** **01 22 01.2 +0.1**
baz=118
P30M **Million Dollar** **67.20 333** P **P** **01 22 01.8 +0.1**
baz=117
ICESG **Greenland Ices** **67.32 15** *i* P **P** **01 22 00.2 -2.4**
ICESG IAmb IAmb 01 22 05.9
comp=Z,15nm,0.9s
N31M **Braeburn, Yuko** **67.32 335** P **P** **01 22 02.7 +0.3**
baz=119
P29M **Windy Craggy** **67.33 333** P **P** **01 22 02.5 0.0**
baz=116
RES **Resolute Bay** **67.79 356** IAmb IAmb 01 22 07.5
comp=Z,5.4nm,0.9s
RES **Resolute Bay** **67.79 356** LR LR 01 52 09.1
comp=Z,143nm,18.6s,baz=190,slow=36
N30M **Aishikik Lake** **67.87 335** P **P** **01 22 06.1 +0.2**
baz=117
O29M **Mount Kennedy** **68.00 333** P **P** **01 22 06.5 -0.3**
baz=116
M30M **Minto, Yukon** **68.26 336** P **P** **01 22 08.4 +0.1**
M30M IAmb IAmb 01 22 12.2
comp=Z,9.9nm,1.1s
M30M **Minto, Yukon** **68.26 336** P **P** **01 22 08.3 0.0**
baz=118
YUK4 **Talbot Arm** **68.49 334** P **P** **01 22 10.2 +0.3**
baz=116
PINM **Pinnacle** **68.68 332** P **P** **01 22 11.6 +0.6**
baz=114
M29M **Somme Creek** **68.89 335** P **P** **01 22 12.1 -0.3**
baz=116
H31M **Peel River** **68.94 339** P **P** **01 22 12.6 +0.1**
baz=122
YUK8 **Steele Glacier** **68.95 334** P **P** **01 22 12.6 -0.4**
baz=115
J30M **Hart River** **69.04 338** P **P** **01 22 13.4 +0.2**
baz=119
L29M **L29M** **69.05 336** P **P** **01 22 13.4 +0.1**
baz=117
K29M **Barlow Dome** **69.15 337** P **P** **01 22 14.0 0.0**
baz=118
I30M **Mount Dempster** **69.37 338** P **P** **01 22 15.5 +0.2**
baz=119
YUK3 **Moose Creek** **69.45 334** P **P** **01 22 16.0 +0.1**
baz=114
MESA **MESA** **69.49 332** P **P** **01 22 16.3 +0.1**
baz=112
G31M **Satah River** **69.50 340** P **P** **01 22 15.9 +0.1**
baz=122
F31M **Tsiigehtchic** **69.61 341** P **P** **01 22 16.9 +0.4**
baz=123
BVCY **Beaver Creek** **69.89 335** P **P** **01 22 18.8 +0.4**
baz=114
DAWY **Dawson** **69.98 337** P **P** **01 22 18.5 -0.5**
baz=116
INK **Inuvik** **70.01 342** P **P** **01 22 19.0 +0.1**
INK IAmb IAmb 01 22 22.8
comp=Z,11nm,1.2s
INK **Inuvik** **70.01 342** P **P** **01 22 19.0 +0.1**
baz=123,SNR=7.2
A36M **Sachs Harbour** **70.04 347** P **P** **01 22 17.8 -1.3**
baz=133,SNR=16
EPYK **Eagle Plains** **70.06 339** P **P** **01 22 18.5 -0.9**
baz=119
SUMG **Summit** **70.06 13** P **P** **01 22 18.3 -1.5**
SUMG **Summit** **70.06 13** *i* P **P** **01 22 18.2 -1.5**
SUMG IAmb IAmb 01 22 23.8
comp=Z,12nm,0.8s
I29M **Ogilvie Camp,** **70.15 338** P **P** **01 22 19.9 -0.1**
baz=118
M27K **Edge Creek, AK** **70.30 334** P **P** **01 22 21.1 0.0**
baz=113
F30M **Barrier River** **70.36 341** P **P** **01 22 21.4 +0.2**
baz=121
MCARA **McCarthy VSAT** **70.43 333** P **P** **01 22 21.6 -0.1**
baz=112
L27K **Beaver Creek,** **70.56 335** P **P** **01 22 22.8 +0.3**
baz=113
H29M **Whitestone** **70.57 339** P **P** **01 22 22.7 +0.2**
baz=118
BORG **Borgarnes** **70.77 23** LR LR 01 51 53.2
comp=Z,145nm,19.0s,baz=128,slow=34
G29M **Pine Creek** **70.78 339** P **P** **01 22 23.7 0.0**
baz=118
M26K **Nabesna, AK** **70.80 334** P **P** **01 22 24.1 0.0**
baz=112
I28M **Miner Creek** **70.80 338** P **P** **01 22 23.9 -0.1**
baz=116
EGAK **Eagle** **70.98 337** P **P** **01 22 24.7 -0.3**
baz=114
BMRM **Bremner River** **71.00 332** P **P** **01 22 25.5 +0.2**
baz=110
K27K **Chicken** **71.04 336** P **P** **01 22 25.8 +0.4**
baz=113
L26K **Log Cabin Wild** **71.18 335** P **P** **01 22 26.5 +0.2**
baz=112
E29M **Blow River** **71.44 341** IAmb IAmb 01 22 37.5
comp=Z,8.5nm,1.2s
E29M **Blow River** **71.44 341** P **P** **01 22 27.2 -0.6**
baz=119
I27K **Kandik River** **71.50 338** P **P** **01 22 28.3 +0.1**
baz=114
MORF **Marmlete** **71.55 53** *e*P **P** **01 22 33.1 +4.1**
comp=Z,38nm,1.6s
H27K **Steamboat Moun** **71.73 338** P **P** **01 22 29.3 -0.3**
baz=115
HARP **HAARP** **71.74 334** P **P** **01 22 30.0 +0.4**
baz=110
F28M **Old Crow** **71.74 340** P **P** **01 22 29.1 -0.5**
baz=117
KLU **Klutina** **71.78 333** P **P** **01 22 30.1 +0.1**
baz=109
SCRK **Sand Creek** **71.80 336** P **P** **01 22 30.3 +0.2**
baz=112
J26L **Joseph Creek** **71.83 336** P **P** **01 22 30.3 +0.1**
baz=112
NEEM **North Greenlan** **71.84 7** *i* P **P** **01 22 28.6 -1.8**
NEEM IAmb IAmb 01 22 34.1
comp=Z,20nm,0.8s
PCAS **Casmilo, Conde** **71.92 50** *e*P **P** **01 22 32.4 +1.2**
comp=Z,70nm,1.8s
I26K **Coal Creek Min** **71.97 337** P **P** **01 22 31.2 +0.3**
baz=113
P23K **Montague Islan** **72.01 331** P **P** **01 22 31.2 -0.1**
baz=107
G27K **Doyon Strip** **72.02 339** P **P** **01 22 30.7 -0.6**
baz=115
PAX **Paxson** **72.07 334** P **P** **01 22 30.9 -0.8**
baz=110
E28M **Babbage River** **72.08 341** IAmb IAmb 01 22 35.3
comp=Z,5.0nm,0.9s
E28M **Babbage River** **72.08 341** P **P** **01 22 31.0 -0.6**
baz=117
PPT **Papeete** **72.10 249** LR LR 01 46 21.4
comp=Z,132nm,19.3s,baz=60,slow=29
PPT2 **Papeete2** **72.11 249** *e*LR LR 01 44 33.8
comp=Z,188nm,26.8s
PPT2 *e*LR LR 01 44 36.9
comp=Z,125nm,27.2s
GLI **Glacier Island** **72.12 332** P **P** **01 22 31.2 -0.8**
baz=108
EVO **Evora** **72.16 52** *e*P **P** **01 22 34.4 +1.8**
comp=Z,20nm,1.6s
K24K **Donnelly Dome** **72.48 335** P **P** **01 22 33.5 -0.6**
baz=110
PESTR **Estremoz** **72.51 52** *e*P **P** **01 22 38.4 +3.6**
comp=Z,22nm,1.6s
E27K **Coleen River** **72.58 340** IAmb IAmb 01 23 23.1
comp=Z,16nm,1.7s
E27K **Coleen River** **72.58 340** P **P** **01 22 34.5 -0.1**
baz=115
J25K **Salcha River,** **72.59 336** IAmb IAmb 01 22 41.0
comp=Z,7.4nm,0.8s
J25K **Salcha River,** **72.59 336** P **P** **01 22 34.6 -0.2**
baz=110
PCBR **Castelo Branco** **72.68 51** *e*P **P** **01 22 39.2 +3.5**
comp=Z,37nm,1.6s
M23K **Glacier View** **72.69 333** P **P** **01 22 35.5 +0.1**
baz=107
PMRV **Marv??o** **72.71 51** *e*P **P** **01 22 39.4 +3.4**

	comp=Z,21nm,1.6s						
D27M	Malcolm River	72.83	341	P	P	01 22 36.0	-0.1
	baz=116						
G26K	Porcupine Rive	72.84	338	P	P	01 22 36.1	-0.1
	baz=113						
PBAR	Barrancos	72.89	52	eP	P	01 22 39.5	+2.5
	comp=Z,60nm,1.8s						
KNK	Knik Glacier	72.91	332	P	P	01 22 36.3	-0.4
	baz=107						
DHY	Denali Highway	72.93	334	P	P	01 22 36.6	-0.3
	baz=108						
WAT6	Susitna Watana	72.93	334	P	P	01 22 36.7	-0.3
	baz=108						
SML	Sawmill	72.97	333	P	P	01 22 37.0	0.0
	baz=107						
HDA	Harding Lake	73.17	336	P	P	01 22 38.2	+0.1
	baz=109,SNR=6.2						
HDA				P	P	01 22 38.2	+0.1
	baz=109,SNR=6.2						
F26K	Sheenjek River	73.26	339	P	P	01 22 38.4	-0.3
	baz=112						
ILAR	Eielson Array	73.26	336	P	P	01 22 38.4	-0.3
	comp=Z,2.2nm,0.7s,baz=108,slow=4.5,SNR=26						
ILAR				LR	LR	01 57 26.1	
	comp=Z,88nm,19.3s,baz=91,slow=38						
	comp=Z,2.2nm,0.7s						
WAT1	Susitna Watana	73.36	334	P	P	01 22 39.3	0.0
	baz=107						
TBI	Tubuai	73.47	243	eLR	LR	01 45 19.2	
	comp=Z,958nm,27.8s						
BRSE	Bradley Lake S	73.56	330	P	P	01 22 40.8	+0.3
	baz=104						
POKR	Poker Plat Res	73.59	336	P	P	01 22 41.0	+0.4
	baz=109						
G25K	Bearman Lake	73.63	338	P	P	01 22 41.1	+0.3
	baz=110						
F25K	Christian Rive	73.75	339	P	P	01 22 41.8	+0.2
	baz=111						
MCK	McKinley	73.79	335	P	P	01 22 41.6	-0.2
	baz=107						
E25K	Arctic Village	73.92	339	P	P	01 22 42.6	+0.1
	baz=111						
H24K	Noodor Dome	74.00	337	P	P	01 22 42.7	-0.4
	baz=108						
KDAK	Kodiak Island	74.06	328	LR	LR	01 57 59.4	
	comp=Z,83nm,18.3s,baz=98,slow=38						
NEA2	Nenana	74.10	335	IAmb	IAmb	01 22 44.1	
	comp=Z,11nm,1.1s						
NEA2	Nenana	74.10	335	P	P	01 22 43.6	0.0
	baz=107						
TRF	Thorofare Moun	74.30	334	P	P	01 22 44.8	-0.2
	baz=106						
OHAK	Old Harbor	74.32	327	P	P	01 22 45.3	+0.3
	baz=101						
C26K	Camden Bay	74.37	341	P	P	01 22 45.6	+0.5
	baz=112						
I23K	Minto, Yukon-K	74.38	336	P	P	01 22 45.3	+0.1
	baz=107						
SKT	Skwentna	74.48	332	P	P	01 22 45.7	-0.2
	baz=104						
F24K	Squaw Lake	74.54	338	P	P	01 22 46.7	+0.5
	baz=109						
N20K	Mount Spurr	74.61	332	P	P	01 22 46.9	+0.2
	baz=103						
D25K	Kavik River	74.63	340	IAmb	IAmb	01 22 50.6	
	comp=Z,12nm,1.1s						
D25K	Kavik River	74.63	340	P	P	01 22 47.0	+0.4
	baz=111						
MDT	Midelt	74.63	58	LR	LR	01 52 16.5	
	comp=Z,102nm,20.5s,baz=20,slow=33						
SII	Sitkinak Islan	74.68	327	P	P	01 22 47.4	+0.3
	baz=100						
BPAW	Bear Paw Mtn.	74.77	335	IAmb	IAmb	01 22 51.0	
	comp=Z,10nm,0.9s						
BPAW	Bear Paw Mtn.	74.77	335	P	P	01 22 47.5	0.0
	baz=105,SNR=6.4						
Q19K	Cape Douglas,	74.83	329	P	P	01 22 48.4	+0.4
	baz=101						
MLY	Manley	74.91	336	IAmb	IAmb	01 22 49.0	
	comp=Z,7.9nm,0.9s						
MLY	Manley	74.91	336	P	P	01 22 47.9	-0.5
	baz=106,SNR=5.9						
E24K	Your Creek	74.93	339	P	P	01 22 48.7	+0.3
	baz=108						
CAST	Castle Rocks	75.07	334	P	P	01 22 48.8	-0.5
	baz=104						
G23K	Bananza Creek	75.09	337	IAmb	IAmb	01 22 54.0	
	comp=Z,15nm,1.4s						
G23K	Bananza Creek	75.09	337	P	P	01 22 49.2	-0.1
	baz=107						
M20K	Styx River	75.19	332	P	P	01 22 49.7	-0.4
	baz=102						
CHUM	Lake Minchumin	75.28	334	P	P	01 22 50.3	-0.1
	baz=104						
COLD	Coldfoot	75.31	338	P	P	01 22 50.6	+0.1
	baz=106						
E23K	Chandalar	75.33	339	P	P	01 22 51.0	+0.2
	baz=107						
ESDC	Sonseca Array	75.37	51	P	P	01 22 52.1	+0.5
	comp=Z,5.1nm,0.9s,baz=272,slow=5.3,SNR=22						
ESDC				LR	LR	01 51 32.5	
	comp=Z,121nm,19.6s,baz=308,slow=32						
	comp=Z,5.1nm,0.9s						
D24K	Happy Valley	75.39	340	P	P	01 22 51.2	+0.2
	baz=108						
H22K	Ishtalitna Cre	75.39	336	P	P	01 22 51.0	-0.1
	baz=105						
O19K	Port Alsworth	75.42	330	P	P	01 22 51.0	-0.3
	baz=101						
I21K	Tanana	75.45	336	IAmb	IAmb	01 22 56.7	
	comp=Z,10nm,0.8s						
I21K	Tanana	75.45	336	P	P	01 22 51.5	+0.1
	baz=104						
DBIC	Dimbokro	75.47	85	P	P	01 22 53.1	+0.6
	comp=Z,4.0nm,1.0s,baz=116,slow=9.3,SNR=2.0						
DBIC				LR	LR	01 54 20.7	
	comp=Z,90nm,18.9s,baz=298,slow=34						
	comp=Z,4.0nm,1.0s						
Q18K	Katmai Hardscr	75.48	329	P	P	01 22 51.7	-0.1
	baz=100						
TOLK	Toolik Lake Re	75.49	339	P	P	01 22 51.3	-0.3
	baz=108						
C24K	Franklin Bluff	75.53	341	P	P	01 22 51.5	-0.2
	baz=109						
N19K	Bonanza Creek	75.61	331	P	P	01 22 52.2	-0.3
	baz=101						
L20K	Farewell, AK	75.66	333	P	P	01 22 52.3	-0.4
	baz=102						
G22K	Bettles	75.71	337	P	P	01 22 52.7	-0.1
	baz=105						
O18K	Koktuh Hills	75.79	330	P	P	01 22 53.2	-0.2
	baz=100						
Q17K	Contact Creek	75.87	328	P	P	01 22 53.7	-0.4
	baz=99						
H21K	Melozitna Rive	75.91	336	P	P	01 22 53.7	-0.3
	baz=104						
K20K	Telida	75.93	334	P	P	01 22 53.9	-0.3
	baz=102						
D23K	Nanushuk River	75.97	340	P	P	01 22 54.9	+0.5
	baz=106						
R17K	Ugashik Creek	76.04	328	P	P	01 22 55.3	+0.4
	baz=98						
L19K	White Mountain	76.05	332	P	P	01 22 55.1	+0.2
	baz=101						
F22K	John River	76.12	338	P	P	01 22 55.3	+0.1
	baz=105						
J20K	Nowinta River	76.13	334	IAmb	IAmb	01 22 55.7	
	comp=Z,11nm,1.1s						
J20K	Nowinta River	76.13	334	P	P	01 22 55.2	-0.1
	baz=102						
E22K	Anaktuvuk Pass	76.15	339	P	P	01 22 55.2	-0.2
	baz=105						
C23K	Itkillik River	76.20	340	P	P	01 22 55.9	+0.4
	baz=107						
N18K	Kilae Creek	76.27	331	P	P	01 22 55.6	-0.6
	baz=100						
P17K	Kvichak River	76.30	329	P	P	01 22 56.5	+0.1
	baz=99						
Q16K	King Salmon	76.33	329	P	P	01 22 56.4	-0.1
	baz=98						
M18K	Stony River	76.37	332	P	P	01 22 55.6	-1.1
	baz=100						
G21K	Allakaket	76.38	337	IAmb	IAmb	01 23 06.9	
	comp=Z,14nm,1.2s						
G21K	Allakaket	76.38	337	P	P	01 22 57.2	+0.5
	baz=103						
F21K	Alatna River	76.54	338	IAmb	IAmb	01 22 59.1	
	comp=Z,6.7nm,1.1s						
F21K	Alatna River	76.54	338	P	P	01 22 57.8	+0.2
	baz=103						
D22K	Ayikyak River	76.65	339	P	P	01 22 58.8	+0.6
	baz=105						
H20K	Anotleneega Mo	76.71	336	P	P	01 22 58.9	+0.3
	baz=102						
TTA	Tatalina	76.71	333	P	P	01 22 58.6	-0.2
	baz=100						
O17K	Koliganek Bris	76.72	330	P	P	01 22 58.9	+0.2
	baz=98						
J19K	Poorman	76.73	334	P	P	01 22 58.1	-0.6
	baz=101						
N17K	Nushagak Hills	76.88	330	P	P	01 22 59.0	-0.6
	baz=98						
L18K	Granite Mounta	76.90	332	P	P	01 22 59.3	-0.4
	baz=99						
E21K	Killik River	77.00	339	P	P	01 22 59.7	-0.5
	baz=103						
P16K	Nushagak River	77.07	329	P	P	01 23 01.1	+0.4
	baz=97						
EKA	Eskdalemuir Ar	77.08	35	P	P	01 23 01.5	+0.6
	comp=Z,0.7nm,0.5s,baz=263,slow=4.6,SNR=4.2						
	comp=Z,0.7nm,0.5s						
J18K	Innoko River	77.12	333	P	P	01 23 00.4	-0.5
	baz=100						
M17K	Holitna River	77.12	331	P	P	01 23 00.4	-0.6
	baz=98						
O16K	Kokwok River B	77.20	329	P	P	01 23 01.5	+0.1
	baz=98						
B22K	Teshekpuk Lake	77.26	341	P	P	01 23 02.0	+0.5
	baz=104						
F20K	Avaraart Lake	77.36	337	P	P	01 23 03.0	+0.8
	baz=101						
H19K	Roundabout Mou	77.36	336	P	P	01 23 02.8	+0.6
	baz=100						
C21K	Knifeblade Rid	77.45	339	P	P	01 23 02.9	+0.2
	baz=103						
CHNA	Chernabura Isl	77.49	324	P	P	01 23 03.6	+0.5
	baz=95						
B21K	Ikpikpuk River	77.49	340	P	P	01 23 03.5	+0.6
	baz=103						
L17K	Donlin	77.63	332	P	P	01 23 03.7	-0.1
	baz=98						
K17K	Iditarod	77.72	333	P	P	01 23 03.8	-0.4
	baz=98						
G19K	Purcell Mounta	77.72	336	P	P	01 23 04.8	+0.6
	baz=100						
E20K	Nigu River	77.77	338	P	P	01 23 04.8	+0.3
	baz=101						
A22K	Sinclair Lake	77.92	341	P	P	01 23 05.6	+0.4
	baz=103						
D20K	Etivluk River	78.01	339	P	P	01 23 06.4	+0.6
	baz=101						
E19K	Redstone River	78.01	337	P	P	01 23 06.5	+0.7
	baz=100						
SDPT	Sand Point	78.04	325	P	P	01 23 06.4	+0.2
	baz=94						
H18K	Honhosa River	78.09	335	P	P	01 23 06.8	+0.4
	baz=98						
L16K	Owhat River	78.13	332	IAmb	IAmb	01 23 10.3	
	comp=Z,11nm,1.1s						
L16K	Owhat River	78.13	332	P	P	01 23 06.9	+0.3
	baz=97						
J17K	VABM Dome	78.16	333	P	P	01 23 07.0	+0.2
	baz=97						
G18K	Tagagawik	78.32	336	IAmb	IAmb	01 23 15.1	
	comp=Z,7.8nm,1.1s						
G18K	Tagagawik	78.32	336	P	P	01 23 08.0	+0.4
	baz=98						
B20K	Meade River	78.44	340	P	P	01 23 08.5	+0.4
	baz=100						
D19K	Kuna River	78.51	338	P	P	01 23 08.5	-0.2
	baz=99						
M15K	Kasigluk River	78.61	330	P	P	01 23 10.0	+0.8
	baz=95						
H17K	Granite Mounta	78.71	335	P	P	01 23 10.0	+0.3
	baz=97						
O14K	Tigyukauivet M	78.77	329	P	P	01 23 10.4	+0.3
	baz=95						
J16K	Anvik River	78.83	333	P	P	01 23 10.7	+0.3
	baz=96						
I17K	Unalakleet	78.93	334	P	P	01 23 11.3	+0.4
	baz=96						
N14K	Kuskokwak Cree	79.04	330	P	P	01 23 11.9	+0.4
	baz=94						
L15K	Ungalak Mounta	79.08	331	P	P	01 23 12.1	+0.3
	baz=95						
G17K	Kiwalik Mounta	79.09	335	P	P	01 23 12.2	+0.4
	baz=96						
C19K	Lookout Ridge	79.13	339	P	P	01 23 12.1	+0.1
	baz=98						
NOR	Nord	79.13	8	iP	P	01 23 10.3	-1.4
NOR				IAmb	IAmb	01 23 15.8	
	comp=Z,1.5nm,0.8s						
K15K	Wolf Creek Mou	79.16	332	P	P	01 23 12.5	+0.3
	baz=95						
M14K	Bethel	79.24	330	P	P	01 23 13.0	+0.3
	baz=94						
E18K	Tukpahlearik C	79.29	337	P	P	01 23 12.8	-0.1
	baz=97						
F17K	Baldwin Pennin	79.43	336	P	P	01 23 14.1	+0.5
	baz=96						
C18K	Utukok River	79.65	338	P	P	01 23 14.5	-0.4
	baz=96						
H16K	Elim	79.67	334	P	P	01 23 15.1	+0.2
	baz=95						
E17K	Hotham Inlet	79.72	337	P	P	01 23 15.5	+0.3
	baz=96						
G16K	Koyuk River	79.79	335	P	P	01 23 16.1	+0.5
	baz=95						
A19K	Wainwright	79.79	340	P	P	01 23 15.6	+0.1
	baz=97						
M13K	Dall Lake	79.90	330	P	P	01 23 16.5	+0.2
	baz=93						
B18K	Kokolik River	79.95	339	P	P	01 23 16.8	+0.4
	baz=96						
J14K	Nanvaranak Lak	80.13	332	P	P	01 23 17.7	+0.2
	baz=93						
C17K	DeLong Mountai	80.36	338	P	P	01 23 18.7	0.0
	baz=95						
F15K	North Star Dit	80.76	335	P	P	01 23 21.1	+0.3
	baz=93						
ANM	Nome	81.02	334	P	P	01 23 22.3	0.0
	baz=92						
C16K	Lisburne Hills	81.15	338	P	P	01 23 23.1	+0.3
	baz=92						
TORD	Torodi Ar. Bea	81.27	78	P	P	01 23 25.8	+1.3
	comp=Z,1.4nm,0.8s,baz=292,slow=6.2,SNR=11						
	comp=Z,1.4nm,0.8s						
M11K	Mekoryuk	81.31	330	P	P	01 23 24.0	+0.1
	baz=90						
TNA	Tin City	82.11	335	P	P	01 23 28.1	+0.1
	baz=90						
RAR	Rarotonga	82.28	247	LR	LR	01 51 39.3	
	comp=Z,56nm,18.9s,baz=348,slow=30						
TAM	Tamanrasset	84.00	68	P	P	01 23 38.7	-0.1
TAM				IAmb	IAmb	01 23 46.6	
	comp=Z,6.1nm,1.0s						
NOA	NORSAR Array B	84.71	29	P	P	01 23 41.9	+0.3
	comp=Z,3.8nm,1.1s,baz=280,slow=6.4,SNR=2.8						
	comp=Z,3.8nm,1.1s						
FETA	Feichten	85.86	43	ePcP	PcP	01 23 51.2	+0.7
	comp=Z,0.8nm,0.5s						
HFS	Hagfors	86.03	30	LR	LR	02 02 57.7	
	comp=Z,149nm,18.1s,baz=322,slow=36						
ABTA	Abfaltersbach	87.11	43	ePcP	PcP	01 23 57.1	+1.2
	comp=Z,2.3nm,0.7s						
LESA	Schwarzleotal	87.13	43	ePcP	PcP	01 23 56.5	+0.5
	comp=Z,0.3nm,0.2s						
KBA	Koelnbreinsper	87.63	43	ePcP	PcP	01 23 59.4	+1.1
	comp=Z,2.7nm,0.7s						
ARCES	ARCESS Array B	88.88	20	P	P	01 24 01.5	-0.1
	comp=Z,4.4nm,0.9s,baz=284,slow=3.6,SNR=2.3						
	comp=Z,4.4nm,0.9s						
VRAC	Vranov	89.42	40	LR	LR	01 58 36.1	
	comp=Z,103nm,19.8s,baz=343,slow=32						
VYHS	Vyhne	91.03	41	eP	P	01 24 16.3	+4.2
SHEM	Shemya Is, Ala	93.14	324	LR	LR	02 08 22.9	
	comp=Z,26nm,19.6s,baz=96,slow=37						
SNAA	Sanae	93.19	162	LR	LR	02 08 57.9	
	comp=Z,27nm,18.0s,baz=10.0,slow=37						
AKASG	Malin Array Be	96.90	37	LR	LR	02 09 15.9	
	comp=Z,132nm,18.0s,baz=332,slow=36						
SEY	Seymchan	99.10	338	LR	LR	02 13 10.4	
	comp=Z,92nm,21.2s,baz=42,slow=38						
WMQ	Urumqi	128.07	10	eP	PKiKP	01 30 15.5	+0.7
HHC	Hu-ho-hao-te	130.69	347	eP	PKPdf	01 30 16.5	-2.8
NJ2	Nanjing	136.51	335	eP	PKiKP	01 30 31.4	-0.7
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LZH	Lanzhou	136.58	354	eP	PKPdf	01 30 30.1	-0.5
LZH				pP	sPKPdf	01 30 38.4	+1.9
LZH				pmax	pmax		
	comp=Z,13nm,1.2s						
ASAR	Alice Springs	142.81	240	PKP	PKPdf	01 30 40.1	-2.0
	comp=Z,1.9nm,0.8s,baz=102,slow=2.8,SNR=13						
WRA	Warramunga Arr	143.55	246	PKhKP	PKPpre	01 30 39.2	
	comp=Z,2.6nm,0.6s,baz=102,slow=2.7,SNR=18						
WRA				PKP	PKPdf	01 30 42.5	-1.0
	comp=Z,2.7nm,0.6s,baz=100,slow=2.7,SNR=15						
PZH	PanZhiHua	146.27	356	PKPbc	PKPdf	01 30 48.3	+0.1
CMAR	Chiang Mai Arr	154.38	0	PKPbc	PKPbc	01 31 07.4	-1.7
	comp=Z,0.9nm,0.3s,baz=319,slow=2.6,SNR=4.8						

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*OMAN **14** 01:11:07.9±1.3, 31°.24N×57°.16E, h10km, mb4.6/11, ml2.8/2, Error ellipse: s-maj=12.0km s-min=11.0km az=149.0*

*IDC **14** 01:11:11.5±1.8, 30°.70N×57°.30E, h0km, mb3.8/7, mbtmp3.8/8, ML3.1/1, MS3.5/1, Error ellipse: s-maj=39.5km s-min=21.1km az=146.0*

*TEH **14** 01:11:11.1, 30°.74N×57°.39E, h8km±58km, ML3.9*

*DSN **14** 01:11:15.3±1.8, 30°.49N×58°.11E, h15km, ML3.2/7, Error ellipse: s-maj=98.0km s-min=17.3km az=109.0*

ISC 14 01:11:13.3±0.7**, 30°.68N**±0°.03×**57°.32E**±0°.04**, h15km, n89, σ2s.53**/102**, mb3.6**/7**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZRDN	Zarand Kerman	0.73	294	Pg	Pg	01 11 25.9	-1.8
ZRDN				Sg	Sg	01 11 37.1	-0.2
KHGB	Koh Gabri	0.79	248	Pg	Pg	01 11 27.5	-1.1
KHGB				Sg	Sg	01 11 38.5	-0.5
CHMN	Cheshme madani	0.84	167	Pg	Pg	01 11 27.9	-1.8
CHMN				Sg	Sg	01 11 39.8	-0.9
TVBK	TV Kerman	0.84	215	Pg	Pb	01 11 29.5	-0.3
NGRK	Negar Kerman	1.15	206	Pg	Pn	01 11 34.8	-0.4
NGRK				Sg	Sg	01 11 52.6	+2.1
IBAF	Bafgh	1.75	302	Pg	Pb	01 11 43.8	-1.5
KBAM	BAM	1.82	147	Pn	Pb	01 11 45.1	-1.4
BSRN	Basiran	2.01	50	Pn	Pn	01 11 45.5	-1.4
IKOO	Kooshah	2.26	39	Pn	Pn	01 11 49.5	-0.9
TPRV	Parvadeh(Tabas	2.41	347	Pn	Pn	01 11 51.5	-0.7
IMEH	Mehriz	2.43	288	Pn	Pn	01 11 53.4	+0.7
NHDN	Nehbandan	2.45	72	Pn	Pn	01 11 52.2	-0.7
ITEG	Tejag	2.53	28	Pn	Pn	01 11 52.7	-1.3
TKDS	Koohdasht(Taba	2.93	357	Pn	Pn	01 11 59.1	-0.4
ICHK	Chekchek	2.94	303	Pn	Pn	01 12 00.7	+1.1
IDAH	Dahanechah	2.99	46	Pn	Pn	01 11 59.9	-0.6
AFRZ	Afriz	3.10	27	Pn	Pn	01 12 00.9	-0.9
ZHDN	Zahedan	3.29	112	Pn	Pn	01 12 04.5	+0.1
TNSJ	Nastanj	3.33	350	Pn	Pn	01 12 04.3	-0.7
ISAD	Sadrabad	3.34	293	Pn	Pn	01 12 06.3	+0.9
SHRT	Shahrakht	3.89	40	Pn	Pn	01 12 12.2	-0.4
ANAR	Anarak	3.95	310	Pn	Pn	01 12 14.4	+0.9
LAR1	LAR	3.95	221	Pn	Pn	01 12 14.5	+1.1
IRAM	Ramesheh	4.38	286	Pn	Pn	01 12 20.5	+1.0
SHME	Shamm	4.72	193	P	Pn	01 12 27.0	+2.9
SHME	Shamm	4.72	193	P	Pn	01 12 27.9	+3.8
SHME				S	Sb	01 13 28.4	-4.2
IZEF	Zefreh	4.79	299	Pn	Pn	01 12 25.9	+0.7
JASK	Jask - Hormozg	4.82	174	P	Pn	01 12 28.2	+2.9
	SNR=8.6						
JASK				S	Sb	01 13 34.0	-1.2
BANOM	Banah	4.82	191	P	Pn	01 12 28.0	+2.5
BANOM	Banah	4.82	191	P	Pn	01 12 29.5	+4.1
BANOM				S	Sb	01 13 29.7	-5.6
KLNJ	Kolanjah	4.93	275	Pn	Pn	01 12 28.6	+1.3
TBJM	Torbat-e-JAM	5.23	28	Pn	Pn	01 12 30.8	-0.4
IBRJ	Brojen	5.33	285	Pn	Pn	01 12 33.8	+1.2
UMQ	Umm Al-Quwin	5.34	196	P	Pn	01 12 36.6	+4.2
MASF	Masafi	5.38	191	P	Pn	01 12 37.2	+4.0
	SNR=5.1						
MSFE	Esma-Masafi	5.39	191	P	Pn	01 12 34.0	+0.6
MSFE				S	Sn	01 13 38.5	+3.3
SRVN	Saravan	5.52	125	Pn	Pn	01 12 35.7	+0.7
ISFB	Sefidab	5.64	312	Pn	Pn	01 12 37.1	+0.4
SBZV	Sabzevar	5.70	2	Pn	Pn	01 12 37.8	+0.1
ZNGN	Zangian	5.71	286	Pn	Pn	01 12 38.8	+0.9
UOSS	Minazif	5.79	190	P	Pn	01 12 41.2	+2.5
UOSS	Minazif	5.79	190	P	Pn	01 12 42.6	+3.8
UOSS				S	Sb	01 13 55.4	-7.9
JRKH	Jarkhoshk	5.80	25	Pn	Pn	01 12 38.7	-0.3
NAZ	Nazwa, Dubai	5.85	195	P	Pn	01 12 43.5	+3.9
QAMS	Qamsar	5.87	303	Pn	Pn	01 12 41.2	+1.1
HATD	Hatta, Dubai	5.92	190	P	Pn	01 12 43.6	+3.1
HATD	Hatta, Dubai	5.92	190	P	Pn	01 12 44.4	+3.8
HATD				S	Sn	01 13 55.7	+7.5
IAKL	Akhelmad	6.03	11	Pn	Pn	01 12 42.0	-0.3
ASHO	Ashiyiah	6.07	191	P	Pn	01 12 45.7	+3.0
ASHO	Ashiyiah	6.07	191	P	Pn	01 12 46.3	+3.6
	SNR=15						
FAQ	Al Faqa, Dubai	6.10	195	P	Pn	01 12 44.9	+1.9
FAQ	Al Faqa, Dubai	6.10	195	P	Pn	01 12 47.1	+4.0
FAQ				S	Sb	01 14 04.5	-7.8
IFIR	Firoozkooh	6.26	324	Pn	Pn	01 12 45.2	-0.1
ASUD	Al Ashush, Dub	6.28	197	P	Pn	01 12 49.2	+3.8
ASUD				S	Sn	01 14 07.2	+10
NGCH	Negor - Chabah	6.28	147	P	Pn	01 12 45.9	+0.5
IKRD	Kardeh	6.35	16	Pn	Pn	01 12 46.9	+0.2
ISFR	Sfrayin	6.39	5	Pn	Pn	01 12 46.7	-0.5
AJN	Ajban	6.43	199	P	Pn	01 12 50.3	+2.8
IGLO	Ghaloghah	6.50	334	Pn	Pn	01 12 49.0	+0.4
SOHO	SOHO	6.55	186	P	Pn	01 12 49.7	+0.5
SOHO	SOHO	6.55	186	P	Pn	01 12 52.3	+3.1
IDMV	Damavand	6.60	319	Pn	Pn	01 12 49.4	-0.7
ALNE	Al Ain	6.74	192	P	Pn	01 12 55.9	+4.1
JRN	Qarnain Island	6.95	216	P	Pn	01 12 57.0	+2.4
MRVT	Maraveh tapeh	7.04	352	Pn	Pn	01 12 56.0	+0.1
HOQ	Hoqain	7.07	180	P	Pn	01 12 59.1	+2.8
BIDO	Bidbid	7.16	174	P	Pn	01 12 59.6	+2.0
GEYT	Alibeck	7.26	5	Pn	Pn	01 13 00.5	+1.5
	0.3nm,0.3s,baz=191,slow=14,SNR=2.8						
GEYT				Lg	Lg	01 14 58.2	
	0.1nm,0.3s,baz=354,slow=10,SNR=1.5						
	1.5nm,0.6s						
ARQ	Araqi	7.35	186	P	Pn	01 13 03.4	+3.3
	SNR=7.0						
SHMA	Al-Shehemyia	7.38	231	P	Pn	01 12 57.9	-2.6
WSAR	Wadi Sarin	7.50	171	P	Pn	01 13 03.6	+1.4
	SNR=19						
SAKB	Bahrain	7.59	234	P	Pn	01 13 01.4	-2.0
SMDO	Samad	7.62	175	P	Pn	01 13 06.4	+2.5
BSY	Bisya	7.90	181	P	Pn	01 13 11.3	+3.6
TRNA	Turayna	8.02	224	P	Pn	01 13 08.4	-0.8
	SNR=8.6						
TRNA				S	Sn	01 14 41.1	+1.4
WBK	Wadi Bani Khal	8.17	169	P	Pn	01 13 12.2	+0.8
SMRA	Abu-Samra	8.25	226	P	Pn	01 13 12.2	-0.2
SMRA				S	Sn	01 14 48.8	+3.5
JMDO	Jabal Madar	8.30	175	P	Pn	01 13 15.0	+1.7
MZR	Muzera	8.38	205	P	Pn	01 13 17.1	+2.9
JLN	Jalan Bani Buh	8.70	167	P	Pn	01 13 19.5	+0.8
MHTO	MHTO	9.67	176	P	Pn	01 13 35.0	+3.0
SHAO	Shalim	12.69	187	P	Pn	01 14 16.8	+3.5
BRTR	Keskin Array B	21.30	302	P	P	01 16 00.7	+1.1
	2.2nm,1.0s,baz=106,slow=9.1,SNR=5.8						
	2.2nm,1.0s						
BVAR	Borovoye Array	24.28	19	P	P	01 16 30.4	+0.4
	1.0nm,0.6s,baz=200,slow=7.7,SNR=6.7						
BVAR				LR	LR	01 27 22.0	
	comp=Z,112nm,19.2s,baz=306,slow=40						
	1.0nm,0.6s						
MKAR	Makanchi Array	25.11	43	P	P	01 16 38.3	+0.8
	0.9nm,0.8s,baz=220,slow=8.3,SNR=4.8						
	0.9nm,0.8s						
KURBB	Kurchatov Arra	25.45	32	P	P	01 16 41.1	+0.6
	1.6nm,0.2s,baz=229,slow=9.5,SNR=2.6						
	1.6nm,0.2s						
ZALV	Zalesovo Beam	30.55	32	P	P	01 17 25.9	-0.1
	1.9nm,0.6s,baz=238,slow=9.4,SNR=9.2						
	1.9nm,0.6s						
GERES	GERESS Array B	37.52	312	P	P	01 18 27.0	+0.3
	0.7nm,0.7s,baz=114,slow=9.8,SNR=2.4						
	0.7nm,0.7s						
TORD	Torodi Ar. Bea	53.94	264	P	P	01 20 36.5	-0.2
	1.0nm,0.7s,baz=50,slow=7.8,SNR=7.0						
	1.0nm,0.7s						

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*IDC **14** 01:21:53.5±1.1, 34°.73N×141°.68E, h0km, mb3.6/8,*

mbtmp3.6/10,ML2.8/2,MS3.3/5,Error ellipse: s-maj=27.5km s-min=21.8km az=87.0

JMA ***14*** *01:21:58.5±0.5,34.7N×0.9×14.1E±, h29km,MV2.7/24, FAR E OFF KANTO*

ISC 14 01:21:58.0±0.9,34.74N±0.07×141.46E±0.08,h27km,n24, σ0.94/18,mb3.6/8,MS3.7/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.41**	**258**	P	**Pb**	**01 20 06.7**	**+0.2**
BSO3	**Boso 3**	**0.79**	**275**	P	**Pn**	**01 22 13.3**	**+0.2**
BSO4	**Boso 4**	**0.96**	**285**	P	**Pn**	**01 22 15.8**	**+0.2**
JKUC	**kamogawauchiur**	**1.12**	**292**	*e*P	**Pn**	**01 22 18.1**	**+0.2**
JKUC				*e*S	**Sn**	**01 22 31.4**	**-1.0**
JCN	**Nagara**	**1.23**	**303**	*e*P	**Pb**	**01 22 21.5**	**+0.8**
JHJ	**Hachijo jima 2**	**2.14**	**221**	Pn	**Pn**	**01 22 32.1**	**+0.2**
	22nm,0.3s,baz=73,slow=20,SNR=1.4						
JHJ				Sn	**Sn**	**01 22 57.5**	**-0.1**
	64nm,0.3s,baz=144,slow=23,SNR=7.0						
	77nm,0.4s						
MJAR	**Matsushiro Arr**	**3.20**	**305**	Pn	**Pn**	**01 22 47.1**	**+0.6**
	0.3nm,0.3s,baz=109,slow=10,SNR=10						
MJAR				Sn	**Sb**	**01 23 30.8**	**-2.0**
	0.2nm,0.3s,baz=135,slow=16,SNR=4.7						
MJAR				LR	LR	01 23 42.3	
	comp=Z,89nm,19.8s,baz=90,slow=32						
	1.8nm,0.4s						
KSRS	**Korea Array**	**11.28**	**288**	LR	LR	01 29 23.7	
	comp=Z,94nm,20.3s,baz=335,slow=39						
H11N2	**WAKE ISLAND Hy 27.01 117**			T	T	01 55 48.6	
	baz=309,slow=75,SNR=7.9						
H11N1	**WAKE ISLAND Hy 27.01 117**			T	T	01 55 51.1	
	baz=309,slow=75,SNR=5.6						
H11N3	**WAKE ISLAND Hy 27.02 117**			T	T	01 55 55.4	
	baz=309,slow=75,SNR=5.2						
H11S1	**WAKE ISLAND Hy 27.64 119**			T	T	01 56 40.4	
	baz=313,slow=74,SNR=7.3						
H11S3	**WAKE ISLAND Hy 27.64 119**			T	T	01 56 38.2	
	baz=313,slow=74,SNR=5.0						
H11S2	**WAKE ISLAND Hy 27.66 119**			T	T	01 56 44.6	
	baz=313						
SONM	**Songino Array**	**29.15**	**307**	P	**P**	**01 27 58.9**	**+2.0**
	0.3nm,0.4s,baz=111,slow=8.3,SNR=2.3						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**43.51**	**314**	P	**P**	**01 29 59.9**	**+1.0**
	0.4nm,0.3s,baz=101,slow=6.0,SNR=2.0						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**45.40**	**304**	P	**P**	**01 30 14.2**	**0.0**
	1.1nm,0.8s,baz=56,slow=6.2,SNR=6.6						
MKAR				LR	LR	01 51 40.8	
	comp=Z,157nm,18.1s,baz=320,slow=39						
	1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**47.47**	**310**	P	**P**	**01 30 30.0**	**-0.3**
	0.9nm,0.3s,baz=85,slow=8.3,SNR=5.3						
	0.9nm,0.3s						
ILAR	**Eielson Array**	**51.41**	**31**	P	**P**	**01 30 59.7**	**-0.5**
	0.3nm,0.8s,baz=244,slow=5.7,SNR=2.3						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**54.80**	**188**	P	**P**	**01 31 25.0**	**-0.6**
	0.5nm,0.5s,baz=5.9,slow=7.4,SNR=2.1						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**58.53**	**188**	P	**P**	**01 31 52.0**	**-0.1**
	0.2nm,0.4s,baz=21,slow=13,SNR=2.1						
	0.2nm,0.4s						
YKA	**Yellowknife Ar**	**65.77**	**30**	P	**P**	**01 32 39.1**	**-1.1**
	0.2nm,0.7s,baz=302,slow=6.5,SNR=3.8						
	0.2nm,0.7s						
RAO	**Raoul Island**	**74.31**	**144**	LR	LR	02 01 25.9	
	comp=Z,41nm,20.1s,baz=19,slow=32						
RPZ	**Rata Peaks**	**82.61**	**159**	LR	LR	02 12 53.1	
	comp=Z,16nm,18.7s,baz=81,slow=37						

WEL ***14*** *01:22:56.0±0.4,43.2×17.2E±, h4km±2km,M3.8/13, ML4.0/13,MLv3.8/13,Error ellipse: s-maj=0.0km s-min=0.0km az=94.6,confirmed*

NOU ***14*** *01:22:55.2,43.40S×172.13E,h10km,MLv4.0/9,South Island, New Zealand*

WEL ***14*** *01:22:55.9,43.41S×172.06E,h9km,ML3.8,Mw3.6, Moment Tensor Solution. s4 Moment tensor: Mrr11.79; Mθθ7.23; Mϕϕ-19.02; Mrθ9.85; Mθϕ18.73; Mϕr2.39; Fault plane solution: NP1:ϕs169.00000°,δ61.00000°, λ26.00000°. NP2:ϕs66.00000°,δ67.00000°,λ149.00000°. Principal axes: T -28.9200, Plg38.0000°, Azm26.0000°; N 24.6000, Plg52.0000°, Azm213.0000°; P 4.3200, Plg4.0000°, Azm119.0000°; SOUTH ISLAND*

ISC 14 01:22:55.2±0.8,43.42S±0.02×172.07E±0.02,h6km±6km, n73,σ1.911/84,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHFC	**Sheffield Scho**	**0.04**	**315**	P	**Pg**	**01 22 56.3**	**-0.4**
SHFC				S	**Sg**	**01 22 57.4**	**-0.2**
DFHS	**Darfield**	**0.07**	**160**	P	**Pg**	**01 22 57.4**	**+0.3**
DFHS				S	**Sg**	**01 22 59.6**	**+1.2**
OXZ	**Oxford**	**0.10**	**347**	P	**Pg**	**01 22 58.3**	**+0.9**
OXZ				S	**Sg**	**01 22 60.0**	**+1.1**
SPRS	**Springfield Vo**	**0.13**	**310**	P	**Pg**	**01 22 58.9**	**+0.9**
HORC	**Hororata Schoo**	**0.14**	**214**	P	**Pg**	**01 22 58.7**	**+0.5**
WCSS	**Whitecliffs**	**0.15**	**256**	P	**Pg**	**01 22 58.0**	**-0.4**
GDAL	**Greendale**	**0.17**	**175**	P	**Pg**	**01 22 58.8**	**+0.2**
GDAL				S	**Sg**	**01 23 01.7**	**+0.9**
KOWC	**Kowai**	**0.18**	**303**	P	**Pg**	**01 22 58.7**	**-0.3**
KOWC				S	**Sg**	**01 23 01.6**	**+0.1**
SMHS	**Summerhill**	**0.25**	**51**	P	**Pg**	**01 23 01.7**	**+1.5**
SMHS				S	**Sg**	**01 23 06.1**	**+2.5**
CSTC	**Cust School**	**0.25**	**64**	P	**Pg**	**01 23 00.3**	**+0.1**
CSTC				S	**Sg**	**01 23 04.4**	**+0.9**
ROLC	**Rolleston Scho**	**0.28**	**127**	P	**Pg**	**01 23 01.4**	**+0.5**
RACZ	**Rakaia**	**0.31**	**170**	P	**Pb**	**01 23 02.8**	**-0.3**
RACZ				S	**Sg**	**01 23 07.3**	**+1.9**
MHCZ	**Mount Hutt**	**0.38**	**253**	P	**Pg**	**01 23 03.7**	**+1.0**
AMCZ	**Amberley**	**0.49**	**60**	P	**Pb**	**01 23 06.5**	**+0.2**
AMCZ				S	**Sb**	**01 23 13.9**	**+0.2**
MQZ	**McQueen's Vall**	**0.51**	**124**	P	**Pb**	**01 23 06.2**	**-0.4**
MQZ				S	**Sb**	**01 23 13.7**	**-0.6**
WACZ	**Wakanui South**	**0.55**	**198**	P	**Pb**	**01 23 07.3**	**+0.1**
LTZ	**Lake Taylor**	**0.66**	**13**	P	**Pb**	**01 23 08.9**	**-0.2**
LTZ				S	**Sb**	**01 23 18.0**	**-0.5**
AKCZ	**Akaroa Harbour**	**0.76**	**127**	P	**Pb**	**01 23 10.8**	**-0.1**
OKCZ	**Okains Bay**	**0.78**	**113**	P	**Pb**	**01 23 11.4**	**+0.1**
RPZ	**Rata Peaks**	**0.79**	**248**	P	**Pg**	**01 23 11.5**	**+1.0**
RPZ	**Rata Peaks**	**0.79**	**248**	P	**Pg**	**01 23 11.3**	**+0.8**
ARCZ	**Arundel**	**0.83**	**231**	P	**Pg**	**01 23 12.0**	**+0.7**
INZ	**Inchbonnie**	**0.83**	**327**	P	**Pg**	**01 23 11.9**	**+0.7**
GVZ	**Greta Valley S**	**0.84**	**58**	P	**Pb**	**01 23 12.3**	**+0.1**
WVZ	**Waitaha Valley**	**1.03**	**289**	P	**Pg**	**01 23 15.7**	**+0.6**
TMZ	**Timaru**	**1.23**	**218**	P	**Pn**	**01 23 19.4**	**+0.4**
GCSZ	**Gaunt Creek Bo**	**1.27**	**274**	P	**Pn**	**01 23 20.1**	**+0.5**
KHZ	**Kahutara**	**1.48**	**48**	P	**Pn**	**01 23 21.2**	**-1.1**
KHZ	**Kahutara**	**1.48**	**48**	P	**Pn**	**01 23 21.2**	**-1.1**
FOZ	**Fox Glacier**	**1.64**	**265**	P	**Pn**	**01 23 25.2**	**+0.6**
LBZ	**Lake Benmore**	**1.67**	**234**	P	**Pn**	**01 23 24.5**	**-0.5**
DSZ	**Denniston Nort**	**1.69**	**353**	P	**Pn**	**01 23 24.5**	**-0.8**
THZ	**Tophouse**	**1.77**	**21**	P	**Pn**	**01 23 25.3**	**-1.2**
ODZ	**Otahua Downs**	**1.92**	**212**	P	**Pn**	**01 23 28.8**	**+0.4**
ODZ	**Otahua Downs**	**1.92**	**212**	P	**Pn**	**01 23 27.1**	**-1.3**
MRNZ	**Matariki Terra**	**2.08**	**14**	P	**Pn**	**01 23 30.6**	**-0.1**
BSWZ	**Blackbirch Sta**	**2.17**	**39**	P	**Pn**	**01 23 31.1**	**-0.7**
CMWZ	**Cape Campbell**	**2.30**	**44**	P	**Pn**	**01 23 34.1**	**+0.4**
NNZ	**Nelson**	**2.41**	**24**	P	**Pn**	**01 23 34.7**	**-0.4**
TUWZ	**Tuamarina**	**2.43**	**36**	P	**Pn**	**01 23 34.6**	**-0.8**
JCZ	**Jackson Bay**	**2.47**	**254**	P	**Pn**	**01 23 36.2**	**+0.2**
JCZ	**Jackson Bay**	**2.47**	**254**	P	**Pn**	**01 23 35.8**	**-0.2**
TKNZ	**Takaka Hill**	**2.48**	**16**	P	**Pn**	**01 23 36.3**	**+0.2**
WKZ	**Wanaka**	**2.61**	**236**	P	**Pn**	**01 23 37.7**	**-0.2**
QRZ	**Quartz Range**	**2.62**	**8**	P	**Pn**	**01 23 37.1**	**-0.9**
QRZ	**Quartz Range**	**2.62**	**8**	P	**Pn**	**01 23 37.0**	**-0.9**
EAZ	**Earnscleugh**	**2.68**	**227**	P	**Pn**	**01 23 38.1**	**-0.8**
TCW	**Tory Channel**	**2.75**	**37**	P	**Pn**	**01 23 38.5**	**-1.3**
SNZO	**South Karori**	**2.88**	**44**	P	**Pn**	**01 23 40.2**	**-1.3**
DUWZ	**D'Urville Isla**	**2.96**	**28**	P	**Pn**	**01 23 42.4**	**-0.3**
PLWZ	**Palliser**	**3.00**	**53**	P	**Pn**	**01 23 41.2**	**-2.1**
TUZ	**Tuapeka**	**3.07**	**214**	P	**Pn**	**01 23 43.0**	**-1.2**
CAW	**Cannon Point**	**3.21**	**45**	P	**Pn**	**01 23 44.0**	**-2.1**
PAWZ	**Paruwai Farm**	**3.22**	**52**	P	**Pn**	**01 23 44.0**	**-2.3**
MSZ	**Milford Sound**	**3.24**	**246**	P	**Pb**	**01 23 50.8**	**-2.3**
KIW	**Kapiti Island**	**3.32**	**41**	P	**Pn**	**01 23 46.5**	**-1.2**
TRWZ	**Traveller**	**3.36**	**54**	P	**Pn**	**01 23 46.2**	**-2.0**
MLZ	**Mavora Lakes**	**3.43**	**234**	P	**Pn**	**01 23 49.2**	**-0.1**
OGWZ	**Otaki Gorge**	**3.48**	**43**	P	**Pn**	**01 23 47.7**	**-2.2**
HOWZ	**Holdsworth Sta**	**3.60**	**47**	P	**Pn**	**01 23 49.9**	**-1.6**
SYZ	**Scrubby Hill**	**3.74**	**213**	P	**Pn**	**01 23 53.2**	**-0.3**
SYZ	**Scrubby Hill**	**3.74**	**213**	P	**Pn**	**01 23 52.5**	**-1.0**
MRZ	**Mangatainoka R**	**3.80**	**45**	P	**Pn**	**01 23 51.6**	**-2.7**
BFZ	**Birch Farm**	**4.14**	**50**	P	**Pn**	**01 23 57.5**	**-1.5**
BFZ	**Birch Farm**	**4.14**	**50**	P	**Pn**	**01 23 57.2**	**-1.8**
PKE	**Pukeiti**	**4.46**	**20**	P	**Pn**	**01 24 03.7**	**+0.3**
APZ	**The Paps**	**4.47**	**219**	P	**Pn**	**01 24 02.1**	**-1.3**
PNHZ	**Pukenui**	**4.68**	**43**	P	**Pn**	**01 24 03.8**	**-2.6**
PYZ	**Puysegur Point**	**4.71**	**233**	P	**Pn**	**01 24 07.3**	**+0.5**
PYZ	**Puysegur Point**	**4.71**	**233**	P	**Pn**	**01 24 08.3**	**+1.5**
VRZ	**Vera Road**	**4.75**	**26**	P	**Pn**	**01 24 07.9**	**+0.7**
WNVZ	**Wahianoa**	**4.88**	**34**	P	**Pn**	**01 24 08.2**	**-1.0**
OTVZ	**Oturere**	**5.04**	**34**	P	**Pn**	**01 24 11.3**	**-0.2**

SEA ***14*** *01:24:26.8±1.1,45.04N±0.01×122.60W±0.02,h17km±4km, ML4.0/28,ML3.7/140(NEIC),Mwr3.7/45(NEIC),Error ellipse: s-maj=2.1km s-min=1.7km az=91.0*

NEIC ***14*** *01:24:26.6±1.2,45.034N±0.005×122.59W±0.02, h15km±5km,Error ellipse: s-maj=2.0km s-min=0.6km az=106.0,Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr1.15; Mθθ-5.00; Mϕϕ3.85; Mrθ1.31; Mθϕ0.31; Mϕr2.16; Fault plane solution: M0 5.20000×10^14 NP1:ϕs313.69000°,δ60.24000°,λ166.18000°. NP2: ϕs50.65000°,δ78.03000°,λ30.49000°. Principal axes: T 5.1260, Plg30.0000°, Azm276.0000°; N 0.1416, Plg57.0000°, Azm70.0000°; P -5.2676, Plg12.0000°, Azm179.0000°;*

PNSN ***14*** *01:24:26.8,45.04N×122.60W,h17km,MD4.0,Fault plane solution: NP1:ϕs125.00000°,δ75.00000°,λ140.00000°.*

NEIC ***14*** *01:24:26.8,45.04N×122.60W,h17km*

IDC ***14*** *01:24:29.5±3.0,45.42N×122.44W,h0km,mb2.7/2, mbtmp3.0/3,ML3.5/2,MS2.9/2,Error ellipse: s-maj=67.1km s-min=22.9km az=43.0*

ISC 14 01:24:27.0±0.9,45.04N±0.02×122.60W±0.02,h13km±7km, n120,σ1.908/124,Washington-Oregon border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLT	**Colton High Sc**	**0.17**	**42**		**Pg**	**01 24 31.4**	**+0.4**
COLT					**Sb**	**01 24 34.8**	**-0.7**
G04A	**Mulino**	**0.18**	**28**		**Pg**	**01 24 31.6**	**+0.3**
G04A					**Sb**	**01 24 35.1**	**-0.7**
MRIN	**Marion BPA Sit**	**0.25**	**196**		**Pg**	**01 24 32.6**	**+0.3**
MRIN					**Sb**	**01 24 36.9**	**-0.8**
EYES	**Ewing Young ES**	**0.43**	**312**		**Pb**	**01 24 36.0**	**-0.5**
PGO	**Gresham**	**0.44**	**14**		**Pg**	**01 24 35.7**	**0.0**
H04A	**Detroit Lake**	**0.46**	**140**		**Pg**	**01 24 35.5**	**-0.6**
H04A				Sg	**Sg**	**01 24 41.8**	**-0.6**
MONO	**Monmouth DOGAM**	**0.49**	**248**		**Pg**	**01 24 36.8**	**+0.1**
MONO					**Sb**	**01 24 44.8**	**+0.2**
G03D	**McMinnville, O**	**0.50**	**290**		**Pg**	**01 24 36.7**	**-0.1**
G03D				Sg	**Sg**	**01 24 44.1**	**+0.6**
BULL	**Bull Run Dam**	**0.51**	**38**		**Pg**	**01 24 36.8**	**-0.3**
BEAV	**Portland**	**0.52**	**341**		**Pg**	**01 24 37.0**	**-0.1**
BEAV					**Sb**	**01 24 45.3**	**0.0**
H04D	**Lebanon**	**0.53**	**191**		**Pg**	**01 24 37.0**	**-0.3**
H04D				Sg	**Sg**	**01 24 44.5**	**+0.1**
WPO	**West Portland**	**0.55**	**346**		**Pg**	**01 24 37.5**	**-0.2**
HUBA	**Hudson Bay Hig**	**0.59**	**356**		**Pg**	**01 24 38.2**	**-0.4**
HUBA					**Sb**	**01 24 47.0**	**-0.5**
ROSS	**Ross**	**0.62**	**356**		**Pg**	**01 24 38.6**	**-0.5**
TDH	**Tom, Dick, Har**	**0.62**	**66**		**Pg**	**01 24 38.7**	**-0.5**
COR	**Corvallis**	**0.68**	**228**		**Pg**	**01 24 39.6**	**-0.6**
COR				Sg	**Sg**	**01 24 49.1**	**0.0**
COR				IAML		01 24 50.9	
	6μm,0.6s						
COR				IAML		01 24 57.7	
	4μm,0.7s						
TIMB	**Timberline**	**0.69**	**65**		**Pg**	**01 24 40.1**	**-0.4**
PALME	**Palmer Lift, M**	**0.71**	**63**		**Pg**	**01 24 40.5**	**-0.3**
PALME					**Sb**	**01 24 50.7**	**-0.5**
VBEM	**Beaver Butte**	**0.72**	**88**		**Pg**	**01 24 40.6**	**-0.3**
HOOD	**Mount Hood Mea**	**0.73**	**67**		**Pg**	**01 24 40.5**	**-0.6**
HOOD				IAML		01 24 51.2	
	comp=E,4μm,0.3s						
HOOD	**Mount Hood Mea**	**0.73**	**67**		**Sg**	**01 24 50.7**	**0.0**
VLL	**Laurance Lake**	**0.78**	**57**		**Pg**	**01 24 41.5**	**-0.5**
BROR	**Big Rock Looko**	**0.78**	**172**		**Pg**	**01 24 41.0**	**-1.2**
HEBO	**Mount Hebo**	**0.83**	**282**		**Pg**	**01 24 42.2**	**-1.0**
HEBO				IAML		01 25 00.9	
	comp=N,4μm,0.5s						
HEBO	**Mount Hebo**	**0.83**	**282**		**Sb**	**01 24 54.3**	**-0.3**
VFP	**Flag Point**	**0.85**	**71**		**Pg**	**01 24 42.6**	**-0.8**
MPOR	**Mary's Peak**	**0.86**	**232**		**Pg**	**01 24 42.8**	**-0.9**
SHRK	**Shell Rock**	**0.87**	**60**		**Pg**	**01 24 43.0**	**-0.8**
BUCK	**Buck Mountain**	**0.89**	**198**		**Pg**	**01 24 42.9**	**-1.3**
BUCK				IAML		01 24 56.3	
	comp=N,2μm,0.5s						
BUCK				IAML		01 24 57.0	
	comp=E,3μm,0.7s						
F04A	**Amboy**	**0.90**	**8**		**Pg**	**01 24 43.1**	**-1.3**
G05A	**Wamic**	**0.93**	**77**		**Pb**	**01 24 44.4**	**-0.6**
G05A				IAML		01 24 58.0	
	comp=N,2μm,0.7s						
PRLK	**Prince Lake**	**0.95**	**151**		**Pb**	**01 24 44.4**	**-0.9**
APM	**Augspurger Mou**	**0.95**	**43**		**Pb**	**01 24 44.5**	**-0.9**
MTMW	**Mount Mitchell**	**1.02**	**15**		**Pb**	**01 24 45.1**	**-1.5**
TCBUT	**Trout Creek Bu**	**1.04**	**140**		**Pg**	**01 24 47.2**	**+0.1**
F04D	**Rainier, OR**	**1.08**	**345**		**Pb**	**01 24 46.2**	**-1.4**
RVW	**Rose Valley**	**1.11**	**355**		**Pb**	**01 24 46.4**	**-1.8**
F03A	**Seaside**	**1.12**	**323**		**Pb**	**01 24 46.6**	**-1.5**
B023	**Clatskanie**	**1.12**	**343**		**Pb**	**01 24 46.5**	**-1.7**
WIFE	**Three Sisters-**	**1.13**	**150**		**Pb**	**01 24 47.3**	**-1.2**
I05D	**Terrebonne, OR**	**1.14**	**128**	Pn	**Pb**	**01 24 47.9**	**-0.7**
B203	**Quarry, Mount**	**1.14**	**9**		**Pb**	**01 24 47.0**	**-1.6**
B203					**Sb**	**01 25 02.2**	**-1.2**
JLK	**June Lake**	**1.15**	**16**		**Pb**	**01 24 46.9**	**-1.8**
FL2	**Flat Top 2**	**1.17**	**9**		**Pb**	**01 24 47.6**	**-1.5**
SWF2	**Southwest Flan**	**1.17**	**13**		**Pb**	**01 24 47.4**	**-1.8**
MOON	**Moon Mountain**	**1.19**	**146**		**Pn**	**01 24 48.7**	**-0.6**
ESD	**East Dome**	**1.20**	**15**		**Pn**	**01 24 48.0**	**-1.6**
HBO	**Huckleberry Mo**	**1.21**	**170**		**Pn**	**01 24 48.5**	**-1.3**
STD	**Studebaker Rid**	**1.23**	**12**		**Pn**	**01 24 48.3**	**-1.6**
SOSW	**Source of Smit**	**1.25**	**15**		**Pn**	**01 24 48.6**	**-1.6**
I04A	**Tendick Farm,**	**1.25**	**174**		**Pn**	**01 24 48.8**	**-1.5**
I04A				IAML		01 25 05.5	
	comp=N,2μm,0.3s						
ERK	**Elk Rock**	**1.28**	**8**		**Pn**	**01 24 49.1**	**-1.6**
B022	**Seaside**	**1.31**	**315**		**Pn**	**01 24 49.6**	**-1.3**
G06A	**Carlson Farm,**	**1.40**	**81**	Pn	**Pn**	**01 24 52.1**	**-0.2**
I03D	**Drain, OR**	**1.45**	**202**		**Pn**	**01 24 51.6**	**-1.3**
I03D				IAML		01 25 12.5	
	comp=E,2μm,0.5s						
I03D				IAML		01 25 13.6	
	comp=N,1μm,0.3s						
RADR	**Rader Ridge**	**1.61**	**329**		**Pn**	**01 24 54.6**	**-0.6**
E03A	**Lebam**	**1.65**	**336**		**Pn**	**01 24 55.0**	**-0.6**
PINE	**Pine Mountain**	**1.73**	**136**		**Pn**	**01 24 56.7**	**-0.2**
LON	**Longmire**	**1.79**	**18**		**Pn**	**01 24 57.0**	**-0.7**
LON				IAML		01 25 22.8	
	comp=N,800nm,0.8s						
LON				IAML		01 25 23.7	
	comp=E,917nm,0.6s						
DBO	**Dodson Butte**	**1.98**	**194**		**Pn**	**01 24 59.1**	**-1.2**
DBO				IAML		01 25 35.7	
	comp=E,629nm,1.1s						
DBO				IAML		01 25 37.0	
	comp=N,466nm,0.9s						
J05D	**Fort Rock, OR**	**2.01**	**150**		**Pn**	**01 24 59.6**	**-1.2**
J05D				IAML		01 25 31.9	
	comp=E,599nm,1.1s						
J05D				IAML		01 25 36.0	
	comp=N,422nm,0.8s						
F07A	**Phinny Hill Vi**	**2.06**	**65**		**Pn**	**01 25 00.9**	**-0.5**
F07A				IAML		01 25 36.9	
	comp=E,731nm,0.5s						
YA2	**Yakima**	**2.07**	**44**		**Pn**	**01 25 00.6**	**-1.0**
J01E	**Myrtle Point**	**2.11**	**207**		**Pn**	**01 25 01.5**	**-0.5**
J01E				IAML		01 25 35.2	
	comp=E,741nm,0.4s						
J01E				IAML		01 25 42.6	
	comp=N,688nm,0.8s						
PAT2	**Paterson 2**	**2.17**	**66**		**Pn**	**01 25 03.6**	**+0.8**
D05A	**Enumclaw**	**2.19**	**11**		**Pn**	**01 25 03.5**	**+0.5**
D05A				IAML		01 25 37.8	
	comp=N,628nm,0.5s						
D05A				IAML		01 25 39.6	
	comp=E,551nm,0.6s						
WISH	**Wishkah**	**2.23**	**339**	IAML		01 25 45.2	
	comp=N,417nm,0.6s						
WISH				IAML		01 25 53.8	
	comp=E,460nm,0.6s						
I07A	**Izee**	**2.41**	**112**		**Pn**	**01 25 05.2**	**-1.1**
I07A				IAML		01 25 42.0	
	comp=N,390nm,0.7s						
I07A				IAML		01 25 42.4	
	comp=E,397nm,0.7s						
E07A	**Sunnyside**	**2.45**	**51**	IAML		01 25 55.4	
	comp=E,455nm,0.7s						
K02D	**Willamette Mer**	**2.47**	**199**	IAML		01 25 47.3	
	comp=E,389nm,0.6s						
K02D				IAML		01 25 52.6	
	comp=N,282nm,0.7s						
K04D	**Chiloquin, OR**	**2.49**	**165**	IAML		01 25 57.2	
	comp=N,556nm,0.9s						
K04D				IAML		01 26 30.1	
	comp=E,570nm,1.2s						
KEBM	**Edson Butte**	**2.50**	**211**		**Pn**	**01 25 06.8**	**-0.7**
KEBM				IAML		01 25 55.6	
	comp=N,464nm,0.8s						
KEBM				IAML		01 26 01.7	
	comp=E,544nm,1.0s						
NLWA	**Neilton Lookou**	**2.51**	**340**		**Pn**	**01 25 06.8**	**-0.8**
NLWA				IAML		01 25 50.9	
	comp=E,252nm,0.8s						
NLWA				IAML		01 25 58.6	
	comp=E,237nm,0.8s						
GNW	**Green Mountain**	**2.53**	**357**		**Pn**	**01 25 06.8**	**-0.9**
MDW	**Midway**	**2.53**	**51**		**Pn**	**01 25 07.2**	**-0.5**
MDW				IAML		01 25 53.9	
	comp=N,489nm,0.9s						
MDW				IAML		01 25 55.3	
	comp=E,257nm,0.9s						
HAWA	**Hanford**	**2.54**	**57**		**Pn**	**01 25 07.1**	**-0.8**
HAWA				IAML		01 25 50.2	
	comp=E,364nm,0.8s						
HAWA				IAML		01 25 50.3	
	comp=E,523nm,0.9s						
G08A	**Pilot Rock**	**2.59**	**83**		**Pn**	**01 25 08.3**	**-0.4**
G08A				IAML		01 25 52.5	
	comp=N,303nm,0.8s						
G08A				IAML		01 25 55.9	
	comp=E,250nm,0.5s						
LTY	**Liberty**	**2.59**	**30**		**Pn**	**01 25 08.4**	**-0.3**
LTY				IAML		01 25 47.6	
	comp=N,293nm,0.7s						
GBB	**Gable Butte**	**2.60**	**52**		**Pn**	**01 25 08.4**	**-0.4**
GBB				IAML		01 25 52.1	
	comp=N,347nm,0.7s						
GBB				IAML		01 25 57.5	
	comp=E,367nm,1.2s						
K05A	**Summer Lake**	**2.62**	**151**		**Pn**	**01 25 08.5**	**-0.8**
L04D	**Klamath Falls**	**2.83**	**176**	Pn	**Pn**	**01 25 11.3**	**-0.7**
L04D				IAML		01 26 00.1	
	comp=N,238nm,1.0s						
L04D				IAML		01 26 00.7	
	comp=E,254nm,0.6s						
E08A	**Dider Farm, El**	**2.87**	**58**		**Pn**	**01 25 12.9**	**+0.4**
E08A				IAML		01 26 03.6	
	comp=E,279nm,0.6s						
E08A				IAML		01 26 06.7	
	comp=N,311nm,0.8s						
L02F	**Cave Junction**	**3.00**	**194**		**Pn**	**01 25 13.3**	**-1.0**
KBO	**Bosley Butte**	**3.06**	**203**	Pn	**Pn**	**01 25 15.4**	**+0.2**
KBO				IAML		01 26 23.0	
	comp=N,207nm,1.3s						
KBO				IAML		01 26 28.2	
	comp=E,152nm,1.6s						
B04A	**Port Angeles**	**3.08**	**349**	IAML		01 26 07.4	
	comp=E,152nm,0.8s						
C03A	**Quillayute Air**	**3.21**	**336**	Pn	**Pn**	**01 25 16.6**	**-0.4**
D08A	**Wollman Farm,**	**3.26**	**50**	Pn	**Pn**	**01 25 16.9**	**-0.9**
D08A				IAML		01 26 16.9	
	comp=N,142nm,1.2s						
YBH	**Yreka Blue Hor**	**3.31**	**181**		**Pn**	**01 25 18.3**	**-0.3**
KSXB	**Camp Six Broad**	**3.34**	**197**		**Pn**	**01 25 17.8**	**-1.2**
J08A	**Circle Bar Ran**	**3.41**	**118**	Pn	**Pn**	**01 25 19.1**	**-0.9**
J08A				IAML		01 26 24.4	
	comp=E,181nm,0.8s						
J08A				IAML		01 26 32.4	
	comp=N,168nm,0.9s						
E09A	**Wood Farm, Sta**	**3.45**	**63**		**Pn**	**01 25 20.0**	**-0.3**
E09A				IAML		01 26 22.0	
	comp=N,258nm,1.6s						
E09A				IAML		01 26 22.8	
	comp=E,237nm,1.2s						
RPW	**Rockport**	**3.49**	**

UCH	**Uchtor**	**6.25**	**29**	P		**Pn**	**01 28 54.5**	**0.0**
	SNR=38							
KK31	**Karatay Array**	**6.26**	**1**	⇑P		**Pn**	**01 28 54.1**	**-0.2**
	1.4nm,0.2s,baz=167,slow=7.8,SNR=64							
KK31				⇓S		**Sn**	**01 30 06.1**	**+0.1**
	1.1nm,0.3s,baz=188,slow=23,SNR=4.9							
EKS2	**Erkin-Say**	**6.37**	**23**	P		**Pn**	**01 28 56.1**	**+0.3**
	SNR=9.5							
KZA	**Kyzart**	**6.43**	**34**	P		**Pn**	**01 28 56.4**	**-0.5**
	SNR=7.4							
AAK	**Ala-Archa**	**6.59**	**27**	P		**Pn**	**01 28 59.1**	**+0.4**
	SNR=8.3							
KBK	**Karagaybulak**	**6.78**	**30**	P		**Pn**	**01 29 01.5**	**+0.4**
	SNR=7.1							
CHMS	**Chumysh**	**7.00**	**27**	P		**Pn**	**01 29 04.0**	**+0.1**
	SNR=8.1							
USP	**Ospenovka**	**7.15**	**25**	P		**Pn**	**01 29 05.5**	**-0.3**
	SNR=14							
TKM2	**Tokmak 2**	**7.27**	**32**	P		**Pn**	**01 29 07.7**	**+0.1**
	SNR=11							
TKM2	**Tokmak 2**	**7.27**	**32**	⇑P		**Pn**	**01 29 07.4**	**-0.1**
	14nm,0.5s							
TKM2				⇑S		**Sn**	**01 30 30.4**	**+0.4**
	5.8nm,1.1s							
AB31	**Akbulak array**	**14.56**	**332**	P		**P**	**01 30 41.6**	**+0.1**
	0.6nm,0.4s,baz=150,slow=12,SNR=48							
AKTO	**Aktyubinsk**	**16.25**	**331**	⇑P		**P**	**01 31 00.2**	**0.0**
	2.3nm,0.8s							

MEX ***14*** *01:42:24.5±0.6, 13°.37N×92°.12W, h15km, MD3.9*
CATAC ***14*** *01:42:24.1±1.5, 13°.42N×92°.41W, h60km, ML3.7*
GCG ***14*** *01:42:35.9±0.3, 14°.03N×91°.76W, h20km±13km, MD3.5*
ISC 14 01:42:09.8±3.7, 12°.9N±0°.2×92°.8W±0°.2, h28km±19km, n21, σ2§12/28, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**1.89**	**40**	***e*P**	**Pb**	**01 42 46.6**	**+2.9**
RTAL	**Retalhuleu**	**1.99**	**33**	***i*P**	**Pb**	**01 42 46.4**	**+1.1**
RTAL				IAML		01 42 52.4	
	comp=Z,800nm,1.0s						
THIG		**2.11**	**15**	***e*P**	**Pb**	**01 42 47.8**	**+0.4**
THIG				***e*S**	**Sn**	**01 43 07.4**	**-1.1**
STG3	**Santiaguito 3,**	**2.21**	**33**	***e*P**	**Pb**	**01 42 49.6**	**+0.4**
PATR	**El Naranjo**	**2.32**	**14**	***e*P**	**Pb**	**01 42 50.8**	**-0.3**
PATR				***e*S**	**Sn**	**01 43 11.3**	**-2.8**
CHUJ	**Union Juarez**	**2.33**	**17**	***e*P**	**Pb**	**01 42 50.7**	**-0.6**
CHUJ				***e*S**	**Sn**	**01 43 10.9**	**-3.4**
PAVE	**Pavencul**	**2.41**	**15**	***e*P**	**Pb**	**01 42 52.3**	**-0.3**
PAVE				***e*S**	**Sn**	**01 43 13.8**	**-2.3**
FUG	**Fuego 3**	**2.49**	**50**	***e*P**	**Pb**	**01 42 54.1**	**+0.1**
PCG	**Pacaya**	**2.64**	**54**	***e*P**	**Pb**	**01 42 57.6**	**+1.0**
GUMI	**Mixco**	**2.78**	**50**	***i*P**	**Pb**	**01 42 56.0**	**-2.9**
GUMI				IAML		01 44 09.3	
	comp=Z,3μm,1.0s						
NBG	**Las Nubes**	**2.96**	**54**	***e*P**	**Pb**	**01 43 02.2**	**+0.1**
GUNB	**GUNB**	**2.96**	**54**	***i*P**	**Pb**	**01 43 00.8**	**-1.3**
GUNB				IAML		01 43 02.3	
	comp=Z,340nm,1.0s						
NUBE	**Las Nubes**	**3.14**	**70**	***i*P**	**Pb**	**01 43 03.1**	**-1.9**
NUBE				IAML		01 43 04.7	
	comp=Z,130nm,1.0s						
NUBE				***i*S**	**Sn**	**01 43 33.2**	**-1.0**
CEVE	**Cerro Verde**	**3.26**	**72**	***i*P**	**Pb**	**01 43 05.5**	**-1.7**
CEVE				IAML		01 43 16.6	
	comp=Z,210nm,1.0s						
CEVE				***i*S**	**Sn**	**01 43 39.8**	**+2.5**
CCIG	**Comitan**	**3.47**	**11**	***e*P**	**Pb**	**01 43 09.7**	**-1.0**
CCIG				***e*S**	**Sn**	**01 43 43.7**	**+1.3**
PMON	**Piamonte**	**3.52**	**76**	***i*P**	**Pb**	**01 43 09.7**	**-1.8**
PMON				IAML		01 43 51.3	
	comp=Z,180nm,1.0s						
MTO3	**Montecristo**	**3.70**	**65**	***i*P**	**Pb**	**01 43 11.5**	**-3.1**
MTO3				IAML		01 43 12.5	
	comp=Z,69nm,1.0s						
SJTE	**Alcalda de S**	**3.79**	**78**	***i*P**	**Pn**	**01 43 08.8**	**+2.3**
COEG	**Centro de Oper**	**3.92**	**78**	***i*P**	**Pb**	**01 43 19.9**	**+1.7**
PACA	**Pacayal**	**4.43**	**82**	***i*P**	**Pb**	**01 43 28.1**	**+1.2**
CNCH	**Conchagua**	**4.88**	**85**	***i*P**	**Pb**	**01 43 30.1**	**-4.6**

IDC ***14*** *01:53:28.8±1.9, 30°.62N×57°.20E, h0km, mb3.6/7, mbtmp3.6/8, ML3.0/1, MS2.7/2, Error ellipse: s-maj=39.7km s-min=21.8km az=143.0*
TEH ***14*** *01:53:30.0, 30°.78N×57°.31E, h8km±66km, ML3.9*
OMAN ***14*** *01:53:45.8±0.1, 29°.65N×57°.39E, h5km±1km, mb4.4/2, ml3.4/8, Error ellipse: s-maj=1.6km s-min=0.9km az=326.0*
ISC 14 01:53:31.0±0.6, 30°.75N±0°.04×57°.33E±0°.04, h15km, n76, σ1§89/79, mb3.7/8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.72**	**288**	Pg	**Pg**	**01 53 43.3**	**-1.8**
KHGB	**Koh Gabri**	**0.82**	**243**	Pg	**Pg**	**01 53 45.6**	**-1.5**
CHMN	**Cheshme madani**	**0.90**	**168**	Pg	**Pb**	**01 53 47.4**	**-1.2**
CHMN				Sg	**Sg**	**01 53 58.1**	**-0.8**
TVBK	**TV Kerman**	**0.90**	**213**	Pg	**Pg**	**01 53 48.2**	**-0.4**
NGRK	**Negar Kerman**	**1.22**	**205**	Pg	**Pn**	**01 53 54.0**	**+0.2**
NGRK				Sg	**Sb**	**01 54 11.5**	**+1.9**
IBAF	**Bafgh**	**1.73**	**300**	Pg	**Pn**	**01 54 01.3**	**+0.6**
KBAM	**BAM**	**1.88**	**148**	Pn	**Pn**	**01 54 04.0**	**+1.2**
BSRN	**Basiran**	**1.96**	**51**	Pn	**Pn**	**01 54 05.3**	**+1.4**
IKOO	**Kooshah**	**2.20**	**40**	Pn	**Pn**	**01 54 08.2**	**+0.9**
TPRV	**Parvadeh(Tabas**	**2.34**	**347**	Pn	**Pn**	**01 54 09.4**	**+0.4**
IMEH	**Mehriz**	**2.42**	**286**	Pn	**Pn**	**01 54 11.2**	**+1.0**
NHDN	**Nehbandan**	**2.42**	**74**	Pn	**Pn**	**01 54 12.5**	**+2.3**
ITEG	**Tejag**	**2.46**	**29**	Pn	**Pn**	**01 54 11.8**	**+1.0**
KHNJ	**Kahnooj**	**2.81**	**173**	Pn	**Pn**	**01 54 18.5**	**+3.1**
TKDS	**Koohdasht(Taba**	**2.86**	**357**	Pn	**Pn**	**01 54 16.7**	**+0.4**
ICHK	**Chekchek**	**2.91**	**302**	Pn	**Pn**	**01 54 18.1**	**+1.1**
IDAH	**Dahanechah**	**2.94**	**47**	Pn	**Pn**	**01 54 19.1**	**+1.7**
AFRZ	**Afriz**	**3.03**	**28**	Pn	**Pn**	**01 54 19.7**	**+1.1**
TNSJ	**Nastanj**	**3.26**	**349**	Pn	**Pn**	**01 54 22.2**	**+0.4**
ZHDN	**Zahedan**	**3.30**	**113**	Pn	**Pn**	**01 54 24.5**	**+2.1**
ISAD	**Sadrabad**	**3.33**	**291**	Pn	**Pn**	**01 54 24.3**	**+1.5**
SHRT	**Shahrakht**	**3.83**	**40**	Pn	**Pn**	**01 54 31.5**	**+1.9**
ANAR	**Anarak**	**3.91**	**309**	Pn	**Pn**	**01 54 32.3**	**+1.6**
IRAM	**Ramesheh**	**4.37**	**285**	Pn	**Pn**	**01 54 38.6**	**+1.5**
IZEF	**Zefreh**	**4.76**	**298**	Pn	**Pn**	**01 54 44.0**	**+1.4**
SHME	**Shamm**	**4.79**	**193**	P	**Pn**	**01 54 44.5**	**+1.8**
SHME				S	Sn	01 55 30.5	-7.5
JASK	**Jask - Hormozg**	**4.88**	**174**	P	**Pn**	**01 54 44.4**	**+0.4**
	SNR=13						
JASK	**Jask - Hormozg**	**4.88**	**174**	Pn	**Pn**	**01 54 47.1**	**+3.1**
BANOM	**Banah**	**4.89**	**191**	P	**Pn**	**01 54 45.6**	**+1.5**
BANOM				S	Sn	01 55 32.2	-8.2
TBJM	**Torbat-e-JAM**	**5.17**	**28**	Pn	**Pn**	**01 54 49.6**	**+1.6**
UMQ	**Umm Al-Quwin**	**5.41**	**196**	P	**Pn**	**01 54 53.8**	**+2.7**
MASF	**Masafi**	**5.46**	**191**	P	**Pn**	**01 54 53.5**	**+1.6**
MASF				S	Sn	01 55 46.3	-8.1
SRVN	**Saravan**	**5.55**	**126**	Pn	**Pn**	**01 54 56.9**	**+3.7**
ISFB	**Sefidab**	**5.60**	**311**	Pn	**Pn**	**01 54 55.4**	**+1.5**
SBZV	**Sabzevar**	**5.63**	**2**	Pn	**Pn**	**01 54 56.4**	**+1.9**
ZNGN	**Zangian**	**5.70**	**286**	Pn	**Pn**	**01 54 57.3**	**+1.8**
JRKH	**Jarkhoshk**	**5.73**	**25**	Pn	**Pn**	**01 54 57.3**	**+1.6**
UOSS	**Minazif**	**5.87**	**190**	P	**Pn**	**01 54 58.8**	**+1.3**
NAZ	**Nazwa, Dubai**	**5.92**	**195**	P	**Pn**	**01 54 59.7**	**+1.4**
IAKL	**Akhelmad**	**5.96**	**11**	Pn	**Pn**	**01 55 00.6**	**+1.5**
HATD	**Hatta, Dubai**	**5.99**	**190**	P	**Pn**	**01 55 01.2**	**+1.9**
ASHO	**Ashiyiah**	**6.14**	**191**	P	**Pn**	**01 55 03.4**	**+2.1**
ASHO				S	Sn	01 56 03.6	-7.8
FAQ	**Al Faqa, Dubai**	**6.17**	**195**	P	**Pn**	**01 55 03.7**	**+2.0**
IFIR	**Firoozkooh**	**6.21**	**323**	Pn	**Pn**	**01 55 03.1**	**+0.8**
NGCH	**Negor - Chabah**	**6.33**	**147**	P	**Pn**	**01 55 07.4**	**+3.5**
NGCH				S	**Sn**	**01 56 11.0**	**-5.0**
ASUD	**Al Ashush, Dub**	**6.35**	**197**	P	**Pn**	**01 55 06.1**	**+2.0**
IGLO	**Ghaloghah**	**6.44**	**334**	Pn	**Pn**	**01 55 07.5**	**+2.0**
IDMV	**Damavand**	**6.55**	**319**	Pn	**Pn**	**01 55 08.4**	**+1.3**
SOHO	**SOHO**	**6.62**	**186**	P	**Pn**	**01 55 09.5**	**+1.6**
ALNE	**Al Ain**	**6.81**	**192**	P	**Pn**	**01 55 12.7**	**+2.3**
MRVT	**Maraveh tapeh**	**6.97**	**352**	Pn	**Pn**	**01 55 13.9**	**+1.2**
JRN	**Qarnain Island**	**7.01**	**216**	P	**Pn**	**01 55 17.8**	**+4.6**
HOQ	**Hoqain**	**7.14**	**180**	P	**Pn**	**01 55 16.5**	**+1.5**
GEYT	**Alibeck**	**7.19**	**5**	Pn	**Pn**	**01 55 17.2**	**+1.5**
	0.2nm,0.3s,baz=175,slow=16,SNR=1.4						
GEYT				Lg	Lg	01 57 20.7	
	0.2nm,0.3s,baz=214,slow=31,SNR=2.1						
GEYT				LR	LR	01 58 39.1	
	comp=Z,143nm,21.8s,baz=215,slow=42 0.9nm,0.4s						
BIDO	**Bidbid**	**7.23**	**174**	P	**Pn**	**01 55 17.4**	**+1.1**
ARQ	**Araqi**	**7.42**	**186**	P	**Pn**	**01 55 20.3**	**+1.5**
	SNR=7.6						
WSAR	**Wadi Sarin**	**7.57**	**171**	P	**Pn**	**01 55 22.4**	**+1.5**
	SNR=5.5						
WSAR	**Wadi Sarin**	**7.57**	**171**	LR	LR	01 59 08.8	
	comp=Z,29nm,19.0s,baz=70,slow=46						
SMDO	**Samad**	**7.69**	**175**	P	**Pn**	**01 55 23.5**	**+0.9**
BSY	**Bisya**	**7.97**	**181**	P	**Pn**	**01 55 28.1**	**+1.6**
TRNA	**Turayna**	**8.07**	**224**	S	**Sn**	**01 56 59.3**	**+0.4**
WBK	**Wadi Bani Khal**	**8.24**	**169**	P	**Pn**	**01 55 31.5**	**+1.5**
	SNR=7.8						
SMRA	**Abu-Samra**	**8.30**	**226**	S	**Sn**	**01 57 05.5**	**+1.1**
JMDO	**Jabal Madar**	**8.37**	**175**	P	**Pn**	**01 55 32.7**	**+0.8**
JLN	**Jalan Bani Buh**	**8.76**	**167**	P	**Pn**	**01 55 38.8**	**+1.5**
MHTO	**MHTO**	**9.74**	**176**	P	**Pn**	**01 55 52.9**	**+2.2**
KBL	**Kabul**	**10.57**	**66**	P	Pn	01 56 24.0	+22
KSH	**Kashi**	**17.56**	**55**	P	**Pn**	**01 57 31.8**	**-3.6**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRTR	**Keskin Array B**	**21.27**	**301**	P	**P**	**01 58 16.1**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=98,slow=8.9,SNR=5.4 comp=Z,0.6nm,0.5s						
BVAR	**Boroevoye Array**	**24.21**	**19**	P	**P**	**01 58 48.1**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=216,slow=7.1,SNR=5.1 comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**25.06**	**43**	P	**P**	**01 58 56.6**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=227,slow=9.7,SNR=1.9 comp=Z,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**25.39**	**33**	P	**P**	**01 58 59.3**	**+1.7**
	comp=Z,0.7nm,0.9s,baz=230,slow=9.2,SNR=5.9 comp=Z,0.7nm,0.9s						
ZALV	**Zalesovo Beam**	**30.48**	**33**	P	**P**	**01 59 44.3**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=248,slow=7.8,SNR=4.8 comp=Z,1.3nm,0.7s						
FINES	**FINESS Array B**	**36.89**	**335**	P	**P**	**02 00 40.4**	**+1.7**
	comp=Z,6.8nm,1.0s,baz=120,slow=10.0,SNR=5.2 comp=Z,6.8nm,1.0s						
XLT	**XiLinHaoTe**	**47.60**	**57**	*i* P	**P**	**02 02 05.6**	**-0.8**
XLT				pP	pP	02 02 10.4	-1.1
XLT				sP	sP	02 02 12.4	-1.1
XLT				PcP	**PcP**	**02 03 39.3**	**+3.3**
XLT				PP	**PP**	**02 03 55.6**	**-2.2**
XLT				pmax	pmax		
	comp=Z,180nm,6.4s						
XLT				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**53.96**	**264**	P	**P**	**02 02 53.5**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=45,slow=7.2,SNR=7.7 comp=Z,1.0nm,0.7s						

CATAC ***14*** *02:01:54.6±1.3, 7°.25N×81°.00W, h10km, ML3.7*
ISC 14 02:01:54.7±2.7, 7°.3N±0°.1×80°.83W±0°.06, h29km±21km, n12, σ1§28/19, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZU	**Azuero**	**0.76**	**47**	***e*P**	**Pn**	**02 02 08.7**	**-0.9**
AZU				***e*S**	**Sb**	**02 02 21.3**	**+1.9**
PNME	**Penonome**	**1.31**	**22**	***e*P**	**Pn**	**02 02 16.8**	**-0.3**
PNME				***e*S**	**Sb**	**02 02 35.6**	**+0.5**
BCIP	**Isla Barro Col**	**2.13**	**28**	***e*P**	**Pb**	**02 02 30.9**	**-1.7**
BCIP				***e*S**	**Sb**	**02 03 00.0**	**+1.4**
BCIP	**Isla Barro Col**	**2.13**	**28**	***i*P**	**Pb**	**02 02 30.9**	**-1.7**
BCIP				***i*S**	**Sb**	**02 03 00.3**	**+1.7**
BCIP				IAML		02 03 08.5	
	comp=Z,380nm,1.0s						
UPA	**Univ. de Panam**	**2.13**	**37**	***e*P**	**Pb**	**02 02 31.7**	**-1.0**
UPA				***e*S**	**Sb**	**02 03 00.7**	**+1.9**
BRU2	**Volcan**	**2.38**	**310**	***i*P**	**Pn**	**02 02 31.0**	**-1.0**
BRU2				***i*S**	**Sn**	**02 03 00.8**	**+0.4**
BRU2				IAML		02 03 08.1	
	comp=Z,340nm,1.0s						
POTG	**Potrero Grande**	**2.87**	**308**	***i*P**	**Pn**	**02 02 38.3**	**-0.4**
POTG				IAML		02 02 42.4	
	comp=Z,190nm,1.0s						
PTAC	**Punta Ardita,**	**3.00**	**92**	***e*P**	**Pn**	**02 02 41.0**	**+0.6**
PTAC				***e*S**	**Sn**	**02 03 15.6**	**+0.1**
CDM	**Cerro de Muert**	**3.68**	**308**	***i*P**	**Pn**	**02 02 50.4**	**+0.2**
CDM				IAML		02 03 53.2	
	comp=Z,55nm,1.0s						
RIMA	**Rio Macho**	**3.89**	**310**	***i*P**	**Pn**	**02 02 54.4**	**+1.6**
RIMA				IAML		02 03 45.4	
	comp=Z,45nm,1.0s						
LCR2	**La Lucha 2**	**3.98**	**308**	***i*P**	**Pn**	**02 02 54.8**	**+0.7**
LCR2				IAML		02 03 58.8	
	comp=Z,51nm,1.0s						
PLMC	**San Jos del P**	**5.10**	**117**	***e*S**	**Sn**	**02 04 07.2**	**-0.1**

MDD ***14*** *02:03:57.0±0.9, 32°.02N×16°.24W, h0km, Mb4.7/9, M_mb4.2/12, Error ellipse: s-maj=10.3km s-min=3.6km az=124.0*
CNRM ***14*** *02:04:01.1, 32°.59N×16°.49W, h76km*
INMG ***14*** *02:04:02.9±1.1, 32°.16N×16°.30W, h10km, ML2.2, Error ellipse: s-maj=5.4km s-min=1.6km az=76.0*
ISC 14 02:03:55.3±1.6, 32°.06N±0°.06×16°.34W±0°.07, h12km±16km, n26, σ2§28/36, 9C-2D, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUL	**Funchal**	**0.75**	**321**	***e*P**	**Pn**	**02 04 13.0**	**+1.4**
FUL				***e*S**	**Sg**	**02 04 21.1**	**+1.5**
FUL				A	A	02 04 22.1	
	127nm,0.2s						
PMAR	**Madeira**	**0.82**	**324**	⇓*i*P	**Pn**	**02 04 14.1**	**+1.3**
PMAR				***e*S**	**Sg**	**02 04 22.9**	**+1.0**
PMAR				A	A	02 04 23.7	
	164nm,0.2s						
PMAR	**Madeira**	**0.82**	**324**	P	**Pn**	**02 04 14.0**	**+1.2**
PMAR				S	**Sg**	**02 04 23.4**	**+1.5**
PMPS	**Porto Santo**	**0.99**	**0**	⇓*i*P	**Pg**	**02 04 14.6**	**+0.2**
PMPS				***e*S**	**Sg**	**02 04 24.6**	**-2.8**
PMPS				A	A	02 04 25.1	
	34nm,0.2s						
PMPST	**Porto Santo, M**	**1.01**	**0**	***e*P**	**Pn**	**02 04 16.0**	**+0.7**
PMPST				***e*S**	**Sg**	**02 04 26.4**	**-1.7**
PMPST				A	A	02 04 29.1	
	46nm,0.7s						
CJED	**Jedey, El Paso**	**3.71**	**201**	⇑*i*Vmb_V		02 04 54.8	
	2μm,SNR=1.3						
CJED				S	**Sn**	**02 05 35.1**	**-1.1**
CGUI	**Guimar, Teneri**	**3.73**	**181**	⇑*i*Vmb_V		02 04 55.8	
	991nm,SNR=1.0						
CGUI				S	**Sn**	**02 05 35.5**	**-1.1**
CNOR	**Icod de los Vi**	**3.75**	**184**	P	**Pn**	**02 04 55.7**	**+2.7**
CNOR				S	**Sn**	**02 05 36.5**	**-0.6**
CDOS	**Garachico, Isl**	**3.77**	**185**	⇑*i*Vmb_V		02 04 56.4	
	2μm,SNR=1.3						
CDOS				S	**Sn**	**02 05 36.4**	**-1.4**
MACI	**Morro de la Ar**	**3.80**	**182**	P	**Pn**	**02 04 56.6**	**+2.7**
MACI				⇑*i*Vmb_V		02 04 56.6	
	1μm,SNR=1.5						
MACI				S	**Sn**	**02 05 37.4**	**-1.2**
GUIA	**Guia de Isora,**	**3.82**	**185**	P	**Pn**	**02 04 56.8**	**+2.8**
GUIA				⇑*i*Vmb_V		02 04 57.9	
	1μm,SNR=0.9						
GUIA				S	**Sn**	**02 05 38.0**	**-1.0**
CCAN	**Las Canadas**	**3.83**	**184**	P	**Pn**	**02 04 55.3**	**+1.0**
CCAN				S	**Sn**	**02 05 37.9**	**-1.5**
CVIL	**Vilaflor**	**3.90**	**184**	S	**Sn**	**02 05 39.3**	**-1.6**
CADE	**Adeje, Tenerif**	**3.90**	**185**	P	**Pb**	**02 04 59.5**	**-4.6**
CADE				S	**Sn**	**02 05 38.9**	**-2.0**
EGOM	**La Gomera**	**3.96**	**191**	⇑*i*Vmb_V		02 04 59.6	
	730nm,SNR=1.3						
EGOM				S	**Sn**	**02 05 40.0**	**-2.2**
CTFS	**San Miguel de**	**3.97**	**184**	P	**Pn**	**02 04 57.9**	**+1.9**
CTFS				⇑*i*Vmb_V		02 04 58.9	
	730nm,SNR=1.1						
CTFS				S	**Sn**	**02 05 40.8**	**-1.8**
CFUE	**Fuerteventura**	**3.99**	**148**	P	**Pn**	**02 04 59.2**	**+3.0**
CFUE				⇑*i*Vmb_V		02 05 00.9	
	839nm,SNR=2.5						
CFUE				S	**Sn**	**02 05 40.6**	**-2.3**
EOSO	**Osorio**	**4.04**	**170**	P	**Pn**	**02 05 00.3**	**+3.4**
EOSO				S	**Sn**	**02 05 42.4**	**-1.8**
CGIN	**Giniginamar, F**	**4.31**	**152**	P	Pb	02 05 04.7	-6.3
CGIN				⇑*i*Vmb_V		02 05 05.7	
	649nm,SNR=1.1						
CGIN				S	**Sn**	**02 05 47.7**	**-3.2**
OUK	**Oukaimeden**	**7.28**	**95**	P	Pn	02 05 46.4	+4.7
PFVI	**Vila Bisbo**	**8.00**	**49**	P	**Pn**	**02 05 49.7**	**-1.6**
OUZM	**OUZ**	**8.26**	**95**	P	Pn	02 05 59.4	+4.3
LCRM	**LCR**	**9.79**	**77**	P	**Pn**	**02 06 19.1**	**+3.0**
MD31	**MD31**	**9.82**	**82**	P	**Pn**	**02 06 20.0**	**+3.7**
MDT	**Midelt**	**9.95**	**83**	P	Pn	02 06 22.7	+4.6
AKLM	**AKL**	**10.72**	**73**	P	**Pn**	**02 06 31.8**	**+3.0**

NAO ***14*** *02:08:01.7, 33°.93N×22°.67E, h33km, mb4.1*
TIR ***14*** *02:08:32.8, 37°.51N×19°.83E, h50km±24km, Md5.0, Ml4.4*
IDC ***14*** *02:08:34.3±0.8, 37°.74N×19°.99E, h0km, mb4.0/16, mbtmp3.9/29, ML3.5/12, MS3.3/7, Error ellipse: s-maj=15.3km s-min=11.9km az=9.0*
THE ***14*** *02:08:34.7, 37°.68N×19°.74E, h0km, ML4.1/18, Error ellipse: s-maj=0.9km s-min=0.5km az=243.0*
MED_RC ***14*** *02:08:34.0±0.6, 37°.66N×19°.76E, h10km, MW4.1/11, Moment Tensor Solution. Mantle waves: s11,c11; Duration: 1§0 Moment tensor: Scale 10^{15}Nm; M_{rr}0.85±.14; $M_{\theta\theta}$0.15±.21; $M_{\phi\phi}$-1.00±.13; $M_{r\theta}$1.09±.37; $M_{\theta\phi}$0.04±.10; $M_{\phi r}$-1.34±.26; Best double couple: $M_0$1.96000×10^{15} NP1:ϕ_s147.00000°, δ78.00000°, λ74.00000°. NP2:ϕ_s20.00000°, δ20.00000°, λ142.00000°. Principal axes: T 2.0400, Plg55.0000°, Azm37.0000°; N -0.1700, Plg15.0000°, Azm150.0000°; P -1.8700, Plg31.0000°, Azm250.00000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
ATH ***14*** *02:08:35.4, 37°.64N×19°.80E, h5km±1km, ML4.0/19, Manual Solution by M.Charalampakis This location: 2020/01/10 23:55:40 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 8 km*
BEO ***14*** *02:08:36.9±0.6, 37°.80N×19°.56E, h10km, ML4.0/7*
PDG ***14*** *02:08:37.8±0.7, 37°.81N×19°.79E, h29km±1km, ML4.2/11, Error ellipse: s-maj=1.4km s-min=1.5km az=0.0*
NEIC ***14*** *02:08:37.2±1.6, 37°.72N±0°.06×19°.89E±0°.03, h20km±7km, mb4.3/19, Error ellipse: s-maj=9.1km s-min=0.9km az=201.0*
GII ***14*** *02:08:48.5±0.0, 36°.21N×20°.69E, h1km*
ISC 14 02:08:36.4±0.9, 37°.71N±0°.03×19°.83E±0°.03, h19km±3km, n291, σ1§67/357, mb4.1/24, 10C-20D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF3	**Kipouria, Keph**	**0.64**	**40**	P	**Pg**	**02 08 48.1**	**-1.0**
KEF3				S	**Sb**	**02 08 58.5**	**+1.1**
KEF3	**Kipouria, Keph**	**0.64**	**40**	P	**Pb**	**02 08 49.7**	**+0.8**
DMLN	**Damoulianata-K**	**0.68**	**39**	P	**Pg**	**02 08 48.5**	**-1.3**
DMLN				S	**Sb**	**02 09 00.1**	**+1.4**
	19μm,0.5s						
DMLN	**Damoulianata-K**	**0.68**	**39**	P	**Pb**	**02 08 49.9**	**+0.3**
LXRA	**Lixouri, Kepha**	**0.68**	**44**	P	**Pb**	**02 08 49.9**	**+0.2**
LXR1	**Lixouri, Cepha**	**0.69**	**44**	P	**Pg**	**02 08 49.0**	**-0.9**
LXR1				S	**Sb**	**02 09 00.3**	**+1.5**
KEF4	**Livadi, Kephal**	**0.72**	**41**	P	**Pg**	**02 08 49.7**	**-0.9**
KEF4				S	**Sb**	**02 09 01.7**	**+1.9**
KEF4	**Livadi, Kephal**	**0.72**	**41**	P	**Pg**	**02 08 50.3**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.72**	**56**	P	**Pg**	**02 08 49.9**	**-0.7**
PSDA				S	**Sb**	**02 09 01.7**	**+1.9**
	17μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.72**	**56**	P	**Pg**	**02 08 49.1**	**-1.4**
VLS	**Valsamata**	**0.76**	**52**	P	**Pg**	**02 08 50.3**	**-1.0**
VLS				S	**Sb**	**02 09 02.9**	**+1.9**
	15μm,0.5s						
VLS	**Valsamata**	**0.76**	**52**	P	**Pg**	**02 08 50.3**	**-1.0**
VLS				S	**Sb**	**02 09 02.5**	**+1.4**
KRI1	**kERI**	**0.79**	**93**	P	**Pg**	**02 08 50.2**	**-1.6**
KRI1				S	**Sb**	**02 09 03.6**	**+1.8**
	18μm,0.6s						
LTHK	**Lithakia**	**0.80**	**90**	P	**Pg**	**02 08 50.0**	**-2.1**
LTHK				S	**Sb**	**02 09 04.0**	**+1.9**
	19μm,0.7s						
LTHK	**Lithakia**	**0.80**	**90**	P	**Pg**	**02 08 50.3**	**-1.7**
LTHK				S	**Sg**	**02 09 02.3**	**-0.3**
VSK1	**VASILIKIADES**	**0.91**	**40**	P	**Pg**	**02 08 52.8**	**-1.3**
VSK1				S	**Sn**	**02 09 08.0**	**+1.2**
	8μm,0.4s						
FSK	**Fiskardo**	**0.94

SRN	**Sarande**	**2.17**	**3**	P	**Pn**	**02 09 11.9**	**+0.4**
SRN				S	**Sb**	**02 09 41.1**	**-0.5**
MAKR	**Makrakomi, Fth**	**2.23**	**54**	P	**Pn**	**02 09 13.6**	**+1.2**
MAKR	**Makrakomi, Fth**	**2.23**	**54**	P	**Pn**	**02 09 14.5**	**+2.1**
DLFA	**Delphi**	**2.24**	**69**	P	**Pn**	**02 09 13.6**	**+1.1**
THAL	**Thalero**	**2.27**	**81**	P	**Pn**	**02 09 14.2**	**+1.4**
AGG	**Agios Georgios**	**2.36**	**56**		**Pn**	**02 09 15.6**	**+1.4**
AGG	**Agios Georgios**	**2.36**	**56**	P	**Pn**	**02 09 15.9**	**+1.7**
AGG	**Agios Georgios**	**2.36**	**56**	P	**Pn**	**02 09 16.0**	**+1.7**
AXAR	**Agios Charalam**	**2.46**	**64**	P	**Pn**	**02 09 16.9**	**+1.3**
AXAR				S	**Sb**	**02 09 49.5**	**-0.6**
AXAR	**Agios Charalam**	**2.46**	**64**	P	**Pn**	**02 09 17.0**	**+1.3**
LTK	**Loutraki**	**2.50**	**82**	P	**Pn**	**02 09 16.8**	**+0.6**
LOUT	**Loutraki**	**2.50**	**83**	P	**Pn**	**02 09 16.9**	**+0.7**
LSK	**Leskovik**	**2.51**	**14**	P	**Pn**	**02 09 17.6**	**+1.3**
	baz=12						
LSK				S	**Sb**	**02 09 50.6**	**-0.8**
	baz=12						
LSK				AMP			
	comp=N,8.3nm,0.7s,baz=12						
LSK	**Leskovik**	**2.51**	**14**	P	**Pn**	**02 09 16.9**	**+0.6**
THL	**Klokotos Trika**	**2.52**	**42**	P	**Pn**	**02 09 17.7**	**+1.3**
THL				S	**Sb**	**02 09 50.7**	**-1.0**
THL	**Klokotos Trika**	**2.52**	**42**	P	**Pn**	**02 09 18.5**	**+2.2**
KPRO	**Kipourio**	**2.54**	**28**	P	**Pn**	**02 09 17.9**	**+1.2**
KPRO	**Kipourio**	**2.54**	**28**	P	**Pn**	**02 09 18.8**	**+2.1**
SCTE	**Santa Cesarea**	**2.58**	**336**		**Pn**	**02 09 17.8**	**+0.5**
SCTE	**Santa Cesarea**	**2.58**	**336**	P	**Pn**	**02 09 17.9**	**+0.7**
	baz=336						
SCTE	**Santa Cesarea**	**2.58**	**336**	P	**Pn**	**02 09 17.9**	**+0.7**
VLI	**Veliai**	**2.67**	**111**	P	**Pn**	**02 09 19.7**	**+1.2**
PENT	**Pentalofos**	**2.68**	**22**	P	**Pn**	**02 09 21.1**	**+2.4**
TYRN	**Tyrnavos**	**2.74**	**43**	P	**Pn**	**02 09 20.9**	**+1.5**
VIL2	**Platees**	**2.76**	**79**	P	**Pn**	**02 09 20.5**	**+0.8**
VLO	**Vlora**	**2.76**	**355**		**Pn**	**02 09 20.6**	**+0.9**
VLO	**Vlora**	**2.76**	**355**	P	**Pn**	**02 09 20.8**	**+1.1**
	baz=356						
VLO				AMP			
	comp=N,6.5nm,0.6s,baz=356						
VILL	**Villia**	**2.79**	**80**	P	**Pn**	**02 09 20.6**	**+0.5**
LRSO	**Larissa Observ**	**2.80**	**45**	P	**Pn**	**02 09 21.7**	**+1.5**
LRSO	**Larissa Observ**	**2.80**	**45**	P	**Pn**	**02 09 21.7**	**+1.5**
NEST	**Nestorio**	**2.86**	**19**	P	**Pn**	**02 09 23.8**	**+2.6**
KBN	**Korca**	**3.00**	**14**		**Pn**	**02 09 23.7**	**+0.7**
KBN	**Korca**	**3.00**	**14**	P	**Pn**	**02 09 24.8**	**+1.8**
	baz=13						
KBN				S	**Sn**	**02 10 02.9**	**+4.4**
	baz=13						
KBN				AMP			
	comp=N,2.5nm,0.8s,baz=13						
KBN	**Korca**	**3.00**	**14**	P	**Pn**	**02 09 25.0**	**+1.9**
ATHU	**Athens Univers**	**3.14**	**84**	P	**Pn**	**02 09 25.4**	**+0.4**
VLY	**Voula,Athens**	**3.14**	**86**	P	**Pn**	**02 09 24.9**	**-0.1**
CEL	**Celeste**	**3.16**	**281**		**Pn**	**02 09 26.7**	**+1.6**
PTL	**Penteli**	**3.21**	**83**	P	**Pn**	**02 09 27.1**	**+1.2**
DION	**Dionisos Attik**	**3.27**	**82**	P	**Pn**	**02 09 27.6**	**+0.9**
DION	**Dionisos Attik**	**3.27**	**82**	P	**Pn**	**02 09 27.8**	**+1.1**
FNA	**Florina**	**3.29**	**21**		**Pn**	**02 09 27.1**	**+0.1**
FNA	**Florina**	**3.29**	**21**	P	**Pn**	**02 09 28.9**	**+1.8**
	baz=19						
FNA				S	**Sn**	**02 10 10.6**	**+4.8**
	baz=19						
FNA	**Florina**	**3.29**	**21**	P	**Pn**	**02 09 28.4**	**+1.3**
FNA	**Florina**	**3.29**	**21**	*e*Pn	**Pn**	**02 09 28.7**	**+1.6**
FNA	**Florina**	**3.29**	**21**	P	**Pn**	**02 09 28.7**	**+1.6**
OHR	**Ohrid**	**3.48**	**12**	*e*Pn	**Pn**	**02 09 32.1**	**+2.5**
OHR				*e*Sn	**Sn**	**02 10 12.8**	**+2.5**
OHR	**Ohrid**	**3.48**	**12**	*i* Pn	**Pn**	**02 09 32.3**	**+2.7**
TIR	**Tirane**	**3.63**	**0**		**Pn**	**02 09 32.6**	**+1.0**
TIR	**Tirane**	**3.63**	**0**	P	**Pn**	**02 09 33.1**	**+1.4**
	baz=0.0						
TIR				AMP			
	comp=N,0.9nm,0.7s,baz=0.0						
TIR	**Tirane**	**3.63**	**0**	*e*Pn	**Pn**	**02 09 33.0**	**+1.4**
THE	**Thessaloniki**	**3.80**	**39**	P	**Pn**	**02 09 35.3**	**+1.3**
	baz=37						
CUC	**Castrococco**	**3.87**	**307**	Pn	**Pn**	**02 09 36.0**	**+1.0**
CUC	**Castrococco**	**3.87**	**307**	P	**Pn**	**02 09 36.9**	**+1.9**
OUR	**Ouranopolis**	**4.16**	**50**	P	**Pn**	**02 09 39.6**	**+0.7**
VAY	**Valandovo**	**4.18**	**30**	*e*Pn	**Pn**	**02 09 40.3**	**+1.1**
VAY	**Valandovo**	**4.18**	**30**	*i* Pn	**Pn**	**02 09 40.1**	**+1.0**
KNT	**Kendrikon**	**4.18**	**34**	P	**Pn**	**02 09 40.3**	**+1.0**
ULC	**Ulcinj**	**4.27**	**354**	*e*Pn	**Pn**	**02 09 40.8**	**+0.3**
ULC				*i* Sn	**Sn**	**02 10 27.4**	**-2.4**
VAE	**Valguarnera**	**4.31**	**269**	Pn	**Pn**	**02 09 43.1**	**+2.1**
	comp=N,1.6nm,0.3s,baz=56,slow=15,SNR=16						
VAE				Sn	**Sn**	**02 10 35.0**	**+4.2**
	comp=N,2.2nm,0.3s,baz=20,slow=9.6,SNR=2.3						
	comp=N,5.7nm,0.3s						
STIP	**Stip**	**4.37**	**24**	*i* Pn	**Pn**	**02 09 44.2**	**+2.3**
RAFF	**Raffo Rosso**	**4.38**	**265**		**Pn**	**02 09 42.5**	**+0.6**
SKO	**Skopje**	**4.43**	**16**	*e*Pn	**Pn**	**02 09 44.2**	**+1.6**
SKO	**Skopje**	**4.43**	**16**	*i* Pn	**Pn**	**02 09 43.4**	**+0.7**
SRS	**Serrai**	**4.48**	**39**	P	**Pn**	**02 09 44.1**	**+0.8**
SRS	**Serrai**	**4.48**	**39**	*e*Pn	**Pn**	**02 09 44.1**	**+0.8**
DRME	**Dracevica, Mon**	**4.50**	**354**	*e*Pn	**Pn**	**02 09 43.0**	**-0.5**
DRME	**Dracevica, Mon**	**4.50**	**354**	*e*Pn	**Pn**	**02 09 43.5**	**0.0**
DRME				*i* Sn	**Sn**	**02 10 33.2**	**-2.1**
BUM	**Brajici-Budva**	**4.64**	**351**	⇓*i* Pn	**Pn**	**02 09 45.8**	**+0.2**
BUM				*i* Sn	**Sn**	**02 10 36.3**	**-2.6**
BCI	**Bajram Curri**	**4.65**	**2**	P	**Pn**	**02 09 46.9**	**+1.2**
	baz=2.0						
BCI				AMP			
	comp=N,1.4nm,0.7s,baz=2.0						
WDD	**Wied Dalam**	**4.65**	**248**		**Pn**	**02 09 47.3**	**+1.7**
PEHC	**Pehcevo**	**4.70**	**29**	*i* Pn	**Pn**	**02 09 47.3**	**+0.8**
PDG	**Podgorica**	**4.73**	**355**	Pn	**Pn**	**02 09 46.5**	**-0.3**
PDG	**Podgorica**	**4.73**	**355**	*e*Pn	**Pn**	**02 09 46.8**	**0.0**
PDG				*e*Sn	**Sn**	**02 10 40.1**	**-1.0**
PDG	**Podgorica**	**4.73**	**355**	*e*Pn	**Pn**	**02 09 46.1**	**-0.7**
PDG	**Podgorica**	**4.73**	**355**	*e*Pn	**Pn**	**02 09 47.0**	**+0.2**
PDG				*i* Sn	**Sn**	**02 10 38.5**	**-2.6**
IDI	**Anoyia**	**4.74**	**119**	⇑P	**P**	**02 10 41.2**	**0.0**
IDI	**Anoyia**	**4.74**	**119**	Pn	**Pn**	**02 09 45.9**	**-1.1**
IDI	**Anoyia**	**4.74**	**119**	Pn	**Pn**	**02 09 47.6**	**+0.7**
	comp=N,1.9nm,0.3s,baz=302,slow=18,SNR=34						
IDI				Sn	**Sn**	**02 10 40.0**	**-1.5**
	comp=N,17nm,0.3s,baz=350,slow=22,SNR=13						
IDI				LR	LR	02 12 03.9	
	comp=N,128nm,19.7s,baz=290,slow=45						
	comp=N,6.7nm,0.4s						
KKB	**Krupnik**	**4.84**	**31**	*i* P	**Pn**	**02 09 49.6**	**+1.3**
PVY	**Plav**	**4.88**	**1**	*e*Pn	**Pn**	**02 09 49.4**	**+0.5**
PVY				*i* Sn	**Sn**	**02 10 42.2**	**-2.7**
CEME	**Cevo**	**4.88**	**352**	⇑*i* Pn	**Pn**	**02 09 47.5**	**-1.4**
CEME				*i* Sn	**Sn**	**02 10 41.5**	**-3.3**
MMB	**Musomishta**	**4.88**	**37**	*i* P	**Pn**	**02 09 50.6**	**+1.7**
PRVS	**Prvonek**	**5.09**	**19**	*e*Pn	**Pn**	**02 09 52.3**	**+0.6**
NKME	**Niksic**	**5.09**	**353**	⇑*i* Pn	**Pn**	**02 09 50.8**	**-1.0**
NKME				*i* Sn	**Sn**	**02 10 47.1**	**-3.0**
SGRT	**San Giovanni R**	**5.12**	**323**		**Pn**	**02 09 52.5**	**+0.3**
TREB	**Trebinje**	**5.12**	**348**	*e*Pn	**Pn**	**02 09 51.3**	**-0.9**
TREB				*e*Sn	**Sn**	**02 10 47.7**	**-3.1**
TREB	**Trebinje**	**5.12**	**348**	*e*Pn	**Pn**	**02 09 50.8**	**-1.4**
KOME	**Kolasin**	**5.14**	**357**	⇓*i* Pn	**Pn**	**02 09 53.0**	**+0.6**
KOME				*i* Sn	**Sn**	**02 10 48.4**	**-2.9**
IVA	**Berane**	**5.15**	**1**	⇓*i* Pn	**Pn**	**02 09 53.4**	**+0.7**
IVA				*i* Sn	**Sn**	**02 10 48.6**	**-3.0**
BRY	**Bratogost**	**5.28**	**350**	*e*Pn	**Pn**	**02 09 52.6**	**-1.8**
BRY	**Bratogost**	**5.28**	**350**	⇓*i* Pn	**Pn**	**02 09 54.7**	**+0.3**
BRY				*i* Sn	**Sn**	**02 10 51.4**	**-3.3**
BARS	**Barje**	**5.32**	**16**	*e*Pn	**Pn**	**02 09 55.0**	**+0.1**
STON	**Ston**	**5.40**	**343**	*e*Pn	**Pn**	**02 09 55.6**	**-0.4**
STON				*e*Sn	**Sn**	**02 10 52.3**	**-5.3**
STON	**Ston**	**5.40**	**343**	*e*Pn	**Pn**	**02 09 55.7**	**-0.3**
RZN	**Rozhen**	**5.49**	**42**	*i* P	**Pn**	**02 09 58.2**	**+0.8**
SJES	**Sjenica**	**5.54**	**1**	*e*Pn	**Pn**	**02 09 59.3**	**+1.3**
SJES				*e*Sn	**Sn**	**02 11 00.6**	**-0.7**
SJES	**Sjenica**	**5.54**	**1**	*e*Pn	**Pn**	**02 09 58.2**	**+0.2**
VTS	**Vitosha**	**5.55**	**27**	*e*Pn	**Pn**	**02 09 59.2**	**+1.0**
VTS				*e*Sn	**Sn**	**02 11 00.9**	**-0.6**
SELS	**Selova**	**5.59**	**10**	*e*Pn	**Pn**	**02 09 58.2**	**-0.4**
SELS				*e*Sn	**Sn**	**02 11 00.4**	**-1.9**
RDO	**Rodhopi**	**5.59**	**50**	Pn	**Pn**	**02 09 59.2**	**+0.6**
PLE	**Pljevlja**	**5.62**	**357**	⇓*i* Pn	**Pn**	**02 09 59.0**	**-0.1**
PLE				*i* Sn	**Sn**	**02 10 59.6**	**-3.6**
NEVS	**Nevesinje**	**5.73**	**347**	*e*Pn	**Pn**	**02 10 01.5**	**+0.9**
ALN	**Alexandroupoli**	**5.78**	**55**	Pn	**Pn**	**02 10 01.8**	**+0.7**
KDZ	**Kurdzhali**	**5.78**	**46**	*i* P	**Pn**	**02 10 01.9**	**+0.8**
PLD	**Plovdiv**	**5.82**	**39**	*e*Pn	**Pn**	**02 10 02.6**	**+0.9**
RUDO	**Rudo**	**5.91**	**357**	*e*Pn	P	02 10 01.6	-3.9
GRUS	**Gruza**	**6.21**	**6**	*e*Pn	**Pn**	**02 10 07.1**	**+0.1**
GRUS				*e*Sn	**Sn**	**02 11 15.6**	**-1.8**
INTR	**Introdacqua**	**6.26**	**315**	Pn	**Pn**	**02 10 09.4**	**+1.6**
ZAGS	**Zajecar**	**6.36**	**16**	*e*Pn	**Pn**	**02 10 08.8**	**-0.3**
MPEP	**Malo Peshtene**	**6.38**	**27**	P	**Pn**	**02 10 09.8**	**+0.5**
DIVS	**Divibare**	**6.38**	**1**	Pn	**Pn**	**02 10 09.3**	**-0.2**
DIVS	**Divibare**	**6.38**	**1**	*e*Pn	**Pn**	**02 10 09.2**	**-0.3**
DIVS				*e*Sn	**Sn**	**02 11 18.5**	**-3.4**
DIVS	**Divibare**	**6.38**	**1**	*e*Pn	**Pn**	**02 10 09.0**	**-0.5**
TRUS	**Trudelj**	**6.52**	**4**	*e*Pn	**Pn**	**02 10 11.3**	**0.0**
PLVB	**Pleven**	**6.74**	**31**	⇑P	**Pn**	**02 10 15.4**	**+1.0**
TEKS	**Tekeris**	**6.83**	**358**	*e*Pn	**Pn**	**02 10 14.8**	**-0.9**
TEKS				*e*Sn	**Sn**	**02 11 28.2**	**-4.7**
TEKS	**Tekeris**	**6.83**	**358**	*e*Pn	**Pn**	**02 10 14.4**	**-1.3**
ELND	**Elena**	**6.96**	**40**	⇓P	**Pn**	**02 10 17.9**	**+0.5**
MGRS	**Mrkonjic Grad**	**7.01**	**344**	*e*Pn	**Pn**	**02 10 18.3**	**+0.2**
A050A	**Klekovaca**	**7.21**	**341**	*e*Pn	**Pn**	**02 10 21.5**	**+0.7**
NRCA	**Norcia**	**7.25**	**317**		**Pn**	**02 10 23.3**	**+1.9**
BLY	**Banja Luka**	**7.31**	**345**	*e*Pn	**Pn**	**02 10 22.3**	**+0.2**
BLY				*e*Sn	**Sn**	**02 11 40.7**	**-3.8**
BLY	**Banja Luka**	**7.31**	**345**	*e*Pn	**Pn**	**02 10 22.3**	**+0.2**
FDMO	**Fiordimonte**	**7.40**	**318**		**Pn**	**02 10 23.5**	**+0.1**
FRGS	**Fruska Gora**	**7.44**	**360**	*e*Pn	**Pn**	**02 10 22.8**	**-1.2**
FRGS				*e*Sn	**Sn**	**02 11 42.4**	**-5.4**
FRGS	**Fruska Gora**	**7.44**	**360**	*e*Pn	**Pn**	**02 10 22.7**	**-1.2**
RAZG	**Razgrad**	**7.74**	**39**	⇓P	**Pn**	**02 10 29.1**	**+1.0**
GZR	**Gura Zlata**	**7.99**	**15**	⇓P	**Pn**	**02 10 34.5**	**+3.0**
BZS	**Buzias**	**8.01**	**9**	*e*Pn	**Pn**	**02 10 30.6**	**-1.2**
BZS				*e*Sn	**Sn**	**02 11 57.0**	**-4.8**
ELL	**Elmali**	**8.10**	**94**	Pn	**Pn**	**02 10 33.9**	**+0.8**
LOT	**Lotru**	**8.27**	**20**	⇓P	**Pn**	**02 10 35.7**	**+0.2**
ARR	**Arges**	**8.45**	**24**	⇓P	**Pn**	**02 10 38.3**	**+0.4**
BOJS	**Bojanci**	**8.50**	**338**	*e*Pn	**Pn**	**02 10 39.0**	**+0.5**
MORH	**Mrgy, Hungar**	**8.54**	**354**	*e*Pn	**Pn**	**02 10 38.1**	**-0.9**
MORH				*e*Sn	**Sn**	**02 12 07.5**	**-7.3**
KEST	**Kesra**	**8.65**	**260**	Pn	**Pn**	**02 10 41.3**	**+0.7**
KEST	**Kesra**	**8.65**	**260**	Pn	**Pn**	**02 10 42.4**	**+1.8**
	comp=N,0.3nm,0.3s,baz=94,slow=6.8,SNR=9.8						
KEST				Sn	**Sn**	**02 12 15.4**	**-2.3**
	comp=N,0.1nm,0.3s,baz=103,slow=23,SNR=1.1						
KEST				LR	LR	02 14 39.3	
	comp=N,127nm,18.2s,baz=153,slow=42						
	comp=N,4.2nm,0.7s						
VOIR		**8.65**	**25**	⇑P	**Pn**	**02 10 41.1**	**+0.4**
CRES	**Cresnjev**	**8.74**	**339**	*e*Pn	**Pn**	**02 10 41.3**	**-0.5**
ISR	**Istrita**	**8.95**	**32**	⇑P	**Pn**	**02 10 47.2**	**+2.4**
CEY	**Cerknica**	**8.98**	**335**	*e*Pn	**Pn**	**02 10 45.7**	**+0.6**
MLR	**Muntele Rosu**	**9.02**	**29**	⇑P	**Pn**	**02 10 49.0**	**+3.3**
MLR	**Muntele Rosu**	**9.02**	**29**	Pn	**Pn**	**02 10 46.0**	**+0.2**
MLR	**Muntele Rosu**	**9.02**	**29**	Pn	**Pn**	**02 10 47.5**	**+1.8**
	comp=N,3.1nm,0.5s,baz=254,slow=15						
MLR				Sn	**Sn**	**02 12 21.7**	**-5.1**
DOPR	**Dopca**	**9.23**	**25**	⇓P	**Pn**	**02 10 49.0**	**+0.5**
HARR	**Harsova**	**9.26**	**39**	⇑P	**Pn**	**02 10 49.2**	**+0.3**
TIRR	**Tirgusor**	**9.35**	**41**	Pn	**Pn**	**02 10 50.6**	**+0.5**
BISRR	**Bisoca**	**9.37**	**31**	⇓P	**Pn**	**02 10 52.3**	**+1.8**
COVR	**Voineasa-Covas**	**9.41**	**28**	⇓P	**Pn**	**02 10 53.2**	**+2.2**
BOSR	**Bodos**	**9.42**	**26**	⇓P	**Pn**	**02 10 52.1**	**+1.0**
PLOR	**Plostina**	**9.59**	**30**	⇓P	**Pn**	**02 10 55.9**	**+2.4**
OBKA	**Obir**	**9.62**	**338**	*i* Pn	**Pn**	**02 10 55.1**	**+1.1**
	comp=N,1.9nm,0.2s						
OBKA	**Obir**	**9.62**	**338**	*e*Pn	**Pn**	**02 10 53.5**	**-0.5**
TPGR	**Topolog**	**9.62**	**39**	⇑P	**Pn**	**02 10 54.4**	**+0.5**
VRI	**Vrincioaia**	**9.63**	**30**	⇓P	**Pn**	**02 10 56.5**	**+2.4**
SOKA	**Soboth**	**9.64**	**340**	*e*Pn	**Pn**	**02 10 53.9**	**-0.3**
	comp=N,8.7nm,0.4s						
CFR	**Carcaliu**	**9.72**	**37**	⇓P	**Pn**	**02 10 55.6**	**+0.5**
GHRR		**10.07**	**32**	⇓P	**Pn**	**02 11 01.5**	**+1.5**
VARL	**Varlezi**	**10.13**	**34**	⇓P	**Pn**	**02 11 02.5**	**+1.7**
VLDR	**Vladesti**	**10.19**	**35**	⇓P	**Pn**	**02 11 03.4**	**+1.7**
CTI	**Castel Tesino**	**10.32**	**326**		**Pn**	**02 11 03.1**	**-0.4**
ABTA	**Abfaltersbach**	**10.53**	**331**	Pn	**Pn**	**02 11 09.9**	**+3.6**
	comp=N,0.5nm,0.2s						
BURAR	**Bucovina Array**	**10.66**	**20**	⇑P	Pn	02 11 00.8	-7.3
MOA	**Molln**	**10.92**	**340**	*i* Pn	**Pn**	**02 11 12.4**	**+0.8**
	comp=N,3.0nm,0.4s						
BIOA	**Bad Ischl, Aus**	**10.96**	**337**	*e*Pn	**Pn**	**02 11 13.6**	**+1.4**
	comp=N,0.5nm,0.2s						
BRTR	**Keskin Array B**	**10.98**	**75**	LR	LR	02 15 48.1	
	comp=N,157nm,21.9s,baz=290,slow=40						
WTTA	**Wattenberg**	**11.29**	**330**	*e*Pn	Pn	02 11 22.9	+6.0
	comp=N,0.9nm,0.2s						
WTTA				*e*Sn	**Sn**	**02 13 21.1**	**-1.5**
	comp=N,7.9nm,0.7s						
WATA	**Walderalm**	**11.37**	**330**	*e*Sn	**Sn**	**02 13 24.1**	**-0.5**
	comp=N,2.2nm,0.3s						
SQTA	**Sankt Quirin**	**11.43**	**329**	*i* Pn	**Pn**	**02 11 23.3**	**+4.6**
	comp=N,0.6nm,0.2s						
SQTA				*e*Sn	**Sn**	**02 13 24.9**	**-0.9**
	comp=N,5.1nm,0.6s						
FETA	**Feichten**	**11.47**	**327**	*e*Sn	**Sn**	**02 13 24.5**	**-2.5**
	comp=N,1.9nm,0.5s						
MOTA	**Moosalm**	**11.57**	**329**	*e*Sn	**Sn**	**02 13 27.4**	**-2.0**
	comp=N,6.1nm,0.7s						
DAVOX	**Davos/Dischmat**	**11.67**	**324**	Pn	**Pn**	**02 11 24.4**	**+2.3**
	comp=N,0.5nm,0.3s,baz=158,slow=19,SNR=7.0						
DAVOX				Sn	**Sn**	**02 13 26.0**	**-5.9**
	comp=N,0.3nm,0.3s,baz=331,slow=23,SNR=2.2						
	comp=N,1.4nm,0.3s						
CKRC	**Cesky Krumlov**	**11.80**	**342**	*e*PN	**Pn**	**02 11 23.2**	**-0.5**
RETA	**Reutte**	**11.82**	**329**	*e*Sn	**Sn**	**02 13 33.8**	**-1.7**
	comp=N,3.0nm,0.4s						
GERES	**GERESS Array B**	**11.98**	**340**	Pn	**Pn**	**02 11 26.5**	**+0.3**
	comp=N,0.4nm,0.3s,baz=155,slow=14,SNR=4.3						
GERES				Sn	Sn	02 13 31.3	-8.1
	comp=N,0.4nm,0.3s,baz=147,slow=22,SNR=2.3						
	comp=N,0.9nm,0.5s						
KHC	**Kasperske Hory**	**12.28**	**340**	*e*PN	**Pn**	**02 11 30.0**	**-0.2**
KHC				*e*SN	Sn	02 13 36.8	-10
OSTC	**Ostas**	**13.10**	**350**	*e*PN	Pn	02 11 34.1	-7.3
MMAI	**Mount Meron Ar**	**13.54**	**106**	Pn	**Pn**	**02 11 45.0**	**-2.6**
	comp=N,0.7nm,0.3s,baz=292,slow=16,SNR=1.5						
MMAI				Sn	Sn	02 14 06.9	-11
	comp=N,1.3nm,0.3s,baz=315,slow=26,SNR=5.3						
	comp=N,0.3nm,0.2s						
KZIT	**Kziot**	**13.81**	**115**	Pn	**Pn**	**02 11 48.7**	**-2.6**
KZIT				Sn	Sn	02 14 10.3	-14
YTIR	**Yattir**	**14.10**	**112**	Pn	**Pn**	**02 11 54.9**	**-0.3**
DSI	**Dead Sea**	**14.19**	**111**	Pn	**Pn**	**02 11 56.0**	**-0.3**
DSI				Sn	Sn	02 14 21.7	-12
MSBI	**Mazada**	**14.30**	**112**	Pn	**Pn**	**02 11 55.2**	**-2.6**
GHAJ	**Ghor Haditha**	**14.46**	**112**		**Pn**	**02 11 59.6**	**-0.5**
KRMI	**Paran Flat**	**14.49**	**117**	Pn	**Pn**	**02 11 57.3**	**-3.3**
PRNI	**Paran**	**14.56**	**116**	Pn	**Pn**	**02 11 59.0**	**-2.5**
PRNI				Sn	Sn	02 14 28.9	-13
ARPR	**Arapgir-MALATY**	**14.58**	**79**	P	**P**	**02 12 06.4**	**-1.9**
AKASG	**Malin Array Be**	**14.61**	**24**	Pn	**Pn**	**02 12 00.6**	**-1.4**
	comp=N,0.1nm,0.3s,baz=209,slow=12,SNR=2.4						
	comp=N,0.7nm,0.5s						
HRFI	**Mount Harif**	**14.76**	**117**	Pn	**Pn**	**02 12 02.3**	**-1.9**
HRFI				Sn	Sn	02 14 32.4	-15
MBRI	**Mt Berech**	**14.81**	**118**	Pn	**Pn**	**02 12 02.2**	**-2.8**
EIL	**Elat**	**14.91**	**118**	Pn	**Pn**	**02 12 03.4**	**-2.9**
EIL	**Elat**	**14.91**	**118**	Pn	**Pn**	**02 12 04.8**	**-1.5**
	comp=N,0.5nm,0.3s,baz=322,slow=18,SNR=14						
EIL				Sn	Sn	02 14 33.2	-18
	comp=N,0.8nm,0.3s,baz=33,slow=21,SNR=6.6						
EIL				LR	LR	02 20 29.0	
	comp=N,62nm,18.9s,baz=247,slow=48						
	comp=N,3.3nm,0.5s						
ASF	**Jabal al Asfar**	**15.04**	**106**	Pn	**Pn**	**02 12 06.2**	**-1.9**
	comp=N,0.1nm,0.3s,baz=138,slow=14,SNR=1.7						
ASF				Sn	**Sn**	**02 14 54.1**	**-0.1**
	comp=N,0.2nm,0.3s,baz=71,slow=18,SNR=1.4						
	comp=N,1.6nm,0.7s						
GURO	**Guroymak-BITLI**	**17.49**	**80**	Pn	**Pn**	**02 12 37.7**	**-1.7**
PABE	**Paberze**	**18.02**	**8**		**Pn**	**02 12 44.5**	**-1.1**
PABE				IAmb	IAmb	02 13 02.7	
	comp=Z,78nm,1.5s						
KBZ	**Khabaz**	**18.46**	**64**	P	**P**	**02 12 51.4**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=266,slow=8.2,SNR=2.5						
	comp=Z,2.5nm,1.0s						
ESDC	**Sonseca Array**	**18.67**	**283**	P	**Pn**	**02 12 55.4**	**+1.6**
	baz=83,slow=9.9,SNR=5.9						
	comp=Z,2.4nm,1.1s						
ONI	**Oni**	**18.68**	**67**	P	**P**	**02 12 52.8**	**-0.7**
PAB	**San Pablo**	**18.97**	**283**	P	**Pn**	**02 12 57.8**	**+0.3**
PAB				IAmb	IAmb	02 13 12.3	
	comp=Z,11nm,1.5s						
GNI	**Garni**	**19.52**	**75**	P	**P**	**02 13 03.5**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=287,slow=17,SNR=1.9						
GNI				LR	LR	02 21 52.0	
	comp=Z,103nm,19.1s,baz=314,slow=41						
	comp=Z,1.4nm,0.5s						
OBN	**Obninsk**	**20.79**	**28**	P	**P**	**02 13 17.2**	**+0.9**
OBN				IAmb	IAmb	02 13 32.4	
	comp=Z,21nm,1.3s						
MTE	**Manteigas**	**21.39**	**286**	P	**P**	**02 13 24.9**	**+1.9**
MTE				IAmb	IAmb	02 13 27.0	
	comp=Z,15nm,1.0s						
HFS	**Hagfors**	**22.78**	**352**	P	**P**	**02 13 37.7**	**+0.1**
	comp=Z,2.8nm,0.5s,baz=156,slow=11,SNR=16						
	comp=Z,2.8nm,0.5s						
EKA	**Eskdalemuir Ar**	**23.50**	**326**	P	**P**	**02 13 46.0**	**+1.1**
	comp=Z,3.7nm,0.8s,baz=121,slow=9.8,SNR=5.9						
	comp=Z,3.7nm,0.8s						
NC602	**NORSAR Array S**	**23.63**	**350**	P	**P**	**02 13 45.7**	**-0.4**
NC602				IAmb	IAmb	02 13 57.9	
	comp=Z,12nm,1.1s						
NB2	**NORSAR Subarra**	**23.97**	**350**	P	**P**	**02 13 50.0**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=160,slow=9.3						
NOA	**NORSAR Array B**	**23.97**	**350**	P	**P**	**02 13 49.8**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=160,slow=8.9,SNR=6.9						
	comp=Z,2.7nm,0.9s						
NC405	**NORSAR Array S**	**23.97**	**350**	P	**P**	**02 13 49.9**	**+0.5**
NC405				IAmb	IAmb	02 14 03.8	
	comp=Z,29nm,1.4s						
FINES	**FINESS Array B**	**24.07**	**7**	P	**P**	**02 13 50.1**	**-0.3**
	comp=Z,3.2nm,0.6s,baz=180,slow=8.3,SNR=14						
	comp=Z,3.2nm,0.6s						
NC303	**NORSAR Array S**	**24.13**	**350**	P	**P**	**02 13 51.6**	**+0.7**
TOA0	**Torodi Ar. Sit**	**29.33**	**218**	P	**P**	**02 14 38.8**	**+0.8**
TOA0

OHAK	Old Harbor	1.19	172	P		Pn	02 12 44.9	-0.5	
OHAK	Old Harbor	1.19	172	P		Pn	02 12 45.1	-0.3	
	baz=352								
CNTC	Contact Creek	1.22	265			Pn	02 12 45.6	-0.3	
Q17K	Contact Creek	1.22	265	P		Pn	02 12 45.6	-0.3	
	baz=83								
P19K	Oil Pt	1.27	8			Pn	02 12 46.9	+0.5	
P19K				IAML			02 13 09.0		
	comp=E,2µm,0.5s								
P19K				IAML			02 13 09.0		
	comp=N,2µm,0.5s								
P19K	Oil Pt	1.27	8	P		Pn	02 12 46.9	+0.5	
	baz=189								
P18K	Big Mountain,	1.31	320			Pn	02 12 46.5	-0.6	
P18K	Big Mountain,	1.31	320			Sn	02 13 03.1	-0.5	
P18K	Big Mountain,	1.31	320	P		Pn	02 12 46.4	-0.6	
	baz=139								
P18K				S		Sn	02 13 03.2	-0.5	
	baz=139								
PLK3	Peulik 3	1.59	245			Pn	02 12 51.0	+0.2	
ILSW	Iliamna Southw	1.60	8			Pn	02 12 51.0	0.0	
ILSW	Iliamna Southw	1.60	8	IAML			02 13 11.7		
	comp=E,716nm,0.4s								
ILSW				IAML			02 13 11.8		
	comp=N,505nm,0.4s								
HOM	Homer	1.61	38			Pn	02 12 51.5	+0.6	
HOM	Homer	1.61	38	P		Pn	02 12 51.5	+0.6	
	baz=219								
Q16K	King Salmon	1.63	281			Pn	02 12 51.1	-0.1	
Q16K	King Salmon	1.63	281	P		Pn	02 12 51.1	-0.1	
	baz=99								
IVE	Iliamna Volcan	1.65	10			Pn	02 12 51.6	+0.1	
CNPM	China Poot	1.66	46			Pn	02 12 52.2	+0.6	
CNPM				IAML			02 13 17.8		
	comp=E,1µm,0.5s								
CNPM				IAML			02 13 17.9		
	comp=N,875nm,0.7s								
R17K	Ugashik Creek	1.67	244			Pn	02 12 52.0	+0.2	
R17K						Sn	02 13 12.1	-0.2	
R17K	Ugashik Creek	1.67	244	IAML			02 13 13.4		
	comp=N,1µm,0.6s								
R17K				IAML			02 13 13.5		
	comp=E,873nm,1.1s								
R17K	Ugashik Creek	1.67	244	P		Pn	02 12 52.0	+0.2	
	baz=62								
R17K				S		Sn	02 13 12.1	-0.2	
	baz=62								
ILW	Iliamna West	1.68	8			Pn	02 12 52.1	+0.1	
O18K	Koktuh Hills	1.68	331	Pn		Pn	02 12 51.8	-0.2	
O18K				IAML			02 13 13.3		
	comp=N,597nm,0.8s								
O18K	Koktuh Hills	1.68	331	P		Pn	02 12 51.7	-0.2	
	baz=150								
P17K	Kvichak River	1.69	299			Pn	02 12 51.9	0.0	
P17K	Kvichak River	1.69	299	P		Pn	02 12 51.9	0.0	
	baz=118								
PLK1	Peulik 1	1.71	251			Pn	02 12 52.4	+0.1	
O20K	Slope Mountain	1.76	16			Pn	02 12 53.6	+0.6	
O20K	Slope Mountain	1.76	16	P		Pn	02 12 53.6	+0.6	
	baz=197								
O19K	Port Alsworth	1.84	349			Pn	02 12 54.1	+0.1	
O19K	Port Alsworth	1.84	349	IAML			02 13 17.1		
	comp=N,1µm,0.5s								
O19K	Port Alsworth	1.84	349	P		Pn	02 12 54.1	+0.1	
	baz=168								
SII	Sitkinak Islan	1.88	190			Pn	02 12 54.0	-0.5	
SII				IAML			02 13 26.6		
	comp=N,690nm,0.6s								
SII				IAML			02 13 28.7		
	comp=E,858nm,0.6s								
SII	Sitkinak Islan	1.88	190	P		Pn	02 12 54.3	-0.2	
SII	Sitkinak Islan	1.88	190	P		Pn	02 12 54.0	-0.5	
	baz=9.3								
BRLK	Bradley Lake	1.95	44			Pn	02 12 55.3	-0.3	
BRLK				IAML			02 13 25.1		
	comp=N,559nm,0.4s								
BRLK				IAML			02 13 25.2		
	comp=E,552nm,0.5s								
BRSE	Bradley Lake S	1.99	46			Pn	02 12 55.9	-0.2	
BRSE	Bradley Lake S	1.99	46	P		Pn	02 12 55.9	-0.2	
	baz=229								
RED	Redoubt Volcan	2.07	11			Pn	02 12 57.4	+0.2	
RSO	Redoubt South	2.11	11			Pn	02 12 58.2	+0.3	
RDWB	Redoubt West	2.13	10			Pn	02 12 58.2	+0.1	
NCT	North Crescent	2.19	8			Pn	02 12 59.4	+0.5	
RDJH	Redoubt Jeurge	2.23	10			Pn	02 13 00.1	+0.6	
DFR	Drift River	2.25	11			Pn	02 13 00.0	+0.4	
RDT	Redoubt	2.26	15			Pn	02 13 00.1	+0.3	
O17K	Koliganek Bris	2.27	309			Pn	02 12 59.7	-0.2	
O17K	Koliganek Bris	2.27	309	P		Pn	02 12 59.7	-0.2	
	baz=126								
R16K	Pilot Point	2.28	250			Pn	02 13 00.2	+0.2	
R16K	Pilot Point	2.28	250	IAML			02 13 28.2		
	comp=N,283nm,0.7s								
R16K				IAML			02 13 28.4		
	comp=E,294nm,0.8s								
R16K	Pilot Point	2.28	250	P		Pn	02 13 00.2	+0.2	
	baz=67								
P16K	Nushagak River	2.38	287			Pn	02 13 01.7	+0.3	
P16K	Nushagak River	2.38	287	P		Pn	02 13 01.7	+0.3	
	baz=104								
N19K	Bonanza Creek	2.46	350			Pn	02 13 03.0	+0.4	
N19K	Bonanza Creek	2.46	350	P		Pn	02 13 03.0	+0.4	
	baz=169								
N18K	Kilae Creek	2.57	334	Pn		Pn	02 13 04.1	+0.1	
N18K	Kilae Creek	2.57	334	P		Pn	02 13 04.1	+0.1	
	baz=152								
O16K	Kokwok River B	2.62	299			Pn	02 13 04.8	+0.1	
O16K	Kokwok River B	2.62	299	P		Pn	02 13 04.8	+0.1	
	baz=116								
CAPN	Captain Cook N	2.68	26	Pn		Pn	02 13 06.1	+0.7	
SLKM	Skilak Lake	2.72	38			Pn	02 13 05.6	-0.4	
SEW	Seward	2.73	49			Pn	02 13 05.2	-0.8	
SEW	Seward	2.73	49	P		Pn	02 13 05.2	-0.8	
	baz=233								
CHIR	Chirikof Islan	2.81	204			Pn	02 13 06.4	-0.8	
CHIR	Chirikof Islan	2.81	204	IAML			02 13 52.4		
	comp=N,306nm,1.0s								
CHIR				IAML			02 14 02.0		
	comp=E,264nm,1.0s								
CHIR	Chirikof Islan	2.81	204	P		Pn	02 13 06.4	-0.8	
	baz=22								
N17K	Nushagak Hills	2.81	321	Pn		Pn	02 13 07.3	0.0	
N17K	Nushagak Hills	2.81	321	P		Pn	02 13 07.2	0.0	
	baz=138								
ANNE	Aniakchak Nort	2.83	240			Pn	02 13 07.5	0.0	
ANNW	Aniakchak Nort	2.87	242			Pn	02 13 08.3	+0.2	
O22K	Cooper Landing	2.87	42			Pn	02 13 07.7	-0.3	
O22K	Cooper Landing	2.87	42	P		Pn	02 13 07.7	-0.3	
	baz=225								
SVW2	Sparrevohn	2.89	340			Pn	02 13 08.4	+0.1	
SVW2	Sparrevohn	2.89	340	P		Pn	02 13 08.2	-0.1	
N20K	Mount Spurr	2.89	13	P		Pn	02 13 09.1	+0.7	
	baz=195								
SPCR	Spurr Chakacha	2.89	13			Pn	02 13 09.1	+0.7	
SPCN	Chakachatna No	2.92	13			Pn	02 13 09.3	+0.5	
SPBG	Spurr Blockage	2.93	12			Pn	02 13 10.0	+1.0	
SPCG	Spurr Capps Gl	3.01	15			Pn	02 13 10.8	+0.8	
SPNN	North Nagishla	3.01	8			Pn	02 13 11.2	+1.1	
STLK	Strandline Lak	3.23	15			Pn	02 13 13.5	+0.5	
M18K	Stony River	3.30	341			Pn	02 13 14.2	+0.4	
M18K	Stony River	3.30	341	P		Pn	02 13 14.2	+0.4	
	baz=159								
RC01	Rabbit Creek A	3.33	34			Pn	02 13 14.4	+0.2	
RC01				IAML			02 14 06.2		
	comp=N,198nm,0.4s								
RC01	Rabbit Creek A	3.33	34	P		Pn	02 13 14.5	+0.2	
	baz=218								
O15K	Ungalikthiuk R	3.34	286			Pn	02 13 14.8	+0.4	
O15K	Ungalikthiuk R	3.34	286	P		Pn	02 13 14.9	+0.4	
	baz=101								
CHGN	Chignik	3.36	233			Pn	02 13 14.2	-0.4	
CHGN				IAML			02 14 01.5		
	comp=N,180nm,0.4s								
CHGN	Chignik	3.36	233	P		Pn	02 13 14.6	0.0	
	baz=49								
N16K	Nishlik Lake	3.37	310			Pn	02 13 15.2	+0.3	
N16K	Nishlik Lake	3.37	310	P		Pn	02 13 15.2	+0.3	
	baz=126								
SUA	Susitna One	3.39	24			Pn	02 13 15.9	+0.7	
SUA	Susitna One	3.39	24	P		Pn	02 13 15.9	+0.7	
	baz=206								
M20K	Styx River	3.50	4			Pn	02 13 17.8	+1.0	
M20K	Styx River	3.50	4	P		Pn	02 13 17.8	+1.0	
	baz=184								
P23K	Montague Islan	3.56	61			Pn	02 13 17.5	+0.1	
P23K	Montague Islan	3.56	61	P		Pn	02 13 17.5	+0.1	
	baz=246								
M17K	Holitna River	3.58	329			Pn	02 13 18.3	+0.6	
M17K				IAML			02 14 16.3		
	comp=N,83nm,0.7s								
M17K				IAML			02 14 23.7		
	comp=E,102nm,0.8s								
M17K	Holitna River	3.58	329	P		Pn	02 13 18.2	+0.5	
	baz=146								
SKT	Skwentna	3.73	15			Pn	02 13 20.0	+0.1	
SKT				IAML			02 14 29.5		
	comp=E,64nm,0.5s								
SKT				IAML			02 14 30.0		
	comp=N,58nm,0.5s								
SKT	Skwentna	3.73	15	P		Pn	02 13 19.8	0.0	
	baz=197								
VNSG	Veniaminof 6	3.76	235			Pn	02 13 20.8	+0.6	
N15K	Kwethluk River	3.78	301			Pn	02 13 21.4	+0.9	
N15K	Kwethluk River	3.78	301	IAML			02 14 06.0		
	comp=N,189nm,0.8s								
N15K				IAML			02 14 06.1		
	comp=E,148nm,0.7s								
N15K	Kwethluk River	3.78	301	P		Pn	02 13 21.4	+0.9	
	baz=115								
M16K	Timber Creek	3.78	316	Pn		Pn	02 13 21.2	+0.7	
M16K	Timber Creek	3.78	316	P		Pn	02 13 21.0	+0.5	
	baz=132								
M22K	Willow	3.79	26			Pn	02 13 21.0	+0.5	
M22K	Willow	3.79	26	P		Pn	02 13 21.0	+0.5	
	baz=209								
L19K	White Mountain	3.85	351			Pn	02 13 21.9	+0.5	
L19K	White Mountain	3.85	351	P		Pn	02 13 21.9	+0.5	
	baz=170								
S14K	Fog Glacier	3.87	239	P		Pn	02 13 22.3	+0.6	
	baz=54								
VNFG	Fog Glacier, M	3.87	239			Pn	02 13 22.3	+0.6	
VNFG	Fog Glacier, M	3.87	239	IAML			02 14 21.6		
	comp=N,188nm,0.7s								
VNFG				IAML			02 14 26.3		
	comp=E,164nm,1.3s								
Q23K	Middleton Isla	3.89	72			Pn	02 13 23.0	+1.1	
Q23K	Middleton Isla	3.89	72	P		Pn	02 13 21.3	-0.7	
	baz=258								
MID	Middleton Isla	3.90	72			Pn	02 13 23.0	+1.0	
PMR	Palmer	3.91	33			Pn	02 13 21.4	-0.7	
PMR				IAML			02 14 19.1		
	comp=E,96nm,0.4s								
PMR				IAML			02 14 23.1		
	comp=N,78nm,0.5s								
PMR	Palmer	3.91	33	P		Pn	02 13 21.7	-0.4	
KNK	Knik Glacier	3.97	38			Pn	02 13 22.5	-0.6	
KNK				IAML			02 14 23.6		
	comp=E,172nm,0.4s								
KNK				IAML			02 14 24.4		
	comp=N,182nm,0.5s								
KNK	Knik Glacier	3.97	38	P		Pn	02 13 22.5	-0.6	
	baz=223								
O14K	Tigyukauivet M	4.08	285			Pn	02 13 24.7	+0.2	
O14K	Tigyukauivet M	4.08	285	P		Pn	02 13 24.7	+0.2	
	baz=99								
L20K	Farewell, AK	4.09	358			Pn	02 13 25.4	+0.7	
L20K	Farewell, AK	4.09	358	P		Pn	02 13 25.5	+0.7	
	baz=178								
GHO	Glory Hole Cre	4.11	33			Pn	02 13 24.7	-0.3	
GLI	Glacier Island	4.13	50			Pn	02 13 23.7	-1.5	
GLI	Glacier Island	4.13	50	IAML			02 14 26.4		
	comp=E,94nm,0.6s								
GLI				IAML			02 14 36.4		
	comp=N,109nm,0.8s								
GLI	Glacier Island	4.13	50	P		Pn	02 13 23.7	-1.5	
	baz=235								
L18K	Granite Mounta	4.13	339			Pn	02 13 25.9	+0.7	
L18K	Granite Mounta	4.13	339	IAML			02 14 11.7		
	comp=N,77nm,0.4s								
L18K				IAML			02 14 12.7		
	comp=E,47nm,0.5s								
L18K	Granite Mounta	4.13	339	P		Pn	02 13 25.9	+0.7	
	baz=157								
HIN	Hinchinbrook I	4.14	58			Pn	02 13 24.8	-0.6	
HIN	Hinchinbrook I	4.14	58	IAML			02 14 10.3		
	comp=N,146nm,0.8s								
M15K	Kasigluk River	4.28	305			Pn	02 13 27.8	+0.5	
M15K	Kasigluk River	4.28	305	P		Pn	02 13 27.8	+0.5	
	baz=120								
SML	Sawmill	4.31	35			Pn	02 13 27.3	-0.4	
SML	Sawmill	4.31	35	IAML			02 14 33.6		
	comp=E,95nm,0.8s								
SML				IAML			02 14 34.0		
	comp=N,105nm,0.6s								
SML	Sawmill	4.31	35	P		Pn	02 13 27.3	-0.4	
	baz=220								
FID	Port Fidalgo	4.31	54			Pn	02 13 26.1	-1.6	
FID	Port Fidalgo	4.31	54	IAML			02 14 35.3		
	comp=N,90nm,1.0s								
FID				IAML			02 14 35.9		
	comp=E,94nm,0.8s								
CUT	Chulitna	4.34	21			Pn	02 13 27.8	-0.3	
CUT	Chulitna	4.34	21	IAML			02 14 37.6		
	comp=N,122nm,0.5s								
CUT	Chulitna	4.34	21	P		Pn	02 13 27.8	-0.3	
	baz=204								
L17K	Donlin	4.42	330			Pn	02 13 29.6	+0.4	
L17K	Donlin	4.42	330	P		Pn	02 13 29.6	+0.4	
	baz=146								
N14K	Kuskokwak Cree	4.44	294			Pn	02 13 30.1	+0.7	
N14K	Kuskokwak Cree	4.44	294	P		Pn	02 13 30.1	+0.7	
	baz=107								
L16K	Owhat River	4.44	321	Pn		Pn	02 13 29.9	+0.5	
L16K	Owhat River	4.44	321	P		Pn	02 13 29.8	+0.3	
	baz=136								
M23K	Glacier View	4.49	38			Pn	02 13 30.1	-0.1	
M23K	Glacier View	4.49	38	P		Pn	02 13 30.1	-0.1	
	baz=223								
EYAK	Cordova Ski Ar	4.54	58			Pn	02 13 29.9	-0.9	
EYAK	Cordova Ski Ar	4.54	58	P		Pn	02 13 29.9	-0.9	
EYAK	Cordova Ski Ar	4.54	58	P		Pn	02 13 29.9	-0.9	
	baz=245								
SCM	Sheep Creek Mo	4.65	40			Pn	02 13 32.1	-0.4	
SCM	Sheep Creek Mo	4.65	40	IAML			02 14 46.7		
	comp=E,84nm,0.9s								
SCM				IAML			02 14 48.1		
	comp=N,68nm,0.8s								
SCM	Sheep Creek Mo	4.65	40	P		Pn	02 13 32.1	-0.4	
	baz=225								
TTA	Tatalina	4.70	346	Pn		Pn	02 13 33.6	+0.6	
TTA	Tatalina	4.70	346	P		Pn	02 13 33.6	+0.6	
DIV	Divide	4.80	52			Pn	02 13 33.9	-0.6	
SDPT	Sand Point	4.86	234			Pn	02 13 35.1	-0.1	
SDPT	Sand Point	4.86	234	IAML			02 15 07.6		
	comp=N,94nm,3.2s								
SDPT	Sand Point	4.86	234	P		Pn	02 13 35.1	-0.1	
SDPT	Sand Point	4.86	234	P		Pn	02 13 35.1	-0.1	
	baz=48								
M14K	Bethel	4.87	303			Pn	02 13 35.0	-0.3	
M14K	Bethel	4.87	303	IAML			02 14 55.3		
	comp=E,42nm,3.7s								
M14K				IAML			02 15 56.3		
	comp=N,44nm,2.8s								
M14K	Bethel	4.87	303	P		Pn	02 13 35.0	-0.3	
	baz=116								
CHNA	Chernabura Isl	4.88	225	P		Pn	02 13 35.3	-0.2	
	baz=40								
CNBA	Chernabura Isl	4.88	225			Pn	02 13 35.2	-0.3	
CNBA	Chernabura Isl	4.88	225	IAML			02 14 47.0		
	comp=N,84nm,0.5s								
K17K	Iditarod	4.91	334			Pn	02 13 36.3	+0.3	
K17K	Iditarod	4.91	334	IAML			02 15 18.1		
	comp=N,39nm,2.2s								
K17K				IAML			02 15 32.8		
	comp=E,32nm,2.8s								
K17K	Iditarod	4.91	334	P		Pn	02 13 36.3	+0.3	
	baz=150								
KLU	Klutina	4.95	48			Pn	02 13 36.0	-0.4	
KLU	Klutina	4.95	48	IAML			02 14 44.3		
	comp=N,67nm,0.4s								
KLU				IAML			02 16 29.8		
	comp=E,41nm,4.6s								
KLU	Klutina	4.95	48	P		Pn	02 13 36.0	-0.4	
	baz=234								
KAIM	Kayak Island	4.96	68			Pn	02 13 36.5	0.0	
KAIM	Kayak Island	4.96	68	P		Pn	02 13 36.5	0.0	
	baz=256								
K20K	Telida	4.98	357			Pn	02 13 37.1	+0.3	
K20K	Telida	4.98	357	P		Pn	02 13 37.1	+0.3	
	baz=177								
GOAT	Goat Mountain	5.02	60			Pn	02 13 36.9	-0.5	
WAT7	Susitna Watana	5.02	26			Pn	02 13 37.3	-0.2	
WAT1	Susitna Watana	5.09	27			Pn	02 13 38.0	-0.3	
WAT1	Susitna Watana	5.09	27	P		Pn	02 13 38.0	-0.3	
	baz=211								
CAST	Castle Rocks	5.09	8			Pn	02 13 38.3	0.0	
CAST	Castle Rocks	5.09	8	P		Pn	02 13 38.3	0.0	
	baz=189								
WAT6	Susitna Watana	5.09	32			Pn	02 13 38.0	-0.6	
WAT6	Susitna Watana	5.09	32	P		Pn	02 13 37.9	-0.6	
	baz=217								
L15K	Ungalak Mounta	5.15	313			Pn	02 13 39.4	+0.3	
L15K	Ungalak Mounta	5.15	313	P		Pn	02 13 39.4	+0.3	
	baz=126								
BMRM	Bremner River	5.23	57			Pn	02 13 39.5	-0.8	
BMRM	Bremner River	5.23	57	P		Pn	02 13 39.5	-0.8	
	baz=244								
M24K	Tolsona, Glenn	5.24	42			Pn	02 13 40.4	0.0	
M24K	Tolsona, Glenn	5.24	42	P		Pn	02 13 40.4	0.0	
	baz=228								
TRF	Thorofare Moun	5.32	16			Pn	02 13 41.5	-0.1	
TRF	Thorofare Moun	5.32	16	IAML			02 15 11.5		
	comp=E,32nm,2.7s								
TRF				IAML			02 15 23.9		
	comp=N,42nm,1.9s								
TRF	Thorofare Moun	5.32	16	P		Pn	02 13 41.5	-0.1	
	baz=199								
KTH	Kantishna Hill	5.33	13			Pn	02 13 41.7	0.0	
KTH	Kantishna Hill	5.33	13	IAML			02 15 14.9		
	comp=E,37nm,3.4s								
KTH				IAML			02 15 34.0		
	comp=N,36nm,1.1s								
M13K	Dall Lake	5.38	296			Pn	02 13 41.3	-0.9	
M13K	Dall Lake	5.38	296	P		Pn	02 13 41.3	-0.9	
	baz=108								
L14K	Kuka Creek	5.45	307			Pn	02 13 43.8	+0.6	
L14K	Kuka Creek	5.45	307	P		Pn	02 13 43.8	+0.6	
	baz=119								
PN7A	Pavlof North-7	5.48	241			Pn	02 13 43.5	-0.3	
RND	Reindeer	5.53	23			Pn	02 13 43.7	-0.6	
CHUM	Lake Minchumin	5.54	6			Pn	02 13 44.4	0.0	
CHUM	Lake Minchumin	5.54	6	P		Pn	02 13 44.4	0.0	
	baz=187								
N25K	Chitina, Valde	5.54	51			Pn	02 13 44.2	-0.3	
N25K	Chitina, Valde	5.54	51	P		Pn	02 13 44.2	-0.3	
	baz=238								
K15K	Wolf Creek Mou	5.55	318			Pn	02 13 45.5	+0.9	
K15K	Wolf Creek Mou	5.55	318	P		Pn	02 13 45.5	+0.9	
	baz=131								
DHY	Denali Highway	5.59	30			Pn	02 13 44.9	-0.3	
DHY	Denali Highway	5.59	30	P		Pn	02 13 45.0	-0.3	
	baz=216								
KHIT	Khitrov Hills	5.66	64			Pn	02 13 45.6	-0.7	
J17K	VABM Dome	5.68	334			Pn	02 13 45.6	-0.8	
J17K	VABM Dome	5.68	334	P		Pn	02 13 45.6	-0.8	
	baz=150								
J19K	Poorman	5.70	351			Pn	02 13 46.9	+0.3	
J19K	Poorman	5.70	351	P		Pn	02 13 46.9	+0.3	
	baz=169								
GLB	Gilahina Butte	5.78	54			Pn	02 13 47.1	-0.8	
HARP	HAARP	5.79	43			Pn	02 13 48.1	+0.2	
HARP	HAARP	5.79	43	P		Pn	02 13 48.1	+0.2	
	baz=230								
SNH	Sunshine Point	5.79	68			Pn	02 13 48.0	0.0	
J20K	Nowinta River	5.80	358			Pn	02 13 48.5	+0.4	
J20K	Nowinta River	5.80	358	P		Pn	02 13 48.2	+0.2	
	baz=177								
MCK	McKinley	5.80	21			Pn	02 13 48.0	-0.1	
MCK	McKinley	5.80	21	P		Pn	02 13 48.0	-0.1	
	baz=205								
CRQM	Cirque	5.81	62			Pn	02 13 47.6	-0.8	
CRQE	Cirque	5.83	62	P		Pn	02 13 47.6	-1.0	
	baz=251								
VRDI	Verde Repeater	5.84	57			Pn	02 13 48.0	-0.8	
WACK	Wrangell Chich	5.85	48			Pn	02 13 48.6	-0.3	
WAX	Waxell Ridge	5.85	65			Pn	02 13 48.3	-0.5	
BPAW	Bear Paw Mtn.	5.86	11			Pn	02 13 48.6	-0.2	
BPAW	Bear Paw Mtn.	5.86	11	P		Pn	02 13 48.6	-0.2	
	baz=194								
WASW	Wrangell South	5.88	49			Pn	02 13 48.8	-0.6	
J16K	Anvik River	5.98	328			Pn	02 13 50.5	+0.1	
J16K	Anvik River	5.98	328	P		Pn	02 13 50.5	+0.1	
	baz=142								
PAX	Paxson	6.07	38			Pn	02 13 51.7	-0.2	
PAX	Paxson	6.07	38	P		Pn	02 13 51.7	-0.2	
	baz=225								
ISLE	Juniper Island	6.14	64			Pn	02 13 52.4	-0.4	
KIAG	Kiagna River	6.23	61			Pn	02 13 53.4	-0.7	
BAGL	Bagley Icefiel	6.23	65			Pn	02 13 53.6	-0.3	
PTPK	Patty Peak	6.27	59			Pn	02 13 54.1	-0.5	
NEA2	Nenana	6.58	17			Pn	02 13 57.6	-1.1	
NEA2	Nenana	6.58	17	P		Pn	02 13 57.6	-1.1	
	baz=201								
M26K	Nabesna, AK	6.60	48			Pn	02 13 58.8	-0.3	
M26K	Nabesna, AK	6.60	48	P		Pn	02 13 58.8	-0.3	
	baz=237								
WRH	Wood River Hil	6.63	21			Pn	02 13 58.9	-0.6	
TABL	Table Mountain	6.67	67			Pn	02 14 00.2	+0.1	
CTG	Chitna Glacier	6.71	62	P		Pn	02 14 00.5	-0.1	
	baz=253								
CTGM	Chitina Glacie	6.71	62			Pn	02 14 00.5	-0.2	
MLY	Manley	6.79	10	Pn		Pn	02 14 01.4	-0.2	
MLY	Manley	6.79	10	P		Pn	02 14 01.4	-0.2	
	baz=193								
SAMH	Samovar Hills	6.79	70			Pn	02 14 01.5	-0.2	
HDA	Harding Lake	6.81	25			Pn	02 14 01.4	-0.5	
LOGN	Logan Glacier	6.83	64			Pn

EGAK	**Eagle**	**8.71**	**38**	Pn	**Pn**	02 14 27.9	**+0.3**
F21K	**Alatna River**	**8.86**	**0**		**Pn**	02 14 30.8	**+1.1**
SKAG	**Skagway**	**9.50**	**76**	P	**Pn**	02 14 39.7	**+1.2**
JIS	**Juneau Island**	**10.10**	**83**	P	**Pn**	02 14 49.2	**+2.5**
DLBC	**Dease Lake**	**12.34**	**80**	P	**Pn**	02 15 17.4	**0.0**
	comp=N,0.4nm,0.3s,baz=291,slow=8.6,SNR=6.7						
DLBC				S	**Sn**	**02 17 28.3**	**-4.6**
	comp=N,3.0nm,1.1s,baz=298,slow=12,SNR=1.7						
	comp=N,1.8nm,0.5s						
INK	**Inuvik**	**13.32**	**34**	P	**Pn**	02 15 28.7	**-1.8**
	comp=N,0.1nm,0.3s,baz=226,slow=12,SNR=7.6						
	comp=N,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**19.44**	**61**	P	**P**	02 16 45.8	**+0.3**
	comp=N,0.3nm,0.3s,baz=274,slow=10,SNR=31						
	comp=N,2.3nm,0.8s						
NVAR	**Mina Array Bea**	**30.25**	**116**	P	**P**	02 18 31.4	**+1.8**
	comp=N,0.1nm,0.3s,baz=320,slow=8.2,SNR=2.2						
	comp=N,0.1nm,0.3s						
PDAR	**Pinedale Array**	**31.36**	**100**	P	**P**	02 18 40.5	**+1.3**
	comp=N,0.5nm,0.6s,baz=304,slow=5.3,SNR=5.2						
ANMO	**Albuquerque**	**38.83**	**106**	LR	LR	02 36 33.6	
	comp=N,90nm,18.6s,baz=117,slow=37						
TXAR	**Lajitas Array**	**44.73**	**108**	P	**P**	02 20 32.7	**+1.2**
	comp=N,0.2nm,0.7s,baz=324,slow=4.5,SNR=2.7						
	comp=N,0.2nm,0.7s						
SONM	**Songino Array**	**55.49**	**306**	P	**P**	02 21 52.7	**0.0**
	comp=N,1.3nm,0.8s,baz=41,slow=6.7,SNR=3.8						
	comp=N,1.3nm,0.8s						

NEIC ***14*** *02:12:25.3±0.5, 19.°08N±0.°04×155.°24W±0.°03, h37km±3km, Error ellipse: s-maj=6.8km s-min=1.8km az=146.0*

HVO 14 02:12:26.8±1.2**, 19.°03N**±0.°05×**155.°20W**±0.°05**, h24**km±8km**, ML2.7**/10**, ML2.8**/46(NEIC)**, Error ellipse: s-maj=9.0km s-min=5.1km az=142.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.28**	**318**		Pb	02 12 33.0	-0.5
HLP	**Hilina Pali**	**0.28**	**339**		Pb	02 12 33.1	-0.4
HLP					Sb	02 12 37.8	-0.3
HLP	**Hilina Pali**	**0.28**	**339**	IAML		02 12 38.1	
	comp=N,2µm,0.2s						
HLP				IAML		02 12 39.5	
	comp=E,3µm,0.4s						
HPO	**Honuapo**	**0.34**	**280**		Pb	02 12 33.4	-0.9
HPO					Sb	02 12 38.6	-0.8
PUH	**Pauahi**	**0.34**	**357**		Pb	02 12 33.5	-1.0
PUH					Sb	02 12 38.3	-1.3
PUH	**Pauahi**	**0.34**	**357**	IAML		02 12 42.1	
	comp=E,492nm,0.5s						
PUH				IAML		02 12 48.7	
	comp=N,653nm,0.5s						
KNHH	**Kane Nui o Ham**	**0.35**	**5**		Pb	02 12 33.6	-1.0
STCH	**Steam Cracks**	**0.36**	**11**		Pb	02 12 33.7	-1.0
STCH					Sb	02 12 38.8	-1.3
STCH	**Steam Cracks**	**0.36**	**11**	IAML		02 12 38.9	
	comp=E,1µm,0.1s						
STCH				IAML		02 12 39.1	
	comp=N,1µm,0.3s						
JCUZ	**Jacuzzi**	**0.36**	**15**		Pb	02 12 33.9	-0.9
JCUZ					Sb	02 12 38.7	-1.5
JCUZ	**Jacuzzi**	**0.36**	**15**	IAML		02 12 39.3	
	comp=E,1µm,0.2s						
JCUZ				IAML		02 12 40.2	
	comp=N,659nm,0.2s						
SDHHI	**Sand Hill**	**0.37**	**346**		Pb	02 12 33.8	-1.0
SDHHI	**Sand Hill**	**0.37**	**346**	IAML		02 12 39.3	
	comp=E,1µm,0.4s						
SDHHI				IAML		02 12 40.9	
	comp=N,1µm,0.7s						
RIM	**Rim**	**0.37**	**349**		Pb	02 12 33.8	-1.1
RIM	**Rim**	**0.37**	**349**	IAML		02 12 39.6	
	comp=N,1µm,0.5s						
RIM				IAML		02 12 39.6	
	comp=E,939nm,1.0s						
KKO	**Keanakako`i**	**0.37**	**350**		Pb	02 12 33.9	-1.0
KKO					Sb	02 12 39.3	-1.2
KKO	**Keanakako`i**	**0.37**	**350**	IAML		02 12 39.5	
	comp=N,2µm,0.5s						
KKO				IAML		02 12 40.6	
	comp=E,830nm,0.6s						
NPOC	**North of Pu`u**	**0.37**	**13**		Pb	02 12 33.9	-1.0
NPOC					Sb	02 12 39.1	-1.2
NPOC	**North of Pu`u**	**0.37**	**13**	IAML		02 12 39.4	
	comp=N,1µm,0.5s						
NPOC				IAML		02 12 39.5	
	comp=E,892nm,0.4s						
BYL	**Byron's Ledge**	**0.38**	**352**		Pb	02 12 33.9	-1.2
BYL	**Byron's Ledge**	**0.38**	**352**	IAML		02 12 39.5	
	comp=N,844nm,0.4s						
BYL				IAML		02 12 42.3	
	comp=E,523nm,0.5s						
WRMHI	**West Rim**	**0.39**	**346**		Pb	02 12 34.0	-1.2
WRMHI	**West Rim**	**0.39**	**346**	IAML		02 12 49.4	
	comp=N,1µm,0.5s						
OBL	**Observatory Le**	**0.39**	**348**		Pb	02 12 34.0	-1.2
OBL	**Observatory Le**	**0.39**	**348**	IAML		02 12 42.8	
	comp=N,1µm,0.7s						
OBL				IAML		02 12 48.4	
	comp=E,2µm,0.5s						
HATHI	**Halema'uma'u T**	**0.39**	**352**		Pb	02 12 34.0	-1.2
HATHI	**Halema'uma'u T**	**0.39**	**352**	IAML		02 12 41.1	
	comp=N,787nm,0.8s						
HATHI				IAML		02 12 44.0	
	comp=E,644nm,1.2s						
UWE	**Uwekahuna**	**0.40**	**347**		Sb	02 12 39.6	-1.6
UWE	**Uwekahuna**	**0.40**	**347**		Pb	02 12 34.1	-1.2
UWE				IAML		02 12 40.2	
	comp=E,2µm,0.7s						
UWE	**Uwekahuna**	**0.40**	**347**	IAML		02 12 39.4	
	comp=N,957nm,1.8s						
SBLHI	**Steaming Bluff**	**0.40**	**351**		Pb	02 12 34.0	-1.3
SBLHI	**Steaming Bluff**	**0.40**	**351**	IAML		02 12 43.3	
	comp=E,737nm,0.5s						
SBLHI				IAML		02 12 43.4	
	comp=N,736nm,0.5s						
UWB	**Uwekahuna B**	**0.40**	**349**		Pb	02 12 34.0	-1.4
AIN	**Ainahou**	**0.42**	**324**		Pb	02 12 34.9	-0.9
AIN					Sb	02 12 40.6	-1.2
AIN	**Ainahou**	**0.42**	**324**	IAML		02 12 41.1	
	comp=E,4µm,0.3s						
AIN				IAML		02 12 41.3	
	comp=N,6µm,0.2s						
RSD	**Rainshed**	**0.44**	**350**		Pb	02 12 34.5	-1.5
RSD					Sb	02 12 40.4	-1.9
JOKA	**Jonika Flow**	**0.44**	**25**		Pb	02 12 34.7	-1.3
JOKA					Sb	02 12 40.6	-1.6
KHU	**Kahuku**	**0.45**	**299**		Pb	02 12 34.9	-1.3
KHU					Sb	02 12 40.9	-1.7
KHU	**Kahuku**	**0.45**	**299**	IAML		02 12 41.3	
	comp=E,574nm,0.4s						
KHU				IAML		02 12 46.0	
	comp=N,440nm,1.8s						
MLH	**Mauna Loa**	**0.49**	**339**		Pb	02 12 35.7	-1.3
MLH					Sb	02 12 42.3	-1.6
MLH	**Mauna Loa**	**0.49**	**339**	IAML		02 12 42.7	
	comp=N,905nm,0.4s						
MLH				IAML		02 12 45.8	
	comp=E,452nm,0.2s						
MWH	**Moku'aweowe**	**0.59**	**320**		Pb	02 12 36.7	-2.0
MWH				IAML		02 12 51.8	
	comp=E,507nm,1.3s						
MWH	**Moku'aweowe**	**0.59**	**320**		Sb	02 12 44.4	-2.5
MLOA	**Mauna Loa Obse**	**0.61**	**325**		Pb	02 12 37.2	-2.0
MLOA	**Mauna Loa Obse**	**0.61**	**325**		Sb	02 12 45.2	-2.4
HMH	**Humu'ula Sheep**	**0.63**	**335**		Pb	02 12 37.6	-1.7
HMH				IAML		02 12 45.8	
	comp=N,569nm,0.3s						
HMH	**Humu'ula Sheep**	**0.63**	**335**		Sb	02 12 45.4	-2.5
ALEP	**Alea Permanent**	**0.66**	**321**		Pb	02 12 37.6	-2.2
ALEP					Sb	02 12 45.7	-3.1
KHLU	**Kahalu`u**	**0.86**	**311**		Pb	02 12 40.3	-2.8
KHLU					Sb	02 12 49.8	-4.5
KHLU	**Kahalu`u**	**0.86**	**311**	IAML		02 13 00.0	
	comp=E,328nm,3.7s						
KHLU				IAML		02 13 07.2	
	comp=N,332nm,3.5s						
HPAH	**Hawaii Prepara**	**1.10**	**335**		Pn	02 12 43.4	-3.4
HPAH	**Hawaii Prepara**	**1.10**	**335**	IAML		02 13 19.5	
	comp=N,209nm,3.9s						
HPAH				IAML		02 13 26.2	
	comp=E,198nm,3.6s						

UPA ***14*** *02:14:38.1±2.4, 7.°29N×81.°02W, h4km±6km, MW4.4*
CATAC ***14*** *02:14:40.1±1.0, 7.°23N×81.°01W, h10km, ML4.1*

ISC 14 02:14:38.7±1.2**, 7.°25N**±0.°05×**81.°00W**±0.°03**, h13**km±6km**, n44, σ1§53/64, 2C-4D, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	**El Cacao, Vera**	**0.17**	**54**	*i*P	**Pg**	02 14 42.5	**-0.2**
CACAO				*e*S	**Sg**	02 14 45.5	**+0.1**
CACAO	**El Cacao, Vera**	**0.17**	**54**	*i*P	**Pg**	02 14 42.4	**-0.2**
CACAO				*e*S	**Sg**	02 14 46.0	**+0.7**
MARI3	**Mariato, Verag**	**0.40**	**1**	*e*P	**Pg**	02 14 46.0	**-0.7**
GMAL	**Guarumal, Vera**	**0.56**	**336**	*i*P	**Pg**	02 14 48.6	**-1.2**
GMAL				*e*S	**Sg**	02 14 57.1	**-0.2**
GMAL	**Guarumal, Vera**	**0.56**	**336**	*i*P	**Pg**	02 14 48.6	**-1.2**
GMAL				*e*S	**Sg**	02 14 57.0	**-0.2**
PESE3	**Pese, Herrera**	**0.76**	**30**	*i*P	**Pg**	02 14 52.0	**-1.5**
ACHO3	**Achotines, Los**	**0.83**	**78**	*e*P	**Pg**	02 14 54.2	**-0.6**
AZU	**Azuero**	**0.90**	**53**	*e*P	**Pg**	02 14 54.4	**-1.8**
AZU				*e*S	**Sg**	02 15 08.1	**+0.2**
AZU	**Azuero**	**0.90**	**53**	*e*P	**Pg**	02 14 54.3	**-1.8**
AZU				*e*S	**Sg**	02 15 08.2	**+0.2**
CHIT3	**Chitre**	**0.91**	**39**	*i*P	**Pg**	02 14 54.4	**-1.9**
CHIT3				*e*S	**Sg**	02 15 06.9	**-1.3**
PEDA3	**Pedasi**	**1.00**	**74**	*e*P	**Pg**	02 14 56.0	**-2.1**
CRIS3	**El Cristo, Coc**	**1.07**	**21**	*e*P	**Pg**	02 14 56.9	**-2.4**
CALO3	**Calobre, Verag**	**1.08**	**8**	*e*P	**Pg**	02 14 57.4	**-2.1**
PNME	**Penonome**	**1.40**	**28**	*e*P	**Pn**	02 15 02.6	**-1.2**
PNME				*e*S	**Sb**	02 15 21.4	**-1.1**
DVD	**David**	**1.86**	**310**	*e*P	**Pn**	02 15 09.6	**-0.6**
CHGR2	**Aguacate**	**2.03**	**326**	*e*P	**Pn**	02 15 12.0	**-0.6**
CHGR2				*e*S	**Sn**	02 15 38.5	**+0.8**
CHOR3	**La Chorrera**	**2.05**	**37**	*e*P	**Pn**	02 15 13.5	**+0.7**
BCO2	**Palmira**	**2.11**	**314**	*e*P	**Pn**	02 15 13.6	**-0.2**
BCO2				*e*S	**Sn**	02 15 40.4	**+0.5**
ARRA3	**Arraijan, Pana**	**2.17**	**38**	*e*P	**Pn**	02 15 15.3	**+1.0**
BCIP	**Isla Barro Col**	**2.23**	**31**	*e*P	**Pn**	02 15 16.4	**+1.1**
BCIP				*e*S	**Sn**	02 15 43.8	**+1.2**
BCIP	**Isla Barro Col**	**2.23**	**31**	*e*P	**Pn**	02 15 16.0	**+0.8**
BCIP				*e*S	**Sn**	02 15 45.2	**+2.8**
BCIP	**Isla Barro Col**	**2.23**	**31**	*i*P	**Pn**	02 15 16.2	**+0.9**
BCIP				*i*S	**Sb**	02 15 46.2	**-0.1**
BCIP				IAML		02 15 48.9	
	comp=Z,750nm,1.0s						
UPA	**Univ. de Panam**	**2.25**	**40**	*e*P	**Pn**	02 15 16.4	**+0.8**
UPA				*e*S	**Sn**	02 15 46.1	**+2.9**
BRU2	**Volcan**	**2.28**	**313**	*e*P	**Pn**	02 15 16.3	**+0.2**
BRU2				*e*S	**Sn**	02 15 43.9	**-0.2**
BRU2	**Volcan**	**2.28**	**313**	*i*P	**Pn**	02 15 16.2	**+0.2**
BRU2				IAML		02 15 16.6	
	comp=Z,630nm,1.0s						
BRU2				*i*S	**Sb**	02 15 47.0	**-0.8**
CDITO	**Canoas**	**2.28**	**306**	*i*P	**Pn**	02 15 15.9	**-0.1**
CDITO				*i*S	**Sn**	02 15 45.5	**+1.6**
CDITO				IAML		02 15 51.7	
	comp=Z,550nm,1.0s						
CHPO	**Chepo, Panama**	**2.67**	**44**	*e*P	**Pn**	02 15 22.4	**+1.0**
CHPO				*e*S	**Sn**	02 15 54.6	**+1.0**
POTG	**Potrero Grande**	**2.76**	**311**	*i*P	**Pn**	02 15 23.6	**+0.9**
POTG				IAML		02 15 26.3	
	comp=Z,560nm,1.0s						
PTAC	**Punta Ardita,**	**3.17**	**92**	*e*P	Pn	02 15 24.3	-3.9
PTAC				*e*S	**Sn**	02 16 02.1	**-3.8**
UPD2	**Meteti**	**3.23**	**66**	*e*P	**Pn**	02 15 29.7	**+0.7**
CDM	**Cerro de Muert**	**3.57**	**310**	*i*P	**Pn**	02 15 35.3	**+1.1**
CDM				IAML		02 15 44.3	
	comp=Z,110nm,1.0s						
RIMA	**Rio Macho**	**3.78**	**312**	*i*P	**Pn**	02 15 38.9	**+2.0**
RIMA				IAML		02 16 49.3	
	comp=Z,78nm,1.0s						
LCR2	**La Lucha 2**	**3.87**	**310**	*i*P	**Pn**	02 15 39.8	**+1.7**
LCR2				IAML		02 15 51.6	
	comp=Z,97nm,1.0s						
OCM	**Ochomogo**	**3.94**	**312**	*i*P	**Pn**	02 15 40.9	**+1.9**
OCM				IAML		02 16 52.0	
	comp=Z,88nm,1.0s						
HDC3	**Heredia 3**	**4.12**	**312**	*i*P	**Pn**	02 15 43.8	**+2.4**
HDC3				IAML		02 15 53.6	
	comp=Z,190nm,1.0s						
RIFO	**Rio Frio, Sara**	**4.20**	**317**	*i*P	**Pn**	02 15 45.1	**+2.6**
RIFO				IAML		02 16 16.3	
	comp=Z,250nm,1.0s						
VPTE	**Poasito**	**4.30**	**313**	*i*P	**Pn**	02 15 45.9	**+1.9**
VPTE				IAML		02 16 06.9	
	comp=Z,150nm,1.0s						
JACO	**JACO, Garabito**	**4.35**	**304**	*i*P	**Pn**	02 15 47.1	**+2.7**
JACO				IAML		02 15 56.0	
	comp=Z,110nm,1.0s						
CPMI	**Catarata Coope**	**4.50**	**312**	*i*P	**Pn**	02 15 49.0	**+2.2**
CPMI				IAML		02 16 59.3	
	comp=Z,98nm,1.0s						
SOCE	**Pocosol**	**4.75**	**311**	*i*P	**Pn**	02 15 51.9	**+1.9**
SOCE				IAML		02 16 07.8	
	comp=Z,80nm,1.0s						
COVE	**Coope Vega, Sa**	**4.82**	**316**	*i*P	**Pn**	02 15 53.7	**+2.8**
COVE				IAML		02 16 21.5	
	comp=Z,91nm,1.0s						
MALC	**Bahia Malaga**	**4.86**	**131**	*e*P	**Pn**	02 15 51.3	**-0.2**
MALC				*e*S	**Sn**	02 16 49.4	**+1.8**
JAMC	**Jamundi, Valle**	**5.88**	**133**	*e*P	**Pn**	02 16 06.6	**+0.9**
SJCC	**San Jacinto, C**	**6.33**	**65**	*e*P	**Pn**	02 16 13.2	**+1.5**
SJCC				*e*S	**Sn**	02 17 25.5	**+1.5**

IDC ***14*** *02:17:53.9±3.1, 19.°20S×169.°57E, h246km±24km, mb3.7/6, mbtmp4.2/7, Error ellipse: s-maj=32.2km s-min=26.1km az=134.0*
NEIC ***14*** *02:17:55.6±1.7, 19.°2S±0.°1×169.°50E±0.°06, h250km±8km, mb4.5/32, Error ellipse: s-maj=15.7km s-min=8.7km az=179.0*
NOU ***14*** *02:17:59.8, 19.°38S×169.°48E, h191km, MLv4.0/12, Vanuatu Islands*

ISC 14 02:17:54.5±0.7**, 19.°27S**±0.°06×**169.°5E**±0.°1**, h250**km**, n66, σ1§35/68, mb4.4/22, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.80**	**324**	P	**Pn**	02 18 36.6	**+1.4**
DVP	**Devils Point**	**1.99**	**320**	P	**Pn**	02 18 38.3	**+1.4**
MARNC	**Mare, Loyalty**	**2.61**	**212**	Pn	**Pn**	02 18 43.1	**+0.3**
MARNC				Sn	**S**	02 19 21.1	**0.0**
MARNC	**Mare, Loyalty**	**2.61**	**212**	P	**Pn**	02 18 43.3	**+0.5**
LIFNC	**LIFOU**	**2.62**	**235**		**Pn**	02 18 43.2	**+0.3**
LIFNC	**LIFOU**	**2.62**	**235**	P	**Pn**	02 18 43.5	**+0.6**
YATNC	**Mamie plateau,**	**3.72**	**221**	P	**Pn**	02 18 56.0	**+1.0**
PINNC	**Pines Island,**	**3.86**	**210**	Pn	**Pn**	02 18 58.8	**+2.2**
PINNC	**Pines Island,**	**3.86**	**210**	P	**Pn**	02 18 57.8	**+1.3**
DZM	**Mont Dzumac**	**4.01**	**225**	Pn	**Pn**	02 18 59.9	**+1.4**
DZM	**Mont Dzumac**	**4.01**	**225**	P	**Pn**	02 19 00.3	**+1.8**
DZM	**Mont Dzumac**	**4.01**	**225**	P	**Pn**	02 18 58.9	**+0.4**
	14nm,1.0s,baz=71,slow=18,SNR=11						
DZM				S	**S**	02 19 45.9	**-3.5**
	13nm,0.4s,baz=90,slow=21,SNR=2.3						
OUENC	**Ouen Island, N**	**4.02**	**218**	Pn	**Pn**	02 18 58.9	**+0.5**
OUENC	**Ouen Island, N**	**4.02**	**218**	P	**Pn**	02 19 00.3	**+1.9**
NOUC	**Port Laguerre**	**4.13**	**226**	P	**Pn**	02 19 01.8	**+2.0**
ONTNC	**Ouen Toro**	**4.17**	**223**	Pn	**Pn**	02 19 01.9	**+1.6**
ONTNC	**Ouen Toro**	**4.17**	**223**	P	**Pn**	02 19 02.3	**+2.0**
KOUNC	**Koumac, New Ca**	**5.09**	**255**	Pn	**Pn**	02 19 14.0	**+2.6**
KOUNC	**Koumac, New Ca**	**5.09**	**255**	P	**Pn**	02 19 14.3	**+2.9**
HNR	**Honiara**	**13.47**	**315**	P	**Pn**	02 20 55.7	**-0.6**
	1µm,0.6s,baz=217,slow=5.1,SNR=1.9						
RTZ	**Ruatahuna**	**20.34**	**163**	P	**P**	02 22 14.7	**+2.6**
MRZ	**Mangatainoka R**	**21.95**	**168**	P	**P**	02 22 28.8	**+1.0**
MRZ				IAmb	IAmb	02 22 31.8	
	comp=Z,32nm,1.4s						
MRNZ	**Matariki Terra**	**22.23**	**174**	P	**P**	02 22 31.9	**+1.5**
TCW	**Tory Channel**	**22.25**	**171**	P	**P**	02 22 32.8	**+2.2**
THZ	**Tophouse**	**22.61**	**173**	P	**P**	02 22 35.2	**+1.2**
PLWZ	**Palliser**	**22.76**	**169**	P	**P**	02 22 33.9	**-1.4**
STKA	**Stephens Creek**	**28.06**	**238**	P	**P**	02 23 24.4	**+1.4**
	comp=Z,2.6nm,0.7s,baz=72,slow=16,SNR=6.5						
	comp=Z,2.6nm,0.7s						
BBOO	**Buckleboo**	**32.81**	**239**	P	**P**	02 24 05.6	**+0.9**
BBOO				IAmb	IAmb	02 24 33.9	
	comp=Z,29nm,1.4s						
WR0	**Warramunga Arr**	**32.93**	**263**	P	**P**	02 24 05.9	**0.0**
WB0	**Warramunga Arr**	**33.09**	**263**	P	**P**	02 24 06.7	**-0.6**
WB2	**Warramunga Arr**	**33.11**	**263**	P	**P**	02 24 07.1	**-0.3**
WRA	**Warramunga Arr**	**33.12**	**263**	P	**P**	02 24 06.7	**-0.8**
WRA	**Warramunga Arr**	**33.12**	**263**	P	**P**	02 24 07.2	**-0.4**
	comp=Z,1.1nm,0.5s,baz=96,slow=8.3,SNR=33						
WRA				PcP	**PcP**	02 26 44.5	**-0.1**
	comp=Z,0.6nm,0.8s,baz=90,slow=3.0,SNR=5.3						
	comp=Z,1.1nm,0.5s						
AS31	**Alice Springs**	**33.38**	**256**	P	**P**	02 24 10.2	**+0.4**
AS31				IAmb	IAmb	02 24 11.0	
	comp=Z,5.9nm,0.4s						
ASAR	**Alice Springs**	**33.38**	**256**	P	**P**	02 24 10.0	**+0.1**
ASAR	**Alice Springs**	**33.38**	**256**	P	**P**	02 24 09.6	**-0.2**
	comp=Z,9.8nm,0.6s,baz=82,slow=9.2,SNR=138						
ASAR				PcP	**PcP**	02 26 45.3	**0.0**
	comp=Z,0.4nm,0.7s,baz=98,slow=2.3,SNR=2.7						
	comp=Z,9.8nm,0.6s						
FORT	**Forrest**	**39.08**	**245**	P	**P**	02 24 57.8	**0.0**
FORT				IAmb	IAmb	02 25 10.8	
	comp=Z,22nm,1.1s						
FITZ	**Fitzroy Crossi**	**41.51**	**264**	P	**P**	02 25 18.8	**+1.0**
MBWA	**Marble Bar**	**46.62**	**259**	P	**P**	02 25 58.9	**+0.7**
MBWA				IAmb	IAmb	02 26 22.3	
	comp=Z,27nm,1.5s						
VNDA	**Vanda**	**58.41**	**182**	P	**P**	02 27 22.3	**-1.2**
YOJ	**Yonaguni jima**	**62.78**	**312**	P	**P**	02 27 51.5	**-2.2**
SRIT	**Nakonsritamara**	**74.22**	**285**	P	**P**	02 29 02.8	**-1.7**
N15K	**Kwethluk River**	**82.91**	**15**	P	**P**	02 29 51.8	**+0.9**
N15K				IAmb	IAmb	02 30 27.8	
	comp=Z,19nm,1.3s						
M14K	**Bethel**	**83.00**	**14**	P	**P**	02 29 52.2	**+1.0**
M14K				IAmb	IAmb	02 29 57.1	
	comp=Z,13nm,1.1s						
L14K	**Kuka Creek**	**83.37**	**13**	P	**P**	02 29 54.3	**+1.2**
L14K				IAmb	IAmb	02 30 30.2	
	comp=Z,14nm,1.4s						
Q19K	**Cape Douglas,**	**83.58**	**18**	P	**P**	02 29 54.9	**+0.5**
O18K	**Koktuh Hills**	**83.91**	**17**	P	**P**	02 29 56.0	**0.0**
M16K	**Timber Creek**	**83.93**	**15**	P	**P**	02 29 57.6	**+1.5**
N17K	**Nushagak Hills**	**83.95**	**16**	P	**P**	02 29 56.7	**+0.6**
N17K				IAmb	IAmb	02 30 00.2	
	comp=Z,15nm,1.4s						
L16K	**Owhat River**	**84.41**	**14**	P	**P**	02 29 59.6	**+1.2**
L16K				IAmb	IAmb	02 30 00.2	
	comp=Z,7.0nm,1.1s						
K15K	**Wolf Creek Mou**	**84.47**	**13**	P	**P**	02 30 00.0	**+1.3**
ILSW	**Iliamna Southw**	**84.60**	**18**	pP	02 30 58.8		**-0.1**
M17K	**Holitna River**	**84.63**	**15**	P	**P**	02 30 01.2	**+1.7**
M17K				IAmb	IAmb	02 30 03.7	
	comp=Z,4.9nm,0.9s						
L18K	**Granite Mounta**	**85.52**	**15**	P	**P**	02 30 06.3	**+2.4**
L18K				IAmb	IAmb	02 30 27.6	
	comp=Z,8.7nm,1.4s						
J16K	**Anvik River**	**85.55**	**13**	P	**P**	02 30 04.5	**+0.5**
J16K				IAmb	IAmb	02 30 28.4	
	comp=Z,6.7nm,1.3s						
L19K	**White Mountain**	**85.95**	**16**	P	**P**	02 30 05.5	**-0.6**
J17K	**VABM Dome**	**85.98**	**14**	P	**P**	02 30 07.1	**+1.0**
J17K				IAmb	IAmb	02 30 24.0	
	comp=Z,9.5nm,1.4s						
G16K	**Koyuk River**	**87.08**	**11**	P	**P**	02 30 12.8	**+1.4**
G16K				IAmb	IAmb	02 30 34.1	
	comp=Z,7.9nm,1.2s						
SONM	**Songino Array**	**87.41**	**323**	P	**P**	02 30 14.0	**+0.4**
	comp=Z,0.5nm,0.4s,baz=146,slow=5.3,SNR=4.2						
	comp=Z,0.5nm,0.4s						
CAST	**Castle Rocks**	**87.70**	**16**	P	**P**	02 30 13.1	**-1.4**
CAST				IAmb	IAmb	02 30 15.8	
	comp=Z,9.1nm,1.4s						
SNAA	**Sanae**	**89.14**	**182**	P	**P**	02 30 20.7	**-0.7**
	comp=Z,1.7nm,0.6s,baz=204,slow=10.0,SNR=6.7						
	comp=Z,1.7nm,0.6s						
TPH	**Tonopah**	**89.23**	**49**		pwP	02 31 24.6	-0.9
ILAR	**Eielson Array**	**90.18**	**17**	P	**P**	02 30 24.8	**-1.2**
	comp=Z,0.6nm,0.8s,baz=232,slow=5.1,SNR=3.6						
	comp=Z,0.6nm,0.8s						
ARCES	**ARCESS Array B**	**125.16**	**345**	PKP	**PKPdf**	02 36 24.1	**-0.4**
	comp=Z,2.3nm,0.9s,baz=64,slow=4.1,SNR=7.9						
GERES	**GERESS Array B**	**144.64**	**332**	PKP	**PKPab**	02 37 01.0	**+0.2**
	comp=Z,1.1nm,0.5s,baz=36,slow=5.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**166.83**	**244**	PKPab	**PKPab**	02 38 35.9	**+0.3**
	comp=Z,0.3nm,0.5s,baz=86,slow=4.2,SNR=1.8						

TEH ***14*** *02:42:34.6, 40.°34N×48.°47E, h10km±141km, ML2.6*
DRS ***14*** *02:42:36.1, 40.°40N×48.°90E, h24km*

ISC 14 02:42:31.0±3.1**, 40.°42N**±0.°06×**48.°8E**±0.°2**, h1**km±27km**, n18, σ1§22/31, Eastern Caucasus**

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

0.4nm,0.3s,baz=52,slow=9.3,SNR=4.2
0.4nm,0.3s
YKA Yellowknife Ar 47.81 39 P P 02 54 55.9 +0.2
0.6nm,0.7s,baz=302,slow=7.6,SNR=10
0.6nm,0.7s
ARCES ARCESS Array B 52.75 339 P P 02 55 32.5 +0.5
5.4nm,1.1s,baz=52,slow=8.1,SNR=1.7
5.4nm,1.1s
FINES FINESS Array B 59.02 333 P P 02 56 15.8 0.0
1.7nm,0.7s,baz=20,slow=9.5,SNR=5.3
1.7nm,0.7s
PDAR Pinedale Array 62.92 55 P P 02 56 41.8 -0.5
0.3nm,0.4s,baz=287,slow=3.7,SNR=2.1
NOA NORSAR Array B 63.12 339 P P 02 56 43.4 +0.4
1.4nm,1.1s,baz=27,slow=6.3,SNR=3.3
1.4nm,1.1s
HFS Hagfors 63.37 338 P P 02 56 44.6 +0.1
0.9nm,0.5s,baz=69,slow=7.9,SNR=4.8
0.9nm,0.5s
AKASG Malin Array Be 66.73 324 P P 02 57 05.0 -1.0
0.3nm,0.4s,baz=30,slow=6.0,SNR=2.3
0.3nm,0.4s
SCHQ Schefferville 69.24 22 P P 02 57 20.5 -0.8
3.7nm,0.9s,baz=337,slow=7.7,SNR=1.3
3.7nm,0.9s
EKA Eskdalemuir Ar 71.22 345 P P 02 57 32.9 -0.1
1.3nm,0.6s,baz=12,slow=4.6,SNR=4.5
1.3nm,0.6s
TXAR Lajitas Array 76.19 60 P P 02 58 01.7 -0.4
0.2nm,0.5s,baz=296,slow=5.9,SNR=4.8
0.2nm,0.5s

*IDC **14** 03:53:10.5±18.0, 21.98N×143.15E, h259km±186km, mb3.0/9, mbtmp3.6/9, Error ellipse: s-maj=33.7km s-min=18.1km az=68.0*

ISC 14 03:53:09.6±1.1, 22.0N±0.2×143.1E±0.3, h250km, n9, σ0.56/9, mb3.2/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**39.10**	**320**	P	**P**	**04 00 13.4**	**+0.4**
	0.2nm,0.4s,baz=120,slow=4.8,SNR=5.1						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**42.54**	**192**	P	**P**	**04 00 41.2**	**+0.2**
	0.2nm,0.3s,baz=14,slow=9.2,SNR=7.4						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**46.25**	**192**	P	**P**	**04 01 10.2**	**-0.1**
	0.2nm,0.3s,baz=19,slow=6.1,SNR=2.0						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**53.97**	**322**	P	**P**	**04 02 07.5**	**-0.2**
	0.6nm,0.5s,baz=99,slow=8.9,SNR=1.6						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**54.48**	**313**	P	**P**	**04 02 10.5**	**-1.1**
	0.4nm,0.8s,baz=82,slow=10,SNR=2.5						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**57.30**	**317**	P	**P**	**04 02 31.4**	**0.0**
	0.7nm,0.5s,baz=92,slow=7.5,SNR=15						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**61.81**	**27**	P	**P**	**04 03 01.5**	**-0.4**
	0.6nm,0.8s,baz=260,slow=5.5,SNR=9.6						
	0.6nm,0.8s						
BVAR	**Borovoye Array**	**62.44**	**319**	P	**P**	**04 03 06.5**	**+0.3**
	1.4nm,0.4s,baz=88,slow=6.7,SNR=6.1						
	1.4nm,0.4s						
YKA	**Yellowknife Ar**	**76.23**	**28**	P	**P**	**04 04 30.6**	**+0.3**
	0.2nm,0.4s,baz=294,slow=6.1,SNR=5.8						
	0.2nm,0.4s						

HEL 14 03:53:12.6±0.1, 67.65N×33.82E, h0km, ML1.3, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.41**	**51**	PG	Pg	03 53 19.9	-0.4
	baz=225						
VRF	**Varrio**	**1.61**	**276**	PG	Pn	03 53 41.5	-0.8
VRF				MSG		03 54 00.8	
	comp=Z,1.3nm,0.2s						
VRF				SG	Sn	03 54 02.4	-1.3
OLKF	**Oulanka, Finla**	**2.19**	**235**	PG	Pb	03 53 51.9	-1.1
OLKF				MSG		03 54 17.4	
	comp=Z,1.6nm,0.2s						
OLKF				SG	Sb	03 54 20.0	-0.6
KU6	**Riekki**	**2.25**	**225**	PG	Pb	03 53 52.7	-1.3
	baz=44						
KU6				MSG		03 54 19.2	
	comp=Z,1.1nm,0.2s						
KU6				SB	Sb	03 54 21.0	-1.4
MSF	**Maaselka**	**2.57**	**230**	SG	Sb	03 54 31.6	-0.1
SGF	**Sodankyl**	**2.81**	**269**	PB	Pn	03 54 00.2	+1.5
KALU	**Kalix**	**4.52**	**251**	PB	Pn	03 54 26.7	+4.5

IDC 14 03:59:12.0±2.1, 9.60S×125.65E, h0km, mb3.5/1, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=173.8km s-min=34.6km az=57.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.28**	**142**	Pn	Pn	04 02 21.8	-0.1
	0.2nm,0.3s,baz=316,slow=12,SNR=5.3						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**16.06**	**152**	Pn	Pn	04 02 59.6	+0.1
	0.1nm,0.3s,baz=322,slow=13,SNR=2.2						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**68.14**	**329**	P	P	04 10 14.0	0.0
	0.3nm,0.7s,baz=134,slow=8.2,SNR=2.3						
	0.3nm,0.7s						

UPA 14 04:10:03.1±1.9, 7.39N×80.99W, h6km, MW4.2, 1C-2D, Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CACAO	**El Cacao, Vera**	**0.14**	**107**	*iP*	Pg	04 10 06.1	+0.1
CACAO				*eS*	Sg	04 10 09.6	+1.7
MARI3	**Mariato, Verag**	**0.26**	**1**	*eP*	Pg	04 10 07.2	-1.1
GMAL	**Guarumal, Vera**	**0.44**	**328**	*iP*	Pg	04 10 12.3	+0.6
GMAL				*i* S	Sb	04 10 20.7	+0.5
GMAL				*eS*	Sg	04 10 21.2	+3.6
RSUS3	**Rio de Jesus,**	**0.62**	**345**	*i* P	Pg	04 10 14.9	-0.1
RSUS3				*i* S	Sb	04 10 25.3	+0.1
STIA3	**Santiago, Vera**	**0.71**	**2**	*eP*	Pg	04 10 16.6	-0.2
CHIT3	**Chitre**	**0.81**	**45**	*eP*	Pg	04 10 18.1	-0.5
CHIT3				*eS*	Sb	04 10 30.9	+0.2
ACHO3	**Achotines, Los**	**0.81**	**88**	*eP*	Pg	04 10 18.8	0.0
AZU	**Azuero**	**0.82**	**61**	*iP*	Pg	04 10 18.0	-0.9
AZU				*eS*	Sb	04 10 30.6	-0.4
SFRA3	**San Francisco,**	**0.86**	**1**	*eP*	Pb	04 10 20.3	-0.1
CRIS3	**El Cristo, Coc**	**0.94**	**23**	*eP*	Pg	04 10 20.6	-0.6
CALO3	**Calobre, Verag**	**0.94**	**9**	*eP*	Pb	04 10 22.3	+0.4
CALO3				*i* S	Sb	04 10 35.5	+0.9
NANC3	**Nancito, Chiri**	**1.12**	**319**	*eP*	Pg	04 10 20.1	-4.5
SAFE3	**Santa Fe, Vera**	**1.13**	**356**	*eP*	Pg	04 10 22.3	-2.4
CHGR2	**Aguacate**	**1.92**	**324**	*eP*	Pn	04 10 35.6	-0.7
CHGR2				*eS*	Sb	04 11 02.5	-0.2
CHOR3	**La Chorrera**	**1.93**	**39**	*iP*	Pb	04 10 37.8	-1.0
BCO2	**Palmira**	**2.02**	**311**	*eP*	Pn	04 10 37.5	-0.3
BCO2				*eS*	Sn	04 11 04.2	+0.7
BCIP	**Isla Barro Col**	**2.11**	**33**	*eP*	Pn	04 10 40.1	+1.2
BCIP				*eS*	Sb	04 11 08.4	+0.2
UPA	**Univ. de Panam**	**2.15**	**42**	*eP*	Pn	04 10 39.3	-0.1
BRU2	**Volcan**	**2.19**	**310**	*eP*	Pn	04 10 39.1	-1.1
BRU2				*eS*	Sn	04 11 08.3	+0.7

*MOS **14** 04:16:34.6, 41.10N×46.60E, h31km, MPVA3.2*
*TIF **14** 04:16:34.2, 40.93N×46.59E, h34km±1km*
*NORS **14** 04:16:35.2, 41.09N×46.92E, h8km, MPVA3.5*
*DRS **14** 04:16:38.4, 41.03N×47.05E, h22km*

ISC 14 04:16:35.5±1.6, 41.04N±0.06×46.77E±0.06, h25km±10km, n25, σ1.42/48, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSHL	**Vashlovani**	**0.34**	**304**	P	**Pb**	**04 16 42.7**	**-0.5**
VSHL				S	**Sb**	**04 16 48.7**	**+0.3**
LGD	**Lagodekhi**	**0.89**	**334**	P	**Pn**	**04 16 50.6**	**-1.8**
LGD	**Lagodekhi**	**0.89**	**334**	*ePg*	**Pn**	**04 16 50.6**	**-1.8**
KMKR	**Kumukh**	**1.12**	**13**	*ePg*	**Pb**	**04 16 56.1**	**-0.1**
KMKR				*eSg*	**Sb**	**04 17 10.7**	**+0.2**
DGRG	**David-gareji**	**1.13**	**292**	P	**Pn**	**04 16 54.6**	**-1.1**
DGRG				S	**Sn**	**04 17 09.9**	**-0.6**
DGRG	**David-gareji**	**1.13**	**292**	*ePg*	**Pn**	**04 16 54.6**	**-1.1**
DGRG				*eSg*	**Sn**	**04 17 09.9**	**-0.6**
URKR	**Urkarakh**	**1.30**	**30**	*ePg*	**Pn**	**04 16 56.2**	**-1.9**
URKR				*eSg*	**Sb**	**04 17 19.4**	**+3.8**
GNBR	**Gunib**	**1.36**	**6**	*ePg*	**Pb**	**04 17 00.2**	**0.0**
GNBR				*eSg*	**Sb**	**04 17 17.7**	**+0.5**
XNZR	**Khunzakh**	**1.50**	**358**	*ePg*	**Pb**	**04 17 02.7**	**-0.1**
XNZR				*eSg*	**Sb**	**04 17 22.6**	**+1.1**
ARKR	**Arakani**	**1.57**	**6**	*ePg*	**Pb**	**04 17 03.6**	**-0.3**
ARKR				*eSg*	**Sb**	**04 17 23.6**	**+0.3**
UNCR	**Uncukul**	**1.67**	**1**	*ePg*	**Pb**	**04 17 04.8**	**-0.9**
UNCR				*eSg*	**Sb**	**04 17 26.2**	**-0.1**
GNI	**Garni**	**1.78**	**241**	*ePg*	**Pb**	**04 17 09.1**	**+1.5**
GNI				*eSg*	**Sb**	**04 17 29.7**	**+0.2**
KRNR	**Karanay**	**1.79**	**3**	*ePg*	**Pb**	**04 17 06.5**	**-1.2**
KRNR				*eSg*	**Sb**	**04 17 29.4**	**-0.3**
CHRG	**Chargali**	**1.89**	**314**	P	**Pn**	**04 17 05.5**	**-0.8**
CHRG				S	**Sn**	**04 17 28.9**	**-0.5**
CHRG	**Chargali**	**1.89**	**314**	*ePg*	**Pn**	**04 17 05.5**	**-0.8**
CHRG				*eSg*	**Sn**	**04 17 28.9**	**-0.5**
DMNI	**Dmanisi**	**1.97**	**279**	P	**Pn**	**04 17 06.0**	**-1.4**
DMNI				S	**Sn**	**04 17 30.3**	**-1.0**
DMNI	**Dmanisi**	**1.97**	**279**	*ePg*	**Pn**	**04 17 06.0**	**-1.4**
DMNI				*eSg*	**Sn**	**04 17 30.3**	**-1.0**
DLMR	**Dylym**	**2.03**	**357**	*ePg*	**Pn**	**04 17 08.2**	**+0.1**
DLMR				*eSg*	**Sb**	**04 17 35.9**	**-0.7**
TRLG	**Trialeti**	**2.07**	**285**	P	**Pn**	**04 17 08.2**	**-0.6**
TRLG				S	**Sn**	**04 17 32.3**	**-1.5**
TRLG	**Trialeti**	**2.07**	**285**	*ePg*	**Pn**	**04 17 08.2**	**-0.6**
TRLG				*eSg*	**Sn**	**04 17 32.3**	**-1.5**
GUDG	**Gudauri**	**2.23**	**310**	*ePg*	**Pn**	**04 17 09.7**	**-1.3**
GUDG				*eSg*	**Sn**	**04 17 39.2**	**+1.3**
MTEO	**Meteo**	**2.34**	**315**	P	**Pn**	**04 17 12.9**	**+0.1**
MTEO				S	**Sn**	**04 17 41.3**	**+0.4**
MTEO	**Meteo**	**2.34**	**315**	*ePg*	**Pn**	**04 17 12.9**	**+0.1**
MTEO				*eSg*	**Sn**	**04 17 41.3**	**+0.4**
LACR	**Lac**	**2.57**	**315**	*ePn*	**Pn**	**04 17 17.8**	**+2.2**
LACR				*eSn*	**Sn**	**04 17 49.5**	**+3.4**
ZEI	**Tsey**	**2.76**	**310**	*ePn*	**Pn**	**04 17 21.4**	**+3.1**
ZEI				*eSn*	**Sn**	**04 17 54.2**	**+3.2**

*NEIC **14** 04:20:03.4±1.5, 45.6N±0.2×146.1E±0.2, h153km±13km, mb4.1/13, Error ellipse: s-maj=26.3km s-min=20.4km az=156.0*
*IDC **14** 04:20:04.4±5.1, 46.68N×145.88E, h106km±95km, mb3.5/7, mbtmp3.9/9, ML3.6/2, Error ellipse: s-maj=134.7km s-min=25.5km az=170.0*
*JMA **14** 04:20:06.5±0.4, 45°.N-2°.×14°.6E±°, h215km, MV3.2/22, NEAR ETOROFU ISLAND*

ISC 14 04:20:06.3±0.9, 44.84N±0.10×146.30E±0.10, h230km±9km, n41, σ1.37/48, mb4.0/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JRA	**Rausu**	**1.23**	**223**	*eP*	**Pn**	**04 20 40.8**	**+0.1**
NEM2	**Nemuro 2**	**1.53**	**195**	*eP*	**Pn**	**04 20 42.3**	**-0.6**
NEM2				*eS*	**S**	**04 21 09.3**	**-2.1**
JNK	**Nakash**	**1.69**	**223**	*eP*	**Pn**	**04 20 45.1**	**+0.8**
JNK				*eS*	**S**	**04 21 14.5**	**+0.6**
JTKR	**Abashiri--Toko**	**1.92**	**244**	*eP*	**Pn**	**04 20 46.9**	**+0.7**
JTKR				*eS*	**S**	**04 21 18.1**	**+0.6**
JKHN	**Kushirohamanak**	**1.94**	**205**	*eP*	**Pn**	**04 20 46.7**	**+0.2**
JKHN				*eS*	**S**	**04 21 16.8**	**-1.1**
JAK	**Akkeshi**	**2.18**	**213**	*eP*	**Pn**	**04 20 49.3**	**+0.5**
JAK				*eS*	**S**	**04 21 20.7**	**-1.3**
JAR	**Ashorobuto**	**2.39**	**231**	*eP*	**Pn**	**04 20 52.5**	**+1.6**
JAR				*eS*	**S**	**04 21 27.8**	**+2.0**
JSE	**Soyaes**	**2.64**	**274**	*eP*	**Pn**	**04 20 53.8**	**+0.3**
JKA	**Kamikawa-asahi**	**2.74**	**256**	Pn	**Pn**	**04 20 52.0**	**-2.6**
ASAJ	**Asahikawa**	**2.75**	**256**	P	**Pn**	**04 20 56.3**	**+1.6**
	6.2nm,0.3s,baz=55,slow=13,SNR=21						
	33nm,0.4s						
JCH	**Churui**	**3.08**	**225**	*eP*	**Pn**	**04 20 59.5**	**+1.1**
JCH				*eS*	**S**	**04 21 38.4**	**-0.9**
JWK2	**Keihoku**	**3.15**	**280**	*eP*	**Pn**	**04 21 00.4**	**+1.2**
JNBK	**Urakawa-nobuka**	**3.63**	**226**	*eP*	**Pn**	**04 21 05.6**	**+0.8**
JNBK				*eS*	**S**	**04 21 48.9**	**-1.9**
ERM	**Erimo**	**3.63**	**220**	Pn	**Pn**	**04 21 06.2**	**+1.4**
JRBN	**Rebuntou**	**3.75**	**281**	*eP*	**Pn**	**04 21 06.3**	**+0.3**
JOT	**Ohata**	**5.17**	**230**	*eS*	**S**	**04 22 21.2**	**-3.5**
JTM	**Tenmabayashi**	**5.58**	**225**	Pn	**Pn**	**04 21 29.9**	**+1.1**
USRK	**Ussuriysk Ar.**	**10.24**	**271**	Pn	Pn	04 22 23.3	-4.7
USRK	**Ussuriysk Ar.**	**10.24**	**271**	P	**Pn**	**04 22 25.0**	**-3.0**
	0.2nm,0.3s,baz=79,slow=15,SNR=2.8						
	3.8nm,0.7s						
G16K	**Koyuk River**	**34.49**	**35**	P	**P**	**04 26 31.7**	**-0.3**
G16K				IAmb	IAmb	04 27 10.7	
	comp=Z,5.1nm,1.1s						
C18K	**Utukok River**	**35.66**	**30**	P	**P**	**04 26 40.4**	**-1.7**
G18K	**Tagagawik**	**36.09**	**35**	P	**P**	**04 26 44.3**	**-1.4**
G18K				IAmb	IAmb	04 27 08.6	
	comp=Z,7.4nm,1.5s						
H18K	**Honhosa River**	**36.11**	**36**	P	**P**	**04 26 44.7**	**-1.2**
H18K				IAmb	IAmb	04 27 27.5	
	comp=Z,8.2nm,1.5s						
L18K	**Granite Mounta**	**36.65**	**41**	P	**P**	**04 26 50.1**	**-0.3**
H19K	**Roundabout Mou**	**36.95**	**36**	P	**P**	**04 26 52.2**	**-0.7**
H19K				IAmb	IAmb	04 27 12.4	
	comp=Z,6.2nm,1.4s						
TTA	**Tatalina**	**36.98**	**40**	P	**P**	**04 26 53.4**	**+0.1**
TTA				IAmb	IAmb	04 27 17.2	
	comp=Z,5.6nm,1.5s						
J20K	**Nowinta River**	**37.85**	**38**	P	**P**	**04 27 00.1**	**-0.4**
J20K				IAmb	IAmb	04 27 26.0	
	comp=Z,7.1nm,1.4s						
IMAR	**Indian Mountai**	**38.10**	**35**	P	**P**	**04 27 01.9**	**-0.7**
D22K	**Ayikyak River**	**38.75**	**30**	P	**P**	**04 27 05.6**	**-2.4**
E22K	**Anaktuvuk Pass**	**39.00**	**32**	P	**P**	**04 27 08.9**	**-1.2**
ZALV	**Zalesovo Beam**	**39.86**	**306**	P	**P**	**04 27 18.2**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=70,slow=9.5,SNR=2.1						
	comp=Z,0.4nm,0.3s						
I23K	**Minto, Yukon-K**	**39.91**	**36**	P	**P**	**04 27 17.2**	**-0.2**
I23K				IAmb	IAmb	04 27 36.7	
	comp=Z,5.7nm,1.4s						
E24K	**Your Creek**	**40.24**	**32**	P	**P**	**04 27 19.3**	**-1.0**
ILAR	**Eielson Array**	**40.98**	**37**	P	**P**	**04 27 26.1**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=266,slow=6.9,SNR=14						
	comp=Z,0.8nm,0.7s						
MKAR	**Makanchi Array**	**43.54**	**296**	P	**P**	**04 27 48.9**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=73,slow=9.1,SNR=1.3						
	comp=Z,0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**44.50**	**303**	P	**P**	**04 27 55.5**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=74,slow=8.2,SNR=6.3						
	comp=Z,0.5nm,0.4s						
ABKAR	**Akbulak array**	**55.91**	**308**	P	**P**	**04 29 21.4**	**+1.4**
ABKAR	**Akbulak array**	**55.91**	**308**	P	**P**	**04 29 21.2**	**+1.2**
ABKAR				IAmb	IAmb	04 29 57.6	
	comp=Z,3.3nm,1.5s						
FINES	**FINESS Array B**	**63.62**	**332**	P	**P**	**04 30 11.7**	**-0.6**
	comp=Z,6.1nm,1.0s,baz=66,slow=6.5,SNR=6.4						
	comp=Z,6.1nm,1.0s						
NOA	**NORSAR Array B**	**68.36**	**338**	P	**P**	**04 30 41.8**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=32,slow=6.6,SNR=4.8						
	comp=Z,0.3nm,0.4s						
HFS	**Hagfors**	**68.45**	**337**	P	**P**	**04 30 42.3**	**-0.6**
	comp=Z,4.3nm,1.0s,baz=46,slow=6.4,SNR=5.1						
	comp=Z,4.3nm,1.0s						

*IDC **14** 04:28:26.2±52.0, 15.90S×174.19W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=987.2km s-min=192.0km az=78.0*
*NEIC **14** 04:28:42.5±1.0, 16.0S±0.2×174.2W±0.2, h137km±8km, mb4.5/11, Error ellipse: s-maj=26.7km s-min=17.7km az=142.0*

ISC 14 04:28:39.6±1.0, 16.0S±0.2×174.2W±0.2, h115km, n15, σ0.74/15, mb4.6/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKZ	**Black Stump Fm**	**24.51**	**198**	P	**P**	**04 33 48.6**	**+0.3**
BKZ				IAmb	IAmb	04 34 32.4	
	comp=Z,30nm,1.4s						
MRZ	**Mangatainoka R**	**26.16**	**198**	P	**P**	**04 34 03.1**	**-0.1**
MRZ				IAmb	IAmb	04 34 13.2	
	comp=Z,32nm,1.3s						
STKA	**Stephens Creek**	**43.10**	**240**	P	**P**	**04 36 27.8**	**-0.8**
STKA	**Stephens Creek**	**43.10**	**240**	P	**P**	**04 36 28.9**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=98,slow=14,SNR=4.2						
	comp=Z,2.0nm,0.5s						
BBOO	**Buckleboo**	**47.87**	**240**	P	**P**	**04 37 06.2**	**0.0**
BBOO				IAmb	IAmb	04 37 17.7	
	comp=Z,14nm,1.1s						
WB0	**Warramunga Arr**	**48.94**	**258**	P	**P**	**04 37 13.8**	**-0.8**
WB0				IAmb	IAmb	04 37 22.8	
	comp=Z,6.2nm,1.1s						
WRA	**Warramunga Arr**	**48.98**	**257**	P	**P**	**04 37 14.7**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=96,slow=7.5,SNR=6.1						
	comp=Z,0.7nm,0.6s						
AS31	**Alice Springs**	**49.21**	**252**	P	**P**	**04 37 16.6**	**0.0**
ASAR	**Alice Springs**	**49.21**	**252**	P	**P**	**04 37 16.3**	**-0.4**
ASAR	**Alice Springs**	**49.21**	**252**	P	**P**	**04 37 16.7**	**0.0**
	comp=Z,8.5nm,0.6s,baz=88,slow=8.2,SNR=103						
	comp=Z,8.5nm,0.6s						
SBA	**Scott Base**	**62.63**	**184**	P	**P**	**04 38 50.2**	**-1.1**
CASY	**Casey**	**69.58**	**205**	P	**P**	**04 39 37.5**	**+1.6**
N25K	**Chitina, Valde**	**80.81**	**14**	P	**P**	**04 40 40.9**	**+0.6**
N25K				IAmb	IAmb	04 41 18.5	
	comp=Z,22nm,1.4s						
KTH	**Kantishna Hill**	**81.30**	**10**	P	**P**	**04 40 43.4**	**+0.6**
KTH				IAmb	IAmb	04 41 01.3	
	comp=Z,11nm,1.4s						
LRM	**Limekiln Ridge**	**82.93**	**38**	P	**P**	**04 40 51.3**	**-0.7**

*IDC **14** 04:31:34.8±2.5, 6.40S×129.90E, h0km, mb3.8/2, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=220.2km s-min=29.7km az=70.0*
*NEIC **14** 04:31:36.0±1.9, 6.56S±0.10×129.78E±0.1, h10km±6km, mb4.4/5, Error ellipse: s-maj=20.4km s-min=5.9km az=48.0*

ISC 14 04:31:44.5±1.0, 6.9S±0.1×130.0E±0.1, h100km, n18, σ2.21/19, mb3.9/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.65**	**130**	Pn	**Pn**	**04 32 09.8**	**-2.8**
SAUI					**Sn**	**04 32 37.9**	**+3.8**
MTN	**Manton Dam**	**5.99**	**170**	Pn	**Pn**	**04 33 09.5**	**-1.2**
KNRA	**Kununurra**	**8.80**	**188**	Pn	**Pn**	**04 33 48.3**	**-0.6**
LUWI	**Luwuk**	**9.29**	**309**	Pn	Pn	04 33 44.4	-11
FITZ	**Fitzroy Crossi**	**11.91**	**201**	Pn	**Pn**	**04 34 31.1**	**+0.1**
WB0	**Warramunga Arr**	**13.46**	**162**	Pn	**Pn**	**04 34 53.0**	**+1.4**
WRA	**Warramunga Arr**	**13.61**	**163**	Pn	**P**	**04 34 56.7**	**-2.2**
WRA	**Warramunga Arr**	**13.61**	**163**	Pn	**P**	**04 34 56.5**	**-2.4**
	0.3nm,0.3s,baz=344,slow=12,SNR=2.2						
WRA					Sn	**Sn**	**04 37 20.4**	**-2.9**
	0.4nm,0.3s,baz=339,slow=22,SNR=5.9						
	0.2nm,0.3s						
WB2	**Warramunga Arr**	**13.62**	**162**	Pn	**Pn**	**04 34 53.8**	**+0.2**
ASAR	**Alice Springs**	**17.07**	**168**	P	**P**	**04 35 40.2**	**+2.9**
ASAR	**Alice Springs**	**17.07**	**168**	P	**P**	**04 35 41.6**	**+4.3**
	0.2nm,0.3s,baz=346,slow=10,SNR=11						
	0.8nm,0.6s						
GIRL	**Giralia**	**21.82**	**223**	P	**P**	**04 36 28.6**	**-0.2**
GIRL				IAmb	IAmb	04 36 35.8	
	comp=Z,31nm,1.0s						
NWAO	**Narrogin (SRO)**	**28.48**	**203**	P	**P**	**04 37 32.2**	**+1.9**
MK31	**Makanchi Array**	**68.17**	**327**	P	**P**	**04 42 33.9**	**-0.2**
MK31				IAmb	IAmb	04 42 41.5	
	comp=Z,1.4nm,1.0s						
MKAR	**Makanchi Array**	**68.17**	**327**	P	**P**	**04 42 34.3**	**+0.3**
MKAR	**Makanchi Array**	**68.17**	**327**	P	**P**	**04 42 34.6**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=119,slow=7.7,SNR=13						
	comp=Z,0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**72.45**	**328**	P	**P**	**04 42 58.9**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=136,slow=5.4,SNR=4.4						
	comp=Z,0.4nm,0.6s						
ABKAR	**Akbulak array**	**82.46**	**322**	P	**P**	**04 43 55.6**	**-0.3**

*TRN **14** 04:46:55.6, 10.82N×62.41W, h26km, MD3.4*
*FUNV **14** 04:46:57.7, 10.75N×62.28W, h34km, MW3.5*

ISC 14 04:46:54.6±1.3, 10.73N±0.05×62.31W±0.04, h94km±13km, n17, σ1.55/30, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.90**	**95**	*eP*	**Pn**	**04 47 14.8**	**+1.4**
TRN				*eS*	**Sn**	**04 47 27.4**	**-0.2**
CRUV	**Carupano**	**0.91**	**267**	*iP*	**Pn**	**04 47 14.3**	**+0.7**
CRUV				*eS*	**Sn**	**04 47 26.4**	**-1.4**
GRGR	**Grenville**	**1.54**	**25**	*eP*	**Pn**	**04 47 21.2**	**+0.1**
GRGR				*eS*	**Sn**	**04 47 40.1**	**-1.0**
GRHS	**Sauteurs**	**1.63**	**24**	*eP*	**Pn**	**04 47 22.1**	**-0.1**
GRHS				*eS*	**Sn**	**04 47 41.5**	**-1.6**
CUMV	**Cumana_UDO**	**1.87**	**261**	*eP*	**Pn**	**04 47 27.3**	**+1.9**
CUMV				*eS*	**Sn**	**04 47 48.9**	**+0.2**
GCMP	**Grenada, Carri**	**1.95**	**26**	*eP*	**Pn**	**04 47 26.9**	**+0.6**
GCMP				*eS*	**Sn**	**04 47 49.1**	**-1.4**
PCRV	**Puerto La Cruz**	**2.35**	**257**	*eP*	**Pn**	**04 47 33.0**	**+1.3**
PCRV				*eS*	**Sn**	**04 47 59.4**	**-0.6**
SVB	**Belmont**	**2.73**	**22**	*eP*	**Pn**	**04 47 38.0**	**+1.3**
SVB				*eS*	**Sn**	**04 48 08.5**	**-0.6**
SLBI	**Saint Lucia, B**	**3.53**	**22**	*eP*	**Pn**	**04 47 48.7**	**+1.4**
SLBI				*eS*	**Sn**	**04 48 27.9**	**-0.2**
TACV	**Tcata**	**4.67**	**263**	*eP*	**Pn**	**04 48 05.0**	**+2.0**
TACV				*eS*	**Sn**	**04 48 54.5**	**-1.6**
LUEV	**Luepa**	**4.92**	**170**	*eP*	**Pn**	**04 48 07.7**	**+1

O02D	Mt. Diablo Mer	0.87	47		Pn	04 57 35.7	-0.8	
GPMM	Pine Mountain	0.90	145		Pn	04 57 37.1	+0.2	
GCK	Clark Valley	0.91	92		Pn	04 57 37.1	+0.1	
KMPM	Mount Pierce	0.92	335		Pb	04 57 35.1	-1.2	
KMPM				Sn	Sb	04 57 49.4	+0.8	
LBPM	Beegum Peak	0.93	37		Pg	04 57 36.5	+0.2	
GCVM	Cloverdale	0.94	150		Pn	04 57 37.8	+0.5	
GBMM	Baldy Mountain	0.97	117		Pn	04 57 38.1	+0.2	
GRTM	Round Top Moun	0.97	131		Pn	04 57 38.0	+0.1	
GSSM	Skaggs Springs	1.00	152		Pn	04 57 39.6	+1.5	
GDXM	Geysers	1.00	140		Pn	04 57 38.6	+0.3	
GDXM	Geysers	1.00	140	IAML		04 57 59.9		
	comp=N,3µm,0.9s							
GDXM				IAML		04 58 01.2		
	comp=E,2µm,0.8s							
GSGM	Seigler Mounta	1.00	135		Pn	04 57 39.0	+0.8	
GGPM	Geyser Peak	1.01	144		Pn	04 57 38.9	+0.4	
GHCM	House Creek	1.03	162		Pb	04 57 37.1	-1.0	
KCTM	Capetown	1.05	328		Pn	04 57 37.4	-1.5	
GBGM	Boggs Mountain	1.06	136		Pn	04 57 39.7	+0.6	
GFC	Funks Creek	1.06	104		Pn	04 57 39.2	+0.2	
GCRM	Castle Rock Sp	1.07	139		Pn	04 57 38.6	-0.6	
FER	Ferndale	1.11	334		Pn	04 57 40.0	+0.3	
KHBM	Hayfork Bally	1.12	16		Pb	04 57 39.2	-0.6	
MNRC	McLaughlin Min	1.15	127		Pg	04 57 40.5	0.0	
NMTM	Middletown	1.19	130		Pn	04 57 40.2	-0.7	
NHSM	Mount Saint He	1.21	140		Pn	04 57 40.3	-0.9	
JCC	Jacoby Creek,	1.27	346		Pn	04 57 40.4	-1.6	
JCC				IAML		04 58 12.2		
	comp=N,3µm,1.6s							
JCC				IAML		04 58 13.2		
	comp=E,4µm,2.1s							
KHMM	Horse Mountain	1.29	356	Pn	Pn	04 57 41.4	-1.0	
LTCM	Tuscan Springs	1.30	61		Pn	04 57 41.2	-1.2	
OSUM	Sutter Buttes	1.40	102		Pn	04 57 42.7	-1.0	
NTYM	Taylor	1.40	148		Pn	04 57 42.6	-1.1	
NBPM	Berryessa Peak	1.43	129		Pb	04 57 44.4	-0.6	
LGPM	Granite Peak	1.46	24		Pn	04 57 43.6	-1.0	
CVS	Carmenet Viney	1.53	144		Pn	04 57 44.0	-1.5	
MCCM	Marconi Confer	1.55	158		Pn	04 57 44.2	-1.4	
MCCM	Marconi Confer	1.55	158	IAML		04 58 17.2		
	comp=E,3µm,1.4s							
OGOM	Van Goodin Ran	1.55	87		Pn	04 57 44.2	-1.5	
N02D	Trinity Center	1.55	26		Pn	04 57 45.3	-0.6	
NDHM	Dunnigan Hills	1.55	121		Pg	04 57 47.3	-0.9	
O03E	Paynes Creek	1.56	62		Pn	04 57 45.4	-0.6	
KRPM	Rodgers	1.60	349		Pn	04 57 45.4	-1.2	
KRPM				IAML		04 58 31.3		
	comp=E,2µm,1.1s							
ORV	Oroville	1.63	90		Pn	04 57 45.6	-1.3	
LDBM	Digger Butte	1.64	58		Pn	04 57 46.7	-0.4	
OWYM	Wyandotte	1.65	94		Pn	04 57 45.7	-1.4	
LBKM	Bonanza King	1.67	25		Pn	04 57 47.1	-0.4	
OHCM	Honcut	1.67	98		Pn	04 57 45.9	-1.4	
NOLM	Olema	1.67	157		Pn	04 57 45.9	-1.5	
LSHM	Sage Hen Hill	1.71	44		Pn	04 57 47.4	-0.6	
KPK	Kanaka Peak	1.78	89		Pn	04 57 48.3	-0.7	
LMEM	Manzanita Entr	1.83	58		Pb	04 57 50.7	-1.3	
CPMM	Point Molate	1.88	150		Pn	04 57 49.7	-0.6	
M02C	Callahan	1.90	18		Pn	04 57 50.1	-0.5	
CSPM	San Pablo Ridg	1.92	148		Pn	04 57 50.3	-0.5	
CPIM	Pinole Ridge	1.93	145		Pb	04 57 51.9	-1.6	
FARB	Farallon Islan	1.94	166		Pn	04 57 50.0	-1.2	
KRMB	Red Mountain	1.95	353		Pn	04 57 50.1	-1.3	
KRMB	Red Mountain	1.95	353	IAML		04 58 41.7		
	comp=E,782nm,1.6s							
JPRM	Presidio of Sa	2.00	153		Pn	04 57 51.8	-0.1	
BRK	Berkeley--Havi	2.01	148		Pn	04 57 51.5	-0.5	
BL67	Building 67, L	2.01	148		Pn	04 57 51.8	-0.4	
VAK	Adit at Lawren	2.01	148		Pn	04 57 51.8	-0.3	
CVPM	Vollmer Peak	2.02	147		Pn	04 57 51.7	-0.5	
BKS	Berkeley--Byer	2.02	147		Pn	04 57 51.5	-0.6	
CYBM	Yerba Buena Is	2.02	151		Pn	04 57 52.1	-0.2	
M03C	McCloud	2.04	33		Pn	04 57 52.8	+0.2	
LCSM	College of the	2.05	27		Pn	04 57 52.0	-0.8	
HATC	Hat Creek Radi	2.06	53		Pn	04 57 53.4	+0.5	
LGBM	Gray Butte	2.07	31		Pn	04 57 53.5	+0.4	
SMCB	Saint Mary's C	2.10	146		Pn	04 57 54.1	+0.8	
JSBM	San Bruno Moun	2.13	153		Pn	04 57 53.0	-0.7	
LBCM	Butte Creek Ri	2.14	53		Pn	04 57 54.5	+0.5	
JMGM	Milagra Ridge	2.14	155		Pn	04 57 52.8	-1.1	
AFDM	Forest Hills D	2.15	106		Pn	04 57 53.6	-0.4	
LAMM	Antelope Mount	2.16	20		Pn	04 57 54.4	+0.1	
CSLM	San Leandro Hi	2.19	147		Pn	04 57 54.3	-0.3	
LBFM	Black Fox Moun	2.20	36		Pn	04 57 55.5	+0.6	
SAC	San Andreas	2.21	154		Pn	04 57 53.6	-1.2	
JCPM	Coyote Point	2.23	153		Pn	04 57 54.3	-0.8	
YBH	Yreka Blue Hor	2.25	17	Pn	Pn	04 57 55.8	+0.2	
	comp=E,7.0nm,0.3s,baz=184,slow=12,SNR=95							
YBH				Lg	Lg	04 58 27.2		
	comp=E,30nm,0.3s,baz=272,slow=8.5,SNR=5.3							
	comp=E,120nm,0.5s							
KSXB	Camp Six Broad	2.25	355		Pn	04 57 54.3	-1.3	
KSXB	Camp Six Broad	2.25	355	IAML		04 58 47.0		
	comp=E,750nm,3.0s							
KSXB				IAML		04 58 53.1		
	comp=N,518nm,1.1s							
LHEM	Herd Peak	2.30	27		Pn	04 57 57.0	+0.6	
CDOM	Doolan Road	2.32	142		Pb	04 57 57.7	-2.4	
CBSNC	Byron Hot Spri	2.34	138		Pb	04 57 58.3	-2.2	
CNIC	Niles Canyon	2.36	146		Pn	04 57 56.5	-0.4	
CVLM	Vallecito	2.40	144		Pn	04 57 58.1	+0.6	
B040	Montague	2.42	22		Pn	04 57 58.1	+0.4	
LGMM	Garner Mountai	2.43	33		Pn	04 57 58.4	+0.4	
JRSC	Jasper Ridge	2.43	153		Pn	04 57 56.6	-1.2	
WENL	Wente Vineyard	2.44	143		Pn	04 57 58.1	+0.1	
JSFB	Stanford Teles	2.45	152		Pn	04 57 57.4	-0.8	
JFP	Foothills Park	2.48	153		Pn	04 57 57.7	-1.0	
LMHM	Little Mount H	2.49	36		Pn	04 57 60.0	+1.1	
BEKR	Beckworth	2.52	83		Pn	04 57 60.0	+0.6	
L02F	Cave Junction	2.54	1		Pn	04 57 59.0	-0.3	
LASM	Arnica Sink	2.54	37		Pn	04 57 59.5	-0.1	
JSJM	St Joseph	2.54	152		Pn	04 57 59.1	-0.3	
CSTL	Corral Hollow	2.55	139		Pn	04 57 58.8	-0.8	
DONR	Donner Summit	2.56	94		Pn	04 58 00.6	+0.7	
CALM	Calaveras Res.	2.56	146		Pn	04 57 59.6	-0.1	
M04C	Macdoel	2.58	31		Pn	04 58 00.3	+0.2	
JPSM		2.58	157		Pn	04 57 59.4	-0.5	
CMLM	Mount Lewis	2.61	143		Pn	04 58 00.4	0.0	
LOY	Loyalton	2.61	87		Pn	04 58 01.6	+1.1	
BMRR	Black Mountain	2.61	77		Pn	04 58 01.2	+0.6	
KBF	Kyburz Flat	2.63	91		Pb	04 58 02.8	-2.8	
KBO	Bosley Butte	2.67	350		Pn	04 58 00.3	-0.9	
KBO	Bosley Butte	2.67	350	IAML		04 58 44.6		
	comp=N,443nm,1.4s							
KBO				IAML		04 59 09.3		
	comp=E,541nm,1.6s							
MPK	Martis Peak	2.79	95		Pn	04 58 03.9	+0.8	
MPK				IAML		04 58 49.4		
	comp=N,786nm,0.8s							
EMB	Emerald Bay	2.79	101		Pn	04 58 03.9	+0.8	
EMB				IAML		04 58 56.1		
	comp=E,677nm,0.9s							
EMB				IAML		04 59 07.8		
	comp=N,668nm,1.4s							
L04D	Klamath Falls	2.81	20		Pn	04 58 03.4	+0.2	
L04D				IAML		04 59 07.4		
	comp=N,502nm,1.3s							
L04D				IAML		04 59 14.0		
	comp=E,517nm,1.3s							
CMB	Columbia Colle	2.96	121		Pn	04 58 06.1	+0.9	
HUMO	Hull Mountain	3.06	9		Pn	04 58 06.9	+0.3	
HUMO				IAML		04 59 13.3		
	comp=E,309nm,1.4s							
K02D	Willamette Mer	3.11	359		Pn	04 58 07.3	0.0	
K02D				IAML		04 59 19.1		
	comp=E,274nm,2.6s							
K02D				IAML		04 59 20.6		
	comp=N,238nm,2.2s							
PNTR	Pine Nut	3.15	98		Pn	04 58 09.0	+1.0	
PAHR	Pah Rah Range	3.27	87		Pn	04 58 09.7	+0.2	
SAO	San Andreas Ge	3.29	148	Pn	Pn	04 58 08.9	-0.8	
KEBM	Edson Butte	3.33	351	Pn	Pn	04 58 10.4	+0.1	
KEBM				IAML		04 59 37.8		
	comp=E,465nm,2.8s							
KEBM				IAML		04 59 49.5		
	comp=N,348nm,1.4s							
K04D	Chiloquin, OR	3.35	24		Pn	04 58 11.0	+0.4	
PLTX	Planet X, Gerl	3.37	69	Pn	Pn	04 58 11.7	+0.8	
WAKR	Walker	3.42	107		Pn	04 58 13.0	+1.3	
WAKR				IAML		04 59 22.6		
	comp=N,178nm,1.5s							
WAKR				IAML		04 59 24.2		
	comp=E,235nm,1.0s							
YERR	Yerington	3.44	99		Pn	04 58 12.9	+0.9	
YERR				IAML		04 59 15.6		
	comp=E,330nm,0.8s							
YERR				IAML		04 59 21.7		
	comp=N,265nm,1.1s							
DBO	Dodson Butte	3.54	4		Pn	04 58 13.4	+0.2	
DBO				IAML		04 59 23.3		
	comp=E,237nm,1.9s							
DBO				IAML		04 59 27.7		
	comp=N,170nm,1.3s							
J01E	Myrtle Point	3.58	356		Pn	04 58 13.7	0.0	
J01E				IAML		04 59 36.5		
	comp=E,335nm,1.8s							
J01E				IAML		04 59 37.9		
	comp=N,299nm,1.5s							
BBGB	Big Mountain B	3.62	145	Pn	Pn	04 58 14.9	+0.5	
K05A	Summer Lake	3.75	32		Pn	04 58 16.9	+0.6	
K05A				IAML		04 59 44.2		
	comp=E,166nm,2.2s							
K05A				IAML		04 59 49.7		
	comp=N,234nm,2.5s							
PMPB	Monarch Peak	4.03	146	Pn	Pn	04 58 19.5	-0.4	
PMPB				IAML		04 59 54.6		
	comp=E,254nm,2.0s							
PMPB				IAML		05 00 19.1		
	comp=N,270nm,2.5s							
MDPB	Devils Postpil	4.05	117		Pn	04 58 21.6	+1.2	
MDPB				IAML		05 00 01.3		
	comp=N,102nm,0.9s							
RYN	Ryan	4.07	102		Pn	04 58 21.5	+0.8	
J05D	Fort Rock, OR	4.11	25		Pn	04 58 21.6	+0.5	
J05D				IAML		04 59 58.2		
	comp=N,114nm,1.7s							
J05D				IAML		05 00 03.9		
	comp=E,151nm,1.6s							
OMMB	Old Mammoth Mi	4.11	117		Pn	04 58 22.7	+1.4	
I03D	Drain, OR	4.12	3		Pn	04 58 21.6	+0.6	
I03D				IAML		04 59 44.9		
	comp=E,172nm,1.9s							
I03D				IAML		05 00 01.2		
	comp=N,137nm,1.9s							
LHV	Little Huntoon	4.20	107	Pn	Pn	04 58 23.5	+1.4	
LHV				IAML		04 59 42.1		
	comp=N,198nm,1.5s							
NVAR	Mina Array Bea	4.29	104	Pn	Pn	04 58 24.4	+0.7	
	comp=N,1.0nm,0.3s,baz=286,slow=14,SNR=26							
NVAR				Lg	Lg	04 59 31.4		
	comp=N,0.4nm,0.3s,baz=285,slow=32,SNR=2.2							
NVAR				LR	LR	05 00 27.2		
	comp=N,356nm,20.8s,baz=296,slow=43							
	comp=N,4.3nm,0.5s							
I04A	Tendick Farm,	4.30	12	Pn	Pn	04 58 24.1	+0.5	
I04A				IAML		04 59 57.7		
	comp=E,101nm,1.5s							
I04A				IAML		05 00 07.1		
	comp=N,90nm,2.3s							
NV11	Mina Array Sit	4.40	103	IAML		04 59 51.9		
	comp=N,96nm,1.4s							
BUCK	Buck Mountain	4.63	6	IAML		04 59 58.6		
	comp=N,138nm,1.8s							
PINE	Pine Mountain	4.66	25	IAML		05 00 12.6		
	comp=N,70nm,2.4s							
PINE				IAML		05 00 13.8		
	comp=E,88nm,3.0s							
WVOR	Wild Horse Val	4.72	51		Pn	04 58 30.1	+0.6	
WVOR				IAML		05 00 00.9		
	comp=E,65nm,1.6s							
H04D	Lebanon	4.98	7	IAML		05 00 23.6		
	comp=E,119nm,2.2s							
H04D				IAML		05 00 40.3		
	comp=N,92nm,1.5s							
COR	Corvallis	5.00	3		Pn	04 58 31.7	-1.5	
ELK	Elko	6.52	77	Pn	Pn	04 58 57.6	+3.3	
	comp=N,0.1nm,0.3s,baz=273,slow=17,SNR=2.3							
ELK				Lg	Lg	05 00 41.8		
	comp=N,0.1nm,0.3s,baz=75,slow=22,SNR=1.3							
ELK				LR	LR	05 01 19.3		
	comp=N,137nm,19.2s,baz=258,slow=37							
	comp=N,0.4nm,0.4s							
PFO	Pinyon Flats O	8.28	134	Pn	Pn	04 59 19.8	+1.4	
	comp=N,0.2nm,0.3s,baz=317,slow=6.3,SNR=4.8							
PFO				Lg	Lg	05 01 39.3		
	comp=N,0.1nm,0.3s,baz=223,slow=23,SNR=2.6							
PFO				LR	LR	05 02 53.5		
	comp=N,255nm,18.9s,baz=340,slow=40							
	comp=N,1.3nm,0.6s							
NEW	Newport	9.86	26	Pn	Pn	04 59 44.3	+4.4	
	comp=N,0.1nm,0.3s,baz=199,slow=19,SNR=1.5							
NEW				Lg	Lg	05 02 24.2		
	comp=N,0.1nm,0.3s,baz=311,slow=10,SNR=0.9							
NEW				LR	LR	05 03 15.2		
	comp=N,115nm,19.6s,baz=189,slow=36							
	comp=N,0.3nm,0.3s							
PDAR	Pinedale Array,	11.06	69	Pn	Pn	05 00 01.9	+5.4	
	baz=256,slow=14,SNR=2.3							
	comp=N,0.2nm,0.7s							
ANMO	Albuquerque	14.42	103	LR	LR	05 06 45.1		
	comp=N,140nm,19.0s,baz=74,slow=39							
LPIG	La Paz	19.10	140	LR	LR	05 09 29.3		
	comp=N,226nm,18.6s,baz=335,slow=38							
DLBC	Dease Lake	19.32	350	P	Pn	05 01 45.5	+1.3	
	comp=N,0.1nm,0.3s,baz=177,slow=19,SNR=1.6							
	comp=N,3.1nm,1.1s							
TXAR	Lajitas Array	19.33	116	P	Pn	05 01 45.1	+0.5	
	baz=298,slow=8.6,SNR=12							
TXAR				LR	LR	05 09 09.2		
	comp=N,43nm,21.7s,baz=298,slow=37							
	comp=N,0.5nm,0.9s							
Q32M	Nakina River	20.17	347	P	P	05 01 52.7	+0.1	
Q32M				IAmb	IAmb	05 02 15.0		
	comp=Z,23nm,1.4s							
ECSD	EROS Data Cent	20.56	70	P	P	05 01 54.7	-2.1	
F33A	5 Mile Ranch,	20.97	64	P	Pn	05 02 01.9	-1.8	
F33A				IAmb	IAmb	05 02 12.1		
	comp=Z,16nm,1.4s							
FFC	Flin Flon	20.99	37	P	P	05 01 60.0	-1.3	
FFC				IAmb	IAmb	05 02 21.4		
	comp=Z,16nm,1.4s							
ULM	Lac du Bonnet	22.22	52	P	P	05 02 14.0	-0.7	
ULM	Lac du Bonnet	22.22	52	P	P	05 02 13.5	-1.1	
	comp=Z,0.8nm,0.4s,baz=257,slow=9.8,SNR=2.1							
ULM				LR	LR	05 10 45.8		
	comp=Z,74nm,19.4s,baz=118,slow=36							
	comp=Z,0.8nm,0.4s							
P38A	Dawn	23.13	80	P	P	05 02 24.3	+0.1	
P38A				IAmb	IAmb	05 02 51.2		
	comp=Z,20nm,1.4s							
YKA	Yellowknife Ar	23.58	10	P	P	05 02 29.5	+1.0	
	comp=Z,0.3nm,0.8s,baz=196,slow=10,SNR=4.3							
YKA				LR	LR	05 13 15.5		
	comp=Z,98nm,20.3s,baz=208,slow=41							
	comp=Z,0.3nm,0.8s							
KDAK	Kodiak Island	26.09	324	LR	LR	05 10 36.6		
	comp=Z,111nm,21.1s,baz=123,slow=31							
ILAR	Eielson Array	28.64	339	P	P	05 03 15.8	+1.3	
	comp=Z,0.6nm,1.0s,baz=158,slow=8.1,SNR=7.8							
ILAR				LR	LR	05 12 44.0		
	comp=Z,116nm,20.0s,baz=98,slow=32							
	comp=Z,0.6nm,1.0s							
SADO	Sadowa	33.04	66	LR	LR	05 17 13.5		
	comp=Z,146nm,19.4s,baz=236,slow=36							
CMIG	Matias Romero	33.54	124	LR	LR	05 19 18.5		
	comp=Z,105nm,18.1s,baz=288,slow=39							
C18K	Utukok River	35.43	337	P	P	05 04 14.0	+0.1	
C18K				IAmb	IAmb	05 04 52.8		
	comp=Z,14nm,1.5s							
M63A	Gales Ferry	38.78	70	P	P	05 04 42.7	+0.1	
SCHQ	Schefferville	40.30	48	P	P	05 04 56.4	+1.1	
MA2	Magadan	54.80	322	LR	LR	05 27 40.4		
	comp=Z,39nm,18.2s,baz=58,slow=33							
SDV	Santo Domingo	56.14	108	LR	LR	05 34 52.2		
	comp=Z,43nm,18.6s,baz=284,slow=40							
H11N3	WAKE ISLAND Hy	62.09	273	T	T	06 15 00.2		
	baz=55,slow=75							
H11N2	WAKE ISLAND Hy	62.09	273	T	T	06 14 59.9		
	baz=55,slow=75							
H11N1	WAKE ISLAND Hy	62.11	273	T	T	06 15 00.6		
	baz=55,slow=75							
ATAH	Atahualpa	62.49	127	LR	LR	05 32 39.0		
	comp=Z,66nm,18.7s,baz=9.6,slow=34							
H11S1	WAKE ISLAND Hy	62.95	272	T	T	06 16 03.9		
	baz=54,slow=75							
H11S2	WAKE ISLAND Hy	62.95	272	T	T	06 16 04.3		
	baz=54,slow=75							
H11S3	WAKE ISLAND Hy	62.96	272	T	T	06 16 05.3		
	baz=54,slow=75							
HHC	Hu-ho-hao-te	85.48	321	eP	P	05 09 55.3	-0.9	
HHC				pmax	pmax			
	comp=Z,15nm,0.7s							
HHC				pmax	pmax			
	comp=Z,64nm,4.0s							
KURBB	Kurchatov Arra	88.09	346	P	P	05 10 09.3	+0.7	
	comp=Z,0.4nm,0.2s,baz=18,slow=4.7,SNR=4.3							
	comp=Z,0.4nm,0.2s							
WMQ	Urumqi	92.29	338	eP	P	05 10 28.3	-0.1	
WMQ				pmax	pmax			
	comp=Z,14nm,0.7s							

*IDC **14** 05:03:17.9±1.4, 62.54N×152.22W, h98km±14km, mb3.7/17, mbtmp4.0/22, Error ellipse: s-maj=13.9km s-min=9.5km az=110.0*
*AEIC **14** 05:03:19.7±1.0, 62.51N±0.02×151.94W±0.07, h106km±5km, ML3.7, mb3.8/5(NEIC), ML3.9/224(NEIC), Error ellipse: s-maj=5.0km s-min=3.5km az=82.0*
*NEIC **14** 05:03:19.5±1.2, 62.53N±0.03×151.96W±0.07, h109km±5km, Error ellipse: s-maj=5.0km s-min=4.7km az=95.0*

ISC 14 05:03:19.1±0.6, 62.52N±0.03×151.99W±0.04, h112km±5km, n485, σ0.74/501, mb4.0/20, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLA	Purkeypile	0.39	346		Pn	05 03 36.3	+0.6
PPLA	Purkeypile	0.39	346		Sn	05 03 48.5	+0.4
PPLA	Purkeypile	0.39	346	P	Pn	05 03 36.1	+0.5
	baz=163						
PPLA				S	Sn	05 03 48.5	+0.4
	baz=163						
SKT	Skwentna	0.58	158		Pn	05 03 36.9	+0.1
SKT					Sn	05 03 49.5	-0.4
SKT				IAML		05 03 50.8	
	comp=E,4µm,0.5s						
SKT				IAML		05 03 52.0	
	comp=N,5µm,0.3s						
SKT	Skwentna	0.58	158	P	Pn	05 03 36.8	+0.1
	baz=340						
SKT				S	Sn	05 03 49.9	-0.1
	baz=340						
CUT	Chulitna	0.81	97		Pn	05 03 39.0	+0.5
CUT	Chulitna	0.81	97	P	Pn	05 03 38.9	+0.5
	baz=279						
M20K	Styx River	0.83	221		Pn	05 03 38.9	0.0
M20K					Sn	05 03 53.1	-0.6
M20K				IAML		05 03 54.1	
	comp=E,2µm,0.8s						
M20K	Styx River	0.83	221	P	Pn	05 03 38.9	0.0
	baz=41						
M20K				S	Sn	05 03 53.4	-0.4
	baz=41						
L20K	Farewell, AK	0.88	268		Pn	05 03 39.5	+0.3
L20K					Sn	05 03 54.4	0.0
L20K	Farewell, AK	0.88	268	P	Pn	05 03 39.5	+0.3
	baz=87						
L20K				S	Sn	05 03 54.4	0.0
	baz=87						
CAST	Castle Rocks	0.91	357	Pn	Pn	05 03 39.8	+0.3
CAST					Sn	05 03 54.3	-0.5
CAST				IAML		05 03 55.3	
	comp=N,1µm,1.0s						
CAST				IAML		05 03 55.3	
	comp=E,1µm,0.9s						
CAST	Castle Rocks	0.91	357	P	Pn	05 03 39.7	+0.3
	baz=176						
CAST				S	Sn	05 03 54.4	-0.5
	baz=176						
STLK	Strandline Lak	1.03	176		Pn	05 03 40.6	-0.2
KTH	Kantishna Hill	1.15	25		Pn	05 03 42.3	+0.3
KTH					Sn	05 03 58.8	-0.5
KTH				IAML		05 04 00.0	
	comp=E,1µm,0.8s						
KTH				IAML		05 04 00.6	
	comp=N,954nm,1.1s						
M22K	Willow	1.17	130		Pn	05 03 42.1	0.0
M22K	Willow	1.17	130	P	Pn	05 03 42.3	+0.2
	baz=312						
SPNN	North Nagishla	1.20	197		Pn	05 03 43.1	+0.3
SUA	Susitna One	1.21	150		Pn	05 03 42.7	-0.1
SUA				IAML		05 04 02.7	
	comp=N,2µm,0.9s						
SUA				IAML		05 04 03.0	
	comp=E,2µm,0.5s						
SUA	Susitna One	1.21	150	P	Pn	05 03 42.9	+0.1
	baz=332						
TRF	Thorofare Moun	1.22	39		Pn	05 03 43.1	+0.3
TRF				IAML		05 04 04.1	
	comp=E,2µm,0.6s						
TRF				IAML		05 04 05.1	
	comp=N,2µm,0.7s						
TRF	Thorofare Moun	1.22	39	P	Pn	05 03 43.1	+0.3
	baz=220						
SPCG	Spurr Capps Gl	1.23	181		Pn	05 03 43.0	0.0
SPCP	Crater Peak Br	1.26	184		Pn	05 03 43.6	+0.3
K20K	Telida	1.27	312		Pn	05 03 43.8	+0.5
K20K					Sn	05 04 01.5	-0.2
K20K				IAML		05 04 01.8	
	comp=E,3µm,0.5s						
K20K				IAML		05 04 02.3	
	comp=N,3µm,0.9s						
K20K	Telida	1.27	312	P	Pn	05 03 43.8	+0.5
	baz=130						
K20K				S	Sn	05 04 01.3	-0.3
	baz=130						
SPCN	Chakachatna No	1.30	184		Pn	05 03 44.2	+0.5
SPCN					Sn	05 04 03.2	+0.9
N20K	Mount Spurr	1.33	185	P	Pn	05 03 44.1	+0.1
	baz=5.3						
SPCR	Spurr Chakacha	1.33	185		Pn	05 03 44.1	+0.1
CHUM	Lake Minchumin	1.38	354		Pn	05 03 45.0	+0.5
CHUM					Sn	05 04 04.0	+0.2
CHUM	Lake Minchumin	1.38	354	P	Pn	05 03 45.0	+0.5
	baz=173						
CHUM				S	Sn	05 04 04.0	+0.2
	baz=173						
L19K	White Mountain	1.38	257

SML Sawmill 1.86 111 Pn 05 03 50.2 -0.2
SML Sawmill 1.86 111 P Pn 05 03 50.1 -0.2
baz=294
TTA Tatalina 1.90 284 Pn Pn 05 03 51.2 +0.3
TTA Tatalina 1.90 284 P Pn 05 03 51.1 +0.2
TTA Tatalina 1.90 284 P Pn 05 03 51.2 +0.3
baz=101
J20K Nowinta River 1.93 331 Pn 05 03 51.5 +0.4
J20K IAML 05 04 15.6
comp=E,766nm,1.0s
J20K IAML 05 04 20.2
comp=N,579nm,0.9s
J20K Nowinta River 1.93 331 P Pn 05 03 51.6 +0.4
baz=148
RDT Redoubt 1.96 186 Pn 05 03 52.2 +0.5
DFR Drift River 1.96 190 Pn 05 03 52.3 +0.6
WAT6 Susitna Watana 1.97 86 Pn 05 03 51.5 -0.4
WAT6 Susitna Watana 1.97 86 P Pn 05 03 51.5 -0.4
baz=270
RDJH Redoubt Jeurge 1.97 192 Pn 05 03 52.5 +0.6
KNK Knik Glacier 2.00 122 Pn 05 03 52.0 -0.2
KNK Knik Glacier 2.00 122 P Pn 05 03 52.0 -0.2
baz=305
BWN Browne 2.01 33 Pn 05 03 53.0 +0.8
BWN IAML 05 04 21.8
comp=N,722nm,0.9s
BWN IAML 05 04 29.9
comp=E,569nm,0.8s
NCT North Crescent 2.01 193 Pn 05 03 52.9 +0.5
RDWB Redoubt West 2.08 192 Pn 05 03 53.8 +0.6
M18K Stony River 2.08 242 Pn 05 03 53.4 +0.2
M18K Stony River 2.08 242 P Pn 05 03 53.4 +0.2
baz=59
N19K Bonanza Creek 2.08 216 Pn 05 03 53.6 +0.4
N19K Bonanza Creek 2.08 216 P Pn 05 03 53.8 +0.5
baz=34
RSO Redoubt South 2.10 190 Pn 05 03 54.0 +0.5
M23K Glacier View 2.13 108 Pn 05 03 53.0 -0.7
M23K Glacier View 2.13 108 P Pn 05 03 53.0 -0.7
baz=292
RED Redoubt Volcan 2.14 190 Pn 05 03 54.4 +0.5
SLKM Skilak Lake 2.19 156 Pn 05 03 54.6 0.0
DHY Denali Highway 2.19 73 Pn 05 03 54.6 -0.1
DHY Denali Highway 2.19 73 P Pn 05 03 54.6 -0.1
baz=257
L18K Granite Mounta 2.21 264 Pn 05 03 55.2 +0.5
L18K Granite Mounta 2.21 264 P Pn 05 03 55.2 +0.5
baz=80
J19K Poorman 2.21 314 Pn 05 03 55.3 +0.5
J19K Poorman 2.21 314 IAML 05 04 22.5
comp=E,462nm,0.8s
J19K IAML 05 04 23.5
comp=N,328nm,0.7s
J19K Poorman 2.21 314 P Pn 05 03 55.3 +0.5
baz=130
SVW2 Sparrevohn 2.22 232 Pn 05 03 55.1 +0.2
SVW2 IAML 05 04 23.4
comp=N,317nm,0.6s
SVW2 IAML 05 04 23.9
comp=E,303nm,0.8s
SVW2 Sparrevohn 2.22 232 P Pn 05 03 55.3 +0.3
SCM Sheep Creek Mo 2.29 105 Pn 05 03 55.1 -0.8
SCM Sheep Creek Mo 2.29 105 P Pn 05 03 55.1 -0.8
baz=290
O22K Cooper Landing 2.31 151 Pn 05 03 56.1 0.0
O22K Cooper Landing 2.31 151 P Pn 05 03 55.8 -0.3
baz=333
J18K Innoko River 2.36 296 Pn 05 03 57.2 +0.6
J18K IAML 05 04 27.4
comp=N,418nm,0.8s
J18K IAML 05 04 27.4
comp=E,310nm,0.9s
J18K Innoko River 2.36 296 P Pn 05 03 57.4 +0.8
baz=112
NEA2 Nenana 2.46 31 Pn 05 03 58.0 0.0
NEA2 IAML 05 04 27.7
comp=E,261nm,1.0s
NEA2 Nenana 2.46 31 P Pn 05 03 58.0 0.0
baz=213
O20K Slope Mountain 2.46 187 Pn 05 03 59.1 +1.0
O20K Slope Mountain 2.46 187 P Pn 05 03 59.1 +1.0
baz=7.4
I20K Naaghedeneel 2.54 335 Pn 05 03 59.8 +0.8
I20K Naaghedeneel 2.54 335 P Pn 05 03 59.9 +0.8
baz=153
IVE Iliamna Volcan 2.56 192 Pn 05 04 00.1 +0.7
MLY Manley 2.58 12 Pn Pn 05 04 00.2 +0.6
MLY IAML 05 04 31.3
comp=E,251nm,0.8s
MLY IAML 05 04 31.4
comp=N,235nm,0.7s
MLY Manley 2.58 12 P Pn 05 04 00.1 +0.5
baz=192
O19K Port Alsworth 2.59 207 Pn 05 04 00.4 +0.8
O19K IAML 05 04 51.0
comp=N,269nm,0.4s
O19K IAML 05 05 06.5
comp=E,256nm,0.5s
O19K Port Alsworth 2.59 207 P Pn 05 04 00.4 +0.8
baz=25
ILSW Iliamna Southw 2.60 193 Pn 05 04 00.8 +0.8
N18K Kilae Creek 2.62 227 Pn Pn 05 04 00.3 +0.2
N18K IAML 05 04 31.8
comp=E,222nm,0.9s
N18K Kilae Creek 2.62 227 P Pn 05 04 00.3 +0.2
baz=44
WRH Wood River Hil 2.63 40 Pn 05 04 00.5 +0.4
I21K Tanana 2.67 0 Pn 05 04 01.4 +0.8
I21K IAML 05 04 33.4
comp=E,366nm,1.0s
I21K IAML 05 04 34.4
comp=N,302nm,1.0s
I21K Tanana 2.67 0 P Pn 05 04 01.5 +0.8
baz=180
SEW Seward 2.71 152 Pn 05 04 00.7 -0.6
SEW Seward 2.71 152 P Pn 05 04 01.1 -0.2
baz=335
M24K Tolsona, Glenn 2.75 96 Pn Pn 05 04 01.6 -0.1
M24K Tolsona, Glenn 2.75 96 P Pn 05 04 01.7 -0.1
baz=281
M17K Holitna River 2.81 249 Pn 05 04 02.4 -0.2
M17K IAML 05 04 51.1
comp=E,329nm,0.8s
M17K IAML 05 04 55.0
comp=N,355nm,0.9s
M17K Holitna River 2.81 249 P Pn 05 04 02.5 0.0
baz=64
BRLK Bradley Lake 2.81 169 Pn 05 04 03.6 +0.9
BRLK IAML 05 04 44.2
comp=N,293nm,0.6s
BRLK IAML 05 04 45.5
comp=E,206nm,0.6s
CCB Clear Creek Bu 2.84 39 Pn 05 04 03.1 +0.2
BRSE Bradley Lake S 2.85 167 Pn 05 04 03.5 +0.4
BRSE Bradley Lake S 2.85 167 P Pn 05 04 03.5 +0.4
baz=349
GLI Glacier Island 2.85 123 Pn 05 04 02.0 -1.1
GLI Glacier Island 2.85 123 P Pn 05 04 02.0 -1.1
baz=308
HOM Homer 2.88 176 P Pn 05 04 04.0 +0.6
baz=357
I23K Minto, Yukon-K 2.89 23 Pn 05 04 04.1 +0.6
I23K IAML 05 04 38.8
comp=N,222nm,0.9s
I23K IAML 05 04 41.2
comp=E,181nm,0.8s
I23K Minto, Yukon-K 2.89 23 P Pn 05 04 04.1 +0.6
baz=204
K17K Iditarod 2.92 277 Pn 05 04 04.6 +0.6
K17K Iditarod 2.92 277 IAML 05 04 52.8
comp=E,191nm,0.8s
K17K Iditarod 2.92 277 P Pn 05 04 04.6 +0.6
baz=91
P19K Oil Pt 2.94 192 Pn 05 04 05.2 +0.9
P19K IAML 05 04 44.9
comp=N,294nm,0.7s
P19K IAML 05 04 46.1
comp=E,399nm,0.6s
P19K Oil Pt 2.94 192 P Pn 05 04 05.0 +0.7
baz=12
HDA Harding Lake 2.95 48 Pn 05 04 04.4 0.0
HDA IAML 05 04 40.3
comp=N,482nm,0.5s
HDA IAML 05 04 41.8
comp=E,527nm,0.3s
HDA Harding Lake 2.95 48 P Pn 05 04 04.4 0.0
baz=232
HDA P Pn 05 04 04.4 0.0
baz=232
MDM Murphy Dome 2.97 33 Pn Pn 05 04 05.0 +0.4
MDM IAML 05 04 42.8
comp=N,216nm,1.2s
L17K Donlin 2.97 265 Pn 05 04 05.1 +0.4
L17K Donlin 2.97 265 P Pn 05 04 05.1 +0.4
baz=80
COLA College 3.00 36 Pn 05 04 05.3 +0.4
COLA IAML 05 04 45.8
comp=N,437nm,0.6s
COLA IAML 05 04 46.6
comp=N,587nm,0.5s
COLA College 3.00 36 P Pn 05 04 05.5 +0.5
CNPM China Poot 3.02 173 Pn Pn 05 04 06.0 +0.6
CNPM IAML 05 04 50.1
comp=E,262nm,0.5s
CNPM IAML 05 04 51.0
comp=N,282nm,0.4s
PAX Paxson 3.03 79 Pn 05 04 06.2 +0.6
PAX Paxson 3.03 79 P Pn 05 04 05.9 +0.3
baz=264
KLU Klutina 3.04 107 Pn 05 04 04.8 -0.9
KLU IAML 05 04 57.5
comp=E,732nm,0.8s
KLU Klutina 3.04 107 P Pn 05 04 04.5 -1.1
baz=292
O18K Koktuh Hills 3.09 212 Pn Pn 05 04 07.0 +0.7
O18K Koktuh Hills 3.09 212 P Pn 05 04 07.0 +0.7
baz=29
K24K Donnelly Dome 3.10 63 Pn 05 04 07.0 +0.6
K24K Donnelly Dome 3.10 63 P Pn 05 04 07.0 +0.6
baz=248
GCSA Galena City Sc 3.12 318 Pn 05 04 07.5 +0.8
GCSA Galena City Sc 3.12 318 P Pn 05 04 07.4 +0.8
baz=133
FID Port Fidalgo 3.17 122 Pn 05 04 05.9 -1.4
H21K Melozitna Rive 3.17 354 Pn 05 04 07.9 +0.6
H21K Melozitna Rive 3.17 354 IAML 05 04 44.3
comp=E,210nm,1.0s
H21K Melozitna Rive 3.17 354 P Pn 05 04 07.9 +0.6
baz=173
HARP HAARP 3.18 89 Pn 05 04 07.5 +0.1
HARP HAARP 3.18 89 P Pn 05 04 07.5 +0.1
baz=275
N17K Nushagak Hills 3.19 234 Pn 05 04 07.7 +0.1
N17K Nushagak Hills 3.19 234 P Pn 05 04 07.9 +0.3
baz=49
IL31 3.21 43 Pn 05 04 07.7 -0.1
ILAR Eielson Array 3.21 43 P Pn 05 04 07.8 0.0
comp=E,31nm,0.3s,baz=224,slow=14,SNR=593
ILAR S Sn 05 04 46.4 +0.9
comp=E,17nm,0.4s,baz=227,slow=18,SNR=5.5
AUCH Augustine Cone 3.25 193 Pn 05 04 08.9 +0.5
H20K Anotleneega Mo 3.25 338 Pn 05 04 08.8 +0.5
H20K Anotleneega Mo 3.25 338 P Pn 05 04 08.8 +0.5
baz=155
DIV Divide 3.26 113 Pn 05 04 07.3 -1.3
POKR Poker Plat Res 3.30 36 Pn 05 04 09.6 +0.6
POKR IAML 05 04 50.1
comp=N,156nm,1.1s
POKR IAML 05 04 51.0
comp=E,154nm,1.1s
POKR Poker Plat Res 3.30 36 P Pn 05 04 09.4 +0.4
baz=219
J17K VABM Dome 3.36 288 Pn 05 04 09.9 +0.1
J17K IAML 05 05 20.7
comp=N,120nm,0.9s
J17K VABM Dome 3.36 288 P Pn 05 04 10.0 +0.3
baz=102
HIN Hinchinbrook I 3.39 127 Pn 05 04 09.7 -0.5
H22K Ishtalitna Cre 3.40 4 Pn 05 04 11.0 +0.6
H22K Ishtalitna Cre 3.40 4 P Pn 05 04 11.0 +0.6
baz=184
RIDG Independent Ri 3.47 66 Pn 05 04 11.8 +0.5
RIDG IAML 05 05 00.9
comp=N,368nm,0.7s
RIDG IAML 05 05 02.9
comp=E,536nm,0.6s
RIDG Independent Ri 3.47 66 P Pn 05 04 12.0 +0.6
baz=252
P18K Big Mountain, 3.51 208 Pn Pn 05 04 12.6 +0.7
P18K Big Mountain, 3.51 208 P Pn 05 04 12.8 +0.9
baz=26
IMAR Indian Mountai 3.56 348 Pn 05 04 13.3 +0.8
EYAK Cordova Ski Ar 3.58 121 Pn 05 04 11.8 -1.0
EYAK Cordova Ski Ar 3.58 121 P Pn 05 04 12.0 -0.8
EYAK Cordova Ski Ar 3.58 121 P Pn 05 04 11.6 -1.1
baz=306
N25K Chitina, Valde 3.60 101 Pn 05 04 12.1 -0.9
N25K Chitina, Valde 3.60 101 P Pn 05 04 12.2 -0.9
baz=288
H19K Roundabout Mou 3.60 329 Pn 05 04 13.5 +0.6
H19K Roundabout Mou 3.60 329 P Pn 05 04 13.6 +0.6
baz=145
L16K Owhat River 3.61 260 Pn Pn 05 04 13.5 +0.3
L16K Owhat River 3.61 260 P Pn 05 04 13.4 +0.3
baz=74
WACK Wrangell Chich 3.62 95 Pn 05 04 13.0 -0.6
J25K Salcha River, 3.63 52 Pn Pn 05 04 13.4 -0.1
J25K IAML 05 04 58.0
comp=E,242nm,0.4s
J25K IAML 05 05 02.1
comp=N,142nm,0.6s
J25K Salcha River, 3.63 52 P Pn 05 04 13.3 -0.1
baz=237
M16K Timber Creek 3.64 249 Pn Pn 05 04 13.6 +0.1
M16K Timber Creek 3.64 249 P Pn 05 04 13.6 +0.1
baz=63
Q19K Cape Douglas, 3.69 193 Pn 05 04 15.5 +1.2
Q19K IAML 05 05 12.0
comp=N,169nm,0.8s
Q19K IAML 05 06 01.4
comp=E,329nm,1.1s
Q19K Cape Douglas, 3.69 193 P Pn 05 04 15.0 +0.7
baz=12
O17K Koliganek Bris 3.70 224 Pn 05 04 14.7 +0.4
O17K Koliganek Bris 3.70 224 P Pn 05 04 14.7 +0.4
baz=40
WASW Wrangell South 3.71 96 Pn 05 04 14.4 -0.3
H24K Noodor Dome 3.79 27 Pn Pn 05 04 15.8 +0.2
H24K Noodor Dome 3.79 27 P Pn 05 04 16.0 +0.4
baz=210
MENT Mentasta 3.83 80 Pn 05 04 15.4 -0.7
MENT IAML 05 05 11.6
comp=N,420nm,0.5s
BMRM Bremner River 3.84 111 Pn 05 04 15.3 -0.9
BMRM Bremner River 3.84 111 P Pn 05 04 14.9 -1.3
baz=297
N16K Nishlik Lake 3.84 241 Pn 05 04 16.6 +0.3
N16K Nishlik Lake 3.84 241 P Pn 05 04 16.6 +0.3
baz=55
H18K Honhosa River 3.87 316 Pn 05 04 17.5 +0.9
H18K IAML 05 05 39.3
comp=N,88nm,0.8s
H18K Honhosa River 3.87 316 P Pn 05 04 17.4 +0.9
baz=130
SCRK Sand Creek 3.90 64 Pn Pn 05 04 17.0 -0.1
SCRK IAML 05 05 12.2
comp=N,152nm,0.4s
SCRK IAML 05 05 22.0
comp=E,136nm,0.8s
SCRK Sand Creek 3.90 64 P Pn 05 04 17.1 -0.1
baz=251
Q20K Shuyak Island 3.93 183 P Pn 05 04 17.5 +0.1
baz=3.1
SYI Shuyak Island 3.93 183 Pn Pn 05 04 17.7 +0.3
SYI IAML 05 05 08.7
comp=N,122nm,0.8s
SYI IAML 05 05 24.1
comp=E,100nm,1.7s
GOAT Goat Mountain 3.98 116 Pn 05 04 17.6 -0.6
P17K Kvichak River 3.98 215 Pn 05 04 19.1 +1.0
P17K Kvichak River 3.98 215 P Pn 05 04 19.1 +1.0
baz=32
L26K Log Cabin Wild 4.00 79 Pn Pn 05 04 18.6 +0.2
L26K Log Cabin Wild 4.00 79 P Pn 05 04 18.8 +0.4
baz=266
GLB Gilahina Butte 4.01 102 Pn Pn 05 04 17.6 -0.9
GLB IAML 05 05 25.4
comp=E,342nm,0.8s
J16K Anvik River 4.01 285 Pn Pn 05 04 19.0 +0.5
G21K Allakaket 4.07 351 Pn Pn 05 04 20.2 +0.9
G21K IAML 05 05 05.8
comp=N,86nm,0.9s
G21K IAML 05 05 05.8
comp=E,78nm,0.9s
G21K Allakaket 4.07 351 P Pn 05 04 20.0 +0.8
baz=170
RAGM Ragged Mountai 4.11 118 Pn 05 04 19.6 -0.3
MID Middleton Isla 4.15 136 Pn Pn 05 04 20.3 0.0
MID Middleton Isla 4.15 136 P Pn 05 04 21.4 +1.1
KAHC Katmai Hardscr 4.16 202 Pn 05 04 21.4 +0.8
Q18K Katmai Hardscr 4.16 202 P Pn 05 04 21.4 +0.8
baz=20
O16K Kokwok River B 4.17 228 Pn 05 04 20.7 0.0
O16K Kokwok River B 4.17 228 P Pn 05 04 20.8 0.0
baz=43
I17K Unalakleet 4.17 293 Pn Pn 05 04 21.7 +1.0
I17K Unalakleet 4.17 293 P Pn 05 04 21.7 +1.0
baz=105
M26K Nabesna, AK 4.18 88 Pn Pn 05 04 20.4 -0.4
M26K IAML 05 05 30.4
comp=E,218nm,0.5s
M26K IAML 05 05 33.7
comp=N,289nm,0.6s
M26K Nabesna, AK 4.18 88 P Pn 05 04 20.0 -0.8
baz=276
KAHG Katmai Hook Gl 4.23 199 Pn 05 04 22.4 +0.8
VRDI Verde Repeater 4.24 104 Pn Pn 05 04 20.8 -1.0
VRDI IAML 05 05 37.7
comp=N,282nm,1.2s
VRDI IAML 05 05 37.7
comp=E,228nm,1.0s
G19K Purcell Mounta 4.26 331 Pn 05 04 22.1 +0.2
G19K IAML 05 05 22.8
comp=E,62nm,1.2s
G19K Purcell Mounta 4.26 331 P Pn 05 04 22.3 +0.5
baz=146
J26L Joseph Creek 4.27 58 Pn 05 04 22.6 +0.5
J26L IAML 05 05 16.4
comp=N,204nm,0.6s
J26L IAML 05 05 18.4
comp=E,239nm,0.5s
J26L Joseph Creek 4.27 58 P Pn 05 04 22.7 +0.7
baz=246
H17K Granite Mounta 4.28 308 Pn 05 04 22.9 +0.8
H17K Granite Mounta 4.28 308 P Pn 05 04 22.8 +0.8
baz=121
G23K Bananza Creek 4.29 10 Pn 05 04 23.1 +0.8
G23K Bananza Creek 4.29 10 P Pn 05 04 23.1 +0.8
baz=192
HMT Hamilton 4.31 117 Pn 05 04 21.8 -0.8
MCARA McCarthy VSAT 4.38 101 Pn 05 04 23.0 -0.5
MCARA McCarthy VSAT 4.38 101 P Pn 05 04 22.7 -0.9
baz=289
K15K Wolf Creek Mou 4.45 271 Pn Pn 05 04 25.0 +0.7
K15K Wolf Creek Mou 4.45 271 P Pn 05 04 25.0 +0.7
baz=83
G18K Tagagawik 4.47 322 Pn Pn 05 04 26.0 +1.4
G18K IAML 05 05 18.7
comp=E,58nm,1.0s
G18K Tagagawik 4.47 322 P Pn 05 04 25.5 +0.9
baz=136
NICHA Nichawak Mount 4.49 117 Pn 05 04 24.4 -0.6
KAIM Kayak Island 4.49 122 Pn 05 04 24.8 -0.2
KAIM Kayak Island 4.49 122 P Pn 05 04 24.6 -0.3
baz=309
KAKN Katmai Knife C 4.50 201 Pn 05 04 26.3 +1.1
M15K Kasigluk River 4.54 250 Pn 05 04 25.8 +0.2
M15K Kasigluk River 4.54 250 P Pn 05 04 25.8 +0.2
baz=63
L15K Ungalak Mounta 4.54 264 Pn 05 04 25.9 +0.2
L15K Ungalak Mounta 4.54 264 P Pn 05 04 25.9 +0.2
baz=75
N15K Kwethluk River 4.56 242 Pn 05 04 26.4 +0.5
N15K IAML 05 06 08.0
comp=N,58nm,1.4s
N15K IAML 05 06 13.8
comp=E,56nm,0.8s
N15K Kwethluk River 4.56 242 P Pn 05 04 26.1 +0.2
baz=56
KABU Katmai Buttres 4.56 202 Pn 05 04 27.0 +1.0
P16K Nushagak River 4.57 223 Pn 05 04 26.8 +0.8
P16K Nushagak River 4.57 223 P Pn 05 04 26.8 +0.8
baz=38
CRQM Cirque 4.58 109 Pn 05 04 26.0 -0.3
CRQE Cirque 4.60 109 P Pn 05 04 25.9 -0.6
baz=297
G24K Hadweenzic Riv 4.63 23 Pn 05 04 27.5 +0.8
G24K IAML 05 05 52.1
comp=N,55nm,1.0s
G24K Hadweenzic Riv 4.63 23 P Pn 05 04 27.6 +0.8
baz=207
ANCK Angle Creek 4.67 203 Pn 05 04 28.4 +1.0
KHIT Khitrov Hills 4.68 113 Pn 05 04 27.3 -0.3
CNTC Contact Creek 4.68 206 Pn 05 04 28.6 +0.9
Q17K Contact Creek 4.69 206 P Pn 05 04 28.6 +0.9
baz=23
L27K Beaver Creek, 4.70 79 Pn 05 04 27.3 -0.5
L27K IAML 05 05 44.2
comp=N,72nm,0.8s
L27K IAML 05 05 49.9
comp=E,58nm,1.2s
L27K Beaver Creek, 4.70 79 P Pn 05 04 27.1 -0.6
baz=268
M27K Edge Creek, AK 4.70 87 Pn Pn 05 04 27.9 -0.1
M27K IAML 05 05 45.3
comp=N,147nm,1.0s
M27K IAML 05 05 49.5
comp=E,106nm,0.8s
M27K Edge Creek, AK 4.70 87 P Pn 05 04 27.8 -0.1
baz=276
PTPK Patty Peak 4.71 102 Pn 05 04 27.5 -0.5
BCAR Beaver Creek A 4.72 79 Pn 05 04 27.3 -0.7
K27K Chicken 4.73 67 Pn 05 04 28.2 +0.1
K27K IAML 05 05 26.0
comp=N,90nm,0.9s
K27K IAML 05 05 28.6
comp=E,98nm,0.7s
K27K Chicken 4.73 67 P Pn 05 04 27.9 -0.3
baz=256
KDAK Kodiak Island 4.76 184 IAML 05 05 24.0
comp=E,74nm,2.7s
KDAK IAML 05 05 34.6
comp=E,70nm,3.0s
KDAK Kodiak Island 4.76 184 P Pn 05 04 27.5 -1.1
comp=E,3.3nm,0.3s,baz=61,slow=5.8,SNR=15
KDAK S Sn 05 05 21.1 -1.5
comp=E,25nm,0.6s,baz=205,slow=18,SNR=9.1
F21K Alatna River 4.77 353 Pn 05 04 29.3 +0.7
F21K Alatna River 4.77 353 P Pn 05 04 29.7 +1.1
baz=171
COLD Coldfoot 4.79 8 Pn 05 04 29.4 +0.5
COLD Coldfoot 4.79 8 P Pn 05 04 29.9 +1.0
baz=190
I26K Coal Creek Min 4.80 50 Pn 05 04 29.3 +0.3
I26K IAML 05 05 54.6
comp=E,118nm,1.1s
I26K IAML 05 06 00.0
comp=N,130nm,0.7s
I26K Coal Creek Min 4.80 50 P Pn 05 04 29.4 +0.4
baz=238
F20K Avaraart Lake 4.82 342 Pn 05 04 30.5 +1.2
F20K IAML 05 05 26.3
comp=E,55nm,1.0s
F20K Avaraart Lake 4.82 342 P Pn 05 04 30.3 +0.9
baz=159
G17K Kiwalik Mounta 4.84 312 Pn 05 04 30.4 +0.7
G17K Kiwalik Mounta 4.84 312 P Pn 05 04 30.4 +0.7
baz=124
WAX Waxell Ridge 4.84 111 Pn 05 04 29.0 -0.8
KIAG Kiagna River 4.85 105 Pn 05 04 28.6 -1.3
G25K Bearman Lake 4.96 28 Pn 05 04 31.3 +0.1
G25K Bearman Lake 4.96 28 P Pn 05 04 31.3 +0.1
baz=213
ISLE Juniper Island 5.00 108 Pn 05 04 30.9 -1.0
F22K John River 5.01 359 Pn 05 04 32.5 +0.6
F22K John River 5.01 359 P Pn 05 04 32.5 +0.6
baz=179
H16K Elim 5.05 299 Pn 05 04 33.1 +0.7
H16K Elim 5.05 299 P Pn 05 04 33.1 +0.7
baz=110
M14K Bethel 5.08 254 Pn Pn 05 04 34.2 +1.4
M14K IAML 05 05 49.8
comp=E,53nm,1.6s
M14K IAML 05 06 17.0
comp=N,54nm,1.9s
M14K Bethel 5.08 254 P Pn 05 04 33.6 +0.8
baz=65
O15K Ungalikthiuk R 5.09 232 Pn 05 04 33.7 +0.6

O15K	**Ungalikthiuk R**	**5.09**	**232**	P		**Pn**	**05 04 33.7**	**+0.6**
	baz=46							
BARN	**Barnard Glacie**	**5.12**	**102**			**Pn**	**05 04 33.1**	**-0.4**
R18K	**Karluk**	**5.12**	**195**	P		**Pn**	**05 04 32.9**	**-0.5**
	baz=13							
L14K	**Kuka Creek**	**5.19**	**262**	Pn		**Pn**	**05 04 35.7**	**+1.4**
L14K				IAML			05 06 24.8	
	comp=N,51nm,1.3s							
L14K				IAML			05 06 27.5	
	comp=E,55nm,1.4s							
L14K	**Kuka Creek**	**5.19**	**262**	P		**Pn**	**05 04 35.3**	**+1.0**
	baz=72							
YUK2	**White River**	**5.28**	**93**			**Pn**	**05 04 35.3**	**-0.3**
CTG	**Chitna Glacier**	**5.29**	**102**	P		**Pn**	**05 04 35.4**	**-0.6**
	baz=292							
CTGM	**Chitina Glacier**	**5.30**	**102**	Pn		**Pn**	**05 04 35.5**	**-0.5**
CTGM				IAML			05 05 59.7	
	comp=E,114nm,0.7s							
CTGM				IAML			05 06 07.1	
	comp=N,143nm,1.2s							
F24K	**Squaw Lake**	**5.31**	**17**			**Pn**	**05 04 37.0**	**+1.0**
F24K	**Squaw Lake**	**5.31**	**17**	P		**Pn**	**05 04 36.6**	**+0.6**
	baz=201							
EGAK	**Eagle**	**5.33**	**60**	Pn		**Pn**	**05 04 36.1**	**-0.2**
EGAK				IAML			05 05 54.6	
	comp=N,130nm,0.8s							
EGAK				IAML			05 06 14.2	
	comp=N,114nm,0.7s							
EGAK	**Eagle**	**5.33**	**60**	P		**Pn**	**05 04 36.0**	**-0.2**
	baz=250							
J14K	**Nanvaranak Lak**	**5.34**	**278**			**Pn**	**05 04 37.0**	**+0.7**
J14K	**Nanvaranak Lak**	**5.34**	**278**	P		**Pn**	**05 04 37.1**	**+0.7**
	baz=87							
OHAK	**Old Harbor**	**5.35**	**188**			**Pn**	**05 04 36.2**	**-0.4**
OHAK				IAML			05 05 41.0	
	comp=N,44nm,2.8s							
OHAK				IAML			05 06 46.4	
	comp=E,42nm,3.2s							
OHAK	**Old Harbor**	**5.35**	**188**	P		**Pn**	**05 04 36.6**	**0.0**
OHAK	**Old Harbor**	**5.35**	**188**	P		**Pn**	**05 04 36.0**	**-0.5**
	baz=6.7							
N14K	**Kuskokwak Cree**	**5.36**	**245**			**Pn**	**05 04 37.0**	**+0.4**
N14K	**Kuskokwak Cree**	**5.36**	**245**	P		**Pn**	**05 04 37.0**	**+0.4**
	baz=57							
R17K	**Ugashik Creek**	**5.37**	**206**			**Pn**	**05 04 38.2**	**+1.4**
R17K				IAML			05 06 27.8	
	comp=E,38nm,4.5s							
R17K				IAML			05 07 02.0	
	comp=N,42nm,3.8s							
R17K	**Ugashik Creek**	**5.37**	**206**	P		**Pn**	**05 04 38.2**	**+1.4**
	baz=23							
MESA	**MESA**	**5.37**	**111**			**Pn**	**05 04 36.8**	**-0.2**
MESA	**MESA**	**5.37**	**111**	P		**Pn**	**05 04 36.0**	**-1.0**
	baz=300							
G16K	**Koyuk River**	**5.40**	**307**	Pn		**Pn**	**05 04 38.1**	**+0.9**
G16K	**Koyuk River**	**5.40**	**307**	P		**Pn**	**05 04 38.0**	**+0.9**
	baz=118							
E19K	**Redstone River**	**5.43**	**338**			**Pn**	**05 04 38.7**	**+1.1**
E19K	**Redstone River**	**5.43**	**338**	P		**Pn**	**05 04 38.8**	**+1.1**
	baz=153							
YUK3	**Moose Creek**	**5.46**	**93**			**Pn**	**05 04 38.0**	**-0.2**
YUK3	**Moose Creek**	**5.46**	**93**	P		**Pn**	**05 04 38.0**	**-0.2**
	baz=283							
LOGN	**Logan Glacier**	**5.50**	**103**			**Pn**	**05 04 38.1**	**-0.6**
I27K	**Kandik River**	**5.50**	**51**			**Pn**	**05 04 38.5**	**-0.1**
I27K	**Kandik River**	**5.50**	**51**	P		**Pn**	**05 04 38.5**	**-0.1**
	baz=240							
O14K	**Tigyukauivet M**	**5.59**	**238**			**Pn**	**05 04 40.1**	**+0.4**
O14K	**Tigyukauivet M**	**5.59**	**238**	P		**Pn**	**05 04 40.3**	**+0.5**
	baz=50							
TABL	**Table Mountain**	**5.60**	**107**			**Pn**	**05 04 39.6**	**-0.5**
F17K	**Baldwin Pennin**	**5.61**	**319**	Pn		**Pn**	**05 04 41.7**	**+1.7**
F17K	**Baldwin Pennin**	**5.61**	**319**	P		**Pn**	**05 04 41.4**	**+1.4**
	baz=130							
E22K	**Anaktuvuk Pass**	**5.64**	**1**	Pn		**Pn**	**05 04 41.0**	**+0.5**
E22K	**Anaktuvuk Pass**	**5.64**	**1**	P		**Pn**	**05 04 41.9**	**+1.5**
	baz=181							
E23K	**Chandalar**	**5.65**	**9**			**Pn**	**05 04 41.8**	**+1.2**
E23K	**Chandalar**	**5.65**	**9**	P		**Pn**	**05 04 41.8**	**+1.2**
	baz=191							
G26K	**Porcupine Rive**	**5.67**	**35**			**Pn**	**05 04 40.6**	**-0.1**
G26K	**Porcupine Rive**	**5.67**	**35**	P		**Pn**	**05 04 40.6**	**-0.1**
	baz=222							
F25K	**Christian Rive**	**5.76**	**25**			**Pn**	**05 04 42.6**	**+0.6**
F25K	**Christian Rive**	**5.76**	**25**	P		**Pn**	**05 04 42.6**	**+0.6**
	baz=210							
E24K	**Your Creek**	**5.77**	**13**	Pn		**Pn**	**05 04 43.6**	**+1.4**
E24K	**Your Creek**	**5.77**	**13**	P		**Pn**	**05 04 43.2**	**+1.0**
	baz=196							
M13K	**Dall Lake**	**5.84**	**254**			**Pn**	**05 04 44.8**	**+1.7**
M13K	**Dall Lake**	**5.84**	**254**	P		**Pn**	**05 04 43.8**	**+0.7**
	baz=64							
BMAR	**Burnt Mountain**	**5.84**	**29**	Pn		**Pn**	**05 04 43.7**	**+0.5**
H27K	**Steamboat Moun**	**5.87**	**46**			**Pn**	**05 04 43.5**	**0.0**
H27K	**Steamboat Moun**	**5.87**	**46**	P		**Pn**	**05 04 43.6**	**0.0**
	baz=235							
DAWY	**Dawson**	**5.89**	**69**	Pn		**Pn**	**05 04 43.6**	**-0.3**
DAWY	**Dawson**	**5.89**	**69**	P		**Pn**	**05 04 43.6**	**-0.3**
	baz=260							
G15K	**Niukluk**	**5.89**	**300**			**Pn**	**05 04 44.4**	**+0.6**
G15K	**Niukluk**	**5.89**	**300**	P		**Pn**	**05 04 44.4**	**+0.6**
	baz=109							
YUK8	**Steele Glacier**	**5.91**	**97**			**Pn**	**05 04 44.6**	**+0.2**
YUK8	**Steele Glacier**	**5.91**	**97**	P		**Pn**	**05 04 44.6**	**+0.2**
	baz=287							
K13K	**Kusilvak Mount**	**5.95**	**270**			**Pn**	**05 04 45.3**	**+0.6**
K13K	**Kusilvak Mount**	**5.95**	**270**	P		**Pn**	**05 04 45.5**	**+0.8**
	baz=79							
E21K	**Killik River**	**6.01**	**353**			**Pn**	**05 04 47.0**	**+1.7**
E21K	**Killik River**	**6.01**	**353**	P		**Pn**	**05 04 46.9**	**+1.5**
	baz=171							
E20K	**Nigu River**	**6.02**	**345**			**Pn**	**05 04 47.4**	**+1.7**
E20K	**Nigu River**	**6.02**	**345**	P		**Pn**	**05 04 47.4**	**+1.7**
	baz=161							
I28M	**Miner Creek**	**6.06**	**56**			**Pn**	**05 04 46.6**	**+0.4**
I28M	**Miner Creek**	**6.06**	**56**	P		**Pn**	**05 04 46.6**	**+0.4**
	baz=246							
SII	**Sitkinak Islan**	**6.08**	**192**	P		**Pn**	**05 04 47.6**	**+1.1**
	comp=N,77nm,2.1s							
E18K	**Tukpahlearik C**	**6.13**	**327**			**Pn**	**05 04 48.5**	**+1.5**
E18K	**Tukpahlearik C**	**6.13**	**327**	P		**Pn**	**05 04 48.5**	**+1.5**
	baz=139							
PCA	**Pinnacle**	**6.15**	**108**			**Pn**	**05 04 47.3**	**-0.1**
PINM	**Pinnacle**	**6.15**	**108**	P		**Pn**	**05 04 47.1**	**-0.3**
	baz=298							
F26K	**Sheenjek River**	**6.16**	**29**			**Pn**	**05 04 47.7**	**+0.3**
F26K	**Sheenjek River**	**6.16**	**29**	P		**Pn**	**05 04 47.7**	**+0.3**
	baz=216							
G27K	**Doyon Strip**	**6.18**	**41**	P		**Pn**	**05 04 47.0**	**-0.7**
	baz=230							
E17K	**Hotham Inlet**	**6.21**	**322**			**Pn**	**05 04 49.0**	**+0.9**
E17K	**Hotham Inlet**	**6.21**	**322**	P		**Pn**	**05 04 49.0**	**+0.9**
	baz=133							
TOLK	**Toolik Lake Re**	**6.23**	**8**	Pn		**Pn**	**05 04 51.0**	**+2.5**
TOLK	**Toolik Lake Re**	**6.23**	**8**	P		**Pn**	**05 04 49.3**	**+0.8**
	baz=190							
E25K	**Arctic Village**	**6.23**	**23**	Pn		**Pn**	**05 04 49.3**	**+0.8**
E25K	**Arctic Village**	**6.23**	**23**	P		**Pn**	**05 04 49.0**	**+0.5**
	baz=208							
M29M	**Somme Creek**	**6.27**	**85**			**Pn**	**05 04 49.2**	**0.0**
M29M	**Somme Creek**	**6.27**	**85**	P		**Pn**	**05 04 49.1**	**0.0**
	baz=277							
ANM	**Nome**	**6.32**	**295**	Pn		**Pn**	**05 04 50.3**	**+0.6**
ANM	**Nome**	**6.32**	**295**	P		**Pn**	**05 04 50.6**	**+1.0**
	baz=103							
L29M	**L29M**	**6.38**	**79**	Pn		**Pn**	**05 04 50.4**	**-0.1**
L29M	**L29M**	**6.38**	**79**	P		**Pn**	**05 04 50.4**	**-0.1**
	baz=271							
D22K	**Ayikyak River**	**6.40**	**358**			**Pn**	**05 04 52.8**	**+2.1**
D22K	**Ayikyak River**	**6.40**	**358**	P		**Pn**	**05 04 51.0**	**+0.4**
	baz=177							
F15K	**North Star Dit**	**6.40**	**306**			**Pn**	**05 04 51.7**	**+1.1**
F15K	**North Star Dit**	**6.40**	**306**	P		**Pn**	**05 04 51.7**	**+1.1**
	baz=114							
YUK4	**Talbot Arm**	**6.41**	**95**	P		**Pn**	**05 04 50.7**	**-0.4**
	baz=286							
BCPM	**Bancas Point**	**6.49**	**108**	Pn		**Pn**	**05 04 51.3**	**-0.7**
D20K	**Etivluk River**	**6.51**	**345**			**Pn**	**05 04 53.1**	**+0.9**
D20K	**Etivluk River**	**6.51**	**345**	P		**Pn**	**05 04 53.1**	**+0.9**
	baz=161							
D19K	**Kuna River**	**6.52**	**340**			**Pn**	**05 04 53.9**	**+1.6**
D19K	**Kuna River**	**6.52**	**340**	P		**Pn**	**05 04 52.1**	**-0.2**
	baz=154							
YUK6	**Outpost Mounta**	**6.66**	**98**			**Pn**	**05 04 53.8**	**-0.7**
YUK6	**Outpost Mounta**	**6.66**	**98**	P		**Pn**	**05 04 53.8**	**-0.7**
	baz=290							
I29M	**Ogilvie Camp,**	**6.67**	**59**	Pn		**Pn**	**05 04 54.4**	**+0.1**
K29M	**Barlow Dome**	**6.68**	**72**	Pn		**Pn**	**05 04 54.2**	**-0.5**
K29M	**Barlow Dome**	**6.68**	**72**	P		**Pn**	**05 04 54.0**	**-0.6**
	baz=265							
C21K	**Knifeblade Rid**	**6.76**	**351**			**Pn**	**05 04 56.4**	**+0.7**
C21K	**Knifeblade Rid**	**6.76**	**351**	P		**Pn**	**05 04 56.4**	**+0.7**
	baz=169							
O29M	**Mount Kennedy**	**6.81**	**103**			**Pn**	**05 04 56.2**	**-0.2**
O29M	**Mount Kennedy**	**6.81**	**103**	P		**Pn**	**05 04 55.9**	**-0.6**
	baz=295							
YUK5	**Granite Creek**	**6.83**	**95**			**Pn**	**05 04 55.8**	**-0.9**
F14K	**Arctic Creek**	**6.96**	**301**			**Pn**	**05 04 58.9**	**+0.6**
F14K	**Arctic Creek**	**6.96**	**301**	P		**Pn**	**05 04 58.9**	**+0.6**
	baz=109							
H29M	**Whitestone**	**6.97**	**52**			**Pn**	**05 04 58.8**	**+0.3**
H29M	**Whitestone**	**6.97**	**52**	P		**Pn**	**05 04 58.7**	**+0.3**
	baz=244							
M30M	**Minto, Yukon**	**7.03**	**83**	Pn		**Pn**	**05 04 59.0**	**-0.2**
M30M	**Minto, Yukon**	**7.03**	**83**	P		**Pn**	**05 04 58.6**	**-0.7**
	baz=276							
N30M	**Aishikik Lake**	**7.10**	**92**			**Pn**	**05 04 59.3**	**-0.9**
N30M	**Aishikik Lake**	**7.10**	**92**	P		**Pn**	**05 04 59.1**	**-1.2**
	baz=285							
HYT	**Haines Junctio**	**7.10**	**97**	Pn		**Pn**	**05 04 59.8**	**-0.5**
HYT	**Haines Junctio**	**7.10**	**97**	P		**Pn**	**05 04 59.6**	**-0.7**
	baz=290							
E27K	**Coleen River**	**7.15**	**33**	Pn		**Pn**	**05 05 01.1**	**+0.2**
E27K	**Coleen River**	**7.15**	**33**	P		**Pn**	**05 05 00.7**	**-0.1**
	baz=222							
F28M	**Old Crow**	**7.23**	**40**	Pn		**Pn**	**05 05 02.0**	**+0.1**
F28M	**Old Crow**	**7.23**	**40**	P		**Pn**	**05 05 01.5**	**-0.4**
	baz=230							
C18K	**Utukok River**	**7.23**	**332**			**Pn**	**05 05 02.5**	**+0.4**
C18K	**Utukok River**	**7.23**	**332**	P		**Pn**	**05 05 02.6**	**+0.6**
	baz=144							
J30M	**Hart River**	**7.29**	**67**			**Pn**	**05 05 03.1**	**+0.2**
J30M	**Hart River**	**7.29**	**67**	P		**Pn**	**05 05 02.3**	**-0.5**
	baz=261							
P29M	**Windy Craggy**	**7.49**	**106**			**Pn**	**05 05 05.3**	**-0.2**
P29M	**Windy Craggy**	**7.49**	**106**	P		**Pn**	**05 05 04.9**	**-0.7**
	baz=299							
P30M	**Million Dollar**	**7.62**	**102**			**Pn**	**05 05 06.4**	**-0.9**
P30M	**Million Dollar**	**7.62**	**102**	P		**Pn**	**05 05 06.7**	**-0.6**
	baz=295							
TNA	**Tin City**	**7.62**	**301**			**Pn**	**05 05 08.5**	**+1.3**
TNA	**Tin City**	**7.62**	**301**	P		**Pn**	**05 05 07.4**	**+0.2**
	baz=106							
EPYK	**Eagle Plains**	**7.64**	**53**	Pn		**Pn**	**05 05 07.4**	**-0.2**
EPYK	**Eagle Plains**	**7.64**	**53**	P		**Pn**	**05 05 07.4**	**-0.2**
	baz=247							
O30N	**Mendenhall**	**7.77**	**96**			**Pn**	**05 05 08.4**	**-0.9**
O30N	**Mendenhall**	**7.77**	**96**	P		**Pn**	**05 05 08.4**	**-0.9**
	baz=290							
B22K	**Teshekpuk Lake**	**7.88**	**356**	Pn		**Pn**	**05 05 11.3**	**+0.7**
B22K	**Teshekpuk Lake**	**7.88**	**356**	P		**Pn**	**05 05 11.1**	**+0.5**
	baz=175							
D27M	**Malcolm River**	**8.11**	**29**			**Pn**	**05 05 15.7**	**+1.9**
D27M	**Malcolm River**	**8.11**	**29**	P		**Pn**	**05 05 14.2**	**+0.3**
	baz=219							
M31M	**Drury Creek, Y**	**8.19**	**84**			**Pn**	**05 05 15.0**	**0.0**
E29M	**Blow River**	**8.30**	**39**			**Pn**	**05 05 16.9**	**+0.5**
E29M	**Blow River**	**8.30**	**39**	P		**Pn**	**05 05 15.9**	**-0.4**
	baz=231							
WHY	**Whitehorse**	**8.37**	**95**			**Pn**	**05 05 16.8**	**-0.7**
H31M	**Peel River**	**8.37**	**59**			**Pn**	**05 05 16.4**	**-1.0**
H31M	**Peel River**	**8.37**	**59**	P		**Pn**	**05 05 16.2**	**-1.2**
	baz=255							
A22K	**Sinclair Lake**	**8.60**	**353**			**Pn**	**05 05 20.4**	**-0.1**
A22K	**Sinclair Lake**	**8.60**	**353**	P		**Pn**	**05 05 20.4**	**-0.1**
	baz=171							
SKAG	**Skagway**	**8.65**	**103**	Pn		**Pn**	**05 05 20.7**	**-0.5**
SKAG	**Skagway**	**8.65**	**103**	P		**Pn**	**05 05 20.7**	**-0.5**
FARO	**Faro, Yukon**	**8.66**	**84**			**Pn**	**05 05 21.4**	**0.0**
G31M	**Satah River**	**8.76**	**52**	Pn		**Pn**	**05 05 22.3**	**-0.3**
G31M	**Satah River**	**8.76**	**52**	P		**Pn**	**05 05 21.5**	**-1.0**
	baz=248							
F31M	**Tsiigehtchic**	**9.15**	**49**	Pn		**Pn**	**05 05 27.5**	**-0.3**
F31M	**Tsiigehtchic**	**9.15**	**49**	P		**Pn**	**05 05 27.4**	**-0.5**
	baz=246							
P32M	**Atlin**	**9.33**	**100**			**Pn**	**05 05 29.9**	**-0.5**
P32M	**Atlin**	**9.33**	**100**	P		**Pn**	**05 05 29.1**	**-1.3**
	baz=296							
P33M	**Teslin, Yukon**	**9.48**	**96**			**Pn**	**05 05 31.7**	**-0.8**
P33M	**Teslin, Yukon**	**9.48**	**96**	P		**Pn**	**05 05 31.1**	**-1.4**
	baz=292							
INK	**Inuvik**	**9.61**	**45**	Pn		**Pn**	**05 05 35.1**	**+1.0**
INK	**Inuvik**	**9.61**	**45**	P		**Pn**	**05 05 33.8**	**-0.3**
	baz=242							
INK	**Inuvik**	**9.61**	**45**	P		**Pn**	**05 05 33.7**	**-0.3**
	comp=N,3.6nm,0.8s,baz=242,slow=16,SNR=15							
INK				S		**Sn**	**05 07 17.0**	**-2.9**
	comp=N,1.1nm,0.4s,baz=6.9,slow=25,SNR=1.3							
JIS	**Juneau Island**	**9.68**	**108**	P		**Pn**	**05 05 35.4**	**+0.3**
Q32M	**Nakina River**	**10.28**	**101**			**Pn**	**05 05 42.5**	**-0.9**
Q32M	**Nakina River**	**10.28**	**101**	P		**Pn**	**05 05 42.1**	**-1.3**
	baz=299							
R33M	**Jennings River**	**10.67**	**98**			**Pn**	**05 05 48.7**	**0.0**
R33M	**Jennings River**	**10.67**	**98**	P		**Pn**	**05 05 47.7**	**-1.0**
	baz=296							
DLBC	**Dease Lake**	**11.55**	**101**	P		**Pn**	**05 05 59.2**	**-1.2**
	comp=N,3.3nm,0.7s,baz=293,slow=5.4,SNR=6.8							
C36M	**Paulatuk**	**13.17**	**47**	Pn		**Pn**	**05 06 20.3**	**-1.2**
YKA	**Yellowknife Ar**	**17.11**	**73**	Pn		**Pn**	**05 07 08.9**	**-2.0**
YKA	**Yellowknife Ar**	**17.11**	**73**	P		**Pn**	**05 07 10.2**	**-0.7**
	comp=N,5.0nm,0.9s,baz=283,slow=11,SNR=33							
EDM	**Edmonton**	**22.22**	**97**	P		**P**	**05 08 07.4**	**+1.2**
RES	**Resolute Bay**	**22.93**	**35**	P		**P**	**05 08 12.9**	**-0.1**
RES				IAmb		IAmb	05 08 29.7	
	comp=Z,2.2nm,0.9s							
EUNU	**Eureka**	**25.08**	**22**	P		**P**	**05 08 33.1**	**+0.5**
EUNU				IAmb		IAmb	05 08 36.8	
	comp=Z,2.4nm,0.6s							
K02D	**Willamette Mer**	**25.89**	**127**	P		**P**	**05 08 43.1**	**+2.7**
K02D				IAmb		IAmb	05 09 11.1	
	comp=Z,5.2nm,1.1s							
PLID	**Pearl Lake**	**26.98**	**113**	P		**P**	**05 08 50.9**	**+0.6**
BPMT	**Black Pine Rid**	**27.02**	**108**	P		**P**	**05 08 50.9**	**+0.2**
NVAR	**Mina Array Bea**	**31.62**	**124**	P		**P**	**05 09 32.9**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=311,slow=7.0,SNR=2.2							
	comp=Z,0.3nm,0.5s							
PDAR	**Pinedale Array**	**31.63**	**109**	P		**P**	**05 09 32.9**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=303,slow=4.3,SNR=6.0							
	comp=Z,0.5nm,0.6s							
SPITS	**Spitsbergen Ar**	**39.36**	**4**	P		**P**	**05 10 36.7**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=17,slow=6.1,SNR=25							
	comp=Z,1.4nm,0.3s							
SCHQ	**Schefferville**	**41.82**	**60**	P		**P**	**05 10 58.3**	**+1.0**
	comp=Z,6.8nm,0.7s,baz=293,slow=8.1,SNR=6.8							
	comp=Z,6.8nm,0.7s							
KLR	**Kul'dur**	**42.16**	**288**	P		**P**	**05 10 58.7**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=58,slow=15,SNR=2.2							
	comp=Z,0.9nm,0.7s							
TXAR	**Lajitas Array**	**45.48**	**114**	P		**P**	**05 11 28.5**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=319,slow=5.5,SNR=8.3							
	comp=Z,0.5nm,0.6s							
ARCES	**ARCESS Array B**	**48.22**	**1**	P		**P**	**05 11 47.0**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=17,slow=8.9,SNR=8.3							
	comp=Z,2.2nm,0.6s							
KSRS	**Korea Array**	**53.13**	**282**	P		**P**	**05 12 26.1**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=26,slow=7.2,SNR=2.2							
	comp=Z,0.7nm,0.4s							
SONM	**Songino Array**	**53.72**	**305**	P		**P**	**05 12 29.9**	**+0.6**
	comp=Z,1.5nm,1.0s,baz=66,slow=3.6,SNR=5.8							
	comp=Z,1.5nm,1.0s							
ZALV	**Zalesovo Beam**	**55.64**	**323**	P		**P**	**05 12 42.0**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=36,slow=7.8,SNR=5.5							
	comp=Z,0.8nm,0.4s							
HFS	**Hagfors**	**57.18**	**8**	P		**P**	**05 12 53.1**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=45,slow=6.5,SNR=5.9							
	comp=Z,2.6nm,0.8s							
EKA	**Eskdalemuir Ar**	**59.99**	**20**	P		**P**	**05 13 12.4**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=332,slow=5.3,SNR=4.2							
	comp=Z,0.7nm,0.4s							
BVAR	**Borovoye Array**	**60.07**	**332**	P		**P**	**05 13 12.9**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=34,slow=9.2,SNR=4.7							
	comp=Z,0.9nm,0.5s							
KURBB	**Kurchatov Arra**	**60.33**	**326**	P		**P**	**05 13 15.4**	**-0.2**
	comp=Z,1.2nm,0.2s,baz=29,slow=7.0,SNR=2.2							
	comp=Z,1.2nm,0.2s							
MKAR	**Makanchi Array**	**62.77**	**321**	P		**P**	**05 13 31.3**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=49,slow=6.1,SNR=8.4							
	comp=Z,0.8nm,0.5s							
AKASG	**Malin Array Be**	**67.12**	**359**	P		**P**	**05 13 59.8**	**-0.4**
	comp=Z,2.0nm,0.4s,baz=1.8,slow=6.3,SNR=12							
	comp=Z,2.0nm,0.4s							
CMAR	**Chiang Mai Arr**	**82.25**	**295**	P		**P**	**05 15 27.4**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=6.2,slow=6.2,SNR=9.5							
	comp=Z,0.8nm,0.5s							

NEIC ***14*** *05:19:54.8±0.2,36.479°N±0.009×97.25°W±0.01,h5km±2km, Error ellipse: s-maj=3.0km s-min=1.5km az=122.0*

TUL 14 05:19:54.9±0.3,36.484°N±0.008×97.24°W±0.01,h6km±5km, ML2.5,mb_Lg2.4/4(NEIC),**ML2.4**/50(NEIC),**Error ellipse: s-maj=1.3km s-min=1.1km az=79.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OK048	**Pawnee Station**	**0.25**	**106**	Pg		Pg	05 20 00.3	+0.5
OK048				Sg		Sg	05 20 04.0	+0.9
BLOK	**Blackwell**	**0.28**	**4**			Pg	05 20 00.9	+0.5
BLOK				Sg		Sg	05 20 04.9	+0.9
BLOK				IAML			05 20 06.7	
	comp=N,683nm,0.2s							
OK051	**E0350 and S346**	**0.33**	**86**			Pg	05 20 01.8	+0.5
OK051				IAML			05 20 07.1	
	comp=N,435nm,0.2s							
OK051				IAML			05 20 07.7	
	comp=N,547nm,0.2s							
OK033	**Mehan**	**0.50**	**151**	Pg		Pg	05 20 04.8	+0.2
OK033				IAML			05 20 11.8	
	comp=N,292nm,0.2s							
OK033				IAML			05 20 13.5	
	comp=N,328nm,0.3s							
QUOK	**Quay**	**0.53**	**126**	Pg		Pg	05 20 05.5	+0.3
QUOK				IAML			05 20 14.5	
	comp=E,275nm,0.3s							
KAN13	**South Haven SW**	**0.56**	**340**			Pg	05 20 06.0	+0.3
KAN13				IAML			05 20 14.8	
	comp=E,267nm,0.3s							
KAN13				IAML			05 20 20.2	
	comp=N,250nm,0.3s							
CROK	**Carrier**	**0.60**	**272**	Pg		Pg	05 20 06.4	0.0
OK052	**Battle Ridge R**	**0.60**	**144**	Pg		Pg	05 20 06.7	+0.2
OK052				IAML			05 20 17.0	
	comp=N,299nm,0.2s							
OK052				IAML			05 20 18.1	
	comp=N,273nm,0.4s							
GC02	**Grant County #**	**0.62**	**307**	Pg		Pg	05 20 06.9	+0.1
KAN17	**Caldwell West**	**0.70**	**323**	Pg		Pg	05 20 08.5	+0.1
KAN17				IAML			05 20 22.0	
	comp=E,212nm,0.2s							
KAN17				IAML			05 20 24.1	
	comp=N,196nm,0.3s							
OK029	**Liberty Lake**	**0.71**	**194**	Pg		Pg	05 20 08.4	-0.1
KAN09	**Caldwell North**	**0.72**	**335**			Pg	05 20 08.8	+0.1
T35A	**Sooner Cattle**	**0.73**	**53**	Pg		Pg	05 20 09.2	+0.4
KAN14	**Manchester OK**	**0.75**	**309**	Pg		Pg	05 20 09.1	-0.1
KAN14				IAML			05 20 25.9	
	comp=N,162nm,0.3s							
KAN01	**Argonia South**	**0.79**	**328**	Pg		Pg	05 20 10.0	0.0
KAN01				IAML			05 20 25.6	
	comp=E,127nm,0.1s							
ADOK	**Arcadia Dam**	**0.84**	**187**	Pg		Pg	05 20 10.8	-0.1
OK032	**Salt Plains WL**	**0.84**	**293**	Pg		Pg	05 20 10.9	-0.2
OK032				IAML			05 20 23.0	
	comp=E,175nm,0.2s							
KS21	**Milan North St**	**0.87**	**337**	IAML			05 20 24.6	
	comp=E,151nm,0.1s							
KS21				IAML			05 20 25.7	
	comp=E,130nm,0.2s							
KS21	**Milan North St**	**0.87**	**337**	Pg		Pg	05 20 11.7	+0.1
DEOK	**Depew**	**0.88**	**137**	Pg		Pg	05 20 11.7	0.0
DEOK				IAML			05 20 25

CRPR	**Cabo Rojo, PR**	**1.36**	**86**	*eS*		**Sb**	**05 42 33.5**	**+3.0**
CRPR	**Cabo Rojo, PR**	**1.36**	**86**			**Pn**	**05 42 12.7**	**+1.3**
CRPR	**Cabo Rojo, PR**	**1.36**	**86**	*i* P		**Pn**	**05 42 12.8**	**+1.3**
CRPR					IAML		05 42 39.4	
	comp=Z,389nm,1.0s							
LSP	**Las Mesas**	**1.40**	**80⇑**	*eP*		**Pn**	**05 42 13.4**	**+1.3**
LSP	**Las Mesas**	**1.40**	**80**	*eS*		**Sb**	**05 42 34.6**	**+2.9**
LSP	**Las Mesas**	**1.40**	**80**			**Pn**	**05 42 13.4**	**+1.3**
LSP						**Sb**	**05 42 34.6**	**+2.9**
SDD	**Santo Domingo**	**1.42**	**292⇑**	*eP*		**Pn**	**05 42 12.5**	**+0.2**
SDD	**Santo Domingo**	**1.42**	**292**	*eS*		**Sn**	**05 42 29.8**	**0.0**
SDD	**Santo Domingo**	**1.42**	**292**			**Pn**	**05 42 12.0**	**-0.2**
SDD						**Sn**	**05 42 29.6**	**-0.2**
SDD	**Santo Domingo**	**1.42**	**292⇓**	*eP*	*g*	**Pn**	**05 42 12.4**	**+0.2**
SDD				⇓	*eS*	**Sn**	**05 42 30.6**	**+0.8**
SDD					IAML		05 42 34.8	
	comp=N,56nm,0.6s							
SDD					IAML		05 42 35.8	
	comp=E,52nm,0.2s							
SDD	**Santo Domingo**	**1.42**	**292**	*i* P		**Pn**	**05 42 12.4**	**+0.2**
SDD					*eS*	**Sn**	**05 42 30.2**	**+0.4**
LOSC1	**San Cristbal**	**1.57**	**288**	*i* P		**Pn**	**05 42 16.1**	**+1.6**
LOSC1					*eS*	**Sn**	**05 42 34.5**	**+0.8**
LOSC1					IAML		05 42 39.0	
	comp=Z,584nm,0.4s							
GBPR	**Guanica, Bosqu**	**1.58**	**88⇑**	*eP*		**Pn**	**05 42 16.1**	**+1.7**
GBPR	**Guanica, Bosqu**	**1.58**	**88**			**Pn**	**05 42 16.1**	**+1.7**
AOPR	**Arecibo Observ**	**1.74**	**76⇑**	*eP*		**Pn**	**05 42 18.2**	**+1.4**
AOPR	**Arecibo Observ**	**1.74**	**76**	*eS*		**Sb**	**05 42 42.7**	**+1.1**
AOPR	**Arecibo Observ**	**1.74**	**76**			**Pn**	**05 42 18.2**	**+1.4**
DR08	**Loma La Naviza**	**1.75**	**306⇓**	*eP*	*g*	**Pn**	**05 42 16.9**	**0.0**
DR08				⇓	*eS*	**Sn**	**05 42 36.9**	**-1.3**
DR08					IAML		05 42 38.1	
	comp=N,3μm,0.2s							
BANI	**BANI**	**1.80**	**285⇓**	*eP*	*g*	**Pn**	**05 42 19.1**	**+1.5**
BANI				⇓	*eS*	**Sn**	**05 42 41.6**	**+2.2**
BANI					IAML		05 42 47.3	
	comp=N,412nm,0.6s							
EMPR	**Esperanza - Ma**	**1.98**	**74⇓**	*eP*		**Pn**	**05 42 21.8**	**+1.8**
EMPR	**Esperanza - Ma**	**1.98**	**74**	*eS*		**Sb**	**05 42 48.9**	**+0.5**
EMPR	**Esperanza - Ma**	**1.98**	**74**			**Pn**	**05 42 21.3**	**+1.2**
EMPR						**Sb**	**05 42 48.6**	**+0.2**
ABDR	**Alto Bandera**	**2.17**	**294⇓**	*eP*	*g*	**Pn**	**05 42 24.5**	**+1.5**
ABDR				⇓	*eS*	**Sn**	**05 42 51.3**	**+2.1**
ABDR					IAML		05 42 56.2	
	comp=N,322nm,0.6s							
SJG	**San Juan**	**2.28**	**85⇑**	*eP*		**Pn**	**05 42 24.9**	**+0.8**
SJG	**San Juan**	**2.28**	**85**	*eS*		**Sn**	**05 42 53.8**	**+2.7**
SJG	**San Juan**	**2.28**	**85**			**Pn**	**05 42 24.6**	**+0.5**
SJG					IAML		05 43 01.9	
	comp=N,224nm,0.5s							
SJG					IAML		05 43 03.5	
	comp=N,224nm,0.3s							
SJG	**San Juan**	**2.28**	**85⇑**	*eP*	*g*	**Pn**	**05 42 24.9**	**+0.8**
SC01	**Santiago de Io**	**2.56**	**306**			**Pn**	**05 42 28.4**	**+0.4**
SC01					IAML		05 43 05.0	
	comp=N,301nm,0.8s							
SC01					IAML		05 43 08.0	
	comp=E,303nm,0.5s							
SC01	**Santiago de Io**	**2.56**	**306**	*i* P		**Pn**	**05 42 29.6**	**+1.6**
SC01					*eS*	**Sn**	**05 42 59.2**	**+1.0**
SC01					IAML		05 43 06.8	
	comp=Z,94nm,1.1s							
SDDR	**Presa de Saban**	**2.82**	**292⇑**	*eP*		**Pn**	**05 42 35.8**	**+4.2**
SDDR	**Presa de Saban**	**2.82**	**292**	*eS*		**Sb**	**05 43 10.2**	**-2.2**
SDDR	**Presa de Saban**	**2.82**	**292**			**Pn**	**05 42 31.4**	**-0.2**
SDDR					IAML		05 43 18.6	
	comp=Z,207nm,0.6s							
SDDR					IAML		05 43 20.5	
	comp=Z,132nm,0.6s							
SDDR	**Presa de Saban**	**2.82**	**292⇓**	*eP*	*g*	**Pn**	**05 42 34.7**	**+3.1**
SDDR					IAML		05 43 20.3	
	comp=N,116nm,0.6s							
SDDR	**Presa de Saban**	**2.82**	**292**	*i* P		**Pn**	**05 42 34.7**	**+3.1**
SDDR					IAML		05 43 14.6	
	comp=Z,82nm,0.5s							
MADR	**Mao Valverde**	**2.93**	**304⇓**	*eP*	*g*	**Pn**	**05 42 35.7**	**+2.6**
MADR				⇑	*eS*	**Sn**	**05 43 10.4**	**+3.1**
MADR					IAML		05 43 18.6	
	comp=N,311nm,0.4s							
LOPE2	**Hotel El Peder**	**3.06**	**272**	*i* P		Pn	05 42 39.2	+4.3
HATO	**Hato, Curacao**	**5.73**	**184**	Pn		**Pn**	**05 43 11.0**	**-0.5**
MBFL	**Flemmings, Mon**	**6.15**	**100**	*eP*		**Pn**	**05 43 18.4**	**+1.0**
MBFL	**Flemmings, Mon**	**6.15**	**100**	*eS*		**Sn**	**05 44 20.5**	**-6.2**
MLYT	**Lee's Yard**	**6.17**	**100**	*eP*		**Pn**	**05 43 18.8**	**+1.0**
MLYT	**Lee's Yard**	**6.17**	**100**	*eS*		Sn	05 44 20.2	-7.2
ANBD	**Bethesda, Anti**	**6.52**	**97**	*eP*		**Pn**	**05 43 23.1**	**+0.6**
ANBD	**Bethesda, Anti**	**6.52**	**97**	*eS*		**Sn**	**05 44 30.4**	**-5.3**
CBF	**Ff, Capester**	**6.88**	**105**	*eP*		**Pn**	**05 43 28.4**	**+0.9**
ABD	**La Joyeuse, An**	**6.89**	**101**	*eP*		**Pn**	**05 43 28.2**	**+0.7**
URIC	**Uribia, Colomb**	**7.03**	**209**	*eP*		**Pn**	**05 43 29.1**	**-0.5**
URIC					*eS*	**Sn**	**05 44 45.6**	**-2.9**
MAGL	**Barre de l'ile**	**7.21**	**105**	*eP*		**Pn**	**05 43 33.9**	**+1.9**
BIM	**Bigot**	**7.93**	**114**	Pn		**Pn**	**05 43 43.1**	**+1.2**
CRJC	**Cerrejon, Guaj**	**8.05**	**212**	*eP*		**Pn**	**05 43 42.0**	**-1.6**
CRJC					*eS*	**Sn**	**05 45 11.3**	**-2.4**
MPOM	**Morne Pois Mar**	**8.14**	**114**	*eP*		**Pn**	**05 43 45.6**	**+0.8**
MPOM	**Morne Pois Mar**	**8.14**	**114**	*eS*		Sn	05 45 09.0	-6.8
SLBI	**Saint Lucia, B**	**8.24**	**117**	*eP*		**Pn**	**05 43 48.1**	**+2.0**
SLBI	**Saint Lucia, B**	**8.24**	**117**	*eS*		Sn	05 45 12.0	-6.2
BAUV	**El Baul**	**8.94**	**177**			**Pn**	**05 43 56.9**	**+1.2**
SDV	**Santo Domingo**	**9.21**	**193**			**Pn**	**05 43 59.8**	**+0.1**
SJCC	**San Jacinto, C**	**10.26**	**220**	*eP*		**Pn**	**05 44 15.8**	**+1.9**

IDC 14 05:42:08.8±3.2, 53°.77N×91°.06E, h0km, mbtmp3.5/3, ML3.1/3, Error ellipse: s-maj=26.8km s-min=23.3km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.70**	**275**	I	I	06 10 30.0	
	0.1nm,1.5s,baz=92,slow=338,SNR=2.4						
ZALV	**Zalesovo Beam**	**3.70**	**275**	Pn	Pn	05 43 09.0	+1.8
	3.0nm,0.3s,baz=94,slow=13,SNR=20						
ZALV				Lg	Lg	05 44 04.0	
	5.6nm,0.3s,baz=92,slow=24,SNR=8.4						
	4.6nm,0.4s						
KURBB	**Kurchatov Arra**	**8.32**	**253**	Pn	Pn	05 44 10.1	-0.4
	0.3nm,0.3s,baz=64,slow=14,SNR=7.6						
KURBB				Sn	Sn	05 45 44.0	-1.1
	0.2nm,0.3s,baz=67,slow=26,SNR=16						
KURBB				Lg	Lg	05 46 30.2	
	0.1nm,0.3s,baz=64,slow=31,SNR=6.6						
	1.5nm,0.4s						
MKAR	**Makanchi Array**	**8.95**	**222**	Pn	Pn	05 44 19.4	+0.1
	0.6nm,0.3s,baz=39,slow=12,SNR=14						
MKAR				Sn	Sn	05 46 01.0	+0.2
	0.3nm,0.3s,baz=35,slow=28,SNR=5.9						
MKAR				Lg	Lg	05 46 52.6	
	0.2nm,0.3s,baz=30,slow=24,SNR=5.3						
	1.9nm,0.5s						
SONM	**Songino Array**	**11.36**	**115**	Lg	Lg	05 48 07.5	
	baz=291,slow=26						
I34MN	**SONGINO INFRAS**	**11.39**	**115**	I	I	06 49 00.0	
	baz=308,slow=331,SNR=0.9						
BVAR	**Borovoye Array**	**12.36**	**275**	Sn	Sn	05 47 20.8	-3.3
	baz=80,slow=25,SNR=2.6						
AAK	**Ala-Archa**	**15.64**	**231**	Lg	Lg	05 50 19.4	
	baz=136,slow=18,SNR=2.1						

*JMA **14** 05:45:07.3±0.1, 25°.1N×123°.1E±0°.5, h62km±1km, MV3.2/15, NW OFF ISHIGAKIJIMA IS*

ISC 14 05:45:07.8±1.5, 24°.39N±0°.09×123°.13E±0°.04, h59km±9km, n16, σ0°70/23, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.13**	**306**	P	**Pn**	**05 45 16.6**	**-0.2**
YOJ	**Yonaguni jima**	**0.13**	**306**	*i* P	**Pn**	**05 45 16.6**	**-0.2**
YOJ				S	**Sn**	**05 45 23.1**	**-0.2**
JYNG	**Yonagunijimaku**	**0.18**	**292**	*i* P	**Pn**	**05 45 16.8**	**-0.2**
JYNG				S	**Sn**	**05 45 23.7**	**0.0**
HATJ	**Hateruma jima**	**0.70**	**118**	P	**Pn**	**05 45 22.5**	**+0.5**
HATJ				*eS*	**Sn**	**05 45 33.8**	**+1.4**
JKRS	**Kuro-shima**	**0.82**	**100**	*i* P	**Pn**	**05 45 23.7**	**+0.3**
JKRS				S	**Sn**	**05 45 35.9**	**+1.0**
JIJ	**Ishigaki jima**	**0.93**	**91**	*i* P	**Pn**	**05 45 24.3**	**-0.5**
JIJ				S	**Sn**	**05 45 36.9**	**-0.5**
JISG	**Ishigakijimahi**	**1.10**	**79**	P	**Pn**	**05 45 26.6**	**-0.4**
JISG				S	**Sn**	**05 45 40.6**	**-0.8**
NACB	**Ninganchiao**	**1.41**	**262**	P	**Pn**	**05 45 30.7**	**-0.6**
JTJ	**Tarama**	**1.46**	**80**	P	**Pn**	**05 45 31.8**	**0.0**
JTJ				S	**Sn**	**05 45 49.1**	**-0.9**
TATO	**Taipei**	**1.60**	**292**	P	**Pn**	**05 45 35.3**	**+1.5**
YHNB	**Yeheng**	**1.62**	**280**	P	**Pn**	**05 45 34.1**	**-0.1**
YULB	**Yu-li**	**1.94**	**240**	P	**Pn**	**05 45 37.9**	**-0.6**
JIKM	**Ikemajima**	**2.00**	**74**	*eP*	**Pn**	**05 45 39.1**	**-0.1**
JMJ2	**Miyako jima3**	**2.04**	**80**	*eP*	**Pn**	**05 45 40.1**	**+0.4**
SSLB	**Suanglung**	**2.07**	**254**	P	**Pn**	**05 45 40.7**	**+0.4**
TWGBT	**Beinan**	**2.44**	**231**	P	**Pn**	**05 45 44.7**	**-0.6**

*NEIC **14** 05:57:05.7±1.1, 63°.03N±0°.02×156°.09W±0°.03, h11km±7km, Error ellipse: s-maj=2.9km s-min=1.6km az=171.0*
*AEIC **14** 05:57:05.8±1.1, 63°.03N±0°.03×156°.10W±0°.02, h13km±6km, ML3.5,ML3.7/106(NEIC),Mwr3.5/18(SLM), Error ellipse: s-maj=3.8km s-min=1.6km az=178.0*
*NEIC **14** 05:57:05, 63°.01N×156°.05W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.90; $M_{\theta\theta}$0.21; $M_{\phi\phi}$-1.11; $M_{r\theta}$1.48; $M_{\theta\phi}$-1.16; $M_{\phi r}$0.29; Fault plane solution: M_o2.16000×10^{14} NP1:ϕ_s175.00000°, δ40.00000°, λ25.00000°. NP2:ϕ_s65.00000°, δ74.00000°, λ127.00000°. Principal axes: T 2.1596, Plg47.0000°, Azm14.0000°; N -0.0003, Plg36.0000°, Azm234.0000°; P -2.1592, Plg20.0000°, Azm128.0000°;*

ISC 14 05:57:05.7±0.8, 63°.03N±0°.02×156°.10W±0°.02, h12km±6km, n266, σ0°58/284, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTA	**Tatalina**	**0.10**	**156**		**Pg**	**05 57 08.2**	**-0.4**
TTA					**Sg**	**05 57 10.8**	**0.0**
TTA				IAML		05 57 11.0	
	comp=N,27μm,0.3s						
TTA	**Tatalina**	**0.10**	**156**	P	**Pg**	**05 57 08.8**	**+0.2**
	baz=340						
TTA				S	**Sg**	**05 57 10.8**	**0.0**
	baz=340						
J18K	**Innoko River**	**0.52**	**328**		**Pb**	**05 57 16.4**	**-0.4**
J18K					**Sg**	**05 57 23.2**	**+0.4**
J18K	**Innoko River**	**0.52**	**328**	P	**Pb**	**05 57 16.4**	**-0.4**
	baz=147						
J18K				S	**Sg**	**05 57 23.4**	**+0.6**
	baz=147						
L18K	**Granite Mounta**	**0.85**	**199**		**Pg**	**05 57 22.0**	**-0.1**
L18K				IAML		05 57 36.6	
	comp=E,3μm,0.4s						
L18K	**Granite Mounta**	**0.85**	**199**	P	**Pg**	**05 57 21.9**	**-0.1**
	baz=18						
K20K	**Telida**	**0.98**	**69**		**Pg**	**05 57 24.1**	**-0.4**
K20K					**Sb**	**05 57 37.4**	**-0.1**
K20K	**Telida**	**0.98**	**69**	P	**Pg**	**05 57 24.2**	**-0.3**
	baz=251						
K20K				S	**Sb**	**05 57 38.2**	**+0.6**
	baz=251						
J19K	**Poorman**	**1.00**	**12**		**Pb**	**05 57 24.8**	**-0.1**
J19K					**Sg**	**05 57 37.8**	**-0.1**
J19K				IAML		05 57 41.0	
	comp=N,2μm,0.3s						
J19K				IAML		05 57 42.0	
	comp=E,2μm,0.2s						
J19K	**Poorman**	**1.00**	**12**	P	**Pb**	**05 57 24.8**	**-0.1**
	baz=193						
J19K				S	**Sn**	**05 57 38.7**	**-0.8**
	baz=193						
L19K	**White Mountain**	**1.02**	**145**		**Pb**	**05 57 25.0**	**-0.3**
L19K					**Sg**	**05 57 38.9**	**+0.2**
L19K				IAML		05 57 40.9	
	comp=N,2μm,0.5s						
L19K				IAML		05 57 41.6	
	comp=E,2μm,0.3s						
L19K	**White Mountain**	**1.02**	**145**	P	**Pb**	**05 57 25.1**	**-0.3**
	baz=327						
L19K				S	**Sn**	**05 57 40.1**	**-0.1**
	baz=327						
K17K	**Iditarod**	**1.05**	**254**		**Pb**	**05 57 25.8**	**-0.1**
K17K				IAML		05 57 42.8	
	comp=E,2μm,0.8s						
K17K				IAML		05 57 44.8	
	comp=N,2μm,0.6s						
K17K	**Iditarod**	**1.05**	**254**	P	**Pb**	**05 57 25.8**	**-0.1**
	baz=72						
L20K	**Farewell, AK**	**1.16**	**117**		**Pb**	**05 57 27.5**	**-0.2**
L20K					**Sn**	**05 57 44.0**	**+0.4**
L20K	**Farewell, AK**	**1.16**	**117**	P	**Pb**	**05 57 27.5**	**-0.2**
	baz=300						
L20K				S	**Sn**	**05 57 44.0**	**+0.4**
	baz=300						
L17K	**Donlin**	**1.35**	**230**		**Pn**	**05 57 29.9**	**-0.5**
L17K					**Sg**	**05 57 49.0**	**-0.2**
L17K	**Donlin**	**1.35**	**230**	P	**Pn**	**05 57 29.9**	**-0.5**
	baz=48						
L17K				S	**Sg**	**05 57 49.0**	**-0.2**
	baz=48						
J17K	**VABM Dome**	**1.40**	**287**		**Pn**	**05 57 31.0**	**-0.1**
J17K				IAML		05 57 52.4	
	comp=E,872nm,0.5s						
J17K				IAML		05 57 52.9	
	comp=N,976nm,0.4s						
J17K	**VABM Dome**	**1.40**	**287**	P	**Pn**	**05 57 30.9**	**-0.1**
	baz=104						
J17K				S	**Sg**	**05 57 50.5**	**-0.2**
	baz=104						
J20K	**Nowinta River**	**1.45**	**36**	Pn	**Pn**	**05 57 31.8**	**0.0**
J20K	**Nowinta River**	**1.45**	**36**	P	**Pn**	**05 57 31.7**	**0.0**
	baz=218						
M18K	**Stony River**	**1.54**	**175**		**Pn**	**05 57 33.0**	**-0.1**
M18K					**Sb**	**05 57 54.5**	**+0.8**
M18K	**Stony River**	**1.54**	**175**	P	**Pn**	**05 57 33.0**	**-0.1**
	baz=355						
M18K				S	**Sg**	**05 57 55.0**	**-0.3**
	baz=355						
M17K	**Holitna River**	**1.75**	**202**		**Pn**	**05 57 35.5**	**-0.3**
M17K	**Holitna River**	**1.75**	**202**	P	**Pn**	**05 57 35.6**	**-0.3**
	baz=20						
GCSA	**Galena City Sc**	**1.76**	**349**		**Pn**	**05 57 36.4**	**+0.4**
GCSA	**Galena City Sc**	**1.76**	**349**	P	**Pn**	**05 57 36.5**	**+0.5**
	baz=168						
PPLA	**Purkeypile**	**1.79**	**92**		**Pn**	**05 57 36.6**	**0.0**
PPLA	**Purkeypile**	**1.79**	**92**	P	**Pn**	**05 57 36.7**	**0.0**
	baz=276						
M20K	**Styx River**	**1.79**	**128**		**Pn**	**05 57 37.1**	**+0.5**
M20K	**Styx River**	**1.79**	**128**	P	**Pn**	**05 57 37.1**	**+0.5**
	baz=311						
CAST	**Castle Rocks**	**1.86**	**76**	Pn	**Pn**	**05 57 37.1**	**-0.3**
CAST				IAML		05 58 06.0	
	comp=N,647nm,0.6s						
CAST	**Castle Rocks**	**1.86**	**76**	P	**Pn**	**05 57 37.2**	**-0.3**
	baz=260						
CHUM	**Lake Minchumin**	**1.91**	**61**		**Pn**	**05 57 37.9**	**-0.1**
CHUM	**Lake Minchumin**	**1.91**	**61**	P	**Pn**	**05 57 37.9**	**-0.1**
	baz=245						
I20K	**Naaghedeneel**	**1.92**	**21**		**Pn**	**05 57 37.8**	**-0.3**
I20K	**Naaghedeneel**	**1.92**	**21**	P	**Pn**	**05 57 38.0**	**-0.2**
	baz=203						
SVW2	**Sparrevohn**	**1.95**	**173**	Pn	**Pn**	**05 57 38.9**	**+0.3**
L16K	**Owhat River**	**2.05**	**231**		**Pn**	**05 57 39.7**	**-0.3**
L16K				IAML		05 58 15.9	
	comp=E,592nm,0.7s						
L16K				IAML		05 58 16.0	
	comp=N,507nm,0.8s						
L16K	**Owhat River**	**2.05**	**231**	P	**Pn**	**05 57 39.6**	**-0.3**
	baz=48						
J16K	**Anvik River**	**2.06**	**279**		**Pn**	**05 57 40.3**	**+0.2**
J16K				IAML		05 58 11.4	
	comp=N,686nm,0.5s						
J16K				IAML		05 58 11.4	
	comp=E,616nm,0.6s						
J16K	**Anvik River**	**2.06**	**279**	P	**Pn**	**05 57 40.4**	**+0.3**
	baz=95						
I17K	**Unalakleet**	**2.24**	**295**		**Pn**	**05 57 43.1**	**+0.6**
I17K	**Unalakleet**	**2.24**	**295**	P	**Pn**	**05 57 43.4**	**+0.9**
	baz=110						
SPNN	**North Nagishla**	**2.31**	**135**		**Pn**	**05 57 44.5**	**+0.8**
N19K	**Bonanza Creek**	**2.35**	**160**		**Pn**	**05 57 44.5**	**+0.3**
N19K				IAML		05 58 21.8	
	comp=N,398nm,0.4s						
N19K	**Bonanza Creek**	**2.35**	**160**	P	**Pn**	**05 57 44.5**	**+0.3**
	baz=342						
H18K	**Honhosa River**	**2.36**	**336**	P	**Pn**	**05 57 44.5**	**+0.3**
	baz=154						
N18K	**Kilae Creek**	**2.36**	**177**		**Pn**	**05 57 44.5**	**+0.3**
N18K				IAML		05 58 26.1	
	comp=N,360nm,0.5s						
N18K				IAML		05 58 30.4	
	comp=E,298nm,0.8s						
N18K	**Kilae Creek**	**2.36**	**177**	P	**Pn**	**05 57 44.5**	**+0.3**
	baz=358						
SKT	**Skwentna**	**2.37**	**114**		**Pn**	**05 57 44.4**	**+0.1**
SKT				IAML		05 58 24.3	
	comp=N,387nm,0.5s						
SKT				IAML		05 58 24.6	
	comp=E,525nm,0.3s						
SKT	**Skwentna**	**2.37**	**114**	P	**Pn**	**05 57 45.0**	**+0.7**
	baz=299						
KTH	**Kantishna Hill**	**2.40**	**75**		**Pn**	**05 57 44.7**	**-0.1**
KTH				IAML		05 58 32.7	
	comp=N,345nm,0.9s						
M16K	**Timber Creek**	**2.42**	**215**		**Pn**	**05 57 44.5**	**-0.6**
M16K				IAML		05 58 28.0	
	comp=E,369nm,0.5s						
M16K				IAML		05 58 30.1	
	comp=N,374nm,0.6s						
M16K	**Timber Creek**	**2.42**	**215**	P	**Pn**	**05 57 45.3**	**+0.3**
	baz=32						
SPBG	**Spurr Blockage**	**2.49**	**134**		**Pn**	**05 57 47.4**	**+1.2**
STLK	**Strandline Lak**	**2.52**	**126**		**Pn**	**05 57 47.4**	**+1.0**
H19K	**Roundabout Mou**	**2.52**	**357**		**Pn**	**05 57 46.4**	**0.0**
H19K	**Roundabout Mou**	**2.52**	**357**	P	**Pn**	**05 57 46.5**	**+0.1**
	baz=176						
BPAW	**Bear Paw Mtn.**	**2.53**	**62**		**Pn**	**05 57 46.1**	**-0.5**
BPAW				IAML		05 58 32.4	
	comp=E,408nm,0.7s						
BPAW	**Bear Paw Mtn.**	**2.53**	**62**	P	**Pn**	**05 57 46.2**	**-0.5**
	baz=247						
H20K	**Anotleneega Mo**	**2.54**	**12**		**Pn**	**05 57 46.6**	**-0.1**
H20K	**Anotleneega Mo**	**2.54**	**12**	P	**Pn**	**05 57 46.6**	**-0.1**
	baz=193						
H17K	**Granite Mounta**	**2.55**	**321**	Pn	**Pn**	**05 57 46.6**	**-0.2**
H17K				IAML		05 58 30.5	
	comp=E,324nm,0.7s						
H17K	**Granite Mounta**	**2.55**	**321**	P	**Pn**	**05 57 47.9**	**+1.0**
	baz=137						
N17K	**Nushagak Hills**	**2.56**	**192**		**Pn**	**05 57 46.9**	**-0.1**
N17K				IAML		05 58 33.5	
	comp=E,365nm,0.7s						
N17K	**Nushagak Hills**	**2.56**	**192**	P	**Pn**	**05 57 47.2**	**+0.3**
	baz=11						
SPCP	**Crater Peak Br**	**2.56**	**132**		**Pn**	**05 57 48.2**	**+1.1**
SPCN	**Chakachatna No**	**2.58**	**133**		**Pn**	**05 57 48.4**	**+1.1**
SPCG	**Spurr Capps Gl**	**2.59**	**130**		**Pn**	**05 57 48.6**	**+1.1**
N20K	**Mount Spurr**	**2.59**	**133**	P	**Pn**	**05 57 48.3**	**+0.8**
	baz=317						
SPCR	**Spurr Chakacha**	**2.59**	**133**		**Pn**	**05 57 48.3**	**+0.8**
K15K	**Wolf Creek Mou**	**2.61**	**256**		**Pn**	**05 57 47.7**	**0.0**
K15K				IAML		05 58 28.2	
	comp=N,344nm,0.5s						
K15K				IAML		05 58 28.9	
	comp=E,349nm,0.3s						
K15K	**Wolf Creek Mou**	**2.61**	**256**	P	**Pn**	**05 57 48.1**	**+0.4**
	baz=71						
TRF	**Thorofare Moun**	**2.67**	**78**		**Pn**	**05 57 48.3**	**-0.3**
TRF				IAML		05 58 31.5	
	comp=N,287nm,0.8s						
TRF	**Thorofare Moun**	**2.67**	**78**	P	**Pn**	**05 57 48.4**	**-0.2**
	baz=264						
CUT	**Chulitna**	**2.76**	**100**		**Pn**	**05 57 49.8**	**+0.1**
CUT				IAML		05 58 42.0	
	comp=N,389nm,1.0s						
CUT	**Chulitna**	**2.76**	**100**	P	**Pn**	**05 57 50.2**	**+0.6**
	baz=286						
I21K	**Tanana**	**2.82**	**38**		**Pn**	**05 57 50.3**	**-0.2**
I21K	**Tanana**	**2.82**	**38**	P	**Pn**	**05 57 50.5**	**-0.1**
	baz=222						
L15K	**Ungalak Mounta**	**2.85**	**244**		**Pn**	**05 57 50.8**	**-0.2**
L15K	**Ungalak Mounta**	**2.85**	**244**	P	**Pn**	**05 57 50.8**	**-0.2**
	baz=59						
N16K	**Nishlik Lake**	**2.86**	**208**		**Pn**	**05 57 51.1**	**0.0**
N16K	**Nishlik Lake**	**2.86**	**208**	P	**Pn**	**05 57 51.1**	**0.0**
	baz=25						
NCT	**North Crescent**	**2.90**	**147**		**Pn**	**05 57 52.3**	**+0.6**
RDJH	**Redoubt Jeurge**	**2.90**	**146**		**Pn**	**05 57 52.3**	**+0.5**
DFR	**Drift River**	**2.93**	**145**		**Pn**	**05 57 52.7**	**+0.6**
SUA	**Susitna One**	**2.96**	**120**		**Pn**	**05 57 52.7**	**+0.2**
SUA	**Susitna One**	**2.96**	**120**	P	**Pn**	**05 57 53.1**	**+0.6**
	baz=305						
O19K	**Port Alsworth**	**2.96**	**163**		**Pn**	**05 57 52.8**	**+0.3**
O19K	**Port Alsworth**	**2.96**	**163**	P	**Pn**	**05 57 53.0**	**+0.5**
	baz=344						
RDWB	**Redoubt West**	**2.98**	**147**		**Pn**	**05 57 53.3**	**+0.4**
H21K	**Melozitna Rive**	**3.01**	**27**		**Pn**	**05 57 53.1**	**0.0**
H21K				IAML		05 58 45.0	
	comp=E,200nm,0.4s						
H21K				IAML		05 58 51.6	
	comp=N,197nm,0.6s						
H21K	**Melozitna Rive**	**3.01**	**27**	P	**Pn**	**05 57 53.1**	**0.0**
	baz=210						
RDT	**Redoubt**	**3.02**	**143**		**Pn**	**05 57 54.3**	**+0.9**
RSO	**Redoubt South**	**3.02**	**147**		**Pn**	**05 57 54.3**	**+0.8**
RDSO	**Redoubt South**	**3.04**	**147**		**Pn**	**05 57 54.1**	**+0.4**
RED	**Redoubt Volcan**	**3.06**	**147**		**Pn**	**05 57 54.4**	**+0.5**
M22K

I23K	Minto, Yukon-K	3.65	51		Pn	05 58 01.8	-0.1
I23K	Minto, Yukon-K	3.65	51	P	Pn	05 58 01.4	-0.4
	baz=237						
P19K	Oil Pt	3.66	156	P	Pn	05 58 02.6	+0.6
	baz=339						
P18K	Big Mountain,	3.67	173	Pn	Pn	05 58 02.2	0.0
P18K				IAML		05 59 02.5	
	comp=E,148nm,1.0s						
P18K	Big Mountain,	3.67	173	P	Pn	05 58 02.3	0.0
	baz=354						
G21K	Allakaket	3.68	16	P	Pn	05 58 03.3	+1.0
	baz=199						
SLKM	Skilak Lake	3.77	129		Pn	05 58 04.4	+0.8
SML	Sawmill	3.81	105	P	Pn	05 58 05.5	+1.2
	baz=292						
P17K	Kvichak River	3.85	183		Pn	05 58 04.7	0.0
P17K	Kvichak River	3.85	183	P	Pn	05 58 04.8	+0.2
	baz=2.3						
WAT6	Susitna Watana	3.87	93		Pn	05 58 04.8	-0.3
WAT6	Susitna Watana	3.87	93	P	Pn	05 58 05.2	+0.2
	baz=280						
F19K	Shaleruckik Mo	3.89	350	P	Pn	05 58 05.7	+0.5
	baz=169						
KNK	Knik Glacier	3.93	111	P	Pn	05 58 07.7	+1.9
	baz=298						
DHY	Denali Highway	3.97	85	P	Pn	05 58 07.2	+0.6
	baz=273						
G15K	Niukluk	4.01	303		Pn	05 58 07.6	+0.7
G15K	Niukluk	4.01	303	P	Pn	05 58 07.6	+0.7
	baz=116						
F20K	Avaraart Lake	4.04	2		Pn	05 58 08.3	+0.9
F20K	Avaraart Lake	4.04	2	P	Pn	05 58 08.0	+0.6
	baz=182						
F17K	Baldwin Pennin	4.08	330	P	Pn	05 58 08.8	+1.1
	baz=145						
N14K	Kuskokwak Cree	4.10	223		Pn	05 58 08.8	+0.7
N14K	Kuskokwak Cree	4.10	223	P	Pn	05 58 08.8	+0.7
	baz=38						
P16K	Nushagak River	4.11	194		Pn	05 58 08.6	+0.3
P16K	Nushagak River	4.11	194	P	Pn	05 58 08.6	+0.3
	baz=12						
BRSE	Bradley Lake S	4.18	140		Pn	05 58 09.7	+0.4
BRSE	Bradley Lake S	4.18	140	P	Pn	05 58 09.5	+0.2
	baz=324						
CNPM	China Poot	4.22	144		Pn	05 58 09.7	-0.2
CNPM				IAML		05 59 26.2	
	comp=E,75nm,2.9s						
SCM	Sheep Creek Mo	4.25	102	P	Pn	05 58 11.7	+1.5
	baz=290						
O15K	Ungalikthiuk R	4.26	207		Pn	05 58 10.3	0.0
O15K	Ungalikthiuk R	4.26	207	P	Pn	05 58 10.8	+0.4
	baz=23						
Q19K	Cape Douglas,	4.28	163	P	Pn	05 58 10.9	+0.3
	baz=345						
HDA	Harding Lake	4.30	67	P	Pn	05 58 10.7	-0.2
	baz=255						
HDA				P	Pn	05 58 10.7	-0.2
	baz=255						
M13K	Dall Lake	4.33	236		Pn	05 58 12.2	+1.0
M13K				IAML		05 59 27.3	
	comp=N,99nm,3.4s						
M13K	Dall Lake	4.33	236	P	Pn	05 58 11.9	+0.7
	baz=50						
POKR	Poker Plat Res	4.35	57		Pn	05 58 11.2	-0.3
POKR				IAML		05 59 26.6	
	comp=N,99nm,0.6s						
POKR				IAML		05 59 26.6	
	comp=E,92nm,0.4s						
POKR	Poker Plat Res	4.35	57	P	Pn	05 58 10.9	-0.6
	baz=245						
F21K	Alatna River	4.36	14	P	Pn	05 58 12.0	+0.3
	baz=196						
ANM	Nome	4.39	295	P	Pn	05 58 12.8	+0.7
	baz=106						
KAHC	Katmai Hardscr	4.42	173		Pn	05 58 12.7	0.0
Q18K	Katmai Hardscr	4.42	173	P	Pn	05 58 12.9	+0.3
	baz=354						
E19K	Redstone River	4.48	354	P	Pn	05 58 13.7	+0.4
	baz=173						
G23K	Bananza Creek	4.52	32		Pn	05 58 14.0	+0.1
G23K				IAML		05 59 41.2	
	comp=E,55nm,0.8s						
G23K	Bananza Creek	4.52	32	P	Pn	05 58 14.0	+0.1
	baz=218						
O14K	Tigyukauivet M	4.54	216		Pn	05 58 13.6	-0.5
O14K				IAML		05 59 40.5	
	comp=E,53nm,1.1s						
O14K				IAML		05 59 44.7	
	comp=N,67nm,1.0s						
O14K	Tigyukauivet M	4.54	216	P	Pn	05 58 14.3	+0.2
	baz=31						
H24K	Noodor Dome	4.54	48		Pn	05 58 14.2	-0.1
H24K				IAML		05 59 40.9	
	comp=E,70nm,1.4s						
H24K				IAML		05 59 41.0	
	comp=N,67nm,0.9s						
H24K	Noodor Dome	4.54	48	P	Pn	05 58 13.9	-0.4
	baz=235						
F15K	North Star Dit	4.58	310	P	Pn	05 58 15.5	+0.8
	baz=122						
M24K	Tolsona, Glenn	4.69	97	P	Pn	05 58 17.7	+1.5
	baz=286						
E17K	Hotham Inlet	4.74	332		Pn	05 58 18.0	+1.2
E17K	Hotham Inlet	4.74	332	P	Pn	05 58 18.0	+1.2
	baz=147						
GLI	Glacier Island	4.76	113	Pn	Pn	05 58 16.1	-1.2
GLI				IAML		06 00 07.2	
	comp=N,57nm,3.6s						
GLI				IAML		06 01 18.5	
	comp=E,56nm,3.6s						
GLI	Glacier Island	4.76	113	P	Pn	05 58 17.4	+0.1
	baz=301						
KAKN	Katmai Knife C	4.77	173		Pn	05 58 17.6	+0.2
CNTC	Contact Creek	4.78	179		Pn	05 58 18.2	+0.6
Q17K	Contact Creek	4.78	179	P	Pn	05 58 18.2	+0.6
	baz=359						
F22K	John River	4.79	18		Pn	05 58 18.4	+0.8
F22K	John River	4.79	18	P	Pn	05 58 18.4	+0.8
	baz=202						
E18K	Tukpahlearik C	4.80	339	P	Pn	05 58 18.3	+0.5
	baz=155						
PAX	Paxson	4.85	86	P	Pn	05 58 19.9	+1.4
	baz=276						
COLD	Coldfoot	4.90	28	P	Pn	05 58 19.5	+0.4
	baz=213						
KLU	Klutina	5.00	103	P	Pn	05 58 21.5	+1.0
	baz=292						
J25K	Salcha River,	5.01	67	P	Pn	05 58 20.7	0.0
	baz=256						
F14K	Arctic Creek	5.09	303		Pn	05 58 22.4	+0.7
F14K	Arctic Creek	5.09	303	P	Pn	05 58 22.2	+0.5
	baz=114						
FID	Port Fidalgo	5.09	112		Pn	05 58 20.7	-1.0
FID				IAML		05 59 48.7	
	comp=N,61nm,4.1s						
FID				IAML		06 01 40.7	
	comp=E,54nm,4.0s						
G24K	Hadweenzic Riv	5.21	41		Pn	05 58 23.3	0.0
G24K				IAML		05 59 58.6	
	comp=N,47nm,1.0s						
E20K	Nigu River	5.26	360		Pn	05 58 24.7	+0.6
E20K	Nigu River	5.26	360	P	Pn	05 58 24.7	+0.6
	baz=180						
E22K	Anaktuvuk Pass	5.43	17	P	Pn	05 58 27.4	+1.0
	baz=201						
SCRK	Sand Creek	5.51	75	P	Pn	05 58 27.6	0.0
	baz=266						
E21K	Killik River	5.51	8	P	Pn	05 58 27.9	+0.3
	baz=190						
D17K	Noatak River	5.52	331		Pn	05 58 27.9	+0.3
D17K	Noatak River	5.52	331	P	Pn	05 58 28.0	+0.4
	baz=145						
N25K	Chitina, Valde	5.55	100	P	Pn	05 58 28.7	+0.6
	baz=290						
D19K	Kuna River	5.56	352	Pn	Pn	05 58 29.8	+1.6
D19K	Kuna River	5.56	352	P	Pn	05 58 28.8	+0.6
	baz=170						
WASW	Wrangell South	5.64	96		Pn	05 58 30.4	+0.9
G25K	Bearman Lake	5.67	44		Pn	05 58 29.0	-0.6
G25K	Bearman Lake	5.67	44	P	Pn	05 58 29.2	-0.5
	baz=233						
F24K	Squaw Lake	5.67	34		Pn	05 58 29.6	-0.2
F24K	Squaw Lake	5.67	34	P	Pn	05 58 29.4	-0.3
	baz=221						
D20K	Etivluk River	5.72	358		Pn	05 58 30.8	+0.4
D20K	Etivluk River	5.72	358	P	Pn	05 58 31.0	+0.7
	baz=178						
E23K	Chandalar	5.72	25		Pn	05 58 30.9	+0.4
E23K	Chandalar	5.72	25	P	Pn	05 58 31.2	+0.7
	baz=211						
TNA	Tin City	5.74	302		Pn	05 58 30.4	-0.1
TNA	Tin City	5.74	302	P	Pn	05 58 31.8	+1.3
	baz=111						
J26L	Joseph Creek	5.76	70	P	Pn	05 58 31.1	+0.2
	baz=261						
BMRM	Bremner River	5.80	106	Pn	Pn	05 58 31.5	0.0
E24K	Your Creek	5.97	29	P	Pn	05 58 34.0	+0.2
	baz=216						
D22K	Ayikyak River	6.04	12	P	Pn	05 58 36.1	+1.3
	baz=195						
C21K	Knifeblade Rid	6.18	4		Pn	05 58 37.0	+0.4
C21K	Knifeblade Rid	6.18	4	P	Pn	05 58 37.0	+0.4
	baz=186						
C17K	DeLong Mountai	6.20	335		Pn	05 58 37.2	+0.3
C17K	DeLong Mountai	6.20	335	P	Pn	05 58 37.2	+0.3
	baz=149						
TOLK	Toolik Lake Re	6.24	23	P	Pn	05 58 38.4	+0.9
	baz=208						
F25K	Christian Rive	6.34	39		Pn	05 58 38.6	-0.2
F25K	Christian Rive	6.34	39	P	Pn	05 58 38.8	-0.1
	baz=229						
D23K	Nanushuk River	6.36	18		Pn	05 58 40.6	+1.5
D23K	Nanushuk River	6.36	18	P	Pn	05 58 40.6	+1.5
	baz=203						
L27K	Beaver Creek,	6.49	83	Pn	Pn	05 58 41.7	+0.7
C16K	Lisburne Hills	6.50	328	P	Pn	05 58 41.1	+0.1
	baz=140						
BMAR	Burnt Mountain	6.55	43	Pn	Pn	05 58 41.6	-0.1
B21K	Ikpikpuk River	6.65	5	Pn	Pn	05 58 44.7	+1.6
E25K	Arctic Village	6.72	36	Pn	Pn	05 58 43.4	-0.7
F26K	Sheenjek River	6.84	42		Pn	05 58 45.2	-0.6
F26K	Sheenjek River	6.84	42	P	Pn	05 58 45.2	-0.6
	baz=232						
CHGN	Chignik	6.85	191	Pn	Pn	05 58 45.7	-0.1
B20K	Meade River	7.03	357		Pn	05 58 48.6	+0.4
B20K	Meade River	7.03	357	P	Pn	05 58 48.6	+0.4
	baz=176						
H27K	Steamboat Moun	7.03	56		Pn	05 58 47.8	-0.6
H27K	Steamboat Moun	7.03	56	P	Pn	05 58 48.0	-0.4
	baz=250						
BARN	Barnard Glacie	7.07	100	Pn	Pn	05 58 48.0	-1.1
C23K	Itkillik River	7.18	15	Pn	Pn	05 58 51.1	+0.8
C23K	Itkillik River	7.18	15	P	Pn	05 58 50.8	+0.4
	baz=200						
B22K	Teshekpuk Lake	7.42	7		Pn	05 58 53.2	-0.4
B22K	Teshekpuk Lake	7.42	7	P	Pn	05 58 53.5	-0.2
	baz=190						
I28M	Miner Creek	7.45	64	Pn	Pn	05 58 53.7	-0.4
I28M	Miner Creek	7.45	64	P	Pn	05 58 53.9	-0.2
	baz=258						
E27K	Coleen River	7.91	43	Pn	Pn	05 58 59.8	-0.6
A22K	Sinclair Lake	8.03	3		Pn	05 59 02.1	+0.1
A22K	Sinclair Lake	8.03	3	P	Pn	05 59 02.1	+0.1
	baz=184						
F28M	Old Crow	8.19	49	Pn	Pn	05 59 03.6	-0.6
F28M	Old Crow	8.19	49	P	Pn	05 59 03.6	-0.6
	baz=244						
H29M	Whitestone	8.25	59	Pn	Pn	05 59 05.1	+0.1
D27M	Malcolm River	8.73	38	P	Pn	05 59 11.1	-0.5
	baz=232						
E29M	Blow River	9.20	46	Pn	Pn	05 59 18.2	+0.1
E29M	Blow River	9.20	46	P	Pn	05 59 17.4	-0.6
	baz=243						
INK	Inuvik	10.67	50	Pn	Pn	05 59 37.0	-1.1

NEIC ***14*** *06:00:05.3±0.8, 19.0N±0.1×155.2W±0.07, h35km±9km, Error ellipse: s-maj=17.4km s-min=2.9km az=145.0*

HVO 14 06:00:03.5±0.6, 18.78N±0.08×155.12W±0.06, h29km±8km, Md2.0/14, ML2.9/16(NEIC), Error ellipse: s-maj=13.4km s-min=2.5km az=144.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.53	330		Pb	06 00 13.0	-1.4
HLP	Hilina Pali	0.54	341		Pb	06 00 13.4	-1.3
HLP				Sg	Sb	06 00 20.2	-2.2
HLP				IAML		06 00 30.5	
	comp=E,589nm,3.5s						
KNHH	Kane Nui o Ham	0.60	356		Pb	06 00 13.7	-1.9
PUH	Pauahi	0.60	351		Pb	06 00 13.7	-2.0
PUH				Sg	Sb	06 00 20.1	-3.8
JOKA	Jonika Flow	0.66	9		Pb	06 00 14.5	-2.1
KHU	Kahuku	0.66	315		Pb	06 00 14.6	-2.2
KHU				IAML		06 00 40.9	
	comp=E,487nm,3.4s						
AIN	Ainahou	0.67	332		Pb	06 00 14.9	-1.9
MLH	Mauna Loa	0.75	341		Pb	06 00 15.9	-2.5
MLH				IAML		06 00 37.5	
	comp=E,324nm,4.0s						
MWH	Moku'aweowe	0.83	327		Pb	06 00 17.0	-2.8
MWH				IAML		06 00 27.8	
	comp=N,432nm,3.4s						
HMH	Humu'ula Sheep	0.89	337		Pn	06 00 17.9	-2.5
HMH				IAML		06 00 45.7	
	comp=N,363nm,3.8s						
HMH				IAML		06 00 48.8	
	comp=E,310nm,3.4s						
ALEP	Alea Permanent	0.91	327		Pn	06 00 17.6	-3.1
KHLU	Kahalu`u	1.09	318		Pn	06 00 20.0	-3.0
KHLU				IAML		06 00 29.0	
	comp=E,287nm,3.2s						
KHLU				IAML		06 00 30.2	
	comp=N,243nm,3.6s						

ANF ***14*** *06:02:39.8±0.8, 37.61N×114.47W, h10km, ML3.1/11, Error ellipse: s-maj=10.2km s-min=2.8km az=83.0*

REN ***14*** *06:02:40.6±2.0, 37.62N±0.01×114.53W±0.02, h13km±6km, ML3.0/21, ML2.6/36(NEIC), Error ellipse: s-maj=2.5km s-min=1.7km az=55.0*

NEIC ***14*** *06:02:41.0±2.1, 37.62N±0.02×114.52W±0.02, h10km±1km, Error ellipse: s-maj=3.2km s-min=2.9km az=157.0*

ISC 14 06:02:40.7±1.1, 37.64N±0.03×114.51W±0.02, h14km±9km, n40, σ0.69/48, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRN	Pahroc Range	0.49	242		Pg	06 02 50.3	-0.1
PRN					Sg	06 02 56.3	-0.6
PRN				IAML		06 03 00.0	
	comp=E,705nm,0.4s						
ICU	Indian Springs	0.67	136		Pg	06 02 54.0	+0.2
ICU					Sg	06 03 03.4	+0.6
CCUT	Cedar City	0.92	95		Pg	06 02 58.9	+0.4
S11A	Rachel	0.98	271		Pg	06 02 59.7	0.0
S11A				Sg	Sb	06 03 13.3	+0.8
PSUT	Pine Spring	1.03	30		Pg	06 03 01.1	+0.3
PSUT				IAML		06 03 19.1	
	comp=E,91nm,0.4s						
PSUT				IAML		06 03 21.5	
	comp=N,108nm,0.7s						
R11B	Troy Canyon, C	1.11	310		Pg	06 03 02.0	-0.2
R11B				IAML		06 03 19.2	
	comp=N,229nm,0.4s						
R11B	Troy Canyon, C	1.11	310	P	Pg	06 03 01.9	-0.2
	baz=131						
R11B				S	Sg	06 03 16.8	+0.2
	baz=131						
SZCU	Shurtz Canyon	1.13	92		Pg	06 03 02.2	-0.3
SZCU				IAML		06 03 22.7	
	comp=E,171nm,0.3s						
SZCU				IAML		06 03 24.5	
	comp=N,215nm,0.3s						
LCMT	Little Creek M	1.19	121		Pb	06 03 02.8	-0.3
LCMT				IAML		06 03 22.3	
	comp=E,87nm,0.3s						
LCMT				IAML		06 03 22.8	
	comp=N,70nm,0.7s						
SHPR	Sheep Range	1.24	205		Pn	06 03 02.8	-1.0
SPR3	Spring Creek 3	1.37	6		Pn	06 03 05.4	-0.3
SPR3				IAML		06 03 26.0	
	comp=N,77nm,0.5s						
SPR3				IAML		06 03 27.6	
	comp=E,71nm,0.7s						
CPY	CP-1	1.42	241		Pg	06 03 08.6	+0.6
KNB	Kanab	1.48	114		Pn	06 03 06.9	-0.3
KNB				IAML		06 03 31.1	
	comp=E,57nm,0.9s						
KNB				IAML		06 03 35.0	
	comp=N,46nm,0.9s						
WTNK	Soaring Height	1.50	196	Pn	Pn	06 03 06.6	-0.6
TPNV	Topopah Spring	1.55	244		Pn	06 03 07.7	-0.3
TPNV	Topopah Spring	1.55	244	P	Pn	06 03 08.3	+0.3
	baz=64						
TPNV				S	Sn	06 03 27.3	-0.8
	baz=64						
PKCU	Pink Cliffs	1.76	96		Pn	06 03 11.2	+0.1
PKCU				IAML		06 03 40.5	
	comp=N,77nm,0.7s						
SDH	Striped Hills	1.76	236		Pn	06 03 11.7	+0.8
AMDNV	Amargosa	1.84	231		Pn	06 03 13.0	+1.1
WCT	Wildcat Mounta	1.89	244		Pn	06 03 12.3	-0.4
WCT				IAML		06 03 46.8	
	comp=E,88nm,0.7s						
WCT				IAML		06 03 48.4	
	comp=N,48nm,0.5s						
SGV	South Grapevin	2.11	253		Pn	06 03 16.9	+1.1
TPH	Tonopah	2.19	282		Pn	06 03 16.1	-0.9
FURC	Furnace Creek,	2.21	239	P	Pn	06 03 16.7	-0.3
	baz=58						
FURC				S	Sn	06 03 44.8	+0.6
	baz=58						
SHOC	Shoshone, Teco	2.24	220	P	Pn	06 03 16.7	-0.7
	baz=39						
SHOC				S	Sn	06 03 45.1	+0.2
	baz=39						
MZP	Montezuma Peak	2.28	273		Pn	06 03 17.2	-1.1
MZP				IAML		06 04 01.0	
	comp=E,23nm,0.4s						
MTPC	Mountain Pass	2.31	202		Pn	06 03 19.6	+1.1
GRAC	Grapevine Rang	2.36	255	P	Pn	06 03 18.7	-0.5
	baz=74						
TUQ	Turquoise Moun	2.47	208		Pn	06 03 21.8	+1.1
TUQ	Turquoise Moun	2.47	208	P	Pn	06 03 20.1	-0.6
	baz=27						
MPMC	Manual Prospec	2.86	238	P	Pn	06 03 25.1	-1.0
	baz=56						
MPMC				S	Sn	06 04 00.5	0.0
	baz=56						
DUG	Dugway, Tooele	2.88	27	P	Pn	06 03 26.4	+0.1
	baz=208						
GSC	Goldstone, Bar	2.97	219	P	Pn	06 03 26.4	-1.2
	baz=38						
GMRC	Granite Mounta	2.99	198	P	Pn	06 03 27.9	0.0
	baz=18						
NV08	Mina Array Sit	3.10	285		Pn	06 03 30.4	+0.9
NV09	Mina Array Sit	3.12	286		Pn	06 03 31.2	+1.5
ELK	Elko	3.16	350		Pn	06 03 30.0	-0.2
HEC	Hector,Ludlow	3.17	208	P	Pn	06 03 29.9	-0.3
	baz=27						
LHV	Little Huntoon	3.22	282		Pn	06 03 30.4	-0.4
LRMC	Laurel Mtn Rad	3.34	231	P	Pn	06 03 31.8	-0.8
	baz=49						
PV01	Paradox Valley	4.73	82	Pn	Pn	06 03 51.2	-0.6

IDC 14 06:35:12.4±2.6, 54.16N×86.19E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=18.8km s-min=11.4km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.83	256	I	I	06 40 48.3	
	baz=75,slow=348,SNR=5.9						
ZALV	Zalesovo Beam	0.83	256	Pg	Pg	06 35 26.6	-1.7
	0.9nm,0.3s,baz=76,slow=18,SNR=11						
ZALV				Lg	Lg	06 35 41.1	
	2.4nm,0.3s,baz=77,slow=31,SNR=14						
KURBB	Kurchatov Arra	5.87	236	Pn	Pn	06 36 41.1	+0.5
	baz=54,slow=13,SNR=3.9						
KURBB				Lg	Lg	06 38 18.3	
	baz=60,slow=39,SNR=1.4						
	0.3nm,0.4s						
MKAR	Makanchi Array	7.78	200	Pn	Pn	06 37 08.5	+1.8
	0.2nm,0.3s,baz=25,slow=14,SNR=5.3						
	0.2nm,0.3s						

IDC ***14*** *06:38:26.9±11.0, 16.99N×105.82W, h0km, mb3.2/3, mbtmp3.2/4, ML3.2/1, MS3.4/5, Error ellipse: s-maj=192.5km s-min=100.7km az=142.0*

MEX ***14*** *06:38:40.5±0.5, 18.16N×106.00W, h10km, MD3.8*

ISC 14 06:38:37.7±1.9, 18.1N±0.1×105.7W±0.1, h10km, n20, σ1.9/11/17, mb3.2/3, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIHU	Emiliano Zapat	1.46	38	eP	Pn	06 39 04.9	+0.8
CIHU				eS	Sg	06 39 25.8	+1.1
CJM	Chamela	1.51	23	eP	Pn	06 39 05.4	+0.6
CJM				eS	Sb	06 39 25.6	+0.5
CDAR	Ciudad de Arme	1.79	62	eP	Pb	06 39 10.4	-0.2
CEGR	Campo Tres	2.15	53	eP	Pb	06 39 16.0	-0.8
COIG	Colima	2.17	60	eP	Pb	06 39 16.5	-0.6
MNGA	Volcan de Coli	2.37	55	eP	Pb	06 39 20.9	+0.2
EZ5V		2.40	55	eP	Pb	06 39 20.4	-0.7
SOMAC	Volcano de Col	2.40	54	eP	Pb	06 39 20.7	-0.5
INCO	Volcan de Coli	2.42	54	eP	Pb	06 39 20.9	-0.6
JUBC	Volcan de Coli	2.44	55	eP	Pb	06 39 21.0	-0.9
ANIG	Ahuacatlan	3.13	20	eP	Pn	06 39 29.1	+1.9
ANIG				eS	Sn	06 40 02.0	-2.6
LPIG	La Paz	7.37	325	LR	LR	06 42 47.0	
	comp=Z,136nm,18.1s,baz=134,slow=32						
TXAR	Lajitas Array	11.33	9	Pn	Pn	06 41 26.9	+7.2
	baz=188,slow=13,SNR=7.2						
	0.7nm,0.8s						
TEIG	Tepich	16.58	80	LR	LR	06 48 11.1	
	comp=Z,428nm,19.4s,baz=214,slow=34						
PFO	Pinyon Flats O	18.21	330	LR	LR	06 48 01.6	
	comp=Z,46nm,19.4s,baz=88,slow=30						
NVAR	Mina Array Bea	23.05	334	P	P	06 43 43.6	+0.1
	0.1nm,0.4s,baz=164,slow=9.9,SNR=4.2						
	0.1nm,0.4s						
PDAR	Pinedale Array	24.80	353	P	P	06 44 00.9	+0.7
	0.7nm,0.9s,baz=182,slow=9.9,SNR=3.6						
	1.2nm,0.9s						
NEW	Newport	31.49	345	LR	LR	06 57 54.8	
	comp=Z,86nm,18.3s,baz=54,slow=36						
NNA	Nana	41.28	134	LR	LR	07 00 33.0	
	comp=Z,41nm,18.4s,baz=340,slow=33						
YKA	Yellowknife Ar	44.78	354	P	P	06 46 50.5	-0.8
	0.3nm,0.9s,baz=168,slow=6.1,SNR=3.7						
	0.3nm,0.9s						

IDC 14 06:50:15.1±1.1, 2.71N×125.46E, h0km, mb3.8/6, mbtmp3.8/6, MS3.0/1, Error ellipse: s-maj=145.1km s-min=17.5km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	4.33	2	LR	LR	06 53 21.7	
	comp=Z,188nm,18.7s,baz=139,slow=43						
WRA	Warramunga Arr	24.15	159	P	P	06 55 33.5	+0.4
	2.7nm,0.8s,baz=337,slow=11,SNR=17						
	2.7nm,0.8s						
ASAR	Alice Springs	27.48	163	P	P	06 56 03.5	+0.2
	0.2nm,0.3s,baz=342,slow=6.3,SNR=8.2						
	0.2nm,0.3s						
STKA	Stephens Creek	37.66	157	P	P	06 57 31.9	-0.3
	2.5nm,0.7s,baz=339,slow=9.6,SNR=6.6						
	2.5nm,0.7s						
SONM	Songino Array	47.87	343	P	P	06 58 54.1	-0.9
	0.3nm,0.5s,baz=147,slow=8.2,SNR=1.7						
	0.3nm,0.5s						
MKAR	Makanchi Array	57.67	326	P	P	07 00 08.0	+0.5
	1.1nm,0.5s,baz=127,slow=8.6,SNR=4.6						
	1.1nm,0.5s						
KURBB	Kurchatov Arra	61.91	328	P	P	07 00 36.2	-0.3
	1.2nm,0.6s,baz=131,slow=6.3,SNR=12						
	1.2nm,0.6s						

IDC 14 06:56:32.1±3.5, 54.29N×87.55E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=31.1km s-min=20.7km az=32.0, Southwestern Siberia

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

KURBB					Lg	Lg	06 59 58.5		
	baz=60,slow=30,SNR=1.8								
	0.5nm,0.5s								
MKAR	**Makanchi Array**	**8.21**	**206**	Pn	Pn	06 58 34.0	+1.5		
	0.1nm,0.3s,baz=25,slow=14,SNR=1.5								
	0.2nm,0.3s								

*IDC **14** 07:08:28.7±0.9, 18°.91N×145°.66E, h0km, mb3.6/8, mbtmp3.6/8, ML5.6/1, Error ellipse: s-maj=36.0km s-min=19.8km az=96.0*
ISC 14 07:08:30.2±1.0, **18°.9N**±0°.1×**145°.7E**±0°.2, **h10km, n9, σ1°9/9, mb3.6/8, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**8.80**	**339**	Pn		**Pn**		**07 10 38.1**	**+0.6**
	63nm,0.3s,baz=168,slow=5.5,SNR=22								
WRA	**Warramunga Arr**	**40.15**	**197**	P		**P**		**07 16 07.2**	**+0.6**
	3.3nm,0.7s,baz=20,slow=9.1,SNR=41								
	3.3nm,0.7s								
ASAR	**Alice Springs**	**43.81**	**196**	P		**P**		**07 16 36.4**	**-0.2**
	0.4nm,0.6s,baz=20,slow=9.4,SNR=8.3								
	0.4nm,0.6s								
MKAR	**Makanchi Array**	**58.33**	**314**	P		**P**		**07 18 27.0**	**+1.4**
	0.2nm,0.5s,baz=98,slow=8.9,SNR=1.4								
	0.2nm,0.5s								
KURBB	**Kurchatov Arra**	**61.18**	**318**	P		**P**		**07 18 43.8**	**-1.3**
	0.2nm,0.4s,baz=97,slow=7.5,SNR=2.5								
	0.2nm,0.4s								
ILAR	**Eielson Array**	**63.50**	**26**	P		**P**		**07 19 00.0**	**-0.4**
	0.3nm,0.8s,baz=262,slow=5.8,SNR=4.3								
	0.3nm,0.8s								
BVAR	**Borovoye Array**	**66.33**	**320**	P		**P**		**07 19 17.5**	**-1.5**
	0.4nm,0.4s,baz=76,slow=6.1,SNR=2.3								
	0.4nm,0.4s								
YKA	**Yellowknife Ar**	**77.84**	**28**	P		**P**		**07 20 27.9**	**+0.1**
	0.3nm,0.7s,baz=291,slow=6.0,SNR=4.3								
	0.3nm,0.7s								
NVAR	**Mina Array Bea**	**83.05**	**52**	P		**P**		**07 20 56.9**	**+0.4**
	0.4nm,0.5s,baz=254,slow=6.1,SNR=4.1								
	0.4nm,0.5s								

TAP 14 07:15:17.4, 24°.04N×121°.62E, h29km, ML1.8, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.05**	**329**	⇑P	*i*		Pb	07 15 22.6	+0.3
	baz=338								
TWD				*i* S			Sb	07 15 26.4	+0.7
	baz=338								
HWA	**Hwalien**	**0.06**	**195**	*e*P			Pb	07 15 22.2	-0.2
	baz=187								
ETL	**Fush Village**	**0.12**	**0**	*e*P			Pn	07 15 23.9	+0.6
ETL				*e*S			Sb	07 15 27.7	+1.3
NACB	**Ninganchiao**	**0.14**	**349**	*i* P			Pb	07 15 23.2	+0.3
	baz=349								
NACB				*i* S			Sb	07 15 27.3	+0.7
	baz=349								
LXIB	**Xiulin Townshi**	**0.19**	**265**	P			Pb	07 15 23.6	0.0
	baz=264								
LXIB				S			Sb	07 15 28.4	+0.6
	baz=264								
ETLH	**Xiulin Townshi**	**0.21**	**322**	*e*P			Pb	07 15 23.1	-0.6
	baz=322								
ETLH				*e*S			Sb	07 15 28.6	+0.5
	baz=322								
WHF	**Hehuan Shan**	**0.34**	**288**	P			Pb	07 15 26.3	+0.5
	baz=287								
WHF				*i* S			Sb	07 15 32.0	+0.6
	baz=287								
WARBT	**Fenglin Townsh**	**0.39**	**214**	*e*P			Pb	07 15 25.8	-0.3
	baz=214								
CHGB	**Renai**	**0.41**	**273**	P			Pn	07 15 27.1	-0.4
	baz=272								
CHGB				S			Sn	07 15 33.6	-0.8
	baz=272								
EWUT	**Wuta**	**0.43**	**19**	*e*P			Pn	07 15 27.2	-0.3
	baz=19								
NNS	**Nan Shan**	**0.46**	**330**	P			Pb	07 15 27.5	+0.2
	baz=330								
NNS				*e*S			Sn	07 15 34.8	-0.7
	baz=330								
WUSB	**Renai**	**0.47**	**264**	*e*P			Pn	07 15 27.7	-0.4
	baz=264								
WUSB				*e*S			Sn	07 15 35.1	-0.4
	baz=264								
LATG	**Datong**	**0.50**	**350**	*e*P			Pn	07 15 29.0	+0.3
	baz=349								
LATG				*e*S			Sb	07 15 35.6	+0.5
	baz=349								
VWDT	**VWDT**	**0.53**	**237**	*e*P			Pn	07 15 28.7	-0.2
	baz=237								
VWDT				*e*S			Sb	07 15 36.0	+0.5
	baz=237								
NDT	**Datong Townshi**	**0.57**	**350**	*e*P			Pb	07 15 29.1	+0.2
	baz=349								
EHY	**Hungye**	**0.60**	**208**	*e*P			Pn	07 15 30.0	+0.1
	baz=206								
EHY				*e*S			Sb	07 15 38.1	+0.5
	baz=206								

TAP 14 07:15:31.0, 24°.54N×121°.80E, h7km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.08**	**32**	*i* P			Pg	07 15 33.6	+0.7
	baz=37								
TWC				*i* S			Sg	07 15 35.6	+1.3
	baz=37								
EWUT	**Wuta**	**0.10**	**193**	*i* P			Pg	07 15 33.8	+0.6
	baz=193								
EWUT				S			Sg	07 15 36.5	+1.8
	baz=193								
NDS	**Dongshan**	**0.12**	**319**	*i* P			Pg	07 15 34.4	+0.8
	baz=319								
NDS				*i* S			Sg	07 15 36.8	+1.4
	baz=319								
ENA	**Nanau**	**0.13**	**206**	*i* P			Pg	07 15 34.3	+0.6
	baz=203								
ENA				S			Sg	07 15 37.2	+1.7
	baz=203								
TWE	**Neicheng**	**0.22**	**325**	P			Pg	07 15 36.3	+1.0
	baz=327								
TWE				S			Sg	07 15 39.8	+1.5
	baz=327								
ENTT	**Nioudou**	**0.24**	**294**	*i* P			Pg	07 15 36.4	+0.7
	baz=294								
ENTT				*i* S			Sg	07 15 41.1	+2.2
	baz=294								
LATG	**Datong**	**0.25**	**269**	P			Pg	07 15 36.7	+0.7
	baz=268								
LATG				*e*S			Sb	07 15 41.8	-0.8
	baz=268								
NDT	**Datong Townshi**	**0.27**	**283**	P			Pg	07 15 37.1	+0.8
	baz=282								
NDT				*e*S			Sb	07 15 42.0	-1.1
	baz=282								
FUSB	**Fushanzhiwuyua**	**0.29**	**318**	P			Pb	07 15 37.7	-0.9
	baz=317								
FUSB				S			Sb	07 15 43.5	-0.2
	baz=317								
NWLT	**Wulai**	**0.36**	**311**	*e*P			Pg	07 15 37.8	-0.2
	baz=310								
NNSB	**Datong**	**0.40**	**254**	*e*P			Pg	07 15 39.1	+0.3
	baz=253								
NNS	**Nan Shan**	**0.41**	**256**	*e*P			Pg	07 15 39.6	+0.8
	baz=254								
YHNB	**Yeheng**	**0.41**	**288**	*e*P			Pg	07 15 39.7	+0.8
	baz=288								
EOS2	**EOS2**	**0.41**	**107**	*e*P			Pb	07 15 40.0	-0.4
	baz=107								
NACB	**Ninganchiao**	**0.41**	**207**	P			Pb	07 15 40.3	-0.3
	baz=207								
NACB				*e*S			Sb	07 15 47.6	+0.5
	baz=207								
ETL	**Fush Village**	**0.41**	**203**	*e*P			Pb	07 15 40.5	-0.2
	baz=203								
NSK	**Sanguang**	**0.43**	**288**	P			Pg	07 15 39.9	+0.6
	baz=288								
NSK				S			Sb	07 15 48.0	+0.4
	baz=288								
TIPB	**Shuangxi**	**0.43**	**3**	*e*P			Pg	07 15 40.0	+0.7
	baz=2.0								
TIPB				*e*S			Sb	07 15 48.0	+0.4
	baz=2.0								

ETLH	**Xiulin Townshi**	**0.44**	**221**	*e*P			Pg	07 15 40.0	+0.4
	baz=221								
ETLH				*e*S			Sb	07 15 48.6	+0.5
	baz=221								
TWB1	**Santiao Chiao**	**0.49**	**20**	*e*P			Pg	07 15 41.2	+0.7
	baz=20								
TWB1				*e*S			Sb	07 15 50.7	+1.2
	baz=20								
LXIB	**Xiulin Townshi**	**0.63**	**215**	*e*P			Pb	07 15 44.1	-0.3
	baz=214								

*NNC **14** 07:21:59.7±0.4, 50°.03N×78°.79E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=8.2km s-min=2.2km az=73.0, Suspected Mining explosion.*
*IDC **14** 07:22:00.4±1.0, 50°.06N×78°.79E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=15.5km s-min=6.4km az=65.0*
ISC 14 07:21:57.6±1.1, **49°.96N**±0°.04×**78°.13E**±0°.07, **h0km, n17, σ0°76/29, 14C-15D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.67**	**22**	⇑P			Pg	**07 22 11.0**	**+0.5**
KUR07				⇑S			Sg	**07 22 20.1**	**+0.9**
KUR06	**Kurchatov Arra**	**0.69**	**21**	⇑P			Pg	**07 22 11.3**	**+0.5**
KUR06				⇑S			Sg	**07 22 20.5**	**+0.7**
KUR17	**Kurchatov Arra**	**0.71**	**18**	⇓P			Pb	**07 22 12.1**	**-0.7**
KUR17				⇓S			Sg	**07 22 21.6**	**+1.3**
KUR16	**Kurchatov Arra**	**0.71**	**19**	⇑P			Pg	**07 22 11.7**	**+0.6**
KUR16				⇑S			Sg	**07 22 20.8**	**+0.5**
KURBB	**Kurchatov Arra**	**0.71**	**21**	Pg			Pg	**07 22 11.7**	**+0.5**
	3.0nm,0.3s,baz=168,slow=18,SNR=46								
KURBB				Lg			Lg	07 22 20.6	
	3.0nm,0.3s,baz=161,slow=34,SNR=18								
KURBB	**Kurchatov Arra**	**0.71**	**21**	⇑P			**Pg**	**07 22 11.5**	**+0.3**
	37nm,0.4s								
KURBB				⇓S			**Sg**	**07 22 20.5**	**0.0**
	87nm,0.5s								
KUR15	**Kurchatov Arra**	**0.71**	**23**	⇓P			**Pg**	**07 22 11.3**	**0.0**
KUR15				⇓S			**Sg**	**07 22 20.5**	**-0.1**
KUR14	**Kurchatov Arra**	**0.72**	**24**	⇓P			**Pg**	**07 22 11.1**	**-0.2**
KUR14				⇑S			**Sg**	**07 22 20.1**	**-0.6**
KUR05	**Kurchatov Arra**	**0.73**	**21**	⇑P			**Pg**	**07 22 11.9**	**+0.3**
KUR05				⇓S			**Sg**	**07 22 21.3**	**+0.2**
KUR04	**Kurchatov Arra**	**0.75**	**21**	⇓P			**Pg**	**07 22 12.4**	**+0.4**
KUR04				⇓S			**Sg**	**07 22 22.0**	**+0.3**
KURK	**Kurchatov**	**0.82**	**22**	⇑P			**Pg**	**07 22 13.0**	**-0.3**
	14nm,0.4s								
KURK				⇑S			**Sg**	**07 22 23.3**	**-0.6**
	70nm,0.8s								
MAKZ	**Makanchi**	**4.07**	**139**	⇓Pn			**Pn**	**07 23 01.8**	**+0.8**
	0.2nm,0.2s								
MAKZ				⇓Pg			**Pb**	**07 23 09.1**	**-0.9**
	0.6nm,0.5s								
MAKZ				⇓Lg			Lg	07 23 59.9	
	13nm,0.8s								
OTUK	**Ortayu**	**4.17**	**248**	⇑Pn			**Pb**	**07 23 11.1**	**-0.7**
	0.9nm,0.1s								
OTUK				⇓Pg			Pg	07 23 24.2	+6.6
	0.6nm,0.5s								
OTUK				⇓Lg			Lg	07 24 23.7	
	6.4nm,0.6s								
MK31	**Makanchi Array**	**4.21**	**137**	⇓Pn			**Pn**	**07 23 03.8**	**+0.8**
	0.1nm,0.1s								
MK31				⇑Pg			**Pb**	**07 23 13.2**	**+0.7**
	1.1nm,0.3s								
MK31				⇑Lg			Lg	07 24 05.1	
	12nm,0.6s								
MKAR	**Makanchi Array**	**4.21**	**137**	Pn			**Pn**	**07 23 03.7**	**+0.7**
	0.4nm,0.3s,baz=321,slow=10,SNR=43								
MKAR				Pg			**Pb**	**07 23 10.2**	**-2.3**
	0.9nm,0.3s,baz=323,slow=14,SNR=15								
MKAR				Lg			Lg	07 24 06.9	
	2.5nm,0.3s,baz=325,slow=27,SNR=16								
	0.5nm,0.3s								
ZALV	**Zalesovo Beam**	**5.75**	**43**	Pn			**Pn**	**07 23 23.8**	**-0.3**
	0.7nm,0.3s,baz=233,slow=13,SNR=12								
ZALV				Lg			Lg	07 24 48.5	
	baz=223,slow=27								
	1.3nm,0.3s								
I46RU	**ZALESOVO INFRA**	**5.75**	**43**	I			I	07 56 00.0	
	baz=219,slow=326,SNR=1.5								

*VIE **14** 07:22:20.7±0.8, 50°.23N×19°.19E, h0km, mb2.5/1, ml2.3/2, Error ellipse: s-maj=5.5km s-min=4.3km az=23.0 7 km SE of Sosnowice Suspected Mining induced.*
*PRU **14** 07:22:22.0, 50°.14N×19°.16E, h0km*
ISC 14 07:22:20.8±1.0, **50°.15N**±0°.05×**19°.20E**±0°.03, **h0km, n30, σ0°82/53, Poland**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.74**	**246**	*e*PG			**Pg**	**07 22 34.5**	**-0.5**
OKC				*e*SG			**Sg**	**07 22 44.8**	**+0.2**
	comp=Z,78nm,1.1s								
LANS	**Liptovska Anna**	**1.01**	**170**	*e*PG			**Pb**	**07 22 41.2**	**0.0**
LANS				*e*SG			**Sb**	**07 22 55.0**	**-0.1**
LANS				*e*LG			Lg	07 22 55.5	
NIE	**Niedzica**	**1.02**	**135**	*e*Pg			**Pn**	**07 22 42.1**	**-0.3**
NIE				*e*Sg			**Sn**	**07 22 57.1**	**-0.3**
MORC	**Moravsky Berou**	**1.13**	**251**	*e*PG			**Pb**	**07 22 42.9**	**-0.3**
MORC				*e*SG			**Sg**	**07 22 57.2**	**+0.2**
MAUC	**Maruska**	**1.18**	**229**	*e*PG			**Pg**	**07 22 43.5**	**+0.1**
MAUC				*e*SG			**Sb**	**07 22 59.6**	**-0.4**
	comp=Z,120nm,0.5s								
KRLC	**Kraliky**	**1.56**	**268**	*e*PG			**Pn**	**07 22 49.1**	**-0.6**
KRLC				*e*SG			**Sn**	**07 23 10.3**	**-0.3**
	comp=Z,50nm,0.6s								
JAVC	**Velka Javorina**	**1.63**	**218**	*e*PN			**Pb**	**07 22 51.3**	**-0.4**
VYHS	**Vyhne**	**1.67**	**188**	*e*PG			**Pn**	**07 22 51.3**	**0.0**
VYHS				*e*SG			**Sb**	**07 23 13.4**	**-0.6**
DPC	**Dobruska-Polom**	**1.86**	**277**	*e*PG			**Pn**	**07 22 54.3**	**+0.4**
DPC				*e*SG			**Sg**	**07 23 20.1**	**-0.2**
	comp=Z,38nm,0.7s								
KECS	**Kecovo**	**1.87**	**153**	*e*PN			**Pn**	**07 22 54.1**	**+0.1**
KECS				*e*SN			**Sn**	**07 23 17.3**	**-0.9**
KECS				*e*LG			Lg	07 23 23.5	
VRAC	**Vranov**	**1.89**	**245**	*e*PN			**Pb**	**07 22 55.4**	**-0.7**
VRAC				*e*SG			**Sb**	**07 23 19.4**	**-0.8**
CRVS	**Cervenica-Dubn**	**1.93**	**129**	*e*PN			**Pg**	**07 22 57.9**	**+0.1**
CRVS				*e*SN			**Sg**	**07 23 23.7**	**+0.9**
OSTC	**Ostas**	**1.95**	**283**	*e*PG			**Pb**	**07 22 57.2**	**0.0**
OSTC				*e*SG			**Sg**	**07 23 23.7**	**+0.3**
	comp=Z,8.4nm,0.3s								
KSP	**Ksiaz**	**1.98**	**292**	*e*Pg			**Pg**	**07 22 58.6**	**-0.1**
KSP				*e*Sg			**Sg**	**07 23 24.5**	**+0.1**
CHVC	**Chvalec**	**2.06**	**284**	*e*PG			**Pb**	**07 22 58.8**	**-0.2**
CHVC				*e*SG			**Sg**	**07 23 26.9**	**0.0**
	comp=Z,14nm,0.5s								
UPC	**Upice**	**2.07**	**281**	*e*PG			**Pb**	**07 22 59.1**	**-0.1**
UPC				*e*SG			**Sg**	**07 23 27.1**	**-0.2**
	comp=Z,29nm,0.9s								
KRUC	**Moravsky**	**2.12**	**240**	*e*PN			**Pb**	**07 22 59.7**	**-0.4**
KRUC				*e*SG			**Sb**	**07 23 27.5**	**+0.6**
MODS	**Modra-Piesok**	**2.17**	**216**	*e*PN			**Pn**	**07 22 59.2**	**+1.0**
GOPC	**GO Pecny, Ondr**	**2.85**	**267**	*e*PG			**Pb**	**07 23 12.5**	**0.0**
GOPC				*e*SG			**Sg**	**07 23 51.4**	**-0.9**
PVCC	**Panska Ves**	**2.99**	**279**	*e*SG			**Sg**	**07 23 57.3**	**+0.6**
	comp=Z,21nm,0.5s								
PRU	**Pruhonice**	**3.00**	**269**	*e*PG			**Pb**	**07 23 15.2**	**+0.1**
PRU				*e*SG			**Sg**	**07 23 55.7**	**-1.5**
	comp=Z,12nm,0.8s								
PRA	**Prague**	**3.07**	**270**	*e*SG			**Sg**	**07 23 59.5**	**+0.3**
	comp=Z,20nm,0.6s								
RONA	**Rosalia, Austr**	**3.11**	**219**	*i* Pn			**Pn**	**07 23 11.1**	**0.0**
	1.6nm,0.2s								
CONA	**Conrad Observa**	**3.12**	**226**	*e*Pn			**Pn**	**07 23 13.0**	**+1.7**
	0.6nm,0.2s								
ZVC	**Zvikov**	**3.32**	**260**	*e*PG			**Pb**	**07 23 21.9**	**+1.4**
ZVC				*e*SG			**Sg**	**07 24 06.5**	**-0.8**
	comp=Z,6.7nm,0.7s								
BRG	**Berggiesshubel**	**3.43**	**284**	Pg			**Pb**	**07 23 20.1**	**-2.3**
BRG				Sg			**Sn**	**07 23 60.0**	**+3.2**
BRG				Amp				07 24 08.7	
	comp=Z,9.2nm,0.4s								
CKRC	**Cesky Krumlov**	**3.45**	**249**	*e*PG			**Pb**	**07 23 23.1**	**+0.4**
CKRC				*e*SG			**Sg**	**07 24 11.3**	**-0.3**
HSKC	**Hora Svate Kat**	**3.72**	**279**	*e*SG			**Sg**	**07 24 19.6**	**-0.5**
	comp=Z,9.8nm,0.8s								
KHC	**Kasperske Hory**	**3.79**	**257**	*e*PN			**Pn**	**07 23 20.5**	**+0.1**
KHC				*e*PG			**Pb**	**07 23 29.4**	**+0.9**
KHC				*e*SG			**Sg**	**07 24 21.2**	**-1.3**
	comp=Z,9.2nm,0.5s								
NKC	**Novy Kostel**	**4.34**	**274**	*e*SG			**Sg**	**07 24 39.9**	**-0.1**
	comp=Z,9.9nm,0.7s								

*SNET **14** 07:32:41.5±3.0, 13°.31N×89°.40W, h68km, ML3.6*
*CATAC **14** 07:32:42.4±0.3, 13°.28N×89°.43W, h45km±4km, ML3.7*
*GCG **14** 07:32:44.5±0.4, 13°.61N×89°.37W, h70km±29km, MD4.0*
ISC 14 07:32:43.5±1.3, **13°.36N**±0°.06×**89°.39W**±0°.03, **h61km**±6km, **n78, σ1°02/133, El Salvador**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.14**	**27**	*e*P			**Pn**	**07 32 52.0**	**-0.9**
LALI				*e*S			**Sn**	**07 32 59.8**	**+0.2**
LALI	**Alcalda de L**	**0.14**	**27**	*i* P			**Pn**	**07 32 52.2**	**-0.6**
LALI				IAML				07 32 59.5	
	comp=Z,2μm,1.0s								
LALI				*i* S			**Sn**	**07 32 59.8**	**+0.2**
JAYA	**Jayaque - finc**	**0.30**	**348**	*i* P			**Pn**	**07 32 53.0**	**-0.9**
JAYA				*e*S			**Sn**	**07 33 01.5**	**0.0**
JAYA	**Jayaque - finc**	**0.30**	**348**	*i* P			**Pn**	**07 32 53.0**	**-0.9**
JAYA				*i* S			**Sn**	**07 33 01.0**	**-0.5**
JAYA				IAML				07 33 02.7	
	comp=Z,31μm,1.0s								
PANCS	**Alcalda de**	**0.32**	**39**	*i* P			**Pn**	**07 32 53.2**	**-0.8**
PANCS				*i* S			**Sn**	**07 33 02.0**	**+0.4**
PANCS				IAML				07 33 04.5	
	comp=Z,8μm,1.0s								
ITCA	**Escuela Especi**	**0.33**	**19**	*i* P			**Pn**	**07 32 53.6**	**-0.5**
ITCA				*i* S			**Sn**	**07 33 02.3**	**+0.5**
ITCA				IAML				07 33 03.6	
	comp=Z,24μm,1.0s								
MAGS	**Ministerio de**	**0.34**	**17**	*i* P			**Pn**	**07 32 53.5**	**-0.7**
MAGS				*e*S			**Sn**	**07 33 02.9**	**+1.1**
MAGS	**Ministerio de**	**0.34**	**17**	*i* P			**Pn**	**07 32 53.5**	**-0.7**
MAGS				*i* S			**Sn**	**07 33 03.0**	**+1.1**
MAGS				IAML				07 33 05.8	
	comp=Z,6μm,1.0s								
LOMA	**Loma Larga**	**0.35**	**37**	*e*P			**Pn**	**07 32 53.7**	**-0.6**
LOMA				*e*S			**Sn**	**07 33 03.6**	**+1.4**
LOMA	**Loma Larga**	**0.35**	**37**	*i* P			**Pn**	**07 32 53.7**	**-0.6**
LOMA				IAML				07 32 53.9	
	comp=Z,6μm,1.0s								
LOMA				*i* S			**Sn**	**07 33 03.4**	**+1.2**
PMON	**Piamonte**	**0.35**	**11**	*i* P			**Pn**	**07 32 53.6**	**-0.7**
PMON				*e*S			**Sn**	**07 33 03.3**	**+1.1**
PMON	**Piamonte**	**0.35**	**11**	*i* P			**Pn**	**07 32 53.8**	**-0.6**
PMON				*i* S			**Sn**	**07 33 03.5**	**+1.3**
PMON				IAML				07 33 04.8	
	comp=Z,14μm,1.0s								
SNET	**Serv Nac Est T**	**0.36**	**25**	*e*P			**Pn**	**07 32 53.6**	**-0.8**
SNET				*e*S			**Sn**	**07 33 03.0**	**+0.8**
SNET	**Serv Nac Est T**	**0.36**	**25**	*i* P			**Pn**	**07 32 53.5**	**-0.8**
SNET				*i* S			**Sn**	**07 33 03.1**	**+0.9**
SNET				IAML				07 33 04.3	
	comp=Z,10μm,1.0s								
SEMO	**Seminario San**	**0.37**	**25**	*i* P			**Pn**	**07 32 53.6**	**-0.9**
SEMO				IAML				07 33 04.0	
	comp=Z,11μm,1.0s								
UEES	**Universidad Ev**	**0.38**	**22**	*e*P			**Pn**	**07 32 53.6**	**-0.9**
UEES				*e*S			**Sn**	**07 33 03.8**	**+1.3**
UEES	**Universidad Ev**	**0.38**	**22**	*i* P			**Pn**	**07 32 53.8**	**-0.8**
UEES				*i* S			**Sn**	**07 33 03.9**	**+1.4**
UEES				IAML				07 33 06.0	
	comp=Z,5μm,1.0s								
UTEC	**Universidad Te**	**0.38**	**28**	*e*P			**Pn**	**07 32 53.7**	**-0.9**
UTEC				*e*S			**Sn**	**07 33 03.6**	**+1.1**
UTEC	**Universidad Te**	**0.38**	**28**	*i* P			**Pn**	**07 32 53.8**	**-0.7**
UTEC				*i* S			**Sn**	**07 33 03.8**	**+1.3**
UTEC				IAML				07 33 05.7	
	comp=Z,3μm,1.0s								
BQQS	**Boqueron**	**0.39**	**16**	*e*P			**Pn**	**07 32 54.0**	**-0.7**
IGN	**Direccin Gen**	**0.41**	**31**	*i* P			**Pn**	**07 32 54.2**	**-0.6**
IGN				*i* S			**Sn**	**07 33 04.2**	**+1.3**
IGN				IAML				07 33 05.5	
	comp=Z,15μm,1.0s								
LFRS	**El Faro**	**0.41**	**51**	*e*P			**Pn**	**07 32 54.1**	**-0.7**
UDBS	**Universidad Do**	**0.42**	**33**	*e*P			**Pn**	**07 32 54.0**	**-0.8**
UDBS				*e*S			**Sn**	**07 33 04.1**	**+1.0**
UDBS	**Universidad Do**	**0.42**	**33**	*i* P			**Pn**	**07 32 54.2**	**-0.7**
UDBS				IAML				07 32 54.5	
	comp=Z,4μm,1.0s								
UDBS				*i* S			**Sn**	**07 33 04.0**	**+0.9**
AEIL	**Aeropuerto Ilo**	**0.42**	**38**	*e*P			**Pn**	**07 32 54.1**	**-0.8**
AEIL				*e*S			**Sn**	**07 33 05.1**	**+2.0**
CEDA	**San Andres**	**0.44**	**359**	*e*P			**Pn**	**07 32 54.1**	**-1.0**
CEDA				*e*S			**Sn**	**07 33 04.2**	**+0.9**
CEDA	**San Andres**	**0.44**	**359**	*i* P			**Pn**	**07 32 54.1**	**-1.0**
CEDA				*i* S			**Sn**	**07 33 04.4**	**+1.0**
CEDA				IAML				07 33 08.4	
	comp=Z,9μm,1.0s								
SJTE	**Alcalda de S**	**0.45**	**56**	*i* P			**Pn**	**07 32 54.4**	**-0.8**
SJTE				*e*S			**Sn**	**07 33 04.3**	**+0.7**
SJTE	**Alcalda de S**	**0.45**	**56**	*i* P			**Pn**	**07 32 54.4**	**-0.8**
SJTE				*i* S			**Sn**	**07 33 04.3**	**+0.7**
SJTE				IAML				07 33 07.9	
	comp=Z,3μm,1.0s								
QUEZ	**Alcaldia de Qu**	**0.48**	**13**	*i* P			**Pn**	**07 32 54.2**	**-1.3**
QUEZ				*i* S			**Sn**	**07 33 05.0**	**+0.9**
QUEZ				IAML				07 33 08.6	

POSS				*i* S		**Sn**	**07 33 11.5**	**0.0**
TECA	**Tecapa**	**0.87**	**81**	*e*P		**Pn**	**07 32 59.2**	**-1.0**
LLGN	**La Laguna**	**0.90**	**28**	*i* P		**Pn**	**07 32 59.4**	**-1.1**
LLGN				IAML			07 33 01.0	
	comp=Z,550nm,1.0s							
JUAM	**Asuncion Mita**	**1.02**	**342**	*i* P		**Pn**	**07 33 00.8**	**-1.1**
JUAM				IAML			07 33 00.8	
	comp=Z,940nm,1.0s							
MTO3	**Montecristo**	**1.03**	**1**	*i* P		**Pn**	**07 33 01.1**	**-1.2**
MTO3				IAML			07 33 01.3	
	comp=Z,1μm,1.0s							
MTO3				*i* S		**Sn**	**07 33 16.0**	**-0.1**
PACA	**Pacayal**	**1.04**	**84**	*e*P		**Pn**	**07 33 01.5**	**-0.8**
PACA				*e*S		**Sn**	**07 33 19.0**	**+2.9**
PACA	**Pacayal**	**1.04**	**84**	*i* P		**Pn**	**07 33 02.0**	**-0.3**
PACA				*i* S		**Sn**	**07 33 17.2**	**+1.0**
PACA				IAML			07 33 26.3	
	comp=Z,9μm,1.0s							
BLLM	**Bellamira**	**1.12**	**86**	*e*P		Pn	07 32 54.1	-9.1
ESQI	**Esquipulas**	**1.19**	**2**	*i* P		**Pn**	**07 33 03.4**	**-0.9**
ESQI				IAML			07 33 03.5	
	comp=Z,930nm,1.0s							
LCND	**La Caada**	**1.46**	**92**	*e*P		**Pn**	**07 33 06.4**	**-1.2**
LCND	**La Caada**	**1.46**	**92**	*i* P		**Pn**	**07 33 06.7**	**-1.0**
LCND				IAML			07 33 33.8	
	comp=Z,700nm,1.0s							
CNCH	**Conchagua**	**1.52**	**93**	*e*P		**Pn**	**07 33 07.3**	**-1.3**
CNCH				*e*S		**Sn**	**07 33 30.4**	**+2.9**
CNCH	**Conchagua**	**1.52**	**93**	*i* P		**Pn**	**07 33 07.6**	**-1.0**
CNCH				*i* S		**Sn**	**07 33 28.2**	**+0.8**
CNCH				IAML			07 33 32.7	
	comp=Z,2μm,1.0s							
SARH	**Santa Rosa de**	**1.53**	**23**	*i* P		**Pn**	**07 33 08.3**	**-0.5**
NBG	**Las Nubes**	**1.53**	**323**	*e*P		**Pn**	**07 33 08.9**	**-0.1**
GUNB	**GUNB**	**1.54**	**323**	*i* P		**Pn**	**07 33 08.0**	**-1.1**
GUNB				*i* S		**Sn**	**07 33 27.1**	**-1.2**
GUNB				IAML			07 33 29.1	
	comp=Z,280nm,1.0s							
COMHN	**El Horno**	**2.08**	**59**	*i* P		**Pn**	**07 33 14.8**	**-1.5**
SULM	**Suchitepequez,**	**2.31**	**294**	*e*P		**Pn**	**07 33 19.7**	**+0.4**
SULM				*e*S		**Sn**	**07 33 47.1**	**+0.5**
CRIN	**San Cristobal**	**2.37**	**106**	*i* P		**Pn**	**07 33 19.8**	**-0.3**
CRIN				*i* S		**Sn**	**07 33 48.1**	**-0.1**
CRIN				IAML			07 33 58.9	
	comp=Z,1μm,1.0s							
STG3	**Santiaguito 3,**	**2.51**	**303**	*e*P		**Pn**	**07 33 22.5**	**+0.4**
STG3				*e*S		**Sn**	**07 33 52.2**	**+0.6**
SOMN	**Somoto**	**2.70**	**88**	*i* P		**Pn**	**07 33 24.4**	**-0.3**
SOMN				*i* S		**Sn**	**07 33 59.4**	**+3.1**
SOMN				IAML			07 34 04.6	
	comp=Z,34nm,1.0s							
ILCN	**San Idelfonso**	**2.73**	**106**	*i* P		**Pn**	**07 33 24.8**	**-0.2**
ILCN				*i* S		**Sn**	**07 33 56.2**	**-0.7**

IDC ***14*** *07:36:01.1±1.3,40.°93N×140.°13E,h158km±11km, mb3.6/14,mbtmp3.9/19,MS3.5/1,Error ellipse: s-maj=13.8km s-min=10.8km az=139.0*

JMA ***14*** *07:36:02.8±0.1,41.°0N±0.°4×140.°2E±0.°8,h174km±1km, MV3.7/39,W OFF AOMORI PREF*

NIED ***14*** *07:36:02.8,40.°96N×140.°15E,h174km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-4.92; Mθθ0.60; Mϕϕ4.32; Mrθ-0.09; Mθϕ1.54; Mϕr2.99; Fault plane solution: M₀5.74000×10¹⁴ NP1: ϕs189.00000°,δ61.00000°,λ-100.00000°. NP2: ϕs30.00000°,δ31.00000°,λ-72.00000°.*

NEIC ***14*** *07:36:03.0±1.1,40.°94N±0.°09×140.°1E±0.°1,h168km±9km, mb4.1/32 Error ellipse: s-maj=17.5km s-min=10.7km az=121.0*

ISC 14 07:36:02.8±0.6,40.°95N±0.°04×140.°14E±0.°06,h174km±5km, n87,σ0.°88/103,mb4.0/30,16D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSI2	**Shiura 2**	**0.23**	**61**	⇓P	**Pn**	**07 36 26.0**	**0.0**
JSI2				⇓S	**Sn**	**07 36 43.7**	**-0.1**
JHHS	**Hirosakihyakuz**	**0.34**	**150**	⇓P	**Pn**	**07 36 26.8**	**+0.4**
JHHS				⇓*e*S	**Sn**	**07 36 45.3**	**+0.9**
JIW	**Iwasaki**	**0.37**	**196**	⇓P	**Pn**	**07 36 26.7**	**+0.2**
JIW				⇓*e*S	**Sn**	**07 36 45.1**	**+0.5**
JOMM	**Oshimamatsumae**	**0.59**	**350**	P	**Pn**	**07 36 27.3**	**+0.1**
JOMM				*e*S	**Sn**	**07 36 45.8**	**-0.5**
JSR	**Shiriuchi**	**0.62**	**20**	⇓P	**Pn**	**07 36 27.3**	**-0.2**
JSR				⇓*e*S	**Sn**	**07 36 45.5**	**-1.0**
JTM	**Tenmabayashi**	**0.72**	**102**		**Pn**	**07 36 28.3**	**+0.3**
JTM	**Tenmabayashi**	**0.72**	**102**	*i* P	**Pn**	**07 36 28.1**	**+0.1**
JTM				S	**Sn**	**07 36 47.0**	**-0.4**
JOT	**Ohata**	**0.81**	**57**	⇓P	**Pn**	**07 36 28.6**	**0.0**
JOT				⇓*e*S	**Sn**	**07 36 48.2**	**-0.2**
JAH	**Hinai**	**0.84**	**153**	⇓*i*P	**Pn**	**07 36 28.9**	**+0.1**
JAH				⇓S	**Sn**	**07 36 48.5**	**-0.3**
JKB	**Kayabe**	**1.16**	**35**	⇓P	**Pn**	**07 36 31.1**	**0.0**
JKB				⇓*e*S	**Sn**	**07 36 53.0**	**-0.1**
JANG	**Nango**	**1.19**	**118**	*i* P	**Pn**	**07 36 30.9**	**-0.5**
JANG				S	**Sn**	**07 36 52.9**	**-0.7**
JOSM	**Okushiri--Mats**	**1.24**	**337**	⇓P	**Pn**	**07 36 31.6**	**-0.2**
JOSM				⇓S	**Sn**	**07 36 53.0**	**-1.3**
JOM	**Ohasama**	**1.71**	**149**	*i* P	**Pn**	**07 36 36.1**	**-0.3**
JOM				S	**Sn**	**07 37 01.5**	**-0.9**
JYK	**Kaneyama**	**2.03**	**175**	P	**Pn**	**07 36 39.8**	**-0.1**
JYK				S	**Sn**	**07 37 08.0**	**-0.5**
JEW	**Eniwo**	**2.13**	**27**	S	**Sn**	**07 37 11.7**	**+1.2**
JMK	**Ichinoseki**	**2.16**	**157**	*i* P	**Pn**	**07 36 40.6**	**-0.7**
JMK				S	**Sn**	**07 37 09.6**	**-1.3**
JNBK	**Urakawa-nobuka**	**2.37**	**55**	P	**Pn**	**07 36 43.5**	**-0.1**
JNBK				S	**Sn**	**07 37 14.2**	**-1.1**
ERM	**Erimo**	**2.51**	**64**		**Pn**	**07 36 45.1**	**-0.1**
JMM	**Marumori**	**3.12**	**170**		**Pn**	**07 36 51.8**	**-0.8**
ASAJ	**Asahikawa**	**3.65**	**29**	P	**Pn**	**07 36 59.0**	**-0.3**
	5.5nm,0.2s,baz=216,slow=17,SNR=11						
ASAJ				S	**Sn**	**07 37 39.7**	**-3.7**
	12nm,0.5s,baz=303,slow=32,SNR=9.4						
JKA	**Kamikawa-asahi**	**3.65**	**29**	Pn	**Pn**	**07 36 59.0**	**-0.2**
MJB9	**Matsu-Tunnel**	**4.65**	**200**	Pn	**Pn**	**07 37 11.8**	**-0.3**
MJAR	**Matsushiro Arr**	**4.65**	**200**	P	**Pn**	**07 37 10.7**	**-1.4**
	1.1nm,0.3s,baz=17,slow=16,SNR=1.7						
USRK	**Ussuriysk Ar.**	**6.84**	**301**	Pn	**Pn**	**07 37 40.1**	**-0.6**
USRK	**Ussuriysk Ar.**	**6.84**	**301**	P	**Pn**	**07 37 40.7**	**0.0**
	8.1nm,0.6s,baz=108,slow=14,SNR=11						
USA0B	**Ussuriysk Arra**	**6.84**	**301**		**Pn**	**07 37 40.6**	**0.0**
KSRS	**Korea Array**	**10.10**	**254**	P	**Pn**	**07 38 24.0**	**+0.3**
	1.4nm,0.7s,baz=64,slow=14,SNR=2.4						
KLR	**Kul'dur**	**10.18**	**327**	P	**Pn**	**07 38 22.8**	**-1.8**
	0.7nm,0.5s,baz=161,slow=12,SNR=2.3						
SONM	**Songino Array**	**24.93**	**297**	P	**P**	**07 41 08.0**	**-1.9**
	0.4nm,0.4s,baz=98,slow=8.8,SNR=3.8						
	0.4nm,0.4s						
ZAA0	**Zalesovo Array**	**38.62**	**309**	P	**P**	**07 43 09.4**	**+0.7**
ZAA0				IAmb	IAmb	07 43 10.2	
	comp=Z,4.1nm,0.6s						
ZALV	**Zalesovo Beam**	**38.62**	**309**	P	**P**	**07 43 08.9**	**+0.1**
ZALV	**Zalesovo Beam**	**38.62**	**309**	P	**P**	**07 43 08.5**	**-0.2**
	comp=Z,3.1nm,0.3s,baz=88,slow=9.1,SNR=18						
ZALV				PcP	**PcP**	**07 45 17.1**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=98,slow=2.9,SNR=6.2						
	comp=Z,3.1nm,0.3s						
C16K	**Lisburne Hills**	**39.68**	**28**	P	**P**	**07 43 17.3**	**-0.1**
M14K	**Bethel**	**39.97**	**40**	P	**P**	**07 43 21.6**	**+1.8**
K15K	**Wolf Creek Mou**	**40.27**	**38**	P	**P**	**07 43 24.4**	**+2.0**
F17K	**Baldwin Pennin**	**40.86**	**32**	P	**P**	**07 43 27.3**	**+0.3**
F17K				IAmb	IAmb	07 44 01.7	
	comp=Z,5.5nm,1.2s						
N15K	**Kwethluk River**	**40.88**	**41**	P	**P**	**07 43 28.4**	**+1.0**
E18K	**Tukpahlearik C**	**41.26**	**30**	P	**P**	**07 43 31.0**	**+0.6**
E18K				IAmb	IAmb	07 44 03.7	
	comp=Z,6.5nm,1.4s						
MK31	**Makanchi Array**	**41.30**	**298**	P	**P**	**07 43 30.6**	**-0.4**
MKAR	**Makanchi Array**	**41.30**	**298**	P	**P**	**07 43 31.0**	**0.0**
MKAR	**Makanchi Array**	**41.30**	**298**	P	**P**	**07 43 30.9**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=83,slow=12,SNR=11						
	comp=Z,0.8nm,0.4s						
M16K	**Timber Creek**	**41.45**	**40**	P	**P**	**07 43 33.1**	**+1.2**
M16K				IAmb	IAmb	07 43 41.0	
	comp=Z,8.7nm,1.3s						
J17K	**VABM Dome**	**41.46**	**36**	P	**P**	**07 43 33.6**	**+1.5**
G18K	**Tagagawik**	**41.84**	**33**	P	**P**	**07 43 35.9**	**+0.9**
H18K	**Honhosa River**	**41.89**	**34**	P	**P**	**07 43 36.1**	**+0.6**
H18K				IAmb	IAmb	07 43 58.3	
	comp=Z,5.9nm,1.3s						
D19K	**Kuna River**	**42.35**	**29**	P	**P**	**07 43 39.3**	**+0.1**
D19K				IAmb	IAmb	07 43 42.6	
	comp=Z,5.0nm,1.1s						
H19K	**Roundabout Mou**	**42.72**	**33**	P	**P**	**07 43 42.9**	**+0.8**
H19K				IAmb	IAmb	07 43 44.1	
	comp=Z,4.8nm,0.8s						
KURK	**Kurchatov**	**42.81**	**305**	P	**P**	**07 43 43.3**	**+0.2**
KURBB	**Kurchatov Arra**	**42.89**	**305**	P	**P**	**07 43 43.6**	**-0.1**
	comp=Z,12nm,0.5s,baz=81,slow=8.6,SNR=72						
	comp=Z,12nm,0.5s						
B20K	**Meade River**	**42.91**	**27**	P	**P**	**07 43 43.9**	**+0.3**
SVW2	**Sparrevohn**	**43.09**	**40**	P	**P**	**07 43 46.5**	**+1.3**
SVW2				IAmb	IAmb	07 43 50.1	
	comp=Z,7.0nm,1.2s						
J20K	**Nowinta River**	**43.67**	**35**	P	**P**	**07 43 51.1**	**+1.3**
J20K				IAmb	IAmb	07 43 52.2	
	comp=Z,5.4nm,0.8s						
H21K	**Melozitna Rive**	**44.23**	**33**	P	**P**	**07 43 55.2**	**+0.8**
CAST	**Castle Rocks**	**44.61**	**36**	P	**P**	**07 43 58.9**	**+1.6**
E22K	**Anaktuvuk Pass**	**44.65**	**30**	P	**P**	**07 43 58.2**	**+0.6**
E22K				IAmb	IAmb	07 43 59.2	
	comp=Z,4.6nm,0.6s						
G23K	**Bananza Creek**	**45.35**	**32**	P	**P**	**07 44 03.8**	**+0.7**
G23K				IAmb	IAmb	07 44 04.8	
	comp=Z,3.9nm,0.8s						
D24K	**Happy Valley**	**45.76**	**28**	P	**P**	**07 44 07.1**	**+0.8**
JIRN	**Jiri**	**45.82**	**271**	*e*P	**P**	**07 44 08.7**	**+0.9**
	comp=Z,7.8nm,0.5s						
RAMN	**Ramite**	**45.88**	**270**	*e*P	**P**	**07 44 08.8**	**+0.7**
	comp=Z,4.7nm,0.4s						
E24K	**Your Creek**	**45.90**	**30**	P	**P**	**07 44 08.5**	**+1.0**
E24K				IAmb	IAmb	07 44 09.0	
	comp=Z,4.1nm,0.5s						
GUN	**Gumba**	**45.93**	**271**	*e*P	**P**	**07 44 09.0**	**+0.4**
	comp=Z,26nm,0.5s						
F24K	**Squaw Lake**	**46.15**	**30**	P	**P**	**07 44 10.0**	**+0.6**
H24K	**Noodor Dome**	**46.26**	**33**	P	**P**	**07 44 11.7**	**+1.4**
H24K				IAmb	IAmb	07 44 12.9	
	comp=Z,4.1nm,0.8s						
D25K	**Kavik River**	**46.63**	**28**	P	**P**	**07 44 14.1**	**+1.0**
D25K				IAmb	IAmb	07 44 14.4	
	comp=Z,6.0nm,0.6s						
IL31		**46.77**	**34**	P	**P**	**07 44 15.2**	**+1.1**
IL31				IAmb	IAmb	07 44 16.8	
	comp=Z,5.3nm,1.1s						
ILAR	**Eielson Array**	**46.77**	**34**	P	**P**	**07 44 14.7**	**+0.4**
ILAR	**Eielson Array**	**46.77**	**34**	P	**P**	**07 44 14.5**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=271,slow=5.7,SNR=20						
	comp=Z,1.8nm,0.8s						
E25K	**Arctic Village**	**46.99**	**30**	P	**P**	**07 44 16.8**	**+0.9**
BVAR	**Borovoye Array**	**47.26**	**310**	P	**P**	**07 44 17.8**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=79,slow=10.0,SNR=7.8						
	comp=Z,1.6nm,0.5s						
DANN	**Dangsing**	**47.31**	**273**	*e*P	**P**	**07 44 20.0**	**+0.8**
	comp=Z,47nm,0.4s						
BMAR	**Burnt Mountain**	**47.43**	**30**	P	**P**	**07 44 20.9**	**+1.5**
PYUN	**Piuhan**	**48.02**	**273**	*e*P	**P**	**07 44 25.2**	**+0.6**
	comp=Z,7.9nm,0.3s						
E28M	**Babbage River**	**49.16**	**29**	P	**P**	**07 44 33.0**	**+0.5**
KK31	**Karatay Array**	**50.38**	**297**	P	**P**	**07 44 42.9**	**+0.8**
KKAR	**Karatay Array**	**50.38**	**297**	P	**P**	**07 44 42.9**	**+0.8**
G30M	**tAoh Zraii Nji**	**50.71**	**30**	P	**P**	**07 44 45.2**	**+1.0**
G30M				IAmb	IAmb	07 44 51.2	
	comp=Z,4.6nm,1.4s						
ABKAR	**Akbulak array**	**54.71**	**308**	P	**P**	**07 45 14.3**	**+0.5**
LEM	**Lembang**	**56.14**	**220**	LR	LR	08 11 29.7	
	comp=Z,44nm,18.4s,baz=182,slow=38						
WRA	**Warramunga Arr**	**60.81**	**186**	P	**P**	**07 45 55.6**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=3.9,slow=7.1,SNR=22						
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**60.95**	**31**	P	**P**	**07 45 57.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=307,slow=6.5,SNR=6.9						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**64.54**	**186**	P	**P**	**07 46 20.3**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=8.5,slow=7.5,SNR=2.4						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**64.91**	**331**	P	**P**	**07 46 22.3**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=63,slow=13,SNR=0.9						
	comp=Z,0.9nm,0.6s						
HFS	**Hagfors**	**70.13**	**335**	P	**P**	**07 46 55.4**	**-0.3**
	comp=Z,7.1nm,1.1s,baz=67,slow=5.0,SNR=4.0						
	comp=Z,7.1nm,1.1s						
NVAR	**Mina Array Bea**	**73.45**	**53**	P	**P**	**07 47 17.5**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=279,slow=2.9,SNR=4.4						
	comp=Z,0.6nm,0.7s						
PDAR	**Pinedale Array**	**75.63**	**45**	P	**P**	**07 47 29.1**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=254,slow=1.5,SNR=6.6						
	comp=Z,0.5nm,0.5s						
TXAR	**Lajitas Array**	**88.50**	**52**	P	**P**	**07 48 36.3**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=283,slow=3.0,SNR=6.9						
	comp=Z,0.3nm,0.6s						
SNAA	**Sanae**	**144.16**	**199**	PKP	**PKPab**	**07 55 14.5**	**-0.2**
	comp=Z,4.5nm,0.9s,baz=180,slow=5.1,SNR=7.8						

IDC 14 07:54:10.9±3.1,55.°53N×86.°34E,h0km,mbtmp3.1/3, ML2.4/3,Error ellipse: s-maj=29.7km s-min=20.8km az=59.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**210**	I	I	08 04 22.4	
	0.1nm,0.8s,baz=25,slow=345,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.81**	**210**	Pn	Pn	07 54 41.7	-1.6
	3.3nm,0.3s,baz=32,slow=17,SNR=22						
ZALV				Lg	Lg	07 55 08.9	
	3.4nm,0.3s,baz=27,slow=22,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.80**	**227**	Pn	Pn	07 55 52.0	+0.2
	0.1nm,0.3s,baz=43,slow=14,SNR=1.9						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**9.11**	**198**	Pn	Pn	07 56 23.4	-0.1
	0.1nm,0.3s,baz=22,slow=12,SNR=1.6						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**9.66**	**262**	Pn	Pn	07 56 30.4	-0.5
	baz=74,slow=16,SNR=1.6						
	0.5nm,0.4s						

IDC ***14*** *08:38:36.6±1.4,31.°86N×48.°68E,h0km,mb4.0/11, mbtmp4.0/13,ML3.6/2,MS3.1/2,Error ellipse: s-maj=29.8km s-min=17.5km az=173.0*

TEH ***14*** *08:38:37.2,31.°80N×48.°67E,h11km±24km,ML3.9*

NEIC ***14*** *08:38:38.5±1.9,31.°80N±0.°09×48.°8E±0.°1,h10km±1km, mb4.2/11,Error ellipse: s-maj=17.8km s-min=12.9km az=221.0*

DSN ***14*** *08:38:42.8±1.2,31.°66N×49.°25E,h15km,ML3.7/4,Error ellipse: s-maj=60.5km s-min=9.9km az=43.0*

OMAN ***14*** *08:38:49.3±0.4,30.°97N×49.°12E,h10km,mb4.4/8,Error ellipse: s-maj=7.8km s-min=5.9km az=280.0*

ISC 14 08:38:37.4±0.5,31.°66N±0.°04×48.°73E±0.°04,h10km,n93, σ2.°42/114,mb4.1/17,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.33**	**193**	Pg	**Pb**	**08 38 47.5**	**+2.1**
AMIS	**Naft Sefid**	**0.47**	**89**	Pg	**Pb**	**08 38 48.7**	**+0.8**
AMIS				Sg	**Sb**	**08 38 57.4**	**+2.5**
ABEH	**Behbahan**	**1.68**	**128**	Pn	**Pg**	**08 39 12.0**	**+2.4**
JHBN	**Jahan bin**	**1.74**	**70**	Pg	**Pb**	**08 39 10.2**	**+0.5**
ZNGN	**Zangian**	**1.86**	**75**	Pn	**Pb**	**08 39 12.4**	**+0.6**
IKFM	**Kafar-mosalman**	**2.01**	**338**	Pn	**Pn**	**08 39 12.8**	**+1.5**
IPIR	**Pirpir**	**2.10**	**60**	Pn	**Pb**	**08 39 15.8**	**0.0**
IBRJ	**Brojen**	**2.17**	**83**	Pn	**Pb**	**08 39 16.7**	**-0.2**
KLNJ	**Kolanjah**	**2.53**	**104**	Pn	**Pb**	**08 39 22.6**	**-0.5**
IKOM	**Komasi**	**2.71**	**338**	Pn	**Pn**	**08 39 22.2**	**+0.9**
ILBA	**Ilam Banvizeh**	**2.90**	**313**	Pn	**Pn**	**08 39 24.3**	**+0.7**
IGAR	**Gharneh**	**2.91**	**74**	Pn	**Pn**	**08 39 26.9**	**+2.9**
IKLH	**Kolahrood**	**2.92**	**55**	Pn	**Pn**	**08 39 26.5**	**+2.3**
KCHF	**Cheshme Sefid,**	**2.97**	**332**	Pn	**Pn**	**08 39 26.1**	**+1.2**
QAMS	**Qamsar**	**3.06**	**47**	Pn	**Pn**	**08 39 28.9**	**+2.8**
IRAM	**Ramesheh**	**3.11**	**86**	Pn	**Pn**	**08 39 29.2**	**+2.4**
HAGD	**Aghdareh**	**3.18**	**6**	Pn	**Pn**	**08 39 29.1**	**+1.4**
IGHG	**Ghaleghazi**	**3.23**	**326**	Pn	**Pn**	**08 39 29.0**	**+0.7**
IZEF	**Zefreh**	**3.29**	**67**	Pn	**Pn**	**08 39 31.7**	**+2.4**
ILIN	**Lien**	**3.58**	**336**	Pn	**Pn**	**08 39 34.1**	**+1.0**
IDHR	**Dehrash**	**3.62**	**328**	Pn	**Pn**	**08 39 34.4**	**+0.7**
IQOM	**Qom**	**3.73**	**31**	Pn	**Pn**	**08 39 36.6**	**+1.2**
IRAZ	**Razeghan**	**3.87**	**15**	Pn	**Pn**	**08 39 39.0**	**+1.8**
DSBU	**Dashti - Bushe**	**3.95**	**146**	Pn	**Pn**	**08 39 42.5**	**+4.4**
ISFB	**Sefidab**	**3.99**	**47**	Pn	**Pn**	**08 39 40.1**	**+1.4**
IVRN	**Varamin**	**4.17**	**36**	Pn	**Pn**	**08 39 42.1**	**+0.9**
ISAD	**Sadrabad**	**4.23**	**85**	Pn	**Pn**	**08 39 44.8**	**+2.7**
IMHD	**Mahdasht**	**4.33**	**21**	Pn	**Pn**	**08 39 43.9**	**+0.4**
ANAR	**Anarak**	**4.50**	**69**	Pn	**Pn**	**08 39 48.0**	**+2.2**
IDMV	**Damavand**	**4.78**	**34**	Pn	**Pn**	**08 39 50.3**	**+0.5**
ILAS	**Lasjerd**	**5.13**	**42**	Pn	**Pn**	**08 39 55.5**	**+1.0**
IFIR	**Firoozkooh**	**5.20**	**39**	Pn	**Pn**	**08 39 56.4**	**+0.8**
KLST	**Kelardasht - M**	**5.22**	**21**	Pn	**Pn**	**08 39 56.7**	**+0.8**
MZPU	**Pul - Mazandar**	**5.32**	**26**	Pn	**Pn**	**08 39 59.0**	**+1.9**
SAKB	**Bahrain**	**5.88**	**164**	P	**Pn**	**08 40 08.9**	**+4.3**
SAKB				S	**Sn**	**08 41 07.6**	**-4.4**
SHMA	**Al-Shehemyia**	**6.10**	**161**	P	**Pn**	**08 40 11.8**	**+4.1**
	SNR=7.7						
SHMA				S	**Sn**	**08 41 13.3**	**-4.3**
SMRA	**Abu-Samra**	**7.13**	**164**	P	**Pn**	**08 40 23.7**	**+1.9**
SMRA				S	**Sn**	**08 41 38.2**	**-4.6**
TRNA	**Turayna**	**7.23**	**162**	P	**Pn**	**08 40 26.8**	**+3.5**
TRNA				S	**Sn**	**08 41 38.7**	**-6.8**
TKDS	**Koohdasht(Taba**	**7.34**	**72**	Pn	**Pn**	**08 40 26.8**	**+2.0**
SHME	**Shamm**	**8.57**	**129**	P	**Pn**	**08 40 42.2**	**+0.7**
SHME				S	**Sn**	**08 42 15.6**	**-2.6**
SHME	**Shamm**	**8.57**	**129**	P	**Pn**	**08 40 43.1**	**+1.6**
SHME				S	**Sn**	**08 42 11.9**	**-6.3**
BANOM	**Banah**	**8.76**	**129**	P	**Pn**	**08 40 45.2**	**+1.1**
BANOM	**Banah**	**8.76**	**129**	P	**Pn**	**08 40 45.7**	**+1.5**
BANOM				S	**Sn**	**08 42 21.1**	**-2.0**
NAZ	**Nazwa, Dubai**	**9.02**	**136**	P	**Pn**	**08 40 47.7**	**-0.1**
MASF	**Masafi**	**9.05**	**132**	P	**Pn**	**08 40 50.6**	**+2.4**
MASF				S	**Sn**	**08 42 28.8**	**-1.3**
MSFE	**Esma-Masafi**	**9.06**	**132**	P	**Pn**	**08 40 47.6**	**-0.7**
MSFE				S	**Sn**	**08 42 27.5**	**-2.8**
ASUD	**Al Ashush, Dub**	**9.11**	**139**	P	**Pn**	**08 40 53.0**	**+4.0**
	SNR=7.1						
FAQ	**Al Faqa, Dubai**	**9.16**	**137**	P	**Pn**	**08 40 52.5**	**+2.8**
FAQ				S	**Sn**	**08 42 29.2**	**-3.8**
MDH	**Madha**	**9.19**	**132**	P	**Pn**	**08 40 52.1**	**+2.0**
MDH				S	**Sn**	**08 42 28.8**	**-4.7**
UOSS	**Minazif**	**9.38**	**134**		**Pn**	**08 40 54.6**	**+1.9**
UOSS	**Minazif**	**9.38**	**134**	P	**Pn**	**08 40 53.3**	**+0.5**
UOSS	**Minazif**	**9.38**	**134**	P	**Pn**	**08 40 54.4**	**+1.6**
UOSS				S	**Sn**	**08 42 35.6**	**-2.8**
HATD	**Hatta, Dubai**	**9.43**	**134**	P	**Pn**	**08 40 53.8**	**+0.5**
ASHO	**Ashiyiah**	**9.49**	**135**	P	**Pn**	**08 40 55.9**	**+1.7**
ASHO				S	**Sn**	**08 42 40.1**	**-0.8**
ASHO	**Ashiyiah**	**9.49**	**135**	P	**Pn**	**08 40 56.1**	**+2.3**
ASHO				S	**Sn**	**08 42 39.0**	**-2.0**
ALNE	**Al Ain**	**9.79**	**139**	P	**Pn**	**08 41 01.4**	**+3.0**
	SNR=12						
ALNE				S	**Sn**	**08 42 47.3**	**-1.0**
JASK	**Jask - Hormozg**	**9.87**	**123**	P	**Pn**	**08 41 00.7**	**+1.3**
JASK				S	**Sn**	**08 42 49.4**	**-1.0**
GEYT	**Alibeck**	**9.93**	**48**	Pn	**Pn**	**08 41 00.0**	**-0.2**
	0.5nm,0.3s,baz=222,slow=28,SNR=1.3						
GEYT				Lg	Lg	08 43 40.3	
	2.1nm,0.3s,baz=53,slow=49,SNR=2.4						
	1.3nm,0.4s						
ASF	**Jabal al Asfar**	**10.07**	**276**	Pn	**Pn**	**08 41 02.4**	**+0.1**
	0.5nm,0.3s,baz=124,slow=10.0,SNR=3.1						
ASF				Lg	Lg	08 43 56.1	
	0.1nm,0.3s,baz=75,slow=20,SNR=1.8						
	1.6nm,0.4s						
HOQ	**Hoqain**	**11.07**	**135**	P	**Pn**	**08 41 17.4**	**+1.6**
HOQ				S	**Sn**	**08 43 17.2**	**-2.5**
MMAI	**Mount Meron Ar**	**11.36**	**280**	LR	LR	08 47 06.2	
	comp=Z,49nm,20.7s,baz=34,slow=45	

JCH	**Churui**	**4.70**	**348**	P	Pn	08 51 10.2	-0.3
JCH				S	Sn	08 52 01.2	-2.6
JRY	**Ryogami san**	**5.08**	**249**	P	Pn	08 51 16.7	+0.9
JRY				*e*S	Sn	08 52 12.7	-0.5
NEM2	**Nemuro 2**	**5.39**	**8**	P	Pn	08 51 17.1	-2.9
NEM2				*e*S	Sn	08 52 14.2	-6.5
JTKR	**Abashiri--Toko**	**5.97**	**354**	*e*P	Pn	08 51 27.3	-0.7
JTKR				*e*S	Sn	08 52 30.8	-4.2

IDC ***14*** *08:55:50.1±9.9,20.°17S×178.°05W,h542km±112km, mb2.9/6,mbtmp3.8/6,Error ellipse: s-maj=98.7km s-min=35.9km az=150.0*

ISC 14 08:55:50.6±1.5,20.°1S±0.°6×178.°1W±0.°4,h550km,n6, σ0s53/7,mb3.4/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.85**	**244**	P	**P**	**09 02 20.3**	**-0.6**
	0.8nm,0.4s,baz=14,slow=12,SNR=2.3 0.8nm,0.4s						
ASAR	**Alice Springs**	**44.50**	**256**	P	**P**	**09 03 14.3**	**+0.6**
	2.5nm,0.6s,baz=95,slow=7.6,SNR=60						
ASAR				PcP	**PcP**	**09 04 45.2**	**0.0**
	0.4nm,0.6s,baz=93,slow=4.0,SNR=6.4 2.5nm,0.6s						
WRA	**Warramunga Arr**	**44.55**	**262**	P	**P**	**09 03 14.4**	**+0.3**
	0.7nm,0.3s,baz=97,slow=7.7,SNR=32 0.7nm,0.3s						
TXAR	**Lajitas Array**	**86.95**	**57**	P	**P**	**09 07 38.4**	**+0.5**
	0.2nm,0.7s,baz=229,slow=6.7,SNR=4.1 0.2nm,0.7s						
ILAR	**Eielson Array**	**87.99**	**13**	P	**P**	**09 07 41.6**	**-0.2**
	0.3nm,0.8s,baz=214,slow=5.6,SNR=4.1 0.3nm,0.8s						
PDAR	**Pinedale Array**	**88.78**	**43**	P	**P**	**09 07 46.0**	**-0.3**
	0.2nm,0.6s,baz=243,slow=5.8,SNR=1.9 0.2nm,0.6s						

IDC 14 09:05:16.1±999.0,48.°68N×50.°00E,h0km,Error ellipse: s-maj=533.7km s-min=129.2km az=69.0,Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.51**	**69**	I	I	09 27 20.0	
	0.3nm,0.6s,baz=256,slow=295,SNR=1.6						
I46RU	**ZALESOVO INFRA**	**22.24**	**63**	I	I	11 18 50.0	
	baz=271,slow=334,SNR=1.0						
I34MN	**SONGINO INFRAS**	**36.85**	**69**	I	I	12 50 40.0	
	baz=288,slow=329,SNR=0.5						

ISN ***14*** *09:14:22.3±1.1,34.°73N×45.°78E,h14km±999km, ML3.4*
TEH ***14*** *09:14:22.2,34.°74N×45.°75E,h9km±18km, ML3.4*
AZER ***14*** *09:14:26.0±10.0,34.°10N×46.°25E,h12km,Error ellipse: s-maj=103.0km s-min=63.5km az=71.0*

ISC 14 09:14:22.8±1.2,34.°74N±0.°03×45.°73E±0.°03,h4km±11km, n29,σ1s40/38,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.26**	**206**	Pg	**Pg**	**09 14 28.5**	**+0.6**
IDHR	**Dehrash**	**0.54**	**94**	Pg	**Pg**	**09 14 33.6**	**+0.4**
IDHR				Sg	**Sb**	**09 14 41.9**	**-1.4**
IGHG	**Ghaleghazi**	**0.81**	**121**	Pg	**Pg**	**09 14 38.3**	**0.0**
ILIN	**Lien**	**1.03**	**80**	Pg	**Pg**	**09 14 42.0**	**-0.6**
KCHF	**Cheshme Sefid,**	**1.18**	**113**	Pg	**Pb**	**09 14 45.4**	**-0.5**
KCHF				Sg	**Sn**	**09 15 02.4**	**-0.6**
ILBA	**Ilam Banvizeh**	**1.18**	**160**	Pg	**Pg**	**09 14 45.8**	**+0.3**
IKRK	**Kirkuk**	**1.31**	**300**	*e*Pg	**Pn**	**09 14 48.0**	**0.0**
IKRK				*e*Sg	**Sg**	**09 15 05.3**	**+0.2**
IKRK				AML	AML	09 15 09.4	
	comp=N,1μm,0.5s						
IKRK				AML	AML	09 15 10.6	
	comp=E,1μm,0.5s						
SDS1	**Sardasht. Az.**	**1.42**	**352**	Pg	**Pg**	**09 14 50.7**	**+0.7**
IKOM	**Komasi**	**1.58**	**111**	Pg	**Pg**	**09 14 53.2**	**+0.2**
IKOM				Sg	**Sg**	**09 15 16.0**	**+2.5**
IBDR	**Badra**	**1.64**	**174**	*e*Pn	**Pn**	**09 14 52.2**	**-0.2**
IBDR				*e*Sn	**Sn**	**09 15 14.0**	**0.0**
IBDR				AML	AML	09 15 22.2	
	comp=E,340nm,0.7s						
IBDR				AML	AML	09 15 22.4	
	comp=N,327nm,0.5s						
MAHB	**Mahabad**	**2.02**	**359**	Pn	**Pn**	**09 14 59.5**	**+1.6**
IKFM	**Kafar-mosalman**	**2.14**	**124**	Pn	**Pn**	**09 15 00.4**	**+1.2**
HAGD	**Aghdareh**	**2.81**	**87**	Pn	**Pn**	**09 15 10.3**	**+1.5**
IHSH	**Hashtrud**	**2.84**	**25**	Pn	**Pn**	**09 15 10.8**	**+1.5**
IAZR	**Azarshahr**	**2.94**	**4**	Pn	**Pn**	**09 15 12.1**	**+1.6**
RAFI	**Al-Rafai**	**3.03**	**174**	*e*Pn	**Pn**	**09 15 11.0**	**-0.6**
RAFI				*e*Sn	**Sn**	**09 15 48.0**	**-0.3**
ISRB	**Sarab**	**3.45**	**26**	Pn	**Pn**	**09 15 18.1**	**+0.6**
IRAZ	**Razeghan**	**3.51**	**78**	Pn	**Pn**	**09 15 19.8**	**+1.5**
ORD	**Ordubad**	**4.18**	**3**	P	**Pb**	**09 15 38.9**	**+1.9**
ORD				S	**Sg**	**09 16 35.7**	**-1.4**
AMIS	**Naft Sefid**	**4.28**	**135**	Pn	**Pn**	**09 15 28.8**	**0.0**
GRMI	**Germi**	**4.41**	**23**	Pn	**Pn**	**09 15 32.0**	**+1.3**
YRD	**Yardimli**	**4.63**	**25**	P	**Pb**	**09 15 41.8**	**-2.9**
YRD				S	**Sb**	**09 16 41.8**	**+0.9**
SBZ	**Shahbuz**	**4.65**	**358**	P	**Pb**	**09 15 45.6**	**+0.7**
SBZ				S	**Sg**	**09 16 47.6**	**-4.5**
KLST	**Kelardasht - M**	**4.69**	**66**	Pn	**Pn**	**09 15 35.2**	**+0.5**
IPIR	**Pirpir**	**4.77**	**114**	Pn	**Pn**	**09 15 36.9**	**+1.1**
QAMS	**Qamsar**	**4.80**	**100**	Pn	**Pn**	**09 15 37.4**	**+1.2**
IKLH	**Kolahrood**	**5.06**	**105**	Pn	**Pn**	**09 15 40.8**	**+1.1**
IDMV	**Damavand**	**5.23**	**79**	Pn	**Pn**	**09 15 42.4**	**+0.2**
IRAM	**Ramesheh**	**6.29**	**116**	Pn	**Pn**	**09 15 57.3**	**+0.7**

NEIC ***14*** *09:24:04.4±0.2,36.°97N±0.°01×99.°42W±0.°03,h10km±7km, Error ellipse: s-maj=4.4km s-min=0.8km az=111.0*

TUL 14 09:24:03.8±0.3,36.°96N±0.°02×99.°38W±0.°06,h3km±5km, ML2.9,mb_Lg2.5/30(NEIC),ML2.9/8(NEIC),Error ellipse: s-maj=6.4km s-min=3.2km az=77.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.66**	**152**		Pg	09 24 16.6	+0.2
U32A				Sg	Sg	09 24 26.0	+1.1
OK038	**West end E0370**	**0.70**	**133**		Pg	09 24 17.6	+0.3
OK038				Sg	Sg	09 24 27.5	+1.1
OK032	**Salt Plains WL**	**0.95**	**99**		Pg	09 24 21.9	-0.1
OK032				IAML		09 24 43.0	
	289nm,0.2s						
OK032				IAML		09 24 45.8	
	357nm,0.2s						
KAN10	**Anthony SW Sta**	**1.04**	**81**	Sg	Sg	09 24 37.7	+0.5
KAN14	**Manchester OK**	**1.14**	**90**	Pg	Pg	09 24 25.1	-0.4
KAN12	**Harper NE Stat**	**1.15**	**73**	Pg	Pg	09 24 25.5	-0.4
CROK	**Carrier**	**1.21**	**112**		Pg	09 24 26.6	-0.4
CROK				IAML		09 24 49.4	
	comp=E,275nm,0.3s						
CROK				IAML		09 24 53.4	
	comp=N,255nm,0.2s						
GC02	**Grant County #**	**1.22**	**95**		Pg	09 24 26.7	-0.5
KAN17	**Caldwell West**	**1.29**	**86**		Pg	09 24 28.0	-0.6
KAN09	**Caldwell North**	**1.42**	**82**		Pn	09 24 30.2	-0.2
KAN13	**South Haven SW**	**1.52**	**88**		Pn	09 24 31.4	-0.5
R32A	**Long Quarter,**	**1.55**	**20**		Pn	09 24 31.9	-0.4
BLOK	**Blackwell**	**1.75**	**96**		Pn	09 24 35.0	+0.1
CBKS	**Cedar Bluff**	**1.87**	**351**		Pn	09 24 36.9	+0.1
OK029	**Liberty Lake**	**1.94**	**126**		Pn	09 24 37.3	-0.3
SMWD	**Samnorwood**	**1.98**	**201**	IAmb_Lg		09 25 06.8	
	comp=Z,26nm,0.9s						
OKCSW	**OKLAHOMA CITY**	**2.21**	**134**	IAmb_Lg		09 25 18.2	
	comp=Z,28nm,0.9s						
WMOK	**Wichita Mounta**	**2.27**	**167**	IAmb_Lg		09 25 19.5	
	comp=Z,23nm,0.9s						
AMTX	**Amarillo**	**2.79**	**223**	IAmb_Lg		09 25 37.7	
	comp=Z,14nm,0.7s						
TUL3	**Leonard**	**3.08**	**109**	IAmb_Lg		09 25 44.7	
	comp=Z,12nm,0.8s						
KSCO	**Kaye Shedlock'**	**3.28**	**310**	IAmb_Lg		09 25 48.0	
	comp=Z,16nm,0.7s						
PLPT	**Palo Pinto**	**4.23**	**168**	IAmb_Lg		09 26 21.4	
	comp=Z,11nm,1.1s						
ABTX	**Abilene, Hawle**	**4.33**	**183**	IAmb_Lg		09 26 27.8	
	comp=Z,10nm,1.1s						
HHAR	**Hobbs**	**4.43**	**97**	IAmb_Lg		09 26 22.7	
	comp=Z,8.0nm,0.8s						
SDCO	**Great Sand Dun**	**4.94**	**281**	IAmb_Lg		09 26 44.5	
	comp=Z,6.5nm,0.9s						

K30B	**Basset**	**5.71**	**358**	IAmb_Lg		09 27 11.2	
	comp=Z,12nm,0.7s						
237A	**Washetta, Mont**	**5.76**	**148**	IAmb_Lg		09 27 16.3	
	comp=Z,5.6nm,0.9s						
N23A	**Red Feather La**	**6.45**	**310**	IAmb_Lg		09 27 30.4	
	comp=Z,11nm,1.0s						

IDC 14 09:26:58.0±999.0,48.°88N×50.°41E,h0km,Error ellipse: s-maj=1803.0km s-min=123.9km az=70.0,Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.18**	**70**	I	I	09 46 10.0	
	0.3nm,0.6s,baz=256,slow=291,SNR=1.0						
I46RU	**ZALESOVO INFRA**	**21.90**	**64**	I	I	11 37 30.0	
	baz=272,slow=336,SNR=0.9						
I34MN	**SONGINO INFRAS**	**36.52**	**70**	I	I	13 10 30.0	
	baz=289,slow=328,SNR=0.5						

IDC ***14*** *09:48:32.5±0.7,42.°79N×84.°57E,h0km,mb4.0/12, mbtmp3.9/19,ML3.3/7,MS3.3/2,Error ellipse: s-maj=17.8km s-min=11.2km az=51.0*
MOS ***14*** *09:48:33.0±1.7,42.°78N×84.°62E,h12km,mb4.7/6,Error ellipse: s-maj=11.2km s-min=6.5km az=110.4*
SOME ***14*** *09:48:35.6,43.°02N×84.°48E,h5km*
NNC ***14*** *09:48:38.3±1.6,42.°99N×84.°41E,h0km,mb4.5,mpv4.1, Error ellipse: s-maj=13.6km s-min=7.0km az=144.0*

ISC 14 09:48:37.4±0.5,42.°92N±0.°05×84.°61E±0.°04,h24km,n92, σ2s31/100,mb4.2/17,16C-12D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.42**	**67**	*e*Pn	**Pb**	**09 49 20.1**	**-0.3**
WMQ				Sn	**Sb**	**09 49 53.3**	**+3.5**
WMQ				smax	smax		
	comp=N,1μm,0.9s						
WMQ				smax	smax		
	comp=E,1μm,0.9s						
KTMS	**Ketmen**	**3.16**	**281**	*e*Pg	**Pb**	**09 49 32.2**	**-0.7**
	comp=E,49nm,0.3s						
KTMS				*e*Lg	Lg	09 50 13.3	
	comp=E,338nm,0.4s						
KTMS	**Ketmen**	**3.16**	**281**	Pg	**Pb**	**09 49 34.5**	**+1.6**
	comp=E,49nm,0.3s						
KTMS				Lg	Lg	09 50 16.3	
	comp=E,338nm,0.4s						
PDGK	**Podgornoye**	**3.77**	**278**	P	**Pn**	**09 49 36.4**	**+2.2**
PDGK	**Podgornoye**	**3.77**	**278**	Pg	**Pb**	**09 49 42.5**	**-0.8**
	comp=E,10nm,0.4s						
PDGK				Lg	Lg	09 50 31.6	
	comp=E,145nm,0.5s						
PDGK	**Podgornoye**	**3.77**	**278**	⇓Pn	**Pn**	**09 49 36.4**	**+2.2**
	comp=E,5.7nm,0.5s						
PDGK				⇑Pg	**Pb**	**09 49 42.3**	**-1.1**
	comp=E,36nm,0.5s						
PDGK				⇑Lg	Lg	09 50 32.0	
	comp=E,235nm,0.6s						
DJR	**Jarkent**	**3.77**	**294**	*e*Pg	**Pb**	**09 49 42.5**	**-0.9**
	comp=E,20nm,0.3s						
DJR				*e*Lg	Lg	09 50 30.6	
	comp=E,214nm,0.5s						
DJR	**Jarkent**	**3.77**	**294**	Pg	**Pb**	**09 49 42.0**	**-1.4**
	comp=E,17nm,0.4s						
DJR				Lg	Lg	09 50 30.6	
	comp=E,214nm,0.5s						
SHLS	**Shalkode**	**3.78**	**275**	*e*Pg	**Pn**	**09 49 38.6**	**+4.3**
	comp=E,152nm,0.3s						
SHLS				*e*Lg	Lg	09 50 23.8	
	comp=E,787nm,0.6s						
SHLS	**Shalkode**	**3.78**	**275**	Pg	**Pn**	**09 49 38.0**	**+3.7**
	comp=E,152nm,0.3s						
SHLS				Lg	Lg	09 50 23.8	
	comp=E,787nm,0.6s						
UZB	**Uzynbulak**	**4.10**	**275**	*e*Pg	**Pb**	**09 49 50.9**	**+1.9**
	comp=E,11nm,0.1s						
UZB				*e*Lg	Lg	09 50 45.0	
	comp=E,127nm,0.3s						
UZB	**Uzynbulak**	**4.10**	**275**	Pg	**Pb**	**09 49 50.0**	**+1.0**
	comp=E,21nm,0.5s						
UZB				Lg	Lg	09 50 44.2	
	comp=E,123nm,0.9s						
MK31	**Makanchi Array**	**4.21**	**338**	*d*iP	**Pn**	**09 49 43.0**	**+2.9**
MK31	**Makanchi Array**	**4.21**	**338**	⇓Pn	**Pn**	**09 49 43.0**	**+2.9**
	comp=E,0.9nm,0.3s,baz=151,slow=16						
MK31				⇑Pg	**Pb**	**09 49 54.0**	**+3.2**
	comp=E,18nm,0.4s,baz=150,slow=17						
MK31				⇓Lg	Lg	09 50 49.9	
	comp=E,120nm,0.6s,baz=145,slow=29						
MKAR	**Makanchi Array**	**4.21**	**338**	*e*P	**Pn**	**09 49 43.1**	**+3.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**4.21**	**338**	Pn	**Pn**	**09 49 42.1**	**+2.0**
	comp=Z,1.6nm,0.3s,baz=154,slow=14,SNR=66						
MKAR				Pg	**Pb**	**09 49 53.5**	**+2.7**
	comp=Z,14nm,0.3s,baz=152,slow=17,SNR=51						
MKAR				Lg	Lg	09 50 48.9	
	comp=Z,38nm,0.3s,baz=144,slow=29,SNR=13 comp=Z,2.4nm,0.3s						
MAKZ	**Makanchi**	**4.32**	**335**	*e*P	**Pn**	**09 49 44.8**	**+3.3**
MAKZ	**Makanchi**	**4.32**	**335**	⇑Pn	**Pn**	**09 49 44.8**	**+3.3**
	comp=Z,2.7nm,0.5s						
MAKZ				⇑Pg	**Pb**	**09 49 55.0**	**+2.5**
	comp=Z,39nm,0.6s						
MAKZ				⇑Lg	Lg	09 50 51.8	
	comp=Z,53nm,0.6s						
KPKS	**Kokpek**	**4.37**	**279**	*e*Pg	**Pb**	**09 49 54.0**	**+0.6**
	comp=Z,23nm,0.1s						
KPKS				*e*Lg	Lg	09 50 50.3	
	comp=Z,206nm,0.2s						
KPKS	**Kokpek**	**4.37**	**279**	Pg	**Pb**	**09 49 54.0**	**+0.6**
	comp=Z,23nm,0.3s						
KPKS				Lg	Lg	09 50 50.3	
	comp=Z,221nm,0.5s						
KAPS	**Kapalarasan**	**4.46**	**304**	*e*Pg	**Pb**	**09 49 58.4**	**+3.3**
	comp=Z,14nm,0.4s						
KAPS				*e*Lg	Lg	09 50 57.7	
	comp=Z,66nm,0.5s						
KAPS	**Kapalarasan**	**4.46**	**304**	Pg	**Pb**	**09 49 57.2**	**+2.2**
	comp=Z,5.9nm,0.1s						
KAPS				Lg	Lg	09 50 55.6	
	comp=Z,85nm,0.3s						
ZHN	**Zhinishke**	**4.53**	**275**	*e*Pg	**Pb**	**09 49 57.8**	**+1.5**
	comp=Z,3.8nm,0.1s						
ZHN				*e*Lg	Lg	09 50 56.7	
	comp=Z,109nm,0.2s						
ZHN	**Zhinishke**	**4.53**	**275**	Pg	**Pb**	**09 49 57.8**	**+1.5**
	comp=Z,3.8nm,0.1s						
ZHN				Lg	Lg	09 50 56.7	
	comp=Z,109nm,0.2s						
ZSN	**Zaisan**	**4.54**	**2**	*e*Pg	**Pb**	**09 49 57.5**	**+1.2**
	comp=Z,21nm,0.5s						
ZSN				*e*Lg	Lg	09 50 56.3	
	comp=Z,104nm,0.7s						
ZSN	**Zaisan**	**4.54**	**2**	Pg	**Pb**	**09 49 57.6**	**+1.3**
	comp=Z,21nm,0.5s						
ZSN				Lg	Lg	09 50 58.3	
	comp=Z,104nm,0.7s						
SATY	**Saty**	**4.55**	**274**	*e*Pg	**Pb**	**09 49 57.7**	**+1.1**
	comp=Z,35nm,0.3s						
SATY				*e*Lg	Lg	09 50 56.7	
	comp=Z,189nm,0.5s						
SATY	**Saty**	**4.55**	**274**	Pg	**Pb**	**09 49 57.7**	**+1.1**
	comp=Z,29nm,0.6s						
SATY				Lg	Lg	09 50 56.7	
	comp=Z,189nm,0.5s						
KURS	**Kuram**	**4.74**	**279**	*e*Pg	**Pb**	**09 50 01.7**	**+1.9**
	comp=Z,42nm,0.6s						
KURS				*e*Lg	Lg	09 51 03.4	
	comp=Z,109nm,0.4s						
KURS	**Kuram**	**4.74**	**279**	Pg	**Pb**	**09 50 01.7**	**+1.9**
	comp=Z,42nm,0.6s						
KURS				Lg	Lg	09 51 03.4	
	comp=Z,108nm,0.7s						
ARXS	**Arharly**	**5.10**	**287**	*e*Pg	**Pb**	**09 50 06.9**	**+1.0**
	comp=Z,14nm,0.2s						
ARXS				*e*Lg	Lg	09 51 12.6	
	comp=Z,196nm,0.5s						
ARXS	**Arharly**	**5.10**	**287**	Pg	**Pb**	**09 50 06.9**	**+1.0**
	comp=Z,14nm,0.2s						
ARXS				Lg	Lg	09 51 12.6	
	comp=Z,196nm,0.5s						
KOTS	**Kotyrbulak**	**5.50**	**276**	*e*Pg	**Pb**	**09 50 16.4**	**+3.6**
	comp=Z,30nm,0.5s						
KOTS				*e*Lg	Lg	09 51 29.6	
	comp=Z,224nm,0.3s						
KOTS	**Kotyrbulak**	**5.50**	**276**	Pg	**Pb**	**09 50 16.4**	**+3.6**
	comp=Z,30nm,0.5s						
KOTS				Lg	Lg	09 51 28.6	
	comp=Z,225nm,0.6s						
MDOK	**Medeo**	**5.55**	**275**	*e*Pg	**Pb**	**09 50 18.0**	**+4.4**
	comp=Z,25nm,0.7s						
MDOK				*e*Lg	Lg	09 51 31.4	
	comp=Z,72nm,0.5s						
MDOK	**Medeo**	**5.55**	**275**	Pg	**Pb**	**09 50 18.0**	**+4.4**
	comp=Z,25nm,0.7s						
MDOK				⇑Pg	Pn	09 50 19.6	+21
	comp=Z,35nm,0.8s						
MDOK				Lg	Lg	09 51 31.4	
	comp=Z,72nm,0.5s						
MDOK				Lg	Lg	09 51 31.9	
	comp=Z,98nm,0.7s						
TNSS	**Tian-Shan**	**5.62**	**274**	*e*Pg	Pb	09 50 20.4	+5.4
	comp=Z,13nm,0.4s						
TNSS				*e*Lg	Lg	09 51 35.6	
	comp=Z,30nm,0.6s						
TNSS	**Tian-Shan**	**5.62**	**274**	Pg	Pb	09 50 20.4	+5.4
	comp=Z,13nm,0.4s						
TNSS				Lg	Lg	09 51 35.6	
	comp=Z,30nm,0.6s						
CHKK	**Chushkaly**	**5.63**	**282**	*e*Pg	**Pb**	**09 50 17.4**	**+2.4**
	comp=Z,7.6nm,0.4s						
CHKK				*e*Lg	Lg	09 51 30.6	
	comp=Z,45nm,0.4s						
CHKK	**Chushkaly**	**5.63**	**282**	Pg	**Pb**	**09 50 17.4**	**+2.4**
	comp=Z,7.6nm,0.4s						
CHKK				Lg	Lg	09 51 30.6	
	comp=Z,43nm,0.5s						
IZV	**Izvestkoviy**	**5.87**	**274**	*e*Pg	**Pb**	**09 50 23.6**	**+4.5**
	comp=Z,4.7nm,0.3s						
IZV				*e*Lg	Lg	09 51 41.6	
	comp=Z,106nm,0.7s						
IZV	**Izvestkoviy**	**5.87**	**274**	Pg	**Pb**	**09 50 23.6**	**+4.5**
	comp=Z,2.0nm,0.1s						
IZV				Lg	Lg	09 51 41.6	
	comp=Z,106nm,0.7s						
MTBS	**Maitube**	**6.00**	**275**	*e*Pg	**Pb**	**09 50 25.5**	**+4.2**
	comp=Z,8.2nm,0.4s						
MTBS				*e*Lg	Lg	09 51 44.2	
	comp=Z,57nm,0.6s						
MTBS	**Maitube**	**6.00**	**275**	Pg	**Pb**	**09 50 25.5**	**+4.2**
	comp=Z,8.2nm,0.4s						
MTBS				Lg	Lg	09 51 44.2	
	comp=Z,57nm,0.6s						
TKM2	**Tokmak 2**	**6.62**	**273**	P	**Pn**	**09 50 15.2**	**+1.9**
TKM2	**Tokmak 2**	**6.62**	**273**	⇑Pn	**Pn**	**09 50 15.2**	**+1.9**
	comp=Z,3.6nm,0.6s						
TKM2				⇓Pg	**Pb**	**09 50 35.5**	**+3.6**
	comp=Z,7.6nm,0.5s						
TKM2				⇑Lg	Lg	09 52 04.6	
	comp=Z,44nm,0.6s						
DGZ	**Jazzator, Alta**	**7.06**	**15**	*c*eP	**Pn**	**09 50 22.9**	**+3.6**
KSH	**Kashi**	**7.34**	**245**	P	Pb	09 50 39.1	-5.0
KSH				S	**Sb**	**09 52 12.1**	**+0.8**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KSH				smax	smax		
	comp=N,48nm,0.8s						
KSH				smax	smax		
	comp=E,53nm,1.0s						
AAK	**Ala-Archa**	**7.45**	**271**	Pn	**Pn**	**09 50 24.3**	**-0.4**
	comp=E,0.2nm,0.3s,baz=100,slow=6.1,SNR=1.8						
AAK				Pg	**Pb**	**09 50 45.2**	**-0.7**
	comp=E,0.7nm,0.3s,baz=44,slow=9.0,SNR=5.2						
AAK				Lg	Lg	09 52 30.1	
	comp=E,1.1nm,0.3s,baz=246,slow=20,SNR=1.7 comp=E,0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**8.76**	**334**	Pn	**Pn**	**09 50 43.1**	**+0.6**
	comp=E,0.2nm,0.3s,baz=142,slow=13,SNR=9.1						
KURBB				Lg	Lg	09 53 15.0	
	comp=E,0.6nm,0.3s,baz=144,slow=31,SNR=8.7 comp=E,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**8.76**	**334**	⇑Lg	Lg	09 53 15.3	
	comp=E,107nm,0.8s						
KURK	**Kurchatov**	**8.81**	**334**	⇓*e*P	**Pn**	**09 50 45.2**	**+2.0**
KURK	**Kurchatov**	**8.81**	**334**	⇓Lg	Lg	09 53 14.9	
	comp=E,70nm,0.7s						
OTUK	**Ortayu**	**10.12**	**306**	⇑Lg	Lg	09 53 57.0	
	comp=E,53nm,1.0s						
GOMU	**GeErMu**	**10.34**	**127**	Pn	**Pn**	**09 51 04.3**	**-0.3**
GOMU				Pg		09 51 52.3	
GOMU				Sn	Sn	09 52 52.6	-7.3
GOMU				Sg		09 54 02.1	
GOMU				smax	smax		
	comp=N,11nm,1.1s						
GOMU				smax	smax		
	comp=E,17nm,0.8s						
ZALV	**Zalesovo Beam**	**11.04**	**1**	Pn	**Pn**	**09 51 13.7**	**0.0**
	comp=E,1.9nm,0.3s,baz=180,slow=13,SNR=24						
ZALV				Sn	**Sn**	**09 53 13.8**	**-2.5**
	comp=E,2.9nm,0.3s,baz=169,slow=25,SNR=12						
ZALV				Lg	Lg	09 54 27.4	
	baz=266,slow=37 comp=E,6.3nm,0.5s						
GTA	**Gaotai**	**11.98**	**102**	*e*P	**Pn**	**09 51 26.3**	**-0.5**
GTA				sP		09 51 34.8	
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BVAR	**Borovoye Array**	**13.87**	**322**	Pn	**Pn**	**09 51 50.2**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=132,slow=12,SNR=1.9						
BVAR				Lg	Lg	09 55 56.0	
	comp=Z,0.1nm,0.3s,baz=139,slow=26,SNR=4.6						
BVAR				LR	LR	09 57 30.7	
	comp=Z,137nm,21.4s,baz=310,slow=39 comp=Z,0.4nm,0.2s						
BRVK	**Borovoye**	**13.94**	**322**	⇓*e*P	**Pn**	**09 51 56.4**	**+3.2**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**16.06**	**65**	Pn	**Pn**	**09 52 20.4**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=264,slow=13,SNR=14						
SONM				Lg	Lg	09 57 03.6	
	comp=Z,0.1nm,0.3s,baz=300,slow=43,SNR=3.4 comp=Z,2.7nm,0.9s						
LZH	**Lanzhou**	**16.32**	**108**	*e*P	**P**	**09 52 28.9**	**+1.0**
LZH				sP	pP	09 52 36.4	+1.0
LZH				pmax	pmax		
	comp=Z,18nm,1.6s						
ULN	**Ulaanbaatar**	**16.50**	**65**	*de*P	**Pn**	**09 52 28.6**	**+1.3**
AKTO	**Aktyubinsk**	**19.66**	**302**	P	**P**

KLR					pmax	pmax			
	comp=Z,6.0nm,1.3s								
OBN	**Obninsk**	**33.12**	**309**	*e*P	**P**		**09 55 12.1**	**+0.8**
OBN				*e*			09 56 23.7	
OBN				pmax	pmax			
	comp=Z,6.0nm,1.0s								
TIXI	**Tiksi**	**35.89**	**22**⇓	*e*P	**P**		**09 55 35.7**	**+0.7**
LVZ	**Lovozero**	**36.21**	**331**⇑	*e*P	**P**		**09 55 37.1**	**-0.8**
FINES	**FINESS Array B**	**38.80**	**319**	*e*P	**P**		**09 55 59.5**	**-0.3**
FINES				pmax	pmax			
	comp=Z,12nm,1.2s								
FINES	**FINESS Array B**	**38.80**	**319**	P	**P**		**09 55 59.6**	**-0.3**
	comp=Z,11nm,1.2s,baz=64,slow=6.5,SNR=5.1								
	comp=Z,11nm,1.2s								
ARCES	**ARCESS Array B**	**39.84**	**332**	P	**P**		**09 56 08.3**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=81,slow=6.9,SNR=9.3								
	comp=Z,1.6nm,0.6s								
HFS	**Hagfors**	**44.96**	**318**	P	**P**		**09 56 48.2**	**-1.9**
	comp=Z,2.6nm,0.8s,baz=23,slow=4.7,SNR=1.5								
	comp=Z,2.6nm,0.8s								
NB2	**NORSAR Subarra**	**45.98**	**320**	P	**P**		**09 56 58.0**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=80,slow=8.6								
NOA	**NORSAR Array B**	**45.98**	**320**	P	**P**		**09 56 57.8**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=78,slow=7.8,SNR=6.3								
	comp=Z,2.1nm,0.7s								
CLL	**Collm**	**47.65**	**306**	*e*P	**P**		**09 57 10.0**	**-1.4**
LEM	**Lembang**	**53.75**	**151**	LR	LR		10 22 24.0	
	comp=Z,30nm,19.6s,baz=162,slow=38								
ESDC	**Sonseca Array**	**63.54**	**300**	P	**P**		**09 59 04.4**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=46,slow=7.7,SNR=2.8								
	comp=Z,0.3nm,0.6s								
ILAR	**Eielson Array**	**65.36**	**22**	P	**P**		**09 59 16.1**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=316,slow=4.4,SNR=8.9								
	comp=Z,0.6nm,0.7s								
YKA	**Yellowknife Ar**	**73.81**	**9**	*e*P	**P**		**10 00 10.6**	**+1.3**
YKA	**Yellowknife Ar**	**73.81**	**9**	P	**P**		**10 00 08.4**	**-0.9**
	comp=Z,0.7nm,1.0s,baz=339,slow=6.0,SNR=4.5								
	comp=Z,0.7nm,1.0s								
TORD	**Torodi Ar. Bea**	**76.02**	**275**	P	**P**		**10 00 21.2**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=46,slow=5.2,SNR=6.0								
	comp=Z,0.9nm,0.8s								
WRA	**Warramunga Arr**	**77.48**	**133**	P	**P**		**10 00 30.0**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=332,slow=5.4,SNR=11								
	comp=Z,1.0nm,0.6s								
ASAR	**Alice Springs**	**80.30**	**135**	P	**P**		**10 00 45.1**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=314,slow=4.8,SNR=6.6								
	comp=Z,0.8nm,0.8s								

HEL 14 09:51:08.7±0.2, 63°91N×24°95E, h0km, ML1.0, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OUF	**Merijarvi**	**0.47**	**348**	PG		Pg	09 51 17.1	-0.7
	baz=172							
OUF				SG		Sg	09 51 23.7	-0.3
OUF				MSG			09 51 24.3	
	comp=Z,3.0nm,0.2s							
OBF0	**Syolatti, Pyha**	**0.67**	**333**	PB		Pg	09 51 21.0	-0.5
OBF0				SG		Sg	09 51 29.8	-0.5
OBF0				MSG			09 51 30.0	
	comp=Z,3.4nm,0.2s							
OBF4	**Vikkela, Lumij**	**0.92**	**4**	PG		Pg	09 51 25.8	-0.4
OBF4				MSG			09 51 37.0	
	comp=Z,1.3nm,0.2s							
OBF4				SB		Sg	09 51 38.9	+0.9
OUL	**Oulu**	**1.25**	**19**	PN		Pg	09 51 32.5	-0.2
OUL				SN		Sn	09 51 52.5	+1.5
VAF	**Ylistaro**	**1.34**	**231**	PG		Pg	09 51 32.7	-1.7
	baz=51							
VAF				MSG			09 51 49.1	
	comp=Z,2.4nm,0.2s							
VAF				SB		Sg	09 51 51.1	-0.6
NIF	**Nilsia**	**1.38**	**111**	PN		Pg	09 51 34.5	-0.6
	baz=289							
NIF				SN		Sb	09 51 53.1	-0.2
BURU	**Burvik**	**1.70**	**295**	PG		Pn	09 51 39.1	-0.5
	baz=109							
BURU				SG		Sn	09 52 00.5	-1.6
KEF	**Keuruu**	**1.75**	**181**	PG		Pn	09 51 40.2	0.0
KEF				MSG			09 52 00.8	
	comp=Z,2.1nm,0.2s							
KEF				SN		Sn	09 52 03.1	0.0
KAF	**Kangasniemi**	**1.90**	**160**	MSG			09 52 05.2	
	comp=Z,1.4nm,0.2s							
KAF				SG		Sb	09 52 07.8	-0.7
KALU	**Kalix**	**2.08**	**342**	PN		Pn	09 51 42.9	-1.9
KALU				SG		Sb	09 52 14.1	+0.5
TOF	**Tornio**	**2.20**	**353**	MSG			09 52 13.8	
	comp=Z,0.4nm,0.2s							
TOF				SG		Sb	09 52 15.7	-1.4
RMF	**Romuvaara**	**2.21**	**80**	PG		Pb	09 51 48.7	-0.8
RMF				MSG			09 52 14.3	
	comp=Z,0.9nm,0.2s							
RMF				SG		Sb	09 52 18.1	+0.7
ERTU	**Ertsjaerv**	**2.90**	**338**	SB		Sn	09 52 33.7	+2.1
JOF	**Joensuu**	**3.03**	**106**	SG		Sb	09 52 41.7	+0.9
PAJU	**Pajala**	**3.23**	**347**	SB		Sn	09 52 40.9	+1.3
NUR	**Nurmijrvi**	**3.41**	**183**	SN		Sn	09 52 39.4	-4.8
VRF	**Varrio**	**4.31**	**24**	SB		Sb	09 53 16.1	-1.6

IDC 14 10:23:49.6±3.1, 49°39S×109°54E, h0km, mb3.7/4, mbtmp3.7/4, MS3.4/8, Error ellipse: s-maj=165.0km s-min=23.2km az=118.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**14.87**	**15**	T		T	10 42 59.7	
	baz=186,slow=74,SNR=25							
H01W1	**Cape Leeuwin H**	**14.88**	**15**	T		T	10 43 01.3	
	baz=186,slow=74,SNR=27							
H01W3	**Cape Leeuwin H**	**14.89**	**15**	T		T	10 43 01.9	
	baz=186,slow=74,SNR=18							
NWAO	**Narrogin (SRO)**	**17.42**	**22**	LR		LR	10 33 02.7	
	comp=Z,96nm,20.9s,baz=4.0,slow=32							
MAW	**Mawson**	**29.42**	**215**	LR		LR	10 39 47.3	
	comp=Z,55nm,18.6s,baz=55,slow=32							
STKA	**Stephens Creek**	**29.66**	**66**	LR		LR	10 39 22.6	
	comp=Z,47nm,21.6s,baz=202,slow=32							
ASAR	**Alice Springs**	**32.01**	**46**	P		P	10 30 17.6	-0.1
	0.5nm,0.8s,baz=210,slow=7.9,SNR=8.7							
ASAR				LR		LR	10 41 46.0	
	comp=Z,42nm,18.4s,baz=194,slow=34							
	0.5nm,0.8s							
WRA	**Warramunga Arr**	**35.44**	**43**	P		P	10 30 47.1	-0.5
	1.1nm,0.8s,baz=203,slow=10,SNR=7.2							
	1.1nm,0.8s							
QSPA	**South Pole Qui**	**40.74**	**180**	P		P	10 31 31.5	-0.4
	0.7nm,0.7s,baz=333,slow=2.3,SNR=5.2							
	0.7nm,0.7s							
CTA	**Charters Tower**	**41.34**	**58**	LR		LR	10 47 38.8	
	comp=Z,45nm,20.5s,baz=242,slow=35							
SNAA	**Sanae**	**50.25**	**202**	P		P	10 32 46.7	-0.4
	0.6nm,0.5s,baz=130,slow=16,SNR=1.3							
	0.6nm,0.5s							
SUR	**Sutherland**	**65.44**	**248**	LR		LR	10 56 29.3	
	comp=Z,48nm,19.5s,baz=320,slow=30							
LBTB	**Lobatse**	**67.61**	**257**	LR		LR	10 56 11.3	
	comp=Z,30nm,20.4s,baz=2.5,slow=29							
TSUM	**Tsumeb**	**76.92**	**256**	LR		LR	11 04 04.8	
	comp=Z,68nm,19.3s,baz=17,slow=31							
TXAR	**Lajitas Array**	**147.81**	**116**	PKPbc		PKPbc	10 43 36.9	+0.5
	0.4nm,0.7s,baz=187,slow=12,SNR=4.4							

IDC 14 10:34:01.5±1.4, 18°17S×172°95E, h0km, mb3.9/4, mbtmp3.9/4, MS3.2/6, Error ellipse: s-maj=52.6km s-min=32.0km az=176.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.24**	**237**	LR		LR	10 38 05.7	
	comp=Z,91nm,21.3s,baz=38,slow=34							
URZ	**Urewera**	**20.34**	**171**	LR		LR	10 44 43.4	
	comp=Z,90nm,21.9s,baz=48,slow=32							
RPZ	**Rata Peaks**	**25.52**	**183**	LR		LR	10 47 56.5	
	comp=Z,60nm,20.5s,baz=360,slow=33							
WRA	**Warramunga Arr**	**36.49**	**261**	P		P	10 41 08.5	-0.3
	0.5nm,0.7s,baz=88,slow=8.3,SNR=5.6							
	0.5nm,0.7s							
ASAR	**Alice Springs**	**36.80**	**255**	P		P	10 41 11.8	+0.3
	1.7nm,0.8s,baz=83,slow=9.0,SNR=29							
ASAR				PcP		PcP	10 43 33.5	-0.3
	0.6nm,0.8s,baz=85,slow=3.5,SNR=6.2							
	1.7nm,0.8s							
VNDA	**Vanda**	**59.64**	**183**	LR		LR	11 04 53.0	
	comp=Z,22nm,21.5s,baz=8.5,slow=31							
QSPA	**South Pole Qui**	**71.88**	**180**	P		P	10 45 26.0	-0.4
	1.5nm,0.7s,baz=65,slow=1.4,SNR=11							
	1.5nm,0.7s							
PETK	**Petropavlovsk-**	**72.20**	**350**	LR		LR	11 15 04.2	
	comp=Z,15nm,18.3s,baz=96,slow=34							
MA2	**Magadan**	**79.56**	**349**	LR		LR	11 16 06.1	
	comp=Z,34nm,19.7s,baz=33,slow=32							
TXAR	**Lajitas Array**	**93.17**	**60**	P		P	10 47 18.6	+0.4
	0.5nm,0.8s,baz=217,slow=4.4,SNR=6.1							
	0.5nm,0.8s							

BJI ***14*** *10:39:26.6, 44°.03N×149°.35E, h28km, mb4.8/62, mB5.0/31, Ms4.5/33, Ms7 4.3/35*

MOS ***14*** *10:39:27.9±1.0, 44°.12N×149°.40E, h36km, mb5.2/63, Error ellipse: s-maj=5.9km s-min=4.2km az=119.3*

SKHL ***14*** *10:39:28.3±0.1, 44°.00N×149°.50E, h49km±4km, mb5.3/12, Ms4.5/5, msh4.5/5*

JMA ***14*** *10:39:28.1±0.7, 44°N±3°×14°9E±°, h30km, MV5.3/19, SE OFF ETOROFU*

NEIC ***14*** *10:39:29.8±1.9, 44°.02N±0°.09×149°.4E±0°.1, h39km±6km, mb4.9/437, Error ellipse: s-maj=14.8km s-min=10.2km az=136.0*

IDC ***14*** *10:39:31.5±0.3, 44°.17N×149°.31E, h53km±2km, mb4.5/29, mbtmp4.7/37, MS4.1/52, Error ellipse: s-maj=9.7km s-min=8.2km az=155.0*

ISC 14 10:39:29.9±0.3, 44°05N±0°.04×149°39E±0°.03, h43km±1km, h43km:pP-P,n999,σ1$25/926, mb4.9/266, MS4.2/58, 31C-57D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**1.61**	**318**	*i* P		**Pn**	**10 39 54.5**	**-1.3**
KUR				AMB		AMB	10 39 55.6	
	3μm,0.5s							
KUR				*i* S		**Sn**	**10 40 14.2**	**-1.2**
KUR				A		A	10 40 17.5	
	3μm,0.4s							
KUR				A		A	10 40 17.5	
	7μm,0.4s							
KUR	**Kuril'sk**	**1.61**	**318***c*	*i*PN		**Pn**	**10 39 54.5**	**-1.3**
KUR				*i* S		**Sn**	**10 40 14.0**	**-1.4**
KUR				pmax	pmax			
	comp=Z,3μm,0.5s							
KUR				pmax	pmax			
	comp=E,541nm,0.3s							
KUR				pmax	pmax			
	comp=N,1μm,0.4s							
KUR				smax	smax			
	comp=E,7μm,0.4s							
SHO	**Shikotan**	**1.86**	**265**	*i* P		**Pn**	**10 39 57.4**	**-1.8**
SHO				AMB		AMB	10 39 59.2	
	comp=E,520nm,0.2s							
SHO				*e*S		**Sn**	**10 40 19.1**	**-2.4**
SHO				A		A	10 40 20.8	
	comp=E,3μm,0.3s							
SHO				A		A	10 40 20.8	
	comp=E,2μm,0.3s							
SHO				AMS		AMS	10 41 18.0	
	comp=E,5μm,8.0s							
SHO				AMS		AMS	10 41 18.0	
	comp=E,7μm,8.0s							
SHO				AMS		AMS	10 41 18.0	
	comp=E,6μm,8.0s							
SHO	**Shikotan**	**1.86**	**265**⇓	*i*PN		**Pn**	**10 39 57.4**	**-1.8**
SHO				*e*S		**Sn**	**10 40 18.8**	**-2.7**
SHO				pmax	pmax			
	comp=Z,522nm,0.2s							
SHO				pmax	pmax			
	comp=N,109nm,0.1s							
SHO				smax	smax			
	comp=E,2μm,0.4s							
SHO				smax	smax			
	comp=N,5μm,0.6s							
YUK	**Yuzh-Kuril'sk**	**2.55**	**271**	*e*P		**Pn**	**10 40 07.9**	**-0.8**
YUK				AMB		AMB	10 40 09.2	
	comp=N,730nm,0.2s							
YUK				*e*S		**Sn**	**10 40 36.7**	**-1.7**
YUK				A		A	10 40 41.4	
	comp=N,2μm,0.3s							
YUK				A		A	10 40 41.4	
	comp=N,3μm,0.3s							
YUK				AMS		AMS	10 41 47.0	
	comp=N,8μm,9.0s							
YUK				AMS		AMS	10 41 47.0	
	comp=N,7μm,9.0s							
YUK				AMS		AMS	10 41 47.0	
	comp=N,4μm,9.0s							
YUK	**Yuzh-Kuril'sk**	**2.55**	**271**	*e*PN		**Pn**	**10 40 07.9**	**-0.8**
YUK				*e*S		**Sn**	**10 40 36.1**	**-2.3**
YUK				pmax	pmax			
	comp=N,285nm,0.2s							
YUK				pmax	pmax			
	comp=E,322nm,0.2s							
YUK				pmax	pmax			
	comp=Z,1μm,0.2s							
YUK				smax	smax			
	comp=N,3μm,0.3s							
YUK				smax	smax			
	comp=E,2μm,0.2s							
YUK				MLR	MLR			
	comp=Z,2μm,10.0s							
YUK				MLR	MLR			
	comp=E,4μm,11.0s							
NEM2	**Nemuro 2**	**2.73**	**257**	*e*P		**Pn**	**10 40 09.3**	**-1.9**
NEM2				*e*S		**Sn**	**10 40 39.6**	**-3.4**
NMR	**Nemuro--Hokkai**	**2.74**	**257**	*i* P		**Pn**	**10 40 09.5**	**-1.9**
NMR				*e*S		**Sn**	**10 40 40.3**	**-2.9**
NMR	**Nemuro--Hokkai**	**2.74**	**257**⇑	*i*PN		**Pn**	**10 40 09.3**	**-2.1**
RUSJ	**Misakicho**	**2.99**	**273**⇑	*i*PN		**Pn**	**10 40 14.9**	**+0.2**
RUSJ				*e*S		**Sn**	**10 40 49.4**	**+0.1**
JRA	**Rausu**	**3.08**	**269**	*e*P		**Pn**	**10 40 15.5**	**-0.6**
JRA				*e*S		**Sn**	**10 40 51.9**	**+0.3**
JNK	**Nakash**	**3.42**	**264**	*e*P		**Pn**	**10 40 19.5**	**-1.1**
JNK				*e*S		**Sn**	**10 40 58.2**	**-1.6**
AKK	**Akkeshi**	**3.47**	**254**	*e*P		**Pn**	**10 40 20.0**	**-1.3**
JAK	**Akkeshi**	**3.57**	**255**	*e*P		**Pn**	**10 40 21.2**	**-1.6**
JAK				*e*S		**Sn**	**10 41 00.7**	**-3.0**
JTKR	**Abashiri--Toko**	**3.96**	**271**	*e*P		**Pn**	**10 40 28.0**	**-0.1**
JAR	**Ashorobuto**	**4.15**	**262**	*e*P		**Pn**	**10 40 30.2**	**-0.5**
JAR				*e*S		**Sn**	**10 41 18.1**	**+0.2**
JOB	**Onbets**	**4.21**	**256**	*e*P		**Pn**	**10 40 30.3**	**-1.1**
JOB				*e*S		**Sn**	**10 41 17.6**	**-1.6**
JCH	**Churui**	**4.63**	**254**	*e*P		**Pn**	**10 40 35.8**	**-1.4**
JCH				*e*S		**Sn**	**10 41 26.2**	**-3.5**
JKK2	**Kamakawa 2**	**4.80**	**270**	*e*P		**Pn**	**10 40 40.6**	**+1.0**
JKA	**Kamikawa-asahi**	**4.90**	**273**	Pn		**Pn**	**10 40 41.6**	**+0.7**
ASAJ	**Asahikawa**	**4.90**	**273**	P		**Pn**	**10 40 41.9**	**+0.9**
	comp=E,33nm,0.5s,baz=90,slow=12,SNR=26							
ASAJ				S		**Sn**	**10 41 36.7**	**+0.4**
	comp=E,58nm,0.7s,baz=294,slow=20,SNR=1.2							
ASAJ				LR		LR	10 42 54.6	
	comp=E,2μm,18.7s,baz=159,slow=42							
ERM	**Erimo**	**5.00**	**248**	Pn		**Pn**	**10 40 42.6**	**+0.2**
ERM	**Erimo**	**5.00**	**248***de*	PN		**Pn**	**10 40 42.2**	**-0.2**
ERM				pmax	pmax			
	comp=Z,243nm,1.0s							
JNBK	**Urakawa-nobuka**	**5.17**	**252**	*e*P		**Pn**	**10 40 43.5**	**-1.2**
JAB	**Ashibetsu**	**5.22**	**267**	*e*P		**Pn**	**10 40 46.9**	**+1.5**
JWK2	**Keihoku**	**5.50**	**286**	*e*P		**Pn**	**10 40 51.9**	**+2.7**
YSS	**Yuzh-Sakhalins**	**5.50**	**304**	Pn		**Pn**	**10 40 49.2**	**+0.1**
YSS	**Yuzh-Sakhalins**	**5.50**	**304**	*e*P		**Pn**	**10 40 49.7**	**+0.5**
YSS				AMB		AMB	10 40 55.4	
	comp=Z,170nm,0.4s							
YSS				*e*S		**Sn**	**10 41 51.1**	**0.0**
YSS				A		A	10 41 58.0	
	comp=Z,60nm,0.4s							
YSS				A		A	10 41 58.0	
	comp=Z,70nm,0.4s							
YSS				AMS		AMS	10 43 06.0	
	comp=Z,2μm,17.0s							
YSS				AMS		AMS	10 43 06.0	
	comp=Z,2μm,17.0s							
YSS	**Yuzh-Sakhalins**	**5.50**	**304**	*e*PN		**Pn**	**10 40 50.7**	**+1.5**
YSS				*e*S		**Sn**	**10 41 53.9**	**+2.8**
YSS				pmax	pmax			
	comp=Z,120nm,0.5s							
YSS				smax	smax			
	comp=N,60nm,0.7s							
YSS				smax	smax			
	comp=E,60nm,0.9s							
YSS				MLR	MLR			
	comp=E,2μm,14.0s							

JRBN	**Rebuntou**	**6.09**	**286**	*e*P		**Pn**	**10 40 58.9**	**+1.6**
JANG	**Nango**	**6.91**	**241**	*e*P		**Pn**	**10 41 05.8**	**-2.7**
JANG				*e*S		**Sn**	**10 42 18.3**	**-7.4**
JTH	**Tanohata**	**6.95**	**236**	*e*P		**Pn**	**10 41 05.7**	**-3.4**
JTH				*e*S		Sn	10 42 17.6	-9.3
JTM	**Tenmabayashi**	**6.97**	**245**	Pn		**Pn**	**10 41 07.8**	**-1.5**
UGL	**Uglegorsk**	**7.13**	**317**	*e*P		**Pn**	**10 41 12.2**	**+0.7**
UGL				AMB		AMB	10 41 13.9	
	comp=E,30nm,0.6s							
UGL				*e*S		**Sn**	**10 42 30.0**	**-1.1**
UGL				A		A	10 42 36.9	
	comp=E,70nm,0.8s							
UGL				A		A	10 42 36.9	
	comp=E,110nm,0.8s							
UGL				AMS		AMS	10 44 19.0	
	comp=E,2μm,15.0s							
UGL				AMS		AMS	10 44 19.0	
	comp=E,2μm,15.0s							
UGL				AMS		AMS	10 44 19.0	
	comp=E,2μm,15.0s							
UGL	**Uglegorsk**	**7.13**	**317**	*e*PN		Pn	10 41 24.1	+13
UGL				pmax	pmax			
	comp=Z,99nm,0.8s							
UGL				MLR	MLR			
	comp=E,2μm,15.0s							
UGL				MLR	MLR			
	comp=N,2μm,16.0s							
SKR	**Severo-Kuril's**	**8.05**	**32**	*e*P		**Pn**	**10 41 23.4**	**-0.8**
SKR				AMB		AMB	10 41 24.9	
	comp=N,40nm,0.3s							
SKR				*e*S		**Sn**	**10 42 48.6**	**-5.2**
SKR				A		A	10 42 53.6	
	comp=N,110nm,0.2s							
SKR				A		A	10 42 53.6	
	comp=N,50nm,0.2s							
SKR				AMS		AMS	10 44 00.4	
	comp=N,2μm,18.0s							
SKR	**Severo-Kuril's**	**8.05**	**32**	*e*PN		**Pn**	**10 41 23.4**	**-0.8**
SKR				pmax	pmax			
	comp=Z,57nm,0.7s							
TYV	**Tymovskoe**	**8.20**	**329**	*e*P		**Pn**	**10 41 27.3**	**+1.1**
TYV				AMB		AMB	10 41 30.3	
	comp=Z,20nm,0.6s							
TYV				AMB		AMB	10 41 31.3	
	comp=Z,200nm,4.0s							
TYV				*e*S		**Sn**	**10 42 56.8**	**-0.7**
TYV				A		A	10 43 04.0	
	comp=Z,10.0nm,0.6s							
TYV				A		A	10 43 04.0	
	comp=Z,10.0nm,0.6s							
TYV				A		A	10 43 04.1	
	comp=Z,600nm,5.0s							
TYV				A		A	10 43 04.1	
	comp=Z,300nm,5.0s							
TYV				AMS		AMS	10 44 18.7	
	comp=Z,2μm,17.0s							
TYV				AMS		AMS	10 44 18.7	
	comp=Z,3μm,17.0s							
TYV				AMS		AMS	10 44 18.7	
	comp=Z,2μm,17.0s							
TYV	**Tymovskoe**	**8.20**	**329**	*e*PN		**Pn**	**10 41 28.3**	**+2.1**
TYV				pmax	pmax			
	comp=Z,200nm,3.5s							
TYV				pmax	pmax			
	comp=Z,24nm,1.1s							
PAU	**Pauzhetka**	**8.94**	**31**	*e*P		**Pn**	**10 41 36.8**	**+0.4**
PAU				AMB		AMB	10 41 40.4	
	comp=Z,50nm,0.3s							
PAU				*e*S		**Sn**	**10 43 12.3**	**-3.4**
PAU				A		A	10 43 14.8	
	comp=Z,130nm,0.4s							
PAU				A		A	10 43 14.8	
	comp=Z,120nm,0.4s							
JMM	**Marumori**	**8.97**	**229**	Pn		**Pn**	**10 41 33.8**	**-3.0**
TEY	**Ternei**	**9.19**	**281**	*e*PN		Pn	10 41 50.6	+11
OKH	**Okha**	**10.42**	**338**	*e*P		**Pn**	**10 41 56.8**	**+0.3**
OKH				AMB		AMB	10 41 57.7	
	comp=Z,80nm,0.5s							
PEA0B	**Petropavlovsk-**	**10.60**	**28**	Pn		**Pn**	**10 41 58.3**	**-0.7**
PEA0B	**Petropavlovsk-**	**10.60**	**28**	*i*PN		**Pn**	**10 41 58.8**	**-0.2**
PETK	**Petropavlovsk-**	**10.60**	**28**			**Pn**	**10 41 58.3**	**-0.7**
PETK	**Petropavlovsk-**	**10.60**	**28**	PN		**Pn**	**10 41 58.3**	**-0.7**
PETK	**Petropavlovsk-**	**10.60**	**28**	P		**Pn**	**10 41 57.4**	**-1.7**
	comp=Z,19nm,0.8s,baz=203,slow=11,SNR=35							
PETK				S		**Sn**	**10 43 56.8**	**+0.5**
	comp=Z,4.7nm,0.8s,baz=212,slow=19,SNR=1.0							
PETK				LR		LR	10 46 18.0	
	comp=Z,713nm,18.9s,baz=211,slow=39							
NKL	**Nikolayevsk**	**10.78**	**331**	*e*P		**Pn**	**10 42 01.6**	**+0.2**
NKL				AMB		AMB	10 42 04.4	
	comp=Z,20nm,0.8s							
PET	**Petropavlovsk**	**10.87**	**31**	*e*P		**Pn**	**10 42 02.1**	**-0.6**
PET				*e*S		**Sn**	**10 44 00.3**	**-2.6**
PET	**Petropavlovsk**	**10.87**	**31**	*e*PN		**Pn**	**10 42 04.1**	**+1.4**
PET				MLR	MLR			
	comp=Z,600nm,17.0s							
GRNR	**Gornyy**	**11.06**	**312**	*e*P		**Pn**	**10 42 07.1**	**+1.8**
GRNR	**Gornyy**	**11.06**	**312**	*e*PN		**Pn**	**10 42 07.1**	**+1.8**
GRNR				MLR	MLR			
	comp=E,320nm,16.0s							
MJAR	**Matsushiro Arr**	**11.36**	**233**	P		**Pn**	**10 42 06.8**	**-2.7**
	comp=E,3.2nm,0.5s,baz=28,slow=14,SNR=8.6							
MJAR				S		**Sn**	**10 44 16.9**	**+1.9**
	comp=E,3.3nm,0.4s,baz=115,slow=18,SNR=3.2							
MJAR				LR		LR	10 45 26.6	
	comp=E,73nm,21.4s,baz=56,slow=31							
MJB9	**Matsu-Tunnel**	**11.36**	**233**			**Pn**	**10 42 08.5**	**-1.0**
MAJO	**Matsushiro**	**11.36**	**233**	Pn		**Pn**	**10 42 07.7**	**-1.7**
MAJO	**Matsushiro**	**11.36**	**233**⇓	*e*PN		**Pn**	**10 42 07.8**	**-1.7**
USA0B	**Ussuriysk Arra**	**12.51**	**277**	Pn		**Pn**	**10 42 24.7**	**-0.5**
USA0B	**Ussuriysk Arra**	**12.51**	**277**⇑	*i*PN		**Pn**	**10 42 24.6**	**-0.6**
USRK	**Ussuriysk Ar.**	**12.51**	**277**			**Pn**	**10 42 24.7**	**-0.5**
USRK	**Ussuriysk Ar.**	**12.51**	**277**	PN		**Pn**	**10 42 24.7**	**-0.5**
USRK	**Ussuriysk Ar.**	**12.51**	**277**	P		**Pn**	**10 42 24.4**	**-0.8**
	comp=E,10.0nm,0.6s,baz=65,slow=15,SNR=24							
USRK				LR		LR	10 47 28.3	
	comp=E,566nm,18.7s,baz=90,slow

HEH LR LR
comp=Z,720nm,17.5s
ZEA **Zeya** 17.43 312 *e*P **Pn** 10 43 29.2 -0.4
comp=Z,1µm,15.3s
ZEA pmax pmax
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,10.0nm,1.2s
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA MLR MLR
comp=E,300nm,15.0s
KSRS **Korea Array** 17.53 255 P **Pn** 10 43 28.7 -2.2
comp=E,5.2nm,0.8s,baz=61,slow=11,SNR=19
KSRS pP **sP** 10 43 43.9 -1.4
comp=E,7.8nm,0.9s,baz=63,slow=11,SNR=5.0
KSRS LR LR 10 50 10.9
comp=E,244nm,18.6s,baz=65,slow=36
KS19 **Wonju Array Si** 17.54 256 P **P** 10 43 31.7 -0.1
JCJ **Chichijima** 17.89 201 P **Pn** 10 43 29.5 -5.9
comp=E,36nm,0.4s,baz=270,slow=20,SNR=1.3
JNU **Nakatsue** 18.08 239 **Pn** 10 43 37.7 -0.1
JNU **Nakatsue** 18.08 239 P **Pn** 10 43 37.9 +0.1
comp=E,24nm,1.1s,baz=39,slow=12,SNR=5.5
JNU LR LR 10 51 59.8
comp=E,372nm,18.1s,baz=43,slow=41
TJN **Taejon** 18.45 253 *e*P **Pn** 10 43 42.7 +0.4
SHEM **Shemya Is, Ala** 18.49 53 LR LR 10 50 54.1
comp=E,161nm,20.3s,baz=326,slow=37
SEY **Seymchan** 19.00 4 *e*P **P** 10 43 45.7 -1.9
SEY pmax pmax
comp=Z,41nm,1.1s
SEY **Seymchan** 19.00 4 P **P** 10 43 45.2 -2.4
comp=Z,19nm,0.9s,baz=184,slow=9.0,SNR=24
SEY LR LR 10 52 07.4
comp=Z,652nm,18.2s,baz=182,slow=40
SNY **Shenyang** 19.01 272 P **Pn** 10 43 48.6 -0.3
SNY S **Sn** 10 47 16.8 -4.0
SNY pmax pmax
comp=Z,21nm,0.8s
SNY LR LR
comp=Z,250nm,12.0s
SNY LR LR
comp=Z,250nm,12.0s
SNY LR LR
comp=Z,370nm,14.9s
YAK **Yakutsk** 21.40 334 P **P** 10 44 10.7 -2.9
YAK **Yakutsk** 21.40 334 *e*P **P** 10 44 10.7 -2.9
YAK *e* 10 44 31.1
YAK *e*S **S** 10 48 08.9 +0.3
YAK *e* 10 48 13.8
YAK *e*SS **SnSn** 10 48 34.2 +0.9
YAK *e* 10 55 31.8
YAK pmax pmax
comp=Z,121nm,1.1s
YAK pmax pmax
comp=E,19nm,1.1s
YAK pmax pmax
comp=N,26nm,1.1s
YAK pmax pmax
comp=Z,90nm,1.1s
YAK pmax pmax
comp=N,29nm,1.1s
YAK pmax pmax
comp=E,46nm,1.1s
YAK smax smax
comp=E,67nm,1.6s
YAK smax smax
comp=N,28nm,1.3s
YAK MLR MLR
comp=Z,830nm,18.0s
YAK MLR MLR
comp=E,359nm,18.0s
YAK **Yakutsk** 21.40 334 P **P** 10 44 10.8 -2.9
comp=E,2.4nm,0.3s,baz=330,slow=6.2,SNR=24
YAK LR LR 10 53 27.2
comp=E,30nm,18.1s,baz=109,slow=39
XLT **XiLinHaoTe** 23.89 281 *e*P **P** 10 44 38.6 -0.9
XLT pP pP 10 44 49.5 +0.1
XLT sP sP 10 44 52.3 -1.7
XLT PP **PnPn** 10 45 13.5 +4.6
XLT PcP **PcP** 10 48 18.5 -2.7
XLT S **S** 10 48 58.1 +5.4
XLT SS **SnSn** 10 49 36.3 +1.7
XLT pmax pmax
comp=E,31nm,0.7s
XLT pmax pmax
comp=E,140nm,4.6s
XLT LR LR
comp=E,61nm,16.6s
XLT LR LR
comp=E,510nm,12.3s
XLT LR LR
comp=E,570nm,17.4s
BJI **Beijing** 24.89 272 P **P** 10 44 48.9 +0.4
BJI pmax pmax
comp=E,7.0nm,0.9s
BJI LR LR
comp=E,100nm,16.2s
BJI LR LR
comp=E,140nm,19.0s
BJI LR LR
comp=E,160nm,20.4s
BJT **Baijiatuau** 24.91 272 P **P** 10 44 49.8 +1.1
BJT **Baijiatuau** 24.91 272 P **P** 10 44 49.8 +1.1
BJT pmax pmax
comp=Z,41nm,1.5s
BILL **Bilibino** 25.64 15 P **P** 10 44 53.2 -1.8
BILL **Bilibino** 25.64 15 *e*P **P** 10 44 54.0 -1.1
BILL **Bilibino** 25.64 15 *e*P **P** 10 44 54.0 -1.1
TIA **Tai'an** 25.76 263 P **P** 10 44 57.3 +0.8
TIA pmax pmax
comp=Z,57nm,0.7s
NJ2 **Nanjing** 26.71 254 *e*P **P** 10 45 06.3 +1.2
NJ2 pP **pP** 10 45 13.8 -1.2
NJ2 sP **pwP** 10 45 23.0 +1.2
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 pmax pmax
comp=Z,320nm,3.6s
NJ2 LR LR
comp=Z,650nm,17.1s
NJ2 LR LR
comp=Z,460nm,19.0s
NJ2 LR LR
comp=Z,460nm,16.1s
HNS **HongShan** 26.97 268 P **P** 10 45 07.6 +0.2
HNS pmax pmax
comp=Z,9.0nm,0.7s
HHC **Hu-ho-hao-te** 27.93 277 *e*P **P** 10 45 17.1 +1.0
HHC sP pwP 10 45 31.8 -0.9
HHC PP **PnPn** 10 46 01.8 -2.4
HHC S **S** 10 49 57.8 +0.8
HHC sS sS 10 50 15.9 +2.5
HHC pmax pmax
comp=Z,26nm,0.6s
HHC pmax pmax
comp=Z,240nm,4.3s
HHC LR LR
comp=Z,540nm,18.6s
HHC LR LR
comp=Z,820nm,18.0s
HHC LR LR
comp=Z,1µm,18.1s
H11N2 **WAKE ISLAND Hy** 28.32 143 T T 11 16 23.2
baz=333,slow=76,SNR=88
SPIA **Saint Paul Isl** 28.32 48 P **P** 10 45 19.4 +0.2
baz=260
H11N1 **WAKE ISLAND Hy** 28.33 143 T T 11 16 24.2
baz=333,slow=76,SNR=33
H11N3 **WAKE ISLAND Hy** 28.33 143 T T 11 16 25.2
baz=333,slow=76,SNR=101
NIKH **Nikolski High** 28.70 57 P **P** 10 45 22.4 -0.3
baz=269
BTO **Baotou** 29.12 277 *e*P **P** 10 45 28.8 +2.1
BTO pP **pP** 10 45 38.3 +1.6
BTO sP **pwP** 10 45 42.3 -0.9
BTO PP **PnPn** 10 46 24.4 +4.0
BTO S **S** 10 50 21.4 +5.7
BTO SS **SnSn** 10 51 47.5 +5.1
BTO pmax pmax
comp=Z,26nm,0.7s
BTO pmax pmax
comp=Z,500nm,5.0s
BTO LR LR
comp=Z,760nm,14.1s
BTO LR LR
comp=Z,980nm,10.4s
BTO LR LR
comp=Z,1µm,15.3s
H11S1 **WAKE ISLAND Hy** 29.32 145 T T 11 17 43.5
baz=334,slow=76
H11S3 **WAKE ISLAND Hy** 29.33 145 T T 11 17 45.4
baz=334,slow=76
H11S2 **WAKE ISLAND Hy** 29.34 145 T T 11 17 42.7
baz=334,slow=76
ULN **Ulaanbaatar** 29.41 293 P **P** 10 45 29.5 +0.3
ULN **Ulaanbaatar** 29.41 293 *e*P **P** 10 45 29.4 +0.2
ULN **Ulaanbaatar** 29.41 293 *c i*P **P** 10 45 29.4 +0.2
ULN pmax pmax
comp=Z,12nm,0.8s
TIXI **Tiksi** 29.42 347 P **P** 10 45 25.5 -3.3
TIXI **Tiksi** 29.42 347 *i*P **P** 10 45 25.3 -3.5
TIXI **Tiksi** 29.42 347 LR LR 10 58 22.7
comp=Z,10nm,18.6s,baz=183,slow=39
SONM **Songino Array** 29.85 293 P **P** 10 45 33.2 +0.1
SONM **Songino Array** 29.85 293 P **P** 10 45 33.2 +0.1
SONM pmax pmax
comp=Z,7.0nm,0.7s
SONM **Songino Array** 29.85 293 P **P** 10 45 33.2 +0.1
comp=Z,6.4nm,0.7s,baz=80,slow=8.4,SNR=35
SONM pP **sP** 10 45 47.2 -0.5
comp=Z,5.1nm,0.6s,baz=85,slow=8.7,SNR=7.0
SONM PcP **PcP** 10 48 34.5 -0.8
comp=Z,0.9nm,0.7s,baz=68,slow=2.2,SNR=2.7
SONM LR LR 10 58 54.6
comp=Z,418nm,19.0s,baz=82,slow=39
comp=Z,6.4nm,0.7s
UNV **Unalaska Valle** 30.12 55 P **P** 10 45 36.1 +0.8
baz=269
M11K **Mekoryuk** 31.00 42 P **P** 10 45 44.3 +1.5
baz=258
ZAK **Zakamensk** 31.54 298 *e*P **P** 10 45 47.1 -0.8
ZAK pmax pmax
comp=Z,6.0nm,1.3s
FALS **False Pass** 31.94 53 P **P** 10 45 52.4 +1.3
baz=270
F14K **Arctic Creek** 32.32 33 P **P** 10 45 55.7 +1.3
baz=250
M13K **Dall Lake** 32.40 43 P **P** 10 45 56.1 +1.0
baz=261
ANM **Nome** 32.41 35 P **P** 10 45 56.7 +1.4
baz=253
XAN **Xi'an** 32.70 266 P **P** 10 45 58.3 +0.1
XAN pP pP 10 46 06.6 -1.7
XAN pmax pmax
comp=Z,11nm,0.9s
J14K **Nanvaranak Lak** 32.73 39 P **P** 10 45 59.3 +1.2
baz=258
L14K **Kuka Creek** 32.86 41 P **P** 10 45 59.3 0.0
baz=260
F15K **North Star Dit** 33.05 33 P **P** 10 46 01.3 +0.4
baz=252
G15K **Niukluk** 33.09 34 P **P** 10 46 02.0 +0.9
baz=254
M14K **Bethel** 33.12 42 P **P** 10 46 02.2 +0.7
baz=262
N14K **Kuskokwak Cree** 33.16 44 P **P** 10 46 01.6 -0.2
baz=264
O14K **Tigyukauivet M** 33.30 45 P **P** 10 46 03.0 -0.1
baz=265
L15K **Ungalak Mounta** 33.48 41 P **P** 10 46 04.9 +0.2
baz=261
K15K **Wolf Creek Mou** 33.56 40 P **P** 10 46 05.7 +0.3
baz=260
C16K **Lisburne Hills** 33.70 28 IAmb IAmb 10 46 08.2
comp=Z,35nm,1.5s
C16K **Lisburne Hills** 33.70 28 P **P** 10 46 06.7 +0.3
baz=247
H16K **Elim** 33.74 35 P **P** 10 46 07.2 +0.4
baz=256
M15K **Kasigluk River** 33.74 43 P **P** 10 46 07.5 +0.6
baz=263
G16K **Koyuk River** 33.88 34 P **P** 10 46 08.7 +0.7
baz=255
N15K **Kwethluk River** 33.98 44 P **P** 10 46 09.0 0.0
baz=265
O15K **Ungalikthiuk R** 34.04 45 P **P** 10 46 09.9 +0.4
baz=266
S14K **Fog Glacier** 34.12 51 P **P** 10 46 10.4 0.0
baz=271
J16K **Anvik River** 34.16 38 P **P** 10 46 11.2 +0.7
baz=260
I17K **Unalakleet** 34.23 37 P **P** 10 46 11.5 +0.5
baz=259
L16K **Owhat River** 34.44 41 P **P** 10 46 13.9 +1.0
L16K IAmb IAmb 10 46 32.6
comp=Z,26nm,1.5s
L16K **Owhat River** 34.44 41 P **P** 10 46 13.2 +0.3
baz=263
RDOG **Red Dog Mine** 34.47 29 IAmb IAmb 10 46 16.9
comp=Z,13nm,0.8s
RDOG **Red Dog Mine** 34.47 29 P **P** 10 46 13.7 +0.6
baz=250
C17K **DeLong Mountai** 34.52 29 P **P** 10 46 14.1 +0.5
baz=250,SNR=5.7
E17K **Hotham Inlet** 34.55 31 P **P** 10 46 14.9 +1.0
baz=253,SNR=22
F17K **Baldwin Pennin** 34.59 32 P **P** 10 46 14.9 +0.7
baz=254
G17K **Kiwalik Mounta** 34.60 34 P **P** 10 46 15.2 +1.0
baz=256,SNR=8.7
M16K **Timber Creek** 34.61 42 IAmb IAmb 10 46 16.2
comp=Z,22nm,1.1s
M16K **Timber Creek** 34.61 42 P **P** 10 46 14.9 +0.5
baz=265
N16K **Nishlik Lake** 34.66 43 P **P** 10 46 15.3 +0.4
baz=266
H17K **Granite Mounta** 34.77 35 IAmb IAmb 10 46 31.5
comp=Z,18nm,1.3s
H17K **Granite Mounta** 34.77 35 P **P** 10 46 16.1 +0.2
baz=258
J17K **VABM Dome** 34.85 38 IAmb IAmb 10 46 32.6
comp=Z,17nm,1.1s
J17K **VABM Dome** 34.85 38 P **P** 10 46 17.1 +0.6
baz=261
O16K **Kokwok River B** 34.94 45 P **P** 10 46 17.5 +0.2
baz=268
P16K **Nushagak River** 34.97 46 P **P** 10 46 18.0 +0.5
baz=268
L17K **Donlin** 35.04 40 P **P** 10 46 18.3 +0.2
baz=264
K17K **Iditarod** 35.11 39 P **P** 10 46 20.5 +1.8
baz=263,SNR=5.2
E18K **Tukpahlearik C** 35.11 31 P **P** 10 46 19.1 +0.5
baz=254
C18K **Utukok River** 35.26 29 IAmb IAmb 10 46 45.9
comp=Z,16nm,0.8s
C18K **Utukok River** 35.26 29 P **P** 10 46 20.5 +0.4
baz=252
B18K **Kokolik River** 35.29 27 P **P** 10 46 21.3 +1.1
baz=250
M17K **Holitna River** 35.38 42 P **P** 10 46 22.2 +1.1
baz=266,SNR=7.7
LZH **Lanzhou** 35.38 273 P **P** 10 46 22.8 +1.2
LZH sP pwP 10 46 38.8 +0.6
LZH S **S** **10 51 50.3 -2.9**
LZH sS sS 10 52 06.5 -3.2
LZH pmax pmax
comp=Z,71nm,0.9s
LZH LR LR
comp=Z,310nm,11.7s
LZH LR LR
comp=Z,370nm,16.5s
LZH LR LR
comp=Z,410nm,14.1s
N17K **Nushagak Hills** 35.44 43 P **P** 10 46 22.0 +0.4
baz=267
O17K **Koliganek Bris** 35.46 45 P **P** 10 46 22.4 +0.7
baz=268,SNR=8.3
H18K **Honhosa River** 35.46 35 P **P** 10 46 21.9 +0.2
baz=259
G18K **Tagagawik** 35.49 34 P **P** 10 46 22.2 +0.2
baz=258
Q16K **King Salmon** 35.66 46 P **P** 10 46 23.7 +0.2
baz=270
P17K **Kvichak River** 35.78 46 P **P** 10 46 24.6 +0.1
baz=270
L18K **Granite Mounta** 35.80 40 IAmb IAmb 10 46 41.6
comp=Z,15nm,0.9s
L18K **Granite Mounta** 35.80 40 P **P** 10 46 25.1 +0.4
baz=265
J18K **Innoko River** 35.91 38 IAmb IAmb 10 46 41.9
comp=Z,26nm,1.4s
J18K **Innoko River** 35.91 38 P **P** 10 46 26.3 +0.7
baz=263
C19K **Lookout Ridge** 35.96 28 P **P** 10 46 26.9 +0.9
baz=253
GCSA **Galena City Sc** 36.02 36 P **P** 10 46 25.8 -0.7
baz=261
F19K **Shaleruckik Mo** 36.03 32 P **P** 10 46 26.3 -0.2
baz=258
Q17K **Contact Creek** 36.07 47 P **P** 10 46 26.9 -0.2
baz=271
N18K **Kilae Creek** 36.09 43 P **P** 10 46 27.3 +0.2
baz=268
M18K **Stony River** 36.16 42 P **P** 10 46 27.8 +0.1
baz=267
G19K **Purcell Mounta** 36.17 34 IAmb IAmb 10 46 44.2
comp=Z,15nm,0.9s
G19K **Purcell Mounta** 36.17 34 P **P** 10 46 28.1 +0.3
baz=259,SNR=7.3
TTA **Tatalina** 36.18 39 IAmb IAmb 10 46 44.2
comp=Z,16nm,1.0s
TTA **Tatalina** 36.18 39 P **P** 10 46 28.4 +0.5
baz=265,SNR=6.4
D19K **Kuna River** 36.30 30 P **P** 10 46 29.6 +0.7
baz=255
H19K **Roundabout Mou** 36.32 35 P **P** 10 46 29.7 +0.7
baz=261
E19K **Redstone River** 36.38 31 P **P** 10 46 30.2 +0.7
baz=257
P18K **Big Mountain,** 36.40 45 P **P** 10 46 30.7 +0.9
P18K IAmb IAmb 10 46 31.5
comp=Z,24nm,1.0s
P18K **Big Mountain,** 36.40 45 P **P** 10 46 30.4 +0.5
baz=270,SNR=6.5
O18K **Koktuh Hills** 36.41 44 IAmb IAmb 10 46 50.3
comp=Z,12nm,0.8s
O18K **Koktuh Hills** 36.41 44 P **P** 10 46 30.0 +0.1
baz=270
J19K **Poorman** 36.46 37 IAmb IAmb 10 46 46.3
comp=Z,24nm,1.1s
J19K **Poorman** 36.46 37 P **P** 10 46 30.8 +0.6
baz=264,SNR=6.7
Q18K **Katmai Hardscr** 36.52 46 P **P** 10 46 30.7 -0.3
baz=271
L19K **White Mountain** 36.66 41 P **P** 10 46 32.1 +0.1
baz=267
N19K **Bonanza Creek** 36.78 43 IAmb IAmb 10 46 35.8
comp=Z,19nm,1.1s
N19K **Bonanza Creek** 36.78 43 P **P** 10 46 33.9 +0.7
baz=269
GTA **Gaotai** 36.84 280 *e*P **P** 10 46 34.9 +0.9
GTA pP pP 10 46 39.6 -4.6
GTA sP sP 10 46 43.6 -5.1
GTA pmax pmax
comp=Z,12nm,0.7s
O19K **Port Alsworth** 36.86 44 IAmb IAmb 10 46 37.6
comp=Z,14nm,0.8s
O19K **Port Alsworth** 36.86 44 P **P** 10 46 34.7 +1.0
baz=270
F20K **Avaraart Lake** 36.87 32 P **P** 10 46 34.9 +1.2
baz=259
D20K **Etivluk River** 36.89 29 P **P** 10 46 34.6 +0.7
baz=256
E20K **Nigu River** 36.94 30 P **P** 10 46 35.2 +0.9
baz=257
H20K **Anotteneega Mo** 36.96 35 P **P** 10 46 35.4 +0.9
baz=262
B20K **Meade River** 37.03 27 P **P** 10 46 36.0 +1.0
baz=254
SII **Sitkinak Islan** 37.08 50 P **P** 10 46 36.0 +0.3
baz=275
K20K **Telida** 37.09 39 P **P** 10 46 36.4 +0.8
baz=266
J20K **Nowinta River** 37.12 37 P **P** 10 46 36.2 +0.3
baz=265
L20K **Farewell, AK** 37.12 40 P **P** 10 46 35.3 -0.7
baz=267
Q19K **Cape Douglas,** 37.23 46 P **P** 10 46 36.4 -0.5
baz=272
M20K **Styx River** 37.45 41 IAmb IAmb 10 46 41.2
comp=Z,18nm,1.0s
M20K **Styx River** 37.45 41 P **P** 10 46 39.3 +0.4
baz=269
IMAR **Indian Mountai** 37.49 34 P **P** 10 46 39.5 +0.5
OHAK **Old Harbor** 37.52 49 P **P** 10 46 38.8 -0.5
OHAK **Old Harbor** 37.52 49 P **P** 10 46 39.2 -0.1
baz=275
C21K **Knifeblade Rid** 37.63 29 P **P** 10 46 41.2 +1.0
baz=258,SNR=13
G21K **Allakaket** 37.65 33 P **P** 10 46 41.6 +1.2
baz=262,SNR=21
O20K **Slope Mountain** 37.71 44 P **P** 10 46 41.2 +0.2
baz=272
F21K **Alatna River** 37.76 32 IAmb IAmb 10 47 00.5
comp=Z,14nm,0.8s
F21K **Alatna River** 37.76 32 P **P** 10 46 41.9 +0.6
baz=262,SNR=13
E21K **Killik River** 37.78 30 IAmb IAmb 10 46 57.9
comp=Z,28nm,1.1s
E21K **Killik River** 37.78 30 P **P** 10 46 42.0 +0.5
baz=259
B21K **Ikpikpuk River** 37.80 28 P **P** 10 46 42.2 +0.8
baz=257,SNR=17
H21K **Meloziina Rive** 37.84 35 P **P** 10 46 42.5 +0.6
baz=264,SNR=14
KDAK **Kodiak Island** 37.85 48 P **P** 10 46 41.8 -0.4
KDAK **Kodiak Island** 37.85 48 P **P** 10 46 42.2 +0.1
baz=275
KDAK **Kodiak Island** 37.85 48 P **P** 10 46 41.8 -0.4
KDAK pmax pmax
comp=Z,33nm,0.9s
KDAK **Kodiak Island** 37.85 48 P **P** 10 46 41.7 -0.4
KDAK pP **sP** 10 46 56.3 -0.2
KDAK sP **pwP** 10 47 02.7 +3.1
KDAK PcP **PcP** 10 48 58.5 +0.9
Q20K **Shuyak Island** 37.89 46 P **P** 10 46 41.8 -0.7
baz=274
N20K **Mount Spurr** 37.89 42 P **P** 10 46 43.3 +0.7
baz=270
PPLA **Purkeypile** 37.92 39 P **P** 10 46 43.6 +0.7
baz=268,SNR=6.6
CAST **Castle Rocks** 37.99 39 P **P** 10 46 44.1 +0.8
baz=268,SNR=7.2
A22K **Sinclair Lake** 38.01 26 P **P** 10 46 43.3 +0.1
baz=255
CD2 **Chengdu** 38.05 266 *e*P **P** 10 46 43.0 -1.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
I21K **Tanana** 38.13 36 IAmb IAmb 10 47 11.4
comp=Z,16nm,0.9s
I21K **Tanana** 38.13 36 P **P** 10 46 44.1 -0.4
baz=266
SKT **Skwentna** 38.21 41 P **P** 10 46 45.2 0.0
baz=270
HOM **Homer** 38.22 45 P **P** 10 46 44.7 -0.5
baz=273
F22K **John River** 38.30 32 P **P** 10 46 45.9 0.0
baz=262
D22K **Ayikyak River** 38.33 30 IAmb IAmb 10 47 02.3
comp=Z,31nm,1.1s
D22K **Ayikyak River** 38.33 30 P **P** 10 46 46.4 +0.4
baz=260
B22K **Teshekpuk Lake** 38.35 27 IAmb IAmb 10 47 06.1
comp=Z,17nm,0.8s
B22K **Teshekpuk Lake** 38.35 27 P **P** 10 46 46.2 +0.1
baz=258
CAPN **Captain Cook N** 38.42 43 P **P** 10 46 47.4 +0.6
baz=272
H22K **Ishtalitna Cre** 38.44 35 P **P** 10 46 48.1 +1.1
baz=265
G22K **Bettles** 38.49 33 P **P** 10 46 47.7 +0.3
baz=264
BPAW **Bear Paw Mtn.** 38.50 37 **P** 10 46 48.1 +0.6
BPAW IAmb IAmb 10 47 05.0
comp=Z,19nm,1.2s
BPAW **Bear Paw Mtn.** 38.50 37 P **P** 10 46 48.4 +0.8
baz=268
E22K **Anaktuvuk Pass** 38.52 31 P **P** 10 46 47.8 +0.1
baz=262,SNR=32
GYA **Guiyang** 38.57 257 *i*P **P** 10 46 50.3 +1.6
GYA pmax pmax
comp=Z,20nm,0.6s
GYA LR LR
comp=Z,420nm,19.0s
SUA **Susitna One** 38.59 42 P **P** 10 46 48.1 -0.3
baz=271
MLY **Manley** 38.65 36 P **P** 10 46 48.8 0.0
baz=267
BRSE **Bradley Lake S** 38.67 45 P **P** 10 46 49.6 +0.5

baz=274
TRF Thorofare Moun 38.79 39 P **P 10 46 50.5 +0.3**
baz=269
CUT Chulitna 38.80 40 P **P 10 46 50.2 +0.2**
baz=271
COLD Coldfoot 39.03 33 P **P 10 46 52.5 +0.6**
baz=265
D23K Nanushuk River 39.05 30 P **P 10 46 52.5 +0.4**
baz=262
G23K Bananza Creek 39.06 33 P **P 10 46 52.5 +0.3**
baz=266
RC01 Rabbit Creek A 39.09 42 P **P 10 46 53.1 +0.5**
baz=273,SNR=5.5
O22K Cooper Landing 39.13 43 P **P 10 46 53.1 +0.2**
baz=274
C23K Itkillik River 39.20 28 P **P 10 46 53.7 +0.4**
baz=261,SNR=18
I23K Minto, Yukon-K 39.24 36 P **P 10 46 54.0 +0.4**
baz=268
E23K Chandalar 39.33 31 P **P 10 46 55.5 +0.9**
baz=264,SNR=28
NEA2 Nenana 39.35 37 IAmb IAmb 10 47 15.1
comp=Z,13nm,0.6s
NEA2 Nenana 39.35 37 P **P 10 46 55.0 +0.4**
baz=269
PMR Palmer 39.36 41 **P 10 46 55.2 +0.5**
PMR IAmb IAmb 10 46 56.2
comp=Z,22nm,1.0s
PMR Palmer 39.36 41 P **P 10 46 55.2 +0.5**
baz=273,SNR=6.5
PMR Palmer 39.36 41 P **P 10 46 55.2 +0.5**
PMR pmax pmax
comp=Z,22nm,1.0s
MCK McKinley 39.40 38 P **P 10 46 55.6 +0.5**
baz=270
TOLK Toolik Lake Re 39.41 30 P **P 10 46 56.2 +1.1**
TOLK IAmb IAmb 10 47 11.9
comp=Z,26nm,1.0s
TOLK Toolik Lake Re 39.41 30 P **P 10 46 55.9 +0.8**
baz=264,SNR=9.2
RND Reindeer 39.44 39 IAmb IAmb 10 47 22.5
comp=Z,20nm,1.1s
GHO Glory Hole Cre 39.45 41 IAmb IAmb 10 46 57.3
comp=Z,18nm,0.9s
WAT1 Susitna Watana 39.59 40 P **P 10 46 57.2 +0.5**
baz=272
KNK Knik Glacier 39.69 42 P **P 10 46 57.8 +0.2**
baz=273,SNR=7.7
MDM Murphy Dome 39.71 36 IAmb IAmb 10 47 15.0
comp=Z,18nm,0.8s
SML Sawmill 39.73 41 **P 10 46 58.4 +0.4**
SML Sawmill 39.73 41 P **P 10 46 58.5 +0.6**
baz=273,SNR=14
D24K Happy Valley 39.74 30 P **P 10 46 58.6 +0.8**
baz=264
E24K Your Creek 39.76 31 P **P 10 46 59.3 +1.2**
baz=265
C24K Franklin Bluff 39.85 29 P **P 10 46 59.5 +0.9**
baz=263
COLA College 39.88 36 P **P 10 47 00.3 +1.4**
COLA IAmb IAmb 10 47 25.8
comp=Z,28nm,0.9s
COLA College 39.88 36 P **P 10 46 59.7 +0.8**
baz=270
COLA College 39.88 36 P **P 10 47 00.3 +1.4**
COLA pmax pmax
comp=Z,28nm,0.9s
H24K Noodor Dome 39.88 35 IAmb IAmb 10 47 15.9
comp=Z,44nm,1.5s
H24K Noodor Dome 39.88 35 P **P 10 47 00.0 +1.0**
baz=269
F24K Squaw Lake 39.95 32 P **P 10 47 00.6 +1.0**
baz=267
WAT6 Susitna Watana 39.97 40 P **P 10 47 00.2 +0.1**
baz=273
M23K Glacier View 40.02 41 P **P 10 47 00.6 +0.3**
baz=274
POKR Poker Plat Res 40.05 36 P **P 10 47 01.6 +1.1**
POKR Poker Plat Res 40.05 36 P **P 10 47 01.4 +0.9**
baz=270,SNR=6.5
G24K Hadweenzic Riv 40.07 33 P **P 10 47 01.8 +1.2**
baz=268,SNR=9.9
DHY Denali Highway 40.12 39 P **P 10 47 01.6 +0.4**
baz=272,SNR=9.2
SCM Sheep Creek Mo 40.21 41 IAmb IAmb 10 47 03.3
comp=Z,30nm,1.0s
SCM Sheep Creek Mo 40.21 41 P **P 10 47 02.2 +0.4**
baz=274
HDA Harding Lake 40.27 37 IAmb IAmb 10 47 18.8
comp=Z,11nm,0.6s
HDA Harding Lake 40.27 37 P **P 10 47 02.7 +0.5**
baz=271,SNR=6.7
HDA P **P 10 47 02.7 +0.5**
baz=271,SNR=6.7
IL31 40.29 36 P **P 10 47 02.6 +0.3**
IL31 IAmb IAmb 10 47 18.3
comp=Z,35nm,1.4s
ILAR Eielson Array 40.29 36 P **P 10 47 02.4 0.0**
ILAR Eielson Array 40.29 36 P **P 10 47 02.5 +0.1**
comp=Z,2.1nm,0.5s,baz=266,slow=7.1,SNR=29
ILAR pP **sP 10 47 16.5 -0.5**
comp=Z,12nm,1.0s,baz=270,slow=8.6,SNR=11
ILAR PcP **PcP 10 49 03.9 -1.3**
comp=Z,0.9nm,0.8s,baz=264,slow=5.1,SNR=1.9
ILAR LR LR 11 05 42.4
comp=Z,78nm,18.4s,baz=278,slow=39
comp=Z,2.1nm,0.5s
P23K Montague Islan 40.33 44 P **P 10 47 02.8 0.0**
baz=276
GLI Glacier Island 40.39 42 P **P 10 47 03.3 0.0**
baz=275
G25K Bearman Lake 40.61 33 P **P 10 47 06.0 +1.0**
baz=269
D25K Kavik River 40.62 29 P **P 10 47 05.9 +0.7**
baz=266
M24K Tolsona, Glenn 40.73 41 P **P 10 47 07.5 +1.3**
M24K Tolsona, Glenn 40.73 41 P **P 10 47 07.1 +0.9**
baz=274
K24K Donnelly Dome 40.80 38 P **P 10 47 07.2 +0.4**
baz=273
F25K Christian River 40.81 32 P **P 10 47 07.7 +1.0**
baz=269
E25K Arctic Village 40.85 31 IAmb IAmb 10 47 24.7
comp=Z,24nm,1.1s
E25K Arctic Village 40.85 31 P **P 10 47 08.2 +1.2**
baz=268
KLU Klutina 40.90 41 IAmb IAmb 10 47 09.3
comp=Z,32nm,0.9s
KLU Klutina 40.90 41 P **P 10 47 08.7 +1.1**
baz=275,SNR=9.9
J25K Saicha River, 40.94 37 P **P 10 47 08.2 +0.3**
baz=272
PAX Paxson 40.99 39 P **P 10 47 09.0 +0.6**
baz=274
EYAK Cordova Ski Ar 41.09 43 P **P 10 47 09.3 +0.3**
baz=277
C26K Camden Bay 41.17 29 P **P 10 47 10.4 +0.8**
baz=267
HARP HAARP 41.18 40 P **P 10 47 08.0 -1.8**
baz=275
BMAR Burnt Mountain 41.22 32 P **P 10 47 11.2 +1.1**
RIDG Independent Ri 41.22 38 P **P 10 47 10.8 +0.7**
baz=274
F26K Sheenjek River 41.38 32 P **P 10 47 12.6 +1.2**
baz=270,SNR=14
N25K Chitina, Valde 41.52 41 P **P 10 47 13.2 +0.5**
baz=276
G26K Porcupine Rive 41.53 33 P **P 10 47 13.4 +0.9**
baz=271
SCRK Sand Creek 41.58 38 P **P 10 47 13.2 0.0**
SCRK Sand Creek 41.58 38 P **P 10 47 13.3 0.0**
baz=274
BMRM Bremner River 41.59 42 P **P 10 47 14.0 +0.7**
baz=277,SNR=8.0
DGZ Jazzator, Alta 41.67 300⇓*i* P **P 10 47 15.2 +1.0**
DGZ pmax pmax
comp=Z,7.0nm,0.9s
J26L Joseph Creek 41.73 37 P **P 10 47 14.4 0.0**
baz=274
GOMU GeErMu 41.80 279 P **P 10 47 16.5 +0.8**
GOMU pP pP 10 47 20.8 -5.1
GOMU pmax pmax
comp=Z,16nm,0.8s
GOMU LR LR
comp=Z,260nm,14.5s
GOMU LR LR
comp=Z,330nm,16.5s
GOMU LR LR
comp=Z,490nm,15.4s
KAIM Kayak Island 41.83 44 P **P 10 47 14.6 -0.5**
baz=278
L26K Log Cabin Wild 41.95 39 P **P 10 47 17.4 +1.3**
baz=276,SNR=7.7
PZH PanZhiHua 42.03 262 P **P 10 47 17.8 +0.5**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.0s
ZAA0 Zalesovo Array 42.11 307 P **P 10 47 17.2 -0.3**
ZALV Zalesovo Beam 42.11 307 P **P 10 47 16.6 -0.9**
ZALV Zalesovo Beam 42.11 307 *i* P **P 10 47 18.3 +0.8**
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV Zalesovo Beam 42.11 307 P **P 10 47 15.7 -1.8**
comp=Z,2.9nm,0.4s,baz=80,slow=6.9,SNR=13
ZALV PcP **PcP 10 49 11.7 +0.3**
comp=Z,4.9nm,0.6s,baz=77,slow=2.7,SNR=9.7
ZALV LR LR 11 08 11.0
comp=Z,129nm,18.5s,baz=74,slow=41
comp=Z,2.9nm,0.4s
VRDI Verde Repeater 42.12 42 P **P 10 47 18.7 +1.0**
VRDI IAmb IAmb 10 47 19.7
comp=Z,23nm,0.8s
KMI Kunming 42.16 259⇑P **P 10 47 19.4 +0.8**
KMI sP sP 10 47 32.9 -0.4
KMI pmax pmax
comp=Z,13nm,0.8s
KMI LR LR
comp=Z,240nm,17.7s
KMI LR LR
comp=Z,320nm,14.5s
KMI LR LR
comp=Z,360nm,19.7s
M26K Nabesna, AK 42.18 40 P **P 10 47 19.4 +1.3**
baz=277,SNR=16
MCARA McCarthy VSAT 42.30 41 P **P 10 47 19.9 +0.9**
MCARA IAmb IAmb 10 47 41.3
comp=Z,31nm,1.0s
MCARA McCarthy VSAT 42.30 41 P **P 10 47 20.4 +1.4**
baz=278
E27K Coleen River 42.34 31 P **P 10 47 20.7 +1.5**
E27K IAmb IAmb 10 47 36.1
comp=Z,24nm,1.2s
E27K Coleen River 42.34 31 P **P 10 47 20.9 +1.7**
baz=272
G27K Doyon Strip 42.38 33 P **P 10 47 21.0 +1.4**
baz=273
K27K Chicken 42.42 37 IAmb IAmb 10 47 37.5
comp=Z,26nm,1.1s
K27K Chicken 42.42 37 P **P 10 47 20.7 +0.8**
baz=276
H27K Steamboat Moun 42.46 34 P **P 10 47 21.6 +1.4**
baz=274,SNR=8.9
I27K Kandik River 42.47 35 P **P 10 47 21.5 +1.1**
baz=274
D27M Malcolm River 42.55 30 P **P 10 47 22.1 +1.2**
baz=271
L27K Beaver Creek, 42.63 39 P **P 10 47 22.9 +1.2**
baz=277,SNR=13
BCAR Beaver Creek A 42.65 39 P **P 10 47 23.2 +1.3**
M27K Edge Creek, AK 42.70 40 IAmb IAmb 10 47 24.8
comp=Z,30nm,1.1s
M27K Edge Creek, AK 42.70 40 P **P 10 47 23.6 +1.2**
baz=278
EGAK Eagle 42.74 36 P **P 10 47 22.2 -0.2**
EGAK IAmb IAmb 10 47 39.9
comp=Z,40nm,1.4s
EGAK Eagle 42.74 36 P **P 10 47 22.9 +0.4**
baz=276,SNR=6.3
ISLE Juniper Island 42.75 42 P **P 10 47 23.6 +0.9**
MESA MESA 43.01 43 P **P 10 47 25.5 +0.5**
baz=280
F28M Old Crow 43.02 32 IAmb IAmb 10 47 41.9
comp=Z,38nm,1.4s
F28M Old Crow 43.02 32 P **P 10 47 25.7 +0.9**
baz=274,SNR=7.9
E28M Babbage River 43.09 31 P **P 10 47 26.7 +1.4**
baz=273
BVCY Beaver Creek 43.16 40 P **P 10 47 27.6 +1.6**
baz=279,SNR=5.3
CTG Chitna Glacier 43.17 42 P **P 10 47 27.6 +1.4**
baz=280,SNR=10
I28M Miner Creek 43.18 35 P **P 10 47 27.5 +1.3**
baz=276,SNR=10
D28M Stokes Point 43.34 29 P **P 10 47 28.7 +1.5**
baz=273
LOGN Logan Glacier 43.36 42 IAmb IAmb 10 47 30.2
comp=Z,33nm,1.0s
TABL Table Mountain 43.36 43 P **P 10 47 28.9 +1.1**
YUK3 Moose Creek 43.45 41 P **P 10 47 29.2 +0.6**
baz=280,SNR=9.4
WMQ Urumqi 43.49 292 *e*P **P 10 47 30.5 +1.6**
WMQ pP pP 10 47 40.1 +0.8
WMQ sP pwP 10 47 45.4 -0.4
WMQ pmax pmax
comp=Z,33nm,1.1s
WMQ LR LR
comp=Z,310nm,19.7s
DAWY Dawson 43.59 37 P **P 10 47 29.8 +0.4**
baz=278
E29M Blow River 43.70 31 P **P 10 47 31.6 +1.4**
baz=275,SNR=20
H29M Whitestone 43.74 34 IAmb IAmb 10 47 56.3
comp=Z,42nm,1.3s
H29M Whitestone 43.74 34 P **P 10 47 31.9 +1.4**
baz=277
G29M Pine Creek 43.80 33 IAmb IAmb 10 47 58.3
comp=Z,25nm,0.9s
G29M Pine Creek 43.80 33 P **P 10 47 33.0 +2.0**
baz=276,SNR=6.8
PINM Pinnacle 43.86 43 P **P 10 47 32.4 +0.8**
baz=282
YUK8 Steele Glacier 43.87 41 P **P 10 47 32.5 +0.6**
baz=281
I29M Ogilvie Camp, 43.87 35 P **P 10 47 32.3 +0.6**
baz=278
ZSN Zaisan 44.00 298 *e*P **P 10 47 33.6 +0.6**
baz=298
ZSN Zaisan 44.00 298 *e*P **P 10 47 33.5 +0.6**
M29M Somme Creek 44.26 39 P **P 10 47 36.1 +1.2**
baz=280
L29M L29M 44.29 38 P **P 10 47 36.5 +1.4**
baz=280
EPYK Eagle Plains 44.38 34 IAmb IAmb 10 47 51.8
comp=Z,28nm,1.1s
EPYK Eagle Plains 44.38 34 P **P 10 47 37.1 +1.4**
baz=278,SNR=7.0
YUK4 Talbot Arm 44.38 41 P **P 10 47 36.6 +0.6**
baz=281
K29M Barlow Dome 44.44 37 P **P 10 47 37.5 +1.2**
baz=280
G30M tAoh Zraii Nji 44.49 33 IAmb IAmb 10 47 54.0
comp=Z,27nm,1.1s
G30M tAoh Zraii Nji 44.49 33 P **P 10 47 37.3 +0.7**
baz=278
F30M Barrier River 44.58 32 P **P 10 47 38.4 +1.2**
baz=278,SNR=12
YUK6 Outpost Mounta 44.60 41 P **P 10 47 39.1 +1.3**
baz=282
I30M Mount Dempster 44.69 35 IAmb IAmb 10 47 59.1
comp=Z,18nm,0.8s
I30M Mount Dempster 44.69 35 P **P 10 47 39.2 +0.9**
baz=279
J30M Hart River 44.82 36 P **P 10 47 40.4 +1.0**
baz=280
M30M Minto, Yukon 44.99 39 P **P 10 47 42.2 +1.6**
baz=282
HYT Haines Junctio 45.04 41 P **P 10 47 43.0 +1.9**
HYT Haines Junctio 45.04 41 P **P 10 47 43.2 +2.1**
baz=283,SNR=19
N30M Aishikik Lake 45.09 41 P **P 10 47 42.7 +1.3**
baz=282
MAYO Mayo, Yukon 45.19 37 P **P 10 47 43.3 +1.2**
baz=281
P29M Windy Craggy 45.20 43 P **P 10 47 44.1 +1.8**
baz=284
G31M Satah River 45.26 33 IAmb IAmb 10 48 00.0
comp=Z,23nm,1.1s
G31M Satah River 45.26 33 P **P 10 47 43.8 +1.2**
baz=280
INK Inuvik 45.32 31 P **P 10 47 44.2 +1.1**
INK IAmb IAmb 10 47 58.9
comp=Z,17nm,0.9s
INK Inuvik 45.32 31 P **P 10 47 44.0 +1.0**
baz=279,SNR=17
INK Inuvik 45.32 31 P **P 10 47 44.2 +1.1**
INK pmax pmax
comp=Z,17nm,1.0s
F31M Tsiigehtchic 45.38 32 IAmb IAmb 10 48 00.7
comp=Z,23nm,0.9s
F31M Tsiigehtchic 45.38 32 P **P 10 47 44.6 +1.0**
baz=279,SNR=7.3
H31M Peel River 45.43 34 IAmb IAmb 10 48 04.8
comp=Z,21nm,1.0s
H31M Peel River 45.43 34 P **P 10 47 45.2 +1.2**
baz=280
P30M Million Dollar 45.46 42 P **P 10 47 46.7 +2.3**
baz=284
N31M Braeburn, Yuko 45.70 40 P **P 10 47 47.9 +1.7**
baz=284,SNR=6.3
O30N Mendenhall 45.72 41 IAmb IAmb 10 47 48.9
comp=Z,12nm,0.8s
O30N Mendenhall 45.72 41 P **P 10 47 47.8 +1.4**
baz=284,SNR=5.3
SEM Semipalatinsk 45.84 304 *e*P **P 10 47 47.5 -0.3**
baz=304
SEM Semipalatinsk 45.84 304 *e*P **P 10 47 47.4 -0.3**
MK31 Makanchi Array 45.88 298 P **P 10 47 47.7 -0.1**
MK31 IAmb IAmb 10 47 49.6
comp=Z,18nm,0.8s
MK31 Makanchi Array 45.88 298*c i*P **P 10 47 48.1 +0.2**
MKAR Makanchi Array 45.88 298 P **P 10 47 46.8 -1.1**
comp=Z,14nm,0.7s,baz=77,slow=8.3,SNR=90
MKAR S **S 10 54 30.0 +1.0**
comp=Z,0.7nm,0.8s,baz=74,slow=21,SNR=3.5
MKAR LR LR 11 08 40.3
comp=Z,504nm,18.3s,baz=71,slow=38
comp=Z,14nm,0.7s
MAKZ Makanchi 46.07 298 P **P 10 47 49.7 +0.3**
MAKZ Makanchi 46.07 298 P **P 10 47 49.7 +0.3**
MAKZ pmax pmax
comp=Z,19nm,0.6s
MAKZ Makanchi 46.07 298 P **P 10 47 49.8 +0.5**
MAKZ pP **sP 10 48 04.2 0.0**
M31M Drury Creek, Y 46.17 39 IAmb IAmb 10 47 52.8
comp=Z,23nm,1.1s
M31M Drury Creek, Y 46.17 39 P **P 10 47 51.7 +1.8**
baz=284,SNR=8.5
WHY Whitehorse 46.33 41 P **P 10 47 53.2 +2.0**
baz=285,SNR=6.1
SKAG Skagway 46.43 43 P **P 10 47 52.8 +0.9**
baz=286
FARO Faro, Yukon 46.64 39 IAmb IAmb 10 47 55.7
comp=Z,12nm,0.8s
FARO Faro, Yukon 46.64 39 P **P 10 47 54.9 +1.3**
baz=285,SNR=7.1
KURK Kurchatov 46.70 304 *e*P **P 10 47 53.2 -1.0**
KURK Kurchatov 46.70 304*c i*P **P 10 47 53.2 -1.0**
KURK pmax pmax
comp=Z,8.0nm,0.7s
KURK Kurchatov 46.70 304 P **P 10 47 53.3 -0.9**
KURBB Kurchatov Arra 46.79 304 P **P 10 47 53.8 -1.1**
comp=Z,7.8nm,0.6s,baz=72,slow=8.8,SNR=9.6
KURBB PcP **PcP 10 49 27.9 +0.4**
comp=Z,3.6nm,0.7s,baz=79,slow=3.8,SNR=4.1
KURBB LR LR 11 08 52.9
comp=Z,153nm,19.1s,baz=164,slow=38
comp=Z,7.8nm,0.6s
N32M Quiet Lake 47.04 40 P **P 10 47 57.8 +1.0**
baz=286
SIT Sitka 47.13 46 P **P 10 47 58.8 +1.5**
baz=288
P32M Atlin 47.18 42 P **P 10 47 59.1 +1.2**
baz=287
S32K Killisnoo 47.39 45 P **P 10 48 00.4 +1.0**
baz=288
A36M Sachs Harbour 47.42 25 P **P 10 48 01.5 +2.0**
baz=283,SNR=20
P33M Teslin, Yukon 47.43 42 P **P 10 48 01.6 +1.8**
baz=287,SNR=16
Q32M Nakina River 48.08 43 P **P 10 48 06.3 +1.2**
baz=288
C36M Paulatuk 48.45 28 P **P 10 48 08.4 +0.9**
baz=286,SNR=20
R33M Jennings River 48.58 42 P **P 10 48 10.8 +2.0**
baz=289,SNR=8.0
CHTO Chiang Mai 48.93 256 P **P 10 48 12.6 +0.8**
CHTO IAmb IAmb 10 48 34.2
comp=Z,11nm,0.9s
CHTO Chiang Mai 48.93 256 P **P 10 48 12.6 +0.8**
CHTO pmax pmax
comp=Z,11nm,0.9s
CHTO Chiang Mai 48.93 256 P **P 10 48 13.0 +1.2**
CHTO pP **sP 10 48 27.2 +0.7**
S34M Telegraph Cree 48.99 44 IAmb IAmb 10 48 14.6
comp=Z,12nm,0.8s
S34M Telegraph Cree 48.99 44 P **P 10 48 13.8 +2.0**
baz=290
TDK Taldyqorghan 49.09 297 *e*P **P 10 48 13.3 +0.5**
baz=297
TDK Taldyqorghan 49.09 297 *e*P **P 10 48 13.3 +0.5**
CMAR Chiang Mai Arr 49.17 255 *i*P **P 10 48 14.8 +1.1**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 49.17 255 P **P 10 48 14.7 +1.0**
comp=Z,1.9nm,0.4s,baz=39,slow=7.4,SNR=16
CMAR pP **sP 10 48 28.6 +0.3**
comp=Z,2.3nm,0.8s,baz=33,slow=6.9,SNR=3.1
CMAR LR LR 11 10 29.1
comp=Z,86nm,18.5s,baz=65,slow=38
comp=Z,1.9nm,0.4s
SHLS Shalkode 49.21 295 *e*P **P 10 48 12.0 -2.0**
comp=Z,7.7nm,0.9s,baz=295
SHLS Shalkode 49.21 295 *e*P **P 10 48 11.9 -2.0**
SHLS pmax pmax
comp=Z,8.0nm,0.9s
DLBC Dease Lake 49.36 43 P **P 10 48 16.6 +1.9**
baz=290,SNR=5.1
WTLY Watson Lake, Y 49.37 41 IAmb IAmb 10 48 17.1
comp=Z,14nm,0.9s
WTLY Watson Lake, Y 49.37 41 P **P 10 48 15.8 +1.0**
baz=290,SNR=5.7
UZB Uzynbulak 49.51 295 *e*P **P 10 48 16.4 +0.2**
comp=Z,9.3nm,0.8s,baz=295
UZB Uzynbulak 49.51 295 *e*P **P 10 48 16.3 +0.2**
UZB pmax pmax
comp=Z,9.0nm,0.8s
KPKS Kokpek 49.58 295 *e*P **P 10 48 17.3 +0.6**
comp=Z,8.0nm,0.6s,baz=296
KPKS Kokpek 49.58 295 *e*P **P 10 48 17.2 +0.6**
KPKS pmax pmax
comp=Z,8.0nm,0.6s
T35M Bob Quinn 49.77 45 P **P 10 48 19.4 +1.6**
baz=291,SNR=5.6
ARXS Arharly 49.80 297 *e*P **P 10 48 18.8 +0.5**
ZHN Zhinishke 49.88 295 *e*P **P 10 48 19.0 0.0**
comp=Z,8.4nm,1.0s,baz=295
ZHN Zhinishke 49.88 295 *e*P **P 10 48 18.9 0.0**
ZHN pmax pmax
comp=Z,8.0nm,1.0s
SATY Saty 49.95 295⇑*e*P **P 10 48 20.1 +0.5**
comp=Z,8.2nm,0.8s,baz=295
SATY Saty 49.95 295*ce*P **P 10 48 20.0 +0.5**
SATY pmax pmax
comp=Z,8.0nm,0.8s
WUS Wushi 50.27 293 P **P 10 48 23.0 +1.0**
WUS pP **sP 10 48 37.1 +0.2**
BRZS Berezniki 50.50 305 *e*P **P 10 48 22.6 -0.8**
comp=Z,6.4nm,0.6s,baz=306
BRZS Berezniki 50.50 305 *e*P **P 10 48 22.6 -0.8**
BRZS pmax pmax
comp=Z,6.0nm,0.6s
CHKK Chushkaly 50.51 297 *e*P **P 10 48 23.8 +0.2**
baz=297
CHKK Chushkaly 50.51 297 *e*P **P 10 48 23.7 +0.2**
BVAR Borovoye Array 50.56 310 P **P 10 48 23.4 -0.5**
comp=Z,2.2nm,0.4s,baz=54,slow=7.5,SNR=7.5
BVAR LR LR 11 12 17.8
comp=Z,280nm,18.3s,baz=56,slow=39
comp=Z,2.2nm,0.4s
BRVK Borovoye 50.61 310 P **P 10 48 24.9 +0.7**
BRVK Borovoye 50.61 310 *e*P **P 10 48 24.1 -0.1**
BRVK Borovoye 50.61 310⇑*e*P **P 10 48 24.1 -0.1**
BRVK pmax pmax
comp=Z,12nm,1.8s
BRVK Borovoye 50.61 310 P **P 10 48 24.8 +0.7**
WRGLY Wrigley 50.66 36 P **P 10 48 25.6 +1.3**
baz=291,SNR=9.6
MDOK Medeo 50.78 296 *e*P **P 10 48 26.5 +0.6**
baz=296
MDOK Medeo 50.78 296 *e*P **P 10 48 26.4 +0.6**
AAA Alma-Ata 50.85 296 *e*P **P 10 48 26.9 +0.7**

baz=296
AAA Alma-Ata 50.85 296 *e*P **P 10 48 26.9 +0.7**
AAA Alma-Ata 50.85 296 *e*P **P 10 48 26.9 +0.7**
LIRD Liard River Hi 50.90 41 P **P 10 48 28.1 +1.8**
baz=292,SNR=6.7
KUU Kurty 50.91 297 *e*P **P 10 48 25.8 -0.8**
baz=297
KUU Kurty 50.91 297 *e*P **P 10 48 25.7 -0.8**
TNSS Tian-Shan 50.91 296 *e*P **P 10 48 27.9 +0.8**
baz=296
TNSS Tian-Shan 50.91 296 *e*P **P 10 48 27.8 +0.8**
OTUK Ortayu 51.45 304 P **P 10 48 30.6 0.0**
KOTAN Kotaneelee Air 51.58 40 P **P 10 48 32.6 +1.2**
baz=293
TAPN Taplejung 51.62 273 *e*P **P 10 48 33.2 +0.7**
comp=Z,21nm,0.7s
ULHL Ulahol 51.74 295 P **P 10 48 34.0 +0.9**
SNR=12
BTLS Baital 51.84 299 *e*P **P 10 48 33.6 +0.1**
baz=299
BTLS Baital 51.84 299 *e*P **P 10 48 33.5 +0.1**
TKM2 Tokmak 2 51.84 296 P **P 10 48 35.1 +1.3**
SNR=20
SGDS Sogindy 52.21 297 *e*P **P 10 48 36.8 +0.4**
comp=Z,12nm,1.1s,baz=297
SGDS Sogindy 52.21 297 *e*P **P 10 48 36.8 +0.4**
SGDS pmax pmax
comp=Z,12nm,1.1s
KBK Karagaybulak 52.38 296 P **P 10 48 38.5 +0.7**
SNR=11
KZA Kyzart 52.47 295 P **P 10 48 40.4 +1.7**
SNR=20
JIRN Jiri 52.53 274 *e*P **P 10 48 40.0 +0.6**
comp=Z,59nm,1.0s
GUN Gumba 52.61 274 *e*P **P 10 48 40.3 +0.4**
comp=Z,76nm,0.9s
RAMN Ramite 52.66 273 *e*P **P 10 48 40.7 +0.6**
comp=Z,63nm,0.6s
ALE Alert 52.68 5 P **P 10 48 39.0 -0.2**
AAK Ala-Archa 52.69 296 P **P 10 48 41.0 +0.9**
SNR=8.0
AAK Ala-Archa 52.69 296 P **P 10 48 39.8 -0.3**
AAK Ala-Archa 52.69 296 *e*P **P 10 48 40.5 +0.5**
AAK Ala-Archa 52.69 296*c i*P **P 10 48 40.5 +0.5**
AAK pmax pmax
comp=Z,12nm,1.0s
AAK Ala-Archa 52.69 296 LR LR 11 11 08.4
comp=Z,133nm,18.2s,baz=70,slow=36
AAK Ala-Archa 52.69 296 P **P 10 48 40.7 +0.6**
EKS2 Erkin-Say 53.14 297 P **P 10 48 44.4 +1.1**
SNR=12
PKI Pulchoki 53.15 274 *e*P **P 10 48 44.2 +0.4**
comp=Z,40nm,1.1s
PKIN Phulchoki 53.15 274 *e*P **P 10 48 43.6 -0.2**
comp=Z,11nm,0.4s
KSH Kashi 53.26 292 P **P 10 48 48.8 +4.6**
KSH pmax pmax
comp=Z,7.0nm,0.8s
DMN Daman 53.34 275 *e*P **P 10 48 45.8 +0.6**
comp=Z,35nm,0.6s
AML Almayashu 53.45 296 P **P 10 48 47.2 +1.2**
SNR=13
AML Almayashu 53.45 296 *i*P **P 10 48 46.7 +0.7**
AML pmax pmax
comp=Z,2.0nm,1.0s
GKN Gorkha 53.45 275 *e*P **P 10 48 45.9 0.0**
comp=Z,35nm,0.7s
DANN Dangsing 53.88 276 *e*P **P 10 48 50.0 +0.9**
comp=Z,66nm,0.6s
SVE Sverdlovsk 54.03 317 *e*P **P 10 48 49.2 -0.3**
SVE Sverdlovsk 54.03 317 *e*P **P 10 48 49.2 -0.3**
SVE pmax pmax
comp=Z,13nm,0.9s
HNR Honiara 54.08 167 LR LR 11 10 49.6
comp=Z,2µm,19.8s,baz=349,slow=35
RES Resolute Bay 54.21 17 P **P 10 48 51.3 +0.8**
RES Resolute Bay 54.21 17 LR LR 11 16 13.9
comp=Z,189nm,18.6s,baz=2.0,slow=41
PYUN Piuthan 54.58 277 *e*P **P 10 48 54.6 +0.5**
comp=Z,42nm,0.8s
DZA Taraz 54.59 298 *e*P **P 10 48 54.1 +0.3**
baz=298
DZA Taraz 54.59 298 *e*P **P 10 48 54.1 +0.3**
YKA Yellowknife Ar 54.65 34 *i*P **P 10 48 54.2 +0.4**
YKA pmax pmax
comp=Z,9.0nm,0.7s
YKA Yellowknife Ar 54.65 34 P **P 10 48 54.3 +0.5**
comp=Z,9.3nm,0.7s,baz=296,slow=7.1,SNR=99
YKA pP **sP 10 49 09.1 +0.4**
comp=Z,6.4nm,0.8s,baz=299,slow=7.1,SNR=9.2
comp=Z,9.3nm,0.7s
SPITS Spitsbergen Ar 54.80 349 P **P 10 48 53.1 -1.7**
comp=Z,18nm,1.0s,baz=39,slow=9.3,SNR=6.6
comp=Z,18nm,1.0s
KK31 Karatay Array 55.00 299 P **P 10 48 56.9 +0.1**
ARU Arti 55.23 317 P **P 10 48 57.2 -1.0**
ARU IAmb IAmb 10 48 58.3
comp=Z,10nm,0.6s
ARU Arti 55.23 317 *e*P **P 10 48 57.1 -1.0**
ARU Arti 55.23 317*c i*P **P 10 48 57.0 -1.2**
ARU 10 49 57.2
ARU 10 51 01.7
ARU S **S 10 56 38.4 +0.1**
ARU SS **SS 11 00 21.7 -0.6**
ARU pmax pmax
comp=Z,18nm,1.2s
ARU Arti 55.23 317 LR LR 11 15 35.0
comp=Z,242nm,20.0s,baz=48,slow=39
BTK Batken 56.38 295 IAmb IAmb 10 49 25.6
comp=Z,13nm,1.0s
NEEM North Greenlan 58.11 5 *i*P **P 10 49 16.9 -1.9**
NEEM IAmb IAmb 10 49 21.7
comp=Z,26nm,1.1s
AB31 Akbulak array 58.13 310 *e*P **P 10 49 18.9 0.0**
LVZ Lovozero 58.19 336‖ *e*P **P 10 49 21.8 +2.7**
PRGR Permogore 58.21 327 *e*P **P 10 49 17.6 -1.6**
PRGR pmax pmax
comp=Z,18nm,0.8s
CHGR Chuyangaron 58.21 295 P **P 10 49 20.2 +0.4**
CHGR pmax pmax
comp=Z,57nm,0.8s
NIL Nilore 58.25 288 P **P 10 49 20.9 +0.9**
NIL Nilore 58.25 288 P **P 10 49 20.9 +0.9**
NIL pmax pmax
comp=Z,32nm,0.9s
NIL Nilore 58.25 288 P **P 10 49 20.8 +0.7**
NIL pP **sP 10 49 36.0 +0.9**
NIL sP **pwP 10 49 42.0 +4.7**
KIRV Kirov 58.35 323‖ *e*P **P 10 49 20.3 +0.1**
KIRV Kirov 58.35 323 LR LR 11 16 23.7
comp=Z,257nm,19.2s,baz=46,slow=38
AKTO Aktyubinsk 58.56 311 P **P 10 49 22.1 +0.2**
AKTO Aktyubinsk 58.56 311 LR LR 11 14 45.5
comp=Z,119nm,19.2s,baz=34,slow=36
DAG Danmarks Havn 59.22 357 *i*P **P 10 49 24.6 -1.4**
DAG IAmb IAmb 10 49 26.5
comp=Z,4.3nm,0.8s
ARA0 ARCESS Array S 59.53 340 *e*P **P 10 49 26.0 -2.3**
ARCES ARCESS Array B 59.53 340 P **P 10 49 26.6 -1.7**
comp=Z,1.1nm,0.4s,baz=33,slow=7.7,SNR=11
ARCES LR LR 11 17 56.0
comp=Z,128nm,18.1s,baz=300,slow=39
comp=Z,1.1nm,0.4s
KTK1 Kautokeino 60.46 340 *e*P **P 10 49 33.5 -1.1**
PSI Prapat 60.52 242 P **P 10 49 37.0 +1.0**
PSI pmax pmax
comp=Z,17nm,0.8s
D08A Wollman Farm, 60.59 52 IAmb IAmb 10 49 54.5
comp=Z,8.2nm,0.9s
RPSI Rantau Prapat 60.60 242 P **P 10 49 37.0 +0.6**
KBL Kabul 60.61 291 P **P 10 49 35.7 -0.7**
KBL Kabul 60.61 291 P **P 10 49 35.7 -0.7**
KBL pmax pmax
comp=Z,14nm,0.7s
G06A Carlson Farm, 60.62 54 IAmb IAmb 10 49 55.8
comp=Z,16nm,1.1s
JETT Jettan, Norway 60.71 342 *e*P **P 10 49 35.4 -1.0**
NEW Newport 60.91 50 P **P 10 49 38.8 +0.6**
baz=305,SNR=8.7
NEW Newport 60.91 50 P **P 10 49 38.9 +0.8**
NEW pmax pmax
comp=Z,20nm,1.1s
KLMR Klimovskoe 61.05 328 *e*P **P 10 49 35.8 -2.9**
KLMR AMP 10 49 38.6
comp=Z,28nm,1.2s
KLMR Klimovskoe 61.05 328 *e*P **P 10 49 35.8 -2.9**
KLMR pmax pmax
comp=Z,28nm,1.2s
BKNI Bangkinang 61.11 239 P **P 10 49 41.8 +2.0**
comp=Z,73nm,0.5s,comp=Z,3µm
YBH Yreka Blue Hor 61.36 58 P **P 10 49 42.2 +0.9**
YBH IAmb IAmb 10 49 43.7
comp=Z,14nm,1.2s
YBH Yreka Blue Hor 61.36 58 P **P 10 49 42.3 +0.9**
YBH pmax pmax
comp=Z,14nm,1.3s
G08A Pilot Rock 61.57 53 IAmb IAmb 10 50 02.5
comp=Z,12nm,1.1s
DBG Daneborg 61.73 357 *i*P **P 10 49 42.2 -1.0**
DBG IAmb IAmb 10 49 45.1
comp=Z,2.1nm,0.6s
UPNV Upernavik 62.12 8 *i*P **P 10 49 44.0 -1.8**
UPNV IAmb IAmb 10 49 46.6
comp=Z,27nm,1.2s
F10A Beach Ranch, E 62.17 52 IAmb IAmb 10 50 07.5
comp=Z,9.9nm,0.9s
BELG Belogornoye 62.78 318 LR LR 11 19 41.3
comp=Z,248nm,18.6s,baz=3.9,slow=38
ORV Oroville 63.38 60 P **P 10 49 53.9 -0.8**
ORV IAmb IAmb 10 50 14.4
comp=Z,9.7nm,1.1s
ORV Oroville 63.38 60 P **P 10 49 53.9 -0.8**
ORV pmax pmax
comp=Z,10.0nm,1.2s
WVOR Wild Horse Val 63.42 56 IAmb IAmb 10 50 15.2
comp=Z,14nm,1.1s
WVOR Wild Horse Val 63.42 56 P **P 10 49 56.2 +1.1**
WVOR pmax pmax
comp=Z,15nm,1.2s
MSO Missoula 63.50 50 P **P 10 49 56.1 +0.6**
baz=307,SNR=15
SUMG Summit 63.55 3 P **P 10 49 54.3 -1.5**
SUMG IAmb IAmb 10 50 13.2
comp=Z,11nm,0.9s
SUMG Summit 63.55 3 P **P 10 49 54.3 -1.5**
SUMG pmax pmax
comp=Z,11nm,0.9s
SUMG Summit 63.55 3 *i*P **P 10 49 55.2 -0.6**
SUMG IAmb IAmb 10 49 58.6
comp=Z,9.5nm,0.8s
FAUS Fauske 63.59 342 *e*P **P 10 49 54.9 -0.8**
CTA Charters Tower 63.88 183 LR LR 11 13 36.3
comp=Z,36nm,22.0s,baz=74,slow=32
FFC Flin Flon 64.49 38 P **P 10 50 01.1 -0.6**
FFC Flin Flon 64.49 38 P **P 10 50 01.1 -0.6**
FFC pmax pmax
comp=Z,28nm,1.0s
FFC Flin Flon 64.49 38 P **P 10 50 02.3 +0.5**
FFC pP **sP 10 50 17.5 +0.7**
EMB Emerald Bay 64.59 60 IAmb IAmb 10 50 04.8
comp=Z,18nm,1.1s
PAHR Pah Rah Range 64.60 59 IAmb IAmb 10 50 23.1
comp=Z,18nm,1.2s
MOR8 Moi Rana 64.78 341 *e*P **P 10 50 01.3 -2.2**
PNTR Pine Nut 64.83 59 P **P 10 50 04.9 +0.4**
PNTR IAmb IAmb 10 50 06.5
comp=Z,12nm,0.8s
FCC Fort Churchill 64.94 31 P **P 10 50 04.2 -0.4**
FCC Fort Churchill 64.94 31 P **P 10 50 04.2 -0.4**
FCC pmax pmax
comp=Z,29nm,0.9s
WB0 Warramunga Arr 64.97 196 P **P 10 50 05.0 -0.2**
CMB Columbia Colle 64.98 61 IAmb IAmb 10 50 25.7
comp=Z,13nm,1.2s
EGMT Eagleton 65.02 47 P **P 10 50 05.9 +0.4**
baz=309,SNR=8.7
WRAB Tennant Creek 65.14 196 P **P 10 50 03.4 -2.9**
WRAB Tennant Creek 65.14 196 P **P 10 50 03.4 -2.9**
WRAB pmax pmax
comp=Z,24nm,0.8s
WRA Warramunga Arr 65.15 196 P **P 10 50 06.4 0.0**
comp=Z,16nm,0.9s,baz=15,slow=6.7,SNR=60
WRA pP **sP 10 50 21.5 +0.9**
comp=Z,23nm,0.9s,baz=15,slow=6.7,SNR=15
comp=Z,16nm,0.9s
HLID Hailey 65.21 53 P **P 10 50 07.2 +0.3**
HLID Hailey 65.21 53 P **P 10 50 07.7 +0.8**
baz=308,SNR=7.4
WAKR Wker 65.29 60 IAmb IAmb 10 50 28.1
comp=Z,12nm,1.1s
FINES FINESS Array B 65.34 334 P **P 10 50 06.6 -0.5**
FINES FINESS Array B 65.34 334 *i*P **P 10 50 06.3 -0.8**
FINES pmax pmax
comp=Z,19nm,0.6s
FINES FINESS Array B 65.34 334 P **P 10 50 06.0 -1.1**
comp=Z,18nm,0.7s,baz=38,slow=7.8,SNR=54
FINES pP **sP 10 50 21.4 -1.2**
comp=Z,12nm,0.6s,baz=45,slow=6.5,SNR=4.6
FINES LR LR 11 20 41.2
comp=Z,226nm,18.5s,baz=330,slow=38
comp=Z,18nm,0.7s
BMN Battle Mountai 65.47 57 IAmb IAmb 10 50 10.5
comp=Z,11nm,0.7s
BOZ Bozeman (W) 65.52 50 P **P 10 50 09.3 +0.5**
baz=309,SNR=33
SCO Scoresbysund 65.61 357 *i*P **P 10 50 09.5 +0.7**
SCO IAmb IAmb 10 50 11.3
comp=Z,6.5nm,0.4s
GEYT Alibeck 65.71 300 IAmb IAmb 10 50 30.9
comp=Z,10nm,0.8s
GEYT Alibeck 65.71 300 P **P 10 50 09.8 -0.3**
comp=Z,3.9nm,0.5s,baz=80,slow=3.6,SNR=7.4
GEYT LR LR 11 21 40.1
comp=Z,245nm,19.8s,baz=44,slow=39
comp=Z,3.9nm,0.5s
RYN Ryan 65.78 59 IAmb IAmb 10 50 12.4
comp=Z,11nm,0.9s
OBN Obninsk 66.03 325 *e*P **P 10 50 11.8 +0.2**
OBN Obninsk 66.03 325*de*P **P 10 50 11.8 +0.2**
OBN *e* 10 50 41.6
OBN *e* 10 52 36.0
OBN *e*PPP PPP 10 54 11.3
OBN *e*S **S 10 58 56.7 +0.6**
OBN *e*SS **SS 11 03 14.7 +3.7**
OBN pmax pmax
comp=Z,66nm,1.9s
OBN MLR MLR
comp=Z,154nm,13.0s
OBN Obninsk 66.03 325 LR LR 11 20 16.4
comp=Z,163nm,18.0s,baz=350,slow=37
NVAR Mina Array Bea 66.04 59 P **P 10 50 12.4 0.0**
NVAR Mina Array Bea 66.04 59 P **P 10 50 13.1 +0.7**
comp=Z,6.5nm,0.7s,baz=288,slow=6.9,SNR=44
NVAR pP **sP 10 50 27.8 +0.8**
comp=Z,5.2nm,0.8s,baz=291,slow=6.5,SNR=9.6
comp=Z,6.5nm,0.7s
NV11 Mina Array Sit 66.13 59 IAmb IAmb 10 50 33.3
comp=Z,21nm,1.2s
YHL Hebgen Lake 66.23 50 IAmb IAmb 10 50 32.8
comp=Z,14nm,1.0s
VRH Novokhopyorsk 66.37 319 *e*P **P 10 50 14.1 +0.1**
VRH pmax pmax
comp=Z,48nm,0.8s
YNR Norris Junctio 66.60 50 IAmb IAmb 10 50 36.8
comp=Z,15nm,1.1s
YFT Old Faithful 66.68 50 IAmb IAmb 10 50 38.2
comp=Z,15nm,1.0s
LPSR Galich'ya Gora 66.72 322 *e*P **P 10 50 15.8 -0.3**
LPSR pmax pmax
comp=Z,50nm,0.9s
NSS Namsos 66.73 341 *e*P **P 10 50 15.3 -0.7**
H17A Grant Village 66.86 50 P **P 10 50 19.4 +1.9**
baz=310,SNR=10.0
YMP Mirror Lake Pl 66.87 50 IAmb IAmb 10 50 44.0
comp=Z,12nm,1.1s
SMMC Simmler 66.89 63 P **P 10 50 17.9 +0.2**
baz=308
ICESG Greenland Ices 66.98 4 *i*P **P 10 50 17.5 -0.5**
ICESG IAmb IAmb 10 50 20.0
comp=Z,39nm,0.9s
FLWY Flagg Ranch 66.99 50 IAmb IAmb 10 50 38.9
comp=Z,12nm,1.0s
RAF Rauma 67.00 335 *e*P **P 10 50 17.9 +0.1**
RLMT Red Lodge 67.11 49 P **P 10 50 19.5 +0.4**
baz=310
VES Vestal, Richgr 67.15 62 P **P 10 50 19.3 +0.1**
baz=309
VORR Voronezh 67.22 321 *e*P **P 10 50 20.4 +1.0**
HVU Hansel Valley 67.27 53 IAmb IAmb 10 50 39.5
comp=Z,20nm,1.5s
LOHW Long Hollow 67.34 51 IAmb IAmb 10 50 40.3
comp=Z,15nm,1.1s
SNOW Snow King Moun 67.35 51 IAmb IAmb 10 50 40.6
comp=Z,17nm,1.1s
VSU Vasula 67.36 331 *e*P **P 10 50 20.7 +0.5**
CWC Cottonwood Cre 67.41 61 P **P 10 50 21.4 +0.3**
baz=309
GRAC Grapevine Rang 67.51 60 P **P 10 50 22.8 +1.3**
baz=309
VSR Storozhevoye 67.55 320 *e*P **P 10 50 20.2 -1.3**
VSR pmax pmax
comp=Z,30nm,0.8s
DGMT Dagmar 67.57 44 P **P 10 50 22.0 +0.3**
baz=312
AHID Auburn Hatcher 67.60 52 IAmb IAmb 10 50 42.0
comp=Z,12nm,1.1s
DZM Mont Dzumac 67.62 163 *e*LR LR 11 11 08.0
comp=Z,96nm,21.6s
DZM Mont Dzumac 67.62 163 LR LR 11 16 28.8
comp=Z,76nm,19.1s,baz=2.0,slow=33
ISA Isabella, Lake 67.65 62 P **P 10 50 22.0 -0.5**
baz=309
VORD Divnogorie 67.67 320 *e*P **P 10 50 20.5 -1.7**
VORD pmax pmax
comp=Z,40nm,0.8s
LAO LASA Array 67.72 46 P **P 10 50 23.3 +0.6**
baz=311
ARVC Arvin 67.76 62 P **P 10 50 23.0 0.0**
baz=309
R11B Troy Canyon, C 67.76 58 IAmb IAmb 10 50 24.8
comp=Z,11nm,1.0s
R11B Troy Canyon, C 67.76 58 P **P 10 50 24.0 +0.7**
baz=309,SNR=18
Q12A Willow Creek R 67.78 57 IAmb IAmb 10 50 53.7
comp=Z,11nm,0.9s
MPMC Manual Prospec 68.02 61 P **P 10 50 25.0 0.0**
baz=309,SNR=5.8
SOEG Soedalen 68.07 0 *i*P **P 10 50 24.5 0.0**
SOEG IAmb IAmb 10 50 26.2
comp=Z,9.2nm,0.8s
HWUT Hardware Ranch 68.08 53 IAmb IAmb 10 50 48.2
comp=Z,20nm,1.4s
SPR3 Spring Creek 3 68.11 57 IAmb IAmb 10 50 27.8
comp=Z,8.2nm,0.7s
FURC Furnace Creek, 68.16 60 P **P 10 50 26.2 +0.7**
baz=309,SNR=7.7
SFJD Kangerlussuaq 68.24 8 *i*P **P 10 50 24.2 -1.3**
SFJD IAmb IAmb 10 50 26.4
comp=Z,0.9nm,0.3s
SFJD Kangerlussuaq 68.24 8 LR LR 11 23 39.6
comp=Z,122nm,18.7s,baz=10.0,slow=39
TPNV Topopah Spring 68.24 59 P **P 10 50 26.9 +0.7**
baz=309,SNR=6.6
DUG Dugway, Tooele 68.25 55 IAmb IAmb 10 50 28.1
comp=Z,14nm,1.0s
DUG Dugway, Tooele 68.25 55 P **P 10 50 27.2 +1.0**
baz=310,SNR=14
DUG Dugway, Tooele 68.25 55 P **P 10 50 27.3 +1.0**
DUG pmax pmax
comp=Z,17nm,0.9s
CCAC Calif City Air 68.26 62 IAmb IAmb 10 50 45.7
comp=Z,8.4nm,0.8s
FRB Frobisher Bay 68.43 17 LR LR 11 23 33.5
comp=Z,176nm,18.3s,baz=14,slow=39
EDW2 Edwards Air Fo 68.44 62 P **P 10 50 27.8 +0.3**
baz=309,SNR=5.2
GWY Greenwater Val 68.46 60 P **P 10 50 27.9 +0.3**
GWY IAmb IAmb 10 50 47.3
comp=Z,16nm,1.1s
BW06 Boulder Array 68.47 51 IAmb IAmb 10 50 47.0
comp=Z,17nm,1.1s
BW06 Boulder Array 68.47 51 P **P 10 50 28.1 +0.4**
baz=311,SNR=11
PD31 Pinedale Array 68.47 51 P **P 10 50 27.4 -0.3**
PD31 IAmb IAmb 10 50 47.0
comp=Z,15nm,1.1s
PDAR Pinedale Array 68.47 51 P **P 10 50 27.4 -0.3**
PDAR Pinedale Array 68.47 51 P **P 10 50 27.9 +0.2**
comp=Z,5.7nm,0.7s,baz=266,slow=1.3,SNR=56
PDAR pP **sP 10 50 42.6 0.0**
comp=Z,7.1nm,0.7s,baz=308,slow=4.9,SNR=13
comp=Z,5.7nm,0.7s
TCUT Toone Canyon 68.48 53 IAmb IAmb 10 50 54.2
comp=Z,10nm,0.8s
NLU North Lily Min 68.84 55 IAmb IAmb 10 50 31.6
comp=Z,10nm,1.0s
AS31 Alice Springs 68.86 195 P **P 10 50 30.7 +0.8**
ASAR Alice Springs 68.86 195 P **P 10 50 30.3 +0.4**
ASAR Alice Springs 68.86 195 P **P 10 50 30.8 +0.9**
comp=Z,6.8nm,0.8s,baz=15,slow=6.3,SNR=70
ASAR pP **sP 10 50 46.1 +1.9**
comp=Z,8.0nm,0.8s,baz=14,slow=6.9,SNR=10.0
ASAR LR LR 11 21 06.5
comp=Z,26nm,19.1s,baz=23,slow=36
comp=Z,6.8nm,0.8s
GSC Goldstone, Bar 68.93 61 P **P 10 50 31.3 +0.7**
baz=310
MPU Maple Canyon 69.06 54 IAmb IAmb 10 50 32.6
comp=Z,8.4nm,0.7s
BFSC Mount Baldy Ra 69.06 62 P **P 10 50 31.8 +0.4**
baz=310
DY2G Dye2 69.16 7 *i*P **P 10 50 31.0 -0.5**
DY2G IAmb IAmb 10 50 33.1
comp=Z,13nm,0.9s
UPP Uppsala 69.16 336 *e*P **P 10 50 31.4 +0.1**
TUQ Turquoise Moun 69.40 60 P **P 10 50 33.9 +0.4**
baz=310
HEC Hector,Ludlow 69.53 61 P **P 10 50 34.5 +0.3**
baz=310,SNR=7.7
DOMB Dombas 69.55 341 *e*P **P 10 50 34.3 +0.5**
ELS Elsinore Mount 69.59 63 IAmb IAmb 10 50 56.3
comp=Z,16nm,1.4s
PALK Pallekele 69.69 260 LR LR 11 24 26.4
comp=Z,46nm,18.3s,baz=132,slow=39
NC303 NORSAR Array S 69.70 340 P **P 10 50 34.2 -0.5**
IDID Didziasalis 69.75 329 *e*P **P 10 50 33.1 -2.0**
MURC Murrieta 69.77 63 P **P 10 50 35.7 0.0**
baz=310
V12A Nelson 69.88 60 P **P 10 50 37.0 +0.6**
AKN Aaknes 69.89 342 *e*P **P 10 50 36.5 +0.6**
NB2 NORSAR Subarra 69.90 340 P **P 10 50 35.5 -0.5**
comp=Z,14nm,0.6s,baz=30,slow=6.5
NB2 NORSAR Subarra 69.90 340 P **P 10 50 35.5 -0.5**
baz=30,slow=6.5
NB2 NORSAR Subarra 69.90 340 P **P 10 50 32.9 -3.1**
NB2 pmax pmax
comp=Z,2.0nm,0.5s
NOA NORSAR Array B 69.90 340 P **P 10 50 35.8 -0.2**
comp=Z,23nm,0.8s,baz=31,slow=6.3,SNR=70
NOA pP **sP 10 50 50.1 -1.4**
comp=Z,11nm,0.5s,baz=32,slow=6.6,SNR=7.6
NOA LR LR 11 24 09.8
comp=Z,32nm,20.9s,baz=35,slow=38
comp=Z,23nm,0.8s
P17A Butcher Ranch, 69.94 54 IAmb IAmb 10 50 38.4
comp=Z,12nm,0.8s
MNK Minsk 69.94 328 *i*P **P 10 50 36.1 -0.2**
comp=E,8.0nm,0.9s
MNK *i*P **P 10 50 36.1 -0.2**
comp=N,24nm,0.9s
MNK *i*P **P 10 50 36.1 -0.2**
comp=Z,37nm,0.8s,baz=41
MNK *i*PP **PP 10 53 10.9 +0.2**
MNK *i*PPP PPP 10 54 52.7
MNK *i*S **S 10 59 44.8 +1.9**
MNK *i*SS **SS 11 04 13.4 +1.8**
MNK *i*SSS SSS 11 07 34.2
MNK *i*LQ LQ 11 16 24.1
MNK *i*LR LR 11 21 48.5
MNK *i*LRM MLR 11 24 22.4
comp=E,83nm,7.5s
MNK *i*LRM MLR 11 24 25.2
comp=Z,261nm,9.2s
MNK *i*LRM MLR 11 24 30.9
comp=N,220nm,9.5s
MNK Minsk 69.94 328 *i*P **P 10 50 36.1 -0.2**
MNK *i* 10 53 10.9
MNK *i*PPP PPP 10 54 52.7
MNK *i*S **S 10 59 44.8 +1.9**
MNK *i*SS **SS 11 04 13.3 +1.8**
MNK pmax pmax
comp=Z,37nm,0.8s
MNK pmax pmax
comp=N,24nm,0.9s
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK MLR MLR
comp=E,83nm,8.0s
MNK MLR MLR

comp=Z,261nm,9.0s
MNK MLR MLR
comp=N,220nm,10.0s
GMRC Granite Mounta 69.98 61 P **P** **10 50 37.3 +0.2**
baz=310,SNR=5.8
MTPU Mount Pierson 70.02 56 IAmb IAmb 10 50 39.6
comp=Z,10nm,0.8s
NBO00 NORSAR Array S 70.02 340 P **P** **10 50 37.1 +0.5**
HFS Hagfors 70.03 338 P **P** **10 50 36.3 -0.5**
comp=Z,16nm,0.6s,baz=35,slow=5.4,SNR=39
HFS pP **sP** **10 50 50.3 -1.9**
comp=Z,14nm,0.7s,baz=49,slow=4.7,SNR=6.2
HFS LR LR 11 26 57.5
comp=Z,238nm,18.6s,baz=323,slow=41
comp=Z,16nm,0.6s
Q16A Castle Valley 70.05 55 IAmb IAmb 10 50 39.3
comp=Z,11nm,1.1s
NACGM Naroch 70.05 329 *e*P **P** **10 50 38.0 +1.0**
comp=Z,68nm,0.9s,baz=40
NORES NORESS Array B 70.08 339 P **P** **10 50 36.9 -0.1**
K22A Casper 70.23 50 P **P** **10 50 39.0 +0.5**
baz=312,SNR=6.3
PFO Pinyon Flats O 70.23 62 P **P** **10 50 38.7 +0.1**
PFO Pinyon Flats O 70.23 62 P **P** **10 50 39.0 +0.4**
baz=310,SNR=5.5
PFO Pinyon Flats O 70.23 62 P **P** **10 50 38.7 +0.1**
PFO pmax pmax
comp=Z,14nm,1.4s
PFO Pinyon Flats O 70.23 62 LR LR 11 22 53.1
comp=Z,34nm,19.3s,baz=248,slow=37
PFO Pinyon Flats O 70.23 62 P **P** **10 50 39.3 +0.7**
PFO pP **sP** **10 50 54.6 +1.0**
TPFO Pinon Flats 70.24 62 P **P** **10 50 39.2 +0.6**
baz=310,SNR=5.1
MDND Maddock 70.25 42 P **P** **10 50 38.7 +0.4**
baz=314
ULM Lac du Bonnet 70.27 38 P **P** **10 50 37.7 -0.7**
comp=Z,2.9nm,0.5s,baz=312,slow=7.2,SNR=8.7
ULM LR LR 11 24 17.2
comp=Z,77nm,18.6s,baz=28,slow=38
comp=Z,2.9nm,0.5s
109C Camp Elliot, M 70.28 63 P **P** **10 50 39.2 +0.4**
baz=310
VIKU Vikbolandet 70.55 336 *e*P **P** **10 50 40.2 +0.3**
RSSD Black Hills 70.58 47 P **P** **10 50 40.2 -0.5**
RSSD Black Hills 70.58 47 P **P** **10 50 40.5 -0.2**
baz=313
RSSD Black Hills 70.58 47 P **P** **10 50 40.2 -0.5**
RSSD pmax pmax
comp=Z,20nm,0.9s
RSSD Black Hills 70.58 47 P **P** **10 50 40.6 0.0**
RSSD pP **sP** **10 50 55.6 +0.1**
NCK Nalchik 70.59 312⇓ *e*P **P** **10 50 42.8 +2.3**
NCK pmax pmax
comp=Z,50nm,0.5s
PABE Paberze 70.61 331 *e*P **P** **10 50 40.7 +0.3**
IRM Iron Mountain 70.71 61 P **P** **10 50 42.1 +0.7**
baz=311,SNR=6.2
KVAR Kislovodsk Arr 70.76 313 LR LR 11 26 25.7
comp=Z,291nm,18.3s,baz=260,slow=40
KIV Kislovodsk 70.76 313 ⇓P **P** **10 50 43.8 +2.2**
KIV Kislovodsk 70.76 313 P **P** **10 50 41.6 0.0**
KIV Kislovodsk 70.76 313 *e*P **P** **10 50 43.4 +1.8**
KIV pmax pmax
comp=Z,55nm,1.1s
KIV MLR MLR
comp=Z,278nm,17.0s
KIV Kislovodsk 70.76 313 P **P** **10 50 43.5 +1.8**
KIV pP **pwP** **10 50 58.7 -0.6**
KBZ Khabaz 70.81 313 *e*P **P** **10 50 42.7 +1.0**
KBZ Khabaz 70.81 313 *de*P **P** **10 50 42.7 +1.0**
KBZ pmax pmax
comp=Z,34nm,0.9s
KBZ Khabaz 70.81 313 P **P** **10 50 43.2 +1.5**
comp=Z,28nm,0.8s,baz=62,slow=3.6,SNR=46
KBZ pP **sP** **10 50 56.5 -0.4**
comp=Z,14nm,0.7s,baz=359,slow=6.7,SNR=6.1
KBZ LR LR 11 27 03.5
comp=Z,530nm,18.1s,baz=34,slow=40
comp=Z,28nm,0.8s
NUUK Nuuk 70.83 10 *i* P **P** **10 50 41.7 +0.2**
NUUK IAmb IAmb 10 50 58.2
comp=Z,34nm,1.0s
BC3 Big Chuckawall 70.84 62 P **P** **10 50 42.6 +0.3**
baz=311
ZEI Tsey 70.91 311 *e*P **P** **10 50 42.5 -0.2**
ZEI pmax pmax
comp=Z,18nm,0.9s
O20A White River Ci 70.95 52 IAmb IAmb 10 50 44.6
comp=Z,10nm,0.8s
O20A White River Ci 70.95 52 P **P** **10 50 43.1 +0.2**
baz=312,SNR=7.0
HYA Hoyanger 70.97 342 *e*P **P** **10 50 43.1 +0.7**
U15A North Rim 71.00 58 IAmb IAmb 10 50 45.5
comp=Z,15nm,0.9s
IKP In-Ko-Pah, Jac 71.08 63 P **P** **10 50 43.3 -0.4**
baz=311
SWSC Sam W. Stewart 71.08 62 P **P** **10 50 43.6 0.0**
baz=311
PDMCI Parker Dam,Lak 71.25 60 P **P** **10 50 45.3 +0.7**
baz=311,SNR=5.6
BORG Borgarnes 71.30 356 P **P** **10 50 46.6 +2.2**
BORG pP **pwP** **10 51 01.7 0.0**
BLYC Blythe 71.37 61 P **P** **10 50 44.5 -0.9**
BLYC IAmb IAmb 10 51 05.1
comp=Z,19nm,1.3s
GLA Glamis 71.63 62 P **P** **10 50 47.7 +0.7**
baz=311
AGMN Agassiz Nation 71.69 40 P **P** **10 50 47.2 +0.2**
baz=316
N23A Red Feather La 71.73 51 P **P** **10 50 48.3 +0.6**
baz=313,SNR=9.4
ASK Askoy 71.80 342 *e*P **P** **10 50 49.2 +1.8**
WUAZ Wupatki 72.16 58 IAmb IAmb 10 51 10.4
comp=Z,16nm,1.0s
WUAZ Wupatki 72.16 58 P **P** **10 50 51.7 +1.4**
baz=312,SNR=7.7
GNI Garni 72.23 309⇑ *e*P **P** **10 50 52.8 +2.2**
GNI pmax pmax
comp=Z,16nm,1.0s
GNI Garni 72.23 309 LR LR 11 25 59.4
comp=Z,79nm,19.2s,baz=14,slow=39
AKASG Malin Array Be 72.29 325 IAmb IAmb 10 50 52.0
comp=Z,17nm,1.2s
AKASG Malin Array Be 72.29 325 *i* P **P** **10 50 50.5 0.0**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG Malin Array Be 72.29 325 P **P** **10 50 50.3 -0.2**
comp=Z,4.5nm,0.5s,baz=37,slow=6.0,SNR=32
AKASG pP **sP** **10 51 05.1 -0.5**
comp=Z,6.5nm,0.6s,baz=37,slow=6.0,SNR=5.2
AKASG LR LR 11 23 42.7
comp=Z,109nm,19.1s,baz=26,slow=37
comp=Z,4.5nm,0.5s
AKBB Malin Array Si 72.29 325 *i* P **P** **10 50 50.6 +0.1**
AKBB pmax pmax
comp=Z,40nm,1.1s
KIEV Kiev 72.30 325 ⇓P **P** **10 50 50.5 -0.1**
KIEV Kiev 72.30 325 P **P** **10 50 49.9 -0.7**
KIEV Kiev 72.30 325 ⇓P **P** **10 50 50.5 -0.1**
SMCO Snowmass 72.31 52 IAmb IAmb 10 50 52.8
comp=Z,10nm,0.8s
SOC Sochi 72.57 314 *e*P **P** **10 50 52.7 +0.3**
SOC Sochi 72.57 314 *e*P **P** **10 50 52.7 +0.3**
SOC *e* 10 53 32.5
SOC *e*PPP PPP 10 55 17.7
SOC *e*S **S** **11 00 17.6 +3.9**
SOC *e*SS **SS** **11 04 51.7 -0.6**
SOC pmax pmax
comp=Z,31nm,0.8s
ISCO Idaho Springs 72.66 51 P **P** **10 50 54.3 +0.9**
baz=313,SNR=12
MVCO Mesa Verde 72.76 55 IAmb IAmb 10 50 55.3
comp=Z,12nm,0.8s
MVCO Mesa Verde 72.76 55 P **P** **10 50 54.6 +0.7**
baz=313,SNR=7.3
X16A Lo Mia Camp, P 72.85 59 IAmb IAmb 10 50 56.5
comp=Z,15nm,0.8s
ANN Anapa 72.87 316 *e*P P 10 50 48.3 -5.8
ANN *e**PP pP 10 50 59.7 -5.2
ANN *e*S **S** **11 00 09.4 -7.6**
ANN pmax pmax
comp=Z,109nm,1.7s
SUSD Miller 72.97 44 P **P** **10 50 55.7 +1.0**
baz=316
BCA Borcka 73.06 312 ⇓P **P** **10 50 56.2 +0.8**

DEL Delary 73.09 336 *e*P **P** **10 50 55.9 +0.6**
S22A 4UR Ranch, Cre 73.37 53 P **P** **10 50 58.7 +1.1**
baz=313,SNR=14
W18A Petrified Fore 73.42 57 P **P** **10 50 58.6 +0.8**
baz=312
Q24A Divide 73.50 52 IAmb IAmb 10 51 18.4
comp=Z,17nm,1.3s
Q24A Divide 73.50 52 P **P** **10 50 58.9 +0.5**
baz=314,SNR=5.9
214A Organ Pipe Nat 73.63 61 IAmb IAmb 10 51 00.5
comp=Z,22nm,1.4s
214A Organ Pipe Nat 73.63 61 P **P** **10 50 59.5 +0.6**
baz=312
OGNE Ogallala 73.84 48 P **P** **10 51 00.5 +0.4**
baz=315,SNR=6.2
EYMN Ely 73.92 38 P **P** **10 50 59.6 -0.7**
baz=319
SDCO Great Sand Dun 74.14 53 P **P** **10 51 02.3 +0.3**
baz=314
SIM Simferopol' 74.39 318 *e*P **P** **10 51 03.4 +0.4**
SIM pmax pmax
comp=Z,31nm,0.8s
HORU Horodok 74.59 325 P **P** **10 51 03.1 -1.0**
SORM Soroca 74.61 323 ⇓P **P** **10 51 03.9 -0.4**
SORM Soroca 74.61 323 ⇓P **P** **10 51 03.9 -0.4**
ECSD EROS Data Cent 74.65 43 P **P** **10 51 04.0 -0.6**
baz=317,SNR=8.7
TUC Tucson 74.67 60 P **P** **10 51 05.2 +0.2**
baz=313
KSCO Kaw Shedlock' 74.87 50 P **P** **10 51 07.0 +0.8**
baz=315
LVV L'vov 75.08 327 *e*P **P** **10 51 08.1 +1.2**
LVV *e* 10 51 20.1
T25A Trinidad 75.18 53 IAmb IAmb 10 51 27.7
comp=Z,12nm,0.9s
T25A Trinidad 75.18 53 P **P** **10 51 08.8 +0.8**
baz=314,SNR=5.1
SPMN Marine on St. 75.38 40 P **P** **10 51 08.9 +0.2**
baz=319
ANMO Albuquerque 75.51 55 P **P** **10 51 09.7 -0.2**
ANMO Albuquerque 75.51 55 P **P** **10 51 10.5 +0.6**
baz=314
ANMO Albuquerque 75.51 55⇓ *e*P **P** **10 51 10.6 +0.6**
ANMO pmax pmax
comp=Z,10.0nm,1.3s
BGNE Belgrade 75.56 46 P **P** **10 51 09.9 -0.1**
baz=317
MORS Morshin 75.68 327 P **P** **10 51 10.7 +0.3**
KWP Kalwaria Pacla 75.75 327 *e*P **P** **10 51 12.0 +1.2**
STKA Stephens Creek 75.89 187⇑ *e*P **P** **10 51 12.5 +0.9**
STKA Stephens Creek 75.89 187 P **P** **10 51 13.2 +1.5**
comp=Z,3.5nm,0.9s,baz=318,slow=5.3,SNR=4.3
STKA LR LR 11 21 02.7
comp=Z,33nm,21.9s,baz=26,slow=33
comp=Z,3.5nm,0.9s
DIKM Dikmen 76.25 315 ⇓P **P** **10 51 15.6 +1.8**
BUR08 Bucovina Ar. S 76.33 325 IAmb IAmb 10 51 17.2
comp=Z,14nm,0.7s
BURAR Bucovina Array 76.34 325 ⇑P **P** **10 51 14.6 +0.3**
BURAR Bucovina Array 76.34 325 P **P** **10 51 14.4 +0.1**
BURAR Bucovina Array 76.34 325 ⇑P **P** **10 51 14.6 +0.3**
OJC Ojcow 76.37 329 *e*P **P** **10 51 15.0 +0.7**
121A Cookes Peak, D 76.37 58 IAmb IAmb 10 51 32.0
comp=Z,15nm,0.8s
121A Cookes Peak, D 76.37 58 P **P** **10 51 15.7 +0.8**
baz=314,SNR=7.6
STHS Stebnicka Huta 76.48 328 *e*P **P** **10 51 15.2 +0.2**
STHS Stebnicka Huta 76.48 328 *e*P **P** **10 51 15.2 +0.2**
STHS pmax pmax
comp=Z,10.0nm,1.0s
ARPR Arapgir-MALATY 76.50 312 IAmb IAmb 10 51 39.4
comp=Z,13nm,0.9s
VLDR Vladesti 76.50 322 ⇓P **P** **10 51 16.7 +1.6**
CBKS Cedar Bluff 76.60 49 P **P** **10 51 14.6 -1.2**
baz=316
TESR Tescani 76.61 323 ⇓P **P** **10 51 16.2 +0.4**
SCHQ Schefferville 76.79 21 P **P** **10 51 16.8 +0.2**
comp=Z,10nm,0.8s,baz=315,slow=7.1,SNR=4.0
SCHQ LR LR 11 29 25.4
comp=Z,106nm,18.1s,baz=306,slow=39
comp=Z,10nm,0.8s
NIE Niedzica 76.84 329 *e*P **P** **10 51 18.8 +1.7**
CFR Carcaliu 76.99 322 ⇓P **P** **10 51 18.0 +0.1**
CFR Carcaliu 76.99 322 ⇓P **P** **10 51 18.0 +0.1**
VRI Vrincioaia 77.08 323 ⇑P **P** **10 51 19.0 +0.6**
VRI Vrincioaia 77.08 323 ⇑P **P** **10 51 19.0 +0.6**
KSP Ksiaz 77.09 332 *e*P P 10 51 11.8 -6.6
TPGR Topolog 77.11 321 ⇓P **P** **10 51 19.5 +0.9**
PLOR Plostina 77.12 323 ⇓P **P** **10 51 19.4 +0.7**
PLOR Plostina 77.12 323 ⇓P **P** **10 51 19.4 +0.7**
TURR Turia 77.24 323 ⇑P **P** **10 51 21.0 +1.7**
OZUR 77.30 324 ⇑P **P** **10 51 20.5 +0.8**
LANS Liptovska Anna 77.37 329 *e*P **P** **10 51 21.5 +1.5**
LANS Liptovska Anna 77.37 329 *e*P **P** **10 51 21.5 +1.5**
LANS pmax pmax
comp=Z,12nm,1.0s
TIRR Tirgusor 77.42 321 ⇓P **P** **10 51 21.3 +1.0**
TIRR Tirgusor 77.42 321 ⇓P **P** **10 51 21.3 +1.0**
HARR Harsova 77.46 321 ⇑P **P** **10 51 21.6 +1.1**
HARR Harsova 77.46 321 ⇑P **P** **10 51 21.6 +1.1**
MORC Moravsky Berou 77.55 330 *e*PG **P** **10 51 18.8 -2.2**
MORC Moravsky Berou 77.55 330 *e*P **P** **10 51 21.8 +0.8**
DOPR Dopca 77.57 324 ⇑P **P** **10 51 22.2 +1.0**
SCIA State Center 77.68 43 P **P** **10 51 21.8 0.0**
baz=319
MLR Muntele Rosu 77.71 323 ⇓P **P** **10 51 23.2 +1.1**
MLR Muntele Rosu 77.71 323 P **P** **10 51 22.5 +0.4**
MLR IAmb IAmb 10 51 25.6
comp=Z,12nm,0.9s
MLR Muntele Rosu 77.71 323 P **P** **10 51 22.5 +0.4**
MLR pmax pmax
comp=Z,12nm,0.9s
MLR Muntele Rosu 77.71 323 LR LR 11 26 57.9
comp=Z,138nm,18.1s,baz=5.0,slow=37
ISR Istrita 77.74 323 ⇓P **P** **10 51 23.0 +0.8**
ISR Istrita 77.74 323 ⇓P **P** **10 51 23.0 +0.8**
CLL Collm 77.78 334 *i* P **P** **10 51 22.2 0.0**
comp=Z,17nm,0.8s
CLL *i* sP **sP** **10 51 37.7 -0.2**
comp=Z,31nm,0.9s
CLL Collm 77.78 334 *i* P **P** **10 51 22.2 0.0**
CLL *i* 10 51 37.7
CLL pmax pmax
comp=Z,17nm,0.8s
MARR Marisel-Cluj 77.96 325 ⇑P **P** **10 51 24.0 +0.6**
ICOR Ion Corvin 77.96 321 ⇓P **P** **10 51 24.9 +1.6**
KSU1 Kansas State U 78.05 47 P **P** **10 51 23.0 -1.0**
baz=318
VYHS Vyhne 78.15 329 *e*P **P** **10 51 25.3 +1.0**
VYHS Vyhne 78.15 329 *e*P **P** **10 51 25.3 +1.0**
VYHS pmax pmax
comp=Z,13nm,1.1s
PSZ Piszkesteto 78.22 328 ⇓P **P** **10 51 25.9 +1.1**
PSZ Piszkesteto 78.22 328 ⇓P **P** **10 51 25.9 +1.1**
HSKC Hora Svate Kat 78.25 333 *e*P **P** **10 51 25.3 +0.4**
JAVC Velka Javorina 78.27 330 *e*P **P** **10 51 26.6 +1.5**
VRAC Vranov 78.28 331 ⇓P **P** **10 51 26.2 +1.2**
VRAC Vranov 78.28 331 *e*P **P** **10 51 25.2 +0.2**
VRAC Vranov 78.28 331 ⇓P **P** **10 51 26.2 +1.2**
VRAC Vranov 78.28 331 LR LR 11 30 01.0
comp=Z,261nm,18.6s,baz=320,slow=39
EKA Eskdalemuir Ar 78.29 344 P **P** **10 51 25.3 +0.3**
comp=Z,4.1nm,0.6s,baz=21,slow=4.9,SNR=10
EKA pP **sP** **10 51 39.2 -1.2**
comp=Z,7.1nm,0.6s,baz=28,slow=4.8,SNR=7.7
comp=Z,4.1nm,0.6s
JFWS Jewell Farm 78.33 40 P **P** **10 51 24.8 -0.7**
baz=321
AMTX Amarillo 78.34 53 IAmb IAmb 10 51 27.2
comp=Z,16nm,0.8s
AMTX Amarillo 78.34 53 P **P** **10 51 26.0 +0.3**
baz=316
MSTX Muleshoe 78.36 54 IAmb IAmb 10 51 45.6
comp=Z,13nm,1.1s
MSTX Muleshoe 78.36 54 P **P** **10 51 26.3 +0.4**
baz=316,SNR=5.3
ARR Arges 78.37 324 ⇑P **P** **10 51 27.3 +1.6**
GOPC GO Pecny, Ondr 78.39 332 *e*P **P** **10 51 24.6 -1.1**
GOPC *ep*P **pP** **10 51 36.5 -0.1**
GOPC GO Pecny, Ondr 78.39 332 *e*P **P** **10 51 24.6 -1.1**
GOPC *e* 10 51 36.5
PRU Pruhonice 78.41 332 *e*P **P** **10 51 26.1 +0.4**
PRU Pruhonice 78.41 332 *e*P **P** **10 51 26.1 +0.4**
MNTX Cornudas Mount 78.41 57 P **P** **10 51 26.4 +0.3**
baz=315,SNR=11

BR131 Keskin Array S 78.50 315 P **P** **10 51 26.5 -0.1**
BR131 Keskin Array S 78.50 315⇑ *e*P **P** **10 51 27.5 +0.9**
BRTR Keskin Array B 78.50 315 P **P** **10 51 27.2 +0.6**
comp=Z,5.4nm,0.8s,baz=77,slow=3.4,SNR=19
BRTR pP **sP** **10 51 41.6 -0.2**
comp=Z,3.3nm,0.7s,baz=84,slow=3.1,SNR=6.3
BRTR LR LR 11 32 15.1
comp=Z,185nm,18.4s,baz=348,slow=40
comp=Z,5.4nm,0.8s
KRUC Moravsky 78.56 331 *e*P **P** **10 51 27.1 +0.5**
SMOL Smolenice 78.65 330 *e*P **P** **10 51 28.6 +1.5**
MODS Modra-Piesok 78.82 330 *e*P **P** **10 51 29.4 +1.4**
MODS Modra-Piesok 78.82 330 *e*P **P** **10 51 29.4 +1.4**
MODS pmax pmax
comp=Z,37nm,1.1s
ANTO Ankara 78.82 315 P **P** **10 51 29.6 +1.3**
ANTO Ankara 78.82 315 P **P** **10 51 29.6 +1.3**
ANTO pmax pmax
comp=Z,21nm,0.8s
SMWD Samnorwood 79.00 52 IAmb IAmb 10 51 49.2
comp=Z,24nm,1.0s
SURR Surduc 79.11 325 ⇓P **P** **10 51 30.7 +1.0**
GZR Gura Zlata 79.13 325 ⇓P **P** **10 51 30.3 +0.4**
GZR Gura Zlata 79.13 325 ⇓P **P** **10 51 30.3 +0.4**
BZS Buzias 79.43 326 ⇓P **P** **10 51 31.6 +0.2**
BZS Buzias 79.43 326 ⇓P **P** **10 51 31.6 +0.2**
KHC Kasperske Hory 79.47 332 IAmb IAmb 10 51 34.5
comp=Z,21nm,1.1s
KHC Kasperske Hory 79.47 332 *e*P **P** **10 51 32.1 +0.5**
KHC *ep*P **sP** **10 51 46.8 0.0**
KHC Kasperske Hory 79.47 332 *ce*P **P** **10 51 32.3 +0.7**
KHC pmax pmax
comp=Z,39nm,1.0s
CKRC Cesky Krumlov 79.49 332 *e*P **P** **10 51 32.2 +0.5**
CKRC *ep*P **sP** **10 51 46.4 -0.5**
CKRC Cesky Krumlov 79.49 332 *e*P **P** **10 51 32.2 +0.5**
CKRC *e* 10 51 46.4
PECS Pecos 79.56 56 IAmb IAmb 10 51 48.8
comp=Z,12nm,0.9s
GERES GERESS Array B 79.67 332 P **P** **10 51 33.1 +0.3**
comp=Z,2.8nm,0.5s,baz=60,slow=5.9,SNR=3.4
GERES pP **sP** **10 51 47.4 -0.6**
comp=Z,5.2nm,0.7s,baz=102,slow=6.0,SNR=4.4
comp=Z,2.8nm,0.5s
CONA Conrad Observa 79.71 330 *e*P **P** **10 51 32.5 -0.5**
comp=Z,11nm,1.2s
CONA Conrad Observa 79.71 330 *e*P sP 10 51 49.0 +0.8
comp=Z,9.5nm,0.8s
RONA Rosalia, Austr 79.74 330 *ep*P **P** **10 51 34.5 +1.4**
comp=Z,12nm,0.9s
RONA Rosalia, Austr 79.74 330 *e*P sP 10 51 48.2 -0.1
comp=Z,16nm,0.9s
POST Post 79.74 54 P **P** **10 51 33.9 +0.4**
POST IAmb IAmb 10 51 53.3
comp=Z,36nm,1.4s
ODSA Odessa 79.81 55 IAmb IAmb 10 51 53.8
comp=Z,23nm,1.1s
MDVR Moldovita 80.07 325⇑ P **P** **10 51 35.1 +0.1**
WMOK Wichita Mounta 80.08 51 IAmb IAmb 10 51 54.0
comp=Z,12nm,0.9s
MNHN Monahans 80.24 56 IAmb IAmb 10 51 52.4
comp=Z,14nm,0.8s
MOA Molln 80.34 331 *e*P **P** **10 51 36.7 +0.4**
comp=Z,6.8nm,0.8s
MOA Molln 80.34 331 *e*P sP 10 51 51.9 +0.4
comp=Z,7.0nm,0.7s
APMT Aspermont 80.35 53 IAmb IAmb 10 51 56.1
comp=Z,14nm,1.0s
ARSA Arzberg 80.40 330 *ep*P **P** **10 51 39.7 +3.1**
comp=Z,9.5nm,1.1s
MEM Membach 80.49 337 *d*P **P** **10 51 36.8 -0.3**
comp=Z,11nm,0.9s
HDIL Hopedale 80.61 41 P **P** **10 51 37.7 -0.2**
baz=322
BIOA Bad Ischl, Aus 80.69 331 *e*P sP 10 51 54.0 +0.6
comp=Z,12nm,0.9s
SGCY Sterling City 80.79 54 IAmb IAmb 10 51 55.2
comp=Z,19nm,0.8s
S39A Bolivar 80.82 46 IAmb IAmb 10 51 57.2
comp=Z,15nm,0.9s
BCLA Clavier 80.86 338 *d*P **P** **10 51 39.5 +0.5**
comp=Z,8.8nm,1.3s
TUL3 Leonard 80.86 48 P **P** **10 51 39.6 +0.3**
baz=319
SOKA Soboth 81.07 330 *i* pP **P** **10 51 41.0 +0.7**
comp=Z,21nm,1.0s
SOKA Soboth 81.07 330 *e*P sP 10 51 55.2 -0.4
comp=Z,19nm,0.9s
PERS Pernice 81.07 330 *i* P **P** **10 51 40.9 +0.6**
BMRD Maredsous 81.11 338 *d*P **P** **10 51 39.5 -0.8**
SLBS Sierra La Lagu 81.11 66 P **P** **10 51 41.9 +1.0**
SLBS IAmb IAmb 10 51 43.2
comp=Z,21nm,1.2s
TXAR Lajitas Array 81.13 58 P **P** **10 51 41.4 +0.5**
comp=Z,13nm,0.7s,baz=302,slow=4.1,SNR=200
TXAR pP **sP** **10 51 56.4 +0.4**
comp=Z,13nm,0.6s,baz=303,slow=4.1,SNR=21
comp=Z,13nm,0.7s
ABTX Abilene, Hawle 81.14 53 IAmb IAmb 10 52 02.7
comp=Z,15nm,1.1s
ABTX Abilene, Hawle 81.14 53 P **P** **10 51 41.9 +1.0**
baz=317
U38A Gravette 81.21 47 IAmb IAmb 10 51 59.4
comp=Z,12nm,1.1s
LESA Schwarzleotal 81.25 332 *i* pP **P** **10 51 42.2 +0.9**
comp=Z,17nm,1.0s
LESA Schwarzleotal 81.25 332 *e*P sP 10 51 57.4 +0.9
comp=Z,17nm,0.9s
KBA Koelnbreinsper 81.32 331 *i* pP **P** **10 51 43.3 +1.5**
comp=Z,30nm,0.8s
RDO Rodhopi 81.33 321 IAmb IAmb 10 51 45.1
comp=Z,11nm,0.7s
DIVS Divibare 81.33 326 IAmb IAmb 10 51 44.7
comp=Z,13nm,0.9s
OBKA Obir 81.38 330 *e*P **P** **10 51 42.4 +0.4**
comp=Z,5.9nm,0.7s
GOLS Golise 81.42 329 *i* P **P** **10 51 42.5 +0.3**
OZNA Ozona 81.51 55 IAmb IAmb 10 52 02.0
comp=Z,16nm,1.0s
HHAR Hobbs 81.56 47 IAmb IAmb 10 52 01.2
comp=Z,20nm,1.1s
CCM Cathedral Cave 81.59 44 P **P** **10 51 42.5 -0.7**
CCM Cathedral Cave 81.59 44 P **P** **10 51 42.8 -0.3**
baz=321
CCM Cathedral Cave 81.59 44 P **P** **10 51 42.5 -0.7**
CCM pmax pmax
comp=Z,21nm,0.9s
HPIG 81.59 61 IAmb IAmb 10 52 03.3
comp=Z,15nm,1.1s
MYKA Terra Mystica 81.60 331 *ep*P **P** **10 51 45.2 +2.1**
comp=Z,14nm,1.1s
MYKA Terra Mystica 81.60 331 *e*P sP 10 51 58.7 +0.3
comp=Z,11nm,0.7s
SAND Sanderson 81.62 56 IAmb IAmb 10 52 02.9
comp=Z,21nm,1.1s
WATA Walderalm 81.69 333 *ep*P **P** **10 51 44.5 +0.8**
comp=Z,22nm,0.7s
WATA Walderalm 81.69 333 *e*P sP 10 51 59.0 +0.1
comp=Z,10.0nm,0.6s
WTTA Wattenberg 81.74 332 *ep*P **P** **10 51 44.9 +1.0**
comp=Z,18nm,0.7s
MGMO Mountain Grove 81.77 45 IAmb IAmb 10 52 02.0
comp=Z,14nm,1.1s
SFIN Lafayette 81.78 40 P **P** **10 51 43.7 -0.3**
baz=323
PRED Cave del Predi 81.79 331 IAmb IAmb 10 51 59.4
comp=Z,9.9nm,0.6s
RETA Reutte 81.83 333 *ep*P **P** **10 51 45.0 +0.7**
comp=Z,21nm,1.1s
MOTA Moosalm 81.84 333 *ep*P **P** **10 51 45.3 +0.8**
comp=Z,27nm,0.8s
MOTA Moosalm 81.84 333 *e*P sP 10 52 00.1 +0.3
comp=Z,14nm,0.7s
PMOR Pomariorio Ree 81.88 120 *e*T T 12 22 45.9
comp=Z,7.7nm,0.2s
ABTA Abfaltersbach 81.89 332 *e*P P 10 52 01.1 +16
comp=Z,11nm,1.1s
TAOE Nuku Hiva Isla 82.39 110 *e*LR LR 11 17 35.5
comp=Z,148nm,27.0s
TAOE Nuku Hiva Isla 82.39 110 *e*T T 12 23 10.0
comp=Z,45nm,0.4s
BRDY Brady 82.49 53 IAmb IAmb 10 52 07.2
comp=Z,11nm,0.9s
MMAI Mount Meron Ar 82.57 309 P **P** **10 51 49.4 +0.9**
comp=Z,2.9nm,0.5s,baz=58,slow=6.4,SNR=6.2
MMAI pP **sP** **10 52 04.5 +0.7**
comp=Z,12nm,0.7s,baz=183,slow=33,SNR=3.9

MMAI					LR	LR	11 33 42.7		
	comp=Z,120nm,18.2s,baz=1.0,slow=39								
	comp=Z,2.9nm,0.5s								
JCT	**Junction City**	**82.61**	**54**	P	**P**	**10 51 48.9**	**+0.2**		
	baz=317,SNR=6.3								
FUORN	**Ofenpass-Fuorn**	**82.76**	**333**	IAmb	IAmb	10 52 08.9			
	comp=Z,11nm,0.9s								
O48B	**Farmland**	**82.77**	**39**	P	**P**	**10 51 48.2**	**-1.0**		
	baz=324								
FCAR	**Ozark Folk Cen**	**82.81**	**46**	P	**P**	**10 51 48.7**	**-0.8**		
PPT2	**Papeete2**	**82.82**	**123**	*e*LR	LR	11 17 45.1			
	comp=Z,72nm,24.2s								
PPT2	**Papeete2**	**82.82**	**123**	*e*T	T	12 23 43.9			
	comp=Z,2.0nm,0.3s								
WHTX	**Lake Whitney,**	**82.85**	**52**	IAmb	IAmb	10 51 51.4			
	comp=Z,13nm,0.8s								
WHTX	**Lake Whitney,**	**82.85**	**52**	P	**P**	**10 51 49.9**	**+0.1**		
	baz=318,SNR=6.5								
DRIO	**Del Rio**	**82.90**	**56**	IAmb	IAmb	10 52 10.1			
	comp=Z,39nm,1.1s								
CGM3	**Cape Girardeau**	**82.97**	**44**	IAmb	IAmb	10 52 08.7			
	comp=Z,14nm,1.0s								
TUE	**Stuetta**	**83.18**	**333**	IAmb	IAmb	10 52 10.5			
	comp=Z,13nm,0.9s								
P49A	**Miami Univ. Ec**	**83.55**	**39**	P	**P**	**10 51 53.0**	**-0.3**		
	baz=324								
M53A	**WI Miller and**	**83.75**	**35**	P	**P**	**10 51 54.5**	**+0.2**		
	baz=326								
ACSO	**Alum Creek Sta**	**83.76**	**38**	P	**P**	**10 51 54.0**	**-0.4**		
	baz=325								
WCI	**Wyandotte Cave**	**83.87**	**41**	P	**P**	**10 51 54.6**	**-0.3**		
	baz=323								
833A	**Chaparral WMA,**	**84.44**	**56**	IAmb	IAmb	10 52 14.6			
	comp=Z,7.1nm,0.8s								
833A	**Chaparral WMA,**	**84.44**	**56**	P	**P**	**10 51 58.4**	**+0.4**		
	baz=318								
EF01	**Eagle Ford 01**	**84.44**	**54**	IAmb	IAmb	10 52 18.6			
	comp=Z,81nm,1.0s								
O53A	**New Philadelph**	**84.51**	**36**	P	**P**	**10 51 57.7**	**-0.5**		
	baz=326								
NATX	**Nacogdoches**	**84.60**	**50**	P	**P**	**10 51 59.4**	**+0.7**		
	baz=320								
P52A	**Corning**	**84.62**	**37**	P	**P**	**10 51 57.7**	**-1.1**		
	baz=326								
WVT	**Waverly**	**84.80**	**43**	P	**P**	**10 51 59.1**	**-0.5**		
WVT	**Waverly**	**84.80**	**43**	P	**P**	**10 51 59.7**	**0.0**		
	baz=323								
WVT	**Waverly**	**84.80**	**43**	P	**P**	**10 51 59.2**	**-0.5**		
WVT					pmax	pmax			
	comp=Z,12nm,0.7s								
OXF	**Oxford**	**85.28**	**45**	P	**P**	**10 52 02.4**	**+0.2**		
	baz=322,SNR=7.2								
EIL	**Elat**	**85.32**	**307**	LR	LR	11 37 12.2			
	comp=Z,113nm,18.2s,baz=66,slow=41								
SSPA	**Standing Stone**	**85.57**	**34**	P	**P**	**10 52 03.6**	**+0.2**		
	baz=328								
MCWV	**Mont Chateau**	**85.59**	**36**	P	**P**	**10 52 02.1**	**-1.4**		
	baz=327								
URZ	**Urewera**	**85.68**	**158**	LR	LR	11 26 06.0			
	comp=Z,44nm,19.3s,baz=38,slow=33								
TZTN	**Tazewell**	**86.51**	**40**	P	**P**	**10 52 07.6**	**-0.7**		
	baz=325								
PAL	**Palisades**	**86.81**	**31**	P	**P**	**10 52 09.0**	**-0.6**		
	baz=330								
TBI	**Tubuai**	**87.32**	**126**	*e*LR	LR	11 19 23.2			
	comp=Z,323nm,25.8s								
TBI	**Tubuai**	**87.32**	**126**	*e*T	T	12 29 45.6			
	comp=Z,2.9nm,0.3s								
BLA	**Blacksburg**	**87.38**	**38**	P	**P**	**10 52 12.8**	**+0.4**		
	baz=327								
LRAL	**Lakeview Retre**	**87.67**	**44**	P	**P**	**10 52 13.6**	**-0.3**		
	baz=323								
KMSC	**Kinge Mountain**	**88.69**	**39**	P	**P**	**10 52 18.0**	**-0.6**		
	baz=326								
GOGA	**Godfrey**	**89.11**	**42**	P	**P**	**10 52 20.5**	**-0.2**		
	baz=325								
BRAL	**Brewton**	**89.13**	**46**	P	**P**	**10 52 21.0**	**+0.2**		
	baz=323								
RPZ	**Rata Peaks**	**89.49**	**164**	LR	LR	11 31 39.5			
	comp=Z,69nm,19.4s,baz=8.5,slow=35								
NHSC	**New Hope**	**90.91**	**40**	P	**P**	**10 52 29.3**	**+0.3**		
	baz=327								
KEST	**Kesra**	**92.69**	**328**	LR	LR	11 38 52.8			
	comp=Z,186nm,18.5s,baz=283,slow=38								
ESDC	**Sonseca Array**	**93.26**	**340**	P	**P**	**10 52 39.5**	**-0.4**		
	comp=Z,0.7nm,0.6s,baz=10,slow=4.7,SNR=2.5								
ESDC					LR	LR	11 40 51.0		
	comp=Z,224nm,18.0s,baz=340,slow=40								
	comp=Z,0.7nm,0.6s								
MDT	**Midelt**	**99.91**	**338**	LR	LR	11 45 45.6			
	comp=Z,92nm,18.1s,baz=20,slow=40								
TORD	**Torodi Ar. Bea**	**115.92**	**325**	PKP	**PKiKP**	**10 58 07.2**	**-1.1**		
	comp=Z,0.4nm,0.5s,baz=33,slow=1.1,SNR=4.9								
TORD				pPKP	PKPdf	10 58 22.1	+14		
	comp=Z,1.0nm,0.7s,baz=14,slow=2.7,SNR=3.5								
VNDA	**Vanda**	**121.54**	**177**	PKP	**PKiKP**	**10 58 18.1**	**+0.9**		
	comp=Z,2.4nm,0.7s,baz=343,slow=4.0,SNR=8.1								
VNDA				pPKP	**sPKPdf**	**10 58 33.1**	**+0.5**		
	comp=Z,2.7nm,0.7s,baz=334,slow=3.5,SNR=4.3								
QSPA	**South Pole Qui**	**133.78**	**180**	PKP	**PKiKP**	**10 58 42.7**	**+0.6**		
	comp=Z,4.0nm,0.7s,baz=254,slow=0.6,SNR=27								
QSPA				pPKP	**sPKPdf**	**10 58 57.3**	**+1.0**		
	comp=Z,2.6nm,0.6s,baz=226,slow=1.4,SNR=4.9								
ELIB	**Princess Elisa**	**142.24**	**204**	*d*PKPdf	**PKPdf**	**10 58 52.9**	**-3.5**		
BELA	**Belgrano 2**	**146.02**	**178**	PKPdf	**PKPdf**	**10 59 03.0**	**+0.4**		
NVL	**N'lazarevskaya**	**146.10**	**204**	*e*PKP2	**PKPbc**	**10 59 03.6**	**-0.3**		
NVL				pmax	pmax				
	comp=Z,19nm,0.9s								
TROLL	**Troll, Antarti**	**147.80**	**199**	⇓PKPbc	**PKiKP**	**10 59 10.1**	**-0.7**		
	comp=Z,943nm,1.1s								
BDFB	**Brasilia**	**148.06**	**33**	PKPbc	**PKPbc**	**10 59 11.2**	**+0.1**		
	comp=Z,10nm,0.7s,baz=319,slow=11,SNR=14								
BDFB				pPKPbc	**sPKPbc**	**10 59 26.5**	**-0.1**		
	comp=Z,8.5nm,0.7s,baz=292,slow=9.8,SNR=5.1								
AQDB	**Aquidauana**	**148.56**	**50**		**PKPbc**	**10 59 12.3**	**+0.2**		
SNAA	**Sanae**	**149.22**	**197**	PKPbc	**PKPbc**	**10 59 12.9**	**+0.5**		
	comp=Z,5.1nm,0.8s,baz=187,slow=5.3,SNR=10								
SNAA				pPKPbc	**pPKPab**	**10 59 28.4**	**+0.4**		
	comp=Z,5.4nm,0.9s,baz=298,slow=4.7,SNR=4.4								
PLCA	**Paso Flores**	**150.51**	**98**	PKPbc	**PKPbc**	**10 59 16.6**	**0.0**		
	comp=Z,11nm,0.8s,baz=247,slow=2.4,SNR=25								
PLCA				pPKPbc	**sPKPbc**	**10 59 32.1**	**+0.3**		
	comp=Z,11nm,0.7s,baz=272,slow=3.0,SNR=9.6								
VNA2	**Neumayer--Watz**	**150.72**	**195**	⇓PKPbc	**PKiKP**	**10 59 17.0**	**+0.4**		
	comp=Z,12nm,0.7s,baz=158,slow=1.0								
VNA3	**Neumayer Olymp**	**150.86**	**194**	⇓PKPab	**PKPab**	**10 59 25.0**	**+1.2**		
	comp=Z,13nm,0.7s								
VNA3				⇓PKPbc	**PKiKP**	**10 59 17.0**	**+0.1**		
	comp=Z,12nm,0.8s								
CPUP	**Villa Florida**	**152.09**	**60**	PKPbc	**PKPbc**	**10 59 20.6**	**+0.1**		
	comp=Z,3.7nm,0.8s,baz=349,slow=6.9,SNR=6.3								

UPA ***14*** *11:00:23.9±1.5, 7.°34N×81.°00W, h10km±3km, MW3.9*

ISC 14 11:00:23.9±1.1**, 7.°33N**±0.°06×**81.°02W**±0.°03**, h16**km±6km**, n37, σ1°03/59, 9C-20D, Panama**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CACAO	**El Cacao, Vera**	**0.16**	**84**	⇓*i*P	**Pg**	**11 00 27.7**	**-0.4**
CACAO				*i* S	**Sg**	**11 00 30.7**	**0.0**
CACAO	**El Cacao, Vera**	**0.16**	**84**	⇓*i*P	**Pg**	**11 00 27.6**	**-0.4**
CACAO				*e*S	**Sg**	**11 00 31.2**	**+0.5**
CACAO				*i*		11 00 31.4	
	comp=Z,10μm,0.1s						
MARI3	**Mariato, Verag**	**0.32**	**5**	⇓*i*P	**Pb**	**11 00 30.9**	**-0.5**
MARI3				*i* S	**Sb**	**11 00 37.1**	**+0.8**
GMAL	**Guarumal, Vera**	**0.48**	**334**	⇑*i*P	**Pg**	**11 00 33.7**	**+0.1**
GMAL				*i* S	**Sb**	**11 00 41.9**	**+0.9**
GMAL	**Guarumal, Vera**	**0.48**	**334**	⇑*i*P	**Pg**	**11 00 33.7**	**+0.1**
GMAL				*e*S	**Sb**	**11 00 41.9**	**+0.9**
GMAL				*i*		11 00 43.2	
	comp=Z,735nm,0.4s						
RSUS3	**Rio de Jesus,**	**0.67**	**348**	⇑*i*P	**Pg**	**11 00 36.3**	**-0.7**
PESE3	**Pese, Herrera**	**0.70**	**35**	⇓*i*P	**Pg**	**11 00 37.1**	**-0.6**
PESE3				*i* S	**Sb**	**11 00 47.7**	**+0.4**
STIA3	**Santiago, Vera**	**0.77**	**3**	⇓*i*P	**Pg**	**11 00 38.3**	**-0.6**
ACHO3	**Achotines, Los**	**0.84**	**84**	*i* P	**Pg**	**11 00 38.8**	**-1.6**
ACHO3				*i* S	**Sn**	**11 00 53.5**	**+0.2**
CHIT3	**Chitre**	**0.86**	**44**	⇓*i*P	**Pg**	**11 00 39.6**	**-1.2**
CHIT3				*i* S	**Sg**	**11 00 51.5**	**-0.6**
AZU	**Azuero**	**0.87**	**58**	⇓*i*P	**Pg**	**11 00 39.4**	**-1.5**
AZU				*i* S	**Sg**	**11 00 51.5**	**-0.8**
AZU	**Azuero**	**0.87**	**58**	⇓*e*P	**Pg**	**11 00 39.4**	**-1.5**
AZU				*e*S	**Sb**	**11 00 53.1**	**+1.0**
AZU				*i*		11 00 59.1	
	comp=Z,380nm,0.6s						

SFRA3	**San Francisco,**	**0.92**	**3**	⇓*e*P	**Pg**	**11 00 40.9**	**-0.9**		
CALO3	**Calobre, Verag**	**1.00**	**10**	⇓*i*P	**Pb**	**11 00 43.1**	**+0.1**		
CALO3				*i* S	**Sb**	**11 00 56.5**	**+0.5**		
CRIS3	**El Cristo, Coc**	**1.00**	**23**	⇑*e*P	**Pg**	**11 00 42.0**	**-1.3**		
CRIS3				*e*S	**Sb**	**11 00 56.6**	**+0.7**		
NANC3	**Nancito, Chiri**	**1.15**	**322**	⇑*i*P	**Pb**	**11 00 44.0**	**-1.5**		
NANC3				*i* S	**Sb**	**11 01 00.4**	**+0.2**		
SAFE3	**Santa Fe, Vera**	**1.18**	**357**	⇓*e*P	**Pb**	**11 00 45.1**	**-1.0**		
SAFE3				*e*S	**Sb**	**11 01 00.7**	**-0.5**		
PNME	**Penonome**	**1.34**	**31**	⇓*i*P	**Pn**	**11 00 47.8**	**-0.3**		
PNME				*i* S	**Sb**	**11 01 05.9**	**+0.3**		
PEDE3	**Pedregal, Chir**	**1.74**	**307**	⇓*e*P	**Pb**	**11 00 55.7**	**+0.1**		
LOCO3	**Loma Colorada,**	**1.75**	**308**	⇓*e*P	**Pn**	**11 00 54.1**	**+0.3**		
DVD	**David**	**1.80**	**308**	*e*P	**Pn**	**11 00 53.6**	**-0.7**		
CHGR2	**Aguacate**	**1.95**	**325**	⇓*i*P	**Pn**	**11 00 57.1**	**+0.6**		
CHGR2				*i* S	**Sb**	**11 01 23.5**	**+0.2**		
CHOR3	**La Chorrera**	**1.99**	**38**	⇑*e*P	**Pn**	**11 00 58.6**	**+1.5**		
PTAR3	**Potrerillos Ar**	**2.00**	**313**	⇓*e*P	**Pn**	**11 00 58.4**	**+1.2**		
BCO2	**Palmira**	**2.04**	**313**	⇓*e*P	**Pn**	**11 00 58.7**	**+0.9**		
BCO2				*e*S	**Sn**	**11 01 22.0**	**-1.0**		
PTPM	**Petroterminale**	**2.04**	**295**	⇑*e*P	**Pn**	**11 00 58.1**	**+0.4**		
ARRA3	**Arraijan, Pana**	**2.11**	**40**	*e*P	**Pb**	**11 01 00.8**	**-1.2**		
ARRA3				*i* S	**Sn**	**11 01 24.6**	**0.0**		
BC3P	**Paso Ancho**	**2.16**	**313**	*e*P	**Pn**	**11 01 00.6**	**+1.0**		
BCIP	**Isla Barro Col**	**2.17**	**33**	⇓*e*P	**Pn**	**11 01 01.4**	**+1.9**		
BCIP				*e*S	**Sb**	**11 01 30.5**	**+0.9**		
BCIP	**Isla Barro Col**	**2.17**	**33**	⇓*e*P	**Pn**	**11 01 01.3**	**+1.9**		
BCIP				*e*S	**Sb**	**11 01 30.9**	**+1.3**		
BCIP				*i*		11 01 35.2			
	comp=Z,85nm,0.8s								
UPA	**Univ. de Panam**	**2.20**	**42**	*i* P	**Pn**	**11 01 01.5**	**+1.5**		
UPA				*e*S	**Sb**	**11 01 31.2**	**+0.7**		
UPA	**Univ. de Panam**	**2.20**	**42**	*e*P	**Pn**	**11 01 01.8**	**+1.9**		
UPA				*e*S	**Sb**	**11 01 31.8**	**+1.2**		
UPA				*i*		11 01 43.6			
	comp=Z,2μm,0.6s								
BRU2	**Volcan**	**2.21**	**311**	⇓*e*P	**Pn**	**11 01 01.4**	**+1.3**		
CNI2	**El Empalme, Bo**	**2.53**	**325**	*e*P	**Pn**	**11 01 06.3**	**+1.9**		
CHPO	**Chepo, Panama**	**2.63**	**46**	⇑*e*P	**Pn**	**11 01 06.6**	**+0.8**		
CNTA3	**Canitas, Panam**	**2.82**	**48**	⇑*e*P	**Pn**	**11 01 08.6**	**+0.1**		
SJCC	**San Jacinto, C**	**6.31**	**66**	*e*P	**Pn**	**11 01 58.6**	**+2.1**		

IDC 14 11:02:38.5±7.9**, 1.°09N×99.°91W, h0km, mb3.5/5, mbtmp3.5/5, MS3.6/5, Error ellipse: s-maj=207.5km s-min=140.9km az=100.0, West of Galapagos Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**16.65**	**17**	LR	LR	11 11 35.2	
	comp=Z,152nm,20.9s,baz=220,slow=32						
TEIG	**Tepich**	**22.16**	**30**	LR	LR	11 15 36.1	
	comp=Z,612nm,18.5s,baz=7.5,slow=35						
TXAR	**Lajitas Array**	**28.31**	**353**	P	P	11 08 33.5	-0.7
	0.8nm,1.1s,baz=174,slow=10.0,SNR=2.9						
TXAR				LR	LR	11 17 58.2	
	comp=Z,48nm,19.1s,baz=300,slow=32						
	0.8nm,1.1s						
ANMO	**Albuquerque**	**34.23**	**350**	LR	LR	11 22 32.6	
	comp=Z,83nm,18.4s,baz=139,slow=35						
NVAR	**Mina Array Bea**	**40.81**	**338**	P	P	11 10 21.5	-0.6
	0.3nm,0.4s,baz=168,slow=10,SNR=4.0						
	0.3nm,0.4s						
SIV	**San Ignacio**	**41.94**	**116**	LR	LR	11 27 27.1	
	comp=Z,99nm,19.4s,baz=284,slow=36						
PDAR	**Pinedale Array**	**42.38**	**349**	P	P	11 10 36.4	+1.3
	0.6nm,0.8s,baz=155,slow=8.8,SNR=6.7						
	0.6nm,0.8s						
YKA	**Yellowknife Ar**	**62.24**	**352**	P	P	11 13 00.9	-1.0
	0.2nm,0.8s,baz=163,slow=7.4,SNR=2.4						
	0.2nm,0.8s						
ILAR	**Eielson Array**	**71.97**	**341**	P	P	11 14 04.0	+0.3
	0.7nm,0.9s,baz=160,slow=4.5,SNR=6.4						
	0.7nm,0.9s						

IDC ***14*** *11:20:01.1±1.1, 35.°25N×137.°41E, h0km, mb3.8/3, mbtmp3.7/5, ML3.3/2, Error ellipse: s-maj=28.1km s-min=18.7km az=110.0*

JMA ***14*** *11:20:04.8±0.1, 36.°0N±0.°4×139.°9E±0.°5, h60km±1km, MV3.4/39, SW IBARAKI PREF .*

JMA Felt I J1 at SW IBARAKI PREF .

ISC 14 11:20:03.9±1.1**, 36.°01N**±0.°04×**139.°88E**±0.°05**, h71**km±9km**, n18, σ0°77/25, mb4.0/3, 7D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.34**	**49**	⇓P	**Pn**	**11 20 15.4**	**-0.1**
JYT				⇓*e*S	**Sn**	**11 20 23.1**	**-0.8**
TOK	**Tokyo**	**0.34**	**197**	P	**Pn**	**11 20 16.7**	**+1.3**
JAG	**Ashikaga**	**0.54**	**320**	⇓P	**Pn**	**11 20 17.1**	**-0.2**
JRY	**Ryogami san**	**0.79**	**271**	P	**Pn**	**11 20 20.1**	**0.0**
JRY				*e*S	**Sn**	**11 20 31.3**	**-0.6**
JKT	**Katashina**	**0.91**	**326**	P	**Pn**	**11 20 21.3**	**-0.2**
JKT				*e*S	**Sn**	**11 20 34.0**	**-0.5**
JOD2	**Odawara 2**	**0.98**	**221**	⇓P	**Pn**	**11 20 22.2**	**-0.1**
JOD2				⇓*e*S	**Sn**	**11 20 35.2**	**-0.8**
JYN	**Shimob**	**1.20**	**245**	⇓P	**Pn**	**11 20 25.5**	**+0.4**
JYN				⇓*e*S	**Sn**	**11 20 40.9**	**0.0**
JFNN	**Fujinakano**	**1.27**	**230**	P	**Pn**	**11 20 26.1**	**+0.2**
JFNN				*e*S	**Sn**	**11 20 42.0**	**-0.4**
BSO3	**Boso 3**	**1.31**	**157**	P	**Pn**	**11 20 26.2**	**0.0**
BSO3				*e*S	**Sn**	**11 20 44.4**	**+1.5**
JUON	**Uonuma**	**1.37**	**331**	P	**Pn**	**11 20 27.2**	**+0.1**
JFY	**Yanaizu**	**1.40**	**354**	P	**Pn**	**11 20 28.3**	**+0.6**
MJAR	**Matsushiro Arr**	**1.45**	**292**	Pg	**Pn**	**11 20 28.2**	**-0.1**
	5.5nm,0.3s,baz=180,slow=7.7,SNR=335						
MJAR					Sn	**Sn**	**11 20 47.8**	**+1.2**
	2.0nm,0.3s,baz=184,slow=39,SNR=6.1						
MAT	**Matsushiro**	**1.45**	**292**	P	**Pn**	**11 20 28.8**	**+0.5**
JHJ	**Hachijo jima 2**	**2.88**	**182**	Pn	**Pn**	**11 20 47.7**	**+0.1**
	21nm,0.3s,baz=258,slow=14,SNR=16						
JHJ					Sn	**Sn**	**11 21 19.1**	**-2.0**
	65nm,0.3s,baz=343,slow=19,SNR=14						
	71nm,0.4s						
KSRS	**Korea Array**	**9.71**	**282**	Pn	Pn	11 21 59.5	-21
	0.2nm,0.3s,baz=102,slow=14,SNR=1.2						
	0.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**40.04**	**255**	P	P	11 27 18.7	-14
	0.7nm,0.3s,baz=54,slow=4.6,SNR=1.7						
	0.7nm,0.3s						
WRA	**Warraninga Arr**	**55.89**	**186**	P	**P**	**11 29 34.3**	**-0.2**
	0.9nm,0.5s,baz=1.2,slow=7.6,SNR=13						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**59.62**	**186**	P	**P**	**11 30 00.9**	**+0.3**
	0.3nm,0.5s,baz=14,slow=9.6,SNR=10						
	0.3nm,0.5s						

IDC ***14*** *11:30:45.9±1.4, 31.°83N×48.°77E, h0km, mb4.1/13, mbtmp4.0/18, ML3.8/5, MS3.8/3, Error ellipse: s-maj=28.2km s-min=14.5km az=172.0*

TEH ***14*** *11:30:48.6, 31.°86N×48.°75E, h14km±30km, ML3.7*

ISC 14 11:30:47.6±0.6**, 31.°74N**±0.°05×**48.°67E**±0.°05**, h10**km**, n57, σ1°60/54, mb4.1/12, MS3.8/3, 1C-2D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.41**	**183**	Pg	**Pn**	**11 30 60.0**	**+0.4**
AMIS	**Naft Sefid**	**0.54**	**98**	**Pg**	**Pg**	**11 30 58.3**	**+0.2**
AMIS				Sg	**Sg**	**11 31 07.3**	**+2.2**
JHBN	**Jahan bin**	**1.77**	**73**	Pg	**Pn**	**11 31 20.0**	**+1.4**
ABEH	**Behbahan**	**1.77**	**129**	Pg	**Pg**	**11 31 21.7**	**+0.1**
ZNGN	**Zangian**	**1.90**	**78**	Pn	**Pn**	**11 31 22.2**	**+1.8**
IKFM	**Kafar-mosalman**	**1.91**	**339**	Pn	**Pn**	**11 31 21.7**	**+1.5**
IPIR	**Pirpir**	**2.11**	**63**	Pn	**Pn**	**11 31 25.7**	**+2.4**
IBRJ	**Brojen**	**2.21**	**85**	Pn	**Pn**	**11 31 26.1**	**+1.5**
KLNJ	**Kolanjah**	**2.61**	**106**	Pn	**Pn**	**11 31 32.4**	**+2.3**
IKOM	**Komasi**	**2.61**	**338**	Pn	**Pn**	**11 31 31.5**	**+1.5**
ILBA	**Ilam Banvizeh**	**2.80**	**313**	Pn	**Pn**	**11 31 35.0**	**+2.5**
KCHF	**Cheshme Sefid,**	**2.87**	**332**	Pn	**Pn**	**11 31 35.5**	**+1.9**
IKLH	**Kolahrood**	**2.92**	**57**	Pn	**Pn**	**11 31 36.4**	**+2.0**
IGAR	**Gharneh**	**2.94**	**76**	Pn	**Pn**	**11 31 36.3**	**+1.6**
QAMS	**Qamsar**	**3.04**	**48**	Pn	**Pn**	**11 31 37.8**	**+1.8**
HAGD	**Aghdareh**	**3.10**	**7**	Pn	**Pn**	**11 31 38.2**	**+1.4**
IGHG	**Ghaleghazi**	**3.12**	**326**	Pn	**Pn**	**11 31 39.1**	**+1.9**
IRAM	**Ramesheh**	**3.17**	**88**	Pn	**Pn**	**11 31 39.8**	**+2.0**
IZEF	**Zefreh**	**3.31**	**69**	Pn	**Pn**	**11 31 41.7**	**+2.0**
ILIN	**Lien**	**3.47**	**336**	Pn	**Pn**	**11 31 44.0**	**+2.0**
IQOM	**Qom**	**3.69**	**32**	Pn	**Pn**	**11 31 46.6**	**+1.6**
IRAZ	**Razeghan**	**3.80**	**16**	Pn	**Pn**	**11 31 48.0**	**+1.5**
ISFB	**Sefidab**	**3.97**	**48**	Pn	**Pn**	**11 31 49.3**	**+0.6**
IVRN	**Varamin**	**4.13**	**37**	Pn	**Pn**	**11 31 51.9**	**+1.0**

IMHD	**Mahdasht**	**4.27**	**22**	Pn	**Pn**	**11 31 53.7**	**+0.8**		
ISAD	**Sadrabad**	**4.28**	**86**	Pn	**Pn**	**11 31 54.8**	**+1.7**		
ANAR	**Anarak**	**4.52**	**70**	Pn	**Pn**	**11 31 57.2**	**+1.0**		
IDMV	**Damavand**	**4.75**	**35**	Pn	**Pn**	**11 32 00.0**	**+0.5**		
MZPU	**Pul - Mazandar**	**5.27**	**26**	Pn	**Pn**	**11 32 08.5**	**+1.9**		
IPRN	**Peran**	**5.43**	**33**	Pn	**Pn**	**11 32 10.6**	**+1.9**		
IGLO	**Ghaloghah**	**6.39**	**41**	Pn	**Pn**	**11 32 23.5**	**+1.4**		
GRMI	**Germi**	**7.08**	**355**	Pn	**Pn**	**11 32 33.1**	**+1.7**		
GEYT	**Alibeck**	**9.92**	**49**	Pn	**Pn**	**11 33 07.7**	**-2.6**		
	1.4nm,0.3s,baz=174,slow=4.3,SNR=1.9								
	1.4nm,0.3s								
ASF	**Jabal al Asfar**	**10.01**	**276**	Pn	**Pn**	**11 33 12.4**	**+0.9**		
	0.6nm,0.3s,baz=69,slow=16,SNR=3.3								
ASF				Lg	Lg	11 36 08.7			
	0.2nm,0.3s,baz=102,slow=19,SNR=1.7								
	5.4nm,0.9s								
MMAI	**Mount Meron Ar**	**11.29**	**280**	Pn	**Pn**	**11 33 27.7**	**-1.4**		
	5.4nm,0.3s,baz=95,slow=16,SNR=5.7								
MMAI				Lg	Lg	11 36 49.0			
	0.1nm,0.3s,baz=129,slow=43,SNR=1.4								
	1.4nm,0.3s								
EIL	**Elat**	**11.98**	**264**	Lg	Lg	11 37 10.6			
	0.5nm,0.3s,baz=49,slow=23,SNR=1.7								
BRTR	**Keskin Array B**	**14.56**	**307**	Pn	**Pn**	**11 34 14.8**	**+0.9**		
	0.1nm,0.3s,baz=128,slow=11,SNR=2.1								
	0.3nm,0.4s								
AKTO	**Aktyubinsk**	**19.93**	**18**	P	**P**	**11 35 18.1**	**-1.4**		
	0.1nm,0.3s,baz=185,slow=8.5,SNR=4.0								
	1.6nm,0.7s								
BELG	**Belogornoye**	**20.65**	**358**	P	**P**	**11 35 25.9**	**-1.3**		
	13nm,0.7s,baz=166,slow=5.6,SNR=3.6								
	13nm,0.7s								
MLR	**Muntele Rosu**	**22.34**	**314**	⇑P	**P**	**11 35 48.5**	**+2.8**		
MLR	**Muntele Rosu**	**22.34**	**314**	P	**P**	**11 35 46.2**	**+0.5**		
	5.0nm,0.8s,baz=166,slow=3.6,SNR=6.6								
	5.0nm,0.8s								
VOIR		**22.87**	**313**	⇓P	**P**	**11 35 52.5**	**+1.2**		
AAK	**Ala-Archa**	**23.19**	**55**	LR	LR	11 46 09.8			
	comp=Z,126nm,21.5s,baz=315,slow=40								
AKASG	**Malin Array Be**	**23.80**	**328**	P	**P**	**11 35 58.9**	**-1.5**		
	0.4nm,0.4s,baz=130,slow=8.3,SNR=6.2								
	0.4nm,0.4s								
GZR	**Gura Zlata**	**24.27**	**312**	⇓P	**P**	**11 36 07.4**	**+2.4**		
BVAR	**Borovoye Array**	**26.45**	**30**	P	**P**	**11 36 23.1**	**-1.4**		
	3.4nm,0.5s,baz=227,slow=7.8,SNR=19								
	3.4nm,0.5s					

HPIG 25.45 353 P P 11 39 41.8 0.0
HBVL Hebbronville 25.61 7 P P 11 39 44.5 +1.5
HBVL IAmb IAmb 11 39 47.4
comp=Z,29nm,1.3s
POPC Popayan, Colom 25.62 87 eP P 11 39 45.5 +2.0
JAMC Jamundi, Valle 25.65 86 eP P 11 39 45.5 +1.7
FLOC Florencia 26.63 90 eP P 11 39 52.3 -0.2
833A Chaparral WMA, 26.77 6 P P 11 39 53.1 -0.4
833A IAmb IAmb 11 39 57.4
comp=Z,21nm,1.0s
833A Chaparral WMA, 26.77 6 P P 11 39 54.3 +0.8
baz=186
PTLC Puerto Leguiza 27.53 93 eP P 11 40 05.9 +5.4
TX31 Lajitas Ar. Si 27.66 357 P P 11 40 02.1 +0.4
TX31 IAmb IAmb 11 40 03.5
comp=Z,19nm,1.1s
TXAR Lajitas Array 27.66 357 P P 11 40 01.5 -0.1
comp=Z,5.4nm,1.0s,baz=175,slow=7.9,SNR=29
TXAR PcP PcP 11 43 17.3 -1.6
comp=Z,1.3nm,0.8s,baz=174,slow=5.6,SNR=7.8
TXAR LR LR 11 50 03.4
comp=Z,780nm,18.4s,baz=181,slow=34
comp=Z,5.4nm,1.0s
DRIO Del Rio 27.77 3 P P 11 40 02.1 -0.4
DRIO IAmb IAmb 11 40 04.5
comp=Z,12nm,1.3s
HNDO Hondo 27.98 6 P P 11 40 04.4 +0.1
HNDO IAmb IAmb 11 40 06.3
comp=Z,33nm,1.1s
ROSC El Rosal 28.12 83 LR LR 11 49 31.0
comp=Z,784nm,20.0s,baz=244,slow=33
SAND Sanderson 28.25 0 P P 11 40 07.1 +0.3
SAND IAmb IAmb 11 40 09.0
comp=Z,20nm,1.2s
NNA Nana 28.64 119 LR LR 11 48 51.6
comp=Z,659nm,20.4s,baz=294,slow=31
ALPN Alpine 28.70 358 P P 11 40 11.0 +0.1
ALPN IAmb IAmb 11 40 14.8
comp=Z,13nm,1.2s
JCT Junction City 28.87 4 P P 11 40 12.3 0.0
JCT IAmb IAmb 11 40 14.0
comp=Z,20nm,1.0s
JCT Junction City 28.87 4 P P 11 40 12.1 -0.2
baz=185,SNR=6.3
425A Indio Mountain 29.19 355 P P 11 40 15.2 -0.1
OZNA Ozona 29.24 2 P P 11 40 15.3 -0.3
OZNA IAmb IAmb 11 40 17.2
comp=Z,13nm,1.3s
RPN Rapa Nui 29.30 193 LR LR 11 49 07.6
comp=Z,760nm,21.7s,baz=358,slow=31
435B Jarrell 29.42 8 P P 11 40 17.4 +0.3
baz=190
MNHN Monahans 29.64 359 IAmb IAmb 11 40 20.6
comp=Z,14nm,1.4s
BRDY Brady 29.74 6 P P 11 40 19.7 -0.3
BRDY IAmb IAmb 11 40 39.3
comp=Z,7.2nm,1.1s
MNTX Cornudas Mount 30.13 355 P P 11 40 23.0 -0.4
baz=174,SNR=7.7
SGCY Sterling City 30.23 2 IAmb IAmb 11 40 27.2
comp=Z,18nm,1.0s
319A Douglas 30.39 348 IAmb IAmb 11 40 27.9
comp=Z,12nm,1.1s
WHTX Lake Whitney, 30.62 8 IAmb IAmb 11 40 29.1
comp=Z,13nm,0.9s
WHTX Lake Whitney, 30.62 8 P P 11 40 28.0 +0.3
baz=190
NATX Nacogdoches 30.90 13 P P 11 40 30.4 +0.1
baz=195
CZSB Cruzeiro do Su 30.92 108 P P 11 40 31.4 +0.8
ABTX Abilene, Hawle 31.01 4 P P 11 40 30.8 -0.5
baz=185,SNR=15
121A Cookes Peak, D 31.25 351 P P 11 40 33.5 0.0
baz=170
PLPT Palo Pinto 31.32 6 IAmb IAmb 11 40 35.5
comp=Z,28nm,1.1s
TUC Tucson 31.63 346 P P 11 40 36.1 -0.6
TUC Tucson 31.63 346 P P 11 40 37.2 +0.5
baz=164
SFX San Felipe 31.65 339 IAmb IAmb 11 40 39.6
comp=Z,9.1nm,0.9s
APMT Aspermont 31.68 3 IAmb IAmb 11 40 38.4
comp=Z,32nm,1.3s
214A Organ Pipe Nat 31.83 343 P P 11 40 39.3 +0.8
baz=160
DKNS Dickens 31.98 2 IAmb IAmb 11 40 40.9
comp=Z,14nm,1.1s
WTFS Witchita Falls 32.25 6 IAmb IAmb 11 40 43.7
comp=Z,23nm,0.9s
MSTX Muleshoe 32.26 359 IAmb IAmb 11 40 43.9
comp=Z,17nm,1.1s
MSTX Muleshoe 32.26 359 P P 11 40 42.1 -0.2
baz=179,SNR=5.5
SDV Santo Domingo 32.34 76 LR LR 11 51 19.1
comp=Z,695nm,21.2s,baz=260,slow=32
LOOK Love County 32.63 8 IAmb IAmb 11 40 47.3
comp=Z,22nm,0.9s
Y22D IRIS PASSCAL I 32.65 353 P P 11 40 45.6 -0.1
baz=172
BRAL Brewton 32.80 25 P P 11 40 47.3 +0.4
baz=209
113A Mohawk Valley, 32.88 342 IAmb IAmb 11 40 51.7
comp=Z,14nm,1.2s
AMTX Amarillo 33.17 1 IAmb IAmb 11 40 54.2
comp=Z,21nm,1.2s
AMTX Amarillo 33.17 1 P P 11 40 49.7 -0.5
baz=181
WMOK Wichita Mounta 33.18 5 IAmb IAmb 11 41 15.3
comp=Z,23nm,1.9s
WMOK Wichita Mounta 33.18 5 P P 11 40 50.9 +0.6
baz=186
ANMO Albuquerque 33.45 354 P P 11 40 53.4 +0.6
ANMO Albuquerque 33.45 354 P P 11 40 52.8 0.0
baz=172
ANMO Albuquerque 33.45 354 LR LR 11 53 25.8
comp=Z,314nm,19.3s,baz=260,slow=34
IKP In-Ko-Pah, Jac 33.56 339 P P 11 40 53.5 -0.1
baz=154,SNR=6.3
SWSC Sam W. Stewart 33.71 339 P P 11 40 55.5 +0.7
baz=155,SNR=5.5
BAR Barrett 33.79 338 IAmb IAmb 11 40 58.8
comp=Z,30nm,1.2s
W18A Petrified Fore 34.11 349 P P 11 40 58.6 0.0
baz=167
109C Camp Elliot, M 34.14 337 P P 11 40 59.1 +0.5
baz=153
Z47A Carrollton 34.20 22 IAmb IAmb 11 41 00.0
comp=Z,31nm,1.2s
BC3 Big Chuckawall 34.24 340 P P 11 41 00.0 +0.4
baz=156,SNR=7.5
PDMCI Parker Dam,Lak 34.42 343 P P 11 41 01.7 +0.7
baz=159,SNR=7.9
LRAL Lakeview Retre 34.46 23 P P 11 41 02.2 +0.8
baz=208
TPFO Pinon Flats 34.54 339 P P 11 41 03.3 +1.1
baz=155,SNR=10.0
PFO Pinyon Flats O 34.55 339 P P 11 41 03.2 +0.9
PFO IAmb IAmb 11 41 05.1
comp=Z,20nm,1.1s
PFO Pinyon Flats O 34.55 339 P P 11 41 03.2 +0.9
baz=155,SNR=10
PMD Palm Desert 34.55 339 IAmb IAmb 11 41 04.9
comp=Z,15nm,1.1s
TIGA Tifton 34.59 29 P P 11 41 03.3 +0.8
baz=214
IRM Iron Mountain 34.60 341 P P 11 41 03.6 +1.0
baz=157,SNR=11
OK052 Battle Ridge R 34.65 8 IAmb IAmb 11 41 04.0
comp=Z,30nm,1.1s
TUL3 Leonard 34.72 9 P P 11 41 04.0 +0.4
baz=192
BELC Belle Mtn. Jos 34.74 340 P P 11 41 04.2 +0.3
baz=156
MURC Murrieta 34.81 338 P P 11 41 04.7 +0.2
baz=153
WUAZ Wupatki 34.84 347 IAmb IAmb 11 41 07.5
comp=Z,12nm,1.1s
WUAZ Wupatki 34.84 347 P P 11 41 05.5 +0.7
baz=164,SNR=5.5
QUOK Quay 34.84 8 IAmb IAmb 11 41 09.2
comp=Z,21nm,1.2s
WHAR Wooly Hollow 34.84 14 IAmb IAmb 11 41 05.6
comp=Z,16nm,1.2s
BAUV El Baul 34.87 77 P P 11 41 03.5 -1.7
ELS Elsinore Mount 34.94 338 IAmb IAmb 11 41 08.4
comp=Z,12nm,1.0s
152A Waverly Hall 35.10 26 IAmb IAmb 11 41 12.8
comp=Z,27nm,1.2s
CIS Catalina Islan 35.11 336 P P 11 41 07.7 +0.7
baz=151
GMRC Granite Mounta 35.34 341 P P 11 41 09.9 +0.8
baz=157,SNR=7.6
HHAR Hobbs 35.42 12 IAmb IAmb 11 41 10.4
comp=Z,13nm,1.1s
SNCC San Nicolas Is 35.44 335 P P 11 41 09.6 -0.3
baz=149
T25A Trinidad 35.47 357 IAmb IAmb 11 41 14.2
comp=Z,33nm,1.6s
T25A Trinidad 35.47 357 P P 11 41 10.6 +0.3
baz=176
U38A Gravette 35.48 11 IAmb IAmb 11 41 10.3
comp=Z,36nm,1.7s
BFSC Mount Baldy Ra 35.55 338 P P 11 41 11.6 +0.7
baz=153,SNR=8.5
HEC Hector,Ludlow 35.61 340 P P 11 41 12.0 +0.7
baz=156
PLAL Pickwick Lake 35.81 20 IAmb IAmb 11 41 19.1
comp=Z,21nm,1.1s
DECC Green Verdugo 35.83 337 P P 11 41 13.3 +0.1
baz=152
LCAR Lake Charles 35.87 15 P P 11 41 13.4 0.0
LCAR IAmb IAmb 11 41 19.2
comp=Z,28nm,1.6s
RRX Edison Barstow 35.88 339 P P 11 41 14.0 +0.4
baz=154
MVCO Mesa Verde 35.95 352 P P 11 41 14.5 0.0
baz=170
V12A Nelson 35.95 342 IAmb IAmb 11 41 16.9
comp=Z,13nm,1.1s
TUQ Turquoise Moun 36.02 341 P P 11 41 14.9 0.0
baz=156
SCZ2 Santa Cruz Isl 36.13 335 P P 11 41 16.0 +0.2
baz=150
SDCO Great Sand Dun 36.14 356 IAmb IAmb 11 41 14.9
comp=Z,12nm,1.0s
GSC Goldstone, Bar 36.20 340 IAmb IAmb 11 41 19.9
comp=Z,20nm,1.0s
GSC Goldstone, Bar 36.20 340 P P 11 41 16.7 +0.3
baz=155,SNR=17
EDW2 Edwards Air Fo 36.25 338 P P 11 41 17.4 +0.6
baz=153,SNR=13
S22A 4UR Ranch, Cre 36.26 354 P P 11 41 17.4 +0.2
baz=172
GOGA Godfrey 36.28 27 P P 11 41 17.2 +0.1
baz=213
KNB Kanab 36.61 346 IAmb IAmb 11 41 22.8
comp=Z,16nm,1.2s
MGMO Mountain Grove 36.62 13 IAmb IAmb 11 41 32.8
comp=Z,62nm,1.9s
LRMC Laurel Mtn Rad 36.67 339 P P 11 41 21.1 +0.6
baz=154
PBMO Poplar Bluff 36.73 16 IAmb IAmb 11 41 23.8
comp=Z,30nm,1.4s
ARVC Arvin 36.79 337 P P 11 41 21.7 +0.4
baz=152
S39A Bolivar 36.90 12 IAmb IAmb 11 41 23.4
comp=Z,25nm,1.1s
V48A Smith Brothers 36.93 21 IAmb IAmb 11 41 23.8
comp=Z,20nm,0.9s
WVT Waverly 36.93 20 P P 11 41 21.8 -0.8
WVT IAmb IAmb 11 41 23.4
comp=Z,16nm,0.9s
WVT Waverly 36.93 20 P P 11 41 22.5 0.0
baz=205
GWY Greenwater Val 36.95 340 IAmb IAmb 11 41 25.6
comp=Z,19nm,1.1s
PKM Mcpherson Peak 36.97 336 P P 11 41 23.3 +0.1
baz=150
MPMC Manual Prospec 37.12 339 P P 11 41 25.6 +1.2
baz=155,SNR=20
ISA Isabella, Lake 37.12 338 IAmb IAmb 11 41 27.7
comp=Z,20nm,0.8s
ISA Isabella, Lake 37.12 338 P P 11 41 25.1 +0.8
baz=153,SNR=18
CBKS Cedar Bluff 37.16 3 P P 11 41 24.9 +0.4
baz=184
FURC Furnace Creek, 37.27 340 P P 11 41 26.6 +1.2
baz=156
PB12 IPOC Station P 37.28 124 P P 11 41 27.5 +1.6
PB12 IAmb IAmb 11 41 28.7
comp=Z,15nm,0.7s
KSCO Kaye Shedlock' 37.29 360 IAmb IAmb 11 41 30.0
comp=Z,22nm,1.2s
KSCO Kaye Shedlock' 37.29 360 P P 11 41 26.8 +1.1
baz=180
Q24A Divide 37.33 356 P P 11 41 27.4 +1.1
baz=175
SMMC Simmler 37.41 336 P P 11 41 26.7 0.0
baz=150
CLTN Cedars of Leba 37.42 22 IAmb IAmb 11 41 33.1
comp=Z,15nm,1.0s
CGM3 Cape Girardeau 37.44 17 IAmb IAmb 11 41 27.8
comp=Z,18nm,1.0s
MTPU Mount Pierson 37.44 347 IAmb IAmb 11 41 31.1
comp=Z,27nm,1.8s
WCT Wildcat Mounta 37.49 341 IAmb IAmb 11 41 30.7
comp=Z,23nm,1.2s
TPNV Topopah Spring 37.51 342 P P 11 41 28.9 +1.2
baz=157,SNR=8.7
VES Vestal, Richgr 37.51 337 P P 11 41 28.5 +1.0
baz=152,SNR=8.4
HODGE Hodges 37.52 28 IAmb IAmb 11 41 32.4
comp=Z,34nm,1.4s
CPCT Cooper Cave 37.56 24 IAmb IAmb 11 41 29.2
comp=Z,15nm,0.9s
NHSC New Hope 37.64 31 P P 11 41 29.1 +0.5
baz=218
ETMB Extrema 37.66 108 IAmb IAmb 11 41 30.5
comp=Z,41nm,1.3s
CWC Cottonwood Cre 37.67 339 P P 11 41 29.7 +0.7
baz=154
R40A Maddies Statio 37.71 13 IAmb IAmb 11 41 30.4
comp=Z,26nm,0.9s
CCM Cathedral Cave 37.72 14 P P 11 41 28.7 -0.6
CCM IAmb IAmb 11 41 30.3
comp=Z,28nm,1.1s
CCM Cathedral Cave 37.72 14 P P 11 41 29.4 +0.2
baz=198
KSU1 Kansas State U 37.74 7 P P 11 41 29.1 -0.3
baz=189
PB16 IPOC Station P 37.83 123 P P 11 41 33.0 +1.9
FVM French Village 37.87 15 IAmb IAmb 11 41 31.5
comp=Z,17nm,0.9s
GRAC Grapevine Rang 37.92 340 IAmb IAmb 11 41 34.4
comp=Z,16nm,1.1s
GRAC Grapevine Rang 37.92 340 P P 11 41 31.7 +0.7
baz=155,SNR=8.9
S44A Carbondale 37.92 17 IAmb IAmb 11 41 32.2
comp=Z,33nm,1.0s
SIUC Southern Illin 37.95 17 IAmb IAmb 11 41 32.4
comp=Z,33nm,0.9s
T47A Sharon Grove 37.95 20 IAmb IAmb 11 41 33.1
comp=Z,52nm,1.5s
S11A Rachel 38.00 343 IAmb IAmb 11 41 35.0
comp=Z,23nm,1.2s
TKL Tuckaleechee C 38.05 25 LR LR 11 56 47.2
comp=Z,142nm,19.8s,baz=210,slow=36
ISCO Idaho Springs 38.19 356 P P 11 41 33.8 +0.2
baz=175
TIN Tinemaha, Big 38.27 339 P P 11 41 34.9 +0.9
baz=154
PSUT Pine Spring 38.30 345 P P 11 41 34.6 +0.2
PB11 IPOC Station P 38.39 125 P P 11 41 37.4 +2.1
PCRV Puerto La Cruz 38.39 76 LR LR 11 57 04.9
comp=Z,231nm,18.2s,slow=36
TMUT Trail Mountain 38.44 349 IAmb IAmb 11 41 40.1
comp=Z,18nm,1.1s
V53A Saluda 38.47 26 IAmb IAmb 11 41 37.2
comp=Z,35nm,1.5s
P17A Butcher Ranch, 38.53 349 IAmb IAmb 11 41 40.2
comp=Z,27nm,1.8s
R11B Troy Canyon, C 38.60 343 P P 11 41 38.0 +1.1
baz=158,SNR=12
KMSC Kings Mountain 38.70 28 IAmb IAmb 11 41 44.0
comp=Z,17nm,1.1s
KMSC Kings Mountain 38.70 28 P P 11 41 38.9 +1.3
baz=215
P38A Dawn 38.73 11 IAmb IAmb 11 41 38.7
comp=Z,19nm,1.1s
O20A White River Ci 38.79 353 P P 11 41 39.2 +0.8
baz=171
TPH Tonopah 38.85 341 IAmb IAmb 11 41 41.9
comp=Z,38nm,1.0s
TZTN Tazewell 38.90 24 P P 11 41 40.0 +0.8
baz=211
P40A Paris 38.94 13 IAmb IAmb 11 41 40.6
comp=Z,38nm,1.0s
PB08 IPOC Station P 38.99 125 IAmb IAmb 11 41 43.8
comp=Z,15nm,0.7s
MLAC Mammoth, Mammo 39.00 339 P P 11 41 40.7 +0.4
baz=153
SJG San Juan 39.10 63 LR LR 11 56 31.4
comp=Z,303nm,18.6s,baz=258,slow=34
TAOE Nuku Hiva Isla 39.11 254 eS S 11 47 41.1 -0.4
comp=Z,116nm,31.5s
TAOE eLR LR 11 52 09.9
comp=Z,2µm,25.4s
TAOE Nuku Hiva Isla 39.11 254 eT T 12 23 11.7
comp=Z,45nm,0.4s
Q44A Meyer Farm, Va 39.11 17 IAmb IAmb 11 41 42.9
comp=Z,43nm,1.1s
PB01 IPOC Station P 39.17 127 IAmb IAmb 11 41 45.1
comp=Z,26nm,0.9s
OGNE Ogallala 39.22 0 P P 11 41 42.9 +1.0
baz=180
NLU North Lily Min 39.25 348 P P 11 41 42.4 +0.1
N23A Red Feather La 39.31 356 P P 11 41 43.8 +1.0
baz=174,SNR=5.3
WCI Wyandotte Cave 39.35 20 P P 11 41 43.5 +0.6
baz=206
RDMU Red Mountain 39.40 351 IAmb IAmb 11 41 49.4
comp=Z,34nm,1.9s
NVAR Mina Array Bea 39.53 340 P P 11 41 45.8 +1.1
NVAR Mina Array Bea 39.53 340 P P 11 41 45.3 +0.5
comp=Z,8.2nm,0.9s,baz=161,slow=8.3,SNR=27
NVAR PcP PcP 11 43 52.8 +0.5
comp=Z,1.2nm,0.8s,baz=173,slow=2.8,SNR=5.2
NVAR LR LR 11 54 52.2
comp=Z,225nm,19.4s,baz=156,slow=31
comp=Z,8.2nm,0.9s
BSUT Blindstream Ca 39.56 350 P P 11 41 45.1 0.0
N35A Tabor 39.59 8 IAmb IAmb 11 41 46.3
comp=Z,41nm,1.2s
DUG Dugway, Tooele 39.64 347 P P 11 41 46.0 +0.5
baz=164,SNR=6.7
PB09 IPOC Station P 39.76 128 IAmb IAmb 11 41 50.9
comp=Z,23nm,0.8s
R49A Shelbyville 39.80 21 IAmb IAmb 11 41 49.5
comp=Z,60nm,1.7s
BGNE Belgrade 39.86 5 P P 11 41 47.5 +0.4
baz=186
CTU Camp Tracy 39.90 349 P P 11 41 48.1 +0.5
PB06 IPOC Station P 39.98 129 P P 11 41 50.3 +1.7
PB06 IAmb IAmb 11 41 51.6
comp=Z,22nm,0.8s
R50A Paris 40.10 22 IAmb IAmb 11 41 52.0
comp=Z,56nm,1.6s
U56A King 40.13 28 IAmb IAmb 11 41 55.4
comp=Z,21nm,1.0s
SAML Samuel 40.34 106 P P 11 41 51.9 +0.4
YERR Yerington 40.35 339 IAmb IAmb 11 41 55.2
comp=Z,26nm,1.4s
LVC Limon Verde 40.44 128 P P 11 41 54.8 +2.1
LVC Limon Verde 40.44 128 LR LR 11 55 25.3
comp=Z,92nm,18.3s,baz=298,slow=32
PNTR Pine Nut 40.57 339 P P 11 41 54.2 +0.9
PNTR IAmb IAmb 11 41 56.0
comp=Z,15nm,0.9s
HDIL Hopedale 40.58 15 IAmb IAmb 11 41 59.5
comp=Z,33nm,1.0s
HDIL Hopedale 40.58 15 P P 11 41 52.8 -0.3
baz=200
EMB Emerald Bay 40.65 339 IAmb IAmb 11 41 57.9
comp=Z,53nm,1.5s
ELK Elko 40.74 345 LR LR 11 57 28.5
comp=Z,202nm,18.5s,baz=144,slow=34
BLA Blacksburg 40.82 27 P P 11 41 55.0 -0.2
baz=215
AFDM Forest Hills D 40.95 338 IAmb IAmb 11 41 59.7
comp=Z,48nm,1.9s
SCIA State Center 41.00 10 P P 11 41 56.8 +0.2
baz=194
SFIN Lafayette 41.04 18 P P 11 41 56.6 -0.3
baz=204
P49A Miami Univ. Ec 41.06 21 P P 11 41 56.7 -0.5
baz=207
K22A Casper 41.10 355 P P 11 41 57.1 -0.5
baz=174
H03N2 Juan Fernandez 41.18 150 T T 12 26 06.2
baz=326,slow=78,SNR=41
H03N1 Juan Fernandez 41.19 150 T T 12 26 01.8
baz=326,slow=78,SNR=44
H03N3 Juan Fernandez 41.20 150 T T 12 26 07.0
baz=326,slow=78,SNR=53
GO02 Mina Guanaco 41.33 132 P P 11 42 01.0 +1.1
GO02 IAmb IAmb 11 42 03.3
comp=Z,15nm,0.7s
Q52A Bidwell 41.50 24 IAmb IAmb 11 42 01.6
comp=Z,22nm,0.7s
BW06 Boulder Array 41.55 352 P P 11 42 01.0 -0.4
baz=169,SNR=9.0
PDAR Pinedale Array 41.55 352 P P 11 42 01.1 -0.3
comp=Z,5.5nm,0.8s,baz=163,slow=6.9,SNR=34
PDAR PcP PcP 11 43 57.3 -1.4
comp=Z,0.1nm,0.4s,baz=128,slow=5.9,SNR=2.4
PDAR LR LR 11 57 29.7
comp=Z,234nm,20.7s,baz=170,slow=34
comp=Z,5.5nm,0.8s
O48B Farmland 41.56 20 P P 11 42 01.4 +0.2
baz=206
ORV Oroville 41.68 338 P P 11 42 02.8 +0.6
ORV IAmb IAmb 11 42 05.9
comp=Z,14nm,0.9s
Q54A Coxs Mills 42.11 25 IAmb IAmb 11 42 12.5
comp=Z,36nm,1.1s
P52A Corning 42.12 23 P P 11 42 05.1 -0.7
baz=211
P53A Whipple 42.30 24 IAmb IAmb 11 42 12.5
comp=Z,42nm,1.3s
ECSD EROS Data Cent 42.31 6 P P 11 42 07.5 +0.2
baz=188
RSSD Black Hills 42.42 358 P P 11 42 08.0 -0.4
baz=178
JFWS Jewell Farm 42.57 13 P P 11 42 08.6 -0.9
JFWS IAmb IAmb 11 42 09.9
comp=Z,49nm,1.3s
JFWS Jewell Farm 42.57 13 P P 11 42 08.4 -1.1
baz=198
SUSD Miller 42.82 4 IAmb IAmb 11 42 27.9
comp=Z,12nm,0.7s
SUSD Miller 42.82 4 P P 11 42 10.6 -0.8
baz=185
O53A New Philadelph 43.02 24 IAmb IAmb 11 42 28.2
comp=Z,27nm,0.9s
O53A New Philadelph 43.02 24 P P 11 42 12.1 -1.0
baz=212
HLID Hailey 43.21 347 P P 11 42 14.7 -0.1
baz=162,SNR=6.6
WVOR Wild Horse Val 43.27 342 IAmb IAmb 11 42 17.7
comp=Z,17nm,1.1s
I40A Norwalk 43.42 12 IAmb IAmb 11 42 16.9
comp=Z,34nm,1.2s
KHMM Horse Mountain 43.69 336 IAmb IAmb 11 42 22.0
comp=Z,24nm,1.0s
YHL Hebgen Lake 43.83 351 IAmb IAmb 11 42 24.6
comp=Z,18nm,1.4s
YBH Yreka Blue Hor 44.03 338 LR LR 11 57 23.0
comp=Z,154nm,18.3s,baz=162,slow=32
J08A Circle Bar Ran 44.06 343 P P 11 42 22.3 +0.7
M53A WI Miller and 44.24 23 P P 11 42 22.1 -0.9
baz=212
K05A Summer Lake 44.25 340 IAmb IAmb 11 42 26.7
comp=Z,26nm,1.0s
SIV San Ignacio 44.29 115 LR LR 11 58 51.8
comp=Z,516nm,20.7s,baz=294,slow=33
SPMN Marine on St. 44.30 10 P P 11 42 22.2 -1.0
baz=194
KSXB Camp Six Broad 44.56 337 IAmb IAmb 11 42 28.4
comp=Z,26nm,1.2s
BOZ Bozeman (W) 44.63 351 P P 11 42 26.1 -0.1
baz=167
L02F Cave Junction 44.69 337 IAmb IAmb 11 42 29.1
comp=Z,19nm,1.1s
SSPA Standing Stone 44.75 27 P P 11 42 26.6 -0.5
SSPA IAmb IAmb 11 42 28.2
comp=Z,26nm,1.0s
SSPA Standing Stone 44.75 27 P P 11 42 27.1 +0.1
baz=216
J05D Fort Rock, OR 44.86 340 P P 11 42 29.4 +1.3
J05D IAmb IAmb 11 42 31.5
comp=Z,22nm,1.1s
PLID Pearl Lake 45.02 346 IAmb IAmb 11 42 30.6
comp=Z,11nm,1.1s

I07A	Izee	45.03	342		IAmb	IAmb	11 42 32.5		
	comp=Z,26nm,1.5s								
LAO	LASA Array	45.09	356		P	P	11 42 30.4	+0.7	
	baz=174								
K02D	Willamette Mer	45.22	338		P	P	11 42 32.2	+1.4	
PINE	Pine Mountain	45.22	341		P	P	11 42 31.1	+0.2	
PINE					IAmb	IAmb	11 42 34.2		
	comp=Z,21nm,0.9s								
I04A	Tendick Farm,	45.72	340		IAmb	IAmb	11 42 36.5		
	comp=Z,20nm,1.2s								
I05D	Terrebonne, OR	45.84	341		IAmb	IAmb	11 42 40.8		
	comp=Z,11nm,0.9s								
G08A	Pilot Rock	45.97	344		IAmb	IAmb	11 42 39.0		
	comp=Z,19nm,1.5s								
F10A	Beach Ranch, E	46.15	346		P	P	11 42 40.0	+1.9	
F10A					IAmb	IAmb	11 42 51.8		
	comp=Z,30nm,1.9s								
CFA	Coronel Fontan	46.16	139		LR	LR	11 57 22.8		
	comp=Z,189nm,21.0s,baz=300,slow=30								
MDND	Maddock	46.18	3		P	P	11 42 38.1	-0.1	
	baz=184								
MSO	Missoula	46.23	349		P	P	11 42 37.7	-1.1	
	baz=164								
G06A	Carlson Farm,	46.42	342		IAmb	IAmb	11 42 43.1		
	comp=Z,22nm,1.3s								
EGMT	Eagleton	46.74	353		P	P	11 42 42.2	-0.5	
	baz=170								
E09A	Wood Farm, Sta	46.88	345		IAmb	IAmb	11 42 44.6		
	comp=Z,7.0nm,0.9s								
AGMN	Agassiz Nation	46.90	6		IAmb	IAmb	11 42 57.3		
	comp=Z,13nm,1.2s								
AGMN	Agassiz Nation	46.90	6		P	P	11 42 43.0	-0.9	
	baz=189								
PAL	Palisades	46.91	30		P	P	11 42 42.7	-1.4	
	baz=221								
EYMN	Ely	47.16	10		P	P	11 42 44.3	-1.6	
EYMN	Ely	47.16	10		P	P	11 42 44.6	-1.3	
	baz=195								
E07A	Sunnyside	47.38	344		IAmb	IAmb	11 42 50.6		
	comp=Z,15nm,1.1s								
SADO	Sadowa	47.66	22		LR	LR	12 03 60.0		
	comp=Z,160nm,18.4s,baz=184,slow=37								
C09A	Chrisman Ranch	48.11	346		IAmb	IAmb	11 42 55.4		
	comp=Z,11nm,1.4s								
LON	Longmire	48.14	342		IAmb	IAmb	11 42 55.2		
	comp=Z,19nm,1.4s								
NEW	Newport	48.27	347		IAmb	IAmb	11 42 55.7		
	comp=Z,7.4nm,1.0s								
NEW	Newport	48.27	347		P	P	11 42 53.5	-1.0	
	baz=160,SNR=6.3								
NEW	Newport	48.27	347		LR	LR	11 59 51.5		
	comp=Z,195nm,20.7s,baz=152,slow=32								
ULM	Lac du Bonnet	48.83	5		P	P	11 42 57.2	-1.6	
	comp=Z,5.2nm,0.9s,baz=193,slow=9.7,SNR=7.4								
ULM					LR	LR	12 03 11.2		
	comp=Z,533nm,19.3s,baz=202,slow=36								
	comp=Z,5.2nm,0.9s								
HRV	Adam Dziewonsk	49.20	30		P	P	11 43 01.8	+0.1	
	baz=222								
NLWA	Neilton Lookou	49.36	341		IAmb	IAmb	11 43 05.2		
	comp=Z,23nm,1.2s								
LONY	Lake Ozonia	49.40	26		P	P	11 43 03.5	+0.2	
	baz=218								
PPT	Papeete	50.29	246		LR	LR	11 58 56.9		
	comp=Z,388nm,19.3s,baz=62,slow=30								
PPT2	Papeete2	50.30	246		eS	S	11 50 29.9	+6.2	
	comp=Z,183nm,26.0s								
PPT2					eLR	LR	11 57 28.0		
	comp=Z,1μm,26.2s								
PPT2					eLR	LR	11 57 35.1		
	comp=Z,890nm,26.8s								
LBNH	Lisbon	50.31	28		P	P	11 43 10.5	+0.3	
	baz=221								
PGC	Sidney	50.33	342		IAmb	IAmb	11 43 11.5		
	comp=Z,18nm,1.2s								
AQDB	Aquidauana	50.60	118		P	P	11 43 12.5	-0.3	
PLCA	Paso Flores	51.05	149		LR	LR	12 00 10.9		
	comp=Z,331nm,18.2s,baz=319,slow=31								
CPUP	Villa Florida	51.47	126		P	P	11 43 20.2	+0.9	
CPUP					IAmb	IAmb	11 43 21.5		
	comp=Z,12nm,0.8s								
CPUP	Villa Florida	51.47	126		P	P	11 43 17.5	-1.8	
	comp=Z,9.0nm,0.7s,baz=303,slow=7.9,SNR=20								
	comp=Z,9.0nm,0.7s								
TBI	Tubuai	52.12	239		eS	S	11 50 59.8	+11	
	comp=Z,481nm,27.0s								
TBI					eLR	LR	11 58 30.0		
	comp=Z,4μm,26.5s								
TBI					eLR	LR	11 58 31.4		
	comp=Z,960nm,42.8s								
TBI	Tubuai	52.12	239		eT	T	12 39 31.8		
	comp=Z,4.3nm,0.3s								
EDM	Edmonton	52.31	352		IAmb	IAmb	11 43 26.3		
	comp=Z,14nm,0.9s								
PKME	Peaks-Kenny Pk	52.34	29		P	P	11 43 25.1	-0.3	
	baz=223								
BDFB	Brasilia	56.28	110		P	P	11 43 54.2	-0.6	
BDFB					IAmb	IAmb	11 44 09.5		
	comp=Z,12nm,1.0s								
BDFB	Brasilia	56.28	110		P	P	11 43 52.0	-2.8	
	comp=Z,9.8nm,0.9s,baz=280,slow=9.2,SNR=8.3								
BDFB					LR	LR	12 06 26.1		
	comp=Z,746nm,21.1s,baz=310,slow=34								
	comp=Z,9.8nm,0.9s								
U35K	Hyder	58.65	342		P	P	11 44 10.3	-0.2	
	baz=147								
V35K	Ketchikan	58.66	341		P	P	11 44 09.7	-0.9	
	baz=145								
SCHQ	Schefferville	60.47	23		LR	LR	12 09 32.3		
	comp=Z,173nm,21.6s,baz=216,slow=35								
RAR	Rarotonga	60.54	245		LR	LR	12 03 39.7		
	comp=Z,548nm,18.2s,baz=20,slow=29								
FLDN	Fort Liard	60.77	348		P	P	11 44 26.0	+0.9	
	baz=156								
DLBC	Dease Lake	60.78	344		P	P	11 44 26.1	+0.8	
	baz=148								
KOTAN	Kotaneelee Air	60.80	348		P	P	11 44 26.0	+0.6	
	baz=155								
YKA	Yellowknife Ar	61.50	354		P	P	11 44 27.7	-2.3	
	comp=Z,3.5nm,1.0s,baz=165,slow=6.5,SNR=21								
YKA					LR	LR	12 11 11.3		
	comp=Z,811nm,18.1s,baz=152,slow=36								
	comp=Z,3.5nm,1.0s								
R33M	Jennings River	61.85	344		P	P	11 44 33.1	+0.5	
	baz=147								
Q32M	Nakina River	61.86	343		P	P	11 44 33.5	+0.7	
	baz=146								
WTLY	Watson Lake, Y	61.89	345		P	P	11 44 33.0	+0.2	
	baz=150								
P32M	Atlin	62.80	343		P	P	11 44 40.1	+1.1	
	baz=144								
P33M	Teslin, Yukon	63.05	343		P	P	11 44 41.6	+1.0	
	baz=145								
P29M	Windy Craggy	64.09	341		P	P	11 44 48.2	+0.8	
	baz=140								
P30M	Million Dollar	64.22	342		P	P	11 44 48.7	+0.4	
	baz=141								
O30N	Mendenhall	64.46	342		P	P	11 44 50.8	+0.9	
	baz=142								
FARO	Faro, Yukon	64.86	345		P	P	11 44 53.3	+0.8	
	baz=145								
N31M	Braeburn, Yuko	64.94	343		P	P	11 44 53.3	+0.3	
	baz=143								
HYT	Haines Junctio	64.94	342		P	P	11 44 53.1	0.0	
	baz=140								
M31M	Drury Creek, Y	65.12	344		P	P	11 44 54.8	+0.7	
	baz=144								
PINM	Pinnacle	65.28	340		P	P	11 44 55.7	+0.5	
	baz=138								
YUK6	Outpost Mounta	65.30	342		P	P	11 44 55.7	+0.2	
	baz=140								
N30M	Aishikik Lake	65.31	342		P	P	11 44 55.9	+0.5	
	baz=141								
YUK4	Talbot Arm	65.70	342		P	P	11 44 58.9	+0.8	
	baz=140								
MESA	MESA	65.93	340		P	P	11 45 01.6	+2.0	
	baz=136								
YUK8	Steele Glacier	66.01	341		P	P	11 45 00.5	+0.3	
	baz=138								
M30M	Minto, Yukon	66.09	343		P	P	11 45 01.1	+0.7	
	baz=142								
CTG	Chitna Glacier	66.29	340		P	P	11 45 02.2	+0.4	
	baz=137								
M29M	Somme Creek	66.48	343		P	P	11 45 03.7	+0.7	
	baz=140								
YUK3	Moose Creek	66.59	341		P	P	11 45 03.9	+0.1	
	baz=138								
KAIM	Kayak Island	66.64	338		P	P	11 45 04.4	+0.5	
	baz=133								
RCBR	Riachuelo	66.70	97		LR	LR	12 13 40.2		
	comp=Z,304nm,18.4s,baz=266,slow=36								
L29M	L29M	66.90	343		P	P	11 45 05.9	+0.3	
	baz=140								
Q23K	Middleton Isla	67.03	337		P	P	11 45 07.3	+0.9	
	baz=131								
MCARA	McCarthy VSAT	67.16	340		P	P	11 45 08.3	+1.1	
	baz=135								
BVCY	Beaver Creek	67.19	342		P	P	11 45 09.4	+2.0	
	baz=138								
K29M	Barlow Dome	67.30	344		IAmb	IAmb	11 45 10.0		
	comp=Z,17nm,1.3s								
K29M	Barlow Dome	67.30	344		P	P	11 45 09.3	+1.1	
	baz=141								
BMRM	Bremner River	67.42	339		P	P	11 45 09.7	+0.8	
	baz=133								
M27K	Edge Creek, AK	67.48	341		P	P	11 45 10.0	+0.6	
	baz=136								
EYAK	Cordova Ski Ar	67.55	338		P	P	11 45 10.7	+1.1	
	baz=132								
J30M	Hart River	67.56	345		P	P	11 45 11.2	+1.4	
	baz=143								
P23K	Montague Islan	67.81	337		P	P	11 45 11.5	+0.2	
	baz=130								
N25K	Chitina, Valde	67.86	340		P	P	11 45 12.7	+1.0	
	baz=134								
M26K	Nabesna, AK	67.87	341		P	P	11 45 12.7	+0.9	
	baz=135								
L27K	Beaver Creek,	67.97	342		IAmb	IAmb	11 45 14.7		
	comp=Z,9.5nm,1.2s								
L27K	Beaver Creek,	67.97	342		P	P	11 45 12.1	-0.3	
	baz=137								
DAWY	Dawson	68.00	343		P	P	11 45 12.6	+0.1	
DAWY					IAmb	IAmb	11 45 14.7		
	comp=Z,16nm,1.3s								
DAWY	Dawson	68.00	343		P	P	11 45 13.2	+0.7	
	baz=140,SNR=5.4								
H31M	Peel River	68.06	346		P	P	11 45 12.6	-0.2	
	baz=145								
I30M	Mount Dempster	68.08	345		IAmb	IAmb	11 45 14.9		
	comp=Z,16nm,1.6s								
I30M	Mount Dempster	68.08	345		P	P	11 45 12.5	-0.7	
	baz=143								
KLU	Klutina	68.24	339		P	P	11 45 14.0	-0.2	
	baz=132								
GLI	Glacier Island	68.26	338		P	P	11 45 15.2	+1.0	
	baz=131								
L26K	Log Cabin Wild	68.43	341		P	P	11 45 15.8	+0.6	
	baz=135								
HARP	HAARP	68.59	340		P	P	11 45 16.4	+0.1	
	baz=133								
KDAK	Kodiak Island	68.61	334		P	P	11 45 16.4	+0.1	
	baz=122								
KDAK	Kodiak Island	68.61	334		LR	LR	12 08 55.1		
	comp=Z,89nm,19.7s,baz=137,slow=30								
OHAK	Old Harbor	68.61	333		P	P	11 45 16.4	0.0	
	baz=124								
SII	Sitkinak Islan	68.66	332		P	P	11 45 16.1	-0.6	
	baz=122								
SEW	Seward	68.67	337		P	P	11 45 16.7	0.0	
	baz=128								
I29M	Ogilvie Camp,	68.69	345		P	P	11 45 16.4	-0.5	
	baz=141,SNR=6.3								
K27K	Chicken	68.76	342		IAmb	IAmb	11 45 19.6		
	comp=Z,13nm,1.1s								
K27K	Chicken	68.76	342		P	P	11 45 17.6	+0.4	
	baz=137								
CHIR	Chirikof Islan	68.96	331		P	P	11 45 18.4	-0.1	
	baz=121								
BRSE	Bradley Lake S	68.97	336		P	P	11 45 18.5	-0.1	
	baz=127								
G31M	Sarah River	68.97	347		P	P	11 45 18.7	+0.3	
	baz=146								
SCM	Sheep Creek Mo	68.97	339		P	P	11 45 19.3	+0.6	
	baz=131								
EGAK	Eagle	69.04	343		IAmb	IAmb	11 45 20.5		
	comp=Z,11nm,1.2s								
EGAK	Eagle	69.04	343		P	P	11 45 19.1	+0.1	
	baz=138								
PAX	Paxson	69.09	340		P	P	11 45 19.3	-0.1	
	baz=133								
EPYK	Eagle Plains	69.09	346		IAmb	IAmb	11 45 20.8		
	comp=Z,14nm,1.1s								
EPYK	Eagle Plains	69.09	346		P	P	11 45 19.2	-0.1	
	baz=143								
M23K	Glacier View	69.09	339		P	P	11 45 19.4	+0.1	
	baz=130								
KNK	Knik Glacier	69.11	338		P	P	11 45 19.6	+0.1	
	baz=130								
I28M	Mirror Creek	69.20	344		P	P	11 45 19.7	-0.3	
	baz=139								
C36M	Paulatuk	69.24	352		P	P	11 45 19.7	-0.4	
	baz=157								
F31M	Tsiigehtchic	69.28	348		P	P	11 45 19.9	-0.4	
	baz=146								
SCRK	Sand Creek	69.31	342		P	P	11 45 21.0	+0.2	
SCRK	Sand Creek	69.31	342		P	P	11 45 20.4	-0.4	
	baz=135								
SML	Sawmill	69.32	339		P	P	11 45 21.0	+0.2	
SML	Sawmill	69.32	339		P	P	11 45 21.4	+0.6	
	baz=130,SNR=7.6								
R18K	Karluk	69.32	333		P	P	11 45 20.4	-0.4	
	baz=122								
H29M	Whitestone	69.38	345		P	P	11 45 21.3	+0.2	
	baz=141								
RC01	Rabbit Creek A	69.39	338		P	P	11 45 21.4	+0.2	
	baz=128								
RIDG	Independent Ri	69.42	341		P	P	11 45 22.2	+0.8	
	baz=134								
PMR	Palmer	69.48	338		P	P	11 45 22.5	+0.8	
	baz=129								
J26L	Joseph Creek	69.55	342		IAmb	IAmb	11 45 24.5		
	comp=Z,8.8nm,1.1s								
J26L	Joseph Creek	69.55	342		P	P	11 45 22.3	+0.1	
	baz=135								
WAT6	Susitna Watana	69.61	339		P	P	11 45 22.9	+0.2	
	baz=131,SNR=6.1								
Q19K	Cape Douglas,	69.71	334		P	P	11 45 24.3	+1.0	
	baz=124								
CAPN	Captain Cook N	69.75	337		P	P	11 45 24.3	+0.9	
	baz=127								
K24K	Donnelly Dome	69.76	341		P	P	11 45 24.4	+0.9	
	baz=133								
I27K	Kandik River	69.78	344		P	P	11 45 24.7	+1.1	
	baz=138,SNR=9.9								
DHY	Denali Highway	69.81	340		P	P	11 45 23.7	-0.2	
	baz=132								
G29M	Pine Creek	69.84	346		P	P	11 45 24.2	+0.3	
	baz=142,SNR=5.9								
F30M	Barrier River	69.87	347		P	P	11 45 23.6	-0.4	
	baz=144								
P19K	Oil Pt	69.94	335		P	P	11 45 25.1	+0.4	
	baz=124								
M22K	Willow	69.95	338		P	P	11 45 24.6	0.0	
	baz=128								
INK	Inuvik	69.96	348		P	P	11 45 23.8	-0.8	
INK					IAmb	IAmb	11 45 25.9		
	comp=Z,6.4nm,1.0s								
INK	Inuvik	69.96	348		P	P	11 45 24.4	-0.1	
	baz=147								
INK	Inuvik	69.96	348		LR	LR	12 16 31.5		
	comp=Z,323nm,18.2s,baz=184,slow=36								
I26K	Coal Creek Min	70.00	343		IAmb	IAmb	11 45 26.2		
	comp=Z,12nm,1.2s								
I26K	Coal Creek Min	70.00	343		P	P	11 45 25.1	+0.2	
	baz=136								
SUA	Susitna One	70.01	338		P	P	11 45 25.0	-0.1	
	baz=127								
WAT1	Susitna Watana	70.05	339		P	P	11 45 25.5	+0.2	
	baz=130								
Q18K	Katmai Hardscr	70.16	334		P	P	11 45 25.8	-0.3	
	baz=122								
J25K	Salcha River,	70.19	342		P	P	11 45 26.3	+0.2	
	baz=134								
H27K	Steamboat Moun	70.22	344		P	P	11 45 26.1	-0.2	
	baz=138								
R17K	Ugashik Creek	70.25	332		P	P	11 45 26.7	+0.2	
	baz=121								
Q17K	Contact Creek	70.34	333		P	P	11 45 26.8	-0.5	
	baz=121								
CUT	Chulitna	70.41	338		P	P	11 45 27.4	0.0	
	baz=128								
N20K	Mount Spurr	70.42	337		P	P	11 45 27.3	-0.3	
	baz=126								
CHNA	Chernabura Isl	70.47	329		P	P	11 45 27.9	0.0	
	baz=117								
HDA	Harding Lake	70.55	341		P	P	11 45 28.4	+0.1	
	baz=132								
HDA					P	P	11 45 28.4	+0.1	
	baz=132								
CHGN	Chignik	70.56	331		P	P	11 45 28.8	+0.4	
	baz=118								
SKT	Skwentna	70.62	338		P	P	11 45 28.8	+0.1	
	baz=127								
P18K	Big Mountain,	70.65	334		P	P	11 45 28.9	-0.2	
	baz=122								
G27K	Doyon Strip	70.69	345		P	P	11 45 29.1	-0.1	
	baz=138								
MCK	McKinley	70.77	340		P	P	11 45 30.2	+0.5	
	baz=130								
ILAR	Eielson Array	70.77	341		P	P	11 45 27.7	-1.9	
	comp=Z,11nm,1.1s,baz=154,slow=4.7,SNR=38								
	comp=Z,11nm,1.1s								
F28M	Old Crow	70.84	346		IAmb	IAmb	11 45 50.6		
	comp=Z,7.1nm,1.2s								
F28M	Old Crow	70.84	346		P	P	11 45 29.9	-0.1	
	baz=140								
O18K	Koktuh Hills	70.89	335		P	P	11 45 30.2	-0.2	
	baz=122								
Q16K	King Salmon	70.90	333		P	P	11 45 29.9	-0.5	
	baz=121								
E29M	Blow River	70.97	347		P	P	11 45 30.5	-0.3	
	baz=142								
CCB	Clear Creek Bu	70.98	341		IAmb	IAmb	11 45 32.9		
	comp=Z,12nm,1.2s								
TRF	Thorofare Moun	71.06	339		P	P	11 45 32.1	+0.5	
	baz=128								
P17K	Kvichak River	71.07	334		P	P	11 45 31.4	-0.1	
	baz=121								
N19K	Bonanza Creek	71.11	336		P	P	11 45 31.1	-0.8	
	baz=124								
S14K	Fog Glacier	71.11	330		P	P	11 45 32.1	+0.1	
	baz=117								
SDPT	Sand Point	71.15	329		P	P	11 45 32.3	+0.2	
	baz=116								
M20K	Styx River	71.17	337		P	P	11 45 31.6	-0.6	
	baz=125								
POKR	Poker Plat Res	71.18	342		P	P	11 45 32.2	+0.1	
	baz=132								
MDM	Murphy Dome	71.33	341		IAmb	IAmb	11 45 34.8		
	comp=Z,19nm,1.2s								
NEA2	Nenana	71.36	341		P	P	11 45 33.5	+0.2	
	baz=130,SNR=12								
G26K	Porcupine Rive	71.37	344		P	P	11 45 33.5	+0.3	
	baz=136								
PPLA	Purkeypile	71.41	338		P	P	11 45 33.8	+0.1	
	baz=126								
E28M	Babbage River	71.52	346		P	P	11 45 34.0	-0.1	
	baz=140								
N18K	Kilae Creek	71.62	335		P	P	11 45 34.4	-0.5	
	baz=122								
O17K	Koliganek Bris	71.66	334		P	P	11 45 34.6	-0.4	
	baz=121								
CAST	Castle Rocks	71.68	339		P	P	11 45 34.6	-0.6	
CAST	Castle Rocks	71.68	339		P	P	11 45 35.2	+0.1	
	baz=126,SNR=11								
P16K	Nushagak River	71.68	333		P	P	11 45 35.2	0.0	
	baz=120								
E27K	Coleen River	71.70	346		P	P	11 45 35.6	+0.4	
	baz=138								
BPAW	Bear Paw Mtn.	71.71	340		P	P	11 45 35.3	0.0	
	baz=128								
H24K	Noodor Dome	71.80	342		P	P	11 45 35.7	-0.1	
	baz=131								
L20K	Farewell, AK	71.80	337		P	P	11 45 35.9	0.0	
	baz=124								
PMSA	Palmer Station	71.81	164		LR	LR	12 09 51.7		
	comp=Z,208nm,19.5s,baz=305,slow=30								
I23K	Minto, Yukon-K	71.82	341		P	P	11 45 34.9	-1.0	
	baz=130,SNR=17								
A36M	Sachs Harbour	71.83	353		IAmb	IAmb	11 45 57.2		
	comp=Z,9.1nm,1.1s								
A36M	Sachs Harbour	71.83	353		P	P	11 45 35.7	-0.1	
	baz=156								
G25K	Bearman Lake	71.89	343		P	P	11 45 36.4	+0.1	
	baz=133								
D28M	Stokes Point	71.90	347		P	P	11 45 36.2	-0.2	
	baz=141								
BMAR	Burnt Mountain	71.93	344		P	P	11 45 36.7	+0.1	
F26K	Sheenjek River	72.00	344		P	P	11 45 38.0	+0.9	
	baz=136								
O16K	Kokwok River B	72.01	334		P	P	11 45 36.6	-0.6	
	baz=120								
L19K	White Mountain	72.01	337		IAmb	IAmb	11 45 38.7		
	comp=Z,18nm,1.1s								
L19K	White Mountain	72.01	337		P	P	11 45 37.3	+0.1	
	baz=124,SNR=5.6								
M18K	Stony River	72.02	336		P	P	11 45 36.3	-0.9	
	baz=122								
CHUM	Lake Minchumin	72.04	339		P	P	11 45 37.3	0.0	
	baz=126								
N17K	Nushagak Hills	72.08	335		P	P	11 45 36.9	-0.7	
	baz=121								
MLY	Manley	72.20	341		P	P	11 45 38.3	+0.1	
	baz=128,SNR=18								
G24K	Hadweenzic Riv	72.25	343		P	P	11 45 38.9	+0.4	
	baz=132,SNR=7.7								
F25K	Christian Rive	72.33	344		P	P	11 45 39.6	+0.6	
	baz=134,SNR=10								
K20K	Telida	72.37	338		IAmb	IAmb	11 45 40.6		
	comp=Z,17nm,1.1s								
K20K	Telida	72.37	338		P	P	11 45 39.2	-0.1	
	baz=125								
FALS	False Pass	72.48	328		P	P	11 45 39.7	-0.4	
	baz=113								
O15K	Ishgalikthiuk R	72.58	333		P	P	11 45 40.3	-0.3	
	baz=118								
M17K	Holitna River	72.64	336		P	P	11 45 40.8	-0.1	
	baz=121								
E25K	Arctic Village	72.68	344		IAmb	IAmb	11 45 43.0		
	comp=Z,13nm,1.4s								
E25K	Arctic Village	72.68	344		P	P	11 45 41.7	+0.6	
	baz=134								
I21K	Tanana	72.70	340		IAmb	IAmb	11 47 28.6		
	comp=Z,10nm,0.7s								
I21K	Tanana	72.70	340		P	P	11 45 41.6	+0.4	
	baz=127								
N16K	Nishlik Lake	72.74	334		P	P	11 45 41.5	-0.1	
	baz=119								
L18K	Granite Mounta	72.76	336		P	P	11 45 41.4	-0.2	
	baz=122								
J20K	Nowinta River	72.87	339		IAmb	IAmb	11 45 43.6		
	comp=Z,12nm,0.9s								
J20K	Nowinta River	72.87	339		P	P	11 45 41.3	-0.9	
	baz=125								
TTA	Tatalina	72.87	337		IAmb	IAmb	11 45 43.4		
	comp=Z,8.1nm,1.1s								
TTA	Tatalina	72.87	337		P	P	11 45 41.5	-0.9	
	baz=123								
F24K	Squaw Lake	72.92	343		IAmb	IAmb	11 45 55.4		
	comp=Z,22nm,1.8s								
F24K	Squaw Lake	72.92	343		P	P	11 45 41.9	-0.6	
	baz=132								
H22K	Ishtalitna Cre	72.94	341		P	P	11 45 42.5	-0.1	
	baz=128								
G23K	Bananza Creek	73.02	342		IAmb	IAmb	11 45 44.5		
	comp=Z,9.7nm,1.1s								
G23K	Bananza Creek	73.02	342		P	P	11 45 43.0	-0.2	
	baz=129,SNR=6.1								
M

	baz=119						
K17K	**Iditarod**	**73.66**	**337**	IAmb	IAmb	11 45 49.1	
	comp=Z,16nm,1.1s						
K17K	**Iditarod**	**73.66**	**337**	P	**P**	**11 45 46.2**	**-0.7**
	baz=120						
M15K	**Kasigluk River**	**73.67**	**334**	P	**P**	**11 45 47.1**	**+0.1**
	baz=118						
D25K	**Kavik River**	**73.73**	**345**	IAmb	IAmb	11 45 48.7	
	comp=Z,11nm,1.1s						
D25K	**Kavik River**	**73.73**	**345**	P	**P**	**11 45 47.6**	**+0.3**
	baz=134						
E23K	**Chandalar**	**73.77**	**343**	P	**P**	**11 45 47.7**	**+0.1**
	baz=130						
UNV	**Unalaska Valle**	**73.78**	**326**	P	**P**	**11 45 47.3**	**-0.4**
	baz=110						
C26K	**Camden Bay**	**73.78**	**346**	P	**P**	**11 45 47.8**	**+0.3**
	baz=135						
H20K	**Anotleneega Mo**	**73.88**	**340**	P	**P**	**11 45 47.5**	**-0.6**
	baz=124						
G21K	**Allakaket**	**74.01**	**341**	IAmb	IAmb	11 45 50.2	
	comp=Z,12nm,1.1s						
G21K	**Allakaket**	**74.01**	**341**	P	**P**	**11 45 49.2**	**+0.3**
	baz=126						
TOLK	**Toolik Lake Re**	**74.13**	**344**	P	**P**	**11 45 50.1**	**+0.5**
TOLK				IAmb	IAmb	11 45 51.3	
	comp=Z,11nm,1.1s						
TOLK	**Toolik Lake Re**	**74.13**	**344**	P	**P**	**11 45 50.2**	**+0.5**
	baz=130						
GCSA	**Galena City Sc**	**74.17**	**339**	P	**P**	**11 45 50.0**	**+0.2**
	baz=122						
F22K	**John River**	**74.18**	**342**	P	**P**	**11 45 50.4**	**+0.4**
	baz=127						
M14K	**Bethel**	**74.26**	**334**	P	**P**	**11 45 49.5**	**-0.9**
	baz=116						
J17K	**VABM Dome**	**74.31**	**337**	P	**P**	**11 45 50.2**	**-0.4**
	baz=120						
F21K	**Alatna River**	**74.42**	**342**	IAmb	IAmb	11 45 54.0	
	comp=Z,19nm,1.2s						
F21K	**Alatna River**	**74.42**	**342**	P	**P**	**11 45 50.7**	**-0.6**
	baz=126,SNR=15						
SFJD	**Kangerlussuaq**	**74.44**	**19**	LR	LR	12 19 26.7	
	comp=Z,172nm,19.7s,baz=200,slow=36						
H19K	**Roundabout Mou**	**74.44**	**339**	P	**P**	**11 45 50.8**	**-0.6**
	baz=123						
E22K	**Anaktuvuk Pass**	**74.46**	**343**	IAmb	IAmb	11 45 53.7	
	comp=Z,22nm,1.6s						
E22K	**Anaktuvuk Pass**	**74.46**	**343**	P	**P**	**11 45 51.3**	**-0.3**
	baz=128,SNR=8.2						
L15K	**Ungalak Mounta**	**74.47**	**335**	P	**P**	**11 45 51.2**	**-0.5**
	baz=117						
C24K	**Franklin Bluff**	**74.61**	**345**	P	**P**	**11 45 52.7**	**+0.4**
	baz=131						
D23K	**Nanushuk River**	**74.65**	**344**	P	**P**	**11 45 52.9**	**+0.2**
	baz=129						
M13K	**Dall Lake**	**74.73**	**333**	P	**P**	**11 45 53.9**	**+0.8**
	baz=115						
K15K	**Wolf Creek Mou**	**74.77**	**335**	P	**P**	**11 45 54.5**	**+1.1**
	baz=117						
NIKH	**Nikolski High**	**74.82**	**325**	P	**P**	**11 45 54.5**	**+0.6**
	baz=108						
L14K	**Kuka Creek**	**74.83**	**334**	P	**P**	**11 45 54.5**	**+0.8**
	baz=116						
J16K	**Anvik River**	**74.85**	**337**	IAmb	IAmb	11 45 56.5	
	comp=Z,11nm,1.0s						
J16K	**Anvik River**	**74.85**	**337**	P	**P**	**11 45 55.3**	**+1.5**
	baz=118						
H18K	**Honhosa River**	**74.92**	**339**	P	**P**	**11 45 54.6**	**+0.4**
	baz=121						
G19K	**Purcell Mounta**	**75.00**	**340**	IAmb	IAmb	11 45 57.0	
	comp=Z,18nm,1.1s						
G19K	**Purcell Mounta**	**75.00**	**340**	P	**P**	**11 45 54.0**	**-0.6**
	baz=122,SNR=11						
F20K	**Avaraart Lake**	**75.03**	**341**	IAmb	IAmb	11 45 57.5	
	comp=Z,24nm,1.2s						
F20K	**Avaraart Lake**	**75.03**	**341**	P	**P**	**11 45 55.0**	**+0.2**
	baz=124						
D22K	**Ayikyak River**	**75.17**	**343**	P	**P**	**11 45 55.7**	**+0.1**
	baz=127						
I17K	**Unalakleet**	**75.18**	**337**	P	**P**	**11 45 55.8**	**+0.1**
	baz=118						
C23K	**Itkillik River**	**75.19**	**344**	IAmb	IAmb	11 46 00.1	
	comp=Z,18nm,1.4s						
C23K	**Itkillik River**	**75.19**	**344**	P	**P**	**11 45 56.3**	**+0.6**
	baz=130						
E21K	**Killik River**	**75.28**	**343**	IAmb	IAmb	11 45 58.3	
	comp=Z,12nm,1.1s						
E21K	**Killik River**	**75.28**	**343**	P	**P**	**11 45 57.0**	**+0.6**
	baz=126						
H17K	**Granite Mounta**	**75.39**	**338**	P	**P**	**11 45 57.4**	**+0.5**
	baz=119						
G18K	**Tagagawik**	**75.41**	**339**	P	**P**	**11 45 57.9**	**+0.8**
	baz=121						
E19K	**Redstone River**	**75.75**	**341**	IAmb	IAmb	11 46 00.2	
	comp=Z,11nm,1.3s						
E19K	**Redstone River**	**75.75**	**341**	P	**P**	**11 45 58.8**	**-0.2**
	baz=122						
J14K	**Nanvaranak Lak**	**75.81**	**335**	P	**P**	**11 45 59.8**	**+0.5**
	baz=115						
E20K	**Nigu River**	**75.86**	**342**	P	**P**	**11 45 60.0**	**+0.3**
	baz=124						
G17K	**Kiwalik Mounta**	**75.93**	**339**	P	**P**	**11 45 59.8**	**-0.2**
	baz=119						
C21K	**Knifeblade Rid**	**75.94**	**343**	P	**P**	**11 46 00.5**	**+0.4**
	baz=125						
B21K	**Ikpikpuk River**	**76.16**	**343**	P	**P**	**11 46 01.7**	**+0.5**
	baz=126						
D20K	**Etivluk River**	**76.24**	**342**	P	**P**	**11 46 01.9**	**+0.2**
	baz=123						
B22K	**Teshekpuk Lake**	**76.26**	**344**	P	**P**	**11 46 02.1**	**+0.4**
	baz=127						
G16K	**Koyuk River**	**76.51**	**338**	P	**P**	**11 46 04.3**	**+1.0**
	baz=117						
D19K	**Kuna River**	**76.58**	**342**	P	**P**	**11 46 03.9**	**+0.1**
	baz=122						
F17K	**Baldwin Pennin**	**76.60**	**339**	IAmb	IAmb	11 46 06.5	
	comp=Z,20nm,1.2s						
F17K	**Baldwin Pennin**	**76.60**	**339**	P	**P**	**11 46 04.5**	**+0.7**
	baz=118						
E18K	**Tukpahlearik C**	**76.85**	**340**	P	**P**	**11 46 05.9**	**+0.7**
	baz=119						
SPIA	**Saint Paul Isl**	**76.89**	**329**	P	**P**	**11 46 05.8**	**+0.3**
	baz=108						
G15K	**Niukluk**	**76.97**	**337**	P	**P**	**11 46 07.5**	**+1.6**
	baz=115						
A22K	**Sinclair Lake**	**77.07**	**345**	P	**P**	**11 46 07.6**	**+1.3**
	baz=125						
E17K	**Hotham Inlet**	**77.10**	**340**	P	**P**	**11 46 07.4**	**+0.8**
	baz=118,SNR=7.5						
B20K	**Meade River**	**77.11**	**343**	P	**P**	**11 46 06.8**	**+0.2**
	baz=123						
ANM	**Nome**	**77.31**	**337**	P	**P**	**11 46 07.8**	**-0.1**
	baz=114						
C19K	**Lookout Ridge**	**77.36**	**342**	P	**P**	**11 46 08.7**	**+0.6**
	baz=120						
F15K	**North Star Dit**	**77.51**	**338**	P	**P**	**11 46 09.5**	**+0.5**
	baz=115						
C18K	**Utukok River**	**77.64**	**341**	P	**P**	**11 46 10.6**	**+0.9**
	baz=119						
RDOG	**Red Dog Mine**	**77.92**	**340**	P	**P**	**11 46 12.4**	**+1.2**
RDOG	**Red Dog Mine**	**77.92**	**340**	P	**P**	**11 46 12.0**	**+0.8**
	baz=117,SNR=7.8						
F14K	**Arctic Creek**	**78.05**	**337**	P	**P**	**11 46 13.3**	**+1.3**
	baz=113						
B18K	**Kokolik River**	**78.18**	**342**	P	**P**	**11 46 13.3**	**+0.7**
	baz=118						
C17K	**DeLong Mountai**	**78.20**	**341**	P	**P**	**11 46 13.9**	**+1.1**
	baz=117						
A19K	**Wainwright**	**78.36**	**343**	P	**P**	**11 46 14.0**	**+0.4**
	baz=119						
C16K	**Lisburne Hills**	**78.84**	**340**	P	**P**	**11 46 17.3**	**+1.0**
	baz=115						
GAMB	**Gambell**	**79.62**	**335**	P	**P**	**11 46 21.7**	**+1.2**
	baz=108						
NEEM	**North Greenlan**	**80.61**	**10**	*i* P	**P**	**11 46 25.3**	**-0.8**
NEEM				IAmb	IAmb	11 46 40.9	
	comp=Z,4.3nm,0.8s						
SUMG	**Summit**	**80.89**	**16**	*i* P	**P**	**11 46 29.7**	**+1.9**
SUMG				IAmb	IAmb	11 46 44.1	
	comp=Z,4.1nm,0.8s						
URZ	**Urewera**	**83.56**	**231**	LR	LR	12 20 36.4	
	comp=Z,69nm,18.2s,baz=145,slow=33						
BORG	**Borgarnes**	**84.75**	**25**	LR	LR	12 22 38.4	
	comp=Z,103nm,18.3s,baz=150,slow=34						
RPZ	**Rata Peaks**	**88.63**	**226**	LR	LR	12 19 57.9	
	comp=Z,119nm,19.2s,baz=67,slow=31						
H11N3	**WAKE ISLAND Hy**	**90.23**	**290**	T	T	13 27 02.6	
	baz=88,slow=75,SNR=9.7						
H11N2	**WAKE ISLAND Hy**	**90.25**	**290**	T	T	13 27 09.9	
	baz=88,slow=75,SNR=9.8						
H11N1	**WAKE ISLAND Hy**	**90.25**	**290**	T	T	13 27 05.7	
	baz=88,slow=75,SNR=8.4						
H11S2	**WAKE ISLAND Hy**	**90.46**	**288**	T	T	13 27 17.2	
	baz=85,slow=74,SNR=9.5						
H11S1	**WAKE ISLAND Hy**	**90.47**	**288**	T	T	13 27 21.2	
	baz=85,slow=74,SNR=13						
H11S3	**WAKE ISLAND Hy**	**90.48**	**288**	T	T	13 27 21.6	
	baz=85,slow=74,SNR=9.5						
QSPA	**South Pole Qui**	**91.56**	**180**	P	**P**	**11 47 18.3**	**-2.0**
	comp=Z,0.7nm,0.6s,baz=38,slow=1.4,SNR=2.2						
QSPA				LR	LR	12 22 43.1	
	comp=Z,246nm,18.1s,baz=142,slow=32						
	comp=Z,0.7nm,0.6s						
DZM	**Mont Dzumac**	**91.74**	**248**	*e*SS	SS	12 04 34.6	+3.5
	comp=Z,79nm,26.8s						
DZM	**Mont Dzumac**	**91.74**	**248**	*e*LR	LR	12 16 46.5	
	comp=Z,351nm,30.1s						
DZM	**Mont Dzumac**	**91.74**	**248**	LR	LR	12 23 16.9	
	comp=Z,100nm,18.1s,baz=65,slow=32						
VNDA	**Vanda**	**92.77**	**193**	LR	LR	12 20 59.3	
	comp=Z,103nm,19.1s,baz=104,slow=30						
SPITS	**Spitsbergen Ar**	**94.17**	**10**	LR	LR	12 31 12.6	
	comp=Z,209nm,18.3s,baz=238,slow=36						
SNAA	**Sanae**	**94.44**	**162**	LR		12 22 33.7	
	comp=Z,74nm,19.4s,baz=13,slow=31						
ESDC	**Sonseca Array**	**95.44**	**50**	LR	LR	12 25 38.1	
	comp=Z,303nm,18.7s,baz=332,slow=32						
MDT	**Midelt**	**95.63**	**57**	LR	LR	12 23 20.6	
	comp=Z,144nm,21.2s,baz=331,slow=31						
DBIC	**Dimbokro**	**97.21**	**83**	LR	LR	12 28 05.7	
	comp=Z,111nm,18.4s,baz=235,slow=33						
HNR	**Honiara**	**97.90**	**261**	LR	LR	12 25 20.6	
	comp=Z,µm,18.0s,baz=57,slow=31						
ASAR	**Alice Springs**	**121.37**	**243**	PKP	**PKPdf**	**11 53 04.9**	**-3.0**
	comp=Z,0.2nm,0.8s,baz=123,slow=2.5,SNR=3.0						
WRA	**Warramunga Arr**	**121.76**	**248**	PKP	**PKPdf**	**11 53 06.6**	**-2.0**
	comp=Z,1.0nm,1.1s,baz=101,slow=1.6,SNR=4.2						
BRTR	**Keskin Array B**	**122.47**	**39**	PKP	**PKPdf**	**11 53 08.8**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=259,slow=2.5,SNR=4.0						
ZALV	**Zalesovo Beam**	**124.38**	**355**	PKP	**PKPdf**	**11 53 11.3**	**-1.4**
	comp=Z,1.6nm,0.7s,baz=45,slow=0.8,SNR=7.9						
SONM	**Songino Array**	**124.82**	**337**	PKP	**PKPdf**	**11 53 12.1**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=50,slow=8.2,SNR=3.6						
BVAR	**Borovoye Array**	**125.28**	**5**	PKP	**PKPdf**	**11 53 13.6**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=325,slow=2.3,SNR=5.6						
BJI	**Beijing**	**125.71**	**324**	PKP	**PKiKP**	**11 53 15.9**	**-0.1**
BJI				pPKP	**sPKPdf**	**11 53 19.5**	**+0.7**
KURBB	**Kurchatov Arra**	**128.03**	**359**	PKP	**PKPdf**	**11 53 18.1**	**-1.7**
	comp=Z,1.3nm,0.2s,baz=355,slow=2.0,SNR=8.6						
MKAR	**Makanchi Array**	**131.69**	**356**	PKP	**PKPdf**	**11 53 25.6**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=0.0,slow=1.3,SNR=6.2						
PZH	**PanZhiHua**	**143.73**	**322**	PKP	**PKPdf**	**11 53 49.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**151.16**	**315**	PKPbc	**PKPdf**	**11 54 03.6**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=335,slow=1.9,SNR=9.1						

*RHSSO **14** 11:34:43.8±0.3,43°.65N×16°.91E,h4km±1km,ML3.1/19*
*PRU **14** 11:34:43.1,43°.67N×17°.19E,h0km*
*PDG **14** 11:34:43.5±0.2,43°.60N×16°.93E,h0km,ML3.3/11,Error ellipse: s-maj=0.9km s-min=1.1km az=0.0*
*BEO **14** 11:34:44.4±0.3,43°.68N×16°.95E,h0km,ML3.1/8*

ISC 14 11:34:43.7±1.1,43°.68N±0°.02×16°.96E±0°.02,h1km±9km,
n95,σ1§14/162,11C-8D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RICI	**Ricice**	**0.23**	**147**	*i*	Pg		**Pg**	**11 34 48.4**	**+0.4**
RICI					Sg		**Sg**	**11 34 51.3**	**+0.4**
MAKA	**Makarska**	**0.40**	**174**	*e*	Pg		**Pg**	**11 34 50.8**	**-0.4**
MAKA					Sg		**Sg**	**11 34 57.5**	**+1.1**
KIJV	**Kijevo**	**0.52**	**309**	*e*	Pg		**Pg**	**11 34 52.7**	**-0.9**
KIJV					Sg		**Sg**	**11 35 00.7**	**+0.5**
HVAR	**Hvar**	**0.63**	**217**	*e*	Pg		**Pg**	**11 34 54.4**	**-1.3**
HVAR					Sg		**Sg**	**11 35 04.3**	**+0.5**
MGRS	**Mrkonjic Grad**	**0.74**	**7**	⇓ *i*	Pg		**Pg**	**11 34 58.1**	**+0.3**
MGRS				*e*	Sg		**Sg**	**11 35 08.3**	**+0.9**
A050A	**Klekovaca**	**0.86**	**339**	*e*	Pg		**Pg**	**11 34 59.2**	**-0.9**
A050A				*e*	Sg		**Sg**	**11 35 11.9**	**+0.7**
NEVS	**Nevesinje**	**0.91**	**114**	*e*	Pg		**Pg**	**11 35 00.3**	**-0.9**
NEVS				*e*	Sg		**Sg**	**11 35 13.7**	**+0.7**
MORI	**Morici**	**0.93**	**282**	*e*	Pg		**Pg**	**11 35 00.3**	**-1.2**
MORI					Sg		**Sg**	**11 35 13.4**	**0.0**
ZIRJ	**Zirje**	**0.96**	**269**	*e*	Pg		**Pg**	**11 35 00.4**	**-1.6**
ZIRJ					Sg		**Sg**	**11 35 15.0**	**+0.6**
STON	**Ston**	**0.97**	**146**	*i*	Pg		**Pg**	**11 35 00.6**	**-1.7**
STON					Sg		**Sg**	**11 35 15.2**	**+0.4**
STON	**Ston**	**0.97**	**146**	*e*	Pg		**Pg**	**11 35 01.9**	**-1.6**
STON				*e*	Sg		**Sb**	**11 35 16.1**	**-0.6**
STON	**Ston**	**0.97**	**146**	⇓ *i*	Pg		**Pg**	**11 35 00.4**	**-1.9**
STON				*e*	Sg		**Sg**	**11 35 14.2**	**-0.7**
BLY	**Banja Luka**	**1.08**	**8**	*e*	Pg		**Pg**	**11 35 04.4**	**+0.1**
BLY				*e*	Sg		**Sb**	**11 35 20.5**	**+0.8**
BLY	**Banja Luka**	**1.08**	**8**	⇑ *i*	Pg		**Pg**	**11 35 04.1**	**-0.2**
BLY				*e*	Sg		**Sg**	**11 35 19.4**	**+1.1**
UDBI	**Udbina**	**1.21**	**315**	*e*	Pg		**Pg**	**11 35 06.0**	**-0.8**
UDBI					Sg		**Sg**	**11 35 22.7**	**+0.2**
KLINJ	**Klinje**	**1.29**	**113**	*e*	Pg		**Pg**	**11 35 07.6**	**-0.7**
PRIJ	**Prijedor**	**1.31**	**352**	*e*	Pg		**Pg**	**11 35 07.8**	**-0.9**
PRIJ				*e*	Sg		**Sg**	**11 35 25.8**	**+0.2**
DOB	**Doboj**	**1.33**	**38**	*e*	Pg		**Pg**	**11 35 08.0**	**-1.2**
DOB				*e*	Sg		**Sg**	**11 35 27.0**	**+0.6**
DBRK	**Dubrovnik**	**1.33**	**139**	*e*	Pg		**Pg**	**11 35 07.8**	**-1.4**
BRY	**Bratogost**	**1.39**	**124**	*e*	Pg		**Pg**	**11 35 08.4**	**-1.8**
BRY				*e*	Sg		**Sb**	**11 35 28.7**	**-0.2**
BRY	**Bratogost**	**1.39**	**124**	⇓ *i*	Pg		**Pg**	**11 35 08.5**	**-1.8**
BRY				*i*	Sg		**Sn**	**11 35 30.0**	**+0.5**
TREB	**Trebinje**	**1.40**	**133**	*e*	Pg		**Pn**	**11 35 08.3**	**-2.1**
TREB				*e*	Sg		**Sn**	**11 35 30.4**	**+0.9**
TREB	**Trebinje**	**1.40**	**133**	*e*	Pg		**Pn**	**11 35 08.7**	**-1.7**
TREB				*e*	Sg		**Sb**	**11 35 28.9**	**-0.1**
UPM	**Unac-Piva**	**1.49**	**108**	⇑ *i*	Pg		**Pn**	**11 35 10.8**	**-1.0**
UPM				*i*	Sg		**Sn**	**11 35 34.3**	**+2.2**
VIRC	**Vir**	**1.51**	**295**	*e*	Pn		**Pn**	**11 35 10.9**	**-0.9**
A251A	**Rujevac**	**1.53**	**341**	*i*	Pn		**Pn**	**11 35 12.3**	**+0.1**
PLIT	**Plitvice**	**1.54**	**322**	*e*	Pn		**Pn**	**11 35 12.4**	**+0.1**
PLIT					Sn		**Sg**	**11 35 34.0**	**+1.0**
NKME	**Niksic**	**1.72**	**121**	*e*	Pn		**Pn**	**11 35 15.0**	**+0.2**
NKME				*i*	Sn		**Sg**	**11 35 40.8**	**+1.9**
NVLJ	**Novalja**	**1.75**	**301**	*e*	Pn		**Pn**	**11 35 14.9**	**-0.2**
NVLJ					Sn		**Sn**	**11 35 37.7**	**-0.3**
RUDO	**Rudo**	**1.75**	**91**	*e*	Pn		**Pn**	**11 35 14.8**	**-0.4**
RUDO				*e*	Sn		**Sn**	**11 35 38.7**	**+0.6**
PLE	**Pljevlja**	**1.80**	**100**	*e*	Pn		**Pn**	**11 35 16.5**	**+0.5**
PLE				*i*	Sn		**Sg**	**11 35 43.6**	**+2.1**
CEME	**Cevo**	**1.83**	**128**	⇓ *i*	Pn		**Pn**	**11 35 16.0**	**-0.3**
CEME				*i*	Sn		**Sg**	**11 35 43.1**	**+0.8**
A254A	**Petrova Gora**	**1.83**	**333**	*e*	Pn		**Pn**	**11 35 17.1**	**+0.7**
A254A					Sn		**Sn**	**11 35 40.9**	**+0.8**
A252A	**Venje**	**1.86**	**20**	*i*	Pn		**Pn**	**11 35 15.7**	**-1.1**
A252A					Sn		**Sn**	**11 35 40.6**	**-0.4**
MOSL	**Moslavina**	**1.94**	**356**	*e*	Pn		**Pn**	**11 35 16.9**	**-0.9**
TEKS	**Tekeris**	**2.04**	**64**	*e*	Pn		**Pn**	**11 35 18.3**	**-0.9**
TEKS				*e*	Sn		**Sb**	**11 35 47.5**	**0.0**
TEKS	**Tekeris**	**2.04**	**64**	*e*	Pn		**Pn**	**11 35 20.0**	**+0.8**
TEKS				*e*	Sn		**Sn**	**11 35 45.9**	**+0.5**
KOME	**Kolasin**	**2.04**	**113**	⇑ *i*	Pn		**Pn**	**11 35 20.1**	**+0.8**
KOME				*i*	Sn		**Sg**	**11 35 49.0**	**-0.2**
PDG	**Podgorica**	**2.10**	**126**	⇑	P		**Pg**	**11 35 24.7**	**+0.9**
PDG				⇑	S		**Sb**	**11 35 49.9**	**+0.9**
PDG	**Podgorica**	**2.10**	**126**	*e*	Pn		**Pn**	**11 35 21.9**	**-0.6**
PDG				*e*	Sn		**Sb**	**11 35 49.2**	**+0.2**
PDG	**Podgorica**	**2.10**	**126**	⇑ *i*	Pn		**Pn**	**11 35 20.4**	**+0.5**
PDG				*e*	Sn		**Sn**	**11 35 46.2**	**-0.4**
PDG	**Podgorica**	**2.10**	**126**	*e*	Pn		**Pn**	**11 35 20.6**	**+0.7**
PDG				*i*	Sn		**Sb**	**11 35 49.6**	**+0.6**
BOJS	**Bojanci**	**2.19**	**327**	*e*	Pn		**Pn**	**11 35 21.9**	**+0.6**
BOJS				*e*	Sn		**Sn**	**11 35 49.1**	**0.0**
BOJS	**Bojanci**	**2.19**	**327**	*e*	Pn		**Pn**	**11 35 21.2**	**-0.1**
BOJS				*e*	Sn		**Sn**	**11 35 48.3**	**-0.8**
DRME	**Dracevica, Mon**	**2.21**	**132**	*e*	Pn		**Pn**	**11 35 21.7**	**+0.1**
DRME				*e*	Sn		**Sn**	**11 35 49.1**	**-0.5**
DRME	**Dracevica, Mon**	**2.21**	**132**	⇑ *i*	Pn		**Pn**	**11 35 22.0**	**+0.4**
DRME				*i*	Sn		**Sb**	**11 35 52.2**	**-0.2**
DIVS	**Divibare**	**2.23**	**78**	*e*	Pn		**Pn**	**11 35 20.9**	**-1.0**
DIVS	**Divibare**	**2.23**	**78**	*e*	Pn		**Pn**	**11 35 22.0**	**+0.1**
DIVS				*e*	Sn		**Sn**	**11 35 49.9**	**-0.2**
SJES	**Sjenica**	**2.23**	**100**	*e*	Pn		**Pn**	**11 35 22.5**	**+0.6**
SJES	**Sjenica**	**2.23**	**100**	*e*	Pn		**Pn**	**11 35 22.5**	**+0.6**
SJES				*e*	Sn		**Sn**	**11 35 50.1**	**-0.1**
IVA	**Berane**	**2.29**	**110**	⇓ *i*	Pn		**Pn**	**11 35 23.6**	**+0.9**
IVA				*i*	Sn		**Sb**	**11 35 54.9**	**+0.2**
IVAS	**Ivanjica**	**2.32**	**92**	*e*	Pn		**Pn**	**11 35 23.7**	**+0.6**
CRES	**Cresnjev**	**2.40**	**334**	*e*	Pn		**Pn**	**11 35 24.4**	**+0.3**
CRES				*e*	Sn		**Sn**	**11 35 54.0**	**-0.1**
ULC	**Ulcinj**	**2.40**	**135**	*e*	Pn		**Pn**	**11 35 24.5**	**+0.3**
ULC				*i*	Sn		**Sb**	**11 35 56.5**	**-1.4**
PVY	**Plav**	**2.45**	**115**	*e*	Pn		**Pn**	**11 35 25.6**	**+0.7**
PVY				*i*	Sn		**Sb**	**11 35 58.6**	**-0.7**
FRGS	**Fruska Gora**	**2.52**	**53**	⇓	P		**Pb**	**11 35 30.6**	**+0.9**
FRGS	**Fruska Gora**	**2.52**	**53**	*e*	Pn		**Pn**	**11 35 26.7**	**+0.9**
FRGS				*e*	Sn		**Sn**	**11 35 58.1**	**+1.0**
TRUS	**Trudelj**	**2.54**	**77**	*e*	Pn		**Pn**	**11 35 25.2**	**-0.9**
GRUS	**Gruza**	**2.73**	**84**	*e*	Pn		**Pn**	**11 35 28.1**	**-0.5**
CEY	**Cerknica**	**2.74**	**320**	*e*	Pn		**Pn**	**11 35 29.6**	**+0.8**
CEY	**Cerknica**	**2.74**	**320**	*e*	Pn		**Pn**	**11 35 29.2**	**+0.4**
CEY				*e*	Sn		**Sn**	**11 36 02.3**	**-0.3**
BEHE	**Becsehely**	**2.79**	**357**	*e*	Pn		**Pn**	**11 35 29.6**	**+0.1**
BEHE				*e*	Sn		**Sn**	**11 36 03.9**	**+0.1**
MORH	**Mrgy, Hungar**	**2.80**	**25**	⇑	P		**Pn**	**11 35 28.1**	**-1.5**
MORH	**Mrgy, Hungar**	**2.80**	**25**	*e*	Pn		**Pn**	**11 35 29.6**	**0.0**
MORH				*e*	Sn		**Sn**	**11 36 04.3**	**+0.3**
MATE	**Matera**	**3.04**	**184**	⇑	P		**Pb**	**11 35 39.3**	**+0.7**
SELS	**Selova**	**3.06**	**97**	*e*	Pn		**Pn**	**11 35 33.5**	**+0.2**
SOKA	**Soboth**	**3.29**	**336**	*i*	Pn		**Pn**	**11 35 36.0**	**-0.5**
	1.9nm,0.2s,SNR=7.3								
SOKA				*e*	Sn		**Sn**	**11 36 15.8**	**-0.5**
	8.0nm,0.4s								
OBKA	**Obir**	**3.30**	**330**	*e*	Pn		**Pn**	**11 35 36.2**	**-0.4**
	1.6nm,0.2s								
OBKA				*e*	Sn		**Sb**	**11 36 26.7**	**+2.9**
	17nm,0.4s								
OBKA	**Obir**	**3.30**	**330**	*e*	Pn		**Pn**	**11 35 36.2**	**-0.4**
OBKA				*e*	Sn		**Sn**	**11 36 15.8**	**-0.8**
MDVR	**Moldovita**	**3.59**	**71**	⇑	P		**Pn**	**11 35 42.4**	**+1.9**
ARSA	**Arzberg**	**3.71**	**345**	*i*	Pn		**Pn**	**11 35 41.0**	**-1.1**
	13nm,0.4s,SNR=8.3								
ARSA				*e*	Sn		**Sn**	**11 36 23.4**	**-3.1**
	19nm,0.5s								
ARSA	**Arzberg**	**3.71**	**345**	⇑ *i*	Pn		**Pn**	**11 35 41.6**	**-0.6**
ARSA				*e*	Sn		**Sn**	**11 36 25.4**	**-1.1**
ZAGS	**Zajecar**	**3.82**	**86**	*e*	Pn		**Pn**	**11 35 44.5**	**+0.9**
BZS	**Buzias**	**3.84**	**58**	⇓	P		**Pb**	**11 35 52.1**	**-0.1**
PRVS	**Prvonek**	**3.92**	**106**	*e*	Pn		**Pn**	**11 35 46.0**	**+0.9**
RONA	**Rosalia, Austr**	**4.04**	**354**	*e*	Pn		**Pn**	**11 35 46.2**	**-0.5**
	2.8nm,0.2s,SNR=8.5								
RONA				*e*	Sn		**Sn**	**11 36 32.5**	**-2.3**
	6.7nm,0.4s								
ZAPS	**Zavoj**	**4.15**	**94**	*e*	Pn		**Pn**	**11 35 49.5**	**+1.3**
ZAPS				*e*	Sn		**Sn**	**11 36 36.9**	**-0.4**
CONA	**Conrad Observa**	**4.32**	**350**	*i*	Pn		**Pn**	**11 35 50.1**	**-0.4**
	3.3nm,0.3s,SNR=4.7								
CONA				*e*	Sn		**Sn**	**11 36 38.3**	**-3.2**
	10nm,0.4s								
ABTA	**Abfaltersbach**	**4.39**	**316**	*i*	Pn		**Pn**	**11 35 53.0**	**+1.5**
	1.3nm,0.2s								
ABTA				*e*	Sn		**S

SKAG					S	**Sb**	**11 38 37.7**	**-0.7**
	baz=258							
S31K	**Pelican**	**1.42**	**140**			**Pn**	**11 38 19.2**	**-0.9**
S31K	**Pelican**	**1.42**	**140**		IAML		11 38 40.5	
	comp=E,37nm,1.4s							
S31K					IAML		11 38 45.1	
	comp=N,37nm,1.4s							
YUK7	**Dusty Glacier**	**1.48**	**356**			**Pn**	**11 38 21.4**	**+0.3**
YUK7	**Dusty Glacier**	**1.48**	**356**		Pn	**Pn**	**11 38 21.4**	**+0.3**
YUK7					Sg	**Sn**	**11 38 40.3**	**-0.5**
PINM	**Pinnacle**	**1.57**	**312**		P	**Pn**	**11 38 21.3**	**-0.9**
	baz=129,SNR=12							
PINM					S	**Sn**	**11 38 41.7**	**-1.1**
	baz=129							
PCA	**Pinnacle**	**1.57**	**312**			**Pn**	**11 38 21.2**	**-0.9**
PCA						**Sn**	**11 38 42.6**	**-0.3**
PCA	**Pinnacle**	**1.57**	**312**		Pn	**Pn**	**11 38 21.4**	**-0.9**
PCA					Sg	**Sn**	**11 38 42.4**	**-0.4**
HYT	**Haines Junctio**	**1.78**	**7**			**Pn**	**11 38 25.3**	**+0.1**
HYT						**Sn**	**11 38 48.3**	**+0.2**
HYT	**Haines Junctio**	**1.78**	**7**		P	**Pn**	**11 38 25.3**	**+0.1**
	baz=188,SNR=66							
HYT					Sb	**Sn**	**11 38 49.1**	**+0.9**
	baz=188							
HYT	**Haines Junctio**	**1.78**	**7**		Pn	**Pn**	**11 38 25.6**	**+0.4**
HYT					Sg	**Sn**	**11 38 49.0**	**+0.8**
SAMH	**Samovar Hills**	**1.80**	**308**		Sg	**Sb**	**11 38 50.8**	**+0.9**
YUK6	**Outpost Mounta**	**1.90**	**354**			**Pn**	**11 38 27.2**	**+0.3**
YUK6	**Outpost Mounta**	**1.90**	**354**		P	**Pn**	**11 38 27.3**	**+0.3**
	baz=174,SNR=99							
YUK6					Sb	**Sb**	**11 38 52.6**	**-0.4**
	baz=174							
YUK6	**Outpost Mounta**	**1.90**	**354**		Pn	**Pn**	**11 38 27.4**	**+0.5**
YUK6					Sg	**Sb**	**11 38 53.0**	**0.0**
O30N	**Mendenhall**	**1.95**	**28**			**Pn**	**11 38 27.6**	**+0.1**
O30N					IAML		11 38 55.6	
	comp=E,31nm,0.6s							
O30N					IAML		11 38 56.7	
	comp=N,24nm,0.4s							
O30N	**Mendenhall**	**1.95**	**28**		P	**Pn**	**11 38 27.6**	**+0.1**
	baz=211,SNR=100							
O30N					S	**Sn**	**11 38 51.8**	**-0.4**
	baz=211							
YUK5	**Granite Creek**	**2.08**	**1**		Pn	**Pn**	**11 38 29.9**	**+0.6**
YUK5					Sn	**Sn**	**11 38 56.3**	**+0.8**
TABL	**Table Mountain**	**2.13**	**312**		Pn	**Pn**	**11 38 31.2**	**+1.2**
TABL					IAML		11 39 00.1	
	comp=E,29nm,1.4s							
TABL					IAML		11 39 03.2	
	comp=N,24nm,1.3s							
TABL	**Table Mountain**	**2.13**	**312**		Pn	**Pn**	**11 38 30.2**	**+0.1**
TABL					Sn	**Sn**	**11 38 56.8**	**0.0**
WHY	**Whitehorse**	**2.23**	**43**			**Pn**	**11 38 31.4**	**+0.1**
WHY	**Whitehorse**	**2.23**	**43**		IAML		11 39 05.1	
	comp=E,30nm,0.3s							
WHY					IAML		11 39 06.1	
	comp=N,28nm,0.8s							
WHY	**Whitehorse**	**2.23**	**43**		P	**Pn**	**11 38 31.4**	**+0.1**
	baz=227,SNR=37							
WHY					S	**Sn**	**11 38 59.0**	**-0.1**
	baz=227							
WHY	**Whitehorse**	**2.23**	**43**		Pn	**Pn**	**11 38 31.4**	**+0.1**
WHY					Sn	**Sn**	**11 38 59.5**	**+0.4**
P32M	**Atlin**	**2.23**	**75**			**Pn**	**11 38 30.9**	**-0.4**
P32M	**Atlin**	**2.23**	**75**		IAML		11 39 03.7	
	comp=N,17nm,0.6s							
P32M					IAML		11 39 05.7	
	comp=E,20nm,1.4s							
P32M	**Atlin**	**2.23**	**75**		P	**Pn**	**11 38 31.4**	**+0.1**
	baz=260							
P32M					S	**Sn**	**11 38 59.6**	**+0.5**
	baz=260							
P32M	**Atlin**	**2.23**	**75**		Pn	**Pn**	**11 38 30.9**	**-0.4**
P32M					Sn	**Sn**	**11 38 59.3**	**+0.2**
YUK4	**Talbot Arm**	**2.31**	**352**		P	**Pb**	**11 38 34.9**	**-1.2**
	baz=173,SNR=92							
YUK4	**Talbot Arm**	**2.31**	**352**		Pn	**Pb**	**11 38 35.0**	**-1.2**
LOGN	**Logan Glacier**	**2.34**	**320**			**Pn**	**11 38 33.0**	**0.0**
LOGN	**Logan Glacier**	**2.34**	**320**		Pn	**Pn**	**11 38 33.9**	**+0.9**
LOGN					Sn	**Sn**	**11 39 01.6**	**-0.5**
YUK8	**Steele Glacier**	**2.41**	**339**		Pn	**Pn**	**11 38 35.5**	**+1.5**
YUK8					Sg	**Sb**	**11 39 09.7**	**+2.0**
N30M	**Aishikik Lake**	**2.44**	**10**			**Pn**	**11 38 34.7**	**+0.4**
N30M	**Aishikik Lake**	**2.44**	**10**		IAML		11 39 12.6	
	comp=E,15nm,1.1s							
N30M	**Aishikik Lake**	**2.44**	**10**		P	**Pn**	**11 38 34.5**	**+0.3**
	baz=191							
N30M					Sb	**Sb**	**11 39 10.0**	**+1.6**
	baz=191							
N30M	**Aishikik Lake**	**2.44**	**10**		Pn	**Pn**	**11 38 34.6**	**+0.4**
N30M					Sg	**Sb**	**11 39 10.3**	**+1.9**
CTGM	**Chitina Glacie**	**2.56**	**320**			**Pn**	**11 38 36.1**	**+0.2**
CTGM	**Chitina Glacie**	**2.56**	**320**		Pn	**Pn**	**11 38 37.3**	**+1.4**
CTGM					Sn	**Sn**	**11 39 07.0**	**-0.3**
N31M	**Braeburn, Yuko**	**2.66**	**23**		Pn	**Pn**	**11 38 37.5**	**+0.4**
N31M					IAML		11 39 18.3	
	comp=N,19nm,0.9s							
N31M	**Braeburn, Yuko**	**2.66**	**23**		P	**Pn**	**11 38 37.4**	**+0.2**
	baz=206							
N31M	**Braeburn, Yuko**	**2.66**	**23**		Pn	**Pn**	**11 38 37.6**	**+0.5**
N31M					Sn	**Sn**	**11 39 09.4**	**-0.2**
N31M					Sg	**Sb**	**11 39 16.8**	**+2.1**
BARN	**Barnard Glacie**	**2.73**	**319**		Pn	**Pn**	**11 38 39.4**	**+1.0**
BARN					IAML		11 39 16.3	
	comp=E,19nm,0.5s							
P33M	**Teslin, Yukon**	**2.85**	**64**			**Pn**	**11 38 39.3**	**-0.5**
P33M	**Teslin, Yukon**	**2.85**	**64**		P	**Pn**	**11 38 39.0**	**-0.8**
	baz=250,SNR=11							
P33M	**Teslin, Yukon**	**2.85**	**64**		Pn	**Pn**	**11 38 39.3**	**-0.5**
P33M					Sn	**Sn**	**11 39 12.7**	**-1.6**
P33M					Sg	**Sb**	**11 39 22.2**	**+2.1**
WAX	**Waxell Ridge**	**2.85**	**301**		Pn	**Pn**	**11 38 42.6**	**+2.8**
KIAG	**Kiagna River**	**2.90**	**312**			**Pn**	**11 38 41.0**	**+0.4**
KIAG	**Kiagna River**	**2.90**	**312**		Pn	**Pn**	**11 38 42.0**	**+1.4**
KIAG					Sn	**Sn**	**11 39 16.1**	**+0.3**
Q32M	**Nakina River**	**2.94**	**90**		Pn	**Pn**	**11 38 41.8**	**+0.6**
Q32M					Sn	**Sn**	**11 39 15.7**	**-1.1**
YUK3	**Moose Creek**	**2.99**	**336**		Pn	**Pn**	**11 38 43.4**	**+1.4**
YUK3					Sg	**Sg**	**11 39 29.0**	**-0.9**
YUK2	**White River**	**3.09**	**333**		Pn	**Pn**	**11 38 44.1**	**+0.9**
PTPK	**Patty Peak**	**3.11**	**315**		Pn	**Pn**	**11 38 44.5**	**+1.0**
N32M	**Quiet Lake**	**3.21**	**47**		Pn	**Pn**	**11 38 45.6**	**+0.8**
N32M	**Quiet Lake**	**3.21**	**47**		P	**Pn**	**11 38 45.1**	**+0.3**
	baz=232							
N32M	**Quiet Lake**	**3.21**	**47**		Pn	**Pn**	**11 38 45.0**	**+0.2**
N32M					Sn	**Sn**	**11 39 23.3**	**0.0**
N32M					Sg	**Sb**	**11 39 33.7**	**+3.2**
M29M	**Somme Creek**	**3.40**	**356**		Pn	**Pn**	**11 38 48.4**	**+1.0**
M29M					IAML		11 39 48.5	
	comp=N,6.4nm,1.4s							
M29M	**Somme Creek**	**3.40**	**356**		P	**Pn**	**11 38 48.1**	**+0.7**
	baz=176,SNR=8.4							
M29M	**Somme Creek**	**3.40**	**356**		Pn	**Pn**	**11 38 48.3**	**+0.8**
M29M					Sn	**Sn**	**11 39 28.5**	**+0.4**
M29M					Sg	**Sg**	**11 39 40.5**	**-2.5**
MCARA	**McCarthy VSAT**	**3.44**	**315**		Pn	**Pn**	**11 38 50.2**	**+2.3**
MCARA					IAML		11 40 50.7	
	comp=N,11nm,1.3s							
VRDI	**Verde Repeater**	**3.51**	**311**		Pn	**Pn**	**11 38 52.9**	**+3.9**
VRDI					IAML		11 39 17.1	
	comp=N,6.1nm,1.3s							
M30M	**Minto, Yukon**	**3.57**	**9**		Pn	**Pn**	**11 38 50.5**	**+0.8**
M30M					IAML		11 39 51.9	
	comp=E,5.8nm,0.7s							
M30M	**Minto, Yukon**	**3.57**	**9**		P	**Pn**	**11 38 50.2**	**+0.5**
	baz=190,SNR=8.1							
M30M	**Minto, Yukon**	**3.57**	**9**		Pn	**Pn**	**11 38 50.3**	**+0.6**
M30M					Sg	**Sb**	**11 39 45.0**	**+4.1**
R33M	**Jennings River**	**3.60**	**82**		Pn	**Pn**	**11 38 51.1**	**+0.9**
R33M					IAML		11 39 56.5	
	comp=N,6.3nm,1.4s							
R33M	**Jennings River**	**3.60**	**82**		Pn	**Pn**	**11 38 50.1**	**-0.1**
R33M					Sn	**Sn**	**11 39 32.1**	**-1.0**
R33M					Sg	**Sg**	**11 39 46.6**	**-2.8**
M31M	**Drury Creek, Y**	**3.60**	**28**		Pn	**Pn**	**11 38 51.4**	**+1.2**
M31M					IAML		11 39 49.8	
	comp=N,7.9nm,1.3s							
M31M					IAML		11 39 50.5	
	comp=E,7.3nm,1.4s							
M31M	**Drury Creek, Y**	**3.60**	**28**		Pn	**Pn**	**11 38 51.0**	**+0.9**
M31M					Sn	**Sn**	**11 39 32.8**	**-0.1**
M31M					Sg	**Sb**	**11 39 45.2**	**+3.5**
S34M	**Telegraph Cree**	**3.76**	**105**		Sn	**Sn**	**11 39 36.1**	**-0.6**
S34M					Sg	**Sg**	**11 39 51.2**	**-3.3**
FARO	**Faro, Yukon**	**3.90**	**33**		Pn	**Pn**	**11 38 55.5**	**+1.3**
FARO					IAML		11 40 02.7	
	comp=N,6.4nm,0.7s							
FARO	**Faro, Yukon**	**3.90**	**33**		Pn	**Pn**	**11 38 55.2**	**+1.0**
FARO					Sn	**Sn**	**11 39 40.2**	**0.0**
FARO					Sg	**Sg**	**11 39 56.2**	**-2.8**
L29M	**L29M**	**4.06**	**359**		Pn	**Pn**	**11 38 57.6**	**+1.2**
L29M	**L29M**	**4.06**	**359**		P	**Pn**	**11 38 56.6**	**+0.2**
	baz=179							
L29M	**L29M**	**4.06**	**359**		Pn	**Pn**	**11 38 57.3**	**+0.9**
L29M					Sg	**Sg**	**11 40 00.5**	**-3.7**
DLBC	**Dease Lake**	**4.17**	**95**		Pn	**Pn**	**11 38 58.6**	**+0.6**
DLBC					Sn	**Sn**	**11 39 45.1**	**-1.9**
DLBC					Sg	**Sb**	**11 40 03.1**	**+4.9**
BCAR	**Beaver Creek A**	**4.43**	**337**		Pn	**Pn**	**11 39 02.4**	**+0.9**
WTLY	**Watson Lake, Y**	**4.77**	**73**		Sg	**Sb**	**11 40 21.3**	**+6.0**
K29M	**Barlow Dome**	**4.80**	**2**		P	**Pn**	**11 39 07.3**	**+0.6**
	baz=183							
K29M	**Barlow Dome**	**4.80**	**2**		Pn	**Pn**	**11 39 07.7**	**+1.0**
K29M					Sn	**Sn**	**11 40 01.7**	**-0.8**
K29M					Sg	**Sg**	**11 40 24.9**	**-3.0**
DAWY	**Dawson**	**5.07**	**353**		Pn	**Pn**	**11 39 12.1**	**+1.8**
DAWY	**Dawson**	**5.07**	**353**		Pn	**Pn**	**11 39 11.5**	**+1.3**
DAWY					Sn	**Sn**	**11 40 08.0**	**-1.0**
J30M	**Hart River**	**5.58**	**7**		Pn	**Pn**	**11 39 18.5**	**+1.0**
J30M					Sg	**Sg**	**11 40 47.3**	**-5.7**
EGAK	**Eagle**	**5.93**	**347**		Pn	**Pn**	**11 39 23.6**	**+1.5**
EGAK	**Eagle**	**5.93**	**347**		Pn	**Pn**	**11 39 23.1**	**+1.0**
EGAK					Sg	**Sg**	**11 40 59.7**	**-4.4**
I30M	**Mount Dempster**	**6.22**	**6**		Sn	**Sn**	**11 40 37.8**	**+0.2**
I30M					Sg	**Sg**	**11 41 06.6**	**-6.9**
I28M	**Miner Creek**	**6.47**	**353**		Pn	**Pn**	**11 39 31.5**	**+1.8**
I28M	**Miner Creek**	**6.47**	**353**		Pn	**Pn**	**11 39 30.9**	**+1.3**
I26K	**Coal Creek Min**	**6.72**	**341**		Pn	**Pn**	**11 39 34.6**	**+1.7**
G31M	**Satah River**	**8.06**	**10**		Pn	**Pn**	**11 39 53.2**	**+1.9**
BMAR	**Burnt Mountain**	**8.91**	**343**		Pn	**Pn**	**11 40 04.7**	**+1.8**

IDC 14 12:06:54.3±999.0, 48.74N×50.72E, h0km, Error ellipse: s-maj=3401.0km s-min=132.4km az=68.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.04**	**68**	I	I	12 25 10.0	
	0.2nm,0.6s,baz=254,slow=299,SNR=1.0						
I46RU	**ZALESOVO INFRA**	**21.79**	**63**	I	I	14 16 00.0	
	baz=270,slow=332,SNR=0.7						
I34MN	**SONGINO INFRAS**	**36.38**	**70**	I	I	15 49 40.0	
	baz=290,slow=336,SNR=0.7						

WEL 14 12:08:46.4±1.1, 45°S±7°×167E±1°, 0, h105km±7km, M3.6/13, MLv3.6/13, Error ellipse: s-maj=0.0km s-min=0.0km az=115.6, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.45**	**46**	P	Pn	12 09 04.2	+1.8
MSZ				S	Sn	12 09 16.8	+2.4
TAFS	**Te Anau Fire S**	**0.47**	**158**	P	Pn	12 09 02.1	-0.5
TAFS				S	Sn	12 09 14.7	+0.1
MLZ	**Mavora Lakes**	**0.59**	**130**	P	Pn	12 09 04.4	+0.8
MLZ				S	Sn	12 09 17.4	+1.0
GLNY	**Glenorchy**	**0.67**	**80**	P	Pn	12 09 04.0	-0.1
GLNY				S	Sn	12 09 17.6	+0.3
QTPS	**Queenstown Pol**	**0.84**	**94**	P	Pn	12 09 07.0	+1.3
QTPS				S	Sn	12 09 21.2	+1.0
MOSS	**Mossburn Schoo**	**0.87**	**142**	P	Pn	12 09 07.1	+1.2
MOSS				S	Sn	12 09 22.3	+1.7
WHZ	**Wether Hill Ro**	**0.97**	**160**	P	Pn	12 09 07.2	+0.3
WKZ	**Wanaka**	**1.11**	**82**	P	Pn	12 09 09.9	+1.5
WNPS	**Wanaka Nationa**	**1.22**	**77**	P	Pn	12 09 10.3	+0.7
JCZ	**Jackson Bay**	**1.30**	**46**	P	Pn	12 09 11.8	+1.1
PYZ	**Puysegur Point**	**1.31**	**205**	P	Pn	12 09 10.2	-0.5
EAZ	**Earnscleugh**	**1.32**	**102**	P	Pn	12 09 11.8	+0.9
TUZ	**Tuapeka**	**1.80**	**123**	P	Pn	12 09 17.1	+0.4
APZ	**The Paps**	**1.89**	**169**	P	Pn	12 09 17.3	-0.5
SYZ	**Scrubby Hill**	**1.94**	**144**	P	Pn	12 09 18.5	+0.1
LBZ	**Lake Benmore**	**2.02**	**74**	P	Pn	12 09 19.4	-0.1
FOZ	**Fox Glacier**	**2.22**	**50**	P	Pn	12 09 21.8	-0.2
ODZ	**Otahua Downs**	**2.25**	**93**	P	Pn	12 09 22.4	0.0
HHSZ	**Highcliff Hill**	**2.38**	**113**	P	Pn	12 09 24.3	+0.3
TMZ	**Timaru**	**2.59**	**78**	P	Pn	12 09 26.2	-0.6
GCSZ	**Gaunt Creek Bo**	**2.64**	**52**	P	Pn	12 09 26.8	-0.7
ARCZ	**Arundel**	**2.84**	**70**	P	Pn	12 09 29.1	-1.1
RPZ	**Rata Peaks**	**2.86**	**65**	P	Pn	12 09 29.6	-0.9
WVZ	**Waitaha Valley**	**3.03**	**52**	P	Pn	12 09 31.7	-0.9
MHCZ	**Mount Hutt**	**3.28**	**65**	P	Pn	12 09 34.6	-1.4
WACZ	**Wakanui South**	**3.29**	**73**	P	Pn	12 09 35.2	-1.0
RACZ	**Rakaia**	**3.57**	**71**	P	Pn	12 09 40.1	+0.2
INZ	**Inchbonnie**	**3.65**	**53**	P	Pn	12 09 39.9	-1.1
OXZ	**Oxford**	**3.68**	**65**	P	Pn	12 09 39.6	-1.7
MQZ	**McQueen's Vall**	**3.93**	**75**	P	Pn	12 09 43.4	-1.2
AKCZ	**Akaroa Harbour**	**4.05**	**76**	P	Pn	12 09 45.3	-1.0
LTZ	**Lake Taylor**	**4.11**	**59**	P	Pn	12 09 45.4	-1.7
OKCZ	**Okains Bay**	**4.20**	**75**	P	Pn	12 09 48.1	-0.3
GVZ	**Greta Valley S**	**4.49**	**65**	P	Pn	12 09 51.0	-1.2
DSZ	**Dennistoun Nort**	**4.52**	**46**	P	Pn	12 09 51.5	-1.2
KHZ	**Kahutara**	**5.09**	**62**	P	Pn	12 09 59.1	-1.2
THZ	**Tophouse**	**5.10**	**53**	P	Pn	12 09 58.8	-1.8
MRNZ	**Matariki Terra**	**5.27**	**49**	P	Pn	12 10 01.6	-1.2
QRZ	**Quartz Range**	**5.57**	**44**	P	Pn	12 10 05.9	-0.9
QRZ				S	Sn	12 11 07.5	-2.1
TKNZ	**Takaka Hill**	**5.63**	**47**	P	Pn	12 10 05.7	-2.0
TKNZ				S	Sn	12 11 08.6	-2.5
NNZ	**Nelson**	**5.73**	**51**	P	Pn	12 10 08.2	-0.8
NNZ				S	Sn	12 11 11.7	-1.8
TUWZ	**Tuamarina**	**5.91**	**55**	P	Pn	12 10 10.3	-1.1
TUWZ				S	Sn	12 11 14.6	-3.2
DUWZ	**D'Urville Isla**	**6.31**	**51**	P	Pn	12 10 16.9	-0.1
DUWZ				S	Sn	12 11 25.5	-2.2
CAW	**Cannon Point**	**6.78**	**58**	P	Pn	12 11 19.8	-3.4
CAW				S	Sn	12 11 32.7	-6.1
MRZ	**Mangatainoka R**	**7.36**	**57**	P	Pn	12 10 27.7	-3.4
WCZ	**Waipu Caves**	**10.43**	**32**	P	Pn	12 11 14.9	+1.9

*NIED **14** 12:12:13.5, 38°92N×141°93E, h51km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr3.93; Mθθ-0.18; Mϕϕ-3.75; Mrθ1.41; Mθϕ-0.58; Mϕr4.31; Fault plane solution: M06.97000×10^14 NP1:ϕs16.00000°, δ70.00000°, λ,95.00000°. NP2:ϕs183.00000°, δ21.00000°, λ,78.00000°.*

*JMA **14** 12:12:13.5±0.1, 38°9N±0°3×141°9E±0°6, h51km, MV3.8/39, KINKAZAN REGION*

JMA Felt I J1 at KINKAZAN REGION .

*IDC **14** 12:12:15.5±2.4, 38°89N×141°96E, h79km±20km, mb3.6/15, mbtmp3.9/19, MS2.9/1, Error ellipse: s-maj=21.6km s-min=15.9km az=86.0*

ISC 14 12:12:13.0±1.1, 38°89N±0°05×141°98E±0°09, h54km±7km, n36, σ1s07/40, mb4.0/15, 15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.31**	**308**	⇓P	**Pn**	**12 12 22.5**	**-0.1**
OFUJ				⇓S	**Sn**	**12 12 28.7**	**-0.8**
JKMT	**Kesennumamotoy**	**0.40**	**259**	⇓P	**Pn**	**12 12 23.4**	**0.0**
JKMT				⇓S	**Sn**	**12 12 30.2**	**-0.8**
JMK	**Ichinoseki**	**0.60**	**276**	⇓*i*P	**Pn**	**12 12 25.6**	**-0.1**
JMK				⇓S	**Sn**	**12 12 34.0**	**-0.7**
JIO	**Ouri**	**0.66**	**229**	⇓*i*P	**Pn**	**12 12 26.4**	**0.0**
JIO				⇓S	**Sn**	**12 12 35.5**	**-0.9**
JOM	**Ohasama**	**0.79**	**318**	⇓*i*P	**Pn**	**12 12 27.9**	**-0.1**
JOM				⇓S	**Sn**	**12 12 38.3**	**-0.8**
JOU	**Okura**	**1.16**	**243**	⇓*i*P	**Pn**	**12 12 32.9**	**0.0**
JOU				⇓S	**Sn**	**12 12 47.5**	**-0.3**
JRG	**Rokugo**	**1.16**	**296**	⇓*i*P	**Pn**	**12 12 32.8**	**-0.2**
JRG				⇓S	**Sn**	**12 12 47.2**	**-0.6**
JYK	**Kaneyama**	**1.27**	**272**	⇓*i*P	**Pn**	**12 12 34.4**	**+0.1**
JMM	**Marumori**	**1.39**	**223**	*i*P	**Pn**	**12 12 35.8**	**-0.2**
JMM				S	**Sn**	**12 12 52.7**	**-0.5**
JANG	**Nango**	**1.52**	**346**	P	**Pn**	**12 12 37.7**	**-0.2**
JANG				S	**Sn**	**12 12 56.3**	**-0.3**
MJAR	**Matsushiro Arr**	**3.80**	**233**	P	**Pn**	**12 13 11.2**	**+2.1**
	4.4nm,0.4s,baz=36,slow=12,SNR=24						
ASAJ	**Asahikawa**	**5.24**	**5**	P	**Pn**	**12 13 30.9**	**+2.2**
	1.9nm,0.3s,baz=208,slow=15,SNR=8.3						
ASAJ				S	**Sn**	**12 14 26.4**	**-1.4**
	5.7nm,0.5s,baz=109,slow=18,SNR=1.5						
USRK	**Ussuriysk Ar.**	**9.18**	**308**	P	**Pn**	**12 14 23.9**	**+1.3**
	9.1nm,0.7s,baz=114,slow=13,SNR=12						
KSRS	**Korea Array**	**11.16**	**267**	P	**Pn**	**12 14 52.9**	**+3.1**
	1.2nm,0.8s,baz=63,slow=14,SNR=2.9						
KLR	**Kul'dur**	**12.67**	**328**	LR	LR	12 19 48.8	
	comp=Z,57nm,19.6s,baz=286,slow=36						
SONM	**Songino Array**	**27.17**	**301**	P	**P**	**12 17 52.0**	**+0.7**
	0.3nm,0.5s,baz=101,slow=25,SNR=2.3						
	0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.77**	**124**	T	T	12 48 34.4	
	baz=317,slow=76,SNR=90						
H11N1	**WAKE ISLAND Hy**	**28.78**	**124**	T	T	12 48 40.5	
	baz=317,slow=76,SNR=148						
H11N3	**WAKE ISLAND Hy**	**28.79**	**124**	T	T	12 48 33.2	
	baz=317,slow=76,SNR=124						
H11S1	**WAKE ISLAND Hy**	**29.55**	**126**	T	T	12 49 26.5	
	baz=318,slow=76,SNR=49						
H11S3	**WAKE ISLAND Hy**	**29.55**	**126**	T	T	12 49 23.7	
	baz=318,slow=76,SNR=81						
H11S2	**WAKE ISLAND Hy**	**29.56**	**126**	T	T	12 49 38.9	
	baz=318,slow=76,SNR=56						
ZALV	**Zalesovo Beam**	**41.02**	**311**	P	**P**	**12 19 50.9**	**+0.3**
	2.3nm,0.6s,baz=88,slow=7.5,SNR=12						
ZALV				PcP	**PcP**	**12 21 46.5**	**-3.1**
	0.3nm,0.3s,baz=80,slow=2.3,SNR=1.5						
	2.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**42.42**	**254**	P	**P**	**12 20 03.2**	**+0.7**
	0.5nm,0.3s,baz=69,slow=5.0,SNR=1.6						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**43.54**	**301**	P	**P**	**12 20 10.6**	**-0.6**
	2.9nm,0.7s,baz=86,slow=10,SNR=20						
	2.9nm,0.7s						
KURBB	**Kurchatov Arra**	**45.23**	**307**	P	**P**	**12 20 24.5**	**-0.1**
	3.7nm,0.6s,baz=82,slow=8.4,SNR=24						
	3.7nm,0.6s						
ILAR	**Eielson Array**	**47.69**	**33**	P	**P**	**12 20 44.9**	**+1.1**
	0.1nm,0.5s,baz=264,slow=4.9,SNR=5.6						
	0.1nm,0.5s						
BVAR	**Borovoye Array**	**49.67**	**311**	P	**P**	**12 20 58.9**	**-0.1**
	1.9nm,0.5s,baz=66,slow=8.2,SNR=13						
	1.9nm,0.5s						
ARU	**Arti**	**55.28**	**318**	P	**P**	**12 21 40.2**	**-0.3**
	2.8nm,0.5s,baz=57,slow=4.6,SNR=5.7						
	2.8nm,0.5s						
AKTO	**Aktyubinsk**	**57.78**	**311**	P	**P**	**12 21 58.2**	**-0.1**
	0.6nm,0.4s,baz=50,slow=6.7,SNR=2.8						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**58.96**	**188**	P	**P**	**12 22 06.8**	**0.0**
	0.5nm,0.5s,baz=7.8,slow=7.7,SNR=15						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**62.69**	**188**	P	**P**	**12 22 31.9**	**-0.2**
	0.2nm,0.5s,baz=16,slow=6.9,SNR=1.6						
	0.2nm,0.5s						
GEYT	**Alibeck**	**63.34**	**298**	P	**P**	**12 22 35.9**	**-0.6**
	1.6nm,0.5s,baz=69,slow=9.6,SNR=2.3						
	1.6nm,0.5s						
FINES	**FINESS Array B**	**67.38**	**332**	P	**P**	**12 23 02.2**	**0.0**
	6.1nm,1.1s,baz=20,slow=4.4,SNR=2.2						
	6.1nm,1.1s						
KBZ	**Khabaz**	**70.04**	**310**	P	**P**	**12 23 19.0**	**+0.1**
	2.0nm,0.9s,baz=54,slow=14,SNR=2.1						
	2.0nm,0.9s						
TXAR	**Lajitas Array**	**88.64**	**53**	P	**P**	**12 24 59.3**	**-1.2**
	0.1nm,0.7s,baz=312,slow=8.1,SNR=2.0						
	0.1nm,0.7s						

IDC 14 12:19:43.1±999.0, 53.56N×3.35E, h0km, Error ellipse: s-maj=458.9km s-min=166.9km az=108.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.03**	**122**	I	I	13 08 40.9	
	baz=309,slow=309,SNR=0.7						
I43RU	**DUBNA INFRASON**	**9.50**	**67**	I	I	14 17 40.0	
	baz=274,slow=328,SNR=1.8						
I31KZ	**AKTYUBINSK INF**	**33.13**	**73**	I	I	15 40 55.2	
	0.1nm,2.2s

PVF					*e*S		**Sg**	12 56 18.6	**-1.9**
ARBE	**Arbavere**	**1.05**	**119**		*e*P		**Pg**	12 56 07.6	**-0.2**
MTSE	**Matsula**	**1.26**	**189**		*e*P		**Pg**	12 56 11.2	**-0.8**
MTSE	**Matsula**	**1.26**	**189**		*e*P		**Pg**	12 56 12.1	**+0.1**
MTSE					*e*S		**Sb**	12 56 29.1	**-0.1**
EE08	**Sarghaua, Vand**	**1.41**	**157**		*e*P		**Pn**	12 56 14.2	**-0.5**
EE08					*e*S		**Sg**	12 56 32.6	**-0.5**
EE03	**Tooma soojaam,**	**1.52**	**135**		*e*P		**Pn**	12 56 16.1	**-0.1**
EE03					*e*SN		**Sn**	12 56 37.2	**+0.5**
RAF	**Rauma**	**1.61**	**313**		*e*P		**Pn**	12 56 17.8	**+0.3**
RAF	**Rauma**	**1.61**	**313**		*e*PG		**Pn**	12 56 18.0	**+0.6**
RAF					*e*SN		**Sn**	12 56 39.6	**+0.7**
FIA0	**FINESS Array S**	**1.76**	**31**		*e*PN		**Pn**	12 56 20.3	**+0.8**
FIA0					*e*SN		**Sn**	12 56 43.0	**+0.5**
FIA0					MSG			12 56 47.5	
	comp=Z,14nm,0.2s								
FINES	**FINESS Array B**	**1.76**	**31**		Pg		**Pn**	12 56 20.0	**+0.6**
	comp=Z,3.1nm,0.3s,baz=218,slow=17,SNR=50								
FINES					Lg		Lg	12 56 42.4	
	comp=Z,12nm,0.3s,baz=213,slow=32,SNR=32								
FIA1	**FINESS Array S**	**1.76**	**31**		*e*PN		**Pn**	12 56 20.3	**+0.8**
FIA1					*e*SN		**Sn**	12 56 42.9	**+0.4**
FIA1					MSG			12 56 47.5	
	comp=Z,16nm,0.2s								
VJF	**Virojoki**	**1.77**	**69**		*e*P		**Pn**	12 56 19.9	**+0.2**
VJF					*e*SG		**Sn**	12 56 42.9	**0.0**
VJF					MSG			12 56 47.6	
	comp=Z,16nm,0.2s								
VSU	**Vasula**	**1.99**	**138**		*e*P		**Pn**	12 56 23.3	**+0.6**
VSU	**Vasula**	**1.99**	**138**		*e*P		**Pb**	12 56 24.3	**-0.6**
AAL	**Aland**	**2.12**	**278**		P		**Pb**	12 56 26.4	**-0.6**
AAL					S		**Sn**	12 56 52.9	**+1.6**
SLIT	**Slitere, Latvi**	**2.54**	**204**		*e*P		**Pn**	12 56 30.9	**+0.7**
EE07	**Piusa Caves, O**	**2.72**	**140**		*e*PG		**Pb**	12 56 38.5	**+1.2**
EE07					*e*SB		**Sb**	12 57 11.1	**+0.1**
NRTU	**Norrtaelje**	**2.82**	**267**		P		**Pn**	12 56 35.4	**+1.3**
GRAU	**Graesoe**	**2.85**	**280**		P		**Pn**	12 56 35.4	**+0.9**
FLYU	**Flymyra**	**3.17**	**276**		P		**Pn**	12 56 41.1	**+2.3**
VIKU	**Vikbolandet**	**4.12**	**252**		*e*P		**Pn**	12 56 53.5	**+1.7**
PABE	**Paberze**	**4.47**	**182**		*e*P		**Pn**	12 56 57.0	**+0.4**
HFS	**Hagfors**	**5.27**	**276**		Pn		**Pn**	12 57 08.0	**+0.4**
	comp=Z,0.1nm,0.3s,baz=80,slow=17,SNR=1.9								
HFS					Sn		**Sn**	12 58 08.5	**-0.5**
	comp=Z,0.6nm,0.3s,baz=91,slow=25,SNR=6.0								
HFS					Lg		Lg	12 58 30.8	
	comp=Z,0.9nm,0.3s,baz=93,slow=32,SNR=2.1								
	comp=Z,3.1nm,0.8s								
NOA	**NORSAR Array B**	**6.50**	**285**		Pn		**Pn**	12 57 22.5	**-2.2**
	baz=67,slow=16,SNR=5.0								
NOA					Sn		**Sn**	12 58 35.9	**-3.6**
	baz=51,slow=12,SNR=5.3								
	comp=Z,0.1nm,0.3s								
ARCES	**ARCESS Array B**	**9.63**	**3**		Pn		**Pn**	12 58 07.1	**-0.4**
	comp=Z,0.2nm,0.3s,baz=184,slow=13,SNR=21								
	comp=Z,0.5nm,0.3s								

*ISK **14** 12:56:13.6,37˚.27N×37˚.17E,h2km,ML3.4/29*
*AFAD **14** 12:56:13.8±0.9,37˚.27N×37˚.16E,h6km±1km,MW3.5*
*GII **14** 12:56:24.8±0.0,37˚.71N×36˚.46E,h1km,Mm3.2/2*
ISC 14 12:56:14.3±0.9,37˚.26N±0˚.02×37˚.17E±0˚.01,h7km±6km,
n71,σ1s03/112,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.10**	**158**	Pg	**Pg**	12 56 16.3	**-0.2**
GAZ				Sg	**Sg**	12 56 18.1	**+0.1**
KHMN	**Narli-Kahraman**	**0.13**	**357**	Pg	**Pg**	12 56 16.6	**-0.5**
KHMN				Sg	**Sg**	12 56 18.6	**-0.4**
HCB	**Kahramanmara**	**0.22**	**292**	P	**Pg**	12 56 18.3	**-0.3**
HCB				S	**Sg**	12 56 23.5	**+1.8**
KHMR	**Kahramanmara**	**0.22**	**292**	P	**Pg**	12 56 18.4	**-0.3**
KHMR				S	**Sg**	12 56 22.4	**+0.7**
KAHM	**Kahramanmaras,**	**0.29**	**331**	P	**Pg**	12 56 19.6	**-0.4**
KAHM				S	**Sg**	12 56 23.9	**0.0**
KMRS	**Kahramanmaras**	**0.32**	**319**	Pg	**Pg**	12 56 20.3	**-0.3**
KMRS				Sg	**Sb**	12 56 25.9	**-2.0**
GZT	**Gaziantep**	**0.33**	**73**	P	**Pg**	12 56 20.4	**-0.4**
GZT				S	**Sg**	12 56 25.6	**+0.4**
KAMA	**Osmaniye**	**0.41**	**260**	P	**Pg**	12 56 21.8	**-0.4**
KAMA				S	**Sg**	12 56 28.1	**+0.6**
NZIP	**Nizip/Gaziante**	**0.46**	**118**	P	**Pg**	12 56 23.3	**+0.2**
NZIP				S	**Sg**	12 56 30.1	**+0.9**
AKCA	**Adyaman/G¶l**	**0.68**	**38**	P	**Pg**	12 56 27.3	**0.0**
AKCA				S	**Sg**	12 56 36.0	**-0.1**
ANDN	**Andirin**	**0.73**	**296**	P	**Pb**	12 56 28.5	**-0.8**
ANDN				S	**Sn**	12 56 41.9	**-0.7**
ATAB	**Bozova**	**0.92**	**77**	P	**Pg**	12 56 32.0	**0.0**
ATAB				S	**Sb**	12 56 45.2	**0.0**
AZEY	**Adyaman-Merk**	**1.02**	**57**	P	**Pb**	12 56 34.5	**+0.1**
AZEY				S	**Sn**	12 56 49.5	**-0.3**
ELBS	**KAHRAMANMARAS**	**1.06**	**359**	P	**Pn**	12 56 35.8	**+0.1**
ELBS				S	**Sn**	12 56 51.6	**+0.7**
KOZT	**Kozan**	**1.09**	**282**	Pn	**Pb**	12 56 35.5	**0.0**
KOZT				Sn	**Sn**	12 56 52.0	**+0.6**
RHAN	**Hatay/Reyhanl**	**1.10**	**205**	P	**Pn**	12 56 36.7	**+0.6**
RHAN				S	**Sg**	12 56 49.3	**-0.2**
SAIM	**ADANA**	**1.12**	**310**	P	**Pn**	12 56 36.4	**-0.1**
SAIM				S	**Sb**	12 56 51.2	**+0.4**
CEYT	**Ceyhan**	**1.16**	**258**	Pn	**Pb**	12 56 36.8	**+0.1**
CEYT				Sn	**Sn**	12 56 54.3	**+1.2**
TAHT	**Tahtakopru-Hat**	**1.18**	**222**	Pn	**Pb**	12 56 37.2	**+0.2**
TAHT				Sn	**Sn**	12 56 54.5	**+0.9**
AKCD	**Akcadag**	**1.19**	**30**	P	**Pn**	12 56 37.9	**+0.4**
AKCD				S	**Sn**	12 56 53.9	**-0.2**
SURC	**SANLIURFA_SURC**	**1.22**	**108**	P	**Pg**	12 56 37.0	**-0.7**
SURC				S	**Sg**	12 56 53.3	**-0.1**
SARI	**SarD1z-Kayseri**	**1.29**	**333**	Pn	**Pn**	12 56 38.2	**-0.1**
YURE	**YUREGIR**	**1.30**	**251**	P	**Pn**	12 56 39.8	**+0.9**
YURE				S	**Sn**	12 56 57.2	**+0.6**
URFA	**Urfa**	**1.33**	**82**	Pn	**Pg**	12 56 39.5	**-0.3**
DARE	**Darende-Malaty**	**1.33**	**11**	Pn	**Pn**	12 56 39.9	**+0.5**
AKO	**Adana**	**1.39**	**279**	P	**Pn**	12 56 39.7	**-0.4**
HANM	**anlurfa/Hi**	**1.40**	**76**	P	**Pn**	12 56 39.7	**-0.6**
HANM				S	**Sg**	12 56 59.0	**-0.4**
NARI	**Adyaman-Kaht**	**1.41**	**63**	P	**Pn**	12 56 39.9	**-0.6**
NARI				S	**Sg**	12 56 57.2	**-2.5**
MAYA	**Malatya/Merkez**	**1.46**	**43**	P	**Pn**	12 56 39.4	**-1.7**
MAYA				S	**Sn**	12 57 01.1	**+0.5**
SANL	**SANLIURFA_Merk**	**1.46**	**93**	P	**Pn**	12 56 40.1	**-0.9**
SANL				S	**Sg**	12 57 00.8	**-0.4**
CUGUR	**Gurin_SVAS**	**1.46**	**3**	P	**Pb**	12 56 42.1	**+0.1**
CUGUR				S	**Sn**	12 57 03.9	**+3.1**
YAHY	**KAYSERI_Yahyal**	**1.66**	**301**	P	**Pb**	12 56 45.0	**-0.2**
YAHY				S	**Sg**	12 57 06.4	**-1.0**
KARA	**Karaisali**	**1.68**	**271**	Pn	**Pb**	12 56 44.5	**+0.5**
CMRD	**Camardi-Nigde**	**1.78**	**284**	Pn	**Pb**	12 56 46.6	**-0.7**
BNN	**Bunyan**	**1.90**	**327**	Pn	**Pn**	12 56 48.1	**+0.8**
GULE	**Gulek**	**1.91**	**271**	P	**Pb**	12 56 48.9	**-0.6**
GULE				S	**Sb**	12 57 13.0	**-0.6**
GULE				*i* AML	AML	12 57 14.0	
	comp=N,271nm,0.5s						
GULE				*i* AML	AML	12 57 20.0	
	comp=E,287nm,0.5s						
CUAYA	**Sivas-Altinyay**	**2.03**	**351**	P	**Pb**	12 56 50.4	**-1.2**
CUAYA				S	**Sg**	12 57 18.8	**-0.7**
GUNE	**Kayseri**	**2.04**	**324**	P	**Pn**	12 56 49.8	**+0.7**
GUNE				S	**Sg**	12 57 19.2	**-0.7**
ARPR	**Arapgir-MALATY**	**2.05**	**26**	Pn	**Pn**	12 56 50.3	**+1.0**
CUKAN	**kangal_SIVAS**	**2.07**	**6**	Pn	**Pn**	12 56 50.4	**+0.8**
NIG	**Nigde**	**2.20**	**293**	Pn	**Pn**	12 56 52.6	**+1.1**
KEMA	**Kemaliye**	**2.26**	**27**	P	**Pg**	12 56 59.0	**+1.4**
KEMA				S	**Sg**	12 57 26.2	**-0.7**
CUSAR	**Sarkisla-SIVAS**	**2.27**	**342**	P	**Pn**	12 56 52.8	**+0.4**
CUSAR				S	**Sg**	12 57 26.6	**-0.7**
AVNS	**Nevsehir-Avano**	**2.39**	**311**	P	**Pn**	12 56 55.7	**+1.7**
AVNS				S	**Sn**	12 57 20.6	**-3.1**
PTK	**Pertek**	**2.40**	**46**	Pn	**Pn**	12 56 55.2	**+1.1**
KERG	**Konya-Eregli**	**2.43**	**275**	P	**Pn**	12 56 55.5	**+0.9**
KERG				S	**Sn**	12 57 23.9	**-0.7**
DIYA	**Diyarbakir**	**2.44**	**73**	P	**Pg**	12 56 59.8	**-1.2**
DIYA				S	**Sg**	12 57 32.7	**+0.1**
ILIC	**ilic-Erzincan**	**2.45**	**26**	Pn	**Pn**	12 56 56.4	**+1.6**
DYBB	**Diyarbakir**	**2.46**	**73**	Pn	**Pn**	12 56 56.9	**+2.0**
KIZK	**Mersin**	**2.54**	**253**	Pn	**Pb**	12 56 58.2	**-2.1**
GULA	**Gulagac**	**2.56**	**296**	Pn	**Pn**	12 56 57.3	**+1.0**
SIRC	**Yozgat**	**2.61**	**323**	P	**Pn**	12 56 57.6	**+0.6**
MAZI	**Mazidag**	**2.62**	**85**	Pn	**Pn**	12 56 58.9	**+1.7**
SVSK	**Karacayir**	**2.66**	**357**	Pn	**Pn**	12 56 59.5	**+2.0**
KOZK	**Kozakli-Nevseh**	**2.66**	**318**	Pn	**Pn**	12 56 58.9	**+1.2**
YESY	**Yesilyurt**	**2.77**	**282**	Pn	**Pn**	12 57 00.9	**+1.7**
YOZ	**Yozgat**	**2.78**	**329**	Pn	**Pn**	12 56 59.9	**+0.5**
HANI	**Diyarbakir_Han**	**2.81**	**65**	P	**Pg**	12 57 07.7	**-0.4**
HANI				S	**Sb**	12 57 41.0	**+1.5**
MCUR	**KIREHR**	**2.81**	**313**	P	**Pn**	12 57 00.2	**+0.4**
MARD	**Mardin**	**2.88**	**88**	P	**Pn**	12 56 59.9	**-0.9**
MARD				S	**Sg**	12 57 45.4	**-1.4**
KEBE	**Keben-Mersin**	**2.89**	**255**	Pn	**Pn**	12 57 01.8	**+1.0**
IKL	**Isikli**	**2.98**	**251**	Pn	**Pn**	12 57 02.8	**+0.9**
SULT	**Sultanhani-AKS**	**3.04**	**289**	Pn	**Pn**	12 57 04.4	**+1.5**
ERZN	**Erzincan**	**3.07**	**40**	Pn	**Pn**	12 57 04.6	**+1.3**
CKRK	**Yozgat, Cekere**	**3.10**	**336**	P	**Pn**	12 57 04.9	**+1.2**
TEVE	**Tevekalti-Mers**	**3.10**	**256**	Pn	**Pn**	12 57 05.7	**+2.0**
SVAN	**Silvan-Diyarba**	**3.32**	**73**	P	**Pb**	12 57 14.0	**+0.5**
CSS	**Mathiatis**	**3.86**	**235**	Pn	**Pn**	12 57 23.2	**+0.5**
NATI	**Neve Ativ**	**4.16**	**197**	Pn	**Pg**	12 57 34.3	**+0.4**
NATI				Sn	**Sg**	12 58 27.6	**-0.2**
GEM	**Giv'at Ha'Em**	**4.22**	**197**	Pn	**Sg**	12 57 35.1	**-0.1**
GEM				Sn	**Sg**	12 58 28.4	**-1.5**
KSHT	**Keshet**	**4.41**	**195**	Pn	**Pg**	12 57 37.6	**-1.2**
KSHT				Sn	**Sg**	12 58 33.9	**-2.0**

*ISN **14** 13:18:05.1±0.7,34˚.64N×45˚.40E,h6km±13km,ML3.2*
*TEH **14** 13:18:06.0,34˚.65N×45˚.41E,h12km±23km,ML3.3*
ISC 14 13:18:05.7±1.4,34˚.65N±0˚.03×45˚.38E±0˚.04,h1km±12km,
n23,σ0s91/28,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.22**	**129**	Pg	**Pg**	13 18 11.1	**+1.2**
IDHR	**Dehrash**	**0.83**	**86**	Pg	**Pg**	13 18 21.6	**-0.1**
IGHG	**Ghaleghazi**	**1.03**	**107**	Pg	**Pb**	13 18 25.8	**-0.7**
IKRK	**Kirkuk**	**1.14**	**312**	*e*Pg	**Pn**	13 18 29.0	**+0.2**
IKRK				*e*Sg	**Sn**	13 18 46.0	**+1.0**
IKRK				AML	AML	13 18 50.5	
	comp=N,287nm,0.6s						
IKRK				AML	AML	13 18 51.8	
	comp=E,324nm,0.6s						
ILBA	**Ilam Banvizeh**	**1.23**	**146**	Pg	**Pg**	13 18 29.1	**-0.1**
ILIN	**Lien**	**1.33**	**78**	Pg	**Pg**	13 18 31.5	**+0.3**
ILIN				Sg	**Sn**	13 18 50.5	**+0.3**
KCHF	**Cheshme Sefid,**	**1.42**	**105**	Pg	**Pg**	13 18 33.0	**0.0**
SDS1	**Sardasht. Az.**	**1.50**	**3**	Pg	**Pg**	13 18 34.5	**0.0**
IBDR	**Badra**	**1.60**	**163**	*e*Pn	**Pb**	13 18 35.0	**-1.0**
IBDR				Sn	**Sg**	13 18 58.0	**+0.9**
IBDR				AML	AML	13 19 00.7	
	comp=N,288nm,0.5s						
IBDR				AML	AML	13 19 01.2	
	comp=E,471nm,0.5s						
BHD	**Baghdad**	**1.60**	**211**	*e*Pn	**Pg**	13 18 36.0	**-0.4**
BHD				Sn	**Sg**	13 18 58.0	**+0.8**
IKOM	**Komasi**	**1.82**	**104**	Pg	**Pb**	13 18 39.3	**-0.7**
MAHB	**Mahabad**	**2.13**	**7**	Pn	**Pb**	13 18 44.0	**-1.2**
IKFM	**Kafar-mosalman**	**2.33**	**118**	Pn	**Pb**	13 18 45.9	**-2.7**
RAFI	**Al-Rafai**	**2.98**	**168**	*e*Pn	**Pn**	13 18 55.0	**+1.0**
RAFI				Sn	**Sn**	13 19 31.0	**+0.6**
RAFI				AML	AML	13 19 35.6	
	comp=N,136nm,0.3s						
RAFI				AML	AML	13 19 49.9	
	comp=E,177nm,0.5s						
HAGD	**Aghdareh**	**3.10**	**86**	Pn	**Pn**	13 18 57.0	**+1.0**
ISHB	**Shabestar**	**3.64**	**3**	Pn	**Pn**	13 19 03.7	**+0.3**
ISRB	**Sarab**	**3.67**	**30**	Pn	**Pn**	13 19 04.7	**+0.8**
AMIS	**Naft Sefid**	**4.42**	**131**	Pn	**Pn**	13 19 13.6	**-0.4**
IPIR	**Pirpir**	**5.00**	**112**	Pn	**Pn**	13 19 21.5	**-0.6**
QAMS	**Qamsar**	**5.07**	**99**	Pn	**Pn**	13 19 23.5	**+0.4**
IKLH	**Kolahrood**	**5.32**	**103**	Pn	**Pn**	13 19 27.1	**+0.6**
IZEF	**Zefreh**	**6.05**	**105**	Pn	**Pn**	13 19 36.8	**+0.3**
IRAM	**Ramesheh**	**6.51**	**114**	Pn	**Pn**	13 19 42.1	**-0.8**

*IDC **14** 13:26:46.9±0.8,34˚.67N×45˚.30E,h0km,mb4.0/14,*
mbtmp4.0/21,ML3.7/8,MS3.4/8,Error ellipse:
s-maj=17.2km s-min=13.0km az=168.0
*NEIC **14** 13:26:47.8±2.9,34˚.45N±0˚.06×45˚.49E±0˚.09,h10km±1km,*
mb4.1/15,Error ellipse: s-maj=13.4km s-min=8.1km
az=299.0
*GII **14** 13:26:48.6±0.0,34˚.77N×45˚.30E,h2km*
*ISN **14** 13:26:48.9±0.9,34˚.67N×45˚.37E,h12km±21km,ML4.1*
*TEH **14** 13:26:49.8,34˚.62N×45˚.42E,h11km±19km,ML4.0*
ISC 14 13:26:49.9±0.5,34˚.65N±0˚.04×45˚.41E±0˚.03,h18km,n116,
σ1s92/105,mb4.0/18,MS3.6/4,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.21**	**133**	Pg	**Pg**	13 26 54.3	**-0.7**
IDHR	**Dehrash**	**0.81**	**86**	Pg	**Pb**	13 27 05.3	**-0.3**
IDHR				Sg	**Sb**	13 27 17.3	**+1.0**
IGHG	**Ghaleghazi**	**1.01**	**108**	Pg	**Pb**	13 27 09.5	**+0.4**
IKRK	**Kirkuk**	**1.15**	**311**	*e*Pg	**Pb**	13 27 11.0	**-0.3**
IKRK				*e*Sg	**Sb**	13 27 26.0	**+0.1**
IKRK				AML	AML	13 27 35.5	
	comp=N,6µm,0.5s						
IKRK				AML	AML	13 27 37.1	
	comp=E,6µm,0.6s						
ILBA	**Ilam Banvizeh**	**1.22**	**147**	Pg	**Pn**	13 27 12.5	**+0.3**
ILIN	**Lien**	**1.31**	**78**	Pg	**Pn**	13 27 15.0	**+1.4**
KCHF	**Cheshme Sefid,**	**1.40**	**105**	Pg	**Pn**	13 27 16.8	**+2.0**
SDS1	**Sardasht. Az.**	**1.50**	**3**	Pg	**Pb**	13 27 18.7	**+1.4**
IBDR	**Badra**	**1.60**	**164**	*e*Pn	**Pn**	13 27 19.0	**+1.7**
IBDR				*e*Sn	**Sn**	13 27 41.0	**+3.6**
BHD	**Baghdad**	**1.62**	**212**	*e*Pn	**Pn**	13 27 19.0	**+1.4**
BHD				*e*Sn	**Sn**	13 27 41.0	**+3.0**
BHD				AML	AML	13 27 48.3	
	comp=E,2µm,0.7s						
IKOM	**Komasi**	**1.80**	**105**	Pg	**Pn**	13 27 23.1	**+2.8**
MAHB	**Mahabad**	**2.13**	**7**	Pn	**Pn**	13 27 27.5	**+2.8**
IKFM	**Kafar-mosalman**	**2.32**	**118**	Pn	**Pn**	13 27 29.5	**+2.3**
CUKT	**Cukurca**	**2.97**	**331**	*e*P	**Pb**	13 27 44.1	**+1.6**
RAFI	**Al-Rafai**	**2.98**	**168**	*e*Pn	**Pn**	13 27 38.0	**+1.7**
RAFI				*e*Sn	**Sn**	13 28 15.0	**+3.5**
IHSH	**Hashtrud**	**3.05**	**29**	Pn	**Pn**	13 27 40.6	**+3.0**
IAZR	**Azarshahr**	**3.06**	**9**	Pn	**Pn**	13 27 40.4	**+2.8**
HAGD	**Aghdareh**	**3.08**	**86**	Pn	**Pn**	13 27 40.9	**+2.9**
SIRT	**Sirnak**	**3.72**	**321**	*e*P	**Pb**	13 27 55.7	**+0.5**
SIRT	**Sirnak**	**3.72**	**321**		**Pn**	13 27 48.9	**+2.3**
IRAZ	**Razeghan**	**3.79**	**77**	Pn	**Pn**	13 27 50.4	**+2.8**
IHRS	**Heris**	**3.89**	**19**	Pn	**Pn**	13 27 52.6	**+3.5**
IMRD	**Marand**	**4.06**	**3**	Pn	**Pn**	13 27 54.6	**+3.2**
AKDM	**Akdamar-Van**	**4.16**	**333**	*e*P	**Pn**	13 27 56.7	**+4.0**
VANB	**Van**	**4.26**	**338**	*e*P	**Pb**	13 28 05.0	**+0.6**
AMIS	**Naft Sefid**	**4.41**	**131**	Pn	**Pn**	13 27 57.2	**+1.1**
GRMI	**Germi**	**4.61**	**25**	Pn	**Pn**	13 28 07.8	**+3.0**
CLDR	**Caldiran**	**4.64**	**346**	*e*P	**Pg**	13 28 17.2	**-1.6**
GAS1	**Astara - Iran**	**4.64**	**36**	Pn	**Pn**	13 28 02.8	**+3.6**
IQOM	**Qom**	**4.67**	**86**	Pn	**Pn**	13 28 01.7	**+1.9**
MAKU	**Maku**	**4.73**	**353**	Pn	**Pn**	13 28 03.7	**+3.1**
GURO	**Guroymak-BITLI**	**4.75**	**326**	*e*P	**Pg**	13 28 20.4	**-0.4**
GURO	**Guroymak-BITLI**	**4.75**	**326**		**Pn**	13 28 01.7	**+1.0**
SVAN	**Silvan-Diyarba**	**4.87**	**317**	*e*P	**Pg**	13 28 23.8	**+0.6**
MAZI	**Mazidag**	**4.90**	**306**	*e*P	**Pg**	13 28 22.7	**-1.1**
KLST	**Kelardasht - M**	**4.97**	**66**	Pn	**Pn**	13 28 07.6	**+3.6**
IPIR	**Pirpir**	**4.98**	**112**	Pn	**Pn**	13 28 05.3	**+1.2**
JHBN	**Jahan bin**	**5.02**	**117**	Pn	**Pn**	13 28 06.2	**+1.6**
MLAZ	**Malazgirt-MUS**	**5.03**	**334**	*e*P	**Pb**	13 28 21.2	**+3.6**
QAMS	**Qamsar**	**5.05**	**99**	Pn	**Pn**	13 28 07.6	**+2.6**
AGRB	**Hanur-Agry**	**5.28**	**339**	*e*P	**Pb**	13 28 22.0	**+0.2**
IKLH	**Kolahrood**	**5.30**	**103**	Pn	**Pn**	13 28 10.6	**+2.1**
MZPU	**Pul - Mazandar**	**5.33**	**69**	Pn	**Pn**	13 28 12.9	**+4.0**
DYBB	**Diyarbakir**	**5.38**	**309**	*e*P	**Pb**	13 28 24.7	**+1.3**
IDMV	**Damavand**	**5.51**	**78**	Pn	**Pn**	13 28 13.8	**+2.4**
GNI	**Garni**	**5.51**	**355**	Pn	**Pn**	13 28 13.8	**+2.5**
GNI	**Garni**	**5.51**	**355**	Pg	**Pb**	13 28 24.9	**-0.9**
	comp=E,2.5nm,0.3s,baz=218,slow=19,SNR=1.5						
GNI				Lg	Lg	13 29 39.5	
	baz=212,slow=19						
GNI				LR	LR	13 30 09.7	
	comp=E,73nm,20.1s,baz=168,slow=37						
IBRJ	**Brojen**	**5.61**	**118**	Pn	**Pn**	13 28 15.2	**+2.4**
IGAR	**Gharneh**	**5.98**	**110**	Pn	**Pn**	13 28 19.9	**+2.1**
KOPR	**Koprukoy-ERZUR**	**6.04**	**333**	*e*P	**Pn**	13 28 23.6	**+5.1**
IFIR	**Firoozkooh**	**6.10**	**79**	Pn	**Pn**	13 28 22.6	**+3.2**
KLNJ	**Kolanjah**	**6.35**	**123**	Pn	**Pn**	13 28 25.1	**+2.2**
SENK	**Senkaya-Erzuru**	**6.38**	**339**	*e*P	**Pn**	13 28 25.1	**+1.9**
ARPR	**Arapgir-MALATY**	**7.19**	**310**	Pn	**Pn**	13 28 36.3	**+1.9**
ASF	**Jabal al Asfar**	**7.53**	**253**	P	**Pb**	13 28 55.7	**-4.4**
ASF	**Jabal al Asfar**	**7.53**	**253**	Pn	**Pn**	13 28 38.6	**-0.3**
	comp=E,1.4nm,0.3s,baz=37,slow=16,SNR=4.1						
ASF				Lg	Lg	13 30 43.1	
	comp=E,1.2nm,0.3s,baz=54,slow=23,SNR=1.1						
	comp=E,2.9nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	**Dashti - Bushe**	**8.02**	**140**	Pn	**Pn**	13 28 46.8	**+1.2**
HSUJ	**Al Zarqa**	**8.11**	**254**	P	Pn	13 29 00.1	+13
NATI	**Neve Ativ**	**8.15**	**263**	P	Pb	13 29 02.5	-8.1
NATI				S	Sb	13 30 51.8	+4.5
GEM	**Giv'at Ha'Em**	**8.22**	**263**	P	Pn	13 28 53.7	+5.4
SHMJ	**Saham**	**8.26**	**259**	P	Pn	13 28 59.8	+11
MMAI	**Mount Meron Ar**	**8.48**	**262**	Lg	Lg	13 31 13.4	
	comp=E,2.1nm,0.3s,baz=67,slow=11,SNR=2.1						
MMAI				LR	LR	13 32 54.6	
	comp=E,152nm,19.2s,baz=54,slow=44						
HMDT	**Nahal Hemdat**	**8.59**	**257**	P	Pn	13 29 03.5	+10
BLGI	**Bet Lehem HaGe**	**8.72**	**260**	P	Pn	13 28 59.6	**+4.4**
KARJ	**KARJ**	**8.92**	**249**	P	Pn	13 29 06.9	+8.9
DSI	**Dead Sea**	**8.95**	**253**	Pn	**Pn**	13 28 58.7	**+0.3**
SLTI	**Sal'it**	**8.99**	**257**	P	Pn	13 29 06.7	+7.8
MSBI	**Mazada**	**9.07**	**251**	Pn	**Pn**	13 29 00.3	**+0.4**
PRNI	**Paran**	**9.77**	**247**	Pn	**Pn**	13 29 10.5	**+0.9**
HRFI	**Mount Harif**	**9.90**	**245**	Pn	**Pn**	13 29 11.9	**+0.5**
KRMI	**Paran Flat**	**10.10**	**246**	Pn	**Pn**	13 29 14.3	**+0.2**
MBRI	**Mt Berech**	**10.12**	**244**	Pn	**Pn**	13 29 14.6	**+0.2**
EIL	**Elat**	**10.15**	**244**	Pn	**Pn**	13 29 14.9	**+0.1**
EIL	**Elat**	**10.15**	**244**	Pn	**Pn**	13 29 13.0	**-1.8**
	comp=E,0.8nm,0.3s,baz=69,slow=6.1,SNR=4.2						
EIL				Lg	Lg	13 32 06.7	
	comp=E,0.6nm,0.3s,baz=81,slow=13,SNR=3.2						
EIL				LR	LR	13 34 08.8	
	comp=E,168nm,19.4s,baz=67,slow=44						
	comp=E,2.9nm,0.4s						
BRTR	**Keskin Array B**	**10.66**	**302**	Pn	**Pn**	13 29 21.0	**-0.9**
	comp=E,0.1nm,0.3s,baz=132,slow=10.0,SNR=2.1						
GEYT	**Alibeck**	**10.77**	**

CHNA S Sb 14 36 44.6 -0.6
baz=179
SDPT Sand Point 1.22 332 Pn Pn 14 36 47.3 -1.1
SDPT Sn Sn 14 37 02.6 -1.7
SDPT IAML 14 37 04.7
comp=N,1μm,0.7s
SDPT Sand Point 1.22 332 P Pn 14 36 47.4 -1.1
SDPT Sand Point 1.22 332 P Pn 14 36 47.3 -1.1
baz=152
SDPT S Sn 14 37 02.6 -1.7
baz=152
PVV Pavlof Volcano 1.74 310 Pn 14 36 55.2 -0.3
PVV Sn 14 37 16.5 -0.6
PS1A Pavlof South-1 1.75 312 Pn 14 36 55.5 -0.1
PS1A Sn 14 37 17.9 +0.6
VNSW Veniaminof 7 1.80 358 Pn 14 36 56.2 -0.2
DT1 Dutton Round H 1.83 298 Pn 14 36 56.4 -0.5
PN7A Pavlof North-7 1.87 309 Pn 14 36 57.6 +0.2
VNWF Veniaminof 8 1.88 358 Pn 14 36 58.0 +0.4
VNSS Veniaminof 8 1.95 0 Pn 14 36 59.2 +0.5
VNHG Veniaminof 1 1.95 5 Pn 14 36 59.2 +0.6
S14K Fog Glacier 2.01 359 P Pn 14 36 59.9 +0.5
baz=180
S14K S Sn 14 37 24.9 +1.0
baz=180
VNFG Fog Glacier, M 2.01 359 Pn 14 36 59.9 +0.5
VNFG Sn 14 37 24.9 +1.0
CHGN Chignik 2.11 16 Pn Pn 14 37 00.3 -0.4
CHGN IAML 14 37 36.4
comp=E,566nm,0.6s
CHGN Chignik 2.11 16 P Pn 14 37 00.7 0.0
baz=199
FALS False Pass 2.37 286 Pn Pn 14 37 04.5 +0.2
FALS False Pass 2.37 286 P Pn 14 37 05.3 +1.0
FALS False Pass 2.37 286 P Pn 14 37 04.5 +0.2
baz=101
ISLZ Isanotski Laza 2.52 282 Pn 14 37 07.1 +0.7
ISNN Isanotski Nort 2.57 284 Pn 14 37 08.2 +1.1
SSLN Shishaldin Nor 2.69 283 Pn 14 37 09.6 +0.9
CHIR Chirikof Islan 2.69 53 Pn Pn 14 37 09.0 +0.3
CHIR IAML 14 38 11.4
comp=N,207nm,1.4s
CHIR Chirikof Islan 2.69 53 P Pn 14 37 08.9 +0.2
baz=239
WEBT Westdahl Beart 3.11 278 Pn 14 37 14.9 +0.5
R16K Pilot Point 3.46 17 Pn 14 37 19.5 +0.2
R16K Pilot Point 3.46 17 P Pn 14 37 19.5 +0.2
baz=200
AKSA Akutan Strait 3.66 270 Pn 14 37 23.3 +1.3
AKUT Akutan 3.71 270 Pn Pn 14 37 23.5 +0.9
AKUT IAML 14 39 08.8
comp=E,79nm,4.0s
AKUT Akutan 3.71 270 P Pn 14 37 24.4 +1.8
SII Sitkinak Islan 3.77 51 Pn 14 37 24.4 +0.8
SII IAML 14 38 42.6
comp=N,130nm,1.0s
SII IAML 14 38 54.0
comp=E,137nm,1.3s
SII Sitkinak Islan 3.77 51 P Pn 14 37 25.1 +1.5
SII Sitkinak Islan 3.77 51 P Pn 14 37 23.8 +0.2
baz=237
R17K Ugashik Creek 3.78 26 Pn Pn 14 37 25.0 +1.3
R17K Ugashik Creek 3.78 26 P Pn 14 37 24.8 +1.1
baz=210
AKBBA Akutan Broad B 3.81 270 Pn 14 37 25.1 +1.1
AKV Akutan Volcano 3.82 270 Pn 14 37 25.5 +1.3
UNV Unalaska Valle 4.17 267 Pn Pn 14 37 30.2 +1.3
UNV Unalaska Valle 4.17 267 P Pn 14 37 30.3 +1.3
UNV Unalaska Valle 4.17 267 P Pn 14 37 29.9 +0.9
baz=80
MTBL Makushin Table 4.26 269 Pn 14 37 31.2 +1.0
MTBL Sn 14 38 19.7 +0.4
MSW Makushin Switc 4.33 268 Pn 14 37 31.9 +0.8
R18K Karluk 4.33 39 Pn 14 37 32.5 +1.3
R18K Karluk 4.33 39 IAML 14 39 10.2
comp=N,54nm,1.4s
R18K Karluk 4.33 39 P Pn 14 37 32.5 +1.3
baz=224
MAPS Pakushin South 4.43 267 Pn 14 37 33.8 +1.1
Q17K Contact Creek 4.46 25 P Pn 14 37 34.0 +0.9
baz=209
ANCK Angle Creek 4.51 28 Sn 14 38 28.0 +2.5
ACHA Angle Creek He 4.56 29 Pn 14 37 35.4 +0.9
OHAK Old Harbor 4.57 47 Pn Pn 14 37 34.2 -0.1
OHAK IAML 14 39 15.0
comp=N,47nm,3.1s
OHAK Old Harbor 4.57 47 P Pn 14 37 34.3 -0.1
OHAK Old Harbor 4.57 47 P Pn 14 37 34.4 -0.1
baz=234
KABU Katmai Buttres 4.63 29 Pn 14 37 36.3 +1.0
KABU Sn 14 38 29.9 +1.4
KAKN Katmai Knife C 4.71 30 Pn 14 37 37.5 +1.0
P16K Nushagak River 4.83 9 Pn 14 37 38.0 0.0
P16K Nushagak River 4.83 9 P Pn 14 37 38.0 0.0
baz=191
O15K Ungalikthiuk R 4.91 358 Pn 14 37 38.8 -0.4
O15K Sn 14 38 36.1 +0.7
O15K Ungalikthiuk R 4.91 358 P Pn 14 37 38.8 -0.4
baz=178
O15K S Sn 14 38 36.1 +0.7
baz=178
KAHC Katmai Hardscr 5.03 28 Pn 14 37 41.2 +0.4
Q18K Katmai Hardscr 5.03 28 P Pn 14 37 41.2 +0.4
baz=212
O14K Tigyukauivet M 5.08 349 Pn Pn 14 37 41.2 -0.3
O14K IAML 14 39 15.8
comp=E,45nm,1.7s
O14K Tigyukauivet M 5.08 349 P Pn 14 37 42.5 +1.0
baz=169
KDAK Kodiak Island 5.21 45 Pn Pn 14 37 43.1 -0.2
KDAK IAML 14 38 52.7
comp=E,50nm,4.4s
KDAK IAML 14 40 19.6
comp=E,51nm,4.0s
KDAK Kodiak Island 5.21 45 Pn Pn 14 37 42.4 -0.9
comp=E,1.3nm,0.3s,baz=246,slow=7.7,SNR=25
KDAK Sn Sn 14 38 36.5 -6.3
comp=E,2.2nm,0.3s,baz=353,slow=17,SNR=6.9
comp=E,3.2nm,0.3s
O16K Kokwok River B 5.38 7 Pn Pn 14 37 45.5 -0.1
O16K IAML 14 39 31.2
comp=E,35nm,0.9s
O16K IAML 14 39 32.2
comp=N,25nm,1.6s
O16K Kokwok River B 5.38 7 P Pn 14 37 46.1 +0.6
baz=189
P18K Big Mountain, 5.62 23 Pn Pn 14 37 49.2 +0.2
P18K Big Mountain, 5.62 23 P Pn 14 37 49.4 +0.4
baz=207
O17K Koliganek Bris 5.66 12 Pn 14 37 49.2 -0.1
O17K Sn 14 38 54.8 +1.2
O17K Koliganek Bris 5.66 12 P Pn 14 37 49.2 -0.1
baz=195
O17K S Sn 14 38 54.8 +1.2
baz=195
Q19K Cape Douglas, 5.66 32 Pn Pn 14 37 50.6 +1.2
Q19K Cape Douglas, 5.66 32 P Pn 14 37 50.0 +0.6
baz=218
N14K Kuskokwak Cree 5.79 349 Pn 14 37 51.4 +0.3
N14K Kuskokwak Cree 5.79 349 P Pn 14 37 51.4 +0.3
baz=167
Q20K Shuyak Island 5.84 39 P Pn 14 37 52.0 0.0
baz=226
SYI Shuyak Island 5.85 39 Pn Pn 14 37 52.5 +0.5
N15K Kwethluk River 5.91 357 Pn Pn 14 37 53.3 +0.4
N15K Kwethluk River 5.91 357 P Pn 14 37 53.1 +0.1
baz=177
O18K Koktuh Hills 6.05 21 Pn Pn 14 37 55.5 +0.7
O18K Koktuh Hills 6.05 21 P Pn 14 37 55.3 +0.5
baz=205
N16K Nishlik Lake 6.22 3 Pn 14 37 57.7 +0.5
N16K Nishlik Lake 6.22 3 P Pn 14 37 57.7 +0.5
baz=184
N17K Nushagak Hills 6.38 10 Pn Pn 14 37 59.3 -0.1
M15K Kasigluk River 6.46 355 Pn 14 38 00.7 +0.2
M15K Kasigluk River 6.46 355 P Pn 14 38 00.7 +0.2
baz=174
M13K Dall Lake 6.50 343 Pn Pn 14 38 01.0 +0.1
M13K Dall Lake 6.50 343 P Pn 14 38 00.7 -0.2
baz=160
O19K Port Alsworth 6.55 23 Pn Pn 14 38 01.2 -0.4
M14K Bethel 6.63 349 Pn Pn 14 38 02.1 -0.5
M14K Bethel 6.63 349 P Pn 14 38 02.1 -0.5
baz=168
ILSW Iliamna Southw 6.67 28 Pn Pn 14 38 00.0 -3.4
ILW Iliamna West 6.74 28 Pn 14 38 05.3 +1.0
M16K Timber Creek 6.77 2 Pn 14 38 04.7 +0.1
M16K Timber Creek 6.77 2 P Pn 14 38 04.7 +0.1
baz=183
CNPM China Poot 6.92 37 Pn Pn 14 38 06.6 -0.1
SVW2 Sparrevohn 7.14 15 Pn Pn 14 38 11.3 +1.6
SVW2 Sparrevohn 7.14 15 P Pn 14 38 09.8 0.0
BRLK Bradley Lake 7.21 37 Pn Pn 14 38 08.4 -2.4
M17K Holitna River 7.22 8 Pn Pn 14 38 10.5 -0.4
L14K Kuka Creek 7.29 348 Pn 14 38 12.4 +0.7
L16K Owhat River 7.45 360 Pn Pn 14 38 13.2 -0.8
SEW Seward 7.97 39 Pn Pn 14 38 19.5 -1.6
L18K Granite Mounta 8.09 9 Pn 14 38 22.9 +0.1
L19K White Mountain 8.29 15 Pn Pn 14 38 24.7 -0.8
K17K Iditarod 8.48 4 Pn 14 38 28.6 +0.5
SUA Susitna One 8.56 29 Pn Pn 14 38 29.3 0.0
RC01 Rabbit Creek A 8.58 33 Pn Pn 14 38 28.1 -1.4
J14K Nanvaranak Lak 8.76 348 Pn Pn 14 38 31.6 -0.3
TTA Tatalina 8.86 10 Pn Pn 14 38 33.3 -0.1
TTA Tatalina 8.86 10 P Pn 14 38 33.3 -0.1
PMR Palmer 9.15 33 Pn Pn 14 38 35.0 -2.2
HIN Hinchinbrook I 9.30 44 Pn Pn 14 38 37.5 -1.8
J18K Innoko River 9.32 8 Pn 14 38 38.5 -1.1
GHO Glory Hole Cre 9.35 32 Pn Pn 14 38 40.9 +0.8
FID Port Fidalgo 9.52 42 Pn Pn 14 38 41.0 -1.3
SML Sawmill 9.56 33 Pn Pn 14 38 42.1 -0.9
EYAK Cordova Ski Ar 9.69 44 P Pn 14 38 44.9 +0.2
SCM Sheep Creek Mo 9.92 35 Pn Pn 14 38 46.9 -0.9
KLU Klutina 10.19 39 Pn Pn 14 38 51.6 0.0
M24K Tolsona, Glenn 10.50 36 Pn Pn 14 38 57.0 +1.2
N25K Chitina, Valde 10.76 41 Pn Pn 14 38 59.3 -0.1
DHY Denali Highway 10.81 31 Pn 14 39 01.0 +0.9
GLB Gilahina Butte 10.98 43 Pn Pn 14 39 02.5 +0.2
VRDI Verde Repeater 11.00 44 Pn Pn 14 39 02.4 -0.4
CTGM Chitina Glacie 11.77 48 Pn Pn 14 39 15.1 +1.8
M26K Nabesna, AK 11.84 40 Pn Pn 14 39 15.0 +0.8
LOGN Logan Glacier 11.86 49 Pn Pn 14 39 15.4 +0.9
O29M Mount Kennedy 12.77 53 Pn Pn 14 39 27.7 +0.8
M29M Somme Creek 13.66 45 Pn Pn 14 39 34.9 -4.2
H29M Whitestone 15.78 32 P Pn 14 40 09.4 +2.1
H29M IAmb IAmb 14 40 24.3
comp=Z,13nm,1.2s
I30M Mount Dempster 15.86 37 P P 14 40 14.6 +2.4
I30M IAmb IAmb 14 40 22.1
comp=Z,5.3nm,0.9s
C23K Itkillik River 16.12 11 P Pn 14 40 10.6 -1.0
EPYK Eagle Plains 16.40 33 P P 14 40 19.7 +1.6
DLBC Dease Lake 16.75 64 Pn P 14 40 24.8 +2.8
comp=Z,0.2nm,0.3s,baz=178,slow=14,SNR=2.3
G30M tAoh Zraii Nji 16.93 32 P Pn 14 40 20.4 -1.6
G30M IAmb IAmb 14 40 37.3
comp=Z,7.6nm,1.1s
G31M Satah River 17.52 34 P P 14 40 30.8 +0.5
G31M IAmb IAmb 14 40 51.0
comp=Z,5.4nm,0.9s
INK Inuvik 18.55 31 P P 14 40 42.0 +0.3
INK Inuvik 18.55 31 P P 14 40 41.1 -0.6
comp=Z,0.2nm,0.3s,baz=245,slow=13,SNR=13
comp=Z,1.1nm,0.5s
C36M Paulatuk 22.04 33 P P 14 41 19.9 +0.5
YKA Yellowknife Ar 24.44 52 P P 14 41 44.8 +1.3
comp=Z,0.2nm,0.5s,baz=274,slow=11,SNR=8.9
comp=Z,0.2nm,0.5s
PETK Petropavlovsk- 25.11 285 P P 14 41 50.0 +0.3
comp=Z,2.1nm,0.6s,baz=75,slow=12,SNR=1.9
comp=Z,2.1nm,0.6s
H11N2 WAKE ISLAND Hy 42.97 230 T T 15 30 35.1
baz=28,slow=76,SNR=70
H11N3 WAKE ISLAND Hy 42.98 230 T T 15 30 35.6
baz=28,slow=76,SNR=63
H11N1 WAKE ISLAND Hy 42.99 230 T T 15 30 36.1
baz=28,slow=76,SNR=47
H11S1 WAKE ISLAND Hy 44.13 229 T T 15 31 58.9
baz=28,slow=76,SNR=29
H11S2 WAKE ISLAND Hy 44.14 229 T T 15 32 02.5
baz=28,slow=76,SNR=36
H11S3 WAKE ISLAND Hy 44.15 229 T T 15 31 59.7
baz=28,slow=76,SNR=18
KSRS Korea Array 50.95 282 P P 14 45 26.1 -0.2
comp=Z,0.8nm,0.8s,baz=46,slow=7.2,SNR=2.7
comp=Z,0.8nm,0.8s
SONM Songino Array 55.25 305 P P 14 45 57.9 -0.1
comp=Z,0.5nm,0.5s,baz=29,slow=3.3,SNR=2.4
comp=Z,0.5nm,0.5s
ZALV Zalesovo Beam 59.80 322 P P 14 46 29.0 -0.9
comp=Z,0.3nm,0.4s,baz=46,slow=8.7,SNR=2.4
comp=Z,0.3nm,0.4s
FINES FINESS Array B 64.54 357 P P 14 47 00.9 -0.5
comp=Z,3.0nm,0.8s,baz=9.6,slow=6.8,SNR=7.1
comp=Z,3.0nm,0.8s
KURBB Kurchatov Arra 64.76 323 P P 14 47 02.7 -0.4
comp=Z,0.4nm,0.3s,baz=316,slow=6.4,SNR=1.7
comp=Z,0.4nm,0.3s
BVAR Borovoye Array 65.34 329 P P 14 47 06.8 -0.1
comp=Z,2.1nm,0.7s,baz=46,slow=7.0,SNR=11
comp=Z,2.1nm,0.7s
HFS Hagfors 65.80 4 P P 14 47 09.2 -0.5
comp=Z,3.2nm,0.9s,baz=11,slow=8.5,SNR=1.9
comp=Z,3.2nm,0.9s
MKAR Makanchi Array 66.55 319 P P 14 47 14.0 -0.8
comp=Z,0.9nm,0.9s,baz=60,slow=7.2,SNR=2.9
comp=Z,0.9nm,0.9s
CMAR Chiang Mai Arr 81.78 290 P P 14 48 44.0 +0.1
comp=Z,1.1nm,0.8s,baz=12,slow=5.5,SNR=9.6
comp=Z,1.1nm,0.8s
H03N2 Juan Fernandez 111.32 118 T T 16 55 58.4
baz=323,slow=77,SNR=22
H03N1 Juan Fernandez 111.33 118 T T 16 56 00.0
baz=323,slow=77,SNR=20
H03N3 Juan Fernandez 111.34 118 T T 16 55 58.4
baz=323,slow=77,SNR=14

*IDC **14** 14:38:44.8±2.9, 54°.27N×159°.69W, h0km, mb3.7/6, mbtmp3.6/10, ML3.4/4, Error ellipse: s-maj=71.0km s-min=22.8km az=159.0*
*NEIC **14** 14:38:47.8±1.6, 54°.31N±0°.05×159°.47W±0°.09, h18km±7km, mb3.6/8, ML3.6/22, ML3.3(AEIC), Error ellipse: s-maj=7.8km s-min=6.9km az=84.0*
*AEIC **14** 14:38:48.2±2.0, 54°.32N±0°.03×159°.55W±0°.05, h4km±6km, Error ellipse: s-maj=5.8km s-min=2.7km az=143.0*

ISC 14 14:38:45.2±2.8, 54°.35N±0°.08×159°.46W±0°.05, h3km±16km, n112, σ1$26/105, mb3.8/6, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNBA	Chernabura Isl	0.48	351	Pg	Pn	14 38 58.5	-0.4
CNBA	Chernabura Isl	0.48	351		Sb	14 39 05.8	+2.1
CNBA	Chernabura Isl	0.48	351	IAML		14 39 06.1	
	comp=E,12μm,0.7s						
CNBA				IAML		14 39 06.1	
	comp=N,6μm,0.5s						
CHNA	Chernabura Isl	0.49	351	P	Pn	14 38 58.5	-0.6
	baz=177						
CHNA				S	Sb	14 39 05.9	+1.8
	baz=177						
SDPT	Sand Point	1.16	330		Pb	14 39 08.1	+0.2
SDPT	Sand Point	1.16	330	IAML		14 39 26.0	
	comp=E,1μm,0.6s						
SDPT	Sand Point	1.16	330	P	Pb	14 39 08.1	+0.2
	baz=152						
VNKR	Veniaminof 5	1.69	2		Pb	14 39 17.0	+0.1
PVV	Pavlof Volcano	1.69	308		Pn	14 39 16.1	+0.5
PS1A	Pavlof South-1	1.70	310		Pn	14 39 16.5	+0.8
PS1A					Sg	14 39 38.7	-1.1
PS4A	Pavlof South-4	1.71	307		Pn	14 39 16.4	+0.6
HAG	Hague Volcano	1.71	306		Pn	14 39 16.7	+0.7
VNSW	Veniaminof 7	1.73	358		Pb	14 39 17.2	-0.4
DT1	Dutton Round H	1.80	296		Pn	14 39 17.1	0.0
VNWF	Veniaminof 8	1.81	358		Pb	14 39 19.0	0.0
PN7A	Pavlof North-7	1.82	308		Pn	14 39 18.8	+1.3
PN7A					Sb	14 39 41.5	-1.0
VNHG	Veniaminof 1	1.89	5		Pb	14 39 20.0	-0.3
S14K	Fog Glacier	1.94	359	P	Pb	14 39 21.0	-0.2
	baz=180						
S14K				S	Sg	14 39 46.6	-0.9
	baz=180						
VNFG	Fog Glacier, M	1.94	359		Pb	14 39 21.0	-0.3
VNFG					Sg	14 39 46.6	-0.9
VNFG	Fog Glacier, M	1.94	359		Pb	14 39 20.9	-0.3
VNFG	Fog Glacier, M	1.94	359	P	Pb	14 39 20.9	-0.3
	baz=180						
CHGN	Chignik	2.05	17		Pn	14 39 21.3	+0.8
CHGN	Chignik	2.05	17	IAML		14 39 57.1	
	comp=E,416nm,0.5s						
CHGN	Chignik	2.05	17	P	Pn	14 39 21.3	+0.8
	baz=198						
FALS	False Pass	2.36	284		Pn	14 39 25.4	+0.7
FALS	False Pass	2.36	284	P	Pn	14 39 25.4	+0.7
	baz=102						
ISLZ	Isanotski Laza	2.50	280		Pn	14 39 27.8	+1.0
ISNN	Isanotski Nort	2.56	283		Pn	14 39 28.4	+0.9
CHIR	Chirikof Islan	2.66	55		Pn	14 39 29.8	+1.0
CHIR	Chirikof Islan	2.66	55	IAML		14 40 25.5	
	comp=E,173nm,1.4s						
CHIR				IAML		14 40 31.8	
	comp=N,182nm,1.2s						
CHIR	Chirikof Islan	2.66	55	P	Pn	14 39 29.8	+1.0
	baz=238						
SSLS	Shishaldin Sou	2.67	280		Sn	14 40 02.2	+0.2
SSLN	Shishaldin Nor	2.68	282		Pn	14 39 30.7	+1.5
ANNE	Aniakchak Nort	2.69	17		Pn	14 39 30.9	+1.5
AKUT	Akutan	3.71	269	Pn	Pn	14 39 45.1	+1.8
AKUT				IAML		14 40 59.2	
	comp=N,77nm,2.9s						
R17K	Ugashik Creek	3.73	26		Pn	14 39 45.7	+2.1
R17K	Ugashik Creek	3.73	26	P	Pn	14 39 45.7	+2.1
	baz=209						
SII	Sitkinak Islan	3.73	51		Pn	14 39 44.8	+1.0
SII	Sitkinak Islan	3.73	51	IAML		14 41 03.4	
	comp=N,128nm,2.0s						
SII				IAML		14 42 09.3	
	comp=E,115nm,4.1s						
SII	Sitkinak Islan	3.73	51	P	Pn	14 39 44.8	+1.0
	baz=236						
UNV	Unalaska Valle	4.18	266		Pn	14 39 50.0	+0.3
UNV					Sn	14 40 37.5	-1.5
UNV	Unalaska Valle	4.18	266	P	Pn	14 39 50.0	+0.3
	baz=81						
UNV				S	Sn	14 40 37.5	-1.5
	baz=81						
MNAT	Makushin Natee	4.27	267		Pn	14 39 51.6	+0.5
MSW	Makushin Switc	4.33	267		Pn	14 39 52.7	+0.8
Q17K	Contact Creek	4.40	25	P	Pn	14 39 54.5	+1.5
	baz=209						
CNTC	Contact Creek	4.40	25		Pn	14 39 54.5	+1.5
MAPS	Pakushin South	4.44	266		Pn	14 39 54.4	+1.1
ANCK	Angle Creek	4.45	28		Pn	14 39 55.5	+1.9
ACHA	Angle Creek He	4.51	29		Pn	14 39 56.0	+1.6
OHAK	Old Harbor	4.52	48		Pn	14 39 55.2	+0.7
OHAK	Old Harbor	4.52	48	IAML		14 41 40.5	
	comp=E,52nm,4.5s						
OHAK				IAML		14 42 24.9	
	comp=N,39nm,4.3s						
OHAK	Old Harbor	4.52	48	P	Pn	14 39 55.2	+0.7
	baz=233						
KABU	Katmai Buttres	4.57	29		Pn	14 39 57.2	+2.0
P16K	Nushagak River	4.77	9		Pn	14 39 58.9	+1.1
P16K	Nushagak River	4.77	9	P	Pn	14 39 58.9	+1.1
	baz=191						
KAHC	Katmai Hardscr	4.97	28		Pn	14 40 01.8	+1.1
Q18K	Katmai Hardscr	4.97	28	P	Pn	14 40 01.8	+1.1
	baz=212						
O14K	Tigyukauivet M	5.02	349	Pn	Pn	14 40 01.2	-0.1
O14K				IAML		14 41 25.1	
	comp=N,35nm,3.7s						
O14K				IAML		14 41 30.8	
	comp=E,35nm,2.1s						
KDAK	Kodiak Island	5.17	45		Pn	14 40 04.0	+0.6
KDAK	Kodiak Island	5.17	45	Pn	Pn	14 40 03.7	+0.4
KDAK				IAML		14 41 19.1	
	comp=E,53nm,3.9s						
KDAK				IAML		14 41 41.3	
	comp=E,48nm,4.2s						
KDAK	Kodiak Island	5.17	45	Pn	Pn	14 40 03.7	+0.4
	comp=E,0.9nm,0.3s,baz=202,slow=4.7,SNR=10						
KDAK				Sn	Sn	14 40 58.4	-5.0
	comp=E,1.2nm,0.3s,baz=34,slow=21,SNR=6.7						
	comp=E,3.9nm,0.5s						
Q20K	Shuyak Island	5.79	40	P	Pn	14 40 12.6	+0.7
	baz=226						
SYI	Shuyak Island	5.80	40		Pn	14 40 12.6	+0.7
ILSW	Iliamna Southw	6.61	29	Pn	Pn	14 40 24.8	+1.5
M16K	Timber Creek	6.70	2		Pn	14 40 23.3	-1.1
CNPM	China Poot	6.87	38		Pn	14 40 27.3	+0.6
SLKM	Skilak Lake	7.93	35		Pn	14 40 42.2	+0.9
J14K	Nanvaranak Lak	8.69	347	Pn	Pn	14 40 53.5	+1.9
KNK	Knik Glacier	9.18	35	Pn	Pn	14 40 57.6	-0.8
HIN	Hinchinbrook I	9.25	44	Pn	Pn	14 40 58.6	-0.8
GHO	Glory Hole Cre	9.30	33	Pn	Pn	14 41 00.4	+0.4
GLI	Glacier Island	9.31	40	Pn	Pn	14 41 00.9	+0.7
CUT	Chulitna	9.40	27	Pn	Pn	14 41 01.1	-0.3
FID	Port Fidalgo	9.47	42	Pn	Pn	14 41 01.4	-0.9
SCM	Sheep Creek Mo	9.86	36	Pn	Pn	14 41 08.3	+0.5
KLU	Klutina	10.14	40	Pn	Pn	14 41 12.3	+0.7
BERG	Berg Lake	10.43	48	Pn	Pn	14 41 16.0	+0.5
M24K	Tolsona, Glenn	10.45	37	Pn	Pn	14 41 17.4	+1.6
H19K	Roundabout Mou	11.32	6	Pn	Pn	14 41 29.6	+2.1
TABL	Table Mountain	11.59	51	Pn	Pn	14 41 33.4	+1.9
ILAR	Eielson Array	12.21	26	Pn	Pn	14 41 37.5	-2.4
	comp=E,0.1nm,0.3s,baz=220,slow=13,SNR=2.1						
	comp=E,0.2nm,0.4s						
G21K	Allakaket	12.55	11	Pn	Pn	14 41 46.9	+2.5
O29M	Mount Kennedy	12.73	54	Pn	Pn	14 41 48.5	+1.4
F20K	Avaraart Lake	12.87	7	Pn	Pn	14 41 47.9	-0.8
P29M	Windy Craggy	12.94	57	Pn	Pn	14 41 51.6	+1.8
S31K	Pelican	13.42	65	Pn	Pn	14 41 55.8	-0.5
M29M	Somme Creek	13.62	45	Pn	Pn	14 41 58.9	-0.2
H29M	Whitestone	15.73	33	P	P	14 42 33.8	+2.2
H29M				IAmb	IAmb	14 42 44.6	
	comp=Z,4.0nm,0.8s						
I30M	Mount Dempster	15.81	37	P	P	14 42 34.9	+2.3
C23K	Itkillik River	16.06	11	Pn	Pn	14 42 31.2	-0.4
C23K				IAmb	IAmb	14 42 52.1	
	comp=Z,4.7nm,1.1s						
G29M	Pine Creek	16.28	31	P	P	14 42 38.8	+1.1
G29M				IAmb	IAmb	14 43 07.4	
	comp=Z,6.0nm,1.2s						
EPYK	Eagle Plains	16.35	34	P	P	14 42 40.5	+2.0
DLBC	Dease Lake	16.73	64	Pn	P	14 42 43.6	+0.9
	comp=Z,0.1nm,0.3s,baz=306,slow=8.9,SNR=5.5						
	comp=Z,1.3nm,0.4s						
G30M	tAoh Zraii Nji	16.88	32	P	P	14 42 46.2	+2.0
G31M	Satah River	17.47	34	P	P	14 42 52.7	+2.0
G31M				IAmb	IAmb	14 43 35.8	
	comp=Z,10nm,1.5s						
INK	Inuvik	18.50	31	P	Pn	14 43 01.8	-0.4
	comp=Z,0.1nm,0.3s,baz=238,slow=14,SNR=5.6						
	comp=Z,1.0nm,0.6s						
C36M	Paulatuk	21.98	33	P	P	14 43 40.5	+0.6
YKA	Yellowknife Ar	24.40	52	P	P	14 44 05.2	+0.8
	comp=Z,0.1nm,0.6s,baz=277,slow=8.2,SNR=2.7						
	comp=Z,0.1nm,0.6s						
H11N2	WAKE ISLAND Hy	43.01	230	T	T	15 32 39.6	
	baz=28,slow=76,SNR=34						
H11N3	WAKE ISLAND Hy	43.02	230	T	T	15 32 39.1	
	baz=28,slow=76,SNR=32						
H11N1	WAKE ISLAND Hy	43.03	230	T	T	15 32 54.3	
	baz=28,slow=76,SNR=26						
H11S1	WAKE ISLAND Hy	44.17	229	T	T	15 34 20.4	
	baz=28,slow=76,SNR=20						
H11S2	WAKE ISLAND Hy	44.18	229	T	T	15 34 20.7	
	baz=28,slow=76,SNR=20						
H11S3	WAKE ISLAND Hy	44.19	229	T	T	15 34 22.4	
	baz=28,slow=76,SNR=4.6						
SONM	Songino Array	55.21	305	P	P	14 48 18.7	-0.4
	comp=Z,0.4nm,0.6s,baz=49,slow=6.6,SNR=1.9						
	comp=Z,0.4nm,0.6s						
FINES	FINESS Array B	64.47	357	P	P	14 49 22.1	-0.3
	comp=Z,8.7nm,1.2s,baz=356,slow=6.1,SNR=5.9						
	comp=Z,8.7nm,1.2s						
BVAR	Borovoye Array	65.29	329	P	P	14 49 28.0	+0.1
	comp=Z,1.2nm,0.7s,baz=30,slow=6.7,SNR=5.4						
	comp=Z,1.2nm,0.7s						
MKAR	Makanchi Array	66.50	319	P	P	14 49 35.1	-0.8
	comp=Z,0.4nm,0.7s,baz=64,slow=3.4,SNR=1.8						
	comp=Z,0.4nm,0.7s						
CMAR	Chiang Mai Arr	81.75	290	P	P	14 51 05.8	+0.5
	comp=Z,0.6nm,0.7s,baz=24,slow=5.7,SNR=4.9						
	comp=Z,0.6nm,0.7s						
H03N2	Juan Fernandez	111.35	118	T	T	16 58 18.6	
	baz=323,slow=77,SNR=7.1						
H03N1	Juan Fernandez	111.36	118	T	T	16 58 19.9	
	baz=323,slow=77,SNR=9.0						
H03N3	Juan Fernandez	111.37	118	T	T	16 58 19.1	
	baz=323,slow=77,SNR=7.6						

*IDC **14** 15:07:34.1±1.3, 31°.63N×140°.88E, h0km, mb3.4/5,*

mbtmp3.4/5,MS3.1/1,Error ellipse: s-maj=38.1km s-min=24.7km az=76.0

ISC 14 15:07:41.7±1.2,31.7N±0.1×140.8E±0.2,h57km,n13, σ1s01/7,mb3.4/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.66**	**331**	Pn		**Pn**	**15 08 07.4**	**-1.0**
	10nm,0.3s,baz=236,slow=17,SNR=1.2							
MJAR	**Matsushiro Arr**	**5.29**	**337**	Pn		**Pn**	**15 08 59.3**	**+1.1**
	0.2nm,0.3s,baz=147,slow=46,SNR=13							
H11N2	**WAKE ISLAND Hy 26.32 111**			T		T	15 41 15.4	
	baz=301,slow=75,SNR=47							
H11N1	**WAKE ISLAND Hy 26.32 111**			T		T	15 41 18.7	
	baz=301,slow=75,SNR=36							
H11N3	**WAKE ISLAND Hy 26.33 111**			T		T	15 41 17.7	
	baz=301,slow=75,SNR=48							
H11S3	**WAKE ISLAND Hy 26.82 113**			T		T	15 41 54.5	
	baz=304,slow=76,SNR=298							
H11S1	**WAKE ISLAND Hy 26.83 113**			T		T	15 41 52.3	
	baz=304,slow=76,SNR=430							
H11S2	**WAKE ISLAND Hy 26.84 113**			T		T	15 41 57.1	
	baz=304,slow=76,SNR=176							
CMAR	**Chiang Mai Arr**	**39.86**	**261**	P		**P**	**15 15 09.7**	**-0.3**
	0.6nm,0.7s,baz=54,slow=6.7,SNR=7.6							
	0.6nm,0.7s							
KURBB	**Kurchatov Arra**	**49.01**	**312**	P		**P**	**15 16 23.0**	**+0.5**
	0.3nm,0.8s,baz=96,slow=8.5,SNR=2.2							
	0.3nm,0.8s							
WRA	**Warramunga Arr**	**51.69**	**188**	P		**P**	**15 16 42.7**	**-0.4**
	0.3nm,0.6s,baz=2.4,slow=7.8,SNR=6.2							
	0.3nm,0.6s							
ASAR	**Alice Springs**	**55.42**	**188**	P		**P**	**15 17 11.4**	**+1.0**
	0.3nm,1.0s,baz=356,slow=6.2,SNR=1.5							
ASAR				LR		LR	15 39 30.3	
	comp=Z,18nm,19.6s,baz=8.0,slow=35							
	0.3nm,1.0s							
PDAR	**Pinedale Array**	**81.83**	**44**	P		**P**	**15 19 54.5**	**-0.6**
	0.3nm,0.7s,baz=316,slow=2.5,SNR=3.6							
	0.3nm,0.7s							

*TAP **14** 15:27:52.2,23.93N×122.72E,h29km,ML3.3,D*
*JMA **14** 15:27:52.5±0.2,24.0N±0.8×122.7E±0.7,h30km,MV3.1/14, NW OFF ISHIGAKIJIMA IS*

ISC 14 15:27:52.0±1.0,23.90N±0.02×122.70E±0.02,h29km±11km, n127,σ1s05/225,1C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.41**	**302**	P		**Pb**	**15 28 01.0**	**+0.3**
	baz=297							
EOS4				S		**Sn**	**15 28 07.6**	**-0.6**
	baz=297							
EOS3	**EOS3**	**0.52**	**317**	*e*P		**Pn**	**15 28 02.7**	**-0.6**
	baz=315							
EOS3				*e*S		**Sn**	**15 28 11.0**	**-0.1**
	baz=315							
JYNG	**Yonagunijimaku**	**0.59**	**22**	*i* P		**Pb**	**15 28 03.2**	**-0.6**
JYNG				S		**Sb**	**15 28 10.3**	**-1.6**
YOJ	**Yonaguni jima**	**0.62**	**27**	P		**Pb**	**15 28 03.9**	**-0.5**
YOJ	**Yonaguni jima**	**0.62**	**27**	P		**Pb**	**15 28 03.9**	**-0.5**
YOJ				S		**Sb**	**15 28 11.6**	**-1.3**
YOJ	**Yonaguni jima**	**0.62**	**27**	P		**Pb**	**15 28 03.9**	**-0.5**
	baz=26							
YOJ				*i* S		**Sn**	**15 28 12.9**	**-1.0**
	baz=26							
EOS2	**EOS2**	**0.67**	**320**	P		**Pn**	**15 28 05.5**	**+0.1**
	baz=312							
EOS2				*e*S		**Sn**	**15 28 15.7**	**+0.9**
	baz=312							
EWUT	**Wuta**	**1.00**	**303**	*i* P		**Pb**	**15 28 10.2**	**-0.5**
	baz=300							
EWUT				S		**Sb**	**15 28 24.8**	**+1.3**
	baz=300							
ETL	**Fush Village**	**1.02**	**285**	P		**Pn**	**15 28 10.2**	**-0.2**
	baz=268							
ETL				*e*S		**Sn**	**15 28 22.6**	**-1.2**
	baz=268							
HATJ	**Hateruma jima**	**1.02**	**81**	P		**Pb**	**15 28 11.2**	**+0.2**
HATJ				S		**Sb**	**15 28 25.1**	**+1.0**
ENA	**Nanau**	**1.02**	**301**	P		**Pb**	**15 28 10.8**	**-0.2**
	baz=299							
ENA				*e*S		**Sb**	**15 28 25.9**	**+1.8**
	baz=299							
TWD	**Chiawan**	**1.03**	**280**	P		**Pn**	**15 28 09.9**	**-0.5**
	baz=278							
TWD				S		**Sn**	**15 28 23.5**	**-0.4**
	baz=278							
NACB	**Ninganchiao**	**1.05**	**285**	P		**Pn**	**15 28 10.5**	**-0.3**
NACB	**Ninganchiao**	**1.05**	**285**	*i* P		**Pn**	**15 28 10.4**	**-0.3**
	baz=268							
NACB				S		**Sb**	**15 28 24.8**	**-0.1**
	baz=268							
TWC	**Suao**	**1.05**	**312**	*i* P		**Pb**	**15 28 10.9**	**-0.6**
	baz=310							
TWC				S		**Sb**	**15 28 24.6**	**-0.3**
	baz=310							
ETM	**Tongmen**	**1.11**	**273**	P		**Pn**	**15 28 11.2**	**-0.4**
	baz=271							
ETM				S		**Sn**	**15 28 25.4**	**-0.5**
	baz=271							
ETLH	**Xiulin Townshi**	**1.16**	**285**	P		**Pn**	**15 28 11.9**	**-0.4**
	baz=271							
ETLH				S		**Sb**	**15 28 28.6**	**+0.5**
	baz=271							
NDS	**Dongshan**	**1.16**	**309**	P		**Pb**	**15 28 13.2**	**-0.2**
	baz=307							
NDS				S		**Sb**	**15 28 29.2**	**+1.2**
	baz=307							
ESL	**Shilin**	**1.17**	**266**	P		**Pn**	**15 28 11.8**	**-0.6**
	baz=252							
ESL				S		**Sn**	**15 28 27.0**	**-0.3**
	baz=252							
EGS		**1.17**	**323**	*e*P		**Pb**	**15 28 13.9**	**+0.3**
	baz=335							
EGS				S		**Sb**	**15 28 29.2**	**+0.8**
	baz=335							
LXIB	**Xiulin Townshi**	**1.19**	**276**	P		**Pn**	**15 28 12.4**	**-0.3**
	baz=274							
EGFH	**Guangfu**	**1.19**	**259**	P		**Pn**	**15 28 12.8**	**+0.1**
	baz=244							
EGFH				S		**Sn**	**15 28 28.1**	**+0.1**
	baz=244							
WARBT	**Fenglin Townsh**	**1.22**	**262**	*i* P		**Pn**	**15 28 12.7**	**-0.4**
	baz=248							
WARBT				S		**Sn**	**15 28 28.0**	**-0.6**
	baz=248							
JKRS	**Kuro-shima**	**1.24**	**74**	P		**Pb**	**15 28 14.6**	**-0.1**
JKRS				S		**Sb**	**15 28 31.6**	**+1.2**
HGSD	**Ruisui**	**1.24**	**251**	P		**Pn**	**15 28 12.7**	**-0.7**
	baz=249							
HGSD				S		**Sn**	**15 28 28.8**	**-0.4**
	baz=249							
LATG	**Datong**	**1.24**	**301**	P		**Pn**	**15 28 13.9**	**+0.3**
	baz=298							
LATG				*e*S		**Sb**	**15 28 32.7**	**+2.1**
	baz=298							
TWE	**Neicheng**	**1.25**	**311**	P		**Pb**	**15 28 13.9**	**-1.0**
	baz=309							
TWE				*e*S		**Sb**	**15 28 32.6**	**+2.0**
	baz=309							
ENTT	**Nioudou**	**1.27**	**305**	P		**Pb**	**15 28 14.8**	**-0.4**
	baz=289							
ENTT				*e*S		**Sb**	**15 28 30.3**	**-1.0**
	baz=289							
TWB1	**Santiao Chiao**	**1.28**	**330**	P		**Pb**	**15 28 14.4**	**-1.0**
	baz=328							
TWB1				S		**Sb**	**15 28 30.1**	**-1.4**
	baz=328							
ECBN	**Changbin**	**1.29**	**243**	S		**Sn**	**15 28 30.1**	**-0.2**
	baz=229							
NDT	**Datong Townshi**	**1.29**	**303**	*e*P		**Pb**	**15 28 16.1**	**+0.4**
	baz=288							
NDT				*e*S		**Sb**	**15 28 30.6**	**-1.2**
	baz=288							
NNSB	**Datong**	**1.31**	**294**	P		**Pn**	**15 28 15.0**	**+0.5**
	baz=279							
NNSB				S		**Sb**	**15 28 31.8**	**-0.8**
	baz=279							
EHY	**Hungye**	**1.33**	**253**	*i* P		**Pn**	**15 28 14.9**	**+0.3**
	baz=251							
EHY				S		**Sn**	**15 28 31.7**	**+0.4**
	baz=251							
NNS	**Nan Shan**	**1.33**	**294**	P		**Pn**	**15 28 14.9**	**+0.2**
	baz=280							
NNS				*e*S		**Sb**	**15 28 34.0**	**+1.0**
	baz=280							
FUSB	**Fushanzhiwuyua**	**1.33**	**310**	⇓P		**Pb**	**15 28 15.3**	**-1.0**
	baz=294							
FUSB				*e*S		**Sb**	**15 28 35.1**	**+2.1**
	baz=294							
TIPB	**Shuangxi**	**1.33**	**323**	*i* P		**Pb**	**15 28 15.1**	**-1.2**
	baz=336							
TIPB				S		**Sb**	**15 28 32.6**	**-0.4**
	baz=336							
WHF	**Hehuan Shan**	**1.34**	**281**	⇑P		**Pn**	**15 28 15.3**	**+0.2**
	baz=278							
WHF				S		**Sb**	**15 28 33.5**	**-0.1**
	baz=278							
EYUL	**Yuli**	**1.38**	**247**	P		**Pn**	**15 28 15.7**	**+0.3**
	baz=234							
EYUL				S		**Sn**	**15 28 33.4**	**+0.7**
	baz=234							
YULB	**Yu-li**	**1.39**	**249**	P		**Pn**	**15 28 15.6**	**+0.2**
YULB	**Yu-li**	**1.39**	**249**	P		**Pn**	**15 28 15.7**	**+0.3**
	baz=236							
YULB				*e*S		**Sn**	**15 28 33.6**	**+0.9**
	baz=236							
JIJ	**Ishigaki jima**	**1.39**	**71**	P		**Pn**	**15 28 16.1**	**+0.7**
JIJ				*e*S		**Sn**	**15 28 33.3**	**+0.4**
OWD	**Renai**	**1.40**	**272**	P		**Pn**	**15 28 15.9**	**+0.3**
	baz=270							
OWD				S		**Sn**	**15 28 33.5**	**+0.3**
	baz=270							
NWLT	**Wulai**	**1.40**	**309**	P		**Pb**	**15 28 17.3**	**-0.2**
	baz=307							
NWLT				*e*S		**Sb**	**15 28 36.1**	**+1.1**
	baz=307							
TWF1	**Yuli**	**1.40**	**247**	P		**Pn**	**15 28 16.0**	**+0.4**
	baz=234							
TWF1				S		**Sn**	**15 28 33.9**	**+0.7**
	baz=234							
SXI1	**Grass Mountain**	**1.40**	**328**	P		**Pb**	**15 28 16.2**	**-1.4**
	baz=340							
SXI1				*e*S		**Sb**	**15 28 33.3**	**-1.9**
	baz=340							
CHGB	**Renai**	**1.41**	**277**	P		**Pn**	**15 28 16.3**	**+0.5**
	baz=275							
CHGB				S		**Sn**	**15 28 34.2**	**+0.6**
	baz=275							
YHNB	**Yeheng**	**1.43**	**302**	P		**Pn**	**15 28 16.8**	**+0.7**
YHNB	**Yeheng**	**1.43**	**302**	⇓P		**Pn**	**15 28 16.7**	**+0.7**
	baz=301							
YHNB				*e*S		**Sb**	**15 28 37.4**	**+1.4**
	baz=301							
NWF	**Wu-fen Shan**	**1.43**	**324**	P		**Pb**	**15 28 17.6**	**-0.5**
	baz=323							
NWF				*i* S		**Sb**	**15 28 35.0**	**-1.0**
	baz=323							
WFSB	**Wu-fen Shan**	**1.43**	**324**	P		**Pb**	**15 28 17.3**	**-0.8**
	baz=323							
WFSB				S		**Sb**	**15 28 34.9**	**-1.0**
	baz=323							
VWDT	**VWDT**	**1.44**	**264**	P		**Pn**	**15 28 16.4**	**+0.3**
	baz=262							
VWDT				S		**Sn**	**15 28 34.5**	**+0.5**
	baz=262							
TWT	**Tachien**	**1.44**	**284**	P		**Pb**	**15 28 17.5**	**-0.7**
	baz=282							
NSK	**Sanguang**	**1.45**	**302**	P		**Pn**	**15 28 16.9**	**+0.6**
	baz=301							
NSK				*e*S		**Sb**	**15 28 38.3**	**+1.9**
	baz=301							
WUSB	**Renai**	**1.45**	**274**	P		**Pn**	**15 28 16.8**	**+0.4**
	baz=272							
WUSB				S		**Sn**	**15 28 35.5**	**+0.9**
	baz=272							
TDCB	**Techi**	**1.45**	**284**	P		**Pn**	**15 28 17.4**	**+0.9**
	baz=283							
CHKT	**Chengkung**	**1.47**	**237**	P		**Pn**	**15 28 16.6**	**+0.2**
	baz=224							
CHKT				S		**Sn**	**15 28 33.6**	**-1.1**
	baz=224							
FULB	**Fuli**	**1.47**	**242**	P		**Pn**	**15 28 16.2**	**-0.3**
	baz=228							
FULB				S		**Sn**	**15 28 34.9**	**0.0**
	baz=228							
TWA	**Mucha**	**1.48**	**317**	P		**Pb**	**15 28 18.8**	**-0.1**
	baz=315							
TWA				S		**Sb**	**15 28 37.2**	**-0.1**
	baz=315							
NHDH	**Xindian Distri**	**1.50**	**315**	P		**Pb**	**15 28 19.2**	**-0.1**
	baz=330							
NHDH				*e*S		**Sb**	**15 28 40.5**	**+2.5**
	baz=330							
TATO	**Taipei**	**1.54**	**314**	P		**Pb**	**15 28 19.1**	**-0.7**
EHD	**Haiduan**	**1.56**	**242**	P		**Pn**	**15 28 17.6**	**-0.3**
	baz=230							
EHD				*i* S		**Sn**	**15 28 36.7**	**-0.5**
	baz=230							
ECS	**Chishang**	**1.58**	**240**	P		**Pn**	**15 28 18.3**	**+0.2**
	baz=227							
ECS				*e*S		**Sn**	**15 28 39.4**	**+1.8**
	baz=227							
EDH	**Donghe**	**1.58**	**234**	P		**Pn**	**15 28 16.8**	**-1.3**
	baz=223							
EDH				*e*S		**Sn**	**15 28 35.0**	**-2.6**
	baz=223							
SSLB	**Suanglung**	**1.60**	**266**	P		**Pn**	**15 28 19.1**	**+0.7**
SSLB	**Suanglung**	**1.60**	**266**	*i* P		**Pn**	**15 28 18.9**	**+0.4**
	baz=265							
YM01	**YM01**	**1.61**	**320**	*e*P		**Pb**	**15 28 20.4**	**-0.7**
	baz=319							
YM01				S		**Sb**	**15 28 39.6**	**-1.4**
	baz=319							
NFF	**Wufeng Townshi**	**1.62**	**297**	P		**Pb**	**15 28 20.0**	**-1.3**
	baz=295							
NFF				S		**Sb**	**15 28 39.7**	**-1.6**
	baz=295							
JISG	**Ishigakijimahi**	**1.62**	**65**	P		**Pn**	**15 28 19.1**	**+0.5**
JISG				*e*S		**Sn**	**15 28 39.0**	**+0.5**
YM08	**YM08**	**1.63**	**322**	*e*P		**Pb**	**15 28 20.4**	**-1.0**
	baz=320							
WCS	**Beigang Elemen**	**1.65**	**276**	P		**Pn**	**15 28 18.9**	**-0.1**
	baz=274							
WCS				*e*S		**Sb**	**15 28 42.5**	**+0.5**
	baz=274							
WHP	**Taichung City**	**1.65**	**283**	P		**Pb**	**15 28 20.8**	**-0.9**
	baz=271							
WHP				*e*S		**Sb**	**15 28 42.4**	**+0.2**
	baz=271							
SMLT	**Sun Moon Lake**	**1.65**	**270**	P		**Pn**	**15 28 19.8**	**+0.7**
	baz=268							
SMLT				S		**Sb**	**15 28 41.0**	**-1.3**
	baz=268							
LDUT	**Ludao**	**1.67**	**223**	P		**Pn**	**15 28 18.3**	**-1.0**
	baz=222							
LDUT				S		**Sn**	**15 28 39.1**	**-0.6**
	baz=222							
ANP	**Anpu**	**1.67**	**320**	*e*P		**Pb**	**15 28 21.4**	**-0.7**
	baz=319							
TYC	**Yuchr**	**1.69**	**270**	P		**Pn**	**15 28 20.4**	**+0.8**
	baz=269							
TWY	**Chenhua**	**1.69**	**324**	P		**Pb**	**15 28 21.4**	**-1.1**
	baz=323							
NTST	**Danshui**	**1.70**	**318**	S		**Sb**	**15 28 42.6**	**-0.8**
	baz=317							
ELDTW	**Lidau**	**1.70**	**246**	P		**Pn**	**15 28 19.8**	**-0.1**
	baz=244							
ELDTW				S		**Sn**	**15 28 40.1**	**-0.6**
	baz=244							
WHYT	**Xinyi Township**	**1.71**	**263**	*e*P		**Pb**	**15 28 21.9**	**-0.8**
	baz=262							
LIOB	**Emei**	**1.71**	**296**	P		**Pb**	**15 28 21.6**	**-1.1**
	baz=294							
LIOB				S		**Sb**	**15 28 43.3**	**-0.5**
	baz=294							
NSTT	**Nanjuang**	**1.71**	**295**	*i* P		**Pb**	**15 28 21.6**	**-1.2**
	baz=293							
NSTT				*e*S		**Sb**	**15 28 43.9**	**0.0**
	baz=293							
LONT	**Longtian**	**1.75**	**236**	P		**Pn**	**15 28 20.7**	**+0.2**
	baz=225							
LONT				*e*S		**Sn**	**15 28 43.2**	**+1.4**
	baz=225							
ALS	**Alishan**	**1.78**	**258**	*i* P		**Pn**	**15 28 22.3**	**+1.2**
	baz=256							
ALS				S		**Sn**	**15 28 44.5**	**+1.5**
	baz=256							
WJS	**Zhushan**	**1.81**	**268**	*e*P		**Pb**	**15 28 24.9**	**+0.4**
	baz=266							
WJS				*e*S		**Sb**	**15 28 49.2**	**+2.4**
	baz=266							
TWQ1	**Liyutan**	**1.82**	**284**	P		**Pb**	**15 28 23.9**	**-0.7**
	baz=283							
TWQ1				*e*S		**Sn**	**15 28 44.0**	**+0.6**
	baz=283							
TWGBT	**Beinan**	**1.84**	**234**	P		**Pn**	**15 28 21.9**	**+0.2**
TWGBT	**Beinan**	**1.84**	**234**	P		**Pn**	**15 28 21.6**	**0.0**
	baz=223							
TWGBT				S		**Sn**	**15 28 43.2**	**-0.8**
	baz=223							
NSY	**Sanyi**	**1.84**	**286**	P		**Pb**	**15 28 24.0**	**-1.1**
	baz=286							
TWG	**Pinlang**	**1.85**	**235**	P		**Pn**	**15 28 21.4**	**-0.3**
	baz=223							
TWG				S		**Sn**	**15 28 43.9**	**-0.2**
	baz=223							
WNT	**Mingjian**	**1.85**	**270**	P		**Pb**	**15 28 24.6**	**-0.5**
	baz=268							
WNT				*e*S		**Sb**	**15 28 49.1**	**+1.3**
	baz=268							
TCU	**Taichung**	**1.87**	**278**	*e*P		**Pn**	**15 28 23.3**	**+1.3**
	baz=276							
TCU				S		**Sb**	**15 28 48.4**	**0.0**
	baz=276							
CHN5	**Tsauling**	**1.88**	**261**	*e*P		**Pb**	**15 28 24.4**	**-1.3**
	baz=259							
CHN5				*e*S		**Sb**	**15 28 49.7**	**+0.9**
	baz=259							
STYH	**Taoyuan**	**1.91**	**248**	*i* P		**Pn**	**15 28 23.6**	**+1.0**
	baz=237							
STYH				*e*S		**Sn**	**15 28 47.6**	**+1.9**
	baz=237							
JTJ	**Tarama**	**1.97**	**68**	P		**Pn**	**15 28 24.9**	**+1.5**
JTJ				S		**Sb**	**15 28 49.3**	**-1.9**
WGK	**Gukeng**	**1.97**	**264**	*e*P		**Pb**	**15 28 27.5**	**+0.3**
	baz=262							
WGK				*e*S		**Sb**	**15 28 52.9**	**+1.5**
	baz=262							
WCKO	**Fanlu**	**1.98**	**257**	P		**Pb**	**15 28 26.2**	**-1.1**
	baz=245							
WCKO				*e*S		**Sb**	**15 28 52.0**	**+0.4**
	baz=245							
TPUB	**Ta-pu**	**1.99**	**253**	P		**Pn**	**15 28 25.6**	**+1.8**
TPUB	**Ta-pu**	**1.99**	**253**	P		**Pn**	**15 28 25.8**	**+2.1**
	baz=241							
TPUB				*e*S		**Sb**	**15 28 51.6**	**-0.4**
	baz=241							
WDLH	**Douliu**	**1.99**	**264**	P		**Pb**	**15 28 26.4**	**-1.1**
	baz=262							
WDLH				*e*S		**Sb**	**15 28 51.9**	**-0.1**
	baz=262							
WTP	**Ta-pu**	**2.02**	**252**	P		**Pn**	**15 28 26.5**	**+2.2**
	baz=250							
WTP				*e*S		**Sb**	**15 28 52.1**	**-0.9**
	baz=250							
ECL	**Taimali**	**2.07**	**231**	P		**Pn**	**15 28 24.6**	**-0.2**
	baz=242							
ECL				S		**Sn**	**15 28 49.5**	**-0.1**
	baz=242							
SLGT	**Liugui**	**2.09**	**245**	*e*P		**Pb**	**15 28 28.8**	**-0.5**
	baz=236							
SGST	**Jiashian**	**2.11**	**248**	P		**Pb**	**15 28 28.1**	**-1.5**
	baz=236							
SGST				*e*S		**Sb**	**15 28 54.6**	**-0.8**
	baz=236							
CHN1	**Nanshi**	**2.12**	**251**	P		**Pn**	**15 28 28.0**	**+2.5**
	baz=249							
CHN1				*e*S		**Sb**	**15 28 55.5**	**-0.2**
	baz=249							
TWK	**Hsinying**	**2.13**	**253**	P		**Pn**	**15 28 27.5**	**+1.9**
	baz=251							
TWK				*e*S		**Sb**	**15 28 55.6**	**-0.4**
	baz=251							
WRL	**Guolierlin Hig**	**2.13**	**270**	P		**Pb**	**15 28 28.1**	**-1.8**
	baz=268							
WRL				S		**Sb**	**15 28 54.1**	**-1.8**
	baz=268							
WTK	**Tuku**	**2.13**	**265**	P		**Pb**	**15 28 28.3**	**-1.6**
	baz=263							
WTK				S		**Sb**	**15 28 54.8**	**-1.1**
	baz=263							
SNST	**Tainan City**	**2.13**	**252**	*i* P		**Pn**	**15 28 28.0**	**+2.3**
	baz=250							
SNST				*e*S		**Sb**	**15 28 55.6**	**-0.4**
	baz=250							
LAY	**Lan-yu**	**2.14**	**210**	*e*P		**Pn**	**15 28 26.4**	**+0.7**
	baz=208							
LAY				*e*S		**Sn**	**15 28 52.0**	**+0.7**
	baz=208							
LYUB	**Lan-yu**	**2.16**	**209**	P		**Pn**	**15 28 25.5**	**-0.4**
	baz=207							
LYUB				S		**Sn**	**15 28 50.9**	**-0.9**
	baz=207							
TSMG	**Majia**	**2.24**	**238**	*e*P		**Pb**	**15 28 30.8**	**-0.9**
	baz=230							
SCST	**Cishan**	**2.27**	**244**	P		**Pb**	**15 28 30.5**	**-1.8**
	baz=232							
SCST				S		**Sb**	**15 28 58.7**	**-1.2**
	baz=232							
EAST	**Anshuo**	**2.28**	**229**	P		**Pn**	**15 28 27.5**	**-0.2**
	baz=238							
TAWH	**Dawu Township**	**2.28**	**227**	P		**Pn**	**15 28 27.2**	**-0.6**
	baz=235							
TAWH				S		**Sn**	**15 28 55.0**	**+0.1**
	baz=235							
MASBT	**Mashibuluo**	**2.30**	**236**	*e*P		**Pn**	**15 28 30.1**	**+2.2**
	baz=228							
MASBT				S		**Sn**	**15 28 56.3**	**+1.1**
	baz=228							
SHHT	**Tainan City**	**2.33**	**248**	*e*P		**Pb**	**15 28 33.6**	**+0.2**
	baz=246							
SHHT				S		**Sb**	**15 29 02.0**	**+0.2**
	baz=246							
CHN8	**Yiju**	**2.35**	**257**	S		**Sn**	**15 28 59.8**	**+3.2**
	baz=255							
SCZT	**Fangliau**	**2.45**	**232**	*e*P		**Pb**	**15 28 33.6**	**-1.7**
	baz=225							
TSCK	**Chigu Township**	**2.52**	**253**	P		**Pn**	**15 28 32.9**	**+1.9**
	baz=251							
TSCK				*e*S		**Sn**	**15 29 03.2**	**+2.6**
	baz=251							
HEN	**Hengchun**	**2.62**	**224**	S		**Sn**	**15 29 05.1**	**+2.0**
	baz=222							
PHUB	**P'eng-hu**	**2.90**	**263**	P		**Pn**	**15 28 37.5**	**+1.4**
	baz=276							
PHUB				S		**Sn**	**15 29 11.2**	**+1.2**
	baz=276							
PNG	**Penghu**	**2.90**	**264**	P		**Pn**	**15 28 37.1**	**+0.9**
	baz=261							
PNG				*e*S		**Sn**	**15 29 10.3**	**+0.1**
	baz=261							
VWUC	**VWUC**	**3.16**	**291**	*e*P		**Pn**	**15 28 39.0**	**-0.8**
	baz=290							
XPSS	**Dashiqiu**	**3.77**	**324**	*e*P		**Pn**	**15 28 48.7**	**+0.5**
	baz=324							
XPSS				*e*S		**Sn**	**15 29 31.3**	**-0.3**
	baz=324							
KNMB	**Chin-men Tao**	**3.98**	**279**	*e*P		**Pn**	**15 28 50.9**	**-0.1**
	baz=277							
KNMB				*e*S		**Sn**	**15 29 35.2**	**-1.5**
	baz=277							
AXDP	**Jialang**	**4.43**	**284**	P		**Pn**	**15 28 58.9**	**+1.7**
	baz=284							
ZPLA	**Ao Xicun**	**4.53**	**271**	P		**Pn**	**15 29 00.3**	**+1.7**
	baz=270							

IDC 14 15:39:26.6±3.3,2.51S×137.96E,h0km,mb3.7/4, mbtmp3.8/5,ML3.8/1,Error ellipse: s-maj=115.7km s-min=26.3km az=81.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.69**	**191**	P		Pn	15 43 33.9	-0.7
	0.4nm,0.3s,baz=14,slow=13,SNR=22							
	1.0nm,0.4s							
ASAR	**Alice Springs**	**21.40**	**190**	P		P	15 44 16.5	+0.4
	0.9nm,0.4s,baz=15,slow=11,SNR=54							
	0.9nm,0.4s							
CMAR	**Chiang Mai Arr**	**43.69**	**300**	P		P	15 47 33.5	-0.2
	0.5nm,0.6s,baz=119,slow=7.9,SNR=5.5							
	0.5nm,0.6s							
MKAR	**Makan

Vanuatu Islands
*IDC **14** 16:02:27.0±13.0, 15°.57S×165°.68E, h0^{km}, mb4.1/3, mbtmp4.2/4, ML4.3/1, MS3.1/1, Error ellipse: s-maj=225.7km s-min=35.5km az=55.0*
*NEIC **14** 16:02:29.0±1.7, 15°.6S±0°.1×167°.4E±0°.1, h133^{km}±11^{km}, mb4.4/13, Error ellipse: s-maj=18.0km s-min=14.5km az=121.0*

ISC 14 16:02:26.5±0.9,**15°.42S**±0°.09×**167°.46E**±0°.10,**h124**^{km},**n28,** σ1^{s}**77/32,mb4.2/9,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOUNC	**Koumac, New Ca**	**5.93**	**210**		**Pn**	**16 03 52.5**	**+0.5**
KOUNC				Sn	**Sn**	**16 04 53.8**	**-4.9**
KOUNC	**Koumac, New Ca**	**5.93**	**210**	P	**Pn**	**16 03 52.8**	**+0.8**
MARNC	**Mare, Loyalty**	**6.05**	**175**	Pn	**Pn**	**16 03 53.4**	**-0.2**
MARNC				Sn	**Sn**	**16 04 59.3**	**-2.3**
MARNC	**Mare, Loyalty**	**6.05**	**175**	P	**Pn**	**16 03 54.5**	**+0.9**
DZM	**Mont Dzumac**	**6.68**	**188**		**Pn**	**16 04 04.4**	**+2.1**
DZM				Sn	**Sn**	**16 05 15.8**	**-1.3**
DZM	**Mont Dzumac**	**6.68**	**188**	Pn	**Pn**	**16 04 04.3**	**+2.1**
	6.1nm,0.3s,baz=45,slow=20,SNR=54						
DZM				Sn	**Sn**	**16 05 19.6**	**+2.5**
	2.9nm,0.3s,baz=316,slow=22,SNR=2.4						
	19nm,0.4s						
NOUC	**Port Laguerre**	**6.73**	**189**	P	**Pn**	**16 04 05.4**	**+2.6**
ONTNC	**Ouen Toro**	**6.91**	**188**		**Pn**	**16 04 05.1**	**-0.2**
ONTNC				Sn	**Sn**	**16 05 20.8**	**-1.7**
ONTNC	**Ouen Toro**	**6.91**	**188**	P	**Pn**	**16 04 08.0**	**+2.7**
PINNC	**Pines Island,**	**7.15**	**180**		**Pn**	**16 04 10.8**	**+2.3**
FUNA	**Funafuti**	**13.36**	**60**	Pn	**P**	**16 05 35.0**	**-1.4**
TOZ	**Tahuroa Road**	**23.33**	**164**	P	**P**	**16 07 22.7**	**-0.9**
TOZ				IAmb	IAmb	16 07 29.6	
	comp=Z,18nm,1.0s						
RTZ	**Ruatahuna**	**24.58**	**162**	P	**P**	**16 07 34.4**	**-0.6**
LTZ	**Lake Taylor**	**27.58**	**172**	P	**P**	**16 08 00.9**	**-1.0**
STKA	**Stephens Creek**	**28.69**	**231**	P	**P**	**16 08 11.6**	**-0.3**
STKA	**Stephens Creek**	**28.69**	**231**	P	**P**	**16 08 13.7**	**+1.7**
	comp=Z,2.0nm,0.6s,baz=59,slow=9.3,SNR=7.4						
	comp=Z,2.0nm,0.6s						
WB0	**Warramunga Arr**	**31.79**	**257**	P	**P**	**16 08 37.8**	**-1.6**
WB0				IAmb	IAmb	16 08 41.5	
	comp=Z,6.3nm,1.4s						
WRA	**Warramunga Arr**	**31.85**	**257**	P	**P**	**16 08 38.5**	**-1.5**
	comp=Z,1.1nm,0.8s,baz=88,slow=9.0,SNR=9.5						
	comp=Z,1.1nm,0.8s						
AS31	**Alice Springs**	**32.61**	**250**	P	**P**	**16 08 46.2**	**-0.4**
ASAR	**Alice Springs**	**32.61**	**250**	P	**P**	**16 08 46.0**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=81,slow=9.0,SNR=43						
	comp=Z,3.2nm,0.8s						
BBOO	**Buckleboo**	**33.31**	**233**	P	**P**	**16 08 53.9**	**+1.4**
BBOO				IAmb	IAmb	16 08 54.8	
	comp=Z,7.4nm,0.8s						
KNRA	**Kununurra**	**37.25**	**264**	P	**P**	**16 09 27.6**	**+1.1**
FORT	**Forrest**	**39.11**	**240**	P	**P**	**16 09 42.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**40.08**	**260**	P	**P**	**16 09 49.4**	**-0.6**
FITZ				IAmb	IAmb	16 10 23.1	
	comp=Z,4.7nm,1.4s						
MBWA	**Marble Bar**	**45.55**	**255**	P	**P**	**16 10 34.2**	**0.0**
MBWA				IAmb	IAmb	16 10 38.9	
	comp=Z,12nm,1.0s						
NWAO	**Narrogin (SRO)**	**48.56**	**240**	LR	LR	16 31 30.1	
	comp=Z,21nm,20.6s,baz=226,slow=37						
VNDA	**Vanda**	**62.18**	**181**	P	**P**	**16 12 33.2**	**-1.0**
VNDA				IAmb	IAmb	16 13 01.7	
	comp=Z,5.0nm,1.1s						
QSPA	**South Pole Qui**	**74.61**	**180**	P	**P**	**16 13 53.8**	**+1.9**

*TEH **14** 16:09:06.6, 33°.46N×45°.99E, h12^{km}±33^{km}, ML3.0*
*ISN **14** 16:09:06.2±0.7, 33°.40N×45°.95E, h12^{km}±2^{km}, ML3.0*

ISC 14 16:09:06.5±1.1,**33°.39N**±0°.03×**46°.02E**±0°.04,**h10**^{km}±12^{km}, **n13,**σ1^{s}**21/18,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.28**	**34**	Pg	**Pb**	**16 09 12.8**	**-0.9**
IBDR	**Badra**	**0.29**	**195**	*e*Pg	**Pg**	**16 09 12.0**	**-0.4**
IBDR				*e*Sg	**Sg**	**16 09 17.0**	**+0.7**
IBDR				AML	AML	16 09 26.3	
	comp=E,440nm,0.5s						
IBDR				AML	AML	16 09 27.0	
	comp=N,446nm,0.5s						
IGHG	**Ghaleghazi**	**1.04**	**26**	Pg	**Pn**	**16 09 27.0**	**-0.4**
KGS1	**Ghasr-e-Shirin**	**1.17**	**342**	Pg	**Pg**	**16 09 28.6**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.22**	**44**	Pg	**Pg**	**16 09 31.7**	**+1.8**
IDHR	**Dehrash**	**1.34**	**13**	Pg	**Pg**	**16 09 32.0**	**-0.2**
IDHR				Sg	**Sg**	**16 09 50.9**	**+1.3**
BHD	**Baghdad**	**1.38**	**265**	*e*Pn	**Pb**	**16 09 32.0**	**-0.4**
BHD				*e*Sn	**Sg**	**16 09 51.0**	**+0.1**
BHD				AML	AML	16 10 10.7	
	comp=E,44nm,0.8s						
IKOM	**Komasi**	**1.46**	**57**	Pg	**Pg**	**16 09 35.9**	**+1.3**
IKFM	**Kafar-mosalman**	**1.53**	**85**	Pg	**Pg**	**16 09 36.8**	**+1.0**
RAFI	**Al-Rafai**	**1.67**	**177**	*e*Pn	**Pb**	**16 09 37.0**	**-0.3**
RAFI				*e*Sn	**Sg**	**16 10 00.0**	**-0.1**
ILIN	**Lien**	**1.71**	**27**	Pg	**Pg**	**16 09 38.8**	**-0.5**
IKRK	**Kirkuk**	**2.44**	**326**	*e*Pn	**Pn**	**16 09 47.0**	**+0.6**
IKRK				*e*Sn	**Sn**	**16 10 17.5**	**+1.2**
HAGD	**Aghdareh**	**2.95**	**60**	Pn	**Pb**	**16 09 56.4**	**-3.0**

NNC 14 16:12:00.5±6.2,**36°.93N×70°.70E, h0**^{km}**, mb3.6, mpv3.3, 3C-3D, Error ellipse: s-maj=55.9km s-min=43.8km az=139.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.68**	**23**	⇓P	Pn	16 13 26.9	+0.4
	0.4nm,0.4s						
AML				⇑S	Sn	16 14 32.5	-0.2
	0.4nm,0.5s						
KK31	**Karatay Array**	**6.17**	**359**	⇓P	Pn	16 13 34.8	+2.0
	3.0nm,0.3s						
KK31				⇓S	Sn	16 14 44.9	+0.9
	4.1nm,0.4s						
TKM2	**Tokmak 2**	**7.06**	**31**	⇑P	Pn	16 13 43.2	-2.1
	0.9nm,0.3s						
TKM2				⇑S	Sn	16 15 10.0	+3.5
	0.5nm,0.5s						
AB31	**Akbulak array**	**14.59**	**331**	P	Pn	16 15 27.0	-1.1
	0.2nm,0.3s,baz=142,slow=13,SNR=20						

*NEIC **14** 16:28:56.0±1.4, 24°.8S±0°.1×179°.7W±0°.2, h448^{km}±5^{km}, mb4.4/23, Error ellipse: s-maj=25.1km s-min=19.3km az=70.0*
*IDC **14** 16:28:58.3±6.1, 24°.93S×179°.88W, h454^{km}±60^{km}, mb3.5/7, mbtmp4.3/8, Error ellipse: s-maj=39.3km s-min=28.7km az=63.0*

ISC 14 16:28:57.0±0.8,**24°.87S**±0°.09×**179°.8W**±0°.1,**h450**^{km},**n40,** σ0^{s}**93/41,mb4.3/18,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PINNC	**Pines Island,**	**11.90**	**278**	P	**P**	**16 31 33.6**	**-1.3**
URZ	**Urewera**	**13.60**	**190**	P	**P**	**16 31 54.7**	**+1.7**
	5.4nm,0.7s,baz=298,slow=22,SNR=2.2						
URZ				S	**S**	**16 34 17.1**	**-1.2**
	5.2nm,0.9s,baz=236,slow=18,SNR=1.4						
MRZ	**Mangatainoka R**	**16.21**	**193**	P	**P**	**16 32 20.4**	**-0.4**
MRZ				IAmb	IAmb	16 32 28.7	
	comp=Z,27nm,1.4s						
PLWZ	**Palliser**	**17.15**	**193**	P	**P**	**16 32 31.1**	**+0.3**
QRZ	**Quartz Range**	**17.15**	**200**	P	**P**	**16 32 31.5**	**+0.8**
DSZ	**Denniston Nort**	**18.22**	**200**	P	**P**	**16 32 41.7**	**0.0**
CAN	**Canberra**	**28.83**	**241**	P	**P**	**16 34 18.3**	**+1.0**
CAN				IAmb	IAmb	16 34 52.3	
	comp=Z,24nm,1.2s						
CTAO	**Charters Tower**	**31.68**	**272**	P	**P**	**16 34 43.6**	**+1.5**
CTAO				IAmb	IAmb	16 34 44.1	
	comp=Z,6.5nm,0.8s						
STKA	**Stephens Creek**	**34.55**	**249**	P	**P**	**16 35 06.7**	**+0.3**
STKA	**Stephens Creek**	**34.55**	**249**	P	**P**	**16 35 06.9**	**+0.5**
	comp=Z,2.2nm,0.4s,baz=99,slow=12,SNR=9.6						
	comp=Z,2.2nm,0.4s						
BBOO	**Buckleboo**	**39.25**	**248**	P	**P**	**16 35 44.6**	**-0.7**
BBOO				IAmb	IAmb	16 36 00.3	
	comp=Z,23nm,1.4s						
AS31	**Alice Springs**	**42.07**	**262**	P	**P**	**16 36 08.0**	**-0.2**
ASAR	**Alice Springs**	**42.07**	**262**	P	**P**	**16 36 07.7**	**-0.4**
ASAR	**Alice Springs**	**42.07**	**262**	P	**P**	**16 36 08.1**	**0.0**
	comp=Z,2.0nm,0.3s,baz=94,slow=7.2,SNR=265						
	comp=Z,2.0nm,0.3s						
WR0	**Warramunga Arr**	**42.35**	**267**	P	**P**	**16 36 09.8**	**-0.6**
WR0				IAmb	IAmb	16 36 34.6	
	comp=Z,13nm,1.5s						
WRAB	**Tennant Creek**	**42.53**	**267**	P	**P**	**16 36 11.4**	**-0.4**
WB0	**Warramunga Arr**	**42.53**	**267**	P	**P**	**16 36 11.3**	**-0.5**
WB0				IAmb	IAmb	16 36 12.2	
	comp=Z,8.5nm,0.6s						
WRA	**Warramunga Arr**	**42.54**	**267**	P	**P**	**16 36 10.5**	**-1.3**
WRA	**Warramunga Arr**	**42.54**	**267**	P	**P**	**16 36 11.7**	**-0.2**
	comp=Z,5.8nm,0.4s,baz=100,slow=7.0,SNR=241						
	comp=Z,5.8nm,0.4s						
FORT	**Forrest**	**46.16**	**250**	P	**P**	**16 36 38.5**	**-1.4**
FORT				IAmb	IAmb	16 37 22.8	
	comp=Z,18nm,1.1s						
MTN	**Manton Dam**	**47.72**	**275**	P	**P**	**16 36 51.1**	**-0.8**
MTN				IAmb	IAmb	16 36 57.6	
	comp=Z,32nm,1.4s						
KNRA	**Kununurra**	**48.88**	**271**	P	**P**	**16 36 59.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**50.95**	**266**	P	**P**	**16 37 15.7**	**-0.1**
SOEI	**Soe**	**55.12**	**275**	P	**P**	**16 37 47.4**	**+1.4**
SOEI				IAmb	IAmb	16 38 12.3	
	comp=Z,15nm,1.1s						
PSA00	**Pilbara Seismi**	**55.18**	**260**	P	**P**	**16 37 45.0**	**-1.2**
PSA00				IAmb	IAmb	16 38 24.9	
	comp=Z,30nm,1.4s						
MBWA	**Marble Bar**	**55.40**	**261**	P	**P**	**16 37 46.9**	**-0.8**
MBWA				IAmb	IAmb	16 38 16.9	
	comp=Z,28nm,1.5s						
MORW	**Morawa**	**56.72**	**250**	P	**P**	**16 37 55.9**	**-0.9**
MORW				IAmb	IAmb	16 38 25.4	
	comp=Z,26nm,1.3s						
GIRL	**Giralia**	**59.88**	**257**	P	**P**	**16 38 18.7**	**+0.3**
BELA	**Belgrano 2**	**75.45**	**173**	P	**P**	**16 39 53.5**	**+0.4**
MAW	**Mawson**	**76.91**	**200**	P	**P**	**16 40 01.3**	**0.0**
MAW	**Mawson**	**76.91**	**200**	P	**P**	**16 40 01.6**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=94,slow=8.3,SNR=4.0						
	comp=Z,1.3nm,0.6s						
KSRS	**Korea Array**	**79.11**	**320**	P	**P**	**16 40 14.2**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=139,slow=7.5,SNR=4.4						
	comp=Z,0.6nm,0.6s						
PETK	**Petropavlovsk-**	**80.09**	**346**	P	**P**	**16 40 19.6**	**+1.2**
	comp=Z,2.8nm,0.8s,baz=96,slow=7.9,SNR=4.5						
	comp=Z,2.8nm,0.8s						
R17K	**Ugashik Creek**	**84.51**	**12**	P	**P**	**16 40 39.4**	**-1.5**
CMAR	**Chiang Mai Arr**	**90.04**	**290**	P	**P**	**16 41 09.8**	**+1.7**
	comp=Z,1.3nm,0.9s,baz=131,slow=3.0,SNR=8.3						
	comp=Z,1.3nm,0.9s						
BVAR	**Borovoye Array**	**121.29**	**318**	PKP	**PKiKP**	**16 46 57.6**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=120,slow=2.4,SNR=4.3						
HFS	**Hagfors**	**143.53**	**349**	PKP	**PKPdf**	**16 47 38.3**	**-0.6**
	comp=Z,3.5nm,0.5s,baz=46,slow=4.3,SNR=19						
AKASG	**Malin Array Be**	**145.89**	**327**	PKPbc	**PKPab**	**16 47 45.0**	**-1.3**
	comp=Z,0.9nm,0.4s,baz=44,slow=4.7,SNR=7.2						
MMAI	**Mount Meron Ar**	**148.26**	**293**	PKPbc	**PKiKP**	**16 47 53.0**	**-0.2**
	comp=Z,3.4nm,0.5s,baz=67,slow=6.7,SNR=8.8						
BRTR	**Keskin Array B**	**148.31**	**306**	PKPbc	**PKiKP**	**16 47 52.1**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=137,slow=4.0,SNR=5.9						

*NEIC **14** 16:29:21.7±0.4, 37°.201N±0°.010×97°.81W±0°.01, h5^{km}±2^{km}, mb_Lg3.0/36, ML3.0/19, ML3.2/42, Error ellipse: s-maj=1.4km s-min=1.1km az=177.0*
*ANF **14** 16:29:21.7±0.5, 37°.18N×97°.81W, h2^{km}, ML3.4/9, Error ellipse: s-maj=6.2km s-min=3.2km az=33.0*
*NEIC **14** 16:29:21.4±0.6, 37°.19N±0°.01×97°.81W±0°.01, h4^{km}±2^{km}, Error ellipse: s-maj=1.5km s-min=1.1km az=189.0*

ISC 14 16:29:21.9±0.9,**37°.20N**±0°.02×**97°.81W**±0°.02,**h6**^{km}±6^{km}, **n97,**σ0^{s}**64/108,Kansas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAN01	**Argonia South**	**0.06**	**140**		**Pg**	**16 29 23.4**	**-0.1**
KAN01				IAML		16 29 24.7	
	comp=E,20μm,0.2s						
KAN06	**Argonia West S**	**0.06**	**319**		**Pg**	**16 29 23.3**	**-0.3**
KAN06				Sg	**Sg**	**16 29 24.2**	**-0.5**
KAN05	**Bluff City Nor**	**0.10**	**210**	Pg	**Pg**	**16 29 24.1**	**-0.1**
KAN05				Sg	**Sg**	**16 29 25.7**	**+0.1**
KAN08	**Anthony NE Sta**	**0.13**	**282**		**Pg**	**16 29 24.6**	**-0.1**
KAN08				Sg	**Sg**	**16 29 26.7**	**+0.1**
KAN08				IAML		16 29 26.8	
	comp=N,12μm,0.3s						
KS21	**Milan North St**	**0.14**	**53**	IAML		16 29 27.4	
	comp=N,5μm,0.2s						
KS21				IAML		16 29 28.6	
	comp=N,7μm,0.1s						
KS21	**Milan North St**	**0.14**	**53**	Pg	**Pg**	**16 29 24.8**	**0.0**
KS21				Sg	**Sg**	**16 29 27.1**	**+0.3**
KAN17	**Caldwell West**	**0.16**	**168**		**Pg**	**16 29 25.2**	**+0.1**
KAN17				Sg	**Sg**	**16 29 27.7**	**+0.4**
KAN09	**Caldwell North**	**0.16**	**113**		**Pg**	**16 29 25.2**	**0.0**
KAN09				Sg	**Sg**	**16 29 27.4**	**0.0**
KAN09				IAML		16 29 28.1	
	comp=N,7μm,0.3s						
KAN09				IAML		16 29 29.9	
	comp=E,8μm,0.2s						
KAN12	**Harper NE Stat**	**0.18**	**303**		**Pg**	**16 29 25.5**	**0.0**
KAN12				Sg	**Sg**	**16 29 28.1**	**+0.2**
KAN12				IAML		16 29 29.8	
	comp=N,7μm,0.3s						
KAN12				IAML		16 29 31.9	
	comp=E,7μm,0.3s						
KAN10	**Anthony SW Sta**	**0.24**	**252**		**Pg**	**16 29 26.6**	**-0.1**
KAN10				Sg	**Sg**	**16 29 29.9**	**+0.1**
KAN14	**Manchester OK**	**0.27**	**207**	Pg	**Pg**	**16 29 27.2**	**0.0**
KAN14				Sg	**Sg**	**16 29 31.0**	**+0.2**
KAN14				IAML		16 29 31.3	
	comp=E,4μm,0.2s						
KAN13	**South Haven SW**	**0.32**	**125**	Pg	**Pg**	**16 29 27.9**	**-0.3**
KAN13				Sg	**Sg**	**16 29 32.5**	**+0.1**
KAN13				IAML		16 29 33.0	
	comp=E,2μm,0.3s						
KAN13				IAML		16 29 38.0	
	comp=N,3μm,0.3s						
GC02	**Grant County #**	**0.35**	**187**	Pg	**Pg**	**16 29 28.6**	**-0.1**
GC02				Sg	**Sg**	**16 29 33.4**	**+0.1**
OK032	**Salt Plains WL**	**0.51**	**219**	Pg	**Pg**	**16 29 31.5**	**-0.2**
OK032					**Sg**	**16 29 38.7**	**+0.3**
OK032				IAML		16 29 40.5	
	comp=N,2μm,0.3s						
OK032				IAML		16 29 42.6	
	comp=N,2μm,0.2s						
BLOK	**Blackwell**	**0.65**	**133**		**Pg**	**16 29 34.0**	**-0.3**
BLOK				IAML		16 29 43.5	
	comp=E,1μm,0.5s						
BLOK					**Sg**	**16 29 43.5**	**+0.8**
BLOK				IAML		16 29 45.2	
	comp=N,883nm,0.2s						
CROK	**Carrier**	**0.71**	**192**	Pg	**Pg**	**16 29 35.2**	**-0.3**
CROK					**Sg**	**16 29 45.1**	**+0.4**
OK035	**E0210 Rd and N**	**0.87**	**236**	Pg	**Pg**	**16 29 38.0**	**-0.6**
OK035				IAML		16 29 57.9	
	comp=N,639nm,0.4s						
OK038	**West end E0370**	**1.04**	**226**		**Pg**	**16 29 41.1**	**-0.7**
OK051	**E0350 and S346**	**1.04**	**131**		**Pg**	**16 29 41.1**	**-0.8**
OK051				IAML		16 30 02.6	
	comp=N,655nm,0.2s						
OK051				IAML		16 30 06.2	
	comp=N,615nm,0.2s						
OK048	**Pawnee Station**	**1.04**	**138**	Pg	**Pg**	**16 29 41.3**	**-0.6**
T35A	**Sooner Cattle**	**1.07**	**105**	Pg	**Pg**	**16 29 41.6**	**-0.9**
T35A					**Sg**	**16 29 56.2**	**-0.2**
T35A				IAML		16 30 01.4	
	comp=N,362nm,0.5s						
T35B	**Sooner Cattle**	**1.07**	**105**	P	**Pg**	**16 29 41.9**	**-0.6**
	baz=286						
T35B				S	**Sg**	**16 29 56.0**	**-0.5**
	baz=286						
U32A	**Winter Ranch,**	**1.26**	**230**		**Pg**	**16 29 44.9**	**-1.1**
U32A				IAML		16 30 10.1	
	comp=E,332nm,0.1s						
U32A	**Winter Ranch,**	**1.26**	**230**	P	**Pg**	**16 29 45.1**	**-1.0**
	baz=49,SNR=31						
OK033	**Mehan**	**1.35**	**149**		**Pn**	**16 29 46.7**	**-0.6**
QUOK	**Quay**	**1.35**	**139**		**Pn**	**16 29 46.9**	**-0.4**
R32A	**Long Quarter,**	**1.42**	**330**		**Pn**	**16 29 47.7**	**-0.5**
R32A	**Long Quarter,**	**1.42**	**330**	P	**Pn**	**16 29 47.7**	**-0.5**
	baz=149,SNR=66						
R32A				S	**Sn**	**16 30 08.3**	**+1.1**
	baz=149						
OK029	**Liberty Lake**	**1.43**	**168**		**Pn**	**16 29 48.0**	**-0.3**
OK052	**Battle Ridge R**	**1.45**	**146**		**Pn**	**16 29 48.2**	**-0.4**
ADOK	**Arcadia Dam**	**1.58**	**167**		**Pn**	**16 29 50.4**	**-0.1**
DEOK	**Depew**	**1.72**	**142**		**Pn**	**16 29 52.3**	**0.0**
ELIS	**Ellis County**	**1.72**	**229**	Pg	**Pn**	**16 29 52.8**	**+0.4**
OKCSW	**OKLAHOMA CITY**	**1.81**	**170**		**Pn**	**16 29 53.7**	**0.0**
FNO	**Franklin**	**1.97**	**170**		**Pn**	**16 29 55.7**	**-0.1**
TUL3	**Leonard**	**2.07**	**128**		**Pn**	**16 29 57.0**	**-0.2**
TUL3	**Leonard**	**2.07**	**128**	P	**Pn**	**16 29 58.3**	**+1.1**
	baz=309,SNR=7.7						
TUL3				S	**Sb**	**16 30 26.6**	**+0.7**
	baz=309						
KSU1	**Kansas State U**	**2.12**	**26**		**Pn**	**16 29 57.4**	**-0.5**
KSU1				IAmb_Lg		16 30 30.4	
	comp=Z,77nm,1.0s						
KSU1	**Kansas State U**	**2.12**	**26**	P	**Pn**	**16 29 59.1**	**+1.2**
	baz=207,SNR=9.6						
KSU1				S	**Sb**	**16 30 27.3**	**0.0**
	baz=207						
W35A	**Tecumseh**	**2.18**	**159**		**Pn**	**16 29 58.6**	**-0.1**
CBKS	**Cedar Bluff**	**2.22**	**317**		**Pn**	**16 29 59.4**	**+0.1**
CBKS	**Cedar Bluff**	**2.22**	**317**	P	**Pn**	**16 29 59.8**	**+0.5**
	baz=136						
CBKS				S	**Sb**	**16 30 30.7**	**+0.5**
	baz=136						
RLO	**Rose Lookout**	**2.46**	**114**		**Pn**	**16 30 02.5**	**-0.1**
WMOK	**Wichita Mounta**	**2.58**	**198**	Pn	**Pn**	**16 30 03.9**	**-0.3**
U38A	**Gravette**	**2.85**	**104**		**Pn**	**16 30 07.5**	**-0.4**
SMWD	**Samnorwood**	**2.87**	**224**		**Pn**	**16 30 07.7**	**-0.6**
HHAR	**Hobbs**	**3.24**	**105**		**Pn**	**16 30 13.8**	**+0.6**
LOOK	**Love County**	**3.24**	**171**		**Pn**	**16 30 13.6**	**+0.3**
LOOK				IAmb_Lg		16 31 12.4	
	comp=Z,47nm,0.9s						
X37A	**Clayton**	**3.27**	**142**	Pn	**Pn**	**16 30 14.1**	**+0.4**
WTFS	**Witchita Falls**	**3.47**	**189**		**Pn**	**16 30 16.0**	**-0.4**
S39A	**Bolivar**	**3.60**	**81**		**Pn**	**16 30 17.9**	**-0.4**
S39A				IAmb_Lg		16 31 20.6	
	comp=Z,39nm,0.8s						
S39A	**Bolivar**	**3.60**	**81**	P	**Pn**	**16 30 19.0**	**+0.7**
	baz=264,SNR=11						
Z35A	**Perchaven, San**	**3.89**	**173**	Pn	**Pn**	**16 30 22.1**	**0.0**
AMTX	**Amarillo**	**3.90**	**235**		**Pn**	**16 30 22.3**	**-0.1**
AMTX				IAmb_Lg		16 31 31.5	
	comp=Z,33nm,1.0s						
N35A	**Tabor**	**4.03**	**24**	Pn	**Pn**	**16 30 24.4**	**+0.3**
RTBA	**Rita Blanca**	**4.03**	**261**	Pn	**Pn**	**16 30 24.8**	**+0.5**
P38A	**Dawn**	**4.14**	**53**	Pn	**Pn**	**16 30 24.7**	**-0.9**
KSCO	**Kaye Shedlock'**	**4.21**	**297**	Pn	**Pn**	**16 30 26.5**	**-0.2**
KSCO				IAmb_Lg		16 31 45.6	
	comp=Z,22nm,0.7s						
BGNE	**Belgrade**	**4.21**	**356**		**Pn**	**16 30 25.9**	**-0.8**
BGNE				IAmb_Lg		16 31 42.4	
	comp=Z,33nm,0.8s						
BGNE	**Belgrade**	**4.21**	**356**	P	**Pn**	**16 30 26.7**	**0.0**
	baz=176,SNR=22						
MIAR	**Mount Ida**	**4.34**	**126**		**Pn**	**16 30 27.7**	**-0.7**
DKNS	**Dickens**	**4.35**	**217**		**Pn**	**16 30 28.3**	**-0.2**
DKNS				IAmb_Lg		16 31 39.6	
	comp=Z,31nm,1.3s						
PLPT	**Palo Pinto**	**4.40**	**186**	Pn	**Pn**	**16 30 28.9**	**-0.3**
PLPT				IAmb_Lg		16 31 50.7	
	comp=Z,12nm,0.7s						
MGMO	**Mountain Grove**	**4.42**	**89**	Pn	**Pn**	**16 30 29.3**	**-0.3**
MGMO				IAmb_Lg		16 31 50.5	
	comp=Z,22nm,0.8s						
FW07	**Weatherford**	**4.49**	**180**	Pn	**Pn**	**16 30 30.4**	**0.0**
R40A	**Maddies Statio**	**4.52**	**74**	Pn	**Pn**	**16 30 31.5**	**+0.6**
Z38A	**Mt. Pleasant**	**4.56**	**149**	Pn	**Pn**	**16 30 30.6**	**-0.8**
FCAR	**Ozark Folk Cen**	**4.76**	**104**	Pn	**Pn**	**16 30 34.5**	**+0.3**
FCAR				IAmb_Lg		16 31 56.2	
	comp=Z,19nm,0.8s						
ABTX	**Abilene, Hawle**	**4.81**	**199**	Pn	**Pn**	**16 30 35.8**	**+0.9**
WHAR	**Wooly Hollow**	**4.85**	**111**	Pn	**Pn**	**16 30 34.6**	**-0.8**
WHAR				IAmb_Lg		16 31 58.3	
	comp=Z,30nm,1.1s						
X40A	**Basin Creek Fa**	**4.86**	**122**		**Pn**	**16 30 35.6**	**+0.1**
L34A	**Svendsen Farm,**	**4.89**	**13**	Pn	**Pn**	**16 30 35.8**	**-0.1**
OGNE	**Ogallala**	**4.98**	**320**		**Pn**	**16 30 35.8**	**-1.5**
UALR	**University of**	**5.05**	**117**	Pn	**Pn**	**16 30 35.6**	**-2.5**
N38A	**Joes South For**	**5.05**	**43**	Pn	**Pn**	**16 30 38.3**	**+0.1**
N38A	**Joes South For**	**5.05**	**43**	P	**Pn**	**16 30 38.4**	**+0.1**
	baz=226,SNR=7.7						
P40A	**Paris**	**5.09**	**61**		**Pn**	**16 30 39.4**	**+0.8**
MSTX	**Muleshoe**	**5.17**	**233**		**Pn**	**16 30 39.7**	**-0.3**
WHTX	**Lake Whitney,**	**5.20**	**177**	Pn	**Pn**	**16 30 40.1**	**-0.2**
T25A	**Trinidad**	**5.28**	**271**	Pn	**Pn**	**16 30 41.0**	**-0.4**
CCM	**Cathedral Cave**	**5.28**	**79

KAN13	**South Haven SW**	**0.32**	**124**			**Pg**	**16 35 45.3**	**+0.1**
KAN13				Sg		**Sg**	**16 35 49.4**	**0.0**
KAN13				IAML			16 35 50.1	
	comp=E,3μm,0.3s							
KAN13				IAML			16 35 55.1	
	comp=N,5μm,0.3s							
GC02	**Grant County #**	**0.35**	**187**	Pg		**Pg**	**16 35 45.7**	**+0.1**
GC02				Sg		**Sg**	**16 35 50.8**	**+0.7**
OK032	**Salt Plains WL**	**0.51**	**219**	Pg		**Pg**	**16 35 48.6**	**0.0**
OK032				Sg		**Sg**	**16 35 55.7**	**+0.5**
OK032				IAML			16 35 57.7	
	comp=N,2μm,0.3s							
OK032				IAML			16 35 59.6	
	comp=N,2μm,0.3s							
BLOK	**Blackwell**	**0.65**	**132**			**Pg**	**16 35 51.1**	**-0.1**
BLOK				Sg		**Sg**	**16 35 59.0**	**-0.6**
BLOK				IAML			16 36 02.3	
	comp=N,2μm,0.2s							
BLOK				IAML			16 36 05.2	
	comp=E,1μm,0.2s							
CROK	**Carrier**	**0.70**	**191**	Pg		**Pg**	**16 35 52.3**	**-0.1**
CROK				Sg		**Sg**	**16 36 02.2**	**+0.6**
OK035	**E0210 Rd and N**	**0.87**	**236**	Pg		**Pg**	**16 35 54.9**	**-0.6**
OK035				Sg		**Sg**	**16 36 05.7**	**-1.1**
OK035				IAML			16 36 15.0	
	comp=E,691nm,0.4s							
OK038	**West end E0370**	**1.04**	**226**			**Pg**	**16 35 58.2**	**-0.5**
OK038				Sg		**Sg**	**16 36 12.3**	**+0.2**
OK038				IAML			16 36 25.1	
	comp=E,1μm,0.4s							
OK051	**E0350 and S346**	**1.04**	**131**			**Pg**	**16 35 58.4**	**-0.4**
OK051				Sg		**Sg**	**16 36 12.3**	**0.0**
OK051				IAML			16 36 15.2	
	comp=E,998nm,0.2s							
OK048	**Pawnee Station**	**1.04**	**138**	Pg		**Pg**	**16 35 58.4**	**-0.5**
OK048				Sg		**Sg**	**16 36 12.3**	**-0.1**
OK048				IAML			16 36 12.5	
	comp=E,522nm,0.3s							
T35A	**Sooner Cattle**	**1.08**	**105**			**Pg**	**16 35 58.9**	**-0.5**
T35A				Sg		**Sg**	**16 36 13.2**	**-0.3**
T35A				IAML			16 36 18.2	
	comp=N,475nm,0.3s							
T35B	**Sooner Cattle**	**1.08**	**105**	P		**Pg**	**16 35 58.9**	**-0.5**
	baz=285							
T35B				S		**Sg**	**16 36 13.1**	**-0.3**
	baz=285							
U32A	**Winter Ranch,**	**1.26**	**230**			**Pg**	**16 36 02.0**	**-0.9**
U32A				Sg		**Sg**	**16 36 19.0**	**-0.2**
U32A	**Winter Ranch,**	**1.26**	**230**	P		**Pg**	**16 36 02.1**	**-0.8**
	baz=49,SNR=14							
OK033	**Mehan**	**1.35**	**148**	Pg		**Pn**	**16 36 03.8**	**-0.1**
OK033				Sg		**Sb**	**16 36 21.8**	**+0.2**
QUOK	**Quay**	**1.35**	**139**			**Pn**	**16 36 03.9**	**0.0**
QUOK				Sg		**Sb**	**16 36 21.7**	**-0.2**
R32A	**Long Quarter,**	**1.42**	**330**			**Pn**	**16 36 04.8**	**-0.1**
R32A						**Sb**	**16 36 23.9**	**+0.1**
R32A	**Long Quarter,**	**1.42**	**330**	P		**Pn**	**16 36 04.9**	**-0.1**
	baz=150,SNR=65							
R32A				S		**Sg**	**16 36 25.1**	**+0.8**
	baz=150							
OK029	**Liberty Lake**	**1.43**	**168**			**Pn**	**16 36 05.1**	**+0.1**
OK029						**Sg**	**16 36 24.5**	**-0.1**
OK052	**Battle Ridge R**	**1.45**	**146**			**Pn**	**16 36 05.7**	**+0.4**
OK052						**Sb**	**16 36 24.8**	**+0.2**
ADOK	**Arcadia Dam**	**1.58**	**167**			**Pb**	**16 36 08.1**	**-0.2**
ADOK						**Sb**	**16 36 28.9**	**+0.5**
DEOK	**Depew**	**1.72**	**142**			**Pn**	**16 36 09.6**	**+0.6**
DEOK						**Sb**	**16 36 33.2**	**+0.9**
ELIS	**Ellis County**	**1.72**	**229**			**Pb**	**16 36 10.2**	**-0.4**
ELIS						**Sb**	**16 36 32.8**	**+0.4**
OKCSW	**OKLAHOMA CITY**	**1.81**	**170**			**Pn**	**16 36 10.2**	**-0.1**
OKCSW						**Sb**	**16 36 35.9**	**+0.8**
FNO	**Franklin**	**1.96**	**170**			**Pn**	**16 36 13.6**	**+1.2**
FNO						**Sb**	**16 36 39.3**	**-0.1**
FNO				IAmb_Lg			16 36 40.4	
	comp=Z,59nm,0.7s							
TUL3	**Leonard**	**2.07**	**128**			**Pn**	**16 36 15.2**	**+1.4**
TUL3	**Leonard**	**2.07**	**128**	P		**Pn**	**16 36 15.4**	**+1.6**
	baz=309,SNR=17							
TUL3				S		**Sb**	**16 36 43.7**	**+1.2**
	baz=309							
KSU1	**Kansas State U**	**2.12**	**26**			**Pn**	**16 36 15.7**	**+1.1**
KSU1						**Sb**	**16 36 45.1**	**+1.1**
KSU1				IAmb_Lg			16 36 47.8	
	comp=Z,78nm,0.8s							
KSU1	**Kansas State U**	**2.12**	**26**	P		**Pn**	**16 36 15.6**	**+1.1**
	baz=207,SNR=17							
KSU1				S		**Sb**	**16 36 44.5**	**+0.5**
	baz=207							
W35A	**Tecumseh**	**2.18**	**159**	Pn		**Pn**	**16 36 16.4**	**+1.1**
CBKS	**Cedar Bluff**	**2.22**	**317**	Pn		**Pn**	**16 36 17.4**	**+1.4**
CBKS	**Cedar Bluff**	**2.22**	**317**	P		**Pn**	**16 36 16.7**	**+0.7**
	baz=136,SNR=34							
CBKS				S		**Sb**	**16 36 47.6**	**+0.8**
	baz=136							
RLO	**Rose Lookout**	**2.47**	**114**			**Pn**	**16 36 19.4**	**+0.1**
WMOK	**Wichita Mounta**	**2.58**	**198**	Pn		**Pn**	**16 36 21.3**	**+0.5**
U38A	**Gravette**	**2.85**	**104**			**Pn**	**16 36 25.5**	**+0.9**
SMWD	**Samnorwood**	**2.87**	**224**	Pn		**Pn**	**16 36 25.7**	**+0.9**
SMWD				IAmb_Lg			16 37 09.8	
	comp=Z,12nm,0.7s							
LOOK	**Love County**	**3.24**	**171**			**Pn**	**16 36 30.8**	**+0.9**
LOOK				IAmb_Lg			16 37 28.5	
	comp=Z,53nm,0.9s							
HHAR	**Hobbs**	**3.24**	**105**			**Pn**	**16 36 31.2**	**+1.2**
X37A	**Clayton**	**3.27**	**142**	Pn		**Pn**	**16 36 31.6**	**+1.3**
X37A				IAmb_Lg			16 37 27.2	
	comp=Z,47nm,0.8s							
WTFS	**Witchita Falls**	**3.46**	**189**			**Pn**	**16 36 34.1**	**+1.1**
N33B	**J Bar K, Exete**	**3.55**	**4**	P		**Pn**	**16 36 34.5**	**+0.3**
	baz=185,SNR=8.3							
N33A	**J Bar K, Exete**	**3.55**	**4**	Pn		**Pn**	**16 36 34.2**	**0.0**
S39A	**Bolivar**	**3.61**	**81**			**Pn**	**16 36 35.0**	**0.0**
S39A	**Bolivar**	**3.61**	**81**	P		**Pn**	**16 36 36.1**	**+1.1**
	baz=263,SNR=15							
Z35A	**Perchaven, San**	**3.88**	**173**	Pn		**Pn**	**16 36 39.8**	**+1.0**
AMTX	**Amarillo**	**3.89**	**235**			**Pn**	**16 36 39.6**	**+0.6**
AMTX				IAmb_Lg			16 37 48.9	
	comp=Z,35nm,0.8s							
RTBA	**Rita Blanca**	**4.03**	**261**			**Pn**	**16 36 41.4**	**+0.5**
N35A	**Tabor**	**4.03**	**24**	Pn		**Pn**	**16 36 41.0**	**+0.3**
P38A	**Dawn**	**4.14**	**53**	Pn		**Pn**	**16 36 42.5**	**+0.2**
FW03	**Perrin-Whitt E**	**4.15**	**183**	Pn		**Pn**	**16 36 43.3**	**+0.8**
KSCO	**Kaye Shedlock'**	**4.21**	**297**	Pn		**Pn**	**16 36 44.4**	**+1.0**
KSCO				IAmb_Lg			16 37 50.8	
	comp=Z,19nm,0.8s							
BGNE	**Belgrade**	**4.21**	**357**			**Pn**	**16 36 43.3**	**-0.1**
FW06	**Azle**	**4.22**	**177**	Pn		**Pn**	**16 36 44.6**	**+1.2**
APMT	**Aspermont**	**4.30**	**207**	Pn		**Pn**	**16 36 45.6**	**+1.0**
MIAR	**Mount Ida**	**4.34**	**126**			**Pn**	**16 36 41.7**	**-3.3**
MIAR				IAmb_Lg			16 38 06.0	
	comp=Z,21nm,0.8s							
DKNS	**Dickens**	**4.34**	**217**			**Pn**	**16 36 42.8**	**-2.3**
PLPT	**Palo Pinto**	**4.39**	**186**	Pn		**Pn**	**16 36 44.0**	**-1.8**
PLPT				IAmb_Lg			16 37 56.5	
	comp=Z,11nm,0.8s							
MGMO	**Mountain Grove**	**4.43**	**89**			**Pn**	**16 36 45.7**	**-0.5**
MGMO				IAmb_Lg			16 38 07.6	
	comp=Z,27nm,0.7s							
R40A	**Maddies Statio**	**4.53**	**74**			**Pn**	**16 36 46.9**	**-0.7**
Z38A	**Mt. Pleasant**	**4.56**	**149**	Pn		**Pn**	**16 36 47.3**	**-0.7**
WHAR	**Wooly Hollow**	**4.85**	**111**	Pn		**Pn**	**16 36 52.4**	**+0.3**
X40A	**Basin Creek Fa**	**4.86**	**122**	Pn		**Pn**	**16 36 51.5**	**-0.7**
L34A	**Svendsen Farm,**	**4.89**	**13**	Pn		**Pn**	**16 36 52.0**	**-0.7**
OGNE	**Ogallala**	**4.98**	**320**			**Pn**	**16 36 53.7**	**-0.2**
OGNE				IAmb_Lg			16 38 19.9	
	comp=Z,21nm,0.8s							
UALR	**University of**	**5.05**	**117**			**Pn**	**16 36 57.4**	**+2.6**
UALR				IAmb_Lg			16 38 28.6	
	comp=Z,33nm,1.3s							
N38A	**Joes South For**	**5.06**	**43**			**Pn**	**16 36 55.3**	**+0.4**
N38A	**Joes South For**	**5.06**	**43**	P		**Pn**	**16 36 55.6**	**+0.6**
	baz=226,SNR=6.7							
P40A	**Paris**	**5.09**	**61**			**Pn**	**16 36 56.7**	**+1.3**
POST	**Post**	**5.11**	**217**	Pn		**Pn**	**16 36 57.1**	**+1.4**
MSTX	**Muleshoe**	**5.17**	**233**			**Pn**	**16 36 56.8**	**+0.2**
WHTX	**Lake Whitney,**	**5.20**	**177**	Pn		**Pn**	**16 36 57.0**	**+0.1**
T25A	**Trinidad**	**5.27**	**271**			**Pn**	**16 36 58.1**	**0.0**
CCM	**Cathedral Cave**	**5.28**	**79**	Pn		**Pn**	**16 36 57.8**	**-0.2**
CCM				IAmb_Lg			16 38 31.9	
	comp=Z,20nm,1.0s							
LCAR	**Lake Charles**	**5.47**	**100**	Pn		**Pn**	**16 36 57.3**	**-3.2**
LCAR				IAmb_Lg			16 38 34.2	
	comp=Z,14nm,0.7s							
K30B	**Basset**	**5.64**	**346**	Pn		**Pn**	**16 37 03.1**	**+0.1**
K30B				IAmb_Lg			16 38 41.1	
	comp=Z,31nm,0.9s							
Z41A	**Richland Creek**	**5.68**	**132**	Pn		**Pn**	**16 37 01.2**	**-2.2**
SCIA	**State Center**	**5.89**	**36**	Pn		**Pn**	**16 37 02.4**	**-4.0**
SCIA				IAmb_Lg			16 38 46.2	
	comp=Z,21nm,0.8s							
FVM	**French Village**	**5.92**	**80**	Pn		**Pn**	**16 37 05.8**	**-1.0**
PBMO	**Poplar Bluff**	**5.92**	**92**	Pn		**Pn**	**16 37 06.5**	**-0.3**
PBMO				IAmb_Lg			16 39 00.9	
	comp=Z,20nm,0.8s							
SGCY	**Sterling City**	**5.94**	**208**	IAmb_Lg			16 38 57.3	
	comp=Z,20nm,1.0s							
BRDY	**Brady**	**5.98**	**190**	Pn		**Pn**	**16 37 06.5**	**-1.1**
Q24A	**Divide**	**6.05**	**289**	Pn		**Pn**	**16 37 08.2**	**-0.6**
SDCO	**Great Sand Dun**	**6.14**	**277**	Pn		**Pn**	**16 37 09.9**	**-0.1**
CGM3	**Cape Girardeau**	**6.50**	**87**	Pn		**Pn**	**16 37 13.3**	**-1.5**
ECSD	**EROS Data Cent**	**6.59**	**8**	Pn		**Pn**	**16 37 15.7**	**-0.4**
ISCO	**Idaho Springs**	**6.65**	**295**	Pn		**Pn**	**16 37 15.7**	**-1.3**
S44A	**Carbondale**	**6.83**	**83**	Pn		**Pn**	**16 37 18.1**	**-1.0**
S44A				IAmb_Lg			16 39 25.4	
	comp=Z,24nm,0.9s							
SIUC	**Southern Illin**	**6.86**	**83**	Pn		**Pn**	**16 37 18.3**	**-1.3**
JCT	**Junction City**	**6.90**	**194**	Pn		**Pn**	**16 37 18.6**	**-1.7**
JCT				IAmb_Lg			16 39 28.6	
	comp=Z,19nm,0.9s							
L40A	**Anamosa**	**7.03**	**44**	Pn		**Pn**	**16 37 21.4**	**-0.6**
N23A	**Red Feather La**	**7.33**	**303**	Pn		**Pn**	**16 37 26.1**	**-0.2**
N23A				IAmb_Lg			16 39 43.7	
	comp=Z,17nm,0.8s							
HDIL	**Hopedale**	**7.44**	**61**	Pn		**Pn**	**16 37 26.2**	**-1.5**
L42A	**Oliver, Polo**	**7.91**	**50**	Pn		**Pn**	**16 37 33.6**	**-0.5**

OMAN 14 16:39:50.0±1.7, 28°29N×52°41E, h10km, mb4.4/1, ml2.7/3, Error ellipse: s-maj=15.3km s-min=7.9km az=168.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHMA	**Al-Shehemyia**	**2.74**	**208**	P	Pn	16 40 33.1	-1.0
	SNR=6.5						
SHMA				S	Sn	16 41 07.1	-0.2
SAKB	**Bahrain**	**2.84**	**216**	P	Pn	16 40 33.6	-1.8
SAKB				S	Sn	16 41 10.5	+0.7
JRN	**Qarnain Island**	**3.36**	**173**	P	Pn	16 40 43.7	+1.2
JRN				S	Sb	16 41 27.7	-2.9
TRNA	**Turayna**	**3.70**	**197**	P	Pn	16 40 45.7	-1.6
TRNA				S	Sn	16 41 33.7	+2.8
SMRA	**Abu-Samra**	**3.80**	**202**	P	Pn	16 40 46.8	-1.9
SMRA				S	Sn	16 41 35.7	+2.2
NAZ	**Nazwa, Dubai**	**4.39**	**138**	P	Pn	16 40 59.6	+2.8
ASUD	**Al Ashush, Dub**	**4.49**	**144**	P	Pn	16 41 00.5	+2.3
	SNR=13						
UOSS	**Minazif**	**4.76**	**134**	P	Pn	16 41 04.0	+2.1
UOSS				S	Sn	16 41 59.4	+2.2
HATD	**Hatta, Dubai**	**4.80**	**135**	P	Pn	16 41 04.7	+2.2
HATD				S	Sn	16 41 59.3	+1.2
ASHO	**Ashiyiah**	**4.86**	**137**	P	Pn	16 41 05.6	+2.3
	SNR=10						
ASHO				S	Sn	16 41 59.3	-0.3
ALNE	**Al Ain**	**5.18**	**144**	P	Pn	16 41 09.3	+1.7
ALNE				S	Sn	16 42 11.2	+3.8
MZR	**Muzera**	**5.35**	**169**	P	Pn	16 41 10.6	+0.6
SOHO	**SOHO**	**5.55**	**137**	P	Pn	16 41 14.5	+1.7
SOHO				S	Sn	16 42 14.5	-2.3
ARQ	**Araqi**	**6.17**	**142**	P	Pn	16 41 22.2	+0.9
	SNR=7.1						
HOQ	**Hoqain**	**6.44**	**136**	P	Pn	16 41 24.4	-0.6
BIDO	**Bidbid**	**7.00**	**131**	P	Pn	16 41 31.1	-1.6
BSY	**Bisya**	**7.02**	**141**	P	Pn	16 41 33.7	+0.8
BSY				S	Sn	16 42 53.2	+0.4
SMDO	**Samad**	**7.28**	**134**	P	Pn	16 41 37.7	+1.0
WSAR	**Wadi Sarin**	**7.53**	**130**	P	Pn	16 41 39.9	-0.1
JMDO	**Jabal Madar**	**7.83**	**138**	P	Pn	16 41 43.7	-0.3
WBK	**Wadi Bani Khal**	**8.19**	**132**	P	Pn	16 41 49.4	+0.3
JLN	**Jalan Bani Buh**	**8.81**	**132**	P	Pn	16 41 56.5	-0.9
MHTO	**MHTO**	**8.86**	**144**	P	Pn	16 41 57.5	-0.6
MHTO				S	Sn	16 43 34.9	-3.1

*SOF **14** 17:07:10.8, 40°45N×22°43E, h22km, MD3.5*
*ISK **14** 17:07:11.9, 40°52N×22°53E, h18km, ML3.0/16*
*TIR **14** 17:07:12.7, 40°59N×22°56E, h25km±2km, Ml2.9*
*SKO **14** 17:07:13.5, 40°54N×22°54E, h10km, ML2.9*
*THE **14** 17:07:13.1, 40°53N×22°55E, h12km±1km, ML2.9/11, Error ellipse: s-maj=1.3km s-min=0.6km az=351.0*
*ATH **14** 17:07:13.1, 40°53N×22°54E, h10km±1km, ML2.9/18, Error ellipse: s-maj=1.8km s-min=0.7km az=346.0*
*BEO **14** 17:07:14.9±0.6, 40°63N×22°54E, h15km±3km, ML2.7/5*

ISC 14 17:07:12.9±0.9, 40°53N±0°02×22°55E±0°01, h16km±7km, n135, σ0°80/190, 13C-6D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THE	**Thessaloniki**	**0.33**	**72**	P	**Pg**	**17 07 19.7**	**-0.2**
	baz=81						
THE				S	**Sg**	**17 07 25.1**	**+0.5**
	baz=81						
THE				AMP			
	comp=E,4.4nm,0.5s,baz=81						
THE	**Thessaloniki**	**0.33**	**72**	P	**Pg**	**17 07 19.6**	**-0.2**
THE				S	**Sg**	**17 07 24.9**	**+0.3**
THE	**Thessaloniki**	**0.33**	**72**	↑*i* Pg	**Pg**	**17 07 19.7**	**-0.2**
THE				*i* Sg	**Sg**	**17 07 25.0**	**+0.5**
THE	**Thessaloniki**	**0.33**	**72**	P	**Pg**	**17 07 19.7**	**-0.2**
THE				S	**Sg**	**17 07 24.9**	**+0.3**
THE				AML	AML	17 07 31.5	
	comp=N,4163μm,0.5s						
THE				AML	AML	17 07 32.1	
	comp=E,3871μm,0.5s						
KTI	**Kastanea**	**0.36**	**247**	P	**Pg**	**17 07 19.6**	**-0.7**
HORT	**Hortiatis**	**0.43**	**81**	Pg	**Pg**	**17 07 21.3**	**-0.3**
HORT				Sg	**Sb**	**17 07 28.5**	**+0.1**
HORT	**Hortiatis**	**0.43**	**81**	P	**Pg**	**17 07 21.2**	**-0.3**
HORT				S	**Sg**	**17 07 28.1**	**+0.7**
	comp=E,3μm,0.3s						
HORT	**Hortiatis**	**0.43**	**81**	P	**Pg**	**17 07 21.3**	**-0.3**
HORT				S	**Sg**	**17 07 27.8**	**+0.4**
HORT				AML	AML	17 07 30.4	
	comp=E,6992μm,0.3s						
HORT				AML	AML	17 07 30.4	
	comp=N,6034μm,0.4s						
GRG	**Griva**	**0.44**	**345**	Pg	**Pg**	**17 07 20.8**	**-1.0**
GRG				Sg	**Sb**	**17 07 28.6**	**-0.1**
GRG	**Griva**	**0.44**	**345**	P	**Pg**	**17 07 21.1**	**-0.6**
GRG	**Griva**	**0.44**	**345**	↑*i* Pg	**Pg**	**17 07 21.1**	**-0.6**
GRG				*i* Sg	**Sb**	**17 07 28.9**	**+0.2**
GRG	**Griva**	**0.44**	**345**	P	**Pg**	**17 07 21.2**	**-0.6**
GRG				S	**Sb**	**17 07 28.9**	**+0.2**
GRG				AML	AML	17 07 29.7	
	comp=N,5021μm,0.5s						
GRG				AML	AML	17 07 31.9	
	comp=E,4860μm,0.3s						
SOH	**Sokhos**	**0.68**	**64**	P	**Pg**	**17 07 25.8**	**-0.3**
SOH				S	**Sb**	**17 07 36.7**	**+1.1**
	comp=E,2μm,0.3s						
SOH	**Sokhos**	**0.68**	**64**	*i* Pg	**Pg**	**17 07 25.9**	**-0.3**
SOH				*i* Sg	**Sb**	**17 07 36.9**	**+1.2**
SOH	**Sokhos**	**0.68**	**64**	P	**Pg**	**17 07 25.9**	**-0.3**
SOH				S	**Sg**	**17 07 35.8**	**+0.5**
SOH				AML	AML	17 07 38.2	
	comp=E,6422μm,0.3s						
SOH				AML	AML	17 07 41.1	
	comp=N,4737μm,0.4s						
KNT	**Kendrikon**	**0.68**	**23**	Pg	**Pg**	**17 07 25.8**	**-0.5**
KNT				Sg	**Sb**	**17 07 36.9**	**+1.2**
KNT	**Kendrikon**	**0.68**	**23**	P	**Pg**	**17 07 25.8**	**-0.5**
KNT				S	**Sb**	**17 07 35.9**	**+0.2**
	comp=N,1μm,0.2s						
KNT	**Kendrikon**	**0.68**	**23**	*i* Pg	**Pg**	**17 07 25.8**	**-0.5**
KNT				*i* Sg	**Sb**	**17 07 36.6**	**+0.8**
KNT	**Kendrikon**	**0.68**	**23**	P	**Pg**	**17 07 26.0**	**-0.3**
KNT				S	**Sb**	**17 07 36.0**	**+0.3**
KNT				AML	AML	17 07 37.5	
	comp=E,2228μm,0.3s						
KNT				AML	AML	17 07 38.0	
	comp=N,2672μm,0.3s						
VAY	**Valandovo**	**0.79**	**1**	*e*Pg	**Pg**	**17 07 27.7**	**-0.6**
VAY				*e*Sg	**Sg**	**17 07 38.2**	**-0.5**
VAY	**Valandovo**	**0.79**	**1**	*i* Pg	**Pg**	**17 07 27.2**	**-1.1**
VAY				*i* Sg	**Sb**	**17 07 39.0**	**+0.3**
VAY				*e*Lg	Lg	17 07 39.8	
	comp=N,650nm,0.4s						
VAY				*e*Lg	Lg	17 07 40.7	
	comp=E,511nm,0.4s						
TYRN	**Tyrnavos**	**0.85**	**196**	P	**Pb**	**17 07 28.6**	**-0.8**
TYRN				S	**Sn**	**17 07 42.2**	**-0.3**
	comp=E,798nm,0.6s						
TYRN	**Tyrnavos**	**0.85**	**196**	P	**Pb**	**17 07 28.4**	**-1.0**
TYRN				S	**Sg**	**17 07 40.9**	**+0.1**
FNA	**Florina**	**0.93**	**286**	Pg	**Pb**	**17 07 29.7**	**-1.0**
FNA	**Florina**	**0.93**	**286**	P	**Pb**	**17 07 29.4**	**-1.2**
	baz=283						
FNA				S	**Sg**	**17 07 43.4**	**+0.3**
	baz=283						
FNA				AMP			
	comp=E,1.1nm,0.5s,baz=283						
FNA	**Florina**	**0.93**	**286**	P	**Pb**	**17 07 29.6**	**-1.0**
FNA				S	**Sn**	**17 07 44.5**	**+0.1**
	comp=E,658nm,0.4s						
FNA	**Florina**	**0.93**	**286**	*e*Pg	**Pb**	**17 07 29.4**	**-1.2**
FNA				*e*Sg	**Sn**	**17 07 44.5**	**+0.1**
FNA	**Florina**	**0.93**	**286**	*i* Pg	**Pb**	**17 07 29.7**	**-1.0**
FNA				*i* Sg	**Sg**	**17 07 43.7**	**+0.6**
FNA	**Florina**	**0.93**	**286**	P	**Pb**	**17 07 28.9**	**-1.7**
FNA				AML	AML	17 07 47.3	
	comp=E,1348μm,0.5s						
FNA				AML	AML	17 07 47.9	
	comp=N,1332μm,0.6s						
SRS	**Serrai**	**0.98**	**53**	P	**Pb**	**17 07 30.9**	**-0.7**
SRS				S	**Sg**	**17 07 45.2**	**+0.3**
	comp=N,675nm,0.6s						
SRS	**Serrai**	**0.98**	**53**	*e*Pg	**Pb**	**17 07 31.1**	**-0.6**
SRS				*e*Sg	**Sn**	**17 07 46.0**	**+0.2**
SRS	**Serrai**	**0.98**	**53**	*i* Pg	**Pb**	**17 07 31.1**	**-0.6**
SRS				*i* Sg	**Sn**	**17 07 46.0**	**+0.2**
SRS	**Serrai**	**0.98**	**53**	P	**Pb**	**17 07 31.1**	**-0.6**
SRS				S	**Sn**	**17 07 45.8**	**0.0**
SRS				AML	AML	17 07 49.6	
	comp=E,1097μm,0.2s						
SRS				AML	AML	17 07 51.3	
	comp=N,1028μm,0.5s						
THL	**Klokotos Trika**	**1.05**	**203**	P	**Pb**	**17 07 32.3**	**-0.4**
THL				S	**Sn**	**17 07 47.7**	**+0.4**
	comp=N,628nm,0.7s						
THL	**Klokotos Trika**	**1.05**	**203**	P	**Pb**	**17 07 32.2**	**-0.4**
THL				S	**Sn**	**17 07 48.1**	**+0.8**
THL				AML	AML	17 07 49.3	
	comp=N,815μm,0.7s						
THL				AML	AML	17 07 49.7	
	comp=E,1686μm,0.7s						
KPRO	**Kipourio**	**1.07**	**238**	P	**Pb**	**17 07 33.1**	**-0.1**
KPRO				S	**Sn**	**17 07 50.0**	**+2.0**
	comp=E,540nm,0.5s						
KPRO	**Kipourio**	**1.07**	**238**	P	**Pb**	**17 07 32.8**	**-0.4**
KPRO				S	**Sn**	**17 07 48.7**	**+0.7**
OUR	**Ouranopolis**	**1.11**	**100**	Pn	**Pb**	**17 07 33.9**	**+0.1**
OUR	**Ouranopolis**	**1.11**	**100**	P	**Pb**	**17 07 33.6**	**-0.1**
OUR				S	**Sg**	**17 07 49.1**	**+0.2**
	comp=E,1μm,0.3s						
OUR	**Ouranopolis**	**1.11**	**100**	P	**Pb**	**17 07 33.7**	**-0.1**
OUR				S	**Sb**	**17 07 48.6**	**+0.6**
OUR				AML	AML	17 07 50.9	
	comp=E,1761μm,0.4s						
OUR				AML	AML	17 07 52.8	
	comp=N,2622μm,0.3s						
PENT	**Pentalofos**	**1.13**	**253**	P	**Pb**	**17 07 33.8**	**-0.3**
PENT	**Pentalofos**	**1.13**	**253**	P	**Pb**	**17 07 33.7**	**-0.4**
KOKK	**Kokkinochori,**	**1.14**	**75**	P	**Pn**	**17 07 34.1**	**-0.2**
KOKK				S	**Sg**	**17 07 50.6**	**+0.8**
	comp=N,408nm,0.3s						
KOKK	**Kokkinochori,**	**1.14**	**75**	P	**Pn**	**17 07 34.1**	**-0.2**
KOKK				S	**Sg**	**17 07 50.2**	**+0.4**
NEST	**Nestorio**	**1.15**	**265**	P	**Pb**	**17 07 33.7**	**-0.8**
NEST	**Nestorio**	**1.15**	**265**	P	**Pb**	**17 07 33.7**	**-0.8**
STIP	**Stip**	**1.19**	**347**	*i* Pg	**Pn**	**17 07 35.1**	**+0.1**
STIP				*i* Sg	**Sg**	**17 07 51.8**	**+0.3**
XOR	**Xorichti**	**1.27**	**157**	P	**Pn**	**17 07 35.1**	**-0.9**
XOR	**Xorichti**	**1.27**	**157**	P	**Pn**	**17 07 35.3**	**-0.7**
XOR				S	**Sb**	**17 07 51.6**	**-0.9**
XOR				AML	AML	17 07 54.1	
	comp=N,689μm,0.4s						
XOR				AML	AML	17 07 56.0	
	comp=E,338μm,0.3s						
NVR	**Nevrokopi**	**1.29**	**50**	P	**Pb**	**17 07 37.4**	**+0.6**
NVR	**Nevrokopi**	**1.29**	**50**	P	**Pb**	**17 07 37.5**	**+0.6**
NVR				S	**Sn**	**17 07 53.9**	**+0.6**
NVR				AML	AML	17 08 00.6	
	comp=N,792μm,0.6s						
NVR				AML	AML	17 08 02.1	
	comp=E,845μm,0.3s						
NEO	**Neokhori**	**1.33**	**157**	P

baz=252
SRN S Sg 17 08 17.7 -1.3
baz=252
PVO Paravola 2.07 203 P Pn 17 07 48.2 +1.2
LIA Limnos Island 2.12 107 P Pn 17 07 47.8 +0.1
LIA AML AML 17 08 25.9
comp=E,567μm,0.6s
LIA AML AML 17 08 30.2
comp=N,488μm,0.8s
VTS Vitosha 2.15 14 eP Pn Pn 17 07 48.6 +0.3
VTS eSn Sn 17 08 15.4 +0.7
EFP Efpalio 2.16 193 P Pn 17 07 48.7 +0.4
EFP AML AML 17 08 26.3
comp=E,321μm,0.5s
EFP AML AML 17 08 26.7
comp=N,285μm,0.9s
TIR Tirane 2.19 293 ⇑P Pb 17 07 52.2 0.0
TIR ⇑S Sb 17 08 18.4 -0.6
KEK Kerkira 2.26 250 Pn Pn 17 07 50.0 +0.3
KEK Kerkira 2.26 250 P Pn 17 07 50.4 +0.7
SKY Skiros Island 2.26 136 P Pn 17 07 49.7 +0.1
LKD2 Lefkada island 2.27 221 P Pb 17 07 53.1 -0.4
baz=220
LKD2 Lefkada island 2.27 221 P Pb 17 07 51.9 -1.7
NYDR Nydri-Lefkada 2.31 219 P Pn 17 07 51.8 +1.5
PLD Plovdiv 2.31 45 Pn Pn 17 07 50.4 0.0
PLD Plovdiv 2.31 45 ePn Pb 17 07 52.9 -1.4
LAKA Lakka 2.33 191 P Pn 17 07 50.9 +0.2
BARS Barje 2.35 347 ePn Pn 17 07 51.4 +0.5
BARS Barje 2.35 347 ePn Pn 17 07 51.4 +0.5
RDO Rodhopi 2.35 74 Pn Pn 17 07 50.9 0.0
RDO Sn Sn 17 08 19.6 +0.2
RDO Rodhopi 2.35 74 P Pn 17 07 50.2 -0.7
KDZ Kurdzhali 2.38 62 Pn Pn 17 07 52.4 +1.1
EVGI Lefkada island 2.40 218 P Pn 17 07 53.8 +2.2
KLV Kalavryta, Ach 2.50 187 P Pn 17 07 53.2 +0.1
FSK Fiskardo 2.58 217 P Pn 17 07 55.7 +1.7
GADA Gvkgeada 2.58 96 Pn Pn 17 07 54.5 +0.4
GUR Goura 2.60 184 P Pn 17 07 54.3 -0.1
ALN Alexandroupoli 2.68 81 Pn Pn 17 07 55.6 +0.1
ALN Sn Sn 17 08 27.2 -0.4
ALN Alexandroupoli 2.68 81 P Pn 17 07 55.6 +0.1
ENEZ Enez 2.75 85 Pn Pn 17 07 56.8 +0.4
SELS Selova 2.89 339 ePn Pn 17 07 58.2 -0.1
GELI Tayfur-Gelibol 3.00 91 Pn Pn 17 07 59.9 +0.1
GELI Sn Sn 17 08 35.6 +0.2
ERIK Erikli-Kesan 3.02 86 Pn Pn 17 08 00.6 +0.5
COMU Canakkale 3.03 97 Pn Pn 17 08 00.6 +0.3
BLKB Belogradchik 3.09 2 ⇓S Sn 17 08 35.7 -2.1
PDG Podgorica 3.12 309 ⇑P Pn 17 08 02.3 +0.9
PDG Podgorica 3.12 309 ePn Pn 17 08 03.9 +2.5
BOVS Bovan 3.16 349 ⇑P Pn 17 08 02.0 0.0
ZAGS Zajecar 3.29 356 ePn Pn 17 08 03.8 0.0
SJES Sjenica 3.34 326 ePn Pn 17 08 06.0 +1.4
ELND Elena 3.46 45 ⇓P Pn 17 08 07.9 +1.8
GRUS Gruza 3.62 339 ePn Pn 17 08 09.1 +0.8
KUBS Kucevo 3.93 351 ePn Pn 17 08 11.5 -1.1
TRUS Trudelj 4.01 337 ePn Pn 17 08 14.6 +0.8
DIVS Divibare 4.04 333 ePn Pn 17 08 15.0 +0.8
MDVR Moldovita 4.29 352 ⇓P Pn 17 08 17.5 -0.2
HERR Herculane 4.35 359 ⇑P Pn 17 08 18.0 -0.3
TEKS Tekeris 4.59 332 ePn Pn 17 08 22.7 +1.0
GZR Gura Zlata 4.86 2 ⇓P Pn 17 08 25.1 -0.4
LOT Lotru 5.00 10 ⇑P Pn 17 08 27.3 0.0
FRGS Fruska Gora 5.04 337 ePn Pn 17 08 29.0 +1.1
BZS Buzias 5.13 353 ⇑P Pn 17 08 28.7 -0.3
BZS Buzias 5.13 353 ePn Pn 17 08 28.3 -0.8
BZS eSn Sn 17 09 24.3 -3.6
VOIR 5.24 20 ⇑P Pn 17 08 31.3 +0.7
MLR Muntele Rosu 5.55 26 ⇓P Pn 17 08 36.3 +1.4
PLOR Plostina 6.10 28 ⇑P Pn 17 08 43.8 +1.3
VRI Vrincioaia 6.14 28 ⇑P Pn 17 08 44.0 +0.9
MORH Mrgy, Hungar 6.35 335 ⇑P Pn 17 08 46.5 +0.7
MORH Mrgy, Hungar 6.35 335 ePn Pn 17 08 46.4 +0.6

*DJA **14** 17:08:13.5±0.3, 6°S±3°×13°0E±°, h181km±7km, M4.4/10, mb4.1/9, mB5.0/3, MLv4.5/10, Mw(mB)4.3/3, MwMwp5.5/1, Mwp5.6/1*
*NEIC **14** 17:08:15.1±1.1, 6.4S±0.1°×130.13E±0.07, h142km±12km, mb4.0/10, Error ellipse: s-maj=19.2km s-min=9.4km az=170.0*
*IDC **14** 17:08:18.3±7.8, 6.43S×130.22E, h183km±82km, mb3.6/10, mbtmp4.1/12, Error ellipse: s-maj=32.7km s-min=23.5km az=62.0*
ISC 14 17:08:14.2±0.5, 6.49S±0.06×130.23E±0.08, h146km, n49, σ1§61/52, mb3.9/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	Saumlaki	1.82	145		Pn	17 08 49.2	+2.3
SAUI	Saumlaki	1.82	145	P	Pn	17 08 49.3	+2.3
SAUI				S	Sn	17 09 12.5	+0.3
BNDI	Bandanaira	1.98	351	P	Pn	17 08 49.3	+0.4
BNDI				S	Sn	17 09 18.5	+3.0
KMPI	Kaimana, Papua	4.46	51	P	Pn	17 09 19.6	-0.7
SWI	Sorong	5.68	10	P	Pn	17 09 34.1	-2.6
	15nm,0.5s,2μm0.6nm						
SANI	Sanana	6.11	316	P	Pn	17 09 44.4	+2.0
	14nm,0.8s,0.1nm						
MTN	Manton Dam	6.38	172		Pn	17 09 46.6	+0.7
SOEI	Soe	6.74	241	Pn	Pn	17 09 51.8	+0.9
SOEI	Soe	6.74	241	P	Pn	17 09 52.4	+1.5
	29nm,1.1s,0.2nm						
EDFI	Ende, Flores	8.76	255	P	Pn	17 10 20.4	+2.5
	10nm,1.2s						
KNRA	Kununurra	9.24	189	Pn	Pn	17 10 24.1	-0.1
BASI	Baing, Sumba	10.24	248	P	Pn	17 10 39.0	+1.4
	73nm,1.1s						
FITZ	Fitzroy Crossi	12.38	201	Pn	Pn	17 11 03.8	-1.7
WB0	Warramunga Arr	13.80	163		Pn	17 11 21.8	-2.0
WRAB	Tennant Creek	13.95	164		Pn	17 11 23.9	-1.8
WRA	Warramunga Arr	13.96	164	Pn	Pn	17 11 23.5	-2.2
WRA	Warramunga Arr	13.96	164	P	Pn	17 11 24.4	-1.3
	0.9nm,0.4s,baz=334,slow=13,SNR=41						
WRA				S	Sn	17 13 51.6	-8.8
	5.2nm,0.4s,baz=334,slow=22,SNR=12						
WB2	Warramunga Arr	13.96	164	Pn	Pn	17 11 24.1	-1.7
WR0	Warramunga Arr	14.03	163	P	Pn	17 11 25.4	-1.3
PMG	Port Moresby	17.01	101	P	Pn	17 12 04.6	+1.1
	9.3nm,0.7s,baz=148,slow=11,SNR=4.8						
AS31	Alice Springs	17.44	169		Pn	17 12 09.9	+1.2
AS31				IAmb	IAmb	17 12 12.6	
	comp=Z,2.4nm,0.5s						
ASAR	Alice Springs	17.44	169	P	Pn	17 12 09.7	+1.1
ASAR	Alice Springs	17.44	169	P	Pn	17 12 10.0	+1.3
	comp=Z,4.8nm,0.5s,baz=346,slow=10,SNR=239						
ASAR				S	S	17 15 15.9	-6.0
	comp=Z,1.5nm,0.6s,baz=354,slow=25,SNR=7.0						
CTA	Charters Tower	20.61	133	P	P	17 12 44.3	+2.3
	comp=Z,3.0nm,0.6s,baz=312,slow=10,SNR=6.0						
	comp=Z,3.0nm,0.6s						
CTAO	Charters Tower	20.61	133	P	P	17 12 44.5	+2.4
CTAO				IAmb	IAmb	17 13 08.6	
	comp=Z,11nm,1.2s						
STKA	Stephens Creek	27.40	159	P	P	17 13 47.1	+1.1
	comp=Z,0.9nm,0.4s,baz=39,slow=8.0,SNR=4.3						
	comp=Z,0.9nm,0.4s						
CMAR	Chiang Mai Arr	39.59	309	P	P	17 15 31.6	0.0
	comp=Z,0.9nm,0.6s,baz=134,slow=7.0,SNR=7.2						
	comp=Z,0.9nm,0.6s						
CHTO	Chiang Mai	39.79	310	P	P	17 15 32.7	-0.5
CHTO				IAmb	IAmb	17 15 33.9	
	comp=Z,3.5nm,0.9s						
KSRS	Korea Array	43.77	357	P	P	17 16 04.8	-0.4
	comp=Z,0.5nm,0.6s,baz=176,slow=9.0,SNR=4.3						
	comp=Z,0.5nm,0.6s						
TAPN	Taplejung	53.12	311	eP	P	17 17 16.8	-0.6
	comp=Z,5.8nm,0.4s						
RAMN	Ramite	53.75	310	eP	P	17 17 22.0	+0.1
	comp=Z,14nm,0.4s						
JIRN	Jiri	54.43	311	eP	P	17 17 26.4	-0.6
	comp=Z,6.0nm,0.4s						
GUN	Gumba	54.79	311	eP	P	17 17 29.0	-0.6
	comp=Z,11nm,0.5s						
DANN	Dangsing	56.62	310	eP	P	17 17 41.2	-1.4
PYUN	Piuthan	57.09	309	eP	P	17 17 45.6	-0.2
ULN	Ulaanbaatar	57.85	342	P	P	17 17 50.9	+0.3
SONM	Songino Array	58.03	341	P	P	17 17 52.3	+0.4
SONM				IAmb	IAmb	17 18 16.2	
	comp=Z,2.5nm,1.3s						
SONM	Songino Array	58.03	341	P	P	17 17 52.1	+0.2
	comp=Z,1.2nm,0.5s,baz=165,slow=7.8,SNR=8.8						
	comp=Z,1.2nm,0.5s						
PETK	Petropavlovsk-	63.77	18	P	P	17 18 30.3	-0.1
	comp=Z,5.7nm,1.0s,baz=182,slow=3.9,SNR=4.1						
	comp=Z,5.7nm,1.0s						
MK31	Makanchi Array	67.93	327	P	P	17 18 57.0	-0.1
MKAR	Makanchi Array	67.93	327	P	P	17 18 57.0	-0.1
MKAR	Makanchi Array	67.93	327	P	P	17 18 57.3	+0.1
	comp=Z,2.7nm,0.4s,baz=115,slow=8.1,SNR=77						
	comp=Z,2.7nm,0.4s						
ARSB	Arslanbob	70.67	318	P	P	17 19 14.6	+0.2
ZAA0	Zalesovo Array	71.23	334	P	P	17 19 15.9	-1.3
ZAA0				IAmb	IAmb	17 19 16.9	
	comp=Z,2.1nm,1.0s						
ZALV	Zalesovo Beam	71.23	334	P	P	17 19 15.9	-1.3
ZALV	Zalesovo Beam	71.23	334	P	P	17 19 16.3	-0.9
	comp=Z,0.7nm,0.3s,baz=150,slow=6.4,SNR=5.5						
	comp=Z,0.7nm,0.3s						
KURBB	Kurchatov Arra	72.20	328	P	P	17 19 22.9	-0.2
	comp=Z,0.9nm,0.4s,baz=130,slow=5.1,SNR=11						
	comp=Z,0.9nm,0.4s						
KKAR	Karatay Array	73.11	319	P	P	17 19 28.3	-0.4
BVAR	Borovoye Array	77.76	328	P	P	17 19 54.8	-0.2
	comp=Z,0.5nm,0.4s,baz=115,slow=9.7,SNR=4.5						
	comp=Z,0.5nm,0.4s						

TAP 14 17:14:50.0, 24.35N×121.72E, h12km, ML1.3, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	Heping Village	0.04	154	eP	Pg	17 14 52.9	+0.5
	baz=147						
ENA	Nanau	0.08	15	P	Pg	17 14 53.6	+0.9
	baz=19						
ENA				i S	Sg	17 14 55.5	+0.8
EWUT	Wuta	0.11	30	i P	Pb	17 14 53.7	-0.4
	baz=29						
EWUT				i S	Sg	17 14 56.0	+0.8
	baz=29						
ETL	Fush Village	0.21	205	P	Pb	17 14 55.5	-0.3
	baz=204						
ETL				S	Sg	17 14 58.9	+1.1
	baz=204						
NACB	Ninganchiao	0.21	213	i P	Pb	17 14 55.4	-0.4
	baz=212						
NACB				i S	Sg	17 14 59.0	+1.3
	baz=212						
LATG	Datong	0.25	316	i P	Pb	17 14 56.5	-0.1
	baz=316						
LATG				S	Sb	17 15 00.5	-0.6
	baz=316						
ETLH	Xiulin Townshi	0.26	236	i P	Pb	17 14 56.5	-0.1
	baz=236						
ETLH				i S	Sb	17 15 00.8	-0.3
	baz=236						
TWD	Chiawan	0.29	203	i P	Pb	17 14 56.7	-0.5
	baz=201						
TWD				S	Sb	17 15 01.6	-0.4
	baz=201						
NDT	Datong Townshi	0.31	323	eP	Pb	17 14 57.7	+0.1
	baz=323						
NDT				eS	Sb	17 15 02.4	-0.3
	baz=323						
NNSB	Datong	0.32	284	P	Pb	17 14 57.7	+0.1
	baz=284						
NNSB				S	Sb	17 15 02.3	-0.5
	baz=284						
ENTT	Nioudou	0.32	334	P	Pb	17 14 57.8	+0.1
	baz=335						
ENTT				i S	Sb	17 15 02.3	-0.5
	baz=335						
NNS	Nan Shan	0.33	286	P	Pb	17 14 58.0	+0.2
	baz=285						
NNS				i S	Sb	17 15 02.6	-0.5
	baz=285						
FUSB	Fushanzhiwuyua	0.42	344	eS	Sg	17 15 05.0	+0.8
	baz=343						
LXIB	Xiulin Townshi	0.43	220	P	Pb	17 14 59.2	-0.5
	baz=220						
LXIB				eS	Sb	17 15 06.0	-0.1
	baz=220						
YHNB	Yeheng	0.45	315	eP	Pb	17 14 59.6	-0.2
	baz=315						
YHNB				eS	Sb	17 15 06.2	-0.4
	baz=315						
NSK	Sanguang	0.46	315	P	Pb	17 15 00.2	+0.1
	baz=314						
NSK				eS	Sg	17 15 05.3	-0.1
	baz=314						
WHF	Hehuan Shan	0.46	244	eP	Pb	17 15 00.1	-0.3
	baz=243						
WHF				S	Sb	17 15 06.9	-0.4
	baz=243						
NWLT	Wulai	0.47	335	eP	Pb	17 14 60.0	-0.3
	baz=335						
NWLT				eS	Sg	17 15 06.2	+0.6
	baz=335						
EOS2	EOS2	0.47	82	eP	Pb	17 14 60.0	-0.2
	baz=81						
EOS2				S	Sb	17 15 07.3	+0.2
	baz=81						
CHGB	Renai	0.58	240	eP	Pn	17 15 03.6	-0.6
	baz=239						
CHGB				eS	Sb	17 15 10.8	+0.5
	baz=239						
WUSB	Renai	0.66	237	eP	Pb	17 15 03.5	+0.1
	baz=236						
WUSB				eS	Sb	17 15 13.1	+0.6
	baz=236						

JMA 14 17:15:01.6±0.2, 24.9N±1.0×123.4E±0.4, h20km, MV1.6/7, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.57	217	P	Pb	17 15 12.5	-0.4
YOJ				eS	Sb	17 15 20.6	0.0
JYNG	Yonagunijimaku	0.61	221	eP	Pb	17 15 13.4	-0.3
JYNG				S	Sb	17 15 21.6	-0.3
JIJ	Ishigaki jima	0.89	129	S	Sb	17 15 28.8	-0.9
JKRS	Kuro-shima	0.89	140	eP	Pb	17 15 18.2	-0.1
JKRS				S	Sb	17 15 29.9	+0.2
JISG	Ishigakijimahi	0.91	111	P	Pb	17 15 18.6	-0.1
JISG				eS	Sb	17 15 29.9	-0.3

*SNET **14** 17:15:42.4±0.7, 11.87N×89.25W, h67km±96km, ML3.5*
*CATAC **14** 17:15:45.3±0.7, 12.20N×89.22W, h0km, ML3.6*
ISC 14 17:15:41.4±2.6, 12.0N±0.1×89.26W±0.07, h9km±12km, n25, σ0§64/32, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	Alcalda de L	1.44	357	i P	Pb	17 16 08.8	+0.3
LALI				IAML		17 16 34.2	
	comp=Z,180nm,1.0s						
JUCU	Jucuarjn	1.56	39	eP	Pb	17 16 10.2	-0.2
JUCU				eS	Sg	17 16 31.9	+0.3
SJTE	Alcalda de S	1.58	9	eP	Pb	17 16 11.1	+0.1
LOMA	Loma Larga	1.60	3	eP	Pb	17 16 11.5	+0.3
LOMA	Loma Larga	1.60	3	i P	Pg	17 16 11.8	-0.3
LOMA				i S	Sn	17 16 30.8	0.0
LOMA				IAML		17 16 36.9	
	comp=Z,430nm,1.0s						
JAYA	Jayaque - finc	1.62	353	eP	Pb	17 16 11.1	-0.4
JAYA				IAML		17 16 38.5	
	comp=Z,428nm,0.3s						
JAYA	Jayaque - finc	1.62	353	i P	Pb	17 16 11.8	+0.3
JAYA				i S	Sn	17 16 31.1	-0.2
JAYA				IAML		17 16 38.4	
	comp=Z,1μm,1.0s						
PMON	Piamonte	1.67	358	i P	Pg	17 16 13.4	0.0
PMON				IAML		17 16 53.6	
	comp=Z,680nm,1.0s						
PACA	Pacayal	1.69	32	i P	Pb	17 16 13.1	+0.4
PACA				IAML		17 16 43.1	
	comp=Z,3μm,1.0s						
PAVA	Las Pavas	1.69	11	eP	Pb	17 16 12.7	-0.1
PAVA	Las Pavas	1.69	11	i P	Pb	17 16 13.0	+0.2
PAVA				i S	Sn	17 16 33.8	+0.6
PAVA				IAML		17 16 39.3	
	comp=Z,850nm,1.0s						
SCLA	Alcaldia de Sa	1.73	17	eP	Pb	17 16 13.5	+0.1
CEVE	Cerro Verde	1.81	349	eP	Pb	17 16 14.1	-0.8
CEVE				eS	Sg	17 16 40.2	+0.4
CEVE				IAML		17 16 46.5	
	comp=Z,675nm,0.4s						
CEVE	Cerro Verde	1.81	349	i P	Pb	17 16 15.4	+0.4
CEVE				IAML		17 16 46.4	
	comp=Z,620nm,1.0s						
LCND	La Caada	1.84	46	eP	Pn	17 16 13.5	+0.4
LCND				IAML		17 16 45.8	
	comp=Z,484nm,0.4s						
LCND	La Caada	1.84	46	i P	Pb	17 16 14.8	-0.4
LCND				IAML		17 16 45.6	
	comp=Z,420nm,1.0s						
SNJE	San Jose	1.85	349	eP	Pb	17 16 15.5	-0.1
CNCH	Conchagua	1.85	48	i P	Pb	17 16 15.8	+0.2
CNCH				IAML		17 16 43.6	
	comp=Z,680nm,1.0s						
CSGN	Cosiguina Volc	1.90	60	i P	Pg	17 16 17.9	0.0
CSGN				IAML		17 16 48.6	
	comp=Z,1μm,1.0s						
NUBE	Las Nubes	1.92	345	i P	Pb	17 16 16.4	-0.3
NUBE				IAML		17 16 50.6	
	comp=Z,710nm,1.0s						
CRIN	San Cristobal	2.25	73	i P	Pb	17 16 23.3	+1.0
CRIN				IAML		17 17 09.5	
	comp=Z,880nm,1.0s						
MTO3	Montecristo	2.35	358	i P	Pb	17 16 23.0	-1.1
MTO3				IAML		17 16 33.8	
	comp=Z,220nm,1.0s						
MTO3				i S	Sb	17 16 53.0	-0.3
COPN	Copaltepe	2.61	87	i P	Pb	17 16 28.9	+0.5
COPN				IAML		17 16 59.4	
	comp=Z,400nm,1.0s						
SOMN	Somoto	2.92	62	i P	Pb	17 16 32.6	-1.2
SOMN				IAML		17 16 33.9	
	comp=Z,33nm,1.0s						
SOMN				i S	Sb	17 17 09.3	-0.4
LIMN	Finca el Limon	3.00	70	i P	Pb	17 16 32.9	-2.2
LIMN				IAML		17 17 19.7	
	comp=Z,68nm,1.0s						

*BUT **14** 17:47:49.5±0.9, 46.90N±0.03×112.52W±0.02, h11km±6km, Error ellipse: s-maj=4.9km s-min=1.8km az=200.0*
NEIC 14 17:47:49.1±0.9, 46.89N±0.04×112.53W±0.02, h10km±6km, ML2.6/28, ML2.7/9(BUT), Error ellipse: s-maj=5.9km s-min=1.1km az=197.0, Montana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LYMT	Lyon Mountain	0.18	63	Pg	Pg	17 47 53.4	+0.3
BEMT	Mount Belmont	0.19	136	Pg	Pg	17 47 53.7	+0.4
ELMT	Elliston	0.37	177	Pg	Pg	17 47 56.9	+0.4
OVMT	Ovando	0.37	299	Pg	Pg	17 47 56.6	+0.2
CHMT	Chamberlain Mo	0.50	273		Pg	17 47 59.2	+0.3
HRY	Holter Researc	0.51	110	Pg	Pg	17 47 59.6	+0.5
BPMT	Black Pine Rid	0.78	235		Pg	17 48 04.1	-0.1
MSO	Missoula	0.97	267		Pg	17 48 07.9	0.0
MSO				IAML		17 48 25.0	
	136nm,0.5s						
LRM	Limekiln Ridge	1.07	177	Pg	Pb	17 48 09.9	0.0
BOZ	Bozeman (W)	1.43	154		Pn	17 48 15.6	+0.2
EGMT	Eagleton	2.20	58	Pn	Pn	17 48 27.0	+1.2
EGMT				IAML		17 49 04.1	
	40nm,0.6s						
YHL	Hebgen Lake	2.24	155		Pn	17 48 27.0	+0.4
YHL				IAML		17 49 04.5	
	comp=N,38nm,0.9s						
YHL				IAML		17 49 06.4	
	comp=E,35nm,0.8s						
YHH	Holmes Hill	2.40	150		Pn	17 48 29.1	+0.3
YMR	Madison River	2.47	153		Pn	17 48 30.0	+0.3
YMR				IAML		17 49 14.6	
	comp=N,27nm,1.8s						
YMR				IAML		17 49 20.6	
	comp=E,20nm,1.7s						
YMP	Mirror Lake PI	2.71	141		Pb	17 48 39.4	+1.5
YMP				IAML		17 49 12.8	
	comp=E,18nm,3.5s						
YMP				IAML		17 49 38.4	
	comp=N,20nm,4.8s						
PLID	Pearl Lake	3.02	235	Pn	Pn	17 48 37.3	+0.1
FLWY	Flagg Ranch	3.08	155	Pn	Pn	17 48 39.0	+0.8
FLWY					Pg	17 48 46.5	-1.8
FLWY				IAML		17 49 14.3	
	comp=N,20nm,4.2s						
IMW	Indian Meadow	3.19	159		Pn	17 48 38.6	-1.0
IMW				Pg	Pb	17 48 47.9	+1.8
IMW				IAML		17 49 31.8	
	comp=N,17nm,0.4s						
F10A	Beach Ranch, E	3.38	256		Pn	17 48 41.2	-0.8
MOOW	Moose Ponds	3.38	158		Pn	17 48 40.7	-1.5
NEW	Newport	3.40	296	Pn	Pn	17 48 40.9	-1.5
NEW				IAML		17 49 38.2	
	comp=N,13nm,1.9s						
NEW				IAML		17 50 29.5	
	comp=N,16nm,4.8s						
LOHW	Long Hollow	3.54	157	Pg	Pb	17 48 53.0	+1.0
LOHW				IAML		17 49 30.8	
	comp=N,12nm,4.6s						
TPAW	Teton Pass	3.58	161	Pn	Pn	17 48 45.4	+0.5
TPAW				Pg	Pb	17 48 53.9	+1.3
TPAW				IAML		17 49 47.3	
	comp=N,11nm,4.7s						

IDC 14 17:53:47.5±590.0, 53.71N×4.99E, h0km, Error ellipse: s-maj=286.2km s-min=123.1km az=117.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	FREYUNG INFRAS	7.32	128	I	I	18 36 40.0	
	0.1nm,0.7s,baz=315,slow=320,SNR=1.0						
I48TN	KESRA INFRASON	18.16	169	I	I	19 42 10.0	
	baz=353,slow=316,SNR=0.5						
I43RU	DUBNA INFRASON	18.54	68	I	I	19 40 50.0	
	baz=275,slow=326,SNR=1.8						
I31KZ	AKTYUBINSK INF	32.15	74	I	I	21 11 30.0	
	baz=298,slow=341,SNR=0.8						
I46RU	ZALESOVO INFRA	44.71	56	I	I	22 29 30.0	
	baz=305,slow=331,SNR=1.7						

*HEL **14** 18:01:19.8±0.3, 67.04N×20.67E, h0km, ML2.0, Explosion*
*UPP **14** 18:01:20.9±0.1, 67.04N×20.97E, h0km, ML2.7, Suspected explosion*
*IDC **14** 18:01:21.6±0.9, 67.04N×21.09E, h0km, mbtmp3.0/4, ML2.0/4, Error ellipse: s-maj=17.1km s-min=8.4km az=115.0*
ISC 14 18:01:20.8±0.7, 67.07N±0.02×20.92E±0.03, h0km, n41, σ1§12/62, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	Dundret	0.15	292	P	Pg	18 01 24.5	+0.9
DUNU				S	Sg	18 01 27.1	+1.6
MASU	Masugnsbyn	0.57	47	P	Pg	18 01 32.0	+0.2
ERTU	Ertsjaerv	0.72	135	P	Pg	18 01 33.9	-0.7
ERTU	Ertsjaerv	0.72	135	PG	Pg	18 01 33.7	-0.9
ERTU				SG	Sg	18 01 44.0	0.0
PAJU	Pajala	0.86	92	P	Pg	18 01 36.6	-0.7
PAJU	Pajala	0.86	92	PG	Pg	18 01 36.3	-1.0
	baz=276						
PAJU				SG	Sg	18 01 49.3	+0.8
HARU	Harads	0.91	178	P	Pg	18 01 37.5	-0.7
KUA	Kurravaara	0.92	346	P	Pg	18 01 38.3	-0.1
SALU	Saltoluokta	0.99	290	P	Pb	18 01 39.9	-0.9
LANU	Lannavaara	1.07	22	P	Pg	18 01 40.8	-0.6
LANU	Lannavaara	1.07	22	PG	Pg	18 01 40.7	-0.6
LANU				SG	Sg	18 01 53.3	-1.8
KOVU	Salmi	1.20	346	P	Pg	18 01 43.5	-0.3
KLF	Kolari	1.20	81	PG	Pg	18 01 42.8	-1.0
KLF				MSG		18 01 59.2	
	comp=Z,32nm,0.2s						
KLF				SG	Sg	18 01 59.9	+0.5
KALU	Kalix	1.56	140	P	Pn	18 01 48.9	-0.9
KALU	Kalix	1.56	140	PG	Pn	18 01 48.8	-0.9
KALU				SN	Sg	18 02 13.5	+2.6
SJUU	Sjulsmark	1.59	170	P	Pn	18 01 49.3	-0.9
TOF	Tornio	1.69	124	PG	Pn	18 01 51.3	-0.2
TOF				MSG		18 02 12.2	
	comp=Z,14nm,0.2s						
TOF				SG	Sn	18 02 13.7	0.0
HEF	Hetta	1.71	37	eP	Pn	18 01 51.7

HEF	**Hetta**	**1.71**	**37**	PG	**Pn**	**18 01 51.6**	**-0.1**
	baz=222							
HEF				MSG		18 02 13.2		
	comp=Z,16nm,0.2s							
HEF				SG	**Sg**	**18 02 17.1**	**+1.6**
RNF	**Rovaniemi**	**2.07**	**101**	PB	**Pn**	**18 01 57.6**	**+0.8**
RNF				SB	**Sb**	**18 02 26.0**	**+0.6**
KTK1	**Kautokeino**	**2.14**	**23**	*eP*	**Pb**	**18 01 59.5**	**-0.9**
KTK1	**Kautokeino**	**2.14**	**23**	PG	**Pb**	**18 01 59.6**	**-0.9**
KTK1				SG	**Sb**	**18 02 28.4**	**+1.0**
SGF	**Sodankyl**	**2.21**	**78**	PB	**Pn**	**18 01 59.6**	**+0.9**
SGF				SB	**Sb**	**18 02 30.7**	**+1.1**
BURU	**Burvik**	**2.50**	**175**	PG	**Pn**	**18 02 03.7**	**+1.0**
	baz=356							
TRO	**Tromso**	**2.68**	**345**	PG	**Pb**	**18 02 07.2**	**-2.4**
TRO				SG	**Sb**	**18 02 42.5**	**-0.5**
OBF4	**Vikkela, Lumij**	**2.84**	**141**	PB	**Pn**	**18 02 08.7**	**+1.3**
	baz=321							
OBF4				MSG		18 02 44.5		
	comp=Z,3.2nm,0.2s							
OBF4				SG	**Sb**	**18 02 47.7**	**+0.2**
OUL	**Oulu**	**2.84**	**132**	PB	**Pn**	**18 02 08.7**	**+1.3**
OUL				SG	**Sb**	**18 02 49.2**	**+1.5**
OBF0	**Syolatti, Pyha**	**2.92**	**151**	PB	**Pn**	**18 02 10.5**	**+2.0**
OBF0				MSG		18 02 46.3		
	comp=Z,3.6nm,0.2s							
ARA0	**ARCESS Array S**	**3.01**	**32**	PN	**Pn**	**18 02 10.2**	**+0.5**
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**	**18 02 10.3**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=211,slow=13,SNR=126							
ARCES				Sn	**Sn**	**18 02 47.5**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=214,slow=26,SNR=7.6							
	comp=Z,2.0nm,0.2s							
OUF	**Merijarvi**	**3.14**	**148**	PB	**Pn**	**18 02 12.3**	**+0.9**
UMAU	**Umeaa**	**3.20**	**182**	PB	**Pn**	**18 02 12.9**	**+0.6**
	baz=360							
UMAU				SB	**Sn**	**18 02 51.3**	**+0.2**
VRF	**Varrio**	**3.42**	**75**	PN	**Pn**	**18 02 16.1**	**+0.7**
VRF				SB	**Sb**	**18 03 05.4**	**+0.9**
MSF	**Maaselka**	**3.46**	**106**	PN	**Pn**	**18 02 17.2**	**+1.3**
KEV	**Kevo**	**3.52**	**37**	PN	**Pn**	**18 02 17.7**	**+1.1**
KU6	**Riekki**	**3.74**	**102**	PN	**Pn**	**18 02 20.2**	**+0.5**
	baz=292							
KU6				SN	**Sn**	**18 03 06.3**	**+2.0**
HUSU	**Husum**	**3.81**	**192**	PB	**Pn**	**18 02 21.8**	**+1.1**
VAF	**Ylistaro**	**4.11**	**169**	PB	**Pn**	**18 02 26.8**	**+2.0**
VAF				SN	**Sn**	**18 03 12.3**	**-1.2**
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**18 02 52.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=349,slow=13,SNR=12							
FINES				Sn	**Sn**	**18 04 01.4**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=352,slow=24,SNR=7.8							
	comp=Z,0.6nm,0.3s							
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**18 03 09.2**	**-0.6**
	baz=36,slow=17,SNR=5.7							
NOA				Sn	**Sn**	**18 04 31.8**	**-2.5**
	baz=48,slow=21,SNR=4.2							
	comp=Z,0.2nm,0.6s							
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 03 12.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=28,slow=11,SNR=6.7							
	comp=Z,1.3nm,0.6s							

*IDC **14** 18:06:37.0±1.1,16°.92S×174°.20W,h0km,mb4.2/5, mbtmp4.3/6,ML3.3/1,Error ellipse: s-maj=36.1km s-min=28.5km az=151.0*

*NEIC **14** 18:06:47.6±0.7,17°.11S±0°.08×173°.96W±0°.08,h90km±2km, mb4.6/17,Error ellipse: s-maj=18.0km s-min=5.2km az=136.0*

*NOU **14** 18:07:28.9,14°.17S×172°.13W,h89km,MLv3.3/4,Samoa Islands*

ISC 14 18:06:48.1±0.5,**17°.04S**±0°.07×**173°.90W**±0°.08,**h100**km, **n67**,σ1**s28**/66,**mb4.6**/17,**1D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**3.72**	**34**	Pn		**Pn**	**18 07 44.0**	**+0.3**
AFI				Sn		**Sn**	**18 08 21.9**	**-4.8**
AFI	**Afiamalu**	**3.72**	**34**	P		**Pn**	**18 07 44.4**	**+0.8**
AFI	**Afiamalu**	**3.72**	**34**	P		**Pn**	**18 07 44.5**	**+0.8**
NIUE	**Niue**	**4.29**	**119**	Pn		**Pn**	**18 07 50.5**	**-0.7**
NIUE				Sn		Sn	18 08 32.7	-7.5
RAR	**Rarotonga**	**13.98**	**110**	Pn		Pn	18 09 56.1	-5.8
RAR	**Rarotonga**	**13.98**	**110**	Pn		**Pn**	**18 10 02.1**	**+0.2**
	1.3nm,0.3s,baz=158,slow=13,SNR=3.1							
	25nm,1.0s							
DZM	**Mont Dzumac**	**19.18**	**252**	P		**P**	**18 11 01.9**	**-2.2**
WCZ	**Waipu Caves**	**21.53**	**207**	P		**P**	**18 11 29.4**	**+0.2**
MXZ	**Matakaoa Point**	**21.57**	**197**	P		**P**	**18 11 30.6**	**+1.0**
KUZ	**Kuaotunu**	**21.57**	**203**	P		**P**	**18 11 30.8**	**+0.1**
WMGZ	**Waiomatatini S**	**21.78**	**197**	P		**P**	**18 11 33.0**	**+1.1**
HAZ	**Te Kaha**	**21.90**	**198**	P		**P**	**18 11 33.3**	**+0.3**
PUZ	**Puketiti**	**22.06**	**197**	P		**P**	**18 11 37.0**	**+2.2**
TWGZ	**Tauwhareparae**	**22.23**	**197**	P		**P**	**18 11 37.6**	**+0.9**
CNGZ	**Carnagh Station**	**22.46**	**196**	P		**P**	**18 11 40.3**	**+1.3**
MWZ	**Matawai**	**22.51**	**198**	P		**P**	**18 11 39.7**	**+0.2**
URZ	**Urewera**	**22.57**	**199**	P		**P**	**18 11 39.2**	**-0.9**
KMRZ	**Kaimai**	**22.57**	**201**	P		**P**	**18 11 41.4**	**+1.2**
TOZ	**Tahuroa Road**	**22.63**	**202**	P		**P**	**18 11 40.1**	**-0.6**
TOZ				IAmb		IAmb	18 11 44.7	
	comp=Z,20nm,0.7s							
TOZ	**Tahuroa Road**	**22.63**	**202**	P		**P**	**18 11 41.3**	**+0.6**
RAGZ	**Rawiri**	**22.69**	**198**	P		**P**	**18 11 41.4**	**0.0**
RIGZ	**Rimuhau**	**22.79**	**197**	P		**P**	**18 11 41.5**	**-0.8**
RTZ	**Ruatahuna**	**22.93**	**199**	P		**P**	**18 11 43.2**	**-0.6**
RTZ				IAmb		IAmb	18 11 45.2	
	comp=Z,22nm,0.6s							
RTZ	**Ruatahuna**	**22.93**	**199**	P		**P**	**18 11 43.1**	**-0.6**
KNZ	**Kokohu**	**23.11**	**197**	P		**P**	**18 11 46.5**	**+1.1**
RAHZ	**Arahi**	**23.18**	**198**	P		**P**	**18 11 46.6**	**+0.5**
MTHZ	**Maungataniwha**	**23.20**	**199**	P		**P**	**18 11 45.0**	**-1.3**
NMHZ	**Naumai**	**23.43**	**198**	P		**P**	**18 11 49.9**	**+1.4**
BKZ	**Black Stump Fm**	**23.59**	**199**	P		**P**	**18 11 49.3**	**-0.6**
BKZ	**Black Stump Fm**	**23.59**	**199**	P		**P**	**18 11 49.4**	**-0.5**
TMVZ	**Te Maari**	**23.80**	**200**	P		**P**	**18 11 51.1**	**-0.8**
ETVZ	**East Tongariro**	**23.81**	**200**	P		**P**	**18 11 53.1**	**+1.2**
KWHZ	**Kaweka Forest**	**23.85**	**199**	P		**P**	**18 11 52.5**	**+0.3**
SNVZ	**South Ngauruho**	**23.88**	**200**	P		**P**	**18 11 52.6**	**-0.1**
NGZ	**Ngauruhoe**	**23.89**	**200**	P		**P**	**18 11 52.8**	**+0.1**
BHHZ	**Black Hill Sta**	**24.02**	**199**	P		**P**	**18 11 53.8**	**0.0**
WNVZ	**Wahianoa**	**24.02**	**200**	P		**P**	**18 11 55.0**	**+1.0**
KAHZ	**Kahuranaki**	**24.05**	**198**	P		**P**	**18 11 56.5**	**+2.4**
KRHZ	**Kereru**	**24.07**	**199**	P		**P**	**18 11 54.9**	**+0.8**
PXZ	**Pawanui**	**24.28**	**197**	P		**P**	**18 11 57.6**	**+1.7**
THZ	**Tophouse**	**27.12**	**202**	P		**P**	**18 12 20.6**	**-1.2**
THZ				IAmb		IAmb	18 12 28.7	
	comp=Z,15nm,0.6s							
INZ	**Inchbonnie**	**28.49**	**203**	P		**P**	**18 12 32.9**	**-1.0**
INZ				IAmb		IAmb	18 12 39.3	
	comp=Z,14nm,0.7s							
ARMA	**Armidale**	**34.11**	**241**	P		**P**	**18 13 23.2**	**-0.3**
CTAO	**Charters Tower**	**37.83**	**259**	P		**P**	**18 13 54.1**	**-1.3**
CTAO				IAmb		IAmb	18 13 59.6	
	comp=Z,11nm,1.3s							
H11S2	**WAKE ISLAND Hy**	**40.13**	**331**	T		T	18 55 43.6	
	baz=145,slow=74,SNR=4.5							
H11S3	**WAKE ISLAND Hy**	**40.14**	**331**	T		T	18 55 46.8	
	baz=145,slow=74,SNR=3.1							
H11S1	**WAKE ISLAND Hy**	**40.15**	**331**	T		T	18 55 46.6	
	baz=145,SNR=2.1							
STKA	**Stephens Creek**	**42.82**	**241**	P		**P**	**18 14 34.8**	**-1.6**
STKA	**Stephens Creek**	**42.82**	**241**	P		**P**	**18 14 35.4**	**-0.9**
	comp=Z,5.3nm,0.9s,baz=51,slow=9.9,SNR=9.7							
	comp=Z,5.3nm,0.9s							
BBOO	**Buckleboo**	**47.59**	**241**	P		**P**	**18 15 12.9**	**-1.1**
WR0	**Warramunga Arr**	**48.83**	**258**	P		**P**	**18 15 22.9**	**-0.9**
WR0				IAmb		IAmb	18 15 58.2	
	comp=Z,12nm,1.4s							
WB0	**Warramunga Arr**	**48.99**	**258**	P		**P**	**18 15 24.2**	**-0.8**
WB0				IAmb		IAmb	18 15 55.6	
	comp=Z,10nm,1.4s							
WRA	**Warramunga Arr**	**49.02**	**258**	P		**P**	**18 15 22.7**	**-2.5**
WRA	**Warramunga Arr**	**49.02**	**258**	P		**P**	**18 15 24.0**	**-1.2**
	comp=Z,2.3nm,0.6s,baz=97,slow=7.0,SNR=57							
WRA				PcP		**PcP**	**18 16 48.8**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=95,slow=3.3,SNR=2.5							
	comp=Z,2.3nm,0.6s							
AS31	**Alice Springs**	**49.16**	**253**	P		**P**	**18 15 25.3**	**-1.0**
AS31				IAmb		IAmb	18 15 26.0	
	comp=Z,3.4nm,0.8s							
ASAR	**Alice Springs**	**49.16**	**253**	P		**P**	**18 15 25.4**	**-0.9**
	comp=Z,11nm,0.5s,baz=90,slow=8.7,SNR=370							
ASAR				PcP		**PcP**	**18 16 49.1**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=101,slow=3.9,SNR=2.1							
	comp=Z,11nm,0.5s							

FORT	**Forrest**	**54.26**	**244**	P		**P**	**18 16 02.4**	**-1.7**
VNDA	**Vanda**	**61.71**	**186**	P		**P**	**18 16 55.2**	**-0.1**
VNDA				IAmb		IAmb	18 16 57.8	
	comp=Z,2.6nm,0.8s							
VNDA	**Vanda**	**61.71**	**186**	P		**P**	**18 16 57.0**	**+1.7**
	comp=Z,2.3nm,0.8s,baz=13,slow=7.5,SNR=8.7							
	comp=Z,2.3nm,0.8s							
MBWA	**Marble Bar**	**62.45**	**255**	P		**P**	**18 17 00.9**	**-0.4**
NJ2	**Nanjing**	**80.77**	**308**	*eP*		**P**	**18 18 52.4**	**+1.6**
NJ2				pmax		pmax		
	comp=Z,5.0nm,0.5s							
ILAR	**Eielson Array**	**84.14**	**11**	P		**P**	**18 19 09.3**	**+1.8**
	comp=Z,0.1nm,0.5s,baz=238,slow=5.4,SNR=6.9							
	comp=Z,0.1nm,0.5s							
HHC	**Hu-ho-hao-te**	**89.78**	**313**	*eP*		**P**	**18 19 38.4**	**+2.7**
HHC				pmax		pmax		
	comp=Z,20nm,0.5s							
HHC				pmax		pmax		
	comp=Z,140nm,5.3s							
ELIB	**Princess Elisa**	**90.47**	**185**	*dP*		**P**	**18 19 38.9**	**+0.5**
	comp=Z,3.0nm,0.7s							
PZH	**PanZhiHua**	**92.58**	**297**	P		**P**	**18 19 49.8**	**+0.8**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.9s							
PZH				pmax		pmax		
	comp=Z,90nm,5.1s							
KMBO	**Kilima Mbogo**	**144.38**	**243**	PKP		**PKPdf**	**18 26 13.8**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=67,slow=5.3,SNR=6.7							
BRTR	**Keskin Array B**	**147.09**	**319**	PKPbc		**PKPab**	**18 26 20.9**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=134,slow=3.6,SNR=4.2							

*SJA **14** 18:10:32.3±0.7,19°.82S×70°.25W,h16km±2km,ML4.8, MW4.8*

*IDC **14** 18:10:33.1±0.5,19°.66S×70°.02W,h0km,mb4.6/14, mbtmp4.6/18,ML4.2/4,MS3.8/20,Error ellipse: s-maj=21.4km s-min=12.8km az=60.0*

*GUC **14** 18:10:34.5±0.7,19°.84S×70°.24W,h23km±2km,ML4.6*

*MOS **14** 18:10:34.3±1.3,19°.52S×70°.05W,h14km,mb5.2/15,Error ellipse: s-maj=14.5km s-min=8.3km az=111.8*

*VAO **14** 18:10:34.0±0.5,19°.63S×70°.29W,h10km,mb4.8*

*NEIC **14** 18:10:34.4,19°.80S×70°.17W,h10km*

*NEIC **14** 18:10:34.3±1.8,19°.82S±0°.02×70°.23W±0°.03,h10km±1km, mb5.0/213,Mwr4.4/47,Error ellipse: s-maj=4.5km s-min=3.0km az=251.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr3.78; Mθθ-3.96; Mφφ0.17; Mrθ-1.74; Mrφ-0.83; Mθφ0.90; Fault plane solution: M₀4.42000×10¹⁵ NP1:φ63.0300°,δ36.61000°, λ63.36000°. NP2:φ275.04000°,δ57.78000°,λ108.43000°. Principal axes: T 4.4194, Plg71.0000°, Azm228.0000°; N -0.0042, Plg16.0000°, Azm85.0000°; P -4.4152, Plg11.0000°, Azm352.0000°;*

ISC 14 18:10:32.9±0.9,**19°.81S**±0°.02×**70°.24W**±0°.03,**h3**km±5km, **n545**,σ1**s20**/516,**mb5.1**/119,**MS3.9**/17,**17C-20D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TA02	**Huaiquique**	**0.47**	**167**	Pg		**Pg**	**18 10 42.6**	**+0.6**
TA02				Sg		**Sg**	**18 10 49.2**	**+1.1**
TA02	**Huaiquique**	**0.47**	**167**	*eP*		**Pg**	**18 10 42.8**	**+0.8**
TA02				*eS*		**Sg**	**18 10 48.8**	**+0.7**
TA02	**Huaiquique**	**0.47**	**167**	↓*iP*		**Pg**	**18 10 42.8**	**+0.8**
TA02				*i S*		**Sg**	**18 10 49.2**	**+1.1**
TA02				IAML			18 10 50.4	
PB11	**IPOC Station P**	**0.55**	**85**	Pg		**Pb**	**18 10 45.1**	**-0.3**
PB11				Sg		**Sb**	**18 10 52.8**	**-0.9**
PB11	**IPOC Station P**	**0.55**	**85**	*eP*		Pg	18 10 37.1	-6.4
PB11				*eS*		**Pb**	**18 10 45.0**	**-0.3**
PB11	**IPOC Station P**	**0.55**	**85**	↑*iP*		**Pb**	**18 10 45.1**	**-0.3**
PB11				*i S*		**Sb**	**18 10 52.8**	**-0.9**
HMBC	**Humberstone**	**0.57**	**145**	*eP*		**Pg**	**18 10 44.5**	**+0.5**
HMBC				*eS*		**Sg**	**18 10 51.7**	**+0.3**
HMBC	**Humberstone**	**0.57**	**145**	↓*iP*		**Pg**	**18 10 44.6**	**+0.7**
HMBC				*i S*		**Sg**	**18 10 52.3**	**+0.9**
HMBC				IAML			18 10 53.0	
	comp=E,44μm,0.3s							
TA01	**Diego Aracena**	**0.76**	**176**			**Pg**	**18 10 47.3**	**0.0**
TA01				Sg		**Sg**	**18 10 56.6**	**-0.7**
TA01	**Diego Aracena**	**0.76**	**176**	*eP*		**Pg**	**18 10 47.4**	**0.0**
TA01				*eS*		**Sg**	**18 10 57.6**	**+0.4**
TA01	**Diego Aracena**	**0.76**	**176**	↓*iP*		**Pg**	**18 10 47.5**	**+0.1**
TA01				*i S*		**Sg**	**18 10 57.5**	**+0.2**
PX02	**IPOC Station P**	**0.84**	**3**	*eP*		**Pg**	**18 10 48.9**	**-0.2**
PX02				*eS*		**Sg**	**18 11 00.5**	**+0.6**
GO01	**Chusmiza**	**1.00**	**82**	Pg		**Pb**	**18 10 53.0**	**0.0**
GO01	**Chusmiza**	**1.00**	**82**	*eP*		**Pb**	**18 10 53.0**	**0.0**
GO01				*eS*		**Sb**	**18 11 07.1**	**+0.3**
GO01	**Chusmiza**	**1.00**	**82**	↑*iP*		**Pb**	**18 10 53.1**	**0.0**
GO01				*i S*		**Sb**	**18 11 07.0**	**+0.2**
GO01				IAML			18 11 07.8	
	comp=N,19μm,0.2s							
PATCX	**Punta Patache**	**1.01**	**175**	Sg		**Sg**	**18 11 05.2**	**-0.3**
PATCX	**Punta Patache**	**1.01**	**175**	*eP*		**Pg**	**18 10 51.7**	**-0.6**
PATCX				*eS*		**Sg**	**18 11 05.7**	**+0.2**
PATCX	**Punta Patache**	**1.01**	**175**	*i P*		**Pg**	**18 10 51.9**	**-0.4**
PATCX				*i S*		**Sg**	**18 11 05.2**	**-0.3**
PATCX				IAML			18 11 06.7	
	comp=E,40μm,0.2s							
PB08	**IPOC Station P**	**1.07**	**108**			**Pg**	**18 10 53.4**	**-0.1**
PB08				Sg		**Sg**	**18 11 06.7**	**-0.8**
PB08	**IPOC Station P**	**1.07**	**108**	*eP*		**Pg**	**18 10 53.7**	**+0.1**
PB08				*eS*		**Sb**	**18 11 08.4**	**-0.6**
PB08	**IPOC Station P**	**1.07**	**108**	↑*iP*		**Pg**	**18 10 53.8**	**+0.3**
PB08				*i S*		**Sg**	**18 11 08.0**	**+0.5**
PB12	**IPOC Station P**	**1.19**	**356**			**Pg**	**18 10 55.4**	**-0.3**
PB12				Sg		**Sg**	**18 11 10.4**	**-0.8**
PB12	**IPOC Station P**	**1.19**	**356**	*eP*		**Pg**	**18 10 55.4**	**-0.3**
PB12				*eS*		**Sb**	**18 11 11.9**	**-0.1**
PB12	**IPOC Station P**	**1.19**	**356**	↓*iP*		**Pg**	**18 10 55.5**	**-0.3**
PB12				*i S*		**Sg**	**18 11 11.4**	**+0.3**
PB12				IAML			18 11 13.8	
	comp=E,17μm,0.6s							
PB01	**IPOC Station P**	**1.42**	**150**			**Pn**	**18 10 58.8**	**-0.9**
PB01				Sg		**Sg**	**18 11 17.4**	**-1.1**
PB01	**IPOC Station P**	**1.42**	**150**	*eP*		**Pn**	**18 10 58.8**	**-0.9**
PB01				*eS*		**Sg**	**18 11 17.8**	**-0.8**
PB01	**IPOC Station P**	**1.42**	**150**	↓*iP*		**Pn**	**18 10 58.8**	**-0.9**
PB01				*i S*		**Sg**	**18 11 17.9**	**-0.6**
AP01	**Chacalluta**	**1.43**	**356**			**Pn**	**18 10 59.6**	**-0.1**
AP01	**Chacalluta**	**1.43**	**356**	*eP*		**Pn**	**18 10 59.3**	**-0.5**
AP01				IAML			18 11 25.2	
	comp=Z,16μm,0.5s							
AP01	**Chacalluta**	**1.43**	**356**	↓*iP*		**Pn**	**18 10 59.7**	**-0.1**
AP01				*i S*		**Sb**	**18 11 18.4**	**-0.5**
PB02	**IPOC Station P**	**1.54**	**168**			**Pn**	**18 11 00.5**	**-0.9**
PB02	**IPOC Station P**	**1.54**	**168**	*eP*		**Pn**	**18 11 00.5**	**-0.9**
PB02				*eS*		**Sn**	**18 11 21.3**	**-0.7**
PB02	**IPOC Station P**	**1.54**	**168**	↓*iP*		**Pn**	**18 11 00.5**	**-0.9**
PB02				*i S*		**Sn**	**18 11 19.1**	**-2.9**
PB16	**IPOC Station P**	**1.62**	**25**	Pn		**Pb**	**18 11 03.4**	**-0.4**
PB16	**IPOC Station P**	**1.62**	**25**	*eP*		**Pb**	**18 11 03.4**	**-0.4**
PB16				*eS*		**Sg**	**18 11 26.0**	**+1.0**
PB16	**IPOC Station P**	**1.62**	**25**	↓*iP*		**Pb**	**18 11 03.6**	**-0.2**
PB16				*i S*		**Sn**	**18 11 24.5**	**-0.1**
PB16				IAML			18 11 30.7	
	comp=E,9μm,0.6s							
PB09	**IPOC Station P**	**2.19**	**155**			**Pn**	**18 11 11.7**	**+1.4**
PB09	**IPOC Station P**	**2.19**	**155**	*eP*		**Pn**	**18 11 11.7**	**+1.4**
PB09				*eS*		**Sb**	**18 11 41.3**	**+0.6**
PB09	**IPOC Station P**	**2.19**	**155**	*eP*		**Pn**	**18 11 11.8**	**+1.4**
PB09				*i S*		**Sn**	**18 11 39.3**	**+1.2**
PB18	**Visviri**	**2.32**	**18**			**Pb**	**18 11 16.5**	**+0.7**
PB18	**Visviri**	**2.32**	**18**	↑*iP*		**Pb**	**18 11 16.3**	**+0.5**
PB18				*i S*		**Sg**	**18 11 48.9**	**+1.3**
PB04	**IPOC Station P**	**2.52**	**178**			**Pn**	**18 11 14.7**	**-0.2**
PB04	**IPOC Station P**	**2.52**	**178**	*eP*		**Pn**	**18 11 15.0**	**+0.2**
PB04				*eS*		**Sb**	**18 11 51.0**	**+0.8**
PB04	**IPOC Station P**	**2.52**	**178**	*eP*		**Pn**	**18 11 15.0**	**+0.2**
PB04				*i S*		**Sn**	**18 11 45.5**	**-0.7**
PB04				IAML			18 11 52.6	
	comp=N,9μm,0.3s							

PB06	**IPOC Station P**	**2.95**	**168**			**Pn**	**18 11 21.5**	**+0.6**
PB06	**IPOC Station P**	**2.95**	**168**	*eP*		**Pn**	**18 11 21.4**	**+0.6**
PB06				*eS*		**Sb**	**18 12 02.3**	**-0.5**
PB06	**IPOC Station P**	**2.95**	**168**	↓*iP*		**Pn**	**18 11 21.5**	**+0.6**
PB06				*i S*		**Sn**	**18 11 55.7**	**-1.2**
PB05	**IPOC Station P**	**3.03**	**179**	Pn		**Pn**	**18 11 21.6**	**-0.3**
PB05	**IPOC Station P**	**3.03**	**179**	*eP*		**Pn**	**18 11 21.3**	**-0.6**
PB05				*eS*		**Sg**	**18 12 10.0**	**-0.3**
LVC	**Limon Verde**	**3.05**	**156**	*eP*		**Pn**	**18 11 25.0**	**+2.5**
LVC				*eS*		**Sb**	**18 12 06.6**	**+0.6**
LVC	**Limon Verde**	**3.05**	**156**	*eP*		**Pn**	**18 11 25.2**	**+2.7**
LVC	**Limon Verde**	**3.05**	**156**	Pn		**Pn**	**18 11 24.9**	**+2.5**
	comp=N,170nm,0.3s,baz=327,slow=9.8,SNR=139							
LVC				Sn		**Sb**	**18 12 04.9**	**-1.1**
	comp=N,571nm,0.3s,baz=173,slow=18,SNR=21							
	comp=N,600nm,0.5s							
LVC	**Limon Verde**	**3.05**	**156**	*eP*		**Pn**	**18 11 25.1**	**+2.7**
LVC				*i S*		**Sn**	**18 12 02.6**	**+3.0**
PB15	**IPOC Station P**	**3.46**	**168**			**Pn**	**18 11 28.3**	**+0.4**
PB15	**IPOC Station P**	**3.46**	**168**	*eP*		**Pn**	**18 11 28.5**	**+0.6**
PB15				*eS*		**Sb**	**18 12 17.7**	**+0.2**
AF01	**San Pedro de A**	**3.67**	**149**	Pn		**Pn**	**18 11 31.7**	**+0.8**
PB14	**IPOC Station P**	**4.80**	**182**	Pn		**Pn**	**18 11 44.6**	**-1.8**
PB14	**IPOC Station P**	**4.80**	**182**	*eP*		**Pn**	**18 11 44.8**	**-1.6**
PB14				IAML			18 13 16.0	
	comp=Z,526nm,0.7s							
GO02	**Mina Guanaco**	**5.36**	**174**	Pn		**Pn**	**18 11 53.7**	**-0.5**
GO02	**Mina Guanaco**	**5.36**	**174**	*eP*		**Pn**	**18 11 53.8**	**-0.3**
AC01	**Pan de Azucar**	**6.32**	**183**	Pn		**Pn**	**18 12 04.7**	**-2.3**
AC06	**Mina Casimiro**	**7.52**	**181**			**Pn**	**18 12 21.7**	**-1.8**
GO03	**Copiap**	**7.75**	**180**	Pn		**Pn**	**18 12 25.4**	**-1.3**
AC04	**Llanos de Chal**	**8.39**	**185**	Pn		**Pn**	**18 12 32.1**	**-3.4**
AC05	**El Transito**	**8.99**	**180**	Pn		**Pn**	**18 12 42.9**	**-0.9**
BBSD	**Serra de San D**	**9.50**	**76**	*eP*		**Pn**	**18 12 52.0**	**+1.3**
SIV	**San Ignacio**	**9.52**	**68**	Pn		**Pn**	**18 12 50.7**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=256,slow=10,SNR=129							
SIV				LR		LR	18 17 15.5	
	comp=Z,184nm,21.7s,baz=277,slow=43							
BBRB	**Robore, Bolivi**	**9.98**	**83**	*eP*		**Pn**	**18 12 57.3**	**-0.1**
NNA	**Nana**	**10.04**	**320**	Pn		**Pn**	**18 12 59.2**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=134,slow=19,SNR=1.5							
NNA				Sn		**Sn**	**18 14 53.3**	**+1.9**
	comp=Z,2.5nm,0.3s,baz=235,slow=17,SNR=2.2							
NNA				LR		LR	18 16 58.4	
	comp=Z,307nm,19.3s,baz=169,slow=38							
	comp=Z,3.6nm,0.3s							
CO01	**Juntas del Tor**	**10.13**	**179**	Pn		**Pn**	**18 12 57.8**	**-1.7**
GO04	**Tololo Observa**	**10.33**	**183**	Pn		**Pn**	**18 13 00.2**	**-2.1**
ETMB	**Extrema**	**10.67**	**22**			**Pn**	**18 13 07.9**	**+1.2**
CO02	**Combarbal**	**11.37**	**183**	Pn		**Pn**	**18 13 13.3**	**-3.1**
PTLB	**Pontes e Lacer**	**11.44**	**69**			**Pn**	**18 13 14.8**	**-2.4**
PTLB	**Pontes e Lacer**	**11.44**	**69**	*eP*		**Pn**	**18 13 17.4**	**+0.1**
VILB	**Vilhena**	**11.80**	**56**			**Pn**	**18 13 23.7**	**+1.4**
VILB	**Vilhena**	**11.80**	**56**	*eP*		**Pn**	**18 13 23.6**	**+1.4**
MURT	**Porto Murtinho**	**11.96**	**101**	*eP*		**Pn**	**18 13 24.5**	**+0.1**
ESFA	**Espinillo Form**	**12.02**	**117**	*eP*		**Pn**	**18 13 26.7**	**+1.5**
CZSB	**Cruzeiro do Su**	**12.24**	**348**	Pn		**Pn**	**18 13 25.9**	**-2.3**
SAML	**Samuel**	**12.77**	**33**	Pn		**Pn**	**18 13 32.3**	**-3.3**
**

BAUV El Baul 28.65 5 P P 18 16 30.2 -0.8
GUA01 Guaratinga, BA 29.07 89 eP P 18 16 34.4 -0.4
PCRV Puerto La Cruz 30.30 11 LR LR 18 28 07.2
comp=Z,156nm,21.4s,slow=35
SRBA San Rafael, Bu 31.62 335 P P 18 16 56.5 -0.9
SRBA IAmb IAmb 18 17 02.8
comp=Z,18nm,1.3s
JTS Las Juntas de 33.23 333 LR LR 18 30 20.6
comp=Z,186nm,20.7s,baz=128,slow=36
RCBR Riachuelo 36.15 72 eP P 18 17 36.1 -0.7
SJG San Juan 37.90 6 LR LR 18 35 20.5
comp=Z,144nm,18.3s,baz=238,slow=39
SDDR Presa de Saban 38.56 358 P P 18 17 55.1 -2.0
MTO3 Montecristo 38.85 330 P P 18 17 59.4 -0.4
TEIG Tepich 43.53 335 LR LR 18 36 44.2
comp=Z,1µm,20.7s,baz=9.5,slow=36
CMIG Matias Romero 43.94 325 LR LR 18 36 19.7
comp=Z,95nm,18.3s,baz=174,slow=35
PMSA Palmer Station 45.13 176 LR LR 18 37 26.0
comp=Z,142nm,19.5s,baz=339,slow=36
ZAIG Zacatecas 52.79 322 P P 18 19 49.3 -0.7
BRAL Brewton 53.19 342 P P 18 19 53.8 +1.4
baz=160
NHSC New Hope 53.47 350 P P 18 19 55.5 +1.1
baz=168
Y60A Bolivia 54.05 352 P 18 19 58.7 +0.1
HBVL Hebbronville 54.13 328 P P 18 19 59.6 +0.2
HBVL IAmb IAmb 18 20 01.5
comp=Z,9.5nm,0.8s
X58A Rowland 54.75 351 P 18 20 04.0 +0.2
LRAL Lakeview Retre 54.93 343 P P 18 20 05.0 -0.1
baz=161
BIRD Birdtown, Kers 55.02 350 P P 18 20 06.5 +0.8
BIRD IAmb IAmb 18 20 07.4
comp=Z,25nm,0.9s
HKT Hockley 55.27 333 P 18 20 06.8 -0.8
HKT IAmb IAmb 18 20 09.3
comp=Z,17nm,1.3s
HKT Hockley 55.27 333⇑ iP P 18 20 08.6 +1.0
HKT pmax pmax
comp=Z,15nm,1.3s
W57A Gilead 55.44 350 P P 18 20 08.8 +0.1
W57A IAmb IAmb 18 20 10.3
comp=Z,24nm,0.8s
833A Chaparral WMA, 55.53 329 P P 18 20 10.0 +0.4
833A IAmb IAmb 18 20 11.4
comp=Z,18nm,0.8s
833A Chaparral WMA, 55.53 329 P P 18 20 10.8 +1.2
baz=146
Y49A Blount Mountai 55.55 344 P P 18 20 08.9 -0.7
Y49A IAmb IAmb 18 20 10.0
comp=Z,11nm,0.9s
V58A Windy Hill, Pi 55.93 351 P P 18 20 12.1 -0.2
V58A IAmb IAmb 18 20 13.7
comp=Z,24nm,0.9s
X48A Hartselle 56.28 343 P P 18 20 13.8 -1.0
X48A IAmb IAmb 18 20 15.4
comp=Z,16nm,0.9s
NATX Nacogdoches 56.37 335 P P 18 20 16.5 +1.0
baz=152
W50A Signal Mountai 56.55 345 P P 18 20 16.3 -0.4
W50A IAmb IAmb 18 20 17.6
comp=Z,16nm,0.9s
CPCT Cooper Cave 56.60 346 P P 18 20 16.3 -0.8
TKL Tuckaleechee C 56.63 347 P P 18 20 17.3 0.0
TKL IAmb IAmb 18 20 18.1
comp=Z,15nm,0.9s
TKL Tuckaleechee C 56.63 347 P P 18 20 17.3 0.0
TKL pmax pmax
comp=Z,15nm,0.9s
TKL Tuckaleechee C 56.63 347 LR LR 18 44 51.5
comp=Z,61nm,19.5s,baz=136,slow=36
SWET Sewanee 56.71 345 P P 18 20 16.1 -1.8
SWET IAmb IAmb 18 20 18.5
comp=Z,16nm,0.9s
V52A Sevierville 56.77 347 P 18 20 17.6 -0.7
V52A IAmb IAmb 18 20 19.2
comp=Z,25nm,0.9s
T59A Double "B" Far 56.89 353 P P 18 20 19.2 +0.1
OXF Oxford 57.01 341 P P 18 20 18.9 -1.1
OXF Oxford 57.01 341 P P 18 20 19.8 -0.2
baz=158
OXF Oxford 57.01 341 P P 18 20 18.9 -1.1
OXF pmax pmax
comp=Z,34nm,0.9s
DRIO Del Rio 57.04 328 P P 18 20 19.9 -0.4
DRIO IAmb IAmb 18 20 21.7
comp=Z,9.5nm,0.8s
PLAL Pickwick Lake 57.06 343 P P 18 20 19.3 -1.1
PLAL IAmb IAmb 18 20 20.9
comp=Z,17nm,0.9s
T57A Hurt 57.14 351 P P 18 20 21.3 +0.5
T57A IAmb IAmb 18 20 22.6
comp=Z,22nm,0.9s
V48A Smith Brothers 57.44 344 P P 18 20 22.5 -0.5
V48A IAmb IAmb 18 20 23.7
comp=Z,21nm,0.8s
TZTN Tazewell 57.44 347 P P 18 20 23.5 +0.4
baz=165
WLAR White Oak Lake 57.49 337 P P 18 20 24.0 +0.6
BLA Blacksburg 57.52 350 P P 18 20 22.5 -1.1
BLA IAmb IAmb 18 20 55.7
comp=Z,24nm,1.1s
BLA Blacksburg 57.52 350 P P 18 20 23.3 -0.3
baz=169
BLA Blacksburg 57.52 350 P P 18 20 22.5 -1.1
BLA pmax pmax
comp=Z,24nm,1.2s
JCT Junction City 57.52 330 P P 18 20 23.6 -0.2
baz=147
CLTN Cedars of Leba 57.64 345 P P 18 20 24.5 0.0
CLTN IAmb IAmb 18 20 25.1
comp=Z,16nm,0.9s
WHTX Lake Whitney, 57.73 333 P P 18 20 25.7 +0.5
baz=150
BRDY Brady 57.82 331 P P 18 20 25.5 -0.3
BRDY IAmb IAmb 18 20 28.4
comp=Z,18nm,0.8s
S57A Dark Hollow, R 57.84 352 P P 18 20 26.8 +0.9
U49A Red Boiling Sp 57.91 345 P P 18 20 25.8 -0.5
U49A IAmb IAmb 18 20 26.8
comp=Z,8.6nm,0.8s
R58B Mineral 57.91 353 P P 18 20 25.6 -0.6
R58B IAmb IAmb 18 20 28.0
comp=Z,13nm,0.8s
SLBS Sierra La Lagu 58.03 316 P P 18 20 29.0 +1.5
WVT Waverly 58.07 343 P P 18 20 26.0 -1.4
WVT Waverly 58.07 343 P P 18 20 27.2 -0.3
baz=160
WVT Waverly 58.07 343 P P 18 20 26.0 -1.4
WVT pmax pmax
comp=Z,27nm,0.8s
SAND Sanderson 58.23 327 P 18 20 29.0 +0.3
SAND IAmb IAmb 18 20 30.5
comp=Z,13nm,1.1s
MIAR Mount Ida 58.43 337 P P 18 20 30.5 +0.5
MIAR IAmb IAmb 18 20 30.9
comp=Z,16nm,0.8s
MIAR Mount Ida 58.43 337 P P 18 20 30.4 +0.5
baz=154,SNR=6.9
MIAR Mount Ida 58.43 337 P P 18 20 30.5 +0.5
MIAR pmax pmax
comp=Z,16nm,0.8s
TXAR Lajitas Array 58.53 326 P P 18 20 31.5 +0.6
comp=Z,2.5nm,0.9s,baz=146,slow=8.3,SNR=19
comp=Z,2.5nm,0.9s
TX31 Lajitas Ar. Si 58.54 326 P 18 20 31.1 +0.1
WHAR Wooly Hollow 58.66 339 P P 18 20 31.6 +0.1
WHAR IAmb IAmb 18 20 33.2
comp=Z,9.2nm,0.9s
T47A Sharon Grove 58.69 344 P P 18 20 31.8 0.0
Z35A Perchaven, San 58.80 334 P P 18 20 33.3 +0.7
LCAR Lake Charles 58.99 340 P P 18 20 32.9 -1.0
LCAR IAmb IAmb 18 20 34.4
comp=Z,8.4nm,0.7s
Q56A Snyder Ridge, 59.13 352 P P 18 20 36.3 +1.4
FCAR Ozark Folk Cen 59.15 339 P P 18 20 34.5 -0.5
FCAR IAmb IAmb 18 20 35.4
comp=Z,9.3nm,1.0s
ABTX Abilene, Hawle 59.24 331 P P 18 20 35.8 +0.1
ABTX Abilene, Hawle 59.24 331 P P 18 20 36.2 +0.5
baz=148
SGCY Sterling City 59.34 330 P P 18 20 37.6 +1.1
SGCY IAmb IAmb 18 20 40.0
comp=Z,10.0nm,0.7s

LOOK Love County 59.34 334 P P 18 20 37.4 +1.0
PBMO Poplar Bluff 59.42 341 P P 18 20 36.4 -0.4
P57A Homestead Farm 59.43 353 IAmb IAmb 18 20 39.1
comp=Z,23nm,0.9s
MNHN Monahans 59.67 328 P P 18 20 38.2 -0.6
MNHN IAmb IAmb 18 20 40.5
comp=Z,20nm,0.9s
WTFS Witchita Falls 59.69 333 P P 18 20 38.6 -0.1
WTFS IAmb IAmb 18 20 40.2
comp=Z,21nm,1.0s
MCWV Mont Chateau 59.83 351 P P 18 20 40.4 +0.8
MCWV Mont Chateau 59.83 351 P P 18 20 39.6 0.0
baz=170
P53A Whipple 59.90 350 IAmb IAmb 18 20 41.5
comp=Z,18nm,0.9s
S44A Carbondale 59.93 343 P P 18 20 39.4 -0.9
SIUC Southern Illin 59.94 343 P P 18 20 40.1 -0.3
APMT Aspermont 60.04 331 P 18 20 41.9 +0.7
APMT IAmb IAmb 18 20 42.7
comp=Z,21nm,0.8s
HHAR Hobbs 60.12 338 P P 18 20 40.8 -0.9
HHAR IAmb IAmb 18 20 42.8
comp=Z,32nm,1.3s
P52A Corning 60.17 349 P P 18 20 41.4 -0.5
P52A IAmb IAmb 18 20 42.7
comp=Z,13nm,0.9s
P52A Corning 60.17 349 P P 18 20 42.3 +0.4
baz=167
W35A Tecumseh 60.23 335 P P 18 20 42.3 -0.1
W35A IAmb IAmb 18 20 43.1
comp=Z,23nm,1.2s
PECS Pecos 60.26 327 P P 18 20 42.4 -0.5
PECS IAmb IAmb 18 20 44.0
comp=Z,4.3nm,0.6s
MGMO Mountain Grove 60.34 340 P P 18 20 43.0 -0.2
MGMO IAmb IAmb 18 20 44.0
comp=Z,13nm,0.9s
425A Indio Mountain 60.38 326 P P 18 20 44.0 +0.3
425A IAmb IAmb 18 20 45.4
comp=Z,16nm,1.0s
RLO Rose Lookout 60.41 337 P P 18 20 42.8 -0.9
RLO IAmb IAmb 18 20 45.1
comp=Z,18nm,1.0s
O54A Avella 60.42 351 P P 18 20 43.0 -0.7
O54A IAmb IAmb 18 20 46.1
comp=Z,12nm,0.8s
POST Post 60.47 330 P P 18 20 43.4 -0.8
POST IAmb IAmb 18 20 46.3
comp=Z,18nm,0.8s
TUL3 Leonard 60.47 336 P P 18 20 44.0 0.0
baz=152
FVM French Village 60.54 342 P 18 20 44.5 0.0
FVM French Village 60.54 342 P P 18 20 44.5 0.0
FVM pmax pmax
comp=Z,27nm,0.7s
SSPA Standing Stone 60.55 353 P P 18 20 44.0 -0.5
baz=172
P49A Miami Univ. Ec 60.56 347 P P 18 20 43.9 -0.8
baz=164
O53A New Philadelph 60.62 350 P P 18 20 45.1 +0.1
baz=168
CCM Cathedral Cave 60.85 341 P P 18 20 46.0 -0.6
CCM IAmb IAmb 18 20 47.6
comp=Z,12nm,1.0s
CCM Cathedral Cave 60.85 341 P P 18 20 46.7 +0.1
baz=157
CCM Cathedral Cave 60.85 341 P P 18 20 46.0 -0.6
CCM pmax pmax
comp=Z,12nm,1.0s
ACSO Alum Creek Sta 60.90 349 P P 18 20 46.4 -0.5
ACSO Alum Creek Sta 60.90 349 P P 18 20 47.1 +0.2
baz=166
QUOK Quay 61.05 336 P P 18 20 47.7 -0.4
QUOK IAmb IAmb 18 20 49.8
comp=Z,24nm,1.1s
GDL2 Guadalupe Moun 61.17 327 P P 18 20 49.7 +0.6
S39A Bolivar 61.18 339 P P 18 20 48.6 -0.3
P46A Rosedale 61.20 345 IAmb IAmb 18 20 49.0
comp=Z,16nm,0.8s
MNTX Cornudas Mount 61.30 326 P P 18 20 49.4 -0.5
MNTX IAmb IAmb 18 20 50.8
comp=Z,8.7nm,0.8s
MNTX Cornudas Mount 61.30 326 P P 18 20 50.0 +0.1
baz=142
O48B Farmland 61.35 347 P P 18 20 48.8 -1.2
O48B Farmland 61.35 347 P P 18 20 49.7 -0.3
baz=164
OK048 Pawnee Station 61.35 336 P P 18 20 50.0 -0.1
OK051 E0350 and S346 61.39 336 P P 18 20 50.0 -0.4
SMWD Samnorwood 61.59 332 P P 18 20 51.8 -0.1
SMWD IAmb IAmb 18 20 53.0
comp=Z,24nm,0.9s
M53A WI Miller and 61.70 351 P P 18 20 52.3 0.0
baz=169
N49A Columbus Grove 61.79 348 P P 18 20 52.5 -0.5
MSTX Muleshoe 61.81 330 P P 18 20 53.2 -0.2
MSTX Muleshoe 61.81 330 P P 18 20 53.7 +0.3
baz=145
ALLY Alegheny Colle 61.83 352 P P 18 20 53.9 +0.7
SFIN Lafayette 61.90 345 P P 18 20 53.0 -0.6
baz=162
L61B Northampton 61.98 358 P P 18 20 54.7 +0.5
baz=177
L56A Greenwood 62.00 354 P P 18 20 55.1 +0.7
HRV Adam Dziewonsk 62.01 359 P P 18 20 54.5 +0.1
baz=179
AMTX Amarillo 62.05 331 P P 18 20 55.4 +0.4
baz=146
N47A Urbana 62.06 347 P P 18 20 54.2 -0.5
VNA3 Neumayer Olymp 62.07 161⇑ P P 18 20 56.0 +1.5
comp=Z,7.6nm,0.7s
ERPA Erie 62.27 352 P P 18 20 56.0 -0.1
ERPA Erie 62.27 352 P P 18 20 56.4 +0.3
baz=170
WVNY West Valley, N 62.38 353 P P 18 20 57.6 +0.7
P40A Paris 62.45 341 P P 18 20 56.8 -0.6
HDIL Hopedale 62.62 344 P P 18 20 58.3 -0.2
baz=160
L48A N Adams 62.83 348 P P 18 20 59.4 -0.5
P38A Dawn 63.00 340 P P 18 21 00.8 -0.3
J59A Piesco 63.08 357 P P 18 21 02.2 +0.6
319A Douglas 63.19 323 P P 18 21 02.7 0.0
319A IAmb IAmb 18 21 05.2
comp=Z,13nm,0.8s
121A Cookes Peak, D 63.23 325 P P 18 21 03.6 +0.5
121A IAmb IAmb 18 21 05.2
comp=Z,8.1nm,0.8s
121A Cookes Peak, D 63.23 325 P P 18 21 04.1 +1.1
baz=140
LBNH Lisbon 63.75 359 P P 18 21 06.3 +0.3
baz=178
L44A Lake County Fo 63.80 345 P P 18 21 05.9 -0.4
baz=162
BNM Barren Site 63.87 327 P P 18 21 07.2 -0.1
DUN6 Lazy B Ranch 63.97 324 IAmb IAmb 18 21 10.3
comp=Z,20nm,0.9s
N38A Joes South For 63.97 341 P P 18 21 06.8 -0.7
N38A IAmb IAmb 18 21 07.7
comp=Z,15nm,0.8s
LONY Lake Ozonia 64.23 357 P P 18 21 09.1 0.0
baz=176
SNAA Sanae 64.28 161⇑ P P 18 21 10.1 +0.9
comp=Z,186nm,0.6s
SNAA Sanae 64.28 161 P P 18 21 10.1 +0.9
comp=Z,7.3nm,0.7s,baz=283,slow=5.2,SNR=22
SNAA LR LR 18 49 17.8
comp=Z,95nm,18.5s,baz=188,slow=36
comp=Z,7.3nm,0.7s
ANMO Albuquerque 64.41 327 P 18 21 09.1 -1.6
ANMO Albuquerque 64.41 327 P P 18 21 11.2 +0.5
baz=142
ANMO Albuquerque 64.41 327⇓ eP P 18 21 10.2 -0.5
ANMO pmax pmax
comp=Z,5.0nm,0.8s
ANMO Albuquerque 64.41 327 LR LR 18 50 57.8
comp=Z,46nm,18.8s,baz=140,slow=38
CBKS Cedar Bluff 64.53 335 P P 18 21 11.0 -0.3
CBKS Cedar Bluff 64.53 335 P P 18 21 11.7 +0.4
baz=149
CBKS Cedar Bluff 64.53 335 P P 18 21 11.0 -0.3
CBKS pmax pmax
comp=Z,23nm,1.0s
L40A Anamosa 64.55 343 P P 18 21 10.5 -0.7
WBO Williamsburg 64.66 356 P P 18 21 12.3 +0.4
TUC Tucson 64.74 323 P P 18 21 14.1 +1.3
baz=138

PKME Peaks-Kenny Pk 64.76 1 P P 18 21 12.8 +0.3
baz=181
SADO Sadowa 64.78 353 LR LR 18 53 27.1
comp=Z,81nm,18.1s,baz=98,slow=40
SCIA State Center 64.98 341 P P 18 21 14.5 +0.4
baz=156
JFWS Jewell Farm 65.08 344 P P 18 21 15.6 +0.9
baz=159
T25A Trinidad 65.16 330 IAmb IAmb 18 21 17.8
comp=Z,8.4nm,0.9s
T25A Trinidad 65.16 330 P P 18 21 16.5 +0.9
baz=144
214A Organ Pipe Nat 65.67 321 IAmb IAmb 18 21 58.4
comp=Z,9.9nm,0.8s
214A Organ Pipe Nat 65.67 321 P P 18 21 20.2 +1.4
baz=136
TRQ Mont Tremblant 65.83 357 P P 18 21 20.6 +1.0
KSCO Kaye Shedlock' 65.90 333 P P 18 21 20.9 +0.6
baz=147
TROLL Troll, Antarti 65.99 161⇑ P P 18 21 21.6 +1.2
comp=Z,402nm,0.7s
SDCO Great Sand Dun 66.16 330 P P 18 21 22.6 +0.4
SDCO IAmb IAmb 18 21 24.4
comp=Z,15nm,0.9s
SDCO Great Sand Dun 66.16 330 P P 18 21 23.2 +1.0
baz=144,SNR=21
BGNE Belgrade 66.18 337 P P 18 21 22.5 +0.6
baz=151
W18A Petrified Fore 66.25 325 P P 18 21 23.6 +0.9
baz=139
S22A 4UR Ranch, Cre 66.80 329 P P 18 21 27.6 +1.3
baz=142,SNR=7.2
Q24A Divide 66.98 331 IAmb IAmb 18 21 29.6
comp=Z,12nm,0.8s
Q24A Divide 66.98 331 P P 18 21 29.0 +1.6
baz=144,SNR=5.7
MVCO Mesa Verde 67.20 328 IAmb IAmb 18 21 31.1
comp=Z,8.2nm,0.8s
MVCO Mesa Verde 67.20 328 P P 18 21 30.2 +1.5
baz=141,SNR=6.3
OGNE Ogallala 67.27 334 P P 18 21 29.8 +0.8
baz=148
WUAZ Wupatki 67.44 324 IAmb IAmb 18 21 33.2
comp=Z,15nm,0.9s
WUAZ Wupatki 67.44 324 P P 18 21 31.9 +1.7
baz=138,SNR=6.6
ECSD EROS Data Cent 67.70 340 P P 18 21 32.0 +0.5
baz=153
ISCO Idaho Springs 67.87 331 P P 18 21 34.3 +1.3
baz=144
SPMN Marine on St. 67.91 343 P P 18 21 33.0 +0.3
baz=157
SMCO Snowmass 68.00 330 IAmb IAmb 18 21 36.5
comp=Z,9.8nm,0.9s
PDMC Parker Dam,Lak 68.12 322 P P 18 21 35.4 +1.0
baz=135
BC3 Big Chuckawall 68.44 320 P P 18 21 37.9 +1.4
baz=134
IRM Iron Mountain 68.61 321 P P 18 21 39.3 +1.9
baz=135
U15A North Rim 68.61 325 IAmb IAmb 18 21 40.9
comp=Z,14nm,0.8s
F36A Milaca 68.69 343 IAmb IAmb 18 21 38.3
comp=Z,11nm,0.9s
NVL N'lazarevskaya 68.85 159 eP P 18 21 38.7 +0.3
NVL pmax pmax
comp=Z,15nm,0.9s
N23A Red Feather La 68.90 332 IAmb IAmb 18 21 41.6
comp=Z,18nm,1.2s
N23A Red Feather La 68.90 332 P P 18 21 40.4 +0.9
baz=144
TPFO Pinon Flats 69.01 320 P P 18 21 41.8 +1.8
baz=133
PFO Pinyon Flats O 69.02 320 P P 18 21 40.3 +0.2
PFO IAmb IAmb 18 21 43.1
comp=Z,6.8nm,0.7s
PFO Pinyon Flats O 69.02 320 P P 18 21 41.9 +1.8
baz=133
PFO Pinyon Flats O 69.02 320⇑ iP P 18 21 42.0 +1.9
PFO pmax pmax
comp=Z,11nm,0.8s
GMRC Granite Mounta 69.35 321 P P 18 21 44.1 +1.9
baz=134
O20A White River Ci 69.36 330 IAmb IAmb 18 21 44.7
comp=Z,13nm,1.1s
O20A White River Ci 69.36 330 P P 18 21 43.5 +1.4
baz=142
DBIC Dimbokro 69.47 75 P 18 21 42.1 -1.1
DBIC IAmb IAmb 18 21 42.9
comp=Z,8.8nm,0.8s
DBIC Dimbokro 69.47 75 P P 18 21 42.1 -1.1
DBIC pmax pmax
comp=Z,9.0nm,0.8s
DBIC Dimbokro 69.47 75 P P 18 21 42.0 -1.1
comp=Z,7.3nm,0.7s,baz=223,slow=7.8,SNR=14
comp=Z,7.3nm,0.7s
F33A 5 Mile Ranch, 69.48 341 P P 18 21 40.5 -2.1
SRU San Rafael Swe 69.69 328 IAmb IAmb 18 21 46.5
comp=Z,15nm,0.8s
MTPU Mount Pierson 69.74 326 IAmb IAmb 18 21 47.5
comp=Z,7.5nm,0.8s
HEC Hector,Ludlow 69.78 321 P P 18 21 46.8 +2.0
baz=134
Q16A Castle Valley 69.87 327 IAmb IAmb 18 21 58.9
comp=Z,9.7nm,0.9s
SZCU Shurtz Canyon 69.90 325 IAmb IAmb 18 22 28.8
comp=Z,8.3nm,0.5s
P18A Preston Nutter 69.94 328 IAmb IAmb 18 21 48.6
comp=Z,15nm,0.9s
TUQ Turquoise Moun 69.96 322 P P 18 21 47.9 +2.0
baz=134
P17A Butcher Ranch, 70.07 328 IAmb IAmb 18 21 49.0
comp=Z,20nm,0.9s
BFSC Mount Baldy Ra 70.17 320 P P 18 21 48.7 +1.5
baz=133
TCRU Three Creeks R 70.30 326 IAmb IAmb 18 21 51.1
comp=Z,14nm,0.9s
GSC Goldstone, Bar 70.38 321 P P 18 21 50.9 +2.5
baz=134
K22A Casper 70.58 332 P P 18 21 51.0 +1.5
baz=144
SNCC San Nicolas Is 70.68 318 P P 18 21 52.1 +1.9
baz=131
RSSD Black Hills 70.74 335 P P 18 21 51.7 +1.1
baz=146
EDW2 Edwards Air Fo 70.81 320 P P 18 21 52.5 +1.4
baz=133
BSUT Blindstream Ca 70.89 328 IAmb IAmb 18 21 54.4
comp=Z,15nm,1.0s
GWY Greenwater Val 70.91 322 IAmb IAmb 18 21 54.5
comp=Z,12nm,0.8s
MPU Maple Canyon 70.93 328 IAmb IAmb 18 21 54.5
comp=Z,13nm,1.0s
PSUT Pine Spring 71.00 325 IAmb IAmb 18 21 56.6
comp=Z,16nm,0.8s
LRMC Laurel Mtn Rad 71.03 321 P P 18 21 54.1 +1.7
baz=133
TPNV Topopah Spring 71.20 322 IAmb IAmb 18 21 56.4
comp=Z,8.3nm,0.8s
TPNV Topopah Spring 71.20 322 P P 18 21 55.2 +1.7
baz=134,SNR=8.4
FURC Furnace Creek, 71.22 322 P P 18 21 55.3 +1.9
baz=134
MPMC Manual Prospec 71.31 321 P P 18 21 56.2 +2.0
baz=133,SNR=6.6
AGMN Agassiz Nation 71.57 342 P P 18 21 56.0 +0.7
baz=155
SPR3 Spring Creek 3 71.59 325 IAmb IAmb 18 21 58.6
comp=Z,9.7nm,0.8s
ISA Isabella, Lake 71.63 320 IAmb IAmb 18 21 59.1
comp=Z,10nm,0.8s
ISA Isabella, Lake 71.63 320 P P 18 21 58.3 +2.3
baz=132,SNR=6.6
TCUT Toone Canyon 71.65 328 IAmb IAmb 18 21 59.8
comp=Z,11nm,0.8s
DUG Dugway, Tooele 71.67 327 P P 18 21 57.7 +1.5
baz=138
R11B Troy Canyon, C 71.81 324 P P 18 21 58.8 +1.6
baz=135,SNR=19
Q12A Willow Creek R 71.89 325 IAmb IAmb 18 22 00.5
comp=Z,12nm,0.8s
CWC Cottonwood Cre 71.92 321 P P 18 21 59.6 +1.8
baz=133
PKM Mcpherson Peak 71.93 319 P P 18 22 00.1 +2.1
baz=131
BW06 Boulder Array 72.03 331 P P 18 21 59.9 +1.4
baz=141
PDAR Pinedale Array 72.03 331 P P 18 21 59.2 +0.7

comp=Z,0.9nm,0.6s,baz=138,slow=7.5,SNR=8.1
PDAR LR LR 18 57 51.8
comp=Z,69nm,18.8s,baz=54,slow=39
comp=Z,0.9nm,0.6s
HWUT Hardware Ranch 72.09 329 IAmb IAmb 18 22 02.2
comp=Z,10.0nm,1.1s
VES Vestal, Richgr 72.11 320 P **P** **18 22 00.7 +1.9**
baz=132
MDND Maddock 72.32 340 P **P** **18 22 00.5 +0.8**
baz=151
BGU Big Grassy Mou 72.32 327 IAmb IAmb 18 22 02.5
comp=Z,9.8nm,1.0s
SMMC Simmler 72.32 319 P **P** **18 22 02.5 +2.3**
baz=131
AHID Auburn Hatcher 72.75 330 IAmb IAmb 18 22 04.7
comp=Z,12nm,1.1s
HVU Hansel Valley 72.82 328 IAmb IAmb 18 22 05.3
comp=Z,11nm,1.0s
TPAW Teton Pass 73.24 330 IAmb IAmb 18 22 08.1
comp=Z,13nm,1.4s
OMMB Old Mammoth Mi 73.25 321 IAmb IAmb 18 22 08.8
comp=Z,12nm,0.9s
MDPB Devils Postpil 73.31 321 IAmb IAmb 18 22 19.1
comp=Z,22nm,0.9s
ELK Elko 73.33 326 LR LR 18 53 22.5
comp=Z,129nm,18.4s,baz=55,slow=35
ULM Lac du Bonnet 73.34 343 P **P** **18 22 05.4 -0.4**
comp=Z,5.2nm,0.6s,baz=154,slow=6.4,SNR=12
ULM LR LR 18 57 51.5
comp=Z,98nm,18.4s,baz=78,slow=39
comp=Z,5.2nm,0.6s
LHV Little Huntoon 73.39 322 IAmb IAmb 18 22 09.7
comp=Z,12nm,0.9s
NVAR Mina Array Bea 73.40 322 P **P** **18 22 08.1 +1.4**
comp=Z,4.9nm,0.8s,baz=151,slow=6.4,SNR=31
comp=Z,4.9nm,0.8s
IMW Indian Meadow 73.54 331 IAmb IAmb 18 22 10.0
comp=Z,18nm,1.4s
FLWY Flagg Ranch 73.58 331 IAmb IAmb 18 22 10.4
comp=Z,15nm,1.1s
KVN Kaiserville 73.71 323 IAmb IAmb 18 22 11.0
comp=Z,10nm,0.9s
RLMT Red Lodge 73.74 332 P **P** **18 22 10.1 +1.5**
baz=142
H17A Grant Village 73.76 331 P **P** **18 22 10.0 +1.3**
baz=141
SCHQ Schefferville 74.39 2 P **P** **18 22 12.2 +0.3**
comp=Z,12nm,0.9s,baz=124,slow=3.7,SNR=5.0
comp=Z,12nm,0.9s
PNTR Pine Nut 74.59 322 IAmb IAmb 18 22 16.8
comp=Z,9.3nm,0.8s
PAHR Pah Rah Range 74.88 323 IAmb IAmb 18 22 18.4
comp=Z,19nm,0.9s
HLID Hailey 74.95 328 P **P** **18 22 17.7 +2.1**
baz=137
BOZ Bozeman (W) 75.16 331 P **P** **18 22 18.1 +1.4**
baz=140
ORV Oroville 76.00 322 IAmb IAmb 18 22 24.6
comp=Z,15nm,1.0s
EGMT Eagleton 76.23 334 P **P** **18 22 23.9 +1.2**
baz=142
GDXM Geysers 76.29 320 IAmb IAmb 18 22 23.5
comp=Z,17nm,1.0s
MSO Missoula 77.14 331 P **P** **18 22 29.7 +1.7**
baz=138
K05A Summer Lake 77.75 324 IAmb IAmb 18 22 35.1
comp=Z,10nm,1.1s
TOA0 Torodi Ar. Sit 77.98 71 P **P** **18 22 31.8 -1.3**
TOA0 IAmb IAmb 18 22 32.8
comp=Z,14nm,0.8s
TORD Torodi Ar. Bea 77.98 71 P **P** **18 22 31.6 -1.5**
TORD IAmb IAmb 18 22 32.8
comp=Z,10.0nm,0.8s
TORD Torodi Ar. Bea 77.98 71 P **P** **18 22 32.0 -1.1**
comp=Z,11nm,0.7s,baz=265,slow=4.5,SNR=60
comp=Z,11nm,0.7s
VNDA Vanda 78.29 190 P **P** **18 22 36.0 +2.2**
comp=Z,1.4nm,0.7s,baz=136,slow=1.7,SNR=6.1
comp=Z,1.4nm,0.7s
EDM Edmonton 81.71 335 IAmb IAmb 18 22 53.4
comp=Z,22nm,0.9s
TSUM Tsumeb 81.73 107 P **P** **18 22 53.6 0.0**
TSUM IAmb IAmb 18 22 55.1
comp=Z,9.6nm,0.8s
PCVE Castro Verde 81.73 45 *e*P **P** **18 22 53.8 +0.8**
comp=Z,24nm,1.9s
PMTG Montargil 82.39 44 *e*P **P** **18 22 53.9 -2.5**
comp=Z,44nm,2.2s
PCBR Castelo Branco 83.29 44 *e*P **P** **18 22 59.4 -1.7**
comp=Z,22nm,1.8s
PVIS Viseu 83.50 43 *e*P **P** **18 23 06.3 +4.1**
MVO Moncorvo 84.29 43 *e*P **P** **18 23 02.6 -3.7**
comp=Z,55nm,1.5s
TAM Tamanrasset 85.19 64 P **P** **18 23 12.1 +0.8**
TAM pmax pmax
comp=Z,7.0nm,1.0s
BOSA Boshof 85.34 119 P **P** **18 23 12.3 +0.2**
comp=Z,5.1nm,0.9s,baz=220,slow=7.9,SNR=3.5
comp=Z,5.1nm,0.9s
ESDC Sonseca Array 85.52 45 P **P** **18 23 12.4 -0.1**
comp=Z,2.4nm,1.0s,baz=243,slow=6.0,SNR=8.1
comp=Z,2.4nm,1.0s
MAW Mawson 86.30 164 LR LR 19 00 57.8
comp=Z,57nm,21.2s,baz=232,slow=35
YKA Yellowknife Ar 89.19 341 P **P** **18 23 29.8 +0.3**
comp=Z,12nm,0.8s,baz=137,slow=4.6,SNR=169
comp=Z,12nm,0.8s
KOTAN Kotaneelee Air 90.77 336 P **P** **18 23 38.8 +1.8**
baz=131
J30M Hart River 98.00 337 P Pdif 18 24 11.4 +1.1
baz=120
K29M Barlow Dome 98.09 336 P Pdif 18 24 11.7 +1.0
baz=119
G31M Satah River 98.46 339 P Pdif 18 24 13.4 +1.4
baz=121
A36M Sachs Harbour 98.75 345 P Pdif 18 24 14.5 +1.3
baz=129
INK Inuvik 98.94 340 P Pdif 18 24 14.9 +0.7
baz=122
EPYK Eagle Plains 99.02 338 P **Pdif** **18 24 16.2 +1.5**
baz=119
F28M Old Crow 100.70 339 P **Pdif** **18 24 23.6 +1.5**
baz=116
M23K Glacier View 101.51 332 P **Pdif** **18 24 27.3 +1.5**
baz=110
J25K Salcha River, 101.52 335 P **Pdif** **18 24 28.5 +2.6**
baz=112
D27M Malcolm River 101.77 340 P **Pdif** **18 24 29.0 +2.1**
baz=115
E22K Anaktuvuk Pass 105.11 337 P **PKiKP** **18 28 57.9 +1.7**
baz=105
M18K Stony River 105.11 330 P **PKiKP** **18 28 57.6 +1.4**
baz=104
L18K Granite Mounta 105.68 331 P **PKiKP** **18 28 58.7 +1.4**
baz=103
C19K Lookout Ridge 108.09 338 P **PKiKP** **18 29 02.3 +0.6**
baz=98
A19K Wainwright 108.75 339 P **PKiKP** **18 29 03.5 +0.7**
baz=96
C17K DeLong Mountai 109.32 337 P **PKiKP** **18 29 03.9 -0.1**
baz=95
BR131 Keskin Array S 112.87 54 ⇓*i* PKiKP **PKiKP** **18 29 10.6 -1.1**
BRTR Keskin Array B 112.87 54 *c i* PKiKP **PKiKP** **18 29 13.0 +1.3**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
OBN Obninsk 115.60 38 *d i* PKiKP **PKPdf** **18 29 16.3 +0.1**
OBN *e* 18 30 15.1
OBN *e*PPP PPP 18 32 41.4
OBN pmax pmax
comp=Z,5.0nm,1.0s
KIV Kislovodsk 119.86 50 *e*PKiKP **PKPdf** **18 29 23.4 -1.5**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KBZ Khabaz 120.02 50 *c i* PKiKP **PKiKP** **18 29 26.4 +1.3**
KBZ Khabaz 120.02 50 PKP **PKiKP** **18 29 25.6 +0.4**
comp=Z,3.6nm,0.9s,baz=228,slow=1.6,SNR=6.0
NCK Nalchik 120.53 51 ⇓*i* PKiKP **PKPdf** **18 29 25.8 -0.3**
BELG Belogornoye 122.40 40 ⇓*i* PKiKP **PKPdf** **18 29 29.4 0.0**
H11S2 WAKE ISLAND Hyl 126.41 279 T T 20 48 37.8
baz=101,slow=75,SNR=5691
H11S1 WAKE ISLAND Hyl 126.42 279 T T 20 48 38.4
baz=101,slow=75,SNR=2048
H11S3 WAKE ISLAND Hyl 126.43 279 T T 20 48 39.2
baz=101,slow=75,SNR=1446
TIXI Tiksi 126.96 353 PKPdf **PKPdf** **18 29 37.7 +0.1**
TIXI Tiksi 126.96 353 ⇑*i* PKiKP **PKiKP** **18 29 38.0 -0.1**
ARU Arti 127.44 33 *i* PKiKP **PKiKP** **18 29 39.6 +0.1**
ARU 18 31 40.6
ARU SS SS 18 36 50.7
ARU SS SS 18 48 43.7 -6.1
ARU Arti 127.44 33 PKP **PKiKP** **18 29 39.4 -0.1**
comp=Z,3.8nm,0.5s,baz=331,slow=1.9,SNR=9.9
SEY Seymchan 128.06 337 ⇓*i* PKiKP **PKiKP** **18 29 40.5 0.0**
PETK Petropavlovsk- 130.47 324 PKP **PKiKP** **18 29 45.6 0.0**
comp=Z,5.2nm,0.8s,baz=114,slow=3.6,SNR=4.0
ABKAR Akbulak array 130.73 41 PKPdf **PKiKP** **18 29 46.0 -0.3**
ABKAR Akbulak array 130.73 41 PKPdf **PKiKP** **18 29 46.1 -0.2**
ASAR Alice Springs 130.79 210 PKPdf **PKPdf** **18 29 44.9 -1.6**
ASAR Alice Springs 130.79 210 PKP **PKPdf** **18 29 46.4 -0.1**
comp=Z,1.1nm,0.6s,baz=123,slow=1.6,SNR=22
WRA Warramunga Arr 133.73 213 PKPdf **PKPdf** **18 29 51.7 -0.4**
WRA Warramunga Arr 133.73 213 PKP **PKPdf** **18 29 52.5 +0.4**
comp=Z,1.8nm,0.8s,baz=160,slow=1.5,SNR=9.9
BRVK Borovoye 135.01 33 ⇑*i* PKiKP **PKPdf** **18 29 51.8 -1.6**
BVAR Borovoye Array 135.08 33 PKP **PKPdf** **18 29 53.2 -0.4**
comp=Z,2.6nm,0.7s,baz=299,slow=3.1,SNR=12
YAK Yakutsk 135.59 347 *de*PKiKP **PKPdf** **18 29 53.6 -0.6**
KURK Kurchatov 140.56 31 PKPdf **PKPdf** **18 30 04.0 +0.3**
KURK Kurchatov 140.56 31 ⇑*e*PKiKP **PKPdf** **18 30 02.4 -1.3**
KURBB Kurchatov Arra 140.58 31 PKhKP PKPpre 18 29 57.1
comp=Z,0.3nm,0.2s,baz=307,slow=2.7,SNR=5.0
KURBB PKP **PKPdf** **18 30 03.8 +0.1**
comp=Z,2.7nm,0.8s,baz=300,slow=2.6,SNR=19
ZALV Zalesovo Beam 140.93 23 PKhKP PKPpre 18 30 00.4
comp=Z,11nm,0.8s,baz=327,slow=3.2,SNR=12
ZALV PKP pPKPdf 18 30 05.1 -0.2
comp=Z,11nm,0.8s,baz=299,slow=2.0,SNR=24
YSS Yuzh-Sakhalins 141.85 323 *e*PKiKP **PKPdf** **18 30 03.0 -3.1**
ZEA Zeya 143.56 343 ⇑*e*PKiKP **PKPdf** **18 30 08.2 -0.7**
NRN Naryn 144.16 46 PKPdf **PKPdf** **18 30 10.6 -0.3**
NRN Naryn 144.16 46 PKiKP **PKPdf** **18 30 10.6 -0.3**
MAKZ Makanchi 144.79 34 PKPbc PKPbc 18 30 10.6 +0.3
MAKZ Makanchi 144.79 34 PKiKP PKPbc 18 30 10.6 +0.3
NIL Nilore 144.79 59 PKPdf PKPbc 18 30 10.8 0.0
NIL Nilore 144.79 59 PKiKP PKPbc 18 30 10.8 0.0
KPKS Kokpek 144.89 41 *e*PKPbc **PKPab** **18 30 10.8 -0.1**
baz=41
KPKS Kokpek 144.89 41 *e*PKiKP **PKPab** **18 30 10.7 -0.1**
ZHN Zhinishke 144.90 41 *e*PKP **PKPdf** **18 30 11.5 -0.3**
baz=42
ZHN Zhinishke 144.90 41 *e*PKiKP **PKPdf** **18 30 11.4 -0.3**
SATY Saty 144.93 42 *e*PKP PKPbc 18 30 11.2 +0.1
baz=42
SATY Saty 144.93 42 *e*PKiKP PKPbc 18 30 11.1 0.0
MK31 Makanchi Array 144.96 34 PKPdf **PKPab** **18 30 10.8 0.0**
MK31 Makanchi Array 144.96 34 ⇓*e*PKiKP **PKPab** **18 30 10.7 -0.2**
MKAR Makanchi Array 144.96 34 PKPdf **PKPab** **18 30 10.3 -0.5**
MKAR Makanchi Array 144.96 34 PKP **PKPdf** **18 30 11.3 -0.4**
comp=Z,12nm,0.9s,baz=307,slow=2.4,SNR=34
KSH Kashi 144.97 49 PKP **PKPdf** **18 30 11.8 -0.2**
PRZ Przheval'sk 145.23 42 **PKPdf** **18 30 13.9 +1.4**
PRZ Przheval'sk 145.23 42 PKiKP **PKPdf** **18 30 13.9 +1.4**
DGZ Jazzator, Alta 145.26 26 ⇓*i* PKiKP **PKPdf** **18 30 12.6 +0.4**
UZB Uzynbulak 145.27 41 *e*PKP **PKPab** **18 30 12.4 +0.1**
baz=41
UZB Uzynbulak 145.27 41 *e*PKiKP **PKPab** **18 30 12.3 0.0**
SHLS Shalkode 145.54 41 *e*PKP **PKPab** **18 30 13.3 0.0**
baz=41
SHLS Shalkode 145.54 41 *e*PKiKP **PKPab** **18 30 13.2 0.0**
KLR Kul'dur 145.76 334 ⇑*e*PKiKP **PKPdf** **18 30 12.6 -0.3**
ZSN Zaisan 145.80 31 *e*PKP **PKPdf** **18 30 13.3 +0.2**
baz=31
ZSN Zaisan 145.80 31 *e*PKiKP **PKPdf** **18 30 13.2 +0.2**
HEH HeiHe 146.54 339 *e*PKPbc **PKPdf** **18 30 14.8 +0.6**
ZAK Zakamensk 149.06 8 *e*PKiKP **PKPdf** **18 30 18.9 +0.4**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
USA0B Ussuriysk Arra 149.42 328 **PKPdf** **18 30 21.1 +2.0**
USA0B Ussuriysk Arra 149.42 328 PKiKP **PKPdf** **18 30 21.1 +2.0**
USRK Ussuriysk Ar. 149.42 328 **PKPbc** **18 30 23.5 -0.1**
USRK Ussuriysk Ar. 149.42 328 PKPbc **PKPbc** **18 30 22.4 -1.1**
comp=Z,12nm,0.7s,baz=44,slow=5.8,SNR=15
WMQ Urumqi 149.77 33 *e*PKPbc **PKPdf** **18 30 19.5 -0.3**
MJAR Matsushiro Arr 150.04 310 PKP2 **PKiKP** **18 30 26.0 -0.3**
MJAR Matsushiro Arr 150.04 310 PKPbc **PKiKP** **18 30 25.9 -0.3**
comp=Z,7.6nm,0.7s,baz=80,slow=1.6,SNR=20
MAJO Matsushiro 150.04 310 PKPdf **PKiKP** **18 30 26.2 0.0**
MAJO Matsushiro 150.04 310 PKP2 **PKiKP** **18 30 26.2 0.0**
BNX BinXian 150.32 335 ⇓P **PKPbc** **18 30 26.1 +0.4**
BNX pmax pmax
comp=Z,22nm,0.8s
BNX pmax pmax
comp=Z,150nm,5.4s
HYB Hyderabad 150.35 89 *e*PKPdf **PKPdf** **18 30 20.0 -1.5**
HYB *e*PKiKP **PKPbc** **18 30 26.9 +0.3**
SONM Songino Array 151.91 5 PKP **PKPdf** **18 30 24.0 +1.0**
comp=Z,1.6nm,0.8s,baz=322,slow=1.3,SNR=12
SONM PKPbc **pPKPbc** **18 30 30.3 -0.2**
comp=Z,10.0nm,0.8s,baz=305,slow=1.1,SNR=37
SONM PKPab **PKPab** **18 30 38.0 -0.5**
comp=Z,3.9nm,0.8s,baz=328,slow=3.2,SNR=7.0
ULN Ulaanbaatar 151.93 4 PKPdf **PKPdf** **18 30 24.0 +0.9**
ULN Ulaanbaatar 151.93 4 PKiKP **PKPdf** **18 30 24.0 +0.9**
XLT XiLinHaoTe 155.40 349 *e*P PKPdf 18 30 20.3 -7.8
XLT pmax pmax
comp=Z,130nm,5.2s
XLT pmax pmax
comp=Z,6.0nm,1.1s
GTA Gaotai 158.66 22 *e*PKP **PKPdf** **18 30 33.9 +1.4**
GTA pPKP sPKPdf 18 30 38.8 +4.9
HHC Hu-ho-hao-te 158.97 356 *e*PKP **PKPdf** **18 30 27.8 -5.0**
LZH Lanzhou 162.97 17 *e*P **PKPab** **18 31 21.1 -5.4**
LZH pP pPKPab 18 31 27.0 -0.5
LZH pmax pmax
comp=Z,19nm,1.5s
XAN Xi'an 165.81 3 PKP **PKPdf** **18 30 41.0 +1.3**
CMAR Chiang Mai Arr 169.69 96 PKP **PKPdf** **18 30 43.1 +0.3**
comp=Z,1.2nm,0.8s,baz=296,slow=2.1,SNR=7.8
CMAR PKPab **PKPab** **18 31 56.7 0.0**
comp=Z,0.5nm,0.8s,baz=259,slow=6.5,SNR=4.3
PZH PanZhiHua 170.06 46 PKP **PKPdf** **18 30 41.8 -1.2**

IDC 14 18:13:07.8±675.0, 54.04N×4.91E, h0km, Error ellipse: s-maj=314.2km s-min=138.1km az=121.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**7.29**	**127**	I	I	18 19 35.7	
	baz=312,slow=328,SNR=0.4						
I48TN	**KESRA INFRASON**	**18.06**	**168**	I	I	20 28 40.0	
	baz=353,slow=316,SNR=0.7						
I43RU	**DUBNA INFRASONI**	**18.64**	**67**	I	I	20 28 10.0	
	baz=276,slow=328,SNR=1.3						

IDC 14 18:36:49.4±786.0, 53.59N×4.89E, h0km, Error ellipse: s-maj=341.0km s-min=136.8km az=124.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**7.29**	**127**	I	I	19 18 35.7	
	baz=312,slow=328,SNR=0.4						
I48TN	**KESRA INFRASON**	**18.06**	**168**	I	I	20 28 40.0	
	baz=353,slow=316,SNR=0.7						
I43RU	**DUBNA INFRASONI**	**18.64**	**67**	I	I	20 28 10.0	
	baz=276,slow=328,SNR=1.3						

*IDC **14** 18:18:18.1±0.9, 49.03S×121.44E, h0km, mb4.0/7, mbtmp4.0/7, MS3.6/12, Error ellipse: s-maj=44.8km s-min=18.8km az=109.0*

*NEIC **14** 18:19:0.0±1.1, 49.1S±0.1×121.5E±0.3, h10km±1km, mb4.2/7, Error ellipse: s-maj=41.0km s-min=14.1km az=296.0*

ISC 14 18:18:19.8±0.7, 49.0S±0.1×121.5E±0.2, h13km, n35, σ0.852/20, mb3.9/7, MS3.6/12, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.12**	**336**	T	T	18 37 27.7	
	baz=160,slow=74,SNR=121						
H01W2	**Cape Leeuwin H**	**15.12**	**336**	T	T	18 37 28.8	
	baz=160,slow=74,SNR=139						
H01W3	**Cape Leeuwin H**	**15.14**	**336**	T	T	18 37 28.0	
	baz=160,slow=74,SNR=112						
NWAO	**Narrogin (SRO)**	**16.39**	**347**	P	**P**	**18 22 12.1 -0.2**	
NWAO	**Narrogin (SRO)**	**16.39**	**347**	P	**P**	**18 22 12.6 +0.3**	
NWAO				IAmb	IAmb	18 22 35.2	
	comp=Z,26nm,1.3s						
NWAO	**Narrogin (SRO)**	**16.39**	**347**	Pn	**P**	**18 22 12.1 -0.2**	
	comp=Z,1.1nm,0.3s,baz=162,slow=8.5,SNR=9.2						
NWAO				LR	LR	18 27 06.0	
	comp=Z,136nm,19.6s,baz=322,slow=32						
BBOO	**Buckleboo**	**19.52**	**39**	P	**P**	**18 22 47.2 +0.4**	
BBOO				IAmb	IAmb	18 22 55.9	
	comp=Z,26nm,1.5s						
TOO	**Toolangi**	**20.78**	**66**	P	**P**	**18 22 59.6 -0.9**	
TOO				IAmb	IAmb	18 23 07.6	
	comp=Z,15nm,1.1s						
STKA	**Stephens Creek**	**22.84**	**49**	P	**P**	**18 23 23.1 +0.6**	
STKA				IAmb	IAmb	18 23 30.1	
	comp=Z,1.6nm,0.9s						
STKA	**Stephens Creek**	**22.84**	**49**	P	**P**	**18 23 23.1 +0.6**	
	comp=Z,1.6nm,0.5s,baz=319,slow=15,SNR=2.9						
STKA				LR	LR	18 30 39.2	
	comp=Z,175nm,20.7s,baz=204,slow=32						
	comp=Z,1.6nm,0.5s						
ASAR	**Alice Springs**	**27.13**	**26**	P	**P**	**18 24 01.9 -0.6**	
ASAR	**Alice Springs**	**27.13**	**26**	P	**P**	**18 24 03.1 +0.6**	
	comp=Z,2.7nm,1.0s,baz=175,slow=10,SNR=14						
ASAR				LR	LR	18 33 34.7	
	comp=Z,92nm,21.6s,baz=196,slow=34						
	comp=Z,2.7nm,1.0s						
AS31	**Alice Springs**	**27.13**	**26**	P	**P**	**18 24 02.5 -0.1**	
WRA	**Warramunga Arr**	**30.79**	**24**	P	**P**	**18 24 35.5 +0.5**	
	comp=Z,1.8nm,1.0s,baz=199,slow=9.3,SNR=4.8						
	comp=Z,1.8nm,1.0s						
VNDA	**Vanda**	**32.45**	**165**	P	**P**	**18 24 49.4 +0.2**	
	comp=Z,2.5nm,0.9s,baz=316,slow=8.9,SNR=6.9						
VNDA				LR	LR	18 37 00.1	
	comp=Z,128nm,19.1s,baz=320,slow=35						
	comp=Z,2.5nm,0.9s						
RPZ	**Rata Peaks**	**34.10**	**100**	LR	LR	18 35 35.8	
	comp=Z,110nm,18.9s,baz=155,slow=30						
MAW	**Mawson**	**34.25**	**216**	P	**P**	**18 25 05.2 +0.3**	
	comp=Z,3.9nm,1.0s,baz=86,slow=15,SNR=2.9						
MAW				LR	LR	18 37 04.8	
	comp=Z,40nm,18.7s,baz=78,slow=33						
	comp=Z,3.9nm,1.0s						
CTA	**Charters Tower**	**35.02**	**43**	LR	LR	18 39 25.3	
	comp=Z,109nm,18.2s,baz=211,slow=36						
URZ	**Urewera**	**40.81**	**96**	LR	LR	18 39 21.4	
	comp=Z,41nm,18.1s,baz=209,slow=31						
KAPI	**Kappang**	**43.87**	**357**	LR	LR	18 44 15.9	
	comp=Z,32nm,18.5s,baz=174,slow=36						
DZM	**Mont Dzumac**	**44.48**	**69**	LR	LR	18 42 27.7	
	comp=Z,96nm,18.6s,baz=208,slow=33						
PMG	**Port Moresby**	**44.95**	**37**	LR	LR	18 46 10.3	
	comp=Z,60nm,18.4s,baz=220,slow=37						
HNR	**Honiara**	**50.86**	**52**	LR	LR	18 46 22.5	
	comp=Z,762nm,21.2s,baz=356,slow=33						
SNAA	**Sanae**	**53.38**	**199**	P	**P**	**18 27 38.0 -0.4**	
SNAA				IAmb	IAmb	18 27 48.8	
	comp=Z,11nm,1.1s						
SNAA	**Sanae**	**53.38**	**199**	P	**P**	**18 27 38.3 -0.1**	
	comp=Z,4.4nm,1.1s,baz=167,slow=8.1,SNR=3.0						
	comp=Z,4.4nm,1.1s						
H08S2	**Diego Garcia H**	**58.16**	**298**	T	T	19 31 09.9	
	baz=144,slow=76,SNR=17						
H08S1	**Diego Carcia H**	**58.17**	**298**	T	T	19 31 08.4	
	baz=144,slow=76,SNR=14						
H08S3	**Diego Garcia H**	**58.18**	**298**	T	T	19 31 08.0	
	baz=144,slow=76,SNR=17						
CMAR	**Chiang Mai Arr**	**70.11**	**337**	P	**P**	**18 29 30.6 -1.0**	
CMAR	**Chiang Mai Arr**	**70.11**	**337**	P	**P**	**18 29 31.9 +0.2**	
	comp=Z,0.4nm,0.6s,baz=175,slow=5.3,SNR=4.3						
	comp=Z,0.4nm,0.6s						
PLCA	**Paso Flores**	**90.00**	**171**	LR	LR	19 10 51.7	
	comp=Z,58nm,18.0s,baz=170,slow=35						
ELMT	**Elliston**	**144.26**	**73**	PKPdf	PKPbc	18 37 53.6 +0.4	
PDAR	**Pinedale Array**	**144.49**	**80**	PKPdf	**PKPab**	**18 37 53.9 +0.1**	
PDAR	**Pinedale Array**	**144.49**	**80**	PKP	**PKPdf**	**18 37 55.0 -0.4**	
	comp=Z,0.3nm,0.8s,baz=242,slow=1.9,SNR=2.0						
YKA	**Yellowknife Ar**	**146.84**	**45**	PKPbc	**PKPbc**	**18 38 00.6 +0.2**	
	comp=Z,0.9nm,0.8s,baz=271,slow=2.8,SNR=5.8						

*MOS **14** 18:54:25.4±1.0, 35.14N×101.97E, h8km, mb5.5/92, MS4.6/15, Error ellipse: s-maj=5.7km s-min=3.0km az=129.8*

*IDC **14** 18:54:25.6±0.5, 35.16N×101.99E, h0km, mb4.9/34, mbtmp4.9/37, ML4.4/3, MS4.5/70, Error ellipse: s-maj=13.9km s-min=10.8km az=31.0*

*BJI **14** 18:54:26.6, 35.14N×101.88E, h7km, mb4.8/49, mB5.2/38, ML5.4/27, Ms5.1/75, Ms7 5.0/71*

*NEIC **14** 18:54:27.3, 35.25N×101.76E, h12km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^{16}Nm; M_{rr}1.89; $M_{\theta\theta}$-0.74; $M_{\phi\phi}$-1.15; $M_{r\theta}$2.00; $M_{\theta\phi}$2.76; $M_{\phi r}$-0.29; Fault plane solution: $M_0$3.73000×10^{16} NP1: ϕ_s105.57000°, δ69.82000°, λ49.89000°. NP2: ϕ_s353.30000°, δ44.12000°, λ150.30000°. Principal axes: T 3.3193, Plg49.0000°, Azm332.0000°; N 0.8199, Plg37.0000°, Azm122.0000°; P -4.1393, Plg15.0000°, Azm224.0000°;*

*NEIC **14** 18:54:27.1±1.6, 35.15N±0.07×101.88E±0.08, h9km±3km, mb5.3/291, Mww5.0/23 Error ellipse: s-maj=10.9km s-min=8.4km az=217.0*

*NEIC **14** 18:54:27.3, 35.15N×101.88E, h12km*

*GCMT **14** 18:54:29.1±0.2, 35.24N±0.01×101.97E±0.01, h20km, MW5.1/111, Moment Tensor Solution. s49,c58; s111,c178; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.94±.17; $M_{\theta\theta}$-1.41±.12; $M_{\phi\phi}$-1.53±.11; $M_{r\theta}$-1.13±.20; $M_{\theta\phi}$4.61±.09; $M_{\phi r}$0.60±.18; Best double couple: M_o5.18700×10^{16} NP1:ϕ_s280.00000°, δ63.00000°, λ35.00000°. NP2:ϕ_s172.00000°, δ59.00000°, λ148.00000°. Principal axes: T 4.2790, Plg43.0000°, Azm137.0000°; N 1.8160, Plg47.0000°, Azm313.0000°; P -6.0950, Plg2.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 18:54:26.6±0.4, 35.10N±0.02×101.91E±0.02, h5km±2km, h4km:pP-P, n1154, σ1.953/1095, mb5.3/319, MS4.5/85, 46C-62D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**1.86**	**58**	Pn	**Pb**	**18 55 00.5 -0.7**	
LZH				Pg	**Pg**	**18 55 02.5 +0.3**	
LZH				Sn	**Sg**	**18 55 26.6 +0.3**	
LZH				Sg	**Sb**	**18 55 29.5 +4.7**	
LZH				smax	smax		
	comp=N,44μm,0.9s						
LZH				smax	smax		
	comp=E,42μm,1.0s						
CD2	**Chengdu**	**4.46**	**159**	Pn	**Pn**	**18 55 35.3 +0.3**	
CD2				Pg	**Pg**	**18 55 49.4 -2.7**	
CD2				Sg	**Sg**	**18 56 52.1 +2.2**	
CD2				smax	smax		
	comp=N,980nm,1.3s						
CD2				smax	smax		
	comp=E,1μm,1.5s						
CD2				LR	LR		
	comp=N,18μm,5.3s						
CD2				LR	LR		
	comp=E,21μm,5.2s						
CD2				LR	LR		
	comp=Z,23μm,5.9s						
GTA	**Gaotai**	**4.61**	**339**	Pn	**Pn**	**18 55 38.3 +1.1**	
GTA				Pg	**Pb**	**18 55 51.1 +3.0**	
GTA				Sg	**Sg**	**18 56 53.9 -0.9**	
GTA				smax	smax		
	comp=N,580nm,1.1s						
GTA				smax	smax		
	comp=E,2μm,1.2s						
GTA				LR	LR		
	comp=N,23μm,7.2s						
GTA				LR	LR		
	comp=E,14μm,7.6s						
GTA				LR	LR		
	comp=Z,16μm,6.4s						
GOMU	**GeErMu**	**5.88**	**283**	Pn	**Pn**	**18 55 58.5 +3.7**	
GOMU				Pg	**Pb**	**18 56 13.9 +4.0**	
GOMU				Sn	**Sb**	**18 57 13.4 -7.4**	
GOMU				Sg	**Sg**	**18 57 30.9 -4.6**	
GOMU				smax	smax		
	comp=N,920nm,0.8s						
GOMU				smax	smax		
	comp=E,610nm,0.8s						
GOMU				LR	LR		
	comp=N,6μm,5.8s						

GOMU LR LR
comp=E,8µm,6.1s
GOMU LR LR
comp=E,8µm,6.4s
XAN Xi'an 5.88 98 Pn **Pn** **18 55 54.4 -0.2**
XAN Sn **Sn** **18 56 59.6 -2.8**
XAN Sg **Sg** **18 57 34.4 -1.1**
XAN smax smax
comp=N,3µm,1.2s
XAN smax smax
comp=E,4µm,1.2s
XAN LR LR
comp=N,17µm,7.7s
XAN LR LR
comp=E,31µm,8.8s
XAN LR LR
comp=Z,29µm,9.8s
ENH Enshi 8.00 125 Pn **Pn** **18 56 23.6 0.0**
ENH Sb 18 58 26.2 +4.8
ENH Enshi 8.00 125 P **Pn** **18 56 24.7 +1.1**
BTO Baotou 8.44 47 *eP* **Pn** **18 56 31.0 +1.3**
BTO smax smax
comp=N,1µm,0.9s
BTO smax smax
comp=E,920nm,1.0s
PZH PanZhiHua 8.57 181 P **Pn** **18 56 34.3 +2.7**
PZH S **Sn** **18 58 07.9 -0.9**
PZH sS Sn 18 58 19.6 +11
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,160nm,5.4s
PZH LR LR
comp=N,5µm,8.0s
PZH LR LR
comp=Z,8µm,7.8s
LYN LuoYang 8.70 91 ⇑P **Pn** **18 56 31.9 -1.3**
LYN S **Sn** **18 58 15.3 +3.6**
LYN pmax pmax
comp=Z,95nm,0.9s
LYN pmax pmax
comp=Z,220nm,9.1s
LYN LR LR
comp=N,19µm,6.7s
LYN LR LR
comp=E,22µm,6.9s
LYN LR LR
comp=Z,25µm,9.1s
TIY Taiyuan 8.88 70 P **Pn** **18 56 34.9 -0.8**
TIY smax smax
comp=N,2µm,1.5s
TIY smax smax
comp=E,1µm,1.5s
HHC Hu-ho-hao-te 9.54 50 ⇓*i*P **Pn** **18 56 45.4 +0.7**
HHC pP 18 56 47.8
HHC sP 18 56 52.1
HHC S **Sn** **18 58 32.3 -0.1**
HHC sS 18 58 38.1
HHC LR LR
comp=N,10µm,10.6s
HHC LR LR
comp=Z,9µm,12.6s
GYA Guiyang 9.54 153 ⇑*i*P **Pn** **18 56 45.4 +0.6**
GYA S **Sn** **18 58 34.4 +1.9**
GYA pmax pmax
comp=Z,33nm,1.2s
GYA LR LR
comp=N,5µm,6.0s
GYA LR LR
comp=Z,10µm,8.0s
KMI Kunming 9.97 176 ⇑P **Pn** **18 56 51.0 +0.1**
KMI S **Sn** **18 58 43.0 -0.4**
KMI pmax pmax
comp=Z,25nm,0.9s
KMI pmax pmax
comp=Z,160nm,3.6s
KMI LR LR
comp=E,6µm,6.5s
KMI LR LR
comp=Z,6µm,7.6s
TNCH TengChong 10.46 197 P **Pn** **18 56 58.3 +0.8**
TNCH pP 18 57 00.8
TNCH S **Sn** **18 58 53.8 -1.5**
TNCH pmax pmax
comp=Z,8.0nm,1.8s
TNCH pmax pmax
comp=Z,130nm,3.7s
TNCH LR LR
comp=N,7µm,7.9s
TNCH LR LR
comp=E,16µm,10.8s
TNCH LR LR
comp=Z,4µm,10.8s
LSA Lhasa 10.57 242 Pn **Pn** **18 56 58.2 -1.0**
LSA Lhasa 10.57 242 P **Pn** **18 57 00.6 +1.3**
LSA Lhasa 10.57 242 P **Pn** **18 57 00.8 +1.6**
LSA P **Pn** **18 57 00.8 +1.6**
LSA Lhasa 10.57 242 P **Pn** **18 56 58.2 -1.0**
HNS HongShan 10.59 74 ⇑P **Pn** **18 56 57.5 -1.5**
HNS *e*S **Sn** **18 58 57.9 -0.1**
HNS pmax pmax
comp=Z,130nm,1.4s
HNS LR LR
comp=N,16µm,7.4s
HNS LR LR
comp=E,4µm,7.0s
HNS LR LR
comp=Z,8µm,10.5s
WHN Wuhan 11.41 110 ⇓P **Pn** **18 57 09.4 -0.9**
WHN S **Sn** **18 59 18.5 +0.3**
WHN LR LR
comp=N,13µm,8.2s
WHN LR LR
comp=E,20µm,7.6s
WHN LR LR
comp=Z,23µm,7.5s
CNSH ChangSha 11.65 123 ⇓P **Pn** **18 57 12.3 -1.3**
CNSH S **Sn** **18 59 22.9 -1.2**
BJT Baijiatuau 12.33 62 Pn **Pn** **18 57 24.2 +1.4**
BJT Baijiatuau 12.33 62 P **Pn** **18 57 27.2 +4.3**
BJT Baijiatuau 12.33 62 P **Pn** **18 57 24.2 +1.4**
BJI Beijing 12.34 62 P **Pn** **18 57 23.4 +0.4**
BJI pmax pmax
comp=Z,17nm,1.5s
TIA Tai'an 12.43 81 P **Pn** **18 57 24.6 +0.4**
TIA S **Sn** **18 59 51.5 +8.4**
TIA pmax pmax
comp=Z,32nm,1.3s
TIA pmax pmax
comp=Z,360nm,4.9s
TIA LR LR
comp=N,13µm,13.3s
TIA LR LR
comp=E,3µm,15.1s
TIA LR LR
comp=Z,6µm,11.4s
SHL Shillong 12.85 225 Pn **Pn** **18 57 28.2 -1.9**
SHL Shillong 12.85 225 P **Pn** **18 57 28.8 -1.4**
SNR=18
SHL Shillong 12.85 225 P **Pn** **18 57 28.3 -1.9**
SONM Songino Array 13.15 13 Pn **Pn** **18 57 33.3 -0.9**
SONM Songino Array 13.15 13 Pn **Pn** **18 57 33.7 -0.5**
4.4nm,0.3s,baz=195,slow=13,SNR=196
SONM Lg Lg 19 01 20.8
1.0nm,0.3s,baz=192,slow=28,SNR=2.9
SONM LR LR 19 03 16.7
comp=Z,2µm,18.2s,baz=196,slow=41
27nm,0.6s
ULN Ulaanbaatar 13.31 15 **Pn** **18 57 35.3 -1.1**
ULN Ulaanbaatar 13.31 15 P **Pn** **18 57 36.6 +0.1**
ULN P **Pn** **18 57 36.6 +0.1**
ULN S **Sn** **19 00 10.4 +5.4**
ULN S **Sn** **19 00 10.4 +5.4**
ULN Ulaanbaatar 13.31 15*d* *i*P **Pn** **18 57 36.7 +0.3**
SLVN Son La 13.83 172 Pn **Pn** **18 57 43.3 -0.3**
MND Mandalay 13.99 203 Pn **Pn** **18 57 46.9 +1.2**
MND Mandalay 13.99 203 P **Pn** **18 57 48.5 +2.8**
WMQ Urumqi 14.00 313 *e*P **Pn** **18 57 43.0 -2.7**
WMQ sP P 18 57 51.9 -1.9
WMQ S **Sn** **19 00 19.9 -1.6**
WMQ pmax pmax
comp=Z,37nm,0.7s
WMQ pmax pmax
comp=Z,430nm,4.3s
WMQ LR LR
comp=N,5µm,10.7s
WMQ LR LR
comp=E,5µm,12.9s
WMQ LR LR
comp=Z,3µm,16.1s
TAPN Taplejung 14.39 241 *e*P **Pn** **18 57 48.8 -2.6**
31nm,0.6s
NJ2 Nanjing 14.45 97 *e*P **Pn** **18 57 50.4 -1.5**
NJ2 pP **P** **18 57 55.6 -3.2**
NJ2 sP 18 57 59.0
NJ2 pmax pmax
comp=Z,18nm,1.2s
NJ2 pmax pmax
comp=Z,360nm,3.5s
NJ2 LR LR
comp=E,3µm,9.5s
NJ2 LR LR
comp=Z,7µm,11.4s
CRAI Chiangrai 14.88 186 **Pn** **18 57 57.4 -0.4**
ZAK Zakamensk 15.30 3 *e*P **Pn** **18 58 03.9 +0.5**
ZAK pmax pmax
comp=Z,47nm,1.3s
JIRN Jiri 15.33 245 *e*P **Pn** **18 58 02.2 -1.9**
comp=Z,155nm,1.1s
RAMN Ramite 15.42 242 *e*P **Pn** **18 58 02.5 -2.8**
comp=Z,114nm,1.0s
GUN Gumba 15.43 247 *e*P **Pn** **18 58 03.9 -1.5**
comp=Z,156nm,0.5s
GZH Guangzhou 15.58 137 P **Pn** **18 58 02.8 -4.3**
GZH S **Sn** **19 00 53.1 -7.0**
GZH LR LR
comp=Z,6µm,8.4s
GZH LR LR
comp=Z,6µm,7.3s
GZH LR LR
comp=Z,7µm,8.0s
PKI Pulchoki 15.96 246 *e*P **Pn** **18 58 10.0 -2.3**
comp=Z,149nm,0.5s
PKIN Phulchoki 15.97 247 *e*P **Pn** **18 58 09.7 -2.7**
comp=Z,152nm,0.6s
DMN Daman 16.17 247 *e*P **Pn** **18 58 13.2 -1.7**
comp=Z,378nm,0.8s
DL2 Dalian 16.20 71 P **Pn** **18 58 16.3 +1.3**
DL2 S **S** **19 01 24.3 -4.1**
DL2 pmax pmax
comp=Z,110nm,1.8s
DL2 pmax pmax
comp=Z,480nm,4.4s
DL2 LR LR
comp=Z,4µm,16.7s
DL2 LR LR
comp=Z,2µm,17.3s
DL2 LR LR
comp=Z,3µm,13.9s
GKN Gorkha 16.32 249 *e*P **Pn** **18 58 15.0 -1.8**
comp=Z,166nm,0.5s
CHTO Chiang Mai 16.44 190 P **Pn** **18 58 18.6 +0.4**
CHTO Chiang Mai 16.44 190 P **P** **18 58 20.4 -0.6**
CHTO Chiang Mai 16.44 190 P **P** **18 58 21.0 0.0**
CHTO S **Sn** **19 01 26.9 +5.8**
CHTO Chiang Mai 16.44 190 P **Pn** **18 58 18.6 +0.4**
CHTO pmax pmax
comp=Z,210nm,1.8s
MOY Mondy 16.57 358 *e*P **P** **18 58 23.4 +1.0**
MOY pmax pmax
comp=Z,214nm,1.7s
SSE Sheshan 16.64 98 P **Pn** **18 58 19.3 -1.3**
SSE S **Sn** **19 01 24.3 -1.5**
SSE pmax pmax
comp=Z,57nm,1.3s
SSE pmax pmax
comp=Z,380nm,4.1s
SSE LR LR
comp=Z,1µm,9.5s
SSE LR LR
comp=Z,3µm,9.8s
HKPS Hong Kong Po S 16.67 137 P **P** **18 58 22.9 -0.6**
HKPS IAmb IAmb 18 58 26.2
comp=Z,259nm,1.3s
HKPS Hong Kong Po S 16.67 137 P **P** **18 58 25.2 +1.7**
CM31 Chiang Mai Arr 16.79 190 P **Pn** **18 58 23.4 +0.8**
CM31 Chiang Mai Arr 16.79 190 P **P** **18 58 24.5 -0.4**
CM31 S **Sn** **19 01 32.6 +3.1**
CMAR Chiang Mai Arr 16.79 190 P **Pn** **18 58 23.4 +0.8**
CMAR Chiang Mai Arr 16.79 190 Pn **P** **18 58 24.1 -0.7**
comp=Z,0.2nm,0.3s,baz=4.4,slow=11,SNR=39
CMAR PcP **PcP** **19 03 10.9 -0.2**
comp=Z,2.5nm,0.9s,baz=287,slow=1.8,SNR=6.0
CMAR LR LR 19 05 30.1
comp=Z,1µm,20.2s,baz=20,slow=39
comp=Z,12nm,0.9s
DANN Dangsing 16.83 251 *e*P **Pn** **18 58 20.1 -3.4**
comp=Z,386nm,0.6s
NONG Nongkai 17.01 176 P **P** **18 58 28.0 +0.7**
IRK Irkutsk 17.22 5 *e*P **P** **18 58 30.5 +1.1**
IRK pmax pmax
comp=Z,108nm,2.5s
QIZ Qiongzhong 17.49 154 **Pn** **18 58 29.1 -2.3**
QIZ Qiongzhong 17.49 154 P **P** **18 58 34.3 +1.7**
QIZ Qiongzhong 17.49 154 P **P** **18 58 33.0 +0.4**
QIZ S **S** **19 01 51.9 -3.0**
QIZ pmax pmax
comp=Z,56nm,1.4s
QIZ pmax pmax
comp=Z,490nm,3.8s
QIZ LR LR
comp=Z,4µm,15.9s
QIZ LR LR
comp=Z,2µm,7.8s
QIZ LR LR
comp=Z,5µm,14.1s
PYUN Piuthan 17.55 252 *e*P **Pn** **18 58 28.6 -3.8**
comp=Z,895nm,1.0s
QZH Quanzhou 17.62 121 *e*P **P** **18 58 35.3 +1.3**
QZH S **S** **19 01 56.4 -1.0**
QZH LR LR
comp=Z,10µm,12.8s
QZH LR LR
comp=Z,9µm,10.9s
QZH LR LR
comp=Z,7µm,11.2s
ZSN Zaisan 17.73 319 *e*P **P** **18 58 35.3 +0.1**
baz=319
ZSN *e*S **Sn** **19 01 53.4 +1.2**
baz=319
ZSN Zaisan 17.73 319 *e*P **P** **18 58 35.3 +0.1**
ZSN *e*S **Sn** **19 01 53.4 +1.2**
DGZ Jazzator, Alta 18.04 328 *d* *i*P **P** **18 58 39.0 +0.3**
DGZ pmax pmax
comp=Z,78nm,1.8s
SNY Shenyang 18.22 62 ⇑P **Pn** **18 58 39.3 -1.0**
SNY S **Sn** **19 02 02.3 -1.8**
SNY pmax pmax
comp=Z,55nm,1.4s
SNY LR LR
comp=Z,2µm,12.4s
SNY LR LR
comp=Z,2µm,12.0s
SNY LR LR
comp=Z,2µm,10.3s
MK31 Makanchi Array 18.81 314 P **P** **18 58 45.9 -1.2**
MK31 Makanchi Array 18.81 314 *ce*P **P** **18 58 46.8 -0.3**
MKAR Makanchi Array 18.81 314 P **P** **18 58 44.6 -2.5**
MKAR Makanchi Array 18.81 314 P **P** **18 58 46.5 -0.5**
comp=Z,1.4nm,0.3s,baz=113,slow=12,SNR=59
MKAR LR LR 19 07 13.7
comp=Z,983nm,19.0s,baz=156,slow=41
comp=Z,14nm,0.7s
CIT Chita 18.86 23 *e*P **Pn** **18 58 49.0 +1.0**
CIT pmax pmax
comp=Z,176nm,2.6s
MAKZ Makanchi 19.00 314 P **P** **18 58 48.5 -0.6**
MAKZ Makanchi 19.00 314 P **P** **18 58 48.6 -0.6**
SHLS Shalkode 19.14 302 *e*P **P** **18 58 47.6 -3.3**
comp=Z,74nm,0.7s,baz=302
SHLS Shalkode 19.14 302 *e*P **P** **18 58 47.6 -3.3**
SHLS pmax pmax
comp=Z,74nm,0.7s
PDGK Podgornoye 19.18 302 P **P** **18 58 50.6 -0.6**
HIA Hailar 19.29 37 P **P** **18 58 52.3 0.0**
HIA Hailar 19.29 37 P **Pn** **18 58 54.2 +0.9**
HIA Hailar 19.29 37 P **P** **18 58 52.3 0.0**
HIA pmax pmax
comp=Z,53nm,1.0s
UZB Uzynbulak 19.45 301 *e*P **P** **18 58 54.2 -0.1**
baz=301
UZB Uzynbulak 19.45 301 *e*P **P** **18 58 54.1 -0.1**
PRZ Przheval'sk 19.71 299 P **P** **18 58 56.5 -0.7**
PRZ IAmb IAmb 18 59 04.0
comp=Z,137nm,0.7s
PRZ Przheval'sk 19.71 299 P **P** **18 58 56.5 -0.7**
PRZ pmax pmax
comp=Z,137nm,0.7s
KPKS Kokpek 19.78 302 *e*P **P** **18 58 58.1 +0.3**
baz=302
KPKS Kokpek 19.78 302 *e*P **P** **18 58 58.1 +0.3**
YHNB Yeheng 19.79 116 P **P** **18 58 57.3 -0.7**
YHNB IAmb IAmb 18 59 01.0
comp=Z,166nm,1.1s
YHNB Yeheng 19.79 116 P **Pn** **18 59 00.2 +0.7**
SATY Saty 19.86 301 *e*P **Pn** **18 58 59.4 -0.8**
baz=300
SATY Saty 19.86 301 *e*P **Pn** **18 58 59.4 -0.8**
ZHN Zhinishke 19.87 301 *e*P **Pn** **18 58 59.5 -0.9**
baz=301
ZHN Zhinishke 19.87 301 *e*P **Pn** **18 58 59.4 -0.9**
UBPT Khong Chiam 20.00 170 P Pn 18 59 01.6 -0.2
UBPT IAmb IAmb 18 59 03.0
comp=Z,250nm,1.6s
UBPT Khong Chiam 20.00 170 P Pn 18 59 01.8 -0.1
SSLB Suanglung 20.02 119 P Pn 18 59 01.9 -0.2
SSLB IAmb IAmb 18 59 04.2
comp=Z,374nm,1.7s
SSLB Suanglung 20.02 119 P Pn 18 59 02.4 +0.3
INCN Inchon 20.06 76 P **P** **18 59 00.0 -0.7**
INCN Inchon 20.06 76 P Pn 18 59 01.7 -0.8
INCN Inchon 20.06 76 P Pn 18 59 02.0 -0.5
INCN S Sn 19 02 49.2 +0.7
INCN Inchon 20.06 76 P **P** **18 59 00.0 -0.7**
INCN pmax pmax
comp=Z,79nm,1.1s
NACB Ninganchiao 20.25 117 P **P** **18 59 03.3 +0.4**
NACB Ninganchiao 20.25 117 P Pn 18 59 05.5 +0.7
TDK Taldyqorghan 20.46 306 *e*P **P** **18 59 05.5 +0.4**
comp=Z,154nm,1.0s,baz=306
TDK LR LR 19 06 25.1
baz=306
TDK Taldyqorghan 20.46 306 *e*P **P** **18 59 05.5 +0.4**
TDK pmax pmax
comp=Z,154nm,1.0s
YULB Yu-li 20.51 119 P **P** **18 59 05.9 +0.1**
YULB IAmb IAmb 18 59 21.3
comp=Z,181nm,1.4s
YULB Yu-li 20.51 119 P Pn 18 59 08.3 +0.4
TJN Taejon 20.69 79 P **P** **18 59 07.0 -0.5**
TJN Taejon 20.69 79 P **P** **18 59 08.4 +0.8**
TJN Taejon 20.69 79*c* *i*P **P** **18 59 07.7 +0.1**
NAYO Nakonayok 20.71 182 P Pn 18 59 11.5 +1.3
TWG Pinlang 20.71 121 P Pn 18 59 09.5 -0.8
TWG IAmb IAmb 18 59 16.7
comp=Z,148nm,0.9s
TWGBT Beinan 20.72 121 P Pn 18 59 10.7 +0.3
SRDT SRDT 20.82 188 P **P** **18 59 10.4 +1.3**
MDOK Medeo 20.84 300 *e*P **P** **18 59 10.3 +0.9**
baz=300
MDOK *e*S **S** **19 03 03.7 +1.3**
baz=300
MDOK LR LR 19 06 43.5
baz=300
MDOK Medeo 20.84 300 *e*P **P** **18 59 10.3 +0.9**
MDOK *e*S **S** **19 03 03.7 +1.3**
TNSS Tian-Shan 20.89 300 *e*P **P** **18 59 10.9 +0.8**
baz=300
TNSS Tian-Shan 20.89 300 *e*P **P** **18 59 10.9 +0.8**
AAA Alma-Ata 20.95 300 *e*P **P** **18 59 11.5 +1.0**
comp=Z,127nm,1.5s,baz=300
AAA Alma-Ata 20.95 300 *e*P **P** **18 59 11.5 +1.0**
AAA pmax pmax
comp=Z,127nm,1.5s
KS19 Wonju Array Si 21.04 76 P **P** **18 59 11.6 +0.2**
KSAR Wonju Array Be 21.05 76 P **P** **18 59 11.3 -0.2**
KSAR Wonju Array Be 21.05 76 P **P** **18 59 11.3 -0.2**
KSH Kashi 21.07 290 P **P** **18 59 16.0 +4.2**
KSH pP sP 18 59 20.0 +4.8
KSH sP pP 18 59 23.3 +9.2
KSH S **S** **19 03 08.8 +2.0**
KSH pmax pmax
comp=Z,31nm,1.3s
KSH LR LR
comp=Z,3µm,16.5s
KSH LR LR
comp=Z,2µm,14.1s
KSH LR LR
comp=Z,3µm,13.4s
CHKK Chushkaly 21.07 302 *e*P **P** **18 59 12.2 +0.5**
baz=302
CHKK Chushkaly 21.07 302 *e*P **P** **18 59 12.2 +0.5**
KSRS Korea Array 21.08 76 P **P** **18 59 11.8 -0.1**
comp=Z,20nm,0.8s,baz=268,slow=9.3,SNR=33
KSRS LR LR 19 08 12.8
comp=Z,1µm,19.3s,baz=265,slow=39
comp=Z,20nm,0.8s
ULHL Ulahol 21.22 297 P **P** **18 59 16.0 +2.4**
SNR=8.9
NRN Naryn 21.26 295 P **P** **18 59 14.0 -0.1**
NRN Naryn 21.26 295 P **P** **18 59 14.0 -0.1**
NRN pmax pmax
comp=Z,44nm,0.8s
KUU Kurty 21.53 302 *e*P **P** **18 59 16.8 +0.1**
comp=Z,154nm,1.4s,baz=302
KUU *e*S **S** **19 03 16.2 +0.4**
baz=302
KUU LR LR 19 06 33.1
comp=Z,941nm,9.9s,baz=302
KUU Kurty 21.53 302 *e*P **P** **18 59 16.8 +0.1**
KUU *e*S **S** **19 03 16.1 +0.4**
KUU pmax pmax
comp=Z,154nm,1.4s
KUU MLR MLR
comp=Z,941nm,10.0s
TKM2 Tokmak 2 21.82 299 P **P** **18 59 22.1 +2.0**
SNR=35
TKM2 Tokmak 2 21.82 299 *i* P **P** **18 59 20.8 +0.8**
TKM2 pmax pmax
comp=Z,67nm,0.6s
KZA Kyzart 21.92 296 P **P** **18 59 23.9 +2.7**
SNR=50
SEM Semipalatinsk 21.95 321 *e*P **P** **18 59 21.6 +0.2**
comp=Z,92nm,1.4s,baz=321
SEM LR LR 19 07 02.3
baz=321
SEM Semipalatinsk 21.95 321 *e*P **P** **18 59 21.5 +0.2**
SEM pmax pmax
comp=Z,92nm,1.4s
BNX BinXian 22.04 53 ⇓P **P** **18 59 22.3 +0.3**
BNX pP **pP** **18 59 24.5 +0.1**
BNX sP **sP** **18 59 26.8 +1.3**
BNX S **S** **19 03 26.6 +1.1**
BNX sS **pS** **19 03 31.1 +1.4**
BNX pmax pmax
comp=Z,38nm,1.0s
BNX pmax pmax
comp=Z,360nm,3.1s
BNX LR LR
comp=Z,2µm,10.6s
BNX LR LR
comp=Z,2µm,8.5s
BNX LR LR
comp=Z,2µm,16.7s
KBK Karagaybulak 22.24 298 P **P** **18 59 27.1 +2.6**
SNR=59
ZAA0 Zalesovo Array 22.33 333 P **P** **18 59 23.5 -1.6**
ZAA0 IAmb IAmb 18 59 29.7
comp=Z,141nm,1.4s
ZALV Zalesovo Beam 22.33 333 P **P** **18 59 23.8 -1.3**
ZALV Zalesovo Beam 22.33 333 P **P** **18 59 24.8 -0.3**
comp=Z,15nm,0.6s,baz=141,slow=9.6,SNR=57
ZALV LR LR 19 08 46.8
comp=Z,574nm,19.6s,baz=140,slow=39
comp=Z,15nm,0.6s
CHMS Chumysh 22.45 299 P **P** **18 59 28.5 +2.0**
SNR=20
UCH Uchtor 22.48 297 P **P** **18 59 29.9 +2.6**
SNR=31
FRU1 Bishkek 22.50 298 P **P** **18 59 28.1 +1.0**
FRU1 IAmb IAmb 18 59 32.3
comp=Z,261nm,1.9s
FRU1 Bishkek 22.50 298 P **P** **18 59 28.2 +1.0**
FRU1 pmax pmax
comp=Z,261nm,1.9s
JTU Tsushima 22.55 84 P **P** **18 59 28.8 +1.1**

JTU IAmb IAmb 18 59 36.6
comp=Z,89nm,1.0s
JTU Tsushima 22.55 84 P **P** **18 59 30.1 +2.4**
AAK Ala-Archa 22.57 298 P **P** **18 59 30.1 +2.2**
SNR=25
AAK Ala-Archa 22.57 298 P **P** **18 59 27.9 -0.1**
AAK Ala-Archa 22.57 298 *i* P **P** **18 59 29.3 +1.3**
SNR=11
AAK Ala-Archa 22.57 298 P **P** **18 59 28.9 +1.0**
AAK P **P** **18 59 28.9 +1.0**
AAK S **S** **19 03 41.4 +5.4**
AAK S **S** **19 03 41.4 +5.4**
AAK Ala-Archa 22.57 298 *d* iP **P** **18 59 29.8 +1.9**
AAK pmax pmax
comp=Z,86nm,1.7s
AAK Ala-Archa 22.57 298 LR LR 19 10 07.7
comp=Z,2µm,18.3s,baz=107,slow=42
SGDS Sogindy 22.63 300 *e*P **P** **18 59 29.1 +0.5**
baz=300
SGDS *e*S **S** **19 03 37.7 +0.8**
baz=300
SGDS Sogindy 22.63 300 *e*P **P** **18 59 29.0 +0.5**
SGDS *e*S **S** **19 03 37.7 +0.8**
KURBB Kurchatov Arra 22.97 320 P **P** **18 59 30.7 -1.2**
KURBB Kurchatov Arra 22.97 320 P **P** **18 59 31.0 -0.9**
comp=Z,33nm,0.7s,baz=124,slow=11,SNR=103
KURBB LR LR 19 08 49.4
comp=Z,1µm,19.9s,baz=134,slow=38
comp=Z,33nm,0.7s
KURK Kurchatov 22.98 320 P **P** **18 59 30.1 -1.8**
KURK IAmb IAmb 18 59 35.4
comp=Z,89nm,0.9s
KURK Kurchatov 22.98 320 P **P** **18 59 31.5 -0.5**
KURK S **S** **19 03 45.8 +3.1**
KURK Kurchatov 22.98 320 *c* iP **P** **18 59 30.7 -1.3**
KURK pmax pmax
comp=Z,207nm,1.7s
AML Almayashu 23.07 296 P **P** **18 59 36.0 +2.5**
SNR=40
AML Almayashu 23.07 296 *i* P **P** **18 59 33.4 -0.1**
AML pmax pmax
comp=Z,8.0nm,0.9s
EKS2 Erkin-Say 23.09 298 P **P** **18 59 36.0 +2.5**
SNR=11
MDJ Mudanjiang 23.18 57 P **P** **18 59 36.8 +2.6**
MDJ Mudanjiang 23.18 57 P **P** **18 59 34.4 +0.2**
MDJ pP pP 18 59 36.8 +0.3
MDJ sP sP 18 59 38.8 +1.2
MDJ S **S** **19 03 45.4 -1.0**
MDJ sS sS 19 03 50.5 0.0
MDJ ScP **ScP** **19 07 02.3 +1.3**
MDJ pmax pmax
comp=Z,17nm,1.4s
MDJ pmax pmax
comp=Z,520nm,4.0s
MDJ LR LR
comp=Z,3µm,15.8s
MDJ LR LR
comp=Z,2µm,14.8s
MDJ LR LR
comp=Z,3µm,14.8s
BTLS Baital 23.42 304 *e*P **P** **18 59 36.8 +0.2**
baz=303
BTLS Baital 23.42 304 *e*P **P** **18 59 36.7 +0.2**
ARSB Arslanbob 23.50 294 P **P** **18 59 37.7 +0.1**
ARSB Arslanbob 23.50 294 P **P** **18 59 37.7 +0.1**
ARSB pmax pmax
comp=Z,39nm,1.8s
NIL Nilore 23.67 275 P **P** **18 59 40.0 +0.8**
NIL Nilore 23.67 275 P **P** **18 59 40.8 +1.6**
NIL Nilore 23.67 275 P **P** **18 59 40.0 +0.8**
NIL pmax pmax
comp=Z,202nm,1.1s
DLV T Lat 23.82 164 P **P** **18 59 41.3 +0.4**
DLV IAmb IAmb 18 59 43.0
comp=Z,133nm,1.4s
DLV T Lat 23.82 164 P **P** **18 59 41.8 +0.9**
MSHR Mys Shultsa 23.89 63 *d* iP **P** **18 59 42.0 +0.8**
MSHR pmax pmax
comp=Z,92nm,2.5s
HEH HeiHe 23.94 43 *e*P **P** **18 59 41.6 +0.1**
HEH pP **sP** **18 59 44.4 -0.7**
HEH S **S** **19 03 52.8 -5.6**
HEH ScP **ScP** **19 07 05.6 +2.7**
HEH pmax pmax
comp=Z,71nm,1.1s
HEH pmax pmax
comp=Z,610nm,5.0s
HEH LR LR
comp=Z,2µm,15.1s
HEH LR LR
comp=Z,2µm,16.0s
HEH LR LR
comp=Z,4µm,17.0s
JOW Kunigami 24.01 103 P **P** **18 59 40.4 -2.1**
JOW IAmb IAmb 18 59 43.8
comp=Z,235nm,1.8s
JNU Nakatsue 24.03 86 P **P** **18 59 40.2 -2.5**
JNU IAmb IAmb 18 59 43.7
comp=Z,119nm,1.8s
BOD Bodaibo 24.13 16 *e*P **P** **18 59 42.8 -0.5**
BOD pmax pmax
comp=Z,50nm,1.6s
USRK Ussuriysk Ar. 24.76 59 P **P** **18 59 49.4 +0.2**
comp=Z,3.9nm,0.8s,baz=256,slow=8.8,SNR=2.2
comp=Z,3.9nm,0.8s
PBA Port Blair 24.79 202 P **P** **18 59 52.3 +2.7**
DZA Taraz 24.91 297 *e*P **P** **18 59 51.2 +0.6**
baz=297
DZA Taraz 24.91 297 *e*P **P** **18 59 51.2 +0.6**
KK31 Karatay Array 25.53 298 P **P** **18 59 56.4 +0.2**
KKAR Karatay Array 25.53 298 P **P** **18 59 55.7 -0.5**
KKAR Karatay Array 25.53 298 IAmb IAmb 19 00 00.5
comp=Z,24nm,0.8s
KKAR Karatay Array 25.53 298 P **P** **18 59 55.7 -0.5**
ZEA Zeya 25.75 36 *e*P **P** **18 59 58.9 +0.9**
ZEA *e*S **S** **19 04 30.7 +3.3**
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,30nm,0.8s
ZEA smax smax
comp=N,800nm,10.0s
ZEA smax smax
comp=E,800nm,11.0s
ZEA MLR MLR
comp=E,900nm,13.0s
ZEA MLR MLR
comp=N,1µm,12.0s
ZEA MLR MLR
comp=Z,2µm,16.0s
SURA Surathani 25.90 185 P **P** **19 00 00.5 +0.8**
BRZS Berezniki 25.96 314 *e*P **P** **19 00 00.2 +0.1**
comp=Z,36nm,0.9s,baz=314
BRZS Berezniki 25.96 314 *e*P **P** **19 00 00.1 +0.1**
BRZS pmax pmax
comp=Z,36nm,0.9s
KLR Kul'dur 26.03 48 *c* iP **P** **19 00 00.7 0.0**
KLR pmax pmax
comp=Z,58nm,1.2s
CHM Chimkent 26.11 296 *e*P **P** **19 00 02.2 +0.8**
baz=296
CHM LR LR 19 10 28.8
baz=296
CHM Chimkent 26.11 296 *e*P **P** **19 00 02.2 +0.8**
KBL Kabul 26.92 278 P **P** **19 00 08.6 -0.5**
KBL Kabul 26.92 278 P **P** **19 00 11.5 +2.3**
SNR=27
KBL S **S** **19 04 47.8 +1.0**
KBL Kabul 26.92 278 P **P** **19 00 08.6 -0.5**
KBL pmax pmax
comp=Z,24nm,0.8s
TGY Tagaytay City 27.04 136 LR LR 19 11 40.6
comp=Z,591nm,18.5s,baz=294,slow=38
HYB Hyderabad 27.26 236 *e*P **P** **19 00 11.8 -0.2**
HYB *ep*P **pP** **19 00 14.5 0.0**
HYB *e*S **S** **19 04 52.9 +1.0**
BVA0 Borovoye Array 28.55 319 *i* P **P** **19 00 23.0 -0.2**
BVAR Borovoye Array 28.55 319 P **P** **19 00 23.0 -0.2**
comp=Z,7.4nm,0.7s,baz=120,slow=11,SNR=34
BVAR LR LR 19 12 25.4
comp=Z,1µm,19.4s,baz=111,slow=38
comp=Z,7.4nm,0.7s

BRVK Borovoye 28.62 319 P **P** **19 00 23.0 -0.8**
BRVK IAmb IAmb 19 00 26.7
comp=Z,125nm,1.9s
BRVK Borovoye 28.62 319 P **P** **19 00 24.3 +0.5**
BRVK Borovoye 28.62 319 *d* iP **P** **19 00 25.4 +1.6**
BRVK pmax pmax
comp=Z,50nm,1.7s
MJAR Matsushiro Arr 29.36 76 P **P** **19 00 29.3 -1.4**
comp=Z,3.0nm,1.0s,baz=278,slow=8.6,SNR=5.7
MJAR PcP **PcP** **19 03 36.2 -0.7**
comp=Z,2.0nm,0.8s,baz=276,slow=3.6,SNR=4.4
MJAR LR LR 19 12 17.8
comp=Z,736nm,20.2s,baz=283,slow=37
comp=Z,3.0nm,1.0s
GRNR Gornyy 29.39 47 ⇑ *i* P **P** **19 00 30.7 -0.1**
GRNR pmax pmax
comp=Z,7.0nm,1.2s
GRNR MLR MLR
comp=Z,1µm,12.0s
JHJ Hachijo jima 2 31.30 83 LR LR 19 14 01.2
comp=Z,920nm,19.4s,baz=287,slow=38
YAK Yakutsk 32.12 24 P **P** **19 00 53.6 -1.0**
YAK Yakutsk 32.12 24 *e*P **P** **19 00 54.0 -0.7**
YAK *e* 19 01 55.9
YAK *e* 19 03 43.9
YAK *e*S **S** **19 06 06.5 -0.9**
YAK *e**SS **sS** **19 06 14.3 +2.8**
YAK *e*SS **SnSn** **19 08 02.4 +5.4**
YAK *e* 19 11 25.4
YAK pmax pmax
comp=Z,21nm,1.0s
YAK pmax pmax
comp=E,11nm,1.2s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=Z,98nm,3.8s
YAK pmax pmax
comp=E,79nm,4.0s
YAK pmax pmax
comp=N,61nm,3.8s
YAK smax smax
comp=E,116nm,3.9s
YAK smax smax
comp=N,109nm,3.7s
YAK MLR MLR
comp=Z,789nm,10.0s
YAK MLR MLR
comp=E,485nm,9.0s
YAK Yakutsk 32.12 24 LR LR 19 14 32.8
comp=E,43nm,18.9s,baz=232,slow=38
PSI Prapat 32.26 186 P **P** **19 00 58.3 +1.9**
comp=E,15nm,1.4s
ASAJ Asahikawa 32.34 61 LR LR 19 14 41.3
comp=E,1µm,19.0s,baz=280,slow=38
YSS Yuzh-Sakhalins 32.65 56 *e*P **P** **19 01 00.0 +0.5**
YSS *e*S **S** **19 06 16.9 +0.9**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,1µm,13.0s
YSS MLR MLR
comp=N,400nm,14.0s
YSS MLR MLR
comp=E,1µm,15.0s
MYLDM Lahad Datu 33.49 149 P **P** **19 01 06.8 -0.3**
AB31 Akbulak array 33.70 308 *i* P **P** **19 01 08.8 +0.1**
ABKAR Akbulak array 33.70 308 IAmb IAmb 19 01 12.0
comp=Z,59nm,1.6s
PALK Pallekele 33.87 220 P **P** **19 01 11.8 +1.4**
PALK S **S** **19 06 38.7 +3.3**
PALK Pallekele 33.87 220 LR LR 19 17 39.4
comp=Z,288nm,19.8s,baz=151,slow=41
GSI Gunungsitoli 33.87 188 P **P** **19 01 11.6 +1.2**
comp=Z,23nm,1.0s
KSM Kuching 34.36 165 P **P** **19 01 15.9 +1.2**
GEYT Alibeck 35.07 288 P **P** **19 01 21.9 +1.1**
comp=Z,31nm,1.0s,baz=79,slow=15,SNR=36
GEYT LR LR 19 17 44.0
comp=Z,931nm,18.1s,baz=93,slow=40
comp=Z,31nm,1.0s
GYA0B ALIBECK ARRAY 35.07 288 IAmb IAmb 19 01 24.9
comp=Z,64nm,1.3s
AKTO Aktyubinsk 35.12 310 P **P** **19 01 21.5 +0.6**
AKTO Aktyubinsk 35.12 310 LR LR 19 17 43.4
comp=Z,226nm,18.2s,baz=124,slow=40
JCJ Chichijima 35.21 92 LR LR 19 16 44.4
comp=Z,349nm,19.3s,baz=72,slow=38
SVE Sverdlovsk 35.22 321 *e*P **P** **19 01 22.4 +0.7**
SVE pmax pmax
comp=Z,92nm,1.4s
SVE MLR MLR
comp=Z,828nm,15.0s
DAV Davao City (W) 35.38 137 LR LR 19 16 22.1
comp=Z,593nm,21.0s,baz=356,slow=37
DSRI Dabo 35.49 175 P **P** **19 01 26.0 +1.6**
comp=Z,34nm,1.1s
STKI Sintang 35.98 164 P **P** **19 01 30.3 +1.7**
comp=Z,59nm,1.4s
ARU Arti 36.17 320 P **P** **19 01 28.8 -1.0**
ARU Arti 36.17 320 *d* iP **P** **19 01 29.7 -0.2**
ARU 19 03 54.4
ARU S **S** **19 07 12.2 +2.1**
ARU SS **SnSn** **19 09 32.5 -2.7**
ARU pmax pmax
comp=Z,167nm,1.6s
ARU MLR MLR
comp=Z,604nm,15.0s
ARU Arti 36.17 320 LR LR 19 17 15.6
comp=Z,762nm,18.7s,baz=108,slow=38
NGCH Negor - Chabah 36.33 266 P **P** **19 01 35.3 +3.7**
PPBI Pangkal Pinang 37.28 173 P **P** **19 01 40.8 +1.1**
comp=Z,15nm,0.8s,comp=Z,3µm
JLN Jalan Bani Buh 39.19 262 P **P** **19 01 58.2 +2.4**
SNR=5.9
JLN P **P** **19 01 58.2 +2.4**
SNR=5.9
TIXI Tiksi 39.24 13 P **P** **19 01 53.9 -1.7**
TIXI Tiksi 39.24 13 ⇓ *eP* **P** **19 01 54.5 -1.1**
TIXI Tiksi 39.24 13 LR LR 19 20 30.9
comp=Z,11nm,19.7s,baz=283,slow=40
WSAR Wadi Sarin 39.32 264 P **P** **19 01 59.6 +2.7**
WSAR S **S** **19 08 03.1 +4.5**
WSAR Wadi Sarin 39.32 264 LR LR 19 21 31.3
comp=Z,317nm,19.1s,baz=162,slow=41
BIDO Bidbid 39.60 265 P **P** **19 02 02.1 +2.9**
SMDO Samad 39.87 265 P **P** **19 02 03.5 +1.8**
SMDO P **P** **19 02 03.5 +1.8**
MA2 Magadan 39.88 37 P **P** **19 02 00.7 -0.4**
MA2 Magadan 39.88 37 P **P** **19 02 01.5 +0.3**
MA2 Magadan 39.88 37 *ce*P **P** **19 02 00.8 -0.4**
MA2 pmax pmax
comp=Z,46nm,0.8s
MA2 Magadan 39.88 37 LR LR 19 20 02.7
comp=Z,2µm,18.5s,baz=256,slow=39
SHME Shamm 40.13 270 P **P** **19 02 06.8 +3.2**
JMDO Jabal Madar 40.15 264 P **P** **19 02 06.4 +2.6**
JMDO P **P** **19 02 06.4 +2.6**
HOQ Hoqain 40.24 266 P **P** **19 02 07.5 +3.0**
HOQ P **P** **19 02 07.5 +3.0**
MASF Masafi 40.40 269 P **P** **19 02 10.1 +4.2**
MASF P **P** **19 02 10.1 +4.2**
MASF S **S** **19 08 19.8 +5.0**
MASF S **S** **19 08 19.8 +5.0**
MSFE Esma-Masafi 40.41 269 P **P** **19 02 07.8 +1.9**
UOSS Minazif 40.54 268 P **P** **19 02 07.8 +0.7**
SOHO SOHO 40.63 267 P **P** **19 02 08.0 +0.3**
SOHO SOHO 40.63 267 P **P** **19 02 10.4 +2.7**
SOHO P **P** **19 02 10.4 +2.7**
HATD Hatta, Dubai 40.66 268 P **P** **19 02 11.1 +3.1**
BSY Bisya 40.71 265 P **P** **19 02 11.6 +3.1**
BSY P **P** **19 02 11.6 +3.1**
ASHO Ashiyiah 40.78 268 *i* P **P** **19 02 10.2 +1.2**
SNR=12
ASHO Ashiyiah 40.78 268 P **P** **19 02 12.4 +3.3**
SNR=5.3
ASHO P **P** **19 02 12.4 +3.3**
SNR=5.3
MHTO MHTO 40.93 262 P **P** **19 02 12.7 +2.4**
SNR=8.2
MHTO P **P** **19 02 12.7 +2.4**
SNR=8.2
NAZ Nazwa, Dubai 40.97 269 P **P** **19 02 13.9 +3.3**
NAZ P **P** **19 02 13.9 +3.3**
NAZ P **P** **19 02 13.9 +3.3**

FAQ Al Faqa, Dubai 41.13 268 P **P** **19 02 13.1 +1.2**
ALNE Al Ain 41.30 267 *i* P **P** **19 02 14.0 +0.7**
SNR=12
ALNE Al Ain 41.30 267 P **P** **19 02 16.4 +3.1**
SNR=6.1
ALNE P **P** **19 02 16.4 +3.1**
SNR=6.1
ASUD Al Ashush, Dub 41.40 268 *i* P **P** **19 02 15.4 +1.3**
SNR=11
ASUD Al Ashush, Dub 41.40 268 P **P** **19 02 17.4 +3.3**
ASUD P **P** **19 02 17.4 +3.3**
KIRV Kirov 41.48 321 *ce*P **P** **19 02 14.2 -0.1**
KIRV Kirov 41.48 321 LR LR 19 20 32.4
comp=Z,932nm,18.4s,baz=101,slow=38
TTSI Tana Toraja 41.51 152 P **P** **19 02 15.8 +0.8**
comp=Z,42nm,1.3s
SEY Seymchan 41.60 32 ⇓ *eP* **P** **19 02 15.0 -0.3**
SEY pmax pmax
comp=Z,12nm,1.1s
SEY Seymchan 41.60 32 LR LR 19 21 26.2
comp=Z,1µm,18.3s,baz=254,slow=39
AJN Ajban 41.71 269 P **P** **19 02 19.5 +2.8**
AJN P **P** **19 02 19.5 +2.8**
BELG Belogornoye 41.78 312 *ce*P **P** **19 02 16.7 -0.2**
BELG pmax pmax
comp=Z,12nm,1.0s
BELG Belogornoye 41.78 312 LR LR 19 20 34.8
comp=Z,1µm,19.3s,baz=109,slow=38
LEM Lembang 42.05 172 LR LR 19 19 43.1
comp=Z,867nm,18.2s,baz=328,slow=36
LKRN Lenkeran, Azer 42.15 291 P **P** **19 02 22.0 +1.9**
SPSI Sidrap Palu 42.33 153 P **P** **19 02 22.2 +0.5**
comp=Z,58nm,1.1s,comp=Z,900nm
MAK Makhachkala 42.35 298 *d* iP P 19 02 16.1 -5.5
MAK *e* 19 03 55.8
MAK *e*S S 19 08 33.5 -10
MAK *e*SS **SS** **19 11 45.7 -5.8**
MAK pmax pmax
comp=Z,543nm,1.3s
MAK MLR MLR
comp=Z,771nm,11.0s
PETK Petropavlovsk- 42.72 47 P **P** **19 02 23.7 -0.9**
comp=Z,6.5nm,0.9s,baz=254,slow=4.2,SNR=2.6
PETK LR LR 19 21 40.1
comp=Z,452nm,18.1s,baz=266,slow=38
comp=Z,6.5nm,0.9s
KPJI Karang Pucung 42.73 170 P **P** **19 02 26.5 +1.6**
comp=Z,72nm,0.9s
LBMI Labuha 42.85 141 P P 19 02 36.9 +11
SEKA Sheki 42.85 295 P **P** **19 02 26.9 +1.0**
MNGR Mingechevir, A 43.02 295 P **P** **19 02 29.1 +2.0**
NGJI Ngawi 43.19 166 P **P** **19 02 32.7 +4.0**
comp=Z,56nm,1.5s
ZKTA Zakatala 43.20 296 P **P** **19 02 31.9 +3.2**
KAPI Kappang 43.30 154 LR LR 19 21 24.7
comp=Z,120nm,21.5s,baz=302,slow=37
SANI Sanana 43.30 144 P **P** **19 02 29.4 -0.2**
SANI Sanana 43.30 144 P **P** **19 02 31.1 +1.5**
comp=Z,26nm,1.3s
GANJ Ganja 43.61 294 P **P** **19 02 34.1 +2.1**
PRGR Permogore 43.92 325 *eP* **P** **19 02 33.0 -1.1**
PRGR pmax pmax
comp=Z,61nm,1.0s
GUMO Guam 44.18 108 LR LR 19 20 48.3
comp=Z,258nm,19.2s,baz=308,slow=36
SHAO Shalim 44.34 260 P **P** **19 02 40.5 +2.5**
SHAO P **P** **19 02 40.5 +2.5**
SHMA Al-Shehemyia 44.46 273 P **P** **19 02 40.5 +1.7**
NAX Nakhchivan 44.54 293 P **P** **19 02 41.6 +2.1**
TRNA Turayna 44.73 271 P **P** **19 02 42.6 +1.6**
SAKB Bahrain 44.76 273 P **P** **19 02 43.0 +1.8**
JAGI Jajag, Banyuwa 44.86 163 P **P** **19 02 41.5 -0.6**
JAGI Jajag, Banyuwa 44.86 163 P **P** **19 02 42.2 +0.1**
JAGI Jajag, Banyuwa 44.86 163 P **P** **19 02 42.0 -0.1**
comp=Z,73nm,1.0s
GNI Garni 44.89 294 P **P** **19 02 42.9 +0.4**
GNI Garni 44.89 294 P **P** **19 02 44.1 +1.6**
GNI Garni 44.89 294 P **P** **19 02 46.2 +3.7**
GNI Garni 44.89 294 ⇓ *eP* **P** **19 02 43.1 +0.7**
GNI pmax pmax
comp=Z,89nm,1.8s
GNI Garni 44.89 294 LR LR 19 25 09.9
comp=Z,278nm,18.1s,baz=82,slow=41
ZEI Tsey 44.99 298 *eP* **P** **19 02 43.1 -0.1**
ZEI pmax pmax
comp=Z,19nm,1.4s
SMRA Abu-Samra 45.04 271 P **P** **19 02 45.1 +1.6**
DMTO DMTO 45.05 260 P **P** **19 02 46.4 +2.8**
DMTO P **P** **19 02 46.4 +2.8**
TRLG Trialeti 45.08 296 P **P** **19 02 46.5 +2.6**
NCK Nalchik 45.09 299 ⇓ *eP* **P** **19 02 43.0 -0.7**
NCK pmax pmax
comp=Z,36nm,1.3s
GOF Gofitskoye 45.23 301 *ce*P **P** **19 02 47.5 +2.7**
ONI Oni 45.35 298 P **P** **19 02 47.2 +1.3**
ONI IAmb IAmb 19 02 50.5
comp=Z,113nm,2.0s
ONI Oni 45.35 298 P **P** **19 02 47.2 +1.3**
ONI pmax pmax
comp=Z,113nm,2.0s
VRH Novokhopyorsk 45.46 310 *eP* **P** **19 02 47.8 +1.3**
VRH pmax pmax
comp=Z,67nm,0.8s
KBZ Khabaz 45.54 299 P **P** **19 02 47.4 +0.1**
comp=Z,10nm,0.8s,baz=72,slow=7.9,SNR=19
KBZ LR LR 19 24 27.9
comp=Z,862nm,18.9s,baz=82,slow=40
comp=Z,10nm,0.8s
KIV Kislovodsk 45.66 300 P **P** **19 02 47.1 -1.2**
KIV IAmb IAmb 19 02 52.0
comp=Z,38nm,0.9s
KIV Kislovodsk 45.66 300 *i* P **P** **19 02 49.4 +1.1**
SNR=11
KIV Kislovodsk 45.66 300 P **P** **19 02 51.4 +3.1**
KIV P **P** **19 02 51.4 +3.1**
KIV Kislovodsk 45.66 300 *eP* **P** **19 02 49.4 +1.1**
KIV pmax pmax
comp=Z,36nm,1.0s
KIV MLR MLR
comp=Z,483nm,16.0s
RBK Rabkut 45.76 260 P **P** **19 02 50.8 +1.4**
RBK P **P** **19 02 50.8 +1.4**
RBK P **P** **19 02 50.8 +1.4**
RBK P **P** **19 02 50.8 +1.4**
WHFO Wadi Hawf 45.89 261 P **P** **19 02 51.6 +1.1**
SNR=9.1
WHFO P **P** **19 02 51.6 +1.1**
SNR=9.1
ABTO Aybut 46.57 261 P **P** **19 02 57.2 +1.4**
SNR=5.1
ABTO P **P** **19 02 57.2 +1.4**
SNR=5.1
KLMR Klimovskoe 46.75 323 *eP* **P** **19 02 54.7 -1.8**
KLMR AMP 19 03 00.2
comp=Z,226nm,1.6s
KLMR *ePcP* **PcP** **19 04 29.5 -0.3**
KLMR *ePP* **PP** **19 04 43.9 -2.3**
KLMR LQ LQ 19 18 20.6
KLMR LQ LQ 19 18 20.6
KLMR LR LR 19 21 39.6
KLMR AMP 19 23 45.3
comp=Z,945nm,17.7s
KLMR Klimovskoe 46.75 323 *eP* **P** **19 02 54.6 -1.9**
KLMR *e* 19 04 29.5
KLMR *e* 19 04 43.9
KLMR pmax pmax
comp=Z,226nm,1.6s
KLMR MLR MLR
comp=Z,945nm,18.0s
VORR Voronezh 46.99 311 *eP* **P** **19 02 59.8 +1.2**
VORR pmax pmax
comp=Z,41nm,0.4s
VSR Storozhevoye 47.06 310 *eP* **P** **19 02 58.3 -0.8**
VSR pmax pmax
comp=Z,30nm,0.6s
LPSR Galich'ya Gora 47.09 312 *eP* **P** **19 02 58.9 -0.4**
LPSR pmax pmax
comp=Z,80nm,0.8s
GURO Guroymak-BITLI 47.32 293 IAmb IAmb 19 03 05.8
comp=Z,50nm,1.2s
MOS Moscow 47.67 316 *eP* **P** **19 03 04.0 +0.2**
MOS *e* 19 04 57.0
MOS pmax pmax
comp=Z,93nm,0.7s
MOS MLR MLR

comp=Z,900nm,18.0s
SOC Sochi 47.84 300 *e*P **P** **19 03 06.1 +0.8**
SOC *e* 19 04 55.3
SOC *e*S **S** **19 10 06.5 +3.8**
SOC *e*SS **SS** **19 13 25.9 -5.0**
SOC pmax pmax
comp=Z,26nm,0.8s
SOC MLR MLR
comp=Z,540nm,18.0s
OBN Obninsk 48.31 316 *e*P **P** **19 03 07.0 -1.7**
OBN *e* 19 05 01.6
OBN *e*PPP PPP 19 05 49.0
OBN *e*S **S** **19 10 10.8 +1.8**
OBN pmax pmax
comp=Z,125nm,1.6s
OBN MLR MLR
comp=Z,871nm,17.0s
OBN Obninsk 48.31 316 LR LR 19 24 29.0
comp=Z,1μm,18.5s,baz=78,slow=37
BILL Bilibino 48.40 27 P **P** **19 03 09.1 -0.2**
BILL IAmb IAmb 19 03 13.6
comp=Z,33nm,1.1s
BILL Bilibino 48.40 27⇑ *e*P **P** **19 03 10.0 +0.7**
ANN Anapa 49.19 302 *e*P **P** **19 03 12.5 -3.2**
ANN *e**PP **pP** **19 03 16.9 -1.3**
ANN *e*S **S** **19 10 17.5 -4.2**
ANN *e*SS **SS** **19 13 50.7 -2.0**
ANN pmax pmax
comp=Z,87nm,1.7s
LVZ Lovozero 49.47 333⇑ *e*P **P** **19 03 18.2 +0.6**
LVZ pmax pmax
comp=Z,134nm,2.3s
APA Apatity 49.91 332⇓ *i*P **P** **19 03 21.3 +0.4**
APA *i* 19 04 44.1
APA *i*S **S** **19 10 31.0 -0.3**
APA pmax pmax
comp=Z,11nm,1.0s
APA MLR MLR
comp=Z,2μm,11.0s
ARPR Arapgir-MALATY 49.95 294 IAmb IAmb 19 03 25.8
comp=Z,40nm,0.9s
DGAR Diego Garcia 50.60 219 P **P** **19 03 30.4 +3.7**
SAUI Saumlaki 51.05 141 P **P** **19 03 28.4 -1.7**
SAUI Saumlaki 51.05 141 P **P** **19 03 29.9 -0.2**
SAUI Saumlaki 51.05 141 P **P** **19 03 29.9 -0.2**
comp=Z,118nm,1.2s
GAZ Gaziantep 51.37 292 P **P** **19 03 31.0 -1.5**
SIM Simferopol' 51.45 303 *e*P **P** **19 03 34.6 +1.7**
SIM S S 19 11 08.0 +15
SIM pmax pmax
comp=Z,52nm,0.7s
DIKM Dikmen 51.50 298⇑ P **P** **19 03 34.2 +1.0**
VADS Vadso 51.53 335 *e*P **P** **19 03 34.2 +1.1**
GENI Genyem 51.87 128 P **P** **19 03 37.6 +1.3**
GENI Genyem 51.87 128 P **P** **19 03 37.8 +1.5**
comp=Z,112nm,1.6s,comp=Z,2μm
BNN Bunyan 51.87 295 P **P** **19 03 35.9 -0.4**
JAY Jayapura 52.16 128 P **P** **19 03 40.5 +2.0**
comp=Z,25nm,1.3s
KEV Kevo 52.34 335 P **P** **19 03 37.9 -1.1**
KEV Kevo 52.34 335 P **P** **19 03 37.9 -1.1**
KEV pmax pmax
comp=Z,234nm,1.8s
SGF Sodankyl 52.56 332 P **P** **19 03 43.3 +2.6**
SGF pmax pmax
comp=Z,40nm,1.0s
SHEM Shemya Is, Ala 52.63 47 LR LR 19 27 09.8
comp=Z,428nm,21.1s,baz=302,slow=37
ARA0 ARCESS Array S 52.87 335 *e*P **P** **19 03 42.2 -0.8**
ARCES ARCESS Array B 52.87 335 P **P** **19 03 42.3 -0.7**
ARCES IAmb IAmb 19 03 46.3
comp=Z,60nm,1.1s
ARCES ARCESS Array B 52.87 335 P **P** **19 03 42.3 -0.7**
ARCES pmax pmax
comp=Z,60nm,1.1s
ARCES ARCESS Array B 52.87 335 P **P** **19 03 42.2 -0.7**
comp=Z,11nm,0.5s,baz=83,slow=7.9,SNR=51
ARCES LR LR 19 27 20.9
comp=Z,648nm,18.1s,baz=84,slow=37
comp=Z,11nm,0.5s
OUL Oulu 52.95 329 P **P** **19 03 45.1 +1.5**
OUL pmax pmax
comp=Z,57nm,1.0s
BR131 Keskin Array S 53.24 297 IAmb IAmb 19 03 49.2
comp=Z,31nm,0.7s
BR131 Keskin Array S 53.24 297 P **P** **19 03 46.6 +0.3**
SNR=19
BR131 P **P** **19 03 46.6 +0.3**
SNR=19
BR131 Keskin Array S 53.24 297*c* *i*P **P** **19 03 46.2 -0.1**
BRTR Keskin Array B 53.24 297 *i*P **P** **19 03 46.2 -0.1**
BRTR pmax pmax
comp=Z,20nm,0.6s
BRTR Keskin Array B 53.24 297 P **P** **19 03 46.3 -0.1**
comp=Z,19nm,0.6s,baz=97,slow=6.6,SNR=92
BRTR LR LR 19 28 02.9
comp=Z,254nm,21.6s,baz=79,slow=38
comp=Z,19nm,0.6s
FINES FINESS Array B 53.24 324 P **P** **19 03 45.2 -0.7**
FINES FINESS Array B 53.24 324 P **P** **19 03 45.5 -0.3**
comp=Z,19nm,0.6s,baz=81,slow=7.3,SNR=67
FINES LR LR 19 27 52.9
comp=Z,361nm,19.1s,baz=82,slow=38
comp=Z,19nm,0.6s
VSU Vasula 53.32 321 *e*P **P** **19 03 46.6 +0.1**
AKASG Malin Array Be 53.34 311 IAmb IAmb 19 03 49.2
comp=Z,84nm,1.4s
AKASG Malin Array Be 53.34 311 P **P** **19 03 46.3 -0.5**
comp=Z,6.7nm,0.5s,baz=68,slow=6.5,SNR=34
AKASG LR LR 19 27 47.5
comp=Z,891nm,18.3s,baz=33,slow=38
comp=Z,6.7nm,0.5s
AKBB Malin Array Si 53.34 311 IAmb IAmb 19 03 49.2
comp=Z,87nm,1.5s
AKBB Malin Array Si 53.34 311*c* *e*P **P** **19 03 46.1 -0.7**
AKBB pmax pmax
comp=Z,62nm,1.5s
KIEV Kiev 53.36 311⇑ P **P** **19 03 46.0 -0.9**
KIEV Kiev 53.36 311 P **P** **19 03 45.3 -1.6**
KIEV IAmb IAmb 19 03 49.2
comp=Z,78nm,1.5s
KIEV Kiev 53.36 311 *i*P **P** **19 03 45.6 -1.2**
SNR=13
KIEV Kiev 53.36 311 P **P** **19 03 46.0 -0.9**
MNK Minsk 53.37 316 *i*P **P** **19 03 44.6 -2.3**
comp=E,8.0nm,1.5s
MNK *i*P **P** **19 03 44.6 -2.3**
comp=N,11nm,1.1s
MNK *i*P **P** **19 03 44.6 -2.3**
comp=Z,32nm,0.8s,baz=79
MNK *i*PP **PP** **19 05 44.8 -2.1**
MNK *i*PPP PPP 19 06 50.5
MNK *i*S **S** **19 11 16.9 -2.4**
MNK *i*SS **SS** **19 14 58.2 -0.5**
MNK *i*SSS SSS 19 16 48.0
MNK *i*LQ LQ 19 22 40.3
MNK *i*LR LR 19 25 55.5
MNK *i*LRM MLR 19 27 23.3
comp=E,320nm,15.4s
MNK *i*LRM MLR 19 27 29.6
comp=Z,544nm,13.1s
MNK *i*LRM MLR 19 27 56.5
comp=N,555nm,19.7s
MNK Minsk 53.37 316 *i*P **P** **19 03 44.5 -2.3**
MNK *i* 19 05 44.7
MNK *i*PPP PPP 19 06 50.5
MNK *i*S **S** **19 11 16.9 -2.4**
MNK *i*SS **SS** **19 14 58.2 -0.5**
MNK *i*SSS SSS 19 16 48.0
MNK pmax pmax
comp=N,11nm,1.1s
MNK pmax pmax
comp=E,8.0nm,1.5s
MNK pmax pmax
comp=Z,32nm,0.8s
MNK MLR MLR
comp=E,320nm,15.0s
MNK MLR MLR
comp=Z,544nm,13.0s
MNK MLR MLR
comp=N,555nm,20.0s
HAMF Hammerfest 53.45 336 *e*P **P** **19 03 47.3 0.0**
KTK1 Kautokeino 53.70 334 *e*P **P** **19 03 48.9 -0.2**
ANTO Ankara 53.81 297⇓ P **P** **19 03 51.2 +0.7**
ANTO Ankara 53.81 297 P **P** **19 03 50.4 -0.1**
ANTO IAmb IAmb 19 03 53.7
comp=Z,73nm,1.2s
ANTO Ankara 53.81 297 P **P** **19 03 51.2 +0.7**
IDID Didziasalis 53.87 317 *e*P **P** **19 03 47.5 -3.0**
NACGM Naroch 53.92 316 *e*P **P** **19 03 50.5 -0.5**
comp=Z,58nm,0.8s,baz=78
ISAL Salakas 54.16 317 *e*P **P** **19 03 52.8 +0.1**
MMAI Mount Meron Ar 54.19 288 P **P** **19 03 54.1 +0.7**
comp=Z,21nm,1.0s,baz=80,slow=9.4,SNR=14
MMAI LR LR 19 31 05.2
comp=Z,223nm,18.3s,baz=48,slow=41
comp=Z,21nm,1.0s
MEF Metsahovi 54.23 323 *e*P **P** **19 03 54.1 +1.1**
SORM Soroca 54.51 308⇓ P **P** **19 03 54.8 -0.5**
SORM Soroca 54.51 308 P **P** **19 03 54.8 -0.5**
MILM Milestii Mici 54.53 306⇑ P **P** **19 03 54.8 -0.7**
MILM Milestii Mici 54.53 306 P **P** **19 03 54.8 -0.7**
TABU Tabubil 54.59 129 P **P** **19 03 58.3 +2.0**
VAF Ylistaro 54.60 327 P **P** **19 03 57.8 +2.1**
VAF pmax pmax
comp=Z,67nm,1.2s
JETT Jettan, Norway 54.65 335 *e*P **P** **19 03 55.4 -0.7**
MTSE Matsula 54.79 321 *e*P **P** **19 03 56.8 -0.3**
TLCR 55.01 304⇑ P **P** **19 03 59.2 +0.2**
TLCR 55.01 304 P **P** **19 03 59.2 +0.2**
SPITS Spitsbergen Ar 55.02 345 P **P** **19 03 58.3 -0.4**
comp=Z,5.2nm,0.6s,baz=57,slow=9.1,SNR=5.8
SPITS LR LR 19 31 08.8
comp=Z,577nm,18.6s,baz=44,slow=40
comp=Z,5.2nm,0.6s
CSS Mathiatis 55.07 291 IAmb IAmb 19 04 02.1
comp=Z,37nm,0.7s
JURR Jurilovca 55.09 304⇑ *e*P **P** **19 03 59.9 +0.3**
TRO Tromso 55.16 335 *e*P **P** **19 03 57.8 -1.9**
VASR Vaslui 55.28 306⇓ P **P** **19 04 01.7 +0.7**
VLDR Vladesti 55.32 305⇓ P **P** **19 04 01.7 +0.5**
PABE Paberze 55.37 317 *e*P **P** **19 04 01.7 +0.3**
TPGR Topolog 55.38 304⇓ P **P** **19 04 01.9 +0.2**
CFR Carcaliu 55.48 304⇓ P **P** **19 04 02.3 -0.1**
CFR Carcaliu 55.48 304 P **P** **19 04 02.3 -0.1**
TIRR Tirgusor 55.50 304⇑ P **P** **19 04 03.1 +0.5**
TIRR Tirgusor 55.50 304 IAmb IAmb 19 04 05.4
comp=Z,58nm,1.1s
TIRR Tirgusor 55.50 304⇑ P **P** **19 04 03.1 +0.5**
MFTR Murfatlar 55.58 303⇑ P **P** **19 04 04.1 +1.0**
KMPD K-Podol'skiy 55.62 309 P **P** **19 04 02.0 -1.3**
KDU Kakadu 55.66 143 P **P** **19 04 03.3 -0.7**
TLBR Topalu 55.73 304⇓ P **P** **19 04 05.0 +0.8**
HARR Harsova 55.76 304⇓ P **P** **19 04 04.3 -0.1**
HARR Harsova 55.76 304 P **P** **19 04 07.8 +3.4**
EIL Elat 55.86 285 LR LR 19 32 30.1
comp=Z,294nm,19.1s,baz=76,slow=41
PANC Panciu 55.94 306⇑ P **P** **19 04 05.3 -0.4**
ICOR Ion Corvin 56.02 303⇑ P **P** **19 04 06.6 +0.3**
TESR Tescani 56.08 306⇓ P **P** **19 04 06.7 0.0**
SUW Suwalki 56.17 316 *e*P **P** **19 04 08.4 +1.2**
SUW Suwalki 56.17 316 *e*P **P** **19 04 07.7 +0.5**
VRI Vrincioaia 56.22 306⇓ P **P** **19 04 08.5 +0.8**
VRI Vrincioaia 56.22 306⇓ P **P** **19 04 08.5 +0.8**
PLOR Plostina 56.27 306⇓ P **P** **19 04 09.0 +0.8**
PLOR Plostina 56.27 306⇓ P **P** **19 04 09.0 +0.8**
BISRR Bisoca 56.33 305⇓ P **P** **19 04 08.2 -0.4**
ISR Istrita 56.57 305⇑ P **P** **19 04 11.5 +1.1**
ISR Istrita 56.57 305 P **P** **19 04 11.4 +1.1**
COVR Voineasa-Covas 56.57 306⇑ P **P** **19 04 11.3 +1.0**
KSV Kosov 56.58 309 P **P** **19 04 10.3 +0.1**
TURR Turia 56.63 306⇓ P **P** **19 04 11.6 +0.9**
NEHR Nehoiu 56.64 305⇑ P **P** **19 04 11.8 +1.0**
BURAR Bucovina Array 56.69 308⇑ P **P** **19 04 11.5 +0.4**
BURAR Bucovina Array 56.69 308 P **P** **19 04 11.5 +0.4**
OZUR 56.77 306⇓ P **P** **19 04 12.3 +0.6**
LVV L'vov 56.79 311 *e*P **P** **19 04 11.6 -0.1**
LVV pmax pmax
comp=Z,140nm,1.5s
MLR Muntele Rosu 56.85 305⇑ P **P** **19 04 12.8 +0.4**
MLR Muntele Rosu 56.85 305 P **P** **19 04 12.8 +0.4**
MLR Muntele Rosu 56.85 305 LR LR 19 32 59.7
comp=Z,367nm,19.1s,baz=57,slow=41
BOSR Bodos 56.86 306⇓ P **P** **19 04 13.0 +0.7**
FAUS Fauske 56.87 333 *e*P **P** **19 04 10.9 -1.0**
ELL Elmali 57.01 294 P **P** **19 04 14.4 +0.8**
ELL pmax pmax
comp=Z,192nm,0.9s
DOPR Dopca 57.08 306⇑ P **P** **19 04 14.6 +0.7**
MORS Morshin 57.08 310 P **P** **19 04 14.3 +0.5**
RAZG Razgrad 57.09 303⇓ P **P** **19 04 14.4 +0.5**
LOZB Loznitsa 57.09 303⇓ P **P** **19 04 14.4 +0.4**
LOF Lofoten 57.35 334 *e*P **P** **19 04 13.1 -2.2**
ARCR ARCALIA 57.41 308⇑ P **P** **19 04 17.4 +1.2**
MOR8 Moi Rana 57.47 331 *e*P **P** **19 04 13.9 -2.4**
VOIR 57.47 306⇑ P **P** **19 04 17.1 +0.4**
VOIR 57.47 306⇑ P **P** **19 04 17.1 +0.4**
FITZ Fitzroy Crossi 57.51 153 P **P** **19 04 16.6 -0.4**
FITZ Fitzroy Crossi 57.51 153 P **P** **19 04 17.0 0.0**
GAMB Gambell 57.60 32 P **P** **19 04 16.2 -1.0**
baz=284
UPP Uppsala 57.63 324 *e*P **P** **19 04 17.3 -0.1**
KWP Kalwaria Pacla 57.67 311 *e*P **P** **19 04 18.5 +0.5**
KWP Kalwaria Pacla 57.67 311 P **P** **19 04 18.6 +0.6**
ELND Elena 57.73 303⇑ P **P** **19 04 19.1 +0.6**
BMR Baia Mare 57.77 309⇓ P **P** **19 04 19.5 +0.7**
BMR Baia Mare 57.77 309 P **P** **19 04 19.4 +0.7**
HUMR Humele 57.81 305⇑ P **P** **19 04 19.5 +0.5**
TRSU Trosnyk 57.99 309 P **P** **19 04 20.4 +0.2**
BEL Belsk 58.16 314 *e*P **P** **19 04 23.6 +2.2**
UZH Uzhgorod 58.24 310 P **P** **19 04 23.5 +1.6**
MESR Meseseni 58.29 308⇑ P **P** **19 04 22.2 -0.2**
LOT Lotru 58.32 306⇓ P **P** **19 04 23.1 +0.4**
MARR Marisel-Cluj 58.34 307⇓ P **P** **19 04 23.6 +0.8**
VIKU Vikbolandet 58.45 322 *e*P **P** **19 04 22.8 -0.5**
RDO Rodhopi 58.59 301 IAmb IAmb 19 04 27.4
comp=Z,37nm,1.2s
RDO Rodhopi 58.59 301 P **P** **19 04 26.2 +1.7**
STHS Stebnicka Huta 58.64 311 *e*P **P** **19 04 23.8 -1.0**
STHS Stebnicka Huta 58.64 311 *e*P **P** **19 04 23.8 -1.0**
STHS pmax pmax
comp=Z,14nm,0.9s
CRVS Cervenica-Dubn 58.67 310 *e*P **P** **19 04 25.4 +0.4**
CRVS Cervenica-Dubn 58.67 310 *e*P **P** **19 04 25.4 +0.4**
TNA Tin City 58.70 29 P **P** **19 04 23.2 -1.6**
baz=286
DEV Deva 58.74 307 P **P** **19 04 29.6 +4.1**
DAT Datca 58.75 295 P **P** **19 04 25.0 -0.8**
BODT Bodrum 58.82 296 P **P** **19 04 25.7 -0.5**
PSA00 Pilbara Seismi 58.88 160 P **P** **19 04 25.8 -0.8**
PSA00 Pilbara Seismi 58.88 160 P **P** **19 04 26.2 -0.4**
PSA00 IAmb IAmb 19 04 27.7
comp=Z,28nm,1.0s
PSA00 Pilbara Seismi 58.88 160 P **P** **19 04 26.7 +0.1**
C16K Lisburne Hills 58.89 26 P **P** **19 04 25.1 -1.0**
C16K IAmb IAmb 19 04 29.9
comp=Z,24nm,0.9s
C16K Lisburne Hills 58.89 26 P **P** **19 04 25.2 -0.9**
baz=287
NSS Namsos 58.90 330 *e*P **P** **19 04 24.7 -1.5**
SMG Samos 58.92 297 P **P** **19 04 26.7 -0.2**
GZR Gura Zlata 58.99 306⇓ P **P** **19 04 27.8 +0.4**
NIE Niedzica 59.23 311 *e*P **P** **19 04 31.3 +2.4**
NIE Niedzica 59.23 311 P **P** **19 04 31.0 +2.1**
CHOS Chios island 59.24 298 P **P** **19 04 28.4 -0.8**
OJC Ojcow 59.27 312 *e*P **P** **19 04 26.6 -2.5**
OJC Ojcow 59.27 312 P **P** **19 04 29.5 +0.4**
LIA Límnos Island 59.30 299 P **P** **19 04 28.8 -0.6**
SURR Surduc 59.30 307⇑ P **P** **19 04 29.9 +0.5**
F14K Arctic Creek 59.36 29 P **P** **19 04 28.4 -1.1**
baz=288
HERR Herculane 59.41 306⇓ P **P** **19 04 30.6 +0.5**
SIRR Siria 59.43 307⇑ P **P** **19 04 31.3 +1.0**
NOR Nord 59.43 351 *i*P **P** **19 04 27.3 -2.5**
NOR IAmb IAmb 19 04 33.5
comp=Z,19nm,0.9s
HFS Hagfors 59.44 324 P **P** **19 04 29.3 -0.8**
comp=Z,27nm,0.7s,baz=104,slow=6.3,SNR=39
HFS LR LR 19 31 33.0
comp=Z,639nm,18.4s,baz=69,slow=38
comp=Z,27nm,0.7s
C17K DeLong Mountai 59.59 25 P **P** **19 04 30.1 -1.0**
baz=289
BZS Buzias 59.68 307⇓ P **P** **19 04 32.2 +0.2**
BZS Buzias 59.68 307⇓ P **P** **19 04 32.2 +0.2**
A19K Wainwright 59.73 23 P **P** **19 04 32.4 +0.5**
baz=290
B18K Kokolik River 59.77 24 P **P** **19 04 31.4 -0.8**
baz=289
GKP Gorka Klasztor 59.77 316 *e*P **P** **19 04 34.1 +1.6**
RDOG Red Dog Mine 59.82 26 P **P** **19 04 31.9 -0.7**
baz=289
LANS Liptovska Anna 59.83 311 *e*P **P** **19 04 35.7 +2.7**
LANS Liptovska Anna 59.83 311 *e*P **P** **19 04 35.7 +2.7**
LANS pmax pmax
comp=Z,4.0nm,1.0s
MDVR Moldovita 59.91 306⇓ P **P** **19 04 34.1 +0.4**
F15K North Star Dit 59.95 28 P **P** **19 04 32.3 -1.2**
baz=289
PSZ Piszkesteto 59.99 310⇑ P **P** **19 04 35.0 +0.8**
PSZ Piszkesteto 59.99 310 IAmb IAmb 19 04 37.6
comp=Z,36nm,1.2s
PSZ Piszkesteto 59.99 310 P **P** **19 04 34.9 +0.8**
ANM Nome 60.03 30 P **P** **19 04 32.9 -1.2**
baz=289
SPIA Saint Paul Isl 60.20 39 P **P** **19 04 34.5 -0.8**
baz=289
C18K Utukok River 60.22 25 IAmb IAmb 19 04 39.4
comp=Z,27nm,0.8s
C18K Utukok River 60.22 25 P **P** **19 04 35.1 -0.4**
baz=290
NC602 NORSAR Array S 60.26 326 *e*P **P** **19 04 34.3 -1.5**
NB2 NORSAR Subarra 60.31 326 P **P** **19 04 34.8 -1.4**
comp=Z,7.6nm,0.6s,baz=71,slow=6.9
NOA NORSAR Array B 60.31 326 P **P** **19 04 35.0 -1.1**
comp=Z,12nm,0.7s,baz=77,slow=7.8,SNR=35
NOA LR LR 19 32 01.7
comp=Z,167nm,18.6s,baz=75,slow=37
comp=Z,12nm,0.7s
BOVS Bovan 60.33 305⇑ P **P** **19 04 36.7 +0.2**
OKC Ostrava-Krasne 60.40 312 *e*P **P** **19 04 36.7 -0.2**
OKC Ostrava-Krasne 60.40 312 *e*P **P** **19 04 36.7 -0.2**
G15K Niukluk 60.42 29 P **P** **19 04 35.9 -0.8**
baz=290
VYHS Vyhne 60.45 311 *e*P **P** **19 04 37.8 +0.5**
VYHS Vyhne 60.45 311 *e*P **P** **19 04 37.8 +0.5**
VYHS pmax pmax
comp=Z,74nm,1.3s
NBO00 NORSAR Array S 60.52 326 IAmb IAmb 19 04 39.5
comp=Z,29nm,1.1s
NAO01 NORSAR Array S 60.53 326 IAmb IAmb 19 04 39.5
comp=Z,32nm,0.9s
DEL Delary 60.54 320 *e*P **P** **19 04 36.8 -0.9**
E17K Hotham Inlet 60.55 27 P **P** **19 04 37.8 +0.2**
baz=291,SNR=16
C19K Lookout Ridge 60.60 24 P **P** **19 04 38.2 +0.2**
baz=292
BUD Budapest 60.69 309 P **P** **19 04 42.5 +3.6**
MAUC Maruska 60.76 312 *e*P **P** **19 04 39.7 +0.3**
MORC Moravsky Berou 60.79 312⇓ P **P** **19 04 40.2 +0.6**
MORC Moravsky Berou 60.79 312 P **P** **19 04 39.3 -0.3**
MORC Moravsky Berou 60.79 312 *e*P **P** **19 04 39.5 -0.1**
MORC Moravsky Berou 60.79 312⇓ P **P** **19 04 40.2 +0.6**
MORC 19 04 42.4
E18K Tukpahlearik C 60.87 26 P **P** **19 04 39.6 -0.2**
baz=292
OSL Oslo 60.92 325 *e*P **P** **19 04 39.2 -1.0**
DOMB Dombas 60.94 327 *e*P **P** **19 04 39.6 -0.8**
G16K Koyuk River 60.95 28 P **P** **19 04 40.0 -0.4**
baz=291
F17K Baldwin Pennin 60.99 27 P **P** **19 04 40.0 -0.6**
baz=292
SRO Srobarova 61.02 310 *e*P **P** **19 04 43.4 +2.3**
SRO Srobarova 61.02 310 *e*P **P** **19 04 43.4 +2.3**
SRO pmax pmax
comp=Z,26nm,1.1s
JAVC Velka Javorina 61.04 311 *e*P **P** **19 04 42.5 +1.2**
B20K Meade River 61.05 23 P **P** **19 04 41.0 +0.1**
baz=293
M11K Mekoryuk 61.09 35 P **P** **19 04 39.9 -1.4**
baz=291
KRLC Kraliky 61.14 313 *e*P **P** **19 04 42.2 +0.2**
KRLC Kraliky 61.14 313 *e*P **P** **19 04 42.2 +0.2**
KSP Ksiaz 61.16 314 *e*P **P** **19 04 41.6 -0.4**
H16K Elim 61.27 29 P **P** **19 04 41.5 -1.1**
baz=292,SNR=5.6
OSTC Ostas 61.30 314 *e*P **P** **19 04 43.0 -0.1**
OSTC Ostas 61.30 314 *e*P **P** **19 04 43.0 -0.1**
DIVS Divibare 61.31 306 IAmb IAmb 19 04 46.0
comp=Z,31nm,1.3s
SMOL Smolenice 61.31 311 *e*P **P** **19 04 44.0 +0.9**
SMOL pmax pmax
comp=Z,43nm,1.5s
DPC Dobruska-Polom 61.31 313 *e*P **P** **19 04 43.7 +0.5**
DPC Dobruska-Polom 61.31 313 *e*P **P** **19 04 43.7 +0.5**
A22K Sinclair Lake 61.32 21 P **P** **19 04 42.6 -0.1**
baz=294
IDI Anoyia 61.32 295⇓ P **P** **19 04 43.8 +0.3**
IDI Anoyia 61.32 295 LR LR 19 35 13.3
comp=Z,173nm,20.1s,baz=86,slow=40
D19K Kuna River 61.33 24 P **P** **19 04 42.7 -0.2**
baz=293
CHVC Chvalec 61.39 314 *e*P **P** **19 04 44.0 +0.4**
CHVC Chvalec 61.39 314 *e*P **P** **19 04 44.0 +0.4**
MORH Mrgy, Hungar 61.40 308⇓ P **P** **19 04 43.9 +0.2**
J14K Nanwranak Lak 61.42 32 P **P** **19 04 43.0 -0.6**
baz=292
UPC Upice 61.44 314 *e*P **P** **19 04 44.2 +0.2**
UPC Upice 61.44 314 *e*P **P** **19 04 44.2 +0.2**
MODS Modra-Piesok 61.46 311 *e*P **P** **19 04 44.8 +0.7**
MODS Modra-Piesok 61.46 311 *e*P **P** **19 04 44.8 +0.7**
MODS pmax pmax
comp=Z,121nm,1.4s
TYRN Tyrnavos 61.47 300 P **P** **19 04 43.1 -1.2**
VRAC Vranov 61.53 312⇓ P **P** **19 04 45.4 +0.8**
VRAC Vranov 61.53 312 *e*P **P** **19 04 44.9 +0.3**
VRAC Vranov 61.53 312 P **P** **19 04 45.4 +0.8**
VRAC Vranov 61.53 312 LR LR 19 32 54.1
comp=Z,787nm,19.6s,baz=78,slow=38
PMG Port Moresby 61.53 127 P **P** **19 04 44.8 -0.2**
PMG Port Moresby 61.53 127 P **P** **19 04 45.4 +0.4**
PMG Port Moresby 61.53 127 P **P** **19 04 44.8 -0.2**
PMG pmax pmax
comp=Z,52nm,1.1s
PMG Port Moresby 61.53 127 LR LR 19 33 02.6
comp=Z,66nm,18.3s,baz=322,slow=38
AXAR Agios Charalam 61.54 299 P **P** **19 04 43.8 -1.0**
KONO Kongsberg 61.55 325 P **P** **19 04 43.5 -1.0**
KONO Kongsberg 61.55 325 *e*P **P** **19 04 43.7 -0.8**
KONO Kongsberg 61.55 325 P **P** **19 04 43.5 -1.0**
KONO pmax pmax
comp=Z,148nm,1.8s
G17K Kiwalik Mounta 61.57 28 P **P** **19 04 44.3 -0.3**
baz=292
AGG Agios Georgios 61.67 300 IAmb IAmb 19 04 47.2
comp=Z,37nm,0.9s
AGG Agios Georgios 61.67 300 P **P** **19 04 44.3 -1.5**
KRUC Moravsky 61.75 312 *e*P **P** **19 04 46.3 +0.3**
D20K Etivluk River 61.75 24 P **P** **19 04 45.4 -0.3**
baz=294
SKAR Skarslia 61.77 326 *e*P **P** **19 04 44.6 -1.5**
AKN Aaknes 61.80 328 *e*P **P** **19 04 46.0 -0.2**
MAKR Makrakomi, Fth 61.82 300 P **P** **19 04 45.4 -1.3**
KPRO Kipourio 61.98 301 P **P** **19 04 46.6 -1.3**
B21K Ikpikpuk River 62.01 23 P **P** **19 04 47.6 +0.2**
baz=296
E19K Redstone River 62.05 25 IAmb IAmb 19 04 51.6
comp=Z,22nm,1.1s
E19K Redstone River 62.05 25 P **P** **19 04 47.4 -0.4**
baz=294
B22K Teshekpuk Lake 62.07 22 P **P** **19 04 48.0 +0.2**
baz=296,SNR=27
H17K Granite Mounta 62.08 29 IAmb IAmb 19 04 51.9
comp=Z,22nm,0.9s
H17K Granite Mounta 62.08 29 P **P** **19 04 47.8 -0.2**
baz=293,SNR=14
E20K Nigu River 62.08 24 P **P** **19 04 47.9 -0.2**
baz=295,SNR=20
EVR Evrytania 62.09 300 P **P** **19 04 48.2 -0.4**
F19K Shaleruckik Mo 62.12 26 IAmb IAmb 19 04 52.1
comp=Z,26nm,1.1s
F19K Shaleruckik Mo 62.12 26 P **P** **19 04 47.6 -0.6**
baz=294
ANX Ano Chora 62.14 299 P **P** **19 04 48.0 -1.0**
C21K Knifeblade Rid 62.16 23 P **P** **19 04 48.3 -0.2**
baz=296
SOP Sopron 62.17 310 P **P** **19 04 50.9 +2.0**
G18K Tagagawik 62.18 27 P **P** **19 04 48.2 -0.4**
baz=294
I17K Unalakleet 62.18 30 IAmb IAmb 19 04 49.8
comp=Z,24nm,1.2s
I17K Unalakleet 62.18 30 P **P** **19 04 47.9 -0.7**

baz=293,SNR=5.7
TREC Trest 62.21 312 eP P 19 04 42.7 -6.5
EFP Efpalio 62.22 299 P P 19 04 50.2 +0.8
LAKA Lakka 62.24 299 P P 19 04 48.4 -1.2
PVCC Panska Ves 62.29 314 eP P 19 04 49.9 +0.2
PVCC Panska Ves 62.29 314 eP P 19 04 49.9 +0.2
RONA Rosalia, Austr 62.32 310 i pP P 19 04 50.0 0.0
comp=Z,30nm,1.1s,SNR=6.0
L14K Kuka Creek 62.33 33 IAmb IAmb 19 04 51.5
comp=Z,54nm,1.6s
L14K Kuka Creek 62.33 33 P P 19 04 48.8 -1.0
baz=293
M13K Dall Lake 62.39 34 P P 19 04 48.8 -1.3
baz=293
GOPC GO Pecny, Ondr 62.40 313 eP P 19 04 48.4 -2.0
GOPC GO Pecny, Ondr 62.40 313 eP P 19 04 48.4 -2.0
NIKH Nikolski High 62.45 43 P P 19 04 49.5 -1.1
baz=292
PDG Podgorica 62.45 304 ⇓P P 19 04 51.6 +0.7
J16K Anvik River 62.46 30 IAmb IAmb 19 04 54.4
comp=Z,17nm,0.9s
J16K Anvik River 62.46 30 P P 19 04 49.9 -0.7
baz=294
K15K Wolf Creek Mou 62.46 32 IAmb IAmb 19 04 51.9
comp=Z,41nm,1.4s
K15K Wolf Creek Mou 62.46 32 P P 19 04 50.0 -0.7
baz=293,SNR=5.1
CONA Conrad Observa 62.51 311 i pP P 19 04 51.8 +0.5
comp=Z,37nm,1.3s,SNR=14
PRU Pruhonice 62.51 313 eP P 19 04 50.9 -0.3
PRU Pruhonice 62.51 313 eP P 19 04 50.9 -0.3
BRG Berggiesshubel 62.53 314 i P P 19 04 41.0 -10
BRG Amp 19 04 41.6
comp=Z,8.0nm,0.7s
BRG Berggiesshubel 62.53 314 P P 19 04 43.3 -8.0
BRG Amp 19 04 43.6
comp=Z,21nm,0.8s
BRG Berggiesshubel 62.53 314 i P P 19 04 40.9 -10
BRG 19 04 43.2
BRG pmax pmax
comp=Z,8.0nm,0.7s
DAG Danmarks Havn 62.54 347 P P 19 04 51.4 +0.5
DAG pmax pmax
comp=Z,13nm,2.2s
DAG Danmarks Havn 62.54 347 i P P 19 04 48.0 -2.9
DAG IAmb IAmb 19 04 53.8
comp=Z,8.0nm,1.0s
PRA Prague 62.55 313 eP P 19 04 50.4 -1.0
PRA Prague 62.55 313 eP P 19 04 50.4 -1.0
RICC Richard 62.56 314 eP P 19 04 51.8 +0.3
H18K Honhosa River 62.59 28 P P 19 04 50.5 -0.9
baz=294
G19K Purcell Mounta 62.66 27 P P 19 04 50.4 -1.5
baz=295
WB0 Warramunga Arr 62.68 145 IAmb IAmb 19 04 52.5
comp=Z,17nm,0.8s
L15K Ungalak Mounta 62.73 32 P P 19 04 51.0 -1.3
baz=294
E21K Killik River 62.74 24 P P 19 04 52.3 -0.2
baz=297
F20K Avaraart Lake 62.76 26 P P 19 04 52.0 -0.5
baz=296
WRAB Tennant Creek 62.81 145 P P 19 04 52.8 -0.6
WRAB IAmb IAmb 19 04 53.5
comp=Z,20nm,0.8s
WRAB Tennant Creek 62.81 145 P P 19 04 52.8 -0.6
WRAB pmax pmax
comp=Z,21nm,0.9s
WRA Warramunga Arr 62.81 145 P P 19 04 52.9 -0.5
comp=Z,9.8nm,0.6s,baz=339,slow=6.6,SNR=90
comp=Z,9.8nm,0.6s
WB2 Warramunga Arr 62.81 145 P P 19 04 51.9 -1.5
WB2 IAmb IAmb 19 04 53.6
comp=Z,22nm,0.8s
M14K Bethel 62.89 33 IAmb IAmb 19 05 08.6
comp=Z,24nm,1.1s
M14K Bethel 62.89 33 P P 19 04 52.9 -0.5
baz=294
CLL Collm 62.91 315 P P 19 04 52.3 -1.5
CLL IAmb IAmb 19 04 56.5
comp=Z,42nm,1.2s
CLL Collm 62.91 315 i P P 19 04 53.3 -0.4
comp=Z,15nm,1.1s
CLL i Pmax 19 04 55.3
comp=Z,41nm,1.2s
CLL ePP PP 19 07 12.0 +0.3
CLL Collm 62.91 315 i P P 19 04 53.3 -0.4
CLL pmax pmax
comp=Z,41nm,1.2s
WR0 Warramunga Arr 62.92 145 P P 19 04 53.0 -1.1
WR0 IAmb IAmb 19 04 54.1
comp=Z,29nm,1.2s
HSKC Hora Svate Kat 62.93 314 eP P 19 04 53.5 -0.5
ZVC Zvikov 62.94 313 eP P 19 04 54.1 +0.1
D22K Ayikyak River 62.96 23 IAmb IAmb 19 04 58.1
comp=Z,21nm,0.8s
D22K Ayikyak River 62.96 23 P P 19 04 53.3 -0.6
baz=298
PYL PYLOS 62.97 298 P P 19 04 51.9 -2.5
MUD Monsted U'grnd 62.97 321 i P P 19 04 52.5 -1.5
MUD IAmb IAmb 19 04 56.9
comp=Z,142nm,1.4s
ARSA Arzberg 62.98 310 i pP P 19 04 54.3 -0.1
comp=Z,25nm,1.4s,SNR=5.4
EVGI Lefkada island 63.03 300 P P 19 04 52.3 -2.5
J17K VABM Dome 63.04 30 P P 19 04 54.3 -0.2
J17K IAmb IAmb 19 04 55.6
comp=Z,24nm,1.2s
J17K VABM Dome 63.04 30 P P 19 04 53.8 -0.7
baz=295,SNR=6.1
CKRC Cesky Krumlov 63.11 312 eP P 19 04 55.7 +0.5
CKRC Cesky Krumlov 63.11 312 eP P 19 04 55.7 +0.5
BLS5 Blasjo 63.12 325 eP P 19 04 54.9 -0.2
C23K Itkillik River 63.16 22 P P 19 04 54.5 -0.6
baz=299
H19K Roundabout Mou 63.16 27 IAmb IAmb 19 04 59.9
comp=Z,36nm,1.2s
H19K Roundabout Mou 63.16 27 P P 19 04 54.7 -0.5
baz=296
SNART Snartemo 63.20 324 eP P 19 04 55.1 -0.4
BER Bergen 63.24 326 eP P 19 04 55.3 -0.5
GCSA Galena City Sc 63.34 28 P P 19 04 56.2 -0.2
baz=296
N14K Kuskokwak Cree 63.35 34 P P 19 04 55.6 -1.0
baz=294
MEEK Meekatharra 63.41 163 P P 19 04 57.7 +0.4
KHC Kasperske Hory 63.43 313 IAmb IAmb 19 05 00.4
comp=Z,58nm,1.6s
KHC Kasperske Hory 63.43 313 eP P 19 04 56.8 -0.5
KHC epP pP 19 04 59.3 -0.6
KHC Kasperske Hory 63.43 313⇑ eP P 19 04 57.2 -0.1
KHC pmax pmax
comp=Z,84nm,1.7s
JMIC Jan Mayen 63.44 340 LR LR 19 35 24.7
comp=Z,250nm,18.6s,baz=264,slow=39
F21K Alatna River 63.46 25 P P 19 04 56.5 -0.7
baz=298
GEC2 GERESS Array S 63.47 312 IAmb IAmb 19 05 00.7
comp=Z,37nm,1.1s
GERES GERESS Array B 63.47 312 P P 19 04 57.7 +0.1
comp=Z,15nm,0.9s,baz=46,slow=7.6,SNR=26
GERES LR LR 19 34 04.0
comp=Z,838nm,21.1s,baz=14,slow=38
comp=Z,15nm,0.9s
M15K Kasigluk River 63.48 33 P P 19 04 56.4 -1.0
baz=295
SOKA Soboth 63.52 310 i pP P 19 04 58.0 0.0
comp=Z,57nm,1.3s,SNR=12
MOA Molln 63.52 311 i pP P 19 04 58.4 +0.5
comp=Z,38nm,1.5s,SNR=7.3
D23K Nanushuk River 63.56 23 P P 19 04 57.4 -0.4
baz=299
L16K Owhat River 63.59 32 P P 19 04 56.7 -1.3
baz=295
E22K Anaktuvuk Pass 63.59 24 IAmb IAmb 19 05 02.0
comp=Z,15nm,0.8s
E22K Anaktuvuk Pass 63.59 24 P P 19 04 57.3 -0.8
baz=299,SNR=16
K17K Iditarod 63.65 30 IAmb IAmb 19 05 02.5
comp=Z,20nm,0.9s
K17K Iditarod 63.65 30 P P 19 04 58.1 -0.5
baz=296
H20K Anotleneega Mo 63.76 27 P P 19 04 58.4 -0.8
baz=297,SNR=19
F22K John River 63.77 24 P P 19 04 58.7 -0.6
baz=298
G21K Allakaket 63.78 26 IAmb IAmb 19 05 00.2
comp=Z,22nm,1.2s
G21K Allakaket 63.78 26 P P 19 04 58.7 -0.7
baz=298
C24K Franklin Bluff 63.79 22 P P 19 04 58.8 -0.5
baz=300
OBKA Obir 63.89 310 eP P 19 04 58.9 -1.6
comp=Z,23nm,1.0s
L17K Donlin 63.91 31 P P 19 04 59.3 -0.9
baz=296
J18K Innoko River 63.97 29 P P 19 04 59.9 -0.7
baz=297
BIOA Bad Ischl, Aus 63.97 311 i pP P 19 05 01.5 +0.6
comp=Z,28nm,0.7s,SNR=13
D24K Happy Valley 64.04 22 IAmb IAmb 19 05 05.0
comp=Z,25nm,1.1s
D24K Happy Valley 64.04 22 P P 19 05 00.3 -0.7
baz=301
TOLK Toolik Lake Re 64.07 23 IAmb IAmb 19 05 05.2
comp=Z,17nm,0.8s
TOLK Toolik Lake Re 64.07 23 P P 19 05 00.6 -0.6
baz=300,SNR=15
M16K Timber Creek 64.11 32 IAmb IAmb 19 05 02.7
comp=Z,31nm,1.4s
M16K Timber Creek 64.11 32 P P 19 05 00.6 -0.9
baz=296
J19K Poorman 64.16 29 IAmb IAmb 19 05 03.0
comp=Z,27nm,1.4s
J19K Poorman 64.16 29 P P 19 05 01.0 -0.9
baz=297
I20K Naaghedeneel 64.23 28 IAmb IAmb 19 05 07.1
comp=Z,36nm,1.1s
I20K Naaghedeneel 64.23 28 P P 19 05 01.7 -0.5
baz=298
G22K Bettles 64.29 25 P P 19 05 02.0 -0.6
baz=299
E23K Chandalar 64.35 23 P P 19 05 02.5 -0.7
baz=300,SNR=14
DBG Daneborg 64.39 345 i P P 19 05 00.7 -2.5
DBG IAmb IAmb 19 05 04.8
comp=Z,26nm,1.4s
KBA Koelnbreinsper 64.41 311 epP P 19 05 04.1 +0.1
comp=Z,19nm,0.8s
MYKA Terra Mystica 64.41 310 epP pP 19 05 05.6 -0.9
comp=Z,5.8nm,0.7s
N16K Nishlik Lake 64.44 33 P P 19 05 02.7 -1.1
baz=296
H21K Melozitna Rive 64.44 26 IAmb IAmb 19 05 04.9
comp=Z,38nm,1.2s
H21K Melozitna Rive 64.44 26 P P 19 05 02.9 -0.8
baz=299
TTA Tatalina 64.50 30 P P 19 05 02.8 -1.3
TTA IAmb IAmb 19 05 08.4
comp=Z,43nm,1.6s
TTA Tatalina 64.50 30 P P 19 05 03.8 -0.4
TTA Tatalina 64.50 30 P P 19 05 03.7 -0.4
baz=297
TTA Tatalina 64.50 30 P P 19 05 02.8 -1.3
TTA pmax pmax
comp=Z,43nm,1.6s
O15K Ungalikthiuk R 64.53 34 P P 19 05 03.5 -0.8
baz=296
L18K Granite Mounta 64.55 31 IAmb IAmb 19 05 06.8
comp=Z,24nm,1.4s
L18K Granite Mounta 64.55 31 P P 19 05 03.7 -0.7
baz=297
COLD Coldfoot 64.58 24 P P 19 05 04.0 -0.6
baz=300,SNR=25
GRFO Grafenberg 64.60 314 P P 19 05 04.8 -0.1
GRFO Grafenberg 64.60 314 P P 19 05 04.9 -0.1
GRFO pmax pmax
comp=Z,83nm,1.2s
M17K Holitna River 64.60 32 IAmb IAmb 19 05 09.2
comp=Z,34nm,1.1s
M17K Holitna River 64.60 32 P P 19 05 04.5 -0.2
baz=297
J20K Nowinta River 64.65 28 IAmb IAmb 19 05 09.2
comp=Z,16nm,0.8s
J20K Nowinta River 64.65 28 P P 19 05 04.7 -0.3
baz=298
LESA Schwarzleotal 64.68 311 epP P 19 05 05.9 +0.2
comp=Z,72nm,0.8s
D25K Kavik River 64.70 21 IAmb IAmb 19 05 09.9
comp=Z,25nm,1.2s
D25K Kavik River 64.70 21 P P 19 05 05.2 -0.2
baz=303
E24K Your Creek 64.71 23 P P 19 05 05.2 -0.2
baz=301
SABO M.te Sabotino 64.71 310 IAmb IAmb 19 06 47.0
comp=Z,90nm,0.8s
C26K Camden Bay 64.80 21 P P 19 05 05.5 -0.4
baz=304
WRKA Warakurna 64.83 154 P P 19 05 06.9 +0.2
H22K Ishtalitna Cre 64.84 26 P P 19 05 05.6 -0.7
baz=303,SNR=9.2
G23K Bananza Creek 64.90 25 P P 19 05 06.0 -0.7
baz=301
CLUD Cludinico 64.96 310 IAmb IAmb 19 05 09.3
comp=Z,21nm,1.0s
I21K Tanana 64.98 27 IAmb IAmb 19 05 12.2
comp=Z,41nm,1.4s
I21K Tanana 64.98 27 P P 19 05 06.6 -0.6
baz=300,SNR=16
ABTA Abfaltersbach 65.07 311 eP P 19 05 07.4 -0.8
comp=Z,13nm,0.8s
K20K Telida 65.08 29 P P 19 05 07.7 -0.2
baz=299
N17K Nushagak Hills 65.11 32 P P 19 05 08.0 -0.1
baz=298
O16K Kokwok River B 65.14 34 IAmb IAmb 19 05 09.4
comp=Z,36nm,1.2s
O16K Kokwok River B 65.14 34 P P 19 05 07.8 -0.5
baz=297
F24K Squaw Lake 65.19 23 IAmb IAmb 19 05 17.0
comp=Z,53nm,2.0s
F24K Squaw Lake 65.19 23 P P 19 05 08.4 -0.2
baz=302
MORW Morawa 65.21 166 P P 19 05 08.7 -0.3
MORW Morawa 65.21 166 P P 19 05 10.2 +1.2
M18K Stony River 65.25 31 P P 19 05 08.4 -0.6
baz=298
CIMO Cimolais 65.30 310 IAmb IAmb 19 05 11.4
comp=Z,81nm,1.6s
L19K White Mountain 65.32 30 IAmb IAmb 19 05 13.5
comp=Z,22nm,1.1s
L19K White Mountain 65.32 30 P P 19 05 08.9 -0.6
baz=299
WTTA Wattenberg 65.39 311 i pP P 19 05 10.2 -0.2
comp=Z,82nm,1.4s,SNR=16
WATA Walderalm 65.39 312 epP P 19 05 10.1 -0.3
comp=Z,46nm,1.2s,SNR=8.9
P16K Nushagak River 65.44 34 P P 19 05 09.7 -0.6
baz=298
CHUM Lake Minchumin 65.50 28 P P 19 05 10.3 -0.2
baz=300
O17K Koliganek Bris 65.50 33 P P 19 05 10.2 -0.4
baz=298
MLY Manley 65.51 26 IAmb IAmb 19 05 12.9
comp=Z,36nm,1.4s
MLY Manley 65.51 26 P P 19 05 10.0 -0.7
baz=301,SNR=13
SVW2 Sparrevohn 65.54 31 P P 19 05 10.6 -0.3
SVW2 Sparrevohn 65.54 31 P P 19 05 11.3 +0.4
L20K Farewell, AK 65.58 30 P P 19 05 10.8 -0.3
baz=299
N18K Kilae Creek 65.60 32 P P 19 05 10.7 -0.6
baz=298
E25K Arctic Village 65.61 22 P P 19 05 10.8 -0.4
baz=304
SQTA Sankt Quirin 65.67 312 i pP P 19 05 11.8 -0.3
comp=Z,29nm,0.7s,SNR=12
MOTA Mosalm 65.68 312 epP P 19 05 11.9 -0.3
comp=Z,63nm,1.2s,SNR=7.4
G24K Hadweenzic Riv 65.77 24 IAmb IAmb 19 05 16.5
comp=Z,17nm,0.9s
G24K Hadweenzic Riv 65.77 24 P P 19 05 12.0 -0.3
baz=303
CAST Castle Rocks 65.82 28 IAmb IAmb 19 05 16.5
comp=Z,68nm,2.0s
CAST Castle Rocks 65.82 28 P P 19 05 12.4 -0.3
baz=300
RETA Reutte 65.82 312 i P P 19 05 12.6 -0.5
comp=Z,30nm,1.5s
ASAR Alice Springs 65.85 148 P P 19 05 13.1 -0.2
comp=Z,9.3nm,0.8s,baz=337,slow=7.1,SNR=119
comp=Z,9.3nm,0.8s
AS01 Alice Springs 65.87 148 P P 19 05 13.4 -0.1
comp=Z,16nm,1.3s
F25K Christian Rive 65.88 23 P P 19 05 12.6 -0.4
baz=304
BPAW Bear Paw Mtn. 65.89 27 IAmb IAmb 19 05 15.5
comp=Z,46nm,1.3s
BPAW Bear Paw Mtn. 65.89 27 P P 19 05 12.4 -0.7
baz=301,SNR=14
CTI Castel Tesino 65.91 310 IAmb IAmb 19 05 15.6
comp=Z,52nm,1.6s
QIS Mount Isa 65.91 141 P P 19 05 13.4 -0.4
I23K Minto, Yukon-K 65.95 26 IAmb IAmb 19 05 17.6
comp=Z,24nm,1.1s
I23K Minto, Yukon-K 65.95 26 P P 19 05 13.3 -0.1
baz=302,SNR=8.0
PPLA Purkeypile 66.05 29 P P 19 05 13.6 -0.7
baz=300,SNR=9.4
FETA Feichten 66.05 312 i pP P 19 05 14.1 -0.5
comp=Z,42nm,1.0s,SNR=7.6
P17K Kvichak River 66.07 33 P P 19 05 14.4 +0.1
baz=299
H24K Noodor Dome 66.10 25 IAmb IAmb 19 05 15.9
comp=Z,30nm,1.6s
H24K Noodor Dome 66.10 25 P P 19 05 13.9 -0.5
baz=303
N19K Bonanza Creek 66.14 31 P P 19 05 14.6 -0.3
baz=300
M20K Styx River 66.18 30 P P 19 05 14.6 -0.5
baz=300
G25K Bearman Lake 66.19 24 P P 19 05 15.0 0.0
baz=304
Q16K King Salmon 66.22 34 P P 19 05 14.8 -0.4
baz=299
INTR Introdacqua 66.23 306 IAmb IAmb 19 05 18.6
comp=Z,21nm,1.2s
F26K Sheenjek River 66.29 22 P P 19 05 15.4 -0.3
baz=305
O18K Koktuh Hills 66.30 33 P P 19 05 15.3 -0.5
baz=299
D27M Malcolm River 66.32 20 P P 19 05 15.4 -0.4
baz=307
NEA2 Nenana 66.35 26 P P 19 05 15.4 -0.6
baz=302,SNR=9.2
AQU L'Aquila 66.42 306 P P 19 05 20.2 +3.3
AQU pmax pmax
comp=Z,54nm,1.4s
DAVA Damuels 66.45 312 i P P 19 05 16.6 -0.6
comp=Z,13nm,0.7s
MDM Murphy Dome 66.45 26 IAmb IAmb 19 05 18.8
comp=Z,39nm,1.3s
NEEM North Greenlan 66.50 354 i P P 19 05 16.0 -1.2
NEEM IAmb IAmb 19 05 19.8
comp=Z,22nm,0.8s
TRF Thorofare Moun 66.50 28 P P 19 05 16.4 -0.8
baz=302
MTSU Mount Surprise 66.51 136 P P 19 05 18.3 +0.7
comp=Z,9.1nm,1.0s
P18K Big Mountain, 66.52 33 IAmb IAmb 19 05 18.7
comp=Z,22nm,1.1s
P18K Big Mountain, 66.52 33 P P 19 05 17.0 -0.2
baz=299
O19K Port Alsworth 66.52 32 IAmb IAmb 19 05 18.1
comp=Z,23nm,1.2s
O19K Port Alsworth 66.52 32 P P 19 05 17.2 0.0
baz=300
CHNA Chernabura Isl 66.62 39 P P 19 05 17.9 0.0
baz=298
COLA College 66.64 26 P P 19 05 17.8 0.0
COLA College 66.64 26 P P 19 05 18.1 +0.3
COLA College 66.64 26 P P 19 05 17.5 -0.3
baz=303
COLA College 66.64 26 P P 19 05 17.8 0.0
COLA pmax pmax
comp=Z,58nm,0.7s
POKR Poker Plat Res 66.65 26 P P 19 05 17.7 -0.3
baz=303,SNR=16
DAVOX Davos/Dischmat 66.68 312 LR LR 19 37 22.2
comp=Z,293nm,21.8s,baz=77,slow=39
Q17K Contact Creek 66.77 34 P P 19 05 18.1 -0.9
baz=299
CCB Clear Creek Bu 66.78 26 IAmb IAmb 19 05 23.0
comp=Z,21nm,1.2s
E27K Coleen River 66.78 21 IAmb IAmb 19 05 20.1
comp=Z,23nm,1.2s
E27K Coleen River 66.78 21 P P 19 05 18.4 -0.4
baz=307
SKT Skwentna 66.78 30 IAmb IAmb 19 05 19.3
comp=Z,27nm,1.4s
SKT Skwentna 66.78 30 P P 19 05 18.1 -0.8
baz=301,SNR=5.7
G26K Porcupine Rive 66.84 23 P P 19 05 18.9 -0.2
baz=306
BLDU Ballidu 66.84 166 P P 19 05 20.3 +0.8
R17K Ugashik Creek 66.85 35 P P 19 05 18.5 -0.8
baz=299
MCK McKinley 66.86 27 P P 19 05 18.8 -0.5
baz=303
D28M Stokes Point 66.89 20 P P 19 05 18.7 -0.6
baz=309
Q18K Katmai Hardscr 66.98 34 P P 19 05 19.3 -1.0
baz=300
IL31 67.04 26 IAmb IAmb 19 05 23.9
comp=Z,23nm,1.1s
ILAR Eielson Array 67.04 26 P P 19 05 19.2 -1.2
comp=Z,15nm,0.9s,baz=290,slow=5.4,SNR=60
ILAR LR LR 19 35 58.9
comp=Z,537nm,19.3s,baz=300,slow=37
comp=Z,15nm,0.9s
CUT Chulitna 67.06 29 P P 19 05 19.7 -0.9
baz=302,SNR=5.6
E28M Babbage River 67.12 20 P P 19 05 20.6 -0.4
baz=309,SNR=11
BTNL Ternell 67.14 317 dP P 19 05 20.2 -1.1
BTNL dx x 19 05 23.7
BTNL dPcP PcP 19 05 45.5 -4.0
TUE Stuetta 67.14 311 IAmb IAmb 19 05 29.2
comp=Z,21nm,0.8s
MEM Membach 67.20 317 dP P 19 05 14.3 -7.3
comp=Z,12nm,1.1s
HDA Harding Lake 67.22 26 P P 19 05 20.7 -0.9
baz=304,SNR=6.7
HDA P P 19 05 20.7 -0.9
baz=304,SNR=6.7
P19K Oil Pt 67.27 32 P P 19 05 21.0 -1.0
baz=301
SCO Scoresbysund 67.32 342 IAmb IAmb 19 05 25.5
comp=Z,27nm,1.3s
BHOU Houvegnez 67.32 316 dP P 19 05 20.5 -2.0
SUA Susitna One 67.37 30 P P 19 05 21.7 -1.0
baz=302,SNR=13
Q19K Cape Douglas, 67.46 33 P P 19 05 22.8 -0.4
baz=301
M22K Willow 67.47 29 P P 19 05 22.7 -0.4
baz=302
CDF Champ du Feu 67.49 314 eP P 19 05 22.7 -1.0
CDF pmax pmax
comp=Z,63nm,1.4s
WAT1 Susitna Watana 67.50 28 P P 19 05 22.8 -0.7
baz=303
WLF Walferdange 67.56 316 dP P 19 05 24.0 0.0
comp=Z,37nm,1.2s
CAPN Captain Cook N 67.57 31 P P 19 05 22.7 -1.1
baz=302
G27K Doyon Strip 67.60 23 IAmb IAmb 19 05 25.6
comp=Z,27nm,1.4s
G27K Doyon Strip 67.60 23 P P 19 05 23.5 -0.5
baz=308,SNR=12
F28M Old Crow 67.65 21 IAmb IAmb 19 05 25.6
comp=Z,30nm,1.3s
F28M Old Crow 67.65 21 P P 19 05 23.3 -1.0
baz=309,SNR=13
ECH Echery 67.66 314 IAmb IAmb 19 05 27.2
comp=Z,48nm,1.4s
J25K Salcha River, 67.66 25 P P 19 05 24.1 -0.4
baz=305
BCLA Clavier 67.69 317 dP P 19 05 24.4 -0.4
comp=Z,13nm,0.9s
E29M Blow River 67.73 20 IAmb IAmb 19 05 26.2
comp=Z,40nm,1.2s
E29M Blow River 67.73 20 P P 19 05 24.4 -0.4
baz=310
DHY Denali Highway 67.81 27 IAmb IAmb 19 05 26.4
comp=Z,42nm,1.4s
DHY Denali Highway 67.81 27 P P 19 05 24.5 -1.0
baz=304,SNR=10
BGES Gesves 67.83 317 dx x 19 05 27.6
RCHB Rochefort 67.85 316 dP P 19 05 25.6 -0.2
WAT6 Susitna Watana 67.95 28 P P 19 05 25.4 -1.1
baz=304
PMR Palmer 67.95 29 IAmb IAmb 19 05 26.4

comp=Z,37nm,1.3s
PMR Palmer 67.95 29 P P 19 05 25.6 -0.6
PMR Palmer 67.95 29 P P 19 05 25.1 -1.1
baz=303
HOM Homer 67.95 32 P P 19 05 25.8 -0.5
baz=302
RC01 Rabbit Creek A 67.98 30 P P 19 05 25.8 -0.6
baz=303
K24K Donnelly Dome 67.99 26 P P 19 05 25.8 -0.7
baz=305,SNR=14
H27K Steamboat Moun 67.99 23 P P 19 05 25.6 -0.9
baz=308
KLBR Kellerberrin 68.00 165 P P 19 05 27.5 +0.7
comp=Z,68nn,0.8s
I26K Coal Creek Min 68.02 24 P P 19 05 26.2 -0.4
baz=307,SNR=8.1
HINF Hinteralfeld 68.02 314 eP P 19 05 27.5 +0.5
HINF pmax pmax
comp=Z,14nn,0.8s
BMRD Maredsous 68.04 317 dP P 19 05 27.2 +0.2
BMRD dx x 19 05 28.9
MUN Mundaring 68.07 167 P P 19 05 27.8 +0.6
GIVF Givet 68.11 316 eP P 19 05 28.5 +1.1
GIVF pmax pmax
comp=Z,21nn,0.8s
RAFF Raffo Rosso 68.11 301 P P 19 05 27.7 0.0
SML Sawmill 68.15 29 P P 19 05 26.0 -1.6
baz=304,SNR=11
HAU Haudompre 68.23 314 eP P 19 05 29.7 +1.4
HAU pmax pmax
comp=Z,38nn,1.3s
DOU Dourbes 68.24 317 dx x 19 05 30.2
A36M Sachs Harbour 68.25 14 P P 19 05 27.1 -0.8
baz=320,SNR=20
BRSE Bradley Lake S 68.30 31 P P 19 05 27.1 -1.3
baz=303
KNK Knik Glacier 68.32 29 IAmb IAmb 19 05 32.0
comp=Z,25nn,1.0s
KNK Knik Glacier 68.32 29 P P 19 05 27.3 -1.3
baz=304
I27K Kandik River 68.35 24 P P 19 05 27.5 -1.3
baz=308
RIDG Independent Ri 68.36 26 P P 19 05 27.5 -1.4
baz=306,SNR=22
J26L Joseph Creek 68.36 25 P P 19 05 27.8 -1.1
baz=307
M23K Glacier View 68.40 29 P P 19 05 27.9 -1.2
baz=304
SII Sitkinak Islan 68.43 35 P P 19 05 28.7 -0.7
baz=301
BAIF Baives 68.48 317 eP P 19 05 30.8 +1.1
BAIF pmax pmax
comp=Z,25nn,1.2s
OHAK Old Harbor 68.50 34 P P 19 05 28.8 -0.9
baz=302
SCRK Sand Creek 68.53 26 IAmb IAmb 19 05 33.1
comp=Z,32nn,0.8s
SCRK Sand Creek 68.53 26 P P 19 05 28.7 -1.2
baz=306,SNR=30
SCM Sheep Creek Mo 68.53 28 P P 19 05 29.4 -0.6
baz=305,SNR=7.2
KDAK Kodiak Island 68.53 34 P P 19 05 29.1 -0.8
baz=302
KDAK Kodiak Island 68.53 34 P P 19 05 28.7 -1.3
comp=Z,21nn,1.1s,baz=36,slow=9.3,SNR=3.9
KDAK LR LR 19 36 46.3
comp=Z,483nn,19.3s,baz=324,slow=37
comp=Z,21nn,1.1s
PAX Paxson 68.58 27 P P 19 05 29.0 -1.3
baz=306
SEW Seward 68.64 31 P P 19 05 29.9 -0.7
baz=304
G29M Pine Creek 68.65 21 IAmb IAmb 19 05 32.7
comp=Z,26nn,1.4s
G29M Pine Creek 68.65 21 P P 19 05 29.6 -1.0
baz=310
KMBL Kambalda 68.74 162 P P 19 05 32.0 +0.6
M24K Tolsona, Glenn 68.82 28 P P 19 05 31.2 -0.6
baz=305
F30M Barrier River 68.84 20 P P 19 05 30.9 -0.8
baz=312
LODK Lodwar 68.92 259 P P 19 05 31.6 -1.5
LODK Lodwar 68.92 259 P P 19 05 35.0 +1.9
SNR=5.9
INK Inuvik 68.99 19 IAmb IAmb 19 05 35.8
comp=Z,18nn,0.8s
INK Inuvik 68.99 19 P P 19 05 31.8 -0.8
baz=314,SNR=25
INK Inuvik 68.99 19 P P 19 05 32.2 -0.4
comp=Z,21nn,0.9s,baz=331,slow=7.8,SNR=26
INK LR LR 19 40 27.8
comp=Z,289nn,18.6s,baz=197,slow=40
comp=Z,21nn,0.9s
H29M Whitestone 69.00 22 IAmb IAmb 19 05 33.6
comp=Z,31nn,1.4s
H29M Whitestone 69.00 22 P P 19 05 32.0 -0.8
baz=310
I28M Miner Creek 69.00 23 IAmb IAmb 19 05 36.7
comp=Z,20nn,0.9s
I28M Miner Creek 69.00 23 P P 19 05 32.1 -0.8
baz=309
EGAK Eagle 69.01 24 P P 19 05 32.2 -0.7
EGAK IAmb IAmb 19 05 33.4
comp=Z,29nn,1.5s
EGAK Eagle 69.01 24 P P 19 05 32.1 -0.7
baz=309
HARP HAARP 69.04 27 P P 19 05 32.4 -0.7
baz=306
CABF La Chapelle 69.06 313 eP P 19 05 35.1 +1.5
CABF pmax pmax
comp=Z,20nn,1.0s
G30M tAoh Zrail Nji 69.14 21 P P 19 05 32.7 -0.9
baz=312
K27K Chicken 69.17 25 P P 19 05 32.8 -1.0
baz=308
SUMG Summit 69.17 348 P P 19 05 33.0 -1.2
SUMG Summit 69.17 348 P P 19 05 33.0 -1.2
SUMG pmax pmax
comp=Z,12nn,1.2s
SUMG Summit 69.17 348 iP P 19 05 31.0 -3.2
SUMG IAmb IAmb 19 05 37.2
comp=Z,7.6nm,0.9s
NWAO Narrogin (SRO) 69.19 166 LR LR 19 35 18.8
comp=Z,260nm,21.5s,baz=13,slow=35
LPG La Plagne 69.20 311 eP P 19 05 34.4 -0.3
LPG pmax pmax
comp=Z,60nm,0.8s
LPL La Plagne 69.20 311 eP P 19 05 34.3 -0.3
LPL pmax pmax
comp=Z,48nm,0.8s
PGF Pioggiola 69.21 308 eP P 19 05 36.3 +1.7
PGF pmax pmax
comp=Z,125nm,1.2s
KLU Klutina 69.28 28 P P 19 05 34.2 -0.4
baz=306,SNR=13
L26K Log Cabin Wild 69.33 26 P P 19 05 34.3 -0.6
baz=307
EPYK Eagle Plains 69.40 22 IAmb IAmb 19 06 03.9
comp=Z,31nn,1.4s
EPYK Eagle Plains 69.40 22 P P 19 05 34.5 -0.8
baz=312,SNR=5.3
BNI Bardonecchia 69.46 311 IAmb IAmb 19 05 44.6
comp=Z,35nn,1.2s
BNI Bardonecchia 69.46 311 P P 19 05 40.8 +4.7
BNI pmax pmax
comp=Z,123nn,1.1s
F31M Tsiigehtchic 69.53 20 IAmb IAmb 19 05 37.3
comp=Z,47nn,1.6s
F31M Tsiigehtchic 69.53 20 P P 19 05 35.2 -0.8
baz=314,SNR=8.4
P23K Montague Islan 69.55 30 P P 19 05 35.6 -0.6
baz=305
MBDF Montbardon 69.56 311 eP P 19 05 36.0 -0.8
MBDF pmax pmax
comp=Z,29nn,0.8s
SBF Sospel 69.57 310 eP P 19 05 35.9 -0.9
SBF pmax pmax
comp=Z,54nn,0.7s
I29M Ogilvie Camp, 69.57 23 P P 19 05 35.3 -1.0
baz=311
EKA Eskdalemuir Ar 69.63 324 P P 19 05 36.2 -0.6
EKA Eskdalemuir Ar 69.63 324 P P 19 05 35.9 -0.9
comp=Z,5.3nm,0.6s,baz=68,slow=6.5,SNR=16
comp=Z,5.3nm,0.6s
N25K Chitina, Valde 69.72 28 IAmb IAmb 19 05 41.5
comp=Z,16nm,0.8s
N25K Chitina, Valde 69.72 28 P P 19 05 35.9 -1.4
baz=307
G31M Satah River 69.74 20 IAmb IAmb 19 05 40.4
comp=Z,16nm,0.8s
G31M Satah River 69.74 20 P P 19 05 37.2 -0.1
baz=314,SNR=9.4
M26K Nabesna, AK 69.84 27 IAmb IAmb 19 05 44.6
comp=Z,26nn,1.2s
M26K Nabesna, AK 69.84 27 P P 19 05 37.8 -0.3
baz=308,SNR=5.3
L27K Beaver Creek, 69.85 26 IAmb IAmb 19 05 39.7
comp=Z,29nn,1.4s
L27K Beaver Creek, 69.85 26 P P 19 05 37.8 -0.4
baz=308,SNR=9.6
EYAK Cordova Ski Ar 69.90 29 P P 19 05 37.7 -0.6
baz=306
RES Resolute Bay 69.92 5 IAmb IAmb 19 05 40.5
comp=Z,42nn,1.6s
FORT Forrest 70.00 156 IAmb IAmb 19 05 40.8
comp=Z,57nn,1.4s
FORT Forrest 70.00 156 P P 19 05 39.9 +0.6
ORIF Oris-en-Rattie 70.02 311 eP P 19 05 38.8 -0.7
ORIF pmax pmax
comp=Z,32nn,0.9s
DAWY Dawson 70.06 24 P P 19 05 38.8 -0.6
baz=310
LOR Lormes 70.06 314 eP P 19 05 40.3 +0.6
LOR pmax pmax
comp=Z,46nn,1.4s
BMRM Bremner River 70.10 28 P P 19 05 39.0 -0.7
baz=307
KMBO Kilima Mbogo 70.14 254 P P 19 05 40.6 -0.3
KMBO IAmb IAmb 19 05 44.1
comp=Z,39nn,1.1s
KMBO Kilima Mbogo 70.14 254 iP P 19 05 40.5 -0.3
SNR=24
KMBO Kilima Mbogo 70.14 254 P P 19 05 43.4 +2.6
KMBO P P 19 05 43.4 +2.6
KMBO Kilima Mbogo 70.14 254 iP P 19 05 40.7 -0.2
KMBO pmax pmax
comp=Z,21nn,0.9s
KMBO Kilima Mbogo 70.14 254 P P 19 05 40.8 0.0
comp=Z,21nn,0.9s,baz=46,slow=9.9,SNR=36
KMBO LR LR 19 37 37.6
comp=Z,77nn,20.3s,baz=84,slow=37
comp=Z,21nn,0.9s
OOD Oodnadatta 70.23 148 P P 19 05 40.8 +0.1
KIBK Kibwezi 70.27 252 P P 19 05 40.9 -0.6
KIBK IAmb IAmb 19 05 44.8
comp=Z,18nn,0.8s
KIBK Kibwezi 70.27 252 P P 19 05 44.5 +3.0
SNR=5.5
I30M Mount Dempster 70.27 22 IAmb IAmb 19 05 41.1
comp=Z,30nn,1.2s
I30M Mount Dempster 70.27 22 P P 19 05 40.1 -0.7
baz=312
M27K Edge Creek, AK 70.28 26 IAmb IAmb 19 05 45.9
comp=Z,30nn,1.1s
M27K Edge Creek, AK 70.28 26 P P 19 05 40.4 -0.5
baz=309
Q23K Middleton Isla 70.32 30 P P 19 05 39.4 -1.5
baz=306
SSF Saint Saulge 70.38 314 eP P 19 05 41.8 +0.3
SSF pmax pmax
comp=Z,236nm,2.7s
SMF Signal de Mont 70.39 314 eP P 19 05 40.5 -1.2
SMF pmax pmax
comp=Z,48nn,0.9s
LMR La Mourre 70.42 310 eP P 19 05 40.9 -1.0
LMR pmax pmax
comp=Z,30nn,1.0s
MCARA McCarthy VSAT 70.46 28 P P 19 05 40.9 -0.9
baz=308
H31M Peel River 70.50 21 IAmb IAmb 19 05 42.5
comp=Z,38nn,1.1s
H31M Peel River 70.50 21 P P 19 05 41.1 -0.9
baz=314
C36M Paulatuk 70.54 16 IAmb IAmb 19 05 42.5
comp=Z,50nn,1.2s
C36M Paulatuk 70.54 16 P P 19 05 41.5 -0.6
baz=321,SNR=21
AVF Avril sur Loir 70.60 314 eP P 19 05 41.9 -1.0
AVF pmax pmax
comp=Z,45nn,1.0s
BVCY Beaver Creek 70.61 26 P P 19 05 41.9 -0.8
baz=310
J30M Hart River 70.73 23 P P 19 05 42.8 -0.7
baz=312
VIVF Saint-Julien-l 70.80 312 eP P 19 05 43.3 -0.9
VIVF pmax pmax
comp=Z,56nn,1.2s
K29M Barlow Dome 70.83 24 P P 19 05 43.5 -0.7
baz=312
L29M L29M 71.11 25 P P 19 05 45.3 -0.5
baz=311,SNR=7.6
YUK3 Moose Creek 71.16 26 P P 19 05 45.4 -0.9
baz=310
UPNV Upernavik 71.34 353 iP P 19 05 47.0 +0.1
UPNV IAmb IAmb 19 05 50.5
comp=Z,20nn,0.8s
CTG Chitna Glacier 71.36 27 P P 19 05 46.7 -0.7
baz=310
M29M Somme Creek 71.44 25 IAmb IAmb 19 06 08.8
comp=Z,57nn,1.7s
M29M Somme Creek 71.44 25 P P 19 05 47.0 -0.9
baz=311
TCF Toulx Ste Croi 71.54 314 eP P 19 05 47.8 -0.9
TCF pmax pmax
comp=Z,99nn,1.4s
MESA MESA 71.62 28 P P 19 05 48.2 -0.9
baz=309
LDF La Druitiere 71.66 317 eP P 19 05 50.6 +1.3
LDF pmax pmax
comp=Z,65nn,1.5s
YUK8 Steele Glacier 71.74 27 P P 19 05 48.8 -1.1
baz=311
MULG Mulgathing 71.74 151 P P 19 05 50.5 +0.6
FLN La Foliniere 71.77 317 eP P 19 05 48.9 -1.1
FLN pmax pmax
comp=Z,49nn,1.2s
M30M Minto, Yukon 71.93 25 P P 19 05 50.7 0.0
baz=313
YUK4 Talbot Arm 72.10 26 P P 19 05 51.6 -0.4
baz=312
GRR Gorron 72.18 317 eP P 19 05 53.0 +0.5
GRR pmax pmax
comp=Z,35nn,0.9s
ICESG Greenland Ices 72.32 346 iP P 19 05 52.7 -0.6
ICESG IAmb IAmb 19 05 55.2
comp=Z,31nn,1.4s
CAF Calviac 72.34 313 eP P 19 05 53.2 -0.3
CAF pmax pmax
comp=Z,27nn,1.0s
KEST Kesra 72.36 301 IAmb IAmb 19 05 57.0
comp=Z,63nn,1.6s
KEST Kesra 72.36 301 P P 19 05 54.0 +0.1
comp=Z,17nn,1.2s,baz=54,slow=3.1,SNR=6.1
KEST LR LR 19 43 31.6
comp=Z,83nn,18.4s,baz=306,slow=41
comp=Z,17nn,1.2s
RJF Les Rejaudoux 72.47 313 eP P 19 05 55.8 +1.5
RJF pmax pmax
comp=Z,93nn,1.4s
YUK6 Outpost Mounta 72.47 26 P P 19 05 53.8 -0.5
baz=312
INKA Innaminka 72.48 144 P P 19 05 54.9 +0.6
N30M Aishikik Lake 72.58 26 IAmb IAmb 19 05 59.8
comp=Z,34nn,1.4s
N30M Aishikik Lake 72.58 26 P P 19 05 54.2 -0.5
baz=313
MFF Saint Martin d 72.75 315 eP P 19 05 55.1 -0.8
MFF pmax pmax
comp=Z,86nn,1.1s
O29M Mount Kennedy 72.82 27 P P 19 05 54.7 -1.5
baz=312
HYT Haines Junctio 72.86 26 IAmb IAmb 19 06 01.3
comp=Z,25nn,1.1s
HYT Haines Junctio 72.86 26 P P 19 05 54.6 -1.9
baz=312
PNL Peninsula 72.93 28 P P 19 05 56.1 -0.7
baz=311
M31M Drury Creek, Y 73.00 24 P P 19 05 57.0 -0.1
baz=315
N31M Braeburn, Yuko 73.02 25 IAmb IAmb 19 06 01.4
comp=Z,23nn,0.8s
N31M Braeburn, Yuko 73.02 25 P P 19 05 56.6 -0.7
baz=314
MTLF Montolieu 73.09 311 eP P 19 05 58.9 +0.9
MTLF pmax pmax
comp=Z,91nn,1.9s
SGMF Saint Gilles 73.20 317 eP P 19 05 57.9 -0.6
SGMF pmax pmax
comp=Z,18nn,0.5s
QLP Quilpie 73.26 141 P P 19 06 00.3 +1.3
FARO Faro, Yukon 73.33 24 P P 19 05 58.3 -0.7
baz=315
O30N Mendenhall 73.41 26 IAmb IAmb 19 06 04.3
comp=Z,28nn,1.2s
O30N Mendenhall 73.41 26 P P 19 05 59.0 -0.6
baz=314
ROSF Rostrenen 73.55 318 eP P 19 06 02.5 +1.9
ROSF pmax pmax
comp=Z,136nm,1.5s
P29M Windy Craggy 73.59 27 P P 19 06 00.2 -0.4
baz=313
LCRK Leigh Creek 73.62 148 P P 19 06 01.1 +0.1
QUIF Quistinic 73.73 317 eP P 19 06 03.0 +1.4
QUIF pmax pmax
comp=Z,93nn,1.4s
WHY Whitehorse 73.92 25 P P 19 06 01.5 -1.2
baz=314
ILULI Ilulissat 74.10 350 IAmb IAmb 19 06 05.6
comp=Z,76nn,1.5s
N32M Quiet Lake 74.19 24 P P 19 06 03.0 -1.2
baz=316
EPF Esparros 74.42 312 eP P 19 06 05.4 -0.4
EPF pmax pmax
comp=Z,41nn,1.7s
SKAG Skagway 74.60 26 IAmb IAmb 19 06 08.1
comp=Z,72nn,1.4s
SKAG Skagway 74.60 26 P P 19 06 07.4 +1.0
SKAG Skagway 74.60 26 P P 19 06 05.5 -1.0
baz=314
BBOO Buckleboo 74.77 151 IAmb IAmb 19 06 08.5
comp=Z,34nn,1.3s
P33M Teslin, Yukon 74.95 25 P P 19 06 08.2 -0.5
baz=316
ETSF Etsaut 75.04 312 eP P 19 06 09.8 +0.4
ETSF pmax pmax
comp=Z,7.0nm,0.6s
P32M Atlin 75.09 26 P P 19 06 08.4 -1.0
baz=316
SJPF Ste Jean 75.32 313 eP P 19 06 13.5 +2.5
SJPF pmax pmax
comp=Z,47nn,1.2s
DY2G Dye2 75.84 347 iP P 19 06 12.8 -0.9
DY2G IAmb IAmb 19 06 14.6
comp=Z,97nn,1.7s
EIDS Eidsvold 76.05 135 IAmb IAmb 19 06 16.8
comp=Z,30nn,1.4s
EIDS Eidsvold 76.05 135 P P 19 06 15.9 +0.7
SFJD Kangerlussuaq 76.08 349 P P 19 06 13.5 -1.4
SFJD IAmb IAmb 19 06 17.0
comp=Z,51nn,1.4s
SFJD Kangerlussuaq 76.08 349 P P 19 06 13.5 -1.4
SFJD pmax pmax
comp=Z,51nn,1.5s
SFJD Kangerlussuaq 76.08 349 iP P 19 06 12.2 -2.7
SFJD IAmb IAmb 19 06 16.6
comp=Z,28nn,1.1s
SFJD Kangerlussuaq 76.08 349 LR LR 19 41 12.3
comp=Z,273nn,18.2s,baz=24,slow=37
R33M Jennings River 76.19 25 P P 19 06 15.6 -0.2
baz=318
SIT Sitka 76.29 28 P P 19 06 15.5 -0.6
baz=315
STKA Stephens Creek 76.35 146 P P 19 06 16.5 -0.3
STKA Stephens Creek 76.35 146 ij iP P 19 06 16.9 +0.1
STKA Stephens Creek 76.35 146 P P 19 06 16.2 -0.5
comp=Z,3.8nn,0.6s,baz=329,slow=7.8,SNR=5.0
comp=Z,3.8nn,0.6s
WTLY Watson Lake, Y 76.38 24 P P 19 06 16.0 -0.8
baz=319
HTT Hallett 76.49 149 P P 19 06 17.9 +0.3
VOI Vohitsoka 77.11 231 P P 19 06 23.9 +2.5
DLBC Dease Lake 77.23 25 P P 19 06 21.2 -0.4
baz=319
DLBC Dease Lake 77.23 25 P P 19 06 21.3 -0.4
comp=Z,9.0nm,1.1s,baz=288,slow=4.3,SNR=3.5
DLBC LR LR 19 43 22.5
comp=Z,466nn,18.0s,baz=308,slow=38
comp=Z,9.0nm,1.1s
S34M Telegraph Cree 77.23 26 P P 19 06 21.3 -0.2
baz=318
U33K Whale Pass 77.82 28 P P 19 06 24.6 -0.2
baz=317
KOTAN Kotaneelee Air 77.86 22 P P 19 06 24.3 -0.7
baz=323
CMSA Cobar Meteorol 78.03 143 P P 19 06 26.8 +0.6
CRAG Craig 78.29 28 P P 19 06 27.1 -0.3
baz=317
YKA Yellowknife Ar 78.40 16 iP P 19 06 27.6 -0.4
YKA pmax pmax
comp=Z,8.0nm,0.9s
YKA Yellowknife Ar 78.40 16 P P 19 06 27.4 -0.5
comp=Z,7.9nm,0.9s,baz=326,slow=5.2,SNR=40
YKA LR LR 19 44 15.4
comp=Z,195nm,20.7s,baz=335,slow=38
comp=Z,7.9nm,0.9s
V35K Ketchikan 78.97 28 P P 19 06 31.0 -0.2
baz=318
ESDC Sonseca Array 78.99 311 IAmb IAmb 19 06 34.7
comp=Z,34nn,1.4s
ESDC Sonseca Array 78.99 311 P P 19 06 31.6 -0.2
comp=Z,10nn,0.9s,baz=47,slow=5.3,SNR=25
ESDC LR LR 19 43 53.5
comp=Z,321nn,19.9s,baz=28,slow=38
comp=Z,10nn,0.9s
FOMA Nahampoana Res 79.21 229 P P 19 06 35.0 +2.1
PBRG Braganca 79.39 314 eP P 19 06 35.8 +1.9
comp=Z,39nn,1.5s
MVO Moncorvo 79.95 314 eP P 19 06 37.6 +0.6
comp=Z,30nn,1.5s
ARPS Mount Arapiles 80.58 149 P P 19 06 40.7 +0.7
comp=Z,24nn,1.0s
MTE Manteigas 80.73 313 eP P 19 06 41.4 +0.2
comp=Z,54nn,1.6s
PVIS Viseu 80.75 314 eP P 19 06 43.8 +2.6
PCBR Castelo Branco 81.04 313 eP P 19 06 42.9 +0.2
comp=Z,28nn,1.5s
PMRV Marv??o 81.24 312 eP P 19 06 44.3 +0.4
comp=Z,38nn,1.4s
COI Coimbra 81.37 313 eP P 19 06 45.5 +1.0
comp=Z,70nn,1.4s
PESTR Estremoz 81.71 312 eP P 19 06 46.8 +0.4
comp=Z,26nn,1.5s
PBAR Barrancos 81.81 311 eP P 19 06 49.1 +2.3
comp=Z,55nn,1.7s
PMTG Montargil 81.97 312 eP P 19 06 49.5 +1.8
comp=Z,34nn,1.5s
TAM Tamanrasset 82.16 292 P P 19 06 50.4 +1.2
PBEJ Beja 82.41 311 eP P 19 06 49.1 -0.9
comp=Z,34nn,1.4s
CAN Canberra 82.70 143 P P 19 06 52.9 +1.5
BBB Bela Bella 82.72 28 LR LR 19 45 46.7
comp=Z,344nn,20.6s,baz=330,slow=37
MESJ Messejana 82.74 311 eP P 19 06 52.3 +0.5
comp=Z,43nn,1.4s
MESJ Messejana 82.74 311 eP P 19 06 51.3 -0.5
MESJ IAmb IAmb 19 06 54.8
comp=Z,43nn,1.3s
MESJ Messejana 82.74 311 eP P 19 06 51.2 -0.5
PNCL Nicolau / Gran 82.76 312 eP P 19 06 52.2 +0.4
comp=Z,50nn,1.7s
PBDV Barranco-do-Ve 82.94 311 eP P 19 06 55.8 +3.0
comp=Z,55nn,1.6s
MORF Marmelete 83.35 311 eP P 19 06 57.5 +2.6
comp=Z,46nn,1.5s
DZM Mont Dzumac 83.50 123 IAmb IAmb 19 07 00.1
comp=Z,34nn,1.2s
DZM Mont Dzumac 83.50 123 P P 19 06 57.5 +1.6
DZM Mont Dzumac 83.50 123 eP P 19 06 53.4 -2.5
comp=Z,58nn,1.2s
DZM Mont Dzumac 83.50 123 eLR LR 19 33 09.8
comp=Z,284nm,20.8s
MDT Midelt 83.54 306 LR LR 19 46 19.5
comp=Z,178nn,18.4s,baz=32,slow=37
FCC Fort Churchill 85.54 8 IAmb IAmb 19 07 07.0
comp=Z,26nn,1.3s
LSZ Lusaka 85.88 248 P P 19 07 06.4 -1.6
LSZ IAmb IAmb 19 07 10.7
comp=Z,18nn,0.8s
LSZ Lusaka 85.88 248 P P 19 07 08.3 +0.3
LSZ P P 19 07 08.3 +0.3
LSZ Lusaka 85.88 248 P P 19 07 06.4 -1.6

LSZ					pmax	pmax		
	comp=Z,18nm,0.8s							
LSZ	**Lusaka**	**85.88**	**248**		LR	LR	19 44 48.9	
	comp=Z,140nm,18.9s,baz=44,slow=35							
EDM	**Edmonton**	**86.86**	**20**		IAmb	IAmb	19 07 14.0	
	comp=Z,32nm,1.4s							
FFC	**Flin Flon**	**88.20**	**14**		P	**P**	**19 07 17.6**	**-1.0**
FFC					IAmb	IAmb	19 07 20.9	
	comp=Z,15nm,0.9s							
FFC	**Flin Flon**	**88.20**	**14**		P	**P**	**19 07 17.6**	**-1.0**
FFC					pmax	pmax		
	comp=Z,15nm,1.0s							
SCHQ	**Schefferville**	**89.90**	**354**		P	**P**	**19 07 26.3**	**-0.4**
	comp=Z,12nm,0.9s,baz=340,slow=8.2,SNR=4.5							
	comp=Z,12nm,0.9s							
C09A	**Chrisman Ranch**	**89.97**	**26**		IAmb	IAmb	19 07 29.0	
	comp=Z,30nm,1.4s							
NEW	**Newport**	**89.98**	**25**		P	**P**	**19 07 26.9**	**-0.3**
	baz=329							
NEW	**Newport**	**89.98**	**25**		P	**P**	**19 07 26.7**	**-0.4**
	comp=Z,5.4nm,1.0s,baz=323,slow=4.4,SNR=5.2							
NEW					LR	LR	19 50 39.1	
	comp=Z,451nm,20.6s,baz=332,slow=38							
	comp=Z,5.4nm,1.0s							
TOA0	**Torodi Ar. Sit**	**90.70**	**287**		IAmb	IAmb	19 07 33.5	
	comp=Z,38nm,1.6s							
TOA0	**Torodi Ar. Sit**	**90.70**	**287**		P	**P**	**19 07 31.1**	**+0.1**
	SNR=5.1							
TOA0					P	**P**	**19 07 31.1**	**+0.1**
	SNR=5.1							
TORD	**Torodi Ar. Bea**	**90.70**	**287**		IAmb	IAmb	19 07 33.5	
	comp=Z,27nm,1.5s							
TORD	**Torodi Ar. Bea**	**90.70**	**287**		P	**P**	**19 07 30.6**	**-0.4**
	comp=Z,7.4nm,1.0s,baz=35,slow=5.7,SNR=24							
TORD					PP	**PP**	**19 11 06.9**	**+0.9**
	comp=Z,1.7nm,1.0s,baz=46,slow=11,SNR=5.4							
TORD					LR	LR	19 53 08.7	
	comp=Z,300nm,19.7s,baz=66,slow=39							
	comp=Z,7.4nm,1.0s							
I04A	**Tendick Farm,**	**91.72**	**30**		IAmb	IAmb	19 07 36.7	
	comp=Z,17nm,1.2s							
MSO	**Missoula**	**92.30**	**24**		P	**P**	**19 07 37.4**	**-0.6**
	baz=331							
PINE	**Pine Mountain**	**92.32**	**30**		IAmb	IAmb	19 07 40.6	
	comp=Z,14nm,1.0s							
EGMT	**Eagleton**	**92.53**	**21**		P	**P**	**19 07 38.2**	**-0.8**
	baz=335							
K05A	**Summer Lake**	**93.23**	**30**		IAmb	IAmb	19 07 45.4	
	comp=Z,38nm,1.7s							
YBH	**Yreka Blue Hor**	**93.28**	**32**		LR	LR	19 48 55.8	
	comp=Z,275nm,21.0s,baz=333,slow=35							
ULM	**Lac du Bonnet**	**93.57**	**11**		P	**P**	**19 07 42.7**	**-1.0**
	comp=Z,2.8nm,0.8s,baz=250,slow=1.6,SNR=3.8							
ULM					LR	LR	19 53 55.8	
	comp=Z,121nm,18.4s,baz=340,slow=38							
	comp=Z,2.8nm,0.8s							
DGMT	**Dagmar**	**93.59**	**17**		P	**P**	**19 07 42.9**	**-1.0**
	baz=339							
LBTB	**Lobatse**	**93.71**	**242**		LR	LR	19 47 24.0	
	comp=Z,103nm,20.6s,baz=36,slow=34							
BOZ	**Bozeman (W)**	**94.14**	**23**		P	**P**	**19 07 45.1**	**-1.5**
	baz=333							
HLID	**Hailey**	**95.00**	**26**		P	**P**	**19 07 49.8**	**-0.8**
	baz=331							
AGMN	**Agassiz Nation**	**95.47**	**12**		P	**P**	**19 07 51.6**	**-0.9**
	baz=346							
H17A	**Grant Village**	**95.55**	**23**		P	**P**	**19 07 52.3**	**-0.9**
	baz=334							
BOSA	**Boshof**	**96.10**	**239**		LR	LR	19 48 42.7	
	comp=Z,116nm,20.3s,baz=16,slow=34							
TSUM	**Tsumeb**	**96.35**	**251**		LR	LR	19 51 28.5	
	comp=Z,94nm,21.5s,baz=76,slow=36							
EYMN	**Ely**	**96.46**	**9**		P	**P**	**19 07 55.0**	**-2.0**
	baz=349							
ELK	**Elko**	**97.14**	**28**		LR	LR	19 54 46.2	
	comp=Z,280nm,19.0s,baz=342,slow=37							
BW06	**Boulder Array**	**97.33**	**23**		IAmb	IAmb	19 08 51.5	
	comp=Z,6.6nm,0.7s							
PD31	**Pinedale Array**	**97.34**	**23**		IAmb	IAmb	19 08 46.9	
	comp=Z,5.9nm,0.6s							
PDAR	**Pinedale Array**	**97.34**	**23**		LR	LR	19 54 47.3	
	comp=Z,389nm,18.6s,baz=344,slow=37							
NVAR	**Mina Array Bea**	**97.90**	**31**		LR	LR	19 53 50.6	
	comp=Z,243nm,19.4s,baz=329,slow=36							
R11B	**Troy Canyon, C**	**99.08**	**29**		P	**Pdif**	**19 08 08.0**	**-1.2**
	baz=330							
SNCC	**San Nicolas Is**	**101.70**	**34**		P	**Pdif**	**19 08 19.1**	**-1.6**
	baz=326							
PDMCI	**Parker Dam,Lak**	**103.16**	**30**		P	**Pdif**	**19 08 25.2**	**-1.9**
	baz=330							
M53A	**WI Miller and**	**103.79**	**2**		P	**Pdif**	**19 08 28.0**	**-1.9**
	baz=358							
SFIN	**Lafayette**	**104.43**	**7**		P	**Pdif**	**19 08 30.9**	**-1.8**
	baz=352							
O53A	**New Philadelph**	**104.96**	**2**		P	**Pdif**	**19 08 33.3**	**-1.8**
	baz=357							
TZTN	**Tazewell**	**108.54**	**5**		P	**PKiKP**	**19 12 56.1**	**-0.6**
	baz=355							
WVT	**Waverly**	**108.55**	**8**		P	**PKiKP**	**19 12 55.5**	**-1.2**
	baz=352							
MNTX	**Cornudas Mount**	**108.77**	**24**		P	**PKiKP**	**19 12 56.8**	**-0.5**
	baz=337							
PPT2	**Papeete2**	**114.85**	**95**	*e*	LR	LR	19 47 33.7	
	comp=Z,205nm,22.8s							
PPT2				*e*	LR	LR	19 47 42.0	
	comp=Z,171nm,25.5s							
TBI	**Tubuai**	**117.80**	**100**	*e*	LR	LR	19 48 20.7	
	comp=Z,2μm,40.2s							
TAOE	**Nuku Hiva Isla**	**117.85**	**81**	*e*	LR	LR	19 48 57.1	
	comp=Z,228nm,22.7s							
VNDA	**Vanda**	**118.00**	**168**		PKP	**PKiKP**	**19 13 13.8**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=323,slow=2.1,SNR=3.7							
ELIB	**Princess Elisa**	**119.55**	**201**	*d*	PKPdf	**PKPdf**	**19 13 15.2**	**-1.4**
SJMB	**Sao Joao De Ma**	**143.50**	**287**	*e*	P	PKPbc	19 14 01.1	+0.9
JANB	**Januaria**	**143.73**	**295**	*e*	P	**PKPdf**	**19 14 02.3**	**-1.1**
NPGB	**Novo Progresso**	**145.12**	**318**	*e*	P	**PKPbc**	**19 14 04.3**	**-1.1**
DIAM	**Diamantina, MG**	**145.21**	**290**	*e*	P	**PKPab**	**19 14 05.9**	**+0.1**
BDFB	**Brasilia**	**146.82**	**298**		PKPbc	**PKPbc**	**19 14 09.8**	**-0.8**
	comp=Z,9.9nm,0.6s,baz=106,slow=3.4,SNR=13							
BSCB	**Bom Sucesso**	**147.58**	**287**	*e*	P	**PKPdf**	**19 14 08.7**	**-1.2**
BOSC	**San Juan Bosco**	**148.21**	**1**			**PKPdf**	**19 14 07.1**	**-4.3**
MCRA	**Macar, Loja**	**149.37**	**4**		PKPdf	**PKPdf**	**19 14 09.9**	**-3.3**
SAML	**Samuel**	**150.61**	**329**		PKPdf	**PKPdf**	**19 14 11.8**	**-3.1**
SAML	**Samuel**	**150.61**	**329**		PKIKP	**PKPdf**	**19 14 11.8**	**-3.1**
ETMB	**Extrema**	**152.59**	**334**		PKPdf	**PKPdf**	**19 14 14.3**	**-3.6**
PTLB	**Pontes e Lacer**	**154.07**	**314**			**PKPdf**	**19 14 17.9**	**-2.1**
BBSD	**Serra de San D**	**156.31**	**314**	*e*	P	**PKPdf**	**19 14 21.7**	**-1.3**

IDC 14 18:54:45.6±661.0,54°.36N×5°.39E,h0km, Error ellipse: s-maj=311.4km s-min=132.5km az=124.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**7.56**	**133**	I	I	19 38 30.9	
	0.1nm,0.8s,baz=317,slow=320,SNR=1.6						
I43RU	**DUBNA INFRASON**	**18.08**	**70**	I	I	20 38 50.0	
	baz=275,slow=324,SNR=1.8						
I48TN	**KESRA INFRASON**	**18.76**	**170**	I	I	20 53 40.0	
	baz=351,slow=314,SNR=0.6						
I31KZ	**AKTYUBINSK INF**	**31.75**	**75**	I	I	22 09 00.0	
	baz=297,slow=342,SNR=0.6						

*OSPL **14** 18:57:58.3±0.3,20°.36N×74°.44W,h13km±2km, ML1.8*
*SSNC **14** 18:57:59.2±1.5,20°.19N×74°.44W,h5km±5km,MD2.6, ML1.9,MW2.3*

ISC 14 18:57:58.0±1.0,20°.26N±0°.06×74°.42W±0°.04,h27km±7km, n15,σ0°68/26, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNEO	**Boca de Quibij**	**0.17**	**293**	*e*P	**Pb**	**18 58 03.7**	**0.0**
GNEO				*e*S	**Sb**	**18 58 07.5**	**0.0**
GNEO				IAML		18 58 08.1	
	comp=N,922nm,0.2s						
GNEO				IAML		18 58 08.1	
	comp=E,838nm,0.2s						
MASC	**Masc**	**0.20**	**115**	*i* P	**Pb**	**18 58 03.7**	**-0.2**
MASC				*e*S	**Sb**	**18 58 07.7**	**-0.1**
MASC				IAML		18 58 09.2	
	comp=Z,234nm,0.3s						
MASC	**Masc**	**0.20**	**115**	*e*P	**Pb**	**18 58 03.7**	**-0.2**
MASC				*e*S	**Sb**	**18 58 07.2**	**-0.6**
MASC				IAML		18 58 08.2	
	comp=N,238nm,0.1s						
MASC				IAML		18 58 09.0	
	comp=E,276nm,0.1s						
NMDO	**Nuevo Mundo**	**0.60**	**300**	*e*P	**Pb**	**18 58 10.2**	**+0.1**
NMDO				*e*S	**Sn**	**18 58 19.8**	**0.0**
NMDO				IAML		18 58 21.0	
	comp=N,94nm,0.2s						
NMDO				IAML		18 58 21.2	
	comp=E,40nm,0.2s						
MOAC	**Moa**	**0.64**	**309**	*e*P	**Pn**	**18 58 11.2**	**-0.2**
MOAC				*e*S	**Sn**	**18 58 21.0**	**+0.3**
MOAC				IAML		18 58 23.6	
	comp=E,92nm,0.2s						
MOAC				IAML		18 58 25.4	
	comp=N,58nm,0.2s						
GTBY	**Guantanamo Bay**	**0.72**	**243**	*i* P	**Pb**	**18 58 11.9**	**-0.2**
GTBY				*e*S	**Sb**	**18 58 21.9**	**+0.2**
GTBY				IAML		18 58 28.6	
	comp=Z,27nm,1.3s						
GTBY	**Guantanamo Bay**	**0.72**	**243**	*e*P	**Pb**	**18 58 12.0**	**-0.2**
GTBY				*e*S	**Sb**	**18 58 21.7**	**0.0**
GTBY				IAML		18 58 23.7	
	comp=Z,45nm,0.3s						
GTBY				IAML		18 58 24.8	
	comp=Z,30nm,0.3s						
SABCS	**La Quijada**	**0.84**	**277**	*e*P	**Pn**	**18 58 14.2**	**0.0**
SABCS				*e*S	**Sn**	**18 58 25.5**	**-0.2**
RCC	**Rio Carpintero**	**1.22**	**258**	*e*P	**Pn**	**18 58 19.3**	**-0.1**
RCC				*e*S	**Sn**	**18 58 34.9**	**-0.2**
PINC	**Pinares de May**	**1.30**	**280**	*e*P	**Pb**	**18 58 21.4**	**-0.4**
MARVS	**Santiago de Cu**	**1.41**	**260**	*e*P	**Pn**	**18 58 22.5**	**+0.5**
MARVS				*e*S	**Sb**	**18 58 40.9**	**-0.4**
MARVS				IAML		18 58 44.0	
	comp=N,8.7nm,0.1s						
MARVS				IAML		18 58 44.1	
	comp=E,15nm,0.4s						
CHIV	**Chivirico**	**1.89**	**262**	*e*P	**Pb**	**18 58 30.9**	**-1.0**
CHIV				*e*S	**Sb**	**18 58 53.9**	**-1.3**
CHIV				IAML		18 58 58.6	
	comp=N,6.8nm,0.2s						
CHIV				IAML		18 58 59.1	
	comp=E,5.6nm,0.2s						
LMGC	**Las Mercedes**	**2.43**	**266**	*e*P	**Pn**	**18 58 38.3**	**+2.2**
PILO	**Pilon**	**2.82**	**263**	*e*P	**Pn**	**18 58 42.6**	**+1.1**
SDDR	**Presa de Saban**	**3.22**	**113**	*e*S	**Sn**	**18 59 24.3**	**-0.1**

*TRN **14** 19:02:18.1,10°.92N×62°.21W,h91km, MD3.1*
*FUNV **14** 19:02:19.3,10°.98N×62°.30W,h31km, MW3.5*

ISC 14 19:02:17.1±1.7,10°.91N±0°.08×62°.32W±0°.06,h89km±18km, n9,σ1°17/16,1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.93**	**256**	*e*P	**Pn**	**19 02 36.6**	**+0.6**
CRUV				*e*S	**Sn**	**19 02 49.6**	**-0.5**
TRN	**Trinidad (W)**	**0.94**	**106**	*e*P	**Pn**	**19 02 36.5**	**+0.5**
TRN				*e*S	**Sn**	**19 02 49.5**	**-0.7**
GRGR	**Grenville**	**1.38**	**28**	*e*P	**Pn**	**19 02 42.2**	**+0.9**
GRGR				*e*S	**Sn**	**19 02 59.2**	**-0.4**
GCMP	**Grenada, Carri**	**1.79**	**29**	*e*P	**Pn**	**19 02 46.9**	**+0.3**
GCMP				*e*S	**Sn**	**19 03 08.6**	**-0.4**
PCRV	**Puerto La Cruz**	**2.40**	**252**	*e*P	**Pn**	**19 02 55.6**	**+1.0**
PCRV				*e*S	**Sn**	**19 03 22.9**	**-0.4**
SVB	**Belmont**	**2.57**	**24**	*e*P	**Pn**	**19 02 57.4**	**+0.5**
SVB				*e*S	**Sn**	**19 03 26.5**	**-0.9**
MERV	**Las Mercedes**	**4.25**	**248**	*e*P	**Pn**	**19 03 21.3**	**+1.7**
MERV				*e*S	**Sn**	**19 04 07.1**	**-1.0**
CACV	**CAICARA DEL OR**	**5.33**	**232**	*e*P	Pn	19 03 30.9	-3.4
CACV				*e*S	Sn	19 04 22.0	-12
BAUV	**El Baul**	**5.97**	**251**	*e*P	**Pn**	**19 03 43.7**	**+0.7**
BAUV				*e*S	**Sn**	**19 04 47.3**	**-2.7**

IDC 14 19:06:09.1±2.1,8°.20S×129°.30E,h0km,mb3.7/1, mbtmp3.4/3,ML3.3/2, Error ellipse: s-maj=121.5km s-min=29.1km az=68.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.65**	**158**	Pn	Pn	19 09 10.2	-0.2
	0.2nm,0.3s,baz=341,slow=13,SNR=7.4						
WRA				Sn	Sn	19 11 24.6	-7.5
	0.5nm,0.3s,baz=335,slow=22,SNR=7.8						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**15.99**	**165**	Pn	Pn	19 09 56.6	+1.0
	0.1nm,0.3s,baz=338,slow=9.5,SNR=2.1						
ASAR				Sn	Sn	19 12 53.1	-0.7
	0.1nm,0.3s,baz=337,slow=20,SNR=5.4						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**68.86**	**327**	P	P	19 17 15.5	0.0
	0.4nm,0.4s,baz=119,slow=8.6,SNR=5.3						
	0.4nm,0.4s						

*FUNV **14** 19:09:33.2,10°.85N×62°.25W,h27km, MW3.7*
*TRN **14** 19:09:34.0,10°.96N×62°.24W,h69km, MD3.7*

ISC 14 19:09:30.5±1.3,10°.84N±0°.04×62°.26W±0°.04,h99km±12km, n20,σ1°75/39,1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.86**	**103**	*e*P	**Pn**	**19 09 50.9**	**+1.4**
TRN				*e*S	**Sn**	**19 10 03.8**	**+0.1**
CRUV	**Carupano**	**0.97**	**260**	⇓*i*P	**Pn**	**19 09 51.2**	**+0.6**
CRUV				*e*S	**Sn**	**19 10 03.9**	**-1.9**
GRGR	**Grenville**	**1.42**	**25**	*e*P	**Pn**	**19 09 55.7**	**0.0**
GRGR				*e*S	**Sn**	**19 10 13.3**	**-1.5**
GRHS	**Sauteurs**	**1.50**	**24**	*e*P	**Pn**	**19 09 57.3**	**+0.5**
GRHS				*e*S	**Sn**	**19 10 15.3**	**-1.4**
GCMP	**Grenada, Carri**	**1.83**	**26**	*e*P	**Pn**	**19 10 01.0**	**+0.1**
GCMP				*e*S	**Sn**	**19 10 22.7**	**-1.3**
CUMV	**Cumana_UDO**	**1.94**	**258**	*e*P	**Pn**	**19 10 04.2**	**+1.9**
CUMV				*e*S	**Sn**	**19 10 27.4**	**+0.8**
PCRV	**Puerto La Cruz**	**2.43**	**254**	*e*P	**Pn**	**19 10 10.3**	**+1.6**
PCRV				*e*S	**Sn**	**19 10 38.0**	**0.0**
SVOC	**Richmond Hill,**	**2.51**	**24**	*e*P	**Pn**	**19 10 10.8**	**+1.0**
SVOC				*e*S	**Sn**	**19 10 37.6**	**-2.4**
SVB	**Belmont**	**2.61**	**22**	*e*P	**Pn**	**19 10 13.2**	**+2.0**
SVB				*e*S	**Sn**	**19 10 41.2**	**-1.1**
SSV	**Crater Summit**	**2.68**	**23**	*e*P	**Pn**	**19 10 14.3**	**+2.1**
SSV				*e*S	**Sn**	**19 10 42.6**	**-1.5**
PRGV	**PARIAGUAN**	**3.13**	**229**	*e*P	**Pn**	**19 10 20.4**	**+2.3**
PRGV				*e*S	**Sn**	**19 10 55.4**	**+0.7**
BIM	**Bigot**	**3.83**	**18**	*e*P	**Pn**	**19 10 30.5**	**+2.9**
BIM				*e*S	**Sn**	**19 11 10.1**	**-1.6**
MPOM	**Morne Pois Mar**	**3.83**	**21**	*e*P	**Pn**	**19 10 29.7**	**+2.2**
MPOM				*e*S	**Sn**	**19 11 09.9**	**-1.7**
MERV	**Las Mercedes**	**4.28**	**249**	*e*P	**Pn**	**19 10 34.6**	**+1.1**
MERV				*e*S	**Sn**	**19 11 21.4**	**-1.0**
TACV	**Tcata**	**4.74**	**262**	*e*P	**Pn**	**19 10 41.7**	**+1.9**
TACV				*e*S	**Sn**	**19 11 32.6**	**-1.0**
LUEV	**Luepa**	**5.03**	**171**	*e*P	**Pn**	**19 10 45.4**	**+1.6**
LUEV				*e*S	**Sn**	**19 11 38.6**	**-2.2**
BENV	**Beln**	**5.32**	**261**	*e*P	**Pn**	**19 10 49.7**	**+1.9**
BENV				*e*S	**Sn**	**19 11 46.1**	**-1.8**
CACV	**CAICARA DEL OR**	**5.33**	**233**	*e*P	**Pn**	**19 10 44.1**	**-3.7**
CACV				*e*S	Sn	19 11 36.5	-11
TURV	**Turiamo**	**5.50**	**266**	*e*P	**Pn**	**19 10 51.7**	**+1.7**
TURV				*e*S	**Sn**	**19 11 50.5**	**-1.5**
BAUV	**El Baul**	**6.00**	**252**	*e*P	**Pn**	**19 10 56.9**	**+0.1**
BAUV				*e*S	**Sn**	**19 12 01.8**	**-2.4**

JMA 14 19:25:31.7±0.1,37°.2N±0°.4×141°.5E±0°.6,h27km±1km, MV1.3/24, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.51**	**292**	P	Pb	19 25 41.9	-0.3
JFK				*e*S	Sb	19 25 49.2	0.0
ONAJ	**Iwakimizuishiy**	**0.54**	**262**	P	Pb	19 25 42.4	-0.3
ONAJ				S	Sb	19 25 50.1	0.0
JMST	**Minamisoumatoc**	**0.71**	**320**	P	Pb	19 25 45.0	-0.5
JMST				S	Sb	19 25 54.4	-0.5
JFFD	**Fukushimafurud**	**0.73**	**263**	*e*P	Pb	19 25 45.7	-0.1
JFFD				S	Sb	19 25 55.2	-0.2
JOTO	**OTAMA OYAMA**	**0.98**	**293**	P	Pb	19 25 50.0	-0.1
JOTO				S	Sn	19 26 03.0	+0.2
JIKH	**Ishinomakikobu**	**1.13**	**360**	S	Sn	19 26 05.9	-0.5
JIO	**Ouri**	**1.27**	**356**	P	Pn	19 25 53.8	+0.1
JIO				S	Sn	19 26 09.4	-0.6

*MOS **14** 19:25:43.2±1.0,44°.48N×142°.26E,h236km,mb4.4/24, Error ellipse: s-maj=7.8km s-min=5.4km az=110.8*
*NEIC **14** 19:25:43.8±1.8,44°.45N±0°.08×142°.3E±0°.1,h231km±9km, mb4.0/86, Error ellipse: s-maj=15.1km s-min=10.8km az=116.0*
*JMA **14** 19:25:44.3±0.2,44°.5N±0°.7×14°.2E±°,h233km±1km, MV3.7/40, KAMIKAWA-SORACHI REGION*
*SKHL **14** 19:25:44.3±0.1,44°.50N×142°.40E,h216km±10km,mb4.7/2, msh5.1/5*
*NIED **14** 19:25:44.3,44°.47N×142°.25E,h233km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.33; $M_{\theta\theta}$-2.12; $M_{\phi\phi}$2.44; $M_{r\theta}$-0.67; $M_{\theta\phi}$-2.06; $M_{\phi r}$-0.23; Fault plane solution: $M_0$3.16000×10^{15} NP1: ϕ_s115.00000°,δ80.00000°,λ-169.00000°. NP2: ϕ_s23.00000°,δ80.00000°,λ-10.00000°.*
*IDC **14** 19:25:44.6±0.8,44°.59N×142°.23E,h227km±7km,mb3.7/24, mbtmp4.3/31 Error ellipse: s-maj=13.1km s-min=10.0km az=165.0*

ISC 14 19:25:43.8±0.4,44°.45N±0°.03×142°.29E±0°.04,h232km±3km, h232km:pP-P,n280,σ1°27/329,mb4.1/104,13C-35D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSS	**Shosan**	**0.32**	**261**	*e*P	**Pn**	**19 26 15.0**	**+0.8**
ASAJ	**Asahikawa**	**0.40**	**147**	⇓*e*P	**Pn**	**19 26 15.2**	**+0.8**
ASAJ				⇓*e*S	**S**	**19 26 38.7**	**+0.4**
ASAJ	**Asahikawa**	**0.40**	**147**	P	**Pn**	**19 26 15.3**	**+0.8**
	433nm,0.4s,baz=262,slow=3.7,SNR=868						
ASAJ				S	**S**	**19 26 39.0**	**+0.7**
	209nm,0.7s,baz=349,slow=33,SNR=5.1						
JKA	**Kamikawa-asahi**	**0.40**	**146**		**Pn**	**19 26 14.3**	**-0.2**
JKA	**Kamikawa-asahi**	**0.40**	**146**	*e*P	**Pn**	**19 26 15.3**	**+0.8**
JSE	**Soyaes**	**0.55**	**22**	*e*P	**Pn**	**19 26 15.4**	**+0.6**
JSE				*e*S	**S**	**19 26 38.8**	**-0.3**
JYG	**Yagishiri**	**0.62**	**268**	*e*P	**Pn**	**19 26 15.6**	**+0.6**
JYG				*e*S	**S**	**19 26 39.6**	**+0.1**
JKK2	**Kamakawa 2**	**0.67**	**150**	⇓*e*P	**Pn**	**19 26 16.2**	**+0.9**
JKK2				⇓*e*S	**S**	**19 26 40.7**	**+0.7**
JHR	**Hokuryu**	**0.82**	**210**	*e*P	**Pn**	**19 26 16.9**	**+0.9**
JHR				*e*S	**S**	**19 26 42.1**	**+0.9**
JMP	**Maruseppu**	**0.89**	**120**	⇓*e*P	**Pn**	**19 26 17.2**	**+0.8**
JMP				⇓*e*S	**S**	**19 26 42.1**	**+0.3**
JWK2	**Keihoku**	**0.91**	**342**	⇓*e*P	**Pn**	**19 26 16.8**	**+0.5**
JWK2				⇓*e*S	**S**	**19 26 41.9**	**0.0**
JAB	**Ashibetsu**	**0.95**	**183**	⇓*e*P	**Pn**	**19 26 17.4**	**+0.7**
JAB				⇓*e*S	**S**	**19 26 43.1**	**+0.7**
JRR	**Rishiri**	**0.98**	**315**	*e*P	**Pn**	**19 26 17.3**	**+0.5**
JTKR	**Abashiri--Toko**	**1.26**	**112**	*e*P	**Pn**	**19 26 19.7**	**+1.0**
JTKR				*e*S	**S**	**19 26 46.7**	**+0.9**
JRBN	**Rebuntou**	**1.30**	**319**	⇓*e*P	**Pn**	**19 26 18.6**	**-0.3**
JRBN				⇓*e*S	**S**	**19 26 44.8**	**-1.6**
JAR	**Ashorobuto**	**1.57**	**137**	⇓*e*P	**Pn**	**19 26 21.9**	**+0.8**
JAR				⇓*e*S	**S**	**19 26 51.0**	**+0.8**
JEW	**Eniwo**	**1.72**	**201**	⇓*e*P	**Pn**	**19 26 23.4**	**+1.0**
JEW				⇓*e*S	**S**	**19 26 52.9**	**+0.4**
JCH	**Churui**	**2.00**	**157**	⇓*e*P	**Pn**	**19 26 23.9**	**-0.9**
JCH				⇓*e*S	**S**	**19 26 53.9**	**-2.9**
JRA	**Rausu**	**2.10**	**103**	*e*P	**Pn**	**19 26 27.0**	**+1.3**
JRA				*e*S	**S**	**19 27 00.1**	**+1.5**
RUSJ	**Misakicho**	**2.15**	**98**	*e*PN	**Pn**	**19 26 27.3**	**+1.0**
JNBK	**Urakawa-nobuka**	**2.20**	**171**	*e*P	**Pn**	**19 26 26.6**	**-0.2**
JAK	**Akkeshi**	**2.27**	**129**	⇓*e*P	**Pn**	**19 26 26.6**	**-0.9**
JAK				⇓*e*S	**S**	**19 27 00.2**	**-1.4**
AKK	**Akkeshi**	**2.34**	**127**	*e*P	**Pn**	**19 26 27.3**	**-0.9**
ERM	**Erimo**	**2.52**	**165**		**Pn**	**19 26 29.9**	**-0.1**
ERM	**Erimo**	**2.52**	**165**	*d* *i*PN	**Pn**	**19 26 29.6**	**-0.4**
YSS	**Yuzh-Sakhalins**	**2.52**	**7**		**Pn**	**19 26 29.7**	**-0.2**
YSS	**Yuzh-Sakhalins**	**2.52**	**7**	*e*P	**Pn**	**19 26 30.1**	**+0.1**
YSS				AMB	AMB	19 26 30.6	
	210nm,0.8s						
YSS				AMB	AMB	19 26 33.6	
	100nm,2.0s						
YSS				*e*S	**S**	**19 27 05.1**	**-1.2**
YSS				A	A	19 27 05.9	
	350nm,0.9s						
YSS				A	A	19 27 07.1	
	500nm,3.0s						
YSS				A	A	19 27 07.1	
	300nm,3.0s						
YSS	**Yuzh-Sakhalins**	**2.52**	**7**	*e*PN	**Pn**	**19 26 29.9**	**-0.1**
YSS				*e*S	**S**	**19 27 04.2**	**-2.1**
YSS				pmax	pmax		
	comp=Z,210nm,0.8s						
YSS				pmax	pmax		
	comp=Z,100nm,2.0s						
YSS				smax	smax		
	comp=E,350nm,0.9s						
YSS				smax	smax		
	comp=N,500nm,2.8s						
YSS				smax	smax		
	comp=E,300nm,2.6s						
YUK	**Yuzh-Kuril'sk**	**2.60**	**98**	*e*P	**Pn**	**19 26 31.8**	**+0.9**
YUK				AMB	AMB	19 26 36.7	
	comp=E,80nm,0.5s						
YUK			

TYV AMB AMB 19 27 21.0
comp=E,500nm,3.0s
TYV eS S 19 28 30.6 -0.3
TYV A A 19 28 37.6
comp=E,400nm,5.0s
TYV A A 19 28 37.6
comp=E,300nm,5.0s
TYV A A 19 28 39.5
comp=E,10.0nm,0.8s
TYV A A 19 28 39.5
comp=E,10.0nm,0.8s
TYV Tymovskoe 6.42 2 *e*PN **Pn 19 27 17.4 +0.7**
TYV eS S 19 28 30.6 -0.3
TYV pmax pmax
comp=Z,50nm,0.6s
TYV pmax pmax
comp=Z,500nm,2.9s
TYV smax smax
comp=N,17nm,1.5s
TYV smax smax
comp=E,17nm,1.5s
TYV smax smax
comp=N,400nm,4.6s
TYV smax smax
comp=E,300nm,4.6s
USA0B Ussuriysk Arra 7.39 272 Pn 19 27 29.4 +0.2
USA0B Ussuriysk Arra 7.39 272 PN **Pn 19 27 29.4 +0.2**
USRK Ussuriysk Ar. 7.39 272 Pn 19 27 29.4 +0.1
USRK Ussuriysk Ar. 7.39 272 P **Pn 19 27 29.6 +0.4**
comp=E,51nm,0.7s,baz=85,slow=13,SNR=47
GRNR Gornyy 7.46 330 *e*P **Pn 19 27 30.0 0.0**
GRNR AMB AMB 19 27 30.7
comp=E,60nm,0.7s
GRNR Gornyy 7.46 330⇓ *i*PN **Pn 19 27 30.0 0.0**
GRNR eS S 19 28 54.3 -0.8
GRNR pmax pmax
comp=E,40nm,0.7s
GRNR pmax pmax
comp=N,50nm,0.8s
GRNR pmax pmax
comp=Z,60nm,0.7s
GRNR smax smax
comp=N,3.0nm,0.6s
GRNR MLR MLR
comp=N,150nm,13.0s
GRNR MLR MLR
comp=Z,140nm,15.0s
MSHR Mys Shultsa 8.30 261 *ce*PN **Pn 19 27 42.2 +1.3**
MSHR pmax pmax
comp=Z,27nm,0.8s
MAJO Matsushiro 8.49 203 Pn **Pn 19 27 42.2 -1.1**
MAJO Matsushiro 8.49 203 PN **Pn 19 27 42.3 -1.1**
MJAR Matsushiro Arr 8.49 203 P **Pn 19 27 42.7 -0.6**
comp=Z,4.1nm,0.7s,baz=14,slow=14,SNR=6.4
KLR Kul'dur 8.66 307 *di*PN **Pn 19 27 45.4 0.0**
KLR pmax pmax
comp=Z,30nm,1.3s
KLR Kul'dur 8.66 307 P **Pn 19 27 45.6 +0.3**
comp=Z,19nm,1.0s,baz=111,slow=17,SNR=44
NKL Nikolayevsk 8.77 354 *e*P **Pn 19 27 46.4 -0.3**
NKL AMB AMB 19 27 52.5
comp=Z,20nm,0.4s
MDJ Mudanjiang 9.07 275 Pn **Pn 19 27 51.0 +0.3**
MDJ Mudanjiang 9.07 275 P **Pn 19 27 50.8 +0.1**
MDJ S S **19 29 39.0 +6.0**
MDJ PcP PcP 19 33 41.6 -7.6
MDJ ScP **ScP 19 36 52.0 -6.8**
MDJ PcS **PcS 19 37 16.5 -5.8**
MDJ Mudanjiang 9.07 275 ScS ScS 19 40 25.3 -7.7
MDJ pmax pmax
comp=Z,60nm,1.0s
MDJ pmax pmax
comp=Z,210nm,5.8s
OKH Okha 9.12 2 *e*P **Pn 19 27 51.2 +0.1**
OKH AMB AMB 19 27 52.1
comp=Z,160nm,0.7s
BNX BinXian 10.61 282⇓P **Pn 19 28 10.3 +0.1**
BNX pmax pmax
comp=Z,21nm,0.8s
BNX pmax pmax
comp=Z,370nm,9.8s
SKR Severo-Kuril's 11.22 51 *e*P **Pn 19 28 19.0 +1.1**
SKR AMB AMB 19 28 20.6
comp=Z,140nm,0.6s
SKR Severo-Kuril's 11.22 51⇑ *i*PN **Pn 19 28 19.0 +1.1**
JHJ Hachijo jima 2 11.48 191 S **S 19 30 20.7 -8.0**
comp=Z,101nm,0.8s,baz=60,slow=21,SNR=1.7
PAU Pauzhetka 11.99 49 *e*P **Pn 19 28 29.0 +1.5**
PAU AMB AMB 19 28 30.7
comp=Z,110nm,0.7s
KSRS Korea Array 12.90 242 *e*P **Pn 19 28 39.1 +0.1**
KSRS Korea Array 12.90 242 *e*PN **Pn 19 28 39.1 +0.1**
KSRS pmax pmax
comp=Z,4.0nm,0.7s
KSRS Korea Array 12.90 242 P **Pn 19 28 39.3 +0.3**
comp=Z,3.4nm,0.7s,baz=58,slow=12,SNR=13
PEA0B Petropavlovsk- 13.33 44 Pn 19 28 42.5 -1.6
PEA0B Petropavlovsk- 13.33 44⇑ *i*PN **Pn 19 28 45.4 +1.3**
PETK Petropavlovsk- 13.33 44 Pn **Pn 19 28 43.7 -0.4**
PETK Petropavlovsk- 13.33 44 P **Pn 19 28 44.7 +0.6**
comp=Z,20nm,0.9s,baz=225,slow=8.5,SNR=22
ZEA Zeya 13.52 319 *e*P **Pn 19 28 47.2 +0.8**
ZEA AMB AMB 19 28 48.9
comp=Z,40nm,0.7s
ZEA Zeya 13.52 319 *e*PN **Pn 19 28 47.2 +0.8**
ZEA pmax pmax
comp=E,20nm,1.0s
ZEA pmax pmax
comp=N,30nm,0.7s
ZEA pmax pmax
comp=Z,40nm,0.7s
JNU Nakatsue 14.38 222 P **Pn 19 28 57.7 +0.5**
JNU Nakatsue 14.38 222 P **P 19 28 58.6 +0.8**
comp=Z,13nm,0.8s,baz=48,slow=16,SNR=9.5
MA2 Magadan 16.00 16 P **P 19 29 15.8 +0.5**
MA2 Magadan 16.00 16 *eP* **Pn 19 29 16.2 -0.1**
MA2 Magadan 16.00 16⇑ *eP* **Pn 19 29 16.2 -0.1**
MA2 pmax pmax
comp=Z,20nm,0.7s
MA2 Magadan 16.00 16 P **P 19 29 15.8 +0.5**
comp=Z,16nm,0.6s,baz=202,slow=11,SNR=15
HIA Hailar 16.14 295 P **P 19 29 16.1 -0.9**
HIA Hailar 16.14 295 P **P 19 29 16.1 -0.9**
HIA pmax pmax
comp=Z,14nm,0.7s
YAK Yakutsk 19.09 342 P **P 19 29 46.1 -2.8**
YAK Yakutsk 19.09 342 *eP* **P 19 29 47.0 -1.9**
YAK eS S **19 33 09.2 -3.4**
YAK pmax pmax
comp=Z,22nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK smax smax
comp=N,14nm,1.5s
YAK smax smax
comp=E,9.0nm,1.9s
YAK Yakutsk 19.09 342 P **P 19 29 47.1 -1.9**
comp=E,0.8nm,0.5s,baz=138,slow=4.2,SNR=17
SEY Seymchan 19.41 14 *eP* **P 19 29 51.9 -0.4**
SEY Seymchan 19.41 14⇓ *eP* **P 19 29 51.9 -0.4**
SEY pmax pmax
comp=Z,26nm,0.9s
SEY Seymchan 19.41 14 P **P 19 29 52.2 -0.1**
comp=Z,14nm,0.5s,baz=202,slow=10,SNR=74
BJT Baijiatuan 19.81 266 P **P 19 29 55.8 -1.0**
BJT Baijiatuan 19.81 266 P **P 19 29 55.8 -1.0**
BJT pmax pmax
comp=Z,9.0nm,0.8s
HNS HongShan 21.93 261⇑P **P 19 30 18.0 -0.5**
HNS pmax pmax
comp=Z,9.0nm,1.0s
HHC Hu-ho-hao-te 22.82 272 *eP* **P 19 30 26.9 +0.2**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,370nm,5.7s
ULN Ulaanbaatar 24.51 291 P **P 19 30 40.9 -1.2**
ULN IAmb IAmb 19 30 44.7
comp=Z,8.9nm,1.1s
ULN Ulaanbaatar 24.51 291 *eP* **P 19 30 42.6 +0.5**
ULN Ulaanbaatar 24.51 291⇑ *iP* **P 19 30 42.6 +0.5**
ULN pmax pmax
comp=Z,7.0nm,0.9s
SONM Songino Array 24.96 291 P **P 19 30 46.2 +0.1**
SONM Songino Array 24.96 291 P **P 19 30 47.1 +1.0**
comp=Z,14nm,0.7s,baz=84,slow=8.7,SNR=84
comp=Z,14nm,0.7s
WHN Wuhan 26.00 247⇑P **P 19 30 57.4 +2.0**
WHN pmax pmax
comp=Z,24nm,0.6s
ZAK Zakamensk 26.82 297 *eP* **P 19 31 02.1 -0.6**
ZAK pmax pmax
comp=Z,7.0nm,0.9s
C16K Lisburne Hills 35.85 30 P **P 19 32 18.6 -2.4**
G16K Koyuk River 36.46 35 P **P 19 32 23.4 -2.7**
G16K IAmb IAmb 19 32 36.6
comp=Z,4.3nm,0.9s
K15K Wolf Creek Mou 36.55 41 P **P 19 32 26.7 -0.3**
K15K IAmb IAmb 19 32 48.8
comp=Z,12nm,1.4s
DGZ Jazzator, Alta 37.02 298⇓ *eP* **P 19 32 32.8 +1.5**
DGZ pmax pmax
comp=Z,5.0nm,0.7s
PZH PanZhiHua 37.11 255 P **P 19 32 32.3 0.0**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,90nm,5.1s
N15K Kwethluk River 37.23 44 P **P 19 32 31.9 -0.9**
C18K Utukok River 37.43 30 P **P 19 32 32.8 -1.5**
C18K IAmb IAmb 19 33 13.0
comp=Z,12nm,1.5s
H17K Granite Mounta 37.44 36 P **P 19 32 34.5 0.0**
H17K IAmb IAmb 19 32 53.0
comp=Z,8.5nm,1.5s
L16K Owhat River 37.51 42 P **P 19 32 34.6 -0.4**
L16K IAmb IAmb 19 33 15.0
comp=Z,9.5nm,1.4s
J17K VABM Dome 37.72 39 P **P 19 32 37.4 +0.6**
J17K IAmb IAmb 19 33 06.8
comp=Z,9.1nm,1.5s
ZAA0 Zalesovo Array 37.76 306 P **P 19 32 35.9 -1.3**
ZAA0 IAmb IAmb 19 32 38.9
comp=Z,4.4nm,0.9s
ZALV Zalesovo Beam 37.76 306 P **P 19 32 36.0 -1.2**
ZALV Zalesovo Beam 37.76 306 *eP* **P 19 32 37.3 +0.1**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 37.76 306 P **P 19 32 37.1 -0.1**
comp=Z,2.0nm,0.4s,baz=74,slow=8.7,SNR=17
comp=Z,2.0nm,0.4s
M16K Timber Creek 37.77 43 P **P 19 32 37.6 +0.4**
G18K Tagagawik 38.04 35 P **P 19 32 39.1 -0.4**
G18K IAmb IAmb 19 32 46.6
comp=Z,3.8nm,1.1s
K17K Iditarod 38.06 40 P **P 19 32 40.1 +0.4**
K17K IAmb IAmb 19 33 06.3
comp=Z,12nm,1.4s
C19K Lookout Ridge 38.08 30 P **P 19 32 39.9 +0.1**
C19K IAmb IAmb 19 33 24.1
comp=Z,7.8nm,1.2s
H18K Honhosa River 38.11 36 P **P 19 32 39.4 -0.7**
H18K IAmb IAmb 19 33 06.6
comp=Z,11nm,1.5s
F19K Shaleruckik Mo 38.47 33 P **P 19 32 42.0 -1.0**
F19K IAmb IAmb 19 32 45.5
comp=Z,2.5nm,0.6s
M17K Holitna River 38.49 42 P **P 19 32 43.1 -0.2**
D19K Kuna River 38.52 31 P **P 19 32 42.7 -0.8**
D19K IAmb IAmb 19 32 48.0
comp=Z,5.3nm,1.3s
WMQ Urumqi 38.57 289 *eP* **P 19 32 46.3 +2.1**
G19K Purcell Mounta 38.70 35 P **P 19 32 43.8 -1.1**
E19K Redstone River 38.74 32 P **P 19 32 44.5 -0.8**
J18K Innoko River 38.78 39 P **P 19 32 45.9 +0.3**
H19K Roundabout Mou 38.93 36 P **P 19 32 46.6 -0.2**
H19K IAmb IAmb 19 32 49.2
comp=Z,4.2nm,0.6s
J19K Poorman 39.27 38 P **P 19 32 49.4 -0.2**
J19K IAmb IAmb 19 32 51.4
comp=Z,6.5nm,1.4s
B21K Ikpikpuk River 39.90 29 P **P 19 32 54.0 -0.7**
B21K IAmb IAmb 19 33 32.2
comp=Z,12nm,1.4s
J20K Nowinta River 39.91 38 P **P 19 32 55.2 +0.3**
J20K IAmb IAmb 19 32 57.3
comp=Z,4.8nm,1.2s
K20K Telida 39.98 39 P **P 19 32 54.9 -0.6**
K20K IAmb IAmb 19 33 28.0
comp=Z,6.6nm,1.3s
IMAR Indian Mountai 40.05 35 P **P 19 32 55.4 -0.6**
G21K Allakaket 40.15 34 P **P 19 32 56.7 -0.2**
F21K Alatna River 40.17 33 P **P 19 32 56.2 -0.9**
B22K Teshekpuk Lake 40.37 28 P **P 19 32 58.6 +0.1**
H21K Melozitna Rive 40.45 35 P **P 19 32 59.1 -0.2**
H21K IAmb IAmb 19 33 00.2
comp=Z,7.7nm,1.4s
D22K Ayikyak River 40.53 30 P **P 19 32 59.4 -0.6**
D22K IAmb IAmb 19 33 31.1
comp=Z,7.2nm,1.4s
E22K Anaktuvuk Pass 40.83 32 P **P 19 33 01.7 -0.8**
MK31 Makanchi Array 41.14 295 P **P 19 33 06.0 +0.8**
MK31 IAmb IAmb 19 33 09.0
comp=Z,7.1nm,0.8s
MK31 Makanchi Array 41.14 295 P **P 19 33 06.0 +0.8**
MK31 pmax pmax
comp=Z,7.0nm,0.8s
MKAR Makanchi Array 41.14 295 P **P 19 33 05.6 +0.4**
MKAR Makanchi Array 41.14 295 P **P 19 33 06.0 +0.8**
comp=Z,4.3nm,0.6s,baz=80,slow=9.3,SNR=26
comp=Z,4.3nm,0.6s
C23K Itkillik River 41.30 29 P **P 19 33 04.1 -2.1**
MAKZ Makanchi 41.34 295 P **P 19 33 07.0 +0.2**
MAKZ IAmb IAmb 19 33 10.4
comp=Z,9.5nm,1.0s
MAKZ Makanchi 41.34 295 P **P 19 33 07.0 +0.2**
MAKZ pmax pmax
comp=Z,9.0nm,1.0s
KTH Kantishna Hill 41.37 39 P **P 19 33 07.6 +0.6**
KTH IAmb IAmb 19 33 11.9
comp=Z,12nm,1.4s
G23K Bananza Creek 41.54 34 P **P 19 33 07.1 -1.1**
G23K IAmb IAmb 19 33 08.5
comp=Z,8.3nm,1.5s
TOLK Toolik Lake Re 41.66 31 P **P 19 33 07.7 -1.5**
TRF Thorofare Moun 41.66 39 P **P 19 33 07.7 -1.7**
TRF IAmb IAmb 19 33 36.6
comp=Z,12nm,1.4s
CNPM China Poot 41.74 45 P **P 19 33 09.2 -0.8**
I23K Minto, Yukon-K 41.91 36 P **P 19 33 10.4 -0.7**
I23K IAmb IAmb 19 33 45.8
comp=Z,9.1nm,1.5s
D24K Happy Valley 41.93 30 P **P 19 33 10.3 -1.0**
KURK Kurchatov 42.21 302 P **P 19 33 13.9 +0.2**
KURK Kurchatov 42.21 302 *eP* **P 19 33 13.9 +0.2**
KURK Kurchatov 42.21 302 *di*P **P 19 33 13.9 +0.2**
KURK pmax pmax
comp=Z,10.0nm,0.6s
KURBB Kurchatov Arra 42.29 302 P **P 19 33 15.1 +0.7**
comp=Z,9.0nm,0.5s,baz=70,slow=8.7,SNR=43
comp=Z,9.0nm,0.5s
F24K Squaw Lake 42.33 32 P **P 19 33 13.8 -0.8**
G24K Hadweenzic Riv 42.55 34 P **P 19 33 15.4 -0.9**
G24K IAmb IAmb 19 33 49.7
comp=Z,5.8nm,1.4s
D25K Kavik River 42.79 30 P **P 19 33 17.7 -0.6**
D25K IAmb IAmb 19 33 20.8
comp=Z,5.3nm,1.2s
ILAR Eielson Array 43.00 36 P **P 19 33 20.9 +1.0**
ILAR Eielson Array 43.00 36 P **P 19 33 20.9 +1.0**
ILAR Eielson Array 43.00 36 P **P 19 33 20.6 +0.7**
comp=Z,0.9nm,0.6s,baz=275,slow=8.2,SNR=9.1
comp=Z,0.9nm,0.6s
BMAR Burnt Mountain 43.61 32 P **P 19 33 25.3 +0.5**
RIDG Independent Ri 44.03 38 P **P 19 33 28.3 +0.1**
SCRK Sand Creek 44.37 37 P **P 19 33 30.7 -0.3**
SCRK IAmb IAmb 19 33 38.3
comp=Z,6.1nm,1.3s
EGAK Eagle 45.42 36 P **P 19 33 39.4 +0.4**
EGAK IAmb IAmb 19 33 47.0
comp=Z,16nm,1.5s
L27K Beaver Creek, 45.50 38 P **P 19 33 40.3 +0.5**
L27K IAmb IAmb 19 33 52.6
comp=Z,7.0nm,1.5s
BCAR Beaver Creek A 45.52 38 P **P 19 33 40.9 +1.0**
I28M Miner Creek 45.78 35 P **P 19 33 42.4 +0.5**
E29M Blow River 45.96 30 P **P 19 33 43.6 +0.4**
G29M Pine Creek 46.22 33 P **P 19 33 46.1 +0.8**
H29M Whitestone 46.24 33 P **P 19 33 46.0 +0.6**
BVAR Borovoye Array 46.32 307 P **P 19 33 46.7 +0.4**
comp=Z,4.1nm,0.4s,baz=72,slow=8.8,SNR=32
comp=Z,4.1nm,0.4s
BRVK Borovoye 46.37 308 P **P 19 33 47.2 +0.6**
BRVK IAmb IAmb 19 33 48.0
comp=Z,6.3nm,0.9s
BRVK Borovoye 46.37 308 *eP* **P 19 33 47.1 +0.5**
BRVK Borovoye 46.37 308 *ci*P **P 19 33 47.1 +0.5**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
EPYK Eagle Plains 46.85 33 P **P 19 33 50.5 +0.3**
EPYK IAmb IAmb 19 33 54.8
comp=Z,7.0nm,1.3s
L29M L29M 47.12 38 P **P 19 33 53.1 +0.7**
L29M IAmb IAmb 19 34 02.0
comp=Z,12nm,1.4s
K29M Barlow Dome 47.18 37 P **P 19 33 54.0 +1.1**
I30M Mount Dempster 47.28 35 P **P 19 33 54.2 +0.6**
I30M IAmb IAmb 19 33 58.8
comp=Z,6.2nm,1.3s
NRN Naryn 47.42 291 P **P 19 33 55.7 +0.4**
NRN Naryn 47.42 291 P **P 19 33 55.7 +0.4**
NRN pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 47.56 30 P **P 19 33 55.8 +0.3**
INK IAmb IAmb 19 33 58.0
comp=Z,2.6nm,0.5s
INK Inuvik 47.56 30 P **P 19 33 55.8 +0.3**
INK pmax pmax
comp=Z,3.0nm,0.5s
G31M Satah River 47.65 32 P **P 19 33 56.2 0.0**
H31M Peel River 47.94 33 P **P 19 33 59.2 +0.7**
H31M IAmb IAmb 19 34 12.4
comp=Z,13nm,1.4s
ARSB Arslanbob 49.48 292 P **P 19 34 12.4 +1.6**
ARSB Arslanbob 49.48 292 P **P 19 34 12.4 +1.6**
ARSB pmax pmax
comp=Z,2.0nm,0.6s
KK31 Karatay Array 50.27 295 P **P 19 34 17.3 +0.8**
KK31 IAmb IAmb 19 34 17.9
comp=Z,3.3nm,0.8s
KK31 Karatay Array 50.27 295 P **P 19 34 17.3 +0.8**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 50.27 295 P **P 19 34 17.5 +1.0**
KKAR IAmb IAmb 19 34 17.9
comp=Z,3.3nm,0.8s
KKAR Karatay Array 50.27 295 P **P 19 34 17.1 +0.6**
KKAR Karatay Array 50.27 295 P **P 19 34 17.5 +1.0**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
C36M Paulatuk 50.48 27 P **P 19 34 17.9 +0.3**
ARU Arti 51.41 315 P **P 19 34 24.7 0.0**
ARU IAmb IAmb 19 34 25.9
comp=Z,14nm,1.2s
ARU Arti 51.41 315 *eP* **P 19 34 25.0 +0.3**
ARU Arti 51.41 315 *ci*P **P 19 34 25.0 +0.3**
ARU *PP **pP 19 35 13.1 -2.1**
ARU 19 36 24.9
ARU S S **19 41 25.9 +0.1**
ARU SS **SS 19 45 00.7 -3.4**
ARU pmax pmax
comp=Z,8.0nm,0.7s
EUNU Eureka 52.76 9 P **P 19 34 34.1 -0.4**
EUNU IAmb IAmb 19 34 35.6
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 53.86 306 P **P 19 34 43.5 +0.8**
KIRV Kirov 54.85 320⇓ *eP* **P 19 34 50.2 +0.5**
RES Resolute Bay 55.27 16 P **P 19 34 52.3 -0.2**
RES IAmb IAmb 19 34 53.5
comp=Z,2.9nm,0.6s
RES Resolute Bay 55.27 16 P **P 19 34 52.3 -0.2**
RES pmax pmax
comp=Z,3.0nm,0.6s
KEV Kevo 56.78 338 P **P 19 35 02.7 -0.5**
KEV Kevo 56.78 338 P **P 19 35 02.7 -0.5**
KEV pmax pmax
comp=Z,70nm,1.5s
YKA Yellowknife Ar 57.13 33 P **P 19 35 06.4 +0.7**
YKA Yellowknife Ar 57.13 33 *eP* **P 19 35 07.1 +1.4**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 57.13 33 P **P 19 35 06.5 +0.8**
comp=Z,1.0nm,0.6s,baz=304,slow=6.9,SNR=11
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 57.33 338 *eP* **P 19 35 05.8 -1.3**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 57.33 338 P **P 19 35 06.7 -0.4**
comp=Z,1.9nm,0.8s,baz=32,slow=7.1,SNR=7.7
comp=Z,1.9nm,0.8s
NEEM North Greenlan 58.09 3 *i*P **P 19 35 12.4 -0.2**
NEEM IAmb IAmb 19 35 16.2
comp=Z,2.4nm,0.6s
DAG Danmarks Havn 58.45 355 *i*P **P 19 35 13.0 -1.7**
DAG IAmb IAmb 19 35 14.8
comp=Z,1.3nm,0.7s
BELG Belogornoye 58.95 315 *de*P **P 19 35 18.6 +0.1**
BELG pmax pmax
comp=Z,4.0nm,0.8s
GEYT Alibeck 61.01 296 P **P 19 35 33.3 +0.5**
comp=Z,1.0nm,0.4s,baz=70,slow=1.7,SNR=4.1
comp=Z,1.0nm,0.4s
FINES FINESS Array B 62.61 331 P **P 19 35 42.5 -0.5**
FINES FINESS Array B 62.61 331 P **P 19 35 42.6 -0.3**
comp=Z,7.5nm,0.5s,baz=51,slow=7.6,SNR=54
comp=Z,7.5nm,0.5s
OBN Obninsk 62.63 321⇓ *eP* **P 19 35 41.7 -1.5**
OBN *e* 19 36 18.6
OBN *e*PP **pP 19 36 34.7 -1.1**
OBN *e*SP **sP 19 37 02.0 +0.9**
OBN pmax pmax
comp=Z,43nm,2.5s
SUMG Summit 63.27 0 P **P 19 35 47.2 -0.4**
SUMG Summit 63.27 0 P **P 19 35 47.2 -0.4**
SUMG pmax pmax
comp=Z,8.0nm,1.3s
SUMG Summit 63.27 0 *i*P **P 19 35 47.0 -0.7**
SUMG IAmb IAmb 19 35 49.7
comp=Z,2.8nm,0.5s
WRA Warramunga Arr 64.49 188 P **P 19 35 58.1 +2.4**
comp=Z,0.4nm,0.9s,baz=4.4,slow=6.8,SNR=1.8
comp=Z,0.4nm,0.9s
NCK Nalchik 66.43 308⇓ *eP* **P 19 36 08.8 +0.8**
NCK pmax pmax
comp=Z,5.0nm,0.3s
KIV Kislovodsk 66.64 309 P **P 19 36 10.8 +1.3**
KIV Kislovodsk 66.64 309 *eP* **P 19 36 11.0 +1.6**
KIV Kislovodsk 66.64 309 *eP* **P 19 36 11.0 +1.6**
KIV pmax pmax
comp=Z,14nm,1.1s
KBZ Khabaz 66.67 309 *eP* **P 19 36 11.0 +1.5**
KBZ Khabaz 66.67 309⇑ *iP* **P 19 36 11.0 +1.5**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 66.67 309 P **P 19 36 10.9 +1.5**
comp=Z,7.9nm,0.9s,baz=13,slow=3.4,SNR=12
comp=Z,7.9nm,0.9s
ZEI Tsey 66.71 308 *eP* **P 19 36 09.4 -0.6**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
ICESG Greenland Ices 66.77 1 *i*P **P 19 36 09.2 -0.9**
ICESG IAmb IAmb 19 36 11.9
comp=Z,4.7nm,0.9s
MNK Minsk 66.78 325 *i*P **P 19 36 09.6 -0.3**
comp=E,9.0nm,1.4s
MNK *i*P **P 19 36 09.6 -0.3**
comp=N,19nm,1.4s
MNK *i*P **P 19 36 09.6 -0.3**
comp=Z,12nm,0.9s,baz=45
MNK *i*pP **pP 19 37 02.5 -0.8**
MNK *i*PP **PP 19 38 38.0 -1.6**
MNK *i*PPP PPP 19 40 18.4
MNK *i*S **S 19 44 41.8 -0.9**
MNK *i*SS **SS 19 49 04.8 +0.4**
MNK *i*SSS SSS 19 52 21.1
MNK *i*LRM MLR 20 08 26.6
comp=N,508nm,18.5s
MNK *i*LRM MLR 20 08 31.8
comp=E,323nm,21.1s
MNK *i*LRM MLR 20 08 47.2
comp=Z,147nm,12.1s
MNK Minsk 66.78 325 *i*P **P 19 36 09.6 -0.3**
MNK *i**PP **pP 19 37 02.4 -0.8**
MNK *i* 19 38 38.0
MNK *i*PPP PPP 19 40 18.3

MNK *i* S **S** **19 44 41.8 -0.9**
MNK *i* SS **SS** **19 49 04.7 +0.4**
MNK pmax pmax
comp=E,9.0nm,1.4s
MNK pmax pmax
comp=E,12nm,0.9s
MNK pmax pmax
comp=N,19nm,1.4s
MNK MLR MLR
comp=N,508nm,19.0s
MNK MLR MLR
comp=E,323nm,21.0s
MNK MLR MLR
comp=Z,147nm,12.0s
FCC Fort Churchill 67.11 28 P **P** **19 36 12.5 +0.6**
FCC Fort Churchill 67.11 28 P **P** **19 36 12.5 +0.6**
FCC pmax pmax
comp=Z,1.0nm,0.7s
NC405 NORSAR Array S 67.42 336 P **P** **19 36 13.8 -0.1**
NC303 NORSAR Array S 67.43 337 P **P** **19 36 14.3 +0.4**
NC204 NORSAR Array S 67.56 337 P **P** **19 36 15.1 +0.2**
NC204 IAmb IAmb 19 36 38.4
comp=Z,3.3nm,0.9s
SOEG Soedalen 67.57 357 *i* P **P** **19 36 14.3 -0.4**
SOEG IAmb IAmb 19 36 16.2
comp=Z,3.2nm,0.7s
NB201 NORSAR Array S 67.59 337 P **P** **19 36 14.9 -0.1**
NOA NORSAR Array B 67.63 337 P **P** **19 36 15.2 0.0**
comp=Z,2.6nm,0.8s,baz=35,slow=6.6,SNR=13
comp=Z,2.6nm,0.8s
HFS Hagfors 67.63 335 P **P** **19 36 15.3 +0.1**
comp=Z,4.5nm,0.4s,baz=54,slow=7.5,SNR=50
comp=Z,4.5nm,0.4s
NORES NORESS Array B 67.78 336 P **P** **19 36 16.2 +0.1**
ASAR Alice Springs 68.22 188 P **P** **19 36 21.0 +1.7**
comp=Z,0.3nm,0.6s,baz=358,slow=5.4,SNR=6.1
comp=Z,0.3nm,0.6s
AKASG Malin Array Be 68.89 321 *eP* **P** **19 36 23.4 +0.3**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 68.89 321 P **P** **19 36 23.2 0.0**
comp=Z,5.9nm,0.7s,baz=41,slow=6.3,SNR=22
comp=Z,5.9nm,0.7s
AKBB Malin Array Si 68.89 321⇑ *eP* **P** **19 36 23.3 +0.2**
AKBB pmax pmax
comp=Z,19nm,1.5s
KIEV Kiev 68.90 321 P **P** **19 36 23.6 +0.4**
KIEV Kiev 68.90 321 P **P** **19 36 23.6 +0.4**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
ANN Anapa 68.94 312 *eP* **P** **19 36 22.8 -0.7**
ANN *e* 19 36 45.3
ANN *e**PP **pP** **19 37 15.3 -1.9**
ANN *eS* **S** **19 45 07.8 -0.8**
ANN pmax pmax
comp=Z,34nm,1.1s
DY2G Dye2 69.21 4 *i* P **P** **19 36 25.2 0.0**
DY2G IAmb IAmb 19 36 27.7
comp=Z,8.1nm,0.7s
NVAR Mina Array Bea 70.12 55 P **P** **19 36 32.5 +1.3**
comp=Z,0.3nm,0.6s,baz=298,slow=5.7,SNR=2.7
comp=Z,0.3nm,0.6s
PDAR Pinedale Array 72.07 47 P **P** **19 36 43.9 +1.0**
comp=Z,0.8nm,0.6s,baz=286,slow=2.9,SNR=12
comp=Z,0.8nm,0.6s
ULM Lac du Bonnet 72.99 35 P **P** **19 36 48.5 +0.8**
comp=Z,1.0nm,0.4s,baz=225,slow=13,SNR=1.8
comp=Z,1.0nm,0.4s
STHS Stebnicka Huta 73.30 324 *eP* **P** **19 36 50.2 +0.5**
STHS Stebnicka Huta 73.30 324 *eP* **P** **19 36 50.2 +0.5**
LANS Liptovska Anna 74.25 325 *eP* **P** **19 36 57.9 +2.7**
LANS *e* 19 58 02.8
LANS Liptovska Anna 74.25 325 *eP* **P** **19 36 57.9 +2.7**
BR131 Keskin Array S 74.48 311⇓ *iP* **P** **19 36 58.4 +1.6**
BRTR Keskin Array B 74.48 311 P **P** **19 36 57.5 +0.7**
comp=Z,0.7nm,0.7s,baz=81,slow=4.7,SNR=5.0
comp=Z,0.7nm,0.7s
CLL Collm 75.01 330 *i* P **P** **19 36 59.6 +0.2**
comp=Z,11nm,1.1s
CLL Collm 75.01 330 *i* P **P** **19 36 59.6 +0.2**
CLL pmax pmax
comp=Z,11nm,1.1s
VYHS Vyhne 75.02 325 *eP* **P** **19 37 01.5 +1.9**
VYHS *e* 19 58 03.8
VYHS Vyhne 75.02 325 *eP* **P** **19 37 01.5 +1.9**
PRU Pruhonice 75.52 328 *eP* **P** **19 37 02.0 -0.4**
PRU Pruhonice 75.52 328 *eP* **P** **19 37 02.0 -0.4**
ZVC Zvikov 76.10 328 *eP* **P** **19 37 06.4 +0.8**
EKA Eskdalemuir Ar 76.37 341 P **P** **19 37 07.7 +0.7**
comp=Z,2.2nm,0.7s,baz=20,slow=4.4,SNR=8.6
comp=Z,2.2nm,0.7s
KHC Kasperske Hory 76.58 328 *eP* **P** **19 37 09.2 +0.8**
KHC Kasperske Hory 76.58 328⇑ *eP* **P** **19 37 09.6 +1.2**
CONA Conrad Observa 76.67 326 *eP* **P** **19 37 06.3 -2.8**
comp=Z,1.9nm,0.6s
GERES GERESS Array B 76.77 328 *eP* **P** **19 37 11.8 +2.3**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 76.77 328 P **P** **19 37 10.4 +0.9**
comp=Z,1.2nm,0.6s,baz=36,slow=5.4,SNR=4.9
comp=Z,1.2nm,0.6s
LESA Schwarzleotal 78.33 328 *eP* **P** **19 37 19.2 +1.1**
comp=Z,1.4nm,0.4s
KBA Koelnbreinsper 78.36 327 P **P** **19 37 19.7 +1.3**
comp=Z,1.8nm,0.5s
WATA Walderalm 78.82 328 *eP* **P** **19 37 22.4 +1.5**
comp=Z,4.6nm,0.6s
WTTA Wattenberg 78.86 328 *eP* **P** **19 37 22.0 +0.8**
comp=Z,3.1nm,0.5s
MOTA Moosalm 78.99 329 *eP* **P** **19 37 22.8 +1.0**
comp=Z,5.6nm,0.8s
SQTA Sankt Quirin 79.06 328 *eP* **P** **19 37 23.5 +1.4**
comp=Z,2.2nm,0.5s
FETA Feichten 79.40 329 P **P** **19 37 24.0 -0.1**
comp=Z,2.2nm,0.8s
DAVA Damuels 79.49 329 *eP* **P** **19 37 25.2 +0.7**
comp=Z,5.5nm,0.9s
TXAR Lajitas Array 85.10 53 P **P** **19 37 56.6 +2.8**
TXAR Lajitas Array 85.10 53 P **P** **19 37 55.3 +1.5**
comp=Z,0.3nm,0.6s,baz=306,slow=3.2,SNR=5.6
comp=Z,0.3nm,0.6s
ESDC Sonseca Array 90.91 335 P **P** **19 38 21.7 +0.6**
comp=Z,1.0nm,0.8s,baz=5.0,slow=4.4,SNR=3.8
comp=Z,1.0nm,0.8s

*NEIC **14** 19:38:06±1.6, 20.°5S±0.°2×173.°6W±0.°1, h10km±1km, mb4.9/86, Error ellipse: s-maj=28.6km s-min=14.6km az=155.0*
*IDC **14** 19:38:09.0±0.7, 20.°92S×174.°00W, h0km, mb4.3/13, mbtmp4.3/15, ML3.9/2, MS3.6/6, Error ellipse: s-maj=31.7km s-min=16.4km az=141.0*
ISC 14 19:38:08.3±0.4, **20.°51S**±0.°09×**173.°58W**±0.°06, **h21**km, **n157**,σ2§**13**/123, **mb4.9**/48, **MS3.8**/5, **8C-1D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.72**	**68**	Pn	**Pn**	**19 39 04.6**	**+0.1**
NIUE				Sn	**Sn**	**19 39 45.0**	**-2.8**
AFI	**Afiamalu**	**6.78**	**15**	Pn	**Pn**	**19 39 45.7**	**-1.0**
RAO	**Raoul Island**	**9.56**	**203**	LR	LR	19 43 52.7	
	comp=Z,170nm,18.7s,baz=156,slow=38						
RAR	**Rarotonga**	**12.93**	**96**	Pn	**Pn**	**19 41 08.9**	**-2.0**
RAR	**Rarotonga**	**12.93**	**96**	Pn	**Pn**	**19 41 09.4**	**-1.5**
	6.8nm,0.3s,baz=237,slow=9.5,SNR=14						
RAR				Sn	Sn	19 43 21.3	-13
	1.8nm,0.3s,baz=0.0,slow=21,SNR=1.8						
DZM	**Mont Dzumac**	**18.68**	**262**	P	**P**	**19 42 24.0**	**-1.4**
DZM	**Mont Dzumac**	**18.68**	**262**	P	**Pn**	**19 42 25.6**	**-0.2**
	0.3nm,0.3s,baz=72,slow=19,SNR=3.7						
DZM				LR	LR	19 48 47.8	
	comp=Z,370nm,18.2s,baz=107,slow=35						
	7.7nm,0.7s						
URZ	**Urewera**	**19.44**	**202**	P	**P**	**19 42 31.5**	**-1.9**
	0.5nm,0.3s,baz=47,slow=9.6,SNR=8.0						
	16nm,0.8s						
HIZ	**Hauiti**	**20.54**	**207**	P	**P**	**19 42 45.9**	**+0.5**
HIZ				IAmb	IAmb	19 42 47.7	
	comp=Z,78nm,1.2s						
BFZ	**Birch Farm**	**21.90**	**201**	P	**P**	**19 42 59.2**	**-0.9**
TUWZ	**Tuamarina**	**23.39**	**204**	P	**P**	**19 43 10.7**	**-5.0**
INZ	**Inchbonnie**	**25.48**	**206**	P	**P**	**19 43 33.5**	**-1.5**
INZ				IAmb	IAmb	19 43 44.6	
	comp=Z,45nm,1.3s						
OXZ	**Oxford**	**25.75**	**205**	P	**P**	**19 43 36.2**	**-1.2**
OXZ				IAmb	IAmb	19 43 49.5	
	comp=Z,30nm,0.9s						
HNR	**Honiara**	**27.80**	**289**	LR	LR	19 54 33.8	
	comp=Z,2μm,18.6s,baz=127,slow=36						
ARMA	**Armidale**	**32.81**	**245**	P	**P**	**19 44 39.5**	**-1.0**
CTA	**Charters Tower**	**37.61**	**263**	LR	LR	19 59 52.2	
	comp=Z,141nm,18.5s,baz=86,slow=35						
CTAO	**Charters Tower**	**37.61**	**263**	P	**P**	**19 45 20.3**	**-1.5**
CTAO				IAmb	IAmb	19 45 21.9	
	comp=Z,39nm,1.8s						
TOO	**Toolangi**	**39.27**	**235**	P	**P**	**19 45 35.5**	**-0.1**
TOO				IAmb	IAmb	19 46 37.4	
	comp=Z,61nm,1.9s						
PMG	**Port Moresby**	**39.40**	**280**	P	**P**	**19 45 35.9**	**-1.0**
PMG	**Port Moresby**	**39.40**	**280**	LR	LR	20 00 05.9	
	comp=Z,95nm,18.7s,baz=158,slow=34						
STKA	**Stephens Creek**	**41.53**	**245**	P	**P**	**19 45 52.9**	**-1.4**
STKA	**Stephens Creek**	**41.53**	**245**	P	**P**	**19 45 52.8**	**-1.6**
	comp=Z,1.9nm,0.5s,baz=78,slow=9.9,SNR=10.0						
	comp=Z,1.9nm,0.5s						
BBOO	**Buckleboo**	**46.26**	**244**	P	**P**	**19 46 30.1**	**-2.4**
AS31	**Alice Springs**	**48.55**	**256**	P	**P**	**19 46 48.8**	**-1.6**
ASAR	**Alice Springs**	**48.55**	**256**	P	**P**	**19 46 47.5**	**-2.9**
ASAR	**Alice Springs**	**48.55**	**256**	P	**P**	**19 46 49.4**	**-1.0**
	comp=Z,6.2nm,0.8s,baz=90,slow=8.4,SNR=55						
ASAR				PcP	**PcP**	**19 48 19.1**	**+3.0**
	comp=Z,1.8nm,0.8s,baz=114,slow=4.6,SNR=1.9						
ASAR				LR	LR	20 06 34.8	
	comp=Z,137nm,18.9s,baz=112,slow=36						
	comp=Z,6.2nm,0.8s						
WB0	**Warramunga Arr**	**48.68**	**261**	P	**P**	**19 46 49.6**	**-1.8**
WB2	**Warramunga Arr**	**48.69**	**261**	P	**P**	**19 46 49.0**	**-2.4**
WB2				IAmb	IAmb	19 47 10.1	
	comp=Z,21nm,1.4s						
WRA	**Warramunga Arr**	**48.70**	**261**	P	**P**	**19 46 48.9**	**-2.7**
WRA	**Warramunga Arr**	**48.70**	**261**	P	**P**	**19 46 50.1**	**-1.4**
	comp=Z,3.5nm,0.7s,baz=94,slow=4.7,SNR=8.7						
WRA				PcP	**PcP**	**19 48 19.7**	**+3.0**
	comp=Z,1.0nm,0.6s,baz=103,slow=2.9,SNR=2.7						
	comp=Z,3.5nm,0.7s						
GUMO	**Guam**	**53.07**	**306**	LR	LR	20 08 06.2	
	comp=Z,19nm,19.2s,baz=200,slow=34						
FORT	**Forrest**	**53.09**	**246**	P	**P**	**19 47 22.6**	**-1.9**
MTN	**Manton Dam**	**53.31**	**269**	P	**P**	**19 47 25.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**57.13**	**261**	P	**P**	**19 47 53.8**	**0.0**
FITZ				IAmb	IAmb	19 48 04.7	
	comp=Z,14nm,1.8s						
VNDA	**Vanda**	**58.31**	**186**	P	**P**	**19 48 02.5**	**+1.3**
SOEI	**Soe**	**60.64**	**270**	P	**P**	**19 48 17.8**	**-0.6**
PSA00	**Pilbara Seismi**	**61.70**	**256**	P	**P**	**19 48 24.3**	**-1.0**
PSA00				IAmb	IAmb	19 50 32.0	
	comp=Z,24nm,1.7s						
PSA00	**Pilbara Seismi**	**61.70**	**256**	P	**P**	**19 48 24.1**	**-1.3**
PSA00				IAmb	IAmb	19 48 51.2	
	comp=Z,25nm,1.2s						
MBWA	**Marble Bar**	**61.89**	**256**	P	**P**	**19 48 25.9**	**-0.7**
MORW	**Morawa**	**63.65**	**247**	P	**P**	**19 48 39.4**	**+1.1**
QSPA	**South Pole Qui**	**69.57**	**180**	P	**P**	**19 49 17.1**	**+1.5**
QSPA				IAmb	IAmb	19 49 29.5	
	comp=Z,14nm,1.1s						
MJAR	**Matsushiro Arr**	**72.75**	**321**	P	P	19 49 39.4	+4.3
	comp=Z,2.9nm,0.7s,baz=156,slow=5.8,SNR=7.2						
	comp=Z,2.9nm,0.7s						
SBUM	**Sibu**	**76.10**	**278**	P	**P**	**19 49 52.4**	**-2.7**
SBUM				IAmb	IAmb	19 51 42.7	
	comp=Z,14nm,2.0s						
ISA	**Isabella, Lake**	**76.43**	**43**	P	**P**	**19 49 54.0**	**-2.6**
PETK	**Petropavlovsk-**	**77.42**	**343**	P	P	19 50 07.7	+6.1
	comp=Z,4.4nm,0.7s,baz=131,slow=7.8,SNR=5.1						
	comp=Z,4.4nm,0.7s						
LHV	**Little Huntoon**	**78.00**	**41**	P	**P**	**19 50 02.3**	**-2.9**
LHV				IAmb	IAmb	19 50 27.5	
	comp=Z,17nm,1.5s						
GMN	**Gold Mountain**	**78.20**	**43**	P	**P**	**19 50 06.0**	**-0.7**
RYN	**Ryan**	**78.23**	**41**	P	**P**	**19 50 06.1**	**-0.5**
RYN				IAmb	IAmb	19 50 25.6	
	comp=Z,20nm,1.9s						
NVAR	**Mina Array Bea**	**78.24**	**41**	P	**P**	**19 50 05.5**	**-1.3**
NVAR	**Mina Array Bea**	**78.24**	**41**	P	P	19 50 13.6	+6.7
	comp=Z,1.6nm,0.6s,baz=223,slow=8.1,SNR=16						
	comp=Z,1.6nm,0.6s						
NV11	**Mina Array Sit**	**78.33**	**41**	P	**P**	**19 50 04.6**	**-2.7**
NV11				IAmb	IAmb	19 50 39.7	
	comp=Z,13nm,1.4s						
MZP	**Montezuma Peak**	**78.37**	**42**	P	**P**	**19 50 04.6**	**-3.1**
TPH	**Tonopah**	**78.70**	**42**	P	**P**	**19 50 08.0**	**-1.3**
KVN	**Kaiserville**	**78.75**	**41**	P	**P**	**19 50 08.8**	**-0.8**
K05A	**Summer Lake**	**79.44**	**37**	P	P	19 50 19.4	+6.1
K05A				IAmb	IAmb	19 51 46.4	
	comp=Z,38nm,2.0s						
J05D	**Fort Rock, OR**	**79.61**	**36**	P	P	19 50 21.3	+7.1
PRN	**Pahroc Range**	**79.68**	**44**	P	P	19 50 21.1	+6.4
KSRS	**Korea Array**	**79.69**	**316**	P	P	19 50 20.3	+5.8
	comp=Z,0.6nm,0.6s,baz=144,slow=5.1,SNR=2.2						
	comp=Z,0.6nm,0.6s						
PINE	**Pine Mountain**	**80.11**	**36**	P	**P**	**19 50 16.9**	**0.0**
PINE				IAmb	IAmb	19 50 43.3	
	comp=Z,39nm,1.9s						
WVOR	**Wild Horse Val**	**80.53**	**38**	P	P	19 50 25.7	+6.6
Q12A	**Willow Creek R**	**80.78**	**42**	P	**P**	**19 50 20.7**	**+0.1**
MTPU	**Mount Pierson**	**81.91**	**44**	P	**P**	**19 50 25.7**	**-1.1**
G08A	**Pilot Rock**	**82.16**	**36**	P	**P**	**19 50 28.2**	**+0.6**
MSU	**Marysvale**	**82.18**	**44**	P	**P**	**19 50 26.7**	**-1.4**
BMO	**Blue Mountains**	**82.79**	**37**	P	**P**	**19 50 29.5**	**-1.5**
BMO				IAmb	IAmb	19 51 44.9	
	comp=Z,15nm,1.8s						
MAW	**Mawson**	**82.93**	**199**	P	**P**	**19 50 31.5**	**+0.2**
MAW	**Mawson**	**82.93**	**199**	P	**P**	**19 50 33.9**	**+2.7**
	comp=Z,4.5nm,0.8s,baz=100,slow=5.3,SNR=6.3						
	comp=Z,4.5nm,0.8s						
K15K	**Wolf Creek Mou**	**83.07**	**6**	P	**P**	**19 50 35.2**	**+3.3**
TMUT	**Trail Mountain**	**83.24**	**44**	P	**P**	**19 50 31.3**	**-2.5**
TMUT				IAmb	IAmb	19 51 14.4	
	comp=Z,17nm,1.6s						
D08A	**Wollman Farm,**	**83.30**	**34**	P	P	19 50 39.5	+6.0
D08A				IAmb	IAmb	19 50 41.6	
	comp=Z,5.7nm,0.9s						
E09A	**Wood Farm, Sta**	**83.37**	**35**		**P**	**19 50 32.0**	**-1.8**
E09A				IAmb	IAmb	19 50 42.6	
	comp=Z,23nm,1.9s						
F10A	**Beach Ranch, E**	**83.53**	**36**		P	19 50 39.9	+5.2
F10A				IAmb	IAmb	19 50 42.2	
	comp=Z,8.5nm,0.8s						
TXAR	**Lajitas Array**	**83.60**	**56**	P	**P**	**19 50 33.6**	**-1.9**
TXAR	**Lajitas Array**	**83.60**	**56**	P	P	19 50 42.0	+6.5
	comp=Z,1.0nm,0.9s,baz=208,slow=5.0,SNR=6.7						
	comp=Z,1.0nm,0.9s						
HVU	**Hansel Valley**	**83.64**	**41**	P	**P**	**19 50 34.7**	**-0.8**
HVU				IAmb	IAmb	19 51 42.7	
	comp=Z,12nm,1.8s						
P17A	**Butcher Ranch,**	**83.64**	**44**	P	**P**	**19 50 35.2**	**-0.4**
PLID	**Pearl Lake**	**83.67**	**37**	P	**P**	**19 50 35.4**	**-0.3**
PLID				IAmb	IAmb	19 51 08.9	
	comp=Z,17nm,1.9s						
HLID	**Hailey**	**83.68**	**39**	P	P	19 50 41.3	+5.7
TCUT	**Toone Canyon**	**84.12**	**42**	P	**P**	**19 50 38.5**	**+0.5**
TCUT				IAmb	IAmb	19 50 47.8	
	comp=Z,12nm,1.1s						
BSUT	**Blindstream Ca**	**84.21**	**43**	P	P	19 50 44.8	+6.1
BSUT				IAmb	IAmb	19 51 35.2	
	comp=Z,21nm,1.8s						
ANMO	**Albuquerque**	**84.21**	**50**	P	P	19 50 44.2	+5.6
ANMO				IAmb	IAmb	19 51 10.2	
	comp=Z,12nm,1.6s						
J17K	**VABM Dome**	**84.40**	**7**	P	P	19 50 44.7	+6.1
J18K	**Innoko River**	**84.73**	**8**	P	P	19 50 46.3	+6.0
TRF	**Thorofare Moun**	**85.65**	**10**	P	P	19 50 51.2	+6.0
J20K	**Nowinta River**	**85.75**	**8**	P	P	19 50 52.1	+6.7
J20K				IAmb	IAmb	19 51 05.8	
	comp=Z,10nm,1.2s						
RND	**Reindeer**	**85.86**	**11**	P	**P**	**19 50 47.1**	**+1.1**
PDAR	**Pinedale Array**	**86.17**	**42**	P	P	19 50 54.9	+6.6
	comp=Z,1.0nm,0.9s,baz=208,slow=2.9,SNR=4.8						
	comp=Z,1.0nm,0.9s						
BCAR	**Beaver Creek A**	**86.97**	**14**	P	P	19 50 58.2	+6.7
CCB	**Clear Creek Bu**	**87.18**	**11**	P	P	19 50 58.7	+6.3
G19K	**Purcell Mounta**	**87.28**	**7**	P	**P**	**19 50 54.8**	**+1.9**
G19K				IAmb	IAmb	19 51 25.4	
	comp=Z,13nm,1.5s						
SCRK	**Sand Creek**	**87.30**	**13**	P	**P**	**19 50 53.2**	**0.0**
H21K	**Melozitna Rive**	**87.34**	**8**	P	**P**	**19 50 53.2**	**0.0**
H21K				IAmb	IAmb	19 51 21.0	
	comp=Z,17nm,1.8s						
ILAR	**Eielson Array**	**87.46**	**11**	P	P	19 50 60.0	+6.2
	comp=Z,1.1nm,0.9s,baz=226,slow=4.8,SNR=8.3						
	comp=Z,1.1nm,0.9s						
IMAR	**Indian Mountai**	**87.53**	**8**	P	**P**	**19 50 54.8**	**+0.7**
J25K	**Salcha River,**	**87.60**	**12**	P	**P**	**19 50 53.4**	**-1.1**
J26L	**Joseph Creek**	**87.86**	**13**	P	**P**	**19 50 56.1**	**+0.3**
J26L				IAmb	IAmb	19 51 04.6	
	comp=Z,7.2nm,1.1s						
F19K	**Shaleruckik Mo**	**87.88**	**6**	P	**P**	**19 50 55.3**	**-0.4**
F19K				IAmb	IAmb	19 51 12.4	
	comp=Z,17nm,1.8s						
G21K	**Allakaket**	**88.06**	**8**	P	P	19 51 03.3	+6.7
E18K	**Tukpahlearik C**	**88.19**	**5**	P	P	19 51 03.0	+5.7
E18K				IAmb	IAmb	19 53 33.5	
	comp=Z,18nm,1.8s						
F20K	**Avaraart Lake**	**88.31**	**7**	P	**P**	**19 50 57.1**	**-0.6**
F20K				IAmb	IAmb	19 53 02.4	
	comp=Z,17nm,1.8s						
E19K	**Redstone River**	**88.54**	**6**	P	**P**	**19 50 59.1**	**+0.3**
E19K				IAmb	IAmb	19 51 31.2	
	comp=Z,8.4nm,1.4s						
F21K	**Alatna River**	**88.74**	**8**	P	**P**	**19 51 01.2**	**+1.4**
F21K				IAmb	IAmb	19 54 00.1	
	comp=Z,9.6nm,1.6s						
I28M	**Miner Creek**	**89.44**	**13**	P	P	19 51 08.8	+5.5
D19K	**Kuna River**	**89.46**	**6**	P	**P**	**19 51 03.5**	**+0.3**
E22K	**Anaktuvuk Pass**	**89.81**	**8**	P	**P**	**19 51 05.4**	**+0.5**
C19K	**Lookout Ridge**	**89.93**	**5**	P	P	19 51 12.2	+6.8
I30M	**Mount Dempster**	**90.07**	**15**	P	P	19 51 12.2	+6.0
I30M				IAmb	IAmb	19 51 30.6	
	comp=Z,15nm,1.5s						
BMAR	**Burnt Mountain**	**90.27**	**11**	P	**P**	**19 51 09.5**	**+2.5**
D22K	**Ayikyak River**	**90.41**	**7**	P	P	19 51 12.1	+4.5
D22K				IAmb	IAmb	19 51 41.2	
	comp=Z,17nm,1.6s						
H29M	**Whitestone**	**90.44**	**14**	P	P	19 51 13.9	+6.1
F28M	**Old Crow**	**91.32**	**12**	P	**P**	**19 51 11.4**	**-0.5**
F31M	**Tsiigehtchic**	**92.50**	**14**	P	P	19 51 23.4	+6.1
CMAR	**Chiang Mai Arr**	**94.04**	**288**	P	**P**	**19 51 29.5**	**+3.9**
	comp=Z,0.6nm,0.7s,baz=92,slow=3.4,SNR=6.3						
	comp=Z,0.6nm,0.7s						
YKA	**Yellowknife Ar**	**94.82**	**24**	P	P	19 51 34.3	+6.2
	comp=Z,1.0nm,0.8s,baz=237,slow=4.5,SNR=14						
	comp=Z,1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**116.86**	**317**	PKP	**PKiKP**	**19 56 54.7**	**+3.5**
	comp=Z,0.8nm,0.8s,baz=106,slow=1.8,SNR=6.8						
BVAR	**Borovoye Array**	**121.74**	**320**	PKP	**PKiKP**	**19 57 04.4**	**+3.8**
	comp=Z,1.5nm,0.7s,baz=96,slow=0.9,SNR=8.8						
ARCES	**ARCESS Array B**	**129.61**	**351**	PKP	**PKiKP**	**19 57 19.9**	**+4.1**
	comp=Z,6.2nm,0.9s,baz=19,slow=5.7,SNR=4.2						
FINES	**FINESS Array B**	**136.85**	**346**	PKP	**PKiKP**	**19 57 33.5**	**+2.8**
	comp=Z,3.7nm,0.9s,baz=90,slow=3.1,SNR=4.0						
EKA	**Eskdalemuir Ar**	**144.48**	**9**	PKP	**PKiKP**	**19 57 46.4**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=316,slow=3.5,SNR=4.5						
SIRT	**Sirnak**	**144.50**	**306**		PKPbc	19 57 41.7	-0.4
AKASG	**Malin Array Be**	**144.91**	**335**	PKPbc	**PKiKP**	**19 57 47.1**	**-0.4**
	comp=Z,9.4nm,0.6s,baz=40,slow=4.2,SNR=62						
SORM	**Soroca**	**147.25**	**332**	⇑P	**PKiKP**	**19 57 54.7**	**+2.3**
GAZ	**Gaziantep**	**148.51**	**308**		**PKPdf**	**19 57 49.4**	**-1.0**
BNN	**Bunyan**	**148.77**	**312**		**PKPdf**	**19 57 50.3**	**-0.4**
BUR08	**Bucovina Ar. S**	**148.95**	**335**		**PKPab**	**19 58 00.2**	**+1.4**
BURAR	**Bucovina Array**	**148.96**	**335**	⇑P	**PKPab**	**19 57 58.8**	**0.0**
UPC	**Upice**	**149.11**	**348**	*e*PKP	**PKPab**	**19 58 00.4**	**+1.2**
BRG	**Berggiesshubel**	**149.12**	**351**	*eP*	**PKPdf**	**19 57 50.5**	**-0.2**
BRG	**Berggiesshubel**	**149.12**	**351**	P	**PKPab**	**19 58 01.2**	**+2.1**
BRG				Amp		19 58 01.6	
	comp=Z,4.2nm,0.9s						
DPC	**Dobruska-Polom**	**149.20**	**348**	*e*PKP	**PKPab**	**19 58 00.6**	**+1.0**
KRLC	**Kraliky**	**149.37**	**347**	*e*PKP	**PKPab**	**19 58 00.1**	**-0.2**
CFR	**Carcaliu**	**149.56**	**329**	⇑P	**PKPab**	**19 58 02.3**	**+1.2**
MAUC	**Maruska**	**149.80**	**345**	*e*PKP	**PKPab**	**19 58 02.3**	**+0.3**
BR131	**Keskin Array S**	**149.83**	**315**	PKPab	**PKPab**	**19 58 01.1**	**-1.6**
BRTR	**Keskin Array B**	**149.83**	**315**		**PKPab**	**19 58 01.8**	**-0.9**
BRTR	**Keskin Array B**	**149.83**	**315**	PKPbc	**PKPab**	**19 58 01.6**	**-1.1**
	comp=Z,2.9nm,0.8s,baz=130,slow=3.2,SNR=21						
PRU	**Pruhonice**	**149.88**	**350**	*e*PKP	**PKPab**	**19 58 02.4**	**+0.1**
NKC	**Novy Kostel**	**149.95**	**352**	*e*PKP	**PKPab**	**19 58 03.4**	**+0.8**
HARR	**Harsova**	**150.01**	**328**	⇑P	**PKPab**	**19 58 04.3**	**+1.3**
MLR	**Muntele Rosu**	**150.34**	**332**	⇑P	**PKPab**	**19 58 04.2**	**-0.4**
MLR	**Muntele Rosu**	**150.34**	**332**		**PKPdf**	**19 57 54.0**	**+0.9**
ZVC	**Zvikov**	**150.47**	**350**	*e*PKP	**PKPab**	**19 58 04.2**	**-0.6**
MARR	**Marisel-Cluj**	**150.55**	**336**	⇑P	**PKiKP**	**19 58 00.0**	**+0.6**
VOIR		**150.78**	**333**	⇑P	**PKPab**	**19 58 04.5**	**-1.8**
KHC	**Kasperske Hory**	**150.87**	**350**	*e*PKP	**PKPab**	**19 58 03.6**	**-2.9**
ARR	**Arges**	**151.01**	**333**	⇓P	**PKPab**	**19 58 06.3**	**-1.0**
CKRC	**Cesky Krumlov**	**151.05**	**349**	*e*PKP	**PKPab**	**19 58 05.0**	**-2.2**
GERES	**GERESS Array B**	**151.13**	**350**	PKPbc	**PKPab**	**19 58 04.5**	**-3.1**
	comp=Z,1.6nm,0.6s,baz=5.7,slow=4.0,SNR=7.4						
MMAI	**Mount Meron Ar**	**151.38**	**302**	PKPbc	**PKPab**	**19 58 06.1**	**-3.2**
	comp=Z,3.6nm,0.7s,baz=68,slow=7.3,SNR=4.8						
CONA	**Conrad Observa**	**151.60**	**347**	*eP*	**PKPab**	**19 58 06.9**	**-2.7**
	comp=Z,2.9nm,0.9s						
RONA	**Rosalia, Austr**	**151.72**	**346**	*eP*	**PKPab**	**19 58 07.2**	**-2.8**
	comp=Z,0.3nm,0.2s						
GZR	**Gura Ilata**	**151.75**	**335**	⇑P	**PKiKP**	**19 58 05.5**	**+3.6**
WTTA	**Wattenberg**	**152.97**	**352**	*eP*	**PKPab**	**19 58 09.7**	**-5.8**
	comp=Z,2.3nm,0.4s						

PB11 eS Sn 20 10 26.7 +0.8
PB08 IPOC Station P 1.57 174 eP Pn 20 10 12.2 +1.4
PB08 IPOC Station P 1.57 174 eP Pn 20 10 11.9 +1.1
PB08 eS Sn 20 10 35.4 +2.4
PB08 IAML 20 10 37.2
comp=Z,703nm,0.3s
PB08 IPOC Station P 1.57 174 ⇓iP Pn 20 10 12.5 +1.7
PB08 eS Sn 20 10 34.7 +1.8
PB08 IAML 20 10 37.2
comp=E,1μm,0.2s
HMBC Humberstone 1.78 197 ⇓iP Sn 20 10 13.8 +0.8
HMBC eS Sn 20 10 36.9 0.0
HMBC IAML 20 10 46.0
comp=E,2μm,0.7s
TA02 Huaiquique 1.85 204 Pn 20 10 14.3 +0.5
TA02 Huaiquique 1.85 204 eP Pn 20 10 15.4 +1.7
TA02 eS Sn 20 10 39.8 +1.5
TA02 IAML 20 10 43.0
comp=Z,1μm,0.1s
TA01 Diego Aracena 2.14 202 Pn 20 10 18.1 +0.9
TA01 Diego Aracena 2.14 202 eP Pn 20 10 18.2 +0.9
TA01 eS Sn 20 10 42.9 -1.7
TA01 IAML 20 10 49.8
comp=Z,427nm,0.3s
TA01 Diego Aracena 2.14 202 eP Pn 20 10 17.9 +0.6
TA01 eS Sn 20 10 43.5 -1.1
TA01 IAML 20 10 51.9
comp=E,1μm,0.3s
PATCX Punta Patache 2.37 199 Pn 20 10 21.0 +0.8
PATCX Punta Patache 2.37 199 eP Pn 20 10 20.7 +0.5
PATCX eS Sn 20 10 49.2 -0.7
PATCX IAML 20 10 50.3
comp=Z,499nm,0.5s
PATCX Punta Patache 2.37 199 eP Pn 20 10 21.1 +0.9
PATCX IAML 20 11 00.8
comp=E,657nm,0.3s
PB01 IPOC Station P 2.46 184 Pn 20 10 22.2 +0.8
PB01 IPOC Station P 2.46 184 eP Pn 20 10 22.2 +0.8
PB01 eS Sn 20 10 52.8 +0.8
PB01 IAML 20 10 58.4
comp=Z,504nm,0.2s
PB01 IPOC Station P 2.46 184 eP Pn 20 10 22.8 +1.4
PB01 eS Sn 20 10 51.8 -0.1
PB01 IAML 20 10 53.2
comp=N,1μm,0.3s
LPAZ La Paz 2.54 27 Pn Pn 20 10 24.6 +1.6
LPAZ La Paz 2.54 27 eP Pn 20 10 24.7 +1.8
PB02 IPOC Station P 2.79 191 Pn 20 10 26.4 +0.9
PB02 IPOC Station P 2.79 191 eP Pn 20 10 26.5 +0.9
PB02 eS Sn 20 10 59.4 0.0
PB02 IAML 20 11 11.2
comp=Z,690nm,0.3s
PB02 IPOC Station P 2.79 191 eP Pn 20 10 26.7 +1.2
PB02 eS Sn 20 10 57.0 -2.4
PB07 IPOC Station P 3.18 190 Pn 20 10 31.1 +0.3
PB07 IPOC Station P 3.18 190 eP Pn 20 10 31.7 +0.9
PB07 eS Sn 20 10 57.4 -11
PB07 IAML 20 11 18.6
comp=Z,376nm,0.4s
PB07 IPOC Station P 3.18 190 eP Pn 20 10 32.4 +1.6
PB07 IAML 20 11 10.2
comp=E,445nm,0.3s
PB09 IPOC Station P 3.21 179 Pn 20 10 32.7 +1.6
PB09 IPOC Station P 3.21 179 eP Pn 20 10 32.4 +1.2
PB09 eS Sn 20 11 10.9 +1.6
PB09 IPOC Station P 3.21 179 eP Pn 20 10 32.7 +1.6
PB09 IAML 20 11 14.2
comp=N,232nm,0.5s
PB04 IPOC Station P 3.82 192 Pn 20 10 38.7 -0.5
PB04 IPOC Station P 3.82 192 eP Pn 20 10 40.1 +0.9
PB04 eS Sn 20 11 21.8 -1.9
PB04 IAML 20 11 27.8
comp=Z,233nm,0.2s
LVC Limon Verde 4.04 175 Pn Pn 20 10 43.8 +1.6
LVC Limon Verde 4.04 175 eP Pn 20 10 43.4 +1.2
LVC eS Sn 20 11 31.2 +2.1
LVC Limon Verde 4.04 175 eP Pn 20 10 43.5 +1.2
LVC Limon Verde 4.04 175 P Pn 20 10 43.0 +0.8
comp=Z,39nm,0.3s,baz=7.3,slow=9.0,SNR=154
LVC S Sn 20 11 28.7 -0.4
comp=Z,51nm,0.3s,baz=37,slow=20,SNR=13
PB06 IPOC Station P 4.12 183 Pn 20 10 43.6 +0.4
PB06 IPOC Station P 4.12 183 eP Pn 20 10 44.2 +1.0
PB06 eS Sn 20 11 30.0 -0.8
PB06 IAML 20 11 35.7
comp=Z,219nm,0.3s
PB05 IPOC Station P 4.34 191 Pn Pn 20 10 46.1 +0.1
PB15 IPOC Station P 4.61 182 Pn 20 10 50.5 +0.7
PB14 IPOC Station P 6.11 189 Pn Pn 20 11 08.5 -1.4
GO02 Mina Guanaco 6.56 182 Pn Pn 20 11 15.2 -0.9
AC01 Pan de Azucar 7.63 189 Pn 20 11 27.8 -2.4
SIV San Ignacio 8.29 73 P Pn 20 11 36.9 -2.3
comp=Z,12nm,0.3s,baz=264,slow=9.3,SNR=40
SIV S Sn 20 13 06.5 -4.7
comp=Z,4.3nm,0.8s,baz=330,slow=23,SNR=8.9
BBSD Serra de San D 8.41 82 eP Pn 20 11 39.0 -1.7
ETMB Extrema 9.21 19 Pn Pn 20 11 47.9 -3.6
ETMB Extrema 9.21 19 eP Pn 20 11 50.4 -1.2
AC04 Llanos de Chal 9.72 189 Pn Pn 20 11 54.4 -4.0
PTLB Pontes e Lacer 10.22 74 Pn Pn 20 12 02.5 -2.6
PTLB Pontes e Lacer 10.22 74 eP Pn 20 12 03.5 -1.7
AC05 El Transito 10.25 185 Pn Pn 20 12 02.3 -3.3
VILB Vilhena 10.40 59 Pn Pn 20 12 06.0 -1.6
VILB Vilhena 10.40 59 eP Pn 20 12 06.1 -1.5
LCO Las Campanas 10.47 187 Pn Pn 20 12 05.6 -3.0
SAML Samuel 11.27 33 Pn Pn 20 12 17.5 -1.6
SAML Samuel 11.27 33 eP Pn 20 12 18.4 -0.8
CO01 Juntas del Tor 11.38 183 Pn Pn 20 12 18.4 -2.2
GO04 Tololo Observa 11.63 186 Pn Pn 20 12 20.5 -3.5
PANT Pantanal (Braz 12.04 94 eP Pn 20 12 28.0 -1.3
ANTJ Antonio Joao (12.95 107 eP Pn 20 12 41.2 +0.1
AQDB Aquidauana 12.98 101 P 20 12 46.7 -0.4
AQDB Aquidauana 12.98 101 eP Pn 20 12 41.2 -0.3
CFA Coronel Fontan 13.01 176 P Pn 20 12 42.7 +0.8
comp=Z,1.9nm,0.3s,baz=355,slow=15,SNR=2.2
SALV Santo Antonio 13.29 81 eP Pn 20 12 43.9 -1.6
RVDE Rio Verde (Bra 13.63 94 eP Pn 20 12 48.8 -1.1
AMBA Amambai (Brazi 14.09 110 eP Pn 20 12 56.1 +0.4
CRSM Crissiumal (Br 16.62 125 eP P 20 13 29.9 +2.4
UNIS Unistalda (Bra 16.69 131 eP Pn 20 13 29.1 +1.0
FRBT Francisco Belt 16.75 119 eP Pn 20 13 31.1 +2.3
PTGB Pitanga 17.16 114 eP Pn 20 13 34.3 +0.4
PCMB Pacaembu 17.23 103 eP Pn 20 13 36.0 +1.4
LDASE Londrina, Braz 17.66 109 eP Pn 20 13 40.7 +0.8
BOSC San Juan Bosco 17.76 329 P P 20 13 38.6 -1.7
NPGB Novo Progresso 17.78 52 eP P 20 13 40.1 -0.2
ITRB Iturama 17.95 97 eP P 20 13 42.9 +0.7
ITAB Concordia 18.02 122 P Pn 20 13 43.5 -0.5
ITAB IAmb IAmb 20 13 51.0
comp=Z,50nm,1.5s
ITAB Concordia 18.02 122 eP Pn 20 13 43.5 -0.5
ALGR Alto Alegre (B 18.04 127 eP Pn 20 13 44.5 +0.1
SNDB Serra Nova Dou 18.58 72 eP P 20 13 49.1 +0.1
CPSB Cacapava Do Su 18.62 132 eP P 20 13 50.1 +0.7
FRTB Fartura 19.05 108 eP P 20 13 54.5 +0.3
PLTB Pedras Altas 19.33 136 P P 20 13 57.5 +0.4
PLTB IAmb IAmb 20 13 57.6
comp=Z,10nm,1.0s
PLTB Pedras Altas 19.33 136 eP P 20 13 57.7 +0.6
ITTB Itaituba 19.38 45 eP P 20 13 57.2 -0.6
BB19B Bebedouro 19.72 101 eP P 20 14 01.0 -0.4
CNLB Canela 19.95 126 eP P 20 14 04.0 +0.1
IPMB Ipameri, GO 20.05 92 eP P 20 14 04.5 -0.6
TRQA Tornquist 20.45 163 P P 20 14 09.9 +0.9
TRQA IAmb IAmb 20 14 17.1
comp=Z,14nm,1.4s
BDFB Brasilia 20.57 85 P Pn 20 14 12.9 -1.3
BDFB Brasilia 20.57 85 P P 20 14 09.9 -0.9
comp=Z,18nm,0.4s,baz=262,slow=9.0,SNR=29
comp=Z,18nm,0.4s
RCLB Rio Claro- Sao 20.76 104 eP P 20 14 11.9 -0.7
SPB Sao Paulo 21.02 108 eP P 20 14 15.1 -0.3
PET01 Itanhaem-SP 21.29 109 eP P 20 14 18.4 +0.2
VAO Valinhos 21.35 106 eP P 20 14 17.9 -1.1
PMNB Patos De Minas 21.69 94 eP P 20 14 21.7 -1.0
PLCA Paso Flores 22.11 182 P P 20 14 29.0 +2.2
comp=Z,3.2nm,1.0s,baz=11,slow=9.9,SNR=3.1
comp=Z,3.2nm,1.0s
MALB Monte Alegre 22.23 43 eP P 20 14 26.7 -1.4
BOAV Boa Vista 22.57 23 P P 20 14 30.3 -1.2
BOAV IAmb IAmb 20 15 07.2
comp=Z,7.0nm,1.2s
BOAV Boa Vista 22.57 23 eP P 20 14 31.4 -0.1
PARB Paraibuna 22.62 106 eP P 20 14 31.3 -0.8
PRPB Parauapebas 22.66 60 eP P 20 14 31.2 -1.3
SMTB Santa Maria do 23.19 68 eP P 20 14 37.9 +0.4
BSCB Bom Sucesso 23.22 100 eP P 20 14 37.2 -0.5
JANB Januaria 24.19 85 eP P 20 14 46.4 -0.1
SDBA SAO DESIDERIO 24.30 79 eP P 20 14 47.7 +0.1
DIAM Diamantina, MG 24.33 93 eP P 20 14 48.4 +0.4
MCPB Macapa, AP 24.80 45 eP P 20 14 52.2 +0.2
DUB01 Friburgo-RJ 25.50 102 eP P 20 15 00.2 +1.8
RIB01 Linhares ES 27.36 96 eP P 20 15 15.7 +0.6
GUA01 Guaratinga, BA 28.19 91 eP P 20 15 23.1 +0.6
DBIC Dimbokro 68.31 75 P P 20 20 29.2 -0.4
comp=Z,11nm,0.7s,baz=241,slow=5.7,SNR=18
comp=Z,11nm,0.7s
TORD Torodi Ar. Bea 76.76 71 P P 20 21 19.1 -0.6
comp=Z,2.9nm,0.4s,baz=257,slow=5.4,SNR=38
comp=Z,2.9nm,0.4s
ESDC Sonseca Array 84.03 45 P P 20 21 59.7 +1.6
comp=Z,1.5nm,0.9s,baz=257,slow=5.9,SNR=6.0
comp=Z,1.5nm,0.9s
YKA Yellowknife Ar 88.31 341 P P 20 22 21.1 +2.7
comp=Z,0.4nm,0.7s,baz=136,slow=4.6,SNR=6.8
comp=Z,0.4nm,0.7s
ASAR Alice Springs 132.29 209 PKP PKiKP 20 28 43.1 +0.5
comp=Z,0.1nm,0.5s,baz=130,slow=2.9,SNR=1.1
ZALV Zalesovo Beam 139.46 23 PKP PKiKP 20 28 55.9 -0.2
comp=Z,0.6nm,0.5s,baz=292,slow=4.7,SNR=3.6
SONM Songino Array 150.60 6 PKPbc PKiKP 20 29 20.8 +1.3
comp=Z,1.0nm,0.5s,baz=281,slow=1.5,SNR=8.3
PZH PanZhiHua 168.58 45 PKP PKPdf 20 29 32.1 -2.1

IDC 14 20:25:15.1±0.5, 5°21S×132°73E, h0km, mb3.8/2, mbtmp3.5/4, ML3.1/2, Error ellipse: s-maj=322.9km s-min=32.3km az=76.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.73**	**174**	Pn	Pn	20 28 44.0	-1.0
	0.1nm,0.3s,baz=351,slow=13,SNR=6.2						
WRA				Sn	Sn	20 31 11.6	-18
	0.2nm,0.3s,baz=335,slow=22,SNR=7.0						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**18.39**	**177**	Pn	P	20 29 32.5	+0.6
	0.1nm,0.3s,baz=2.4,slow=11,SNR=7.5						
ASAR				Sn	Sn	20 32 41.6	-16
	baz=354,slow=29,SNR=2.5						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**68.27**	**325**	P	P	20 36 17.9	-0.1
	0.7nm,0.4s,baz=114,slow=8.2,SNR=16						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**72.45**	**327**	P	P	20 36 43.6	+0.2
	0.3nm,0.4s,baz=129,slow=4.2,SNR=2.5						
	0.3nm,0.4s						

*IDC **14** 20:36:34.5±0.5, 21°.15S×169°.66E, h0km, mb4.4/16, mbtmp4.4/17, ML3.8/1, MS4.7/48, Error ellipse: s-maj=19.7km s-min=15.5km az=115.0*
*BJI **14** 20:36:34.0, 21°.11S×170°.08E, h14km, mb4.7/44, mB5.6/38, Ms5.1/34, Ms7 4.8/37*
*NEIC **14** 20:36:37.9, 21°.12S×169°.54E, h36km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^17 Nm; Mrr1.88; Mθθ-0.25; Mφφ-1.63; Mrθ 0.19; Mθφ 0.91; Mφr-0.74; Fault plane solution: M0 2.12000×10^17 NP1: ϕs158.30000°, δ55.50000°, λ95.50000°. NP2: ϕs328.65000°, δ34.88000°, λ82.05000°. Principal axes: T 2.0286, Plg79.0000°, Azm89.0000°; N 0.1918, Plg5.0000°, Azm335.0000°; P -2.2204, Plg10.0000°, Azm244.0000°;*
*NEIC **14** 20:36:37.9, 21°.22S×169°.54E, h21km*
*NEIC **14** 20:36:37.9, 21°.22S×169°.54E, h36km*
*NEIC **14** 20:36:38.2±2.0, 21°.22S±0°.09×169°.53E±0°.09, h23km±1km, mb5.1/95, Ms_20 5.2/192, Mwb5.4/39, Mww5.5/23, Error ellipse: s-maj=14.9km s-min=13.4km az=25.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr1.43; Mθθ-0.64; Mφφ-0.79; Mrθ0.27; Mθφ0.76; Mφr-0.61; Fault plane solution: M0 1.60000×10^17 NP1: ϕs145.56000°, δ57.29000°, λ98.58000°. NP2: ϕs309.96000°, δ33.70000°, λ76.92000°. Principal axes: T 1.5932, Plg76.0000°, Azm81.0000°; N 0.0208, Plg7.0000°, Azm321.0000°; P -1.6140, Plg12.0000°, Azm229.0000°;*
*NOU **14** 20:36:39.0±1.1, 21°.17S×169°.57E, h38km, mb5.2/28, MS5.0/7, Error ellipse: s-maj=10.2km s-min=9.5km az=173.1*
*GCMT **14** 20:36:43.2±0.1, 21°.18S±0°.01×169°.34E±0°.01, h37km, MW5.5/134, Moment Tensor Solution. s134,c223; s120,c211; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr1.83±.03; Mθθ-0.18±.02; Mφφ-1.66±.02; Mrθ0.02±.03; Mθφ0.88±.02; Mφr-0.96±.03; Best double couple: M0 2.17900×10^17 NP1:ϕs166.00000°, δ58.00000°, λ103.00000°. NP2:ϕs323.00000°, δ34.00000°, λ70.00000°. Principal axes: T 2.0950, Plg74.0000°, Azm110.0000°; N 0.1590, Plg11.0000°, Azm339.0000°; P -2.2620, Plg12.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 14 20:36:39.5±0.6, 21°.28S±0°.04×169°.65E±0°.05, h34km±2km, h34km:pP-P, n446, σ1s88/351, mb5.0/88, MS5.1/155, 16C-10D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**1.52**	**262**		**Pn**	**20 37 02.4**	**-1.9**
MARNC	**Mare, Loyalty**	**1.52**	**262**	P	**Pn**	**20 37 02.7**	**-1.6**
LIFNC	**LIFOU**	**2.30**	**282**		**Pn**	**20 37 12.2**	**-2.8**
LIFNC	**LIFOU**	**2.30**	**282**	P	**Pn**	**20 37 13.0**	**-2.1**
PINNC	**Pines Island,**	**2.44**	**237**		**Pn**	**20 37 15.6**	**-1.3**
PINNC	**Pines Island,**	**2.44**	**237**	P	**Pn**	**20 37 16.6**	**-0.3**
YATNC	**Mamie plateau,**	**2.68**	**253**	P	**Pn**	**20 37 19.6**	**-0.7**
OUENC	**Ouen Island, N**	**2.84**	**246**		**Pn**	**20 37 20.8**	**-1.7**
OUENC	**Ouen Island, N**	**2.84**	**246**	P	**Pn**	**20 37 22.2**	**-0.3**
DZM	**Mont Dzumac**	**3.08**	**255**		**Pn**	**20 37 24.4**	**-1.5**
DZM	**Mont Dzumac**	**3.08**	**255**	P	**Pn**	**20 37 25.5**	**-0.4**
DZM	**Mont Dzumac**	**3.08**	**255**	*e*Pn	**Pn**	**20 37 24.8**	**-1.1**
	2μm,1.6s						
DZM				*e*Sn	**Sn**	**20 37 59.5**	**-2.1**
	5μm,1.3s						
DZM	**Mont Dzumac**	**3.08**	**255**	Pn	**Pn**	**20 37 25.2**	**-0.7**
	12nm,0.3s,baz=113,slow=6.4,SNR=147						
DZM				Sn	**Sn**	**20 37 59.8**	**-1.8**
	76nm,0.3s,baz=323,slow=23,SNR=14						
DZM				LR	LR	20 38 08.8	
	comp=Z,11μm,22.0s,baz=40,slow=30						
	175nm,0.7s						
ONTNC	**Ouen Toro**	**3.14**	**250**		**Pn**	**20 37 24.7**	**-1.9**
ONTNC	**Ouen Toro**	**3.14**	**250**	P	**Pn**	**20 37 26.3**	**-0.3**
NOUC	**Port Laguerre**	**3.21**	**255**	P	**Pn**	**20 37 27.2**	**-0.4**
DVP	**Devils Point**	**3.79**	**338**	P	**Pn**	**20 37 38.4**	**+2.8**
KOUNC	**Koumac, New Ca**	**5.06**	**277**		**Pn**	**20 37 51.5**	**-1.6**
KOUNC	**Koumac, New Ca**	**5.06**	**277**	P	**Pn**	**20 37 53.3**	**+0.2**
NFK	**Norfolk Island**	**7.88**	**191**	P	**Pn**	**20 38 34.0**	**+2.2**
	baz=8.2,SNR=4.0						
NFK				S	**Sn**	**20 39 59.3**	**-0.5**
	baz=8.2						
YSA	**Yasawairara**	**8.78**	**60**	P	Pn	20 38 50.5	+6.4
DGTI	**Dogotuki**	**10.76**	**64**	P	Pn	20 39 17.9	+6.6
HNR	**Honiara**	**15.03**	**320**	LR	LR	20 45 41.2	
	comp=Z,32μm,18.7s,baz=152,slow=37						
TOZ	**Tahuroa Road**	**17.16**	**164**		**Pn**	**20 40 37.2**	**+0.6**
EIDS	**Eidsvold**	**17.53**	**253**	P	**P**	**20 40 42.5**	**+0.3**
	baz=18,SNR=3.6						
EIDS	**Eidsvold**	**17.53**	**253**		**Pn**	**20 40 39.3**	**-2.0**
EIDS	**Eidsvold**	**17.53**	**253**	P	**P**	**20 40 42.5**	**+0.3**
URZ	**Urewera**	**18.11**	**161**	P	**P**	**20 40 51.6**	**+3.2**
	34nm,1.1s,baz=58,slow=7.2,SNR=14						
URZ				LR	LR	20 46 27.5	
	comp=Z,5μm,20.6s,baz=78,slow=32						
RTZ	**Ruatahuna**	**18.39**	**162**		**P**	**20 40 50.5**	**-1.3**
ARMA	**Armidale**	**18.57**	**237**	P	**Pn**	**20 40 57.6**	**+3.4**
	baz=19,SNR=4.1						
ARMA	**Armidale**	**18.57**	**237**	P	**P**	**20 40 50.8**	**-3.0**
ARMA	**Armidale**	**18.57**	**237**	P	**Pn**	**20 40 56.9**	**+2.7**
BKZ	**Black Stump Fm**	**18.77**	**163**	P	**Pn**	**20 40 57.7**	**+1.2**
BKZ	**Black Stump Fm**	**18.77**	**163**	P	**Pn**	**20 41 02.1**	**+5.6**
AFI	**Afiamalu**	**19.15**	**71**		**Pn**	**20 41 02.2**	**+0.9**
AFI				IAmb	IAmb	20 41 12.6	
	comp=Z,110nm,1.1s						
AFI	**Afiamalu**	**19.15**	**71**	P	**Pn**	**20 41 04.1**	**+2.8**
AFI	**Afiamalu**	**19.15**	**71**	P	**Pn**	**20 41 02.2**	**+0.9**
AFI				pmax	pmax		
	comp=Z,110nm,1.1s						
AUPHS	**Peel High Scho**	**19.44**	**236**	P	**Pn**	**20 41 06.4**	**+1.8**
RMQ	**Roma**	**19.78**	**251**	P	**Pn**	**20 41 08.4**	**-0.3**
	baz=20,SNR=5.1						
MRZ	**Mangatainoka R**	**19.97**	**167**	P	**P**	**20 41 09.1**	**+0.3**
NNZ	**Nelson**	**20.13**	**172**	P	Pn	20 41 13.7	+1.2
NNZ				IAmb	IAmb	20 41 26.1	
	comp=Z,239nm,1.6s						
MRNZ	**Matariki Terra**	**20.23**	**173**	P	Pn	20 41 14.3	+0.5
TCW	**Tory Channel**	**20.25**	**170**	P	**P**	**20 41 12.9**	**+0.9**
DSZ	**Denniston Nort**	**20.48**	**175**	P	**P**	**20 41 13.6**	**-0.9**
DSZ				IAmb	IAmb	20 41 31.1	
	comp=Z,91nm,1.3s						
THZ	**Tophouse**	**20.61**	**173**		**P**	**20 41 15.8**	**0.0**
THZ				IAmb	IAmb	20 41 25.6	
	comp=Z,106nm,1.6s						
PLWZ	**Palliser**	**20.78**	**168**	P	**P**	**20 41 17.5**	**-0.1**
AULRC	**Lightning Ridg**	**21.17**	**243**	P	**P**	**20 41 24.7**	**+2.7**
INZ	**Inchbonnie**	**21.43**	**176**	P	**P**	**20 41 24.3**	**-0.4**
INZ				IAmb	IAmb	20 41 41.3	
	comp=Z,104nm,1.3s						
TV1H	**Townsville Har**	**21.53**	**271**	P	**P**	**20 41 28.5**	**+2.6**
	comp=Z,52nm,1.3s						
AUDCS	**Dubbo College**	**21.66**	**235**	P	**P**	**20 41 30.5**	**+3.2**
CTA	**Charters Tower**	**21.91**	**269**	P	**P**	**20 41 32.1**	**+2.0**
CTA	**Charters Tower**	**21.91**	**269**	P	**P**	**20 41 30.6**	**+0.6**
	comp=Z,8.3nm,0.8s,baz=89,slow=12,SNR=7.7						
CTA				LR	LR	20 49 58.1	
	comp=Z,7μm,18.3s,baz=94,slow=37						
	comp=Z,8.3nm,0.8s						
CTAO	**Charters Tower**	**21.91**	**269**	P	**P**	**20 41 27.8**	**-2.3**
CTAO				IAmb	IAmb	20 41 45.5	
	comp=Z,84nm,1.2s						
CTAO	**Charters Tower**	**21.91**	**269**	IAMs_20	IAMs_20	20 49 46.0	
	comp=Z,7μm,19.0s						
CTAO	**Charters Tower**	**21.91**	**269**	P	**P**	**20 41 32.2**	**+2.1**
CTAO	**Charters Tower**	**21.91**	**269**	P	**P**	**20 41 27.8**	**-2.3**
CTAO				pmax	pmax		
	comp=Z,84nm,1.2s						
CTAO				MLR	MLR		
	comp=Z,7μm,19.0s						
OXZ	**Oxford**	**22.07**	**175**	P	**P**	**20 41 33.4**	**+1.8**
OXZ				IAmb	IAmb	20 41 51.2	
	comp=Z,79nm,1.4s						
RPZ	**Rata Peaks**	**22.40**	**177**	LR	LR	20 49 28.1	
	comp=Z,6μm,20.6s,baz=344,slow=34						
CNB	**Canberra Magne**	**22.62**	**227**	P	**P**	**20 41 41.0**	**+3.4**
	baz=23,SNR=7.8						
CNB	**Canberra Magne**	**22.62**	**227**	P	**P**	**20 41 40.8**	**+3.2**
JCZ	**Jackson Bay**	**22.74**	**182**	P	**P**	**20 41 44.5**	**+5.7**
CAN	**Canberra**	**22.88**	**228**	P	**P**	**20 41 41.4**	**+1.2**
CAN				IAmb	IAmb	20 41 52.5	
	comp=Z,127nm,1.4s						
CAN	**Canberra**	**22.88**	**228**	P	**P**	**20 41 43.1**	**+2.9**
CAN	**Canberra**	**22.88**	**228**	P	**P**	**20 41 41.4**	**+1.2**
CAN				pmax	pmax		
	comp=Z,127nm,1.4s						
CMSA	**Cobar Meteorol**	**23.71**	**240**	P	**P**	**20 41 50.4**	**+1.9**
	baz=24,SNR=35						
CMSA	**Cobar Meteorol**	**23.71**	**240**	P	**P**	**20 41 50.8**	**+2.3**
AUSMG	**Snowy Mountain**	**23.74**	**226**	P	**P**	**20 41 52.4**	**+3.6**
MILA	**Mila**	**23.74**	**224**	P	**P**	**20 41 52.6**	**+3.9**
	baz=24,SNR=4.5						
MILA	**Mila**	**23.74**	**224**	P	**P**	**20 41 52.2**	**+3.5**
QLP	**Quilpie**	**23.80**	**252**	P	**P**	**20 41 51.5**	**+2.1**
	baz=24,SNR=4.6						
QLP	**Quilpie**	**23.80**	**252**	P	**P**	**20 41 50.9**	**+1.5**
MTSU	**Mount Surprise**	**24.04**	**273**	P	**P**	**20 41 52.9**	**+1.3**
	baz=24,SNR=9.3						
MTSU	**Mount Surprise**	**24.04**	**273**	P	**P**	**20 41 53.0**	**+1.3**
	comp=Z,46nm,1.3s						
PMG	**Port Moresby**	**24.65**	**295**	P	**P**	**20 41 56.4**	**-0.9**
PMG				IAmb	IAmb	20 42 07.8	
	comp=Z,52nm,1.1s						
PMG	**Port Moresby**	**24.65**	**295**	P	**P**	**20 41 58.1**	**+0.9**
PMG	**Port Moresby**	**24.65**	**295**	P	**P**	**20 41 57.9**	**+0.7**
PMG	**Port Moresby**	**24.65**	**295**	*ce*P	**P**	**20 41 57.7**	**+0.5**
PMG				pmax	pmax		
	comp=Z,142nm,2.7s						
PMG	**Port Moresby**	**24.65**	**295**	LR	LR	20 50 45.6	
	comp=Z,2μm,19.1s,baz=152,slow=35						
TOO	**Toolangi**	**26.46**	**227**	P	**P**	**20 42 15.7**	**+2.2**
	baz=27,SNR=5.0						
TOO	**Toolangi**	**26.46**	**227**	P	**P**	**20 42 13.9**	**+0.5**
TOO				IAmb	IAmb	20 42 24.4	
	comp=Z,98nm,1.5s						
TOO	**Toolangi**	**26.46**	**227**	P	**P**	**20 42 17.3**	**+3.8**
TOO	**Toolangi**	**26.46**	**227**	P	**P**	**20 42 14.0**	**+0.5**
TOO				pmax	pmax		
	comp=Z,98nm,1.5s						
TOO				MLR	MLR		
	comp=Z,3μm,20.0s						
INKA	**Innaminka**	**27.03**	**250**	P	**P**	**20 42 21.9**	**+3.2**
STKA	**Stephens Creek**	**27.14**	**241**	P	**P**	**20 42 21.4**	**+1.7**
	baz=27,SNR=4.4						
STKA	**Stephens Creek**	**27.14**	**241**	P	**P**	**20 42 16.6**	**-3.1**
STKA	**Stephens Creek**	**27.14**	**241**	P	**P**	**20 42 20.6**	**+0.9**
STKA	**Stephens Creek**	**27.14**	**241**	⇑*i*P	**P**	**20 42 21.2**	**+1.5**
STKA	**Stephens Creek**	**27.14**	**241**	P	**P**	**20 42 20.8**	**+1.1**
	comp=Z,5.9nm,0.9s,baz=71,slow=8.6,SNR=13						
STKA				LR	LR	20 53 15.8	
	comp=Z,4μm,18.4s,baz=83,slow=37						
	comp=Z,5.9nm,0.9s						
QIS	**Mount Isa**	**28.05**	**266**	P	**P**	**20 42 29.5**	**+1.5**
	baz=28,SNR=3.5						
RAR	**Rarotonga**	**28.48**	**95**	LR	LR	20 51 52.1	
	comp=Z,671nm,21.4s,baz=264,slow=32						
LCRK	**Leigh Creek**	**29.64**	**246**	P	**P**	**20 42 43.0**	**+1.1**
HTT	**Hallett**	**29.74**	**239**	P	**P**	**20 42 44.4**	**+1.6**
	baz=30,SNR=4.0						
HTT	**Hallett**	**29.74**	**239**	P	**P**	**20 42 43.6**	**+0.7**
OOD	**Oodnadatta**	**31.50**	**251**	P	**P**	**20 43 00.0**	**+1.7**
BBOO	**Buckleboo**	**31.91**	**242**	P	**P**	**20 43 03.0**	**+1.1**
	baz=32,SNR=6.2						
BBOO	**Buckleboo**	**31.91**	**242**	P	**P**	**20 43 01.3**	**-0.7**
BBOO				IAMs_20	IAMs_20	20 56 02.1	
	comp=Z,4μm,18.0s						
BBOO	**Buckleboo**	**31.91**	**242**	P	**P**	**20 43 05.9**	**+3.9**
WR6	**Warramunga Arr**	**32.92**	**266**	IAMs_20	IAMs_20	20 56 24.0	
	comp=Z,6μm,20.0s						
WR5	**Warramunga Arr**	**32.95**	**266**	IAMs_20	IAMs_20	20 56 24.6	
	comp=Z,6μm,20.0s						
WB0	**Warramunga Arr**	**33.01**	**266**	P	**P**	**20 43 10.6**	**-1.1**
WB0				IAmb	IAmb	20 43 22.0	
	comp=Z,18nm,1.1s						
WR2	**Warramunga Arr**	**33.01**	**266**	IAMs_20	IAMs_20	20 56 17.3	
	comp=Z,6μm,20.0s						
WB7	**Warramunga Arr**	**33.01**	**266**	IAMs_20	IAMs_20	20 56 28.3	
	comp=Z,5μm,20.0s						
WB5	**Warramunga Arr**	**33.02**	**266**	IAMs_20	IAMs_20	20 56 17.5	
	comp=Z,6μm,20.0s						
AS01	**Alice Springs**	**33.02**	**259**	P	**P**	**20 43 12.1**	**+0.3**
	comp=Z,25nm,1.1s						
WB2	**Warramunga Arr**	**33.02**	**266**	P	**P**	**20 43 10.3**	**-1.6**
WB2				IAmb	IAmb	20 43 23.9	
	comp=Z,19nm,1.1s		

comp=Z,3µm,19.0s
GENI Genyem 34.18 299 P P 20 43 24.0 +2.1
MTN Manton Dam 37.68 277 P P 20 43 53.6 +1.6
baz=38,SNR=5.0
TBI Tubuai 37.80 101 *e*P **P 20 43 52.2 -0.7**
comp=Z,1µm,28.0s
TBI *e*S **S 20 49 40.4 -1.3**
comp=Z,3µm,30.8s
TBI *e*LQ LQ 20 52 42.8
comp=Z,13µm,32.2s
TBI *e*LR LR 20 53 59.7
comp=Z,8µm,26.2s
TBI *e*LR LR 20 54 01.5
comp=Z,2µm,29.5s
WRKA Warakurna 38.10 256 P P 20 43 55.8 +0.3
baz=38,SNR=4.9
WRKA Warakurna 38.10 256 P P 20 43 56.1 +0.6
FORT Forrest 38.36 247 P P 20 43 54.9 -2.7
FORT IAmb IAmb 20 44 24.6
comp=Z,40nm,1.2s
FORT IAMs_20 IAMs_20 20 59 58.7
comp=Z,3µm,18.0s
PPT2 Papeete2 38.55 92 *e*P P 20 43 53.8 -5.6
comp=Z,374nm,27.5s
PPT2 *e*S **S 20 49 48.3 -5.1**
comp=Z,903nm,27.8s
PPT2 *e*LQ LQ 20 52 56.1
comp=Z,3µm,28.2s
PPT2 *e*LR LR 20 54 32.5
comp=Z,3µm,25.8s
PPT2 *e*LR LR 20 54 37.7
comp=Z,2µm,27.2s
PPT Papeete 38.56 92 LR LR 20 59 02.5
comp=Z,446nm,18.4s,baz=252,slow=35
KNRA Kununurra 39.09 271 IAMs_20 IAMs_20 21 00 28.4
comp=Z,2µm,19.0s
KNRA Kununurra 39.09 271 P P 20 44 07.1 +3.3
FITZ Fitzroy Crossi 41.46 266 P P 20 44 24.2 +0.9
baz=41,SNR=12
FITZ Fitzroy Crossi 41.46 266 P P 20 44 21.9 -1.4
GUMO Guam 42.34 323 LR LR 20 59 31.2
comp=Z,799nm,21.5s,baz=141,slow=33
SOEI Soe 45.05 278 IAMs_20 IAMs_20 21 03 59.1
comp=Z,2µm,20.0s
PSA00 Pilbara Seismi 46.20 260 P P 20 44 58.8 -2.7
PSA00 IAmb IAmb 20 45 22.8
comp=Z,28nm,1.6s
MEEK Meekatharra 46.70 253 P P 20 45 05.5 +0.1
baz=47,SNR=4.7
NWAO Narrogin (SRO) 47.65 244 IAMs_20 IAMs_20 21 04 01.6
comp=Z,3µm,22.0s
NWAO Narrogin (SRO) 47.65 244 LR LR 21 04 35.3
comp=Z,3µm,21.6s,baz=88,slow=35
TAOE Nuku Hiva Isla 49.83 84 *e*P P 20 45 23.4 -6.4
comp=Z,298nm,25.7s
TAOE *e*S **S 20 52 38.8 +1.2**
comp=Z,833nm,26.1s
TAOE *e*LQ LQ 20 57 35.4
comp=Z,1µm,25.7s
TAOE *e*LR LR 20 59 42.8
comp=Z,2µm,24.8s
LUWI Luwuk 49.91 287 P P 20 45 30.2 -0.1
GIRL Giralia 51.15 258 IAMs_20 IAMs_20 21 07 49.2
comp=Z,3µm,20.0s
DAV Davao City (W) 51.61 298 LR LR 21 07 42.7
comp=Z,598nm,20.6s,baz=122,slow=36
JCJ Chichijima 54.95 330 LR LR 21 07 27.9
comp=Z,460nm,21.8s,baz=128,slow=34
VNDA Vanda 56.41 182 P P 20 46 18.0 +0.8
VNDA IAmb IAmb 20 46 20.5
comp=Z,26nm,1.6s
VNDA Vanda 56.41 182 P P 20 46 18.6 +1.4
comp=Z,5.9nm,1.2s,baz=352,slow=6.3,SNR=6.9
VNDA LR LR 21 07 45.0
comp=Z,530nm,18.3s,baz=22,slow=33
comp=Z,5.9nm,1.2s
SBA Scott Base 56.64 181 P P 20 46 17.0 -1.8
SBA Scott Base 56.64 181 P P 20 46 17.0 -1.8
SBA pmax pmax
comp=Z,135nm,1.9s
SBA MLR MLR
comp=Z,800nm,19.0s
CASY Casey 58.42 204 P P 20 46 30.2 -1.3
STKI Sintang 60.56 283 P P 20 46 57.5 +10
SBUM Sibu 60.90 286 P P 20 46 49.1 -0.3
SBUM IAmb IAmb 20 46 59.8
comp=Z,30nm,2.0s
JHJ Hachijo jima 2 61.15 332 LR LR 21 10 39.9
comp=Z,170nm,21.7s,baz=138,slow=34
LEM Lembang 61.51 274 LR LR 21 15 20.8
comp=Z,1µm,19.4s,baz=99,slow=38
JOW Kunigami 62.39 318 LR LR 21 11 20.3
comp=Z,250nm,21.9s,baz=104,slow=34
MJAR Matsushiro Arr 64.73 332 P P 20 47 12.9 -1.5
comp=Z,3.3nm,0.7s,baz=178,slow=8.0,SNR=12
MJAR LR LR 21 16 38.8
comp=Z,209nm,19.0s,baz=158,slow=37
comp=Z,3.3nm,0.7s
MAJO Matsushiro 64.73 332 P P 20 47 13.3 -1.1
MAJO IAmb IAmb 20 47 24.3
comp=Z,12nm,0.8s
MAJO Matsushiro 64.73 332⇑ *e*P **P 20 47 13.7 -0.7**
MAJO pmax pmax
comp=Z,44nm,2.2s
MJB9 Matsu-Tunnel 64.73 332 P P 20 47 14.8 +0.3
JNU Nakatsue 65.54 325 LR LR 21 13 09.9
comp=Z,317nm,21.3s,baz=146,slow=34
ERM Erimo 67.58 339 IAMs_20 IAMs_20 21 12 13.4
comp=Z,1µm,20.0s
JEM Erimo 67.58 339 IAMs_20 IAMs_20 21 12 11.0
comp=Z,976nm,21.0s
QSPA South Pole Qui 68.78 180 P P 20 47 41.0 +0.9
baz=17,slow=6.9
JKA Kamikawa-asahi 69.64 340 IAMs_20 IAMs_20 21 13 26.0
comp=Z,1µm,19.0s
ASAJ Asahikawa 69.64 340 LR LR 21 13 49.3
comp=Z,904nm,21.8s,baz=169,slow=32
BKNI Bangkinang 70.24 278 IAMs_20 IAMs_20 21 21 40.6
comp=Z,913nm,20.0s
KSRS Korea Array 70.40 326 P P 20 47 50.5 +0.4
comp=Z,0.6nm,0.4s,baz=140,slow=7.9,SNR=4.2
KSRS LR LR 21 16 32.3
comp=Z,253nm,20.3s,baz=140,slow=34
comp=Z,0.6nm,0.4s
KSAR Wonju Array Be 70.41 326 P P 20 47 48.6 -1.6
KSAR Wonju Array Be 70.41 326 P P 20 47 48.7 -1.6
QIZ Qiongzhong 70.92 300 P P 20 47 52.1 -1.7
QIZ S **S 20 57 06.9 -0.5**
QIZ LR LR
comp=Z,580nm,21.2s
NJ2 Nanjing 71.94 316 *e*P **P 20 48 00.8 +1.2**
NJ2 pP **pP 20 48 04.4 -5.1**
NJ2 sP **pwP 20 48 11.8 -0.8**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
NJ2 pmax pmax
comp=Z,210nm,3.8s
YSS Yuzh-Sakhalins 72.12 341 IAMs_20 IAMs_20 21 19 02.8
comp=Z,1µm,19.0s
YSS Yuzh-Sakhalins 72.12 341 *e*P **P 20 48 01.9 +1.5**
YSS *e**SP **PcP 20 48 22.1 +3.5**
YSS *e*S **S 20 57 19.9 -0.2**
YSS pmax pmax
comp=Z,20nm,1.0s
KULM Kulim 72.55 283 P P 20 48 02.6 -1.1
KULM IAmb IAmb 20 48 13.3
comp=Z,44nm,1.8s
MSHR Mys Shultsa 72.79 331⇓ *e*P **P 20 48 06.0 +1.6**
MSHR pmax pmax
comp=Z,15nm,1.2s
RPN Rapa Nui 72.94 113 LR LR 21 12 29.5
comp=Z,488nm,19.7s,baz=357,slow=30
USA0B Ussuriysk Arra 73.72 333 P P 20 48 12.8 +2.9
USA0B Ussuriysk Arra 73.72 333⇑ *e*P **P 20 48 11.2 +1.3**
USRK Ussuriysk Ar. 73.72 333 P P 20 48 09.1 -0.8
USRK Ussuriysk Ar. 73.72 333 P P 20 48 09.8 0.0
comp=Z,3.1nm,0.5s,baz=145,slow=5.0,SNR=7.5
USRK LR LR 21 20 47.7
comp=Z,198nm,19.0s,baz=156,slow=36
comp=Z,3.1nm,0.5s
SHEM Shemya Is, Ala 73.80 3 LR LR 21 15 25.3
comp=Z,879nm,21.1s,baz=173,slow=32
GSI Gunungsitoli 73.81 278 P P 20 48 11.0 -0.2
GSI IAmb IAmb 20 48 13.4
comp=Z,21nm,1.1s
GSI IAMs_20 IAMs_20 21 20 46.3
comp=Z,1µm,20.0s
GSI Gunungsitoli 73.81 278 P P 20 48 21.2 +10
comp=Z,27nm,0.4s
WHN Wuhan 74.00 312⇓ P P 20 48 18.0 +6.1
PET Petropavlovsk 74.61 353 *e*P P 20 48 22.2 +7.4
PET *e*S **S 20 57 55.8 +7.9**
PET pmax pmax
comp=Z,200nm,10.1s
PET MLR MLR
comp=Z,600nm,17.0s
PETK Petropavlovsk- 74.80 353 P P 20 48 17.2 +1.2
comp=Z,2.3nm,0.7s,baz=179,slow=7.9,SNR=1.9
PETK LR LR 21 15 48.3
comp=Z,749nm,20.7s,baz=158,slow=32
comp=Z,2.3nm,0.7s
MDJ Mudanjiang 75.09 332 P **P 20 48 16.6 -1.3**
MDJ IAmb IAmb 20 48 19.0
comp=Z,36nm,1.6s
MDJ Mudanjiang 75.09 332 P P 20 48 18.0 +0.1
MDJ pP pP 20 48 24.9 -2.8
MDJ ScS **ScS 20 58 30.9 +3.2**
MDJ pmax pmax
comp=Z,15nm,2.1s
MDJ pmax pmax
comp=Z,350nm,5.5s
MDJ LR LR
comp=Z,350nm,19.9s
MDJ LR LR
comp=Z,310nm,18.6s
MDJ LR LR
comp=Z,600nm,24.0s
TIA Tai'an 75.72 319 P P 20 48 30.9 +9.2
TIA pmax pmax
comp=Z,15nm,1.6s
MAW Mawson 76.69 202 P P 20 48 27.5 +0.7
MAW Mawson 76.69 202 P **P 20 48 27.5 +0.7**
MAW pmax pmax
comp=Z,5.0nm,1.4s
MAW Mawson 76.69 202 P **P 20 48 28.5 +1.7**
comp=Z,6.3nm,1.1s,baz=128,slow=4.0,SNR=5.3
MAW LR LR 21 18 19.2
comp=Z,767nm,20.1s,baz=102,slow=33
comp=Z,6.3nm,1.1s
BNX BinXian 76.94 331⇓ P **P 20 48 28.1 -0.3**
BNX PcP **PcP 20 48 38.5 -0.8**
BNX S **S 20 58 06.5 -7.5**
BNX pmax pmax
comp=Z,8.0nm,0.8s
BNX pmax pmax
comp=Z,180nm,5.4s
BNX LR LR
comp=Z,330nm,18.5s
BNX LR LR
comp=Z,310nm,16.0s
BNX LR LR
comp=Z,420nm,22.4s
ENH Enshi 77.26 310 P **P 20 48 27.5 -3.2**
GRNR Gornyy 77.49 339 *e*P **P 20 48 32.2 +0.8**
LYN LuoYang 77.67 315 *e*P **P 20 48 33.8 +1.0**
LYN S **S 20 58 26.5 +4.1**
LYN SKS **SKSac 20 58 40.5 -3.3**
LYN pmax pmax
comp=Z,23nm,0.5s
LYN pmax pmax
comp=Z,560nm,5.1s
LYN LR LR
comp=Z,590nm,17.0s
LYN LR LR
comp=Z,590nm,14.2s
KLR Kul'dur 77.88 336*c i*P **P 20 48 34.2 +0.6**
KLR pmax pmax
comp=Z,25nm,1.6s
KLR Kul'dur 77.88 336 LR LR 21 18 47.2
comp=Z,536nm,21.8s,baz=156,slow=33
HNS HongShan 77.97 318⇑ P **P 20 48 35.1 +0.8**
HNS sP **PcP 20 48 44.0 0.0**
HNS S **S 20 58 27.8 +2.3**
HNS pmax pmax
comp=Z,9.0nm,2.0s
HNS LR LR
comp=Z,220nm,16.9s
HNS LR LR
comp=Z,530nm,21.9s
HNS LR LR
comp=Z,440nm,23.1s
BJI Beijing 78.76 321 P **P 20 48 39.8 +1.2**
BJI pP **PcP 20 48 47.4 +0.1**
BJI S **S 20 58 36.1 +2.2**
BJI sS **sS 20 58 49.5 -0.4**
BJI pmax pmax
comp=Z,4.0nm,0.8s
BJI pmax pmax
comp=Z,130nm,4.0s
BJI LR LR
comp=Z,170nm,17.6s
BJI LR LR
comp=Z,130nm,17.7s
BJI LR LR
comp=Z,290nm,18.4s
CRAI Chiangrai 79.28 297 P **P 20 48 41.0 -1.0**
CRAI IAmb IAmb 20 48 54.1
comp=Z,40nm,1.3s
TIY Taiyuan 79.59 317 *e*P **P 20 48 45.0 +1.6**
TIY pP **pwP 20 48 55.0 -1.4**
TIY S **S 20 58 49.6 +6.6**
TIY ScS **ScS 20 59 07.3 +2.6**
TIY pmax pmax
comp=Z,5.0nm,0.8s
TIY pmax pmax
comp=Z,140nm,5.3s
TIY LR LR
comp=Z,230nm,17.9s
TIY LR LR
comp=Z,280nm,18.6s
TIY LR LR
comp=Z,370nm,17.9s
KMI Kunming 79.67 302⇑ P **P 20 48 45.8 +1.5**
KMI sP pP 20 48 53.9 -0.4
KMI S **S 20 58 49.4 +4.7**
KMI SS **SS 21 03 58.1 +4.0**
KMI pmax pmax
comp=Z,270nm,3.7s
KMI LR LR
comp=Z,190nm,17.5s
KMI LR LR
comp=Z,280nm,19.6s
KMI LR LR
comp=Z,230nm,21.6s
CM31 Chiang Mai Arr 79.69 294 P **P 20 48 41.9 -2.3**
CM31 IAmb IAmb 20 48 56.6
comp=Z,42nm,1.4s
CMAR Chiang Mai Arr 79.69 294 P **P 20 48 43.2 -1.0**
CMAR Chiang Mai Arr 79.69 294 *i* P **P 20 48 46.0 +1.8**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 79.69 294 P **P 20 48 45.7 +1.5**
comp=Z,1.1nm,0.6s,baz=135,slow=4.3,SNR=18
comp=Z,1.1nm,0.6s
XAN Xi'an 79.77 313 P P 20 48 37.6 -6.8
XAN pP pP 20 48 53.4 -0.9
XAN Xi'an 79.77 313 S **S 20 58 42.3 -2.7**
XAN pmax pmax
comp=Z,18nm,1.4s
XAN pmax pmax
comp=Z,370nm,5.8s
XAN LR LR
comp=N,400nm,17.9s
XAN LR LR
comp=E,410nm,18.6s
XAN LR LR
comp=Z,460nm,19.8s
CHTO Chiang Mai 79.85 295 P **P 20 48 44.3 -0.8**
CHTO IAmb IAmb 20 48 57.2
comp=Z,31nm,1.2s
CHTO Chiang Mai 79.85 295 P **P 20 48 44.3 -0.8**
CHTO pmax pmax
comp=Z,31nm,1.2s
BELA Belgrano 2 80.04 175 P **P 20 48 44.2 -1.0**
HEH HeiHe 80.41 334 *e*P **P 20 48 46.9 -0.5**
HEH pmax pmax
comp=Z,11nm,1.2s
HEH pmax pmax
comp=Z,460nm,6.5s
HEH LR LR
comp=Z,280nm,21.2s
HEH LR LR
comp=Z,420nm,22.2s
HEH LR LR
comp=Z,720nm,24.5s
PZH PanZhiHua 81.13 303 P **P 20 48 52.3 +0.3**
PZH S **S 20 59 00.9 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,250nm,6.2s
PZH LR LR
comp=Z,180nm,18.8s
PZH LR LR
comp=Z,320nm,20.1s
PZH LR LR
comp=Z,380nm,21.6s
XLT XiLinHaoTe 81.31 324 *e*P **P 20 48 53.4 +0.9**
XLT PP **PP 20 51 56.3 -2.5**
XLT S **S 20 59 00.4 -0.4**
XLT pmax pmax
comp=Z,9.0nm,1.8s
XLT pmax pmax
comp=Z,160nm,5.1s
XLT LR LR
comp=Z,290nm,20.4s
XLT LR LR
comp=Z,360nm,17.9s
CD2 Chengdu 81.78 308 *e*P **P 20 48 54.5 -0.7**
SMAI San Martin Ant 81.78 162 IAMs_20 IAMs_20 21 16 00.5
comp=Z,940nm,19.0s
HHC Hu-ho-hao-te 82.01 319 *e*P **P 20 48 56.4 +0.1**
HHC sP pP 20 49 06.0 -0.3
HHC S **S 20 59 09.1 +0.8**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC LR LR
comp=Z,590nm,20.1s
HHC LR LR
comp=Z,420nm,19.0s
HHC LR LR
comp=Z,760nm,18.0s
MA2 Magadan 82.04 350 IAMs_20 IAMs_20 21 21 14.9
comp=Z,940nm,21.0s
MA2 Magadan 82.04 350 LR LR 21 20 43.9
comp=Z,823nm,21.7s,baz=168,slow=32
BTO Baotou 82.81 319 *e*P **P 20 49 01.8 +1.3**
BTO S **S 20 59 11.9 -4.6**
BTO SS **SS 21 04 39.0 -1.2**
BTO pmax pmax
comp=Z,10.0nm,0.9s
BTO pmax pmax
comp=Z,410nm,4.1s
BTO LR LR
comp=Z,430nm,10.2s
BTO LR LR
comp=Z,420nm,9.6s
BTO LR LR
comp=Z,500nm,16.7s
TNCH TengChong 83.00 300⇑ *i*P **P 20 49 02.8 +0.9**
TNCH S **SKSac 20 59 22.4 +0.8**
TNCH pmax pmax
comp=Z,200nm,4.7s
TNCH LR LR
comp=Z,180nm,19.4s
TNCH LR LR
comp=Z,130nm,19.7s
TNCH LR LR
comp=Z,140nm,19.8s
ZEA Zeya 83.17 336 *e*P **P 20 49 02.4 +0.6**
ZEA *e* 21 00 17.0
ZEA pmax pmax
comp=Z,10.0nm,1.8s
O14K Tigyukauivet M 83.73 15 IAMs_20 IAMs_20 21 19 47.0
comp=Z,730nm,21.0s
ELIB Princess Elisa 84.21 190 *d*P **P 20 49 06.4 -0.8**
comp=Z,7.7nm,1.8s
LZH Lanzhou 84.37 312⇑ P **P 20 49 10.1 +1.4**
LZH sP pP 20 49 18.4 -0.3
LZH SKS **SKSac 20 59 23.0 -7.1**
LZH S **SKKSac 20 59 36.1 +0.5**
LZH sS sS 20 59 48.0 -0.8
LZH SS **SS 21 05 11.3 +7.7**
LZH pmax pmax
comp=Z,20nm,1.6s
LZH pmax pmax
comp=Z,370nm,4.8s
LZH LR LR
comp=Z,260nm,18.2s
LZH LR LR
comp=Z,300nm,17.2s
LZH LR LR
comp=Z,400nm,18.9s
KDAK Kodiak Island 84.82 19 LR LR 21 21 43.1
comp=Z,511nm,19.4s,baz=232,slow=32
PMSA Palmer Station 84.87 160 LR LR 21 20 51.6
comp=Z,461nm,21.1s,baz=234,slow=31
SEY Seymchan 85.03 352 LR LR 21 22 11.2
comp=Z,1µm,21.8s,baz=158,slow=32
M16K Timber Creek 85.84 15 **P 20 49 15.3 +0.1**
L16K Owhat River 86.33 14 IAMs_20 IAMs_20 21 23 09.5
comp=Z,879nm,19.0s
K15K Wolf Creek Mou 86.39 13 IAMs_20 IAMs_20 21 21 35.2
comp=Z,692nm,20.0s
TROLL Troll, Antarti 86.54 184⇑ P **P 20 49 19.2 +0.4**
comp=Z,591nm,0.7s
SAO San Andreas Ge 86.88 49 IAMs_20 IAMs_20 21 29 44.1
comp=Z,999nm,18.0s
NVL N'lazarevskaya 86.89 187 *e*P **P 20 49 17.3 -3.1**
NVL *e*S **SKSac 20 59 41.1 -3.5**
NVL pmax pmax
comp=Z,35nm,2.1s
NVL smax smax
comp=E,341nm,11.4s
BBGB Big Mountain B 87.07 49 IAMs_20 IAMs_20 21 19 32.3
comp=Z,1µm,20.0s
SNAA Sanae 87.15 182 IAMs_20 IAMs_20 21 27 48.0
comp=Z,677nm,19.0s
SNAA Sanae 87.15 182⇑ P **P 20 49 22.1 +0.3**
comp=Z,110nm,0.8s
SNAA Sanae 87.15 182 P **P 20 49 22.3 +0.6**
comp=Z,6.6nm,1.0s,baz=205,slow=13,SNR=7.5
SNAA LR LR 21 25 27.7
comp=Z,583nm,21.3s,baz=190,slow=34
comp=Z,6.6nm,1.0s
J16K Anvik River 87.47 13 IAMs_20 IAMs_20 21 22 29.7
comp=Z,644nm,20.0s
K17K Iditarod 87.47 14 IAMs_20 IAMs_20 21 24 05.9
comp=Z,820nm,20.0s
VNA3 Neumayer Olymp 87.72 180⇑ P **P 20 49 24.4 -0.1**
comp=Z,16nm,0.8s
ANM Nome 87.73 11 IAMs_20 IAMs_20 21 23 04.3
comp=Z,913nm,21.0s
J17K VABM Dome 87.90 14 IAMs_20 IAMs_20 21 24 29.0
comp=Z,707nm,20.0s
I17K Unalakleet 87.99 13 IAMs_20 IAMs_20 21 22 55.4
comp=Z,772nm,20.0s
VNA2 Neumayer--Watz 88.02 181⇑ P **P 20 49 25.7 -0.2**
comp=Z,17nm,0.6s,baz=180,slow=4.0
TJX Tijuana 88.08 54 IAMs_20 IAMs_20 21 26 53.5
comp=Z,991nm,19.0s
ORV Oroville 88.21 46 P **P 20 49 26.4 -0.8**
ORV IAmb IAmb 20 50 05.7
comp=Z,13nm,1.5s
ORV Oroville 88.21 46 P **P 20 49 26.4 -0.8**
ORV pmax pmax
comp=Z,13nm,1.5s
109C Camp Elliot, M 88.21 54 IAMs_20 IAMs_20 21 27 14.0
comp=Z,819nm,19.0s
CMB Columbia Colle 88.23 48 P **P 20 49 27.5 +0.1**
CMB IAmb IAmb 20 49 28.3
comp=Z,4.9nm,0.8s
CMB IAMs_20 IAMs_20 21 18 46.9
comp=Z,1µm,22.0s
CMB Columbia Colle 88.23 48 P **P 20 49 27.5 +0.1**
CMB pmax pmax
comp=Z,5.0nm,0.8s
CMB MLR MLR
comp=Z,1µm,22.0s
AFDM Forest Hills D 88.27 47 P **P 20 49 26.5 -1.1**
AFDM IAmb IAmb 20 50 03.7
comp=Z,16nm,1.6s
ISA Isabella, Lake 88.47 51 P **P 20 49 25.8 -2.8**
ISA IAmb IAmb 20 49 29.9
comp=Z,5.7nm,0.9s
ISA Isabella, Lake 88.47 51 P **P 20 49 25.8 -2.8**
ISA pmax pmax
comp=Z,6.0nm,0.9s
J18K Innoko River 88.49 14 IAMs_20 IAMs_20 21 24 26.7
comp=Z,703nm,19.0s

YBH	**Yreka Blue Hor**	**88.50**	**44**	P	**P**		**20 49 27.0**	**-1.6**
YBH	**Yreka Blue Hor**	**88.50**	**44**	P	**P**		**20 49 27.0**	**-1.6**
YBH				pmax	pmax			
	comp=Z,35nm,2.0s							
YBH	**Yreka Blue Hor**	**88.50**	**44**	LR	LR	21 21 06.3		
	comp=Z,637nm,21.4s,baz=249,slow=30							
VTX	**Valle De La Tr**	**88.56**	**56**	IAMs_20	IAMs_20	21 21 44.2		
	comp=Z,733nm,19.0s							
SHL	**Shillong**	**88.64**	**298**	P	**P**		**20 49 29.3**	**-0.5**
SHL	**Shillong**	**88.64**	**298**	P	**P**		**20 49 29.3**	**-0.5**
SHL				pmax	pmax			
	comp=Z,35nm,1.5s							
ULN	**Ulaanbaatar**	**88.72**	**323**	P	**P**		**20 49 27.8**	**-1.8**
ULN	**Ulaanbaatar**	**88.72**	**323**	*c i*P	**P**		**20 49 29.9**	**+0.3**
ULN				pmax	pmax			
	comp=Z,25nm,1.6s							
M22K	**Willow**	**88.78**	**18**	IAMs_20	IAMs_20	21 24 37.6		
	comp=Z,744nm,20.0s							
HUMO	**Hull Mountain**	**88.78**	**43**	P	**P**		**20 49 28.8**	**-1.1**
HUMO				IAmb	IAmb	20 49 43.4		
	comp=Z,30nm,1.9s							
F15K	**North Star Dit**	**88.90**	**10**	IAMs_20	IAMs_20	21 24 01.4		
	comp=Z,785nm,19.0s							
YAK	**Yakutsk**	**88.92**	**342**	P	**P**		**20 49 27.8**	**-2.2**
YAK	**Yakutsk**	**88.92**	**342**	IAMs_20	IAMs_20	21 23 52.7		
	comp=Z,679nm,22.0s							
YAK	**Yakutsk**	**88.92**	**342**	*e*P	**P**		**20 49 28.8**	**-1.2**
YAK				*e**PP	**pwP**		**20 49 49.1**	**+5.8**
YAK				*e*		20 52 57.6		
YAK				*e*S	**SKSac**		**20 59 50.1**	**-6.5**
YAK				*e*		21 00 13.9		
YAK				pmax	pmax			
	comp=Z,9.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,2.0nm,1.4s							
YAK				pmax	pmax			
	comp=Z,88nm,3.0s							
YAK				pmax	pmax			
	comp=E,45nm,3.2s							
YAK				pmax	pmax			
	comp=N,57nm,3.4s							
YAK				smax	smax			
	comp=E,97nm,4.2s							
YAK				smax	smax			
	comp=N,46nm,4.1s							
YAK				MLR	MLR			
	comp=Z,678nm,21.0s							
YAK				MLR	MLR			
	comp=E,233nm,23.0s							
YAK				MLR	MLR			
	comp=N,474nm,22.0s							
YAK	**Yakutsk**	**88.92**	**342**	LR	LR	21 29 55.6		
	comp=N,17nm,18.2s,baz=116,slow=36							
MDPB	**Devils Postpil**	**88.95**	**49**	P	**P**		**20 49 29.5**	**-1.7**
MDPB				IAmb	IAmb	20 50 11.1		
	comp=Z,13nm,1.3s							
OMMB	**Old Mammoth Mi**	**89.00**	**49**	IAMs_20	IAMs_20	21 19 09.3		
	comp=Z,911nm,18.0s							
YUH	**Yuha Desert**	**89.00**	**54**	IAMs_20	IAMs_20	21 29 31.8		
	comp=Z,880nm,19.0s							
G16K	**Koyuk River**	**89.02**	**11**	IAMs_20	IAMs_20	21 23 34.5		
	comp=Z,865nm,22.0s							
PFO	**Pinyon Flats O**	**89.02**	**53**	*e*P	**P**		**20 49 31.9**	**+0.5**
PFO	**Pinyon Flats O**	**89.02**	**53**	LR	LR	21 21 48.8		
	comp=Z,468nm,20.1s,baz=264,slow=30							
SONM	**Songino Array**	**89.07**	**323**	P	**P**		**20 49 30.9**	**-0.4**
SONM				IAmb	IAmb	20 49 42.2		
	comp=Z,25nm,1.6s							
SONM	**Songino Array**	**89.07**	**323**	P	**P**		**20 49 30.9**	**-0.4**
SONM				pmax	pmax			
	comp=Z,25nm,1.6s							
SONM	**Songino Array**	**89.07**	**323**	P	**P**		**20 49 31.2**	**0.0**
	comp=Z,1.6nm,0.9s,baz=128,slow=4.2,SNR=8.5							
SONM				LR	LR	21 27 54.2		
	comp=Z,188nm,21.9s,baz=130,slow=35							
	comp=Z,1.6nm,0.9s							
H17K	**Granite Mounta**	**89.08**	**12**	IAMs_20	IAMs_20	21 24 00.2		
	comp=Z,825nm,21.0s							
WAKR	**Walker**	**89.11**	**48**	P	**P**		**20 49 32.3**	**+0.5**
WAKR				IAmb	IAmb	20 50 42.7		
	comp=Z,26nm,1.7s							
SFX	**San Felipe**	**89.12**	**56**	IAMs_20	IAMs_20	21 25 07.3		
	comp=Z,648nm,20.0s							
J19K	**Poorman**	**89.20**	**15**	IAMs_20	IAMs_20	21 21 37.4		
	comp=Z,834nm,21.0s							
PNTR	**Pine Nut**	**89.28**	**47**	P	**P**		**20 49 31.9**	**-0.7**
YERR	**Yerington**	**89.47**	**48**	P	**P**		**20 49 32.6**	**-0.9**
YERR				IAmb	IAmb	20 49 35.8		
	comp=Z,21nm,1.7s							
H18K	**Honhosa River**	**89.59**	**13**	IAMs_20	IAMs_20	21 23 44.7		
	comp=Z,905nm,21.0s							
LHV	**Little Huntoon**	**89.64**	**48**	P	**P**		**20 49 35.0**	**+1.1**
J20K	**Nowinta River**	**89.70**	**15**	IAMs_20	IAMs_20	21 22 26.8		
	comp=Z,683nm,20.0s							
PAHR	**Pah Rah Range**	**89.71**	**47**	P	**P**		**20 49 34.6**	**+0.2**
PAHR				IAmb	IAmb	20 50 01.5		
	comp=Z,24nm,1.7s							
I04A	**Tendick Farm,**	**89.73**	**42**	P	**P**		**20 49 32.1**	**-2.2**
I04A				IAmb	IAmb	20 49 37.0		
	comp=Z,6.0nm,0.8s							
RYN	**Ryan**	**89.80**	**48**	P	**P**		**20 49 32.5**	**-2.5**
RYN				IAMs_20	IAMs_20	21 20 36.5		
	comp=Z,991nm,20.0s							
NVAR	**Mina Array Bea**	**89.86**	**48**	P	**P**		**20 49 35.4**	**0.0**
NVAR	**Mina Array Bea**	**89.86**	**48**	P	**P**		**20 49 35.8**	**+0.4**
	comp=Z,3.0nm,0.6s,baz=227,slow=7.9,SNR=36							
NVAR				LR	LR	21 21 35.2		
	comp=Z,605nm,21.1s,baz=271,slow=30							
	comp=Z,3.0nm,0.6s							
GRAC	**Grapevine Rang**	**89.87**	**50**	P	**P**		**20 49 35.9**	**+0.7**
GRAC				IAMs_20	IAMs_20	21 21 49.5		
	comp=Z,829nm,21.0s							
LPIG	**La Paz**	**89.95**	**64**	LR	LR	21 20 34.0		
	comp=Z,664nm,21.8s,baz=224,slow=29							
NV11	**Mina Array Sit**	**89.97**	**48**	P	**P**		**20 49 35.8**	**+0.1**
GWY	**Greenwater Val**	**90.01**	**51**	P	**P**		**20 49 36.3**	**+0.3**
GMN	**Gold Mountain**	**90.08**	**50**	P	**P**		**20 49 35.9**	**-0.5**
K05A	**Summer Lake**	**90.16**	**44**	P	**P**		**20 49 37.4**	**+0.8**
K05A				IAmb	IAmb	20 50 25.8		
	comp=Z,14nm,1.3s							
F17K	**Baldwin Pennin**	**90.16**	**11**	IAMs_20	IAMs_20	21 24 32.8		
	comp=Z,820nm,21.0s							
MZP	**Montezuma Peak**	**90.18**	**49**	P	**P**		**20 49 37.0**	**+0.2**
G18K	**Tagagawik**	**90.18**	**12**	IAMs_20	IAMs_20	21 22 15.2		
	comp=Z,844nm,21.0s							
J05D	**Fort Rock, OR**	**90.22**	**43**	P	**P**		**20 49 35.8**	**-1.0**
J05D				IAmb	IAmb	20 49 38.1		
	comp=Z,8.7nm,0.8s							
KVN	**Kaiserville**	**90.29**	**48**	P	**P**		**20 49 36.6**	**-0.6**
KVN				IAmb	IAmb	20 49 38.2		
	comp=Z,6.5nm,0.8s							
KVN				IAMs_20	IAMs_20	21 21 10.3		
	comp=Z,897nm,22.0s							
KVN	**Kaiserville**	**90.29**	**48**	P	**P**		**20 49 36.6**	**-0.6**
KVN				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KVN				MLR	MLR			
	comp=Z,900nm,22.0s							
WCT	**Wildcat Mounta**	**90.31**	**50**	P	**P**		**20 49 37.5**	**+0.2**
H04A	**Detroit Lake**	**90.31**	**41**	P	**P**		**20 49 36.7**	**-0.3**
H04A				IAmb	IAmb	20 49 37.6		
	comp=Z,7.2nm,1.0s							
TPH	**Tonopah**	**90.46**	**49**	P	**P**		**20 49 38.4**	**+0.3**
TPH	**Tonopah**	**90.46**	**49**	P	**P**		**20 49 38.4**	**+0.3**
TPH				pmax	pmax			
	comp=Z,46nm,1.4s							
TPNV	**Topopah Spring**	**90.65**	**50**	P	**P**		**20 49 39.3**	**+0.3**
TPNV				IAmb	IAmb	20 50 26.4		
	comp=Z,26nm,1.6s							
TPNV	**Topopah Spring**	**90.65**	**50**	P	**P**		**20 49 39.3**	**+0.3**
TPNV				pmax	pmax			
	comp=Z,26nm,1.7s							
PINE	**Pine Mountain**	**90.65**	**43**	P	**P**		**20 49 39.2**	**+0.4**
I05D	**Terrebonne, OR**	**90.67**	**42**	P	**P**		**20 49 38.8**	**+0.1**
G19K	**Purcell Mounta**	**90.71**	**13**	IAMs_20	IAMs_20	21 24 09.4		
	comp=Z,785nm,21.0s							
Q09A	**Carvers**	**90.83**	**48**	IAMs_20	IAMs_20	21 22 04.7		
	comp=Z,939nm,19.0s							
LSA	**Lhasa**	**90.92**	**301**		**P**		**20 49 41.1**	**+0.4**
LSA	**Lhasa**	**90.92**	**301**	P	**P**		**20 49 41.1**	**+0.4**
LSA				pmax	pmax			
	comp=Z,7.0nm,1.3s							
BBB	**Bella Bella**	**90.97**	**33**	LR	LR	21 22 18.4		
	comp=Z,416nm,21.3s,baz=240,slow=30							
I21K	**Tanana**	**91.06**	**15**	IAMs_20	IAMs_20	21 23 50.7		
	comp=Z,892nm,18.0s							
V12A	**Nelson**	**91.13**	**52**	IAMs_20	IAMs_20	21 29 11.1		
	comp=Z,702nm,20.0s							
E18K	**Tukpahlearik C**	**91.16**	**11**	IAMs_20	IAMs_20	21 25 34.0		
	comp=Z,841nm,21.0s							
F19K	**Shaleruckik Mo**	**91.17**	**12**	IAMs_20	IAMs_20	21 23 32.5		
	comp=Z,764nm,21.0s							
SHPR	**Sheep Range**	**91.24**	**51**	P	**P**		**20 49 41.1**	**-0.6**
SHPR				IAmb	IAmb	20 50 26.9		
	comp=Z,15nm,1.9s							
S11A	**Rachel**	**91.31**	**50**	IAMs_20	IAMs_20	21 28 44.7		
	comp=Z,806nm,19.0s							
RDOG	**Red Dog Mine**	**91.33**	**10**	IAMs_20	IAMs_20	21 23 22.5		
	comp=Z,684nm,22.0s							
WVOR	**Wild Horse Val**	**91.49**	**45**	P	**P**		**20 49 42.9**	**+0.2**
WVOR				IAmb	IAmb	20 50 40.8		
	comp=Z,11nm,1.4s							
WVOR	**Wild Horse Val**	**91.49**	**45**	P	**P**		**20 49 42.9**	**+0.2**
WVOR				pmax	pmax			
	comp=Z,11nm,1.4s							
BMN	**Battle Mountai**	**91.52**	**47**	P	**P**		**20 49 41.6**	**-1.3**
BMN	**Battle Mountai**	**91.52**	**47**	P	**P**		**20 49 41.6**	**-1.3**
BMN				pmax	pmax			
	comp=Z,4.0nm,0.8s							
W13A	**Hualapai Mount**	**91.58**	**53**	P	**P**		**20 49 43.4**	**0.0**
W13A				IAMs_20	IAMs_20	21 25 29.1		
	comp=Z,683nm,19.0s							
PALK	**Pallekele**	**91.62**	**277**	LR	LR	21 32 41.0		
	comp=Z,464nm,19.6s,baz=225,slow=37							
I07A	**Izee**	**91.70**	**43**	P	**P**		**20 49 43.4**	**-0.2**
I07A				IAmb	IAmb	20 53 03.4		
	comp=Z,24nm,2.0s							
PRN	**Pahroc Range**	**91.71**	**50**	P	**P**		**20 49 44.4**	**+0.6**
PRN				IAmb	IAmb	20 49 45.9		
	comp=Z,6.0nm,0.8s							
PRN				IAMs_20	IAMs_20	21 21 43.2		
	comp=Z,926nm,18.0s							
R11B	**Troy Canyon, C**	**91.74**	**49**	P	**P**		**20 49 43.6**	**-0.4**
Y14A	**Wickenburg**	**91.76**	**54**	IAMs_20	IAMs_20	21 27 57.9		
	comp=Z,825nm,19.0s							
F20K	**Avaraart Lake**	**91.77**	**13**	IAMs_20	IAMs_20	21 25 03.4		
	comp=Z,844nm,21.0s							
E19K	**Redstone River**	**91.82**	**12**	IAMs_20	IAMs_20	21 25 25.6		
	comp=Z,788nm,20.0s							
J08A	**Circle Bar Ran**	**92.02**	**44**	P	**P**		**20 49 45.1**	**0.0**
J08A				IAmb	IAmb	20 49 46.0		
	comp=Z,6.1nm,1.0s							
ILAR	**Eielson Array**	**92.06**	**17**	P	**P**		**20 49 42.8**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=233,slow=4.8,SNR=11							
ILAR				LR	LR	21 27 20.3		
	comp=Z,407nm,18.3s,baz=218,slow=33							
	comp=Z,0.4nm,0.6s							
C18K	**Utukok River**	**92.15**	**10**	IAMs_20	IAMs_20	21 25 55.1		
	comp=Z,892nm,20.0s							
ZAK	**Zakamensk**	**92.17**	**324**	*e*P	**P**		**20 49 44.8**	**-0.8**
ZAK				pmax	pmax			
	comp=Z,11nm,1.6s							
F21K	**Alatna River**	**92.40**	**14**	IAMs_20	IAMs_20	21 25 10.0		
	comp=Z,740nm,20.0s							
D19K	**Kuna River**	**92.55**	**11**	IAMs_20	IAMs_20	21 26 30.9		
	comp=Z,895nm,20.0s							
G08A	**Pilot Rock**	**92.61**	**42**	P	**P**		**20 49 48.0**	**+0.2**
G08A				IAmb	IAmb	20 52 01.2		
	comp=Z,20nm,1.9s							
G23K	**Bananza Creek**	**92.77**	**15**	IAMs_20	IAMs_20	21 25 56.0		
	comp=Z,795nm,20.0s							
C19K	**Lookout Ridge**	**92.83**	**11**	IAMs_20	IAMs_20	21 25 07.1		
	comp=Z,807nm,20.0s							
ELK	**Elko**	**93.01**	**47**	LR	LR	21 24 40.4		
	comp=Z,495nm,20.1s,baz=252,slow=31							
PSUT	**Pine Spring**	**93.04**	**50**	IAMs_20	IAMs_20	21 21 30.5		
	comp=Z,597nm,19.0s							
E21K	**Killik River**	**93.31**	**13**	IAMs_20	IAMs_20	21 26 13.0		
	comp=Z,761nm,20.0s							
E22K	**Anaktuvuk Pass**	**93.51**	**14**	IAMs_20	IAMs_20	21 28 16.5		
	comp=Z,670nm,19.0s							
DLBC	**Dease Lake**	**93.67**	**27**	LR	LR	21 24 31.6		
	comp=Z,480nm,20.3s,baz=266,slow=31							
D22K	**Ayikyak River**	**93.94**	**13**	IAMs_20	IAMs_20	21 24 34.7		
	comp=Z,820nm,22.0s							
B20K	**Meade River**	**94.04**	**11**	IAMs_20	IAMs_20	21 26 57.1		
	comp=Z,908nm,20.0s							
LL01	**San Ignacio de**	**94.67**	**139**	IAMs_20	IAMs_20	21 26 18.6		
	comp=Z,711nm,21.0s							
B22K	**Teshekpuk Lake**	**95.00**	**12**	IAMs_20	IAMs_20	21 27 09.7		
	comp=Z,943nm,20.0s							
NEW	**Newport**	**95.09**	**40**	LR	LR	21 26 02.4		
	comp=Z,260nm,19.4s,baz=255,slow=31							
Q16A	**Castle Valley**	**95.12**	**50**	IAMs_20	IAMs_20	21 30 32.4		
	comp=Z,929nm,20.0s							
D25K	**Kavik River**	**95.68**	**14**	IAMs_20	IAMs_20	21 25 45.7		
	comp=Z,734nm,22.0s							
EPT	**El Paso**	**95.97**	**58**	IAMs_20	IAMs_20	21 26 24.6		
	comp=Z,720nm,20.0s							
PLCA	**Paso Flores**	**96.76**	**138**	LR	LR	21 24 30.6		
	comp=Z,159nm,21.6s,baz=230,slow=30							
TIXI	**Tiksi**	**96.81**	**348**	IAMs_20	IAMs_20	21 31 42.9		
	comp=Z,561nm,20.0s							
TIXI	**Tiksi**	**96.81**	**348**	LR	LR	21 31 44.5		
	comp=Z,19nm,20.1s,baz=166,slow=34							
ANMO	**Albuquerque**	**97.14**	**55**	*e*P	**P**		**20 50 08.2**	**-0.7**
ANMO				pmax	pmax			
	comp=Z,16nm,4.0s							
ANMO	**Albuquerque**	**97.14**	**55**	LR	LR	21 26 53.9		
	comp=Z,515nm,19.9s,baz=5.0,slow=31							
TXAR	**Lajitas Array**	**97.40**	**62**	LR	LR	21 25 48.6		
	comp=Z,468nm,20.5s,baz=237,slow=30							
PDAR	**Pinedale Array**	**97.72**	**47**	P	Pdif	20 50 12.1	+0.8	
	comp=Z,0.2nm,0.5s,baz=208,slow=3.6,SNR=2.6							
PDAR				LR	LR	21 30 07.6		
	comp=Z,174nm,18.5s,baz=262,slow=33							
	comp=Z,0.2nm,0.5s							
INK	**Inuvik**	**98.35**	**18**	LR	LR	21 30 39.1		
	comp=Z,419nm,19.2s,baz=180,slow=33							
WMQ	**Urumqi**	**98.88**	**313**	*e*P	Pdif	20 50 16.3	0.0	
WMQ				sP	pP	20 50 26.0	-0.4	
WMQ				pmax	pmax			
	comp=Z,7.0nm,1.1s							
WMQ				LR	LR			
	comp=Z,190nm,23.7s							
DGZ	**Jazzator, Alta**	**101.09**	**319**	*e*P	**Pdif**		**20 50 27.3**	**+1.2**
DGZ				pmax	pmax			
	comp=Z,6.0nm,1.9s							
YKA	**Yellowknife Ar**	**102.30**	**27**	P	**Pdif**		**20 50 30.4**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=249,slow=5.2,SNR=3.1							
MKAR	**Makhi Array**	**103.45**	**315**	Pdiff	**Pdif**		**20 50 37.6**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=78,slow=7.6,SNR=2.6							
ZALV	**Zalesovo Beam**	**103.97**	**323**	Pdiff	**Pdif**		**20 50 38.0**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=116,slow=5.6,SNR=1.7							
PRZ	**Przheval'sk**	**104.94**	**310**	IAMs_20	IAMs_20	21 37 16.1		
	comp=Z,438nm,19.0s							
HZTE	**Horizontes, Gu**	**107.47**	**85**	IAMs_20	IAMs_20	21 29 19.8		
	comp=Z,585nm,18.0s							
ARE1	**Arenal 1**	**108.20**	**86**	IAMs_20	IAMs_20	21 29 24.3		
	comp=Z,629nm,19.0s							
TA01	**Diego Aracena**	**108.25**	**121**	IAMs_20	IAMs_20	21 46 51.1		
	comp=Z,532nm,18.0s							
VOI	**Vohitsoka**	**109.63**	**236**	IAMs_20	IAMs_20	21 35 37.6		
	comp=Z,574nm,19.0s							
ALLY	**Alegheny Colle**	**118.71**	**53**			**PKPdf**	**20 55 22.1**	**-2.2**
ARU	**Arti**	**119.11**	**324**	*i* PKIKP		**PKPdf**	**20 55 23.9**	**-0.6**
ARU							20 56 47.2	
ARU							21 02 35.8	
GEYT	**Alibeck**	**119.44**	**302**	PKP		**PKiKP**	**20 55 25.9**	**0.0**
	comp=Z,0.7nm,0.4s,baz=58,slow=3.8,SNR=1.8							
NEEM	**North Greenlan**	**120.45**	**10**	*i* P		**PKPdf**	**20 55 25.6**	**-1.3**
SPITS	**Spitsbergen Ar**	**121.66**	**354**	PKP		**PKPdf**	**20 55 28.1**	**-0.8**
	comp=Z,4.6nm,0.6s,baz=46,slow=4.2,SNR=8.1							
DAG	**Danmarks Havn**	**124.31**	**2**	*i* P		**PKPdf**	**20 55 32.0**	**-1.9**
ARCES	**ARCESS Array B**	**127.13**	**345**	PKP		**PKPdf**	**20 55 39.0**	**-0.5**
	comp=Z,3.6nm,0.5s,baz=81,slow=2.0,SNR=33							
ATD	**Arta Tunnel**	**128.26**	**268**	IAMs_20	IAMs_20	21 52 02.2		
	comp=Z,551nm,18.0s							
KMBO	**Kilima Mbogo**	**128.44**	**251**	IAMs_20	IAMs_20	21 49 02.6		
	comp=Z,425nm,19.0s							
SMRT	**St. Maarten**	**130.43**	**84**	IAMs_20	IAMs_20	21 40 10.4		
	comp=Z,512nm,21.0s							
KIV	**Kislovodsk**	**130.89**	**310**	*i* PKIKP	**PKiKP**		**20 55 48.7**	**+0.2**
KIV				pmax	pmax			
	comp=Z,4.0nm,1.0s							
FURI	**Furi**	**131.27**	**263**	IAMs_20	IAMs_20	21 51 20.1		
	comp=Z,533nm,20.0s							
OBN	**Obninsk**	**131.40**	**326**	*e*PKIKP	**PKiKP**		**20 55 49.8**	**+0.8**
OBN				*e*		20 58 09.8		
OBN				*e*PPP	PPP	21 00 58.5		
OBN				pmax	pmax			
	comp=Z,4.0nm,1.1s							
LODK	**Lodwar**	**132.18**	**255**	IAMs_20	IAMs_20	21 49 09.9		
	comp=Z,466nm,20.0s							
FINES	**FINESS Array B**	**132.61**	**337**	PKP	**PKPdf**		**20 55 49.1**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=48,slow=2.1,SNR=15							
AKASG	**Malin Array Be**	**137.36**	**323**	PKP	**PKPdf**		**20 55 59.2**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=57,slow=1.3,SNR=2.7							
NB2	**NORSAR Subarra**	**137.50**	**345**	PKP	**PKPdf**		**20 55 59.5**	**+0.1**
	comp=Z,3.4nm,1.0s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**137.50**	**345**	PKP	**PKPdf**		**20 55 59.3**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=28,slow=2.1,SNR=3.9							
BRTR	**Keskin Array B**	**138.34**	**306**	PKP	**PKPdf**		**20 56 01.9**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=92,slow=1.7,SNR=2.0							
RDO	**Rodhopi**	**143.81**	**311**	PKPdf	PKPab	20 56 07.9	-0.4	
PSZ	**Piszkesteto**	**143.99**	**325**	PKPdf	PKPab	20 56 08.8	-0.1	
PSZ	**Piszkesteto**	**143.99**	**325**	PKIKP	PKPab	20 56 08.8	-0.1	
DPC	**Dobruska-Polom**	**144.19**	**331**	*e*PKP	PKPbc	20 56 09.9	0.0	
DPC	**Dobruska-Polom**	**144.19**	**331**	*e*PKIKP	PKPbc	20 56 09.9	0.0	
VYHS	**Vyhne**	**144.19**	**326**	*e*PKP	**PKPdf**		**20 56 11.0**	**-0.8**
VYHS	**Vyhne**	**144.19**	**326**	*e*PKIKP	**PKPdf**		**20 56 11.0**	**-0.8**
DJES	**Djerdap**	**144.26**	**318**	PKPdf	**PKPab**		**20 56 09.9**	**0.0**
VRAC	**Vranov**	**144.78**	**329**	*e*PKP	**PKPab**		**20 56 10.4**	**-1.3**
PVCC	**Panska Ves**	**144.84**	**332**	*e*PKP	**PKPdf**		**20 56 12.4**	**-0.4**
PVCC	**Panska Ves**	**144.84**	**332**	*e*PKIKP	**PKPdf**		**20 56 12.4**	**-0.4**
BRG	**Berggiesshubel**	**144.86**	**333**	⇓*i* PKP	PKPab		**20 56 01.8**	**-10**
BRG				Amp			20 56 03.4	
	comp=Z,13nm,0.8s							
BRG	**Berggiesshubel**	**144.86**	**333**	P		**PKPab**	**20 56 08.7**	**-3.2**
BRG				Amp			20 56 11.3	
	comp=Z,7.9nm,0.7s							
BRG	**Berggiesshubel**	**144.86**	**333**	⇓*i* PKHKP	PKPpre		20 56 01.8	
BRG				pmax	pmax			
	comp=Z,13nm,0.8s							
CLL	**Collm**	**144.92**	**334**	*i* PKPbc	**PKPab**		**20 56 11.5**	**-0.6**
	comp=Z,12nm,0.7s							
CLL				*i* pPKPbc	**PKiKP**		**20 56 18.7**	**+2.0**
CLL				*i* x	x		20 56 20.6	
	comp=Z,110nm,2.1s							
CLL	**Collm**	**144.92**	**334**	*i* PKIKP	**PKPab**		**20 56 11.5**	**-0.6**
CLL				*i*			20 56 20.6	
CLL				pmax	pmax			
	comp=Z,12nm,0.7s							
KRUC	**Moravsky**	**145.04**	**329**	*e*PKP	**PKPbc**		**20 56 11.7**	**-0.9**
MODS	**Modra-Piesok**	**145.07**	**327**	*e*PKP	**PKPdf**		**20 56 13.1**	**-0.2**
MODS	**Modra-Piesok**	**145.07**	**327**	*e*PKIKP	**PKPdf**		**20 56 13.1**	**-0.2**
GOPC	**GO Pecny, Ondr**	**145.19**	**331**	*e*PKP	**PKPbc**		**20 56 12.1**	**-1.0**
GOPC	**GO Pecny, Ondr**	**145.19**	**331**	*e*PKIKP	**PKPbc**		**20 56 12.1**	**-1.0**
PRU	**Pruhonice**	**145.25**	**332**	*e*PKP	**PKPbc**		**20 56 12.3**	**-0.9**
PRU	**Pruhonice**	**145.25**	**332**	*e*PKIKP	**PKPbc**		**20 56 12.3**	**-0.9**
EKA	**Eskdalemuir Ar**	**145.57**	**353**	PKPbc	**PKPdf**		**20 56 13.3**	**-0.6**
	comp=Z,15nm,0.5s,baz=360,slow=2.5,SNR=97							
ZVC	**Zvikov**	**145.80**	**331**	*e*PKP	**PKPbc**		**20 56 15.0**	**0.0**
NKC	**Novy Kostel**	**145.97**	**334**	*e*PKP	**PKPdf**		**20 56 14.6**	**-0.2**
NKC	**Novy Kostel**	**145.97**	**334**	*e*PKP2	**PKPdf**		**20 56 14.6**	**-0.2**
RONA	**Rosalia, Austr**	**146.01**	**327**	*e*PKP	**PKPab**		**20 56 16.1**	**-0.3**
	comp=Z,25nm,1.7s							
CONA	**Conrad Observa**	**146.07**	**328**	*e*PKP	**PKPab**		**20 56 16.7**	**+0.1**
	comp=Z,10nm,0.8s							
DIVS	**Divibare**	**146.11**	**319**	PKPdf	**PKPdf**		**20 56 14.2**	**-1.1**
CKRC	**Cesky Krumlov**	**146.20**	**330**	*e*PKP	**PKPbc**		**20 56 16.0**	**-0.3**
CKRC	**Cesky Krumlov**	**146.20**	**330**	*e*PKP2	**PKPbc**		**20 56 16.0**	**-0.3**
KHC	**Kasperske Hory**	**146.31**	**331**	*e*PKP	**PKPbc**		**20 56 16.4**	**-0.2**
KHC	**Kasperske Hory**	**146.31**	**331**	*e*PKP2	**PKPbc**		**20 56 16.4**	**-0.2**
GERES	**GERESS Array B**	**146.46**	**331**	PKPbc	**PKPbc**		**20 56 17.3**	**+0.2**
	comp=Z,9.4nm,0.6s,baz=36,slow=3.0,SNR=36							
KBA	**Koelnbreinsper**	**147.89**	**329**	*e*PKP	**PKPbc**		**20 56 20.7**	**-0.6**
	comp=Z,6.0nm,1.3s							
LESA	**Schwarzleotal**	**147.96**	**330**	*e*PKP	**PKPbc**		**20 56 20.9**	**-0.5**
	comp=Z,13nm,0.5s							
MYKA	**Terra Mystica**	**148.06**	**328**	*e*PKP	**PKPbc**		**20 56 20.4**	**-1.3**
	comp=Z,5.6nm,0.7s,SNR=4.8							
ABTA	**Abfaltersbach**	**148.53**	**329**	*e*PKP	**PKPbc**		**20 56 22.0**	**-0.9**
	comp=Z,8.3nm,0.7s,

AB31	**Akbulak array**	**15.45**	**330**	⇓P	**Pn**	**20 57 51.5**	**-5.4**
	1.5nm,0.4s,baz=149,slow=12,SNR=79						
RAMN	**Ramite**	**15.78**	**122**	*e*P	**P**	**20 58 03.2**	**+1.0**
	3.0nm,0.3s						
BVAR	**Borovoye Array**	**16.66**	**357**	P	**P**	**20 58 11.2**	**-0.2**
	1.0nm,0.4s,baz=154,slow=17,SNR=3.7						
AKTO	**Aktyubinsk**	**17.16**	**329**	P	**P**	**20 58 15.2**	**-1.7**
	2.8nm,0.7s,baz=138,slow=12,SNR=7.1						
AKTO	**Aktyubinsk**	**17.16**	**329**	⇓P	**P**	**20 58 14.9**	**-2.0**
	3.4nm,0.9s						
ZALV	**Zalesovo Beam**	**19.78**	**23**	P	**Pn**	**20 58 47.8**	**-0.7**
	1.5nm,0.4s,baz=208,slow=9.8,SNR=10						
SONM	**Songino Array**	**27.93**	**55**	P	**P**	**21 00 09.5**	**+6.2**
	0.3nm,0.8s,baz=238,slow=8.3,SNR=2.1						
	0.3nm,0.8s						
FINES	**FINESS Array B**	**37.88**	**326**	P	**P**	**21 01 30.4**	**+1.3**
	3.7nm,1.0s,baz=152,slow=13,SNR=3.4						
	3.7nm,1.0s						
ARCES	**ARCESS Array B**	**41.46**	**337**	P	**P**	**21 02 00.7**	**+2.0**
	2.0nm,0.9s,baz=97,slow=8.7,SNR=5.1						
	2.0nm,0.9s						
HFS	**Hagfors**	**43.50**	**322**	P	**P**	**21 02 16.5**	**+1.3**
	2.4nm,0.6s,baz=103,slow=11,SNR=8.0						
	2.4nm,0.6s						
NB2	**NORSAR Subarra**	**44.80**	**323**	P	**P**	**21 02 26.5**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=96,slow=8.6						
NOA	**NORSAR Array B**	**44.80**	**323**	P	**P**	**21 02 26.6**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=97,slow=7.9,SNR=2.4						
	comp=Z,0.5nm,0.5s						
YKA	**Yellowknife Ar**	**81.32**	**3**	P	**P**	**21 06 29.4**	**+3.1**
	comp=Z,0.3nm,0.6s,baz=354,slow=5.6,SNR=4.5						
	comp=Z,0.3nm,0.6s						

*IDC **14** 21:13:06.1±4.9,5°.43S×153°.15E,h60km±36km,mb3.3/6, mbtmp3.6/7,ML2.0/1,Error ellipse: s-maj=44.7km s-min=14.9km az=97.0*

ISC 14 21:13:04.9±1.2,5°.41S±0°.09×153°.2E±0°.1,h50km,n9, σ0s88/11,mb3.4/6,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.62**	**312**	P	**Pn**	**21 13 30.7**	**-0.3**
KRVT	181nm,0.4s,baz=171,slow=2.5,SNR=8.2			S	**Sn**	**21 13 51.6**	**+0.9**
	246nm,0.4s,baz=292,slow=21,SNR=11						
PMG	**Port Moresby**	**7.21**	**236**	P	**Pn**	**21 14 48.0**	**+0.3**
	1.5nm,0.3s,baz=75,slow=4.0,SNR=3.8						
PMG				S	**Sn**	**21 16 08.4**	**+0.2**
	6.5nm,0.3s,baz=33,slow=20,SNR=5.8						
	5.5nm,0.5s						
WRA	**Warramunga Arr**	**23.37**	**230**	P	**P**	**21 18 08.9**	**-0.4**
	0.2nm,0.4s,baz=54,slow=9.9,SNR=6.9						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**26.00**	**224**	P	**P**	**21 18 33.8**	**+0.5**
	0.2nm,0.5s,baz=58,slow=8.8,SNR=2.3						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**81.06**	**319**	P	**P**	**21 25 14.0**	**-0.7**
	0.5nm,0.8s,baz=103,slow=6.5,SNR=2.4						
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**81.89**	**326**	P	**P**	**21 25 19.4**	**+0.5**
	0.3nm,0.3s,baz=106,slow=5.1,SNR=4.0						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**82.56**	**22**	P	**P**	**21 25 23.5**	**+1.3**
	0.2nm,0.6s,baz=236,slow=5.9,SNR=2.1						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**89.97**	**323**	P	**P**	**21 25 57.4**	**-1.5**
	1.0nm,0.7s,baz=108,slow=4.8,SNR=5.3						
	1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.89**	**287**	PKPbc	**PKPbc**	**21 32 53.0**	**-0.1**
	0.7nm,0.7s,baz=59,slow=3.6,SNR=4.4						

IDC 14 21:21:05.7±4.0,15°.56S×178°.38E,h0km,mb3.7/4, mbtmp3.7/4,Error ellipse: s-maj=177.7km s-min=36.6km az=137.0,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.17**	**237**	P	P	21 28 18.7	0.0
	1.8nm,0.8s,baz=79,slow=10,SNR=5.3						
	1.8nm,0.8s						
WRA	**Warramunga Arr**	**42.08**	**257**	P	P	21 28 59.7	0.0
	0.4nm,0.8s,baz=90,slow=8.2,SNR=2.2						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**42.52**	**252**	P	P	21 29 03.1	-0.3
	1.6nm,0.8s,baz=83,slow=9.2,SNR=17						
	1.6nm,0.8s						
ILAR	**Eielson Array**	**84.34**	**14**	P	P	21 33 39.3	0.0
	0.4nm,0.8s,baz=225,slow=7.1,SNR=2.8						
	0.4nm,0.8s						

*HLW **14** 21:21:19.7,28°.84N×34°.79E,h21km,Md2.4,Ml2.5*
*GII **14** 21:21:19.8±0.4,28°.90N×34°.83E,h3km±1km,MD1.9/2, Mm2.1/4*

ISC 14 21:21:19.6±1.5,28°.84N±0°.07×34°.8E±0°.1,h28km±9km,n13, σ0s90/20,Egypt

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HDHB	**Dhahab**	**0.17**	**226**	P	**Pb**	**21 21 24.9**	**-0.3**
	baz=232						
NUB	**Nuweibaa**	**0.21**	**333**	P	**Pb**	**21 21 24.7**	**-1.0**
	baz=319						
HBST	**Basata**	**0.38**	**357**	P	**Pb**	**21 21 27.8**	**-0.2**
	baz=353						
HKAT	**Jabal Katrina**	**0.74**	**245**	P	**Pn**	**21 21 34.3**	**-0.2**
	baz=246						
HKAT				S	**Sb**	**21 21 44.8**	**+0.9**
	baz=246						
EIL	**Elat**	**0.85**	**12**	Pg	**Pn**	**21 21 35.3**	**-0.4**
EIL				Sg	**Sn**	**21 21 46.6**	**-0.6**
MBRI	**Mt Berech**	**0.96**	**8**	Pg	**Pn**	**21 21 37.6**	**+0.2**
MBRI				Sg	**Sn**	**21 21 50.6**	**+0.4**
TR2	**Tor 2**	**1.01**	**244**	P	**Pb**	**21 21 38.4**	**-0.2**
	baz=245						
TR1	**Tor 1**	**1.09**	**221**	P	**Pb**	**21 21 39.3**	**-0.6**
	baz=222						
HRFI	**Mount Harif**	**1.22**	**11**	Pg	**Pb**	**21 21 41.8**	**-0.2**
HRFI				Sg	**Sb**	**21 21 58.6**	**+1.2**
KRMI	**Paran Flat**	**1.27**	**359**	Pg	**Pb**	**21 21 43.0**	**0.0**
KRMI				Sg	**Sb**	**21 22 00.6**	**+1.6**
HRDS	**Abu Rudays**	**1.29**	**265**	P	**Pb**	**21 21 43.4**	**+0.2**
	baz=265						
PRNI	**Paran**	**1.52**	**8**	Pn	**Pb**	**21 21 47.6**	**+0.4**
PRNI				Sn	**Sb**	**21 22 07.3**	**+1.2**
KZIT	**Kziot**	**2.08**	**351**	Pn	**Pb**	**21 21 54.7**	**-2.1**
KZIT				Sn	**Sb**	**21 22 21.9**	**-0.3**

*NEIC **14** 21:31:26.9±2.7,58°.38N±0°.04×137°.42W±0°.08,h10km±7km, Error ellipse: s-maj=8.5km s-min=1.8km az=221.0*
*PGC **14** 21:31:27.1±4.2,58°.45N×137°.33W,h1km,ML2.9/17, 141km Wsw of Haines, Ak Southeastern Alaska*
*AEIC **14** 21:31:27.5±2.7,58°.44N±0°.03×137°.25W±0°.08,h0km±7km, ML2.3,ML2.9(OTT),ML2.7/43(NEIC),Error ellipse: s-maj=6.6km s-min=2.0km az=60.0*

ISC 14 21:31:27.6±1.7,58°.43N±0°.03×137°.34W±0°.04,h8km±13km, n60,σ1s45/94,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
S31K	**Pelican**	**0.75**	**128**	Pg	**Pb**	**21 31 42.0**	**-0.8**
S31K				Sg	**Sg**	**21 31 50.5**	**-1.1**
P29M	**Windy Craggy**	**1.23**	**350**	Pg	**Pn**	**21 31 48.9**	**-2.2**
P29M				Sn	**Sg**	**21 32 07.6**	**+0.5**
P29M	**Windy Craggy**	**1.23**	**350**	P	**Pn**	**21 31 48.4**	**-2.7**
P29M				S	**Sb**	**21 32 05.3**	**-1.7**
SKAG	**Skagway**	**1.47**	**44**	Pn	**Pn**	**21 31 53.0**	**-1.3**
SKAG				Sg	**Sn**	**21 32 13.5**	**-0.3**
R32K	**Eaglecrest**	**1.49**	**95**	Pn	**Pn**	**21 31 53.7**	**-1.0**
R32K				Sn	**Sn**	**21 32 12.2**	**-2.2**
R32K				IAML		21 32 18.2	
	comp=N,71nm,0.9s						
P30M	**Million Dollar**	**1.71**	**6**	Pn	**Pn**	**21 31 57.7**	**-0.1**
P30M					**Sn**	**21 32 19.7**	**-0.2**
P30M	**Million Dollar**	**1.71**	**6**	Pn	**Pn**	**21 31 57.7**	**-0.1**
P30M				Sg	**Sn**	**21 32 19.7**	**-0.2**
SIT	**Sitka**	**1.75**	**141**	Pn	**Pb**	**21 31 58.4**	**-1.4**
SIT				IAML		21 32 20.8	
	comp=N,69nm,3.9s						
SIT				Sg	**Sg**	**21 32 24.9**	**+1.2**
SIT				IAML		21 32 33.3	
	comp=E,78nm,3.3s						
S32K	**Killisnoo**	**1.76**	**122**	Pn	**Pn**	**21 31 58.3**	**0.0**
S32K				Sn	**Sn**	**21 32 20.6**	**-0.3**
O29M	**Mount Kennedy**	**1.99**	**342**	Pn	**Pn**	**21 32 01.1**	**-0.6**
O29M				Sn	**Sn**	**21 32 26.5**	**-0.3**
O29M				IAML		21 32 36.8	
	comp=N,46nm,0.9s						
O29M				IAML		21 32 37.5	
	comp=E,78nm,0.7s						
O29M	**Mount Kennedy**	**1.99**	**342**	Pn	**Pn**	**21 32 01.6**	**-0.1**
O29M				Sg	**Sb**	**21 32 28.0**	**-1.0**
YUK7	**Dusty Glacier**	**2.15**	**349**	Pn	**Pn**	**21 32 04.4**	**+0.4**
YUK7	**Dusty Glacier**	**2.15**	**349**	Pn	**Pn**	**21 32 04.4**	**+0.4**
P32M	**Atlin**	**2.21**	**57**	Pn	**Pn**	**21 32 05.3**	**+0.7**
P32M				Sn	**Sn**	**21 32 32.6**	**+0.5**
P32M				IAML		21 32 36.7	
	comp=N,33nm,0.8s						
P32M	**Atlin**	**2.21**	**57**		**Pb**	**21 32 06.5**	**-1.3**
P32M				Sn	**Sn**	**21 32 31.0**	**-1.1**
P32M	**Atlin**	**2.21**	**57**	Pg	**Pb**	**21 32 06.5**	**-1.3**
P32M				Sn	**Sn**	**21 32 31.0**	**-1.1**
HYT	**Haines Junctio**	**2.41**	**358**	Pn	**Pn**	**21 32 09.1**	**+1.6**
HYT				Sg	**Sg**	**21 32 43.7**	**-1.2**
HYT				IAML		21 33 06.6	
	comp=N,34nm,4.8s						
HYT				IAML		21 33 29.6	
	comp=E,30nm,4.4s						
HYT	**Haines Junctio**	**2.41**	**358**		**Pb**	**21 32 09.7**	**-1.5**
HYT				Sg	**Sb**	**21 32 40.5**	**-0.6**
HYT	**Haines Junctio**	**2.41**	**358**	Pg	**Pb**	**21 32 09.7**	**-1.5**
HYT				Sg	**Sb**	**21 32 40.5**	**-0.6**
O30N	**Mendenhall**	**2.44**	**15**	Pn	**Pn**	**21 32 08.5**	**+0.8**
O30N				IAML		21 32 48.5	
	comp=N,28nm,0.7s						
WHY	**Whitehorse**	**2.57**	**28**	Pn	**Pn**	**21 32 09.5**	**-0.1**
WHY				IAML		21 32 45.9	
	comp=E,38nm,1.4s						
WHY				IAML		21 32 53.3	
	comp=N,35nm,2.6s						
WHY	**Whitehorse**	**2.57**	**28**	Pg	**Pb**	**21 32 12.5**	**-1.4**
WHY				Sg	**Sb**	**21 32 44.8**	**-0.9**
WHY	**Whitehorse**	**2.57**	**28**	Pg	**Pb**	**21 32 12.5**	**-1.4**
WHY				Sg	**Sb**	**21 32 44.8**	**-0.9**
YUK6	**Outpost Mounta**	**2.58**	**349**		**Pb**	**21 32 13.0**	**-1.3**
YUK6				Sg	**Sb**	**21 32 46.2**	**+0.1**
YUK6	**Outpost Mounta**	**2.58**	**349**	Pg	**Pb**	**21 32 13.0**	**-1.3**
YUK6				Sg	**Sb**	**21 32 46.2**	**+0.1**
Q32M	**Nakina River**	**2.70**	**76**	Pg	**Pb**	**21 32 15.0**	**-1.3**
Q32M				Sg	**Sb**	**21 32 49.5**	**0.0**
Q32M	**Nakina River**	**2.70**	**76**	IAML		21 32 57.4	
	comp=N,33nm,1.0s						
Q32M				IAML		21 33 12.1	
	comp=E,37nm,4.5s						
Q32M	**Nakina River**	**2.70**	**76**	Pg	**Pb**	**21 32 15.0**	**-1.3**
Q32M				Sg	**Sb**	**21 32 49.5**	**0.0**
P33M	**Teslin, Yukon**	**2.93**	**50**	Pg	**Pb**	**21 32 19.6**	**-0.5**
P33M				Sg	**Sb**	**21 32 54.8**	**-1.2**
P33M	**Teslin, Yukon**	**2.93**	**50**	Pn	**Pn**	**21 32 15.2**	**+0.7**
P33M				IAML		21 32 45.1	
	comp=E,23nm,4.7s						
P33M				IAML		21 33 29.6	
	comp=N,21nm,4.8s						
P33M	**Teslin, Yukon**	**2.93**	**50**	Pg	**Pb**	**21 32 19.6**	**-0.5**
P33M				Sg	**Sb**	**21 32 54.8**	**-1.2**
YUK4	**Talbot Arm**	**3.00**	**348**	Pg	**Pb**	**21 32 21.1**	**-0.3**
YUK4	**Talbot Arm**	**3.00**	**348**	Pg	**Pb**	**21 32 21.1**	**-0.3**
N30M	**Aishikik Lake**	**3.05**	**2**		**Pb**	**21 32 22.0**	**-0.1**
N30M				IAML		21 32 59.8	
	comp=N,19nm,4.9s						
N30M				IAML		21 33 20.7	
	comp=E,22nm,3.3s						
N30M	**Aishikik Lake**	**3.05**	**2**	Pg	**Pb**	**21 32 21.7**	**-0.4**
N30M				Sg	**Sb**	**21 33 00.8**	**+1.3**
N30M	**Aishikik Lake**	**3.05**	**2**	Pg	**Pb**	**21 32 21.7**	**-0.4**
N30M				Sg	**Sb**	**21 33 00.8**	**+1.3**
N31M	**Braeburn, Yuko**	**3.17**	**14**	Pg	**Pb**	**21 32 23.5**	**-0.7**
N31M	**Braeburn, Yuko**	**3.17**	**14**	Pg	**Pb**	**21 32 23.5**	**-0.7**
N31M				Sg	**Sb**	**21 33 04.6**	**+1.6**
S34M	**Telegraph Cree**	**3.33**	**96**	Sg	**Sb**	**21 33 08.6**	**+1.2**
S34M	**Telegraph Cree**	**3.33**	**96**	Pg	**Pb**	**21 32 27.5**	**+0.7**
S34M				IAML		21 34 01.5	
	comp=E,34nm,4.8s						
S34M				IAML		21 34 04.6	
	comp=N,34nm,4.9s						
S34M	**Telegraph Cree**	**3.33**	**96**	Sg	**Sb**	**21 33 08.6**	**+1.2**
R33M	**Jennings River**	**3.44**	**71**	Sg	**Pb**	**21 32 28.2**	**-0.7**
R33M				Sg	**Sb**	**21 33 11.4**	**+0.5**
R33M	**Jennings River**	**3.44**	**71**	Pn	**Pn**	**21 32 19.7**	**-2.0**
R33M					**Pb**	**21 32 29.8**	**+0.9**
R33M				IAML		21 32 57.5	
	comp=E,25nm,4.4s						
R33M				IAML		21 34 35.4	
	comp=N,21nm,5.0s						
R33M	**Jennings River**	**3.44**	**71**	Pg	**Pb**	**21 32 28.2**	**-0.7**
R33M				Sg	**Sb**	**21 33 11.4**	**+0.5**
N32M	**Quiet Lake**	**3.48**	**36**	Pg	**Pb**	**21 32 31.5**	**+2.0**
N32M	**Quiet Lake**	**3.48**	**36**	Pg	**Pb**	**21 32 30.6**	**+1.2**
N32M				Sg	**Sb**	**21 33 14.2**	**+2.4**
N32M	**Quiet Lake**	**3.48**	**36**	Pg	**Pb**	**21 32 30.6**	**+1.2**
N32M				Sg	**Sb**	**21 33 14.2**	**+2.4**
DLBC	**Dease Lake**	**3.84**	**87**	Pg	**Pb**	**21 32 36.6**	**+0.9**
DLBC	**Dease Lake**	**3.84**	**87**	Pg	**Pb**	**21 32 35.3**	**-0.4**
DLBC				Sg	**Sb**	**21 33 24.1**	**+1.8**
M31M	**Drury Creek, Y**	**4.06**	**20**	Pn	**Pn**	**21 32 28.7**	**-1.3**
T35M	**Bob Quinn**	**4.07**	**108**	Sg	**Sb**	**21 33 32.1**	**+3.3**
T35M	**Bob Quinn**	**4.07**	**108**	Sg	**Sb**	**21 33 32.1**	**+3.3**
M29M	**Somme Creek**	**4.07**	**353**	Pg	**Pb**	**21 32 40.5**	**+1.0**
M29M	**Somme Creek**	**4.07**	**353**	Pn	**Pn**	**21 32 31.3**	**+1.1**
M29M	**Somme Creek**	**4.07**	**353**	IAML		21 33 49.5	
	comp=E,16nm,4.9s						
M29M				IAML		21 34 51.2	
	comp=N,20nm,3.8s						
M29M	**Somme Creek**	**4.07**	**353**	Pg	**Pb**	**21 32 40.5**	**+1.0**
M30M	**Minto, Yukon**	**4.17**	**3**	Pg	**Pb**	**21 32 42.2**	**+0.9**
M30M				Sg	**Sb**	**21 33 36.7**	**+4.9**
M30M	**Minto, Yukon**	**4.17**	**3**	Pg	**Pb**	**21 32 42.2**	**+0.9**
M30M				Sg	**Sb**	**21 33 36.7**	**+4.9**
L29M	**L29M**	**4.72**	**356**	Pg	**Pb**	**21 32 52.4**	**+1.9**
L29M	**L29M**	**4.72**	**356**	Pg	**Pb**	**21 32 52.4**	**+1.9**

CATAC 14 21:37:10.4±1.5,9°.63N×84°.03W,h55km±18km,mb5.0, MB5.8,ML1.9,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCR2	**La Lucha 2**	**0.11**	**10**	*i* P	Pn	21 37 20.1	+0.9
LCR2				*i* S	Sn	21 37 26.9	+1.5
LCR2				IAML		21 37 28.3	
	comp=Z,150nm,1.0s						
TBLN	**Tablon, Guarco**	**0.20**	**7**	*i* P	Pn	21 37 20.4	+0.9
TBLN				IAML		21 37 27.9	
	comp=Z,530nm,1.0s						
RIMA	**Rio Macho**	**0.21**	**49**	*i* P	Pn	21 37 20.5	+0.9
RIMA				*i* S	Sn	21 37 27.8	+1.6
RIMA				IAML		21 37 28.3	
	comp=Z,110nm,1.0s						
CDM	**Cerro de Muert**	**0.27**	**106**	*i* P	Pn	21 37 21.7	+1.4
CDM				*i* S	Sn	21 37 29.8	+2.4
CDM				IAML		21 37 30.4	
	comp=Z,130nm,1.0s						
TCS1	**Tacares**	**0.49**	**327**	*i* P	Pn	21 37 31.9	+10
JACO	**JACO, Garabito**	**0.63**	**273**	*i* P	Pn	21 37 24.7	+1.2
JACO				IAML		21 37 24.7	
	comp=Z,110nm,1.0s						
INDI	**Punta indio, G**	**1.48**	**279**	*i* P	Pn	21 37 34.7	0.0
CHNN	**El Viejo**	**4.26**	**315**	*i* P	Pn	21 38 17.8	+5.1

TEH 14 21:53:53.9,31°.86N×48°.72E,h8km±49km,ML3.5, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMIS	**Naft Sefid**	**0.52**	**112**	Pg	Pg	21 54 04.0	0.0
AHWZ	**Ahwaz**	**0.53**	**187**	Pg	Pb	21 54 05.1	-0.4
JHBN	**Jahan bin**	**1.69**	**77**	Pg	Pb	21 54 25.4	-0.1
ABEH	**Behbahan**	**1.81**	**133**	Pn	Pb	21 54 27.4	0.0
IKFM	**Kafar-mosalman**	**1.82**	**336**	Pn	Pg	21 54 28.2	-0.5
ZNGN	**Zangian**	**1.83**	**81**	Pn	Pb	21 54 27.6	-0.2
IPIR	**Pirpir**	**2.01**	**65**	Pn	Pb	21 54 30.8	-0.1
IBRJ	**Brojen**	**2.16**	**88**	Pn	Pb	21 54 32.1	-1.3
IKOM	**Komasi**	**2.52**	**337**	Pn	Pb	21 54 37.5	-2.0
KLNJ	**Kolanjah**	**2.59**	**108**	Pn	Pn	21 54 38.1	+1.6
ILBA	**Ilam Banvizeh**	**2.75**	**310**	Pn	Pn	21 54 40.1	+1.6
KCHF	**Cheshme Sefid,**	**2.79**	**330**	Pn	Pn	21 54 40.0	+1.0
IKLH	**Kolahrood**	**2.82**	**58**	Pn	Pb	21 54 42.3	-2.3
IGAR	**Gharneh**	**2.87**	**78**	Pn	Pb	21 54 42.8	-2.6
QAMS	**Qamsar**	**2.93**	**50**	Pn	Pn	21 54 43.5	+2.5
HAGD	**Aghdareh**	**2.98**	**7**	Pn	Pn	21 54 44.3	+2.6
IRAM	**Ramesheh**	**3.11**	**90**	Pn	Pn	21 54 45.8	+2.2
IZEF	**Zefreh**	**3.22**	**70**	Pn	Pn	21 54 46.9	+1.9
IDHR	**Dehrash**	**3.44**	**326**	Pn	Pn	21 54 50.1	+2.0
KRSH	**Karshahi**	**3.56**	**53**	Pn	Pn	21 54 52.2	+2.6
IQOM	**Qom**	**3.56**	**33**	Pn	Pn	21 54 51.8	+2.1
IRAZ	**Razeghan**	**3.68**	**16**	Pn	Pn	21 54 54.3	+3.1
KGS1	**Ghasr-e-Shirin**	**3.72**	**316**	Pn	Pn	21 54 53.6	+1.9
ISFB	**Sefidab**	**3.86**	**49**	Pn	Pn	21 54 55.9	+2.3
IVRN	**Varamin**	**4.01**	**38**	Pn	Pn	21 54 57.8	+2.1
DSBU	**Dashti - Bushe**	**4.12**	**147**	Pn	Pn	21 54 58.8	+1.6
ISAD	**Sadrabad**	**4.22**	**88**	Pn	Pn	21 55 00.5	+1.7
ANAR	**Anarak**	**4.43**	**71**	Pn	Pn	21 55 03.4	+1.9
IDMV	**Damavand**	**4.62**	**36**	Pn	Pn	21 55 06.6	+2.3
QSDN	**Sirdan**	**4.65**	**4**	Pn	Pn	21 55 07.0	+2.4
ICHK	**Chekchek**	**4.84**	**84**	Pn	Pn	21 55 08.8	+1.5
ILAS	**Lasjerd**	**4.98**	**44**	Pn	Pn	21 55 11.3	+2.1
KLST	**Kelardasht - M**	**5.03**	**22**	Pn	Pn	21 55 12.2	+2.2
IMEH	**Mehriz**	**5.05**	**94**	Pn	Pn	21 55 12.0	+1.9
IFIR	**Firoozkooh**	**5.05**	**41**	Pn	Pn	21 55 12.2	+2.0
IPRN	**Peran**	**5.30**	**33**	Pn	Pn	21 55 15.7	+2.2
TPRV	**Parvadeh(Tabas**	**6.83**	**78**	Pn	Pn	21 55 37.2	+2.7
TKDS	**Koohdasht(Taba**	**7.29**	**74**	Pn	Pn	21 55 42.4	+1.6

*IDC **14** 22:00:53.6±1.2,11°.84N×141°.65E,h0km,mb3.8/7, mbtmp3.8/7,Error ellipse: s-maj=51.8km s-min=21.0km az=88.0*

ISC 14 22:01:00.4±1.3,11°.8N±0°.2×141°.6E±0°.4,h51km,n7, σ0s89/7,mb3.5/7,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.35**	**193**	P	**P**	**22 07 24.6**	**-0.6**
	0.4nm,0.6s,baz=11,slow=9.3,SNR=7.6						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**36.05**	**192**	P	**P**	**22 07 57.8**	**+0.6**
	0.3nm,0.6s,baz=22,slow=12,SNR=7.4						
	0.3nm,0.6s						
SONM	**Songino Array**	**46.44**	**328**	P	**P**	**22 09 21.7**	**-0.6**
	0.4nm,0.8s,baz=140,slow=7.6,SNR=3.1						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**63.96**	**321**	P	**P**	**22 11 29.2**	**+0.9**
	0.4nm,0.3s,baz=105,slow=6.6,SNR=6.5						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**69.37**	**322**	P	**P**	**22 12 03.7**	**+0.9**
	0.8nm,0.4s,baz=104,slow=6.8,SNR=11						
	0.8nm,0.4s						
ILAR	**Eielson Array**	**71.53**	**25**	P	**P**	**22 12 15.9**	**+0.2**
	0.5nm,0.7s,baz=249,slow=6.3,SNR=7.4						
	0.5nm,0.7s						
FINES	**FINESS Array B**	**91.41**	**334**	P	**P**	**22 14 00.0**	**-0.8**
	4.4nm,1.0s,baz=72,slow=4.5,SNR=2.1						
	4.4nm,1.0s						

TEH 14 22:02:21.1,31°.88N×48°.73E,h8km±29km,ML3.6, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMIS	**Naft Sefid**	**0.52**	**114**	Pg	Pg	22 02 31.0	-0.1
AHWZ	**Ahwaz**	**0.55**	**188**	Pg	Pg	22 02 32.2	+0.4
JHBN	**Jahan bin**	**1.68**	**77**	Pg	Pb	22 02 52.9	+0.4
IKFM	**Kafar-mosalman**	**1.80**	**336**	Pn	Pb	22 02 54.6	+0.2
ZNGN	**Zangian**	**1.82**	**82**	Pn	Pb	22 02 55.0	+0.1
ABEH	**Behbahan**	**1.82**	**134**	Pn	Pb	22 02 54.9	+0.2
IPIR	**Pirpir**	**2.00**	**66**	Pn	Pg	22 02 58.9	-0.6
IBRJ	**Brojen**	**2.15**	**89**	Pn	Pb	22 02 59.2	-1.2
IKOM	**Komasi**	**2.51**	**336**	Pn	Pb	22 03 04.7	-1.8
KLNJ	**Kolanjah**	**2.59**	**109**	Pn	Pn	22 03 05.3	+1.6
ILBA	**Ilam Banvizeh**	**2.75**	**310**	Pn	Pn	22 03 07.0	+1.4
KCHF	**Cheshme Sefid,**	**2.78**	**330**	Pn	Pb	22 03 08.7	-2.5
IKLH	**Kolahrood**	**2.80**	**58**	Pn	Pn	22 03 08.9	+2.5
IGAR	**Gharneh**	**2.86**	**79**	Pn	Pn	22 03 09.0	+1.9
QAMS	**Qamsar**	**2.91**	**50**	Pn	Pn	22 03 10.2	+2.3
HAGD	**Aghdareh**	**2.96**	**7**	Pn	Pn	22 03 10.8	+2.3
IGHG	**Ghaleghazi**	**3.04**	**324**	Pn	Pn	22 03 11.8	+2.1
IRAM	**Ramesheh**	**3.11**	**90**	Pn	Pn	22 03 12.4	+1.8
IZEF	**Zefreh**	**3.21**	**71**	Pn	Pn	22 03 14.3	+2.2
IDHR	**Dehrash**	**3.43**	**326**	Pn	Pn	22 03 17.2	+2.2
IQOM	**Qom**	**3.55**	**33**	Pn	Pn	22 03 18.6	+1.9
KGS1	**Ghasr-e-Shirin**	**3.72**	**316**	Pn	Pn	22 03 20.4

ISCO	Idaho Springs	3.99	183		Pn	22 04 25.4 +1.6
YFT	Old Faithful	4.02	281		Pb	22 04 34.1 +1.3
YFT				IAML		22 05 32.8
	comp=E,27nm,0.9s					
REDW	Red Top Meadow	4.04	266		Pn	22 04 25.6 +1.3
IMW	Indian Meadow	4.06	273		Pb	22 04 35.1 +1.5
IMW				IAML		22 05 35.4
	comp=E,27nm,0.7s					
IMW				IAML		22 05 35.6
	comp=E,27nm,0.6s					
YHH	Holmes Hill	4.09	286		Pn	22 04 27.4 +2.4
TPAW	Teton Pass	4.09	268		Pn	22 04 27.1 +2.0
TPAW				IAML		22 05 51.8
	comp=E,37nm,0.7s					
FXWY	Fox Creek	4.13	270		Pn	22 04 27.3 +1.6
YMR	Madison River	4.14	284		Pb	22 04 37.5 +2.5
YMR				IAML		22 05 41.1
	comp=E,35nm,2.5s					
YMR				IAML		22 06 54.6
	comp=N,32nm,2.6s					
O20A	White River Ci	4.25	212		Pn	22 04 28.9 +1.7
O20A				IAML		22 05 42.2
	comp=E,40nm,0.7s					
O20A				IAML		22 05 52.0
	comp=N,32nm,1.7s					
E28A	Huff	4.30	48		Pn	22 04 29.8 +2.1
K30B	Basset	4.32	103		Pn	22 04 29.2 +1.1
YHL	Hebgen Lake	4.33	286		Pn	22 04 28.6 +0.2
YHL				IAML		22 05 46.8
	comp=N,27nm,1.2s					
AHID	Auburn Hatcher	4.34	258		Pn	22 04 28.7 +0.3
AHID				IAML		22 05 42.1
	comp=N,26nm,1.3s					
AHID				IAML		22 06 00.2
	comp=N,25nm,2.8s					
RDMU	Red Mountain	4.50	226		Pg	22 04 45.6 -1.8
RDMU				IAML		22 05 48.0
	comp=E,28nm,1.0s					
RDMU				IAML		22 05 48.6
	comp=N,23nm,0.7s					
DGMT	Dagmar	4.75	9		Pn	22 04 36.9 +3.1
SMCO	Snowmass	4.77	196		Pb	22 04 49.2 +3.4
SMCO				IAML		22 06 01.5
	comp=N,23nm,1.1s					
SMCO				IAML		22 06 01.8
	comp=N,24nm,1.1s					
Q24A	Divide	4.83	178	Pn	Pn	22 04 36.2 +1.0
Q24A				IAML		22 06 00.6
	comp=N,20nm,0.9s					
Q24A				IAML		22 06 01.3
	comp=E,27nm,0.7s					
BOZ	Bozeman (W)	4.84	294		Pb	22 04 49.4 +2.6
BOZ				IAML		22 05 59.1
	comp=E,16nm,0.7s					
BOZ				IAML		22 06 08.1
	comp=E,23nm,4.2s					
HWUT	Hardware Ranch	5.09	247	Pn	Pn	22 04 38.5 -0.3
HWUT				IAML		22 06 11.1
	comp=E,19nm,1.1s					
BSUT	Blindstream Ca	5.18	233	IAML		22 06 17.4
	comp=N,14nm,4.7s					
KSCO	Kaye Shedlock'	5.19	156		Pn	22 04 41.1 +1.0
TCUT	Toone Canyon	5.23	241		Pn	22 04 38.9 -1.8
HRY	Holter Researc	5.44	305	Pn	Pn	22 04 44.5 +1.0
LRM	Limekiln Ridge	5.46	294	Pn	Pn	22 04 45.3 +1.5
P18A	Preston Nutter	5.55	223		Pn	22 04 46.2 +1.0
ELMT	Elliston	5.75	301		Pn	22 04 44.0 -3.9
SPUT	South Promonto	5.81	247	Pn	Pn	22 04 46.5 -2.1
PV22	Blue Mesa, Par	5.86	208	Pn	Pn	22 04 51.1 +1.7
PV07	Paradox Valley	5.91	206	Pn	Pn	22 04 51.5 +1.5
P17A	Butcher Ranch,	5.92	225	Pn	Pn	22 04 51.7 +1.6
PV23	Carpenter Ridg	6.01	209	Pn	Pn	22 04 52.3 +0.8
PV04	Paradox Valley	6.03	208	Pn	Pn	22 04 53.0 +1.3
SRU	San Rafael Swe	6.09	222	Pn	Pn	22 04 52.5 0.0
PV20	West Nyswonger	6.10	208	Pn	Pn	22 04 54.4 +1.8
PV11	David Mesa, Pa	6.11	207	Pn	Pn	22 04 53.6 +0.9
PV16	Nyswonger Mesa	6.11	208	Pn	Pn	22 04 54.6 +1.9
PV19	Morning Glory	6.13	208	Pn	Pn	22 04 54.7 +1.6
PV03	Paradox Valley	6.14	207	Pn	Pn	22 04 54.5 +1.3
OVMT	Ovando	6.31	304	Pn	Pn	22 04 55.8 +0.4
BPMT	Black Pine Rid	6.32	298		Pn	22 04 57.2 +1.5
PV05	Paradox Valley	6.38	208	Pn	Pn	22 04 55.9 -0.7
ELK	Elko	7.95	251	Pn	Pn	22 05 19.2 +1.1
	comp=N,0.5nm,0.3s,baz=64,slow=8.8,SNR=6.6					
	comp=N,0.9nm,0.3s					
ULM	Lac du Bonnet	9.13	42	Pn	Pn	22 05 32.4 -1.6
	comp=N,1.5nm,0.3s,baz=234,slow=12,SNR=16					
ULM				Sn	Sn	22 07 12.7 -4.7
	comp=N,0.5nm,0.3s,baz=240,slow=16,SNR=1.4					
ULM				Lg	Lg	22 08 03.5
	comp=N,0.4nm,0.3s,baz=319,slow=19,SNR=1.5					
	comp=N,3.1nm,0.3s					
NVAR	Mina Array Bea	11.15	246	Pn	Pn	22 06 02.5 +0.6
	comp=N,0.2nm,0.3s,baz=30,slow=14,SNR=4.6					
	comp=N,0.4nm,0.5s					
YKA	Yellowknife Ar	19.50	347	P	P	22 07 48.2 -1.3
	comp=N,0.1nm,0.3s,baz=156,slow=13,SNR=4.7					
	comp=N,0.2nm,0.6s					
ZALV	Zalesovo Beam	82.25	354	P	P	22 15 43.0 -0.9
	comp=N,0.4nm,0.6s,baz=20,slow=4.6,SNR=2.2					
	comp=N,0.4nm,0.6s					
MKAR	Makanchi Array	89.55	355	P	P	22 16 19.8 -0.4
	comp=N,0.8nm,0.9s,baz=19,slow=5.9,SNR=1.9					
	comp=N,0.8nm,0.9s					

*SFS **14** 22:22:59.4, 36.1°14N×8.4°41W, h30km, ML3.2/13, ML3.1/10, MLv3.0/13*
*IGIL **14** 22:22:59.8, 36.1°15N×8.4°44W, h32km, ML1.9*
*INMG **14** 22:23:00.2±1.4, 36.1°16N×8.4°44W, h37km, ML1.8, Error ellipse: s-maj=5.2km s-min=2.1km az=78.0*
*MDD **14** 22:23:01.0±1.0, 36.1°41N×8.2°23W, h4km±4km, mb_Lg2.3/5, Error ellipse: s-maj=6.6km s-min=5.0km az=30.0*
*CNRM **14** 22:23:03.0, 35.1°73N×8.2°28W, h95km, ml2.3*

ISC 14 22:22:57.5±1.3, 36.1°11N±0.1°03×8.4°43W±0.1°05, h53km±35km, n44, σ1°39/70, 1D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	1.07	343	⇓eP		Pn	22 23 16.8	+0.5
PFVI				eS		Sn	22 23 29.4	-0.8
PFVI				A		A	22 23 30.0	
	11nm,0.1s							
PFVI	Vila Bisbo	1.07	343	Pg		Pn	22 23 16.8	+0.5
PBDV	Barranco-do-Ve	1.21	19	eP		Pn	22 23 19.3	+1.2
PBDV				eS		Sn	22 23 32.8	-0.7
PBDV				A		A	22 23 42.1	
	6.4nm,0.7s							
MORF	Marmelete	1.21	352	eP		Pn	22 23 18.8	+0.6
MORF				eS		Sn	22 23 32.7	-0.9
MORF				A		A	22 23 33.5	
	12nm,0.1s							
MORF	Marmelete	1.21	352	eP		Pn	22 23 18.8	+0.6
MORF				eS		Sn	22 23 32.3	-1.2
MORF				IAML			22 23 33.2	
	comp=E,20nm,0.1s							
PVAQ	Vaqueiros	1.42	24	eP		Pn	22 23 21.9	+0.9
PVAQ				eS		Sn	22 23 37.6	-0.9
PVAQ	Vaqueiros	1.42	24	Pn		Pn	22 23 21.9	+0.9
PTEO	Sao Teotonio	1.46	351	eP		Pn	22 23 22.3	+0.8
PTEO				eS		Sn	22 23 38.6	-0.9
PTEO				A		A	22 23 45.9	
	comp=E,9.9nm,0.4s							
PCVE	Castro Verde	1.56	12	eP		Pn	22 23 24.2	+1.3
PCVE				eS		Sn	22 23 41.6	-0.3
PCVE				A		A	22 23 46.7	
	comp=E,3.9nm,0.6s							
PCVE	Castro Verde	1.56	12	Pn		Pn	22 23 23.9	+1.0
EGRO	El Granado	1.62	28	Pg		Pn	22 23 24.8	+1.1
EGRO				Sg		Sn	22 23 41.7	-1.7
EGRO				*i* Vmb_Lg			22 23 43.4	
EGRO	El Granado	1.62	28	Sn		Sn	22 23 42.3	-1.1
EGRO				Pn		Pn	22 23 24.9	+1.3
MESJ	Messejana	1.74	6	eP		Pn	22 23 26.4	+1.0
MESJ				eS		Sn	22 23 46.0	-0.4
MESJ				A		A	22 23 51.6	
	comp=E,2.7nm,0.2s							
PBEJ	Beja	1.97	13	eS		Sn	22 23 50.7	-1.4
PBEJ				A		A	22 24 06.7	
	comp=E,5.0nm,0.5s							
PNCL	Nicolau / Gran	2.00	358	eP		Pn	22 23 29.9	+0.9
PNCL				eS		Sn	22 23 51.6	-1.3
PNCL				A		A	22 23 59.7	
	comp=E,3.6nm,0.6s							
PNCL	Nicolau / Gran	2.00	358	Pn		Pn	22 23 29.5	+0.6
ESPR	Espera	2.21	69	Pn		Pn	22 23 33.7	+1.9
ESPR				Sn		Sn	22 23 57.3	-0.6
ESPR				*i* Vmb_Lg			22 24 00.3	
ESPR	Espera	2.21	69	Sn		Sn	22 23 57.3	-0.6
ESPR				Pn		Pn	22 23 32.4	+0.6
PBAR	Barrancos	2.35	28	eP		Pn	22 23 34.8	+1.1
PBAR				eS		Sn	22 24 00.5	-0.8
PBAR				A		A	22 24 19.8	
	comp=E,6.9nm,0.7s							
PBAR	Barrancos	2.35	28	Pn		Pn	22 23 34.6	+0.9
EVO	Evora	2.45	8	eP		Pn	22 23 36.5	+1.5
EVO				eS		Sn	22 24 02.4	-1.3
EVO				A		A	22 24 20.4	
	comp=E,3.0nm,0.3s							
EVO	Evora	2.45	8	Pn		Pn	22 23 36.7	+1.7
EVO				Sn		Sn	22 24 02.3	-1.3
PESTR	Estremoz	2.84	13	eP		Pn	22 23 42.5	+2.1
PESTR				eS		Sn	22 24 11.8	-1.6
EBAD	Badajoz	2.88	23	Pn		Pn	22 23 42.0	+1.1
EBAD				Sn		Sn	22 24 12.3	-2.0
EBAD				*i* Vmb_Lg			22 24 15.9	
EBAD	Badajoz	2.88	23	Pn		Pn	22 23 42.8	+1.9
EBAD				Sn		Sn	22 24 13.1	-1.2
PMAFR	Mafra	2.92	347	eS		Sn	22 24 02.7	-13
PMTG	Montargil	2.96	3	eP		Pn	22 23 43.5	+1.4
PMTG				eS		Sn	22 24 14.4	-2.0
PMTG				A		A	22 24 31.7	
	comp=E,2.0nm,0.8s							
EMIJ	Mijas	2.99	80	Pn		Pn	22 23 43.3	+0.8
ZHG	ZHG	3.04	150	P		Pn	22 23 44.4	+1.2
ZHG				S		Sn	22 24 17.8	-0.5
ECAB	El Cabril	3.11	50	Pn		Pn	22 23 45.4	+1.3
ECAB				Sn		Sn	22 24 17.3	-2.8
ECAB				*i* Vmb_Lg			22 24 25.9	
ECAB	El Cabril	3.11	50	Pn		Pn	22 23 45.9	+1.8
PSBE	So Bento	3.42	355	eP		Pn	22 23 50.1	+1.8
PSBE				eS		Sn	22 24 26.9	-0.7
PSBE				A		A	22 24 40.6	
	comp=E,11nm,0.8s							
PMRV	Marv??o	3.42	14	eP		Pn	22 23 49.5	+1.1
PMRV				eS		Sn	22 24 25.8	-1.8
PMRV				A		A	22 24 40.2	
	comp=E,2.5nm,0.7s							
EADA	Adamuz	3.71	55	Pn		Pn	22 23 53.8	+1.5
EADA				Sn		Sn	22 24 32.5	-2.2
EADA				*i* Vmb_Lg			22 24 39.8	
EADA	Adamuz	3.71	55	Pn		Pn	22 23 53.4	+1.1
IFR	Ifrane	3.75	133	Pn		Pn	22 23 54.4	+1.4
LCRM	LCR	3.80	128	P		Pn	22 23 54.7	+0.9
LCRM				S		Sn	22 24 36.9	-0.4
PCAS	Casmilo, Conde	3.94	359	eS		Sn	22 24 39.1	-1.4
MD31	MD31	4.43	136	P		Pn	22 24 04.0	+1.6
MD31				S		Sn	22 24 50.7	-1.9
MDT	Midelt	4.56	135	P		Pn	22 24 05.5	+1.5
MDT				S		Sn	22 24 53.9	-1.9
OUK	Oukaimeden	4.91	174	P		Pn	22 24 10.2	+1.1
OUK				S		Sn	22 25 02.8	-2.0
TIO	Tiouine	5.26	169	Pn		Pn	22 24 15.3	+1.6
OUZM	OUZ	5.37	164	P		Pn	22 24 16.3	+1.1
OUZM				S		Sn	22 25 13.4	-2.4
ETOB	Tobarra	6.04	63	Pn		Pn	22 24 24.5	+0.1

*IDC **14** 22:27:45.7±2.1, 8.3°33S×156.1°15E, h0km, mb3.7/6, mbtmp3.7/6, MS3.4/5, Error ellipse: s-maj=75.4km s-min=26.2km az=116.0*

ISC 14 22:27:51.0±1.9, 8.4°4S±0.3°×156.1°1E±0.4, h35km, n10, σ0°43/6, mb3.8/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	Honiara	3.91	106	LR		LR	22 29 56.8	
	comp=Z,2µm,18.9s,baz=212,slow=34							
CTA	Charters Tower	15.07	218	LR		LR	22 36 11.1	
	comp=Z,70nm,20.5s,baz=82,slow=34							
DZM	Mont Dzumac	16.85	145	LR		LR	22 36 47.1	
	comp=Z,71nm,18.5s,baz=315,slow=32							
WRA	Warramunga Arr	24.03	239	P		P	22 33 03.2	+0.2
	2.6nm,0.8s,baz=64,slow=9.4,SNR=12							
	2.6nm,0.8s							
ASAR	Alice Springs	26.16	232	P		P	22 33 21.7	-0.6
	0.2nm,0.5s,baz=61,slow=9.4,SNR=4.4							
	0.2nm,0.5s							
STKA	Stephens Creek	27.02	208	P		P	22 33 30.2	+0.3
	0.9nm,0.4s,baz=17,slow=18,SNR=3.0							
STKA				LR		LR	22 43 10.2	
	comp=Z,62nm,19.7s,baz=20,slow=34							
	0.9nm,0.4s							
NWAO	Narrogin (SRO)	43.46	230	LR		LR	22 52 19.1	
	comp=Z,38nm,21.2s,baz=129,slow=34							
SONM	Songino Array	71.10	327	P		P	22 39 05.9	0.0
	0.9nm,0.9s,baz=134,slow=4.3,SNR=4.4							
	0.9nm,0.9s							
ILAR	Eielson Array	84.24	21	P		P	22 40 18.6	-0.1
	0.6nm,1.0s,baz=230,slow=8.1,SNR=2.3							
	0.6nm,1.0s							
MKAR	Makanchi Array	85.18	319	P		P	22 40 24.0	+0.1
	0.7nm,0.8s,baz=108,slow=6.1,SNR=3.0							
	0.7nm,0.8s							

*NNC **14** 22:33:47.1±10.0, 37.°05N×69.°65E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=91.8km s-min=64.4km az=154.0*

ISC 14 22:33:41.8±3.5, 36.°7N±0.°2×69.°5E±0.°1, h10km, n12, σ2°31/14, 4C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AML	Almayashu	6.31	30	P		Pn	22 35 18.1	+2.8
	SNR=21							
AML	Almayashu	6.31	30	⇓P		Pn	22 35 18.0	+2.7
	0.1nm,0.2s							
AML				⇓S		Sn	22 36 27.2	-0.4
	2.3nm,0.3s							
KK31	Karatay Array	6.42	7	⇓P		Pn	22 35 23.3	+6.8
	1.2nm,0.3s,baz=178,slow=13							
KK31				⇑S		Sn	22 36 30.7	+0.8
	4.9nm,0.5s,baz=189,slow=21							
UCH	Uchtor	6.74	34	P		Pn	22 35 23.1	+1.9
	SNR=5.5							
EKS2	Erkin-Say	6.80	28	P		Pn	22 35 24.7	+3.0
	SNR=15							
KZA	Kyzart	6.97	38	P		Pn	22 35 25.6	+1.3
	SNR=10							
AAK	Ala-Archa	7.06	32	P		Pn	22 35 28.0	+2.6
	SNR=8.4							
ULHL	Ulahol	7.60	41	P		Pn	22 35 34.2	+1.4
	SNR=8.2							
TKM2	Tokmak 2	7.78	35	P		Pn	22 35 35.8	+0.6
	SNR=6.1							
TKM2	Tokmak 2	7.78	35	⇓P		Pn	22 35 35.7	+0.4
	3.5nm,0.7s							
TKM2				⇑S		Sn	22 36 59.9	-3.5
	4.2nm,0.7s							
AB31	Akbulak array	14.32	334	⇑P		Pn	22 37 03.1	-1.5
	0.1nm,0.3s,baz=162,slow=11,SNR=8.1							
AKTO	Aktyubinsk	16.00	333	⇑P		Pn	22 37 24.8	-2.1
	0.7nm,0.6s							

IDC 14 22:39:45.4±2.0, 6.°69S×129.°40E, h0km, mb3.7/1, mbtmp3.8/3, ML3.8/2, Error ellipse: s-maj=117.6km s-min=30.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.03	160	Pn		Pn	22 43 05.1	-0.5
	0.4nm,0.3s,baz=339,slow=13,SNR=22							
WRA				Sn		Sn	22 45 29.2	-13
	0.2nm,0.3s,baz=339,slow=22,SNR=2.0							
	0.6nm,0.4s							
ASAR	Alice Springs	17.43	166	P		Pn	22 43 50.6	+0.4
	0.4nm,0.3s,baz=343,slow=9.9,SNR=28							
ASAR				S		Sn	22 46 48.6	-16
	0.3nm,0.5s,baz=279,slow=21,SNR=1.7							
	2.0nm,0.7s							
MKAR	Makanchi Array	67.64	327	P		P	22 50 44.2	0.0
	0.5nm,0.5s,baz=117,slow=6.9,SNR=9.5							
	0.5nm,0.5s							

IDC 14 22:57:50.8±2.2, 5.°44N×126.°05E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=211.8km s-min=23.0km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.51	162	P		P	23 03 30.6	+0.4
	0.2nm,0.5s,baz=342,slow=10,SNR=7.4							
	0.2nm,0.5s							
ASAR	Alice Springs	29.93	165	P		P	23 04 00.4	-0.4
	0.2nm,0.4s,baz=337,slow=6.8,SNR=2.0							
	0.2nm,0.4s							
MKAR	Makanchi Array	55.77	325	P		P	23 07 29.7	0.0
	0.6nm,0.5s,baz=119,slow=7.0,SNR=11							
	0.6nm,0.5s							
BVAR	Borovoye Array	65.53	327	P		P	23 08 35.9	-0.2
	0.4nm,0.5s,baz=122,slow=7.0,SNR=1.5							
	0.4nm,0.5s							

*NNC **14** 22:57:51.5±5.8, 37.°58N×62.°07E, h0km, mb3.5, mpv3.5, Error ellipse: s-maj=100.0km s-min=15.3km az=167.0*
*IDC **14** 22:57:54.6±1.6, 38.°30N×61.°33E, h0km, mb3.7/7, mbtmp3.6/14, ML3.0/7, MS2.9/1, Error ellipse: s-maj=25.9km s-min=10.4km az=167.0*

ISC 14 22:57:55.8±1.2, 38.°3N±0.°1×61.°45E±0.°06, h10km, n19, σ1°99/23, mb3.4/7, 3C-4D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GEYT	Alibeck	2.66	262	Pn		Pn	22 58 38.3	-0.3
	10.0nm,0.3s,baz=124,slow=12,SNR=65							
GEYT				Lg		Lg	22 59 17.3	
	25nm,0.3s,baz=117,slow=18,SNR=2.6							
GEYT				LR		LR	22 59 57.6	
	comp=Z,229nm,19.0s,baz=119,slow=48							
	12nm,0.3s							
GYA0B	ALIBECK ARRAY	2.66	262	⇓Pg		Pg	22 58 47.6	+1.0
GYA0B				⇓Sn		Sg	22 59 22.8	+1.7
KK31	Karatay Array	8.37	52	⇑Pn		Pn	22 59 57.2	0.0
	1.0nm,0.4s,baz=240,slow=15							
KK31				⇓Sn		Sn	23 01 33.9	+2.2
	7.3nm,0.6s,baz=229,slow=20							
AML	Almayashu	10.11	64	⇓Pn		Pn	23 00 16.1	-5.1
	0.1nm,0.5s							
AML				⇑Sn		Sn	23 02 11.6	-3.2
	2.4nm,0.7s							
AAK	Ala-Archa	10.83	62	Pn		Pn	23 00 30.5	-0.4
	0.5nm,0.3s,baz=214,slow=2.4,SNR=8.1							
AAK				Sn		Sn	23 02 30.8	-1.4
	0.4nm,0.3s,baz=298,slow=14,SNR=4.1							
AAK				Lg		Lg	23 03 42.3	
	0.1nm,0.3s,baz=313,slow=12,SNR=4.1							
	0.7nm,0.3s							
AB31	Akbulak array	10.98	355	⇑Pn		Pn	23 00 36.6	+3.8
	1.3nm,0.8s,baz=189,slow=15,SNR=4.3							
AKTO	Aktyubinsk	12.35	350	Pn		Pn	23 00 49.7	-1.8
	0.2nm,0.3s,baz=106,slow=1.2,SNR=2.5							
AKTO				Sn		Sn	23 03 08.0	-1.1
	0.1nm,0.3s,baz=280,slow=13,SNR=1.1							
	0.6nm,0.6s							
KBZ	Khabaz	14.99	297	Pn		Pn	23 01 22.9	-4.7
	baz=132,slow=15,SNR=1.9							
	1.3nm,1.0s							
BVAR	Borovoye Array	15.95	20	Pn		Pn	23 01 40.4	+0.3
	0.1nm,0.3s,baz=221,slow=9.9,SNR=6.6							
KURBB	Kurchatov Arra	17.26	39	P		Pn	23 01 56.4	-0.4
	baz=238,slow=13,SNR=1.6							
	0.2nm,0.4s							
MKAR	Makanchi Array	17.49	54	P		Pn	23 01 59.7	0.0
	baz=244,slow=16,SNR=1.4							
	0.3nm,0.5s							
ARU	Arti	18.21	355	P		P	23 02 09.7	+1.0
	0.2nm,0.3s,baz=148,slow=9.5,SNR=1.5							
	0.5nm,0.4s							
BRTR	Keskin Array B	21.62	282	P		P	23 02 44.0	-2.1
	0.2nm,0.4s,baz=107,slow=10.0,SNR=1.5							
	0.2nm,0.4s							
ZALV	Zalesovo Beam	22.35	38	P		P	23 02 56.4	+2.8
	0.5nm,0.4s,baz=235,slow=31,SNR=3.0							
	0.5nm,0.4s							
AKASG	Malin Array Be	25.88	309	P		P	23 03 26.7	-0.7
	0.5nm,0.5s,baz=100,slow=10.0,SNR=1.7							
	0.5nm,0.5s							
FINES	FINESS Array B	31.81	328	P		P	23 04 20.2	0.0
	7.5nm,1.1s,baz=158,slow=12,SNR=3.5							
	7.5nm,1.1s							
HFS	Hagfors	36.93	322	P		P	23 05 05.6	+1.0
	4.2nm,1.0s,baz=114,slow=18,SNR=1.9							
	4.2nm,1.0s							
NOA	NORSAR Array B	38.34	323	P		P	23 05 17.5	+1.0
	0.4nm,0.5s,baz=104,slow=8.1,SNR=1.7							
	0.4nm,0.5s							
EKA	Eskdalemuir Ar	45.61	314	P		P	23 06 16.6	+0.7
	1.5nm,0.8s,baz=86,slow=6.2,SNR=4.3							
	1.5nm,0.8s							

*CATAC **14** 23:24:57.7±0.7, 8.°75N×82.°99W, h16km±4km, ML3.1*
*UPA **14** 23:24:58.6±0.3, 8.°82N×82.°93W, h26km±6km, MD2.9*

ISC 14 23:24:55.9±1.1, 8.°61N±0.°07×83.°14W±0.°03, h10km, n19, σ1°19/24, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RIOS	Rincon, Osa	0.38	285	*i* P		Pg	23 25 02.0	-1.4
POTG	Potrero Grande	0.45	3	*i* P		Pb	23 25 06.1	+0.2
POTG				*i* S		Sb	23 25 11.9	-0.8
POTG				IAML			23 25 14.1	
	comp=Z,3µm,1.0s							
CTCR	Cotoan	0.48	53	*i* P		Pg	23 25 04.8	-0.5
BRU2	Volcan	0.49	67	eP		Pg	23 25 05.5	0.0
BRU2				eS		Sg	23 25 10.7	-1.2
BRU2	Volcan	0.49	67	*i* P		Pg	23 25 05.4	0.0
BRU2				*i* S		Sg	23 25 10.7	-1.2
BRU2				IAML			23 25 13.0	
	comp=Z,2µm,1.0s							
BC3P	Paso Ancho	0.57	68	eP		Pg	23 25 06.5	-0.5
BCO2	Palmira	0.62	79	eP		Pg	23 25 07.8	-0.1
BCO2				eS		Sg	23 25 15.0	-1.1
OCHAL	Ojochal	0.70	315	*i* P		Pn	23 25 12.1	+0.3
OCHAL				IAML			23 25 24.1	
	comp=Z,11nm,1.0s							
DVD	David	0.71	104	eP		Pb	23 25 10.6	+0.3
DVD				eS		Sb	23 25 19.4	-0.6
CDM	Cerro de Muert	1.12	327	*i* S		Sb	23 25 33.0	+0.4
RIMA	Rio Macho	1.36	328	*i* S		Sb	23 25 38.8	-0.2
LCR2	La Lucha 2	1.41	323	*i* P		Pn	23 25 22.3	+0.4
LCR2				IAML			23 25 43.1	
	comp=Z,110nm,1.0s							
TBLN	Tablon, Guarco	1.48	325	*i* P		Pb	23 25 23.6	0.0
TBLN				IAML			23 25 43.8	
	comp=Z,350nm,1.0s							
OC

CNCH *i* S **Sn** **23 25 49.6 +5.6**
QUEN Al S del Volca 0.63 107 *i* P **Pn** **23 25 25.8 -1.5**
LCND La Caada 0.67 322 *eP* **Pn** **23 25 26.8 -0.7**
LCND *eS* **Sn** **23 25 42.8 -1.7**
LCND La Caada 0.67 322 *i* S **Sn** **23 25 50.0 +5.6**
CNGN Cerro Negro 0.80 110 **Pn** **23 25 27.7 -0.7**
CNGN Sn **Sn** **23 25 44.6 -1.5**
CNGN Cerro Negro 0.80 110 *i* P **Pn** **23 25 27.8 -0.7**
CNGN *i* S **Sn** **23 25 48.4 +2.3**
CNGN IAML 23 25 52.7
comp=Z,4µm,1.0s
JUCU Jucuarįn 0.90 302 *eP* **Pn** **23 25 28.1 -1.1**
JUCU *eS* **Sn** **23 25 46.6 -0.8**
LEVN Ruinas Leon Vi 0.91 114 *i* P **Pn** **23 25 28.8 -0.5**
LEVN *i* S **Sn** **23 25 47.2 -0.3**
LEVN IAML 23 25 54.8
comp=Z,4µm,1.0s
MOMN Momotombo 0.98 112 *i* P **Pn** **23 25 29.3 -0.6**
MOMN *i* S **Sn** **23 25 50.1 +1.6**
MOMN IAML 23 25 52.3
comp=Z,100nm,1.0s
MOM2 El Cardon 1.02 109 *i* P **Pn** **23 25 29.8 -0.3**
MOM2 IAML 23 25 30.5
comp=Z,2µm,1.0s
MOM2 *i* S **Sn** **23 25 51.3 +2.3**
PACA Pacayal 1.08 310 *i* P **Pn** **23 25 30.9 +0.1**
PACA IAML 23 26 01.2
comp=Z,9µm,1.0s
LIMN Finca el Limon 1.11 75 *i* P **Pn** **23 25 30.7 -0.4**
BC87 San Francisco 1.18 103 *i* P **Pn** **23 25 31.2 -0.4**
BC87 IAML 23 25 47.9
comp=Z,6µm,1.0s
ALJI Alcalda de J 1.20 297 *eP* **Pn** **23 25 30.6 -1.2**
ALJI *eS* **Sn** **23 25 50.9 -1.1**
APYN Apoyeque 1.22 116 *i* P **Pn** **23 25 31.7 -0.3**
APYN *i* S **Sn** **23 25 53.7 +1.3**
APYN IAML 23 25 54.8
comp=Z,4µm,1.0s
APQN BB Volcan Apoy 1.27 116 *i* P **Pn** **23 25 32.6 +0.1**
TGUH Tegucigalpa,Un 1.28 9 **Pn** **23 25 32.7 -0.1**
TGUH Sn **Sn** **23 25 52.0 -1.8**
TGUH Tegucigalpa,Un 1.28 9 *i* P **Pn** **23 25 32.7 -0.1**
TGUH IAML 23 25 33.1
comp=Z,2µm,1.0s
MSHP Masachapa 1.31 136 *i* P **Pn** **23 25 33.2 +0.3**
MSHP *i* S **Sn** **23 25 53.5 -0.4**
MSHP IAML 23 25 56.5
comp=Z,2µm,1.0s
YUSH Yuscaran 1.32 27 *i* P **Pn** **23 25 32.9 -0.2**
UNAN Cigeo UNAN 1.34 119 *i* P **Pn** **23 25 33.0 -0.2**
UNAN *i* S **Sn** **23 25 53.8 -0.7**
UNAN IAML 23 26 01.9
comp=Z,8µm,1.0s
PQSS Presa 15 de Se 1.35 308 *eP* **Pn** **23 25 33.3 0.0**
PQSS *eS* **Sn** **23 25 54.6 -0.1**
PQSS IAML 23 26 01.0
comp=Z,502nm,0.2s
WILN Americas 2 1.39 116 *i* P **Pn** **23 25 33.5 -0.2**
WILN *i* S **Sn** **23 25 56.7 +1.3**
WILN IAML 23 26 02.5
comp=Z,1µm,1.0s
MAS3 Al N del Volca 1.47 121 *i* P **Pn** **23 25 34.3 -0.2**
MAS3 *i* S **Sn** **23 25 56.9 +0.1**
MAS3 IAML 23 25 57.9
comp=Z,3µm,1.0s
TECO Alcaldia de Te 1.48 301 *eP* **Pn** **23 25 34.5 -0.2**
TECO *eS* **Sn** **23 25 56.0 -1.1**
TECO Alcaldia de Te 1.48 301 *i* P **Pn** **23 25 36.0 +1.3**
MATN Matagalpa 1.51 84 **Pn** **23 25 34.8 -0.2**
MATN Matagalpa 1.51 84 *i* P **Pn** **23 25 34.8 -0.2**
MATN IAML 23 25 35.1
comp=Z,1µm,1.0s
RCPN Sur Rio San Ju 1.53 61 *i* P **Pn** **23 25 34.1 -1.2**
SCLA Alcaldia de Sa 1.53 307 *eP* **Pn** **23 25 35.2 +0.1**
SCLA *eS* **Sn** **23 25 58.1 0.0**
UESV Universidad de 1.54 304 *i* P **Pn** **23 25 38.9 +3.6**
COEG Centro de Oper 1.61 301 *eP* **Pn** **23 25 35.9 -0.2**
COEG IAML 23 26 05.2
comp=Z,985nm,0.2s
COMHN El Horno 1.66 357 *i* P **Pn** **23 25 37.3 +0.6**
PAVA Las Pavas 1.71 303 *eP* **Pn** **23 25 36.5 -0.7**
SJTE Alcalda de S 1.71 299 *eP* **Pn** **23 25 37.2 0.0**
SJTE Alcalda de S 1.71 299 *i* P **Pn** **23 25 37.6 +0.4**
SJTE *i* S **Sn** **23 26 01.6 0.0**
SJTE IAML 23 26 05.2
comp=Z,2µm,1.0s
LOMA Loma Larga 1.87 298 *eP* **Pn** **23 25 39.1 +0.1**
LOMA Loma Larga 1.87 298 *i* P **Pn** **23 25 39.6 +0.6**
LOMA *i* S **Sn** **23 26 05.4 +0.6**
LOMA IAML 23 26 10.4
comp=Z,2µm,1.0s
SNET Serv Nac Est T 1.94 298 **Pn** **23 25 40.2 +0.4**
SNET Sn **Sn** **23 26 06.1 -0.1**
UEES Universidad Ev 1.96 299 *eP* **Pn** **23 25 40.8 +0.7**
PMON Piamonte 2.02 298 *i* P **Pn** **23 25 41.8 +1.0**
PMON *i* S **Sn** **23 26 08.6 +0.6**
PMON IAML 23 26 16.7
comp=Z,2µm,1.0s
JAYA Jayaque - finc 2.12 295 *eP* **Pn** **23 25 42.1 +0.2**
JAYA Jayaque - finc 2.12 295 *i* P **Pn** **23 25 42.6 +0.7**
JAYA *i* S **Sn** **23 26 07.6 -2.4**
JAYA IAML 23 26 13.6
comp=Z,4µm,1.0s
CONN Concepcion 2.17 124 *i* P **Pn** **23 25 42.9 +0.5**
CONN IAML 23 26 27.5
comp=Z,4µm,1.0s
JUTIH Juticalpa Olan 2.24 33 *i* P **Pn** **23 25 43.6 +0.3**
CEVE Cerro Verde 2.34 297 *eP* **Pn** **23 25 44.9 +0.2**
CEVE *eS* **Sn** **23 26 15.9 +0.8**
CEVE Cerro Verde 2.34 297 *i* P **Pn** **23 25 46.5 +1.8**
CEVE *i* S **Sn** **23 26 16.7 +1.7**
CEVE IAML 23 26 25.5
comp=Z,2µm,1.0s
SNJE San Jose 2.34 298 *eP* **Pn** **23 25 45.2 +0.5**
YORHN Yoro 2.35 8 *i* P **Pn** **23 25 45.6 +0.9**
ACON Acoyapa 2.38 110 **Pn** **23 25 44.4 -0.6**
ACON Sn **Sn** **23 26 15.4 0.0**
ACON Acoyapa 2.38 110 *i* P **Pn** **23 25 45.5 +0.5**
MTO3 Montecristo 2.44 311 Pn **Pn** **23 25 46.5 +0.6**
MTO3 Sn **Sn** **23 26 16.8 -0.5**
NUBE Las Nubes 2.51 297 *eP* **Pn** **23 25 47.0 +0.3**
NUBE Las Nubes 2.51 297 *i* P **Pn** **23 25 47.8 +1.1**
ESQI Esquipulas 2.54 314 Pn **Pn** **23 25 47.0 0.0**
SLOZ Alcaldia de Sa 2.57 299 *eP* **Pn** **23 25 48.1 +0.7**
HZTE Horizontes, Gu 2.75 138 **Pn** **23 25 50.3 +0.7**
HZTE Horizontes, Gu 2.75 138 *i* P **Pn** **23 25 51.0 +1.4**
HZTE Horizontes, Gu 2.75 138 *i* P **Pn** **23 25 51.0 +1.4**
HZTE IAML 23 26 26.9
comp=Z,890nm,1.0s
VRLE La Escondida, 2.86 134 *i* P **Pn** **23 25 51.7 +0.7**
VRLE IAML 23 26 30.0
comp=Z,450nm,1.0s
ORTG Ortega, Santa 3.11 140 **Pn** **23 25 54.9 +0.7**
ORTG Ortega, Santa 3.11 140 *i* P **Pn** **23 25 55.4 +1.3**
ORTG *i* S **Sn** **23 26 30.2 -1.6**
ORTG IAML 23 26 38.0
comp=Z,390nm,1.0s
ESPN Las Esperanzas 3.15 100 Pn **Pn** **23 25 54.7 +0.2**
INDI Punta índio, G 3.48 146 *i* P **Pn** **23 26 00.1 +1.3**
JTS Las Juntas de 3.49 135 **Pn** **23 25 58.9 -0.2**
JTS Las Juntas de 3.49 135 P **Pn** **23 26 00.0 +1.0**
comp=Z,118nm,0.3s,baz=321,slow=15,SNR=75
JTS S **Sn** **23 26 37.8 -2.8**
comp=Z,116nm,0.3s,baz=124,slow=23,SNR=14
ARE1 Arenal 1 3.54 130 **Pn** **23 26 00.3 +0.6**
COVE Coope Vega, Sa 3.63 124 Pn **Pn** **23 26 01.2 +0.3**
SOCE Pocosol 3.67 130 *i* P Pn 23 26 08.4 +7.1
CPMI Catarata Coope 3.91 129 *i* P **Pn** **23 26 08.7 +4.0**
VPTE Poasito 4.12 129 *i* P Pn 23 26 14.2 +6.8
JACO JACO, Garabito 4.15 138 Pn **Pn** **23 26 08.8 +1.3**
JACO JACO, Garabito 4.15 138 *i* P **Pn** **23 26 10.0 +2.5**
HDC Heredia 4.29 130 Pn **Pn** **23 26 10.3 +0.7**
SOKI Kika Raxquin 4.33 298 *i* P Pn 23 26 15.4 +5.1
RIMA Rio Macho 4.63 130 **Pn** **23 26 15.2 +1.1**
TEIG Tepich 7.45 354 **Pn** **23 26 51.2 -0.1**
TEIG Tepich 7.45 354 P **Pn** **23 26 52.8 +1.5**
comp=Z,102nm,0.9s,baz=143,slow=9.1,SNR=6.6
CMIG Matias Romero 8.35 302 P **Pn** **23 27 03.8 +0.4**
comp=Z,4.3nm,0.3s,baz=168,slow=11,SNR=14
CMIG S **Sn** **23 28 32.9 -3.5**
comp=Z,5.4nm,0.5s,baz=342,slow=22,SNR=7.5
TLIG Tlapa 11.72 295 Pn **Pn** **23 27 48.5 +0.3**

BAUV El Baul 19.45 99 P **P** **23 29 20.3 -0.4**
BAUV IAmb IAmb 23 29 21.6
comp=Z,18nm,0.6s
152A Waverly Hall 19.96 7 P **P** **23 29 26.6 +0.7**
152A IAmb IAmb 23 29 29.3
comp=Z,22nm,1.2s
257A Skidaway Islan 20.00 16 P **P** **23 29 26.4 0.0**
TXAR Lajitas Array 22.31 320 P **P** **23 29 51.6 +0.7**
comp=Z,0.8nm,0.6s,baz=141,slow=9.6,SNR=9.6
comp=Z,0.8nm,0.6s
MNHN Monahans 23.23 325 P **P** **23 30 00.6 +1.1**
MNHN IAmb IAmb 23 30 02.9
comp=Z,4.5nm,0.9s
V55A Taylorsville 23.66 13 P **P** **23 30 02.9 -0.3**
V55A IAmb IAmb 23 30 06.5
comp=Z,19nm,1.3s
V58A Windy Hill, Pi 24.12 17 P **P** **23 30 07.5 +0.1**
S39A Bolivar 25.36 349 P **P** **23 30 18.8 +0.2**
GLA Glamis 32.12 313 P **P** **23 31 17.9 -0.8**
PDAR Pinedale Array 35.48 332 P **P** **23 31 48.8 +1.0**
comp=Z,0.5nm,0.6s,baz=129,slow=11,SNR=6.2
comp=Z,0.5nm,0.6s
ULM Lac du Bonnet 37.99 351 P **P** **23 32 07.6 -1.1**
comp=Z,1.5nm,0.5s,baz=168,slow=8.9,SNR=5.9
comp=Z,1.5nm,0.5s
SCHQ Schefferville 44.97 17 P **P** **23 33 05.3 -0.1**
comp=Z,6.6nm,0.8s,baz=223,slow=9.8,SNR=5.0
comp=Z,6.6nm,0.8s
YKA Yellowknife Ar 53.29 345 P **P** **23 34 08.7 +0.1**
comp=Z,0.3nm,0.7s,baz=140,slow=7.8,SNR=6.5
comp=Z,0.3nm,0.7s
ILAR Eielson Array 65.72 336 P **P** **23 35 33.2 -0.5**
comp=Z,0.2nm,0.7s,baz=121,slow=3.5,SNR=3.4
comp=Z,0.2nm,0.7s
WRA Warramunga Arr 139.34 254 PKP **PKiKP** **23 44 17.7 -0.4**
comp=Z,1.1nm,0.5s,baz=89,slow=2.2,SNR=26
ASAR Alice Springs 139.37 249 PKP **PKiKP** **23 44 17.6 -0.5**
comp=Z,0.7nm,0.8s,baz=84,slow=1.9,SNR=9.1

IDC 14 23:32:36.9±4.7, 2°82S×106°69E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=212.7km s-min=30.1km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.91**	**124**	P	P	23 39 04.4	0.0
	0.2nm,0.5s,baz=302,slow=10,SNR=7.6						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**33.50**	**131**	P	P	23 39 16.3	-2.1
	0.1nm,0.3s,baz=292,slow=7.6,SNR=1.6						
SONM	**Songino Array**	**50.45**	**360**	P	P	23 41 36.6	+0.1
	0.4nm,0.7s,baz=177,slow=7.2,SNR=2.5						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**53.88**	**339**	P	P	23 42 01.8	-0.2
	0.7nm,0.9s,baz=134,slow=8.3,SNR=4.2						
	0.7nm,0.9s						

*NEIC **14** 23:40:28.8±1.6, 7°43S×107°08E×32°E±0°08, h35km±1km, mb4.9/104, Error ellipse: s-maj=14.9km s-min=11.4km az=35.0*
*BJI **14** 23:40:33.3, 7°07S×156°10E, h80km, mb5.1/47, mB5.1/22, Ms4.8/5, Ms7 4.4/6*
*IDC **14** 23:40:35.0±1.4, 7°38S×156°11E, h90km±12km, mb4.4/17, mbtmp4.8/22, MS3.9/34, Error ellipse: s-maj=12.2km s-min=9.5km az=46.0*
*DJA **14** 23:40:49.8±1.2, 6°S±4°×15°5E±1°3, h146km±7km, M5.6/16, mb4.7/16, mB5.7/4, MLv6.1/1, Mw(mB)5.2/4*
ISC 14 23:40:30.3±0.4, 7°41S±0°04×156°23E±0°05, h53km±3km, **h53**km:**pP-P, n313,** σ1♀**37**/303, **mb4.9**/92, **MS4.0**/33, **5C-6D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.19**	**119**		**Pn**	**23 41 30.5**	**-1.2**
HNR	**Honiara**	**4.19**	**119**	P	Pn	23 41 36.4	+4.7
	1µm,0.5s,baz=265,slow=4.9,SNR=7.8						
HNR				S	Sn	23 42 29.0	+10
	14µm,0.9s,baz=111,slow=22,SNR=2.8						
HNR				LR	LR	23 43 12.4	
	comp=Z,26µm,20.0s,baz=326,slow=36						
RABL	**Rabaul**	**5.15**	**308**	Pn	**Pn**	**23 41 47.4**	**+2.5**
RABL	**Rabaul**	**5.15**	**308**	P	Pn	23 41 52.9	+7.9
KRVT	**Keravat (AS076**	**5.19**	**306**	P	**Pn**	**23 41 49.7**	**+4.2**
	189nm,0.6s,baz=168,slow=19,SNR=1.2						
KRVT				S	**Sn**	**23 42 47.0**	**+2.9**
	564nm,0.5s,baz=357,slow=23,SNR=2.2						
I40PG	**Keravat**	**5.21**	**306**	I	I	00 05 20.0	
	baz=127,slow=311,SNR=1.1						
PMG	**Port Moresby**	**9.19**	**257**	Pn	**Pn**	**23 42 41.2**	**+0.9**
PMG	**Port Moresby**	**9.19**	**257**	P	**Pn**	**23 42 43.8**	**+3.5**
	16nm,0.5s,baz=31,slow=10.0,SNR=8.1						
PMG				S	**Sn**	**23 44 25.1**	**+2.8**
	16nm,0.7s,baz=79,slow=17,SNR=1.5						
PMG				LR	LR	23 46 09.9	
	comp=Z,1µm,18.8s,baz=58,slow=37						
PATS	**Pohnpei**	**14.30**	**8**	Pn	**Pn**	**23 43 49.2**	**-0.8**
TV1H	**Townsville Har**	**14.93**	**217**	P	**P**	**23 44 00.8**	**-1.9**
	34nm,1.1s						
TABU	**Tabubil**	**15.06**	**277**	P	**P**	**23 44 04.5**	**+0.2**
MTSU	**Mount Surprise**	**15.76**	**226**	P	**P**	**23 44 11.0**	**-1.0**
	baz=16,SNR=5.8						
MTSU	**Mount Surprise**	**15.76**	**226**	P	**P**	**23 44 12.3**	**+0.3**
	7.8nm,1.0s						
CTA	**Charters Tower**	**15.89**	**216**	P	**P**	**23 44 12.3**	**-1.1**
CTA	**Charters Tower**	**15.89**	**216**	P	**P**	**23 44 12.8**	**-0.7**
	16nm,1.0s,baz=41,slow=14,SNR=10						
CTA				LR	LR	23 49 24.4	
	comp=Z,456nm,21.1s,baz=66,slow=33						
CTAO	**Charters Tower**	**15.89**	**216**	Pn	**Pn**	**23 44 10.0**	**-0.5**
CTAO	**Charters Tower**	**15.89**	**216**	P	**P**	**23 44 12.5**	**-0.9**
JAY	**Jayapura**	**16.21**	**287**	P	**Pn**	**23 44 14.3**	**-0.4**
	30nm,1.0s						
RK1H	**Rockhampton Ha**	**16.82**	**199**	P	**P**	**23 44 25.5**	**+1.9**
	26nm,0.8s						
DZM	**Mont Dzumac**	**17.59**	**147**		**Pn**	**23 44 30.7**	**-1.3**
DZM	**Mont Dzumac**	**17.59**	**147**	P	**P**	**23 44 36.8**	**+4.4**
DZM	**Mont Dzumac**	**17.59**	**147**	*eP*	**P**	**23 44 37.8**	**+5.4**
	68nm,0.9s						
DZM				*eS*	**Sn**	**23 47 42.0**	**-5.3**
	238nm,24.2s						
DZM				*e*LR	LR	23 48 27.4	
	706nm,25.9s						
DZM	**Mont Dzumac**	**17.59**	**147**	P	**P**	**23 44 36.0**	**+3.6**
	13nm,0.9s,baz=333,slow=12,SNR=3.7						
DZM				LR	LR	23 50 36.5	
	comp=Z,219nm,20.8s,baz=287,slow=34						
ONTNC	**Ouen Toro**	**17.79**	**147**		**Pn**	**23 44 32.7**	**-1.6**
EIDS	**Eidsvold**	**18.53**	**195**	P	**Pn**	**23 44 45.5**	**+2.3**
	baz=18,SNR=3.6						
EIDS	**Eidsvold**	**18.53**	**195**	P	**P**	**23 44 42.4**	**-0.1**
RMQ	**Roma**	**20.26**	**200**	P	Pn	23 45 06.7	+2.9
	baz=20,SNR=5.4						
QIS	**Mount Isa**	**20.73**	**229**	P	**P**	**23 45 07.5**	**+0.8**
	baz=20,SNR=12						
ARMA	**Armidale**	**23.30**	**190**	P	**P**	**23 45 35.3**	**+1.6**
	baz=23,SNR=3.9						
ARMA	**Armidale**	**23.30**	**190**	P	**P**	**23 45 33.2**	**-0.5**
GUMO	**Guam**	**23.71**	**332**	LR	LR	23 53 38.5	
	comp=Z,140nm,21.7s,baz=158,slow=33						
KDU	**Kakadu**	**23.96**	**255**	P	**P**	**23 45 39.7**	**-0.2**
	baz=24,SNR=100						
KDU	**Kakadu**	**23.96**	**255**	P	**P**	**23 45 40.8**	**+0.8**
NFK	**Norfolk Island**	**24.19**	**154**	P	P	23 45 49.7	+7.8
	baz=24,SNR=5.0						
WR0	**Warramunga Arr**	**24.45**	**237**	P	**P**	**23 45 44.4**	**0.0**
WR0				IAmb	IAmb	23 46 05.1	
	comp=Z,25nm,0.9s						
WB0	**Warramunga Arr**	**24.48**	**238**	P	**P**	**23 45 44.6**	**-0.1**
WB0				IAmb	IAmb	23 45 47.0	
	comp=Z,34nm,1.1s						
WRAB	**Tennant Creek**	**24.59**	**237**	P	**P**	**23 45 45.5**	**-0.2**
WRAB				IAmb	IAmb	23 45 47.4	
	comp=Z,34nm,0.8s						
WRAB					**PcP**	**23 49 21.1**	**-1.6**
WB2	**Warramunga Arr**	**24.60**	**237**	P	**P**	**23 45 45.6**	**-0.1**
WB2				IAmb	IAmb	23 45 47.6	
	comp=Z,28nm,0.8s						
WRA	**Warramunga Arr**	**24.61**	**237**	P	**P**	**23 45 45.0**	**-0.8**
WRA	**Warramunga Arr**	**24.61**	**237**	P	**P**	**23 45 45.9**	**+0.1**
	comp=Z,36nm,0.8s,baz=61,slow=9.7,SNR=178						
WRA				PcP	**PcP**	**23 49 23.2**	**+0.5**
	comp=Z,6.9nm,0.8s,baz=65,slow=2.8,SNR=9.7						
	comp=Z,36nm,0.8s						
DGTI	**Dogotuki**	**24.62**	**113**	P	**P**	**23 45 51.4**	**+5.4**

SAUI Saumlaki 24.71 267 P **P** **23 45 47.0 +0.2**
SAUI Saumlaki 24.71 267 P **P** **23 45 48.8 +2.0**
SAUI Saumlaki 24.71 267 P **P** **23 45 47.8 +1.0**
comp=Z,244nm,1.3s
MTN Manton Dam 25.28 256 P **P** **23 45 52.2 +0.3**
baz=25,SNR=10
MTN Manton Dam 25.28 256 P **P** **23 45 51.9 0.0**
MTN Manton Dam 25.28 256 P **P** **23 45 52.7 +0.8**
AUDCS Dubbo College 25.69 195 P **P** **23 45 55.0 -0.5**
CMSA Cobar Meteorol 25.95 201 P **P** **23 45 58.6 +0.8**
baz=26,SNR=7.6
AS01 Alice Springs 26.80 230 P **P** **23 46 05.7 0.0**
comp=Z,9.4nm,0.8s
AS31 Alice Springs 26.84 230 P **P** **23 46 05.3 -0.7**
ASAR Alice Springs 26.84 230 P **P** **23 46 04.6 -1.4**
ASAR **PcP** **23 49 27.4 -0.4**
ASAR Alice Springs 26.84 230 P **P** **23 46 05.4 -0.6**
comp=Z,4.0nm,0.8s,baz=59,slow=8.7,SNR=45
ASAR PcP **PcP** **23 49 28.1 +0.4**
comp=Z,4.9nm,0.6s,baz=55,slow=2.6,SNR=14
ASAR LR LR 23 56 04.7
comp=Z,265nm,21.1s,baz=70,slow=35
comp=Z,4.0nm,0.8s
H11S3 WAKE ISLAND Hy 27.73 22 T T 00 14 30.0
baz=202,slow=76,SNR=288
H11S2 WAKE ISLAND Hy 27.73 22 T T 00 14 27.4
baz=202,slow=76,SNR=309
H11S1 WAKE ISLAND Hy 27.75 22 T T 00 14 30.8
baz=202,slow=76,SNR=204
STKA Stephens Creek 27.91 207 P **P** **23 46 18.2 +2.7**
baz=28,SNR=6.2
STKA Stephens Creek 27.91 207 P **P** **23 46 15.1 -0.3**
STKA Stephens Creek 27.91 207 P **P** **23 46 15.9 +0.4**
comp=Z,5.5nm,0.8s,baz=26,slow=15,SNR=11
STKA PcP **PcP** **23 49 30.2 +0.1**
comp=Z,4.6nm,0.7s,baz=15,slow=3.2,SNR=5.8
STKA LR LR 23 57 21.2
comp=Z,347nm,18.5s,baz=32,slow=36
comp=Z,5.5nm,0.8s
OOD Oodnadatta 28.10 221 P **P** **23 46 16.8 -0.4**
KNRA Kununurra 28.11 251 P **P** **23 46 17.4 0.0**
baz=28,SNR=5.4
KNRA Kununurra 28.11 251 P **P** **23 46 17.0 -0.4**
KNRA IAmb IAmb 23 46 18.7
comp=Z,28nm,0.8s
LCRK Leigh Creek 28.47 214 P **P** **23 46 21.7 +1.2**
H11N1 WAKE ISLAND Hy 28.92 21 T T 00 16 10.9
baz=202,slow=76,SNR=28
H11N3 WAKE ISLAND Hy 28.93 21 T T 00 16 09.3
baz=202,slow=76,SNR=18
H11N2 WAKE ISLAND Hy 28.94 21 T T 00 16 05.8
baz=202,slow=76,SNR=17
HTT Hallett 30.45 209 P **P** **23 46 38.5 +0.4**
baz=30,SNR=4.2
BBOO Buckleboo 31.46 214 P **P** **23 46 46.6 -0.3**
baz=31,SNR=5.9
FITZ Fitzroy Crossi 31.62 247 P **P** **23 46 47.8 -0.6**
baz=31,SNR=8.5
WRKA Warakurna 31.93 233 P **P** **23 46 50.1 -1.0**
baz=32,SNR=50
WRKA Warakurna 31.93 233 P **P** **23 46 49.7 -1.5**
DAV Davao City (W) 33.78 295 LR LR 00 01 27.3
comp=Z,119nm,18.3s,baz=94,slow=37
LUWI Luwuk 33.94 279 P **P** **23 47 08.0 -0.8**
TOZ Tahuroa Road 34.88 153 P **P** **23 47 16.9 +0.2**
TOZ IAmb IAmb 23 47 18.9
comp=Z,17nm,1.1s
FORT Forrest 35.15 225 P **P** **23 47 18.5 -0.6**
baz=35,SNR=8.0
FORT Forrest 35.15 225 P **P** **23 47 17.9 -1.2**
URZ Urewera 36.06 152 LR LR 00 00 51.1
comp=Z,140nm,18.8s,baz=150,slow=34
RTZ Ruatahuna 36.28 152 P **P** **23 47 29.1 +0.4**
RTZ IAmb IAmb 23 47 30.5
comp=Z,14nm,0.7s
KAPI Kappang 36.33 272 LR LR 00 05 13.0
comp=Z,52nm,19.9s,baz=92,slow=41
TCW Tory Channel 37.30 157 P **P** **23 47 36.6 -0.6**
MRZ Mangatainoka R 37.35 155 P **P** **23 47 37.8 +0.1**
MRZ IAmb IAmb 23 47 46.2
comp=Z,17nm,0.9s
TUWZ Tuamarina 37.36 158 P **P** **23 47 37.8 0.0**
MBWA Marble Bar 37.80 245 P **P** **23 47 41.2 -0.7**
FOZ Fox Glacier 37.91 164 P **P** **23 47 41.8 -0.5**
FOZ IAmb IAmb 23 48 02.2
comp=Z,23nm,1.2s
RPZ Rata Peaks 38.43 163 LR LR 00 03 27.8
comp=Z,342nm,18.1s,baz=302,slow=36
KMBL Kambalda 39.94 229 P **P** **23 47 59.7 +0.1**
baz=40,SNR=5.7
MEEK Meekatharra 40.51 237 P **P** **23 48 04.2 -0.2**
baz=40,SNR=4.4
KLBR Kellerberrin 43.17 231 P **P** **23 48 25.3 -0.8**
baz=43,SNR=24
KLBR Kellerberrin 43.17 231 P **P** **23 48 25.6 -0.5**
comp=Z,115nm,0.6s
MORW Morawa 43.52 235 P **P** **23 48 28.8 -0.1**
baz=43,SNR=4.8
BLDU Ballidu 43.58 233 P **P** **23 48 29.0 -0.4**
baz=43,SNR=16
NWAO Narrogin (SRO) 44.15 229 LR LR 00 06 34.8
comp=Z,168nm,20.6s,baz=32,slow=35
NWAO Narrogin (SRO) 44.15 229 P **P** **23 48 33.5 -0.4**
NWAO pP **pP** **23 48 45.4 -1.7**
NWAO sP **sP** **23 48 50.4 -2.6**
RAR Rarotonga 44.62 113 LR LR 00 03 54.9
comp=Z,126nm,21.8s,baz=348,slow=31
RKGY Rocky Gully 45.10 227 P **P** **23 48 42.8 +1.3**
baz=45,SNR=5.2
JMN Monobe 46.08 334 P **P** **23 48 48.4 -0.8**
KSM Kuching 46.65 279 P **P** **23 48 53.1 -0.9**
KSM Kuching 46.65 279 P **P** **23 48 53.9 -0.1**
MJAR Matsushiro Arr 46.87 340 P **P** **23 48 54.6 -0.8**
comp=Z,3.3nm,0.6s,baz=174,slow=9.0,SNR=7.3
MJAR PcP **PcP** **23 50 27.3 -0.2**
comp=Z,6.2nm,0.6s,baz=155,slow=3.7,SNR=7.2
MJAR LR LR 00 07 33.0
comp=Z,40nm,20.3s,baz=197,slow=35
comp=Z,3.3nm,0.6s
MAJO Matsushiro 46.88 340 P **P** **23 48 55.6 +0.2**
MAJO PcP **PcP** **23 50 28.2 +0.7**
JNU Nakatsue 46.96 331 P **P** **23 48 55.4 -0.7**
JNU Nakatsue 46.96 331 P **P** **23 48 56.6 +0.5**
BBJI Bungbulang 48.15 267 P **P** **23 49 04.5 -1.2**
LEM Lembang 48.22 267 LR LR 00 13 28.3
comp=Z,56nm,18.2s,baz=183,slow=41
TJN Taejon 51.29 330 P **P** **23 49 28.7 -0.4**
TJN Taejon 51.29 330 P **P** **23 49 31.3 +2.2**
comp=Z,130nm,0.8s
KSRS Korea Array 51.88 331 P **P** **23 49 33.5 +0.1**
comp=Z,8.6nm,0.6s,baz=147,slow=7.3,SNR=36
KSRS PcP **PcP** **23 50 45.8 +0.1**
comp=Z,2.9nm,0.7s,baz=156,slow=3.5,SNR=6.7
KSRS LR LR 00 11 36.4
comp=Z,46nm,18.8s,baz=140,slow=36
comp=Z,8.6nm,0.6s
KSAR Wonju Array Be 51.89 331 P **P** **23 49 32.2 -1.3**
KS19 Wonju Array Si 51.94 331 P **P** **23 49 33.1 -0.9**
KS19 IAmb IAmb 23 49 36.4
comp=Z,23nm,1.2s
QIZ Qiongzhong 52.72 301 P **P** **23 49 40.6 +0.6**
ASAJ Asahikawa 52.74 348 LR LR 00 12 07.3
comp=Z,130nm,19.3s,baz=332,slow=36
NJ2 Nanjing 53.01 320 ||P P **23 49 42.8 +0.8**
NJ2 pP **sP** **23 50 01.5 -0.4**
NJ2 sP pP 23 50 08.3 +12
NJ2 pmax pmax
comp=Z,23nm,0.7s
NJ2 pmax pmax
comp=Z,300nm,4.0s
PPT2 Papeete2 53.71 106 *e*LR LR 00 05 09.2
comp=Z,64nm,21.5s
TBI Tubuai 54.39 113 *e*LR LR 00 05 15.5
comp=Z,1µm,31.5s
WHN Wuhan 55.09 315 ||P **P** **23 49 58.8 +1.7**
WHN pmax pmax
comp=Z,18nm,0.8s
USRK Ussuriysk Ar. 55.84 339 P **P** **23 50 03.1 +0.8**
comp=Z,1.4nm,0.5s,baz=120,slow=8.5,SNR=5.9
comp=Z,1.4nm,0.5s
TIA Tai'an 56.83 322 P **P** **23 50 09.3 -0.2**
TIA pmax pmax
comp=Z,20nm,0.9s
KULM Kulim 56.87 281 P **P** **23 50 09.0 -1.2**
KULM IAmb IAmb 23 50 11.8
comp=Z,15nm,1.1s

NONG Nongkai 58.18 296 P P 23 50 19.5 +0.2
comp=Z,34nm,1.5s
ENH Enshi 58.42 312 P P 23 50 19.7 -1.1
ENH IAmb IAmb 23 50 21.8
comp=Z,13nm,1.0s
ENH Enshi 58.42 312 P P 23 50 20.8 0.0
comp=Z,10nm,1.0s
NAYO Nakonayok 58.59 292 P P 23 50 23.1 +0.9
comp=Z,296nm,0.9s
LYN LuoYang 58.74 318 eP P 23 50 22.5 -0.4
LYN pmax pmax
comp=Z,17nm,0.4s
BNX BinXian 58.86 337 ⇑P P 23 50 25.1 +1.5
BNX pmax pmax
comp=Z,8.0nm,0.6s
HNS HongShan 59.08 322 ⇑P P 23 50 25.3 +0.1
HNS pmax pmax
comp=Z,25nm,1.1s
GSI Gunungsitoli 59.14 276 P P 23 50 23.7 -2.5
GSI Gunungsitoli 59.14 276 P P 23 50 26.2 0.0
comp=Z,17nm,0.9s
BJT Baijiatuau 59.94 325 P P 23 50 30.2 -0.9
BJT IAmb IAmb 23 50 32.2
comp=Z,5.8nm,0.7s
BJT Baijiatuau 59.94 325 P P 23 50 30.2 -0.9
DRV Dumont d'Urvil 60.21 187 P P 23 50 33.2 +0.7
DRV pP pP 23 50 45.3 -1.4
PETK Petropavlovsk- 60.29 1 P P 23 50 34.1 +0.9
comp=Z,4.1nm,0.5s,baz=149,slow=6.6,SNR=6.5
PETK LR LR 00 13 19.9
comp=Z,164nm,21.4s,baz=173,slow=33
comp=Z,4.1nm,0.5s
KLR Kul'dur 60.33 342 LR LR 00 15 39.6
comp=Z,60nm,20.8s,baz=144,slow=35
SRDT SRDT 60.63 291 P P 23 50 36.3 0.0
XAN Xi'an 60.85 316 P P 23 50 36.8 -0.7
XAN pP sP 23 51 00.3 +2.5
XAN pmax pmax
comp=Z,9.0nm,0.7s
KMI Kunming 61.26 304 ⇑P P 23 50 41.3 +0.6
KMI pmax pmax
comp=Z,12nm,0.9s
KMI LR LR
comp=Z,260nm,24.4s
CRAI Chiangrai 61.40 298 P P 23 50 41.1 -0.4
CMAR Chiang Mai Arr 62.06 295 P P 23 50 45.4 -0.6
CMAR Chiang Mai Arr 62.06 295 P P 23 50 46.2 +0.2
comp=Z,4.6nm,0.6s,baz=111,slow=5.0,SNR=32
CMAR LR LR 00 15 19.0
comp=Z,30nm,21.8s,baz=120,slow=34
comp=Z,4.6nm,0.6s
CHTO Chiang Mai 62.18 296 P P 23 50 45.9 -0.9
CHTO IAmb IAmb 23 50 47.9
comp=Z,15nm,1.1s
CHTO Chiang Mai 62.18 296 P P 23 50 46.9 +0.2
CHTO Chiang Mai 62.18 296 P P 23 50 46.9 +0.2
HEH HeiHe 62.64 340 eP P 23 50 48.6 -0.5
HEH pmax pmax
comp=Z,8.0nm,0.7s
HEH pmax pmax
comp=Z,180nm,5.1s
XLT XiLinHaoTe 62.64 328 eP P 23 50 49.8 +0.3
XLT pP sP 23 51 15.1 +5.6
XLT sP PcP 23 51 22.3 -5.6
XLT PcP pP 23 51 31.1 +27
XLT PP PP 23 53 12.5 +4.6
XLT S S 23 59 09.3 -4.6
XLT ScS SKSac 00 00 28.0 -10
XLT pmax pmax
comp=Z,48nm,0.6s
XLT pmax pmax
comp=Z,110nm,6.0s
PZH PanZhiHua 62.65 305 P P 23 50 52.3 +2.4
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.3s
CD2 Chengdu 63.01 310 eP P 23 50 52.3 +0.2
HHC Hu-ho-hao-te 63.15 323 eP P 23 50 53.0 +0.1
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,200nm,5.3s
HHC LR LR
comp=Z,210nm,16.6s
HHC LR LR
comp=Z,360nm,17.9s
TNCH TengChong 64.74 302 P P 23 51 04.0 +0.2
TNCH pmax pmax
comp=Z,27nm,0.7s
TNCH pmax pmax
comp=Z,78nm,3.4s
LZH Lanzhou 65.47 315 ⇑P P 23 51 10.0 +1.7
LZH sP PcP 23 51 36.8 -3.0
LZH pmax pmax
comp=Z,17nm,1.0s
MND Mandalay 65.74 298 P P 23 51 10.0 -0.1
CASY Casey 66.59 198 P P 23 51 15.6 +0.9
MA2 Magadan 66.91 357 LR LR 00 19 17.7
comp=Z,51nm,20.1s,baz=142,slow=35
GTA Gaotai 69.88 317 ⇓P P 23 51 37.3 +1.4
GTA pmax pmax
comp=Z,11nm,1.5s
ULN Ulaanbaatar 70.01 327 P P 23 51 36.7 +0.1
ULN IAmb IAmb 23 51 38.6
comp=Z,15nm,0.9s
ULN Ulaanbaatar 70.01 327 P P 23 51 37.5 +0.9
ULN pP pP 23 51 49.3 -1.8
VNDA Vanda 70.14 179 P P 23 51 37.2 +0.5
VNDA IAmb IAmb 23 51 38.9
comp=Z,7.1nm,0.8s
VNDA Vanda 70.14 179 P P 23 51 37.7 +0.9
comp=Z,5.9nm,0.8s,baz=332,slow=6.6,SNR=22
comp=Z,5.9nm,0.8s
VNDA Vanda 70.14 179 P P 23 51 37.8 +1.0
CCD Concordia, Ant 70.18 189 P P 23 51 38.4 +0.8
CCD pP pP 23 51 50.6 -1.3
SONM Songino Array 70.34 327 P P 23 51 38.7 0.0
SONM Songino Array 70.34 327 P P 23 51 39.0 +0.4
comp=Z,18nm,0.7s,baz=138,slow=6.7,SNR=110
SONM LR LR 00 22 22.5
comp=Z,79nm,20.6s,baz=130,slow=36
comp=Z,18nm,0.7s
SHL Shillong 70.56 300 P P 23 51 39.8 -0.6
SBA Scott Base 70.63 178 P P 23 51 42.0 +2.3
GOMU GeErMu 72.03 312 P P 23 51 50.8 +1.4
LSA Lhasa 72.51 304 P P 23 51 52.3 -0.3
LSA IAmb IAmb 23 51 54.1
comp=Z,15nm,0.8s
BILL Bilibino 75.60 4 P P 23 52 08.6 -0.5
BILL IAmb IAmb 23 52 10.7
comp=Z,15nm,1.1s
PALK Pallekele 76.72 279 P P 23 52 15.2 -1.5
PALK IAmb IAmb 23 52 17.9
comp=Z,11nm,1.0s
PALK Pallekele 76.72 279 LR LR 00 29 52.8
comp=Z,30nm,19.7s,baz=190,slow=39
P18K Big Mountain, 76.94 23 P P 23 52 15.0 -2.0
P18K IAmb IAmb 23 52 42.0
comp=Z,14nm,1.4s
KDAK Kodiak Island 77.01 25 LR LR 00 21 52.6
comp=Z,90nm,19.4s,baz=246,slow=32
HOM Homer 78.53 24 P P 23 52 26.5 +0.8
H17K Granite Mounta 79.12 17 P P 23 52 28.3 -0.6
H17K IAmb IAmb 23 52 45.3
comp=Z,15nm,1.4s
WMQ Urumqi 79.96 317 eP P 23 52 33.0 -1.0
WMQ PcP PcP 23 52 41.8 +0.4
WMQ pP sP 23 52 58.8 +4.4
WMQ sP pP 23 53 03.3 +15
WMQ pmax pmax
comp=Z,25nm,1.5s
H19K Roundabout Mou 80.58 18 P P 23 52 37.2 +0.5
H19K pP 23 52 53.3 +1.9
H19K IAmb IAmb 23 52 53.7
comp=Z,24nm,1.4s
RDOG Red Dog Mine 80.60 14 P P 23 52 37.1 +0.3
RDOG IAmb IAmb 23 52 40.0
comp=Z,8.3nm,0.6s
CAST Castle Rocks 80.66 21 P P 23 52 37.0 -0.3
G19K Purcell Mounta 80.81 17 P P 23 52 37.7 -0.3
G19K IAmb IAmb 23 52 57.9
comp=Z,17nm,1.4s
TIXI Tiksi 80.94 352 P P 23 52 38.3 -0.2
GLI Glacier Island 81.09 24 P P 23 52 39.1 -0.5

E19K Redstone River 81.67 16 P P 23 52 42.8 +0.3
E19K IAmb IAmb 23 52 59.9
comp=Z,14nm,1.1s
IMAR Indian Mountai 81.72 18 P P 23 52 42.9 +0.1
D19K Kuna River 82.15 15 P P 23 52 44.7 -0.4
D19K IAmb IAmb 23 53 07.5
comp=Z,10nm,1.2s
NEA2 Nenana 82.43 21 P P 23 52 46.5 -0.1
NEA2 IAmb IAmb 23 53 03.7
comp=Z,12nm,1.2s
N25K Chitina, Valde 82.50 24 P P 23 52 47.6 +0.5
N25K IAmb IAmb 23 53 14.4
comp=Z,11nm,1.1s
SNH Sunshine Point 82.54 26 P P 23 52 48.2 +0.9
QSPA South Pole Qui 82.57 180 P P 23 52 48.5 +0.9
F21K Alatna River 82.60 18 P P 23 52 48.1 +0.6
CRQM Cirque 82.69 26 P P 23 52 48.4 +0.2
GLB Gilahina Butte 82.75 25 P P 23 52 49.9 +1.5
GLB IAmb IAmb 23 53 00.8
comp=Z,16nm,1.2s
VRDI Verde Repeater 82.79 25 P P 23 52 49.4 +0.7
VRDI IAmb IAmb 23 53 16.5
comp=Z,26nm,1.4s
CCB Clear Creek Bu 82.91 21 P P 23 52 48.7 -0.3
MDM Murphy Dome 82.94 21 P P 23 52 49.2 0.0
MDM IAmb IAmb 23 53 05.5
comp=Z,9.8nm,1.3s
MCARA McCarthy VSAT 83.05 25 P P 23 52 51.4 +1.5
HDA Harding Lake 83.09 21 P P 23 52 50.1 +0.1
HDA IAmb IAmb 23 53 06.5
comp=Z,9.4nm,1.1s
E21K Killik River 83.25 17 P P 23 52 51.5 +0.7
POKR Poker Plat Res 83.31 21 P P 23 52 50.8 -0.3
IL31 83.31 21 P P 23 52 51.0 -0.1
IL31 IAmb IAmb 23 52 51.9
comp=Z,12nm,1.4s
ILAR Eielson Array 83.31 21 P P 23 52 51.2 +0.1
ILAR Eielson Array 83.31 21 P P 23 52 50.0 -1.1
comp=Z,1.3nm,0.4s,baz=249,slow=5.4,SNR=54
ILAR LR LR 00 25 15.3
comp=Z,112nm,20.5s,baz=245,slow=32
comp=Z,1.3nm,0.4s
G23K Bananza Creek 83.36 19 P P 23 52 52.5 +1.1
TABL Table Mountain 83.40 26 P P 23 52 52.8 +0.8
B20K Meade River 83.45 15 P P 23 52 52.5 +0.9
BARN Barnard Glacie 83.47 26 P P 23 52 53.2 +1.0
RIDG Independent Ri 83.51 23 P P 23 52 53.0 +0.7
RIDG IAmb IAmb 23 53 09.5
comp=Z,20nm,1.3s
H24K Noodor Dome 83.56 20 P P 23 52 53.1 +0.6
M26K Nabesna, AK 83.56 24 P P 23 52 53.6 +1.1
LOGN Logan Glacier 83.64 26 P P 23 52 53.7 +0.6
E22K Anaktuvuk Pass 83.67 17 P P 23 52 53.3 +0.3
J25K Salcha River, 83.77 22 P P 23 52 53.7 +0.1
J25K IAmb IAmb 23 53 10.7
comp=Z,16nm,1.3s
B21K Ikpikpuk River 83.84 15 P P 23 52 54.7 +1.0
B21K IAmb IAmb 23 53 16.9
comp=Z,11nm,1.4s
D22K Ayikyak River 83.89 16 P P 23 52 55.0 +1.0
D22K IAmb IAmb 23 52 57.2
comp=Z,7.2nm,0.7s
SCRK Sand Creek 83.96 23 P P 23 52 54.6 0.0
M27K Edge Creek, AK 83.99 24 P P 23 52 56.1 +1.2
M27K IAmb IAmb 23 53 13.4
comp=Z,16nm,1.0s
G24K Hadweenzic Riv 84.18 19 P P 23 52 55.9 +0.4
L27K Beaver Creek, 84.35 24 P P 23 52 57.5 +1.0
L27K IAmb IAmb 23 53 14.9
comp=Z,8.1nm,1.1s
BCAR Beaver Creek A 84.37 24 P P 23 52 58.0 +1.4
J26L Joseph Creek 84.39 22 P P 23 52 57.7 +1.0
MAW Mawson 84.49 203 P P 23 52 58.0 +0.9
MAW Mawson 84.49 203 P P 23 52 58.0 +0.9
comp=Z,14nm,0.6s,baz=92,slow=6.7,SNR=31
MAW LR LR 00 27 41.7
comp=Z,47nm,18.7s,baz=80,slow=34
comp=Z,14nm,0.6s
F24K Squaw Lake 84.51 19 P P 23 52 58.1 +0.9
MK31 Makanchi Array 84.52 318 P P 23 52 58.2 +0.5
MKAR Makanchi Array 84.52 318 P P 23 52 58.5 +0.7
MKAR Makanchi Array 84.52 318 P P 23 52 58.1 +0.4
comp=Z,79nm,0.6s,baz=102,slow=5.9,SNR=56
MKAR LR LR 00 33 51.0
comp=Z,44nm,18.0s,baz=348,slow=38
B22K Teshekpuk Lake 84.62 15 P P 23 52 58.3 +0.6
B22K IAmb IAmb 23 53 24.9
comp=Z,11nm,1.2s
E24K Your Creek 84.64 18 P P 23 52 58.7 +0.8
TOLK Toolik Lake Re 84.64 17 P P 23 52 58.8 +0.9
TOLK IAmb IAmb 23 53 01.5
comp=Z,13nm,1.5s
K27K Chicken 84.72 23 P P 23 53 00.1 +1.8
K27K IAmb IAmb 23 53 15.3
comp=Z,14nm,1.5s
MAKZ Makanchi 84.73 318 P P 23 52 59.0 +0.2
FYU Fort Yukon 84.86 20 P P 23 52 60.0 +1.1
I26K Coal Creek Min 84.94 22 P P 23 52 59.9 +0.6
I26K IAmb IAmb 23 53 16.7
comp=Z,12nm,1.5s
ZALV Zalesovo Beam 85.20 326 P P 23 53 00.4 -0.5
comp=Z,52nm,0.6s,baz=114,slow=5.6,SNR=29
D25K Kavik River 85.98 17 P P 23 53 04.9 +0.3
I28M Miner Creek 86.19 22 P P 23 53 06.3 +0.6
I28M IAmb IAmb 23 53 07.8
comp=Z,13nm,1.5s
K29M Barlow Dome 86.43 24 P P 23 53 08.8 +1.8
K29M IAmb IAmb 23 53 14.1
comp=Z,4.5nm,0.8s
I29M Ogilvie Camp, 86.77 22 P P 23 53 09.4 +1.0
I29M IAmb IAmb 23 53 28.8
comp=Z,11nm,1.2s
E27K Coleen River 86.89 19 P P 23 53 10.2 +1.2
E27K IAmb IAmb 23 53 12.2
comp=Z,3.9nm,0.7s
BBB Bella Bella 87.11 37 LR LR 00 26 55.0
comp=Z,128nm,18.6s,baz=252,slow=32
J30M Hart River 87.21 24 P P 23 52 12.6 +1.9
J30M IAmb IAmb 23 53 29.1
comp=Z,13nm,1.2s
KSH Kashi 87.21 310 P P 23 53 18.3 +7.0
KSH pmax pmax
comp=Z,75nm,0.9s
E28M Babbage River 87.76 19 P P 23 53 14.1 +0.9
E28M IAmb IAmb 23 53 31.5
comp=Z,5.3nm,1.1s
EPYK Eagle Plains 87.78 22 P P 23 53 14.3 +0.9
KURBB Kurchatov Arra 87.94 321 P P 23 53 13.9 -0.5
comp=Z,14nm,0.6s,baz=104,slow=3.7,SNR=15
comp=Z,14nm,0.6s
YBH Yreka Blue Hor 88.26 48 LR LR 00 26 05.1
comp=Z,114nm,20.0s,baz=300,slow=31
NVAR Mina Array Bea 91.02 52 P P 23 53 31.2 +1.8
comp=Z,0.7nm,0.3s,baz=245,slow=6.5,SNR=4.2
NVAR LR LR 00 27 51.2
comp=Z,81nm,19.4s,baz=288,slow=31
comp=Z,0.7nm,0.3s
PFO Pinyon Flats O 91.82 57 LR LR 00 30 09.4
comp=Z,66nm,18.1s,baz=308,slow=32
NEW Newport 93.24 42 LR LR 00 27 16.8
comp=Z,102nm,20.3s,baz=260,slow=30
BVAR Borovoye Array 93.36 323 P P 23 53 38.7 -0.9
comp=Z,13nm,0.5s,baz=93,slow=7.7,SNR=5.0
BVAR PKKPbc PKKPdf 00 10 46.5 -0.7
comp=Z,0.5nm,0.5s,baz=256,slow=6.0,SNR=3.8
BVAR LR LR 00 38 37.7
comp=Z,53nm,18.0s,baz=9.7,slow=37
comp=Z,13nm,0.5s
A36M Sachs Harbour 93.46 18 P P 23 53 39.9 +0.2
A36M IAmb IAmb 23 53 43.0
comp=Z,7.4nm,0.9s
ELIB Princess Elisa 95.09 193 dP P 23 53 47.4 0.0
comp=Z,8.8nm,1.2s
YKA Yellowknife Ar 96.13 28 P P 23 53 52.2 +0.2
comp=Z,0.8nm,0.5s,baz=267,slow=5.0,SNR=24
YKA PKKPbc PKKPbc 00 10 38.6 -3.1
comp=Z,0.1nm,0.4s,baz=81,slow=2.5,SNR=7.4
comp=Z,0.8nm,0.5s
LPIG La Paz 96.13 67 LR LR 00 28 34.8
comp=Z,68nm,20.4s,baz=284,slow=30
PDAR Pinedale Array 98.06 48 P Pdif 23 54 01.8 +0.2
comp=Z,0.8nm,0.8s,baz=270,slow=3.6,SNR=6.5
PDAR LR LR 00 34 33.2
comp=Z,98nm,18.4s,baz=356,slow=33
comp=Z,0.8nm,0.8s

TXAR Lajitas Array 102.38 62 PKKPbc PKKPbc 00 10 22.0 -0.9
comp=Z,0.1nm,0.5s,baz=104,slow=4.1,SNR=4.6
FINES FINESS Array B 114.81 336 PKP **PKiKP** 23 59 03.9 -0.8
comp=Z,1.1nm,0.6s,baz=70,slow=6.1,SNR=1.1
AKASG Malin Array Be 118.58 325 PKP **PKPdf** 23 59 11.6 -0.7
comp=Z,1.7nm,0.4s,baz=44,slow=2.6,SNR=16
BRTR Keskin Array B 119.57 312 Pdiff **Pdif** 23 55 35.9 -1.3
comp=Z,0.4nm,0.3s,baz=98,slow=7.6,SNR=3.8
BRTR PKP **PKPdf** 23 59 14.1 -0.7
comp=Z,1.4nm,0.7s,baz=128,slow=2.3,SNR=6.9
MMAI Mount Meron Ar 119.77 304 PKP **PKiKP** 23 59 15.7 +0.4
comp=Z,1.9nm,0.5s,baz=81,slow=5.2,SNR=7.5
NOA NORSAR Array B 120.49 341 PKP **PKPdf** 23 59 15.1 -0.6
comp=Z,0.4nm,0.6s,baz=17,slow=1.4,SNR=1.9
BOSA Boshof 120.71 231 PKP **PKPdf** 23 59 17.4 +0.1
comp=Z,2.8nm,0.6s,baz=119,slow=3.7,SNR=8.9
MCRA Macar, Loja 122.73 100 eP **PKPdf** 23 59 20.2 -1.2
KRLC Kraliky 125.69 329 ePKPDF **PKiKP** 23 59 26.5 0.0
CHVC Chvalec 125.75 330 ePKPDF **PKPdf** 23 59 21.4 -4.7
CLL Collm 126.75 332 ePKPdf **PKiKP** 23 59 30.0 +1.6
CONA Conrad Observa 127.48 327 ePKiKP **PKPdf** 23 59 29.7 +0.1
comp=Z,1.8nm,0.5s
NKC Novy Kostel 127.73 331 ePKPDF **PKiKP** 23 59 30.4 -0.1
CKRC Cesky Krumlov 127.74 329 ePKPDF **PKiKP** 23 59 30.5 0.0
KHC Kasperske Hory 127.91 330 ePKPDF **PKiKP** 23 59 30.7 -0.2
GERES GERESS Array B 128.03 329 PKP **PKPdf** 23 59 30.9 +0.3
comp=Z,1.3nm,0.4s,baz=68,slow=1.9,SNR=7.3
ORTC Ortega, Tolima 128.68 91 eP **PKPdf** 23 59 32.0 -0.8
GUY2C Guyana, Caldas 128.69 89 eP **PKiKP** 23 59 33.8 -0.2
NORC Norcasia 129.22 89 eP **PKPdf** 23 59 32.9 -0.9
EKA Eskdalemuir Ar 129.46 345 PKP **PKPdf** 23 59 33.2 +0.3
comp=Z,0.4nm,0.4s,baz=12,slow=2.6,SNR=4.4
LESA Schwarzleotal 129.47 328 ePKiKP **PKPdf** 23 59 33.5 +0.1
comp=Z,2.9nm,0.4s
WATA Walderalm 130.10 329 ePKiKP **PKiKP** 23 59 35.3 -0.2
comp=Z,2.5nm,0.4s
WTTA Wattenberg 130.11 329 ePKiKP **PKPdf** 23 59 34.9 +0.2
comp=Z,3.0nm,0.4s
MOTA Moosalm 130.33 329 ePKiKP **PKPdf** 23 59 35.5 +0.4
comp=Z,3.5nm,0.4s
SQTA Sankt Quirin 130.36 329 ePKiKP **PKiKP** 23 59 35.6 -0.4
comp=Z,2.3nm,0.4s
RETA Reutte 130.41 330 *i* PKiKP **PKiKP** 23 59 35.9 -0.1
comp=Z,1.6nm,0.5s
FETA Feichten 130.74 329 ePKiKP **PKiKP** 23 59 36.4 -0.4
comp=Z,1.2nm,0.4s
DAVA Damuels 130.98 330 ePKiKP **PKiKP** 23 59 37.4 +0.1
comp=Z,1.6nm,0.4s
CPUP Villa Florida 133.25 137 PKP **PKPdf** 23 59 41.7 +0.6
comp=Z,3.3nm,0.8s,baz=195,slow=0.9,SNR=6.3
ESDC Sonseca Array 143.28 334 PKP PKPbc 23 59 56.7 +0.4
comp=Z,3.3nm,0.8s,baz=28,slow=2.8,SNR=13
PVIS Viseu 143.93 339 ePKP PKPbc 23 59 58.8 +0.7
MTE Manteigas 144.09 339 ePKP PKPbc 23 59 59.2 +0.6
PCBR Castelo Branco 144.55 338 ePKP PKPbc 00 00 00.5 +0.5
PMRV Marv??o 144.88 338 ePKP **PKPdf** **00 00 02.0 +0.1**
PSBE So Bento 145.31 339 ePKP **PKPdf** **00 00 03.5 +0.8**
PESTR Estremoz 145.45 337 ePKP **PKPab** **00 00 03.5 +0.4**
PMTG Montargil 145.51 338 ePKP **PKPab** **00 00 03.6 +0.3**
PBAR Barrancos 145.83 336 ePKP **PKPab** **00 00 04.9 +0.4**
EVO Evora 145.90 338 ePKP **PKPab** **00 00 05.1 +0.3**
PMAFR Mafra 145.98 340 ePKP **PKPab** **00 00 05.5 +0.4**
PBEJ Beja 146.28 337 ePKP **PKPab** **00 00 06.4 +0.1**
TAF Tiforalt 146.38 327 P **PKPab** **00 00 07.2 +0.3**
PNCL Nicolau / Gran 146.46 338 ePKP **PKPab** **00 00 06.9 0.0**
MESJ Messejana 146.58 337 ePKP **PKPab** **00 00 07.4 0.0**
MESJ Messejana 146.58 337 ePKP **PKPbc** **00 00 06.5 +0.2**
PCVE Castro Verde 146.69 337 ePKP **PKPab** **00 00 07.7 -0.2**
BDFB Brasilia 146.82 134 PKPbc **PKPdf** **00 00 06.6 +0.6**
comp=Z,28nm,0.6s,baz=227,slow=1.7,SNR=49
JBK JBK 146.83 327 S **PKPab** **00 00 09.0 +0.2**
PBDV Barranco-do-Ve 146.99 336 ePKP **PKPab** **00 00 08.9 -0.2**
PTEO Sao Teotonio 147.03 338 ePKP **PKPab** **00 00 08.6 -0.6**
MORF Marmelete 147.22 337 ePKP **PKPab** **00 00 09.3 -0.7**
MORF Marmelete 147.22 337 ePKP **PKPbc** **00 00 09.0 +0.8**
AKLM AKL 147.38 329 P **PKPbc** **00 00 09.0 +0.2**
PFVI Vila Bisbo 147.43 337 ePKP **PKPab** **00 00 09.9 -0.9**
FIGM Figuig 147.69 323 P **PKiKP** **00 00 11.0 -0.9**
LCRM LCR 148.54 329 P **PKiKP** **00 00 13.0 -0.6**
ARF Arif 149.92 325 P **PKPab** **00 00 19.0 -2.1**
TORD Torodi Ar. Bea 154.31 285 PKP **PKPdf** **00 00 16.1 -1.4**
comp=Z,2.4nm,0.7s,baz=51,slow=6.1,SNR=4.1
TORD PKPbc **sPKPbc** **00 00 25.4 -0.3**
comp=Z,7.5nm,0.7s,baz=74,slow=2.8,SNR=12
TORD PKPab **sPKPdf** **00 00 38.4 -0.1**
comp=Z,3.5nm,0.6s,baz=73,slow=4.8,SNR=4.2
KIC Kosan Boka 161.08 268 ⇓*i* PKP2 **PKPab** **00 01 09.3 +0.1**
comp=Z,14nm,0.6s
DBIC Dimbokro 161.21 269 PKP **PKPdf** **00 00 25.9 -0.1**
comp=Z,3.5nm,0.9s,baz=101,slow=5.2,SNR=3.6
DBIC PKPab **PKPab** **00 01 09.8 0.0**
comp=Z,9.7nm,0.6s,baz=94,slow=3.9,SNR=16
LIC Lamto 161.35 268 ⇓*i* PKP2 **PKPab** **00 01 10.4 0.0**
comp=Z,6.8nm,0.4s
TIC Toumodi 161.37 269 ⇑*i* PKP2 **PKPab** **00 01 10.8 +0.3**
comp=Z,11nm,0.2s

MOS **14** *23:48:33.6± 1.0, 36°.57N×70°.98E, h202km, mb4.7/34, Error ellipse: s-maj=4.8km s-min=3.2km az=90.5*
NEIC **14** *23:48:35.2± 1.4, 36°.57N±0°.05×70°.87E±0°.07, h205km±5km, mb4.5/124, Error ellipse: s-maj=8.8km s-min=7.2km az=94.0*
IDC **14** *23:48:35.3± 0.6, 36°.51N×70°.98E, h208km±5km, mb4.0/27, mbtmp4.6/34, Error ellipse: s-maj=8.3km s-min=7.9km az=110.0*
NNC **14** *23:48:37.0± 6.8, 36°.89N×70°.71E, h193km±80km, mb4.4, mpv5.6, Error ellipse: s-maj=66.5km s-min=34.6km az=23.0*
ISC 14 23:48:34.0±0.3, 36°.48N±0°.03×70°.95E±0°.03, h198km±3km, h198km:pP-P, n690, σ1s31/744, mb4.5/126, 37C-46D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.48**	**219**		**Pn**	**23 49 18.8**	**+1.0**
KBL				Sn	**Sn**	**23 49 51.1**	**-0.8**
KBL	**Kabul**	**2.48**	**219**	P	**Pn**	**23 49 18.7**	**+1.0**
KBL				S	**Sn**	**23 49 51.7**	**-0.2**
KBL	**Kabul**	**2.48**	**219**	PN	**Pn**	**23 49 18.8**	**+1.0**
KBL						23 49 51.1	
CHGR	**Chuyangaron**	**2.60**	**327**		**Pn**	**23 49 18.4**	**-0.5**
CHGR				Sn	**Sn**	**23 49 50.0**	**-4.1**
CHGR	**Chuyangaron**	**2.60**	**327**	PN	**Pn**	**23 49 18.4**	**-0.5**
CHGR						23 49 50.0	
NIL	**Nilore**	**3.40**	**146**		**Pn**	**23 49 30.6**	**+2.3**
NIL				Sn	**Sn**	**23 50 12.5**	**+1.7**
NIL	**Nilore**	**3.40**	**146**	PN	**Pn**	**23 49 30.6**	**+2.3**
NIL						23 50 12.5	
BTK	**Batken**	**3.58**	**358**	Pn	**Pn**	**23 49 31.1**	**+0.7**
BTK				Sn	**Sn**	**23 50 12.9**	**-2.0**
BTK	**Batken**	**3.58**	**358**	PN	**Pn**	**23 49 31.1**	**+0.7**
OHH	**Osh**	**4.29**	**19**	PN	**Pn**	**23 49 39.2**	**-0.1**
TRKS	**Terek-Say**	**5.05**	**2**	PN	**Pn**	**23 49 47.8**	**-1.2**
ARSB	**Arslanbob**	**5.09**	**18**	Pn	**Pn**	**23 49 48.8**	**-0.8**
ARSB				Sn	**Sn**	**23 50 45.5**	**-3.8**
ARSB	**Arslanbob**	**5.09**	**18**	PN	**Pn**	**23 49 48.8**	**-0.8**
ARSB						23 50 45.5	
ARLS	**Aral**	**5.98**	**25**	PN	**Pn**	**23 50 00.1**	**-0.9**
ARLS				pmax	pmax		
	comp=Z,300nm,0.8s						
AML	**Almayashu**	**6.03**	**20**	P	**Pn**	**23 50 01.4**	**-0.5**
	SNR=3676						
AML	**Almayashu**	**6.03**	**20**	*i* PN	**Pn**	**23 50 01.4**	**-0.5**
AML				pmax	pmax		
	comp=Z,190nm,0.5s						
AML	**Almayashu**	**6.03**	**20**	⇓P	**Pn**	**23 50 01.5**	**-0.5**
	comp=Z,190nm,0.6s						
AML				⇓S	**Sn**	**23 51 07.0**	**-4.5**
DHRM	**DHARAMSHALA**	**6.11**	**132**	*e*P	**Pn**	**23 50 04.4**	**+1.5**
DHRM				*e*S	**Sn**	**23 51 12.1**	**-1.1**
DHRM				IAML		23 51 13.3	
	comp=E,7μm,0.4s						
DHRM				IAML		23 51 16.1	
	comp=N,4μm,0.2s						
NRN	**Naryn**	**6.32**	**37**	Pn	**Pn**	**23 50 03.9**	**-1.7**
NRN				Sn	**Sn**	**23 51 14.0**	**-4.1**
NRN	**Naryn**	**6.32**	**37**	PN	**Pn**	**23 50 03.9**	**-1.7**
NRN						23 51 14.0	
UCH	**Uchtor**	**6.37**	**25**	P	**Pn**	**23 50 06.1**	**-0.3**
	SNR=510						
DZA	**Taraz**	**6.41**	**3**	⇓*i* P	**Pn**	**23 50 06.0**	**-0.5**
	baz=2.4						

DZA Taraz 6.41 3*d* iPN Pn 23 50 06.0 -0.5
KZA Kyzart 6.51 29 P Pn 23 50 07.4 -0.7
SNR=120
EKS2 Erkin-Say 6.55 19 P Pn 23 50 08.1 -0.2
SNR=1222
KK31 Karatay Array 6.62 357 Pn 23 50 08.4 -0.8
KK31 Karatay Array 6.62 357 PN Pn 23 50 08.4 -0.8
KK31 Karatay Array 6.62 357 ⇓P Pn 23 50 08.4 -0.8
comp=N,96nm,0.3s,baz=180,slow=13
KK31 ⇓S Sn 23 51 18.4 -6.4
comp=N,124nm,0.3s,baz=186,slow=23
KKAR Karatay Array 6.62 357 Pn 23 50 08.3 -0.9
KKAR Karatay Array 6.62 357 Pn 23 50 08.4 -0.9
KKAR Karatay Array 6.62 357 PN Pn 23 50 08.3 -0.9
AAK Ala-Archa 6.73 23 P Pn 23 50 10.7 -0.1
SNR=412
AAK Ala-Archa 6.73 23 Pn Pn 23 50 10.6 -0.1
AAK Ala-Archa 6.73 23 *i* P Pn 23 50 10.7 -0.1
SNR=31
AAK Ala-Archa 6.73 23 P Pn 23 50 10.6 -0.1
AAK S Sn 23 51 24.5 -3.0
AAK Ala-Archa 6.73 23 P Pn 23 50 10.4 -0.4
comp=N,255nm,0.3s,baz=204,slow=11,SNR=1585
AAK S Sn 23 51 26.1 -1.4
comp=N,138nm,0.5s,baz=344,slow=20,SNR=13
KBK Karagaybulak 6.90 25 P Pn 23 50 13.1 +0.1
SNR=98
FRU1 Bishkek 6.93 23 Pn Pn 23 50 13.5 +0.2
FRU1 Bishkek 6.93 23 PN Pn 23 50 13.5 +0.2
ULHL Ulahol 7.07 34 P Pn 23 50 14.5 -0.7
SNR=123
CHMS Chumysh 7.14 23 P Pn 23 50 15.5 -0.4
SNR=100
TKM2 Tokmak 2 7.36 28 P Pn 23 50 18.8 -0.2
SNR=280
TKM2 Tokmak 2 7.36 28 *i* PN Pn 23 50 18.8 -0.2
TKM2 pmax pmax
comp=Z,699nm,0.6s
TKM2 Tokmak 2 7.36 28 ⇓P Pn 23 50 18.9 -0.2
comp=Z,698nm,0.6s
HRA Herat 7.41 256 Pn Pn 23 50 19.5 -0.2
SMLA Simla 7.43 134 *e*P Pn 23 50 20.5 +0.7
SMLA *e*S Sn 23 51 40.5 -3.4
SMLA IAML 23 51 43.3
comp=N,2µm,0.4s
SMLA IAML 23 51 45.1
comp=E,2µm,0.6s
TARG Taragay, Kyrgy 7.47 43 Pn 23 50 20.1 -0.6
TARG Taragay, Kyrgy 7.47 43 PN Pn 23 50 20.1 -0.6
SGDS Sogindy 7.51 21 ⇓*i* P Pn 23 50 19.6 -1.3
baz=21
SGDS Sogindy 7.51 21*d i* PN Pn 23 50 19.5 -1.3
TNSS Tian-Shan 8.01 33 *e*P Pn 23 50 27.1 -0.6
baz=34
TNSS Tian-Shan 8.01 33 *e*PN Pn 23 50 27.0 -0.6
KASK Kaskelen 8.03 31 ⇓P Pn 23 50 27.8 +0.3
AAA Alma-Ata 8.13 32 *e*P Pn 23 50 29.0 0.0
baz=33
AAA Alma-Ata 8.13 32 *e*PN Pn 23 50 28.9 0.0
MDOK Medeo 8.16 33 *e*P Pn 23 50 28.9 -0.4
baz=34
MDOK Medeo 8.16 33 *e*PN Pn 23 50 28.9 -0.4
MDOK Medeo 8.16 33 ⇑P Pn 23 50 28.9 -0.4
comp=E,227nm,0.5s
PRZ Przheval'sk 8.31 42 Pn Pn 23 50 31.8 +0.4
PRZ Przheval'sk 8.31 42 PN Pn 23 50 31.8 +0.4
KUU Kurty 8.47 27 ⇓*i* P Pn 23 50 31.7 -1.6
baz=28
KUU Kurty 8.47 27*d i* PN Pn 23 50 31.7 -1.6
CHKK Chushkaly 8.69 30 *e*P Pn 23 50 34.9 -1.3
baz=31
CHKK Chushkaly 8.69 30 *e*PN Pn 23 50 34.8 -1.3
SATY Saty 8.72 39 ⇓*i* P Pn 23 50 35.6 -1.0
baz=39
SATY *e*S Sn 23 52 12.8 -1.8
baz=39
SATY Saty 8.72 39*d i* PN Pn 23 50 35.6 -1.0
SATY *e*S Sn 23 52 12.7 -1.8
ZHN Zhinishke 8.82 38 ⇓*i* P Pn 23 50 37.1 -0.8
baz=39
ZHN Zhinishke 8.82 38*d i* PN Pn 23 50 37.0 -0.8
BTLS Baital 8.87 14 ⇓*i* P Pn 23 50 37.3 -1.2
baz=14
BTLS Baital 8.87 14*d i* PN Pn 23 50 37.2 -1.2
UZB Uzynbulak 9.10 41 *e*P Pn 23 50 40.6 -1.0
baz=41
UZB Uzynbulak 9.10 41 *e*P Pn 23 50 40.6 -1.0
KPKS Kokpek 9.16 38 ⇓*i* P Pn 23 50 41.7 -0.7
baz=38
KPKS Kokpek 9.16 38*d i* P Pn 23 50 41.6 -0.7
KHET Khetri 9.33 153 *e*P Pn 23 50 44.0 -0.7
KHET *e*S Sn 23 52 20.9 -8.3
ARXS Arharly 9.34 32 *e*P Pn 23 50 43.3 -1.3
SHLS Shalkode 9.34 42 *e*P Pn 23 50 46.9 +2.1
baz=44
SHLS Shalkode 9.34 42 *e*P Pn 23 50 46.8 +2.1
NDI New Delhi 9.40 144 *e*P Pn 23 50 45.2 -0.3
NDI IAML 23 52 26.7
comp=N,325nm,0.5s
NDI IAML 23 52 26.8
comp=E,328nm,0.6s
PDGK Podgornoye 9.47 41 P Pn 23 50 44.0 -2.5
PDGK Podgornoye 9.47 41 ⇑P Pn 23 50 44.5 -1.9
comp=E,35nm,0.9s
JASL Jaisalmer 9.53 180 *e*P Pn 23 50 46.4 -0.7
JASL *e*S Sn 23 52 29.2 -4.5
KUDL Kundal 9.54 149 *e*P Pn 23 50 46.6 -0.6
SONA Sohna 9.70 146 *e*P Pn 23 50 49.4 -0.1
SONA *e*S Sn 23 52 30.6 -7.3
TDK Taldyqorghan 10.22 31 *e*P Pn 23 50 54.3 -1.6
baz=32
TDK Taldyqorghan 10.22 31 *e*P Pn 23 50 54.3 -1.6
GEYT Alibeck 10.34 282 P Pn 23 50 55.3 -2.3
comp=E,10.0nm,0.3s,baz=102,slow=14,SNR=30
GEYT S Sn 23 52 48.4 -4.7
comp=E,28nm,0.4s,baz=132,slow=54,SNR=3.9
GYA0 ALIBECK ARRAY 10.34 282 P Pn 23 50 55.3 -2.3
GYA0B ALIBECK ARRAY 10.34 282 Pn Pn 23 50 55.1 -2.5
PTH Pithoragarh 10.40 129 *e*P Pn 23 50 57.6 -1.0
PTH *e*S Sn 23 52 47.9 -6.9
AJM Ajmer 10.45 161 *e*P Pn 23 50 59.7 +0.4
AJM IAML 23 52 59.6
comp=E,129nm,0.4s
LGTI Lohaghat 10.49 129 *e*P Pn 23 50 58.1 -1.5
LGTI *e*S Sn 23 52 49.2 -7.4
LGTI IAML 23 52 53.3
comp=N,415nm,0.5s
LGTI IAML 23 52 53.5
comp=E,513nm,0.6s
OTUK Ortayu 11.80 5 *i* P Pn 23 51 13.8 -2.4
OTUK pmax pmax
comp=Z,62nm,0.9s
OTUK Ortayu 11.80 5 ⇑P Pn 23 51 13.8 -2.4
comp=Z,62nm,0.9s
PYUN Piuthan 13.16 126 *e*P Pn 23 51 32.7 -1.1
comp=Z,43nm,0.3s
PYUN *e*S Sn 23 53 51.3 -10
MAKZ Makanchi 13.19 35 Pn 23 51 32.8 -1.0
MAKZ Makanchi 13.19 35 P Pn 23 51 32.8 -1.0
MK31 Makanchi Array 13.33 36 Pn Pn 23 51 34.7 -0.8
MK31 Makanchi Array 13.33 36*c i* P Pn 23 51 35.0 -0.5
MK31 Makanchi Array 13.33 36 ⇑P Pn 23 51 34.6 -0.9
comp=Z,22nm,0.7s
MKAR Makanchi Array 13.33 36 Pn Pn 23 51 33.7 -1.8
MKAR Makanchi Array 13.33 36 P Pn 23 51 34.3 -1.3
comp=Z,17nm,0.7s,baz=216,slow=10.0,SNR=100
DANN Dangsing 13.51 123 *e*P Pn 23 51 38.5 +0.3
comp=Z,146nm,0.4s
BRZS Berezniki 13.55 5 *e*P Pn 23 51 36.3 -2.1
baz=4.7
BRZS Berezniki 13.55 5 *e*P Pn 23 51 36.2 -2.1
GKN Gorkha 14.33 122 *e*P Pn 23 51 49.3 +1.1
comp=Z,248nm,0.4s
BHPL Bhopal 14.33 155 *e*P Pn 23 51 49.2 +1.0
BHPL *e*S S 23 54 19.0 -8.9
BHPL IAML 23 54 23.2
comp=E,105nm,0.7s
WMQ Urumqi 14.74 55 *e*P Pn 23 51 53.8 +0.7
WMQ pmax pmax
comp=Z,25nm,0.9s
DMN Daman 14.90 122 *e*P Pn 23 51 56.0 +0.7
comp=Z,167nm,0.6s
ZSN Zaisan 15.05 39 *e*P Pn 23 51 55.8 -0.9
baz=39
ZSN Zaisan 15.05 39 *e*P Pn 23 51 55.8 -0.9

AB31 Akbulak array 15.08 331 *i* P Pn 23 51 55.2 -1.9
AB31 pmax pmax
comp=Z,47nm,0.6s
AB31 Akbulak array 15.08 331 P Pn 23 51 55.2 -1.9
comp=Z,47nm,0.7s,baz=144,slow=11,SNR=764
ABKAR Akbulak array 15.08 331 Pn Pn 23 51 55.2 -1.9
ABKAR Akbulak array 15.08 331 Pn Pn 23 51 55.0 -2.1
PKIN Phulchoki 15.12 122 *e*P P 23 52 00.0 +1.4
comp=Z,203nm,0.5s
PKI Pulchoki 15.13 122 *e*P P 23 51 59.8 +1.0
comp=Z,212nm,0.7s
KURBB Kurchatov Arra 15.15 19 P Pn 23 51 56.6 -1.4
comp=Z,11nm,0.6s,baz=208,slow=12,SNR=31
GUN Gumba 15.24 120 *e*P P 23 52 00.7 +0.6
comp=Z,114nm,0.5s
KURK Kurchatov 15.26 19 Pn Pn 23 51 56.6 -2.6
KURK IAmb IAmb 23 52 01.9
comp=Z,21nm,0.8s
KURK Kurchatov 15.26 19 P P 23 52 00.3 +0.7
KURK Kurchatov 15.26 19*d i* P Pn 23 51 56.8 -2.5
KURK pmax pmax
comp=Z,27nm,1.0s
JASK Jask - Hormozg 15.39 230 P Pn 23 52 00.2 -0.9
JASK S S 23 54 49.5 -2.6
JIRN Jiri 15.61 120 *e*P P 23 52 05.8 +1.6
comp=Z,265nm,0.4s
RAMN Ramite 16.34 121 *e*P Pn 23 52 13.8 +1.0
comp=Z,99nm,0.7s
BANOM Banah 16.35 234 P P 23 52 12.1 +0.2
BANOM Banah 16.35 234 P P 23 52 11.8 -0.1
SHME Shamm 16.36 235 P Pn 23 52 13.8 +1.0
SHME Shamm 16.36 235 P P 23 52 11.8 -0.2
BVA0 Borovoye Array 16.55 359 ⇑P P 23 52 12.7 -1.1
comp=Z,21nm,0.6s
BVAR Borovoye Array 16.55 359 P P 23 52 13.9 0.0
comp=Z,40nm,0.6s,baz=166,slow=12,SNR=75
BVAR S S 23 55 13.4 -3.2
comp=Z,9.1nm,0.8s,baz=168,slow=15,SNR=2.9
BRVK Borovoye 16.58 359 P P 23 52 13.5 -0.8
BRVK Borovoye 16.58 359*de* P P 23 52 14.3 +0.1
BRVK pmax pmax
comp=Z,44nm,1.3s
AKL Akola 16.59 160 *e*S S 23 55 13.3 -4.7
AKL IAML 23 55 19.3
comp=N,75nm,0.5s
AKL IAML 23 55 21.0
comp=E,74nm,0.5s
AKTO Aktyubinsk 16.78 330 P Pn 23 52 17.4 -0.2
comp=E,48nm,0.5s,baz=140,slow=8.3,SNR=132
AKTO S S 23 55 20.2 -1.1
comp=E,11nm,0.7s,baz=104,slow=23,SNR=6.7
AKTO Aktyubinsk 16.78 330 ⇑P Pn 23 52 16.9 -0.7
comp=E,30nm,0.6s
MASF Masafi 16.82 233 P Pn 23 52 18.2 -0.1
MASF S S 23 55 23.5 +0.9
MSFE Esma-Masafi 16.83 233 P Pn 23 52 19.6 +1.3
TAPN Taplejung 16.87 118 *e*P Pn 23 52 21.2 +2.0
comp=E,75nm,0.4s
WSAR Wadi Sarin 16.96 222 P Pn 23 52 23.6 +3.7
WSAR Wadi Sarin 16.96 222 P Pn 23 52 21.4 +1.4
comp=E,7.2nm,0.8s,baz=39,slow=4.5,SNR=11
UOSS Minazif 17.09 232 P P 23 52 19.1 -1.0
UOSS IAmb IAmb 23 52 26.4
comp=Z,13nm,0.8s
UOSS Minazif 17.09 232 P P 23 52 19.8 -0.3
UOSS Minazif 17.09 232 P Pn 23 52 21.7 +0.3
HATD Hatta, Dubai 17.22 232 P Pn 23 52 22.7 -0.3
HATD Hatta, Dubai 17.22 232 P Pn 23 52 23.7 +0.6
ASHO Ashiyiah 17.37 232 *i* P P 23 52 23.6 +0.5
SNR=19
ASHO Ashiyiah 17.37 232 P Pn 23 52 25.4 +0.6
SNR=19
NAZ Nazwa, Dubai 17.41 233 P Pn 23 52 25.7 +0.5
NAZ Nazwa, Dubai 17.41 233 P Pn 23 52 25.4 +0.2
SMDO Samad 17.42 223 P Pn 23 52 28.3 +2.9
SOHO SOHO 17.48 229 P Pn 23 52 26.9 +1.0
SOHO P Pn 23 52 26.9 +1.0
FAQ Al Faqa, Dubai 17.62 233 P P 23 52 27.0 +1.1
FAQ Al Faqa, Dubai 17.62 233 P Pn 23 52 27.3 -0.5
LKRN Lenkeran, Azer 17.71 284 P Pn 23 52 28.7 +0.1
DGZ Jazzator, Alta 17.82 37 ⇓*i* P Pn 23 52 29.2 -0.8
DGZ pmax pmax
comp=Z,56nm,1.1s
ASUD Al Ashush, Dub 17.88 233 P Pn 23 52 30.0 -0.7
ASUD Al Ashush, Dub 17.88 233 P Pn 23 52 30.6 -0.1
SNR=6.7
JMDO Jabal Madar 17.94 222 P Pn 23 52 35.1 +3.6
ALNE Al Ain 18.02 231 *i* P P 23 52 31.3 +1.1
SNR=19
ALNE Al Ain 18.02 231 P Pn 23 52 31.7 -0.7
SNR=16
BOK Bokaro 18.05 130 *e*S S 23 55 43.0 -4.0
ARQ Araqi 18.08 228 P Pn 23 52 34.1 +1.0
SNR=9.9
AJN Ajban 18.14 234 P P 23 52 32.3 +0.7
AJN Ajban 18.14 234 P P 23 52 32.7 +1.2
BSY Bisya 18.14 225 P Pn 23 52 35.3 +1.4
LSA Lhasa 18.21 106 P Pn 23 52 34.8 -0.3
LSA IAmb IAmb 23 52 38.2
comp=Z,14nm,0.8s
LSA Lhasa 18.21 106 P Pn 23 52 34.8 -0.3
LSA pmax pmax
comp=Z,14nm,0.8s
SEKA Sheki 19.07 292 P P 23 52 42.8 +1.2
MNGR Mingechevir, A 19.11 290 P P 23 52 43.1 +1.2
MHTO MHTO 19.15 220 P Pn 23 52 49.6 +3.9
JRN Qarnain Island 19.32 239 P P 23 52 44.1 -0.1
SNR=7.8
ZKTA Zakatala 19.56 293 P P 23 52 47.9 +1.2
GANJ Ganja 19.68 290 P P 23 52 48.4 +0.4
ZAA0 Zalesovo Array 19.95 25 P P 23 52 50.7 0.0
ZALV Zalesovo Beam 19.95 25 P P 23 52 50.4 -0.3
ZALV Zalesovo Beam 19.95 25 *i* P P 23 52 51.0 +0.4
ZALV pmax pmax
comp=Z,36nm,0.6s
ZALV Zalesovo Beam 19.95 25 P P 23 52 51.1 +0.4
comp=Z,30nm,0.5s,baz=221,slow=11,SNR=182
ZALV S S 23 56 22.7 -1.3
comp=Z,3.0nm,0.8s,baz=214,slow=12,SNR=2.6
SHMA Al-Shehemyia 20.08 244 P P 23 52 52.1 -0.2
SNR=50
NAX Nakhchivan 20.27 285 P P 23 52 56.6 +2.2
TRNA Turayna 20.59 241 P P 23 52 56.8 -1.0
SNR=26
SMRA Abu-Samra 20.86 242 P P 23 52 59.8 -0.8
GNI Garni 20.86 288 P P 23 53 01.9 +1.1
GNI Garni 20.86 288 P P 23 53 02.8 +2.0
GNI Garni 20.86 288*ce* P P 23 53 02.9 +2.1
GNI pmax pmax
comp=Z,55nm,1.3s
GNI Garni 20.86 288 P P 23 53 02.0 +1.2
comp=Z,27nm,1.0s,baz=88,slow=1.8,SNR=17
comp=Z,27nm,1.0s
SHL Shillong 20.93 115 P P 23 53 03.5 +1.8
SHL IAmb IAmb 23 53 05.3
comp=Z,17nm,0.8s
SHL Shillong 20.93 115 P P 23 53 03.5 +1.8
SHL pmax pmax
comp=Z,17nm,0.8s
SVE Sverdlovsk 21.50 344 *e*P P 23 53 08.0 +0.9
SVE *e*S Sn 23 57 04.5 -13
SVE pmax pmax
comp=Z,31nm,0.9s
ARU Arti 21.64 341 P P 23 53 08.4 0.0
ARU IAmb IAmb 23 53 11.4
comp=Z,22nm,1.1s
ARU Arti 21.64 341*c i* P P 23 53 08.8 +0.3
ARU *PP pP 23 53 40.8 -1.9
ARU 23 53 49.6
ARU S S 23 56 55.6 +1.2
ARU pmax pmax
comp=Z,24nm,1.2s
ARU Arti 21.64 341 P P 23 53 08.6 +0.2
comp=Z,15nm,0.7s,baz=160,slow=7.0,SNR=13
comp=Z,15nm,0.7s
ZEI Tsey 21.71 295 *e*P P 23 53 08.9 -0.7
ZEI pmax pmax
comp=Z,16nm,1.0s
ONI Oni 22.01 295 P P 23 53 12.8 +0.3
ONI IAmb IAmb 23 53 20.4
comp=Z,12nm,0.7s
ONI Oni 22.01 295 P P 23 53 12.8 +0.3
ONI pmax pmax
comp=Z,12nm,0.7s
NCK Nalchik 22.04 297 ⇑*e*P P 23 53 12.6 0.0

NCK pmax pmax
comp=Z,35nm,0.8s
KBZ Khabaz 22.57 297*c i* P P 23 53 17.5 0.0
KBZ pmax pmax
comp=Z,6.0nm,0.8s
KBZ Khabaz 22.57 297 P P 23 53 17.7 +0.2
comp=Z,4.0nm,0.6s,baz=115,slow=10,SNR=20
comp=Z,4.0nm,0.6s
GOF Gofitskoye 22.72 301*ce* P P 23 53 20.7 +1.9
KVAR Kislovodsk Arr 22.76 298 P P 23 53 20.6 +1.3
comp=Z,2.8nm,0.5s,baz=95,slow=23,SNR=10
comp=Z,2.8nm,0.5s
KIV Kislovodsk 22.76 298 P P 23 53 18.4 -1.0
KIV IAmb IAmb 23 53 23.6
comp=Z,14nm,0.7s
KIV Kislovodsk 22.76 298 *i* P P 23 53 19.9 +0.6
SNR=9.0
KIV Kislovodsk 22.76 298 *e*P P 23 53 19.6 +0.3
KIV *e*S S 23 57 13.7 +0.7
KIV pmax pmax
comp=Z,16nm,1.1s
SIRT Sirnak 22.77 281 P P 23 53 19.2 -0.3
SIRT IAmb IAmb 23 53 34.2
comp=Z,18nm,0.8s
BELG Belogornoye 22.88 321*c i* P P 23 53 20.7 +0.6
BELG pmax pmax
comp=Z,12nm,0.8s
BELG Belogornoye 22.88 321 P P 23 53 20.8 +0.6
comp=Z,89nm,0.8s,baz=139,slow=9.3,SNR=30
comp=Z,89nm,0.8s
GURO Guroymak-BITLI 22.99 284 P P 23 53 21.9 +0.4
VRH Novokhopyorsk 25.50 314 *e*P P 23 53 44.1 +0.3
VRH pmax pmax
comp=Z,28nm,1.0s
ARPR Arapgir-MALATY 25.83 286 P P 23 53 47.5 +0.2
ARPR IAmb IAmb 23 53 50.9
comp=Z,10nm,1.0s
KIRV Kirov 26.24 334*c i* P P 23 53 51.2 +0.8
VORD Divnogorie 26.82 313 *e*P P 23 53 55.3 -0.5
VORD pmax pmax
comp=Z,10.0nm,1.0s
GAZ Gaziantep 26.94 282 P P 23 53 56.7 -0.3
VSR Storozhevoye 26.99 313 *e*P P 23 53 57.0 -0.2
VSR pmax pmax
comp=Z,20nm,1.0s
VORR Voronezh 27.13 314 *e*P P 23 53 58.9 +0.5
VORR pmax pmax
comp=Z,73nm,0.4s
LPSR Galich'ya Gora 27.64 316 *e*P P 23 54 02.4 -0.6
LPSR pmax pmax
comp=Z,30nm,0.9s
BNN Bunyan 27.79 286 P P 23 54 03.9 -0.7
BNN IAmb IAmb 23 54 20.6
comp=Z,6.9nm,0.8s
PZH PanZhiHua 27.97 102 P P 23 54 10.3 +3.9
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,90nm,5.1s
SONM Songino Array 28.38 55 P P 23 54 10.3 +0.5
comp=Z,0.6nm,0.5s,baz=270,slow=8.9,SNR=3.5
SONM pP pP 23 54 53.7 +2.4
comp=Z,3.5nm,0.9s,baz=254,slow=10,SNR=5.4
comp=Z,0.6nm,0.5s
MMAI Mount Meron Ar 29.31 274 P P 23 54 19.4 +1.3
comp=Z,0.8nm,0.5s,baz=70,slow=9.9,SNR=4.9
MMAI PcP PcP 23 57 20.6 +1.0
comp=Z,2.4nm,0.7s,baz=88,slow=9.3,SNR=4.3
comp=Z,0.8nm,0.5s
BR131 Keskin Array S 29.40 288 P P 23 54 19.1 +0.2
BR131 Keskin Array S 29.40 288*d i* P P 23 54 19.7 +0.7
BRTR Keskin Array B 29.40 288 P P 23 54 18.1 -0.8
BRTR Keskin Array B 29.40 288 *i* P P 23 54 19.3 +0.3
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 29.40 288 P P 23 54 20.1 +1.1
comp=Z,2.4nm,0.8s,baz=101,slow=8.9,SNR=18
BRTR PcP PcP 23 57 19.7 -0.1
comp=Z,1.4nm,0.8s,baz=108,slow=3.1,SNR=3.6
comp=Z,2.4nm,0.8s
MOS Moscow 29.65 321 *e*P P 23 54 19.7 -1.0
MOS *e* 23 55 01.2
MOS *e* 23 55 20.1
MOS pmax pmax
comp=Z,35nm,1.1s
PRGR Permogore 29.77 336 ⇑*i* P P 23 54 22.1 +0.4
PRGR pmax pmax
comp=Z,15nm,0.6s
OBN Obninsk 29.93 319 P P 23 54 22.5 -0.6
OBN Obninsk 29.93 319*c i* P P 23 54 23.7 +0.5
OBN *e* 23 55 30.6
OBN pmax pmax
comp=Z,37nm,1.3s
CMAR Chiang Mai Arr 30.48 119 *i* P P 23 54 31.2 +2.7
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 30.48 119 P P 23 54 30.3 +1.8
comp=Z,2.1nm,0.8s,baz=299,slow=8.0,SNR=12
CMAR pP pP 23 55 09.9 -0.3
comp=Z,0.9nm,0.5s,baz=310,slow=9.8,SNR=1.6
comp=Z,2.1nm,0.8s
KLMR Klimovskoe 31.48 331 *e*P P 23 54 35.2 -1.5
KLMR AMP 23 54 37.3
comp=Z,17nm,0.7s
KLMR Klimovskoe 31.48 331 *e*P P 23 54 35.2 -1.5
KLMR pmax pmax
comp=Z,17nm,0.7s
HHC Hu-ho-hao-te 31.81 70 *e*P P 23 54 41.5 +1.5
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,260nm,5.4s
ENH Enshi 32.62 90 P P 23 54 48.0 +0.9
ENH IAmb IAmb 23 54 49.7
comp=Z,10nm,1.1s
ELL Elmali 32.77 283 P P 23 54 48.6 +0.2
ELL Elmali 32.77 283 P P 23 54 48.7 +0.2
ELL pmax pmax
comp=Z,117nm,0.6s
AKASG Malin Array Be 32.93 309 P P 23 54 49.6 +0.2
AKASG Malin Array Be 32.93 309 P P 23 54 49.9 +0.4
comp=Z,14nm,0.6s,baz=81,slow=7.2,SNR=87
comp=Z,14nm,0.6s
AKBB Malin Array Si 32.93 309 P P 23 54 49.4 -0.1
AKBB Malin Array Si 32.93 309*c i* P P 23 54 49.3 -0.1
AKBB pmax pmax
comp=Z,18nm,0.6s
KIEV Kiev 32.94 309 ⇓P P 23 54 50.1 +0.5
KIEV Kiev 32.94 309 P P 23 54 47.9 -1.6
KIEV Kiev 32.94 309 *i* P P 23 54 50.0 +0.5
SNR=15
KIEV Kiev 32.94 309 ⇓P P 23 54 50.1 +0.5
TPGR Topolog 33.01 298 ⇓P P 23 54 51.4 +1.1
SORM Soroca 33.18 304 ⇓P P 23 54 52.3 +0.6
SORM Soroca 33.18 304 ⇓P P 23 54 52.3 +0.6
BALB Balikesir 33.82 289 P P 23 54 57.1 -0.2
BALB IAmb IAmb 23 54 59.0
comp=Z,12nm,1.1s
VRI Vrincioaia 34.20 300 ⇑P P 23 55 02.1 +1.5
VRI Vrincioaia 34.20 300 ⇑P P 23 55 02.1 +1.5
PLOR Plostina 34.26 300 ⇓P P 23 55 03.1 +2.0
PLOR Plostina 34.26 300 ⇓P P 23 55 03.1 +2.0
TESR Tescani 34.26 301 ⇑P P 23 55 01.6 +0.5
MNK Minsk 34.49 315 *i* P P 23 55 01.7 -1.2
comp=E,10.0nm,1.2s
MNK *i* P P 23 55 01.7 -1.2
comp=N,13nm,1.4s
MNK *i* P P 23 55 01.7 -1.2
comp=Z,39nm,1.2s,baz=103
MNK *i* pP pP 23 55 42.9 -1.1
MNK *i* PP PP 23 56 24.5 -0.6
MNK *e*S S 00 00 15.7 -0.7
MNK *i* SS SS 00 02 52.0 -0.4
MNK *i* LRM MLR 00 09 53.1
comp=Z,170nm,9.4s
MNK *i* LRM MLR 00 10 03.9
comp=N,385nm,17.6s
MNK *i* LRM MLR 00 10 21.9
comp=E,161nm,17.6s
MNK Minsk 34.49 315 *i* P P 23 55 01.7 -1.2
MNK *i* *PP pP 23 55 42.9 -1.1
MNK *i* 23 56 24.5
MNK *e*S S 00 00 15.6 -0.7
MNK pmax pmax
comp=Z,39nm,1.2s

MNK pmax pmax
comp=E,10.0nm,1.2s
MNK pmax pmax
comp=N,13nm,1.5s
MNK MLR MLR
comp=Z,170nm,9.0s
MNK MLR MLR
comp=N,385nm,18.0s
MNK MLR MLR
comp=E,161nm,18.0s
HORU Horodok 34.54 306 P **P** **23 55 03.5 +0.1**
COVR Voineasa-Covas 34.57 300 ⇑P **P** **23 55 06.0 +2.2**
TURR Turia 34.70 300 ⇓P **P** **23 55 06.8 +1.9**
MLR Muntele Rosu 34.76 299 ⇓P **P** **23 55 07.4 +1.9**
MLR Muntele Rosu 34.76 299 P **P** **23 55 05.8 +0.3**
MLR Muntele Rosu 34.76 299 ⇓P **P** **23 55 07.4 +1.9**
XLT XiLinHaoTe 34.91 64 *eP* **P** **23 55 06.5 -0.3**
XLT pP pP 23 55 50.0 +0.7
XLT sP sP 23 56 12.1 -0.5
XLT pmax pmax
comp=Z,140nm,4.3s
XLT pmax pmax
comp=Z,6.0nm,0.8s
ELND Elena 34.94 295 ⇓P **P** **23 55 08.4 +1.5**
DOPR Dopca 35.14 300 ⇑P **P** **23 55 10.5 +1.9**
BURAR Bucovina Array 35.26 303 ⇑P **P** **23 55 10.9 +1.1**
BURAR Bucovina Array 35.26 303 P **P** **23 55 10.0 +0.2**
BURAR IAmb IAmb 23 55 11.3
comp=Z,7.3nm,0.5s
BURAR Bucovina Array 35.26 303 ⇑P **P** **23 55 10.9 +1.1**
BUR08 Bucovina Ar. S 35.27 303 P **P** **23 55 09.4 -0.4**
IDID Didziasalis 35.32 316 *eP* **P** **23 55 07.1 -2.9**
VOIR 35.39 299 ⇓P **P** **23 55 12.2 +1.4**
VOIR 35.39 299 ⇓P **P** **23 55 12.2 +1.4**
BJI Beijing 35.40 70 P P 23 55 17.1 +6.2
BJI pmax pmax
comp=Z,3.0nm,1.3s
BJI pmax pmax
comp=Z,46nm,3.5s
ARR Arges 35.68 299 ⇑P **P** **23 55 14.4 +1.1**
ARCR ARCALIA 35.84 302 ⇑P **P** **23 55 16.6 +2.0**
APE Apeiranthos 36.12 285 ⇓P **P** **23 55 18.0 +0.9**
APE Apeiranthos 36.12 285 ⇓P **P** **23 55 18.0 +0.9**
LVV L'vov 36.14 307 *eP* **P** **23 55 17.6 +0.5**
LVV pmax pmax
comp=Z,40nm,1.2s
VSU Vasula 36.18 322 *eP* **P** **23 55 17.8 +0.6**
LOT Lotru 36.29 299 ⇑P **P** **23 55 20.0 +1.5**
BMR Baia Mare 36.43 303 P **P** **23 55 23.7 +4.2**
MARR Marisel-Cluj 36.70 301 ⇓P **P** **23 55 23.8 +1.8**
PABE Paberze 36.91 316 P **P** **23 55 22.7 -0.7**
PABE Paberze 36.91 316 *eP* **P** **23 55 24.3 +1.0**
GZR Gura Zlata 36.99 299 ⇓P **P** **23 55 24.9 +0.5**
KWP Kalwaria Pacla 36.99 306 P **P** **23 55 24.1 -0.1**
KWP IAmb IAmb 23 55 33.7
comp=Z,17nm,0.9s
KWP Kalwaria Pacla 36.99 306 P **P** **23 55 24.1 -0.1**
KWP pmax pmax
comp=Z,17nm,0.9s
VSVD Vaisvydziai 37.02 317 *eP* **P** **23 55 23.9 -0.5**
SURR Surduc 37.42 300 ⇑P **P** **23 55 30.1 +2.2**
FINES FINESS Array B 37.48 326 P **P** **23 55 28.8 +0.6**
comp=Z,7.2nm,0.4s,baz=123,slow=9.6,SNR=84
comp=Z,7.2nm,0.4s
APA Apatity 37.64 337 ⇓ *i* P **P** **23 55 31.9 +2.5**
APA *i* *PP **pP** **23 56 16.6 +5.1**
APA pmax pmax
comp=Z,8.0nm,1.0s
MTSE Matsula 37.71 321 *eP* **P** **23 55 29.9 -0.2**
MDVR Moldovita 37.78 298 ⇓P **P** **23 55 32.3 +1.3**
BZS Buzias 37.79 300 ⇑P **P** **23 55 32.2 +1.2**
BZS Buzias 37.79 300 ⇑P **P** **23 55 32.2 +1.2**
MEF Metsahovi 37.85 324 *eP* **P** **23 55 32.1 +0.8**
NIE Niedzica 38.55 306 P **P** **23 55 39.9 +2.5**
OJC Ojcow 38.88 307 P **P** **23 55 40.0 -0.1**
OJC IAmb IAmb 23 55 41.7
comp=Z,8.2nm,0.7s
OJC Ojcow 38.88 307 P **P** **23 55 40.0 -0.1**
OJC pmax pmax
comp=Z,8.0nm,0.7s
FRGS Fruska Gora 39.09 299 ⇑P **P** **23 55 43.3 +1.4**
LANS Liptovska Anna 39.10 305 *eP* **P** **23 55 43.8 +1.9**
LANS Liptovska Anna 39.10 305 *eP* **P** **23 55 43.8 +1.9**
RAF Rauma 39.33 324 *eP* **P** **23 55 43.9 +0.3**
NJ2 Nanjing 39.52 82 *eP* **P** **23 55 43.0 -2.5**
NJ2 pP **pP** **23 56 27.8 -0.8**
NJ2 sP **sP** **23 56 50.8 -0.8**
NJ2 pmax pmax
comp=Z,13nm,0.5s
NJ2 pmax pmax
comp=Z,160nm,3.5s
MAUC Maruska 40.17 306 *eP* **P** **23 55 50.9 +0.2**
VADS Vadso 40.32 339 *eP* **P** **23 55 52.8 +1.2**
MORC Moravsky Berou 40.34 306 ⇑P **P** **23 55 52.8 +0.7**
MORC Moravsky Berou 40.34 306 P **P** **23 55 51.2 -1.0**
MORC Moravsky Berou 40.34 306 *eP* **P** **23 55 53.2 +1.0**
MORC Moravsky Berou 40.34 306 ⇑P **P** **23 55 52.8 +0.7**
GKP Gorka Klasztor 40.56 312 P **P** **23 55 55.3 +1.6**
KRLC Kraliky 40.83 307 *eP* **P** **23 55 56.6 +0.5**
KRLC Kraliky 40.83 307 *eP* **P** **23 55 56.6 +0.5**
VRAC Vranov 40.98 306 ⇑P **P** **23 55 58.9 +1.6**
VRAC Vranov 40.98 306 *eP* **P** **23 55 58.4 +1.1**
VRAC Vranov 40.98 306 ⇑P **P** **23 55 58.9 +1.6**
DPC Dobruska-Polom 41.11 307 *eP* **P** **23 55 59.6 +1.2**
DPC Dobruska-Polom 41.11 307 *eP* **P** **23 55 59.6 +1.2**
KRUC Moravsky 41.12 305 *eP* **P** **23 55 59.3 +0.8**
ARA0 ARCESS Array S 41.15 338 *eP* **P** **23 55 59.4 +1.0**
ARCES ARCESS Array B 41.15 338 P **P** **23 55 57.6 -0.8**
ARCES IAmb IAmb 23 56 00.1
comp=Z,14nm,0.8s
ARCES ARCESS Array B 41.15 338 P **P** **23 55 59.2 +0.8**
comp=Z,14nm,0.6s,baz=112,slow=8.2,SNR=78
comp=Z,14nm,0.6s
CHVC Chvalec 41.28 308 *eP* **P** **23 56 00.7 +1.0**
CHVC Chvalec 41.28 308 *eP* **P** **23 56 00.7 +1.0**
RONA Rosalia, Austr 41.28 303 *eP* **P** **23 56 00.8 +0.9**
comp=Z,2.0nm,0.6s
UPC Upice 41.31 308 *eP* **P** **23 56 01.0 +1.1**
UPC Upice 41.31 308 *eP* **P** **23 56 01.0 +1.1**
VIKU Vikbolandet 41.32 320 *eP* **P** **23 56 00.4 +0.5**
CONA Conrad Observa 41.56 304 *i* P **P** **23 56 03.2 +1.1**
comp=Z,4.6nm,0.8s,SNR=6.7
KTK1 Kautokeino 41.62 336 *eP* **P** **23 56 02.9 +0.7**
BSD Bornholm Skovb 42.00 315 *eP* **P** **23 56 05.2 -0.2**
ZEA Zeya 42.11 47 ⇓ *eP* **P** **23 56 06.7 +0.3**
HAMF Hammerfest 42.23 339 *eP* **P** **23 56 08.5 +1.4**
SOKA Soboth 42.25 302 *eP* **P** **23 56 08.8 +1.1**
comp=Z,7.7nm,0.7s
PRU Pruhonice 42.27 307 *eP* **P** **23 56 08.2 +0.4**
PRU Pruhonice 42.27 307 *eP* **P** **23 56 08.2 +0.4**
CKRC Cesky Krumlov 42.51 305 *eP* **P** **23 56 10.6 +0.9**
CKRC Cesky Krumlov 42.51 305 *eP* **P** **23 56 10.6 +0.9**
ZVC Zvikov 42.54 306 *eP* **P** **23 56 10.8 +0.9**
OBKA Obir 42.60 302 *eP* **P** **23 56 11.6 +1.0**
comp=Z,2.4nm,0.6s
BRG Berggiesshubel 42.60 308 *eP* P 23 56 00.8 -10
BRG Amp 23 56 02.1
comp=Z,6.8nm,0.8s
BRG pP sP 23 57 07.7 -7.9
BRG Amp 23 57 10.0
comp=Z,9.2nm,1.2s
MOA Molln 42.63 304 *eP* **P** **23 56 11.4 +0.6**
comp=Z,3.2nm,0.6s
DEL Delary 42.65 317 *eP* **P** **23 56 11.8 +1.1**
JETT Jettan, Norway 42.76 336 *eP* **P** **23 56 13.3 +1.8**
GSI Gunungsitoli 42.80 139 P **P** **23 56 13.4 +1.0**
GSI IAmb IAmb 23 56 15.7
comp=Z,24nm,1.1s
GERES GERESS Array B 42.91 305 P **P** **23 56 13.3 +0.3**
comp=Z,0.6nm,0.4s,baz=68,slow=7.4,SNR=3.8
GERES PcP **PP** **23 57 58.1 +1.4**
comp=Z,0.8nm,0.6s,baz=74,slow=4.5,SNR=2.3
comp=Z,0.6nm,0.4s
KHC Kasperske Hory 42.96 306 *eP* **P** **23 56 14.0 +0.6**
KHC Kasperske Hory 42.96 306 ⇓ *eP* **P** **23 56 16.1 +2.7**
KHC pmax pmax
comp=Z,78nm,4.0s
HFS Hagfors 43.06 322 P **P** **23 56 14.3 +0.3**
comp=Z,25nm,0.7s,baz=105,slow=11,SNR=67
comp=Z,25nm,0.7s
BIOA Bad Ischl, Aus 43.07 304 *eP* **P** **23 56 15.0 +0.8**
comp=Z,2.3nm,0.4s
CLL Collm 43.17 309 P **P** **23 56 13.8 -1.2**
CLL IAmb IAmb 23 56 16.5
comp=Z,16nm,1.4s
CLL Collm 43.17 309 *eP* **P** **23 56 15.0 0.0**
comp=Z,14nm,1.4s
CLL *es*P **sP** **23 57 21.0 +0.8**
CLL Collm 43.17 309 *eP* **P** **23 56 15.0 0.0**
CLL *e**SP **sP** **23 57 21.0 +0.8**
CLL pmax pmax
comp=Z,14nm,1.4s
CEL Celeste 43.24 290 P **P** **23 56 15.9 +0.1**
KBA Koelnbreinsper 43.34 303 *eP* **P** **23 56 17.1 +0.5**
comp=Z,2.4nm,0.6s
CLUD Cludinico 43.75 302 P **P** **23 56 19.1 -0.6**
LESA Schwarzleotal 43.75 303 *eP* **P** **23 56 20.2 +0.4**
comp=Z,4.7nm,0.4s
FAUS Fauske 43.80 333 *eP* **P** **23 56 20.5 +0.8**
MOR8 Moi Rana 43.81 331 *eP* **P** **23 56 20.2 +0.3**
STEI Steigen 43.97 333 *eP* **P** **23 56 21.9 +0.8**
CIMO Cimolais 44.07 302 P **P** **23 56 21.6 -0.6**
CIMO IAmb IAmb 23 56 25.2
comp=Z,6.1nm,0.8s
NC405 NORSAR Array S 44.14 323 P **P** **23 56 22.1 -0.5**
NC602 NORSAR Array S 44.19 323 *eP* **P** **23 56 23.2 +0.3**
NORES NORESS Array B 44.19 323 P **P** **23 56 23.8 +0.9**
NC303 NORSAR Array S 44.32 323 P **P** **23 56 23.8 -0.1**
NB201 NORSAR Array S 44.34 323 P **P** **23 56 23.3 -0.8**
NB201 IAmb IAmb 23 56 25.1
comp=Z,25nm,1.1s
NB2 NORSAR Subarra 44.37 323 P **P** **23 56 24.3 -0.1**
comp=Z,8.3nm,0.6s,baz=95,slow=7.9
NB2 NORSAR Subarra 44.37 323 P **P** **23 56 21.1 -3.3**
NOA NORSAR Array B 44.37 323 P **P** **23 56 24.6 +0.1**
comp=Z,15nm,0.7s,baz=96,slow=7.8,SNR=60
NOA pP **pP** **23 57 08.9 +1.3**
comp=Z,3.8nm,0.9s,baz=95,slow=7.9,SNR=2.3
comp=Z,15nm,0.7s
KONS Konsvik 44.41 331 *eP* **P** **23 56 25.6 +1.0**
STOK Stokkvaagen 44.41 331 *eP* **P** **23 56 25.1 +0.5**
NAO01 NORSAR Array S 44.52 323 P **P** **23 56 24.6 -0.9**
NBO00 NORSAR Array S 44.58 323 P **P** **23 56 25.0 -1.1**
NC204 NORSAR Array S 44.61 323 P **P** **23 56 25.5 -0.8**
NC204 IAmb IAmb 23 56 27.7
comp=Z,34nm,1.1s
LOF Lofoten 44.64 333 *eP* **P** **23 56 26.4 0.0**
CTI Castel Tesino 44.66 302 P **P** **23 56 25.8 -1.2**
CTI Castel Tesino 44.66 302 P **P** **23 56 25.8 -1.2**
CTI pmax pmax
comp=Z,6.0nm,0.6s
SQTA Sankt Quirin 44.77 303 *eP* **P** **23 56 27.6 -0.3**
comp=Z,5.1nm,0.5s
MOTA Moosalm 44.82 303 *eP* **P** **23 56 28.2 -0.1**
comp=Z,2.7nm,0.4s
RETA Reutte 45.03 304 *eP* **P** **23 56 29.7 -0.1**
comp=Z,1.4nm,0.4s
KONO Kongsberg 45.08 321 *eP* **P** **23 56 30.4 +0.4**
FETA Feichten 45.12 303 *eP* **P** **23 56 30.3 -0.4**
comp=Z,1.4nm,0.4s
KLR Kul'dur 45.19 54 ⇓ *eP* **P** **23 56 30.9 -0.1**
KLR pmax pmax
comp=Z,9.0nm,2.0s
DAVA Damuels 45.65 304 *eP* **P** **23 56 35.0 +0.1**
comp=Z,10nm,0.5s
SKAR Skarslia 45.77 322 *eP* **P** **23 56 36.6 +1.2**
TIXI Tiksi 45.81 22 P **P** **23 56 35.8 +0.3**
TIXI **pP** **23 57 19.6 +0.2**
TIXI Tiksi 45.81 22 ⇑ *iP* **P** **23 56 36.0 +0.5**
MSHR Mys Shultsa 45.98 63 ⇑ *eP* **P** **23 56 39.5 +2.2**
MSHR pmax pmax
comp=Z,7.0nm,1.1s
SNART Snartemo 46.29 319 *eP* **P** **23 56 40.7 +1.2**
LODK Lodwar 46.42 233 P **P** **23 56 41.8 +0.7**
LODK IAmb IAmb 23 56 44.0
comp=Z,8.8nm,0.7s
ODD1 Odda 46.59 321 *eP* **P** **23 56 43.2 +1.4**
SPA0 Spitsbergen Ar 47.50 347 *eP* **P** **23 56 50.4 +1.8**
SPITS Spitsbergen Ar 47.50 347 P **P** **23 56 49.8 +1.2**
comp=Z,3.6nm,0.5s,baz=124,slow=10,SNR=14
comp=Z,3.6nm,0.5s
SENIN Lac Senin/Sane 47.56 303 P **P** **23 56 49.0 -0.8**
KMBO Kilima Mbogo 48.79 228 P **P** **23 57 00.3 +0.8**
KMBO Kilima Mbogo 48.79 228 *i* P **P** **23 57 01.4 +1.9**
SNR=13
KMBO Kilima Mbogo 48.79 228 *i* P **P** **23 57 01.2 +1.7**
KMBO pmax pmax
comp=Z,8.0nm,0.6s
KMBO Kilima Mbogo 48.79 228 P **P** **23 57 00.8 +1.3**
comp=Z,8.3nm,0.6s,baz=35,slow=12,SNR=33
comp=Z,8.3nm,0.6s
KEST Kesra 49.00 289 P **P** **23 57 00.6 -0.2**
KEST IAmb IAmb 23 57 03.6
comp=Z,14nm,1.1s
KEST Kesra 49.00 289 P **P** **23 57 01.4 +0.6**
comp=Z,3.9nm,0.6s,baz=59,slow=1.7,SNR=21
comp=Z,3.9nm,0.6s
KIBK Kibwezi 49.30 226 P **P** **23 57 04.0 +0.8**
KIBK IAmb IAmb 23 57 06.0
comp=Z,13nm,0.7s
EKA Eskdalemuir Ar 52.27 316 P **P** **23 57 24.9 +0.1**
comp=Z,0.9nm,0.3s,baz=71,slow=7.4,SNR=7.3
EKA PcP **PcP** **23 58 33.2 0.0**
comp=Z,1.0nm,0.5s,baz=89,slow=4.3,SNR=4.0
comp=Z,0.9nm,0.3s
NOR Nord 53.81 350 *i* P **P** **23 57 35.9 +0.3**
NOR IAmb IAmb 23 57 39.2
comp=Z,1.5nm,0.7s
DAG Danmarks Havn 54.74 344 P **P** **23 57 43.0 +0.7**
DAG pmax pmax
comp=Z,13nm,1.1s
DAG Danmarks Havn 54.74 344 *i* P **P** **23 57 42.0 -0.3**
DAG IAmb IAmb 23 57 44.0
comp=Z,6.4nm,0.7s
ESDC Sonseca Array 57.43 298 P **P** **23 58 01.7 -0.3**
comp=Z,1.9nm,0.6s,baz=53,slow=7.7,SNR=20
comp=Z,1.9nm,0.6s
TAM Tamanrasset 57.50 276 P **P** **23 58 02.0 -0.9**
TAM Tamanrasset 57.50 276 P **P** **23 58 02.0 -0.9**
TAM pmax pmax
comp=Z,3.0nm,0.9s
NEEM North Greenlan 61.05 348 *i* P **P** **23 58 27.2 +0.7**
NEEM IAmb IAmb 23 58 29.5
comp=Z,7.0nm,0.7s
SUMG Summit 61.07 341 P **P** **23 58 27.1 +0.3**
SUMG Summit 61.07 341 P **P** **23 58 27.1 +0.3**
SUMG pmax pmax
comp=Z,3.0nm,0.8s
SUMG Summit 61.07 341 *i* P **P** **23 58 28.0 +1.1**
SUMG IAmb IAmb 23 58 30.0
comp=Z,4.3nm,0.7s
ICESG Greenland Ices 63.21 338 *i* P **P** **23 58 42.2 +1.1**
ICESG IAmb IAmb 23 58 47.2
comp=Z,3.6nm,0.7s
LSZ Lusaka 65.41 226 P **P** **23 58 55.0 -0.8**
LSZ Lusaka 65.41 226 P **P** **23 58 55.0 -0.8**
LSZ pmax pmax
comp=Z,10.0nm,0.6s
TOA0 Torodi Ar. Sit 65.68 269 P **P** **23 58 55.2 -2.2**
TORD Torodi Ar. Bea 65.68 269 P **P** **23 58 55.7 -1.8**
TORD Torodi Ar. Bea 65.68 269 P **P** **23 58 56.2 -1.2**
comp=Z,5.7nm,0.5s,baz=49,slow=6.3,SNR=89
comp=Z,5.7nm,0.5s
DY2G Dye2 66.78 337 *i* P **P** **23 59 05.0 +1.0**
DY2G IAmb IAmb 23 59 07.2
comp=Z,6.6nm,1.2s
C16K Lisburne Hills 67.49 20 P **P** **23 59 08.8 +0.8**
baz=314
B18K Kokolik River 67.63 18 P **P** **23 59 10.5 +1.6**
baz=316
C17K DeLong Mountai 67.92 19 P **P** **23 59 11.8 +0.9**
baz=315
A22K Sinclair Lake 67.93 15 P **P** **23 59 11.9 +1.1**
baz=321
B20K Meade River 68.24 16 P **P** **23 59 13.8 +1.1**
baz=320
C18K Utukok River 68.30 18 P **P** **23 59 13.4 +0.2**
C18K IAmb IAmb 23 59 14.9
comp=Z,8.9nm,0.7s
C18K Utukok River 68.30 18 P **P** **23 59 14.5 +1.2**
baz=317
C19K Lookout Ridge 68.36 17 P **P** **23 59 14.1 +0.5**
C19K Lookout Ridge 68.36 17 P **P** **23 59 15.0 +1.5**
baz=318
B22K Teshekpuk Lake 68.78 15 P **P** **23 59 16.3 +0.3**
B22K IAmb IAmb 23 59 18.0
comp=Z,9.2nm,0.8s
B22K Teshekpuk Lake 68.78 15 P **P** **23 59 17.0 +1.0**
baz=323
SMY Shemya 69.00 39 P **P** **23 59 18.2 +0.5**
SMY Shemya 69.00 39 P **P** **23 59 18.2 +0.5**
B21K Ikpikpuk River 69.10 16 P **P** **23 59 18.6 +0.6**
B21K IAmb IAmb 23 59 20.1
comp=Z,8.4nm,0.7s
B21K Ikpikpuk River 69.10 16 P **P** **23 59 19.0 +1.0**
baz=322
F14K Arctic Creek 69.14 22 P **P** **23 59 18.4 0.0**
baz=314
D19K Kuna River 69.17 17 P **P** **23 59 17.7 -0.9**
D19K Kuna River 69.17 17 P **P** **23 59 19.7 +1.1**
baz=320
E18K Tukpahlearik C 69.36 19 P **P** **23 59 19.7 0.0**
E18K IAmb IAmb 23 59 21.3
comp=Z,8.7nm,0.6s
E18K Tukpahlearik C 69.36 19 P **P** **23 59 20.8 +1.1**
baz=318
D20K Etivluk River 69.36 17 P **P** **23 59 20.6 +0.9**
baz=321
C21K Knifeblade Rid 69.43 16 P **P** **23 59 21.5 +1.4**
baz=322
F15K North Star Dit 69.48 21 P **P** **23 59 20.8 +0.3**
F15K North Star Dit 69.48 21 P **P** **23 59 21.7 +1.2**
baz=315
C23K Itkillik River 69.75 14 P **P** **23 59 22.5 +0.5**
C23K IAmb IAmb 23 59 24.4
comp=Z,11nm,0.7s
C23K Itkillik River 69.75 14 P **P** **23 59 23.4 +1.4**
baz=325
E20K Nigu River 69.81 17 P **P** **23 59 23.5 +1.0**
baz=321
F17K Baldwin Pennin 69.91 20 P **P** **23 59 23.7 +0.6**
F17K IAmb IAmb 23 59 25.1
comp=Z,9.6nm,0.7s
F17K Baldwin Pennin 69.91 20 P **P** **23 59 24.4 +1.4**
baz=317
ANM Nome 70.07 22 P **P** **23 59 25.3 +1.2**
baz=315
D22K Ayikyak River 70.11 15 P **P** **23 59 24.7 +0.4**
D22K Ayikyak River 70.11 15 P **P** **23 59 25.4 +1.1**
baz=324
G15K Niukluk 70.17 22 P **P** **23 59 25.6 +1.0**
baz=316
E21K Killik River 70.18 16 P **P** **23 59 24.8 +0.1**
E21K IAmb IAmb 23 59 26.1
comp=Z,7.5nm,0.8s
E21K Killik River 70.18 16 P **P** **23 59 25.6 +0.9**
baz=323
E19K Redstone River 70.19 18 P **P** **23 59 24.6 -0.2**
E19K Redstone River 70.19 18 P **P** **23 59 25.6 +0.8**
baz=320
C24K Franklin Bluff 70.22 14 P **P** **23 59 26.4 +1.5**
baz=327
G16K Koyuk River 70.37 21 P **P** **23 59 27.1 +1.2**
baz=317
D23K Nanushuk River 70.46 15 P **P** **23 59 27.6 +1.2**
baz=326
F19K Shaleruckik Mo 70.53 18 P **P** **23 59 25.3 -1.5**
F19K Shaleruckik Mo 70.53 18 P **P** **23 59 26.8 0.0**
baz=320
D24K Happy Valley 70.67 14 P **P** **23 59 27.9 +0.2**
D24K IAmb IAmb 23 59 29.4
comp=Z,3.9nm,0.6s
D24K Happy Valley 70.67 14 P **P** **23 59 28.6 +0.9**
baz=327
C26K Camden Bay 70.74 12 P **P** **23 59 29.5 +1.5**
baz=330
G17K Kiwalik Mounta 70.78 20 P **P** **23 59 29.3 +1.0**
baz=318
F20K Avaraart Lake 70.87 18 P **P** **23 59 29.4 +0.5**
baz=322
E22K Anaktuvuk Pass 70.90 16 P **P** **23 59 30.0 +0.8**
baz=325
TOLK Toolik Lake Re 70.95 15 P **P** **23 59 29.8 +0.4**
TOLK Toolik Lake Re 70.95 15 P **P** **23 59 30.4 +1.0**
baz=326
H16K Elim 70.96 21 P **P** **23 59 30.8 +1.3**
baz=317
D25K Kavik River 70.99 13 P **P** **23 59 30.6 +0.9**
D25K IAmb IAmb 23 59 31.9
comp=Z,6.5nm,0.8s
D25K Kavik River 70.99 13 P **P** **23 59 31.2 +1.5**
baz=329
G18K Tagagawik 71.02 19 P **P** **23 59 30.8 +0.9**
baz=320
A36M Sachs Harbour 71.23 5 P **P** **23 59 31.0 +0.1**
A36M **pP** **00 00 19.6 +0.9**
A36M Sachs Harbour 71.23 5 P **P** **23 59 32.3 +1.4**
baz=346,SNR=13
G19K Purcell Mounta 71.24 19 P **P** **23 59 30.5 -0.6**
G19K IAmb IAmb 23 59 32.6
comp=Z,9.0nm,0.7s
G19K Purcell Mounta 71.24 19 P **P** **23 59 32.2 +1.1**
baz=321
F21K Alatna River 71.27 17 P **P** **23 59 31.7 +0.4**
F21K IAmb IAmb 23 59 34.0
comp=Z,5.2nm,0.8s
F21K Alatna River 71.27 17 P **P** **23 59 32.4 +1.1**
baz=324
F22K John River 71.33 16 P **P** **23 59 32.9 +1.2**
baz=325
H17K Granite Mounta 71.41 20 P **P** **23 59 32.4 +0.3**
H17K Granite Mounta 71.41 20 P **P** **23 59 33.0 +0.8**
baz=319
E23K Chandalar 71.43 15 P **P** **23 59 33.2 +0.9**
baz=327
E24K Your Creek 71.65 15 P **P** **23 59 33.5 -0.1**
E24K IAmb IAmb 23 59 35.4
comp=Z,4.9nm,0.7s
E24K Your Creek 71.65 15 P **P** **23 59 34.4 +0.8**
baz=328
H18K Honhosa River 71.67 20 P **P** **23 59 34.2 +0.5**
baz=320
G21K Allakaket 71.83 17 P **P** **23 59 34.5 -0.2**
G21K Allakaket 71.83 17 P **P** **23 59 35.1 +0.5**
baz=324
H19K Roundabout Mou 71.89 19 P **P** **23 59 35.4 +0.5**
H19K IAmb IAmb 23 59 36.6
comp=Z,5.5nm,0.6s
H19K Roundabout Mou 71.89 19 P **P** **23 59 35.8 +0.9**
baz=322
J14K Nanvaranak Lak 71.94 23 P **P** **23 59 36.3 +1.0**
baz=316
G22K Bettles 71.97 16 P **P** **23 59 36.1 +0.7**
baz=325
I17K Unalakleet 71.97 21 P **P** **23 59 37.0 +1.6**
baz=318
D27M Malcolm River 71.99 11 P **P** **23 59 36.6 +1.0**
baz=334
COLD Coldfoot 72.00 16 P **P** **23 59 36.7 +1.1**
baz=326,SNR=7.3
E25K Arctic Village 72.18 14 P **P** **23 59 37.1 +0.4**
E25K Arctic Village 72.18 14 P **P** **23 59 37.6 +0.8**
baz=330
IMAR Indian Mountai 72.20 18 P **P** **23 59 36.7 -0.2**
F24K Squaw Lake 72.24 15 P **P** **23 59 38.2 +1.1**
baz=328
D28M Stokes Point 72.26 11 P **P** **23 59 38.7 +1.6**
baz=335
H20K Anotleneega Mo 72.32 18 P **P** **23 59 38.3 +0.8**
baz=323,SNR=7.6
J16K Anvik River 72.45 22 P **P** **23 59 39.1 +0.7**
J16K IAmb IAmb 23 59 40.5
comp=Z,6.8nm,0.7s
J16K Anvik River 72.45 22 P **P** **23 59 39.8 +1.4**
baz=319
G23K Bananza Creek 72.47 16 P **P** **23 59 38.8 +0.3**
G23K Bananza Creek 72.47 16 P **P** **23 59 39.6 +1.1**
baz=326
F25K Christian Rive 72.62 14 P **P** **23 59 40.9 +1.5**
baz=330
H21K Melozitna River 72.70 17 P **P** **23 59 40.2 +0.4**
H21K Melozitna River 72.70 17 P **P** **23 59 40.8 +1.0**
baz=324
E28M Babbage River 72.79 11 P **P** **23 59 41.2 +0.9**
E28M IAmb IAmb 23 59 43.2
comp=Z,8.7nm,1.3s
E28M Babbage River 72.79 11 P **P** **23 59 41.4 +1.1**
baz=335
J17K VABM Dome 72.81 21 P **P** **23 59 40.9 +0.4**
J17K VABM Dome 72.81 21 P **P** **23 59 41.6 +1.1**
baz=320
F26K Sheenjek River 72.82 13 P **P** **23 59 41.7 +1.2**
baz=331
E27K Coleen River 72.83 12 P **P** **23 59 41.1 +0.5**
E27K Coleen River 72.83 12 P **P** **23 59 41.8 +1.2**
baz=333

H22K	**Ishtalitna Cre**	**72.84**	**17**	P	**P**	23 59 41.5	+0.9
	baz=326						
K15K	**Wolf Creek Mou**	**72.91**	**23**	P	**P**	23 59 42.4	+1.3
	baz=318						
BMAR	**Burnt Mountain**	**72.97**	**14**	P	**P**	23 59 42.3	+0.9
I20K	**Naaghedeneel**	**72.98**	**19**	P	**P**	23 59 42.6	+1.2
	baz=323						
G24K	**Hadweenzic Riv**	**73.03**	**15**	P	**P**	23 59 42.7	+1.0
G24K				IAmb	IAmb	23 59 43.8	
	comp=Z,4.6nm,0.7s						
G24K	**Hadweenzic Riv**	**73.03**	**15**	P	**P**	23 59 42.8	+1.1
	baz=328						
E29M	**Blow River**	**73.24**	**11**	P	**P**	23 59 42.9	0.0
E29M	**Blow River**	**73.24**	**11**	P	**P**	23 59 44.5	+1.5
	baz=336						
L14K	**Kuka Creek**	**73.25**	**24**	P	**P**	23 59 44.5	+1.5
	baz=318						
G25K	**Bearman Lake**	**73.25**	**14**	P	**P**	23 59 44.5	+1.5
	baz=330						
I21K	**Tanana**	**73.29**	**17**	P	**P**	23 59 43.7	+0.5
	baz=325						
J19K	**Poorman**	**73.32**	**20**	P	**P**	23 59 43.9	+0.4
J19K				IAmb	IAmb	23 59 45.4	
	comp=Z,7.3nm,0.7s						
J19K	**Poorman**	**73.32**	**20**	P	**P**	23 59 44.9	+1.5
	baz=322,SNR=5.0						
J18K	**Innoko River**	**73.44**	**20**	P	**P**	23 59 44.1	0.0
J18K				IAmb	IAmb	23 59 46.0	
	comp=Z,6.9nm,0.7s						
J18K	**Innoko River**	**73.44**	**20**	P	**P**	23 59 45.4	+1.3
	baz=322						
G26K	**Porcupine Rive**	**73.54**	**14**	P	**P**	23 59 46.0	+1.4
	baz=332						
J20K	**Nowinta River**	**73.56**	**19**	P	**P**	23 59 44.8	0.0
J20K				IAmb	IAmb	23 59 46.8	
	comp=Z,8.0nm,0.7s						
J20K	**Nowinta River**	**73.56**	**19**	P	**P**	23 59 46.0	+1.2
	baz=324						
K17K	**Iditarod**	**73.57**	**21**	P	**P**	23 59 45.6	+0.7
K17K				IAmb	IAmb	23 59 46.9	
	comp=Z,9.7nm,0.7s						
K17K	**Iditarod**	**73.57**	**21**	P	**P**	23 59 45.9	+1.0
	baz=321						
F28M	**Old Crow**	**73.64**	**12**	P	**P**	23 59 46.6	+1.3
	baz=335						
H24K	**Noodor Dome**	**73.68**	**16**	P	**P**	23 59 46.2	+0.6
H24K	**Noodor Dome**	**73.68**	**16**	P	**P**	23 59 46.6	+1.1
	baz=328						
MLY	**Manley**	**73.71**	**17**	P	**P**	23 59 46.1	+0.3
MLY	**Manley**	**73.71**	**17**	P	**P**	23 59 46.6	+0.8
	baz=326						
C36M	**Paulatuk**	**73.90**	**5**	P	**P**	23 59 46.5	-0.2
C36M	**Paulatuk**	**73.90**	**5**	P	**P**	23 59 47.1	+0.5
	baz=348,SNR=19						
M14K	**Bethel**	**73.92**	**24**	P	**P**	23 59 49.0	+2.1
	baz=318						
INK	**Inuvik**	**73.93**	**9**	P	**P**	23 59 47.5	+0.6
INK				IAmb	IAmb	23 59 48.8	
	comp=Z,7.2nm,0.7s						
INK	**Inuvik**	**73.93**	**9**	P	**P**	23 59 48.2	+1.3
	baz=340,SNR=8.7						
INK	**Inuvik**	**73.93**	**9**	P	**P**	23 59 47.5	+0.6
INK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
I23K	**Minto, Yukon-K**	**73.93**	**17**	P	**P**	23 59 48.1	+1.2
	baz=327						
L16K	**Owhat River**	**73.99**	**22**	P	**P**	23 59 48.9	+1.6
	baz=320						
L17K	**Donlin**	**74.02**	**22**	P	**P**	23 59 49.1	+1.5
	baz=321						
TTA	**Tatalina**	**74.06**	**20**	P	**P**	23 59 48.8	+1.0
	baz=322						
G27K	**Doyon Strip**	**74.06**	**13**	P	**P**	23 59 48.1	+0.3
G27K				IAmb	IAmb	23 59 50.1	
	comp=Z,4.7nm,0.7s						
G27K	**Doyon Strip**	**74.06**	**13**	P	**P**	23 59 49.5	+1.7
	baz=333						
K20K	**Telida**	**74.25**	**19**	P	**P**	23 59 49.2	+0.4
K20K				IAmb	IAmb	23 59 50.8	
	comp=Z,6.9nm,0.7s						
K20K	**Telida**	**74.25**	**19**	P	**P**	23 59 50.1	+1.2
	baz=324						
CHUM	**Lake Minchumin**	**74.27**	**18**	P	**P**	23 59 50.1	+1.2
	baz=325						
F30M	**Barrier River**	**74.27**	**10**	P	**P**	23 59 50.2	+1.3
	baz=338						
M15K	**Kasigluk River**	**74.38**	**24**	P	**P**	23 59 51.1	+1.5
	baz=319						
POKR	**Poker Plat Res**	**74.39**	**16**	P	**P**	23 59 50.5	+0.8
POKR				IAmb	IAmb	23 59 51.3	
	comp=Z,7.2nm,0.7s						
POKR	**Poker Plat Res**	**74.39**	**16**	P	**P**	23 59 51.2	+1.6
	baz=329,SNR=5.2						
BPAW	**Bear Paw Mtn.**	**74.42**	**18**	P	**P**	23 59 50.1	+0.2
	baz=326						
L18K	**Granite Mounta**	**74.42**	**21**	P	**P**	23 59 51.2	+1.3
	baz=322						
NEA2	**Nenana**	**74.47**	**17**	P	**P**	23 59 49.8	-0.3
NEA2				IAmb	IAmb	23 59 51.5	
	comp=Z,8.2nm,0.8s						
NEA2	**Nenana**	**74.47**	**17**	P	**P**	23 59 50.8	+0.7
	baz=328,SNR=5.8						
COLA	**College**	**74.51**	**16**	P	**P**	23 59 50.4	+0.1
COLA	**College**	**74.51**	**16**	P	**P**	23 59 51.3	+1.0
	baz=328						
COLA	**College**	**74.51**	**16**	P	**P**	23 59 50.4	+0.1
COLA				pmax	pmax		
	comp=Z,14nm,0.9s						
G29M	**Pine Creek**	**74.58**	**11**	P	**P**	23 59 51.7	+0.9
	baz=336						
H27K	**Steamboat Moun**	**74.60**	**13**	P	**P**	23 59 52.0	+1.1
	baz=333,SNR=5.4						
LBTB	**Lobatse**	**74.64**	**222**	P	**P**	23 59 51.3	-0.4
LBTB	**Lobatse**	**74.64**	**222**	P	**P**	23 59 51.3	-0.4
LBTB				pmax	pmax		
	comp=Z,11nm,0.5s						
DBIC	**Dimbokro**	**74.66**	**267**	P	**P**	23 59 50.8	-1.2
	comp=Z,2.5nm,0.6s,baz=44,slow=6.2,SNR=10.0						
	comp=Z,2.5nm,0.6s						
M16K	**Timber Creek**	**74.68**	**23**	P	**P**	23 59 52.4	+1.1
	baz=320						
CAST	**Castle Rocks**	**74.71**	**19**	P	**P**	23 59 51.6	+0.1
CAST				IAmb	IAmb	23 59 53.3	
	comp=Z,9.9nm,0.9s						
CAST	**Castle Rocks**	**74.71**	**19**	P	**P**	23 59 52.5	+1.0
	baz=325,SNR=5.6						
F31M	**Tsiigehtchic**	**74.72**	**10**	P	**P**	23 59 51.9	+0.4
F31M				IAmb	IAmb	23 59 53.1	
	comp=Z,9.4nm,0.8s						
F31M	**Tsiigehtchic**	**74.72**	**10**	P	**P**	23 59 52.7	+1.3
	baz=340,SNR=7.0						
G30M	**tAoh Zraii Nji**	**74.80**	**11**	P	**P**	23 59 52.5	+0.5
G30M				IAmb	IAmb	23 59 53.8	
	comp=Z,6.9nm,0.9s						
G30M	**tAoh Zraii Nji**	**74.80**	**11**	P	**P**	23 59 53.2	+1.2
	baz=338						
IL31		**74.81**	**16**	P	**P**	23 59 52.0	0.0
ILAR	**Eielson Array**	**74.81**	**16**	P	**P**	23 59 50.9	-1.2
ILAR	**Eielson Array**	**74.81**	**16**	P	**P**	23 59 50.9	-1.2
ILAR	**Eielson Array**	**74.81**	**16**	P	**P**	23 59 51.7	-0.4
	comp=Z,2.0nm,0.8s,baz=317,slow=4.6,SNR=23						
ILAR				pP	**pP**	00 00 41.5	+1.0
	comp=Z,0.8nm,0.8s,baz=318,slow=4.6,SNR=3.1						
	comp=Z,2.0nm,0.8s						
M17K	**Holitna River**	**74.85**	**22**	P	**P**	23 59 54.1	+1.7
	baz=322						
TSUM	**Tsumeb**	**74.87**	**232**	P	**P**	23 59 53.0	-0.1
TSUM				IAmb	IAmb	23 59 55.8	
	comp=Z,12nm,1.1s						
N15K	**Kwethluk River**	**74.97**	**24**	P	**P**	23 59 54.4	+1.3
	baz=320						
L19K	**White Mountain**	**74.98**	**20**	P	**P**	23 59 54.2	+1.1
	baz=323						
L20K	**Farewell, AK**	**75.01**	**20**	P	**P**	23 59 54.2	+0.9
	baz=324						
HDA	**Harding Lake**	**75.11**	**16**	P	**P**	23 59 54.2	+0.4
	baz=329						
HDA				P	**P**	23 59 54.2	+0.4
	baz=329						
I26K	**Coal Creek Min**	**75.12**	**14**	P	**P**	23 59 53.9	+0.1
I26K	**Coal Creek Min**	**75.12**	**14**	P	**P**	23 59 54.6	+0.8
	baz=332						
PPLA	**Purkeypile**	**75.12**	**19**	P	**P**	23 59 54.4	+0.4
	baz=325						
G31M	**Satah River**	**75.13**	**10**	P	**P**	23 59 53.7	-0.1
G31M				IAmb	IAmb	23 59 55.3	
	comp=Z,7.8nm,0.8s						
G31M	**Satah River**	**75.13**	**10**	P	**P**	23 59 54.7	+0.9
	baz=339						
TRF	**Thorofare Moun**	**75.14**	**18**	P	**P**	23 59 55.1	+0.9
	baz=327						
I27K	**Kandik River**	**75.15**	**13**	P	**P**	23 59 55.1	+1.0
	baz=333						
H29M	**Whitestone**	**75.16**	**12**	P	**P**	23 59 54.0	-0.1
H29M				IAmb	IAmb	23 59 56.1	
	comp=Z,7.7nm,0.6s						
H29M	**Whitestone**	**75.16**	**12**	P	**P**	23 59 55.2	+1.2
	baz=336						
N16K	**Nishlik Lake**	**75.16**	**23**	P	**P**	23 59 56.0	+1.8
	baz=321						
MCK	**McKinley**	**75.23**	**17**	P	**P**	23 59 55.1	+0.6
	baz=328						
M18K	**Stony River**	**75.25**	**21**	P	**P**	23 59 55.8	+1.2
	baz=323						
J25K	**Salcha River,**	**75.28**	**15**	P	**P**	23 59 54.4	-0.4
J25K	**Salcha River,**	**75.28**	**15**	P	**P**	23 59 55.1	+0.3
	baz=330						
EPYK	**Eagle Plains**	**75.29**	**11**	P	**P**	23 59 55.6	+0.8
	baz=337						
I28M	**Miner Creek**	**75.59**	**13**	P	**P**	23 59 56.2	-0.5
I28M				IAmb	IAmb	23 59 58.5	
	comp=Z,6.1nm,0.7s						
I28M	**Miner Creek**	**75.59**	**13**	P	**P**	23 59 57.3	+0.7
	baz=335,SNR=6.0						
N17K	**Nushagak Hills**	**75.61**	**22**	P	**P**	23 59 58.2	+1.5
	baz=322						
M20K	**Styx River**	**75.70**	**20**	P	**P**	23 59 58.5	+1.3
	baz=325						
J26L	**Joseph Creek**	**75.75**	**15**	P	**P**	23 59 57.1	-0.5
J26L				IAmb	IAmb	23 59 59.1	
	comp=Z,5.5nm,0.7s						
J26L	**Joseph Creek**	**75.75**	**15**	P	**P**	23 59 58.1	+0.5
	baz=332						
N18K	**Kilae Creek**	**75.88**	**22**	P	**P**	23 59 59.8	+1.6
	baz=322						
K24K	**Donnelly Dome**	**75.89**	**16**	P	**P**	23 59 58.7	+0.4
	baz=330						
I29M	**Ogilvie Camp,**	**75.96**	**12**	P	**P**	23 59 59.4	+0.8
	baz=336						
EGAK	**Eagle**	**75.98**	**14**	P	**P**	23 59 59.7	+1.0
	baz=334						
CUT	**Chulitna**	**76.02**	**18**	P	**P**	23 59 58.5	-0.4
	baz=327						
SKT	**Skwentna**	**76.05**	**19**	P	**P**	23 59 59.3	+0.1
	baz=326						
O16K	**Kokwok River B**	**76.06**	**23**	P	**P**	00 00 00.7	+1.4
	baz=321						
WAT1	**Susitna Watana**	**76.09**	**18**	P	**P**	23 59 59.4	-0.1
	baz=328						
SCRK	**Sand Creek**	**76.13**	**15**	P	**P**	00 00 00.1	+0.4
SCRK				IAmb	IAmb	00 00 09.6	
	comp=Z,10nm,1.4s						
SCRK	**Sand Creek**	**76.13**	**15**	P	**P**	00 00 00.2	+0.5
	baz=332,SNR=5.5						
RIDG	**Independent Ri**	**76.15**	**16**	P	**P**	00 00 00.0	+0.2
	baz=331						
DHY	**Denali Highway**	**76.16**	**17**	P	**P**	00 00 00.1	+0.2
DHY				IAmb	IAmb	00 00 01.4	
	comp=Z,7.0nm,0.6s						
DHY	**Denali Highway**	**76.16**	**17**	P	**P**	00 00 00.2	+0.2
	baz=329						
H31M	**Peel River**	**76.17**	**10**	P	**P**	23 59 59.3	-0.5
H31M	**Peel River**	**76.17**	**10**	P	**P**	00 00 00.5	+0.7
	baz=339,SNR=5.6						
N19K	**Bonanza Creek**	**76.19**	**21**	P	**P**	00 00 00.7	+0.6
	baz=324						
O17K	**Koliganek Bris**	**76.23**	**23**	P	**P**	00 00 00.9	+0.8
	baz=322						
I30M	**Mount Dempster**	**76.40**	**11**	P	**P**	00 00 02.2	+0.9
	baz=338						
K27K	**Chicken**	**76.47**	**14**	P	**P**	23 59 59.7	-1.7
	baz=333						
WAT6	**Susitna Watana**	**76.50**	**17**	P	**P**	00 00 00.3	-1.6
	baz=329						
SUA	**Susitna One**	**76.69**	**19**	P	**P**	00 00 03.7	+0.8
	baz=327						
PAX	**Paxson**	**76.69**	**16**	P	**P**	00 00 03.0	+0.2
	baz=331						
O18K	**Koktuh Hills**	**76.75**	**22**	P	**P**	00 00 03.8	+0.7
	baz=324						
P17K	**Kvichak River**	**76.90**	**23**	P	**P**	00 00 05.2	+1.3
	baz=323						
DAWY	**Dawson**	**76.95**	**13**	P	**P**	00 00 05.0	+0.8
	baz=335						
J30M	**Hart River**	**77.01**	**12**	P	**P**	00 00 05.3	+0.6
J30M	**Hart River**	**77.01**	**12**	P	**P**	00 00 05.6	+0.9
	baz=338						
SML	**Sawmill**	**77.02**	**18**	P	**P**	00 00 04.8	+0.1
	baz=329						
L26K	**Log Cabin Wild**	**77.10**	**15**	P	**P**	00 00 05.8	+0.7
	baz=332						
M23K	**Glacier View**	**77.18**	**18**	P	**P**	00 00 05.9	+0.4
	baz=329						
Q16K	**King Salmon**	**77.24**	**23**	P	**P**	00 00 06.9	+1.1
	baz=322						
SCM	**Sheep Creek Mo**	**77.24**	**18**	P	**P**	00 00 06.5	+0.6
	baz=329						
HARP	**HAARP**	**77.26**	**16**	P	**P**	00 00 07.3	+1.3
	baz=331						
M24K	**Tolsona, Glenn**	**77.28**	**17**	P	**P**	00 00 07.1	+1.0
	baz=330						
UNV	**Unalaska Valle**	**77.30**	**31**	P	**P**	00 00 07.8	+1.5
	baz=316						
KNK	**Knik Glacier**	**77.32**	**18**	P	**P**	00 00 06.7	+0.4
	baz=328						
L27K	**Beaver Creek,**	**77.39**	**15**	P	**P**	00 00 07.3	+0.6
	baz=334						
BCAR	**Beaver Creek A**	**77.39**	**15**	P	**P**	00 00 06.7	0.0
K29M	**Barlow Dome**	**77.49**	**12**	P	**P**	00 00 08.2	+0.9
	baz=337						
BOSA	**Boshof**	**77.70**	**220**	P	**P**	00 00 08.9	0.0
	comp=Z,5.5nm,0.4s,baz=18,slow=3.9,SNR=27						
	comp=Z,5.5nm,0.4s						
Q17K	**Contact Creek**	**77.81**	**23**	P	**P**	00 00 09.9	+0.7
	baz=323						
KLU	**Klutina**	**77.87**	**17**	P	**P**	00 00 10.2	+0.8
	baz=330						
BVCY	**Beaver Creek**	**78.17**	**15**	P	**P**	00 00 12.6	+1.6
	baz=334						
SEW	**Seward**	**78.18**	**19**	P	**P**	00 00 10.6	-0.4
	baz=328						
SDPT	**Sand Point**	**78.53**	**27**	P	**P**	00 00 13.7	+0.7
	baz=320						
M29M	**Somme Creek**	**78.61**	**13**	P	**P**	00 00 14.6	+1.1
	baz=336						
EYAK	**Cordova Ski Ar**	**78.74**	**18**	P	**P**	00 00 14.8	+0.7
	baz=331						
P23K	**Montague Islan**	**78.81**	**19**	P	**P**	00 00 13.9	-0.6
	baz=330						
YUK3	**Moose Creek**	**78.83**	**15**	P	**P**	00 00 13.6	-1.3
	baz=335						
KDAK	**Kodiak Island**	**79.23**	**22**	P	**P**	00 00 17.5	+0.7
	baz=326						
YUK8	**Steele Glacier**	**79.42**	**15**	P	**P**	00 00 16.3	-1.7
	baz=335						
M31M	**Drury Creek, Y**	**79.55**	**12**	P	**P**	00 00 18.8	+0.3
	baz=340						
Q23K	**Middleton Isla**	**79.57**	**18**	P	**P**	00 00 17.2	-1.3
	baz=330						
FARO	**Faro, Yukon**	**79.69**	**11**	P	**P**	00 00 20.3	+1.0
	baz=340						
YKA	**Yellowknife Ar**	**81.27**	**3**	P	**P**	00 00 27.2	-0.3
YKA	**Yellowknife Ar**	**81.27**	**3**	P	**P**	00 00 28.2	+0.7
	comp=Z,4.5nm,0.5s,baz=348,slow=5.9,SNR=108						
YKA				pP	**pP**	00 01 17.5	+1.1
	comp=Z,1.3nm,0.6s,baz=350,slow=5.6,SNR=3.8						
	comp=Z,4.5nm,0.5s						
P33M	**Teslin, Yukon**	**81.69**	**12**	P	**P**	00 00 30.2	+0.2
	baz=341						
WRA	**Warramunga Arr**	**82.01**	**122**	*i* P	**P**	00 00 31.7	-0.5
WRA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
WRA	**Warramunga Arr**	**82.01**	**122**	P	**P**	00 00 31.6	-0.5
	comp=Z,3.3nm,0.5s,baz=323,slow=4.9,SNR=75						
WRA				pP	**pP**	00 01 22.3	+0.9
	comp=Z,1.5nm,0.8s,baz=321,slow=5.1,SNR=3.1						
	comp=Z,3.3nm,0.5s						
WRAB	**Tennant Creek**	**82.02**	**122**	P	**P**	00 00 31.6	-0.5
WRAB				IAmb	IAmb	00 00 32.8	
	comp=Z,10nm,1.1s						
WRAB	**Tennant Creek**	**82.02**	**122**	P	**P**	00 00 31.6	-0.5
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WTLY	**Watson Lake, Y**	**82.39**	**10**	P	**P**	00 00 34.3	+0.7
	baz=344						
AS31	**Alice Springs**	**84.28**	**125**	P	**P**	00 00 43.2	-0.5
ASAR	**Alice Springs**	**84.28**	**125**	P	**P**	00 00 43.6	0.0
	comp=Z,4.2nm,0.6s,baz=311,slow=4.9,SNR=57						
ASAR				pP	**pP**	00 01 35.0	+2.2
	comp=Z,0.8nm,0.5s,baz=318,slow=5.6,SNR=3.0						
	comp=Z,4.2nm,0.6s						
LBNH	**Lisbon**	**92.89**	**334**	P	**P**	00 01 23.4	-0.9
	baz=29						
LONY	**Lake Ozonia**	**93.45**	**336**	P	**P**	00 01 26.4	-0.4
	baz=27						
EGMT	**Eagleton**	**95.87**	**0**	P	**P**	00 01 38.8	+0.8
	baz=360						
MSO	**Missoula**	**96.95**	**3**	P	**P**	00 01 43.9	+1.0
	baz=356						
WCI	**Wyandotte Cave**	**102.74**	**342**	P	**Pdif**	00 02 07.7	-1.1
	baz=19						
N23A	**Red Feather La**	**102.95**	**358**	P	**Pdif**	00 02 08.8	-1.2
	baz=2.6						
TZTN	**Tazewell**	**103.58**	**339**	P	**Pdif**	00 02 12.0	-0.5
	baz=21						
KMSC	**Kings Mountain**	**104.21**	**337**	P	**Pdif**	00 02 14.7	-0.6
	baz=23						
GOGA	**Godfrey**	**106.48**	**338**	P	**PKiKP**	00 06 35.9	+0.6
	baz=21						
CWC	**Cottonwood Cre**	**106.97**	**8**	P	**PKiKP**	00 06 36.7	+0.3
	baz=352						
OXF	**Oxford**	**107.04**	**343**	P	**PKiKP**	00 06 37.4	+1.0
	baz=16						
W18A	**Petrified Fore**	**108.77**	**1**	P	**PKiKP**	00 06 40.4	+0.5
	baz=360						
BFSC	**Mount Baldy Ra**	**109.19**	**8**	P	**PKiKP**	00 06 41.3	+0.7
	baz=353						
SCZ2	**Santa Cruz Isl**	**109.19**	**9**	P	**PKiKP**	00 06 40.8	+0.3
	baz=351						
BBRC	**Big Bear Solar**	**109.24**	**7**	P	**PKiKP**	00 06 40.8	0.0
	baz=353						
PDMCI	**Parker Dam,Lak**	**109.42**	**4**	P	**PKiKP**	00 06 40.8	0.0
	baz=356						
CPUP	**Villa Florida**	**135.17**	**268**	PKP	**PKPdf**	00 07 28.7	-1.3
	comp=Z,1.2nm,0.6s,baz=117,slow=2.3,SNR=3.9						
PLCA	**Paso Flores**	**149.78**	**250**	PKPbc	**PKPbc**	00 08 00.6	+0.3
	comp=Z,7.2nm,0.9s,baz=53,slow=5.1,SNR=9.1						

IDC 14 23:56:07.2±1.4,30°.28N×142°.74E,h0km,mb3.6/3,
mbtmp3.5/4,ML2.9/1,Error ellipse: s-maj=69.0km
s-min=27.3km az=94.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**7.30**	**330**	Pn	Pn	23 57 55.1	-0.1
	0.2nm,0.3s,baz=155,slow=11,SNR=6.2						
	1.0nm,0.3s						
WRA	**Warramunga Arr**	**50.58**	**190**	P	P	00 05 07.8	0.0
	0.8nm,0.6s,baz=8.3,slow=7.8,SNR=8.7						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**54.30**	**190**	P	P	00 05 35.1	-0.3
	0.2nm,0.3s,baz=0.0,slow=5.9,SNR=1.5						
	0.2nm,0.3s						
YKA	**Yellowknife Ar**	**69.12**	**29**	P	P	00 07 14.8	-0.1
	0.3nm,0.7s,baz=301,slow=7.2,SNR=3.5						
	0.3nm,0.7s						

NEIC ***15*** *00:21:47.6±0.6,19°.4N±0°.5×155°.3W±0°.5,h34km±12km,*
Error ellipse: s-maj=102.0km s-min=6.6km az=221.0
HVO 15 00:21:48.8±0.4,19°.5N±0°.2×155°.2W±0°.1,h30km±2km,
ML2.6/30,ML2.7/52(NEIC),Error ellipse: s-maj=26.2km
s-min=6.6km az=209.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATHI	**Halema'uma'u T**	**0.04**	**232**		Pb	00 21 53.2	-0.7
HATHI					Sb	00 21 56.7	-0.8
HATHI				IAML		00 21 57.6	
	comp=N,884nm,0.1s						
SBLHI	**Steaming Bluff**	**0.04**	**241**		Pb	00 21 53.1	-0.9
SBLHI					Sb	00 21 56.7	-0.9
BYL	**Byron's Ledge**	**0.05**	**220**		Sb	00 21 57.0	-0.6
BYL	**Byron's Ledge**	**0.05**	**220**		Pb	00 21 53.2	-0.8
BYL				IAML		00 21 57.2	
	comp=N,949nm,1.8s						
BYL				IAML		00 21 58.4	
	comp=E,726nm,0.4s						
RSD	**Rainshed**	**0.05**	**288**		Pb	00 21 53.3	-0.7
RSD				IAML		00 21 57.9	
	comp=N,2μm,0.5s						
RSD				IAML		00 22 00.2	
	comp=E,1μm,0.2s						
UWB	**Uwekahuna B**	**0.05**	**244**		Pb	00 21 53.2	-0.8
UWB					Sb	00 21 56.5	-1.1
UWB	**Uwekahuna B**	**0.05**	**244**	IAML		00 21 58.2	
	comp=E,208nm,0.3s						
UWB				IAML		00 21 59.3	
	comp=N,345nm,0.9s						
KKO	**Keanakako`i**	**0.06**	**216**		Pb	00 21 53.5	-0.6
KKO					Sb	00 21 57.4	-0.3
KKO	**Keanakako`i**	**0.06**	**216**	IAML		00 21 57.7	
	comp=E,632nm,0.6s						
KKO				IAML		00 21 58.6	
	comp=N,867nm,1.0s						
NPH	**North Pit**	**0.06**	**235**		Pb	00 21 53.4	-0.7
NPH	**North Pit**	**0.06**	**235**	IAML		00 21 57.1	
	comp=N,391nm,0.5s						
NPH				IAML		00 21 59.2	
	comp=E,235nm,1.0s						
OBL	**Observatory Le**	**0.06**	**240**	IAML		00 22 01.2	
	comp=N,1μm,0.6s						
OBL	**Observatory Le**	**0.06**	**240**		Pb	00 21 53.3	-0.8
OBL					Sb	00 21 57.1	-0.6
UWE	**Uwekahuna**	**0.07**	**247**	IAML		00 21 57.8	
	comp=N,1μm,0.4s						
UWE	**Uwekahuna**	**0.07**	**247**		Pb	00 21 53.4	-0.7
UWE					Sb	00 21 57.1	-0.6
RIM	**Rim**	**0.07**	**220**		Pb	00 21 53.5	-0.6
RIM	**Rim**	**0.07**	**220**	IAML		00 21 59.1	
	comp=E,721nm,0.5s						
RIM				IAML		00 22 03.5	
	comp=N,962nm,0.4s						
PUH	**Pauahi**	**0.07**	**171**		Pb	00 21 53.6	-0.5
PUH					Sb	00 21 57.0	-0.7
PUH	**Pauahi**	**0.07**	**171**	IAML		00 21 57.2	
	comp=E,1μm,0.2s						
PUH				IAML		00 22 00.3	
	comp=N,1μm,0.2s						
WRMHI	**West Rim**	**0.08**	**239**		Sb	00 21 57.1	-0.7
WRMHI	**West Rim**	**0.08**	**239**		Pb	00 21 53.3	-0.9
WRMHI	**West Rim**	**0.08**	**239**	IAML		00 22 02.5	
	comp=N,904nm,1.3s						
WRMHI				IAML		00 22 02.7	
	comp=E,1μm,0.6s						
SDHHI	**Sand Hill**	**0.09**	**227**	

PHO	**Puu Honuaula**	**0.32**	**84**		Pb	00 21 55.8	-0.7
PHO					Sb	00 22 01.7	-0.1
MLOA	**Mauna Loa Obse**	**0.34**	**285**		Pb	00 21 56.2	-1.0
MLOA				IAML		00 22 01.8	
	comp=E,843nm,0.5s						
MLOA				IAML		00 22 02.0	
	comp=N,689nm,0.4s						
MLOA	**Mauna Loa Obse**	**0.34**	**285**		Sb	00 22 01.4	-1.4
MWH	**Moku'aweowe**	**0.35**	**276**		Pb	00 21 56.2	-1.2
MWH				IAML		00 22 08.4	
	comp=E,452nm,0.6s						
MWH				IAML		00 22 11.2	
	comp=N,470nm,0.5s						
ALEP	**Alea Permanent**	**0.40**	**283**		Pb	00 21 56.6	-1.4
ALEP					Sb	00 22 02.3	-2.0
KHU	**Kahuku**	**0.42**	**241**		Pb	00 21 56.9	-1.2
KHU	**Kahuku**	**0.42**	**241**		Sb	00 22 02.7	-1.7
KHU	**Kahuku**	**0.42**	**241**	IAML		00 22 02.8	
	comp=N,2μm,1.6s						
KHU				IAML		00 22 02.9	
	comp=E,2μm,1.8s						
POHA	**Pohakuloa**	**0.42**	**317**	Pg	Pb	00 21 57.0	-1.2
POHA				IAML		00 22 03.6	
	comp=E,466nm,0.2s						
POHA				IAML		00 22 04.4	
	comp=E,500nm,0.3s						
POHA	**Pohakuloa**	**0.42**	**317**		Sb	00 22 02.8	-1.8
HPO	**Honuapo**	**0.47**	**221**		Pb	00 21 57.3	-1.4
HPO					Sb	00 22 03.7	-1.9
HUH	**Hualalai**	**0.62**	**292**		Pb	00 21 59.7	-1.7
HUH	**Hualalai**	**0.62**	**292**	IAML		00 22 16.8	
	comp=N,437nm,0.4s						
HUH				IAML		00 22 21.4	
	comp=E,357nm,0.4s						
KHLU	**Kahalu`u**	**0.64**	**283**		Pb	00 21 59.7	-2.0
KHLU					Sb	00 22 07.5	-2.9
KHLU				IAML		00 22 12.1	
	comp=E,375nm,3.7s						
HPAH	**Hawaii Prepara**	**0.73**	**323**	Pn	Pb	00 22 00.8	-2.3
HPAH				IAML		00 22 09.9	
	comp=N,347nm,0.2s						

*IDC **15** 00:35:10.3±2.3,31°.93N×48°.65E, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=54.3km s-min=26.5km az=155.0*
*TEH **15** 00:35:12.9, 31°.82N×48°.76E, h14km±56km, ML3.5*
*OMAN **15** 00:35:15.5±1.1,31°.62N×49°.03E, h10km, mb3.6/5, ms2.4/1, Error ellipse: s-maj=10.0km s-min=8.9km az=65.0*
ISC 15 00:35:12.9±0.7, 31°.81N±0°.04×48.76E±0°.04, h20km, n62, σ1§68/72, mb3.9/7, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMIS	**Naft Sefid**	**0.47**	**108**	Pg	**Pb**	**00 35 21.9**	**-0.6**
AHWZ	**Ahwaz**	**0.49**	**192**	Pg	**Pb**	**00 35 23.0**	**+0.1**
ABEH	**Behbahan**	**1.76**	**133**	Pg	**Pb**	**00 35 46.1**	**+1.6**
ZNGN	**Zangian**	**1.80**	**80**	Pg	**Pb**	**00 35 45.6**	**+0.1**
IKFM	**Kafar-mosalman**	**1.88**	**336**	Pn	**Pb**	**00 35 46.3**	**-0.2**
IPIR	**Pirpir**	**2.00**	**64**	Pn	**Pb**	**00 35 48.8**	**-0.1**
IBRJ	**Brojen**	**2.13**	**87**	Pn	**Pn**	**00 35 50.1**	**+2.5**
KLNJ	**Kolanjah**	**2.55**	**108**	Pn	**Pn**	**00 35 55.9**	**+2.4**
IKOM	**Komasi**	**2.58**	**336**	Pn	**Pn**	**00 35 55.8**	**+2.1**
IKLH	**Kolahrood**	**2.81**	**57**	Pn	**Pn**	**00 35 59.7**	**+2.6**
ILBA	**Ilam Banvizeh**	**2.81**	**311**	Pn	**Pn**	**00 35 59.1**	**+2.2**
IGAR	**Gharneh**	**2.84**	**77**	Pn	**Pn**	**00 35 59.9**	**+2.4**
KCHF	**Cheshme Sefid,**	**2.85**	**330**	Pn	**Pn**	**00 35 59.4**	**+1.9**
QAMS	**Qamsar**	**2.93**	**48**	Pn	**Pn**	**00 36 01.0**	**+2.3**
HAGD	**Aghdareh**	**3.02**	**6**	Pn	**Pn**	**00 36 02.3**	**+2.5**
IRAM	**Ramesheh**	**3.08**	**89**	Pn	**Pn**	**00 36 02.9**	**+2.2**
IGHG	**Ghaleghazi**	**3.12**	**324**	Pn	**Pn**	**00 36 04.1**	**+3.0**
IZEF	**Zefreh**	**3.21**	**69**	Pn	**Pn**	**00 36 04.8**	**+2.4**
KRSH	**Karshahi**	**3.56**	**52**	Pn	**Pn**	**00 36 09.5**	**+2.3**
IRAZ	**Razeghan**	**3.71**	**15**	Pn	**Pn**	**00 36 12.5**	**+3.1**
KGS1	**Ghasr-e-Shirin**	**3.78**	**316**	Pn	**Pn**	**00 36 11.3**	**+1.2**
ISFB	**Sefidab**	**3.87**	**48**	Pn	**Pn**	**00 36 12.6**	**+1.3**
ISAD	**Sadrabad**	**4.19**	**87**	Pn	**Pn**	**00 36 18.1**	**+2.2**
ANAR	**Anarak**	**4.42**	**71**	Pn	**Pn**	**00 36 21.1**	**+2.1**
IDMV	**Damavand**	**4.64**	**35**	Pn	**Pn**	**00 36 24.0**	**+1.8**
QSDN	**Sirdan**	**4.69**	**4**	Pn	**Pn**	**00 36 24.5**	**+1.6**
ICHK	**Chekchek**	**4.81**	**83**	Pn	**Pn**	**00 36 26.4**	**+1.9**
QIR1	**Qir**	**4.98**	**131**	Pn	**Pn**	**00 36 27.8**	**+1.2**
IFIR	**Firoozkooh**	**5.07**	**40**	Pn	**Pn**	**00 36 30.3**	**+2.3**
KLST	**Kelardasht - M**	**5.07**	**21**	Pn	**Pn**	**00 36 30.9**	**+2.8**
SDS1	**Sardasht. Az.**	**5.11**	**329**	Pn	**Pn**	**00 36 30.0**	**+1.5**
MZPU	**Pul - Mazandar**	**5.17**	**26**	Pn	**Pn**	**00 36 32.1**	**+2.7**
IPRN	**Peran**	**5.32**	**33**	Pn	**Pn**	**00 36 34.4**	**+3.0**
SAKB	**Bahrain**	**6.01**	**165**	P	**Pn**	**00 36 42.1**	**+1.3**
SAKB				S	**Sn**	**00 37 50.1**	**+1.0**
SHMA	**Al-Shehemyia**	**6.24**	**161**	P	**Pn**	**00 36 45.3**	**+1.5**
SHMA				S	**Sn**	**00 37 54.4**	**-0.1**
SMRA	**Abu-Samra**	**7.27**	**165**	P	**Pn**	**00 36 59.1**	**+1.0**
SMRA				S	**Sn**	**00 38 20.2**	**+0.2**
TRNA	**Turayna**	**7.37**	**162**	P	**Pn**	**00 37 00.9**	**+1.5**
TRNA				S	**Sn**	**00 38 22.9**	**+0.4**
SHME	**Shamm**	**8.64**	**130**	P	**Pn**	**00 37 17.2**	**+0.3**
SHME				S	**Sn**	**00 38 52.0**	**-1.8**
NAZ	**Nazwa, Dubai**	**9.11**	**137**	P	**Pn**	**00 37 23.9**	**+0.6**
NAZ				S	**Sn**	**00 39 03.8**	**-1.6**
MASF	**Masafi**	**9.13**	**133**	P	**Pn**	**00 37 24.3**	**+0.6**
MASF				S	**Sn**	**00 39 04.2**	**-1.7**
ASUD	**Al Ashush, Dub**	**9.20**	**139**	P	**Pn**	**00 37 25.7**	**+1.1**
ASUD				S	**Sn**	**00 39 05.8**	**-1.8**
FAQ	**Al Faqa, Dubai**	**9.26**	**138**	P	**Pn**	**00 37 26.2**	**+0.8**
UOSS	**Minazif**	**9.47**	**134**	P	**Pn**	**00 37 28.7**	**+0.4**
UOSS				S	**Sn**	**00 39 11.9**	**-2.2**
HATD	**Hatta, Dubai**	**9.51**	**135**	P	**Pn**	**00 37 29.3**	**+0.4**
HATD				S	**Sn**	**00 39 13.1**	**-2.2**
ALNE	**Al Ain**	**9.89**	**140**	P	**Pn**	**00 37 34.4**	**+0.4**
ARQ	**Araqi**	**10.89**	**139**	P	**Pn**	**00 37 47.5**	**-0.2**
BSY	**Bisya**	**11.73**	**138**	P	**Pn**	**00 37 59.3**	**0.0**
SMDO	**Samad**	**11.99**	**134**	P	**Pn**	**00 38 02.7**	**-0.2**
WSAR	**Wadi Sarin**	**12.22**	**132**	P	**Pn**	**00 38 05.0**	**-0.9**
WBK	**Wadi Bani Khal**	**12.89**	**133**	P	**Pn**	**00 38 15.8**	**+0.7**
JLN	**Jalan Bani Buh**	**13.51**	**133**	P	**Pn**	**00 38 22.8**	**-0.7**
MHTO	**MHTO**	**13.56**	**140**	P	**Pn**	**00 38 23.4**	**-0.8**
WHFO	**Wadi Hawf**	**14.55**	**161**	P	**Pn**	**00 38 35.4**	**-2.5**
ABTO	**Aybut**	**14.97**	**163**	P	**Pn**	**00 38 41.5**	**-2.0**
DMTO	**DMTO** SNR=6.5	**15.11**	**157**	P	**Pn**	**00 38 43.1**	**-2.2**
BVAR	**Borovoye Array** 1.7nm,0.6s,baz=228,slow=7.2,SNR=11 1.7nm,0.6s	**26.35**	**30**	P	**P**	**00 40 47.5**	**0.0**
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=241,slow=8.1,SNR=2.1 0.5nm,0.7s	**29.68**	**50**	P	**P**	**00 41 18.2**	**+0.8**
FINES	**FINESS Array B** 5.5nm,1.0s,baz=141,slow=9.4,SNR=5.4 5.5nm,1.0s	**33.13**	**340**	P	**P**	**00 41 46.4**	**-1.0**
ZALV	**Zalesovo Beam** 0.6nm,0.6s,baz=248,slow=7.4,SNR=4.3 0.6nm,0.6s	**33.91**	**39**	P	**P**	**00 41 54.0**	**-0.3**
HFS	**Hagfors** 3.9nm,1.0s,baz=140,slow=9.2,SNR=1.9 3.9nm,1.0s	**36.59**	**331**	P	**P**	**00 42 16.6**	**-0.7**
TORD	**Torodi Ar. Bea** 0.5nm,0.4s,baz=51,slow=8.8,SNR=4.6 0.5nm,0.4s	**46.89**	**258**	P	**P**	**00 43 42.0**	**-0.1**
SPITS	**Spitsbergen Ar** 4.2nm,0.6s,baz=157,slow=7.8,SNR=5.5 4.2nm,0.6s	**48.58**	**352**	P	**P**	**00 43 54.1**	**-0.5**

TRN 15 00:49:50.5, 14°.97N×61°.25W, h182km, MD3.7, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVN	**Savane Anatole**	**0.15**	**147**	*e*P	Pn	00 50 15.8	+1.1
SVN				*e*S	Sn	00 50 34.3	+1.0
PCM	**Pelee Case Pet**	**0.16**	**165**	*e*P	Pn	00 50 15.4	+0.6
CXM	**Morne La Croix**	**0.17**	**153**	*e*P	Pn	00 50 16.8	+1.9
BAMF	**Morne Balai**	**0.18**	**147**	*e*P	Pn	00 50 16.1	+1.2
GBMF	**Grand Be**	**0.19**	**154**	*e*P	Pn	00 50 15.7	+0.8
PML	**Morne Lenard**	**0.20**	**161**	*e*P	Pn	00 50 15.7	+0.9
FDF	**Fort de France**	**0.25**	**157**	*e*P	Pn	00 50 15.8	+0.9
FDF				*e*S	Sn	00 50 34.5	+0.8
ILAM	**Ilet Lapin Mar**	**0.41**	**118**	*e*P	Pn	00 50 16.6	+1.3
ILAM				*e*S	Sn	00 50 34.7	+0.5
ZAM	**Aeronautique**	**0.45**	**151**	*e*P	Pn	00 50 16.5	+1.1
LPMF	**Morne Lapointe**	**0.48**	**145**	*e*P	Pn	00 50 16.7	+1.2
BIM	**Bigot**	**0.48**	**159**	*e*P	Pn	00 50 16.6	+1.0
BIM				*e*S	Sn	00 50 35.3	+0.4
MVM	**Montagne Vaucl**	**0.54**	**140**	*e*P	Pn	00 50 17.4	+1.6
MPOM	**Morne Pois Mar**	**0.64**	**144**	*e*P	Pn	00 50 17.5	+1.2
MPOM				*e*S	Sn	00 50 37.2	+1.1
TDBA	**Terre de Bas,**	**0.95**	**337**	*e*P	Pn	00 50 19.1	+0.9
SLBI	**Saint Lucia, B**	**0.98**	**164**	*e*P	Pn	00 50 19.0	+0.6
SLBI				*e*S	Sn	00 50 39.5	-0.3
MAGL	**Barre de l'ile**	**0.98**	**358**	*e*P	Pn	00 50 19.3	+1.0
MAGL				*e*S	Sn	00 50 40.7	+0.8
CBE	**Ff, Capester**	**1.15**	**343**	*e*P	Pn	00 50 20.8	+1.2
CBE				*e*S	Sn	00 50 42.6	+0.3
ABD	**La Joyeuse, An**	**1.52**	**351**	*e*P	Pn	00 50 23.8	+1.0
ABD				*e*S	Sn	00 50 47.4	-0.6
SSV	**Crater Summit**	**1.63**	**178**	*e*P	Pn	00 50 24.8	+0.7
SVV	**Soufriere Volc**	**1.64**	**179**	*e*P	Pn	00 50 24.9	+0.8
SVB	**Belmont**	**1.69**	**180**	*e*P	Pn	00 50 25.2	+0.7
SVB				*e*S	Sn	00 50 50.4	-0.5
MLYT	**Lee's Yard**	**1.96**	**333**	*e*P	Pn	00 50 28.0	+0.6
MLYT				*e*S	Sn	00 50 57.2	+1.1
MBFL	**Flemmings, Mon**	**2.00**	**333**	*e*P	Pn	00 50 28.4	+0.7
MBFL				*e*S	Sn	00 50 57.0	+0.3
ANBD	**Bethesda, Anti**	**2.13**	**347**	*e*P	Pn	00 50 29.7	+0.6
ANBD				*e*S	Sn	00 50 58.1	-1.1
BBGH	**Gun Hill**	**2.45**	**138**	*e*P	Pn	00 50 34.5	+1.7
BBGH				*e*S	Sn	00 51 05.5	-0.1
GCMP	**Grenada, Carri**	**2.47**	**184**	*e*P	Pn	00 50 33.3	+0.3
GCMP				*e*S	Sn	00 51 06.4	+0.2
GRHS	**Sauteurs**	**2.75**	**188**	*e*P	Pn	00 50 37.1	+0.7
TRN	**Trinidad (W)**	**4.29**	**182**	*e*P	Pn	00 50 56.5	+1.0
TRN	**Trinidad (W)**	**4.29**	**182**	*e*S	Sn	00 51 43.8	-2.7
BAUV	**El Baul**	**8.94**	**229**	*e*P	Pn	00 51 57.3	+1.0

*IDC **15** 00:57:14.8±0.7, 21°.24S×169°.72E, h0km, mb4.2/11, mbtmp4.2/13, ML3.4/2, MS3.8/23, Error ellipse: s-maj=23.3km s-min=21.4km az=128.0*
*NOU **15** 00:57:17.8, 21°.26S×169°.51E, h0km, MLv4.3/13, Southeast of Loyalty Islands*
ISC 15 00:57:16.7±0.7, 21°.31S±0°.08×169°.61E±0°.09, h10km, n51, σ1§18/30, mb4.2/11, MS3.8/20, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.48**	**263**	P	**Pn**	**00 57 43.7**	**+0.3**
LIFNC	**LIFOU**	**2.28**	**283**	P	**Pn**	**00 57 53.9**	**-0.5**
PINNC	**Pines Island,**	**2.39**	**237**	P	**Pn**	**00 57 57.0**	**+1.1**
YATNC	**Mamie plateau,**	**2.64**	**253**	P	**Pn**	**00 57 59.7**	**+0.3**
OUENC	**Ouen Island, N**	**2.80**	**246**	P	**Pn**	**00 58 03.3**	**+1.7**
DZM	**Mont Dzumac**	**3.04**	**255**	P	**Pn**	**00 58 06.2**	**+1.2**
DZM	**Mont Dzumac** 205nm,1.2s	**3.04**	**255**	*e*Pn	**Pn**	**00 58 05.5**	**+0.5**
DZM	2μm,23.9s			*e*LR	LR	00 58 36.5	
DZM	**Mont Dzumac** 7.4nm,0.3s,baz=123,slow=9.5,SNR=170	**3.04**	**255**	Pn	**Pn**	**00 58 06.4**	**+1.4**
DZM	15nm,0.3s,baz=124,slow=21,SNR=3.7			Sn	**Sn**	**00 58 40.9**	**-0.7**
DZM	comp=Z,731nm,18.7s,baz=90,slow=38 67nm,0.6s			LR	LR	00 59 16.1	
ONTNC	**Ouen Toro**	**3.10**	**251**	P	**Pn**	**00 58 07.1**	**+1.4**
NOUC	**Port Laguerre**	**3.18**	**255**	P	**Pn**	**00 58 08.2**	**+1.5**
RTV	**Rentapao**	**3.67**	**342**	P	**Pn**	**00 58 15.9**	**+2.3**
DVP	**Devils Point**	**3.81**	**339**	P	**Pn**	**00 58 16.3**	**+0.8**
KOUNC	**Koumac, New Ca**	**5.04**	**278**	P	**Pn**	**00 58 34.1**	**+1.8**
HNR	**Honiara** comp=Z,2μm,18.7s,baz=111,slow=34	**15.03**	**320**	LR	LR	01 05 46.0	
URZ	**Urewera** 0.1nm,0.3s,baz=38,slow=20,SNR=2.2	**18.09**	**161**	P	**Pn**	**01 01 28.5**	**+0.5**
URZ	comp=Z,313nm,19.4s,baz=30,slow=33 7.9nm,0.9s			LR	LR	01 07 08.1	
CTA	**Charters Tower** comp=Z,401nm,18.4s,baz=91,slow=36	**21.88**	**269**	LR	LR	01 10 38.4	
RPZ	**Rata Peaks** comp=Z,294nm,21.0s,baz=322,slow=34	**22.38**	**177**	LR	LR	01 09 48.1	
PMG	**Port Moresby** comp=Z,186nm,19.2s,baz=130,slow=34	**24.63**	**295**	LR	LR	01 11 15.8	
STKA	**Stephens Creek** comp=Z,222nm,18.0s,baz=40,slow=37	**27.10**	**241**	LR	LR	01 13 56.2	
RAR	**Rarotonga** comp=Z,40nm,18.3s,baz=182,slow=36	**28.51**	**95**	LR	LR	01 14 14.5	
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=96,slow=8.3,SNR=13 0.4nm,0.5s	**33.00**	**266**	P	**P**	**01 03 51.6**	**-0.7**
ASAR	**Alice Springs** 1.6nm,0.7s,baz=84,slow=9.0,SNR=14	**33.03**	**259**	P	**P**	**01 03 52.5**	**+0.1**
ASAR	0.2nm,0.3s,baz=88,slow=2.2,SNR=1.4			PcP	**PcP**	**01 06 36.0**	**-0.2**
ASAR	comp=Z,85nm,19.2s,baz=92,slow=37 1.6nm,0.7s			LR	LR	01 17 33.4	
TBI	**Tubuai** 660nm,27.2s	**37.83**	**101**	*e*LR	LR	01 14 41.9	
PPT2	**Papeete2** 79nm,26.0s	**38.59**	**92**	*e*SS	SS	01 13 17.7	-8.8
PPT2	175nm,29.8s			*e*LR	LR	01 14 56.1	
PPT2	202nm,26.0s			*e*LR	LR	01 15 10.7	
PPT	**Papeete** comp=Z,130nm,21.8s,baz=191,slow=31	**38.59**	**92**	LR	LR	01 16 58.4	
GUMO	**Guam** comp=Z,76nm,18.7s,baz=132,slow=33	**42.35**	**323**	LR	LR	01 20 42.8	
NWAO	**Narrogin (SRO)** comp=Z,123nm,18.1s,baz=59,slow=38	**47.61**	**244**	LR	LR	01 27 22.9	
TAOE	**Nuku Hiva Isla** 221nm,25.8s	**49.86**	**84**	*e*LR	LR	01 20 02.3	
KAPI	**Kappang** comp=Z,28nm,21.8s,baz=116,slow=37	**50.94**	**281**	LR	LR	01 28 34.6	
VNDA	**Vanda** comp=Z,35nm,20.0s,baz=16,slow=32	**56.38**	**182**	LR	LR	01 27 38.2	
LEM	**Lembang** comp=Z,74nm,21.6s,baz=95,slow=36	**61.48**	**274**	LR	LR	01 33 58.7	
MJAR	**Matsushiro Arr** 4.2nm,0.9s,baz=156,slow=8.1,SNR=6.3 4.2nm,0.9s	**64.74**	**332**	P	**P**	**01 07 54.7**	**-0.5**
QSPA	**South Pole Qui** 6.6nm,0.7s,baz=14,slow=2.6,SNR=8.9 6.6nm,0.7s	**68.75**	**180**	P	**P**	**01 08 21.6**	**+0.9**
ASAJ	**Asahikawa** comp=Z,61nm,20.9s,baz=22,slow=31	**69.65**	**340**	LR	LR	01 32 45.2	
SHEM	**Shemya Is, Ala** comp=Z,109nm,19.6s,baz=300,slow=31	**73.83**	**3**	LR	LR	01 34 52.7	
KLR	**Kul'dur** 1.4nm,0.6s,baz=59,slow=5.8,SNR=4.5	**77.89**	**336**	P	**P**	**01 09 14.8**	**+0.4**
KLR	comp=Z,36nm,18.1s,baz=193,slow=37 1.4nm,0.6s			LR	LR	01 44 48.7	
CMAR	**Chiang Mai Arr** 1.0nm,0.4s,baz=133,slow=3.9,SNR=8.1 1.0nm,0.4s	**79.67**	**294**	P	**P**	**01 09 27.0**	**+2.0**
MA2	**Magadan** comp=Z,54nm,20.9s,baz=140,slow=32	**82.06**	**350**	LR	LR	01 41 43.7	
SEY	**Seymchan** comp=Z,82nm,20.6s,baz=141,slow=32	**85.06**	**352**	LR	LR	01 42 50.7	
SNAA	**Sanae** 6.8nm,1.2s,baz=180,slow=19,SNR=2.8 6.8nm,1.2s	**87.12**	**182**	P	**P**	**01 10 02.0**	**-0.5**
SONM	**Songino Array** 0.7nm,0.4s,baz=141,slow=8.0,SNR=6.0 0.7nm,0.4s	**89.08**	**323**	P	**P**	**01 10 11.6**	**-0.6**
NVAR	**Mina Array Bea** 2.7nm,0.9s,baz=226,slow=8.2,SNR=12 2.7nm,0.9s	**89.91**	**48**	P	**P**	**01 10 16.0**	**-0.4**
LPIG	**La Paz** comp=Z,58nm,18.4s,baz=2.0,slow=30	**90.00**	**64**	LR	LR	01 42 48.3	
PALK	**Pallekele** comp=Z,38nm,18.3s,baz=189,slow=38	**91.60**	**277**	LR	LR	01 55 42.3	
ILAR	**Eielson Array** 0.2nm,0.8s,baz=226,slow=5.4,SNR=2.0 0.2nm,0.8s	**92.09**	**17**	P	**P**	**01 10 24.7**	**-1.0**
ELK	**Elko** comp=Z,50nm,18.4s,baz=10,slow=31	**93.06**	**47**	LR	LR	01 45 38.2	
PDAR	**Pinedale Array** 0.3nm,0.8s,baz=242,slow=1.9,SNR=2.1 0.3nm,0.8s	**97.76**	**47**	P	P	01 10 50.3	-2.2
ARCES	**ARCESS Array B**	**127.15**	**345**	PKP	**PKPdf**	**01 16 19.5**	**-1.1**
FINES	**FINESS Array B** 3.6nm,0.9s,baz=64,slow=2.6,SNR=10	**132.62**	**337**	PKP	**PKPdf**	**01 16 29.3**	**-1.8**
EKA	**Eskdalemuir Ar** 4.0nm,1.0s,baz=95,slow=1.5,SNR=5.3	**145.59**	**353**	PKPbc	**PKPdf**	**01 16 53.5**	**-1.5**
GERES	**GERESS Array B** 3.8nm,0.6s,baz=360,slow=2.4,SNR=22 6.0nm,0.9s,baz=20,slow=4.3,SNR=15	**146.47**	**331**	PKPbc	**PKPdf**	**01 16 57.8**	**+1.0**

IDC 15 01:06:21.6±5.2, 12°.29S×167°.19E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=259.0km s-min=33.2km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.3nm,1.2s,baz=83,slow=9.0,SNR=5.2 1.3nm,1.2s	**32.42**	**252**	P	P	01 12 53.5	-0.1
ASAR	**Alice Springs** 0.4nm,0.7s,baz=78,slow=8.6,SNR=2.1 0.4nm,0.7s	**33.54**	**246**	P	P	01 13 03.4	0.0
ILAR	**Eielson Array** 0.3nm,0.6s,baz=226,slow=4.8,SNR=10 0.3nm,0.6s	**84.24**	**18**	P	P	01 18 54.7	0.0

*SKHL **15** 01:09:18.2±0.1, 48°.40N×155°.50E, h63km±4km, mb4.4/5 MOS **15** 01:09:18.2±0.7, 48°.52N×156°.01E, h26km, mb4.1/1, Error ellipse: s-maj=26.4km s-min=6.1km az=70.0*
*KRSC **15** 01:09:19.2±1.8, 48°.56N×156°.41E, h17km±29km, Ml4.6*
*IDC **15** 01:09:21.9±3.2, 48°.63N×154°.76E, h74km±30km, mb3.3/10, mbtmp3.7/13, MS3.0/3, Error ellipse: s-maj=39.2km s-min=14.4km az=145.0*
ISC 15 01:09:18.1±0.7, 48°.39N±0°.09×155°.3E±0°.1, h35km, n58, σ1§78/58, mb3.5/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.36**	**13**	*e*P	**Pn**	**01 09 53.8**	**-0.6**
SKR				*e*S	**Sn**	**01 10 20.1**	**-1.9**
SKR	**Severo-Kuril's**	**2.36**	**13**	*e*P	**Pn**	**01 09 53.7**	**-0.6**
SKR	70nm,0.5s			AMB	AMB	01 09 57.8	
SKR	230nm,0.5s			*e*S	**Sn**	**01 10 20.2**	**-1.9**
SKR	240nm,0.5s			A	A	01 10 27.2	
SKR				A	A	01 10 27.2	
SKR	**Severo-Kuril's**	**2.36**	**13**	PN	**Pn**	**01 09 53.8**	**-0.6**
SKR				S	**Sn**	**01 10 20.1**	**-1.9**
PAU	**Pauzhetka**	**3.24**	**17**	*e*P	**Pn**	**01 10 07.4**	**+1.0**
PAU				*e*S	**Sn**	**01 10 44.4**	**+0.8**
PAU	**Pauzhetka**	**3.24**	**17**	*e*P	**Pn**	**01 10 07.4**	**+1.0**
PAU	40nm,0.3s			AMB	AMB	01 10 12.4	
PAU	160nm,0.6s			*e*S	**Sn**	**01 10 44.4**	**+0.8**
PAU				A	A	01 10 50.2	
PAU	220nm,0.6s			A	A	01 10 50.2	
PAU	**Pauzhetka**	**3.24**	**17**	PN	**Pn**	**01 10 07.4**	**+1.0**
PAU				S	**Sn**	**01 10 44.4**	**+0.8**
KDTR	**Khodutka, Kamc**	**3.87**	**27**	*e*P	**Pn**	**01 10 15.1**	**+0.1**
KDTR				*e*S	**Sn**	**01 10 57.7**	**-1.4**
KDTR	**Khodutka, Kamc**	**3.87**	**27**	PN	**Pn**	**01 10 15.1**	**+0.1**
KDTR				S	**Sn**	**01 10 57.7**	**-1.4**
ASAK	**Asacha**	**4.33**	**22**	*e*P	**Pn**	**01 10 23.0**	**+1.5**
ASAK	**Asacha**	**4.33**	**22**	PN	**Pn**	**01 10 23.0**	**+1.5**
MTVR	**Mutnovka**	**4.50**	**23**	*e*P	**Pn**	**01 10 24.8**	**+1.0**
MTVR	**Mutnovka**	**4.50**	**23**	PN	**Pn**	**01 10 24.8**	**+1.0**
GRL	**Gorelyy**	**4.53**	**22**	*e*P	**Pn**	**01 10 25.7**	**+1.4**
GRL	**Gorelyy**	**4.53**	**22**	PN	**Pn**	**01 10 25.7**	**+1.4**
KRMR	**Karymshinskiy**	**4.80**	**21**	*e*S	**Sn**	**01 11 21.9**	**-0.3**
PETK	**Petropavlovsk-** 3.3nm,0.4s,baz=186,slow=12,SNR=18	**4.97**	**17**	P	**Pn**	**01 10 31.7**	**+1.5**
PETK	2.9nm,0.5s,baz=263,slow=12,SNR=1.2			S	**Sn**	**01 11 32.1**	**+5.8**
PETK	comp=Z,88nm,20.1s,baz=196,slow=38			LR	LR	01 12 27.8	
PET	**Petropavlovsk**	**5.11**	**23**	*e*P	**Pn**	**01 10 32.3**	**+0.2**
PET				*e*S	**Sn**	**01 11 28.0**	**-1.8**
PET	50nm,0.6s			A	A	01 11 40.9	
PET	70nm,0.6s			A	A	01 11 40.9	
PET	**Petropavlovsk**	**5.11**	**23**	*e*PN	**Pn**	**01 10 32.3**	**+0.2**
PET				*e*S	**Sn**	**01 11 28.0**	**-1.8**
PET	comp=N,45nm,0.5s			smax	smax		
PET	comp=E,75nm,0.6s			smax	smax		
UGLR	**Uglovaya**	**5.32**	**23**	*e*P	**Pn**	**01 10 36.3**	**+1.2**
UGLR	**Uglovaya**	**5.32**	**23**	PN	**Pn**	**01 10 36.3**	**+1.2**
KOK	**Koryaka**	**5.35**	**22**	*e*P	**Pn**	**01 10 38.1**	**+2.6**
KOK	**Koryaka**	**5.35**	**22**	*e*P	**Pn**	**01 10 38.1**	**+2.6**
KOK	**Koryaka**	**5.35**	**22**	PN	**Pn**	**01 10 38.1**	**+2.6**
AVH	**Avacha**	**5.35**	**23**	*e*P	**Pn**	**01 10 37.9**	**+2.4**
AVH	**Avacha**	**5.35**	**23**	PN	**Pn**	**01 10 37.9**	**+2.4**
SMAR	**Somma**	**5.36**	**23**	*e*P	**Pn**	**01 10 37.7**	**+1.9**
SMAR	**Somma**	**5.36**	**23**	PN	**Pn**	**01 10 37.7**	**+1.9**
KRX	**Arik**	**5.41**	**22**	*e*P	**Pn**	**01 10 37.9**	**+1.5**
KRX	**Arik**	**5.41**	**22**	PN	**Pn**	**01 10 37.9**	**+1.5**
SPN	**Mys Shipunski**	**5.59**	**31**	*e*P	**Pn**	**01 10 38.9**	**+0.2**
SPN				*e*S	**Sn**	**01 11 38.7**	**-2.9**
SPN	**Mys Shipunski**	**5.59**	**31**	PN	**Pn**	**01 10 38.9**	**+0.2**
SHO	**Shikotan**	**7.42**	**236**	*e*P	**Pn**	**01 11 05.1**	**+1.4**
SHO	comp=E,20nm

mbtmp3.9/25, ML3.8/6, MS3.3/7, Error ellipse: s-maj=14.5km s-min=13.1km az=173.0
NEIC ***15*** *01:11:02.9±1.9, 36°.71N±0°.05×70°.02E±0°.07, h37km±10km, mb4.3/21, Error ellipse: s-maj=8.7km s-min=6.3km az=130.0*
MOS ***15*** *01:11:03.8±1.1, 36°.72N×70°.13E, h70km, mb4.2/10, Error ellipse: s-maj=8.8km s-min=4.9km az=88.6*
NNC ***15*** *01:11:05.5±3.1, 36°.77N×69°.85E, h115km±71km, mb3.1, mpv3.4, Error ellipse: s-maj=23.8km s-min=22.5km az=26.0*

ISC 15 01:11:03.1±0.5, 36°.63N±0°.05×70°.05E±0°.05, h50km, n131, σ2s09/134, mb4.1/30, MS3.3/7, 14C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**2.14**	**341**			**Pn**		**01 11 37.5**	**+1.0**
CHGR	**Chuyangaron**	**2.14**	**341**	PN		**Pn**		**01 11 37.5**	**+1.0**
KBL	**Kabul**	**2.24**	**202**	Pn		**Pn**		**01 11 40.8**	**+2.8**
KBL	**Kabul**	**2.24**	**202**	PN		**Pn**		**01 11 40.8**	**+2.8**
BTK	**Batken**	**3.47**	**10**			**Pn**		**01 11 57.9**	**+3.2**
BTK	**Batken**	**3.47**	**10**	PN		**Pn**		**01 11 57.9**	**+3.2**
NIL	**Nilore**	**3.96**	**138**	Pn		**Pn**		**01 12 04.3**	**+2.8**
NIL	**Nilore**	**3.96**	**138**	PN		**Pn**		**01 12 04.3**	**+2.8**
SRNI	**Srinagar**	**4.66**	**121**	*e*P		Pn		01 12 25.2	+14
SRNI				*e*S		Sn		01 13 27.4	+24
ARSB	**Arslanbob**	**5.21**	**25**	Pn		**Pn**		**01 12 19.9**	**+1.3**
ARSB	**Arslanbob**	**5.21**	**25**	PN		**Pn**		**01 12 19.9**	**+1.3**
AML	**Almayashu** SNR=25	**6.17**	**26**	P		**Pn**		**01 12 33.9**	**+1.8**
AML	**Almayashu**	**6.17**	**26**	PN		**Pn**		**01 12 33.3**	**+1.3**
AML				S		**Sn**		**01 13 42.9**	**+1.5**
AML	**Almayashu** 0.1nm,0.2s	**6.17**	**26**	⇑P		**Pn**		**01 12 33.4**	**+1.3**
AML				⇑S		**Sn**		**01 13 42.9**	**+1.5**
	6.5nm,0.7s								
KK31	**Karatay Array**	**6.47**	**3**			**Pn**		**01 12 37.0**	**+1.2**
KK31	**Karatay Array**	**6.47**	**3**	PN		**Pn**		**01 12 37.0**	**+1.2**
KK31	**Karatay Array** 2.1nm,0.3s	**6.47**	**3**	⇑P		**Pn**		**01 12 36.6**	**+0.8**
KK31				⇓S		**Sn**		**01 13 49.0**	**+0.7**
	17nm,0.6s								
KKAR	**Karatay Array**	**6.47**	**3**			**Pn**		**01 12 37.0**	**+1.2**
KKAR	**Karatay Array**	**6.47**	**3**	PN		**Pn**		**01 12 37.0**	**+1.2**
UCH	**Uchtor** SNR=9.4	**6.57**	**30**	P		**Pn**		**01 12 40.2**	**+2.7**
NRN	**Naryn**	**6.66**	**42**	Pn		**Pn**		**01 12 39.7**	**+1.0**
NRN	**Naryn**	**6.66**	**42**	PN		**Pn**		**01 12 39.7**	**+1.0**
HRA	**Herat**	**6.75**	**253**	Pn		**Pn**		**01 12 40.3**	**+0.4**
DHRM	**DHARAMSHALA**	**6.76**	**128**	*e*P		**Pn**		**01 12 41.1**	**+1.1**
DHRM				*e*S		**Sn**		**01 13 56.7**	**+0.9**
DHRM				IAML				01 14 03.3	
	comp=E,182nm,0.3s								
KZA	**Kyzart** SNR=9.3	**6.76**	**35**	P		**Pn**		**01 12 42.2**	**+2.0**
AAK	**Ala-Archa** SNR=8.6	**6.91**	**28**	P		**Pn**		**01 12 44.4**	**+2.5**
AAK	**Ala-Archa**	**6.91**	**28**	*ce*PN		**Pn**		**01 12 44.3**	**+2.4**
AAK				pmax	pmax				
	comp=Z,3.0nm,0.4s								
AAK	**Ala-Archa**	**6.91**	**28**	Pn		**Pn**		**01 12 44.2**	**+2.3**
	comp=Z,3.4nm,0.3s,baz=192,slow=5.8,SNR=38								
AAK				Sn		**Sn**		**01 14 00.7**	**+1.6**
	comp=Z,4.4nm,0.3s,baz=150,slow=20,SNR=7.7								
AAK				Lg		Lg		01 14 42.5	
	baz=355,slow=17 comp=Z,7.4nm,0.3s								
KBK	**Karagaybulak** SNR=6.7	**7.10**	**31**	P		**Pn**		**01 12 48.6**	**+4.0**
FRU1	**Bishkek**	**7.11**	**28**	Pn		**Pn**		**01 12 43.7**	**-0.8**
FRU1	**Bishkek**	**7.11**	**28**	PN		**Pn**		**01 12 43.7**	**-0.8**
CHMS	**Chumysh** SNR=5.7	**7.31**	**28**	P		**Pn**		**01 12 50.4**	**+3.1**
CHMS	**Chumysh**	**7.31**	**28**	P		**Pn**		**01 12 49.3**	**+2.0**
CHMS				S		**Sn**		**01 14 11.7**	**+2.8**
CHMS	**Chumysh** comp=Z,4.0nm,0.3s	**7.31**	**28**	⇑P		**Pn**		**01 12 49.3**	**+2.0**
CHMS				⇓S		**Sn**		**01 14 11.1**	**+2.1**
	comp=Z,14nm,0.6s								
ULHL	**Ulahol** SNR=6.8	**7.37**	**39**	P		**Pn**		**01 12 50.9**	**+2.6**
TKM2	**Tokmak 2** SNR=12	**7.59**	**32**	P		**Pn**		**01 12 53.9**	**+2.6**
TKM2	**Tokmak 2**	**7.59**	**32**	P		**Pn**		**01 12 53.0**	**+1.7**
TKM2	**Tokmak 2** comp=Z,1.0nm,0.3s	**7.59**	**32**	⇓P		**Pn**		**01 12 53.1**	**+1.7**
TKM2				⇑S		**Sn**		**01 14 17.0**	**+0.9**
	comp=Z,2.8nm,0.6s								
TARG	**Taragay, Kyrgy**	**7.88**	**47**	Pn		**Pn**		**01 12 55.2**	**-0.3**
TARG	**Taragay, Kyrgy**	**7.88**	**47**	P		**Pn**		**01 12 55.2**	**-0.3**
SMLA	**Simla**	**8.07**	**131**	*e*P		**Pn**		**01 12 57.3**	**-0.3**
SMLA				*e*S		**Sn**		**01 14 27.2**	**-0.3**
SMLA				IAML				01 14 29.9	
	comp=E,82nm,0.5s								
SMLA				IAML				01 14 30.6	
	comp=N,74nm,0.5s								
GEYT	**Alibeck**	**9.60**	**281**			Pn		01 13 16.7	-2.0
GEYT	**Alibeck**	**9.60**	**281**	*e*P		Pn		01 13 30.9	+12
GEYT				pmax	pmax				
	comp=Z,2.0nm,0.3s								
GEYT	**Alibeck**	**9.60**	**281**	Pn		Pn		01 13 15.5	-3.2
	comp=Z,5.3nm,0.3s,baz=113,slow=11,SNR=47								
GEYT				Sn		Sn		01 15 00.2	-5.0
	comp=Z,2.5nm,0.3s,baz=120,slow=10,SNR=2.6								
GEYT				LR		LR		01 18 29.2	
	comp=Z,235nm,18.6s,baz=126,slow=47 comp=Z,9.8nm,0.4s								
GYA0B	**ALIBECK ARRAY**	**9.60**	**281**	Pn		Pn		01 13 16.6	-2.1
NDI	**New Delhi**	**9.96**	**141**	*e*P		**Pn**		**01 13 23.6**	**0.0**
NDI				*e*S		**Sn**		**01 15 09.5**	**-4.4**
NDI				IAML				01 15 13.2	
	comp=E,47nm,0.4s								
KUDL	**Kundal**	**10.06**	**145**	*e*P		Pn		01 13 23.4	-1.5
KUDL				*e*S		Sn		01 15 05.0	-11
MKAR	**Makanchi Array**	**13.64**	**38**	Pn		**Pn**		**01 14 12.3**	**-1.6**
MKAR	**Makanchi Array**	**13.64**	**38**	*e*P		**Pn**		**01 14 14.8**	**+1.0**
MKAR	**Makanchi Array**	**13.64**	**38**	Pn		**Pn**		**01 14 13.3**	**-0.5**
	comp=E,0.1nm,0.3s,baz=218,slow=15,SNR=5.4 comp=E,1.0nm,0.7s								
PYUN	**Piuthan**	**13.84**	**124**	*e*P		Pn		01 14 13.7	-3.1
PYUN				*e*S		Sn		01 16 39.7	-9.4
DANN	**Dangsing**	**14.20**	**122**	*e*P		Pn		01 14 17.8	-3.9
AB31	**Akbulak array**	**14.61**	**333**	P		Pn		01 14 23.6	-3.1
AB31				S		Sn		01 17 00.8	-6.4
AB31	**Akbulak array** comp=E,2.5nm,0.3s,baz=159,slow=13,SNR=178	**14.61**	**333**	⇑P		Pn		01 14 23.6	-3.1
AB31				⇑S		Sn		01 17 00.8	-6.3
	comp=E,2.5nm,0.6s,baz=158,slow=22,SNR=4.5								
ABKAR	**Akbulak array**	**14.61**	**333**	Pn		Pn		01 14 23.6	-3.1
GKN	**Gorkha**	**15.02**	**121**	*e*P		Pn		01 14 28.0	-4.4
KURBB	**Kurchatov Arra** comp=E,0.1nm,0.3s,baz=211,slow=11,SNR=3.5	**15.26**	**21**	Pn		**Pn**		**01 14 33.2**	**-1.9**
KURBB				Sn		**Sn**		**01 17 18.3**	**-4.5**
	baz=263,slow=24,SNR=1.4 comp=E,0.3nm,0.3s								
KURK	**Kurchatov**	**15.36**	**21**	Pn		**Pn**		**01 14 36.2**	**-0.3**
KURK	**Kurchatov**	**15.36**	**21**	⇓*e*P		**Pn**		**01 14 39.5**	**+3.0**
PKI	**Pulchoki**	**15.82**	**120**	*e*P		**Pn**		**01 14 39.2**	**-3.7**
GUN	**Gumba**	**15.95**	**119**	*e*P		Pn		01 14 40.1	-4.4
	comp=E,23nm,0.7s								
AKTO	**Aktyubinsk**	**16.29**	**332**	P		**Pn**		**01 14 46.7**	**-1.7**
AKTO				S		**Sn**		**01 17 42.8**	**-5.3**
AKTO	**Aktyubinsk** comp=E,1.3nm,0.3s,baz=152,slow=9.9,SNR=18	**16.29**	**332**	Pn		**Pn**		**01 14 46.7**	**-1.7**
AKTO				Sn		**Sn**		**01 17 42.5**	**-5.6**
	comp=E,0.3nm,0.3s,baz=156,slow=20,SNR=2.0 comp=E,5.9nm,0.5s								
AKTO	**Aktyubinsk** comp=E,1.0nm,0.5s	**16.29**	**332**	⇑P		**Pn**		**01 14 46.7**	**-1.7**
AKTO				⇓S		**Sn**		**01 17 42.8**	**-5.3**
	comp=E,1.0nm,0.7s								
JIRN	**Jiri** comp=E,28nm,0.5s	**16.32**	**119**	*e*P		**Pn**		**01 14 45.2**	**-4.0**
BVAR	**Borovoye Array** comp=E,0.1nm,0.3s,baz=166,slow=11,SNR=14 comp=E,3.2nm,0.5s	**16.39**	**1**	Pn		**Pn**		**01 14 46.9**	**-2.7**
BRVK	**Borovoye**	**16.43**	**0**	Pn		**Pn**		**01 14 49.0**	**-1.0**
BRVK	**Borovoye**	**16.43**	**0**	⇑*e*P		**Pn**		**01 14 48.5**	**-1.5**
BRVK				pmax	pmax				
	comp=Z,6.0nm,0.8s								
RAMN	**Ramite** comp=Z,19nm,0.6s	**17.04**	**120**	*e*P		**Pn**		**01 14 54.6**	**-3.5**
DGZ	**Jazzator, Alta**	**18.14**	**39**	⇑*e*P		**P**		**01 15 09.8**	**-1.4**
DGZ				pmax	pmax				
	comp=Z,3.0nm,0.5s								
ZAA0	**Zalesovo Array**	**20.12**	**26**	P		**P**		**01 15 32.7**	**+0.1**
ZAA0				IAmb		IAmb		01 15 47.0	
	comp=Z,6.8nm,0.6s								
ZALV	**Zalesovo Beam**	**20.12**	**26**	*e*P		**P**		**01 15 32.7**	**+0.1**
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.3s								
ZALV	**Zalesovo Beam** comp=Z,2.2nm,0.4s,baz=221,slow=11,SNR=13 comp=Z,2.2nm,0.4s	**20.12**	**26**	P		**P**		**01 15 32.8**	**+0.1**
GNI	**Garni**	**20.13**	**288**	P		**P**		**01 15 34.0**	**+1.0**
	comp=Z,1.5nm,0.5s,baz=40,slow=7.9,SNR=2.1								
GNI				LR		LR		01 26 34.2	
	comp=Z,56nm,19.3s,baz=24,slow=46 comp=Z,1.5nm,0.5s								
SVE	**Sverdlovsk**	**21.17**	**346**	*e*P		**P**		**01 15 44.7**	**+0.8**
ARU	**Arti**	**21.27**	**342**	P		**P**		**01 15 45.5**	**+0.6**
ARU				IAmb		IAmb		01 16 02.8	
	comp=Z,10nm,1.2s								
ARU	**Arti**	**21.27**	**342**	*d* P		**P**		**01 15 45.6**	**+0.6**
ARU								01 16 19.4	
ARU				S		**S**		**01 19 33.3**	**-5.1**
ARU				SS		SnSn		01 20 29.9	+27
ARU				pmax	pmax				
	comp=Z,6.0nm,0.8s								
ARU	**Arti**	**21.27**	**342**	P		**P**		**01 15 45.0**	**0.0**
	comp=Z,4.6nm,0.6s,baz=162,slow=6.5,SNR=7.0 comp=Z,4.6nm,0.6s								
ONI	**Oni**	**21.29**	**294**	P		**P**		**01 15 46.2**	**+0.7**
ONI				IAmb		IAmb		01 16 08.0	
	comp=Z,8.2nm,1.3s								
ONI	**Oni**	**21.29**	**294**	P		**P**		**01 15 46.2**	**+0.7**
ONI				pmax	pmax				
	comp=Z,8.0nm,1.3s								
NCK	**Nalchik**	**21.32**	**297**	⇓*e*P		**P**		**01 15 49.9**	**+4.1**
NCK				pmax	pmax				
	comp=Z,9.0nm,0.8s								
SHL	**Shillong**	**21.66**	**114**	P		**P**		**01 15 49.8**	**+0.2**
SHL				IAmb		IAmb		01 15 52.9	
	comp=Z,20nm,0.7s								
SHL	**Shillong**	**21.66**	**114**	P		**P**		**01 15 49.8**	**+0.2**
SHL				pmax	pmax				
	comp=Z,20nm,0.7s								
KBZ	**Khabaz**	**21.86**	**297**	*ce*P		**P**		**01 15 54.5**	**+3.0**
KBZ				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KBZ	**Khabaz**	**21.86**	**297**	P		**P**		**01 15 50.8**	**-0.7**
	comp=Z,3.8nm,0.9s,baz=95,slow=12,SNR=3.6 comp=Z,3.8nm,0.9s								
SIRT	**Sirnak**	**22.03**	**281**	P		**P**		**01 15 52.0**	**-1.4**
SIRT				IAmb		IAmb		01 16 11.5	
	comp=Z,12nm,0.8s								
KIV	**Kislovodsk**	**22.05**	**298**	P		**P**		**01 15 52.6**	**-1.0**
KIV				IAmb		IAmb		01 15 57.8	
	comp=Z,9.0nm,0.8s								
KIV	**Kislovodsk**	**22.05**	**298**	*e*P		**P**		**01 15 55.4**	**+1.8**
KIV				*e*S		**S**		**01 19 49.9**	**-4.1**
KIV				pmax	pmax				
	comp=Z,11nm,1.1s								
BELG	**Belogornoye**	**22.31**	**322**	*c* P		**P**		**01 15 56.3**	**+0.1**
BELG				pmax	pmax				
	comp=Z,3.0nm,0.8s								
KIRV	**Kirov**	**25.79**	**335**	⇑*e*P		**P**		**01 16 29.3**	**+0.2**
BR131	**Keskin Array S**	**28.67**	**287**	P		**P**		**01 16 55.0**	**-0.3**
BR131	**Keskin Array S**	**28.67**	**287**	P		**P**		**01 16 55.0**	**-0.3**
BR131				pmax	pmax				
	comp=Z,2.0nm,1.0s								
BRTR	**Keskin Array B**	**28.67**	**287**	P		**P**		**01 16 55.2**	**-0.1**
BRTR	**Keskin Array B**	**28.67**	**287**	*e*P		**P**		**01 16 57.6**	**+2.3**
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
BRTR	**Keskin Array B**	**28.67**	**287**	P		**P**		**01 16 57.1**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=102,slow=8.3,SNR=4.5								
BRTR				LR		LR		01 31 13.7	
	comp=Z,69nm,20.1s,baz=331,slow=42 comp=Z,0.5nm,0.6s								
SONM	**Songino Array**	**28.89**	**56**	P		**P**		**01 16 57.6**	**+0.5**
	comp=Z,1.2nm,1.0s,baz=258,slow=7.3,SNR=5.3 comp=Z,1.2nm,1.0s								
EIL	**Elat**	**30.08**	**267**	LR		LR		01 31 17.7	
	comp=Z,43nm,19.1s,baz=72,slow=41								
PALK	**Pallekele**	**30.80**	**159**	LR		LR		01 30 04.9	
	comp=Z,71nm,18.6s,baz=99,slow=38								
CMAR	**Chiang Mai Arr**	**31.19**	**118**	*e*P		**P**		**01 17 19.2**	**+1.6**
CMAR				pmax	pmax				
	comp=Z,2.0nm,0.3s								
CMAR	**Chiang Mai Arr**	**31.19**	**118**	P		**P**		**01 17 17.8**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=299,slow=9.0,SNR=5.3								
CMAR				LR		LR		01 33 51.7	
	comp=Z,34nm,18.0s,baz=100,slow=44 comp=Z,1.4nm,0.3s								
AKASG	**Malin Array Be**	**32.27**	**309**	P		**P**		**01 17 27.7**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=86,slow=6.2,SNR=5.9 comp=Z,1.1nm,0.6s								
MNK	**Minsk**	**33.87**	**315**	*i* P		**P**		**01 17 39.5**	**-1.2**
	comp=E,6.0nm,1.0s								
MNK				*i* P		**P**		**01 17 39.5**	**-1.2**
	comp=N,11nm,0.9s								
MNK				*i* P		**P**		**01 17 39.5**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=104								
MNK				*i* pP		sP		01 18 09.7	+10
MNK				*i* PP		**PP**		**01 18 57.3**	**-0.6**
MNK				*i* S		S		01 22 53.6	-7.7
MNK				*i* sS		ScP		01 23 47.2	-12
MNK				*i* SS		**SnSn**		**01 25 16.2**	**+5.9**
MNK				*i* LRM		MLR		01 32 56.8	
MNK				*i* LRM		MLR		01 32 56.8	
MNK				*i* LRM		MLR		01 32 56.8	
	comp=Z,184nm,17.9s								
MNK	**Minsk**	**33.87**	**315**	*i* P		**P**		**01 17 39.5**	**-1.2**
MNK				*i* *PP		sP		01 18 09.7	+10
MNK				*i*				01 18 57.3	
MNK				*i* S		S		01 22 53.6	-7.7
MNK				*i* SS		**SnSn**		**01 25 16.2**	**+5.9**
MNK				pmax	pmax				
	comp=Z,2.0nm,0.7s								
MNK				pmax	pmax				
	comp=E,6.0nm,1.0s								
MNK				pmax	pmax				
	comp=N,11nm,0.9s								
MNK				MLR	MLR				
	comp=Z,184nm,18.0s								
MLR	**Muntele Rosu**	**34.05**	**299**	P		**P**		**01 17 43.4**	**+0.8**
MLR				IAmb		IAmb		01 18 05.4	
	comp=Z,4.5nm,1.1s								
MLR	**Muntele Rosu**	**34.05**	**299**	P		**P**		**01 17 43.4**	**+0.8**
MLR				pmax	pmax				
	comp=Z,4.0nm,1.1s								
MLR	**Muntele Rosu**	**34.05**	**299**	LR		LR		01 35 18.4	
	comp=Z,109nm,19.3s,baz=348,slow=43								
BURAR	**Bucovina Array**	**34.57**	**303**	P		**P**		**01 17 48.4**	**+1.3**
FIA1	**FINESS Array S**	**36.95**	**326**	P		**P**		**01 18 07.7**	**+0.6**
FINES	**FINESS Array B**	**36.95**	**326**	P		**P**		**01 18 08.1**	**+1.1**
FINES	**FINESS Array B**	**36.95**	**326**	P		**P**		**01 18 08.0**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=116,slow=8.7,SNR=5.1 comp=Z,1.7nm,0.7s								
KEV	**Kevo**	**40.40**	**338**	P		**P**		**01 18 35.8**	**0.0**
KEV	**Kevo**	**40.40**	**338**	P		**P**		**01 18 35.8**	**0.0**
KEV				pmax	pmax				
	comp=Z,53nm,1.4s								
ARCES	**ARCESS Array B**	**40.73**	**338**	P		**P**		**01 18 38.5**	**-0.1**
ARCES				IAmb		IAmb		01 19 00.0	
	comp=Z,6.9nm,1.2s								
ARCES	**ARCESS Array B**	**40.73**	**338**	P		**P**		**01 18 40.2**	**+1.5**
	comp=Z,4.3nm,0.9s,baz=70,slow=4.0,SNR=4.6 comp=Z,4.3nm,0.9s								
KULM	**Kulim**	**41.94**	**131**	P		**P**		**01 18 50.0**	**+0.9**
KULM				IAmb		IAmb		01 18 53.5	
	comp=Z,9.1nm,1.0s								
GERES	**GERESS Array B**	**42.23**	**305**	P		**P**		**01 18 52.3**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=38,slow=16,SNR=2.3 comp=Z,0.2nm,0.3s								
HFS	**Hagfors**	**42.49**	**322**	P		**P**		**01 18 53.9**	**+0.8**
	comp=Z,4.5nm,0.9s,baz=98,slow=11,SNR=6.7 comp=Z,4.5nm,0.9s								
NC303	**NORSAR Array S**	**43.76**	**323**	P		**P**		**01 19 03.3**	**-0.1**
NC303				IAmb		IAmb		01 19 29.9	
	comp=Z,17nm,1.4s								
NB201	**NORSAR Array S**	**43.78**	**323**	P		**P**		**01 19 04.2**	**+0.6**
NB2	**NORSAR Subarra**	**43.82**	**323**	P		**P**		**01 19 04.2**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=96,slow=8.6								
NOA	**NORSAR Array B**	**43.82**	**323**	P		**P**		**01 19 04.1**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=98,slow=8.0,SNR=3.3 comp=Z,0.8nm,0.7s								
KBS	**Kingsbay**	**48.31**	**347**	P		**P**		**01 19 39.2**	**+0.3**
KBS	**Kingsbay**	**48.31**	**347**	P		**P**		**01 19 39.3**	**+0.3**
KBS				pmax	pmax				
	comp=Z,21nm,0.9s								
ESDC	**Sonseca Array**	**56.72**	**297**	P		**P**		**01 20 42.5**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=72,slow=8.2,SNR=1.5 comp=Z,0.6nm,0.9s								
TOA0	**Torodi Ar. Sit**	**64.96**	**268**	P		**P**		**01 21 37.2**	**-0.8**
TOA0				IAmb		IAmb		01 21 39.3	
	comp=Z,1.8nm,1.2s								
TORD	**Torodi Ar. Bea**	**64.96**	**268**	P		P		01 21 36.7	-1.3
TORD	**Torodi Ar. Bea**	**64.96**	**268**	P		P		01 21 36.7	-1.2
	comp=Z,0.4nm,0.5s,baz=50,slow=6.5,SNR=6.9 comp=Z,0.4nm,0.5s								
ILAR	**Eielson Array**	**74.86**	**15**	P		**P**		**01 22 38.3**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=310,slow=4.9,SNR=2.1 comp=Z,2.0nm,0.7s								
YKA	**Yellowknife Ar**	**81.14**	**2**	P		**P**		**01 23 15.1**	**+2.3**
	comp=Z,0.9nm,0.8s,baz=346,slow=5.3,SNR=7.6 comp=Z,0.8nm,0.8s								
WRA	**Warramunga Arr**	**82.71**	**121**	P		**P**		**01 23 20.6**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=326,slow=4.3,SNR=5.8 comp=Z,0.9nm,0.3s								
ASAR	**Alice Springs**	**84.96**	**124**	P		**P**		**01 23 31.7**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=309,slow=5.8,SNR=5.1 comp=Z,0.5nm,0.6s								

IDC ***15*** *01:43:17.0±8.3, 50°.52N×157°.99E, h0km, mb3.4/3, mbtmp3.4/4, ML2.8/1, MS2.8/2, Error ellipse: s-maj=175.2km s-min=37.7km az=65.0*
KRSC ***15*** *01:43:23.6±1.1, 50°.79N×157°.96E, h41km±21km, Ml4.5*
MOS ***15*** *01:43:23.2±0.8, 50°.65N×157°.96E, h53km, mb4.2/1, Error ellipse: s-maj=23.8km s-min=5.1km az=85.8*

ISC 15 01:43:22.6±2.2, 50°.67N±0°.08×158°.01E±0°.06, h28km±15km, n52, σ1s36/64, mb3.4/3, 2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.10**	**317**	*e*P		**Pn**		**01 43 43.6**	**+1.5**
PAU				*e*S		**Sn**		**01 43 56.2**	**-0.2**
PAU	**Pauzhetka**	**1.10**	**317**	PN		**Pn**		**01 43 43.6**	**+1.5**
PAU				S		**Sn**		**01 43 56.2**	**-0.2**
KDTR	**Khodutka, Kamc**	**1.14**	**2**	*e*P		**Pn**		**01 43 42.9**	**+0.2**
KDTR				*e*S		**Sn**		**01 43 55.9**	**-1.6**
KDTR	**Khodutka, Kamc**	**1.14**	**2**	PN		**Pn**		**01 43 42.9**	**+0.2**
KDTR				S		**Sn**		**01 43 55.9**	**-1.6**
SKR	**Severo-Kuril's**	**1.20**	**271**	*e*P		**Pn**		**01 43 44.4**	**+0.9**
SKR				*e*S		**Sn**		**01 43 58.8**	**-0.1**
SKR	**Severo-Kuril's**	**1.20**	**271**	*e*PN		**Pn**		**01 43 44.4**	**+0.9**
SKR				*e*S		**Sn**		**01 43 58.5**	**-0.4**
SKR				pmax	pmax				
	comp=Z,177nm,0.3s								
SKR				smax	smax				
	comp=N,2μm,0.3s								
SKR				smax	smax				
	comp=E,1μm,0.6s								
ASAK	**Asacha**	**1.72**	**358**	*e*P		**Pn**		**01 43 51.1**	**+0.4**
ASAK	**Asacha**	**1.72**	**358**	PN		**Pn**		**01 43 51.1**	**+0.4**
RUS	**Russkaya**	**1.79**	**10**	*e*P		**Pb**		**01 43 54.1**	**-0.6**
RUS	**Russkaya**	**1.79**	**10**	PN		**Pb**		**01 43 54.1**	**-0.6**
MTVR	**Mutnovka**	**1.82**	**3**	*e*P		**Pn**		**01 43 52.7**	**+0.5**
MTVR				*e*S		**Sn**		**01 44 13.2**	**-1.2**
MTVR	**Mutnovka**	**1.82**	**3**	PN		**Pn**		**01 43 52.7**	**+0.5**
MTVR				S		**Sn**		**01 44 13.2**	**-1.2**
GRL	**Gorelyy**	**1.89**	**1**	*e*P		**Pn**		**01 43 54.0**	**+0.9**
GRL				*e*S		**Sn**		**01 44 15.5**	**-0.5**
GRL	**Gorelyy**	**1.89**	**1**	PN		**Pn**		**01 43 54.0**	**+0.9**
GRL				S		**Sn**		**01 44 15.5**	**-0.5**
KRMR	**Karymshinskiy**	**2.17**	**2**	*e*P		**Pn**		**01 43 58.0**	**+1.2**
KRMR				*e*S		**Sn**		**01 44 23.8**	**+1.1**
KRMR	**Karymshinskiy**	**2.17**	**2**	PN		**Pn**		**01 43 58.0**	**+1.2**
KRMR				S		**Sn**		**01 44 23.8**	**+1.1**
APC	**Apacha**	**2.32**	**347**	*e*P		**Pn**		**01 43 59.9**	**+1.0**
APC	**Apacha**	**2.32**	**347**	PN		**Pn**		**01 43 59.9**	**+1.0**
PET	**Petropavlovsk**	**2.39**	**9**	*e*P		**Pn**		**01 44 00.8**	**+0.9**
PET				*e*S		**Sn**		**01 44 27.9**	**-0.4**
PET	**Petropavlovsk**	**2.39**	**9**	*d* PN		**Pn**		**01 44 00.8**	**+0.9**
PET				*i* S		**Sn**		**01 44 28.0**	**-0.3**
PET				pmax	pmax				
	comp=Z,118nm,1.4s								
PET				smax	smax				
	comp=Z,194nm,1.1s								
DALK	**Dalny**	**2.41**	**11**	*e*P		**Pn**		**01 44 01.2**

BRU2				*e*S		Sn	01 47 33.4	+0.9
UPA	**Univ. de Panam**	**2.31**	**40**	*e*P		Pn	01 47 03.4	-0.3
UPA				*e*S		Sn	01 47 33.6	+0.8
CNI2	**El Empalme, Bo**	**2.64**	**327**	*e*P		Pn	01 47 08.5	+0.4
CNI2				*e*S		Sn	01 47 41.9	+1.1

IDC 15 02:00:49.2±13.0, 15°01'S×166°13'E, h0km, mb4.3/3, mbtmp4.2/4, ML4.0/1, Error ellipse: s-maj=230.8km s-min=36.6km az=59.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.03**	**178**	Pn	Pn	02 02 34.1	+0.6
	2.6nm,0.3s,baz=352,slow=15,SNR=14						
DZM				Sn	Sn	02 03 53.3	-1.0
	2.6nm,0.3s,baz=319,slow=19,SNR=12						
	6.4nm,0.3s						
STKA	**Stephens Creek**	**27.98**	**229**	P	P	02 06 41.5	-0.3
	3.7nm,0.5s,baz=37,slow=8.7,SNR=15						
	3.7nm,0.5s						
WRA	**Warramunga Arr**	**30.69**	**256**	P	P	02 07 06.0	0.0
	1.0nm,0.7s,baz=84,slow=8.6,SNR=15						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**31.55**	**249**	P	P	02 07 13.8	+0.2
	2.6nm,0.6s,baz=80,slow=9.2,SNR=30						
	2.6nm,0.6s						

*NEIC **15** 02:08:04.6±1.0, 54°64'N±0°07'×156°72'W±0°08, h35km±23km, Error ellipse: s-maj=10.8km s-min=5.7km az=156.0*
*AEIC **15** 02:08:05.5±1.1, 54°73'N±0°08'×156°78'W±0°08, h25km±8km, ML3.3, ML3.2/34(NEIC), Error ellipse: s-maj=12.4km s-min=5.4km az=157.0*
*IDC **15** 02:08:07.5±1.7, 55°58'N×157°52'W, h0km, mb4.0/10, mbtmp4.0/12, ML3.7/2, MS2.9/1, Error ellipse: s-maj=44.2km s-min=19.6km az=170.0*
ISC 15 02:08:06.9±0.9, 54°76'N±0°09'×156°76'W±0°05, h35km, n105, σ1§31/96, mb3.9/11, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHIR	**Chirikof Islan**	**1.25**	**31**		**Pn**	**02 08 26.3**	**-1.5**
CHIR				IAML		02 09 07.4	
	comp=E,406nm,0.8s						
CHIR				IAML		02 09 10.7	
	comp=N,394nm,0.8s						
CHIR	**Chirikof Islan**	**1.25**	**31**		**Sn**	**02 08 41.9**	**-1.6**
CNBA	**Chernabura Isl**	**1.64**	**273**		**Pn**	**02 08 30.8**	**-2.4**
CNBA	**Chernabura Isl**	**1.64**	**273**		**Sn**	**02 08 49.5**	**-3.5**
CHGN	**Chignik**	**1.81**	**329**		**Pn**	**02 08 33.9**	**-1.7**
CHGN				IAML		02 08 59.2	
	comp=E,246nm,0.1s						
CHGN				IAML		02 09 12.4	
	comp=N,274nm,0.8s						
CHGN	**Chignik**	**1.81**	**329**		**Sn**	**02 08 56.5**	**-0.7**
VNSG	**Veniaminof 6**	**1.91**	**317**		**Pn**	**02 08 35.4**	**-1.6**
VNSG					**Sn**	**02 08 59.5**	**-0.2**
VNWF	**Veniaminof 8**	**2.12**	**312**		**Pn**	**02 08 39.0**	**-0.9**
VNSS	**Veniaminof 8**	**2.13**	**315**		**Pn**	**02 08 39.3**	**-0.7**
VNFG	**Fog Glacier, M**	**2.21**	**315**		**Pn**	**02 08 40.5**	**-1.6**
SDPT	**Sand Point**	**2.22**	**287**		**Pn**	**02 08 39.6**	**-1.5**
SDPT				IAML		02 09 27.1	
	comp=E,169nm,1.4s						
SDPT				IAML		02 09 45.1	
	comp=N,174nm,1.4s						
SDPT	**Sand Point**	**2.22**	**287**		**Sn**	**02 09 05.2**	**-2.1**
SDPT	**Sand Point**	**2.22**	**287**	P	**Pn**	**02 08 39.5**	**-1.6**
ANNE	**Aniakchak Nort**	**2.28**	**342**		**Pn**	**02 08 41.0**	**-1.0**
AZAC	**Aniakchak**	**2.30**	**339**		**Pn**	**02 08 40.9**	**-1.5**
SII	**Sitkinak Islan**	**2.32**	**38**		**Pn**	**02 08 41.3**	**-1.3**
SII				IAML		02 09 55.1	
	comp=E,158nm,1.2s						
SII				IAML		02 10 14.8	
	comp=N,188nm,1.1s						
SII	**Sitkinak Islan**	**2.32**	**38**		**Sn**	**02 09 07.6**	**-2.3**
SII	**Sitkinak Islan**	**2.32**	**38**	P	**Pn**	**02 08 41.3**	**-1.3**
R17K	**Ugashik Creek**	**2.90**	**4**		**Pn**	**02 08 50.0**	**-0.4**
R17K	**Ugashik Creek**	**2.90**	**4**	IAML		02 09 49.4	
	comp=N,82nm,1.1s						
PS1A	**Pavlof South-1**	**2.94**	**285**		**Pn**	**02 08 48.8**	**-2.3**
PS1A					**Sn**	**02 09 23.6**	**-1.5**
R18K	**Karluk**	**3.10**	**24**		**Pn**	**02 08 52.5**	**-0.6**
R18K	**Karluk**	**3.10**	**24**	IAML		02 09 20.5	
	comp=N,86nm,0.6s						
OHAK	**Old Harbor**	**3.15**	**37**		**Pn**	**02 08 52.5**	**-1.3**
OHAK	**Old Harbor**	**3.15**	**37**	P	**Pn**	**02 08 52.5**	**-1.3**
ANCK	**Angle Creek**	**3.52**	**11**		**Pn**	**02 08 58.5**	**-0.6**
CNTC	**Contact Creek**	**3.55**	**7**		**Pn**	**02 08 58.9**	**-0.6**
ACHA	**Angle Creek He**	**3.55**	**12**		**Pn**	**02 08 58.9**	**-0.6**
KABU	**Katmai Buttres**	**3.62**	**12**		**Pn**	**02 09 00.1**	**-0.3**
KAKN	**Katmai Knife C**	**3.67**	**14**		**Pn**	**02 09 00.7**	**-0.5**
KDAK	**Kodiak Island**	**3.82**	**36**		**Pn**	**02 09 01.6**	**-1.6**
KDAK	**Kodiak Island**	**3.82**	**36**	IAML		02 10 34.5	
	comp=N,30nm,1.3s						
KDAK	**Kodiak Island**	**3.82**	**36**	Pn	**Pn**	**02 09 01.3**	**-1.9**
	comp=N,1.4nm,0.3s,baz=232,slow=6.3,SNR=24						
KDAK				Sn	**Sn**	**02 09 43.8**	**-3.0**
	comp=N,2.7nm,0.3s,baz=90,slow=22,SNR=7.2						
	comp=N,5.8nm,0.5s						
KAHG	**Katmai Hook Gl**	**3.94**	**17**		**Pn**	**02 09 04.5**	**-0.3**
KAHC	**Katmai Hardscr**	**4.02**	**13**		**Pn**	**02 09 04.9**	**-1.1**
ISLZ	**Isanotski Laza**	**4.03**	**272**		**Pn**	**02 09 04.5**	**-1.6**
P16K	**Nushagak River**	**4.34**	**352**		**Pn**	**02 09 09.8**	**-0.4**
P17K	**Kvichak River**	**4.46**	**2**		**Pn**	**02 09 11.0**	**-0.8**
Q19K	**Cape Douglas,**	**4.52**	**21**		**Pn**	**02 09 11.8**	**-0.9**
SYI	**Shuyak Island**	**4.55**	**30**		**Pn**	**02 09 12.1**	**-1.1**
SYI	**Shuyak Island**	**4.55**	**30**	IAML		02 09 58.3	
	comp=N,28nm,1.5s						
SYI				IAML		02 11 24.7	
	comp=E,30nm,1.3s						
P18K	**Big Mountain,**	**4.72**	**10**		**Pn**	**02 09 14.3**	**-1.3**
P18K	**Big Mountain,**	**4.72**	**10**	IAML		02 11 10.7	
	comp=E,14nm,1.5s						
O15K	**Ungalikthiuk R**	**4.74**	**341**		**Pn**	**02 09 14.4**	**-1.3**
O16K	**Kokwok River B**	**4.91**	**352**		**Pn**	**02 09 17.5**	**-0.5**
O16K	**Kokwok River B**	**4.91**	**352**	IAML		02 11 13.9	
	comp=N,13nm,1.4s						
AUQ	**Augustine Qik'**	**4.96**	**20**		**Pn**	**02 09 18.5**	**-0.3**
O17K	**Koliganek Bris**	**5.03**	**358**		**Pn**	**02 09 18.3**	**-1.5**
O14K	**Tigyukauivet M**	**5.14**	**333**		**Pn**	**02 09 20.4**	**-0.8**
O14K	**Tigyukauivet M**	**5.14**	**333**	IAML		02 11 04.2	
	comp=N,20nm,1.2s						
O14K				IAML		02 11 11.5	
	comp=E,17nm,1.2s						
O18K	**Koktuh Hills**	**5.18**	**9**		**Pn**	**02 09 21.0**	**-0.8**
O18K	**Koktuh Hills**	**5.18**	**9**	IAML		02 11 17.7	
	comp=N,11nm,1.3s						
P19K	**Oil Pt**	**5.27**	**20**		**Pn**	**02 09 22.4**	**-0.7**
ILSW	**Iliamna Southw**	**5.59**	**19**		**Pn**	**02 09 27.0**	**-0.6**
CNPM	**China Poot**	**5.65**	**30**		**Pn**	**02 09 27.1**	**-1.1**
IVE	**Iliamna Volcan**	**5.65**	**19**		**Pn**	**02 09 27.6**	**-0.7**
N15K	**Kwethluk River**	**5.72**	**343**		**Pn**	**02 09 28.6**	**-0.6**
UNV	**Unalaska Valle**	**5.78**	**265**		**Pn**	**02 09 28.2**	**-1.8**
UNV	**Unalaska Valle**	**5.78**	**265**	P	**Pn**	**02 09 28.3**	**-1.7**
O20K	**Slope Mountain**	**5.79**	**21**		**Pn**	**02 09 29.7**	**-0.5**
N17K	**Nushagak Hills**	**5.79**	**358**		**Pn**	**02 09 29.3**	**-0.9**
MNAT	**Makushin Natee**	**5.88**	**265**		**Pn**	**02 09 29.4**	**-2.0**
BRLK	**Bradley Lake**	**5.95**	**30**		**Pn**	**02 09 30.4**	**-1.9**
BRSE	**Bradley Lake S**	**5.97**	**31**		**Pn**	**02 09 31.0**	**-1.6**
MAPS	**Pakushin South**	**6.04**	**265**		**Pn**	**02 09 31.6**	**-2.0**
RSO	**Redoubt South**	**6.11**	**19**		**Pn**	**02 09 34.6**	**-0.2**
RDWB	**Redoubt West**	**6.12**	**19**		**Pn**	**02 09 34.3**	**-0.6**
NCT	**North Crescent**	**6.17**	**18**		**Pn**	**02 09 34.9**	**-0.6**
N19K	**Bonanza Creek**	**6.19**	**10**		**Pn**	**02 09 35.2**	**-0.6**
M15K	**Kasigluk River**	**6.32**	**342**		**Pn**	**02 09 36.4**	**-0.9**
SVW2	**Sparrevohn**	**6.39**	**5**	P	**Pn**	**02 09 37.6**	**-0.8**
M16K	**Timber Creek**	**6.39**	**350**		**Pn**	**02 09 37.4**	**-1.0**
M14K	**Bethel**	**6.62**	**337**		**Pn**	**02 09 40.6**	**-1.0**
M17K	**Holitna River**	**6.67**	**357**		**Pn**	**02 09 41.4**	**-0.8**
SLKM	**Skilak Lake**	**6.75**	**29**		**Pn**	**02 09 41.2**	**-2.1**
M18K	**Stony River**	**6.77**	**4**		**Pn**	**02 09 42.7**	**-0.9**
RC01	**Rabbit Creek A**	**7.37**	**28**	Pn	**Pn**	**02 09 52.2**	**+0.5**
SUA	**Susitna One**	**7.44**	**23**		**Pn**	**02 09 52.3**	**-0.5**
L19K	**White Mountain**	**7.51**	**7**		**Pn**	**02 09 53.7**	**-0.1**
K17K	**Iditarod**	**8.02**	**355**		**Pn**	**02 10 00.4**	**-0.4**
GHO	**Glory Hole Cre**	**8.15**	**27**	Pn	**Pn**	**02 10 02.9**	**+0.3**
TTA	**Tatalina**	**8.21**	**2**	P	**Pn**	**02 10 02.7**	**-0.7**
EYAK	**Cordova Ski Ar**	**8.27**	**41**	P	**Pn**	**02 10 04.2**	**0.0**
SCM	**Sheep Creek Mo**	**8.65**	**31**	Pn	**Pn**	**02 10 09.7**	**+0.2**
KLU	**Klutina**	**8.85**	**36**		**Pn**	**02 10 12.4**	**+0.2**
CAST	**Castle Rocks**	**9.01**	**14**	Pn	**Pn**	**02 10 14.3**	**-0.1**
WAT6	**Susitna Watana**	**9.14**	**27**		**Pn**	**02 10 16.2**	**+0.1**
PNL	**Peninsula**	**10.61**	**55**	P	**Pn**	**02 10 36.7**	**+0.5**
ATKA	**Atka Island**	**10.70**	**263**	P	**Pn**	**02 10 36.8**	**-0.6**
ILAR	**Eielson Array**	**11.19**	**22**	Pn	**Pn**	**02 10 40.0**	**-4.1**
	comp=N,0.4nm,0.3s,baz=215,slow=13,SNR=24						
ILAR				Sn	Sn	02 12 36.8	-11
	comp=N,0.1nm,0.3s,baz=144,slow=32,SNR=4.5						
INK	**Inuvik**	**17.35**	**29**	Pn	**Pn**	**02 12 05.2**	**-0.7**
	comp=N,0.5nm,0.3s,baz=246,slow=11,SNR=12						
INK				LR	LR	02 18 09.8	
	comp=N,48nm,22.0s,baz=165,slow=36						
	comp=N,4.1nm,0.7s						
YKA	**Yellowknife Ar**	**22.89**	**53**	P	**P**	**02 13 09.2**	**+2.1**
	comp=N,0.2nm,0.7s,baz=272,slow=9.9,SNR=2.3						
PETK	**Petropavlovsk-**	**26.51**	**285**	P	**P**	**02 13 39.6**	**-1.1**
	comp=N,6.3nm,1.1s,baz=70,slow=14,SNR=4.2						
	comp=N,6.3nm,1.1s						
PDAR	**Pinedale Array**	**32.72**	**92**	P	P	02 14 47.1	+11
	comp=N,0.2nm,0.6s,baz=339,slow=2.1,SNR=3.6						
	comp=N,0.2nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**44.50**	**233**	T	T	03 03 53.5	
	baz=29,slow=75,SNR=7.3						
H11N3	**WAKE ISLAND Hy**	**44.50**	**233**	T	T	03 04 08.7	
	baz=29,slow=75,SNR=7.9						
H11N1	**WAKE ISLAND Hy**	**44.52**	**233**	T	T	03 03 56.0	
	baz=29,slow=75,SNR=6.1						
ARCES	**ARCESS Array B**	**56.01**	**359**	P	**P**	**02 17 40.3**	**-0.9**
	comp=N,5.4nm,1.1s,baz=21,slow=8.7,SNR=1.6						
	comp=N,5.4nm,1.1s						
SONM	**Songino Array**	**56.25**	**306**	P	**P**	**02 17 44.6**	**+1.2**
	comp=N,1.0nm,0.8s,baz=40,slow=7.9,SNR=6.2						
	comp=N,1.0nm,0.8s						
FINES	**FINESS Array B**	**64.12**	**358**	P	**P**	**02 18 37.7**	**+0.8**
	comp=N,5.0nm,1.0s,baz=26,slow=9.1,SNR=6.8						
	comp=N,5.0nm,1.0s						
KURBB	**Kurchatov Arra**	**65.30**	**325**	P	**P**	**02 18 45.3**	**+0.5**
	comp=N,0.3nm,0.2s,baz=22,slow=6.2,SNR=2.0						
	comp=N,0.3nm,0.2s						
BVAR	**Borovoye Array**	**65.72**	**331**	P	**P**	**02 18 48.5**	**+1.1**
	comp=N,0.6nm,0.6s,baz=30,slow=4.1,SNR=4.4						
	comp=N,0.6nm,0.6s						
AKASG	**Malin Array Be**	**74.79**	**356**	P	**P**	**02 19 43.1**	**+0.2**
	comp=N,0.3nm,0.3s,baz=0.0,slow=4.9,SNR=2.2						
	comp=N,0.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**83.08**	**292**	P	**P**	**02 20 30.4**	**+1.6**
	comp=N,1.2nm,0.3s,baz=12,slow=7.0,SNR=4.2						
	comp=N,1.2nm,0.3s						
BRTR	**Keskin Array B**	**85.47**	**352**	P	**P**	**02 20 41.6**	**+0.8**
	comp=N,0.3nm,0.6s,baz=15,slow=3.4,SNR=2.7						
	comp=N,0.3nm,0.6s						

AUST 15 02:13:52.7±1.5, 32°41S×138°56E, h10km, Error ellipse: s-maj=14.7km s-min=12.1km az=6.0, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTT	**Hallett**	**1.06**	**164**	P	Pg	02 14 11.8	-1.4
	baz=1.1						
HTT				S	Sn	02 14 28.9	+0.3
	baz=1.1						
BBOO	**Buckleboo**	**2.15**	**259**	P	Pn	02 14 28.1	-0.5
	baz=2.1						
BBOO				S	Sb	02 14 57.0	-1.4
	baz=2.1						
STKA	**Stephens Creek**	**2.63**	**79**	P	Pn	02 14 34.2	-0.9
	baz=2.6						
STKA				S	Sn	02 15 09.0	+1.9
	baz=2.6						
MULG	**Mulgathing**	**4.40**	**298**	P	Pn	02 14 59.3	-0.2
	baz=4.4						
MULG				S	Sn	02 15 49.2	-1.6
	baz=4.4						

KRSC 15 02:25:47.7±1.8, 53°98N×168°66E, h31km±28km, MI3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.99**	**309**	*e*P	Pb	02 26 21.2	-2.0
BKI				*e*S	Sb	02 26 45.5	-2.0
TUMD	**Tumrok D**	**4.96**	**288**	*e*P	Pn	02 27 03.4	+3.4
KMNR	**Kamenistaya**	**5.18**	**293**	*e*P	Pn	02 27 09.0	+5.8
SMAR	**Somma**	**5.91**	**267**	*e*P	Pn	02 27 18.3	+5.0
AVH	**Avacha**	**5.95**	**267**	*e*P	Pn	02 27 18.2	+4.6
KRX	**Arik**	**5.99**	**268**	*e*P	Pn	02 27 18.0	+3.8
KRMR	**Karymshinskiy**	**6.41**	**264**	*e*P	Pn	02 27 26.2	+6.4
KRMR				*e*S	Sn	02 28 36.7	+4.9
MTVR	**Mutnovka**	**6.47**	**261**	*e*P	Pn	02 27 25.6	+4.7
MTVR				*e*S	Sn	02 28 38.7	+5.1
GRL	**Gorelyy**	**6.51**	**262**	*e*P	Pn	02 27 27.3	+5.9
ASAK	**Asacha**	**6.67**	**260**	*e*P	Pn	02 27 28.2	+4.7

IDC 15 02:41:29.4±2.3, 3°63S×151°25E, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=46.6km s-min=25.4km az=11.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.02**	**131**	Pn	Pn	02 41 50.9	-0.1
	233nm,0.3s,baz=184,slow=4.0,SNR=29						
KRVT				Sn	Sg	02 42 02.5	+0.2
	75nm,0.3s,baz=134,slow=23,SNR=13						
WRA	**Warramunga Arr**	**23.13**	**224**	P	P	02 46 36.8	-0.6
	0.9nm,0.5s,baz=49,slow=10,SNR=20						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**26.03**	**219**	P	P	02 47 05.4	+0.9
	0.3nm,0.4s,baz=60,slow=8.9,SNR=9.3						
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**148.47**	**289**	PKPbc	PKPbc	03 01 18.2	-1.0
	0.6nm,0.7s,baz=78,slow=2.4,SNR=3.8						

*MOS **15** 02:42:24.0±1.1, 35°01N×139°86E, h93km, mb4.7/23, Error ellipse: s-maj=10.9km s-min=5.6km az=120.8*
*JMA **15** 02:42:26.1±0.2, 35°2N±0°6×139°9E±0°8, h96km±1km, MD4.4/40, MW4.5/40, SOUTHERN BOSO PENINSULA*
JMA Felt II J1 at SOUTHERN BOSO PENINSULA .
*NIED **15** 02:42:26.1, 35°18N×139°85E, h96km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr3.33; Mθθ-0.05; Mφφ-3.28; Mrθ-2.06; Mrφ-0.92; Mθφ-2.26; Fault plane solution: M0 4.59000×10¹⁵ NP1: φs212.00000°, δ66.00000°, λ105.00000°. NP2: φs359.00000°, δ28.00000°, λ59.00000°.*
*NEIC **15** 02:42:26.6±1.7, 35°19N±0°05×139°96E±0°06, h95km±5km, mb4.6/84 Error ellipse: s-maj=8.6km s-min=5.7km az=145.0*
*IDC **15** 02:42:27.0±0.4, 35°11N×139°74E, h98km±3km, mb4.1/26, mbtmp4.5/29, MS3.4/12, Error ellipse: s-maj=9.3km s-min=4.7km az=73.0*
ISC 15 02:42:26.7±0.4, 35°16N±0°03×139°88E±0°04, h96km±2km, h96km:pP-P, n292, σ1§65/279, mb4.6/95, 9C-21D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TATJ	**Tateyama 2**	**0.12**	**176**	*i*P	**Pn**	**02 42 39.9**	**-0.3**
TATJ				S	**Sn**	**02 42 50.2**	**-0.1**
TATJ	**Tateyama 2**	**0.12**	**176**	A	A	02 42 39.9	
	comp=E,63nm,1.5s,comp=N,59nm,1.1s						
JYO	**Yokosk**	**0.19**	**291**	*i*P	**Pn**	**02 42 40.0**	**-0.5**
JYO				S	**Sn**	**02 42 50.6**	**0.0**
JYO	**Yokosk**	**0.19**	**291**	A	A	02 42 40.0	
	comp=E,72nm,0.4s,comp=N,93nm,1.4s						
JKUC	**kamogawauchiur**	**0.26**	**89**	*i*P	**Pn**	**02 42 40.2**	**-0.4**
JKUC				S	**Sn**	**02 42 50.8**	**-0.3**
JKUC	**kamogawauchiur**	**0.26**	**89**	A	A	02 42 40.2	
	comp=E,130nm,2.3s,comp=N,77nm,1.2s						
JCN	**Nagara**	**0.37**	**45**	A	A	02 42 40.6	
	comp=E,67nm,0.5s,comp=N,52nm,2.0s						
TOK	**Tokyo**	**0.54**	**349**	A	A	02 42 41.6	
	comp=E,94nm,0.3s,comp=N,195nm,0.4s						
JIM2	**Oshima 3**	**0.57**	**220**	*i*P	**Pn**	**02 42 41.6**	**-1.1**
JIM2				S	**Sn**	**02 42 52.7**	**-1.9**
JIM2	**Oshima 3**	**0.57**	**220**	A	A	02 42 41.6	
	comp=E,71nm,0.4s,comp=N,61nm,0.4s						
BSO3	**Boso 3**	**0.63**	**124**	*i*P	**Pn**	**02 42 42.8**	**0.0**
JOD2	**Odawara 2**	**0.66**	**280**	*i*P	**Pn**	**02 42 42.1**	**-1.3**
JOD2				S	**Sn**	**02 42 53.8**	**-2.1**
JOD2	**Odawara 2**	**0.66**	**280**	A	A	02 42 42.1	
	comp=E,33nm,0.3s,comp=N,37nm,0.3s						
JSMT	**Sammumatsuo**	**0.67**	**44**	A	A	02 42 43.0	
	comp=E,40nm,1.2s,comp=N,73nm,1.4s						
JSGW	**Sagamiharawaka**	**0.71**	**309**	A	A	02 42 42.9	
	comp=E,36nm,1.6s,comp=N,35nm,0.6s						
JHTM	**Izuhatsuma**	**0.74**	**255**	A	A	02 42 43.5	
	comp=E,116nm,0.4s,comp=N,114nm,0.4s						
JTHY	**Toshimahigashi**	**0.80**	**218**	A	A	02 42 44.3	
	comp=E,14nm,1.1s,comp=N,21nm,1.7s						
JIZS	**Izushimoda**	**0.93**	**242**	*i*P	**Pn**	**02 42 45.5**	**-0.6**
JIZS				S	**Sn**	**02 43 00.3**	**-0.4**
JIZS	**Izushimoda**	**0.93**	**242**	A	A	02 42 45.5	
	comp=E,21nm,1.7s,comp=N,14nm,1.6s						
JNIO	**Niijimaoohara**	**0.94**	**212**	A	A	02 42 45.8	
	comp=E,27nm,2.1s,comp=N,27nm,2.6s						
JIHU	**Itakohorinouch**	**0.96**	**33**	A	A	02 42 45.9	
	comp=E,55nm,3.0s,comp=N,37nm,2.2s						
JFNN	**Fujinakano**	**0.98**	**273**	*i*P	**Pn**	**02 42 46.2**	**-0.4**
JFNN				S	**Sn**	**02 43 01.2**	**-0.4**
JFNN	**Fujinakano**	**0.98**	**273**	A	A	02 42 46.2	
	comp=E,40nm,0.7s,comp=N,32nm,0.5s						
JSKK	**Shikinejimakit**	**0.99**	**214**	A	A	02 42 46.3	
	comp=E,12nm,1.1s,comp=N,9.0nm,1.7s						
BSO1	**Boso 1**	**1.03**	**119**	‖*i*P	**Pn**	**02 42 46.5**	**-0.1**
JYT	**Yasato**	**1.10**	**13**	A	A	02 42 47.3	
	comp=E,35nm,0.5s,comp=N,33nm,0.3s						
JMYK	**Miyake Tsubota**	**1.13**	**194**	*i*P	**Pn**	**02 42 48.2**	**0.0**
JMYK				S	**Sn**	**02 43 04.4**	**-0.1**
JMYK	**Miyake Tsubota**	**1.13**	**194**	A	A	02 42 48.2	
	comp=E,16nm,0.3s,comp=N,12nm,0.5s						
JKO	**Kozu shima**	**1.14**	**213**	A	A	02 42 48.1	
	comp=E,15nm,3.2s,comp=N,9.0nm,2.8s						
JYN	**Shimob**	**1.14**	**288**	*i*P	**Pn**	**02 42 48.0**	**-0.5**
JYN				S	**Sn**	**02 43 04.2**	**-0.8**
JYN	**Shimob**	**1.14**	**288**	A	A	02 42 48.0	
	comp=E,46nm,0.3s,comp=N,22nm,0.7s						
JRY	**Ryogami san**	**1.17**	**317**	*i*P	**Pn**	**02 42 48.3**	**-0.5**
JRY				S	**Sn**	**02 43 04.7**	**-0.9**
JRY	**Ryogami san**	**1.17**	**317**	A	A	02 42 48.3	
	comp=E,17nm,1.0s,comp=N,20nm,1.5s						
JMKN	**Mikurajimanish**	**1.28**	**191**	‖*i*P	**Pn**	**02 42 50.1**	**0.0**
JMKN				‖S	**Sn**	**02 43 08.0**	**+0.2**
JMKN	**Mikurajimanish**	**1.28**	**191**	A	A	02 42 50.1	
	comp=E,22nm,1.2s,comp=N,12nm,0.3s						
JAG	**Ashikaga**	**1.31**	**345**	*i*P	**Pn**	**02 42 49.6**	**-0.9**
JAG				S	**Sn**	**02 43 06.4**	**-2.0**
JAG	**Ashikaga**	**1.31**	**345**	A	A	02 42 49.6	
	comp=E,16nm,0.7s,comp=N,13nm,1.2s						
JHYU	**Hitachinakayam**	**1.31**	**26**	A	A	02 42 49.9	
	comp=E,10.0nm,0.6s,comp=N,10.0nm,0.8s						
SHZ3	**Shizuoka 3**	**1.37**	**267**	P	**Pn**	**02 42 51.4**	**+0.1**
SHZ3				S	**Sn**	**02 43 09.6**	**-0.3**
SHZ3	**Shizuoka 3**	**1.37**	**267**	A	A	02 42 51.4	
	comp=E,9.0nm,0.9s,comp=N,9.0nm,0.8s						
JSG	**Sagara**	**1.47**	**251**		**Pn**	**02 42 53.4**	**+0.9**
JSG	**Sagara**	**1.47**	**251**	A	A	02 42 51.9	
	comp=E,8.0nm,2.3s,comp=N,7.0nm,0.7s						
JNT	**Takato**	**1.59**	**297**	A	A	02 42 53.2	
	comp=E,10.0nm,0.8s,comp=N,9.0nm,0.4s						
JKKS	**Kakegawashinom**	**1.61**	**256**	A	A	02 42 53.6	
	comp=E,14nm,2.6s,comp=N,11nm,0.8s						
JNY	**Yasuok**	**1.66**	**278**	A	A	02 42 54.2	
	comp=E,8.0nm,2.7s,comp=N,11nm,1.4s						
JKT	**Katashina**	**1.69**	**343**	A	A	02 42 54.4	
	comp=E,13nm,1.3s,comp=N,12nm,1.5s						
JGK	**Kuni**	**1.73**	**325**	A	A	02 42 54.9	
	comp=E,11nm,1.2s,comp=N,9.0nm,1.1s						
JSB	**Shiboa**	**1.81**	**1**	A	A	02 42 56.1	
	comp=E,10.0nm,2.7s,comp=N,12nm,2.0s						
MJAR	**Matsushiro Arr**	**1.94**	**316**	P	**Pn**	**02 42 58.0**	**-0.4**
	comp=N,841nm,0.4s,baz=149,slow=12,SNR=1216						
MJAR				S	**Sn**	**02 43 21.5**	**-1.0**
	comp=N,942nm,0.4s,baz=170,slow=34,SNR=11						
MJAR				LR	LR	02 43 24.8	
	comp=N,160nm,18.4s,baz=112,slow=30						
MAJO	**Matsushiro**	**1.94**	**316**	Pn	**Pn**	**02 42 58.4**	**0.0**
MAJO	**Matsushiro**	**1.94**	**316**	P	**Pn**	**02 42 58.7**	**+0.3**
MAJO	**Matsushiro**	**1.94**	**316**	*d*P	**Pn**	**02 42 58.2**	**-0.2**
MJB9	**Matsu-Tunnel**	**1.94**	**316**		**Pn**	**02 42 59.3**	**+0.9**
JHJ	**Hachijo jima 2**	**2.03**	**182**	P

comp=Z,105nm,19.7s,baz=188,slow=34
GRNR Gornyy 15.81 352 ⇑*i*P Pn 02 45 55.4 -8.2
GRNR pmax pmax
comp=Z,3.0nm,0.9s
GRNR MLR MLR
comp=E,180nm,14.0s
GRNR MLR MLR
comp=N,110nm,15.0s
GRNR MLR MLR
comp=Z,150nm,13.0s
TYV Tymovskoe 15.83 6 *e*P **P** **02 46 06.8 +1.1**
TYV *e*S **Sn** **02 49 01.7 +3.0**
TYV pmax pmax
comp=Z,28nm,1.1s
TYV pmax pmax
comp=Z,100nm,3.0s
TYV smax smax
comp=E,600nm,5.2s
HEH HeiHe 17.61 333 *e*P **P** **02 46 21.4 -4.0**
HEH pmax pmax
comp=Z,16nm,0.7s
NJ2 Nanjing 17.78 266 *e*P **Pn** **02 46 27.8 -0.2**
NJ2 pP **pP** **02 46 44.8 -0.6**
NJ2 sP **sP** **02 46 56.8 -0.6**
NJ2 pmax pmax
comp=Z,15nm,0.7s
NJ2 pmax pmax
comp=Z,140nm,4.7s
HNS HongShan 20.40 284 ⇓P **P** **02 46 53.6 -2.3**
HNS pmax pmax
comp=Z,7.0nm,0.6s
ZEA Zeya 20.59 338 *e*P **P** **02 46 55.0 -2.8**
ZEA pmax pmax
comp=E,20nm,0.5s
ZEA pmax pmax
comp=N,30nm,0.7s
ZEA pmax pmax
comp=Z,60nm,0.6s
WHN Wuhan 21.91 265 ⇑P **P** **02 47 12.1 0.0**
WHN pmax pmax
comp=Z,24nm,0.5s
PETK Petropavlovsk- 21.93 30 LR LR 02 55 05.6
comp=Z,44nm,21.8s,baz=224,slow=34
HHC Hu-ho-hao-te 22.97 293 *e*P **P** **02 47 21.5 -1.6**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,330nm,5.8s
BTO Baotou 24.12 292 *e*P **P** **02 47 34.8 +1.2**
BTO pP **pP** **02 47 56.4 +1.6**
BTO sP **sP** **02 48 09.3 +2.9**
BTO S **S** **02 51 48.3 +3.7**
BTO SS **SnSn** **02 52 40.6 +4.2**
BTO pmax pmax
comp=Z,37nm,0.5s
BTO pmax pmax
comp=Z,230nm,6.9s
BTO LR LR
comp=N,260nm,6.2s
BTO LR LR
comp=E,290nm,6.1s
BTO LR LR
comp=Z,240nm,7.0s
MA2 Magadan 25.45 13⇓ *e*P **P** **02 47 46.2 +0.8**
MA2 pmax pmax
comp=Z,16nm,0.6s
MA2 Magadan 25.45 13 LR LR 02 58 58.2
comp=Z,52nm,19.3s,baz=18,slow=39
XAN Xi'an 25.46 276 P **P** **02 47 50.9 +5.1**
XAN pmax pmax
comp=Z,8.0nm,0.6s
ENH Enshi 25.98 268 P **P** **02 47 48.6 -1.8**
ENH IAmb IAmb 02 47 49.9
comp=Z,18nm,0.9s
ULN Ulaanbaatar 27.45 308⇓ *i*P **P** **02 48 05.0 +1.4**
ULN pmax pmax
comp=Z,7.0nm,1.2s
YAK Yakutsk 27.66 350 P **P** **02 48 03.6 -1.5**
YAK Yakutsk 27.66 350 *e*P **P** **02 48 07.4 +2.3**
YAK *e* 02 51 21.0
YAK *e*S **S** **02 52 44.9 +5.1**
YAK *e*SS **SnSn** **02 54 05.1 +3.2**
YAK pmax pmax
comp=Z,22nm,0.8s
YAK pmax pmax
comp=N,16nm,1.0s
YAK smax smax
comp=N,83nm,3.3s
YAK smax smax
comp=E,57nm,3.7s
SONM Songino Array 27.87 307 P **P** **02 48 06.3 -1.1**
comp=E,4.0nm,0.7s,baz=110,slow=9.2,SNR=16
SONM LR LR 02 58 55.3
comp=E,100nm,20.3s,baz=247,slow=36
comp=E,4.0nm,0.7s
H11N2 WAKE ISLAND Hy 28.36 116 T T 03 18 07.7
baz=308,slow=75,SNR=174
H11N1 WAKE ISLAND Hy 28.36 116 T T 03 18 04.9
baz=308,slow=75,SNR=242
H11N3 WAKE ISLAND Hy 28.37 116 T T 03 18 05.7
baz=308,slow=75,SNR=186
BOD Bodaibo 28.50 331 *e*P **P** **02 48 12.3 -0.4**
BOD pmax pmax
comp=Z,20nm,1.0s
H11S3 WAKE ISLAND Hy 28.98 118 T T 03 18 17.1
baz=311,slow=76,SNR=89
H11S1 WAKE ISLAND Hy 28.98 118 T T 03 18 26.0
baz=311,slow=76,SNR=41
H11S2 WAKE ISLAND Hy 29.00 118 T T 03 18 18.3
baz=311,slow=76,SNR=49
LZH Lanzhou 29.21 282 *e*P **P** **02 48 20.5 +1.1**
LZH pP pP 02 48 35.3 -5.8
LZH pmax pmax
comp=Z,20nm,1.5s
GTA Gaotai 31.98 290 *e*P **P** **02 48 43.0 -0.7**
GTA pP pP 02 48 46.9 -19
GTA pmax pmax
comp=Z,3.0nm,0.6s
PZH PanZhiHua 33.70 266 P **P** **02 48 56.9 -2.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,60nm,3.5s
TIXI Tiksi 37.02 354 P **P** **02 49 25.2 -1.4**
TIXI IAmb IAmb 02 49 26.9
comp=Z,4.4nm,0.8s
TIXI Tiksi 37.02 354⇑ *i*P **P** **02 49 26.3 -0.3**
CRAI Chiangrai 37.75 257 P **P** **02 49 32.4 -1.0**
CRAI IAmb IAmb 02 49 36.5
comp=Z,4.3nm,0.9s
CMAR Chiang Mai Arr 39.83 256 P **P** **02 49 50.1 -0.8**
CMAR Chiang Mai Arr 39.83 256 *ce*P **P** **02 49 51.7 +0.9**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 39.83 256 P **P** **02 49 49.5 -1.3**
comp=Z,1.2nm,0.3s,baz=53,slow=5.2,SNR=4.8
comp=Z,1.2nm,0.3s
DGZ Jazzator, Alta 40.52 308 *d i*P **P** **02 49 57.3 +1.0**
DGZ pmax pmax
comp=Z,61nm,0.7s
WMQ Urumqi 40.61 299 *e*P **P** **02 49 57.1 0.0**
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ LR LR
comp=Z,79nm,17.1s
SHL Shillong 42.16 270 P **P** **02 50 06.9 -3.2**
SHL IAmb IAmb 02 50 08.9
comp=Z,6.4nm,0.7s
SHL Shillong 42.16 270 P **P** **02 50 06.9 -3.2**
SHL pmax pmax
comp=Z,6.0nm,0.7s
ZAA0 Zalesovo Array 42.29 314 P **P** **02 50 09.7 -0.9**
ZALV Zalesovo Beam 42.29 314 P **P** **02 50 09.4 -1.1**
ZALV Zalesovo Beam 42.29 314 P **P** **02 50 10.6 +0.1**
comp=Z,12nm,0.4s,baz=101,slow=8.0,SNR=56
ZALV ScP **ScP** **02 55 42.5 -1.8**
comp=Z,0.7nm,0.6s,baz=74,slow=11,SNR=2.0
ZALV LR LR 03 08 05.7
comp=Z,98nm,18.1s,baz=42,slow=36
comp=Z,12nm,0.4s
MK31 Makanchi Array 44.09 304 P **P** **02 50 24.8 -0.4**
MK31 Makanchi Array 44.09 304 *d i*P **P** **02 50 25.2 0.0**
MKAR Makanchi Array 44.09 304 P **P** **02 50 25.5 +0.3**
comp=Z,15nm,0.6s,baz=84,slow=9.5,SNR=87
MKAR ScP **ScP** **02 55 51.1 -0.7**
comp=Z,1.0nm,0.9s,baz=103,slow=2.6,SNR=3.1
MKAR LR LR 03 07 53.6
comp=Z,70nm,18.7s,baz=37,slow=35
comp=Z,15nm,0.6s
RAMN Ramite 45.91 275 *e*P **P** **02 50 39.4 -0.8**
comp=Z,65nm,0.6s
JIRN Jiri 45.97 276 *e*P **P** **02 50 40.1 -0.6**
comp=Z,54nm,0.5s
GUN Gumba 46.12 277 *e*P **P** **02 50 41.0 -0.9**
comp=Z,29nm,0.8s
KURK Kurchatov 46.14 309 P **P** **02 50 40.4 -0.9**
KURK Kurchatov 46.14 309 *d i*P **P** **02 50 40.7 -0.6**
KURK pmax pmax
comp=Z,34nm,1.0s
KURBB Kurchatov Arra 46.20 309 P **P** **02 50 41.5 -0.3**
comp=Z,8.8nm,0.6s,baz=85,slow=8.2,SNR=69
comp=Z,8.8nm,0.6s
C18K Utukok River 46.51 26 IAmb IAmb 02 50 52.3
comp=Z,14nm,1.4s
PDGK Podgornoye 46.58 299 P **P** **02 50 44.4 -0.6**
PKI Pulchoki 46.64 276 *e*P **P** **02 50 44.7 -1.2**
comp=Z,17nm,0.6s
PKIN Phulchoki 46.65 276 *e*P **P** **02 50 45.0 -0.9**
comp=Z,18nm,0.5s
GKN Gorkha 47.09 277 *e*P **P** **02 50 48.3 -1.0**
comp=Z,14nm,0.3s
DANN Dangsing 47.67 278 *e*P **P** **02 50 53.5 -0.4**
comp=Z,28nm,0.5s
E19K Redstone River 47.71 28 IAmb IAmb 02 50 58.2
comp=Z,4.2nm,0.8s
PYUN Piuthan 48.39 278 *e*P **P** **02 50 58.7 -0.7**
comp=Z,21nm,0.5s
K20K Telida 48.58 33 IAmb IAmb 02 51 02.9
comp=Z,7.6nm,1.0s
B21K Ikpikpuk River 49.01 25 IAmb IAmb 02 51 10.8
comp=Z,7.7nm,1.1s
TKM2 Tokmak 2 49.45 299 P **P** **02 51 08.1 +0.9**
SNR=34
NRN Naryn 49.52 297 P **P** **02 51 07.6 -0.4**
NRN IAmb IAmb 02 51 09.1
comp=Z,7.2nm,0.7s
NRN Naryn 49.52 297 P **P** **02 51 07.6 -0.4**
NRN pmax pmax
comp=Z,7.0nm,0.7s
D22K Ayikyak River 49.60 26 IAmb IAmb 02 51 10.1
comp=Z,9.5nm,1.2s
E22K Anaktuvuk Pass 49.84 27 IAmb IAmb 02 51 13.3
comp=Z,4.4nm,0.9s
KZA Kyzart 49.90 298 P **P** **02 51 12.4 +1.5**
SNR=7.7
KBK Karagaybulak 49.98 299 P **P** **02 51 11.9 +0.7**
SNR=24
CHMS Chumysh 50.03 300 P **P** **02 51 11.9 +0.4**
SNR=5.5
KSH Kashi 50.05 295 P **P** **02 51 15.6 +3.8**
KSH pmax pmax
comp=Z,15nm,0.7s
AAK Ala-Archa 50.30 299 P **P** **02 51 14.0 +0.3**
SNR=7.5
AAK Ala-Archa 50.30 299 P **P** **02 51 13.4 -0.2**
AAK Ala-Archa 50.30 299 *d i*P **P** **02 51 13.6 -0.1**
AAK pmax pmax
comp=Z,4.0nm,0.6s
UCH Uchtor 50.40 299 P **P** **02 51 15.4 +0.7**
SNR=6.5
NEA2 Nenana 50.81 32 P **P** **02 51 17.4 +0.5**
EKS2 Erkin-Say 50.81 300 P **P** **02 51 17.8 +0.4**
SNR=5.1
BVA0 Borovoye Array 50.93 313 *i* P **P** **02 51 17.7 -0.3**
BVAR Borovoye Array 50.93 313 P **P** **02 51 18.0 0.0**
BVAR Borovoye Array 50.93 313 P **P** **02 51 18.0 0.0**
comp=Z,6.8nm,0.5s,baz=97,slow=8.4,SNR=35
comp=Z,6.8nm,0.5s
BRVK Borovoye 50.99 313 P **P** **02 51 17.6 -0.8**
BRVK IAmb IAmb 02 51 20.2
comp=Z,6.5nm,1.1s
BRVK Borovoye 50.99 313⇓ *e*P **P** **02 51 18.1 -0.3**
BRVK pmax pmax
comp=Z,7.0nm,1.3s
AML Almayashu 51.01 299 P **P** **02 51 20.3 +1.1**
SNR=45
MDM Murphy Dome 51.16 31 IAmb IAmb 02 51 22.3
comp=Z,7.1nm,0.8s
POKR Poker Plat Res 51.50 31 IAmb IAmb 02 51 25.0
comp=Z,6.2nm,0.8s
ARSB Arslanbob 51.74 298 IAmb IAmb 02 51 26.7
comp=Z,4.3nm,0.6s
IL31 51.74 32 P **P** **02 51 22.8 -1.0**
IL31 IAmb IAmb 02 51 40.9
comp=Z,4.7nm,1.1s
ILAR Eielson Array 51.74 32 P **P** **02 51 24.1 +0.3**
comp=Z,1.5nm,0.8s,baz=268,slow=5.9,SNR=22
ILAR pP **pP** **02 51 48.0 +0.9**
comp=Z,3.3nm,0.8s,baz=269,slow=6.0,SNR=8.2
comp=Z,1.5nm,0.8s
GSI Gunungsitoli 51.77 239 P **P** **02 51 24.4 -0.3**
KK31 Karatay Array 53.01 301 P **P** **02 51 32.9 -0.7**
KK31 Karatay Array 53.01 301 P **P** **02 51 32.9 -0.7**
KK31 pmax pmax
comp=Z,12nm,0.9s
KKAR Karatay Array 53.01 301 P **P** **02 51 33.6 0.0**
KKAR Karatay Array 53.01 301 P **P** **02 51 33.6 0.0**
NIL Nilore 54.03 289 P **P** **02 51 40.6 -0.6**
NIL Nilore 54.03 289 P **P** **02 51 40.6 -0.6**
NIL pmax pmax
comp=Z,23nm,0.8s
WRAB Tennant Creek 55.04 186 P **P** **02 51 47.1 -1.3**
WRAB Tennant Creek 55.04 186 P **P** **02 51 47.1 -1.3**
WRAB pmax pmax
comp=Z,34nm,1.0s
WRA Warramunga Arr 55.05 186 *i* P **P** **02 51 46.5 -2.0**
WRA pmax pmax
comp=Z,20nm,0.5s
WRA Warramunga Arr 55.05 186 P **P** **02 51 47.3 -1.2**
comp=Z,20nm,0.5s,baz=1.8,slow=7.8,SNR=217
WRA pP **pwP** **02 52 12.9 +1.3**
comp=Z,4.4nm,0.5s,baz=5.5,slow=7.7,SNR=3.7
WRA PcP **PcP** **02 52 49.0 +0.1**
comp=Z,2.1nm,0.4s,baz=0.0,slow=4.3,SNR=0.6
WRA S **S** **02 59 21.0 -2.6**
comp=Z,0.3nm,0.9s,baz=7.5,slow=14,SNR=3.1
CTA Charters Tower 55.27 173 P **P** **02 51 48.4 -1.7**
comp=Z,2.6nm,0.6s,baz=1.2,slow=7.0,SNR=7.3
CTA LR LR 03 14 00.2
comp=Z,14nm,19.7s,baz=84,slow=34
comp=Z,2.6nm,0.6s
CHGR Chuyangaron 55.36 296 P **P** **02 51 50.9 +0.1**
CHGR pmax pmax
comp=Z,165nm,0.7s
EPYK Eagle Plains 55.77 29 P **P** **02 51 52.0 -1.2**
EPYK IAmb IAmb 02 52 05.3
comp=Z,3.7nm,0.7s
I30M Mount Dempster 56.12 30 IAmb IAmb 02 51 58.5
comp=Z,6.3nm,0.7s
KBL Kabul 56.94 292 P **P** **02 52 01.0 -1.3**
KBL IAmb IAmb 02 52 02.4
comp=Z,9.1nm,1.1s
KBL Kabul 56.94 292 P **P** **02 52 01.0 -1.3**
KBL pmax pmax
comp=Z,9.0nm,1.1s
ARU Arti 56.95 319 P **P** **02 52 00.7 -1.1**
ARU Arti 56.95 319 *c i*P **P** **02 52 01.4 -0.3**
ARU *PP **pP** **02 52 24.4 -1.0**
ARU S **S** **02 59 52.7 +4.5**
ARU SS **SS** **03 03 42.2 +4.8**
ARU pmax pmax
comp=Z,6.0nm,0.6s
AB31 Akbulak array 58.21 311 *i* P **P** **02 52 10.1 -0.6**
ABKAR Akbulak array 58.21 311 P **P** **02 52 10.4 -0.3**
A36M Sachs Harbour 58.46 21 P **P** **02 52 12.1 +0.1**
A36M IAmb IAmb 02 52 17.8
comp=Z,10.0nm,1.1s
AS31 Alice Springs 58.77 186 P **P** **02 52 13.5 -1.3**
ASAR Alice Springs 58.77 186 P **P** **02 52 13.2 -1.6**
ASAR Alice Springs 58.77 186 P **P** **02 52 14.1 -0.7**
comp=Z,3.6nm,0.5s,baz=9.5,slow=8.9,SNR=74
ASAR PcP **PcP** **02 53 03.3 -0.2**
comp=Z,0.8nm,0.4s,baz=11,slow=6.5,SNR=1.6
ASAR S **S** **03 00 11.2 -1.5**
comp=Z,0.4nm,0.7s,baz=2.2,slow=13,SNR=4.1
comp=Z,3.6nm,0.5s
KIRV Kirov 61.00 323 *d i*P **P** **02 52 29.6 0.0**
KIRV Kirov 61.00 323 LR LR 03 22 06.0
comp=Z,104nm,18.6s,baz=316,slow=39
SPITS Spitsbergen Ar 62.12 349 P **P** **02 52 37.7 +0.7**
comp=Z,10nm,0.8s,baz=95,slow=5.9,SNR=2.2
comp=Z,10nm,0.8s
HRA Herat 62.14 294 IAmb IAmb 02 52 39.2
comp=Z,3.3nm,0.8s
GEYT Alibeck 63.66 299 P **P** **02 52 47.9 0.0**
comp=Z,2.2nm,0.6s,baz=59,slow=16,SNR=4.1
comp=Z,2.2nm,0.6s
BELG Belogornoye 64.33 317 *de*P **P** **02 52 51.4 -0.4**
BELG pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 65.31 339 P **P** **02 52 58.1 +0.1**
comp=Z,2.5nm,0.6s,baz=60,slow=7.4,SNR=13
comp=Z,2.5nm,0.6s
YKA Yellowknife Ar 66.05 29 P **P** **02 53 03.5 +0.6**
comp=Z,1.1nm,0.7s,baz=301,slow=6.7,SNR=14
YKA pP **pP** **02 53 28.1 +1.1**
comp=Z,0.7nm,0.7s,baz=305,slow=7.1,SNR=4.2
comp=Z,1.1nm,0.7s
FORT Forrest 66.52 191 P **P** **02 53 05.2 -0.9**
STKA Stephens Creek 66.70 178 P **P** **02 53 07.0 -0.3**
STKA Stephens Creek 66.70 178 *de*P **P** **02 53 07.1 -0.1**
STKA Stephens Creek 66.70 178 P **P** **02 53 07.3 +0.1**
comp=Z,4.5nm,0.6s,baz=342,slow=7.4,SNR=17
comp=Z,4.5nm,0.6s
MOS Moscow 68.02 323 *e*P **P** **02 53 15.0 -0.4**
FINES FINESS Array B 69.89 332 P **P** **02 53 26.8 -0.1**
comp=Z,4.5nm,0.5s,baz=66,slow=5.9,SNR=40
FINES pP **pP** **02 53 50.7 -0.7**
comp=Z,3.6nm,0.6s,baz=64,slow=8.7,SNR=3.0
comp=Z,4.5nm,0.5s
LTY Liberty 70.85 45 IAmb IAmb 02 53 34.6
comp=Z,3.6nm,0.6s
KBZ Khabaz 71.18 311 *de*P **P** **02 53 35.2 +0.2**
KBZ pmax pmax
comp=Z,8.0nm,0.8s
KBZ Khabaz 71.18 311 P **P** **02 53 35.8 +0.7**
comp=Z,6.8nm,0.8s,baz=87,slow=1.6,SNR=13
comp=Z,6.8nm,0.8s
KIV Kislovodsk 71.19 311 P **P** **02 53 35.3 0.0**
KIV Kislovodsk 71.19 311 *e*P **P** **02 53 36.4 +1.1**
KIV pmax pmax
comp=Z,16nm,1.1s
ONI Oni 71.41 309 P **P** **02 53 36.6 0.0**
ONI Oni 71.41 309 P **P** **02 53 36.6 0.0**
ONI pmax pmax
comp=Z,5.0nm,1.0s
I04A Tendick Farm, 71.60 49 IAmb IAmb 02 53 40.0
comp=Z,7.6nm,0.9s
GNI Garni 71.83 307 LR LR 03 27 36.6
comp=Z,61nm,19.1s,baz=359,slow=38
D08A Wollman Farm, 71.97 45 P **P** **02 53 39.6 -0.2**
D08A IAmb IAmb 02 53 41.8
comp=Z,5.9nm,0.9s
AKH Akhalkalaki 71.99 308 P **P** **02 53 39.8 -0.4**
AKH IAmb IAmb 02 53 42.0
comp=Z,11nm,0.7s
AKH Akhalkalaki 71.99 308 P **P** **02 53 39.8 -0.4**
AKH pmax pmax
comp=Z,11nm,0.7s
NEW Newport 72.34 43 P **P** **02 53 40.2 -1.8**
NEW IAmb IAmb 02 53 44.1
comp=Z,4.5nm,0.8s
NEW Newport 72.34 43 P **P** **02 53 40.2 -1.8**
NEW pmax pmax
comp=Z,5.0nm,0.8s
PINE Pine Mountain 72.50 49 IAmb IAmb 02 53 46.2
comp=Z,10nm,0.8s
MNK Minsk 73.34 326 *i* P **P** **02 53 45.1 -2.6**
comp=E,11nm,1.2s
MNK *i* P **P** **02 53 45.1 -2.6**
comp=N,13nm,0.9s
MNK *i* P **P** **02 53 45.1 -2.6**
comp=Z,7.0nm,0.8s,baz=52
MNK *i* pP **pP** **02 54 10.7 -1.7**
MNK *i* PP **PP** **02 56 29.7 -2.0**
MNK *i* PPP PPP 02 58 14.8
MNK *i* S **S** **03 03 06.8 -1.9**
MNK *i* sS **sS** **03 03 51.1 +0.1**
MNK *i* SS **SS** **03 07 51.9 +0.4**
MNK *i* SSS SSS 03 11 13.4
MNK *i* LQ LQ 03 21 16.3
MNK *i* LR LR 03 25 57.6
MNK *i* LRM MLR 03 28 33.6
comp=E,78nm,17.8s
MNK *i* LRM MLR 03 28 37.9
comp=N,192nm,16.9s
MNK *i* LRM MLR 03 28 50.6
comp=Z,77nm,11.9s
MNK Minsk 73.34 326 *i* P **P** **02 53 45.1 -2.6**
MNK *i* *PP **pP** **02 54 10.6 -1.7**
MNK *i* 02 56 29.7
MNK *i* PPP PPP 02 58 14.8
MNK *i* S **S** **03 03 06.8 -1.9**
MNK *i* *SS **sS** **03 03 51.1 +0.1**
MNK *i* SS **SS** **03 07 51.9 +0.4**
MNK *i* SSS SSS 03 11 13.4
MNK pmax pmax
comp=E,11nm,1.2s
MNK pmax pmax
comp=Z,7.0nm,0.9s
MNK pmax pmax
comp=N,13nm,0.9s
MNK MLR MLR
comp=E,78nm,18.0s
MNK MLR MLR
comp=N,192nm,17.0s
MNK MLR MLR
comp=Z,77nm,12.0s
ANN Anapa 73.93 314 *e*P **P** **02 53 52.0 +0.7**
ANN pmax pmax
comp=Z,135nm,1.4s
BMO Blue Mountains 74.12 46 P **P** **02 53 52.0 -0.6**
BMO Blue Mountains 74.12 46 P **P** **02 53 52.0 -0.6**
BMO pmax pmax
comp=Z,1.0nm,0.8s
J08A Circle Bar Ran 74.25 48 IAmb IAmb 02 53 56.0
comp=Z,1.3nm,1.5s
AKASG Malin Array Be 75.01 322 *ce*P **P** **02 53 57.0 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 75.01 322 P **P** **02 53 57.1 -0.4**
comp=Z,2.0nm,0.5s,baz=47,slow=5.9,SNR=19
AKASG pP **pP** **02 54 21.4 -0.8**
comp=Z,2.6nm,0.6s,baz=47,slow=5.9,SNR=4.1
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 75.01 322⇑ *i*P **P** **02 53 57.1 -0.4**
AKBB pmax pmax
comp=Z,5.0nm,0.6s
HFS Hagfors 75.28 335 P **P** **02 53 58.9 0.0**
comp=Z,4.1nm,0.9s,baz=76,slow=6.3,SNR=11
HFS pP **pP** **02 54 23.0 -0.6**
comp=Z,3.9nm,0.7s,baz=119,slow=5.2,SNR=3.0
comp=Z,4.1nm,0.9s
OVMT Ovando 75.32 42 P **P** **02 53 58.7 -0.9**
NB2 NORSAR Subarra 75.43 337 P **P** **02 53 59.7 -0.1**
comp=Z,4.7nm,0.8s,baz=43,slow=5.9
NOA NORSAR Array B 75.43 337 P **P** **02 53 59.5 -0.2**
comp=Z,2.0nm,0.8s,baz=40,slow=5.7,SNR=10
NOA pP **pP** **02 54 23.9 -0.6**
comp=Z,3.6nm,0.7s,baz=40,slow=5.9,SNR=7.0
comp=Z,2.0nm,0.8s
NORES NORESS Array B 75.55 337 P **P** **02 54 03.3 +2.9**
MARD Mardin 75.96 306 P **P** **02 54 01.5 -1.8**
MARD IAmb IAmb 02 54 04.8
comp=Z,7.3nm,0.7s
CMB Columbia Colle 75.98 53 IAmb IAmb 02 54 05.2
comp=Z,3.6nm,0.7s
YERR Yerington 76.20 52 IAmb IAmb 02 54 06.8
comp=Z,5.2nm,0.7s
ARPR Arapgir-MALATY 76.56 308 IAmb IAmb 02 54 09.0
comp=Z,12nm,1.1s
KVN Kaiserville 76.89 51 IAmb IAmb 02 54 11.2
comp=Z,5.5nm,0.7s
NVAR Mina Array Bea 77.11 52 P **P** **02 54 10.6 +0.6**
NVAR Mina Array Bea 77.11 52 P **P** **02 54 11.6 +1.7**
comp=Z,3.9nm,0.6s,baz=299,slow=5.3,SNR=46
NVAR pP **pP** **02 54 37.0 +2.2**
comp=Z,1.0nm,0.5s,baz=280,slow=6.3,SNR=3.2
comp=Z,3.9nm,0.6s
BUR08 Bucovina Ar. S 78.99 321 P **P** **02 54 19.1 -0.9**
BURAR Bucovina Array 79.00 321 P **P** **02 54 19.7 -0.4**
BR131 Keskin Array S 79.16 311 IAmb IAmb 02 54 23.4
comp=Z,7.0nm,1.4s
BR131 Keskin Array S 79.16 311 ⇓ *i*P **P** **02 54 22.1 +1.0**
BRTR Keskin Array B 79.16 311 P **P** **02 54 21.4 +0.3**
BRTR Keskin Array B 79.16 311 P **P** **02 54 21.8 +0.7**
comp=Z,1.8nm,0.8s,baz=116,slow=2.9,SNR=11
BRTR pP **pP** **02 54 45.6 -0.5**
comp=Z,1.9nm,0.8s,baz=83,slow=3.9,SNR=4.6
comp=Z,1.8nm,0.8s

TPNV	**Topopah Spring**	**79.30**	**52**	IAmb	IAmb	02 54 24.2	
	comp=Z,4.6nm,0.7s						
GWY	**Greenwater Val**	**79.47**	**53**	IAmb	IAmb	02 54 25.0	
	comp=Z,5.0nm,0.7s						
PDAR	**Pinedale Array**	**79.87**	**44**	P	**P**	**02 54 25.9**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=242,slow=2.3,SNR=5.9						
PDAR				pP	**pP**	**02 54 51.0**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=256,slow=2.7,SNR=7.8						
	comp=Z,0.6nm,0.5s						
LCMT	**Little Creek M**	**81.19**	**51**	P	**P**	**02 54 32.4**	**+0.2**
LCMT				IAmb	IAmb	02 54 34.7	
	comp=Z,6.0nm,0.9s						
UPC	**Upice**	**81.40**	**328**	*e*P	P	02 54 40.6	+7.8
KNB	**Kanab**	**81.45**	**51**	P	**P**	**02 54 34.0**	**+0.5**
KNB				IAmb	IAmb	02 54 36.4	
	comp=Z,7.3nm,0.9s						
KNB	**Kanab**	**81.45**	**51**	P	**P**	**02 54 34.0**	**+0.5**
KNB				pmax	pmax		
	comp=Z,7.0nm,0.9s						
VYHS	**Vyhne**	**81.55**	**325**	*e*P	**P**	**02 54 37.7**	**+4.1**
VYHS	**Vyhne**	**81.55**	**325**	*e*P	**P**	**02 54 37.7**	**+4.1**
DSZ	**Denniston Nort**	**81.94**	**156**	P	**P**	**02 54 34.0**	**-1.5**
MMAI	**Mount Meron Ar**	**82.03**	**305**	P	**P**	**02 54 37.0**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=356,slow=5.9,SNR=5.2						
	comp=Z,3.9nm,0.9s						
CLL	**Collm**	**82.09**	**330**	*i* pP	pP	02 55 01.0	-0.4
	comp=Z,13nm,1.3s						
PV21	**Cone Mtn., Par**	**82.87**	**47**	P	**P**	**02 54 40.4**	**-0.6**
PV21				IAmb	IAmb	02 54 43.4	
	comp=Z,13nm,1.2s						
WUAZ	**Wupatki**	**83.30**	**51**	P	**P**	**02 54 42.8**	**-0.3**
WUAZ				IAmb	IAmb	02 54 46.2	
	comp=Z,7.9nm,1.0s						
KHC	**Kasperske Hory**	**83.48**	**328**	*e*P	**P**	**02 54 44.5**	**+0.8**
KHC	**Kasperske Hory**	**83.48**	**328**	*e*P	**P**	**02 54 44.5**	**+0.8**
GERES	**GERESS Array B**	**83.64**	**328**	P	**P**	**02 54 45.2**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=355,slow=8.2,SNR=2.8						
	comp=Z,0.6nm,0.5s						
EKA	**Eskdalemuir Ar**	**84.47**	**340**	P	**P**	**02 54 49.5**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=44,slow=6.1,SNR=1.8						
	comp=Z,1.2nm,0.7s						
BMRD	**Maredsous**	**86.13**	**333**	*d*PcP	**PcP**	**02 54 58.5**	**-0.8**
TXAR	**Lajitas Array**	**92.25**	**51**	P	**P**	**02 55 25.7**	**-0.6**
TXAR	**Lajitas Array**	**92.25**	**51**	P	**P**	**02 55 25.7**	**-0.6**
TXAR	**Lajitas Array**	**92.25**	**51**	P	**P**	**02 55 27.4**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=283,slow=2.8,SNR=8.6						
TXAR				pP	**pP**	**02 55 53.2**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=325,slow=3.7,SNR=3.6						
	comp=Z,1.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**117.73**	**313**	PKP	**PKPdf**	**03 01 01.7**	**-0.6**
	comp=Z,0.2nm,0.2s,baz=19,slow=0.4,SNR=12						
QSPA	**South Pole Qui**	**124.90**	**180**	PKP	**PKPdf**	**03 01 13.9**	**-0.6**
	comp=Z,3.0nm,0.5s,baz=287,slow=1.6,SNR=10.0						
ETMB	**Extrema**	**145.32**	**50**	PKPbc	**PKPbc**	**03 01 52.8**	**-1.0**
SAML	**Samuel**	**146.45**	**44**	PKPbc	**PKPdf**	**03 01 55.3**	**-0.4**
SAML	**Samuel**	**146.45**	**44**	PKP2	**PKPdf**	**03 01 55.3**	**-0.4**
H03N2	**Juan Fernandez**	**148.03**	**98**	T	T	05 47 20.3	
	baz=290,slow=76,SNR=7.5						
H03N3	**Juan Fernandez**	**148.04**	**98**	T	T	05 47 30.6	
	baz=290,slow=76,SNR=7.0						
H03N1	**Juan Fernandez**	**148.04**	**98**	T	T	05 47 28.4	
	baz=290,slow=76,SNR=7.3						
LPAZ	**La Paz**	**148.71**	**60**	PKPbc	**PKPbc**	**03 02 02.8**	**-1.3**
LPAZ	**La Paz**	**148.71**	**60**	PKP2	**PKPbc**	**03 02 02.8**	**-1.3**
PB16	**IPOC Station P**	**149.03**	**65**	PKPbc	**PKPbc**	**03 02 03.6**	**-1.2**
PB11	**IPOC Station P**	**149.78**	**67**	PKPbc	**PKPdf**	**03 02 03.5**	**+2.2**
PLCA	**Paso Flores**	**155.44**	**112**	PKPab	**PKPab**	**03 02 35.6**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=252,slow=3.8,SNR=4.4						

*BUC **15** 03:24:22.2±0.3,45.68N×26.62E,h127km±2km, ml3.6/59, Error ellipse: s-maj=2.0km s-min=1.5km az=156.0*
ISC 15 03:24:21.3±1.4,**45.71N**±0.03×**26.61E**±0.03,**h137**km±7km, **n66**,σ**9**°**77**/121,**66C-53D,Romania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.15**	**12**	⇓P	**Pn**	**03 24 39.9**	**0.0**
PLOR				⇓S	**Sn**	**03 24 53.1**	**-1.0**
BISRR	**Bisoca**	**0.17**	**155**	⇑P	**Pn**	**03 24 40.4**	**+0.4**
BISRR				⇑S	**Sn**	**03 24 54.1**	**0.0**
VRI	**Vrincioaia**	**0.18**	**28**	⇑P	**Pn**	**03 24 40.1**	**+0.2**
VRI				⇓S	**Sn**	**03 24 53.0**	**-1.1**
COVR	**Voineasa-Covas**	**0.31**	**297**	⇓P	**Pn**	**03 24 41.2**	**-0.1**
COVR				⇓S	**Sn**	**03 24 54.0**	**-0.8**
ODBI	**Odobesti**	**0.32**	**80**	⇑P	**Pn**	**03 24 41.4**	**+1.1**
ODBI				⇑S	**Sn**	**03 24 55.7**	**+1.0**
NEHR	**Nehoiu**	**0.35**	**218**	⇑P	**Pn**	**03 24 40.9**	**+0.4**
NEHR				⇑S	**Sn**	**03 24 53.9**	**-1.1**
PANC	**Panciu**	**0.41**	**66**	⇑P	**Pn**	**03 24 41.2**	**+0.6**
PANC				⇑S	**Sn**	**03 24 55.1**	**-0.2**
GRER		**0.42**	**141**	⇑P	**Pn**	**03 24 41.9**	**+1.3**
GRER				⇑S	**Sn**	**03 24 56.0**	**+0.6**
MLR	**Muntele Rosu**	**0.51**	**245**	⇑P	**Pn**	**03 24 41.6**	**+0.2**
MLR				⇑S	**Sn**	**03 24 55.8**	**-0.7**
ISR	**Istrita**	**0.59**	**184**	⇑P	**Pn**	**03 24 42.3**	**+0.6**
ISR				⇑S	**Sn**	**03 24 58.2**	**+1.0**
GHRR		**0.66**	**57**	⇓P	**Pn**	**03 24 43.0**	**+0.9**
GHRR				⇓S	**Sn**	**03 24 58.2**	**+0.3**
TUDR		**0.75**	**98**	⇑P	**Pn**	**03 24 43.0**	**+0.3**
TUDR				⇑S	**Sn**	**03 24 58.4**	**-0.6**
BOSR	**Bodos**	**0.76**	**300**	⇑P	**Pn**	**03 24 42.7**	**0.0**
BOSR				⇑S	**Sn**	**03 24 58.3**	**-0.9**
TESR	**Tescani**	**0.81**	**2**	⇓P	**Pn**	**03 24 43.1**	**-0.1**
TESR				⇓S	**Sn**	**03 24 58.2**	**-1.7**
SLCR	**Slobozia Conac**	**0.83**	**98**	⇓P	**Pn**	**03 24 43.2**	**-0.1**
SLCR				⇓S	**Sn**	**03 24 58.7**	**-1.2**
IZVR	**Izvoarele**	**0.83**	**101**	⇑P	**Pn**	**03 24 42.4**	**-0.9**
IZVR				⇓S	**Sn**	**03 24 58.9**	**-1.1**
PGOR	**Pogoanele**	**0.84**	**161**	⇓P	**Pn**	**03 24 43.8**	**+0.4**
PGOR				⇓S	**Sn**	**03 25 00.7**	**+0.5**
SCHL	**Schela**	**0.88**	**103**	⇓P	**Pn**	**03 24 44.2**	**+0.5**
SCHL				⇓S	**Sn**	**03 24 59.7**	**-1.1**
DOPR	**Dopca**	**0.89**	**288**	⇑P	**Pn**	**03 24 44.0**	**+0.1**
DOPR				⇓S	**Sn**	**03 24 59.9**	**-1.1**
PLAR	**PLOIESTI**	**0.89**	**207**	⇓P	**Pn**	**03 24 44.6**	**+0.8**
PLAR				⇑S	**Sn**	**03 25 01.2**	**+0.3**
VARL	**Varlezi**	**0.89**	**77**	⇓P	**Pn**	**03 24 44.8**	**+1.0**
VARL				⇑S	**Sn**	**03 25 00.7**	**-0.2**
SCHLR	**Schela**	**0.89**	**105**	⇑P	**Pn**	**03 24 44.2**	**+0.4**
SCHLR				⇓S	**Sn**	**03 24 59.7**	**-1.2**
BIR	**Birlad**	**0.91**	**51**	⇑P	**Pn**	**03 24 44.6**	**+0.7**
BIR				⇑S	**Sn**	**03 25 00.4**	**-0.8**
NEGRR	**Negrea**	**0.91**	**100**	⇑P	**Pn**	**03 24 44.7**	**+0.8**
NEGRR				⇓S	**Sn**	**03 25 01.1**	**0.0**
SCTR	**Scanteiesti**	**0.97**	**91**	⇓P	**Pn**	**03 24 45.4**	**+0.8**
SCTR				⇓S	**Sn**	**03 25 01.3**	**-0.9**
TATR	**Tatarca**	**1.02**	**96**	⇓P	**Pn**	**03 24 45.8**	**+0.9**
TATR				⇑S	**Sn**	**03 25 02.7**	**-0.2**
VLDR	**Vladesti**	**1.04**	**82**	⇓P	**Pn**	**03 24 45.8**	**+0.7**
VLDR				⇑S	**Sn**	**03 25 02.7**	**-0.5**
GISR	**Galati**	**1.05**	**104**	⇓S	**Sn**	**03 25 03.4**	**0.0**
SULR		**1.06**	**194**	⇑P	**Pn**	**03 24 45.9**	**+0.7**
SULR				⇓S	**Sn**	**03 25 03.9**	**+0.4**
VOIR		**1.12**	**257**	⇓P	**Pn**	**03 24 46.3**	**+0.3**
VOIR				⇑S	**Sn**	**03 25 05.0**	**+0.2**
GIUM	**Giurgiulesti**	**1.15**	**101**	⇓P	**Pn**	**03 24 47.1**	**+0.9**
GIUM				⇑S	**Sn**	**03 25 05.0**	**0.0**
CFR	**Carcaliu**	**1.20**	**116**	⇑P	**Pn**	**03 24 47.2**	**+0.6**
CFR				⇑S	**Sn**	**03 25 04.7**	**-1.2**
AMRR	**Amara**	**1.21**	**154**	⇑P	**Pn**	**03 24 47.5**	**+0.7**
AMRR				⇑S	**Sn**	**03 25 06.2**	**0.0**
VASR	**Vaslui**	**1.25**	**41**	⇓P	**Pn**	**03 24 47.7**	**+0.6**
VASR				⇓S	**Sn**	**03 25 06.3**	**-0.6**
BIZ	**Bicaz**	**1.28**	**344**	⇑S	**Sn**	**03 25 07.8**	**+0.2**
INCR	**INCERC-Sediu C**	**1.30**	**194**	⇓S	**Sn**	**03 25 07.4**	**-0.4**
CIOR	**Ciorogarla**	**1.36**	**202**	⇓P	**Pn**	**03 24 48.5**	**+0.3**
CIOR				⇑S	**Sn**	**03 25 08.4**	**-0.5**
LEOM	**Leova**	**1.38**	**56**	⇓P	**Pn**	**03 24 49.3**	**+0.9**
LEOM				⇓S	**Sn**	**03 25 08.8**	**-0.4**
HARR	**Harsova**	**1.38**	**137**	⇑P	**Pn**	**03 24 49.0**	**+0.5**
BUC1	**Bucharest**	**1.42**	**197**	⇑P	**Pn**	**03 24 49.5**	**+0.6**
BUC1				⇑S	**Sn**	**03 25 09.4**	**-0.6**
ARR	**Arges**	**1.43**	**257**	⇓P	**Pn**	**03 24 49.7**	**+0.6**
ARR				⇓S	**Sn**	**03 25 10.5**	**+0.2**
STFAR	**Stefanesti-Arg**	**1.43**	**235**	⇑S	**Sn**	**03 25 10.6**	**+0.2**
TPGR	**Topolog**	**1.54**	**123**	⇑P	**Pn**	**03 24 50.7**	**+0.4**
TPGR				⇑S	**Sn**	**03 25 10.9**	**-1.5**
TLBR	**Topalu**	**1.55**	**138**	⇑P	**Pn**	**03 24 50.6**	**+0.3**
TLBR				⇑S	**Sn**	**03 25 11.4**	**-1.1**
SGRR	**Singureni**	**1.55**	**197**	⇓P	**Pn**	**03 24 50.0**	**-0.3**
SGRR				⇓S	**Sn**	**03 25 11.0**	**-1.5**
TLCR		**1.64**	**108**	⇓P	**Pn**	**03 24 52.4**	**+1.0**
TLCR				⇓S	**Sn**	**03 25 13.6**	**-0.7**
HUMR	**Humele**	**1.65**	**225**	⇓P	**Pn**	**03 24 51.7**	**+0.2**
HUMR				⇑S	**Sn**	**03 25 13.4**	**-1.1**
CVDA	**Cernavoda**	**1.71**	**143**	⇑P	**Pn**	**03 24 51.9**	**-0.2**
CVDA				⇓S	**Sn**	**03 25 15.7**	**0.0**
TIRR	**Tirgusor**	**1.79**	**134**	⇓P	**Pn**	**03 24 53.5**	**+0.4**
TIRR				⇑S	**Sn**	**03 25 15.7**	**-1.6**
ICOR	**Ion Corvin**	**1.80**	**151**	⇑P	**Pn**	**03 24 54.3**	**+1.0**
ICOR				⇓S	**Sn**	**03 25 16.9**	**-0.7**
COPA	**Copaceanca**	**1.85**	**213**	⇑P	**Pn**	**03 24 54.0**	**+0.1**
COPA				⇑S	**Sn**	**03 25 17.6**	**-1.2**
JURR	**Jurilovca**	**1.86**	**120**	⇑P	**Pn**	**03 24 54.9**	**+1.0**
MILM	**Milestii Mici**	**1.95**	**51**	⇓*i*P	**Pn**	**03 24 55.6**	**+0.6**
	14nm,0.1s						
MILM				*i* S	**Sn**	**03 25 19.9**	**-0.9**
	74nm,0.1s						
MILM	**Milestii Mici**	**1.95**	**51**	⇑P	**Pn**	**03 24 55.8**	**+0.8**
MILM				⇓S	**Sn**	**03 25 20.4**	**-0.5**
MFTR	**Murfatlar**	**2.00**	**139**	⇓P	**Pn**	**03 24 56.8**	**+1.2**
MFTR				⇓S	**Sn**	**03 25 20.8**	**-1.0**
KIS	**Kishinev**	**2.00**	**49**	⇓*i*P	**Pn**	**03 24 56.2**	**+0.7**
	96nm,0.2s						
KIS				*e*S	**Sn**	**03 25 20.7**	**-1.3**
	25nm,0.1s						
KIS	**Kishinev**	**2.00**	**49**	⇑P	**Pn**	**03 24 56.3**	**+0.7**
KIS				⇓S	**Sn**	**03 25 21.0**	**-1.0**
LOT	**Lotru**	**2.01**	**264**	⇑P	**Pn**	**03 24 56.6**	**+0.8**
LOT				⇑S	**Sn**	**03 25 22.2**	**0.0**
ZIMR		**2.23**	**204**	⇑S	**Sn**	**03 25 25.2**	**-1.6**
VLAD	**Vladila**	**2.32**	**223**	⇑P	**Pn**	**03 24 59.2**	**-0.2**
MANR	**Mangalia**	**2.36**	**143**	⇓S	**Sn**	**03 25 28.7**	**-0.9**
PURM	**Purcari**	**2.42**	**69**	⇑P	**Pn**	**03 25 01.5**	**+0.9**
PURM				⇑S	**Sn**	**03 25 30.6**	**-0.3**
GZR	**Gura Zlata**	**2.71**	**265**	⇓P	**Pn**	**03 25 05.4**	**+1.0**
GZR				⇓S	**Sn**	**03 25 38.5**	**+0.9**
SORM	**Soroca**	**2.71**	**26**	⇑P	**Pn**	**03 25 04.5**	**+0.2**
ELND	**Elena**	**2.83**	**191**	⇑P	**Pn**	**03 25 06.7**	**+0.8**
ELND				⇓S	**Sn**	**03 25 39.9**	**-0.3**
HERR	**Herculane**	**3.07**	**256**	⇑P	**Pn**	**03 25 08.7**	**-0.3**

*SJA **15** 03:26:27.5±0.6,27.92S×71.49W,h29km±2km, ML3.5, MW3.8*
*GUC **15** 03:26:29.1±0.8,27.92S×71.51W,h27km±9km, ML3.3*
ISC 15 03:26:29.0±1.6,**27.94S**±0.04×**71.46W**±0.08,**h33**km±5km, **n23**,σ**1**°**87**/36,**2C-5D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AC04	**Llanos de Chal**	**0.43**	**128**	*e*P	**Pn**	**03 26 38.2**	**-0.8**
AC04				*e*S	**Sn**	**03 26 45.1**	**-0.6**
AC04				IAML		03 26 45.8	
	comp=Z,1μm,0.6s						
AC04	**Llanos de Chal**	**0.43**	**128**	⇓*i*P	**Pn**	**03 26 38.5**	**-0.5**
AC04				*i* S	**Sn**	**03 26 45.1**	**-0.6**
AC04				IAML		03 26 45.7	
	comp=N,3μm,0.5s						
AC06	**Mina Casimiro**	**1.14**	**60**	⇓*i*P	**Pb**	**03 26 49.4**	**-0.8**
AC06				*e*S	**Sb**	**03 27 03.5**	**-1.2**
GO03	**Copiap**	**1.14**	**73**	*e*P	**Pb**	**03 26 49.8**	**-0.5**
GO03				*e*S	**Sb**	**03 27 06.3**	**+1.6**
GO03	**Copiap**	**1.14**	**73**	⇓*i*P	**Pb**	**03 26 49.7**	**-0.5**
GO03				*i* S	**Sb**	**03 27 04.9**	**+0.2**
GO03				IAML		03 27 11.3	
	comp=N,795nm,0.4s						
LCO	**Las Campanas**	**1.26**	**148**	*e*P	**Pb**	**03 26 52.0**	**-0.4**
LCO				*e*S	**Sb**	**03 27 09.8**	**+1.2**
LCO				IAML		03 27 14.5	
	comp=Z,1μm,0.2s						
LCO	**Las Campanas**	**1.26**	**148**	⇑*i*P	**Pb**	**03 26 52.1**	**-0.4**
LCO				*e*S	**Sb**	**03 27 08.8**	**+0.3**
AC05	**El Transito**	**1.38**	**131**	*e*P	**Pb**	**03 26 54.1**	**-0.2**
AC05				*e*S	**Sb**	**03 27 11.6**	**-0.1**
AC05				IAML		03 27 13.0	
	comp=Z,754nm,0.7s						
AC05	**El Transito**	**1.38**	**131**	⇓*i*P	**Pb**	**03 26 54.2**	**-0.2**
AC05				*i* S	**Sb**	**03 27 12.2**	**+0.6**
AC05				IAML		03 27 16.4	
	comp=N,754nm,0.3s						
AC01	**Pan de Azucar**	**1.94**	**24**	*e*P	**Pn**	**03 26 59.4**	**-0.3**
AC01				IAML		03 27 38.8	
	comp=Z,174nm,0.5s						
CO05	**La Serena**	**1.99**	**174**	*e*P	**Pb**	**03 27 01.5**	**-3.0**
CO05				IAML		03 27 39.9	
	comp=E,466nm,0.6s						
GO04	**Tololo Observa**	**2.30**	**166**	*e*P	**Pb**	**03 27 06.6**	**-3.5**
GO04	**Tololo Observa**	**2.30**	**166**	⇑*i*P	**Pn**	**03 27 06.4**	**+1.5**
GO04				*i* S	**Sb**	**03 27 39.4**	**+1.1**
CO01	**Juntas del Tor**	**2.36**	**150**	*e*P	**Pb**	**03 27 08.8**	**-2.2**
CO01				*e*S	**Sb**	**03 27 42.1**	**+2.3**
CO01				IAML		03 27 44.2	
	comp=Z,187nm,0.6s						
CO01	**Juntas del Tor**	**2.36**	**150**	⇓*i*P	**Pb**	**03 27 08.9**	**-2.2**
CO01				*e*S	**Sb**	**03 27 37.9**	**-2.0**
CO01				IAML		03 27 44.0	
	comp=E,246nm,0.3s						
CO03	**El Pedregal**	**2.97**	**167**	*e*P	**Pn**	**03 27 15.7**	**+1.8**
CO03				*e*S	**Sb**	**03 28 03.4**	**+6.2**
CO03				IAML		03 28 07.5	
	comp=Z,97nm,0.6s						
GO02	**Mina Guanaco**	**3.23**	**32**	*e*P	**Pn**	**03 27 19.3**	**+1.6**
CO02	**Combarbal**	**3.28**	**173**	*e*P	**Pn**	**03 27 19.3**	**+1.0**
CO02				IAML		03 28 20.5	
	comp=Z,216nm,0.5s						
CFA	**Coronel Fontan**	**4.61**	**143**	*e*P	Pn	03 27 40.8	+4.4
CFA				*e*S	**Sb**	**03 28 43.4**	**-0.8**
CFA				IAML		03 28 55.4	
	comp=Z,37nm,0.9s						
VA03	**San Esteban**	**4.88**	**171**	*e*P	**Pn**	**03 27 42.6**	**+2.5**
VA03				IAML		03 29 07.0	
	comp=Z,49nm,0.8s						
PB15	**IPOC Station P**	**5.04**	**21**	*e*P	**Pn**	**03 27 45.0**	**+2.5**
PB15				IAML		03 29 21.2	
	comp=Z,77nm,0.3s						
PB05	**IPOC Station P**	**5.19**	**13**	*e*P	**Pn**	**03 27 43.2**	**-1.2**
PB05				IAML		03 29 20.6	
	comp=Z,20nm,0.5s						
MT02	**Curacav**	**5.31**	**177**	*e*P	**Pn**	**03 27 46.3**	**+0.2**
MT02				IAML		03 29 15.9	
	comp=Z,39nm,2.8s						

*BER **15** 03:31:40.9±3.2,80.71N×2.18W,h50km±119km, mb(Pn)2.7, ML1.1(DNK), Confirmed Earthquake*
DNK 15 03:31:39.0±2.8,**80.69N**×2.06W,**h39**km±65km,**ML1.1, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**2.44**	**299**	*i* P	Pn	03 32 16.1	0.0
NOR				*i* S	Sn	03 32 42.2	-2.4
NOR	**Nord**	**2.44**	**299**	*i* P	Pn	03 32 16.1	0.0
NOR				*i* S	Sn	03 32 42.2	-2.4
KBS	**Kingsbay**	**3.05**	**118**	*i* P	Pn	03 32 24.9	+0.4
KBS				IAML		03 32 52.2	
	comp=Z,4.0nm,0.9s						
KBS				*i* S	Sn	03 32 56.7	-3.0
KBS	**Kingsbay**	**3.05**	**118**	*i* P	Pn	03 32 24.9	+0.4
KBS				*i* S	Sn	03 32 56.7	-3.0
BRBB	**Barentsburg B**	**3.96**	**123**	*e*P	Pn	03 32 39.1	+2.0
SPA0	**Spitsbergen Ar**	**4.21**	**117**	*e*P	Pn	03 32 42.2	+1.8
DAG	**Danmarks Havn**	**5.08**	**228**	*e*	Pn	03 32 46.8	-5.6
	baz=45,slow=16						
DAG				*i* P		03 32 52.0	
DAG				*i* S	Sn	03 33 45.0	-4.7
DAG				IAML		03 33 49.2	
	comp=Z,1.1nm,0.3s						
DAG	**Danmarks Havn**	**5.08**	**228**	*e*	Pn	03 32 46.8	-5.6
	baz=45,slow=16						
DAG				*i* P		03 32 52.0	
DAG				*i* S	Sn	03 33 45.0	-4.7
DAG				IAML		03 33 49.2	
	comp=Z,1.1nm,0.3s						
DBG	**Daneborg**	**7.47**	**221**	*e*	Pn	03 33 26.4	+1.3
DBG				*e*S	Sn	03 34 40.2	-8.1
DBG				IAML		03 34 49.6	
	comp=Z,0.4nm,0.3s						
DBG	**Daneborg**	**7.47**	**221**	*e*	Pn	03 33 26.4	+1.3
DBG				*e*S	Sn	03 34 40.2	-8.1
DBG				IAML		03 34 49.6	
	comp=Z,0.4nm,0.3s						

*SJA **15** 03:34:57.9±0.6,28.55S×70.93W,h52km±3km, ML3.5, MW3.7*
*GUC **15** 03:34:59.2±0.8,28.56S×70.97W,h54km±2km, ML3.5*
ISC 15 03:34:59.9±1.3,**28.53S**±0.03×**70.96W**±0.06,**h44**km±11km, **n27**,σ**0**°**81**/42,**2C-4D,Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AC04	**Llanos de Chal**	**0.34**	**343**	*e*P	**Pn**	**03 35 08.7**	**-0.3**
AC04				*e*S	**Sn**	**03 35 16.3**	**+1.0**
AC04				IAML		03 35 16.7	
	comp=Z,3μm,0.1s						
AC04	**Llanos de Chal**	**0.34**	**343**	⇑*i*P	**Pn**	**03 35 09.2**	**+0.2**
AC04				*i* S	**Sn**	**03 35 16.0**	**+0.6**
AC04				IAML		03 35 17.0	
	comp=N,9μm,0.3s						
LCO	**Las Campanas**	**0.53**	**154**	*e*P	**Pn**	**03 35 10.5**	**-1.1**
LCO				*e*S	**Sn**	**03 35 19.4**	**-0.3**
LCO	**Las Campanas**	**0.53**	**154**	*e*P	**Pn**	**03 35 10.8**	**-0.7**
LCO				*i* S	**Sn**	**03 35 19.3**	**-0.4**
AC05	**El Transito**	**0.68**	**117**	*e*P	**Pn**	**03 35 12.3**	**-1.0**
AC05				*e*S	**Sn**	**03 35 22.8**	**-0.1**
AC05				IAML		03 35 22.9	
	comp=Z,2μm,0.4s						
AC05	**El Transito**	**0.68**	**117**	⇓*i*P	**Pn**	**03 35 12.8**	**-0.5**
AC05				*i* S	**Sn**	**03 35 22.6**	**-0.3**
AC05				IAML		03 35 23.0	
	comp=E,5μm,0.1s						
GO03	**Copiap**	**1.14**	**35**	*e*P	**Pn**	**03 35 18.6**	**-0.9**
GO03				*e*S	**Sn**	**03 35 35.6**	**+1.7**
GO03	**Copiap**	**1.14**	**35**	*e*P	**Pn**	**03 35 18.1**	**-1.4**
GO03				*i* S	**Sn**	**03 35 33.3**	**-0.6**
GO03				IAML		03 35 37.0	
	comp=N,785nm,0.3s						
AC06	**Mina Casimiro**	**1.29**	**25**	⇓*i*P	**Pn**	**03 35 20.9**	**-0.6**
AC06				*i* S	**Sn**	**03 35 37.1**	**-0.4**
AC06				IAML		03 35 41.0	
	comp=N,688nm,0.1s						
CO05	**La Serena**	**1.40**	**190**	⇓*i*P	**Pn**	**03 35 22.2**	**-0.8**
CO05				*i* S	**Sn**	**03 35 40.1**	**-0.2**
CO05				IAML		03 35 42.3	
	comp=E,1μm,0.3s						
CO01	**Juntas del Tor**	**1.63**	**152**	*e*P	**Pn**	**03 35 26.3**	**-0.1**
CO01				*e*S	**Sn**	**03 35 47.4**	**+1.1**
CO01				IAML		03 35 48.2	
	comp=Z,515nm,0.2s						
CO01	**Juntas del Tor**	**1.63**	**152**	*e*P	**Pn**	**03 35 26.3**	**-0.1**
CO01				*i* S	**Sn**	**03 35 46.9**	**+0.6**
CO01				IAML		03 35 47.9	
	comp=E,1μm,0.1s						
GO04	**Tololo Observa**	**1.64**	**175**	*e*P	**Pn**	**03 35 26.0**	**-0.6**
GO04				*e*S	**Sn**	**03 35 47.5**	**+0.9**
GO04	**Tololo Observa**	**1.64**	**175**	*e*P	**Pn**	**03 35 26.0**	**-0.6**
GO04				*i* S	**Sn**	**03 35 46.7**	**+0.1**
CO06	**Fray Jorge**	**2.21**	**195**	⇑*i*P	**Pn**	**03 35 33.4**	**-0.8**
CO03	**El Pedregal**	**2.31**	**174**	*e*P	**Pn**	**03 35 35.3**	**-0.3**
CO03				*e*S	Sn	03 35 50.6	-12
CO03				IAML		03 36 21.4	
	comp=Z,244nm,0.5s						
CO03	**El Pedregal**	**2.31**	**174**	⇓*i*P	**Pn**	**03 35 35.4**	**-0.3**
CO03				IAML		03 36 20.9	
	comp=E,539nm,0.6s						
AC01	**Pan de Azucar**	**2.40**	**8**	*e*P	**Pn**	**03 35 35.9**	**-0.8**
AC01				*e*S	Sn	03 36 13.3	+8.5
AC01				IAML		03 36 17.0	
	comp=Z,126nm,0.2s						
CO02	**Combarbal**	**2.66**	**181**	*e*P	**Pn**	**03 35 40.0**	**-0.4**
CO02				*e*S	Sn	03 36 24.5	+13
CO02				IAML		03 36 29.8	
	comp=Z,366nm,0.3s						
CO02	**Combarbal**	**2.66**	**181**	*e*P	**Pn**	**03 35 39.6**	**-0.9**
**RT

Error ellipse: s-maj=14.7km s-min=5.0km az=127.0
ISC 15 04:11:59.2±1.1,44°39'N±0'.05×82°59'E±0'.06,h10km,n56,
σ1965/62,8C-8D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.87**	**241**	*e*P	**Pb**	**04 12 33.0**	**-0.5**
	0.5nm,0.1s						
KTMS				*e*S	**Sg**	**04 12 58.0**	**-1.4**
	214nm,0.2s						
KTMS	**Ketmen**	**1.87**	**241**	Pg	**Pg**	**04 12 35.3**	**+0.2**
	20nm,0.3s						
KTMS				Lg	Lg	04 13 02.1	
	214nm,0.3s						
DJR	**Jarkent**	**2.01**	**269**	*e*Pg	**Pb**	**04 12 35.2**	**-0.7**
	0.4nm,0.1s						
DJR				*e*Lg	Lg	04 13 01.7	
	40nm,0.2s						
DJR	**Jarkent**	**2.01**	**269**	Pg	**Pb**	**04 12 36.4**	**+0.6**
	47nm,0.5s						
DJR				Lg	Lg	04 13 04.3	
	180nm,0.3s						
MK31	**Makanchi Array**	**2.42**	**355**	⇓Pn	**Pb**	**04 12 42.4**	**-0.4**
	3.3nm,0.2s,baz=177,slow=14						
MK31				⇓Sn	**Sg**	**04 13 16.8**	**+0.1**
	64nm,0.5s,baz=183,slow=28						
MKAR	**Makanchi Array**	**2.42**	**355**	Pn	**Pb**	**04 12 42.1**	**-0.7**
	9.4nm,0.3s,baz=178,slow=15,SNR=86						
MKAR				Sn	**Sb**	**04 13 11.3**	**-1.3**
	33nm,0.3s,baz=176,slow=28,SNR=22						
	13nm,0.3s						
KNOS	**Konyrlen**	**2.45**	**270**	Pg	**Pb**	**04 12 42.4**	**-0.9**
	58nm,0.4s						
KNOS				Lg	Lg	04 13 15.0	
	165nm,0.3s						
MAKZ	**Makanchi**	**2.46**	**350**	⇑Pn	**Pb**	**04 12 42.4**	**-1.1**
	1.6nm,0.2s						
MAKZ				⇑Sn	**Sb**	**04 13 14.1**	**+0.3**
	32nm,0.6s						
KAPS	**Kapalarasan**	**2.47**	**292**	*e*Pg	**Pb**	**04 12 43.6**	**-0.1**
	4.0nm,0.1s						
KAPS				*e*Lg	Lg	04 13 16.2	
	94nm,0.2s						
KAPS	**Kapalarasan**	**2.47**	**292**	Pg	**Pg**	**04 12 45.5**	**-1.0**
	11nm,0.6s						
KAPS				Lg	Lg	04 13 19.7	
	185nm,0.5s						
PDGK	**Podgornoye**	**2.48**	**246**	Pg	**Pb**	**04 12 43.8**	**-0.1**
	6.7nm,0.3s						
PDGK				Lg	Lg	04 13 17.1	
	58nm,0.7s						
PDGK	**Podgornoye**	**2.48**	**246**	⇓Pn	**Pb**	**04 12 42.6**	**-1.4**
	4.2nm,0.2s						
PDGK				⇑Sn	**Sg**	**04 13 17.2**	**-1.6**
	135nm,0.4s						
SHLS	**Shalkode**	**2.58**	**243**	*e*Pg	**Pn**	**04 12 40.7**	**-0.4**
	48nm,0.3s						
SHLS				*e*Lg	Lg	04 13 11.6	
	566nm,0.5s						
SHLS	**Shalkode**	**2.58**	**243**	Pg	**Pn**	**04 12 40.7**	**-0.4**
	48nm,0.3s						
SHLS				Lg	Lg	04 13 11.6	
	566nm,0.5s						
UZB	**Uzynbulak**	**2.87**	**246**	*e*Pg	**Pb**	**04 12 50.7**	**+0.2**
	8.0nm,0.2s						
UZB				*e*Lg	Lg	04 13 28.2	
	86nm,0.3s						
UZB	**Uzynbulak**	**2.87**	**246**	Pg	**Pb**	**04 12 50.2**	**-0.3**
	4.6nm,0.3s						
UZB				Lg	Lg	04 13 28.0	
	63nm,0.2s						
KPKS	**Kokpek**	**2.97**	**253**	*e*Pg	**Pb**	**04 12 52.5**	**+0.2**
	19nm,0.3s						
KPKS				*e*Lg	Lg	04 13 31.9	
	575nm,0.5s						
KPKS	**Kokpek**	**2.97**	**253**	Pg	**Pb**	**04 12 52.5**	**+0.2**
	19nm,0.3s						
KPKS				Lg	Lg	04 13 31.9	
	575nm,0.5s						
TDK	**Taldyqorghan**	**3.05**	**283**	*e*Pg	**Pb**	**04 12 53.9**	**+0.4**
	38nm,0.2s						
TDK				*e*Lg	Lg	04 13 33.8	
	62nm,0.3s						
TDK	**Taldyqorghan**	**3.05**	**283**	Pg	**Pg**	**04 12 56.1**	**-1.4**
	34nm,0.4s						
TDK				Lg	Lg	04 13 38.0	
	92nm,0.5s						
ZHN	**Zhinishke**	**3.25**	**249**	*e*Pg	**Pb**	**04 12 56.9**	**-0.1**
	3.4nm,0.2s						
ZHN				*e*Lg	Lg	04 13 39.2	
	145nm,0.3s						
ZHN	**Zhinishke**	**3.25**	**249**	Pg	**Pb**	**04 12 56.9**	**-0.1**
	3.4nm,0.2s						
ZHN				Lg	Lg	04 13 39.2	
	145nm,0.3s						
SATY	**Saty**	**3.31**	**248**	*e*Pg	**Pb**	**04 12 58.6**	**+0.5**
	4.2nm,0.1s						
SATY				*e*Lg	Lg	04 13 41.7	
	130nm,0.2s						
SATY	**Saty**	**3.31**	**248**	Pg	**Pb**	**04 12 57.8**	**-0.2**
	7.1nm,0.3s						
SATY				Lg	Lg	04 13 40.9	
	70nm,0.2s						
KURS	**Kuram**	**3.32**	**256**	*e*Pg	**Pb**	**04 12 58.4**	**+0.2**
	23nm,0.6s						
KURS				*e*Lg	Lg	04 13 42.0	
	39nm,0.6s						
KURS	**Kuram**	**3.32**	**256**	Pg	**Pb**	**04 12 58.4**	**+0.2**
	23nm,0.6s						
KURS				Lg	Lg	04 13 42.0	
	39nm,0.6s						
ARXS	**Arharly**	**3.42**	**269**	*e*Pg	**Pb**	**04 13 00.8**	**+0.8**
	4.4nm,0.2s						
ARXS				*e*Lg	Lg	04 13 45.6	
	48nm,0.3s						
ARXS	**Arharly**	**3.42**	**269**	Pg	**Pb**	**04 13 01.7**	**+1.7**
	7.6nm,0.5s						
ARXS				Lg	Lg	04 13 47.6	
	48nm,0.6s						
ZSN	**Zaisan**	**3.45**	**27**	*e*Pg	**Pb**	**04 12 58.6**	**-1.8**
	5.5nm,0.2s						
ZSN				*e*Lg	Lg	04 13 41.8	
	16nm,0.3s						
ZSN	**Zaisan**	**3.45**	**27**	Pg	**Pb**	**04 13 02.2**	**+1.8**
	16nm,0.3s						
ZSN				Lg	Lg	04 13 48.7	
	61nm,0.5s						
CHKK	**Chushkaly**	**4.07**	**264**	*e*Pg	**Pb**	**04 13 11.8**	**+0.9**
	6.6nm,0.4s						
CHKK				*e*Lg	Lg	04 14 04.8	
	34nm,0.4s						
CHKK	**Chushkaly**	**4.07**	**264**	Pg	**Pb**	**04 13 11.8**	**+0.9**
	6.6nm,0.4s						
CHKK				Lg	Lg	04 14 04.8	
	34nm,0.4s						
KOTS	**Kotyrbulak**	**4.13**	**256**	*e*Pg	**Pb**	**04 13 13.2**	**+1.2**
	18nm,0.5s						
KOTS				*e*Lg	Lg	04 14 07.5	
	133nm,0.7s						
KOTS	**Kotyrbulak**	**4.13**	**256**	Pg	**Pb**	**04 13 13.3**	**+1.2**
	18nm,0.5s						
KOTS				Lg	Lg	04 14 07.5	
	133nm,0.7s						
MDOK	**Medeo**	**4.20**	**255**	*e*Pg	**Pb**	**04 13 15.3**	**+2.2**
	2.1nm,0.2s						
MDOK				*e*Lg	Lg	04 14 10.6	
	29nm,0.6s						
MDOK	**Medeo**	**4.20**	**255**	Pg	**Pg**	**04 13 16.7**	**-2.8**
	12nm,0.5s						
MDOK				Pg	**Pb**	**04 13 17.1**	**+4.0**
	19nm,0.7s						
MDOK				Lg	Lg	04 14 13.9	
	32nm,0.9s						
MDOK				Lg	Lg	04 14 15.2	
	40nm,0.6s						
TNSS	**Tian-Shan**	**4.31**	**254**	*e*Pg	**Pb**	**04 13 17.7**	**+2.5**
	2.7nm,0.2s						
TNSS				*e*Lg	Lg	04 14 14.4	
	11nm,0.3s						
TNSS	**Tian-Shan**	**4.31**	**254**	Pg	**Pg**	**04 13 18.6**	**-3.2**
	5.1nm,0.7s						
TNSS				Lg	Lg	04 14 16.7	
	10nm,0.5s						
KUU	**Kurty**	**4.53**	**266**	*e*Pg	**Pb**	**04 13 20.8**	**+2.1**
	2.7nm,0.1s						
KUU				*e*Lg	Lg	04 14 19.9	
	34nm,0.2s						
KUU	**Kurty**	**4.53**	**266**	Pg	**Pb**	**04 13 19.8**	**+1.0**
	2.9nm,0.1s						
KUU				Lg	Lg	04 14 18.4	
	34nm,0.6s						
MTBS	**Maitube**	**4.64**	**256**	*e*Pg	**Pb**	**04 13 23.3**	**+2.6**
	4.2nm,0.4s						
MTBS				*e*Lg	Lg	04 14 24.1	
	27nm,0.5s						
MTBS	**Maitube**	**4.64**	**256**	Pg	**Pb**	**04 13 21.3**	**+0.7**
	4.2nm,0.4s						
MTBS				Lg	Lg	04 14 21.3	
	27nm,0.5s						
KST	**Kastek**	**4.99**	**257**	*e*Pg	**Pb**	**04 13 29.7**	**+3.0**
	5.0nm,0.7s						
KST				*e*Lg	Lg	04 14 35.4	
	30nm,0.7s						
KST	**Kastek**	**4.99**	**257**	Pg	**Pb**	**04 13 29.7**	**+3.0**
	5.0nm,0.7s						
KST				Lg	Lg	04 14 35.4	
	30nm,0.7s						
DGS	**Degeres**	**5.07**	**259**	*e*Pg	**Pb**	**04 13 30.6**	**+2.6**
	4.8nm,0.5s						
DGS				*e*Lg	Lg	04 14 36.9	
	42nm,0.8s						
DGS	**Degeres**	**5.07**	**259**	Pg	**Pb**	**04 13 28.5**	**+0.5**
	4.8nm,0.5s						
DGS				Lg	Lg	04 14 33.9	
	42nm,0.8s						
TKM2	**Tokmak 2**	**5.28**	**256**	⇑Pg	**Pg**	**04 13 40.3**	**0.0**
	5.3nm,0.5s						
TKM2				⇓Lg	Lg	04 14 48.6	
	12nm,0.7s						
SGDS	**Sogindy**	**5.83**	**264**	Pg	**Pb**	**04 13 44.5**	**+3.6**
	0.4nm,0.2s						
SGDS				Lg	Lg	04 15 00.7	
	6.9nm,0.8s						
CHMS	**Chumysh**	**5.85**	**259**	⇑Pg	**Pg**	**04 13 49.9**	**-1.3**
	2.8nm,0.4s						
CHMS				⇓Lg	Lg	04 15 02.9	
	11nm,0.8s						
AAK	**Ala-Archa**	**6.14**	**256**	Pn	**Pn**	**04 13 32.4**	**+2.3**
	0.3nm,0.3s,baz=355,slow=8.3,SNR=2.3						
AAK				Pg	Pb	04 13 51.4	+5.1
	0.5nm,0.3s,baz=74,slow=9.7,SNR=4.8						
AAK				Lg	Lg	04 15 08.6	
	0.2nm,0.3s,baz=333,slow=23,SNR=1.3						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**6.81**	**338**	Pn	**Pn**	**04 13 40.0**	**+0.9**
	0.2nm,0.3s,baz=152,slow=14,SNR=1.7						
KURBB				Lg	Lg	04 15 33.1	
	0.2nm,0.3s,baz=143,slow=26,SNR=4.7						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**6.81**	**338**	⇑Pn	**Pn**	**04 13 40.5**	**+1.4**
	0.9nm,0.3s						
KURBB				⇑Lg	Lg	04 15 36.2	
	28nm,0.7s						
AML	**Almayashu**	**6.88**	**254**	⇑Pg	**Pg**	**04 14 06.9**	**-3.9**
	0.2nm,0.5s						
AML				⇓Lg	Lg	04 15 39.1	
	3.1nm,1.0s						
KURK	**Kurchatov**	**6.88**	**338**	⇓Pn	**Pn**	**04 13 42.9**	**+2.9**
	0.5nm,0.3s						
KURK				⇓Lg	Lg	04 15 37.0	
	13nm,0.6s						
ZALV	**Zalesovo Beam**	**9.68**	**8**	Pn	**Pn**	**04 14 19.0**	**+0.6**
	0.7nm,0.3s,baz=188,slow=14,SNR=9.8						
ZALV				Lg	Lg	04 17 03.6	
	baz=190,slow=25						
	2.2nm,0.4s						
SONM	**Songino Array**	**16.84**	**70**	Pn	**P**	**04 15 58.3**	**+1.1**
	0.1nm,0.3s,baz=256,slow=12,SNR=2.9						
	0.3nm,0.5s						

*IDC **15** 04:18:03.9±0.9,38°.64N×70°.86E,h0km,mb3.8/13, mbtmp3.8/19,ML3.4/6,Error ellipse: s-maj=15.8km s-min=10.7km az=151.0*
*NEIC **15** 04:18:05.0±1.8,38°.84N±0°.04×70°.90E±0°.06,h10km±2km, mb4.3/2,Error ellipse: s-maj=8.9km s-min=5.0km az=50.0*
*MOS **15** 04:18:06.5±1.4,38°.73N×70°.64E,h16km,mb4.0/10,Error ellipse: s-maj=8.3km s-min=4.6km az=71.2*
*NNC **15** 04:18:07.7±2.8,38°.50N×70°.58E,h113km±63km,mb3.2, mpv3.6,Error ellipse: s-maj=24.6km s-min=16.5km az=17.0*
ISC 15 04:18:07.0±0.5,38°.78N±0°.04×70°.63E±0°.04,h10km,n100,
σ2956/116,mb3.8/17,16C-7D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**1.16**	**264**		**Pb**	**04 18 30.3**	**+1.1**
CHGR	**Chuyangaron**	**1.16**	**264**	PG	**Pb**	**04 18 30.3**	**+1.1**
BTK	**Batken**	**1.28**	**7**		**Pn**	**04 18 29.5**	**-1.6**
BTK	**Batken**	**1.28**	**7**	*i* PG	**Pn**	**04 18 29.0**	**-2.1**
OHH	**Osh**	**2.41**	**43**	⇓*i* PN	**Pn**	**04 18 47.4**	**+0.8**
OHH				*i* S	**Sn**	**04 19 17.0**	**+0.8**
SFK	**Sufi-Kurgan**	**2.54**	**60**	*e*PN	**Pn**	**04 18 49.4**	**+0.8**
TRKS	**Terek-Say**	**2.77**	**8**	*i* PN	**Pn**	**04 18 51.8**	**+0.1**
TRKS				*i* S	**Sn**	**04 19 25.2**	**-0.1**
ARSB	**Arslanbob**	**3.12**	**35**		**Pn**	**04 18 57.9**	**+1.6**
ARSB	**Arslanbob**	**3.12**	**35**	PN	**Pn**	**04 18 57.9**	**+1.6**
ARK	**Arkit**	**3.18**	**18**	⇓*i* PN	**Pn**	**04 18 58.3**	**+1.1**
ARK				*i* S	**Sn**	**04 19 36.1**	**+0.8**
AML	**Almayashu**	**4.08**	**34**	P	**Pn**	**04 19 11.5**	**+1.6**
	SNR=8.9						
AML	**Almayashu**	**4.08**	**34**	*e*PN	**Pn**	**04 19 10.9**	**+1.0**
AML	**Almayashu**	**4.08**	**34**	P	**Pn**	**04 19 11.9**	**+2.0**
	0.6nm,0.4s						
AML				S	**Sn**	**04 20 02.1**	**+4.2**
	6.4nm,0.6s						
ARLS	**Aral**	**4.17**	**41**	*i* PN	**Pn**	**04 19 11.8**	**+0.9**
ARLS				*i* S	**Sn**	**04 19 59.6**	**-0.3**
KK31	**Karatay Array**	**4.32**	**359**		**Pn**	**04 19 16.0**	**+3.2**
KK31	**Karatay Array**	**4.32**	**359**	PN	**Pn**	**04 19 16.0**	**+3.2**
KK31	**Karatay Array**	**4.32**	**359**	⇑P	**Pn**	**04 19 15.5**	**+2.7**
	24nm,0.5s						
KK31				⇓S	**Sn**	**04 20 08.8**	**+5.7**
	73nm,0.7s						
KKAR	**Karatay Array**	**4.32**	**359**		**Pn**	**04 19 15.4**	**+2.6**
KKAR	**Karatay Array**	**4.32**	**359**	*e*PN	**Pn**	**04 19 14.4**	**+1.6**
KBL	**Kabul**	**4.42**	**197**		**Pn**	**04 19 19.0**	**+4.7**
KBL	**Kabul**	**4.42**	**197**	PN	**Pn**	**04 19 19.0**	**+4.7**
UCH	**Uchtor**	**4.54**	**39**	P	**Pn**	**04 19 17.9**	**+1.7**
	SNR=23						
UCH	**Uchtor**	**4.54**	**39**	*e*PN	**Pn**	**04 19 17.3**	**+1.1**
EKS2	**Erkin-Say**	**4.55**	**31**	P	**Pn**	**04 19 19.5**	**+3.4**
	SNR=12						
EKS2	**Erkin-Say**	**4.55**	**31**	*e*PN	**Pn**	**04 19 17.1**	**+1.0**
KZA	**Kyzart**	**4.82**	**45**	P	**Pn**	**04 19 23.7**	**+3.7**
	SNR=16						
KZA	**Kyzart**	**4.82**	**45**	*i* PN	**Pn**	**04 19 21.0**	**+0.9**
KZA				*i* S	**Sn**	**04 20 15.4**	**-0.8**
AAK	**Ala-Archa**	**4.84**	**36**	P	**Pn**	**04 19 22.3**	**+2.2**
	SNR=23						
AAK	**Ala-Archa**	**4.84**	**36**		Pn	04 19 15.5	-4.7
AAK	**Ala-Archa**	**4.84**	**36**	*i* PN	**Pn**	**04 19 23.4**	**+3.3**
AAK	**Ala-Archa**	**4.84**	**36**	Pn	**Pn**	**04 19 22.0**	**+1.9**
	5.0nm,0.3s,baz=208,slow=7.2,SNR=39						
AAK				Sn	**Sn**	**04 20 18.2**	**+1.8**
	2.9nm,0.3s,baz=19,slow=1.3,SNR=2.2						
AAK				Lg	Lg	04 20 36.7	
	2.3nm,0.3s,baz=335,slow=20,SNR=6.5						
	17nm,0.4s						
NRN	**Naryn**	**4.90**	**56**	Pn	Pn	04 19 16.3	-4.7
NRN	**Naryn**	**4.90**	**56**	⇓*i* PN	**Pn**	**04 19 21.5**	**+0.5**
NRN				*i* S	**Sn**	**04 20 16.3**	**-1.6**
FRU1	**Bishkek**	**5.04**	**36**	Pn	**Pn**	**04 19 17.8**	**-4.9**
FRU1	**Bishkek**	**5.04**	**36**	⇓*i* PN	**Pn**	**04 19 23.9**	**+1.2**
FRU1				*i* S	**Sn**	**04 20 20.4**	**-0.7**
KBK	**Karagaybulak**	**5.07**	**39**	P	**Pn**	**04 19 27.6**	**+4.3**
	SNR=50						
KBK	**Karagaybulak**	**5.07**	**39**	*e*PN	**Pn**	**04 19 24.4**	**+1.1**
CHMS	**Chumysh**	**5.24**	**35**	P	**Pn**	**04 19 27.1**	**+1.6**
	SNR=20						
CHMS	**Chumysh**	**5.24**	**35**	*e*PN	**Pn**	**04 19 26.5**	**+1.0**
CHMS	**Chumysh**	**5.24**	**35**	⇑P	**Pn**	**04 19 26.9**	**+1.4**
	4.7nm,0.4s						
CHMS				⇑S	**Sn**	**04 20 29.3**	**+3.3**
	45nm,0.8s						
USP	**Ospenovka**	**5.35**	**32**	P	**Pn**	**04 19 30.0**	**+3.0**
	SNR=10.0						
USP	**Ospenovka**	**5.35**	**32**	*e*PN	**Pn**	**04 19 28.1**	**+1.1**
NIL	**Nilore**	**5.54**	**157**		**Pn**	**04 19 25.9**	**-3.7**
NIL	**Nilore**	**5.54**	**157**	PN	**Pn**	**04 19 25.9**	**-3.7**
TKM2	**Tokmak 2**	**5.59**	**41**	P	**Pn**	**04 19 34.9**	**+4.4**
	SNR=8.1						
TKM2	**Tokmak 2**	**5.59**	**41**	*e*PN	**Pn**	**04 19 31.6**	**+1.2**
	3.7nm,0.5s						
TKM2				⇑S	**Sn**	**04 20 39.3**	**+4.4**
	31nm,1.1s						
TARG	**Taragay, Kyrgy**	**6.23**	**60**	Pn	Pn	04 19 33.4	-6.0
TARG	**Taragay, Kyrgy**	**6.23**	**60**	PN	Pn	04 19 33.4	-6.0
DHRM	**DHARAMSHALA**	**7.99**	**143**	*e*P	**Pn**	**04 20 04.6**	**+1.2**
DHRM				*e*S	**Sn**	**04 21 31.9**	**-2.0**
DHRM				IAML		04 21 46.2	
	comp=E,67nm,0.7s						
SMLA	**Simla**	**9.33**	**143**	*e*P	**Pn**	**04 20 24.9**	**+3.4**
SMLA				*e*S	**Sn**	**04 22 03.6**	**-2.9**
GEYT	**Alibeck**	**9.87**	**269**	Pn	**Pn**	**04 20 30.0**	**+1.1**
	comp=E,0.7nm,0.3s,baz=96,slow=14,SNR=1.3						
GEYT				Sn	**Sn**	**04 22 13.5**	**-6.2**
	comp=E,0.9nm,0.3s,baz=266,slow=40,SNR=1.5						
GEYT				Lg	Lg	04 23 27.2	
	baz=358,slow=33						
	comp=E,1.7nm,0.2s						
MK31	**Makanchi Array**	**11.72**	**43**	*ce*P	Pn	04 20 59.2	+5.0
MKAR	**Makanchi Array**	**11.72**	**43**	Pn	Pn	04 20 49.9	-4.4
MKAR	**Makanchi Array**	**11.72**	**43**	P	Pn	04 20 49.9	-4.3
MKAR	**Makanchi Array**	**11.72**	**43**	Pn	**Pn**	**04 20 54.6**	**+0.4**
	comp=E,0.1nm,0.3s,baz=236,slow=12,SNR=4.5						
	comp=E,1.7nm,0.8s						
AB31	**Akbulak array**	**12.97**	**327**	⇑P	**Pn**	**04 21 09.8**	**-1.6**
	comp=E,3.7nm,0.5s,baz=144,slow=12,SNR=98						
AB31				⇓S	**Sn**	**04 23 32.7**	**-3.0**
	comp=E,4.6nm,0.8s,baz=156,slow=23,SNR=5.4						
ABKAR	**Akbulak array**	**12.97**	**327**	Pn	**Pn**	**04 21 09.9**	**-1.5**
KURBB	**Kurchatov Arra**	**13.09**	**23**	Pn	**Pn**	**04 21 10.0**	**-3.0**
	comp=E,0.1nm,0.3s,baz=216,slow=13,SNR=5.0						
KURBB				Lg	Lg	04 24 52.9	
	baz=273,slow=11,SNR=4.8						
	comp=E,0.7nm,0.7s						
KURK	**Kurchatov**	**13.20**	**23**	P	Pn	04 21 10.0	-4.4
BVAR	**Borovoye Array**	**14.25**	**359**	Pn	**Pn**	**04 21 28.6**	**-0.1**
	comp=E,0.1nm,0.3s,baz=158,slow=16,SNR=4.1						
BVAR				Sn	**Sn**	**04 23 59.2**	**-7.5**
	baz=282,slow=38,SNR=1.4						
BVAR				Lg	Lg	04 25 37.8	
	baz=177,slow=29,SNR=1.9						
BRVK	**Borovoye**	**14.28**	**359**	Pn	**Pn**	**04 21 26.0**	**-3.2**
BRVK	**Borovoye**	**14.28**	**359**	*i* P	**P**	**04 21 35.8**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**14.69**	**327**	Pn	**Pn**	**04 21 33.6**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=136,slow=12,SNR=8.1						
AKTO				Sn	**Sn**	**04 24 11.6**	**-5.8**
	comp=Z,0.1nm,0.3s,baz=330,slow=23,SNR=1.6						
AKTO				Lg	Lg	04 26 01.2	
	comp=Z,0.1nm,0.3s,baz=9.6,slow=4.5,SNR=1.5						
	comp=Z,1.7nm,0.4s						
AKTO	**Aktyubinsk**	**14.69**	**327**	⇑P	**Pn**	**04 21 34.6**	**-0.1**
	comp=Z,1.3nm,0.5s						
AKTO				⇑S	**Sn**	**04 24 17.8**	**+0.4**
	comp=Z,2.7nm,0.7s						
DGZ	**Jazzator, Alta**	**16.21**	**42**	*i* P	**Pn**	**04 21 56.3**	**+1.4**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZALV	**Zalesovo Beam**	**18.00**	**28**	Pn	**Pn**	**04 22 12.2**	**-5.0**
ZALV	**Zalesovo Beam**	**18.00**	**28**	P	**Pn**	**04 22 14.4**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=217,slow=11,SNR=2.5						
	comp=Z,0.7nm,0.5s						
ARU	**Arti**	**19.39**	**340**	*c* P	**Pn**	**04 22 34.9**	**+0.9**
ARU				S	**Sn**	**04 26 12.9**	**+1.6**
ARU				pmax	pmax		
	comp=Z,33nm,3.4s						
GNI	**Garni**	**20.02**	**282**	*ce*P	Pn	04 22 44.4	+2.6
GNI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
AKH	**Akhalkalaki**	**20.89**	**286**	P	**P**	**04 22 48.4**	**-1.2**
AKH				IAmb	IAmb	04 22 53.4	
	comp=Z,10nm,0.7s						
AKH	**Akhalkalaki**	**20.89**	**286**	P	**P**	**04 22 48.4**	**-1.2**
AKH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ONI	**Oni**	**20.92**	**289**	P	**P**	**04 22 49.6**	**-0.1**
ONI				IAmb	IAmb	04 22 53.6	
	comp=Z,7.9nm,0.6s						
ONI	**Oni**	**20.92**	**289**	P	**P**	**04 22 49.6**	**-0.1**
ONI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BELG	**Belogornoye**	**20.96**	**318**	*i* P	Pn	04 22 54.3	+1.8
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BELG	**Belogornoye**	**20.96**	**318**	P	**P**	**04 22 52.1**	**+2.1**
	comp=Z,11nm,0.8s,baz=104,slow=4.2,SNR=3.8						
	comp=Z,11nm,0.8s						
KBZ	**Khabaz**	**21.38**	**292**	*i* P	**P**	**04 23 00.3**	**+5.8**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KBZ	**Khabaz**	**21.38**	**292**	P	**P**	**04 22 54.4**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=127,slow=13,SNR=1.2						
	comp=Z,0.5nm,0.4s						
KIV	**Kislovodsk**	**21.55**	**293**	*i* P	**P**	**04 23 01.6**	**+5.1**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN	**Obninsk**	**28.05**	**317**	⇑*e*P	**P**	**04 24 01.1**	**+2.9**
OBN				*e*		04 24 51.4	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,135nm,17.0s						
BRTR	**Keskin Array B**	**28.53**	**284**	P	**P**	**04 24 02.2**	**-0.7**
BRTR	**Keskin Array B**	**28.53**	**284**	*ce*P	**P**	**04 24 05.0**	**+2.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**28.53**	**284**	P	**P**	**04 24 03.6**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=73,slow=8.0,SNR=4.6						
	comp=Z,0.4nm,0.4s						
KMI	**Kunming**	**30.29**	**107**	⇓P	**P**	**04 24 19.8**	**+1.1**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AKASG	**Malin Array Be**	**31.33**	**306**	P	**P**	**04 24 28.2**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=109,slow=8.2,SNR=2.5						
	comp=Z,0.8nm,0.5s						
MNK	**Minsk**	**32.70**	**313**	*i* P	**P**	**04 24 41.1**	**+1.8**
	comp=E,6.0nm,0.8s						
MNK				*i* P	**P**	**04 24 41.1**	**+1.8**
	comp=N,9.0n

	comp=Z,2.9nm,0.9s									
MA2	**Magadan**	**52.77**	**39**	*ce*	P		**P**		**04 27 23.8**	**+1.9**
MA2					pmax		pmax			
	comp=Z,52nm,2.5s									
TORD	**Torodi Ar. Bea**	**65.50**	**267**		P		**P**		**04 28 49.6**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=49,slow=6.2,SNR=8.6									
	comp=Z,0.6nm,0.5s									
ILAR	**Eielson Array**	**72.67**	**16**		P		**P**		**04 29 32.9**	**-1.6**
	comp=Z,0.4nm,1.1s,baz=339,slow=4.8,SNR=2.4									
	comp=Z,0.4nm,1.1s									
YKA	**Yellowknife Ar**	**78.98**		2 *ce*	P		**P**		**04 30 10.6**	**0.0**
YKA	**Yellowknife Ar**	**78.98**		**2**	P		**P**		**04 30 09.7**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=350,slow=5.9,SNR=8.9									
	comp=Z,0.5nm,0.7s									
WRA	**Warramunga Arr**	**83.44**	**122**	*ce*	P		**P**		**04 30 33.5**	**-1.4**
WRA					pmax		pmax			
	comp=Z,1.0nm,0.9s									
WRA	**Warramunga Arr**	**83.44**	**122**		P		**P**		**04 30 31.6**	**-3.3**
	comp=Z,0.5nm,0.9s,baz=324,slow=4.7,SNR=5.6									
	comp=Z,0.5nm,0.9s									
ASAR	**Alice Springs**	**85.80**	**125**		P		**P**		**04 30 45.5**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=309,slow=5.9,SNR=6.1									
	comp=Z,0.4nm,0.5s									

CATAC ***15*** *04:18:58.0±0.6, 14°.05N×91°.96W, h27km±5km, ML3.6*
MEX ***15*** *04:18:59.2±0.6, 14°.08N×92°.18W, h20km±28km, MD4.2*
GCG ***15*** *04:19:03.8±0.3, 14°.40N×91°.63W, h42km±49km, MD3.4*

ISC 15 04:18:54.2±1.6, 13°.94N±0°.05×92°.16W±0°.03, h29km±14km, n39, σ1°.79/70, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SULM	**Suchitepequez,**	**0.68**	**58**	*e*	P	**Pn**	**04 19 10.7**	**+2.8**
RTAL	**Retalhuleu**	**0.73**	**38**	*i*	P	**Pn**	**04 19 09.7**	**+1.1**
RTAL				*e*	S	**Sn**	**04 19 19.8**	**+0.9**
RTAL	**Retalhuleu**	**0.73**	**38**	*i*	P	**Pn**	**04 19 09.6**	**+0.9**
RTAL					IAML		04 19 09.9	
	comp=Z,2µm,1.0s							
RTAL				*i*	S	**Sn**	**04 19 19.5**	**+0.6**
SMCA	**Catarina**	**0.91**	**5**	*i*	P	**Pn**	**04 19 13.1**	**+2.0**
SMCA					IAML		04 19 22.9	
	comp=Z,940nm,1.0s							
SMCA				*i*	S	**Sn**	**04 19 23.5**	**+0.2**
STG3	**Santiaguito 3,**	**0.95**	**37**	*e*	P	**Pb**	**04 19 13.1**	**+0.8**
THIG		**0.96**	**354**	*e*	P	**Pb**	**04 19 12.8**	**+0.5**
THIG				*e*	S	**Sn**	**04 19 24.6**	**+0.1**
SMSP	**San Marcos**	**1.09**	**20**	*e*	P	**Pb**	**04 19 14.4**	**-0.2**
SMSP				*e*	S	**Sn**	**04 19 27.6**	**-0.5**
QUEO	**Labor Ovalle**	**1.12**	**34**	*i*	P	**Pb**	**04 19 14.9**	**-0.2**
QUEO					IAML		04 19 15.6	
	comp=Z,3µm,1.0s							
QUEO				*i*	S	**Sn**	**04 19 27.7**	**-1.0**
SOKI	**Kika Raxquin**	**1.14**	**40**	*i*	P	**Pb**	**04 19 15.1**	**-0.5**
SOKI					IAML		04 19 15.5	
	comp=Z,2µm,1.0s							
SOKI				*i*	S	**Sn**	**04 19 28.3**	**-1.2**
CHUJ	**Union Juarez**	**1.15**	**3**	*i*	P	**Pn**	**04 19 14.6**	**+0.1**
CHUJ				*e*	S	**Sn**	**04 19 27.6**	**-1.8**
PATR	**El Naranjo**	**1.17**	**357**	*i*	P	**Pn**	**04 19 14.6**	**-0.2**
PATR				*e*	S	**Sn**	**04 19 28.1**	**-1.9**
PAVE	**Pavencul**	**1.24**	**359**	*i*	P	**Pn**	**04 19 16.0**	**+0.1**
PAVE				*e*	S	**Sn**	**04 19 29.7**	**-2.1**
FUG	**Fuego 3**	**1.38**	**68**	*e*	P	**Pb**	**04 19 18.8**	**-0.6**
CHTG	**Tecpan**	**1.40**	**54**	*i*	P	**Pb**	**04 19 19.1**	**-0.8**
CHTG					IAML		04 19 20.3	
	comp=Z,2µm,1.0s							
CHTG				*i*	S	**Sn**	**04 19 34.9**	**-0.9**
HUEH	**Huehuetenango**	**1.51**	**25**	*e*	P	**Pb**	**04 19 21.4**	**-0.3**
HUEH				*e*	S	**Sb**	**04 19 39.3**	**-1.2**
HUEH	**Huehuetenango**	**1.51**	**25**	*i*	P	**Pb**	**04 19 21.1**	**-0.6**
HUEH				*i*	S	**Sb**	**04 19 39.8**	**-0.7**
HUEH					IAML		04 19 47.6	
	comp=Z,990nm,1.0s							
PCG	**Pacaya**	**1.57**	**73**	*e*	P	**Pb**	**04 19 22.2**	**-0.6**
GUMI	**Mixco**	**1.65**	**65**	*i*	P	**Pb**	**04 19 23.0**	**-1.1**
GUMI					IAML		04 19 25.0	
	comp=Z,1µm,1.0s							
GUMI				*i*	S	**Sn**	**04 19 40.4**	**-1.4**
QUIS	**Sacapulas**	**1.69**	**38**	*i*	P	**Pb**	**04 19 23.9**	**-0.9**
QUIS					IAML		04 19 25.3	
	comp=Z,1µm,1.0s							
QUIS				*i*	S	**Sn**	**04 19 41.7**	**-1.1**
NBG	**Las Nubes**	**1.87**	**70**	*e*	P	**Pb**	**04 19 27.3**	**-0.6**
PCIG		**2.03**	**330**	*i*	P	**Pn**	**04 19 27.8**	**+1.4**
PCIG				*i*	S	**Sn**	**04 19 50.5**	**-0.3**
NUBE	**Las Nubes**	**2.31**	**91**	*i*	P	**Pn**	**04 19 32.1**	**+1.6**
NUBE				*i*	S	**Sn**	**04 19 57.1**	**-1.0**
NUBE					IAML		04 20 00.5	
	comp=Z,340nm,1.0s							
CCIG	**Comitan**	**2.33**	**1**	*e*	P	**Pb**	**04 19 34.7**	**-0.9**
CCIG				*e*	S	**Sn**	**04 19 59.7**	**+1.3**
CEVE	**Cerro Verde**	**2.47**	**92**	*i*	P	**Pn**	**04 19 34.2**	**+1.5**
CEVE				*i*	S	**Sn**	**04 20 01.7**	**-0.4**
CEVE					IAML		04 20 09.1	
	comp=Z,450nm,1.0s							
JAYA	**Jayaque - finc**	**2.65**	**96**	*i*	P	**Pn**	**04 19 36.3**	**+1.1**
JAYA				*i*	S	**Sn**	**04 20 05.7**	**-0.8**
JAYA					IAML		04 20 07.9	
	comp=Z,1µm,1.0s							
MTO3	**Montecristo**	**2.75**	**80**	*i*	P	**Pn**	**04 19 37.6**	**+0.9**
MTO3				*i*	S	**Sn**	**04 20 09.5**	**+0.4**
MTO3					IAML		04 20 13.5	
	comp=Z,54nm,1.0s							
ESQI	**Esquipulas**	**2.80**	**77**	*i*	P	**Pn**	**04 19 38.2**	**+1.0**
ESQI					IAML		04 19 42.5	
	comp=Z,280nm,1.0s							
ESQI				*i*	S	**Sn**	**04 20 08.3**	**-1.8**
CARR	**Arriaga**	**2.85**	**324**	*e*	P	**Pn**	**04 19 40.6**	**+2.9**
CARR				*e*	S	**Sn**	**04 20 11.6**	**+0.6**
TGIG		**2.97**	**342**	*e*	P	**Pn**	**04 19 40.5**	**+1.0**
TGIG				*e*	S	**Sn**	**04 20 14.6**	**+0.5**
SCLA	**Alcaldia de Sa**	**3.34**	**94**	*i*	P	**Pn**	**04 19 46.4**	**+1.8**
SCLA				*i*	S	**Sn**	**04 20 22.4**	**-1.0**
SCLA					IAML		04 20 32.6	
	comp=Z,30nm,1.0s							
NILT	**Santiago Nilte**	**3.52**	**318**	*e*	P	**Pn**	**04 19 50.6**	**+3.7**
NILT				*e*	S	**Sn**	**04 20 26.7**	**-1.0**
UXUV	**UXUV**	**3.86**	**331**	*e*	P	**Pn**	**04 19 54.8**	**+3.1**
UXUV				*e*	S	**Sn**	**04 20 35.6**	**-0.5**
CMIG	**Matias Romero**	**4.08**	**320**	*i*	P	**Pn**	**04 19 57.1**	**+2.4**
CMIG				*e*	S	**Sn**	**04 20 40.4**	**-1.2**
HUIG	**Huatulco**	**4.22**	**296**	*e*	P	**Pn**	**04 19 59.0**	**+2.3**
HUIG				*e*	S	**Sn**	**04 20 38.9**	**-6.2**
SCIG	**Sabancuy**	**5.08**	**10**	*e*	P	**Pn**	**04 20 10.3**	**+1.9**
SCIG				*e*	S	Sn	04 20 57.0	-9.2
NEUV	**Arroyo Zacate**	**5.13**	**317**	*e*	P	**Pn**	**04 20 12.0**	**+2.9**
NEUV				*e*	S	**Sn**	**04 21 05.0**	**-2.4**
PEIG	**Puerto Escondi**	**5.23**	**294**	*e*	P	**Pn**	**04 20 13.1**	**+2.5**
PEIG				*e*	S	Sn	04 21 01.6	-8.4
PNIG	**Pinotepa**	**6.25**	**294**	*e*	P	**Pn**	**04 20 28.1**	**+3.5**
PNIG				*e*	S	**Sn**	**04 21 30.0**	**-5.2**
JAUV	**Jalcomulco**	**6.99**	**321**	*e*	P	**Pn**	**04 20 35.5**	**+0.8**
JAUV				*e*	S	Sn	04 21 31.6	-22

ATH 15 04:48:56.2, 34°.46N×26°.76E, h12km±4km, ML2.9/3, Error ellipse: s-maj=7.2km s-min=2.2km az=305.0, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZKR	**Zakros**	**0.79**	**326**	P		Pg	04 49 11.1	-0.4
ZKR				S		Sg	04 49 21.5	-0.4
ZKR					AML	AML	04 49 23.1	
	comp=N,1659µm,0.4s							
ZKR					AML	AML	04 49 23.9	
	comp=E,3786µm,0.7s							
FRMA	**Ierapetra Chan**	**1.01**	**303**	P		Pg	04 49 13.9	-1.8
FRMA					AML	AML	04 49 29.9	
	comp=N,1286µm,0.4s							
FRMA					AML	AML	04 49 31.0	
	comp=E,1132µm,0.5s							
KARP	**Karpathos**	**1.13**	**17**	P		Pb	04 49 16.6	-1.1
KARP				S		Sg	04 49 32.9	+0.3
KARP					AML	AML	04 49 36.8	
	comp=N,1798µm,0.8s							
KARP					AML	AML	04 49 38.6	
	comp=E,952µm,0.8s							
IDI	**Anoyia**	**1.75**	**299**	P		Pn	04 49 25.5	-0.9
ARG	**Arkhangelos**	**2.07**	**32**	P		Pn	04 49 30.8	0.0

AFAD 15 04:49:06.5±0.0, 35°.39N×27°.38E, h12km±1km, ML2.3,

Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAT	**Datca**	**1.34**	**7**	P		Pg	04 49 32.1	-0.3
DAT				S		Sb	04 49 47.4	-1.5
TURN	**Turunc**	**1.55**	**27**	P		Pg	04 49 36.1	-0.2
TURN				S		Sg	04 49 56.9	+0.6
BDRM	**Kayabasi**	**1.67**	**2**	P		Pb	04 49 36.9	-0.3
IZZE	**Mula-Seydike**	**1.83**	**55**	P		Pb	04 49 39.2	-0.7
IZZE				*i*	AML	AML	04 50 21.0	
	comp=E,24nm,0.3s							
FETY	**Fethiye**	**1.86**	**48**	P		Pb	04 49 40.9	+0.5
FETY				S		Sg	04 50 07.2	+1.0
AKAS	**Kas**	**1.99**	**64**	P		Pn	04 49 41.0	+0.8
AKAS				S		Sb	04 50 07.5	-0.1
AKAS				*i*	AML	AML	04 50 18.0	
	comp=N,55nm,0.5s							
AKAS				*i*	AML	AML	04 50 18.0	
	comp=E,37nm,0.6s							
CAEL	**Denizli, Camel**	**2.33**	**42**	P		Pb	04 49 47.7	-0.9
CAEL				S		Sb	04 50 17.9	+0.5
CAEL				*i*	AML	AML	04 50 33.0	
	comp=N,20nm,0.8s							
CAEL				*i*	AML	AML	04 50 39.0	
	comp=E,30nm,0.7s							
TAVA	**DENIZLI_Tavas**	**2.41**	**30**	P		Pb	04 49 48.1	-1.7
TAVA				S		Sb	04 50 19.8	+0.2
GOLH	**Golhisar**	**2.55**	**43**	P		Pb	04 49 51.0	-1.2
GOLH				*i*	AML	AML	04 50 33.0	
	comp=N,8.7nm,0.4s							
GOLH				*i*	AML	AML	04 50 55.0	
	comp=E,13nm,1.7s							
DNIZ	**Denizli-Tavas-**	**2.60**	**30**	P		Pn	04 49 46.1	-2.3

MOS ***15*** *05:30:11.3±1.0, 44°.53N×149°.78E, h58km, mb4.0/1, Error ellipse: s-maj=20.2km s-min=16.5km az=175.0*
SKHL ***15*** *05:30:12.3±0.1, 44°.50N×149°.80E, h63km±2km, mb4.3/3*
IDC ***15*** *05:30:23.2±15.0, 44°.62N×149°.82E, h149km±146km, mb3.3/8, mbtmp3.7/8, Error ellipse: s-maj=30.2km s-min=23.6km az=103.0*

ISC 15 05:30:12.5±2.9, 44°.47N±0°.09×149°.8E±0°.2, h49km±24km, n25, σ0°.64/27, mb3.6/8, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**1.56**	**300**	*e*	P	**Pn**	**05 30 37.8**	**0.0**
KUR					AMB	AMB	05 30 38.5	
	80nm,0.2s							
KUR				*i*	S	**Sn**	**05 30 56.8**	**0.0**
KUR					A	A	05 30 59.5	
	440nm,0.3s							
KUR	**Kuril'sk**	**1.56**	**300**	⇑*i*	PN	**Pn**	**05 30 37.8**	**0.0**
KUR				*i*	S	**Sn**	**05 30 57.8**	**+1.0**
KUR					pmax	pmax		
	comp=Z,78nm,0.4s							
KUR					smax	smax		
	comp=E,440nm,0.2s							
SHO	**Shikotan**	**2.20**	**255**	*e*	P	**Pn**	**05 30 46.7**	**+0.1**
SHO					AMB	AMB	05 30 48.8	
	comp=E,20nm,0.3s							
SHO				*e*	S	**Sn**	**05 31 11.8**	**-0.8**
SHO					A	A	05 31 20.0	
	comp=E,40nm,0.2s							
SHO					A	A	05 31 20.0	
	comp=E,70nm,0.2s							
SHO	**Shikotan**	**2.20**	**255**	*e*	PN	**Pn**	**05 30 47.0**	**+0.4**
SHO				*e*	S	**Sn**	**05 31 11.6**	**-1.0**
SHO					smax	smax		
	comp=N,41nm,0.4s							
SHO					smax	smax		
	comp=E,76nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**2.85**	**263**	*e*	P	**Pn**	**05 30 55.5**	**+0.1**
YUK					AMB	AMB	05 30 56.9	
	comp=E,60nm,0.4s							
YUK				*e*	S	**Sn**	**05 31 27.8**	**-0.7**
YUK					A	A	05 31 29.5	
	comp=E,50nm,0.4s							
YUK					A	A	05 31 29.5	
	comp=E,190nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.85**	**263**	*e*	PN	**Pn**	**05 30 55.3**	**-0.1**
YUK				*e*	S	**Sn**	**05 31 27.8**	**-0.7**
YUK					smax	smax		
	comp=N,71nm,0.3s							
YUK					smax	smax		
	comp=E,192nm,0.2s							
NMR	**Nemuro--Hokkai**	**3.13**	**251**	*e*	P	**Pn**	**05 30 59.5**	**+0.2**
NMR				*e*	S	**Sn**	**05 31 35.0**	**-0.3**
NMR	**Nemuro--Hokkai**	**3.13**	**251**	*e*	PN	**Pn**	**05 30 59.4**	**+0.2**
NMR				*e*	S	**Sn**	**05 31 35.0**	**-0.3**
AKK	**Akkeshi**	**3.86**	**250**	*e*	P	**Pn**	**05 31 09.9**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**28.50**	**144**		T	T	06 06 58.3	
	baz=335,slow=76,SNR=18							
H11N1	**WAKE ISLAND Hy**	**28.51**	**144**		T	T	06 07 02.4	
	baz=335,slow=76,SNR=16							
H11N3	**WAKE ISLAND Hy**	**28.51**	**144**		T	T	06 07 00.3	
	baz=335,slow=76,SNR=15							
H11S1	**WAKE ISLAND Hy**	**29.51**	**146**		T	T	06 08 16.7	
	baz=335,slow=76,SNR=17							
H11S3	**WAKE ISLAND Hy**	**29.52**	**146**		T	T	06 08 16.3	
	baz=335,slow=76,SNR=23							
H11S2	**WAKE ISLAND Hy**	**29.53**	**146**		T	T	06 08 17.4	
	baz=335,slow=76,SNR=16							
SONM	**Songino Array**	**29.95**	**292**		P	**P**	**05 36 17.1**	**+1.1**
	comp=E,0.3nm,0.4s,baz=101,slow=7.5,SNR=1.8							
	comp=E,0.3nm,0.4s							
ILAR	**Eielson Array**	**39.78**	**37**		P	**P**	**05 37 39.9**	**-0.4**
	comp=E,0.2nm,0.7s,baz=274,slow=5.5,SNR=4.2							
	comp=E,0.2nm,0.7s							
MKAR	**Makanchi Array**	**45.92**	**298**		P	**P**	**05 38 30.6**	**+0.4**
	comp=E,1.2nm,0.7s,baz=67,slow=7.5,SNR=4.9							
	comp=E,1.2nm,0.7s							
KURK	**Kurchatov**	**46.69**	**304**	*e*	P	**P**	**05 38 36.3**	**+0.2**
KURK	**Kurchatov**	**46.69**	**304**		P	**P**	**05 38 36.3**	**+0.2**
KURBB	**Kurchatov Arra**	**46.78**	**304**		P	**P**	**05 38 36.3**	**-0.5**
	comp=E,0.3nm,0.6s,baz=71,slow=8.8,SNR=2.2							
	comp=E,0.3nm,0.6s							
WRA	**Warramunga Arr**	**65.64**	**196**		P	**P**	**05 40 52.2**	**+0.7**
	comp=E,0.5nm,0.7s,baz=14,slow=6.4,SNR=5.4							
	comp=E,0.5nm,0.7s							
ASAR	**Alice Springs**	**69.34**	**196**		P	**P**	**05 41 15.4**	**+0.5**
	comp=E,0.5nm,0.7s,baz=10,slow=5.8,SNR=3.1							
	comp=E,0.5nm,0.7s							
NOA	**NORSAR Array B**	**69.60**	**340**		P	**P**	**05 41 14.7**	**-1.4**
	comp=E,1.1nm,0.9s,baz=29,slow=6.7,SNR=4.0							
	comp=E,1.1nm,0.9s							
HFS	**Hagfors**	**69.74**	**338**		P	**P**	**05 41 16.1**	**-0.8**
	comp=E,3.6nm,0.9s,baz=36,slow=5.4,SNR=2.1							
	comp=E,3.6nm,0.9s							

KRSC 15 05:33:31.4±0.6, 48°.62N×155°.87E, h16km±13km, MI4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.07**	**4**	*e*	P	Pn	05 34 06.6	+1.2
SKR				*e*	S	Sn	05 34 32.3	+1.4
PAU	**Pauzhetka**	**2.91**	**12**	*e*	P	Pn	05 34 19.8	+2.8
PAU				*e*	S	Sb	05 34 55.6	-2.6
KDTR	**Khodutka, Kamc**	**3.49**	**23**	*e*	P	Pn	05 34 28.0	+3.0
KDTR				*e*	S	Sn	05 35 09.9	+4.0
MTVR	**Mutnovka**	**4.13**	**20**	*e*	P	Pn	05 34 37.6	+3.6
MTVR				*e*	S	Sn	05 35 26.9	+4.8
GRL	**Gorelyy**	**4.17**	**19**	*e*	P	Pn	05 34 38.2	+3.6
UGLR	**Uglovaya**	**4.96**	**21**	*e*	P	Pn	05 34 49.7	+4.4
AVH	**Avacha**	**4.99**	**20**	*e*	P	Pn	05 34 50.2	+4.5
KOK	**Koryaka**	**4.99**	**19**	*e*	P	Pn	05 34 49.5	+3.8
SMAR	**Somma**	**5.00**	**21**	*e*	P	Pn	05 34 50.2	+4.2
KRX	**Arik**	**5.05**	**19**	*e*	P	Pn	05 34 51.1	+4.4
SPN	**Mys Shipunski**	**5.19**	**29**	*e*	P	Pn	05 34 53.3	+4.9
SPN				*e*	S	Sn	05 35 52.6	+4.6

NEIC ***15*** *05:45:28.3±2.0, 62°.52S±0°.05×153°.9E±0°.3, h10km±1km, mb4.7/16, Error ellipse: s-maj=27.1km s-min=4.6km az=106.0*
IDC ***15*** *05:45:29.2±0.8, 62°.35S×153°.93E, h0km, mb4.4/7, mbtmp4.4/7, MS4.3/28, Error ellipse: s-maj=37.8km s-min=19.1km az=84.0*
GCMT ***15*** *05:45:31.3±0.2, 62°.32S±0°.01×155°.13E±0°.03, h14km±1km, MW5.2/117, Moment Tensor Solution. s75,c105; s117,c182; Duration: 1ꜱ0 Moment tensor: Scale 10^17 Nm; Mrr-0.04±.02; Mθθ0.69±.02; Mφφ-0.64±.02; Mrθ-0.10±.03; Mrφ-0.45±.02; Mθφ-0.01±.03; Best double couple: M0:81200×10^17 NP1:φ=242.00000°, δ=88.00000°, λ=173.00000°. NP2:φ=332.00000°, δ=83.00000°, λ=2.00000°. Principal axes: T 0.8390, Plg6.0000°, Azm197.0000°; N -0.0530, Plg83.0000°, Azm44.0000°; P -0.7850, Plg3.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 05:45:29.2±0.5, 62°.43S±0°.07×154°.0E±0°.1, h10km, n78, σ1ꜱ48/41, mb4.6/15, MS4.3/28, 4C, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MCQ	**Macquarie Isla**	**8.37**	**20**	P		**Pn**	**05 47 29.6**	**-0.9**
VNDA	**Vanda**	**15.37**	**174**			Pn	05 48 59.5	-6.3
VNDA	**Vanda**	**15.37**	**174**	P		Pn	05 48 59.1	-6.6
	3.6nm,0.3s,baz=345,slow=15,SNR=117							
VNDA						Sn	05 51 44.3	-11
	0.3nm,0.3s,baz=58,slow=13,SNR=1.1							
VNDA						LR	05 54 22.8	
	comp=Z,3µm,19.5s,baz=360,slow=34							
SBA	**Scott Base**	**16.02**	**170**			**Pn**	**05 49 09.4**	**-4.7**
CASY	**Casey**	**18.88**	**239**	P		**P**	**05 49 47.4**	**-1.9**
CASY						IAmb	05 50 01.6	
	comp=Z,62nm,1.4s							
RPZ	**Rata Peaks**	**21.25**	**36**	LR		LR	05 56 54.1	
	comp=Z,2µm,18.0s,baz=186,slow=32							
QSPA	**South Pole Qui**	**27.66**	**180**	P		**P**	**05 51 16.4**	**-0.5**
QSPA	**South Pole Qui**	**27.66**	**180**	P		**P**	**05 51 16.9**	**+0.1**
	comp=Z,21nm,1.1s,baz=7.5,slow=6.4,SNR=30							
QSPA						LR	06 02 25.5	
	comp=Z,670nm,20.4s,baz=16,slow=37							
RTZ	**Ruatahuna**	**27.67**	**41**			**P**	**05 51 16.9**	**-0.2**
RTZ						IAmb	05 51 26.0	
	comp=Z,19nm,1.1s							
URZ	**Urewera**	**28.04**	**41**	LR		LR	06 01 11.0	
	comp=Z,856nm,18.9s,baz=312,slow=34							
STKA	**Stephens Creek**	**31.59**	**340**	P		**P**	**05 51 50.1**	**-1.6**
STKA	**Stephens Creek**	**31.59**	**340**	P		**P**	**05 51 52.9**	**+1.2**
	comp=Z,4.2nm,1.1s,baz=165,slow=16,SNR=3.1							
STKA						LR	06 01 33.3	
	comp=Z,578nm,20.4s,baz=159,slow=31							
	comp=Z,4.2nm,1.1s							
BBOO	**Buckleboo**	**31.77**	**331**	P		**P**	**05 51 52.1**	**-1.2**
BBOO						IAmb	05 52 03.5	
	comp=Z,20nm,1.4s							
MAW	**Mawson**	**35.49**	**221**	P		**P**	**05 52 24.7**	**-0.6**
MAW	**Mawson**	**35.49**	**221**	P		**P**	**05 52 26.1**	**+0.8**
	comp=Z,10nm,0.3s,baz=66,slow=22,SNR=53							
MAW						LR	06 07 21.1	
	comp=Z,2µm,18.5s,baz=118,slow=37							
	comp=Z,10nm,0.3s							
FORT	**Forrest**	**35.81**	**320**	P		**P**	**05 52 27.0**	**-1.5**
FORT						IAmb	05 52 55.6	
	comp=Z,13nm,0.9s							
H01W1	**Cape Leeuwin H**	**37.07**	**299**	T		T	06 32 46.2	
	baz=149,slow=75,SNR=171							
H01W2	**Cape Leeuwin H**	**37.07**	**299**	T		T	06 32 45.2	
	baz=149,slow=75,SNR=116							
H01W3	**Cape Leeuwin H**	**37.09**	**299**	T		T	06 32 48.4	
	baz=149,slow=75,SNR=148							
NWAO	**Narrogin (SRO)**	**37.58**	**304**	LR		LR	06 04 27.4	
	comp=Z,557nm,19.9s,baz=114,slow=30							
BELA	**Belgrano 2**	**39.83**	**177**	P		**P**	**05 53 01.1**	**-0.9**
BELA						IAmb	05 53 03.2	
	comp=Z,26nm,1.3s							
ASAR	**Alice Springs**	**41.06**	**331**	P		**P**	**05 53 11.1**	**-1.6**
ASAR	**Alice Springs**	**41.06**	**331**	P		**P**	**05 53 12.7**	**0.0**
	comp=Z,1.4nm,0.8s,baz=162,slow=7.6,SNR=9.9							
ASAR					PcP	**PcP**	**05 55 14.2**	**+1.9**
	comp=Z,0.7nm,0.6s,baz=152,slow=3.2,SNR=3.1							
ASAR						LR	06 07 51.6	
	comp=Z,418nm,19.6s,baz=160,slow=33							
	comp=Z,1.4nm,0.8s							
AS31	**Alice Springs**	**41.06**	**331**	P		**P**	**05 53 11.2**	**-1.5**
DZM	**Mont Dzumac**	**41.23**	**18**	*e*S		**S**	**05 59 27.3**	**-0.5**
	comp=Z,220nm,26.0s							
DZM				*e*	LR	LR	06 04 07.6	
	comp=Z,1µm,25.8s							
DZM	**Mont Dzumac**	**41.23**	**18**	LR		LR	06 06 47.6	
	comp=Z,668nm,19.4s,baz=212,slow=31							
CTA	**Charters Tower**	**42.64**	**349**	LR		LR	06 09 14.6	
	comp=Z,382nm,18.0s,baz=168,slow=34							
TROLL	**Troll, Antarti**	**44.41**	**192**	⇑P		**P**	**05 53 40.2**	**+0.7**
	comp=Z,302nm,0.6s							
WRA	**Warramunga Arr**	**44.57**	**333**	P		**P**	**05 53 40.9**	**-0.2**
WRA	**Warramunga Arr**	**44.57**	**333**	P		**P**	**05 53 40.8**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=162,slow=7.1,SNR=16							
WRA					PcP	**PP**	**05 55 26.2**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=166,slow=2.8,SNR=6.9							
	comp=Z,1.6nm,0.7s							
WB0	**Warramunga Arr**	**44.73**	**333**	P		**P**	**05 53 41.4**	**-1.0**
WB0						IAmb	05 53 46.5	
	comp=Z,12nm,1.4s							
SNAA	**Sanae**	**45.22**	**190**	P		**P**	**05 53 44.5**	**-1.3**
SNAA	**Sanae**	**45.22**	**190**	⇑P		**P**	**05 53 46.9**	**+1.1**
**S

comp=Z,62nm,18.4s,baz=160,slow=35
TSUM Tsumeb 91.66 221 LR LR 06 38 23.7
comp=Z,231nm,20.3s,baz=152,slow=35
LSZ Lusaka 91.76 232 LR LR 06 35 04.2
comp=Z,186nm,21.3s,baz=158,slow=32
JHJ Hachijo jima 2 95.90 348 LR LR 06 38 22.3
comp=Z,63nm,21.7s,baz=183,slow=33
SIV San Ignacio 97.13 146 LR LR 06 41 01.5
comp=Z,45nm,18.1s,baz=170,slow=34
MJAR Matsushiro Arr 99.45 347 LR LR 06 41 52.5
comp=Z,57nm,19.9s,baz=170,slow=34
NVAR Mina Array Bea 122.24 68 PKP **PKiKP 06 04 23.9 0.0**
comp=Z,0.7nm,0.7s,baz=200,slow=4.2,SNR=5.3
MKAR Makanchi Array 122.86 309 PKP **PKiKP 06 04 26.1 +1.6**
comp=Z,0.4nm,0.6s,baz=92,slow=4.3,SNR=1.8
TORD Torodi Ar. Bea 126.96 215 PKP **PKiKP 06 04 35.4 +1.8**
comp=Z,0.4nm,0.5s,baz=154,slow=3.6,SNR=2.6
KURBB Kurchatov Arra 127.43 309 PKP **PKiKP 06 04 33.8 +0.4**
comp=Z,0.2nm,0.3s,baz=146,slow=2.1,SNR=1.6
PDAR Pinedale Array 129.61 72 PKP **PKiKP 06 04 39.7 +1.3**
comp=Z,0.1nm,0.4s,baz=213,slow=6.5,SNR=1.7
BVAR Borovoye Array 132.37 306 PKP **PKiKP 06 04 44.4 +1.1**
comp=Z,0.4nm,0.5s,baz=174,slow=1.4,SNR=2.0
ILAR Eielson Array 134.23 31 PKP **PKiKP 06 04 46.1 -0.5**
comp=Z,0.7nm,1.0s,baz=284,slow=3.6,SNR=4.6
KBZ Khabaz 136.96 278 PKP **PKiKP 06 04 54.5 +1.7**
comp=Z,3.9nm,1.1s,baz=132,slow=12,SNR=2.5
YKA Yellowknife Ar 142.13 49 PKhKP PKPpre 06 04 51.8
comp=Z,0.7nm,0.8s,baz=240,slow=2.8,SNR=7.1
TIRR Tirgusor 144.25 266 PKPbc 06 05 02.7 +0.2
A36M Sachs Harbour 144.89 32 **PKPab 06 05 03.4 -0.2**
AKASG Malin Array Be 148.40 274 PKPbc **PKiKP 06 05 16.8 +0.7**
comp=Z,1.2nm,0.6s,baz=103,slow=1.9,SNR=4.6

*IDC **15** 05:51:20.8±0.8, 13°.27S×109°.57W, h0km, mb4.1/7, mbtmp4.1/7, MS3.9/17, Error ellipse: s-maj=61.7km s-min=21.2km az=81.0*
*NEIC **15** 05:51:23.2±0.9, 13°.3S±0°.1×109°.8W±0°.2, h10km±1km, mb4.7/39, Error ellipse: s-maj=26.8km s-min=17.9km az=268.0*
ISC 15 05:51:22.2±0.5, 13°.31S±0°.08×109°.8W±0°.1, h10km, n77, σ0s90/60, mb4.6/26, MS3.9/16, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RPN	**Rapa Nui**	**13.76**	**178**	LR	LR		05 58 24.2	
	comp=Z,487nm,21.4s,baz=336,slow=31							
VA02	**Isla de Pascua**	**13.79**	**179**	Pn	**Pn**		**05 54 37.8**	**0.0**
MCRA	**Macar, Loja**	**30.76**	**76**	P	**P**		**05 57 37.6**	**-0.4**
ATAH	**Atahualpa**	**31.48**	**82**	LR	LR		06 06 56.9	
	comp=Z,60nm,21.1s,baz=249,slow=30							
CMIG	**Matias Romero**	**33.60**	**26**	LR	LR		06 08 37.1	
	comp=Z,248nm,21.4s,baz=166,slow=31							
PULU	**Pululahua**	**33.71**	**69**	P	**P**		**05 58 06.3**	**+1.8**
MOIG	**Morelia**	**33.85**	**15**	P	**P**		**05 58 06.4**	**+1.1**
HZTE	**Horizontes, Gu**	**33.85**	**46**	P	**P**		**05 58 07.3**	**+2.2**
JTS	**Las Juntas de**	**34.02**	**48**	LR	LR		06 08 13.7	
	comp=Z,118nm,21.4s,baz=285,slow=30							
MTO3	**Montecristo**	**34.16**	**37**	P	**P**		**05 58 09.1**	**+1.0**
MTO3				IAmb	IAmb		05 58 12.9	
	comp=Z,15nm,1.4s							
RIMA	**Rio Macho**	**34.47**	**50**	P	**P**		**05 58 12.2**	**+1.5**
RIMA				IAmb	IAmb		05 58 35.0	
	comp=Z,12nm,1.3s							
H03N2	**Juan Fernandez**	**34.49**	**131**	T	T		06 34 32.3	
	baz=302,slow=77							
H03N3	**Juan Fernandez**	**34.50**	**131**	T	T		06 34 33.3	
	baz=302,slow=77,SNR=13							
H03N1	**Juan Fernandez**	**34.51**	**131**	T	T		06 34 28.0	
	baz=302,slow=77							
PETF	**Flores**	**35.91**	**34**	P	**P**		**05 58 22.9**	**+0.1**
ZAIG	**Zacatecas**	**36.55**	**11**	P	**P**		**05 58 29.4**	**+0.8**
CZSB	**Cruzeiro do Su**	**36.85**	**85**	P	**P**		**05 58 31.4**	**+0.4**
LPIG	**La Paz**	**37.18**	**359**	LR	LR		06 10 24.0	
	comp=Z,89nm,18.7s,baz=179,slow=31							
TEIG	**Tepich**	**39.48**	**33**	P	**P**		**05 58 53.2**	**+0.2**
TEIG	**Tepich**	**39.48**	**33**	LR	LR		06 12 07.2	
	comp=Z,787nm,21.6s,baz=9.5,slow=32							
833A	**Chaparral WMA,**	**42.59**	**14**	P	**P**		**05 59 19.2**	**+0.7**
833A				IAmb	IAmb		05 59 20.9	
	comp=Z,29nm,1.4s							
TXAR	**Lajitas Array**	**42.80**	**8**	P	**P**		**05 59 20.6**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=195,slow=14,SNR=4.4							
TXAR				PcP	**PcP**		**06 01 11.4**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=181,slow=3.6,SNR=2.5							
	comp=Z,0.8nm,0.9s							
DRIO	**Del Rio**	**43.39**	**12**	P	**P**		**05 59 25.2**	**+0.2**
DRIO				IAmb	IAmb		05 59 26.6	
	comp=Z,4.5nm,0.9s							
SAND	**Sanderson**	**43.64**	**10**	P	**P**		**05 59 28.1**	**+1.0**
SAND				IAmb	IAmb		05 59 29.2	
	comp=Z,14nm,1.4s							
HNDO	**Hondo**	**43.78**	**13**	P	**P**		**05 59 28.4**	**+0.3**
HNDO				IAmb	IAmb		05 59 29.9	
	comp=Z,7.3nm,1.0s							
PLCA	**Paso Flores**	**43.81**	**136**	P	**P**		**05 59 27.6**	**-0.9**
	comp=Z,2.2nm,1.0s,baz=290,slow=12,SNR=2.8							
	comp=Z,2.2nm,1.0s							
319A	**Douglas**	**44.43**	**1**	P	**P**		**05 59 33.5**	**0.0**
319A				IAmb	IAmb		05 59 35.7	
	comp=Z,7.7nm,0.9s							
SOR	**Soroa**	**44.45**	**36**	P	**P**		**05 59 33.7**	**+0.1**
SOR				IAmb	IAmb		05 59 34.9	
	comp=Z,13nm,1.0s							
JCT	**Junction City**	**44.58**	**12**	P	**P**		**05 59 34.2**	**-0.4**
JCT				IAmb	IAmb		05 59 37.2	
	comp=Z,8.2nm,0.8s							
SDV	**Santo Domingo**	**44.70**	**63**	P	**P**		**05 59 36.0**	**0.0**
SDV				IAmb	IAmb		05 59 37.6	
	comp=Z,18nm,1.1s							
OZNA	**Ozona**	**44.76**	**11**	P	**P**		**05 59 36.5**	**+0.5**
OZNA				IAmb	IAmb		05 59 37.6	
	comp=Z,16nm,1.1s							
HKT	**Hockley**	**45.06**	**17**	P	**P**		**05 59 39.1**	**+0.8**
HKT				IAmb	IAmb		05 59 42.1	
	comp=Z,10nm,1.4s							
435B	**Jarrell**	**45.38**	**15**	P	**P**		**05 59 41.7**	**+0.7**
BRDY	**Brady**	**45.53**	**13**	P	**P**		**05 59 42.4**	**+0.3**
BRDY				IAmb	IAmb		05 59 43.0	
	comp=Z,6.5nm,0.8s							
121A	**Cookes Peak, D**	**45.62**	**2**	P	**P**		**05 59 43.6**	**+0.6**
121A				IAmb	IAmb		05 59 45.4	
	comp=Z,12nm,1.4s							
SAML	**Samuel**	**45.88**	**90**	P	**P**		**05 59 44.2**	**-1.1**
SAML				IAmb	IAmb		05 59 45.0	
	comp=Z,7.4nm,1.1s							
113A	**Mohawk Valley,**	**45.97**	**355**	P	**P**		**05 59 46.1**	**+0.6**
113A				IAmb	IAmb		05 59 47.3	
	comp=Z,8.5nm,1.4s							
BAUV	**El Baul**	**46.98**	**64**	P	**P**		**05 59 52.5**	**-1.4**
PFO	**Pinyon Flats O**	**47.09**	**352**	LR	LR		06 14 11.5	
	comp=Z,121nm,19.7s,baz=162,slow=29							
PLPT	**Palo Pinto**	**47.15**	**13**	P	**P**		**05 59 55.2**	**+0.3**
PLPT				IAmb	IAmb		05 59 56.4	
	comp=Z,20nm,1.1s							
APMT	**Aspermont**	**47.28**	**11**	P	**P**		**05 59 56.1**	**+0.2**
APMT				IAmb	IAmb		05 59 57.8	
	comp=Z,5.6nm,0.7s							
X18A	**Snowflake**	**47.57**	**360**	P	**P**		**05 59 59.0**	**+0.6**
X18A				IAmb	IAmb		06 00 00.8	
	comp=Z,5.0nm,1.0s							
WTFS	**Witchita Falls**	**48.04**	**13**		**P**		**06 00 02.2**	**+0.4**
WTFS				IAmb	IAmb		06 00 03.0	
	comp=Z,20nm,1.1s							
ANMO	**Albuquerque**	**48.09**	**4**	LR	LR		06 16 50.7	
	comp=Z,93nm,18.1s,baz=274,slow=32							
NVAR	**Mina Array Bea**	**52.08**	**352**	P	**P**		**06 00 34.2**	**+1.6**
	comp=Z,5.0nm,0.8s,baz=181,slow=11,SNR=33							
NVAR				PcP	**PcP**		**06 01 44.5**	**-0.1**
	comp=Z,2.0nm,1.1s,baz=170,slow=5.5,SNR=4.3							
NVAR				LR	LR		06 17 51.0	
	comp=Z,126nm,18.7s,baz=196,slow=30							
	comp=Z,5.0nm,0.8s							
SJG	**San Juan**	**53.18**	**55**	LR	LR		06 18 38.4	
	comp=Z,56nm,21.2s,baz=232,slow=31							
ELK	**Elko**	**54.01**	**355**	LR	LR		06 19 12.2	
	comp=Z,120nm,18.0s,baz=186,slow=31							
PDAR	**Pinedale Array**	**55.80**	**0**	P	**P**		**06 00 59.4**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=163,slow=7.5,SNR=22							
PDAR				LR	LR		06 20 43.4	
	comp=Z,110nm,18.3s,baz=146,slow=32							
	comp=Z,2.0nm,0.6s							
YBH	**Yreka Blue Hor**	**56.05**	**348**	LR	LR		06 19 21.6	
	comp=Z,101nm,20.2s,baz=180,slow=30							
URZ	**Urewera**	**68.66**	**234**	LR	LR		06 27 10.0	
	comp=Z,64nm,19.5s,baz=270,slow=31							
RPZ	**Rata Peaks**	**73.12**	**228**	LR	LR		06 27 18.9	
	comp=Z,83nm,20.0s,baz=86,slow=29							
BELA	**Belgrano 2**	**73.96**	**168**	P	**P**		**06 02 58.4**	**+1.0**
BELA				IAmb	IAmb		06 03 00.3	
	comp=Z,17nm,1.4s							
YKA	**Yellowknife Ar**	**75.65**	**358**	P	**P**		**06 03 06.7**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=172,slow=5.2,SNR=9.2							
	comp=Z,0.7nm,0.8s							
VNDA	**Vanda**	**76.74**	**193**	P	**P**		**06 03 15.0**	**+1.7**
QSPA	**South Pole Qui**	**76.80**	**180**	P	**P**		**06 03 14.7**	**+0.7**
QSPA				IAmb	IAmb		06 03 18.0	
	comp=Z,6.0nm,1.1s							
QSPA	**South Pole Qui**	**76.80**	**180**	P	**P**		**06 03 15.2**	**+1.2**
	comp=Z,4.6nm,1.0s,baz=129,slow=3.2,SNR=7.2							
QSPA				LR	LR		06 29 28.3	
	comp=Z,74nm,21.2s,baz=208,slow=30							
	comp=Z,4.6nm,1.0s							
BCAR	**Beaver Creek A**	**80.08**	**346**	P	**P**		**06 03 30.8**	**-1.0**
L27K	**Beaver Creek,**	**80.08**	**346**	P	**P**		**06 03 31.6**	**-0.3**
L27K				IAmb	IAmb		06 03 33.1	
	comp=Z,11nm,1.3s							
H31M	**Peel River**	**80.99**	**350**	P	**P**		**06 03 36.5**	**-0.3**
H31M				IAmb	IAmb		06 03 39.8	
	comp=Z,20nm,1.5s							
ILAR	**Eielson Array**	**82.75**	**345**	P	**P**		**06 03 45.6**	**-0.3**
	comp=Z,1.1nm,1.0s,baz=160,slow=4.7,SNR=6.1							
	comp=Z,1.1nm,1.0s							
MAW	**Mawson**	**99.13**	**177**	P	**Pdif**		**06 05 02.3**	**-1.1**
MAW	**Mawson**	**99.13**	**177**	LR	LR		06 45 29.0	
	comp=Z,69nm,19.6s,baz=228,slow=33							
SHEL	**Horse Pasture**	**99.48**	**109**	P	**Pdif**		**06 05 06.0**	**-0.2**
ZALV	**Zalesovo Beam**	**137.84**	**347**	PKP	**PKPdf**		**06 10 45.6**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=4.9,slow=3.3,SNR=5.1							
BRTR	**Keskin Array B**	**138.47**	**44**	PKP	**PKPdf**		**06 10 47.4**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=338,slow=3.8,SNR=5.6							
BVAR	**Borovoye Array**	**140.38**	**360**	PKP	**PKPdf**		**06 10 50.5**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=135,slow=0.4,SNR=6.0							
KURBB	**Kurchatov Arra**	**142.17**	**351**	PKhKP	PKPpre		06 10 48.4	
	comp=Z,0.7nm,0.7s,baz=16,slow=3.3,SNR=6.4							
KMBO	**Kilima Mbogo**	**144.31**	**111**	PKPdf	**PKPdf**		**06 10 58.9**	**-1.1**
KMBO	**Kilima Mbogo**	**144.31**	**111**	PKP	**PKPdf**		**06 10 59.3**	**-0.7**
	comp=Z,3.7nm,0.9s,baz=230,slow=19,SNR=7.4							
GURO	**Guroymak-BITLI**	**144.57**	**40**	PKPdf	PKPbc		06 10 58.3	+0.1
MK31	**Makanchi Array**	**145.11**	**345**		**PKPbc**		**06 10 58.3**	**-1.2**
MKAR	**Makanchi Array**	**145.11**	**345**		**PKPbc**		**06 10 57.9**	**-1.6**
MKAR	**Makanchi Array**	**145.11**	**345**	PKPbc	**PKPbc**		**06 10 58.6**	**-0.9**
	comp=Z,6.0nm,0.7s,baz=355,slow=2.5,SNR=25							
GNI	**Garni**	**145.14**	**35**		**PKPab**		**06 11 00.2**	**+0.1**
SIRT	**Sirnak**	**145.46**	**41**	PKPdf	**PKPdf**		**06 10 59.8**	**-1.3**
PZH	**PanZhiHua**	**147.68**	**299**	PKPbc	**PKPdf**		**06 11 05.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**151.91**	**284**	PKPbc	**PKiKP**		**06 11 19.1**	**+0.3**
	comp=Z,3.5nm,0.6s,baz=56,slow=0.5,SNR=24							

IDC 15 05:58:29.1±3.0, 53°.48N×87°.59E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=25.7km s-min=14.1km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.71**	**287**	I	I		06 08 20.0	
	0.1nm,0.8s,baz=102,slow=346,SNR=30							
ZALV	**Zalesovo Beam**	**1.71**	**287**	Pg	Pn		05 59 00.2	+0.1
	1.0nm,0.3s,baz=106,slow=16,SNR=10							
ZALV				Lg	Lg		05 59 24.0	
	2.2nm,0.3s,baz=107,slow=27,SNR=14							
KURBB	**Kurchatov Arra**	**6.28**	**247**	Pn	Pn		06 00 02.9	0.0
	0.1nm,0.3s,baz=62,slow=14,SNR=2.4							
KURBB				Lg	Lg		06 01 46.6	
	baz=64,slow=32,SNR=7.5							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**7.51**	**209**	Pn	Pn		06 00 21.3	+1.5
	0.2nm,0.3s,baz=28,slow=12,SNR=5.4							
MKAR				Sn	Sn		06 01 45.4	-0.2
	0.1nm,0.3s,baz=26,slow=27,SNR=3.7							
MKAR				Lg	Lg		06 02 27.5	
	0.1nm,0.3s,baz=38,slow=26,SNR=2.3							
	0.3nm,0.3s							

IDC 15 06:03:24.3±5.2, 55°.65N×86°.19E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=50.5km s-min=26.8km az=20.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**206**	I	I		06 14 00.0	
	0.2nm,0.8s,baz=25,slow=343,SNR=7.2							
ZALV	**Zalesovo Beam**	**1.88**	**206**	Pn	Pn		06 03 56.4	-1.3
	4.8nm,0.3s,baz=28,slow=14,SNR=40							
ZALV				Sn	Sb		06 04 23.9	+0.4
	3.3nm,0.3s,baz=23,slow=24,SNR=8.1							
KURBB	**Kurchatov Arra**	**6.82**	**226**	Pn	Pn		06 05 05.2	-0.3
	0.1nm,0.3s,baz=46,slow=13,SNR=3.2							
KURBB				Lg	Lg		06 07 01.2	
	baz=15,slow=26,SNR=1.4							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**9.20**	**197**	Pn	Pn		06 05 38.9	+0.7
	0.1nm,0.3s,baz=20,slow=13,SNR=2.1							
	1.2nm,1.0s							

*TIF **15** 06:04:04.4, 41°.14N×43°.87E, h10km±1km*
*ISK **15** 06:04:04.2, 41°.15N×43°.90E, h8km, ML2.6/7*
*AFAD **15** 06:04:05.0±0.0, 41°.12N×43°.81E, h7km±5km, ML2.3*
ISC 15 06:04:04.9±1.0, 41°.14N±0°.02×43°.87E±0°.02, h13km±9km, n29, σ0s74/51, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BGD	**Bogdanovka**	**0.24**	**303**	P	**Pg**		**06 04 10.2**	**0.0**
BGD				S	**Sg**		**06 04 14.5**	**+0.8**
DMNI	**Dmanisi**	**0.31**	**52**	P	**Pg**		**06 04 11.3**	**-0.1**
DMNI				S	**Sb**		**06 04 16.2**	**-1.4**
AKH	**Akhalkalaki**	**0.39**	**314**	Pg	**Pg**		**06 04 12.6**	**-0.2**
AKH				Sg	**Sg**		**06 04 18.5**	**+0.3**
AKH	**Akhalkalaki**	**0.39**	**314**	P	**Pg**		**06 04 12.7**	**-0.2**
AKH				S	**Sg**		**06 04 18.5**	**+0.3**
TRLG	**Trialeti**	**0.44**	**24**	P	**Pg**		**06 04 13.7**	**-0.1**
TRLG				S	**Sg**		**06 04 20.0**	**+0.3**
EAK	**Akyaka**	**0.49**	**204**	P	**Pg**		**06 04 13.9**	**-0.7**
EAK				S	**Sg**		**06 04 20.7**	**-0.5**
EAK				*i* AML	AML		06 04 28.0	
	comp=N,198nm,0.6s							
KARS	**Kars**	**0.78**	**230**	Pg	**Pb**		**06 04 20.3**	**-0.2**
DIGO	**Kars**	**0.81**	**208**	P	**Pg**		**06 04 19.8**	**-0.9**
DIGO				S	**Sg**		**06 04 30.6**	**-0.7**
DIGO				*i* AML	AML		06 04 35.0	
	comp=N,204nm,0.3s							
BOZK	**Kars-Merkez-Bo**	**0.87**	**231**	P	**Pg**		**06 04 21.1**	**-0.6**
BOZK				S	**Sg**		**06 04 32.7**	**-0.4**
BOZK				*i* AML	AML		06 04 33.0	
	comp=N,62nm,0.4s							
EPOS	**Posof**	**0.93**	**294**	P	**Pg**		**06 04 22.4**	**-0.6**
EPOS				S	**Sg**		**06 04 34.6**	**-0.5**
EPOS				*i* AML	AML		06 04 39.0	
	comp=N,88nm,0.3s							
AHAN	**Ardahan-Merkez**	**0.94**	**272**	P	**Pb**		**06 04 22.9**	**-0.3**
AHAN				S	**Sb**		**06 04 36.8**	**+1.1**
AHAN				*i* AML	AML		06 04 37.0	
	comp=N,180nm,0.5s							
ALIG	**Mtskhetisjvari**	**0.98**	**351**	P	**Pg**		**06 04 23.4**	**-0.5**
ALIG				S	**Sg**		**06 04 37.2**	**+0.4**
ABS	**Abastumani**	**1.00**	**308**	P	**Pg**		**06 04 23.8**	**-0.6**
ABS				S	**Sb**		**06 04 38.0**	**+0.4**
GOLE	**Ardahan-G¶le**	**1.00**	**253**	P	**Pg**		**06 04 23.9**	**-0.5**
GOLE				S	**Sb**		**06 04 38.6**	**+1.0**
GOLE				*i* AML	AML		06 04 40.0	
	comp=N,67nm,0.2s							
TKB	**Tkibuli**	**1.38**	**332**	P	**Pn**		**06 04 29.9**	**-0.1**
TKB				S	**Sg**		**06 04 49.4**	**0.0**
KOTA	**Agri, Merkez-K**	**1.42**	**201**	P	**Pg**		**06 04 33.3**	**+1.0**
CHRG	**Chargali**	**1.43**	**33**	P	**Pb**		**06 04 31.4**	**-0.2**
CHRG				S	**Sg**		**06 04 50.8**	**-0.4**
DAGI	**Agillar**	**1.48**	**268**	P	**Pb**		**06 04 32.1**	**-0.2**
DAGI				S	**Sg**		**06 04 52.6**	**+0.1**
DAGI				*i* AML	AML		06 04 53.0	
	comp=N,49nm,0.4s							
ONI	**Oni**	**1.49**	**348**	Pn	**Pn**		**06 04 31.7**	**+0.2**
ONI				Sn	**Sg**		**06 04 51.9**	**-0.9**
ONI	**Oni**	**1.49**	**348**	P	**Pg**		**06 04 33.0**	**-0.5**
ONI				S	**Sg**		**06 04 54.2**	**+1.4**
DDEM	**Demirkent**	**1.62**	**262**	P	**Pb**		**06 04 34.3**	**-0.5**
DDEM				S	**Sg**		**06 04 56.1**	**-1.0**
DDEM				*i* AML	AML		06 04 58.0	
	comp=N,91nm,0.3s							
MTEO	**Meteo**	**1.62**	**18**	P	**Pg**		**06 04 35.6**	**-0.6**
MTEO				S	**Sg**		**06 04 57.8**	**+0.5**
DBAD	**Bademkaya**	**1.65**	**267**	P	**Pb**		**06 04 35.0**	**-0.3**
DBAD				S	**Sb**		**06 04 56.7**	**+0.7**
DBAD				*i* AML	AML		06 04 59.0	
	comp=N,36nm,0.8s							
AGRB	**Hanur-Agry**	**1.69**	**203**	Pn	**Pn**		**06 04 35.0**	**+0.5**
BATM	**Batumi**	**1.70**	**287**	Pn	**Pb**		**06 04 35.3**	**-0.8**
BATM	**Batumi**	**1.70**	**287**	P	**Pb**		**06 04 36.0**	**-0.1**
BCA	**Borcka**	**1.72**	**281**	Pn	**Pb**		**06 04 35.7**	**-0.7**
KOPR	**Koprukoy-ERZUR**	**1.91**	**234**	Pn	**Pn**		**06 04 38.5**	**+1.1**
VSHL	**Vashlovani**	**1.92**	**86**	P	**Pg**		**06 04 40.5**	**-1.2**
VSHL				S	**Sg**		**06 05 08.8**	**+2.2**

*IDC **15** 06:07:44.1±0.7, 5°.16S×151°.41E, h116km±6km, mb3.8/11, mbtmp4.2/13, Error ellipse: s-maj=29.2km s-min=10.1km az=125.0*
*NEIC **15** 06:07:44.1±1.3, 5°.28S±0°.06×151°.56E±0°.07, h116km±8km, mb4.3/24, Error ellipse: s-maj=12.3km s-min=5.4km az=53.0*
ISC 15 06:07:45.0±0.5, 5°.20S±0°.07×151°.51E±0°.10, h129km, n53, σ1s25/59, mb4.2/23, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KRVT	**Keravat (AS076**	**1.03**	**30**	P	**Pn**		**06 08 06.7**	**-1.4**
	590nm,0.3s,baz=181,slow=4.5,SNR=24							
KRVT				S	**Sn**		**06 08 23.4**	**-2.3**
	4µm,0.7s,baz=48,slow=23,SNR=26							
RABL	**Rabaul**	**1.20**	**33**	Pn	**Pn**		**06 08 08.1**	**-1.8**
PMG	**Port Moresby**	**6.01**	**226**		**Pn**		**06 09 10.4**	**-1.3**
PMG	**Port Moresby**	**6.01**	**226**	P	**Pn**		**06 09 11.7**	**+0.1**
PMG	**Port Moresby**	**6.01**	**226**	P	**Pn**		**06 09 11.8**	**+0.1**
PMG	**Port Moresby**	**6.01**	**226**	P	**Pn**		**06 09 10.5**	**-1.1**
	49nm,0.4s,baz=18,slow=7.0,SNR=17							
PMG				S	**Sn**		**06 10 17.4**	**-1.8**
	234nm,0.6s,baz=47,slow=17,SNR=14							
CTA	**Charters Tower**	**15.66**	**199**	P	**P**		**06 11 19.8**	**-0.3**
	1.7nm,0.5s,baz=16,slow=16,SNR=1.8							
CTAO	**Charters Tower**	**15.66**	**199**		**Pn**		**06 11 17.5**	**-1.2**
EIDS	**Eidsvold**	**20.06**	**181**	P	**P**		**06 12 07.5**	**-0.7**
KDU	**Kakadu**	**20.21**	**247**	P	**P**		**06 12 09.5**	**-0.5**
MTN	**Manton Dam**	**21.50**	**248**	P	**P**		**06 12 23.2**	**-0.6**
MTN				IAmb	IAmb		06 13 01.8	
	comp=Z,46nm,1.5s							
MTN	**Manton Dam**	**21.50**	**248**	P	**P**		**06 12 25.0**	**+1.2**
WB0	**Warramunga Arr**	**22.07**	**228**	P	**P**		**06 12 29.4**	**-0.4**
WB0				IAmb	IAmb		06 12 31.3	
	comp=Z,15nm,1.0s							
DZM	**Mont Dzumac**	**22.14**	**141**	P	**P**		**06 12 30.9**	**+0.3**
DZM				IAmb	IAmb		06 13 08.2	
	comp=Z,14nm,1.1s							
WRAB	**Tennant Creek**	**22.21**	**227**	P	**P**		**06 12 30.3**	**-0.9**
WRAB				IAmb	IAmb		06 12 32.5	
	comp=Z,16nm,0.7s							
WRA	**Warramunga Arr**	**22.22**	**227**	P	**P**		**06 12 30.0**	**-1.4**
WRA	**Warramunga Arr**	**22.22**	**227**	P	**P**		**06 12 29.4**	**-1.9**
	comp=Z,15nm,0.8s,baz=50,slow=10.0,SNR=62							
WRA				PcP	**PcP**		**06 16 24.6**	**+1.5**
	comp=Z,1.9nm,1.0s,baz=44,slow=1.7,SNR=4.9							
WRA				ScP	**ScP**		**06 19 51.5**	**+2.7**
	comp=Z,0.6nm,0.8s,baz=57,slow=3.0,SNR=4.2							
	comp=Z,15nm,0.8s							
QLP	**Quilpie**	**22.37**	**197**	P	**P**		**06 12 33.0**	**+0.3**
OUENC	**Ouen Island, N**	**22.64**	**141**	P	**P**		**06 12 39.7**	**+4.3**
KNRA	**Kununurra**	**24.64**	**243**	P	**P**		**06 12 54.0**	**+0.1**
AS31	**Alice Springs**	**25.00**	**221**	P	**P**		**06 12 56.5**	**-0.5**
ASAR	**Alice Springs**	**25.00**	**221**	P	**P**		**06 12 56.9**	**-0.1**
	comp=Z,8.0nm,0.7s,baz=56,slow=8.6,SNR=64							
ASAR				PcP	**PcP**		**06 16 30.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=66,slow=3.4,SNR=4.4							
ASAR				ScP	**ScP**		**06 19 58.8**	**+2.6**
	comp=Z,0.4nm,0.8s,baz=45,slow=2.9,SNR=2.3							
	comp=Z,8.0nm,0.7s							
FITZ	**Fitzroy Crossi**	**28.34**	**241**	P	**P**		**06 13 26.0**	**-1.0**
FITZ				IAmb	IAmb		06 13 27.6	
	comp=Z,7.0nm,1.4s						

IDC ***15*** *06:09:37.5±1.0,28°.31N×139°.92E,h421km±13km, mb3.3/13,mbtmp4.0/16,Error ellipse: s-maj=32.0km s-min=11.1km az=78.0*
JMA ***15*** *06:09:39.2±0.1,29°.N±2°×14°.0E±°, h446km,MV3.3/15,W OFF OGASAWARA*

ISC 15 06:09:37.9±0.7,28°.32N±0°.09×139°.9E±0°.1, h421km, n21, σ1s52/25, mb3.6/13, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.38**	**120**	P		**P**	**06 10 40.2**	**+2.0**
CBIJ				S		**S**	**06 11 28.4**	**+1.4**
JCJ	**Chichijima**	**2.38**	**120**	P		**P**	**06 10 36.1**	**-2.1**
	73nm,0.4s,baz=343,slow=1.0,SNR=13							
JCJ				S		**S**	**06 11 24.2**	**-2.8**
	68nm,0.4s,baz=294,slow=23,SNR=7.5							
JHH2	**Haha-jima-NKT2**	**2.64**	**129**	S		**S**	**06 11 32.3**	**+2.0**
JHJ	**Hachijo jima 2**	**4.78**	**359**	P		**P**	**06 10 60.0**	**+1.5**
	40nm,0.3s,baz=260,slow=23,SNR=5.4							
JHJ				S		**S**	**06 12 04.0**	**-0.3**
	53nm,0.5s,baz=248,slow=19,SNR=2.5							
JIE	**Ise**	**6.63**	**337**	P		**P**	**06 11 21.6**	**+3.4**
JRY	**Ryogami san**	**7.72**	**354**	P		**P**	**06 11 31.0**	**+1.0**
JAG	**Ashikaga**	**8.09**	**358**	P		**P**	**06 11 35.0**	**+1.1**
JAG				S		**S**	**06 13 06.7**	**-2.3**
USRK	**Ussuriysk Ar.**	**17.06**	**340**	P		**P**	**06 13 12.2**	**+0.7**
	1.6nm,0.6s,baz=156,slow=43,SNR=2.8							
KLR	**Kul'dur**	**21.79**	**346**	P		**P**	**06 13 58.0**	**+1.0**
	2.8nm,0.6s,baz=162,slow=7.6,SNR=13							
	2.8nm,0.6s							
SONM	**Songino Array**	**32.42**	**316**	P		**P**	**06 15 31.0**	**-0.1**
	1.4nm,0.5s,baz=126,slow=8.0,SNR=7.5							
	1.4nm,0.5s							
MKAR	**Makanchi Array**	**48.12**	**309**	P		**P**	**06 17 37.3**	**-0.3**
	1.2nm,0.7s,baz=86,slow=8.3,SNR=2.2							
	1.2nm,0.7s							
WRA	**Warramunga Arr**	**48.28**	**187**	P		**P**	**06 17 38.9**	**-0.2**
	0.9nm,0.3s,baz=5.0,slow=7.6,SNR=12							
	0.9nm,0.3s							
KURBB	**Kurchatov Arra**	**50.73**	**314**	P		**P**	**06 17 56.5**	**-0.4**
	2.1nm,0.5s,baz=92,slow=7.8,SNR=8.7							
	2.1nm,0.5s							
ASAR	**Alice Springs**	**52.01**	**187**	P		**P**	**06 18 06.4**	**-0.2**
	0.5nm,0.5s,baz=20,slow=12,SNR=9.1							
	0.5nm,0.5s							
BVAR	**Borovoye Array**	**55.76**	**317**	P		**P**	**06 18 33.1**	**+0.1**
	2.9nm,0.5s,baz=87,slow=6.7,SNR=11							
	2.9nm,0.5s							
ARCES	**ARCESS Array B**	**71.71**	**340**	P		**P**	**06 20 15.2**	**-0.1**
	4.7nm,1.0s,baz=68,slow=8.0,SNR=7.1							
	4.7nm,1.0s							
YKA	**Yellowknife Ar**	**72.03**	**28**	P		**P**	**06 20 18.0**	**+0.7**
	0.2nm,0.7s,baz=294,slow=4.6,SNR=2.3							
	0.2nm,0.7s							
FINES	**FINESS Array B**	**75.94**	**333**	P		**P**	**06 20 38.9**	**-0.7**
	1.5nm,0.4s,baz=64,slow=4.0,SNR=13							
	1.5nm,0.4s							
HFS	**Hagfors**	**81.48**	**336**	P		**P**	**06 21 08.3**	**-1.2**
	1.6nm,0.6s,baz=57,slow=5.5,SNR=7.4							
	1.6nm,0.6s							
NOA	**NORSAR Array B**	**81.71**	**337**	P		**P**	**06 21 09.6**	**-1.1**
	0.5nm,0.5s,baz=14,slow=4.1,SNR=3.3							
	0.5nm,0.5s							
BRTR	**Keskin Array B**	**83.67**	**312**	P		**P**	**06 21 20.4**	**-0.9**
	0.4nm,0.6s,baz=81,slow=4.8,SNR=2.1							
	0.4nm,0.6s							

NNC ***15*** *06:12:53.5±0.4,49°.81N×73°.72E,h0km,mb3.1,mpv2.8, Error ellipse: s-maj=5.2km s-min=2.7km az=126.0, Suspected Mining explosion.*
IDC ***15*** *06:12:59.2±1.7,49°.71N×74°.09E,h0km,mbtmp2.8/4, ML2.3/3,Error ellipse: s-maj=22.5km s-min=9.3km az=28.0*

ISC 15 06:12:54.1±1.0,49°.73N±0°.05×73°.66E±0°.05, h0km, n11, σ1s29/14, 3C-8D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**1.73**	**211**	⇓P		**Pb**	**06 13 26.0**	**-0.7**
	3.5nm,0.4s							
OTUK				⇓S		**Sg**	**06 13 50.1**	**+0.6**
	18nm,0.7s							
KURBB	**Kurchatov Arra**	**3.25**	**72**	Pn		**Pn**	**06 13 47.5**	**+1.1**
	0.4nm,0.3s,baz=259,slow=18,SNR=15							
KURBB				Pg		**Pb**	**06 13 52.4**	**-0.3**
	0.4nm,0.3s,baz=259,slow=17,SNR=27							
KURBB				Lg		Lg	06 14 34.6	
	0.7nm,0.3s,baz=293,slow=11,SNR=19							
	0.7nm,0.4s							
KURBB	**Kurchatov Arra**	**3.25**	**72**	⇑Pg		**Pb**	**06 13 50.9**	**-1.8**
	2.1nm,0.3s							
KURBB				⇑Lg		Lg	06 14 36.0	
	42nm,0.7s							
KURK	**Kurchatov**	**3.33**	**71**	⇓Pg		**Pb**	**06 13 54.0**	**-0.1**
	0.5nm,0.3s							
KURK				⇓Lg		Lg	06 14 37.5	
	17nm,0.7s							
BVA0	**Borovoye Array**	**3.88**	**329**	⇓Pg		**Pb**	**06 14 02.6**	**-0.8**
	0.8nm,0.4s,baz=150,slow=14,SNR=8.4							
BVA0				⇓Lg		Lg	06 14 55.9	
	8.6nm,0.9s,baz=140,slow=29,SNR=11							
BVAR	**Borovoye Array**	**3.88**	**329**	Pn		**Pb**	**06 14 01.9**	**-1.5**
	0.1nm,0.3s,baz=142,slow=16,SNR=9.3							
BVAR				Sn		**Sb**	**06 14 49.9**	**-1.1**
	0.1nm,0.3s,baz=137,slow=24,SNR=2.3							
	1.4nm,0.3s							
BRVK	**Borovoye**	**3.95**	**329**	⇓Pg		**Pb**	**06 14 05.2**	**+0.7**
	0.9nm,0.4s							
BRVK				⇑Lg		Lg	06 14 57.7	
	7.1nm,0.7s							
MK31	**Makanchi Array**	**6.47**	**114**	⇓Lg		Lg	06 16 17.9	
	4.9nm,0.6s							
MKAR	**Makanchi Array**	**6.47**	**114**	Pn		**Pn**	**06 14 31.9**	**+1.3**
	0.2nm,0.3s,baz=295,slow=13,SNR=2.2							
MKAR				Sn		**Sn**	**06 15 43.0**	**-2.0**
	0.1nm,0.3s,baz=298,slow=15,SNR=1.0							
MKAR				Lg		Lg	06 16 15.2	
	0.7nm,0.3s,baz=285,slow=29,SNR=6.4							
	0.3nm,0.3s							
ZALV	**Zalesovo Beam**	**8.09**	**54**	Pn		**Pn**	**06 14 54.4**	**+1.5**
	0.4nm,0.3s,baz=248,slow=15,SNR=1.8							
ZALV				Sn		**Sn**	**06 16 25.2**	**+0.2**
	0.2nm,0.3s,baz=242,slow=34,SNR=2.0							
I46RU	**ZALESOVO INFRA**	**8.10**	**54**	I		I	07 02 50.0	
	baz=238,slow=318,SNR=1.1							

CATAC ***15*** *06:14:21.4±0.4,12°.99N×89°.18W,h25km±2km,ML4.3*
GCG ***15*** *06:14:26.5±0.6,13°.88N×89°.35W,h154km±14km,MD3.9*

ISC 15 06:14:21.2±1.4,12°.95N±0°.05×89°.20W±0°.03, h29km±11km, n90, σ0s49/140, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PANCS	**Alcalda de**	**0.66**	**2**	*i* P		**Pn**	**06 14 34.3**	**-0.3**
PANCS				*i* S		**Sn**	**06 14 43.7**	**-0.2**
PANCS				IAML			06 14 44.7	
	comp=Z,29μm,1.0s							
LFRS	**El Faro**	**0.68**	**12**	*e*P		**Pn**	**06 14 34.9**	**-0.1**
SJTE	**Alcalda de S**	**0.68**	**16**	*e*P		**Pn**	**06 14 34.8**	**-0.2**
SJTE				*e*S		**Sn**	**06 14 44.7**	**0.0**
SJTE	**Alcalda de S**	**0.68**	**16**	*i* P		**Pn**	**06 14 34.8**	**-0.2**
SJTE				*i* S		**Sb**	**06 14 44.5**	**+0.6**
SJTE				IAML			06 14 46.1	
	comp=Z,7μm,1.0s							
LOMA	**Loma Larga**	**0.69**	**3**	*e*P		**Pn**	**06 14 35.0**	**0.0**
LOMA				*e*S		**Sn**	**06 14 44.7**	**-0.1**
LOMA	**Loma Larga**	**0.69**	**3**	*i* P		**Pn**	**06 14 35.1**	**0.0**
LOMA				*i* S		**Sn**	**06 14 44.8**	**-0.1**
LOMA				IAML			06 14 46.7	
	comp=Z,11μm,1.0s							
TECO	**Alcaldia de Te**	**0.71**	**35**	*e*P		**Pb**	**06 14 34.9**	**-0.2**
TECO				*e*S		**Sb**	**06 14 45.0**	**+0.4**
TECO	**Alcaldia de Te**	**0.71**	**35**	*i* P		**Pn**	**06 14 35.1**	**-0.2**
TECO				IAML			06 14 35.5	
	comp=Z,5μm,1.0s							
TECO				*i* S		**Sb**	**06 14 45.1**	**+0.4**
ITCA	**Escuela Especi**	**0.72**	**354**	*e*P		**Pn**	**06 14 35.4**	**-0.1**
ITCA				*e*S		**Sb**	**06 14 45.0**	**+0.1**
ITCA	**Escuela Especi**	**0.72**	**354**	*i* P		**Pn**	**06 14 35.3**	**-0.1**
ITCA				*i* S		**Sn**	**06 14 45.6**	**0.0**
ITCA				IAML			06 14 48.4	
	comp=Z,29μm,1.0s							
ALJI	**Alcalda de J**	**0.72**	**59**	*e*P		**Pb**	**06 14 34.7**	**-0.5**
ALJI	**Alcalda de J**	**0.72**	**59**	*i* P		**Pb**	**06 14 34.8**	**-0.5**
ALJI				*i* S		**Sb**	**06 14 44.8**	**0.0**
ALJI				IAML			06 14 47.0	
	comp=Z,4μm,1.0s							
SNET	**Serv Nac Est T**	**0.73**	**358**	*e*P		**Pn**	**06 14 35.5**	**-0.1**
SNET				*e*S		**Sb**	**06 14 45.4**	**+0.2**
SNET	**Serv Nac Est T**	**0.73**	**358**	*i* P		**Pb**	**06 14 35.4**	**-0.1**
SNET				*i* S		**Sb**	**06 14 45.6**	**+0.4**
SNET				IAML			06 14 47.9	
	comp=Z,51μm,1.0s							
MAGS	**Ministerio de**	**0.73**	**354**	*e*P		**Pb**	**06 14 35.5**	**-0.1**
MAGS				*e*S		**Sb**	**06 14 45.5**	**+0.3**
MAGS	**Ministerio de**	**0.73**	**354**	*i* P		**Pb**	**06 14 35.4**	**-0.1**
MAGS				*i* S		**Sb**	**06 14 45.4**	**+0.1**
MAGS				IAML			06 14 50.3	
	comp=Z,8μm,1.0s							
COEG	**Centro de Oper**	**0.73**	**25**	*e*P		**Pn**	**06 14 35.5**	**-0.1**
COEG	**Centro de Oper**	**0.73**	**25**	*i* P		**Pn**	**06 14 35.5**	**-0.1**
COEG				*i* S		**Sb**	**06 14 45.7**	**+0.4**
COEG				IAML			06 14 47.0	
	comp=Z,7μm,1.0s							
JAYA	**Jayaque - finc**	**0.74**	**341**	*e*P		**Pb**	**06 14 35.6**	**-0.1**
JAYA	**Jayaque - finc**	**0.74**	**341**	*i* P		**Pb**	**06 14 35.5**	**-0.1**
JAYA				*i* S		**Sb**	**06 14 45.6**	**+0.1**
JAYA				IAML			06 14 46.7	
	comp=Z,87μm,1.0s							
UTEC	**Universidad Te**	**0.74**	**0**	*e*P		**Pn**	**06 14 35.8**	**0.0**
UTEC	**Universidad Te**	**0.74**	**0**	*i* P		**Pn**	**06 14 35.8**	**0.0**
UTEC				*i* S		**Sn**	**06 14 46.1**	**0.0**
UTEC				IAML			06 14 47.4	
	comp=Z,10μm,1.0s							
AEIL	**Aeropuerto Ilo**	**0.74**	**7**	*e*P		**Pn**	**06 14 36.0**	**+0.2**
SNVI	**San Vicente**	**0.74**	**28**	*e*P		**Pb**	**06 14 35.6**	**-0.2**
SEMO	**Seminario San**	**0.75**	**359**	*i* P		**Pb**	**06 14 35.6**	**-0.1**
SEMO				*i* S		**Sb**	**06 14 46.0**	**+0.4**
SEMO				IAML			06 14 47.7	
	comp=Z,56μm,1.0s							
IGN	**Direccin Gen**	**0.76**	**3**	*e*P		**Pn**	**06 14 36.0**	**0.0**
IGN	**Direccin Gen**	**0.76**	**3**	*i* P		**Pb**	**06 14 35.8**	**-0.1**
IGN				*i* S		**Sb**	**06 14 46.4**	**+0.5**
IGN				IAML			06 14 49.0	
	comp=Z,33μm,1.0s							
UDBS	**Universidad Do**	**0.76**	**4**	*e*P		**Pn**	**06 14 36.0**	**0.0**
UDBS	**Universidad Do**	**0.76**	**4**	*i* P		**Pn**	**06 14 36.0**	**0.0**
UDBS				*i* S		**Sb**	**06 14 46.3**	**+0.3**
UDBS				IAML			06 14 50.7	
	comp=Z,7μm,1.0s							
UEES	**Universidad Ev**	**0.76**	**357**	*e*P		**Pn**	**06 14 36.0**	**0.0**
UEES	**Universidad Ev**	**0.76**	**357**	*i* P		**Pb**	**06 14 35.8**	**-0.2**
UEES				*i* S		**Sn**	**06 14 46.6**	**0.0**
UEES				IAML			06 14 49.6	
	comp=Z,13μm,1.0s							
PMON	**Piamonte**	**0.76**	**352**	*e*P		**Pn**	**06 14 36.0**	**-0.1**
PMON	**Piamonte**	**0.76**	**352**	*i* P		**Pb**	**06 14 35.8**	**-0.2**
PMON				*i* S		**Sb**	**06 14 46.5**	**+0.4**
PMON				IAML			06 14 48.7	
	comp=Z,15μm,1.0s							
BOQS	**Boqueron**	**0.78**	**355**	*e*P		**Pn**	**06 14 36.5**	**+0.1**
UESV	**Universidad de**	**0.79**	**31**	*e*P		**Pb**	**06 14 36.3**	**-0.2**
UESV	**Universidad de**	**0.79**	**31**	*i* P		**Pb**	**06 14 36.1**	**-0.4**
UESV				IAML			06 14 36.6	
	comp=Z,4μm,1.0s							
UESV				*i* S		**Sb**	**06 14 47.1**	**+0.2**
LFU	**La Fuente**	**0.80**	**6**	*e*P		**Pn**	**06 14 36.8**	**+0.3**
LBRS	**Las Brisas**	**0.80**	**11**	*e*P		**Pn**	**06 14 36.8**	**+0.3**
PAVA	**Las Pavas**	**0.80**	**19**	*e*P		**Pn**	**06 14 36.6**	**+0.1**
PAVA	**Las Pavas**	**0.80**	**19**	*i* P		**Pn**	**06 14 36.7**	**+0.1**
PAVA				*i* S		**Sb**	**06 14 47.4**	**+0.2**
PAVA				IAML			06 14 49.0	
	comp=Z,21μm,1.0s							
CEDA	**San Andres**	**0.86**	**348**	*e*P		**Pb**	**06 14 37.4**	**-0.4**
CEDA	**San Andres**	**0.86**	**348**	*i* P		**Pb**	**06 14 37.3**	**-0.4**
CEDA				*i* S		**Sn**	**06 14 49.6**	**+0.5**
CEDA				IAML			06 14 56.1	
	comp=Z,19μm,1.0s							
TECA	**Tecapa**	**0.87**	**52**	*e*P		**Pb**	**06 14 37.4**	**-0.5**
SCLA	**Alcaldia de Sa**	**0.88**	**32**	*e*P		**Pn**	**06 14 37.8**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.88**	**32**	*i* P		**Pn**	**06 14 37.7**	**+0.2**
SCLA				*i* S		**Sn**	**06 14 49.7**	**+0.3**
SCLA				IAML			06 14 53.5	
	comp=Z,2μm,1.0s							
QUEZ	**Alcaldia de Qu**	**0.88**	**356**	*e*P		**Pb**	**06 14 37.5**	**-0.5**
QUEZ	**Alcaldia de Qu**	**0.88**	**356**	*i* P		**Pb**	**06 14 37.4**	**-0.5**
QUEZ				*i* S		**Sn**	**06 14 50.0**	**+0.6**
QUEZ				IAML			06 14 51.3	
	comp=Z,15μm,1.0s							
PQSS	**Presa 15 de Se**	**0.92**	**43**	*e*P		**Pb**	**06 14 38.1**	**-0.4**
PQSS	**Presa 15 de Se**	**0.92**	**43**	*i* P		**Pb**	**06 14 38.2**	**-0.4**
PQSS				*i* S		**Sn**	**06 14 50.6**	**+0.3**
PQSS				IAML			06 14 52.3	
	comp=Z,7μm,1.0s							
CEVE	**Cerro Verde**	**0.96**	**335**	*e*P		**Pb**	**06 14 38.8**	**-0.6**
CEVE	**Cerro Verde**	**0.96**	**335**	*i* P		**Pb**	**06 14 38.9**	**-0.6**
CEVE				*i* S		**Sn**	**06 14 52.0**	**+0.3**
CEVE				IAML			06 14 57.6	
	comp=Z,8μm,1.0s							
SBLS	**San Blas**	**0.97**	**335**	*e*P		**Pb**	**06 14 38.9**	**-0.7**
SNJE	**San Jose**	**0.99**	**337**	*e*P		**Pb**	**06 14 39.1**	**-0.8**
PACA	**Pacayal**	**1.00**	**59**	*e*P		**Pn**	**06 14 39.7**	**+0.4**
PACA	**Pacayal**	**1.00**	**59**	*i* P		**Pn**	**06 14 40.0**	**+0.6**
PACA				*i* S		**Sb**	**06 14 52.4**	**-0.5**
PACA				IAML			06 14 58.4	
	comp=Z,41μm,1.0s							
LCY	**Lacayo**	**1.00**	**62**	*e*P		**Pn**	**06 14 39.5**	**+0.2**
RANC	**El Ranchito**	**1.01**	**62**	*e*P		**Pn**	**06 14 39.5**	**0.0**
RANC				*e*S		**Sn**	**06 14 53.5**	**+0.6**
VSM	**San Miguel**	**1.02**	**62**	*e*P		**Pn**	**06 14 40.0**	**-0.5**
RTR	**El Retiro**	**1.03**	**335**	*e*P		**Pn**	**06 14 39.9**	**+0.1**
UNIC	**Universidad Ca**	**1.07**	**342**	*e*P		**Pn**	**06 14 40.4**	**0.0**
UNIC	**Universidad Ca**	**1.07**	**342**	*i* P		**Pn**	**06 14 40.4**	**0.0**
UNIC				*i* S		**Sb**	**06 14 54.7**	**-0.3**
UNIC				IAML			06 14 57.9	
	comp=Z,1μm,1.0s							
NUBE	**Las Nubes**	**1.10**	**329**	*e*P		**Pn**	**06 14 40.2**	**-0.5**
NUBE	**Las Nubes**	**1.10**	**329**	*i* P		**Pn**	**06 14 40.2**	**-0.5**
NUBE				*i* S		**Sb**	**06 14 54.8**	**-0.9**
NUBE				IAML			06 14 55.9	
	comp=Z,5μm,1.0s							
CNRM	**Centro Naciona**	**1.13**	**63**	*e*P		**Pn**	**06 14 41.4**	**+0.3**
CNRM	**Centro Naciona**	**1.13**	**63**	*i* P		**Pn**	**06 14 41.3**	**+0.3**
CNRM				*i* S		**Sb**	**06 14 55.6**	**-1.0**
CNRM				IAML			06 15 04.8	
	comp=Z,9μm,1.0s							
LOAL	**Lomas de Alarc**	**1.18**	**332**	*i* P		**Pn**	**06 14 41.5**	**-0.3**
LOAL				IAML			06 14 42.9	
	comp=Z,4μm,1.0s							
LOAL				*i* S		**Sn**	**06 14 57.3**	**+0.4**
SLOZ	**Alcaldia de Sa**	**1.21**	**332**	*e*P		**Pn**	**06 14 42.2**	**+0.1**
LLGN	**La Laguna**	**1.23**	**12**	*e*P		**Pn**	**06 14 42.8**	**+0.3**
LLGN				*e*S		**Sb**	**06 15 02.2**	**+0.8**
LLGN	**La Laguna**	**1.23**	**12**	*i* P		**Pn**	**06 14 42.3**	**-0.2**
LLGN				IAML			06 14 43.3	
	comp=Z,1μm,1.0s							
LLGN				*i* S		**Sn**	**06 14 57.6**	**-0.6**
CAHU	**Cacacuatique**	**1.26**	**50**	*e*P		**Pn**	**06 14 43.6**	**+0.6**
LCND	**La Caada**	**1.33**	**74**	*e*P		**Pn**	**06 14 44.0**	**+0.3**
LCND				*e*P			06 14 44.2	
LCND	**La Caada**	**1.33**	**74**	*i* P		**Pn**	**06 14 43.9**	**+0.1**
LCND				*i* S		**Sn**	**06 15 01.0**	**+0.5**
LCND				IAML			06 15 05.5	
	comp=Z,3μm,1.0s							
CNCH	**Conchagua**	**1.37**	**76**	*e*P		**Pn**	**06 14 44.5**	**0.0**
CNCH	**Conchagua**	**1.37**	**76**	*i* P		**Pn**	**06 14 44.7**	**+0.2**
CNCH				*i* S		**Sn**	**06 15 02.2**	**+0.4**
CNCH				IAML			06 15 06.1	
	comp=Z,7μm,1.0s							
MTO3	**Montecristo**	**1.45**	**354**	*e*P		**Pn**	**06 14 46.0**	**+0.4**
MTO3	**Montecristo**	**1.45**	**354**	*i* P		**Pn**	**06 14 46.1**	**+0.5**
MTO3				*i* S		**Sn**	**06 15 03.7**	**0.0**
MTO3				IAML			06 15 06.8	
	comp=Z,1μm,1.0s							
JUAM	**Asuncion Mita**	**1.46**	**341**	*i* P		**Pn**	**06 14 45.8**	**+0.2**
JUAM				IAML			06 14 46.2	
	comp=Z,2μm,1.0s							
JUAM				*i* S		**Sn**	**06 15 05.0**	**+1.3**
AMPH	**Amapala**	**1.54**	**77**	*i* P		**Pn**	**06 14 46.9**	**+0.2**
AMPH				*i* S		**Sn**	**06 15 06.8**	**+1.1**
ESQI	**Esquipulas**	**1.60**	**355**	*i* P		**Pn**	**06 14 48.2**	**+0.6**
ESQI				IAML			06 14 50.0	
	comp=Z,2μm,1.0s							
ESQI				*i* S		**Sn**	**06 15 08.2**	**+0.8**
CSGN	**Cosiguina Volc**	**1.60**	**89**	*i* P		**Pn**	**06 14 46.9**	**-0.7**
CSGN				IAML			06 15 17.5	
	comp=Z,6μm,1.0s							
INTHN	**La Esperanza I**	**1.72**	**38**	*i* P		**Pn**	**06 14 50.0**	**+0.6**
SARH	**Santa Rosa de**	**1.86**	**13**	*i* P		**Pn**	**06 14 51.0**	**-0.2**
SARH				*i* S		**Sn**	**06 15 13.3**	**-0.5**
NBG	**Las Nubes**	**1.97**	**326**	*e*P		**Pb**	**06 14 54.7**	**-1.9**
GUNB	**GUNB**	**1.97**	**326**	*i* P		**Pn**	**06 14 52.8**	**-0.1**
GUNB				*i* S		**Sn**	**06 15 16.8**	**0.0**
GUNB				IAML			06 15 27.4	
	comp=Z,520nm,1.0s							
CRIN	**San Cristobal**	**2.12**	**97**	*i* P		**Pn**	**06 14 54.8**	**+0.1**
CRIN				*i* S		**Sn**	**06 15 20.6**	**+0.6**
CRIN				IAML			06 15 25.9	
	comp=Z,4μm,1.0s							
FUG	**Fuego 3**	**2.18**	**313**	*e*P		**Pn**	**06 14 56.5**	**+0.9**
FUG				*e*S		**Sn**	**06 15 22.1**	**+0.4**
COMHN	**El Horno**	**2.18**	**47**	*i* P		**Pn**	**06 14 55.7**	**0.0**
COMHN				*i* S		**Sn**	**06 15 21.1**	**-0.7**
ILCN	**San Idelfonso**	**2.47**	**98**	*i* P		**Pn**	**06 14 59.1**	**-0.4**
ILCN				*i* S		**Sn**	**06 15 29.1**	**+0.4**
SULM	**Suchitepequez,**	**2.66**	**301**	*e*P		**Pn**	**06 15 04.6**	**+2.5**
STG3	**Santiaguito 3,**	**2.89**	**308**	*e*P		**Pn**	**06 15 06.3**	**+0.9**
STG3				*e*S		**Sn**	**06 15 38.1**	**-1.2**

IDC 15 06:16:35.6±6.9,55°.68N×86°.00E,h0km,mbtmp3.0/2, ML1.9/2,Error ellipse: s-maj=70.4km s-min=26.6km az=25.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.87**	**202**	I		I	06 27 30.3	
	0.3nm,1.1s,baz=22,slow=345,SNR=22							
ZALV	**Zalesovo Beam**	**1.87**	**202**	Pn		Pn	06 17 07.6	-1.2
	1.1nm,0.3s,baz=22,slow=16,SNR=11							
ZALV				Sn		Sb	06 17 35.0	+0.5
	1.4nm,0.3s,baz=18,slow=27,SNR=8.4							
KURBB	**Kurchatov Arra**	**6.77**	**225**	Pn		Pn	06 18 16.2	+0.1
	baz=43,slow=14,SNR=3.9							
	0.5nm,0.4s							
MKAR	**Makanchi Array**	**9.20**	**196**	Pn		Pn	06 18 49.5	0.0
	baz=12,slow=11,SNR=1.5							
	0.5nm,0.8s							

IDC 15 06:25:56.4±2.7,53°.91N×86°.59E,h0km,mbtmp3.0/2, ML2.6/2,Error ellipse: s-maj=22.3km s-min=13.2km az=65.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**273**	I		I	06 32 00.0	
	0.1nm,0.8s,baz=89,slow=347,SNR=15							
ZALV	**Zalesovo Beam**	**1.05**	**273**	Pg		Pg	06 26 15.7	-0.8
	0.9nm,0.3s,baz=96,slow=14,SNR=8.0							
ZALV				Lg		Lg	06 26 31.5	
	2.3nm,0.3s,baz=95,slow=30,SNR=19							
KURBB	**Kurchatov Arra**	**5.94**	**240**	Pn		Pn	06 27 26.2	+0.7
	0.1nm,0.3s,baz=56,slow=14,SNR=3.9							
	0.6nm,0.3s							
MKAR	**Makanchi Array**	**7.63**	**203**	Pn		Pn	06 27 50.0	+1.2
	0.1nm,0.3s,baz=26,slow=15,SNR=4.8							
	0.2nm,0.3s							

IDC 15 06:27:12.0±2.9,54°.12N×86°.54E,h0km,mbtmp3.0/2, ML2.7/2,Error ellipse: s-maj=23.1km s-min=14.4km az=60.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**261**	I		I	06 32 56.0	
	0.2nm,0.8s,baz=80,slow=347,SNR=6.6							
ZALV	**Zalesovo Beam**	**1.03**	**261**	Pg		Pg	06 27 30.2	-1.4
	0.5nm,0.3s,baz=79,slow=18,SNR=2.1							
ZALV				Lg		Lg	06 27 47.0	
	1.3nm,0.3s,baz=78,slow=30,SNR=4.4							
KURBB	**Kurchatov Arra**	**6.03**	**238**	Pn		Pn	06 28 43.0	+0.8
	0.1nm,0.3s,baz=54,slow=14,SNR=4.8							
KURBB				Lg		Lg	06 30 20.9	
	0.1nm,0.3s,baz=52,slow=31,SNR=1.3							
	0.7nm,0.4s							
MKAR	**Makanchi Array**	**7.82**	**202**	Pn		Pn	06 29 08.0	+1.1
	0.2nm,0.3s,baz=26,slow=15,SNR=5.0							
	0.3nm,0.3s							

CNRM ***15*** *06:27:55.0,32°.11N×6°.26W

PBAR				*e*S		**Sn**	06 30 28.3	**-2.4**
PBAR				A		A	06 30 33.6	
	2.3nm,0.8s							
EADA	**Adamuz**	**6.04**	**12**	P		**Pn**	**06 29 24.8**	**+0.3**
EADA				⇑*i*Vmb_V			06 29 30.9	
	97nm,SNR=1.0							
EADA				S		**Sn**	**06 30 31.0**	**-2.4**
EADA	**Adamuz**	**6.04**	**12**	Pn		**Pn**	**06 29 23.0**	**-1.5**
EADA				Sn		**Sn**	**06 30 29.9**	**-3.5**
PNCL	**Nicolau / Gran**	**6.13**	**343**	*e*P		**Pn**	**06 29 23.0**	**-2.7**
PNCL				*e*S		**Sn**	**06 30 33.5**	**-2.0**
EVO	**Evora**	**6.42**	**347**	*e*P		**Pn**	**06 29 29.8**	**+0.1**
EVO				*e*S		**Sn**	**06 30 40.1**	**-2.6**
EBAD	**Badajoz**	**6.51**	**355**	P		**Pn**	**06 29 31.0**	**+0.1**
EBAD				⇑*i*Vmb_V			06 29 31.5	
	122nm,SNR=0.9							
EBAD				S		**Sn**	**06 30 41.5**	**-3.4**
EBAD	**Badajoz**	**6.51**	**355**	Pn		**Pn**	**06 29 30.2**	**-0.7**
EBAD				Sn		**Sn**	**06 30 41.2**	**-3.6**
PSIM	**Granatula de C**	**6.84**	**16**	S		**Sn**	**06 30 50.8**	**-2.4**
PMTG	**Montargil**	**6.98**	**347**	*e*P		**Pn**	**06 29 38.0**	**+0.6**
PMRV	**Marv??o**	**7.21**	**353**	*e*P		**Pn**	**06 29 42.8**	**+2.2**

IDC 15 06:34:34.3±2.7, 54°.11N×86°.47E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=20.5km s-min=13.5km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**261**	I	I	06 40 15.4	
	0.1nm,0.7s,baz=80,slow=347,SNR=17						
ZALV	**Zalesovo Beam**	**0.99**	**261**	Pg	Pg	06 34 52.5	-0.7
	0.6nm,0.3s,baz=81,slow=16,SNR=5.2						
ZALV				Lg	Lg	06 35 07.1	
	1.5nm,0.3s,baz=80,slow=29,SNR=10						
KURBB	**Kurchatov Arra**	**5.99**	**238**	Pn	Pn	06 36 04.6	+0.6
	0.1nm,0.3s,baz=55,slow=14,SNR=4.7						
KURBB				Sn	Sn	06 37 13.1	-0.2
	baz=88,slow=21,SNR=1.4						
KURBB				Lg	Lg	06 37 44.9	
	baz=16,slow=18,SNR=1.8						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**7.79**	**202**	Pn	Pn	06 36 30.0	+1.1
	0.2nm,0.3s,baz=24,slow=13,SNR=4.7						
	0.2nm,0.3s						

IDC 15 06:37:57.0±3.2, 54°.00N×86°.87E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=27.5km s-min=16.0km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.21**	**269**	I	I	06 44 04.0	
	baz=85,slow=347,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.21**	**269**	Pg	Pg	06 38 20.4	+0.2
	0.6nm,0.3s,baz=88,slow=15,SNR=4.5						
ZALV				Lg	Lg	06 38 36.6	
	1.3nm,0.3s,baz=89,slow=29,SNR=9.5						
KURBB	**Kurchatov Arra**	**6.13**	**240**	Pn	Pn	06 39 28.7	0.0
	0.3nm,0.3s,baz=56,slow=13,SNR=5.2						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**7.78**	**204**	Pn	Pn	06 39 52.9	+1.4
	baz=23,slow=13,SNR=1.7						
	0.5nm,0.8s						

*NEIC **15** 06:47:38.8±1.6, 40°.44N±0°.03×124°.59W±0°.07, h32km±8km, Error ellipse: s-maj=8.0km s-min=4.4km az=81.0*
NCEDC 15 06:47:38.8±1.8, 40°.42N±0°.03×124°.59W±0°.05, h18km±5km, ML3.3/21, ML3.1/72(NEIC), Error ellipse: s-maj=5.8km s-min=4.0km az=84.0, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.20**	**74**		Pg	06 47 44.4	+0.6
FER	**Ferndale**	**0.29**	**58**		Pb	06 47 45.7	+0.1
FER					Sb	06 47 51.4	+1.3
KMPM	**Mount Pierce**	**0.36**	**91**	Pg	Pg	06 47 46.1	-0.3
KMPM	**Mount Pierce**	**0.36**	**91**		Sb	06 47 52.3	+0.2
JCC	**Jacoby Creek,**	**0.58**	**47**		Pg	06 47 49.2	-1.2
JCC	**Jacoby Creek,**	**0.58**	**47**		Sg	06 47 57.1	-1.1
KCRM	**Chalk Rock**	**0.59**	**89**		Pg	06 47 50.4	-0.2
KMRM	**Mail Ridge**	**0.70**	**106**	Pg	Pb	06 47 52.1	-0.5
KHMM	**Horse Mountain**	**0.80**	**55**		Pb	06 47 52.7	-1.5
KRPM	**Rodgers**	**0.85**	**30**		Pb	06 47 54.0	-1.2
KRPM				IAML		06 48 18.2	
	comp=N,986nm,0.6s						
KIPM	**Iron Peak**	**1.05**	**125**		Pb	06 47 57.3	-1.3
KCPM	**Cahto Peak**	**1.07**	**133**		Pb	06 47 56.9	-2.0
KHBM	**Hayfork Bally**	**1.07**	**77**		Pb	06 47 57.0	-2.0
KFPM	**Farley Peak**	**1.19**	**131**		Pn	06 47 59.0	-1.6
KBNM	**Bluenose Ridge**	**1.20**	**116**		Pn	06 47 59.7	-1.1
KRMB	**Red Mountain**	**1.22**	**25**		Pn	06 47 58.5	-2.6
KRMB				IAML		06 48 13.7	
	comp=E,391nm,0.4s						
KRMB				IAML		06 48 13.7	
	comp=N,284nm,0.4s						
KOMM	**Orleans Mounta**	**1.22**	**45**		Pn	06 47 59.0	-2.0
GTC	**Three Chop Rid**	**1.30**	**142**		Pn	06 48 00.3	-1.7
LBPM	**Beegum Peak**	**1.31**	**94**		Pn	06 48 00.4	-2.0
DCMP	**DeCamp, Califo**	**1.35**	**134**		Pn	06 48 01.1	-1.8
O02D	**Mt. Diablo Mer**	**1.40**	**99**		Pn	06 48 02.1	-1.5
KSXB	**Camp Six Broad**	**1.51**	**21**		Pn	06 48 02.5	-2.6
KSXB				IAML		06 48 21.1	
	comp=E,342nm,0.5s						
KSXB				IAML		06 48 22.8	
	comp=N,148nm,0.5s						
N02D	**Trinity Center**	**1.54**	**68**		Pn	06 48 03.6	-1.9
GROM	**Round Mountain**	**1.56**	**108**		Pn	06 48 04.8	-1.0
GWRM	**Wonder Ranch**	**1.57**	**140**		Pn	06 48 04.2	-1.7
GHMM	**Hull Mountain**	**1.58**	**125**		Pn	06 48 04.5	-1.5
GVV	**Valley View**	**1.61**	**113**		Pn	06 48 05.5	-1.0
M02C	**Callahan**	**1.64**	**53**		Pn	06 48 04.9	-1.9
KTRM	**Thompson Ridge**	**1.75**	**31**		Pn	06 48 06.6	-1.8
GGUM	**Gualala**	**1.78**	**151**		Pn	06 48 06.9	-1.8
KBO	**Bosley Butte**	**1.81**	**9**		Pn	06 48 06.7	-2.6
KBO	**Bosley Butte**	**1.81**	**9**	IAML		06 48 28.3	
	comp=E,230nm,0.3s						
GSNM	**Snow Mountain**	**1.83**	**143**		Pn	06 48 08.0	-1.5
GHLM	**Highland Sprin**	**1.84**	**138**		Pn	06 48 07.9	-1.7
HOPS	**Hopland Field**	**1.85**	**140**	Pn	Pn	06 48 07.9	-1.7
HOPS				IAML		06 49 10.2	
	comp=E,106nm,1.2s						
L02F	**Cave Junction**	**1.86**	**24**		Pn	06 48 07.8	-2.1
L02F				IAML		06 48 30.2	
	comp=E,202nm,0.4s						
GCK	**Clark Valley**	**1.87**	**117**		Pn	06 48 09.8	-0.2
GTSM	**Trough Springs**	**1.89**	**125**		Pn	06 48 09.1	-1.2
LTCM	**Tuscan Springs**	**1.90**	**96**		Pn	06 48 09.7	-0.7
LAMM	**Antelope Mount**	**1.90**	**51**		Pn	06 48 08.9	-1.6
YBH	**Yreka Blue Hor**	**1.93**	**47**	Pn	Pn	06 48 09.2	-1.7
LCSM	**College of the**	**1.94**	**58**		Pn	06 48 09.9	-1.1
LSHM	**Sage Hen Hill**	**1.98**	**78**		Pn	06 48 10.2	-1.3
LGBM	**Gray Butte**	**2.04**	**62**		Pn	06 48 11.7	-0.8
M03C	**McCloud**	**2.06**	**65**		Pn	06 48 11.8	-0.8
GFC	**Funks Creek**	**2.08**	**121**		Pn	06 48 12.5	-0.3
GHCM	**House Creek**	**2.11**	**149**		Pn	06 48 11.7	-1.6
GGPM	**Geyser Peak**	**2.14**	**140**		Pn	06 48 12.3	-1.4
C03E	**Paynes Creek**	**2.14**	**93**		Pn	06 48 11.8	-1.9
LDBM	**Digger Butte**	**2.14**	**89**		Pn	06 48 11.9	-1.9
B040	**Montague**	**2.16**	**49**		Pn	06 48 12.9	-1.1
LHEM	**Herd Peak**	**2.16**	**55**		Pn	06 48 13.5	-0.7
LBFM	**Black Fox Moun**	**2.25**	**65**		Pn	06 48 14.8	-0.5
MNRC	**McLaughlin Min**	**2.26**	**132**		Pn	06 48 15.2	-0.2
NHSM	**Mount Saint He**	**2.33**	**138**		Pn	06 48 15.1	-1.4
K02D	**Willamette Mer**	**2.38**	**17**	Pn	Pn	06 48 15.9	-1.1
K02D				IAML		06 48 42.6	
	comp=N,104nm,0.3s						
K02D				IAML		06 48 44.2	
	comp=E,155nm,0.4s						
LGMM	**Garner Mountai**	**2.40**	**60**		Pn	06 48 16.5	-0.8
OSUM	**Sutter Buttes**	**2.40**	**118**		Pn	06 48 15.8	-1.5
OGOM	**Van Goodin Ran**	**2.41**	**108**		Pn	06 48 15.7	-1.7
HATC	**Hat Creek Radi**	**2.42**	**80**		Pn	06 48 16.8	-0.7
LTIM	**Timbered Crate**	**2.47**	**71**		Pn	06 48 17.3	-1.0
M04C	**Macdoel**	**2.48**	**56**		Pn	06 48 17.6	-0.9
L04D	**Klamath Falls**	**2.49**	**43**		Pn	06 48 18.5	-0.1
LBCM	**Butte Creek Ri**	**2.50**	**79**		Pn	06 48 17.7	-1.1
LBCM					Pb	06 48 24.7	+1.3
LMHM	**Little Mount H**	**2.50**	**62**		Pn	06 48 17.9	-1.0
HUMO	**Hull Mountain**	**2.50**	**29**		Pn	06 48 17.0	-1.7
NTYM	**Taylor**	**2.52**	**143**		Pn	06 48 17.8	-1.0
ORV	**Oroville**	**2.53**	**109**	Pn	Pn	06 48 18.1	-0.8
OSTM	**Stimpson Lane**	**2.53**	**114**		Pn	06 48 17.2	-1.8
OWYM	**Wyandotte**	**2.58**	**111**		Pn	06 48 17.9	-1.8
OHCM	**Honcut**	**2.63**	**113**		Pn	06 48 18.4	-1.9
MCCM	**Marconi Confer**	**2.63**	**149**		Pn	06 48 19.1	-1.3
MCCM	**Marconi Confer**	**2.63**	**149**	IAML		06 49 11.7	
	comp=E,51nm,1.9s						
MCCM				IAML		06 49 30.1	
	comp=N,58nm,2.3s						
KPK	**Kanaka Peak**	**2.66**	**107**		Pn	06 48 19.8	-1.1
NOLM	**Olema**	**2.76**	**149**		Pn	06 48 20.8	-1.4
HOG	**Hogback Mounta**	**2.83**	**49**		Pn	06 48 22.6	-0.7
DBO	**Dodson Butte**	**2.88**	**20**		Pn	06 48 22.7	-1.2
K04D	**Chiloquin, OR**	**3.06**	**43**		Pn	06 48 25.1	-1.3
AFDM	**Forest Hills D**	**3.16**	**117**	Pn	Pn	06 48 26.8	-0.9
JFP	**Foothills Park**	**3.59**	**148**		Pn	06 48 31.9	-1.6
K05A	**Summer Lake**	**3.60**	**49**	Pn	Pn	06 48 32.9	-1.1
K05A				IAML		06 50 00.7	
	comp=N,29nm,4.9s						
K05A				IAML		06 50 43.5	
	comp=E,21nm,4.9s						
MPK	**Martis Peak**	**3.69**	**106**		Pn	06 48 35.7	+0.5
MPK				IAML		06 49 52.8	
	comp=N,48nm,1.9s						
MPK				IAML		06 50 02.0	
	comp=E,36nm,1.6s						
I04A	**Tendick Farm,**	**3.74**	**25**		Pn	06 48 35.5	-0.2
I04A				IAML		06 49 18.8	
	comp=N,44nm,0.2s						
I04A				IAML		06 49 19.1	
	comp=E,29nm,0.2s						
EMB	**Emerald Bay**	**3.75**	**111**		Pn	06 48 35.4	-0.6
EMB				IAML		06 49 50.9	
	comp=E,25nm,1.0s						
EMB				IAML		06 49 51.4	
	comp=N,29nm,1.5s						
J05D	**Fort Rock, OR**	**3.80**	**40**	Pn	Pn	06 48 36.9	+0.2
J05D				IAML		06 50 02.6	
	comp=N,31nm,4.4s						
J05D				IAML		06 50 12.2	
	comp=E,21nm,5.0s						
CMB	**Columbia Colle**	**4.04**	**125**	Pn	Pn	06 48 39.4	-0.5
PAHR	**Pah Rah Range**	**4.06**	**98**		Pn	06 48 38.1	-2.0
PNTR	**Pine Nut**	**4.07**	**107**		Pn	06 48 40.5	0.0
PNTR				IAML		06 50 05.2	
	comp=E,34nm,1.8s						
HLPM	**Lions Peak**	**4.09**	**145**		Pn	06 48 40.1	-0.4
HJGM	**San Juan Grade**	**4.32**	**146**		Pn	06 48 42.6	-1.0
PINE	**Pine Mountain**	**4.33**	**38**		Pn	06 48 44.2	+0.3
PINE				IAML		06 50 05.3	
	comp=N,23nm,5.0s						
PINE				IAML		06 51 28.6	
	comp=E,16nm,4.2s						
YERR	**Yerington**	**4.37**	**107**		Pn	06 48 43.9	-0.6
YERR				IAML		06 50 08.1	
	comp=N,15nm,3.5s						
YERR				IAML		06 50 13.2	
	comp=E,16nm,2.4s						
WAKR	**Walker**	**4.42**	**114**		Pn	06 48 45.6	+0.4
WAKR				IAML		06 49 49.2	
	comp=E,9.7nm,3.9s						
BPCNC	**Pine Canyon**	**4.49**	**148**		Pn	06 48 46.0	0.0
BPRM	**Ponciano Ridge**	**4.59**	**150**		Pn	06 48 46.3	-1.2
HAST	**Hastings Reser**	**4.68**	**148**		Pn	06 48 46.9	-1.7
WVOR	**Wild Horse Val**	**4.91**	**64**		Pn	06 48 50.0	-1.8
WVOR				IAML		06 49 52.7	
	comp=E,9.1nm,4.3s						
WVOR				IAML		06 51 46.9	
	comp=E,12nm,4.7s						
KVN	**Kaiserville**	**5.19**	**103**		Pn	06 48 55.1	-0.7
KVN				IAML		06 49 55.8	
	comp=E,5.4nm,3.8s						
KVN				IAML		06 50 47.2	
	comp=N,5.8nm,2.5s						
J08A	**Circle Bar Ran**	**5.43**	**55**		Pn	06 48 57.9	-1.1

*IDC **15** 06:52:02.7±0.9, 33°.01N×139°.06E, h0km, mb3.8/4, mbtmp3.8/5, ML3.3/1, Error ellipse: s-maj=20.0km s-min=14.5km az=173.0*
*NIED **15** 06:52:05.3, 33°.58N×140°.51E, h48km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}1.04; $M_{\theta\theta}$-1.51; $M_{\phi\phi}$0.47; $M_{r\theta}$2.38; $M_{\theta\phi}$-1.59; $M_{\phi r}$0.15; Fault plane solution: $M_0$3.09000×10¹⁴ NP1:$\phi_0$90.00000°, δ77.00000°, λ119.00000°. NP2:$\phi_0$201.00000°, δ32.00000°, λ25.00000°.*
*JMA **15** 06:52:05.3±0.1, 33°.6N±0°.4×140°.5E±0°.9, h48km±4km, MV3.8/34, E OFF HACHIJOJIMA ISLAND*
ISC 15 06:52:05.1±1.1, 33°.53N±0°.04×140°.52E±0°.06, h52km±11km, n27,σ0°99/42, mb3.8/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.72**	**235**	P	**Pn**	**06 52 19.6**	**+0.5**
JHJ2				S	**Sn**	**06 52 29.6**	**+0.2**
JHJ	**Hachijo jima 2**	**0.74**	**237**	Pn	**Pn**	**06 52 19.6**	**+0.3**
	169nm,0.3s,baz=352,slow=21,SNR=86						
JHJ				Sn	**Sn**	**06 52 29.6**	**-0.2**
	512nm,0.3s,baz=66,slow=19,SNR=20						
JHCJ	**Hachijojimakas**	**0.76**	**233**	*e*P	**Pn**	**06 52 20.4**	**+0.7**
JHCJ				S	**Sn**	**06 52 29.6**	**-0.6**
JMKN	**Mikurajimanish**	**0.86**	**296**	P	**Pn**	**06 52 20.9**	**-0.1**
JMKN				S	**Sn**	**06 52 32.2**	**-0.3**
JMYK	**Miyake Tsubota**	**0.97**	**304**	P	**Pn**	**06 52 22.7**	**+0.3**
JMYK				S	**Sn**	**06 52 34.8**	**-0.4**
BSO1	**Boso 1**	**1.19**	**19**	P	**Pn**	**06 52 25.0**	**+0.1**
BSO1				S	**Sn**	**06 52 39.5**	**-0.2**
JAOM	**Aogashimamukai**	**1.23**	**211**	P	**Pn**	**06 52 26.6**	**+0.6**
JAOM				*e*S	**Sn**	**06 52 42.2**	**+0.5**
BSO2	**Boso 2**	**1.24**	**9**	*e*S	**Sn**	**06 52 41.6**	**+0.3**
BSO3	**Boso 3**	**1.27**	**360**	P	**Pn**	**06 52 26.8**	**+0.5**
BSO3				S	**Sn**	**06 52 43.4**	**+1.2**
JKO	**Kozu shima**	**1.33**	**300**	P	**Pn**	**06 52 27.6**	**+0.4**
JKO				*e*S	**Sn**	**06 52 43.5**	**-0.4**
JTHY	**Toshimahigashi**	**1.43**	**315**	P	**Pn**	**06 52 28.9**	**+0.3**
JTHY				*e*S	**Sn**	**06 52 45.6**	**-0.7**
BSO4	**Boso 4**	**1.47**	**354**	P	**Pn**	**06 52 29.7**	**+0.6**
BSO4				S	**Sn**	**06 52 47.6**	**+0.5**
JIM2	**Oshima 3**	**1.49**	**323**	*i* P	**Pn**	**06 52 29.5**	**-0.1**
JIM2				*e*S	**Sn**	**06 52 46.1**	**-1.8**
JIZS	**Izushimoda**	**1.81**	**312**	*i* P	**Pn**	**06 52 34.4**	**+0.5**
JIZS				S	**Sn**	**06 52 56.0**	**+0.4**
KTJ3	**Kamata3**	**1.85**	**320**	*i* P	**Pn**	**06 52 34.5**	**+0.1**
KTJ3				S	**Sn**	**06 52 55.0**	**-1.6**
JOD2	**Odawara 2**	**2.10**	**326**	P	**Pn**	**06 52 38.0**	**+0.2**
JOD2				*e*S	**Sn**	**06 53 00.7**	**-2.1**
JFNN	**Fujinakano**	**2.25**	**318**	*e*P	**Pn**	**06 52 41.2**	**+1.3**
TK02	**Tokai 2**	**2.34**	**281**	*e*P	**Pn**	**06 52 42.0**	**+1.1**
TK02				*e*S	**Sn**	**06 53 09.2**	**+0.9**
TK04	**Tokai 4**	**2.36**	**292**	P	**Pn**	**06 52 42.6**	**+1.4**
TK04				*e*S	**Sn**	**06 53 09.8**	**+0.9**
MJAR	**Matsushiro Arr**	**3.56**	**328**	Pn	**Pn**	**06 52 59.6**	**+1.8**
	2.8nm,0.3s,baz=164,slow=14,SNR=86						
MJAR				Sn	**Sn**	**06 53 41.7**	**+3.2**
	0.2nm,0.3s,baz=142,slow=24,SNR=1.3						
	28nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.19**	**114**	T	T	07 26 33.3	
	baz=306,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.20**	**114**	T	T	07 26 32.2	
	baz=306,slow=75						
H11N3	**WAKE ISLAND Hy**	**27.21**	**114**	T	T	07 26 37.3	
	baz=306,slow=75						
MKAR	**Makanchi Array**	**45.44**	**305**	P	**P**	**07 00 18.3**	**-0.5**
	0.7nm,0.6s,baz=88,slow=9.4,SNR=3.7						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**47.65**	**310**	P	**P**	**07 00 35.1**	**-0.8**
	0.7nm,0.6s,baz=86,slow=6.1,SNR=5.3						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**53.49**	**187**	P	**P**	**07 01 19.9**	**-0.4**
	0.7nm,0.3s,baz=2.8,slow=7.7,SNR=15						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**57.22**	**187**	P	**P**	**07 01 46.9**	**-0.2**
	0.5nm,0.5s,baz=12,slow=9.5,SNR=11						
	0.5nm,0.5s						

*IDC **15** 07:04:34.5±0.6, 6°.75N×72°.98W, h162km±7km, mb3.5/8, mbtmp4.1/12, Error ellipse: s-maj=16.9km s-min=7.2km az=133.0*
*NEIC **15** 07:04:35.1±1.3, 6°.71N±0°.08×72°.99W±0°.08, h160km±5km, mb4.1/21, Error ellipse: s-maj=12.6km s-min=11.0km az=140.0*
*RSNC **15** 07:04:36.1±1.3, 6°.84N×73°.16W, h148km±5km, ML3.9, Mw4.2*
ISC 15 07:04:34.2±0.6, 6°.85N±0°.03×73°.07W±0°.04, h154km±6km, n103,σ1°79/150, mb4.1/16, 7C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**204**	⇓*i*P	**Pn**	**07 04 55.9**	**+0.4**
BARC				*e*S	**Sn**	**07 05 11.1**	**-0.7**
BARC				*i*		07 05 12.3	
	comp=Z,2μm,0.3s						
PAMC	**Pamplona, Colo**	**0.60**	**37**	⇓*e*P	**Pn**	**07 04 58.8**	**+1.6**
PAMC				*e*S	**Sn**	**07 05 16.2**	**+1.5**
PAMC				*i*		07 05 18.9	
	comp=Z,2μm,0.5s						
TAMC	**Tame, Arauca**	**1.33**	**108**	⇓*i*P	**Pn**	**07 05 04.4**	**+1.9**
TAMC				*e*S	**Sn**	**07 05 26.2**	**+2.2**
OCAC	**Ocana**	**1.40**	**350**	*e*P	**Pn**	**07 05 04.2**	**+0.9**
OCAC				*e*S	**Sn**	**07 05 25.8**	**+0.1**
OCAC				*i*		07 05 29.6	
	comp=Z,1μm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.42**	**257**	⇑*i*P	**Pn**	**07 05 02.3**	**-1.0**
PTBC				*e*S	**Sn**	**07 05 23.7**	**-1.8**
PTBC				*i*		07 05 30.8	
	comp=Z,943nm,0.5s						
SPBC	**San Pablo de B**	**1.56**	**220**	*e*P	**Pn**	**07 05 04.6**	**-0.2**
SPBC				*e*S	**Sn**	**07 05 26.5**	**-1.7**
SPBC				*i*		07 05 31.8	
	comp=Z,1μm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.89**	**290**	*e*P	**Pn**	**07 05 08.3**	**0.0**
ZARC				*e*S	**Sn**	**07 05 33.5**	**-1.0**
ZARC				*i*		07 05 39.4	
	comp=Z,922nm,0.7s						
NORC	**Norcasia**	**2.20**	**235**	⇑*e*P	**Pn**	**07 05 11.5**	**-0.5**
NORC				*e*S	**Sn**	**07 05 40.0**	**-1.2**
NORC				*i*		07 05 44.9	
	comp=Z,534nm,0.4s						
ROSC	**El Rosal**	**2.36**	**212**		**Pn**	**07 05 15.3**	**+1.1**
ROSC	**El Rosal**	**2.36**	**212**	⇑*e*P	**Pn**	**07 05 15.7**	**+1.5**
ROSC				*e*S	**Sn**	**07 05 46.9**	**+1.9**
ROSC				*i*		07 05 50.8	
	comp=Z,2μm,0.4s						
ROSC	**El Rosal**	**2.36**	**212**	P	**Pn**	**07 05 15.7**	**+1.5**
	comp=Z,219nm,0.3s,baz=73,slow=17,SNR=538						
ROSC				S	**Sn**	**07 05 45.6**	**+0.6**
	comp=Z,2μm,0.4s,baz=25,slow=21,SNR=25						
CVER	**Cruz Verde, Cu**	**2.52**	**203**	⇑*e*P	**Pn**	**07 05 17.3**	**+1.0**
CVER				*e*S	**Sn**	**07 05 48.8**	**0.0**
CVER				*i*		07 05 56.3	
	comp=Z,544nm,0.5s						
MEDEC	**Medelln, Ant**	**2.57**	**257**	*e*P	**Pn**	**07 05 18.3**	**+1.7**
MEDEC				*e*S	**Sn**	**07 05 49.1**	**-0.2**
UREC	**San Jos de Ur**	**2.61**	**290**	*e*P	**Pn**	**07 05 15.8**	**-1.0**
UREC				*e*S	**Sn**	**07 05 47.4**	**-2.4**
UREC				*i*		07 05 50.5	
	comp=Z,502nm,0.2s						
PTGC	**Puerto Gaitan,**	**2.79**	**161**	⇓*i*P	**Pn**	**07 05 19.0**	**-0.1**
PTGC				*e*S	**Sn**	**07 05 52.4**	**-1.6**
PTGC				*i*		07 05 55.0	
	comp=Z,393nm,0.4s						
VILC	**Villavicencio,**	**2.79**	**193**	*e*P	**Pn**	**07 05 19.5**	**+0.2**
VILC				*e*S	**Sn**	**07 05 53.6**	**-0.6**
VILC				*i*		07 05 56.7	
	comp=Z,740nm,0.5s						
GUY2C	**Guyana, Caldas**	**2.80**	**235**	*e*P	**Pn**	**07 05 19.9**	**+0.2**
GUY2C				*e*S	**Sn**	**07 05 54.3**	**-0.5**
GUY2C				*i*		07 06 04.5	
	comp=Z,576nm,0.4s						
RECRC	**Villamaria, Ca**	**2.95**	**231**	*e*P	**Pn**	**07 05 23.8**	**+2.2**
RECRC				*e*S	**Sn**	**07 05 58.3**	**+0.1**
LL5C	**La Loma 5 El P**	**2.95**	**347**	*e*S	**Sn**	**07 05 59.5**	**+1.9**
LL5C				*i*		07 06 09.3	
	comp=Z,224nm,0.6s						
NIZA	**Niza - Manizal**	**2.98**	**233**	*e*P	**Pn**	**07 05 24.9**	**+3.1**
NIZA				*e*S	**Sn**	**07 06 01.3**	**+2.7**
CBOC	**Ciudad Bolivar**	**3.09**	**252**	*e*P	**Pn**	**07 05 23.2**	**+0.2**
CBOC				*e*S	**Sn**	**07 05 59.0**	**-1.8**
CBOC				*i*		07 06 06.7	
	comp=Z,144nm,0.5s						
DBBC	**Dabeiba**	**3.13**	**273**	*e*P	**Pn**	**07 05 24.0**	**+0.6**
DBBC				*e*S	**Sn**	**07 05 58.8**	**-2.7**
DBBC				*i*		07 06 02.4	
	comp=Z,337nm,0.4s						
SDV	**Santo Domingo**	**3.15**	**50**		**Pn**	**07 05 25.3**	**+1.6**
SDV	**Santo Domingo**	**3.15**	**50**	*e*P	**Pn**	**07 05 25.7**	**+2.0**
SDV				*e*S	**Sn**	**07 06 03.1**	**+1.0**
SDV				*i*		07 06 08.4	
	comp=Z,158nm,0.7s						
SDV	**Santo Domingo**	**3.15**	**50**	P	**Pn**	**07 05 25.1**	**+1.3**
	comp=Z,40nm,0.3s,baz=226,slow=11,SNR=26						
SDV				S	**Sn**	**07 06 03.3**	**+1.1**
	comp=Z,215nm,0.6s,baz=66,slow=22,SNR=40						
ARGC	**Ariguani, Magd**	**3.21**	**339**	*e*P	**Pn**	**07 05 26.3**	**+1.9**
ARGC			

UPD2 *e*S **Sn** 07 06 47.1 -2.4
UPD2 *i* 07 06 52.3
comp=Z,112nm,0.6s
GARC Garzon, Huila 5.23 208 *e*P **Pn** 07 05 50.0 -0.9
GARC *e*S **Sn** 07 06 45.7 -5.2
GARC *i* 07 06 52.1
comp=Z,79nm,0.3s
BAUV El Baul 5.39 67 Pn 07 05 52.0 -0.9
POPC Popayan, Colom 5.59 220 *e*P **Pn** 07 05 55.4 -0.4
POPC *e*S **Sn** 07 06 51.4 -8.2
FLOC Florencia 5.83 206 *e*P **Pn** 07 05 58.1 -0.7
FLOC *e*S **Sn** 07 07 03.8 -1.3
FLOC *i* 07 07 33.9
comp=Z,22nm,0.6s
BBAC Balboa, Cauca 6.36 221 *e*P **Pn** 07 06 05.6 -0.3
BBAC *e*S **Sn** 07 07 14.0 -3.8
BBAC *i* 07 07 18.7
comp=Z,13nm,0.4s
GCUF Volcan Galeras 7.03 218 *e*P **Pn** 07 06 15.8 +0.7
GCUF *e*S **Sn** 07 07 33.4 -0.9
GCUF *i* 07 07 38.2
comp=Z,10nm,0.3s
BCIP Isla Barro Col 7.09 289 *e*S **Sn** 07 07 36.5 +1.5
TULM Tulcn-Chalpat 7.70 218 Pn **Pn** 07 06 24.2 +0.1
TULM Tulcn-Chalpat 7.70 218 *e*P **Pn** 07 06 25.9 +1.8
TULM *e*S **Sn** 07 07 50.0 -0.5
IMBA Imbabura, San 8.30 218 Pn **Pn** 07 06 30.9 -1.2
OTAV Otavalo 8.49 219 Pn 07 06 33.7 -0.9
PCRV Puerto La Cruz 8.97 68 P **Pn** 07 06 40.3 -0.2
comp=Z,4.2nm,0.6s,baz=284,slow=3.5,SNR=1.9
PCRV S **Sn** 07 08 18.6 -1.6
comp=Z,8.4nm,0.9s,baz=108,slow=20,SNR=1.2
LCR2 La Lucha 2 11.20 286 Pn **Pn** 07 07 12.5 +2.3
BOSC San Juan Bosco 11.32 209 Pn **Pn** 07 07 13.2 +1.5
TBTG Tabatinga, AM 11.41 164 Pn **Pn** 07 07 13.1 +0.4
MTDJ Mount Denham 12.12 339 Pn **P** 07 07 25.5 -2.7
JTS Las Juntas de 12.24 287 P **P** 07 07 32.2 +2.6
comp=Z,15nm,0.7s,baz=99,slow=5.2,SNR=7.3
ORTG Ortega, Santa 12.74 287 Pn **Pn** 07 07 31.8 +1.7
MCRA Macar, Loja 13.10 212 Pn **Pn** 07 07 31.5 -3.1
GTBY Guantanamo Bay 13.15 352 Pn **P** 07 07 38.0 -1.6
BOAV Boa Vista 13.26 109 Pn **Pn** 07 07 34.7 -1.9
TGUH Tegucigalpa,Un 15.69 298 Pn **Pn** 07 08 07.3 +0.1
MTO3 Montecristo 17.68 296 P **Pn** 07 08 31.2 0.0
MTO3 IAmb IAmb 07 08 34.5
comp=Z,5.7nm,0.7s
ETMB Extrema 17.91 158 P **P** 07 08 29.8 -2.5
SAML Samuel 18.53 148 P **P** 07 08 37.6 -1.5
SAML IAmb IAmb 07 09 07.6
comp=Z,3.2nm,0.8s
TEIG Tepich 19.86 314 P **P** 07 08 54.9 +1.5
TEIG Tepich 19.86 314 P **P** 07 08 55.3 +2.0
comp=Z,67nm,0.5s,baz=114,slow=2.5,SNR=9.5
Y49A Blount Mountai 29.58 337 P **P** 07 10 26.2 +1.6
CCM Cathedral Cave 35.17 335 P **P** 07 11 14.8 +1.5
CCM IAmb IAmb 07 11 15.7
comp=Z,7.8nm,0.9s
TXAR Lajitas Array 36.48 312 P **P** 07 11 24.7 0.0
comp=Z,1.2nm,0.6s,baz=135,slow=9.7,SNR=6.8
comp=Z,1.2nm,0.6s
TX31 Lajitas Ar. Si 36.48 312 IAmb IAmb 07 11 26.4
comp=Z,3.6nm,0.8s
TX31 P **P** 07 11 26.7 +1.9
ULM Lac du Bonnet 47.28 340 P **P** 07 12 51.6 -0.2
comp=Z,2.2nm,0.4s,baz=132,slow=6.8,SNR=7.7
comp=Z,2.2nm,0.4s
PDAR Pinedale Array 48.09 324 P **P** 07 12 59.0 +0.5
comp=Z,0.6nm,0.6s,baz=130,slow=9.3,SNR=6.5
comp=Z,0.6nm,0.6s
SCHQ Schefferville 48.11 5 P **P** 07 12 59.4 +1.2
comp=Z,7.2nm,0.7s,baz=195,slow=6.7,SNR=6.5
comp=Z,7.2nm,0.7s
BGU Big Grassy Mou 49.16 320 P **P** 07 13 07.3 +0.7
BGU IAmb IAmb 07 13 08.7
comp=Z,2.5nm,0.7s
REDW Red Top Meadow 49.20 324 P **P** 07 13 08.1 +1.0
LOHW Long Hollow 49.21 324 P **P** 07 13 08.4 +1.3
TPAW Teton Pass 49.34 324 P **P** 07 13 08.8 +0.7
FXWY Fox Creek 49.47 324 P **P** 07 13 10.2 +1.2
HLJD Hailey 51.45 322 P **P** 07 13 25.1 +1.3
NVAR Mina Array Bea 51.50 315 P **P** 07 13 24.8 +0.4
comp=Z,0.4nm,0.5s,baz=127,slow=6.8,SNR=4.7
comp=Z,0.4nm,0.5s
I07A Izee 54.88 320 P **P** 07 13 50.1 +1.3
I07A IAmb IAmb 07 13 51.2
comp=Z,3.3nm,1.1s
PINE Pine Mountain 55.66 319 P **P** 07 13 56.2 +1.6
PINE IAmb IAmb 07 13 57.2
comp=Z,4.5nm,0.8s
YKA Yellowknife Ar 63.25 340 P **P** 07 14 46.7 +0.7
YKA Yellowknife A 63.25 340 P **P** 07 14 46.1 +0.1
comp=Z,1.1nm,0.7s,baz=133,slow=6.3,SNR=14
comp=Z,1.1nm,0.7s
DBIC Dimbokro 67.68 86 P **P** 07 15 14.1 -1.3
DBIC Dimbokro 67.68 86 P **P** 07 15 14.3 -1.0
comp=Z,2.7nm,0.6s,baz=144,slow=1.6,SNR=4.4
comp=Z,2.7nm,0.6s
SUMG Summit 68.95 11 P **P** 07 15 23.0 +0.4
M30M Minto, Yukon 72.03 334 P **P** 07 15 42.1 +1.0
M30M IAmb IAmb 07 16 09.1
comp=Z,8.2nm,1.5s
F31M Tsiigehtchic 72.72 339 P **P** 07 15 45.6 +0.6
F31M IAmb IAmb 07 16 09.5
comp=Z,2.9nm,1.2s
TORD Torodi Ar. Bea 73.68 78 P **P** 07 15 50.6 -1.0
comp=Z,0.1nm,0.3s,baz=286,slow=7.3,SNR=1.5
comp=Z,0.1nm,0.3s
J20K Nowinta River 79.98 334 P **P** 07 16 26.6 +0.7
J20K IAmb IAmb 07 16 32.5
comp=Z,7.6nm,1.5s
VNA1 Neumayer--Stat 88.33 162 ⇑P P 07 17 14.5 +6.6
comp=E,12nm,1.0s
SNAA Sanae 90.35 163 ⇑P P 07 17 24.5 +7.0
comp=Z,40nm,0.7s
MKAR Makanchi Array 122.27 20 PKP **PKPdf** 07 23 11.0 -0.1
comp=Z,0.2nm,0.4s,baz=256,slow=3.1,SNR=4.3
ASAR Alice Springs 149.17 234 PKPbc **PKPbc** 07 24 04.2 -1.1
comp=Z,0.5nm,0.5s,baz=114,slow=3.5,SNR=11
WRA Warramunga Arr 150.40 241 PKPbc **PKPbc** 07 24 07.5 -0.9
comp=Z,0.5nm,0.5s,baz=110,slow=2.4,SNR=25

NIED ***15*** *07:04:42.9, 37.28N× 139.29E, h145km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=2.12; Mθθ=1.54; Mφφ=0.58; Mrθ=1.70; Mθφ=0.22; Mφr=0.07; Fault plane solution: M0=2.51000×10^15 NP1: φs=273.00000°, δ=66.00000°, λ=-95.00000°. NP2: φs=105.00000°, δ=24.00000°, λ=-79.00000°.*

JMA ***15*** *07:04:42.9±0.1, 37.3N±0.5× 139.3E±0.7, h145km±1km, MD4.1/40, MV4.3/40, WESTERN FUKUSHIMA PREF*

JMA Felt I J1 at WESTERN FUKUSHIMA PREF .

IDC ***15*** *07:04:43.4±0.7, 37.27N× 139.18E, h150km±6km, mb3.8/26, mbtmp4.3/30, Error ellipse: s-maj=12.7km s-min=9.8km az=77.0*

NEIC ***15*** *07:04:43.5±2.1, 37.26N±0.06× 139.32E±0.05, h144km±6km, mb4.4/38, Error ellipse: s-maj=9.8km s-min=5.3km az=163.0*

ISC 15 07:04:42.8±0.5, 37.27N±0.04× 139.31E±0.05, h145km±4km, n162, σ1$27/157, mb4.3/49, 15D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JUON	**Uonuma**	**0.21**	**254**	⇓*i*P			**Pn**	**07 05 02.6**	**+0.1**
JUON				⇓S			**Sn**	**07 05 17.5**	**+0.1**
JUON	**Uonuma**	**0.21**	**254**	A		A	A	07 05 02.6	
comp=E,9.0nm,0.5s,comp=N,16nm,1.8s									
JFY	**Yanaizu**	**0.34**	**66**	⇓*i*P			**Pn**	**07 05 03.2**	**+0.3**
JFY				⇓*e*S			**Sn**	**07 05 18.7**	**+0.5**
JFY	**Yanaizu**	**0.34**	**66**	A		A	A	07 05 03.2	
comp=E,5.0nm,1.4s									
JKT	**Katashina**	**0.50**	**186**	*i* P			**Pn**	**07 05 03.9**	**+0.1**
JKT				S			**Sn**	**07 05 20.0**	**+0.4**
JKT	**Katashina**	**0.50**	**186**	A		A	A	07 05 03.9	
comp=E,6.0nm,0.5s,comp=N,12nm,3.3s									
JIZZ	**Izumozaki**	**0.55**	**299**	⇓*i*P			**Pn**	**07 05 04.4**	**+0.7**
JIZZ	**Izumozaki**	**0.55**	**299**	A		A	A	07 05 04.4	
comp=E,13nm,0.4s,comp=N,18nm,1.1s									
JNS	**Sasagawa**	**0.55**	**0**	⇓*i*P			**Pn**	**07 05 03.7**	**-0.1**
JNS				⇓S			**Sn**	**07 05 19.2**	**-0.7**
JNS	**Sasagawa**	**0.55**	**0**	A		A	A	07 05 03.7	
comp=N,3.0nm,1.3s									
JSB	**Shiboa**	**0.57**	**121**	A		A	A	07 05 04.3	
comp=E,13nm,0.9s,comp=N,14nm,2.8s									
JAG	**Ashikaga**	**0.85**	**172**	P			**Pn**	**07 05 06.2**	**+0.2**
JAG				S			**Sn**	**07 05 24.2**	**+0.8**
JAG	**Ashikaga**	**0.85**	**172**	A		A	A	07 05 06.2	
comp=E,5.0nm,2.0s,comp=N,6.0nm,1.6s									
JOTO	**OTAMA OYAMA**	**0.86**	**70**	*i* P			**Pn**	**07 05 06.6**	**+0.6**
JGK	**Kuni**	**0.89**	**218**	A		A	A	07 05 06.4	
comp=E,5.0nm,2.3s,comp=N,11nm,1.9s									
JYAR	**Yonezawaarcadi**	**0.92**	**46**	A		A	A	07 05 06.7	
comp=E,17nm,1.3s,comp=N,9.0nm,1.1s									
JJN	**Nakama**	**0.93**	**260**	A		A	A	07 05 06.7	
comp=E,17nm,1.0s,comp=N,20nm,0.9s									
JFFD	**Fukushimafurud**	**1.01**	**100**	A		A	A	07 05 07.6	
comp=N,4.0nm,2.8s									
JYS	**Shirataka**	**1.12**	**32**	A		A	A	07 05 08.4	
comp=E,7.0nm,2.9s,comp=N,6.0nm,3.0s									
JSD	**Sado**	**1.13**	**313**	⇓*i*P			**Pn**	**07 05 07.9**	**-0.4**
JSD				⇓S			**Sn**	**07 05 26.1**	**-1.7**
MJAR	**Matsushiro Arr**	**1.14**	**231**	P			**Pn**	**07 05 08.6**	**+0.2**
comp=N,619nm,0.3s,baz=40,slow=8.4,SNR=1034									
MJAR				S			**Sn**	**07 05 28.4**	**+0.4**
comp=N,150nm,0.6s,baz=310,slow=44,SNR=5.1									
MJAR				LR			LR	07 05 45.7	
comp=N,321nm,18.6s,baz=98,slow=59									
MAJO	**Matsushiro**	**1.14**	**231**	Pn			**Pn**	**07 05 08.7**	**+0.3**
MAJO	**Matsushiro**	**1.14**	**231**	P			**Pn**	**07 05 08.9**	**+0.4**
MAT	**Matsushiro**	**1.14**	**231**	P			**Pn**	**07 05 08.7**	**+0.2**
MAT				S			**Sn**	**07 05 28.2**	**+0.3**
MJB9	**Matsu-Tunnel**	**1.14**	**231**				**Pn**	**07 05 09.7**	**+1.2**
JAW	**Awa shima**	**1.19**	**358**	⇓*i*P			**Pn**	**07 05 09.1**	**+0.3**
JAW				⇓S			**Sn**	**07 05 28.4**	**-0.3**
ONAJ	**Iwakimizuishiy**	**1.20**	**98**	A		A	A	07 05 09.4	
comp=E,15nm,0.3s,comp=N,9.0nm,0.3s									
JYT	**Yasato**	**1.26**	**145**	A		A	A	07 05 09.9	
comp=E,18nm,0.4s,comp=N,19nm,0.3s									
JRY	**Ryogami san**	**1.29**	**195**	P			**Pn**	**07 05 10.3**	**+0.4**
JRY				S			**Sn**	**07 05 30.9**	**+0.4**
JMM	**Marumori**	**1.32**	**63**				**Pn**	**07 05 10.5**	**+0.4**
JMM	**Marumori**	**1.32**	**63**	P			**Pn**	**07 05 10.7**	**+0.6**
JMST	**Minamisoumatoc**	**1.33**	**70**	A		A	A	07 05 10.6	
comp=E,5.0nm,0.4s,comp=N,5.0nm,0.5s									
JYA	**Atsumi**	**1.36**	**13**	A		A	A	07 05 10.7	
comp=E,6.0nm,1.8s,comp=N,10.0nm,1.9s									
JHYU	**Hitachinakayam**	**1.38**	**132**	A		A	A	07 05 11.3	
comp=E,14nm,0.7s,comp=N,12nm,0.3s									
JHU	**Hanno**	**1.42**	**181**	A		A	A	07 05 11.5	
comp=E,3.0nm,3.4s,comp=N,3.0nm,0.5s									
JOU	**Okura**	**1.53**	**44**	A		A	A	07 05 12.7	
comp=E,7.0nm,2.5s,comp=N,4.0nm,2.7s									
JSZ	**Suzu**	**1.56**	**277**	⇓P			**Pn**	**07 05 12.4**	**-0.2**
JSZ				⇓S			**Sn**	**07 05 34.7**	**-0.7**
TOK	**Tokyo**	**1.62**	**167**	A		A	A	07 05 13.8	
comp=E,14nm,0.6s,comp=N,15nm,0.4s									
JTT	**Ttatey**	**1.72**	**248**	A		A	A	07 05 14.6	
comp=E,3.0nm,2.8s,comp=N,5.0nm,2.7s									
JOFO	**Osakifurukawao**	**1.84**	**43**	A		A	A	07 05 16.1	
comp=E,13nm,1.9s,comp=N,12nm,9.1s									
JYK	**Kaneyama**	**1.84**	**26**	P			**Pn**	**07 05 16.5**	**+0.7**
JYK				S			**Sn**	**07 05 42.5**	**+1.4**
JYK	**Kaneyama**	**1.84**	**26**	A		A	A	07 05 16.5	
comp=E,3.0nm,2.8s,comp=N,3.0nm,2.3s									
JYN	**Shimob**	**1.87**	**200**	P			**Pn**	**07 05 16.5**	**+0.2**
JYN				*e*S			**Sn**	**07 05 42.8**	**+0.9**
JHG	**Hegura jima**	**1.99**	**288**	⇓P			**Pn**	**07 05 17.2**	**-0.2**
JOD2	**Odawara 2**	**2.01**	**185**	P			**Pn**	**07 05 17.1**	**-0.7**
JOD2				S			**Sn**	**07 05 43.8**	**-0.8**
JOD2	**Odawara 2**	**2.01**	**185**	A		A	A	07 05 17.1	
comp=E,3.0nm,0.7s,comp=N,4.0nm,1.2s									
JFNN	**Fujinakano**	**2.13**	**194**	P			**Pn**	**07 05 19.7**	**+0.4**
JMK	**Ichinoseki**	**2.26**	**41**	P			**Pn**	**07 05 21.2**	**+0.6**
JHTM	**Izuhatsuma**	**2.32**	**186**	A		A	A	07 05 22.0	
comp=E,11nm,0.4s,comp=N,11nm,0.3s									
JIM2	**Oshima 3**	**2.55**	**178**	A		A	A	07 05 24.9	
comp=E,5.0nm,1.0s,comp=N,4.0nm,0.3s									
OFUJ	**Ofunato**	**2.59**	**45**	A		A	A	07 05 25.3	
comp=E,2.0nm,0.9s,comp=N,3.0nm,3.0s									
JOM	**Ohasama**	**2.70**	**35**	A		A	A	07 05 26.6	
comp=E,5.0nm,0.3s,comp=N,4.0nm,0.8s									
JSG	**Sagara**	**2.75**	**200**				**Pn**	**07 05 28.0**	**+1.2**
JSG	**Sagara**	**2.75**	**200**	P			**Pn**	**07 05 28.2**	**+1.4**
JTM	**Tenmabayashi**	**3.77**	**21**				**Pn**	**07 05 40.5**	**+0.7**
JTM	**Tenmabayashi**	**3.77**	**21**	P			**Pn**	**07 05 40.6**	**+0.7**
JHJ	**Hachijo jima 2**	**4.16**	**175**	P			**Pn**	**07 05 44.3**	**-0.8**
comp=N,1μm,0.3s,baz=357,slow=4.3,SNR=116									
JHJ				S			**Sn**	**07 06 31.3**	**-2.1**
comp=N,277nm,0.3s,baz=108,slow=20,SNR=1.1									
JHJ2	**Mitsune**	**4.17**	**174**	Pn			**Pn**	**07 05 43.9**	**-1.3**
JHJ2	**Mitsune**	**4.17**	**174**	P			**Pn**	**07 05 44.3**	**-0.9**
ERM	**Erimo**	**5.59**	**31**	Pn			**Pn**	**07 06 02.5**	**-1.5**
ERM	**Erimo**	**5.59**	**31**	P			**Pn**	**07 06 02.1**	**-1.8**
JEM	**Erimo**	**5.59**	**31**	P			**Pn**	**07 06 02.1**	**-1.8**
JMN	**Monobe**	**5.67**	**233**	Pn			**Pn**	**07 06 05.0**	**-0.1**
JMN	**Monobe**	**5.67**	**233**	P			**Pn**	**07 06 05.3**	**+0.2**
ASAJ	**Asahikawa**	**7.28**	**19**	P			**Pn**	**07 06 23.9**	**-2.6**
comp=N,48nm,0.2s,baz=219,slow=12,SNR=39									
ASAJ				S			**Sn**	**07 07 42.3**	**-5.5**
comp=N,13nm,0.4s,baz=143,slow=20,SNR=1.3									
JKA	**Kamikawa-asahi**	**7.28**	**19**	Pn			**Pn**	**07 06 24.3**	**-2.2**
JNU	**Nakatsue**	**8.05**	**242**	P			**Pn**	**07 06 35.1**	**-1.8**
comp=N,6.7nm,0.8s,baz=106,slow=14,SNR=3.9									
USA0B	**Ussuriysk Arra**	**8.88**	**324**	Pn			**Pn**	**07 06 48.8**	**+1.0**
USRK	**Ussuriysk Ar.**	**8.88**	**324**	P			**Pn**	**07 06 48.8**	**+1.0**
comp=N,37nm,1.1s,baz=139,slow=12,SNR=21									
KSRS	**Korea Array**	**9.07**	**275**	P			**Pn**	**07 06 52.5**	**+2.1**
comp=N,4.9nm,0.7s,baz=89,slow=14,SNR=13									
YSS	**Yuzh-Sakhalins**	**10.01**	**14**	Pn			**Pn**	**07 07 00.4**	**-2.5**
YSS	**Yuzh-Sakhalins**	**10.01**	**14**	P			**Pn**	**07 07 01.4**	**-1.5**
JCJ	**Chichijima**	**10.43**	**166**	P			**Pn**	**07 07 05.3**	**-3.4**
JCJ	**Chichijima**	**10.43**	**166**	P			Pn	07 06 59.2	-9.4
comp=N,35nm,0.3s,baz=91,slow=22,SNR=11									
JCJ				S			Sn	07 08 47.9	-16
comp=N,127nm,0.3s,baz=269,slow=22,SNR=7.7									
KLR	**Kul'dur**	**13.15**	**338**	P			**Pn**	**07 07 42.9**	**-1.1**
comp=N,1.0nm,0.3s,baz=138,slow=12,SNR=7.0									
BJT	**Baijiatuan**	**18.28**	**286**	P			**P**	**07 08 45.2**	**-0.2**
HNS	**HongShan**	**19.56**	**278**	⇓P			**P**	**07 08 57.5**	**-1.7**
HNS				pmax			pmax		
comp=Z,26nm,0.8s									
PEA0B	**Petropavlovsk-**	**20.37**	**33**	P			**P**	**07 09 09.2**	**+1.3**
PETK	**Petropavlovsk-**	**20.37**	**33**	P			**P**	**07 09 09.0**	**+1.2**
PETK	**Petropavlovsk-**	**20.37**	**33**	P			**P**	**07 09 08.1**	**+0.3**
comp=Z,3.7nm,0.5s,baz=214,slow=6.7,SNR=13									
comp=Z,3.7nm,0.5s									
HHC	**Hu-ho-hao-te**	**21.80**	**288**	*e*P			**P**	**07 09 23.8**	**+0.4**
HHC				pmax			pmax		
comp=Z,10.0nm,0.5s									
HHC				pmax			pmax		
comp=Z,140nm,5.7s									
BTO	**Baotou**	**22.98**	**287**	*e*P			**P**	**07 09 35.1**	**+0.3**
BTO				pP			**pP**	**07 10 03.4**	**+1.3**
BTO				sP			**sP**	**07 10 20.6**	**+0.7**
BTO				S			**S**	**07 13 38.0**	**+3.9**
BTO				SS			**SnSn**	**07 14 30.3**	**+6.2**
BTO				pmax			pmax		
comp=Z,15nm,0.6s									
BTO				pmax			pmax		
comp=Z,360nm,6.8s									
BTO				LR			LR		
comp=N,240nm,6.8s									
BTO				LR			LR		
comp=E,390nm,7.0s									
BTO				LR			LR		
comp=Z,450nm,4.2s									
SONM	**Songino Array**	**26.26**	**304**	P			**P**	**07 10 03.8**	**-0.8**
SONM	**Songino Array**	**26.26**	**304**	P			**P**	**07 10 03.2**	**-1.3**
comp=Z,2.4nm,0.5s,baz=103,slow=8.9,SNR=17									
comp=Z,2.4nm,0.5s									
PZH	**PanZhiHua**	**33.46**	**262**	P			**P**	**07 11 10.0**	**+1.7**
PZH				pmax			pmax		
comp=Z,10.0nm,0.8s									
PZH				pmax			pmax		
comp=Z,100nm,4.8s									
TIXI	**Tiksi**	**34.87**	**354**	P			**P**	**07 11 18.4**	**-1.3**
TIXI				IAmb			IAmb	07 11 36.1	
comp=Z,4.7nm,0.4s									
WMQ	**Urumqi**	**39.23**	**296**	*e*P			**P**	**07 11 56.8**	**-0.2**
WMQ				pmax			pmax		
comp=Z,16nm,0.7s									
CMAR	**Chiang Mai Arr**	**39.94**	**253**	P			**P**	**07 12 01.3**	**-1.8**
comp=Z,0.9nm,0.5s,baz=47,slow=7.1,SNR=1.7									
comp=Z,0.9nm,0.5s									
ZALV	**Zalesovo Beam**	**40.51**	**312**	P			**P**	**07 12 07.3**	**0.0**
ZALV	**Zalesovo Beam**	**40.51**	**312**	P			**P**	**07 12 06.7**	**-0.6**
comp=Z,4.1nm,0.7s,baz=94,slow=7.0,SNR=6.5									
ZALV				PcP			**PcP**	**07 14 06.5**	**-0.3**
comp=Z,3.5nm,0.5s,baz=106,slow=3.1,SNR=10									
comp=Z,4.1nm,0.7s									
ANM	**Nome**	**42.28**	**32**	P			**P**	**07 12 23.7**	**+2.2**
ANM				IAmb			IAmb	07 12 24.9	
comp=Z,14nm,1.2s									
MK31	**Makanchi Array**	**42.57**	**302**	P			**P**	**07 12 24.9**	**+0.7**
MK31				IAmb			IAmb	07 12 31.7	
comp=Z,11nm,1.4s									
MKAR	**Makanchi Array**	**42.57**	**302**	P			**P**	**07 12 24.0**	**-0.2**
MKAR	**Makanchi Array**	**42.57**	**302**	P			**P**	**07 12 23.4**	**-0.8**
comp=Z,1.6nm,0.5s,baz=86,slow=11,SNR=11									
MKAR				PcP			**PcP**	**07 14 13.4**	**-0.4**
comp=Z,0.7nm,0.4s,baz=87,slow=3.9,SNR=6.5									
comp=Z,1.6nm,0.5s									
F15K	**North Star Dit**	**42.84**	**30**	P			**P**	**07 12 27.9**	**+1.8**
TAPN	**Taplejung**	**44.25**	**273**	*e*P			**P**	**07 12 37.3**	**-0.9**
comp=Z,8.0nm,0.3s									
F17K	**Baldwin Pennin**	**44.34**	**30**	P			**P**	**07 12 39.9**	**+1.9**
F17K				IAmb			IAmb	07 12 41.4	
comp=Z,8.0nm,0.8s									
KURK	**Kurchatov**	**44.46**	**308**	P			**P**	**07 12 39.1**	**-0.1**
L16K	**Owhat River**	**44.51**	**37**	P			**P**	**07 12 41.6**	**+2.2**
KURBB	**Kurchatov Arra**	**44.53**	**308**	P			**P**	**07 12 39.5**	**-0.3**
comp=Z,10nm,0.5s,baz=84,slow=8.1,SNR=84									
comp=Z,10nm,0.5s									
E18K	**Tukpahlearik C**	**44.78**	**28**	P			**P**	**07 12 43.4**	**+1.9**
E18K				IAmb			IAmb	07 12 45.0	
comp=Z,10nm,1.1s									
C18K	**Utukok River**	**44.81**	**27**	P			**P**	**07 12 42.9**	**+1.0**
C18K				IAmb			IAmb	07 12 44.0	
comp=Z,11nm,1.0s									
G18K	**Tagagawik**	**45.30**	**31**	P			**P**	**07 12 46.4**	**+0.8**
JIRN	**Jiri**	**45.32**	**274**	*e*P			**P**	**07 12 46.2**	**-0.6**
comp=Z,9.0nm,0.3s									
GUN	**Gumba**	**45.46**	**274**	*e*P			**P**	**07 12 48.1**	**+0.2**
comp=Z,17nm,0.5s									
C19K	**Lookout Ridge**	**45.48**	**26**	P			**P**	**07 12 49.0**	**+1.8**
C19K				IAmb			IAmb	07 12 50.7	
comp=Z,25nm,1.4s									
D19K	**Kuna River**	**45.89**	**27**	P			**P**	**07 12 51.0**	**+0.7**
D19K				IAmb			IAmb	07 12 52.9	
comp=Z,8.6nm,0.9s									
TTA	**Tatalina**	**46.19**	**35**	P			**P**	**07 12 54.2**	**+1.4**
B20K	**Meade River**	**46.49**	**25**	P			**P**	**07 12 56.1**	**+1.2**
DANN	**Dangsing**	**46.95**	**276**	*e*P			**P**	**07 12 59.7**	**+0.2**
comp=Z,5.3nm,0.2s									
IMAR	**Indian Mountai**	**47.31**	**31**	P			**P**	**07 13 02.4**	**+1.1**
PYUN	**Piuthan**	**47.67**	**276**	*e*P			**P**	**07 13 03.6**	**-1.4**
comp=Z,9.4nm,0.4s									
D22K	**Ayikyak River**	**47.91**	**27**	P			**P**	**07 13 07.4**	**+1.4**
D22K				IAmb			IAmb	07 13 08.7	
comp=Z,13nm,1.0s									
E22K	**Anaktuvuk Pass**	**48.18**	**28**	P			**P**	**07 13 09.8**	**+1.8**
E22K				IAmb			IAmb	07 13 10.8	
comp=Z,5.4nm,0.9s									
AAK	**Ala-Archa**	**48.90**	**298**	P			**P**	**07 13 14.1**	**+0.1**
AAK				IAmb			IAmb	07 13 15.5	
comp=Z,7.7nm,1.5s									
AAK	**Ala-Archa**	**48.90**	**298**	P			**P**	**07 13 13.9**	**-0.2**
comp=Z,1.3nm,0.3s,baz=98,slow=3.6,SNR=6.1									
comp=Z,1.3nm,0.3s									
BVAR	**Borovoye Array**	**49.17**	**312**	P			**P**	**07 13 15.6**	**-0.2**
comp=Z,2.1nm,0.7s,baz=99,slow=9.1,SNR=6.1									
BVAR				PcP			**PcP**	**07 14 36.7**	**-0.2**
comp=Z,3.0nm,0.5s,baz=83,slow=4.5,SNR=7.4									
comp=Z,2.1nm,0.7s									
D24K	**Happy Valley**	**49.31**	**27**	P			**P**	**07 13 18.1**	**+1.5**
D24K				IAmb			IAmb	07 13 19.1	
comp=Z,5.4nm,0.7s									
ILAR	**Eielson Array**	**50.20**	**32**	P			**P**	**07 13 23.8**	**+0.4**
comp=Z,1.2nm,0.7s,baz=271,slow=5.5,SNR=16									
ILAR				PcP			**PcP**	**07 14 39.8**	**-0.6**
comp=Z,0.3nm,0.6s,baz=265,slow=5.1,SNR=1.1									
comp=Z,1.2nm,0.7s									
ARSB	**Arslanbob**	**50.37**	**296**	P			**P**	**07 13 25.5**	**+0.3**
MTN	**Manton Dam**	**50.44**	**190**	P			**P**	**07 13 25.8**	**+0.1**
KKAR	**Karatay Array**	**51.55**	**299**	P			**P**	**07 13 33.6**	**-0.2**
I26K	**Coal Creek Min**	**51.72**	**32**	P			**P**	**07 13 35.4**	**+0.7**
I26K				IAmb			IAmb	07 13 38.0	
comp=Z,8.6nm,1.5s									
EPYK	**Eagle Plains**	**54.15**	**30**	P			**P**	**07 13 54.7**	**+2.1**
EPYK				IAmb			IAmb	07 13 55.3	
comp=Z,7.3nm,0.7s									
ABKAR	**Akbulak array**	**56.50**	**309**	P			**P**	**07 14 09.9**	**+0.3**
A36M	**Sachs Harbour**	**56.67**	**22**	P			**P**	**07 14 11.7**	**+1.3**

comp=Z,0.2nm,0.4s,baz=21,slow=3.0,SNR=2.0
QSPA South Pole Qui 127.01 180 PKP **PKPdf** 07 23 28.7 +0.1
comp=Z,1.0nm,0.5s,baz=286,slow=1.7,SNR=7.7

IDC 15 07:10:07.5±3.3, 53°55N×87°71E, h0km, mbtmp3.1/2, ML2.5/2, Error ellipse: s-maj=34.7km s-min=21.4km az=82.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.76**	**284**	I	I	07 20 27.3	
	baz=99,slow=347,SNR=8.4						
ZALV	**Zalesovo Beam**	**1.76**	**284**	Pn	Pn	07 10 39.2	+0.1
	1.2nm,0.3s,baz=103,slow=15,SNR=16						
ZALV				Sn	Sb	07 11 03.0	-0.1
	2.4nm,0.3s,baz=106,slow=25,SNR=11						
KURBB	**Kurchatov Arra**	**6.37**	**246**	Pn	Pn	07 11 43.2	+0.7
	0.1nm,0.3s,baz=62,slow=14,SNR=6.9						
KURBB				Lg	Lg	07 13 28.6	
	baz=59,slow=34						
	1.4nm,0.5s						
MKAR	**Makanchi Array**	**7.60**	**209**	Pn	Pn	07 12 00.4	+0.9
	0.1nm,0.3s,baz=27,slow=12,SNR=4.5						
	0.5nm,0.5s						

*NNC **15** 07:26:29.7±2.0, 50°01N×78°94E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=37.5km s-min=10.0km az=68.0, Suspected Mining explosion.*
*IDC **15** 07:26:31.0±0.9, 50°05N×78°80E, h0km, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=13.3km s-min=6.1km az=60.0*
ISC 15 07:26:29.4±0.9, 49°98N±0°05×78°74E±0°08, h0km, n10, σ1°82/14, 9C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.66**	**348**	Pg	Pb	**07 26 42.5**	**-1.2**
	2.0nm,0.3s,baz=166,slow=18,SNR=56						
KURBB				Lg	Lg	07 26 51.3	
	2.1nm,0.3s,baz=135,slow=55,SNR=18						
KURBB	**Kurchatov Arra**	**0.66**	**348**	⇓P	Pg	**07 26 42.2**	**+0.2**
	29nm,0.4s						
KURBB				⇑S	Sb	**07 26 52.1**	**-1.4**
	114nm,0.7s						
KURK	**Kurchatov**	**0.74**	**354**	⇑P	Pg	**07 26 43.4**	**-0.2**
	8.2nm,0.4s						
KURK				⇑S	Sb	**07 26 55.2**	**-0.7**
	40nm,0.7s						
MAKZ	**Makanchi**	**3.84**	**145**	⇓Pg	Pb	**07 27 36.0**	**-2.0**
	1.8nm,0.5s						
MAKZ				⇑Lg	Lg	07 28 31.5	
	19nm,0.6s						
MK31	**Makanchi Array**	**3.97**	**142**	⇑Pn	Pn	**07 27 34.2**	**+2.6**
	0.1nm,0.2s,baz=332,slow=11						
MK31				⇑Pg	Pg	**07 27 43.8**	**-1.6**
	1.4nm,0.5s,baz=317,slow=16						
MK31				⇑Lg	Lg	07 28 35.6	
	16nm,0.8s,baz=336,slow=28						
MKAR	**Makanchi Array**	**3.97**	**142**	Pn	Pn	**07 27 34.1**	**+2.6**
	0.3nm,0.3s,baz=325,slow=10,SNR=21						
MKAR				Pg	Pb	**07 27 40.5**	**+0.3**
	0.7nm,0.3s,baz=323,slow=14,SNR=14						
MKAR				Lg	Lg	07 28 37.7	
	2.0nm,0.3s,baz=328,slow=27,SNR=16						
	0.4nm,0.2s						
OTUK	**Ortayu**	**4.55**	**250**	⇑Pn	Pn	**07 27 41.3**	**+1.8**
	0.4nm,0.3s						
OTUK				⇑Lg	Lg	07 28 55.3	
	8.4nm,0.8s						
I46RU	**ZALESOVO INFRA**	**5.47**	**41**	I	I	08 00 20.0	
	baz=220,slow=329,SNR=1.5						
ZALV	**Zalesovo Beam**	**5.47**	**41**	Pn	Pn	**07 27 53.6**	**+1.6**
	0.6nm,0.3s,baz=232,slow=13,SNR=7.0						
ZALV				Lg	Lg	07 29 19.4	
	0.3nm,0.3s,baz=233,slow=22,SNR=2.6						
	1.4nm,0.2s						
BVAR	**Borovoye Array**	**6.04**	**304**	Pn	Pn	**07 28 01.6**	**+1.6**
	baz=104,slow=15,SNR=2.0						
BVAR				Sn	Sn	**07 29 07.7**	**-2.0**
	0.1nm,0.3s,baz=112,slow=23,SNR=3.9						
BVAR				Lg	Lg	07 29 41.1	
	baz=115,slow=24,SNR=3.0						
	0.3nm,0.4s						

*SJA **15** 07:26:31.8±2.0, 21°11S×68°49W, h100km, ML3.5, MW3.4*
*GUC **15** 07:26:32.1±0.7, 21°13S×68°57W, h129km±4km, ML3.4*
ISC 15 07:26:30.9±1.4, 21°13S±0°03×68°64W±0°05, h142km±9km, n41, σ0°79/80, 3C-8D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.80**	**276**	eP	Pn	**07 26 53.2**	**-0.2**
PB01				eS	Sn	**07 27 10.1**	**-0.2**
PB01				IAML		07 27 10.5	
	comp=Z,656nm,0.1s						
PB01	**IPOC Station P**	**0.80**	**276**	i P	Pn	**07 26 53.1**	**-0.3**
PB01				i S	Sn	**07 27 09.2**	**-1.2**
PB01				IAML		07 27 12.3	
	comp=E,799nm,0.2s						
PB09	**IPOC Station P**	**0.87**	**220**	eP	Pn	**07 26 54.5**	**+0.5**
PB09				eS	Sn	**07 27 11.8**	**+0.3**
PB09				IAML		07 27 12.2	
	comp=Z,601nm,0.6s						
PB09	**IPOC Station P**	**0.87**	**220**	⇑i P	Pn	**07 26 54.5**	**+0.5**
PB09				i S	Sn	**07 27 11.3**	**-0.3**
PB09				IAML		07 27 12.8	
	comp=N,643nm,0.3s						
PB08	**IPOC Station P**	**1.10**	**334**	eP	Pn	**07 26 56.5**	**+0.3**
PB08				eS	Sn	**07 27 15.3**	**-0.1**
PB08				IAML		07 27 17.2	
	comp=Z,252nm,0.2s						
PB08	**IPOC Station P**	**1.10**	**334**	⇓i P	Pn	**07 26 56.5**	**+0.3**
PB08				i S	Sn	**07 27 14.9**	**-0.5**
PB08				IAML		07 27 16.0	
	comp=E,434nm,0.2s						
PX03	**IPOC Station P**	**1.18**	**308**	i P	Pn	**07 26 56.2**	**-0.5**
PX03				i S	Sn	**07 27 15.5**	**-0.7**
PX03				IAML		07 27 17.2	
	comp=N,589nm,0.3s						
PB02	**IPOC Station P**	**1.19**	**261**	eP	Pn	**07 26 56.9**	**+0.2**
PB02				eS	Sn	**07 27 16.3**	**-0.1**
PB02				IAML		07 27 20.4	
	comp=Z,2μm,0.3s						
PB02	**IPOC Station P**	**1.19**	**261**	i P	Pn	**07 26 57.1**	**+0.4**
PB02				i S	Sn	**07 27 16.0**	**-0.4**
PB07	**IPOC Station P**	**1.30**	**243**	eP	Pn	07 26 53.0	-5.0
PB07				eP		07 26 58.2	
PB07				eS	Sn	**07 27 19.0**	**+0.4**
PB07				IAML		07 27 20.7	
	comp=Z,573nm,0.4s						
PB07	**IPOC Station P**	**1.30**	**243**	⇓i P	Pn	**07 26 58.4**	**+0.4**
PB07				i S	Sn	**07 27 18.0**	**-0.6**
PB07				IAML		07 27 18.8	
	comp=N,920nm,0.4s						
HMBC	**Humberstone**	**1.45**	**306**	eP	Pn	**07 26 59.4**	**0.0**
HMBC				eS	Sn	**07 27 21.0**	**-0.1**
HMBC				IAML		07 27 21.4	
	comp=Z,701nm,0.6s						
HMBC	**Humberstone**	**1.45**	**306**	⇓i P	Pn	**07 26 59.4**	**0.0**
HMBC				i S	Sn	**07 27 20.4**	**-0.7**
HMBC				IAML		07 27 21.6	
	comp=N,766nm,0.5s						
PATCX	**Punta Patache**	**1.45**	**282**	eP	Pn	**07 26 59.7**	**+0.3**
PATCX				eS	Sn	**07 27 21.6**	**+0.5**
PATCX				IAML		07 27 22.6	
	comp=Z,461nm,0.1s						
PATCX	**Punta Patache**	**1.45**	**282**	⇓i P	Pn	**07 26 59.8**	**+0.4**
PATCX				i S	Sn	**07 27 21.0**	**-0.1**
PATCX				IAML		07 27 23.1	
	comp=E,1μm,0.2s						
LVC	**Limon Verde**	**1.49**	**190**	eP	Pn	**07 27 00.5**	**+0.3**
LVC				eP		07 27 00.7	
LVC				eS	Sn	**07 27 23.0**	**+0.5**
LVC	**Limon Verde**	**1.49**	**190**	⇑i P	Pn	**07 27 00.3**	**-0.2**
LVC				i S	Sn	**07 27 22.0**	**-0.5**
LVC				IAML		07 27 23.1	
	comp=E,518nm,0.3s						
GO01	**Chusmiza**	**1.55**	**340**	eP	Pn	**07 27 01.2**	**+0.3**
GO01				eS	Sn	**07 27 24.4**	**+0.7**
GO01	**Chusmiza**	**1.55**	**340**	⇓i P	Pn	**07 27 01.3**	**+0.4**
GO01				i S	Sn	**07 27 23.5**	**-0.2**
TA01	**Diego Aracena**	**1.55**	**291**	eP	Pn	**07 27 00.5**	**+0.1**
TA01				eS	Sn	**07 27 22.7**	**-0.1**
TA01				IAML		07 27 24.5	
	comp=Z,231nm,0.1s						
TA01	**Diego Aracena**	**1.55**	**291**	⇓i P	Pn	**07 27 00.4**	**+0.1**
TA01				i S	Sn	**07 27 22.3**	**-0.5**
TA01				IAML		07 27 23.6	
	comp=E,545nm,0.2s						
TA02	**Huaiquique**	**1.64**	**301**	eP	Pn	**07 27 01.5**	**+0.1**
TA02				eS	Sn	**07 27 24.9**	**+0.2**
TA02				IAML		07 27 26.6	
	comp=E,618nm,0.1s						
TA02	**Huaiquique**	**1.64**	**301**	i P	Pn	**07 27 01.5**	**+0.1**
TA02				i S	Sn	**07 27 24.1**	**-0.5**
PB11	**IPOC Station P**	**1.66**	**325**	eP	Pn	**07 27 01.8**	**-0.1**
PB11				eS	Sn	**07 27 25.3**	**-0.2**
PB11				IAML		07 27 26.9	
	comp=Z,327nm,0.2s						
PB11	**IPOC Station P**	**1.66**	**325**	⇓i P	Pn	**07 27 01.8**	**-0.1**
PB11				i S	Sn	**07 27 24.6**	**-0.9**
PB11				IAML		07 27 26.1	
	comp=E,818nm,0.3s						
PB06	**IPOC Station P**	**1.79**	**209**	eP	Pn	**07 27 03.8**	**+0.5**
PB06				eS	Sn	**07 27 28.4**	**+0.3**
PB06				IAML		07 27 31.0	
	comp=Z,201nm,0.1s						
PB06	**IPOC Station P**	**1.79**	**209**	eP	Pn	**07 27 03.7**	**+0.5**
PB06				eS	Sn	**07 27 27.9**	**-0.1**
PB06				IAML		07 27 29.1	
	comp=E,332nm,0.3s						
PB04	**IPOC Station P**	**1.84**	**229**	eP	Pn	**07 27 04.3**	**+0.4**
PB04				eS	Sn	**07 27 29.8**	**+0.6**
PB04				IAML		07 27 31.3	
	comp=Z,254nm,0.2s						
PB04	**IPOC Station P**	**1.84**	**229**	i P	Pn	**07 27 04.2**	**+0.4**
PB04				i S	Sn	**07 27 28.5**	**-0.7**
PB04				IAML		07 27 29.6	
	comp=E,395nm,0.5s						
PB15	**IPOC Station P**	**2.21**	**200**	eP	Pn	**07 27 09.1**	**+0.8**
PB15				eS	Sn	**07 27 38.0**	**+1.0**
PB15				IAML		07 27 44.5	
	comp=Z,833nm,0.2s						
PB15	**IPOC Station P**	**2.21**	**200**	i P	Pn	**07 27 08.8**	**+0.6**
PB15				i S	Sn	**07 27 37.3**	**+0.3**
PB05	**IPOC Station P**	**2.25**	**220**	eP	Pn	**07 27 09.1**	**+0.5**
PB05				eS	Sn	**07 27 38.0**	**+0.4**
PB05	**IPOC Station P**	**2.25**	**220**	⇑i P	Pn	**07 27 08.8**	**+0.1**
PB05				i S	Sn	**07 27 36.2**	**-1.4**
PB05				IAML		07 27 39.3	
	comp=N,91nm,0.5s						
PB16	**IPOC Station P**	**2.90**	**343**	eP	Pn	**07 27 18.3**	**+1.0**
PB16				eS	Sn	**07 27 54.1**	**+1.2**
PB16	**IPOC Station P**	**2.90**	**343**	⇓i P	Pn	**07 27 18.2**	**+1.0**
PB16				i S	Sn	**07 27 53.1**	**+0.2**
PB16				IAML		07 27 56.9	
	comp=N,59nm,0.6s						
PB12	**IPOC Station P**	**2.97**	**327**	eP	Pn	**07 27 16.9**	**-0.8**
PB12				eS	Sn	**07 27 52.5**	**-1.2**
PB12				IAML		07 27 58.2	
	comp=Z,75nm,0.2s						
PB12	**IPOC Station P**	**2.97**	**327**	i P	Pn	**07 27 16.7**	**-0.9**
PB12				i S	Sn	**07 27 51.8**	**-1.9**
PB12				IAML		07 27 58.2	
	comp=E,121nm,0.3s						
YJA	**Yavi**	**3.09**	**110**	eP	Pn	**07 27 20.9**	**+1.4**
YJA				eS	Sn	**07 27 53.0**	**-3.9**
PB14	**IPOC Station P**	**3.84**	**205**	eP	Pn	**07 27 29.1**	**-0.1**
PB14				eS	Sn	**07 28 12.9**	**-1.4**
PB14				IAML		07 28 14.1	
	comp=Z,28nm,0.2s						
GO02	**Mina Guanaco**	**4.11**	**192**	eP	Pn	**07 27 32.7**	**0.0**
GO02				eS	Sn	**07 28 20.0**	**-0.6**
GO02				IAML		07 28 22.3	
	comp=Z,58nm,0.1s						
LPAZ	**La Paz**	**4.84**	**6**	eP	Pn	**07 27 44.4**	**+1.7**

BUC 15 07:33:16.4±0.4, 45°66N×26°56E, h138km±2km, ml3.5/25, 48C-11D, Error ellipse: s-maj=2.7km s-min=2.0km az=164.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BISRR	**Bisoca**	**0.15**	**136**	⇑P	Pn	07 33 35.1	0.0
BISRR				⇓S	Sn	07 33 50.9	+1.6
PLOR	**Plostina**	**0.21**	**17**	⇑P	Pn	07 33 35.6	+0.4
PLOR				⇑S	Sn	07 33 50.5	+0.9
VRI	**Vrincioaia**	**0.24**	**29**	⇑P	Pn	07 33 35.8	+0.5
VRI				⇑S	Sn	07 33 50.2	+0.6
NEHR	**Nehoiu**	**0.29**	**220**	⇑P	Pn	07 33 36.2	+0.7
NEHR				⇑S	Sn	07 33 51.0	+1.1
COVR	**Voineasa-Covas**	**0.32**	**307**	⇓P	Pn	07 33 35.7	+0.1
COVR				⇑S	Sn	07 33 49.8	-0.2
ODBI	**Odobesti**	**0.36**	**72**	⇑P	Pn	07 33 37.1	+1.5
ODBI				⇑S	Sn	07 33 50.6	+0.4
MLR	**Muntele Rosu**	**0.46**	**250**	⇑P	Pn	07 33 36.8	+0.5
MLR				⇑S	Sn	07 33 51.9	+0.6
PANC	**Panciu**	**0.46**	**62**	⇑P	Pn	07 33 36.8	+0.8
PANC				⇓S	Sn	07 33 51.6	+0.6
TURR	**Turia**	**0.55**	**317**	⇑P	Pn	07 33 37.0	+0.3
TURR				⇑S	Sn	07 33 52.1	+0.1
OZUR		**0.70**	**309**	⇑P	Pn	07 33 37.4	-0.1
GHRR		**0.72**	**55**	⇑S	Sn	07 33 54.5	+0.7
TUDR		**0.78**	**94**	⇑S	Sn	07 33 55.3	+0.8
SLCR	**Slobozia Conac**	**0.85**	**94**	⇑S	Sn	07 33 56.0	+0.4
IZVR	**Izvoarele**	**0.85**	**97**	⇑P	Pn	07 33 38.8	+0.2
IZVR				⇑S	Sn	07 33 55.6	0.0
TESR	**Tescani**	**0.86**	**4**	⇑P	Pn	07 33 38.7	0.0
TESR				⇑S	Sn	07 33 55.0	-0.9
DOPR	**Dopca**	**0.88**	**291**	⇑P	Pn	07 33 39.1	+0.2
DOPR				⇑S	Sn	07 33 56.1	0.0
SCHLR	**Schela**	**0.91**	**101**	⇓P	Pn	07 33 38.7	-0.4
SCHLR				⇓S	Sn	07 33 56.9	+0.5
NEGRR	**Negrea**	**0.93**	**97**	⇑S	Sn	07 33 58.0	+1.2
VARL	**Varlezi**	**0.93**	**74**	⇑S	Sn	07 33 57.0	+0.2
SULR		**1.00**	**193**	⇑P	Pn	07 33 39.2	-0.8
SULR				⇑S	Sn	07 33 59.0	+1.2
VLDR	**Vladesti**	**1.08**	**79**	⇑P	Pn	07 33 41.1	+0.4
VLDR				⇑S	Sn	07 33 59.8	+0.6
VOIR		**1.08**	**259**	⇑P	Pn	07 33 40.7	-0.1
VOIR				⇑S	Sn	07 33 58.9	-0.5
CFR	**Carcaliu**	**1.21**	**113**	⇑P	Pn	07 33 42.8	+0.9
CFR				⇓S	Sn	07 34 01.3	0.0
VASR	**Vaslui**	**1.31**	**40**	⇑P	Pn	07 33 43.3	+0.4
VASR				⇑S	Sn	07 34 02.7	-0.4
HARR	**Harsova**	**1.37**	**134**	⇑P	Pn	07 33 44.1	+0.5
STFAR	**Stefanesti-Arg**	**1.38**	**236**	⇑S	Sn	07 34 05.3	+0.7
LEOM	**Leova**	**1.43**	**54**	⇑P	Pn	07 33 44.6	+0.4
LEOM				⇑S	Sn	07 34 05.2	-0.2
SGRR	**Singureni**	**1.49**	**196**	⇓P	Pn	07 33 45.0	+0.1
SGRR				⇑S	Sn	07 34 06.2	-0.4
TLBR	**Topalu**	**1.53**	**136**	⇓P	Pn	07 33 46.2	+0.9
TLBR				⇑S	Sn	07 34 07.1	-0.2
TPGR	**Topolog**	**1.54**	**121**	⇑P	Pn	07 33 45.2	-0.1
TPGR				⇑S	Sn	07 34 06.6	-1.0
HUMR	**Humele**	**1.59**	**225**	⇓P	Pn	07 33 45.8	-0.1
HUMR				⇑S	Sn	07 34 07.7	-0.8
TLCR		**1.65**	**106**	⇑S	Sn	07 34 10.0	+0.2
TIRR	**Tirgusor**	**1.77**	**132**	⇑P	Pn	07 33 48.6	+0.5
TIRR				⇓S	Sn	07 34 11.7	-0.6
MILM	**Milestii Mici**	**2.01**	**50**	⇑P	Pn	07 33 51.2	+0.4
MILM				⇑S	Sn	07 34 16.2	-1.0

UCR 15 07:39:11.8±0.5, 10°79N×85°42W, h79km±1km, MW3.5, 5C-13D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUEV	**Buena Vista**	**0.01**	**66**	⇑i P	Pn	07 39 23.6	+0.5
BUEV				eS	Sn	07 39 32.5	+1.0
LAPC	**Finca la Perla**	**0.03**	**208**	⇑i P	Pn	07 39 23.3	+0.2
LAPC				eS	Sn	07 39 31.9	+0.5
GB1A	**Borinquen Arri**	**0.03**	**39**	eP	Pn	07 39 23.8	+0.6
GB1A				eS	Sn	07 39 32.9	+1.3
GBS3	**Finca Las Img**	**0.04**	**253**	⇑i P	Pn	07 39 23.5	+0.4
GBS3				eS	Sn	07 39 32.2	+0.8
GPS3	**Bodega del ICE**	**0.07**	**126**	⇑eP	Pn	07 39 23.5	+0.4
GPS3				eS	Sn	07 39 32.7	+1.2
GPS1	**Guardaparques**	**0.07**	**105**	eP	Pn	07 39 23.8	+0.6
GPS1				eS	Sn	07 39 32.9	+1.3
GP03	**Hacienda Santa**	**0.07**	**108**	eP	Pn	07 39 23.9	+0.7
GPS2	**Hotel Rincn d**	**0.08**	**121**	⇓i P	Pn	07 39 23.7	+0.5
GPS2				eS	Sn	07 39 32.7	+1.2
GP77	**Hacienda Santa**	**0.10**	**108**	eP	Pn	07 39 23.8	+0.5
GP77				eS	Sn	07 39 32.9	+1.3
BUAI	**Buenos Aires**	**0.12**	**46**	eP	Pn	07 39 23.7	+0.4
BUAI				eS	Sn	07 39 33.4	+1.8
LIM1	**Limonal**	**0.19**	**120**	eP	Pn	07 39 24.2	+0.7
LIM1				eS	Sn	07 39 33.0	+0.9
HZTE	**Horizontes, Gu**	**0.19**	**246**	eP	Pn	07 39 24.1	+0.7
MESS	**Mesas**	**0.23**	**103**	eP	Pn	07 39 23.9	+0.3
MESS				eS	Sn	07 39 33.5	+1.0
CLARA	**Aguas Claras**	**0.24**	**92**	⇓eP	Pn	07 39 24.2	+0.5
CLARA				eS	Sn	07 39 33.5	+1.0
COLC	**Colonia**	**0.25**	**121**	eP	Pn	07 39 24.4	+0.6
COLC				eS	Sn	07 39 33.4	+0.9
HORNC	**Hornillas**	**0.25**	**109**	⇑eP	Pn	07 39 24.4	+0.6
HORNC				eS	Sn	07 39 33.8	+1.1
CUI	**Cuipilapa**	**0.28**	**118**	⇓eP	Pn	07 39 24.4	+0.5
CUI				eS	Sn	07 39 33.7	+0.8
VMAR	**Armenia, Volca**	**0.30**	**86**	eP		07 39 24.6	
VMAR				⇓i P	Pn	07 39 24.5	+0.5
VMAR				eS	Sn	07 39 34.2	+1.1
VMAR				eS		07 39 34.5	
MOTZ	**Rio Naranjo**	**0.36**	**107**	⇓i P	Pn	07 39 25.0	+0.7
MOTZ				eS	Sn	07 39 35.0	+1.4
CANAL	**Canalete**	**0.36**	**84**	⇓i P	Pn	07 39 24.9	+0.6
CANAL				eS	Sn	07 39 34.3	+0.7
ACAL	**Aguas Claras**	**0.41**	**113**	⇓i P	Pn	07 39 25.3	+0.5
ACAL				eS	Sn	07 39 35.4	+1.0
ORTG	**Ortega, Santa**	**0.43**	**185**	eP	Pn	07 39 25.2	+0.2
PTEN	**Parque Tenorio**	**0.43**	**100**	⇓i P	Pn	07 39 25.4	+0.4
PTEN				eS	Sn	07 39 35.6	+1.0
JTS	**Las Juntas de**	**0.68**	**137**	eP	Pn	07 39 27.1	-0.1
TABAC	**Tabacon**	**0.70**	**114**	⇓i P	Pn	07 39 28.1	+0.6
TABAC				eS	Sn	07 39 40.9	+1.8
LCHIL	**Los Chiles**	**0.73**	**71**	eP	Pn	07 39 29.2	+1.5
LCHIL				eS	Sn	07 39 41.2	+1.7
CASO	**Castillo**	**0.76**	**118**	⇓i P	Pn	07 39 28.6	+0.5
CASO				eS	Sn	07 39 41.0	+0.8
CEDE	**Laguna Cedeo**	**0.77**	**113**	⇓i P	Pn	07 39 28.8	+0.6
CEDE				eS	Sn	07 39 41.4	+1.1
MONTE	**Monteverde**	**0.77**	**129**	⇓i P	Pn	07 39 28.5	+0.2
MONTE				eS	Sn	07 39 41.0	+0.4
FORC	**Fortuna**	**0.81**	**114**	⇓eP	Pn	07 39 29.1	+0.6
FORC				eS	Sn	07 39 42.0	+1.0
SOCE	**Pocosol**	**0.89**	**117**	eP	Pn	07 39 29.8	+0.3
INDI	**Punta indio, G**	**0.92**	**185**	eP	Pn	07 39 29.4	-0.5
COVE	**Coope Vega, Sa**	**1.00**	**94**	eP	Pn	07 39 30.9	+0.1
ITAL	**Pital**	**1.18**	**107**	eP	Pn	07 39 33.2	+0.2
CBL1	**Cabuya**	**1.24**	**165**	eP	Pn	07 39 33.4	-0.4
SARA	**Sarapiqu**	**1.42**	**104**	eP	Pn	07 39 36.1	+0.2
HDC	**Heredia**	**1.51**	**121**	eP	Pn	07 39 37.8	+0.5
CORON	**Coronado**	**1.61**	**120**	eP	Pn	07 39 39.5	+0.7
CARI	**Cariari**	**1.71**	**104**	eP	Pn	07 39 41.5	+1.6
ABE2	**San Pablo**	**1.73**	**129**	eP	Pn	07 39 40.5	+0.3
LCR2	**La Lucha 2**	**1.74**	**127**	eP	Pn	07 39 40.6	+0.2
VICA	**Volcano Irazu**	**1.75**	**117**	eP	Pn	07 39 41.2	+0.5
RIMA	**Rio Macho**	**1.84**	**124**	eP	Pn	07 39 42.2	+0.4
LLNJ	**Naranjito**	**1.84**	**135**	eP	Pn	07 39 43.9	+2.2
VERB	**Verbena**	**1.89**	**116**	eP	Pn	07 39 41.3	-1.1

*STR **15** 07:59:05.0±0.5, 49°N±3°×±°, h5km, MLv3.8/6, Error ellipse: s-maj=0.0km s-min=0.0km az=45.0, preliminary*
*LDG **15** 07:59:05.2±0.1, 48°55N×1°50W, h2km, Md3.2/3, Ml3.1/30*
*BGS **15** 07:59:05.3±1.2, 48°56N×1°53W, h5km, ML2.8, ML2.8*
ISC 15 07:59:03.6±1.0, 48°53N±0°02×1°47W±0°02, h17km±9km, n59, σ1°42/105, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRR	**Gorron**	**0.43**	**109**	ePg	Pb	**07 59 14.0**	**+1.4**
GRR				eSg	Sb	**07 59 20.3**	**+1.5**
	258nm,0.2s						
FLN	**La Foliniere**	**0.69**	**70**	ePg	Pn	**07 59 18.5**	**-0.1**
	baz=252						
FLN				eSg	Sb	**07 59 27.3**	**+0.8**
	85nm,0.3s						
JDC	**Jersey Dam (Cr**	**0.76**	**330**	eP	Pg	**07 59 19.2**	**+0.7**
JDC				IAML		07 59 30.1	
	comp=N,2μm,0.2s						
JDC				IAML		07 59 32.5	
	comp=E,942nm,0.2s						
JDG	**Jersey Dam (Ga**	**0.77**	**330**	eP	Pg	**07 59 19.1**	**+0.5**
JDG				eS	Sb	**07 59 28.4**	**-0.2**
JDG				IAML		07 59 31.7	
	comp=N,263nm,0.2s						
JDG				IAML		07 59 32.2	
	comp=E,170nm,0.1s						
SGMF	**Saint Gilles**	**0.78**	**250**	ePg	Pn	**07 59 19.6**	**-0.1**
SGMF				eSg	Sb	**07 59 29.1**	**+0.3**
	comp=E,172nm,0.2s						
JRS	**Jersey**	**0.78**	**328**	eP	Pg	**07 59 19.3**	**+0.4**
JRS				eS	Sb	**07 59 28.8**	**-0.3**
JSA	**Saint Aubin**	**0.81**	**325**	eP	Pb	**07 59 19.6**	**+0.5**
JSA				eS	Sb	**07 59 29.7**	**0.0**
JSA				IAML		07 59 31.1	
	comp=N,270nm,0.2s						
JSA				IAML		07 59 31.1	
	comp=E,195nm,0.3s						
JSA	**Saint Aubin**	**0.81**	**325**	Sg	Sb	**07 59 29.7**	**0.0**
JSA	**Saint Aubin**	**0.81**	**325**	Pg	Pg	**07 59 19.8**	**+0.4**
JLP	**Les Platons**	**0.83**	**330**	eP	Pg	**07 59 20.2**	**+0.5**
LDF	**La Druitiere**	**0.90**	**85**	ePg	Pn	**07 59 22.6**	**+1.2**
LDF				eSg	Sn	**07 59 34.2**	**+0.3**
	comp=E,83nm,0.2s						
ROSF	**Rostrenen**	**1.22**	**262**	ePg	Pg	**07 59 27.6**	**+0.5**
ROSF				eSg	Sg	**07 59 42.6**	**-0.4**
	comp=E,156nm,0.3s						
ROSF	**Rostrenen**	**1.22**	**262**	eP	Pg	**07 59 27.1**	**+0.1**

LOR	**Lormes**	**3.80**	**107**	Pn		**Pn**	**08 00 03.1**	**+1.8**
RJF	**Les Rejaudoux**	**3.82**	**147**	*e*Pn		**Pn**	**08 00 03.3**	**+1.8**
RJF	**Les Rejaudoux**	**3.82**	**147**	*e*Pg		**Pg**	**08 00 16.4**	**-0.3**
RJF				*e*Sn		**Sn**	**08 00 45.9**	**-0.1**
RJF				*e*Sg		**Sg**	**08 01 05.9**	**-0.2**
	comp=E,18nm,0.3s							
LFF	**La Frestale**	**3.90**	**156**	*e*Pn		**Pn**	**08 00 04.6**	**+2.0**
LFF				*e*Sn		**Sn**	**08 00 46.9**	**-1.0**
LFF				*e*Sg		**Sg**	**08 01 08.9**	**+0.3**
	comp=E,39nm,0.5s							
SMF	**Signal de Mont**	**4.05**	**116**	*e*Pn		**Pn**	**08 00 06.3**	**+1.5**
SMF				*e*Sn		**Sn**	**08 00 51.8**	**-0.1**
SMF				*e*Sg		**Sg**	**08 01 13.2**	**-0.5**
	comp=E,5.1nm,0.3s							
MEZF	**Maizieres J'vi**	**4.33**	**88**	*e*Pn		**Pn**	**08 00 10.5**	**+1.9**
	baz=272							
MEZF	**Maizieres J'vi**	**4.33**	**88**	*e*Pg		**Pg**	**08 00 26.4**	**-0.1**
MEZF				*e*Sg		**Sg**	**08 01 22.0**	**-0.6**
	comp=E,5.9nm,0.3s							
CAF	**Calviac**	**4.34**	**145**	*e*Pn		**Pn**	**08 00 10.4**	**+1.6**
CAF				*e*Sn		**Sn**	**08 00 59.2**	**+0.2**
CAF				*e*Sg		**Sg**	**08 01 22.5**	**-0.5**
	comp=E,12nm,0.3s							
SFTF	**Sexfontaines**	**4.35**	**92**	*e*Pn		**Pn**	**08 00 10.0**	**+1.2**
SFTF				*e*Sn		**Sn**	**08 00 58.6**	**-0.5**
SFTF				*e*Sg		**Sg**	**08 01 21.4**	**-1.7**
	comp=E,5.8nm,0.2s							
GIVF	**Givet**	**4.41**	**67**	*e*P		Pn	08 00 14.7	+5.1
GIVF				*e*Sn		**Sn**	**08 00 59.5**	**-1.0**
GIVF				*e*Sg		**Sg**	**08 01 23.9**	**-1.0**
	comp=E,5.9nm,0.3s							
PAGF	**Fort de Pagny**	**4.78**	**87**	*e*Pn		**Pn**	**08 00 16.5**	**+1.8**
	baz=271							
PAGF				*e*Sn		**Sn**	**08 01 08.0**	**-1.6**
PAGF				*e*Sg		**Sg**	**08 01 35.9**	**-0.9**
	comp=E,6.6nm,0.3s							
HAU	**Haudompre**	**5.25**	**93**	*e*P		**Pn**	**08 00 24.9**	**+3.7**
HAU				*e*Sg		**Sg**	**08 01 49.6**	**-2.2**
	comp=E,7.7nm,0.3s							
SJPF	**Ste Jean**	**5.42**	**178**	*e*Pn		**Pn**	**08 00 25.2**	**+1.7**
SJPF	**Ste Jean**	**5.42**	**178**	*e*Pg		**Pg**	**08 00 45.6**	**-1.7**
SJPF				*e*Sg		**Sg**	**08 01 55.7**	**-1.7**
	comp=E,4.3nm,0.4s							
CABF	**La Chapelle**	**5.46**	**108**	*e*P		Pn	08 00 29.6	+5.4
CABF				*e*Sg		**Sg**	**08 01 57.1**	**-1.6**
	comp=E,0.7nm,0.2s							
VIVF	**Saint-Julien-l**	**5.60**	**129**	*e*Sg		**Sg**	**08 02 00.1**	**-3.0**
	comp=E,1.8nm,0.3s							
HINF	**Hinteralfeld**	**5.61**	**94**	*e*Sg		**Sg**	**08 02 01.9**	**-1.7**
	comp=E,6.1nm,0.4s							
EPF	**Esparros**	**5.64**	**166**	*e*Pn		**Pn**	**08 00 27.2**	**+0.6**
EPF				*e*Sn		**Sn**	**08 01 27.7**	**-3.3**
ETSF	**Etsaut**	**5.67**	**173**	*e*Pg		**Pg**	**08 00 50.6**	**-1.4**
ETSF				*e*Sn		**Sn**	**08 01 32.0**	**+0.3**
	comp=E,1.7nm,0.3s							
LASF	**Ste Croix**	**5.78**	**138**	*e*P		**Pn**	**08 00 33.3**	**+4.8**
LASF				*e*Sg		**Sg**	**08 02 08.9**	**-0.1**
	comp=E,1.7nm,0.3s							
MTLF	**Montolieu**	**5.79**	**152**	*e*Sn		**Sn**	**08 01 33.8**	**-0.8**
MTLF				*e*Sg		**Sg**	**08 02 07.0**	**-2.2**
	comp=E,1.8nm,0.2s							
CDF	**Champ du Feu**	**5.82**	**88**	*e*Pn		**Pn**	**08 00 31.2**	**+2.1**
CDF	**Champ du Feu**	**5.82**	**88**	*e*P		Pn	08 00 36.2	+7.1
CDF				*e*Sg		**Sg**	**08 02 08.2**	**-1.9**
	comp=E,3.0nm,0.3s							

ISC 15 08:03:37.3±1.0,**49°15N**±0°.06×**18°86E**±0°.04,**h10**km,**n5,** σ**0°62/9,Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.40**	**90**	*e*PG	**Pg**	**08 03 44.8**	**-0.4**
LANS				*e*SG	**Sg**	**08 03 50.8**	**+0.3**
VYHS	**Vyhne**	**0.66**	**181**	*e*PG	**Pg**	**08 03 49.5**	**-0.5**
VYHS				*e*SG	**Sb**	**08 04 00.3**	**+0.2**
JAVC	**Velka Javorina**	**0.83**	**250**	*e*PG	**Pg**	**08 03 52.8**	**-0.6**
JAVC				*e*SG	**Sn**	**08 04 08.7**	**+1.1**
MORC	**Moravsky Berou**	**1.06**	**307**	*e*PG	**Pn**	**08 03 58.1**	**-0.2**
MORC				*e*SG	**Sb**	**08 04 12.1**	**+0.3**
KECS	**Kecovo**	**1.27**	**121**	*e*PG	**Pb**	**08 04 01.2**	**0.0**

BJI ***15*** *08:09:28.6,30°.02N×131°.09E,h38km,mb4.4/45,mB4.8/23, Ms4.2/27,Ms7 4.1/30*

JMA ***15*** *08:09:29.5±0.1,30°.2N±0°.5×130°.9E±0°.4,h14km,MD4.4/15, MW4.4/15,NEAR TANEGASHIMA ISLAND*

JMA Felt II J1 at NEAR TANEGASHIMA ISLAND .

NIED ***15*** *08:09:29.5,30°.18N×130°.88E,h14km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-4.37; Mθθ2.65; Mφφ 1.72; Mrθ -2.62; Mθφ-2.57; Mφr-0.58; Fault plane solution: M₀5.31000×10¹⁵ NP1: φs108.00000°,δ59.00000°,λ-115.00000°. NP2: φs330.00000°,δ39.00000°,λ-55.00000°.*

MOS ***15*** *08:09:30.6±0.9,30°.21N×130°.78E,h38km,mb4.9/35 Error ellipse: s-maj=9.2km s-min=4.9km az=109.3*

NEIC ***15*** *08:09:33.1±1.5,30°.23N±0°.06×130°.74E±0°.09,h36km±8km, mb4.8/48,Error ellipse: s-maj=11.3km s-min=8.7km az=102.0*

IDC ***15*** *08:09:33.8±1.8,30°.23N×130°.77E,h53km±16km,mb4.1/30, mbtmp4.4/36,ML3.9/6,MS3.7/21,Error ellipse: s-maj=14.5km s-min=11.0km az=69.0*

ISC 15 08:09:30.7±0.5,**30°17N**±0°.03×**130°88E**±0°.04,**h27**km±2km, **h27**km:**pP-P,n399,** σ**1§68**/417,**mb4.7**/82,**MS3.8**/25,**20C-1D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**0.22**	**5**	*i* P	**Pb**	**08 09 34.3**	**-2.5**
JMTN				*e*S	**Sb**	**08 09 37.8**	**-3.2**
JMTN	**Minamitane**	**0.22**	**5**	A	A	08 09 34.3	
	comp=E,194nm,2.6s,comp=N,118nm,0.7s						
JYAK	**Yakushimahirau**	**0.33**	**281**	*i* P	**Pb**	**08 09 36.3**	**-1.9**
JYAK				*e*S	**Sb**	**08 09 40.8**	**-2.5**
JYAK	**Yakushimahirau**	**0.33**	**281**	A	A	08 09 36.3	
	comp=E,26nm,1.4s,comp=N,28nm,2.3s						
JTN	**Tanegashima 3**	**0.49**	**10**	*i* P	**Pb**	**08 09 39.1**	**-1.6**
JTN				*e*S	**Sb**	**08 09 46.1**	**-1.5**
JTN	**Tanegashima 3**	**0.49**	**10**	A	A	08 09 39.1	
	comp=E,56nm,0.7s,comp=N,33nm,1.1s						
JKC	**Kuchinoerabu**	**0.66**	**296**	P	**Pb**	**08 09 42.5**	**-1.0**
JKC				*e*S	**Sb**	**08 09 51.4**	**-1.0**
JKC	**Kuchinoerabu**	**0.66**	**296**	A	A	08 09 42.5	
	comp=E,13nm,3.3s,comp=N,11nm,1.4s						
JNN	**Nakanoshima**	**0.93**	**249**	*e*P	**Pb**	**08 09 47.0**	**-1.2**
JNN				S	**Sn**	**08 10 00.3**	**-0.2**
JNN	**Nakanoshima**	**0.93**	**249**	A	A	08 09 47.0	
	comp=E,45nm,0.9s,comp=N,52nm,1.1s						
JTSR	**Tashiro 2**	**0.99**	**2**	*i* P	**Pb**	**08 09 47.9**	**-1.3**
JTSR				*e*S	**Sb**	**08 10 01.1**	**-0.8**
JTSR	**Tashiro 2**	**0.99**	**2**	A	A	08 09 47.9	
	comp=E,37nm,0.5s,comp=N,23nm,1.0s						
JSU	**Suzuyama**	**1.38**	**345**	A	A	08 09 54.3	
	comp=E,8.0nm,2.2s						
JNAR	**Kushima--Naru**	**1.39**	**14**	A	A	08 09 54.5	
	comp=E,39nm,2.5s,comp=N,25nm,1.8s						
JNKG	**Nichinankitago**	**1.54**	**16**	A	A	08 09 56.8	
	comp=E,16nm,2.8s,comp=N,16nm,1.6s						
JTZ	**Takazaki**	**1.73**	**6**	A	A	08 09 59.7	
	comp=E,8.0nm,1.8s,comp=N,14nm,2.6s						
JZO	**Okuchi**	**1.98**	**353**	A	A	08 10 03.3	
	comp=E,5.0nm,4.0s,comp=N,5.0nm,2.0s						
JZK	**Kikaishima**	**2.02**	**203**	A	A	08 10 03.9	
	comp=E,19nm,2.2s,comp=N,18nm,2.8s						
JAM	**Amami Oshima**	**2.08**	**213**	A	A	08 10 04.8	
	comp=E,5.0nm,3.4s,comp=N,4.0nm,4.2s						
JKIT	**Kitakata**	**2.49**	**11**	A	A	08 10 10.7	
	comp=E,5.0nm,1.5s,comp=N,4.0nm,1.5s						
JNU	**Nakatsue**	**2.94**	**0**	Pn	**Pn**	**08 10 15.9**	**+0.2**
JNU	**Nakatsue**	**2.94**	**0**	P	**Pn**	**08 10 16.7**	**+1.0**
	comp=N,17nm,0.3s,baz=178,slow=8.7,SNR=50						
JNU				S	**Sn**	**08 10 46.4**	**-3.8**
	comp=N,193nm,0.7s,baz=162,slow=18,SNR=5.9						
JNU				LR	LR	08 11 35.1	
	comp=N,924nm,20.8s,baz=219,slow=42 comp=N,125nm,0.8s						
JUS	**Usuki**	**2.98**	**14**	A	A	08 10 17.7	
	comp=E,4.0nm,2.2s,comp=N,5.0nm,4.8s						
JBEP	**Beppuamama**	**3.19**	**8**	A	A	08 10 20.6	
	comp=E,7.0nm,1.5s,comp=N,6.0nm,2.8s						
JOW	**Kunigami**	**4.04**	**215**		**Pn**	**08 10 31.3**	**+0.5**
JOW	**Kunigami**	**4.04**	**215**	P	**Pn**	**08 10 31.9**	**+1.1**
	comp=N,111nm,0.3s,baz=86,slow=16,SNR=12						
JOW				S	**Sn**	**08 11 14.2**	**-3.1**
	comp=N,106nm,0.8s,baz=60,slow=20,SNR=4.9 comp=N,46nm,0.3s						
JMZ	**Minamidaito 2**	**4.35**	**176**	Pn	**Pn**	**08 10 35.9**	**+0.9**
JMN	**Monobe**	**4.37**	**35**		**Pn**	**08 10 35.7**	**+0.4**
JTU	**Tsushima**	**4.51**	**344**		**Pn**	**08 10 37.6**	**+0.3**
TJN	**Taejon**	**6.85**	**335**		**Pn**	**08 11 09.9**	**+0.6**
TJN	**Taejon**	**6.85**	**335**	*ce*P	**Pn**	**08 11 12.1**	**+2.7**
JSG	**Sagara**	**7.63**	**52**	Pn	**Pn**	**08 11 22.1**	**+2.0**
KSAR	**Wonju Array Be**	**7.67**	**342**	Pn	**Pn**	**08 11 19.7**	**-0.9**
KSAR	**Wonju Array Be**	**7.67**	**342**	P	**Pn**	**08 11 19.7**	**-0.9**
KSRS	**Korea Array**	**7.67**	**342**	P	**Pn**	**08 11 22.4**	**+1.8**
	comp=N,1.0nm,0.3s,baz=158,slow=14,SNR=18						
KSRS				LR	LR	08 14 15.4	
	comp=N,294nm,20.5s,baz=155,slow=37 comp=N,7.4nm,0.8s						
JGF	**Kuroka**	**7.68**	**43**	Pn	**Pn**	**08 11 22.8**	**+2.0**
JHJ	**Hachijo jima 2**	**8.14**	**67**	P	**Pn**	**08 11 30.5**	**+3.4**
	comp=N,14nm,0.3s,baz=229,slow=20,SNR=4.9						
JHJ				LR	LR	08 14 12.1	
	comp=N,314nm,20.9s,baz=272,slow=34 comp=N,42nm,0.4s						
JHJ2	**Mitsune**	**8.16**	**67**	Pn	**Pn**	**08 11 30.2**	**+2.8**
MAJO	**Matsushiro**	**8.82**	**42**		**Pn**	**08 11 37.4**	**+0.9**
MAJO	**Matsushiro**	**8.82**	**42**	*i* P	**Pn**	**08 11 38.8**	**+2.3**
MJB9	**Matsu-Tunnel**	**8.82**	**42**		**Pn**	**08 11 37.8**	**+1.3**
MJAR	**Matsushiro Arr**	**8.82**	**42**	P	**Pn**	**08 11 38.2**	**+1.7**
	comp=N,0.5nm,0.3s,baz=241,slow=14,SNR=18						
MJAR				LR	LR	08 15 19.8	
	comp=N,296nm,21.8s,baz=225,slow=39 comp=N,6.0nm,0.7s						
YULB	**Yu-li**	**10.90**	**234**	Pn	**Pn**	**08 12 04.1**	**-0.8**
JMM	**Marumori**	**11.24**	**44**		**Pn**	**08 12 11.2**	**+1.6**
TIA	**Tai'an**	**12.99**	**301**	P	**Pn**	**08 12 37.1**	**+3.6**
TIA				S	Sn	08 15 10.4	+13
TIA				pmax	pmax		
	comp=N,18nm,1.1s						
TIA				pmax	pmax		
	comp=N,270nm,8.3s						
TIA				LR	LR		
	comp=N,700nm,13.9s						
TIA				LR	LR		
	comp=N,680nm,12.5s						
TIA				LR	LR		
	comp=N,930nm,12.8s						
USA0B	**Ussuriysk Arra**	**14.03**	**3**	P	**P**	**08 12 56.2**	**+1.1**
USA0B	**Ussuriysk Arra**	**14.03**	**3**	*i* P	**Pn**	**08 12 49.7**	**+2.1**
USRK	**Ussuriysk Ar.**	**14.03**	**3**	P	**P**	**08 12 56.0**	**+0.8**
USRK	**Ussuriysk Ar.**	**14.03**	**3**	P	**P**	**08 12 56.0**	**+0.8**
USRK	**Ussuriysk Ar.**	**14.03**	**3**	P	**P**	**08 12 56.2**	**+1.0**
	comp=N,15nm,0.7s,baz=178,slow=12,SNR=17						
MDJ	**Mudanjiang**	**14.45**	**356**	P	**Pn**	**08 12 53.3**	**-0.1**
MDJ				pP	P	08 13 00.1	+0.2
MDJ				sP		08 13 04.6	
MDJ				S	**Sn**	**08 15 35.8**	**+3.1**
MDJ				sS	S	08 15 46.1	-5.9
MDJ				SS	**SnSn**	**08 15 48.9**	**+3.4**
MDJ				PcP	**PcP**	**08 18 03.3**	**-4.4**
MDJ				ScP	**ScP**	**08 21 35.3**	**-4.4**
MDJ				pmax	pmax		
	comp=N,7.0nm,2.2s						
MDJ				pmax	pmax		
	comp=N,230nm,4.7s						
MDJ				LR	LR		
	comp=N,380nm,9.6s						
MDJ				LR	LR		
	comp=N,280nm,9.1s						
MDJ				LR	LR		
	comp=N,600nm,12.7s						
HNS	**HongShan**	**15.24**	**302**	⇑P	**Pn**	**08 13 05.8**	**+1.8**
HNS				pP	**pP**	**08 13 11.9**	**-4.0**
HNS				PP	**sP**	**08 13 15.9**	**-3.4**
HNS				*e*S	**Sn**	**08 15 52.4**	**+0.4**
HNS				pmax	pmax		
	comp=N,11nm,1.1s						
HNS				LR	LR		
	comp=N,400nm,13.5s						
HNS				LR	LR		
	comp=N,500nm,14.3s						
HNS				LR	LR		
	comp=N,440nm,14.3s						
BJI	**Beijing**	**15.53**	**313**	P	**P**	**08 13 13.5**	**+1.7**
BJI				pmax	pmax		
	comp=N,20nm,1.3s						
BJI				LR	LR		
	comp=N,200nm,12.3s						
BJI				LR	LR		
	comp=N,260nm,12.6s						
BJI				LR	LR		
	comp=N,430nm,13.1s						
BNX	**BinXian**	**15.78**	**351**	⇓P	**P**	**08 13 14.6**	**0.0**
BNX				pmax	pmax		
	comp=N,14nm,1.1s						
BNX				pmax	pmax		
	comp=N,170nm,7.2s						
ASAJ	**Asahikawa**	**16.74**	**31**	LR	LR	08 19 54.6	
	comp=N,367nm,20.9s,baz=15,slow=37						
HHC	**Hu-ho-hao-te**	**18.95**	**309**	*e*P	**Pn**	**08 13 51.5**	**+0.9**
HHC				pP	sP	08 13 58.5	-2.0
HHC				*e*S	**S**	**08 17 24.6**	**+1.1**
HHC				sS	sS	08 17 32.6	-2.8
HHC				pmax	pmax		
	comp=N,27nm,0.7s						
HHC				pmax	pmax		
	comp=N,170nm,4.7s						
HHC				LR	LR		
	comp=N,520nm,11.8s						
HHC				LR	LR		
	comp=N,980nm,11.4s						
HHC				LR	LR		
	comp=N,1μm,11.4s						
XAN	**Xi'an**	**18.99**	**287**	P	**P**	**08 13 50.1**	**-0.1**
XAN				pP	sP	08 14 02.6	+1.7
XAN				S	**Sn**	**08 17 21.5**	**-1.5**
XAN				pmax	pmax		
	comp=N,20nm,1.3s						
XAN				pmax	pmax		
	comp=N,310nm,4.3s						
XAN				LR	LR		
	comp=N,600nm,12.7s						
XAN				LR	LR		
	comp=N,500nm,11.2s						
XAN				LR	LR		
	comp=N,620nm,13.2s						
KLR	**Kul'dur**	**19.04**	**2**	*ce*P	**P**	**08 13 50.9**	**+0.3**
KLR				pmax	pmax		
	comp=Z,16nm,0.7s						
KLR	**Kul'dur**	**19.04**	**2**	P	**P**	**08 13 51.0**	**+0.3**
	comp=Z,2.2nm,0.3s,baz=182,slow=7.5,SNR=65 comp=Z,16nm,0.6s						
YSS	**Yuzh-Sakhalins**	**19.12**	**25**	*e*P	**Pn**	**08 13 52.6**	**+0.2**
YSS				*e*S	**Sn**	**08 17 18.1**	**-7.6**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,11.0s						
BTO	**Baotou**	**19.89**	**307**	*e*P	**Pn**	**08 14 05.3**	**+3.5**
BTO				pP	**sP**	**08 14 16.0**	**+5.2**
BTO				sP	pP	08 14 21.4	+14
BTO				PP	**PnPn**	**08 14 25.8**	**+10**
BTO				S	**Sn**	**08 17 49.4**	**+4.7**
BTO				SS	**SnSn**	**08 18 09.8**	**+11**
BTO				pmax	pmax		
	comp=Z,28nm,1.0s						
BTO				pmax	pmax		
	comp=Z,280nm,5.2s						
BTO				LR	LR		
	comp=Z,450nm,15.5s						
BTO				LR	LR		
	comp=Z,1μm,13.5s						
BTO				LR	LR		
	comp=Z,1μm,14.0s						
HEH	**HeiHe**	**20.23**	**354**	*e*P	**P**	**08 14 03.9**	**+0.4**
HEH				pmax	pmax		
	comp=Z,14nm,0.9s						
HEH				LR	LR		
	comp=Z,400nm,11.0s						
HEH				LR	LR		
	comp=Z,200nm,11.4s						
HEH				LR	LR		
	comp=Z,490nm,10.5s						
HIA	**Hailar**	**20.86**	**339**	*i* P	**P**	**08 14 09.6**	**-0.9**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
QIZ	**Qiongzhong**	**22.07**	**245**	P	**P**	**08 14 24.0**	**+0.3**
QIZ				S	**S**	**08 18 26.6**	**+0.8**
QIZ				LR	LR		
	comp=Z,410nm,18.3s						
QIZ				LR	LR		
	comp=Z,580nm,20.0s						
QIZ				LR	LR		
	comp=Z,410nm,13.7s						
TYV	**Tymovskoe**	**22.47**	**20**	*e*P	**P**	**08 14 28.9**	**+1.3**
TYV				*e*S	**S**	**08 18 35.8**	**+3.2**
TYV				pmax	pmax		
	comp=Z,200nm,3.1s						
TYV				pmax	pmax		
	comp=Z,14nm,0.9s						
TYV				smax	smax		
	comp=E,300nm,4.5s						
TYV				smax	smax		
	comp=N,9.0nm,1.5s						
TYV				smax	smax		
	comp=E,10.0nm,1.5s						
LZH	**Lanzhou**	**23.36**	**292**	*e*P	**P**	**08 14 38.5**	**+1.3**
LZH				pP	sP	08 14 49.3	+1.2
LZH				pmax	pmax		
	comp=E,20nm,1.3s						
LZH				LR	LR		
	comp=E,280nm,14.4s						
LZH				LR	LR		
	comp=E,380nm,13.4s						
LZH				LR	LR		
	comp=E,410nm,17.7s						
ZEA	**Zeya**	**23.70**	**355**	*e*P	**P**	**08 14 38.4**	**-1.7**
ZEA				*e*		08 18 47.5	
ZEA				pmax	pmax		
	comp=N,10.0nm,0.5s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.9s						
ZEA				MLR	MLR		
	comp=N,200nm,15.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,13.0s						
ULN	**Ulaanbaatar**	**25.43**	**321**	P	**P**	**08 14 56.4**	**+0.2**
ULN				IAmb	IAmb	08 14 59.4	
	comp=Z,26nm,1.3s						
ULN	**Ulaanbaatar**	**25.43**	**321**	*ce*P	**P**	**08 14 55.6**	**-0.6**
ULN				pmax	pmax		
	comp=Z,22nm,1.3s						
SONM	**Songino Array**	**25.77**	**320**	P	**P**	**08 14 59.0**	**-0.3**
SONM	**Songino Array**	**25.77**	**320**	P	**P**	**08 14 59.0**	**-0.3**
SONM				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SONM	**Songino Array**	**25.77**	**320**	P	**P**	**08 14 58.4**	**-0.9**
	comp=Z,5.9nm,0.5s,baz=136,slow=9.6,SNR=30						
SONM				LR	LR	08 25 59.1	
	comp=Z,169nm,19.9s,baz=127,slow=38 comp=Z,5.9nm,0.5s						
PETK	**Petropavlovsk-**	**30.13**	**33**	P	**P**	**08 15 39.1**	**+1.0**
PETK	**Petropavlovsk-**	**30.13**	**33**	P	**P**	**08 15 39.3**	**+1.2**
	comp=Z,2.9nm,0.7s,baz=191,slow=7.2,SNR=4.2						
PETK				LR	LR	08 27 52.1	
	comp=Z,86nm,20.7s,baz=217,slow=36 comp=Z,2.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.25**	**255**	PcP	**PcP**	**08 18 40.6**	**-1.9**
	comp=Z,1.3nm,0.2s,baz=36,slow=1.6,SNR=8.1						
YAK	**Yakutsk**	**31.87**	**359**	*i* P	**P**	**08 15 53.4**	**+0.1**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MA2	**Magadan**	**32.34**	**19**	*i* P	**P**	**08 15 58.1**	**+0.7**
MA2				pmax	pmax		
	comp=Z,13nm,1.1s						
MA2	**Magadan**	**32.34**	**19**	LR	LR	08 30 13.7	
	comp=Z,113nm,18.6s,baz=220,slow=38						
H11N2	**WAKE ISLAND Hy**	**34.14**	**99**	T	T	08 52 09.1	
	baz=296,slow=75,SNR=520						
H11N1	**WAKE ISLAND Hy**	**34.15**	**99**	T	T	08 52 13.1	
	baz=296,slow=75,SNR=250						
H11N3	**WAKE ISLAND Hy**	**34.16**	**99**	T	T	08 52 12.4	
	baz=296,slow=75,SNR=235						
SEY	**Seymchan**	**35.58**	**17**	*ce*P	**P**	**08 16 26.7**	**+1.2**
SEY				pmax	pmax		
	comp=Z,15nm,1.7s						
SEY	**Seymchan**	**35.58**	**17**	LR	LR	08 32 13.0	
	comp=Z,97nm,18.4s,baz=230,slow=38						
KAPI	**Kappang**	**36.58**	**199**	LR	LR	08 32 18.7	
	comp=Z,50nm,20.8s,baz=13,slow=37						
WMQ	**Urumqi**	**36.67**	**304**	*e*P	**P**	**08 16 35.9**	**+0.7**
WMQ				pmax	pmax		
	comp=Z,12nm,0.9s						
WMQ				LR	LR		
	comp=Z,130nm,21.7s						
DGZ	**Jazzator, Alta**	**37.95**	**313**	*i* P	**P**	**08 16 45.5**	**-0.6**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SHEM	**Shemya Is, Ala**	**38.67**	**42**	LR	LR	08 33 07.0	
	comp=Z,44nm,20.5s,baz=300,slow=36						
ZAA0	**Zalesovo Array**	**40.66**	**319**	P	**P**	**08 17 08.1**	**-0.3**
ZALV	**Zalesovo Beam**	**40.66**	**319**	P	**P**	**08 17 08.2**	**-0.3**
	comp=Z,2.2nm,0.4s,baz=100,slow=7.8,SNR=12 comp=Z,2.2nm,0.4s						
MK31	**Makanchi Array**	**40.80**	**308**	P	**P**	**08 17 10.1**	**+0.3**
MK31	**Makanchi Array**	**40.80**	**308**	*ce*P	**P**	**08 17 09.6**	**-0.2**
MKAR	**Makanchi Array**	**40.80**	**308**	P	**P**	**08 17 09.9**	**+0.1**
MKAR	**Makanchi Array**	**40.80**	**308**	P	**P**	**08 17 10.0**	**+0.2**
	comp=Z,6.4nm,0.6s,baz=90,slow=10,SNR=49						
MKAR				PcP	**PcP**	**08 19 09.6**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=77,slow=5.5,SNR=4.5						
MKAR				LR	LR	08 36 43.9	
	comp=Z,118nm,18.4s,baz=77,slow=40 comp=Z,6.4nm,0.6s						
TIXI	**Tiksi**	**41.54**	**359**	P	**P**	**08 17 15.2**	**-0.2**
TIXI	**Tiksi**	**41.54**	**359**	*ce*P	**P**	**08 17 14.5**	**-0.9**
TIXI	**Tiksi**	**41.54**	**359**	LR	LR	08 35 12.2	
	comp=Z,9.2nm,19.4s,baz=192,slow=37						
TIXI	**Tiksi**	**41.54**	**359**	P	**P**	**08 17 14.7**	**-0.7**
TIXI				pP	**sP**	**08 17 24.3**	**-2.4**
PMG	**Port Moresby**	**42.35**	**156**	LR	LR	08 32 06.5	
	comp=Z,104nm,19.4s,baz=268,slow=32						
PDGK	**Podgornoye**	**42.58**	**303**	P	**P**	**08 17 23.9**	**-0.6**
LEM	**Lembang**	**43.03**	**215**	LR	LR	08 38 08.1	
	comp=Z,48nm,18.3s,baz=36,slow=40						
BILL	**Bilibino**	**43.20**	**19**	P	**P**	**08 17 30.1**	**+1.0**
BILL				IAmb	IAmb	08 17 30.9	
	comp=Z,18nm,1.2s						
BILL	**Bilibino**	**43.20**	**19**	⇑*e*P	**P**	**08 17 30.5**	**+1.5**
BILL	**Bilibino**	**43.20**	**19**	P	**P**	**08 17 29.8**	**+0.8**
BILL				sP	**sP**	**08 17 44.7**	**+4.4**
KIWB	**Kanaga Island**	**43.68**	**45**	P	**P**	**08 17 32.6**	**-0.4**
KURK	**Kurchatov**	**43.70**	**313**	*ce*P	**P**	**08 17 32.8**	**-0.4**
KURK				pmax	pmax		
	comp=Z,17nm,1.3s						
KURBB	**K

AAK Ala-Archa 46.27 302 P P 08 17 54.8 +0.8
AAK IAmb IAmb 08 17 55.3
comp=Z,6.0nm,0.7s
AAK Ala-Archa 46.27 302 *ce* P P **08 17 54.3 +0.3**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 46.27 302 P P 08 17 54.7 +0.7
comp=Z,4.4nm,0.5s,baz=145,slow=5.8,SNR=18
comp=Z,4.4nm,0.5s
AAK Ala-Archa 46.27 302 P P 08 17 54.7 +0.7
AAK pP **sP 08 18 05.5 +0.1**
AAK sP pP 08 18 09.4 +7.2
UCH Uchtor 46.28 301 P P 08 17 56.0 +1.5
SNR=25
ARLS Aral 46.45 301 P P 08 17 56.6 +1.1
ARLS pmax pmax
comp=Z,24nm,0.8s
AML Almayashu 46.90 301 P P 08 18 00.6 +1.4
SNR=7.2
ARSB Arslanbob 47.50 300 P P 08 18 02.4 -1.3
ARSB Arslanbob 47.50 300 P P 08 18 02.4 -1.3
ARSB pmax pmax
comp=Z,3.0nm,0.9s
ARK Arkit 48.21 301 P P 08 18 09.6 +0.5
ARK pmax pmax
comp=Z,18nm,0.9s
TRKS Terek-Say 48.85 301 P P 08 18 13.8 -0.3
TRKS pmax pmax
comp=Z,7.0nm,0.8s
BVA0 Borovoye Array 48.99 316 *i* P P **08 18 14.1 -0.7**
BVAR Borovoye Array 48.99 316 P P 08 18 14.7 -0.1
comp=Z,12nm,0.5s,baz=97,slow=9.3,SNR=78
BVAR PcP **PcP 08 19 37.6 -0.9**
comp=Z,1.7nm,0.7s,baz=75,slow=6.1,SNR=2.3
BVAR LR LR 08 40 51.0
comp=Z,185nm,19.6s,baz=84,slow=38
comp=Z,12nm,0.5s
BRVK Borovoye 49.05 316 P P 08 18 15.2 0.0
BRVK Borovoye 49.05 316 *ce* P P **08 18 14.3 -1.0**
BRVK pmax pmax
comp=Z,16nm,0.6s
BRVK Borovoye 49.05 316 P P 08 18 15.2 0.0
BRVK pP **sP 08 18 26.3 -0.3**
KK31 Karatay Array 49.15 303 P P 08 18 16.4 +0.2
KK31 IAmb IAmb 08 18 17.4
comp=Z,8.5nm,0.8s
KK31 Karatay Array 49.15 303 P P 08 18 16.4 +0.2
KK31 pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 49.15 303 P P 08 18 16.6 +0.5
KKAR IAmb IAmb 08 18 17.3
comp=Z,8.5nm,0.8s
KKAR Karatay Array 49.15 303 P P 08 18 16.4 +0.2
KKAR Karatay Array 49.15 303 P P 08 18 16.4 +0.2
KKAR pmax pmax
comp=Z,9.0nm,0.8s
WB0 Warramunga Arr 49.77 176 P P 08 18 21.2 +0.2
WB0 IAmb IAmb 08 18 27.0
comp=Z,7.4nm,1.1s
WRA Warramunga Arr 49.94 176 *ce* P P **08 18 23.8 +1.5**
WRA pmax pmax
comp=Z,3.0nm,1.0s
WRA Warramunga Arr 49.94 176 P P 08 18 22.3 0.0
comp=Z,1.3nm,0.7s,baz=354,slow=8.2,SNR=11
WRA PcP **PcP 08 19 41.9 -0.4**
comp=Z,0.9nm,1.1s,baz=359,slow=4.3,SNR=5.3
comp=Z,1.3nm,0.7s
WR0 Warramunga Arr 49.97 175 P P 08 18 22.4 -0.1
M11K Mekoryuk 50.96 35 P P 08 18 30.6 +1.0
baz=263
F14K Arctic Creek 51.70 28 P P 08 18 36.9 +1.8
baz=259
ANM Nome 51.94 29 P P 08 18 39.1 +2.2
baz=261
CTA Charters Tower 52.12 162 LR LR 08 38 32.5
comp=Z,68nm,21.1s,baz=74,slow=33
CTAO Charters Tower 52.12 162 P P 08 18 39.5 +0.8
CTAO Charters Tower 52.12 162 P P 08 18 39.5 +0.8
CTAO pmax pmax
comp=Z,7.0nm,1.0s
F15K North Star Dit 52.43 28 P P 08 18 41.9 +1.4
baz=260
J14K Nanvaranak Lak 52.49 32 P P 08 18 42.2 +1.2
baz=264
G15K Niukluk 52.57 29 P P 08 18 42.7 +1.2
baz=262
C16K Lisburne Hills 52.66 25 P P 08 18 42.7 +0.6
C16K IAmb IAmb 08 18 45.2
comp=Z,12nm,1.0s
C16K Lisburne Hills 52.66 25 P P 08 18 42.8 +0.7
baz=258
H16K Elim 53.29 30 P P 08 18 47.9 +1.0
baz=264
D17K Noatak River 53.38 26 P P 08 18 48.6 +1.2
baz=260
RDOG Red Dog Mine 53.51 25 P P 08 18 49.9 +1.5
baz=260
ASAR Alice Springs 53.61 177 P P 08 18 50.4 +0.7
comp=Z,0.9nm,0.8s,baz=10,slow=13,SNR=21
ASAR PcP **PcP 08 19 55.5 -0.4**
comp=Z,1.4nm,0.9s,baz=354,slow=3.1,SNR=4.4
ASAR LR LR 08 40 25.5
comp=Z,74nm,21.2s,baz=2.5,slow=34
comp=Z,0.9nm,0.8s
I17K Unalakleet 53.89 31 P P 08 18 52.4 +1.2
baz=266
F17K Baldwin Pennin 53.91 27 P P 08 18 53.7 +2.3
F17K IAmb IAmb 08 18 55.3
comp=Z,9.4nm,0.8s
F17K Baldwin Pennin 53.91 27 P P 08 18 52.7 +1.4
baz=263
G17K Kiwalik Mounta 54.05 29 P P 08 18 54.0 +1.6
baz=264
B18K Kokolik River 54.13 24 P P 08 18 53.6 +0.7
baz=261
C18K Utukok River 54.23 25 P P 08 18 54.3 +0.6
baz=262
E18K Tukpahlearik C 54.28 26 P P 08 18 55.7 +1.6
baz=263
H17K Granite Mounta 54.31 29 P P 08 18 55.8 +1.4
baz=266
J17K VABM Dome 54.58 31 P P 08 18 56.8 +0.5
baz=267
C19K Lookout Ridge 54.87 24 P P 08 18 59.9 +1.5
baz=263
L17K Donlin 54.89 33 P P 08 18 59.9 +1.3
baz=269
K17K Iditarod 54.90 32 P P 08 18 59.5 +0.9
baz=269
G18K Tagagawik 54.91 28 P P 08 18 59.9 +1.2
G18K IAmb IAmb 08 19 02.1
comp=Z,12nm,1.2s
G18K Tagagawik 54.91 28 P P 08 18 60.0 +1.3
baz=266
H18K Honhosa River 54.98 29 P P 08 19 00.2 +1.0
baz=267
M17K Holitna River 55.30 34 P P 08 19 02.6 +1.1
baz=270
F19K Shaleruckik Mo 55.33 27 P P 08 19 03.0 +1.3
baz=266
D19K Kuna River 55.33 25 P P 08 19 02.9 +1.1
D19K Kuna River 55.33 25 P P 08 19 03.1 +1.4
baz=265
G19K Purcell Mounta 55.56 28 P P 08 19 04.7 +1.3
baz=267
E19K Redstone River 55.58 26 P P 08 19 04.6 +1.1
baz=266
GCSA Galena City Sc 55.59 30 P P 08 19 05.6 +2.1
baz=268
AB31 Akbulak array 55.73 311 *i* P P **08 19 04.4 -0.4**
ABKAR Akbulak array 55.73 311 P P 08 19 04.1 -0.7
ABKAR IAmb IAmb 08 19 05.9
comp=Z,9.1nm,0.9s
H19K Roundabout Mou 55.80 29 P P 08 19 06.6 +1.6
baz=268
ARU Arti 55.81 320 *c* iP P **08 19 04.9 -0.4**
ARU S **S 08 26 49.4 -1.1**
ARU SS **SS 08 30 29.5 -6.3**
ARU pmax pmax
comp=Z,16nm,0.8s
ARU MLR MLR
comp=Z,324nm,16.0s
ARU Arti 55.81 320 P P 08 19 04.9 -0.4
comp=Z,9.1nm,0.5s,baz=70,slow=3.3,SNR=19
comp=Z,9.1nm,0.5s
B20K Meade River 55.82 23 P P 08 19 05.1 0.0
baz=265
D20K Etivluk River 55.90 25 P P 08 19 07.1 +1.3
baz=266
E20K Nigu River 56.03 25 P P 08 19 08.0 +1.2
baz=267
J19K Poorman 56.13 31 P P 08 19 09.2 +1.8
baz=270
F20K Avaraart Lake 56.15 27 P P 08 19 08.8 +1.3
baz=268
O18K Koktuh Hills 56.44 36 P P 08 19 11.3 +1.5
baz=273
H20K Anotleneega Mo 56.45 29 P P 08 19 11.0 +1.3
baz=270
C21K Knifeblade Rid 56.59 24 P P 08 19 11.9 +1.3
baz=268
I20K Naaghedeneel 56.62 30 P P 08 19 12.5 +1.5
baz=271
A22K Sinclair Lake 56.63 22 P P 08 19 12.2 +1.3
baz=266
B21K Ikpikpuk River 56.67 24 P P 08 19 12.3 +1.1
B21K Ikpikpuk River 56.67 24 P P 08 19 12.7 +1.5
baz=267
J20K Nowinta River 56.78 30 P P 08 19 14.8 +2.7
J20K IAmb IAmb 08 19 16.2
comp=Z,5.8nm,0.7s
J20K Nowinta River 56.78 30 P P 08 19 14.1 +2.0
baz=271
AKTO Aktyubinsk 56.79 313 P P 08 19 11.6 -0.8
comp=Z,5.9nm,0.8s,baz=85,slow=9.2,SNR=11
AKTO LR LR 08 45 43.4
comp=Z,232nm,19.0s,baz=58,slow=38
comp=Z,5.9nm,0.8s
K20K Telida 56.83 31 P P 08 19 13.7 +1.2
baz=272
E21K Killik River 56.86 25 P P 08 19 13.4 +0.7
E21K IAmb IAmb 08 19 15.7
comp=Z,7.4nm,0.8s
E21K Killik River 56.86 25 P P 08 19 13.8 +1.2
baz=269,SNR=8.5
L20K Farewell, AK 56.95 32 P P 08 19 14.7 +1.3
baz=273
G21K Allakaket 57.02 28 P P 08 19 15.1 +1.4
baz=270
F21K Alatna River 57.02 27 P P 08 19 14.8 +1.0
baz=270
B22K Teshekpuk Lake 57.11 23 P P 08 19 15.0 +0.7
B22K Teshekpuk Lake 57.11 23 P P 08 19 16.0 +1.6
baz=268
H21K Melozitna Rive 57.31 29 P P 08 19 17.6 +1.7
baz=272
M20K Styx River 57.33 33 P P 08 19 17.3 +1.1
baz=274
D22K Ayikyak River 57.34 25 P P 08 19 17.2 +1.2
baz=270
F22K John River 57.53 26 P P 08 19 19.1 +1.7
baz=271,SNR=16
CHUM Lake Minchumin 57.59 31 P P 08 19 20.1 +2.2
baz=273
E22K Anaktuvuk Pass 57.66 26 P P 08 19 19.4 +1.1
E22K IAmb IAmb 08 19 20.6
comp=Z,9.3nm,0.9s
E22K Anaktuvuk Pass 57.66 26 P P 08 19 19.5 +1.1
baz=271
I21K Tanana 57.67 29 P P 08 19 20.1 +1.8
baz=273
PPLA Purkeypile 57.71 32 P P 08 19 21.1 +2.3
baz=274
CAST Castle Rocks 57.72 31 P P 08 19 21.1 +2.3
baz=274
G22K Bettles 57.80 27 P P 08 19 20.4 +1.2
baz=272
N20K Mount Spurr 57.83 34 P P 08 19 21.1 +1.5
baz=275
H22K Ishtalitna Cre 57.90 28 P P 08 19 21.8 +1.8
baz=273
D23K Nanushuk River 58.06 25 P P 08 19 22.3 +1.2
baz=271,SNR=6.8
C23K Itkillik River 58.07 24 P P 08 19 21.9 +0.8
baz=271
SKT Skwentna 58.08 33 P P 08 19 22.4 +1.1
baz=275
BPAW Bear Paw Mtn. 58.16 30 P P 08 19 23.4 +1.5
baz=274
MLY Manley 58.21 29 P P 08 19 24.4 +2.2
MLY IAmb IAmb 08 19 26.0
comp=Z,4.4nm,0.7s
MLY Manley 58.21 29 P P 08 19 23.4 +1.2
baz=274
COLD Coldfoot 58.30 27 P P 08 19 24.0 +1.2
baz=273
G23K Bananza Creek 58.40 27 P P 08 19 24.2 +0.7
baz=273
TOLK Toolik Lake Re 58.47 25 P P 08 19 25.0 +1.0
TOLK IAmb IAmb 08 19 26.2
comp=Z,12nm,1.2s
TOLK Toolik Lake Re 58.47 25 P P 08 19 25.1 +1.0
baz=273,SNR=5.8
E23K Chandalar 58.48 26 P P 08 19 25.4 +1.2
baz=273
SUA Susitna One 58.50 33 P P 08 19 25.3 +0.9
baz=276
TRF Thorofare Moun 58.52 31 P P 08 19 25.6 +1.0
baz=275
D24K Happy Valley 58.72 24 P P 08 19 26.9 +1.2
baz=273
C24K Franklin Bluff 58.74 24 P P 08 19 27.2 +1.5
baz=273
M22K Willow 58.77 33 P P 08 19 28.3 +2.2
baz=276
I23K Minto, Yukon-K 58.78 29 P P 08 19 27.6 +1.5
baz=275
E24K Your Creek 58.91 26 P P 08 19 28.7 +1.6
baz=274
NEA2 Nenana 58.95 30 P P 08 19 29.1 +1.7
NEA2 Nenana 58.95 30 P P 08 19 28.9 +1.6
baz=276,SNR=9.5
RC01 Rabbit Creek A 59.03 34 P P 08 19 29.6 +1.7
baz=277
MCK McKinley 59.10 31 P P 08 19 29.6 +1.2
baz=276
RND Reindeer 59.17 31 P P 08 19 29.2 +0.2
RND Reindeer 59.17 31 P P 08 19 29.2 +0.2
RND pmax pmax
comp=Z,10.0nm,0.9s
F24K Squaw Lake 59.18 26 P P 08 19 30.1 +1.2
baz=275
MDM Murphy Dome 59.28 29 P P 08 19 31.1 +1.5
H24K Noodor Dome 59.33 28 P P 08 19 31.9 +1.9
baz=276
WAT1 Susitna Watana 59.38 32 P P 08 19 31.6 +1.3
baz=277
GEYT Alibeck 59.40 299 P P 08 19 29.4 -1.5
comp=Z,3.7nm,0.7s,baz=94,slow=8.9,SNR=4.4
GEYT LR LR 08 50 25.0
comp=Z,107nm,18.9s,baz=10.0,slow=41
comp=Z,3.7nm,0.7s
G24K Hadweenzic Riv 59.41 27 P P 08 19 31.8 +1.3
G24K IAmb IAmb 08 19 33.2
comp=Z,8.6nm,1.1s
G24K Hadweenzic Riv 59.41 27 P P 08 19 32.0 +1.5
baz=276
COLA College 59.45 29 P P 08 19 33.2 +2.5
COLA College 59.45 29 P P 08 19 33.5 +2.8
D25K Kavik River 59.58 24 P P 08 19 33.0 +1.4
baz=275
POKR Poker Plat Res 59.60 29 P P 08 19 33.2 +1.4
POKR Poker Plat Res 59.60 29 P P 08 19 33.8 +2.0
baz=277,SNR=8.0
KNK Knik Glacier 59.60 33 P P 08 19 33.7 +1.9
baz=278
WAT6 Susitna Watana 59.78 32 P P 08 19 34.5 +1.2
baz=278
ILAR Ilaison Array 59.87 29 P P 08 19 33.8 +0.1
comp=Z,1.7nm,0.9s,baz=274,slow=6.7,SNR=26
comp=Z,1.7nm,0.9s
DHY Denali Highway 59.88 31 P P 08 19 35.9 +2.0
baz=278
HDA Harding Lake 59.89 30 P P 08 19 34.5 +0.7
baz=278
HDA P P 08 19 34.5 +0.7
baz=278
M23K Glacier View 59.89 33 P P 08 19 34.9 +0.9
baz=278
G25K Bearman Lake 59.95 27 P P 08 19 35.8 +1.7
baz=277
E25K Arctic Village 59.99 25 P P 08 19 35.6 +1.1
E25K IAmb IAmb 08 19 39.0
comp=Z,7.1nm,1.1s
E25K Arctic Village 59.99 25 P P 08 19 36.3 +1.8
baz=277,SNR=6.0
F25K Christian Rive 60.03 26 P P 08 19 36.5 +1.7
baz=277
C26K Camden Bay 60.03 23 P P 08 19 36.4 +1.7
baz=276
PRP Porcupine Dome 60.34 28 P P 08 19 38.3 +1.2
baz=278
KIRV Kirov 60.44 323 *ce* P P **08 19 37.6 0.0**
BMAR Burnt Mountain 60.45 26 P P 08 19 39.6 +1.9
J25K Salcha River, 60.54 29 P P 08 19 39.5 +1.2
baz=279
M24K Tolsona, Glenn 60.57 32 P P 08 19 40.7 +2.1
baz=280
F26K Sheenjek River 60.58 26 P P 08 19 40.5 +1.9
baz=278
PAX Paxson 60.75 31 P P 08 19 41.9 +2.0
baz=280
G26K Porcupine Rive 60.83 27 P P 08 19 42.0 +1.9
baz=279,SNR=7.1
RIDG Independent Ri 60.90 30 P P 08 19 42.6 +1.8
baz=280
SCRK Sand Creek 61.24 30 P P 08 19 44.3 +1.2
baz=280,SNR=7.4
J26L Joseph Creek 61.32 29 P P 08 19 44.2 +0.5
baz=280
I26K Coal Creek Min 61.35 29 P P 08 19 44.5 +0.7
baz=280
E27K Coleen River 61.46 25 P P 08 19 46.1 +1.6
baz=280
D27M Malcolm River 61.50 24 P P 08 19 45.7 +1.0
baz=280
G27K Doyon Strip 61.68 27 P P 08 19 47.4 +1.4
G27K Doyon Strip 61.68 27 P P 08 19 47.8 +1.8
baz=281
L26K Log Cabin Wild 61.69 31 P P 08 19 48.0 +1.8
baz=281
H27K Steamboat Moun 61.84 27 P P 08 19 48.7 +1.5
baz=281
I27K Kandik River 61.93 28 P P 08 19 49.7 +2.0
baz=282
M26K Nabesna, AK 61.98 32 P P 08 19 49.4 +1.3
baz=282
K27K Chicken 62.05 30 P P 08 19 49.8 +1.3
baz=282
E28M Babbage River 62.13 25 P P 08 19 50.8 +1.8
baz=282
F28M Old Crow 62.20 26 P P 08 19 50.9 +1.4
F28M IAmb IAmb 08 19 53.5
comp=Z,11nm,1.1s
F28M Old Crow 62.20 26 P P 08 19 51.3 +1.8
baz=282,SNR=8.4
D28M Stokes Point 62.26 24 P P 08 19 51.4 +1.6
baz=282
EGAK Eagle 62.29 29 P P 08 19 51.4 +1.4
baz=282
L27K Beaver Creek, 62.37 31 P P 08 19 52.4 +1.8
baz=283
M27K Edge Creek, AK 62.50 32 P P 08 19 53.1 +1.4
baz=283
STKA Stephens Creek 62.54 170 P P 08 19 53.1 +1.0
comp=Z,2.2nm,0.5s,baz=352,slow=6.6,SNR=13
comp=Z,2.2nm,0.5s
I28M Miner Creek 62.65 28 P P 08 19 53.7 +1.2
I28M Miner Creek 62.65 28 P P 08 19 54.3 +1.7
baz=283
E29M Blow River 62.76 25 P P 08 19 54.3 +1.1
baz=283
BELG Belogornoye 62.77 317 *i* P P **08 19 52.5 -0.9**
BELG pmax pmax
comp=Z,3.0nm,1.0s
G29M Pine Creek 63.06 26 P P 08 19 56.1 +0.9
baz=284
H29M Whitestone 63.09 27 P P 08 19 56.6 +1.1
baz=284
DAWY Dawson 63.20 30 P P 08 19 57.3 +1.1
baz=284
YUK3 Moose Creek 63.28 32 P P 08 19 58.1 +1.1
baz=284
I29M Ogilvie Camp, 63.33 28 P P 08 19 58.2 +1.2
baz=284
EPYK Eagle Plains 63.70 27 P P 08 20 00.6 +1.1
baz=285
F30M Barrier River 63.73 25 P P 08 20 00.8 +1.2
baz=286
G30M tAoh Zraii Nji 63.73 26 P P 08 20 01.0 +1.3
baz=286
L29M L29M 63.99 30 P P 08 20 03.3 +1.8
baz=286
M29M Somme Creek 64.02 31 P P 08 20 03.4 +1.7
baz=286
K29M Barlow Dome 64.05 30 P P 08 20 03.4 +1.4
baz=286
I30M Mount Dempster 64.15 28 P P 08 20 03.7 +1.2
baz=286
YUK4 Talbot Arm 64.23 32 P P 08 20 04.8 +1.6
baz=286
PNL Peninsula 64.34 34 P P 08 20 05.3 +1.6
baz=286
J30M Hart River 64.35 29 P P 08 20 05.3 +1.4
baz=286
INK Inuvik 64.35 24 P P 08 20 04.5 +0.9
baz=287
YUK6 Outpost Mounta 64.48 33 P P 08 20 04.8 -0.1
baz=286
G31M Satah River 64.49 26 P P 08 20 05.2 +0.7
baz=287
F31M Tsiigehtchic 64.53 25 P P 08 20 05.7 +0.9
baz=287
M30M Minto, Yukon 64.72 31 P P 08 20 07.7 +1.5
baz=287
H31M Peel River 64.79 27 P P 08 20 07.5 +0.8
H31M Peel River 64.79 27 P P 08 20 08.2 +1.5
baz=288
MAYO Mayo, Yukon 64.82 30 P P 08 20 08.4 +1.6
baz=287
HYT Haines Junctio 64.91 33 P P 08 20 09.0 +1.4
baz=287
N30M Aishikik Lake 64.92 32 P P 08 20 09.3 +1.7
baz=287
P30M Million Dollar 65.38 33 P P 08 20 10.8 +0.2
baz=288
SPITS Spitsbergen Ar 65.46 348 P P 08 20 09.4 -1.4
comp=Z,6.2nm,0.8s,baz=110,slow=8.3,SNR=1.8
comp=Z,6.2nm,0.8s
A36M Sachs Harbour 65.75 19 P P 08 20 13.3 +0.6
A36M Sachs Harbour 65.75 19 P P 08 20 14.0 +1.3
baz=293
FARO Faro, Yukon 66.36 31 P P 08 20 17.9 +1.1
baz=290
N32M Quiet Lake 66.85 32 P P 08 20 21.7 +1.7
baz=291
C36M Paulatuk 67.18 22 P P 08 20 22.6 +0.8
C36M IAmb IAmb 08 20 24.6
comp=Z,8.8nm,0.8s
C36M Paulatuk 67.18 22 P P 08 20 22.8 +1.0
baz=295
ARCES ARCESS Array B 67.21 338 P P 08 20 21.6 -0.4
comp=Z,3.5nm,0.9s,baz=45,slow=5.3,SNR=4.8
ARCES LR LR 08 56 07.4
comp=Z,164nm,18.5s,baz=99,slow=42
comp=Z,3.5nm,0.9s
ZEI Tsey 68.15 308 *e* P P **08 20 27.3 -1.5**
ZEI pmax pmax
comp=Z,5.0nm,0.6s
OBN Obninsk 68.17 322 *i e* P P **08 20 28.7 +0.4**
OBN *e* 08 22 57.5
OBN *e* S S 08 29 42.0 +15
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,190nm,19.0s
KBZ Khabaz 68.49 309 *ce* P P **08 20 31.1 +0.6**
KBZ pmax pmax
comp=Z,10.0nm,0.9s
KBZ Khabaz 68.49 309 P P 08 20 30.7 +0.1
comp=Z,7.1nm,0.8s,baz=201,slow=15,SNR=11
comp=Z,7.1nm,0.8s
KIV Kislovodsk 68.55 309 *e* P P **08 20 30.7 -0.4**
KIV pmax pmax
comp=Z,13nm,1.0s
WRGLY Wrigley 70.12 28 P P 08 20 41.8 +1.5
baz=298
FINES FINESS Array B 70.59 330 *ce* P P **08 20 42.2 -1.0**
FINES pmax pmax
comp=Z,5.0nm,0.5s
FINES FINESS Array B 70.59 330 P P 08 20 41.9 -1.3
comp=Z,5.3nm,0.6s,baz=66,slow=5.5,SNR=30
comp=Z,5.3nm,0.6s

RES	**Resolute Bay**	**71.24**	**12**	P		**P**	**08 20 46.7**	**-0.2**
DAG	**Danmarks Havn**	**71.65**	**353**	P		**P**	**08 20 47.7**	**-1.7**
DAG				pmax		pmax		
	comp=Z,5.0nm,1.9s							
MNK	**Minsk**	**72.98**	**324**	*i* P		**P**	**08 20 56.7**	**-1.0**
	comp=E,6.0nm,0.7s							
MNK				*i* P		**P**	**08 20 56.7**	**-1.0**
	comp=N,12nm,0.7s							
MNK				*i* P		**P**	**08 20 56.7**	**-1.0**
	comp=Z,17nm,0.7s,baz=62							
MNK				*i* PcP		**PcP**	**08 21 13.3**	**-1.2**
MNK				*i* PP		**PP**	**08 23 38.9**	**-0.9**
MNK				*i* PPP		PPP	08 25 23.7	
MNK				*i* S		**S**	**08 30 21.5**	**-1.3**
MNK				*i* ScS		**SKSac**	**08 31 01.7**	**+0.3**
MNK				*i* SS		**SS**	**08 35 03.1**	**+0.3**
MNK				*i* SSS		SSS	08 38 24.2	
MNK				*i* LQ		LQ	08 48 16.7	
MNK				*i* LR		LR	08 53 20.9	
MNK				*i* LRM		MLR	08 55 30.5	
	comp=N,377nm,18.1s							
MNK				*i* LRM		MLR	08 55 30.5	
	comp=Z,61nm,10.9s							
MNK				*i* LRM		MLR	08 55 35.6	
	comp=E,136nm,16.8s							
MNK	**Minsk**	**72.98**	**324**	*i* P		**P**	**08 20 56.6**	**-1.0**
MNK				*i*			08 21 13.3	
MNK				*i*			08 23 38.9	
MNK				*i* PPP		PPP	08 25 23.7	
MNK				*i* S		**S**	**08 30 21.4**	**-1.3**
MNK				*i*			08 31 01.6	
MNK				*i* SS		**SS**	**08 35 03.1**	**+0.3**
MNK				pmax		pmax		
	comp=Z,17nm,0.6s							
MNK				pmax		pmax		
	comp=N,12nm,0.7s							
MNK				pmax		pmax		
	comp=E,6.0nm,0.7s							
MNK				MLR		MLR		
	comp=N,377nm,18.0s							
MNK				MLR		MLR		
	comp=Z,61nm,11.0s							
MNK				MLR		MLR		
	comp=E,136nm,17.0s							
YKA	**Yellowknife Ar**	**73.97**	**26**	*ce*P		**P**	**08 21 03.4**	**0.0**
YKA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
YKA	**Yellowknife Ar**	**73.97**	**26**	P		**P**	**08 21 04.2**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=304,slow=5.7,SNR=13							
	comp=Z,1.1nm,0.8s							
AKASG	**Malin Array Be**	**74.05**	**320**	*ce*P		**P**	**08 21 02.5**	**-1.5**
AKASG				pmax		pmax		
	comp=Z,4.0nm,0.7s							
AKASG	**Malin Array Be**	**74.05**	**320**	P		**P**	**08 21 02.5**	**-1.5**
	comp=Z,2.0nm,0.6s,baz=55,slow=6.1,SNR=11							
	comp=Z,2.0nm,0.6s							
AKBB	**Malin Array Si**	**74.05**	**320**	*ce*P		**P**	**08 21 03.1**	**-1.0**
AKBB				pmax		pmax		
	comp=Z,6.0nm,0.9s							
KIEV	**Kiev**	**74.07**	**320**	P		**P**	**08 21 01.5**	**-2.6**
KIEV				pmax		pmax		
	comp=Z,25nm,2.0s							
HFS	**Hagfors**	**76.41**	**333**	P		**P**	**08 21 15.4**	**-2.0**
	comp=Z,1.7nm,0.5s,baz=101,slow=4.7,SNR=7.4							
	comp=Z,1.7nm,0.5s							
BR131	**Keskin Array S**	**76.46**	**308**	*i* P		**P**	**08 21 17.8**	**-0.5**
BRTR	**Keskin Array B**	**76.46**	**308**	P		**P**	**08 21 18.1**	**-0.2**
BRTR	**Keskin Array B**	**76.46**	**308**	P		**P**	**08 21 18.1**	**-0.2**
BRTR	**Keskin Array B**	**76.46**	**308**	P		**P**	**08 21 17.6**	**-0.7**
	comp=Z,4.4nm,0.9s,baz=90,slow=4.0,SNR=18							
	comp=Z,4.4nm,0.9s							
NB2	**NORSAR Subarra**	**76.80**	**334**	P		**P**	**08 21 18.5**	**-1.2**
	comp=Z,2.9nm,0.7s,baz=50,slow=5.9							
NOA	**NORSAR Array B**	**76.80**	**334**	P		**P**	**08 21 17.9**	**-1.8**
	comp=Z,1.9nm,0.6s,baz=50,slow=5.6,SNR=7.3							
	comp=Z,1.9nm,0.6s							
BUR08	**Bucovina Ar. S**	**77.87**	**318**	P		**P**	**08 21 25.1**	**-0.9**
MMAI	**Mount Meron Ar**	**78.36**	**301**	P		**P**	**08 21 27.3**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=78,slow=9.0,SNR=1.8							
	comp=Z,0.5nm,0.3s							
MLR	**Muntele Rosu**	**78.55**	**316**	P		**P**	**08 21 28.7**	**-1.2**
MLR				pmax		pmax		
	comp=Z,6.0nm,0.7s							
OJC	**Ojcow**	**79.44**	**322**	P		**P**	**08 21 33.7**	**-0.8**
OJC				IAmb		IAmb	08 21 35.0	
	comp=Z,9.0nm,0.8s							
OJC	**Ojcow**	**79.44**	**322**	P		**P**	**08 21 33.7**	**-0.8**
OJC				pmax		pmax		
	comp=Z,9.0nm,0.8s							
VYHS	**Vyhne**	**80.95**	**321**	*e*P		**P**	**08 21 42.8**	**+0.1**
VYHS	**Vyhne**	**80.95**	**321**	*e*P		**P**	**08 21 42.8**	**+0.1**
NEW	**Newport**	**81.06**	**39**	P		**P**	**08 21 44.6**	**+1.3**
	baz=306							
VRAC	**Vranov**	**81.66**	**323**	P		**P**	**08 21 45.6**	**-0.9**
	comp=Z,5.0nm,0.7s,baz=88,slow=3.7,SNR=3.7							
	comp=Z,5.0nm,0.7s							
CLL	**Collm**	**82.23**	**326**	*i* P		**P**	**08 21 49.0**	**-0.4**
	comp=Z,6.0nm,0.6s							
CLL				*e*PP		**PP**	**08 24 58.0**	**+0.7**
CLL	**Collm**	**82.23**	**326**	*i* P		**P**	**08 21 49.0**	**-0.4**
CLL				pmax		pmax		
	comp=Z,6.0nm,0.6s							
GERES	**GERESS Array B**	**83.44**	**324**	P		**P**	**08 21 54.6**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=65,slow=5.5,SNR=2.0							
	comp=Z,0.8nm,0.5s							
MSO	**Missoula**	**83.65**	**39**	P		**P**	**08 21 57.6**	**+0.6**
	baz=308							
MFID	**Camas Ranch**	**84.67**	**42**	P		**P**	**08 22 02.8**	**+0.6**
PAHR	**Pah Rah Range**	**84.69**	**47**	P		**P**	**08 22 03.0**	**+0.5**
PAHR				IAmb		IAmb	08 22 04.6	
	comp=Z,9.4nm,1.3s							
HLID	**Hailey**	**85.39**	**41**	P		**P**	**08 22 07.0**	**+1.0**
	baz=308							
BMN	**Battle Mountai**	**85.61**	**45**	P		**P**	**08 22 08.4**	**+1.3**
BMN	**Battle Mountai**	**85.61**	**45**	P		**P**	**08 22 08.4**	**+1.3**
BMN				pmax		pmax		
	comp=Z,5.0nm,1.1s							
BOZ	**Bozeman (W)**	**85.67**	**39**	P		**P**	**08 22 08.3**	**+1.0**
	baz=310							
KVN	**Kaiserville**	**85.88**	**47**	P		**P**	**08 22 09.3**	**+0.9**
KVN				IAmb		IAmb	08 22 10.8	
	comp=Z,9.1nm,1.1s							
KVN	**Kaiserville**	**85.88**	**47**	P		**P**	**08 22 09.3**	**+0.9**
KVN				pmax		pmax		
	comp=Z,9.0nm,1.1s							
NVAR	**Mina Array Bea**	**86.11**	**47**	P		**P**	**08 22 09.9**	**+0.3**
NVAR	**Mina Array Bea**	**86.11**	**47**	P		**P**	**08 22 09.6**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=280,slow=4.4,SNR=12							
	comp=Z,1.8nm,0.8s							
EKA	**Eskdalemuir Ar**	**86.19**	**336**	P		**P**	**08 22 07.7**	**-1.7**
	comp=Z,1.3nm,0.5s,baz=47,slow=4.8,SNR=5.3							
	comp=Z,1.3nm,0.5s							
PKM	**Mcpherson Peak**	**87.17**	**51**	P		**P**	**08 22 15.1**	**+0.2**
	baz=305							
RLMT	**Red Lodge**	**87.25**	**38**	P		**P**	**08 22 15.8**	**+0.7**
	baz=312							
R11B	**Troy Canyon, C**	**87.87**	**46**	P		**P**	**08 22 19.3**	**+1.1**
	baz=308							
LRMC	**Laurel Mtn Rad**	**88.24**	**49**	P		**P**	**08 22 20.8**	**+0.8**
	baz=306							
TPNV	**Topopah Spring**	**88.30**	**48**	P		**P**	**08 22 21.2**	**+1.0**
	baz=307							
DUG	**Dugway, Tooele**	**88.42**	**43**	P		**P**	**08 22 22.0**	**+1.2**
	baz=309							
BW06	**Boulder Array**	**88.64**	**40**	P		**P**	**08 22 22.7**	**+0.9**
	baz=311							
PDAR	**Pinedale Array**	**88.64**	**40**	P		**P**	**08 22 21.4**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=306,slow=1.7,SNR=8.6							
	comp=Z,1.3nm,0.9s							
ULM	**Lac du Bonnet**	**89.85**	**28**	P		**P**	**08 22 27.8**	**+0.8**
	comp=Z,2.5nm,0.9s,baz=302,slow=6.4,SNR=2.8							
	comp=Z,2.5nm,0.9s							
IRM	**Iron Mountain**	**90.70**	**49**	P		**P**	**08 22 33.0**	**+1.7**
	baz=308							
O20A	**White River Ci**	**91.13**	**41**	P		**P**	**08 22 34.5**	**+1.1**
	baz=312							
TUC	**Tucson**	**94.71**	**48**	P		**P**	**08 22 49.4**	**-0.5**
	baz=310							
GOGA	**Godfrey**	**108.90**	**30**	P		**PKiKP**	**08 27 58.0**	**+0.1**
	baz=329							

JMA 15 08:11:01.7±0.0, 35°.9N±0°.2×138°.1E±0°.2, h5km, MV0.4/24, AKAISHI MOUNTAINS REG, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNT	**Takato**	**0.02**	**170**	*i* P	Pg	08 11 02.6	-0.2
JNG	**Nsakai**	**0.51**	**357**	*e*S	Sg	08 11 18.3	+0.1
JYN	**Shimob**	**0.52**	**140**	*e*P	Pg	08 11 11.9	+0.1
JRY	**Ryogami san**	**0.64**	**79**	*e*S	Sg	08 11 21.1	-1.1

IDC 15 08:14:06.8±2.5, 53°.63N×86°.93E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=25.1km s-min=14.6km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.29**	**285**	Pg	Pg	08 14 30.0	-1.5
	1.5nm,0.3s,baz=103,slow=16,SNR=12						
ZALV				Lg	Lg	08 14 48.9	
	2.2nm,0.3s,baz=106,slow=31,SNR=10						
I46RU	**ZALESOVO INFRA**	**1.29**	**285**	I	I	08 21 22.0	
	0.1nm,0.7s,baz=104,slow=347,SNR=15						
KURBB	**Kurchatov Arra**	**5.98**	**243**	Pn	Pn	08 15 37.6	+1.1
	baz=58,slow=13,SNR=1.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.46**	**205**	Pn	Pn	08 15 58.1	+1.3
	0.3nm,0.3s,baz=27,slow=14,SNR=8.7						
	0.3nm,0.4s						

*NEIC **15** 08:18:58.1±0.3, 35°.790N±0°.009×96°.963W±0°.008, h6km±2km, Error ellipse: s-maj=1.4km s-min=0.8km az=173.0*

TUL 15 08:18:58.4±0.4, 35°.796N±0°.010×96°.96W±0°.01, h7km±4km, ML3.0, mb_Lg2.5/18(NEIC), ML2.9/32(NEIC), Error ellipse: s-maj=1.8km s-min=1.2km az=120.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK052	**Battle Ridge R**	**0.23**	**33**	Pg	Pg	08 19 03.5	+0.4
OK052				Sg	Sg	08 19 07.2	+0.9
OK052				IAML		08 19 07.3	
	2μm,0.2s						
OK033	**Mehan**	**0.25**	**4**	Pg	Pg	08 19 03.7	+0.3
OK033				Sg	Sg	08 19 07.3	+0.7
OK033				IAML		08 19 07.6	
	2μm,0.3s						
ADOK	**Arcadia Dam**	**0.36**	**247**	Pg	Pg	08 19 05.7	+0.2
ADOK				Sg	Sg	08 19 10.9	+0.6
DEOK	**Depew**	**0.38**	**83**	Pg	Pg	08 19 06.2	+0.5
DEOK				Sg	Sg	08 19 11.8	+1.0
DEOK				IAML		08 19 12.1	
	comp=N,929nm,0.2s						
DEOK				IAML		08 19 12.4	
	comp=E,790nm,0.1s						
OK029	**Liberty Lake**	**0.40**	**270**	Pg	Pg	08 19 06.4	+0.1
OK029				Sg	Sg	08 19 12.1	+0.6
OK029				IAML		08 19 12.3	
	comp=E,646nm,0.4s						
QUOK	**Quay**	**0.43**	**28**	Pg	Pg	08 19 06.9	+0.2
QUOK				Sg	Sg	08 19 13.0	+0.7
QUOK				IAML		08 19 13.2	
	comp=N,1μm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.55**	**225**	Pg	Pg	08 19 08.8	-0.3
OKCSW				IAML		08 19 17.1	
	comp=N,949nm,0.1s						
OK048	**Pawnee Station**	**0.62**	**1**	Pg	Pg	08 19 10.4	+0.1
OK048				Sg	Sg	08 19 18.9	+0.4
W35A	**Tecumseh**	**0.65**	**174**	Pg	Pg	08 19 10.5	-0.3
FNO	**Franklin**	**0.65**	**214**	Pg	Pg	08 19 10.8	0.0
FNO				IAML		08 19 20.1	
	comp=E,398nm,0.3s						
FNO				IAML		08 19 20.1	
	comp=N,614nm,0.3s						
OK051	**E0350 and S346**	**0.71**	**8**		Pg	08 19 12.0	-0.1
OK051				IAML		08 19 26.0	
	comp=N,642nm,0.2s						
TUL3	**Leonard**	**0.95**	**83**	Pg	Pg	08 19 16.1	-0.7
BLOK	**Blackwell**	**0.98**	**348**		Pg	08 19 16.8	-0.6
BLOK				IAML		08 19 39.4	
	comp=E,443nm,0.2s						
CROK	**Carrier**	**1.09**	**311**	Pg	Pg	08 19 18.8	-0.5
T35A	**Sooner Cattle**	**1.18**	**18**	Pg	Pg	08 19 20.2	-0.7
T35A				IAML		08 19 36.8	
	comp=N,353nm,0.2s						
GC02	**Grant County #**	**1.28**	**326**	Pg	Pn	08 19 22.0	-0.7
KAN13	**South Haven SW**	**1.28**	**341**		Pn	08 19 22.2	-0.6
KAN17	**Caldwell West**	**1.41**	**333**		Pn	08 19 24.3	-0.1
KAN14	**Manchester OK**	**1.41**	**325**		Pn	08 19 24.2	-0.3
OK032	**Salt Plains WL**	**1.43**	**315**		Pn	08 19 24.7	0.0
KAN09	**Caldwell North**	**1.44**	**339**		Pn	08 19 24.5	-0.4
KAN01	**Argonia South**	**1.50**	**335**		Pn	08 19 25.6	-0.1
KAN01				IAmb_Lg		08 19 46.4	
	comp=Z,15nm,0.9s						
OK038	**West end E0370**	**1.60**	**296**		Pn	08 19 27.4	+0.4
RLO	**Rose Lookout**	**1.61**	**76**		Pn	08 19 27.2	-0.1
KAN06	**Argonia West S**	**1.62**	**334**		Pn	08 19 27.6	+0.2
KAN06				IAmb_Lg		08 19 51.5	
	comp=Z,34nm,1.1s						
X37A	**Clayton**	**1.77**	**132**	IAmb_Lg		08 19 56.7	
	comp=Z,26nm,0.7s						
LOOK	**Love County**	**1.81**	**186**	Pn	Pb	08 19 31.2	-0.7
LOOK				IAmb_Lg		08 19 57.4	
	comp=Z,21nm,0.8s						
WMOK	**Wichita Mounta**	**1.83**	**235**		Pn	08 19 30.8	+0.5
U38A	**Gravette**	**2.18**	**72**	Pn	Pn	08 19 36.4	+1.2
FW07	**Weatherford**	**3.16**	**193**	IAmb_Lg		08 20 40.1	
	comp=Z,9.3nm,0.8s						
PLPT	**Palo Pinto**	**3.18**	**201**	IAmb_Lg		08 20 42.0	
	comp=Z,8.4nm,1.1s						
FCAR	**Ozark Folk Cen**	**3.93**	**87**	IAmb_Lg		08 21 04.9	
	comp=Z,15nm,0.8s						
AMTX	**Amarillo**	**3.96**	**258**	IAmb_Lg		08 21 06.8	
	comp=Z,11nm,0.9s						
SN01	**Snyder 1**	**4.38**	**229**	IAmb_Lg		08 21 19.8	
	comp=Z,9.8nm,0.9s						
P38A	**Dawn**	**4.69**	**34**	IAmb_Lg		08 21 35.3	
	comp=Z,14nm,1.1s						

RHSSO 15 08:20:05.0±0.3, 43°.04N×18°.75E, h4km±3km, ML1.9/6, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.20**	**35**	*e*Pg	Pg	08 20 08.4	-0.6
UPM				*e*Sg	Sg	08 20 12.6	+0.9
BRY	**Bratogost**	**0.20**	**228**	*e*Pg	Pg	08 20 09.1	+0.1
BRY				*e*Sg	Sg	08 20 11.9	+0.2
TREB	**Trebinje**	**0.43**	**222**	*e*Pg	Pg	08 20 12.9	-0.4
TREB				*e*Sg	Sg	08 20 19.6	+0.6
DBRK	**Dubrovnik**	**0.57**	**230**	*e*Pg	Pg	08 20 15.7	-0.3
DBRK				Sg	Sg	08 20 23.6	+0.1
PDG	**Podgorica**	**0.71**	**148**	*e*Pg	Pg	08 20 18.1	-0.6
PDG				*e*Sg	Sg	08 20 28.0	+0.1
RUDO	**Rudo**	**0.74**	**38**	*e*Pg	Pg	08 20 17.5	-1.6
RUDO				*e*Sg	Sg	08 20 28.7	0.0
STON	**Ston**	**0.79**	**258**	*e*Pg	Pg	08 20 19.2	-0.8
STON				Sg	Sg	08 20 30.7	+0.4
STON	**Ston**	**0.79**	**258**	*e*Pg	Pg	08 20 18.7	-1.4
STON				*e*Sg	Sg	08 20 30.8	+0.6
DRME	**Dracevica, Mon**	**0.91**	**159**	*e*Pg	Pg	08 20 21.0	-1.4
DRME				*e*Sg	Sg	08 20 34.0	-0.2
SJES	**Sjenica**	**0.93**	**76**	*e*Pg	Pg	08 20 21.9	-0.9
SJES				*e*Sg	Sg	08 20 34.7	-0.1

JMA 15 08:20:10.6±0.2, 25°.N±1°.×123°.4E±0°.4, h20km, MV1.7/9, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.56**	**219**	P	Pb	08 20 21.6	-0.3
YOJ				*e*S	Sb	08 20 29.1	-0.4
JYNG	**Yonagunijimaku**	**0.61**	**223**	*e*P	Pb	08 20 22.1	-0.5
JYNG				S	Sb	08 20 30.8	-0.1
JIJ	**Ishigaki jima**	**0.86**	**128**	*e*P	Pb	08 20 26.4	-0.5
JIJ				S	Sb	08 20 37.4	-0.6
JKRS	**Kuro-shima**	**0.86**	**140**	P	Pb	08 20 26.8	0.0
JKRS				*e*S	Sb	08 20 38.5	+0.5
JISG	**Ishigakijimahi**	**0.88**	**111**	*e*P	Pb	08 20 27.0	-0.2
JISG				S	Sb	08 20 38.5	0.0
HATJ	**Hateruma jima**	**0.92**	**156**	P	Pb	08 20 27.7	-0.1
HATJ				*e*S	Sb	08 20 39.6	+0.1
JTJ	**Tarama**	**1.21**	**102**	*e*S	Sn	08 20 48.3	+0.1

IDC 15 08:20:37.6±3.4, 53°.65N×87°.87E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=31.1km s-min=18.4km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.84**	**281**	I	I	08 31 32.4	
	baz=97,slow=347,SNR=13						
ZALV	**Zalesovo Beam**	**1.84**	**281**	Pg	Pn	08 21 10.9	+0.5
	1.1nm,0.3s,baz=100,slow=13,SNR=9.4						
ZALV				Lg	Lg	08 21 35.9	
	2.1nm,0.3s,baz=100,slow=24,SNR=16						
KURBB	**Kurchatov Arra**	**6.50**	**246**	Pn	Pn	08 22 15.1	+0.7
	0.1nm,0.3s,baz=63,slow=14,SNR=3.5						
KURBB				Lg	Lg	08 24 03.2	
	baz=60,slow=32,SNR=2.3						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**7.74**	**210**	Pn	Pn	08 22 32.4	+1.0
	0.1nm,0.3s,baz=30,slow=14,SNR=1.7						
	0.2nm,0.4s						

TAP 15 08:20:58.3, 24°.14N×121°.62E, h4km, ML1.2, 1C-1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.01**	**10**	*i* P	Pg	08 20 59.5	+0.3
	baz=11						
ETL				S	Sg	08 21 00.2	+0.5
	baz=11						
NACB	**Ninganchiao**	**0.04**	**322**	⇑P	Pg	08 21 00.1	+0.8
	baz=321						
TWD	**Chiawan**	**0.07**	**199**	P	Pg	08 21 00.9	+1.1
	baz=192						
TWD				S	Sg	08 21 02.1	+1.4
	baz=192						
ETLH	**Xiulin Townshi**	**0.14**	**296**	⇓P	Pg	08 21 02.4	+1.3
	baz=296						
ETLH				*i* S	Sg	08 21 04.9	+1.9
	baz=296						
LXIB	**Xiulin Townshi**	**0.23**	**237**	*i* P	Pg	08 21 03.9	+1.2
	baz=237						
LXIB				S	Sg	08 21 07.8	+2.1
	baz=237						
WHF	**Hehuan Shan**	**0.32**	**270**	P	Pb	08 21 06.0	-0.9
	baz=269						
WHF				S	Sb	08 21 11.4	-1.3
	baz=269						
NNSB	**Datong**	**0.36**	**323**	*i* P	Pb	08 21 06.6	-0.7
	baz=322						
FUSS	**Fushou**	**0.36**	**287**	P	Pb	08 21 06.5	-0.9
	baz=286						
FUSS				S	Sb	08 21 12.4	-1.1
	baz=286						
SHUL	**Shoufeng**	**0.36**	**188**	P	Pb	08 21 06.4	-0.8
	baz=188						
CHGB	**Renai**	**0.42**	**259**	*i* P	Pb	08 21 08.0	-0.4
	baz=258						
CHGB				S	Sb	08 21 14.3	-0.9
	baz=258						
WARBT	**Fenglin Townsh**	**0.47**	**207**	*e*P	Pg	08 21 08.2	+0.7
	baz=206						
WARBT				*i* S	Sb	08 21 16.9	+0.3
	baz=206						
WUSB	**Renai**	**0.48**	**252**	P	Pb	08 21 09.5	0.0
	baz=251						
WUSB				*e*S	Sb	08 21 16.5	-0.5
	baz=251						
YHNB	**Yeheng**	**0.57**	**337**	P	Pb	08 21 10.5	-0.4
	baz=336						
YHNB				S	Sb	08 21 20.1	+0.7
	baz=336						
NSK	**Sanguang**	**0.58**	**336**	*i* P	Pb	08 21 10.9	-0.2
	baz=336						
NSK				S	Sb	08 21 20.5	+0.8
	baz=336						
VWDT	**VWDT**	**0.59**	**229**	*e*P	Pb	08 21 12.1	+1.0
	baz=228						
VWDT				*e*S	Sb	08 21 19.9	+0.1
	baz=228						
FUSB	**Fushanzhiwuyua**	**0.61**	**357**	*i* P	Pb	08 21 11.6	-0.1
	baz=357						
FUSB				*i* S	Sb	08 21 21.3	+0.5
	baz=357						
NWLT	**Wulai**	**0.64**	**350**	*e*S	Sb	08 21 21.0	-0.4
	baz=350						

*NEIC **15** 08:24:05.5±1.1, 36°.53N±0°.01×121°.20W±0°.02, h17km±1km, Error ellipse: s-maj=2.3km s-min=1.6km az=66.0*
*NCEDC **15** 08:24:05.4±1.7, 36°.56N±0°.01×121°.15W±0°.02, h9km±4km, ML3.3/32, ML3.1/50(NEIC), Error ellipse: s-maj=2.0km s-min=1.5km az=70.0*
*ANF **15** 08:24:05.1±0.9, 36°.51N×121°.15W, h7km±19km, ML3.3/24, Error ellipse: s-maj=21.6km s-min=3.8km az=119.0*

ISC 15 08:24:05.3±0.8, 36°.55N±0°.02×121°.19W±0°.02, h13km±4km, n171, σ0°70/184, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVL	**Bear Valley**	**0.03**	**360**		**Pg**	**08 24 07.4**	**-0.3**
BPIM	**Pinnacles**	**0.06**	**162**		**Pg**	**08 24 07.6**	**-0.3**
BSM	**San Benito**	**0.10**	**111**		**Pg**	**08 24 08.2**	**0.0**
BBGB	**Big Mountain B**	**0.13**	**74**		**Pg**	**08 24 08.6**	**0.1**
BJOM	**Mount Johnson**	**0.13**	**310**		**Pg**	**08 24 08.7**	**0.0**
BJOM					**Sg**	**08 24 11.0**	**-0.1**
BEMM	**Emmet**	**0.14**	**33**		**Pg**	**08 24 08.8**	**0.0**
BSGM	**Shirttail Gulc**	**0.14**	**202**		**Pg**	**08 24 08.9**	**+0.1**
BSGM					**Sg**	**08 24 11.6**	**+0.3**
BJCM	**Johnson Can.**	**0.16**	**271**		**Pg**	**08 24 09.4**	**+0.3**
BAVM	**Antelope Valle**	**0.16**	**52**		**Pg**	**08 24 09.0**	**-0.2**
SCZ	**Santa Cruz**	**0.18**	**287**		**Pg**	**08 24 09.7**	**+0.2**
SCZ					**Sg**	**08 24 12.6**	**+0.3**
LRV	**Little Rabbit**	**0.18**	**131**		**Pg**	**08 24 09.7**	**+0.2**
BSMM	**Soledad Missio**	**0.25**	**230**		**Pg**	**08 24 11.3**	**+0.7**
BSLM	**Silva Ranch**	**0.26**	**331**		**Pn**	**08 24 14.1**	**-0.8**
BSRM	**Salinas Radio**	**0.29**	**295**		**Pg**	**08 24 11.6**	**+0.3**
BSRM					**Sg**	**08 24 16.5**	**+1.1**
SAO	**San Andreas Ge**	**0.30**	**317**	Pg	**Pg**	**08 24 11.5**	**0.0**
HAST	**Hastings Reser**	**0.33**	**242**		**Pg**	**08 24 12.6**	**+0.5**
HAST					**Sg**	**08 24 17.6**	**+1.0**
HLTM	**Lone Tree Road**	**0.35**	**344**		**Pg**	**08 24 14.1**	**+0.7**
BPCNC	**Pine Canyon**	**0.35**	**275**		**Pg**	**08 24 13.1**	**+0.7**
HBTM	**San Juan Bauti**	**0.42**	**317**		**Pg**	**08 24 13.9**	**+0.2**
OCR	**O'Connell Ranc**	**0.45**	**326**		**Pg**	**08 24 14.4**	**+0.2**
PCCM	**Crazy Canyon**	**0.45**	**177**		**Pg**	**08 24 14.9**	**+0.6**
PMPB

MHC	Mount Hamilton	0.87	336			Pg		08 24 22.4	+0.2
PWKM	Work Ranch	0.91	143			Pg		08 24 22.9	0.0
JJOM	Saint Joseph's	0.91	317			Pg		08 24 22.4	-0.6
SCCB	Santa Clara Co	0.92	324			Pg		08 24 23.2	+0.1
PHFM	Heflinger Ranc	0.92	136			Pg		08 24 23.1	0.0
CTM	Castle Mountai	0.92	131			Pb		08 24 23.4	+0.2
CMMM	Mount Mocho	0.94	345			Pg		08 24 23.3	-0.2
RAMR	Ramage Ranch	0.94	164			Pg		08 24 23.2	-0.3
PHAM	Harlan Ranch	0.95	138			Pg		08 24 23.4	-0.4
MTOS	Mt Oso, Westle	0.96	353			Pb		08 24 24.1	+0.3
GHC	Gold Hill	0.98	136			Pg		08 24 23.8	-0.4
PKEM	Kettleman Hill	1.00	119			Pb		08 24 24.7	+0.3
CMLM	Mount Lewis	1.00	339			Pg		08 24 24.2	-0.4
PSRM	Scobie Ranch	1.01	133			Pg		08 24 24.3	-0.4
CALM	Calaveras Res.	1.03	332			Pg		08 24 24.5	-0.6
PKLM	Kerr Lake	1.03	138			Pg		08 24 24.7	-0.5
MYLM	Yosemite Lake	1.04	36			Pg		08 24 24.4	-0.9
TCAS	Cass Winery, P	1.06	151			Pg		08 24 25.2	-0.6
TCHL	Shandon	1.07	143			Pg		08 24 25.6	-0.3
JSJM	St Joseph	1.07	318			Pg		08 24 25.2	-0.7
PMRM	Maxey Ranch	1.08	134			Pg		08 24 25.5	-0.7
JBMM	Black Mountain	1.09	315			Pg		08 24 25.2	-1.1
ARDC	Alexander Ranc	1.09	171			Pg		08 24 25.5	-0.8
CSTL	Corral Hollow	1.12	347			Pg		08 24 26.5	-0.4
JPSM		1.14	305			Pb		08 24 25.8	-0.9
JFP	Foothills Park	1.14	316			Pb		08 24 25.9	-1.0
TRAM	Private Proper	1.14	139			Pg		08 24 26.2	-1.0
JSFB	Stanford Teles	1.17	318			Pb		08 24 26.3	-1.0
WENL	Wente Vineyard	1.17	337			Pb		08 24 26.8	-0.6
MHDM	Hidden Dam	1.19	61			Pb		08 24 26.5	-1.2
CVLM	Vallecito	1.20	335			Pb		08 24 27.5	-0.4
JRSC	Jasper Ridge	1.20	316			Pb		08 24 26.5	-1.3
TSCN	Private Proper	1.21	145			Pb		08 24 27.5	-0.5
PTAM	Tassajara Cree	1.21	161			Pb		08 24 27.0	-1.2
CDOM	Doolan Road	1.29	337			Pn		08 24 29.2	+0.2
TRAY	Twisselman Ran	1.31	139			Pn		08 24 28.6	-0.8
PBPM	Bitterwater Pu	1.32	137			Pn		08 24 29.1	-0.4
DPD	Davis Peak	1.35	166			Pn		08 24 29.1	-0.8
JCPM	Coyote Point	1.38	319			Pn		08 24 29.2	-1.0
CSLM	San Leandro Hi	1.39	328			Pn		08 24 29.9	-0.5
SAC	San Andreas	1.43	317			Pn		08 24 30.1	-0.8
MMIM	Miami Mountain	1.45	53			Pn		08 24 31.3	0.0
VOG	Valley Oaks Go	1.48	98			Pn		08 24 30.2	-1.3
VOG	Valley Oaks Go	1.48	98	P		Pn		08 24 30.4	-1.1
	baz=280								
VOG				S		Sn		08 24 50.3	-0.4
	baz=280								
JSBM	San Bruno Moun	1.49	320			Pn		08 24 30.2	-1.5
MCUB	Copperopolis B	1.50	17			Pn		08 24 31.4	-0.5
SMMC	Simmler	1.56	141			Pn		08 24 32.0	-0.9
SMMC	Simmler	1.56	141	P		Pn		08 24 31.9	-0.9
	baz=324,SNR=46								
SMMC				S		Sn		08 24 53.6	+0.7
	baz=324								
BKS	Berkeley--Byer	1.57	328			Pn		08 24 32.1	-0.8
CMB	Columbia Colle	1.62	23	Pn		Pn		08 24 33.6	0.0
CARC	Carrizo Plain	1.65	138			Pn		08 24 33.6	-0.4
CPIM	Pinole Ridge	1.66	331			Pn		08 24 33.9	-0.1
PMLM	Mount Lospe	1.71	164			Pn		08 24 34.2	-0.6
CRGC	Crocker Grade	1.76	137			Pn		08 24 35.5	-0.1
VES	Vestal, Richgr	1.84	112	P		Pn		08 24 35.9	-0.6
	baz=294,SNR=50								
VES				S		Sn		08 24 59.8	0.0
	baz=294								
PKM	Mcpherson Peak	2.00	145			Pn		08 24 39.2	+0.3
PKM	Mcpherson Peak	2.00	145	P		Pn		08 24 38.4	-0.5
	baz=327,SNR=18								
PKM				S		Sn		08 25 04.3	+0.4
	baz=327								
MDPB	Devils Postpil	2.01	57			Pn		08 24 40.1	+1.0
NBRB	Beebe Ranch Br	2.03	328			Pn		08 24 38.1	-1.0
MINS	Minaret Summit	2.03	56			Pb		08 24 40.9	-1.3
MMSM	Mammoth Summit	2.04	57			Pb		08 24 41.3	-1.1
OMMB	Old Mammoth Mi	2.05	58			Pn		08 24 40.6	+0.9
OMMB					IAML			08 25 08.7	
	comp=E,186nm,0.6s								
MDYM	Dry Creek	2.06	57			Pb		08 24 41.9	-1.0
MDCM	Deadman Creek	2.07	55			Pb		08 24 41.6	-1.3
MCBM	Casa Benchmark	2.14	58			Pb		08 24 43.0	-1.0
BCW	Bitter Crk WRg	2.16	137			Pn		08 24 41.7	+0.6
NJQ	Nojoqui County	2.17	157			Pn		08 24 40.4	-0.7
MLAC	Mammoth, Mammo	2.17	59	Pb		Pb		08 24 43.9	-0.7
	baz=241								
MLAC					Sb	Sb		08 25 12.3	+0.8
	baz=241								
WASM	Alta Sierra Ca	2.28	110			Pn		08 24 42.5	-0.3
BHPR	Bishop	2.29	70			Pn		08 24 44.5	+1.5
ISA	Isabella, Lake	2.37	111			Pn		08 24 43.4	-0.5
ISA					IAML			08 25 17.4	
	comp=N,119nm,1.2s								
ISA					IAML			08 25 17.5	
	comp=E,94nm,0.6s								
ISA	Isabella, Lake	2.37	111	P		Pn		08 24 43.8	-0.1
	baz=293,SNR=59								
ISA				S		Sn		08 25 13.1	+0.2
	baz=293								
ARVC	Arvin	2.38	126	P		Pn		08 24 43.8	-0.2
	baz=308,SNR=10								
ARVC				S		Sn		08 25 13.2	+0.1
	baz=308								
WAKR	Walker	2.40	35			Pn		08 24 46.4	+1.9
WAKR					IAML			08 25 22.3	
	comp=E,138nm,0.7s								
WAKR					IAML			08 25 30.0	
	comp=N,90nm,1.0s								
AFDM	Forest Hills D	2.41	4	Pn		Pn		08 24 44.6	+0.2
MCDM	Chidago Canyon	2.42	65			Pb		08 24 47.4	-1.3
SBC	Santa Barbara	2.42	150	P		Pn		08 24 44.6	+0.1
	baz=332								
MRCM	Red Rock Canyo	2.42	61			Pb		08 24 47.2	-1.7
CWC	Cottonwood Cre	2.51	91	P		Pn		08 24 46.3	+0.4
	baz=274								
CWC				S		Sn		08 25 17.2	+0.8
	baz=274								
EMB	Emerald Bay	2.57	19			Pn		08 24 47.5	+0.6
EMB					IAML			08 25 31.5	
	comp=E,83nm,0.9s								
EMB					IAML			08 25 43.3	
	comp=N,106nm,0.9s								
PNTR	Pine Nut	2.83	26			Pn		08 24 51.6	+1.1
PNTR					IAML			08 25 43.4	
	comp=E,73nm,0.6s								
PNTR					IAML			08 25 46.2	
	comp=N,99nm,1.1s								
HOPS	Hopland Field	2.86	329	Pn		Pn		08 24 49.9	-0.7
HOPS					IAML			08 25 18.4	
	comp=N,38nm,2.5s								
HOPS					IAML			08 25 18.9	
	comp=E,47nm,2.4s								
YERR	Yerington	2.88	32			Pn		08 24 51.9	+0.8
YERR					IAML			08 25 39.4	
	comp=N,99nm,0.7s								
CCAC	Calif City Air	2.93	117			Pn		08 24 52.8	+1.2
CCAC					IAML			08 25 48.9	
	comp=E,88nm,1.1s								
CCAC					IAML			08 25 49.9	
	comp=N,74nm,1.1s								
ORV	Oroville	3.02	355	Pn		Pn		08 24 52.5	-0.3
MPMC	Manual Prospec	3.03	98	P		Pn		08 24 53.2	0.0
	baz=281,SNR=19								
LRMC	Laurel Mtn Rad	3.04	109	P		Pn		08 24 53.2	0.0
	baz=292,SNR=25								
EDW2	Edwards Air Fo	3.08	122	P		Pn		08 24 54.1	+0.3
	baz=304,SNR=8.1								
GRAC	Grapevine Rang	3.10	81	Pb		Pb		08 25 01.6	+1.2
	baz=263								
GMN	Gold Mountain	3.24	75			Pn		08 24 57.5	+1.4
GMN					IAML			08 25 48.0	
	comp=E,24nm,0.6s								
GMN					IAML			08 25 55.0	
	comp=N,27nm,0.4s								
PAHR	Pah Rah Range	3.46	24			Pn		08 24 59.9	+0.9
FURC	Furnace Creek,	3.49	90	P		Pn		08 24 58.8	-0.4
	baz=273								
WCT	Wildcat Mounta	3.68	85			Pn		08 25 02.2	+0.3
WCT					IAML			08 26 03.4	
	comp=E,18nm,0.5s								
WCT					IAML			08 26 05.8	
	comp=N,20nm,1.4s								
BFSC	Mount Baldy Ra	3.69	128	P		Pn		08 25 02.2	0.0
	baz=310,SNR=7.1								
GSC	Goldstone, Bar	3.77	108			Pn		08 25 03.4	+0.3
GSC					IAML			08 26 04.4	
	comp=E,39nm,0.7s								
GSC					IAML			08 26 08.3	
	comp=N,19nm,1.0s								
GSC	Goldstone, Bar	3.77	108	P		Pn		08 25 03.2	+0.1
	baz=291,SNR=7.1								
CIS	Catalina Islan	3.88	143	P		Pn		08 25 02.8	-1.8
	baz=325								
LRDM	Redding Peak	3.92	357			Pn		08 25 05.6	+0.4
TPNV	Topopah Spring	3.99	83	P		Pn		08 25 06.3	0.0
	baz=266								
LMEM	Manzanita Entr	4.00	356			Pn		08 25 03.7	-2.7
SHOC	Shoshone, Teco	4.03	98	P		Pn		08 25 07.0	+0.3
	baz=281								
BBRC	Big Bear Solar	4.17	122	P		Pn		08 25 07.1	-1.6
	baz=305								
ELS	Elsinore Mount	4.23	132			Pn		08 25 09.5	+0.1
ELS					IAML			08 26 23.1	
	comp=N,13nm,5.0s								
HEC	Hector,Ludlow	4.31	112	P		Pn		08 25 10.2	-0.3
	baz=295								
MURC	Murrieta	4.40	131	P		Pn		08 25 11.9	+0.1
	baz=314								
GMRC	Granite Mounta	4.83	110	P		Pn		08 25 17.6	-0.2
	baz=293								
SHPR	Sheep Range	4.86	89			Pn		08 25 19.5	+1.3
PFO	Pinyon Flats O	4.86	126			Pn		08 25 19.3	+1.1
PFO					IAML			08 28 14.0	
	comp=N,7.4nm,4.9s								
PFO	Pinyon Flats O	4.86	126	P		Pn		08 25 18.2	0.0
	baz=309								
TPFO	Pinon Flats	4.87	126	P		Pn		08 25 19.8	+1.5
	baz=309								
BELC	Belle Mtn. Jos	4.95	119	P		Pn		08 25 18.7	-0.7
	baz=303								
MONP2	Monument Peak	5.36	131	P		Pn		08 25 25.4	+0.3
	baz=315								
IRM	Iron Mountain	5.48	114	P		Pn		08 25 26.5	-0.2
	baz=298								

IDC ***15*** *08:38:49.3±0.8,54.˚77N×157.˚00W,h0km,mb4.2/21, mbtmp4.2/25,ML3.9/4,MS4.1/25,Error ellipse: s-maj=19.6km s-min=13.5km az=177.0*

AEIC ***15*** *08:38:51.4±1.4,54.˚67N±0.˚07×156.˚73W±0.˚08,h26km±6km, ML4.0,mb4.6/21(NEIC),ML4.2/38(NEIC),Error ellipse: s-maj=11.3km s-min=5.5km az=155.0*

NEIC ***15*** *08:38:51.2±1.3,54.˚74N±0.˚07×156.˚76W±0.˚07,h21km±7km, Error ellipse: s-maj=10.7km s-min=5.2km az=157.0*

ISC 15 08:38:52.5±0.5,54.˚77N±0.˚07×156.˚80W±0.˚04,h24km, n260,σ1s21/235,mb4.5/37,MS4.1/29,2D,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CHIR	Chirikof Islan	1.25	32			Pn	08 39 12.6	-1.9
CHIR	Chirikof Islan	1.25	32			Sn	08 39 28.3	-2.1
CHIR	Chirikof Islan	1.25	32	IAML			08 39 56.5	
	comp=E,3μm,1.5s							
CNBA	Chernabura Isl	1.62	273	Pn		Pn	08 39 17.4	-2.1
CNBA	Chernabura Isl	1.62	273			Sn	08 39 37.3	-2.3
CHGN	Chignik	1.79	330			Pn	08 39 20.3	-1.5
CHGN	Chignik	1.79	330			Sn	08 39 44.2	+0.5
CHGN	Chignik	1.79	330	IAML			08 40 11.1	
	comp=E,1μm,1.2s							
VNSG	Veniaminof 6	1.88	317			Pn	08 39 22.1	-1.1
VNWF	Veniaminof 8	2.09	312			Pn	08 39 25.8	-0.3
VNSS	Veniaminof 8	2.10	315			Pn	08 39 25.9	-0.4
VNFG	Fog Glacier, M	2.18	315			Pn	08 39 27.2	-0.1
SDPT	Sand Point	2.19	287	Pn		Pn	08 39 25.8	-1.6
SDPT				IAML			08 40 32.6	
	comp=E,2μm,1.7s							
SDPT				IAML			08 40 33.0	
	comp=N,2μm,1.6s							
SDPT	Sand Point	2.19	287	P		Pn	08 39 26.6	-0.8
ANPB	Aniakchak Plen	2.20	338			Pn	08 39 26.8	-0.7
ANNE	Aniakchak Nort	2.26	342			Pn	08 39 27.6	-0.8
SII	Sitkinak Islan	2.32	39	Pn		Pn	08 39 27.5	-1.7
SII				IAML			08 40 47.7	
	comp=E,1μm,1.2s							
SII				IAML			08 40 49.5	
	comp=N,1μm,1.0s							
SII	Sitkinak Islan	2.32	39	P		Pn	08 39 28.0	-1.2
R16K	Pilot Point	2.83	352			Pn	08 39 35.9	-0.3
R17K	Ugashik Creek	2.88	4			Pn	08 39 36.7	-0.1
R17K	Ugashik Creek	2.88	4	IAML			08 40 43.0	
	comp=N,726nm,1.7s							
R17K				IAML			08 40 51.4	
	comp=E,1μm,1.8s							
PS1A	Pavlof South-1	2.91	285			Pn	08 39 36.2	-1.1
PS1A						Sn	08 40 11.9	+0.3
PVV	Pavlof Volcano	2.93	284			Pn	08 39 36.0	-1.5
PVV						Sn	08 40 10.5	-1.5
PLK3	Peulik 3	2.94	6			Pn	08 39 38.1	+0.4
R18K	Karluk	3.09	24			Pn	08 39 39.0	-0.8
R18K	Karluk	3.09	24	IAML			08 41 04.4	
	comp=E,619nm,1.3s							
R18K				IAML			08 41 07.8	
	comp=N,549nm,1.1s							
OHAK	Old Harbor	3.15	37			Pn	08 39 39.3	-1.2
OHAK	Old Harbor	3.15	37	P		Pn	08 39 39.0	-1.5
DT1	Dutton Round H	3.18	278			Pn	08 39 40.1	-0.9
ANCK	Angle Creek	3.51	11			Pn	08 39 44.9	-0.7
CNTC	Contact Creek	3.54	8			Pn	08 39 44.9	-1.1
KAKN	Katmai Knife C	3.66	15			Pn	08 39 47.1	-0.5
KDAK	Kodiak Island	3.82	36	Pn		Pn	08 39 48.0	-1.8
KDAK				IAML			08 41 27.4	
	comp=N,245nm,2.9s							
KDAK	Kodiak Island	3.82	36	Pn		Pn	08 39 47.7	-2.1
	comp=N,3.2nm,0.3s,baz=210,slow=6.6,SNR=60							
KDAK					Sn	Sn	08 40 30.1	-3.8
	comp=N,8.4nm,0.3s,baz=261,slow=16,SNR=6.8							
	comp=N,23nm,0.7s							
FALS	False Pass	3.83	274			Pn	08 39 48.6	-1.3
FALS	False Pass	3.83	274	P		Pn	08 39 50.2	+0.3
Q16K	King Salmon	3.92	1			Pn	08 39 50.5	-0.6
KAHG	Katmai Hook Gl	3.93	18			Pn	08 39 50.9	-0.5
KAHC	Katmai Hardscr	4.01	14			Pn	08 39 51.8	-0.7
KAHC	Katmai Hardscr	4.01	14			Pn	08 39 51.7	-0.7
P16K	Nushagak River	4.32	352			Pn	08 39 56.2	-0.3
P17K	Kvichak River	4.44	2			Pn	08 39 57.4	-0.8
Q19K	Cape Douglas,	4.51	21			Pn	08 39 58.6	-0.7
SYI	Shuyak Island	4.55	30	Pn		Pn	08 39 57.6	-2.1
SYI				IAML			08 42 02.6	
	comp=N,181nm,2.6s							
SYI				IAML			08 42 04.4	
	comp=E,190nm,2.0s							
WEBT	Westdahl Beart	4.62	271			Pn	08 39 60.0	-0.8
P18K	Big Mountain,	4.71	10	Pn		Pn	08 40 00.7	-1.3
P18K				IAML			08 41 58.7	
	comp=E,125nm,2.0s							
O15K	Ungalikthiuk R	4.71	341			Pn	08 40 01.3	-0.8
O16K	Kokwok River B	4.88	352			Pn	08 40 04.0	-0.3
O16K	Kokwok River B	4.88	352	IAML			08 41 52.4	
	comp=E,133nm,3.7s							
O14K	Tigyukauivet M	5.11	333			Pn	08 40 07.1	-0.3
O14K	Tigyukauivet M	5.11	333	IAML			08 42 03.3	
	comp=E,138nm,1.8s							
O14K				IAML			08 42 24.3	
	comp=N,145nm,1.5s							
O18K	Koktuh Hills	5.17	9	Pn		Pn	08 40 07.5	-0.7
O18K				IAML			08 42 30.9	
	comp=N,120nm,2.3s							
O18K				IAML			08 42 34.8	
	comp=E,123nm,3.0s							
AKSA	Akutan Strait	5.23	267			Pn	08 40 08.4	-0.7
P19K	Oil Pt	5.26	20	Pn		Pn	08 40 09.2	-0.4
AKUT	Akutan	5.28	267	Pn		Pn	08 40 08.9	-0.8
AKUT				IAML			08 43 04.2	
	comp=E,205nm,1.9s							
AKUT	Akutan	5.28	267	P		Pn	08 40 09.8	+0.1
AKBBA	Akutan Broad B	5.38	266			Pn	08 40 10.2	-0.9
AKV	Akutan Volcano	5.39	267			Pn	08 40 10.2	-1.2
ZRO	Akutan Zero	5.40	266			Pn	08 40 10.9	-0.6
ILSW	Iliamna Southw	5.58	19			Pn	08 40 13.2	-0.9
IVE	Iliamna Volcan	5.64	20			Pn	08 40 14.0	-0.8
CNPM	China Poot	5.64	30	Pn		Pn	08 40 13.4	-1.4
N15K	Kwethluk River	5.69	343	Pn		Pn	08 40 15.5	0.0
UNV	Unalaska Valle	5.76	265			Pn	08 40 14.8	-1.6
UNV	Unalaska Valle	5.76	265	P		Pn	08 40 15.0	-1.4
N17K	Nushagak Hills	5.77	358			Pn	08 40 15.8	-0.7
O20K	Slope Mountain	5.78	21			Pn	08 40 16.0	-0.7
N14K	Kuskokwak Cree	5.80	335			Pn	08 40 16.7	-0.2
N16K	Nishlik Lake	5.81	350			Pn	08 40 16.5	-0.6
MSW	Makushin Switc	5.90	266			Pn	08 40 16.9	-1.5
BRLK	Bradley Lake	5.94	30			Pn	08 40 17.2	-1.7
N18K	Kilae Creek	5.94	4	Pn		Pn	08 40 17.8	-1.2
BRSE	Bradley Lake S	5.96	31			Pn	08 40 17.6	-1.7
MGOD	Makushin Gods	5.98	265			Pn	08 40 18.2	-1.3
MAPS	Pakushin South	6.02	265			Pn	08 40 18.4	-1.5
RED	Redoubt Volcan	6.06	19			Pn	08 40 19.9	-0.7
RSO	Redoubt South	6.10	19			Pn	08 40 20.9	-0.4
RDWB	Redoubt West	6.11	19			Pn	08 40 20.7	-0.6
NCT	North Crescent	6.16	18			Pn	08 40 21.4	-0.6
N19K	Bonanza Creek	6.18	11			Pn	08 40 21.7	-0.6
DFR	Drift River	6.24	19			Pn	08 40 22.4	-0.6
RDT	Redoubt	6.27	20			Pn	08 40 22.7	-0.8
M15K	Kasigluk River	6.29	342			Pn	08 40 22.7	-0.9
M16K	Timber Creek	6.37	350			Pn	08 40 24.1	-0.7
SVW2	Sparrevohn	6.38	5	Pn		Pn	08 40 23.9	-0.9
SVW2	Sparrevohn	6.38	5	P		Pn	08 40 24.6	-0.2
M14K	Bethel	6.60	337	Pn		Pn	08 40 27.4	-0.4
M17K	Holitna River	6.66	357			Pn	08 40 28.0	-0.6
M13K	Dall Lake	6.66	331			Pn	08 40 27.7	-1.0
SLKM	Skilak Lake	6.74	29			Pn	08 40 27.9	-2.0
O22K	Cooper Landing	6.87	31	Pn		Pn	08 40 31.8	+0.3
SPNN	North Nagishla	6.96	17			Pn	08 40 32.6	-0.4
STLK	Strandline Lak	7.24	19			Pn	08 40 35.9	-0.8
L14K	Kuka Creek	7.29	337			Pn	08 40 36.2	-1.1
L15K	Ungalak Mounta	7.35	342			Pn	08 40 37.1	-1.1
RC01	Rabbit Creek A	7.36	28	Pn		Pn	08 40 36.9	-1.4
M20K	Styx River	7.38	14			Pn	08 40 37.9	-0.8
L17K	Donlin	7.42	355			Pn	08 40 37.9	-1.3
SUA	Susitna One	7.43	23			Pn	08 40 37.9	-1.5
L18K	Granite Mounta	7.47	0			Pn	08 40 38.9	-0.9
L19K	White Mountain	7.50	7			Pn	08 40 39.8	-0.4
SKT	Skwentna	7.74	19			Pn	08 40 42.3	-1.2
M22K	Willow	7.83	24			Pn	08 40 44.2	-0.5
L20K	Farewell, AK	7.88	10			Pn	08 40 45.3	-0.1
HIN	Hinchinbrook I	7.89	40			Pn	08 40 45.5	-0.1
PMR	Palmer	7.94	28			Pn	08 40 45.6	-0.7
PMR	Palmer	7.94	28	P		Pn	08 40 46.3	0.0
KNK	Knik Glacier	7.98	30			Pn	08 40 46.5	-0.4
GLI	Glacier Island	8.01	36			Pn	08 40 47.0	-0.2
TTA	Tatalina	8.19	3	Pn		Pn	08 40 49.0	-0.8
TTA	Tatalina	8.19	3	P		Pn	08 40 49.7	-0.1
EYAK	Cordova Ski Ar	8.27	41	P		Pn	08 40 50.6	-0.2
SML	Sawmill	8.34	29			Pn	08 40 50.1	-1.7
PPLA	Purkeypile	8.49	14			Pn	08 40 53.5	-0.4
SCM	Sheep Creek Mo	8.65	31			Pn	08 40 54.6	-1.4
GOAT	Goat Mountain	8.69	43			Pn	08 40 54.0	-2.6
J18K	Innoko River	8.72	0			Pn	08 40 56.1	-0.9
K20K	Telida	8.72	8			Pn	08 40 56.0	-1.0
J17K	VABM Dome	8.73	353			Pn	08 40 55.8	-1.2
J14K	Nanvaranak Lak	8.73	339			Pn	08 40 56.3	-0.8
J16K	Anvik River	8.76	349			Pn	08 40 57.5	-0.0
KLU	Klutina	8.85	36			Pn	08 40 57.7	-1.1
BMRM	Bremner River	8.98	41			Pn	08 40 58.1	-2.4
CAST	Castle Rocks	9.00	14			Pn	08 40 59.9	-0.9
WAT7	Susitna Watana	9.07	24			Pn	08 40 59.2	-2.6
M24K	Tolsona, Glenn	9.21	33			Pn	08 41 03.6	-0.2
KHIT	Khitrov Hills	9.22	46			Pn	08 41 01.5	-2.4
J19K	Poorman	9.27	3			Pn	08 41 03.7	-0.8
KTH	Kantishna Hill	9.30	16			Pn	08 41 02.8	-2.2
TRF	Thorofare Moun	9.32	18			Pn	08 41 03.9	-1.4
N25K	Chitina, Valde	9.39	38			Pn	08 41 04.8	-1.4
WAX	Waxell Ridge	9.39	47	Pn		Pn	08 41 06.7	+0.5
J20K	Nowinta River	9.53	7			Pn	08 41 07.2	-0.8
RND	Reindeer	9.56	22			Pn	08 41 07.2	-1.4
GLB	Gilahina Butte	9.57	40			Pn	08 41 08.9	+0.2
VRDI	Verde Repeater	9.58	42			Pn	08 41 08.7	-0.2
DHY	Denali Highway	9.63	26			Pn	08 41 08.9	-0.7
ISLE	Juniper Island	9.69	47			Pn	08 41 10.0	-0.3
BPAW	Bear Paw Mtn.	9.81	15			Pn	08 41 11.1	-0.8
GRNC	Granite Creek	10.00	47			Pn	08 41 14.1	-0.6
BARN	Barnard Glacie	10.21	46			Pn	08 41 16.2	-1.3
H17K	Granite Mounta	10.31	353	Pn		Pn	08 41 19.6	+0.8
LOGN	Logan Glacier	10.37	48	Pn		Pn	08 41 20.3	+0.7
PNL	Peninsula	10.62	55	P		Pn	08 41 23.2	+0.2
ATKA	Atka Island	10.68	263	Pn		Pn	08 41 22.8	-1.0
I21K	Tanana	10.71	11			Pn	08 41 22.7	-1.4
MLY	Manley	10.72	14			Pn	08 41

comp=Z,262nm,18.9s,baz=296,slow=32
ULM Lac du Bonnet 36.32 71 LR LR 09 00 42.6
comp=Z,251nm,18.9s,baz=276,slow=36
YAK Yakutsk 37.23 312 LR LR 09 02 25.5
comp=Z,7.0nm,18.2s,baz=92,slow=38
ASAJ Asahikawa 39.62 280 LR LR 09 01 47.2
comp=Z,108nm,19.7s,baz=142,slow=35
ANMO Albuquerque 39.78 99 LR LR 09 01 33.5
comp=Z,160nm,18.5s,baz=54,slow=34
FRB Frobisher Bay 42.45 41 LR LR 09 06 28.6
comp=Z,631nm,18.3s,baz=264,slow=39
H11N2 WAKE ISLAND Hy 44.49 233 T T 09 34 38.5
baz=29,slow=76,SNR=21
H11N3 WAKE ISLAND Hy 44.50 233 T T 09 34 40.6
baz=29,slow=76,SNR=18
H11N1 WAKE ISLAND Hy 44.51 233 T T 09 34 39.4
baz=29,slow=76,SNR=22
TXAR Lajitas Array 45.51 102 P **P** **08 47 11.2 +1.2**
comp=Z,1.5nm,0.9s,baz=270,slow=4.5,SNR=5.7
comp=Z,1.5nm,0.9s
H11S1 WAKE ISLAND Hy 45.64 232 T T 09 36 04.4
baz=28,slow=76,SNR=116
H11S2 WAKE ISLAND Hy 45.66 232 T T 09 36 06.1
baz=28,slow=76,SNR=62
H11S3 WAKE ISLAND Hy 45.66 232 T T 09 36 06.8
baz=28,slow=76,SNR=52
DAG Danmarks Havn 46.07 12 *i* P **P** **08 47 13.0 -0.7**
SFJD Kangerlussuaq 46.68 31 LR LR 09 09 45.6
comp=Z,355nm,18.6s,baz=314,slow=40
BNX BinXian 47.05 292 ⇓P **P** **08 47 21.8 0.0**
BNX pmax pmax
comp=Z,7.0nm,1.4s
BNX pmax pmax
comp=Z,170nm,5.1s
MJAR Matsushiro Arr 47.12 275 P **P** **08 47 21.1 -1.4**
comp=Z,1.2nm,0.8s,baz=50,slow=8.1,SNR=1.6
comp=Z,1.2nm,0.8s
SPITS Spitsbergen Ar 47.24 2 P **P** **08 47 22.5 -0.4**
comp=Z,12nm,1.0s,baz=297,slow=16,SNR=1.6
comp=Z,12nm,1.0s
SCHQ Schefferville 48.32 51 LR LR 09 08 43.7
comp=Z,422nm,18.3s,baz=286,slow=37
KSRS Korea Array 52.36 284 P **P** **08 48 02.6 +0.3**
comp=Z,2.1nm,0.8s,baz=49,slow=8.1,SNR=4.9
comp=Z,2.1nm,0.8s
ULN Ulaanbaatar 55.89 306 P **P** **08 48 28.6 +0.5**
ULN IAmb IAmb 08 48 34.6
comp=Z,8.4nm,1.4s
ARCES ARCESS Array B 55.99 359 P **P** **08 48 29.0 +0.7**
comp=Z,2.6nm,0.8s,baz=17,slow=6.8,SNR=2.0
comp=Z,2.6nm,0.8s
BORG Borgarnes 56.01 21 LR LR 09 15 10.0
comp=Z,160nm,18.6s,baz=328,slow=39
SONM Songino Array 56.22 306 P **P** **08 48 30.3 -0.1**
SONM Songino Array 56.22 306 P **P** **08 48 30.8 +0.4**
comp=Z,6.5nm,1.0s,baz=45,slow=7.1,SNR=19
SONM LR LR 09 14 39.9
comp=Z,280nm,18.6s,baz=44,slow=38
comp=Z,6.5nm,1.0s
HNS HongShan 59.66 293 ⇓P **P** **08 48 56.0 +1.5**
HNS pmax pmax
comp=Z,7.0nm,1.0s
BTO Baotou 59.74 298 *e*P **P** **08 48 54.3 -0.8**
BTO pP **pP** **08 48 59.3 -2.8**
BTO sP **pwP** **08 49 02.0 -2.5**
BTO PcP PcP 08 49 26.9 -15
BTO PP **PP** **08 51 08.3 +1.6**
BTO S **S** **08 57 05.5 +1.0**
BTO Baotou 59.74 298 SS SS 09 00 56.8 -3.0
BTO pmax pmax
comp=Z,16nm,0.6s
BTO pmax pmax
comp=Z,270nm,7.2s
BTO LR LR
comp=N,390nm,10.2s
BTO LR LR
comp=E,320nm,6.5s
BTO LR LR
comp=Z,260nm,5.2s
ZALV Zalesovo Beam 60.36 323 P **P** **08 48 59.7 +0.7**
ZALV Zalesovo Beam 60.36 323 P **P** **08 49 00.5 +1.5**
comp=Z,1.3nm,0.6s,baz=35,slow=5.4,SNR=6.9
ZALV LR LR 09 18 12.8
comp=Z,256nm,18.7s,baz=46,slow=39
comp=Z,1.3nm,0.6s
GUMO Guam 60.92 251 LR LR 09 11 59.5
comp=Z,52nm,20.3s,baz=65,slow=33
NJ2 Nanjing 61.39 286 *e*P **P** **08 49 05.5 -0.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
KLMR Klimovskoe 63.99 351 *e*P **P** **08 49 20.8 -2.4**
KLMR AMP 08 49 35.7
comp=Z,22nm,1.5s
FINES FINESS Array B 64.10 358 P **P** **08 49 23.9 -0.1**
comp=Z,7.3nm,0.9s,baz=14,slow=8.6,SNR=11
comp=Z,7.3nm,0.9s
NB2 NORSAR Subarra 64.14 6 P **P** **08 49 25.0 +0.7**
comp=Z,0.8nm,0.7s,baz=354,slow=6.9
NOA NORSAR Array B 64.14 6 P **P** **08 49 25.0 +0.7**
comp=Z,2.2nm,0.9s,baz=353,slow=6.6,SNR=3.9
comp=Z,2.2nm,0.9s
TAOE Nuku Hiva Isla 64.92 162 *e*LR LR 09 08 46.5
comp=Z,151nm,24.8s
KIRV Kirov 65.04 345 LR LR 09 22 39.3
comp=Z,167nm,18.5s,baz=352,slow=40
KURBB Kurchatov Arra 65.27 325 P **P** **08 49 32.1 +0.4**
comp=Z,2.9nm,1.0s,baz=26,slow=6.1,SNR=11
KURBB LR LR 09 20 04.1
comp=Z,236nm,19.0s,baz=164,slow=38
comp=Z,2.9nm,1.0s
XAN Xi'an 65.28 294 P **P** **08 49 30.5 -1.7**
XAN pmax pmax
comp=Z,10.0nm,0.8s
ARU Arti 65.47 339 P **P** **08 49 32.7 -0.2**
ARU IAmb IAmb 08 49 34.2
comp=Z,6.8nm,0.9s
BRVK Borovoye 65.69 331 P **P** **08 49 35.1 +0.6**
BRVK IAmb IAmb 08 49 35.7
comp=Z,9.6nm,1.5s
BVAR Borovoye Array 65.69 331 P **P** **08 49 35.5 +1.0**
comp=Z,1.8nm,0.5s,baz=31,slow=6.9,SNR=9.2
comp=Z,1.8nm,0.5s
GTA Gaotai 65.70 304 *e*P **P** **08 49 35.4 +0.5**
GTA pP pP 08 49 39.6 -2.4
GTA pmax pmax
comp=Z,5.0nm,1.1s
MKAR Makanchi Array 67.19 320 P **P** **08 49 44.6 +0.4**
MKAR Makanchi Array 67.19 320 P **P** **08 49 44.4 +0.2**
comp=Z,1.9nm,0.9s,baz=74,slow=9.0,SNR=6.1
MKAR LR LR 09 22 07.0
comp=Z,260nm,18.3s,baz=58,slow=39
comp=Z,1.9nm,0.9s
WMQ Urumqi 67.56 315 *e*P **P** **08 49 46.8 +0.2**
WMQ pmax pmax
comp=Z,21nm,0.7s
WMQ LR LR
comp=Z,170nm,24.5s
PMOR Pomariorio Ree 69.91 171 *e*T T 10 06 13.7
comp=Z,33nm,0.3s
MNK Minsk 71.02 357 *i* P **P** **08 50 06.7 -1.1**
comp=E,5.0nm,0.8s
MNK *i* P **P** **08 50 06.7 -1.1**
comp=N,14nm,0.8s
MNK *i* P **P** **08 50 06.7 -1.1**
comp=Z,10.0nm,0.8s,baz=2.9
MNK *i* PcP **PcP** **08 50 26.7 -1.3**
MNK *i* PP **PP** **08 52 43.9 -0.6**
MNK *i* PPP PPP 08 54 26.8
MNK *i* S **S** **08 59 23.6 +1.7**
MNK *i* ScS **ScS** **09 00 10.7 +0.8**
MNK *i* SS **SS** **09 03 57.6 +3.8**
MNK *i* SSS SSS 09 07 16.6
MNK *i* LQ LQ 09 17 44.0
MNK *i* LR LR 09 22 18.0
MNK *i* LRM MLR 09 23 48.9
comp=N,235nm,19.3s
MNK *i* LRM MLR 09 23 53.4
comp=Z,67nm,11.6s
MNK *i* LRM MLR 09 24 20.4
comp=E,103nm,18.1s
AKTO Aktyubinsk 71.19 337 LR LR 09 23 43.7
comp=E,145nm,19.9s,baz=140,slow=38
BELG Belogornoye 71.29 344 LR LR 09 25 49.8
comp=E,154nm,18.2s,baz=202,slow=40
ABKAR Akbulak array 71.85 336 P **P** **08 50 13.5 +0.7**
ABKAR IAmb IAmb 08 50 45.6
comp=Z,4.6nm,0.8s
ABKAR Akbulak array 71.85 336 P **P** **08 50 12.8 0.0**
PPT2 Papeete2 72.33 173 *e*LR LR 09 12 12.9
comp=Z,102nm,25.2s
PPT2 *e*LR LR 09 12 29.9
comp=Z,91nm,22.2s
PPT2 Papeete2 72.33 173 *e*T T 10 09 20.0
comp=Z,2.7nm,0.2s
PAE Paea 72.41 173 *e*T T 10 09 22.0
comp=Z,2.8nm,0.3s
AAK Ala-Archa 73.58 323 LR LR 09 26 17.8
comp=Z,329nm,18.9s,baz=18,slow=39
KK31 Karatay Array 74.50 326 P **P** **08 50 29.6 +0.9**
AKASG Malin Array Be 74.77 356 P **P** **08 50 29.6 -0.4**
comp=Z,2.8nm,0.6s,baz=2.1,slow=5.6,SNR=13
comp=Z,2.8nm,0.6s
PZH PanZhiHua 75.01 295 P **P** **08 50 33.0 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,70nm,3.9s
KSH Kashi 75.80 321 P **P** **08 50 40.8 +4.5**
KSH pmax pmax
comp=Z,9.0nm,0.9s
GERES GERESS Array B 76.44 6 P **P** **08 50 39.2 -0.6**
comp=Z,1.0nm,0.6s,baz=354,slow=9.5,SNR=3.5
comp=Z,1.0nm,0.6s
VYHS Vyhne 77.04 3 *e*P **P** **08 50 44.9 +1.8**
TBI Tubuai 78.06 173 *e*LR LR 09 14 52.2
comp=Z,342nm,24.0s
DZM Mont Dzumac 82.76 214 *e*LR LR 09 17 17.1
comp=Z,65nm,21.9s
CMAR Chiang Mai Arr 83.05 292 P **P** **08 51 16.1 +0.1**
comp=Z,1.6nm,0.3s,baz=15,slow=5.3,SNR=15
comp=Z,1.6nm,0.3s
ESDC Sonseca Array 83.08 21 P **P** **08 51 16.7 +0.8**
comp=Z,3.3nm,1.0s,baz=335,slow=6.4,SNR=5.7
comp=Z,3.3nm,1.0s
BRTR Keskin Array B 85.45 352 P **P** **08 51 28.7 +0.7**
comp=Z,1.3nm,0.9s,baz=338,slow=1.3,SNR=6.4
comp=Z,1.3nm,0.9s
KEST Kesra 89.07 11 LR LR 09 36 21.7
comp=Z,61nm,18.1s,baz=262,slow=39
QSPA South Pole Qui 144.55 180 PKP **PKPdf** **08 58 25.0 -0.3**
comp=Z,4.4nm,0.8s,baz=96,slow=0.5,SNR=6.5

*ISK **15** 08:39:32.7, 38˚.46N×45˚.27E, h5km, ML2.6/5*
*NSSP **15** 08:39:34.4, 38˚.48N×45˚.18E, h10km, Ms3.0*
*TEH **15** 08:39:34.9, 38˚.43N×45˚.10E, h6km±45km, ML2.9*
*AFAD **15** 08:39:38.7±0.0, 38˚.40N×44˚.88E, h8km±1km, ML2.1*
ISC 15 08:39:34.7±1.2, 38˚.43N±0˚.03×45˚.16E±0˚.03, h2km±12km, n26, σ0s86/40, 1C-1D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISHB	**Shabestar**	**0.38**	**112**	Pg	**Pb**	**08 39 43.3**	**-1.1**
IMRD	**Marand**	**0.51**	**56**	Pg	**Pb**	**08 39 46.0**	**-0.6**
ITBZ	**Tabriz**	**0.80**	**104**	Pg	**Pg**	**08 39 50.2**	**+0.2**
OZAP	**Van, Ozalp-Mer**	**0.95**	**285**	P	**Pg**	**08 39 53.0**	**+0.1**
OZAP				*i* AML	AML	08 40 15.0	
	comp=N,59nm,0.7s						
OZAP				*i* AML	AML	08 40 16.0	
	comp=E,53nm,0.8s						
IAZR	**Azarshahr**	**0.99**	**139**	Pg	**Pb**	**08 39 54.8**	**+0.1**
MAKU	**Maku**	**1.00**	**338**	Pg	**Pg**	**08 39 53.3**	**-0.6**
YOVA	**Hakkari_Yksek**	**1.08**	**220**	P	**Pn**	**08 39 57.0**	**-0.1**
YOVA				S	**Sb**	**08 40 10.5**	**-0.5**
YOVA				*i* AML	AML	08 40 18.0	
	comp=N,72nm,0.6s						
YOVA				*i* AML	AML	08 40 19.0	
	comp=E,59nm,0.5s						
CLDR	**Caldiran**	**1.21**	**307**	Pn	**Pb**	**08 39 57.9**	**-0.6**
CLDR				Sn	**Sn**	**08 40 16.2**	**+0.3**
CLDR	**Caldiran**	**1.21**	**307**	P	**Pb**	**08 39 57.9**	**-0.6**
CLDR				S	**Sb**	**08 40 14.1**	**-0.5**
CLDR				*i* AML	AML	08 40 16.0	
	comp=N,106nm,0.3s						
CLDR				*i* AML	AML	08 40 19.0	
	comp=E,144nm,0.6s						
VMUR	**Van-Muradiye**	**1.37**	**295**	P	**Pb**	**08 40 01.0**	**-0.1**
VMUR				S	**Sg**	**08 40 18.5**	**-0.1**
VMUR				*i* AML	AML	08 40 23.0	
	comp=E,58nm,0.9s						
VMUR				*i* AML	AML	08 40 26.0	
	comp=N,65nm,0.6s						
VANB	**Van**	**1.40**	**277**	Pn	**Pn**	**08 40 01.1**	**-0.3**
VANB				Sn	**Sn**	**08 40 21.9**	**+1.4**
HAKT	**HAKKARI**	**1.44**	**233**	P	**Pb**	**08 40 02.6**	**+0.2**
HAKT				S	**Sg**	**08 40 20.5**	**-0.5**
HAKT				*i* AML	AML	08 40 28.0	
	comp=N,41nm,0.6s						
HAKT				*i* AML	AML	08 40 28.0	
	comp=E,42nm,0.9s						
IHRS	**Heris**	**1.48**	**94**	Pg	**Pg**	**08 40 03.5**	**+0.4**
NRKZ	**NAREK**	**1.62**	**346**	*e*P	**Pg**	**08 40 05.2**	**-0.6**
NRKZ				*e*S	**Sg**	**08 40 27.1**	**+0.3**
CUKT	**Cukurca**	**1.70**	**227**	Pn	**Pn**	**08 40 05.8**	**+0.3**
AKDM	**Akdamar-Van**	**1.72**	**267**	Pn	**Pn**	**08 40 05.9**	**+0.1**
AKDM				Sn	**Sg**	**08 40 30.3**	**+0.4**
GNI	**Garni**	**1.75**	**349**	⇓*i*P	**Pg**	**08 40 09.2**	**+0.9**
GNI				⇑*i*S	**Sg**	**08 40 33.5**	**+2.5**
METS	**Metsamor**	**1.92**	**334**	*e*P	**Pg**	**08 40 10.6**	**-0.9**
METS				*e*S	**Sg**	**08 40 36.4**	**+0.1**
KAPZ	**Kaputan**	**1.93**	**349**	*e*P	**Pg**	**08 40 10.8**	**-0.9**
KAPZ				*e*S	**Sg**	**08 40 36.9**	**+0.2**
VNNZ	**Vanand**	**1.97**	**329**	*e*P	**Pg**	**08 40 13.2**	**+0.7**
VNNZ				*e*S	**Sg**	**08 40 41.0**	**+3.0**
IHSH	**Hashtrud**	**2.00**	**123**	Pn	**Pb**	**08 40 12.1**	**0.0**
AGRB	**Hanur-Agry**	**2.04**	**305**	Pn	**Pn**	**08 40 12.0**	**-0.1**
KOTA	**Agri, Merkez-K**	**2.05**	**313**	P	**Pg**	**08 40 13.3**	**-0.7**
KOTA				S	**Sb**	**08 40 37.9**	**-1.0**
KOTA				*i* AML	AML	08 40 47.0	
	comp=N,15nm,1.1s						
KOTA				*i* AML	AML	08 40 51.0	
	comp=E,13nm,0.9s						
ISRB	**Sarab**	**2.06**	**106**	Pn	**Pg**	**08 40 13.7**	**-0.6**
AMBZ	**Amberd**	**2.08**	**341**	*e*P	**Pb**	**08 40 13.2**	**-0.2**
				*e*S	**Sg**	**08 40 40.9**	**-0.7**
GRMI	**Germi**	**2.17**	**79**	Pn	**Pb**	**08 40 14.7**	**-0.1**

IDC 15 08:40:31.7±5.8, 64˚.59S×175˚.29E, h0km, mb3.9/3, mbtmp3.8/4, ML3.0/1, MS3.3/5, Error ellipse: s-maj=198.7km s-min=28.0km az=71.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**13.64**	**192**	Pn	Pn	08 43 44.6	-1.4
	0.1nm,0.3s,baz=30,slow=17,SNR=7.9						
VNDA				LR	LR	08 47 27.3	
	comp=Z,61nm,19.6s,baz=350,slow=30						
	0.8nm,0.8s						
QSPA	**South Pole Qui**	**25.50**	**180**	P	P	08 46 01.9	+0.5
	1.4nm,0.2s,baz=87,slow=3.1,SNR=3.1						
QSPA				LR	LR	08 55 26.7	
	comp=Z,55nm,18.4s,baz=27,slow=35						
	1.4nm,0.2s						
URZ	**Urewera**	**26.39**	**3**	LR	LR	08 55 42.3	
	comp=Z,63nm,18.9s,baz=317,slow=34						
STKA	**Stephens Creek**	**38.78**	**311**	LR	LR	09 01 31.4	
	comp=Z,38nm,18.6s,baz=31,slow=32						
PMSA	**Palmer Station**	**43.88**	**148**	LR	LR	09 04 59.4	
	comp=Z,94nm,18.6s,baz=46,slow=33						
ASAR	**Alice Springs**	**48.94**	**306**	P	P	08 49 19.7	+0.3
	1.1nm,0.8s,baz=155,slow=7.7,SNR=9.9						
	1.1nm,0.8s						
WRA	**Warramunga Arr**	**52.23**	**309**	P	P	08 49 43.8	-0.6
	0.9nm,0.9s,baz=157,slow=6.5,SNR=6.2						
	0.9nm,0.9s						

*TAP **15** 08:44:07.7, 24˚.85N×122˚.89E, h39km±1km, ML3.1, D*
*JMA **15** 08:44:11.1±0.2, 25˚.N×12˚.3E×˚, h33km, MV2.0/9, NW OFF ISHIGAKIJIMA IS*
ISC 15 08:44:07.1±1.8, 24˚.91N±0˚.08×122˚.88E±0˚.05, h14km±11km, n18, σ0s61/22, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.46**	**173**	P	**Pg**	**08 44 16.8**	**+0.6**
JYNG				*e*S	**Sg**	**08 44 21.3**	**-1.1**
YOJ	**Yonaguni jima**	**0.46**	**165**	P	**Pb**	**08 44 17.0**	**0.0**
YOJ				S	**Sg**	**08 44 21.4**	**-1.0**
YOJ	**Yonaguni jima**	**0.46**	**165**	⇑*i*P	**Pb**	**08 44 17.0**	**0.0**
	baz=165						
YOJ				*e*S	**Sb**	**08 44 23.6**	**0.0**
	baz=165						
EOS2	**EOS2**	**0.77**	**231**	P	**Pb**	**08 44 22.5**	**+0.4**
	baz=239						
EOS2				*i* S	**Sn**	**08 44 33.6**	**-1.0**
	baz=239						
EOS3	**EOS3**	**0.80**	**220**	P	**Pg**	**08 44 23.3**	**+0.6**
	baz=222						
SXI1	**Grass Mountain**	**0.93**	**282**	⇓*e*P	**Pb**	**08 44 24.8**	**-0.3**
	baz=285						
EOS4	**EOS4**	**0.94**	**213**	P	**Pb**	**08 44 25.0**	**+0.1**
	baz=219						
TIPB	**Shuangxi**	**0.96**	**274**	P	**Pb**	**08 44 25.1**	**-0.5**
	baz=277						
TWC	**Suao**	**0.98**	**253**	P	**Pb**	**08 44 26.1**	**+0.1**
	baz=262						
JKRS	**Kuro-shima**	**1.22**	**123**	*e*P	**Pn**	**08 44 30.2**	**+0.4**
JIJ	**Ishigaki jima**	**1.27**	**115**	*e*S	**Sb**	**08 44 46.9**	**-0.1**
ETLH	**Xiulin Townshi**	**1.45**	**242**	*e*P	**Pb**	**08 44 34.2**	**+0.2**
	baz=244						
LXIB	**Xiulin Townshi**	**1.60**	**237**	*e*P	**Pn**	**08 44 35.4**	**+0.2**
	baz=239						
WARBT	**Fenglin Townsh**	**1.81**	**229**	P	**Pn**	**08 44 37.4**	**-0.5**
	baz=220						
WHP	**Taichung City**	**1.87**	**251**	*e*P	**Pb**	**08 44 41.2**	**+0.1**
	baz=242						
VWDT	**VWDT**	**1.96**	**234**	*e*P	**Pn**	**08 44 40.5**	**+0.6**
	baz=236						
ALS	**Alishan**	**2.35**	**234**	*e*P	**Pn**	**08 44 46.5**	**+0.9**
	baz=225						
STYH	**Taoyuan**	**2.59**	**229**	*e*P	**Pn**	**08 44 49.3**	**+0.7**
	baz=229						

*IPEC **15** 08:50:47.4±0.2, 50˚.18N×18˚.81E, h1km, ML2.5/4, Error ellipse: s-maj=2.3km s-min=1.1km az=166.0*
*PRU **15** 08:50:48.1, 50˚.24N×18˚.71E, h0km*
ISC 15 08:50:46.8±0.9, 50˚.18N±0˚.04×18˚.74E±0˚.03, h0km, n25, σ0s70/41, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.52**	**228**	*e*PG	**Pb**	**08 50 58.8**	**+0.1**
OKC				*e*SG	**Sb**	**08 51 05.7**	**-1.0**
	comp=Z,58nm,0.4s						
OJC	**Ojcow**	**0.68**	**86**	*e*Pg	**Pg**	**08 50 59.7**	**-0.1**
OJC				*e*Sg	**Sb**	**08 51 10.7**	**-0.8**
MORC	**Moravsky Berou**	**0.87**	**243**	*e*Pg	**Pb**	**08 51 05.0**	**+0.2**
	baz=63						
MORC				*e*Sg	**Sg**	**08 51 15.9**	**+1.1**
	87nm,0.5s,baz=63						
MAUC	**Maruska**	**1.01**	**216**	*e*PG	**Pb**	**08 51 07.4**	**+0.3**
LANS	**Liptovska Anna**	**1.14**	**155**	*e*PG	**Pn**	**08 51 10.1**	**+0.1**
LANS				*e*SG	**Sb**	**08 51 25.5**	**+0.9**
LANS				*e*LG	Lg	08 51 26.7	
KRLC	**Kraliky**	**1.27**	**266**	*e*PG	**Pg**	**08 51 11.1**	**+0.1**
KRLC				*e*SG	**Sb**	**08 51 28.4**	**0.0**
	comp=Z,34nm,0.3s						
NIE	**Niedzica**	**1.27**	**127**	*e*Pg	**Pb**	**08 51 11.5**	**0.0**
NIE				*e*Sg	**Sn**	**08 51 30.3**	**+0.8**
JAVC	**Velka Javorina**	**1.50**	**208**	*e*PN	**Pn**	**08 51 15.2**	**+0.3**
JAVC	**Velka Javorina**	**1.50**	**208**	*e*Pn	**Pn**	**08 51 15.1**	**+0.2**
	baz=29						
DPC	**Dobruska-Polom**	**1.56**	**277**	*e*PG	**Pn**	**08 51 16.0**	**+0.2**
DPC				*e*SG	**Sg**	**08 51 37.6**	**+0.7**
	comp=Z,34nm,0.5s						
VRAC	**Vranov**	**1.65**	**239**	*e*PN	**Pb**	**08 51 17.9**	**-0.1**
VRAC				*e*SG	**Sg**	**08 51 40.1**	**+0.5**
VRAC	**Vranov**	**1.65**	**239**	*e*Pn	**Pb**	**08 51 17.8**	**-0.2**
	baz=58						
VRAC				*e*Sg	**Sg**	**08 51 40.0**	**+0.5**
	46nm,0.4s,baz=58						
OSTC	**Ostas**	**1.66**	**284**	*e*PG	**Pb**	**08 51 18.0**	**-0.2**
OSTC				*e*SG	**Sn**	**08 51 39.4**	**+0.2**
	comp=Z,15nm,0.4s						
VYHS	**Vyhne**	**1.69**	**178**	*e*PN	**Pn**	**08 51 18.0**	**+0.4**
VYHS				*e*SN	**Sb**	**08 51 41.0**	**+0.5**
KSP	**Ksiaz**	**1.70**	**294**	*e*Pg	**Pg**	**08 51 19.7**	**+0.4**
KSP				*e*Sg	**Sg**	**08 51 43.2**	**+1.9**
CHVC	**Chvalec**	**1.77**	**284**	*e*PG	**Pb**	**08 51 19.4**	**-0.7**
CHVC				*e*SG	**Sb**	**08 51 42.8**	**0.0**
KRUC	**Moravsky**	**1.89**	**235**	*e*Pn	**Pn**	**08 51 21.1**	**+0.8**
	baz=54						
KRUC				*e*Sg	**Sg**	**08 51 47.5**	**-0.1**
	21nm,0.5s,baz=54						
KECS	**Kecovo**	**2.05**	**145**	*e*PN	**Pn**	**08 51 22.6**	**+0.1**
KECS				*e*SN	**Sn**	**08 51 47.9**	**-0.8**
KECS				*e*LG	Lg	08 51 51.2	
MODS	**Modra-Piesok**	**2.05**	**208**	*e*SN	**Sb**	**08 51 50.5**	**-0.3**
CRVS	**Cervenica-Dubn**	**2.19**	**125**	*e*PG	**Pg**	**08 51 28.2**	**-0.4**
GOPC	**GO Pecny, Ondr**	**2.56**	**266**	*e*SG	**Sg**	**08 52 07.5**	**-1.6**
	comp=Z,12nm,0.3s						
PRU	**Pruhonice**	**2.71**	**268**	*e*SG	**Sg**	**08 52 12.3**	**-1.6**
	comp=Z,9.4nm,0.4s						
CKRC	**Cesky Krumlov**	**3.19**	**246**	*e*SG	**Sg**	**08 52 28.2**	**-1.2**
	comp=Z,12nm,0.6s						
KHC	**Kasperske Hory**	**3.52**	**255**	*e*PG	**Pg**	**08 51 53.5**	**-0.6**
KHC				*e*SG	**Sg**	**08 52 39.6**	**-0.1**
	comp=Z,20nm,0.8s						
CLL	**Collm**	**3.82**	**289**	*e*Sg	**Sg**	**08 52 49.0**	**-0.3**
	comp=Z,11nm,0.6s						

*CATAC **15** 09:07:42.7±0.3, 14˚.54N×91˚.71W, h102km±3km, MB5.5, mb5.6, ML5.5*
*IDC **15** 09:07:43.2±0.4, 14˚.79N×91˚.21W, h113km±2km, mb4.4/27, mbtmp4.8/29, MS3.9/37, Error ellipse: s-maj=13.8km s-min=8.0km az=57.0*
*GCMT **15** 09:07:43.0±0.2, 14˚.69N±0˚.01×91˚.66W±0˚.01, h110km±1km, MW5.2/115, Moment Tensor Solution. s84,c107; s115,c177; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr-0.53±.18; Mθθ0.07±.23; Mφφ0.45±.24; Mrθ5.78±.12; Mrφ-1.08±.24; Mθφ-4.64±.12; Best double couple: M0 7.47900×10^16 NP1:φs308.00000°, δ87.00000°, λ-93.00000°. NP2:φs172.00000°, δ5.00000°, λ-46.00000°. Principal axes: T 7.8520, Plg41.0000°, Azm42.0000°; N -0.7480, Plg3.0000°, Azm309.0000°; P -7.1050, Plg48.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **15** 09:07:44.0±2.6, 14˚.72N±0˚.06×91˚.52W±0˚.06, h101km±3km, mb5.2/497, Mww5.1/29, Md5.0/95(MEX) Error ellipse: s-maj=10.1km s-min=7.0km az=218.0*
*NEIC **15** 09:07:44, 14˚.72N×91˚.50W, h80km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10^16Nm; Mrr-0.75; Mθθ1.52; Mφφ-0.77; Mrθ4.68; Mθφ-2.20; Mφr-4.13; Fault plane solution: M0 6.54000×10^16 NP1: φs314.35000°, δ82.65000°, λ-80.84000°. NP2:φs82.78000°, δ11.72000°, λ-140.98000°. Principal axes: T 7.4999, Plg37.0000°, Azm36.0000°; N -1.9197, Plg9.0000°, Azm133.0000°; P -5.5803, Plg52.0000°, Azm235.0000°;*
*NEIC **15** 09:07:44, 14˚.72N×91˚.50W, h80km*
*MEX **15** 09:07:44.0±0.8, 14˚.55N×91˚.67W, h108km±6km, MD5.0*
*MOS **15** 09:07:45.3±1.2, 14˚.78N×91˚.34W, h138km, mb5.1/24, Error ellipse: s-maj=9.9km s-min=5.2km az=109.9*
*GCG **15** 09:07:47.7±0.4, 14˚.67N×91˚.49W, h64km±24km, MD4.9*
*SNET **15** 09:07:58.8±10.0, 14˚.39N×90˚.61W, h33km, ML5.0*
ISC 15 09:07:42.5±0.2, 14˚.64N±0˚.03×91˚.63W±0˚.03, h109km±2km, h109km:pP-P, n1459, σ1s44/1450, mb5.1/304, 43C-63D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STG3	**Santiaguito 3,**	**0.09**	**36**	*e*P	**Pn**	**09 07 57.8**	**0.0**
RTAL	**Retalhuleu**	**0.13**	**211**		**Pn**	**09 07 57.0**	**-0.6**
RTAL				Sn	**Sn**	**09 08 08.4**	**-0.6**
RTAL	**Retalhuleu**	**0.13**	**211**	⇑*i*P	**Pn**	**09 07 57.1**	**-0.6**
RTAL				*e*S	**Sn**	**09 08 07.7**	**-1.3**
RTAL	**Retalhuleu**	**0.13**	**211**	⇑*i*P	**Pn**	**09 07 57.0**	**-0.6**
RTAL				IAML		09 07 57.6	
	comp=Z,370μm,1.0s						
RTAL				*i* S	**Sn**	**09 08 07.2**	**-1.8**
QUEO	**Labor Ovalle**	**0.26**	**25**	⇑*i*P	**Pn**	**09 07 58.7**	**+0.3**
QUEO				IAML		09 07 59.5	
	comp=Z,370μm,1.0s						
QUEO				*i* S	**Sn**	**09 08 12.2**	**+1.9**
SOKI	**Kika Raxquin**	**0.28**	**50**	⇑*i*P	**Pn**	**09 07 58.4**	**-0.2**
SOKI				*i* S	**Sn**	**09 08 12.7**	**+2.0**

SOKI IAML 09 08 16.3
comp=Z,130µm,1.0s
SULM Suchitepequez, 0.33 169 *eP* **Pn 09 07 58.8 +0.4**
SMSP San Marcos 0.37 336⇓*iP* **Pn 09 07 59.1 +0.2**
SMSP *eS* **Sn 09 08 11.1 0.0**
SMSP San Marcos 0.37 336⇓*iP* **Pn 09 07 58.9 0.0**
SMSP IAML 09 08 17.0
comp=Z,250µm,1.0s
SMCA Catarina 0.49 297⇓*iP* **Pn 09 07 58.5 -0.7**
SMCA *i* S **Sn 09 08 10.8 -0.9**
SMCA IAML 09 08 13.7
comp=Z,200µm,1.0s
CHTG Tecpan 0.64 78⇑*iP* **Pn 09 08 01.0 +0.4**
CHTG IAML 09 08 01.6
comp=Z,500µm,1.0s
CHUJ Union Juarez 0.65 315 *i* P **Pn 09 07 59.3 -1.4**
CHUJ *i* S **Sn 09 08 13.8 -0.5**
THIG 0.67 294 Pn 09 08 00.7 +0.2
THIG *i* S **Sn 09 08 15.0 +0.9**
THIG 0.67 294⇑*iP* **Pn 09 08 00.7 +0.2**
THIG *i* S **Sn 09 08 15.0 +0.9**
HUEH Huehuetenango 0.69 10 Pn 09 08 02.0 +1.1
HUEH Huehuetenango 0.69 10⇓*iP* **Pn 09 08 02.1 +1.1**
HUEH *eS* **Sn 09 08 21.8 +7.0**
HUEH Huehuetenango 0.69 10⇓*iP* **Pn 09 08 01.8 +0.8**
HUEH IAML 09 08 02.4
comp=Z,260µm,1.0s
PATR El Naranjo 0.76 309⇑*iP* **Pn 09 08 01.3 -0.2**
PATR *i* S **Sn 09 08 14.8 -1.1**
PAVE Pavencul 0.77 316⇓*iP* **Pn 09 08 02.1 +0.5**
PAVE *i* S **Sn 09 08 16.0 0.0**
FUG Fuego 3 0.78 104 *eP* **Pn 09 08 02.4 +0.7**
QUIS Sacapulas 0.83 38⇑*iP* **Pn 09 08 03.1 +1.0**
QUIS IAML 09 08 03.9
comp=Z,260µm,1.0s
QUIS *i* S **Sn 09 08 19.1 +2.2**
GUMI Mixco 0.98 90⇑*iP* **Pn 09 08 04.0 +0.3**
GUMI IAML 09 08 04.8
comp=Z,230µm,1.0s
GUMI *i* S **Sn 09 08 21.2 +1.6**
PCG Pacaya 1.02 104 *eP* **Pn 09 08 05.2 +1.2**
GCG4 OSOP 1.06 92⇓*iP* **Pn 09 08 04.7 +0.3**
GCG4 IAML 09 08 05.5
comp=Z,110µm,1.0s
NBG Las Nubes 1.24 92 *eP* **Pn 09 08 08.3 +1.8**
GUNB GUNB 1.24 92⇓*iP* **Pn 09 08 07.2 +0.6**
GUNB IAML 09 08 08.1
comp=Z,42µm,1.0s
AVCB Coban 1.44 55⇑*iP* **Pn 09 08 10.3 +1.6**
AVCB IAML 09 08 11.0
comp=Z,55µm,1.0s
AVCB *i* S **Sn 09 08 32.0 +3.4**
CCIG Comitan 1.71 343 Pn 09 08 13.9 +1.9
CCIG Comitan 1.71 343⇓*iP* **Pn 09 08 14.0 +1.9**
CCIG *eS* **Sn 09 08 35.9 +1.5**
CCIG Comitan 1.71 343⇓*iP* **Pn 09 08 13.7 +1.7**
CCIG *i* S **Sn 09 08 37.3 +2.9**
CCIG IAML 09 08 40.0
comp=Z,17µm,1.0s
PCIG 1.87 305 Pn 09 08 14.0 +0.3
PCIG **Sn 09 08 37.5 -0.1**
PCIG 1.87 305⇑*iP* **Pn 09 08 14.0 +0.3**
PCIG *eS* **Sn 09 08 37.5 -0.1**
JUAM Asuncion Mita 1.89 99⇑*iP* **Pn 09 08 14.2 +0.2**
JUAM IAML 09 08 15.0
comp=Z,19µm,1.0s
JUAM *i* S **Sn 09 08 40.1 +2.0**
LOAL Lomas de Alarc 1.90 109⇓*iP* **Pn 09 08 14.4 +0.2**
LOAL IAML 09 08 49.2
comp=Z,51µm,1.0s
NUBE Las Nubes 1.93 112⇓*iP* **Pn 09 08 14.7 -0.1**
NUBE *i* S **Sn 09 08 41.1 +1.7**
NUBE IAML 09 08 44.9
comp=Z,22µm,1.0s
CEVE Cerro Verde 2.10 112 *eP* **Pn 09 08 17.4 +0.4**
CEVE *eS* **Sn 09 08 47.3 +4.0**
CEVE Cerro Verde 2.10 112⇓*iP* **Pn 09 08 17.4 +0.4**
CEVE *i* S **Sn 09 08 46.6 +3.2**
CEVE IAML 09 08 51.9
comp=Z,38µm,1.0s
UNIC Universidad Ca 2.12 108⇓*iP* **Pn 09 08 16.9 -0.1**
UNIC IAML 09 09 01.3
comp=Z,5µm,1.0s
MTO3 Montecristo 2.21 96 Pn 09 08 18.9 +0.6
MTO3 Montecristo 2.21 96⇓*iP* **Pn 09 08 18.6 +0.3**
MTO3 IAML 09 08 49.7
comp=Z,5µm,1.0s
ESQI Esquipulas 2.21 92 Pn 09 08 19.4 +1.1
ESQI Esquipulas 2.21 92⇓*iP* **Pn 09 08 19.0 +0.7**
ESQI IAML 09 08 19.9
comp=Z,14µm,1.0s
ESQI *i* S **Sn 09 08 48.4 +2.7**
CEDA San Andres 2.32 111 *eP* **Pn 09 08 19.2 -0.3**
CEDA San Andres 2.32 111⇓*iP* **Pn 09 08 19.3 -0.3**
CEDA IAML 09 09 09.3
comp=Z,27µm,1.0s
JAYA Jayaque - finc 2.33 114⇓*iP* **Pn 09 08 19.6 -0.2**
JAYA IAML 09 08 54.1
comp=Z,63µm,1.0s
QUEZ Alcaldia de Qu 2.42 109⇓*iP* **Pn 09 08 20.9 0.0**
QUEZ IAML 09 09 05.2
comp=Z,42µm,1.0s
PMON Piamonte 2.42 112⇓*iP* **Pn 09 08 21.3 +0.3**
PMON IAML 09 08 58.1
comp=Z,22µm,1.0s
BOQS Boqueron 2.45 111 *eP* **Pn 09 08 21.4 -0.1**
MAGS Ministerio de 2.46 112 *iP* **Pn 09 08 23.4 +1.9**
MAGS IAML 09 08 58.4
comp=Z,8µm,1.0s
ITCA Escuela Especi 2.47 112 *iP* **Pn 09 08 22.0 +0.4**
ITCA IAML 09 09 17.0
comp=Z,31µm,1.0s
UEES Universidad Ev 2.49 111⇓*iP* **Pn 09 08 21.5 -0.4**
UEES IAML 09 09 00.9
comp=Z,7µm,1.0s
SNET Serv Nac Est T 2.51 112 Pn 09 08 22.6 +0.5
SNET Serv Nac Est T 2.51 112⇓*iP* **Pn 09 08 22.2 +0.1**
SNET IAML 09 08 59.1
comp=Z,19µm,1.0s
SEMO Seminario San 2.51 111 *iP* **Pn 09 08 25.4 +3.3**
SEMO IAML 09 09 03.9
comp=Z,31µm,1.0s
UTEC Universidad Te 2.53 111 *iP* **Pn 09 08 24.5 +2.1**
UTEC IAML 09 09 27.7
comp=Z,9µm,1.0s
TGBT Tuxtla Gutierr 2.55 327 Pn 09 08 24.9 +2.3
TGBT **Sn 09 08 54.9 +1.5**
TGBT Tuxtla Gutierr 2.55 327 *eP* **Pn 09 08 24.9 +2.3**
TGBT *eS* **Sn 09 08 54.9 +1.5**
IGN Direccin Gen 2.55 111⇓*iP* **Pn 09 08 22.9 +0.2**
IGN IAML 09 09 02.4
comp=Z,44µm,1.0s
UDBS Universidad Do 2.57 111⇓*iP* **Pn 09 08 23.3 +0.5**
UDBS IAML 09 09 17.0
comp=Z,9µm,1.0s
TGIG 2.57 326 Pn 09 08 23.3 +0.4
TGIG **Sn 09 08 54.1 +0.2**
TGIG 2.57 326 *iP* **Pn 09 08 23.3 +0.4**
TGIG *eS* **Sn 09 08 54.1 +0.2**
LOMA Loma Larga 2.58 112⇓*iP* **Pn 09 08 22.9 -0.2**
LOMA *i* S **Sn 09 08 57.6 +3.4**
LOMA IAML 09 09 00.8
comp=Z,14µm,1.0s
PANCS Alcalda de 2.58 113⇑*iP* **Pn 09 08 23.5 +0.4**
PANCS *i* S **Sn 09 08 57.0 +2.8**
PANCS IAML 09 08 59.4
comp=Z,27µm,1.0s
AEIL Aeropuerto Ilo 2.61 111 *eP* **Pn 09 08 24.1 +0.7**
LLGN La Laguna 2.64 100⇓*iP* **Pn 09 08 24.0 +0.1**
LLGN IAML 09 09 16.6
comp=Z,4µm,1.0s
CARR Arriaga 2.73 306 *iP* **Pn 09 08 26.2 +1.4**
CARR *eS* **Sn 09 08 59.2 +1.8**
SJTE Alcalda de S 2.74 111 *eP* **Pn 09 08 25.5 +0.3**
SJTE Alcalda de S 2.74 111⇓*iP* **Pn 09 08 25.4 +0.3**
SJTE *i* S **Sn 09 09 02.2 +4.3**
SJTE IAML 09 09 08.0
comp=Z,6µm,1.0s
PAVA Las Pavas 2.77 109⇓*iP* **Pn 09 08 25.8 +0.3**
PAVA IAML 09 08 56.9
comp=Z,10µm,1.0s
SARH Santa Rosa de 2.78 87⇓*iP* **Pn 09 08 27.1 +1.5**
PETF Flores 2.83 37 Pn 09 08 27.7 +1.4
PETF Flores 2.83 37⇑*iP* **Pn 09 08 27.7 +1.4**
PETF *eS* **Sn 09 09 01.2 +1.3**
PETF Flores 2.83 37⇑*iP* **Pn 09 08 27.7 +1.4**
PETF *i* S **Sn 09 09 01.9 +1.9**
PETF IAML 09 09 04.0
comp=Z,17µm,1.0s
COEG Centro de Oper 2.85 110⇓*iP* **Pn 09 08 27.1 +0.5**
COEG IAML 09 08 59.5
comp=Z,6µm,1.0s
UESV Universidad de 2.93 109⇑*iP* **Pn 09 08 28.3 +0.7**
UESV IAML 09 09 43.0
comp=Z,6µm,1.0s
SCLA Alcaldia de Sa 2.96 108⇓*iP* **Pn 09 08 28.6 +0.6**
SCLA IAML 09 09 32.5
comp=Z,2µm,1.0s
TECO Alcaldia de Te 2.97 111⇓*iP* **Pn 09 08 28.4 +0.3**
TECO IAML 09 09 25.5
comp=Z,3µm,1.0s
IZABA Izabal, Puerto 3.13 69 *iP* **Pn 09 08 31.4 +1.2**
IZABA *i* S **Sn 09 09 09.5 +2.4**
IZABA IAML 09 09 47.4
comp=Z,28nm,1.0s
PQSS Presa 15 de Se 3.14 108⇑*iP* **Pn 09 08 31.0 +0.7**
PQSS IAML 09 09 41.2
comp=Z,2µm,1.0s
ALJI Alcalda de J 3.24 113 *eP* **Pn 09 08 31.7 0.0**
ALJI Alcalda de J 3.24 113 *iP* **Pn 09 08 33.1 +1.4**
ALJI IAML 09 09 32.2
comp=Z,3µm,1.0s
PACA Pacayal 3.41 109⇓*iP* **Pn 09 08 34.6 +0.5**
PACA IAML 09 09 42.2
comp=Z,20µm,1.0s
CAHU Cacacuatique 3.42 104 *eP* **Pn 09 08 34.0 -0.3**
INTHN La Esperanza I 3.43 95⇓*iP* **Pn 09 08 35.2 +0.8**
NILT Santiago Nilte 3.46 304 *eP* **Pn 09 08 34.8 +0.1**
NILT *eS* **Sn 09 09 13.4 -1.5**
UXUV UXUV 3.60 318 *iP* **Pn 09 08 36.6 +0.1**
UXUV *eS* **Sn 09 09 22.7 +4.4**
NISHN Nisperales Com 3.79 72⇓*iP* **Pn 09 08 39.7 +0.7**
LCND La Caada 3.86 110⇓*iP* **Pn 09 08 40.7 +0.7**
LCND IAML 09 09 48.7
comp=Z,2µm,1.0s
CNCH Conchagua 3.92 110⇑*iP* **Pn 09 08 41.9 +1.0**
CNCH IAML 09 09 49.6
comp=Z,8µm,1.0s
COMHN El Horno 3.95 92⇓*iP* **Pn 09 08 42.0 +0.7**
CMIG Matias Romero 3.97 308 Sn 09 09 27.1 -0.1
CMIG Matias Romero 3.97 308 P Pn 09 08 42.4 +0.9
comp=Z,175nm,0.4s,baz=108,slow=8.5,SNR=353
CMIG S **Sn 09 09 28.6 +1.4**
comp=Z,499nm,0.6s,baz=102,slow=6.3,SNR=5.9
CMIG Matias Romero 3.97 308 *eP* **Pn 09 08 42.0 +0.5**
CMIG *eS* **Sn 09 09 27.1 -0.1**
AMPH Amapala 4.08 109⇓*iP* **Pn 09 08 43.6 +0.7**
TGUH Tegucigalpa,Un 4.26 97 Pn **Pn 09 08 46.5 +1.1**
TGUH Tegucigalpa,Un 4.26 97⇓*iP* **Pn 09 08 46.3 +0.8**
TGUH IAML 09 10 03.9
comp=Z,2µm,1.0s
CSGN Cosiguina Volc 4.28 112 *iP* **Pn 09 08 48.6 +2.9**
CSGN IAML 09 09 58.5
comp=Z,10µm,1.0s
SCIG Sabancuy 4.33 6⇑*iP* **Pn 09 08 46.3 0.0**
SCIG *eS* **Sn 09 09 28.3 -7.4**
YORHN Yoro 4.38 83 *iP* **Pn 09 08 48.9 +1.8**
HUIG Huatulco 4.47 285 Pn 09 08 46.8 -1.4
HUIG Sn 09 09 29.2 -10
HUIG Huatulco 4.47 285 *iP* **Pn 09 08 46.8 -1.4**
HUIG *eS* Sn 09 09 29.2 -10
YUSH Yuscaran 4.69 98⇑*iP* **Pn 09 08 51.8 +0.6**
CRIN San Cristobal 4.85 113 Pn 09 08 55.3 +2.0
CRIN San Cristobal 4.85 113 *iP* **Pn 09 08 56.1 +2.8**
CRIN IAML 09 10 04.3
comp=Z,6µm,1.0s
NEUV Arroyo Zacate 5.04 308 *iP* **Pn 09 08 56.0 +0.1**
NEUV *eS* **Sn 09 09 55.2 +2.2**
PMUV Sontecomapan 5.13 320 *eP* **Pn 09 08 56.9 -0.3**
PMUV *eS* **Sn 09 09 52.4 -3.0**
JUTIH Juticalpa Olan 5.23 89⇑*iP* **Pn 09 08 59.7 +1.2**
CNGN Cerro Negro 5.24 113 Pn 09 08 59.4 +0.7
CNGN Cerro Negro 5.24 113 *iP* **Pn 09 09 00.4 +1.7**
LIMN Finca el Limon 5.34 106⇑*iP* **Pn 09 09 00.7 +0.6**
LIMN IAML 09 09 02.5
comp=Z,710nm,1.0s
LIMN IVmB_BB 09 09 26.9
comp=Z,5µm,1.0s
LIMN IAmb IAmb 09 09 27.3
comp=Z,550nm,0.8s
LEVN Ruinas Leon Vi 5.36 114 *iS* **Sn 09 09 58.0 -2.6**
MOMN Momotombo 5.42 113 *iS* **Sn 09 09 58.7 -3.6**
MOM2 El Cardon 5.46 113 *iP* **Pn 09 09 04.5 +3.0**
OXIG Oaxaca 5.48 297 Pn 09 09 03.2 +1.2
OXIG **Sn 09 10 03.2 -0.7**
VHO Vista Hermosa 5.48 297 *iP* **Pn 09 09 03.2 +1.2**
VHO *eS* **Sn 09 10 03.2 -0.7**
PEIG Puerto Escondi 5.50 285 Pn 09 09 01.1 -1.0
PEIG **Sn 09 09 55.2 -8.9**
PEIG Puerto Escondi 5.50 285⇑*iP* **Pn 09 09 01.1 -1.0**
PEIG *eS* **Sn 09 09 55.2 -8.9**
UNAN Cigeo UNAN 5.79 115⇑*iP* **Pn 09 09 06.8 +0.8**
UNAN IAmb IAmb 09 09 09.1
comp=Z,4µm,0.6s
UNAN IVmB_BB 09 09 52.9
comp=Z,44µm,1.0s
UNAN *i* S **Sn 09 10 06.5 -4.6**
UNAN IAML 09 10 14.9
comp=Z,6µm,1.0s
MATN Matagalpa 5.79 106 Pn 09 09 07.1 +1.0
MATN Matagalpa 5.79 106⇑*iP* **Pn 09 09 06.8 +0.6**
MATN IAML 09 09 08.6
comp=Z,310nm,1.0s
MATN IAmb IAmb 09 09 31.7
comp=Z,230nm,0.6s
MATN IVmB_BB 09 09 53.8
comp=Z,2µm,1.0s
WILN Americas 2 5.84 114 *iP* **Pn 09 09 11.1 +4.4**
MAS3 Al N del Volca 5.91 115 *iP* **Pn 09 09 08.2 +0.6**
MAS3 IVmB_BB 09 09 10.2
comp=Z,8µm,1.0s
MAS3 IAmb IAmb 09 09 10.6
comp=Z,830nm,0.6s
MAS3 IAML 09 10 16.7
comp=Z,1µm,1.0s
YOIG Yosondua 6.11 292 Pn 09 09 11.7 +1.0
YOIG **Sn 09 10 17.8 -1.6**
YOIG Yosondua 6.11 292 *eP* **Pn 09 09 11.7 +1.0**
YOIG *eS* **Sn 09 10 17.8 -1.6**
TEIG Tepich 6.41 29 P **Pn 09 09 14.5 +0.1**
comp=Z,16µm,0.5s,baz=356,slow=1.9,SNR=381
TEIG S **Sn** 09 10 15.7 -11
comp=Z,2µm,0.5s,baz=0.6,slow=18,SNR=0.7
TXIG Tlaxiaco 6.45 295 Pn 09 09 16.6 +1.3
TXIG **Sn 09 10 26.8 -0.9**
TXIG Tlaxiaco 6.45 295 *eP* **Pn 09 09 16.6 +1.3**
TXIG *eS* **Sn 09 10 26.8 -0.9**
PNIG Pinotepa 6.50 286 Pn 09 09 15.5 -0.2
PNIG **Sn 09 10 21.6 -6.9**
PNIG Pinotepa 6.50 286 *iP* **Pn 09 09 15.5 -0.2**
PNIG *eS* **Sn 09 10 21.6 -6.9**
CONN Concepcion 6.60 117 *iP* **Pn 09 09 19.2 +2.2**
TPIG Tehuac#an 6.66 305 Pn 09 09 19.6 +1.5
TPIG **Sn 09 10 36.6 +4.0**
TPIG Tehuac#an 6.66 305 *eP* **Pn 09 09 19.6 +1.5**
TPIG *eS* **Sn 09 10 36.6 +4.0**
OZST Orizaba 6.71 309 *eP* Pn 09 09 13.2 -5.5
OZST *eS* **Sn 09 10 26.4 -7.4**
HLIG Huajuapan de L 6.73 299 Pn 09 09 20.6 +1.7
HLIG **Sn 09 10 29.9 -4.4**
HLIG Huajuapan de L 6.73 299 *eP* **Pn 09 09 20.6 +1.7**
HLIG *eS* **Sn 09 10 29.9 -4.4**
ACON Acoyapa 6.82 112 Pn 09 09 20.3 +0.3
ACON Acoyapa 6.82 112 *iP* **Pn 09 09 21.9 +1.9**
LVIG Laguna Verde 6.82 319 *eP* **Pn 09 09 19.0 -1.0**
LVIG *eS* **Sn 09 10 31.5 -4.7**
JAUV Jalcomulco 6.83 314 *eP* **Pn 09 09 19.1 -1.1**
JAUV *eS* **Sn 09 10 31.6 -4.8**
FTIG Fresnillo de T 7.04 298 Pn 09 09 25.1 +2.0
FTIG **Sn 09 10 37.1 -4.7**
FTIG Fresnillo de T 7.04 298 *eP* **Pn 09 09 25.1 +2.0**
FTIG *eS* **Sn 09 10 37.1 -4.7**
HZTE Horizontes, Gu 7.06 123 Pn **Pn 09 09 25.3 +2.0**
HZTE Horizontes, Gu 7.06 123⇑*iP* **Pn 09 09 25.4 +2.1**
HZTE IAmb IAmb 09 09 28.7
comp=Z,370nm,0.8s
HZTE IVmB_BB 09 09 29.1
comp=Z,5µm,1.0s
HZTE IAML 09 09 29.2
comp=Z,520nm,1.0s
VRLE La Escondida, 7.21 121 *iP* **Pn 09 09 28.1 +2.7**
TLIG Tlapa 7.28 295 Pn 09 09 27.9 +1.6
TLIG Tlapa 7.28 295 *iP* **Pn 09 09 28.0 +1.7**
TLIG *eS* **Sn 09 10 47.6 +0.1**
ORTG Ortega, Santa 7.37 124 Pn 09 09 29.5 +1.9
ORTG Ortega, Santa 7.37 124⇑*iP* **Pn 09 09 29.2 +1.7**
ORTG IAML 09 09 31.4
comp=Z,520nm,1.0s
ORTG IAmb IAmb 09 09 31.5
comp=Z,490nm,0.8s
ORTG IVmB_BB 09 09 32.8
comp=Z,3µm,1.0s
VMAR Armenia, Volca 7.40 120 *iP* **Pn 09 09 29.6 +1.6**
DUNO Dulce Nombre, 7.51 126 Pn 09 09 30.9 +1.5
ESPN Las Esperanzas 7.53 108 Pn 09 09 31.6 +1.9
INDI Punta indio, G 7.63 128⇑*iP* **Pn 09 09 32.6 +1.5**
INDI IAML 09 09 34.8
comp=Z,400nm,1.0s
INDI IVmB_BB 09 09 34.8
comp=Z,3µm,1.0s
INDI IAmb IAmb 09 09 34.9
comp=Z,380nm,0.8s
JTS Las Juntas de 7.82 123 Pn 09 09 34.6 +1.1
JTS Las Juntas de 7.82 123 *eP* **Pn 09 09 34.9 +1.3**
JTS Las Juntas de 7.82 123 *iP* **Pn 09 09 35.2 +1.6**
JTS Las Juntas de 7.82 123 P **Pn 09 09 34.4 +0.8**
comp=Z,66nm,0.5s,baz=302,slow=9.6,SNR=40
JTS S Sn 09 10 48.7 -12
comp=Z,92nm,1.0s,baz=319,slow=21,SNR=1.2
ARE1 Arenal 1 7.92 121 Pn 09 09 36.8 +1.8
PPM Popocatepetl 8.02 304 *iP* **Pn 09 09 40.1 +3.4**
PPM *eS* **Sn 09 11 06.5 +0.5**
PPIG Popocatepetl 8.02 304 Pn 09 09 40.1 +3.4
PPIG **Sn 09 11 06.5 +0.5**
SOCE Pocosol 8.04 121 Pn 09 09 37.8 +1.2
COVE Coope Vega, Sa 8.05 118 Pn 09 09 37.0 +0.3
AMVM AMECAMECA 8.18 304 Sn 09 11 07.0 -2.7
AMVM AMECAMECA 8.18 304 *eS* **Sn 09 11 07.0 -2.7**
YAIG Yautepec 8.27 302 Pn 09 09 42.1 +2.3
YAIG **Sn 09 11 05.6 -6.2**
YAIG Yautepec 8.27 302 *iP* **Pn 09 09 42.1 +2.3**
YAIG *eS* **Sn 09 11 05.6 -6.2**
JACO JACO, Garabito 8.42 125 Pn 09 09 43.7 +2.0
PLIG Platanillo 8.43 297 Pn 09 09 44.0 +2.2
PLIG **Sn 09 11 14.2 -1.1**
PLIG Platanillo 8.43 297 *iP* **Pn 09 09 44.0 +2.2**
PLIG *eS* **Sn 09 11 14.2 -1.1**
CAIG El Cayaco 8.65 287 Pn 09 09 45.8 +0.9
CAIG Sn 09 11 10.5 -10
CAIG El Cayaco 8.65 287⇓*iP* **Pn 09 09 45.8 +0.9**
CAIG *eS* Sn 09 11 10.5 -10
HDC Heredia 8.67 121 Pn 09 09 46.5 +1.3
LCR2 La Lucha 2 8.90 122 Pn 09 09 49.4 +1.0
RIMA Rio Macho 9.00 122 Pn 09 09 51.1 +1.3
DEIG Demacu 9.04 310 *eP* **Pn 09 09 52.6 +2.3**
DEIG *eS* **Sn 09 11 26.6 -3.9**
DHIG Demacu 9.04 310 Pn 09 09 52.6 +2.3
DHIG **Sn 09 11 26.6 -3.9**
ARIG Puente Sto Nin 9.12 295 Pn 09 09 53.6 +2.4
ARIG **Sn 09 11 26.3 -5.8**
ARIG Puente Sto Nin 9.12 295⇓*iP* **Pn 09 09 53.6 +2.4**
ARIG *i* S **Sn 09 11 26.3 -5.8**
ZIIG Zihuatanejo 9.90 289 Pn 09 10 03.0 +1.2
ZIIG **Sn 09 11 53.9 +2.8**
ZIIG Zihuatanejo 9.90 289 *iP* **Pn 09 10 03.0 +1.2**
ZIIG *eS* **Sn 09 11 53.9 +2.8**
MOIG Morelia 10.42 300 Pn 09 10 12.7 +3.6
CDITO Canoas 10.48 124 Pn 09 10 10.8 +1.2
BRU2 Volcan 10.50 123 Pn **Pn 09 10 11.2 +1.1**
SOR Soroa 11.51 44 Pn **Pn 09 10 22.2 -1.3**
SOR Soroa 11.51 44 P **Pn 09 10 22.2 -1.3**
MMIG Aquila 11.81 290 Pn 09 10 30.1 +2.6
MMIG **Sn 09 12 33.6 -3.9**
MMIG Aquila 11.81 290 *iP* **Pn 09 10 30.1 +2.6**
MMIG *eS* **Sn 09 12 33.6 -3.9**
COIG Colima 12.39 293 *eP* **Pn 09 10 35.6 +0.3**
JUBC Volcan de Coli 12.40 295 *eP* **P 09 10 40.5 -2.7**
EZ5V 12.42 294 P 09 10 40.1 -3.2
EZ5V 12.42 294 *iP* **P 09 10 40.1 -3.2**
MNGA Volcan de Coli 12.43 294 *eP* **P 09 10 40.4 -3.0**
INCO Volcan de Coli 12.44 295 *eP* **P 09 10 41.7 -1.9**
SOMAC Volcano de Col 12.46 295 *eP* **P 09 10 41.1 -2.8**
CDAR Ciudad de Arme 12.61 292 *eP* **Pn 09 10 41.5 +3.5**
CEGR Campo Tres 12.62 294 *eP* **Pn 09 10 39.9 +1.6**
BCIP Isla Barro Col 12.75 114 Pn **Pn 09 10 40.1 +0.2**
BCIP Isla Barro Col 12.75 114 P **Pn 09 10 40.1 +0.2**
CACAO El Cacao, Vera 12.81 123 *eP* **Pn 09 10 43.8 +3.1**
CAMR Camarioca 12.82 48 Pn **Pn 09 10 41.1 +0.4**
ZAIG Zacatecas 13.14 310 Pn 09 10 47.8 +2.6
ZAIG Zacatecas 13.14 310 *eP* **Pn 09 10 48.1 +2.8**
CIHU Emiliano Zapat 13.36 292 *eP* **Pn 09 10 47.1 -0.7**
CJM Chamela 13.71 293 *eP* **P 09 10 59.6 +2.4**
MTDJ Mount Denham 13.98 73 *iP* **P 09 11 02.4 +1.9**
MTDJ Mount Denham 13.98 73 *eP* **P 09 11 02.2 +1.8**
HBVL Hebbronville 14.00 333 Pn **P 09 10 59.2 -1.3**
STH Stony Hill 14.63 74 *iP* **P 09 11 08.2 +0.6**
HOJ Hope 14.67 75 *iP* **P 09 11 10.4 +2.4**
061Z Ochoppi 15.02 40 Pn 09 11 08.7 -0.4
061Z Ochoppi 15.02 40 P **Pn 09 11 09.5 +0.4**
baz=224,SNR=43
735A Kenedy 15.27 339 P 09 11 13.6 -0.9
735A Kenedy 15.27 339 P **P 09 11 14.5 -0.1**
baz=156,SNR=6.3
PAYG Puerto Ayora 15.27 175 Pn **P 09 11 15.1 +0.5**
833A Chaparral WMA, 15.41 333 Pn 09 11 14.8 +0.8
833A Chaparral WMA, 15.41 333 P **Pn 09 11 13.9 -0.1**
baz=150,SNR=19
833A Chaparral WMA, 15.41 333 P **P 09 11 15.3 -0.9**
baz=150,SNR=19
EF01 Eagle Ford 01 15.72 338 Pn 09 11 18.5 +0.7
HKT Hockley 15.73 346 Pn 09 11 18.6 +0.7
HKT Hockley 15.73 346 P **P 09 11 19.4 -0.1**
baz=164
HKT Hockley 15.73 346 *iP* **P 09 11 19.2 -0.4**
HKT pmax pmax
comp=Z,85nm,1.4s
441A DeRidder 16.10 355 P 09 11 24.7 +0.9
441A DeRidder 16.10 355 P **P 09 11 24.8 +1.1**
baz=174,SNR=19
APAC Apartado, Choc 16.20 113 *eP* **P 09 11 24.8 -0.2**
060A Indiantown 16.21 39 P 09 11 24.8 -0.1
060A Indiantown 16.21 39 P **P 09 11 25.2 +0.2**
baz=222,SNR=27
DWPF Disney Wildern 16.42 34 Pn **Pn 09 11 25.5 -0.9**
DWPF Disney Wildern 16.42 34 P **P 09 11 26.9 -0.4**
baz=217
DWPF Disney Wildern 16.42 34 P **Pn 09 11 26.3 -0.1**
baz=217,SNR=23
HNDO Hondo 16.42 336 P 09 11 27.6 +0.2
HNVL Huntsville, TX 16.43 348 P 09 11 27.0 -0.4
GTBY Guantanamo Bay 16.62 69 P 09 11 30.9 +1.2
GTBY Guantanamo Bay 16.62 69 *iP* **P 09 11 31.8 +2.2**
GTBY Guantanamo Bay 16.62 69 *eP* **P 09 11 31.3 +1.6**
346A Big Creek Wild 16.79 6 P **P 09 11 32.6 +1.2**
346A Big Creek Wild 16.79 6 P **P 09 11 33.0 +1.6**
baz=187,SNR=76
451A Vernon 16.80 18 P 09 11 33.1 +1.6
451A Vernon 16.80 18 P **P 09 11 32.6 +1.1**
baz=200,SNR=6.5
553A Crawfordville 16.84 22 P **P 09 11 34.0 +2.1**
baz=204,SNR=17
656A Willston 16.90 28 P **P 09 11 34.1 +1.5**
baz=211,SNR=9.0
DBBC Dabeiba 16.92 115 *eP* **P 09 11 34.5 +1.5**
435B Jarrell 16.98 342 P **P 09 11 34.6 +1.1**
baz=160
435B Jarrell 16.98 342 P **P 09 11 35.8 +2.3**
baz=160,SNR=13
BRAL Brewton 16.98 14 P **P 09 11 36.0 +2.5**
baz=195,SNR=40
BRAL Brewton 16.98 14 P **P 09 11 36.3 +2.8**
baz=195,SNR=40
NATX Nacogdoches 17.27 351 Pn 09 11 38.2 +1.4
NATX Nacogdoches 17.27 351 P **Pn 09 11 38.3 +1.4**
baz=170,SNR=26
NATX Nacogdoches 17.27 351 P **Pn 09 11 38.0 +1.1**
baz=170,SNR=26
JCT Junction City 17.47 336 P **Pn 09 11 40.7 +1.3**
baz=152,SNR=29

JCT Junction City 17.47 336 P Pn 09 11 41.1 +1.7
baz=152,SNR=29
VBMS Vicksburg 17.53 3 P Pn 09 11 41.7 +1.6
baz=183,SNR=14
VBMS Vicksburg 17.53 3 P Pn 09 11 41.6 +1.6
baz=183,SNR=14
MALC Bahia Malaga 17.60 125 eP Pn 09 11 44.5 +3.5
ARGC Ariguani, Magd 17.63 104 eP P 09 11 38.8 -2.0
CBOC Ciudad Bolivar 17.65 118 eP Pn 09 11 42.4 +0.6
237A Washetta, Mont 17.70 348 P Pn 09 11 43.1 +1.0
237A Washetta, Mont 17.70 348 P Pn 09 11 42.9 +0.8
baz=166,SNR=20
352A Blakely 17.86 19 P Pn 09 11 45.1 +1.2
baz=201,SNR=51
HPIG 17.92 315 P Pn 09 11 46.9 +1.8
PLMC San Jos del P 17.93 121 eP P 09 11 44.4 +0.2
250A Grady 17.95 15 P Pn 09 11 45.9 +0.9
baz=197,SNR=76
143A Socs Landing, 17.99 1 P Pn 09 11 45.8 +0.3
baz=180,SNR=23
146A Union 18.07 7 P Pn 09 11 48.0 +1.5
baz=188,SNR=11
WHTX Lake Whitney, 18.08 344 P Pn 09 11 47.0 +0.4
baz=161,SNR=20
WHTX Lake Whitney, 18.08 344 P Pn 09 11 47.0 +0.4
baz=161,SNR=20
TIGA Tifton 18.27 22 P Pn 09 11 49.8 +0.9
TIGA Tifton 18.27 22 P Pn 09 11 49.8 +0.9
baz=205,SNR=43
TIGA Tifton 18.27 22 P Pn 09 11 50.1 +1.2
baz=205,SNR=43
456A Hilliard 18.29 27 P Pn 09 11 50.0 +0.9
baz=211,SNR=13
TXAR Lajitas Array 18.38 325 P Pn 09 11 51.9 +1.6
TXAR PcP PcP 09 16 17.3 +1.6
TXAR Lajitas Array 18.38 325 P Pn 09 11 51.9 +1.6
TXAR Lajitas Array 18.38 325 P Pn 09 11 52.1 +1.8
comp=Z,35nm,0.9s,baz=151,slow=11,SNR=101
TXAR PcP PcP 09 16 16.8 +1.1
comp=Z,8.1nm,0.9s,baz=160,slow=4.0,SNR=9.7
TXAR LR LR 09 19 13.3
comp=Z,98nm,18.7s,baz=141,slow=37
TXAR ScP ScP 09 19 41.7 +0.3
comp=Z,7.9nm,1.1s,baz=139,slow=5.9,SNR=9.0
TX31 Lajitas Ar. Si 18.38 325 Pn 09 11 52.0 +1.6
TX31 Lajitas Ar. Si 18.38 325 P Pn 09 11 51.9 +1.6
baz=140,SNR=62
OZNA Ozona 18.41 333 P Pn 09 11 51.7 +1.1
FW13 Cleburne 18.41 344 P Pn 09 11 50.6 0.0
TREL Terrell 18.47 348 P Pn 09 11 51.3 +0.1
GUY2C Guyana, Caldas 18.53 119 eP P 09 11 51.4 +0.2
Z41A Richland Creek 18.57 357 P Pn 09 11 52.6 +0.2
JAMC Jamundi, Valle 18.61 126 eP Pn 09 11 53.1 -0.2
CRJC Cerrejon, Guaj 18.63 99 eP Pn 09 11 52.9 -0.5
Z47A Carrollton 18.76 9 P Pn 09 11 55.1 +0.4
baz=190,SNR=54
Z38A Mt. Pleasant 18.79 351 P Pn 09 11 54.8 -0.3
baz=170,SNR=43
LRAL Lakeview Retre 18.80 12 P Pn 09 11 55.5 +0.4
LRAL Lakeview Retre 18.80 12 P Pn 09 11 55.5 +0.4
baz=194,SNR=123
LRAL Lakeview Retre 18.80 12 P Pn 09 11 55.8 +0.7
baz=194,SNR=123
ANIL Santa Ana 18.89 121 eP Pn 09 11 56.5 -0.2
BBAC Balboa, Cauca 18.94 130 eP Pn 09 11 57.5 +0.3
WLAR White Oak Lake 19.02 356 Pn 09 11 57.4 -0.3
152A Waverly Hall 19.02 18 P Pn 09 11 58.1 +0.3
baz=201,SNR=101
OCAC Ocana 19.03 108 eP P 09 11 54.4 -1.9
FW06 Azle 19.04 345 P Pn 09 11 57.8 -0.2
PAC1 Pacto, Paraso 19.10 137 eP Pn 09 12 00.3 +1.3
255A Hazlehurst 19.14 24 P Pn 09 11 58.8 -0.3
baz=208,SNR=38
CCAR Cane Creek 19.20 360 P Pn 09 11 59.5 -0.4
CCAR Cane Creek 19.20 360 P Pn 09 11 59.5 -0.4
baz=179,SNR=12
FW03 Perrin-Whitt E 19.23 343 P Pn 09 11 59.5 -0.8
Y45A Yeager Farm, C 19.24 5 P Pn 09 11 60.0 -0.3
Y45A Yeager Farm, C 19.24 5 P Pn 09 11 60.0 -0.3
baz=186,SNR=45
SGCY Sterling City 19.27 335 P Pn 09 12 00.4 -0.4
Z35A Perchaven, San 19.30 346 P Pn 09 11 60.0 -1.1
baz=163,SNR=26
ABTX Abilene, Hawle 19.34 339 P Pn 09 12 00.8 -0.8
baz=156,SNR=82
ABTX Abilene, Hawle 19.34 339 P Pn 09 12 01.2 -0.4
baz=156,SNR=82
ORTC Ortega, Tolima 19.34 122 eP P 09 12 00.3 +0.7
OTAV Otavalo 19.35 137 P Pn 09 12 01.7 -0.5
OTAV PcP 09 16 20.2 +2.1
OTAV Otavalo 19.35 137 eP Pn 09 12 02.5 +0.2
OTAV Otavalo 19.35 137 P Pn 09 12 01.7 -0.5
GCUF Volcan Galeras 19.41 132 eP Pn 09 12 03.3 +0.3
TULM Tulcn-Chalpat 19.45 134 P Pn 09 12 04.5 +1.0
TULM PcP 09 16 20.7 +2.4
SLBS Sierra La Lagu 19.49 300 P Pn 09 12 04.7 +1.3
154A Montrose 19.51 22 P Pn 09 12 02.9 -0.6
154A Montrose 19.51 22 P Pn 09 12 02.9 -0.6
baz=205,SNR=121
ROSC El Rosal 19.62 118 P P 09 12 04.2 +1.2
ROSC El Rosal 19.62 118 P P 09 12 04.2 +1.2
ROSC El Rosal 19.62 118 P P 09 12 02.1 -0.9
comp=Z,29nm,0.6s,baz=230,slow=20,SNR=10
Y49A Blount Mountai 19.71 13 P Pn 09 12 05.1 -0.8
Y49A Blount Mountai 19.71 13 P Pn 09 12 05.1 -0.8
baz=195,SNR=32
BARC Barichara 19.80 112 eP P 09 12 03.8 -1.0
BONI La Bonita 19.82 134 eP Pn 09 12 08.4 +0.8
OXF Oxford 19.89 5 P P 09 12 05.2 -0.1
OXF Oxford 19.89 5 P P 09 12 05.5 +0.2
baz=186,SNR=20
OXF Oxford 19.89 5 P P 09 12 05.7 +0.4
baz=186,SNR=20
OXF Oxford 19.89 5 P P 09 12 05.2 -0.1
MIAR Mount Ida 19.90 355 P P 09 12 06.1 +0.7
MIAR Mount Ida 19.90 355 P P 09 12 06.1 +0.7
baz=174,SNR=39
MIAR Mount Ida 19.90 355 P P 09 12 06.0 +0.6
baz=174,SNR=39
MIAR Mount Ida 19.90 355 P P 09 12 06.1 +0.7
BETC Betania 19.91 125 eP Pn 09 12 07.8 -0.5
LOOK Love County 19.92 346 P 09 12 06.5 +1.0
PAMC Pamplona, Colo 19.93 109 eP P 09 12 04.9 -1.5
SDDR Presa de Saban 19.94 75 P P 09 12 06.1 +0.1
LPIG La Paz 19.96 301 P Pn 09 12 10.1 +1.2
comp=Z,51nm,1.1s,baz=166,slow=2.1,SNR=4.8
LPIG LR LR 09 20 42.5
comp=Z,140nm,19.7s,baz=117,slow=38
comp=Z,51nm,1.1s
CVER Cruz Verde, Cu 20.00 118 eP Pn 09 12 10.1 +0.3
SN01 Snyder 1 20.01 337 P P 09 12 07.8 +1.2
WTFS Witchita Falls 20.03 343 P 09 12 07.6 +0.8
ODSA Odessa 20.06 332 P P 09 12 08.5 +1.3
UALR University of 20.06 358 P P 09 12 08.0 +0.9
GOGA Godfrey 20.11 20 P Pn 09 12 09.1 -1.3
GOGA Godfrey 20.11 20 P Pn 09 12 09.0 -1.4
baz=203,SNR=132
GOGA Godfrey 20.11 20 P Pn 09 12 09.2 -1.2
baz=203,SNR=132
GOGA Godfrey 20.11 20 P Pn 09 12 09.1 -1.3
X37A Clayton 20.15 351 P Pn 09 12 09.8 -1.1
X37A Clayton 20.15 351 P Pn 09 12 10.2 -0.8
baz=169
X48A Hartselle 20.16 11 P P 09 12 09.2 +1.0
X48A Hartselle 20.16 11 P P 09 12 09.3 +1.1
baz=193,SNR=63
GARC Garzon, Huila 20.17 126 eP Pn 09 12 10.7 -0.9
Y52A Lilburn 20.33 18 P Pn 09 12 12.1 -1.0
baz=201,SNR=114
Y52A P Pn 09 12 12.1 -1.0
baz=201,SNR=114
PIAT Ana Tenorio 20.40 138 eP Pn 09 12 15.3 +0.8
FLOC Florencia 20.43 128 eP Pn 09 12 13.1 -1.3
POST Post 20.43 336 P P 09 12 12.0 +0.8
FPAL Fort Paine 20.55 14 P P 09 12 13.7 +1.2
WHAR Wooly Hollow 20.58 358 P P 09 12 12.9 +0.2
HAW Hawthorne Fire 20.74 24 P P 09 12 15.6 +1.1
baz=208,SNR=52
X51A Calhoun 20.77 16 P P 09 12 15.9 +1.2
baz=198,SNR=18
X51A P P 09 12 15.9 +1.2
baz=198,SNR=18
COHC Cochancay 20.95 143 eP P 09 12 18.6 +1.8
WMOK Wichita Mounta 21.03 343 P P 09 12 18.8 +1.2
baz=160,SNR=5.0
WMOK Wichita Mounta 21.03 343 P P 09 12 18.6 +1.1
baz=160,SNR=5.0
SWET Sewanee 21.12 13 P P 09 12 18.9 +0.3
NHSC New Hope 21.13 28 P P 09 12 19.1 +0.5
NHSC New Hope 21.13 28 P P 09 12 19.9 +1.4
baz=212,SNR=16
NHSC New Hope 21.13 28 P P 09 12 20.5 +1.9
baz=212,SNR=16
MNTX Cornudas Mount 21.14 326 P P 09 12 20.0 +1.3
baz=140,SNR=86
MNTX Cornudas Mount 21.14 326 P P 09 12 20.0 +1.3
baz=140,SNR=86
FCAR Ozark Folk Cen 21.17 359 P P 09 12 19.0 0.0
W50A Signal Mountai 21.25 14 P P 09 12 20.8 +0.9
baz=197,SNR=29
HODGE Hodges 21.27 22 P P 09 12 21.2 +1.1
baz=205,SNR=98
SDV Santo Domingo 21.32 103 P P 09 12 18.9 -2.2
SDV PcP PcP 09 16 21.1 -0.3
SDV Santo Domingo 21.32 103 P P 09 12 18.7 -2.4
comp=Z,43nm,0.6s,baz=299,slow=4.1,SNR=14
SDV PcP PcP 09 16 21.6 +0.1
comp=Z,7.9nm,0.8s,baz=27,slow=3.4,SNR=5.0
SDV ScP ScP 09 19 48.4 -0.2
comp=Z,3.4nm,0.5s,baz=335,slow=9.6,SNR=4.4
SDV LR LR 09 22 27.4
comp=Z,150nm,18.7s,baz=276,slow=42
comp=Z,43nm,0.6s
OKCSW OKLAHOMA CITY 21.33 347 P P 09 12 21.1 +0.3
LCAR Lake Charles 21.35 1 P P 09 12 20.8 -0.1
LCAR Lake Charles 21.35 1 P P 09 12 20.9 -0.1
baz=181,SNR=100
ARNL Arenillas 21.39 147 PcP 09 16 22.7 +1.4
CPRX Cap Rock 21.43 331 P P 09 12 23.1 +1.1
V48A Smith Brothers 21.45 11 P P 09 12 22.3 +0.3
baz=192,SNR=68
LNXT Lenox 21.46 5 P P 09 12 23.0 +0.9
TUL3 Leonard 21.51 351 P P 09 12 22.0 -0.7
baz=169,SNR=20
TUL3 Leonard 21.51 351 P P 09 12 22.4 -0.3
baz=169,SNR=20
W52A Murphy 21.52 17 P P 09 12 23.8 +1.0
baz=200,SNR=16
RLO Rose Lookout 21.66 353 P P 09 12 23.6 -0.6
HHAR Hobbs 21.66 355 P P 09 12 23.6 -0.6
HHAR PcP 09 16 21.7 +0.2
U40A Yellville 21.66 357 P P 09 12 24.2 -0.1
baz=176,SNR=27
U40A P P 09 12 24.2 -0.1
baz=176,SNR=27
WVT Waverly 21.67 8 P P 09 12 23.5 -0.9
WVT Waverly 21.67 8 P P 09 12 24.0 -0.4
baz=190
WVT Waverly 21.67 8 P P 09 12 23.9 -0.4
baz=190,SNR=47
WVT Waverly 21.67 8 P P 09 12 23.5 -0.9
JSC Jenkinsville 21.69 24 P P 09 12 25.3 +0.8
baz=208,SNR=32
BG3 Lake Jocassee 21.73 20 P P 09 12 26.3 +1.2
CASEE Lake Jocassee 21.73 20 P P 09 12 26.2 +1.2
baz=203,SNR=46
MSTX Muleshoe 21.73 334 P P 09 12 24.6 -0.6
baz=149,SNR=38
MSTX Muleshoe 21.73 334 P P 09 12 25.1 -0.1
baz=149,SNR=38
Y57A Sumter 21.81 26 P P 09 12 26.5 +0.6
baz=210,SNR=15
Y57A P P 09 12 26.5 +0.6
baz=210,SNR=15
U38A Gravette 21.85 354 P P 09 12 25.4 -0.9
baz=173,SNR=31
PAULI Pauline 21.96 22 P P 09 12 28.3 +0.9
baz=206,SNR=31
V51A Loudon 22.07 16 P P 09 12 29.2 +0.7
baz=199,SNR=16
PBMO Poplar Bluff 22.08 3 P P 09 12 28.5 -0.1
baz=183,SNR=117
TKL Tuckaleechee C 22.09 17 P P 09 12 29.8 +1.0
baz=200,SNR=47
TKL Tuckaleechee C 22.09 17 P P 09 12 29.8 +1.0
comp=Z,146nm,1.0s,baz=190,slow=9.3,SNR=74
TKL LR LR 09 22 29.2
comp=Z,477nm,19.7s,baz=204,slow=41
AMTX Amarillo 22.10 338 P P 09 12 29.3 +0.3
baz=153
AMTX Amarillo 22.10 338 P P 09 12 29.1 +0.1
baz=153,SNR=61
MCRA Macar, Loja 22.15 148 eP P 09 12 34.2 +4.6
HATO Hato, Curacao 22.18 94 P P 09 12 30.1 +0.1
OK051 E0350 and S346 22.27 349 P P 09 12 29.3 -1.4
V52A Sevierville 22.31 17 P P 09 12 32.0 +0.9
baz=201,SNR=56
BIRD Birdtown, Kers 22.33 25 P P 09 12 31.9 +0.7
baz=209,SNR=18
V53A Saluda 22.39 19 P P 09 12 33.5 +1.5
V53A Saluda 22.39 19 P P 09 12 33.2 +1.3
baz=203,SNR=52
V53A P P 09 12 33.2 +1.3
baz=203,SNR=52
U49A Red Boiling Sp 22.41 12 P P 09 12 32.0 0.0
baz=195,SNR=49
KMSC Kings Mountain 22.42 23 P P 09 12 32.8 +0.5
baz=207,SNR=52
KMSC Kings Mountain 22.42 23 P P 09 12 33.2 +0.9
baz=207,SNR=52
T45B Paducah 22.45 6 P P 09 12 32.6 +0.2
baz=187
BLOK Blackwell 22.59 348 P P 09 12 32.7 -1.2
T35A Sooner Cattle 22.61 350 P P 09 12 33.0 -1.2
T47A Sharon Grove 22.62 9 P P 09 12 34.0 -0.3
baz=191,SNR=66
U32A Winter Ranch, 22.64 344 P P 09 12 34.2 -0.2
U32A Winter Ranch, 22.64 344 P P 09 12 33.9 -0.5
baz=161,SNR=7.0
CGM3 Cape Girardeau 22.64 4 P P 09 12 34.0 -0.4
X58A Rowland 22.72 27 P P 09 12 34.9 -0.3
X58A Rowland 22.72 27 P P 09 12 35.7 +0.4
baz=212,SNR=8.8
X58A P P 09 12 35.7 +0.4
baz=212,SNR=8.8
HSIG 22.90 312 P P 09 12 38.9 +1.9
HSIG PcP 09 16 25.6 +1.5
W57A Gilead 22.96 25 P P 09 12 37.5 0.0
baz=210,SNR=14
W57A P P 09 12 37.5 0.0
baz=210,SNR=14
TZTN Tazewell 22.98 17 P P 09 12 37.5 -0.3
baz=200,SNR=20
TZTN Tazewell 22.98 17 P P 09 12 38.2 +0.4
baz=200,SNR=20
S39A Bolivar 23.01 357 P P 09 12 37.6 -0.5
baz=176,SNR=89
S44A Carbondale 23.06 5 P P 09 12 38.4 -0.1
baz=186,SNR=126
V55A Taylorsville 23.10 22 P P 09 12 39.6 +0.7
baz=206,SNR=68
V55A P P 09 12 39.6 +0.7
baz=206,SNR=68
121A Cookes Peak, D 23.11 323 P P 09 12 40.1 +0.8
baz=136,SNR=71
121A Cookes Peak, D 23.11 323 P P 09 12 41.5 +2.3
baz=136,SNR=71
FVM French Village 23.28 2 P P 09 12 39.5 -1.1
baz=183,SNR=31
CCM Cathedral Cave 23.33 1 P P 09 12 40.2 -0.8
CCM Cathedral Cave 23.33 1 P P 09 12 40.3 -0.7
baz=181
CCM Cathedral Cave 23.33 1 P P 09 12 40.6 -0.4
baz=181,SNR=132
CCM Cathedral Cave 23.33 1 P P 09 12 40.2 -0.8
U54A Nelsons Funny 23.49 20 P P 09 12 43.3 +0.7
baz=204,SNR=84
U54A P P 09 12 43.3 +0.7
baz=204,SNR=84
R40A Maddies Statio 23.57 359 P P 09 12 42.5 -0.7
baz=178,SNR=70
Y22A Socorro 23.71 327 P P 09 12 46.4 +1.7
baz=140,SNR=47
Y22D IRIS PASSCAL I 23.79 327 P P 09 12 47.8 +2.4
baz=141
U56A King 23.85 23 P P 09 12 46.4 +0.7
baz=208,SNR=32
U56A P P 09 12 46.4 +0.7
baz=208,SNR=32
V58A Windy Hill, Pi 23.87 26 P P 09 12 45.5 -0.4
baz=211,SNR=28
V58A P P 09 12 45.5 -0.4
baz=211,SNR=28
SLM Saint Louis 23.94 3 P P 09 12 46.3 -0.2
baz=183,SNR=31
CNNC Cliffs of the 23.95 29 P P 09 12 47.0 +0.4
baz=214,SNR=9.9
CNNC Cliffs of the 23.95 29 P P 09 12 46.7 +0.1
baz=214,SNR=9.9
WCI Wyandotte Cave 23.97 10 P P 09 12 46.6 -0.2
WCI Wyandotte Cave 23.97 10 P P 09 12 46.7 -0.2
baz=192
WCI Wyandotte Cave 23.97 10 P P 09 12 46.6 -0.2
baz=192,SNR=98
WCI Wyandotte Cave 23.97 10 P P 09 12 46.6 -0.2
S51A Beattyville 24.00 16 P P 09 12 47.2 +0.2
S51A Beattyville 24.00 16 P P 09 12 47.2 +0.2
baz=199,SNR=17
S51A P P 09 12 47.2 +0.2
baz=199,SNR=17
OLIL Olney 24.21 7 P P 09 12 49.0 +0.1
baz=188,SNR=50
ANMO Albuquerque 24.24 329 P P 09 12 50.2 +0.8
ANMO Albuquerque 24.24 329 P P 09 12 51.0 +1.6
baz=143
ANMO Albuquerque 24.24 329 P P 09 12 51.0 +1.6
baz=143,SNR=11
ANMO Albuquerque 24.24 329 ceP P 09 12 51.3 +1.8
ANMO pmax pmax
comp=Z,16nm,1.7s
ANMO Albuquerque 24.24 329 PcP PcP 09 16 28.2 +1.1
comp=Z,7.7nm,0.9s,baz=260,slow=3.7,SNR=5.7
R49A Shelbyville 24.25 12 P P 09 12 48.7 -0.5
baz=195,SNR=26
R49A P P 09 12 48.7 -0.5
baz=195,SNR=26
Q44A Meyer Farm, Va 24.28 5 P P 09 12 49.2 -0.4
baz=186,SNR=31
R50A Paris 24.42 14 P P 09 12 50.8 -0.1
R50A Paris 24.42 14 P P 09 12 50.8 -0.1
baz=197,SNR=24
R50A P P 09 12 50.8 -0.1
baz=197,SNR=24
R32A Long Quarter, 24.51 346 P P 09 12 51.1 -0.6
R32A Long Quarter, 24.51 346 P P 09 12 51.0 -0.7
baz=163,SNR=21
BLA Blacksburg 24.60 22 P P 09 12 52.4 -0.2
BLA Blacksburg 24.60 22 P P 09 12 52.6 0.0
baz=207,SNR=18
BLA Blacksburg 24.60 22 P P 09 12 52.9 +0.4
baz=207,SNR=18
BLA Blacksburg 24.60 22 P P 09 12 52.4 -0.2
SJG San Juan 24.68 78 LR LR 09 21 46.1
comp=Z,174nm,19.6s,baz=258,slow=35
KSU1 Kansas State U 24.76 351 P P 09 12 54.4 +0.5
baz=168,SNR=13
KSU1 Kansas State U 24.76 351 P P 09 12 52.9 -1.1
baz=168,SNR=13
TUC Tucson 24.79 318 P P 09 12 56.7 +2.3
TUC Tucson 24.79 318 P P 09 12 56.5 +2.0
baz=131
TUC Tucson 24.79 318 P P 09 12 56.7 +2.3
P40A Paris 24.80 359 P P 09 12 53.2 -1.1
baz=179,SNR=46
S54A Dingess, Beckl 24.82 20 P P 09 12 54.7 +0.1
baz=204,SNR=29
S54A P P 09 12 54.7 +0.1
baz=204,SNR=29
T57A Hurt 24.85 24 P P 09 12 54.9 +0.1
baz=209,SNR=24
T57A P P 09 12 54.9 +0.1
baz=209,SNR=24
U59A Littleton 24.92 27 P P 09 12 54.8 -0.6
U59A Littleton 24.92 27 P P 09 12 55.7 +0.3
baz=213
U59A P P 09 12 55.7 +0.3
baz=213
P38A Dawn 24.95 357 P P 09 12 55.3 -0.3
P38A Dawn 24.95 357 P P 09 12 55.7 0.0
baz=175,SNR=21
P43A Skaggs, Pawnee 24.98 4 P P 09 12 55.8 -0.1
baz=185,SNR=17
R53A Hurricane 25.11 18 P P 09 12 57.3 +0.2
baz=202,SNR=17
R53A P P 09 12 57.3 +0.2
baz=202,SNR=17
CBKS Cedar Bluff 25.13 345 P P 09 12 58.0 +0.7
CBKS Cedar Bluff 25.13 345 P P 09 12 57.8 +0.5
baz=161
CBKS Cedar Bluff 25.13 345 P P 09 12 58.0 +0.7
T25A Trinidad 25.14 335 P P 09 12 58.6 +0.9
T25A Trinidad 25.14 335 P P 09 12 59.1 +1.4
baz=150,SNR=20
P46A Rosedale 25.19 8 P P 09 12 57.7 -0.1
P46A Rosedale 25.19 8 P P 09 12 57.6 -0.1
baz=190,SNR=42
ATAH Atahualpa 25.30 148 LR LR 09 22 03.5
comp=Z,164nm,19.1s,baz=331,slow=34
P48A Milroy 25.32 11 P P 09 12 58.3 -0.8
baz=194,SNR=18
P48A P P 09 12 58.3 -0.8
baz=194,SNR=18
Q51A Peebles 25.37 15 P P 09 12 59.1 -0.4
baz=199,SNR=32
Q51A P P 09 12 59.1 -0.4
baz=199,SNR=32
P49A Miami Univ. Ec 25.54 12 IAmb IAmb 09 13 36.1
comp=Z,84nm,0.9s
P49A Miami Univ. Ec 25.54 12 P P 09 12 59.9 -1.0
baz=195,SNR=7.0
P49A Miami Univ. Ec 25.54 12 P P 09 13 00.1 -0.9
baz=195
T59A Double "B" Far 25.54 27 IAmb IAmb 09 13 27.8
comp=Z,95nm,1.1s
T59A Double "B" Far 25.54 27 P P 09 13 01.2 +0.3
baz=213,SNR=12
T59A P P 09 13 01.2 +0.3
baz=213,SNR=12
O44A Mansfield 25.57 6 IAmb IAmb 09 13 01.7
comp=Z,92nm,0.8s
O44A Mansfield 25.57 6 P P 09 13 01.0 -0.3
baz=187,SNR=18
Q52A Bidwell 25.60 17 IAmb IAmb 09 13 28.4
comp=Z,113nm,0.8s
Q52A Bidwell 25.60 17 P P 09 13 01.7 +0.1
baz=201,SNR=19
Q52A P P 09 13 01.7 +0.1
baz=201,SNR=19
S57A Dark Hollow, R 25.63 24 IAmb IAmb 09 13 39.2
comp=Z,51nm,1.0s
S57A Dark Hollow, R 25.63 24 P P 09 13 01.9 0.0
baz=209,SNR=7.4
S57A P P 09 13 01.9 0.0
baz=209,SNR=7.4
R55A Marlinton 25.66 21 IAmb IAmb 09 13 03.9
comp=Z,113nm,0.9s
R55A Marlinton 25.66 21 P P 09 13 02.7 +0.5
baz=206,SNR=31
R55A P P 09 13 02.7 +0.5
baz=206,SNR=31
X18A Snowflake 25.80 323 P P 09 13 06.5 +2.9
X18A IAmb IAmb 09 13 07.6
comp=Z,105nm,1.7s
X18A PcP 09 16 32.7 +2.1
P51A Williamsport 25.87 15 P P 09 13 03.4 -0.6
P51A Williamsport 25.87 15 P P 09 13 03.5 -0.5
baz=199,SNR=12
P51A P P 09 13 03.5 -0.5
baz=199,SNR=12
HDIL Hopedale 25.91 4 P P 09 13 03.8 -0.5
HDIL Hopedale 25.91 4 P P 09 13 03.8 -0.5
baz=185,SNR=34
HDIL Hopedale 25.91 4 P P 09 13 03.5 -0.8
baz=185,SNR=34
214A Organ Pipe Nat 25.91 315 IAmb IAmb 09 13 08.2
comp=Z,52nm,0.8s
214A Organ Pipe Nat 25.91 315 P P 09 13 06.9 +2.4
baz=127,SNR=26
SFIN Lafayette 25.95 8 P P 09 13 04.6 -0.1
SFIN IAmb IAmb 09 13 05.6
comp=Z,93nm,0.8s
SFIN Lafayette 25.95 8 P P 09 13 04.0 -0.7
baz=190,SNR=25
SFIN Lafayette 25.95 8 P P 09 13 04.5 -0.2
baz=190,SNR=25
Q54A Coxs Mills 26.05 19 P P 09 13 06.0 +0.3
baz=204,SNR=26
Q54A P P 09 13 06.0 +0.3
baz=204,SNR=26

N38A	Joes South For	26.10	357	P	P	09 13 05.2	-0.8		baz=176,SNR=19
W18A	Petrified Fore	26.10	325	IAmb	IAmb	09 13 11.3			comp=Z,109nm,1.3s
W18A	Petrified Fore	26.10	325	P	P	09 13 07.3	+0.9		baz=137,SNR=9.1
SDCO	Great Sand Dun	26.10	334	P	P	09 13 07.4	+0.9		baz=148,SNR=6.1
KSCO	Kaye Shedlock'	26.14	340	IAmb	IAmb	09 13 34.0			comp=Z,75nm,1.1s
KSCO	Kaye Shedlock'	26.14	340	P	P	09 13 06.5	-0.2		baz=155
KSCO	Kaye Shedlock'	26.14	340	P	P	09 13 06.9	+0.3		baz=155
O48B	Farmland	26.15	11	IAmb	IAmb	09 13 44.0			comp=Z,120nm,0.9s
O48B	Farmland	26.15	11	P	P	09 13 05.5	-1.0		baz=194,SNR=16
O48B	Farmland	26.15	11	P	P	09 13 05.6	-1.0		baz=194,SNR=16
R58B	Mineral	26.24	25	IAmb	IAmb	09 13 36.9			comp=Z,44nm,0.9s
R58B	Mineral	26.24	25	P	P	09 13 07.4	+0.1		baz=211,SNR=8.1
R58B				P	P	09 13 07.4	+0.1		baz=211,SNR=8.1
O49A	Covington	26.25	13	IAmb	IAmb	09 13 45.6			comp=Z,96nm,1.0s
O49A	Covington	26.25	13	P	P	09 13 06.6	-0.8		baz=196,SNR=5.8
O49A				P	P	09 13 06.6	-0.8		baz=196,SNR=5.8
P52A	Corning	26.26	17	P	P	09 13 07.4	-0.1		baz=201,SNR=5.9
P53A	Whipple	26.34	18	IAmb	IAmb	09 13 36.0			comp=Z,93nm,1.1s
P53A	Whipple	26.34	18	P	P	09 13 08.4	+0.2		baz=203,SNR=12
P53A				P	P	09 13 08.4	+0.2		baz=203,SNR=12
N35A	Tabor	26.36	353	IAmb	IAmb	09 13 35.9			comp=Z,54nm,0.9s
N35A	Tabor	26.36	353	P	P	09 13 09.4	+1.0		baz=171,SNR=9.7
ACSO	Alum Creek Sta	26.60	15	IAmb	IAmb	09 13 38.0			comp=Z,106nm,0.9s
ACSO	Alum Creek Sta	26.60	15	P	P	09 13 10.0	-0.5		baz=199,SNR=12
ACSO	Alum Creek Sta	26.60	15	P	P	09 13 10.6	+0.1		baz=199,SNR=12
CBN	Corbin Frederi	26.65	26	IAmb	IAmb	09 13 55.2			comp=Z,84nm,1.0s
CBN	Corbin Frederi	26.65	26	P	P	09 13 11.5	+0.5		baz=212,SNR=5.4
CBN	Corbin Frederi	26.65	26	P	P	09 13 12.0	+1.0		baz=212,SNR=5.4
N47A	Urbana	26.66	10	IAmb	IAmb	09 13 51.2			comp=Z,83nm,1.0s
N47A	Urbana	26.66	10	P	P	09 13 09.5	-1.5		baz=193,SNR=9.6
N47A				P	P	09 13 09.5	-1.5		baz=193,SNR=9.6
Q56A	Snyder Ridge,	26.67	22	P	P	09 13 12.0	+0.8		baz=207,SNR=14
Q56A				P	P	09 13 12.0	+0.8		baz=207,SNR=14
S22A	4UR Ranch, Cre	26.68	332	P	P	09 13 12.8	+1.1		baz=145,SNR=9.9
O52A	Adamsville	26.79	17	IAmb	IAmb	09 13 39.1			comp=Z,81nm,0.8s
O52A	Adamsville	26.79	17	P	P	09 13 12.1	-0.2		baz=201,SNR=14
O52A				P	P	09 13 12.1	-0.2		baz=201,SNR=14
M44A	Midewin, Midew	26.84	6	IAmb	IAmb	09 13 12.9			comp=Z,102nm,0.8s
M44A	Midewin, Midew	26.84	6	P	P	09 13 12.3	-0.4		baz=188,SNR=10
N49A	Columbus Grove	26.98	12	IAmb	IAmb	09 13 56.4			comp=Z,90nm,0.9s
MCWV	Mont Chateau	26.99	20	IAmb	IAmb	09 13 15.7			comp=Z,154nm,1.7s
MCWV	Mont Chateau	26.99	20	P	P	09 13 14.3	+0.3		baz=206
MCWV	Mont Chateau	26.99	20	P	P	09 13 14.6	+0.6		baz=206
Q24A	Divide	27.01	336	P	P	09 13 15.2	+0.6		baz=150
MVCO	Mesa Verde	27.04	329	P	P	09 13 16.1	+1.4		
MVCO	Mesa Verde	27.04	329	P	P	09 13 16.4	+1.7		baz=142,SNR=11
113A	Mohawk Valley,	27.05	316	P	P	09 13 17.1	+2.4		
O53A	New Philadelph	27.10	18	IAmb	IAmb	09 14 03.7			comp=Z,64nm,0.9s
O53A	New Philadelph	27.10	18	P	P	09 13 14.9	-0.1		baz=202,SNR=8.1
SCIA	State Center	27.21	357	P	P	09 13 16.2	+0.2		baz=176
HQIL	Hanson Quary C	27.26	6	IAmb	IAmb	09 13 17.0			comp=Z,132nm,1.1s
O54A	Avella	27.29	19	IAmb	IAmb	09 13 17.7			comp=Z,67nm,0.7s
O54A	Avella	27.29	19	P	P	09 13 16.9	+0.2		baz=204,SNR=14
O54A				P	P	09 13 16.9	+0.2		baz=204,SNR=14
WUAZ	Wupatki	27.32	323	P	P	09 13 19.9	+2.6		
WUAZ				IAmb	IAmb	09 13 21.2			comp=Z,50nm,0.9s
WUAZ	Wupatki	27.32	323	P	P	09 13 18.7	+1.4		baz=134,SNR=31
L42A	Oliver, Polo	27.32	3	P	P	09 13 16.3	-0.7		baz=184,SNR=23
L40A	Anamosa	27.33	1	IAmb	IAmb	09 13 18.4			comp=Z,132nm,1.2s
L40A	Anamosa	27.33	1	P	P	09 13 16.9	-0.2		baz=181,SNR=23
N51A	Ashland	27.40	15	IAmb	IAmb	09 13 50.2			comp=Z,60nm,1.0s
P57A	Homestead Farm	27.49	23	P	P	09 13 19.5	+0.9		
P57A				IAmb	IAmb	09 13 20.5			comp=Z,97nm,0.8s
P57A	Homestead Farm	27.49	23	P	P	09 13 19.5	+0.9		baz=209,SNR=25
P57A				P	P	09 13 19.5	+0.9		baz=209,SNR=25
L44A	Lake County Fo	27.63	6	IAmb	IAmb	09 13 20.3			comp=Z,72nm,0.8s
L44A	Lake County Fo	27.63	6	P	P	09 13 19.1	-0.6		baz=188
L44A	Lake County Fo	27.63	6	P	P	09 13 19.4	-0.3		baz=188
UPAO	U. Pittsburgh	27.68	19	P	P	09 13 20.1	0.0		baz=205
M50A	Fremont	27.70	14	IAmb	IAmb	09 13 20.7			comp=Z,38nm,0.7s
M50A	Fremont	27.70	14	P	P	09 13 19.6	-0.8		baz=198,SNR=7.5
M50A				P	P	09 13 19.6	-0.8		baz=198,SNR=7.5
N53A	Lisbon	27.72	18	IAmb	IAmb	09 13 21.5			comp=Z,73nm,1.0s
N53A	Lisbon	27.72	18	P	P	09 13 20.4	-0.1		baz=203,SNR=11
N53A				P	P	09 13 20.4	-0.1		baz=203,SNR=11
OGNE	Ogallala	27.74	343	P	P	09 13 20.6	-0.2		baz=158
SDMD	Soldier's Deli	27.89	25	P	P	09 13 22.4	+0.3		baz=212,SNR=13
ISCO	Idaho Springs	27.91	337	P	P	09 13 23.5	+0.9		baz=150
L48A	N Adams	27.91	12	P	P	09 13 20.9	-1.3		baz=195,SNR=23
L48A				P	P	09 13 20.9	-1.3		baz=195,SNR=23
K38A	Parkersburg	27.93	358	IAmb	IAmb	09 13 23.7			comp=Z,207nm,1.9s
ESJX	Sierra Juarez	28.14	312	P	P	09 13 26.9	+2.3		
BLYC	Blythe	28.14	317	P	P	09 13 26.9	+2.6		
JFWS	Jewell Farm	28.21	2	IAmb	IAmb	09 13 26.9			comp=Z,70nm,0.8s
JFWS	Jewell Farm	28.21	2	P	P	09 13 24.2	-0.7		baz=183,SNR=16
JFWS	Jewell Farm	28.21	2	P	P	09 13 24.3	-0.6		baz=183,SNR=16
PV14	Lion Creek, Pa	28.21	330	P	P	09 13 26.7	+1.4		
PV22	Blue Mesa, Par	28.22	331	P	P	09 13 26.5	+1.2		
PDMC	Parker Dam,Lak	28.23	318	P	P	09 13 26.4	+1.2		baz=128,SNR=32
M53A	WI Miller and	28.35	18	IAmb	IAmb	09 14 24.0			comp=Z,83nm,1.0s
M53A	WI Miller and	28.35	18	P	P	09 13 25.7	-0.4		baz=203,SNR=5.2
AAM	Ann Arbor	28.41	12	IAmb	IAmb	09 14 14.0			comp=Z,49nm,0.9s
AAM	Ann Arbor	28.41	12	P	P	09 13 26.0	-0.7		baz=196
YUH	Yuha Desert	28.47	313	IAmb	IAmb	09 13 31.7			comp=Z,74nm,1.6s
U15A	North Rim	28.49	323	IAmb	IAmb	09 13 31.9			comp=Z,55nm,1.3s
TBTG	Tabatinga, AM	28.52	129	P	P	09 13 27.8	-0.2		
SWSC	Sam W. Stewart	28.54	314	P	P	09 13 30.5	+2.6		baz=124,SNR=14
SSPA	Standing Stone	28.55	22	P	P	09 13 28.1	+0.2		
SSPA				IAmb	IAmb	09 13 29.1			comp=Z,78nm,0.8s
SSPA	Standing Stone	28.55	22	P	P	09 13 28.2	+0.3		baz=208
SSPA	Standing Stone	28.55	22	P	P	09 13 28.1	+0.2		baz=208,SNR=20
MVL	Millersville	28.59	25	IAmb	IAmb	09 13 29.8			comp=Z,43nm,0.7s
IKP	In-Ko-Pah, Jac	28.60	313	P	P	09 13 31.6	+3.0		baz=123,SNR=12
PSDB	Penn State Uni	28.67	21	P	P	09 13 30.1	+1.0		baz=206
BC3	Big Chuckawall	28.71	315	P	P	09 13 32.6	+3.0		baz=125,SNR=18
GEDE	Greenville	28.73	26	P	P	09 13 29.7	+0.1		baz=214,SNR=5.5
IRM	Iron Mountain	28.80	317	P	P	09 13 33.2	+3.0		baz=127,SNR=25
NEE2	Needles Airpor	28.82	318	P	P	09 13 32.9	+2.4		baz=126
PSUB	Penn St. - Bra	28.91	26	P	P	09 13 31.1	0.0		baz=214
MONP2	Monument Peak	28.95	313	P	P	09 13 34.8	+2.9		baz=123,SNR=14
M55A	Ridgway	28.98	20	IAmb	IAmb	09 13 32.7			comp=Z,42nm,0.8s
M55A	Ridgway	28.98	20	P	P	09 13 31.7	0.0		baz=206,SNR=9.3
M55A				P	P	09 13 31.7	0.0		baz=206,SNR=9.3
N23A	Red Feather La	28.98	337	P	P	09 13 33.5	+1.4		baz=150
CZSB	Cruzeiro do Su	29.09	139	P	P	09 13 35.2	+2.2		
CZSB				IAmb	IAmb	09 13 36.4			comp=Z,83nm,0.8s
CZSB					PcP	09 16 39.6	+1.0		
K50A	Casco	29.09	14	IAmb	IAmb	09 14 23.6			comp=Z,55nm,0.8s
K50A	Casco	29.09	14	P	P	09 13 32.0	-0.7		baz=198
K50A				P	P	09 13 32.0	-0.7		baz=198
N58A	Sunbury	29.16	24	P	P	09 13 33.6	+0.2		baz=210
N58A				P	P	09 13 33.6	+0.2		baz=210
I40A	Norwalk	29.17	1	P	P	09 13 33.7	+0.3		
KNB	Kanab	29.21	324	IAmb	IAmb	09 13 38.1			comp=Z,51nm,0.9s
PKCU	Pink Cliffs	29.22	325	IAmb	IAmb	09 13 38.9			comp=Z,128nm,1.5s
TUPA	Temple Univers	29.22	26	P	P	09 13 33.9	0.0		baz=214,SNR=9.2
I42A	Draeger Farm,	29.25	4	P	P	09 13 34.1	0.0		
I42A				IAmb	IAmb	09 13 34.7			comp=Z,150nm,1.5s
I42A	Draeger Farm,	29.25	4	P	P	09 13 33.6	-0.5		baz=185,SNR=8.1
O20A	White River Ci	29.27	333	P	P	09 13 35.4	+0.8		baz=145
BELC	Belle Mtn. Jos	29.28	315	P	P	09 13 37.5	+2.9		baz=125,SNR=16
ECSD	EROS Data Cent	29.31	353	IAmb	IAmb	09 14 01.8			comp=Z,76nm,1.4s
ECSD	EROS Data Cent	29.31	353	P	P	09 13 34.7	0.0		baz=170
I37A	Lemond, Waseca	29.32	357	IAmb	IAmb	09 14 21.9			comp=Z,168nm,1.9s
I37B	Waseca	29.32	357	P	P	09 13 34.8	+0.1		baz=176
TPFO	Pinon Flats	29.37	314	P	P	09 13 38.0	+2.6		baz=124,SNR=12
PFO	Pinyon Flats O	29.37	314	P	P	09 13 38.4	+2.9		
PFO				PcP	PcP	09 16 41.2	+1.9		
PFO	Pinyon Flats O	29.37	314	P	P	09 13 38.6	+3.1		baz=124,SNR=14
PFO	Pinyon Flats O	29.37	314	*i* P	P	09 13 37.5	+2.0		
PFO				pmax	pmax				comp=Z,17nm,0.9s
109C	Camp Elliot, M	29.43	313	P	P	09 13 38.5	+2.6		baz=122
M57A	Sunshine Farm,	29.44	23	P	P	09 13 35.9	+0.1		baz=209,SNR=27
M57A				P	P	09 13 35.9	+0.1		baz=209,SNR=27
LCMT	Little Creek M	29.45	323	IAmb	IAmb	09 13 40.0			comp=Z,35nm,1.1s
LUPA	Lehigh Univers	29.50	26	P	P	09 13 36.8	+0.4		
GMRC	Granite Mounta	29.51	317	P	P	09 13 39.8	+3.1		baz=127,SNR=30
V12A	Nelson	29.57	319	P	P	09 13 40.1	+2.9		
V12A				PcP	PcP	09 16 40.9	+1.3		
MTPU	Mount Pierson	29.58	326	IAmb	IAmb	09 13 41.6			comp=Z,60nm,1.4s
PANJ	Princeton	29.60	27	P	P	09 13 37.5	+0.2		baz=215,SNR=7.5
Q16A	Castle Valley	29.69	328	IAmb	IAmb	09 13 42.8			comp=Z,69nm,1.7s
SZCU	Shurtz Canyon	29.76	324	IAmb	IAmb	09 13 43.1			comp=Z,49nm,1.0s
WVNY	West Valley, N	29.87	20	P	P	09 13 39.6	-0.1		
WVNY				IAmb	IAmb	09 13 40.7			comp=Z,56nm,0.9s
WVNY	West Valley, N	29.87	20	P	P	09 13 39.8	+0.1		baz=206,SNR=5.8
MURC	Murrieta	29.88	314	P	P	09 13 42.7	+2.8		baz=123,SNR=8.6
CCUT	Cedar City	29.89	324	IAmb	IAmb	09 13 45.1			comp=Z,52nm,1.0s
P17A	Butcher Ranch,	29.90	329	IAmb	IAmb	09 13 44.5			comp=Z,66nm,1.8s
BRNJ	Basking Ridge	29.91	27	P	P	09 13 40.2	+0.2		baz=214,SNR=9.4
MSU	Marysvale	29.92	326	P	P	09 13 43.1	+2.8		
MSU				PcP	PcP	09 16 42.8	+2.1		
MSU	Marysvale	29.92	326	P	P	09 13 43.2	+2.8		
MVU	Marysvale	29.93	326	P	P	09 13 42.7	+2.2		
MVU					PcP	09 16 43.0	+2.3		
L56A	Greenwood	29.98	21	IAmb	IAmb	09 13 41.6			comp=Z,63nm,0.9s
L56A	Greenwood	29.98	21	P	P	09 13 40.7	0.0		baz=208,SNR=10
L56A				P	P	09 13 40.7	0.0		baz=208,SNR=10
HEC	Hector,Ludlow	29.99	317	P	P	09 13 43.7	+2.9		baz=126,SNR=26
BBRC	Big Bear Solar	30.06	315	P	P	09 13 44.8	+3.2		baz=124
ELS	Elsinore Mount	30.07	314	P	P	09 13 44.2	+2.6		
TUQ	Turquoise Moun	30.08	318	P	P	09 13 44.7	+2.9		baz=127,SNR=14
KSPA	Keystone Colle	30.15	24	IAmb	IAmb	09 14 01.2			comp=Z,98nm,1.7s
KSPA	Keystone Colle	30.15	24	P	P	09 13 41.3	-0.8		baz=212
BBSR	BB Station	30.22	50	P	P	09 13 42.4	-0.4		
BBSR	BB Station	30.22	50	P	P	09 13 42.9	+0.1		baz=240
BBSR	BB Station	30.22	50	P	P	09 13 42.8	0.0		
BBSR				pP	pP	09 14 08.0	+0.4		
ODNJ	Ogdensburg	30.23	26	P	P	09 13 43.1	+0.3		
ODNJ				IAmb	IAmb	09 13 43.9			comp=Z,28nm,0.9s
ODNJ	Ogdensburg	30.23	26	P	P	09 13 42.5	-0.2		baz=214,SNR=6.5
SHPR	Sheep Range	30.26	320	P	P	09 13 45.9	+2.6		
SHPR				PcP	PcP	09 16 43.3	+1.8		
TRNY	Table Rock, Ra	30.44	26	P	P	09 13 44.6	0.0		
TRNY				IAmb	IAmb	09 13 45.2			comp=Z,31nm,0.8s
RRX	Edison Barstow	30.45	316	P	P	09 13 47.6	+2.7		baz=125
PAL	Palisades	30.47	27	P	P	09 13 44.9	0.0		
PAL				IAmb	IAmb	09 13 45.7			comp=Z,43nm,0.8s
PAL	Palisades	30.47	27	P	P	09 13 44.9	0.0		baz=215,SNR=6.2
PAL	Palisades	30.47	27	P	P	09 13 44.4	-0.5		baz=215,SNR=6.2
PAL	Palisades	30.47	27	P	P	09 13 44.9	0.0		
PAL				pmax	pmax				comp=Z,43nm,0.9s
SPMN	Marine on St.	30.51	358	IAmb	IAmb	09 13 48.2			comp=Z,46nm,0.8s
SPMN	Marine on St.	30.51	358	P	P	09 13 44.5	-0.7		baz=178,SNR=24
SPMN	Marine on St.	30.51	358	P	P	09 13 44.3	-0.9		baz=178,SNR=24
BFSC	Mount Baldy Ra	30.55	314	P	P	09 13 48.7	+2.8		baz=123,SNR=10.0
GSC	Goldstone, Bar	30.57	317	P	P	09 13 49.2	+3.1		baz=126,SNR=11
SHOC	Shoshone, Teco	30.59	318	P	P	09 13 48.7	+2.6		baz=127
BINY	Binghamton	30.61	23	P	P	09 13 46.6	+0.4		baz=211,SNR=21
BINY	Binghamton	30.61	23	P	P	09 13 46.0	-0.2		baz=211,SNR=21
CIS	Catalina Islan	30.64	312	P	P	09 13 48.1	+1.5		baz=121,SNR=6.0
J54A	Appleton	30.64	19	IAmb	IAmb	09 14 12.8			comp=Z,36nm,0.8s
GLMI	Grayling	30.67	10	P	P	09 13 46.4	-0.3		baz=193
FMP	Fort Macarthur	30.71	313	P	P	09 13 49.5	+2.3		baz=122
K22A	Casper	30.73	338	P	P	09 13 48.3	+0.9		baz=151
K22A	Casper	30.73	338	P	P	09 13 47.7	+0.4		baz=151
BRNY	Black Rk. Fore	30.75	26	P	P	09 13 47.4	0.0		baz=215,SNR=6.7
WSPT	Westport, CT	30.86	28	IAmb	IAmb	09 13 49.2			comp=Z,79nm,1.3s
K57A	Scipio Center	30.87	22	P	P	09 13 48.2	-0.3		baz=209,SNR=11
NLU	North Lily Min	30.93	329	P	P	09 13 50.3	+1.0		
NLU				PcP	PcP	09 16 44.8	+1.5		
L59A	Walton	30.97	24	P	P	09 13 49.5	+0.1		baz=212,SNR=11
L59A				P	P	09 13 49.5	+0.1		baz=212,SNR=11
NPNY	Mohonk Preserv	30.98	26	P	P	09 13 49.1	-0.2		baz=214,SNR=5.3
QSM	Queen of Sheba	31.01	318	IAmb	IAmb	09 13 53.7			comp=Z,51nm,1.2s
GWY	Greenwater Val	31.01	318	IAmb	IAmb	09 13 53.9			comp=Z,39nm,1.3s
DECC	Green Verdugo	31.03	314	P	P	09 13 52.4	+2.5		baz=122,SNR=5.5
EDW2	Edwards Air Fo	31.14	315	P	P	09 13 53.2	+2.2		baz=124,SNR=16
F42A	Maple Grove Fa	31.16	5	IAmb	IAmb	09 14 55.6			comp=Z,37nm,1.1s
F36A	Milaca	31.17	357	IAmb	IAmb	09 14 17.4			comp=Z,64nm,1.8s
TPNV	Topopah Spring	31.22	320	IAmb	IAmb	09 13 56.4			comp=Z,55nm,1.4s
TPNV	Topopah Spring	31.22	320	P	P	09 13 54.7	+2.9		baz=129,SNR=25
J56A	Wolcott	31.23	21	P	P	09 13 51.0	-0.5		baz=208,SNR=12
J56A				P	P	09 13 51.0	-0.5		baz=208,SNR=12
RSSD	Black Hills	31.24	343	P	P	09 13 51.8	-0.1		
RSSD				PcP	PcP	09 16 44.1	+0.1		
RSSD	Black Hills	31.24	343	P	P	09 13 52.5	+0.6		baz=156
RSSD	Black Hills	31.24	343	P	P	09 13 52.0	+0.1		baz=156
RSSD	Black Hills	31.24	343	P	P	09 13 52.2	+0.3		
RSSD				pmax	pmax				comp=Z,12nm,1.0s
RSSD	Black Hills	31.24	343	P	P	09 13 52.1	+0.3		
RSSD				pP	pP	09 14 17.9	+1.2		
RSSD				PcP	PcP	09 16 43.6	-0.4		
KSCT	Kent School, K	31.24	27	IAmb	IAmb	09 13 52.8			comp=Z,65nm,0.8s
LRMC	Laurel Mtn Rad	31.26	316	P	P	09 13 54.5	+2.3		baz=125,SNR=27
CCAC	Calif City Air	31.30	315	P	P	09 13 55.4	+3.0		
CCAC				IAmb	IAmb	09 13 56.4			comp=Z,33nm,0.9s
CCAC					PcP	09 16 45.9	+1.7		
FURC	Furnace Creek,	31.31	319	P	P	09 13 54.8	+2.5		baz=127,SNR=23
CTU	Camp Tracy	31.33	330	P	P	09 13 54.4	+1.7		
CTU				PcP	PcP	09 16 45.3	+1.0		
S11A	Rachel	31.35	321	IAmb	IAmb	09 13 57.6			comp=Z,61nm,0.9s
SNCC	San Nicolas Is	31.36	311	P	P	09 13 52.1	-0.8		baz=119
SPR3	Spring Creek 3	31.44	325	IAmb	IAmb	09 13 57.3			comp=Z,48nm,1.2s
MPMC	Manual Prospec	31.47	317	P	P	09 13 56.5	+2.5		baz=126,SNR=63
DUG	Dugway, Tooele	31.49	328	P	P	09 13 56.1	+2.0		baz=138,SNR=7.5
DUG	Dugway, Tooele	31.49	328	P	P	09 13 56.3	+2.2		
DUG				pmax	pmax				comp=Z,6.0nm,1.6s
OSI	Osito Audit: C	31.49	314	P	P	09 13 56.6	+2.5		baz=122
TCUT	Toone Canyon	31.50	331	IAmb	IAmb	09 13 58.7			comp=Z,11nm,1.0s
M63A	Gales Ferry	31.63	29	P	P	09 13 55.5	+0.5		baz=218,SNR=10
M63A				P	P	09 13 55.5	+0.5		baz=218,SNR=10
J57A	Williamstown	31.65	22	P	P	09 13 54.3	-1.0		baz=210,SNR=9.0
J57A				P	P	09 13 54.3	-1.0		baz=210,SNR=9.0
HCNY	Howe Caverns	31.66	25	P	P	09 13 55.1	-0.2		baz=213,SNR=12
R11B	Troy Canyon, C	31.72	323	IAmb	IAmb	09 14 00.5			comp=Z,50nm,1.2s
R11B	Troy Canyon, C	31.72	323	P	P	09 13 58.9	+2.8		baz=132,SNR=62
Q12A	Willow Creek R	31.75	324	IAmb	IAmb	09 14 01.2			comp=Z,68nm,1.2s
SCZ2	Santa Cruz Isl	31.82	312	P	P	09 14 00.5	+3.6		baz=120
ARVC	Arvin	31.84	315	P	P	09 13 59.6	+2.5		baz=123,SNR=16
SADO	Sadowa	31.85	17	IAmb	IAmb	09 14 23.2			comp=Z,34nm,0.8s
SADO	Sadowa	31.85	17	P	P	09 13 55.1	-2.0		comp=Z,38nm,0.9s,baz=214,slow=9.8,SNR=13
SADO				pP	pP	09 14 20.9	-1.3		
SADO				LR	LR	09 27 50.0			comp=Z,26nm,0.8s,baz=218,slow=7.5,SNR=5.8
									comp=Z,294nm,21.4s,baz=234,slow=38
J58A	Remsen	31.87	23	P	P	09 13 56.6	-0.6		comp=Z,38nm,0.9s
J58A				P	P	09 13 56.6	-0.6		baz=211,SNR=13
E38A	The Farm, Brul	31.87	0	IAmb	IAmb	09 13 57.1			baz=211,SNR=13
E38A	The Farm, Brul	31.87	0	P	P	09 13 56.4	-0.8		comp=Z,44nm,0.6s
E43A	Lone Tree Farm	31.88	6	IAmb	IAmb	09 13 57.3			baz=180,SNR=6.5
E43A	Lone Tree Farm	31.88	6	P	P	09 13 56.1	-1.2		comp=Z,79nm,1.4s
ISA	Isabella, Lake	31.90	316	P	P	09 14 00.4	+2.7		baz=188
ISA				PcP	PcP	09 16 47.4	+1.6		
ISA	Isabella, Lake	31.90	316	P	P	09 14 00.6	+3.0		baz=124,SNR=18
ISA	Isabella, Lake	31.90	316	P	P	09 14 00.4	+2.7		
ISA						09 16 47.4			
ISA				pmax	pmax				comp=Z,26nm,1.1s
GRAC	Grapevine Rang	31.95	319	IAmb	IAmb	09 14 02.6			comp=Z,55nm,0.8s

GRAC Grapevine Rang 31.95 319 P **P** 09 14 01.3 +3.2
baz=127,SNR=7.4
HWUT Hardware Ranch 31.95 331 P **P** 09 13 59.0 +0.8
TRY Troy 31.98 25 IAmb IAmb 09 13 59.5
comp=Z,66nm,0.8s
TRY Troy 31.98 25 P **P** 09 13 58.7 +0.5
baz=214,SNR=10
BW06 Boulder Array 32.00 335 P **P** 09 13 59.4 +0.7
baz=146
PDAR Pinedale Array 32.00 335 P **P** 09 13 58.9 +0.3
PDAR **PcP** 09 16 46.9 +0.7
PDAR Pinedale Array 32.00 335 P **P** 09 13 58.7 +0.1
comp=Z,1.3nm,0.5s,baz=134,slow=11,SNR=16
PDAR pP **pP** 09 14 24.7 +1.0
comp=Z,2.0nm,0.8s,baz=133,slow=10,SNR=5.2
PDAR PcP **PcP** 09 16 45.9 -0.2
comp=Z,2.7nm,0.5s,baz=132,slow=5.2,SNR=21
PDAR ScP **ScP** 09 20 20.0 +0.2
comp=Z,2.4nm,0.9s,baz=131,slow=4.5,SNR=8.1
PDAR PKiKP **PKiKP** 09 24 13.7 -0.6
comp=Z,1.0nm,0.8s,baz=119,slow=2.0,SNR=7.2
PDAR LR LR 09 28 28.8
comp=Z,132nm,18.6s,baz=120,slow=39
comp=Z,1.3nm,0.5s
CWC Cottonwood Cre 32.08 317 P **P** 09 14 02.0 +2.6
baz=126
DELO Deloro Mine 32.08 19 P **P** 09 13 58.9 -0.1
DELO IAmb IAmb 09 14 25.5
comp=Z,55nm,0.9s
L61B Northampton 32.17 27 P **P** 09 13 59.8 0.0
baz=216
QUA2 Belchertown 32.18 27 IAmb IAmb 09 14 00.2
comp=Z,43nm,0.8s
QUA2 Belchertown 32.18 27 P **P** 09 13 59.3 -0.6
baz=217,SNR=5.5
J59A Piesco 32.26 24 IAmb IAmb 09 14 00.8
comp=Z,46nm,0.8s
J59A Piesco 32.26 24 P **P** 09 13 59.7 -1.0
baz=212,SNR=12
J59A P **P** 09 13 59.7 -1.0
baz=212,SNR=12
PKM Mcpherson Peak 32.40 314 P **P** 09 14 03.9 +1.7
baz=121,SNR=8.4
VES Vestal, Richgr 32.41 316 P **P** 09 14 05.1 +3.1
baz=124,SNR=38
ACCN Adirondack Com 32.52 25 IAmb IAmb 09 14 03.3
comp=Z,34nm,0.9s
ACCN Adirondack Com 32.52 25 P **P** 09 14 02.5 -0.5
baz=214,SNR=6.0
TIN Tinemaha, Big 32.54 318 P **P** 09 14 06.1 +2.8
baz=126
L64A Middleborough 32.61 29 P **P** 09 14 04.3 +0.7
baz=219,SNR=7.9
L64A P **P** 09 14 04.3 +0.7
baz=219,SNR=7.9
AHID Auburn Hatcher 32.66 333 P **P** 09 14 05.0 +0.6
AHID IAmb IAmb 09 14 32.4
comp=Z,59nm,1.8s
AHID **PcP** 09 16 48.6 +0.7
HVU Hansel Valley 32.66 330 IAmb IAmb 09 14 08.6
comp=Z,32nm,1.1s
HRV Adam Dziewonsk 32.72 28 P **P** 09 14 04.2 -0.4
HRV IAmb IAmb 09 14 05.6
comp=Z,72nm,1.0s
HRV Adam Dziewonsk 32.72 28 P **P** 09 14 04.3 -0.3
baz=218
HRV Adam Dziewonsk 32.72 28 P **P** 09 14 04.8 +0.2
baz=218,SNR=5.0
HRV Adam Dziewonsk 32.72 28 P **P** 09 14 04.2 -0.4
HRV pmax pmax
comp=Z,72nm,1.0s
HRV Adam Dziewonsk 32.72 28 P **P** 09 14 04.6 0.0
HRV pP **pP** 09 14 30.4 +0.9
E28A Huff 32.74 348 P **P** 09 14 04.5 -0.3
baz=164,SNR=5.4
SMMC Simmler 32.75 314 P **P** 09 14 07.0 +1.9
baz=122
BCX Boston College 32.76 29 P **P** 09 14 04.9 -0.1
NCB Newcomb 32.80 23 P **P** 09 14 04.6 -0.7
baz=212,SNR=14
VOG Valley Oaks Go 32.88 316 P **P** 09 14 07.9 +1.8
baz=124
SNOW Snow King Moun 33.07 334 IAmb IAmb 09 14 40.1
comp=Z,32nm,0.8s
LOHW Long Hollow 33.13 334 IAmb IAmb 09 14 36.6
comp=Z,42nm,1.6s
ELK Elko 33.16 326 PcP **PcP** 09 16 50.2 +0.8
comp=Z,14nm,0.9s,baz=186,slow=2.0,SNR=15
ELK ScP **ScP** 09 20 24.4 +0.6
comp=Z,1.6nm,0.8s,baz=148,slow=2.5,SNR=5.8
ELK LR LR 09 30 00.1
comp=Z,130nm,18.7s,baz=138,slow=40
TPAW Teton Pass 33.18 334 IAmb IAmb 09 14 41.2
comp=Z,41nm,1.4s
LONY Lake Ozonia 33.21 22 P **P** 09 14 08.5 -0.4
baz=211,SNR=24
EYMN Ely 33.21 0 IAmb IAmb 09 14 08.5
comp=Z,97nm,1.8s
EYMN Ely 33.21 0 P **P** 09 14 07.4 -1.5
baz=180
MOOW Moose Ponds 33.30 334 P **P** 09 14 10.8 +0.9
MOOW PcP **PcP** 09 16 50.6 +0.9
NVAR Mina Array Bea 33.41 320 P **P** 09 14 14.2 +3.1
comp=Z,58nm,0.8s,baz=135,slow=8.6,SNR=363
NVAR pP **pP** 09 14 36.5 +0.4
comp=Z,25nm,1.0s,baz=127,slow=8.1,SNR=3.2
NVAR PcP **PcP** 09 16 52.0 +1.9
comp=Z,18nm,0.8s,baz=135,slow=3.5,SNR=19
NVAR ScP **ScP** 09 20 26.3 +1.6
comp=Z,3.8nm,1.0s,baz=135,slow=4.1,SNR=9.8
NVAR PKiKP **PKiKP** 09 24 15.3 -0.1
comp=Z,0.7nm,0.8s,baz=182,slow=0.6,SNR=4.6
NVAR LR LR 09 28 44.2
comp=Z,120nm,21.0s,baz=129,slow=38
MDPB Devils Postpil 33.42 318 IAmb IAmb 09 14 15.4
comp=Z,32nm,0.9s
BMNY Brushton-Moira 33.43 22 P **P** 09 14 10.0 -0.8
baz=211,SNR=6.3
FLWY Flagg Ranch 33.55 335 IAmb IAmb 09 14 48.5
comp=Z,46nm,1.8s
RYN Ryan 33.67 320 IAmb IAmb 09 14 17.5
comp=Z,30nm,1.1s
KVN Kaiserville 33.67 321 IAmb IAmb 09 14 17.3
comp=Z,52nm,1.0s
VT1 Waterbury 33.68 25 P **P** 09 14 12.3 -0.7
baz=214,SNR=6.9
AGMN Agassiz Nation 33.75 355 IAmb IAmb 09 14 39.9
comp=Z,44nm,1.2s
AGMN Agassiz Nation 33.75 355 P **P** 09 14 12.8 -0.7
baz=172
H17A Grant Village 33.76 335 P **P** 09 14 15.5 +1.5
baz=145
FRNY Flat Rock 33.77 23 IAmb IAmb 09 14 14.4
comp=Z,43nm,0.8s
FRNY Flat Rock 33.77 23 P **P** 09 14 13.3 -0.5
baz=212,SNR=9.3
MDND Maddock 33.77 350 P **P** 09 14 12.6 -1.2
baz=166
PMPB Monarch Peak 33.78 315 IAmb IAmb 09 14 17.9
comp=Z,42nm,0.9s
RLMT Red Lodge 33.86 337 P **P** 09 14 15.2 +0.3
baz=148
I62A Tamworth 33.90 27 IAmb IAmb 09 14 15.9
comp=Z,48nm,1.1s
LBNH Lisbon 33.95 26 P **P** 09 14 14.9 -0.4
baz=216
BMN Battle Mountai 34.05 324 IAmb IAmb 09 14 20.2
comp=Z,42nm,1.0s
WAKR Walker 34.17 319 IAmb IAmb 09 14 22.1
comp=Z,92nm,1.7s
LAO LASA Array 34.21 342 P **P** 09 14 17.6 -0.1
baz=154
YERR Yerington 34.33 320 IAmb IAmb 09 14 22.6
comp=Z,29nm,0.7s
I63A Otisfield 34.38 27 P **P** 09 14 19.3 +0.3
baz=218,SNR=6.8
I63A P **P** 09 14 19.3 +0.3
baz=218,SNR=6.8
YHL Hebgen Lake 34.38 335 IAmb IAmb 09 14 49.3
comp=Z,54nm,1.8s
TRQ Mont Tremblant 34.60 21 IAmb IAmb 09 14 21.9
comp=Z,52nm,1.2s
PNTR Pine Nut 34.62 320 P **P** 09 14 24.6 +3.2
PNTR IAmb IAmb 09 14 25.7
comp=Z,36nm,0.8s
PNTR PcP **PcP** 09 16 55.6 +2.0
HLID Hailey 34.80 330 IAmb IAmb 09 14 26.8
comp=Z,20nm,0.9s

HLID Hailey 34.80 330 P **P** 09 14 24.2 +1.4
baz=139,SNR=30
PAHR Pah Rah Range 34.86 321 IAmb IAmb 09 14 27.4
comp=Z,28nm,1.0s
ETMB Extrema 35.00 132 P **P** 09 14 24.4 -0.3
BOZ Bozeman (W) 35.17 335 P **P** 09 14 27.4 +1.3
baz=145
WVL Waterville 35.19 28 P **P** 09 14 26.2 +0.2
baz=219,SNR=6.6
DGMT Dagmar 35.30 345 IAmb IAmb 09 14 53.8
comp=Z,22nm,1.0s
DGMT Dagmar 35.30 345 P **P** 09 14 26.8 -0.1
baz=158
DGMT Dagmar 35.30 345 P **P** 09 14 26.5 -0.5
baz=158
G62A West of Eustis 35.32 26 P **P** 09 14 27.0 -0.1
baz=217,SNR=6.8
G62A P **P** 09 14 27.0 -0.1
baz=217,SNR=6.8
MFID Camas Ranch 35.38 329 P **P** 09 14 29.5 +1.7
MFID IAmb IAmb 09 14 32.8
comp=Z,35nm,1.2s
VLDQ Val d'Or 35.38 16 P **P** 09 14 26.8 -0.8
VLDQ IAmb IAmb 09 14 27.7
comp=Z,34nm,1.2s
MACA Manacapuru-AM 35.39 118 P **P** 09 14 27.2 -0.9
AFDM Forest Hills D 35.40 319 IAmb IAmb 09 14 31.8
comp=Z,42nm,2.0s
PLTX Planet X, Gerl 35.53 322 IAmb IAmb 09 14 58.5
comp=Z,22nm,0.5s
ULM Lac du Bonnet 35.69 355 P **P** 09 14 29.1 -1.1
ULM IAmb IAmb 09 14 56.0
comp=Z,22nm,0.9s
ULM Lac du Bonnet 35.69 355 P **P** 09 14 29.1 -1.1
ULM pmax pmax
comp=Z,23nm,1.0s
ULM Lac du Bonnet 35.69 355 P **P** 09 14 28.2 -2.0
comp=Z,17nm,0.8s,baz=177,slow=9.0,SNR=27
ULM pP **pP** 09 14 54.9 -0.4
comp=Z,13nm,0.8s,baz=351,slow=12,SNR=6.1
ULM LR LR 09 33 00.5
comp=Z,108nm,18.2s,baz=188,slow=43
comp=Z,17nm,0.8s
PKME Peaks-Kenny Pk 35.90 27 P **P** 09 14 32.0 0.0
PKME Peaks-Kenny Pk 35.90 27 P **P** 09 14 32.0 0.0
baz=219,SNR=5.4
PKME Peaks-Kenny Pk 35.90 27 P **P** 09 14 31.4 -0.6
baz=219,SNR=5.4
ORV Oroville 36.08 319 P **P** 09 14 36.8 +3.1
ORV IAmb IAmb 09 14 38.1
comp=Z,31nm,1.4s
ORV PcP **PcP** 09 16 58.0 +0.4
ORV Oroville 36.08 319 P **P** 09 14 36.8 +3.1
ORV 09 16 58.0
ORV pmax pmax
comp=Z,31nm,1.4s
WVOR Wild Horse Val 36.17 325 IAmb IAmb 09 14 37.8
comp=Z,50nm,1.1s
WVOR Wild Horse Val 36.17 325 P **P** 09 14 36.7 +2.1
WVOR pmax pmax
comp=Z,42nm,1.1s
F63A Nahmakanta, Br 36.32 27 P **P** 09 14 35.3 -0.4
baz=219,SNR=6.5
F63A P **P** 09 14 35.3 -0.4
baz=219,SNR=6.5
EGMT Eagleton 36.52 339 IAmb IAmb 09 15 04.7
comp=Z,30nm,1.0s
EGMT Eagleton 36.52 339 P **P** 09 14 37.3 -0.1
baz=150,SNR=5.7
G65A Princeton 36.64 29 P **P** 09 14 38.6 +0.3
baz=221,SNR=18
G65A P **P** 09 14 38.6 +0.3
baz=221,SNR=18
SAML Samuel 36.67 128 P **P** 09 14 37.2 -1.7
SAML Samuel 36.67 128 P **P** 09 14 37.3 -1.7
SAML pmax pmax
comp=Z,65nm,0.9s
SAML Samuel 36.67 128 ⇑P **P** 09 14 37.3 -1.7
SAML pP **pP** 09 15 03.1 -0.5
SAML PcP **PcP** 09 17 00.1 +0.4
SAML ScP **ScP** 09 20 38.6 +2.0
PLID Pearl Lake 36.70 331 IAmb IAmb 09 14 42.2
comp=Z,26nm,1.1s
F64A Sherman 36.78 27 P **P** 09 14 39.5 0.0
baz=220,SNR=7.1
F64A P **P** 09 14 39.5 0.0
baz=220,SNR=7.1
MSO Missoula 37.12 334 P **P** 09 14 43.3 +0.8
baz=142
BMO Blue Mountains 37.16 329 IAmb IAmb 09 14 45.5
comp=Z,29nm,1.5s
E63A Oxbow 37.18 27 P **P** 09 14 42.3 -0.6
baz=219,SNR=8.6
E63A P **P** 09 14 42.3 -0.6
baz=219,SNR=8.6
D62A Allapoint, All 37.43 26 P **P** 09 14 44.6 -0.4
baz=218,SNR=13
D62A P **P** 09 14 44.6 -0.4
baz=218,SNR=13
K05A Summer Lake 37.63 324 IAmb IAmb 09 15 21.9
comp=Z,37nm,1.4s
I07A Izee 37.75 327 IAmb IAmb 09 14 50.3
comp=Z,22nm,1.0s
YBH Yreka Blue Hor 38.09 321 P **P** 09 14 51.2 +0.4
comp=Z,6.8nm,0.8s,baz=98,slow=4.4,SNR=12
YBH PcP **PcP** 09 17 04.2 +0.4
comp=Z,4.0nm,0.7s,baz=112,slow=3.7,SNR=6.9
YBH LR LR 09 32 02.9
comp=Z,118nm,18.1s,baz=171,slow=38
comp=Z,6.8nm,0.8s
J05D Fort Rock, OR 38.18 324 IAmb IAmb 09 14 54.6
comp=Z,32nm,1.3s
KHMM Horse Mountain 38.24 319 IAmb IAmb 09 14 55.6
comp=Z,43nm,0.9s
PINE Pine Mountain 38.34 325 IAmb IAmb 09 14 55.4
comp=Z,38nm,1.0s
LPAZ La Paz 38.51 142 P **P** 09 14 55.9 +0.8
LPAZ La Paz 38.51 142 P **P** 09 14 55.9 +0.8
PB12 IPOC Station P 39.14 147 IAmb IAmb 09 15 26.5
comp=Z,32nm,0.9s
I04A Tendick Farm, 39.16 324 IAmb IAmb 09 15 02.0
comp=Z,37nm,0.9s
DBO Dodson Butte 39.23 323 IAmb IAmb 09 15 02.7
comp=Z,23nm,1.0s
PB16 IPOC Station P 39.35 146 IAmb IAmb 09 15 29.7
comp=Z,40nm,0.9s
NEW Newport 39.59 333 P **P** 09 15 03.7 +0.6
baz=139
NEW Newport 39.59 333 P **P** 09 15 02.7 -0.4
comp=Z,4.3nm,0.8s,baz=136,slow=7.8,SNR=9.0
NEW PcP **PcP** 09 17 07.7 -0.6
comp=Z,1.5nm,0.4s,baz=85,slow=4.7,SNR=5.7
comp=Z,4.3nm,0.8s
BUCK Buck Mountain 39.74 324 IAmb IAmb 09 15 06.7
comp=Z,69nm,1.1s
C09A Chrisman Ranch 39.76 332 IAmb IAmb 09 15 07.5
comp=Z,17nm,0.7s
H04D Lebanon 39.80 325 IAmb IAmb 09 15 06.8
comp=Z,51nm,0.9s
COR Corvallis 40.16 324 P **P** 09 15 09.8 +2.0
COR IAmb IAmb 09 15 10.7
comp=Z,73nm,1.1s
COR Corvallis 40.16 324 P **P** 09 15 09.8 +2.0
COR pmax pmax
comp=Z,73nm,1.1s
COR Corvallis 40.16 324 P **P** 09 15 09.7 +2.0
COR ScP **ScP** 09 20 51.6 +2.2
LTY Liberty 40.51 329 IAmb IAmb 09 15 13.3
comp=Z,66nm,1.7s
GO01 Chusmiza 40.61 146 IAmb IAmb 09 15 40.2
comp=Z,34nm,0.8s
LON Longmire 40.74 328 P **P** 09 15 14.3 +1.6
LON IAmb IAmb 09 15 15.9
comp=Z,32nm,0.8s
LON Longmire 40.74 328 P **P** 09 15 14.3 +1.6
LON pmax pmax
comp=Z,32nm,0.9s
FFC Flin Flon 40.81 351 P **P** 09 15 13.2 +0.2
FFC Flin Flon 40.81 351 P **P** 09 15 13.2 +0.2
FFC pmax pmax
comp=Z,24nm,1.3s
FFC Flin Flon 40.81 351 P **P** 09 15 12.6 -0.4
FFC pP **pP** 09 15 39.6 +0.9
TA01 Diego Aracena 40.84 148 IAmb IAmb 09 15 41.0
comp=Z,50nm,1.0s
D05A Enumclaw 41.12 328 IAmb IAmb 09 15 19.0
comp=Z,38nm,0.9s

F03A Seaside 41.13 326 IAmb IAmb 09 15 19.7
comp=Z,67nm,1.0s
PB01 IPOC Station P 41.59 148 IAmb IAmb 09 15 47.2
comp=Z,30nm,1.0s
PB02 IPOC Station P 41.62 149 IAmb IAmb 09 15 47.6
comp=Z,47nm,0.9s
B06A Marblemount 41.78 330 IAmb IAmb 09 15 23.1
comp=Z,26nm,0.7s
PB07 IPOC Station P 41.96 149 IAmb IAmb 09 15 50.4
comp=Z,52nm,1.0s
EDM Edmonton 42.16 341 IAmb IAmb 09 15 50.9
comp=Z,37nm,0.9s
NLWA Neilton Lookou 42.23 327 IAmb IAmb 09 15 27.8
comp=Z,62nm,1.1s
B04A Port Angeles 42.47 328 IAmb IAmb 09 15 29.6
comp=Z,30nm,0.8s
PGC Sidney 42.83 329 IAmb IAmb 09 15 32.2
comp=Z,39nm,1.0s
LVC Limon Verde 43.19 149 P **P** 09 15 34.2 +1.0
LVC IAmb IAmb 09 16 01.1
comp=Z,33nm,0.9s
LVC Limon Verde 43.19 149 P **P** 09 15 34.2 +1.0
LVC pmax pmax
comp=Z,33nm,1.0s
LVC Limon Verde 43.19 149 LR LR 09 30 48.1
comp=Z,49nm,19.2s,baz=310,slow=32
LVC Limon Verde 43.19 149 P **P** 09 15 34.7 +1.5
LVC pP **pP** 09 16 00.2 +1.7
LVC sP **sP** 09 16 11.7 +0.9
LVC PcP **PcP** 09 17 22.9 +2.1
CLRS Cowichan Lake 43.28 329 P **P** 09 15 34.5 +1.3
PTLB Pontes e Lacer 43.87 132 P **P** 09 15 37.6 -0.8
PTLB IAmb IAmb 09 15 38.5
comp=Z,36nm,1.0s
BRLDA Berland Lookou 44.25 338 P **P** 09 15 41.4 +0.4
DRLN Deer Lake 44.38 32 P **P** 09 15 41.2 -0.8
SCHQ Schefferville 44.51 20 P **P** 09 15 41.7 -1.3
SCHQ Schefferville 44.51 20 P **P** 09 15 41.6 -1.3
comp=Z,59nm,0.9s,baz=222,slow=6.8,SNR=24
SCHQ LR LR 09 35 25.1
comp=Z,521nm,21.6s,baz=268,slow=38
comp=Z,59nm,0.9s
CBB Campbell River 44.68 329 IAmb IAmb 09 15 47.5
comp=Z,56nm,1.5s
RPN Rapa Nui 44.93 203 LR LR 09 28 57.8
comp=Z,71nm,21.9s,baz=359,slow=28
GO02 Mina Guanaco 45.02 151 IAmb IAmb 09 16 15.4
comp=Z,43nm,0.9s
AC06 Mina Casimiro 46.57 154 IAmb IAmb 09 16 27.0
comp=Z,25nm,0.8s
LCO Las Campanas 47.87 155 P **P** 09 16 10.1 +0.2
LCO IAmb IAmb 09 16 37.4
comp=Z,42nm,0.9s
LCO Las Campanas 47.87 155 P **P** 09 16 10.1 +0.2
LCO pmax pmax
comp=Z,42nm,1.0s
LCO Las Campanas 47.87 155 P **P** 09 16 11.2 +1.3
LCO pP **pP** 09 16 36.3 +0.8
LCO sP **sP** 09 16 48.2 +0.4
LCO PcP **PcP** 09 17 37.8 +0.9
AC05 El Transito 47.90 154 P **P** 09 16 12.0 +2.1
AC05 IAmb IAmb 09 16 37.6
comp=Z,39nm,0.9s
CO03 El Pedregal 49.49 156 IAmb IAmb 09 16 24.4
comp=Z,35nm,0.8s
YKA Yellowknife Ar 50.50 346 P **P** 09 16 28.9 -0.2
comp=Z,17nm,0.7s,baz=149,slow=7.3,SNR=267
YKA pP **pP** 09 16 55.5 -0.3
comp=Z,6.8nm,0.6s,baz=149,slow=7.2,SNR=6.2
YKA ScP **ScP** 09 21 31.3 -0.4
comp=Z,0.9nm,1.0s,baz=147,slow=4.1,SNR=4.8
YKA LR LR 09 40 08.6
comp=Z,102nm,18.8s,baz=84,slow=39
YKA PKPPKP P'P'df 09 47 02.9 -13
comp=Z,0.8nm,0.9s,baz=357,slow=2.4,SNR=5.9
comp=Z,17nm,0.7s
ZON Zonda 50.93 155 IAmb IAmb 09 17 01.0
comp=Z,36nm,1.0s
ZON Zonda 50.93 155 P **P** 09 16 34.2 +1.4
ZON pmax pmax
comp=Z,44nm,1.2s
V35K Ketchikan 50.96 332 P **P** 09 16 34.8 +2.1
baz=127
T35M Bob Quinn 51.38 334 P **P** 09 16 38.0 +2.1
baz=129
FRB Frobisher Bay 51.62 13 P **P** 09 16 35.4 -2.1
comp=Z,18nm,0.8s,baz=220,slow=8.7,SNR=9.5
FRB pP **pP** 09 17 02.5 -1.5
comp=Z,14nm,0.9s,baz=219,slow=10,SNR=2.3
FRB LR LR 09 39 49.0
comp=Z,344nm,18.6s,baz=238,slow=38
comp=Z,18nm,0.8s
CRAG Craig 51.74 331 P **P** 09 16 39.4 +0.9
baz=125
U33K Whale Pass 52.11 332 P **P** 09 16 43.2 +1.9
baz=126
DLBC Dease Lake 52.23 336 IAmb IAmb 09 17 12.6
comp=Z,31nm,1.0s
DLBC Dease Lake 52.23 336 P **P** 09 16 43.9 +1.7
baz=130
DLBC Dease Lake 52.23 336 P **P** 09 16 43.9 +1.7
comp=Z,12nm,0.8s,baz=129,slow=4.2,SNR=23
DLBC pP **pP** 09 17 08.3 -0.8
comp=Z,23nm,0.9s,baz=120,slow=6.5,SNR=10
DLBC PcP **PcP** 09 17 53.0 +0.8
comp=Z,5.4nm,0.8s,baz=55,slow=3.1,SNR=3.1
comp=Z,12nm,0.8s
S34M Telegraph Cree 52.34 335 P **P** 09 16 44.4 +1.5
baz=129
T33K Petersburg 52.45 333 P **P** 09 16 46.2 +2.5
baz=126
BDFB Brasilia 52.56 123 P **P** 09 16 44.3 -1.0
BDFB Brasilia 52.56 123 P **P** 09 16 44.3 -1.0
BDFB pmax pmax
comp=Z,73nm,1.7s
BDFB Brasilia 52.56 123 P **P** 09 16 44.2 -1.1
comp=Z,13nm,0.7s,baz=300,slow=9.2,SNR=23
BDFB ScP **ScP** 09 21 41.6 -0.1
comp=Z,6.6nm,0.9s,baz=356,slow=7.3,SNR=5.6
BDFB LR LR 09 41 15.1
comp=Z,47nm,18.6s,baz=321,slow=38
comp=Z,13nm,0.7s
CPUP Villa Florida 52.64 140 P **P** 09 16 45.0 -0.5
CPUP IAmb IAmb 09 16 46.9
comp=Z,20nm,0.9s
CPUP Villa Florida 52.64 140 P **P** 09 16 45.0 -0.5
CPUP pmax pmax
comp=Z,20nm,1.0s
CPUP Villa Florida 52.64 140 P **P** 09 16 44.5 -1.1
comp=Z,20nm,1.0s,baz=333,slow=8.7,SNR=22
CPUP pP **pP** 09 17 10.6 -1.0
comp=Z,8.4nm,0.8s,baz=316,slow=9.9,SNR=4.5
comp=Z,20nm,1.0s
CPUP Villa Florida 52.64 140 P **P** 09 16 44.5 -1.1
CPUP pP **pP** 09 17 11.0 -0.7
CPUP PcP **PcP** 09 17 54.7 +0.5
WTLY Watson Lake, Y 52.87 338 P **P** 09 16 47.8 +0.9
baz=133
R33M Jennings River 53.22 336 P **P** 09 16 50.5 +0.9
baz=130
WRGLY Wrigley 53.40 343 IAmb IAmb 09 17 18.7
comp=Z,47nm,1.4s
WRGLY Wrigley 53.40 343 P **P** 09 16 50.6 0.0
baz=140,SNR=5.1
Q32M Nakina River 53.46 335 P **P** 09 16 52.4 +0.9
baz=128
TAOE Nuku Hiva Isla 53.47 247 *e*LR LR 09 32 08.0
comp=Z,444nm,30.1s
TAOE Nuku Hiva Isla 53.47 247 *e*T T 10 13 34.8
comp=Z,23nm,0.2s
P32M Atlin 54.44 335 P **P** 09 16 59.6 +1.2
baz=127
P33M Teslin, Yukon 54.46 336 P **P** 09 16 59.8 +1.3
baz=128
N32M Quiet Lake 55.15 337 IAmb IAmb 09 17 33.3
comp=Z,43nm,1.1s
N32M Quiet Lake 55.15 337 P **P** 09 17 04.5 +1.0
baz=129
ITQB Itaqui 55.50 143 P **P** 09 17 06.4 +0.1
WHY Whitehorse 55.55 336 P **P** 09 17 07.0 +0.6
baz=126
FARO Faro, Yukon 55.93 338 P **P** 09 17 09.5 +0.5
baz=129
P30M Million Dollar 56.08 335 P **P** 09 17 11.1 +1.0
baz=124
O30N Mendenhall 56.09 336 P **P** 09 17 11.0 +0.7
baz=125

P29M	Windy Craggy	56.14	334	P	P	09 17 12.2	+1.7
	baz=123						
M31M	Drury Creek, Y	56.29	338	P	P	09 17 12.9	+1.3
	baz=128						
N31M	Braeburn, Yuko	56.39	336	P	P	09 17 13.6	+1.3
	baz=126						
HYT	Haines Junctio	56.70	335	P	P	09 17 16.0	+1.4
	baz=124						
O29M	Mount Kennedy	56.85	334	P	P	09 17 16.7	+1.0
	baz=122						
PNL	Peninsula	56.87	333	P	P	09 17 16.6	+0.9
	baz=121						
N30M	Aishikik Lake	56.89	336	P	P	09 17 17.0	+1.2
	baz=124						
YUK6	Outpost Mounta	57.11	335	P	P	09 17 18.6	+1.0
	baz=123						
GO06	Curarrehue	57.12	162	P	P	09 17 18.8	+1.0
M30M	Minto, Yukon	57.42	337	P	P	09 17 20.0	+0.5
	baz=125						
YUK4	Talbot Arm	57.45	335	P	P	09 17 21.4	+1.5
	baz=123						
PINM	Pinnacle	57.46	334	P	P	09 17 20.9	+1.0
	baz=120						
SPB	Sao Paulo	57.54	131	IAmb	IAmb	09 17 21.6	
	comp=Z,38nm,0.9s						
MAYO	Mayo, Yukon	57.69	338	P	P	09 17 22.4	+1.0
MAYO				IAmb	IAmb	09 17 50.6	
	comp=Z,32nm,0.9s						
MAYO	Mayo, Yukon	57.69	338	P	P	09 17 22.4	+1.0
	baz=127,SNR=5.8						
YUK8	Steele Glacier	57.87	335	P	P	09 17 24.3	+1.4
	baz=122						
M29M	Somme Creek	57.98	336	IAmb	IAmb	09 17 26.9	
	comp=Z,26nm,0.7s						
M29M	Somme Creek	57.98	336	P	P	09 17 25.0	+1.4
	baz=124						
L29M	L29M	58.23	337	P	P	09 17 26.0	+0.8
	baz=124						
MESA	MESA	58.24	333	P	P	09 17 26.2	+0.7
	baz=119						
C36M	Paulatuk	58.36	347	P	P	09 17 25.3	-0.6
	baz=142						
CTG	Chitna Glacier	58.36	334	P	P	09 17 25.8	-0.4
	baz=120						
YUK3	Moose Creek	58.41	335	P	P	09 17 26.7	0.0
	baz=121						
K29M	Barlow Dome	58.42	338	P	P	09 17 26.7	+0.1
	baz=125						
J30M	Hart River	58.44	339	IAmb	IAmb	09 19 08.2	
	comp=Z,27nm,1.8s						
J30M	Hart River	58.44	339	P	P	09 17 27.3	+0.6
	baz=127						
PLCA	Paso Flores	58.45	161	P	P	09 17 28.6	+1.5
PLCA	Paso Flores	58.45	161	P	P	09 17 28.6	+1.5
PLCA				pmax	pmax		
	comp=Z,57nm,1.3s						
PLCA	Paso Flores	58.45	161	P	P	09 17 27.8	+0.7
	comp=Z,12nm,0.9s,baz=343,slow=7.5,SNR=20						
PLCA				pP	pP	09 17 52.9	-0.7
	comp=Z,21nm,1.1s,baz=349,slow=8.7,SNR=8.4						
PLCA				LR	LR	09 39 28.7	
	comp=Z,77nm,18.2s,baz=335,slow=33						
	comp=Z,12nm,0.9s						
PLCA	Paso Flores	58.45	161	P	P	09 17 28.3	+1.3
PLCA				pP	pP	09 17 54.1	+0.5
H31M	Peel River	58.54	341	P	P	09 17 28.2	+0.9
	baz=130						
PLTB	Pedras Altas	58.80	142	P	P	09 17 29.3	-0.3
PLTB				IAmb	IAmb	09 17 29.9	
	comp=Z,33nm,1.1s						
SFJD	Kangerlussuaq	58.80	18	LR	LR	09 43 33.8	
	comp=Z,401nm,19.6s,baz=211,slow=37						
I30M	Mount Dempster	58.84	340	IAmb	IAmb	09 17 58.1	
	comp=Z,12nm,0.9s						
I30M	Mount Dempster	58.84	340	P	P	09 17 30.1	+0.6
	baz=127						
RCBR	Riachuelo	58.87	106	LR	LR	09 43 40.2	
	comp=Z,76nm,18.2s,baz=292,slow=37						
RCBR	Riachuelo	58.87	106	P	P	09 17 28.1	-2.3
BVCY	Beaver Creek	58.91	336	P	P	09 17 30.7	+0.8
	baz=121						
DAWY	Dawson	59.23	338	IAmb	IAmb	09 17 56.6	
	comp=Z,29nm,1.8s						
DAWY	Dawson	59.23	338	P	P	09 17 32.2	+0.1
	baz=125						
G31M	Satah River	59.24	342	IAmb	IAmb	09 18 00.5	
	comp=Z,20nm,0.9s						
G31M	Satah River	59.24	342	P	P	09 17 32.1	0.0
	baz=130						
MCARA	McCarthy VSAT	59.28	334	P	P	09 17 33.6	+1.2
	baz=118						
M27K	Edge Creek, AK	59.28	335	P	P	09 17 33.4	+0.8
	baz=120						
TRQA	Tornquist	59.34	153	P	P	09 17 32.8	-0.3
TRQA				IAmb	IAmb	09 18 00.5	
	comp=Z,49nm,1.6s						
TRQA	Tornquist	59.34	153	P	P	09 17 32.8	-0.3
TRQA				pmax	pmax		
	comp=Z,49nm,1.6s						
F31M	Tsiigehtchic	59.42	343	IAmb	IAmb	09 18 02.2	
	comp=Z,44nm,1.4s						
F31M	Tsiigehtchic	59.42	343	P	P	09 17 33.1	-0.1
	baz=131,SNR=6.9						
LL01	San Ignacio de	59.43	164	P	P	09 17 35.1	+1.5
I29M	Ogilvie Camp,	59.58	339	IAmb	IAmb	09 18 02.8	
	comp=Z,13nm,1.0s						
I29M	Ogilvie Camp,	59.58	339	P	P	09 17 34.6	+0.2
	baz=125						
L27K	Beaver Creek,	59.62	336	IAmb	IAmb	09 17 37.4	
	comp=Z,9.1nm,0.8s						
L27K	Beaver Creek,	59.62	336	P	P	09 17 35.0	+0.2
	baz=120						
EPYK	Eagle Plains	59.65	341	P	P	09 17 34.9	-0.1
	baz=127						
M26K	Nabesna, AK	59.76	335	P	P	09 17 36.2	+0.4
	baz=119						
BMRM	Bremner River	59.77	333	P	P	09 17 36.9	+1.0
	baz=116						
G30M	tAoh Zraii Nji	59.87	341	P	P	09 17 36.6	+0.1
	baz=128						
INK	Inuvik	59.94	343	IAmb	IAmb	09 18 05.2	
	comp=Z,16nm,0.8s						
INK	Inuvik	59.94	343	P	P	09 17 36.7	0.0
	baz=132,SNR=10						
INK	Inuvik	59.94	343	LR	LR	09 47 46.1	
	comp=Z,59nm,19.1s,baz=28,slow=40						
N25K	Chitina, Valde	60.05	334	IAmb	IAmb	09 17 41.0	
	comp=Z,17nm,0.7s						
N25K	Chitina, Valde	60.05	334	P	P	09 17 38.1	+0.3
	baz=117,SNR=6.0						
RES	Resolute Bay	60.08	359	P	P	09 17 36.2	-1.4
	comp=Z,6.6nm,0.7s,baz=181,slow=11,SNR=32						
RES				pP	pP	09 18 03.6	-1.6
	comp=Z,6.2nm,0.7s,baz=202,slow=6.8,SNR=6.2						
RES				LR	LR	09 46 51.0	
	comp=Z,136nm,18.8s,baz=191,slow=39						
	comp=Z,6.6nm,0.7s						
EYAK	Cordova Ski Ar	60.09	332	P	P	09 17 40.5	+2.5
	comp=Z,24nm,1.5s						
EYAK	Cordova Ski Ar	60.09	332	P	P	09 17 37.8	-0.1
	baz=115						
H29M	Whitestone	60.10	340	IAmb	IAmb	09 18 07.5	
	comp=Z,31nm,1.4s						
H29M	Whitestone	60.10	340	P	P	09 17 37.7	-0.3
	baz=126						
F30M	Barrier River	60.13	342	P	P	09 17 38.3	+0.1
	baz=129,SNR=7.6						
I28M	Miner Creek	60.19	339	P	P	09 17 38.7	-0.1
	baz=124						
L26K	Log Cabin Wild	60.20	336	IAmb	IAmb	09 19 21.6	
	comp=Z,18nm,1.5s						
L26K	Log Cabin Wild	60.20	336	P	P	09 17 38.8	0.0
	baz=119						
K27K	Chicken	60.21	337	IAmb	IAmb	09 19 03.8	
	comp=Z,23nm,1.6s						
K27K	Chicken	60.21	337	P	P	09 17 39.1	+0.3
	baz=121						
EGAK	Eagle	60.26	338	IAmb	IAmb	09 18 07.9	
	comp=Z,39nm,1.6s						
EGAK	Eagle	60.26	338	P	P	09 17 39.0	0.0
	baz=122,SNR=5.7						
G29M	Pine Creek	60.40	341	IAmb	IAmb	09 18 25.0	
	comp=Z,15nm,0.9s						
G29M	Pine Creek	60.40	341	P	P	09 17 39.6	-0.4
	baz=126						
KLU	Klutina	60.57	333	IAmb	IAmb	09 18 33.0	
	comp=Z,39nm,1.2s						
KLU	Klutina	60.57	333	P	P	09 17 41.9	+0.5
	baz=115						
P23K	Montague Islan	60.62	332	P	P	09 17 42.6	+1.1
	baz=113						
HARP	HAARP	60.65	335	P	P	09 17 42.2	+0.4
	baz=117						
A36M	Sachs Harbour	60.70	349	P	P	09 17 40.9	-1.0
	baz=142,SNR=9.5						
GLI	Glacier Island	60.83	333	P	P	09 17 44.0	+0.9
	baz=114						
I27K	Kandik River	60.86	339	P	P	09 17 43.9	+0.7
	baz=122						
SCRK	Sand Creek	60.92	336	IAmb	IAmb	09 18 13.8	
	comp=Z,19nm,1.3s						
SCRK	Sand Creek	60.92	336	P	P	09 17 44.3	+0.6
	baz=119						
M24K	Tolsona, Glenn	60.95	334	P	P	09 17 44.4	+0.5
	baz=116						
J26L	Joseph Creek	61.01	337	P	P	09 17 44.8	+0.5
	baz=119						
PAX	Paxson	61.03	335	P	P	09 17 44.4	-0.1
	baz=117,SNR=6.2						
RIDG	Independent Ri	61.14	336	P	P	09 17 45.6	+0.4
	baz=118						
H27K	Steamboat Moun	61.17	339	P	P	09 17 46.1	+0.8
	baz=122						
E29M	Blow River	61.24	342	IAmb	IAmb	09 18 15.5	
	comp=Z,32nm,1.2s						
E29M	Blow River	61.24	342	P	P	09 17 45.9	+0.2
	baz=127						
I26K	Coal Creek Min	61.26	338	P	P	09 17 45.9	+0.1
	baz=120						
SCM	Sheep Creek Mo	61.33	333	P	P	09 17 46.7	+0.3
	baz=114						
F28M	Old Crow	61.39	341	IAmb	IAmb	09 18 15.9	
	comp=Z,30nm,0.9s						
F28M	Old Crow	61.39	341	P	P	09 17 47.0	+0.3
	baz=124,SNR=38						
M23K	Glacier View	61.48	333	P	P	09 17 47.7	+0.2
	baz=114						
G27K	Doyon Strip	61.52	340	P	P	09 17 47.5	-0.2
	baz=122,SNR=5.9						
K24K	Donnelly Dome	61.54	336	P	P	09 17 48.1	+0.3
	baz=117,SNR=5.7						
SEW	Seward	61.61	331	P	P	09 17 48.9	+0.6
	baz=111						
KNK	Knik Glacier	61.65	333	P	P	09 17 49.9	+1.4
	baz=113						
J25K	Salcha River,	61.75	337	IAmb	IAmb	09 17 51.8	
	comp=Z,11nm,0.8s						
J25K	Salcha River,	61.75	337	P	P	09 17 49.8	+0.5
	baz=118,SNR=12						
SML	Sawmill	61.75	333	IAmb	IAmb	09 18 40.9	
	comp=Z,61nm,1.5s						
SML	Sawmill	61.75	333	P	P	09 17 50.5	+1.2
	baz=113						
WAT6	Susitna Watana	61.81	334	P	P	09 17 50.4	+0.6
	baz=114,SNR=7.6						
E28M	Babbage River	61.86	342	P	P	09 17 49.5	-0.3
	baz=125						
DHY	Denali Highway	61.86	335	P	P	09 17 49.9	-0.3
	baz=115						
O22K	Cooper Landing	61.87	332	P	P	09 17 50.3	+0.3
	baz=111						
PMR	Palmer	62.02	333	IAmb	IAmb	09 17 53.1	
	comp=Z,14nm,0.9s						
PMR	Palmer	62.02	333	P	P	09 17 52.0	+1.0
PMR	Palmer	62.02	333	P	P	09 17 51.4	+0.4
	baz=112						
D28M	Stokes Point	62.05	343	P	P	09 17 51.5	+0.5
	baz=126,SNR=6.8						
BRSE	Bradley Lake S	62.09	331	P	P	09 17 52.3	+0.8
	baz=110						
RC01	Rabbit Creek A	62.10	332	IAmb	IAmb	09 17 53.7	
	comp=Z,30nm,0.7s						
RC01	Rabbit Creek A	62.10	332	P	P	09 17 52.4	+0.8
	baz=112,SNR=7.1						
PRP	Porcupine Dome	62.23	338	P	P	09 17 52.6	+0.1
	baz=118,SNR=9.4						
CNPM	China Poot	62.25	330	IAmb	IAmb	09 17 54.9	
	comp=Z,35nm,1.0s						
E27K	Coleen River	62.25	341	P	P	09 17 52.8	+0.2
	baz=123,SNR=18						
WAT1	Susitna Watana	62.25	334	P	P	09 17 52.6	0.0
	baz=114						
HDA	Harding Lake	62.27	336	P	P	09 17 52.8	+0.1
	baz=116						
HDA				P	P	09 17 52.8	+0.1
	baz=116						
G26K	Porcupine Rive	62.31	339	P	P	09 17 53.2	+0.4
	baz=120,SNR=5.5						
KDAK	Kodak Island	62.37	328	P	P	09 17 54.9	+1.5
KDAK	Kodiak Island	62.37	328	P	P	09 17 54.5	+1.2
	baz=107						
KDAK	Kodiak Island	62.37	328	*i* P	P	09 17 55.9	+2.5
KDAK				pmax	pmax		
	comp=Z,19nm,0.5s						
KDAK	Kodiak Island	62.37	328	P	P	09 17 54.7	+1.3
IL31		62.40	337	IAmb	IAmb	09 18 23.2	
	comp=Z,21nm,1.1s						
ILAR	Eielson Array	62.40	337	P	P	09 17 53.4	-0.1
ILAR	Eielson Array	62.40	337	P	P	09 17 53.4	-0.1
ILAR	Eielson Array	62.40	337	P	P	09 17 53.2	-0.3
	comp=Z,9.8nm,0.9s,baz=174,slow=4.8,SNR=70						
ILAR				pP	pP	09 18 22.1	+0.8
	comp=Z,14nm,1.0s,baz=119,slow=4.5,SNR=7.4						
ILAR				PKPPKP	P'P'df	09 46 48.4	-10
	comp=Z,0.6nm,0.9s,baz=288,slow=4.8,SNR=5.0						
ILAR				LR	LR	09 49 33.9	
	comp=Z,58nm,19.1s,baz=165,slow=40						
	comp=Z,9.8nm,0.9s						
COYC	Coyhaique	62.48	165	P	P	09 17 54.4	+0.2
COYC	Coyhaique	62.48	165	P	P	09 17 55.7	+1.5
COYC				pP	pP	09 18 22.0	+0.9
COYC				PcP	sP	09 18 33.8	+0.8
M22K	Willow	62.52	333	P	P	09 17 55.5	+1.2
M22K				IAmb	IAmb	09 19 46.5	
	comp=Z,48nm,1.2s						
M22K	Willow	62.52	333	P	P	09 17 55.0	+0.7
	baz=111						
SYI	Shuyak Island	62.52	329	IAmb	IAmb	09 17 57.0	
	comp=Z,35nm,0.8s						
Q20K	Shuyak Island	62.52	329	P	P	09 17 55.2	+0.8
	baz=108						
OHAK	Old Harbor	62.57	327	P	P	09 17 56.2	+1.4
OHAK				IAmb	IAmb	09 17 57.2	
	comp=Z,50nm,1.3s						
OHAK	Old Harbor	62.57	327	P	P	09 17 56.5	+1.8
OHAK	Old Harbor	62.57	327	P	P	09 17 56.1	+1.4
	baz=106,SNR=6.9						
RND	Reindeer	62.61	335	P	P	09 17 55.9	+0.9
RND				IAmb	IAmb	09 18 46.8	
	comp=Z,37nm,1.0s						
RND	Reindeer	62.61	335	P	P	09 17 55.9	+0.9
RND				pmax	pmax		
	comp=Z,37nm,1.0s						
D27M	Malcolm River	62.65	342	P	P	09 17 55.4	+0.2
	baz=124						
SUA	Susitna One	62.69	332	IAmb	IAmb	09 17 57.9	
	comp=Z,17nm,0.8s						
SUA	Susitna One	62.69	332	P	P	09 17 56.1	+0.4
	baz=111,SNR=6.5						
POKR	Poker Plat Res	62.76	337	P	P	09 17 56.0	+0.1
POKR	Poker Plat Res	62.76	337	P	P	09 17 55.8	-0.1
	baz=116,SNR=7.1						
MCK	McKinley	62.77	335	P	P	09 17 56.5	+0.4
	baz=114						
VAH	Vaihoa	62.81	244	*e*P	P	09 17 59.0	+2.0
	comp=Z,67nm,1.1s						
VAH				*e*pP	pP	09 18 24.8	+1.0
	comp=Z,158nm,1.2s						
F26K	Sheenjek River	62.81	340	P	P	09 17 56.9	+0.7
	baz=120,SNR=11						
COLA	College	62.82	336	P	P	09 17 56.4	+0.2
COLA	College	62.82	336	P	P	09 17 56.4	+0.2
COLA	College	62.82	336	P	P	09 17 56.2	0.0
	baz=115						
COLA	College	62.82	336	P	P	09 17 56.4	+0.2
COLA				pmax	pmax		
	comp=Z,12nm,0.8s						
COLA	College	62.82	336	P	P	09 17 56.2	0.0
COLA				pP	pP	09 18 24.1	+0.1
COLA				PcP	PcP	09 18 33.2	-0.4
CUT	Chulitna	62.82	333	P	P	09 17 56.7	+0.4
CUT	Chulitna	62.82	333	P	P	09 17 57.1	+0.8
	baz=112						
BMAR	Burnt Mountain	62.82	340	P	P	09 17 56.8	+0.5
SII	Sitkinak Islan	62.87	326	P	P	09 17 57.6	+0.8
	baz=105						
MDM	Murphy Dome	63.00	336	P	P	09 17 56.7	-0.8
MDM				IAmb	IAmb	09 18 27.6	
	comp=Z,38nm,1.8s						
G25K	Bearman Lake	63.02	339	P	P	09 17 57.8	+0.2
	baz=118						
O20K	Slope Mountain	63.09	331	P	P	09 17 59.3	+1.0
	baz=108						
NEA2	Nenana	63.18	336	P	P	09 17 58.4	-0.3
	baz=114,SNR=7.2						
SKT	Skwentna	63.22	333	IAmb	IAmb	09 18 01.0	
	comp=Z,21nm,0.7s						
SKT	Skwentna	63.22	333	P	P	09 17 59.5	+0.5
	baz=110,SNR=11						
TRF	Thorofare Moun	63.22	335	IAmb	IAmb	09 18 01.3	
	comp=Z,21nm,0.8s						
TRF	Thorofare Moun	63.22	335	P	P	09 17 59.4	+0.2
	baz=112,SNR=9.6						
Q19K	Cape Douglas,	63.24	329	P	P	09 17 59.7	+0.5
	baz=107						
H24K	Noodor Dome	63.24	337	P	P	09 17 59.4	+0.3
	baz=116						
P19K	Oil Pt	63.25	330	P	P	09 18 00.0	+0.7
	baz=107						
F25K	Christian Rive	63.26	340	P	P	09 18 00.1	+0.9
	baz=119,SNR=12						
N20K	Mount Spurr	63.26	332	P	P	09 18 00.2	+0.8
	baz=109						
R18K	Karluk	63.27	328	P	P	09 18 00.2	+0.8
	baz=105,SNR=8.3						
ILSW	Iliamna Southw	63.31	330	IAmb	IAmb	09 18 01.4	
	comp=Z,30nm,0.9s						
ICESG	Greenland Ices	63.36	18	*i* P	P	09 17 58.2	-2.0
ICESG				IAmb	IAmb	09 17 59.1	
	comp=Z,21nm,0.8s						
G24K	Hadweenzic Riv	63.48	338	P	P	09 18 01.0	+0.3
	baz=116,SNR=7.5						
E25K	Arctic Village	63.49	340	IAmb	IAmb	09 18 02.7	
	comp=Z,49nm,1.8s						
E25K	Arctic Village	63.49	340	P	P	09 18 01.3	+0.6
	baz=119,SNR=11						
I23K	Minto, Yukon-K	63.52	336	IAmb	IAmb	09 18 03.2	
	comp=Z,22nm,0.8s						
I23K	Minto, Yukon-K	63.52	336	P	P	09 18 01.0	+0.2
	baz=114,SNR=19						
KTH	Kantishna Hill	63.52	335	IAmb	IAmb	09 18 02.7	
	comp=Z,20nm,0.9s						
BPAW	Bear Paw Mtn.	63.75	335	P	P	09 18 02.5	+0.1
BPAW	Bear Paw Mtn.	63.75	335	P	P	09 18 02.6	+0.1
	baz=112,SNR=8.7						
PPLA	Purkeypile	63.83	334	P	P	09 18 03.6	+0.5
PPLA				IAmb	IAmb	09 18 39.7	
	comp=Z,24nm,1.1s						
PPLA	Purkeypile	63.83	334	P	P	09 18 02.9	-0.2
	baz=110						
Q18K	Katmai Hardscr	63.85	329	P	P	09 18 03.5	+0.2
	baz=105,SNR=20						
M20K	Styx River	63.90	332	P	P	09 18 03.7	+0.1
M20K				IAmb	IAmb	09 18 05.4	
	comp=Z,18nm,0.8s						
M20K	Styx River	63.90	332	P	P	09 18 03.9	+0.3
	baz=109,SNR=9.1						
O19K	Port Alsworth	63.94	330	P	P	09 18 04.0	+0.3
O19K				IAmb	IAmb	09 18 05.1	
	comp=Z,26nm,0.8s						
O19K	Port Alsworth	63.94	330	P	P	09 18 04.0	+0.3
	baz=107,SNR=7.7						
CAST	Castle Rocks	63.96	334	P	P	09 18 03.5	-0.4
	baz=110,SNR=8.1						
F24K	Squaw Lake	63.99	339	P	P	09 18 04.6	+0.6
	baz=116						
MLY	Manley	64.01	336	IAmb	IAmb	09 18 06.2	
	comp=Z,29nm,0.7s						
MLY	Manley	64.01	336	P	P	09 18 04.5	+0.3
	baz=112,SNR=35						
P18K	Big Mountain,	64.16	329	IAmb	IAmb	09 18 06.7	
	comp=Z,20nm,0.8s						
P18K	Big Mountain,	64.16	329	P	P	09 18 05.5	+0.2
	baz=105						
C26K	Camden Bay	64.18	342	P	P	09 18 05.5	+0.4
	baz=120						
Q17K	Contact Creek	64.19	328	P	P	09 18 06.3	+0.7
	baz=104,SNR=8.1						
N19K	Bonanza Creek	64.19	331	IAmb	IAmb	09 18 07.7	
	comp=Z,57nm,1.1s						
N19K	Bonanza Creek	64.19	331	P	P	09 18 05.6	+0.1
	baz=107						
CHUM	Lake Minchumin	64.22	335	P	P	09 18 05.6	+0.1
	baz=110						
O18K	Koktuh Hills	64.27	330	IAmb	IAmb	09 18 07.6	
	comp=Z,38nm,0.8s						
O18K	Koktuh Hills	64.27	330	P	P	09 18 06.0	0.0
	baz=106,SNR=13						
R17K	Ugashik Creek	64.30	327	P	P	09 18 07.1	+1.0
	baz=104,SNR=9.4						
D25K	Kavik River	64.33	341	IAmb	IAmb	09 18 09.0	
	comp=Z,20nm,0.8s						
D25K	Kavik River	64.33	341	P	P	09 18 06.5	+0.3
	baz=119,SNR=26						
MEH	Mehetia	64.34	242	*e*pP	pP	09 18 34.9	+0.9
	comp=Z,46nm,1.1s						
G23K	Bananza Creek	64.40	338	P	P	09 18 07.3	+0.6
	baz=114						
L20K	Farewell, AK	64.42	333	P	P	09 18 07.3	+0.4
	baz=108						
E24K	Your Creek	64.44	340	P	P	09 18 07.5	+0.5
	baz=116						
I21K	Tanana	64.55	336	P	P	09 18 07.6	0.0
	baz=111,SNR=8.1						
H22K	Ishtalitna Cre	64.58	337	P	P	09 18 08.0	+0.1
	baz=112						
COLD	Coldfoot	64.68	338	P	P	09 18 09.5	+1.1
	baz=114,SNR=14						
Q16K	King Salmon	64.69	328	P	P	09 18 09.3	+0.7
	baz=104,SNR=9.4						
P17K	Kvichak River	64.70	329	P	P	09 18 09.2	+0.4
	baz=104						
L19K	White Mountain	64.77	332	P	P	09 18 09.5	+0.4
	baz=107						
K20K	Telida	64.79	334	IAmb	IAmb	09 18 10.8	
	comp=Z,22nm,0.9s						
K20K	Telida	64.79	334	P	P	09 18 08.8	-0.4
	baz=108						
SVW2	Sparrevohn	64.79	331	IAmb	IAmb	09 18 10.6	
	comp=Z,22nm,0.9s						
SVW2	Sparrevohn	64.79	331	P	P	09 18 09.6	+0.3
E23K	Chandalar	64.82	339	P	P	09 18 10.2	+0.8
	baz=115						
N18K	Kilae Creek	64.82	331	P	P	09 18 09.8	+0.3
	baz=105						
M18K	Stony River	65.01	332	P	P	09 18 10.8	+0.1
	baz=106,SNR=14						
G22K	Bettles	65.02	338	P	P	09 18 11.5	+0.8
	baz=112,SNR=8.7						
D24K	Happy Valley	65.03	341	P	P	09 18 11.1	+0.5
	baz=116						
H21K	Melozitna Rive	65.04	336	P	P	09 18 10.5	-0.4
	baz=111						
TOLK	Toolik Lake Re	65.05	340	P	P	09 18 10.9	0.0
	baz=115,SNR=12						
J20K	Nowinta River	65.08	335	P	P	09 18 10.8	-0.2
	baz=109						
CHGN	Chignik	65.09	326	P	P	09 18 12.2	+0.9
	baz=101						
O17K	Koliganek Bris	65.17	330	P	P	09 18 12.3	+0.5
	baz=104,SNR=8.7						
C24K	Franklin Bluff	65.24	341	P	P	09 18 12.3	+0.3
	baz=116						
TIAR	Tiarei	65.30	243	*e*pP	pP	09 18 40.9	+0.6
	comp=Z,12nm,1.0s						
N17K	Nushagak Hills	65.40	330	IAmb	IAmb	09 18 15.7	
	comp=Z,41nm,1.0s						
N17K	Nushagak Hills	65.40	330	P	P	09 18 14.2	+1.0
	baz=104						
I20K	Naaghedeneel	65.42	335	P	P	09 18 13.0	-0.2
	baz=109						
P16K	Nushagak River	65.44	329	P	P	09 18 14.3	+0.8
	baz=103						
F22K	John River	65.49	338	P	P	09 18 14.2	+0.5
	baz=

comp=Z,17nm,0.8s
PPT2 Papeete2 65.51 243 *e*LR LR 09 37 43.8
comp=Z,405nm,31.8s
PPT2 *e*LR LR 09 37 51.2
comp=Z,213nm,36.5s
IMAR Indian Mountai 65.52 337 P **P** **09 18 13.1 -0.9**
SUMG Summit 65.53 15 P **P** **09 18 13.1 -1.2**
SUMG IAmb IAmb 09 18 15.5
comp=Z,52nm,1.6s
SUMG Summit 65.53 15 P **P** **09 18 13.1 -1.2**
SUMG pmax pmax
comp=Z,51nm,1.6s
SUMG Summit 65.53 15 *i* P **P** **09 18 13.4 -1.0**
SUMG IAmb IAmb 09 18 15.2
comp=Z,43nm,1.5s
PAE Paea 65.54 243 *e*P **P** **09 18 15.9 +1.1**
comp=Z,21nm,1.2s
PAE *e*pP **PcP** **09 18 44.0 -1.7**
comp=Z,46nm,1.3s
D23K Nanushuk River 65.55 340 P **P** **09 18 14.7 +0.7**
baz=114,SNR=8.5
E22K Anaktuvuk Pass 65.60 339 P **P** **09 18 14.9 +0.4**
E22K IAmb IAmb 09 18 17.1
comp=Z,22nm,0.9s
E22K Anaktuvuk Pass 65.60 339 P **P** **09 18 14.9 +0.4**
baz=113,SNR=23
L18K Granite Mounta 65.60 332 IAmb IAmb 09 18 16.8
comp=Z,23nm,1.1s
L18K Granite Mounta 65.60 332 P **P** **09 18 15.1 +0.6**
baz=105
G21K Allakaket 65.61 337 IAmb IAmb 09 18 16.7
comp=Z,18nm,0.8s
G21K Allakaket 65.61 337 P **P** **09 18 14.4 -0.1**
baz=110
O16K Kokwok River B 65.62 329 IAmb IAmb 09 18 16.2
comp=Z,20nm,0.8s
O16K Kokwok River B 65.62 329 P **P** **09 18 15.2 +0.5**
baz=103
J19K Poorman 65.64 334 IAmb IAmb 09 18 16.6
comp=Z,26nm,1.0s
J19K Poorman 65.64 334 P **P** **09 18 14.1 -0.6**
baz=107
S14K Fog Glacier 65.72 325 P **P** **09 18 15.3 -0.1**
baz=100
M17K Holitna River 65.74 331 IAmb IAmb 09 18 17.6
comp=Z,33nm,1.1s
M17K Holitna River 65.74 331 P **P** **09 18 15.4 +0.1**
baz=104,SNR=5.1
H20K Anotleneega Mo 65.80 336 P **P** **09 18 15.3 -0.4**
baz=108
F21K Alatna River 65.86 338 IAmb IAmb 09 18 19.1
comp=Z,36nm,0.8s
F21K Alatna River 65.86 338 P **P** **09 18 17.0 +1.0**
baz=111
C23K Itkillik River 65.89 341 IAmb IAmb 09 18 46.7
comp=Z,43nm,1.2s
C23K Itkillik River 65.89 341 P **P** **09 18 17.1 +0.9**
baz=114
J18K Innoko River 65.95 334 P **P** **09 18 17.8 +1.1**
baz=106
NEEM North Greenlan 66.05 9 *i* P **P** **09 18 16.5 -1.0**
NEEM IAmb IAmb 09 18 17.1
comp=Z,15nm,1.1s
N16K Nishlik Lake 66.15 330 P **P** **09 18 18.5 +0.5**
baz=103
D22K Ayikyak River 66.18 340 P **P** **09 18 18.4 +0.3**
baz=112
L17K Donlin 66.31 332 P **P** **09 18 19.0 -0.1**
baz=104
M16K Timber Creek 66.36 331 IAmb IAmb 09 18 21.3
comp=Z,26nm,0.9s
M16K Timber Creek 66.36 331 P **P** **09 18 20.3 +0.9**
baz=103,SNR=5.4
GCSA Galena City Sc 66.38 335 P **P** **09 18 19.3 -0.1**
baz=106
O15K Ungalikthiuk R 66.40 329 P **P** **09 18 18.9 -0.8**
baz=101
H19K Roundabout Mou 66.43 336 IAmb IAmb 09 18 21.5
comp=Z,19nm,0.8s
H19K Roundabout Mou 66.43 336 P **P** **09 18 19.3 -0.5**
baz=107
K17K Iditarod 66.46 333 IAmb IAmb 09 18 21.2
comp=Z,18nm,0.9s
K17K Iditarod 66.46 333 P **P** **09 18 20.0 +0.1**
baz=104
E21K Killik River 66.46 339 P **P** **09 18 20.3 +0.3**
baz=111,SNR=13
F20K Avaraart Lake 66.62 337 IAmb IAmb 09 18 23.5
comp=Z,16nm,0.8s
F20K Avaraart Lake 66.62 337 P **P** **09 18 21.1 +0.2**
baz=108
N15K Kwethluk River 66.73 330 P **P** **09 18 22.8 +1.0**
baz=101
L16K Owhat River 66.76 331 IAmb IAmb 09 18 23.9
comp=Z,28nm,0.9s
L16K Owhat River 66.76 331 P **P** **09 18 22.8 +1.0**
baz=102,SNR=7.8
G19K Purcell Mounta 66.87 336 IAmb IAmb 09 18 25.1
comp=Z,28nm,1.2s
G19K Purcell Mounta 66.87 336 P **P** **09 18 22.8 +0.3**
baz=107,SNR=13
J17K VABM Dome 66.96 333 P **P** **09 18 23.5 +0.4**
baz=104
B22K Teshekpuk Lake 66.98 341 IAmb IAmb 09 18 25.6
comp=Z,32nm,1.2s
B22K Teshekpuk Lake 66.98 341 P **P** **09 18 23.3 +0.2**
baz=112,SNR=6.8
C21K Knifeblade Rid 66.99 340 P **P** **09 18 23.9 +0.6**
baz=110
B21K Ikpikpuk River 67.10 340 P **P** **09 18 24.1 +0.2**
baz=110
H18K Honhosa River 67.10 335 P **P** **09 18 24.3 +0.3**
baz=105
M15K Kasigluk River 67.12 330 P **P** **09 18 24.8 +0.6**
baz=101
O14K Tigyukauivet M 67.14 328 P **P** **09 18 24.3 -0.1**
baz=100
E20K Nigu River 67.17 339 P **P** **09 18 24.9 +0.4**
baz=108
E19K Redstone River 67.31 338 P **P** **09 18 25.2 0.0**
baz=107,SNR=8.0
F19K Shaleruckik Mo 67.33 337 P **P** **09 18 25.2 -0.1**
baz=106
G18K Tagagawik 67.41 336 IAmb IAmb 09 18 29.1
comp=Z,55nm,1.7s
G18K Tagagawik 67.41 336 P **P** **09 18 26.3 +0.4**
baz=105,SNR=13
D20K Etivluk River 67.47 339 P **P** **09 18 26.7 +0.4**
baz=108,SNR=18
N14K Kuskokwak Cree 67.47 329 P **P** **09 18 26.3 -0.1**
baz=100
J16K Anvik River 67.61 333 IAmb IAmb 09 18 29.9
comp=Z,30nm,0.8s
J16K Anvik River 67.61 333 P **P** **09 18 28.1 +0.8**
baz=102,SNR=15
FALS False Pass 67.68 324 P **P** **09 18 27.9 +0.1**
baz=96
H17K Granite Mounta 67.68 335 P **P** **09 18 28.6 +0.9**
baz=104
L15K Ungalak Mounta 67.69 331 P **P** **09 18 28.6 +0.8**
baz=101
A22K Sinclair Lake 67.70 342 P **P** **09 18 28.3 +0.7**
baz=111
M14K Bethel 67.75 330 P **P** **09 18 29.2 +1.1**
baz=100,SNR=18
I17K Unalakleet 67.78 333 P **P** **09 18 29.3 +1.1**
baz=102
K15K Wolf Creek Mou 67.83 332 IAmb IAmb 09 18 31.3
comp=Z,38nm,0.8s
K15K Wolf Creek Mou 67.83 332 P **P** **09 18 29.0 +0.4**
baz=101
D19K Kuna River 67.93 339 P **P** **09 18 29.5 +0.3**
baz=107,SNR=7.6
TBI Tubuai 68.00 237 *e*P P 09 18 41.1 +11
comp=Z,257nm,22.2s
TBI Tubuai 68.00 237 *e*LR LR 09 39 06.8
comp=Z,1µm,33.0s
B20K Meade River 68.06 340 IAmb IAmb 09 19 00.5
comp=Z,28nm,1.1s
B20K Meade River 68.06 340 P **P** **09 18 30.2 +0.3**
baz=108
G17K Kiwalik Mounta 68.12 335 P **P** **09 18 31.0 +0.6**
baz=103,SNR=5.7
L14K Kuka Creek 68.19 331 IAmb IAmb 09 18 34.1
comp=Z,24nm,0.9s
L14K Kuka Creek 68.19 331 P **P** **09 18 31.7 +0.8**
baz=100
M13K Dall Lake 68.37 330 P **P** **09 18 32.9 +1.0**
baz=98
BORG Borgarnes 68.48 26 LR LR 09 47 21.2
comp=Z,77nm,18.5s,baz=256,slow=35
E18K Tukpahlearik C 68.55 337 P **P** **09 18 33.2 +0.2**
baz=104
F17K Baldwin Pennin 68.57 336 P **P** **09 18 32.9 -0.3**
baz=103
H16K Elim 68.59 334 P **P** **09 18 34.2 +0.8**
baz=101,SNR=11
C19K Lookout Ridge 68.61 339 P **P** **09 18 34.0 +0.5**
baz=105,SNR=7.2
G16K Koyuk River 68.79 335 P **P** **09 18 35.4 +0.8**
baz=101
J14K Nanvaranak Lak 68.83 332 IAmb IAmb 09 18 37.7
comp=Z,21nm,0.8s
J14K Nanvaranak Lak 68.83 332 P **P** **09 18 35.8 +1.0**
baz=99
ALE Alert 68.91 4 P **P** **09 18 33.1 -2.0**
ALE pP **pP** **09 19 01.4 -1.7**
C18K Utukok River 69.06 338 P **P** **09 18 36.3 +0.1**
baz=104
UNV Unalaska Valle 69.40 322 P **P** **09 18 39.6 +1.1**
UNV Unalaska Valle 69.40 322 P **P** **09 18 39.3 +0.8**
baz=93
A19K Wainwright 69.40 340 P **P** **09 18 38.7 +0.5**
baz=104
G15K Niukluk 69.42 334 P **P** **09 18 39.1 +0.7**
baz=100
B18K Kokolik River 69.44 339 P **P** **09 18 38.9 +0.4**
baz=103
D17K Noatak River 69.54 337 P **P** **09 18 39.7 +0.6**
baz=102
RDOG Red Dog Mine 69.55 338 P **P** **09 18 39.7 +0.5**
baz=102,SNR=5.9
C17K DeLong Mountai 69.73 338 P **P** **09 18 40.8 +0.4**
baz=102
M11K Meoryuk 69.77 329 P **P** **09 18 41.7 +1.0**
baz=96
F15K North Star Dit 69.79 335 IAmb IAmb 09 18 43.5
comp=Z,26nm,1.0s
F15K North Star Dit 69.79 335 P **P** **09 18 41.6 +0.9**
baz=99
ANM Nome 69.91 334 P **P** **09 18 42.3 +0.8**
baz=98
F14K Arctic Creek 70.44 335 P **P** **09 18 45.1 +0.4**
baz=98
C16K Lisburne Hills 70.48 338 P **P** **09 18 45.0 +0.1**
baz=100
NIKH Nikolski High 70.77 321 P **P** **09 18 47.8 +0.9**
NIKH Nikolski High 70.77 321 P **P** **09 18 47.4 +0.5**
baz=91
TNA Tin City 71.11 335 P **P** **09 18 49.7 +0.9**
baz=96
SPIA Saint Paul Isl 71.66 326 P **P** **09 18 53.2 +1.0**
baz=91
DAG Danmarks Havn 71.97 13 *i* P **P** **09 18 51.7 -2.0**
DAG IAmb IAmb 09 18 52.4
comp=Z,12nm,0.5s
NOR Nord 73.42 9 P **P** **09 19 01.1 -1.2**
NOR pmax pmax
comp=Z,8.0nm,0.8s
NOR Nord 73.42 9 *i* P **P** **09 19 00.4 -1.8**
NOR IAmb IAmb 09 19 03.2
comp=Z,11nm,1.2s
JMIC Jan Mayen 74.03 20 LR LR 09 51 39.3
comp=Z,223nm,20.2s,baz=272,slow=36
ATKA Atka Island 74.04 321 P **P** **09 19 06.7 +0.4**
PGAV Gavieira, Arco 75.48 50 *e*pP pP 09 19 42.2 -1.4
PCAS Casmilo, Conde 75.53 52 *e*P **P** **09 19 13.6 -1.7**
comp=Z,88nm,1.7s
PCAS *e*pP **pP** **09 19 44.2 +0.3**
ADK Adak 75.60 320 P **P** **09 19 16.4 +1.1**
ADK Adak 75.60 320 P **P** **09 19 16.4 +1.1**
ADK pmax pmax
comp=Z,169nm,0.8s
PTEO Sao Teotonio 75.68 54 *e*pP pP 09 19 44.6 -0.1
PNCL Nicolau / Gran 75.75 54 *e*pP pP 09 19 45.0 -0.1
MORF Marmelete 75.76 55 *e*pP pP 09 19 45.4 +0.1
MORF Marmelete 75.76 55 *e*pP pP 09 19 45.3 +0.1
PMTG Montargil 75.87 53 *e*pP pP 09 19 45.4 -0.4
KIWB Kanaga Island 75.89 320 P **P** **09 19 17.5 +0.5**
PVIS Viseu 75.91 51 *e*pP pP 09 19 45.8 -0.3
MESJ Messejana 76.03 54 *e*pP pP 09 19 46.8 0.0
MESJ Messejana 76.03 54 *e*pP pP 09 19 46.6 -0.2
EVO Evora 76.10 53 *e*pP pP 09 19 46.9 -0.2
PCVE Castro Verde 76.20 54 *e*pP pP 09 19 47.7 0.0
MTE Manteigas 76.21 51 *e*pP pP 09 19 47.6 -0.2
PBEJ Beja 76.28 54 *e*pP pP 09 19 47.9 -0.3
PCBR Castelo Branco 76.34 52 *e*pP pP 09 19 48.5 0.0
PBDV Barranco-do-Ve 76.34 55 *e*P **P** **09 19 17.0 -2.9**
comp=Z,62nm,1.6s
PBDV *e*pP **pP** **09 19 48.4 -0.2**
PESTR Estremoz 76.38 53 *e*pP **pP** **09 19 48.5 -0.3**
PESTR A A 09 19 49.9
comp=Z,58nm,1.3s
PMRV Marv??o 76.46 52 *e*P **P** **09 19 18.4 -2.1**
comp=Z,32nm,1.9s
PMRV *e*pP **pP** **09 19 49.0 -0.2**
MVO Moncorvo 76.50 51 *e*pP pP 09 19 49.4 -0.1
PBRG Braganca 76.63 50 *e*pP pP 09 19 49.8 -0.4
PBAR Barrancos 76.91 54 *e*pP **pP** **09 19 51.5 -0.3**
PBAR A A 09 19 52.5
comp=Z,50nm,1.1s
EKA Eskdalemuir Ar 77.24 36 P **P** **09 19 22.5 -2.0**
comp=Z,23nm,0.7s,baz=274,slow=6.1,SNR=60
EKA pP **pP** **09 19 51.2 -2.0**
comp=Z,43nm,0.9s,baz=280,slow=5.8,SNR=12
comp=Z,23nm,0.7s
ESDC Sonseca Array 79.04 52 P **P** **09 19 32.5 -2.4**
comp=Z,4.3nm,0.8s,baz=284,slow=5.5,SNR=20
ESDC pP **pP** **09 20 01.4 -2.4**
comp=Z,20nm,0.8s,baz=289,slow=5.8,SNR=27
comp=Z,4.3nm,0.8s
SPITS Spitsbergen Ar 79.40 12 P **P** **09 19 35.2 -0.9**
comp=Z,1.9nm,0.4s,baz=93,slow=1.7,SNR=14
SPITS LR LR 09 57 00.0
comp=Z,198nm,18.4s,baz=228,slow=37
comp=Z,1.9nm,0.4s
MDT Midelt 79.76 59 LR LR 09 46 30.4
comp=Z,96nm,21.9s,baz=344,slow=29
BILL Bilibino 81.01 338 P **P** **09 19 44.9 +0.1**
BILL Bilibino 81.01 338⇑ *e*P **P** **09 19 45.7 +0.9**
DOU Dourbes 82.85 40 *d*P **P** **09 19 52.8 -2.0**
DOU *d*pP **pP** **09 20 22.0 -1.8**
BMRD Maredsous 82.91 40 *d*P **P** **09 19 53.6 -1.5**
BMRD *d*PcP **PcP** **09 19 59.8 +0.1**
BMRD *d*pP **pP** **09 20 22.9 -1.2**
BGES Gesves 83.08 40 *d*P **P** **09 19 54.2 -1.8**
BGES *d*pP **pP** **09 20 24.8 -0.1**
BCLA Clavier 83.21 40 *d*P **P** **09 19 54.9 -1.7**
comp=Z,16nm,0.9s
BCLA *d*pP **pP** **09 20 25.7 +0.1**
RCHB Rochefort 83.23 40 *d*P **P** **09 19 54.8 -2.0**
RCHB *d*pP **pP** **09 20 25.6 -0.1**
BSTI Sart Tilman 83.33 40 *d*pP pP 09 20 26.2 0.0
NB2 NORSAR Subarra 83.42 29 P **P** **09 19 56.6 -1.0**
comp=Z,18nm,1.1s,baz=290,slow=5.6
NB2 NORSAR Subarra 83.42 29 P **P** **09 19 56.6 -1.0**
baz=290,slow=5.6
NOA NORSAR Array B 83.42 29 P **P** **09 19 56.9 -0.8**
comp=Z,3.4nm,0.7s,baz=289,slow=5.3,SNR=13
NOA pP **pP** **09 20 26.9 +0.3**
comp=Z,5.2nm,0.8s,baz=290,slow=5.2,SNR=8.9
NOA LR LR 09 55 39.2
comp=Z,97nm,19.9s,baz=275,slow=35
comp=Z,3.4nm,0.7s
MEM Membach 83.59 39 *d*P **P** **09 19 57.7 -1.0**
MEM *d*pP **pP** **09 20 28.2 +0.6**
BHOU Houvegnez 83.66 40 *d*P **P** **09 19 58.0 -1.0**
BHOU *d*pP **pP** **09 20 28.7 +0.7**
BTNL Ternell 83.67 39 *d*pP pP 09 20 28.4 +0.3
WLF Walferdange 83.93 40 *d*P **P** **09 19 58.9 -1.6**
WLF *d*pP **pP** **09 20 30.0 +0.6**
HFS Hagfors 84.87 29 P **P** **09 20 03.8 -1.1**
comp=Z,6.6nm,0.9s,baz=324,slow=7.3,SNR=6.9
HFS pP **pP** **09 20 33.9 -0.2**
comp=Z,9.1nm,0.8s,baz=253,slow=1.5,SNR=5.6
comp=Z,6.6nm,0.9s
TIC Toumodi 85.08 84⇑ *i*PKP2 pP 09 20 36.9 +1.0
comp=Z,3.2nm,0.3s
TIC Toumodi 85.08 84⇑ *e*P **P** **09 20 04.7 -2.2**
comp=Z,3.9nm,0.3s
LIC Lamto 85.17 85⇑ *i*PKP2 pP 09 20 37.6 +1.3
comp=Z,32nm,0.8s
LIC Lamto 85.17 85 *e*P **P** **09 20 03.7 -3.6**
comp=Z,32nm,0.8s
BSEG Bad Segeberg 85.18 35 P **P** **09 20 05.7 -0.8**
BSEG pmax pmax
comp=Z,24nm,1.1s
TNS Taunus Mts 85.20 39 P **P** **09 20 05.8 -1.1**
TNS pmax pmax
comp=Z,26nm,1.4s
DBIC Dimbokro 85.23 84 P **P** **09 20 04.0 -3.6**
comp=Z,3.6nm,0.9s,baz=271,slow=4.8,SNR=3.7
DBIC pP **pP** **09 20 35.6 -1.0**
comp=Z,6.2nm,0.7s,baz=245,slow=3.8,SNR=5.0
comp=Z,3.6nm,0.9s
KIC Kosan Boka 85.42 85⇓ *i*PKP2 pP 09 20 38.5 +1.0
comp=Z,18nm,0.7s
KIC Kosan Boka 85.42 85⇑ *e*P **P** **09 20 05.6 -3.0**
comp=Z,12nm,0.8s
ARCES ARCESS Array B 85.42 18 P **P** **09 20 05.6 -1.9**
comp=Z,2.1nm,0.6s,baz=308,slow=4.0,SNR=11
ARCES pP **pP** **09 20 36.6 -0.1**
comp=Z,4.3nm,0.7s,baz=303,slow=4.5,SNR=3.9
ARCES LR LR 09 58 29.1
comp=Z,133nm,19.9s,baz=304,slow=36
comp=Z,2.1nm,0.6s
MBDF Montbardon 85.68 45 *e*P **P** **09 20 07.3 -2.2**
MBDF pmax pmax
comp=Z,178nm,2.5s
TUE Stuetta 86.90 43 P **P** **09 20 13.9 -1.6**
TUE IAmb IAmb 09 20 46.8
comp=Z,40nm,1.2s
DAVA Damuels 86.99 42 *e*P **P** **09 20 14.6 -1.3**
comp=Z,22nm,0.9s
DAVA *e*pP **pP** **09 20 45.4 +0.3**
comp=Z,21nm,1.0s
DAVOX Davos/Dischmat 87.15 42 LR LR 09 54 45.5
comp=Z,96nm,21.4s,baz=263,slow=32
FUORN Ofenpass-Fuorn 87.45 42 P **P** **09 20 16.9 -1.3**
FUORN IAmb IAmb 09 20 49.4
comp=Z,23nm,1.1s
RETA Reutte 87.50 42 *e*pP pP 09 20 47.7 +0.2
comp=Z,13nm,0.6s
CLL Collm 87.59 37 *e*P **P** **09 20 19.0 +0.6**
comp=Z,10.0nm,1.2s
CLL *e*pP **pP** **09 20 46.0 -1.7**
CLL *e*sP **sP** **09 20 59.0 -0.7**
CLL *e*PP **PP** **09 23 45.0 +0.4**
CLL Collm 87.59 37 *e*P **P** **09 20 19.0 +0.6**
CLL pmax pmax
comp=Z,10.0nm,1.2s
FETA Feichten 87.63 42 *e*P **P** **09 20 17.4 -1.6**
comp=Z,2.1nm,0.4s
FETA *e*pP **pP** **09 20 48.3 +0.1**
comp=Z,11nm,0.7s
NKC Novy Kostel 87.63 39 *e*pP pP 09 20 48.4 +0.4
MOTA Moosalm 87.76 42 *i* P **P** **09 20 18.2 -1.4**
comp=Z,1.4nm,0.3s
MOTA *e*pP **pP** **09 20 49.0 +0.1**
comp=Z,19nm,0.8s
SQTA Sankt Quirin 87.87 42 *e*pP pP 09 20 49.6 +0.3
comp=Z,7.2nm,0.8s
WATA Walderalm 88.07 41 *e*pP pP 09 20 51.2 +0.8
comp=Z,16nm,1.2s
HSKC Hora Svate Kat 88.09 38 *e*pP pP 09 20 52.8 +2.6
WTTA Wattenberg 88.13 42 *e*pP pP 09 20 51.1 +0.4
comp=Z,5.1nm,0.6s
SEY Seymchan 88.33 336 *c e*P **P** **09 20 24.6 +3.0**
SEY pmax pmax
comp=Z,6.0nm,1.3s
KHC Kasperske Hory 88.71 39 *e*P P 09 20 28.7 +4.9
KHC *e*pP pP 09 20 53.2 0.0
KHC Kasperske Hory 88.71 39 *e*P P 09 20 28.7 +4.9
ABTA Abfaltersbach 88.87 42 *e*pP pP 09 20 54.3 +0.2
comp=Z,15nm,0.9s
GERES GERESS Array B 88.89 40 P **P** **09 20 23.4 -1.4**
comp=Z,1.5nm,0.7s,baz=289,slow=4.1,SNR=3.7
GERES pP **pP** **09 20 52.9 -1.2**
comp=Z,5.7nm,1.0s,baz=338,slow=7.4,SNR=5.2
GERES LR LR 09 59 56.4
comp=Z,65nm,19.4s,baz=305,slow=35
comp=Z,1.5nm,0.7s
UPC Upice 89.66 37 *e*pP pP 09 20 58.6 +1.1
TIXI Tiksi 89.71 348 *c e*P **P** **09 20 26.7 -1.3**
FINES FINESS Array B 89.77 25 P **P** **09 20 26.9 -1.6**
comp=Z,4.5nm,0.8s,baz=260,slow=1.2,SNR=7.0
FINES pP **pP** **09 20 57.4 -0.5**
comp=Z,8.2nm,0.9s,baz=292,slow=2.1,SNR=4.3
FINES P4KPbc 09 56 08.9
comp=Z,1.6nm,0.8s,baz=241,slow=3.9,SNR=5.5
comp=Z,4.5nm,0.8s
TORD Torodi Ar. Bea 89.88 77 P **P** **09 20 26.6 -3.3**
comp=Z,0.4nm,0.6s,baz=289,slow=5.9,SNR=4.1
TORD pP **pP** **09 20 58.9 -0.1**
comp=Z,1.6nm,0.8s,baz=304,slow=3.9,SNR=6.4
comp=Z,0.4nm,0.6s
DPC Dobruska-Polom 89.90 38 *e*P **P** **09 20 28.1 -1.3**
DPC *e*pP **pP** **09 20 58.4 -0.3**
DPC Dobruska-Polom 89.90 38 *e*P **P** **09 20 28.1 -1.3**
KEST Kesra 90.23 53 pP **pP** **09 21 00.3 -0.3**
comp=Z,15nm,1.0s,baz=304,slow=2.8,SNR=7.1
KEST LR LR 09 55 17.8
comp=Z,75nm,19.8s,baz=306,slow=32
PETK Petropavlovsk- 90.33 326 P **P** **09 20 32.6 +1.4**
comp=Z,14nm,0.9s,baz=82,slow=11,SNR=11
PETK LR LR 10 02 60.0
comp=Z,34nm,20.3s,baz=157,slow=37
comp=Z,14nm,0.9s
VRAC Vranov 90.47 38 LR LR 10 03 48.4
comp=Z,46nm,18.5s,baz=6.0,slow=37
ARSA Arzberg 90.61 41 *e*pP pP 09 21 01.2 -1.0
comp=Z,5.8nm,1.1s
MA2 Magadan 90.70 333 LR LR 10 05 38.0
comp=Z,90nm,20.6s,baz=108,slow=38
MAUC Maruska 91.19 38 *e*pP pP 09 21 05.3 +0.6
VAE Valguarnera 93.48 50 LR LR 10 01 38.5
comp=Z,91nm,18.6s,baz=326,slow=35
MNK Minsk 94.25 31 *i* P **P** **09 20 50.0 +0.6**
comp=E,2.0nm,0.6s
MNK *i* P **P** **09 20 50.0 +0.6**
comp=N,18nm,0.8s
MNK *i* P **P** **09 20 50.0 +0.6**
comp=Z,6.0nm,0.8s,baz=302
MNK *i* pP **pP** **09 21 18.7 0.0**
MNK *i* PP **PP** **09 24 37.6 +0.6**
MNK *i* PPP PPP 09 26 39.1
MNK *i* S **SKSac** **09 31 14.2 -0.2**
MNK *i* sS ScS 09 32 06.4 +14
MNK *i* SS **SS** **09 38 15.7 +1.6**
MNK *i* SSS SSS 09 41 57.8
MNK *i* LRM MLR 10 04 17.2
MNK *i* LRM MLR 10 04 17.2
MNK *i* LRM MLR 10 04 17.2
comp=Z,71nm,11.5s
MNK Minsk 94.25 31 *i* P **P** **09 20 49.9 +0.6**
MNK *i* 09 24 37.6
MNK *i* PPP PPP 09 26 39.0
MNK *i* S **SKSac** **09 31 14.1 -0.2**
MNK *i* SS **SS** **09 38 15.6 +1.6**
MNK *i* SSS SSS 09 41 57.8
MNK pmax pmax
comp=E,2.0nm,0.6s
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK pmax pmax
comp=N,18nm,0.9s
MNK MLR MLR
comp=Z,71nm,12.0s
AKASG Malin Array Be 97.00 33 PP **PP** **09 24 54.1 -4.2**
comp=Z,0.2nm,0.3s,baz=299,slow=7.8,SNR=4.2
AKBB Malin Array Si 97.00 33 *i* P **P** **09 21 01.4 -0.5**
AKBB pmax pmax
comp=Z,3.0nm,1.0s
OBN Obninsk 97.95 27⇓ *e*P **P** **09 21 05.7 -0.4**
OBN *e* 09 25 02.9
OBN *e*SS SS 09 39 12.5 +6.4
OBN *e*SSS SSS 09 42 56.0
OBN pmax pmax
comp=Z,8.0nm,1.1s
BRTR Keskin Array B 105.74 41 PKiKP **PKiKP** **09 25 50.8 -2.9**
comp=Z,0.4nm,0.9s,baz=284,slow=1.2,SNR=1.7
DZM Mont Dzumac 106.22 251 *e*LR LR 09 57 12.3
comp=Z,113nm,26.9s
BRVK Borovoye 110.81 12 *i* PKIKP **PKiKP** **09 26 04.6 +2.0**
KURK Kurchatov 114.37 7 *c i* PKIKP PKPdf 09 26 10.0 +0.5
KURK pmax pmax
comp=Z,7.0nm,2.5s
KURBB Kurchatov Arra 114.45 7 PKP **PKiKP** **09 26 08.4 -1.2**
comp=Z,2.4nm,0.8s,baz=346,slow=2.2,SNR=16
ULN Ulaanbaatar 115.58 346 *c i* PKIKP **PKPdf** **09 26 13.3 +1.2**

ULN				pmax	pmax				
	comp=Z,3.0nm,1.0s								
SONM	**Songino Array**	**115.76**	**347**	PKP	**PKiKP**	**09**	**26**	**11.6**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=11,slow=1.5,SNR=6.4								
DGZ	**Jazzator, Alta**	**115.94**	**1** *i*	PKIKP	**PKiKP**	**09**	**26**	**12.5**	**-0.3**
DGZ				pmax	pmax				
	comp=Z,2.0nm,0.7s								
KSRS	**Korea Array**	**116.23**	**326**	PKP	**PKiKP**	**09**	**26**	**13.8**	**+0.3**
	comp=Z,6.2nm,0.7s,baz=1.4,slow=1.2,SNR=19								
KSAR	**Wonju Array Be**	**116.26**	**326**	PKPdf	**PKiKP**	**09**	**26**	**14.0**	**+0.5**
KSAR	**Wonju Array Be**	**116.26**	**326**	PKIKP	**PKiKP**	**09**	**26**	**14.0**	**+0.5**
MKAR	**Makanchi Array**	**118.61**	**5**	PKPdf	**PKiKP**	**09**	**26**	**16.8**	**-1.0**
MKAR	**Makanchi Array**	**118.61**	**5***c i*	PKIKP	**PKPdf**	**09**	**26**	**17.2**	**-0.6**
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
MKAR	**Makanchi Array**	**118.61**	**5**	PKP	**PKPdf**	**09**	**26**	**15.9**	**-1.9**
	comp=Z,2.1nm,0.8s,baz=15,slow=1.9,SNR=8.6								
KKAR	**Karatay Array**	**120.25**	**15**	PKPdf	**PKiKP**	**09**	**26**	**21.6**	**+0.4**
KKAR	**Karatay Array**	**120.25**	**15**	PKIKP	**PKiKP**	**09**	**26**	**21.6**	**+0.4**
BOSA	**Boshof**	**120.30**	**115**	PKPdf	**PKPdf**	**09**	**26**	**21.1**	**-0.5**
BOSA	**Boshof**	**120.30**	**115**	PKIKP	**PKPdf**	**09**	**26**	**21.1**	**-0.5**
BOSA	**Boshof**	**120.30**	**115**	PKP	**PKPdf**	**09**	**26**	**19.7**	**-1.9**
	comp=Z,14nm,0.8s,baz=297,slow=2.7,SNR=18								
LBTB	**Lobatse**	**120.49**	**111**	PKPdf	**PKPdf**	**09**	**26**	**21.4**	**-0.7**
LBTB	**Lobatse**	**120.49**	**111**	PKIKP	**PKPdf**	**09**	**26**	**21.4**	**-0.7**
HHC	**Hu-ho-hao-te**	**120.75**	**340**	*e*PKP	**PKiKP**	**09**	**26**	**23.0**	**+0.7**
BTO	**Baotou**	**121.48**	**341**	*e*PKP	**PKiKP**	**09**	**26**	**24.8**	**+1.0**
BTO				sPKP		09	27	00.0	
BTO				LR	LR				
	comp=Z,250nm,9.8s								
BTO				LR	LR				
	comp=Z,210nm,5.8s								
BTO				LR	LR				
	comp=Z,170nm,8.0s								
AAK	**Ala-Archa**	**121.60**	**12***c i*	PKIKP	**PKiKP**	**09**	**26**	**24.1**	**+0.1**
AAK				pmax	pmax				
	comp=Z,3.0nm,1.3s								
WMQ	**Urumqi**	**121.83**	**1** *e*	PKP	**PKiKP**	**09**	**26**	**26.0**	**+1.7**
WMQ				LR	LR				
	comp=Z,250nm,29.1s								
TRKS	**Terek-Say**	**121.89**	**15**	PKIKP	**PKPdf**	**09**	**26**	**24.5**	**0.0**
LSZ	**Lusaka**	**122.02**	**99**	PKPdf	**PKiKP**	**09**	**26**	**25.4**	**0.0**
LSZ	**Lusaka**	**122.02**	**99**	PKIKP	**PKiKP**	**09**	**26**	**25.4**	**0.0**
ARLS	**Aral**	**122.31**	**12**	PKIKP	**PKPdf**	**09**	**26**	**25.3**	**0.0**
TIA	**Tai'an**	**122.59**	**333**	PKP	**PKiKP**	**09**	**26**	**26.3**	**+0.4**
HNS	**HongShan**	**122.62**	**335**	⇓PKP	**PKiKP**	**09**	**26**	**26.0**	**+0.1**
NRN	**Naryn**	**123.05**	**11**	PKPdf	**PKPdf**	**09**	**26**	**26.4**	**-0.5**
NRN	**Naryn**	**123.05**	**11**	PKIKP	**PKPdf**	**09**	**26**	**26.4**	**-0.5**
TARG	**Taragay, Kyrgy**	**123.08**	**9**		**PKiKP**	**09**	**26**	**27.7**	**+0.4**
TARG	**Taragay, Kyrgy**	**123.08**	**9**	PKIKP	**PKiKP**	**09**	**26**	**27.7**	**+0.4**
CHGR	**Chuyangaron**	**124.02**	**18**		**PKiKP**	**09**	**26**	**28.8**	**0.0**
CHGR	**Chuyangaron**	**124.02**	**18**	PKIKP	**PKiKP**	**09**	**26**	**28.8**	**0.0**
LODK	**Lodwar**	**124.50**	**75**	PKPdf	**PKPdf**	**09**	**26**	**30.0**	**-0.1**
MAW	**Mawson**	**124.52**	**168**	PKP	**PKiKP**	**09**	**26**	**28.9**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=225,slow=5.6,SNR=2.3								
CTA	**Charters Tower**	**124.71**	**256**	PKP	**PKiKP**	**09**	**26**	**31.0**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=100,slow=7.7,SNR=6.0								
KSH	**Kashi**	**124.90**	**12**	PKP	**PKPdf**	**09**	**26**	**27.9**	**-2.4**
NJ2	**Nanjing**	**125.15**	**328**	⇑PKP	**PKiKP**	**09**	**26**	**31.3**	**+0.2**
GTA	**Gaotai**	**125.19**	**349**	*e*PKP	**PKiKP**	**09**	**26**	**31.1**	**-0.1**
LZH	**Lanzhou**	**127.47**	**344**	PKP	**PKiKP**	**09**	**26**	**36.8**	**+0.9**
XAN	**Xi'an**	**127.79**	**338**	PKP	**PKiKP**	**09**	**26**	**36.4**	**0.0**
STKA	**Stephens Creek**	**128.68**	**241**	PKP	**PKiKP**	**09**	**26**	**38.3**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=328,slow=1.7,SNR=6.3								
STKA				pPKP	**pPKPdf**	**09**	**27**	**07.8**	**+0.6**
	comp=Z,3.7nm,0.7s,baz=36,slow=3.4,SNR=5.9								
GOMU	**GeErMu**	**129.08**	**353**	PKP	**PKiKP**	**09**	**26**	**40.6**	**+1.2**
SSLB	**Suanglung**	**130.28**	**320**		**PKiKP**	**09**	**26**	**42.3**	**+0.6**
ENH	**Enshi**	**130.94**	**336**		**PKPdf**	**09**	**26**	**41.2**	**-0.7**
WRAB	**Tennant Creek**	**135.89**	**256**	PKPdf	**PKPdf**	**09**	**26**	**51.3**	**-0.1**
WRAB	**Tennant Creek**	**135.89**	**256**	PKIKP	**PKPdf**	**09**	**26**	**51.3**	**-0.1**
WRA	**Warramunga Arr**	**135.90**	**256**	PKhKP	PKPpre	09	26	42.5	
	comp=Z,1.2nm,0.7s,baz=91,slow=3.4,SNR=13								
WRA				PKP	**PKiKP**	**09**	**26**	**52.5**	**-0.5**
	comp=Z,7.0nm,0.8s,baz=87,slow=2.6,SNR=34								
WRA				pPKP	pPKPdf	09	27	21.6	+0.3
	comp=Z,3.1nm,0.8s,baz=79,slow=1.5,SNR=3.7								
WRA				SKPbc	**SKPbc**	**09**	**30**	**13.9**	**+0.6**
	comp=Z,2.1nm,1.1s,baz=84,slow=1.3,SNR=6.0								
ASAR	**Alice Springs**	**136.21**	**251**	PKhKP	PKPpre	09	26	42.9	
	comp=Z,0.7nm,0.5s,baz=105,slow=3.6,SNR=13								
ASAR				PKP	**PKiKP**	**09**	**26**	**53.4**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=96,slow=2.5,SNR=26								
ASAR				pPKP	pPKPdf	09	27	21.9	-0.1
	comp=Z,3.2nm,0.8s,baz=101,slow=1.5,SNR=4.4								
ASAR				SKPbc	**SKPbc**	**09**	**30**	**14.8**	**+0.5**
	comp=Z,1.1nm,1.0s,baz=128,slow=2.1,SNR=4.4								
PZH	**PanZhiHua**	**137.09**	**342**	PKP	**PKPdf**	**09**	**26**	**54.0**	**+0.4**
KMI	**Kunming**	**138.07**	**340**	⇑PKP	**PKiKP**	**09**	**26**	**57.1**	**-0.6**
FORT	**Forrest**	**140.26**	**239**		**PKPdf**	**09**	**27**	**00.1**	**+1.0**
QIZ	**Qiongzhong**	**140.43**	**327**	PKP	**PKPdf**	**09**	**27**	**00.5**	**+0.8**
QIZ				SS	SS	09	48	13.4	+0.1
QIZ				LR	LR				
	comp=Z,280nm,19.6s								
QIZ				LR	LR				
	comp=Z,530nm,24.0s								
QIZ				LR	LR				
	comp=Z,260nm,27.5s								
SLVN	**Son La**	**141.14**	**337**	PKPdf	**PKiKP**	**09**	**27**	**02.6**	**-1.2**
MND	**Mandalay**	**142.79**	**348**		**PKPdf**	**09**	**27**	**04.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**144.12**	**259**	PKPdf	**PKPdf**	**09**	**27**	**06.4**	**+0.1**
MYLDM	**Lahad Datu**	**144.22**	**301**	PKPdf	**PKPdf**	**09**	**27**	**07.5**	**+0.9**
TOLI2	**Tolitoli**	**144.31**	**293**	PKPdf	PKPbc	09	27	05.8	+0.5
CHTO	**Chiang Mai**	**145.17**	**342**		**PKPbc**	**09**	**27**	**07.0**	**-0.9**
CHTO	**Chiang Mai**	**145.17**	**342**	PKP2	**PKPbc**	**09**	**27**	**07.0**	**-0.9**
CM31	**Chiang Mai Arr**	**145.51**	**342**		**PKPdf**	**09**	**27**	**08.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**145.51**	**342**	PKPbc	**PKPdf**	**09**	**27**	**08.3**	**-0.4**
	comp=Z,42nm,0.8s,baz=338,slow=3.7,SNR=155								
CMAR				pPKPbc	pPKPbc	09	27	39.3	+0.2
	comp=Z,9.8nm,0.8s,baz=331,slow=3.6,SNR=2.3								
UBPT	**Khong Chiam**	**145.81**	**330**	PKPbc	**PKPab**	**09**	**27**	**11.5**	**+1.1**
HYB	**Hyderabad**	**146.71**	**17**	*e*PKPdf	**PKPdf**	**09**	**27**	**11.4**	**+0.6**
NWAO	**Narrogin (SRO)**	**148.08**	**230**	PKPbc	**PKiKP**	**09**	**27**	**17.8**	**+0.1**
NWAO	**Narrogin (SRO)**	**148.08**	**230**	PKP2	**PKiKP**	**09**	**27**	**17.8**	**+0.1**
RER	**Riviere de l'E**	**148.32**	**107**		**PKiKP**	**09**	**27**	**17.9**	**-0.7**
MBWA	**Marble Bar**	**149.50**	**253**		**PKPbc**	**09**	**27**	**20.4**	**+0.6**
SBUM	**Sibu**	**150.91**	**304**	PKPdf	**PKPdf**	**09**	**27**	**18.1**	**+0.5**
SBUM					**PKiKP**	**09**	**27**	**24.8**	**+0.8**
SBUM					**PKPab**	**09**	**27**	**31.4**	**+0.4**
KSM	**Kuching**	**153.02**	**305**	PKPdf	**PKPdf**	**09**	**27**	**19.4**	**-1.5**
KSM				PKPbc	**PKiKP**	**09**	**27**	**28.7**	**+0.3**
KSM				PKPab	**PKPab**	**09**	**27**	**41.6**	**+1.8**
KULM	**Kulim**	**156.76**	**328**	PKPdf	**PKPdf**	**09**	**27**	**26.6**	**+0.6**
PALK	**Pallekele**	**156.94**	**20**	PKPdf	**PKPdf**	**09**	**27**	**27.1**	**+0.9**
PALK	**Pallekele**	**156.94**	**20**	PKIKP	**PKPdf**	**09**	**27**	**27.1**	**+0.9**
MYKOM	**Kota Tinggi**	**157.61**	**316**	PKPdf	**PKPdf**	**09**	**27**	**28.1**	**+1.1**
MYKOM				PKPab	**PKPab**	**09**	**28**	**02.4**	**+3.0**
PSI	**Prapat**	**159.77**	**328**	PKIKP	**PKPdf**	**09**	**27**	**30.2**	**+0.4**
PSI						09	28	08.4	
RPSI	**Rantau Prapat**	**159.86**	**328**	PKPdf	**PKPdf**	**09**	**27**	**30.2**	**+0.5**
RPSI					**PKPab**	**09**	**28**	**08.4**	**-0.7**
GSI	**Gunungsitoli**	**161.73**	**329**	PKPdf	**PKPdf**	**09**	**27**	**32.4**	**+0.6**

IDC ***15*** *09:15:05.7±2.0, 37.°20N×142.°47E, h0km, mb3.5/3, mbtmp3.6/6, ML3.2/3, Error ellipse: s-maj=39.4km s-min=26.7km az=93.0*

NIED ***15*** *09:15:08.8, 37.°26N×142.°29E, h22km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.26; $M_{\theta\theta}$-0.80; $M_{\phi\phi}$-2.47; $M_{r\theta}$0.89; $M_{\theta\phi}$-1.49; $M_{\phi r}$1.96; Fault plane solution: $M_0$3.94000×10^{14} NP1:ϕ_s27.00000°, δ62.00000°, λ87.00000°. NP2:ϕ_s214.00000°, δ29.00000°, λ96.00000°.*

JMA ***15*** *09:15:08.8±0.3, 37.°3N±0.°6×14.°2E±°, h22km±4km, MV3.7/38, E OFF FUKUSHIMA PREF*

ISC 15 09:15:10.4±1.4, 37.°19N±0.°06×142.°35E±0.°09, h35km, n24, σ1≗59/25, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.19**	**279**	*i* P	**Pn**	**09 15 29.1**	**-1.4**
JFK				*e*S	**Sn**	**09 15 43.8**	**-1.8**
ONAJ	**Iwakimizuishiy**	**1.24**	**266**	*i* P	**Pn**	**09 15 30.0**	**-1.3**
JMST	**Minamisoumatoc**	**1.28**	**295**	*i* P	**Pn**	**09 15 30.2**	**-1.6**
JMST				*e*S	**Sn**	**09 15 45.9**	**-1.8**
JIKH	**Ishinomakikobu**	**1.32**	**328**	*i* P	**Pn**	**09 15 30.7**	**-1.6**
JMM	**Marumori**	**1.41**	**299**	*i* P	**Pn**	**09 15 32.1**	**-1.4**
JMM				*e*S	**Sn**	**09 15 49.6**	**-1.3**
JIO	**Ouri**	**1.49**	**328**	*i* P	**Pn**	**09 15 33.4**	**-1.3**
JOTO	**OTAMA OYAMA**	**1.65**	**283**	*i* P	**Pn**	**09 15 36.8**	**-0.1**
JOTO				S	**Sn**	**09 15 57.6**	**+0.7**
JOU	**Okura**	**1.77**	**312**	*i* P	**Pn**	**09 15 38.2**	**-0.4**
JOU				S	**Sn**	**09 15 59.5**	**-0.5**
JMK	**Ichinoseki**	**1.97**	**333**	*i* P	**Pn**	**09 15 41.1**	**-0.1**
JFY	**Yanaizu**	**2.12**	**277**	P	**Pn**	**09 15 43.6**	**+0.3**
JYK	**Kaneyama**	**2.33**	**318**	P	**Pn**	**09 15 46.0**	**-0.2**
JOM	**Ohasama**	**2.42**	**340**	P	**Pn**	**09 15 47.9**	**+0.3**
MJAR	**Matsushiro Arr**	**3.38**	**260**	Pn	**Pn**	**09 16 02.4**	**+1.6**
	0.5nm,0.3s,baz=80,slow=14,SNR=19						
MJAR				Sn	**Sn**	**09 16 43.7**	**+4.0**
	0.3nm,0.3s,baz=94,slow=13,SNR=4.4						
	2.9nm,0.4s						
JHJ	**Hachijo jima 2**	**4.58**	**208**	Pn	**Pn**	**09 16 16.5**	**-0.6**
	2.5nm,0.3s,baz=269,slow=18,SNR=1.7						
JHJ				Sn	**Sn**	**09 17 05.5**	**-3.6**
	9.9nm,0.3s,baz=89,slow=24,SNR=1.4						
	43nm,0.8s						
ASAJ	**Asahikawa**	**6.92**	**1**	Pn	**Pn**	**09 16 50.0**	**+0.7**
	0.9nm,0.3s,baz=176,slow=19,SNR=2.0						
	2.5nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**27.59**	**122**	T	T	09 49 48.2	
	baz=315,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	**27.60**	**122**	T	T	09 49 48.2	
	baz=315,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**27.61**	**122**	T	T	09 49 49.3	
	baz=315,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**28.32**	**124**	T	T	09 50 42.8	
	baz=316,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**28.33**	**124**	T	T	09 50 42.8	
	baz=316,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**28.34**	**124**	T	T	09 50 44.0	
	baz=316,slow=76,SNR=20						
MKAR	**Makanchi Array**	**44.67**	**302**	P	**P**	**09 23 20.0**	**+0.3**
	0.7nm,0.8s,baz=81,slow=8.8,SNR=2.0						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**46.49**	**308**	P	**P**	**09 23 34.2**	**+0.3**
	0.9nm,0.5s,baz=83,slow=8.4,SNR=5.4						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**57.33**	**189**	P	**P**	**09 24 55.8**	**+0.9**
	0.2nm,0.7s,baz=5.3,slow=7.2,SNR=1.5						
	0.2nm,0.7s						

IDC 15 09:19:36.8±3.0, 53.°99N×86.°52E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=23.5km s-min=14.0km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**269**	I	I	09 25 40.0	
	0.1nm,0.7s,baz=88,slow=346,SNR=18						
ZALV	**Zalesovo Beam**	**1.00**	**268**	Pg	Pg	09 19 55.5	-0.5
	0.8nm,0.3s,baz=88,slow=17,SNR=5.6						
ZALV				Lg	Lg	09 20 10.3	
	1.4nm,0.3s,baz=86,slow=26,SNR=6.5						
KURBB	**Kurchatov Arra**	**5.94**	**239**	Pn	Pn	09 21 06.6	+0.6
	0.1nm,0.3s,baz=50,slow=13,SNR=2.2						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.69**	**202**	Pn	Pn	09 21 31.2	+1.2
	0.1nm,0.3s,baz=26,slow=14,SNR=1.7						
	0.2nm,0.3s						

IDC 15 09:24:08.9±2.6, 54.°22N×86.°07E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=19.3km s-min=11.3km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.79**	**250**	I	I	09 29 03.5	
	0.1nm,0.8s,baz=68,slow=344,SNR=10						
ZALV	**Zalesovo Beam**	**0.79**	**250**	Pg	Pg	09 24 22.6	-1.4
	1.1nm,0.3s,baz=70,slow=17,SNR=11						
ZALV				Lg	Lg	09 24 35.7	
	3.9nm,0.3s,baz=71,slow=33,SNR=11						
KURBB	**Kurchatov Arra**	**5.86**	**235**	Pn	Pn	09 25 38.3	+1.5
	0.1nm,0.3s,baz=51,slow=13,SNR=4.0						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.82**	**199**	Pn	Pn	09 26 04.8	+0.9
	0.2nm,0.3s,baz=24,slow=14,SNR=7.2						
	0.2nm,0.3s						

IDC 15 09:25:04.6±3.9, 55.°52N×86.°07E, h0km, mbtmp3.1/2, ML2.4/2, Error ellipse: s-maj=30.7km s-min=26.0km az=41.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.73**	**205**	I	I	09 35 36.9	
	0.2nm,0.8s,baz=25,slow=344,SNR=19						
ZALV	**Zalesovo Beam**	**1.73**	**205**	Pg	Pn	09 25 34.5	-1.5
	3.1nm,0.3s,baz=26,slow=16,SNR=9.2						
ZALV				Lg	Lg	09 26 00.1	
	3.2nm,0.3s,baz=28,slow=27,SNR=8.0						
KURBB	**Kurchatov Arra**	**6.68**	**226**	Pn	Pn	09 26 43.0	-0.9
	0.1nm,0.3s,baz=43,slow=14,SNR=2.3						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**9.05**	**197**	Pn	Pn	09 27 17.9	+1.5
	0.1nm,0.3s,baz=20,slow=15,SNR=2.5						
	0.9nm,0.8s						

IDC ***15*** *09:25:06.3±0.8, 17.°31S×167.°86E, h0km, mb4.4/11, mbtmp4.4/12, ML5.2/2, MS4.0/24, Error ellipse: s-maj=26.1km s-min=19.2km az=92.0*

NOU ***15*** *09:25:09.6, 17.°38S×167.°92E, h15km, MLv4.7/15, Vanuatu Islands*

NEIC ***15*** *09:25:12.5±1.8, 17.°47S±0.°04×168.°0E±0.°1, h40km±8km, mb4.7/25, Error ellipse: s-maj=17.2km s-min=2.3km az=68.0*

ISC 15 09:25:10.5±0.5, 17.°41S±0.°06×167.°90E±0.°08, h27km, n84, σ1≗16/68, mb4.7/18, MS4.0/21, 2C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**0.41**	**139**	P	**Pb**	**09 25 19.8**	**+0.4**
RTV	**Rentapao**	**0.62**	**127**	P	**Pb**	**09 25 22.8**	**-0.1**
LIFNC	**LIFOU**	**3.40**	**191**	Pn	**Pn**	**09 26 02.3**	**+0.4**
LIFNC				Sn	**Sn**	**09 26 36.8**	**-4.6**
LIFNC	**LIFOU**	**3.40**	**191**	P	**Pn**	**09 26 02.4**	**+0.5**
MARNC	**Mare, Loyalty**	**4.05**	**178**	Pn	**Pn**	**09 26 08.8**	**-1.9**
MARNC	**Mare, Loyalty**	**4.05**	**178**	P	**Pn**	**09 26 10.3**	**-0.4**
KOUNC	**Koumac, New Ca**	**4.63**	**227**		**Pn**	**09 26 19.6**	**+0.9**
KOUNC	**Koumac, New Ca**	**4.63**	**227**	P	**Pn**	**09 26 18.9**	**+0.2**
YATNC	**Mamie plateau,**	**4.72**	**191**	P	**Pn**	**09 26 20.4**	**+0.4**
DZM	**Mont Dzumac**	**4.83**	**196**	P	**Pn**	**09 26 22.1**	**+0.5**
DZM	**Mont Dzumac**	**4.83**	**196**	Pn	**Pn**	**09 26 22.2**	**+0.5**
	10.0nm,0.3s,baz=95,slow=12,SNR=80						
DZM				Sn	**Sn**	**09 27 15.5**	**-1.2**
	22nm,0.3s,baz=306,slow=23,SNR=11						
DZM				LR	LR	09 28 07.1	
	comp=Z,1μm,20.2s,baz=35,slow=37						
	25nm,0.3s						
NOUC	**Port Laguerre**	**4.90**	**198**	P	**Pn**	**09 26 22.5**	**0.0**
ONTNC	**Ouen Toro**	**5.06**	**195**		**Pn**	**09 26 25.8**	**+1.2**
ONTNC	**Ouen Toro**	**5.06**	**195**	P	**Pn**	**09 26 25.9**	**+1.3**
OUENC	**Ouen Island, N**	**5.08**	**191**		**Pn**	**09 26 26.9**	**+1.9**
OUENC	**Ouen Island, N**	**5.08**	**191**	P	**Pn**	**09 26 26.8**	**+1.9**
PINNC	**Pines Island,**	**5.19**	**185**	Pn	**Pn**	**09 26 28.5**	**+2.1**
PINNC	**Pines Island,**	**5.19**	**185**	P	**Pn**	**09 26 28.2**	**+1.8**
HNR	**Honiara**	**11.08**	**315**	Pn	**Pn**	**09 27 48.6**	**+1.3**
HNR	**Honiara**	**11.08**	**315**	Pn	**Pn**	**09 27 45.6**	**-1.7**
	135nm,0.3s,baz=190,slow=6.2,SNR=2.0						
HNR				LR	LR	09 31 40.8	
	comp=Z,6μm,18.8s,baz=146,slow=36						
LHI	**Lord Howe Isla**	**16.17**	**208**	Pn	**Pn**	**09 28 55.3**	**-0.7**
LHI				IAmb	IAmb	09 29 07.4	
	comp=Z,48nm,1.1s						
EIDS	**Eidsvold**	**17.54**	**240**	P	**P**	**09 29 16.1**	**+2.0**
RAO	**Raoul Island**	**17.54**	**135**	LR	LR	09 33 57.4	
	comp=Z,249nm,20.9s,baz=176,slow=30						
ARMA	**Armidale**	**19.69**	**226**	P	**P**	**09 29 39.3**	**+1.4**
ARMA				IAmb	IAmb	09 29 49.1	
	comp=Z,33nm,1.5s						
CTA	**Charters Tower**	**20.67**	**259**	P	**P**	**09 29 46.5**	**-2.1**
	comp=Z,4.6nm,0.8s,baz=89,slow=11,SNR=3.3						
CTA				LR	LR	09 37 08.7	
	comp=Z,436nm,18.2s,baz=84,slow=35						
	comp=Z,4.6nm,0.8s						
CTAO	**Charters Tower**	**20.67**	**259**	P	**P**	**09 29 49.8**	**+1.3**
CTAO				IAmb	IAmb	09 30 05.4	
	comp=Z,26nm,0.9s						
PMG	**Port Moresby**	**21.68**	**289**	LR	LR	09 36 59.7	
	comp=Z,253nm,19.2s,baz=148,slow=33						
URZ	**Urewera**	**22.28**	**161**	LR	LR	09 37 35.9	
	comp=Z,416nm,19.6s,baz=36,slow=34						
RTZ	**Ruatahuna**	**22.57**	**161**	P	**P**	**09 30 11.0**	**+2.2**
RTZ				IAmb	IAmb	09 30 13.1	
	comp=Z,54nm,1.4s						
MANU	**Manus Island**	**25.31**	**305**	P	**P**	**09 30 35.6**	**+0.5**
RPZ	**Rata Peaks**	**26.35**	**175**	LR	LR	09 39 37.7	
	comp=Z,147nm,21.9s,baz=14,slow=33						
STKA	**Stephens Creek**	**27.82**	**234**	P	**P**	**09 30 58.8**	**+1.2**
STKA	**Stephens Creek**	**27.82**	**234**	P	**P**	**09 30 58.7**	**+1.1**
	comp=Z,3.6nm,0.7s,baz=44,slow=7.4,SNR=11						
STKA				PcP	**PcP**	**09 34 13.6**	**0.0**
	comp=Z,2.3nm,0.8s,baz=63,slow=8.4,SNR=2.9						
STKA				LR	LR	09 41 35.3	
	comp=Z,298nm,18.6s,baz=46,slow=36						
	comp=Z,3.6nm,0.7s						
WR0	**Warramunga Arr**	**31.68**	**260**	P	**P**	**09 31 31.2**	**-0.8**
WB0	**Warramunga Arr**	**31.82**	**260**	P	**P**	**09 31 33.0**	**-0.3**
WB0				IAmb	IAmb	09 31 44.2	
	comp=Z,5.0nm,0.6s						
WB2	**Warramunga Arr**	**31.86**	**260**	P	**P**	**09 31 32.9**	**-0.7**
WB2				IAmb	IAmb	09 31 33.7	
	comp=Z,5.9nm,0.8s						
WRAB	**Tennant Creek**	**31.86**	**260**	P	**P**	**09 31 33.1**	**-0.5**
WRA	**Warramunga Arr**	**31.87**	**260**	P	**P**	**09 31 32.2**	**-1.5**
WRA	**Warramunga Arr**	**31.87**	**260**	P	**P**	**09 31 32.7**	**-0.9**
	comp=Z,3.9nm,0.9s,baz=89,slow=9.1,SNR=24						
WRA				PcP	**PcP**	**09 34 24.0**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=88,slow=2.3,SNR=5.3						
	comp=Z,3.9nm,0.9s						
AS31	**Alice Springs**	**32.38**	**253**	P	**P**	**09 31 38.0**	**-0.3**
AS31				IAmb	IAmb	09 31 50.5	
	comp=Z,4.1nm,0.6s						
ASAR	**Alice Springs**	**32.39**	**253**	P	**P**	**09 31 37.8**	**-0.5**
	comp=Z,5.6nm,0.6s,baz=78,slow=8.4,SNR=60						
ASAR				PcP	**PcP**	**09 34 25.8**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=97,slow=4.8,SNR=3.1						
ASAR				LR	LR	09 44 31.8	
	comp=Z,436nm,18.2s,baz=80,slow=36						
	comp=Z,5.6nm,0.6s						
BBOO	**Buckleboo**	**32.50**	**236**	P	**P**	**09 31 39.5**	**+0.4**
BBOO				IAmb	IAmb	09 31 52.2	
	comp=Z,13nm,1.0s						
KNRA	**Kununurra**	**37.52**	**267**	P	**P**	**09 32 23.5**	**+1.0**
GUMO	**Guam**	**38.29**	**322**	LR	LR	09 46 33.3	
	comp=Z,109nm,18.8s,baz=136,slow=34						
FORT	**Forrest**	**38.52**	**242**	P	**P**	**09 32 31.1**	**+0.2**
FORT				IAmb	IAmb	09 32 43.1	
	comp=Z,13nm,0.8s						
FITZ	**Fitzroy Crossi**	**40.19**	**262**	P	**P**	**09 32 45.7**	**+0.8**
PPT	**Papeete**	**40.49**	**97**

KAN06 IAML 09 39 49.1
comp=E,2µm,0.1s
KAN01 Argonia South 0.07 138 Pg Pg 09 39 47.9 +0.2
KAN01 Sg Sg 09 39 49.2 +0.3
KAN05 Bluff City Nor 0.10 206 Pg Pg 09 39 48.6 +0.3
KAN05 Sg Sg 09 39 50.4 +0.5
KAN08 Anthony NE Sta 0.13 281 Pg Pg 09 39 49.1 +0.3
KAN08 Sg Sg 09 39 51.2 +0.7
KAN08 IAML 09 39 51.3
comp=E,813nm,0.1s
KAN08 IAML 09 39 51.3
comp=N,946nm,0.2s
KS21 Milan North St 0.15 55 Pg Pg 09 39 49.4 +0.3
KS21 Sg Sg 09 39 51.7 +0.5
KS21 Milan North St 0.15 55 IAML 09 39 53.1
comp=N,643nm,0.1s
KS21 IAML 09 39 53.1
comp=N,964nm,0.1s
KAN17 Caldwell West 0.16 166 Pg 09 39 49.7 +0.3
KAN17 Sg Sg 09 39 52.3 +0.7
KAN17 IAML 09 39 52.6
comp=E,752nm,0.2s
KAN09 Caldwell North 0.17 113 Pg 09 39 49.8 +0.3
KAN09 Sg Sg 09 39 52.5 +0.7
KAN09 IAML 09 39 52.6
comp=N,727nm,0.3s
KAN12 Harper NE Stat 0.17 303 Pg 09 39 50.0 +0.3
KAN12 Sg Sg 09 39 52.7 +0.7
KAN12 IAML 09 39 54.3
comp=N,516nm,0.3s
KAN12 IAML 09 39 54.8
comp=E,523nm,0.4s
KAN10 Anthony SW Sta 0.24 251 Pg Pg 09 39 51.1 +0.3
KAN10 Sg Sg 09 39 54.6 +0.6
KAN14 Manchester OK 0.27 206 Pg Pg 09 39 51.8 +0.3
KAN14 Sg Sg 09 39 55.6 +0.5
KAN14 IAML 09 39 55.8
comp=E,390nm,0.2s
KAN13 South Haven SW 0.33 125 Pg 09 39 52.7 +0.2
KAN13 Sg Sg 09 39 57.4 +0.6
KAN13 IAML 09 39 57.6
comp=E,171nm,0.5s
KAN13 IAML 09 40 02.7
comp=N,300nm,0.3s
GC02 Grant County # 0.35 186 Pg Pg 09 39 53.2 +0.2
GC02 Sg Sg 09 39 58.1 +0.5
OK032 Salt Plains WL 0.51 219 Pg Pg 09 39 56.1 +0.2
OK032 Sg Sg 09 40 03.3 +0.7
OK032 IAML 09 40 05.1
comp=N,142nm,0.3s
BLOK Blackwell 0.65 132 Pg Pg 09 39 58.3 -0.4
BLOK Sg Sg 09 40 07.2 +0.1
BLOK IAML 09 40 09.6
comp=E,83nm,0.2s
BLOK IAML 09 40 09.8
comp=N,68nm,0.2s
CROK Carrier 0.71 191 Pg Pg 09 39 59.6 -0.2
CROK Sg Sg 09 40 09.4 +0.4
CROK IAML 09 40 10.7
comp=N,105nm,0.3s
OK038 West end E0370 1.04 226 Pg 09 40 05.7 -0.3
OK038 IAML 09 40 38.1
comp=N,67nm,0.5s
OK051 E0350 and S346 1.05 131 Pg 09 40 05.9 -0.4
OK051 IAML 09 40 25.5
comp=N,59nm,0.2s
OK051 IAML 09 40 28.7
comp=N,55nm,0.2s
OK048 Pawnee Station 1.05 138 Pg 09 40 05.8 -0.5
OK048 IAML 09 40 13.0
comp=N,35nm,5.0s
T35A Sooner Cattle 1.08 105 Pg 09 40 06.4 -0.5
U32A Winter Ranch, 1.26 230 Pg 09 40 09.6 -0.7
U32A IAML 09 40 49.3
comp=E,24nm,1.6s
OK033 Mehan 1.35 148 Pg Pn 09 40 11.6 -0.1
QUOK Quay 1.36 139 Pn 09 40 11.6 -0.2
R32A Long Quarter, 1.41 330 Pn 09 40 12.4 -0.1
OK029 Liberty Lake 1.43 168 Pn 09 40 12.4 -0.4
OK052 Battle Ridge R 1.46 146 Pg Pn 09 40 13.2 +0.1
ADOK Arcadia Dam 1.59 167 Pn 09 40 14.8 -0.1
ELIS Ellis County 1.72 229 Pn 09 40 17.0 +0.2
DEOK Depew 1.72 142 Pn 09 40 17.5 +0.7
FNO Franklin 1.97 170 Pn Pn 09 40 20.9 +0.7
TUL3 Leonard 2.08 128 Pn Pn 09 40 21.8 +0.1
KSU1 Kansas State U 2.12 26 Pn Pn 09 40 23.0 +0.8
W35A Tecumseh 2.18 159 Pn Pn 09 40 23.9 +0.8
CBKS Cedar Bluff 2.21 317 Pn Pn 09 40 23.4 -0.2
RLO Rose Lookout 2.47 114 Pn Pn 09 40 27.5 +0.4
U38A Gravette 2.85 104 Pn Pn 09 40 32.7 +0.3
HHAR Hobbs 3.25 105 Pn Pn 09 40 38.0 +0.3
S39A Bolivar 3.61 81 Pn Pn 09 40 41.0 -1.8
AMTX Amarillo 3.89 235 Pn Pn 09 40 48.0 +1.2
RTBA Rita Blanca 4.02 261 Pn Pn 09 40 49.5 +0.9
FCAR Ozark Folk Cen 4.76 104 Pn Pn 09 40 58.3 -0.3
WHAR Wooly Hollow 4.86 111 Pn Pn 09 40 59.1 -0.8
T25A Trinidad 5.27 271 Pn Pn 09 41 04.1 -1.6
CCM Cathedral Cave 5.28 79 Pn Pn 09 41 05.4 -0.3

IDC 15 09:50:37.5±3.3, 5°.04S×150°.22E, h80^{km}±36^{km}, mb3.5/2, mbtmp4.0/3, Error ellipse: s-maj=86.0km s-min=10.4km az=139.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.95**	**68**	P	Pn	09 51 07.0	-1.7
	332nm,0.8s,baz=204,slow=3.7,SNR=14						
KRVT				S	Sn	09 51 33.1	+0.7
	413nm,0.3s,baz=310,slow=22,SNR=24						
PMG	**Port Moresby**	**5.29**	**215**	P	Pn	09 51 53.3	-0.8
	33nm,0.5s,baz=51,slow=8.1,SNR=16						
PMG				S	Sn	09 52 54.9	+1.1
	24nm,0.4s,baz=47,slow=19,SNR=11						
WRA	**Warramunga Arr**	**21.41**	**225**	P	P	09 55 19.7	+0.8
	1.2nm,0.7s,baz=51,slow=11,SNR=12						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**24.29**	**219**	P	P	09 55 47.5	-0.1
	4.2nm,0.8s,baz=54,slow=9.0,SNR=43						
	4.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**147.92**	**287**	PKPbc	PKPbc	10 10 13.6	-1.0
	0.3nm,0.7s,baz=63,slow=2.7,SNR=1.8						

*KRSC **15** 09:51:58.6±2.0, 49°.31N×154°.60E, h240^{km}±21^{km}, Ml4.3*
*MOS **15** 09:52:01.0±0.9, 49°.87N×153°.53E, h209^{km}, mb4.2/11, Error ellipse: s-maj=12.4km s-min=4.6km az=62.7*
*NEIC **15** 09:52:02.2±1.5, 49°.9N±0°.1×153°.5E±0°.2, h199^{km}±10^{km}, mb4.2/93, Error ellipse: s-maj=23.4km s-min=11.4km az=138.0*
*IDC **15** 09:52:04.0±1.3, 50°.04N×153°.55E, h221^{km}±12^{km}, mb3.3/19, mbtmp3.9/23, Error ellipse: s-maj=15.0km s-min=9.3km az=141.0*

ISC 15 09:52:01.2±0.5, 49°.74N±0°.07×153°.69E±0°.06, h200^{km}, n212, σ1$&44/249, mb4.1/67, 6C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.82**	**58**	*e*P	**Pn**	**09 52 38.6**	**+0.9**
SKR				*e*S	**Sn**	**09 53 07.4**	**+1.0**
SKR	**Severo-Kuril's**	**1.82**	**58**	*e*PN	**Pn**	**09 52 38.4**	**+0.6**
SKR				*e*S	**Sn**	**09 53 06.7**	**+0.4**
SKR				pmax	pmax		
	comp=Z,379nm,0.9s						
SKR				smax	smax		
	comp=N,1µm,0.7s						
SKR				smax	smax		
	comp=E,599nm,0.8s						
PAU	**Pauzhetka**	**2.63**	**48**	*e*P	**Pn**	**09 52 47.8**	**+1.4**
PAU				*e*S	**Sn**	**09 53 24.6**	**+2.7**
PAU	**Pauzhetka**	**2.63**	**48**	PN	**Pn**	**09 52 47.8**	**+1.4**
PAU				S	**Sn**	**09 53 24.6**	**+2.7**
KDTR	**Khodutka, Kamc**	**3.47**	**52**	*e*P	**Pn**	**09 52 55.8**	**-0.5**
KDTR				*e*S	**Sn**	**09 53 35.4**	**-4.2**
KDTR	**Khodutka, Kamc**	**3.47**	**52**	PN	**Pn**	**09 52 55.8**	**-0.5**
ASAK	**Asacha**	**3.75**	**44**	*e*P	**Pn**	**09 53 01.1**	**+1.3**
ASAK				*e*S	**Sn**	**09 53 46.8**	**+0.9**
ASAK	**Asacha**	**3.75**	**44**	PN	**Pn**	**09 53 01.1**	**+1.3**
ASAK				S	**Sn**	**09 53 46.8**	**+0.9**
APC	**Apacha**	**3.86**	**33**	*e*P	**Pn**	**09 53 02.0**	**+1.0**
APC				*e*S	**Sn**	**09 53 48.2**	**0.0**
APC	**Apacha**	**3.86**	**33**	PN	**Pn**	**09 53 02.0**	**+1.0**
APC				S	**Sn**	**09 53 48.2**	**0.0**
GRL	**Gorelyy**	**3.94**	**43**	*e*P	**Pn**	**09 53 03.5**	**+1.2**
GRL				*e*S	**Sn**	**09 53 51.3**	**+1.0**
GRL	**Gorelyy**	**3.94**	**43**	PN	**Pn**	**09 53 03.5**	**+1.2**
GRL				S	**Sn**	**09 53 51.3**	**+1.0**
MTVR	**Mutnovka**	**3.94**	**44**	*e*P	**Pn**	**09 53 03.0**	**+0.7**
MTVR				*e*S	**Sn**	**09 53 49.3**	**-1.0**
MTVR	**Mutnovka**	**3.94**	**44**	PN	**Pn**	**09 53 03.0**	**+0.7**
MTVR				S	**Sn**	**09 53 49.3**	**-1.0**
KRMR	**Karymshinskiy**	**4.16**	**40**	*e*P	**Pn**	**09 53 05.5**	**+0.7**
KRMR				*e*S	**Sn**	**09 53 55.5**	**+0.5**
KRMR	**Karymshinskiy**	**4.16**	**40**	PN	**Pn**	**09 53 05.5**	**+0.7**
KRMR				S	**Sn**	**09 53 55.5**	**+0.5**
PEA0B	**Petropavlovsk-**	**4.20**	**35**		**Pn**	**09 53 06.3**	**+1.0**
PEA0B	**Petropavlovsk-**	**4.20**	**35**	*c*PN	**Pn**	**09 53 06.5**	**+1.1**
PETK	**Petropavlovsk-**	**4.20**	**35**		**Pn**	**09 53 05.2**	**-0.1**
PETK	**Petropavlovsk-**	**4.20**	**35**	P	**Pn**	**09 53 05.7**	**+0.3**
PETK	comp=E,46nm,0.8s,baz=188,slow=7.5,SNR=78			S	**Sn**	**09 53 57.1**	**+1.1**
	comp=E,5.2nm,0.7s,baz=217,slow=21,SNR=1.7						
PET	**Petropavlovsk**	**4.53**	**41**	Pn	**Pn**	**09 53 10.2**	**+0.9**
PET	**Petropavlovsk**	**4.53**	**41**	*e*P	**Pn**	**09 53 10.6**	**+1.2**
PET				*e*S	**Sn**	**09 54 01.8**	**-1.3**
PET	**Petropavlovsk**	**4.53**	**41**	*e*PN	**Pn**	**09 53 11.7**	**+2.3**
PET				*e*S	**Sn**	**09 54 04.5**	**+1.4**
PET	comp=E,56nm,0.4s			smax	smax		
PET	comp=N,75nm,0.5s			smax	smax		
DALK	**Dalny**	**4.57**	**42**	*e*P	**Pn**	**09 53 10.0**	**0.0**
DALK				*e*S	**Sn**	**09 54 01.6**	**-2.6**
DALK	**Dalny**	**4.57**	**42**	PN	**Pn**	**09 53 10.0**	**0.0**
DALK				S	**Sn**	**09 54 01.6**	**-2.6**
KOK	**Koryaka**	**4.71**	**39**	*e*P	**Pn**	**09 53 13.2**	**+1.4**
KOK				*e*S	**Sn**	**09 54 09.7**	**+2.1**
KOK	**Koryaka**	**4.71**	**39**	PN	**Pn**	**09 53 13.2**	**+1.4**
KOK				S	**Sn**	**09 54 09.7**	**+2.1**
UGLR	**Uglovaya**	**4.73**	**41**	*e*P	**Pn**	**09 53 13.8**	**+1.7**
UGLR				*e*S	**Sn**	**09 54 08.1**	**+0.1**
UGLR	**Uglovaya**	**4.73**	**41**	PN	**Pn**	**09 53 13.8**	**+1.7**
UGLR				S	**Sn**	**09 54 08.1**	**+0.1**
AVH	**Avacha**	**4.73**	**40**	*e*P	**Pn**	**09 53 13.8**	**+1.7**
AVH				*e*S	**Sn**	**09 54 09.2**	**+1.1**
AVH	**Avacha**	**4.73**	**40**	PN	**Pn**	**09 53 13.8**	**+1.7**
AVH				S	**Sn**	**09 54 09.2**	**+1.1**
SMAR	**Somma**	**4.76**	**40**	*e*P	**Pn**	**09 53 13.8**	**+1.2**
SMAR				*e*S	**Sn**	**09 54 09.5**	**+0.7**
SMAR	**Somma**	**4.76**	**40**	PN	**Pn**	**09 53 13.8**	**+1.2**
SMAR				S	**Sn**	**09 54 09.5**	**+0.7**
KRX	**Arik**	**4.76**	**39**	*e*P	**Pn**	**09 53 13.6**	**+1.1**
KRX				*e*S	**Sn**	**09 54 09.9**	**+1.0**
KRX	**Arik**	**4.76**	**39**	PN	**Pn**	**09 53 13.6**	**+1.1**
KRX				S	**Sn**	**09 54 09.9**	**+1.0**
NLC	**Nalytchevo**	**4.93**	**44**	*e*P	**Pn**	**09 53 15.4**	**+0.9**
NLC	**Nalytchevo**	**4.93**	**44**	PN	**Pn**	**09 53 15.4**	**+0.9**
SPN	**Mys Shipunski**	**5.20**	**47**	*e*P	**Pn**	**09 53 17.1**	**-0.8**
SPN				*e*S	**Sn**	**09 54 10.9**	**-7.7**
SPN	**Mys Shipunski**	**5.20**	**47**	PN	**Pn**	**09 53 17.1**	**-0.8**
KII	**Karymskiy**	**5.59**	**37**	*e*P	**Pn**	**09 53 23.7**	**+0.7**
KII	**Karymskiy**	**5.59**	**37**	PN	**Pn**	**09 53 23.7**	**+0.7**
TUMR	**Tumrok**	**6.81**	**33**	PN	**Pn**	**09 53 39.5**	**+0.5**
TUMD	**Tumrok D**	**6.83**	**34**	*e*P	**Pn**	**09 53 39.3**	**+0.2**
KMNR	**Kamenistaya**	**7.21**	**31**	*e*P	**Pn**	**09 53 43.7**	**-0.4**
KMNR	**Kamenistaya**	**7.21**	**31**	PN	**Pn**	**09 53 43.7**	**-0.4**
SHO	**Shikotan**	**7.52**	**221**	*e*P	**Pn**	**09 53 47.8**	**-0.3**
SHO	**Shikotan**	**7.52**	**221**	*e*PN	**Pn**	**09 53 47.2**	**-0.9**
SHO				*e*S	**Sn**	**09 55 07.5**	**-5.6**
SHO				pmax	pmax		
	comp=N,19nm,0.3s						
SHO				pmax	pmax		
	comp=Z,61nm,0.3s						
SHO				pmax	pmax		
	comp=E,21nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**7.83**	**226**	*e*PN	**Pn**	**09 53 53.6**	**+1.5**
YUK				*e*S	**Sn**	**09 55 19.1**	**-1.3**
YUK				pmax	pmax		
	comp=Z,445nm,0.3s						
YUK				pmax	pmax		
	comp=N,62nm,0.2s						
YUK				pmax	pmax		
	comp=E,58nm,0.2s						
NMR	**Nemuro--Hokkai**	**8.40**	**224**	*e*PN	**Pn**	**09 53 57.8**	**-1.8**
KBG	**Krutoberegovo**	**8.49**	**36**	*e*P	**Pn**	**09 54 00.1**	**-0.4**
KBG	**Krutoberegovo**	**8.49**	**36**	PN	**Pn**	**09 54 00.1**	**-0.4**
KBTR	**Krutoberegovo**	**8.50**	**37**	*e*P	**Pn**	**09 53 59.3**	**-1.4**
KBTR	**Krutoberegovo**	**8.50**	**37**	PN	**Pn**	**09 53 59.3**	**-1.4**
BKI	**Bering**	**9.27**	**49**	*e*P	**Pn**	**09 54 09.0**	**-1.7**
BKI				*e*S	Sn	09 55 41.9	-13
BKI	**Bering**	**9.27**	**49**	PN	**Pn**	**09 54 09.0**	**-1.7**
JKA	**Kamikawa-asahi**	**9.44**	**238**	Pn	**Pn**	**09 54 16.7**	**+3.7**
ASAJ	**Asahikawa**	**9.44**	**238**	PN	**Pn**	**09 54 16.7**	**+3.6**
ASAJ	**Asahikawa**	**9.44**	**238**	P	**Pn**	**09 54 17.6**	**+4.5**
	comp=E,49nm,0.6s,baz=70,slow=14,SNR=47						
ERM	**Erimo**	**10.65**	**227**	Pn	**Pn**	**09 54 27.4**	**-1.2**
ERM	**Erimo**	**10.65**	**227**	*i* PN	**Pn**	**09 54 29.6**	**+0.9**
GRNR	**Gornyy**	**11.11**	**282**	*i*PN	**P**	**09 54 38.2**	**-2.5**
GRNR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GRNR				MLR	MLR		
	comp=N,100nm,16.0s						
GRNR				MLR	MLR		
	comp=E,130nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,110nm,15.0s						
JTM	**Tenmabayashi**	**12.60**	**230**	Pn	**Pn**	**09 54 50.9**	**-2.6**
SEY	**Seymchan**	**13.24**	**357**	*i* PN	**Pn**	**09 54 57.3**	**-4.1**
SEY				pmax	pmax		
	comp=Z,5.0nm,1.3s						
SEY	**Seymchan**	**13.24**	**357**	P	**P**	**09 55 04.8**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=176,slow=10,SNR=7.0						
KLR	**Kul'dur**	**14.27**	**276**	*i* P	**P**	**09 55 17.1**	**+1.4**
KLR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KLR	**Kul'dur**	**14.27**	**276**	P	**P**	**09 55 17.8**	**+2.0**
	comp=Z,1.3nm,0.4s,baz=72,slow=9.9,SNR=7.9						
JMM	**Marumori**	**15.06**	**223**		**Pn**	**09 55 24.0**	**0.0**
JMM				IAmb	IAmb	09 56 06.1	
	comp=E,8.2nm,0.9s						
USRK	**Ussuriysk Ar.**	**15.79**	**258**	P	**Pn**	**09 55 33.9**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=57,slow=16,SNR=1.6						
HEH	**HeiHe**	**16.88**	**282**	*e*P	**Pn**	**09 55 45.8**	**+0.1**
HEH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MJA0	**Matsu Arr-Jizo**	**17.30**	**226**	*e*P	**Pn**	**09 55 54.7**	**+3.8**
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MJB9	**Matsu-Tunnel**	**17.32**	**226**	P	**Pn**	**09 55 52.7**	**+1.6**
MJB9				IAmb	IAmb	09 55 55.4	
	comp=E,8.9nm,1.1s						
MJAR	**Matsushiro Arr**	**17.32**	**226**	P	**Pn**	**09 55 52.1**	**+1.0**
	comp=Z,2.4nm,0.5s,baz=21,slow=12,SNR=13						
MAJO	**Matsushiro**	**17.32**	**226**	P	**Pn**	**09 55 51.8**	**+0.7**
MAJO				IAmb	IAmb	09 55 54.4	
	comp=Z,9.0nm,1.1s						
MAJO	**Matsushiro**	**17.32**	**226**	*i* P	**Pn**	**09 55 52.0**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,2.0nm,0.4s						
YAK	**Yakutsk**	**18.10**	**322**	*e*P	**P**	**09 55 57.3**	**-0.4**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
JHJ2	**Mitsune**	**19.55**	**217**	P	**P**	**09 56 15.4**	**+1.8**
KSRS	**Korea Array**	**22.21**	**246**	*e*P	**P**	**09 56 43.4**	**+2.2**
KSRS	**Korea Array**	**22.21**	**246**	P	**P**	**09 56 42.1**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=43,slow=10,SNR=5.7						
	comp=Z,1.5nm,0.6s						
F17K	**Baldwin Pennin**	**28.24**	**37**	P	**P**	**09 57 35.6**	**+0.6**
F17K				IAmb	IAmb	09 57 40.2	
	comp=Z,17nm,1.5s						
C18K	**Utukok River**	**28.86**	**33**	P	**P**	**09 57 40.4**	**-0.2**
C18K				IAmb	IAmb	09 57 41.2	
	comp=Z,11nm,1.5s						
H18K	**Honhosa River**	**29.15**	**40**	P	**P**	**09 57 44.1**	**+0.9**
H18K				IAmb	IAmb	09 57 59.0	
	comp=Z,11nm,1.5s						
G18K	**Tagagawik**	**29.15**	**39**	P	**P**	**09 57 43.8**	**+0.6**
M17K	**Holitna River**	**29.26**	**48**	P	**P**	**09 57 44.8**	**+0.7**
N17K	**Nushagak Hills**	**29.38**	**50**	P	**P**	**09 57 45.2**	**0.0**
C19K	**Lookout Ridge**	**29.56**	**32**	P	**P**	**09 57 47.4**	**+0.6**
C19K				IAmb	IAmb	09 58 01.6	
	comp=Z,7.3nm,1.4s						
F19K	**Shaleruckik Mo**	**29.68**	**37**	P	**P**	**09 57 47.8**	**+0.1**
F19K				IAmb	IAmb	09 57 54.3	
	comp=Z,6.0nm,1.4s						
D19K	**Kuna River**	**29.91**	**33**	P	**P**	**09 57 50.2**	**+0.4**
D19K				IAmb	IAmb	09 57 53.7	
	comp=Z,4.3nm,1.2s						
TTA	**Tatalina**	**29.97**	**45**	P	**P**	**09 57 51.1**	**+0.6**
TTA				IAmb	IAmb	09 58 20.2	
	comp=Z,4.1nm,1.4s						
TTA	**Tatalina**	**29.97**	**45**	P	**P**	**09 57 51.1**	**+0.6**
TTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
H19K	**Roundabout Mou**	**30.00**	**40**	P	**P**	**09 57 51.3**	**+0.7**
H19K				IAmb	IAmb	09 58 01.1	
	comp=Z,4.3nm,1.2s						
E19K	**Redstone River**	**30.00**	**36**	P	**P**	**09 57 50.6**	**0.0**
E19K				IAmb	IAmb	09 58 28.7	
	comp=Z,5.8nm,1.4s						
N18K	**Kilae Creek**	**30.02**	**49**	P	**P**	**09 57 50.8**	**0.0**
N18K				IAmb	IAmb	09 58 10.1	
	comp=Z,12nm,1.4s						
J19K	**Poorman**	**30.20**	**43**	P	**P**	**09 57 52.3**	**-0.2**
J19K				IAmb	IAmb	09 58 35.1	
	comp=Z,6.7nm,1.5s						
L19K	**White Mountain**	**30.49**	**46**	P	**P**	**09 57 55.4**	**+0.4**
L19K				IAmb	IAmb	09 58 11.5	
	comp=Z,12nm,1.4s						
B20K	**Meade River**	**30.63**	**31**	P	**P**	**09 57 56.4**	**+0.3**
O19K	**Port Alsworth**	**30.82**	**50**	P	**P**	**09 57 56.5**	**-1.3**
J20K	**Nowinta River**	**30.86**	**42**	P	**P**	**09 57 57.7**	**-0.5**
J20K				IAmb	IAmb	09 58 06.4	
	comp=Z,13nm,1.5s						
IMAR	**Indian Mountai**	**31.16**	**39**	P	**P**	**09 58 01.2**	**+0.4**
G21K	**Allakaket**	**31.31**	**38**	P	**P**	**09 58 01.7**	**-0.4**
B21K	**Ikpikpuk River**	**31.39**	**32**	P	**P**	**09 58 03.4**	**+0.7**
B21K				IAmb	IAmb	09 58 04.8	
	comp=Z,3.9nm,0.7s						
E21K	**Killik River**	**31.39**	**34**	P	**P**	**09 58 03.0**	**+0.1**
E21K				IAmb	IAmb	09 58 30.1	
	comp=Z,5.0nm,1.4s						
P19K	**Oil Pt**	**31.41**	**51**	P	**P**	**09 58 02.4**	**-0.7**
H21K	**Melozitna Rive**	**31.52**	**40**	P	**P**	**09 58 04.3**	**+0.4**
D22K	**Ayikyak River**	**31.93**	**33**	P	**P**	**09 58 08.5**	**+1.0**
KDAK	**Kodiak Island**	**31.98**	**55**	P	**P**	**09 58 09.3**	**+1.2**
KDAK	**Kodiak Island**	**31.98**	**55**	P	**P**	**09 58 09.3**	**+1.2**
KDAK				pmax	pmax		
	comp=Z,33nm,1.3s						
E22K	**Anaktuvuk Pass**	**32.15**	**35**	P	**P**	**09 58 09.9**	**+0.5**
E22K				IAmb	IAmb	09 58 14.1	
	comp=Z,11nm,1.4s						
TRF	**Thorofare Moun**	**32.57**	**44**	P	**P**	**09 58 14.1**	**+0.8**
TRF				IAmb	IAmb	09 58 20.8	
	comp=Z,7.1nm,1.4s						
C23K	**Itkillik River**	**32.80**	**32**	P	**P**	**09 58 14.8**	**-0.2**
C23K				IAmb	IAmb	09 58 24.9	
	comp=Z,5.5nm,1.4s						
TOLK	**Toolik Lake Re**	**33.02**	**34**	P	**P**	**09 58 15.8**	**-1.3**
TOLK				IAmb	IAmb	09 58 33.3	
	comp=Z,8.3nm,1.4s						
NEA2	**Nenana**	**33.07**	**42**	P	**P**	**09 58 18.3**	**+0.8**
GHO	**Glory Hole Cre**	**33.31**	**47**	P	**P**	**09 58 19.0**	**-0.6**
D24K	**Happy Valley**	**33.34**	**33**	P	**P**	**09 58 20.4**	**+0.6**
IL31		**34.01**	**41**	P	**P**	**09 58 25.9**	**+0.4**
ILAR	**Eielson Array**	**34.01**	**41**	P	**P**	**09 58 25.4**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=268,slow=6.6,SNR=9.8						
	comp=Z,0.5nm,0.7s						
D25K	**Kavik River**	**34.23**	**33**	P	**P**	**09 58 27.6**	**+0.2**
D25K				IAmb	IAmb	09 58 29.1	
	comp=Z,2.9nm,0.7s						
GLI	**Glacier Island**	**34.30**	**48**	P	**P**	**09 58 28.8**	**+0.7**
E25K	**Arctic Village**	**34.48**	**35**	P	**P**	**09 58 30.5**	**+0.9**
HIN	**Hinchinbrook I**	**34.66**	**49**	P	**P**	**09 58 31.8**	**+0.6**
J25K	**Salcha River,**	**34.67**	**41**	P	**P**	**09 58 31.6**	**+0.4**
BMAR	**Burnt Mountain**	**34.85**	**37**	P	**P**	**09 58 33.8**	**+0.9**
SCRK	**Sand Creek**	**35.33**	**42**	P	**P**	**09 58 37.1**	**+0.1**
SCRK				IAmb	IAmb	09 58 38.5	
	comp=Z,8.7nm,1.5s						
N25K	**Chitina, Valde**	**35.38**	**47**	P	**P**	**09 58 38.3**	**+0.9**
J26L	**Joseph Creek**	**35.45**	**42**	P	**P**	**09 58 39.5**	**+1.5**
J26L				IAmb	IAmb	09 59 06.9	
	comp=Z,6.0nm,1.5s						
GLB	**Gilahina Butte**	**35.78**	**47**	P	**P**	**09 58 40.3**	**-0.5**
GLB				IAmb	IAmb	09 58 40.5	
	comp=Z,6.8nm,1.0s						
VRDI	**Verde Repeater**	**35.98**	**47**	P	**P**	**09 58 42.5**	**-0.2**
VRDI				IAmb	IAmb	09 59 07.4	
	comp=Z,22nm,1.4s						
D27M	**Malcolm River**	**36.15**	**33**	P	**P**	**09 58 44.6**	**+0.7**
D27M				IAmb	IAmb	09 58 44.8	
	comp=Z,7.0nm,1.5s						
K27K	**Chicken**	**36.16**	**42**	P	**P**	**09 58 44.8**	**+1.0**
CRQM	**Cirque**	**36.23**	**48**	P	**P**	**09 58 45.9**	**+1.2**
TGL	**Tana Glacier**	**36.37**	**48**	P	**P**	**09 58 47.1**	**+1.2**
L27K	**Beaver Creek,**	**36.41**	**44**	P	**P**	**09 58 46.6**	**+0.5**
WAX	**Waxell Ridge**	**36.43**	**48**	P	**P**	**09 58 47.7**	**+1.4**
BCAR	**Beaver Creek A**	**36.43**	**44**	P	**P**	**09 58 46.1**	**-0.2**
EGAK	**Eagle**	**36.45**	**41**	P	**P**	**09 58 46.4**	**+0.1**
EGAK				IAmb	IAmb	09 59 22.7	
	comp=Z,10nm,1.4s						
M27K	**Edge Creek, AK**	**36.51**	**45**	P	**P**	**09 58 49.0**	**+2.0**
M27K				IAmb	IAmb	09 59 32.9	
	comp=Z,6.4nm,1.4s						
ISLE	**Juniper Island**	**36.64**	**48**	P	**P**	**09 58 49.2**	**+1.0**
E28M	**Babbage River**	**36.70**	**34**	P	**P**	**09 58 49.4**	**+1.0**
BARN	**Barnard Glacie**	**36.87**	**47**	P	**P**	**09 58 51.7**	**+1.5**
I28M	**Miner Creek**	**36.87**	**40**	P	**P**	**09 58 51.5**	**+1.5**
GRNC	**Granite Creek**	**36.90**	**48**	P	**P**	**09 58 51.2**	**+0.8**
LOGN	**Logan Glacier**	**37.23**	**47**	P	**P**	**09 58 54.3**	**+1.1**
TABL	**Table Mountain**	**37.26**	**48**	P	**P**	**09 58 53.5**	**+0.1**
E29M	**Blow River**	**37.32**	**35**	P	**P**	**09 58 55.4**	**+1.7**
G29M	**Pine Creek**	**37.44**	**37**	P	**P**	**09 58 56.1**	**+1.4**
G29M				IAmb	IAmb	09 59 36.4	
	comp=Z,8.5nm,1.5s						
M29M	**Somme Creek**	**38.05**	**44**	P	**P**	**09 59 01.7**	**+1.8**
M29M				IAmb	IAmb	09 59 41.1	
	comp=Z,11nm,1.4s						
L29M	**L29M**	**38.06**	**43**	P	**P**	**09 59 01

comp=Z,4.0nm,1.0s
EUNU Eureka 46.12 12 P **P** **10 00 04.2 -0.5**
KURBB Kurchatov Arra 46.17 301 P **P** **10 00 04.5 -0.9**
comp=Z,2.5nm,0.5s,baz=64,slow=8.3,SNR=15
KURBB PcP **PcP** **10 01 37.0 -0.7**
comp=Z,0.7nm,0.2s,baz=34,slow=3.5,SNR=1.2
comp=Z,2.5nm,0.5s
RES Resolute Bay 47.88 19 P **P** **10 00 18.5 +0.2**
RES Resolute Bay 47.88 19 P **P** **10 00 18.5 +0.2**
RES pmax pmax
comp=Z,6.0nm,1.1s
YKA Yellowknife Ar 48.32 38 P **P** **10 00 20.5 -1.3**
comp=Z,0.2nm,0.6s,baz=303,slow=8.0,SNR=6.6
comp=Z,0.2nm,0.6s
BVAR Borovoye Array 49.29 308 P **P** **10 00 28.6 -0.9**
comp=Z,1.6nm,0.5s,baz=58,slow=7.8,SNR=9.2
BVAR PcP **PcP** **10 01 48.9 -0.1**
comp=Z,1.1nm,0.3s,baz=59,slow=4.2,SNR=5.6
comp=Z,1.6nm,0.5s
BRVK Borovoye 49.33 308 P **P** **10 00 29.2 -0.5**
BRVK Borovoye 49.33 308 *ce*P **P** **10 00 28.8 -0.9**
BOOM Boomskoye usch 52.12 294 P **P** **10 00 51.6 +0.7**
BOOM IAmb IAmb 10 00 58.2
comp=Z,9.0nm,1.4s
BOOM Boomskoye usch 52.12 294 P **P** **10 00 51.6 +0.7**
BOOM pmax pmax
comp=Z,9.0nm,1.4s
CMAR Chiang Mai Arr 53.49 255 P **P** **10 01 03.2 +2.3**
comp=Z,1.2nm,0.4s,baz=27,slow=8.1,SNR=4.8
comp=Z,1.2nm,0.4s
ARCES ARCESS Array B 55.16 340 *e*P **P** **10 01 11.3 -1.0**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 55.16 340 P **P** **10 01 09.9 -2.4**
comp=Z,1.4nm,0.7s,baz=19,slow=7.7,SNR=3.6
comp=Z,1.4nm,0.7s
J05D Fort Rock, OR 55.91 61 P **P** **10 01 20.6 +2.4**
ABKAR Akbulak array 56.83 309 P **P** **10 01 23.9 -0.5**
ABKAR IAmb IAmb 10 01 24.1
comp=Z,4.1nm,0.6s
CHGR Chuyangaron 58.55 294 P **P** **10 01 36.1 -0.5**
CHGR Chuyangaron 58.55 294 P **P** **10 01 36.1 -0.5**
CHGR pmax pmax
comp=Z,8.0nm,0.5s
FCC Fort Churchill 58.56 34 P **P** **10 01 36.4 +0.1**
FCC Fort Churchill 58.56 34 P **P** **10 01 36.4 +0.1**
PNTR Pine Nut 59.55 64 P **P** **10 01 45.3 +1.7**
PNTR IAmb IAmb 10 01 59.9
comp=Z,2.6nm,0.8s
WAKR Walker 60.03 65 P **P** **10 01 49.1 +2.2**
KVN Kaiserville 60.45 63 P **P** **10 01 51.9 +2.2**
KVN Kaiserville 60.45 63 P **P** **10 01 51.9 +2.2**
NVAR Mina Array Bea 60.74 64 P **P** **10 01 53.5 +1.7**
comp=Z,0.6nm,0.5s,baz=296,slow=7.8,SNR=7.2
comp=Z,0.6nm,0.5s
FINES FINESS Array B 61.50 334 P **P** **10 01 55.6 -0.6**
FINES FINESS Array B 61.50 334 *e*P **P** **10 01 55.4 -0.8**
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES FINESS Array B 61.50 334 P **P** **10 01 55.3 -0.9**
comp=Z,1.1nm,0.3s,baz=35,slow=7.3,SNR=16
FINES PcP **PcP** **10 02 34.8 -1.2**
comp=Z,2.5nm,0.8s,baz=64,slow=4.4,SNR=4.0
comp=Z,1.1nm,0.3s
PDAR Pinedale Array 62.70 55 P **P** **10 02 03.5 -1.3**
comp=Z,0.2nm,0.6s,baz=265,slow=4.4,SNR=2.4
comp=Z,0.2nm,0.6s
TPNV Topopah Spring 62.94 64 P **P** **10 02 08.3 +2.0**
TPNV IAmb IAmb 10 02 37.2
comp=Z,3.7nm,1.2s
TPNV Topopah Spring 62.94 64 P **P** **10 02 08.4 +2.0**
TPNV pmax pmax
comp=Z,4.0nm,1.3s
NC204 NORSAR Array S 65.40 341 P **P** **10 02 20.7 -1.1**
NB201 NORSAR Array S 65.50 341 P **P** **10 02 21.1 -1.3**
NB2 NORSAR Subarra 65.52 341 P **P** **10 02 20.7 -1.9**
comp=Z,0.4nm,0.5s,baz=25,slow=6.5
NOA NORSAR Array B 65.52 341 *e*P **P** **10 02 22.2 -0.4**
NOA NORSAR Array B 65.52 341 P **P** **10 02 20.2 -2.4**
comp=Z,0.7nm,0.6s,baz=28,slow=6.6,SNR=6.8
comp=Z,0.7nm,0.6s
NORES NORESS Array B 65.73 341 P **P** **10 02 23.7 -0.1**
HFS Hagfors 65.79 339 P **P** **10 02 22.8 -1.5**
comp=Z,0.9nm,0.3s,baz=72,slow=4.8,SNR=8.6
comp=Z,0.9nm,0.3s
KIV Kislovodsk 69.00 314 *e*P **P** **10 02 44.1 -0.6**
KIV pmax pmax
comp=Z,9.0nm,1.1s
AKASG Malin Array Be 69.28 326 *ce*P **P** **10 02 46.2 0.0**
AKASG Malin Array Be 69.28 326 P **P** **10 02 44.5 -1.7**
comp=Z,1.4nm,0.7s,baz=36,slow=6.9,SNR=4.4
comp=Z,1.4nm,0.7s
WRA Warramunga Arr 71.47 199 P **P** **10 03 00.7 +1.0**
comp=Z,0.3nm,0.3s,baz=22,slow=6.5,SNR=2.3
comp=Z,0.3nm,0.3s
EKA Eskdalemuir Ar 73.52 346 P **P** **10 03 10.1 -1.4**
comp=Z,0.4nm,0.3s,baz=18,slow=5.6,SNR=4.7
comp=Z,0.4nm,0.3s
ASAR Alice Springs 75.17 199 P **P** **10 03 23.1 +1.8**
comp=Z,0.6nm,0.4s,baz=13,slow=5.7,SNR=8.4
comp=Z,0.6nm,0.4s
TXAR Lajitas Array 75.71 62 P **P** **10 03 25.5 +0.8**
comp=Z,0.3nm,0.7s,baz=322,slow=5.7,SNR=2.1
comp=Z,0.3nm,0.7s

NEIC 15 09:53:41.2±1.6, 31°.14N±0°.01×103°.28W±0°.02, h5km±2km, mb_Lg2.9/33, ML3.3/64, Error ellipse: s-maj=3.1km s-min=3.0km az=121.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNHN	**Monahans**	**0.49**	**66**		Pg	09 53 50.0	-0.6
MNHN				Sg	Sg	09 53 57.3	+0.3
MNHN				IAML		09 54 03.0	
	496nm,0.7s						
MNHN				IAML		09 54 05.2	
	473nm,1.2s						
PECS	**Pecos**	**0.55**	**295**		Pg	09 53 51.1	-0.7
PECS				Sg	Sg	09 53 59.1	+0.1
PECS				IAML		09 54 02.6	
	759nm,0.4s						
PECS				IAML		09 54 07.5	
	623nm,0.6s						
ALPN	**Alpine**	**0.82**	**202**	Pg	Pg	09 53 56.0	-0.9
ALPN				Sg	Sg	09 54 07.6	0.0
ALPN				IAmb_Lg		09 54 08.4	
	comp=Z,32nm,0.8s						
ALPN				IAML		09 54 14.1	
	comp=Z,208nm,0.5s						
ALPN				IAML		09 54 16.8	
	comp=Z,149nm,0.6s						
ODSA	**Odessa**	**1.16**	**32**	Pg	Pg	09 54 02.0	-1.5
ODSA				IAML		09 54 25.9	
	comp=Z,253nm,0.5s						
ODSA				IAML		09 54 34.5	
	comp=Z,250nm,1.0s						
425A	**Indio Mountain**	**1.51**	**257**	Pn	Pn	09 54 08.1	-0.9
SAND	**Sanderson**	**1.55**	**139**		Pn	09 54 09.4	-0.1
SAND				IAmb_Lg		09 54 30.7	
	comp=Z,9.6nm,0.8s						
SAND				IAML		09 54 36.0	
	comp=Z,125nm,0.7s						
SAND				IAML		09 54 36.4	
	comp=Z,195nm,0.8s						
TX31	**Lajitas Ar. Si**	**1.83**	**191**	Pn	Pn	09 54 13.8	+0.5
TXAR	**Lajitas Array**	**1.83**	**191**		Pn	09 54 13.9	+0.6
OZNA	**Ozona**	**1.86**	**96**		Pn	09 54 14.5	+0.7
OZNA				IAmb_Lg		09 54 40.7	
	comp=Z,28nm,1.0s						
OZNA				IAML		09 54 44.8	
	comp=Z,118nm,0.6s						
OZNA				IAML		09 54 45.4	
	comp=Z,96nm,0.6s						
SGCY	**Sterling City**	**2.00**	**67**	Pn	Pn	09 54 15.3	-0.3
SGCY				IAmb_Lg		09 54 45.6	
	comp=Z,100nm,1.3s						
SGCY				IAML		09 54 48.9	
	comp=Z,255nm,0.6s						
SGCY				IAML		09 54 49.5	
	comp=Z,237nm,0.6s						
POST	**Post**	**2.44**	**38**		Pn	09 54 21.9	+0.1
POST				IAML		09 54 58.4	
	comp=Z,149nm,0.8s						
POST				IAML		09 55 00.6	
	comp=Z,116nm,0.9s						
POST				IAmb_Lg		09 55 02.3	
	comp=Z,68nm,0.7s						
SN01	**Snyder 1**	**2.66**	**49**		Pn	09 54 24.6	-0.2
SN01				IAmb_Lg		09 55 05.3	
	comp=Z,39nm,0.7s						
SN01				IAML		09 55 08.9	
	comp=Z,197nm,0.5s						
SN01				IAML		09 55 09.7	
	comp=Z,150nm,0.7s						
MSTX	**Muleshoe**	**2.86**	**9**	Pn	Pn	09 54 27.9	+0.4
MSTX				IAML		09 55 10.6	
	comp=N,199nm,0.6s						
MSTX				IAmb_Lg		09 55 14.2	
	comp=Z,24nm,0.8s						
DRIO	**Del Rio**	**2.87**	**126**	Pn	Pn	09 54 27.9	+0.2
DRIO				IAML		09 55 15.1	
	comp=Z,56nm,0.7s						
DRIO				IAML		09 55 16.0	
	comp=Z,72nm,0.5s						
DRIO				IAmb_Lg		09 55 17.6	
	comp=Z,56nm,0.8s						
JCT	**Junction City**	**3.06**	**101**		Pn	09 54 31.5	+1.1
JCT				IAmb_Lg		09 55 22.9	
	comp=Z,48nm,1.1s						
JCT				IAML		09 55 23.6	
	comp=Z,68nm,0.6s						
JCT				IAML		09 55 25.6	
	comp=Z,89nm,0.6s						
DKNS	**Dickens**	**3.21**	**38**	Pn	Pn	09 54 32.3	-0.1
DKNS				IAmb_Lg		09 55 26.0	
	comp=Z,55nm,0.9s						
DKNS				IAML		09 55 27.6	
	comp=Z,127nm,0.6s						
DKNS				IAML		09 55 37.5	
	comp=Z,75nm,0.7s						
ABTX	**Abilene, Hawle**	**3.43**	**63**		Pn	09 54 35.6	+0.2
ABTX				IAmb_Lg		09 55 28.7	
	comp=Z,35nm,0.8s						
ABTX				IAML		09 55 38.6	
	comp=E,136nm,0.8s						
ABTX				IAML		09 55 39.3	
	comp=N,96nm,0.7s						
APMT	**Aspermont**	**3.45**	**50**	Pn	Pn	09 54 35.7	+0.1
APMT				IAmb_Lg		09 55 32.4	
	comp=Z,56nm,1.2s						
APMT				IAML		09 55 35.6	
	comp=Z,80nm,0.5s						
APMT				IAML		09 55 44.9	
	comp=Z,90nm,0.9s						
BRDY	**Brady**	**3.67**	**87**		Pn	09 54 39.3	+0.6
BRDY				IAML		09 55 45.0	
	comp=Z,46nm,0.9s						
BRDY				IAmb_Lg		09 55 45.5	
	comp=Z,45nm,1.0s						
BRDY				IAML		09 55 45.9	
	comp=Z,19nm,0.7s						
HNDO	**Hondo**	**3.81**	**114**	Pn	Pn	09 54 42.5	+1.9
HNDO				IAmb_Lg		09 55 51.8	
	comp=Z,13nm,0.8s						
HNDO				IAML		09 55 53.0	
	comp=Z,27nm,0.6s						
HNDO				IAML		09 55 54.5	
	comp=Z,36nm,0.6s						
AMTX	**Amarillo**	**3.97**	**19**	Pn	Pn	09 54 42.8	0.0
AMTX				IAML		09 55 51.8	
	comp=Z,89nm,0.9s						
AMTX				IAmb_Lg		09 55 57.2	
	comp=Z,42nm,0.9s						
121A	**Cookes Peak, D**	**4.08**	**291**	Pn	Pn	09 54 44.0	-0.3
121A				IAmb_Lg		09 55 54.2	
	comp=Z,24nm,1.1s						
121A				IAML		09 55 55.7	
	comp=E,24nm,0.6s						
121A				IAML		09 56 05.1	
	comp=N,26nm,0.7s						
PLPT	**Palo Pinto**	**4.54**	**67**		Pn	09 54 50.4	-0.1
PLPT				IAmb_Lg		09 56 17.2	
	comp=Z,21nm,1.0s						
PLPT				IAML		09 56 20.4	
	comp=Z,69nm,0.6s						
PLPT				IAML		09 56 25.3	
	comp=Z,44nm,0.9s						
ANMO	**Albuquerque**	**4.64**	**326**	Pn	Pn	09 54 53.0	+0.9
ANMO				IAML		09 56 10.4	
	comp=Z,14nm,0.7s						
HPIG		**4.68**	**207**	Pn	Pn	09 54 52.4	-0.3
HPIG				IAML		09 56 23.7	
	comp=E,14nm,0.6s						
EF01	**Eagle Ford 01**	**4.69**	**114**	Pn	Pn	09 54 54.0	+1.3
EF01				IAmb_Lg		09 56 12.3	
	comp=Z,34nm,0.9s						
EF01				IAML		09 56 18.9	
	comp=Z,58nm,0.7s						
EF01				IAML		09 56 39.0	
	comp=Z,58nm,1.1s						
SMWD	**Samnorwood**	**4.71**	**32**	Pn	Pn	09 54 52.0	-0.9
SMWD				IAML		09 56 14.1	
	comp=Z,50nm,0.7s						
SMWD				IAML		09 56 14.9	
	comp=Z,97nm,0.7s						
FW03	**Perrin-Whitt E**	**4.82**	**65**	Pn	Pn	09 54 53.4	-1.0
FW03				IAmb_Lg		09 56 17.2	
	comp=Z,23nm,0.8s						
FW03				IAML		09 56 20.0	
	comp=Z,104nm,0.6s						
FW03				IAML		09 56 24.5	
	comp=Z,113nm,1.1s						
WTFS	**Witchita Falls**	**4.84**	**56**		Pn	09 54 54.3	-0.4
WTFS				IAML		09 56 18.8	
	comp=Z,70nm,0.7s						
WTFS				IAML		09 56 23.2	
	comp=Z,51nm,0.5s						
435B	**Jarrell**	**4.91**	**93**	IAmb_Lg		09 56 29.5	
	comp=Z,26nm,0.9s						
FW07	**Weatherford**	**4.93**	**70**	Pn	Pn	09 54 53.9	-2.0
FW07				IAML		09 56 20.2	
	comp=Z,85nm,0.7s						
FW07				IAmb_Lg		09 56 27.1	
	comp=Z,44nm,1.2s						
FW07				IAML		09 56 27.9	
	comp=Z,96nm,0.8s						
FW13	**Cleburne**	**5.13**	**75**	Pn	Pn	09 54 58.1	-0.6
FW13				IAmb_Lg		09 56 37.5	
	comp=Z,17nm,0.9s						
319A	**Douglas**	**5.14**	**274**	Pn	Pn	09 54 57.8	-1.2
319A				IAML		09 56 32.6	
	comp=N,19nm,1.0s						
319A				IAML		09 56 52.7	
	comp=E,19nm,4.8s						
FW06	**Azle**	**5.19**	**68**	Pn	Pn	09 54 59.0	-0.5
FW06				IAML		09 56 32.1	
	comp=E,58nm,0.6s						
FW06				IAmb_Lg		09 56 34.3	
	comp=Z,44nm,1.1s						
FW06				IAML		09 56 34.6	
	comp=Z,83nm,1.1s						
WMOK	**Wichita Mounta**	**5.21**	**45**		Pn	09 54 59.8	-0.1
WMOK				IAML		09 56 33.5	
	comp=Z,19nm,2.1s						
WMOK				IAML		09 56 38.1	
	comp=Z,23nm,2.7s						
735A	**Kenedy**	**5.26**	**114**	Pn	Pn	09 54 59.7	-0.8
735A				IAmb_Lg		09 56 41.9	
	comp=Z,20nm,0.8s						
FW14	**Alvarado**	**5.34**	**75**	IAmb_Lg		09 56 38.6	
	comp=Z,24nm,0.8s						
Z35A	**Perchaven, San**	**5.56**	**65**	Pn	Pn	09 55 05.1	+0.6
FW16	**Waxahatchie**	**5.60**	**74**	IAmb_Lg		09 56 46.6	
	comp=Z,32nm,0.8s						
T25A	**Trinidad**	**6.06**	**351**	IAmb_Lg		09 57 02.7	
	comp=Z,12nm,0.8s						

IDC 15 09:57:39.8±2.0, 6°.53S×148°.43E, h0km, mb3.0/1, mbtmp3.5/2, ML3.9/1, Error ellipse: s-maj=102.3km s-min=40.7km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.10**	**224**	P	Pn	10 02 05.1	0.0
	0.3nm,0.3s,baz=52,slow=11,SNR=34						
WRA				PcP	PcP	10 06 29.4	+0.2
	0.3nm,0.5s,baz=45,slow=1.2,SNR=6.2						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**22.03**	**218**	P	P	10 02 35.3	-0.8
	0.5nm,0.7s,baz=52,slow=9.4,SNR=7.0						
ASAR				PcP	PcP	10 06 36.0	+1.3
	0.2nm,0.7s,baz=45,slow=1.9,SNR=2.3						
	0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**146.59**	**284**	PKPbc	PKPdf	10 17 21.6	-1.3
	0.5nm,0.7s,baz=76,slow=3.1,SNR=3.6						

*THE **15** 10:05:54.8, 36°.93N×27°.21E, h8km±1km, ML2.6/4, Error ellipse: s-maj=1.5km s-min=0.8km az=103.0*
*AFAD **15** 10:05:54.6±0.0, 36°.94N×27°.26E, h7km±1km, ML2.3*
*ISK **15** 10:05:54.9, 36°.94N×27°.27E, h5km, ML2.5/14*
*ATH **15** 10:05:55.0, 36°.93N×27°.20E, h15km±3km, ML2.6/3, Error ellipse: s-maj=4.9km s-min=1.1km az=245.0*

ISC 15 10:05:54.7±0.9, 36°.94N±0°.02×27°.23E±0°.02, h11km±5km, n35, s0°53/54, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RFTB	**Kemer-Bodrum**	**0.04**	**56**	Pg	**Pg**	**10 05 56.5**	**-0.2**
BODT	**Bodrum**	**0.13**	**28**	Pg	**Pg**	**10 05 58.0**	**+0.1**
BODT				Sg	**Sg**	**10 06 00.5**	**+0.3**
BODT	**Bodrum**	**0.13**	**28**	P	**Pg**	**10 05 58.0**	**+0.1**
BODT				S	**Sg**	**10 06 00.5**	**+0.3**
BDRM	**Kayabasi**	**0.21**	**54**	P	**Pg**	**10 05 58.9**	**-0.2**
BDRM				S	**Sg**	**10 06 01.6**	**-0.6**
BDRM				*i* AML	AML	10 06 04.0	
	comp=E,330nm,0.4s						
KLNA	**Kalymnos**	**0.21**	**274**	P	**Pg**	**10 05 59.1**	**0.0**
KLNA				S	**Sg**	**10 06 02.3**	**+0.2**
KLNA				AML	AML	10 06 02.5	
	comp=N,16525μm,0.2s						
KLNA				AML	AML	10 06 03.5	
	comp=E,11283μm,0.2s						
NISR	**Nisiros**	**0.34**	**194**	P	**Pg**	**10 06 01.5**	**0.0**
NISR				S	**Sg**	**10 06 06.7**	**+0.7**
	comp=E,1μm,0.2s						
NISR	**Nisiros**	**0.34**	**194**	P	**Pg**	**10 06 01.5**	**0.0**
NISR				S	**Sg**	**10 06 06.7**	**+0.7**
NISR				AML	AML	10 06 07.1	
	comp=N,1839μm,0.2s						
NISR				AML	AML	10 06 07.9	
	comp=E,3162μm,0.3s						
DAT	**Datca**	**0.35**	**128**	Pg	**Pg**	**10 06 01.7**	**0.0**
DAT				Sg	**Sg**	**10 06 06.9**	**+0.5**
DAT	**Datca**	**0.35**	**128**	P	**Pg**	**10 06 01.4**	**-0.2**
DAT				*i* AML	AML	10 06 07.0	
	comp=E,575nm,0.1s						
DAT				*i* AML	AML	10 06 09.0	
	comp=E,754nm,0.2s						
DAT	**Datca**	**0.35**	**128**	P	**Pg**	**10 06 01.5**	**-0.2**
DAT				S	**Sg**	**10 06 06.9**	**+0.5**
DATC	**Datca-Mugla**	**0.39**	**118**	Pg	**Pg**	**10 06 02.6**	**+0.2**
RFTAA	**Mazikoy-Bodrum**	**0.41**	**82**	Pg	**Pg**	**10 06 02.5**	**-0.3**
RFTAA				Sg	**Sg**	**10 06 08.8**	**+0.5**
DDIM	**Aydin, Didim**	**0.51**	**1**	P	**Pg**	**10 06 04.8**	**+0.1**
DDIM				S	**Sg**	**10 06 12.3**	**+0.8**
DDIM				*i* AML	AML	10 06 13.0	
	comp=E,275nm,0.7s						
DDIM				*i* AML	AML	10 06 14.0	
	comp=E,391nm,0.5s						
MLSB	**Milas**	**0.56**	**51**	Pg	**Pb**	**10 06 06.4**	**-0.1**
GCAM	**G?zelcaml?**	**0.76**	**0**	Pg	**Pg**	**10 06 09.5**	**+0.2**
GCAM	**G?zelcaml?**	**0.76**	**0**	P	**Pg**	**10 06 09.2**	**-0.1**
GCAM				*i* AML	AML	10 06 23.0	
	comp=E,134nm,0.3s						
GCAM				*i* AML	AML	10 06 25.0	
	comp=E,154nm,0.4s						
MRSB	**Marmaris-Mugla**	**0.81**	**106**	Pg	**Pg**	**10 06 10.4**	**+0.2**
SMG	**Samos**	**0.83**	**338**	P	**Pg**	**10 06 10.4**	**-0.2**
SMG				S	**Sb**	**10 06 23.1**	**+0.9**
	comp=E,345nm,0.3s						
SMG	**Samos**	**0.83**	**338**	P	**Pg**	**10 06 10.4**	**-0.2**
SMG				S	**Sb**	**10 06 22.7**	**+0.5**
SMG				AML	AML	10 06 25.4	
	comp=E,774μm,0.3s						
SMG				AML	AML	10 06 25.9	
	comp=N,606μm,0.3s						
TURN	**Turunc**	**0.83**	**101**	Pg	**Pg**	**10 06 10.4**	**-0.3**
TURN				Sg	**Sb**	**10 06 22.3**	**+0.1**
TURN	**Turunc**	**0.83**	**101**	P	**Pg**	**10 06 10.2**	**-0.4**
TURN				*i* AML	AML	10 06 24.0	
	comp=N,226nm,0.4s						
TURN				*i* AML	AML	10 06 25.0	
	comp=N,204nm,0.5s						
YER	**Yerkesik**	**0.86**	**77**	Pg	**Pg**	**10 06 11.4**	**+0.1**
YER	**Yerkesik**	**0.86**	**77**	P	**Pg**	**10 06 11.5**	**+0.1**
YER				S	**Sn**	**10 06 25.4**	**0.0**
MULA	**Mugla, Merkez-**	**0.92**	**70**	P	**Pg**	**10 06 11.6**	**-0.9**
MULA				*i* AML	AML	10 06 31.0	
	comp=N,68nm,0.3s						
ARG	**Arkhangelos**	**1.02**	**135**	Pg	**Pg**	**10 06 14.4**	**+0.1**
ARG	**Arkhangelos**	**1.02**	**135**	P	**Pg**	**10 06 14.0**	**-0.3**
ARG				S	**Sb**	**10 06 28.2**	**+0.4**
	comp=N,218nm,0.4s						
ARG	**Arkhangelos**	**1.02**	**135**	P	**Pg**	**10 06 13.9**	**-0.5**
ARG				S	**Sb**	**10 06 28.1**	**+0.3**
DALY	**Dalyan (Mula)**	**1.15**	**96**	Pn	**Pn**	**10 06 16.9**	**+0.3**
IZMR	**zmir-demi**	**1.32**	**25**	P	**Pn**	**10 06 19.1**	**0.0**
IZMR				S	**Sb**	**10 06 35.4**	**-1.0**
IZMR				*i* AML	AML	10 06 40.0	
	comp=N,34nm,0.4s						
IZMR				*i* AML	AML	10 06 44.0	
	comp=N,41nm,0.5s						
KARP	**Karpathos**	**1.39**	**182**	P	**Pn**	**10 06 18.8**	**-1.3**
TAVA	**DENIZLI_Tavas**	**1.44**	**68**	P	**Pn**	**10 06 21.1**	**+0.3**
TAVA				S	**Sg**	**10 06 40.9**	**-0.2**
FETY	**Fethiye**	**1.52**	**101**	Pn	**Pg**	**10 06 23.5**	**-0.3**
FETY	**Fethiye**	**1.52**	**101**	P	**Pg**	**10 06 25.8**	**+2.0**
FETY				S	**Sg**	**10 06 44.2**	**+0.7**
CAME	**Cameli-Denizli**	**1.66**	**89**	Pn	**Pb**	**10 06 25.0**	**-0.3**
APMY	**Acipayam-Deniz**	**1.73**	**72**	Pn	**Pb**	**10 06 26.2**	**-0.4**

RSNC 15 10:07:05.4±1.8, 6°.83N×73°.13W, h145km±7km, ML3.0, Mw3.5, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**192**	*i*P	Pn	10 07 25.1	-0.4
BARC				*e*S	Sn	10 07 39.9	-0.8
BARC				*i*		10 07 41.3	
	comp=Z,168nm,0.2s						
PAMC	**Pamplona, Colo**	**0.66**	**40**	*e*P	Pn	10 07 28.0	+0.3
PAMC				*e*S	Sn	10 07 45.0	+0.4
PAMC				*i*		10 07 46.9	
	comp=Z,239nm,0.6s						
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	*e*P	Pn	10 07 31.6	-1.4
PTBC				*e*S	Sn	10 07 52.8	-1.3
PTBC				*i*		10 07 56.0	
	comp=Z,102nm,0.2s						
TAMC	**Tame, Arauca**	**1.39**	**106**	*i*P	Pn	10 07 33.4	0.0
TAMC				*e*S	Sn	10 07 54.8	0.0
OCAC	**Ocana**	**1.41**	**352**	*e*P	Pn	10 07 33.3	-0.5
OCAC				*e*S	Sn	10 07 55.1	-0.4
OCAC				*i*		10 07 56.5	
	comp=Z,297nm,0.2s						
SPBC	**San Pablo de B**	**1.50**	**219**	*e*P	Pn	10 07 34.1	-0.6
SPBC				*e*S	Sn	10 07 56.1	-1.0
SPBC				*i*		10 07 59.4	
	comp=Z,114nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.83**	**291**	*e*P	Pn	10 07 38.1	-0.2
ZARC				*e*S	Sn	10 08 03.4	-0.1
ZARC				*i*		10 08 09.9	
	comp=Z,116nm,0.3s						
ROSC	**El Rosal**	**2.31**	**211**	*e*P	Pn	10 07 45.1	+0.8
ROSC				*e*S	Sn	10 08 14.4	+0.2
ROSC				*i*		10 08 22.1	
	comp=Z,58nm,0.3s						
CVER	**Cruz Verde, Cu**	**2.48**	**202**	*e*P	Pn	10 07 47.0	+0.4
CVER				*e*S	Sn	10 08 18.0	-0.1
CVER				*i*		10 08 26.8	
	comp=Z,39nm,0.4s						
UREC	**San Jos de Ur**	**2.55**	**291**	*e*P	Pn	10 07 45.5	-1.4
UREC				*e*S	Sn	10 08 17.3	-1.6
UREC				*i*		10 08 18.6	
	comp=Z,103nm,0.1s						
GUY2C	**Guyana, Caldas**	**2.74**	**234**	*e*P	Pn	10 07 49.8	+0.1
GUY2C				*e*S	Sn	10 08 24.3	+0.5
GUY2C				*i*		10 08 31.1	
	comp=Z,29nm,0.3s						
VILC	**Villavicencio,**	**2.76**	**192**	*e*P	Pn	10 07 49.4	-0.3
VILC				*e*S	Sn	10 08 23.1	-0.7
VILC				*i*		10 08 27.0	
	comp=Z,39nm,0.3s						
PTGC	**Puerto Gaitan,**	**2.80**	**159**	*e*P	Pn	10 07 48.3	-1.7

PTGC				*eS*	Sn	10 08 21.2	-3.3	
PTGC				*i*		10 08 24.1		
	comp=Z,53nm,0.5s							
CBOC	**Ciudad Bolivar**	**3.02**	**252**	*eP*	Pn	10 07 53.5	+0.5	
CBOC				*eS*	Sn	10 08 28.7	-1.0	
CBOC				*i*		10 08 32.9		
	comp=Z,19nm,0.7s							
DBBC	**Dabeiba**	**3.06**	**274**	*eP*	Pn	10 07 53.4	-0.1	
DBBC				*eS*	Sn	10 08 29.3	-1.3	
DBBC				*i*		10 08 34.5		
	comp=Z,27nm,0.4s							
ARGC	**Ariguani, Magd**	**3.20**	**340**	*eP*	Pn	10 07 57.3	+2.1	
ARGC				*eS*	Sn	10 08 34.6	+0.9	
ARGC				*i*		10 08 40.9		
	comp=Z,11nm,0.3s							
SDV	**Santo Domingo**	**3.21**	**50**	*eP*	Pn	10 07 54.9	-0.5	
SDV				*eS*	Sn	10 08 32.8	-1.3	
SDV				*i*		10 08 36.8		
	comp=Z,24nm,0.7s							
PRAC	**Prado**	**3.56**	**210**	*eP*	Pn	10 07 59.2	-0.6	
PRAC				*eS*	Sn	10 08 42.0	0.0	
PRAC				*i*		10 08 47.0		
	comp=Z,34nm,0.4s							
APAC	**Apartado, Choc**	**3.58**	**287**	*eP*	Pn	10 07 59.6	-0.4	
APAC				*eS*	Sn	10 08 43.6	+1.1	
APAC				*i*		10 08 46.3		
	comp=Z,13nm,0.3s							
ORTC	**Ortega, Tolima**	**3.59**	**216**	*eP*	Pn	10 07 60.0	-0.3	
ORTC				*eS*	Sn	10 08 43.5	+0.8	
ORTC				*i*		10 08 48.2		
	comp=Z,22nm,0.5s							
SJCC	**San Jacinto, C**	**3.66**	**326**	*eP*	Pn	10 08 00.0	-1.1	
SJCC				*eS*	Sn	10 08 41.2	-3.1	
SJCC				*i*		10 08 44.8		
	comp=Z,37nm,0.5s							
PLMC	**San Jos del P**	**3.67**	**239**	*eP*	Pn	10 08 01.3	-0.1	
PLMC				*eS*	Sn	10 08 44.8	+0.1	
PLMC				*i*		10 08 50.0		
	comp=Z,20nm,0.3s							
LCBC	**Los crdobas,**	**3.79**	**302**	*eS*	Sn	10 08 46.4	-0.8	
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	*eP*	Pn	10 08 05.8	-2.1	
CRJC				*eS*	Sn	10 08 52.0	-4.4	
CAPC	**Capurgana**	**4.55**	**293**	*eS*	Sn	10 09 03.0	-2.2	
MALC	**Bahia Malaga**	**5.04**	**236**	*eP*	Pn	10 08 10.2	-9.0	
JAMC	**Jamundi, Valle**	**5.04**	**225**	*eP*	Pn	10 08 17.4	-2.0	
FLOC	**Florencia**	**5.79**	**206**	*eP*	Pn	10 08 29.3	0.0	

*ISK **15** 10:11:27.8,36˚.95N×27˚.30E,h5km,ML2.7/15*
*ATH **15** 10:11:27.7,36˚.94N×27˚.22E,h13km±2km,ML2.7/5,Error ellipse: s-maj=2.9km s-min=1.1km az=249.0*
*THE **15** 10:11:27.5,36˚.94N×27˚.24E,h11km,ML2.9/4,Error ellipse: s-maj=1.0km s-min=0.7km az=81.0*
*AFAD **15** 10:11:27.2±0.0,36˚.93N×27˚.22E,h6km±1km,ML2.4*
ISC 15 10:11:27.4±0.8,36˚.93N±0˚.02×27˚.22E±0˚.02,h11km±5km, n43,σ0°49/63,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RFTB	**Kemer-Bodrum**	**0.05**	**53**	Pg	**Pg**	**Pg**	**10 11 29.4**	**-0.2**
BODT	**Bodrum**	**0.14**	**29**	Pg	**Pg**	**Pg**	**10 11 30.7**	**-0.2**
BODT				Sg	**Sg**	**Sg**	**10 11 32.7**	**-0.6**
BODT	**Bodrum**	**0.14**	**29**	P	**Pg**	**Pg**	**10 11 30.9**	**0.0**
BODT				S	**Sg**	**Sg**	**10 11 33.5**	**+0.2**
KLNA	**Kalymnos**	**0.20**	**277**	P	**Pg**	**Pg**	**10 11 32.0**	**+0.2**
KLNA				S	**Sg**	**Sg**	**10 11 35.2**	**+0.5**
KLNA				AML	AML	AML	10 11 35.5	
	comp=N,35371μm,0.2s							
KLNA				AML	AML	AML	10 11 36.4	
	comp=E,23668μm,0.2s							
BDRM	**Kayabasi**	**0.22**	**54**	P	**Pg**	**Pg**	**10 11 31.9**	**-0.3**
BDRM				*i* AML	AML	AML	10 11 37.0	
	comp=E,596nm,0.4s							
NISR	**Nisiros**	**0.33**	**193**	P	**Pg**	**Pg**	**10 11 34.5**	**+0.4**
NISR				S	**Sg**	**Sg**	**10 11 39.3**	**+0.8**
	comp=E,2μm,0.2s							
NISR	**Nisiros**	**0.33**	**193**	P	**Pg**	**Pg**	**10 11 34.2**	**+0.1**
NISR				S	**Sg**	**Sg**	**10 11 39.5**	**+1.0**
NISR				AML	AML	AML	10 11 39.8	
	comp=E,4197μm,0.3s							
NISR				AML	AML	AML	10 11 40.0	
	comp=N,2447μm,0.1s							
DAT	**Datca**	**0.35**	**126**	Pg	**Pg**	**Pg**	**10 11 34.4**	**-0.1**
DAT				Sg	**Sg**	**Sg**	**10 11 39.5**	**+0.3**
DAT	**Datca**	**0.35**	**126**	P	**Pg**	**Pg**	**10 11 34.4**	**-0.1**
DAT				S	**Sg**	**Sg**	**10 11 39.6**	**+0.3**
DAT				*i* AML	AML	AML	10 11 41.0	
	comp=N,920nm,0.2s							
DAT				*i* AML	AML	AML	10 11 42.0	
	comp=N,1μm,0.2s							
DAT	**Datca**	**0.35**	**126**	P	**Pg**	**Pg**	**10 11 34.5**	**-0.1**
DAT				S	**Sg**	**Sg**	**10 11 39.8**	**+0.6**
DATC	**Datca-Mugla**	**0.39**	**116**	Pg	**Pg**	**Pg**	**10 11 35.2**	**0.0**
RFTAA	**Mazikoy-Bodrum**	**0.42**	**81**	Pg	**Pg**	**Pg**	**10 11 35.4**	**-0.4**
DIDI	**Didim-Aydin**	**0.44**	**2**	Pg	**Pg**	**Pg**	**10 11 36.5**	**+0.3**
DDIM	**Aydin, Didim**	**0.52**	**2**	P	**Pg**	**Pg**	**10 11 37.6**	**0.0**
DDIM				S	**Sg**	**Sg**	**10 11 45.2**	**+0.7**
DDIM				*i* AML	AML	AML	10 11 46.0	
	comp=N,672nm,0.5s							
DDIM				*i* AML	AML	AML	10 11 48.0	
	comp=N,574nm,0.4s							
MLSB	**Milas**	**0.57**	**51**	Pg	**Pg**	**Pg**	**10 11 38.5**	**-0.1**
GCAM	**G?zelcaml?**	**0.76**	**1**	Pg	**Pg**	**Pg**	**10 11 42.4**	**+0.2**
GCAM				Sg	**Sg**	**Sb**	**10 11 53.2**	**+0.1**
GCAM	**G?zelcaml?**	**0.76**	**1**	P	**Pg**	**Pg**	**10 11 42.1**	**-0.1**
MRSB	**Marmaris-Mugla**	**0.81**	**105**	Pg	**Pg**	**Pg**	**10 11 42.9**	**-0.2**
SMG	**Samos**	**0.83**	**338**	P	**Pg**	**Pg**	**10 11 43.2**	**-0.3**
SMG				S	**Sg**	**Sg**	**10 11 54.7**	**+0.3**
	comp=N,770nm,0.3s							
SMG	**Samos**	**0.83**	**338**	P	**Pg**	**Pg**	**10 11 43.3**	**-0.3**
SMG				S	**Sg**	**Sg**	**10 11 54.7**	**+0.3**
SMG				AML	AML	AML	10 11 58.7	
	comp=N,1317μm,0.3s							
SMG				AML	AML	AML	10 11 59.3	
	comp=E,1751μm,0.3s							
TURN	**Turunc**	**0.83**	**101**	Pg	**Pg**	**Pg**	**10 11 43.1**	**-0.5**
TURN	**Turunc**	**0.83**	**101**	P	**Pg**	**Pg**	**10 11 43.2**	**-0.3**
TURN				S	**Sb**	**Sb**	**10 11 55.1**	**0.0**
TURN				*i* AML	AML	AML	10 11 57.0	
	comp=E,393nm,0.4s							
TURN				*i* AML	AML	AML	10 11 58.0	
	comp=E,323nm,0.5s							
YER	**Yerkesik**	**0.87**	**76**	Pg	**Pg**	**Pg**	**10 11 43.9**	**-0.4**
YER	**Yerkesik**	**0.87**	**76**	P	**Pg**	**Pg**	**10 11 44.2**	**-0.1**
YER				S	**Sg**	**Sg**	**10 11 55.4**	**-0.3**
MULA	**Mugla, Merkez-**	**0.94**	**70**	P	**Pg**	**Pg**	**10 11 45.3**	**-0.2**
MULA				*i* AML	AML	AML	10 12 00.0	
	comp=E,89nm,0.5s							
MULA				*i* AML	AML	AML	10 12 04.0	
	comp=E,135nm,0.6s							
ARG	**Arkhangelos**	**1.02**	**134**	Pg	**Pg**	**Pg**	**10 11 46.7**	**-0.4**
ARG	**Arkhangelos**	**1.02**	**134**	P	**Pg**	**Pg**	**10 11 46.1**	**-1.0**
ARG				S	**Sb**	**Sb**	**10 12 01.1**	**+0.6**
	comp=E,378nm,0.3s							
ARG	**Arkhangelos**	**1.02**	**134**	P	**Pg**	**Pg**	**10 11 46.5**	**-0.6**
ARG				S	**Sb**	**Sb**	**10 12 01.0**	**+0.5**
ARG				AML	AML	AML	10 12 02.3	
	comp=E,970μm,0.5s							
ARG				AML	AML	AML	10 12 03.6	
	comp=N,541μm,0.3s							
DGB	**zmir**	**1.15**	**346**	P	**Pb**	**Pb**	**10 11 48.9**	**-0.4**
DGB				S	**Sb**	**Sb**	**10 12 03.6**	**-0.5**
DGB				*i* AML	AML	AML	10 12 10.0	
	comp=N,41nm,0.5s							
DGB				*i* AML	AML	AML	10 12 13.0	
	comp=N,41nm,0.9s							
DALY	**Dalyan (Mula)**	**1.15**	**95**	Pn	**Pb**	**Pb**	**10 11 49.1**	**-0.2**
IZMR	**zmir-demi**	**1.33**	**26**	P	**Pg**	**Pg**	**10 11 53.5**	**+0.5**
IZMR				S	**Sn**	**Sn**	**10 12 09.8**	**+0.2**
APE	**Apeiranthos**	**1.36**	**276**	P	**Pn**	**Pn**	**10 11 51.7**	**-0.7**
APE				AML	AML	AML	10 12 15.1	
	comp=N,268μm,0.2s							
APE				AML	AML	AML	10 12 15.7	
	comp=E,200μm,0.4s							
KARP	**Karpathos**	**1.39**	**182**	P	**Pn**	**Pn**	**10 11 51.7**	**-1.0**
KARP	**Karpathos**	**1.39**	**182**	P	**Pn**	**Pn**	**10 11 51.7**	**-1.0**
ZEYE	**Izmir, Urla-Ze**	**1.42**	**337**	P	**Pb**	**Pb**	**10 11 54.4**	**+0.4**
ZEYE				*i* AML	AML	AML	10 12 16.0	
	comp=E,73nm,0.5s							
ZEYE				*i* AML	AML	AML	10 12 19.0	
	comp=E,76nm,0.3s							
URLA	**Izmir**	**1.51**	**341**	P	**Pb**	**Pb**	**10 11 55.7**	**+0.2**
URLA				S	**Sg**	**Sg**	**10 12 15.8**	**-0.2**
URLA				*i* AML	AML	AML	10 12 22.0	
	comp=E,60nm,0.7s							
URLA				*i* AML	AML	AML	10 12 28.0	
	comp=E,53nm,0.7s							
FETY	**Fethiye**	**1.52**	**101**	Pn	**Pb**	**Pb**	**10 11 56.2**	**+0.5**
DNIZ	**Denizli-Tavas-**	**1.60**	**64**	P	**Pn**	**Pn**	**10 11 56.4**	**+0.6**
DNIZ				*i* AML	AML	AML	10 12 25.0	
	comp=E,114nm,0.4s							
DNIZ				*i* AML	AML	AML	10 12 28.0	
	comp=E,114nm,0.4s							
CAME	**Cameli-Denizli**	**1.67**	**89**	Pn	**Pb**	**Pb**	**10 11 57.8**	**-0.4**
CHOS	**Chios island**	**1.72**	**328**	P	**Pn**	**Pn**	**10 11 56.9**	**-0.5**
CHOS	**Chios island**	**1.72**	**328**	P	**Pn**	**Pn**	**10 11 56.8**	**-0.5**
APMY	**Acipayam-Deniz**	**1.74**	**71**	Pn	**Pn**	**Pn**	**10 11 58.6**	**+0.9**
GOLH	**Golhisar**	**1.89**	**80**	P	**Pb**	**Pb**	**10 12 01.7**	**-0.4**
GOLH				S	**Sg**	**Sg**	**10 12 29.5**	**+1.2**
GOLH				*i* AML	AML	AML	10 12 42.0	
	comp=E,39nm,0.6s							
GOLH				*i* AML	AML	AML	10 12 43.0	
	comp=E,31nm,0.7s							

*JMA **15** 10:36:35.4±0.2,24˚.N±2˚×122˚.6E±0˚.6,h31km±4km, MV1.9/10,NW OFF ISHIGAKIJIMA IS*
*TAP **15** 10:36:35.0,24˚.05N×122˚.67E,h30km,ML2.6,C*
ISC 15 10:36:34.8±1.0,23˚.99N±0˚.03×122˚.65E±0˚.02,h29km±10km, n61,σ1°05/104,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.33**	**293**	P	**Pb**	**Pb**	**10 36 42.8**	**+0.4**
	baz=282							
EOS4				S	**Sn**	**Sn**	**10 36 48.7**	**-0.4**
	baz=282							
EOS3	**EOS3**	**0.43**	**314**	P	**Pn**	**Pn**	**10 36 44.4**	**-0.4**
	baz=306							
EOS3				*eS*	**Sn**	**Sn**	**10 36 51.5**	**-0.1**
	baz=306							
JYNG	**Yonagunijimaku**	**0.53**	**30**	P	**Pb**	**Pb**	**10 36 45.2**	**-0.6**
JYNG				S	**Sb**	**Sb**	**10 36 52.0**	**-1.3**
YOJ	**Yonaguni jima**	**0.57**	**35**	P	**Pb**	**Pb**	**10 36 46.0**	**-0.4**
YOJ				*eS*	**Sb**	**Sb**	**10 36 53.5**	**-0.9**
YOJ	**Yonaguni jima**	**0.57**	**35**	P	**Pb**	**Pb**	**10 36 45.8**	**-0.6**
	baz=41							
YOJ				S	**Sb**	**Sb**	**10 36 53.6**	**-0.8**
	baz=41							
EOS2	**EOS2**	**0.58**	**318**	P	**Pn**	**Pn**	**10 36 47.2**	**+0.3**
	baz=314							
EOS2				*eS*	**Sn**	**Sn**	**10 36 56.5**	**+1.2**
	baz=314							
EWUT	**Wuta**	**0.92**	**300**	*eP*	**Pb**	**Pb**	**10 36 52.1**	**-0.1**
	baz=296							
EWUT				*eS*	**Sb**	**Sb**	**10 37 05.6**	**+1.5**
	baz=296							
ENA	**Nanau**	**0.94**	**298**	*eP*	**Pb**	**Pb**	**10 36 52.6**	**0.0**
	baz=294							
TWC	**Suao**	**0.96**	**310**	P	**Pb**	**Pb**	**10 36 52.5**	**-0.4**
	baz=307							
TWC				*eS*	**Sb**	**Sb**	**10 37 04.8**	**-0.5**
	baz=307							
HATJ	**Hateruma jima**	**1.06**	**86**	P	**Pb**	**Pb**	**10 36 54.5**	**0.0**
HATJ				*eS*	**Sb**	**Sb**	**10 37 09.1**	**+1.1**
ETM	**Tongmen**	**1.06**	**269**	*eP*	**Pn**	**Pn**	**10 36 53.0**	**-0.7**
	baz=254							
ETM				*eS*	**Sn**	**Sn**	**10 37 06.5**	**-1.0**
	baz=254							
ETLH	**Xiulin Townshi**	**1.09**	**282**	*eP*	**Pn**	**Pn**	**10 36 54.0**	**-0.3**
	baz=266							
ETLH				*eS*	**Sb**	**Sb**	**10 37 09.7**	**+0.6**
	baz=266							
ESL	**Shilin**	**1.13**	**261**	*eP*	**Pn**	**Pn**	**10 36 54.1**	**-0.6**
	baz=247							
ESL				*eS*	**Sn**	**Sn**	**10 37 08.2**	**-1.0**
	baz=247							
LXIB	**Xiulin Townshi**	**1.13**	**272**	P	**Pn**	**Pn**	**10 36 54.4**	**-0.5**
	baz=269							
LXIB				*eS*	**Sn**	**Sn**	**10 37 08.9**	**-0.7**
	baz=269							
TWE	**Neicheng**	**1.16**	**309**	*eP*	**Pb**	**Pb**	**10 36 56.6**	**+0.3**
	baz=307							
TWE				*eS*	**Sb**	**Sb**	**10 37 11.3**	**+0.3**
	baz=307							
LATG	**Datong**	**1.16**	**298**	*eP*	**Pb**	**Pb**	**10 36 56.6**	**+0.1**
	baz=295							
LATG				*eS*	**Sb**	**Sb**	**10 37 11.9**	**+0.7**
	baz=295							
ENTT	**Nioudou**	**1.19**	**303**	*eP*	**Pb**	**Pb**	**10 36 56.7**	**-0.1**
	baz=300							
WARBT	**Fenglin Townsh**	**1.19**	**257**	*eP*	**Pn**	**Pn**	**10 36 54.6**	**-0.9**
	baz=243							
WARBT				*eS*	**Sn**	**Sn**	**10 37 09.4**	**-1.3**
	baz=243							
NDT	**Datong Townshi**	**1.21**	**301**	*eP*	**Pb**	**Pb**	**10 36 57.5**	**+0.4**
	baz=298							
NDT				*eS*	**Sb**	**Sb**	**10 37 13.2**	**+0.8**
	baz=298							
HGSD	**Ruisui**	**1.23**	**247**	P	**Pn**	**Pn**	**10 36 56.6**	**+0.5**
	baz=244							
HGSD				*eS*	**Sn**	**Sn**	**10 37 11.0**	**-0.6**
	baz=244							
TIPB	**Shuangxi**	**1.24**	**323**	*eP*	**Pb**	**Pb**	**10 36 57.3**	**-0.3**
	baz=334							
TIPB				*eS*	**Sb**	**Sb**	**10 37 12.5**	**-0.7**
	baz=334							
FUSB	**Fushanzhiwuyua**	**1.24**	**309**	*eP*	**Pb**	**Pb**	**10 36 58.0**	**+0.4**
	baz=306							
FUSB				*eS*	**Sb**	**Sb**	**10 37 14.8**	**+1.5**
	baz=306							
JKRS	**Kuro-shima**	**1.26**	**78**	P	**Pb**	**Pb**	**10 36 57.6**	**-0.4**
JKRS				S	**Sb**	**Sb**	**10 37 14.3**	**+0.4**
WHF	**Hehuan Shan**	**1.28**	**277**	*eP*	**Pn**	**Pn**	**10 36 57.0**	**-0.1**
	baz=274							
SXI1	**Grass Mountain**	**1.31**	**327**	*eP*	**Pn**	**Pn**	**10 36 57.5**	**+0.2**
	baz=338							
SXI1				*eS*	**Sb**	**Sb**	**10 37 14.8**	**-0.5**
	baz=338							
EHY	**Hungye**	**1.31**	**249**	*eP*	**Pn**	**Pn**	**10 36 56.4**	**-0.8**
	baz=246							
EHY				*eS*	**Sn**	**Sn**	**10 37 12.9**	**-0.7**
	baz=246							
NWLT	**Wulai**	**1.31**	**307**	*eP*	**Pb**	**Pb**	**10 36 58.5**	**-0.3**
	baz=319							
NWLT				*eS*	**Sb**	**Sb**	**10 37 16.1**	**+0.8**
	baz=319							
FUSS	**Fushou**	**1.31**	**282**	*eP*	**Pn**	**Pn**	**10 36 56.6**	**-0.9**
	baz=279							
YHNB	**Yeheng**	**1.35**	**300**	*eP*	**Pn**	**Pn**	**10 36 58.0**	**+0.3**
	baz=298							
YHNB				*eS*	**Sb**	**Sb**	**10 37 17.4**	**+1.0**
	baz=298							
OWD	**Renai**	**1.35**	**269**	*eP*	**Pn**	**Pn**	**10 36 57.6**	**-0.2**
	baz=266							
OWD				*eS*	**Sn**	**Sn**	**10 37 13.9**	**-1.0**
	baz=266							
CHGB	**Renai**	**1.35**	**273**	P	**Pn**	**Pn**	**10 36 58.0**	**0.0**
	baz=270							
CHGB				*eS*	**Sn**	**Sn**	**10 37 15.2**	**+0.2**
	baz=270							
NSK	**Sanguang**	**1.36**	**300**	*eP*	**Pn**	**Pn**	**10 36 58.2**	**+0.3**
	baz=298							
NSK				*eS*	**Sb**	**Sb**	**10 37 18.3**	**+1.4**
	baz=298							
YULB	**Yu-li**	**1.38**	**245**	*eP*	**Pn**	**Pn**	**10 36 57.5**	**-0.6**
	baz=231							
YULB				*eS*	**Sn**	**Sn**	**10 37 14.1**	**-1.2**
	baz=231							
TWF1	**Yuli**	**1.40**	**243**	*eP*	**Pn**	**Pn**	**10 36 58.1**	**-0.2**
	baz=240							
TWF1				*eS*	**Sn**	**Sn**	**10 37 15.6**	**-0.1**
	baz=240							
VWDT	**VWDT**	**1.40**	**261**	*eP*	**Pn**	**Pn**	**10 36 58.5**	**+0.1**
	baz=258							
VWDT				*eS*	**Sn**	**Sn**	**10 37 15.7**	**-0.2**
	baz=258							
WUSB	**Renai**	**1.40**	**270**	*eP*	**Pn**	**Pn**	**10 36 58.5**	**-0.1**
	baz=258							
JIJ	**Ishigaki jima**	**1.41**	**74**	P	**Pn**	**Pn**	**10 36 58.9**	**+0.4**
JIJ				*eS*	**Sn**	**Sn**	**10 37 16.5**	**+0.4**
TATO	**Taipei**	**1.45**	**313**	*eP*	**Pn**	**Pn**	**10 36 57.9**	**-1.2**
	baz=325							
FULB	**Fuli**	**1.47**	**238**	*eP*	**Pn**	**Pn**	**10 36 58.5**	**-0.9**
	baz=225							
FULB				*eS*	**Sn**	**Sn**	**10 37 16.8**	**-0.9**
	baz=225							
NFF	**Wufeng Townshi**	**1.54**	**295**	*eP*	**Pb**	**Pb**	**10 37 01.7**	**-1.1**
	baz=281							
SSLB	**Suanglung**	**1.57**	**263**	*eP*	**Pn**	**Pn**	**10 37 00.7**	**0.0**
	baz=260							
SSLB				*eS*	**Sn**	**Sn**	**10 37 20.4**	**+0.3**
	baz=260							
WHP	**Taichung City**	**1.59**	**281**	*eP*	**Pb**	**Pb**	**10 37 03.3**	**-0.3**
	baz=267							
WHP				*eS*	**Sb**	**Sb**	**10 37 23.4**	**+0.1**
	baz=267							
WCS	**Beigang Elemen**	**1.59**	**273**	*eP*	**Pn**	**Pn**	**10 37 01.8**	**+0.7**
	baz=270							
EDH	**Donghe**	**1.60**	**231**	*eS*	**Sn**	**Sn**	**10 37 18.4**	**-2.4**
	baz=220							
LIOB	**Emei**	**1.63**	**294**	*eP*	**Pb**	**Pb**	**10 37 03.0**	**-1.3**
	baz=292							
LIOB				*eS*	**Sb**	**Sb**	**10 37 23.9**	**-0.6**
	baz=292							
TYC	**Yuchr**	**1.65**	**267**	*eP*	**Pb**	**Pb**	**10 37 04.0**	**-0.5**
	baz=265							
WHYT	**Xinyi Township**	**1.67**	**260**	P	**Pn**	**Pn**	**10 37 03.5**	**+1.3**
	baz=258							
LDUT	**Ludao**	**1.70**	**220**	*eP*	**Pn**	**Pn**	**10 37 01.9**	**-0.6**
	baz=219							
CHN5	**Tsauling**	**1.85**	**258**	*eP*	**Pb**	**Pb**	**10 37 07.0**	**-1.1**
	baz=246							
CHN5				*eS*	**Sb**	**Sb**	**10 37 30.1**	**-0.7**
	baz=246							
STYH	**Taoyuan**	**1.91**	**245**	*eP*	**Pn**	**Pn**	**10 37 07.9**	**+2.6**
	baz=234							
STYH				*eS*	**Sn**	**Sn**	**10 37 29.3**	**+1.0**
	baz=234							
WCKO	**Fanlu**	**1.96**	**254**	*eP*	**Pn**	**Pn**	**10 37 07.4**	**+1.3**
	baz=252							
WCKO				*eS*	**Sb**	**Sb**	**10 37 33.2**	**-0.6**
	baz=252							
TPUB	**Ta-pu**	**1.98**	**250**	*eP*	**Pn**	**Pn**	**10 37 08.7**	**+2.3**
	baz=237							
TPUB				*eS*	**Sn**	**Sn**	**10 37 32.9**	**+2.7**
	baz=237							
WTP	**Ta-pu**	**2.01**	**249**	*eP*	**Pn**	**Pn**	**10 37 08.8**	**+1.9**
	baz=237							
WTP				*eS*	**Sb**	**Sb**	**10 37 34.4**	**-1.0**
	baz=237							
ECL	**Taimali**	**2.09**	**229**	*eP*	**Pn**	**Pn**	**10 37 09.9**	**+2.0**
	baz=239							
SLGT	**Liugui**	**2.09**	**242**	*eS*	**Sb**	**Sb**	**10 37 36.9**	**-0.8**
	baz=231							
SGST	**Jiashian**	**2.10**	**245**	*eS*	**Sb**	**Sb**	**10 37 36.9**	**-1.2**
	baz=233							
CHN1	**Nanshi**	**2.11**	**248**	*eP*	**Pn**	**Pn**	**10 37 10.5**	**+2.4**
	baz=237							
CHN1				*eS*	**Sb**	**Sb**	**10 37 37.2**	**-1.0**
	baz=237							
TWK	**Hsinying**	**2.11**	**251**	*eP*	**Pn**	**Pn**	**10 37 10.6**	**+2.3**
	baz=248							
TWK				*eS*	**Sn**	**Sn**	**10 37 36.2**	**+2.6**
	baz=248							
SNST	**Tainan City**	**2.12**	**249**	*eP*	**Pn**	**Pn**	**10 37 10.3**	**+2.0**
	baz=248							
MASBT	**Mashibuluo**	**2.31**	**234**	*eP*	**Pn**	**Pn**	**10 37 13.0**	**+2.2**
	baz=226							
SLIU	**Shizi**	**2.45**	**224**	*eP*	**Pn**	**Pn**	**10 37 14.0**	**+1.1**
	baz=232							

*VAO **15** 11:11:01.5±0.5,8˚.74S×75˚.54W,h10km,mb4.5*
*NEIC **15** 11:11:02.4±2.2,8˚.80S±0˚.06×75˚.63W±0˚.05,h50km±6km, mb4.8/182,Error ellipse: s-maj=10.2km s-min=5.3km az=216.0*
*IDC **15** 11:11:05.3±2.1,8˚.73S×75˚.71W,h75km±19km,mb3.9/12, mbtmp4.3/16,MS3.7/7,Error ellipse: s-maj=21.8km s-min=13.6km az=48.0*
ISC 15 11:11:01.9±0.4,8˚.83S±0˚.05×75˚.71W±0˚.06,h50km,n266, σ1°60/207,mb4.8/94,MS3.6/5,Central Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.15**	**302**	P	**Pn**	**Pn**	**11 11 50.8**	**+1.4**
	306nm,0.6s,baz=160,slow=4.6,SNR=83							
ATAH				S	**Sn**	**Sn**	**11 12 29.4**	**+3.5**
	397nm,0.7s,baz=135,slow=2.9,SNR=5.2							
CZSB	**Cruzeiro do Su**	**3.16**	**70**	Pn	**Pn**	**Pn**	**11 11 47.5**	**-1.7**
CZSB	**Cruzeiro do Su**	**3.16**	**70**	*eP*	**Pn**	**Pn**	**11 11 50.6**	**+1.4**
CZSB	**Cruzeiro do Su**	**3.16**	**70**	*eP*	**Pn**	**Pn**	**11 11 50.4**	**+1.2**
NNA	**Nana**	**3.33**	**199**		**Pn**	**Pn**	**11 11 51.0**	**-0.6**
MCRA	**Macar, Loja**	**6.12**	**316**		**Pn**	**Pn**	**11 12 26.3**	**-3.5**
MCRA	**Macar, Loja**	**6.12**	**316**	*eP*	**Pn**	**Pn**	**11 12 25.7**	**-4.1**
BOSC	**San Juan Bosco**	**6.28**	**334**	Pn	**Pn**	**Pn**	**11 12 28.8**	**-3.4**
ARNL	**Arenillas**	**6.80**	**320**		**Pn**	**Pn**	**11 12 36.2**	**-3.0**
COHC	**Cochancay**	**7.24**	**331**		**Pn**	**Pn**	**11 12 43.6**	**-1.6**
COHC	**Cochancay**	**7.24**	**331**	*eP*	**Pn**	**Pn**	**11 12 43.3**	**-1.8**
TBTG	**Tabatinga, AM**	**7.38**	**52**	*eP*	Pn	Pn	11 12 51.3	+4.3
PIAT	**Ana Tenorio**	**8.18**	**342**	*eP*	**Pn**	**Pn**	**11 12 57.0**	**-1.5**
SALI	**Salinas**	**8.43**	**321**	Pn	**Pn**	**Pn**	**11 13 02.3**	**+0.7**
SLOR	**San Lorenzo -**	**8.51**	**341**		**Pn**	**Pn**	**11 13 02.8**	**-0.2**
PPLP	**Puerto Lpez**	**8.82**	**325**	*eP*

SDV	Santo Domingo	18.31	16	P	P	11 15 10.8	-1.4	
SDV	Santo Domingo	18.31	16	eP	Pn	11 15 13.3	+0.7	
SDV	Santo Domingo	18.31	16	eP	Pn	11 15 14.6	+2.0	
SDV	Santo Domingo	18.31	16	P	Pn	11 15 12.3	-0.2	
	5.0nm,0.4s,baz=166,slow=10,SNR=12							
SJCC	San Jacinto, C	18.61	2	eP	Pn	11 15 17.0	+1.0	
BOAV	Boa Vista	18.80	54	P	Pn	11 15 16.7	-1.6	
BOAV	Boa Vista	18.80	54	eP	Pn	11 15 19.0	+0.7	
BOAV	Boa Vista	18.80	54	eP	Pn	11 15 18.8	+0.5	
BRU2	Volcan	18.84	338	P	P	11 15 15.8	-2.2	
BRU2				IAmb	IAmb	11 15 27.3		
	comp=Z,54nm,1.0s							
PDRB	Porto dos Gac	18.88	100	eP	Pn	11 15 18.9	-0.4	
AC06	Mina Casimiro	19.12	165	P	Pn	11 15 20.9	-1.2	
BAUV	El Baul	19.23	24	P	P	11 15 20.1	-2.1	
BAUV				IAmb	IAmb	11 15 30.3		
	comp=Z,39nm,0.7s							
CRJC	Cerrejon, Guaj	19.91	8	eP	P	11 15 29.3	-0.4	
RIMA	Rio Macho	20.18	336	P	P	11 15 31.7	-0.9	
LCR2	La Lucha 2	20.21	336	P	P	11 15 31.2	-1.8	
SALV	Santo Antonio	20.76	112	eP	Pn	11 15 41.8	+0.1	
SOCE	Pocosol	21.04	335	P	P	11 15 40.0	-1.8	
SOCE				IAmb	IAmb	11 15 48.3		
	comp=Z,46nm,0.8s							
ARE1	Arenal 1	21.16	335	P	P	11 15 41.3	-1.8	
ARE1				IAmb	IAmb	11 15 46.7		
	comp=Z,28nm,0.8s							
COVE	Coope Vega, Sa	21.26	336	P	P	11 15 42.1	-2.0	
COVE				IAmb	IAmb	11 15 50.2		
	comp=Z,46nm,1.0s							
BDQN	Bodoquena, MS	21.65	124	eP	P	11 15 51.4	+3.1	
CO01	Juntas del Tor	21.69	167	P	P	11 15 48.8	-0.1	
PCRV	Puerto La Cruz	21.86	31	P	P	11 15 51.4	+0.9	
	comp=Z,4.5nm,0.4s,baz=162,slow=19,SNR=2.0							
	comp=Z,4.5nm,0.4s							
HATO	Hato, Curacao	21.92	18	P	P	11 15 49.8	-1.3	
PP1B	Ponte de Pedra	22.05	115	eP	P	11 15 55.9	+3.2	
CO03	El Pedregal	22.40	169	P	P	11 15 54.9	-1.4	
CO03				IAmb	IAmb	11 16 15.8		
	comp=Z,58nm,1.6s							
MALB	Monte Alegre	22.43	73	eP	P	11 16 00.1	+3.4	
AQDB	Aquidauana	22.52	123	P	P	11 15 57.9	+0.2	
AQDB	Aquidauana	22.52	123	eP	P	11 16 01.5	+3.8	
RVDE	Rio Verde (Bra	22.54	119	eP	P	11 15 59.7	+1.8	
TICA	Tres Isletas	22.73	142	eP	P	11 16 03.6	+3.9	
ESFA	Espinillo Form	22.95	136	eP	P	11 16 05.6	+3.6	
CFA	Coronel Fontan	23.71	164	LR	LR	11 24 33.4		
	comp=Z,94nm,20.1s,baz=80,slow=34							
MATN	Matagalpa	23.88	335	P	P	11 16 12.4	+1.3	
SNDB	Serra Nova Dou	24.21	100	eP	P	11 16 17.8	+3.6	
AMBA	Amambai (Brazi	24.32	128	eP	P	11 16 20.0	+5.0	
CPUP	Villa Florida	24.64	137	P	P	11 16 20.9	+3.0	
	comp=Z,0.9nm,0.4s,baz=328,slow=11,SNR=3.8							
CPUP				LR	LR	11 28 22.4		
	comp=Z,192nm,18.8s,baz=316,slow=42							
	comp=Z,0.9nm,0.4s							
MCPB	Macapa, AP	25.01	72	eP	P	11 16 24.1	+2.7	
MT08	Bocatoma Ro	25.06	169	IAmb	IAmb	11 16 28.6		
	comp=Z,21nm,0.9s							
PCMB	Pacaembu	26.74	121	eP	P	11 16 40.3	+3.3	
MTO3	Montecristo	26.75	329	P	P	11 16 37.8	+0.4	
BDFB	Brasilia	27.88	107	LR	LR	11 28 33.7		
	comp=Z,298nm,18.1s,baz=292,slow=38							
IPMB	Ipameri, GO	28.22	112	eP	P	11 16 53.0	+2.7	
TEIG	Tepich	31.41	337	LR	LR	11 30 17.5		
	comp=Z,537nm,19.6s,baz=186,slow=37							
TEIG	Tepich	31.41	337	P	P	11 17 19.3	+0.9	
PLCA	Paso Flores	32.10	173	P	P	11 17 26.4	+2.0	
	comp=Z,3.2nm,0.9s,baz=351,slow=10,SNR=5.1							
	comp=Z,3.2nm,0.9s							
PLCA	Paso Flores	32.10	173	P	P	11 17 28.2	+3.7	
GOGA	Godfrey	42.65	350	P	P	11 18 54.0	+0.4	
GOGA				IAmb	IAmb	11 19 03.3		
	comp=Z,18nm,1.5s							
HKT	Hockley	43.14	334	P	P	11 18 59.5	+1.9	
HNDO	Hondo	44.38	330	IAmb	IAmb	11 19 10.3		
	comp=Z,33nm,0.8s							
DRIO	Del Rio	44.97	329	IAmb	IAmb	11 19 13.8		
	comp=Z,13nm,0.8s							
V48A	Smith Brothers	45.55	347	IAmb	IAmb	11 19 17.6		
	comp=Z,12nm,0.8s							
T59A	Double "B" Far	45.59	358	IAmb	IAmb	11 19 19.2		
	comp=Z,22nm,1.1s							
WHTX	Lake Whitney,	45.60	334	P	P	11 19 15.8	-1.5	
WHTX				IAmb	IAmb	11 19 19.3		
	comp=Z,13nm,1.0s							
TREL	Terrell	45.66	336	P	P	11 19 16.1	-1.7	
TREL				IAmb	IAmb	11 19 20.3		
	comp=Z,29nm,1.0s							
Z38A	Mt. Pleasant	45.70	337	P	P	11 19 17.6	-0.4	
Z38A				IAmb	IAmb	11 19 20.2		
	comp=Z,17nm,0.7s							
BRDY	Brady	45.70	332	P	P	11 19 18.9	+0.8	
BRDY				IAmb	IAmb	11 19 19.4		
	comp=Z,5.3nm,0.9s							
T57A	Hurt	45.70	356	IAmb	IAmb	11 19 20.8		
	comp=Z,17nm,1.1s							
WVT	Waverly	46.15	346	P	P	11 19 20.1	-1.4	
SAND	Sanderson	46.18	328	IAmb	IAmb	11 19 24.6		
	comp=Z,5.7nm,0.7s							
FW07	Weatherford	46.35	334	IAmb	IAmb	11 19 25.6		
	comp=Z,29nm,1.0s							
S57A	Dark Hollow, R	46.44	356	IAmb	IAmb	11 19 26.4		
	comp=Z,20nm,1.0s							
FW06	Azle	46.49	334	IAmb	IAmb	11 19 26.4		
	comp=Z,17nm,0.7s							
TXAR	Lajitas Array	46.53	326	P	P	11 19 25.4	+0.6	
	comp=Z,1.9nm,0.7s,baz=150,slow=8.6,SNR=15							
	comp=Z,1.9nm,0.7s							
TX31	Lajitas Ar. Si	46.53	326	P	P	11 19 25.0	+0.2	
TX31				IAmb	IAmb	11 20 00.5		
	comp=Z,22nm,1.7s							
R58B	Mineral	46.59	358	P	P	11 19 26.2	+1.3	
R58B				IAmb	IAmb	11 19 27.4		
	comp=Z,19nm,1.1s							
WHAR	Wooly Hollow	46.59	341	P	P	11 19 24.7	-0.3	
WHAR				IAmb	IAmb	11 19 25.8		
	comp=Z,11nm,0.8s							
PLPT	Palo Pinto	46.68	334	IAmb	IAmb	11 19 27.7		
	comp=Z,16nm,1.0s							
LCAR	Lake Charles	46.97	343	P	P	11 19 27.8	-0.1	
LCAR				IAmb	IAmb	11 19 28.3		
	comp=Z,9.3nm,0.9s							
X37A	Clayton	47.02	338	P	P	11 19 29.2	+0.8	
FCAR	Ozark Folk Cen	47.09	342	P	P	11 19 28.2	-0.7	
FCAR				IAmb	IAmb	11 19 29.2		
	comp=Z,9.5nm,0.8s							
ABTX	Abilene, Hawle	47.12	332	P	P	11 19 29.9	+0.6	
ABTX				IAmb	IAmb	11 19 31.0		
	comp=Z,18nm,0.8s							
SGCY	Sterling City	47.24	330	IAmb	IAmb	11 19 32.1		
	comp=Z,12nm,0.8s							
ALPN	Alpine	47.32	327	IAmb	IAmb	11 19 32.5		
	comp=Z,8.0nm,1.0s							
PBMO	Poplar Bluff	47.42	344	P	P	11 19 31.0	-0.5	
PBMO				IAmb	IAmb	11 19 31.7		
	comp=Z,8.6nm,0.7s							
WTFS	Witchita Falls	47.55	334	P	P	11 19 33.1	+0.5	
WTFS				IAmb	IAmb	11 19 34.8		
	comp=Z,16nm,1.0s							
MNHN	Monahans	47.61	328	P	P	11 19 34.0	+0.9	
MNHN				IAmb	IAmb	11 19 34.7		
	comp=Z,8.9nm,1.0s							
R49A	Shelbyville	47.70	350	P	P	11 19 33.6	0.0	
APMT	Aspermont	47.92	332	IAmb	IAmb	11 19 37.3		
	comp=Z,19nm,0.9s							
HHAR	Hobbs	48.03	340	IAmb	IAmb	11 19 37.2		
	comp=Z,11nm,0.9s							
W35A	Tecumseh	48.10	337	IAmb	IAmb	11 19 38.2		
	comp=Z,14nm,1.1s							
RLO	Rose Lookout	48.30	339	IAmb	IAmb	11 19 39.7		
	comp=Z,16nm,0.8s							
TUL3	Leonard	48.35	338	IAmb	IAmb	11 19 40.1		
	comp=Z,14nm,0.8s							
POST	Post	48.36	331	IAmb	IAmb	11 19 40.7		
	comp=Z,22nm,0.8s							
425A	Indio Mountain	48.38	326	IAmb	IAmb	11 19 40.7		
	comp=Z,7.6nm,1.1s							
FVM	French Village	48.55	344	IAmb	IAmb	11 19 40.9		
	comp=Z,12nm,0.8s							
DKNS	Dickens	48.58	332	IAmb	IAmb	11 19 42.2		
	comp=Z,15nm,0.8s							
OK052	Battle Ridge R	48.81	337	IAmb	IAmb	11 19 44.2		
	comp=Z,11nm,0.8s							
CCM	Cathedral Cave	48.84	344	P	P	11 19 41.5	-0.9	
CCM				IAmb	IAmb	11 19 49.4		
	comp=Z,24nm,1.4s							
CCM	Cathedral Cave	48.84	344	P	P	11 19 41.8	-0.7	
P48A	Milroy	48.88	350	P	P	11 19 42.1	-0.6	
S39A	Bolivar	49.12	341	IAmb	IAmb	11 19 44.6		
	comp=Z,6.6nm,0.9s							
SSPA	Standing Stone	49.25	358	P	P	11 19 46.4	+0.9	
R40A	Maddies Statio	49.35	343	IAmb	IAmb	11 19 47.0		
	comp=Z,7.4nm,0.9s							
SMWD	Samnorwood	49.47	333	IAmb	IAmb	11 19 49.2		
	comp=Z,34nm,0.7s							
T35A	Sooner Cattle	49.51	338	IAmb	IAmb	11 20 05.0		
	comp=Z,23nm,1.6s							
319A	Douglas	51.29	323	IAmb	IAmb	11 20 09.3		
	comp=Z,14nm,1.0s							
DUN6	Lazy B Ranch	52.02	324	IAmb	IAmb	11 20 08.8		
	comp=Z,16nm,1.0s							
ANMO	Albuquerque	52.35	328	P	P	11 20 09.8	+0.6	
ANMO	Albuquerque	52.35	328	P	P	11 20 09.8	+0.6	
J47A	Sumner	52.48	352	P	P	11 20 08.2	-1.5	
TUC	Tucson	52.86	322	P	P	11 20 10.9	-1.9	
TUC	Tucson	52.86	322	P	P	11 20 13.2	+0.3	
T25A	Trinidad	53.05	331	P	P	11 20 15.2	+0.8	
T25A				IAmb	IAmb	11 20 16.6		
	comp=Z,12nm,0.9s							
FRNY	Flat Rock	53.44	2	P	P	11 20 17.2	+0.4	
X18A	Snowflake	53.95	325	P	P	11 20 21.4	+0.4	
X18A				IAmb	IAmb	11 20 23.3		
	comp=Z,9.0nm,1.5s							
G62A	West of Eustis	53.99	5	P	P	11 20 22.1	+1.3	
SDCO	Great Sand Dun	54.06	331	P	P	11 20 22.8	+1.0	
SDCO				IAmb	IAmb	11 20 23.4		
	comp=Z,13nm,1.0s							
BGNE	Belgrade	54.08	339	P	P	11 20 22.2	+0.6	
MNTQ	Montreal, Queb	54.11	2	P	P	11 20 22.2	+0.5	
WUAZ	Wupatki	55.47	325	IAmb	IAmb	11 20 33.9		
	comp=Z,9.3nm,1.2s							
ECSD	EROS Data Cent	55.65	342	IAmb	IAmb	11 20 33.3		
	comp=Z,5.8nm,0.8s							
PFO	Pinyon Flats O	57.26	320	P	P	11 20 41.4	-3.3	
KNB	Kanab	57.35	325	P	P	11 20 46.7	+1.3	
KNB				IAmb	IAmb	11 20 47.5		
	comp=Z,7.8nm,0.9s							
PKCU	Pink Cliffs	57.37	326	IAmb	IAmb	11 20 55.2		
	comp=Z,16nm,1.3s							
F33A	5 Mile Ranch,	57.47	343	P	P	11 20 45.5	-0.2	
F33A				IAmb	IAmb	11 21 48.1		
	comp=Z,23nm,1.6s							
LCMT	Little Creek M	57.59	325	P	P	11 20 47.4	+0.4	
LCMT				IAmb	IAmb	11 20 48.9		
	comp=Z,4.9nm,0.9s							
SZCU	Shurtz Canyon	57.91	325	IAmb	IAmb	11 20 51.2		
	comp=Z,4.8nm,1.0s							
P17A	Butcher Ranch,	58.00	328	IAmb	IAmb	11 20 51.1		
	comp=Z,6.3nm,0.9s							
RDMU	Red Mountain	58.24	330	IAmb	IAmb	11 20 52.6		
	comp=Z,6.6nm,0.8s							
RSSD	Black Hills	58.61	336	P	P	11 20 54.9	+0.8	
BSUT	Blindstream Ca	58.81	329	P	P	11 20 55.9	+0.2	
BSUT				IAmb	IAmb	11 21 02.2		
	comp=Z,5.7nm,1.1s							
MPU	Maple Canyon	58.87	328	P	P	11 20 56.1	+0.2	
MPU				IAmb	IAmb	11 21 35.6		
	comp=Z,14nm,1.8s							
PSUT	Pine Spring	59.00	326	P	P	11 20 57.6	+0.7	
PSUT				IAmb	IAmb	11 20 58.6		
	comp=Z,6.2nm,1.0s							
GWY	Greenwater Val	59.06	322	P	P	11 20 57.6	+0.4	
TPNV	Topopah Spring	59.31	323	P	P	11 20 59.8	+0.8	
CTU	Camp Tracy	59.43	329	P	P	11 20 58.9	-0.8	
WCT	Wildcat Mounta	59.43	322	P	P	11 21 00.6	+0.9	
WCT				IAmb	IAmb	11 21 01.7		
	comp=Z,5.0nm,0.9s							
SPR3	Spring Creek 3	59.59	326	IAmb	IAmb	11 21 02.4		
	comp=Z,3.8nm,0.8s							
DUG	Dugway, Tooele	59.62	328	IAmb	IAmb	11 21 02.8		
	comp=Z,5.9nm,0.8s							
Q12A	Willow Creek R	59.90	325	IAmb	IAmb	11 21 04.7		
	comp=Z,7.9nm,1.0s							
PD31	Pinedale Array	59.91	332	P	P	11 21 03.0	-0.1	
PDAR	Pinedale Array	59.91	332	P	P	11 21 02.8	-0.4	
	comp=Z,1.3nm,0.9s,baz=147,slow=8.5,SNR=8.0							
PDAR				LR	LR	11 51 37.4		
	comp=Z,35nm,18.9s,baz=35,slow=41							
	comp=Z,1.3nm,0.9s							
HWUT	Hardware Ranch	60.01	330	P	P	11 21 03.5	-0.3	
HWUT				IAmb	IAmb	11 21 04.6		
	comp=Z,7.3nm,0.7s							
SPUT	South Promonto	60.24	329	IAmb	IAmb	11 21 06.6		
	comp=Z,7.2nm,1.1s							
BGU	Big Grassy Mou	60.26	328	P	P	11 21 04.8	-0.7	
MZP	Montezuma Peak	60.48	323	P	P	11 21 07.7	+0.5	
AHID	Auburn Hatcher	60.65	331	P	P	11 21 07.7	-0.4	
AHID				IAmb	IAmb	11 21 08.8		
	comp=Z,5.0nm,0.8s							
ULM	Lac du Bonnet	61.40	345	IAmb	IAmb	11 21 13.1		
	comp=Z,9.5nm,0.8s							
ULM	Lac du Bonnet	61.40	345	P	P	11 21 12.2	-0.6	
	comp=Z,12nm,0.9s,baz=163,slow=6.7,SNR=13							
	comp=Z,12nm,0.9s							
OMMB	Old Mammoth Mi	61.41	322	IAmb	IAmb	11 21 15.0		
	comp=Z,5.1nm,0.9s							
FLWY	Flagg Ranch	61.46	332	IAmb	IAmb	11 21 21.6		
	comp=Z,10nm,1.2s							
NVAR	Mina Array Bea	61.51	323	P	P	11 21 14.5	+0.4	
	comp=Z,1.7nm,0.7s,baz=144,slow=7.4,SNR=19							
	comp=Z,1.7nm,0.7s							
YMR	Madison River	62.03	332	P	P	11 21 18.5	+1.1	
YMR				IAmb	IAmb	11 21 23.9		
	comp=Z,6.6nm,1.1s							
BMN	Battle Mountai	62.20	325	P	P	11 21 19.0	+0.4	
BMN				IAmb	IAmb	11 21 19.9		
	comp=Z,3.9nm,0.7s							
YHL	Hebgen Lake	62.27	332	IAmb	IAmb	11 21 20.9		
	comp=Z,8.2nm,0.9s							
HLID	Hailey	62.87	329	IAmb	IAmb	11 21 28.6		
	comp=Z,12nm,1.6s							
MFID	Camas Ranch	63.49	328	IAmb	IAmb	11 21 28.8		
	comp=Z,8.1nm,0.8s							
TRIS	Tristan da Cun	63.54	127	P	P	11 21 25.0	-2.4	
ORV	Oroville	64.15	322	P	P	11 21 31.6	+0.4	
ORV				IAmb	IAmb	11 21 33.2		
	comp=Z,6.2nm,0.9s							
WVOR	Wild Horse Val	64.33	326	P	P	11 21 33.0	+0.4	
MSO	Missoula	65.03	332	IAmb	IAmb	11 21 39.2		
	comp=Z,9.9nm,1.3s							
K05A	Summer Lake	65.78	325	IAmb	IAmb	11 21 50.2		
	comp=Z,11nm,1.0s							
I07A	Izee	65.89	327	IAmb	IAmb	11 21 44.5		
	comp=Z,6.0nm,0.8s							
PINE	Pine Mountain	66.49	326	P	P	11 21 46.7	0.0	
PINE				IAmb	IAmb	11 21 50.0		
	comp=Z,6.9nm,0.9s							
E09A	Wood Farm, Sta	66.83	330	P	P	11 21 48.3	-0.2	
E09A				IAmb	IAmb	11 23 17.3		
	comp=Z,20nm,1.9s							
FFC	Flin Flon	67.05	344	P	P	11 21 50.2	+0.5	
EDM	Edmonton	69.59	337	P	P	11 22 05.2	-0.5	
DBIC	Dimbokro	72.28	80	P	P	11 22 22.3	-0.4	
DBIC				IAmb	IAmb	11 22 33.8		
	comp=Z,10nm,1.1s							
DBIC	Dimbokro	72.28	80	P	P	11 22 22.4	-0.4	
	comp=Z,3.7nm,0.7s,baz=258,slow=5.2,SNR=3.6							
	comp=Z,3.7nm,0.7s							
YKA	Yellowknife Ar	77.17	343	P	P	11 22 49.9	-0.2	
	comp=Z,1.5nm,0.9s,baz=142,slow=6.2,SNR=15							
	comp=Z,1.5nm,0.9s							
TORD	Torodi Ar. Bea	79.89	75	P	P	11 23 05.8	-0.3	
TORD				IAmb	IAmb	11 24 26.9		
	comp=Z,6.3nm,0.8s							
TORD	Torodi Ar. Bea	79.89	75	P	P	11 23 06.5	+0.4	
	comp=Z,4.6nm,0.8s,baz=292,slow=5.7,SNR=11							
	comp=Z,4.6nm,0.8s							
QSPA	South Pole Qui	81.29	180	P	P	11 23 12.7	0.0	
QSPA				IAmb	IAmb	11 23 20.5		
	comp=Z,11nm,1.4s							
ESDC	Sonseca Array	81.83	48	P	P	11 23 17.8	+1.7	
	comp=Z,2.0nm,0.9s,baz=252,slow=4.9,SNR=3.2							
	comp=Z,2.0nm,0.9s							
A36M	Sachs Harbour	86.87	346	IAmb	IAmb	11 23 47.6		
	comp=Z,8.7nm,0.9s							
BCAR	Beaver Creek A	87.32	335	P	P	11 23 43.6	+0.5	
L27K	Beaver Creek,	87.33	335	IAmb	IAmb	11 23 49.5		
	comp=Z,8.0nm,0.9s							
EGAK	Eagle	87.81	337	P	P	11 23 45.8	+0.4	
EGAK				IAmb	IAmb	11 23 51.7		
	comp=Z,9.1nm,1.1s							
F28M	Old Crow	88.61	340	P	P	11 23 49.5	+0.2	
F28M				IAmb	IAmb	11 23 50.4		
	comp=Z,5.4nm,0.9s							
RIDG	Independent Ri	88.85	335	P	P	11 23 50.1	-0.3	
J25K	Salcha River,	89.40	336	IAmb	IAmb	11 23 54.2		
	comp=Z,5.0nm,0.7s							
D27M	Malcolm River	89.71	341	IAmb	IAmb	11 23 55.9		
	comp=Z,5.6nm,0.8s							
ILAR	Eielson Array	90.06	336	P	P	11 23 56.2	+0.2	
	comp=Z,0.4nm,0.7s,baz=170,slow=3.3,SNR=9.8							
	comp=Z,0.4nm,0.7s							
MDM	Murphy Dome	90.66	336	P	P	11 23 58.6	-0.2	
NEA2	Nenana	90.88	336	P	P	11 23 59.5	-0.3	
I23K	Minto, Yukon-K	91.18	336	P	P	11 24 01.8	+0.7	
D25K	Kavik River	91.50	340	IAmb	IAmb	11 24 08.6		
	comp=Z,6.1nm,1.1s							
CAST	Castle Rocks	91.80	334	P	P	11 24 04.0	-0.1	
STKA	Stephens Creek	126.07	220	PKP	PKiKP	11 29 58.6	-1.1	
	comp=Z,0.6nm,0.3s,baz=140,slow=19,SNR=2.8							
BVAR	Borovoye Array	128.09	25	PKP	PKiKP	11 30 01.9	-1.2	
	comp=Z,0.5nm,0.6s,baz=324,slow=7.1,SNR=1.5							
ZALV	Zalesovo Beam	132.19	15	PKP	PKPdf	11 30 09.8	-0.7	
	comp=Z,2.0nm,0.7s,baz=318,slow=2.0,SNR=8.9							
KURBB	Kurchatov Arra	133.19	22	PKP	PKiKP	11 30 12.7	-0.7	
	comp=Z,0.3nm,0.3s,baz=309,slow=2.6,SNR=3.0							
ASAR	Alice Springs	136.63	221	PKP	PKPdf	11 30 19.1	-0.5	
	comp=Z,1.3nm,0.9s,baz=124,slow=2.6,SNR=9.9							
MKAR	Makanchi Array	137.76	23	PKP	PKiKP	11 30 20.9	-2.0	
	comp=Z,1.4nm,0.9s,baz=29,slow=2.8,SNR=3.6							
WRA	Warramunga Arr	138.87	226	PKP	PKPdf	11 30 23.1	-0.6	
	comp=Z,1.4nm,0.9s,baz=128,slow=1.7,SNR=7.6							
KSRS	Korea Array	144.38	327	PKP	PKPdf	11 30 31.4	-1.5	
	comp=Z,1.9nm,0.8s,baz=36,slow=3.2,SNR=5.2							
GOMU	GeErMu	151.42	16	PKPbc	PKPdf	11 30 43.1	-2.0	
GOMU				pPKP	pPKPbc	11 31 07.8	+1.2	
GOMU				sPKP		11 31 26.3		
GOMU				pmax	pmax			
	comp=Z,98nm,6.3s							
PZH	PanZhiHua	162.25	8	PKP	PKPdf	11 30 57.6	-1.3	

IDC 15 11:23:30.8±12.0, **53.37N**×**62.82E, h0**km, **mbtmp3.3**/1, **ML2.7**/1, **Error ellipse: s-maj=15.4km s-min=84.4km az=46.0, Western Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**4.19**	**227**	I	I	11 49 40.0	
	baz=43,slow=341,SNR=9.0						
I46RU	**ZALESOVO INFRA**	**13.06**	**79**	I	I	12 41 30.0	
	baz=277,slow=321,SNR=4.1						
ZALV	**Zalesovo Beam**	**13.06**	**79**	Pn	Pn	11 26 37.4	0.0
	0.2nm,0.3s,baz=287,slow=15,SNR=1.8						
	0.3nm,0.4s						

TUL ***15*** *11:41:22.8±0.2, 36.51N±0.02×98.64W±0.01, h5km±1km, ML3.1, mb_Lg2.8/43(NEIC), ML2.9/15(NEIC), Error ellipse: s-maj=3.4km s-min=3.0km az=159.0*

ANF ***15*** *11:41:22.6±0.6, 36.50N×98.65W, h5km, ML3.7/10, Error ellipse: s-maj=6.4km s-min=5.8km az=26.0*

NEIC ***15*** *11:41:22.8±0.2, 36.50N±0.01×98.64W±0.02, h5km±1km, Error ellipse: s-maj=3.1km s-min=2.3km az=266.0*

ISC 15 11:41:23.2±1.1, **36.50N**±0.02×**98.64W**±0.02, **h7**km±9km, **n72**, σ**0**°**76**/**64**, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.32**	**248**		**Pg**	**11 41 29.7**	**+0.2**
U32A				Sg	**Sg**	**11 41 34.5**	**+0.8**
U32A				IAML		11 41 34.6	
	comp=E,2μm,0.3s						
U32A	**Winter Ranch,**	**0.32**	**248**	P	**Pg**	**11 41 29.3**	**-0.1**
	baz=65						
U32A				S	**Sg**	**11 41 34.4**	**+0.7**
	baz=65						
OK032	**Salt Plains WL**	**0.46**	**48**	Pg	**Pg**	**11 41 32.1**	**+0.1**
OK032				Sg	**Sg**	**11 41 38.6**	**+0.6**
OK032				IAML		11 41 38.6	
	comp=E,974nm,0.4s						
CROK	**Carrier**	**0.53**	**90**	Pg	**Pg**	**11 41 33.4**	**+0.1**
CROK				Sg	**Sg**	**11 41 41.1**	**+0.9**
CROK				IAML		11 41 49.4	
	comp=N,729nm,0.2s						
CROK				IAML		11 41 51.0	
	comp=E,776nm,0.3s						
KAN14	**Manchester OK**	**0.70**	**50**	Pg	**Pg**	**11 41 36.7**	**-0.1**
KAN14				IAML		11 41 46.3	
	comp=N,521nm,0.4s						
KAN14				IAML		11 41 55.0	
	comp=E,421nm,0.3s						
GC02	**Grant County #**	**0.71**	**61**	Pg	**Pg**	**11 41 36.6**	**-0.3**
KAN10	**Anthony SW Sta**	**0.76**	**35**		**Pg**	**11 41 37.5**	**-0.2**
ELIS	**Ellis County**	**0.77**	**236**		**Pg**	**11 41 38.0**	**0.0**
KAN17	**Caldwell West**	**0.88**	**52**	Pg	**Pg**	**11

KSU1				S	Sn	11 42 49.7	+1.2	
	baz=212							
KSU1	**Kansas State U**	**3.05**	**31**	P	**Pn**	**11 42 13.1**	**+1.3**	
	baz=212							
Z35A	**Perchaven, San**	**3.36**	**160**	P	**Pn**	**11 42 16.7**	**+0.7**	
	baz=341							
U38A	**Gravette**	**3.43**	**90**	IAmb_Lg		11 43 15.9		
	comp=Z,47nm,1.1s							
FW03	**Perrin-Whitt E**	**3.49**	**172**	IAmb_Lg		11 43 11.7		
	comp=Z,6.7nm,0.8s							
FW06	**Azle**	**3.63**	**166**	IAmb_Lg		11 43 20.8		
	comp=Z,16nm,0.9s							
PLPT	**Palo Pinto**	**3.69**	**176**	IAmb_Lg		11 43 22.1		
	comp=Z,11nm,0.8s							
HHAR	**Hobbs**	**3.79**	**92**	IAmb_Lg		11 43 28.1		
	comp=Z,27nm,0.9s							
FW07	**Weatherford**	**3.85**	**169**	IAmb_Lg		11 43 28.8		
	comp=Z,16nm,1.0s							
ABTX	**Abilene, Hawle**	**3.96**	**192**	P	**Pn**	**11 42 24.2**	**-0.1**	
	baz=12							
ABTX				S	**Sn**	**11 43 12.2**	**+1.2**	
	baz=12							
KSCO	**Kaye Shedlock'**	**4.04**	**310**	IAmb_Lg		11 43 34.0		
	comp=Z,27nm,0.7s							
KSCO	**Kaye Shedlock'**	**4.04**	**310**	P	**Pn**	**11 42 24.4**	**-1.0**	
	baz=127							
FW14	**Alvarado**	**4.26**	**163**	IAmb_Lg		11 43 45.0		
	comp=Z,21nm,0.7s							
TREL	**Terrell**	**4.31**	**150**	IAmb_Lg		11 43 49.6		
	comp=Z,34nm,1.0s							
N33A	**J Bar K, Exete**	**4.33**	**12**	Pn	**Pn**	**11 42 28.8**	**-0.6**	
S39A	**Bolivar**	**4.41**	**73**	IAmb_Lg		11 43 43.6		
	comp=Z,31nm,1.0s							
Z38A	**Mt. Pleasant**	**4.41**	**136**	IAmb_Lg		11 43 44.5		
	comp=Z,22nm,0.8s							
MIAR	**Mount Ida**	**4.56**	**114**	P	**Pn**	**11 42 33.0**	**+0.4**	
	baz=297							
MIAR				S	**Sn**	**11 43 25.7**	**-0.1**	
	baz=297							
WHTX	**Lake Whitney,**	**4.60**	**167**	P	**Pn**	**11 42 33.7**	**+0.5**	
	baz=348							
T25A	**Trinidad**	**4.68**	**280**	IAmb_Lg		11 43 58.9		
	comp=Z,19nm,0.8s							
T25A	**Trinidad**	**4.68**	**280**	P	**Pn**	**11 42 34.4**	**0.0**	
	baz=96							
T25A				S	**Sn**	**11 43 28.2**	**-0.8**	
	baz=96							
SGCY	**Sterling City**	**5.02**	**205**	IAmb_Lg		11 44 06.7		
	comp=Z,20nm,0.8s							
X40A	**Basin Creek Fa**	**5.14**	**111**	IAmb_Lg		11 44 17.4		
	comp=Z,16nm,0.9s							
MGMO	**Mountain Grove**	**5.15**	**81**	IAmb_Lg		11 44 09.4		
	comp=Z,20nm,0.9s							
BRDY	**Brady**	**5.21**	**183**	IAmb_Lg		11 44 19.6		
	comp=Z,9.8nm,0.9s							
435B	**Jarrell**	**5.77**	**171**	IAmb_Lg		11 44 29.9		
	comp=Z,19nm,0.8s							
JCT	**Junction City**	**6.08**	**190**	IAmb_Lg		11 44 47.6		
	comp=Z,12nm,0.9s							
ISCO	**Idaho Springs**	**6.41**	**303**	IAmb_Lg		11 44 45.5		
	comp=Z,9.4nm,0.8s							
PBMO	**Poplar Bluff**	**6.60**	**85**	IAmb_Lg		11 45 01.0		
	comp=Z,21nm,0.8s							

*IDC **15** 12:00:17.6±1.9, 16°.14S×174°.37W, h0km, mb3.7/6, mbtmp3.7/6, MS3.8/1, Error ellipse: s-maj=120.0km s-min=22.4km az=145.0*

ISC 15 12:00:38.6±1.8, 16°.2S±0°.6×174°.5W±0°.5, h175km, n9, σ0s97/10, mb3.4/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**13.34**	**193**	LR	LR	12 07 05.8	
	comp=Z,393nm,20.4s,baz=146,slow=30						
STKA	**Stephens Creek**	**42.69**	**240**	P	**P**	**12 08 17.8**	**-0.6**
	1.0nm,0.6s,baz=66,slow=20,SNR=2.9						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**48.60**	**258**	P	**P**	**12 09 04.7**	**-0.3**
	0.3nm,0.6s,baz=96,slow=6.5,SNR=8.6						
WRA				PcP	**PcP**	**12 10 29.7**	**+1.8**
	0.3nm,0.8s,baz=104,slow=3.4,SNR=1.8						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**48.82**	**253**	P	**P**	**12 09 06.2**	**-0.5**
	2.8nm,0.7s,baz=89,slow=7.5,SNR=31						
ASAR				PcP	**PcP**	**12 10 29.9**	**+1.2**
	0.5nm,0.9s,baz=104,slow=3.8,SNR=2.6						
	2.8nm,0.7s						
NVAR	**Mina Array Bea**	**75.67**	**42**	P	**P**	**12 12 05.1**	**+0.1**
	0.2nm,0.5s,baz=267,slow=7.2,SNR=2.2						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**83.46**	**12**	P	**P**	**12 12 46.0**	**-0.1**
	0.3nm,0.5s,baz=230,slow=5.8,SNR=13						
	0.3nm,0.5s						
PDAR	**Pinedale Array**	**83.60**	**42**	P	**P**	**12 12 46.6**	**-1.1**
	0.4nm,0.6s,baz=180,slow=1.5,SNR=4.2						
	0.4nm,0.6s						
HFS	**Hagfors**	**135.74**	**354**	PKP	**PKiKP**	**12 19 40.1**	**+0.5**
	4.9nm,1.1s,baz=17,slow=2.1,SNR=2.3						
BRTR	**Keskin Array B**	**146.09**	**319**	PKPbc	**PKPab**	**12 19 59.5**	**+0.1**
	0.6nm,0.5s,baz=90,slow=1.7,SNR=4.8						

*IDC **15** 12:12:07.3±0.4, 21°.86S×174°.81W, h0km, mb4.7/21, mbtmp4.6/22, ML5.1/2, MS5.2/56, Error ellipse: s-maj=16.9km s-min=13.8km az=116.0*

*BJI **15** 12:12:07.4, 21°.64S×174°.48W, h5km, mb5.3/46, mB6.0/48, Ms5.5/51, Ms7 5.2/50*

*NEIC **15** 12:12:08.0±2.1, 21°.87S±0°.07×174°.40W±0°.09, h10km±1km, mb5.3/205, Ms_20 5.5/311, Mww5.3/12, Error ellipse: s-maj=15.6km s-min=10.0km az=125.0*

*MOS **15** 12:12:07.6±1.0, 21°.99S×174°.79W, h10km, mb5.1/28, MS5.4/9, Error ellipse: s-maj=10.3km s-min=9.4km az=87.0*

*NEIC **15** 12:12:07.9, 22°.27S×173°.76W, h30km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^17^Nm; Mrr0.85; Mθθ-0.31; Mθφ-0.53; Mrθ0.42; Mθφ-0.58; Mφr0.56; Fault plane solution: Mo1.17000×10^17^ NP1:φs37.63000°, δ63.39000°, λ87.92000°. NP2:φs222.28000°, δ26.69000°, λ94.15000°. Principal axes: T 1.0813, Plg72.0000°, Azm303.0000°; N 0.1677, Plg2.0000°, Azm39.0000°; P -1.2489, Plg18.0000°, Azm129.0000°;*

*NEIC **15** 12:12:07.9, 21°.87S×174°.41W, h30km*

*GCMT **15** 12:12:12.9±0.1, 22°.25S±0°.01×174°.07W±0°.01, h28km, MW5.4/129, Moment Tensor Solution. s99,c162; s129,z198; Duration: 1s3 Moment tensor: Scale 10^17^ Nm; Mrr1.29±.03; Mθθ-0.44±.02; Mφφ-0.85±.02; Mrθ0.71±.04; Mθφ-0.64±.01; Mφr0.98±.04; Best double couple: Mo1.77500×10^17^ NP1:φs36.00000°, δ66.00000°, λ90.00000°. NP2:φs216.00000°, δ24.00000°, λ90.00000°. Principal axes: T 1.7610, Plg69.0000°, Azm306.0000°; N 0.0230, Plg0.0000°, Azm36.0000°; P -1.7900, Plg21.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **15** 12:12:13.0, 21°.72S×173°.98W, h88km, mb4.9/35, Tonga Islands*

ISC 15 12:12:07.9±0.4, 22°.15S±0°.04×174°.35W±0°.04, h14km±2km, h14km:pP-P, n637, σ2s29/473, mb5.3/158, MS5.4/233, 62C-16D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.14**	**54**	P	**Pn**	**12 13 20.7**	**-3.9**
	baz=4.9,SNR=45						
NIUE				S	Sn	12 14 12.1	-12
	baz=4.9						
NIUE	**Niue**	**5.14**	**54**		**Pn**	**12 13 20.9**	**-3.7**
NIUE				Sn	Sn	12 14 13.0	-11
NIUE	**Niue**	**5.14**	**54**	P	**Pn**	**12 13 20.7**	**-3.9**
TAVE	**Taveuni**	**7.53**	**315**	P	**Pn**	**12 14 00.1**	**+2.7**
RIZ	**Raoul Island**	**7.77**	**204**	P	**Pn**	**12 14 01.9**	**+1.2**
RIZ				S	**Sn**	**12 15 28.4**	**-0.1**
RAO	**Raoul Island**	**7.77**	**204**	Pn	**Pn**	**12 14 03.1**	**+2.4**
RAO				Sn	**Sn**	**12 15 27.9**	**-0.6**
RAO	**Raoul Island**	**7.77**	**204**	P	Pn	12 14 08.5	+7.8
RAO	**Raoul Island**	**7.77**	**204**	Pn	**Pn**	**12 14 02.5**	**+1.8**
	118nm,0.3s,baz=88,slow=16,SNR=5.9						
RAO				Sn	**Sn**	**12 15 27.4**	**-1.1**
	121nm,0.3s,baz=287,slow=20,SNR=7.0						
GLKZ	**Green Lake**	**7.78**	**204**	P	**Pn**	**12 14 02.7**	**+1.9**
GLKZ				S	**Sn**	**12 15 31.4**	**+2.7**
DGTI	**Dogotuki**	**8.06**	**315**	P	**Pn**	**12 14 07.3**	**+2.6**
AFI	**Afiamalu**	**8.55**	**17**	Pn	Pn	12 14 06.5	-4.9
AFI	**Afiamalu**	**8.55**	**17**	P	**Pn**	**12 14 06.9**	**-4.5**
AFI	**Afiamalu**	**8.55**	**17**	P	**Pn**	**12 14 08.0**	**-3.4**
AFI				pmax	pmax		
	comp=Z,168nm,0.7s						
YSA	**Yasawairara**	**9.35**	**304**	P	Pn	12 14 26.7	+4.4
RAR	**Rarotonga**	**13.58**	**89**	P	**Pn**	**12 15 19.6**	**-0.7**
RAR	**Rarotonga**	**13.58**	**89**	Pn	**Pn**	**12 15 17.8**	**-2.5**
	comp=Z,8.8nm,0.3s,baz=254,slow=7.8,SNR=17						
RAR				LR	LR	12 20 39.6	
	comp=Z,8μm,18.1s,baz=260,slow=37						
MARNC	**Mare, Loyalty**	**16.38**	**269**		**Pn**	**12 15 51.9**	**-5.7**
WMGZ	**Waiomatatini S**	**16.82**	**200**	P	**Pn**	**12 16 03.3**	**+0.3**
PINNC	**Pines Island,**	**16.85**	**265**	Pn	**Pn**	**12 16 00.6**	**-2.9**
WCZ	**Waipu Caves**	**16.91**	**213**	P	**Pn**	**12 16 04.0**	**-0.2**
HAZ	**Te Kaha**	**16.97**	**202**	P	**Pn**	**12 16 00.3**	**-4.7**
HAZ				S	**Sn**	**12 19 04.3**	**-9.1**
PKGZ	**Pakihiroa**	**16.99**	**201**	P	**Pn**	**12 16 01.5**	**-3.8**
PKGZ				S	Sn	12 19 01.2	-13
LIFNC	**LIFOU**	**17.19**	**271**	P	**Pn**	**12 16 06.0**	**-1.9**
LIFNC				IAmb	IAmb	12 16 15.6	
	comp=Z,305nm,1.4s						
OUENC	**Ouen Island, N**	**17.41**	**266**	P	**Pn**	**12 16 09.8**	**-0.8**
URZ	**Urewera**	**17.66**	**203**	P	**P**	**12 16 17.5**	**+3.1**
URZ	**Urewera**	**17.66**	**203**	P	**P**	**12 16 15.7**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=21,slow=22,SNR=12						
URZ				LR	LR	12 21 48.2	
	comp=Z,7μm,18.0s,baz=84,slow=33						
	comp=Z,10nm,0.7s						
DZM	**Mont Dzumac**	**17.80**	**267**	P	**P**	**12 16 19.2**	**+3.0**
DZM	**Mont Dzumac**	**17.80**	**267**	*e*P	**P**	**12 16 16.7**	**+0.5**
	comp=Z,131nm,1.4s						
DZM				*e*LR	LR	12 20 19.9	
	comp=Z,10μm,21.4s						
TOZ	**Tahuroa Road**	**17.83**	**207**	P	**P**	**12 16 18.6**	**+2.2**
HIZ	**Hauiti**	**18.76**	**207**	P	**Pn**	**12 16 32.7**	**+5.6**
KOUNC	**Koumac, New Ca**	**19.96**	**271**	P	**Pn**	**12 16 42.6**	**+1.0**
BFZ	**Birch Farm**	**20.12**	**201**		Pn	12 16 48.9	+5.6
BFZ	**Birch Farm**	**20.12**	**201**	P	Pn	12 16 47.7	+4.4
MRZ	**Mangatainoka R**	**20.34**	**203**		Pn	12 16 49.0	+3.1
TUWZ	**Tuamarina**	**21.61**	**204**	P	**P**	**12 17 01.3**	**+3.8**
QRZ	**Quartz Range**	**21.68**	**208**	IAMs_20	IAMs_20	12 25 47.4	
	comp=Z,12μm,18.0s						
QRZ	**Quartz Range**	**21.68**	**208**	P	**P**	**12 17 01.4**	**+3.1**
THZ	**Tophouse**	**22.30**	**206**	P	**P**	**12 17 10.7**	**+5.6**
THZ				S	**S**	**12 21 00.6**	**-9.4**
KHZ	**Kahutara**	**22.61**	**204**	P	**P**	**12 17 09.6**	**+1.4**
KHZ				S	S	12 21 04.5	-11
DSZ	**Denniston Nort**	**22.75**	**208**	P	**P**	**12 17 15.1**	**+5.4**
DSZ				S	**S**	**12 21 10.1**	**-8.0**
TBI	**Tubuai**	**22.98**	**98**	*e*P	P	12 17 22.9	+11
	comp=Z,1μm,22.8s						
TBI				*e*S	**S**	**12 21 14.1**	**-8.3**
	comp=Z,3μm,23.2s						
TBI				*e*LR	LR	12 22 46.0	
	comp=Z,27μm,26.0s						
TBI				*e*LR	LR	12 22 47.8	
	comp=Z,6μm,25.0s						
TBI	**Tubuai**	**22.98**	**98**	*e*T	T	12 41 53.6	
	comp=Z,18nm,0.3s						
GVZ	**Greta Valley S**	**23.28**	**204**	P	**P**	**12 17 14.7**	**-0.5**
GVZ				S	**S**	**12 21 18.4**	**-8.6**
LTZ	**Lake Taylor**	**23.41**	**205**	IAMs_20	IAMs_20	12 26 21.6	
	comp=Z,10μm,18.0s						
LTZ	**Lake Taylor**	**23.41**	**205**	P	**P**	**12 17 15.4**	**-1.1**
LTZ				S	**S**	**12 21 22.0**	**-7.4**
PAE	**Paea**	**23.70**	**84**	*e*PKIKP	**P**	**12 17 14.2**	**-5.3**
	comp=Z,31nm,1.2s						
PAE	**Paea**	**23.70**	**84**	*e*T	T	12 42 37.1	
	comp=Z,8.3nm,0.3s						
INZ	**Inchbonnie**	**23.70**	**207**	P	**P**	**12 17 21.0**	**+1.6**
INZ				IAmb	IAmb	12 17 47.7	
	comp=Z,109nm,1.6s						
INZ				IAMs_20	IAMs_20	12 27 10.0	
	comp=Z,11μm,18.0s						
INZ	**Inchbonnie**	**23.70**	**207**	P	**P**	**12 17 20.4**	**+1.0**
INZ				S	**S**	**12 21 30.2**	**-3.7**
PPT2	**Papeete2**	**23.72**	**83**	*e*PKIKP	**P**	**12 17 17.3**	**-2.6**
	comp=Z,159nm,1.4s						
PPT2				*e*S	**S**	**12 21 43.6**	**+8.8**
	comp=Z,979nm,24.5s						
PPT2				*e*LR	LR	12 23 03.0	
	comp=Z,5μm,21.5s						
PPT2				*e*LR	LR	12 23 09.1	
	comp=Z,5μm,22.0s						
PPT	**Papeete**	**23.73**	**83**	P	**P**	**12 17 22.4**	**+2.6**
	comp=Z,43nm,0.8s,baz=172,slow=12,SNR=5.5						
PPT				LR	LR	12 25 20.4	
	comp=Z,4μm,18.8s,baz=260,slow=33						
TIAR	**Tiarei**	**23.94**	**83**	*e*PKIKP	**P**	**12 17 18.7**	**-3.2**
	comp=Z,6.4nm,0.8s						
OXZ	**Oxford**	**23.96**	**205**	P	**P**	**12 17 23.1**	**+1.3**
OXZ	**Oxford**	**23.96**	**205**	P	**P**	**12 17 20.6**	**-1.3**
OXZ				S	**S**	**12 21 34.3**	**-3.8**
TVO	**Taravao**	**23.97**	**84**	*e*PKIKP	**P**	**12 17 19.5**	**-2.7**
	comp=Z,19nm,0.7s						
WVZ	**Waitaha Valley**	**24.29**	**207**	P	**P**	**12 17 27.7**	**+2.8**
WVZ				S	**S**	**12 21 43.6**	**+0.3**
RPZ	**Rata Peaks**	**24.68**	**206**	IAMs_20	IAMs_20	12 27 01.1	
	comp=Z,10μm,18.0s						
RPZ	**Rata Peaks**	**24.68**	**206**	P	**P**	**12 17 29.5**	**+1.1**
RPZ	**Rata Peaks**	**24.68**	**206**	LR	LR	12 27 21.3	
	comp=Z,10μm,19.0s,baz=20,slow=37						
RPZ	**Rata Peaks**	**24.68**	**206**	P	**P**	**12 17 29.3**	**+0.9**
RPZ				S	**S**	**12 21 46.9**	**-2.8**
FOZ	**Fox Glacier**	**25.05**	**208**	P	**P**	**12 17 36.0**	**+4.3**
FOZ				IAmb	IAmb	12 17 37.8	
	comp=Z,73nm,1.0s						
FOZ				IAMs_20	IAMs_20	12 26 46.6	
	comp=Z,12μm,18.0s						
FOZ	**Fox Glacier**	**25.05**	**208**	P	**P**	**12 17 32.9**	**+1.2**
LHI	**Lord Howe Isla**	**25.44**	**243**	P	**P**	**12 17 35.5**	**+0.1**
LHI				IAmb	IAmb	12 17 52.4	
	comp=Z,78nm,1.2s						
LBZ	**Lake Benmore**	**25.59**	**206**	IAMs_20	IAMs_20	12 28 38.0	
	comp=Z,15μm,18.0s						
LBZ	**Lake Benmore**	**25.59**	**206**	P	**P**	**12 17 38.9**	**+2.3**
JCZ	**Jackson Bay**	**25.94**	**209**	P	**P**	**12 17 42.1**	**+2.2**
JCZ	**Jackson Bay**	**25.94**	**209**	P	**P**	**12 17 42.5**	**+2.6**
ODZ	**Otahua Downs**	**25.95**	**205**	P	**P**	**12 17 42.5**	**+2.6**
ODZ	**Otahua Downs**	**25.95**	**205**	P	**P**	**12 17 42.6**	**+2.6**
WKZ	**Wanaka**	**26.43**	**207**	IAMs_20	IAMs_20	12 28 41.3	
	comp=Z,9μm,18.0s						
HNR	**Honiara**	**27.72**	**293**	LR	LR	12 26 44.1	
	comp=Z,50μm,21.9s,baz=142,slow=32						
XMAS	**Kiritimati**	**29.16**	**37**	IAMs_20	IAMs_20	12 29 16.8	
	comp=Z,8μm,19.0s						
ARMA	**Armidale**	**31.51**	**248**	P	**P**	**12 18 29.4**	**-0.4**
ARMA				IAmb	IAmb	12 19 39.4	
	comp=Z,57nm,1.8s						
MGCD	**Mangrove Creek**	**32.38**	**243**	P	**P**	**12 18 37.6**	**+0.4**
	baz=32,SNR=4.3						
MGCD	**Mangrove Creek**	**32.38**	**243**	P	**P**	**12 18 39.4**	**+2.2**
	comp=Z,24nm,1.3s						
CNB	**Canberra Magne**	**34.23**	**239**	P	**P**	**12 18 54.7**	**+1.2**
	baz=34,SNR=7.0						
CNB	**Canberra Magne**	**34.23**	**239**	P	**P**	**12 18 56.6**	**+3.2**
CAN	**Canberra**	**34.52**	**239**	P	**P**	**12 18 56.0**	**0.0**
CAN				IAMs_20	IAMs_20	12 32 14.3	
	comp=Z,7μm,18.0s						
CAN	**Canberra**	**34.52**	**239**	P	**P**	**12 18 56.0**	**0.0**
CAN				pmax	pmax		
	comp=Z,40nm,1.5s						
CAN				MLR	MLR		
	comp=Z,7μm,18.0s						
MILA	**Mila**	**34.80**	**236**	P	**P**	**12 18 59.5**	**+1.1**
	baz=35,SNR=3.2						
MILA	**Mila**	**34.80**	**236**	P	**P**	**12 19 00.2**	**+1.8**
TAOE	**Nuku Hiva Isla**	**35.40**	**73**	*e*S	S	12 24 22.7	-16
	comp=Z,488nm,24.4s						
TAOE				*e*SS	**SnSn**	**12 26 46.3**	**-11**
	comp=Z,4μm,26.3s						
TAOE				*e*LR	LR	12 28 46.7	
	comp=Z,3μm,22.0s						
CMSA	**Cobar Meteorol**	**36.69**	**247**	P	**P**	**12 19 14.7**	**+0.1**
	baz=37,SNR=12						
CMSA	**Cobar Meteorol**	**36.69**	**247**	P	**P**	**12 19 14.9**	**+0.3**
CTA	**Charters Tower**	**36.74**	**266**	P	**P**	**12 19 13.0**	**-2.2**
CTA	**Charters Tower**	**36.74**	**266**	P	**P**	**12 19 12.9**	**-2.2**
	comp=Z,7.7nm,0.5s,baz=93,slow=10,SNR=26						
CTA				LR	LR	12 32 15.0	
	comp=Z,2μm,18.6s,baz=98,slow=33						
	comp=Z,7.7nm,0.5s						
CTAO	**Charters Tower**	**36.74**	**266**	P	**P**	**12 19 14.1**	**-1.1**
CTAO				IAmb	IAmb	12 19 31.7	
	comp=Z,75nm,1.9s						
CTAO	**Charters Tower**	**36.74**	**266**	P	**P**	**12 19 14.3**	**-0.9**
CTAO	**Charters Tower**	**36.74**	**266**	P	**P**	**12 19 14.1**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,75nm,1.9s						
KRVT	**Keravat (AS076**	**37.08**	**294**	LR	LR	12 33 19.7	
	comp=Z,4μm,20.5s,baz=257,slow=35						
TOO	**Toolangi**	**37.76**	**237**	P	**P**	**12 19 25.6**	**+1.9**
	baz=38,SNR=5.9						
TOO	**Toolangi**	**37.76**	**237**	P	**P**	**12 19 24.1**	**+0.4**
TOO	**Toolangi**	**37.76**	**237**	P	**P**	**12 19 25.2**	**+1.5**
TOO	**Toolangi**	**37.76**	**237**	P	**P**	**12 19 24.1**	**+0.4**
TOO				pmax	pmax		
	comp=Z,16nm,1.2s						
QLP	**Quilpie**	**37.87**	**255**	P	**P**	**12 19 23.9**	**-0.8**
	baz=38,SNR=4.5						
QLP	**Quilpie**	**37.87**	**255**	P	**P**	**12 19 25.8**	**+1.1**
TAU	**Tasmania Unive**	**37.95**	**228**	P	**P**	**12 19 24.9**	**-0.2**
TAU				IAmb	IAmb	12 20 22.3	
	comp=Z,97nm,1.4s						
TAU	**Tasmania Unive**	**37.95**	**228**	IAMs_20	IAMs_20	12 35 09.4	
	comp=Z,7μm,18.0s						
TAU	**Tasmania Unive**	**37.95**	**228**	P	**P**	**12 19 24.9**	**-0.2**
TAU				pmax	pmax		
	comp=Z,97nm,1.4s						
TAU				MLR	MLR		
	comp=Z,7μm,18.0s						
PMG	**Port Moresby**	**39.03**	**283**	P	**P**	**12 19 33.0**	**-1.5**
PMG	**Port Moresby**	**39.03**	**283**	IAMs_20	IAMs_20	12 34 23.5	
	comp=Z,8μm,19.0s						
PMG	**Port Moresby**	**39.03**	**283**	*ce*P	**P**	**12 19 32.1**	**-2.4**
PMG				pmax	pmax		
	comp=Z,24nm,1.3s						
PMG	**Port Moresby**	**39.03**	**283**	P	**P**	**12 19 31.8**	**-2.7**
	comp=Z,9.1nm,0.7s,baz=67,slow=11,SNR=6.6						
PMG				LR	LR	12 34 34.2	
	comp=Z,8μm,18.3s,baz=133,slow=35						
	comp=Z,9.1nm,0.7s						
PATS	**Pohnpei**	**39.34**	**314**	IAMs_20	IAMs_20	12 32 53.8	
	comp=Z,9μm,20.0s						
STKA	**Stephens Creek**	**40.20**	**246**	P	**P**	**12 19 44.3**	**+0.2**
	baz=40,SNR=8.2						
STKA	**Stephens Creek**	**40.20**	**246**	P	**P**	**12 19 44.1**	**0.0**
STKA	**Stephens Creek**	**40.20**	**246**	P	**P**	**12 19 44.8**	**+0.7**
STKA	**Stephens Creek**	**40.20**	**246**	*e*P	**P**	**12 19 43.1**	**-1.0**
STKA	**Stephens Creek**	**40.20**	**246**	P	**P**	**12 19 42.8**	**-1.3**
	comp=Z,3.1nm,0.6s,baz=92,slow=9.4,SNR=11						
STKA				LR	LR	12 35 50.1	
	comp=Z,6μm,18.4s,baz=76,slow=36						
	comp=Z,3.1nm,0.6s						
HTT	**Hallett**	**42.53**	**244**	P	**P**	**12 20 02.1**	**-1.2**
	baz=43,SNR=5.3						
HTT	**Hallett**	**42.53**	**244**	P	**P**	**12 20 04.2**	**+0.9**
QIS	**Mount Isa**	**42.79**	**263**	P	**P**	**12 20 03.6**	**-2.0**
	baz=43,SNR=4.7						
QIS	**Mount Isa**	**42.79**	**263**	P	**P**	**12 20 04.2**	**-1.3**
LCRK	**Leigh Creek**	**43.07**	**249**	P	**P**	**12 20 08.1**	**+0.5**
BBOO	**Buckleboo**	**44.91**	**245**	P	**P**	**12 20 21.9**	**-0.6**
	baz=45,SNR=4.9						
BBOO	**Buckleboo**	**44.91**	**245**	P	**P**	**12 20 21.6**	**-0.8**
BBOO	**Buckleboo**	**44.91**	**245**	P	**P**	**12 20 23.2**	**+0.8**
WAKE	**Wake Island**	**45.17**	**334**	IAMs_20	IAMs_20	12 36 55.0	
	comp=Z,7μm,19.0s						
OOD	**Oodnadatta**	**45.40**	**252**	P	**P**	**12 20 25.9**	**-0.4**
MULG	**Mulgathing**	**46.67**	**249**	P	**P**	**12 20 35.3**	**-1.0**
AS01	**Alice Springs**	**47.44**	**258**	P	**P**	**12 20 40.9**	**-1.6**
	comp=Z,16nm,0.9s						
AS31	**Alice Springs**	**47.48**	**258**	P	**P**	**12 20 40.8**	**-2.0**
ASAR	**Alice Springs**	**47.48**	**258**	P	**P**	**12 20 41.3**	**-1.5**
ASAR	**Alice Springs**	**47.48**	**258**	P	**P**	**12 20 41.3**	**-1.5**
ASAR	**Alice Springs**	**47.48**	**258**	P	**P**	**12 20 41.0**	**-1.9**
	comp=Z,8.8nm,0.7s,baz=90,slow=8.5,SNR=64						
ASAR				PcP	**PcP**	**12 22 14.3**	**+1.2**
	comp=Z,5.6nm,0.9s,baz=99,slow=4.7,SNR=1.8						
ASAR				LR	LR	12 40 49.1	
	comp=Z,8μm,18.2s,baz=94,slow=36						
	comp=Z,8.8nm,0.7s						
WR0	**Warramunga Arr**	**47.57**	**263**	P	**P**	**12 20 41.3**	**-2.2**
WR0				IAmb	IAmb	12 21 30.8	
	comp=Z,26nm,1.4s						
WB0	**Warramunga Arr**	**47.75**	**263**	P	**P**	**12 20 42.8**	**-2.1**
WB0				IAmb	IAmb	12 20 44.0	
	comp=Z,48nm,1.6s						
WB2	**Warramunga Arr**	**47.75**	**263**	P	**P**	**12 20 42.4**	**-2.5**
WRA	**Warramunga Arr**	**47.76**	**263**	P	**P**	**12 20 42.5**	**-2.5**
WRA	**Warramunga Arr**	**47.76**	**263**	P	**P**	**12 20 42.5**	**-2.5**
WRA				pmax	pmax		
	comp=Z,4.0nm,1.7s						
WRA	**Warramunga Arr**	**47.76**	**263**	P	**P**	**12 20 42.0**	**-3.0**
	comp=Z,6.4nm,0.6s,baz=101,slow=8.4,SNR=88						
WRA				PcP	**PcP**	**12 22 14.5**	**+0.4**
	comp=Z,4.0nm,0.8s,baz=100,slow=3.7,SNR=5.4						
	comp=Z,6.4nm,0.6s						
KDU	**Kakadu**	**51.39**	**271**	P	**P**	**12 21 10.4**	**-2.3**
	baz=51,SNR=7.4						
KDU

JHJ Hachijo jima 2 70.25 320 LR LR 12 52 50.7
comp=Z,574nm,18.1s,baz=104,slow=35
TGY Tagaytay City 72.94 293 LR LR 12 53 58.9
comp=Z,732nm,19.7s,baz=104,slow=35
UGM Wanagama 73.32 268 IAMs_20 IAMs_20 13 00 14.0
comp=Z,2µm,18.0s
MJAR Matsushiro Arr 73.57 322 P **P** **12 23 40.0 -0.7**
MJAR Matsushiro Arr 73.57 322 P **P** **12 23 40.0 -0.7**
comp=Z,5.7nm,0.7s,baz=150,slow=5.8,SNR=20
MJAR LR LR 12 51 29.8
comp=Z,478nm,20.3s,baz=148,slow=32
comp=Z,5.7nm,0.7s
MAJO Matsushiro 73.58 322 P **P** **12 23 39.7 -1.0**
MAJO IAmb IAmb 12 23 41.1
comp=Z,55nm,1.6s
MAJO Matsushiro 73.58 322 *c i*P **P** **12 23 39.8 -0.9**
MAJO pmax pmax
comp=Z,28nm,1.5s
MJB9 Matsu-Tunnel 73.58 322 IAmb IAmb 12 23 42.1
comp=Z,54nm,1.6s
JOW Kunigami 73.84 308 LR LR 12 53 27.1
comp=Z,1µm,19.7s,baz=116,slow=34
SHEM Shemya Is, Ala 75.23 353 LR LR 12 55 07.9
comp=Z,1µm,18.1s,baz=153,slow=34
SBUM Sibu 75.63 279 P **P** **12 23 52.4 -0.7**
JNU Nakatsue 75.82 315 LR LR 12 56 26.8
comp=Z,514nm,18.1s,baz=149,slow=35
LEM Lembang 76.40 268 LR LR 12 58 08.3
comp=Z,2µm,19.4s,baz=137,slow=36
ASAJ Asahikawa 76.82 330 LR LR 12 56 04.6
comp=Z,2µm,18.6s,baz=152,slow=34
KSM Kuching 77.00 277 P **P** **12 24 00.3 -0.7**
KSM IAmb IAmb 12 24 03.3
comp=Z,36nm,1.2s
MCCM Marconi Confer 77.01 39 IAMs_20 IAMs_20 12 57 10.4
comp=Z,2µm,18.0s
TWG Pinlang 77.14 301 IAMs_20 IAMs_20 12 53 26.3
comp=Z,2µm,20.0s
LPIG La Paz 77.37 57 LR LR 12 53 10.7
comp=Z,2µm,18.1s,baz=231,slow=32
PASC Pasadena Art C 77.38 45 IAMs_20 IAMs_20 12 51 57.5
comp=Z,2µm,19.0s
BELA Belgrano 2 77.48 172 P **P** **12 24 05.4 +2.9**
SSLB Suanglung 77.72 302 IAMs_20 IAMs_20 12 54 44.0
comp=Z,2µm,20.0s
TPUB Ta-pu 77.73 301 IAMs_20 IAMs_20 12 53 54.3
comp=Z,2µm,20.0s
ISA Isabella, Lake 78.11 44 IAmb IAmb 12 24 15.8
comp=Z,34nm,1.4s
PFO Pinyon Flats O 78.18 46 IAMs_20 IAMs_20 12 56 20.1
comp=Z,2µm,20.0s
PFO Pinyon Flats O 78.18 46 *i* P P 12 24 12.4 +5.2
PFO pmax pmax
comp=Z,12nm,1.3s
PFO Pinyon Flats O 78.18 46 LR LR 12 55 30.5
comp=Z,1µm,18.1s,baz=244,slow=33
PMSA Palmer Station 78.42 156 LR LR 12 52 09.6
comp=Z,1µm,19.1s,baz=240,slow=30
CMB Columbia Colle 78.42 41 IAMs_20 IAMs_20 12 53 38.5
comp=Z,2µm,19.0s
PET Petropavlovsk 78.44 344 *e*P **P** **12 24 08.2 +0.2**
PET *e*S **S** **12 34 00.5 -2.8**
PET *e*PS **PnS** **12 34 40.4 -5.3**
PET *e*PPS PPS 12 35 01.7
PET pmax pmax
comp=Z,600nm,14.8s
ORV Oroville 78.75 39 IAMs_20 IAMs_20 12 58 40.4
comp=Z,2µm,18.0s
PEA0B Petropavlovsk- 78.77 343 P **P** **12 24 10.1 +0.3**
PEA0B Petropavlovsk- 78.77 343 *ce*P **P** **12 24 10.4 +0.5**
PETK Petropavlovsk- 78.77 343 P **P** **12 24 09.7 -0.2**
PETK Petropavlovsk- 78.77 343 P **P** **12 24 09.7 -0.2**
PETK Petropavlovsk- 78.77 343 P **P** **12 24 09.6 -0.3**
comp=Z,31nm,0.9s,baz=128,slow=7.5,SNR=23
PETK LR LR 12 53 46.8
comp=Z,747nm,20.3s,baz=160,slow=32
comp=Z,31nm,0.9s
YSS Yuzh-Sakhalins 78.92 332 IAMs_20 IAMs_20 12 55 00.4
comp=Z,2µm,19.0s
YSS Yuzh-Sakhalins 78.92 332 *e*P **P** **12 24 11.4 +0.6**
YSS *e**SP **pwP** **12 24 21.5 +0.4**
YSS *e* 12 27 05.2
YSS *e*S **S** **12 34 04.2 -4.5**
YSS *e*PS **pS** **12 34 14.9 +2.8**
YSS pmax pmax
comp=Z,30nm,0.8s
WAKR Walker 79.29 41 IAmb IAmb 12 24 35.6
comp=Z,29nm,1.1s
MPK Martis Peak 79.44 40 IAmb IAmb 12 24 38.0
comp=Z,36nm,1.1s
YBH Yreka Blue Hor 79.51 37 IAMs_20 IAMs_20 12 52 28.3
comp=Z,2µm,19.0s
YBH Yreka Blue Hor 79.51 37 LR LR 12 53 47.1
comp=Z,2µm,19.3s,baz=232,slow=31
PNTR Pine Nut 79.57 40 P **P** **12 24 13.2 -1.6**
PNTR IAmb IAmb 12 24 37.5
comp=Z,46nm,1.1s
GRAC Grapevine Rang 79.64 43 P **P** **12 24 14.5 -0.5**
GRAC IAmb IAmb 12 24 37.6
comp=Z,55nm,1.4s
LHV Little Huntoon 79.70 41 IAmb IAmb 12 24 37.8
comp=Z,34nm,1.2s
NVAR Mina Array Bea 79.94 41 P **P** **12 24 18.6 +1.8**
comp=Z,3.7nm,0.8s,baz=224,slow=9.0,SNR=17
NVAR LR LR 12 53 44.8
comp=Z,2µm,19.1s,baz=234,slow=31
comp=Z,3.7nm,0.8s
HUMO Hull Mountain 79.96 36 IAMs_20 IAMs_20 12 53 58.2
comp=Z,2µm,19.0s
QZH Quanzhou 80.16 302 ⇑*i*P **P** **12 24 19.4 +1.3**
QZH S **S** **12 34 25.8 +3.0**
QZH pmax pmax
comp=Z,760nm,5.0s
QZH LR LR
comp=Z,1µm,14.8s
QZH LR LR
comp=Z,910nm,15.5s
QZH LR LR
comp=Z,1µm,16.2s
KSRS Korea Array 80.39 317 P **P** **12 24 18.9 -0.1**
comp=Z,5.0nm,0.8s,baz=137,slow=6.3,SNR=12
KSRS LR LR 12 56 10.7
comp=Z,554nm,19.5s,baz=150,slow=33
comp=Z,5.0nm,0.8s
KSAR Wonju Array Be 80.41 317 P **P** **12 24 19.1 0.0**
KSAR Wonju Array Be 80.41 317 P **P** **12 24 19.1 0.0**
TEY Ternei 80.41 327 *de*P **P** **12 24 19.3 +0.4**
TEY pmax pmax
comp=Z,100nm,5.0s
R17K Ugashik Creek 80.89 10 IAMs_20 IAMs_20 12 59 36.0
comp=Z,3µm,20.0s
MAW Mawson 81.15 199 P **P** **12 24 26.1 +3.4**
baz=81,SNR=6.1
MAW Mawson 81.15 199 P **P** **12 24 25.2 +2.5**
MAW Mawson 81.15 199 P **P** **12 24 25.2 +2.5**
MAW pmax pmax
comp=Z,7.0nm,1.4s
MAW Mawson 81.15 199 P **P** **12 24 24.9 +2.2**
comp=Z,8.5nm,0.8s,baz=114,slow=6.1,SNR=9.5
MAW LR LR 12 59 10.8
comp=Z,2µm,18.5s,baz=108,slow=35
comp=Z,8.5nm,0.8s
K05A Summer Lake 81.17 37 IAmb IAmb 12 24 47.8
comp=Z,44nm,1.1s
J05D Fort Rock, OR 81.35 36 IAmb IAmb 12 24 45.9
comp=Z,24nm,1.0s
R11B Troy Canyon, C 81.58 43 IAMs_20 IAMs_20 12 57 14.4
comp=Z,2µm,20.0s
MSHR Mys Shultsa 81.66 323 *i* P **P** **12 24 26.3 +0.6**
MSHR pmax pmax
comp=Z,21nm,1.0s
KDAK Kodiak Island 81.68 12 IAMs_20 IAMs_20 12 59 15.5
comp=Z,1µm,20.0s
KDAK Kodiak Island 81.68 12 *i* P **P** **12 24 25.7 +0.3**
KDAK pmax pmax
comp=Z,25nm,1.2s
O14K Tigyukauivet M 81.81 7 IAMs_20 IAMs_20 13 00 13.0
comp=Z,2µm,18.0s
PINE Pine Mountain 81.85 36 IAmb IAmb 12 24 50.9
comp=Z,50nm,1.3s
TYV Tymovskoe 81.96 334 *e*P **P** **12 24 28.0 +0.9**
TYV *e*S **S** **12 34 41.6 +1.1**
TYV pmax pmax
comp=Z,18nm,1.4s
TYV pmax pmax
comp=Z,600nm,4.0s
TYV smax smax
comp=N,200nm,6.2s
TYV smax smax
comp=E,400nm,6.2s
I05D Terrebonne, OR 82.00 35 P **P** **12 24 28.1 +0.6**
I05D IAmb IAmb 12 24 42.8
comp=Z,43nm,1.4s
H03S2 Juan Fernandez 82.25 123 T T 13 54 38.7
baz=242,slow=75,SNR=47
USA0B Ussuriysk Arra 82.26 324 P **P** **12 24 27.3 -1.5**
USA0B IAmb IAmb 12 24 31.9
comp=Z,44nm,1.4s
USA0B Ussuriysk Arra 82.26 324 *c i*P **P** **12 24 28.7 -0.1**
USRK Ussuriysk Ar. 82.26 324 P **P** **12 24 28.1 -0.6**
USRK Ussuriysk Ar. 82.26 324 P **P** **12 24 29.0 +0.2**
USRK Ussuriysk Ar. 82.26 324 P **P** **12 24 28.9 +0.2**
comp=Z,10nm,1.0s,baz=132,slow=2.8,SNR=17
USRK LR LR 12 57 03.7
comp=Z,2µm,19.9s,baz=126,slow=33
comp=Z,10nm,1.0s
WVOR Wild Horse Val 82.26 38 IAmb IAmb 12 24 57.9
comp=Z,28nm,1.3s
H03S1 Juan Fernandez 82.27 123 T T 13 54 39.8
baz=242,slow=75,SNR=30
H03S3 Juan Fernandez 82.27 123 T T 13 54 38.7
baz=242,slow=75,SNR=41
H03N2 Juan Fernandez 82.39 123 T T 13 54 49.3
baz=259,slow=73,SNR=30
H03N3 Juan Fernandez 82.39 123 T T 13 55 01.0
baz=259,slow=73,SNR=47
H03N1 Juan Fernandez 82.41 123 T T 13 54 49.8
baz=259,slow=73,SNR=35
HKPS Hong Kong Po S 82.47 298 IAMs_20 IAMs_20 12 57 03.2
comp=Z,2µm,20.0s
O16K Kokwok River B 82.53 8 IAMs_20 IAMs_20 13 00 58.1
comp=Z,2µm,19.0s
Q19K Cape Douglas, 82.57 11 IAMs_20 IAMs_20 12 55 09.9
comp=Z,1µm,20.0s
KNB Kanab 82.58 45 IAmb IAmb 12 24 40.4
comp=Z,35nm,1.4s
U15A North Rim 82.60 46 IAmb IAmb 12 24 40.8
comp=Z,27nm,1.3s
WUAZ Wupatki 82.71 47 IAMs_20 IAMs_20 12 58 03.0
comp=Z,2µm,19.0s
SZCU Shurtz Canyon 82.74 45 IAmb IAmb 12 24 54.5
comp=Z,23nm,1.3s
P18K Big Mountain, 82.75 10 IAMs_20 IAMs_20 13 00 26.1
comp=Z,1µm,18.0s
I07A Izee 82.83 36 IAmb IAmb 12 24 47.2
comp=Z,22nm,1.3s
N15K Kwethluk River 82.84 7 IAMs_20 IAMs_20 12 58 15.2
comp=Z,2µm,20.0s
J08A Circle Bar Ran 82.94 37 IAmb IAmb 12 24 56.1
comp=Z,29nm,1.3s
MYKOM Kota Tinggi 83.08 275 IAmb IAmb 12 24 36.1
comp=Z,24nm,0.9s
O18K Koktuh Hills 83.19 10 IAMs_20 IAMs_20 13 00 38.9
comp=Z,1µm,19.0s
ELK Elko 83.22 41 LR LR 12 59 02.2
comp=Z,2µm,18.1s,baz=230,slow=34
LON Longmire 83.36 33 IAmb IAmb 12 25 00.8
comp=Z,21nm,1.4s
GNW Green Mountain 83.40 32 IAmb IAmb 12 25 00.6
comp=Z,21nm,1.2s
N17K Nushagak Hills 83.55 8 IAMs_20 IAMs_20 13 01 03.2
comp=Z,1µm,20.0s
NJ2 Nanjing 83.56 308 ⇑P **P** **12 24 36.8 +1.0**
NJ2 sP **PcP** **12 24 41.8 +1.8**
NJ2 S **S** **12 35 02.3 +4.7**
NJ2 sS **ScS** **12 35 08.8 -2.0**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,740nm,6.6s
NJ2 LR LR
comp=Z,660nm,19.0s
NJ2 LR LR
comp=Z,490nm,21.8s
NJ2 LR LR
comp=Z,860nm,20.9s
CNPM China Poot 83.56 12 IAMs_20 IAMs_20 13 00 24.3
comp=Z,1µm,19.0s
TCRU Three Creeks R 83.73 44 IAmb IAmb 12 24 46.6
comp=Z,31nm,1.3s
M16K Timber Creek 83.80 7 IAMs_20 IAMs_20 13 01 31.7
comp=Z,2µm,20.0s
MDJ Mudanjiang 83.84 323 P **P** **12 24 36.0 -0.9**
MDJ IAmb IAmb 12 24 39.4
comp=Z,36nm,1.1s
MDJ IAMs_20 IAMs_20 12 58 04.0
comp=Z,1µm,20.0s
MDJ Mudanjiang 83.84 323 P **P** **12 24 38.4 +1.4**
MDJ pP PcP 12 24 41.3 +0.3
MDJ sP sP 12 24 42.8 +2.1
MDJ S **S** **12 35 04.3 +4.4**
MDJ sS SKKSac 12 35 07.6 +3.2
MDJ pmax pmax
comp=Z,37nm,1.4s
MDJ pmax pmax
comp=Z,1µm,4.6s
MDJ LR LR
comp=Z,700nm,15.7s
MDJ LR LR
comp=Z,960nm,18.7s
MDJ LR LR
comp=Z,2µm,19.4s
G08A Pilot Rock 83.90 36 IAmb IAmb 12 25 00.9
comp=Z,36nm,1.2s
EPT El Paso 84.18 52 IAMs_20 IAMs_20 12 58 18.6
comp=Z,2µm,20.0s
N19K Bonanza Creek 84.22 10 IAMs_20 IAMs_20 13 01 32.0
comp=Z,2µm,18.0s
E07A Sunnyside 84.24 34 IAmb IAmb 12 25 00.6
comp=Z,18nm,1.0s
BBB Bella Bella 84.29 27 LR LR 12 57 57.3
comp=Z,1µm,18.4s,baz=228,slow=33
M17K Holitna River 84.36 8 IAMs_20 IAMs_20 13 01 56.6
comp=Z,2µm,20.0s
L16K Owhat River 84.41 7 IAMs_20 IAMs_20 13 02 00.8
comp=Z,2µm,19.0s
COCO West Island 84.41 259 IAMs_20 IAMs_20 13 01 18.8
comp=Z,2µm,19.0s
MFID Camas Ranch 84.48 39 IAmb IAmb 12 25 03.8
comp=Z,22nm,1.2s
MFID IAMs_20 IAMs_20 12 57 17.3
comp=Z,2µm,18.0s
BMO Blue Mountains 84.53 37 IAMs_20 IAMs_20 12 56 12.3
comp=Z,2µm,20.0s
GRNR Gornyy 84.55 331 ⇑*i*P **P** **12 24 41.7 +1.2**
GRNR pmax pmax
comp=Z,7.0nm,0.9s
QIZ Qiongzhong 84.63 293 P **P** **12 24 40.9 -0.7**
QIZ PP **PP** **12 27 54.6 -3.0**
QIZ S **S** **12 35 07.8 -1.1**
QIZ sS **ScS** **12 35 16.8 -3.4**
QIZ pmax pmax
comp=Z,52nm,2.4s
QIZ pmax pmax
comp=Z,780nm,3.7s
QIZ LR LR
comp=Z,440nm,14.7s
QIZ LR LR
comp=Z,580nm,20.6s
QIZ LR LR
comp=Z,800nm,15.0s
TMUT Trail Mountain 84.92 44 IAmb IAmb 12 25 05.0
comp=Z,32nm,1.2s
Y22A Socorro 84.94 50 P **P** **12 24 46.4 +3.3**
baz=239
MNTX Cornudas Mount 84.97 53 P **P** **12 24 46.3 +3.3**
baz=240
J14K Nanvaranak Lak 85.04 5 IAMs_20 IAMs_20 13 05 10.1
comp=Z,1µm,19.0s
D08A Wollman Farm, 85.06 34 IAmb IAmb 12 25 06.6
comp=Z,22nm,1.2s
TX31 Lajitas Ar. Si 85.11 56 P **P** **12 24 46.9 +3.0**
baz=242
TXAR Lajitas Array 85.11 56 P **P** **12 24 47.1 +3.2**
comp=Z,5.1nm,1.1s,baz=208,slow=4.3,SNR=10
TXAR LR LR 12 56 33.1
comp=Z,823nm,19.3s,baz=242,slow=31
comp=Z,5.1nm,1.1s
E09A Wood Farm, Sta 85.12 35 IAmb IAmb 12 25 07.2
comp=Z,32nm,1.4s
L18K Granite Mounta 85.25 8 IAmb IAmb 12 25 04.7
comp=Z,20nm,1.1s
L18K IAMs_20 IAMs_20 13 02 34.0
comp=Z,2µm,20.0s
SRU San Rafael Swe 85.25 44 IAmb IAmb 12 25 06.7
comp=Z,27nm,1.3s
DL2 Dalian 85.27 315 P **P** **12 24 43.8 -0.5**
DL2 S **S** **12 35 12.8 -1.6**
DL2 pmax pmax
comp=Z,40nm,1.7s
DL2 pmax pmax
comp=Z,490nm,8.0s
DL2 LR LR
comp=Z,1µm,18.6s
DL2 LR LR
comp=Z,600nm,14.7s
DL2 LR LR
comp=Z,570nm,10.4s
HVU Hansel Valley 85.34 41 IAmb IAmb 12 24 53.5
comp=Z,32nm,1.8s
ELIB Princess Elisa 85.37 185 *d*P **P** **12 24 47.5 +3.0**
comp=Z,16nm,1.4s
HLID Hailey 85.40 39 P **P** **12 24 44.1 -1.0**
HLID IAMs_20 IAMs_20 13 04 57.5
comp=Z,2µm,19.0s
PLID Pearl Lake 85.41 37 IAmb IAmb 12 24 59.9
comp=Z,26nm,1.4s
M20K Styx River 85.45 10 IAMs_20 IAMs_20 13 02 20.5
comp=Z,2µm,20.0s
SUA Susitna One 85.46 11 P **P** **12 24 44.0 -0.9**
SUA IAmb IAmb 12 25 05.6
comp=Z,18nm,0.9s
SUA IAMs_20 IAMs_20 13 01 49.4
comp=Z,2µm,18.0s
L19K White Mountain 85.47 9 IAMs_20 IAMs_20 13 02 27.9
comp=Z,1µm,19.0s
K17K Iditarod 85.53 7 IAMs_20 IAMs_20 13 02 17.3
comp=Z,2µm,19.0s
MVCO Mesa Verde 85.58 47 IAMs_20 IAMs_20 12 56 38.8
comp=Z,2µm,19.0s
GLI Glacier Island 85.63 13 IAMs_20 IAMs_20 13 01 18.0
comp=Z,2µm,20.0s
ALPN Alpine 85.63 55 IAmb IAmb 12 25 08.5
comp=Z,55nm,2.0s
FID Port Fidalgo 85.64 13 IAMs_20 IAMs_20 13 00 54.2
comp=Z,2µm,19.0s
PLCA Paso Flores 85.67 132 P **P** **12 24 47.7 +1.1**
PLCA IAmb IAmb 12 24 56.4
comp=Z,53nm,1.6s
PLCA Paso Flores 85.67 132 P **P** **12 24 50.2 +3.6**
comp=Z,1.7nm,0.8s,baz=173,slow=5.4,SNR=3.1
PLCA LR LR 12 57 39.5
comp=Z,2µm,18.1s,baz=238,slow=32
comp=Z,1.7nm,0.8s
SNY Shenyang 85.67 319 ⇑P **P** **12 24 47.3 +1.1**
SNY SKS **S** **12 35 12.8 -5.4**
SNY pmax pmax
comp=Z,11nm,0.8s
SNY pmax pmax
comp=Z,660nm,5.2s
SNY LR LR
comp=Z,500nm,15.1s
SNY LR LR
comp=Z,330nm,17.1s
SNY LR LR
comp=Z,820nm,16.1s
KLR Kul'dur 85.70 328 *ce*P **P** **12 24 47.5 +1.3**
KLR pmax pmax
comp=Z,10.0nm,1.3s
KLR Kul'dur 85.70 328 LR LR 13 00 59.4
comp=Z,1µm,18.8s,baz=138,slow=34
BNX BinXian 85.75 323 ⇑P **P** **12 24 46.9 +0.4**
BNX SKS **SKSac** **12 35 12.9 +1.3**
BNX S **SKKSac** **12 35 21.4 +2.7**
BNX pmax pmax
comp=Z,29nm,1.0s
BNX pmax pmax
comp=Z,910nm,5.3s
BNX LR LR
comp=Z,840nm,19.2s
BNX LR LR
comp=Z,720nm,22.2s
BNX LR LR
comp=Z,1µm,20.9s
SKT Skwentna 85.80 11 IAMs_20 IAMs_20 13 02 13.4
comp=Z,1µm,19.0s
ANMO Albuquerque 85.82 50 P **P** **12 24 47.3 -0.1**
ANMO IAmb IAmb 12 25 02.3
comp=Z,22nm,1.2s
ANMO Albuquerque 85.82 50 P **P** **12 24 50.3 +2.9**
baz=240
ANMO Albuquerque 85.82 50 *ce*P **P** **12 24 48.1 +0.7**
ANMO pmax pmax
comp=Z,7.0nm,1.0s
ANMO Albuquerque 85.82 50 LR LR 12 57 44.0
comp=Z,2µm,18.6s,baz=337,slow=32
J16K Anvik River 85.83 6 IAmb IAmb 12 24 50.7
comp=Z,23nm,1.1s
BERG Berg Lake 85.94 15 IAMs_20 IAMs_20 13 03 34.6
comp=Z,2µm,21.0s
TTA Tatalina 86.02 8 IAmb IAmb 12 25 03.5
comp=Z,44nm,1.5s
TROLL Troll, Antarti 86.07 179 ⇑P **P** **12 24 45.9 -2.2**
comp=Z,659nm,1.0s
GHO Glory Hole Cre 86.08 12 IAmb IAmb 12 25 06.6
comp=Z,23nm,1.0s
J17K VABM Dome 86.10 7 IAmb IAmb 12 25 03.1
comp=Z,55nm,1.5s
J17K IAMs_20 IAMs_20 13 03 14.4
comp=Z,2µm,19.0s
WHN Wuhan 86.16 305 ⇑P **P** **12 24 50.5 +1.5**
WHN S **S** **12 35 16.6 -6.9**
WHN pmax pmax
comp=Z,1µm,4.0s
WHN LR LR
comp=Z,1µm,14.1s
WHN LR LR
comp=Z,1µm,21.9s
WHN LR LR
comp=Z,1µm,16.0s
SML Sawmill 86.22 12 IAMs_20 IAMs_20 13 02 28.8
comp=Z,1µm,18.0s
SNAA Sanae 86.25 177 ⇑P **P** **12 24 51.5 +2.6**
comp=Z,195nm,0.9s
SNAA Sanae 86.25 177 P **P** **12 24 51.8 +2.9**
comp=Z,4.2nm,1.0s,baz=184,slow=13,SNR=2.3
SNAA LR LR 13 02 59.8
comp=Z,2µm,18.3s,baz=188,slow=35
comp=Z,4.2nm,1.0s
MA2 Magadan 86.31 343 LR LR 13 02 37.8
comp=Z,1µm,18.9s,baz=152,slow=35
CRQM Cirque 86.40 15 IAMs_20 IAMs_20 13 00 55.8
comp=Z,2µm,19.0s
CUT Chulitna 86.42 11 IAMs_20 IAMs_20 12 57 09.8
comp=Z,2µm,21.0s
J18K Innoko River 86.45 8 IAMs_20 IAMs_20 13 03 12.6
comp=Z,2µm,20.0s
ISLE Juniper Island 86.45 15 IAMs_20 IAMs_20 13 01 06.1
comp=Z,2µm,19.0s
TGL Tana Glacier 86.47 15 IAMs_20 IAMs_20 13 01 07.5
comp=Z,2µm,19.0s
TABL Table Mountain 86.61 16 IAMs_20 IAMs_20 13 01 18.3
comp=Z,2µm,19.0s
ANM Nome 86.71 4 IAMs_20 IAMs_20 13 06 51.1
comp=Z,1µm,18.0s
VRDI Verde Repeater 86.74 14 IAMs_20 IAMs_20 13 01 45.6
comp=Z,2µm,20.0s
NEW Newport 86.76 34 LR LR 12 58 57.7
comp=Z,3µm,18.8s,baz=221,slow=32
N25K Chitina, Valde 86.81 14 IAMs_20 IAMs_20 13 01 50.6
comp=Z,2µm,20.0s
GLB Gilahina Butte 86.84 14 IAMs_20 IAMs_20 13 01 50.4
comp=Z,1µm,20.0s
TIA Tai'an 86.90 311 P **P** **12 24 53.4 +0.9**
TIA S **SKSac** **12 35 19.6 +0.3**
TIA pmax pmax
comp=Z,35nm,1.1s
TIA pmax pmax
comp=Z,930nm,7.5s
TIA LR LR
comp=Z,590nm,22.6s
TIA LR LR
comp=Z,400nm,15.2s
TIA LR LR
comp=Z,710nm,19.4s
GULI GuiLin 86.91 299 ⇑P **P** **12 24 55.8 +3.0**
GULI S **S** **12 35 26.5 -4.5**
GULI pmax pmax
comp=Z,30nm,1.4s
GULI pmax pmax
comp=Z,670nm,9.8s

GULI LR LR
comp=Z,490nm,22.0s
GULI LR LR
comp=Z,510nm,23.0s
GULI LR LR
comp=Z,970nm,23.8s
AHID Auburn Hatcher 86.92 41 IAMs_20 IAMs_20 13 03 28.5
comp=Z,2µm,18.0s
MCARA McCarthy VSAT 86.97 15 IAMs_20 IAMs_20 13 01 52.8
comp=Z,2µm,20.0s
LOGN Logan Glacier 86.97 16 IAMs_20 IAMs_20 13 01 30.9
comp=Z,2µm,18.0s
CMIG Matias Romero 86.98 70 LR LR 12 55 29.6
comp=Z,1µm,19.6s,baz=240,slow=30
CAST Castle Rocks 87.06 10 P **P** **12 24 52.8 +0.2**
CAST IAmb IAmb 12 25 06.8
comp=Z,30nm,1.4s
CAST IAMs_20 IAMs_20 13 03 12.1
comp=Z,2µm,20.0s
J19K Poorman 87.09 8 IAMs_20 IAMs_20 13 03 03.8
comp=Z,1µm,20.0s
KULM Kulim 87.36 277 P **P** **12 24 55.1 -0.1**
KULM IAmb IAmb 12 24 57.3
comp=Z,30nm,1.0s
KTH Kantishna Hill 87.38 10 IAMs_20 IAMs_20 13 03 13.5
comp=Z,2µm,20.0s
TRF Thorofare Moun 87.39 11 P **P** **12 24 55.1 +0.7**
TRF IAMs_20 IAMs_20 13 03 14.3
comp=Z,2µm,19.0s
DRIO Del Rio 87.51 57 IAmb IAmb 12 25 03.9
comp=Z,25nm,1.3s
DHY Denali Highway 87.57 12 IAMs_20 IAMs_20 13 02 54.2
comp=Z,1µm,18.0s
IMW Indian Meadow 87.65 40 IAMs_20 IAMs_20 13 01 50.5
comp=Z,2µm,19.0s
PDAR Pinedale Array 87.87 42 P **P** **12 24 58.8 +1.5**
comp=Z,1.1nm,0.8s,baz=199,slow=2.7,SNR=8.0
PDAR LR LR 13 02 28.7
comp=Z,1µm,18.2s,baz=250,slow=34
comp=Z,1.1nm,0.8s
BPAW Bear Paw Mtn. 87.87 10 IAMs_20 IAMs_20 13 03 56.7
comp=Z,2µm,20.0s
M26K Nabesna, AK 87.88 14 IAmb IAmb 12 25 12.9
comp=Z,40nm,1.6s
M26K IAMs_20 IAMs_20 13 02 17.6
comp=Z,2µm,19.0s
H18K Honhosa River 87.89 7 IAmb IAmb 12 25 20.9
comp=Z,38nm,1.6s
H18K IAMs_20 IAMs_20 13 04 09.5
comp=Z,1µm,19.0s
FLWY Flagg Ranch 87.89 40 IAMs_20 IAMs_20 13 03 35.2
comp=Z,2µm,18.0s
I20K Naaghedeneel 88.01 8 IAMs_20 IAMs_20 13 03 52.1
comp=Z,1µm,18.0s
PSI Prapat 88.01 274 P **P** **12 24 58.6 +0.1**
PSI pmax pmax
comp=Z,52nm,1.2s
M27K Edge Creek, AK 88.09 15 IAMs_20 IAMs_20 13 02 31.4
comp=Z,2µm,18.0s
MT01 Popeta 88.11 126 P **P** **12 25 00.8 +2.3**
BWN Browne 88.19 11 IAMs_20 IAMs_20 13 03 29.5
comp=Z,2µm,20.0s
DLBC Dease Lake 88.27 22 LR LR 13 00 01.1
comp=Z,642nm,18.1s,baz=230,slow=33
L26K Log Cabin Wild 88.35 14 IAmb IAmb 12 25 20.4
comp=Z,23nm,1.5s
L26K IAMs_20 IAMs_20 13 02 44.0
comp=Z,2µm,19.0s
H19K Roundabout Mou 88.47 7 IAMs_20 IAMs_20 13 04 26.9
comp=Z,2µm,20.0s
HEH HeiHe 88.52 327 *e*P **P** **12 25 00.6 +0.7**
HEH sP **pwP** **12 25 07.1 -3.1**
HEH SKS **SKSac** **12 35 27.5 -0.9**
HEH S **S** **12 35 47.9 +2.6**
HEH pmax pmax
comp=Z,12nm,1.6s
HEH pmax pmax
comp=Z,700nm,5.0s
HEH LR LR
comp=Z,810nm,19.0s
HEH LR LR
comp=Z,690nm,18.7s
HEH LR LR
comp=Z,2µm,19.4s
G18K Tagagawik 88.58 6 IAmb IAmb 12 25 15.9
comp=Z,32nm,1.5s
G18K IAMs_20 IAMs_20 13 04 21.8
comp=Z,1µm,18.0s
NEA2 Nenana 88.65 11 IAMs_20 IAMs_20 13 03 40.8
comp=Z,2µm,20.0s
RIDG Independent Ri 88.67 13 IAMs_20 IAMs_20 13 03 35.4
comp=Z,2µm,20.0s
GSI Gunungsitoli 88.70 272 IAMs_20 IAMs_20 13 08 49.2
comp=Z,1µm,18.0s
WRH Wood River Hil 88.71 11 P **P** **12 24 59.8 -0.7**
L27K Beaver Creek, 88.72 14 IAMs_20 IAMs_20 13 02 33.9
comp=Z,1µm,18.0s
SEY Seymchan 88.78 345 *ce*P **P** **12 25 00.5 -0.3**
SEY pmax pmax
comp=Z,17nm,1.1s
SEY Seymchan 88.78 345 LR LR 13 03 34.6
comp=Z,1µm,18.8s,baz=158,slow=35
MLY Manley 88.78 10 IAmb IAmb 12 25 15.8
comp=Z,18nm,1.4s
PEL Peldehue 88.84 125 IAMs_20 IAMs_20 12 55 37.8
comp=Z,1µm,20.0s
HDA Harding Lake 88.86 12 IAmb IAmb 12 25 28.0
comp=Z,24nm,1.2s
F17K Baldwin Pennin 88.87 5 IAmb IAmb 12 25 16.8
comp=Z,20nm,1.2s
G19K Purcell Mounta 88.98 7 IAmb IAmb 12 25 18.3
comp=Z,25nm,1.3s
G19K IAMs_20 IAMs_20 13 04 53.6
comp=Z,1µm,20.0s
M29M Somme Creek 89.00 16 IAMs_20 IAMs_20 13 02 47.4
comp=Z,2µm,19.0s
H21K Melozitna Rive 89.06 9 IAmb IAmb 12 25 18.1
comp=Z,48nm,1.8s
H21K IAMs_20 IAMs_20 13 11 39.9
comp=Z,1µm,18.0s
COLA College 89.12 11 P **P** **12 25 03.0 +0.7**
COLA College 89.12 11 P **P** **12 25 03.0 +0.7**
COLA pmax pmax
comp=Z,72nm,1.5s
MDM Murphy Dome 89.13 11 IAMs_20 IAMs_20 12 58 36.5
comp=Z,1µm,21.0s
HNS HongShan 89.18 311 ⇑P **P** **12 25 04.9 +1.6**
HNS SKS **SKSac** **12 35 34.1 +1.2**
HNS S **S** **12 35 52.5 +0.4**
HNS pmax pmax
comp=Z,18nm,0.9s
HNS pmax pmax
comp=Z,540nm,6.3s
HNS LR LR
comp=Z,360nm,18.5s
HNS LR LR
comp=Z,520nm,17.7s
HNS LR LR
comp=Z,670nm,22.7s
IL31 89.20 11 IAmb IAmb 12 25 18.9
comp=Z,41nm,1.4s
ILAR Eielson Array 89.20 11 P **P** **12 25 03.0 +0.2**
ILAR Eielson Array 89.20 11 P **P** **12 25 03.0 +0.2**
comp=Z,4.4nm,1.0s,baz=218,slow=5.3,SNR=18
comp=Z,4.4nm,1.0s
IMAR Indian Mountai 89.24 8 P **P** **12 25 02.9 0.0**
J25K Salcha River, 89.34 12 IAmb IAmb 12 25 19.4
comp=Z,35nm,1.4s
POKR Poker Plat Res 89.42 11 P **P** **12 25 03.4 -0.4**
POKR IAmb IAmb 12 25 19.8
comp=Z,23nm,1.2s
LYN LuoYang 89.44 308 ⇑P **P** **12 25 06.3 +1.7**
LYN sP pwP 12 25 13.4 -1.6
LYN SKS **SKSac** **12 35 35.1 +0.5**
LYN S **S** **12 35 51.9 -2.8**
LYN sS ScS 12 36 03.8 +4.4
LYN pmax pmax
comp=Z,42nm,1.3s
LYN pmax pmax
comp=Z,1µm,5.2s
LYN LR LR
comp=Z,730nm,20.6s
LYN LR LR
comp=Z,790nm,18.7s
LYN LR LR
comp=Z,2µm,18.5s
BJI Beijing 89.46 314 P **P** **12 25 05.8 +1.3**
BJI pmax pmax
comp=Z,6.0nm,1.1s
BJI pmax pmax
comp=Z,340nm,4.9s
BJI LR LR
comp=Z,210nm,15.1s
BJI LR LR
comp=Z,170nm,16.5s
BJI LR LR
comp=Z,300nm,15.1s
K27K Chicken 89.50 14 IAmb IAmb 12 25 20.8
comp=Z,31nm,1.5s
K27K IAMs_20 IAMs_20 13 03 29.6
comp=Z,2µm,18.0s
F19K Shaleruckik Mo 89.58 6 IAmb IAmb 12 25 06.5
comp=Z,18nm,1.1s
PHWY Pilot Hill 89.70 45 IAMs_20 IAMs_20 13 13 17.8
comp=Z,1µm,18.0s
G21K Allakaket 89.78 8 IAmb IAmb 12 25 21.3
comp=Z,17nm,1.2s
G21K IAMs_20 IAMs_20 13 07 55.8
comp=Z,1µm,19.0s
ENH Enshi 89.78 303 P **P** **12 25 05.8 -0.5**
ENH IAMs_20 IAMs_20 13 03 40.2
comp=Z,1µm,19.0s
H24K Noodor Dome 90.00 11 IAMs_20 IAMs_20 13 04 34.3
comp=Z,2µm,20.0s
F20K Avaraart Lake 90.01 7 IAmb IAmb 12 25 22.3
comp=Z,57nm,1.9s
F20K IAMs_20 IAMs_20 13 05 26.8
comp=Z,2µm,19.0s
DAWY Dawson 90.14 15 IAmb IAmb 12 25 24.4
comp=Z,36nm,1.6s
E19K Redstone River 90.24 7 IAmb IAmb 12 25 23.9
comp=Z,19nm,0.9s
E19K IAMs_20 IAMs_20 13 05 44.7
comp=Z,1µm,19.0s
RDOG Red Dog Mine 90.33 4 IAMs_20 IAMs_20 13 08 56.8
comp=Z,1µm,19.0s
EGAK Eagle 90.36 14 IAmb IAmb 12 25 24.3
comp=Z,50nm,1.6s
I26K Coal Creek Min 90.40 13 IAmb IAmb 12 25 25.5
comp=Z,45nm,1.6s
GYA Guiyang 90.42 298 P **P** **12 25 11.1 +1.6**
GYA PP **PP** **12 28 42.5 -1.8**
GYA SKS **SKSac** **12 35 41.6 +0.6**
GYA S **S** **12 36 04.9 +0.5**
GYA pmax pmax
comp=Z,17nm,1.1s
GYA pmax pmax
comp=Z,470nm,5.4s
GYA LR LR
comp=Z,740nm,16.9s
F21K Alatna River 90.45 8 IAMs_20 IAMs_20 13 05 09.5
comp=Z,1µm,20.0s
LCO Las Campanas 90.62 122 IAMs_20 IAMs_20 12 59 27.6
comp=Z,2µm,19.0s
ZEA Zeya 90.74 330 *e*P **P** **12 25 12.1 +1.9**
ZEA *e* 12 28 47.9
ZEA *e*S **S** **12 36 10.6 +4.7**
ZEA pmax pmax
comp=N,100nm,5.5s
ZEA pmax pmax
comp=Z,300nm,8.4s
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA smax smax
comp=Z,300nm,13.8s
ZEA smax smax
comp=E,400nm,11.6s
ZEA smax smax
comp=N,500nm,10.6s
MTO3 Montecristo 90.81 75 P **P** **12 25 11.2 -0.5**
MTO3 IAmb IAmb 12 25 20.7
comp=Z,19nm,1.3s
G24K Hadweenzic Riv 90.85 10 IAMs_20 IAMs_20 13 05 38.9
comp=Z,2µm,20.0s
C18K Utukok River 91.04 5 IAmb IAmb 12 25 35.7
comp=Z,33nm,1.6s
C18K IAMs_20 IAMs_20 13 09 10.7
comp=Z,1µm,20.0s
BILL Bilibino 91.05 353 P **P** **12 25 10.7 -0.6**
BILL IAmb IAmb 12 25 33.9
comp=Z,34nm,1.8s
BILL IAMs_20 IAMs_20 13 04 08.0
comp=Z,1µm,20.0s
BILL Bilibino 91.05 353 *i* P **P** **12 25 12.1 +0.8**
D19K Kuna River 91.16 6 IAmb IAmb 12 25 19.4
comp=Z,14nm,1.1s
D19K IAMs_20 IAMs_20 13 09 36.9
comp=Z,1µm,19.0s
I28M Miner Creek 91.20 14 IAmb IAmb 12 25 28.1
comp=Z,38nm,1.9s
E22K Anaktuvuk Pass 91.53 8 IAmb IAmb 12 25 29.4
comp=Z,43nm,1.8s
E22K IAMs_20 IAMs_20 13 06 14.1
comp=Z,1µm,20.0s
F24K Squaw Lake 91.53 10 IAMs_20 IAMs_20 13 05 53.4
comp=Z,2µm,19.0s
E21K Killik River 91.55 7 IAMs_20 IAMs_20 13 06 06.5
comp=Z,2µm,19.0s
C19K Lookout Ridge 91.62 5 IAMs_20 IAMs_20 13 06 47.0
comp=Z,1µm,20.0s
I30M Mount Dempster 91.83 15 IAmb IAmb 12 25 34.3
comp=Z,31nm,1.4s
XAN Xi'an 91.84 306 ⇑P **P** **12 25 17.0 +1.1**
XAN SKS **SKSac** **12 35 49.0 +0.4**
XAN S **ScS** **12 36 21.5 +2.0**
XAN pmax pmax
comp=Z,76nm,0.9s
XAN pmax pmax
comp=Z,840nm,6.4s
XAN LR LR
comp=Z,630nm,17.9s
XAN LR LR
comp=Z,650nm,19.8s
XAN LR LR
comp=Z,1µm,19.6s
E24K Your Creek 91.95 9 IAMs_20 IAMs_20 13 06 46.3
comp=Z,2µm,18.0s
RSSD Black Hills 92.01 43 P **P** **12 25 19.3 +2.7**
baz=241
RSSD Black Hills 92.01 43 P **P** **12 25 19.2 +2.6**
RSSD pmax pmax
comp=Z,10.0nm,2.1s
G27K Doyon Strip 92.01 12 IAMs_20 IAMs_20 13 05 01.8
comp=Z,1µm,20.0s
HIA Hailar 92.02 323 IAMs_20 IAMs_20 13 03 47.6
comp=Z,2µm,19.0s
D22K Ayikyak River 92.12 8 IAMs_20 IAMs_20 13 06 53.6
comp=Z,2µm,18.0s
NNA Nana 92.36 104 IAMs_20 IAMs_20 12 56 58.7
comp=Z,1µm,20.0s
E25K Arctic Village 92.46 10 IAmb IAmb 12 25 35.0
comp=Z,14nm,1.3s
E25K IAMs_20 IAMs_20 13 06 21.4
comp=Z,1µm,20.0s
B21K Ikpikpuk River 92.60 7 IAMs_20 IAMs_20 13 06 44.1
comp=Z,2µm,19.0s
TRQA Tornquist 92.78 133 IAMs_20 IAMs_20 13 03 51.8
comp=Z,2µm,18.0s
ATAH Atahualpa 92.82 99 LR LR 13 00 16.1
comp=Z,2µm,18.1s,baz=266,slow=31
HHC Hu-ho-hao-te 92.94 313 *e*P **P** **12 25 22.3 +1.4**
HHC sP pwP 12 25 32.1 +0.8
HHC SKS **SKSac** **12 35 56.0 +1.4**
HHC S **ScS** **12 36 27.8 -0.7**
HHC sS sS 12 36 35.6 +4.4
HHC pmax pmax
comp=Z,38nm,0.7s
HHC pmax pmax
comp=Z,390nm,4.8s
HHC LR LR
comp=Z,3µm,17.1s
HHC LR LR
comp=Z,3µm,16.1s
HHC LR LR
comp=Z,1µm,19.6s
F28M Old Crow 93.06 13 IAmb IAmb 12 25 38.2
comp=Z,39nm,1.9s
F28M IAMs_20 IAMs_20 13 06 04.6
comp=Z,2µm,20.0s
KMI Kunming 93.13 296 ⇑P **P** **12 25 24.4 +2.2**
KMI PP **PP** **12 29 05.8 0.0**
KMI SKS **SKSac** **12 35 58.5 +2.0**
KMI S **S** **12 36 24.0 -5.1**
KMI pmax pmax
comp=Z,20nm,1.0s
KMI pmax pmax
comp=Z,330nm,6.4s
KMI LR LR
comp=Z,420nm,19.3s
KMI LR LR
comp=Z,720nm,19.1s
KMI LR LR
comp=Z,950nm,19.7s
E27K Coleen River 93.22 12 IAmb IAmb 12 25 38.6
comp=Z,21nm,1.4s
CRAI Chiangrai 93.28 290 P **P** **12 25 22.1 -0.7**
CRAI IAmb IAmb 12 25 25.2
comp=Z,14nm,1.0s
C23K Itkillik River 93.28 8 IAMs_20 IAMs_20 13 07 22.3
comp=Z,2µm,19.0s
D25K Kavik River 93.41 10 IAMs_20 IAMs_20 13 07 24.0
comp=Z,2µm,20.0s
B22K Teshekpuk Lake 93.42 7 IAmb IAmb 12 25 38.6
comp=Z,20nm,1.3s
G31M Satah River 93.72 15 IAmb IAmb 12 25 41.8
comp=Z,28nm,1.4s
CMAR Chiang Mai Arr 93.87 288 P **P** **12 25 26.1 +0.6**
comp=Z,17nm,1.0s,baz=120,slow=2.9,SNR=84
CMAR LR LR 13 05 39.0
comp=Z,400nm,19.6s,baz=125,slow=34
comp=Z,17nm,1.0s
BTO Baotou 93.89 312 *e*P **P** **12 25 25.6 +0.4**
BTO pP **sP** **12 25 29.9 +0.9**
BTO sP **pwP** **12 25 32.9 -2.7**
BTO SKS **SKSac** **12 35 58.9 -0.9**
BTO S **ScS** **12 36 36.4 0.0**
BTO SS **SS** **12 42 56.6 +1.9**
BTO pmax pmax
comp=Z,28nm,0.9s
BTO pmax pmax
comp=Z,1µm,5.6s
BTO LR LR
comp=Z,560nm,17.7s
BTO LR LR
comp=Z,670nm,17.2s
BTO LR LR
comp=Z,760nm,13.9s
TEIG Tepich 93.97 70 LR LR 13 01 31.4
comp=Z,6µm,19.6s,baz=4.5,slow=31
E28M Babbage River 93.98 12 IAmb IAmb 12 25 41.7
comp=Z,16nm,1.2s
E28M IAMs_20 IAMs_20 13 07 02.7
comp=Z,2µm,19.0s
CHTO Chiang Mai 94.00 289 P **P** **12 25 24.3 -1.8**
CHTO IAmb IAmb 12 25 28.6
comp=Z,18nm,0.8s
CHTO Chiang Mai 94.00 289 P **P** **12 25 24.3 -1.8**
CHTO pmax pmax
comp=Z,19nm,0.8s
CHTO MLR MLR
comp=Z,600nm,19.0s
DGMT Dagmar 94.03 39 IAMs_20 IAMs_20 13 03 35.8
comp=Z,2µm,20.0s
DGMT Dagmar 94.03 39 P **P** **12 25 28.2 +2.6**
baz=241
E29M Blow River 94.12 13 IAmb IAmb 12 26 14.5
comp=Z,31nm,1.9s
E29M IAMs_20 IAMs_20 13 06 36.6
comp=Z,2µm,18.0s
K30B Basset 94.19 46 P **P** **12 25 29.5 +3.0**
baz=244
D27M Malcolm River 94.25 11 IAmb IAmb 12 25 43.4
comp=Z,32nm,1.6s
F31M Tsiigehtchic 94.25 15 IAmb IAmb 12 25 44.4
comp=Z,32nm,1.4s
PZH PanZhiHua 94.48 297 P **P** **12 25 29.6 +1.3**
PZH SKS **SKSac** **12 36 03.9 +0.2**
PZH S **ScS** **12 36 42.6 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,290nm,5.1s
PZH LR LR
comp=Z,290nm,18.6s
PZH LR LR
comp=Z,460nm,18.1s
PZH LR LR
comp=Z,720nm,21.1s
CD2 Chengdu 94.54 301 P **P** **12 25 28.4 0.0**
CD2 SKS **SKSac** **12 36 07.5 +3.9**
CD2 S **ScS** **12 36 45.8 +3.7**
CD2 pmax pmax
comp=Z,420nm,10.2s
CD2 LR LR
comp=Z,190nm,10.6s
CD2 LR LR
comp=Z,230nm,14.5s
CD2 LR LR
comp=Z,720nm,17.0s
LVC Limon Verde 94.86 117 IAMs_20 IAMs_20 13 03 48.6
comp=Z,1µm,18.0s
LVC Limon Verde 94.86 117 LR LR 13 01 05.7
comp=Z,1µm,18.6s,baz=250,slow=31
YAK Yakutsk 94.93 337 *e*P **P** **12 25 28.5 -0.8**
YAK *e*S **SKSac** **12 36 03.5 -0.6**
YAK *e* 12 36 35.2
YAK pmax pmax
comp=Z,9.0nm,1.0s
YAK pmax pmax
comp=Z,144nm,3.5s
YAK smax smax
comp=E,112nm,3.7s
YAK smax smax
comp=N,65nm,2.8s
YAK Yakutsk 94.93 337 LR LR 13 03 17.6
comp=N,23nm,20.1s,baz=118,slow=32
INK Inuvik 95.00 14 LR LR 13 05 36.4
comp=N,978nm,18.3s,baz=183,slow=34
LZH Lanzhou 96.48 306 *e*P **P** **12 25 38.5 +1.2**
LZH pP pwP 12 25 46.3 -1.4
LZH SKS **SKSac** **12 36 15.4 +1.5**
LZH S **S** **12 36 56.6 -1.2**
LZH pmax pmax
comp=N,18nm,1.3s
LZH pmax pmax
comp=N,360nm,7.6s
LZH LR LR
comp=N,450nm,17.2s
LZH LR LR
comp=N,610nm,18.2s
LZH LR LR
comp=N,680nm,19.2s
YKA Yellowknife Ar 96.61 24 P **P** **12 25 38.1 +1.2**
comp=N,1.3nm,0.8s,baz=241,slow=4.5,SNR=18
YKA LR LR 13 04 28.2
comp=N,724nm,18.7s,baz=250,slow=32
comp=N,1.3nm,0.8s
ECSD EROS Data Cent 96.63 45 P **P** **12 25 39.0 +1.5**
baz=246
TNCH TengChong 96.64 294 ⇓P **P** **12 25 38.3 0.0**
TNCH SKS **SKSac** **12 36 15.4 +0.1**
TNCH S **S** **12 36 52.1 -7.6**
TNCH pmax pmax
comp=N,310nm,4.9s
TNCH LR LR
comp=N,160nm,16.6s
TNCH LR LR
comp=N,200nm,13.8s
TNCH LR LR
comp=N,570nm,19.9s
ULN Ulaanbaatar 98.84 318 *i* P **P** **12 25 47.4 -0.2**
ULN pmax pmax
comp=Z,2.0nm,1.1s
SONM Songino Array 99.24 318 P **Pdif** **12 25 47.6 -1.7**
SONM IAmb IAmb 12 25 56.7
comp=Z,10nm,1.6s
SONM Songino Array 99.24 318 P **Pdif** **12 25 48.8 -0.5**
comp=Z,0.2nm,0.5s,baz=159,slow=4.5,SNR=2.4
SONM LR LR 13 05 39.2
comp=Z,564nm,21.6s,baz=126,slow=32
comp=Z,0.2nm,0.5s
A36M Sachs Harbour 99.63 14 IAmb IAmb 12 26 32.0
comp=Z,9.3nm,1.1s
ULM Lac du Bonnet 99.70 40 LR LR 13 06 43.8
comp=Z,2µm,19.4s,baz=241,slow=33
TIXI Tiksi 101.22 344 IAMs_20 IAMs_20 13 12 57.1
comp=Z,1µm,19.0s
TIXI Tiksi 101.22 344 *i* P **Pdif** **12 25 58.2 +0.8**
SDV Santo Domingo 105.94 87 IAMs_20 IAMs_20 13 09 24.4
comp=Z,892nm,18.0s
PALK Pallekele 106.52 271 IAMs_20 IAMs_20 13 15 48.6

comp=Z,971nm,20.0s
CBN Corbin Frederi 108.63 56 IAMs_20 IAMs_20 13 13 40.2
comp=Z,1μm,19.0s
WMQ Urumqi 110.58 310 *e*PKP **PKiKP 12 30 41.0 +0.8**
WMQ LR LR
comp=Z,330nm,24.9s
WMQ LR LR
comp=Z,490nm,14.5s
WMQ LR LR
comp=Z,650nm,22.9s
ZALV Zalesovo Beam 113.91 321 PKiKP **PKiKP 12 30 46.0 -0.1**
comp=Z,0.7nm,0.6s,baz=115,slow=6.5,SNR=4.4
MKAR Makanchi Array 114.81 313 PKiKP PKPdf 12 30 46.9 -1.2
comp=Z,0.4nm,0.6s,baz=15,slow=11,SNR=2.2
TULEG Thule 114.99 14 IAMs_20 IAMs_20 13 18 39.2
comp=Z,843nm,20.0s
KURK Kurchatov 117.51 317*c* *i*PKiKP **PKiKP 12 30 53.7 +0.5**
KURK pmax pmax
comp=Z,5.0nm,2.5s
KURBB Kurchatov Arra 117.57 317 PKP **PKiKP 12 30 53.5 +0.3**
comp=Z,0.8nm,0.3s,baz=105,slow=2.0,SNR=6.4
FOMA Nahampoana Res118.33 223 IAMs_20 IAMs_20 13 17 08.9
comp=Z,1μm,18.0s
AAK Ala-Archa 119.99 307*c* *i*PKiKP **PKiKP 12 31 00.3 +1.8**
AAK pmax pmax
comp=Z,4.0nm,1.3s
VOI Vohitsoka 120.62 225 IAMs_20 IAMs_20 13 19 02.7
comp=Z,1μm,19.0s
ABPO Ambohimpanom 122.33 228 IAMs_20 IAMs_20 13 19 08.8
comp=Z,1μm,18.0s
BVAR Borovoye Array 122.53 320 PKP **PKiKP 12 31 03.5 +0.6**
comp=Z,2.9nm,0.7s,baz=90,slow=3.0,SNR=11
BRVK Borovoye 122.59 320 PKPdf 12 31 02.6 -0.2
BRVK Borovoye 122.59 320 IAMs_20 IAMs_20 13 23 45.3
comp=Z,843nm,18.0s
BRVK Borovoye 122.59 320*c* *i*PKiKP **PKiKP 12 31 03.3 +0.3**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 122.93 308 PKPdf 12 31 02.8 -1.1
KKAR Karatay Array 122.93 308 PKiKP **PKPdf 12 31 02.8 -1.1**
KBL Kabul 123.66 298 PKPdf 12 31 06.0 +0.2
KBL Kabul 123.66 298 PKiKP **PKPdf 12 31 06.0 +0.2**
ARU Arti 128.48 326 PKPdf 12 31 13.1 -0.9
ARU Arti 128.48 326 *i* PKiKP **PKiKP 12 31 16.1 +1.4**
ARU 12 33 19.6
ARU 12 38 27.2
ARU SS SS 12 50 36.1 +1.1
ARU MLR MLR
comp=Z,2μm,20.0s
ARCES ARCESS Array B 131.11 351 PKP **PKPdf 12 31 18.6 -0.1**
comp=Z,1.4nm,0.6s,baz=5.7,slow=1.2,SNR=1.1
GEYT Alibeck 132.54 302 PKP **PKPdf 12 31 20.9 -1.5**
comp=Z,1.7nm,0.4s,baz=93,slow=4.1,SNR=1.3
KLMR Klimovskoe 134.72 337 *e*PKPdf **PKPdf 12 31 21.8 -3.9**
KLMR AMP 12 31 31.2
comp=Z,23nm,1.9s
KLMR Klimovskoe 134.72 337 *e*PKIKP **PKPdf 12 31 21.8 -3.9**
KLMR pmax pmax
comp=Z,23nm,1.9s
BELG Belogornoye 135.94 324 *i* PKiKP **PKPdf 12 31 29.0 +0.8**
BELG pmax pmax
comp=Z,2.0nm,0.8s
OBN Obninsk 139.79 333 IAMs_20 IAMs_20 13 34 49.9
comp=Z,1μm,20.0s
OBN Obninsk 139.79 333↑ *e*PKIKP **PKiKP 12 31 39.0 +1.4**
OBN *e* 12 34 33.1
OBN pmax pmax
comp=Z,6.0nm,1.0s
OBN MLR MLR
comp=Z,920nm,20.0s
KIBK Kibwezi 140.09 237 IAMs_20 IAMs_20 13 34 35.0
comp=Z,895nm,18.0s
KMBO Kilima Mbogo 141.46 237 IAMs_20 IAMs_20 13 29 41.7
comp=Z,897nm,19.0s
KMBO Kilima Mbogo 141.46 237 *e*P **PKPdf 12 31 36.5 -3.4**
KMBO Kilima Mbogo 141.46 237 *e*P **PKPdf 12 31 36.5 -3.4**
HFS Hagfors 141.62 354 PKP **PKPdf 12 31 37.8 -0.6**
comp=Z,5.7nm,1.0s,baz=62,slow=9.9,SNR=2.4
KIV Kislovodsk 142.53 314 *i* PKiKP **PKPdf 12 31 39.4 -1.3**
KIV pmax pmax
comp=Z,8.0nm,1.1s
ATD Arta Tunnel 142.96 260 IAMs_20 IAMs_20 13 36 37.5
comp=Z,771nm,18.0s
ATD Arta Tunnel 142.96 260 *e*P **PKiKP 12 31 44.2 -1.3**
ATD Arta Tunnel 142.96 260 *e*P **PKiKP 12 31 44.2 -1.3**
MNK Minsk 143.61 338 *i* PKP PKPbc 12 31 40.0 +0.5
comp=E,7.0nm,0.8s
MNK *i* PKP PKPbc 12 31 40.0 +0.5
comp=N,21nm,0.8s
MNK *i* PKP PKPbc 12 31 40.0 +0.5
comp=Z,6.0nm,0.8s,baz=37
MNK *i* PP **PP 12 34 51.5 -2.3**
MNK *i* PPP PPP 12 38 00.9
MNK *i* SKS **SKSac 12 38 55.5 -3.1**
MNK *i* SKKS **SKKSdf 12 48 04.7 -2.7**
MNK *i* SS **SS 12 53 33.5 -1.5**
MNK *i* SSS SSS 12 58 55.1
MNK *i* LR LR 13 33 26.4
MNK *i* LRM MLR 13 37 04.2
comp=N,640nm,20.0s
MNK *i* LRM MLR 13 37 17.1
comp=Z,622nm,19.4s
MNK *i* LRM MLR 13 37 50.0
comp=E,160nm,18.1s
MNK Minsk 143.61 338 *i* PKiKP PKPbc 12 31 39.9 +0.4
MNK *i* 12 34 51.5
MNK *i* 12 38 55.4
MNK *i* SS SS 12 53 33.4 -1.6
MNK *i* SSS SSS 12 58 55.0
MNK pmax pmax
comp=N,21nm,0.9s
MNK pmax pmax
comp=E,7.0nm,0.8s
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK MLR MLR
comp=N,640nm,20.0s
MNK MLR MLR
comp=Z,622nm,19.0s
MNK MLR MLR
comp=E,160nm,18.0s
NACGM Naroch 143.65 339 *e*PKP PKiKP 12 31 54.9 +9.4
comp=Z,25nm,0.8s,baz=35
BCA Borcka 144.22 311↑P **PKPdf 12 31 43.5 -0.2**
SOC Sochi 144.65 315*c* *i*PKiKP **PKPab 12 31 41.8 -1.1**
SOC *e*SS SS 12 53 49.2 +0.9
SOC pmax pmax
comp=Z,9.0nm,0.5s
GURO Guroymak-BITLI 144.87 306 PKPdf **PKPdf 12 31 46.3 +1.3**
SUW Suwalki 145.52 342 *e*PKP **PKPab 12 31 46.6 +0.9**
SUW Suwalki 145.52 342 PKIKP **PKPab 12 31 46.3 +0.6**
MUD Monsted U'grnd 145.63 357 *i* P **PKPab 12 31 46.0 0.0**
FURI Furi 145.66 253 IAMs_20 IAMs_20 13 33 09.3
comp=Z,888nm,20.0s
FURI Furi 145.66 253 *e*P **PKPdf 12 31 46.5 -0.8**
FURI Furi 145.66 253 *e*P **PKPdf 12 31 46.5 -0.8**
LODK Lodwar 145.69 241 IAMs_20 IAMs_20 13 37 55.9
comp=Z,868nm,18.0s
LODK Lodwar 145.69 241 *e*P **PKPdf 12 31 43.8 -3.3**
LODK Lodwar 145.69 241 *e*P **PKPdf 12 31 43.8 -3.3**
DESE Dese 145.72 257 *e*P **PKiKP 12 31 50.0 -1.4**
DESE Dese 145.72 257 *e*P **PKiKP 12 31 50.0 -1.4**
KLNR Kaliningrad 145.78 345 *i* PKiKP **PKPab 12 31 46.6 0.0**
KLNR pmax pmax
comp=Z,141nm,1.1s
AKASG Malin Array Be 146.06 333 PKP2 **PKPbc 12 31 47.0 -0.3**
AKASG Malin Array Be 146.06 333 PKPbc **PKPbc 12 31 47.0 -0.3**
comp=Z,3.2nm,0.5s,baz=37,slow=3.7,SNR=38
AKBB Malin Array Si 146.06 333 *i* PKP2 **PKPbc 12 31 47.1 -0.2**
KIEV Kiev 146.07 333↓P **PKPab 12 31 48.3 +0.4**
KIEV Kiev 146.07 333 PKPdf 12 31 46.2 -0.3
KIEV Kiev 146.07 333 PKIKP **PKPdf 12 31 46.2 -0.3**
COP Copenhagen 146.13 353 *e*P **PKiKP 12 31 52.8 +2.2**
EKA Eskdalemuir Ar 146.21 9 PKPbc **PKPdf 12 31 46.7 +0.1**
comp=Z,1.3nm,0.7s,baz=357,slow=3.9,SNR=2.5
SSRD Sdr. Stenderup 146.58 356 *e*P **PKiKP 12 31 52.2 +0.7**
SIM Simferopol' 147.42 321 *i* PKP2 **PKiKP 12 31 53.8 +0.2**
SIM pmax pmax
comp=Z,72nm,1.1s
SORM Soroca 148.34 330↑P **PKiKP 12 31 54.9 -0.5**
SORM Soroca 148.34 330↑PKP2 **PKiKP 12 31 54.9 -0.5**
HORU Horodok 148.36 334 PKIKP **PKPdf 12 31 51.9 +1.5**
DIKM Dikmen 148.46 315↑P **PKiKP 12 31 56.3 +0.4**
KMPD K-Podol'skiy 148.85 333 PKP2 **PKiKP 12 31 56.0 -0.4**
GAZ Gaziantep 148.93 306 PKPdf 12 31 52.1 +0.4
MILM Milestii Mici 149.00 328 *e*PKHKP PKPpre 12 31 51.0
MILM Milestii Mici 149.00 328↑PKP **PKiKP 12 31 56.3 -0.5**
comp=Z,930nm,7.4s
MILM Milestii Mici 149.00 328 *e*PP PP 12 35 34.0 +8.0
MILM *e*L L 13 39 23.0
MILM LRM MLR 13 41 43.0
comp=Z,900nm,16.0s
MILM Milestii Mici 149.00 328*c* *e*PKIKP **PKPdf 12 31 51.0 -0.4**
MILM *i* 12 31 56.3
MILM *e* 12 35 34.0
MILM *e* 12 55 17.0
MILM pmax pmax
comp=Z,900nm,7.4s
BNN Bunyan 149.30 310 PKiKP 12 31 58.3 +0.4
MORS Morshin 149.42 336 PKP2 **PKiKP 12 31 58.4 +0.8**
KSV Kosov 149.63 334 PKP2 **PKPbc 12 31 56.3 -0.8**
BUR08 Bucovina Ar. S 150.10 333 PKPdf **PKPdf 12 31 52.0 -1.3**
BUR08 **sPKPbc 12 32 02.0 -0.2**
BURAR Bucovina Array 150.12 333↑P **PKiKP 12 32 01.2 +1.9**
BURAR Bucovina Array 150.12 333↑PKP2 **PKiKP 12 32 01.2 +1.9**
TLCR 150.20 326↑P **PKiKP 12 32 00.0 +0.7**
TLCR 150.20 326↑PKP2 **PKiKP 12 32 00.0 +0.7**
TESR Tescani 150.32 330↓P **PKiKP 12 32 00.7 +1.1**
CLL Collm 150.33 351 *e*PKPdf **PKPdf 12 31 55.0 +1.6**
CLL *i* PKPbc **pPKPbc 12 32 00.4 -1.1**
comp=Z,23nm,1.1s
CLL *i* pPKPbc **PKPab 12 32 03.4 -1.5**
comp=Z,21nm,1.0s
CLL *e*PKPab **pPKPab 12 32 06.0 -1.7**
CLL *i* pPKPab **sPKPab 12 32 08.1 -0.6**
comp=Z,103nm,1.9s
CLL *e*SKPdf **SKPdf 12 35 29.0 +2.3**
CLL *e*PPPPrev 12 49 01.0
CLL *ex* x 12 51 54.0
CLL *e*SS **SS 12 54 58.0 +7.4**
CLL *e*SSS SSS 13 00 34.0
CLL *ex* x 13 01 30.0
CLL *ex* x 13 05 48.0
CLL AMS AMS 13 43 00.0
comp=N,500nm,19.4s
CLL AMS AMS 13 43 00.0
comp=E,400nm,20.3s
CLL AMS AMS 13 43 00.0
comp=Z,900nm,19.3s
CLL Collm 150.33 351 *e*PKIKP **PKPdf 12 31 55.0 +1.6**
CLL *i* 12 32 00.4
CLL pmax pmax
comp=Z,23nm,1.1s
CLL MLR MLR
comp=Z,900nm,19.3s
BRTR Keskin Array B 150.46 313 PKiKP 12 32 00.7 +0.4
BRTR Keskin Array B 150.46 313 PKPbc **PKiKP 12 32 00.1 -0.2**
comp=Z,7.9nm,0.8s,baz=133,slow=3.1,SNR=3.6
CHVC Chvalec 150.46 346↑ *e*PKP **PKiKP 12 32 01.5 +1.7**
CHVC Chvalec 150.46 346 *e*PKIKP **PKiKP 12 32 01.5 +1.7**
CRVS Cervenica-Dubn 150.49 339 *e*PKP **PKiKP 12 32 01.3 +1.4**
CRVS *e* 12 32 06.5
CRVS Cervenica-Dubn 150.49 339 *e*PKIKP **PKiKP 12 32 01.3 +1.4**
CRVS *e* 12 32 06.5
CFR Carcaliu 150.56 327↑P **PKiKP 12 32 01.1 +1.1**
CFR Carcaliu 150.56 327↑PKIKP **PKiKP 12 32 01.1 +1.1**
BRG Berggiesshubel 150.60 349 *e*PKP **PKPdf 12 31 49.8 -4.1**
BRG Amp 12 32 01.1
comp=Z,23nm,1.1s
BRG Berggiesshubel 150.60 349 P PKPab 12 32 14.0 +8.0
BRG Amp 12 32 15.0
comp=Z,17nm,0.9s
BRG Berggiesshubel 150.60 349 *e*PKIKP **PKPdf 12 31 49.7 -4.1**
BRG pmax pmax
comp=Z,23nm,1.1s
DPC Dobruska-Polom 150.63 346↑ *e*PKP **PKiKP 12 32 01.7 +1.6**
DPC AMS AMS 13 47 50.0
comp=Z,800nm,21.1s
DPC Dobruska-Polom 150.63 346 *e*PKIKP **PKiKP 12 32 01.7 +1.6**
DPC MLR MLR
comp=Z,800nm,21.1s
TPGR Topolog 150.63 326↑P **PKiKP 12 32 01.4 +1.1**
VRI Vrincioaia 150.76 329↑P **PKiKP 12 32 02.0 +1.5**
VRI Vrincioaia 150.76 329↑PKIKP **PKiKP 12 32 02.0 +1.5**
KRLC Kraliky 150.78 345↑ *e*PKP **PKiKP 12 32 01.8 +1.3**
KRLC Kraliky 150.78 345 *e*PKIKP **PKiKP 12 32 01.8 +1.3**
PLOR Plostina 150.81 329↑P **PKiKP 12 32 01.3 +0.6**
PLOR Plostina 150.81 329↑PKIKP **PKiKP 12 32 01.3 +0.6**
MORC Moravsky Berou 150.87 344↑P **PKiKP 12 32 02.9 +2.2**
MORC Moravsky Berou 150.87 344 *e*PKP **PKiKP 12 32 01.3 +0.6**
RICC Richard 150.89 349↑ *e*PKP **PKiKP 12 32 02.5 +1.9**
LANS Liptovska Anna 150.90 341 *e*PKP **PKPab 12 32 06.9 -0.5**
HSKC Hora Svate Kat 150.94 350↑ *e*PKP **PKiKP 12 32 02.5 +1.7**
ANTO Ankara 150.96 314↑P **PKiKP 12 32 02.4 +1.2**
ANTO Ankara 150.96 314↑PKIKP **PKiKP 12 32 02.4 +1.2**
HARR Harsova 151.00 326↓P **PKiKP 12 32 02.5 +1.5**
BISRR Bisoca 151.00 329↑P PKPab 12 32 17.0 +9.0
OZUR 151.03 330↓P **PKiKP 12 32 02.7 +1.6**
BOSR Bodos 151.10 330↑P **PKiKP 12 32 03.7 +2.4**
MAUC Maruska 151.17 343↑ *e*PKP **PKiKP 12 32 02.8 +1.5**
DOPR Dopca 151.31 331↑P **PKiKP 12 32 03.9 +2.3**
PRU Pruhonice 151.34 348↑ *e*PKP **PKiKP 12 32 02.4 +0.8**
PRU *ep*PKP **sPKPab 12 32 15.0 +2.1**
PRU Pruhonice 151.34 348 *e*PKIKP **PKiKP 12 32 02.4 +0.8**
GOPC GO Pecny, Ondr 151.36 348↑ *e*PKP **PKiKP 12 32 02.7 +1.1**
GOPC AMS AMS 13 48 20.0
comp=Z,1μm,21.8s
GOPC GO Pecny, Ondr 151.36 348 *e*PKIKP **PKiKP 12 32 02.7 +1.1**
GOPC MLR MLR
comp=Z,1μm,21.8s
MLR Muntele Rosu 151.41 329↓P **PKiKP 12 32 03.0 +1.0**
MLR Muntele Rosu 151.41 329 PKiKP 12 32 02.9 +0.9
MLR Muntele Rosu 151.41 329 PKIKP **PKiKP 12 32 02.9 +0.9**
VRAC Vranov 151.54 345 *e*PKP **PKiKP 12 32 03.0 +1.0**
MMAI Mount Meron Ar 151.59 299 PKPbc **PKiKP 12 32 03.5 +0.8**
comp=Z,17nm,0.8s,baz=46,slow=2.4,SNR=15
MEM Membach 151.59 360 *d*PKP **PKPab 12 32 09.9 -0.2**
BTNL Ternell 151.61 359 *d*PKP **PKPab 12 32 10.2 -0.1**
JAVC Velka Javorina 151.68 343 *e*PKP **PKiKP 12 32 04.2 +1.8**
VYHS Vyhne 151.68 341 *e*PKP **PKiKP 12 32 03.5 +1.2**
VYHS Vyhne 151.68 341 *e*PKIKP **PKiKP 12 32 03.5 +1.2**
BCLA Clavier 151.78 0 *d*PKP **PKPab 12 32 10.2 -0.7**
KRUC Moravsky 151.81 345 *e*PKP **PKiKP 12 32 03.6 +1.0**
GHAJ Ghor Haditha 151.84 295 IAMs_20 IAMs_20 13 44 22.5
comp=Z,865nm,19.0s
BHOU Houvegnez 151.84 360 *d*PKP **PKPab 12 32 10.4 -0.8**
SULR 151.85 328↑P **PKiKP 12 32 06.1 +3.4**
VOIR 151.87 330↑P **PKiKP 12 32 05.3 +2.4**
ARR Arges 152.11 331↓P **PKiKP 12 32 05.7 +2.3**
MODS Modra-Piesok 152.23 343 *e*PKP **PKPbc 12 32 03.1 -0.1**
MODS *e* 12 32 14.4
MODS Modra-Piesok 152.23 343 *e*PKIKP **PKPbc 12 32 03.1 -0.1**
KHC Kasperske Hory 152.34 349↑ *e*PKP **PKPbc 12 32 02.3 -1.1**
KHC *ep*PKP **sPKPab 12 32 18.6 +1.4**
KHC Kasperske Hory 152.34 349 *e*PKIKP **PKPbc 12 32 02.3 -1.1**
ZST Bratislava 152.44 343 *e*PKP **PKiKP 12 32 04.9 +1.0**
CKRC Cesky Krumlov 152.50 348↑ *e*PKP **PKiKP 12 32 05.3 +1.3**
CKRC AMS AMS 13 45 00.0
comp=Z,1μm,23.4s
GERES GERESS Array B 152.60 348 PKPbc **PKiKP 12 32 06.2 +1.9**
GERES PKPab **PKPab 12 32 15.3 +0.8**
GERES GERESS Array B 152.60 348 PKPbc **PKPbc 12 32 03.0 -1.1**
comp=Z,2.2nm,0.7s,baz=58,slow=4.4,SNR=6.9
CSS Mathiatis 152.64 304 IAMs_20 IAMs_20 13 46 18.1
comp=Z,554nm,20.0s
GZR Gura Zlata 152.90 333↓P **PKiKP 12 32 06.4 +1.4**
CONA Conrad Observa 153.00 345 *e*PKiKP **PKiKP 12 32 06.6 +1.4**
comp=Z,28nm,1.7s
RONA Rosalia, Austr 153.10 344 *e*PKP **PKiKP 12 32 06.0 +0.7**
comp=Z,13nm,1.2s
BZS Buzias 153.20 335↓P **PKiKP 12 32 06.9 +1.4**
MOA Molln 153.44 347 *e*PKiKP **PKiKP 12 32 07.5 +1.5**
comp=Z,8.7nm,1.6s
HERR Herculane 153.47 333↓P **PKiKP 12 32 07.6 +1.5**
ISP Isparta 153.50 312 IAMs_20 IAMs_20 13 55 29.5
comp=Z,647nm,21.0s
ARSA Arzberg 153.72 345 *e*PKP **PKPdf 12 31 59.3 +0.6**
comp=Z,8.3nm,1.5s
MORH Mrgy, Hungar 153.76 339↑P **PKPbc 12 32 06.4 -0.1**
MDVR Moldovita 153.84 333↑P **PKiKP 12 32 08.9 +1.9**
LESA Schwarzleotal 154.15 349 *e*PKiKP **PKiKP 12 32 09.3 +1.7**
comp=Z,13nm,1.6s
RETA Reutte 154.38 352 *e*PKiKP **PKiKP 12 32 10.3 +2.3**
comp=Z,3.3nm,0.6s
WATA Walderalm 154.42 351 *e*PKP **PKiKP 12 32 08.7 +0.5**
comp=Z,6.9nm,1.1s
WTTA Wattenberg 154.48 351 *i* PKP **PKiKP 12 32 09.1 +0.7**
comp=Z,11nm,1.5s
ABTA Abfaltersbach 154.83 349 *e*PKP **PKPdf 12 32 00.8 +0.4**
comp=Z,12nm,1.7s
ABTA *i* PKP **PKiKP 12 32 09.6 +0.6**
comp=Z,6.1nm,1.0s
FETA Feichten 154.84 352 *e*PKP **PKPdf 12 32 02.6 +2.2**
comp=Z,15nm,1.3s
ESDC Sonseca Array 160.70 23 PKP **PKPdf 12 32 07.9 +0.1**
comp=Z,0.3nm,0.3s,baz=320,slow=2.8,SNR=2.0
ESDC PKPab **pPKPab 12 32 50.8 -1.5**
comp=Z,0.3nm,0.6s,baz=333,slow=5.2,SNR=2.8
DBIC Dimbokro 161.57 145 PKP **PKPdf 12 32 10.5 +1.1**
comp=Z,2.4nm,0.8s,baz=256,slow=5.0,SNR=3.1
TORD Torodi Ar. Bea 170.29 157 PKP **PKPdf 12 32 17.4 +1.1**
comp=Z,1.2nm,0.8s,baz=180,slow=0.8,SNR=6.1
TORD PKPab **sPKPab 12 33 36.6 +0.6**
comp=Z,3.7nm,1.1s,baz=215,slow=0.6,SNR=6.9
TORD PP **PP 12 37 25.4 +4.3**
comp=Z,1.7nm,1.2s,baz=217,slow=4.1,SNR=5.4

IDC ***15*** *12:38:20.8±0.7, 34.99N×101.84E, h0km, mb4.0/19, mbtmp4.1/21, ML4.3/2, MS4.0/11, Error ellipse: s-maj=21.8km s-min=13.9km az=48.0*
MOS ***15*** *12:38:21.1±1.3, 34.95N×101.79E, h13km, mb4.6/17, MS4.0/4, Error ellipse: s-maj=8.2km s-min=6.2km az=97.8*
BJI ***15*** *12:38:22.2, 35.13N×101.88E, h7km, mb4.5/30, mB4.8/14, ML4.5/22, Ms4.4/40, Ms7 4.2/39*
NEIC ***15*** *12:38:22.7±1.3, 35.00N±0.09×101.80E±0.07, h10km±1km, mb4.7/47, Error ellipse: s-maj=15.7km s-min=8.6km az=160.0*

ISC 15 12:38:23.8±0.3, 35.05N±0.03×101.80E±0.03, h10km, n150, σ2s09/160, mb4.5/57, MS4.0/13, 13C-3D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	**1.96**	**58**	Pg	**Pn**	**12 38 56.4**	**-0.8**
LZH				Sg	**Sn**	**12 39 21.1**	**-0.9**
LZH				smax	smax		
	comp=N,11μm,0.9s						
LZH				smax	smax		
	comp=E,10μm,0.8s						
CD2	**Chengdu**	**4.44**	**158**	Pg	**Pg**	**12 39 49.4**	**+0.5**
CD2				Sg	**Sg**	**12 40 47.5**	**+1.0**
CD2				smax	smax		
	comp=N,380nm,1.1s						
CD2				smax	smax		
	comp=E,460nm,1.4s						
GTA	**Gaotai**	**4.63**	**341**	Pn	**Pn**	**12 39 34.4**	**+0.4**
GTA				Pg	**Pb**	**12 39 47.3**	**+2.1**
GTA				Sg	**Sb**	**12 40 46.4**	**+5.3**
GTA				smax	smax		
	comp=E,240nm,1.8s						
GTA				smax	smax		
	comp=E,610nm,1.2s						
GTA				LR	LR		
	comp=E,4μm,7.2s						
GTA				LR	LR		
	comp=E,2μm,10.8s						
GOMU	**GeErMu**	**5.81**	**283**	Pn	**Pn**	**12 39 54.3**	**+4.0**
GOMU				Sn	**Sn**	**12 41 01.3**	**+4.2**
GOMU				LR	LR		
	comp=E,880nm,5.6s						
GOMU				LR	LR		
	comp=E,1μm,6.0s						
XAN	**Xi'an**	**5.96**	**98**	Pn	**Pn**	**12 39 50.3**	**-1.8**
XAN				Pg	**Pb**	**12 40 11.9**	**+4.1**
XAN				Sn	**Sn**	**12 40 52.6**	**-7.9**
XAN				Sg	**Sg**	**12 41 30.9**	**-4.2**
XAN				smax	smax		
	comp=E,860nm,1.0s						
XAN				smax	smax		
	comp=E,570nm,0.9s						
XAN				LR	LR		
	comp=E,4μm,4.5s						
XAN				LR	LR		
	comp=E,5μm,5.0s						
XAN				LR	LR		
	comp=E,4μm,9.8s						
ENH	**Enshi**	**8.04**	**124**		**Pn**	**12 40 19.1**	**-1.6**
PZH	**PanZhiHua**	**8.52**	**180**	P	**Pn**	**12 40 29.4**	**+2.1**
PZH				S	**Sn**	**12 42 07.4**	**+3.8**
PZH				pmax	pmax		
	comp=E,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=E,100nm,5.1s						
PZH				LR	LR		
	comp=E,990nm,6.1s						
PZH				LR	LR		
	comp=E,700nm,6.9s						
LYN	**LuoYang**	**8.79**	**90**	↓P	**Pn**	**12 40 29.8**	**-1.1**
LYN				S	**Sn**	**12 42 11.6**	**+1.7**
LYN				pmax	pmax		
	comp=E,22nm,0.5s						
LYN				LR	LR		
	comp=E,3μm,10.7s						
LYN				LR	LR		
	comp=E,2μm,9.6s						
GYA	**Guiyang**	**9.53**	**153**	P	**Pn**	**12 40 45.3**	**+4.1**
GYA				S	**Sn**	**12 42 35.6**	**+7.2**
GYA				pmax	pmax		
	comp=E,23nm,0.6s						
GYA				LR	LR		
	comp=E,720nm,8.6s						
GYA				LR	LR		
	comp=E,1μm,9.4s						
HHC	**Hu-ho-hao-te**	**9.64**	**50**	↓P	**Pn**	**12 40 41.3**	**-1.3**
HHC				sP		12 40 48.0	
HHC				S	**Sn**	**12 42 29.8**	**-1.2**
HHC				sS		12 42 37.8	
HHC				pmax	pmax		
	comp=E,92nm,0.8s						
HHC				LR	LR		
	comp=E,1μm,7.3s						
HHC				LR	LR		
	comp=E,1μm,11.0s						
LSA	**Lhasa**	**10.46**	**242**	Pn	**Pn**	**12 40 52.2**	**-2.1**
LSA	**Lhasa**	**10.46**	**242**	P	**Pn**	**12 40 52.2**	**-2.1**
HNS	**HongShan**	**10.69**	**74**	↓P	**Pn**	**12 40 56.6**	**-0.2**
HNS				S	**Sn**	**12 42 58.9**	**+2.4**
HNS				pmax	pmax		
	comp=E,10.0nm,0.8s						
HNS				LR	LR		
	comp=E,1μm,8.0s						
HNS				LR	LR		
	comp=E,910nm,9.3s						
CNSH	**ChangSha**	**11.69**	**123**	↑P	**Pn**	**12 41 08.8**	**-1.9**
CNSH				S	**Sn**	**12 43 21.3**	**0.0**
CNSH				pmax	pmax		
	comp=E,6.0nm,0.5s						
BJT	**Baijiatuau**	**12.43**	**62**	Pn	**Pn**	**12 41 18.9**	**-1.8**
BJT	**Baijiatuau**	**12.43**	**62**	P	**Pn**	**12 41 18.9**	**-1.8**
SHL	**Shillong**	**12.75**	**225**		**Pn**	**12 41 23.0**	**-2.3**
SHL	**Shillong**	**12.75**	**225**	P	**Pn**	**12 41 23.0**	**-2.3**
SONM	**Songino Array**	**13.23**	**14**	Pn	**Pn**	**12 41 31.1**	**-0.6**
SONM	**Songino Array**	**13.23**	**14**	P	**Pn**	**12 41 31.1**	**-0.6**
SONM	**Songino Array**	**13.23**	**14**	Pn	**Pn**	**12 41 29.5**	**-2.1**
	comp=E,1.3nm,0.3s,baz=194,slow=14,SNR=41						
SONM				Sn	**Sn**	**12 44 01.8**	**+3.0**
	comp=E,0.2nm,0.3s,baz=186,slow=24,SNR=2.8						
SONM				Lg	Lg	12 45 11.4	
	comp=E,0.1nm,0.3s,baz=191,slow=29,SNR=1.6						
SONM				LR	LR	12 47 21.3	
	comp=E,230nm,19.8s,baz=237,slow=41						
	comp=E,9.2nm,0.8s						
ULN	**Ulaanbaatar**	**13.39**	**15**		**Pn**	**12 41 32.8**	**-1.2**
ULN	**Ulaanbaatar**	**13.39**	**15**	*ce*P	**Pn**	**12 41 33.6**	**-0.3**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MND	**Mandalay**	**13.91**	**202**	Pn	**Pn**	**12 41 38.7**	**-2.3**
WMQ	**Urumqi**	**13.97**	**313**	*e*P	**Pn**	**12 41 39.3**	**-2.5**
WMQ				pP	P	12 41 45.4	-4.5
WMQ				S	**Sn**	**12 44 14.3**	**-2.6**
WMQ				pmax	pmax		
	comp=Z,28nm,0.9s						
WMQ				LR	LR		
	comp=Z,1μm,11.5s						
WMQ				LR	LR		
	comp=Z,300nm,17.3s						
NJ2	**Nanjing**	**14.53**	**97**	*e*P	**Pn**	**12 41 50.3**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,1μm,12.3s						
NJ2				LR	LR		

comp=Z,1µm,12.3s
ODAN Odare 14.81 240 *e*P **Pn** **12 41 52.4 -1.1**
comp=Z,59nm,1.0s
JIRN Jiri 15.23 245 *e*P **Pn** **12 41 59.9 +0.7**
comp=Z,17nm,0.6s
RAMN Ramite 15.32 242 *e*P **Pn** **12 41 59.8 -0.6**
comp=Z,10.0nm,0.5s
GUN Gumba 15.33 247 *e*P **Pn** **12 42 01.9 +1.4**
comp=Z,43nm,0.6s
ZAK Zakamensk 15.36 4 *e*P **Pn** **12 42 00.0 -0.6**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
PKI Pulchoki 15.86 246 *e*P **Pn** **12 42 08.0 +0.5**
comp=Z,44nm,0.7s
PKIN Phulchoki 15.87 247 *e*P **Pn** **12 42 08.3 +0.8**
comp=Z,26nm,0.5s
DMN Daman 16.07 247 *e*P **Pn** **12 42 11.5 +1.4**
comp=Z,64nm,0.7s
CHTO Chiang Mai 16.37 190 **Pn** **12 42 11.4 -2.4**
CHTO Chiang Mai 16.37 190 P **Pn** **12 42 11.4 -2.4**
CHTO pmax pmax
comp=Z,10.0nm,1.0s
MOY Mondy 16.62 358 *e*P **P** **12 42 20.6 +1.3**
MOY pmax pmax
comp=Z,61nm,2.0s
CM31 Chiang Mai Arr 16.72 189 Pn **Pn** **12 42 16.2 -2.0**
CMAR Chiang Mai Arr 16.72 189 **Pn** **12 42 16.1 -2.1**
CMAR Chiang Mai Arr 16.72 189 Pn **Pn** **12 42 16.6 -1.7**
comp=Z,0.5nm,0.3s,baz=360,slow=10,SNR=17
CMAR LR LR 12 49 18.0
comp=Z,359nm,18.5s,baz=70,slow=39
comp=Z,1.0nm,0.3s
DANN Dangsing 16.73 251 *e*P **P** **12 42 21.6 +0.7**
comp=Z,116nm,0.8s
KOLN Koldanda 17.14 250 *e*P **P** **12 42 26.2 +0.9**
comp=Z,111nm,0.9s
PYUN Piuthan 17.45 252 *e*P **P** **12 42 30.2 +1.4**
comp=Z,80nm,0.8s
QIZ Qiongzhong 17.48 154 P **Pn** **12 42 28.0 +0.3**
QIZ S **Sn** **12 45 44.3 +2.0**
QIZ LR LR
comp=Z,650nm,16.5s
QIZ LR LR
comp=Z,980nm,14.6s
DGZ Jazzator, Alta 18.04 329 *i* P **Pn** **12 42 33.8 -0.8**
DGZ pmax pmax
comp=Z,6.0nm,1.0s
SNY Shenyang 18.33 62 ⇑P **P** **12 42 41.3 +3.2**
SNY pmax pmax
comp=Z,7.0nm,1.0s
SNY pmax pmax
comp=Z,170nm,3.8s
SNY LR LR
comp=Z,440nm,12.5s
SNY LR LR
comp=Z,340nm,9.1s
SNY LR LR
comp=Z,360nm,11.4s
MKAR Makanchi Array 18.79 315 LR LR 12 50 45.2
comp=Z,559nm,18.6s,baz=124,slow=40
HIA Hailar 19.39 37 *i* P **P** **12 42 49.3 -0.5**
HIA pmax pmax
comp=Z,16nm,1.3s
YHNB Yeheng 19.84 116 P **P** **12 42 52.9 -2.1**
YHNB IAmb IAmb 12 43 12.5
comp=Z,51nm,1.3s
TJN Taejon 20.78 79 *i* P **P** **12 43 06.2 +1.2**
KSH Kashi 21.00 290 P **P** **12 43 12.6 +5.1**
KSH sP sP 12 43 20.4 +7.2
KSH PP **PnPn** **12 43 30.3 +4.1**
KSH pmax pmax
comp=Z,8.0nm,0.8s
KSAR Wonju Array Be 21.15 76 P **P** **12 43 07.7 -1.2**
KSAR Wonju Array Be 21.15 76 P **P** **12 43 07.7 -1.2**
KSRS Korea Array 21.18 76 P **P** **12 43 07.8 -1.5**
comp=Z,2.9nm,0.8s,baz=268,slow=8.9,SNR=11
comp=Z,2.9nm,0.8s
BOOM Boomskoye usch 21.44 298 P **P** **12 43 09.9 -2.3**
BOOM Boomskoye usch 21.44 298 P **P** **12 43 09.9 -2.3**
BOOM pmax pmax
comp=Z,9.0nm,0.8s
ZAA0 Zalesovo Array 22.34 333 **P** **12 43 20.8 -0.7**
ZALV Zalesovo Beam 22.34 333 P **P** **12 43 19.7 -1.8**
ZALV Zalesovo Beam 22.34 333 P **P** **12 43 20.8 -0.8**
comp=Z,2.5nm,0.5s,baz=145,slow=12,SNR=16
ZALV LR LR 12 51 31.1
comp=Z,342nm,18.9s,baz=134,slow=35
comp=Z,2.5nm,0.5s
AAK Ala-Archa 22.51 298 P **P** **12 43 22.1 -1.7**
AAK Ala-Archa 22.51 298*ce*P **P** **12 43 25.6 +1.9**
AAK pmax pmax
comp=Z,15nm,1.1s
AAK Ala-Archa 22.51 298 P **P** **12 43 22.9 -0.9**
comp=Z,2.0nm,0.7s,baz=139,slow=11,SNR=1.6
AAK LR LR 12 53 57.0
comp=Z,432nm,18.1s,baz=109,slow=42
comp=Z,2.0nm,0.7s
KURBB Kurchatov Arra 22.96 320 P **P** **12 43 26.6 -1.6**
comp=Z,7.1nm,0.9s,baz=125,slow=11,SNR=5.5
comp=Z,7.1nm,0.9s
KURK Kurchatov 22.96 320 P **P** **12 43 26.6 -1.5**
KURK IAmb IAmb 12 43 37.2
comp=Z,14nm,0.8s
KURK Kurchatov 22.96 320*ce*P **P** **12 43 27.2 -1.0**
KURK pmax pmax
comp=Z,27nm,1.7s
NIL Nilore 23.58 275 P **P** **12 43 33.7 -1.0**
NIL IAmb IAmb 12 43 43.7
comp=Z,28nm,1.1s
NIL Nilore 23.58 275 P **P** **12 43 33.7 -1.0**
NIL pmax pmax
comp=Z,28nm,1.2s
HEH HeiHe 24.04 43 *e*P **P** **12 43 38.8 0.0**
HEH pP **sP** **12 43 46.3 +1.7**
HEH S **S** **12 47 57.8 +2.0**
HEH pmax pmax
comp=Z,13nm,1.7s
HEH pmax pmax
comp=Z,91nm,4.3s
HEH LR LR
comp=Z,310nm,15.0s
HEH LR LR
comp=Z,510nm,16.4s
HEH LR LR
comp=Z,1µm,15.6s
KK31 Karatay Array 25.48 298 P **P** **12 43 50.3 -1.8**
KK31 Karatay Array 25.48 298 P **P** **12 43 50.3 -1.8**
KK31 pmax pmax
comp=Z,5.0nm,1.1s
KKAR Karatay Array 25.48 298 P **P** **12 43 49.3 -2.7**
KKAR Karatay Array 25.48 298 P **P** **12 43 49.3 -2.7**
ZEA Zeya 25.84 36 *e*P **P** **12 43 57.4 +2.2**
KLR Kul'dur 26.13 48*ce*P **P** **12 43 59.0 +1.1**
KLR pmax pmax
comp=Z,3.0nm,0.8s
CHGR Chuyangaron 26.29 288 P **P** **12 43 57.5 -2.1**
CHGR Chuyangaron 26.29 288 P **P** **12 43 57.5 -2.1**
CHGR pmax pmax
comp=Z,26nm,1.0s
BVAR Borovoye Array 28.53 319 P **P** **12 44 19.2 -0.2**
comp=Z,0.8nm,0.4s,baz=95,slow=4.6,SNR=3.1
BVAR LR LR 12 54 57.3
comp=Z,178nm,21.8s,baz=142,slow=35
comp=Z,0.8nm,0.4s
BRVK Borovoye 28.60 319 P **P** **12 44 18.5 -1.5**
BRVK Borovoye 28.60 319*ce*P **P** **12 44 20.2 +0.2**
BRVK pmax pmax
comp=Z,8.0nm,1.8s
YSS Yuzh-Sakhalins 32.76 56 *e*P **P** **12 44 57.9 +1.2**
YSS pmax pmax
comp=Z,20nm,1.2s
TYV Tymovskoe 33.33 49 *e*P P 12 45 11.9 +10
TYV pmax pmax
comp=Z,13nm,1.3s
TYV pmax pmax
comp=Z,100nm,2.7s
ABKAR Akbulak array 33.67 308 P **P** **12 45 02.8 -1.8**
GEYT Alibeck 35.00 288 P **P** **12 45 15.5 -0.9**
comp=Z,2.7nm,0.8s,baz=87,slow=6.1,SNR=4.1
GEYT LR LR 13 03 05.5
comp=Z,194nm,19.3s,baz=13,slow=42
comp=Z,2.7nm,0.8s
ARU Arti 36.16 320 P **P** **12 45 24.6 -1.4**
ARU IAmb IAmb 12 45 30.5
comp=Z,7.0nm,0.8s
ARU Arti 36.16 320*c i*P **P** **12 45 25.5 -0.5**
ARU 12 47 48.4
ARU S **S** **12 51 06.9 +1.3**
ARU SS **SnSn** **12 53 29.4 -1.6**
ARU pmax pmax
comp=Z,8.0nm,0.9s
TIXI Tiksi 39.31 13*ce*P **P** **12 45 53.0 +0.5**
KIRV Kirov 41.47 321 *i* P **P** **12 46 10.6 +0.1**
BELG Belogornoye 41.75 312 LR LR 13 04 45.4
comp=Z,231nm,21.3s,baz=158,slow=38
MAK Makhachkala 42.30 298 *e*P P 12 46 12.5 -5.0
MAK *e*S **S** **12 52 30.6 -7.6**
MAK MLR MLR
comp=Z,154nm,12.0s
KBZ Khabaz 45.49 299 *i* P **P** **12 46 43.4 +0.2**
KBZ pmax pmax
comp=Z,2.0nm,1.0s
KBZ Khabaz 45.49 299 LR LR 13 09 19.7
comp=Z,145nm,18.3s,baz=81,slow=41
KIV Kislovodsk 45.61 300 *e*P **P** **12 46 45.5 +1.3**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,124nm,16.0s
KLMR Klimovskoe 46.74 323 *e*P **P** **12 46 51.5 -1.3**
KLMR AMP 12 46 57.5
comp=Z,10.0nm,0.8s
KLMR Klimovskoe 46.74 323 *e*P **P** **12 46 51.5 -1.3**
KLMR pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 48.29 316⇑ *e*P **P** **12 47 04.7 -0.1**
OBN *e* 12 48 59.2
OBN *e*S S 12 54 19.4 +15
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,234nm,21.0s
BILL Bilibino 48.49 27 P **P** **12 47 07.2 +0.9**
BILL IAmb IAmb 12 47 08.4
comp=Z,4.8nm,1.0s
BILL Bilibino 48.49 27⇑ *e*P **P** **12 47 10.1 +3.8**
ARCES ARCESS Array B 52.88 335 P **P** **12 47 39.1 -0.2**
ARCES ARCESS Array B 52.88 335 P **P** **12 47 39.1 -0.2**
ARCES pmax pmax
comp=Z,40nm,1.5s
ARCES ARCESS Array B 52.88 335 P **P** **12 47 37.2 -2.1**
comp=Z,5.9nm,1.1s,baz=50,slow=8.4,SNR=2.0
comp=Z,5.9nm,1.1s
BR131 Keskin Array S 53.18 297 P **P** **12 47 40.7 -1.5**
BR131 Keskin Array S 53.18 297 P **P** **12 47 40.7 -1.5**
BR131 pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 53.18 297 P **P** **12 47 40.2 -2.0**
BRTR Keskin Array B 53.18 297 P **P** **12 47 41.3 -0.9**
comp=Z,1.0nm,0.7s,baz=104,slow=7.0,SNR=4.3
comp=Z,1.0nm,0.7s
FINES FINESS Array B 53.23 324 P **P** **12 47 41.6 -0.4**
FINES FINESS Array B 53.23 324*ce*P **P** **12 47 44.0 +2.0**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 53.23 324 P **P** **12 47 40.7 -1.3**
comp=Z,1.7nm,0.5s,baz=96,slow=7.7,SNR=11
comp=Z,1.7nm,0.5s
AKASG Malin Array Be 53.31 311 P **P** **12 47 40.9 -1.9**
comp=Z,0.5nm,0.3s,baz=68,slow=6.6,SNR=4.8
comp=Z,0.5nm,0.3s
MNK Minsk 53.35 316 *i* P **P** **12 47 41.1 -1.9**
comp=E,7.0nm,0.9s
MNK *i* P **P** **12 47 41.1 -1.9**
comp=N,21nm,0.7s
MNK *i* P **P** **12 47 41.1 -1.9**
comp=Z,7.0nm,0.9s,baz=79
MNK *i* PP **PP** **12 49 41.2 -1.8**
MNK *i* PPP PPP 12 50 46.5
MNK *i* S **S** **12 55 12.9 -1.8**
MNK *i* SS **SS** **12 58 53.9 -0.2**
MNK *i* SSS SSS 13 00 43.9
MNK *i* LQ LQ 13 06 33.2
MNK *i* LR LR 13 10 16.7
MNK *i* LRM MLR 13 12 30.1
comp=Z,56nm,9.7s
MNK *i* LRM MLR 13 12 34.0
comp=E,30nm,14.8s
MNK *i* LRM MLR 13 12 57.2
comp=N,151nm,15.5s
MNK Minsk 53.35 316 *i* P **P** **12 47 41.1 -1.9**
MNK *i* 12 49 41.2
MNK *i* PPP PPP 12 50 46.5
MNK *i* S **S** **12 55 12.8 -1.8**
MNK *i* SS **SS** **12 58 53.9 -0.2**
MNK *i* SSS SSS 13 00 43.9
MNK pmax pmax
comp=Z,7.0nm,0.9s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=N,21nm,0.7s
MNK MLR MLR
comp=Z,56nm,10.0s
MNK MLR MLR
comp=E,30nm,15.0s
MNK MLR MLR
comp=N,151nm,15.0s
HFS Hagfors 59.44 324 P **P** **12 48 26.1 -0.2**
comp=N,3.4nm,0.7s,baz=117,slow=9.2,SNR=7.5
comp=N,3.4nm,0.7s
C18K Utukok River 60.31 25 IAmb IAmb 12 48 36.5
comp=Z,5.9nm,0.8s
NB2 NORSAR Subarra 60.31 326 P **P** **12 48 31.2 -1.2**
comp=Z,8.3nm,1.1s,baz=71,slow=6.9
NOA NORSAR Array B 60.31 326 P **P** **12 48 31.1 -1.3**
comp=Z,1.7nm,0.7s,baz=107,slow=15,SNR=4.1
comp=Z,1.7nm,0.7s
VYHS Vyhne 60.42 311 *e*P **P** **12 48 34.6 +1.3**
VYHS Vyhne 60.42 311 *e*P **P** **12 48 34.7 +1.4**
NC204 NORSAR Array S 60.44 326 P **P** **12 48 32.3 -1.0**
C19K Lookout Ridge 60.69 24 IAmb IAmb 12 48 45.0
comp=Z,11nm,1.2s
WRA Warramunga Arr 62.81 145 P **P** **12 48 48.0 -1.7**
comp=Z,1.6nm,0.6s,baz=338,slow=6.4,SNR=26
comp=Z,1.6nm,0.6s
D22K Ayikyak River 63.05 23 IAmb IAmb 12 48 55.3
comp=Z,5.3nm,0.9s
GERES GERESS Array B 63.44 312 P **P** **12 48 53.5 -0.3**
comp=Z,1.2nm,0.8s,baz=1.0,slow=8.0,SNR=3.7
comp=Z,1.2nm,0.8s
F21K Alatna River 63.55 25 IAmb IAmb 12 48 58.0
comp=Z,5.0nm,0.9s
E22K Anaktuvuk Pass 63.68 24 IAmb IAmb 12 48 58.7
comp=Z,2.9nm,0.8s
G21K Allakaket 63.87 26 IAmb IAmb 12 49 12.2
comp=Z,5.6nm,1.2s
TOLK Toolik Lake Re 64.15 23 P **P** **12 48 58.4 +0.4**
TOLK IAmb IAmb 12 49 02.0
comp=Z,4.4nm,0.8s
H21K Melozitna Rive 64.53 26 IAmb IAmb 12 49 04.6
comp=Z,3.2nm,0.8s
D25K Kavik River 64.78 21 IAmb IAmb 12 49 08.6
comp=Z,4.0nm,1.1s
E24K Your Creek 64.79 23 IAmb IAmb 12 49 06.7
comp=Z,5.0nm,0.8s
MLY Manley 65.60 26 P **P** **12 49 08.2 +0.7**
ASAR Alice Springs 65.85 148 P **P** **12 49 07.3 -2.3**
comp=Z,0.8nm,0.5s,baz=330,slow=6.8,SNR=16
comp=Z,0.8nm,0.5s
BMAR Burnt Mountain 66.39 23 P **P** **12 49 12.7 +0.2**
MDM Murphy Dome 66.54 26 P **P** **12 49 14.0 +0.5**
MDM IAmb IAmb 12 49 18.4
comp=Z,5.8nm,1.0s
TRF Thorofare Moun 66.59 28 P **P** **12 49 14.5 +0.5**
TRF IAmb IAmb 12 49 29.5
comp=Z,10nm,1.4s
COLA College 66.72 26 P **P** **12 49 15.0 +0.4**
COLA College 66.72 26 P **P** **12 49 15.0 +0.4**
COLA pmax pmax
comp=Z,13nm,0.8s
POKR Poker Plat Res 66.74 26 P **P** **12 49 14.8 0.0**
POKR IAmb IAmb 12 49 19.2
comp=Z,6.4nm,0.9s
IL31 67.12 26 P **P** **12 49 16.9 -0.2**
IL31 IAmb IAmb 12 49 21.4
comp=Z,4.4nm,0.9s
ILAR Eielson Array 67.12 26 P **P** **12 49 15.9 -1.3**
comp=Z,2.8nm,0.8s,baz=291,slow=5.7,SNR=25
comp=Z,2.8nm,0.8s
INK Inuvik 69.07 19 P **P** **12 49 29.3 0.0**
INK IAmb IAmb 12 49 33.4
comp=Z,6.3nm,1.0s
INK Inuvik 69.07 19 P **P** **12 49 29.3 0.0**
INK pmax pmax
comp=Z,6.0nm,1.0s
I28M Miner Creek 69.08 23 IAmb IAmb 12 49 33.6
comp=Z,3.3nm,0.8s
G30M tAoh Zraii Nji 69.22 21 IAmb IAmb 12 49 34.0
comp=Z,8.2nm,1.1s
C36M Paulatuk 70.62 16 IAmb IAmb 12 49 43.2
comp=Z,5.1nm,0.8s
BORG Borgarnes 71.09 338 LR LR 13 26 28.0
comp=Z,192nm,19.9s,baz=336,slow=41
L29M L29M 71.20 25 IAmb IAmb 12 49 46.7
comp=Z,4.7nm,0.9s
YKA Yellowknife Ar 78.48 16*ce*P **P** **12 50 27.6 +3.0**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 78.48 16 P **P** **12 50 24.0 -0.6**
comp=Z,0.8nm,0.7s,baz=333,slow=5.5,SNR=13
comp=Z,0.8nm,0.7s
ESDC Sonseca Array 78.96 311 P **P** **12 50 27.1 -0.7**
comp=Z,0.9nm,0.8s,baz=319,slow=4.2,SNR=2.6
comp=Z,0.9nm,0.8s
NEW Newport 90.07 25 LR LR 13 37 50.5
comp=Z,423nm,18.6s,baz=228,slow=40
TORD Torodi Ar. Bea 90.63 286 P **P** **12 51 25.5 -1.5**
comp=Z,0.5nm,0.7s,baz=303,slow=6.7,SNR=3.1
comp=Z,0.5nm,0.7s

SOME ***15*** *12:39:13.4, 39.°63N×79.°12E, h0km*
NNC ***15*** *12:39:16.8±1.5, 39.°69N×79.°29E, h0km, mb3.9, mpv3.5,*
Error ellipse: s-maj=11.8km s-min=10.1km az=106.0
ISC 15 12:39:14.2±2.8, 39.°5N±0.°2×79.°28E±0.°07, h10km, n35,
σ1s88/41, 5C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**3.60**	**350**	*e*Pg	**Pb**	**12 40 18.7**	**+0.7**
	6.2nm,0.2s						
SATY				*e*Lg	Lg	12 41 05.8	
	61nm,0.6s						
SATY	**Saty**	**3.60**	**350**	Pg	**Pb**	**12 40 18.7**	**+0.7**
	6.2nm,0.2s						
SATY				Lg	Lg	12 41 06.5	
	61nm,0.6s						
UZB	**Uzynbulak**	**3.63**	**357**	*e*Pg	**Pb**	**12 40 19.1**	**+0.6**
	7.4nm,0.3s						
UZB				*e*Lg	Lg	12 41 06.2	
	20nm,0.5s						
UZB	**Uzynbulak**	**3.63**	**357**	Pg	**Pb**	**12 40 19.1**	**+0.6**
	7.4nm,0.3s						
UZB				Lg	Lg	12 41 07.7	
	20nm,0.7s						
SHLS	**Shalkode**	**3.64**	**2**	*e*Pg	**Pb**	**12 40 20.3**	**+1.6**
	6.5nm,0.2s						
SHLS				*e*Lg	Lg	12 41 08.4	
	63nm,0.5s						
SHLS	**Shalkode**	**3.64**	**2**	Pg	**Pb**	**12 40 20.3**	**+1.6**
	6.5nm,0.2s						
SHLS				Lg	Lg	12 41 10.0	
	63nm,0.5s						
ZHN	**Zhinishke**	**3.70**	**350**	*e*Pg	**Pb**	**12 40 20.6**	**+0.9**
	3.6nm,0.2s						
ZHN				*e*Lg	Lg	12 41 08.9	
	72nm,0.2s						
ZHN	**Zhinishke**	**3.70**	**350**	Pg	**Pb**	**12 40 19.9**	**+0.2**
ZHN				Lg	Lg	12 41 08.6	
PDGK	**Podgornoye**	**3.81**	**2**	Pg	**Pb**	**12 40 23.0**	**+1.4**
	2.3nm,0.3s						
PDGK				Lg	Lg	12 41 14.4	
	26nm,0.5s						
PDGK	**Podgornoye**	**3.81**	**2**	⇓Pn	**Pn**	**12 40 15.6**	**+2.5**
	2.7nm,0.3s						
PDGK				⇑Sn	**Sn**	**12 41 00.6**	**+2.6**
	8.4nm,0.6s						
PDGK				⇑Lg	Lg	12 41 12.1	
	61nm,0.8s						
TNSS	**Tian-Shan**	**3.93**	**334**	*e*Pg	**Pb**	**12 40 24.3**	**+0.5**
	2.2nm,0.2s						
TNSS				*e*Lg	Lg	12 41 15.2	
	16nm,0.4s						
TNSS	**Tian-Shan**	**3.93**	**334**	Pg	**Pb**	**12 40 24.3**	**+0.5**
	17nm,0.4s						
TNSS				Lg	Lg	12 41 16.8	
	16nm,0.4s						
KPKS	**Kokpek**	**3.97**	**354**	*e*Pg	**Pb**	**12 40 25.2**	**+0.9**
	5.5nm,0.2s						
KPKS				*e*Lg	Lg	12 41 17.1	
	101nm,0.5s						
KPKS	**Kokpek**	**3.97**	**354**	Pg	**Pb**	**12 40 25.9**	**+1.6**
	4.0nm,0.2s						
KPKS				Lg	Lg	12 41 19.4	
	101nm,0.5s						
MDOK	**Medeo**	**4.01**	**336**	*e*Pg	**Pb**	**12 40 26.0**	**+1.0**
	13nm,0.5s						
MDOK				*e*Lg	Lg	12 41 17.8	
	40nm,0.7s						
MDOK	**Medeo**	**4.01**	**336**	Pn	**Pb**	**12 40 20.9**	**-4.1**
	3.5nm,0.4s						
MDOK				Pg	**Pb**	**12 40 26.0**	**+1.0**
	13nm,0.5s						
MDOK				Lg	Lg	12 41 18.2	
	35nm,0.6s						
MDOK				Lg	Lg	12 41 19.6	
	40nm,0.7s						
KURS	**Kuram**	**4.05**	**349**	*e*Pg	**Pb**	**12 40 27.0**	**+1.3**
	3.1nm,0.3s						
KURS				*e*Lg	Lg	12 41 20.0	
	27nm,0.5s						
KURS	**Kuram**	**4.05**	**349**	Pg	**Pb**	**12 40 27.6**	**+1.9**
	3.8nm,0.4s						
KURS				Lg	Lg	12 41 21.8	
	27nm,0.5s						
KOTS	**Kotyrbulak**	**4.05**	**337**	*e*Pg	**Pb**	**12 40 26.9**	**+1.1**
	3.1nm,0.2s						
KOTS				*e*Lg	Lg	12 41 19.4	
	51nm,0.5s						
KOTS	**Kotyrbulak**	**4.05**	**337**	Pg	**Pb**	**12 40 27.5**	**+1.7**
	5.9nm,0.3s						
KOTS				Lg	Lg	12 41 21.8	
	51nm,0.5s						
TKM2	**Tokmak 2**	**4.39**	**322**	⇓Pn	**Pn**	**12 40 22.2**	**+1.2**
	1.7nm,0.3s						
TKM2				⇑Pg	**Pg**	**12 40 36.0**	**-2.3**
	1.9nm,0.5s						
TKM2				⇓Lg	Lg	12 41 33.2	
	9.3nm,0.8s						
KTBS	**Karatobe**	**4.62**	**336**	*e*Pg	**Pb**	**12 40 36.9**	**+1.6**
	4.3nm,0.4s						
KTBS				*e*Lg	Lg	12 41 37.3	
	30nm,0.6s						
KTBS	**Karatobe**	**4.62**	**336**	Pg	**Pb**	**12 40 36.9**	**+1.6**
	4.3nm,0.4s						
KTBS				Lg	Lg	12 41 38.0	
	37nm,0.7s						
CHKK	**Chushkaly**	**4.66**	**339**	*e*Pg	**Pb**	**12 40 38.0**	**+2.0**
	3.5nm,0.3s						
CHKK				*e*Lg	Lg	12 41 39.1	
	30nm,0.5s						
CHKK	**Chushkaly**	**4.66**	**339**	Pg	**Pb**	**12 40 38.0**	**+2.0**
	3.5nm,0.3s						
CHKK				Lg	Lg	12 41 40.5	
	30nm,0.4s						
ARXS	**Arharly**	**4.81**	**347**	Pg	**Pb**	**12 40 40.3**	**+1.6**
	3.5nm,0.3s						
ARXS				Lg	Lg	12 41 44.6	
	15nm,0.5s						
DJR	**Jarkent**	**4.83**	**4**	*e*Pg	**Pb**	**12 40 41.6**	**+2.7**
	2.3nm,0.2s						
DJR				*e*Lg	Lg	12 41 45.2	
	11nm,0.5s						
DJR	**Jarkent**	**4.83**	**4**	Pg	**Pb**	**12 40 41.6**	**+2.7**
	2.3nm,0.2s						
DJR				Lg	Lg	12 41 46.2	
	19nm,0.5s						
KNOS	**Konyrlen**	**4.84**	**359**	Pg	**Pb**	**12 40 41.6**	**+2.4**
	2.1nm,0.2s						
KNOS				Lg	Lg	12 41 45.8	
	20nm,0.4s						
KUU	**Kurty**	**4.89**	**334**	*e*Pg	**Pb**	**12 40 41.5**	**+1.5**
	0.7nm,0.2s						
KUU				*e*Lg	Lg	12 41 44.9	
	36nm,0.8s						
KUU	**Kurty**	**4.89**	**334**	Pg	**Pb**	**12 40 41.6**	**+1.7**
	6.9nm,0.6s						
KUU				Lg	Lg	12 41 45.8	
	36nm,0.8s						

KAPS	**Kapalarasan**	**5.76**	**1**	Pg	**Pg**	**12 40 59.9**	**-4.7**
	1.2nm,0.3s							
KAPS				Lg	Lg	12 42 17.3		
	6.7nm,0.7s							
MAKZ	**Makanchi**	**7.55**	**14**	⇑Pn	**Pn**	**12 41 06.1**	**+1.8**
	0.9nm,0.3s							
MAKZ				⇓Sn	**Sn**	**12 42 28.1**	**-1.8**
	5.5nm,0.6s							
MK31	**Makanchi Array**	**7.60**	**16**	Pn	**Pn**	**12 41 06.7**	**+1.8**
	0.3nm,0.3s,baz=200,slow=14,SNR=22							
MK31				⇑Sn	**Sn**	**12 42 30.0**	**-1.1**
	15nm,0.7s,baz=199,slow=26,SNR=18							
WMQ	**Urumqi**	**7.63**	**53**	*e*Pn	**Pn**	**12 41 05.3**	**-0.1**
WMQ				Sn	**Sn**	**12 42 31.8**	**-0.1**
WMQ				smax	smax			
	comp=N,57nm,1.7s							
WMQ				smax	smax			
	comp=E,62nm,1.7s							
WMQ				LR	LR			
	comp=N,1μm,8.5s							
WMQ				LR	LR			
	comp=E,1μm,10.9s							
WMQ				LR	LR			
	comp=Z,240nm,14.9s							

SFS ***15*** *12:42:07.3, 36°09N×8°09W, h20km, ML2.9/4, MLv2.8/4*
INMG ***15*** *12:42:08.3±1.3, 36°05N×8°24W, h25km, ML1.6, Error ellipse: s-maj=8.6km s-min=5.6km az=40.0*
MDD ***15*** *12:42:08.3±1.5, 36°15N×8°10W, h7km±10km, mb_Lg2.3/4, Error ellipse: s-maj=14.1km s-min=5.3km az=38.0*

ISC 15 12:42:04.1±2.7, 36°0N±0°1×8°15W±0°07, h21km±6km, n20, σ1§22/34, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBDV	**Barranco-do-Ve**	**1.29**	**8**	*e*P	**Pb**	**12 42 28.1**	**+0.4**
PBDV				*e*S	**Sb**	**12 42 44.9**	**+1.1**
PBDV				A	A	12 42 50.0	
	4.4nm,0.3s						
PFVI	**Vila Bisbo**	**1.29**	**335**	*e*P	**Pn**	**12 42 27.3**	**+0.4**
PFVI				*e*S	**Sn**	**12 42 42.6**	**-0.9**
PFVI				A	A	12 42 54.1	
	10nm,0.6s						
MORF	**Marmelete**	**1.40**	**343**	*e*P	**Pn**	**12 42 27.8**	**-0.6**
MORF				*e*S	**Sn**	**12 42 45.6**	**-0.6**
MORF				A	A	12 42 49.0	
	8.1nm,0.1s						
PVAQ	**Vaqueiros**	**1.48**	**13**	*e*P	**Pb**	**12 42 32.2**	**+1.3**
PVAQ				*e*S	**Sn**	**12 42 47.7**	**-0.4**
EGRO	**El Granado**	**1.66**	**19**	S	**Sn**	**12 42 52.4**	**-0.1**
EGRO				*i* Vmb_Lg		12 42 58.3	
EGRO	**El Granado**	**1.66**	**19**	Pn	**Pn**	**12 42 32.2**	**+0.3**
EGRO				Sn	**Sn**	**12 42 50.7**	**-1.8**
PCVE	**Castro Verde**	**1.67**	**3**	*e*P	**Pn**	**12 42 32.8**	**+0.7**
PCVE				*e*S	**Sn**	**12 42 52.0**	**-0.8**
PCVE				A	A	12 42 56.6	
	1.1nm,0.2s						
PCVE	**Castro Verde**	**1.67**	**3**	Sn	**Sn**	**12 42 51.8**	**-1.0**
PCVE				Pn	**Pn**	**12 42 32.1**	**+0.1**
MESJ	**Messejana**	**1.87**	**358**	*e*S	**Sn**	**12 42 56.9**	**-1.0**
MESJ				A	A	12 43 00.9	
	5.0nm,0.9s						
ESPR	**Espera**	**2.06**	**63**	P	**Pb**	**12 42 40.5**	**-0.3**
ESPR				S	**Sb**	**12 43 05.5**	**-0.4**
ESPR				*i* Vmb_Lg		12 43 09.4	
PNCL	**Nicolau / Gran**	**2.17**	**352**	*e*S	**Sn**	**12 43 06.6**	**+1.5**
PNCL				A	A	12 43 08.5	
	4.1nm,0.7s						
PBAR	**Barrancos**	**2.38**	**22**	*e*P	**Pb**	**12 42 44.1**	**-2.1**
PBAR				*e*S	**Sn**	**12 43 12.1**	**+1.8**
PBAR				A	A	12 43 22.7	
	1.3nm,0.6s						
PBAR	**Barrancos**	**2.38**	**22**	Pn	**Pn**	**12 42 42.8**	**+1.0**
EVO	**Evora**	**2.56**	**2**	Sn	**Sn**	**12 43 13.1**	**-1.9**
ECAB	**El Cabril**	**3.03**	**45**	P	**Pn**	**12 42 52.8**	**+1.9**
ECAB				S	**Sn**	**12 43 26.6**	**+0.1**
ECAB				*i* Vmb_Lg		12 43 31.6	
ECAB	**El Cabril**	**3.03**	**45**	Sn	**Sn**	**12 43 24.5**	**-2.1**
ECAB				Pn	**Pn**	**12 42 52.1**	**+1.2**
PMTG	**Montargil**	**3.10**	**359**	*e*P	**Pn**	**12 42 53.0**	**+1.2**
PMTG				*e*S	**Sn**	**12 43 26.6**	**-1.6**
PMTG				A	A	12 43 28.4	
	1.5nm,0.3s						
PMRV	**Marv??o**	**3.51**	**10**	*e*P	**Pn**	**12 42 58.7**	**+1.3**
PMRV				*e*S	**Sn**	**12 43 37.3**	**-1.0**
EADA	**Adamuz**	**3.60**	**51**	P	**Pn**	**12 42 59.6**	**+0.9**
EADA				S	**Sn**	**12 43 39.5**	**-1.1**
EADA				*i* Vmb_Lg		12 43 45.3	
EADA	**Adamuz**	**3.60**	**51**	Pn	**Pn**	**12 42 59.2**	**+0.5**

IDC ***15*** *12:47:25.0±0.8, 22°21S×174°61W, h0km, mb4.0/12, mbtmp4.0/12, Error ellipse: s-maj=32.2km s-min=20.8km az=142.0*
NEIC ***15*** *12:47:25.0±0.7, 21°95S±0°07×174°13W±0°07, h10km±1km, mb4.3/14, Error ellipse: s-maj=14.0km s-min=8.1km az=37.0*

ISC 15 12:47:25.4±0.5, 21°99S±0°09×174°19W±0°08, h10km, n36, σ2§19/38, mb4.2/20, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.94**	**55**		**Pn**	**12 48 37.2**	**-2.5**
NIUE				Sn	**Sn**	**12 49 30.0**	**-6.9**
RAO	**Raoul Island**	**7.97**	**204**	Pn	**Pn**	**12 49 21.3**	**-0.1**
AFI	**Afiamalu**	**8.36**	**16**	Pn	**Pn**	**12 49 25.2**	**-1.6**
RAR	**Rarotonga**	**13.44**	**89**	Pn	**Pn**	**12 50 36.8**	**+0.5**
	13nm,0.3s,baz=254,slow=9.0,SNR=6.0						
TUWZ	**Tuamarina**	**21.81**	**205**	P	**P**	**12 52 17.8**	**0.0**
INZ	**Inchbonnie**	**23.91**	**207**	P	**P**	**12 52 38.6**	**-0.8**
INZ				IAmb	IAmb	12 52 53.7	
	comp=Z,14nm,1.1s						
PMG	**Port Moresby**	**39.13**	**282**	P	**P**	**12 54 52.3**	**-1.2**
PMG				IAmb	IAmb	12 55 05.9	
	comp=Z,7.5nm,0.9s						
STKA	**Stephens Creek**	**40.39**	**246**	P	**P**	**12 55 03.4**	**-0.5**
STKA	**Stephens Creek**	**40.39**	**246**	P	**P**	**12 54 59.7**	**-4.1**
	comp=Z,1.7nm,1.1s,baz=75,slow=19,SNR=1.3						
	comp=Z,1.7nm,1.1s						
ASAR	**Alice Springs**	**47.65**	**258**	P	**P**	**12 55 59.9**	**-2.4**
	comp=Z,1.5nm,0.8s,baz=89,slow=8.5,SNR=16						
ASAR				PcP	**PcP**	**12 57 32.1**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=107,slow=3.9,SNR=4.5						
	comp=Z,1.5nm,0.8s						
WR0	**Warramunga Arr**	**47.73**	**263**	P	**P**	**12 56 01.1**	**-1.8**
WR0				IAmb	IAmb	12 56 17.6	
	comp=Z,2.7nm,1.0s						
WB0	**Warramunga Arr**	**47.91**	**263**	P	**P**	**12 56 01.8**	**-2.5**
WB0				IAmb	IAmb	12 56 13.1	
	comp=Z,3.8nm,0.9s						
WRA	**Warramunga Arr**	**47.92**	**263**	P	**P**	**12 56 00.9**	**-3.4**
WRA	**Warramunga Arr**	**47.92**	**263**	P	**P**	**12 56 01.4**	**-3.0**
	comp=Z,1.1nm,0.6s,baz=95,slow=8.0,SNR=15						
WRA				PcP	**PcP**	**12 57 34.3**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=94,slow=3.0,SNR=3.5						
	comp=Z,1.1nm,0.6s						
FORT	**Forrest**	**51.99**	**247**	P	**P**	**12 56 34.3**	**-0.8**
MTN	**Manton Dam**	**52.73**	**270**	P	**P**	**12 56 39.9**	**-1.0**
MTN				IAmb	IAmb	12 56 54.1	
	comp=Z,5.6nm,1.1s						
FITZ	**Fitzroy Crossi**	**56.35**	**262**	P	**P**	**12 57 06.5**	**-0.6**
FITZ				IAmb	IAmb	12 57 12.2	
	comp=Z,1.2nm,1.1s						
VNDA	**Vanda**	**56.78**	**186**	P	**P**	**12 57 09.3**	**0.0**
CASY	**Casey**	**64.16**	**206**	P	**P**	**12 57 59.0**	**-0.8**
QSPA	**South Pole Qui**	**68.09**	**180**	P	**P**	**12 58 25.4**	**+0.1**
QSPA	**South Pole Qui**	**68.09**	**180**	P	**P**	**12 58 25.0**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=60,slow=2.5,SNR=8.1						
	comp=Z,2.9nm,0.7s						
MJAR	**Matsushiro Arr**	**73.54**	**322**	P	**P**	**12 58 59.0**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=156,slow=5.2,SNR=5.0						
	comp=Z,1.8nm,0.7s						
H06S1	**SOCORRO T**	**73.91**	**62**	T	T	14 20 22.9	
	SNR=7.0						
SBUM	**Sibu**	**75.75**	**279**	P	**P**	**12 59 10.8**	**-1.1**
SBUM				IAmb	IAmb	12 59 28.5	
	comp=Z,2.2nm,1.0s						
PETK	**Petropavlovsk-**	**78.67**	**343**	P	**P**	**12 59 29.6**	**+2.1**
	comp=Z,4.4nm,0.8s,baz=144,slow=7.6,SNR=4.8						
	comp=Z,4.4nm,0.8s						
NVAR	**Mina Array Bea**	**79.73**	**41**	P	**P**	**12 59 36.6**	**+2.8**
	comp=Z,0.4nm,0.6s,baz=231,slow=6.9,SNR=3.3						
	comp=Z,0.4nm,0.6s						

MAW	**Mawson**	**81.34**	**199**	P	**P**	**12 59 41.8**	**-0.1**
MAW				IAmb	IAmb	12 59 45.3	
	comp=Z,1.3nm,1.0s						
TXAR	**Lajitas Array**	**84.91**	**56**	P	**P**	**13 00 04.5**	**+3.5**
	comp=Z,0.5nm,0.8s,baz=241,slow=4.1,SNR=2.8						
	comp=Z,0.5nm,0.8s						
PDAR	**Pinedale Array**	**87.66**	**42**	P	**P**	**13 00 17.8**	**+3.4**
	comp=Z,2.0nm,0.8s,baz=260,slow=1.6,SNR=2.4						
	comp=Z,0.2nm,0.8s						
ILAR	**Eielson Array**	**89.02**	**11**	P	**P**	**13 00 21.4**	**+1.4**
	comp=Z,0.6nm,1.0s,baz=236,slow=6.4,SNR=3.2						
	comp=Z,0.6nm,1.0s						
CMAR	**Chiang Mai Arr**	**93.95**	**288**	P	**P**	**13 00 43.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**93.95**	**288**	P	**P**	**13 00 45.0**	**+0.9**
	comp=Z,2.9nm,0.9s,baz=120,slow=2.8,SNR=20						
	comp=Z,2.9nm,0.9s						
YKA	**Yellowknife Ar**	**96.41**	**24**	P	**P**	**13 00 56.9**	**+2.7**
	comp=Z,0.2nm,0.7s,baz=244,slow=3.7,SNR=2.0						
	comp=Z,0.2nm,0.7s						
AKASG	**Malin Array Be**	**145.99**	**333**	PKPbc	**PKPab**	**13 07 05.7**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=43,slow=2.0,SNR=6.0						
BRTR	**Keskin Array B**	**150.46**	**313**	PKPbc	**PKPbc**	**13 07 17.7**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=119,slow=4.4,SNR=6.2						
MMAI	**Mount Meron Ar**	**151.63**	**299**	PKPbc	**PKiKP**	**13 07 22.8**	**+1.8**
	comp=Z,1.7nm,0.5s,baz=99,slow=2.6,SNR=4.8						

BJI ***15*** *12:52:36.4, 21°57S×174°16W, h11km, mb5.3/36, mB5.8/15, Ms5.3/11, Ms7 5.0/12*
IDC ***15*** *12:52:36.2±0.5, 21°88S×174°92W, h0km, mb4.6/17, mbtmp4.6/20, ML3.7/2, MS4.5/13, Error ellipse: s-maj=21.3km s-min=15.2km az=117.0*
NEIC ***15*** *12:52:37.5±1.3, 21°84S±0°10×174°6W±0°1, h10km±1km, mb5.0/74, Error ellipse: s-maj=19.5km s-min=14.6km az=127.0*
MOS ***15*** *12:52:39.5±3.3, 21°86S×175°29W, h10km, mb5.0/23, Error ellipse: s-maj=11.7km s-min=10.1km az=93.5*
NOU ***15*** *12:52:44.0, 21°54S×174°00W, h80km, mb4.9/11, Tonga Islands*

ISC 15 12:52:38.2±0.6, 22°05S±0°05×174°50W±0°06, h17km±3km, h17km:pP-P, n378, σ1§30/361, mb5.0/80, MS4.7/17, 31C-10D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.21**	**56**		Pn	12 53 49.2	-6.2
NIUE				Sn	Sn	12 54 40.8	-14
NIUE	**Niue**	**5.21**	**56**	P	Pn	12 53 49.1	-6.3
TAVE	**Taveuni**	**7.36**	**315**	P	Pn	12 54 29.1	+4.0
RAO	**Raoul Island**	**7.81**	**203**	P	**Pn**	**12 54 30.0**	**-1.1**
RAO	**Raoul Island**	**7.81**	**203**	Pn	**Pn**	**12 54 30.0**	**-1.1**
	194nm,0.4s,baz=75,slow=20,SNR=2.0						
RAO				Sn	**Sn**	**12 55 55.9**	**-3.2**
	47nm,0.3s,baz=103,slow=23,SNR=1.6						
DGTI	**Dogotuki**	**7.89**	**315**	P	**Pn**	**12 54 36.2**	**+3.8**
AFI	**Afiamalu**	**8.50**	**18**		**Pn**	**12 54 36.1**	**-4.6**
AFI				Sn	Sn	12 55 58.6	-18
AFI	**Afiamalu**	**8.50**	**18**	P	Pn	12 54 35.6	-5.1
RAR	**Rarotonga**	**13.72**	**89**		Pn	12 55 46.1	-6.1
RAR	**Rarotonga**	**13.72**	**89**	P	**Pn**	**12 55 50.2**	**-2.0**
RAR	**Rarotonga**	**13.72**	**89**	Pn	Pn	12 55 45.9	-6.3
	7.7nm,0.3s,baz=249,slow=7.4,SNR=17						
LIFNC	**LIFOU**	**17.05**	**271**	P	**Pn**	**12 56 33.0**	**-3.0**
LIFNC				IAmb	IAmb	12 56 44.3	
	comp=Z,100nm,0.9s						
DZM	**Mont Dzumac**	**17.66**	**266**	*e*LR	LR	13 01 30.7	
	comp=Z,979nm,21.5s						
DZM	**Mont Dzumac**	**17.66**	**266**	P	**Pn**	**12 56 39.8**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=128,slow=23,SNR=1.1						
	comp=Z,3.0nm,0.7s						
URZ	**Urewera**	**17.70**	**202**	P	**Pn**	**12 56 44.1**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=41,slow=11,SNR=1.9						
URZ				LR	LR	13 02 57.8	
	comp=Z,778nm,19.5s,baz=60,slow=35						
	comp=Z,5.3nm,0.6s						
RTZ	**Ruatahuna**	**18.06**	**202**	P	**P**	**12 56 50.0**	**+1.1**
BFZ	**Birch Farm**	**20.16**	**201**	P	**P**	**12 57 13.0**	**+1.2**
BFZ				IAmb	IAmb	12 57 32.5	
	comp=Z,103nm,1.4s						
BFZ	**Birch Farm**	**20.16**	**201**	P	Pn	12 57 19.3	+5.6
TKNZ	**Takaka Hill**	**21.69**	**206**	P	**P**	**12 57 29.3**	**+1.0**
CTZ	**Chatham Island**	**21.70**	**184**	P	**P**	**12 57 34.0**	**+5.6**
QRZ	**Quartz Range**	**21.70**	**207**	P	**P**	**12 57 34.7**	**+6.3**
TBI	**Tubuai**	**23.13**	**98**	*e*LR	LR	13 03 13.1	
	comp=Z,3μm,23.8s						
LTZ	**Lake Taylor**	**23.44**	**205**	P	**P**	**12 57 49.7**	**+3.0**
INZ	**Inchbonnie**	**23.73**	**206**		**P**	**12 57 49.5**	**0.0**
PAE	**Paea**	**23.83**	**84**	*e*P	**P**	**12 57 49.0**	**-1.7**
	comp=Z,40nm,1.4s						
PPT2	**Papeete2**	**23.85**	**84**	*e*P	**P**	**12 57 50.0**	**-1.0**
	comp=Z,59nm,1.1s						
PPT2				*e*LR	LR	13 03 29.4	
	comp=Z,592nm,23.2s						
PPT2				*e*LR	LR	13 03 36.0	
	comp=Z,434nm,22.8s						
PPT	**Papeete**	**23.86**	**84**	LR	LR	13 06 06.3	
	comp=Z,436nm,18.0s,baz=240,slow=33						
OXZ	**Oxford**	**23.99**	**205**	P	**P**	**12 57 51.6**	**-0.4**
OXZ				IAmb	IAmb	12 57 56.4	
	comp=Z,35nm,1.0s						
TIAR	**Tiarei**	**24.07**	**84**	*e*P	**P**	**12 57 51.5**	**-1.5**
	comp=Z,4.6nm,0.8s						
FOZ	**Fox Glacier**	**25.07**	**208**	P	**P**	**12 58 04.6**	**+2.7**
FOZ				IAmb	IAmb	12 58 04.8	
	comp=Z,54nm,1.0s						
HNR	**Honiara**	**27.55**	**293**	LR	LR	13 07 33.5	
	comp=Z,4μm,19.1s,baz=148,slow=33						
ARMA	**Armidale**	**31.41**	**247**	P	**P**	**12 58 57.5**	**-1.3**
ARMA				IAmb	IAmb	12 59 26.1	
	comp=Z,26nm,1.5s						
EIDS	**Eidsvold**	**31.63**	**257**	P	**P**	**12 59 00.6**	**-0.1**
CAN	**Canberra**	**34.44**	**239**	P	**P**	**12 59 25.7**	**+0.5**
CAN				IAmb	IAmb	12 59 34.0	
	comp=Z,29nm,1.5s						
CAN	**Canberra**	**34.44**	**239**	P	**P**	**12 59 25.7**	**+0.5**
CAN				pmax	pmax		
	comp=Z,29nm,1.5s						
TAOE	**Nuku Hiva Isla**	**35.51**	**74**	*e*LR	LR	13 08 46.0	
	comp=Z,388nm,22.0s						
CTAO	**Charters Tower**	**36.61**	**266**	P	**P**	**12 59 42.6**	**-1.2**
CTAO	**Charters Tower**	**36.61**	**266**	P	**P**	**12 59 42.7**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,20nm,1.3s						
TOO	**Toolangi**	**37.70**	**237**	P	**P**	**12 59 52.7**	**-0.3**
TOO	**Toolangi**	**37.70**	**237**	P	**P**	**12 59 52.7**	**-0.3**
TOO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PMG	**Port Moresby**	**38.86**	**283**	*i* P	**P**	**13 00 01.0**	**-2.0**
PMG				pmax	pmax		
	comp=Z,14nm,1.1s						
STKA	**Stephens Creek**	**40.11**	**246**	P	**P**	**13 00 11.9**	**-1.3**
STKA	**Stephens Creek**	**40.11**	**246**	*e*P	**P**	**13 00 13.0**	**-0.2**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
STKA	**Stephens Creek**	**40.11**	**246**	P	**P**	**13 00 11.0**	**-2.2**
	comp=Z,2.4nm,0.7s,baz=97,slow=12,SNR=4.2						
	comp=Z,2.4nm,0.7s						
BBOO	**Buckleboo**	**44.82**	**245**	P	**P**	**13 00 50.7**	**-0.9**
AS31	**Alice Springs**	**47.36**	**258**	P	**P**	**13 01 10.5**	**-1.2**
ASAR	**Alice Springs**	**47.36**	**258**	P	**P**	**13 01 10.3**	**-1.4**
ASAR	**Alice Springs**	**47.36**	**258**	P	**P**	**13 01 10.4**	**-1.4**
ASAR	**Alice Springs**	**47.36**	**258**	P	**P**	**13 01 08.8**	**-3.0**
	comp=Z,8.9nm,0.9s,baz=90,slow=8.4,SNR=63						
ASAR				PcP	**PcP**	**13 02 43.0**	**+0.4**
	comp=Z,5.0nm,0.9s,baz=107,slow=4.3,SNR=6.3						
ASAR				LR	LR	13 21 25.6	
	comp=Z,644nm,18.0s,baz=120,slow=37						
	comp=Z,8.9nm,0.9s						
WR0	**Warramunga Arr**	**47.44**	**263**	P	**P**	**13 01 10.4**	**-2.0**
WB0	**Warramunga Arr**	**47.62**	**263**	P	**P**	**13 01 10.8**	**-2.9**
WB0				IAmb	IAmb	13 01 15.4	
	comp=Z,8.6nm,0.8s						
WB2	**Warramunga Arr**	**47.62**	**263**	P	**P**	**13 01 11.4**	**-2.4**
WB2				IAmb	IAmb	13 01 27.1	
	comp=Z,15nm,1.2s						
WRA	**Warramunga Arr**	**47.63**	**263**	P	**P**	**13 01 11.5**	**-2.4**
WRA	**Warramunga Arr**	**47.63**	**263**	*e*P	**P**	**13 01 10.7**	**-3.2**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRA	**Warramunga Arr**	**47.63**	**263**	P	**P**	**13 01 10.3**	**-3.6**
	comp=Z,4.2nm,0.6s,baz=101,slow=8.4,SNR=45						
WRA				PcP	**PcP**	**13 02 43.7**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=91,slow=3.8,SNR=8.4						
	comp=Z,4.2nm,0.6s						

FORT	**Forrest**	**51.70**	**248**	P	**P**	**13 01 42.8**	**-2.0**
GUMO	**Guam**	**53.31**	**308**	LR	LR	13 22 03.6	
	comp=Z,152nm,19.2s,baz=137,slow=33						
KNRA	**Kununurra**	**53.81**	**266**	P	**P**	**13 01 58.8**	**-1.7**
FITZ	**Fitzroy Crossi**	**56.06**	**263**	P	**P**	**13 02 15.8**	**-0.9**
SBA	**Scott Base**	**56.58**	**185**	P	**P**	**13 02 21.1**	**+1.6**
SBA				IAmb	IAmb	13 02 28.6	
	comp=Z,24nm,1.2s						
SBA	**Scott Base**	**56.58**	**185**	P	**P**	**13 02 21.2**	**+1.6**
SBA				pmax	pmax		
	comp=Z,24nm,1.2s						
VNDA	**Vanda**	**56.69**	**186**	P	**P**	**13 02 21.7**	**+1.3**
VNDA	**Vanda**	**56.69**	**186**	P	**P**	**13 02 22.5**	**+2.1**
	comp=Z,1.4nm,0.8s,baz=12,slow=6.7,SNR=10						
	comp=Z,1.4nm,0.8s						
RPN	**Rapa Nui**	**58.90**	**109**	LR	LR	13 24 18.0	
	comp=Z,352nm,18.3s,baz=324,slow=32						
SOEI	**Soe**	**59.80**	**271**	P	**P**	**13 02 41.5**	**-1.8**
PSA00	**Pilbara Seismi**	**60.50**	**257**	P	**P**	**13 02 46.4**	**-1.5**
PSA00				IAmb	IAmb	13 02 48.7	
	comp=Z,16nm,1.0s						
MBWA	**Marble Bar**	**60.70**	**257**	P	**P**	**13 02 48.3**	**-0.9**
MBWA				IAmb	IAmb	13 02 49.7	
	comp=Z,12nm,0.8s						
MORW	**Morawa**	**62.27**	**248**	P	**P**	**13 02 59.1**	**-0.6**
KAPI	**Kappang**	**65.67**	**275**	LR	LR	13 32 22.4	
	comp=Z,164nm,18.0s,baz=152,slow=37						
QSPA	**South Pole Qui**	**68.03**	**180**	P	**P**	**13 03 38.7**	**+2.0**
QSPA				IAmb	IAmb	13 03 43.9	
	comp=Z,12nm,1.0s						
QSPA	**South Pole Qui**	**68.03**	**180**	P	**P**	**13 03 38.5**	**+1.9**
	comp=Z,12nm,1.1s,baz=26,slow=4.0,SNR=8.5						
	comp=Z,12nm,1.1s						
KKM	**Kota Kinabalu**	**73.30**	**284**	P	**P**	**13 04 08.3**	**-1.3**
KKM				IAmb	IAmb	13 04 11.4	
	comp=Z,43nm,1.5s						
MJA0	**Matsu Arr-Jizo**	**73.39**	**322**	*e*P	**P**	**13 04 09.3**	**-0.2**
MJA0				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MJAR	**Matsushiro Arr**	**73.41**	**322**	P	**P**	**13 04 08.0**	**-1.5**
	comp=Z,4.7nm,0.7s,baz=157,slow=5.5,SNR=14						
	comp=Z,4.7nm,0.7s						
MAJO	**Matsushiro**	**73.41**	**322**	P	**P**	**13 04 08.3**	**-1.3**
MAJO				IAmb	IAmb	13 04 10.4	
	comp=Z,7.6nm,0.8s						
MAJO	**Matsushiro**	**73.41**	**322**	P	**P**	**13 04 08.3**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LEM	**Lembang**	**76.26**	**268**	P	**P**	**13 04 23.8**	**-3.1**
	comp=Z,26nm,0.6s,baz=52,slow=19,SNR=4.8						
	comp=Z,26nm,0.6s						
JKA	**Kamikawa-asahi**	**76.67**	**330**	P	**P**	**13 04 26.9**	**-1.3**
ASAJ	**Asahikawa**	**76.67**	**330**	P	**P**	**13 04 26.9**	**-1.3**
ASAJ				pmax	pmax		
	comp=Z,35nm,1.1s						
KSM	**Kuching**	**76.85**	**277**	P	**P**	**13 04 29.1**	**-0.9**
KSM				IAmb	IAmb	13 04 30.4	
	comp=Z,18nm,0.9s						
LPIG	**La Paz**	**77.44**	**57**	LR	LR	13 34 13.1	
	comp=Z,348nm,18.2s,baz=230,slow=32						
BELA	**Belgrano 2**	**77.60**	**172**	P	**P**	**13 04 34.3**	**+1.2**
BELA				IAmb	IAmb	13 04 49.7	
	comp=Z,15nm,1.4s						
EDW2	**Edwards Air Fo**	**77.97**	**45**	P	**P**	**13 04 36.7**	**+0.9**
	baz=232						
LRMC	**Laurel Mtn Rad**	**78.54**	**44**	P	**P**	**13 04 42.2**	**+3.1**
	baz=232						
PMSA	**Palmer Station**	**78.56**	**156**	LR	LR	13 36 04.3	
	comp=Z,215nm,18.0s,baz=261,slow=33						
PEA0B	**Petropavlovsk-**	**78.64**	**343**	P	**P**	**13 04 38.4**	**-0.6**
PEA0B	**Petropavlovsk-**	**78.64**	**343**	P	**P**	**13 04 38.4**	**-0.6**
PEA0B				pmax	pmax		
	comp=Z,86nm,1.5s						
PETK	**Petropavlovsk-**	**78.64**	**343**	P	**P**	**13 04 38.2**	**-0.7**
PETK	**Petropavlovsk-**	**78.64**	**343**	P	**P**	**13 04 38.3**	**-0.7**
PETK	**Petropavlovsk-**	**78.64**	**343**	P	**P**	**13 04 38.1**	**-0.9**
	comp=Z,21nm,0.8s,baz=130,slow=8.0,SNR=19						
	comp=Z,21nm,0.8s						
BELC	**Belle Mtn. Jos**	**78.76**	**46**	P	**P**	**13 04 43.6**	**+3.3**
	baz=234						
YSS	**Yuzh-Sakhalins**	**78.76**	**332**	*e*P	**P**	**13 04 40.7**	**+0.9**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CWC	**Cottonwood Cre**	**78.87**	**43**	P	**P**	**13 04 42.2**	**+1.3**
	baz=232						
BC3	**Big Chuckawall**	**78.92**	**47**	P	**P**	**13 04 41.9**	**+0.8**
	baz=234						
GSC	**Goldstone, Bar**	**79.00**	**45**	P	**P**	**13 04 43.0**	**+1.5**
	baz=233						
MPMC	**Manual Prospec**	**79.01**	**44**	P	**P**	**13 04 44.0**	**+2.3**
	baz=232						
HEC	**Hector,Ludlow**	**79.03**	**45**	P	**P**	**13 04 42.3**	**+0.6**
	baz=233						

M20K Styx River 85.38 10 P P 13 05 15.0 +0.7
baz=200
SUA Susitna One 85.39 11 P P 13 05 14.8 +0.3
SUA IAmb IAmb 13 05 30.8
comp=Z,6.4nm,0.8s
SUA Susitna One 85.39 11 P P 13 05 14.4 0.0
baz=202
HLID Hailey 85.41 39 P P 13 05 15.9 +0.8
baz=234
ELIB Princess Elisa 85.45 186 *d*P P 13 05 15.4 +0.5
comp=Z,7.3nm,0.8s
KLR Kul'dur 85.54 328 *i* P P 13 05 15.0 -0.3
KLR pmax pmax
comp=Z,12nm,1.8s
BNX BinXian 85.58 323 ⇓P P 13 05 16.3 +0.7
BNX pmax pmax
comp=Z,18nm,1.0s
J16K Anvik River 85.75 6 P P 13 05 15.4 -0.6
J16K IAmb IAmb 13 05 18.3
comp=Z,11nm,0.9s
J16K Anvik River 85.75 6 P P 13 05 17.3 +1.3
baz=193
M22K Willow 85.77 11 P P 13 05 16.5 +0.4
baz=203
KNK Knik Glacier 85.77 12 P P 13 05 16.5 +0.3
baz=204
L20K Farewell, AK 85.82 9 P P 13 05 15.8 -0.6
baz=199
PLCA Paso Flores 85.84 132 LR LR 13 37 03.4
comp=Z,152nm,18.5s,baz=268,slow=31
ANMO Albuquerque 85.86 50 *i* P P 13 05 17.8 +0.3
ANMO Albuquerque 85.86 50 LR LR 13 39 35.0
comp=Z,287nm,18.6s,baz=16,slow=33
TTA Tatalina 85.95 8 P P 13 05 17.1 0.0
baz=197
WHN Wuhan 85.99 305 P P 13 05 18.8 +0.8
GHO Glory Hole Cre 86.01 12 P P 13 05 17.4 0.0
GHO IAmb IAmb 13 05 30.9
comp=Z,14nm,1.1s
J17K VABM Dome 86.02 7 P P 13 05 18.2 +0.8
baz=194
M23K Glacier View 86.26 12 P P 13 05 19.9 +1.2
baz=205
I17K Unalakleet 86.33 6 P P 13 05 20.2 +1.3
baz=193
J18K Innoko River 86.37 8 IAmb IAmb 13 05 20.7
comp=Z,12nm,1.1s
J18K Innoko River 86.37 8 P P 13 05 19.7 +0.6
baz=197
SCM Sheep Creek Mo 86.38 13 P P 13 05 18.9 -0.4
SCM IAmb IAmb 13 05 41.1
comp=Z,10nm,1.0s
SCM Sheep Creek Mo 86.38 13 P P 13 05 19.7 +0.5
baz=205
SCM Sheep Creek Mo 86.38 13 P P 13 05 18.9 -0.4
SCM pmax pmax
comp=Z,10.0nm,1.0s
K20K Telida 86.63 9 P P 13 05 20.5 +0.1
K20K IAmb IAmb 13 05 34.7
comp=Z,25nm,1.4s
K20K Telida 86.63 9 P P 13 05 20.9 +0.5
baz=199
TIA Tai'an 86.73 311 P P 13 05 21.9 +0.4
TIA pmax pmax
comp=Z,22nm,1.0s
GULI GuiLin 86.73 299 ⇑P P 13 05 25.3 +3.5
H16K Elim 86.92 5 P P 13 05 21.9 +0.1
baz=191
WAT6 Susitna Watana 86.98 12 P P 13 05 22.4 +0.1
baz=205
CAST Castle Rocks 86.99 10 P P 13 05 21.0 -1.1
CAST IAmb IAmb 13 05 36.4
comp=Z,18nm,1.4s
CAST Castle Rocks 86.99 10 P P 13 05 21.1 -1.1
baz=201
J19K Poorman 87.02 8 P P 13 05 22.4 +0.1
baz=198
KULM Kulim 87.20 277 P P 13 05 25.3 +0.9
TRF Thorofare Moun 87.31 11 P P 13 05 23.7 -0.2
TRF IAmb IAmb 13 05 31.4
comp=Z,25nm,1.3s
TRF Thorofare Moun 87.31 11 P P 13 05 23.8 -0.1
baz=202
J20K Nowinta River 87.39 9 P P 13 05 24.9 +0.8
baz=199
S34M Telegraph Cree 87.46 22 P P 13 05 25.9 +1.4
baz=220
RND Reindeer 87.53 11 P P 13 05 24.6 -0.2
RND IAmb IAmb 13 05 39.6
comp=Z,21nm,1.2s
RND Reindeer 87.53 11 P P 13 05 24.6 -0.2
RND pmax pmax
comp=Z,21nm,1.2s
GCSA Galena City Sc 87.58 7 P P 13 05 25.7 +0.8
baz=196
PAX Paxson 87.78 13 P P 13 05 26.5 +0.4
baz=207
MCK McKinley 87.81 11 P P 13 05 26.1 0.0
baz=204
M26K Nabesna, AK 87.81 14 P P 13 05 26.9 +0.7
baz=209
RPSI Rantau Prapat 87.82 274 P P 13 05 26.3 -1.0
PSI Prapat 87.86 274 P P 13 05 26.3 -1.4
PSI pmax pmax
comp=Z,26nm,0.9s
YUK3 Moose Creek 87.87 15 P P 13 05 27.1 +0.4
baz=211
PDAR Pinedale Array 87.89 42 P P 13 05 27.1 -0.2
comp=Z,0.4nm,0.8s,baz=220,slow=3.9,SNR=4.3
comp=Z,0.4nm,0.8s
G17K Kiwalik Mounta 87.91 6 P P 13 05 25.9 -0.6
baz=193
M27K Edge Creek, AK 88.03 15 P P 13 05 28.8 +1.5
baz=210
ORCD Orcadas 88.08 158 P P 13 05 28.9 +1.2
HEH HeiHe 88.36 327 *e*P P 13 05 28.6 -0.4
HEH pmax pmax
comp=Z,7.0nm,1.3s
HEH pmax pmax
comp=Z,230nm,6.6s
HEH LR LR
comp=Z,170nm,14.6s
HEH LR LR
comp=Z,320nm,15.8s
HEH LR LR
comp=Z,350nm,15.9s
H19K Roundabout Mou 88.39 7 P P 13 05 29.1 +0.3
baz=197
K24K Donnelly Dome 88.47 12 P P 13 05 29.3 0.0
baz=207
G18K Tagagawik 88.50 6 P P 13 05 29.1 -0.2
G18K Tagagawik 88.50 6 P P 13 05 29.6 +0.3
baz=195
H20K Anotleneega Mo 88.55 8 P P 13 05 30.3 +0.7
baz=198
GSI Gunungsitoli 88.56 272 P P 13 05 30.0 -0.8
NEA2 Nenana 88.58 11 P P 13 05 31.4 +1.7
baz=204
RIDG Independent Ri 88.60 13 P P 13 05 30.6 +0.6
baz=207
SEY Seymchan 88.65 346 *i* P P 13 05 30.6 +0.6
SEY pmax pmax
comp=Z,11nm,1.1s
L27K Beaver Creek, 88.66 14 P P 13 05 29.4 -0.8
L27K IAmb IAmb 13 05 34.9
comp=Z,9.4nm,1.4s
L27K Beaver Creek, 88.66 14 P P 13 05 32.9 +2.7
baz=210
I21K Tanana 88.66 9 P P 13 05 30.5 +0.4
I21K IAmb IAmb 13 05 55.9
comp=Z,14nm,1.4s
I21K Tanana 88.66 9 P P 13 05 30.1 +0.1
baz=201
MLY Manley 88.71 10 P P 13 05 30.1 -0.3
baz=202
HDA Harding Lake 88.79 12 P P 13 05 31.2 +0.5
baz=206
HDA P P 13 05 31.2 +0.5
baz=206
CCB Clear Creek Bu 88.85 11 IAmb IAmb 13 05 50.9
comp=Z,18nm,1.5s
G19K Purcell Mounta 88.91 7 P P 13 05 32.0 +0.7
baz=196
M29M Somme Creek 88.94 16 P P 13 05 32.4 +0.8
baz=213
H21K Melozitna Rive 88.99 9 P P 13 05 32.1 +0.5
baz=200

SCRK Sand Creek 88.99 13 P P 13 05 32.4 +0.5
baz=208
HNS HongShan 89.00 311 ⇑P P 13 05 33.1 +0.8
HNS pmax pmax
comp=Z,12nm,0.9s
MDM Murphy Dome 89.06 11 P P 13 05 31.3 -0.7
MDM IAmb IAmb 13 05 47.2
comp=Z,22nm,1.5s
ILAR Eielson Array 89.13 11 P P 13 05 31.7 -0.6
comp=Z,2.1nm,1.0s,baz=227,slow=5.7,SNR=10
comp=Z,2.1nm,1.0s
LYN LuoYang 89.27 308 ⇓P P 13 05 34.9 +1.3
LYN pP sP 13 05 40.0 +1.0
LYN sP pwP 13 05 42.0 -1.9
LYN pmax pmax
comp=Z,28nm,1.1s
LYN LR LR
comp=Z,560nm,17.2s
LYN LR LR
comp=Z,360nm,15.2s
LYN LR LR
comp=Z,460nm,17.1s
J25K Salcha River, 89.28 12 P P 13 05 33.7 +0.6
baz=207
BJI Beijing 89.29 314 P P 13 05 34.5 +0.9
BJI sP sP 13 05 39.8 +0.8
BJI pmax pmax
comp=Z,3.0nm,0.9s
BJI pmax pmax
comp=Z,81nm,4.4s
H22K Ishtalitna Cre 89.42 9 P P 13 05 34.1 +0.5
baz=201
K27K Chicken 89.44 14 P P 13 05 33.3 -0.4
baz=210
M30M Minto, Yukon 89.48 16 P P 13 05 34.2 +0.2
baz=215
F19K Shaleruckik Mo 89.50 7 IAmb IAmb 13 05 35.5
comp=Z,6.2nm,0.8s
F19K Shuckik Mo 89.50 7 P P 13 05 33.8 -0.1
baz=196
J26L Joseph Creek 89.54 13 IAmb IAmb 13 05 36.5
comp=Z,8.9nm,0.9s
J26L Joseph Creek 89.54 13 P P 13 05 35.6 +1.3
baz=209
L29M L29M 89.58 16 P P 13 05 35.4 +0.8
baz=213
ENH Enshi 89.61 303 P P 13 05 34.2 -1.2
G21K Allakaket 89.70 8 P P 13 05 35.0 0.0
baz=200
E18K Tukpahlearik C 89.80 5 P P 13 05 36.1 +0.8
baz=193
F20K Avaraart Lake 89.93 7 P P 13 05 36.5 +0.5
baz=197
PRP Porcupine Dome 90.06 12 P P 13 05 37.1 +0.3
baz=207
DAWY Dawson 90.08 15 P P 13 05 37.7 +0.8
baz=212
E19K Redstone River 90.16 7 IAmb IAmb 13 05 38.5
comp=Z,10.0nm,0.8s
E19K Redstone River 90.16 7 P P 13 05 37.8 +0.7
baz=196
I26K Coal Creek Min 90.33 13 P P 13 05 38.4 +0.5
baz=209
K29M Barlow Dome 90.35 15 P P 13 05 38.9 +0.7
baz=214
G22K Bettles 90.36 9 P P 13 05 37.8 -0.2
baz=201
F21K Alatna River 90.38 8 P P 13 05 38.6 +0.5
baz=200
ZEA Zeya 90.58 330 *i* P P 13 05 39.6 +0.3
F22K John River 90.82 8 P P 13 05 41.1 +0.9
baz=201
COLD Coldfoot 90.84 9 P P 13 05 41.2 +0.9
baz=202
I27K Kandik River 90.91 13 P P 13 05 41.1 +0.4
baz=210
C18K Utukok River 90.95 5 P P 13 05 41.2 +0.4
baz=192
E20K Nigu River 91.04 7 P P 13 05 41.6 +0.4
baz=197
D19K Kuna River 91.07 6 IAmb IAmb 13 05 56.1
comp=Z,14nm,1.2s
D19K Kuna River 91.07 6 P P 13 05 41.5 +0.2
baz=195
G25K Bearman Lake 91.08 11 P P 13 05 42.3 +1.0
baz=206
I28M Miner Creek 91.14 14 P P 13 05 42.1 +0.3
baz=212
J30M Hart River 91.25 15 P P 13 05 43.3 +0.9
baz=215
D20K Etivluk River 91.43 6 P P 13 05 44.1 +1.1
baz=197
E22K Anaktuvuk Pass 91.45 8 IAmb IAmb 13 05 57.8
comp=Z,7.1nm,1.2s
E22K Anaktuvuk Pass 91.45 8 P P 13 05 43.8 +0.6
baz=201
F24K Squaw Lake 91.46 10 P P 13 05 43.6 +0.4
baz=205
E21K Killik River 91.47 7 P P 13 05 43.4 +0.2
baz=199
H27K Steamboat Moun 91.47 13 P P 13 05 44.3 +1.1
baz=210
C19K Lookout Ridge 91.53 5 P P 13 05 44.6 +1.1
baz=194
HKT Hockley 91.56 58 *i* P P 13 05 44.9 +0.5
HKT pmax pmax
comp=Z,4.0nm,1.0s
B18K Kokolik River 91.61 4 P P 13 05 44.0 +0.3
baz=192
G26K Porcupine Rive 91.66 12 P P 13 05 45.0 +0.9
baz=208
XAN Xi'an 91.67 306 P P 13 05 45.5 +0.6
XAN pmax pmax
comp=Z,58nm,0.9s
E23K Chandalar 91.69 9 P P 13 05 45.6 +1.3
baz=203
I30M Mount Dempster 91.77 15 P P 13 05 44.8 0.0
baz=215
HIA Hailar 91.86 323 *i* P P 13 05 45.5 +0.1
HIA pmax pmax
comp=Z,2.0nm,1.0s
E24K Your Creek 91.88 9 P P 13 05 46.9 +1.8
baz=204
F25K Christian Rive 91.90 11 P P 13 05 46.3 +1.1
baz=207
G27K Doyon Strip 91.95 12 P P 13 05 46.1 +0.6
baz=210
D22K Ayikyak River 92.04 8 P P 13 05 46.0 +0.2
baz=200
C21K Knifeblade Rid 92.06 7 P P 13 05 45.8 0.0
baz=198
F26K Sheenjek River 92.25 11 P P 13 05 47.0 +0.2
baz=208
D23K Nanushuk River 92.39 8 P P 13 05 48.3 +0.9
baz=202
E25K Arctic Village 92.39 10 P P 13 05 48.3 +0.9
baz=207
HHC Hu-ho-hao-te 92.77 313 *e*P P 13 05 55.3 +5.3
HHC pmax pmax
comp=Z,13nm,0.7s
KMI Kunming 92.95 296 ⇑P P 13 05 52.6 +1.3
KMI pmax pmax
comp=Z,12nm,0.9s
ATAH Atahualpa 92.98 99 LR LR 13 40 43.5
comp=Z,237nm,18.3s,baz=279,slow=31
F28M Old Crow 93.00 13 P P 13 05 50.9 +0.6
baz=212
CRAI Chiangrai 93.11 290 P P 13 05 51.3 -0.6
CRAI IAmb IAmb 13 05 53.9
comp=Z,9.5nm,0.9s
G30M tAoh Zraii Nji 93.25 14 P P 13 05 51.6 +0.1
baz=215
G31M Satah River 93.66 15 P P 13 05 53.2 0.0
baz=217
CM31 Chiang Mai Arr 93.70 288 P P 13 05 53.7 -0.9
CMAR Chiang Mai Arr 93.70 288 *e*P P 13 05 56.0 +1.4
CMAR pmax pmax
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 93.70 288 P P 13 05 54.9 +0.3
comp=Z,11nm,0.8s,baz=123,slow=2.9,SNR=73
comp=Z,11nm,0.8s
BTO Baotou 93.72 312 *e*P P 13 05 54.0 -0.3
BTO pP pP 13 05 58.8 +0.5
BTO sP sP 13 06 00.9 +1.2
BTO S S 13 17 04.0 +1.0
BTO SS SS 13 23 24.6 +2.7
BTO pmax pmax
comp=Z,10.0nm,0.6s
BTO pmax pmax
comp=Z,470nm,6.1s
BTO LR LR
comp=Z,420nm,18.2s
BTO LR LR
comp=Z,330nm,18.2s
BTO LR LR
comp=Z,440nm,13.1s
CHTO Chiang Mai 93.83 289 P P 13 05 54.0 -1.2
CHTO Chiang Mai 93.83 289 P P 13 05 54.0 -1.2
CHTO pmax pmax
comp=Z,16nm,0.8s
E28M Babbage River 93.91 12 P P 13 05 54.8 +0.4
baz=212
D27M Malcolm River 94.19 11 P P 13 05 55.8 +0.1
baz=211
F31M Tsiigehtchic 94.20 15 P P 13 05 55.4 -0.3
baz=218
PZH PanZhiHua 94.31 297 P P 13 05 58.1 +0.7
PZH pmax pmax
comp=Z,10.0nm,0.8s
YAK Yakutsk 94.78 337 *i* P P 13 05 58.9 +0.4
YAK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 94.94 14 P P 13 05 59.5 +0.4
baz=218
LZH Lanzhou 96.30 306 *e*P P 13 06 07.9 +1.6
LZH pP pwP 13 06 14.4 -2.2
LZH sP sP 13 06 17.8 +6.1
LZH pmax pmax
comp=Z,18nm,1.3s
YKA Yellowknife Ar 96.57 24 P P 13 06 06.5 -0.2
comp=Z,0.8nm,0.8s,baz=238,slow=4.5,SNR=9.8
comp=Z,0.8nm,0.8s
ECSD EROS Data Cent 96.66 46 P P 13 06 08.0 +0.4
baz=246
PB18 Visviri 96.73 112 P P 13 06 09.5 +0.3
C36M Paulatuk 98.00 16 P Pdif 13 06 15.3 +2.3
baz=226
ULN Ulaanbaatar 98.67 318 *i* P P 13 06 16.4 -0.3
ULN pmax pmax
comp=Z,2.0nm,1.0s
WMQ Urumqi 110.41 310 *e*PKP PKiKP 13 11 10.3 +0.5
MKAR Makanchi Array 114.63 313 PKP PKPdf 13 11 16.5 -1.2
comp=Z,0.5nm,0.5s,baz=79,slow=2.1,SNR=2.6
KURK Kurchatov 117.34 317 *i* PKIKP PKPdf 13 11 22.3 -0.4
KURK pmax pmax
comp=Z,2.0nm,1.1s
KURBB Kurchatov Arra 117.40 317 PKP PKPdf 13 11 20.9 -1.8
comp=Z,0.8nm,0.7s,baz=95,slow=1.8,SNR=6.7
KSH Kashi 118.45 304 PKP PKiKP 13 11 26.3 +0.9
BOOM Boomskoye usch 118.74 307 PKPdf 13 11 25.7 -0.2
BOOM Boomskoye usch 118.74 307 PKIKP PKPdf 13 11 25.7 -0.2
AAK Ala-Archa 119.82 307 *i* PKIKP PKPdf 13 11 27.9 -0.1
AAK pmax pmax
comp=Z,1.0nm,1.0s
BVAR Borovoye Array 122.36 320 PKP PKPdf 13 11 31.6 -0.7
comp=Z,1.5nm,0.5s,baz=105,slow=4.0,SNR=9.0
BRVK Borovoye 122.42 320 *i* PKIKP PKPdf 13 11 30.9 -1.5
KBL Kabul 123.49 298 PKiKP 13 11 35.5 -0.1
KBL Kabul 123.49 298 PKiKP 13 11 35.5 -0.1
CHGR Chuyangaron 123.67 303 PKiKP 13 11 35.8 +0.1
CHGR Chuyangaron 123.67 303 PKIKP PKiKP 13 11 35.8 +0.1
ARU Arti 128.32 326 *i* PKIKP PKiKP 13 11 44.2 0.0
ARU 13 13 47.2
ARU 13 18 55.1
ARU SS SS 13 31 00.8 -1.8
ARCES ARCESS Array B 130.99 351 PKP PKPdf 13 11 48.8 +0.5
comp=Z,2.5nm,0.9s,baz=321,slow=1.7,SNR=3.9
GEYT Alibeck 132.36 302 PKP PKPdf 13 11 51.5 -0.4
comp=Z,2.8nm,0.8s,baz=116,slow=6.8,SNR=4.5
OBN Obninsk 139.64 333 ⇑*e*PKIKP PKPdf 13 12 05.5 +0.7
OBN *e* 13 14 59.0
OBN pmax pmax
comp=Z,5.0nm,0.8s
KIV Kislovodsk 142.36 314 *e*PKIKP PKPdf 13 12 11.0 +0.8
KIV pmax pmax
comp=Z,7.0nm,1.0s
MNK Minsk 143.46 338 *i* PKP PKPdf 13 12 12.3 +0.7
comp=E,9.0nm,0.9s
MNK *i* PKP PKPdf 13 12 12.3 +0.7
comp=N,13nm,0.7s
MNK *i* PKP PKPdf 13 12 12.3 +0.7
comp=Z,8.0nm,0.6s,baz=37
MNK *i* PP PP 13 15 23.9 +1.0
MNK *i* PPP PPP 13 18 33.4
MNK *i* SKS SKSdf 13 19 22.0 +1.5
MNK *i* SKKS SKKSdf 13 28 37.0 -0.2
MNK *i* SS SS 13 34 05.9 +3.0
MNK *i* SSS SSS 13 39 27.6
MNK *i* LQ LQ 14 08 47.9
MNK *i* LR LR 14 13 04.4
MNK *i* LRM MLR 14 15 19.7
comp=E,139nm,16.6s
MNK *i* LRM MLR 14 15 21.0
comp=N,333nm,17.2s
MNK *i* LRM MLR 14 15 43.5
comp=Z,224nm,19.3s
MNK Minsk 143.46 338 *i* PKIKP PKPdf 13 12 12.3 +0.7
MNK *i* 13 15 23.9
MNK *i* PPP PPP 13 18 33.3
MNK *i* 13 19 22.0
MNK *i* SS SS 13 34 05.9 +3.0
MNK *i* SSS SSS 13 39 27.5
MNK pmax pmax
comp=N,13nm,0.7s
MNK pmax pmax
comp=Z,8.0nm,0.6s
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK MLR MLR
comp=Z,224nm,19.0s
NACGM Naroch 143.51 339 *e*PKP PKPbc 13 12 09.1 0.0
BCA Borcka 144.04 311 ⇓P PKPab 13 12 10.1 -0.5
GURO Guroymak-BITLI 144.70 306 PKPdf PKPab 13 12 12.1 -1.2
AKASG Malin Array Be 145.91 333 *e*PKP2 PKPdf 13 12 16.0 0.0
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 145.91 333 PKPbc PKPdf 13 12 15.6 -0.4
comp=Z,2.2nm,0.5s,baz=38,slow=4.1,SNR=20
AKBB Malin Array Si 145.91 333 PKPbc 13 12 16.5 -0.2
AKBB Malin Array Si 145.91 333 *i* PKP2 PKPdf 13 12 16.1 +0.1
KIEV Kiev 145.92 333 ⇑P PKPbc 13 12 16.8 +0.1
KIEV Kiev 145.92 333 PKPdf 13 12 13.8 -2.3
KIEV Kiev 145.92 333 ⇑PKP2 PKPbc 13 12 16.8 +0.1
SIM Simferopol' 147.25 321 *i* PKP2 PKPab 13 12 22.0 -0.6
SIM pmax pmax
comp=Z,32nm,0.9s
SORM Soroca 148.19 330 ⇓P PKPbc 13 12 23.5 +0.3
SORM Soroca 148.19 330 ⇓PKIKP PKPbc 13 12 23.5 +0.3
DIKM Dikmen 148.28 315 ⇑P PKiKP 13 12 24.7 -0.6
BNN Bunyan 149.13 310 PKiKP 13 12 26.8 -0.6
BUR08 Bucovina Ar. S 149.95 333 PKPab PKiKP 13 12 29.8 +1.1
BURAR Bucovina Array 149.96 333 ⇓P PKiKP 13 12 29.9 +1.1
BURAR Bucovina Array 149.96 333 PKiKP 13 12 30.3 +1.5
BURAR Bucovina Array 149.96 333 ⇓PKP2 PKiKP 13 12 29.9 +1.1
CLL Collm 150.21 350 *e*PKPdf PKPdf 13 12 23.0 -0.1
CLL *i* PKPbc PKPbc 13 12 27.9 -0.3
comp=Z,11nm,1.0s
CLL *e*PKPab **pPKPbc** 13 12 33.0 +0.7
CLL *e*pPKPab **PKPab** 13 12 36.0 +1.8
CLL *e*SKPdf **SKPdf** 13 15 56.0 -0.1
CLL Collm 150.21 350 *e*PKIKP PKPdf 13 12 23.0 -0.1
CLL *i* 13 12 27.9
CLL *e* 13 12 33.0
CLL pmax pmax
comp=Z,11nm,1.0s
BRTR Keskin Array B 150.28 313 PKPbc 13 12 29.3 +0.4
BRTR Keskin Array B 150.28 313 PKPbc PKPbc 13 12 28.8 -0.2
comp=Z,5.4nm,0.8s,baz=116,slow=2.9,SNR=25
OSTC Ostas 150.33 346 ⇑*e*PKP PKiKP 13 12 29.7 +0.4
OSTC Ostas 150.33 346 *e*PKHKP PKPpre 13 12 29.7
CRVS Cervenica-Dubn 150.34 338 *e*PKP PKPab 13 12 35.9 +1.0
CFR Carcaliu 150.40 327 ⇑P PKiKP 13 12 29.7 +0.1
CFR Carcaliu 150.40 327 ⇑PKHKP PKPpre 13 12 29.7
TPGR Topolog 150.47 326 ⇑P PKiKP 13 12 30.3 +0.5
BRG Berggiesshubel 150.48 349 *e*PKP PKPdf 13 12 18.5 -5.0
BRG Amp 13 12 19.2
comp=Z,5.4nm,0.8s
BRG Berggiesshubel 150.48 349 P PKPdf 13 12 22.9 -0.6
BRG Amp 13 12 24.2
comp=Z,4.0nm,0.8s
BRG Berggiesshubel 150.48 349 *e*PKIKP PKPdf 13 12 18.5 -5.0

BRG					13 12 22.9
BRG			pmax	pmax	
	comp=Z,5.0nm,0.8s				
BRG			pmax	pmax	
	comp=Z,4.0nm,0.8s				
DPC	**Dobruska-Polom**	**150.50 346**⇑	*e*PKP	**PKiKP**	**13 12 29.8 +0.1**
DPC	**Dobruska-Polom**	**150.50 346**	*e*PKiKP	**PKiKP**	**13 12 29.8 +0.1**
VRI	**Vrincioaia**	**150.60 329**	⇑P	**PKiKP**	**13 12 30.1 +0.1**
VRI	**Vrincioaia**	**150.60 329**	⇑PKiKP	**PKiKP**	**13 12 30.1 +0.1**
PLOR	**Plostina**	**150.65 329**	⇑P	**PKiKP**	**13 12 30.1 -0.1**
PLOR	**Plostina**	**150.65 329**	⇑PKiKP	**PKiKP**	**13 12 30.1 -0.1**
PVCC	**Panska Ves**	**150.69 348**⇑	*e*PKP	**PKiKP**	**13 12 30.4 +0.3**
PVCC	**Panska Ves**	**150.69 348**	*e*PKiKP	**PKiKP**	**13 12 30.4 +0.3**
MORC	**Moravsky Berou**	**150.73 344**	*e*PKP	**PKPbc**	**13 12 29.4 -0.2**
TIRR	**Tirgusor**	**150.74 325**	⇑P	**PKiKP**	**13 12 30.7 +0.4**
TIRR	**Tirgusor**	**150.74 325**	⇑PKiKP	**PKiKP**	**13 12 30.7 +0.4**
LANS	**Liptovska Anna**	**150.76 341**	*e*PKP	**PKiKP**	**13 12 31.5 +1.2**
LANS	**Liptovska Anna**	**150.76 341**	*e*PKiKP	**PKiKP**	**13 12 31.5 +1.2**
ANTO	**Ankara**	**150.78 314**	⇑P	**PKiKP**	**13 12 30.4 -0.3**
ANTO	**Ankara**	**150.78 314**	⇑PKiKP	**PKiKP**	**13 12 30.4 -0.3**
OZUR		**150.88 330**	⇓P	**PKiKP**	**13 12 30.9 +0.3**
DOPR	**Dopca**	**151.15 331**	⇓P	**PKiKP**	**13 12 32.1 +0.9**
PRU	**Pruhonice**	**151.22 348**⇑	*e*PKP	**PKiKP**	**13 12 31.4 +0.2**
PRU	**Pruhonice**	**151.22 348**	*e*PKiKP	**PKiKP**	**13 12 31.4 +0.2**
GOPC	**GO Pecny, Ondr**	**151.24 347**⇑	*e*PKP	**PKiKP**	**13 12 31.7 +0.5**
GOPC	**GO Pecny, Ondr**	**151.24 347**	*e*PKiKP	**PKiKP**	**13 12 31.7 +0.5**
MLR	**Muntele Rosu**	**151.25 329**	⇑P	**PKiKP**	**13 12 31.8 +0.2**
MLR	**Muntele Rosu**	**151.25 329**		**PKiKP**	**13 12 31.5 -0.1**
MLR	**Muntele Rosu**	**151.25 329**	PKiKP	**PKiKP**	**13 12 31.5 -0.1**
VRAC	**Vranov**	**151.41 345**	*e*PKP	**PKPbc**	**13 12 31.0 -0.1**
MMAI	**Mount Meron Ar**	**151.41 299**	PKPbc	**PKiKP**	**13 12 32.3 +0.1**
	comp=Z,8.3nm,0.7s,baz=81,slow=5.2,SNR=13				
VYHS	**Vyhne**	**151.54 341**	*e*PKP	**PKiKP**	**13 12 32.8 +0.9**
VYHS	**Vyhne**	**151.54 341**	*e*PKiKP	**PKiKP**	**13 12 32.8 +0.9**
JAVC	**Velka Javorina**	**151.54 343**	*e*PKP	**PKiKP**	**13 12 32.9 +0.9**
KRUC	**Moravsky**	**151.68 345**	*e*PKP	**PKPbc**	**13 12 30.7 -1.0**
VOIR		**151.71 330**	⇑P	**PKiKP**	**13 12 32.8 +0.4**
VOIR		**151.71 330**	⇑PKiKP	**PKiKP**	**13 12 32.8 +0.4**
ZVC	**Zvikov**	**151.81 348**⇑	*e*PKP	**PKiKP**	**13 12 32.7 +0.3**
ARR	**Arges**	**151.95 331**	⇑P	**PKiKP**	**13 12 34.3 +1.4**
MODS	**Modra-Piesok**	**152.09 343**	*e*PKP	**PKPbc**	**13 12 32.8 +0.1**
MODS	**Modra-Piesok**	**152.09 343**	*e*PKiKP	**PKPbc**	**13 12 32.8 +0.1**
KHC	**Kasperske Hory**	**152.22 349**⇑	*e*PKP	**PKPbc**	**13 12 32.7 -0.3**
KHC	**Kasperske Hory**	**152.22 349**	*e*PKiKP	**PKPbc**	**13 12 32.7 -0.3**
GERES	**GERESS Array B**	**152.47 348**	PKPbc	**PKPbc**	**13 12 33.6 -0.1**
	comp=Z,1.1nm,0.6s,baz=347,slow=8.1,SNR=4.3				
GZR	**Gura Zlata**	**152.75 333**	⇑P	**PKiKP**	**13 12 35.2 +0.6**
GZR	**Gura Zlata**	**152.75 333**	⇑PKiKP	**PKiKP**	**13 12 35.2 +0.6**

*NEIC **15** 12:54:20.1±0.8, 18°.90N±0°.06×67°.27W±0°.04, h35km±2km, ML3.2/14, Md2.9/7(RSPR), Error ellipse: s-maj=10.9km s-min=5.0km az=198.0*
*RSPR **15** 12:54:22.5, 18°.84N×67°.17W, h41km±8km, MD2.9/7*

ISC 15 12:54:19.6±1.7, 18°.93N±0°.09×67°.27W±0°.05, h35km, n26, σ0°.67/32, 4C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRSN	**Puerto Rico Se**	**0.72**	**170**	*e*P	**Pn**	**12 54 33.0**	**-0.4**
PRSN	**Puerto Rico Se**	**0.72**	**170**	*e*S	**Sn**	**12 54 42.8**	**-0.4**
PRSN	**Puerto Rico Se**	**0.72**	**170**		**Pn**	**12 54 32.9**	**-0.4**
PRSN					**Sn**	**12 54 42.8**	**-0.4**
PRSN				IAML		12 54 47.0	
	comp=E,896nm,0.2s						
PRSN				IAML		12 54 51.7	
	comp=N,1μm,0.3s						
AOPR	**Arecibo Observ**	**0.76**	**140**⇑	*i*P	**Pn**	**12 54 33.8**	**-0.2**
AOPR	**Arecibo Observ**	**0.76**	**140**	*e*S	**Sn**	**12 54 43.5**	**-0.8**
AOPR	**Arecibo Observ**	**0.76**	**140**		**Pn**	**12 54 33.8**	**-0.2**
AOPR					**Sn**	**12 54 43.8**	**-0.5**
AOPR				IAML		12 54 56.0	
	comp=N,943nm,0.4s						
LSP	**Las Mesas**	**0.77**	**167**⇓	*e*P	**Pn**	**12 54 34.0**	**-0.1**
LSP	**Las Mesas**	**0.77**	**167**	*e*S	**Sn**	**12 54 44.1**	**-0.4**
LSP	**Las Mesas**	**0.77**	**167**		**Pn**	**12 54 34.0**	**-0.1**
LSP					**Sn**	**12 54 44.1**	**-0.4**
EMPR	**Esperanza - Ma**	**0.84**	**123**⇑	*e*P	**Pn**	**12 54 35.4**	**+0.5**
EMPR	**Esperanza - Ma**	**0.84**	**123**		**Pn**	**12 54 35.4**	**+0.5**
EMPR				IAML		12 54 51.1	
	comp=E,766nm,0.4s						
EMPR				IAML		12 54 56.7	
	comp=N,676nm,0.9s						
CRPR	**Cabo Rojo, PR**	**0.94**	**171**	*e*S	**Sn**	**12 54 48.2**	**-0.2**
CRPR	**Cabo Rojo, PR**	**0.94**	**171**		**Sn**	**12 54 48.0**	**-0.5**
MLPR	**Magueyes Islan**	**0.98**	**167**⇑	*i*P	**Pn**	**12 54 37.1**	**+0.1**
MLPR	**Magueyes Islan**	**0.98**	**167**	*e*S	**Sn**	**12 54 49.7**	**0.0**
MLPR	**Magueyes Islan**	**0.98**	**167**		**Pn**	**12 54 36.9**	**0.0**
MLPR					**Sn**	**12 54 49.6**	**0.0**
GBPR	**Guanica, Bosqu**	**1.02**	**159**⇓	*e*P	**Pn**	**12 54 37.9**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.02**	**159**	*e*S	**Sn**	**12 54 52.2**	**+1.6**
GBPR	**Guanica, Bosqu**	**1.02**	**159**		**Pn**	**12 54 37.9**	**+0.4**
GBPR					**Sn**	**12 54 52.2**	**+1.6**
PCDR	**Punta Cana, DR**	**1.13**	**249**⇑	*e*P	**Pn**	**12 54 39.6**	**+0.6**
PCDR	**Punta Cana, DR**	**1.13**	**249**	*e*S	**Sn**	**12 54 54.0**	**+0.6**
PCDR	**Punta Cana, DR**	**1.13**	**249**		**Pn**	**12 54 39.4**	**+0.4**
PCDR					**Sn**	**12 54 53.8**	**+0.4**
PCDR				IAML		12 55 00.9	
	comp=N,493nm,1.0s						
SJG	**San Juan**	**1.34**	**127**⇑	*e*P	**Pn**	**12 54 42.5**	**+0.7**
SJG	**San Juan**	**1.34**	**127**	*e*S	**Sn**	**12 54 57.2**	**-1.3**
SJG	**San Juan**	**1.34**	**127**		**Pn**	**12 54 42.6**	**+0.7**
SJG				IAML		12 55 06.5	
	comp=N,356nm,0.5s						
SJG				IAML		12 55 07.1	
	comp=N,362nm,0.6s						
SDDR	**Presa de Saban**	**3.80**	**271**	Pn	**Pn**	**12 55 14.7**	**-1.1**

*NNC **15** 13:04:20.0±2.1, 51°.55N×75°.21E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=35.5km s-min=14.0km az=19.0, Suspected Mining explosion.*
*IDC **15** 13:04:21.2±1.0, 51°.69N×75°.56E, h0km, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=37.6km s-min=7.8km az=28.0*

ISC 15 13:04:18.1±0.9, 51°.68N±0°.07×75°.07E±0°.06, h0km, n11, σ1s32/13, 7C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.43**	**115**	Pg	**Pn**	**13 05 00.1**	**+1.2**
	0.6nm,0.3s,baz=302,slow=18,SNR=12						
KURBB				Lg	Lg	13 05 29.2	
	0.6nm,0.3s,baz=308,slow=34,SNR=3.7						
KURBB	**Kurchatov Arra**	**2.43**	**115**	⇑Pn	**Pn**	**13 05 00.2**	**+1.2**
	2.2nm,0.3s						
KURBB				⇑Sn	**Sn**	**13 05 30.3**	**+1.0**
	23nm,0.8s						
KURK	**Kurchatov**	**2.44**	**112**	⇑Pn	**Pn**	**13 04 59.9**	**+0.9**
	1.4nm,0.4s						
KURK				⇑Sn	**Sn**	**13 05 26.5**	**-3.0**
	6.7nm,0.8s						
BVA0	**Borovoye Array**	**3.17**	**297**	⇓Pg	**Pg**	**13 05 19.0**	**+0.3**
	0.4nm,0.4s,baz=128,slow=16						
BVA0				⇑Lg	Lg	13 06 03.9	
	12nm,0.8s,baz=118,slow=30						
BVAR	**Borovoye Array**	**3.17**	**297**	Pn	**Pb**	**13 05 15.2**	**0.0**
	0.1nm,0.3s,baz=107,slow=13,SNR=6.7						
BVAR				Sn	**Sg**	**13 05 58.4**	**-1.3**
	0.1nm,0.3s,baz=101,slow=20,SNR=5.6						
BVAR				Lg	Lg	13 06 08.5	
	0.3nm,0.3s,baz=119,slow=26,SNR=10						
	2.4nm,0.6s						
BRVK	**Borovoye**	**3.24**	**297**	⇓Pg	**Pg**	**13 05 21.0**	**+0.9**
	0.7nm,0.4s						
BRVK				⇑Lg	Lg	13 06 05.9	
	7.6nm,0.8s						
OTUK	**Ortayu**	**3.87**	**208**	⇓Pg	**Pg**	**13 05 32.4**	**+0.3**
	0.6nm,0.5s						
OTUK				⇑Lg	Lg	13 06 21.9	
	5.0nm,0.8s						
I46RU	**ZALESOVO INFRA**	**6.33**	**65**	I	I	13 39 20.0	
	baz=252,slow=337,SNR=3.4						
ZALV	**Zalesovo Beam**	**6.33**	**65**	Pn	**Pn**	**13 05 52.8**	**+0.2**
	0.7nm,0.3s,baz=256,slow=12,SNR=5.0						
	1.0nm,0.3s						
MK31	**Makanchi Array**	**6.80**	**133**	⇓Lg	Lg	13 07 52.6	
	1.7nm,0.6s,baz=337,slow=26,SNR=2.9						
MKAR	**Makanchi Array**	**6.80**	**133**	Pn	**Pn**	**13 05 59.2**	**+0.1**
	0.1nm,0.3s,baz=335,slow=13,SNR=4.2						
MKAR				Sn	**Sn**	**13 07 16.3**	**-0.9**
	0.1nm,0.3s,baz=340,slow=21,SNR=1.7						
MKAR				Lg	Lg	13 07 48.8	
	0.4nm,0.3s,baz=325,slow=25,SNR=6.6						
	0.7nm,0.8s						

ISK 15 13:11:11.5, 41°.29N×28°.63E, h0km, ML1.8/9, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTKS	**Kestanelik-??a**	**0.11**	**242**	Pg	Pg	13 11 14.4	+0.9
CTKS				Sg	Sg	13 11 16.4	+1.5
BGKT	**Bogazkoy**	**0.15**	**135**	Pg	Pg	13 11 15.1	+0.7
KLYT	**Kilyos**	**0.31**	**96**	Pg	Pg	13 11 18.3	+0.8
KLYT				Sg	Sg	13 11 22.9	+1.4
CTYL	**Yalikoy Yolu**	**0.32**	**306**	Pg	Pg	13 11 18.2	+0.6
SLVT	**Silivri**	**0.32**	**260**	Pg	Pg	13 11 18.3	+0.6
ISK	**Istanbul-Kandi**	**0.39**	**124**	Pg	Pg	13 11 19.6	+0.6
KAVV	**Kandilli-Istan**	**0.39**	**124**	Pg	Pg	13 11 19.4	+0.4
ARMT	**Armutlu**	**0.74**	**166**	Pg	Pg	13 11 26.2	+0.5
KRBG	**Karabiga-Canak**	**1.35**	**229**	Pn	Pg	13 11 36.9	-0.4

*ISK **15** 13:11:17.6, 37°.16N×37°.47E, h0km, ML1.7/6, Suspected Mining explosion.*

AFAD 15 13:11:17.4±0.0, 37°.15N×37°.41E, h7km±6km, ML1.8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.16**	**278**	Pg	Pg	13 11 22.4	+1.7
NZIP	**Nizip/Gaziante**	**0.24**	**117**	P	Pg	13 11 23.6	+1.5
NZIP				S	Sg	13 11 37.0	+12
NZIP				*i* AML	AML	13 11 40.0	
	comp=N,437nm,1.2s						
NZIP				*i* AML	AML	13 11 41.0	
	comp=E,498nm,0.9s						
GZT	**Gaziantep**	**0.24**	**31**	P	Pg	13 11 22.4	+0.3
GZT				S	Sg	13 11 31.6	+6.2
GZT				*i* AML	AML	13 11 33.0	
	comp=E,1μm,0.4s						
GZT				*i* AML	AML	13 11 34.0	
	comp=N,2μm,0.6s						
HCB	**Kahramanmara**	**0.45**	**296**	P	Pg	13 11 26.1	+0.1
HCB				S	Sb	13 11 33.9	-0.6
KHMR	**Kahramanmara**	**0.45**	**296**	P	Pg	13 11 19.7	-6.4
KHMR				S	Sb	13 11 34.0	-0.5
KMRS	**Kahramanmaras**	**0.54**	**311**	Pg	Pb	13 11 29.2	0.0
KAMA	**Osmaniye**	**0.59**	**274**	P	Pg	13 11 29.2	+0.3
KAMA				S	Sg	13 11 37.5	+0.8
AKCA	**Adyaman/G¶l**	**0.68**	**19**	P	Pg	13 11 29.5	-1.0
AKCA				S	Sb	13 11 40.4	-0.9
AKCA				*i* AML	AML	13 11 45.0	
	comp=E,56nm,0.5s						
AKCA				*i* AML	AML	13 11 50.0	
	comp=N,46nm,0.5s						
AZEY	**Adyaman-Merk**	**0.94**	**45**	P	Pb	13 11 35.9	-0.1
AZEY				S	Sn	13 11 50.9	+0.2
AZEY				*i* AML	AML	13 11 54.0	
	comp=E,22nm,0.3s						
ANDN	**Andirin**	**0.95**	**297**	P	Pg	13 11 34.3	-1.3
ANDN				S	Sn	13 11 52.4	+1.2
ANDN				*i* AML	AML	13 11 53.0	
	comp=N,20nm,0.4s						
SURC	**SANLIURFA_SURC**	**1.00**	**105**	P	Pg	13 11 35.5	-1.0
SURC				S	Sb	13 11 50.7	+0.3
SURC				*i* AML	AML	13 11 53.0	
	comp=N,22nm,0.7s						
SURC				*i* AML	AML	13 12 00.0	
	comp=E,18nm,0.7s						
URFA	**Urfa**	**1.16**	**75**	Pn	Pg	13 11 39.3	-0.4
URFA				S	Sb	13 11 55.3	+0.1
AKCD	**Akcadag**	**1.21**	**19**	P	Pn	13 11 41.2	+0.3
AKCD				S	Sn	13 11 58.9	+1.3
AKCD				*i* AML	AML	13 12 00.0	
	comp=N,29nm,0.6s						
AKCD				*i* AML	AML	13 12 01.0	
	comp=E,33nm,0.7s						
SANL	**SANLIURFA_Merk**	**1.26**	**89**	P	Pn	13 11 41.2	-0.2
SANL				S	Sn	13 11 58.8	+0.1
SANL				*i* AML	AML	13 12 07.0	
	comp=N,20nm,0.4s						
SANL				*i* AML	AML	13 12 18.0	
	comp=E,16nm,0.8s						
DARE	**Darende-Malaty**	**1.42**	**2**	Pn	Pb	13 11 44.2	-0.1
SARI	**SarD1z-Kayseri**	**1.48**	**328**	Pn	Pb	13 11 45.3	-0.1
ARPR	**Arapgir-MALATY**	**2.07**	**20**	Pn	Pn	13 11 53.2	+0.5

IDC 15 13:16:45.8±321.0, 61°.25N×170°.46E, h0km, Error ellipse: s-maj=153.9km s-min=135.2km az=141.0, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I44RU	**PETROPAVLOVSK**	**10.68**	**226**	I	I	14 19 26.1	
	0.7nm,2.0s,baz=39,slow=330,SNR=7.8						
I53US	**FAIRBANKS INFR**	**18.96**	**61**	I	I	15 11 30.0	
	0.4nm,1.0s,baz=279,slow=328,SNR=20						
I45RU	**USSURIYSK INFR**	**28.31**	**251**	I	I	16 30 46.4	
	baz=35,slow=332,SNR=2.8						
I30JP	**ISUMI INFRASON**	**32.26**	**230**	I	I	17 03 20.0	
	0.1nm,6.6s,baz=31,slow=320,SNR=6.7						
I18DK	**QAANAAQ INFRAS**	**36.77**	**18**	I	I	17 01 15.0	
	0.2nm,1.7s,baz=314,slow=331,SNR=13						
I34MN	**SONGINO INFRAS**	**37.90**	**279**	I	I	17 50 39.9	
	baz=44,slow=328,SNR=0.7						
I56US	**NEWPORT INFRAS**	**41.51**	**74**	I	I	17 32 15.0	
	0.2nm,2.0s,baz=319,slow=319,SNR=14						
I46RU	**ZALESOVO INFRA**	**43.30**	**301**	I	I	18 07 00.0	
	baz=32,slow=337,SNR=1.5						
I10CA	**LAC DU BONNET**	**49.34**	**58**	I	I	18 12 40.0	
	0.1nm,2.0s,baz=316,slow=309,SNR=2.3						
I57US	**PINON FLAT INF**	**53.16**	**86**	I	I	18 46 56.5	
	0.2nm,1.2s,baz=323,slow=315,SNR=9.3						
I55US	**WINDLESS BIGHT**	**138.75**	**181**	I	I	03 46 30.0	
	baz=0.0,slow=314,SNR=1.2						

IDC 15 13:27:30.2±2.0, 2°.52N×124°.33E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=211.1km s-min=27.4km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.39**	**157**	P	P	13 32 50.3	-0.2
	0.6nm,0.5s,baz=335,slow=10,SNR=14						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**27.65**	**161**	P	P	13 33 20.4	+0.5
	0.2nm,0.6s,baz=342,slow=6.2,SNR=4.6						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**57.21**	**327**	P	P	13 37 19.1	-0.2
	0.3nm,0.5s,baz=121,slow=7.7,SNR=4.1						
	0.3nm,0.5s						

*SKHL **15** 13:27:33.8±0.9, 43°.78N×134°.09E, h425km±4km, mb4.5/8, msh4.0/2*
*IDC **15** 13:27:34.1±0.6, 43°.73N×133°.77E, h436km±6km, mb3.2/15, mbtmp4.1/22, Error ellipse: s-maj=10.9km s-min=9.7km az=74.0*
*JMA **15** 13:27:37.1±0.5, 44°.N±2°.×13°.5E±°, h472km, MV3.5/37, NEAR VLADIVOSTOK*

ISC 15 13:27:33.2±0.5, 43°.75N±0°.07×134°.02E±0°.06, h430km, n56, σ1s83/66, mb3.5/15, 2C, Primorye

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRTR	**Gornotajezhnoj**	**1.35**	**269**	*i*P	**P**	**13 28 30.3**	**+1.7**
GRTR				AMB	AMB	13 28 30.8	
	97nm,0.8s						
GRTR				*e*S	**S**	**13 29 14.9**	**+1.3**
GRTR				A	A	13 29 15.7	
	21nm,1.1s						
GRTR				A	A	13 29 15.7	
	18nm,1.1s						
USRK	**Ussuriysk Ar.**	**1.54**	**288**	P	**P**	**13 28 31.0**	**+1.6**
	79nm,0.4s,baz=100,slow=3.8,SNR=467						
USRK				S	**S**	**13 29 16.1**	**+1.1**
	1.4nm,0.5s,baz=53,slow=11,SNR=0.5						
JHST	**Hiyamasetana**	**4.49**	**105**	*e*P	**P**	**13 28 54.0**	**+2.6**
JSH	**Shimam**	**4.54**	**102**	P	**P**	**13 28 53.8**	**+1.9**
JSK	**Shakotan**	**4.71**	**93**	*e*P	**P**	**13 28 56.1**	**+2.6**
JIW	**Iwasaki**	**5.45**	**123**	*e*P	**P**	**13 29 02.8**	**+1.7**
JKB	**Kayabe**	**5.48**	**107**	P	**P**	**13 29 03.0**	**+1.7**
JHR	**Hokuryu**	**5.58**	**87**	*e*P	**P**	**13 29 05.0**	**+2.8**
JOT	**Ohata**	**5.70**	**112**	P	**P**	**13 29 04.7**	**+1.1**
JOT				*e*S	**S**	**13 30 16.8**	**-0.7**
KLR	**Kul'dur**	**5.71**	**345**⇑	*i*P	**P**	**13 29 04.5**	**+1.1**
KLR				*e*S	**S**	**13 30 15.7**	**-1.7**
KLR	**Kul'dur**	**5.71**	**345**	P	**P**	**13 29 04.1**	**+0.7**
	32nm,0.6s,baz=174,slow=8.3,SNR=129						
KLR				S	**S**	**13 30 18.7**	**+1.3**
	1.7nm,0.6s,baz=89,slow=20,SNR=0.7						
JWK2	**Keihoku**	**5.84**	**72**	*e*P	**P**	**13 29 08.3**	**+3.4**
ASAJ	**Asahikawa**	**6.20**	**84**	P	**P**	**13 29 11.2**	**+2.5**
	52nm,0.5s,baz=286,slow=7.2,SNR=81						
JHG	**Hegura jima**	**6.29**	**159**	P	**P**	**13 29 12.7**	**+3.0**
JRG	**Rokugo**	**6.59**	**129**	P	**P**	**13 29 13.9**	**+0.7**
JRG				S	**S**	**13 30 33.9**	**-0.8**
JCH	**Churui**	**6.92**	**96**	P	**P**	**13 29 16.3**	**-0.4**
JCH				*e*S	**S**	**13 30 35.5**	**-5.6**
JTKR	**Abashiri--Toko**	**7.15**	**85**	P	**P**	**13 29 20.8**	**+1.7**
JMK	**Ichinoseki**	**7.23**	**129**	*e*P	**P**	**13 29 20.0**	**-0.1**
JMM	**Marumori**	**7.80**	**137**	P	**P**	**13 29 25.6**	**-0.7**
KSRS	**Korea Array**	**7.81**	**218**	P	**P**	**13 29 26.2**	**-0.2**
	12nm,0.4s,baz=35,slow=11,SNR=6.7						
MJAR	**Matsushiro Arr**	**7.88**	**155**	P	**P**	**13 29 27.9**	**+0.7**
	2.7nm,0.6s,baz=341,slow=9.8,SNR=10						
AKK	**Akkeshi**	**7.92**	**92**	*e*P	**P**	**13 29 28.1**	**+0.6**
AKK				AMB	AMB	13 29 29.6	
	39nm,0.5s						
AKK				*e*S	**S**	**13 30 56.8**	**-4.2**
JNG	**Nsakai**	**7.97**	**156**	*e*P	**P**	**13 29 29.4**	**+1.1**
NMR	**Nemuro--Hokkai**	**8.51**	**88**	*e*P	**P**	**13 29 35.6**	**+1.8**
NMR				AMB	AMB	13 29 36.3	
	13nm,0.4s						
NMR				*e*S	**S**	**13 31 09.1**	**-4.0**
JWT	**Wachi**	**8.52**	**172**	P	**P**	**13 29 36.2**	**+2.1**
NEM2	**Nemuro 2**	**8.52**	**89**	P	**P**	**13 29 35.6**	**+1.7**
NEM2				*e*S	**S**	**13 31 09.6**	**-3.7**
JRY	**Ryogami san**	**8.58**	**152**	*e*P	**P**	**13 29 37.1**	**+2.3**
NKL	**Nikolayevsk**	**10.39**	**23**	*e*P	**P**	**13 29 56.4**	**+2.1**
NKL				AMB	AMB	13 29 56.4	
	15nm,1.0s						
JNU	**Nakatsue**	**10.89**	**194**	P	**P**	**13 30 01.1**	**+0.9**
	10.0nm,1.0s,baz=300,slow=4.5,SNR=4.6						
MA2	**Magadan**	**18.86**	**27**	P	**P**	**13 31 25.9**	**+1.1**
	8.8nm,0.5s,baz=214,slow=9.6,SNR=6.2						
SONM	**Songino Array**	**19.65**	**292**	P	**P**	**13 31 31.2**	**-1.2**
	1.7nm,0.7s,baz=108,slow=9.7,SNR=5.9						
ZALV	**Zalesovo Beam**	**33.32**	**305**	P	**P**	**13 33 32.2**	**-0.8**
	3.6nm,0.5s,baz=94,slow=8.5,SNR=21						
	3.6nm,0.5s						
MKAR	**Makanchi Array**	**36.00**	**293**	P	**P**	**13 33 55.2**	**-0.6**
	1.7nm,0.5s,baz=83,slow=10,SNR=18						
	1.7nm,0.5s						
KURBB	**Kurchatov Arra**	**37.56**	**301**	P	**P**	**13 34 07.8**	**-0.9**
	11nm,0.6s,baz=80,slow=9.0,SNR=102						
	11nm,0.6s						
CMAR	**Chiang Mai Arr**	**38.76**	**241**	P	**P**	**13 34 18.5**	**-0.4**
	0.9nm,0.5s,baz=36,slow=7.5,SNR=9.1						
	0.9nm,0.5s						
TAPN	**Taplejung**	**40.52**	**262**	*e*P	**P**	**13 34 33.2**	**-0.3**
	19nm,0.4s						
JIRN	**Jiri**	**41.44**	**263**	*e*P	**P**	**13 34 40.1**	**-0.8**
GUN	**Gumba**	**41.51**	**264**	*e*P	**P**	**13 34 40.7**	**-0.8**
RAMN	**Ramite**	**41.56**	**262**	*e*P	**P**	**13 34 41.2**	**-0.5**
BVAR	**Borovoye Array**	**41.97**	**306**	P	**P**	**13 34 43.4**	**-0.9**
	0.7nm,0.3s,baz=72,slow=8.8,SNR=7.6						
	0.7nm,0.3s						
PKI	**Pulchoki**	**42.05**	**264**	*e*P	**P**	**13 34 44.6**	**-1.2**
PKIN	**Phulchoki**	**42.05**	**264**	*e*P	**P**	**13 34 44.5**	**-1.2**
	13nm,0.5s						
DMN	**Daman**	**42.25**	**264**	*e*P	**P**	**13 34 46.4**	**-0.8**
	15nm,0.5s						
DANN	**Dangsing**	**42.79**	**266**	*e*P	**P**	**13 34 51.4**	**-0.2**
KOLN	**Koldanda**	**43.24**	**266**	*e*P	**P**	**13 34 53.7**	**-1.3**
PYUN	**Piuthan**	**43.49**	**266**	*e*P	**P**	**13 34 56.7**	**-0.3**
	22nm,0.3s						
ILAR	**Eielson Array**	**47.05**	**35**	P	**P**	**13 35 24.4**	**+0.8**
	0.4nm,0.4s,baz=286,slow=9.0,SNR=17						
	0.4nm,0.4s						
ARU	**Arti**	**47.62**	**313**	P	**P**	**13 35 26.5**	**-1.6**
	2.1nm,0.3s,baz=83,slow=16,SNR=3.2						
	2.1nm,0.3s						
AKTO	**Aktyubinsk**	**50.08**	**306**	P	**P**	**13 35 45.4**	**-1.1**
	0.5nm,0.3s,baz=69,slow=4.8,SNR=2.2						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**60.20**	**328**	P	**P**	**13 36 57.5**	**0.0**
	1.6nm,0.8s,baz=85,slow=4.6,SNR=4.6						
	1.6nm,0.8s						
YKA	**Yellowknife Ar**	**60.81**

comp=E,5μm,0.3s
TA02 Huaiquique 2.25 179 eP Pn 14 14 45.1 +0.5
TA02 Huaiquique 2.25 179 eP Pn 14 14 44.6 0.0
TA02 *i* S **Sn 14 15 07.0 -4.9**
HMBC Humberstone 2.27 174 ⇑*i*P Pn 14 14 45.5 +0.5
HMBC *i* S **Sn 14 15 07.4 -5.2**
HMBC IAML 14 15 18.3
comp=E,4μm,0.5s
PB08 IPOC Station P 2.33 156 ⇓*i*P Pn 14 14 48.2 +2.2
PB08 *i* S **Sn 14 15 16.4 +2.2**
PB08 IAML 14 15 18.1
comp=N,3μm,0.2s
TA01 Diego Aracena 2.55 181 Pn **Pn 14 14 49.1 +0.6**
LPAZ La Paz 2.58 49 Pn **Pn 14 14 51.6 +2.0**
PATCX Punta Patache 2.80 180 Pn 14 14 51.9 0.0
PB07 IPOC Station P 3.71 176 eP Pn 14 15 04.9 +0.6
PB06 IPOC Station P 4.71 173 Pn 14 15 17.6 -0.2
LVC Limon Verde 4.73 166 P **Pn 14 15 19.8 +1.6**
comp=N,24nm,0.3s,baz=346,slow=9.2,SNR=97
LVC S **Sn 14 16 10.6 -1.4**
comp=N,186nm,0.3s,baz=37,slow=20,SNR=23
GO02 Mina Guanaco 7.14 176 Pn **Pn 14 15 49.9 -1.1**
AC01 Pan de Azucar 8.11 183 Pn **Pn 14 16 01.7 -2.3**
SIV San Ignacio 8.92 78 P **Pn 14 16 13.2 -1.8**
comp=N,63nm,0.5s,baz=258,slow=11,SNR=162
ETMB Extrema 8.99 26 Pn **Pn 14 16 14.8 -1.2**
ETMB Extrema 8.99 26 eP Pn 14 16 12.0 -4.0
BBSD Serra de San D 9.14 86 eP Pn 14 16 15.6 -2.4
GO03 Copiap 9.54 180 Pn **Pn 14 16 22.6 -0.9**
BBRB Robore, Bolivi 9.84 93 eP Pn 14 16 24.3 -3.2
VILB Vilhena 10.83 64 Pn **Pn 14 16 40.2 -0.9**
VILB Vilhena 10.83 64 eP Pn 14 16 39.2 -1.9
PTLB Pontes e Lacer 10.86 78 Pn **Pn 14 16 40.1 -1.3**
PTLB Pontes e Lacer 10.86 78 eP Pn 14 16 39.3 -2.1
SAML Samuel 11.27 38 Pn **Pn 14 16 43.9 -3.1**
SAML Samuel 11.27 38 eP Pn 14 16 43.4 -3.6
MURT Porto Murtinho 12.35 109 eP Pn 14 17 00.3 -1.2
BDQN Bodoquena, MS 12.89 103 eP Pn 14 17 05.8 -2.9
AODB Aquidauana 13.87 103 eP Pn 14 17 19.6 -1.9
SALV Santo Antonio 14.00 84 eP Pn 14 17 22.2 -0.9
RVDE Rio Verde (Bra 14.47 96 eP Pn 14 17 26.8 -2.4
PP1B Ponte de Pedra 14.56 91 eP Pn 14 17 27.8 -2.5
AMBA Amambai (Brazi 15.03 112 eP Pn 14 17 36.4 +0.1
CLDB Colider 15.60 65 eP Pn 14 17 43.3 -0.3
H03N1 Juan Fernandez 17.26 205 T T 14 35 32.9
baz=29,slow=72,SNR=66
H03N2 Juan Fernandez 17.27 205 T T 14 35 28.5
baz=29,slow=72,SNR=59
H03N3 Juan Fernandez 17.28 205 T T 14 35 27.6
baz=29,slow=72,SNR=62
MACA Manacapuru-AM 17.43 33 P 14 18 05.5 -0.6
MACA Manacapuru-AM 17.43 33 eP Pn 14 18 06.4 +0.2
UNIS Unistalda (Bra 17.66 131 eP Pn 14 18 08.9 +0.1
FRBT Francisco Belt 17.71 120 eP Pn 14 18 11.0 +1.4
COHC Cochancay 17.84 329 P **Pn 14 18 13.5 +2.4**
PTGB Pitanga 18.12 115 eP Pn 14 18 14.6 +0.1
PCMB Pacaembu 18.14 104 eP Pn 14 18 15.6 +0.9
RODS Rosario do Sul 18.34 135 eP Pn 14 18 17.7 +0.6
LDASE Londrina, Braz 18.59 110 eP Pn 14 18 20.0 -0.2
ITRB Iturama 18.81 98 eP Pn 14 18 23.1 +0.3
ITAB Concordia 18.99 122 eP Pn 14 18 24.8 +0.1
ALGR Alto Alegre (B 19.02 128 eP P 14 18 23.8 +0.4
CPSB Cacapava Do Su 19.59 132 eP P 14 18 29.7 +0.1
OTAV Otavalo 19.88 335 eP P 14 18 29.5 -3.9
FRTB Fartura 19.98 109 eP P 14 18 34.3 +0.4
PLTB Pedras Altas 20.29 136 P **P 14 18 36.7 -0.5**
PLTB Pedras Altas 20.29 136 eP P 14 18 37.1 0.0
IPMB Ipameri, GO 20.87 93 eP P 14 18 44.5 +0.9
BDFB Brasilia 21.32 87 P **P 14 18 46.5 -2.0**
comp=N,11nm,0.6s,baz=262,slow=10,SNR=4.2
comp=N,11nm,0.6s
GO06 Curarrehue 21.53 183 P **P 14 18 52.5 +2.0**
VAO Valinhos 22.27 107 eP P 14 18 59.6 +1.0
PLCA Paso Flores 22.65 181 P **P 14 19 02.0 -0.3**
PLCA Paso Flores 22.65 181 eP P 14 19 02.5 +0.2
PLCA Paso Flores 22.65 181 P **P 14 19 02.1 -0.2**
comp=N,12nm,1.0s,baz=1.8,slow=12,SNR=15
comp=N,12nm,1.0s
DUB01 Friburgo-RJ 26.39 103 eP P 14 19 39.6 +2.8
SDV Santo Domingo 26.73 359 eP P 14 19 38.0 -1.9
SDV Santo Domingo 26.73 359 LR LR 14 32 14.9
comp=N,159nm,21.0s,baz=82,slow=41
BAUV El Baul 26.86 5 P **P 14 19 40.5 -0.4**
BAUV IAmb IAmb 14 19 41.5
comp=Z,27nm,0.7s
SJMB Sao Joao De Ma 27.50 96 eP P 14 19 49.3 +2.7
GUA01 Guaratinga, BA 29.00 92 eP P 14 20 01.0 +1.0
SRBA San Rafael, Bu 30.04 333 P **P 14 20 09.8 +0.6**
SRBA IAmb IAmb 14 20 28.4
comp=Z,23nm,0.8s
352A Blakely 51.20 344 P **P 14 23 02.6 -0.1**
U49A Red Boiling Sp 56.20 345 P **P 14 23 38.8 -0.3**
U49A IAmb IAmb 14 23 39.4
comp=Z,10nm,0.6s
WVT Waverly 56.38 343 P **P 14 23 40.0 -0.4**
WVT IAmb IAmb 14 23 41.0
comp=Z,7.9nm,0.6s
WVT Waverly 56.38 343 P **P 14 23 40.0 -0.4**
TXAR Lajitas Array 57.11 325 P **P 14 23 46.7 +1.0**
comp=Z,0.3nm,0.5s,baz=141,slow=8.1,SNR=3.8
TXAR pP **pP 14 24 07.9 -1.6**
comp=Z,0.2nm,0.5s,baz=128,slow=5.8,SNR=2.4
comp=Z,0.3nm,0.5s
PBMO Poplar Bluff 57.76 341 P **P 14 23 50.4 +0.3**
WCI Wyandotte Cave 57.95 345 P **P 14 23 51.2 -0.2**
WCI pP **pP 14 24 15.2 -0.4**
CGM3 Cape Girardeau 58.00 342 P **P 14 23 52.1 +0.4**
CGM3 IAmb IAmb 14 23 53.0
comp=Z,14nm,0.8s
S44A Carbondale 58.25 342 P **P 14 23 53.9 +0.5**
SIUC Southern Illin 58.26 342 P **P 14 23 54.3 +0.8**
CCM Cathedral Cave 59.18 341 P **P 14 24 01.0 +1.1**
CCM pP **pP 14 24 26.2 +2.0**
CCM sP **sP 14 24 36.1 +1.2**
S39A Bolivar 59.54 339 P **P 14 24 03.0 +0.6**
S39A IAmb IAmb 14 24 04.8
comp=Z,7.9nm,0.6s
R40A Maddies Static 59.73 340 P **P 14 24 05.0 +1.3**
R40A IAmb IAmb 14 24 05.6
comp=Z,7.4nm,0.7s
SNAA Sanae 65.95 161 P **P 14 24 45.7 +1.1**
SNAA IAmb IAmb 14 26 17.1
comp=Z,66nm,1.9s
SNAA Sanae 65.95 161 P **P 14 24 44.7 0.0**
comp=Z,3.3nm,0.6s,baz=272,slow=7.1,SNR=5.7
comp=Z,3.3nm,0.6s
DBIC Dimbokro 68.93 75 P **P 14 25 03.3 -1.0**
DBIC IAmb IAmb 14 25 05.2
comp=Z,11nm,0.7s
DBIC Dimbokro 68.93 75 P **P 14 25 03.0 -1.3**
comp=Z,14nm,0.8s,baz=232,slow=5.3,SNR=14
comp=Z,14nm,0.8s
DBIC Dimbokro 68.93 75 P **P 14 25 03.3 -1.0**
DBIC pP **PcP 14 25 27.8 -0.3**
PDAR Pinedale Array 70.51 330 P **P 14 25 15.3 +1.6**
comp=Z,0.2nm,0.4s,baz=119,slow=9.6,SNR=2.5
comp=Z,0.2nm,0.4s
ULM Lac du Bonnet 71.65 343 P **P 14 25 20.2 +0.1**
comp=Z,5.3nm,0.4s,baz=158,slow=5.5,SNR=14
comp=Z,5.3nm,0.4s
QSPA South Pole Qui 72.17 180 P **P 14 25 24.4 +1.1**
QSPA South Pole Qui 72.17 180 P **P 14 25 25.7 +2.4**
comp=Z,1.8nm,0.4s,baz=228,slow=0.6,SNR=8.2
comp=Z,1.8nm,0.4s
TOA0 Torodi Ar. Sit 77.33 72 P **P 14 25 52.4 -1.4**
TORD Torodi Ar. Bea 77.33 72 P **P 14 25 52.4 -1.4**
TORD Torodi Ar. Bea 77.33 72 P **P 14 25 52.6 -1.2**
comp=Z,5.3nm,0.5s,baz=262,slow=4.6,SNR=25
TORD pP **pP 14 26 17.3 -2.4**
comp=Z,2.4nm,0.7s,baz=271,slow=4.7,SNR=3.1
comp=Z,5.3nm,0.5s
VNDA Vanda 80.07 190 P **P 14 26 10.0 +2.3**
ESDC Sonseca Array 84.20 45 P **P 14 26 31.0 +1.0**
comp=Z,2.4nm,1.0s,baz=247,slow=5.2,SNR=6.0
comp=Z,2.4nm,1.0s
YKA Yellowknife Ar 87.52 341 P **P 14 26 46.7 +1.0**
comp=Z,1.3nm,0.8s,baz=136,slow=4.7,SNR=17
YKA pP **pP 14 27 11.1 -0.2**
comp=Z,1.2nm,0.8s,baz=136,slow=4.8,SNR=4.3
comp=Z,1.3nm,0.8s
STKA Stephens Creek 121.80 212 PKP **PKiKP 14 32 52.9 +0.2**
comp=Z,2.1nm,0.9s,baz=96,slow=8.9,SNR=4.5
H11N3 WAKE ISLAND Hy 26.19 282 T T 16 52 38.3
baz=172,slow=74,SNR=3.5
H11S2 WAKE ISLAND Hy 26.20 280 T T 16 52 43.5
baz=101,slow=74,SNR=60
H11N2 WAKE ISLAND Hy 26.20 282 T T 16 52 40.2
baz=102,slow=74,SNR=17
H11S1 WAKE ISLAND Hy 26.20 280 T T 16 52 39.4
baz=101,slow=74,SNR=36
H11S3 WAKE ISLAND Hy 26.21 280 T T 16 52 20.2
baz=101,slow=74,SNR=29
ASAR Alice Springs 132.38 210 PKP **PKiKP 14 33 13.8 -0.3**
comp=Z,0.5nm,0.6s,baz=133,slow=2.2,SNR=11
WRA Warramunga Arr 135.28 214 PKP **PKiKP 14 33 19.9 -0.1**
comp=Z,0.6nm,0.5s,baz=139,slow=1.5,SNR=11
WRA pPKP **pPKPdf 14 33 44.1 -0.7**
comp=Z,0.2nm,0.5s,baz=143,slow=1.6,SNR=1.8
ZALV Zalesovo Beam 139.25 23 PKP **PKPdf 14 33 25.7 +1.1**
comp=Z,0.9nm,0.6s,baz=298,slow=3.2,SNR=4.4
USRK Ussuriysk Ar. 147.93 329 PKPbc **PKPbc 14 33 42.9 -0.4**
comp=Z,1.3nm,0.5s,baz=48,slow=3.0,SNR=3.2
SONM Songino Array 150.12 5 PKPbc **PKiKP 14 33 50.3 +0.6**
comp=Z,0.4nm,0.4s,baz=310,slow=1.2,SNR=4.3
LZH Lanzhou 161.22 15 PKP **PKPdf 14 33 54.6 -4.3**
LZH pPKP pPKPdf 14 34 18.3 -7.4
LZH sPKP 14 34 30.9
PZH PanZhiHua 168.70 40 PKP **PKPdf 14 34 04.1 -1.4**

*IDC **15** 14:20:06.2±0.9, 16°.15N×148°.03E, h0km, mb3.9/15, mbtmp3.9/16, ML4.3/1, MS3.7/4, Error ellipse: s-maj=27.7km s-min=17.0km az=99.0*
*NEIC **15** 14:20:09.5±2.3, 15°.9N±0°.1×148°.12E±0°.09, h10km±1km, mb4.6/15, Error ellipse: s-maj=19.4km s-min=13.5km az=159.0*
ISC 15 14:20:08.5±0.7, 16°.06N±0°.10×148°.0E±0°.1, h10km, n47, σ1s24/33, mb4.3/24, MS4.0/3, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.86**	**231**	Pn	**Pn**	**14 21 09.9**	**+1.9**
GUMO	**Guam**	**3.86**	**231**	Pn	**Pn**	**14 21 08.9**	**+0.9**
	18nm,0.3s,baz=205,slow=9.0,SNR=8.8						
GUMO				Sn	**Sn**	**14 21 51.3**	**-2.2**
	8.2nm,0.3s,baz=193,slow=24,SNR=1.4						
GUMO				LR	LR	14 22 37.1	
	comp=Z,133nm,18.8s,baz=120,slow=38						
	51nm,0.4s						
PATS	**Pohnpei**	**13.67**	**131**	Pn	Pn	14 23 17.2	-5.3
H11S3	**WAKE ISLAND Hy**	**18.05**	**80**	T	T	14 42 26.7	
	baz=296,slow=27,SNR=114						
H11S1	**WAKE ISLAND Hy**	**18.07**	**80**	T	T	14 42 26.6	
	baz=296,slow=27,SNR=46						
H11S2	**WAKE ISLAND Hy**	**18.07**	**80**	T	T	14 42 29.1	
	baz=296,slow=27,SNR=56						
H11N1	**WAKE ISLAND Hy**	**18.39**	**76**	T	T	14 42 47.8	
	baz=261,slow=74,SNR=108						
H11N2	**WAKE ISLAND Hy**	**18.39**	**76**	T	T	14 42 47.8	
	baz=261,slow=74,SNR=60						
H11N3	**WAKE ISLAND Hy**	**18.40**	**76**	T	T	14 42 53.0	
	baz=261,slow=74,SNR=77						
MJAR	**Matsushiro Arr**	**22.17**	**339**	P	**P**	**14 25 03.5**	**-1.2**
	2.0nm,0.8s,baz=82,slow=30,SNR=3.4						
	2.0nm,0.8s						
MAJO	**Matsushiro**	**22.17**	**339**	P	**P**	**14 25 06.5**	**+1.8**
MJB9	**Matsu-Tunnel**	**22.17**	**339**	P	**P**	**14 25 06.5**	**+1.7**
JNU	**Nakatsue**	**22.96**	**321**	LR	LR	14 31 53.0	
	comp=Z,606nm,21.2s,baz=150,slow=31						
KSRS	**Korea Array**	**27.71**	**324**	P	**P**	**14 25 56.7**	**-0.3**
	0.7nm,0.6s,baz=122,slow=34,SNR=1.6						
	0.7nm,0.6s						
MTN	**Manton Dam**	**33.19**	**211**	P	P	14 26 43.9	-1.7
MTN				IAmb	IAmb	14 26 54.3	
	comp=Z,9.9nm,1.2s						
WB0	**Warramunga Arr**	**38.01**	**201**	P	**P**	**14 27 28.0**	**+1.0**
WB0				IAmb	IAmb	14 27 28.6	
	comp=Z,8.3nm,0.8s						
WR0	**Warramunga Arr**	**38.14**	**201**	P	**P**	**14 27 28.8**	**+0.6**
WR0				IAmb	IAmb	14 27 29.3	
	comp=Z,6.7nm,0.7s						
WRAB	**Tennant Creek**	**38.18**	**201**	P	**P**	**14 27 29.3**	**+0.8**
WRAB				IAmb	IAmb	14 27 29.7	
	comp=Z,7.3nm,0.8s						
WB2	**Warramunga Arr**	**38.19**	**201**	P	**P**	**14 27 29.4**	**+0.8**
WB2				IAmb	IAmb	14 27 29.8	
	comp=Z,6.0nm,0.7s						
WRA	**Warramunga Arr**	**38.19**	**201**	P	**P**	**14 27 28.8**	**+0.2**
	comp=Z,5.8nm,0.6s,baz=26,slow=9.0,SNR=54						
	comp=Z,5.8nm,0.6s						
AS31	**Alice Springs**	**41.80**	**200**	P	**P**	**14 27 59.1**	**+0.6**
ASAR	**Alice Springs**	**41.80**	**200**	P	**P**	**14 27 58.7**	**+0.2**
ASAR	**Alice Springs**	**41.80**	**200**	P	**P**	**14 27 58.5**	**-0.1**
	comp=Z,4.0nm,0.7s,baz=25,slow=8.2,SNR=68						
	comp=Z,4.0nm,0.7s						
DZM	**Mont Dzumac**	**42.00**	**154**	LR	LR	14 44 13.0	
	comp=Z,82nm,18.2s,baz=21,slow=34						
SONM	**Songino Array**	**46.54**	**322**	P	P	14 28 34.1	-2.4
	comp=Z,0.2nm,0.4s,baz=142,slow=3.3,SNR=1.6						
	comp=Z,0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**46.76**	**280**	P	**P**	**14 28 38.1**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=71,slow=6.1,SNR=2.8						
	comp=Z,0.5nm,0.3s						
BBOO	**Buckleboo**	**49.90**	**193**	P	**P**	**14 29 02.3**	**-0.1**
BBOO				IAmb	IAmb	14 29 03.4	
	comp=Z,14nm,1.1s						
FORT	**Forrest**	**50.34**	**202**	P	**P**	**14 29 06.0**	**+0.3**
MORW	**Morawa**	**54.44**	**215**	P	**P**	**14 29 35.5**	**-0.6**
MORW				IAmb	IAmb	14 29 37.2	
	comp=Z,9.2nm,0.9s						
NWAO	**Narrogin (SRO)**	**56.88**	**211**	P	**P**	**14 29 53.8**	**+0.1**
ZALV	**Zalesovo Beam**	**61.41**	**323**	P	**P**	**14 30 23.5**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=115,slow=9.7,SNR=1.3						
	comp=Z,0.2nm,0.3s						
MKAR	**Makanchi Array**	**61.84**	**315**	P	**P**	**14 30 27.4**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=44,slow=5.1,SNR=2.1						
	comp=Z,1.0nm,0.9s						
GHO	**Glory Hole Cre**	**63.35**	**28**	P	P	14 30 45.6	+7.8
KURK	**Kurchatov**	**64.67**	**319**	P	**P**	**14 30 50.8**	**+4.3**
KURK				IAmb	IAmb	14 30 55.5	
	comp=Z,3.2nm,1.0s						
KURBB	**Kurchatov Arra**	**64.71**	**319**	P	**P**	**14 30 46.0**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=94,slow=6.8,SNR=11						
	comp=Z,1.5nm,0.7s						
ILAR	**Eielson Array**	**65.08**	**25**	P	P	14 30 47.2	-1.8
	comp=Z,0.5nm,0.9s,baz=256,slow=3.6,SNR=2.3						
	comp=Z,0.5nm,0.9s						
BMAR	**Burnt Mountain**	**66.69**	**23**	P	**P**	**14 31 00.1**	**+0.7**
BCAR	**Beaver Creek A**	**66.89**	**28**	P	**P**	**14 31 00.8**	**0.0**
L29M	**L29M**	**68.54**	**28**	P	**P**	**14 31 11.9**	**+0.8**
L29M				IAmb	IAmb	14 31 42.7	
	comp=Z,7.6nm,1.4s						
BVAR	**Borovoye Array**	**69.87**	**321**	P	**P**	**14 31 19.7**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=81,slow=9.3,SNR=6.5						
	comp=Z,1.4nm,0.6s						
ARU	**Arti**	**76.45**	**325**	LR	LR	15 05 40.1	
	comp=Z,73nm,19.3s,baz=98,slow=36						
ABKAR	**Akbulak array**	**76.73**	**318**	P	**P**	**14 32 00.8**	**+0.7**
YKA	**Yellowknife Ar**	**79.30**	**28**	P	**P**	**14 32 13.3**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=287,slow=5.8,SNR=6.1						
	comp=Z,0.6nm,0.8s						
NVAR	**Mina Array Bea**	**83.06**	**52**	P	**P**	**14 32 34.1**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=280,slow=4.9,SNR=3.6						
	comp=Z,0.4nm,0.6s						
ARCES	**ARCESS Array B**	**85.65**	**343**	P	**P**	**14 32 46.2**	**-0.9**
	comp=Z,2.6nm,0.9s,baz=343,slow=7.6,SNR=3.9						
	comp=Z,2.6nm,0.9s						
FINES	**FINESS Array B**	**90.17**	**336**	P	P	14 33 07.3	-1.6
	comp=Z,0.9nm,0.4s,baz=90,slow=5.7,SNR=5.1						
	comp=Z,0.9nm,0.4s						
DBIC	**Dimbokro**	**144.87**	**308**	PKP	**PKPab**	**14 39 45.0**	**-0.9**
	comp=Z,4.3nm,0.7s,baz=33,slow=3.9,SNR=5.2						

*IDC **15** 14:39:11.9±7.6, 36°.13N×71°.89E, h0km, mbtmp3.5/5, ML3.1/5, Error ellipse: s-maj=115.5km s-min=38.4km az=156.0*
*NNC **15** 14:39:29.0±4.0, 36°.91N×70°.94E, h125km±78km, mb2.9, mpv3.5, Error ellipse: s-maj=31.7km s-min=26.6km az=19.0*
ISC 15 14:39:21.7±1.0, 36°.42N±0°.07×71°.27E±0°.09, h114km, n25, σ2s04/27, 9C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.01**	**18**	P	**Pn**	**14 40 50.6**	**+2.1**
	SNR=32						
AML	**Almayashu**	**6.01**	**18**	⇑P	**Pn**	**14 40 50.6**	**+2.1**
	0.9nm,0.4s						
AML				⇑S	**Sn**	**14 41 54.9**	**-1.2**
	4.4nm,0.6s						
UCH	**Uchtor**	**6.32**	**22**	P	**Pn**	**14 40 55.3**	**+2.5**
	SNR=11						
AAK	**Ala-Archa**	**6.69**	**21**	P	**Pn**	**14 41 01.0**	**+3.4**
	SNR=7.7						
KK31	**Karatay Array**	**6.70**	**355**	⇑P	**Pn**	**14 40 59.3**	**+1.8**
	2.5nm,0.3s,baz=178,slow=13,SNR=35						
KK31				⇑S	**Sn**	**14 42 09.7**	**-2.7**
	13nm,0.8s,baz=180,slow=22,SNR=14						
KBK	**Karagaybulak**	**6.85**	**23**	P	Pn	14 41 05.9	+6.3
	SNR=6.1						
CHMS	**Chumysh**	**7.10**	**21**	⇑P	**Pn**	**14 41 05.8**	**+2.9**
	2.1nm,0.5s						
CHMS				⇓S	**Sn**	**14 42 20.7**	**-1.3**
	6.2nm,0.6s						
TKM2	**Tokmak 2**	**7.30**	**26**	P	Pn	14 41 11.7	+5.8
	SNR=11						
TKM2	**Tokmak 2**	**7.30**	**26**	⇑P	**Pn**	**14 41 07.8**	**+2.0**
	2.5nm,0.5s						
TKM2				⇓S	**Sn**	**14 42 27.5**	**+0.3**
	2.5nm,0.6s						
GEYT	**Alibeck**	**10.60**	**282**	Pn	**Pn**	**14 41 51.3**	**+0.9**
	0.5nm,0.3s,baz=90,slow=16,SNR=2.5						
	0.8nm,0.4s						
PYUN	**Piuthan**	**12.92**	**127**	*eP*	**Pn**	**14 42 19.2**	**-2.1**
	8.2nm,0.3s						
MKAR	**Makanchi Array**	**13.23**	**35**	Pn	Pn	14 42 21.7	-3.4
	0.1nm,0.3s,baz=214,slow=13,SNR=2.7						
	0.9nm,1.0s						
DANN	**Dangsing**	**13.26**	**124**	*eP*	**Pn**	**14 42 24.1**	**-1.7**
	7.4nm,0.3s						
GKN	**Gorkha**	**14.08**	**123**	*eP*	**Pn**	**14 42 35.6**	**-0.6**
	5.3nm,0.2s						
PKIN	**Phulchoki**	**14.87**	**122**	*eP*	**Pn**	**14 42 46.1**	**-0.3**
	5.8nm,0.3s						
PKI	**Pulchoki**	**14.88**	**122**	*eP*	**Pn**	**14 42 46.0**	**-0.6**
	6.2nm,0.3s						
GUN	**Gumba**	**14.99**	**120**	*eP*	**Pn**	**14 42 47.7**	**-0.3**
	6.6nm,0.3s						
KURBB	**Kurchatov Arra**	**15.13**	**18**	Pn	**Pn**	**14 42 45.6**	**-3.7**
	baz=203,slow=11,SNR=8.5						
	0.2nm,0.5s						
AB31	**Akbulak array**	**15.26**	**331**	⇑P	**Pn**	**14 42 51.4**	**+0.5**
	0.3nm,0.3s						
AB31				⇑S	Sn	14 45 28.2	-11
	2.0nm,0.7s						
JIRN	**Jiri**	**15.36**	**120**	*eP*	**Pn**	**14 42 52.1**	**-0.6**
	7.3nm,0.3s						
RAMN	**Ramite**	**16.09**	**122**	*eP*	**P**	**14 43 01.9**	**-0.9**
	5.3nm,0.3s						
BVAR	**Borovoye Array**	**16.62**	**358**	Pn	**Pn**	**14 43 07.9**	**+0.3**
	baz=171,slow=11,SNR=4.9						
	1.2nm,0.5s						
TAPN	**Taplejung**	**16.62**	**118**	*eP*	**P**	**14 43 08.8**	**+0.1**
	12nm,0.4s						
AKTO	**Aktyubinsk**	**16.96**	**330**	⇓P	**Pn**	**14 43 12.6**	**+0.8**
	0.3nm,0.5s						
AKTO				⇑S	**Sn**	**14 46 15.8**	**-4.5**
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**19.90**	**24**	P	**P**	**14 43 45.1**	**+1.1**
	0.4nm,0.3s,baz=219,slow=10,SNR=11						
	1.2nm,0.3s						

*IDC **15** 14:49:21.5±0.6, 5°.30N×94°.34E, h0km, mb4.4/23, mbtmp4.4/24, ML4.3/1, MS3.6/22, Error ellipse: s-maj=21.8km s-min=13.4km az=48.0*
*NEIC **15** 14:49:29.1±1.7, 5°.25N±0°.08×94°.4E±0°.1, h50km±8km, mb4.7/51, Error ellipse: s-maj=15.3km s-min=11.1km az=64.0*
ISC 15 14:49:28.0±0.4, 5°.25N±0°.06×94°.34E±0°.06, h46km, n166, σ1s14/156, mb4.7/56, MS3.7/23, 2C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**2.60**	**90**	Pn	**Pn**	**14 50 08.4**	**+0.8**
LHMI	**Lhok Sumawe**	**2.60**	**90**	P	**Pn**	**14 50 08.5**	**+1.0**
GSI	**Gunungsitoli**	**5.08**	**140**	Pn	**Pn**	**14 50 40.6**	**-1.0**
GSI	**Gunungsitoli**	**5.08**	**140**	P	**Pn**	**14 50 41.6**	**-0.1**
PSI	**Prapat**	**5.18**	**118**	P	**Pn**	**14 50 45.4**	**+2.3**
RPSI	**Rantau Prapat**	**5.23**	**119**	Pn	**Pn**	**14 50 44.7**	**+1.0**
SRIT	**Nakonsritamara**	**6.19**	**57**	Pn	**Pn**	**14 50 57.5**	**+0.6**
SRIT	**Nakonsritamara**	**6.19**	**57**	P	**Pn**	**14 50 58.0**	**+1.1**
KULM	**Kulim**	**6.28**	**89**	Pn	**Pn**	**14 50 58.2**	**0.0**
SURA	**Surathani**	**6.53**	**53**	P	**Pn**	**14 51 03.0**	**+1.4**
MYKOM	**Kota Tinggi**	**10.09**	**110**	Pn	**Pn**	**14 51 50.2**	**-0.3**
MNAI	**Manna**	**12.85**	**138**	Pn	**Pn**	**14 52 28.5**	**+0.3**
MNAI	**Manna**	**12.85**	**138**	P	**Pn**	**14 52 29.9**	**+1.7**
	194nm,1.1s						
PALK	**Pallekele**	**13.71**	**279**	Pn	**Pn**	**14 52 39.1**	**-0.8**
	1.6nm,0.3s,baz=170,slow=4.2,SNR=9.0						
PALK				Sn	Sn	14 54 58.3	-12
	2.7nm,0.3s,baz=113,slow=23,SNR=17						
PALK				LR	LR	14 57 25.2	
	comp=Z,316nm,21.3s,baz=198,slow=35						
	4.2nm,0.3s						
CM31	**Chiang Mai Arr**	**13.87**	**19**	P	**P**	**14 52 46.4**	**-2.9**
CMAR	**Chiang Mai Arr**	**13.87**	**19**		**P**	**14 52 46.4**	**-2.9**
CMAR	**Chiang Mai Arr**	**13.87**	**19**	Pn	**Pn**	**14 52 43.2**	**+1.1**
	4.1nm,0.3s,baz=208,slow=14,SNR=114						
CMAR				LR	LR	14 57 39.1	
	comp=Z,156nm,21.1s,baz=195,slow=36						
CMAR				ScP	**ScP**	**15 01 33.8**	**+1.4**
	0.5nm,0.3s,baz=218,slow=3.7,SNR=4.9						
CHTO	**Chiang Mai**	**14.21**	**18**		**P**	**14 52 50.8**	**-2.2**
CHTO	**Chiang Mai**	**14.21**	**18**	P	**P**	**14 52 50.5**	**-2.5**
UBPT	**Khong Chiam**	**14.80**	**47**	P	**Pn**	**14 52 55.8**	**+1.4**
CRAI	**Chiangrai**	**16.00**	**21**	P	**P**	**14 53 13.6**	**+0.7**
KSM	**Kuching**	**16.37**	**103**	P	**P**	**14 53 18.5**	**+1.4**
LEM	**Lembang**	**17.88**	**132**	LR	LR	15 01 57.6	
	comp=Z,122nm,18.9s,baz=332,slow=42						
IMP	**Imphal**	**19.47**	**359**	*eP*	**P**	**14 53 49.8**	**-1.4**
IMP				IAmb	IAmb	14 53 51.3	
	comp=Z,7.0nm,0.4s						
HYB	**Hyderabad**	**19.62**	**309**	*eP*	**Pn**	**14 53 59.0**	**+4.5**
HYB				*eS*	**Sn**	**14 57 36.0**	**+1.8**
KOHI	**KOHIMA**	**20.35**	**359**	*eP*	**P**	**14 53 58.4**	**-2.5**
KOHI				IAmb	IAmb	14 54 03.0	
	comp=Z,31nm,0.7s						
MOKO	**MOKOCHONG**	**20.95**	**0**	*eP*	**P**	**14 54 05.3**	**-2.0**
MOKO				IAmb	IAmb	14 54 09.3	
	comp=Z,35nm,0.7s						
KMI	**Kunming**	**21.34**	**21**

XAN	**Xi'an**	**31.68**	**23**	P	**P**	**14 55 46.1**	**-1.2**
XAN				pmax	pmax		
	comp=Z,35nm,0.6s						
SOEI	**Soe**	**33.34**	**117**	P	**P**	**14 56 02.4**	**+0.3**
LYN	**LuoYang**	**33.64**	**28**	⇓P	**P**	**14 56 04.8**	**+0.4**
LYN				pP	pP	14 56 09.0	-6.9
LYN				pmax	pmax		
	comp=Z,24nm,0.7s						
LYN				pmax	pmax		
	comp=Z,210nm,4.3s						
LYN				LR	LR		
	comp=N,310nm,12.5s						
LYN				LR	LR		
	comp=E,430nm,15.1s						
LYN				LR	LR		
	comp=Z,420nm,17.1s						
GTA	**Gaotai**	**34.36**	**8**	*e*P	**P**	**14 56 10.0**	**-0.7**
GTA				pP	pP	14 56 14.5	-7.7
GTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NIL	**Nilore**	**34.39**	**328**	P	**P**	**14 56 09.7**	**-1.2**
NIL				IAmb	IAmb	14 56 28.1	
	comp=Z,8.4nm,0.7s						
BTO	**Baotou**	**37.91**	**20**	*e*P	P	14 56 47.9	+6.9
BTO				pP	pP	14 56 52.8	+0.1
BTO				sP	pwP	14 56 54.6	-1.2
BTO				PP	PnPn	14 58 25.4	+15
BTO				S	S	15 02 43.6	+14
BTO				SS	**SS**	**15 05 19.0**	**+2.0**
BTO				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BTO				pmax	pmax		
	comp=Z,280nm,5.3s						
BTO				LR	LR		
	comp=N,470nm,12.3s						
BTO				LR	LR		
	comp=E,430nm,14.2s						
BTO				LR	LR		
	comp=Z,320nm,13.2s						
WSAR	**Wadi Sarin**	**38.79**	**301**	LR	LR	15 11 55.1	
	comp=Z,45nm,18.6s,baz=58,slow=35						
JOW	**Kunigami**	**38.82**	**53**	P	**P**	**14 56 48.8**	**+0.1**
TARG	**Taragay, Kyrgy**	**39.20**	**340**	P	**P**	**14 56 54.1**	**+1.9**
TARG				IAmb	IAmb	14 56 55.6	
	comp=Z,11nm,0.6s						
KNRA	**Kununurra**	**39.92**	**122**	P	**P**	**14 56 57.0**	**-1.1**
KNRA				IAmb	IAmb	14 57 22.8	
	comp=Z,23nm,1.3s						
CHGR	**Chuyangaron**	**40.34**	**329**	P	**P**	**14 57 01.1**	**-0.3**
CHGR				IAmb	IAmb	14 57 18.1	
	comp=Z,11nm,1.0s						
BOOM	**Boomskoye usch**	**40.52**	**339**	P	**P**	**14 57 03.2**	**+0.2**
BOOM				IAmb	IAmb	14 57 19.7	
	comp=Z,4.7nm,0.8s						
ARSB	**Arslanbob**	**40.68**	**335**	P	**P**	**14 57 05.0**	**+0.8**
ARSB				IAmb	IAmb	14 57 08.7	
	comp=Z,3.7nm,0.5s						
MTN	**Manton Dam**	**40.74**	**116**	P	**P**	**14 57 03.7**	**-1.1**
MTN				IAmb	IAmb	14 57 26.5	
	comp=Z,27nm,1.4s						
UCH	**Uchtor**	**40.83**	**337**	P	**P**	**14 57 06.5**	**+0.8**
	SNR=5.9						
TKM2	**Tokmak 2**	**41.02**	**339**	P	**P**	**14 57 07.6**	**+0.5**
	SNR=11						
KBK	**Karagaybulak**	**41.03**	**338**	P	**P**	**14 57 08.4**	**+1.4**
	SNR=12						
AML	**Almayashu**	**41.06**	**336**	P	**P**	**14 57 08.6**	**+0.9**
	SNR=16						
AAK	**Ala-Archa**	**41.19**	**338**	P	**P**	**14 57 09.0**	**+0.7**
AAK	**Ala-Archa**	**41.19**	**338**	LR	LR	15 16 13.9	
	comp=Z,80nm,18.4s,baz=120,slow=39						
EKS2	**Erkin-Say**	**41.48**	**337**	P	**P**	**14 57 11.9**	**+1.1**
	SNR=7.2						
MK31	**Makanchi Array**	**42.67**	**348**	P	**P**	**14 57 20.5**	**+0.3**
MKAR	**Makanchi Array**	**42.67**	**348**	P	**P**	**14 57 20.6**	**+0.3**
MKAR	**Makanchi Array**	**42.67**	**348**	P	**P**	**14 57 20.2**	**-0.1**
	comp=Z,21nm,0.5s,baz=161,slow=7.3,SNR=198						
MKAR				PcP	**PcP**	**14 59 12.4**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=200,slow=4.4,SNR=1.7						
MKAR				LR	LR	15 17 22.8	
	comp=Z,111nm,18.3s,baz=90,slow=39						
	comp=Z,21nm,0.5s						
KK31	**Karatay Array**	**43.19**	**334**	P	**P**	**14 57 25.2**	**+0.7**
KKAR	**Karatay Array**	**43.19**	**334**	P	**P**	**14 57 25.2**	**+0.7**
KKAR	**Karatay Array**	**43.19**	**334**	P	**P**	**14 57 24.6**	**+0.1**
SONM	**Songino Array**	**43.67**	**12**	P	**P**	**14 57 28.2**	**-0.2**
SONM	**Songino Array**	**43.67**	**12**	P	**P**	**14 57 27.8**	**-0.6**
	comp=Z,3.4nm,0.7s,baz=192,slow=8.2,SNR=16						
SONM				PcP	**PcP**	**14 59 15.5**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=192,slow=4.0,SNR=8.5						
	comp=Z,3.4nm,0.7s						
ULN	**Ulaanbaatar**	**43.83**	**12**	P	**P**	**14 57 29.2**	**-0.5**
ULN				IAmb	IAmb	14 57 29.7	
	comp=Z,3.8nm,0.6s						
KSRS	**Korea Array**	**44.33**	**39**	P	**P**	**14 57 32.4**	**-1.3**
	comp=Z,2.7nm,1.0s,baz=223,slow=8.6,SNR=5.6						
KSRS				LR	LR	15 17 21.9	
	comp=Z,70nm,19.3s,baz=345,slow=38						
	comp=Z,2.7nm,1.0s						
GEYT	**Alibeck**	**46.30**	**320**	P	**P**	**14 57 50.2**	**+0.9**
GEYT				IAmb	IAmb	14 57 50.9	
	comp=Z,4.6nm,0.6s						
GEYT	**Alibeck**	**46.30**	**320**	P	**P**	**14 57 47.8**	**-1.6**
	comp=Z,3.2nm,0.5s,baz=163,slow=11,SNR=7.2						
GEYT				LR	LR	15 18 11.6	
	comp=Z,76nm,19.5s,baz=22,slow=37						
	comp=Z,3.2nm,0.5s						
GYA0B	**ALIBECK ARRAY**	**46.30**	**320**	P	**P**	**14 57 50.2**	**+0.9**
GYA0B				IAmb	IAmb	14 57 50.9	
	comp=Z,5.3nm,0.6s						
JMN	**Monobe**	**46.34**	**47**	P	**P**	**14 57 50.1**	**+0.3**
WB0	**Warramunga Arr**	**46.58**	**123**	P	**P**	**14 57 51.8**	**+0.1**
WRA	**Warramunga Arr**	**46.62**	**124**	P	**P**	**14 57 52.1**	**0.0**
WRA	**Warramunga Arr**	**46.62**	**124**	P	**P**	**14 57 51.7**	**-0.4**
	comp=Z,5.5nm,0.6s,baz=308,slow=8.6,SNR=108						
WRA				PcP	**PcP**	**14 59 26.3**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=317,slow=3.0,SNR=1.2						
	comp=Z,5.5nm,0.6s						
WRAB	**Tennant Creek**	**46.62**	**124**	P	**P**	**14 57 52.4**	**+0.2**
WRAB				IAmb	IAmb	14 57 53.1	
	comp=Z,9.6nm,0.6s						
WB2	**Warramunga Arr**	**46.63**	**124**	P	**P**	**14 57 52.4**	**+0.2**
WR0	**Warramunga Arr**	**46.79**	**124**	P	**P**	**14 57 53.6**	**+0.2**
WR0				IAmb	IAmb	14 57 54.5	
	comp=Z,12nm,0.9s						
KURBB	**Kurchatov Arra**	**47.12**	**346**	P	**P**	**14 57 55.5**	**0.0**
	comp=Z,9.7nm,0.4s,baz=172,slow=6.9,SNR=138						
	comp=Z,9.7nm,0.4s						
KURK	**Kurchatov**	**47.19**	**346**	P	**P**	**14 57 56.9**	**+0.8**
ASAR	**Alice Springs**	**48.12**	**128**	P	**P**	**14 58 03.8**	**0.0**
	comp=Z,1.9nm,0.4s,baz=300,slow=7.6,SNR=55						
ASAR				PcP	**PcP**	**14 59 31.4**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=315,slow=2.8,SNR=2.0						
ASAR				S	**S**	**15 04 58.5**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=315,slow=16,SNR=4.4						
	comp=Z,1.9nm,0.4s						
AS31	**Alice Springs**	**48.12**	**128**	P	**P**	**14 58 03.8**	**0.0**
FORT	**Forrest**	**48.20**	**140**	P	**P**	**14 58 03.4**	**-0.8**
ZAA0	**Zalesovo Array**	**49.16**	**353**	P	**P**	**14 58 11.5**	**+0.3**
ZALV	**Zalesovo Beam**	**49.16**	**353**	P	**P**	**14 58 11.4**	**+0.2**
ZALV	**Zalesovo Beam**	**49.16**	**353**	P	**P**	**14 58 11.2**	**0.0**
	comp=Z,11nm,0.4s,baz=181,slow=7.1,SNR=81						
ZALV				PcP	**PcP**	**14 59 33.5**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=131,slow=6.1,SNR=1.0						
	comp=Z,11nm,0.4s						
MJAR	**Matsushiro Arr**	**50.80**	**46**	P	**P**	**14 58 24.5**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=214,slow=12,SNR=4.1						
	comp=Z,1.3nm,0.8s						
BVAR	**Borovoye Array**	**51.52**	**342**	P	**P**	**14 58 28.9**	**-0.2**
	comp=Z,5.5nm,0.5s,baz=142,slow=9.3,SNR=38						
	comp=Z,5.5nm,0.5s						
BRVK	**Borovoye**	**51.58**	**342**	P	**P**	**14 58 29.6**	**+0.1**
BRVK				IAmb	IAmb	14 58 30.3	
	comp=Z,6.3nm,0.6s						
ABKAR	**Akbulak array**	**52.62**	**332**	P	**P**	**14 58 37.6**	**+0.3**
ABKAR	**Akbulak array**	**52.62**	**332**	P	**P**	**14 58 37.8**	**+0.5**
ABKAR				IAmb	IAmb	14 58 54.2	
	comp=Z,8.4nm,1.1s						
KLR	**Kul'dur**	**54.04**	**29**	LR	LR	15 25 07.3	
	comp=Z,73nm,19.2s,baz=202,slow=40						
BBOO	**Buckleboo**	**54.76**	**137**	P	**P**	**14 58 51.4**	**-1.9**
BBOO				IAmb	IAmb	14 59 13.3	
	comp=Z,14nm,1.4s						
GNI	**Garni**	**56.42**	**316**	LR	LR	15 25 55.3	
	comp=Z,59nm,18.2s,baz=67,slow=39						
ASAJ	**Asahikawa**	**57.27**	**40**	LR	LR	15 26 37.2	
	comp=Z,40nm,18.0s,baz=307,slow=39						
KMBO	**Kilima Mbogo**	**57.37**	**265**	LR	LR	15 19 38.9	
	comp=Z,63nm,22.0s,baz=95,slow=32						
STKA	**Stephens Creek**	**58.18**	**133**	P	**P**	**14 59 16.8**	**-0.9**
STKA	**Stephens Creek**	**58.18**	**133**	P	**P**	**14 59 17.5**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=324,slow=9.1,SNR=3.6						
	comp=Z,1.4nm,0.7s						
KBZ	**Khbaz**	**59.16**	**319**	P	**P**	**14 59 24.4**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=154,slow=4.4,SNR=4.1						
	comp=Z,2.4nm,0.8s						
MMAI	**Mount Meron Ar**	**61.25**	**305**	P	**P**	**14 59 39.2**	**+0.4**
	comp=Z,0.4nm,0.2s,baz=108,slow=21,SNR=1.8						
	comp=Z,0.4nm,0.2s						
H04N2	**CROZET ISLANDS**	**63.60**	**212**	T	T	16 09 48.8	
	baz=49,slow=75,SNR=115						
H04N1	**CROZET ISLANDS**	**63.61**	**212**	T	T	16 09 49.7	
	baz=49,slow=75,SNR=153						
H04N3	**CROZET ISLANDS**	**63.62**	**212**	T	T	16 09 48.1	
	baz=49,slow=75,SNR=172						
TOO	**Toolangi**	**63.82**	**136**	P	**P**	**14 59 56.3**	**+0.5**
TOO				IAmb	IAmb	14 59 58.9	
	comp=Z,7.6nm,1.1s						
H04S1	**CROZET ISLANDS**	**63.99**	**211**	T	T	16 10 02.4	
	baz=48,slow=76,SNR=4.2						
H04S3	**CROZET ISLANDS**	**64.00**	**211**	T	T	16 10 16.3	
	baz=48,slow=76,SNR=10						
H04S2	**CROZET ISLANDS**	**64.01**	**211**	T	T	16 10 03.6	
	baz=48,slow=76,SNR=2.9						
BR131	**Keskin Array S**	**64.30**	**312**	P	**P**	**14 59 58.4**	**-0.7**
BR131				IAmb	IAmb	14 59 59.7	
	comp=Z,2.8nm,0.7s						
BRTR	**Keskin Array B**	**64.30**	**312**	P	**P**	**14 59 59.1**	**0.0**
	comp=Z,1.7nm,0.6s,baz=130,slow=7.3,SNR=14						
	comp=Z,1.7nm,0.6s						
CAN	**Canberra**	**65.25**	**133**	P	**P**	**15 00 05.2**	**-0.1**
LSZ	**Lusaka**	**68.61**	**251**	LR	LR	15 26 12.5	
	comp=Z,76nm,20.1s,baz=73,slow=32						
KLMR	**Klimovskoe**	**68.89**	**335**	*e*P	P	15 00 22.7	-5.1
KLMR				AMP		15 00 27.2	
	comp=Z,18nm,2.2s						
CFR	**Carcaliu**	**69.61**	**316**	P	**P**	**15 00 33.6**	**+1.1**
TIXI	**Tiksi**	**69.75**	**11**	P	**P**	**15 00 31.9**	**-1.0**
TIXI				IAmb	IAmb	15 00 32.4	
	comp=Z,6.4nm,0.8s						
SORM	**Soroca**	**70.19**	**319**	⇓P	**P**	**15 00 35.8**	**-0.2**
AKASG	**Malin Array Be**	**70.33**	**322**	P	**P**	**15 00 36.0**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=88,slow=5.7,SNR=11						
	comp=Z,0.8nm,0.4s						
VRI	**Vrincioaia**	**70.73**	**317**	⇓P	**P**	**15 00 40.7**	**+1.3**
PLOR	**Plostina**	**70.78**	**317**	⇓P	**P**	**15 00 41.2**	**+1.4**
TESR	**Tescani**	**70.92**	**317**	⇑P	**P**	**15 00 41.0**	**+0.4**
MLR	**Muntele Rosu**	**71.18**	**316**	⇓P	**P**	**15 00 43.8**	**+1.4**
VOIR		**71.79**	**316**	P	**P**	**15 00 45.8**	**-0.2**
BURAR	**Bucovina Array**	**72.12**	**318**	⇑P	**P**	**15 00 48.7**	**+0.8**
BURAR	**Bucovina Array**	**72.12**	**318**	P	**P**	**15 00 48.0**	**+0.1**
BUR08	**Bucovina Ar. S**	**72.14**	**318**	P	**P**	**15 00 48.1**	**+0.1**
MNK	**Minsk**	**72.19**	**326**	*i* P	**P**	**15 00 45.7**	**-2.4**
	comp=E,5.0nm,0.6s						
MNK				*i* P	**P**	**15 00 45.7**	**-2.4**
	comp=N,15nm,0.9s						
MNK				*i* P	**P**	**15 00 45.7**	**-2.4**
	comp=Z,22nm,0.7s,baz=106						
MNK				*i* PcP	**pwP**	**15 01 03.5**	**-0.6**
MNK				*i* PP	**PP**	**15 03 26.1**	**-2.7**
MNK				*i* PPP	PPP	15 05 10.4	
MNK				*i* S	**S**	**15 10 06.5**	**-0.6**
MNK				*i* ScS	**SKKSac**	**15 10 49.2**	**+0.5**
MNK				*i* SS	**SS**	**15 14 45.5**	**+0.1**
MNK				*i* SSS	SSS	15 18 05.8	
MNK				*i* LQ	LQ	15 27 38.0	
MNK				*i* LR	LR	15 33 07.9	
MNK				*i* LRM	MLR	15 35 02.7	
MNK				*i* LRM	MLR	15 35 02.7	
MNK				*i* LRM	MLR	15 35 02.7	
	comp=Z,50nm,14.8s						
LBTB	**Lobatse**	**73.18**	**242**	LR	LR	15 28 11.2	
	comp=Z,56nm,21.2s,baz=60,slow=32						
BOSA	**Boshof**	**74.38**	**239**	P	**P**	**15 01 02.6**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=21,slow=7.1,SNR=3.9						
BOSA				LR	LR	15 32 39.6	
	comp=Z,22nm,18.1s,baz=22,slow=35						
	comp=Z,1.1nm,0.5s						
FINES	**FINESS Array B**	**75.11**	**332**	P	**P**	**15 01 04.5**	**-0.5**
FINES	**FINESS Array B**	**75.11**	**332**	P	**P**	**15 01 04.6**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=100,slow=4.4,SNR=13						
	comp=Z,1.3nm,0.6s						
MAW	**Mawson**	**76.03**	**192**	LR	LR	15 30 38.1	
	comp=Z,50nm,18.4s,baz=35,slow=33						
OJC	**Ojcow**	**76.10**	**320**	P	**P**	**15 01 11.3**	**+0.3**
OJC				IAmb	IAmb	15 01 12.4	
	comp=Z,9.6nm,0.6s						
MORC	**Moravsky Berou**	**77.49**	**320**	P	**P**	**15 01 18.6**	**-0.2**
MORC				IAmb	IAmb	15 01 36.6	
	comp=Z,9.7nm,1.5s						
ARCES	**ARCESS Array B**	**77.78**	**340**	P	**P**	**15 01 19.9**	**-0.2**
ARCES				IAmb	IAmb	15 01 36.0	
	comp=Z,12nm,1.2s						
ARCES	**ARCESS Array B**	**77.78**	**340**	P	**P**	**15 01 19.6**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=100,slow=6.2,SNR=15						
	comp=Z,1.1nm,0.4s						
DPC	**Dobruska-Polom**	**78.33**	**320**	*e*P	**P**	**15 01 25.0**	**+1.5**
CHVC	**Chvalec**	**78.53**	**320**	*e*P	**P**	**15 01 25.6**	**+1.0**
SUR	**Sutherland**	**79.02**	**236**	LR	LR	15 32 11.6	
	comp=Z,45nm,20.6s,baz=88,slow=32						
PRED	**Cave del Predi**	**79.86**	**316**	P	**P**	**15 01 32.3**	**+0.3**
PRED				IAmb	IAmb	15 01 34.7	
	comp=Z,16nm,1.2s						
GEC2	**GERESS Array S**	**79.91**	**319**	P	**P**	**15 01 33.4**	**+1.2**
GEC2				IAmb	IAmb	15 01 34.1	
	comp=Z,6.6nm,0.8s						
GERES	**GERESS Array B**	**79.91**	**319**	P	**P**	**15 01 32.8**	**+0.5**
GERES	**GERESS Array B**	**79.91**	**319**	P	**P**	**15 01 32.3**	**0.0**
	comp=Z,2.2nm,0.6s,baz=76,slow=5.6,SNR=16						
	comp=Z,3.2nm,0.6s						
KHC	**Kasperske Hory**	**80.00**	**319**	*e*P	**P**	**15 01 33.7**	**+1.0**
LESA	**Schwarzleotal**	**80.52**	**317**	*e*P	**P**	**15 01 35.7**	**+0.2**
	comp=Z,4.0nm,0.4s						
CIMO	**Cimolais**	**80.63**	**316**	P	**P**	**15 01 36.4**	**+0.3**
CIMO				IAmb	IAmb	15 01 41.0	
	comp=Z,19nm,1.5s						
HFS	**Hagfors**	**80.81**	**330**	P	**P**	**15 01 35.7**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=95,slow=6.3,SNR=13						
	comp=Z,1.3nm,0.5s						
WTTA	**Wattenberg**	**81.22**	**317**	*i* P	**P**	**15 01 39.6**	**+0.2**
	comp=Z,4.9nm,0.5s						
WATA	**Walderalm**	**81.26**	**317**	*i* P	**P**	**15 01 39.4**	**-0.1**
	comp=Z,4.1nm,0.7s						
SQTA	**Sankt Quirin**	**81.51**	**317**	*i* P	**P**	**15 01 40.9**	**0.0**
	comp=Z,5.4nm,0.5s						
RETA	**Reutte**	**81.81**	**317**	*i* P	**P**	**15 01 42.9**	**+0.5**
	comp=Z,5.8nm,0.5s						
NOA	**NORSAR Array B**	**82.10**	**331**	LR	LR	15 44 14.8	
	comp=Z,18nm,18.6s,baz=300,slow=40						
DAVA	**Damuels**	**82.41**	**317**	*i* P	**P**	**15 01 47.7**	**+2.0**
	comp=Z,3.4nm,0.5s						
SPITS	**Spitsbergen Ar**	**82.43**	**348**	P	**P**	**15 01 44.6**	**-0.4**
	comp=Z,7.4nm,0.7s,baz=114,slow=11,SNR=6.3						
	comp=Z,7.4nm,0.7s						
EKA	**Eskdalemuir Ar**	**89.98**	**325**	P	**P**	**15 02 23.1**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=86,slow=5.5,SNR=6.9						
	comp=Z,1.4nm,0.5s						
ILAR	**Eielson Array**	**97.08**	**22**	P	**P**	**15 02 54.5**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=304,slow=5.4,SNR=5.5						
ILAR				LR	LR	15 53 20.5	
	comp=Z,85nm,19.6s,baz=287,slow=40						
	comp=Z,0.3nm,0.5s						
DBIC	**Dimbokro**	**98.49**	**278**	LR	LR	15 44 47.7	
	comp=Z,34nm,21.2s,baz=30,slow=34						
PDAR	**Pinedale Array**	**127.51**	**22**	PKP	**PKPdf**	**15 08 27.9**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=28,slow=3.5,SNR=4.9						
TXAR	**Lajitas Array**	**141.50**	**26**	PKhKP	PKPpre	15 08 49.5	
	comp=Z,0.4nm,0.4s,baz=296,slow=0.7,SNR=8.6						
TXAR				PKP	**PKPdf**	**15 08 56.4**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=284,slow=1.3,SNR=5.9						
CPUP	**Villa Florida**	**145.77**	**229**	PKPbc	**PKPbc**	**15 09 02.9**	**0.0**
	comp=Z,0.9nm,0.6s,baz=167,slow=6.6,SNR=3.2						

ISK ***15*** *15:08:45.6,40.11N×31.66E,h22km,ML2.5/5*
AFAD ***15*** *15:08:48.1±0.0,40.25N×31.59E,h7km±3km,ML2.2*
ISC 15 15:08:46.9±1.0,40.15N±0.03×31.62E±0.03,h8km,n14,
σ1s10/18,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUVA	**Yuva-Kibriscik**	**0.25**	**13**	Pg	**Pg**	**15 08 52.5**	**+0.6**
YUVA				Sg	**Sg**	**15 08 57.4**	**+2.0**
KIBS	**BOLU**	**0.33**	**34**	P	**Pg**	**15 08 52.9**	**-0.6**
MDUB	**Mudurnu**	**0.46**	**316**	Pg	**Pb**	**15 08 56.4**	**-0.8**
MDUB				Sg	**Sb**	**15 09 04.0**	**-0.2**
BOLU	**Bolu-Merkez-Mu**	**0.63**	**4**	P	**Pb**	**15 08 58.9**	**-1.4**
SVRH	**Sivrihisar-ESK**	**0.70**	**186**	Pg	**Pg**	**15 08 59.2**	**-1.2**
SRCK	**Saricakaya, Es**	**0.77**	**262**	Pg	**Pg**	**15 09 01.5**	**-0.1**
YIGI	**Dzce**	**0.82**	**351**	P	**Pb**	**15 09 01.9**	**-1.6**
GULT	**Gulveren**	**0.89**	**289**	Pg	**Pb**	**15 09 04.1**	**-0.5**
KAYN	**Sakarya, Kayna**	**1.27**	**311**	P	**Pg**	**15 09 10.2**	**-1.0**
HISA	**Bilecik-Osmane**	**1.33**	**284**	P	**Pg**	**15 09 12.7**	**+0.2**
HISA				S	**Sn**	**15 09 30.6**	**+0.8**
HISA				*i* AML	AML	15 09 35.0	
	comp=N,46nm,0.5s						
KKUL	**Konya-Kulu**	**1.40**	**134**	P	**Pb**	**15 09 12.9**	**-0.5**
DOMA	**Ktahya-Doman**	**1.52**	**257**	P	**Pg**	**15 09 15.5**	**-0.5**
DOMA				S	**Sg**	**15 09 37.6**	**+1.9**
PELI	**Kastamonı-Ara**	**1.73**	**48**	P	**Pg**	**15 09 19.6**	**-0.5**
AKPI	**Kirsehir/Akpin**	**1.94**	**109**	P	**Pb**	**15 09 22.7**	**+0.1**

IDC 15 15:14:53.1±2.7,20.02S×178.19W,h0km,mb3.8/5,
mbtmp3.8/5,Error ellipse: s-maj=143.9km
s-min=28.4km az=148.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.84**	**244**	P	P	15 22 11.1	-0.6
	4.4nm,1.2s,baz=97,slow=16,SNR=3.2						
	4.4nm,1.2s						
ASAR	**Alice Springs**	**44.46**	**256**	P	P	15 23 06.2	-0.2
	1.5nm,0.5s,baz=92,slow=8.0,SNR=39						
	1.5nm,0.5s						
WRA	**Warramunga Arr**	**44.49**	**262**	P	P	15 23 06.8	+0.2
	0.5nm,0.3s,baz=96,slow=7.5,SNR=50						
	0.5nm,0.3s						
ILAR	**Eielson Array**	**87.89**	**13**	P	P	15 27 44.1	0.0
	0.3nm,0.7s,baz=223,slow=5.3,SNR=4.3						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**88.73**	**43**	P	P	15 27 48.9	-0.1
	0.1nm,0.4s,baz=226,slow=4.8,SNR=2.1						
	0.1nm,0.4s						

IDC 15 15:28:38.8±392.0,67.78N×40.97E,h0km,Error ellipse:
s-maj=271.5km s-min=130.4km az=44.0,Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**19.38**	**146**	I	I	17 28 10.0	
	baz=340,slow=336,SNR=1.3						
I46RU	**ZALESOVO INFRA**	**24.76**	**102**	I	I	17 58 43.4	
	baz=319,slow=321,SNR=2.9						
I18DK	**QAANAAQ INFRAS**	**29.09**	**335**	I	I	18 26 40.0	
	baz=50,slow=339,SNR=1.2						

NEIC ***15*** *16:04:36.6±2.0,7.12S±0.08×106.59E±0.08,h84km±9km,*
mb4.0/17,Error ellipse: s-maj=13.2km s-min=10.2km
az=215.0
DJA ***15*** *16:04:38.0±0.2,7.2S±2°×107.7E±°,h45km±5km,M4.7/19,*
mB5.3/3,mb4.9/2,MLv4.6/19,Mw(mB)4.7/3
IDC ***15*** *16:04:39.1±1.2,6.89S×106.81E,h104km±9km,mb3.8/12,*
mbtmp4.2/12,MS2.8/1,Error ellipse: s-maj=28.5km
s-min=14.0km az=57.0
ISC 15 16:04:36.5±0.7,7.25S±0.06×106.63E±0.05,h89km±6km,
n68,σ1s66/66,mb4.0/18,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.25**	**343**	P	**Pn**	**16 04 49.6**	**0.0**
SKJI				S	**Sn**	**16 04 59.2**	**0.0**
CNJI	**Cibinong**	**0.50**	**97**	P	**Pn**	**16 04 50.3**	**-0.8**
CNJI				S	**Sn**	**16 04 59.8**	**-2.1**
DBJI	**Dramaga**	**0.70**	**10**	P	**Pn**	**16 04 53.5**	**+0.6**
DBJI				S	**Sn**	**16 05 06.3**	**+1.2**
LEM	**Lembang**	**1.06**	**67**	P	**Pn**	**16 04 58.7**	**+1.6**
LEM				S	**Sn**	**16 05 12.5**	**+0.1**
LEM	**Lembang**	**1.06**	**67**	P	**Pn**	**16 04 58.6**	**+1.6**
	1μm,0.5s,baz=347,slow=2.4,SNR=168						
LEM				S	**Sn**	**16 05 13.2**	**+0.7**
	2μm,0.4s,baz=123,slow=23,SNR=11						
CGJI	**Cibinong**	**1.12**	**304**	P	**Pn**	**16 04 59.0**	**+1.4**
CGJI				S	**Sn**	**16 05 14.6**	**+1.2**
SBJI	**Serang**	**1.23**	**336**	P	**Pn**	**16 05 00.2**	**+1.4**
SBJI				S	**Sn**	**16 05 17.8**	**+2.3**
JCJI	**Jatiwangi**	**1.79**	**65**	P	**Pn**	**16 05 05.8**	**-0.2**
JCJI				S	**Sn**	**16 05 27.1**	**-1.3**
CMJI	**Cimerak**	**1.88**	**107**	P	**Pn**	**16 05 07.0**	**-0.1**
KPJI	**Karang Pucung**	**2.28**	**92**	P	**Pn**

MKAR	Makanchi Array	57.99	340	P		P	16 14 18.2	-1.7
	comp=Z,0.3nm,0.4s,baz=160,slow=8.9,SNR=5.6							
	comp=Z,0.3nm,0.4s							
H04N2	CROZET ISLANDS	60.84	221	T		T	17 21 05.9	
	baz=68,slow=75,SNR=35							
H04N1	CROZET ISLANDS	60.85	221	T		T	17 21 06.1	
	baz=68,slow=75,SNR=39							
H04N3	CROZET ISLANDS	60.85	221	T		T	17 21 06.3	
	baz=68,slow=75,SNR=39							
KURBB	Kurchatov Arra	62.56	340	P		P	16 14 50.9	-0.1
	comp=Z,0.4nm,0.5s,baz=151,slow=6.3,SNR=4.7							
	comp=Z,0.4nm,0.5s							
ZALV	Zalesovo Beam	63.68	346	P		P	16 14 56.4	-1.9
	comp=Z,0.6nm,0.3s,baz=152,slow=6.2,SNR=4.9							
	comp=Z,0.6nm,0.3s							
MAW	Mawson	67.03	197	P		P	16 15 20.1	+0.4
BVAR	Borovoye Array	67.45	337	P		P	16 15 21.3	-1.4
	comp=Z,0.9nm,0.4s,baz=140,slow=8.4,SNR=5.1							
	comp=Z,0.9nm,0.4s							
ABKAR	Akbulak array	69.44	329			P	16 15 34.3	-0.8
ABKAR				IAmb		IAmb	16 15 35.5	
	comp=Z,1.4nm,0.7s							
BOSA	Boshof	79.02	242	P		P	16 16 34.0	+2.5
	comp=Z,2.1nm,0.7s,baz=114,slow=7.3,SNR=6.0							
	comp=Z,2.1nm,0.7s							
QSPA	South Pole Qui	82.74	180	P		P	16 16 53.2	+2.6
	comp=Z,1.8nm,0.5s,baz=29,slow=3.0,SNR=6.7							
	comp=Z,1.8nm,0.5s							
BURAR	Bucovina Array	89.55	318	P		P	16 17 22.4	-1.8
BURAR				IAmb		IAmb	16 17 29.6	
	comp=Z,1.2nm,1.1s							
FINES	FINESS Array B	91.81	332	P		P	16 17 34.3	0.0
	comp=Z,4.7nm,1.0s,baz=108,slow=4.5,SNR=2.5							
	comp=Z,4.7nm,1.0s							
ARCES	ARCESS Array B	93.64	340	P		P	16 17 42.0	-0.6
	comp=Z,2.1nm,0.8s,baz=108,slow=5.5,SNR=6.9							
	comp=Z,2.1nm,0.8s							
CPUP	Villa Florida	143.17	204	PKP		PKPdf	16 24 00.4	-0.7
	comp=Z,1.5nm,0.5s,baz=140,slow=5.8,SNR=4.4							
TXAR	Lajitas Array	144.00	49	PKP		PKPdf	16 24 02.0	-0.6
	comp=Z,0.4nm,0.4s,baz=206,slow=0.5,SNR=7.9							
BDFB	Brasilia	146.12	228	PKPbc		PKiKP	16 24 10.0	-0.9
	comp=Z,2.4nm,0.4s,baz=101,slow=5.6,SNR=3.5							

IDC ***15*** *16:10:31.9±3.6,6.06S×151.83E, h54km±24km, mb3.2/5, mbtmp3.6/6, ML1.8/1, MS3.6/1, Error ellipse: s-maj=59.6km s-min=9.7km az=118.0*

ISC 15 16:10:29.2±1.4, 6.2S±0.1×152.1E±0.2, h36km, n9, σ0.9 s4/11, mb3.6/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.85	359	P		Pn		16 10 58.7	+0.3
	165nm,0.4s,baz=189,slow=1.5,SNR=24								
KRVT				S		Sn		16 11 21.6	+1.1
	482nm,0.3s,baz=357,slow=23,SNR=18								
PMG	Port Moresby	5.83	236	P		Pn		16 11 54.1	+0.9
	1.9nm,0.3s,baz=68,slow=7.7,SNR=10								
PMG				S		Sn		16 12 58.4	-0.5
	13nm,0.5s,baz=292,slow=5.4,SNR=2.4								
	7.9nm,0.3s								
HNR	Honiara	8.46	113	LR		LR		16 15 27.2	
	comp=Z,367nm,21.2s,baz=70,slow=34								
WRA	Warramunga Arr	22.00	230	P		P		16 15 20.9	+0.3
	0.5nm,0.6s,baz=51,slow=10,SNR=3.8								
WRA				PcP		PcP		16 19 19.3	+1.0
	0.4nm,0.9s,baz=50,slow=2.1,SNR=2.2								
	0.5nm,0.6s								
ASAR	Alice Springs	24.66	223	P		P		16 15 47.4	+0.5
	0.5nm,0.6s,baz=59,slow=8.8,SNR=10.0								
	0.5nm,0.6s								
SONM	Songino Array	67.09	328	P		P		16 21 18.8	-0.4
	0.4nm,0.7s,baz=142,slow=4.4,SNR=2.2								
	0.4nm,0.7s								
ZALV	Zalesovo Beam	81.88	327	P		P		16 22 43.1	-1.7
	0.4nm,0.5s,baz=103,slow=9.5,SNR=2.3								
	0.4nm,0.5s								
ILAR	Eielson Array	83.69	22	P		P		16 22 54.1	+0.2
	0.5nm,0.7s,baz=248,slow=5.3,SNR=9.3								
	0.5nm,0.7s								
TORD	Torodi Ar. Bea	150.00	286	PKPbc		PKPbc		16 30 16.5	-0.5
	0.5nm,0.7s,baz=49,slow=3.0,SNR=2.8								

TRN ***15*** *16:11:03.2, 10.84N×62.22W, h93km, MD3.0*
FUNV ***15*** *16:11:04.0, 10.72N×62.11W, h30km, MW3.3*

ISC 15 16:11:02.8±1.7, 10.83N±0.07×62.25W±0.06, h95km±17km, n15, σ1.9 s29/25, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.86	102	eP		Pn		16 11 22.1	+0.8
TRN				eS		Sn		16 11 34.1	-1.0
CRUV	Carupano	0.98	261↑	eP		Pn		16 11 23.0	+0.5
CRUV				eS		Sn		16 11 36.4	-1.0
GRGR	Grenville	1.42	24	eP		Pn		16 11 28.3	+0.5
GRGR				eS		Sn		16 11 46.4	-0.3
GRHS	Sauteurs	1.51	23	eP		Pn		16 11 29.6	+0.7
GRHS				eS		Sn		16 11 47.8	-0.8
GRSS	Sisters	1.58	23	eP		Pn		16 11 30.9	+1.0
GRSS				eS		Sn		16 11 50.2	-0.1
GCMP	Grenada, Carri	1.83	26	eP		Pn		16 11 33.4	+0.4
GCMP				eS		Sn		16 11 55.4	-0.5
PCRV	Puerto La Cruz	2.43	255	eP		Pn		16 11 42.5	+1.7
PCRV				eS		Sn		16 12 10.2	+0.1
SVB	Belmont	2.61	22	eS		Sn		16 12 12.5	-1.8
PRGV	PARIAGUAN	3.13	229	eP		Pn		16 11 51.1	+0.9
PRGV				eS		Sn		16 12 26.4	-0.4
BENV	Beln	5.33	261	eP		Pn		16 12 22.1	+2.1
BENV				eS		Sn		16 13 19.4	-0.8
CACV	CAICARA DEL OR	5.33	233	eP		Pn		16 12 15.3	-4.7
CACV				eS		Sn		16 13 07.7	-13
TURV	Turiamo	5.50	267	eP		Pn		16 12 23.9	+1.5
TURV				eS		Sn		16 13 23.5	-0.9
BAUV	El Baul	6.00	252	eP		Pn		16 12 29.3	+0.2
BAUV				eS		Sn		16 13 33.7	-2.8
BAUV	El Baul	6.00	252	eP		Pn		16 12 29.4	+0.2
BAUV	El Baul	6.00	252	eS		Sn		16 13 34.1	-2.4

IDC ***15*** *16:23:29.5±1.1, 16.11N×148.28E, h0km, mb3.8/10, mbtmp3.9/11, ML4.4/1, Error ellipse: s-maj=34.0km s-min=18.0km az=100.0*
NEIC ***15*** *16:23:31.8±2.5, 16.07N±0.08×148.1E±0.1, h10km±1km, mb4.5/9, Error ellipse: s-maj=17.4km s-min=12.6km az=68.0*

ISC 15 16:23:31.5±0.8, 16.08N±0.09×148.1E±0.1, h10km, n33, σ0.9 s4/26, mb4.2/15, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	Guam	3.97	232	Pn		Pn		16 24 32.6	+0.2
	22nm,0.3s,baz=194,slow=9.6,SNR=15								
GUMO				Sn		Sn		16 25 17.6	-1.4
	25nm,0.3s,baz=49,slow=19,SNR=2.2								
	45nm,0.3s								
JCJ	Chichijima	12.25	334	Pn		Pn		16 26 25.8	-0.4
PATS	Pohnpei	13.59	131	Pn		Pn		16 26 41.2	-3.2
H11S3	WAKE ISLAND Hy	17.93	80	T		T		16 45 50.4	
	baz=265,slow=75,SNR=21								
H11S1	WAKE ISLAND Hy	17.95	80	T		T		16 45 49.2	
	baz=265,slow=75,SNR=7.9								
H11S2	WAKE ISLAND Hy	17.95	80	T		T		16 45 53.3	
	baz=265,slow=75,SNR=14								
H11N1	WAKE ISLAND Hy	18.27	76	T		T		16 46 11.5	
	baz=261,slow=75,SNR=26								
H11N2	WAKE ISLAND Hy	18.27	76	T		T		16 46 12.0	
	baz=261,slow=75,SNR=16								
H11N3	WAKE ISLAND Hy	18.29	76	T		T		16 46 18.6	
	baz=261,slow=75,SNR=13								
MJAR	Matsushiro Arr	22.19	339	P		P		16 28 28.1	+0.1
	0.7nm,0.7s,baz=174,slow=12,SNR=1.8								
	0.7nm,0.7s								
TPUB	Ta-pu	26.79	290	P		P		16 29 11.3	-0.7
KSAR	Wonju Array Be	27.77	324	P		P		16 29 20.1	-0.4
MTN	Manton Dam	33.26	211	P		P		16 30 09.3	0.0
WB0	Warramunga Arr	38.07	201	P		P		16 30 51.1	+0.6
WB0				IAmb		IAmb		16 31 15.0	
	comp=Z,6.3nm,1.3s								
WR0	Warramunga Arr	38.20	201	P		P		16 30 51.8	+0.1
WR0				IAmb		IAmb		16 30 52.6	
	comp=Z,3.7nm,0.7s								
WRAB	Tennant Creek	38.24	201	P		P		16 30 51.2	-0.8
WRAB				IAmb		IAmb		16 30 53.3	
	comp=Z,5.8nm,0.7s								
WRA	Warramunga Arr	38.26	201	P		P		16 30 51.4	-0.7
WRA	Warramunga Arr	38.26	201	P		P		16 30 52.6	+0.5
	comp=Z,2.8nm,0.6s,baz=26,slow=8.9,SNR=67								
	comp=Z,2.8nm,0.6s								
KOUNC	Koumac, New Ca	39.73	156	P		P		16 31 04.7	+0.3
KOUNC				IAmb		IAmb		16 31 31.1	
	comp=Z,24nm,1.2s								
AS31	Alice Springs	41.86	200	P		P		16 31 22.6	+0.7
ASAR	Alice Springs	41.86	200	P		P		16 31 19.8	-2.2
ASAR	Alice Springs	41.86	200	P		P		16 31 22.5	+0.5
	comp=Z,2.5nm,0.8s,baz=26,slow=7.8,SNR=52								
	comp=Z,2.5nm,0.8s								
SONM	Songino Array	46.60	322	P		P		16 32 01.5	+1.7
	comp=Z,0.5nm,0.8s,baz=135,slow=8.4,SNR=3.3								
	comp=Z,0.5nm,0.8s								
CMAR	Chiang Mai Arr	46.87	280	P		P		16 32 03.9	+1.6
	comp=Z,0.5nm,0.6s,baz=74,slow=6.0,SNR=6.3								
	comp=Z,0.5nm,0.6s								
KURBB	Kurchatov Arra	64.78	319	P		P		16 34 09.9	-0.3
	comp=Z,1.7nm,0.7s,baz=97,slow=6.6,SNR=15								
	comp=Z,1.7nm,0.7s								
ILAR	Eielson Array	65.00	25	P		P		16 34 10.1	-1.4
	comp=Z,0.5nm,1.0s,baz=246,slow=6.8,SNR=2.3								
	comp=Z,0.5nm,1.0s								
BMAR	Burnt Mountain	66.62	23	P		P		16 34 20.8	-1.1
BCAR	Beaver Creek A	66.81	28	P		P		16 34 23.8	+0.6
BVAR	Borovoye Array	69.93	321	P		P		16 34 43.3	+0.4
	comp=Z,0.6nm,0.5s,baz=101,slow=7.0,SNR=5.0								
	comp=Z,0.6nm,0.5s								
F31M	Tsiigehtchic	70.74	24	P		P		16 34 47.3	-0.2
F31M				IAmb		IAmb		16 34 59.0	
	comp=Z,8.0nm,1.2s								
ABKAR	Akbulak array	76.80	318	P		P		16 35 23.5	+0.1
YKA	Yellowknife Ar	79.23	28	P		P		16 35 36.4	-0.3
	comp=Z,0.3nm,0.6s,baz=282,slow=5.8,SNR=4.1								
	comp=Z,0.3nm,0.6s								
FINES	FINESS Array B	90.20	336	P		P		16 36 30.8	-1.2
	comp=Z,2.1nm,0.7s,baz=68,slow=6.1,SNR=9.7								
	comp=Z,2.1nm,0.7s								

IDC ***15*** *16:35:17.5±0.9, 12.59N×125.45E, h0km, mb3.8/10, mbtmp3.8/10, ML4.7/1, MS2.8/2, Error ellipse: s-maj=49.3km s-min=15.3km az=61.0*

ISC 15 16:35:22.3±0.9, 12.6N±0.2×125.4E±0.2, h33km, n15, σ0.6 s0/13, mb3.8/10, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	4.63	289	Pn		Pn		16 36 30.2	+0.2
	38nm,0.3s,baz=75,slow=18,SNR=1.9								
TGY				LR		LR		16 37 48.2	
	comp=Z,102nm,19.3s,baz=108,slow=32								
GUMO	Guam	18.96	85	LR		LR		16 46 13.8	
	comp=Z,33nm,21.1s,baz=144,slow=35								
CMAR	Chiang Mai Arr	26.17	286	P		P		16 40 53.5	-0.5
	1.0nm,0.9s,baz=90,slow=7.7,SNR=9.3								
	1.0nm,0.9s								
WRA	Warramunga Arr	33.49	165	P		P		16 41 57.5	-1.3
	0.2nm,0.4s,baz=342,slow=8.9,SNR=5.7								
WRA				PcP		PcP		16 44 39.9	+0.4
	0.2nm,0.5s,baz=342,slow=3.0,SNR=5.5								
	0.2nm,0.4s								
ASAR	Alice Springs	36.97	167	P		P		16 42 28.9	+0.2
	0.6nm,0.4s,baz=349,slow=7.2,SNR=36								
ASAR				PcP		PcP		16 44 50.0	+0.4
	0.3nm,0.5s,baz=344,slow=3.0,SNR=4.4								
	0.6nm,0.4s								
SONM	Songino Array	38.57	339	P		P		16 42 42.0	-0.2
	0.5nm,0.6s,baz=144,slow=6.9,SNR=2.7								
	0.5nm,0.6s								
H11N1	WAKE ISLAND Hy	40.36	74	T		T		17 26 17.8	
	baz=266,slow=74,SNR=30								
H11N2	WAKE ISLAND Hy	40.37	74	T		T		17 26 14.0	
	baz=266,slow=74,SNR=28								
H11N3	WAKE ISLAND Hy	40.38	74	T		T		17 26 19.2	
	baz=266,slow=74,SNR=29								
STKA	Stephens Creek	46.85	161	P		P		16 43 49.9	+0.6
	0.8nm,0.5s,baz=324,slow=12,SNR=1.6								
	0.8nm,0.5s								
MKAR	Makanchi Array	49.70	322	P		P		16 44 11.7	+0.4
	0.7nm,0.7s,baz=104,slow=10,SNR=2.9								
	0.7nm,0.7s								
ZALV	Zalesovo Beam	52.21	331	P		P		16 44 29.7	-0.2
	0.3nm,0.3s,baz=133,slow=11,SNR=3.6								
	0.3nm,0.3s								
KURBB	Kurchatov Arra	53.72	325	P		P		16 44 41.7	+0.6
	1.3nm,0.6s,baz=124,slow=7.6,SNR=12								
	1.3nm,0.6s								
BVAR	Borovoye Array	59.31	325	P		P		16 45 21.1	+0.3
	1.0nm,0.6s,baz=120,slow=8.8,SNR=5.7								
	1.0nm,0.6s								
AKASG	Malin Array Be	84.26	321	P		P		16 47 50.3	-0.4
	0.9nm,0.7s,baz=72,slow=3.0,SNR=1.5								
	0.9nm,0.7s								

IPGP ***15*** *16:47:56.0, 7.73S×108.02E, h93km, Mw6.5, Fault plane solution: NP1:φs153.00000°, δ72.00000°, λ42.00000°. NP2:φs47.00000°, δ51.00000°, λ156.00000°.*
NEIC ***15*** *16:47:56.7, 8.15S×108.02E, h100km, Moment Tensor Solution. Duration: 9s3 Moment tensor: Scale 1018Nm; Mrr2.34; Mθθ4.82; Mφφ-7.15; Mrθ2.65; Mφθ-2.38; Mφr-2.10; Fault plane solution: M0 7.53000×1018 NP1: φs150.77000°, δ74.57000°, λ30.90000°. NP2:φs51.72000°, δ60.33000°, λ162.17000°. Principal axes: T 7.1949, Plg33.0000°, Azm15.0000°; N 0.6726, Plg56.0000°, Azm175.0000°; P -7.8675, Plg9.0000°, Azm279.0000°;*
NEIC ***15*** *16:47:56.7, 7.65S×108.02E, h100km*
DJA ***15*** *16:47:56.7±0.2, 8.2S±2.2×107.8E±1.0, h136km±2km, M6.8/54, mB7.0/54, mb6.7/54, MLv7.1/26, Mw(mB)7.0/54, MwMwp6.5/49, Mwp6.4/49*
BJI ***15*** *16:47:57.6, 7.64S×108.16E, h100km, mb6.3/96, mB6.7/82*
NEIC ***15*** *16:47:58.3, 7.53S×108.14E, h93km*
KLM ***15*** *16:47:58, 8.04S×107.98E, h126km, mb7.1*
NEIC ***15*** *16:47:58.2±2.2, 7.49S±0.07×108.17E±0.07, h90km±1km, mb6.6/273, Mwb6.5/68, Mww6.5/29, Error ellipse: s-maj=13.3km s-min=11.1km az=215.0, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr3.10; Mθθ2.79; Mφφ-5.88; Mrθ3.69; Mφθ-1.41; Mφr-2.80; Fault plane solution: M0 7.03000×1018 NP1:φs43.27000°, δ46.07000°, λ153.09000°. NP2:φs152.66000°, δ70.98000°, λ47.21000°. Principal axes: T 7.3160, Plg46.0000°, Azm19.0000°; N -0.6168, Plg40.0000°, Azm169.0000°; P -6.6992, Plg15.0000°, Azm272.0000°;*
MOS ***15*** *16:47:59.3±1.1, 7.48S×108.18E, h118km, mb6.5/93, MS5.7/33 Error ellipse: s-maj=6.6km s-min=4.0km az=118.1*
GCMT ***15*** *16:48:00.2±0.1, 7.91S×108.11E, h109km, MW6.5/174, Moment Tensor Solution. s174,c461; s159,c668; Duration: 4s6 Moment tensor: Scale 1019Nm; Mrr0.22±.00; Mθθ0.50±.00; Mφφ-0.72±.00; Mrθ0.38±.00; Mφθ-0.27±.00; Mφr-0.28±.00; Best double couple: M0 0.84500×1019 NP1:φs152.00000°, δ75.00000°, λ35.00000°. NP2:φs52.00000°, δ56.00000°, λ162.00000°. Principal axes: T 0.8650, Plg35.0000°, Azm17.0000°; N -0.0390, Plg52.0000°, Azm172.0000°; P -0.8260, Plg12.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
IDC ***15*** *16:48:00.4±0.6, 7.49S×108.16E, h118km±4km, mb6.0/52, mbtmp6.3/53, MS5.6/67 Error ellipse: s-maj=7.6km s-min=5.6km az=53.0*

ISC 15 16:47:58.0±0.2, 7.60S±0.02×108.10E±0.02, h101km±1km, h101km:pP-P, n2764, σ1.9 s81/3313, mb6.5/355, 329C-112D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	0.39	118	P		Pn		16 48 13.8	+0.7
BBJI	Bungbulang	0.47	287	P		Pn		16 48 15.8	+2.1
KPJI	Karang Pucung	0.86	72	P		Pn		16 48 20.0	+3.0
LEM	Lembang	0.91	328	P		Pn		16 48 22.3	+4.6
LEM	Lembang	0.91	328	P		Pn		16 48 22.3	+4.6
	117μm,0.7s,baz=218,slow=0.1,SNR=2380								
CNJI	Cibinong	1.01	287	P		Pn		16 48 20.6	+2.1
SKJI	Sukabumi	1.64	291	P		Pn		16 48 28.6	+2.5
DBJI	Dramaga	1.70	308	P		Pn		16 48 31.5	+4.7
YOGI	Yogyakarta	2.18	96	P		Pn		16 48 34.1	+1.1
UGM	Wanagama	2.42	98			Pn		16 48 36.7	+0.6
UGM	Wanagama	2.42	98	P		Pn		16 48 37.7	+1.6
UGM	Wanagama	2.42	98	P		Pn		16 48 37.3	+1.2
SBJI	Serang	2.45	307	P		Pn		16 48 40.7	+4.2
CGJI	Cibinong	2.58	292	P		Pn		16 48 40.7	+2.5
NGJI	Ngawi	3.34	86	P		Pn		16 48 52.0	+3.7
BLSI	Bandar Lampung	3.60	308	P		Pn		16 48 56.4	+4.5
XMI	Christmas Isla	3.70	220	P		Pn		16 48 49.5	-3.7
XMI	Christmas Isla	3.70	220	P↑		Pn		16 48 48.6	-4.6
XMIS	Christmas Isla	3.75	220	P		Pn		16 48 49.8	-4.1
KASI	Kota Agung	4.13	300	P		Pn		16 49 02.1	+3.1
KLI	Kotabumi	4.22	310	P		Pn		16 49 04.9	+4.7
KLI	Kotabumi	4.22	310	P		Pn		16 49 04.5	+4.3
LWLI	Liwa	4.77	302	P		Pn		16 49 10.7	+3.0
BWJI	Bawean	4.85	69	P		Pn		16 49 11.9	+3.2
	73μm,1.0s,771μm475μm427nm								
BLJI	Banyuglugur	5.45	92	P		Pn		16 49 18.5	+1.7
	22μm,0.9s,373μm547μm124nm								
PMBI	Palembang	5.70	324	P		Pn		16 49 26.4	+6.1
PMBI	Palembang	5.70	324	P		Pn		16 49 26.5	+6.2
	53μm,1.4s,542μm253μm172nm								
PMBI	Palembang	5.70	324	⇑P		Pn		16 49 26.2	+5.9
PPBI	Pangkal Pinang	5.74	340	P		Pn		16 49 26.6	+5.7
	21μm,1.3s,286μm143μm66nm								
LHSI	Lahat	5.90	309	P		Pn		16 49 27.0	+4.0
	8μm,1.0s,191μm61nm								
MNAI	Manna	6.04	302	Pn		Pn		16 49 27.1	+2.1
MNAI	Manna	6.04	302	P		Pn		16 49 28.4	+3.4
MNAI	Manna	6.04	302	P		Pn		16 49 27.6	+2.6
	13μm,0.9s,375μm350μm92nm								
MNAI	Manna	6.04	302	⇑P		Pn		16 49 26.4	+1.4
JAGI	Jajag, Banyuwa	6.05	99	Pn		Pn		16 49 24.5	-0.6
JAGI	Jajag, Banyuwa	6.05	99	P		Pn		16 49 26.4	+1.3
JAGI	Jajag, Banyuwa	6.05	99	P		Pn		16 49 25.3	+0.2
	75μm,1.0s,856μm842μm298nm								
JAGI	Jajag, Banyuwa	6.05	99	⇓P		Pn		16 49 24.4	-0.6
ABJI	Asem Bagus	6.08	92	P		Pn		16 49 27.3	+1.9
	92μm,0.9s,953μm567μm241nm								
SRBI	Singaraja	7.06	94	P		Pn		16 49 39.0	+0.2
	52μm,1.0s,390μm358μm149nm								
DNP	Denpasar	7.12	99	P		Pn		16 49 39.9	+0.4
	70μm,0.9s,811μm658μm343nm								
DNP	Denpasar	7.12	99	P		Pn		16 49 40.2	+0.7
JMBI	JAMBI	7.41	323	P		Pn		16 49 49.5	+6.0
	12μm,1.3s,136μm38nm								
BBKI	Banjar Baru	7.87	59	P		Pn		16 49 55.8	+6.1
	13μm,1.3s,164μm227μm								
DSRI	Dabo	7.90	333	P		Pn		16 49 54.9	+4.7
	4μm,1.2s,52μm124μm								
STKI	Sintang	8.32	24	P		Pn		16 50 01.5	+5.5
	11μm,1.8s,227μm253μm								
KRJI	Kerinci	8.58	309	P		Pn		16 50 01.4	+1.8
	18μm,1.1s,371μm232μm								
TWSI	Taliwang, Sumb	8.77	98	P		Pn		16 50 00.8	-1.2
	22μm,0.8s,246μm286μm								
TPRI	Tanjung Pinang	9.18	337	P		Pn		16 50 12.0	+4.4
	2μm,0.8s,52μm116μm								
KSM	Kuching	9.28	14			Pn		16 50 13.0	+4.1
KSM	Kuching	9.28	14	P		Pn		16 50 14.6	+5.7
KSM	Kuching	9.28	14	P		Pn		16 50 14.0	+5.0
KSM	Kuching	9.28	14	⇑P		Pn		16 50 13.9	+5.0
PPSI	Pulau Pagai	9.38	300	P		Pn		16 50 10.1	-0.2
	13μm,0.7s,181μm150μm								
MTKI	Muara Teweh, K	9.46	46	P		Pn		16 50 16.4	+4.9
	12μm,1.2s,153μm167μm								
PLAI	Plampang	9.65	98	P		Pn		16 50 13.4	-0.7
PLAI	Plampang	9.65	98	P		Pn		16 50 13.1	-1.0
	62μm,1.0s,503μm245μm								
PDSI	Padang	10.11	311	P		Pn		16 50 19.5	-0.7
	3μm,1.0s,58μm170μm								
MYKOM	Kota Tinggi	10.24	335	Pn		Pn		16 50 25.9	+3.8
MYKOM	Kota Tinggi	10.24	335	P		Pn		16 50 27.0	+4.9
MYKOM	Kota Tinggi	10.24	335	⇑P		Pn		16 50 26.0	+3.8
BKNI	Bangkinang	10.56	318	Pn		Pn		16 50 27.4	+1.0
BKNI	Bangkinang	10.56	318	P		Pn		16 50 29.7	+3.2
BKNI	Bangkinang	10.56	318	P		Pn		16 50 28.2	+1.8
	4μm,1.4s,51μm135μm								
BKNI	Bangkinang	10.56	318	P		Pn		16 50 22.1	-4.3
BKNI	Bangkinang	10.56	318	⇓P		Pn		16 50 28.1	+1.6
BKB	Balikpapan	10.79	55	Pn		Pn		16 50 33.9	+4.4
BKB	Balikpapan	10.79	55	P		Pn		16 50 35.4	+5.9
BKB	Balikpapan	10.79	55	P		Pn		16 50 36.7	+7.2
	8μm,1.1s,143μm233μm								
BKB	Balikpapan	10.79	55	⇑P		Pn		16 50 36.5	+7.0
SBUM	Sibu	10.79	23	Pn		Pn		16 50 28.2	-1.4
SBUM	Sibu	10.79	23	P		Pn		16 50 36.0	+6.4
SBUM	Sibu	10.79	23	⇑P		Pn		16 50 35.6	+6.0
KAPI	Kappang	11.86	78	Pn		Pn		16 50 44.2	+0.3
KAPI	Kappang	11.86	78	P		Pn		16 50 47.1	+3.2
KAPI	Kappang	11.86	78	P		Pn		16 50 44.2	+0.3
KAPI	Kappang	11.86	78	P		Pn		16 50 45.5	+1.6

LHMI Lhok Sumawe 16.92 319 P Pn 16 51 47.2 -1.5
LHMI Lhok Sumawe 16.92 319 P Pn 16 51 43.6 -5.1
1µm,1.4s,35µm104µm
LHMI Lhok Sumawe 16.92 319 ⇓P Pn 16 51 44.2 -4.5
MBWA Marble Bar 17.55 141 P P 16 51 53.5 -2.5
MBWA Marble Bar 17.55 141 P P 16 51 55.0 -1.0
MBWA Marble Bar 17.55 141 P P 16 51 55.4 -0.6
MBWA P P 16 51 55.4 -0.6
MBWA Marble Bar 17.55 141 ⇑P P 16 51 53.9 -2.2
KMSI Cibinong 17.80 64 P P 16 51 59.0 +0.3
9µm,0.9s,164µm181µm
PSA00 Pilbara Seismi 17.93 142 P P 16 51 60.0 -0.2
PSA00 Pilbara Seismi 17.93 142 P P 16 52 00.3 +0.1
SRIT Nakonsritamara 18.18 332 P Pn 16 52 04.7 +0.7
SANI Sanana 18.65 74 P Pn 16 52 09.9 +0.3
SANI Sanana 18.65 74 P Pn 16 52 09.0 -0.6
8µm,1.0s,85µm181µm
SANI Sanana 18.65 74 P P 16 52 04.9 -3.2
SANI Sanana 18.65 74 ⇑P Pn 16 52 09.3 -0.3
SURA Surathani 18.67 333 P Pn 16 52 09.4 -0.4
NLAI Namlea 19.40 78 P Pn 16 52 18.5 +0.1
DLV T Lat 19.42 1 P P 16 52 15.1 -1.6
DLV T Lat 19.42 1 P Pn 16 52 20.6 +1.8
DLV T Lat 19.42 1 ⇑P Pn 16 52 20.2 +1.4
FITZ Fitzroy Crossi 20.01 123 ⇓P P 16 52 23.1 +0.2
baz=20,SNR=1000
FITZ Fitzroy Crossi 20.01 123 P P 16 52 23.3 +0.4
TNTI Ternate 20.93 67 P P 16 52 30.6 -2.2
TNTI Ternate 20.93 67 P P 16 52 33.6 +0.7
TNTI Ternate 20.93 67 ⇑P P 16 52 32.8 -0.1
MEEK Meekatharra 21.41 153 P P 16 52 37.7 -0.2
baz=22,SNR=100
MEEK Meekatharra 21.41 153 P P 16 52 38.1 +0.2
KNRA Kununurra 21.75 114 ⇓P P 16 52 41.3 -0.4
baz=22,SNR=249
KNRA Kununurra 21.75 114 P P 16 52 41.2 -0.4
KNRA Kununurra 21.75 114 P P 16 52 41.2 -0.4
BNDI Bandanaira 21.89 83 P P 16 52 43.8 +0.7
BNDI Bandanaira 21.89 83 ⇑P P 16 52 40.0 -3.1
MORW Morawa 22.63 162 P P 16 52 50.1 -0.6
baz=23,SNR=27
MORW Morawa 22.63 162 P P 16 52 49.9 -0.8
MORW Morawa 22.63 162 P P 16 52 50.6 -0.1
MORW Morawa 22.63 162 ⇑P P 16 52 49.0 -1.7
MORW ⇑S S 16 56 57.0 +5.7
DAV Davao City (W) 22.72 51 P P 16 52 50.1 -1.5
DAV Davao City (W) 22.72 51 P P 16 52 56.0 +4.3
DAV Davao City (W) 22.72 51 P P 16 52 53.7 +2.0
DAV P P 16 52 53.7 +2.0
DAV Davao City (W) 22.72 51 ⇑P P 16 52 53.8 +2.1
DAV Davao City (W) 22.72 51 P P 16 52 52.1 +0.4
21µm,1.1s,baz=114,slow=1.1,SNR=165
DAV LR LR 17 02 25.2
comp=Z,38µm,21.3s,baz=234,slow=38
NAYO Nakonayok 22.79 343 P P 16 52 53.0 +0.7
UBPT Khong Chiam 22.88 353 P P 16 52 53.5 +0.3
UBPT Khong Chiam 22.88 353 P P 16 52 54.0 +0.8
UBPT Khong Chiam 22.88 353 ⇑P P 16 52 52.6 -0.6
SAUI Saumlaki 22.99 93 P P 16 52 51.1 -3.3
SAUI Saumlaki 22.99 93 P P 16 52 52.7 -1.7
SAUI Saumlaki 22.99 93 ⇑P P 16 52 50.8 -3.6
SAUI ⇑S S 16 56 55.6 -1.6
MTN Manton Dam 23.25 105 P P 16 52 56.0 -0.8
baz=23,SNR=1000
MTN Manton Dam 23.25 105 P P 16 56 56.4 -0.4
MTN Manton Dam 23.25 105 P P 16 52 57.2 +0.4
MTN Manton Dam 23.25 105 ⇓P P 16 52 56.4 -0.4
MTN ⇓S S 16 57 03.6 +2.3
SRDT SRDT 23.55 338 P P 16 53 00.2 +0.7
SWI Sorong 24.03 75 P P 16 53 03.9 0.0
BLDU Ballidu 24.28 162 P P 16 53 05.1 -0.8
baz=24,SNR=18
BLDU Ballidu 24.28 162 P P 16 53 05.4 -0.5
PBA Port Blair 24.48 321 P P 16 53 05.5 -2.4
PBA Port Blair 24.48 321 P P 16 53 03.8 -4.1
PBA Port Blair 24.48 321 ⇑P P 16 53 03.8 -4.1
PBA ⇑S S 16 57 15.9 -5.3
KDU Kakadu 24.51 104 P P 16 53 07.4 -0.8
baz=25,SNR=752
KDU Kakadu 24.51 104 P P 16 53 08.3 +0.1
KDU Kakadu 24.51 104 ⇑P P 16 53 07.4 -0.8
KDU ⇓S S 16 57 25.0 +3.3
TGY Tagaytay City 25.04 31 P P 16 53 14.2 +1.1
3µm,0.9s,baz=258,slow=3.0,SNR=57
TGY LR LR 17 04 16.1
comp=Z,23µm,19.7s,baz=202,slow=39
3µm,0.9s
MUN Mundaring 25.41 164 P P 16 53 15.6 -0.6
baz=26,SNR=22
MUN Mundaring 25.41 164 P P 16 53 15.8 -0.4
KLBR Kellerberrin 25.52 161 P P 16 53 16.6 -0.6
baz=26,SNR=42
WRKA Warakurna 25.94 134 ⇓P P 16 53 20.1 -1.1
baz=26,SNR=368
WRKA Warakurna 25.94 134 P P 16 53 20.8 -0.4
WRKA Warakurna 25.94 134 ⇑P P 16 53 19.9 -1.3
NONG Nongkai 25.96 349 P P 16 53 22.2 +0.9
QIZ Qiongzhong 26.51 4 P P 16 53 26.0 -0.3
QIZ Qiongzhong 26.51 4 P P 16 53 29.0 +2.7
QIZ Qiongzhong 26.51 4 ⇑*iP* P 16 53 27.9 +1.6
QIZ pP pP 16 53 50.6 +1.9
QIZ sP sP 16 54 01.3 +0.9
QIZ S S 16 57 57.4 +4.1
QIZ SS SnSn 16 59 06.9 +0.2
QIZ pmax pmax
comp=Z,690nm,1.4s
QIZ pmax pmax
comp=Z,13µm,10.6s
QIZ LR LR
comp=N,19µm,10.0s
QIZ LR LR
comp=E,18µm,15.0s
QIZ LR LR
comp=Z,15µm,12.5s
NWAO Narrogin (SRO) 26.59 163 P P 16 53 26.1 -0.8
baz=27,SNR=31
NWAO P P 16 53 26.1 -0.8
baz=27,SNR=31
NWAO Narrogin (SRO) 26.59 163 P P 16 53 26.1 -0.8
NWAO Narrogin (SRO) 26.59 163 P P 16 53 26.6 -0.3
NWAO Narrogin (SRO) 26.59 163 P P 16 53 25.8 -1.1
NWAO S S 16 57 52.6 -1.7
NWAO Narrogin (SRO) 26.59 163 P P 16 53 26.1 -0.8
NWAO pmax pmax
comp=Z,583nm,1.1s
NWAO Narrogin (SRO) 26.59 163 P P 16 53 25.4 -1.5
comp=Z,48nm,0.6s,baz=322,slow=7.2,SNR=27
NWAO LR LR 17 02 56.3
comp=Z,32µm,21.9s,baz=322,slow=34
KMBL Kambalda 26.92 153 P P 16 53 28.9 -1.0
baz=27,SNR=46
KMBL Kambalda 26.92 153 P P 16 53 29.0 -0.9
CM31 Chiang Mai Arr 27.42 341 P P 16 53 33.9 -0.6
CM31 Chiang Mai Arr 27.42 341 P P 16 53 34.7 +0.2
SNR=154
CM31 P P 16 53 34.7 +0.2
SNR=154
CM31 S S 16 58 07.5 -0.2
CM31 S S 16 58 07.5 -0.2
CMAR Chiang Mai Arr 27.42 341 *i*P P 16 53 34.5 0.0
CMAR pmax pmax
comp=Z,191nm,0.9s
CMAR Chiang Mai Arr 27.42 341 P P 16 53 34.1 -0.4
comp=Z,157nm,0.9s,baz=177,slow=8.6,SNR=611
CMAR PcP PcP 16 56 52.4 +1.4
comp=Z,173nm,1.0s,baz=198,slow=3.1,SNR=6.5
CMAR ScP ScP 17 00 23.1 +0.5
comp=Z,101nm,0.9s,baz=199,slow=3.6,SNR=18
CMAR LR LR 17 04 34.1
comp=Z,14µm,20.5s,baz=165,slow=36
CMAR P3KPbc 17 26 06.3
comp=Z,1.6nm,0.9s,baz=325,slow=5.0,SNR=8.1
comp=Z,157nm,0.9s
H01W3 Cape Leeuwin H 27.72 169 P P 16 53 38.1 +1.5
baz=1.0,slow=7.3,SNR=11
H01W3 T T 17 23 37.8
baz=344,slow=74,SNR=14
H01W1 Cape Leeuwin H 27.73 169 P P 16 53 39.1 +2.3
baz=1.0,slow=7.3,SNR=19
H01W1 T T 17 23 47.7
baz=344,slow=74,SNR=15
H01W2 Cape Leeuwin H 27.73 169 P P 16 53 38.8 +2.0
baz=1.0,slow=7.3,SNR=17
H01W2 T T 17 23 47.0
baz=344,slow=74,SNR=32
CHTO Chiang Mai 27.75 341 P P 16 53 37.4 0.0
CHTO Chiang Mai 27.75 341 P P 16 53 37.9 +0.5
CHTO Chiang Mai 27.75 341 P P 16 53 37.7 +0.3
CHTO P P 16 53 37.7 +0.3
CHTO S S 16 58 13.0 +0.1
CHTO S S 16 58 13.0 +0.1
CHTO Chiang Mai 27.75 341 ⇑P P 16 53 37.4 0.0
CHTO Chiang Mai 27.75 341 P P 16 53 37.4 0.0
CHTO pmax pmax
comp=Z,411nm,1.0s
SZP Santa 27.81 26 P P 16 53 40.1 +2.2
SZP Santa 27.81 26 ⇑P P 16 53 39.9 +2.0
RKGY Rocky Gully 28.10 164 P P 16 53 40.9 +0.6
baz=28,SNR=16
WB0 Warramunga Arr 28.21 118 P P 16 53 41.4 -0.1
WB0 IAmb IAmb 16 54 30.3
comp=Z,2µm,0.9s
WRA Warramunga Arr 28.23 118 P P 16 53 42.0 +0.3
WRA Warramunga Arr 28.23 118 P P 16 53 42.0 +0.3
WRA pmax pmax
comp=Z,704nm,1.5s
WRA Warramunga Arr 28.23 118 P P 16 53 40.6 -1.1
comp=Z,309nm,1.1s,baz=296,slow=11,SNR=273
WRA P3KPbc 17 26 02.9
comp=Z,8.9nm,0.8s,baz=106,slow=4.2,SNR=34
WRA P3KP 17 27 05.0
comp=Z,9.8nm,1.1s,baz=51,slow=2.2,SNR=5.8
comp=Z,309nm,1.1s
WRAB Tennant Creek 28.23 118 P P 16 53 41.6 -0.2
WRAB Tennant Creek 28.23 118 P P 16 53 41.6 -0.2
WRAB pmax pmax
comp=Z,9µm,1.8s
WB2 Warramunga Arr 28.24 118 P P 16 53 42.0 +0.2
WR0 Warramunga Arr 28.41 118 P P 16 53 42.5 -0.9
CRAI Chiangrai 28.68 345 P P 16 53 45.7 0.0
AUALB St Joseph's Co 28.72 163 P P 16 53 46.2 +0.4
SLVN Son La 29.05 352 P P 16 53 49.6 +0.7
AS31 Alice Springs 29.45 126 P P 16 53 51.8 -0.8
ASAR Alice Springs 29.45 126 P P 16 53 52.3 -0.3
ASAR Alice Springs 29.45 126 P P 16 53 52.3 -0.3
ASAR Alice Springs 29.45 126 P P 16 53 52.0 -0.6
comp=Z,53nm,0.4s,baz=300,slow=8.4,SNR=690
ASAR PcP PcP 16 56 57.3 +1.2
comp=Z,43nm,1.0s,baz=304,slow=1.9,SNR=1.8
ASAR LR LR 17 05 52.0
comp=Z,17µm,21.9s,baz=292,slow=36
ASAR P3KPbc 17 25 57.1
comp=Z,14nm,1.2s,baz=122,slow=3.9,SNR=19
ASAR P3KP 17 27 02.8
comp=Z,6.9nm,0.9s,baz=74,slow=2.6,SNR=5.6
comp=Z,53nm,0.4s
FORT Forrest 29.68 144 P P 16 53 54.0 -0.4
baz=30,SNR=33
FORT Forrest 29.68 144 P P 16 53 53.6 -0.8
FORT IAmb IAmb 16 54 54.7
comp=Z,1µm,0.8s
FORT Forrest 29.68 144 P P 16 53 54.4 0.0
FORT Forrest 29.68 144 ⇑P P 16 53 53.3 -1.1
MCO Taipa Grande 30.02 10 P P 16 54 00.0 +2.6
HKPS Hong Kong Po S 30.27 11 P P 16 54 01.4 +1.7
HKC Hong Kong Obse 30.30 11 ⇑P P 16 54 02.0 +2.1
GZH Guangzhou 30.92 9 P P 16 54 12.1 +6.7
GZH S S 16 59 14.8 +12
GZH pmax pmax
comp=Z,210nm,1.9s
GZH LR LR
comp=Z,10µm,10.7s
GZH LR LR
comp=Z,8µm,12.3s
PALK Pallekele 31.06 298 P P 16 54 04.9 -2.0
PALK IAmb IAmb 16 54 13.1
comp=Z,2µm,1.3s
PALK Pallekele 31.06 298 P P 16 54 10.1 +3.3
PALK P P 16 54 10.1 +3.3
PALK S S 16 59 08.2 +3.2
PALK S S 16 59 08.2 +3.2
PALK Pallekele 31.06 298 ⇑P P 16 54 10.0 +3.2
PALK Pallekele 31.06 298*c* *i*P P 16 54 09.5 +2.7
PALK pmax pmax
comp=Z,1µm,1.2s
PALK MLR MLR
comp=Z,7µm,12.0s
PALK Pallekele 31.06 298 P P 16 54 10.3 +3.5
PALK pP pP 16 54 29.9 +0.2
PALK sP sP 16 54 40.9 -0.7
PALK ScP ScP 17 00 34.1 -0.3
MND Mandalay 31.69 338 P P 16 54 11.9 -0.3
MALK Mahakanadarawa 31.73 300 P P 16 54 11.4 -1.3
MALK Mahakanadarawa 31.73 300 ⇑P P 16 54 15.6 +2.9
GENI Genyem 32.31 83 P P 16 54 17.6 -0.2
GENI Genyem 32.31 83 ⇑P P 16 54 16.8 -1.0
GULI GuiLin 32.77 4 ⇑P P 16 54 25.6 +4.1
GULI pP sP 16 54 51.6 -4.5
GULI sP pP 16 55 01.9 +17
GULI PcP PcP 16 57 08.3 +3.5
GULI S S 16 59 37.3 +6.2
GULI ScS ScS 17 04 41.4 +1.5
GULI pmax pmax
comp=Z,260nm,1.6s
GULI pmax pmax
comp=Z,10µm,5.8s
GULI LR LR
comp=Z,6µm,18.4s
GULI LR LR
comp=Z,12µm,16.3s
GULI LR LR
comp=Z,21µm,14.1s
TWG Pinlang 32.79 22 P P 16 54 22.2 +0.4
TWGBT Beinan 32.79 22 P P 16 54 24.0 +2.2
JAY Jayapura 32.85 83 P P 16 54 21.1 -1.5
JAY pmax pmax
comp=Z,617nm,1.0s
OOD Oodnadatta 32.93 131 P P 16 54 23.0 0.0
KMI Kunming 32.94 351 ⇑P P 16 54 25.8 +2.5
KMI pP pP 16 54 44.4 -1.9
KMI PP PP 16 55 41.8 +2.0
KMI PcP PcP 16 57 05.5 0.0
KMI S S 16 59 39.0 +4.7
KMI ScP ScP 17 00 41.5 +0.8
KMI PcS PcS 17 00 53.3 +1.9
KMI ScS ScS 17 04 41.3 0.0
KMI pmax pmax
comp=Z,680nm,1.1s
KMI pmax pmax
comp=Z,7µm,9.4s
KMI LR LR
comp=Z,36µm,14.6s
KMI LR LR
comp=Z,21µm,12.6s
KMI LR LR
comp=Z,43µm,15.8s
KMI Kunming 32.94 351 P P 16 54 26.2 +2.9
KMI pP pP 16 54 47.2 +0.9
KMI sP sP 16 54 56.8 -1.3
KMI ScP ScP 17 00 42.2 +1.5
TABU Tabubil 32.99 88 P P 16 54 23.0 -0.8
TPUB Ta-pu 33.06 21 P P 16 54 23.1 -1.1
TPUB IAmb IAmb 16 54 33.8
comp=Z,808nm,0.9s
TPUB Ta-pu 33.06 21 P P 16 54 26.6 +2.4
QIS Mount Isa 33.08 116 P P 16 54 24.6 +0.2
baz=33,SNR=280
QIS Mount Isa 33.08 116 P P 16 54 25.0 +0.5
MULG Mulgathing 33.18 136 P P 16 54 25.2 0.0
SAIH SAIHA 33.37 334 *eP* P 16 54 26.8 -0.1
SAIH IAmb IAmb 16 54 31.5
comp=Z,624nm,0.8s
YULB Yu-li 33.39 22 P P 16 54 23.8 -3.3
YULB IAmb IAmb 16 54 32.8
comp=Z,626nm,0.9s
YULB Yu-li 33.39 22 P P 16 54 28.5 +1.4
SSLB Suanglung 33.62 22 P P 16 54 25.6 -3.5
SSLB IAmb IAmb 16 54 32.5
comp=Z,1µm,0.9s
SSLB Suanglung 33.62 22 P P 16 54 31.2 +2.1
TNCH TengChong 33.75 344 ⇑P P 16 54 31.8 +1.5
TNCH pP pP 16 54 53.4 +0.1
TNCH sP sP 16 55 05.8 +0.8
TNCH PP PP 16 55 51.8 +3.1
TNCH PcP PcP 16 57 09.3 +1.5
TNCH S S 16 59 48.8 +2.1
TNCH ScP ScP 17 00 43.5 0.0
TNCH ScS ScS 17 04 40.6 -4.9
TNCH pmax pmax
comp=Z,670nm,1.7s
TNCH pmax pmax
comp=Z,5µm,4.3s
TNCH LR LR
comp=Z,16µm,14.9s
TNCH LR LR
comp=Z,20µm,12.0s
TNCH LR LR
comp=Z,29µm,17.7s
GYA Guiyang 33.88 358 ⇑*iP* P 16 54 32.8 +1.4
GYA pP pP 16 54 54.0 -0.4
GYA sP sP 16 55 03.6 -2.5
GYA PP PP 16 55 52.1 +2.0
GYA PcP PcP 16 57 09.9 +1.9
GYA S S 16 59 51.0 +2.3
GYA sS sS 17 00 34.0 +5.8
GYA ScP ScP 17 00 45.6 +1.8
GYA PcS PcS 17 00 55.3 +0.9
GYA ScS ScS 17 04 44.4 -1.6
GYA pmax pmax
comp=Z,620nm,1.0s
GYA pmax pmax
comp=Z,10µm,5.6s
GYA LR LR
comp=Z,15µm,16.8s
GYA LR LR
comp=Z,20µm,15.9s
GYA LR LR
comp=Z,21µm,20.9s
QZH Quanzhou 33.92 17 ⇑*iP* P 16 54 32.9 +1.3
QZH sP sP 16 55 06.1 -0.1
QZH PcP PcP 16 57 09.5 +1.5
QZH S S 16 59 51.3 +2.3
QZH sS sS 17 00 31.1 +2.5
QZH ScP ScP 17 00 44.1 +0.3
QZH ScS ScS 17 04 44.3 -1.6
QZH pmax pmax
comp=Z,230nm,1.4s
QZH pmax pmax
comp=Z,12µm,7.3s
QZH LR LR
comp=Z,7µm,13.4s
QZH LR LR
comp=Z,12µm,14.1s
QZH LR LR
comp=Z,14µm,14.8s
NACB Ninganchiao 34.21 22 P P 16 54 34.9 +0.8
NACB Ninganchiao 34.21 22 P P 16 54 35.0 +0.8
PZH PanZhiHua 34.45 350 P P 16 54 37.4 +1.0
PZH sP sP 16 55 09.3 -1.9
PZH PP PP 16 55 59.3 +2.9
PZH PcP PcP 16 57 10.9 +1.2
PZH S S 16 59 58.6 +1.1
PZH sS sS 17 00 38.5 +1.3
PZH ScP ScP 17 00 47.6 +1.7
PZH PcS PcS 17 00 55.3 -1.1
PZH ScS ScS 17 04 45.9 -3.1
PZH pmax pmax
comp=Z,430nm,0.9s
PZH pmax pmax
comp=Z,6µm,5.8s
PZH LR LR
comp=Z,17µm,15.1s
PZH LR LR
comp=Z,13µm,14.3s
PZH LR LR
comp=Z,24µm,18.1s
MDRS Chennai 34.46 306 *eP* P 16 54 37.4 +1.0
MDRS IAmb IAmb 16 54 40.5
comp=Z,991nm,1.2s
YHNB Yeheng 34.58 22 P P 16 54 38.0 +0.5
YHNB IAmb IAmb 16 54 44.2
comp=Z,515nm,0.9s
YHNB Yeheng 34.58 22 P P 16 54 39.0 +1.6
TATO Taipei 34.90 22 P P 16 54 40.8 +0.7
TATO IAmb IAmb 16 54 42.0
comp=Z,874nm,1.0s
TATO Taipei 34.90 22 P P 16 54 41.5 +1.4
TATO Taipei 34.90 22 P P 16 54 41.0 +0.9
TATO P P 16 54 41.0 +0.9
TATO S S 16 57 00.5 +2.0
TATO S S 17 00 05.2 +1.0
TATO Taipei 34.90 22 P P 16 54 41.4 +1.3
TATO pP pP 16 55 02.0 -1.4
TATO PcP PcP 16 57 11.9 +1.1
TATO ScP ScP 17 00 47.6 +0.3
TRD Trivandrum 34.92 297 *eP* P 16 54 44.5 +4.1
TRD IAmb IAmb 16 54 45.9
comp=Z,3µm,1.1s
YOJ Yonaguni jima 35.03 24 P P 16 54 42.6 +1.5
YOJ Yonaguni jima 35.03 24 P P 16 54 42.7 +1.6
YOJ Yonaguni jima 35.03 24 ⇑P P 16 54 42.3 +1.2
YOJ Yonaguni jima 35.03 24 P P 16 54 42.6 +1.5
YOJ pmax pmax
comp=Z,4µm,1.4s
IMP Imphal 35.06 337 *eP* P 16 54 40.6 -0.9
IMP IAmb IAmb 16 54 43.9
comp=Z,268nm,1.0s
IMP *eS* S 17 00 02.2 -4.6
VIS Vishakhapatnam 35.10 316 *eP* P 16 54 41.5 -0.3
VIS IAmb IAmb 16 54 44.9
comp=Z,2µm,1.5s
KOD Kodaikanal 35.27 300 *eP* P 16 54 46.1 +2.3
H08S2 Diego Garcia H 35.29 268 P P 16 54 46.3 +3.0
baz=61,slow=9.8,SNR=128
H08S3 Diego Garcia H 35.30 268 P P 16 54 45.9 +2.5
baz=61,slow=9.8,SNR=124
H08S1 Diego Carcia H 35.31 268 P P 16 54 46.3 +2.8
baz=61,slow=9.8,SNR=141
I52GB DIEGO GARCIA I 35.31 268 I I 20 20 30.0
baz=96,slow=314,SNR=1.3
DGAR Diego Garcia 35.34 268 P P 16 54 46.1 +2.1
DGAR Diego Garcia 35.34 268 P P 16 54 46.5 +2.5
DGAR P P 16 54 46.5 +2.5
DGAR S S 17 00 16.2 +4.9
DGAR S S 17 00 16.2 +4.9
DGAR Diego Garcia 35.34 268 ⇓P P 16 54 46.5 +2.5
DGAR Diego Garcia 35.34 268*d* *i*P P 16 54 45.5 +1.5
DGAR pmax pmax
comp=Z,1µm,1.0s
DGAR MLR MLR
comp=Z,5µm,9.0s
DGAR Diego Garcia 35.34 268 P P 16 54 46.7 +2.6
DGAR ScP ScP 17 00 49.5 +0.3
SALM Salem 35.36 302 ⇑*eP* P 16 54 46.7 +2.6
SILR SILCHAR 35.47 336 *eP* P 16 54 45.8 +0.9
KOHI KOHIMA 35.80 338 *eP* P 16 54 47.1 -0.9
KOHI IAmb IAmb 16 54 48.5
comp=Z,1µm,1.3s
KOHI *eS* S 17 00 14.7 -3.6
CNSH ChangSha 35.87 7 ⇑P P 16 54 50.4 +2.1
CNSH S S 17 00 22.1 +3.1
CNSH pmax pmax
comp=Z,280nm,1.3s
CNSH LR LR
comp=Z,16µm,14.4s
CNSH LR LR
comp=Z,9µm,13.4s
CNSH LR LR
comp=Z,13µm,14.8s
BBOO Buckleboo 36.08 138 P P 16 54 49.2 -0.9
baz=36,SNR=151
BBOO Buckleboo 36.08 138 P P 16 54 49.3 -0.8
BBOO IAmb IAmb 16 55 16.1
comp=Z,2µm,1.6s
BBOO Buckleboo 36.08 138 P P 16 54 49.5 -0.6
MOKO MOKOCHONG 36.21 339 *eP* P 16 54 50.9 -0.5
MOKO IAmb IAmb 16 54 54.0
comp=Z,995nm,0.9s
MOKO *eS* S 17 00 21.4 -3.0
LCRK Leigh Creek 36.22 133 P P 16 54 51.5 +0.2
VJD Vijayawada 36.22 312 *eP* P 16 54 52.5 +1.1
SHL Shillong 36.55 335 P P 16 54 53.6 -0.8
SHL IAmb IAmb 16 54 57.0
comp=Z,484nm,1.0s
SHL Shillong 36.55 335 P P 16 54 53.9 -0.4
SNR=327
SHL Shillong 36.55 335 P P 16 54 53.6 -0.8
SHL pmax pmax
comp=Z,484nm,1.0s
SHL Shillong 36.55 335 *eP* P 16 54 53.5 -0.8
SHL IAmb IAmb 16 54 56.8
comp=Z,573nm,1.2s

MTSU Mount Surprise 36.75 110 P **P** **16 54 56.8 +0.7**
baz=37,SNR=646
INKA Innaminka 36.80 127 P **P** **16 54 57.6 +1.3**
TEZP TEZPUR 37.11 337 *e*P **P** **16 54 58.0 -0.9**
TEZP *e*S **S** **17 00 33.0 -4.9**
GUWA GUWAHATI 37.18 335 *e*P **P** **16 54 58.8 -0.7**
ITAN ITANAGAR 37.24 339 *e*P **P** **16 55 00.3 +0.3**
ITAN IAmb IAmb 16 55 11.9
comp=Z,856nm,0.8s
ITAN *e*S **S** **17 00 37.2 -2.6**
ENH Enshi 37.68 2 P **P** **16 55 04.0 +0.3**
ENH Enshi 37.68 2 P **P** **16 55 04.8 +1.1**
ENH Enshi 37.68 2 P **P** **16 55 04.7 +1.0**
ENH PcP **PcP** **16 57 20.9 +1.8**
JHSG JHARSUGUGA 37.69 321 *e*P **P** **16 55 04.8 +0.9**
BOK Bokaro 38.01 326 *e*P **P** **16 55 06.1 -0.5**
BOK IAmb IAmb 16 55 10.8
comp=Z,210nm,0.7s
HYB Hyderabad 38.35 311 *e*P **P** **16 55 09.1 -0.4**
HYB IVmB_BB 16 55 10.1
comp=Z,7μm,3.5s
HYB *e*sP **sP** **16 55 42.0 -2.8**
HYB *e*PcP **PcP** **16 57 22.4 +0.9**
HYB *e*S **S** **17 00 58.5 +1.6**
HYB *e*PcS **PcS** **17 01 11.5 +0.5**
HYB IVMs_BB IVMs_BB 17 07 24.0
comp=Z,4μm,44.4s
TAWA Tawang 38.35 336 *e*P **P** **16 55 10.2 +0.4**
TAWA *e*S **S** **17 00 53.7 -3.6**
HTT Hallett 38.38 136 P **P** **16 55 09.6 0.0**
baz=38,SNR=192
HTT Hallett 38.38 136 P **P** **16 55 09.9 +0.3**
HTT Hallett 38.38 136 ⇑P **P** **16 55 08.6 -1.1**
HTT Hallett 38.38 136 P **P** **16 55 08.4 -1.2**
WHN Wuhan 38.39 9 ⇑P **P** **16 55 11.5 +1.9**
WHN pP **pP** **16 55 36.1 +3.2**
WHN sP **sP** **16 55 47.8 +3.3**
WHN PcP **PcP** **16 57 23.1 +1.8**
WHN S **S** **17 01 00.9 +3.7**
WHN PcS **PcS** **17 01 12.8 +2.2**
WHN sS **sS** **17 01 40.5 +3.3**
WHN ScS **ScS** **17 05 09.6 -0.9**
WHN pmax pmax
comp=Z,810nm,1.3s
WHN pmax pmax
comp=Z,11μm,7.0s
WHN LR LR
comp=Z,14μm,14.8s
WHN LR LR
comp=Z,20μm,15.4s
WHN LR LR
comp=Z,19μm,15.9s
CD2 Chengdu 38.51 354⇑ *i*P **P** **16 55 11.1 +0.4**
CD2 sP sP 16 55 43.6 -2.0
CD2 PP **PP** **16 56 45.3 +4.4**
CD2 S **S** **17 00 58.4 -0.7**
CD2 pmax pmax
comp=Z,780nm,1.1s
CD2 pmax pmax
comp=Z,7μm,7.6s
CD2 LR LR
comp=Z,13μm,9.0s
CD2 LR LR
comp=Z,12μm,10.2s
CD2 LR LR
comp=Z,21μm,16.9s
PMG Port Moresby 38.66 96 P **P** **16 55 12.1 0.0**
PMG IAmb IAmb 16 55 19.1
comp=Z,1μm,1.1s
PMG Port Moresby 38.66 96 P **P** **16 55 13.3 +1.1**
PMG Port Moresby 38.66 96 P **P** **16 55 13.2 +1.1**
PMG Port Moresby 38.66 96 ⇑P **P** **16 55 12.0 -0.1**
PMG Port Moresby 38.66 96*ce*P **P** **16 55 11.7 -0.4**
PMG pmax pmax
comp=Z,930nm,1.0s
PMG MLR MLR
comp=Z,10μm,12.0s
PMG Port Moresby 38.66 96 P **P** **16 55 12.1 -0.1**
comp=Z,463nm,0.9s,baz=292,slow=5.2,SNR=205
PMG ScP **ScP** **17 01 00.7 -0.9**
comp=Z,284nm,1.1s,baz=270,slow=4.0,SNR=5.3
PMG LR LR 17 14 05.3
comp=Z,8μm,18.7s,baz=288,slow=40
comp=Z,463nm,0.9s
PMG Port Moresby 38.66 96 P **P** **16 55 12.4 +0.3**
PMG sP **sP** **16 55 45.0 -1.9**
MNGI Mangalore 38.85 301 *e*P **P** **16 55 14.8 +1.1**
CTA Charters Tower 38.96 113 P **P** **16 55 15.9 +1.2**
CTA pmax pmax
comp=Z,1μm,1.1s
CTA Charters Tower 38.96 113 LR LR 17 11 38.4
comp=Z,12μm,21.6s,baz=274,slow=36
CTAO Charters Tower 38.96 113 P **P** **16 55 15.0 +0.3**
CTAO IAmb IAmb 16 55 42.3
comp=Z,1μm,1.1s
CTAO Charters Tower 38.96 113 P **P** **16 55 16.2 +1.5**
CTAO Charters Tower 38.96 113 ⇓P **P** **16 55 15.5 +0.9**
CTAO Charters Tower 38.96 113 P **P** **16 55 15.0 +0.3**
CTAO pmax pmax
comp=Z,1μm,1.1s
CTAO Charters Tower 38.96 113 P **P** **16 55 15.9 +1.2**
CTAO pP **pP** **16 55 38.2 +0.4**
CTAO sP **sP** **16 55 49.4 +0.1**
QLP Quilpie 39.16 123 P **P** **16 55 17.1 +0.9**
baz=39,SNR=140
QLP Quilpie 39.16 123 P **P** **16 55 17.4 +1.2**
QLP Quilpie 39.16 123 ⇓P **P** **16 55 17.1 +0.9**
JOW Kunigami 39.42 29 P **P** **16 55 20.0 +1.7**
JOW Kunigami 39.42 29 P **P** **16 55 20.1 +1.8**
JOW Kunigami 39.42 29 P **P** **16 55 19.8 +1.5**
JOW Kunigami 39.42 29 ⇑P **P** **16 55 19.8 +1.5**
JOW Kunigami 39.42 29 PcP **PcP** **16 57 26.6 +1.9**
comp=Z,494nm,1.0s,baz=228,slow=3.4,SNR=8.1
JOW ScP **ScP** **17 01 04.3 0.0**
comp=Z,217nm,1.2s,baz=229,slow=5.3,SNR=10
JOW LR LR 17 13 33.0
comp=Z,7μm,19.6s,baz=214,slow=39
STKA Stephens Creek 39.43 132 P **P** **16 55 18.6 +0.1**
baz=40,SNR=1000
STKA Stephens Creek 39.43 132 P **P** **16 55 18.5 +0.1**
STKA Stephens Creek 39.43 132 P **P** **16 55 18.7 +0.3**
STKA Stephens Creek 39.43 132 *i*P **P** **16 55 18.4 0.0**
STKA Stephens Creek 39.43 132 P **P** **16 55 18.6 +0.3**
comp=Z,616nm,0.5s,baz=309,slow=7.9,SNR=941
STKA S **S** **17 01 10.4 -2.6**
comp=Z,82nm,1.0s,baz=206,slow=22,SNR=3.7
STKA LR LR 17 13 54.6
comp=Z,12μm,18.3s,baz=290,slow=39
STKA PKKP **PKKPdf** **17 19 19.5 -2.8**
comp=Z,3.2nm,0.9s,baz=45,slow=7.1,SNR=2.8
STKA P3KP 17 26 39.1
comp=Z,3.8nm,1.1s,baz=77,slow=9.0,SNR=2.9
comp=Z,616nm,0.5s
MANU Manus Island 39.49 84 P **P** **16 55 20.1 +0.9**
MANU IAmb IAmb 16 55 20.9
comp=Z,780nm,1.0s
MANU Manus Island 39.49 84 P **P** **16 55 20.5 +1.4**
MANU Manus Island 39.49 84 ⇑P **P** **16 55 20.1 +0.9**
GTK Tadong 39.52 332 *e*P **P** **16 55 19.0 -0.3**
GTK IAmb IAmb 16 55 23.5
comp=Z,237nm,1.2s
ODAN Odare 39.71 330 *e*P **P** **16 55 19.4 -1.6**
AUAYR Ayr State High 39.91 111 P **P** **16 55 23.9 +1.4**
TAPN Taplejung 39.96 331 *e*P **P** **16 55 22.7 -0.4**
comp=Z,1μm,1.0s
JMZ Minamidaito 2 40.11 33 P **P** **16 55 24.8 +0.8**
JMZ Minamidaito 2 40.11 33 P **P** **16 55 25.7 +1.7**
JMZ Minamidaito 2 40.11 33 P **P** **16 55 24.1 +0.1**
JMZ Minamidaito 2 40.11 33 ⇓P **P** **16 55 25.1 +1.2**
RAMN Ramite 40.17 330 *e*P **P** **16 55 23.9 -0.9**
SSE Sheshan 40.46 17 P **P** **16 55 28.9 +2.0**
SSE S **S** **17 01 30.6 +2.5**
SSE pmax pmax
comp=Z,340nm,1.1s
SSE pmax pmax
comp=Z,6μm,5.4s
SSE LR LR
comp=Z,3μm,16.2s
SSE LR LR
comp=Z,3μm,15.2s
SSE Sheshan 40.46 17 P **P** **16 55 28.8 +2.0**
SSE PcP **PcP** **16 57 29.1 +1.3**
SSE ScP **ScP** **17 01 08.4 +0.2**
LSA Lhasa 40.51 337 IAmb IAmb 16 55 31.6
comp=Z,1μm,1.6s
LSA Lhasa 40.51 337 P **P** **16 55 27.9 +0.1**
LSA Lhasa 40.51 337 P **P** **16 55 28.3 +0.5**
LSA ScP **ScP** **17 01 10.1 +1.1**
NJ2 Nanjing 40.74 14⇑ *i*P **P** **16 55 31.1 +2.0**
NJ2 pP **pP** **16 55 52.3 -0.4**
NJ2 sP **sP** **16 56 06.5 +2.2**
NJ2 PP **PP** **16 57 08.9 +3.8**
NJ2 PcP **PcP** **16 57 29.8 +1.1**
NJ2 ScP **ScP** **17 01 09.5 +0.2**
NJ2 PcS **PcS** **17 01 23.1 +3.5**
NJ2 S **S** **17 01 34.5 +2.3**
NJ2 sS **sS** **17 02 17.8 +5.2**
NJ2 pmax pmax
comp=Z,870nm,1.0s
NJ2 pmax pmax
comp=Z,7μm,4.8s
NJ2 LR LR
comp=Z,8μm,17.1s
NJ2 LR LR
comp=Z,11μm,12.6s
NJ2 LR LR
comp=Z,13μm,21.1s
AIS Amsterdam Isla 40.84 218 P **P** **16 55 30.4 +0.5**
AIS IAmb IAmb 16 55 33.6
comp=Z,1μm,1.4s
AIS Amsterdam Isla 40.84 218 ⇑P **P** **16 55 32.5 +2.6**
AIS Amsterdam Isla 40.84 218 P **P** **16 55 32.1 +2.2**
EVN Everest 40.90 331 ⇑P **P** **16 55 30.6 -0.6**
JIRN Jiri 40.96 330 *e*P **P** **16 55 30.7 -0.8**
GOA Goa 40.98 304 *e*P **P** **16 55 32.9 +1.6**
GOA IAmb IAmb 16 55 35.5
comp=Z,2μm,1.2s
PKI Pulchoki 41.29 329 *e*P **P** **16 55 32.8 -1.3**
PKIN Phulchoki 41.30 329 *e*P **P** **16 55 32.8 -1.3**
GUN Gumba 41.33 330 *e*P **P** **16 55 33.7 -0.7**
JAM Amami Oshima 41.38 29 P **P** **16 55 35.8 +1.3**
XAN Xi'an 41.42 1 ⇑P **P** **16 55 35.1 +0.4**
XAN sP sP 16 56 11.9 +2.2
XAN PP **PP** **16 57 17.3 +4.9**
XAN PcP **PcP** **16 57 32.6 +1.6**
XAN S **S** **17 01 42.5 +0.2**
XAN sS sS 17 02 26.4 +3.6
XAN SS **SS** **17 04 52.4 +1.9**
XAN pmax pmax
comp=Z,810nm,1.1s
XAN pmax pmax
comp=Z,14μm,5.8s
XAN LR LR
comp=Z,18μm,13.7s
XAN LR LR
comp=Z,14μm,13.4s
XAN LR LR
comp=Z,31μm,15.1s
XAN Xi'an 41.42 1 P **P** **16 55 35.5 +0.8**
XAN PcP **PcP** **16 57 31.9 +0.9**
DMN Daman 41.47 328 *e*P **P** **16 55 34.5 -1.0**
AKL Akola 41.53 313 *e*P **P** **16 55 35.2 -0.5**
KKN Kakani 41.53 329 *e*P **P** **16 55 34.2 -1.7**
comp=Z,1μm,1.6s
KAD Karad 41.67 307⇑ *e*P **P** **16 55 37.2 +0.2**
GKN Gorkha 42.04 328 *e*P **P** **16 55 38.8 -1.2**
LYN LuoYang 42.12 5⇑ *i*P **P** **16 55 41.8 +1.4**
LYN pP pP 16 56 06.6 +2.7
LYN sP sP 16 56 20.3 +4.9
LYN PP **PP** **16 57 25.4 +5.5**
LYN PcP **PcP** **16 57 35.0 +1.8**
LYN ScP **ScP** **17 01 16.3 +1.6**
LYN S **S** **17 01 53.5 +0.9**
LYN sS sS 17 02 39.9 +6.8
LYN SS **SS** **17 05 02.8 -1.5**
LYN ScS **ScS** **17 05 29.3 -3.3**
LYN pmax pmax
comp=Z,1μm,1.5s
LYN pmax pmax
comp=Z,17μm,10.8s
GUMO Guam 42.14 60 P **P** **16 55 39.5 -1.2**
GUMO IAmb IAmb 16 55 42.1
comp=Z,2μm,0.9s
GUMO Guam 42.14 60 P **P** **16 55 40.4 -0.4**
GUMO Guam 42.14 60 ⇑P **P** **16 55 39.4 -1.5**
GUMO Guam 42.14 60 P **P** **16 55 40.0 -0.8**
comp=Z,844nm,0.6s,baz=196,slow=9.8,SNR=41
GUMO LR LR 17 13 30.5
comp=Z,4μm,21.4s,baz=244,slow=36
comp=Z,844nm,0.6s
GUMO Guam 42.14 60 P **P** **16 55 39.6 -1.2**
GUMO PcP **PcP** **16 57 33.9 +0.2**
ARPS Mount Arapiles 42.25 138 P **P** **16 55 41.9 +0.5**
baz=42,SNR=163
CMSA Cobar Meteorol 42.34 129 P **P** **16 55 43.1 +0.8**
baz=42,SNR=236
CMSA Cobar Meteorol 42.34 129 P **P** **16 55 43.4 +1.1**
KOLN Koldanda 42.40 327 *e*P **P** **16 55 41.3 -1.7**
POO Poona 42.61 308 *e*P **P** **16 55 45.2 +0.5**
POO IAmb IAmb 16 55 48.8
comp=Z,504nm,0.7s
DANN Dangsing 42.77 328 *e*P **P** **16 55 45.0 -1.1**
comp=Z,1μm,0.7s
KAVG Kavieng 42.81 86 P **P** **16 55 48.3 +2.0**
BHPL Bhopal 42.89 316 *e*P **P** **16 55 46.1 -0.7**
BHPL IAmb IAmb 16 55 48.7
comp=Z,896nm,1.1s
BHPL *e*S **S** **17 02 04.7 +0.3**
RMQ Roma 42.92 121 P **P** **16 55 48.9 +1.8**
baz=43,SNR=9.2
PYUN Piuthan 42.99 327 *e*P **P** **16 55 46.8 -1.0**
AULRC Lightning Ridg 43.29 125 P **P** **16 55 51.3 +1.3**
AUHPC Hawkesdale P12 43.33 140 P **P** **16 55 53.1 +2.9**
LZH Lanzhou 43.64 355⇑ *i*P **P** **16 55 54.1 +1.3**
LZH pP pP 16 56 15.4 -1.2
LZH sP sP 16 56 29.5 +1.4
LZH PcP **PcP** **16 57 40.3 +1.8**
LZH ScP **ScP** **17 01 22.8 +1.8**
LZH PcS **PcS** **17 01 33.5 +2.0**
LZH S **S** **17 02 16.0 +0.9**
LZH sS sS 17 02 57.3 +1.5
LZH ScS **ScS** **17 05 40.1 -2.2**
LZH pmax pmax
comp=Z,780nm,1.7s
LZH pmax pmax
comp=Z,9μm,8.9s
LZH LR LR
comp=Z,16μm,13.2s
LZH LR LR
comp=Z,12μm,17.8s
LZH LR LR
comp=Z,17μm,15.8s
KRVT Keravat (AS076 43.79 88 P **P** **16 55 52.4 -1.8**
comp=Z,276nm,0.6s,baz=319,slow=5.3,SNR=8.5
comp=Z,276nm,0.6s
RABL Rabaul 43.94 88 P **P** **16 55 57.6 +2.1**
JSU Suzuyama 44.37 28 P **P** **16 55 58.6 0.0**
TIA Tai'an 44.39 10 P **P** **16 55 58.6 0.0**
TIA sP **sP** **16 56 31.8 -2.2**
TIA PcP **PP** **16 57 42.8 -1.4**
TIA ScP **ScP** **17 01 24.3 +0.4**
TIA PcS **PcS** **17 01 35.8 +1.5**
TIA S **S** **17 02 26.0 +0.2**
TIA ScS **ScS** **17 05 46.6 -0.2**
TIA pmax pmax
comp=Z,600nm,0.9s
TIA pmax pmax
comp=Z,10μm,10.6s
TIA LR LR
comp=Z,10μm,12.9s
TIA LR LR
comp=Z,12μm,12.9s
TIA LR LR
comp=Z,17μm,12.6s
EIDS Eidsvold 44.59 119 P **P** **16 56 02.0 +1.5**
baz=45,SNR=64
EIDS Eidsvold 44.59 119 P **P** **16 56 01.2 +0.7**
EIDS Eidsvold 44.59 119 P **P** **16 56 01.9 +1.4**
EIDS Eidsvold 44.59 119 ⇑P **P** **16 56 01.4 +0.9**
JFU Fukue jima 2 44.60 25 P **P** **16 56 00.9 +0.6**
AUDCS Dubbo College 44.90 129 P **P** **16 56 04.2 +1.4**
ROCAM Rodrigues Isla 44.97 250 P **P** **16 56 06.4 +2.8**
ROCAM IAmb IAmb 16 56 07.8
comp=Z,3μm,1.2s
ROCAM Rodrigues Isla 44.97 250 ⇓P **P** **16 56 06.0 +2.4**
ROCAM Rodrigues Isla 44.97 250 P **P** **16 56 06.2 +2.6**
ROCAM PcP **PcP** **16 57 41.9 -1.4**
TOO Toolangi 45.12 137 P **P** **16 56 06.5 +2.0**
baz=45,SNR=124
TOO Toolangi 45.12 137 P **P** **16 56 06.3 +1.8**
TOO Toolangi 45.12 137 P **P** **16 56 06.3 +1.8**
TOO Toolangi 45.12 137 ⇑P **P** **16 56 04.9 +0.4**
TOO Toolangi 45.12 137 P **P** **16 56 06.3 +1.8**
TOO pmax pmax
comp=Z,679nm,1.3s
HNS HongShan 45.19 7 ⇑P **P** **16 56 05.4 +0.5**
HNS sP **sP** **16 56 38.5 -1.8**
HNS PcP **PcP** **16 57 45.3 +1.8**
HNS ScP **ScP** **17 01 27.3 +0.2**
HNS S **S** **17 02 37.1 0.0**
HNS ScS **ScS** **17 05 49.9 -1.8**
HNS pmax pmax
comp=Z,370nm,1.3s
HNS pmax pmax
comp=Z,9μm,8.9s
HNS LR LR
comp=Z,15μm,15.6s
HNS LR LR
comp=Z,12μm,14.3s
HNS LR LR
comp=Z,13μm,16.1s
TIY Taiyuan 45.26 5 ⇑P **P** **16 56 06.5 +1.0**
TIY pP **pP** **16 56 27.5 -2.0**
TIY sP **sP** **16 56 39.3 -1.7**
TIY PP **PP** **16 57 59.9 +6.5**
TIY S **S** **17 02 39.8 +1.4**
TIY sS **sS** **17 03 19.6 +0.4**
TIY ScS **ScS** **17 05 51.5 -0.9**
TIY pmax pmax
comp=Z,380nm,0.7s
TIY pmax pmax
comp=Z,9μm,6.7s
TIY LR LR
comp=Z,8μm,15.1s
TIY LR LR
comp=Z,8μm,15.1s
TIY LR LR
comp=Z,9μm,21.3s
GOMU GeErMu 45.32 345 P **P** **16 56 07.0 +0.6**
GOMU PcP **PcP** **16 57 46.0 +1.5**
GOMU S **S** **17 02 36.3 -3.6**
GOMU pmax pmax
comp=Z,190nm,1.6s
GOMU LR LR
comp=Z,6μm,14.9s
GOMU LR LR
comp=Z,7μm,12.6s
GOMU LR LR
comp=Z,8μm,13.9s
LGTI Lohaghat 45.56 325⇑ *e*P **P** **16 56 07.3 -0.6**
PTH Pithoragarh 45.65 325 *e*P **P** **16 56 07.5 -1.4**
JNU Nakatsue 45.92 27 P **P** **16 56 11.0 +0.1**
JNU Nakatsue 45.92 27 P **P** **16 56 11.4 +0.6**
JNU Nakatsue 45.92 27 P **P** **16 56 10.6 -0.2**
JNU Nakatsue 45.92 27 ⇑P **P** **16 56 10.6 -0.2**
JNU Nakatsue 45.92 27 P **P** **16 56 10.7 -0.2**
comp=Z,381nm,1.0s,baz=194,slow=4.7,SNR=105
JNU PcP **PcP** **16 57 47.4 +1.1**
comp=Z,205nm,0.9s,baz=180,slow=1.3,SNR=5.1
JNU ScP **ScP** **17 01 29.2 -1.2**
comp=Z,77nm,1.0s,baz=155,slow=1.9,SNR=8.8
JNU LR LR 17 18 34.5
comp=Z,4μm,18.4s,baz=209,slow=40
comp=Z,381nm,1.0s
AUPHS Peel High Scho 46.24 126 P **P** **16 56 15.2 +1.7**
JTU Tsushima 46.49 24 P **P** **16 56 15.4 +0.3**
JTU IAmb IAmb 16 56 17.3
comp=Z,670nm,1.1s
JTU Tsushima 46.49 24 P **P** **16 56 16.0 +0.8**
JTU Tsushima 46.49 24 P **P** **16 56 15.9 +0.7**
JTU Tsushima 46.49 24 ⇑P **P** **16 56 15.2 +0.1**
CAN Canberra 46.50 132 P **P** **16 56 15.8 +0.4**
CAN IAmb IAmb 16 56 44.2
comp=Z,732nm,1.1s
CAN Canberra 46.50 132 P **P** **16 56 17.0 +1.6**
CAN Canberra 46.50 132 ⇓P **P** **16 56 16.6 +1.2**
CAN Canberra 46.50 132 P **P** **16 56 15.8 +0.4**
CAN pmax pmax
comp=Z,732nm,1.1s
CAN Canberra 46.50 132 P **P** **16 56 16.6 +1.2**
CAN pP **pP** **16 56 41.4 +2.2**
CAN PcP **PcP** **16 57 49.6 +1.2**
CAN ScP **ScP** **17 01 32.2 -0.7**
SONA Sohna 46.55 321⇑ *e*P **P** **16 56 15.4 -0.4**
ARMA Armidale 46.60 125 P **P** **16 56 18.4 +2.0**
baz=47,SNR=95
ARMA Armidale 46.60 125 P **P** **16 56 18.4 +2.0**
ARMA Armidale 46.60 125 P **P** **16 56 18.9 +2.5**
ARMA Armidale 46.60 125 ⇓P **P** **16 56 18.5 +2.1**
AYAN Aya Nagar 46.69 321⇑ *e*P **P** **16 56 16.1 -0.8**
AUSMG Snowy Mountain 46.72 134 P **P** **16 56 19.0 +1.8**
CNB Canberra Magne 46.76 132 P **P** **16 56 18.5 +1.0**
baz=47,SNR=105
CNB Canberra Magne 46.76 132 P **P** **16 56 18.2 +0.7**
NDI New Delhi 46.78 322 *e*P **P** **16 56 16.1 -1.5**
KUDL Kundal 46.85 321 *e*P **P** **16 56 17.1 -1.1**
AJM Ajmer 46.92 317 *e*P **P** **16 56 18.4 -0.4**
MGCD Mangrove Creek 47.21 129 P **P** **16 56 22.5 +1.6**
baz=47,SNR=108
TJN Taejon 47.34 21 P **P** **16 56 22.8 +1.1**
TJN Taejon 47.34 21*ce*P **P** **16 56 22.1 +0.4**
GTA Gaotai 47.40 351⇑ P **P** **16 56 23.6 +1.3**
GTA sP sP 16 56 57.3 -0.6
GTA PcP **PcP** **16 57 53.0 +1.5**
GTA ScP **ScP** **17 01 37.3 +0.8**
GTA PcS **PcS** **17 01 46.0 -1.0**
GTA S **S** **17 03 09.8 +0.8**
GTA sS sS 17 03 52.1 +1.9
GTA ScS **ScS** **17 06 03.6 -2.8**
GTA pmax pmax
comp=Z,580nm,1.4s
GTA pmax pmax
comp=Z,8μm,10.0s
GTA LR LR
comp=Z,15μm,19.1s
GTA LR LR
comp=Z,10μm,18.7s
GTA LR LR
comp=Z,18μm,20.7s
MILA Mila 47.40 134 P **P** **16 56 23.8 +1.4**
baz=48,SNR=7.2
MILA Mila 47.40 134 P **P** **16 56 23.9 +1.4**
MILA Mila 47.40 134 ⇑P **P** **16 56 23.9 +1.5**
DDI Dehra Dun 47.47 324 *e*P **P** **16 56 21.9 -1.0**
DDI IAmb IAmb 16 56 24.3
comp=Z,2μm,1.1s
RIV Riverview 47.49 130 P **P** **16 56 25.0 +2.0**
baz=48,SNR=7.7
RIV Riverview 47.49 130 P **P** **16 56 25.0 +2.0**
RIV Riverview 47.49 130 ⇓P **P** **16 56 24.8 +1.7**
RIV Riverview 47.49 130 P **P** **16 56 25.3 +2.3**
RIV pmax pmax
comp=Z,776nm,1.2s
AUUHS Ulladulla High 47.60 132 P **P** **16 56 25.9 +2.0**
JCJ Chichijima 47.74 42 P **P** **16 56 23.2 -1.9**
JCJ Chichijima 47.74 42 P **P** **16 56 24.3 -0.8**
JCJ Chichijima 47.74 42 ⇑P **P** **16 56 22.9 -2.2**
JCJ Chichijima 47.74 42 P P 16 56 18.6 -6.4
comp=Z,3μm,0.9s,baz=266,slow=8.3,SNR=46
JCJ S S 17 03 03.5 -11
comp=Z,221nm,0.8s,baz=292,slow=20,SNR=2.9
JCJ LR LR 17 18 58.5
comp=Z,4μm,18.7s,baz=219,slow=39
CBIJ Chichi jima 47.74 42 P **P** **16 56 23.2 -1.9**
JMN Monobe 47.83 29 P **P** **16 56 26.1 +0.5**
JMN IAmb IAmb 16 56 27.9
comp=Z,1μm,1.1s
JMN Monobe 47.83 29 P **P** **16 56 26.8 +1.1**
JMN Monobe 47.83 29 ⇑P **P** **16 56 26.0 +0.3**
JMN Monobe 47.83 29 ⇑P **P** **16 56 25.9 +0.2**
DL2 Dalian 47.94 14 P **P** **16 56 26.4 0.0**
DL2 ScP **ScP** **17 01 37.8 -0.8**
DL2 PcS **PcS** **17 01 48.1 -0.8**
DL2 S **S** **17 03 14.3 -2.2**
DL2 ScS **ScS** **17 06 07.4 -2.3**
DL2 pmax pmax
comp=Z,430nm,1.0s
DL2 pmax pmax
comp=Z,7μm,6.5s
BJT Baijiatuao 47.96 8 IAmb IAmb 16 57 56.2
comp=Z,887nm,1.0s
BJT Baijiatuao 47.96 8 P **P** **16 56 27.5 +1.0**

BJT	**Baijiatuau**	**47.96**	**8**	P	**P**	**16 56 27.5 +1.0**			
BJT				PcP	**PcP**	**16 57 54.6 +1.4**			
BJT				ScP	**ScP**	**17 01 39.6 +0.9**			
BJI	**Beijing**	**47.98**	**8**	P	**P**	**16 56 27.5 +0.8**			
BJI				sP	**sP**	**16 56 59.3 -2.9**			
BJI				PcP	**PcP**	**16 57 54.8 +1.5**			
BJI				PP	**PP**	**16 58 23.1 +3.4**			
BJI				ScP	**ScP**	**17 01 39.0 +0.3**			
BJI				S	**S**	**17 03 14.3 -2.7**			
BJI				ScS	**ScS**	**17 06 08.8 -1.1**			
BJI				pmax	pmax				
	comp=Z,320nm,1.0s								
BJI				LR	LR				
	comp=Z,5μm,18.3s								
BJI				LR	LR				
	comp=Z,4μm,15.7s								
BJI				LR	LR				
	comp=Z,9μm,17.7s								
BTO	**Baotou**	**48.00**	**2**	*e*P	**P**	**16 56 29.0 +2.1**			
BTO				pP	**pP**	**16 56 54.3 +3.2**			
BTO				sP	**sP**	**16 57 07.3 +4.8**			
BTO				S	**S**	**17 03 20.3 +2.9**			
BTO				pmax	pmax				
	comp=Z,2μm,1.0s								
BTO				pmax	pmax				
	comp=Z,22μm,4.8s								
BTO				LR	LR				
	comp=Z,20μm,14.5s								
BTO				LR	LR				
	comp=Z,24μm,13.1s								
BTO				LR	LR				
	comp=Z,24μm,20.4s								
INCN	**Inchon**	**48.08**	**20**	P	**P**	**16 56 27.0 -0.5**			
INCN	**Inchon**	**48.08**	**20**	P	**P**	**16 56 28.2 +0.7**			
INCN	**Inchon**	**48.08**	**20**	P	**P**	**16 56 27.3 -0.2**			
INCN				P	**P**	**16 56 27.3 -0.2**			
INCN				S	**S**	**17 03 18.0 -0.5**			
INCN				S	**S**	**17 03 18.0 -0.5**			
INCN	**Inchon**	**48.08**	**20**	⇑P	**P**	**16 56 27.5 0.0**			
INCN	**Inchon**	**48.08**	**20**	P	**P**	**16 56 27.0 -0.5**			
INCN				pmax	pmax				
	comp=Z,507nm,1.1s								
INCN	**Inchon**	**48.08**	**20**	P	**P**	**16 56 27.8 +0.3**			
INCN				PcP	**PcP**	**16 57 55.1 +1.3**			
INCN				ScP	**ScP**	**17 01 39.6 +0.3**			
HJU	**Haeju**	**48.29**	**19**	P	**P**	**16 56 28.4 -0.6**			
HJU				S	**S**	**17 03 22.5 +1.1**			
HJU				AmB					
	comp=Z,4μm,1.5s								
HHC	**Hu-ho-hao-te**	**48.31**	**4**	⇑*i*P	**P**	**16 56 30.6 +1.2**			
HHC				sP	sP	16 57 03.6 -1.4			
HHC				PcP	**PcP**	**16 57 55.8 +1.1**			
HHC				PP	**PP**	**16 58 26.6 +3.7**			
HHC				S	**S**	**17 03 25.1 +3.2**			
HHC				sS	sS	17 04 03.1 -0.1			
HHC				ScS	**ScS**	**17 06 10.9 -1.5**			
HHC				LR	LR				
	comp=Z,18μm,20.1s								
HHC				LR	LR				
	comp=Z,7μm,15.2s								
HHC				LR	LR				
	comp=Z,27μm,14.7s								
KSAR	**Wonju Array Be**	**48.47**	**21**	P	**P**	**16 56 30.9 +0.4**			
KSAR	**Wonju Array Be**	**48.47**	**21**	P	**P**	**16 56 30.9 +0.4**			
KSRS	**Korea Array**	**48.50**	**21**	P	**P**	**16 56 31.1 +0.4**			
	comp=Z,160nm,1.0s,baz=233,slow=6.1,SNR=129								
KSRS				PcP	**PcP**	**16 57 56.5 +1.3**			
	comp=Z,235nm,1.0s,baz=201,slow=3.8,SNR=16								
KSRS				ScP	**ScP**	**17 01 41.2 +0.2**			
	comp=Z,72nm,1.1s,baz=211,slow=3.8,SNR=14								
KSRS				LR	LR	17 19 01.2			
	comp=Z,3μm,21.9s,baz=220,slow=38								
	comp=Z,160nm,1.0s								
JHS	**Saijyo**	**48.51**	**28**	P	**P**	**16 56 31.0 +0.2**			
KS19	**Wonju Array Si**	**48.52**	**21**	P	**P**	**16 56 31.5 +0.6**			
SMLA	**Simla**	**48.58**	**324**	*e*P	**P**	**16 56 30.2 -1.2**			
MOO	**Moorlands**	**48.86**	**142**	P	**P**	**16 56 35.0 +1.5**			
	baz=49,SNR=12								
MOO	**Moorlands**	**48.86**	**142**	P	**P**	**16 56 35.0 +1.5**			
JAD	**Aida**	**48.95**	**29**	P	**P**	**16 56 33.8 -0.4**			
TAU	**Tasmania Unive**	**49.20**	**142**	P	**P**	**16 56 36.0 -0.1**			
TAU				IAmb	IAmb	16 56 43.9			
	comp=Z,621nm,1.4s								
TAU	**Tasmania Unive**	**49.20**	**142**	P	**P**	**16 56 36.4 +0.3**			
TAU	**Tasmania Unive**	**49.20**	**142**	⇓P	**P**	**16 56 36.8 +0.7**			
TAU	**Tasmania Unive**	**49.20**	**142**	P	**P**	**16 56 36.0 -0.1**			
TAU				pmax	pmax				
	comp=Z,621nm,1.4s								
TAU	**Tasmania Unive**	**49.20**	**142**	P	**P**	**16 56 37.3 +1.2**			
TAU				pP	**pP**	**16 57 01.1 +1.1**			
PYAG	**Pyongyang**	**49.22**	**18**	P	**P**	**16 56 35.8 -0.3**			
PYAG				pP	**pP**	**16 57 04.1 +3.7**			
PYAG				S	**S**	**17 03 35.8 +1.3**			
PYAG				AmB					
	comp=Z,4μm,2.3s								
AUTAR	**Taroona High S**	**49.24**	**142**	P	**P**	**16 56 37.3 +0.9**			
JIE	**Ise**	**49.77**	**31**	P	**P**	**16 56 40.0 -0.4**			
JWT	**Wachi**	**49.82**	**29**	P	**P**	**16 56 40.6 -0.2**			
SUJ	**Sinuiju**	**49.82**	**16**	P	**P**	**16 56 40.0 -0.7**			
SUJ				S	**S**	**17 03 44.7 +2.0**			
SUJ				AmB					
	comp=Z,5μm,2.1s								
DHRM	**DHARAMSHALA**	**49.90**	**324**	*e*P	**P**	**16 56 40.2 -1.6**			
DHRM				IAmb	IAmb	16 56 44.1			
	comp=Z,1μm,0.8s								
THN	**Thein Dam**	**50.37**	**324**	*e*P	**P**	**16 56 44.5 -0.5**			
JHJ	**Hachijo jima 2**	**50.47**	**35**	P	**P**	**16 56 43.6 -2.1**			
	comp=Z,1μm,0.9s,baz=191,slow=6.8,SNR=20								
JHJ				LR	LR	17 17 39.0			
	comp=Z,4μm,20.3s,baz=232,slow=35								
	comp=Z,1μm,0.9s								
JHJ2	**Mitsune**	**50.48**	**35**	P	**P**	**16 56 43.9 -2.0**			
JHJ2	**Mitsune**	**50.48**	**35**	P	**P**	**16 56 44.5 -1.3**			
JHJ2	**Mitsune**	**50.48**	**35**	P	**P**	**16 56 44.0 -1.8**			
JHJ2	**Mitsune**	**50.48**	**35**	⇑P	**P**	**16 56 43.9 -2.0**			
HHU	**Hamhung**	**50.58**	**19**	P	**P**	**16 56 45.8 -0.6**			
HHU				S	**S**	**17 03 54.0 +0.7**			
HHU				AmB					
	comp=Z,3μm,1.6s								
JSG	**Sagara**	**50.76**	**32**	P	**P**	**16 56 47.0 -0.9**			
JSG	**Sagara**	**50.76**	**32**	P	**P**	**16 56 49.1 +1.2**			
JSG	**Sagara**	**50.76**	**32**	P	**P**	**16 56 48.4 +0.5**			
JSG	**Sagara**	**50.76**	**32**	⇑P	**P**	**16 56 47.6 -0.3**			
JSG				⇑P	**PcP**	**16 58 06.8 +3.2**			
JGF	**Kuroka**	**51.05**	**31**	P	**P**	**16 56 49.2 -0.9**			
SNY	**Shenyang**	**51.19**	**15**	⇑P	**P**	**16 56 50.4 -0.6**			
SNY				sP	**sP**	**16 57 24.3 -2.5**			
SNY				PP	**PP**	**16 58 49.8 +0.9**			
SNY				ScS	ScS	17 06 31.4 -0.2			
SNY				pmax	pmax				
	comp=Z,430nm,1.6s								
SNY				pmax	pmax				
	comp=Z,6μm,3.5s								
SNY				LR	LR				
	comp=Z,5μm,19.1s								
SNY				LR	LR				
	comp=Z,4μm,14.7s								
SNY				LR	LR				
	comp=Z,6μm,15.7s								
HNR	**Honiara**	**51.27**	**96**	P	**P**	**16 56 52.0 -0.1**			
HNR	**Honiara**	**51.27**	**96**	P	**P**	**16 56 52.5 +0.4**			
HNR	**Honiara**	**51.27**	**96**	⇑P	**P**	**16 56 51.7 -0.4**			
HNR	**Honiara**	**51.27**	**96**	P	**P**	**16 56 52.1 -0.1**			
HNR				pmax	pmax				
	comp=Z,2μm,0.9s								
HNR	**Honiara**	**51.27**	**96**	P	**P**	**16 56 51.9 -0.3**			
HNR				pP	**pP**	**16 57 15.8 -0.6**			
HNR				sP	**sP**	**16 57 26.7 -1.0**			
HNR				ScP	**ScP**	**17 01 53.0 -0.5**			
JGN	**Niukaw**	**51.51**	**30**	P	**P**	**16 56 52.5 -1.1**			
JOD2	**Odawara 2**	**51.69**	**32**	P	**P**	**16 56 53.5 -1.4**			
XLT	**XiLinHaoTe**	**51.76**	**7**	⇑*i*P	**P**	**16 56 55.8 +0.4**			
XLT				PcP	**PcP**	**16 58 08.8 +1.5**			
XLT				PP	**PP**	**16 58 55.5 +1.3**			
XLT				ScP	**ScP**	**17 01 55.8 +0.8**			
XLT				S	**S**	**17 04 09.4 -0.3**			
XLT				sS	sS	17 04 56.3 +4.8			
XLT				pmax	pmax				
	comp=Z,490nm,1.1s								
XLT				LR	LR				
	comp=Z,1μm,15.4s								
XLT				LR	LR				
	comp=Z,4μm,16.8s								
XLT				LR	LR				
	comp=Z,16μm,16.0s								
PATS	**Pohnpei**	**52.09**	**75**	P	**P**	**16 56 58.9 +0.7**			
	baz=52,SNR=19								
PATS	**Pohnpei**	**52.09**	**75**	P	**P**	**16 56 58.6 +0.4**			
PATS				IAmb	IAmb	16 57 01.8			
	comp=Z,1μm,1.2s								
PATS	**Pohnpei**	**52.09**	**75**	P	**P**	**16 56 59.4 +1.2**			
JRY	**Ryogami san**	**52.16**	**32**	P	**P**	**16 56 57.9 -0.5**			
MAJO	**Matsushiro**	**52.21**	**31**	P	**P**	**16 56 56.4 -2.3**			
MAJO				IAmb	IAmb	16 56 59.3			
	comp=Z,2μm,1.3s								
MAJO	**Matsushiro**	**52.21**	**31**	P	**P**	**16 56 57.8 -0.9**			
MAJO	**Matsushiro**	**52.21**	**31**	*c*P	**P**	**16 56 56.9 -1.8**			
MAJO				pmax	pmax				
	comp=Z,2μm,1.5s								
MAJO				MLR	MLR				
	comp=Z,8μm,21.0s								
MAJO	**Matsushiro**	**52.21**	**31**	P	**P**	**16 56 57.6 -1.1**			
MAJO				PcP	**PcP**	**16 58 10.3 +1.2**			
MAJO				ScP	**ScP**	**17 01 57.8 +0.7**			
MAT	**Matsushiro**	**52.21**	**31**	P	**P**	**16 56 58.0 -0.7**			
MJAR	**Matsushiro Arr**	**52.21**	**31**	P	**P**	**16 56 56.7 -2.0**			
	comp=Z,597nm,1.0s,baz=206,slow=7.6,SNR=507								
MJAR				PcP	**PcP**	**16 58 09.7 +0.7**			
	comp=Z,344nm,1.0s,baz=198,slow=3.9,SNR=13								
MJAR				ScP	**ScP**	**17 01 57.5 +0.5**			
	comp=Z,152nm,1.1s,baz=207,slow=4.9,SNR=20								
MJAR				LR	LR	17 19 11.4			
	comp=Z,7μm,21.0s,baz=218,slow=36								
MJAR				PKPPKP	**P'P'df**	**17 27 24.8 -5.2**			
	comp=Z,4.9nm,1.1s,baz=46,slow=3.4,SNR=4.4								
	comp=Z,597nm,1.0s								
MJB9	**Matsu-Tunnel**	**52.21**	**31**	P	**P**	**16 56 58.8 0.0**			
MJB9				IAmb	IAmb	16 57 00.3			
	comp=Z,2μm,1.3s								
RER	**Riviere de l'E**	**52.25**	**249**	IAmb	IAmb	16 57 03.2			
	comp=Z,933nm,0.9s								
RER	**Riviere de l'E**	**52.25**	**249**	P	**P**	**16 57 01.8 +2.3**			
	SNR=17								
RER	**Riviere de l'E**	**52.25**	**249**	⇓P	**P**	**16 57 01.5 +2.1**			
RER	**Riviere de l'E**	**52.25**	**249**	P	**P**	**16 57 01.7 +2.3**			
RER				pP	**pP**	**16 57 25.0 +1.6**			
RER				sP	**sP**	**16 57 33.9 -0.6**			
PAF	**Port-aux-Franc**	**52.34**	**210**	P	**P**	**16 57 00.7 +1.2**			
PAF				IAmb	IAmb	16 57 01.7			
	comp=Z,493nm,1.1s								
PAF	**Port-aux-Franc**	**52.34**	**210**	P	**P**	**16 57 00.7 +1.2**			
PAF				pmax	pmax				
	comp=Z,493nm,1.1s								
MSEY	**Mahe Island**	**52.38**	**270**	P	**P**	**16 57 01.1 +0.7**			
MSEY	**Mahe Island**	**52.38**	**270**	*i* P	**P**	**16 57 01.7 +1.3**			
	SNR=12								
MSEY	**Mahe Island**	**52.38**	**270**	P	**P**	**16 57 02.0 +1.5**			
MSEY				P	**P**	**16 57 02.0 +1.5**			
MSEY				S	**S**	**17 04 22.1 +3.0**			
MSEY				S	**S**	**17 04 22.1 +3.0**			
MSEY	**Mahe Island**	**52.38**	**270**	⇓*i*P	**P**	**16 57 02.5 +2.0**			
MSEY	**Mahe Island**	**52.38**	**270**	⇓P	**P**	**16 57 02.3 +1.9**			
MSEY	**Mahe Island**	**52.38**	**270**	P	**P**	**16 57 01.1 +0.7**			
MSEY				pmax	pmax				
	comp=Z,171nm,0.8s								
MSEY	**Mahe Island**	**52.38**	**270**	P	**P**	**16 57 02.6 +2.2**			
MSEY				PcP	**PcP**	**16 58 11.8 +1.5**			
NIL	**Nilore**	**52.69**	**323**	P	**P**	**16 57 00.6 -1.8**			
NIL	**Nilore**	**52.69**	**323**	P	**P**	**16 57 01.1 -1.2**			
NIL	**Nilore**	**52.69**	**323**	P	**P**	**16 57 00.6 -1.8**			
NIL				pmax	pmax				
	comp=Z,3μm,1.2s								
NIL	**Nilore**	**52.69**	**323**	P	**P**	**16 57 01.4 -1.0**			
NIL				sP	**sP**	**16 57 35.2 -3.2**			
NIL				ScP	**ScP**	**17 01 59.5 +0.3**			
JYT	**Yasato**	**53.00**	**33**	P	**P**	**16 57 02.7 -1.9**			
LHI	**Lord Howe Isla**	**53.02**	**124**	P	**P**	**16 57 06.6 +1.7**			
	baz=53,SNR=10								
LHI	**Lord Howe Isla**	**53.02**	**124**	P	**P**	**16 57 03.7 -1.1**			
LHI				IAmb	IAmb	16 57 39.9			
	comp=Z,433nm,1.1s								
LHI	**Lord Howe Isla**	**53.02**	**124**	P	**P**	**16 57 07.8 +3.0**			
LHI	**Lord Howe Isla**	**53.02**	**124**	⇑P	**P**	**16 57 06.5 +1.7**			
JSD	**Sado**	**53.40**	**30**	P	**P**	**16 57 07.0 -0.5**			
MSHR	**Mys Shultsa**	**54.19**	**21**	*c*eP	**P**	**16 57 12.4 -0.6**			
MSHR				pmax	pmax				
	comp=Z,296nm,1.3s								
MSHR				MLR	MLR				
	comp=Z,2μm,13.0s								
WMQ	**Urumqi**	**54.42**	**342**	P	**P**	**16 57 15.1 +0.3**			
WMQ				PcP	**PcP**	**16 58 16.3 -1.0**			
WMQ				ScP	**ScP**	**17 02 06.9 +0.3**			
WMQ				S	**S**	**17 04 42.9 -2.8**			
WMQ				ScS	**ScS**	**17 06 52.0 -2.4**			
WMQ				pmax	pmax				
	comp=Z,410nm,1.3s								
WMQ				pmax	pmax				
	comp=Z,6μm,6.1s								
WMQ				LR	LR				
	comp=Z,7μm,17.7s								
WMQ				LR	LR				
	comp=Z,5μm,22.7s								
WMQ				LR	LR				
	comp=Z,15μm,28.9s								
JMM	**Marumori**	**54.55**	**32**	P	**P**	**16 57 14.3 -1.5**			
JMM	**Marumori**	**54.55**	**32**	P	**P**	**16 57 15.2 -0.6**			
JMM	**Marumori**	**54.55**	**32**	P	**P**	**16 57 15.7 -0.1**			
JMM	**Marumori**	**54.55**	**32**	⇑P	**P**	**16 57 14.8 -1.0**			
JYA	**Atsumi**	**54.55**	**30**	P	**P**	**16 57 15.3 -0.5**			
SONM	**Songino Array**	**55.21**	**359**	P	**P**	**16 57 20.1 -0.5**			
SONM				IAmb	IAmb	16 58 22.5			
	comp=Z,782nm,1.0s								
SONM	**Songino Array**	**55.21**	**359**	P	**P**	**16 57 20.6 0.0**			
	comp=Z,152nm,0.7s,baz=174,slow=8.7,SNR=696								
SONM				PcP	**PcP**	**16 58 20.9 +0.5**			
	comp=Z,555nm,0.9s,baz=184,slow=3.4,SNR=26								
SONM				ScP	**ScP**	**17 02 10.3 +0.3**			
	comp=Z,93nm,1.0s,baz=176,slow=3.1,SNR=8.9								
SONM				LR	LR	17 22 03.2			
	comp=Z,13μm,20.9s,baz=180,slow=37								
SONM				PKPPKP	P'P'df	17 27 11.3 -13			
	comp=Z,1.5nm,0.9s,baz=296,slow=2.7,SNR=4.8								
SONM				P4KPbc		17 34 35.9			
	comp=Z,4.5nm,1.1s,baz=187,slow=3.6,SNR=9.8								
	comp=Z,152nm,0.7s								
ULN	**Ulaanbaatar**	**55.23**	**359**	P	**P**	**16 57 21.5 +0.7**			
ULN				IAmb	IAmb	16 58 22.6			
	comp=Z,489nm,1.1s								
ULN	**Ulaanbaatar**	**55.23**	**359**	P	**P**	**16 57 21.2 +0.5**			
ULN				P	**P**	**16 57 21.2 +0.5**			
ULN				S	**S**	**17 04 57.4 +0.8**			
ULN				S	**S**	**17 04 57.4 +0.8**			
ULN	**Ulaanbaatar**	**55.23**	**359**	⇑P	**P**	**16 57 21.3 +0.6**			
ULN	**Ulaanbaatar**	**55.23**	**359**	*c*eP	**P**	**16 57 21.2 +0.5**			
ULN				pmax	pmax				
	comp=Z,1μm,1.7s								
ULN	**Ulaanbaatar**	**55.23**	**359**	P	**P**	**16 57 21.4 +0.7**			
ULN				PcP	**PcP**	**16 58 21.1 +0.7**			
ULN				ScP	**ScP**	**17 02 11.3 +1.1**			
WUS	**Wushi**	**55.33**	**334**	P	**P**	**16 57 21.3 -0.3**			
WUS				PcP	**PcP**	**16 58 20.7 -0.4**			
MDJ	**Mudanjiang**	**55.47**	**19**	P	**P**	**16 57 22.4 +0.1**			
MDJ	**Mudanjiang**	**55.47**	**19**	P	**P**	**16 57 22.1 -0.2**			
MDJ	**Mudanjiang**	**55.47**	**19**	P	**P**	**16 57 22.1 -0.2**			
MDJ				PcP	**PcP**	**16 58 19.4 -1.9**			
MDJ				ScP	**ScP**	**17 02 11.1 0.0**			
MDJ				PcS	**PcS**	**17 02 18.0 -3.3**			
MDJ				S	**S**	**17 05 02.3 +2.7**			
MDJ				sS	sS	17 05 44.3 +2.7			
MDJ				ScS	**ScS**	**17 07 01.0 -0.8**			
MDJ				pmax	pmax				
	comp=Z,270nm,1.7s								
MDJ				pmax	pmax				
	comp=Z,8μm,4.7s								
MDJ	**Mudanjiang**	**55.47**	**19**	P	**P**	**16 57 22.1 -0.2**			
MDJ				PcP	**PcP**	**16 58 22.0 +0.8**			
MDJ				ScP	**ScP**	**17 02 11.3 +0.2**			
KSH	**Kashi**	**55.52**	**330**	P	**P**	**16 57 20.8 -2.1**			
KSH				PcP	**PcP**	**16 58 19.8 -2.0**			
KSH				S	S	17 04 50.1 -11			
KSH				pmax	pmax				
	comp=Z,370nm,1.3s								
KSH				pmax	pmax				
	comp=Z,5μm,5.8s								
KSH				LR	LR				
	comp=Z,9μm,24.7s								
KSH				LR	LR				
	comp=Z,10μm,23.7s								
KSH				LR	LR				
	comp=Z,16μm,26.8s								
KOUNC	**Koumac, New Ca**	**55.75**	**110**	P	**P**	**16 57 26.3 +1.5**			
KOUNC				IAmb	IAmb	16 57 52.0			
	comp=Z,526nm,1.1s								
KOUNC	**Koumac, New Ca**	**55.75**	**110**	P	**P**	**16 57 26.6 +1.8**			
KOUNC	**Koumac, New Ca**	**55.75**	**110**	⇑P	**P**	**16 57 25.9 +1.2**			
BNX	**BinXian**	**55.84**	**16**	⇑P	**P**	**16 57 24.8 -0.1**			
BNX				pP	**pP**	**16 57 51.8 +2.1**			
BNX				sP	**sP**	**16 58 02.9 +2.0**			
BNX				PcP	**PcP**	**16 58 24.4 +1.7**			
BNX				PP	**PP**	**16 59 30.3 -0.4**			
BNX				S	**S**	**17 05 02.4 -2.1**			
BNX				ScS	**ScS**	**17 07 01.8 -2.6**			
BNX				pmax	pmax				
	comp=Z,1μm,1.5s								
BNX				pmax	pmax				
	comp=Z,10μm,10.5s								
BNX				LR	LR				
	comp=Z,7μm,15.5s								
BNX				LR	LR				
	comp=Z,4μm,14.4s								
BNX				LR	LR				
	comp=Z,6μm,16.5s								
KBL	**Kabul**	**55.85**	**321**	P	**P**	**16 57 24.6 -0.9**			
KBL				IAmb	IAmb	16 57 26.9			
	comp=Z,1μm,1.2s								
KBL	**Kabul**	**55.85**	**321**	P	**P**	**16 57 24.4 -1.1**			
	SNR=510								
KBL				P	**P**	**16 57 24.4 -1.1**			
	SNR=510								
KBL				S	**S**	**17 05 00.3 -5.3**			
KBL				S	**S**	**17 05 00.3 -5.3**			
KBL				S	**S**	**17 05 00.8 -4.7**			
KBL				S	**S**	**17 05 00.8 -4.7**			
KBL	**Kabul**	**55.85**	**321**	P	**P**	**16 57 24.7 -0.9**			
KBL				pmax	pmax				
	comp=Z,1μm,1.3s								
USA0B	**Ussuriysk Arra**	**55.90**	**21**	P	**P**	**16 57 24.8 -0.5**			
USA0B				IAmb	IAmb	16 57 27.0			
	comp=Z,899nm,1.4s								
USA0B	**Ussuriysk Arra**	**55.90**	**21**	*c* P	**P**	**16 57 25.1 -0.2**			
USRK	**Ussuriysk Ar.**	**55.90**	**21**	P	**P**	**16 57 25.3 0.0**			
USRK	**Ussuriysk Ar.**	**55.90**	**21**	P	**P**	**16 57 25.3 0.0**			
USRK	**Ussuriysk Ar.**	**55.90**	**21**	P	**P**	**16 57 24.1 -1.2**			
	comp=Z,213nm,1.0s,baz=213,slow=6.3,SNR=183								
USRK				ScP	**ScP**	**17 02 12.6 -0.3**			
	comp=Z,17nm,1.0s,baz=222,slow=4.0,SNR=2.0								
USRK				LR	LR	17 23 00.7			
	comp=Z,3μm,18.9s,baz=215,slow=38								
	comp=Z,213nm,1.0s								
JOM	**Ohasama**	**56.02**	**31**	P	**P**	**16 57 25.4 -0.9**			
JLN	**Jalan Bani Buh**	**56.12**	**303**	P	**P**	**16 57 29.0 +1.6**			
	SNR=301								
JLN				S	**S**	**17 05 10.6 +1.6**			
NGCH	**Negor - Chabah**	**56.21**	**307**	P	**P**	**16 57 30.4 +2.4**			
	SNR=99								
NGCH				S	**S**	**17 05 12.1 +2.0**			
TARG	**Taragay, Kyrgy**	**56.39**	**333**	P	**P**	**16 57 26.8 -2.6**			
TARG				IAmb	IAmb	16 57 38.2			
	comp=Z,468nm,1.2s								
TARG	**Taragay, Kyrgy**	**56.39**	**333**	P	**P**	**16 57 26.8 -2.6**			
TARG				pmax	pmax				
	comp=Z,468nm,1.2s								
WBK	**Wadi Bani Khal**	**56.69**	**303**	P	**P**	**16 57 33.1 +1.6**			
	SNR=291								
WBK				S	**S**	**17 05 18.6 +2.0**			
PRZ	**Przheval'sk**	**56.73**	**334**	P	**P**	**16 57 32.4 +0.8**			
PRZ				IAmb	IAmb	16 58 30.4			
	comp=Z,854nm,1.1s								
PRZ	**Przheval'sk**	**56.73**	**334**	P	**P**	**16 57 32.4 +0.8**			
PRZ				pmax	pmax				
	comp=Z,854nm,1.1s								
SHLS	**Shalkode**	**56.83**	**335**	⇑*i*P	**P**	**16 57 30.9 -1.3**			
	comp=Z,368nm,1.2s,baz=336								
SHLS				*e*S	**S**	**17 05 13.9 -4.1**			
	baz=336								
SHLS	**Shalkode**	**56.83**	**335**	*c* iP	**P**	**16 57 30.8 -1.3**			
SHLS				*e*S	**S**	**17 05 13.8 -4.1**			
SHLS				pmax	pmax				
	comp=Z,368nm,1.2s								
MHTO	**MHTO**	**56.84**	**301**	P	**P**	**16 57 33.4 +1.0**			
	SNR=181								
MHTO				S	**S**	**17 05 18.4 0.0**			
JTM	**Tenmabayashi**	**56.90**	**30**	P	**P**	**16 57 31.9 -0.6**			
JTM	**Tenmabayashi**	**56.90**	**30**	P	**P**	**16 57 32.2 -0.4**			
JTM	**Tenmabayashi**	**56.90**	**30**	P	**P**	**16 57 32.0 -0.6**			
JTM	**Tenmabayashi**	**56.90**	**30**	⇑P	**P**	**16 57 31.8 -0.8**			
UZB	**Uzynbulak**	**57.00**	**335**	⇑*i*P	**P**	**16 57 33.1 -0.4**			
	comp=Z,337nm,1.4s,baz=335								
UZB				*i* S	**S**	**17 05 17.9 -2.4**			
	baz=335								
UZB	**Uzynbulak**	**57.00**	**335**	*c* iP	**P**	**16 57 33.0 -0.4**			
UZB				*i* S	**S**	**17 05 17.9 -2.4**			
UZB				pmax	pmax				
	comp=Z,337nm,1.4s								
SATY	**Saty**	**57.19**	**334**	⇑*i*P	**P**	**16 57 34.3 -0.5**			
	baz=334								
SATY				*e*S	**S**	**17 05 20.6 -2.2**			
	baz=334								
SATY	**Saty**	**57.19**	**334**	*c* iP	**P**	**16 57 34.2 -0.5**			
SATY				*e*S	**S**	**17 05 20.5 -2.2**			
WSAR	**Wadi Sarin**	**57.25**	**304**	P	**P**	**16 57 37.4 +2.0**			
	SNR=308								
WSAR				S	**S**	**17 05 25.9 +2.0**			

baz=333
TNSS Tian-Shan 57.81 333⇑ *i* P **P** **16 57 38.6 -0.8**
KZA Kyzart 57.84 332 P **P** **16 57 38.8 -0.8**
SNR=414
JSH Shimam 57.86 27 P **P** **16 57 38.9 -0.4**
MDOK Medeo 57.87 334 *i* P **P** **16 57 38.8 -0.8**
baz=334
MDOK *i* S **S** **17 05 28.9 -2.7**
baz=334
MDOK Medeo 57.87 334 *i* P **P** **16 57 38.7 -0.8**
MDOK *i* S **S** **17 05 28.9 -2.7**
DZM Mont Dzumac 57.88 111 P **P** **16 57 41.6 +1.6**
DZM IAmb IAmb 16 58 17.3
comp=Z,753nm,1.7s
DZM Mont Dzumac 57.88 111 P **P** **16 57 41.6 +1.6**
DZM Mont Dzumac 57.88 111 ⇑P **P** **16 57 40.9 +0.9**
DZM ⇑sP **sP** **16 58 15.8 0.0**
DZM Mont Dzumac 57.88 111 *e*P **P** **16 57 39.9 -0.1**
comp=Z,593nm,1.4s
DZM Mont Dzumac 57.88 111 *e*PP **PP** **16 59 49.0 -0.3**
comp=Z,5μm,24.0s
DZM *e*S S 17 05 19.5 -13
comp=Z,9μm,24.1s
DZM *e*SS **SS** **17 09 22.8 -2.1**
comp=Z,12μm,24.2s
DZM *e*LQ LQ 17 12 23.9
comp=Z,11μm,21.6s
DZM *e*LR LR 17 14 57.1
comp=Z,37μm,30.6s
DZM Mont Dzumac 57.88 111 LR LR 17 24 22.4
comp=Z,7μm,18.9s,baz=268,slow=38
DZM Mont Dzumac 57.88 111 P **P** **16 57 40.9 +0.9**
OHH Osh 57.89 329 P **P** **16 57 38.9 -0.7**
OHH pmax pmax
comp=Z,1μm,1.2s
ZAK Zakamensk 57.89 356 *e*P **P** **16 57 39.7 +0.2**
ZAK pmax pmax
comp=Z,211nm,1.8s
ONTNC Ouen Toro 57.91 111 P **P** **16 57 40.8 +0.8**
AAA Alma-Ata 57.96 333 *e*P **P** **16 57 39.8 -0.3**
comp=Z,420nm,1.3s,baz=333
AAA Alma-Ata 57.96 333 *e*P **P** **16 57 39.9 -0.2**
DMTO DMTO 58.20 296 P **P** **16 57 43.3 +1.2**
SNR=33
DMTO P **P** **16 57 43.3 +1.2**
SNR=33
DMTO S **S** **17 05 36.9 +0.4**
DMTO S **S** **17 05 36.9 +0.4**
BSY Bisya 58.22 303 P **P** **16 57 44.0 +1.8**
SNR=447
BSY P **P** **16 57 44.0 +1.8**
SNR=447
BSY S **S** **17 05 38.1 +1.5**
BSY S **S** **17 05 38.1 +1.5**
OUENC Ouen Island, N 58.28 112 P **P** **16 57 41.9 -0.7**
OUENC IAmb IAmb 16 58 32.7
comp=Z,485nm,1.3s
OUENC Ouen Island, N 58.28 112 P **P** **16 57 44.3 +1.7**
YATNC Mamie plateau, 58.29 111 P **P** **16 57 45.2 +2.5**
UCH Uchtor 58.30 331 P **P** **16 57 42.2 -0.8**
SNR=141
TEY Ternei 58.33 23⇑ *e*P **P** **16 57 41.9 -0.5**
TEY *e* 16 58 13.0
TEY *e* 17 05 32.8
TEY pmax pmax
comp=N,60nm,1.3s
TEY pmax pmax
comp=E,30nm,1.3s
TEY pmax pmax
comp=Z,130nm,1.3s
TEY pmax pmax
comp=Z,700nm,6.4s
TEY pmax pmax
comp=N,400nm,5.6s
TEY pmax pmax
comp=E,200nm,5.2s
TKM2 Tokmak 2 58.33 332 P **P** **16 57 42.1 -0.7**
SNR=611
TKM2 Tokmak 2 58.33 332 *i* P **P** **16 57 41.7 -1.1**
TKM2 pmax pmax
comp=Z,603nm,1.0s
ARXS Arharly 58.38 335 *e*P **P** **16 57 41.7 -1.2**
KBK Karagaybulak 58.43 332 P **P** **16 57 43.2 -0.3**
SNR=377
CHKK Chushkaly 58.45 334⇑ *i* P **P** **16 57 42.0 -1.3**
baz=334
CHKK Chushkaly 58.45 334⇑ *i* P **P** **16 57 42.0 -1.3**
HOQ Hoqain 58.49 304 P **P** **16 57 45.5 +1.5**
SNR=215
HOQ P **P** **16 57 45.5 +1.5**
SNR=215
HOQ S **S** **17 05 41.1 +1.0**
HOQ S **S** **17 05 41.1 +1.0**
LIFNC LIFOU 58.52 110 P **P** **16 57 44.9 +0.6**
LIFNC IAmb IAmb 16 58 13.0
comp=Z,664nm,1.0s
LIFNC LIFOU 58.52 110 P **P** **16 57 45.9 +1.6**
ZSN Zaisan 58.55 342⇑ *i* P **P** **16 57 44.1 0.0**
comp=Z,431nm,1.4s,baz=342
ZSN *i* S **S** **17 05 39.0 -1.1**
baz=342
ZSN Zaisan 58.55 342 *c i* P **P** **16 57 44.0 0.0**
ZSN *i* S **S** **17 05 38.9 -1.1**
ZSN pmax pmax
comp=Z,431nm,1.4s
BTK Batken 58.59 327 P **P** **16 57 43.9 -0.6**
BTK IAmb IAmb 16 57 46.5
comp=Z,1μm,1.1s
BTK Batken 58.59 327 P **P** **16 57 43.9 -0.6**
BTK pmax pmax
comp=Z,1μm,1.1s
CASY Casey 58.61 179 ⇓P **P** **16 57 44.0 -0.2**
CASY Casey 58.61 179 P **P** **16 57 43.8 -0.3**
AAK Ala-Archa 58.63 331 P **P** **16 57 44.2 -0.7**
SNR=177
AAK Ala-Archa 58.63 331 P **P** **16 57 44.7 -0.1**
AAK IAmb IAmb 16 58 37.2
comp=Z,638nm,1.1s
AAK Ala-Archa 58.63 331 *i* P **P** **16 57 44.7 -0.1**
SNR=467
AAK Ala-Archa 58.63 331 P **P** **16 57 44.8 -0.1**
AAK P **P** **16 57 44.8 -0.1**
AAK S **S** **17 05 39.9 -1.7**
AAK S **S** **17 05 39.9 -1.7**
AAK Ala-Archa 58.63 331 *c e*P **P** **16 57 44.2 -0.7**
AAK pmax pmax
comp=Z,460nm,1.3s
AAK Ala-Archa 58.63 331 S **S** **17 05 37.0 -4.5**
comp=Z,11nm,1.0s,baz=18,slow=8.9,SNR=1.7
AAK LR LR 17 27 25.9
comp=Z,6μm,18.1s,baz=154,slow=40
AAK Ala-Archa 58.63 331 P **P** **16 57 44.4 -0.4**
AAK pP **pP** **16 58 07.3 -2.6**
AAK sP **sP** **16 58 19.8 -1.3**
AAK PcP **PcP** **16 58 35.8 +1.9**
AAK ScP **ScP** **17 02 27.0 +1.7**
AML Almayashu 58.63 331 P **P** **16 57 44.2 -0.9**
SNR=250
AML Almayashu 58.63 331 *i* P **P** **16 57 43.9 -1.2**
AML pmax pmax
comp=Z,104nm,1.3s
JEW Eniwo 58.66 28 P **P** **16 57 44.4 -0.4**
FRU1 Bishkek 58.70 332 IAmb IAmb 16 58 37.3
comp=Z,610nm,1.0s
FRU1 Bishkek 58.70 332 P **P** **16 57 44.9 -0.3**
FRU1 pmax pmax
comp=Z,593nm,1.1s
KUU Kurty 58.76 334⇑ *i* P **P** **16 57 44.4 -1.2**
baz=334
KUU *i* S **S** **17 05 38.8 -4.2**
baz=334
KUU Kurty 58.76 334 *c i* P **P** **16 57 44.4 -1.2**
KUU *i* S **S** **17 05 38.7 -4.2**
TDK Taldyqorghan 58.78 336⇑ *i* P **P** **16 57 44.9 -0.7**
comp=Z,469nm,1.1s,baz=336
TDK *i* S **S** **17 05 40.1 -3.1**
baz=336
TDK Taldyqorghan 58.78 336 *c i* P **P** **16 57 44.8 -0.8**
TDK *i* S **S** **17 05 40.0 -3.1**
TDK pmax pmax
comp=Z,469nm,1.1s
CHMS Chumysh 58.78 332 P **P** **16 57 44.6 -1.1**
SNR=112
RBK Rabkut 58.79 296 P **P** **16 57 47.4 +1.2**
SNR=89
RBK P **P** **16 57 47.4 +1.2**
SNR=89
RBK S **S** **17 05 44.6 +0.3**
MSFE Esma-Masafi 60.20 305 *i* P **P** **16 57 56.8 +0.9**
SNR=30
MASF Masafi 60.21 305 P **P** **16 57 57.1 +1.2**
SNR=70
MASF P **P** **16 57 57.1 +1.2**
SNR=70
MASF S **S** **17 06 03.4 +1.1**
MASF S **S** **17 06 03.4 +1.1**
KLR Kul'dur 60.26 18 *ce*P **P** **16 57 54.3 -1.4**
KLR pmax pmax
comp=E,836nm,1.3s
KLR MLR MLR
comp=Z,4μm,14.0s
KLR Kul'dur 60.26 18 P **P** **16 57 53.5 -2.2**
comp=Z,447nm,1.1s,baz=225,slow=5.8,SNR=413
KLR PcP **PcP** **16 58 40.9 +0.8**
comp=Z,90nm,0.7s,baz=239,slow=5.4,SNR=4.2
KLR ScP **ScP** **17 02 32.2 +0.1**
comp=Z,102nm,1.3s,baz=197,slow=5.1,SNR=4.4
KLR LR LR 17 27 23.2
comp=Z,4μm,18.4s,baz=206,slow=39
comp=Z,447nm,1.1s
BANOM Banah 60.34 305 *i* P **P** **16 57 57.5 +0.8**
SNR=8.8
BANOM Banah 60.34 305 P **P** **16 57 57.7 +0.9**
BANOM S **S** **17 06 03.7 -0.2**
FAQ Al Faqa, Dubai 60.40 304 *i* P **P** **16 57 58.4 +1.2**
SNR=275
FAQ Al Faqa, Dubai 60.40 304 P **P** **16 57 58.3 +1.2**
SNR=329
FAQ P **P** **16 57 58.3 +1.2**
SNR=329
FAQ S **S** **17 06 04.2 -0.5**
FAQ S **S** **17 06 04.2 -0.5**
NAZ Nazwa, Dubai 60.45 304 *i* P **P** **16 57 58.5 +1.0**
SNR=104
NAZ Nazwa, Dubai 60.45 304 P **P** **16 57 58.8 +1.3**
SNR=111
NAZ P **P** **16 57 58.8 +1.3**
SNR=111
NAZ S **S** **17 06 04.7 -0.6**
NAZ S **S** **17 06 04.7 -0.6**
SHME Shamm 60.52 306 *i* P **P** **16 57 59.2 +1.3**
SNR=40
SHME Shamm 60.52 306 P **P** **16 57 59.3 +1.3**
SNR=40
SHME P **P** **16 57 59.3 +1.3**
SNR=40
SHME S **S** **17 06 06.2 +0.1**
SHME S **S** **17 06 06.2 +0.1**
ASUD Al Ashush, Dub 60.57 304 *i* P **P** **16 57 59.8 +1.5**
SNR=210
ASUD Al Ashush, Dub 60.57 304 P **P** **16 57 60.0 +1.7**
SNR=89
ASUD P **P** **16 57 60.0 +1.7**
SNR=89
ASUD S **S** **17 06 07.0 +0.2**
ASUD S **S** **17 06 07.0 +0.2**
VOI Vohitsoka 60.61 249 IAmb IAmb 16 58 02.1
comp=Z,1μm,1.4s
VOI Vohitsoka 60.61 249 P **P** **16 58 00.4 +1.5**
VOI Vohitsoka 60.61 249 P **P** **16 58 00.8 +1.9**
SNR=25
VOI Vohitsoka 60.61 249⇓ *i* P **P** **16 57 57.5 -1.4**
VOI Vohitsoka 60.61 249 ⇓P **P** **16 58 00.1 +1.3**
UMQ Umm Al-Quwin 60.68 305 *i* P **P** **16 58 00.8 +1.8**
SNR=34
UMQ Umm Al-Quwin 60.68 305 P **P** **16 58 01.0 +2.0**
SNR=26
UMQ P **P** **16 58 01.0 +2.0**
SNR=26
UMQ S **S** **17 06 09.6 +1.5**
UMQ S **S** **17 06 09.6 +1.5**
BTLS Baital 60.68 333⇑ *i* P **P** **16 57 57.1 -1.6**
baz=333
BTLS Baital 60.68 333 *c i* P **P** **16 57 57.1 -1.6**
FOMA Nahampoana Res 60.68 246 IAmb IAmb 16 58 02.4
comp=Z,552nm,1.3s
FOMA Nahampoana Res 60.68 246 P **P** **16 58 01.2 +2.1**
SNR=13
FOMA Nahampoana Res 60.68 246⇑ P **P** **16 58 00.6 +1.4**
FOMA Nahampoana Res 60.68 246 P **P** **16 58 01.0 +1.9**
FOMA pP **pP** **16 58 24.9 +1.2**
FOMA sP **sP** **16 58 35.3 +0.5**
AJN Ajban 60.83 303 *i* P **P** **16 58 00.9 +0.8**
SNR=19
AJN Ajban 60.83 303 P **P** **16 58 01.1 +1.1**
SNR=99
AJN P **P** **16 58 01.1 +1.1**
SNR=99
AJN S **S** **17 06 08.5 -1.5**
AJN S **S** **17 06 08.5 -1.5**
CHM Chimkent 60.84 328 *e*P **P** **16 57 58.8 -1.1**
comp=Z,400nm,1.1s,baz=328
CHM Chimkent 60.84 328 *e*P **P** **16 57 58.7 -1.1**
CHM pmax pmax
comp=Z,399nm,1.1s
KK31 Karatay Array 60.93 329 P **P** **16 58 00.5 +0.1**
KK31 Karatay Array 60.93 329 P **P** **16 58 00.5 +0.1**
KK31 pmax pmax
comp=Z,260nm,1.3s
KKAR Karatay Array 60.93 329 P **P** **16 58 00.5 +0.1**
KKAR Karatay Array 60.93 329 P **P** **16 57 59.2 -1.2**
KKAR Karatay Array 60.93 329 P **P** **16 58 00.5 +0.1**
KKAR pmax pmax
comp=Z,260nm,1.3s
MZR Muzera 61.46 301 *i* P **P** **16 58 05.7 +1.4**
SNR=16
MZR Muzera 61.46 301 P **P** **16 58 06.0 +1.7**
SNR=14
MZR S **S** **17 06 17.5 -0.7**
KWJN Gagan, Kwajale 61.53 75 P **P** **16 58 06.2 +1.2**
YUK Yuzh-Kuril'sk 61.69 30 *c i* P **P** **16 58 04.5 -0.9**
YUK *e* 16 58 42.0
YUK *e* 17 00 18.5
YUK *e*S **S** **17 06 16.1 -4.1**
YUK *e*SS **SS** **17 10 14.1 -10**
YUK pmax pmax
comp=E,713nm,1.1s
YUK pmax pmax
comp=Z,2μm,1.1s
YUK pmax pmax
comp=N,466nm,1.4s
YUK pmax pmax
comp=Z,4μm,1.8s
MCQ Macquarie Isla 61.85 149 P **P** **16 58 08.4 +2.0**
baz=62,SNR=3.6
YSS Yuzh-Sakhalins 62.42 26 P **P** **16 58 10.4 +0.1**
YSS Yuzh-Sakhalins 62.42 26 P **P** **16 58 10.5 +0.1**
YSS Yuzh-Sakhalins 62.42 26⇑ P **P** **16 58 10.2 -0.1**
YSS Yuzh-Sakhalins 62.42 26 *α i* P **P** **16 58 10.2 -0.1**
YSS *e**SP **PcP** **16 58 49.0 +0.2**
YSS *e* 17 00 27.8
YSS *e*S **S** **17 06 26.8 -2.6**
YSS *e* 17 07 50.0
YSS *e*SS **SS** **17 10 34.2 -1.0**
YSS pmax pmax
comp=Z,2μm,0.7s
YSS pmax pmax
comp=Z,2μm,2.4s
YSS pmax pmax
comp=N,2μm,2.5s
YSS Yuzh-Sakhalins 62.42 26 P **P** **16 58 10.7 +0.4**
JRN Qarnain Island 62.75 303 P **P** **16 58 14.0 +1.1**
SNR=42
JRN S **S** **17 06 32.3 -2.0**
DRV Dumont d'Urvil 62.89 166 P **P** **16 58 12.9 -0.2**
DRV sP **sP** **16 58 45.2 -3.4**
DRV ScP **ScP** **17 02 46.3 +2.8**
PYZ Puysegur Point 63.02 138 P **P** **16 58 16.3 +1.8**
PYZ Puysegur Point 63.02 138 P **P** **16 58 15.0 +0.6**
GRNR Gornyy 63.08 20⇑ *i* P **P** **16 58 15.0 +0.3**
GRNR pmax pmax
comp=N,150nm,1.2s
GRNR pmax pmax
comp=E,70nm,1.2s
GRNR pmax pmax
comp=Z,350nm,1.2s
ZEA Zeya 63.21 13 *ce*P **P** **16 58 16.0 +0.6**
ZEA *e**SP **PcP** **16 58 50.2 -1.7**
ZEA *e* 17 00 36.1
ZEA *e*S **S** **17 06 33.1 -5.9**
ZEA *e*PS **PnS** **17 07 17.9 +7.1**
HRA IAmb IAmb 16 57 57.0
comp=Z,922nm,1.2s
PINNC Pines Island, 58.85 112 P **P** **16 57 48.0 +1.4**
ERM Erimo 58.86 30 P **P** **16 57 46.2 0.0**
ERM IAmb IAmb 16 57 47.7
comp=Z,729nm,1.0s
ERM Erimo 58.86 30 P **P** **16 57 46.6 +0.4**
ERM Erimo 58.86 30 *ce*P **P** **16 57 45.5 -0.7**
ERM pmax pmax
comp=Z,1μm,1.7s
ERM Erimo 58.86 30 P **P** **16 57 46.3 0.0**
ERM PcP **PcP** **16 58 36.4 +1.8**
JEM Erimo 58.86 30 P **P** **16 57 46.7 +0.5**
JEM Erimo 58.86 30 P **P** **16 57 45.9 -0.3**
MAKZ Makanchi 58.94 339 ⇑P **P** **16 57 46.0 -0.7**
MAKZ ⇓P **P** **16 57 46.8 0.0**
MAKZ Makanchi 58.94 339 P **P** **16 57 46.8 0.0**
MAKZ Makanchi 58.94 339 P **P** **16 57 46.4 -0.4**
MAKZ PcP **PcP** **16 58 35.8 +0.9**
MAKZ ScP **ScP** **17 02 27.3 +0.9**
EKS2 Erkin-Say 58.99 331 P **P** **16 57 46.8 -0.5**
SNR=383
ARQ Araqi 59.04 303 P **P** **16 57 48.9 +1.0**
SNR=130
ARQ P **P** **16 57 48.9 +1.0**
SNR=130
ARQ S **S** **17 05 48.4 +1.2**
ARQ S **S** **17 05 48.4 +1.2**
JASK Jask - Hormozg 59.05 306 P **P** **16 57 50.4 +2.5**
SNR=119
JASK S **S** **17 05 49.1 +1.8**
SGDS Sogindy 59.19 332 *i* P **P** **16 57 47.4 -1.3**
baz=332
SGDS *i* S **S** **17 05 44.6 -4.0**
baz=332
SGDS Sogindy 59.19 332 *c i* P **P** **16 57 47.3 -1.3**
SGDS *i* S **S** **17 05 44.6 -4.0**
ARK Arkit 59.24 329 P **P** **16 57 48.0 -1.1**
ARK pmax pmax
comp=Z,251nm,1.2s
WHFO Wadi Hawf 59.32 296 P **P** **16 57 50.8 +0.8**
SNR=64
WHFO P **P** **16 57 50.8 +0.8**
SNR=64
WHFO S **S** **17 05 49.7 -1.4**
WHFO S **S** **17 05 49.7 -1.4**
MOY Mondy 59.34 355 *e*P **P** **16 57 49.6 +0.1**
MOY *e* 16 58 37.5
MOY pmax pmax
comp=Z,1μm,2.8s
SOHO SOHO 59.37 304 *i* P **P** **16 57 51.1 +1.0**
SNR=19
SOHO SOHO 59.37 304 P **P** **16 57 51.3 +1.2**
SOHO P **P** **16 57 51.3 +1.2**
SOHO S **S** **17 05 52.2 +0.8**
SOHO S **S** **17 05 52.2 +0.8**
TRKS Terek-Say 59.47 328 P **P** **16 57 49.2 -1.5**
TRKS pmax pmax
comp=Z,494nm,1.1s
ABTO Aybut 59.55 295 P **P** **16 57 52.5 +1.0**
SNR=125
ABTO P **P** **16 57 52.5 +1.0**
SNR=125
ABTO S **S** **17 05 52.8 -1.3**
ABTO S **S** **17 05 52.8 -1.3**
CIT Chita 59.57 4 *e*P **P** **16 57 51.4 +0.4**
CIT *e* 16 58 21.6
CIT *e* 16 58 31.2
CIT *e*S **S** **17 05 52.6 -0.5**
CIT pmax pmax
comp=Z,2μm,2.1s
IRK Irkutsk 59.70 357 *e*P **P** **16 57 52.2 +0.4**
IRK *e* 16 58 34.2
IRK *e*S **S** **17 05 56.5 +1.9**
IRK *e* 17 07 30.2
IRK pmax pmax
comp=Z,955nm,2.6s
DGZ Jazzator, Alta 59.84 345 *c i* P **P** **16 57 52.7 -0.4**
DGZ MLR MLR
comp=Z,12μm,24.0s
ALNE Al Ain 59.98 303 *i* P **P** **16 57 55.6 +1.3**
SNR=200
ALNE Al Ain 59.98 303 P **P** **16 57 56.0 +1.7**
SNR=302
ALNE S **S** **17 05 60.0 +0.6**
UOSS Minazif 59.99 304 P **P** **16 57 55.1 +0.7**
UOSS Minazif 59.99 304 *i* P **P** **16 57 54.8 +0.5**
SNR=32
UOSS Minazif 59.99 304 P **P** **16 57 55.4 +1.1**
UOSS P **P** **16 57 55.4 +1.1**
UOSS S **S** **17 05 57.9 -1.4**
UOSS S **S** **17 05 57.9 -1.4**
UOSS Minazif 59.99 304 P **P** **16 57 55.2 +0.9**
UOSS pP **pP** **16 58 17.1 -2.7**
ASHO Ashiyiah 59.99 304 *i* P **P** **16 57 55.8 +1.3**
SNR=78
ASHO Ashiyiah 59.99 304 P **P** **16 57 56.1 +1.7**
SNR=106
ASHO S **S** **17 05 59.7 +0.2**
HATD Hatta, Dubai 59.99 304 *i* P **P** **16 57 55.7 +1.3**
SNR=290
HATD Hatta, Dubai 59.99 304 P **P** **16 57 56.1 +1.7**
SNR=140
HATD P **P** **16 57 56.1 +1.7**
SNR=140
HATD S **S** **17 05 59.3 -0.2**
HATD S **S** **17 05 59.3 -0.2**
HEH HeiHe 60.01 14 ⇑P **P** **16 57 53.6 -0.4**
HEH pP **pP** **16 58 24.8 +5.8**
HEH PP **PP** **17 00 07.3 -0.3**
HEH S **S** **17 05 56.4 -2.3**
HEH ScS SKKSac 17 07 29.0 -5.6
HEH pmax pmax
comp=Z,850nm,1.3s
HEH pmax pmax
comp=Z,10μm,5.8s
NFK Norfolk Island 60.03 119 P **P** **16 57 56.7 +2.1**
baz=60,SNR=3.2
ABPO Ambohimpanom 60.06 252 P **P** **16 57 56.5 +1.3**
ABPO IAmb IAmb 16 57 58.5
comp=Z,358nm,1.0s
ABPO Ambohimpanom 60.06 252 ⇓ *i* P **P** **16 57 56.8 +1.5**
ABPO IAmb IAmb 16 57 57.0
comp=Z,520nm,1.2s
ABPO Ambohimpanom 60.06 252 P **P** **16 57 56.5 +1.3**
ABPO pmax pmax
comp=Z,358nm,1.0s
ABPO Ambohimpanom 60.06 252 P **P** **16 57 56.5 +1.3**
ABPO pP **pP** **16 58 19.6 -0.3**
ASAJ Asahikawa 60.17 28 P **P** **16 57 55.1 -0.1**
ASAJ Asahikawa 60.17 28 P **P** **16 57 54.0 -1.2**
comp=Z,309nm,0.9s,baz=239,slow=11,SNR=85
ASAJ LR LR 17 26 02.5
comp=Z,4μm,19.7s,baz=216,slow=38
comp=Z,309nm,0.9s
JKA Kamikawa-asahi 60.17 28 P **P** **16 57 54.7 -0.6**
JKA IAmb IAmb 16 57 56.0
comp=Z,599nm,1.1s
HRA Herat 60.19 317 P **P** **16 57 55.8 0.0**

ZEA *e* 17 07 54.0
ZEA pmax pmax
comp=E,70nm,1.2s
ZEA pmax pmax
comp=N,170nm,1.9s
ZEA pmax pmax
comp=Z,350nm,2.0s
ZEA pmax pmax
comp=E,600nm,7.3s
ZEA pmax pmax
comp=N,2μm,6.8s
ZEA pmax pmax
comp=Z,4μm,6.9s
ZEA pmax pmax
comp=E,400nm,5.1s
ZEA pmax pmax
comp=N,1μm,5.7s
ZEA pmax pmax
comp=Z,2μm,5.6s
ZEA smax smax
comp=E,1μm,7.2s
ZEA smax smax
comp=N,3μm,10.0s
ZEA MLR MLR
comp=E,3μm,15.0s
ZEA MLR MLR
comp=N,3μm,14.0s
ZEA MLR MLR
comp=Z,4μm,16.0s
H11S3 WAKE ISLAND Hy 63.32 65 P **P** **16 58 16.9 +0.3**
baz=245,slow=6.2,SNR=9.2
H11S2 WAKE ISLAND Hy 63.34 65 P **P** **16 58 17.0 +0.3**
baz=245,slow=6.2,SNR=14
H11S1 WAKE ISLAND Hy 63.34 65 P **P** **16 58 17.1 +0.3**
baz=245,slow=6.2,SNR=12
KURBB Kurchatov Arra 63.39 339 P **P** **16 58 15.2 -1.4**
KURBB Kurchatov Arra 63.39 339 P **P** **16 58 15.4 -1.2**
comp=Z,366nm,1.1s,baz=155,slow=5.8,SNR=522
KURBB PcP **sP** **16 58 53.7 +0.5**
comp=Z,280nm,0.9s,baz=155,slow=3.3,SNR=6.4
KURBB ScP 17 02 46.8
comp=Z,68nm,1.0s,baz=152,slow=3.7,SNR=5.1
KURBB S **S** **17 06 42.0 +0.7**
comp=Z,23nm,1.1s,baz=128,slow=20,SNR=6.2
KURBB PKPPKP P'P'df 17 27 04.3 -7.8
comp=Z,2.6nm,1.2s,baz=340,slow=2.6,SNR=8.9
KURBB LR LR 17 29 17.8
comp=Z,11μm,18.2s,baz=152,slow=39
KURBB P4KPbc 17 35 12.6
comp=Z,2.0nm,0.8s,baz=149,slow=3.5,SNR=10
comp=Z,366nm,1.1s
KURK Kurchatov 63.44 340 P **P** **16 58 16.5 -0.4**
KURK IAmb IAmb 16 58 55.3
comp=Z,720nm,1.2s
KURK Kurchatov 63.44 340 P **P** **16 58 17.0 0.0**
KURK S **S** **17 06 40.7 -1.2**
KURK Kurchatov 63.44 340 *ce*P **P** **16 58 16.3 -0.6**
KURK pmax pmax
comp=Z,496nm,1.0s
KURK MLR MLR
comp=Z,10μm,16.0s
KURK Kurchatov 63.44 340 P **P** **16 58 16.9 0.0**
KURK pP **pP** **16 58 40.0 -2.4**
KURK sP **PcP** **16 58 49.7 -3.2**
KURK PcP **sP** **16 58 54.0 +0.5**
KUR Kuril'sk 63.55 30 *c i*P **P** **16 58 17.9 +0.1**
KUR *e* 16 58 53.2
KUR pmax pmax
comp=Z,4μm,1.4s
KUR pmax pmax
comp=N,894nm,1.2s
KUR pmax pmax
comp=E,745nm,2.2s
KUR pmax pmax
comp=Z,15μm,5.0s
KUR MLR MLR
comp=Z,6μm,22.0s
WAKE Wake Island 63.55 64 P **P** **16 58 18.5 +0.2**
WAKE Wake Island 63.55 64 P **P** **16 58 19.3 +1.0**
WAKE Wake Island 63.55 64 ⇑P **P** **16 58 18.6 +0.2**
WAKE Wake Island 63.55 64 P **P** **16 58 18.5 +0.2**
WHZ Wether Hill Ro 63.78 138 IAmb IAmb 16 58 51.1
comp=Z,894nm,1.8s
UGL Uglegorsk 63.79 24 *e*P **P** **16 58 19.7 +0.4**
UGL *e* 16 58 54.3
UGL *e*S **S** **17 06 43.6 -2.7**
UGL pmax pmax
comp=Z,9μm,3.6s
UGL pmax pmax
comp=Z,1μm,1.1s
UGL MLR MLR
comp=N,2μm,8.0s
JCZ Jackson Bay 63.84 136 P **P** **16 58 22.3 +2.3**
OTUK Ortayu 63.90 334 P **P** **16 58 19.8 -0.3**
H11N1 WAKE ISLAND Hy 63.90 64 P **P** **16 58 20.8 +0.5**
baz=247,slow=8.8,SNR=70
H11N2 WAKE ISLAND Hy 63.91 64 P **P** **16 58 21.3 +0.9**
baz=247,slow=8.8,SNR=38
H11N3 WAKE ISLAND Hy 63.92 64 P **P** **16 58 21.3 +0.8**
baz=247,slow=8.8,SNR=61
TRNA Turayna 64.04 302 P **P** **16 58 22.3 +0.8**
SNR=58
TRNA S **S** **17 06 49.0 -1.3**
WKZ Wanaka 64.20 136 P **P** **16 58 23.2 +0.9**
WKZ IAmb IAmb 16 58 54.9
comp=Z,924nm,1.5s
SMRA Abu-Samra 64.37 302 P **P** **16 58 24.5 +0.9**
SNR=81
SMRA S **S** **17 06 52.7 -1.7**
ZAA0 Zalesovo Array 64.39 345 P **P** **16 58 22.9 -0.2**
ZALV Zalesovo Beam 64.39 345 P **P** **16 58 22.6 -0.5**
ZALV Zalesovo Beam 64.39 345 *i*P **P** **16 58 22.1 -1.0**
ZALV pmax pmax
comp=Z,266nm,0.9s
ZALV Zalesovo Beam 64.39 345 P **P** **16 58 22.1 -1.0**
comp=Z,264nm,0.9s,baz=132,slow=4.2,SNR=521
ZALV PcP **PcP** **16 58 56.2 -0.5**
comp=Z,113nm,0.7s,baz=156,slow=1.5,SNR=9.7
ZALV ScS **ScS** **17 08 00.1 -7.7**
comp=Z,59nm,1.0s,baz=144,slow=2.8,SNR=12
ZALV PKPPKP **P'P'df** **17 27 06.6 -3.7**
comp=Z,4.0nm,1.0s,baz=294,slow=1.5,SNR=5.5
ZALV LR LR 17 30 06.5
comp=Z,3μm,19.4s,baz=156,slow=39
ZALV P4KPbc 17 35 15.5
comp=Z,0.8nm,0.8s,baz=131,slow=4.1,SNR=5.5
comp=Z,264nm,0.9s
FOZ Fox Glacier 64.42 135 P **P** **16 58 23.8 +0.1**
SHMA Al-Shehemyia 64.68 303 P **P** **16 58 26.9 +1.4**
SNR=50
SHMA S **S** **17 06 56.6 -1.6**
SYZ Scrubby Hill 64.76 138 P **P** **16 58 28.3 +2.5**
LBZ Lake Benmore 64.89 136 IAmb IAmb 16 59 00.8
comp=Z,690nm,1.5s
GEYT Alibeck 64.94 318 P **P** **16 58 27.5 +0.4**
GEYT Alibeck 64.94 318 P **P** **16 58 27.5 +0.4**
GEYT pmax pmax
comp=Z,3μm,1.2s
GEYT Alibeck 64.94 318 P **P** **16 58 27.2 +0.1**
comp=Z,1μm,0.9s,baz=144,slow=5.5,SNR=913
GEYT S **S** **17 07 00.3 -0.7**
comp=Z,121nm,1.3s,baz=20,slow=19,SNR=12
GEYT PKPPKP **P'P'df** **17 27 11.6 +0.6**
comp=Z,3.4nm,1.0s,baz=354,slow=4.3,SNR=2.9
GEYT LR LR 17 28 14.1
comp=Z,5μm,21.8s,baz=134,slow=37
comp=Z,1μm,0.9s
GYA0B ALIBECK ARRAY 64.94 318 P **P** **16 58 27.1 0.0**
SAKB Bahrain 65.08 303 P **P** **16 58 29.1 +0.9**
SAKB S **S** **17 07 00.7 -2.5**
BRZS Berezniki 65.09 336 ⇑*i*P **P** **16 58 27.4 -0.5**
baz=336
BRZS *e*S **S** **17 06 59.7 -2.7**
baz=336
BRZS Berezniki 65.09 336 *c i*P **P** **16 58 27.3 -0.5**
BRZS *e*S **S** **17 06 59.7 -2.7**
RPZ Rata Peaks 65.33 135 P **P** **16 58 30.4 +0.8**
RPZ IAmb IAmb 16 59 07.7
comp=Z,621nm,1.1s
RPZ Rata Peaks 65.33 135 P **P** **16 58 30.3 +0.7**
RPZ Rata Peaks 65.33 135 LR LR 17 27 03.9
comp=Z,11μm,19.3s,baz=282,slow=36
BOD Bodaibo 65.37 3 ⇓*i*P **P** **16 58 28.8 -0.6**
BOD pmax pmax
comp=Z,1μm,1.6s
ODZ Otahua Downs 65.37 136 P **P** **16 58 31.1 +1.2**

INZ Inchbonnie 65.38 134 IAmb IAmb 16 59 03.0
comp=Z,844nm,1.4s
TYV Tymovskoe 65.43 23 *e*P **P** **16 58 30.9 +1.0**
TYV *e*S **S** **17 07 07.2 +0.8**
TYV pmax pmax
comp=Z,279nm,1.7s
TYV pmax pmax
comp=Z,8μm,4.5s
TYV smax smax
comp=N,2μm,7.2s
TYV smax smax
comp=E,3μm,7.2s
DSZ Denniston Nort 65.43 132 P **P** **16 58 30.7 +0.4**
DSZ Denniston Nort 65.43 132 P **P** **16 58 31.2 +0.9**
QRZ Quartz Range 65.78 131 IAmb IAmb 16 59 05.4
comp=Z,879nm,1.2s
THZ Tophouse 66.24 132 IAmb IAmb 16 59 07.9
comp=Z,2μm,1.8s
WCZ Waipu Caves 66.37 126 P **P** **16 58 38.4 +2.0**
NNZ Nelson 66.48 132 P **P** **16 58 37.3 +0.3**
NBEZ Newall Road No 66.50 129 P P 16 58 45.7 +8.5
NKL Nikolayevsk 66.53 21 *e*P **P** **16 58 34.3 -2.6**
NKL *e* 16 59 03.1
NKL *e* 17 01 01.9
NKL pmax pmax
comp=N,916nm,0.9s
NKL pmax pmax
comp=E,473nm,0.9s
NKL pmax pmax
comp=Z,4μm,1.0s
NKL pmax pmax
comp=Z,2μm,4.6s
NKL MLR MLR
comp=E,8μm,16.0s
NKL MLR MLR
comp=N,16μm,14.0s
NKL MLR MLR
comp=Z,14μm,18.0s
NMEZ Namu Road 66.54 130 P **P** **16 58 40.7 +3.4**
GVZ Greta Valley S 66.58 134 P **P** **16 58 38.2 +0.6**
GVZ IAmb IAmb 16 59 22.3
comp=Z,825nm,1.5s
PKE Pukeiti 66.58 129 P **P** **16 58 41.1 +3.4**
KHEZ Kahui Hut 66.62 129 P **P** **16 58 40.3 +2.3**
KHEZ Kahui Hut 66.62 129 P **P** **16 58 42.0 +4.0**
NEZ North Egmont 66.68 129 P **P** **16 58 41.5 +3.1**
DREZ Durham Road 66.75 129 P **P** **16 58 42.1 +3.3**
DUWZ D'Urville Isla 66.81 131 P **P** **16 58 41.1 +2.0**
MHEZ Mangahewa 66.82 129 P **P** **16 58 41.7 +2.5**
KHZ Kahutara 66.83 133 IAmb IAmb 16 59 16.2
comp=Z,772nm,1.4s
LREZ Lake Rotokare 66.94 130 P **P** **16 58 42.9 +2.9**
MAW Mawson 67.12 197 P **P** **16 58 40.9 +0.4**
baz=67,SNR=130
MAW Mawson 67.12 197 P **P** **16 58 40.9 +0.4**
comp=Z,99nm,0.8s,baz=52,slow=6.3,SNR=158
MAW LR LR 17 24 05.1
comp=Z,4μm,19.7s,baz=38,slow=32
MAW PKPPKP **P'P'df** **17 27 04.0 -2.8**
comp=Z,133nm,1.1s,baz=208,slow=3.6,SNR=22
comp=Z,99nm,0.8s
HIZ Hauiti 67.14 129 IAmb IAmb 16 58 46.4
comp=Z,648nm,1.1s
HIZ Hauiti 67.14 129 P **P** **16 58 44.3 +3.0**
HIZ Hauiti 67.14 129 P **P** **16 58 43.6 +2.3**
TCW Tory Channel 67.15 131 P **P** **16 58 40.6 -0.7**
VRZ Vera Road 67.16 129 P **P** **16 58 43.9 +2.5**
MKAZ Moumakai 67.18 127 P **P** **16 58 44.0 +2.5**
WAZ Wanganui 67.44 130 P **P** **16 58 44.9 +1.8**
SNZO South Karori 67.48 132 P **P** **16 58 42.2 -1.1**
SNZO South Karori 67.48 132 P **P** **16 58 44.2 +0.9**
SNZO South Karori 67.48 132 ⇑P **P** **16 58 42.7 -0.6**
SNZO ⇓P **P** **16 58 43.5 +0.2**
SNZO South Karori 67.48 132 P **P** **16 58 43.2 -0.2**
SNZO pP **pP** **16 59 06.6 -2.0**
SNZO PcP **PcP** **16 59 11.1 +1.1**
TOZ Tahuroa Road 67.54 128 P **P** **16 58 46.1 +2.4**
KIW Kapiti Island 67.56 131 P **P** **16 58 44.3 +0.4**
KUZ Kuaotunu 67.58 127 P **P** **16 58 46.4 +2.4**
KUZ Kuaotunu 67.58 127 P **P** **16 58 45.5 +1.5**
ATD Arta Tunnel 67.63 286 *e*P **P** **16 58 41.5 -3.5**
ATD Arta Tunnel 67.63 286 *i*P **P** **16 58 47.3 +2.6**
ATD *e*S **S** **17 07 35.6 +1.1**
ATD Arta Tunnel 67.63 286 *i*P **P** **16 58 47.3 +2.6**
ATD *e*S **S** **17 07 35.6 +1.1**
ATD Arta Tunnel 67.63 286 *e*P **P** **16 58 41.5 -3.3**
ATD Arta Tunnel 67.63 286 P **P** **16 58 47.5 +2.8**
PKVZ Pokaka 67.64 129 P **P** **16 58 47.2 +2.7**
TLZ Tolley Road 67.65 128 P **P** **16 58 47.1 +2.5**
TWVZ Taurewa 67.68 129 P **P** **16 58 46.3 +1.6**
CAW Cannon Point 67.72 131 P **P** **16 58 45.6 +0.7**
OGWZ Otaki Gorge 67.75 131 P **P** **16 58 45.6 +0.6**
OHWZ Ohakea 67.76 130 P P 16 58 52.2 +7.1
COVZ Chateau Observ 67.78 129 P **P** **16 58 47.3 +2.0**
FWVZ Far West T-bar 67.79 129 P **P** **16 58 47.3 +1.6**
TRVZ Turoa 67.80 129 P **P** **16 58 47.5 +1.8**
WTVZ West Tongariro 67.80 129 P **P** **16 58 47.7 +2.1**
MAVZ Mataroa 67.80 129 P **P** **16 58 47.9 +2.1**
NGZ Ngauruhoe 67.82 129 P **P** **16 58 47.5 +1.8**
NNVZ North Ngauruho 67.82 129 P **P** **16 58 47.7 +2.0**
WHVZ Whangaehu Hut 67.83 129 P **P** **16 58 47.7 +1.9**
KRVZ Karewarewa 67.84 129 P **P** **16 58 48.1 +2.3**
WNVZ Wahianoa 67.84 129 P **P** **16 58 47.5 +1.6**
SNVZ South Ngauruho 67.85 129 P **P** **16 58 47.9 +2.0**
WATZ Wairara 67.85 129 P **P** **16 58 48.9 +3.1**
NTVZ North Tongarir 67.87 129 P **P** **16 58 47.9 +1.9**
OTVZ Oturere 67.87 129 P **P** **16 58 47.8 +1.8**
TUVZ Tukino 67.87 129 P **P** **16 58 47.7 +1.7**
TMVZ Te Maari 67.89 129 P **P** **16 58 48.1 +2.0**
ETVZ East Tongariro 67.90 129 P **P** **16 58 48.2 +2.0**
RATZ Rangitukua 67.91 129 P **P** **16 58 48.2 +2.1**
MOVZ Moawhango 67.97 129 P **P** **16 58 47.5 +0.9**
RITZ Rihia Road 67.99 129 P **P** **16 58 48.9 +2.3**
CCD Concordia, Ant 68.02 176 P **P** **16 58 47.3 +0.7**
HOWZ Holdsworth Sta 68.02 131 P **P** **16 58 45.7 -1.1**
MRZ Mangatainoka R 68.03 131 P **P** **16 58 47.3 +0.5**
MRZ IAmb IAmb 16 59 24.9
comp=Z,492nm,1.0s
MRZ Mangatainoka R 68.03 131 P **P** **16 58 47.4 +0.5**
PAWZ Paruwai Farm 68.03 132 P **P** **16 58 48.1 +1.2**
MTW Mount Morrison 68.05 131 P **P** **16 58 47.7 +0.8**
POWZ Post Office Ro 68.13 130 P **P** **16 58 51.0 +3.6**
HATZ Hinemaiaia 68.16 129 P **P** **16 58 49.2 +1.5**
BHHZ Black Hill Sta 68.22 129 P **P** **16 58 49.0 +0.9**
TSZ Takapari Road 68.22 130 P **P** **16 58 49.3 +1.3**
TRWZ Traveller 68.23 132 P **P** **16 58 49.4 +1.4**
YSA Yasawairara 68.25 105 P **P** **16 58 50.5 +2.0**
TIWZ Tintock 68.28 131 P **P** **16 58 50.0 +1.6**
ALRZ Allen Road 68.31 128 P **P** **16 58 50.5 +1.9**
PRWZ Pori Road 68.31 131 P **P** **16 58 49.6 +1.1**
TMWZ Te Maipa 68.33 131 P **P** **16 58 50.1 +1.3**
BVA0 Borovoye Array 68.34 337 P **P** **16 58 46.3 -2.1**
BVAR Borovoye Array 68.34 337 P **P** **16 58 47.9 -0.5**
comp=Z,300nm,0.8s,baz=142,slow=7.4,SNR=684
BVAR S **S** **17 07 40.0 -1.5**
comp=Z,39nm,1.2s,baz=139,slow=9.2,SNR=4.7
BVAR PKP2bc 17 27 02.8
comp=Z,2.3nm,0.8s,baz=306,slow=3.5,SNR=6.7
BVAR LR LR 17 31 46.1
comp=Z,4μm,22.0s,baz=136,slow=38
BVAR P4KPbc 17 35 35.0
comp=Z,3.8nm,0.9s,baz=145,slow=5.4,SNR=15
comp=Z,300nm,0.8s
OPRZ Ohinepanea 68.38 128 P **P** **16 58 51.0 +2.0**
PNHZ Pukenui 68.39 130 P **P** **16 58 50.5 +1.4**
MRHZ Matea Rd 68.40 129 P **P** **16 58 50.2 +1.0**
BRVK Borovoye 68.41 337 P **P** **16 58 48.2 -0.6**
BRVK Borovoye 68.41 337 P **P** **16 58 48.9 +0.1**
BRVK S **S** **17 07 40.6 -1.7**
BRVK Borovoye 68.41 337 *ce*P **P** **16 58 48.1 -0.7**
BRVK pmax pmax
comp=Z,237nm,0.9s
BRVK MLR MLR
comp=Z,5μm,22.0s
BRVK Borovoye 68.41 337 P **P** **16 58 48.5 -0.3**
BRVK PcP **PcP** **16 59 14.4 +0.9**
DVHZ Dannevirke 68.42 130 P **P** **16 58 49.9 +0.6**
KRHZ Kereru 68.48 130 P **P** **16 58 51.3 +1.6**
KWHZ Kaweka Forest 68.49 129 P **P** **16 58 51.3 +1.6**
BKZ Black Stump Fm 68.50 129 IAmb IAmb 16 58 52.9
comp=Z,529nm,1.0s
BKZ Black Stump Fm 68.50 129 P **P** **16 58 50.9 +1.0**
BKZ Black Stump Fm 68.50 129 P **P** **16 58 51.2 +1.4**

BKZ S **PcP** **16 59 16.5 +2.0**
BFZ Birch Farm 68.53 131 IAmb IAmb 16 59 27.3
comp=Z,598nm,1.1s
BFZ Birch Farm 68.53 131 P **P** **16 58 52.0 +2.0**
BFZ Birch Farm 68.53 131 P **P** **16 58 51.0 +1.1**
CPWZ Castlepoint 68.53 131 P **P** **16 58 52.2 +2.3**
WPHZ Waipukurau 68.59 130 P **P** **16 58 52.4 +2.0**
ANWZ Angora Road 68.67 130 P **P** **16 58 51.6 +0.8**
NMHZ Naumai 68.74 129 P **P** **16 58 53.1 +1.8**
PRHZ Porangahau 68.77 130 P **P** **16 58 53.0 +1.6**
RTZ Ruatahuna 68.81 128 IAmb IAmb 16 59 21.5
comp=Z,609nm,0.9s
RTZ Ruatahuna 68.81 128 P **P** **16 58 52.8 +1.0**
URZ Urewera 68.86 128 P **P** **16 58 51.3 -0.7**
URZ Urewera 68.86 128 PKPPKP 17 27 02.7
comp=Z,9.6nm,1.0s,baz=141,slow=4.3,SNR=5.5
URZ LR LR 17 31 51.0
comp=Z,7μm,18.6s,baz=358,slow=38
KAHZ Kahuranaki 68.88 130 P **P** **16 58 54.1 +1.9**
ARHZ Aropaoanui 68.90 129 P **P** **16 58 53.9 +1.7**
PXZ Pawanui 68.91 130 P **P** **16 58 54.0 +1.8**
RAGZ Rawiri 69.13 128 P **P** **16 58 55.0 +1.2**
MWZ Matawai 69.20 128 P **P** **16 58 54.3 +0.1**
RUGZ Raukumara Rang 69.27 128 P **P** **16 58 54.8 +0.1**
HAZ Te Kaha 69.33 127 P **P** **16 58 55.4 +0.5**
MXZ Matakaoa Point 69.72 127 P **P** **16 58 58.1 +0.7**
PUZ Puketiti 69.74 128 P **P** **16 58 57.6 +0.1**
KIBK Kibwezi 69.93 270 P **P** **16 59 01.0 +1.8**
SNR=50
KIBK Kibwezi 69.93 270 P **P** **16 58 58.9 -0.3**
FUNA Funafuti 70.30 96 P **P** **16 59 01.6 +0.3**
FUNA IAmb IAmb 16 59 03.6
comp=Z,742nm,1.2s
FUNA Funafuti 70.30 96 P **P** **16 59 03.4 +2.1**
FUNA Funafuti 70.30 96 P **P** **16 59 02.8 +1.5**
DGTI Dogotuki 70.33 105 P **P** **16 59 02.2 +0.8**
AB31 Akbulak array 70.49 329 P **P** **16 59 00.9 -0.8**
ABKAR Akbulak array 70.49 329 P **P** **16 59 01.3 -0.4**
DESE Dese 70.61 285 *e*P **P** **16 59 04.0 +0.4**
DESE Dese 70.61 285 *e*P **P** **16 59 07.4 +3.8**
DESE *e*S **S** **17 08 14.5 +4.3**
DESE Dese 70.61 285 *e*P **P** **16 59 07.4 +3.8**
DESE *e*S **S** **17 08 14.5 +4.3**
DESE Dese 70.61 285 *e*P **P** **16 59 04.0 +0.4**
TAVE Taveuni 70.66 105 P **P** **16 59 05.1 +1.7**
KMBO Kilima Mbogo 70.87 271 P **P** **16 59 06.4 +1.3**
KMBO Kilima Mbogo 70.87 271 *i*P **P** **16 59 07.0 +2.0**
SNR=94
KMBO Kilima Mbogo 70.87 271 *e*P P 16 58 57.6 -7.5
KMBO Kilima Mbogo 70.87 271 *i*P **P** **16 59 07.1 +2.0**
KMBO *e*S **S** **17 08 12.7 -0.5**
KMBO Kilima Mbogo 70.87 271 P **P** **16 59 07.0 +2.0**
KMBO S **S** **17 08 14.7 +1.5**
KMBO Kilima Mbogo 70.87 271 ⇓*i*P **P** **16 59 07.1 +2.0**
KMBO IAmb IAmb 16 59 07.6
comp=Z,450nm,1.1s
KMBO Kilima Mbogo 70.87 271 *i*P **P** **16 59 06.5 +1.4**
KMBO Kilima Mbogo 70.87 271 P **P** **16 59 05.7 +0.6**
comp=Z,50nm,0.8s,baz=81,slow=6.3,SNR=114
KMBO S **S** **17 08 13.2 0.0**
comp=Z,0.8nm,0.4s,baz=326,slow=22,SNR=7.2
KMBO LR LR 17 24 44.6
comp=Z,6μm,21.2s,baz=96,slow=31
KMBO PKPPKP **P'P'df** **17 26 59.5 -4.1**
comp=Z,5.9nm,1.1s,baz=275,slow=3.8,SNR=13
comp=Z,50nm,0.8s
KMBO Kilima Mbogo 70.87 271 *i*P **P** **16 59 07.1 +2.0**
KMBO *e*S **S** **17 08 12.7 -0.5**
KMBO Kilima Mbogo 70.87 271 *e*P P 16 58 57.6 -7.5
KMBO Kilima Mbogo 70.87 271 P **P** **16 59 07.0 +2.0**
FURI Furi 71.09 282 *e*P **P** **16 59 04.0 -2.5**
FURI Furi 71.09 282 *e*P **P** **16 59 10.7 +4.2**
FURI *e*S **S** **17 08 15.7 -0.1**
FURI Furi 71.09 282 *e*P **P** **16 59 10.7 +4.2**
FURI *e*S **S** **17 08 15.7 -0.1**
FURI Furi 71.09 282 *e*P **P** **16 59 04.0 -2.5**
FURI Furi 71.09 282 P **P** **16 59 10.8 +4.3**
SKR Severo-Kuril's 71.31 30 *e*P **P** **16 59 06.7 +0.1**
SKR *e* 16 59 37.2
SKR *e*S **S** **17 08 13.5 -2.7**
SKR *e*SS **SS** **17 12 56.3 +3.7**
SKR pmax pmax
comp=Z,5μm,4.2s
SKR pmax pmax
comp=Z,1μm,1.1s
SKR MLR MLR
comp=Z,4μm,21.0s
YAK Yakutsk 71.41 11 P **P** **16 59 05.8 -1.2**
YAK IAmb IAmb 16 59 07.9
comp=Z,2μm,1.2s
YAK Yakutsk 71.41 11 *c i*P **P** **16 59 06.2 -0.8**
YAK *e* 16 59 49.6
YAK *e* 17 01 47.5
YAK *e*S **S** **17 08 15.4 -1.6**
YAK *e* 17 08 54.9
YAK *e**SS **ScS** **17 09 05.6 +3.3**
YAK *e*SS **SS** **17 12 56.1 +2.3**
YAK pmax pmax
comp=Z,1μm,1.0s
YAK pmax pmax
comp=N,550nm,1.0s
YAK pmax pmax
comp=E,243nm,1.1s
YAK pmax pmax
comp=Z,317nm,1.6s
YAK pmax pmax
comp=N,218nm,1.9s
YAK pmax pmax
comp=E,153nm,1.6s
YAK smax smax
comp=N,382nm,1.9s
YAK smax smax
comp=E,587nm,1.8s
YAK MLR MLR
comp=Z,6μm,15.0s
YAK MLR MLR
comp=N,4μm,13.0s
YAK Yakutsk 71.41 11 P **P** **16 59 06.1 -0.8**
comp=N,53nm,0.8s,baz=202,slow=4.3,SNR=513
YAK S **S** **17 08 12.2 -4.8**
comp=N,2.3nm,1.0s,baz=166,slow=4.2,SNR=19
YAK LR LR 17 33 07.5
comp=N,124nm,18.2s,baz=198,slow=38
YAK Yakutsk 71.41 11 P **P** **16 59 06.5 -0.5**
LKRN Lenkeran, Azer 71.71 315 P **P** **16 59 10.1 +0.8**
DODT Dodoma, Tanzan 71.77 266 *i*P **P** **16 59 11.8 +1.4**
AKTO Aktyubinsk 72.19 329 P **P** **16 59 11.5 -0.5**
comp=N,309nm,1.1s,baz=127,slow=5.2,SNR=193
AKTO S **S** **17 08 23.8 -2.7**
comp=N,45nm,1.0s,baz=303,slow=19,SNR=17
AKTO PKPPKP **P'P'df** **17 26 55.0 -2.8**
comp=N,0.7nm,0.4s,baz=322,slow=3.5,SNR=6.6
AKTO LR LR 17 35 39.4
comp=N,3μm,19.6s,baz=121,slow=40
comp=N,309nm,1.1s
RAO Raoul Island 72.37 118 LR LR 17 31 33.0
comp=N,5μm,20.3s,baz=256,slow=36
FUTU Fugatoga 72.50 103 P **P** **16 59 17.0 +2.5**
LODK Lodwar 73.39 276 *e*P **P** **16 59 18.4 -1.5**
LODK Lodwar 73.39 276 *i*P **P** **16 59 21.9 +2.0**
LODK *e*S **S** **17 08 45.5 +3.8**
LODK *i*S **SKiKP** **17 08 46.0 +4.4**
LODK Lodwar 73.39 276 P **P** **16 59 22.4 +2.5**
SNR=90
LODK Lodwar 73.39 276 *i*P **P** **16 59 21.9 +2.0**
LODK *e*S **S** **17 08 45.5 +3.8**
LODK *i*S **SKiKP** **17 08 46.0 +4.4**
LODK Lodwar 73.39 276 *e*P **P** **16 59 18.4 -1.5**
PEA0B Petropavlovsk- 73.58 29 IAmb IAmb 16 59 32.5
comp=Z,818nm,1.4s
PEA0B Petropavlovsk- 73.58 29 *ce*P **P** **16 59 19.7 -0.4**
PETK Petropavlovsk- 73.58 29 P **P** **16 59 19.4 -0.7**
comp=Z,217nm,0.8s,baz=223,slow=0.8,SNR=161
PETK LR LR 17 31 45.1
comp=Z,3μm,21.8s,baz=213,slow=36
comp=Z,217nm,0.8s
MNGR Mingechevir, A 73.78 316 P **P** **16 59 22.9 +1.4**
SEKA Sheki 73.89 317 P **P** **16 59 23.1 +0.9**
PET Petropavlovsk 73.99 29 P **P** **16 59 22.1 -0.3**
PET Petropavlovsk 73.99 29 P **P** **16 59 22.3 -0.1**
PET Petropavlovsk 73.99 29 ⇑*i*P **P** **16 59 22.6 +0.2**
PET *e* 17 02 07.1
PET *e*S **SKiKP** **17 08 42.9 +1.7**
PET *e**SS **sS** **17 09 30.6 -0.1**

PET eSS SS 17 13 26.7 -6.8
PET pmax pmax
comp=Z,1μm,2.0s
PET pmax pmax
comp=Z,12μm,5.2s
PET pmax pmax
comp=Z,6μm,11.7s
PET smax smax
comp=N,3μm,10.0s
PET smax smax
comp=E,4μm,9.7s
PET smax smax
comp=N,2μm,14.7s
PET smax smax
comp=E,3μm,17.7s
PET MLR MLR
comp=Z,3μm,15.0s
PET MLR MLR
comp=Z,2μm,14.0s
CTZ Chatham Island 74.15 133 P **P 16 59 24.8 +1.1**
NAX Nakhchivan 74.22 314 P **P 16 59 24.9 +0.6**
GANJ Ganja 74.25 316 P **P 16 59 24.9 +0.6**
MAK Makhachkala 74.45 318*c iP* **P 16 59 23.6 -1.7**
MAK *e**SP **sP 17 00 00.0 -2.4**
MAK *e*PPP PPP 17 04 00.5
MAK *e*S **S 17 08 48.2 -4.0**
MAK *e**SS **sS 17 09 37.5 +0.9**
MAK *e*SS **SS 17 13 39.7 -1.2**
MAK pmax pmax
comp=Z,6μm,1.4s
MAK pmax pmax
comp=Z,3μm,1.3s
ZKTA Zakatala 74.46 317 P **P 16 59 26.6 +1.1**
POGA Pongola 74.49 244 P **P 16 59 27.7 +1.7**
MOPA Mopani 74.85 248⇓*iP* **P 16 59 28.7 +0.5**
SVE Sverdlovsk 75.01 335*d iP* **P 16 59 28.7 +0.4**
SVE *i* S **S 17 08 56.5 -1.4**
SVE pmax pmax
comp=Z,1μm,2.0s
SVE pmax pmax
comp=Z,3μm,8.4s
MA2 Magadan 75.05 21 P **P 16 59 28.7 +0.2**
MA2 IAmb IAmb 16 59 31.1
comp=Z,477nm,0.9s
MA2 Magadan 75.05 21 P **P 16 59 29.1 +0.6**
MA2 Magadan 75.05 21*ce*P **P 16 59 28.8 +0.3**
MA2 pmax pmax
comp=Z,2μm,2.5s
MA2 MLR MLR
comp=Z,4μm,16.0s
MA2 Magadan 75.05 21 P **P 16 59 28.2 -0.3**
comp=Z,363nm,0.8s,baz=206,slow=5.8,SNR=116
MA2 LR LR 17 35 36.8
comp=Z,3μm,19.1s,baz=220,slow=38
comp=Z,363nm,0.8s
GNI Garni 75.15 315 P **P 16 59 30.2 +0.5**
GNI IAmb IAmb 16 59 32.4
comp=Z,2μm,1.2s
GNI Garni 75.15 315 P **P 16 59 30.5 +0.7**
GNI Garni 75.15 315 P **P 16 59 30.9 +1.2**
GNI S **S 17 08 59.6 -0.9**
GNI Garni 75.15 315*ce*P **P 16 59 29.7 0.0**
GNI pmax pmax
comp=Z,2μm,1.7s
GNI MLR MLR
comp=Z,3μm,20.0s
GNI Garni 75.15 315 P **P 16 59 30.4 +0.7**
comp=Z,766nm,1.1s,baz=148,slow=1.1,SNR=311
GNI S **S 17 08 59.3 -1.2**
comp=Z,26nm,1.0s,baz=247,slow=23,SNR=8.2
comp=Z,766nm,1.1s
VNDA Vanda 75.18 170 P **P 16 59 28.9 -0.1**
comp=Z,61nm,0.9s,baz=315,slow=5.9,SNR=206
VNDA S **S 17 08 56.2 -3.1**
comp=Z,2.4nm,1.0s,baz=208,slow=23,SNR=1.2
VNDA LR LR 17 30 27.8
comp=Z,3μm,20.8s,baz=324,slow=34
comp=Z,61nm,0.9s
PILG Pilgrimsrest, 75.43 246⇓*iP* **P 16 59 32.7 +1.0**
PILG IAmb IAmb 16 59 34.2
comp=Z,3μm,2.2s
ARU Arti 75.63 334 P **P 16 59 31.8 -0.1**
ARU IAmb IAmb 16 59 34.8
comp=Z,893nm,1.2s
ARU Arti 75.63 334*c iP* **P 16 59 31.3 -0.5**
ARU 16 59 42.6
ARU S **S 17 09 03.1 -1.7**
ARU 17 09 25.8
ARU SSS SSS 17 17 13.1
ARU pmax pmax
comp=Z,1μm,1.3s
ARU MLR MLR
comp=Z,7μm,24.0s
ARU Arti 75.63 334 P **P 16 59 31.7 -0.1**
comp=Z,86nm,0.4s,baz=135,slow=3.4,SNR=204
ARU S **S 17 08 59.9 -4.9**
comp=Z,25nm,0.9s,baz=32,slow=23,SNR=37
ARU PKPPKP **P'P'df 17 26 53.7 +2.2**
comp=Z,0.7nm,0.3s,baz=323,slow=0.8,SNR=6.4
ARU LR LR 17 36 01.4
comp=Z,6μm,21.7s,baz=130,slow=38
comp=Z,86nm,0.4s
KZRT Kazreti 75.88 316 P **P 16 59 34.4 +0.7**
CRLN Carolina, Mapu 76.02 245⇓*iP* **P 16 59 35.6 +0.6**
CRLN IAmb IAmb 16 59 37.7
comp=Z,351nm,1.4s
NWCL Newcastle 76.09 243⇓*iP* **P 16 59 35.5 +0.1**
NWCL IAmb IAmb 16 59 37.7
comp=Z,222nm,0.9s
TRLG Trialeti 76.14 316 P **P 16 59 36.4 +1.1**
SBA Scott Base 76.25 169 P **P 16 59 36.8 +1.7**
SBA Scott Base 76.25 169 P **P 16 59 36.8 +1.7**
SBA pmax pmax
comp=Z,244nm,1.1s
GUDG Gudauri 76.26 317 P **P 16 59 37.1 +1.1**
MUSN Musina, Limpop 76.31 249⇓*iP* **P 16 59 36.2 -0.4**
MUSN IAmb IAmb 16 59 39.0
comp=Z,668nm,1.4s
GURO Guroymak-BITLI 76.48 313 IAmb IAmb 16 59 40.3
comp=Z,2μm,1.1s
KSTD Kokstad 76.55 240⇓*iP* **P 16 59 39.1 +1.1**
KSTD IAmb IAmb 16 59 40.3
comp=Z,196nm,0.8s
ZEI Tsey 76.78 317 *e*P **P 16 59 34.4 -4.5**
ZEI pmax pmax
comp=Z,1μm,1.1s
ONI Oni 77.00 317 IAmb IAmb 16 59 43.3
comp=Z,774nm,1.1s
ONI Oni 77.00 317 P **P 16 59 41.5 +1.5**
NCK Nalchik 77.27 318*c iP* **P 16 59 42.2 +0.8**
NCK pmax pmax
comp=Z,2μm,1.1s
NCK MLR MLR
comp=Z,3μm,22.0s
SLR Silverton 77.60 245⇓*iP* **P 16 59 43.7 -0.2**
SLR IAmb IAmb 16 59 46.3
comp=Z,550nm,1.2s
MATP Matopo 77.68 251 LR LR 17 28 39.9
comp=Z,7μm,20.6s,baz=90,slow=31
KBZ Khabaz 77.82 318*ce*P **P 16 59 45.2 +0.8**
KBZ pmax pmax
comp=Z,3μm,1.1s
KBZ MLR MLR
comp=Z,4μm,27.0s
KBZ Khabaz 77.82 318 P **P 16 59 45.3 +0.8**
comp=Z,2μm,1.0s,baz=111,slow=3.9,SNR=687
KBZ S **S 17 09 26.6 -2.5**
comp=Z,20nm,1.1s,baz=64,slow=8.1,SNR=28
KBZ PKKPbc **PKKPbc 17 18 47.3 -0.3**
comp=Z,7.1nm,0.9s,baz=276,slow=1.7,SNR=8.8
KBZ PKPPKP **P'P'df 17 26 48.5 -0.1**
comp=Z,3.8nm,1.0s,baz=288,slow=6.4,SNR=3.7
KBZ LR LR 17 40 05.4
comp=Z,1μm,18.1s,baz=106,slow=40
BCA Borcka 77.83 315⇑*iP* **P 16 59 45.4 +0.8**
BATM Batumi 77.84 315 P **P 16 59 45.4 +0.8**
SNKL Senekal, Frees 77.95 243⇓*iP* **P 16 59 46.8 +0.9**
SNKL IAmb IAmb 16 59 47.7
comp=Z,235nm,0.8s
SEY Seymchan 78.00 19*ce*P **P 16 59 45.3 +0.3**
SEY pmax pmax
comp=Z,218nm,1.0s
SEY MLR MLR
comp=Z,3μm,16.0s
SEY Seymchan 78.00 19 P **P 16 59 45.4 +0.3**
comp=Z,141nm,0.6s,baz=233,slow=5.6,SNR=245
SEY LR LR 17 35 14.9
comp=Z,2μm,21.8s,baz=226,slow=36
comp=Z,141nm,0.6s
KVAR Kislovodsk Arr 78.05 318 P **P 16 59 47.4 +1.5**
comp=Z,361nm,1.1s,baz=99,slow=24,SNR=44
KVAR S **S 17 09 27.8 -4.1**
baz=183,slow=6.2,SNR=4.1
KVAR LR LR 17 35 44.4
comp=Z,1μm,21.7s,baz=350,slow=37
comp=Z,361nm,1.1s
KIV Kislovodsk 78.05 318⇑P **P 16 59 46.6 +0.7**
KIV Kislovodsk 78.05 318 P **P 16 59 46.4 +0.6**
KIV IAmb IAmb 16 59 48.5
comp=Z,2μm,1.2s
KIV Kislovodsk 78.05 318 *i* P **P 16 59 46.6 +0.7**
SNR=266
KIV Kislovodsk 78.05 318 P **P 16 59 46.8 +1.0**
KIV S **S 17 09 29.5 -2.4**
KIV Kislovodsk 78.05 318 *e*P **P 16 59 46.5 +0.6**
KIV *e**SP **sP 17 00 20.2 -2.9**
KIV *e*S **S 17 09 30.6 -1.3**
KIV *e*SS **SS 17 14 29.6 -6.0**
KIV pmax pmax
comp=Z,1μm,1.0s
KIV pmax pmax
comp=Z,1μm,3.0s
KIV MLR MLR
comp=Z,1μm,18.0s
HRAO HartRAO 78.13 245⇓*iP* **P 16 59 47.9 +1.1**
HRAO IAmb IAmb 16 59 49.2
comp=Z,492nm,1.2s
LEPH Lephalale, Lim 78.13 247⇓*iP* **P 16 59 48.0 +1.3**
LEPH IAmb IAmb 16 59 49.1
comp=Z,908nm,1.4s
GOF Gofitskoye 78.25 319*c iP* **P 16 59 47.6 +0.8**
GOF *e*S **S 17 09 29.6 -4.1**
WDLM Western Deep L 78.34 245 *e*P **P 16 59 49.1 +1.1**
WDLM IAmb IAmb 16 59 50.6
comp=Z,203nm,1.3s
LSZ Lusaka 78.35 256 P **P 16 59 49.5 +1.3**
LSZ Lusaka 78.35 256 P **P 16 59 49.8 +1.6**
LSZ S **S 17 09 36.3 +0.1**
LSZ Lusaka 78.35 256 P **P 16 59 49.5 +1.3**
LSZ pmax pmax
comp=Z,473nm,1.3s
LSZ Lusaka 78.35 256 LR LR 17 29 26.2
comp=Z,21μm,20.9s,baz=96,slow=32
PRYS Parys 78.37 244⇓*iP* **P 16 59 49.3 +1.2**
PRYS IAmb IAmb 16 59 50.4
comp=Z,590nm,1.1s
ASF Jabal al Asfar 78.39 305 P **P 16 59 49.8 +1.8**
comp=Z,855nm,1.0s,baz=132,slow=1.8,SNR=342
ASF S **S 17 09 35.0 -0.9**
comp=Z,4.0nm,1.0s,baz=341,slow=22,SNR=12
ASF LR LR 17 38 33.4
comp=Z,3μm,18.4s,baz=110,slow=39
comp=Z,855nm,1.0s
AFI Afiamalu 78.67 103 P **P 16 59 50.8 +1.0**
AFI IAmb IAmb 17 00 31.9
comp=Z,727nm,1.3s
AFI Afiamalu 78.67 103 P **P 16 59 50.7 +0.9**
AFI Afiamalu 78.67 103 P **P 16 59 50.8 +1.0**
AFI pmax pmax
comp=Z,727nm,1.3s
BELG Belogornoye 78.72 327*c iP* **P 16 59 48.5 -0.7**
BELG pmax pmax
comp=Z,386nm,1.1s
BELG MLR MLR
comp=Z,500nm,17.0s
BELG Belogornoye 78.72 327 P **P 16 59 49.2 0.0**
comp=Z,2μm,1.1s,baz=131,slow=1.2,SNR=344
BELG S **S 17 09 34.8 -3.6**
comp=Z,75nm,1.3s,baz=232,slow=17,SNR=15
BELG LR LR 17 38 59.4
comp=Z,4μm,21.9s,baz=117,slow=39
comp=Z,2μm,1.1s
KSR Koster 78.84 245 *e*P **S 17 09 39.0 -2.2**
KSR IAmb IAmb 17 09 59.9
comp=Z,732nm,2.4s
GRHM Grahamstown, E 78.97 238 P **P 16 59 53.0 +1.8**
GRHM IAmb IAmb 16 59 54.8
comp=Z,590nm,1.1s
GRHM Grahamstown, E 78.97 238⇓*iP* **P 16 59 52.9 +1.8**
GRHM IAmb IAmb 16 59 54.5
comp=Z,480nm,1.0s
KTUT Trabzon 78.97 314⇑P **P 16 59 52.0 +1.1**
GHAJ Ghor Haditha 79.24 304 IAmb IAmb 16 59 56.8
comp=Z,2μm,1.0s
EIL Elat 79.32 302 P **P 16 59 54.1 +1.1**
comp=Z,660nm,1.1s,baz=107,slow=2.5,SNR=144
EIL S **S 17 09 43.3 -2.4**
comp=Z,20nm,1.2s,baz=50,slow=22,SNR=12
EIL LR LR 17 33 35.7
comp=Z,3μm,21.8s,baz=104,slow=34
comp=Z,660nm,1.1s
ARPR Arapgir-MALATY 79.38 312 IAmb IAmb 16 59 56.7
comp=Z,2μm,1.4s
GAZ Gaziantep 79.62 310 IAmb IAmb 16 59 58.6
comp=Z,785nm,1.2s
RCY Rachaya 79.62 306 *e*P **P 16 59 56.7 +2.0**
BEIL Beino 79.64 307 *e*P **P 16 59 56.3 +1.6**
SHBL Chebaa 79.65 306 *e*P **P 16 59 57.0 +2.1**
SOE Somerset East 79.68 238 IAmb IAmb 16 59 58.7
comp=Z,841nm,1.5s
SOE Somerset East 79.68 238 *e*P **P 16 59 56.3 +1.3**
SOE IAmb IAmb 16 59 57.7
comp=Z,269nm,0.9s
HWQ Hawqa 79.75 307 *e*P **P 16 59 57.1 +1.7**
QRWL Qaraoun 79.76 306 *e*P **P 16 59 57.3 +1.8**
HVD Gariep Dam 79.83 240⇓*iP* **P 16 59 56.5 +0.5**
HVD IAmb IAmb 16 59 58.9
comp=Z,419nm,1.4s
MMAI Mount Meron Ar 79.84 305 P **P 16 59 57.8 +1.9**
comp=Z,842nm,1.0s,baz=102,slow=7.9,SNR=295
MMAI S **S 17 09 52.4 +1.2**
comp=Z,1.9nm,0.8s,baz=236,slow=31,SNR=2.4
MMAI LR LR 17 36 58.4
comp=Z,3μm,21.4s,baz=73,slow=37
comp=Z,842nm,1.0s
BHL Bhannes 79.88 306 *e*P **P 16 59 57.9 +1.8**
DQRL Deir Qamar 79.89 306 *e*P **P 16 59 58.4 +2.3**
SOC Sochi 79.91 317 *e*P P 16 59 48.0 -7.9
SOC *e**PP pP 17 00 17.2 -5.1
SOC *e* 17 02 54.0
SOC *e*S S 17 09 40.0 -11
SOC *e**SS pS 17 10 28.9 +5.0
SOC MLR MLR
comp=Z,2μm,19.0s
NIUE Niue 80.00 108 P **P 16 59 58.2 +1.3**
LBTB Lobatse 80.06 246⇓*iP* **P 16 59 57.5 +0.2**
LBTB IAmb IAmb 16 59 59.6
comp=Z,2μm,2.2s
LBTB Lobatse 80.06 246 LR LR 17 30 20.8
comp=Z,8μm,19.5s,baz=90,slow=32
MIDW Midway 80.12 60 P **P 16 59 58.9 +1.6**
BOSA Boshof 80.15 242⇓*iP* **P 16 59 58.6 +0.9**
BOSA IAmb IAmb 17 00 00.1
comp=Z,379nm,1.2s
BOSA Boshof 80.15 242 P **P 16 59 58.7 +0.9**
comp=Z,73nm,0.6s,baz=101,slow=4.5,SNR=111
BOSA PKKPbc **PKKPbc 17 18 40.8 -0.5**
comp=Z,11nm,0.9s,baz=259,slow=1.8,SNR=10
BOSA LR LR 17 29 01.8
comp=Z,7μm,20.7s,baz=102,slow=31
comp=Z,73nm,0.6s
SWZ Schweizer 80.17 244 *e*P **P 16 59 58.4 +0.5**
SWZ IAmb IAmb 17 00 00.2
comp=Z,703nm,1.4s
TIXI Tiksi 80.27 7 P **P 16 59 56.2 -1.0**
TIXI Tiksi 80.27 7*c iP* **P 16 59 55.7 -1.5**
TIXI Tiksi 80.27 7 LR LR 17 38 32.0
comp=Z,171nm,19.2s,baz=216,slow=38
BUFB Buffelsbos 80.30 237 *e*P **P 17 00 00.5 +2.3**
BUFB IAmb IAmb 17 00 01.0
comp=Z,210nm,1.0s
GRAF Camdeboo Natio 80.61 239⇓*iP* **P 17 00 00.4 +0.3**
GRAF IAmb IAmb 17 00 02.5
comp=Z,211nm,1.1s
KIRV Kirov 80.91 333*ce*P **P 17 00 00.5 -0.4**
KIRV Kirov 80.91 333 P **P 17 00 01.0 +0.1**
comp=Z,537nm,1.1s,baz=117,slow=3.2,SNR=258
KIRV S **S 17 09 59.0 -2.2**
comp=Z,17nm,0.9s,baz=358,slow=22,SNR=25
KIRV PKKPbc **PKKPbc 17 18 39.2 -2.2**
comp=Z,4.3nm,0.5s,baz=273,slow=1.9,SNR=4.0
KIRV LR LR 17 40 08.2
comp=Z,4μm,20.3s,baz=125,slow=39
comp=Z,537nm,1.1s
ELIB Princess Elisa 81.20 198 *d*P **P 17 00 03.1 +0.7**
comp=Z,241nm,1.2s
BFON Badsfontein, M 81.31 239⇓*iP* **P 17 00 05.9 +2.0**
BFON IAmb IAmb 17 00 06.7
comp=Z,2μm,2.2s
ROOI Rooidraai Farm 81.39 238 *e*P **P 17 00 04.5 +0.3**
ROOI IAmb IAmb 17 00 07.2
comp=Z,2μm,2.1s
VRH Novokhopyorsk 81.50 324*c iP* **P 17 00 04.0 -0.2**
VRH pmax pmax
comp=Z,5μm,1.0s
ANN Anapa 81.87 317*c iP* **P 17 00 05.8 -0.5**
ANN *e* 17 03 20.0
ANN *e*S **S 17 10 06.8 -4.9**
ANN *e* 17 10 16.1
ANN pmax pmax
comp=Z,2μm,1.3s
ANN pmax pmax
comp=N,524nm,1.4s
ANN pmax pmax
comp=E,378nm,1.3s
ANN smax smax
comp=E,271nm,1.3s
ANN smax smax
comp=N,8μm,2.3s
SHEM Shemya Is, Ala 81.90 34 P **P 17 00 05.8 -0.4**
comp=N,1μm,1.0s,baz=1.0,slow=3.4,SNR=28
SHEM LR LR 17 33 00.1
comp=N,2μm,21.8s,baz=244,slow=33
comp=N,1μm,1.0s
SMY Shemya 81.90 34 P **P 17 00 06.7 +0.5**
BRAK Brakfontein 81.99 239⇓*iP* **P 17 00 09.1 +1.7**
BRAK IAmb IAmb 17 00 09.7
comp=Z,2μm,2.2s
CSS Mathiatis 82.01 307 IAmb IAmb 17 00 11.7
comp=Z,2μm,1.0s
PKA Prieska 82.26 241 *e*P **P 17 00 08.2 -0.7**
PKA IAmb IAmb 17 00 10.7
comp=Z,108nm,1.2s
QSPA South Pole Qui 82.39 180 P **P 17 00 08.9 +0.1**
QSPA South Pole Qui 82.39 180 P **P 17 00 08.9 +0.1**
comp=Z,75nm,0.9s,baz=306,slow=1.5,SNR=156
QSPA S **S 17 10 13.5 -3.1**
comp=Z,7.3nm,1.0s,baz=47,slow=22,SNR=2.2
QSPA LR LR 17 32 34.5
comp=Z,10μm,20.1s,baz=330,slow=32
comp=Z,75nm,0.9s
DIKM Dikmen 82.40 314⇑P **P 17 00 10.3 +1.1**
GRAN Grantham 82.56 238 *e*P **P 17 00 12.6 +2.2**
GRAN IAmb IAmb 17 00 13.2
comp=Z,90nm,0.8s
VORD Divnogorie 82.83 324 *e*P **P 17 00 11.0 -0.1**
VORD *e*S **S 17 10 13.3 -7.9**
VORD pmax pmax
comp=Z,2μm,1.1s
VORD smax smax
comp=E,220nm,2.6s
VSR Storozhevoye 82.99 324 *e*P **P 17 00 11.9 -0.1**
VSR *e*S S 17 10 13.3 -10
VSR pmax pmax
comp=Z,5μm,1.2s
VSR smax smax
comp=E,3μm,8.8s
BR131 Keskin Array S 83.04 312 IAmb IAmb 17 00 16.0
comp=Z,924nm,1.0s
BR131 Keskin Array S 83.04 312 P **P 17 00 13.2 +0.5**
SNR=712
BR131 S **S 17 10 19.1 -5.1**
BR131 Keskin Array S 83.04 312*c iP* **P 17 00 12.5 -0.2**
BRTR Keskin Array B 83.04 312 P **P 17 00 12.9 +0.2**
comp=Z,601nm,1.0s,baz=134,slow=6.9,SNR=628
BRTR S **S 17 10 20.1 -4.1**
comp=Z,7.2nm,1.1s,baz=130,slow=5.4,SNR=7.5
BRTR PKKPbc **PKKPbc 17 18 35.0 -0.7**
comp=Z,2.3nm,0.9s,baz=206,slow=1.5,SNR=6.5
BRTR PKPPKP **P'P'df 17 26 34.9 -4.9**
comp=Z,0.1nm,0.4s,baz=359,slow=27,SNR=2.5
BRTR LR LR 17 41 15.4
comp=Z,3μm,19.3s,baz=112,slow=38
comp=Z,601nm,1.0s
MERW Merweville 83.08 238⇓*iP* **P 17 00 14.9 +1.8**
MERW IAmb IAmb 17 00 15.6
comp=Z,158nm,0.8s
VORR Voronezh 83.14 324 *e*P **P 17 00 12.8 +0.1**
VORR *e*S **S 17 10 17.1 -7.2**
VORR pmax pmax
comp=Z,4μm,1.2s
VORR smax smax
comp=E,140nm,2.6s
FRAZ Fraserburg 83.24 239⇓*iP* **P 17 00 16.0 +2.1**
FRAZ IAmb IAmb 17 00 16.6
comp=Z,209nm,0.8s
LPSR Galich'ya Gora 83.63 325 *e*P **P 17 00 15.2 0.0**
LPSR *e*S S 17 10 18.1 -11
LPSR pmax pmax
comp=Z,3μm,1.1s
LPSR smax smax
comp=E,2μm,5.3s
UPI Upington 83.68 242⇓*iP* **P 17 00 16.3 +0.1**
UPI IAmb IAmb 17 00 19.4
comp=Z,286nm,1.2s
SUR Sutherland 83.70 238 P **P 17 00 18.3 +1.8**
SUR Sutherland 83.70 238 P **P 17 00 18.2 +1.8**
SUR *S* **S 17 10 31.8 +0.4**
SUR Sutherland 83.70 238 *e*P **P 17 00 18.9 +2.5**
SUR Sutherland 83.70 238 LR LR 17 30 34.0
comp=Z,19μm,21.3s,baz=100,slow=30
ANTO Ankara 83.71 311⇑P **P 17 00 17.1 +1.1**
ANTO Ankara 83.71 311 P **P 17 00 16.9 +0.9**
ANTO IAmb IAmb 17 00 19.9
comp=Z,1μm,1.2s
ANTO Ankara 83.71 311 P **P 17 00 17.0 +1.1**
ANTO S **SKSac 17 10 26.6 -3.3**
ANTO Ankara 83.71 311⇑P **P 17 00 17.1 +1.1**
MATJ Matjiesfontein 83.82 237 *e*P **P 17 00 17.6 +0.8**
MATJ IAmb IAmb 17 00 19.1
comp=Z,198nm,0.8s
KEIM Keimoes 83.90 242 IAmb IAmb 17 00 17.3
comp=Z,531nm,1.3s
KEIM ⇓*iP* **P 17 00 18.8 +1.5**
PRGR Permogore 84.07 335⇑*iP* **P 17 00 17.0 -0.2**
PRGR *e*S **SKSac 17 10 27.5 -3.5**
PRGR pmax pmax
comp=Z,820nm,1.4s
SIM Simferopol' 84.16 317 *e*P **P 17 00 18.8 +0.7**
SIM *e*S **SKSac 17 10 28.8 -3.7**
SIM pmax pmax
comp=Z,4μm,1.2s
CVNA Calvinia 84.68 239⇓*iP* **P 17 00 23.1 +1.9**
CVNA IAmb IAmb 17 00 23.6
comp=Z,584nm,1.9s
CER Ceres 84.89 237⇓*iP* **P 17 00 23.6 +1.4**
CER IAmb IAmb 17 00 24.7
comp=Z,34nm,1.1s
ISP Isparta 84.92 309*ce*P **P 17 00 22.9 +0.7**
ISP pmax pmax
comp=Z,860nm,2.5s
JOHN Johnston Islan 84.92 72 P **P 17 00 21.2 -1.2**
JOHN IAmb IAmb 17 00 28.1
comp=Z,2μm,1.4s
JOHN Johnston Islan 84.92 72 P **P 17 00 23.6 +1.1**
NVL N'lazarevskaya 84.95 199 *e*P **P 17 00 22.8 +1.2**
NVL *e*S **S 17 10 42.2 +0.3**
NVL pmax pmax
comp=Z,156nm,2.0s
NVL smax smax
comp=N,3μm,10.2s
PRTV Porterville,We 85.08 237 *e*P **P 17 00 24.0 +0.8**
PRTV IAmb IAmb 17 00 26.6
comp=Z,278nm,1.6s
KSL Kastellorizon 85.26 307 P **P 17 00 23.9 +0.1**
AKAS Kas 85.27 307 P **P 17 00 23.9 -0.2**
AKAS IAmb IAmb 17 00 26.4
comp=Z,462nm,1.0s
BORA Eskisehir 85.45 311 P **P 17 00 25.9 +1.0**
BORA IAmb IAmb 17 00 38.6
comp=Z,353nm,0.9s
MOS Moscow 85.47 328 *e*P P 17 00 19.1 -5.3
MOS *e* 17 03 41.5
MOS *e*S **SKSac 17 10 34.8 -5.4**
MOS pmax pmax
comp=Z,10μm,1.8s
MOS pmax pmax
comp=Z,3μm,1.3s

MOS pmax pmax
comp=E,2µm,1.5s
MOS pmax pmax
comp=N,1µm,1.4s
MOS pmax pmax
comp=N,726nm,1.2s
MOS pmax pmax
comp=E,827nm,1.3s
MOS smax smax
comp=N,29µm,3.6s
MOS smax smax
comp=E,7µm,2.5s
BILL Bilibino 85.70 19 P **P** **17 00 25.4 +0.1**
BILL IAmb IAmb 17 00 27.0
comp=Z,1µm,1.6s
BILL Bilibino 85.70 19 ⇑P **P** **17 00 24.9 -0.4**
OBN Obninsk 85.82 327 ⇑P **P** **17 00 26.8 +0.7**
OBN Obninsk 85.82 327 P **P** **17 00 26.6 +0.5**
OBN Obninsk 85.82 327 *c* P **P** **17 00 26.5 +0.4**
OBN *e* 17 03 43.1
OBN *e*PPP PPP 17 05 45.1
OBN *i* S **SKSac** **17 10 39.9 -2.5**
OBN pmax pmax
comp=Z,3µm,1.1s
OBN MLR MLR
comp=Z,5µm,22.0s
OBN Obninsk 85.82 327 P **P** **17 00 26.1 0.0**
comp=Z,2µm,1.1s,baz=99,slow=2.9,SNR=550
OBN S **SKSac** **17 10 40.1 -2.3**
comp=Z,38nm,0.7s,baz=298,slow=23,SNR=21
OBN LR LR 17 43 30.9
comp=Z,4µm,21.1s,baz=100,slow=39
comp=Z,2µm,1.1s
KLMR Klimovskoe 86.41 333 ⇑*i*P **P** **17 00 29.1 +0.2**
KLMR ⇑*i*P **P** **17 00 29.1 +0.2**
KLMR ⇓*i*P **P** **17 00 29.1 +0.2**
KLMR AMP 17 00 30.6
comp=Z,10µm,1.7s
KLMR AMP 17 00 31.8
comp=Z,5µm,1.4s
KLMR *e*S **SKSac** **17 10 43.7 -2.2**
KLMR *e*S **SKSac** **17 10 43.7 -2.2**
KLMR SS SS 17 16 20.6 -18
KLMR SS SS 17 16 20.6 -18
KLMR LQ LQ 17 31 17.4
KLMR LQ LQ 17 31 17.4
KLMR LR LR 17 34 58.2
KLMR AMP 17 41 52.1
comp=Z,3µm,19.1s
KLMR Klimovskoe 86.41 333 *c i*P **P** **17 00 29.0 +0.2**
KLMR *e*S **SKSac** **17 10 43.6 -2.3**
KLMR pmax pmax
comp=Z,10µm,1.7s
KLMR pmax pmax
comp=Z,5µm,1.4s
KLMR MLR MLR
comp=Z,3µm,19.0s
ARG Arkhangelos 86.43 307 IAmb IAmb 17 00 34.2
comp=Z,1µm,1.1s
ARG Arkhangelos 86.43 307 P **P** **17 00 30.8 +1.2**
ARG Arkhangelos 86.43 307 P **P** **17 00 31.3 +1.7**
ARG pmax pmax
comp=Z,1µm,1.2s
YER Yerkesik 86.50 308 P **P** **17 00 30.5 +0.5**
YER Yerkesik 86.50 308 P **P** **17 00 31.1 +1.1**
KULA Kula-Manisa 86.50 309 P **P** **17 00 31.0 +1.0**
ISK Istanbul-Kandi 86.76 312 P **P** **17 00 31.9 +0.8**
ISK Istanbul-Kandi 86.76 312 P **P** **17 00 32.0 +0.8**
ISK pmax pmax
comp=Z,2µm,1.0s
KOMG Komaggas 86.81 241 ⇓*i*P **P** **17 00 32.6 +0.9**
KOMG IAmb IAmb 17 01 12.3
comp=Z,743µm,7.4s
ADK Adak 86.92 37 P **P** **17 00 31.5 -0.1**
ADK Adak 86.92 37 P **P** **17 00 32.2 +0.6**
ADK Adak 86.92 37 P **P** **17 00 31.5 -0.1**
ADK pmax pmax
comp=Z,2µm,1.1s
DAT Datca 86.97 307 P **P** **17 00 32.6 +0.2**
KARP Karpathos 87.06 306 P **P** **17 00 34.2 +1.4**
BODT Bodrum 87.25 308 P **P** **17 00 34.4 +0.8**
NIS1 Nisyros Isl. 87.26 307 P **P** **17 00 34.2 +0.5**
NISR Nisiros 87.30 307 P **P** **17 00 34.7 +0.9**
BALB Balikesir 87.33 310 IAmb IAmb 17 00 38.2
comp=Z,2µm,1.4s
KOSK Kos Island 87.44 307 P P 17 00 47.1 +13
PURM Purcari 87.44 317 ⇑P **P** **17 00 35.3 +1.1**
EDC Edincik 87.49 311 P **P** **17 00 35.6 +0.9**
TROLL Troll, Antarti 87.58 197 ⇑PKKPbc PKKPbc 17 18 22.9 -2.8
comp=Z,127nm,0.3s
TROLL Troll, Antarti 87.58 197 ⇓P **P** **17 00 35.9 +1.2**
comp=Z,758nm,0.8s
MANR Mangalia 87.71 315 ⇑P **P** **17 00 37.1 +1.5**
BLCB Balcova 87.72 309 P **P** **17 00 37.1 +1.3**
JURR Jurilovca 87.72 316 ⇑P **P** **17 00 36.8 +1.2**
EFOR EFORIE 87.74 315 ⇓P **P** **17 00 37.3 +1.6**
ZKR Zakros 87.74 306 P **P** **17 00 36.3 +0.3**
KALB Balgarevo 87.74 314 ⇑P **P** **17 00 37.1 +1.3**
SMG Samos 87.74 308 P **P** **17 00 37.4 +1.5**
TLCR 87.85 316 ⇓P **P** **17 00 37.3 +1.1**
TLCR 87.85 316 P **P** **17 00 37.9 +1.7**
MFTR Murfatlar 87.91 315 ⇑P **P** **17 00 37.8 +1.3**
TIRR Tirgusor 87.97 315 ⇑P **P** **17 00 37.7 +0.9**
TIRR Tirgusor 87.97 315 ⇑P **P** **17 00 37.7 +0.9**
PSN Preselentsi 87.99 314 P **P** **17 00 38.0 +1.1**
TSUM Tsumeb 88.03 251 P **P** **17 00 39.3 +1.4**
TSUM Tsumeb 88.03 251 ⇓*i*P **P** **17 00 39.3 +1.4**
TSUM Tsumeb 88.03 251 LR LR 17 35 20.8
comp=Z,14µm,19.9s,baz=98,slow=32
TPGR Topolog 88.06 316 ⇓P **P** **17 00 38.4 +1.1**
FRMA Ierapetra Chan 88.11 306 P **P** **17 00 38.4 +0.7**
CVDA Cernavoda 88.21 315 ⇓P **P** **17 00 40.4 +2.5**
MILM Milestii Mici 88.24 318 ⇑*i*P **P** **17 00 38.2 +0.1**
comp=Z,7µm,2.8s
MILM *e*pP **pP** **17 01 03.0 -2.0**
MILM *es*P **sP** **17 01 12.0 -3.8**
MILM Milestii Mici 88.24 318 *i* PP PP 17 04 06.0 -0.7
MILM Milestii Mici 88.24 318 ⇑P **P** **17 00 38.5 +0.4**
MILM Milestii Mici 88.24 318 *c* P **P** **17 00 38.2 +0.1**
MILM *e*SP **sP** **17 01 12.0 -3.8**
MILM *i* 17 04 06.0
MILM *e*PPP PPP 17 06 08.0
MILM *i* S **S** **17 11 11.0 -3.5**
MILM pmax pmax
comp=Z,7µm,2.5s
MILM smax smax
comp=E,18µm,2.9s
MILM smax smax
comp=N,16µm,2.8s
TLBR Topalu 88.25 315 ⇑P **P** **17 00 39.3 +1.1**
KIS Kishinev 88.26 318 ⇑*i*P **P** **17 00 38.0 -0.1**
comp=N,1µm,1.6s
KIS *e*pP **pP** **17 01 04.0 -1.0**
KIS *es*P **sP** **17 01 12.0 -3.9**
KIS Kishinev 88.26 318 *i* PP PP 17 04 06.0 -0.9
KIS ⇓*i*S **S** **17 11 11.0 -3.6**
comp=N,22µm,2.4s
KIS *i* sS pS 17 11 54.0 +5.4
KIS *e*L L 17 35 33.0
KIS LRM MLR 17 37 50.0
comp=N,700nm,21.0s
KIS Kishinev 88.26 318 ⇑P **P** **17 00 38.6 +0.5**
KIS Kishinev 88.26 318 *c i*P **P** **17 00 38.0 -0.1**
KIS *e*SP **sP** **17 01 12.0 -3.9**
KIS *i* 17 04 06.0
KIS *i* S **S** **17 11 11.0 -3.6**
KIS pmax pmax
comp=Z,2µm,1.6s
KIS smax smax
comp=E,22µm,2.4s
KIS smax smax
comp=N,6µm,3.4s
CFR Carcaliu 88.32 316 ⇑P **P** **17 00 39.9 +1.5**
CFR Carcaliu 88.32 316 ⇑P **P** **17 00 39.9 +1.5**
ICOR Ion Corvin 88.33 315 ⇑P **P** **17 00 39.9 +1.4**
GIUM Giurgiulesti 88.34 316 ⇓P **P** **17 00 40.2 +1.7**
HARR Harsova 88.36 315 ⇑P **P** **17 00 40.1 +1.4**
HARR Harsova 88.36 315 ⇑P **P** **17 00 40.1 +1.4**
PRD Provadia 88.41 314 P **P** **17 00 40.0 +1.1**
TATR Tatarca 88.47 316 ⇑P **P** **17 00 40.2 +1.0**
PRK Paraskevi 88.47 310 P **P** **17 00 39.8 +0.5**
CHOS Chios island 88.48 309 P **P** **17 00 41.1 +1.6**
ATKA Atka Island 88.49 37 P **P** **17 00 39.2 +0.1**

VLDR Vladesti 88.50 316 ⇑P **P** **17 00 40.5 +1.2**
SCTR Scanteiesti 88.52 316 ⇑P **P** **17 00 40.5 +1.0**
LEOM Leova 88.53 317 ⇓P **P** **17 00 41.0 +1.6**
LEOM Leova 88.53 317 ⇓P **P** **17 00 41.0 +1.6**
EZN Ezine 88.54 310 P **P** **17 00 40.5 +0.9**
EZN Ezine 88.54 310 P **P** **17 00 41.5 +1.9**
SANT Santorini 88.57 307 ⇑P **P** **17 00 40.8 +0.8**
SANT Santorini 88.57 307 P **P** **17 00 40.5 +0.6**
NEGRR Negrea 88.58 316 ⇓P **P** **17 00 40.6 +1.0**
SCHLR Schela 88.59 316 ⇓P **P** **17 00 40.7 +1.0**
SCHL Schela 88.60 316 ⇑P **P** **17 00 41.2 +1.4**
THT2 Imerovigli 88.61 307 P **P** **17 00 40.8 +0.7**
EDRB Edirne 88.62 312 P **P** **17 00 40.8 +0.8**
APE Apeiranthos 88.64 307 ⇑P **P** **17 00 40.7 +0.4**
APE Apeiranthos 88.64 307 P **P** **17 00 40.1 -0.2**
APE Apeiranthos 88.64 307 P **P** **17 00 41.1 +0.8**
SLCR Slobozia Conac 88.66 316 ⇓P **P** **17 00 41.6 +1.5**
HRKL Herakleio 88.67 306 P **P** **17 00 41.8 +1.5**
VARL Varlezi 88.67 316 ⇓P **P** **17 00 41.6 +1.5**
TUDR 88.73 316 ⇓P **P** **17 00 41.8 +1.5**
AMRR Amara 88.76 315 ⇑P **P** **17 00 42.5 +1.9**
AMRR Amara 88.76 315 P **P** **17 00 42.4 +1.9**
SORM Soroca 88.82 319 ⇑P **P** **17 00 41.0 +0.3**
SORM Soroca 88.82 319 ⇑P **P** **17 00 41.0 +0.3**
IDI Anoyia 88.84 306 ⇑P **P** **17 00 42.7 +1.4**
IDI Anoyia 88.84 306 IAmb IAmb 17 00 45.2
comp=Z,591nm,1.0s
IDI Anoyia 88.84 306 P **P** **17 00 42.4 +1.2**
IDI Anoyia 88.84 306 P **P** **17 00 41.6 +0.4**
IDI Anoyia 88.84 306 P **P** **17 00 41.5 +0.3**
comp=Z,606nm,1.1s,baz=88,slow=7.2,SNR=52
IDI S **SKSac** **17 11 00.7 -1.3**
comp=Z,36nm,1.2s,baz=267,slow=23,SNR=12
IDI LR LR 17 43 40.4
comp=Z,1µm,21.2s,baz=85,slow=38
comp=Z,606nm,1.1s
AKASG Malin Array Be 88.84 321 P **P** **17 00 40.4 -0.4**
comp=Z,317nm,0.9s,baz=85,slow=4.6,SNR=808
AKASG PP **PP** **17 04 09.1 -2.3**
comp=Z,110nm,1.1s,baz=98,slow=6.3,SNR=12
AKASG S **SKSac** **17 10 58.0 -3.1**
comp=Z,5.3nm,0.8s,baz=113,slow=6.9,SNR=6.3
AKASG LR LR 17 45 27.1
comp=Z,2µm,19.7s,baz=92,slow=39
comp=Z,317nm,0.9s
AKBB Malin Array Si 88.84 321 IAmb IAmb 17 00 42.4
comp=Z,1µm,1.1s
AKBB Malin Array Si 88.84 321 *ce*P **P** **17 00 40.4 -0.4**
AKBB pmax pmax
comp=Z,677nm,1.0s
AKBB MLR MLR
comp=Z,4µm,20.0s
ENEZ Enez 88.85 311 P **P** **17 00 41.9 +0.8**
KIEV Kiev 88.85 321 ⇑P **P** **17 00 40.4 -0.4**
KIEV Kiev 88.85 321 P **P** **17 00 40.6 -0.2**
KIEV IAmb IAmb 17 00 42.4
comp=Z,822nm,1.1s
KIEV Kiev 88.85 321 *i* P **P** **17 00 40.6 -0.2**
SNR=385
KIEV Kiev 88.85 321 P **P** **17 00 40.6 -0.2**
KIEV pmax pmax
comp=Z,822nm,1.1s
VASR Vaslui 88.87 317 ⇓P **P** **17 00 42.2 +1.2**
TMBK Timbaki Herakl 88.90 305 P **P** **17 00 42.9 +1.5**
BIR Birlad 88.90 317 ⇑P **P** **17 00 41.7 +0.5**
BIR Birlad 88.90 317 ⇑P **P** **17 00 41.7 +0.5**
JMB Yambol 88.91 313 P **P** **17 00 42.0 +0.7**
ALN Alexandroupoli 88.96 311 P **P** **17 00 42.1 +0.5**
ALN Alexandroupoli 88.96 311 P **P** **17 00 42.1 +0.5**
ALN Alexandroupoli 88.96 311 P **P** **17 00 42.1 +0.5**
GHRR 89.01 317 ⇑P **P** **17 00 43.6 +1.9**
LOZB Loznitsa 89.03 314 ⇑P **P** **17 00 42.9 +1.0**
PGOR Pogoanele 89.06 315 ⇑P **P** **17 00 44.9 +3.0**
RAZG Razgrad 89.13 314 ⇑P **P** **17 00 43.5 +1.1**
IAS Iasi 89.14 318 ⇓P **P** **17 00 39.9 -2.4**
PANC Panciu 89.14 316 ⇑P **P** **17 00 44.3 +1.9**
PRNS Prines Rethymn 89.16 306 P **P** **17 00 44.7 +2.0**
GRER 89.17 316 ⇑P **P** **17 00 45.9 +3.5**
ODBI Odobesti 89.19 316 ⇑P **P** **17 00 45.0 +2.5**
RAR Rarotonga 89.26 111 P **P** **17 00 42.1 -1.3**
RAR Rarotonga 89.26 111 P **P** **17 00 44.5 +1.1**
RAR Rarotonga 89.26 111 P **P** **17 00 42.3 -1.1**
comp=Z,36nm,1.2s,baz=44,slow=8.8,SNR=4.8
RAR LR LR 17 38 24.8
comp=Z,2µm,21.8s,baz=250,slow=34
SMTH Samothraki Isl 89.26 311 P **P** **17 00 43.0 -0.1**
SNAA Sanae 89.28 197 *e*P **P** **17 00 43.6 +1.0**
SNAA Sanae 89.28 197 ⇑PKKPbc PKKPbc 17 18 18.4 -3.0
comp=Z,452nm,0.9s
SNAA Sanae 89.28 197 ⇓P **P** **17 00 44.1 +1.5**
comp=Z,1µm,0.7s
SNAA Sanae 89.28 197 *ce*P **P** **17 00 41.0 -1.6**
SNAA pmax pmax
comp=Z,72nm,1.1s
SNAA Sanae 89.28 197 P **P** **17 00 43.5 +0.9**
comp=Z,60nm,0.9s,baz=151,slow=5.3,SNR=70
SNAA S **SKSac** **17 11 00.6 -2.7**
comp=Z,8.3nm,1.1s,baz=83,slow=23,SNR=7.7
SNAA PKKPbc **PKKPdf** **17 18 18.2 +2.6**
comp=Z,19nm,0.9s,baz=314,slow=3.0,SNR=12
SNAA PKPPKP **P'P'df** **17 26 20.6 -6.5**
comp=Z,9.8nm,0.9s,baz=338,slow=5.4,SNR=7.4
SNAA LR LR 17 36 00.8
comp=Z,8µm,20.9s,baz=110,slow=32
comp=Z,60nm,0.9s
BISRR Bisoca 89.38 316 ⇑P **P** **17 00 45.5 +2.0**
RDO Rodhopi 89.38 312 IAmb IAmb 17 00 46.8
comp=Z,479nm,1.0s
RDO Rodhopi 89.38 312 P **P** **17 00 44.0 +0.5**
GVD Gavdhos 89.41 305 P **P** **17 00 45.1 +1.3**
ISR Istrita 89.41 316 ⇑P **P** **17 00 45.8 +2.1**
ISR Istrita 89.41 316 P **P** **17 00 45.8 +2.1**
LIA Limnos Island 89.42 310 P **P** **17 00 44.3 +0.5**
VRI Vrincioaia 89.43 316 ⇑P **P** **17 00 45.2 +1.5**
VRI Vrincioaia 89.43 316 ⇑P **P** **17 00 45.2 +1.5**
SZH Strazhitsa 89.46 314 P **P** **17 00 45.0 +1.1**
ELND Elena 89.47 313 ⇑P **P** **17 00 45.2 +1.3**
MHLO Agia Marina, M 89.47 307 P **P** **17 00 44.5 +0.4**
PLOR Plostina 89.48 316 ⇑P **P** **17 00 45.3 +1.3**
PLOR Plostina 89.48 316 ⇑P **P** **17 00 45.3 +1.3**
DIM Dimitrovgrad 89.52 312 P **P** **17 00 45.0 +0.8**
SULR 89.53 315 ⇑P **P** **17 00 46.0 +1.9**
IMMV Iera Moni Meta 89.60 306 P **P** **17 00 46.3 +1.6**
TESR Tescani 89.61 317 ⇑P **P** **17 00 45.7 +1.2**
KDZ Kurdzhali 89.62 312 P **P** **17 00 45.0 +0.3**
SGRR Singureni 89.64 315 ⇓P **P** **17 00 46.1 +1.4**
NEHR Nehoiu 89.64 316 ⇓P **P** **17 00 46.4 +1.7**
PLAR PLOIESTI 89.73 315 ⇑P **P** **17 00 47.4 +2.3**
COVR Voineasa-Covas 89.79 316 ⇑P **P** **17 00 46.3 +0.9**
THAS Thassos island 89.90 311 P **P** **17 00 46.4 +0.4**
MLR Muntele Rosu 89.90 316 ⇑P **P** **17 00 47.3 +1.2**
MLR Muntele Rosu 89.90 316 ⇑P **P** **17 00 47.3 +1.2**
MLR Muntele Rosu 89.90 316 P **P** **17 00 46.9 +0.8**
comp=Z,102nm,0.6s,baz=48,slow=1.6,SNR=236
MLR PP **PP** **17 04 20.1 0.0**
comp=Z,277nm,1.2s,baz=83,slow=1.7,SNR=6.4
MLR S **SKSac** **17 11 05.2 -2.7**
comp=Z,57nm,1.3s,baz=46,slow=22,SNR=18
MLR LR LR 17 49 47.2
comp=Z,2µm,18.6s,baz=78,slow=41
comp=Z,102nm,0.6s
TURR Turia 89.95 316 ⇑P **P** **17 00 47.2 +1.0**
ZIMR 89.97 314 ⇑P **P** **17 00 48.3 +2.1**
ZIMR 89.97 314 ⇑P **P** **17 00 48.3 +2.1**
DRBR Darabani 89.97 319 ⇑P **P** **17 00 46.3 +0.2**
PVL Pavlikeni 90.01 313 P **P** **17 00 47.0 +0.6**
RZN Rozhen 90.07 312 P **P** **17 00 48.0 +1.0**
PTL Penteli 90.12 308 P **P** **17 00 48.4 +1.3**
OZUR 90.12 316 ⇑P **P** **17 00 47.7 +0.7**
VLY Voula.Athens 90.14 308 P **P** **17 00 47.1 -0.1**
PLD Plovdiv 90.14 312 P **P** **17 00 48.0 +0.9**
COPA Copaceanca 90.16 314 ⇑P **P** **17 00 48.2 +1.1**
ATHU Athens Univers 90.17 308 P **P** **17 00 47.2 -0.1**
BOSR Bodos 90.20 316 ⇑P **P** **17 00 48.1 +0.8**
ANKY Antikythira Is 90.21 306 P **P** **17 00 49.0 +1.5**
ATH Athens Observa 90.22 308 P **P** **17 00 47.4 -0.1**
DOPR Dopca 90.37 316 ⇑P **P** **17 00 49.0 +0.9**
HUMR Humele 90.39 315 ⇑P **P** **17 00 48.8 +0.6**
OUR Ouranopolis 90.40 310 P **P** **17 00 48.7 +0.4**
PUL Pulkovo 90.41 330 *ce*P **P** **17 00 48.6 +0.7**
PUL pmax pmax
comp=Z,2µm,1.1s
PUL MLR MLR
comp=Z,5µm,25.0s
PLVB Pleven 90.45 314 ⇑P **P** **17 00 49.6 +1.2**
MTUR Matau 90.46 315 ⇑P **P** **17 00 49.8 +1.2**
MTUR Matau 90.46 315 ⇑P **P** **17 00 49.8 +1.2**
STFAR Stefanesti-Arg 90.47 315 ⇑P **P** **17 00 49.9 +1.3**
KOKK Kokkinochori, 90.47 311 P **P** **17 00 49.2 +0.5**
MNK Minsk 90.48 325 *i* P **P** **17 00 47.0 -1.4**
comp=E,332nm,1.1s
MNK *i* P **P** **17 00 47.0 -1.4**
comp=N,219nm,1.1s
MNK *i* P **P** **17 00 47.0 -1.4**
comp=Z,1µm,1.0s,baz=102
MNK *i* pP **pP** **17 01 11.0 -4.2**
MNK *i* PP **PP** **17 04 23.0 -1.4**
MNK *i* PPP PPP 17 06 21.1
MNK *i* S **SKSac** **17 11 09.7 -0.9**
MNK *i* sS ScS 17 11 53.1 +15
MNK *i* SS **SS** **17 17 40.1 +2.0**
MNK *i* SSS SSS 17 21 17.7
MNK *i* LQ LQ 17 35 54.8
MNK *i* LR LR 17 43 35.4
MNK *i* LRM MLR 17 44 50.0
comp=N,3µm,21.7s
MNK *i* LRM MLR 17 45 17.1
comp=E,935nm,21.7s
MNK *i* LRM MLR 17 45 25.3
comp=Z,3µm,21.7s
MNK Minsk 90.48 325 *i* P **P** **17 00 46.9 -1.4**
MNK *i* 17 04 23.0
MNK *i* PPP PPP 17 06 21.0
MNK *i* S **SKSac** **17 11 09.6 -0.9**
MNK *i* SS **SS** **17 17 40.1 +2.0**
MNK *i* SSS SSS 17 21 17.6
MNK pmax pmax
comp=Z,1µm,1.0s
MNK pmax pmax
comp=N,219nm,1.1s
MNK pmax pmax
comp=E,332nm,1.1s
MNK MLR MLR
comp=N,3µm,22.0s
MNK MLR MLR
comp=E,935nm,22.0s
MNK MLR MLR
comp=Z,3µm,22.0s
VOIR 90.51 316 ⇑P **P** **17 00 49.3 +0.5**
VOIR 90.51 316 ⇑P **P** **17 00 49.3 +0.5**
VILL Villia 90.56 308 P **P** **17 00 49.0 -0.2**
KRND KRANIDI 90.57 307 P **P** **17 00 48.9 -0.3**
PGB Panagyurishte 90.63 313 P **P** **17 00 50.0 +0.6**
VLI Veliai 90.63 307 P **P** **17 00 49.5 0.0**
NVR Nevrokopi 90.66 311 P **P** **17 00 50.6 +1.0**
VLAD Vladila 90.71 314 ⇑P **P** **17 00 50.9 +1.2**
MMB Musomishta 90.78 312 P **P** **17 00 50.0 -0.1**
BURAR Bucovina Array 90.78 318 ⇑P **P** **17 00 51.4 +1.3**
BURAR Bucovina Array 90.78 318 P **P** **17 00 51.4 +1.3**
ARR Arges 90.78 316 ⇑P **P** **17 00 50.9 +0.8**
BUR08 Bucovina Ar. S 90.80 318 IAmb IAmb 17 00 54.6
comp=Z,225nm,0.9s
LOUT Loutraki 90.80 308 P **P** **17 00 49.7 -0.6**
SRS Serrai 90.82 311 P **P** **17 00 50.3 0.0**
LVZ Lovozero 90.84 339 P **P** **17 00 49.3 -0.6**
LVZ IAmb IAmb 17 00 50.7
comp=Z,652nm,1.1s
LVZ Lovozero 90.84 339 *ce*P **P** **17 00 48.6 -1.2**
LVZ pmax pmax
comp=Z,577nm,1.1s
XOR Xorichti 90.85 309 P **P** **17 00 50.1 -0.4**
VNA2 Neumayer--Watz 90.93 197 ⇓P **P** **17 00 51.7 +1.5**
comp=Z,55nm,0.7s,baz=101,slow=4.0
THAL Thalero 91.05 308 P **P** **17 00 50.5 -0.9**
TGMR Targu Mures 91.06 317 ⇓P **P** **17 00 52.9 +1.6**
AXAR Agios Charalam 91.17 309 ⇓P **P** **17 00 52.1 +0.1**
PLNA Plana 91.17 313 P **P** **17 00 53.0 +1.0**
NACGM Naroch 91.19 325 *e*P **P** **17 00 52.0 +0.3**
comp=E,24µm,1.3s
APA Apatity 91.20 338 ⇓*i*P **P** **17 00 49.7 -1.7**
APA *i* 17 04 32.0
APA *i* 17 11 13.0
APA *i* 17 11 38.0
APA *i* PS **PS** **17 12 52.0 -11**
APA *i* SS SS 17 17 58.0 +10
APA pmax pmax
comp=Z,202nm,1.0s
THE Thessaloniki 91.22 311 P **P** **17 00 52.3 +0.2**
THE pmax pmax
comp=Z,94nm,1.1s
ARCR ARCALIA 91.27 317 ⇑P **P** **17 00 53.9 +1.6**
KKB Krupnik 91.28 312 P **P** **17 00 53.0 +0.6**
VNA1 Neumayer--Stat 91.31 197 ⇓P **P** **17 00 53.6 +1.7**
comp=Z,43nm,0.8s
VTS Vitosha 91.33 313 P **P** **17 00 53.0 +0.2**
KNT Kendrikon 91.35 311 P **P** **17 00 52.7 -0.1**
KLMT Kalamata 91.38 307 P **P** **17 00 53.5 +0.6**
LOT Lotru 91.40 316 ⇑P **P** **17 00 53.8 +0.7**
VNA3 Neumayer Olymp 91.44 197 ⇓P **P** **17 00 53.4 +0.7**
comp=Z,34nm,1.0s
KLV Kalavryta, Ach 91.45 308 P **P** **17 00 53.7 +0.3**
BAIL Bailesti 91.47 314 ⇑P **P** **17 00 54.9 +1.7**
MAKR Makrakomi, Fth 91.61 309 P **P** **17 00 54.0 0.0**
LAKA Lakka 91.62 308 P **P** **17 00 54.2 +0.1**
VAY Valandovo 91.62 311 ⇑*i*P **P** **17 00 54.2 +0.2**
TYRN Tyrnavos 91.63 310 P **P** **17 00 53.0 -1.1**
IZAR Zarasai 91.66 326 *e*P **P** **17 00 55.7 +1.9**
SRE Strehaia 91.67 315 ⇑P **P** **17 00 55.3 +1.2**
SRE Strehaia 91.67 315 ⇑P **P** **17 00 55.3 +1.2**
GRG Griva 91.69 311 P **P** **17 00 54.0 -0.4**
ISAL Salakas 91.69 326 *e*P **P** **17 00 55.7 +1.8**
EFP Efpalio 91.70 308 P **P** **17 00 55.0 +0.6**
ANX Ano Chora 91.71 309 P **P** **17 00 55.1 +0.5**
CJR Cluj-Napoca 91.72 317 ⇑P **P** **17 00 55.9 +1.5**
CJR Cluj-Napoca 91.72 317 ⇑P **P** **17 00 55.9 +1.5**
CBBR Cluj-Babes-Bol 91.76 317 ⇓P **P** **17 00 53.2 -1.3**
THL Klokotos Trika 91.78 310 P **P** **17 00 54.3 -0.4**
PUNG Punghina 91.80 314 ⇑P **P** **17 00 55.6 +0.9**
SPIA Saint Paul Isl 91.82 33 P **P** **17 00 56.4 +1.9**
SPIA Saint Paul Isl 91.82 33 P **P** **17 00 56.0 +1.5**
baz=259
NIKH Nikolski High 91.83 37 P **P** **17 00 55.0 +0.3**
NIKH Nikolski High 91.83 37 P **P** **17 00 54.8 +0.1**
baz=260,SNR=16
EVR Evrytania 91.84 309 P **P** **17 00 56.8 +1.6**
VSU Vasula 91.92 329 *e*P **P** **17 00 55.1 +0.1**
LVV L'vov 91.93 320 *e*P **P** **17 00 55.0 -0.2**
LVV *e* 17 04 33.4
LVV *e* 17 11 13.6
LVV *e*S **S** **17 11 43.3 -5.1**
LVV *e*PS **PnS** **17 13 21.1 +8.0**
LVV *e*SS **SS** **17 17 49.6 -10**
LVV *e*SSS SSS 17 21 35.1
LVV pmax pmax
comp=Z,470nm,1.2s
BMR Baia Mare 91.94 318 ⇓P **P** **17 00 56.5 +1.2**
BMR Baia Mare 91.94 318 P **P** **17 00 56.9 +1.6**
STIP Stip 91.96 312 ⇑*i*P **P** **17 00 54.6 -0.9**
PVO Paravola 92.02 309 P **P** **17 00 56.8 +0.9**
MARR Marisel-Cluj 92.04 317 ⇑P **P** **17 00 57.0 +1.1**
DEV Deva 92.06 316 ⇑P **P** **17 00 57.6 +1.7**
DEV Deva 92.06 316 ⇑P **P** **17 00 57.6 +1.7**
GZR Gura Zlata 92.08 315 ⇑P **P** **17 00 57.0 +0.9**
DJES Djerdap 92.15 315 ⇓P **P** **17 00 57.1 +0.7**
MESR Meseseni 92.22 317 ⇑P **P** **17 00 58.0 +1.3**
HERR Herculane 92.26 315 ⇑P **P** **17 00 58.1 +1.3**
FNA Florina 92.44 311 P **P** **17 00 57.8 0.0**
MSF Maaselka 92.44 336 P **P** **17 00 57.2 0.0**
MSF pmax pmax
comp=E,518nm,1.6s
GAMB Gambell 92.44 26 P **P** **17 00 59.0 +1.8**
baz=258,SNR=45
SKO Skopje 92.55 312 ⇑*i*P **P** **17 00 58.3 0.0**
BOVS Bovan 92.58 314 ⇑P **P** **17 00 58.6 +0.2**
SURR Surduc 92.58 316 ⇑P **P** **17 00 59.2 +0.9**
EVGI Lefkada island 92.70 308 P **P** **17 01 00.0 +1.0**
MDVR Moldovita 92.74 315 ⇓P **P** **17 01 00.3 +1.2**
KWP Kalwaria Pacla 92.75 320 *e*P **P** **17 00 59.8 +0.7**
KWP *e*SKSac **SKSac** **17 11 20.4 -3.2**
KWP *e*L L 17 46 11.4
comp=Z,3µm,27.9s
KWP Kalwaria Pacla 92.75 320 IAmb IAmb 17 01 01.5
comp=Z,725nm,1.5s
KWP Kalwaria Pacla 92.75 320 P **P** **17 00 59.8 +0.7**
KWP pmax pmax

comp=Z,349nm,2.0s
FINES FINESS Array B 92.81 332 *i* P **P** 17 00 59.2 +0.3
FINES pmax pmax
comp=Z,539nm,0.9s
FINES FINESS Array B 92.81 332 P **P** 17 00 59.3 +0.3
comp=Z,538nm,0.9s,baz=100,slow=5.8,SNR=355
FINES PKKPbc **PKKPdf** 17 18 11.3 +1.1
comp=Z,2.7nm,0.8s,baz=307,slow=0.7,SNR=7.1
FINES LR LR 17 50 31.8
comp=Z,2µm,18.8s,baz=106,slow=40
comp=Z,538nm,0.9s
KBN Korca 92.86 310 P **P** 17 01 00.2 +0.4
KBN pmax pmax
comp=Z,74nm,1.0s
PABE Paberze 92.89 325 *e*P **P** 17 00 59.5 0.0
OHR Ohrid 92.91 311⇑ *i*P **P** 17 01 00.3 +0.3
BZS Buzias 92.92 315⇑P **P** 17 01 00.6 +0.8
BZS Buzias 92.92 315 P **P** 17 01 00.9 +1.0
LTVH Ltavrtes, Hu 92.97 317 ⇑P **P** 17 01 01.1 +1.1
SIRR Siria 92.98 316 ⇓P **P** 17 01 01.0 +0.9
VSVD Vaisvydziai 92.98 326 *e*P **P** 17 01 00.1 +0.2
BORR Bors 93.00 317 ⇑P **P** 17 01 01.5 +1.3
SUW Suwalki 93.11 324 *e*P **P** 17 01 00.4 -0.1
SUW *e*SKSac **SKSac** 17 11 21.7 -3.6
SUW *e*S **S** 17 11 53.2 -5.4
SUW *e*L L 17 44 08.3
comp=Z,4µm,24.6s
SUW Suwalki 93.11 324 *e*P **P** 17 01 00.6 0.0
SUW Suwalki 93.11 324 P **P** 17 01 00.6 0.0
SUW pmax pmax
comp=Z,2µm,1.1s
BANR Banloc 93.22 315 ⇓P **P** 17 01 02.7 +1.4
VADS Vadso 93.28 340⇑ *i*P **P** 17 01 00.5 -0.5
VADS IVmB_BB 17 01 01.4
comp=Z,5µm,1.6s
VADS *e*PP **PP** 17 04 47.1 +1.2
VADS *e*SKSac **SKSac** 17 11 26.9 +1.2
VADS *i* 17 18 51.8
VADS IVMs_BB IVMs_BB 17 41 45.3
comp=Z,2µm,3.8s
SRN Sarande 93.36 310 P **P** 17 01 02.2 +0.2
UNV Unalaska Valle 93.36 36 P **P** 17 01 02.2 +0.5
UNV Unalaska Valle 93.36 36 P **P** 17 01 01.7 0.0
baz=262,SNR=48
MEF Metsahovi 93.41 330 *e*P **P** 17 01 02.3 +0.5
CRVS Cervenica-Dubn 93.46 319 *e*PDIFF **P** 17 01 03.0 +0.7
CRVS *e*PP **PP** 17 04 48.2 +0.2
CRVS *e* 17 11 26.4
CRVS Cervenica-Dubn 93.46 319 *e*P **P** 17 01 03.0 +0.7
CRVS *e* 17 04 48.2
MTSE Matsula 93.47 329 *e*P **P** 17 01 02.1 0.0
KEK Kerkira 93.50 309 IAmb IAmb 17 01 04.8
comp=Z,284nm,1.0s
KEK Kerkira 93.50 309 P **P** 17 01 02.2 -0.5
OUL Oulu 93.56 335 P **P** 17 01 02.8 +0.5
OUL pmax pmax
comp=Z,979nm,1.4s
AMBH Ambrzfalva 93.63 316⇑P **P** 17 01 04.2 +1.1
PVY Plav 93.72 312⇓ *i*P **P** 17 01 04.0 +0.2
SGF Sodankyl 93.73 338 P **P** 17 01 02.9 -0.2
SGF pmax pmax
comp=Z,536nm,1.4s
SJES Sjenica 93.79 313⇑ *i*P **P** 17 01 05.1 +1.0
IVA Berane 93.80 313⇓ *i*P **P** 17 01 04.6 +0.5
VLO Vlora 93.81 310 IAmb IAmb 17 01 08.3
comp=Z,531nm,1.0s
AKUT Akutan 93.83 36 P **P** 17 01 05.2 +1.4
DIVS Divibare 93.87 314 IAmb IAmb 17 01 06.8
comp=Z,211nm,1.1s
DIVS Divibare 93.87 314⇑ *i*P **P** 17 01 05.3 +0.9
KEV Kevo 94.00 340 P **P** 17 01 03.5 -0.8
KEV IAmb IAmb 17 01 05.5
comp=Z,390nm,1.4s
KEV Kevo 94.00 340 P **P** 17 01 03.5 -0.8
KEV pmax pmax
comp=Z,390nm,1.4s
KECS Kecovo 94.05 318 *e*PDIFF **P** 17 01 05.7 +0.7
KECS *e* 17 11 29.0
KECS Kecovo 94.05 318 *e*P **P** 17 01 05.7 +0.7
BSZH Besenyszg 94.06 317⇑P **P** 17 01 06.1 +1.1
KOME Kolasin 94.07 313⇑ *i*P **P** 17 01 05.9 +0.5
PBUR Paburge 94.10 326 *e*P **P** 17 01 05.2 +0.1
SLIT Slitere, Latvi 94.12 327 *e*P **P** 17 01 04.3 -0.8
FRGS Fruska Gora 94.12 315⇑P **P** 17 01 05.8 +0.4
FRGS Fruska Gora 94.12 315⇑ *i*P **P** 17 01 05.7 +0.2
PDG Podgorica 94.22 312⇑P **P** 17 01 06.0 +0.2
PDG Podgorica 94.22 312 IAmb IAmb 17 01 09.3
comp=Z,470nm,1.3s
PDG Podgorica 94.22 312⇑ *i*P **P** 17 01 06.1 +0.2
PDG Podgorica 94.22 312⇑ *i*P **P** 17 01 06.3 +0.4
PLE Pljevlja 94.22 313⇑ *i*P **P** 17 01 06.6 +0.5
DRME Dracevica, Mon 94.24 312⇑ *i*P **P** 17 01 06.5 +0.5
DRME Dracevica, Mon 94.24 312⇑ *i*P **P** 17 01 06.6 +0.5
BEL Belsk 94.25 322 *e*P **P** 17 01 06.7 +0.9
BEL *e*SKSac **SKSac** 17 11 29.1 -2.6
BEL *e*S **S** 17 12 04.4 -4.4
BEL *e*L L 17 46 59.4
comp=Z,3µm,27.0s
BEL Belsk 94.25 322 P **P** 17 01 06.0 +0.2
BEL pmax pmax
comp=Z,1µm,1.4s
TEKS Tekeris 94.25 314⇑ *i*P **P** 17 01 06.5 +0.4
RUDO Rudo 94.27 313⇑ *i*P **P** 17 01 06.4 +0.3
NIE Niedzica 94.28 319 *e*P **P** 17 01 07.1 +1.0
NIE *e*PP **PP** 17 04 54.4 0.0
NIE *e*SKSac **SKSac** 17 11 30.2 -1.8
NIE *e*SS **SS** 17 18 29.7 -3.2
NIE *e*L L 17 47 00.2
comp=Z,2µm,26.9s
TNA Tin City 94.37 25 P **P** 17 01 07.2 +1.1
baz=261,SNR=21
PSZ Piszkesteto 94.38 318⇑P **P** 17 01 06.8 +0.2
PSZ Piszkesteto 94.38 318 IAmb IAmb 17 01 08.8
comp=Z,361nm,1.6s
PSZ Piszkesteto 94.38 318 P **P** 17 01 06.8 +0.2
M11K Mekoryuk 94.42 30 P **P** 17 01 08.3 +2.0
baz=262,SNR=19
ARA0 ARCESS Array S 94.47 340 *e*P **P** 17 01 06.8 +0.3
ARA0 IVmB_BB 17 01 07.1
comp=Z,5µm,1.9s
ARA0 *e*SKSac **SKSac** 17 11 29.1 -3.1
ARA0 *e*SP **SP** 17 13 31.2 +5.6
ARCES ARCESS Array B 94.47 340 IAmb IAmb 17 01 08.0
comp=Z,702nm,1.4s
ARCES ARCESS Array B 94.47 340 P **P** 17 01 06.1 -0.4
comp=Z,110nm,0.9s,baz=108,slow=5.2,SNR=409
ARCES PP **PP** 17 04 56.5 +1.1
comp=Z,33nm,1.0s,baz=112,slow=6.9,SNR=4.2
ARCES PKiKP **PKiKP** 17 05 50.0 +1.0
comp=Z,9.3nm,0.8s,baz=103,slow=4.1,SNR=5.2
ARCES LR LR 17 48 06.6
comp=Z,2µm,19.5s,baz=104,slow=38
comp=Z,110nm,0.9s
NKME Niksic 94.47 312⇓ *i*P **P** 17 01 07.5 +0.3
CEME Cevo 94.48 312⇑ *i*P **P** 17 01 08.3 +1.1
OJC Ojcow 94.69 320 *e*P **P** 17 01 08.4 +0.4
OJC *e*PP **PP** 17 04 58.4 +0.9
OJC *e*SKSac **SKSac** 17 11 31.4 -2.7
OJC *e*SS **SS** 17 18 32.6 -6.1
OJC *e*L L 17 47 23.8
comp=Z,2µm,23.5s
OJC Ojcow 94.69 320 IAmb IAmb 17 01 11.2
comp=Z,384nm,1.4s
OJC Ojcow 94.69 320 P **P** 17 01 08.3 +0.4
OJC pmax pmax
comp=Z,194nm,1.7s
BRY Bratogost 94.79 312 *e*P **P** 17 01 08.7 0.0
BRY Bratogost 94.79 312⇑ *i*P **P** 17 01 08.9 +0.2
LANS Liptovska Anna 94.79 319 *e*PDIFF **P** 17 01 09.4 +0.9
LANS *e* 17 11 35.5
LANS Liptovska Anna 94.79 319 *e*P **P** 17 01 09.4 +0.9
RAF Rauma 94.81 331 *e*P **P** 17 01 08.2 +0.1
KLNR Kaliningrad 94.91 324*c* *i*P **P** 17 01 08.3 -0.5
KLNR pmax pmax
comp=Z,990nm,1.0s
KLNR MLR MLR
comp=Z,4µm,27.0s
TREB Trebinje 94.91 312⇑ *i*P **P** 17 01 09.6 +0.5
BUD Budapest 94.92 317 P **P** 17 01 09.5 +0.5
BUD pmax pmax
comp=Z,92nm,2.0s
F14K Arctic Creek 95.01 25 P **P** 17 01 10.7 +1.7
baz=263
MORH Mrgy, Hungar 95.05 316⇑P **P** 17 01 10.2 +0.6
VYHS Vyhne 95.14 318 *e*PDIFF **P** 17 01 10.5 +0.4
VYHS *e* 17 04 12.2
VYHS *e*PP **PP** 17 05 00.8 -0.3
VYHS *e* 17 11 34.8
VYHS *e* 17 26 19.7
VYHS Vyhne 95.14 318 *e*P **P** 17 01 10.5 +0.4
VYHS *e* 17 05 00.8
NEVS Nevesinje 95.15 313 *e*P **P** 17 01 10.6 +0.3
KTK1 Kautokeino 95.20 339⇑ *i*P **P** 17 01 09.0 -0.8
KTK1 IVmB_BB 17 01 09.9
comp=Z,4µm,2.1s
KTK1 *e*SKSac **SKSac** 17 11 36.4 +0.4
KTK1 *e*SS **SS** 17 18 47.7 +2.9
KTK1 IVMs_BB IVMs_BB 17 38 50.5
comp=Z,3µm,38.6s
HAMF Hammerfest 95.26 341⇑ *i*P **P** 17 01 09.5 -0.6
HAMF IVmB_BB 17 01 10.3
comp=Z,6µm,2.7s
HAMF *e*SKSac **SKSac** 17 11 37.4 +1.1
HAMF *e*SS **SS** 17 18 47.4 +1.7
HAMF IVMs_BB IVMs_BB 17 42 06.2
comp=Z,3µm,34.8s
FALS False Pass 95.28 35 P **P** 17 01 11.1 +0.7
FALS False Pass 95.28 35 P **P** 17 01 10.4 -0.1
baz=264,SNR=9.8
ANM Nome 95.31 26 IAmb IAmb 17 01 12.8
comp=Z,282nm,1.0s
ANM Nome 95.31 26 P **P** 17 01 11.9 +1.5
baz=264
STON Ston 95.40 312⇑ *i*P **P** 17 01 10.6 -0.7
SRO Srobarova 95.43 317 *e*PDIFF **P** 17 01 12.1 +0.8
SRO *e* 17 04 14.2
SRO *e*PP **PP** 17 05 01.2 -2.1
SRO Srobarova 95.43 317 *e*P **P** 17 01 12.1 +0.8
SRO *e* 17 05 01.2
RAC Raciborz 95.71 320 *e*P **P** 17 01 13.8 +1.3
RAC Raciborz 95.71 320 *e*P **P** 17 01 13.8 +1.3
RAC *e* 17 11 38.3
RAC MLR MLR
comp=Z,3µm,27.0s
OKC Ostrava-Krasne 95.72 319 *e*P **P** 17 01 13.5 +0.9
OKC *e*SKS **SKSac** 17 11 39.3 -0.3
OKC Ostrava-Krasne 95.72 319 *e*P **P** 17 01 13.5 +0.9
OKC *e* 17 11 39.3
HOPEN Hopen 95.72 346 IVmB_BB 17 01 12.3
comp=Z,5µm,2.4s
HOPEN *e*P **P** 17 01 12.8 +0.8
HOPEN *e*PP **PP** 17 05 06.7 +1.9
HOPEN *e*SKSac **SKSac** 17 11 39.9 +1.3
HOPEN *e*SS **SS** 17 19 01.8 +10
C16K Lisburne Hills 95.72 22 P **P** 17 01 13.1 +0.9
baz=264
F15K North Star Dit 95.73 25 P **P** 17 01 13.7 +1.3
baz=264
TIP Timpagrande 95.78 309⇑P **P** 17 01 14.6 +1.3
M13K Dall Lake 95.83 30 IAmb IAmb 17 01 15.2
comp=Z,427nm,1.1s
M13K Dall Lake 95.83 30 P **P** 17 01 14.5 +1.6
baz=265
MAUC Maruska 95.88 319 *e*P **P** 17 01 13.8 +0.4
MAUC *e*SKS **SKSac** 17 11 39.6 -1.0
G15K Niukluk 95.92 25 P **P** 17 01 14.2 +1.0
baz=265
J14K Nanvaranak Lak 95.94 28 P **P** 17 01 14.5 +1.3
baz=265
BLY Banja Luka 95.94 314⇑ *i*P **P** 17 01 14.3 +0.6
JAVC Velka Javorina 95.94 318⇑ *i*P **P** 17 01 14.9 +1.1
JAVC *e*PP **PP** 17 05 08.1 +0.8
JAVC *e*SKS **SKSac** 17 11 41.6 +0.6
JAVC *e*SS **SS** 17 18 54.7 -1.9
MATE Matera 95.95 310⇑P **P** 17 01 15.5 +1.7
MGRS Mrkonjic Grad 95.98 314⇑ *i*P **P** 17 01 14.3 +0.3
SMOL Smolenice 96.08 318 *e*P **P** 17 01 14.7 +0.4
MORC Moravsky Berou 96.10 319⇑P **P** 17 01 15.3 +0.9
MORC Moravsky Berou 96.10 319 IAmb IAmb 17 01 18.2
comp=Z,392nm,1.7s
MORC Moravsky Berou 96.10 319⇑ *i*P **P** 17 01 14.8 +0.4
MORC *e*PP **PP** 17 05 06.9 -1.6
MORC *e*SKS **SKSac** 17 11 41.0 -0.7
MORC *e*SS **SS** 17 18 50.4 -8.3
MORC Moravsky Berou 96.10 319 P **P** 17 01 15.3 +0.9
MODS Modra-Piesok 96.17 318 *e*PDIFF **P** 17 01 15.2 +0.5
MODS *e* 17 11 40.6
MODS Modra-Piesok 96.17 318 *e*P **P** 17 01 15.2 +0.5
L14K Kuka Creek 96.23 29 P **P** 17 01 15.7 +1.1
L14K IAmb IAmb 17 01 16.7
comp=Z,309nm,1.0s
L14K Kuka Creek 96.23 29 P **P** 17 01 15.8 +1.2
baz=266
JETT Jettan, Norway 96.25 339⇑ *i*P **P** 17 01 14.2 -0.5
JETT IVmB_BB 17 01 15.0
comp=Z,6µm,2.0s
JETT *e*SKSac **SKSac** 17 11 43.7 +2.0
ZST Bratislava 96.27 318 *e*PDIFF **P** 17 01 15.9 +0.8
ZST *e*PP **PP** 17 05 10.5 +0.7
ZST *e* 17 11 41.5
ZST Bratislava 96.27 318 *e*P **P** 17 01 15.9 +0.8
ZST *e* 17 05 10.5
KIP Kipapa 96.33 69*ce*P **P** 17 01 15.3 -0.7
KIP pmax pmax
comp=Z,103nm,1.0s
HON Honolulu 96.33 69 P **P** 17 01 18.4 +2.4
HON pmax pmax
comp=Z,445nm,1.3s
CEL Celeste 96.38 308 P **P** 17 01 17.0 +1.0
CEL IAmb IAmb 17 01 18.8
comp=Z,190nm,1.2s
A050A Klekovaca 96.38 314⇑ *i*P **P** 17 01 15.9 0.0
M14K Bethel 96.54 30 P **P** 17 01 17.3 +1.3
baz=266,SNR=55
C17K DeLong Mountai 96.54 22 P **P** 17 01 17.0 +1.0
baz=266
GKP Gorka Klasztor 96.55 323 *e*P **P** 17 01 16.5 +0.3
GKP *e*SKSac **SKSac** 17 11 40.3 -3.4
GKP *e*S **S** 17 12 24.2 -4.4
GKP *e*L L 17 48 24.7
comp=Z,3µm,27.5s
GKP Gorka Klasztor 96.55 323 *e*P **P** 17 01 16.3 +0.1
GKP Gorka Klasztor 96.55 323 P **P** 17 01 16.6 +0.3
GKP pmax pmax
comp=Z,220nm,1.5s
SOP Sopron 96.60 317 P **P** 17 01 16.8 +0.2
SOP pmax pmax
comp=Z,25nm,1.2s
RDOG Red Dog Mine 96.61 22 IAmb IAmb 17 01 18.7
comp=Z,436nm,1.0s
RDOG Red Dog Mine 96.61 22 P **P** 17 01 17.5 +1.2
baz=266,SNR=110
KRLC Kraliky 96.61 320 *e*P **P** 17 01 17.7 +1.0
KRLC *e*SKS **SKSac** 17 11 43.0 -1.4
KRLC Kraliky 96.61 320 *e*P **P** 17 01 17.7 +1.0
KRLC *e* 17 11 43.0
N14K Kuskokwak Cree 96.62 30 P **P** 17 01 17.4 +1.0
baz=266
G16K Koyuk River 96.66 25 P **P** 17 01 17.8 +1.3
baz=266
H16K Elim 96.66 26 P **P** 17 01 17.6 +1.1
baz=266,SNR=183
VRAC Vranov 96.68 319⇑P **P** 17 01 16.4 -0.7
VRAC Vranov 96.68 319⇑ *i*P **P** 17 01 17.1 +0.1
VRAC *e*PP **PP** 17 05 11.9 -1.1
VRAC *e*SKS **SKSac** 17 11 44.7 0.0
VRAC *e*SS **SS** 17 18 57.5 -9.4
VRAC Vranov 96.68 319 P **P** 17 01 17.6 +0.6
VRAC Vranov 96.68 319 P **P** 17 01 16.5 -0.5
comp=Z,8.4nm,0.8s,baz=92,slow=4.6,SNR=26
VRAC S **SKSac** 17 11 44.3 -0.4
comp=Z,2.7nm,0.8s,baz=50,slow=23,SNR=10.0
VRAC LR LR 17 53 53.4
comp=Z,1µm,18.1s,baz=70,slow=41
comp=Z,8.4nm,0.8s
KOGS Kog 96.72 316 *i* P **P** 17 01 17.5 +0.3
KOGS *e* 17 04 30.4
KOGS *i* PP **PP** 17 05 13.8 +0.5
KOGS *i* SKSac **SKSac** 17 11 41.9 -3.1
KOGS *i* SKKSac **S** 17 12 26.6 -3.8
UPP Uppsala 96.75 329 *e*P **P** 17 01 17.0 0.0
RONA Rosalia, Austr 96.77 317 *e*PcP **P** 17 01 17.6 +0.1
comp=Z,50nm,1.8s,SNR=11
RONA *e*PP **PP** 17 05 12.6 -1.1
comp=Z,71nm,1.2s
TRO Tromso 96.78 339 *e*P **P** 17 01 16.4 -0.5
TRO IVmB_BB 17 01 16.8
comp=Z,3µm,1.7s
TRO *e*SKSac **SKSac** 17 11 45.4 +1.2
TRO IVMs_BB IVMs_BB 17 39 53.4
comp=Z,2µm,23.2s
O14K Tigyukauivet M 96.80 31 IAmb IAmb 17 01 19.6
comp=Z,421nm,1.1s
O14K Tigyukauivet M 96.80 31 P **P** 17 01 18.2 +0.9
baz=267
KRUC Moravsky 96.80 319⇑ *i*P **P** 17 01 17.7 +0.2
KRUC *e*PP **PP** 17 05 12.4 -1.4
KRUC *e*SKS **SKSac** 17 11 44.1 -1.2
KRUC *e*SS **SS** 17 19 01.5 -7.0
KRUC Moravsky 96.80 319 P **P** 17 01 17.5 0.0
KRUC pmax pmax
comp=Z,57nm,2.3s
L15K Ungalak Mounta 96.83 29 P **P** 17 01 18.4 +1.0
baz=267
K15K Wolf Creek Mou 96.84 28 IAmb IAmb 17 01 20.4
comp=Z,342nm,1.1s
K15K Wolf Creek Mou 96.84 28 P **P** 17 01 18.8 +1.4
baz=267
DPC Dobruska-Polom 96.93 320 *e*P **P** 17 01 19.1 +0.9
DPC Dobruska-Polom 96.93 320 *e*P **P** 17 01 19.1 +0.9
KSP Ksiaz 96.97 320 *e*P **P** 17 01 19.2 +0.9
KSP *e*PP **PP** 17 05 15.3 +0.1
KSP *e*SKSac **SKSac** 17 11 44.8 -1.4
KSP *e*S **S** 17 12 28.0 -4.4
KSP *e*L L 17 52 08.4
comp=Z,5µm,21.0s
KSP Ksiaz 96.97 320 P **P** 17 01 18.9 +0.6
KSP pmax pmax
comp=Z,80nm,1.2s
SDPT Sand Point 97.00 35 P **P** 17 01 18.6 +0.4
SDPT Sand Point 97.00 35 P **P** 17 01 18.0 -0.2
baz=267,SNR=14
OSTC Ostas 97.01 320 *e*P Pdif 17 01 19.2 +0.6
OSTC *e*SKS **SKSac** 17 11 45.4 -1.0
OSTC Ostas 97.01 320 *e*P Pdif 17 01 19.2 +0.6
OSTC *e* 17 11 45.4
BJO1 Bjornoya 97.03 344 *e*P **P** 17 01 18.0 0.0
BJO1 *e*PP **PP** 17 05 16.7 +1.8
BJO1 *e*SKSac **SKSac** 17 11 46.6 +1.2
BJO1 IVMs_BB IVMs_BB 17 38 53.7
comp=Z,4µm,4.4s
CONA Conrad Observa 97.08 317 *e*PcP **P** 17 01 18.9 0.0
comp=Z,62nm,2.0s,SNR=14
CONA *e*PP **PP** 17 05 16.2 +0.1
comp=Z,139nm,1.6s
CONA *e*SKS **SKSac** 17 11 44.5 -2.5
comp=Z,41nm,1.9s
B18K Kokolik River 97.09 21 P Pdif 17 01 19.7 +1.3
baz=267
CHVC Chvalec 97.11 320 *e*P Pdif 17 01 19.7 +0.7
CHVC *e*PP **PP** 17 05 13.3 -2.9
CHVC Chvalec 97.11 320 *e*P Pdif 17 01 19.7 +0.7
CHVC *e* 17 05 13.3
UPC Upice 97.13 320 *e*P Pdif 17 01 19.7 +0.6
UPC *e*SKS **SKSac** 17 11 43.7 -3.3
UPC Upice 97.13 320 *e*P Pdif 17 01 19.7 +0.6
UPC *e* 17 11 43.7
VIKU Vikbolandet 97.15 328 *e*P Pdif 17 01 19.2 +0.2
M15K Kasigluk River 97.16 30 P Pdif 17 01 19.9 +1.0
baz=267
F17K Baldwin Pennin 97.17 24 P Pdif 17 01 20.2 +1.4
baz=268
CRES Cresnjev 97.23 315⇑ *i*P Pdif 17 01 20.1 +0.4
ARSA Arzberg 97.27 317 *e*PcP Pdif 17 01 20.3 +0.4
comp=Z,100nm,1.8s,SNR=24
ARSA *e*PP **PP** 17 05 16.5 -1.1
comp=Z,129nm,1.2s
C18K Utukok River 97.28 22 IAmb IAmb 17 01 21.6
comp=Z,422nm,1.0s
C18K Utukok River 97.28 22 P Pdif 17 01 20.1 +0.7
baz=268
I17K Unalakleet 97.30 26 P Pdif 17 01 21.0 +1.6
baz=268,SNR=70
J16K Anvik River 97.31 27 P Pdif 17 01 21.1 +1.5
baz=268
BOJS Bojanci 97.36 315⇑ *i*P **P** 17 01 20.2 +0.1
A19K Wainwright 97.38 20 P Pdif 17 01 21.2 +1.5
baz=268
G17K Kiwalik Mounta 97.38 25 P Pdif 17 01 21.3 +1.5
baz=268
TREC Trest 97.41 319 *e*P P 17 01 13.1 -7.2
N15K Kwethluk River 97.43 30 P Pdif 17 01 21.4 +1.2
baz=268
E18K Tukpahlearik C 97.46 23 P Pdif 17 01 21.5 +1.4
baz=268
CHNA Chernabura Isl 97.48 36 P Pdif 17 01 20.7 +0.2
baz=268
VAE Valguarnera 97.49 307 S **SKSac** 17 11 53.5 +4.1
comp=Z,5.8nm,0.3s,baz=61,slow=20,SNR=1.9
RAFF Raffo Rosso 97.51 307 IAmb IAmb 17 05 13.9
comp=Z,257nm,1.4s
O15K Ungalikthiuk R 97.53 31 P Pdif 17 01 21.3 +0.6
baz=268
BLEU Blekinge 97.53 326 *e*P **P** 17 01 20.2 -0.5
S14K Fog Glacier 97.56 34 P **P** 17 01 21.0 0.0
baz=268
SOKA Soboth 97.57 316 *e*PcP Pdif 17 01 21.7 +0.4
comp=Z,112nm,1.6s,SNR=22
SOKA *e*PP **PP** 17 05 20.5 +0.5
comp=Z,101nm,1.2s
H17K Granite Mounta 97.67 25 P Pdif 17 01 22.8 +1.7
baz=268
SPA0 Spitsbergen Ar 97.74 348⇑ *i*P **P** 17 01 20.4 -0.8
SPA0 IVmB_BB 17 01 21.4
comp=Z,7µm,1.8s
SPA0 *e*PP **PP** 17 05 23.2 +2.9
SPA0 *e*SKSac **SKSac** 17 11 50.4 +1.3
SPITS Spitsbergen Ar 97.74 348 P **P** 17 01 20.1 -1.2
comp=Z,22nm,0.4s,baz=114,slow=8.3,SNR=102
SPITS PKiKP **PKiKP** 17 05 55.9 +1.2
comp=Z,19nm,1.0s,baz=118,slow=6.7,SNR=5.5
SPITS LR LR 17 52 36.7
comp=Z,5µm,18.8s,baz=62,slow=40
comp=Z,22nm,0.4s
L16K Owhat River 97.78 29 P Pdif 17 01 23.1 +1.3
baz=268,SNR=61
F18K Selawik 97.81 24 P Pdif 17 01 23.1 +1.4
baz=269
C19K Lookout Ridge 97.87 21 P Pdif 17 01 23.2 +1.2
baz=269,SNR=184
GOPC GO Pecny, Ondr 97.89 319 *e*P Pdif 17 01 23.0 +0.5
GOPC GO Pecny, Ondr 97.89 319 *e*P Pdif 17 01 23.0 +0.5
LJU Ljubljana 97.89 315 *i* P Pdif 17 01 23.2 +0.6
LJU *i* PP **PP** 17 05 23.1 +0.8
LJU *i* SKSac **SKSac** 17 11 48.4 -2.7
LJU *i* S **S** 17 12 36.0 -4.4
LJU *e*SS **SS** 17 19 18.7 -5.3
OBKA Obir 97.90 316 *e*PcP Pdif 17 01 23.3 +0.6
comp=Z,78nm,1.9s
OBKA *e*PP **PP** 17 05 23.3 +0.8
comp=Z,159nm,1.3s
OBKA *e*SKS **SKSac** 17 11 52.7 +1.4
comp=Z,56nm,1.4s
OBKA Obir 97.90 316⇑ *i*P Pdif 17 01 23.1 +0.4
HSPB Hornsund (broa 97.93 347 *e*P **P** 17 01 21.5 -0.5
HSPB *e*L L 17 53 37.6
comp=Z,7µm,21.2s
CEY Cerknica 97.95 315⇑ *i*P **P** 17 01 22.7 -0.1
BSD Bornholm Skovb 98.00 325 *e*P **P** 17 01 22.5 -0.3
BSD Bornholm Skovb 98.00 325 P **P** 17 01 22.0 -0.8
BSD pmax pmax
comp=Z,246nm,1.9s
BSD Bornholm Skovb 98.00 325 *e*P **P** 17 01 22.6 -0.2
BSD IVmB_BB 17 01 23.4
comp=Z,3µm,1.6s
BSD IAmb IAmb 17 01 23.8
comp=Z,342nm,1.2s
J17K VABM Dome 98.00 27 IAmb IAmb 17 01 25.0
comp=Z,324nm,1.2s
J17K VABM Dome 98.00 27 Pdiff Pdif 17 01 24.3 +1.6
baz=269
M16K Timber Creek 98.02 29 IAmb IAmb 17 01 25.3
comp=Z,344nm,1.0s
M16K Timber Creek 98.02 29 Pdiff Pdif 17 01 23.8 +1.0
baz=269
FAUS Fauske 98.05 337 *e*P **P** 17 01 22.8 +0.1
FAUS IVmB_BB 17 01 23.2
comp=Z,6µm,1.4s
FAUS *e*PP **PP** 17 05 24.1 +1.3
FAUS *e*SKSac **SKSac** 17 11 52.7 +1.9
FAUS IVMs_BB IVMs_BB 17 43 57.0
comp=Z,3µm,27.5s

PRU Pruhonice 98.05 319 *e*P Pdiff 17 01 23.6 +0.4
PRU *e*SKS **SKSac 17 11 41.6 -10**
PRU AMS AMS 17 52 30.0
comp=Z,4µm,17.9s
PRU Pruhonice 98.05 319 *e*P Pdiff 17 01 23.6 +0.4
PRU *e* 17 11 41.6
PRU MLR MLR
comp=Z,4µm,17.9s
PVCC Panska Ves 98.05 320 *e*P Pdiff 17 01 23.9 +0.7
PVCC Panska Ves 98.05 320 *e*P Pdiff 17 01 23.9 +0.7
STEI Steigen 98.06 338⇑ *i*P **P 17 01 22.5 -0.3**
STEI IVmB_BB 17 01 23.2
comp=Z,6µm,1.3s
STEI *e*PP **PP 17 05 22.8 -0.1**
STEI *e*SKSac **SKSac 17 11 52.5 +1.6**
STEI *e*SS **SS 17 19 25.4 +0.2**
N16K Nishlik Lake 98.10 30 Pdiff Pdiff 17 01 24.4 +1.2
baz=269
PRA Prague 98.12 319 *e*P Pdiff 17 01 24.5 +1.0
PRA Prague 98.12 319 *e*P Pdiff 17 01 24.5 +1.0
MOA Molln 98.15 317 *e*Pdiff Pdiff 17 01 23.9 +0.2
comp=Z,69nm,1.9s,SNR=9.5
MOA *e*PP **PP 17 05 24.2 -0.1**
comp=Z,251nm,1.2s,SNR=13
MOA *e*SKS **SKSac 17 11 51.2 -1.2**
comp=Z,68nm,1.6s
CKRC Cesky Krumlov 98.16 318 *e*P Pdiff 17 01 24.0 +0.3
CKRC *e*SKS **SKSac 17 11 47.5 -4.8**
CKRC Cesky Krumlov 98.16 318 *e*P Pdiff 17 01 24.0 +0.3
CKRC *e* 17 11 47.5
CHGN Chignik 98.20 34 IAmb IAmb 17 01 24.6
comp=Z,293nm,1.2s
CHGN Chignik 98.20 34 Pdiff Pdiff 17 01 24.8 +1.2
baz=269
G18K Tagagawik 98.21 24 IAmb IAmb 17 01 25.9
comp=Z,172nm,1.1s
G18K Tagagawik 98.21 24 Pdiff Pdiff 17 01 24.2 +0.6
baz=270
ZVC Zvikov 98.26 319 *e*P Pdiff 17 01 24.7 +0.6
TBI Tubuai 98.31 115 *e*P Pdiff 17 01 28.1 +3.2
comp=Z,2µm,25.8s
TBI Tubuai 98.31 115 *e*PP **PP 17 05 27.7 +1.8**
comp=Z,6µm,26.8s
TBI *e*S **S 17 12 39.4 -5.5**
comp=Z,26µm,35.0s
TBI *e*SS **SS 17 19 32.2 +1.6**
comp=Z,49µm,27.0s
TBI *e*LQ LQ 17 29 08.2
comp=Z,63µm,37.8s
TBI *e*LR LR 17 33 27.5
comp=Z,12µm,35.8s
TBI *e*LR LR 17 33 45.4
comp=Z,74µm,35.8s
H18K Honhosa River 98.33 25 IAmb IAmb 17 01 26.7
comp=Z,361nm,1.1s
H18K Honhosa River 98.33 25 Pdiff Pdiff 17 01 25.3 +1.2
baz=270
L17K Donlin 98.35 28 Pdiff Pdiff 17 01 25.7 +1.5
baz=270
K17K Iditarod 98.35 28 Pdiff Pdiff 17 01 25.8 +1.6
baz=270
MOR8 Moi Rana 98.38 336⇑ *i*P **P 17 01 23.3 -1.0**
MOR8 IVmB_BB 17 01 24.2
comp=Z,6µm,1.4s
MOR8 *e*SKSac **SKSac 17 11 53.1 +0.4**
MOR8 *e* 17 12 38.4
MOR8 IVMs_BB IVMs_BB 17 46 27.3
comp=Z,2µm,6.0s
D19K Kuna River 98.41 22 Pdiff Pdiff 17 01 25.4 +1.0
baz=271
O16K Kokwok River B 98.43 31 IAmb IAmb 17 01 26.9
comp=Z,423nm,1.1s
O16K Kokwok River B 98.43 31 Pdiff Pdiff 17 01 25.5 +0.9
baz=269
BRG Berggiesshubel 98.46 320⇑ *i*P P 17 01 14.1 -11
BRG Amp 17 01 16.6
comp=Z,194nm,1.6s
BRG pP Pdif 17 01 37.4 +12
BRG Amp 17 01 44.1
comp=Z,10.0nm,0.8s
BRG sP pP 17 01 53.0 +1.1
BRG Amp 17 01 54.2
comp=Z,18nm,1.0s
BRG Berggiesshubel 98.46 320⇑ *i*P P 17 01 14.0 -11
BRG 17 14 21.0
BRG pmax pmax
comp=Z,194nm,1.6s
BRG MLR MLR
comp=N,1µm,18.1s
BRG MLR MLR
comp=Z,3µm,21.0s
BRG MLR MLR
comp=E,2µm,19.8s
P16K Nushagak River 98.47 31 Pdiff Pdiff 17 01 25.8 +1.0
baz=269
MYKA Terra Mystica 98.53 316 *e*Pdiff Pdiff 17 01 25.7 +0.2
comp=E,92nm,1.7s,SNR=14
MYKA *e*PP **PP 17 05 26.2 -1.1**
comp=E,93nm,1.2s
MYKA *e*SKS **SKSac 17 11 54.8 +0.4**
comp=E,108nm,1.6s
AQU L'Aquila 98.53 312 IAmb IAmb 17 01 44.8
comp=Z,130nm,1.2s
AQU L'Aquila 98.53 312 PP **PP 17 05 29.0 +1.5**
AQU L'Aquila 98.53 312 P Pdif 17 01 26.2 +0.6
AQU pmax pmax
comp=Z,95nm,1.2s
SABO M.te Sabotino 98.53 315 IAmb IAmb 17 01 27.4
comp=Z,314nm,1.8s
F19K Shaleruckik Mo 98.56 24 IAmb IAmb 17 01 27.5
comp=Z,397nm,1.3s
F19K Shaleruckik Mo 98.56 24 Pdiff Pdiff 17 01 26.0 +0.9
baz=271
GEC2 GERESS Array S 98.56 318 P Pdif 17 01 26.0 +0.4
GEC2 IAmb IAmb 17 01 27.8
comp=Z,447nm,1.9s
GEC2 GERESS Array S 98.56 318 *e*Pdiff Pdif 17 01 26.6 +1.0
GEC2 *e*PP **PP 17 05 27.7 +0.2**
baz=89,slow=7.4
GERES GERESS Array B 98.56 318 P **P 17 01 25.1 -0.5**
comp=Z,10nm,0.7s,baz=90,slow=4.0,SNR=58
GERES PP **PP 17 05 26.0 -1.5**
comp=Z,38nm,1.1s,baz=69,slow=7.3,SNR=7.9
GERES LR LR 17 55 03.7
comp=Z,2µm,18.1s,baz=89,slow=41
comp=Z,10nm,0.7s
BIOA Bad Ischl, Aus 98.57 317 *e*Pdiff **P 17 01 25.5 0.0**
comp=Z,62nm,2.2s,SNR=11
BIOA *e*PP **PP 17 05 27.1 -0.4**
comp=Z,163nm,1.4s,SNR=5.6
BIOA *e*SKS **SKSac 17 11 51.8 -2.6**
comp=Z,85nm,2.4s
KBS Kingsbay 98.59 349 P **P 17 01 24.2 -0.8**
KBS Kingsbay 98.59 349 IVmB_BB 17 01 24.7
comp=Z,2µm,3.3s
KBS *e*Pdif Pdif 17 01 25.4 +0.4
KBS *e*PP **PP 17 05 29.0 +2.3**
KBS *e* 17 12 37.8
KBS IVMs_BB IVMs_BB 17 46 28.9
comp=Z,2µm,4.2s
KBS Kingsbay 98.59 349 *ce*P Pdif 17 01 25.3 +0.3
KBS pmax pmax
comp=Z,48nm,1.0s
MLH Mauna Loa 98.61 71 IAmb IAmb 17 01 32.2
comp=Z,244nm,1.0s
RUE Ruedersdorf 98.61 322 *e*P Pdif 17 01 25.7 +0.2
RUE Ruedersdorf 98.61 322 *e*Pdiff Pdif 17 01 26.6 +1.0
ROBS Robic 98.61 316 *i* P **P 17 01 25.5 -0.2**
ROBS *e*PP **PP 17 05 28.0 +0.2**
ROBS *i* SKSac **SKSac 17 11 50.9 -3.7**
ROBS *i* S **S 17 12 41.9 -4.6**
ROBS *e*SS **SS 17 19 29.6 -4.4**
DEL Delary 98.62 326 *e*P Pdif 17 01 25.7 +0.2
DEL Delary 98.62 326 *e*P **P 17 01 25.0 -0.5**
KHC Kasperske Hory 98.65 319 *e*P **P 17 01 26.0 +0.1**
KHC *e*PP **PP 17 05 26.5 -1.6**
KHC *e*SKS **SKSac 17 11 52.7 -2.1**
KHC AMS AMS 17 53 00.0
comp=Z,4µm,16.5s
KHC Kasperske Hory 98.65 319 *ce*P **P 17 01 25.5 -0.4**
KHC pmax pmax
comp=Z,224nm,2.5s
R16K Pilot Point 98.68 33 Pdiff Pdiff 17 01 26.6 +0.8
baz=270
LOF Lofoten 98.70 338⇑ *i*P **P 17 01 24.9 -0.7**
LOF IVmB_BB 17 01 25.6
comp=Z,3µm,2.6s
LOF *e*SKSac **SKSac 17 11 55.4 +1.3**
B20K Meade River 98.71 20 Pdiff Pdif 17 01 26.6 +0.9
baz=272
HFS Hagfors 98.73 330 P Pdif 17 01 26.4 +0.4
comp=Z,255nm,1.0s,baz=126,slow=2.6,SNR=120
HFS PP **PP 17 05 24.3 -4.0**
comp=Z,106nm,1.0s,baz=80,slow=10,SNR=3.6
comp=Z,255nm,1.0s
KBA Koelnbreinsper 98.75 316 *e*Pdiff **P 17 01 26.0 -0.5**
comp=Z,31nm,1.5s
KBA *e*PP **PP 17 05 28.5 -0.6**
comp=Z,168nm,1.2s
KBA SKS **SKSac 17 11 52.2 -3.5**
comp=Z,135nm,1.6s
KBA Koelnbreinsper 98.75 316 P **P 17 01 25.9 -0.7**
KBA pmax pmax
comp=Z,25nm,1.4s
M17K Holitna River 98.76 29 IAmb IAmb 17 01 29.1
comp=Z,303nm,0.9s
M17K Holitna River 98.76 29 Pdiff Pdif 17 01 27.7 +1.6
baz=270
E19K Redstone River 98.76 23 Pdiff Pdif 17 01 27.1 +1.1
baz=271
HSKC Hora Svate Kat 98.78 320 *e*P Pdif 17 01 26.8 +0.3
HSKC *e*PP **PP 17 05 29.3 +0.3**
FBE Freiberg 98.84 320 *e*Pdiff Pdif 17 01 27.8 +1.1
FBE *e*PP **PP 17 05 29.5 +0.2**
baz=89,slow=7.4
A21K Barrow 98.84 19 Pdiff Pdif 17 01 26.8 +0.6
baz=272
G19K Purcell Mounta 98.85 24 Pdiff Pdif 17 01 27.7 +1.4
baz=271
LUNU Lund 98.85 325 *e*P Pdif 17 01 27.0 +0.4
N17K Nushagak Hills 98.88 30 IAmb IAmb 17 01 29.6
comp=Z,266nm,1.1s
N17K Nushagak Hills 98.88 30 Pdiff Pdif 17 01 28.1 +1.4
baz=270
KONS Konsvik 98.91 336 *e*P Pdif 17 01 26.9 +0.4
RGN Rugen 98.91 324 *e*P Pdif 17 01 27.1 +0.2
RGN Rugen 98.91 324 *e*Pdiff Pdif 17 01 28.3 +1.5
RGN *e*PP **PP 17 05 30.5 +0.7**
baz=89,slow=7.4
O17K Koliganek Bris 98.93 31 Pdiff Pdif 17 01 27.6 +0.7
baz=270
D20K Etivluk River 98.95 22 Pdiff Pdif 17 01 27.8 +0.9
baz=272
STOK Stokkvaagen 98.95 336⇑ *i*P **P 17 01 26.7 -0.1**
GCSA Galena City Sc 98.97 26 Pdiff Pdif 17 01 28.1 +1.2
baz=271
CLL Collm 99.06 321⇑ *i*Pdif **Pdif 17 01 27.4 -0.3**
comp=Z,198nm,1.8s
CLL *ep*Pdif **pP 17 01 50.0 -4.5**
CLL *ex* x 17 04 42.0
CLL *i* x x 17 05 10.3
CLL *e*PP **PP 17 05 31.0 -0.1**
CLL *ep*PP 17 05 58.0
CLL *es*PP 17 06 10.0
CLL *e*PPP PPP 17 07 36.0
CLL *es*PPP 17 08 15.0
CLL *es*PPPP 17 09 53.0
CLL *i* SKSac **SKSac 17 11 53.1 -3.6**
CLL *e*SKKSac **SKKSac 17 12 24.0 -4.2**
CLL *es*SKSac **sSKSac 17 12 40.0 -5.2**
CLL *e*Sdif **ScS 17 12 48.0 -2.1**
CLL *i* x x 17 14 07.6
CLL *i* SP **SP 17 14 18.7 +2.3**
CLL *e*PPS PPS 17 15 12.0
CLL *e*SS **SS 17 19 33.0 -7.2**
CLL *e*SKKPdf **SKKPdf 17 21 21.0 -3.6**
CLL *e*SSS SSS 17 23 30.0
CLL *es*SSS 17 26 36.0
CLL Collm 99.06 321 *i* P **Pdif 17 01 27.4 -0.3**
CLL *e* 17 05 31.0
CLL *i* 17 11 53.1
CLL *e*S **ScS 17 12 48.0 -2.1**
CLL pmax pmax
comp=Z,198nm,1.8s
CLL Collm 99.06 321 *e*Pdiff **Pdif 17 01 28.4 +0.8**
J18K Innoko River 99.07 27 IAmb IAmb 17 01 30.0
comp=Z,391nm,1.1s
J18K Innoko River 99.07 27 Pdiff **Pdif 17 01 28.5 +1.1**
baz=271
BJUU Bjuv 99.09 326 *e*P **Pdif 17 01 27.8 +0.2**
L18K Granite Mounta 99.10 28 IAmb IAmb 17 01 30.5
comp=Z,346nm,1.1s
L18K Granite Mounta 99.10 28 Pdiff **Pdif 17 01 29.0 +1.4**
baz=271
WET Wettzell 99.11 319 P **Pdif 17 01 28.7 +0.7**
WET pmax pmax
comp=Z,91nm,2.3s
WET Wettzell 99.11 319 *e*Pdiff **Pdif 17 01 29.1 +1.1**
WET *e*PP **PP 17 05 31.8 +0.2**
baz=89,slow=7.4
H19K Roundabout Mou 99.13 25 Pdiff **Pdif 17 01 29.2 +1.6**
baz=272
E20K Nigu River 99.13 22 Pdiff **Pdif 17 01 28.8 +1.1**
baz=272
LESA Schwarzleotal 99.21 317 *e*Pdiff **Pdif 17 01 28.2 -0.4**
comp=Z,66nm,1.8s
LESA *e*PP **PP 17 05 32.0 -0.4**
comp=Z,270nm,1.4s
LESA *e*SKS **SKSac 17 11 56.8 -1.0**
comp=Z,146nm,1.5s
BORU Boraas 99.22 327 *e*P **Pdif 17 01 27.8 -0.4**
FABU Falkenberg 99.26 326 *e*P **Pdif 17 01 28.8 +0.5**
P17K Kvichak River 99.27 31 Pdiff **Pdif 17 01 29.1 +0.8**
baz=271
ABTA Abfaltersbach 99.31 316 *e*Pdiff **Pdif 17 01 28.7 -0.3**
comp=Z,38nm,1.9s,SNR=8.3
ABTA *e*PP **PP 17 05 32.4 -0.8**
comp=Z,102nm,1.4s
ABTA SKS **SKSac 17 11 55.1 -3.2**
comp=Z,112nm,1.8s
R17K Ugashik Creek 99.32 33 P **Pdif 17 01 26.3 -2.3**
R17K IAmb IAmb 17 01 29.8
comp=Z,257nm,0.9s
R17K Ugashik Creek 99.32 33 Pdiff **Pdif 17 01 28.6 0.0**
baz=271
PPT2 Papeete2 99.34 109 *e*PKP1 **Pdif 17 01 30.6 +0.8**
comp=Z,594nm,23.8s
PPT2 Papeete2 99.34 109 *e*PP **PP 17 05 34.4 +0.3**
comp=Z,2µm,28.5s
PPT2 *e*S **S 17 12 45.5 -8.5**
comp=Z,6µm,26.5s
PPT2 *e*SS **SS 17 19 38.3 -7.3**
comp=Z,6µm,25.2s
PPT2 *e*LQ LQ 17 29 30.4
comp=Z,13µm,28.8s
PPT2 *e*LR LR 17 33 49.5
comp=Z,7µm,38.2s
PPT2 *e*LR LR 17 34 06.3
comp=Z,9µm,25.2s
PPT Papeete 99.35 109 LR LR 17 41 39.2
comp=Z,2µm,22.0s,baz=248,slow=32
F20K Avaraart Lake 99.36 23 IAmb IAmb 17 01 31.4
comp=Z,288nm,1.2s
F20K Avaraart Lake 99.36 23 Pdiff **Pdif 17 01 29.8 +1.2**
baz=273
A22K Sinclair Lake 99.39 19 Pdiff **Pdif 17 01 29.5 +0.8**
baz=274
TANN Tannenbergstha 99.40 320 *e*Pdiff **Pdif 17 01 30.1 +0.9**
TTA Tatalina 99.40 27 IAmb IAmb 17 01 31.8
comp=Z,264nm,1.2s
TTA Tatalina 99.40 27 P **Pdif 17 01 30.7 +1.7**
TTA Tatalina 99.40 27 Pdiff **Pdif 17 01 29.9 +0.9**
baz=272
COP Copenhagen 99.42 325 P **Pdif 17 01 30.2 +1.1**
COP pmax pmax
comp=Z,992nm,1.2s
COP Copenhagen 99.42 325 *e*P **Pdif 17 01 29.4 +0.3**
WERN Wernitzgruen 99.45 320 *e*Pdiff **Pdif 17 01 30.6 +1.1**
WERN *e*PP **PP 17 05 34.4 +0.3**
baz=89,slow=7.4
NSS Namsos 99.45 334⇑ *i*P **Pdif 17 01 28.6 -0.5**
NSS IVmB_BB 17 01 29.6
comp=Z,4µm,2.0s
NSS *e*SKSac **SKSac 17 12 00.1 +2.1**
GUNZ Gunzen 99.48 320 *e*Pdiff **Pdif 17 01 30.6 +1.0**
GUNZ *e*PP **PP 17 05 34.2 -0.1**
baz=89,slow=7.4
WERD Werda 99.50 320 *e*Pdiff **Pdif 17 01 30.5 +0.8**
WERD *e*PP **PP 17 05 34.3 -0.1**
baz=89,slow=7.4
N18K Kilae Creek 99.52 30 Pdiff **Pdif 17 01 30.6 +1.1**
baz=272
M18K Stony River 99.53 29 Pdiff **Pdif 17 01 30.6 +1.1**
baz=272
J19K Poorman 99.54 26 Pdiff **Pdif 17 01 30.8 +1.3**
baz=272
ROTZ Rotzenmuhle 99.56 319 *e*Pdiff **Pdif 17 01 31.3 +1.4**
ROTZ *e*PP **PP 17 05 35.8 +0.9**
baz=89,slow=7.4
Q17K Contact Creek 99.58 32 Pdiff **Pdif 17 01 29.3 -0.6**
baz=271
C21K Knifeblade Rid 99.59 21 Pdiff **Pdif 17 01 30.9 +1.3**
baz=274
PLN Plauen 99.59 320 *e*Pdiff **Pdif 17 01 31.0 +1.0**
B21K Ikpikpuk River 99.62 21 Pdiff **Pdif 17 01 30.7 +1.0**
baz=274
MANZ Manzenberg 99.62 319 *e*Pdiff **Pdif 17 01 31.7 +1.4**
MANZ *e*PP **PP 17 05 35.8 +0.4**
baz=89,slow=7.4
SVW2 Sparrevohn 99.66 29 P **Pdif 17 01 32.0 +1.9**
ONAU Onsala 99.69 327 *e*P **Pdif 17 01 30.2 0.0**
CHIR Chirikof Islan 99.76 35 Pdiff **Pdif 17 01 31.4 +0.8**
baz=271
H20K Anotleneega Mo 99.78 25 Pdiff **Pdif 17 01 31.9 +1.4**
baz=273
NC602 NORSAR Array S 99.79 330 Pdif **Pdif 17 01 30.8 +0.2**
NC602 IAmb IAmb 17 01 32.3
comp=Z,256nm,1.2s
NC602 NORSAR Array S 99.79 330⇑ *i*P **Pdif 17 01 30.4 -0.2**
NC602 IVmB_BB 17 01 31.4
comp=Z,2µm,1.6s
NC602 *e*PP **PP 17 05 38.8 +2.5**
NC602 *e*SS SS 17 19 44.6 -5.2
NC602 IVMs_BB IVMs_BB 17 46 00.5
comp=Z,2µm,21.0s
TJOU Tjoern 99.83 328 *e*P **Pdif 17 01 30.4 -0.5**
NEUB Neuenburg 99.84 321 *e*Pdiff **Pdif 17 01 31.9 +0.8**
O18K Koktuh Hills 99.89 31 Pdiff **Pdif 17 01 31.8 +0.7**
baz=272
P18K Big Mountain, 99.89 31 Pdiff **Pdif 17 01 31.2 0.0**
baz=272
NB201 NORSAR Array S 99.90 331 IAmb IAmb 17 01 32.9
comp=Z,404nm,1.4s
WTTA Wattenberg 99.92 317 *e*Pdiff **Pdif 17 01 31.6 -0.2**
comp=Z,83nm,1.9s,SNR=15
WTTA *e*PP **PP 17 05 37.0 -1.0**
comp=Z,320nm,1.4s
WTTA *e*SKS **SKSac 17 12 00.1 -1.4**
comp=Z,96nm,1.4s
WTTA Wattenberg 99.92 317 P **Pdif 17 01 31.6 -0.2**
WTTA pmax pmax
comp=Z,58nm,2.7s
E21K Killik River 99.94 22 Pdif **Pdif 17 01 32.0 +0.8**
E21K Killik River 99.94 22 Pdiff **Pdif 17 01 31.9 +0.7**
baz=275
MOX Moxa 99.94 320 *e*Pdiff **Pdif 17 01 32.6 +1.0**
NB2 NORSAR Subarra 99.94 331 P **Pdif 17 01 31.2 -0.2**
comp=Z,482nm,1.4s,baz=89,slow=5.3
NB2 PP **PP 17 05 39.8 +2.3**
comp=Z,317nm,2.0s,baz=92,slow=7.4
NB2 PKKP **PKKPbc 17 17 52.6 -0.5**
comp=Z,1.3nm,0.8s,baz=262,slow=2.1
NB2 NORSAR Subarra 99.94 331 P **Pdif 17 01 31.2 -0.2**
baz=89,slow=5.3
NOA NORSAR Array B 99.94 331 P **Pdif 17 01 31.1 -0.3**
comp=Z,112nm,1.1s,baz=88,slow=4.6,SNR=84
NOA PP PP 17 05 28.6 -8.9
comp=Z,20nm,1.0s,baz=100,slow=8.1,SNR=4.6
NOA PKKPbc **PKKPbc 17 17 50.8 -2.4**
comp=Z,2.7nm,0.9s,baz=266,slow=2.3,SNR=4.9
NOA LR LR 17 53 35.1
comp=Z,2µm,18.3s,baz=90,slow=39
comp=Z,112nm,1.1s
WATA Walderalm 99.96 317 *i* Pdiff **Pdif 17 01 31.4 -0.5**
comp=Z,64nm,1.5s,SNR=14
WATA *e*PP **PP 17 05 36.9 -1.3**
comp=Z,219nm,1.3s,SNR=5.7
WATA *e*SKS **SKSac 17 12 00.9 -0.7**
comp=Z,74nm,1.6s
L19K White Mountain 99.96 28 IAmb IAmb 17 01 34.3
comp=Z,239nm,1.1s
L19K White Mountain 99.96 28 Pdiff **Pdif 17 01 32.8 +1.4**
baz=273
B22K Teshekpuk Lake 99.97 20 Pdif **Pdif 17 01 32.0 +0.8**
B22K Teshekpuk Lake 99.97 20 Pdiff **Pdif 17 01 32.1 +0.8**
baz=275
I20K Naaghedeneel 99.99 26 Pdiff **Pdif 17 01 33.0 +1.6**
baz=273
Q18K Katmai Hardscr 100.03 32 Pdiff **Pdif 17 01 31.5 -0.4**
baz=272
STRU Stroemstad 100.03 329 *e*P **Pdif 17 01 31.8 +0.1**
GORT1 Trebel 100.11 322 *e*Pdiff **Pdif 17 01 33.1 +1.0**
GORT1 *e*PP **PP 17 05 38.6 -0.3**
baz=89,slow=7.4
NC204 NORSAR Array S 100.15 331 Pdif **Pdif 17 01 32.7 +0.4**
FLTG Flechtingen 100.16 322 *e*Pdiff **Pdif 17 01 32.8 +0.3**
FLTG *e*PP **PP 17 05 39.8 +0.5**
baz=89,slow=7.4
FUR Furstenfeldbru 100.16 318 *e*Pdiff **Pdif 17 01 33.3 +0.7**
FUR *e*PP **PP 17 05 39.8 +0.3**
baz=89,slow=7.4
J20K Nowinta River 100.17 26 Pdiff **Pdif 17 01 33.8 +1.5**
baz=274
GRF Grafenberg Arr 100.20 319 P **Pdif 17 01 33.7 +0.9**
GRF pmax pmax
comp=Z,45nm,0.9s
GRF Grafenberg Arr 100.20 319 *e*Pdiff **Pdif 17 01 34.2 +1.5**
N19K Bonanza Creek 100.21 30 Pdiff **Pdif 17 01 33.9 +1.3**
baz=273
SQTA Sankt Quirin 100.21 317 *e*Pdiff **Pdif 17 01 32.9 -0.1**
comp=Z,51nm,1.6s,SNR=11
SQTA *e*PP **PP 17 05 39.0 -1.1**
comp=Z,226nm,1.3s,SNR=5.2
SQTA *e*SKS **SKSac 17 12 00.8 -2.0**
comp=Z,389nm,1.5s
F21K Alatna River 100.22 23 Pdiff **Pdif 17 01 33.3 +0.7**
baz=275
OSL Oslo 100.23 330 *e*P **Pdif 17 01 33.2 +0.6**
OSL IVmB_BB 17 01 33.8
comp=Z,4µm,2.1s
K20K Telida 100.26 27 Pdif **Pdif 17 01 34.3 +1.6**
K20K Telida 100.26 27 Pdiff **Pdif 17 01 34.1 +1.4**
baz=274
G21K Allakaket 100.27 24 Pdif **Pdif 17 01 33.8 +1.1**
G21K Allakaket 100.27 24 Pdiff **Pdif 17 01 34.0 +1.2**
baz=275
TBLU Trondheim 100.27 333 *e*P **Pdif 17 01 33.0 +0.3**
TBLU IVmB_BB 17 01 33.4
comp=Z,3µm,2.1s
TBLU *e*SKSac **SKSac 17 12 04.5 +2.4**
TBLU *e*SS **SS 17 19 57.2 +0.9**
MOTA Moosalm 100.28 317 *e*Pdiff **Pdif 17 01 33.1 -0.2**
comp=Z,55nm,1.4s,SNR=13
MOTA *e*PP **PP 17 05 39.5 -1.2**
comp=Z,175nm,1.2s
O19K Port Alsworth 100.32 30 Pdiff **Pdif 17 01 33.4 +0.4**
baz=273
R18K Karluk 100.36 33 Pdiff **Pdif 17 01 33.2 0.0**
baz=272
D22K Ayikyak River 100.37 21 Pdiff **Pdif 17 01 34.2 +1.1**
baz=276
L20K Farewell, AK 100.40 28 Pdiff **Pdif 17 01 34.7 +1.3**
baz=274
RETA Reutte 100.51 317 *e*Pdiff **Pdif 17 01 34.4 +0.1**
comp=Z,60nm,1.5s,SNR=11
RETA *e*PP **PP 17 05 41.3 -1.0**
comp=Z,208nm,1.4s,SNR=6.4
RETA *e*SKS **SKSac 17 12 03.7 -0.5**
comp=Z,142nm,1.5s
ASSE Asse, Remlinge 100.51 322 *e*Pdiff **Pdif 17 01 34.9 +0.9**
FETA Feichten 100.53 316 *e*Pdiff **Pdif 17 01 34.9 +0.4**
comp=Z,41nm,1.4s,SNR=11
FETA *e*PP **PP 17 05 41.8 -0.8**
comp=Z,228nm,1.3s
SII Sitkinak Islan 100.55 34 P **Pdif 17 01 35.2 +1.0**
SII Sitkinak Islan 100.55 34 Pdiff **Pdif 17 01 35.1 +1.0**
baz=272
H21K Melozitna Rive 100.63 25 Pdiff **Pdif 17 01 35.9 +1.5**
baz=275
BSEG Bad Segeberg 100.68 323 P **Pdif 17 01 35.6 +0.9**
BSEG pmax pmax
comp=Z,148nm,1.3s
BSEG Bad Segeberg 100.68 323 *e*Pdiff **Pdif 17 01 36.1 +1.3**
F22K John River 100.70 23 Pdiff **Pdif 17 01 36.0 +1.4**
baz=276
CLZ Clausthal 100.70 321 *e*Pdiff **Pdif 17 01 36.1 +1.1**
Q19K Cape Douglas, 100.73 31 Pdiff **Pdif 17 01 34.4 -0.5**
baz=273
E22K Anaktuvuk Pass 100.77 22 Pdiff **Pdif 17 01 36.2 +1.3**

baz=276
VLC Villacollemand 100.78 313 PP PP 17 05 44.9 +0.5
M20K Styx River 100.79 28 Pdiff Pdif 17 01 36.2 +1.0
baz=274
KONO Kongsberg 100.81 329 Pdif 17 01 35.8 +0.5
KONO Kongsberg 100.81 329⇑ *i*P Pdif 17 01 35.7 +0.5
KONO IVmB_BB 17 01 36.2
comp=Z,3µm,2.7s
KONO *e*SS SS 17 20 00.7 -3.3
KONO Kongsberg 100.81 329 *i* P Pdif 17 01 35.8 +0.5
NRDL Niedersach Rie 100.85 322 *e*Pdiff Pdif 17 01 36.9 +1.5
NRDL *e*PP PP 17 05 44.1 -0.4
baz=89,slow=7.4
P19K Oil Pt 100.89 31 Pdiff Pdif 17 01 35.3 -0.4
baz=274
DOMB Dombas 100.91 332 *e*P Pdif 17 01 36.3 +0.6
DOMB IVmB_BB 17 01 36.8
comp=Z,2µm,2.7s
UBR Ueberruh 100.95 317 *e*Pdiff Pdif 17 01 37.0 +0.7
UBR *e*PP PP 17 05 45.2 -0.3
baz=89,slow=7.4
UBBA Unterbreizbach 100.96 320 *e*Pdiff Pdif 17 01 37.1 +1.2
GTTG Gottingen 100.97 321 *e*Pdiff Pdif 17 01 37.2 +1.1
C23K Itkillik River 100.98 20 Pdiff Pdif 17 01 36.5 +0.7
baz=278
CHUM Lake Minchumin 101.00 26 Pdiff Pdif 17 01 37.2 +1.2
baz=275
OHAK Old Harbor 101.01 33 P Pdif 17 01 37.6 +1.5
OHAK Old Harbor 101.01 33 Pdiff Pdif 17 01 36.7 +0.6
baz=273
I21K Tanana 101.02 25 Pdiff Pdif 17 01 37.3 +1.3
baz=276
SSRD Sdr. Stenderup 101.02 325 *e*P Pdif 17 01 37.2 +1.0
G22K Bettles 101.02 23 Pdiff Pdif 17 01 37.0 +1.0
baz=277
D23K Nanushuk River 101.08 21 Pdiff Pdif 17 01 37.4 +1.1
baz=278
DAVA Damuels 101.11 317 *i* Pdiff Pdif 17 01 37.6 +0.5
comp=Z,80nm,1.4s
DAVA *e*PP PP 17 05 46.0 -0.9
comp=Z,327nm,1.2s
DAVA *e*SKS SKSac 17 12 07.1 -0.2
comp=Z,51nm,1.7s
DAVOX Davos/Dischmat 101.12 316 S SKSac 17 12 04.7 -2.7
comp=Z,9.3nm,1.0s,baz=178,slow=18,SNR=8.5
CAST Castle Rocks 101.15 27 Pdiff Pdif 17 01 37.6 +0.9
baz=275
PPLA Purkeypile 101.15 27 Pdiff Pdif 17 01 37.6 +0.8
baz=275
O20K Slope Mountain 101.17 30 Pdiff Pdif 17 01 36.7 -0.2
baz=274
H22K Ishtalitna Cre 101.19 24 Pdiff Pdif 17 01 38.4 +1.6
baz=276
MUD Monsted U'grnd 101.22 326 P Pdif 17 01 38.6 +1.5
MUD pmax pmax
comp=Z,133nm,1.6s
MUD Monsted U'grnd 101.22 326 *e*P Pdif 17 01 38.0 +0.9
RETH Rethem/Aller, 101.30 322 *e*Pdiff Pdif 17 01 38.6 +1.1
RETH *e*PP PP 17 05 47.9 +0.1
baz=89,slow=7.4
KDAK Kodiak Island 101.35 33 Pdif 17 01 38.1 +0.5
KDAK Kodiak Island 101.35 33 Pdiff Pdif 17 01 38.5 +0.8
baz=274
KDAK Kodiak Island 101.35 33 *i* P Pdif 17 01 38.2 +0.5
KDAK Kodiak Island 101.35 33 P Pdif 17 01 37.3 -0.4
comp=Z,142nm,0.9s,baz=308,slow=1.6,SNR=30
KDAK S SKSac 17 12 09.0 +1.4
comp=Z,66nm,1.1s,baz=84,slow=23,SNR=15
SKAR Skarslia 101.38 330 *e*P Pdif 17 01 38.4 +0.5
SKAR IVmB_BB 17 01 39.5
comp=Z,2µm,2.1s
SKAR *i* 17 13 08.0
SKAR *e*SS SS 17 20 15.6 +3.7
Q20K Shuyak Island 101.40 32 Pdiff Pdif 17 01 38.3 +0.4
baz=274
SYI Shuyak Island 101.40 32 Pdif 17 01 38.7 +0.9
KEST Kesra 101.49 305 P Pdif 17 01 41.0 +2.1
KEST S SKSac 17 12 11.0 +1.6
KEST Kesra 101.49 305 P Pdif 17 01 39.2 +0.2
comp=Z,34nm,1.1s,baz=218,slow=1.8,SNR=10.0
KEST PP PP 17 05 42.9 -7.1
comp=Z,27nm,1.0s,baz=52,slow=5.8,SNR=4.4
KEST S SKSac 17 12 10.7 +1.3
comp=Z,12nm,1.2s,baz=221,slow=21,SNR=7.5
COLD Coldfoot 101.49 23 Pdiff Pdif 17 01 39.3 +1.1
baz=278
TOLK Toolik Lake Re 101.52 21 Pdif Pdif 17 01 39.5 +1.2
TOLK Toolik Lake Re 101.52 21 Pdiff Pdif 17 01 39.3 +1.0
baz=279
SKT Skwentna 101.54 28 Pdiff Pdif 17 01 38.5 0.0
baz=276
STU Stuttgart 101.54 318 P Pdif 17 01 39.2 +0.5
STU pmax pmax
comp=Z,45nm,1.0s
STU Stuttgart 101.54 318 *e*Pdiff Pdif 17 01 39.6 +0.9
STU *e*PP PP 17 05 49.7 -0.2
baz=89,slow=7.4
MLY Manley 101.56 25 Pdiff Pdif 17 01 39.7 +1.1
baz=277
BPAW Bear Paw Mtn. 101.56 26 Pdif Pdif 17 01 39.5 +0.9
BPAW Bear Paw Mtn. 101.56 26 Pdiff Pdif 17 01 39.4 +0.9
baz=276
MOL Molde 101.57 332⇑ *i*P Pdif 17 01 39.5 +1.0
MOL *e*SS SS 17 20 18.8 +4.5
E23K Chandalar 101.59 22 Pdiff Pdif 17 01 40.0 +1.3
baz=279
G23K Bananza Creek 101.63 23 Pdiff Pdif 17 01 40.0 +1.2
baz=278
C24K Franklin Bluff 101.66 20 Pdiff Pdif 17 01 39.5 +0.7
baz=280
HOM Homer 101.70 31 Pdiff Pdif 17 01 39.0 -0.1
baz=275
TAMR Tamra 101.70 306 PP PKiKP 17 05 51.7 -11
D24K Happy Valley 101.71 21 Pdiff Pdif 17 01 39.9 +0.9
baz=280
AKN Aaknes 101.86 332 *e*P Pdif 17 01 41.0 +1.1
TRF Thorofare Moun 101.94 27 Pdiff Pdif 17 01 40.9 +0.5
baz=277
KASTN Kahler Asten 101.95 321 *e*Pdiff Pdif 17 01 41.7 +1.1
SUA Susitna One 101.96 29 Pdiff Pdif 17 01 40.7 +0.2
baz=276
TNS Taunus Mts 101.97 320 P Pdif 17 01 41.6 +0.9
TNS pmax pmax
comp=Z,62nm,1.9s
TNS Taunus Mts 101.97 320 *e*Pdiff Pdif 17 01 42.0 +1.3
E24K Your Creek 102.01 22 Pdiff Pdif 17 01 41.5 +1.0
baz=280
SLE Schleitheim 102.04 317 P Pdif 17 01 41.1 +0.1
SLE pmax pmax
comp=Z,43nm,2.1s
CUT Chulitna 102.08 28 Pdiff Pdif 17 01 41.0 +0.2
baz=277
I23K Minto, Yukon-K 102.12 25 Pdiff Pdif 17 01 41.9 +1.0
baz=278
BFO Black Forest 102.13 318 P Pdif 17 01 42.1 +0.7
BFO Black Forest 102.13 318 *e*Pdiff Pdif 17 01 42.0 +0.5
BRSE Bradley Lake S 102.15 31 Pdiff Pdif 17 01 41.4 +0.2
baz=276
M22K Willow 102.23 28 Pdiff Pdif 17 01 41.6 +0.1
baz=277
ODD1 Odda 102.29 330 *e*P Pdif 17 01 43.0 +1.1
ODD1 *e*PP PP 17 05 55.9 +0.7
ODD1 *e*SKSac SKSac 17 12 13.4 +1.3
ODD1 *e*SS SS 17 20 24.9 +0.4
ODD1 IVMs_BB IVMs_BB 17 44 28.1
comp=Z,2µm,19.8s
IBBN Ibbenburen 102.30 322 *e*Pdiff Pdif 17 01 43.4 +1.4
NOR Nord 102.30 353 P Pdif 17 01 39.3 -2.2
NOR pmax pmax
comp=Z,74nm,2.0s
NEA2 Nenana 102.33 26 Pdiff Pdif 17 01 42.4 +0.5
baz=278
F24K Squaw Lake 102.33 22 Pdiff Pdif 17 01 43.1 +1.2
baz=280
HYA Hoyanger 102.36 331 *e*P Pdif 17 01 42.3 +0.3
BLS5 Blasjo 102.43 329 *e*P Pdif 17 01 43.8 +1.4
BLS5 *e*PP PP 17 05 59.5 +3.3
BLS5 *e*SKSac SKSac 17 12 15.0 +2.3
BLS5 *e*SS SS 17 20 29.2 +2.8
RC01 Rabbit Creek A 102.49 29 Pdiff Pdif 17 01 42.8 +0.1
baz=277
MCK McKinley 102.51 26 Pdiff Pdif 17 01 43.2 +0.5
baz=278
D25K Kavik River 102.53 21 Pdiff Pdif 17 01 43.5 +0.7
baz=282
O22K Cooper Landing 102.57 30 Pdiff Pdif 17 01 43.1 +0.1
baz=277
H24K Noodor Dome 102.62 24 Pdiff Pdif 17 01 44.4 +1.2
baz=280
G24K Hadweenzic Riv 102.63 23 Pdiff Pdif 17 01 44.4 +1.2
baz=280
BUG Bochum--Univer 102.65 321 P Pdif 17 01 44.2 +0.6
BUG pmax pmax
comp=Z,45nm,1.2s
BUG Bochum--Univer 102.65 321 *e*Pdiff Pdif 17 01 44.6 +1.1
PMR Palmer 102.72 29 P Pdif 17 01 44.8 +1.2
PMR Palmer 102.72 29 Pdiff Pdif 17 01 43.8 +0.2
baz=278
SEW Seward 102.75 30 Pdiff Pdif 17 01 44.2 +0.4
baz=277
COLA College 102.80 25 P Pdif 17 01 45.3 +1.4
COLA College 102.80 25 Pdiff Pdif 17 01 43.8 -0.1
baz=280
COLA College 102.80 25⇑ P Pdif 17 01 44.7 +0.8
WAT1 Susitna Watana 102.81 27 Pdiff Pdif 17 01 44.3 +0.2
baz=278
CDF Champ du Feu 102.83 318 *e*P Pdif 17 01 44.7 +0.1
CDF pmax pmax
comp=Z,76nm,1.7s
AHRW Bad Neuenahr-A 102.83 320 *e*Pdiff Pdif 17 01 45.7 +1.3
AHRW *e*PP PP 17 05 59.7 +0.2
baz=89,slow=7.4
FOO Floro 102.85 331 *e*P Pdif 17 01 45.1 +0.9
FOO *e*SKSac SKSac 17 12 19.6 +5.2
FOO *e*SS SS 17 20 35.0 +3.0
BER Bergen 102.88 330 *e*PP PP 17 05 53.0 -6.4
BER *e*SS SS 17 20 36.2 +3.9
C26K Camden Bay 102.90 20 Pdiff Pdif 17 01 45.7 +1.4
baz=283
ECH Echery 102.92 318 P Pdif 17 01 45.7 +0.8
ECH pmax pmax
comp=Z,16nm,1.1s
POKR Poker Plat Res 102.93 25 Pdiff Pdif 17 01 44.7 +0.1
baz=280
KNK Knik Glacier 103.06 29 Pdiff Pdif 17 01 46.3 +1.0
baz=278
SML Sawmill 103.06 28 Pdiff Pdif 17 01 46.2 +0.9
baz=278
SUE Sulen 103.06 331 *e*Pdif Pdif 17 01 46.3 +1.2
SUE *e*PP PP 17 06 01.7 +0.8
E25K Arctic Village 103.08 22 Pdiff Pdif 17 01 46.3 +1.1
baz=282
G25K Bearman Lake 103.16 23 Pdiff Pdif 17 01 47.0 +1.5
baz=282
F25K Christian Rive 103.16 22 Pdiff Pdif 17 01 46.9 +1.3
baz=282
WAT6 Susitna Watana 103.22 27 Pdiff Pdif 17 01 46.7 +0.6
baz=279
ILAR Eielson Array 103.22 25 Pdiff Pdif 17 01 44.5 -1.4
comp=Z,12nm,0.9s,baz=289,slow=4.7,SNR=94
ILAR PKiKP PKiKP 17 06 06.0 +1.3
comp=Z,11nm,0.9s,baz=280,slow=3.3,SNR=4.0
ILAR PKKPbc PKKPbc 17 17 43.1 -0.5
comp=Z,3.8nm,0.9s,baz=121,slow=1.4,SNR=7.3
ILAR SKKPbc SKKPbc 17 21 11.8 -5.5
comp=Z,1.1nm,0.7s,baz=98,slow=1.9,SNR=4.3
ILAR PKPPKP P'P'df 17 25 57.5 -2.5
comp=Z,1.1nm,1.1s,baz=50,slow=0.9,SNR=4.3
HDA Harding Lake 103.26 26 Pdiff Pdif 17 01 45.6 -0.5
baz=280
HDA Pdiff Pdif 17 01 45.6 -0.5
baz=280
DHY Denali Highway 103.30 27 Pdiff Pdif 17 01 46.9 +0.5
baz=280
LPG La Plagne 103.33 315 *e*P Pdif 17 01 47.5 +0.3
LPG pmax pmax
comp=Z,48nm,1.2s
LPL La Plagne 103.34 315 *e*P Pdif 17 01 47.6 +0.5
LPL pmax pmax
comp=Z,60nm,1.4s
M23K Glacier View 103.35 28 Pdiff Pdif 17 01 46.8 +0.3
baz=279
BTNL Ternell 103.43 320 *d*Pdif Pdif 17 01 47.3 +0.2
HAU Haudompre 103.47 317 *e*P Pdif 17 01 47.5 +0.1
HAU pmax pmax
comp=Z,117nm,1.6s
WLF Walferdange 103.49 319 *d*Pdif Pdif 17 01 48.6 +1.2
WLF *d*PP PP 17 06 04.9 +0.5
WLF Walferdange 103.49 319 PP PKiKP 17 06 03.9 -1.8
WLF Walferdange 103.49 319 *e*Pdiff Pdif 17 01 48.7 +1.4
WLF *e*PP PP 17 06 04.4 0.0
baz=89,slow=7.4
MEM Membach 103.51 320 *d*Pdif Pdif 17 01 48.6 +1.1
MEM *d*PP PP 17 06 02.5 -2.0
MEM Membach 103.51 320 P Pdif 17 01 48.4 +1.0
MEM pmax pmax
comp=Z,32nm,2.2s
SCM Sheep Creek Mo 103.53 28 Pdiff Pdif 17 01 47.8 +0.4
baz=279
PRP Porcupine Dome 103.64 24 Pdiff Pdif 17 01 48.3 +0.4
baz=282
F26K Sheenjek River 103.70 22 Pdiff Pdif 17 01 49.4 +1.4
baz=284
CABF La Chapelle 103.73 316 *e*P Pdif 17 01 48.3 -0.4
CABF pmax pmax
comp=Z,132nm,1.8s
P23K Montague Islan 103.78 30 Pdiff Pdif 17 01 49.2 +0.7
baz=279
BSTI Sart Tilman 103.79 320 *d*Pdif Pdif 17 01 49.3 +0.6
GLI Glacier Island 103.80 29 Pdiff Pdif 17 01 49.1 +0.6
baz=279
K24K Donnelly Dome 103.88 26 Pdiff Pdif 17 01 49.5 +0.6
baz=281
J25K Salcha River, 103.89 25 Pdiff Pdif 17 01 48.6 -0.4
baz=282
BCLA Clavier 103.97 320 *d*Pdif Pdif 17 01 50.5 +1.0
BCLA *d*PKiKP PKiKP 17 06 03.9 -2.6
ORIF Oris-en-Rattie 103.98 314 P Pdif 17 01 50.5 +0.7
ORIF pmax pmax
comp=Z,21nm,1.0s
G26K Porcupine Rive 104.01 23 Pdiff Pdif 17 01 50.8 +1.5
baz=284
M24K Tolsona, Glenn 104.02 28 Pdiff Pdif 17 01 51.1 +1.6
baz=280
RCHB Rochefort 104.04 320 *d*Pdif Pdif 17 01 50.4 +0.6
BGES Gesves 104.11 320 *d*Pdif Pdif 17 01 50.5 +0.4
PAX Paxson 104.18 27 Pdiff Pdif 17 01 51.1 +0.8
baz=281
KLU Klutina 104.25 28 Pdiff Pdif 17 01 52.0 +1.3
baz=280
RIDG Independent Ri 104.30 26 Pdiff Pdif 17 01 51.3 +0.6
baz=282
GIVF Givet 104.31 320 *e*P Pdif 17 01 52.3 +1.3
GIVF pmax pmax
comp=Z,58nm,1.5s
BMRD Maredsous 104.32 320 *d*Pdif Pdif 17 01 50.5 -0.5
BMRD *d*PP PKiKP 17 06 08.6 +1.5
D27M Malcolm River 104.42 20 Pdiff Pdif 17 01 51.9 +0.7
baz=287
HARP HAARP 104.43 27 Pdiff Pdif 17 01 53.0 +1.6
baz=281
DOU Dourbes 104.45 320 *d*Pdif Pdif 17 01 52.0 +0.4
DOU *d*PKP PKiKP 17 05 57.7 -10
DOU *d*PP PP 17 06 10.1 -1.4
E27K Coleen River 104.50 21 Pdiff Pdif 17 01 52.3 +0.8
baz=286
EYAK Cordova Ski Ar 104.50 29 P Pdif 17 01 54.5 +2.9
EYAK Cordova Ski Ar 104.50 29 Pdiff Pdif 17 01 52.9 +1.3
baz=280
SCRK Sand Creek 104.62 26 Pdiff Pdif 17 01 52.8 +0.6
baz=283
I26K Coal Creek Min 104.66 24 Pdiff Pdif 17 01 53.1 +0.9
baz=284
J26L Joseph Creek 104.68 25 Pdiff Pdif 17 01 53.4 +0.9
baz=283
N25K Chitina, Valde 104.85 28 Pdiff Pdif 17 01 54.4 +1.1
baz=282
G27K Doyon Strip 104.86 23 Pdiff Pdif 17 01 54.4 +1.2
baz=286
MENT Mentasta 104.97 27 P Pdif 17 01 55.7 +2.0
BMRM Bremner River 104.97 29 Pdiff Pdif 17 01 54.8 +1.0
baz=282
H27K Steamboat Moun 105.07 23 Pdiff Pdif 17 01 55.4 +1.3
baz=286
E28M Babbage River 105.11 21 Pdiff Pdif 17 01 55.1 +0.9
baz=288
L26K Log Cabin Wild 105.11 27 Pdiff Pdif 17 01 55.6 +1.2
baz=283
D28M Stokes Point 105.14 20 Pdiff Pdif 17 01 55.5 +1.2
baz=289
I27K Kandik River 105.20 24 Pdiff Pdif 17 01 56.2 +1.4
baz=286
LOR Lormes 105.21 317 P Pdif 17 01 55.4 +0.3
LOR pmax pmax
comp=Z,275nm,2.4s
KAIM Kayak Island 105.27 30 Pdiff Pdif 17 01 56.4 +1.3
baz=281
SMF Signal de Mont 105.28 316 *e*P Pdif 17 01 55.8 +0.4
SMF pmax pmax
comp=Z,94nm,1.6s
F28M Old Crow 105.29 22 Pdiff Pdif 17 01 55.4 +0.3
baz=288
DAG Danmarks Havn 105.33 349 PP PKiKP 17 06 15.5 +7.2
DAG Danmarks Havn 105.33 349 P Pdif 17 01 54.3 -0.7
DAG Danmarks Havn 105.33 349 *i* P PKiKP 17 06 09.6 +1.3
DAG *i* P PKKPbc 17 17 26.0 -11
M26K Nabesna, AK 105.41 27 Pdiff Pdif 17 01 57.0 +1.2
baz=283
K27K Chicken 105.42 25 Pdiff Pdif 17 01 57.1 +1.4
baz=285
AVF Avril sur Loir 105.60 316 *e*P Pdif 17 01 57.2 +0.4
AVF pmax pmax
comp=Z,78nm,1.7s
EGAK Eagle 105.61 25 Pdiff Pdif 17 01 57.3 +0.8
baz=286
MCARA McCarthy VSAT 105.64 28 Pdiff Pdif 17 01 58.1 +1.5
baz=283
CRQE Cirque 105.75 29 Pdiff Pdif 17 01 58.0 +0.7
baz=283
E29M Blow River 105.75 21 Pdiff Pdif 17 01 57.5 +0.5
baz=290
L27K Beaver Creek, 105.78 26 Pdiff Pdif 17 01 58.8 +1.4
baz=285
I28M Miner Creek 105.92 24 Pdiff Pdif 17 01 58.6 +0.7
baz=287
M27K Edge Creek, AK 105.93 27 Pdiff Pdif 17 01 59.7 +1.6
baz=284
G29M Pine Creek 106.20 22 Pdiff Pdif 17 01 59.6 +0.5
baz=289
H29M Whitestone 106.29 23 Pdiff Pdif 17 02 00.2 +0.7
baz=289
EJON La Jonquera 106.31 312 PKP PKiKP 17 06 12.0 +0.8
BVCY Beaver Creek 106.37 27 Pdiff Pdif 17 02 01.2 +1.2
baz=285
MESA MESA 106.43 29 Pdiff Pdif 17 02 02.1 +1.6
baz=284
TCF Toulx Ste Croi 106.43 316 *e*P Pdif 17 02 05.0 +4.4
TCF pmax pmax
comp=Z,118nm,2.0s
CTG Chitna Glacier 106.53 28 Pdiff Pdif 17 02 02.6 +1.8
baz=284
DAWY Dawson 106.55 25 Pdiff Pdif 17 02 01.9 +1.1
baz=287
I29M Ogilvie Camp, 106.59 24 Pdiff Pdif 17 02 01.2 +0.3
baz=289
YUK3 Moose Creek 106.73 28 Pdiff Pdif 17 02 03.2 +1.4
baz=286
F30M Barrier River 106.77 21 Pdiff Pdif 17 02 02.1 +0.5
baz=292
G30M tAoh Zraii Nji 106.84 22 Pdiff Pdif 17 02 01.8 -0.2
baz=291
EPYK Eagle Plains 106.87 22 Pdiff Pdif 17 02 01.7 -0.4
baz=290
DBG Daneborg 107.08 347 *i* P PKiKP 17 06 11.6 0.0
YUK8 Steele Glacier 107.18 28 Pdiff Pdif 17 02 05.3 +1.4
baz=286
PINM Pinnacle 107.27 29 Pdiff Pdif 17 02 05.8 +1.7
baz=285
INK Inuvik 107.28 20 Pdiff Pdif 17 02 03.8 0.0
baz=294
L29M L29M 107.38 26 Pdiff Pdif 17 02 05.9 +1.4
baz=288
K29M Barlow Dome 107.40 25 Pdiff Pdif 17 02 05.7 +1.1
baz=289
I30M Mount Dempster 107.40 23 Pdiff Pdif 17 02 05.1 +0.5
baz=290
M29M Somme Creek 107.44 27 Pdiff Pdif 17 02 06.9 +2.1
baz=288
F31M Tsiigehtchic 107.56 21 Pdiff Pdif 17 02 05.1 0.0
baz=294
G31M Satah River 107.57 21 Pdiff Pdif 17 02 05.1 0.0
baz=293
TORD Torodi Ar. Bea 107.61 281 Pdiff Pdif 17 02 05.6 -0.9
comp=Z,1.8nm,0.9s,baz=52,slow=5.3,SNR=6.6
TORD PKiKP PKiKP 17 06 14.3 +0.1
comp=Z,13nm,0.7s,baz=30,slow=2.6,SNR=29
TORD PKKPbc PKKPbc 17 17 29.1 +0.6
comp=Z,5.2nm,0.9s,baz=313,slow=4.6,SNR=6.7
J30M Hart River 107.65 24 Pdiff Pdif 17 02 06.4 +0.7
baz=290
YUK4 Talbot Arm 107.68 28 Pdiff Pdif 17 02 06.7 +0.6
baz=287
FLN La Foliniere 107.91 319 *e*P Pdif 17 02 09.8 +2.7
FLN pmax pmax
comp=Z,43nm,1.2s
YUK6 Outpost Mounta 107.93 28 Pdiff Pdif 17 02 08.6 +1.4
baz=287
A36M Sachs Harbour 108.00 15 Pdiff Pdif 17 02 06.7 -0.2
baz=303
O29M Mount Kennedy 108.02 29 Pdiff Pdif 17 02 09.4 +2.0
baz=287
M30M Minto, Yukon 108.13 26 Pdiff Pdif 17 02 09.4 +1.6
baz=289
MAYO Mayo, Yukon 108.17 25 Pdiff Pdif 17 02 08.9 +1.0
baz=290
EKA Eskdalemuir Ar 108.25 326 P Pdif 17 02 09.6 +1.2
EKA Eskdalemuir Ar 108.25 326 Pdiff Pdif 17 02 08.3 -0.1
comp=Z,16nm,1.0s,baz=89,slow=6.3,SNR=8.7
EKA PKiKP PKiKP 17 06 14.8 +0.5
comp=Z,12nm,0.9s,baz=55,slow=1.1,SNR=7.5
N30M Aishikik Lake 108.36 27 Pdiff Pdif 17 02 11.0 +2.1
baz=289
HYT Haines Junctio 108.37 28 Pdiff Pdif 17 02 10.2 +1.2
baz=288
P29M Windy Craggy 108.62 29 Pdiff Pdif 17 02 11.5 +1.5
baz=287
ETSF Etsaut 108.80 313 *e*P Pdif 17 02 13.1 +1.8
ETSF pmax pmax
comp=Z,21nm,1.3s
P30M Million Dollar 108.84 29 Pdiff Pdif 17 02 13.1 +2.0
baz=288
N31M Braeburn, Yuko 108.94 27 Pdiff Pdif 17 02 13.1 +1.7
baz=290
O30N Mendenhall 109.04 28 Pdiff Pdif 17 02 13.3 +1.4
baz=289
M31M Drury Creek, Y 109.31 26 Pdiff Pdif 17 02 14.2 +1.1
baz=291
NEEM North Greenlan 109.32 355 *i* P PKiKP 17 06 17.5 +1.4
NEEM *e* 17 17 22.7
WHY Whitehorse 109.64 28 Pdiff Pdif 17 02 16.0 +1.3
baz=290
FARO Faro, Yukon 109.75 26 Pdiff Pdif 17 02 15.6 +0.6
baz=292
SCO Scoresbysund 109.76 344 *i* P PKiKP 17 06 18.1 +1.4
SCO *e* 17 17 22.2
C36M Paulatuk 109.79 17 Pdiff Pdif 17 02 14.5 -0.5
baz=304
SKAG Skagway 109.84 29 Pdiff Pdif 17 02 17.6 +2.2
baz=290
S31K Pelican 109.88 31 Pdiff Pdif 17 02 17.4 +1.9
baz=288
R31K City Hall, Gus 109.98 30 Pdiff Pdif 17 02 17.2 +1.2
baz=289
P32M Atlin 110.56 29 Pdiff Pdif 17 02 20.1 +1.4
baz=291
SIT Sitka 110.63 31 Pdiff Pdif 17 02 20.2 +1.3
baz=289
R32K Eaglecrest 110.64 30 Pdiff Pdif 17 02 20.6 +1.7
baz=290
P33M Teslin, Yukon 110.76 28 Pdiff Pdif 17 02 20.9 +1.3
baz=292
S32K Killisnoo 110.88 31 PKiKP PKiKP 17 06 19.9 +0.7
baz=290
UCM Universidad Co 111.14 310 PKP PKiKP 17 06 20.2 -0.1
Q32M Nakina River 111.49 29 PKiKP PKiKP 17 06 21.5 +0.9
baz=292
RES Resolute Bay 111.66 6 P Pdif 17 02 23.7 +0.5
ESDC Sonseca Array 111.77 310 Pdiff Pdif 17 02 24.5 -0.1
comp=Z,1.3nm,1.1s,baz=46,slow=5.3,SNR=2.8
ESDC PKiKP PKiKP 17 06 22.2 +0.7
comp=Z,1.5nm,0.9s,baz=37,slow=2.4,SNR=18
ESDC PKKPbc PKKPbc 17 17 16.3 +0.3
comp=Z,3.2nm,1.0s,baz=296,slow=3.5,SNR=4.9
R33M Jennings River 111.94 28 PKiKP PKiKP 17 06 22.2 +0.9
baz=294
SUMG Summit 111.99 350 P Pdif 17 02 26.6 +1.4
SUMG Summit 111.99 350 *i* P PKiKP 17 06 22.5 +1.1
SUMG *e* 17 17 13.6
U33K Whale Pass 112.09 32 PKiKP PKiKP 17 06 22.7 +1.2

baz=290
CRAG Craig 112.32 33 PKiKP **PKiKP** 17 06 23.0 +1.1
baz=290
WRAK Wrangell Islan 112.39 32 PKiKP **PKiKP** 17 06 23.0 +1.0
baz=291
S34M Telegraph Cree 112.44 30 PKiKP **PKiKP** 17 06 23.8 +1.7
baz=293
WTLY Watson Lake, Y 112.63 27 PKiKP **PKiKP** 17 06 23.8 +1.3
baz=296
DLBC Dease Lake 112.77 29 PKiKP **PKiKP** 17 06 24.1 +1.2
baz=294
DLBC Dease Lake 112.77 29 PKiKP **PKiKP** 17 06 23.1 +0.3
comp=Z,35nm,1.0s,baz=299,slow=2.5,SNR=11
V35K Ketchikan 113.17 32 PKiKP **PKiKP** 17 06 24.8 +1.2
baz=291
T35M Bob Quinn 113.25 30 PKiKP **PKiKP** 17 06 25.0 +1.2
baz=293
WRGLY **Wrigley** 113.34 23 PKiKP **PKiKP** 17 06 25.1 +1.4
baz=302
KIC Kosan Boka 113.39 274↑ *e*PKiKP **PKiKP** 17 06 25.3 +0.1
comp=Z,58nm,0.7s
PBRG Braganca 113.49 312 *e*PKPdf **PKiKP** 17 06 26.1 +1.4
DBIC Dimbokro 113.53 274 *e*P **PKiKP** 17 06 23.6 -1.8
DBIC IAmb IAmb 17 06 26.9
comp=Z,34nm,0.8s
DBIC Dimbokro 113.53 274 PKiKP **PKiKP** 17 06 25.4 -0.1
comp=Z,28nm,0.7s,baz=96,slow=1.8,SNR=20
DBIC PKKPbc **PKKPbc** 17 17 10.0 +0.8
comp=Z,4.6nm,0.9s,baz=224,slow=2.2,SNR=1.9
LIC Lamto 113.66 273↑ *e*PKiKP **PKiKP** 17 06 25.7 -0.1
comp=Z,130nm,0.8s
TIC Toumodi 113.69 274↑ *e*PKiKP **PKiKP** 17 06 25.8 0.0
comp=Z,56nm,0.8s
U35K Hyder 113.78 31 PKiKP **PKiKP** 17 06 25.6 +0.9
baz=293
SOEG Soedalen 113.78 345 *i* P **PKiKP** 17 06 23.9 -0.5
MVO Moncorvo 113.83 312 *e*PKPdf **PKiKP** 17 06 27.1 +1.7
LIRD Liard River Hi 114.17 27 PKiKP **PKiKP** 17 06 26.3 +0.9
baz=298
PVRL Vila Real 114.31 312 *e*PKPdf **PKiKP** 17 06 27.8 +1.5
PVRL Vila Real 114.31 312 *e*PP **PP** 17 07 24.8 +1.5
POLO Lamas de Olo 114.35 312 *e*PKPdf **PKiKP** 17 06 27.8 +1.4
MTE Manteigas 114.36 311 *e*PKPdf **PKiKP** 17 06 28.1 +1.7
PBAR Barrancos 114.38 308 *e*PKPdf PKPdf 17 06 26.4 -0.1
PCBR Castelo Branco 114.42 310 *e*PKPdf **PKiKP** 17 06 27.8 +1.3
PMRV Marv??o 114.43 310 *e*PKPdf PKPdf 17 06 25.8 -0.7
PVIS Viseu 114.56 311 *e*PKPdf PKPdf 17 06 26.8 0.0
PVIS Viseu 114.56 311 *e*PP **PP** 17 07 25.1 +0.1
PGAV Gavieira, Arco 114.58 313 *e*PKPdf **PKiKP** 17 06 27.4 +0.5
PESTR Estremoz 114.68 309 *e*PKPdf **PKiKP** 17 06 28.2 +1.2
KOTAN **Kotaneelee Air** 114.72 26 PKiKP PKPdf 17 06 27.6 +1.1
baz=300
FLDN Fort Liard 114.91 26 PKiKP PKPdf 17 06 28.4 +1.6
baz=301
COI Coimbra 115.05 311 *e*PKPdf **PKPdf** 17 06 30.3 +2.6
PBEJ Beja 115.05 308 *e*PKPdf **PKPdf** 17 06 28.9 +1.1
ICESG Greenland Ices 115.06 348 *i* P **PKiKP** 17 06 26.8 -0.5
ICESG *e* 17 17 04.8
EVO Evora 115.07 309 *e*PKPdf **PKPdf** 17 06 29.7 +1.9
EVO Evora 115.07 309 *e*PP **PP** 17 07 29.8 +1.2
PMTG Montargil 115.13 310 *e*PKPdf **PKPdf** 17 06 28.8 +0.9
PCAS Casmilo, Conde 115.14 311 *e*PKPdf **PKPdf** 17 06 29.1 +1.2
PBDV Barranco-do-Ve 115.24 308 *e*PKPdf **PKPdf** 17 06 29.9 +1.7
PCVE Castro Verde 115.25 308 *e*PKPdf **PKPdf** 17 06 29.7 +1.5
PCVE Castro Verde 115.25 308 *e*PP **PP** 17 07 29.2 -0.8
MESJ Messejana 115.36 308 *e*PKPdf **PKPdf** 17 06 29.5 +1.1
MESJ Messejana 115.36 308 *e*PKPdf **PKPdf** 17 06 29.2 +0.8
MESJ *e*PP **PP** 17 07 31.3 +0.6
MESJ *e*SS SS 17 23 24.0 +2.6
PNCL Nicolau / Gran 115.55 309 *e*PKPdf **PKPdf** 17 06 28.5 -0.2
MORF Marmelete 115.79 308 *e*PKPdf **PKiKP** 17 06 30.8 +1.5
MORF Marmelete 115.79 308 **PKPdf** 17 06 29.0 -0.2
MORF Marmelete 115.79 308 *e*PKPdf **PKiKP** 17 06 30.2 +1.0
MORF *e*PP **PP** 17 07 34.5 +0.7
MORF Marmelete 115.79 308 PKiKP **PKPdf** 17 06 29.0 -0.2
PTEO Sao Teotonio 115.80 308 *e*PKPdf **PKiKP** 17 06 30.1 +0.9
LIS Lisbon 115.91 309 *e*PP **PP** 17 07 35.4 +0.9
PFVI Vila Bisbo 115.96 308 *e*PKPdf **PKiKP** 17 06 31.1 +1.6
PMAFR **Mafra** 115.96 310 *e*PKPdf **PKiKP** 17 06 31.3 +1.8
BBB Bella Bella 116.29 35 PKP **PKiKP** 17 06 30.2 +0.5
comp=Z,71nm,0.8s,baz=304,slow=3.9,SNR=17
YKA Yellowknife Ar 117.04 21 PKP **PKiKP** 17 06 31.1 +0.3
comp=Z,4.3nm,0.3s,baz=322,slow=6.5,SNR=4.5
YKA SKP 17 09 56.9
comp=Z,18nm,1.2s,baz=278,slow=2.7,SNR=4.3
YKA PKKPbc **PKKPbc** 17 16 57.1 -1.5
comp=Z,0.9nm,0.7s,baz=128,slow=2.9,SNR=6.3
YKA P5KP 17 45 32.7
comp=Z,0.9nm,1.0s,baz=306,slow=3.5,SNR=8.6
ISOQ Isortoq, Green 117.76 345 *i* P **PKPdf** 17 06 31.4 -0.7
DY2G Dye2 118.62 349 *i* P **PKPdf** 17 06 34.0 -0.1
SFJD Kangerlussuaq 118.94 351 **PKiKP** 17 06 34.6 +0.2
SFJD Kangerlussuaq 118.94 351 PKiKP **PKiKP** 17 06 34.6 +0.2
SFJD Kangerlussuaq 118.94 351 *i* P **PKPdf** 17 06 34.1 -0.2
WISH Wishkah 120.93 39 PKPdf **PKiKP** 17 06 40.7 +1.8
RADR Rader Ridge 121.20 40 PKPdf **PKiKP** 17 06 41.6 +2.1
NUUK Nuuk 121.71 350 *i* P **PKiKP** 17 06 40.5 +0.6
COR Corvallis 122.26 41 PKiKP **PKiKP** 17 06 43.3 +1.7
PMPS Porto Santo 122.83 304 *e*PKPdf **PKiKP** 17 06 44.0 +1.0
NRS Narsarsuaq 123.03 345 PKiKP **PKiKP** 17 06 42.7 +0.1
NRS Narsarsuaq 123.03 345 *i* P **PKPdf** 17 06 42.5 +0.1
PMAR Madeira 123.38 304 *e*PKPdf **PKiKP** 17 06 45.8 +1.4
IVI Ivigtut 123.66 346 *i* P **PKPdf** 17 06 43.5 -0.1
YBH Yreka Blue Hor 123.78 44 PKhKP PKPpre 17 06 37.9
comp=Z,4.0nm,1.0s,baz=132,slow=6.7,SNR=3.0
YBH PKP **PKiKP** 17 06 45.2 +0.3
comp=Z,27nm,0.7s,baz=95,slow=2.8,SNR=21
FRB Frobisher Bay 123.90 358 PKiKP **PKPdf** 17 06 42.2 -1.7
E08A Dider Farm, El 124.10 38 PKPdf **PKiKP** 17 06 47.3 +2.1
NEW Newport 124.35 35 PKiKP **PKiKP** 17 06 46.3 +0.6
baz=302
NEW Newport 124.35 35 PKP **PKiKP** 17 06 46.6 +0.9
comp=Z,141nm,0.9s,baz=271,slow=0.7,SNR=32
WVOR Wild Horse Val 126.25 42 PKiKP **PKiKP** 17 06 51.2 +1.4
MSO Missoula 126.94 35 PKiKP **PKiKP** 17 06 51.2 +0.2
baz=304
COYC Coyhaique 127.07 180 **PKiKP** 17 06 52.0 +0.9
SMMC Simmler 128.10 51 PKiKP **PKiKP** 17 06 55.0 +1.5
baz=290
MLAC Mammoth, Mammt 128.12 48 PKiKP **PKiKP** 17 06 54.8 +1.1
baz=293
NVAR Mina Array Bea 128.18 46 PKhKP PKPpre 17 06 41.0
comp=Z,7.5nm,0.9s,baz=238,slow=2.8,SNR=9.9
NVAR PKP **PKiKP** 17 06 55.1 +1.3
comp=Z,81nm,1.0s,baz=259,slow=2.1,SNR=52
NVAR PP **PP** 17 08 55.0 -2.8
comp=Z,59nm,1.2s,baz=272,slow=6.7,SNR=4.8
NVAR SKPbc SKPbc 17 10 04.7
comp=Z,28nm,0.8s,baz=269,slow=4.3,SNR=6.8
NVAR SKKPbc **SKKPbc** 17 19 55.9 -3.6
comp=Z,1.7nm,0.8s,baz=114,slow=2.9,SNR=3.5
VOG Valley Oaks Go 128.21 49 PKiKP **PKiKP** 17 06 54.1 +0.4
baz=292
BART Pico Bartolome 128.21 313 *e*PKP **PKiKP** 17 06 55.0 +1.2
BART Pico Bartolome 128.21 313 *e*PP **PP** 17 08 57.5 -0.4
PGRON **Lagoa das Cont** 128.36 313 *e*PP **PP** 17 08 59.3 +0.5
PKM Mcpherson Peak 128.39 51 PKiKP **PKiKP** 17 06 55.8 +1.5
baz=290
HLID Hailey 128.42 39 PKiKP **PKiKP** 17 06 55.3 +1.1
baz=301
PCALD Caldeiras da R 128.44 313 *e*SKP 17 10 11.1
PSMN Pico do Norte, 128.44 312 *e*PKP **PKiKP** 17 06 54.0 -0.1
PSMN Pico do Norte, 128.44 312 *e*PP **PP** 17 09 00.3 +1.0
CMLA Cha da Macela 128.47 313 *e*PP **PP** 17 08 58.2 -1.3
PSMA Santa Maria 128.49 312 *e*PKP **PKiKP** 17 06 55.1 +0.9
PSMA Santa Maria 128.49 312 *e*PP **PP** 17 09 00.5 +0.9
PSMA *e*SKP 17 10 04.4
EGMT Eagleton 128.52 32 PKiKP **PKiKP** 17 06 54.8 +0.7
baz=309
PDA Ponta Delgada 128.58 313 *e*PP **PP** 17 09 00.3 +0.1
PSET Sete Cidades 128.59 313 *e*PP **PP** 17 09 00.3 0.0
PSET *e*SKP 17 10 03.8
VES Vestal, Richgr 128.61 50 PKiKP **PKiKP** 17 06 54.5 0.0
baz=292
SBC Santa Barbara 128.62 52 PKiKP **PKiKP** 17 06 55.7 +1.2
baz=290
TIN Tinemaha, Big 128.78 48 PKiKP **PKiKP** 17 06 55.8 +0.8
baz=293
SCZ2 Santa Cruz Isl 128.83 52 PKiKP **PKiKP** 17 06 56.0 +0.9
baz=290
BOZ Bozeman (W) 128.96 35 PKiKP **PKiKP** 17 06 55.8 +0.6
baz=306
ARVC Arvin 129.06 50 PKiKP **PKiKP** 17 06 56.2 +0.8
baz=291

ISA Isabella, Lake 129.13 50 PKiKP **PKiKP** 17 06 56.1 +0.5
baz=292
CWC Cottonwood Cre 129.13 49 PKiKP **PKiKP** 17 06 56.2 +0.5
baz=293
SNCC San Nicolas Is 129.16 53 PKiKP **PKiKP** 17 06 56.3 +0.6
baz=289
PSCM Serra do Cume 129.23 315 *e*SKP 17 10 04.0
PAGU Agualva, Azore 129.24 315 *e*PP **PP** 17 09 06.9 +2.5
ELK Elko 129.29 42 PKhKP PKPpre 17 06 39.6
comp=Z,4.5nm,0.9s,baz=66,slow=0.8,SNR=5.2
ELK PKP **PKiKP** 17 06 56.8 +0.7
comp=Z,121nm,0.9s,baz=13,slow=1.0,SNR=30
ELK SKPbc SKPbc 17 10 08.4 +0.4
comp=Z,152nm,1.2s,baz=279,slow=2.0,SNR=16
OSI Osito Audit: C 129.32 51 PKiKP **PKiKP** 17 06 56.9 +0.9
baz=291
ADH Angra Heroismo 129.33 315 *e*PKP **PKPdf** 17 06 54.8 -0.3
ADH Angra Heroismo 129.33 315 *e*PP **PP** 17 09 06.5 +1.5
ADH *e*SKP 17 10 06.2
PSBA Serra de Santa 129.34 315 *e*PKP **PKPdf** 17 06 55.2 0.0
PSBA Serra de Santa 129.34 315 *e*PP **PP** 17 09 07.3 +2.2
PSBA *e*SKP 17 10 06.5
GRAC Grapevine Rang 129.44 48 PKiKP **PKiKP** 17 06 57.2 +1.0
baz=294
PGRA Graciosa 129.69 315 *e*SKP 17 10 15.5
MPMC Manual Prospec 129.72 49 PKiKP **PKiKP** 17 06 58.1 +1.1
baz=293
SRBC Serra Branca 129.72 315 *e*PKP **PKPdf** 17 06 56.3 +0.4
SRBC *e*SKP 17 10 06.6
DECC Green Verdugo 129.75 51 PKiKP **PKiKP** 17 06 57.3 +0.4
baz=291
EDW2 Edwards Air Fo 129.79 50 PKiKP **PKiKP** 17 06 57.7 +0.7
baz=292
LRMC Laurel Mtn Rad 129.80 50 PKiKP **PKiKP** 17 06 57.2 +0.1
baz=292
PMAN Manadas 129.94 315 *e*PP **PP** 17 09 11.3 +2.4
PMAN *e*SKP 17 10 10.0
FMP Fort Macarthur 129.97 52 PKiKP **PKiKP** 17 06 57.8 +0.5
baz=291
CIS Catalina Islan 129.99 52 PKiKP **PKiKP** 17 06 58.2 +0.8
baz=290
ROSA Rosais 130.01 315 *e*SKP 17 10 07.4
FURC Furnace Creek, 130.03 48 PKiKP **PKiKP** 17 06 58.6 +1.3
baz=294
PID Ribeirinha 130.04 315 *e*PKP **PKiKP** 17 06 58.9 +1.6
PID Ribeirinha 130.04 315 *e*PP **PP** 17 09 13.0 +3.3
PPNO Prainha do Nor 130.13 315 *e*PP **PP** 17 09 13.7 +3.4
PPNO *e*SKP 17 10 19.7
R11B Troy Canyon, C 130.15 45 PKiKP **PKiKP** 17 06 58.8 +1.0
baz=296
H17A Grant Village 130.27 36 PKiKP **PKiKP** 17 06 59.4 +1.5
baz=306
TPNV Topopah Spring 130.28 47 PKiKP **PKiKP** 17 06 58.5 +0.4
baz=295
BFSC Mount Baldy Ra 130.28 51 PKiKP **PKiKP** 17 06 58.7 +0.6
baz=292
PCAN Candelaria 130.29 315 *e*PP **PP** 17 09 15.3 +4.0
PCAN *e*SKP 17 10 11.9
HOR Horta 130.37 315 *e*SKP 17 10 11.8
PCED Cedros 130.37 315 *e*PP **PP** 17 09 14.1 +2.4
PCED *e*SKP 17 10 11.3
CALA Caldeira 130.39 315 *e*PP **PP** 17 09 14.4 +2.4
CALA *e*SKP 17 10 12.1
GSC Goldstone, Bar 130.53 49 PKiKP **PKiKP** 17 06 59.4 +0.9
baz=293
RRX Edison Barstow 130.55 50 PKiKP **PKiKP** 17 06 59.8 +1.3
baz=293
RLMT Red Lodge 130.58 34 PKiKP **PKiKP** 17 06 59.4 +0.9
baz=308
SHOC Shoshone, Teco 130.69 48 PKiKP **PKiKP** 17 06 59.7 +1.0
baz=294
BBRC Big Bear Solar 130.84 51 PKiKP **PKiKP** 17 06 59.9 +0.5
baz=292
MURC Murrieta 130.87 52 PKiKP **PKiKP** 17 06 59.6 +0.4
baz=291
DGMT Dagmar 130.97 28 PKiKP **PKiKP** 17 06 59.4 +0.5
baz=316
DGMT Dagmar 130.97 28 P **PKPdf** 17 06 58.4 +0.4
baz=316
HEC Hector,Ludlow 131.07 50 PKiKP **PKiKP** 17 07 00.5 +0.9
baz=293
TUQ Turquoise Moun 131.14 49 PKiKP **PKiKP** 17 07 00.6 +0.8
baz=294
DUG Dugway, Tooele 131.17 42 PKiKP **PKiKP** 17 07 00.5 +0.7
109C Camp Elliot, M 131.20 53 PKiKP **PKiKP** 17 07 00.3 +0.5
baz=291
LAO LASA Array 131.21 31 PKiKP **PKiKP** 17 07 00.4 +0.9
baz=312
LAO LASA Array 131.21 31 P **PKiKP** 17 07 00.2 +0.7
baz=312
PFO Pinyon Flats O 131.44 51 PKiKP **PKiKP** 17 07 01.2 +0.8
baz=292
PFO Pinyon Flats O 131.44 51 PKhKP PKPpre 17 06 45.3
comp=Z,15nm,0.8s,baz=208,slow=2.6,SNR=12
PFO PKP **PKiKP** 17 07 01.0 +0.6
comp=Z,40nm,0.9s,baz=264,slow=1.7,SNR=15
PFO PP **PP** 17 09 15.0 -4.0
comp=Z,57nm,1.2s,baz=296,slow=8.3,SNR=6.1
PFO SKPbc **SKPab** 17 10 16.3 0.0
comp=Z,210nm,1.1s,baz=278,slow=4.0,SNR=22
TPFO Pinon Flats 131.44 51 PKiKP **PKiKP** 17 07 01.1 +0.7
baz=292
H07N1 FLORES T-PHASE 131.51 318 *e*PKP **PKiKP** 17 07 00.6 +0.3
H07N1 *e*SKP 17 10 15.0
GMRC Granite Mounta 131.60 50 PKiKP **PKiKP** 17 07 01.8 +1.1
baz=294
BELC Belle Mtn. Jos 131.65 51 PKiKP **PKiKP** 17 07 01.8 +0.9
baz=293
H07S1 FLORES T-PHASE 131.73 317 *e*PP **PP** 17 09 23.3 +2.9
H07S1 *e*SKP 17 10 18.4
MONP2 Monument Peak 131.73 52 PKiKP **PKiKP** 17 07 02.1 +0.9
baz=292
BW06 Boulder Array 131.82 37 PKiKP **PKiKP** 17 07 00.8 -0.3
baz=306
PDAR Pinedale Array 131.82 37 PKhKP PKPpre 17 06 46.1
comp=Z,3.8nm,0.9s,baz=211,slow=0.9,SNR=8.0
PDAR PKP **PKiKP** 17 07 00.8 -0.2
comp=Z,29nm,0.7s,baz=253,slow=0.3,SNR=19
PDAR SKPbc **SKPbc** 17 10 16.4 -0.5
comp=Z,170nm,1.1s,baz=317,slow=1.9,SNR=15
PDAR SKKPbc **SKKPbc** 17 19 45.8 -1.0
comp=Z,1.3nm,0.6s,baz=108,slow=6.4,SNR=4.5
PLCA Paso Flores 131.89 181 **PKiKP** 17 07 03.8 +2.7
PLCA Paso Flores 131.89 181 PKiKP **PKiKP** 17 07 01.0 -0.1
PLCA Paso Flores 131.89 181 *e*P **PKiKP** 17 07 01.0 -0.1
PLCA Paso Flores 131.89 181 PKhKP PKPpre 17 06 49.5
comp=Z,2.2nm,0.7s,baz=265,slow=6.8,SNR=3.8
PLCA PKP **PKiKP** 17 07 01.0 -0.1
comp=Z,8.5nm,1.1s,baz=238,slow=4.8,SNR=4.3
PLCA SKPbc **SKPbc** 17 10 15.6 -1.5
comp=Z,37nm,0.9s,baz=219,slow=4.2,SNR=13
IKP In-Ko-Pah, Jac 132.06 52 PKiKP **PKiKP** 17 07 02.1 +0.4
baz=292
BC3 Big Chuckawall 132.20 51 PKiKP **PKiKP** 17 07 02.7 +0.8
baz=293
SWSC Sam W. Stewart 132.20 52 PKiKP **PKiKP** 17 07 02.5 +0.7
baz=292
IRM Iron Mountain 132.24 50 PKiKP **PKiKP** 17 07 02.8 +0.9
baz=294
NEE2 Needles Airpor 132.39 49 PKiKP **PKiKP** 17 07 02.6 +0.4
baz=295
SCHQ Scheffer ville 132.72 356 PKP **PKPdf** 17 07 01.6 +0.5
comp=Z,101nm,1.0s,baz=48,slow=3.0,SNR=16
SCHQ SKPbc **SKPbc** 17 10 18.4 -1.0
comp=Z,298nm,0.9s,baz=24,slow=4.8,SNR=26
GLA Glamis 132.91 51 PKiKP **PKiKP** 17 07 03.6 +0.3
baz=293
PDMCI Parker Dam,Lak 132.94 49 PKiKP **PKiKP** 17 07 03.8 +0.5
baz=295
ULM Lac du Bonnet 133.02 21 PKhKP PKPpre 17 06 47.2
comp=Z,10nm,0.9s,baz=330,slow=4.1,SNR=5.4
ULM PKP **PKPdf** 17 07 02.2 +0.5
comp=Z,142nm,0.9s,baz=312,slow=3.8,SNR=53
ULM SKPbc **SKPbc** 17 10 20.0 -0.6
comp=Z,362nm,1.0s,baz=333,slow=3.9,SNR=34
MDND Maddock 133.49 26 PKiKP **PKPdf** 17 07 03.2 +0.5
baz=321
K22A Casper 133.67 35 PKiKP **PKPdf** 17 07 03.8 +0.3
baz=309
K22A Casper 133.67 35 P **PKPdf** 17 07 03.3 -0.2
baz=309,SNR=19
E28A Huff 133.98 28 P **PKiKP** 17 07 04.6 -0.5
baz=318
RSSD Black Hills 134.08 32 PKiKP **PKPdf** 17 07 04.9 +0.6
baz=313
RSSD Black Hills 134.08 32 P **PKPdf** 17 07 04.4 +0.2
baz=313

O20A White River Ci 134.15 39 PKiKP **PKiKP** 17 07 05.7 -0.2
baz=305
WUAZ Wupatki 134.44 47 PKiKP **PKiKP** 17 07 07.0 +0.5
baz=298
AGMN Agassiz Nation 134.64 22 PKiKP **PKPdf** 17 07 05.4 +0.6
baz=326
214A Organ Pipe Nat 134.91 52 PKiKP **PKiKP** 17 07 07.4 0.0
baz=294
N23A Red Feather La 135.10 37 PKiKP **PKPdf** 17 07 07.1 +0.8
baz=308
D32B Dogwood Acres, 135.13 24 P **PKPdf** 17 07 06.2 +0.3
baz=323
MVCO Mesa Verde 135.60 43 PKiKP **PKiKP** 17 07 08.7 -0.2
baz=302
W18A Petrified Fore 135.81 46 PKiKP **PKiKP** 17 07 09.2 -0.1
baz=299
ISCO Idaho Springs 135.97 38 PKiKP **PKiKP** 17 07 09.3 -0.4
baz=308
ISCO Idaho Springs 135.97 38 P **PKPdf** 17 07 08.6 +0.5
baz=308
TUC Tucson 136.33 50 PKiKP **PKiKP** 17 07 10.3 -0.1
baz=296
SUSD Miller 136.39 28 PKiKP **PKPdf** 17 07 09.1 +0.8
baz=319
SUSD Miller 136.39 28 P **PKPdf** 17 07 08.5 +0.2
baz=319
S22A 4UR Ranch, Cre 136.41 41 PKiKP **PKiKP** 17 07 10.1 -0.6
baz=305
F33A 5 Mile Ranch, 136.47 25 P **PKPdf** 17 07 07.8 -0.6
baz=324,SNR=19
EYMN Ely 136.48 19 PKiKP **PKPdf** 17 07 09.2 +0.9
baz=331
EYMN Ely 136.48 19 P **PKPdf** 17 07 07.2 -1.1
baz=331
Q24A Divide 136.77 39 PKiKP **PKiKP** 17 07 10.5 -0.8
baz=308
PLTB Pedras Altas 137.13 203 *e*P **PKiKP** 17 07 12.0 +0.1
SDCO Great Sand Dun 137.27 40 PKiKP **PKPdf** 17 07 11.4 +0.9
baz=306
SDCO Great Sand Dun 137.27 40 P **PKPdf** 17 07 10.9 +0.4
baz=306
OGNE Ogallala 137.32 34 PKiKP **PKPdf** 17 07 10.9 +0.6
baz=313
OGNE Ogallala 137.32 34 P **PKPdf** 17 07 10.2 0.0
baz=313
K30B Basset 137.38 30 P **PKiKP** 17 07 11.3 -0.8
baz=317,SNR=23
F36A Milaca 137.56 22 P **PKPdf** 17 07 10.9 +0.5
baz=327,SNR=13
E38A The Farm, Brul 137.63 20 P **PKPdf** 17 07 10.3 -0.2
baz=330,SNR=6.6
ECSD EROS Data Cent 138.01 27 PKiKP **PKPdf** 17 07 12.1 +0.8
baz=322
ECSD EROS Data Cent 138.01 27 P **PKPdf** 17 07 12.3 +1.0
baz=322
D41A Chassel 138.17 17 P **PKPdf** 17 07 11.9 +0.4
baz=335,SNR=5.6
ANMO Albuquerque 138.21 44 PKPpre 17 07 01.8
ANMO Albuquerque 138.21 44 PKiKP **PKiKP** 17 07 13.7 -0.6
baz=303
ANMO Albuquerque 138.21 44 P **PKPdf** 17 07 12.1 -0.1
baz=303,SNR=36
ANMO Albuquerque 138.21 44 PKhKP PKPpre 17 07 03.5
comp=Z,27nm,0.9s,baz=8.7,slow=2.8,SNR=21
ANMO PKP **PKPdf** 17 07 10.5 -1.7
comp=Z,53nm,0.9s,baz=3.0,slow=2.4,SNR=22
ANMO PP **PP** 17 10 00.2 -1.5
comp=Z,38nm,1.1s,baz=47,slow=6.8,SNR=5.4
ANMO SKPbc **SKPbc** 17 10 38.8 +1.3
comp=Z,215nm,1.1s,baz=359,slow=2.0,SNR=24
KSCO Kaye Shedlock' 138.26 37 PKiKP **PKPdf** 17 07 13.1 +1.0
baz=311
KSCO Kaye Shedlock' 138.26 37 P **PKPdf** 17 07 13.1 +1.0
baz=311
CPSB Cacapava Do Su 138.27 204 *e*P **PKiKP** 17 07 13.7 -0.6
T25A Trinidad 138.33 40 PKiKP **PKiKP** 17 07 13.5 -1.0
baz=307
Y22D IRIS PASSCAL I 138.34 46 PKiKP **PKiKP** 17 07 14.2 -0.3
baz=301
Y22D IRIS PASSCAL I 138.34 46 P **PKPdf** 17 07 06.9 -5.5
baz=301,SNR=5.5
SPMN Marine on St. 138.37 22 PKiKP **PKiKP** 17 07 13.0 -1.0
baz=328
SPMN Marine on St. 138.37 22 P **PKPdf** 17 07 11.2 -0.6
baz=328
Y22A Socorro 138.38 46 P PKPdf 17 07 04.7 -7.8
baz=301,SNR=50
121A Cookes Peak, D 138.48 48 PKiKP **PKiKP** 17 07 14.9 0.0
baz=299
121A Cookes Peak, D 138.48 48 P PKPdf 17 07 04.5 -8.2
baz=299,SNR=32
ABR01 Abrolhos, BA 138.53 232 *e*P **PKiKP** 17 07 14.5 -0.6
DUB01 Friburgo-RJ 138.68 224 *e*P **PKiKP** 17 07 15.4 0.0
RODS Rosario do Sul 139.01 202 *e*P **PKiKP** 17 07 15.9 +0.1
RIB01 Linhares ES 139.03 229 *e*P **PKiKP** 17 07 15.8 -0.3
BGNE Belgrade 139.05 31 PKiKP **PKPdf** 17 07 13.9 +0.6
baz=318
BGNE Belgrade 139.05 31 P **PKPdf** 17 07 05.7 -7.6
baz=318,SNR=19
E43A Lone Tree Farm 139.24 16 P **PKPdf** 17 07 14.2 +0.7
baz=337
PEL Peldehue 139.47 182 PKiKP **PKPdf** 17 07 15.3 +0.9
F42A Maple Grove Fa 139.47 18 P **PKPdf** 17 07 14.2 +0.3
baz=335
L34A Svendsen Farm, 139.50 28 P PKPdf 17 07 05.6 -8.5
baz=321,SNR=13
ALGR Alto Alegre (B 139.50 206 *e*P **PKiKP** 17 07 16.6 -0.3
LPIG La Paz 139.75 61 PP **PP** 17 10 10.0 -1.5
comp=Z,37nm,0.6s,baz=137,slow=2.4,SNR=3.9
LPIG SKPbc **SKPbc** 17 10 41.6 -0.2
comp=Z,24nm,0.3s,baz=178,slow=0.1,SNR=6.7
N33B J Bar K, Exete 139.91 31 P PKPdf 17 07 07.0 -7.9
baz=318
E46A Sault Ste Mari 139.92 13 P **PKPdf** 17 07 07.1 -7.6
baz=341,SNR=5.5
PARB Paraibuna 139.93 219 *e*P **PKiKP** 17 07 17.9 0.0
SJMB Sao Joao De Ma 139.99 229 *e*P **PKPdf** 17 07 16.8 +1.1
CBKS Cedar Bluff 140.07 35 PKiKP **PKPdf** 17 07 16.4 +1.1
baz=314
CBKS Cedar Bluff 140.07 35 P **PKPdf** 17 07 07.9 -7.3
baz=314
UNIS Unistalda (Bra 140.10 203 *e*P **PKiKP** 17 07 17.9 -0.2
ITQB Itaqui 140.14 201 *e*P **PKPdf** 17 07 16.2 +0.6
GUA01 Guaratinga, BA 140.18 233 *e*P **PKiKP** 17 07 17.9 -0.6
SLBS Sierra La Lagu 140.19 62 PKPpre 17 07 08.4
PET01 Itanhaem-SP 140.23 216 *e*P **PKiKP** 17 07 18.5 +0.1
I40A Norwalk 140.31 21 P **PKPdf** 17 07 09.0 -6.5
baz=330
ITAB Concordia 140.43 208 PKPpre 17 07 11.6
ITAB Concordia 140.43 208 *e*P **PKiKP** 17 07 18.3 -0.5
K38A Parkersburg 140.54 24 P **PKPdf** 17 07 09.2 -6.7
baz=326,SNR=27
D62A Allapoint, All 140.58 357 PKPpre 17 07 09.1
D62A Allapoint, All 140.58 357 P **PKPdf** 17 07 08.8 -7.0
baz=4.3,SNR=14
D62A P **PKPdf** 17 07 08.8 -7.0
baz=4.3,SNR=14
MNTX Cornudas Mount 140.66 48 PKiKP **PKPdf** 17 07 17.8 +1.3
baz=300
MNTX Cornudas Mount 140.66 48 P **PKPdf** 17 07 10.8 -5.7
baz=300,SNR=114
N35A Tabor 140.70 29 P **PKPdf** 17 07 10.8 -5.5
baz=321,SNR=16
H43A Windswept, Lux 140.75 18 P **PKPdf** 17 07 10.5 -5.8
baz=335
G45A Suttons Bay 140.83 15 P **PKPdf** 17 07 10.7 -5.7
baz=338
G45A P **PKPdf** 17 07 10.7 -5.7
baz=338
SPB Sao Paulo 140.85 217 *e*P **PKiKP** 17 07 19.1 -0.6
I42A Draeger Farm, 140.90 20 P **PKPdf** 17 07 10.9 -5.6
baz=333
R32A Long Quarter, 140.92 34 P **PKPdf** 17 07 11.8 -5.0
baz=315
SCIA State Center 140.97 26 PKiKP **PKPdf** 17 07 17.9 +1.2
baz=325
SCIA State Center 140.97 26 P **PKPdf** 17 07 11.3 -5.4
baz=325,SNR=9.6
VAO Valinhos 141.01 218 *e*P **PKPdf** 17 07 18.3 +0.8
BSCB Bom Sucesso 141.04 223 *e*P **PKPdf** 17 07 18.3 +0.7
E62A Clayton Lake 141.07 357 P **PKPdf** 17 07 10.7 -6.1
baz=3.6,SNR=12
E62A P **PKPdf** 17 07 10.7 -6.1
baz=3.6,SNR=12
E63A Oxbow 141.20 356 P **PKPdf** 17 07 11.0 -5.9
baz=5.3,SNR=14

E63A P PKPdf 17 07 11.0 -5.9
baz=5.3,SNR=14
MSTX Muleshoe 141.28 43 PKiKP **PKPdf 17 07 18.7 +1.0**
baz=306
MSTX Muleshoe 141.28 43 P **PKPdf 17 07 15.0 -2.7**
baz=306,SNR=37
JFWS Jewell Farm 141.29 22 PKiKP **PKPdf 17 07 17.9 +0.7**
baz=330
JFWS Jewell Farm 141.29 22 P **PKPdf 17 07 11.6 -5.7**
baz=330,SNR=45
GLMI Grayling 141.30 15 PKiKP **PKPdf 17 07 18.6 +1.4**
baz=340
GLMI Grayling 141.30 15 P **PKPdf 17 07 12.2 -5.1**
baz=340
AMTX Amarillo 141.46 41 PKiKP **PKiKP 17 07 19.7 -1.1**
baz=308
AMTX Amarillo 141.46 41 P **PKPdf 17 07 13.7 -4.3**
baz=308
KSU1 Kansas State U 141.56 32 PKiKP **PKPdf 17 07 19.2 +1.4**
baz=318
KSU1 Kansas State U 141.56 32 P **PKPdf 17 07 13.2 -4.7**
baz=318
I45A Fountain 141.60 17 P **PKPdf 17 07 15.0 -2.8**
baz=337
I45A P **PKPdf 17 07 15.0 -2.8**
baz=337
L40A Anamosa 141.65 23 P **PKPdf 17 07 12.2 -5.7**
baz=328,SNR=64
RCBR Riachuelo 141.69 251 *eP* **PKPdf 17 07 20.2 +1.3**
F64A Sherman 141.75 356 P **PKPdf 17 07 12.8 -5.1**
baz=5.5,SNR=13
F64A P **PKPdf 17 07 12.8 -5.1**
baz=5.5,SNR=13
RCLB Rio Claro- Sao 141.79 218 *eP* **PKPdf 17 07 19.2 +0.4**
F62A Pittston Farm, 141.81 358 P **PKPdf 17 07 13.3 -4.8**
baz=3.0,SNR=22
F62A P **PKPdf 17 07 13.3 -4.8**
baz=3.0,SNR=22
N38A Joes South For 141.87 27 P **PKPdf 17 07 13.4 -5.0**
baz=324,SNR=22
FRBT Francisco Belt 141.94 208 *eP* **PKPdf 17 07 20.1 +1.0**
F63A Nahmakanta, Br 141.96 357 P **PKPdf 17 07 13.7 -4.6**
baz=4.4,SNR=18
F63A P **PKPdf 17 07 13.7 -4.6**
baz=4.4,SNR=18
DIAM Diamantina, MG 142.08 227 *eP* **PKPdf 17 07 18.8 -0.8**
K43A Burlington 142.15 20 P **PKPdf 17 07 14.3 -4.5**
baz=333,SNR=22
U32A Winter Ranch, 142.16 37 P **PKPdf 17 07 15.3 -3.7**
baz=313
FRTB Fartura 142.28 215 *eP* **PKPdf 17 07 20.3 +0.6**
L42A Oliver, Polo 142.30 22 P **PKPdf 17 07 15.0 -4.1**
baz=330,SNR=53
G65A Princeton 142.35 355 P **PKPdf 17 07 14.3 -4.7**
baz=6.9,SNR=16
G65A P **PKPdf 17 07 14.3 -4.7**
baz=6.9,SNR=16
PKME Peaks-Kenny Pk 142.41 357 PKiKP **PKPdf 17 07 20.5 +1.4**
baz=4.1
PKME Peaks-Kenny Pk 142.41 357 P **PKPdf 17 07 15.1 -4.1**
baz=4.1,SNR=29
SADO Sadowa 142.44 8 PKhKP PKPpre 17 07 14.9
comp=Z,146nm,1.1s,baz=20,slow=3.0,SNR=15
SADO SKPbc **SKPbc 17 10 46.7 -1.4**
comp=Z,84nm,1.0s,baz=0.8,slow=3.7,SNR=5.7
G62A West of Eustis 142.50 358 P **PKPdf 17 07 15.8 -3.6**
baz=2.1,SNR=56
G62A P **PKPdf 17 07 15.8 -3.6**
baz=2.1,SNR=56
PTGB Pitanga 142.51 210 *eP* **PKPdf 17 07 20.3 +0.2**
I49A Point Hope 142.56 13 P **PKPdf 17 07 15.9 -3.5**
baz=342
I49A P **PKPdf 17 07 15.9 -3.5**
baz=342
HPIG 142.64 55 PKPdf 17 07 18.8 -1.6
P38A Dawn 142.67 28 P **PKPdf 17 07 16.3 -3.5**
baz=323,SNR=98
J47A Sunmer 142.73 16 P **PKPdf 17 07 16.7 -3.1**
baz=338,SNR=30
J47A P **PKPdf 17 07 16.7 -3.1**
baz=338,SNR=30
SCCA San Cayetano, 142.76 200 *eP* **PKiKP 17 07 22.5 -1.0**
L44A Lake County Fo 142.76 20 PKiKP **PKPdf 17 07 20.5 +0.6**
baz=333
L44A Lake County Fo 142.76 20 P **PKPdf 17 07 17.6 -2.3**
baz=333,SNR=11
BMNY Brushton-Moira 142.83 3 P **PKPdf 17 07 16.7 -3.3**
baz=356,SNR=64
FRNY Flat Rock 142.88 2 P **PKPdf 17 07 16.3 -3.7**
baz=357,SNR=32
LONY Lake Ozonia 143.05 3 PKiKP **PKPdf 17 07 21.6 +1.2**
baz=356
LDASE Londrina, Braz 143.10 213 *eP* **PKPdf 17 07 21.1 0.0**
WVL Waterville 143.12 357 P PKPbc 17 07 17.6 +0.1
baz=3.6,SNR=81
TX31 Lajitas Ar. Si 143.12 50 P PKPbc 17 07 19.2 +1.0
baz=300
TXAR Lajitas Array 143.12 50 PKP PKPbc 17 07 18.9 +0.7
comp=Z,123nm,0.8s,baz=318,slow=1.7,SNR=274
TXAR PP **PP 17 10 30.6 -1.2**
comp=Z,33nm,1.0s,baz=257,slow=5.0,SNR=3.4
TXAR SKKPbc **SKKPbc 17 10 50.1 -0.3**
comp=Z,47nm,1.0s,baz=318,slow=3.4,SNR=5.7
TXAR SKKPbc **SKKPab 17 19 02.2 -0.5**
comp=Z,4.6nm,0.9s,baz=104,slow=5.3,SNR=5.6
H62A Milan 143.16 359 P PKPbc 17 07 18.1 +0.5
baz=1.1,SNR=147
H62A P PKPbc 17 07 18.1 +0.5
baz=1.1,SNR=147
T35B Sooner Cattle 143.21 34 P PKPbc 17 07 18.5 +0.3
baz=316
VACA Villa Angela C 143.33 197 *eP* **PKPdf 17 07 22.4 +1.0**
WMOK Wichita Mounta 143.39 39 PKiKP **PKiKP 17 07 23.0 -1.6**
baz=31
WMOK Wichita Mounta 143.39 39 PKIKP PKPbc 17 07 19.9 +1.2
VT1 Waterbury 143.40 1 P PKPbc 17 07 18.7 +0.3
baz=358,SNR=36
BB19B Bebedouro 143.42 218 *eP* **PKPdf 17 07 21.4 -0.3**
M44A Midewin, Midew 143.42 21 P PKPbc 17 07 18.6 +0.1
baz=332,SNR=59
P40A Paris 143.42 27 P PKPbc 17 07 19.1 +0.5
baz=325,SNR=226
CPUP Villa Florida 143.43 202 *eP* **PKPdf 17 07 21.6 0.0**
CPUP Villa Florida 143.43 202 PKP PKPbc 17 07 19.9 +0.9
comp=Z,48nm,1.0s,baz=150,slow=2.9,SNR=58
CPUP SKPbc **SKPbc 17 10 50.1 -1.0**
comp=Z,42nm,1.0s,baz=153,slow=2.4,SNR=5.0
CPUP SKKPbc **SKKPbc 17 18 59.7 -1.1**
comp=Z,17nm,0.9s,baz=351,slow=4.3,SNR=7.2
L46A Eue Claire 143.43 18 P PKPbc 17 07 19.1 +0.6
baz=336,SNR=45
L46A P PKPbc 17 07 19.1 +0.6
baz=336,SNR=45
LBNH Lisbon 143.50 0 PKiKP **PKPdf 17 07 22.8 +1.7**
baz=360
LBNH Lisbon 143.50 0 P PKPbc 17 07 19.3 +0.6
baz=360,SNR=96
LCO Las Campanas 143.59 182 PKPbc 17 07 20.5 +0.8
LCO Las Campanas 143.59 182 PKIKP PKPbc 17 07 20.5 +0.8
WCNY West Carthage 143.61 5 P PKPbc 17 07 19.2 +0.3
baz=354,SNR=45
I63A Otisfield 143.67 358 P PKPbc 17 07 19.9 +0.7
baz=2.1,SNR=165
I63A P PKPbc 17 07 19.9 +0.7
baz=2.1,SNR=165
MCR1 Marechal Candi 143.69 208 *eP* **PKPdf 17 07 23.6 +1.5**
HDIL Hopedale 143.69 23 P PKPbc 17 07 20.0 +0.7
baz=330,SNR=167
K50A Casco 143.71 13 P PKPbc 17 07 19.9 +0.6
baz=342,SNR=54
K50A P PKPbc 17 07 19.9 +0.6
baz=342,SNR=54
NCB Newcomb 143.71 3 P PKPbc 17 07 20.0 +0.7
baz=356,SNR=380
MCVT Middlebury Col 143.77 1 P PKPbc 17 07 20.2 +0.8
baz=358,SNR=103
I62A Tamworth 143.86 359 P PKPbc 17 07 20.4 +0.7
baz=0.8,SNR=155
I62A P PKPbc 17 07 20.4 +0.7
baz=0.8,SNR=155
PMNB Patos De Minas 143.87 224 *eP* **PKPdf 17 07 22.7 0.0**
AAM Ann Arbor 143.91 15 P PKPbc 17 07 20.8 +0.9
baz=340,SNR=43
J54A Appleton 143.98 8 P PKPbc 17 07 20.5 +0.5
baz=348,SNR=58
J54A P PKPbc 17 07 20.5 +0.5
baz=348,SNR=58

L48A N Adams 144.04 16 P PKPbc 17 07 20.9 +0.6
baz=338,SNR=361
L48A P PKPbc 17 07 20.9 +0.6
baz=338,SNR=361
J55A Hilton 144.09 7 P PKPbc 17 07 21.3 +0.9
baz=350,SNR=59
J55A P PKPbc 17 07 21.3 +0.9
baz=350,SNR=59
J57A Williamstown 144.15 5 P PKPbc 17 07 21.1 +0.5
baz=353,SNR=188
J57A P PKPbc 17 07 21.1 +0.5
baz=353,SNR=188
ABTX Abilene, Hawle 144.18 42 P **PKPdf 17 07 23.4 +0.6**
baz=308,SNR=173
J56A Wolcott 144.20 6 P PKPbc 17 07 21.4 +0.7
baz=352,SNR=86
J56A P PKPbc 17 07 21.4 +0.7
baz=352,SNR=86
J59A Piesco 144.20 3 P **PKPdf 17 07 21.8 -0.6**
baz=356,SNR=335
J59A P **PKPdf 17 07 21.8 -0.6**
baz=356,SNR=335
J58A Remsen 144.25 4 P PKPbc 17 07 21.6 +0.7
baz=354,SNR=204
J58A P PKPbc 17 07 21.6 +0.7
baz=354,SNR=204
S39A Bolivar 144.30 30 P PKPbc 17 07 22.0 +0.7
baz=322,SNR=691
ACCN Adirondack Com 144.32 2 P PKPbc 17 07 21.6 +0.4
baz=357,SNR=354
R40A Maddies Statio 144.33 28 P **PKPdf 17 07 22.4 -0.3**
baz=324,SNR=1000
TUL3 Leonard 144.34 34 PKiKP **PKPdf 17 07 22.4 -0.4**
baz=317
TUL3 Leonard 144.34 34 P **PKPdf 17 07 22.5 -0.4**
baz=317,SNR=281
O44A Mansfield 144.35 22 P PKPbc 17 07 21.8 +0.5
baz=331,SNR=32
J61A Chester 144.39 1 P **PKPdf 17 07 22.1 -0.6**
baz=359,SNR=331
J61A P **PKPdf 17 07 22.1 -0.6**
baz=359,SNR=331
P43A Skaggs, Pawnee 144.39 24 P PKPbc 17 07 22.0 +0.5
baz=329,SNR=173
TICA Tres Isletas 144.41 198 *eP* **PKPdf 17 07 23.8 +0.5**
JANB Januaria 144.58 231 *eP* **PKPdf 17 07 24.2 +0.3**
PCMB Pacaembu 144.61 214 *eP* **PKPdf 17 07 24.6 +0.8**
UNH University of 144.63 359 P **PKPdf 17 07 22.7 -0.4**
baz=1.6,SNR=197
SFIN Lafayette 144.64 20 PKiKP **PKPdf 17 07 23.3 0.0**
baz=333
SFIN Lafayette 144.64 20 P **PKPdf 17 07 22.9 -0.4**
baz=333,SNR=500
N47A Urbana 144.65 18 P PKPbc 17 07 22.8 +0.5
baz=336,SNR=642
N47A P PKPbc 17 07 22.8 +0.5
baz=336,SNR=642
U38A Gravette 144.72 32 P **PKPdf 17 07 23.7 +0.1**
baz=319,SNR=1000
K57A Scipio Center 144.77 6 P **PKPdf 17 07 23.5 0.0**
baz=352,SNR=631
WVNY West Valley, N 144.83 9 P **PKPdf 17 07 23.6 0.0**
baz=348,SNR=372
ERPA Erie 144.88 10 PKiKP **PKPdf 17 07 23.4 -0.2**
baz=346
ERPA Erie 144.88 10 P **PKPdf 17 07 24.0 +0.3**
baz=346,SNR=246
M50A Fremont 144.91 15 P **PKPdf 17 07 24.0 +0.3**
baz=340,SNR=296
M50A P **PKPdf 17 07 24.0 +0.3**
baz=340,SNR=296
SLM Saint Louis 144.95 25 P **PKPdf 17 07 23.8 0.0**
baz=327,SNR=125
HCNY Howe Caverns 144.97 3 P **PKPdf 17 07 23.7 0.0**
baz=356,SNR=563
TRY Troy 144.97 2 PKPdf **PKPdf 17 07 24.5 +0.7**
TRY Troy 144.97 2 P **PKPdf 17 07 24.1 +0.4**
baz=357,SNR=316
GO03 Copiap 144.98 183 PKPdf **PKPdf 17 07 25.2 +0.9**
CCM Cathedral Cave 144.99 27 **PKPdf 17 07 24.7 +0.8**
CCM Cathedral Cave 144.99 27 PKiKP **PKPdf 17 07 24.4 +0.5**
baz=325
CCM Cathedral Cave 144.99 27 P **PKPdf 17 07 24.1 +0.2**
baz=325,SNR=1000
CCM Cathedral Cave 144.99 27 PKIKP **PKPdf 17 07 24.7 +0.8**
N49A Columbus Grove 145.06 16 P **PKPdf 17 07 24.9 +0.9**
baz=338,SNR=843
N49A P **PKPdf 17 07 24.9 +0.9**
baz=338,SNR=843
K62A Royalston 145.07 0 PKPdf **PKPdf 17 07 25.1 +1.2**
K62A Royalston 145.07 0 P **PKPdf 17 07 24.6 +0.7**
baz=359,SNR=409
K62A P **PKPdf 17 07 24.6 +0.7**
baz=359,SNR=409
ESFA Espinillo Form 145.10 202 *eP* **PKiKP 17 07 27.3 -1.1**
M52A Chesterland 145.17 12 P **PKPdf 17 07 24.8 +0.7**
baz=343,SNR=449
M52A P **PKPdf 17 07 24.8 +0.7**
baz=343,SNR=449
AC06 Mina Casimiro 145.22 182 **PKPdf 17 07 25.8 +1.0**
Q44A Meyer Farm, Va 145.22 24 P **PKPdf 17 07 25.0 +0.7**
baz=329,SNR=803
HRV Adam Dziewonsk 145.23 360 PKiKP **PKPdf 17 07 25.0 +0.8**
baz=0.5
HRV Adam Dziewonsk 145.23 360 P **PKPdf 17 07 25.0 +0.8**
baz=0.5,SNR=454
HRV Adam Dziewonsk 145.23 360 PKIKP **PKPdf 17 07 24.7 +0.5**
MGMO Mountain Grove 145.24 29 PKPdf **PKPdf 17 07 25.2 +0.8**
L56A Greenwood 145.24 7 **PKPdf 17 07 24.6 +0.3**
L56A Greenwood 145.24 7 P **PKPdf 17 07 24.8 +0.5**
baz=350,SNR=406
L56A P **PKPdf 17 07 24.8 +0.5**
baz=350,SNR=406
Z35A Perchaven, San 145.27 39 P **PKPab 17 07 26.0 +1.4**
baz=325,SNR=755
L61B Northampton 145.28 1 PKiKP **PKPab 17 07 24.9 +0.6**
baz=358
L61B Northampton 145.28 1 P **PKPab 17 07 25.2 +0.9**
baz=358,SNR=234
P46A Rosedale 145.28 21 P **PKPab 17 07 25.4 +0.9**
baz=333,SNR=564
ALLY Alegheny Colle 145.31 11 P **PKPab 17 07 24.7 +0.2**
baz=346,SNR=266
JCT Junction City 145.35 45 **PKiKP 17 07 27.3 -1.5**
JCT Junction City 145.35 45 PKiKP **PKPab 17 07 26.8 +1.8**
baz=306
JCT Junction City 145.35 45 P **PKPab 17 07 26.6 +1.6**
baz=306,SNR=1000
JCT Junction City 145.35 45 PKIKP **PKiKP 17 07 27.3 -1.5**
BINY Binghamton 145.35 5 PKiKP **PKPab 17 07 25.5 +0.8**
baz=353
BINY Binghamton 145.35 5 P **PKPab 17 07 25.6 +0.9**
baz=353,SNR=804
O48B Farmland 145.38 18 PKiKP **PKPab 17 07 25.6 +0.7**
baz=336
O48B Farmland 145.38 18 P **PKPab 17 07 25.6 +0.7**
baz=336,SNR=776
M53A WI Miller and 145.41 12 PKiKP **PKPab 17 07 25.5 +0.6**
baz=344
FVM French Village 145.41 26 P **PKPab 17 07 25.8 +0.8**
baz=326,SNR=552
L59A Walton 145.44 4 P **PKPab 17 07 25.6 +0.6**
baz=354,SNR=648
L59A P **PKPab 17 07 25.6 +0.6**
baz=354,SNR=648
AMBA Amambai (Brazi 145.44 208 *eP* **PKPab 17 07 26.5 +0.9**
QUA2 Belchertown 145.46 1 P **PKPab 17 07 25.2 +0.2**
baz=359,SNR=736
IPMB Ipameri, GO 145.46 222 *eP* **PKPab 17 07 26.5 +0.7**
N51A Ashland 145.53 14 P **PKPab 17 07 25.8 +0.5**
baz=341,SNR=575
N51A P **PKPab 17 07 25.8 +0.5**
baz=341,SNR=575
ITRB Iturama 145.56 218 *eP* **PKPab 17 07 27.6 +1.5**
U40A Yellville 145.57 31 P **PKPab 17 07 26.4 +0.7**
baz=321,SNR=1000
U40A P **PKPab 17 07 26.4 +0.7**
baz=321,SNR=1000
O49A Covington 145.69 17 P **PKPab 17 07 26.7 +0.7**
baz=338,SNR=1000
O49A P **PKPab 17 07 26.7 +0.7**
baz=338,SNR=1000
M55A Ridgway 145.72 9 P **PKPab 17 07 26.7 +0.7**
baz=348,SNR=656
M55A P **PKPab 17 07 26.7 +0.7**
baz=348,SNR=656
OLIL Olney 145.73 23 P **PKPab 17 07 26.9 +0.8**
baz=331,SNR=717
L64A Middleborough 145.79 359 P **PKPab 17 07 26.6 +0.4**
baz=1.7,SNR=189
L64A P **PKPab 17 07 26.6 +0.4**
baz=1.7,SNR=189
FW13 Cleburne 145.80 40 PKPbc **PKiKP 17 07 28.4 -1.3**
NPNY Mohonk Preserv 145.93 3 P **PKPab 17 07 26.6 -0.1**
baz=356,SNR=541
N53A Lisbon 145.98 12 P **PKPab 17 07 27.3 +0.2**
baz=344,SNR=643
N53A P **PKPab 17 07 27.3 +0.2**
baz=344,SNR=643
KSPA Keystone Colle 146.01 5 P **PKPab 17 07 27.5 +0.4**
baz=353,SNR=772
WHTX Lake Whitney, 146.01 41 PKiKP **PKPab 17 07 28.6 +1.1**
baz=310
WHTX Lake Whitney, 146.01 41 P **PKPab 17 07 28.6 +1.1**
baz=310,SNR=403
ACSO Alum Creek Sta 146.03 15 PKiKP **PKPab 17 07 27.5 +0.3**
baz=340
ACSO Alum Creek Sta 146.03 15 P **PKPab 17 07 27.5 +0.3**
baz=340,SNR=917
P48A Milroy 146.03 19 P **PKPab 17 07 27.3 +0.1**
baz=336,SNR=540
P48A P **PKPab 17 07 27.3 +0.1**
baz=336,SNR=540
M57A Sunshine Farm, 146.08 7 P **PKPab 17 07 27.7 +0.3**
baz=351,SNR=996
M57A P **PKPab 17 07 27.7 +0.3**
baz=351,SNR=996
S44A Carbondale 146.16 25 P **PKPab 17 07 27.9 +0.1**
baz=328,SNR=496
M65A Busby, Falmout 146.16 358 PKiKP **PKPab 17 07 27.6 -0.1**
baz=2.1
P49A Miami Univ. Ec 146.18 18 PKiKP **PKPab 17 07 27.9 0.0**
baz=337
P49A Miami Univ. Ec 146.18 18 P **PKPab 17 07 27.7 -0.1**
baz=337,SNR=480
BRNY Black Rk. Fore 146.27 3 P **PKPab 17 07 27.9 -0.2**
baz=356,SNR=335
M63A Gales Ferry 146.33 0 P **PKPbc 17 07 27.9 +0.5**
baz=360,SNR=120
M63A P **PKPbc 17 07 27.9 +0.5**
baz=360,SNR=120
PBMO Poplar Bluff 146.40 27 P **PKPbc 17 07 28.3 +0.5**
baz=325,SNR=445
O52A Adamsville 146.42 14 P **PKPbc 17 07 28.3 +0.5**
baz=342,SNR=508
O52A P **PKPbc 17 07 28.3 +0.5**
baz=342,SNR=508
O53A New Philadelph 146.44 13 PKiKP **PKPab 17 07 28.6 -0.2**
baz=343
UPAO U. Pittsburgh 146.46 11 P **PKPab 17 07 28.8 -0.1**
baz=345
ODNJ Ogdensburg 146.57 4 P **PKPbc 17 07 28.3 +0.2**
baz=355,SNR=402
MIAR Mount Ida 146.57 34 PKiKP **PKPab 17 07 29.6 +0.1**
baz=318
MIAR Mount Ida 146.57 34 PKP2 **PKPdf 17 07 27.0 +0.3**
SDBA SAO DESIDERIO 146.61 234 *eP* **PKPbc 17 07 29.6 +0.6**
N58A Sunbury 146.62 7 P **PKPab 17 07 29.0 -0.5**
baz=351,SNR=411
N58A P **PKPab 17 07 29.0 -0.5**
baz=351,SNR=411
LCAR Lake Charles 146.64 29 P **PKPbc 17 07 28.6 +0.1**
baz=324,SNR=1000
SSPA Standing Stone 146.67 8 **PKPab 17 07 29.3 -0.4**
SSPA Standing Stone 146.67 8 PKiKP **PKPab 17 07 29.3 -0.4**
baz=349
SSPA Standing Stone 146.67 8 P **PKPab 17 07 29.2 -0.4**
baz=349,SNR=556
O54A Avella 146.68 12 P **PKPbc 17 07 28.0 -0.5**
baz=344,SNR=739
O54A P **PKPbc 17 07 28.0 -0.5**
baz=344,SNR=739
PAL Palisades 146.68 3 PKiKP **PKPab 17 07 29.3 -0.4**
baz=356
PAL Palisades 146.68 3 P **PKPbc 17 07 28.7 +0.3**
baz=356,SNR=245
435B Jarrell 146.69 43 PKiKP **PKPab 17 07 30.2 +0.1**
baz=309
435B Jarrell 146.69 43 P **PKPbc 17 07 28.6 -0.2**
baz=309,SNR=142
Z38A Mt. Pleasant 146.70 37 P **PKPbc 17 07 28.4 -0.4**
baz=315,SNR=149
P51A Williamsport 146.71 16 P **PKPdf 17 07 27.4 +0.6**
baz=340,SNR=426
P51A P **PKPdf 17 07 27.4 +0.6**
baz=340,SNR=426
ANTJ Antonio Joao (146.71 208 *eP* **PKPbc 17 07 28.6 -0.6**
N62A Caumsett State 146.78 2 P **PKPbc 17 07 28.3 -0.4**
baz=357,SNR=39
N62A P **PKPbc 17 07 28.3 -0.4**
baz=357,SNR=39
P52A Corning 146.81 15 PKiKP **PKPbc 17 07 29.3 +0.5**
baz=341
FOR Fordham 146.83 3 P **PKPab 17 07 29.9 -0.4**
baz=356,SNR=82
WCI Wyandotte Cave 146.84 21 **PKPab 17 07 30.1 -0.3**
WCI Wyandotte Cave 146.84 21 PKiKP **PKPab 17 07 29.8 -0.6**
baz=333
WCI Wyandotte Cave 146.84 21 P **PKPbc 17 07 29.6 +0.6**
baz=333,SNR=376
WCI Wyandotte Cave 146.84 21 PKP2 **PKPdf 17 07 27.0 -0.1**
833A Chaparral WMA, 146.85 48 PKiKP **PKiKP 17 07 31.5 -0.4**
baz=303
833A Chaparral WMA, 146.85 48 P **PKPbc 17 07 29.4 +0.1**
baz=303
RPRD Ribas do Rio P 146.85 212 *eP* **PKPbc 17 07 29.6 +0.1**
PABK Blue Knob Stat 146.93 9 P **PKPbc 17 07 29.2 0.0**
baz=348
BDFB Brasilia 146.94 226 PKPbc **PKPbc 17 07 29.2 -0.9**
comp=Z,90nm,0.9s,baz=82,slow=1.3,SNR=34
BRNJ Basking Ridge 146.97 4 P **PKPbc 17 07 28.4 -0.8**
baz=355,SNR=279
T45B Paducah 146.99 25 P **PKPbc 17 07 28.5 -0.9**
baz=328,SNR=76
Q51A Peebles 147.05 17 P **PKPdf 17 07 28.1 +0.7**
baz=339,SNR=510
Q51A P **PKPdf 17 07 28.1 +0.7**
baz=339,SNR=510
237A Washetta, Mont 147.06 39 P **PKPdf 17 07 29.4 -0.4**
baz=312,SNR=639
P53A Whipple 147.12 14 P **PKPdf 17 07 28.3 +0.8**
baz=342,SNR=722
P53A P **PKPdf 17 07 28.3 +0.8**
baz=342,SNR=722
R49A Shelbyville 147.17 19 P **PKPdf 17 07 28.4 +0.8**
baz=335,SNR=464
R49A P **PKPdf 17 07 28.4 +0.8**
baz=335,SNR=464
PANJ Princeton 147.26 4 P **PKPdf 17 07 28.9 +1.2**
baz=355,SNR=424
MCWV Mont Chateau 147.29 11 PKiKP **PKPbc 17 07 31.1 +0.9**
baz=345
MCWV Mont Chateau 147.29 11 P **PKPdf 17 07 28.9 +1.1**
baz=345,SNR=366
TUPA Temple Univers 147.44 5 P **PKPdf 17 07 29.2 +1.2**
baz=354,SNR=426
R50A Paris 147.45 18 P **PKPdf 17 07 28.7 +0.6**
baz=337,SNR=315
R50A P **PKPdf 17 07 28.7 +0.6**
baz=337,SNR=315
T47A Sharon Grove 147.63 23 P **PKPdf 17 07 29.7 +1.2**
baz=331,SNR=347
PSUB Penn St. - Bra 147.65 5 P **PKPdf 17 07 29.1 +0.8**
baz=353
735A Kenedy 147.70 46 P **PKPbc 17 07 31.1 -0.6**
baz=306,SNR=87
MURT Porto Murtinho 147.72 205 *eP* **PKPbc 17 07 30.7 -1.2**
Q54A Coxs Mills 147.73 13 P **PKPdf 17 07 29.5 +0.9**
baz=343,SNR=468
Q54A P **PKPdf 17 07 29.5 +0.9**
baz=343,SNR=468
GEDE Greenville 147.75 5 P **PKPdf 17 07 29.5 +0.9**
baz=353,SNR=305
C2SB Chapadao do Su 147.75 215 *eP* **PKPbc 17 07 31.1 -0.9**
P57A Homestead Farm 147.78 9 P **PKPdf 17 07 29.6 +1.0**
baz=348,SNR=409
P57A P **PKPdf 17 07 29.6 +1.0**
baz=348,SNR=409
AQDB Aquidauana 147.88 209 *eP* **PKPdf 17 07 30.5 +1.2**
NATX Nacogdoches 147.94 38 PKiKP **PKiKP 17 07 33.9 -0.1**
baz=314
NATX Nacogdoches 147.94 38 P **PKPdf 17 07 30.5 +1.4**
baz=314,SNR=104
P61A Hammonton 147.96 4 P **PKPdf 17 07 30.2 +1.3**
baz=354,SNR=36

P61A				P		PKPdf	17 07 30.2	+1.3
	baz=354,SNR=36							
SDMD	Soldier's Deli	148.02	7	P		PKPdf	17 07 29.9	+0.9
	baz=351,SNR=175							
CCAR	Cane Creek	148.02	32	P		PKPdf	17 07 30.7	+1.5
	baz=321							
R53A	Hurricane	148.08	15	PKPbc	PKiKP	17 07 33.4	-0.7	
R53A	Hurricane	148.08	15	P	PKPbc	17 07 32.4	0.0	
	baz=341,SNR=358							
R53A				P	PKPbc	17 07 32.4	0.0	
	baz=341,SNR=358							
WVT	Waverly	148.08	25		PKiKP	17 07 33.6	-0.6	
WVT	Waverly	148.08	25	PKiKP	PKiKP	17 07 33.6	-0.6	
	baz=329							
WVT	Waverly	148.08	25	P	PKPdf	17 07 30.1	+0.9	
	baz=329							
WVT	Waverly	148.08	25	PKP2	PKiKP	17 07 33.6	-0.6	
S51A	Beattyville	148.27	18	P	PKPdf	17 07 30.5	+1.0	
	baz=338,SNR=454							
S51A				P	PKPdf	17 07 30.5	+1.0	
	baz=338,SNR=454							
KVTX	Kingsville	148.38	48	P	PKPdf	17 07 31.2	+1.3	
	baz=304							
HKT	Hockley	148.39	42	PKPab	PKPab	17 07 36.2	-0.6	
HKT	Hockley	148.39	42	P	PKPbc	17 07 31.7	-1.7	
	baz=310							
HKT	Hockley	148.39	42	PKP2	PKPab	17 07 36.2	-0.6	
BDQN	Bodoquena, MS	148.40	208	*eP*	PKPdf	17 07 31.8	+1.6	
T50A	Nancy	148.43	20	P	PKPdf	17 07 30.5	+0.7	
	baz=335							
T50A				P	PKPdf	17 07 30.5	+0.7	
	baz=335							
U49A	Red Boiling Sp	148.55	22	P	PKPdf	17 07 30.4	+0.4	
	baz=333,SNR=667							
R55A	Marlinton	148.56	12	P	PKPdf	17 07 30.8	+0.7	
	baz=344,SNR=231							
R55A				P	PKPdf	17 07 30.8	+0.7	
	baz=344,SNR=231							
RVDE	Rio Verde (Bra	148.70	212	*eP*	PKPdf	17 07 32.2	+1.4	
CLTN	Cedars of Leba	148.72	23	PKPbc	PKiKP	17 07 35.1	-0.4	
OXF	Oxford	148.73	29	PKiKP	PKPbc	17 07 34.9	+0.7	
	baz=325							
OXF	Oxford	148.73	29	P	PKPdf	17 07 31.0	+0.7	
	baz=325,SNR=240							
S54A	Dingess, Beckl	148.75	14	P	PKPdf	17 07 30.8	+0.5	
	baz=342,SNR=168							
S54A				P	PKPdf	17 07 30.8	+0.5	
	baz=342,SNR=168							
V48A	Smith Brothers	148.83	24	PKPbc	PKiKP	17 07 35.2	-0.5	
V48A	Smith Brothers	148.83	24	P	PKPdf	17 07 30.7	+0.2	
	baz=330,SNR=262							
CBN	Corbin Frederi	149.13	8	PKiKP	PKiKP	17 07 35.9	-0.4	
	baz=349							
143A	Socs Landing,	149.15	33	P	PKPdf	17 07 31.9	+0.9	
	baz=320,SNR=20							
Y45A	Yeager Farm, C	149.19	30	PKPbc	PKiKP	17 07 37.0	+0.4	
Y45A	Yeager Farm, C	149.19	30	P	PKPdf	17 07 32.2	+1.1	
	baz=324,SNR=92							
R61A	Willards	149.25	5	P	PKPdf	17 07 31.3	+0.3	
	baz=353,SNR=16							
R61A				P	PKPdf	17 07 31.3	+0.3	
	baz=353,SNR=16							
R58B	Mineral	149.29	9	PKPbc	PKiKP	17 07 36.6	-0.1	
R58B	Mineral	149.29	9	P	PKPdf	17 07 32.0	+0.9	
	baz=348,SNR=191							
R58B				P	PKPdf	17 07 32.0	+0.9	
	baz=348,SNR=191							
TZTN	Tazewell	149.29	19	PKiKP	PKiKP	17 07 36.4	-0.3	
	baz=337							
TZTN	Tazewell	149.29	19	P	PKPbc	17 07 33.9	-1.7	
	baz=337,SNR=400							
S57A	Dark Hollow, R	149.30	11	P	PKPdf	17 07 32.0	+0.9	
	baz=346,SNR=31							
S57A				P	PKPdf	17 07 32.0	+0.9	
	baz=346,SNR=31							
BLA	Blacksburg	149.52	13	PKiKP	PKiKP	17 07 36.8	-0.4	
	baz=343							
BLA	Blacksburg	149.52	13	P	PKPbc	17 07 34.2	-1.9	
	baz=343,SNR=107							
SWET	Sewanee	149.64	23	PKPbc	PKPbc	17 07 37.0	+0.5	
V51A	Loudon	149.70	20	P	PKPdf	17 07 33.8	+2.0	
	baz=335,SNR=393							
PB06	IPOC Station P	149.80	184	PKPbc	PKiKP	17 07 38.8	+0.4	
U54A	Nelsons Funny	149.82	16	P	PKPdf	17 07 33.6	+1.5	
	baz=340,SNR=118							
U54A				P	PKPdf	17 07 33.6	+1.5	
	baz=340,SNR=118							
LVC	Limon Verde	149.84	186	*eP*	PKPdf	17 07 34.9	+2.0	
LVC	Limon Verde	149.84	186	PKP	PKPdf	17 07 34.6	+1.7	
	comp=Z,45nm,1.1s,baz=163,slow=1.9,SNR=9.3							
LVC				PKPbc	PKiKP	17 07 39.8	+1.1	
	comp=Z,121nm,0.8s,baz=185,slow=2.0,SNR=27							
PP1B	Ponte de Pedra	149.84	214	*eP*	PKPdf	17 07 34.3	+1.7	
X48A	Hartselle	149.85	25	P	PKPdf	17 07 32.1	0.0	
	baz=329,SNR=318							
S61A	Accomac	149.86	6	P	PKPdf	17 07 33.3	+1.3	
	baz=352,SNR=11							
S61A				P	PKPdf	17 07 33.3	+1.3	
	baz=352,SNR=11							
W50A	Signal Mountai	149.89	22	P	PKPdf	17 07 32.7	+0.5	
	baz=333,SNR=245							
V52A	Sevierville	149.92	19	P	PKPdf	17 07 33.6	+1.4	
	baz=336,SNR=493							
T57A	Hurt	149.98	12	PKPbc	PKiKP	17 07 38.0	-0.1	
T57A	Hurt	149.98	12	P	PKPdf	17 07 33.5	+1.3	
	baz=345,SNR=154							
T57A				P	PKPdf	17 07 33.5	+1.3	
	baz=345,SNR=154							
VBMS	Vicksburg	150.00	33	PKiKP	PKiKP	17 07 38.6	+0.3	
	baz=321							
VBMS	Vicksburg	150.00	33	P	PKPdf	17 07 33.6	+1.3	
	baz=321,SNR=15							
TKL	Tuckaleechee C	150.03	20	P	PKPdf	17 07 33.4	+1.0	
	baz=336,SNR=358							
TKL	Tuckaleechee C	150.03	20	PKPbc	PKPbc	17 07 37.3	-0.1	
	comp=Z,260nm,1.0s,baz=307,slow=1.3,SNR=34							
PB04	IPOC Station P	150.20	183	PKPbc	PKiKP	17 07 40.4	+1.2	
T60A	Surry	150.26	8	P	PKPdf	17 07 33.8	+1.1	
	baz=350,SNR=60							
T60A				P	PKPdf	17 07 33.8	+1.1	
	baz=350,SNR=60							
T59A	Double "B" Far	150.31	9	P	PKPdf	17 07 34.0	+1.3	
	baz=349,SNR=251							
T59A				P	PKPdf	17 07 34.0	+1.3	
	baz=349,SNR=251							
V53A	Saluda	150.32	18	P	PKPdf	17 07 33.8	+0.9	
	baz=338,SNR=321							
V53A				P	PKPdf	17 07 33.8	+0.9	
	baz=338,SNR=321							
U56A	King	150.35	14	P	PKPdf	17 07 33.6	+0.7	
	baz=343,SNR=118							
U56A				P	PKPdf	17 07 33.6	+0.7	
	baz=343,SNR=118							
ROSB	Rosrio	150.39	250	*eP*	PKPdf	17 07 34.1	+0.5	
146A	Union	150.42	30	P	PKPdf	17 07 34.5	+1.4	
	baz=324,SNR=60							
Z47A	Carrollton	150.44	28	P	PKPdf	17 07 33.5	+0.5	
	baz=326,SNR=91							
W52A	Murphy	150.49	20	PKPbc	PKiKP	17 07 39.7	+0.5	
W52A	Murphy	150.49	20	P	PKPdf	17 07 34.1	+1.0	
	baz=335,SNR=29							
V55A	Taylorsville	150.61	16	P	PKPdf	17 07 34.1	+0.8	
	baz=341,SNR=152							
V55A				P	PKPdf	17 07 34.1	+0.8	
	baz=341,SNR=152							
X51A	Calhoun	150.63	22	P	PKPdf	17 07 34.6	+1.3	
	baz=333,SNR=69							
X51A				P	PKPdf	17 07 34.6	+1.3	
	baz=333,SNR=69							
Y49A	Blount Mountai	150.63	25	P	PKPdf	17 07 33.4	+0.1	
	baz=330,SNR=226							
U59A	Littleton	150.88	10	P	PKPdf	17 07 34.3	+0.7	
	baz=348,SNR=58							
U59A				P	PKPdf	17 07 34.3	+0.7	
	baz=348,SNR=58							
BG3	Lake Jocassee	150.91	19	PKPbc	PKiKP	17 07 40.8	+0.7	
CASEE	Lake Jocassee	150.91	19	P	PKPdf	17 07 35.0	+1.2	
	baz=337,SNR=115							
LRAL	Lakeview Retre	151.07	27	PKPbc	PKiKP	17 07 40.9	+0.4	
LRAL	Lakeview Retre	151.07	27	PKiKP	PKiKP	17 07 40.7	+0.2	
	baz=328							
LRAL	Lakeview Retre	151.07	27	P	PKPdf	17 07 34.9	+0.9	
	baz=328,SNR=91							
V58A	Windy Hill, Pi	151.17	12	P	PKPdf	17 07 35.0	+0.9	
	baz=345,SNR=41							
V58A				P	PKPdf	17 07 35.0	+0.9	
	baz=345,SNR=41							
346A	Big Creek Wild	151.20	32	P	PKPdf	17 07 35.9	+1.6	
	baz=322,SNR=7.4							
KMSC	Kings Mountain	151.25	16	PKiKP	PKiKP	17 07 41.1	+0.3	
	baz=340							
KMSC	Kings Mountain	151.25	16	P	PKPdf	17 07 35.1	+0.9	
	baz=340,SNR=82							
PAULI	Pauline	151.41	17	P	PKPdf	17 07 35.3	+0.8	
	baz=332,SNR=50							
PB01	IPOC Station P	151.44	185	PKPbc	PKiKP	17 07 42.5	+0.8	
Y52A	Lilburn	151.55	22	P	PKPdf	17 07 36.1	+1.4	
	baz=334,SNR=35							
Y52A				P	PKPdf	17 07 36.1	+1.4	
	baz=334,SNR=35							
W57A	Gilead	151.59	14	P	PKPdf	17 07 35.4	+0.7	
	baz=343,SNR=23							
W57A				P	PKPdf	17 07 35.4	+0.7	
	baz=343,SNR=23							
Z51A	Franklin	151.61	24	P	PKPdf	17 07 36.0	+1.2	
	baz=332,SNR=12							
V61A	Roper	151.61	8	P	PKPdf	17 07 35.7	+0.9	
	baz=350,SNR=26							
V61A				P	PKPdf	17 07 35.7	+0.9	
	baz=350,SNR=26							
BBRB	Robore, Bolivi	151.66	205	*eP*	PKPdf	17 07 37.4	+2.1	
545B	Wilberts Farm,	151.66	36	P	PKPdf	17 07 38.0	+3.0	
	baz=318							
SALV	Santo Antonio	151.67	214	*eP*	PKPdf	17 07 36.8	+1.4	
SNDB	Serra Nova Dou	151.75	227	*eP*	PKPdf	17 07 36.6	+1.0	
HODGE	Hodges	151.82	18	P	PKPdf	17 07 36.2	+1.1	
	baz=336,SNR=40							
CNNC	Cliffs of the	151.94	10	PKiKP	PKiKP	17 07 42.9	+0.7	
	baz=347							
CNNC	Cliffs of the	151.94	10	P	PKPdf	17 07 36.3	+1.1	
	baz=347,SNR=12							
BIRD	Birdtown, Kers	151.95	15	P	PKPdf	17 07 36.0	+0.7	
	baz=342,SNR=26							
JSC	Jenkinsville	152.08	17	P	PKPdf	17 07 36.6	+1.1	
	baz=340,SNR=32							
GOGA	Godfrey	152.17	21	PKiKP	PKiKP	17 07 43.5	+0.8	
	baz=335							
GOGA	Godfrey	152.17	21	P	PKPdf	17 07 36.8	+1.1	
	baz=335,SNR=46							
GOGA	Godfrey	152.17	21	PKIKP	PKPdf	17 07 36.9	+1.2	
250A	Grady	152.29	27	P	PKPdf	17 07 37.2	+1.3	
	baz=328,SNR=32							
X58A	Rowland	152.31	13	P	PKPdf	17 07 36.8	+1.0	
	baz=344,SNR=13							
X58A				P	PKPdf	17 07 36.8	+1.0	
	baz=344,SNR=13							
152A	Waverly Hall	152.36	24	P	PKPdf	17 07 37.1	+1.1	
	baz=332,SNR=58							
BRAL	Brewton	152.60	29	PKiKP	PKiKP	17 07 45.0	+1.3	
	baz=326							
BRAL	Brewton	152.60	29	P	PKPdf	17 07 38.1	+1.7	
	baz=326,SNR=21							
HAW	Hawthorne Fire	152.83	18	P	PKPdf	17 07 37.6	+0.9	
	baz=338,SNR=31							
Y58A	Scranton	152.85	14	P	PKPdf	17 07 37.6	+1.0	
	baz=343,SNR=11							
Y58A				P	PKPdf	17 07 37.6	+1.0	
	baz=343,SNR=11							
BBSD	Serra de San D	152.96	204	*eP*	PKPdf	17 07 38.7	+1.4	
154A	Montrose	153.02	21	P	PKPdf	17 07 38.3	+1.4	
	baz=335,SNR=7.1							
Y60A	Bolivia	153.08	12	P	PKPdf	17 07 37.5	+0.5	
	baz=346,SNR=15							
Y60A				P	PKPdf	17 07 37.5	+0.5	
	baz=346,SNR=15							
352A	Blakely	153.31	25	P	PKPdf	17 07 38.2	+0.8	
	baz=330,SNR=72							
NHSC	New Hope	153.48	16	PKiKP	PKiKP	17 07 46.5	+1.1	
	baz=341							
NHSC	New Hope	153.48	16	P	PKPdf	17 07 38.4	+0.8	
	baz=341,SNR=5.5							
451A	Vernon	153.68	28	P	PKPdf	17 07 39.9	+2.0	
	baz=328,SNR=5.9							
PTLB	Pontes e Lacer	153.84	209	*eP*	PKPdf	17 07 39.5	+1.0	
255A	Hazlehurst	153.86	21	P	PKPdf	17 07 39.0	+0.9	
	baz=336,SNR=5.8							
TIGA	Tifton	153.89	23	PKiKP	PKiKP	17 07 47.5	+1.1	
	baz=333							
TIGA	Tifton	153.89	23	P	PKPdf	17 07 39.3	+1.1	
	baz=333,SNR=6.9							
PRPB	Parauapebas	154.07	239	*eP*	PKPdf	17 07 40.0	+0.9	
SIV	San Ignacio	154.23	205	PKP	PKPdf	17 07 39.7	+0.5	
	comp=Z,36nm,0.9s,baz=157,slow=1.2,SNR=88							
257A	Skidaway Islan	154.30	18	P	PKPdf	17 07 38.3	-0.5	
	baz=339							
BBSR	BB Station	154.46	346	P	PKPdf	17 07 39.6	+0.7	
	baz=16							
553A	Crawfordville	154.63	26	P	PKPdf	17 07 40.5	+1.2	
	baz=330,SNR=15							
456A	Hilliard	155.12	21	P	PKPdf	17 07 41.5	+1.5	
	baz=336							
CLDB	Colider	155.64	221	*eP*	PKPdf	17 07 42.7	+1.6	
CMIG	Matias Romero	155.67	65	PKP	PKPdf	17 07 42.1	+1.0	
	comp=Z,55nm,0.9s,baz=305,slow=1.4,SNR=67							
CMIG				PKPab	PKPab	17 08 06.9	-0.8	
	comp=Z,173nm,1.0s,baz=292,slow=3.7,SNR=18							
PDRB	Porto dos Gac	155.67	218	*eP*	PKPdf	17 07 41.4	+0.3	
VILB	Vilhena	156.51	210	*eP*	PKPdf	17 07 43.5	+1.3	
DWPF	Disney Wildern	157.69	23	PKPdf	PKPdf	17 07 44.3	+0.9	
	baz=334							
DWPF	Disney Wildern	157.69	23	P	PKPdf	17 07 44.3	+0.9	
	baz=334,SNR=13							
NPGB	Novo Progresso	158.01	229	*eP*	PKPdf	17 07 44.8	+0.6	
MCPB	Macapa, AP	158.69	249	*eP*	PKPdf	17 07 47.1	+2.1	
060A	Indiantown	159.06	22	P	PKPdf	17 07 45.9	+0.8	
	baz=336							
TEIG	Tepich	159.77	50	PKP	PKPdf	17 07 46.1	0.0	
	comp=Z,638nm,1.0s,baz=103,slow=5.6,SNR=18							
TEIG				PKPab	sPKPdf	17 08 26.8	+2.3	
	comp=Z,2μm,0.9s,baz=95,slow=5.4,SNR=18							
061Z	Ochoppi	159.91	24	P	PKPdf	17 07 46.8	+0.7	
	baz=333,SNR=10							
ITTB	Itaituba	159.97	234	*eP*	PKPdf	17 07 47.8	+1.3	
MALB	Monte Alegre	160.06	243	*eP*	PKPdf	17 07 48.0	+1.4	
SAML	Samuel	161.41	208	*eP*	PKPdf	17 07 49.4	+1.4	
SOR	Soroa	161.50	34	PKIKP	PKPdf	17 07 49.3	+1.4	
ETMB	Extrema	161.80	198	*eP*	PKPdf	17 07 49.0	+0.6	
ATAH	Atahualpa	164.00	156	PKP	PKPdf	17 07 52.4	+1.3	
	comp=Z,52nm,1.0s,baz=279,slow=0.9,SNR=53							
CRIN	San Cristobal	164.25	70	*eP*	PKPdf	17 07 45.0	-5.8	
MACA	Manacapuru-AM	164.53	227	*eP*	PKPdf	17 07 51.5	+0.5	
CNGN	Cerro Negro	164.64	70	*eP*	PKPdf	17 07 48.7	-2.4	
CZSB	Cruzeiro do Su	164.75	177	*eP*	PKPab	17 08 44.0	-3.0	
CZSB	Cruzeiro do Su	164.75	177	*eP*	PKPdf	17 07 52.2	+0.9	
ACON	Acoyapa	166.22	71	*eP*	PKPdf	17 07 52.0	-0.4	
ORTG	Ortega, Santa	166.33	77		PKPdf	17 07 53.0	+0.4	
ANTB	Bethesda, Anti	166.36	314	*eP*	PKPdf	17 07 54.3	+1.9	
ABD	La Joyeuse, An	166.53	312	*eP*	PKPdf	17 07 52.9	+0.3	
TEFE	Tefe	166.80	214	*eP*	PKPdf	17 07 53.7	+0.7	
JTS	Las Juntas de	166.83	77	PKP	PKPdf	17 07 52.1	-0.8	
	comp=Z,49nm,1.1s,baz=332,slow=2.5,SNR=12							
JTS				PKPab	PKPab	17 08 57.3	+0.7	
	comp=Z,99nm,0.9s,baz=348,slow=4.3,SNR=7.5							
CBE	Ff, Capester	166.88	311	*eP*	PKPdf	17 07 55.6	+2.8	
MBFL	Flemmings, Mon	166.88	315	*eP*	PKPdf	17 07 52.5	-0.4	
MPOM	Morne Pois Mar	167.21	303	*eP*	PKPdf	17 07 53.8	+0.7	
MPOM	Morne Pois Mar	167.21	303	*e*	PKPab	17 08 59.9	+1.8	
SVN	Savane Anatole	167.25	305	*eP*	PKPdf	17 07 53.1	-0.1	
FDF	Fort de France	167.30	305	PKIKP	PKPdf	17 07 54.4	+1.2	
FDF	Fort de France	167.30	305	*eP*	PKPdf	17 07 53.1	-0.1	
FDF	Fort de France	167.30	305	*e*	PKPab	17 08 58.0	-0.5	
BIM	Bigot	167.35	304	*eP*	PKPdf	17 07 53.1	-0.1	
GTBY	Guantanamo Bay	167.35	14	*eP*	PKPdf	17 07 51.1	-2.0	
SLBI	Saint Lucia, B	167.52	302	*eP*	PKPdf	17 07 50.4	-2.9	
BOAV	Boa Vista	167.55	246		PKPdf	17 07 53.8	+0.3	
BOAV	Boa Vista	167.55	246	*eP*	PKPdf	17 07 53.5	0.0	
BOAV	Boa Vista	167.55	246	*eP*	PKPdf	17 07 54.7	+1.2	
COHC	Cochancay	167.60	143	*eP*	PKPdf	17 07 54.0	+0.5	
HDC	Heredia	167.69	78	*eP*	PKPdf	17 07 54.3	+0.6	
MTDJ	Mount Denham	168.10	27	*eP*	PKPdf	17 07 49.1	-4.7	
SVB	Belmont	168.11	299	*eP*	PKPdf	17 07 51.5	-2.3	
TBTG	Tabatinga, AM	168.13	190	*eP*	PKPdf	17 07 53.5	-0.4	
TBTG	Tabatinga, AM	168.13	190	*eP*	PKPdf	17 07 54.3	+0.4	
SJG	San Juan	168.15	332	PKP	PKPdf	17 07 53.3	-0.4	
	comp=Z,76nm,0.8s,baz=29,slow=2.8,SNR=18							
SJG				PKPab	PKPab	17 09 02.4	+0.4	
	comp=Z,75nm,0.9s,baz=359,slow=5.9,SNR=9.6							
SJG				PP	PP	17 12 49.3	-0.4	
	comp=Z,14nm,0.3s,baz=5.8,slow=8.4,SNR=8.4							
GCMP	Grenada, Carri	168.60	296	*eP*	PKPdf	17 07 52.4	-1.7	
GRHS	Sauteurs	168.90	295	*eP*	PKPdf	17 07 50.6	-3.7	
GRGR	Grenville	168.95	295	*eP*	PKPdf	17 07 52.3	-2.0	
TRN	Trinidad (W)	169.20	287	*eP*	PKPdf	17 07 53.0	-1.5	
OTAV	Otavalo	170.19	138	*eP*	PKPdf	17 07 56.3	+0.6	
OTAV	Otavalo	170.19	138	PKIKP	PKPdf	17 07 56.6	+0.9	
OTAV	Otavalo	170.19	138	*eP*	PKPdf	17 07 57.4	+1.7	
CUSE	Cuicocha Este	170.28	138	*eP*	PKPdf	17 07 57.1	+1.3	
BONI	La Bonita	170.95	141	*eP*	PKPdf	17 07 56.8	+0.9	
TULM	Tulcn-Chalpat	170.99	139	*eP*	PKPdf	17 07 55.9	-0.3	
CACAO	El Cacao, Vera	171.11	91	*eP*	PKPdf	17 07 54.8	-0.8	
GCUF	Volcan Galeras	171.66	139	*eP*	PKPdf	17 07 59.0	+2.5	
AZU	Azuero	171.70	88	*eP*	PKPdf	17 07 53.7	-2.2	
BCIP	Isla Barro Col	171.99	78	*eP*	PKPdf	17 07 55.4	-0.7	
BCIP	Isla Barro Col	171.99	78	PKIKP	PKPdf	17 07 55.6	-0.4	
PTLC	Puerto Leguiza	172.08	158	*eP*	PKPdf	17 07 54.5	-1.6	
GR1C	Gorgona, Isla	172.27	126	*eP*	PKPdf	17 07 54.9	-1.3	
BBAC	Balboa, Cauca	172.31	136	*eP*	PKPdf	17 07 56.5	-0.1	
UPA	Univ. de Panam	172.32	79	*eP*	PKPdf	17 07 54.6	-1.5	
PCRV	Puerto La Cruz	172.38	290	PKP	PKPdf	17 07 54.7	-1.6	
	comp=Z,26nm,1.1s,baz=355,slow=5.0,SNR=6.0							
PCRV				PP	PP	17 13 12.0	-0.8	
	comp=Z,24nm,1.1s,baz=32,slow=9.8,SNR=4.4							
FLOC	Florencia	172.95	148	*eP*	PKPdf	17 07 57.0	+0.4	
JAMC	Jamundi, Valle	173.55	132	*eP*	PKPdf	17 07 56.1	-0.9	
UPD2	Meteti	173.87	81	*eP*	PKPdf	17 07 55.9	-0.9	
PIZC	Pizarro, Choco	173.97	115	*eP*	PKPdf	17 07 57.3	+0.4	
BETC	Betania	173.97	144	*eP*	PKPdf	17 07 57.0	+0.1	
PTAC	Punta Ardita,	174.12	94	*eP*	PKPdf	17 07 56.5	-0.4	
YOTC	Yotoco, Valle	174.30	129	*eP*	PKPdf	17 07 56.1	-1.0	
CAPC	Capurgana	174.50	79	*eP*	PKPdf	17 07 56.6	-0.4	
PLMC	San Jos del P	174.89	121	*eP*	PKPdf	17 07 56.5	-0.7	
ORTC	Ortega, Tolima	175.05	138	*eP*	PKPdf	17 07 56.1	-1.2	
PRAC	Prado	175.13	142	*eP*	PKPdf	17 07 56.7	-0.6	
ANIL	Santa Ana	175.34	131	*eP*	PKPdf	17 07 57.4	-0.3	
APAC	Apartado, Choc	175.35	86	*eP*	PKPdf	17 07 54.1	-3.2	
CBOC	Ciudad Bolivar	175.57	113	*eP*	PKPdf	17 07 57.0	-0.6	
DBBC	Dabeiba	175.68	97	*eP*	PKPdf	17 07 58.0	+0.5	
GUY2C	Guyana, Caldas	175.82	124	*eP*	PKPdf	17 07 57.7	-0.3	
URIC	Uribia, Colomb	175.92	1	*eP*	PKPdf	17 07 57.0	-0.3	
BAUV	El Baul	175.96	290	*eP*	PKPdf	17 07 54.3	-3.1	
SJCC	San Jacinto, C	176.03	55	*eP*	PKPdf	17 07 57.4	-0.1	
ROSC	El Rosal	176.35	139	PKP	PKPdf	17 07 58.4	+0.4	
	comp=Z,76nm,1.0s,baz=40,slow=0.8,SNR=56							
ROSC				PP	PP	17 13 30.6	-0.6	
	comp=Z,13nm,0.8s,baz=231,slow=20,SNR=2.1							
UREC	San Jos de Ur	176.39	87	*eP*	PKPdf	17 07 56.7	-0.9	
CRJC	Cerrejon, Guaj	176.46	16	*eP*	PKPdf	17 07 53.9	-3.7	
ZARC	Zaragoza, Cauc	177.06	92	*eP*	PKPdf	17 07 57.4	-0.3	
LL6C	La Loma 6 Bece	177.48	32	*eP*	PKPdf	17 07 57.7	0.0	
SDV	Santo Domingo	178.21	316	PKP	PKPdf	17 07 57.1	-0.9	
	comp=Z,29nm,1.1s,baz=95,slow=1.1,SNR=33							
SDV				PKPab	PKPab	17 09 47.7		
	comp=Z,675nm,0.9s,baz=58,slow=3.5,SNR=78							
SDV				PP	PP	17 13 38.9	-0.9	
	comp=Z,159nm,1.1s,baz=24,slow=4.3,SNR=13							
BARC	Barichara	178.38	128	*eP*	PKPdf	17 07 57.3	-0.9	
OCAC	Ocana	178.45	66	*eP*	PKPdf	17 07 57.6	-0.4	

IDC ***15*** *16:52:25.4±1.4, 6°.82N×72°.98W, h156km±39km, mb3.2/3, mbtmp3.8/5, Error ellipse: s-maj=104.3km s-min=7.7km az=133.0*
RSNC ***15*** *16:52:26.3±1.8, 6°.88N×73°.13W, h150km±7km, ML3.6, Mw4.0*

ISC 15 16:52:25.5±0.9, 6°.88N±0°.03×73°.12W±0°.04, h152km±6km, n39,σ1°39/73, mb3.4/3, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BARC	Barichara	0.29	193	⇓*i*P	*e*	P	Pn	16 52 46.6	0.0
BARC				*e*S	*e*	S	Sn	16 53 01.9	-0.8
BARC				*i*				16 53 03.0	
	comp=Z,861nm,0.3s								
PAMC	Pamplona, Colo

	comp=Z,214nm,0.4s							
PLMC	**San Jos del P**	**3.71**	**238**	*eP*		**Pn**	**16 53 22.6**	**+0.4**
PLMC				*i*			16 54 13.6	
	comp=Z,48nm,0.3s							
LCBC	**Los crdobas,**	**3.77**	**302**	*eP*		**Pn**	**16 53 22.9**	**-0.1**
LCBC				*eS*		**Sn**	**16 54 07.4**	**-0.1**
LCBC				*i*			16 54 11.4	
	comp=Z,71nm,0.3s							
CRJC	**Cerrejon, Guaj**	**4.12**	**3**	*eP*		**Pn**	**16 53 26.9**	**-0.7**
CRJC				*eS*		**Sn**	**16 54 13.7**	**-2.1**
CRJC				*i*			16 54 23.1	
	comp=Z,42nm,0.2s							
SMRC	**Santa Marta, M**	**4.40**	**346**	*eP*		**Pn**	**16 53 30.9**	**-0.2**
SMRC				*eS*		**Sn**	**16 54 19.4**	**-2.7**
SMRC				*i*			16 54 25.2	
	comp=Z,34nm,0.2s							
CAPC	**Capurgana**	**4.54**	**293**	*eP*		**Pn**	**16 53 34.4**	**+1.4**
CAPC				*eS*		**Sn**	**16 54 22.6**	**-3.0**
CAPC				*i*			16 54 26.0	
	comp=Z,33nm,0.2s							
PTAC	**Punta Ardita,**	**4.66**	**274**	*eP*		**Pn**	**16 53 34.6**	**0.0**
BETC	**Betania**	**4.77**	**209**	*eP*		**Pn**	**16 53 35.0**	**-1.0**
BETC				*eS*		**Sn**	**16 54 30.5**	**-0.5**
BETC				*i*			16 54 31.1	
	comp=Z,37nm,0.5s							
JAMC	**Jamundi, Valle**	**5.08**	**224**	*eP*		**Pn**	**16 53 41.3**	**+1.0**
JAMC				*eS*		**Sn**	**16 54 39.1**	**+0.6**
JAMC				*i*			16 54 47.0	
	comp=Z,12nm,0.3s							
GARC	**Garzon, Huila**	**5.23**	**207**	*eP*		**Pn**	**16 53 40.4**	**-1.9**
GARC				*eS*		**Sn**	**16 54 39.7**	**-2.5**
GARC				*i*			16 54 43.0	
	comp=Z,50nm,0.3s							
FLOC	**Florencia**	**5.84**	**206**	*eP*		**Pn**	**16 53 50.4**	**+0.2**
FLOC				*eS*		**Sn**	**16 54 52.0**	**-4.4**
FLOC				*i*			16 55 01.3	
	comp=Z,11nm,0.3s							
BBAC	**Balboa, Cauca**	**6.34**	**221**	*eP*		**Pn**	**16 53 57.9**	**+0.8**
BBAC				*eS*		**Sn**	**16 55 07.9**	**-0.8**
BBAC				*i*			16 55 11.3	
	comp=Z,10nm,0.7s							
TXAR	**Lajitas Array**	**36.43**	**312**	P		**P**	**16 59 16.7**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=129,slow=9.4,SNR=5.3							
	comp=Z,0.3nm,0.4s							
PDAR	**Pinedale Array**	**48.03**	**324**	P		**P**	**17 00 49.8**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=129,slow=9.4,SNR=2.3							
	comp=Z,0.3nm,0.5s							
YKA	**Yellowknife Ar**	**63.21**	**340**	P		**P**	**17 02 37.2**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=134,slow=6.3,SNR=15							
	comp=Z,1.0nm,0.7s							

*NEIC **15** 17:01:56.2±2.7, 8.°64S±0.°06×103.°80E±0.°08, h16km±4km, mb4.6/4, Error ellipse: s-maj=12.0km s-min=7.4km az=68.0*
*IDC **15** 17:01:57.6±1.3, 8.°00S×103.°40E, h0km, mb4.3/10, mbtmp4.3/11, ML5.0/1, Error ellipse: s-maj=41.3km s-min=20.0km az=39.0*

ISC 15 17:01:54.7±0.7, 8.°47S±0.°07×103.°96E±0.°06, h10km, n23, σ2s27/25, mb4.4/11, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMIS	**Christmas Isla**	**2.60**	**140**	Pn	**Pn**	**17 02 36.7**	**-0.2**
XMIS				Sn	**Sn**	**17 03 03.1**	**-5.5**
LEM	**Lembang**	**3.98**	**66**	Pn	**Pb**	**17 03 03.2**	**-1.8**
	76nm,0.3s,baz=347,slow=19,SNR=23						
LEM				Sn	**Sb**	**17 03 49.8**	**-3.5**
	34nm,0.3s,baz=172,slow=23,SNR=4.5						
	141nm,0.3s						
MNAI	**Manna**	**4.21**	**346**	Pn	**Pn**	**17 02 57.0**	**-1.9**
MNAI				Sn	**Sn**	**17 03 45.2**	**-3.0**
UGM	**Wanagama**	**6.52**	**86**	Pn	**Pn**	**17 03 32.8**	**+1.9**
UGM				Sn	**Sn**	**17 04 45.7**	**+0.4**
JAGI	**Jajag, Banyuwa**	**10.08**	**91**	Pn	**Pn**	**17 04 23.0**	**+3.3**
GSI	**Gunungsitoli**	**11.61**	**326**	Pn	**Pn**	**17 04 36.5**	**-4.2**
CMAR	**Chiang Mai Arr**	**27.21**	**350**	P	**P**	**17 07 39.4**	**+0.4**
	1.4nm,0.6s,baz=182,slow=7.7,SNR=4.5						
	1.4nm,0.6s						
WRA	**Warramunga Arr**	**31.52**	**114**	P	P	17 08 28.6	+11
	3.2nm,0.6s,baz=289,slow=10.0,SNR=6.4						
	3.2nm,0.6s						
ASAR	**Alice Springs**	**32.40**	**121**	P	P	17 08 36.4	+11
	4.7nm,0.9s,baz=300,slow=8.1,SNR=2.3						
	4.7nm,0.9s						
SONM	**Songino Array**	**56.10**	**2**	P	**P**	**17 11 36.9**	**+2.6**
SONM				IAmb	IAmb	17 11 37.8	
	comp=Z,5.9nm,1.0s						
SONM	**Songino Array**	**56.10**	**2**	P	**P**	**17 11 37.0**	**+2.6**
	comp=Z,7.0nm,1.0s,baz=173,slow=8.2,SNR=7.3						
	comp=Z,7.0nm,1.0s						
ARSB	**Arslanbob**	**57.15**	**333**	P	**P**	**17 11 42.6**	**+0.7**
ARSB				IAmb	IAmb	17 12 01.0	
	comp=Z,7.5nm,1.4s						
USRK	**Ussuriysk Ar.**	**58.24**	**23**	P	**P**	**17 11 51.6**	**+2.3**
	comp=Z,3.0nm,0.6s,baz=196,slow=4.7,SNR=5.2						
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**58.31**	**343**	P	**P**	**17 11 50.7**	**+0.9**
MKAR	**Makanchi Array**	**58.31**	**343**	P	**P**	**17 11 50.6**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=143,slow=8.7,SNR=1.7						
	comp=Z,1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**64.26**	**348**	P	**P**	**17 12 30.3**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=148,slow=4.8,SNR=4.1						
	comp=Z,0.8nm,0.4s						
BVAR	**Borovoye Array**	**67.59**	**339**	P	**P**	**17 12 51.8**	**+0.4**
	comp=Z,1.3nm,0.4s,baz=132,slow=8.7,SNR=9.8						
	comp=Z,1.3nm,0.4s						
ABKAR	**Akbulak array**	**69.17**	**331**	P	**P**	**17 13 01.4**	**0.0**
ABKAR	**Akbulak array**	**69.17**	**331**	P	**P**	**17 13 01.5**	**+0.1**
ABKAR				IAmb	IAmb	17 13 16.3	
	comp=Z,18nm,1.4s						
VNDA	**Vanda**	**75.09**	**169**	P	**P**	**17 13 36.6**	**+0.2**
MMAI	**Mount Meron Ar**	**77.03**	**307**	P	**P**	**17 13 48.9**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=92,slow=6.5,SNR=2.7						
	comp=Z,1.9nm,0.6s						
BRTR	**Keskin Array B**	**80.58**	**313**	P	**P**	**17 14 07.8**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=149,slow=6.6,SNR=5.1						
	comp=Z,1.6nm,0.8s						
TXAR	**Lajitas Array**	**146.78**	**48**	PKPbc	**PKiKP**	**17 21 41.1**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=300,slow=2.2,SNR=5.0						

TEH 15 17:23:24.0, 32.°48N×47.°93E, h8km±46km, ML3.5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.04**	**356**	Pg	Pg	17 23 43.8	-0.2
AHWZ	**Ahwaz**	**1.30**	**152**	Pg	Pg	17 23 49.2	+0.4
AMIS	**Naft Sefid**	**1.41**	**125**	Pg	Pg	17 23 51.0	0.0
IKOM	**Komasi**	**1.73**	**348**	Pg	Pb	17 23 56.5	+0.5
ILBA	**Ilam Banvizeh**	**1.84**	**309**	Pn	Pb	17 23 57.7	-0.3
KCHF	**Cheshme Sefid,**	**1.94**	**338**	Pn	Pb	17 23 58.9	-0.8
IGHG	**Ghaleghazi**	**2.17**	**329**	Pn	Pb	17 24 02.9	-0.7
JHBN	**Jahan bin**	**2.33**	**95**	Pn	Pn	17 24 04.2	+1.3
ZNGN	**Zangian**	**2.50**	**98**	Pn	Pn	17 24 06.6	+1.3
IPIR	**Pirpir**	**2.51**	**85**	Pn	Pb	17 24 07.5	-2.0
HAGD	**Aghdareh**	**2.54**	**23**	Pn	Pn	17 24 07.5	+1.7
IDHR	**Dehrash**	**2.56**	**330**	Pn	Pn	17 24 07.8	+1.8
ILIN	**Lien**	**2.56**	**342**	Pn	Pn	17 24 08.1	+2.0
IBRJ	**Brojen**	**2.88**	**101**	Pn	Pn	17 24 11.1	+0.7
QAMS	**Qamsar**	**3.17**	**66**	Pn	Pn	17 24 17.0	+2.6
IKLH	**Kolahrood**	**3.18**	**74**	Pn	Pn	17 24 16.6	+2.0
IRAZ	**Razeghan**	**3.36**	**29**	Pn	Pn	17 24 19.5	+2.6
KLNJ	**Kolanjah**	**3.44**	**114**	Pn	Pn	17 24 19.7	+1.4
IQOM	**Qom**	**3.52**	**47**	Pn	Pn	17 24 21.0	+1.7
IZEF	**Zefreh**	**3.73**	**82**	Pn	Pn	17 24 23.4	+1.3
KRSH	**Karshahi**	**3.82**	**66**	Pn	Pn	17 24 24.3	+1.0
IRAM	**Rameshen**	**3.83**	**99**	Pn	Pn	17 24 24.7	+1.2
IVRN	**Varamin**	**4.04**	**51**	Pn	Pn	17 24 28.5	+2.3
QSDN	**Sirdan**	**4.14**	**14**	Pn	Pn	17 24 30.4	+2.6
IDMV	**Damavand**	**4.60**	**47**	Pn	Pn	17 24 35.8	+1.7
KLST	**Kelardasht - M**	**4.78**	**32**	Pn	Pn	17 24 37.8	+1.1
ILAS	**Lasjerd**	**5.08**	**54**	Pn	Pn	17 24 42.2	+1.5
IPRN	**Peran**	**5.23**	**43**	Pn	Pn	17 24 45.1	+2.5

*AFAD **15** 17:41:09.5±0.0, 38.°91N×26.°32E, h7km±2km, ML2.7*
*ISK **15** 17:41:09.5, 38.°92N×26.°28E, h13km, ML2.8/21*
*THE **15** 17:41:10.3, 38.°94N×26.°29E, h5km±1km, ML2.5/4, Error ellipse: s-maj=1.5km s-min=0.6km az=66.0*
*ATH **15** 17:41:10.6, 38.°94N×26.°31E, h9km±2km, ML2.5/5, Error ellipse: s-maj=2.3km s-min=1.0km az=339.0*

ISC 15 17:41:10.2±0.9, 38.°93N±0.°02×26.°31E±0.°02, h11km±8km, n56, σ0s53/77, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAG3	**Mitilini, Lesv**	**0.26**	**53**	P	**Pg**	**17 41 15.4**	**0.0**
EAG3				S	**Sg**	**17 41 19.2**	**+0.3**
EAG3				AML	AML	17 41 19.6	
	comp=N,3901μm,0.2s						
EAG3				AML	AML	17 41 20.3	
	comp=E,7595μm,0.3s						
KARB	**zmir-Karabur**	**0.28**	**163**	P	**Pg**	**17 41 15.2**	**-0.7**
PRK	**Paraskevi**	**0.31**	**355**	P	**Pg**	**17 41 16.3**	**-0.2**
PRK				S	**Sg**	**17 41 21.3**	**+0.6**
PRK	**Paraskevi**	**0.31**	**355**	P	**Pg**	**17 41 16.4**	**-0.2**
PRK				S	**Sg**	**17 41 21.0**	**+0.3**
PRK				AML	AML	17 41 25.5	
	comp=E,1871μm,0.5s						
PRK				AML	AML	17 41 26.9	
	comp=N,1564μm,0.4s						
FOCM	**Foa**	**0.40**	**123**	Pg	**Pg**	**17 41 17.9**	**-0.1**
SIGR	**SIGRI**	**0.45**	**309**	Pg	**Pg**	**17 41 18.8**	**-0.2**
SIGR				Sg	**Sg**	**17 41 25.3**	**+0.4**
SIGR	**SIGRI**	**0.45**	**309**	P	**Pg**	**17 41 19.0**	**0.0**
SIGR				S	**Sg**	**17 41 25.2**	**+0.4**
	comp=N,385nm,0.5s						
SIGR	**SIGRI**	**0.45**	**309**	P	**Pg**	**17 41 18.9**	**0.0**
SIGR				S	**Sg**	**17 41 24.6**	**-0.3**
SIGR				AML	AML	17 41 26.0	
	comp=E,814μm,0.4s						
SIGR				AML	AML	17 41 27.4	
	comp=N,545μm,0.4s						
AYVA	**Ayvalik**	**0.48**	**38**	P	**Pg**	**17 41 18.8**	**-0.8**
RFT7	**Candarli**	**0.48**	**87**	Pg	**Pg**	**17 41 19.7**	**+0.1**
DKL	**Dikili**	**0.49**	**73**	Pg	**Pg**	**17 41 19.9**	**+0.2**
GPNR	**Gulpinar-Canak**	**0.54**	**346**	Pg	**Pg**	**17 41 20.6**	**-0.1**
CHOS	**Chios island**	**0.58**	**200**	P	**Pg**	**17 41 21.3**	**-0.1**
CHOS				S	**Sg**	**17 41 30.2**	**+1.1**
	comp=N,862nm,0.2s						
CHOS	**Chios island**	**0.58**	**200**	P	**Pg**	**17 41 21.3**	**-0.1**
CHOS				S	**Sg**	**17 41 29.8**	**+0.8**
CHOS				AML	AML	17 41 34.5	
	comp=E,2280μm,0.3s						
CHOS				AML	AML	17 41 34.7	
	comp=N,1174μm,0.2s						
KOCA	**Canakkale, Ayv**	**0.58**	**347**	P	**Pg**	**17 41 21.3**	**-0.2**
CESE	**eme**	**0.60**	**180**	Pg	**Pg**	**17 41 21.3**	**-0.5**
RFT1	**Sazli**	**0.61**	**10**	Pg	**Pg**	**17 41 22.1**	**+0.1**
URLA	**Izmir**	**0.61**	**158**	Pg	**Pg**	**17 41 21.7**	**-0.4**
URLA	**Izmir**	**0.61**	**158**	P	**Pg**	**17 41 20.8**	**-1.3**
URLA				S	**Sg**	**17 41 29.8**	**-0.4**
URLA				*i* AML	AML	17 41 31.0	
	comp=N,351nm,0.4s						
URLA				*i* AML	AML	17 41 36.0	
	comp=N,310nm,0.5s						
PSRA	**Psara**	**0.70**	**236**	P	**Pb**	**17 41 24.6**	**+0.2**
PSRA				S	**Sb**	**17 41 34.7**	**+0.7**
ZEYE	**Izmir, Urla-Ze**	**0.71**	**167**	P	**Pg**	**17 41 23.0**	**-0.9**
ZEYE				S	**Sg**	**17 41 33.4**	**+0.3**
ZEYE				*i* AML	AML	17 41 37.0	
	comp=N,578nm,0.3s						
BLCB	**Balcova**	**0.80**	**133**	Pg	**Pg**	**17 41 25.6**	**+0.1**
BLCB	**Balcova**	**0.80**	**133**	P	**Pg**	**17 41 25.7**	**+0.2**
BLCB				S	**Sb**	**17 41 37.2**	**+0.4**
BUHA	**Balikesir, Bur**	**0.82**	**46**	P	**Pg**	**17 41 25.4**	**-0.7**
BAYC	**CANAKKALE_Bayr**	**0.83**	**13**	P	**Pg**	**17 41 26.1**	**0.0**
BAYC				S	**Sg**	**17 41 36.9**	**-0.1**
BAYC				*i* AML	AML	17 41 39.0	
	comp=N,356nm,0.3s						
EZN	**Ezine**	**0.89**	**1**	Pg	**Pg**	**17 41 27.6**	**+0.2**
EZN	**Ezine**	**0.89**	**1**	P	**Pg**	**17 41 27.3**	**-0.1**
EZN				S	**Sb**	**17 41 40.5**	**+0.9**
	comp=N,518nm,0.7s						
BOZC	**Bozcaada**	**0.93**	**348**	P	**Pg**	**17 41 27.2**	**-0.8**
BOZC				P	**Pb**	**17 41 28.0**	**-0.4**
BOZC				S	**Sg**	**17 41 40.2**	**0.0**
BOZC				*i* AML	AML	17 41 42.0	
	comp=N,203nm,0.3s						
DGB	**zmir**	**0.99**	**153**	P	**Pg**	**17 41 28.3**	**-0.9**
DGB				S	**Sg**	**17 41 42.1**	**+0.1**
ECEA	**Canakkale, Ece**	**1.11**	**355**	P	**Pg**	**17 41 31.1**	**-0.5**
CNKL	**anakkale-Mer**	**1.13**	**3**	P	**Pg**	**17 41 29.9**	**-2.1**
CNKL				P	**Pb**	**17 41 31.4**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.18**	**68**	P	**Pb**	**17 41 32.3**	**-0.4**
SMG	**Samos**	**1.29**	**161**	P	**Pn**	**17 41 34.1**	**-0.1**
SMG				S	**Sn**	**17 41 52.5**	**+1.0**
SMG	**Samos**	**1.29**	**161**	P	**Pn**	**17 41 34.0**	**-0.2**
SMG				AML	AML	17 41 55.0	
	comp=E,781μm,0.2s						
SMG				AML	AML	17 41 55.8	
	comp=N,931μm,0.2s						
GADA	**Gvkgeada**	**1.29**	**346**	Pn	**Pn**	**17 41 33.8**	**-0.4**
LIA	**Limnos Island**	**1.30**	**318**	P	**Pn**	**17 41 34.4**	**+0.1**
LIA				S	**Sb**	**17 41 50.7**	**-0.6**
LIA	**Limnos Island**	**1.30**	**318**	P	**Pn**	**17 41 34.1**	**-0.2**
BALB	**Balikesir**	**1.41**	**59**	Pn	**Pn**	**17 41 35.9**	**+0.1**
GCAM	**G?zlcaml?**	**1.43**	**149**	Pn	**Pn**	**17 41 36.1**	**0.0**
GCAM	**G?zlcaml?**	**1.43**	**149**	P	**Pn**	**17 41 36.7**	**+0.6**
GCAM				S	**Sg**	**17 41 55.9**	**-0.3**
GCAM				*i* AML	AML	17 41 58.0	
	comp=N,102nm,0.3s						
GELI	**Tayfur-Gelibol**	**1.47**	**5**	Pn	**Pn**	**17 41 36.4**	**-0.2**
LPK	**Lapseki**	**1.48**	**14**	Pn	**Pn**	**17 41 36.7**	**-0.1**
KRBG	**Karabiga-Canak**	**1.65**	**27**	Pn	**Pn**	**17 41 39.0**	**-0.1**
SMTH	**Samothraki Isl**	**1.65**	**339**	P	**Pn**	**17 41 39.0**	**-0.1**
SMTH	**Samothraki Isl**	**1.65**	**339**	P	**Pn**	**17 41 39.0**	**-0.1**
ERIK	**Erikli-Kesan**	**1.74**	**5**	Pn	**Pn**	**17 41 40.2**	**-0.2**
ENEZ	**Enez**	**1.81**	**356**	Pn	**Pn**	**17 41 40.8**	**-0.4**
ENEZ	**Enez**	**1.81**	**356**	P	**Pn**	**17 41 41.5**	**+0.3**
EDC	**Edincik**	**1.85**	**40**	Pn	**Pn**	**17 41 42.1**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.88**	**21**	Pn	**Pn**	**17 41 42.2**	**-0.1**
APE	**Apeiranthos**	**1.96**	**198**	P	**Pn**	**17 41 42.6**	**-0.8**
APE	**Apeiranthos**	**1.96**	**198**	P	**Pn**	**17 41 42.4**	**-1.0**
ALN	**Alexandroupoli**	**1.97**	**354**	P	**Pn**	**17 41 43.5**	**0.0**
UKOP	**Uzunkopru-Edir**	**2.21**	**6**	Pn	**Pn**	**17 41 46.9**	**+0.1**
RDO	**Rodhopi**	**2.29**	**345**	Pn	**Pn**	**17 41 48.1**	**+0.2**
RDO	**Rodhopi**	**2.29**	**345**	P	**Pn**	**17 41 48.2**	**+0.2**

*NEIC **15** 17:45:05.5±1.6, 47.°51N±0.°04×92.°41W±0.°05, h0km±2km, ML2.0/4, mb_Lg2.5(OTT), Error ellipse: s-maj=6.3km s-min=6.1km az=145.0*
*OTT **15** 17:45:06.8±0.3, 47.°55N×92.°37W, h0km, MN2.5/6, Blast, Minnesota, U.S. 140km southeast from Fort Frances, On Mining explosion.*

ISC 15 17:45:05.1±1.0, 47.°52N±0.°03×92.°40W±0.°04, h0km, n23, σ0s94/37, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**0.75**	**55**		**Pg**	**17 45 19.5**	**+0.1**
EYMN				IAML		17 45 34.5	
	63nm,1.0s						
EYMN	**Ely**	**0.75**	**55**	PG	**Pg**	**17 45 19.6**	**+0.1**
EYMN				SG	**Sg**	**17 45 28.8**	**-0.3**
E38A	**The Farm, Brul**	**1.08**	**147**		**Pg**	**17 45 25.9**	**0.0**
E38A				IAML		17 45 48.2	
	comp=E,44nm,1.2s						
ATKO	**Atikokan Iron**	**1.41**	**22**		**Pg**	**17 45 32.2**	**+0.1**
ATKO				Sg	**Sg**	**17 45 49.8**	**-0.6**
ATKO	**Atikokan Iron**	**1.41**	**22**	PG	**Pg**	**17 45 32.2**	**+0.1**
ATKO				SG	**Sg**	**17 45 49.8**	**-0.6**
ATKO				Trac		17 45 55.1	
	comp=E,6.9nm,0.1s						
F36A	**Milaca**	**1.83**	**205**		**Pn**	**17 45 38.4**	**+0.6**
SPMN	**Marine on St.**	**2.31**	**187**		**Pn**	**17 45 45.6**	**+1.1**
EPLO	**Experimental L**	**2.33**	**338**	Pn	**Pn**	**17 45 46.1**	**+1.4**
EPLO				Sn	**Sn**	**17 46 14.7**	**+0.7**
EPLO	**Experimental L**	**2.33**	**338**	PN	**Pn**	**17 45 46.1**	**+1.4**
EPLO				SN	**Sn**	**17 46 14.7**	**+0.7**
EPLO				Trac		17 46 19.3	
	comp=E,2.7nm,0.1s						
AGMN	**Agassiz Nation**	**2.46**	**290**	Pn	**Pn**	**17 45 46.5**	**+0.1**
SOLO	**Sioux Lookout**	**2.51**	**5**	Pn	**Pn**	**17 45 48.2**	**+1.0**
SOLO				Sn	**Sn**	**17 46 19.7**	**+1.1**
SOLO	**Sioux Lookout**	**2.51**	**5**	PN	**Pn**	**17 45 48.2**	**+1.0**
SOLO				SN	**Sn**	**17 46 19.7**	**+1.1**
SOLO				Trac		17 46 29.4	
	comp=E,3.2nm,0.1s						
D41A	**Chassel**	**2.65**	**99**	Pn	**Pn**	**17 45 49.9**	**+0.8**
G40A	**Rib Lake**	**2.72**	**145**	Pn	**Pn**	**17 45 51.1**	**+1.1**
F33A	**5 Mile Ranch,**	**3.16**	**239**	Pn	**Pn**	**17 45 55.1**	**-1.1**
ULM	**Lac du Bonnet**	**3.57**	**321**	Pn	**Pn**	**17 46 01.9**	**+0.2**
ULM	**Lac du Bonnet**	**3.57**	**321**	PN	**Pn**	**17 46 02.0**	**+0.4**
ULM				SN	**Sn**	**17 46 43.8**	**-0.7**
ULM				Trac		17 47 00.5	
	comp=E,22nm,0.7s						
PKLO	**Pickle Lake**	**4.20**	**18**	Pn	**Pn**	**17 46 10.7**	**+0.3**
PKLO				Sn	**Sn**	**17 46 57.9**	**-2.3**
PKLO	**Pickle Lake**	**4.20**	**18**	PN	**Pn**	**17 46 10.7**	**+0.3**
PKLO				SN	**Sn**	**17 46 57.9**	**-2.3**
PKLO				Trac		17 47 18.3	
	comp=E,5.5nm,0.3s						
GTO	**Geraldton**	**4.24**	**56**	Pn	**Pn**	**17 46 11.3**	**+0.4**
GTO				Sn	**Sn**	**17 47 01.1**	**0.0**
GTO	**Geraldton**	**4.24**	**56**	PN	**Pn**	**17 46 11.3**	**+0.4**
GTO				SN	**Sn**	**17 47 01.1**	**0.0**
GTO				Trac		17 47 17.6	
	comp=E,0.9nm,0.0s						
GTOO	**Geraldton**	**4.24**	**56**	Pn	**Pn**	**17 46 11.2**	**+0.3**
GTOO				Sn	**Sn**	**17 46 59.8**	**-1.3**
GTOO	**Geraldton**	**4.24**	**56**	PN	**Pn**	**17 46 11.2**	**+0.3**
GTOO				SN	**Sn**	**17 46 59.8**	**-1.3**
GTOO				Trac		17 47 38.3	
	comp=E,0.7nm,0.0s						

IDC 15 17:48:02.3±2.7, 7.°30S×128.°56E, h0km, mb3.6/1, mbtmp3.2/3, ML3.1/2, MS4.4/1, Error ellipse: s-maj=297.5km s-min=32.2km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.77**	**157**	Pn	Pn	17 51 18.0	-0.9
	0.1nm,0.3s,baz=332,slow=13,SNR=14						
WRA				Sn	Sn	17 53 39.6	-13
	0.2nm,0.3s,baz=52,slow=6.1,SNR=8.0						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**17.07**	**163**	P	Pn	17 52 03.4	+0.8
	baz=349,slow=9.7,SNR=7.9						
	0.2nm,0.7s						
JCJ	**Chichijima**	**36.65**	**21**	LR	LR	18 08 41.8	
	comp=Z,597nm,21.5s,baz=15,slow=34						
MKAR	**Makanchi Array**	**67.69**	**328**	P	P	17 59 01.5	0.0
	0.3nm,0.3s,baz=114,slow=7.3,SNR=5.1						
	0.3nm,0.3s						

*IDC **15** 17:55:47.2±0.8, 38.°27N×143.°63E, h0km, mb3.8/11, mbtmp3.9/16, ML3.6/5, Error ellipse: s-maj=18.6km s-min=15.4km az=102.0*
*NEIC **15** 17:55:49.9±2.4, 38.°35N±0.°06×143.°57E±0.°07, h11km±5km, mb4.2/18, Error ellipse: s-maj=11.0km s-min=4.4km az=140.0*
*JMA **15** 17:55:51.4±0.2, 38.°4N±0.°6×14.°4E±°, h41km, MV4.0/37, FAR E OFF MIYAGI PREF*

ISC 15 17:55:50.1±0.7, 38.°37N±0.°05×143.°53E±0.°07, h15km, n76, σ1s47/83, mb4.1/20, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.62**	**297**	*i* P	**Pn**	**17 56 17.8**	**-0.3**
JIKH	**Ishinomakikobu**	**1.62**	**269**	*i* P	**Pn**	**17 56 17.9**	**-0.2**
JIKH				*eS*	**Sn**	**17 56 37.3**	**-1.5**
JKMT	**Kesennumamotoy**	**1.67**	**286**	*i* P	**Pn**	**17 56 18.5**	**-0.2**
JIO	**Ouri**	**1.72**	**273**	*i* P	**Pn**	**17 56 19.4**	**0.0**
JIO				*eS*	**Sn**	**17 56 39.6**	**-1.4**
JMK	**Ichinoseki**	**1.90**	**288**	*i* P	**Pn**	**17 56 22.0**	**+0.1**
JMK				*eS*	**Sn**	**17 56 44.8**	**-0.8**
JOM	**Ohasama**	**2.06**	**303**	*i* P	**Pn**	**17 56 24.2**	**0.0**
JMM	**Marumori**	**2.22**	**258**		**Pn**	**17 56 26.2**	**0.0**
JMM				Sn	**Sn**	**17 56 50.8**	**-2.6**
JMM	**Marumori**	**2.22**	**258**	P	**Pn**	**17 56 26.3**	**0.0**
JMM				*eS*	**Sn**	**17 56 51.6**	**-1.8**
JOU	**Okura**	**2.25**	**271**	*i* P	**Pn**	**17 56 27.5**	**+0.7**
JOU				*eS*	**Sn**	**17 56 53.9**	**-0.4**
JFK	**Kawauchi**	**2.33**	**245**	P	**Pn**	**17 56 27.2**	**-0.7**
JFK				*eS*	**Sn**	**17 56 54.1**	**-2.1**
JRG	**Rokugo**	**2.48**	**295**	P	**Pn**	**17 56 30.6**	**+0.6**
JANG	**Nango**	**2.54**	**323**	P	**Pn**	**17 56 29.9**	**-0.8**
JANG				*eS*	**Sn**	**17 56 59.4**	**-1.9**
JYK	**Kaneyama**	**2.54**	**283**	P	**Pn**	**17 56 31.5**	**+0.8**
JYK				*eS*	**Sn**	**17 57 01.8**	**+0.3**
JOTO	**OTAMA OYAMA**	**2.65**	**253**	*i* P	**Pn**	**17 56 33.3**	**+1.0**
JOTO				S	**Sn**	**17 57 04.1**	**-0.1**
JTM	**Tenmabayashi**	**3.07**	**323**		**Pn**	**17 56 38.2**	**+0.2**
JTM				Sn	**Sn**	**17 57 12.6**	**-1.9**
JAW	**Awa shima

C23K	**Itkillik River**	**46.27**	**26**	P	**P**	**18 04 15.4**	**+1.0**
C23K				IAmb	IAmb	18 04 44.0	
	comp=Z,4.4nm,1.4s						
KURK	**Kurchatov**	**46.44**	**307**	P	**P**	**18 04 15.7**	**-0.3**
KURBB	**Kurchatov Arra**	**46.52**	**307**	P	**P**	**18 04 17.2**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=82,slow=8.2,SNR=16						
	comp=Z,1.1nm,0.4s						
E24K	**Your Creek**	**46.87**	**28**	P	**P**	**18 04 20.1**	**+0.8**
E24K				IAmb	IAmb	18 04 44.4	
	comp=Z,4.2nm,1.4s						
ILAR	**Eielson Array**	**47.46**	**33**	P	**P**	**18 04 23.0**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=263,slow=6.4,SNR=2.5						
	comp=Z,0.3nm,0.7s						
TAPN	**Taplejung**	**47.52**	**274**	*eP*	P	18 04 32.9	+7.7
	comp=Z,1.7nm,0.3s						
D25K	**Kavik River**	**47.71**	**27**	P	**P**	**18 04 26.3**	**+0.5**
D25K				IAmb	IAmb	18 04 56.3	
	comp=Z,2.9nm,1.2s						
BMAR	**Burnt Mountain**	**48.35**	**29**	P	**P**	**18 04 31.9**	**+1.2**
GUN	**Gumba**	**48.70**	**276**	*eP*	P	18 04 40.7	+6.4
	comp=Z,8.2nm,0.5s						
TARG	**Taragay, Kyrgy**	**49.32**	**296**	P	**P**	**18 04 41.1**	**+2.1**
DANN	**Dangsing**	**50.15**	**277**	*eP*	P	18 04 52.5	+7.2
	comp=Z,12nm,0.3s						
PYUN	**Piuthan**	**50.86**	**277**	*eP*	P	18 04 58.0	+7.4
	comp=Z,3.8nm,0.4s						
BVAR	**Borovoye Array**	**50.92**	**312**	P	**P**	**18 04 50.5**	**0.0**
	comp=Z,0.7nm,0.6s,baz=63,slow=7.5,SNR=5.7						
	comp=Z,0.7nm,0.6s						
G29M	**Pine Creek**	**50.94**	**30**	P	**P**	**18 04 52.2**	**+1.8**
I30M	**Mount Dempster**	**51.86**	**32**	P	**P**	**18 04 58.7**	**+1.3**
I30M				IAmb	IAmb	18 04 59.4	
	comp=Z,2.6nm,0.8s						
MTN	**Manton Dam**	**52.25**	**195**	P	**P**	**18 05 00.4**	**-0.3**
G31M	**Satah River**	**52.40**	**30**	P	**P**	**18 05 01.8**	**+0.6**
WB0	**Warramunga Arr**	**58.46**	**190**	P	**P**	**18 05 44.1**	**-1.3**
WR0	**Warramunga Arr**	**58.63**	**190**	P	**P**	**18 05 45.0**	**-1.5**
WR0				IAmb	IAmb	18 05 52.5	
	comp=Z,5.5nm,1.3s						
WRA	**Warramunga Arr**	**58.64**	**190**	P	**P**	**18 05 45.2**	**-1.5**
	comp=Z,1.5nm,0.7s,baz=9.8,slow=7.2,SNR=19						
	comp=Z,1.5nm,0.7s						
ASAR	**Alice Springs**	**62.37**	**190**	P	**P**	**18 06 10.8**	**-1.3**
	comp=Z,0.4nm,0.9s,baz=6.9,slow=7.3,SNR=7.8						
	comp=Z,0.4nm,0.9s						
NVAR	**Mina Array Bea**	**72.84**	**54**	P	**P**	**18 07 19.1**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=290,slow=5.5,SNR=6.2						
	comp=Z,0.7nm,0.7s						
BW06	**Boulder Array**	**75.53**	**47**	P	**P**	**18 07 34.2**	**+0.1**
PDAR	**Pinedale Array**	**75.53**	**47**	P	**P**	**18 07 34.1**	**0.0**
PDAR	**Pinedale Array**	**75.53**	**47**	P	**P**	**18 07 34.2**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=259,slow=1.0,SNR=8.4						
	comp=Z,0.5nm,0.5s						
BURAR	**Bucovina Array**	**78.29**	**323**	P	**P**	**18 07 51.0**	**+1.6**

BJI ***15*** *17:58:41.5, 39˙.54N× 142˙.05E, h55km, mb5.2/79, mB5.2/32, Ms4.6/33, Ms7 4.4/32*

NEIC ***15*** *17:58:41.9± 1.6, 39˙.70N± 0˙.04× 141˙.94E± 0˙.08, h30km± 1km, mb5.2/392, Error ellipse: s-maj=9.1km s-min=5.1km az=104.0*

MOS ***15*** *17:58:41.9± 1.0, 39˙.72N× 142˙.06E, h48km, mb5.4/95, MS4.1/6, Error ellipse: s-maj=5.5km s-min=3.3km az=110.0*

NIED ***15*** *17:58:43.9, 39˙.69N× 142˙.10E, h52km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.81; $M_{\theta\theta}$2.00; $M_{\phi\phi}$-1.19; $M_{r\theta}$2.55; $M_{\theta\phi}$2.32; $M_{\phi r}$-0.91; Fault plane solution: $M_0$3.97000×10^{16} NP1: ϕ_s283.00000°, δ82.00000°, λ-45.00000°. NP2:ϕ_s21.00000°, δ45.00000°, λ-169.00000°.*

JMA ***15*** *17:58:43.9± 0.1, 39˙.7N± 0˙.2× 142˙.1E± 0˙.5, h52km, MD5.5/40, MV5.5/40, E OFF IWATE PREF*

JMA Felt IV J1 at E OFF IWATE PREF .

IDC ***15*** *17:58:46.4± 1.0, 39˙.72N× 142˙.08E, h76km± 8km, mb4.6/30, mbtmp5.0/36, MS4.3/10, Error ellipse: s-maj=9.2km s-min=7.5km az=108.0*

BGR ***15*** *17:58:49.6, 41˙.06N× 142˙.75E, h41km, mb4.8, Ms5.0*

ISC 15 17:58:42.5±0.3, 39˚.69N±0˙.02× 142˚.11E±0˙.03, h46km±2km, h46km:pP-P, n1299, s1278/1143, mb5.2/358, MS4.5/14, 56C-41D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.25**	**244**	*i* P	**Pn**	**17 58 52.8**	**+2.0**
MIYJ				S	**Sn**	**17 58 59.0**	**+2.4**
MIYJ	**Miyakonagasawa**	**0.25**	**244**	A	A	17 58 52.8	
	comp=E,181nm,1.4s,comp=N,143nm,2.3s						
JTH	**Tanohata**	**0.31**	**322**	*i* P	**Pn**	**17 58 53.4**	**+2.1**
JTH				S	**Sn**	**17 59 00.0**	**+2.4**
JTH	**Tanohata**	**0.31**	**322**	A	A	17 58 53.4	
	comp=E,395nm,1.5s,comp=N,381nm,0.9s						
JKEN	**Kujiedanarisaw**	**0.60**	**329**	*i* P	**Pn**	**17 58 56.4**	**+1.7**
JKEN				S	**Sn**	**17 59 05.4**	**+1.9**
JKEN	**Kujiedanarisaw**	**0.60**	**329**	A	A	17 58 56.4	
	comp=E,897nm,1.1s,comp=N,851nm,0.8s						
JOM	**Ohasama**	**0.67**	**251**	⇓*i* P	**Pn**	**17 58 57.3**	**+1.7**
JOM				⇓S	**Sn**	**17 59 07.0**	**+1.8**
JOM	**Ohasama**	**0.67**	**251**	A	A	17 58 57.3	
	comp=E,410nm,1.1s,comp=N,279nm,0.6s						
JKZ	**Kuzumaki**	**0.67**	**296**	*i* P	**Pn**	**17 58 57.5**	**+1.8**
JKZ				S	**Sn**	**17 59 07.2**	**+1.9**
JKZ	**Kuzumaki**	**0.67**	**296**	A	A	17 58 57.5	
	comp=E,338nm,0.6s,comp=N,393nm,2.2s						
OFUJ	**Ofunato**	**0.70**	**210**	*i* P	**Pn**	**17 58 57.5**	**+1.4**
OFUJ				S	**Sn**	**17 59 07.3**	**+1.5**
OFUJ	**Ofunato**	**0.70**	**210**	A	A	17 58 57.5	
	comp=E,269nm,1.5s,comp=N,238nm,0.6s						
JANG	**Nango**	**0.82**	**326**	*i* P	**Pn**	**17 58 59.2**	**+1.5**
JANG				S	**Sn**	**17 59 10.4**	**+1.6**
JANG	**Nango**	**0.82**	**326**	A	A	17 58 59.2	
	comp=E,295nm,1.0s,comp=N,252nm,1.4s						
JSZI	**Iwateshizukuis**	**0.90**	**274**	A	A	17 59 00.2	
	comp=E,276nm,0.7s,comp=N,244nm,2.6s						
JKMT	**Kesennumamotoy**	**1.01**	**210**	A	A	17 59 01.9	
	comp=E,141nm,2.2s,comp=N,116nm,3.0s						
JMK	**Ichinoseki**	**1.01**	**224**	⇓*i* P	**Pn**	**17 59 01.7**	**+1.4**
JMK				⇓S	**Sn**	**17 59 14.6**	**+1.3**
JMK	**Ichinoseki**	**1.01**	**224**	A	A	17 59 01.7	
	comp=E,147nm,0.8s,comp=N,194nm,1.2s						
JRG	**Rokugo**	**1.18**	**256**	⇓*i* P	**Pn**	**17 59 04.0**	**+1.4**
JRG				⇓S	**Sn**	**17 59 18.3**	**+0.8**
JRG	**Rokugo**	**1.18**	**256**	A	A	17 59 04.0	
	comp=E,204nm,0.4s,comp=N,127nm,1.7s						
JAH	**Hinai**	**1.24**	**294**	*i* P	**Pn**	**17 59 05.1**	**+1.7**
JAH				S	**Sn**	**17 59 21.2**	**+2.3**
JAH	**Hinai**	**1.24**	**294**	A	A	17 59 05.1	
	comp=E,199nm,0.7s,comp=N,312nm,0.9s						
JTM	**Tenmabayashi**	**1.36**	**324**	Pn	**Pn**	**17 59 06.4**	**+1.5**
JTM				Sn	**Sn**	**17 59 19.0**	**-2.8**
JTM	**Tenmabayashi**	**1.36**	**324**	P	**Pn**	**17 59 06.8**	**+1.9**
JTM	**Tenmabayashi**	**1.36**	**324**	*i* P	**Pn**	**17 59 06.5**	**+1.6**
JTM				S	**Sn**	**17 59 23.7**	**+2.0**
JTM	**Tenmabayashi**	**1.36**	**324**	A	A	17 59 06.5	
	comp=E,73nm,2.2s,comp=N,100nm,1.9s						
JIO	**Ouri**	**1.37**	**206**	*i* P	**Pn**	**17 59 06.5**	**+1.3**
JIO				S	**Sn**	**17 59 22.8**	**+0.8**
JIO	**Ouri**	**1.37**	**206**	A	A	17 59 06.5	
	comp=E,79nm,3.5s,comp=N,136nm,0.4s						
JARK	**Aomorirokkasho**	**1.43**	**337**	A	A	17 59 08.0	
	comp=E,70nm,0.5s,comp=N,89nm,1.2s						
JOFO	**Osakifurukawao**	**1.43**	**221**	A	A	17 59 07.8	
	comp=E,249nm,3.1s,comp=N,307nm,3.3s						
JIKH	**Ishinomakikobu**	**1.47**	**200**	A	A	17 59 08.4	
	comp=E,82nm,1.2s,comp=N,71nm,0.8s						
JYW	**Yuwa**	**1.48**	**265**	A	A	17 59 08.5	
	comp=E,206nm,1.2s,comp=N,244nm,1.0s						
JYK	**Kaneyama**	**1.56**	**241**	A	A	17 59 09.7	
	comp=E,38nm,1.8s,comp=N,37nm,1.5s						
JNTW	**Noshirotokiwa**	**1.61**	**292**	A	A	17 59 10.3	
	comp=E,244nm,2.9s,comp=N,335nm,2.7s						
JHHS	**Hirosakihyakuz**	**1.65**	**306**	A	A	17 59 11.0	
	comp=E,99nm,3.0s,comp=N,168nm,2.0s						
JAHD	**Aomorihigashid**	**1.68**	**340**	A	A	17 59 11.5	
	comp=E,221nm,1.4s,comp=N,170nm,0.6s						
JOU	**Okura**	**1.74**	**221**	A	A	17 59 12.2	
	comp=E,73nm,0.5s,comp=N,88nm,0.7s						
JYYZ	**Yamagatayuza**	**1.82**	**249**	A	A	17 59 13.3	
	comp=E,62nm,3.6s,comp=N,80nm,1.8s						
JIW	**Iwasaki**	**1.85**	**300**	A	A	17 59 13.8	
	comp=E,59nm,1.6s,comp=N,75nm,0.8s						
JOT	**Ohata**	**1.88**	**335**	A	A	17 59 14.3	
	comp=E,24nm,2.0s,comp=N,34nm,4.1s						
JSI2	**Shiura 2**	**1.89**	**317**	A	A	17 59 14.4	
	comp=E,59nm,0.8s,comp=N,67nm,0.8s						
JTB	**Tobi-shima**	**2.04**	**257**	A	A	17 59 16.5	
	comp=E,24nm,0.9s,comp=N,40nm,3.1s						
JMM	**Marumori**	**2.09**	**210**		**Pn**	**17 59 15.6**	**+0.5**
JMM				Sn	**Sn**	**17 59 38.8**	**-1.1**
JMM	**Marumori**	**2.09**	**210**	P	**Pn**	**17 59 17.6**	**+2.6**
JMM	**Marumori**	**2.09**	**210**	A	A	17 59 17.2	
	comp=E,53nm,0.7s,comp=N,39nm,0.9s						
JYA	**Atsumi**	**2.17**	**240**	A	A	17 59 18.2	
	comp=E,67nm,1.2s,comp=N,89nm,0.7s						
JYS	**Shirataka**	**2.17**	**228**	A	A	17 59 18.3	
	comp=E,97nm,0.7s,comp=N,71nm,1.0s						
JMST	**Minamisoumatoc**	**2.19**	**206**	A	A	17 59 18.6	
	comp=E,59nm,1.0s,comp=N,57nm,1.8s						
JSR	**Shiriuchi**	**2.25**	**325**	A	A	17 59 19.5	
	comp=E,24nm,0.7s,comp=N,36nm,0.8s						
JKB	**Kayabe**	**2.34**	**340**	A	A	17 59 21.0	
	comp=E,42nm,0.6s,comp=N,26nm,1.1s						
JOG3	**Oga3**	**2.35**	**277**	A	A	17 59 12.9	
	comp=E,41nm,3.2s,comp=N,40nm,4.5s						
JYAR	**Yonezawaarcadi**	**2.35**	**222**	A	A	17 59 20.9	
	comp=E,112nm,0.9s,comp=N,150nm,0.8s						
JOMM	**Oshimamatsumae**	**2.44**	**319**	A	A	17 59 22.2	
	comp=E,19nm,1.7s,comp=N,24nm,2.6s						
ERM	**Erimo**	**2.45**	**18**		**Pn**	**17 59 21.5**	**+1.6**
ERM				Sn	**Sn**	**17 59 50.0**	**+1.3**
ERM	**Erimo**	**2.45**	**18**	P	**Pn**	**17 59 22.1**	**+2.2**
ERM	**Erimo**	**2.45**	**18**	P	**Pn**	**17 59 21.5**	**+1.6**
ERM						17 59 50.0	
JEM	**Erimo**	**2.45**	**18**	P	**Pn**	**17 59 22.0**	**+2.0**
JEM	**Erimo**	**2.45**	**18**	A	A	17 59 22.7	
	comp=E,60nm,1.1s,comp=N,51nm,1.0s						
JOTO	**OTAMA OYAMA**	**2.54**	**214**	A	A	17 59 23.6	
	comp=E,74nm,0.7s,comp=N,61nm,1.4s						
JAW	**Awa shima**	**2.55**	**242**	A	A	17 59 23.7	
	comp=E,17nm,3.1s,comp=N,22nm,2.8s						
JNBK	**Urakawa-nobuka**	**2.63**	**10**	A	A	17 59 25.2	
	comp=E,125nm,0.7s,comp=N,143nm,0.6s						
JSHD	**Hidakashinhida**	**2.73**	**5**	A	A	17 59 26.5	
	comp=E,111nm,1.4s,comp=N,100nm,1.6s						
JTHR	**Tokachihiroo**	**2.75**	**19**	A	A	17 59 26.8	
	comp=E,52nm,0.8s,comp=N,71nm,1.4s						
JYM2	**Yakumo 2**	**2.76**	**332**	A	A	17 59 26.9	
	comp=E,21nm,2.0s,comp=N,39nm,2.4s						
ONAJ	**Iwakimizuishiy**	**2.78**	**202**	A	A	17 59 27.0	
	comp=E,84nm,0.3s,comp=N,73nm,0.4s						
JFFD	**Fukushimafurud**	**2.87**	**206**	A	A	17 59 28.2	
	comp=E,31nm,0.7s,comp=N,33nm,0.9s						
JNS	**Sasagawa**	**2.88**	**230**	A	A	17 59 28.3	
	comp=E,10.0nm,3.1s,comp=N,11nm,3.5s						
JNB	**Noboribetsu**	**2.89**	**344**	A	A	17 59 28.8	
	comp=E,15nm,1.1s,comp=N,12nm,0.7s						
JIAM	**Iburiatsuma**	**2.93**	**357**	A	A	17 59 29.4	
	comp=E,129nm,0.6s,comp=N,124nm,0.7s						
JFY	**Yanaizu**	**2.96**	**220**	A	A	17 59 29.5	
	comp=E,19nm,2.5s,comp=N,27nm,3.3s						
JCH	**Churui**	**3.07**	**17**	A	A	17 59 31.4	
	comp=E,59nm,3.2s,comp=N,68nm,2.6s						
JBT2	**Biratori 2**	**3.09**	**3**	A	A	17 59 31.6	
	comp=E,41nm,2.5s,comp=N,41nm,1.0s						
JOSM	**Okushiri--Mats**	**3.12**	**321**	A	A	17 59 31.9	
	comp=E,8.0nm,3.3s,comp=N,8.0nm,2.7s						
JEW	**Eniwo**	**3.19**	**351**	A	A	17 59 32.9	
	comp=E,37nm,1.7s,comp=N,45nm,1.4s						
JHST	**Hiyamasetana**	**3.21**	**329**	A	A	17 59 33.2	
	comp=E,15nm,2.9s,comp=N,18nm,1.5s						
JSB	**Shiboa**	**3.22**	**213**	A	A	17 59 33.2	
	comp=E,52nm,3.4s,comp=N,42nm,1.1s						
JHO	**Hitachi**	**3.31**	**202**	A	A	17 59 34.4	
	comp=E,14nm,1.6s,comp=N,25nm,0.7s						
JSH	**Shimam**	**3.34**	**333**	A	A	17 59 35.0	
	comp=E,9.0nm,3.0s,comp=N,7.0nm,4.8s						
JIZZ	**Izumozaki**	**3.43**	**232**	A	A	17 59 36.1	
	comp=E,27nm,2.0s,comp=N,26nm,2.0s						
JSD	**Sado**	**3.43**	**242**	A	A	17 59 36.1	
	comp=E,5.0nm,1.9s,comp=N,6.0nm,1.4s						
JUON	**Uonuma**	**3.45**	**225**	A	A	17 59 36.4	
	comp=E,9.0nm,2.4s,comp=N,9.0nm,5.3s						
JOB	**Onbets**	**3.46**	**21**	A	A	17 59 36.9	
	comp=E,78nm,2.1s,comp=N,103nm,3.1s						
JFR	**Furan**	**3.49**	**6**	A	A	17 59 37.2	
	comp=E,31nm,0.8s,comp=N,27nm,1.6s						
JHYU	**Hitachinakayam**	**3.56**	**200**	A	A	17 59 37.9	
	comp=E,28nm,0.6s,comp=N,31nm,0.8s						
JISS	**Ishikarishitsu**	**3.62**	**352**	A	A	17 59 39.0	
	comp=E,34nm,1.6s,comp=N,36nm,0.8s						
JKT	**Katashina**	**3.69**	**219**	A	A	17 59 39.8	
	comp=E,30nm,4.0s,comp=N,17nm,1.1s						
JYT	**Yasato**	**3.78**	**204**	A	A	17 59 41.0	
	comp=E,45nm,0.4s,comp=N,32nm,0.5s						
JAR	**Ashorobuto**	**3.81**	**18**	A	A	17 59 41.8	
	comp=E,45nm,3.1s,comp=N,41nm,1.1s						
JAB	**Ashibetsu**	**3.81**	**1**	A	A	17 59 41.8	
	comp=E,46nm,1.7s,comp=N,44nm,0.9s						
JAK	**Akeshi**	**3.83**	**30**	A	A	17 59 42.1	
	comp=E,38nm,1.2s,comp=N,51nm,2.1s						
JSK	**Shakotan**	**3.86**	**342**	A	A	17 59 42.4	
	comp=E,9.0nm,4.2s,comp=N,6.0nm,2.2s						
JAG	**Ashikaga**	**3.88**	**214**	A	A	17 59 42.4	
	comp=E,23nm,4.0s,comp=N,21nm,3.8s						
JIHU	**Itakohorinouch**	**3.92**	**199**	A	A	17 59 43.1	
	comp=E,123nm,1.3s,comp=N,103nm,2.0s						
JJN	**Nakama**	**4.04**	**231**	A	A	17 59 44.7	
	comp=E,15nm,1.8s,comp=N,10.0nm,2.4s						
JHR	**Hokuryu**	**4.06**	**356**	A	A	17 59 45.2	
	comp=E,35nm,2.4s,comp=N,28nm,4.2s						
JKHN	**Kushirohamanak**	**4.09**	**33**	A	A	17 59 45.8	
	comp=E,38nm,0.9s,comp=N,50nm,1.1s						
JGK	**Kuni**	**4.16**	**222**	A	A	17 59 46.3	
	comp=E,21nm,4.0s,comp=N,25nm,4.4s						
JKK2	**Kamakawa 2**	**4.21**	**6**	A	A	17 59 47.3	
	comp=E,21nm,3.2s,comp=N,18nm,1.1s						
JSMT	**Sanmumatsuo**	**4.25**	**199**	A	A	17 59 47.7	
	comp=E,106nm,1.3s,comp=N,83nm,3.4s						
JSZ	**Suzu**	**4.34**	**240**	A	A	17 59 49.0	
	comp=E,4.0nm,5.5s,comp=N,5.0nm,4.9s						
JNK	**Nakash**	**4.35**	**26**	A	A	17 59 49.4	
	comp=E,15nm,3.6s,comp=N,13nm,1.1s						
MJB9	**Matsu-Tunnel**	**4.40**	**226**		**Pn**	**17 59 50.1**	**+3.4**
MAJO	**Matsushiro**	**4.40**	**226**		**Pn**	**17 59 49.6**	**+2.9**
MAJO	**Matsushiro**	**4.40**	**226**	P	**Pn**	**17 59 50.2**	**+3.5**
MAJO	**Matsushiro**	**4.40**	**226**	*d* P	**Pn**	**17 59 49.8**	**+3.1**
MJAR	**Matsushiro Arr**	**4.40**	**226**	P	**Pn**	**17 59 50.2**	**+3.5**
	comp=N,871nm,0.6s,baz=31,slow=13,SNR=600						
MJAR				S	**Sn**	**18 00 44.3**	**+7.6**
	comp=N,161nm,0.5s,baz=285,slow=22,SNR=0.9						
JMP	**Maruseppu**	**4.41**	**12**	A	A	17 59 50.2	
	comp=E,22nm,2.5s,comp=N,24nm,1.4s						
TOK	**Tokyo**	**4.41**	**206**	A	A	17 59 49.9	
	comp=E,201nm,0.9s,comp=N,132nm,1.2s						
ASAJ	**Asahikawa**	**4.44**	**4**	A	A	17 59 50.6	
	comp=E,14nm,3.2s,comp=N,13nm,5.7s						
ASAJ	**Asahikawa**	**4.44**	**4**	P	**Pn**	**17 59 48.6**	**+1.4**
ASAJ	**Asahikawa**	**4.44**	**4**	P	**Pn**	**17 59 48.9**	**+1.7**
	comp=N,495nm,0.4s,baz=217,slow=7.6,SNR=74						
ASAJ				S	**Sn**	**18 00 37.5**	**0.0**
	comp=N,2μm,0.8s,baz=180,slow=18,SNR=4.9						
JKA	**Kamikawa-asahi**	**4.44**	**5**		**Pn**	**17 59 48.6**	**+1.4**
JHU	**Hanno**	**4.44**	**211**	A	A	17 59 50.3	
	comp=E,36nm,3.9s,comp=N,35nm,3.6s						
JRY	**Ryogami san**	**4.46**	**216**	A	A	17 59 50.6	
	comp=E,17nm,1.9s,comp=N,17nm,2.1s						
JTKR	**Abashiri--Toko**	**4.48**	**17**	A	A	17 59 51.2	
	comp=E,19nm,2.8s,comp=N,22nm,2.4s						
JCN	**Nagara**	**4.53**	**200**	A	A	17 59 51.6	
	comp=E,145nm,3.2s,comp=N,86nm,2.2s						
JNG	**Nsakai**	**4.56**	**225**	A	A	17 59 52.0	
	comp=E,6.0nm,4.5s,comp=N,7.0nm,3.4s						
NMR	**Nemuro--Hokkai**	**4.57**	**35**	*eP*	**Pn**	**17 59 48.8**	**-0.2**
NMR				*eS*	**Sn**	**18 00 37.7**	**-3.0**
NEM2	**Nemuro 2**	**4.57**	**35**	A	A	17 59 52.5	
	comp=E,27nm,0.9s,comp=N,13nm,1.3s						
JNSB	**Nemuroshibetsu**	**4.62**	**27**	A	A	17 59 53.1	
	comp=E,27nm,1.2s,comp=N,42nm,1.4s						
JSGW	**Sagamiharawaka**	**4.69**	**210**	A	A	17 59 53.8	
	comp=E,26nm,3.5s,comp=N,22nm,3.8s						
JSS	**Shosan**	**4.71**	**358**	A	A	17 59 54.4	
	comp=E,19nm,3.5s,comp=N,19nm,4.9s						
JKUC	**kamogawauchiur**	**4.77**	**199**	A	A	17 59 55.0	
	comp=E,64nm,2.3s,comp=N,47nm,1.4s						
JRA	**Rausu**	**4.80**	**27**	A	A	17 59 55.7	
	comp=E,16nm,1.4s,comp=N,18nm,1.7s						
JYO	**Yokosk**	**4.87**	**204**	A	A	17 59 56.3	
	comp=E,68nm,1.0s,comp=N,82nm,0.9s						
JNT	**Takato**	**4.94**	**221**	A	A	17 59 57.4	
	comp=E,16nm,2.9s,comp=N,13nm,4.8s						
TATJ	**Tateyama 2**	**4.98**	**202**	A	A	17 59 57.8	
	comp=E,107nm,3.8s,comp=N,146nm,2.1s						
RUSJ	**Misakicho**	**4.99**	**27**	*eP*	**Pn**	**17 59 55.7**	**+0.9**
RUSJ				*eS*	**Sn**	**18 00 50.5**	**-0.6**
JOD2	**Odawara 2**	**5.03**	**210**	A	A	17 59 58.6	
	comp=E,37nm,2.9s,comp=N,36nm,1.6s						
JYN	**Shimob**	**5.05**	**215**	A	A	17 59 58.9	
	comp=E,21nm,3.6s,comp=N,31nm,2.5s						
YUK	**Yuzh-Kuril'sk**	**5.16**	**32**	*d i* P	**Pn**	**17 59 57.6**	**+0.5**
YUK				*eS*	**Sn**	**18 00 52.4**	**-3.0**
YUK				pmax	pmax		
	comp=Z,2μm,0.4s						
YUK				pmax	pmax		
	comp=N,337nm,0.1s						
YUK				smax	smax		
	comp=E,18μm,0.7s						
YUK				smax	smax		
	comp=N,17μm,0.4s						
JFNN	**Fujinakano**	**5.25**	**212**	A	A	18 00 01.7	
	comp=E,43nm,2.7s,comp=N,32nm,4.7s						
JSE	**Soyaes**	**5.28**	**4**	A	A	18 00 02.3	
	comp=E,10.0nm,3.7s,comp=N,9.0nm,2.1s						
JHTM	**Izuhatsuma**	**5.33**	**209**	A	A	18 00 02.8	
	comp=E,56nm,1.7s,comp=N,67nm,1.3s						
JIM2	**Oshima 3**	**5.41**	**204**	A	A	18 00 03.8	
	comp=E,40nm,1.6s,comp=N,46nm,0.9s						
SHO	**Shikotan**	**5.46**	**39**	*eP*	**Pn**	**18 00 01.2**	**-0.1**
SHO				*eS*	**Sn**	**18 00 57.5**	**-5.3**
SHO				pmax	pmax		
	comp=Z,511nm,0.4s						
SHO				pmax	pmax		
	comp=E,319nm,0.3s						
SHO				smax	smax		
	comp=N,4μm,0.5s						
SHO				smax	smax		
	comp=E,3μm,0.4s						
JNY	**Yasuok**	**5.49**	**219**	A	A	18 00 04.9	
	comp=E,18nm,2.6s,comp=N,24nm,1.4s						
JGF	**Kuroka**	**5.56**	**224**	A	A	18 00 06.0	
	comp=E,6.0nm,6.9s,comp=N,8.0nm,5.3s						
SHZ3	**Shizuoka 3**	**5.56**	**215**	A	A	18 00 06.0	
	comp=E,18nm,2.3s,comp=N,24nm,6.6s						
JIZS	**Izushimoda**	**5.59**	**208**	A	A	18 00 06.5	
	comp=E,30nm,1.6s,comp=N,18nm,3.2s						
JWK2	**Keihoku**	**5.62**	**358**	A	A	18 00 07.1	
	comp=E,8.0nm,4.6s,comp=N,9.0nm,5.8s						
JTHY	**Toshimahigashi**	**5.63**	**205**	A	A	18 00 07.0	
	comp=E,22nm,6.6s,comp=N,28nm,4.5s						
JNIO	**Nijimaoohara**	**5.79**	**204**	A	A	18 00 09.2	
	comp=E,39nm,3.1s,comp=N,30nm,1.7s						
JSKK	**Shikinejimakit**	**5.83**	**204**	A	A	18 00 09.8	
	comp=E,19nm,2.7s,comp=N,13nm,1.9s						
JAO	**Obara**	**5.87**	**223**	A	A	18 00 10.3	
	comp=E,9.0nm,5.0s,comp=N,11nm,3.7s						
JSG	**Sagara**	**5.91**	**213**		**Pn**	**18 00 08.3**	**+0.9**
JSG	**Sagara**	**5.91**	**213**	P	**Pn**	**18 00 09.5**	**+2.1**
JSG	**Sagara**	**5.91**	**213**	A	A	18 00 10.8	
	comp=E,32nm,6.1s,comp=N,28nm,3.7s						
JKKS	**Kakegawashinom**	**5.93**	**215**	A	A	18 00 11.1	
	comp=E,29nm,2.5s,comp=N,22nm,2.7s						
HMMJ	**Hamamatsu 2**	**5.96**	**217**	A	A	18 00 11.6	
	comp=E,6.0nm,2.5s,comp=N,8.0nm,4.9s						
JMYK	**Miyake Tsubota**	**5.98**	**201**	A	A	18 00 11.9	
	comp=E,15nm,2.9s,comp=N,16nm,1.4s						
JKO	**Kozu shima**	**5.99**	**204**	A	A	18 00 12.0	
	comp=E,22nm,3.6s,comp=N,19nm,3.0s						
JICN	**Ichinomiyachia**	**6.06**	**225**	A	A	18 00 13.0	
	comp=E,13nm,3.0s,comp=N,15nm,3.0s						
JMKN	**Mikurajiman

KS19	Wonju Array Si	11.36	263		Pn		Pn	18 01 24.8	+2.7		
KSAR	Wonju Array Be	11.37	263		Pn		Pn	18 01 19.0	-3.1		
KSAR	Wonju Array Be	11.37	263		P		Pn	18 01 19.0	-3.1		
JTU	Tsushima	11.38	247		Pn		Pn	18 01 21.7	-0.6		
JTU	Tsushima	11.38	247		P		Pn	18 01 24.9	+2.5		
GRNR	Gornyy	11.78	342	⇓	*i*P		Pn	18 01 29.1	+1.4		
GRNR					*e*S		Sn	18 03 41.8	+4.2		
GRNR					pmax	pmax					
	comp=N,7.0nm,0.7s										
GRNR					pmax	pmax					
	comp=E,4.0nm,0.7s										
GRNR					pmax	pmax					
	comp=Z,6.0nm,0.7s										
GRNR					smax	smax					
	comp=N,9.0nm,0.7s										
GRNR					MLR	MLR					
	comp=E,830nm,14.0s										
GRNR					MLR	MLR					
	comp=Z,780nm,14.0s										
KLR	Kul'dur	12.06	326	*ce*	P		Pn	18 01 32.0	+0.4		
KLR					pmax	pmax					
	comp=Z,112nm,2.5s										
KLR	Kul'dur	12.06	326		P		Pn	18 01 34.2	+2.6		
	comp=Z,21nm,0.6s,baz=130,slow=12,SNR=43										
KLR					LR	LR		18 05 59.0			
	comp=Z,2μm,20.6s,baz=124,slow=36										
TJN	Taejon	12.09	259		Pn		Pn	18 01 32.7	+0.7		
TJN	Taejon	12.09	259		P		Pn	18 01 34.5	+2.4		
TJN	Taejon	12.09	259	*ce*	P		Pn	18 01 33.5	+1.4		
INCN	Inchon	12.31	265				Pn	18 01 28.1	-7.1		
INCN	Inchon	12.31	265		P		Pn	18 01 37.4	+2.3		
INCN	Inchon	12.31	265		P		Pn	18 01 28.1	-7.0		
BNX	BinXian	12.38	304	⇑	P		Pn	18 01 39.3	+3.3		
BNX					S		Sn	18 03 53.3	+0.8		
BNX					pmax	pmax					
	comp=Z,52nm,0.9s										
BNX					LR	LR					
	comp=Z,2μm,14.6s										
BNX					LR	LR					
	comp=Z,1μm,15.7s										
BNX					LR	LR					
	comp=Z,1μm,22.3s										
JCJ	Chichijima	12.56	180		Pn		Pn	18 01 35.0	-3.6		
JCJ	Chichijima	12.56	180		P		Pn	18 01 32.1	-6.4		
	comp=Z,78nm,0.4s,baz=294,slow=20,SNR=9.0										
JCJ					S		Sn	18 03 42.7	-14		
	comp=Z,159nm,0.4s,baz=282,slow=23,SNR=3.9										
SKR	Severo-Kuril's	14.74	37	*e*	P		Pn	18 02 06.8	-1.1		
SKR					pmax	pmax					
	comp=Z,197nm,0.9s										
SKR					pmax	pmax					
	comp=Z,500nm,4.7s										
SKR					MLR	MLR					
	comp=Z,2μm,15.0s										
HEH	HeiHe	14.80	320	*e*	P		Pn	18 02 07.9	-0.7		
HEH					pmax	pmax					
	comp=Z,45nm,0.7s										
HEH					LR	LR					
	comp=Z,1μm,10.6s										
HEH					LR	LR					
	comp=Z,980nm,10.4s										
HEH					LR	LR					
	comp=Z,1μm,12.6s										
DL2	Dalian	15.88	274		P		P	18 02 24.4	-1.4		
DL2					pmax	pmax					
	comp=Z,85nm,1.0s										
JMZ	Minamidaito 2	16.57	217		Pn		Pn	18 02 29.4	-2.2		
JMZ					IAmb	IAmb		18 02 33.9			
	comp=Z,302nm,1.2s										
PEA0B	Petropavlovsk-	17.14	33				Pn	18 02 36.3	-2.2		
PEA0B	Petropavlovsk-	17.14	33		P		Pn	18 02 36.3	-2.2		
PEA0B					pmax	pmax					
	comp=Z,64nm,1.4s										
PETK	Petropavlovsk-	17.14	33				Pn	18 02 36.0	-2.5		
PETK	Petropavlovsk-	17.14	33		P		Pn	18 02 36.0	-2.5		
PETK	Petropavlovsk-	17.14	33		P		Pn	18 02 35.5	-3.0		
	comp=Z,3.2nm,0.7s,baz=221,slow=7.1,SNR=11										
PETK					LR	LR		18 09 38.1			
	comp=Z,582nm,18.7s,baz=225,slow=38										
JOW	Kunigami	17.25	226		Pn		Pn	18 02 36.6	-3.4		
JOW					IAmb	IAmb		18 02 43.4			
	comp=Z,176nm,0.7s										
JOW	Kunigami	17.25	226		P		Pn	18 02 37.8	-2.2		
	comp=Z,178nm,0.7s,baz=32,slow=9.0,SNR=18										
ZEA	Zeya	17.30	329	*e*	P		Pn	18 02 39.0	-1.5		
ZEA				*e*				18 05 56.2			
ZEA					pmax	pmax					
	comp=N,80nm,0.7s										
ZEA					pmax	pmax					
	comp=Z,130nm,0.7s										
ZEA					MLR	MLR					
	comp=E,400nm,14.0s										
ZEA					MLR	MLR					
	comp=Z,900nm,16.0s										
PET	Petropavlovsk	17.49	35				Pn	18 02 41.1	-1.7		
HIA	Hailar	18.55	308		P		P	18 02 52.9	-2.4		
HIA	Hailar	18.55	308		P		P	18 02 54.5	-0.8		
HIA	Hailar	18.55	308		P		P	18 02 52.9	-2.4		
HIA					pmax	pmax					
	comp=Z,31nm,0.8s										
BJI	Beijing	19.90	279		P		P	18 03 08.5	-1.5		
BJI					pmax	pmax					
	comp=Z,28nm,0.8s										
BJI					LR	LR					
	comp=Z,290nm,15.3s										
BJI					LR	LR					
	comp=Z,240nm,15.0s										
BJI					LR	LR					
	comp=Z,300nm,15.5s										
BJT	Baijiatuau	19.91	279		P		P	18 03 07.6	-2.5		
BJT	Baijiatuau	19.91	279		P		P	18 03 08.8	-1.3		
BJT	Baijiatuau	19.91	279		P		P	18 03 07.6	-2.5		
BJT					pmax	pmax					
	comp=Z,41nm,0.7s										
TIA	Tai'an	19.99	268		P		P	18 03 10.8	-0.3		
NJ2	Nanjing	20.30	255	*e*	P		P	18 03 12.9	-1.5		
NJ2					pP		pP	18 03 24.8	-0.6		
NJ2					sP		sP	18 03 30.9	-0.3		
NJ2					pmax	pmax					
	comp=Z,310nm,0.8s										
NJ2					pmax	pmax					
	comp=Z,470nm,3.5s										
MA2	Magadan	20.64	13		P		P	18 03 17.6	-0.3		
MA2	Magadan	20.64	13		P		P	18 03 19.3	+1.4		
MA2	Magadan	20.64	13	*ce*	P		P	18 03 19.0	+1.1		
MA2					pmax	pmax					
	comp=Z,139nm,0.6s										
MA2	Magadan	20.64	13		P		P	18 03 18.0	+0.1		
	comp=Z,154nm,0.7s,baz=197,slow=9.9,SNR=106										
MA2					LR	LR		18 11 21.7			
	comp=Z,868nm,18.4s,baz=179,slow=37										
	comp=Z,154nm,0.7s										
HNS	HongShan	21.53	273	⇑	P		P	18 03 25.3	-2.3		
HNS					PP		PnPn	18 03 49.0	-0.2		
HNS					*e*S		S	18 07 17.8	-5.9		
HNS					PcP		PcP	18 07 27.4	-1.2		
HNS					pmax	pmax					
	comp=Z,31nm,0.7s										
HNS					LR	LR					
	comp=Z,950nm,15.1s										
HNS					LR	LR					
	comp=Z,500nm,17.7s										
HNS					LR	LR					
	comp=Z,680nm,12.6s										
YOJ	Yonaguni jima	22.12	232		P		P	18 03 31.0	-3.1		
YOJ	Yonaguni jima	22.12	232		P		P	18 03 35.7	+1.6		
YOJ	Yonaguni jima	22.12	232		P		P	18 03 31.0	-3.1		
YOJ					pmax	pmax					
	comp=Z,124nm,0.7s										
TATO	Taipei	22.71	236		P		P	18 03 37.8	-2.5		
TATO	Taipei	22.71	236		P		P	18 03 39.5	-0.8		
YHNB	Yeheng	23.00	236		P		P	18 03 39.3	-4.1		
YHNB	Yeheng	23.00	236		P		P	18 03 42.7	-0.7		
TIY	Taiyuan	23.20	275	*e*	P		P	18 03 48.3	+2.9		
TIY					pmax	pmax					
	comp=Z,31nm,0.6s										
NACB	Ninganchiao	23.21	234		P		P	18 03 41.6	-3.9		
NACB					IAmb	IAmb		18 03 48.6			
	comp=Z,55nm,0.8s										
CIT	Chita	23.23	312	*e*	P		P	18 03 44.9	-0.6		
CIT				*e*				18 03 55.6			
CIT				*e*				18 04 01.9			
CIT				*e*				18 04 10.5			
CIT				*e*				18 04 30.1			
CIT				*e*	S		S	18 07 51.9	-2.2		
CIT				*e*				18 08 40.6			
CIT					pmax	pmax					
	comp=Z,182nm,1.7s										
HHC	Hu-ho-hao-te	23.29	283	*e*	P		P	18 03 47.4	+1.2		
HHC					pmax	pmax					
	comp=Z,25nm,0.8s										
HHC					pmax	pmax					
	comp=Z,340nm,4.9s										
YAK	Yakutsk	23.62	345		P		P	18 03 47.1	-1.9		
YAK	Yakutsk	23.62	345	*c*	*i*P		P	18 03 47.3	-1.7		
YAK				*e*	*i*PP		sP	18 04 05.4	-0.7		
YAK				*e*	S		S	18 07 55.6	-4.4		
YAK				*e*	SS		SnSn	18 08 41.6	+1.4		
YAK				*e*				18 14 48.5			
YAK					pmax	pmax					
	comp=Z,207nm,0.7s										
YAK					pmax	pmax					
	comp=N,85nm,0.8s										
YAK					pmax	pmax					
	comp=E,21nm,0.6s										
YAK					smax	smax					
	comp=N,639nm,2.3s										
YAK					smax	smax					
	comp=E,159nm,1.2s										
YAK	Yakutsk	23.62	345		P		P	18 03 47.3	-1.7		
	comp=E,26nm,0.6s,baz=265,slow=0.4,SNR=181										
YAK					S		S	18 07 55.8	-4.2		
	comp=E,1.5nm,0.9s,baz=298,slow=23,SNR=9.4										
YAK					LR	LR		18 13 46.3			
	comp=E,31nm,18.6s,baz=340,slow=38										
SSLB	Suanglung	23.89	235		P		P	18 03 47.1	-4.9		
YULB	Yu-li	23.97	233		P		P	18 03 47.3	-5.3		
YULB					IAmb	IAmb		18 04 01.1			
	comp=Z,82nm,0.7s										
SEY	Seymchan	24.08	12	*ce*	P		P	18 03 54.5	+1.2		
SEY					pmax	pmax					
	comp=Z,285nm,1.3s										
SEY	Seymchan	24.08	12		P		P	18 03 54.2	+0.9		
	comp=Z,184nm,1.0s,baz=195,slow=8.6,SNR=164										
SEY					LR	LR		18 12 57.5			
	comp=Z,772nm,19.8s,baz=204,slow=35										
	comp=Z,184nm,1.0s										
LYN	LuoYang	24.13	267	⇓	P		P	18 03 53.4	-0.6		
LYN					pP		pP	18 04 07.0	+0.8		
LYN					S		S	18 08 01.4	-7.3		
LYN					sS		sS	18 08 25.8	-2.8		
LYN					SS		SnSn	18 08 58.8	+5.7		
LYN					pmax	pmax					
	comp=Z,120nm,0.9s										
LYN					pmax	pmax					
	comp=Z,530nm,11.7s										
LYN					LR	LR					
	comp=Z,2μm,14.3s										
LYN					LR	LR					
	comp=Z,790nm,16.4s										
LYN					LR	LR					
	comp=Z,2μm,22.3s										
WHN	Wuhan	24.40	257	⇑	P		P	18 03 56.1	-0.4		
WHN					pP		pP	18 04 07.5	-1.1		
WHN					pmax	pmax					
	comp=Z,78nm,0.6s										
TPUB	Ta-pu	24.45	234		P		P	18 03 52.3	-4.8		
BTO	Baotou	24.48	283	*e*	P		P	18 03 57.1	-0.2		
BTO					pP		pP	18 04 11.5	+2.1		
BTO					sP		sP	18 04 18.9	+3.9		
BTO					PP		PnPn	18 04 35.4	+5.8		
BTO					S		S	18 08 14.3	-0.2		
BTO					SS		SnSn	18 09 08.8	+7.1		
BTO					pmax	pmax					
	comp=Z,26nm,0.8s										
BTO					pmax	pmax					
	comp=Z,390nm,7.2s										
BTO					LR	LR					
	comp=Z,850nm,9.8s										
BTO					LR	LR					
	comp=Z,1μm,19.8s										
BTO					LR	LR					
	comp=Z,1μm,13.5s										
TWGBT	Beinan	24.53	233		P		P	18 03 57.3	-0.4		
TWG	Pinlang	24.53	233		P		P	18 03 53.9	-3.8		
QZH	Quanzhou	24.63	240	⇑	*i*P		P	18 04 00.8	+2.2		
QZH					pmax	pmax					
	comp=Z,130nm,0.9s										
KNMB	Chin-men Tao	25.09	240		P		P	18 04 01.9	-0.9		
BOD	Bodaibo	25.64	324	*e*	P		P	18 04 07.0	-0.4		
BOD					pmax	pmax					
	comp=Z,84nm,1.2s										
ULN	Ulaanbaatar	26.42	300		P		P	18 04 13.4	-1.4		
ULN	Ulaanbaatar	26.42	300	*ce*	P		P	18 04 15.4	+0.5		
ULN					pmax	pmax					
	comp=Z,23nm,1.3s										
CNSH	ChangSha	26.68	253	⇓	P		P	18 04 17.3	+0.1		
CNSH					pmax	pmax					
	comp=Z,120nm,0.8s										
SONM	Songino Array	26.86	299		P		P	18 04 17.6	-1.2		
SONM	Songino Array	26.86	299		P		P	18 04 18.7	-0.1		
	comp=Z,12nm,0.6s,baz=97,slow=8.9,SNR=50										
	comp=Z,12nm,0.6s										
XAN	Xi'an	27.05	268		P		P	18 04 19.4	-1.1		
XAN					pP	pP		18 04 30.9	-1.8		
XAN					pmax	pmax					
	comp=Z,66nm,0.7s										
ENH	Enshi	28.21	261		P		P	18 04 29.5	-1.4		
ENH	Enshi	28.21	261		P		P	18 04 30.2	-0.7		
ZAK	Zakamensk	29.14	304	*e*	P		P	18 04 38.0	-1.1		
ZAK					pmax	pmax					
	comp=Z,22nm,1.2s										
H11N2	WAKE ISLAND Hy	29.14	126		T		T	18 35 18.7			
	baz=318,slow=76										
H11N1	WAKE ISLAND Hy	29.15	126		T		T	18 35 19.4			
	baz=318,slow=76										
H11N3	WAKE ISLAND Hy	29.16	126		T		T	18 35 17.9			
	baz=318,slow=76										
HKPS	Hong Kong Po S	29.43	242		P		P	18 04 40.9	-0.9		
H11S1	WAKE ISLAND Hy	29.94	128		T		T	18 36 17.3			
	baz=319,slow=76										
H11S3	WAKE ISLAND Hy	29.95	128		T		T	18 36 14.0			
	baz=319,slow=76										
H11S2	WAKE ISLAND Hy	29.96	128		T		T	18 36 12.5			
	baz=319,slow=76										
GULI	GuiLin	30.20	251		P		P	18 04 50.1	+1.5		
GULI					pmax	pmax					
	comp=Z,70nm,1.2s										
LZH	Lanzhou	30.26	275	⇑	P		P	18 04 49.8	+0.5		
LZH					sP		sP	18 05 09.4	+2.4		
LZH					S		S	18 09 45.8	-0.2		
LZH					sS		sS	18 10 05.8	-0.4		
LZH					pmax	pmax					
	comp=Z,23nm,1.1s										
LZH					LR	LR					
	comp=Z,390nm,13.4s										
LZH					LR	LR					
	comp=Z,530nm,16.1s										
LZH					LR	LR					
	comp=Z,350nm,19.2s										
MOY	Mondy	30.72	307	*e*	P		P	18 04 53.6	+0.6		
MOY					pmax	pmax					
	comp=Z,38nm,1.8s										
ADK	Adak	30.79	53		P		P	18 04 55.1	+1.6		
ADK	Adak	30.79	53		P		P	18 04 55.1	+1.6		
ADK					pmax	pmax					
	comp=Z,413nm,2.0s										
BILL	Bilibino	31.33	17		P		P	18 04 58.4	+0.4		
BILL					IAmb	IAmb		18 05 51.0			
	comp=Z,30nm,1.0s										
BILL	Bilibino	31.33	17	⇑	*e*P		P	18 05 10.1	+12		
BILL	Bilibino	31.33	17		P		P	18 04 58.8	+0.7		
BILL					pP		pP	18 05 08.3	-1.8		
GYA	Guiyang	32.29	257	⇑	*i*P		P	18 05 06.8	-0.3		
GYA					pP		pP	18 05 19.9	+0.6		
GYA					S		S	18 10 13.8	-3.9		
GYA					pmax	pmax					
	comp=Z,110nm,0.9s										
CD2	Chengdu	32.31	266		P		P	18 05 06.4	-0.8		
CD2					pmax	pmax					
	comp=Z,30nm,0.4s										
TIXI	Tiksi	32.73	352		P		P	18 05 10.1	-0.2		
TIXI	Tiksi	32.73	352	*ce*	P		P	18 05 10.0	-0.2		
TIXI	Tiksi	32.73	352		P		P	18 05 10.3	0.0		
PATS	Pohnpei	35.81	152		P		P	18 05 37.0	-0.5		
KMI	Kunming	35.98	258	⇓	P		P	18 05 38.9	-0.3		
KMI					pP	pP		18 05 50.3	-1.2		
KMI					pmax	pmax					
	comp=Z,34nm,1.5s										
KMI	Kunming	35.98	258		P		P	18 05 38.8	-0.3		
KMI					pP		pP	18 05 49.9	-1.6		
KMI					sP		sP	18 05 54.6	-2.4		
PZH	PanZhiHua	35.99	261		P		P	18 05 38.8	-0.4		
PZH					S		S	18 11 14.3	-0.6		
PZH					pmax	pmax					
	comp=Z,100nm,0.7s										
PZH					pmax	pmax					
	comp=Z,340nm,5.7s										
PZH					LR	LR					
	comp=Z,440nm,15.3s										
PZH					LR	LR					
	comp=Z,440nm,13.1s										
PZH					LR	LR					
	comp=Z,520nm,15.7s										
GOMU	GeErMu	37.13	280		P		P	18 05 50.0	+0.9		
GOMU					pmax	pmax					
	comp=Z,14nm,0.7s										
SLVN	Son La	37.31	252		P		P	18 05 50.2	-0.2		
AKUT	Akutan	37.52	50		P		P	18 05 52.9	+1.2		
TNA	Tin City	38.28	31		P		P	18 06 00.4	+2.4		
	baz=253										
SGSI	Sangihe	38.87	207		P		P	18 05 59.5	-3.9		
	comp=Z,186nm,0.6s										
F14K	Arctic Creek	38.90	31		P		P	18 06 05.7	+2.6		
	baz=254										
ANM	Nome	39.06	33		P		P	18 06 05.5	+1.0		
ANM					IAmb	IAmb		18 06 33.6			
	comp=Z,31nm,1.0s										
ANM	Nome	39.06	33		P		P	18 06 07.0	+2.4		
	baz=256,SNR=6.8										
ANM	Nome	39.06	33		P		P	18 06 05.5	+1.0		
ANM					pmax	pmax					
	comp=Z,31nm,1.0s										
TNCH	TengChong	39.23	262	⇓	P		P	18 06 07.3	+0.6		
TNCH					pP	pP		18 06 17.9	-1.2		
TNCH					sP	sP		18 06 24.3	-0.2		
TNCH					S		S	18 12 01.3	-2.9		
TNCH					pmax	pmax					
	comp=Z,210nm,1.0s										
TNCH					pmax	pmax					
	comp=Z,450nm,4.4s										
TNCH					LR	LR					
	comp=Z,410nm,11.4s										
TNCH					LR	LR					
	comp=Z,330nm,9.8s										
TNCH					LR	LR					
	comp=Z,550nm,13.3s										
M13K	Dall Lake	39.25	40		P		P	18 06 09.1	+3.0		
	baz=264										
DGZ	Jazzator, Alta	39.34	303	*i*	P		P	18 06 08.4	+1.1		
DGZ					pmax	pmax					
	comp=Z,54nm,0.6s										
J14K	Nanvaranak Lak	39.48	36		P		P	18 06 10.6	+2.6		
	baz=260										
F15K	North Star Dit	39.63	31		IAmb	IAmb		18 06 13.2			
	comp=Z,118nm,2.0s										
F15K	North Star Dit	39.63	31		P		P	18 06 11.6	+2.3		
	baz=256,SNR=6.0										
L14K	Kuka Creek	39.68	38		P		P	18 06 12.3	+2.6		
	baz=263										
G15K	Niukluk	39.71	32		P		P	18 06 12.3	+2.3		
	baz=257										
NONG	Nongkai	39.94	249		P		P	18 06 12.9	+0.5		
M14K	Bethel	39.97	39		P		P	18 06 13.2	+1.1		
M14K					IAmb	IAmb		18 06 29.0			
	comp=Z,46nm,0.8s										
M14K	Bethel	39.97	39		P		P	18 06 14.8	+2.7		
	baz=264										
N14K	Kuskokwak Cree	40.03	41		P		P	18 06 15.1	+2.5		
	baz=266										
C16K	Lisburne Hills	40.09	27		P		P	18 06 13.8	+0.8		
C16K					IAmb	IAmb		18 06 21.2			
	comp=Z,21nm,0.7s										
C16K	Lisburne Hills	40.09	27		P		P	18 06 14.2	+1.3		
	baz=252,SNR=7.0										
UBPT	Khong Chiam	40.17	243		P		P	18 06 14.4	+0.1		
UBPT					IAmb	IAmb		18 06 16.0			
	comp=Z,50nm,1.0s										
UBPT	Khong Chiam	40.17	243		P		P	18 06 15.6	+1.3		
WMQ	Urumqi	40.19	294	*e*	P		P	18 06 14.5	+0.2		
WMQ					pP	pP		18 06 26.0	-0.8		
WMQ					sP	sP		18 06 32.3	+0.1		
WMQ					PcP		PcP	18 08 19.3	+1.6		
WMQ					S		S	18 12 17.6	-0.4		
WMQ					pmax	pmax					
	comp=Z,31nm,0.9s										
L15K	Ungalak Mounta	40.29	38		P		P	18 06 17.2	+2.4		
	baz=264										
K15K	Wolf Creek Mou	40.34	37		P		P	18 06 17.2	+1.9		
	baz=263										
H16K	Elim	40.39	33		P		P	18 06 17.4	+1.8		
	baz=260,SNR=6.1										
MYLDM	Lahad Datu	40.43	218		P		P	18 06 15.7	-0.7		
G16K	Koyuk River	40.49	32		P		P	18 06 18.6	+2.2		
	baz=258										
DLV	T Lat	40.58	236		P		P	18 06 17.2	-0.6		
DLV	T Lat	40.58	236		P		P	18 06 19.1	+1.2		
ZAA0	Zalesovo Array	40.58	310		P		P	18 06 17.2	-0.1		
ZALV	Zalesovo Beam	40.58	310		P		P	18 06 17.3	+0.1		
ZALV	Zalesovo Beam	40.58	310		P		P	18 06 17.7	+0.4		
	comp=Z,50nm,0.4s,baz=92,slow=8.0,SNR=153										
ZALV					ScP		ScP	18 12 01.9	-2.3		
	comp=Z,3.5nm,0.8s,baz=111,slow=3.3,SNR=4.2										
	comp=Z,50nm,0.4s										
M15K	Kasigluk River	40.58	39		P		P	18 06 19.5	+2.3		
	baz=266										
CRAI	Chiangrai	40.60	254		P		P	18 06 18.2	+0.4		
KKM	Kota Kinabalu	40.81	222		P		P	18 06 18.9	-0.8		
KKM					IAmb	IAmb		18 06 30.7			
	comp=Z,27nm,0.8s										
J16K	Anvik River	40.90	36		P		P	18 06 21.8	+2.0		
	baz=263										
RDOG	Red Dog Mine	40.90	28		P		P	18 06 19.9	+0.2		
RDOG	Red Dog Mine	40.90	28		P		P	18 06 21.8	+2.0		
	baz=255										
C17K	DeLong Mountai	40.91	27		P		P	18 06 21.6	+1.7		
	baz=254,SNR=7.4										
O15K	Ungalikthiuk R	40.93	42		P		P	18 06 22.0	+1.8		
	baz=268										
I17K	Unalakleet	40.94	35		P		P	18 06 20.3	+0.2		
I17K	Unalakleet	40.94	35		P		P	18 06 21.9	+1.9		
	baz=262										
TNTI	Ternate	41.01	203		P		P	18 06 20.6	-0.5		
TNTI					IAmb	IAmb		18 06 54.0			
	comp=Z,102nm,1.3s										
S

B18K	**Kokolik River**	41.63	26	P		P	18 06 27.4	+1.6
	baz=255							
C18K	**Utukok River**	41.66	27	P		P	18 06 27.0	+0.9
C18K				IAmb		IAmb	18 06 47.2	
	comp=Z,37nm,0.8s							
C18K	**Utukok River**	41.66	27	P		P	18 06 27.7	+1.6
	baz=256,SNR=15							
L17K	**Donlin**	41.84	37	P		P	18 06 29.6	+2.1
	baz=266							
K17K	**Iditarod**	41.88	37	P		P	18 06 29.2	+1.4
K17K				IAmb		IAmb	18 06 45.0	
	comp=Z,40nm,1.1s							
K17K	**Iditarod**	41.88	37	P		P	18 06 30.5	+2.6
	baz=266							
JAY	**Jayapura**	42.02	182	P		P	18 06 29.4	-0.1
JAY				pmax		pmax		
	comp=Z,50nm,1.2s							
G18K	**Tagagawik**	42.09	32	P		P	18 06 31.4	+1.8
G18K				IAmb		IAmb	18 06 56.6	
	comp=Z,34nm,0.7s							
G18K	**Tagagawik**	42.09	32	P		P	18 06 31.7	+2.2
	baz=262							
H18K	**Honhosa River**	42.11	33	IAmb		IAmb	18 06 32.6	
	comp=Z,33nm,0.6s							
H18K	**Honhosa River**	42.11	33	P		P	18 06 31.8	+2.1
	baz=263,SNR=20							
GENI	**Genyem**	42.12	183	P		P	18 06 31.6	+1.4
R16K	**Pilot Point**	42.12	44	P		P	18 06 32.0	+2.2
	baz=272							
M17K	**Holitna River**	42.21	39	IAmb		IAmb	18 06 49.1	
	comp=Z,41nm,0.8s							
M17K	**Holitna River**	42.21	39	P		P	18 06 32.4	+1.9
	baz=268							
KMSI	**Cibinong**	42.30	208	P		P	18 06 30.4	-1.4
	comp=Z,377nm,0.9s,comp=Z,4µm							
C19K	**Lookout Ridge**	42.34	27	IAmb		IAmb	18 07 07.8	
	comp=Z,33nm,1.0s							
C19K	**Lookout Ridge**	42.34	27	P		P	18 06 33.4	+1.8
	baz=257,SNR=9.7							
CHTO	**Chiang Mai**	42.53	253	P		P	18 06 32.9	-0.8
CHTO				IAmb		IAmb	18 06 39.7	
	comp=Z,35nm,0.6s							
CHTO	**Chiang Mai**	42.53	253	P		P	18 06 34.0	+0.3
CHTO	**Chiang Mai**	42.53	253	P		P	18 06 32.9	-0.8
CHTO				pmax		pmax		
	comp=Z,35nm,0.6s							
CHTO	**Chiang Mai**	42.53	253	P		P	18 06 33.8	+0.2
LSA	**Lhasa**	42.58	273	P		P	18 06 35.3	+0.8
LSA	**Lhasa**	42.58	273	P		P	18 06 35.7	+1.2
LSA				pmax		pmax		
	comp=Z,33nm,0.7s							
LSA	**Lhasa**	42.58	273	P		P	18 06 35.6	+1.1
LSA				pP		pP	18 06 46.5	-0.6
F19K	**Shaleruckik Mo**	42.58	30	IAmb		IAmb	18 07 00.0	
	comp=Z,30nm,0.8s							
F19K	**Shaleruckik Mo**	42.58	30	P		P	18 06 35.1	+1.7
	baz=262							
L18K	**Granite Mounta**	42.60	37	P		P	18 06 35.9	+2.2
	baz=268							
J18K	**Innoko River**	42.66	36	IAmb		IAmb	18 06 46.8	
	comp=Z,70nm,1.8s							
J18K	**Innoko River**	42.66	36	P		P	18 06 36.1	+2.0
	baz=266							
D19K	**Kuna River**	42.73	28	IAmb		IAmb	18 06 60.0	
	comp=Z,49nm,1.0s							
D19K	**Kuna River**	42.73	28	P		P	18 06 36.5	+1.7
	baz=259							
MND	**Mandalay**	42.74	260	P		P	18 06 35.7	+0.4
CM31	**Chiang Mai Arr**	42.75	253	P		P	18 06 35.8	+0.3
CM31				IAmb		IAmb	18 06 43.8	
	comp=Z,19nm,0.6s							
CMAR	**Chiang Mai Arr**	42.75	253	P		P	18 06 35.0	-0.4
CMAR	**Chiang Mai Arr**	42.75	253	P		P	18 06 35.9	+0.4
	comp=Z,11nm,0.7s,baz=44,slow=6.7,SNR=107							
CMAR				ScP		ScP	18 12 12.4	-1.0
	comp=Z,3.6nm,0.9s,baz=16,slow=3.4,SNR=12							
	comp=Z,11nm,0.7s							
G19K	**Purcell Mounta**	42.76	32	IAmb		IAmb	18 07 02.0	
	comp=Z,31nm,0.7s							
G19K	**Purcell Mounta**	42.76	32	P		P	18 06 36.9	+2.0
	baz=263,SNR=16							
E19K	**Redstone River**	42.88	30	IAmb		IAmb	18 07 11.9	
	comp=Z,46nm,0.8s							
E19K	**Redstone River**	42.88	30	P		P	18 06 38.4	+2.4
	baz=261,SNR=30							
TTA	**Tatalina**	42.94	36	P		P	18 06 37.6	+1.0
TTA	**Tatalina**	42.94	36	P		P	18 06 38.7	+2.1
	baz=267							
TTA	**Tatalina**	42.94	36	P		P	18 06 37.6	+1.0
TTA				pmax		pmax		
	comp=Z,17nm,1.1s							
N18K	**Kilae Creek**	42.94	40	IAmb		IAmb	18 06 55.2	
	comp=Z,29nm,0.8s							
N18K	**Kilae Creek**	42.94	40	P		P	18 06 39.5	+2.9
	baz=270,SNR=5.1							
H19K	**Roundabout Mou**	42.95	32	IAmb		IAmb	18 06 48.7	
	comp=Z,54nm,0.8s							
H19K	**Roundabout Mou**	42.95	32	P		P	18 06 38.8	+2.3
	baz=264,SNR=27							
M18K	**Stony River**	42.98	38	P		P	18 06 39.4	+2.6
	baz=269							
Q17K	**Contact Creek**	42.99	43	P		P	18 06 39.2	+2.1
	baz=272							
TOLI2	**Tolitoli**	43.04	212	P		P	18 06 36.8	-1.0
TOLI2				IAmb		IAmb	18 06 39.0	
	comp=Z,53nm,0.8s							
TOLI2	**Tolitoli**	43.04	212	P		P	18 06 38.4	+0.6
SVW2	**Sparrevohn**	43.10	39	P		P	18 06 38.9	+1.1
SVW2				IAmb		IAmb	18 06 52.0	
	comp=Z,33nm,1.0s							
SVW2	**Sparrevohn**	43.10	39	P		P	18 06 39.7	+1.9
MRSI	**Marisa**	43.16	210	P		P	18 06 38.5	-0.2
	comp=Z,264nm,0.9s,comp=Z,2µm							
J19K	**Poorman**	43.17	35	P		P	18 06 40.2	+1.8
J19K				IAmb		IAmb	18 06 51.3	
	comp=Z,30nm,1.0s							
J19K	**Poorman**	43.17	35	P		P	18 06 40.2	+1.8
	baz=267,SNR=11							
MK31	**Makanchi Array**	43.23	300	P		P	18 06 39.3	+0.2
MK31	**Makanchi Array**	43.23	300	eP		P	18 06 39.2	+0.2
MKAR	**Makanchi Array**	43.23	300	P		P	18 06 39.4	+0.3
	comp=Z,10nm,0.5s,baz=86,slow=11,SNR=165							
MKAR				ScP		ScP	18 12 12.8	-2.2
	comp=Z,2.9nm,0.9s,baz=54,slow=6.2,SNR=4.3							
MKAR				S		S	18 13 00.8	-1.8
	comp=Z,5.4nm,1.1s,baz=83,slow=21,SNR=4.4							
	comp=Z,10nm,0.5s							
O18K	**Koktuh Hills**	43.29	41	P		P	18 06 40.7	+1.3
O18K				IAmb		IAmb	18 07 36.6	
	comp=Z,57nm,0.9s							
O18K	**Koktuh Hills**	43.29	41	P		P	18 06 41.5	+2.1
	baz=271							
P18K	**Big Mountain,**	43.29	42	P		P	18 06 40.5	+1.0
D20K	**Etivluk River**	43.31	28	P		P	18 06 41.5	+2.0
	baz=261,SNR=36							
B20K	**Meade River**	43.36	26	IAmb		IAmb	18 06 50.0	
	comp=Z,49nm,0.7s							
B20K	**Meade River**	43.36	26	P		P	18 06 41.3	+1.5
	baz=259							
E20K	**Nigu River**	43.40	29	P		P	18 06 42.2	+2.1
	baz=262,SNR=24							
F20K	**Avaraart Lake**	43.41	30	P		P	18 06 42.1	+2.0
	baz=263							
MAKZ	**Makanchi**	43.43	300	P		P	18 06 41.0	+0.3
MAKZ				IAmb		IAmb	18 07 04.8	
	comp=Z,23nm,0.8s							
MAKZ	**Makanchi**	43.43	300	P		P	18 06 41.0	+0.3
MAKZ				pmax		pmax		
	comp=Z,23nm,0.8s							
MAKZ	**Makanchi**	43.43	300	P		P	18 06 41.1	+0.3
MAKZ				pP		pP	18 06 52.5	-0.8
Q18K	**Katmai Hardscr**	43.44	43	P		P	18 06 42.0	+1.3
	baz=273							
L19K	**White Mountain**	43.45	37	P		P	18 06 42.6	+1.9
	baz=269							
H20K	**Anotleneega Mo**	43.60	33	P		P	18 06 43.7	+1.9
	baz=266,SNR=11							
N19K	**Bonanza Creek**	43.63	39	P		P	18 06 44.2	+2.0
	baz=271							
I20K	**Naaghedeneel**	43.72	34	P		P	18 06 45.1	+2.4
	baz=267							
O19K	**Port Alsworth**	43.73	40	P		P	18 06 44.3	+1.5
O19K	**Port Alsworth**	43.73	40	P		P	18 06 45.6	+2.8
	baz=272							
NAYO	**Nakonayok**	43.73	246	P		P	18 06 45.4	+2.0
J20K	**Nowinta River**	43.83	35	IAmb		IAmb	18 06 57.2	
	comp=Z,62nm,1.3s							
J20K	**Nowinta River**	43.83	35	P		P	18 06 46.0	+2.4
	baz=268,SNR=9.4							
K20K	**Telida**	43.84	36	IAmb		IAmb	18 07 51.9	
	comp=Z,97nm,1.8s							
K20K	**Telida**	43.84	36	P		P	18 06 46.3	+2.5
	baz=269							
L20K	**Farewell, AK**	43.91	37	P		P	18 06 46.4	+2.1
	baz=270							
SII	**Sitkinak Islan**	44.03	46	P		P	18 06 45.9	+0.6
C21K	**Knifeblade Rid**	44.04	27	P		P	18 06 47.7	+2.5
	baz=262,SNR=9.9							
SHL	**Shillong**	44.04	267	P		P	18 06 45.2	-0.8
SHL				IAmb		IAmb	18 07 03.3	
	comp=Z,36nm,0.6s							
SHL	**Shillong**	44.04	267	P		P	18 06 45.2	-0.8
SHL				pmax		pmax		
	comp=Z,37nm,0.6s							
SANI	**Sanana**	44.10	204	P		P	18 06 46.4	+0.2
SANI	**Sanana**	44.10	204	P		P	18 06 45.3	-0.9
	comp=Z,135nm,1.1s,comp=Z,1µm							
IMAR	**Indian Mountai**	44.10	32	P		P	18 06 47.5	+1.7
MPSI	**Mapaga**	44.11	213	P		P	18 06 46.7	+0.4
	comp=Z,74nm,0.7s,comp=Z,830nm							
Q19K	**Cape Douglas,**	44.13	42	P		P	18 06 47.9	+1.7
	baz=274							
B21K	**Ikpikpuk River**	44.16	27	IAmb		IAmb	18 06 56.8	
	comp=Z,47nm,0.8s							
B21K	**Ikpikpuk River**	44.16	27	P		P	18 06 48.8	+2.6
	baz=262							
G21K	**Allakaket**	44.23	31	IAmb		IAmb	18 06 59.5	
	comp=Z,42nm,0.9s							
G21K	**Allakaket**	44.23	31	P		P	18 06 49.1	+2.2
	baz=266,SNR=12							
E21K	**Killik River**	44.24	28	IAmb		IAmb	18 06 49.8	
	comp=Z,25nm,0.8s							
E21K	**Killik River**	44.24	28	P		P	18 06 48.7	+1.9
	baz=264							
LUWI	**Luwuk**	44.24	208	P		P	18 06 46.0	-1.4
LUWI	**Luwuk**	44.24	208	P		P	18 06 46.3	-1.1
LUWI	**Luwuk**	44.24	208	P		P	18 06 45.8	-1.6
	comp=Z,106nm,1.0s,comp=Z,4µm							
A22K	**Sinclair Lake**	44.27	25	P		P	18 06 48.5	+1.5
	baz=260							
M20K	**Styx River**	44.27	38	IAmb		IAmb	18 07 57.4	
	comp=Z,78nm,1.8s							
M20K	**Styx River**	44.27	38	P		P	18 06 49.2	+1.9
	baz=271							
P19K	**Oil Pt**	44.30	41	P		P	18 06 49.1	+1.6
P19K	**Oil Pt**	44.30	41	P		P	18 06 50.0	+2.5
	baz=273							
F21K	**Alatna River**	44.30	30	IAmb		IAmb	18 06 58.8	
	comp=Z,30nm,1.0s							
F21K	**Alatna River**	44.30	30	P		P	18 06 49.5	+2.1
	baz=265,SNR=15							
H21K	**Melozitna Rive**	44.47	32	P		P	18 06 50.8	+2.1
H21K	**Melozitna Rive**	44.47	32	P		P	18 06 50.8	+2.1
	baz=268,SNR=8.4							
RSO	**Redoubt South**	44.49	40	P		P	18 06 51.0	+1.7
CHUM	**Lake Minchumin**	44.63	35	P		P	18 06 52.2	+2.1
	baz=270,SNR=7.5							
B22K	**Teshekpuk Lake**	44.67	26	IAmb		IAmb	18 07 00.4	
	comp=Z,27nm,0.8s							
B22K	**Teshekpuk Lake**	44.67	26	P		P	18 06 52.1	+1.9
	baz=262,SNR=7.6							
PPLA	**Purkeypile**	44.69	36	P		P	18 06 53.0	+2.3
	baz=271							
CAST	**Castle Rocks**	44.73	36	P		P	18 06 51.7	+0.9
CAST				IAmb		IAmb	18 07 10.6	
	comp=Z,24nm,0.7s							
CAST	**Castle Rocks**	44.73	36	P		P	18 06 52.6	+1.7
	baz=270,SNR=9.7							
D22K	**Ayikyak River**	44.75	28	IAmb		IAmb	18 07 22.6	
	comp=Z,36nm,0.8s							
D22K	**Ayikyak River**	44.75	28	P		P	18 06 53.4	+2.4
	baz=264,SNR=24							
KURK	**Kurchatov**	44.77	306	P		P	18 06 51.4	+0.1
KURK	**Kurchatov**	44.77	306	eP		P	18 06 50.7	-0.6
KURK				pmax		pmax		
	comp=Z,46nm,0.6s							
KURK	**Kurchatov**	44.77	306	P		P	18 06 51.4	+0.1
KDAK	**Kodiak Island**	44.78	44	P		P	18 06 53.2	+1.9
	baz=276							
KDAK	**Kodiak Island**	44.78	44	P		P	18 06 52.9	+1.7
KDAK				pP		pP	18 07 03.5	-0.1
KDAK				sP		sP	18 07 07.2	-1.8
I21K	**Tanana**	44.80	33	P		P	18 06 53.6	+2.3
I21K				IAmb		IAmb	18 07 42.0	
	comp=Z,27nm,1.1s							
I21K	**Tanana**	44.80	33	P		P	18 06 53.7	+2.3
	baz=269							
Q20K	**Shuyak Island**	44.80	43	P		P	18 06 53.0	+1.6
	baz=275							
F22K	**John River**	44.82	30	P		P	18 06 53.5	+2.0
	baz=266							
KURBB	**Kurchatov Arra**	44.84	306	P		P	18 06 52.0	+0.1
	comp=Z,44nm,0.6s,baz=79,slow=8.5,SNR=225							
KURBB				S		S	18 13 23.2	-2.8
	comp=Z,1.8nm,0.8s,baz=79,slow=15,SNR=4.9							
	comp=Z,44nm,0.6s							
E22K	**Anaktuvuk Pass**	45.01	29	P		P	18 06 55.1	+2.0
E22K	**Anaktuvuk Pass**	45.01	29	P		P	18 06 55.5	+2.4
	baz=266,SNR=58							
SKT	**Skwentna**	45.02	38	P		P	18 06 55.0	+1.8
	baz=272							
G22K	**Bettles**	45.05	31	P		P	18 06 55.5	+2.1
	baz=267							
H22K	**Ishtalitna Cre**	45.06	32	P		P	18 06 56.0	+2.5
	baz=269							
BPAW	**Bear Paw Mtn.**	45.22	35	P		P	18 06 57.0	+2.3
BPAW				IAmb		IAmb	18 07 21.0	
	comp=Z,64nm,1.6s							
BPAW	**Bear Paw Mtn.**	45.22	35	P		P	18 06 56.9	+2.2
	baz=271,SNR=6.6							
KTH	**Kantishna Hill**	45.25	35	IAmb		IAmb	18 07 09.5	
	comp=Z,40nm,0.8s							
SRDT	**SRDT**	45.28	248	P		P	18 06 56.5	+0.8
MLY	**Manley**	45.32	33	P		P	18 06 57.9	+2.4
MLY				IAmb		IAmb	18 07 39.3	
	comp=Z,22nm,0.9s							
MLY	**Manley**	45.32	33	P		P	18 06 57.7	+2.1
	baz=270,SNR=10.0							
SUA	**Susitna One**	45.42	38	IAmb		IAmb	18 07 10.4	
	comp=Z,28nm,1.0s							
SUA	**Susitna One**	45.42	38	P		P	18 06 58.2	+1.7
	baz=274							
D23K	**Nanushuk River**	45.48	28	P		P	18 06 59.3	+2.6
	baz=266							
TRF	**Thorofare Moun**	45.54	36	IAmb		IAmb	18 07 30.1	
	comp=Z,23nm,1.0s							
TRF	**Thorofare Moun**	45.54	36	P		P	18 06 58.7	+1.3
	baz=272							
BRSE	**Bradley Lake S**	45.55	41	P		P	18 06 58.9	+1.5
	baz=275							
C23K	**Itkillik River**	45.57	27	IAmb		IAmb	18 07 14.6	
	comp=Z,35nm,0.8s							
C23K	**Itkillik River**	45.57	27	P		P	18 06 59.6	+2.2
	baz=265,SNR=29							
COLD	**Coldfoot**	45.58	30	P		P	18 06 59.9	+2.4
	baz=268,SNR=13							
G23K	**Bananza Creek**	45.63	31	IAmb		IAmb	18 07 09.9	
	comp=Z,30nm,0.8s							
G23K	**Bananza Creek**	45.63	31	P		P	18 07 00.0	+2.0
	baz=269,SNR=11							
E23K	**Chandalar**	45.83	29	P		P	18 07 01.7	+2.1
	baz=268,SNR=44							
TOLK	**Toolik Lake Re**	45.87	28	P		P	18 07 01.9	+2.1
TOLK				IAmb		IAmb	18 07 50.4	
	comp=Z,28nm,1.1s							
TOLK	**Toolik Lake Re**	45.87	28	P		P	18 07 02.1	+2.3
	baz=268,SNR=18							
I23K	**Minto, Yukon-K**	45.90	33	P		P	18 07 02.7	+2.6
	baz=271,SNR=6.5							
RC01	**Rabbit Creek A**	45.93	39	P		P	18 07 02.3	+2.0
	baz=275							
SBUM	**Sibu**	45.95	224	IAmb		IAmb	18 07 02.5	
	comp=Z,39nm,1.7s							
O22K	**Cooper Landing**	45.99	40	P		P	18 07 02.5	+1.7
	baz=275							
NEA2	**Nenana**	46.04	34	IAmb		IAmb	18 07 15.1	
	comp=Z,28nm,0.7s							
NEA2	**Nenana**	46.04	34	P		P	18 07 03.1	+2.0
	baz=272,SNR=6.1							
MCK	**McKinley**	46.13	35	P		P	18 07 03.8	+1.8
	baz=273,SNR=5.3							
SHLS	**Shalkode**	46.14	296	eP		P	18 07 00.7	-1.8
	comp=Z,13nm,0.9s,baz=296							
SHLS				eS		S	18 13 39.5	-5.8
	baz=296							
SHLS	**Shalkode**	46.14	296	eP		P	18 07 00.6	-1.8
SHLS				eS		S	18 13 39.4	-5.8
SHLS				pmax		pmax		
	comp=Z,13nm,0.9s							
D24K	**Happy Valley**	46.16	28	P		P	18 07 03.9	+1.9
D24K	**Happy Valley**	46.16	28	P		P	18 07 04.1	+2.1
	baz=268							
SEW	**Seward**	46.16	40	P		P	18 07 03.5	+1.3
	baz=276							
PMR	**Palmer**	46.18	38	IAmb		IAmb	18 07 53.9	
	comp=Z,17nm,0.8s							
PMR	**Palmer**	46.18	38	P		P	18 07 04.0	+1.7
PMR	**Palmer**	46.18	38	P		P	18 07 03.6	+1.3
	baz=275							
RND	**Reindeer**	46.19	36	IAmb		IAmb	18 07 26.2	
	comp=Z,35nm,1.2s							
C24K	**Franklin Bluff**	46.23	27	P		P	18 07 04.2	+1.7
	baz=267,SNR=43							
E24K	**Your Creek**	46.25	29	IAmb		IAmb	18 07 14.8	
	comp=Z,52nm,1.1s							
E24K	**Your Creek**	46.25	29	P		P	18 07 05.1	+2.2
	baz=269							
TDK	**Taldyqorghan**	46.31	298	eP		P	18 07 04.5	+0.8
	baz=298							
TDK	**Taldyqorghan**	46.31	298	eP		P	18 07 04.4	+0.8
TAPN	**Taplejung**	46.36	272	eP		P	18 07 05.0	+0.5
	comp=Z,62nm,0.6s							
WAT1	**Susitna Watana**	46.36	36	P		P	18 07 04.9	+1.2
	baz=274							
MDM	**Murphy Dome**	46.39	33	IAmb		IAmb	18 07 32.7	
	comp=Z,40nm,1.0s							
UZB	**Uzynbulak**	46.45	296	eP		P	18 07 05.5	+0.6
	baz=296							
UZB	**Uzynbulak**	46.45	296	eP		P	18 07 05.4	+0.6
F24K	**Squaw Lake**	46.47	30	IAmb		IAmb	18 07 16.4	
	comp=Z,23nm,0.6s							
F24K	**Squaw Lake**	46.47	30	P		P	18 07 06.6	+2.0
	baz=270,SNR=21							
H24K	**Noodor Dome**	46.50	32	P		P	18 07 07.1	+2.3
H24K				IAmb		IAmb	18 07 54.4	
	comp=Z,27nm,0.8s							
H24K	**Noodor Dome**	46.50	32	P		P	18 07 06.9	+2.0
	baz=272,SNR=12							
KNK	**Knik Glacier**	46.52	38	IAmb		IAmb	18 07 31.4	
	comp=Z,36nm,1.0s							
KNK	**Knik Glacier**	46.52	38	P		P	18 07 06.2	+1.2
	baz=276							
SML	**Sawmill**	46.54	38	P		P	18 07 07.7	+2.4
	baz=275							
COLA	**College**	46.55	34	P		P	18 07 07.8	+2.7
COLA	**College**	46.55	34	P		P	18 07 06.3	+1.2
COLA	**College**	46.55	34	P		P	18 07 06.8	+1.7
	baz=273							
COLA	**College**	46.55	34	P		P	18 07 07.6	+2.5
COLA				pmax		pmax		
	comp=Z,67nm,0.7s							
COLA	**College**	46.55	34	P		P	18 07 07.2	+2.0
COLA				pP		pP	18 07 17.6	0.0
KPKS	**Kokpek**	46.58	296	eP		P	18 07 06.6	+0.7
	baz=296							
KPKS	**Kokpek**	46.58	296	eP		P	18 07 06.5	+0.7
G24K	**Hadweenzic Riv**	46.65	31	IAmb		IAmb	18 07 09.3	
	comp=Z,21nm,0.6s							
G24K	**Hadweenzic Riv**	46.65	31	P		P	18 07 08.3	+2.4
	baz=271,SNR=16							
POKR	**Poker Plat Res**	46.72	33	P		P	18 07 08.7	+2.2
	baz=273,SNR=22							
WAT6	**Susitna Watana**	46.75	37	P		P	18 07 08.8	+1.9
	baz=275							
M23K	**Glacier View**	46.83	38	P		P	18 07 09.3	+1.8
	baz=276							
BKB	**Balikpapan**	46.84	216	P		P	18 07 09.6	+1.6
BKB	**Balikpapan**	46.84	216	P		P	18 07 08.2	+0.2
	comp=Z,469nm,0.8s,comp=Z,4µm							
ODAN	**Odare**	46.85	271	eP		P	18 07 07.8	-0.5
	comp=Z,96nm,0.8s							
ZHN	**Zhinishke**	46.85	296	eP		P	18 07 08.4	+0.4
	baz=296							
ZHN	**Zhinishke**	46.85	296	eP		P	18 07 08.4	+0.4
DHY	**Denali Highway**	46.88	36	IAmb		IAmb	18 07 22.1	
	comp=Z,26nm,0.6s							
DHY	**Denali Highway**	46.88	36	P		P	18 07 09.9	+1.9
	baz=275,SNR=8.6							
SATY	**Saty**	46.90	296	eP		P	18 07 09.2	+0.8
	baz=296							
SATY	**Saty**	46.90	296	eP		P	18 07 09.2	+0.8
ARXS	**Arharly**	46.94	298	eP		P	18 07 08.9	+0.3
HDA	**Harding Lake**	46.97	34	P		P	18 07 09.7	+1.3
HDA				IAmb		IAmb	18 07 25.7	
	comp=Z,18nm,0.7s							
HDA	**Harding Lake**	46.97	34	P		P	18 07 10.2	+1.8
	baz=274,SNR=13							
HDA				P		P	18 07 10.2	+1.8
	baz=274,SNR=13							
IL31		46.97	34	IAmb		IAmb	18 07 33.8	
	comp=Z,32nm,0.9s							
ILAR	**Eielson Array**	46.97	34	P		P	18 07 09.7	+1.2
	comp=Z,19nm,0.6s,baz=264,slow=5.9,SNR=214							
	comp=Z,13nm,0.6s							
SCM	**Sheep Creek Mo**	47.02	38	P		P	18 07 10.9	+1.9
	baz=276							
D25K	**Kavik River**	47.04	27	P		P	18 07 10.7	+1.7
D25K				IAmb		IAmb	18 07 30.9	
	comp=Z,30nm,0.7s							
D25K	**Kavik River**	47.04	27	P		P	18 07 11.1	+2.1
	baz=270							
PRZ	**Przheval'sk**	47.09	295	IAmb		IAmb	18 07 30.2	
	comp=Z,35nm,1.0s							
PRZ	**Przheval'sk**	47.09	295	P		P	18 07 12.1	+2.1
PRZ				pmax		pmax		
	comp=Z,41nm,1.0s							
G25K	**Bearman Lake**	47.19	31	P		P	18 07 12.4	+2.3
	baz=272,SNR=17							
P23K	**Montague Islan**	47.20	40	P		P	18 07 12.8	+2.5
	baz=278							
TTSI	**Tana Toraja**	47.21	211	P		P	18 07 09.1	-1.7
F25K	**Christian Rive**	47.33	30	P		P	18 07 13.6	+2.3
	baz=273,SNR=30							
E25K	**Arctic Village**	47.35	29	IAmb		IAmb	18 08 18.4

baz=273,SNR=95
TNSS Tian-Shan 47.92 296 *e*P P 18 07 17.3 +0.7
baz=296
TNSS Tian-Shan 47.92 296 *e*P P 18 07 17.3 +0.7
EYAK Cordova Ski Ar 47.94 39 P P 18 07 18.0 +2.1
baz=278
RIDG Independent Ri 47.95 35 IAmb IAmb 18 07 30.3
comp=Z,21nm,0.8s
RIDG Independent Ri 47.95 35 P P 18 07 17.5 +1.3
baz=276,SNR=6.1
HARP HAARP 47.96 37 P P 18 07 18.4 +2.2
baz=277
KKN Kakani 48.01 274 *e*P P 18 07 17.7 +0.4
comp=Z,248nm,0.7s
PKI Pulchoki 48.02 273 *e*P P 18 07 17.4 -0.1
comp=Z,68nm,0.6s
PKIN Phulchoki 48.03 274 *e*P P 18 07 17.4 -0.1
comp=Z,40nm,0.5s
KUU Kurty 48.06 298 *e*P P 18 07 17.5 +0.3
baz=298
KUU Kurty 48.06 298 *e*P P 18 07 17.5 +0.3
G26K Porcupine Rive 48.09 31 P P 18 07 19.6 +2.5
baz=274,SNR=20
DMN Daman 48.23 274 *e*P P 18 07 19.3 +0.2
comp=Z,63nm,0.5s
SCRK Sand Creek 48.30 35 P P 18 07 20.3 +1.4
baz=277,SNR=35
N25K Chitina, Valde 48.33 38 IAmb IAmb 18 08 32.9
comp=Z,15nm,0.9s
N25K Chitina, Valde 48.33 38 P P 18 07 21.3 +2.1
baz=278
GKN Gorkha 48.40 274 *e*P P 18 07 20.4 +0.2
comp=Z,120nm,0.7s
J26L Joseph Creek 48.42 34 P P 18 07 21.2 +1.4
baz=277
BMRM Bremner River 48.43 39 P P 18 07 21.2 +1.3
baz=279
I26K Coal Creek Min 48.50 33 P P 18 07 21.7 +1.5
baz=276
SURA Surathani 48.51 243 P P 18 07 21.6 +0.7
MENT Mentasta 48.55 36 IAmb IAmb 18 07 44.5
comp=Z,23nm,0.7s
MENT Mentasta 48.55 36 P P 18 07 23.9 +3.1
BRZS Berezniki 48.64 306 *e*P P 18 07 21.3 -0.3
comp=Z,4.9nm,0.5s,baz=306
BRZS Berezniki 48.64 306 *e*P P 18 07 21.3 -0.3
BRZS pmax pmax
comp=Z,5.0nm,0.5s
L26K Log Cabin Wild 48.71 36 P P 18 07 23.4 +1.5
L26K IAmb IAmb 18 08 06.6
comp=Z,39nm,1.1s
L26K Log Cabin Wild 48.71 36 P P 18 07 23.8 +1.9
baz=278,SNR=13
E27K Coleen River 48.83 29 IAmb IAmb 18 07 26.1
comp=Z,22nm,0.7s
E27K Coleen River 48.83 29 P P 18 07 25.1 +2.3
baz=275
TKM2 Tokmak 2 48.89 297 P P 18 07 25.0 +1.2
SNR=24
TKM2 Tokmak 2 48.89 297 *i* P P 18 07 25.1 +1.2
TKM2 pmax pmax
comp=Z,25nm,0.6s
DANN Dangsing 48.91 275 *e*P P 18 07 25.0 +0.7
comp=Z,358nm,0.6s
SRIT Nakonsritamara 48.94 242 P P 18 07 25.1 +0.9
G27K Doyon Strip 48.94 31 IAmb IAmb 18 08 16.5
comp=Z,13nm,0.8s
G27K Doyon Strip 48.94 31 P P 18 07 26.2 +2.5
baz=276,SNR=11
M26K Nabesna, AK 48.96 37 IAmb IAmb 18 07 40.2
comp=Z,24nm,0.8s
M26K Nabesna, AK 48.96 37 P P 18 07 26.8 +2.8
baz=279,SNR=6.7
D27M Malcolm River 48.96 27 P P 18 07 25.6 +1.7
D27M IAmb IAmb 18 07 26.9
comp=Z,15nm,0.7s
D27M Malcolm River 48.96 27 P P 18 07 26.5 +2.6
baz=275
KAPI Kappang 49.03 210 P P 18 07 25.6 +0.7
KAPI Kappang 49.03 210 P P 18 07 25.6 +0.7
KAPI pmax pmax
comp=Z,90nm,0.8s
H27K Steamboat Moun 49.06 31 P P 18 07 26.8 +2.1
baz=277
PMG Port Moresby 49.07 173 *i* P P 18 07 24.5 -0.6
PMG pmax pmax
comp=Z,5.0nm,1.0s
I27K Kandik River 49.10 32 P P 18 07 26.9 +1.9
baz=278
MCARA McCarthy VSAT 49.12 38 P P 18 07 27.5 +2.4
baz=280
K27K Chicken 49.12 34 P P 18 07 27.2 +2.1
baz=278
CRQE Cirque 49.19 39 P P 18 07 27.9 +2.1
baz=280
BVA0 Borovoye Array 49.23 311 P P 18 07 26.1 +0.1
BVAR Borovoye Array 49.23 311 P P 18 07 26.3 +0.3
comp=Z,19nm,0.5s,baz=69,slow=7.8,SNR=107
BVAR S S 18 14 26.1 -2.3
comp=Z,5.3nm,1.0s,baz=70,slow=13,SNR=6.1
comp=Z,19nm,0.5s
BTLS Baital 49.24 300 *e*P P 18 07 26.1 -0.1
baz=300
BTLS Baital 49.24 300 *e*P P 18 07 26.1 -0.1
BRVK Borovoye 49.28 311 P P 18 07 26.8 +0.3
BRVK IAmb IAmb 18 07 52.9
comp=Z,19nm,0.8s
BRVK Borovoye 49.28 311 *c*eP P 18 07 26.3 -0.1
BRVK pmax pmax
comp=Z,13nm,0.6s
BRVK Borovoye 49.28 311 P P 18 07 26.9 +0.5
KOLN Koldanda 49.31 275 *e*P P 18 07 27.8 +0.5
TGL Tana Glacier 49.32 39 P P 18 07 28.6 +1.9
TGL IAmb IAmb 18 07 50.3
comp=Z,33nm,1.0s
OTUK Ortayu 49.35 304 P P 18 07 27.1 0.0
SGDS Sogindy 49.38 298 *e*P P 18 07 28.1 +0.7
baz=298
SGDS Sogindy 49.38 298 *e*P P 18 07 28.1 +0.7
L27K Beaver Creek, 49.38 36 IAmb IAmb 18 07 44.1
comp=Z,21nm,0.7s
L27K Beaver Creek, 49.38 36 P P 18 07 29.9 +2.8
baz=280,SNR=11
EGAK Eagle 49.41 33 P P 18 07 28.6 +1.5
EGAK IAmb IAmb 18 07 40.9
comp=Z,22nm,0.8s
EGAK Eagle 49.41 33 P P 18 07 28.8 +1.5
baz=279,SNR=6.8
KBK Karagaybulak 49.43 296 P P 18 07 28.5 +0.5
SNR=20
M27K Edge Creek, AK 49.48 37 IAmb IAmb 18 07 52.9
comp=Z,23nm,0.8s
M27K Edge Creek, AK 49.48 37 P P 18 07 29.8 +1.8
baz=280,SNR=6.1
F28M Old Crow 49.54 30 IAmb IAmb 18 07 51.5
comp=Z,22nm,0.9s
F28M Old Crow 49.54 30 P P 18 07 30.4 +2.2
baz=277,SNR=19
E28M Babbage River 49.54 28 IAmb IAmb 18 07 40.6
comp=Z,21nm,0.6s
E28M Babbage River 49.54 28 P P 18 07 30.4 +2.2
baz=277,SNR=35
ISLE Juniper Island 49.59 39 P P 18 07 30.7 +1.8
FRU1 Bishkek 49.60 297 IAmb IAmb 18 08 03.1
comp=Z,19nm,0.8s
FRU1 Bishkek 49.60 297 P P 18 07 30.6 +1.5
FRU1 pmax pmax
comp=Z,21nm,0.9s
PYUN Piuthan 49.62 276 *e*P P 18 07 30.1 +0.5
comp=Z,82nm,0.5s
D28M Stokes Point 49.74 27 P P 18 07 32.3 +2.6
baz=277,SNR=18
AAK Ala-Archa 49.75 297 P P 18 07 31.0 +0.6
SNR=12
AAK Ala-Archa 49.75 297 P P 18 07 31.0 +0.6
AAK IAmb IAmb 18 07 41.9
comp=Z,17nm,1.1s
AAK Ala-Archa 49.75 297 P P 18 07 31.1 +0.7
AAK Ala-Archa 49.75 297 P P 18 07 31.0 +0.6
AAK pmax pmax
comp=Z,17nm,1.1s
AAK Ala-Archa 49.75 297 P P 18 07 31.4 +1.0
I28M Miner Creek 49.82 32 P P 18 07 32.6 +2.1
baz=279,SNR=21
BARN Barnard Glacie 49.82 38 IAmb IAmb 18 07 54.7
comp=Z,22nm,0.9s
KSH Kashi 49.87 292 P P 18 07 35.6 +4.3
KSH pmax pmax
comp=Z,11nm,0.7s
BVCY Beaver Creek 49.94 36 P P 18 07 33.4 +2.0
baz=281
CTG Chitna Glacier 49.99 38 P P 18 07 34.1 +2.1
baz=282
CTGM Chitina Glacie 50.00 38 IAmb IAmb 18 08 05.0
comp=Z,24nm,0.7s
ARLS Aral 50.15 296 P P 18 07 35.4 +2.0
ARLS pmax pmax
comp=Z,17nm,0.8s
E29M Blow River 50.17 28 P P 18 07 35.4 +2.4
baz=278,SNR=34
EKS2 Erkin-Say 50.24 297 P P 18 07 35.4 +1.3
SNR=13
YUK3 Moose Creek 50.25 37 P P 18 07 35.7 +1.8
baz=282,SNR=6.4
DAWY Dawson 50.28 34 P P 18 07 35.6 +1.7
DAWY IAmb IAmb 18 08 44.1
comp=Z,27nm,1.5s
DAWY Dawson 50.28 34 P P 18 07 35.7 +1.7
baz=281
H29M Whitestone 50.33 31 IAmb IAmb 18 08 43.9
comp=Z,30nm,1.0s
H29M Whitestone 50.33 31 P P 18 07 36.3 +2.1
baz=280,SNR=5.9
G29M Pine Creek 50.35 30 IAmb IAmb 18 08 18.4
comp=Z,33nm,0.8s
G29M Pine Creek 50.35 30 P P 18 07 36.9 +2.5
baz=280,SNR=15
AML Almayashu 50.49 296 P P 18 07 37.9 +1.6
SNR=12
I29M Ogilvie Camp, 50.51 32 IAmb IAmb 18 08 21.7
comp=Z,25nm,0.9s
I29M Ogilvie Camp, 50.51 32 P P 18 07 38.0 +2.4
baz=281,SNR=18
YUK8 Steele Glacier 50.68 38 P P 18 07 39.3 +2.1
baz=283
PINM Pinnacle 50.71 39 P P 18 07 39.2 +2.0
baz=283
EPYK Eagle Plains 50.96 31 P P 18 07 41.7 +2.7
baz=281,SNR=16
M29M Somme Creek 51.02 36 P P 18 07 42.4 +2.7
baz=283,SNR=5.7
L29M L29M 51.03 35 P P 18 07 42.3 +2.7
L29M IAmb IAmb 18 07 58.5
comp=Z,24nm,0.8s
L29M L29M 51.03 35 P P 18 07 42.3 +2.7
baz=282,SNR=14
G30M tAoh Zraii Nji 51.03 30 P P 18 07 41.8 +2.2
baz=281,SNR=37
F30M Barrier River 51.08 29 P P 18 07 42.9 +3.0
baz=281,SNR=25
K29M Barlow Dome 51.14 34 IAmb IAmb 18 07 44.0
comp=Z,21nm,0.6s
K29M Barlow Dome 51.14 34 P P 18 07 42.9 +2.4
baz=282,SNR=21
YUK4 Talbot Arm 51.19 37 P P 18 07 43.3 +2.3
baz=284
PNL Peninsula 51.23 40 P P 18 07 43.1 +2.0
baz=284
MYKOM Kota Tinggi 51.30 232 IAmb IAmb 18 07 43.5
comp=Z,24nm,0.7s
I30M Mount Dempster 51.33 32 P P 18 07 43.5 +1.6
I30M Mount Dempster 51.33 32 P P 18 07 43.9 +2.0
baz=282,SNR=56
YUK6 Outpost Mounta 51.42 38 P P 18 07 44.4 +1.6
baz=284
O29M Mount Kennedy 51.47 39 IAmb IAmb 18 07 59.3
comp=Z,21nm,1.1s
O29M Mount Kennedy 51.47 39 P P 18 07 45.4 +2.3
baz=284
J30M Hart River 51.49 33 P P 18 07 45.7 +2.6
baz=283,SNR=9.9
MMRI Maumere 51.49 205 P P 18 07 44.0 +0.5
M30M Minto, Yukon 51.75 36 IAmb IAmb 18 08 09.8
comp=Z,33nm,1.4s
M30M Minto, Yukon 51.75 36 P P 18 07 47.6 +2.7
baz=284,SNR=7.0
INK Inuvik 51.78 28 P P 18 07 46.7 +1.7
INK Inuvik 51.78 28 P P 18 07 47.0 +2.0
baz=282,SNR=39
INK Inuvik 51.78 28 P P 18 07 46.7 +1.7
INK pmax pmax
comp=Z,33nm,0.5s
EDFI Ende, Flores 51.78 206 P P 18 07 44.9 -0.9
comp=Z,83nm,0.8s
G31M Satah River 51.80 30 P P 18 07 47.3 +2.1
baz=283,SNR=26
ARK Arkit 51.81 297 P P 18 07 47.6 +1.7
ARK pmax pmax
comp=Z,21nm,0.8s
HYT Haines Junctio 51.85 38 P P 18 07 48.6 +2.7
baz=285,SNR=14
F31M Tsiigehtchic 51.89 29 IAmb IAmb 18 08 42.0
comp=Z,21nm,0.8s
F31M Tsiigehtchic 51.89 29 P P 18 07 47.8 +1.9
baz=283,SNR=18
N30M Aishikik Lake 51.89 37 P P 18 07 48.4 +2.3
baz=285
SOEI Soe 51.91 203 P P 18 07 47.5 +0.8
SOEI Soe 51.91 203 P P 18 07 45.6 -1.1
comp=Z,166nm,0.8s,comp=Z,2µm
P29M Windy Craggy 52.05 39 P P 18 07 49.7 +2.4
baz=286
P30M Million Dollar 52.30 39 P P 18 07 52.0 +2.9
baz=286
KK31 Karatay Array 52.30 299 IAmb IAmb 18 08 20.2
comp=Z,16nm,0.8s
KK31 Karatay Array 52.30 299 *e*P P 18 07 49.2 -0.2
KKAR Karatay Array 52.30 299 P P 18 07 49.4 0.0
KKAR IAmb IAmb 18 08 20.2
comp=Z,16nm,0.8s
KKAR Karatay Array 52.30 299 P P 18 07 49.4 0.0
KKAR pmax pmax
comp=Z,16nm,0.8s
TRKS Terek-Say 52.48 297 P P 18 07 51.9 +1.0
TRKS pmax pmax
comp=Z,39nm,0.8s
N31M Braeburn, Yuko 52.49 37 IAmb IAmb 18 08 11.3
comp=Z,28nm,0.7s
N31M Braeburn, Yuko 52.49 37 P P 18 07 53.1 +2.7
baz=286,SNR=8.4
O30N Mendenhall 52.54 38 IAmb IAmb 18 08 56.3
comp=Z,38nm,1.4s
O30N Mendenhall 52.54 38 P P 18 07 53.6 +2.7
baz=286
KDU Kakadu 52.88 192 P P 18 07 54.2 +0.5
M31M Drury Creek, Y 52.93 36 IAmb IAmb 18 08 19.8
comp=Z,67nm,1.8s
M31M Drury Creek, Y 52.93 36 P P 18 07 56.4 +2.7
baz=286,SNR=5.6
PPBI Pangkal Pinang 53.12 227 P P 18 07 56.6 +1.0
comp=Z,52nm,1.2s,comp=Z,3µm
WHY Whitehorse 53.14 38 IAmb IAmb 18 07 59.1
comp=Z,89nm,1.9s
WHY Whitehorse 53.14 38 P P 18 07 58.0 +2.7
baz=287,SNR=5.6
CHM Chimkent 53.23 298 *e*P P 18 07 56.5 +0.3
comp=Z,7.3nm,0.7s,baz=298
CHM Chimkent 53.23 298 *e*P P 18 07 56.5 +0.3
CHM pmax pmax
comp=Z,7.0nm,0.7s
MTN Manton Dam 53.25 193 P P 18 07 56.8 +0.3
SKAG Skagway 53.28 39 P P 18 07 59.0 +2.8
baz=288
S31K Pelican 53.28 41 P P 18 07 58.7 +2.4
baz=288
PLAI Plampang 53.28 211 P P 18 07 56.2 -0.6
PLAI Plampang 53.28 211 P P 18 07 54.9 -1.9
comp=Z,77nm,0.8s
BTK Batken 53.30 295 P P 18 07 57.7 +0.9
BTK pmax pmax
comp=Z,22nm,0.9s
FARO Faro, Yukon 53.39 36 P P 18 07 59.3 +2.2
FARO IAmb IAmb 18 08 18.6
comp=Z,45nm,1.6s
FARO Faro, Yukon 53.39 36 P P 18 07 59.6 +2.5
baz=287,SNR=8.2
SVE Sverdlovsk 53.54 317 *d* iP P 18 07 59.1 +0.8
SVE *e*S S 18 15 26.5 -1.3
SVE pmax pmax
comp=Z,64nm,0.7s
TWSI Taliwang, Sumb 53.56 212 P P 18 07 57.8 -1.0
comp=Z,91nm,1.0s
A36M Sachs Harbour 53.59 23 IAmb IAmb 18 08 11.0
comp=Z,40nm,0.9s
A36M Sachs Harbour 53.59 23 P P 18 08 00.7 +2.3
baz=287,SNR=19
PSI Prapat 53.65 238 P P 18 08 00.1 +0.4
PSI Prapat 53.65 238 P P 18 07 59.8 +0.1
PSI pmax pmax
comp=Z,39nm,0.8s
SRBI Singaraja 53.67 214 P P 18 07 59.8 +0.2
comp=Z,101nm,0.7s
RPSI Rantau Prapat 53.73 238 IAmb IAmb 18 08 00.6
comp=Z,29nm,0.8s
N32M Quiet Lake 53.83 37 IAmb IAmb 18 09 14.1
comp=Z,74nm,1.9s
N32M Quiet Lake 53.83 37 P P 18 08 02.3 +1.9
baz=288
P32M Atlin 54.02 39 P P 18 08 04.4 +2.7
baz=289
SIT Sitka 54.03 42 P P 18 08 04.6 +2.8
baz=289
R32K Eaglecrest 54.05 40 P P 18 08 04.7 +2.7
baz=289
BKNI Bangkinang 54.18 234 P P 18 08 04.1 +0.7
BKNI Bangkinang 54.18 234 P P 18 08 04.3 +0.9
comp=Z,201nm,1.0s
MLSI Meulaboh, Aceh 54.24 242 P P 18 08 03.0 -0.9
comp=Z,97nm,0.7s
P33M Teslin, Yukon 54.25 38 IAmb IAmb 18 08 45.3
comp=Z,27nm,1.1s
P33M Teslin, Yukon 54.25 38 P P 18 08 06.3 +2.8
baz=289
NIL Nilore 54.34 287 P P 18 08 05.7 +1.2
NIL pmax pmax
comp=Z,83nm,0.7s
NIL Nilore 54.34 287 P P 18 08 05.4 +0.9
NGJI Ngawi 54.74 218 P P 18 08 22.7 +15
ARU Arti 54.76 317 P P 18 08 07.4 +0.4
ARU Arti 54.76 317 *c i*P P 18 08 07.5 +0.4
ARU *PP pP 18 08 17.3 -2.6
ARU S S 18 15 44.7 +0.5
ARU SS SS 18 19 20.6 -6.5
ARU pmax pmax
comp=Z,42nm,0.6s
ARU Arti 54.76 317 P P 18 08 07.6 +0.5
C36M Paulatuk 54.80 26 P P 18 08 09.0 +1.9
baz=290,SNR=16
CHGR Chuyangaron 55.05 294 P P 18 08 10.3 +0.6
CHGR pmax pmax
comp=Z,81nm,0.9s
R33M Jennings River 55.41 38 IAmb IAmb 18 08 31.1
comp=Z,60nm,1.9s
R33M Jennings River 55.41 38 P P 18 08 14.0 +2.1
baz=291
PDSI Padang 55.50 234 P P 18 08 13.2 +0.2
comp=Z,17nm,0.8s
GSI Gunungsitoli 55.65 238 P P 18 08 13.9 -0.2
GSI Gunungsitoli 55.65 238 P P 18 08 14.8 +0.7
GSI Gunungsitoli 55.65 238 P P 18 08 13.9 -0.2
comp=Z,117nm,1.2s
UGM Wanagama 55.66 219 P P 18 08 15.0 +0.9
S34M Telegraph Cree 55.86 40 P P 18 08 17.9 +2.9
baz=292
KPJI Karang Pucung 55.95 221 P P 18 08 14.9 -1.2
comp=Z,158nm,0.8s
KLI Kotabumi 56.06 227 P P 18 08 16.7 -0.2
KLI pmax pmax
comp=Z,270nm,0.9s
LEM Lembang 56.20 223 P P 18 08 17.9 -0.2
LEM pmax pmax
comp=Z,98nm,0.8s
DLBC Dease Lake 56.21 39 IAmb IAmb 18 09 11.9
comp=Z,50nm,1.6s
DLBC Dease Lake 56.21 39 P P 18 08 20.0 +2.4
baz=292
KNRA Kununurra 56.47 195 P P 18 08 20.6 +0.9
LWLI Liwa 56.63 227 P P 18 08 19.8 -1.4
comp=Z,72nm,0.7s,comp=Z,2µm
T35M Bob Quinn 56.65 41 P P 18 08 24.5 +3.8
T35M IAmb IAmb 18 09 04.7
comp=Z,35nm,1.2s
T35M Bob Quinn 56.65 41 P P 18 08 23.8 +3.1
baz=293
AB31 Akbulak array 56.67 309 P P 18 08 20.6 -0.3
KASI Kota Agung 56.80 227 P P 18 08 19.6 -2.6
comp=Z,41nm,0.7s
KBL Kabul 57.01 290 P P 18 08 23.8 0.0
KBL IAmb IAmb 18 08 53.3
comp=Z,30nm,0.9s
KBL Kabul 57.01 290 P P 18 08 23.8 0.0
KBL pmax pmax
comp=Z,30nm,0.9s
CGJI Cibinong 57.04 225 P P 18 08 20.7 -3.2
comp=Z,27nm,0.9s
AKTO Aktyubinsk 57.33 311 P P 18 08 25.5 -0.1
ALE Alert 57.43 4 P P 18 08 26.9 +1.1
ALE pP pP 18 08 38.3 -0.3
ALE sP sP 18 08 42.6 -1.2
EUNU Eureka 57.48 9 IAmb IAmb 18 08 47.5
comp=Z,18nm,0.8s
LIRD Liard River Hi 57.70 37 P P 18 08 30.5 +2.4
baz=294
SPA0 Spitsbergen Ar 58.03 349 *e*P P 18 08 31.0 +0.9
SPITS Spitsbergen Ar 58.03 349 P P 18 08 30.6 +0.5
comp=Z,3.1nm,0.4s,baz=40,slow=12,SNR=22
comp=Z,3.1nm,0.4s
KBS Kingsbay 58.14 350 *e*P P 18 08 33.2 +2.4
NOR Nord 58.44 356 P P 18 08 33.7 +0.8
NOR pmax pmax
comp=Z,14nm,2.6s
NOR Nord 58.44 356 *i* P P 18 08 32.8 -0.2
NOR IAmb IAmb 18 08 34.5
comp=Z,6.7nm,0.7s
KIRV Kirov 58.48 322 *c e*P P 18 08 34.1 +0.7
PRGR Permogore 58.85 326 *i* iP P 18 08 36.4 +0.4
PRGR pmax pmax
comp=Z,41nm,0.8s
HYB Hyderabad 58.85 267 *e*P P 18 08 37.1 +0.4
HYB *es*P pP 18 08 49.8 +0.1
HYB *e*S S 18 16 40.8 +1.5
FITZ Fitzroy Crossi 59.51 198 IAmb IAmb 18 08 42.6
comp=Z,12nm,1.0s
FITZ Fitzroy Crossi 59.51 198 P P 18 08 41.7 +0.7
WB0 Warramunga Arr 59.59 188 P P 18 08 41.0 -0.5
CTA Charters Tower 59.59 175 P P 18 08 42.0 +0.4
CTA Charters Tower 59.59 175 P P 18 08 41.7 +0.2
CTA pmax pmax
comp=Z,22nm,0.6s
CTAO Charters Tower 59.59 175 P P 18 08 42.0 +0.4
CTAO IAmb IAmb 18 08 43.6
comp=Z,11nm,0.7s
CTAO Charters Tower 59.59 175 P P 18 08 42.1 +0.5
CTAO Charters Tower 59.59 175 P P 18 08 42.0 +0.4
CTAO pmax pmax
comp=Z,11nm,0.7s
CTAO Charters Tower 59.59 175 P P 18 08 41.7 +0.2
WRAB Tennant Creek 59.75 188 P P 18 08 42.1 -0.6
WRAB Tennant Creek 59.75 188 P P 18 08 42.1 -0.6
WRAB pmax pmax
comp=Z,68nm,0.8s
WB2 Warramunga Arr 59.76 188 P P 18 08 42.3 -0.4
WRA Warramunga Arr 59.77 188 *i* P P 18 08 41.0 -1.8
WRA pmax pmax
comp=Z,68nm,0.6s
WRA Warramunga Arr 59.77 188 P P 18 08 42.2 -0.5
comp=Z,68nm,0.6s,baz=6.1,slow=7.0,SNR=325
WRA S S 18 16 46.1 -4.5
comp=Z,2.6nm,1.1s,baz=4.7,slow=12,SNR=6.2
RES Resolute Bay 59.90 15 P P 18 08 43.0 0.0
RES pmax pmax
comp=Z,47nm,0.7s
LVZ Lovozero 59.92 335 P P 18 08 43.0 -0.4
QIS Mount Isa 59.98 183 P P 18 08 44.1 -0.1
VADS Vadso 60.29 339 *e*P P 18 08 46.5 +0.7
APA Apatity 60.50 335 *j i*P P 18 08 46.2 -1.1
APA pmax pmax
comp=Z,14nm,0.7s
KEV Kevo 61.16 339 P P 18 08 52.1 +0.4
YKA Yellowknife Ar 61.24 31 P P 18 08 53.5 +1.1
comp=Z,3.3nm,0.6s,baz=300,slow=6.6,SNR=35
comp=Z,3.3nm,0.6s
HAMF Hammerfest 61.50 341 *e*P P 18 08 54.2 +0.3
ARA0 ARCESS Array S 61.71 339 *e*P P 18 08 56.0 +0.6
ARCES ARCESS Array B 61.71 339 P P 18 08 55.8 +0.4
ARCES ARCESS Array B 61.71 339 P P 18 08 55.9 +0.4
comp=Z,4.7nm,0.5s,baz=58,slow=8.5,SNR=55
comp=Z,4.7nm,0.5s
KLMR Klimovskoe 61.82 327 *e*P P 18 08 54.4 -1.9

KLMR AMP 18 08 58.4
comp=Z,54nm,1.3s
KLMR Klimovskoe 61.82 327 *e*P **P 18 08 54.3 -2.0**
KLMR pmax pmax
comp=Z,54nm,1.3s
HRA Herat 61.98 293 P **P 18 08 59.2 +1.2**
HRA IAmb IAmb 18 09 42.8
comp=Z,12nm,0.8s
TULEG Thule 62.40 8 *i*P **P 18 08 58.4 -1.6**
TULEG IAmb IAmb 18 09 00.8
comp=Z,25nm,0.5s
KTK1 Kautokeino 62.67 339 *e*P **P 18 09 02.9 +1.0**
NEEM North Greenlan 62.85 3 *i*P **P 18 09 03.5 +0.2**
NEEM IAmb IAmb 18 09 16.4
comp=Z,29nm,0.8s
GEYT Alibeck 63.05 298 IAmb IAmb 18 09 36.7
comp=Z,19nm,0.9s
GEYT Alibeck 63.05 298 P **P 18 09 05.3 +0.3**
comp=Z,6.9nm,0.6s,baz=70,slow=1.7,SNR=14
comp=Z,6.9nm,0.6s
GYA0B ALIBECK ARRAY 63.05 298 IAmb IAmb 18 09 19.1
comp=Z,18nm,0.8s
DAG Danmarks Havn 63.18 355 P **P 18 09 05.6 +0.5**
DAG pmax pmax
comp=Z,24nm,0.8s
DAG Danmarks Havn 63.18 355 *i*P **P 18 09 05.0 -0.1**
DAG IAmb IAmb 18 09 16.9
comp=Z,13nm,0.8s
TRO Tromso 63.39 341 *e*P **P 18 09 07.1 +0.5**
AS31 Alice Springs 63.49 188 P **P 18 09 07.7 -0.1**
AS31 IAmb IAmb 18 09 08.6
comp=Z,13nm,0.9s
ASAR Alice Springs 63.49 188 P **P 18 09 07.7 -0.1**
ASAR Alice Springs 63.49 188 P **P 18 09 07.8 0.0**
comp=Z,41nm,0.8s,baz=0.9,slow=6.8,SNR=688
comp=Z,41nm,0.8s
PALK Pallekele 63.49 257 P **P 18 09 07.6 -0.6**
PALK pP **pP 18 09 18.8 -2.5**
MBWA Marble Bar 64.04 203 P **P 18 09 11.2 -0.3**
MBWA Marble Bar 64.04 203 P **P 18 09 11.7 +0.2**
MBWA Marble Bar 64.04 203 P **P 18 09 11.4 -0.1**
PSA00 Pilbara Seismi 64.40 203 P **P 18 09 13.5 -0.3**
PSA00 IAmb IAmb 18 09 14.1
comp=Z,24nm,0.8s
PSA00 Pilbara Seismi 64.40 203 IAmb IAmb 18 09 14.5
comp=Z,19nm,0.8s
PSA00 Pilbara Seismi 64.40 203 P **P 18 09 13.7 -0.1**
OUL Oulu 64.42 335 P **P 18 09 13.0 -0.4**
OUL pmax pmax
comp=Z,39nm,1.4s
EIDS Eidsvold 65.26 171 P **P 18 09 20.4 +1.1**
EIDS Eidsvold 65.26 171 P **P 18 09 20.9 +1.6**
MOS Moscow 65.45 323 *e*P **P 18 09 20.1 -0.2**
MOS *e* 18 09 53.4
MOS *e* 18 11 41.0
MOS *e*S **S 18 17 57.9 -3.4**
MOS pmax pmax
comp=Z,51nm,1.0s
NOUC Port Laguerre 65.49 155 P **P 18 09 22.8 +1.9**
DZM Mont Dzumac 65.51 155 P **P 18 09 23.5 +2.4**
DZM IAmb IAmb 18 09 25.0
comp=Z,35nm,1.1s
DZM Mont Dzumac 65.51 155 P **P 18 09 23.8 +2.7**
DZM Mont Dzumac 65.51 155 LR LR 18 36 05.5
comp=Z,369nm,20.6s,baz=329,slow=34
DZM Mont Dzumac 65.51 155 P **P 18 09 23.4 +2.2**
STEI Steigen 65.55 341 *e*P **P 18 09 21.0 +0.3**
WRKA Warakurna 65.67 194 P **P 18 09 21.9 -0.2**
FAUS Fauske 65.94 340 *e*P **P 18 09 23.7 +0.5**
QLP Quilpie 65.96 178 P **P 18 09 24.8 +1.0**
VRH Novokhopyorsk 65.99 317 *e*P **P 18 09 23.0 -0.9**
VRH pmax pmax
comp=Z,15nm,0.5s
OBN Obninsk 66.31 323 *c i*P **P 18 09 25.7 -0.1**
OBN *e* 18 11 59.3
OBN *e*PPP PPP 18 13 29.2
OBN *e*S S 18 18 25.7 +14
OBN pmax pmax
comp=Z,21nm,0.5s
OBN MLR MLR
comp=Z,405nm,20.0s
LPSR Galich'ya Gora 66.63 320 *e*P **P 18 09 27.2 -0.7**
LPSR pmax pmax
comp=Z,30nm,0.8s
FINES FINESS Array B 66.73 332 P **P 18 09 28.6 +0.2**
comp=Z,16nm,0.5s,baz=36,slow=9.4,SNR=116
comp=Z,16nm,0.5s
I03D Drain, OR 66.82 52 IAmb IAmb 18 09 47.5
comp=Z,21nm,1.0s
H04A Detroit Lake 66.98 50 P **P 18 09 31.7 +1.4**
H04A IAmb IAmb 18 10 07.2
comp=Z,23nm,1.0s
VORR Voronezh 67.02 319 *e*P **P 18 09 30.9 +0.5**
VORR pmax pmax
comp=Z,76nm,0.4s
MOR8 Moi Rana 67.07 340 *e*P **P 18 09 29.6 -1.0**
INKA Innaminka 67.10 181 P **P 18 09 32.2 +1.2**
KONS Konsvik 67.17 340 *e*P **P 18 09 31.4 +0.3**
VSR Storozhevoye 67.31 318 *e*P **P 18 09 31.6 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.6s
STOK Stokkvaagen 67.32 340 *e*P **P 18 09 31.8 -0.3**
I04A Tendick Farm, 67.33 51 IAmb IAmb 18 10 15.0
comp=Z,36nm,1.3s
VORD Divnogorie 67.39 318 *e*P **P 18 09 31.6 -1.2**
VORD pmax pmax
comp=Z,10.0nm,0.7s
OOD Oodnadatta 67.40 186 P **P 18 09 33.7 +0.7**
C09A Chrisman Ranch 67.48 46 IAmb IAmb 18 10 34.2
comp=Z,26nm,0.9s
D08A Wollman Farm, 67.54 47 P **P 18 09 37.3 +3.4**
G06A Carlson Farm, 67.58 49 pP pP 18 09 43.8 -3.4
NEW Newport 67.85 45 P **P 18 09 37.5 +1.7**
baz=305
SUMG Summit 68.03 0 P **P 18 09 38.2 +1.2**
SUMG IAmb IAmb 18 10 06.4
comp=Z,25nm,0.9s
SUMG Summit 68.03 0 P **P 18 09 38.2 +1.2**
SUMG pmax pmax
comp=Z,25nm,0.9s
SUMG Summit 68.03 0 *i*P **P 18 09 37.7 +0.7**
SUMG IAmb IAmb 18 09 38.9
comp=Z,14nm,0.5s
PINE Pine Mountain 68.22 51 IAmb IAmb 18 10 00.5
comp=Z,25nm,0.8s
L04D Klamath Falls 68.28 53 IAmb IAmb 18 10 00.5
comp=Z,46nm,1.3s
E09A Wood Farm, Sta 68.29 47 IAmb IAmb 18 09 56.0
comp=Z,17nm,1.0s
J05D Fort Rock, OR 68.33 51 IAmb IAmb 18 10 01.1
comp=Z,16nm,1.1s
SEKA Sheki 68.43 306 P **P 18 09 37.5 -2.1**
VSU Vasula 68.45 329 *e*P **P 18 09 39.5 +0.2**
RAF Rauma 68.55 333 *e*P **P 18 09 39.7 -0.1**
ZKTA Zakatala 68.55 307 P **P 18 09 38.9 -1.4**
MNGR Mingechevir, A 68.75 306 P **P 18 09 40.0 -1.5**
LKRN Lenkeran, Azer 68.83 303 P **P 18 09 40.6 -1.5**
K05A Summer Lake 68.85 52 IAmb IAmb 18 10 04.6
comp=Z,32nm,1.0s
I07A Izee 68.90 50 P **P 18 09 44.5 +1.9**
AULRC Lightning Ridg 68.98 175 P **P 18 09 43.7 +0.9**
NSS Namsos 69.00 339 *e*P **P 18 09 42.8 +0.2**
GANJ Ganja 69.30 306 P **P 18 09 43.1 -1.9**
MTSE Matsula 69.41 331 *e*P **P 18 09 45.7 +0.5**
MEEK Meekatharra 69.53 202 P **P 18 09 46.3 -0.1**
ZEI Tsey 69.55 309 *e*P **P 18 09 46.2 -0.5**
ZEI pmax pmax
comp=Z,18nm,1.0s
KIV Kislovodsk 69.59 311 ⇓P **P 18 09 48.3 +1.5**
KIV Kislovodsk 69.59 311 P **P 18 09 47.8 +1.0**
KIV Kislovodsk 69.59 311 P **P 18 09 47.8 +1.0**
KIV Kislovodsk 69.59 311 *e*P **P 18 09 48.2 +1.4**
KIV *e*S **S 18 18 50.4 -1.2**
KIV pmax pmax
comp=Z,50nm,3.9s
KIV pmax pmax
comp=Z,70nm,1.0s
KIV Kislovodsk 69.59 311 P **P 18 09 47.8 +1.0**
KBZ Khabaz 69.60 310 *ce*P **P 18 09 47.9 +1.2**
KBZ pmax pmax
comp=Z,20nm,1.1s
KBZ Khabaz 69.60 310 P **P 18 09 47.5 +0.8**
comp=Z,11nm,0.7s,baz=45,slow=12,SNR=26
comp=Z,11nm,0.7s

LCRK Leigh Creek 69.88 184 P **P 18 09 49.9 +1.6**
ONI Oni 69.93 309 P **P 18 09 48.2 -0.6**
ONI IAmb IAmb 18 10 15.2
comp=Z,14nm,0.8s
ONI Oni 69.93 309 P **P 18 09 48.3 -0.6**
ONI pmax pmax
comp=Z,14nm,0.8s
MULG Mulgathing 70.02 187 P **P 18 09 50.5 +1.3**
ARMA Armidale 70.31 171 IAmb IAmb 18 09 53.3
comp=Z,32nm,1.1s
ARMA Armidale 70.31 171 P **P 18 09 53.1 +1.9**
WVOR Wild Horse Val 70.38 51 P **P 18 09 54.2 +2.5**
WVOR pmax pmax
comp=Z,10.0nm,1.1s
MSO Missoula 70.44 45 P **P 18 09 53.5 +1.5**
MSO Missoula 70.44 45 P **P 18 09 53.6 +1.5**
baz=308
IZAR Zarasai 70.47 327 *e*P **P 18 09 52.8 +1.0**
MNK Minsk 70.61 326 *i*P **P 18 09 50.4 -2.3**
comp=E,3.0nm,0.8s
MNK *i*P **P 18 09 50.4 -2.3**
comp=N,14nm,0.7s
MNK *i*P **P 18 09 50.4 -2.3**
comp=Z,19nm,0.7s,baz=48
MNK *i*pP **pP 18 10 04.6 -1.4**
MNK *i*PP **PP 18 12 26.9 -2.0**
MNK *i*PPP PPP 18 14 09.7
MNK *i*S **S 18 19 00.7 -2.2**
MNK *i*sS **sS 18 19 25.1 0.0**
MNK *i*SS **SS 18 23 33.8 -0.3**
MNK *i*SSS SSS 18 26 52.5
MNK *i*LQ LQ 18 36 22.0
MNK *i*LR LR 18 41 24.7
MNK *i*LRM MLR 18 43 28.8
comp=Z,286nm,18.1s
MNK *i*LRM MLR 18 43 49.0
comp=E,98nm,16.8s
MNK *i*LRM MLR 18 43 50.9
comp=N,248nm,18.1s
MNK Minsk 70.61 326 *i*P **P 18 09 50.3 -2.3**
MNK *i**PP **pP 18 10 04.5 -1.4**
MNK *i* 18 12 26.8
MNK *i*PPP PPP 18 14 09.6
MNK *i*S **S 18 19 00.7 -2.2**
MNK *i**SS **sS 18 19 25.1 0.0**
MNK *i*SS **SS 18 23 33.7 -0.3**
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=Z,19nm,0.7s
MNK pmax pmax
comp=N,14nm,0.7s
MNK MLR MLR
comp=Z,286nm,18.0s
MNK MLR MLR
comp=E,98nm,17.0s
MNK MLR MLR
comp=N,248nm,18.0s
ISAL Salakas 70.64 327 *e*P **P 18 09 53.8 +0.9**
NAX Nakhchivan 70.67 305 P **P 18 09 51.8 -1.7**
SLIT Slitere, Latvi 70.75 330 *e*P **P 18 09 53.6 +0.1**
OVMT Ovando 70.81 44 P **P 18 09 55.4 +1.1**
NACGM Naroch 70.81 326 *e*P **P 18 09 55.1 +1.1**
AUPHS Peel High Scho 70.90 172 P **P 18 09 55.9 +1.3**
SHME Shamm 70.94 288 P **P 18 09 54.8 -0.4**
CMSA Cobar Meteorol 70.95 177 P **P 18 09 55.9 +1.0**
FFC Flin Flon 71.18 33 P **P 18 09 56.7 +0.5**
FFC IAmb IAmb 18 11 10.4
comp=Z,31nm,1.2s
FFC Flin Flon 71.18 33 P **P 18 09 56.7 +0.5**
FFC pmax pmax
comp=Z,31nm,1.2s
FFC Flin Flon 71.18 33 P **P 18 09 57.2 +1.0**
FFC pP **pP 18 10 09.0 -0.3**
FFC sP **sP 18 10 13.2 -1.3**
STKA Stephens Creek 71.21 180 P **P 18 09 57.2 +0.8**
STKA Stephens Creek 71.21 180 P **P 18 09 56.8 +0.3**
comp=Z,15nm,0.7s,baz=343,slow=6.7,SNR=31
comp=Z,15nm,0.7s
VSVD Vaisvydziai 71.26 328 *e*P **P 18 09 56.9 +0.3**
FORT Forrest 71.32 193 P **P 18 09 57.8 +0.7**
MSFE Esma-Masafi 71.33 288 P **P 18 09 57.7 +0.1**
FCC Fort Churchill 71.39 27 P **P 18 09 58.2 +0.9**
FCC IAmb IAmb 18 10 14.1
comp=Z,22nm,1.1s
FCC Fort Churchill 71.39 27 P **P 18 09 58.2 +0.9**
FCC pmax pmax
comp=Z,22nm,1.2s
EMB Emerald Bay 71.52 55 IAmb IAmb 18 10 20.6
comp=Z,16nm,0.9s
ICESG Greenland Ices 71.53 1 *i*P **P 18 09 58.9 +0.4**
ICESG IAmb IAmb 18 10 00.4
comp=Z,21nm,0.5s
UOSS Minazif 71.53 287 P **P 18 09 58.1 -0.8**
UOSS Minazif 71.53 287 P **P 18 09 59.1 +0.2**
UOSS pP **pP 18 10 10.4 -1.6**
UOSS PcP **PcP 18 10 18.1 0.0**
SOC Sochi 71.54 312 *e*P **P 18 09 58.8 +0.2**
SOC *e* 18 12 34.4
SOC *e*PPP PPP 18 14 18.1
SOC *e*S **S 18 19 15.9 +1.8**
SOC *e*SS **SS 18 23 50.5 +1.6**
SOC *e*SSS SSS 18 26 56.9
SOC pmax pmax
comp=Z,16nm,0.6s
PABE Paberze 71.58 328 P **P 18 09 59.2 +0.7**
PABE Paberze 71.58 328 *e*P **P 18 09 58.5 0.0**
HATD Hatta, Dubai 71.66 287 P **P 18 09 59.8 +0.3**
BCA Borcka 71.71 309 ⇓P **P 18 10 00.3 +0.7**
NC405 NORSAR Array S 71.75 337 P **P 18 09 59.9 +0.4**
NC303 NORSAR Array S 71.76 337 IAmb IAmb 18 10 00.5
comp=Z,37nm,1.2s
SOHO SOHO 71.76 286 P **P 18 10 00.3 +0.1**
DOMB Dombas 71.77 339 *e*P **P 18 10 00.3 +0.7**
ASHO Ashiyiah 71.79 287 P **P 18 10 00.7 +0.3**
AUDCS Dubbo College 71.81 174 P **P 18 10 01.2 +1.1**
HFS Hagfors 71.90 336 P **P 18 10 01.0 +0.6**
comp=Z,16nm,0.4s,baz=46,slow=6.4,SNR=181
comp=Z,16nm,0.4s
EGMT Eagleton 71.92 42 P **P 18 10 02.5 +1.6**
baz=310
NB2 NORSAR Subarra 71.95 337 P **P 18 10 00.9 +0.2**
comp=Z,7.3nm,0.4s,baz=36,slow=6.5
NB2 NORSAR Subarra 71.95 337 P **P 18 10 00.9 +0.2**
baz=36,slow=6.5
NOA NORSAR Array B 71.95 337 P **P 18 10 01.0 +0.2**
NOA NORSAR Array B 71.95 337 P **P 18 10 00.9 +0.2**
comp=Z,8.0nm,0.5s,baz=53,slow=7.0,SNR=92
NOA LR LR 18 46 32.5
comp=Z,189nm,18.9s,baz=235,slow=40
comp=Z,8.0nm,0.5s
PBUR Paburge 72.03 329 *e*P **P 18 10 01.4 +0.2**
YERR Yerington 72.05 54 P **P 18 10 03.2 +1.3**
YERR IAmb IAmb 18 10 19.5
comp=Z,27nm,1.2s
NBO00 NORSAR Array S 72.09 337 IAmb IAmb 18 10 19.3
comp=Z,55nm,1.4s
NORES NORESS Array B 72.09 337 P **P 18 10 01.4 -0.2**
NC602 NORSAR Array S 72.10 337 IAmb IAmb 18 10 26.2
comp=Z,54nm,1.6s
NC602 NORSAR Array S 72.10 337 *e*P **P 18 10 01.9 +0.4**
FAQ Al Faqa, Dubai 72.10 287 P **P 18 10 02.9 +0.7**
VIKU Vikbolandet 72.14 333 *e*P **P 18 10 01.6 -0.3**
HLID Hailey 72.17 48 P **P 18 10 04.1 +1.5**
baz=308
NAO01 NORSAR Array S 72.21 337 IAmb IAmb 18 12 17.6
comp=Z,37nm,1.4s
AKN Aaknes 72.23 340 *e*P **P 18 10 03.4 +1.0**
BBOO Buckleboo 72.36 185 IAmb IAmb 18 10 04.9
comp=Z,62nm,1.4s
BBOO Buckleboo 72.36 185 P **P 18 10 04.2 +0.9**
ASUD Al Ashush, Dub 72.36 288 P **P 18 10 04.0 +0.2**
ALNE Al Ain 72.39 287 P **P 18 10 04.2 +0.3**
BOZ Bozeman (W) 72.46 45 P **P 18 10 06.0 +1.7**
baz=309
AKASG Malin Array Be 72.54 322 P **P 18 10 04.4 0.0**
AKASG IAmb IAmb 18 10 25.9
comp=Z,22nm,0.8s
AKASG Malin Array Be 72.54 322 P **P 18 10 04.4 0.0**
AKASG pmax pmax
comp=Z,22nm,0.8s
AKASG Malin Array Be 72.54 322 P **P 18 10 04.0 -0.4**
comp=Z,9.1nm,0.5s,baz=44,slow=6.1,SNR=92
comp=Z,9.1nm,0.5s

AKBB Malin Array Si 72.54 322 IAmb IAmb 18 10 25.9
comp=Z,24nm,0.7s
AKBB Malin Array Si 72.54 322 *ce*P **P 18 10 03.2 -1.2**
AKBB pmax pmax
comp=Z,16nm,0.7s
KIEV Kiev 72.55 322 ⇑P **P 18 10 04.4 0.0**
KIEV Kiev 72.55 322 P **P 18 10 04.5 0.0**
KIEV IAmb IAmb 18 10 25.9
comp=Z,22nm,0.8s
KIEV Kiev 72.55 322 P **P 18 10 04.0 -0.5**
KIEV Kiev 72.55 322 P **P 18 10 04.5 0.0**
KIEV pmax pmax
comp=Z,22nm,0.8s
KVN Kaiserville 72.72 53 P **P 18 10 07.4 +1.4**
KVN Kaiserville 72.72 53 P **P 18 10 07.4 +1.4**
KVN pmax pmax
comp=Z,15nm,1.0s
HTT Hallett 72.82 183 P **P 18 10 07.8 +1.7**
HTT Hallett 72.82 183 P **P 18 10 08.2 +2.1**
LHV Little Huntoon 72.95 54 IAmb IAmb 18 12 49.4
comp=Z,36nm,1.0s
NVAR Mina Array Bea 72.97 54 P **P 18 10 09.4 +1.9**
comp=Z,2.2nm,0.8s,baz=288,slow=5.6,SNR=16
comp=Z,2.2nm,0.8s
OSL Oslo 72.98 337 *e*P **P 18 10 08.0 +1.1**
SKAR Skarslia 73.09 338 *e*P **P 18 10 08.7 +1.1**
HYA Hoyanger 73.28 339 *e*P **P 18 10 09.4 +0.9**
ELK Elko 73.43 51 P **P 18 10 11.3 +1.1**
ELK Elko 73.43 51 P **P 18 10 11.3 +1.1**
ELK pmax pmax
comp=Z,5.0nm,1.0s
KONO Kongsberg 73.55 337 *e*P **P 18 10 11.1 +0.9**
STRU Stroemstad 73.56 336 *i*P **P 18 10 10.8 +0.6**
H17A Grant Village 73.81 45 P **P 18 10 15.1 +2.7**
baz=310,SNR=7.3
SIM Simferopol' 73.83 315 *e*P **P 18 10 14.6 +2.5**
SIM pmax pmax
comp=Z,27nm,0.8s
DY2G Dye2 73.97 3 *i*P **P 18 10 13.4 +0.6**
DY2G IAmb IAmb 18 10 14.6
comp=Z,15nm,0.6s
FXWY Fox Creek 74.04 46 P **P 18 10 15.4 +1.7**
FXWY IAmb IAmb 18 10 57.0
comp=Z,38nm,1.9s
VES Vestal, Richgr 74.04 57 P **P 18 10 15.4 +1.9**
baz=308
RLMT Red Lodge 74.05 44 P **P 18 10 15.5 +1.8**
baz=311
ASK Askoy 74.12 339 *e*P **P 18 10 15.9 +2.4**
BLEU Blekinge 74.13 332 *i*P **P 18 10 13.4 -0.2**
PKM Mcpherson Peak 74.15 58 P **P 18 10 16.0 +1.6**
baz=308
BER Bergen 74.17 339 *e*P **P 18 10 15.0 +1.2**
ODD1 Odda 74.20 338 *e*P **P 18 10 15.0 +1.0**
GMN Gold Mountain 74.31 54 P **P 18 10 17.0 +1.6**
CWC Cottomwood Cre 74.32 56 P **P 18 10 15.3 -0.1**
baz=308
DGMT Dagmar 74.43 39 P **P 18 10 16.8 +1.2**
baz=313
GRAC Grapevine Rang 74.43 55 IAmb IAmb 18 10 45.9
comp=Z,24nm,1.1s
GRAC Grapevine Rang 74.43 55 P **P 18 10 18.5 +2.6**
baz=308
ISA Isabella, Lake 74.55 56 P **P 18 10 18.9 +2.3**
baz=308
LAO LASA Array 74.61 42 P **P 18 10 19.0 +2.3**
baz=312
ONAU Onsala 74.62 335 *i*P **P 18 10 16.2 -0.2**
ARVC Arvin 74.64 57 P **P 18 10 20.2 +3.1**
baz=308
BLS5 Blasjo 74.66 338 *e*P **P 18 10 17.9 +1.2**
DEL Delary 74.69 333 *e*P **P 18 10 17.7 +0.9**
DEL Delary 74.69 333 *i*P **P 18 10 17.2 +0.3**
SORM Soroca 74.69 321 ⇑P **P 18 10 17.1 0.0**
SORM Soroca 74.69 321 ⇑P **P 18 10 17.1 0.0**
R11B Troy Canyon, C 74.70 53 P **P 18 10 19.8 +2.2**
baz=309,SNR=7.8
HORU Horodok 74.88 322 P **P 18 10 17.6 -0.5**
MPMC Manual Prospec 74.93 56 P **P 18 10 20.7 +1.7**
baz=308
HOMB Homborsund 75.00 337 *e*P **P 18 10 19.4 +0.7**
S11A Rachel 75.04 53 P **P 18 10 20.9 +1.3**
S11A IAmb IAmb 18 10 44.5
comp=Z,20nm,0.8s
FURC Furnace Creek, 75.08 55 P **P 18 10 21.8 +2.3**
baz=309
ARPR Arapgir-MALATY 75.14 309 IAmb IAmb 18 10 32.0
comp=Z,31nm,1.0s
TPNV Topopah Spring 75.16 54 IAmb IAmb 18 11 01.4
comp=Z,18nm,1.1s
TPNV Topopah Spring 75.16 54 P **P 18 10 23.0 +2.7**
baz=309,SNR=8.3
LRMC Laurel Mtn Rad 75.17 56 P **P 18 10 22.3 +2.1**
baz=308
DUG Dugway, Tooele 75.21 50 P **P 18 10 22.5 +2.0**
baz=310
DUG Dugway, Tooele 75.21 50 P **P 18 10 23.1 +2.7**
DUG pmax pmax
comp=Z,14nm,1.1s
BJUU Bjuv 75.29 333 *i*P **P 18 10 21.3 +1.0**
KMPD K-Podol'skiy 75.31 322 P **P 18 10 20.0 -0.6**
EDW2 Edwards Air Fo 75.34 57 P **P 18 10 23.1 +2.0**
baz=308
SNART Snartemo 75.34 337 *e*P **P 18 10 21.6 +1.0**
BSD Bornholm Skovb 75.37 332 *e*P **P 18 10 21.2 +0.4**
BSD Bornholm Skovb 75.37 332 *e*P **P 18 10 21.5 +0.7**
BSD IAmb IAmb 18 10 22.4
comp=Z,22nm,1.0s
QSM Queen of Sheba 75.39 55 P **P 18 10 22.2 +0.9**
BW06 Boulder Array 75.42 46 P **P 18 10 23.2 +1.5**
baz=311,SNR=8.6
PDAR Pinedale Array 75.42 46 P **P 18 10 23.1 +1.4**
comp=Z,3.5nm,0.6s,baz=254,slow=1.7,SNR=53
comp=Z,3.5nm,0.6s
TCUT Toone Canyon 75.44 48 IAmb IAmb 18 11 04.2
comp=Z,14nm,0.9s
LUNU Lund 75.49 333 *i*P **P 18 10 22.3 +0.8**
LVV L'vov 75.56 324 *e*P **P 18 10 22.3 +0.2**
PRN Pahroc Range 75.62 53 P **P 18 10 24.8 +1.9**
GSC Goldstone, Bar 75.84 56 P **P 18 10 26.2 +2.1**
baz=309
GKP Gorka Klasztor 75.90 329 *e*P **P 18 10 24.5 +0.6**
MORS Morshin 76.11 323 P **P 18 10 26.6 +1.4**
KSV Kosov 76.15 322 P **P 18 10 26.1 +0.6**
KWP Kalwaria Pacla 76.30 324 IAmb IAmb 18 10 46.5
comp=Z,29nm,0.9s
TUQ Turquoise Moun 76.32 55 P **P 18 10 28.8 +2.0**
baz=309
BUR08 Bucovina Ar. S 76.56 322 IAmb IAmb 18 10 49.1
comp=Z,13nm,0.7s
CCUT Cedar City 76.57 52 P **P 18 10 30.1 +1.8**
BURAR Bucovina Array 76.57 322 ⇑P **P 18 10 28.6 +0.6**
BURAR Bucovina Array 76.57 322 IAmb IAmb 18 10 54.6
comp=Z,15nm,0.7s
BURAR Bucovina Array 76.57 322 ⇑P **P 18 10 28.6 +0.6**
MILA Mila 76.65 174 P **P 18 10 29.5 +1.3**
TESR Tescani 76.65 320 ⇓P **P 18 10 29.0 +0.6**
CFR Carcaliu 76.83 318 ⇓P **P 18 10 29.8 +0.5**
CFR Carcaliu 76.83 318 ⇓P **P 18 10 29.8 +0.5**
RDMU Red Mountain 76.86 48 IAmb IAmb 18 11 01.1
comp=Z,16nm,0.8s
GMRC Granite Mounta 76.89 56 P **P 18 10 31.3 +1.2**
baz=309
P17A Butcher Ranch, 76.90 49 IAmb IAmb 18 11 28.5
comp=Z,42nm,1.6s
TPGR Topolog 76.90 318 ⇓P **P 18 10 31.9 +2.1**
TOO Toolangi 76.95 177 P **P 18 10 31.0 +1.1**
LCMT Little Creek M 76.99 53 P **P 18 10 31.8 +1.2**
ULM Lac du Bonnet 76.99 34 P **P 18 10 30.6 +0.4**
comp=Z,3.6nm,0.6s,baz=324,slow=7.9,SNR=6.9
comp=Z,3.6nm,0.6s
GAZ Gaziantep 77.05 308 IAmb IAmb 18 11 01.6
comp=Z,20nm,1.0s
MDND Maddock 77.06 37 P **P 18 10 32.2 +1.6**
baz=316
VRI Vrincioaia 77.06 320 ⇑P **P 18 10 32.8 +2.1**
VRI Vrincioaia 77.06 320 ⇑P **P 18 10 32.8 +2.1**
PLOR Plostina 77.11 320 ⇓P P 18 10 37.6 +6.7
PLOR Plostina 77.11 320 ⇓P P 18 10 37.6 +6.6
OJC Ojcow 77.14 326 IAmb IAmb 18 11 14.9
comp=Z,26nm,1.0s
OJC Ojcow 77.14 326 P **P 18 10 32.1 +1.1**
OJC pmax pmax
comp=Z,20nm,0.7s
K22A Casper 77.17 45 P **P 18 10 33.2 +1.7**

baz=313
BELC Belle Mtn. Jos 77.17 56 P P 18 10 33.3 +1.7
baz=309
UZH Uzhgorod 77.21 324 P P 18 10 32.7 +1.3
KNB Kanab 77.24 52 IAmb IAmb 18 10 43.3
comp=Z,52nm,2.0s
SRU San Rafael Swe 77.26 50 IAmb IAmb 18 11 02.7
comp=Z,16nm,0.9s
TURR Turia 77.28 320 ⇓P P 18 10 33.7 +1.8
TRSU Trosnyk 77.29 323 P P 18 10 34.6 +2.7
COVR Voineasa-Covas 77.34 320 ⇑P P 18 10 33.6 +1.3
ARCR ARCALIA 77.36 322 ⇓P P 18 10 35.6 +3.3
OZUR 77.37 320 ⇓P P 18 10 34.1 +1.7
CRVS Cervenica-Dubn 77.39 324 *e*P P 18 10 33.1 +0.7
CRVS Cervenica-Dubn 77.39 324 *e*P P 18 10 33.1 +0.7
CRVS pmax pmax
comp=Z,48nm,2.0s
RSSD Black Hills 77.49 42 P P 18 10 34.2 +0.9
RSSD Black Hills 77.49 42 P P 18 10 34.7 +1.4
baz=314
RSSD Black Hills 77.49 42 P P 18 10 34.3 +0.9
RSSD pmax pmax
comp=Z,15nm,1.2s
BR131 Keskin Array S 77.51 311 P P 18 10 33.4 0.0
BR131 Keskin Array S 77.51 311 P P 18 10 33.4 0.0
BR131 pmax pmax
comp=Z,6.0nm,0.8s
BRTR Keskin Array B 77.51 311 P P 18 10 34.0 +0.6
comp=Z,1.5nm,0.5s,baz=61,slow=4.2,SNR=16
comp=Z,1.5nm,0.5s
NIE Niedzica 77.52 325 P P 18 10 34.1 +0.9
NIE pmax pmax
comp=Z,9.0nm,0.8s
MONP2 Monument Peak 77.60 58 P P 18 10 34.9 +0.7
baz=309
IRM Iron Mountain 77.62 56 P P 18 10 35.6 +1.6
baz=310
ISR Istrita 77.68 319 ⇑P P 18 10 37.5 +3.3
ISR Istrita 77.68 319 ⇑P P 18 10 37.5 +3.3
MLR Muntele Rosu 77.72 320 ⇑P P 18 10 35.1 +0.6
MLR Muntele Rosu 77.72 320 IAmb IAmb 18 11 06.8
comp=Z,28nm,1.5s
MLR Muntele Rosu 77.72 320 ⇑P P 18 10 35.1 +0.6
ICOR Ion Corvin 77.73 318 ⇓P P 18 10 35.8 +1.4
BC3 Big Chuckawall 77.74 56 ⇓P P 18 10 36.1 +1.3
baz=310
ANTO Ankara 77.90 312 P P 18 10 36.0 +0.5
ANTO IAmb IAmb 18 11 03.1
comp=Z,17nm,0.8s
ANTO Ankara 77.90 312 P P 18 10 36.0 +0.5
ANTO pmax pmax
comp=Z,17nm,0.8s
HMU Henry Mountain 77.90 51 IAmb IAmb 18 11 03.6
comp=Z,18nm,0.9s
U15A North Rim 77.95 53 P P 18 10 37.9 +1.7
IKP In-Ko-Pah, Jac 77.95 58 P P 18 10 37.2 +1.2
baz=310
LANS Liptovska Anna 78.08 326 *e*P P 18 10 37.8 +1.5
LANS Liptovska Anna 78.08 326 *e*P P 18 10 37.8 +1.5
LANS pmax pmax
comp=Z,7.0nm,1.0s
KSP Ksiaz 78.14 328 P P 18 10 37.6 +1.1
KSP pmax pmax
comp=Z,19nm,0.8s
PDMCI Parker Dam,Lak 78.17 55 P P 18 10 38.2 +1.2
baz=310
VOIR 78.20 320 ⇓P P 18 10 38.6 +1.5
VOIR 78.20 320 ⇓P P 18 10 38.6 +1.5
MARR Marisel-Cluj 78.24 322 ⇑P P 18 10 40.2 +2.9
OSTC Ostas 78.39 328 *e*P P 18 10 39.4 +1.4
OSTC Ostas 78.39 328 *e*P P 18 10 39.4 +1.4
CHVC Chvalec 78.43 328 *e*P P 18 10 38.8 +0.6
CHVC Chvalec 78.43 328 *e*P P 18 10 38.8 +0.6
MORC Moravsky Berou 78.44 327 ⇓P P 18 10 39.4 +1.1
MORC Moravsky Berou 78.44 327 P P 18 10 38.8 +0.5
MORC Moravsky Berou 78.44 327 *e*P P 18 10 39.0 +0.7
MORC Moravsky Berou 78.44 327 ⇓P P 18 10 39.4 +1.1
AGMN Agassiz Nation 78.45 35 P P 18 10 38.8 +0.5
baz=318
ARR Arges 78.45 320 ⇑P P 18 10 41.0 +2.5
DPC Dobruska-Polom 78.50 328 *e*P P 18 10 39.7 +1.1
DPC Dobruska-Polom 78.50 328 *e*P P 18 10 39.7 +1.1
UPC Upice 78.51 328 *e*P P 18 10 39.4 +0.8
UPC Upice 78.51 328 *e*P P 18 10 39.4 +0.8
KRLC Kraliky 78.53 328 *e*P P 18 10 39.1 +0.3
KRLC Kraliky 78.53 328 *e*P P 18 10 39.1 +0.3
N23A Red Feather La 78.68 46 P P 18 10 41.7 +1.6
baz=313
PSZ Piszkesteto 78.82 325 ⇑P P 18 10 41.6 +1.2
PSZ Piszkesteto 78.82 325 ⇑P P 18 10 41.6 +1.2
VYHS Vyhne 78.85 325 *e*P P 18 10 41.7 +1.1
VYHS Vyhne 78.85 325 *e*P P 18 10 41.7 +1.1
VYHS pmax pmax
comp=Z,12nm,1.4s
COPA Copaceanca 79.04 319 ⇑P P 18 10 42.3 +0.7
BRG Berggiesshubel 79.05 330 P P 18 10 44.7 +3.1
BRG Amp 18 10 48.1
comp=Z,9.2nm,0.8s
CLL Collm 79.07 330 IAmb IAmb 18 10 44.3
comp=Z,13nm,0.8s
CLL Collm 79.07 330 ⇑ *i*P P 18 10 41.8 +0.2
comp=Z,13nm,0.8s
CLL *e*PcP PcP 18 10 51.0 +1.0
CLL *i* pP pP 18 10 52.4 -2.6
CLL Collm 79.07 330 ⇑ *i*P P 18 10 41.8 +0.2
CLL *e**PP pP 18 10 58.0 +3.0
CLL pmax pmax
comp=Z,13nm,0.8s
PVCC Panska Ves 79.07 329 *e*P P 18 10 42.6 +0.9
PVCC Panska Ves 79.07 329 *e*P P 18 10 42.6 +0.9
JAVC Velka Javorina 79.08 326 *e*P P 18 10 43.7 +1.8
WUAZ Wupatki 79.11 53 P P 18 10 44.2 +1.8
baz=311
VRAC Vranov 79.19 327 ⇑P P 18 10 43.5 +1.1
VRAC Vranov 79.19 327 *e*P P 18 10 43.4 +1.0
VRAC Vranov 79.19 327 ⇑P P 18 10 43.5 +1.1
SMOL Smolenice 79.45 326 *e*P P 18 10 46.6 +2.8
HSKC Hora Svate Kat 79.46 330 *e*P P 18 10 44.5 +0.7
GOPC GO Pecny, Ondr 79.47 328 *e*P P 18 10 44.5 +0.6
GOPC GO Pecny, Ondr 79.47 328 *e*P P 18 10 44.5 +0.6
KRUC Moravsky 79.47 327 *e*P P 18 10 44.7 +0.8
KRUC Moravsky 79.47 327 P P 18 10 45.1 +1.2
KRUC pmax pmax
comp=Z,16nm,0.8s
PRU Pruhonice 79.50 329 *e*P P 18 10 45.0 +0.9
PRU Pruhonice 79.50 329 *e*P P 18 10 45.0 +0.9
ELND Elena 79.56 318 ⇑P P 18 10 47.1 +2.5
SRO Srobarova 79.60 325 *e*P P 18 10 47.7 +3.1
SRO Srobarova 79.60 325 *e*P P 18 10 47.7 +3.1
ISCO Idaho Springs 79.61 46 P P 18 10 46.8 +1.5
baz=314
ISCO Idaho Springs 79.61 46 P P 18 10 48.5 +3.2
ISCO pmax pmax
comp=Z,13nm,2.0s
MODS Modra-Piesok 79.62 326 *e*P P 18 10 46.8 +2.0
MODS Modra-Piesok 79.62 326 *e*P P 18 10 46.8 +2.0
MVCO Mesa Verde 79.72 50 P P 18 10 47.1 +1.4
MVCO IAmb IAmb 18 11 44.2
comp=Z,29nm,1.6s
MVCO Mesa Verde 79.72 50 P P 18 10 47.6 +1.8
baz=312
BZS Buzias 79.73 322 ⇑P P 18 10 47.7 +2.3
BZS Buzias 79.73 322 ⇑P P 18 10 47.7 +2.3
ZVC Zvikov 80.08 328 *e*P P 18 10 48.2 +1.0
F33A 5 Mile Ranch, 80.08 37 IAmb IAmb 18 11 29.0
comp=Z,57nm,1.8s
NKC Novy Kostel 80.14 330 *e*P P 18 10 45.5 -2.0
NKC Novy Kostel 80.14 330 *e*P P 18 10 45.5 -2.0
S22A 4UR Ranch, Cre 80.33 49 P P 18 10 50.8 +1.7
baz=313
W18A Petrified Fore 80.37 52 P P 18 10 50.3 +1.1
baz=312
SOP Sopron 80.46 326 P P 18 10 51.1 +1.8
SOP pmax pmax
comp=Z,15nm,0.8s
CKRC Cesky Krumlov 80.52 328 *e*P P 18 10 50.1 +0.5
CKRC Cesky Krumlov 80.52 328 *e*P P 18 10 50.1 +0.5
214A Organ Pipe Nat 80.53 56 P P 18 10 50.9 +0.9
baz=311
RONA Rosalia, Austr 80.56 326 *e*P P 18 10 51.4 +1.5
comp=Z,8.1nm,0.7s
CONA Conrad Observa 80.57 327 *e*P P 18 10 51.2 +1.3
comp=Z,15nm,1.3s
KHC Kasperske Hory 80.57 329 P P 18 10 50.5 +0.6
KHC IAmb IAmb 18 11 08.5
comp=Z,16nm,0.9s
KHC Kasperske Hory 80.57 329 *e*P P 18 10 50.4 +0.6
KHC *es*P sP 18 11 07.0 -1.4
KHC Kasperske Hory 80.57 329 *ce*P P 18 10 50.9 +1.0
KHC pmax pmax
comp=Z,21nm,0.8s
EYMN Ely 80.61 33 P P 18 10 51.4 +1.3
baz=321
MORH Mrgy, Hungar 80.66 324 ⇓P P 18 10 50.7 +0.4
GERES GERESS Array B 80.74 328 P P 18 10 51.1 +0.2
comp=Z,3.3nm,0.5s,baz=42,slow=6.0,SNR=14
comp=Z,3.3nm,0.5s
OGNE Ogallala 80.77 44 P P 18 10 52.9 +1.7
baz=316
K30B Basset 80.79 41 IAmb IAmb 18 11 13.4
comp=Z,26nm,0.8s
EKA Eskdalemuir Ar 80.81 341 P P 18 10 51.6 +0.6
comp=Z,3.5nm,0.5s,baz=25,slow=5.0,SNR=18
comp=Z,3.5nm,0.5s
WET Wettzell 80.84 329 P P 18 10 52.7 +1.4
WET pmax pmax
comp=Z,14nm,0.9s
MMAI Mount Meron Ar 80.88 305 P P 18 10 52.9 +1.1
comp=Z,5.2nm,0.9s,baz=41,slow=7.7,SNR=6.0
comp=Z,5.2nm,0.9s
FRGS Fruska Gora 80.92 323 ⇑P P 18 10 52.9 +1.1
RDO Rodhopi 81.01 317 P P 18 10 54.2 +1.9
GRF Grafenberg Arr 81.04 330 P P 18 10 54.0 +1.6
GRF pmax pmax
comp=Z,44nm,1.0s
GRF Grafenberg Arr 81.04 330 *e*P P 18 10 53.7 +1.4
comp=Z,11nm,0.8s,baz=36,slow=4.5
GRF *es*P sP 18 11 10.5 -0.4
baz=37,slow=4.5
GRF *e*L L 19 08 46.0
comp=Z,706nm,21.3s
GRFO Grafenberg 81.05 330 P P 18 10 53.6 +1.2
GRFO IAmb IAmb 18 11 11.1
comp=Z,27nm,0.8s
GRFO Grafenberg 81.05 330 P P 18 10 53.6 +1.2
GRFO pmax pmax
comp=Z,27nm,0.8s
SDCO Great Sand Dun 81.09 48 P P 18 10 54.5 +1.3
baz=314
MOA Molln 81.30 327 *i* P P 18 10 55.2 +1.4
comp=Z,9.9nm,1.3s
ECSD ERDS Data Cent 81.50 39 P P 18 10 55.7 +0.8
baz=318
BIOA Bad Ischl, Aus 81.68 328 *e*P P 18 10 55.7 -0.2
comp=Z,6.5nm,0.5s
SOKA Soboth 81.90 326 *e*P P 18 10 57.8 +0.7
comp=Z,6.9nm,0.5s,SNR=10
T25A Trinidad 82.14 48 IAmb IAmb 18 11 58.9
comp=Z,17nm,0.9s
T25A Trinidad 82.14 48 P P 18 11 00.5 +1.8
baz=315
BTNL Ternell 82.16 333 *d*P P 18 10 56.5 -1.8
MEM Membach 82.19 334 *d*P P 18 10 58.3 0.0
OBKA Obir 82.23 326 *e*P P 18 10 59.9 +1.1
comp=Z,7.9nm,0.7s
LESA Schwarzleotal 82.29 328 *i* P P 18 10 59.9 +0.8
comp=Z,6.6nm,0.5s
KBA Koelnbreinsper 82.29 327 P P 18 11 03.2 +4.0
BSTI Sart Tilman 82.36 334 *d*P P 18 10 58.5 -0.7
ANMO Albuquerque 82.47 50 P P 18 11 01.6 +1.2
ANMO Albuquerque 82.47 50 P P 18 11 02.5 +2.1
baz=314
ANMO Albuquerque 82.47 50 P P 18 11 01.6 +1.2
ANMO pmax pmax
comp=Z,12nm,1.1s
MYKA Terra Mystica 82.52 327 *e*P P 18 11 00.3 0.0
comp=Z,5.5nm,0.5s
BCLA Clavier 82.59 334 *d*P P 18 11 00.3 -0.1
SCHQ Schefferville 82.64 16 P P 18 11 01.2 +0.6
comp=Z,3.2nm,0.7s,baz=249,slow=14,SNR=1.4
comp=Z,3.2nm,0.7s
BGES Gesves 82.69 334 *d*P P 18 11 00.8 -0.2
PRED Cave del Predi 82.70 327 IAmb IAmb 18 11 17.5
comp=Z,12nm,0.8s
RCHB Rochefort 82.83 334 *d*P P 18 11 01.9 +0.2
WTTA Wattenberg 82.84 329 *i* P P 18 11 02.4 +0.3
comp=Z,6.4nm,0.5s
WTTA Wattenberg 82.84 329 P P 18 11 03.1 +1.0
WTTA pmax pmax
comp=Z,13nm,0.6s
BMRD Maredsous 82.87 334 *d*P P 18 11 02.0 +0.1
WLF Walferdange 82.93 333 *d*P P 18 11 05.3 +3.0
CLUD Cludinico 82.98 327 IAmb IAmb 18 11 25.5
comp=Z,26nm,0.9s
MOTA Moosalm 82.99 329 *e*P P 18 11 02.9 +0.1
comp=Z,16nm,1.0s
RETA Reutte 83.01 329 *e*P P 18 11 03.7 +0.9
comp=Z,4.3nm,0.4s
GIVF Givet 83.02 334 *e*P P 18 11 02.2 -0.5
GIVF pmax pmax
comp=Z,109nm,1.9s
STAL STALIGIAL 83.21 327 P P 18 11 02.8 -1.0
STAL IAmb IAmb 18 11 20.6
comp=Z,20nm,0.8s
BAIF Baives 83.26 334 *e*P P 18 11 04.1 +0.2
BAIF pmax pmax
comp=Z,52nm,1.7s
CIMO Cimolais 83.28 328 IAmb IAmb 18 11 21.2
comp=Z,9.0nm,0.9s
121A Cookes Peak, D 83.31 53 P P 18 11 07.2 +2.4
baz=313
CDF Champ du Feu 83.58 332 *e*P P 18 11 07.1 +1.4
CDF pmax pmax
comp=Z,12nm,0.9s
ECH Echery 83.78 332 IAmb IAmb 18 11 16.8
comp=Z,11nm,0.6s
CTI Castel Tesino 83.82 328 IAmb IAmb 18 11 23.0
comp=Z,12nm,0.8s
FUORN Ofenpass-Fuorn 83.91 329 IAmb IAmb 18 11 25.2
comp=Z,18nm,0.8s
HINF Hinteralfeld 84.23 332 *e*P P 18 11 08.4 -0.6
HINF pmax pmax
comp=Z,9.0nm,1.0s
HAU Haudompre 84.26 332 *e*P P 18 11 09.4 +0.3
HAU pmax pmax
comp=Z,7.0nm,0.8s
TUE Stuetta 84.40 329 IAmb IAmb 18 11 30.7
comp=Z,20nm,1.2s
JFWS Jewell Farm 85.10 36 P P 18 11 14.7 +1.3
baz=322
MNTX Cornudas Mount 85.36 52 P P 18 11 16.7 +1.7
baz=314
CABF La Chapelle 85.53 331 *e*P P 18 11 15.2 -0.4
CABF pmax pmax
comp=Z,69nm,1.9s
LOR Lormes 85.77 333 *e*P P 18 11 17.0 +0.3
LOR pmax pmax
comp=Z,13nm,0.8s
FLN La Foliniere 85.91 336 *e*P P 18 11 17.5 +0.2
FLN pmax pmax
comp=Z,130nm,2.0s
LDF La Druitiere 85.94 336 *e*P P 18 11 17.7 +0.2
LDF pmax pmax
comp=Z,7.0nm,0.5s
LPL La Plagne 86.21 330 *e*P P 18 11 19.6 +0.4
LPL pmax pmax
comp=Z,10.0nm,1.0s
LPG La Plagne 86.22 330 *e*P P 18 11 19.8 +0.5
LPG pmax pmax
comp=Z,7.0nm,0.6s
GRR Gorron 86.36 336 *e*P P 18 11 19.9 +0.4
GRR pmax pmax
comp=Z,186nm,2.0s
AVF Avril sur Loir 86.36 333 *e*P P 18 11 20.1 +0.5
AVF pmax pmax
comp=Z,14nm,0.6s
MBDF Montbardon 86.85 330 *e*P P 18 11 25.7 +3.4
MBDF pmax pmax
comp=Z,7.0nm,0.8s
SGMF Saint Gilles 86.99 337 *e*P P 18 11 23.3 +0.6
SGMF pmax pmax
comp=Z,243nm,1.9s
TCF Toulx Ste Croi 87.19 333 *e*P P 18 11 23.9 +0.2
TCF pmax pmax
comp=Z,30nm,1.5s
TX31 Lajitas Ar. Si 88.07 53 P P 18 11 29.7 +1.3
TX31 IAmb IAmb 18 12 02.2
comp=Z,18nm,1.1s
TXAR Lajitas Array 88.07 53 P P 18 11 29.9 +1.5
comp=Z,0.7nm,0.4s,baz=288,slow=2.9,SNR=12
comp=Z,0.7nm,0.4s
LMR La Mourre 88.13 329 *e*P P 18 11 27.8 -0.4
LMR pmax pmax
comp=Z,81nm,1.8s
RJF Les Rejaudoux 88.29 333 *e*P P 18 11 30.2 +1.3
RJF pmax pmax
comp=Z,22nm,1.2s
CAF Calviac 88.42 333 *e*P P 18 11 30.6 +1.0
CAF pmax pmax
comp=Z,10.0nm,0.9s
CCM Cathedral Cave 88.45 39 P P 18 11 30.5 +0.7
CCM Cathedral Cave 88.45 39 P P 18 11 30.5 +0.7
CCM pmax pmax
comp=Z,15nm,0.6s
MTLF Montolieu 89.75 332 *e*P P 18 11 37.9 +2.1
MTLF pmax pmax
comp=Z,79nm,1.8s
DRIO Del Rio 89.86 51 IAmb IAmb 18 13 06.0
comp=Z,5.7nm,0.9s
LCAR Lake Charles 90.06 40 IAmb IAmb 18 12 20.3
comp=Z,24nm,1.6s
ETSF Etsaut 91.11 334 *e*P P 18 11 43.0 +0.7
ETSF pmax pmax
comp=Z,30nm,1.6s
ESDC Sonseca Array 95.14 334 P P 18 12 01.0 +0.1
comp=Z,0.8nm,0.6s,baz=17,slow=4.2,SNR=8.9
ESDC LR LR 19 01 01.4
comp=Z,445nm,18.1s,baz=280,slow=39
comp=Z,0.8nm,0.6s
TORD Torodi Ar. Bea 115.82 316 PKP PKiKP 18 17 20.0 -0.4
comp=Z,0.9nm,0.8s,baz=48,slow=2.5,SNR=3.7
TORD PP PP 18 18 21.4 -1.9
comp=Z,2.4nm,1.0s,baz=26,slow=8.6,SNR=6.5
VNDA Vanda 117.57 175 PKP PKPdf 18 17 21.5 -0.4
comp=Z,0.7nm,0.8s,baz=326,slow=3.7,SNR=6.8
MAW Mawson 122.17 206 PKP PKPdf 18 17 30.9 0.0
comp=Z,3.1nm,0.6s,baz=69,slow=6.7,SNR=2.5
DBIC Dimbokro 124.69 319 PKP PKPdf 18 17 37.6 +0.1
comp=Z,1.5nm,0.6s,baz=54,slow=6.9,SNR=3.6
BOSA Boshof 127.56 262 PKP PKPdf 18 17 42.6 -0.1
comp=Z,2.8nm,0.8s,baz=2.3,slow=3.6,SNR=4.7
QSPA South Pole Qui 129.43 180 PKPdf 18 17 44.8 -0.2
ELIB Princess Elisa 136.07 203 *d*PKP PKiKP 18 17 59.1 0.0
TROLL Troll, Antarti 141.92 199 ⇑PKPdf PKPdf 18 18 03.0 -5.1
comp=Z,592nm,0.7s
SNAA Sanae 143.44 198 PKPpre 18 18 06.9
SNAA Sanae 143.44 198 ⇑PKPdf PKPab 18 18 07.4 +0.4
comp=Z,471nm,0.7s
SNAA Sanae 143.44 198 PKHKP PKPpre 18 18 06.9
SNAA Sanae 143.44 198 PKhKP PKPpre 18 18 07.2
comp=Z,19nm,0.7s,baz=181,slow=4.7,SNR=33
LPAZ La Paz 144.83 57 PKPbc 18 18 14.7 +0.1
LPAZ La Paz 144.83 57 PKIKP PKPbc 18 18 14.7 +0.1
VNA2 Neumayer--Watz 145.02 197 ⇑PKPdf PKPbc 18 18 12.9 0.0
comp=Z,74nm,0.7s,baz=132,slow=3.0
VNA3 Neumayer Olymp 145.27 196 ⇑PKPdf PKPbc 18 18 13.3 -0.5
comp=Z,24nm,0.7s
VNA1 Neumayer--Stat 145.42 197 ⇑PKPdf PKPdf 18 18 13.9 -0.2
comp=Z,26nm,0.7s
PB08 IPOC Station P 146.87 63 PKPdf 18 18 18.1 -0.5
PB05 IPOC Station P 147.90 68 PKiKP 18 18 24.7 -0.1
PTLB Pontes e Lacer 149.53 44 PKPbc 18 18 27.6 +0.5
AC05 El Transito 151.27 78 PKPbc 18 18 31.0 -0.1
PLCA Paso Flores 155.11 103 PKPab PKPab 18 18 55.4 +0.2
comp=Z,2.6nm,0.9s,baz=268,slow=7.0,SNR=4.0

NEIC ***15*** *18:08:54.9±0.7,36.150N±0.006×97.67W±0.01,h5km±3km, Error ellipse: s-maj=1.6km s-min=0.6km az=59.0*
TUL 15 18:08:55.1±0.8,36.153N±0.009×97.669W±0.006, h5km±3km, ML2.9, mb_Lg2.7/13(NEIC), **ML2.9**/60(NEIC), **Error ellipse: s-maj=1.3km s-min=0.6km az=165.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.40**	**154**		Pg	18 09 02.9	+0.1
OK029				Sg	Sg	18 09 08.6	+0.7
CROK	**Carrier**	**0.43**	**324**		Pg	18 09 03.7	+0.2
CROK				Sg	Sg	18 09 09.9	+0.8
CROK				IAML		18 09 14.6	
	comp=N,724nm,0.2s						
ADOK	**Arcadia Dam**	**0.56**	**154**		Pg	18 09 05.9	+0.1
ADOK				Sg	Sg	18 09 13.7	+0.7
OK033	**Mehan**	**0.60**	**100**		Pg	18 09 06.8	+0.1
OK033				IAML		18 09 17.7	
	comp=N,542nm,0.5s						
OK048	**Pawnee Station**	**0.64**	**66**	Pg	Pg	18 09 07.6	+0.1
BLOK	**Blackwell**	**0.71**	**31**		Pg	18 09 08.7	0.0
BLOK				Sg	Sg	18 09 17.4	-0.5
BLOK				IAML		18 09 21.1	
	comp=E,628nm,0.3s						
GC02	**Grant County #**	**0.71**	**348**	Pg	Pg	18 09 08.8	0.0
GC02				Sg	Sg	18 09 18.6	+0.5
OK052	**Battle Ridge R**	**0.72**	**103**	Pg	Pg	18 09 08.9	0.0
OK052				Sg	Sg	18 09 18.5	+0.2
OK052				IAML		18 09 21.3	
	comp=E,470nm,0.4s						
OK051	**E0350 and S346**	**0.76**	**62**		Pg	18 09 09.6	-0.1
OK051				IAML		18 09 27.8	
	comp=E,464nm,0.2s						
OK051				IAML		18 09 28.9	
	comp=E,481nm,0.1s						
OKCSW	**OKLAHOMA CITY**	**0.77**	**166**		Pg	18 09 09.8	-0.1
OKCSW				Sg	Sg	18 09 20.3	+0.5
OKCSW				IAML		18 09 24.2	
	comp=E,380nm,0.2s						
OKCSW				IAML		18 09 27.6	
	comp=N,459nm,0.3s						
QUOK	**Quay**	**0.78**	**88**		Pg	18 09 10.0	0.0
QUOK				Sg	Sg	18 09 20.3	+0.2
QUOK				IAML		18 09 20.8	
	comp=N,351nm,0.4s						
OK032	**Salt Plains WL**	**0.78**	**326**		Pg	18 09 09.9	-0.2
OK032				IAML		18 09 23.0	
	comp=N,511nm,0.2s						
KAN14	**Manchester OK**	**0.84**	**344**		Pg	18 09 10.9	-0.2
KAN14				Sg	Sg	18 09 22.1	+0.1
KAN14				IAML		18 09 26.7	
	comp=N,388nm,0.1s						
KAN14				IAML		18 09 26.9	
	comp=E,454nm,0.1s						
KAN13	**South Haven SW**	**0.87**	**10**		Pg	18 09 11.8	-0.1
KAN13				Sg	Sg	18 09 23.2	+0.1
KAN13				IAML		18 09 34.8	
	comp=N,428nm,0.3s						
KAN17	**Caldwell West**	**0.89**	**355**		Pg	18 09 11.9	-0.3
KAN17				Sg	Sg	18 09 23.9	+0.1
KAN17				IAML		18 09 27.9	
	comp=N,321nm,0.2s						
FNO	**Franklin**	**0.92**	**166**		Pg	18 09 12.3	-0.4
FNO				Sg	Sg	18 09 24.9	+0.2
OK038	**West end E0370**	**0.93**	**291**		Pg	18 09 12.5	-0.4
OK038				Sg	Sg	18 09 25.2	+0.4
KAN05	**Bluff City Nor**	**0.97**	**350**	Pg	Pg	18 09 13.1	-0.6
KAN05				Sg	Sb	18 09 27.1	-0.3
KAN05				IAML		18 09 31.9	
	comp=N,382nm,0.2s						
KAN09	**Caldwell North**	**0.98**	**2**	Pg	Pg	18 09 13.7	-0.3
KAN09				Sg	Sg	18 09 27.1	+0.4
DEOK	**Depew**	**1.00**	**108**	Pg	Pg	18 09 13.8	-0.4
DEOK				Sg	Sg	18 09 27.3	+0.1
DEOK				IAML		18 09 29.6	
	comp=E,241nm,0.3s						
DEOK				IAML		18 09 30.4	
	comp=N,254nm,0.3s						
KAN01	**Argonia South**	**1.00**	**356**	Pg	Pg	18 09 14.0	-0.3
KAN01				Sg	Sg	18 09 27.6	+0.3
KAN01				IAML		18 09 34.4	
	comp=N,225nm,0.1s						
KAN01				IAML		18 09 34.8	
	comp=E,270nm,0.1s						
OK035	**E0210 Rd and N**	**1.00**	**304**		Pg	18 09 13.8	-0.6
OK035				Sg	Sg	18 09 27.6	+0.1
KAN10	**Anthony SW Sta**	**1.03**	**341**	Pg	Pg	18 09 13.9	-1.0
KAN08	**Anthony NE Sta**	**1.10**	**347**		Pg	18 09 15.6	-0.6
KAN08				Sg	Sg	18 09 30.4	0.0
KAN08				IAmb_Lg		18 09 31.1	
	comp=Z,81nm,1.0s						
KAN08				IAML		18 09 32.2	
	comp=E,204nm,0.1s						
KAN08				IAML		18 09 34.5	
	comp=N,233nm,0.5s						
U32A	**Winter Ranch,**	**1.10**	**282**	Pg	Pg	18 09 14.2	-2.0

U32A				Sg	Sg	18 09 30.8	+0.3	
U32A				IAML		18 09 35.6		
	comp=E,299nm,0.2s							
U32A				IAML		18 09 38.6		
	comp=N,304nm,0.5s							
KAN06	**Argonia West S**	**1.10**	**352**		Pg	18 09 15.4	-0.9	
KAN06				Sg	Sg	18 09 30.6	+0.1	
KAN06				IAML		18 09 33.8		
	comp=E,255nm,0.2s							
KAN06				IAML		18 09 34.2		
	comp=N,291nm,0.1s							
KS21	**Milan North St**	**1.13**	**0**	Pg	Pg	18 09 15.9	-0.9	
KS21				Sg	Sg	18 09 31.6	+0.1	
W35A	**Tecumseh**	**1.19**	**147**		Pg	18 09 16.9	-1.0	
W35A				Sg	Sg	18 09 33.4	0.0	
W35A				IAML		18 09 38.4		
	comp=N,191nm,0.3s							
W35A				IAML		18 09 38.8		
	comp=E,250nm,0.2s							
T35A	**Sooner Cattle**	**1.20**	**50**		Pg	18 09 17.8	-0.4	
T35A				Sg	Sg	18 09 33.7	-0.1	
T35A				IAML		18 09 37.7		
	comp=E,200nm,0.3s							
ELIS	**Ellis County**	**1.42**	**267**		Pn	18 09 21.3	-0.3	
ELIS					Sg	18 09 40.8	+0.1	
TUL3	**Leonard**	**1.54**	**98**		Pn	18 09 22.5	-0.8	
TUL3					Sb	18 09 43.9	-0.1	
TUL3				IAmb_Lg		18 09 46.2		
	comp=Z,35nm,0.9s							
WMOK	**Wichita Mounta**	**1.68**	**213**		Pn	18 09 24.9	-0.3	
WMOK					Sb	18 09 47.6	-0.3	
RLO	**Rose Lookout**	**2.14**	**89**		Pn	18 09 31.4	-0.1	
LOOK	**Love County**	**2.19**	**169**		Pn	18 09 33.3	+1.0	
LOOK				IAmb_Lg		18 10 06.3		
	comp=Z,18nm,0.8s							
SMWD	**Samnorwood**	**2.34**	**244**		Pn	18 09 33.9	-0.4	
SMWD				IAmb_Lg		18 10 12.2		
	comp=Z,17nm,0.8s							
R32A	**Long Quarter,**	**2.41**	**340**		Pn	18 09 35.4	+0.2	
WTFS	**Witchita Falls**	**2.47**	**196**	Pn	Pn	18 09 35.1	-0.9	
WTFS					Sn	18 10 08.2	+1.7	
U38A	**Gravette**	**2.67**	**83**	Pn	Pn	18 09 39.0	+0.2	
Z35A	**Perchaven, San**	**2.84**	**173**	Pn	Pn	18 09 41.6	+0.5	
HHAR	**Hobbs**	**3.02**	**86**		Pn	18 09 43.8	+0.2	
KSU1	**Kansas State U**	**3.06**	**16**	Pn	Pn	18 09 43.7	-0.4	
CBKS	**Cedar Bluff**	**3.12**	**329**		Pn	18 09 44.8	-0.3	
FW06	**Azle**	**3.17**	**178**	Pn	Pn	18 09 46.3	+0.6	
PLPT	**Palo Pinto**	**3.38**	**189**	Pn	Pn	18 09 47.7	-0.7	
APMT	**Aspermont**	**3.47**	**216**	Pn	Pn	18 09 49.8	0.0	
AMTX	**Amarillo**	**3.51**	**250**	Pn	Pn	18 09 50.6	+0.3	
Z38A	**Mt. Pleasant**	**3.64**	**142**	Pn	Pn	18 09 51.1	-0.9	
DKNS	**Dickens**	**3.65**	**228**		Pn	18 09 50.7	-1.6	
MIAR	**Mount Ida**	**3.71**	**114**	Pn	Pn	18 09 53.4	+0.3	
S39A	**Bolivar**	**3.81**	**65**		Pn	18 09 52.4	-2.0	
ABTX	**Abilene, Hawle**	**3.88**	**205**	Pn	Pn	18 09 54.5	-1.0	
ABTX				IAmb_Lg		18 10 59.4		
	comp=Z,11nm,1.0s							
RTBA	**Rita Blanca**	**4.10**	**275**		Pn	18 09 58.6	0.0	
WHTX	**Lake Whitney,**	**4.16**	**177**	Pn	Pn	18 09 58.4	-0.8	
SN01	**Snyder 1**	**4.22**	**220**	Pn	Pn	18 09 58.7	-1.5	
X40A	**Basin Creek Fa**	**4.29**	**111**	Pn	Pn	18 09 59.9	-1.1	
POST	**Post**	**4.41**	**227**	Pn	Pn	18 10 00.1	-2.7	
MGMO	**Mountain Grove**	**4.46**	**75**	Pn	Pn	18 10 01.1	-2.3	
WHAR	**Wooly Hollow**	**4.46**	**100**	Pn	Pn	18 10 01.4	-2.0	
P38A	**Dawn**	**4.77**	**42**	Pn	Pn	18 10 07.8	+0.2	
R40A	**Maddies Statio**	**4.81**	**62**	Pn	Pn	18 10 07.7	-0.5	
BRDY	**Brady**	**4.98**	**193**	Pn	Pn	18 10 11.5	+1.0	
BGNE	**Belgrade**	**5.26**	**356**	IAmb_Lg		18 11 55.9		
	comp=Z,28nm,0.8s							
JCT	**Junction City**	**5.93**	**198**	IAmb_Lg		18 12 06.7		
	comp=Z,16nm,1.1s							
S44A	**Carbondale**	**6.91**	**75**	IAmb_Lg		18 12 51.4		
	comp=Z,13nm,0.8s							

KRSC 15 18:31:50.3±1.4, 50°24N×157°54E, h76km±31km, MI4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.01**	**297**	*i* P	Pn	18 32 10.3	+1.0
SKR				*e*S	Sn	18 32 24.0	+0.6
PAU	**Pauzhetka**	**1.31**	**340**	*e*P	Pn	18 32 14.8	+1.8
PAU				*e*S	Sn	18 32 31.5	+1.4
KDTR	**Khodutka, Kamc**	**1.61**	**12**	*e*P	Pn	18 32 19.2	+2.3
KDTR				*e*S	Sn	18 32 39.7	+2.7
GRL	**Gorelyy**	**2.34**	**8**	*e*P	Pn	18 32 27.9	+1.1
GRL				*e*S	Sn	18 32 56.0	+1.4
KRMR	**Karymshinskiy**	**2.62**	**8**	*e*S	Sn	18 33 05.6	+4.4
SPN	**Mys Shipunski**	**3.25**	**27**	*e*P	Pn	18 32 41.1	+2.1

*SKHL **15** 19:05:12.2±0.1, 45°.30N×152°.50E, h36km±6km, mb4.5/3*
*JMA **15** 19:05:15.5±0.8, 46°N-6°×15°2E±°, h30km, MV4.2/10, KURILE ISLANDS REGION*
*MOS **15** 19:05:16.9±1.0, 45°.61N×151°.84E, h37km, mb4.4/5, Error ellipse: s-maj=15.3km s-min=12.4km az=8.6*
*IDC **15** 19:05:19.4±3.1, 46°.49N×151°.33E, h0km, mb3.9/11, mbtmp3.9/11, Error ellipse: s-maj=85.2km s-min=33.1km az=177.0*
*NEIC **15** 19:05:19.1±1.6, 46°.2N±0°.1×151°.4E±0°.2, h6km±6km, mb4.3/24, Error ellipse: s-maj=24.4km s-min=11.6km az=139.0*

ISC 15 19:05:18.5±0.9, 45°.4N±0°.1×151°.76E±0°.07, h30km, n78, σ1§86/76, mb4.3/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.75**	**268**	*e*P	**Pn**	**19 06 00.8**	**+0.3**
KUR				AMB	AMB	19 06 07.4	
	60nm,0.5s						
KUR				*e*S	**Sb**	**19 06 38.0**	**-2.1**
KUR				A	A	19 06 50.7	
	220nm,0.5s						
KUR				A	A	19 06 50.7	
	80nm,0.5s						
KUR	**Kuril'sk**	**2.75**	**268**	*e*PN	**Pn**	**19 06 00.8**	**+0.3**
KUR				*e*S	**Sb**	**19 06 39.9**	**-0.2**
KUR				pmax	pmax		
	comp=Z,56nm,0.5s						
KUR				smax	smax		
	comp=N,218nm,0.5s						
KUR				smax	smax		
	comp=E,77nm,0.7s						
SHO	**Shikotan**	**3.83**	**248**	*e*P	**Pn**	**19 06 15.6**	**+0.2**
SHO				AMB	AMB	19 06 16.2	
	comp=E,20nm,0.3s						
SHO				*e*S	**Sn**	**19 07 03.1**	**+3.7**
SHO				A	A	19 07 15.6	
	comp=E,60nm,0.4s						
SHO				A	A	19 07 15.6	
	comp=E,70nm,0.4s						
SHO	**Shikotan**	**3.83**	**248**	*e*PN	**Pn**	**19 06 15.7**	**+0.3**
SHO				*e*S	**Sn**	**19 07 03.1**	**+3.7**
SHO				pmax	pmax		
	comp=Z,21nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.42**	**254**	*e*P	**Pn**	**19 06 24.3**	**+0.9**
YUK				AMB	AMB	19 06 26.1	
	comp=Z,60nm,0.5s						
YUK				*e*S	**Sn**	**19 07 18.7**	**+4.9**
YUK				A	A	19 07 25.5	
	comp=Z,110nm,0.6s						
YUK				A	A	19 07 25.5	
	comp=Z,180nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.42**	**254**	*e*PN	**Pn**	**19 06 26.1**	**+2.7**
YUK				*e*S	**Sn**	**19 07 20.8**	**+7.0**
YUK				pmax	pmax		
	comp=Z,58nm,0.2s						
NEM2	**Nemuro 2**	**4.76**	**247**	*e*P	**Pn**	**19 06 26.6**	**-1.5**
NEM2				*e*S	**Sn**	**19 07 19.5**	**-2.8**
NMR	**Nemuro--Hokkai**	**4.77**	**247**	*e*P	**Pn**	**19 06 27.2**	**-1.1**
NMR				*e*S	**Sn**	**19 07 24.2**	**+1.7**
NMR	**Nemuro--Hokkai**	**4.77**	**247**	*e*PN	**Pn**	**19 06 26.2**	**-2.1**
JNK	**Nakash**	**5.35**	**253**	*e*P	**Pn**	**19 06 36.2**	**-0.1**
AKK	**Akkeshi**	**5.51**	**247**	*e*P	**Pn**	**19 06 39.4**	**+1.0**
JAK	**Akkeshi**	**5.61**	**247**	*e*P	**Pn**	**19 06 38.4**	**-1.5**
JAK				*e*S	**Sn**	**19 07 40.5**	**-2.7**
JTKR	**Abashiri--Toko**	**5.77**	**258**	*e*P	**Pn**	**19 06 43.1**	**+1.1**
JAR	**Ashorobuto**	**6.10**	**253**	*e*P	**Pn**	**19 06 47.2**	**+0.7**
JOB	**Onbets**	**6.22**	**249**	*e*P	**Pn**	**19 06 47.3**	**-0.9**
YSS	**Yuzh-Sakhalins**	**6.44**	**287**	*e*PN	**Pb**	**19 07 09.5**	**-0.2**
JKK2	**Kamakawa 2**	**6.61**	**260**	*e*P	**Pn**	**19 06 55.2**	**+1.7**
JKA	**Kamikawa-asahi**	**6.64**	**262**	Pn	**Pn**	**19 06 55.0**	**+1.0**
ASAJ	**Asahikawa**	**6.65**	**262**	PN	**Pn**	**19 06 55.0**	**+1.0**
JCH	**Churui**	**6.66**	**248**	*e*P	**Pn**	**19 06 53.7**	**-0.5**
JCH				*e*S	**Sn**	**19 08 05.8**	**-3.2**
ERM	**Erimo**	**7.09**	**245**	Pn	**Pn**	**19 07 02.8**	**+2.7**
ERM	**Erimo**	**7.09**	**245**	PN	**Pn**	**19 07 02.8**	**+2.7**
PETK	**Petropavlovsk-**	**8.64**	**25**	Pn	Pn	19 07 11.8	-9.5
PETK	**Petropavlovsk-**	**8.64**	**25**	PN	Pn	19 07 11.8	-9.5
H11N2	**WAKE ISLAND Hy**	**28.50**	**149**	T	T	19 41 51.3	
	baz=338,SNR=16						
H11N1	**WAKE ISLAND Hy**	**28.52**	**149**	T	T	19 42 44.3	
	baz=338,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.52**	**149**	T	T	19 42 18.9	
	baz=338,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**29.56**	**150**	T	T	19 43 21.1	
	baz=338,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**29.57**	**150**	T	T	19 43 15.2	
	baz=338,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**29.58**	**150**	T	T	19 43 25.7	
	baz=338,slow=76,SNR=11						
SONM	**Songino Array**	**30.91**	**291**	P	**P**	**19 11 32.9**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=79,slow=7.8,SNR=2.3						
	comp=Z,0.3nm,0.4s						
C18K	**Utukok River**	**33.26**	**29**		**P**	**19 11 51.0**	**-1.8**
C18K				IAmb	IAmb	19 11 55.8	
	comp=Z,10nm,1.4s						
E19K	**Redstone River**	**34.34**	**32**	P	**P**	**19 11 59.6**	**-2.4**
E19K				IAmb	IAmb	19 12 24.6	
	comp=Z,4.8nm,1.3s						
B21K	**Ikpikpuk River**	**35.80**	**29**	P	**P**	**19 12 11.9**	**-2.7**
B21K				IAmb	IAmb	19 12 37.9	
	comp=Z,5.6nm,1.4s						
B22K	**Teshekpuk Lake**	**36.38**	**28**	P	**P**	**19 12 16.6**	**-2.9**
B22K				IAmb	IAmb	19 12 23.9	
	comp=Z,8.1nm,1.4s						
E22K	**Anaktuvuk Pass**	**36.49**	**32**	P	**P**	**19 12 20.7**	**+0.1**
C23K	**Itkillik River**	**37.21**	**29**	P	P	19 12 19.7	-6.9
SML	**Sawmill**	**37.60**	**42**	P	**P**	**19 12 30.1**	**0.0**
E24K	**Your Creek**	**37.72**	**32**	P	**P**	**19 12 30.3**	**-0.7**
L27K	**Beaver Creek,**	**40.52**	**40**	P	**P**	**19 12 55.4**	**+1.0**
BCAR	**Beaver Creek A**	**40.54**	**40**	P	**P**	**19 12 55.3**	**+0.6**
BARN	**Barnard Glacie**	**40.87**	**43**	P	**P**	**19 12 58.1**	**+0.6**
BARN				IAmb	IAmb	19 13 21.9	
	comp=Z,21nm,1.4s						
MKAR	**Makanchi Array**	**46.73**	**298**	P	**P**	**19 13 43.6**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=55,slow=5.7,SNR=5.3						
	comp=Z,0.5nm,0.5s						
KURK	**Kurchatov**	**47.33**	**304**	P	**P**	**19 13 47.3**	**-1.9**
KURK				IAmb	IAmb	19 14 03.5	
	comp=Z,5.3nm,1.3s						
KURK	**Kurchatov**	**47.33**	**304**	*e*P	**P**	**19 13 47.3**	**-1.9**
KURK	**Kurchatov**	**47.33**	**304**	P	**P**	**19 13 47.3**	**-1.9**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KURBB	**Kurchatov Arra**	**47.42**	**304**	P	**P**	**19 13 48.6**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=74,slow=8.3,SNR=6.8						
	comp=Z,0.5nm,0.5s						
EUNU	**Eureka**	**50.64**	**11**	P	**P**	**19 14 14.2**	**0.0**
EUNU				IAmb	IAmb	19 14 46.5	
	comp=Z,3.8nm,1.2s						
BVAR	**Borovoye Array**	**50.99**	**310**	P	**P**	**19 14 15.6**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=46,slow=6.2,SNR=1.9						
	comp=Z,0.4nm,0.6s						
AAK	**Ala-Archa**	**53.59**	**297**	P	**P**	**19 14 35.4**	**-1.4**
AAK				IAmb	IAmb	19 14 38.2	
	comp=Z,2.4nm,0.8s						
AAK	**Ala-Archa**	**53.59**	**297**	*e*P	**P**	**19 14 35.4**	**-1.4**
AAK	**Ala-Archa**	**53.59**	**297**	P	**P**	**19 14 35.4**	**-1.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KK31	**Karatay Array**	**55.82**	**299**	P	**P**	**19 14 52.4**	**-0.4**
KK31				IAmb	IAmb	19 14 53.2	
	comp=Z,1.6nm,0.7s						
KK31	**Karatay Array**	**55.82**	**299**	P	**P**	**19 14 52.4**	**-0.4**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KKAR	**Karatay Array**	**55.82**	**299**	P	**P**	**19 14 52.4**	**-0.4**
KKAR				IAmb	IAmb	19 14 53.2	
	comp=Z,1.6nm,0.7s						
KKAR	**Karatay Array**	**55.82**	**299**	P	**P**	**19 14 52.4**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BTK	**Batken**	**57.31**	**296**	P	**P**	**19 15 03.8**	**+0.3**
BTK				IAmb	IAmb	19 15 04.8	
	comp=Z,2.9nm,0.8s						
BTK	**Batken**	**57.31**	**296**	P	**P**	**19 15 03.8**	**+0.3**
BTK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KEV	**Kevo**	**58.30**	**340**	P	**P**	**19 15 08.2**	**-1.6**
KEV	**Kevo**	**58.30**	**340**	P	**P**	**19 15 08.2**	**-1.6**
KEV				pmax	pmax		
	comp=Z,48nm,1.4s						
ABKAR	**Akbulak array**	**58.57**	**310**	P	**P**	**19 15 11.0**	**-1.0**
ABKAR				IAmb	IAmb	19 15 12.0	
	comp=Z,1.3nm,0.7s						
ABKAR	**Akbulak array**	**58.57**	**310**	P	**P**	**19 15 11.1**	**-0.9**
ARCES	**ARCESS Array B**	**58.82**	**341**	P	**P**	**19 15 12.5**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=53,slow=7.2,SNR=7.8						
	comp=Z,2.1nm,0.7s						
CHGR	**Chuyangaron**	**59.17**	**295**	P	**P**	**19 15 16.9**	**+0.4**
CHGR	**Chuyangaron**	**59.17**	**295**	P	**P**	**19 15 16.9**	**+0.4**
CHGR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
K05A	**Summer Lake**	**59.75**	**58**	P	P	19 15 24.0	+3.4
FIA1	**FINESS Array S**	**64.85**	**334**	P	**P**	**19 15 52.6**	**-1.5**
FINES	**FINESS Array B**	**64.86**	**334**	P	**P**	**19 15 52.7**	**-1.4**
FINES	**FINESS Array B**	**64.86**	**334**	P	**P**	**19 15 52.1**	**-2.0**
	comp=Z,1.1nm,0.4s,baz=36,slow=7.1,SNR=16						
	comp=Z,1.1nm,0.4s						
NB2	**NORSAR Subarra**	**69.19**	**341**	P	**P**	**19 16 21.2**	**-0.6**
	comp=Z,8.9nm,1.1s,baz=30,slow=6.2						
NOA	**NORSAR Array B**	**69.19**	**341**	P	**P**	**19 16 19.3**	**-2.5**
	comp=Z,0.9nm,0.7s,baz=30,slow=6.3,SNR=3.8						
	comp=Z,0.9nm,0.7s						
HFS	**Hagfors**	**69.39**	**339**	P	**P**	**19 16 21.7**	**-1.3**
	comp=Z,2.7nm,0.8s,baz=33,slow=8.9,SNR=4.8						
	comp=Z,2.7nm,0.8s						
KBZ	**Khabaz**	**71.11**	**314**	P	**P**	**19 16 33.8**	**+0.1**
	comp=Z,2.5nm,0.9s,baz=7.1,slow=5.1,SNR=4.8						
	comp=Z,2.5nm,0.9s						
AKASG	**Malin Array Be**	**72.14**	**326**	P	**P**	**19 16 38.3**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=35,slow=6.3,SNR=4.5						
	comp=Z,0.5nm,0.3s						
GIRL	**Giralia**	**75.84**	**215**	P	P	19 17 08.6	+6.9
BUR08	**Bucovina Ar. S**	**76.17**	**326**	P	**P**	**19 17 03.5**	**0.0**
BURAR	**Bucovina Array**	**76.19**	**326**	P	**P**	**19 17 03.6**	**0.0**
TXAR	**Lajitas Array**	**78.99**	**59**	P	P	19 17 23.9	+4.3
	comp=Z,0.3nm,0.7s,baz=303,slow=3.9,SNR=2.3						
	comp=Z,0.3nm,0.7s						

*IDC **15** 19:13:53.8±0.8, 16°.17S×173°.64W, h0km, mb4.1/7, mbtmp4.2/8, ML3.5/1, Error ellipse: s-maj=31.3km s-min=20.4km az=132.0*
*NEIC **15** 19:13:56.8±1.3, 16°.37S±0°.07×173°.6W±0°.1, h10km±1km, mb4.6/20, Error ellipse: s-maj=19.3km s-min=11.2km az=92.0*

ISC 15 19:14:01.8±0.5, 16°.34S±0°.06×173°.42W±0°.08, h66km, n43, σ1§20/44, mb4.4/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.89**	**33**		**Pn**	**19 14 46.9**	**+1.4**
AFI				Sn	**Sn**	**19 15 17.1**	**-2.0**
NIUE	**Niue**	**4.30**	**130**		**Pn**	**19 15 05.7**	**+1.0**
NIUE				Sn	**Sn**	**19 15 49.6**	**-4.0**
RAR	**Rarotonga**	**13.80**	**113**	Pn	**Pn**	**19 17 14.7**	**+0.4**
RAR	**Rarotonga**	**13.80**	**113**	Pn	**Pn**	**19 17 14.5**	**+0.2**
	2.2nm,0.3s,baz=249,slow=7.7,SNR=8.4						
	17nm,0.6s						
URZ	**Urewera**	**23.37**	**199**	P	**P**	**19 19 04.3**	**-0.3**
	8.4nm,0.5s,baz=67,slow=2.5,SNR=8.9						
	8.4nm,0.5s						
RTZ	**Ruatahuna**	**23.74**	**199**	P	**P**	**19 19 07.0**	**-1.1**
RTZ				IAmb	IAmb	19 19 39.9	
	comp=Z,23nm,1.4s						
MRZ	**Mangatainoka R**	**26.05**	**199**	P	**P**	**19 19 28.3**	**-0.6**
MRZ				IAmb	IAmb	19 19 37.8	
	comp=Z,34nm,1.5s						
QRZ	**Quartz Range**	**27.27**	**204**	P	**P**	**19 19 39.3**	**-0.6**
MRNZ	**Matariki Terra**	**27.68**	**203**	P	**P**	**19 19 43.6**	**+0.1**
FOZ	**Fox Glacier**	**30.63**	**204**	P	**P**	**19 20 09.4**	**-0.2**
WHZ	**Wether Hill Ro**	**33.33**	**204**	P	**P**	**19 20 33.6**	**+0.3**
ARMA	**Armidale**	**34.85**	**240**	P	**P**	**19 20 46.5**	**-0.4**
ARMA				IAmb	IAmb	19 21 06.1	
	comp=Z,11nm,1.2s						
H11S2	**WAKE ISLAND Hy**	**39.76**	**330**	T	T	20 02 38.8	
	baz=146,slow=76						
H11S3	**WAKE ISLAND Hy**	**39.77**	**330**	T	T	20 02 37.4	
	baz=146,slow=76						
H11S1	**WAKE ISLAND Hy**	**39.78**	**330**	T	T	20 02 40.1	
	baz=146,slow=76						
H11N3	**WAKE ISLAND Hy**	**40.72**	**331**	T	T	20 03 48.9	
	baz=147,slow=76						
H11N1	**WAKE ISLAND Hy**	**40.72**	**331**	T	T	20 03 49.0	
	baz=147,slow=76						
H11N2	**WAKE ISLAND Hy**	**40.73**	**331**	T	T	20 03 50.2	
	baz=147,slow=76						
TOO	**Toolangi**	**41.87**	**231**	P	**P**	**19 21 46.4**	**+0.8**
TOO				IAmb	IAmb	19 21 51.4	
	comp=Z,18nm,1.5s						
STKA	**Stephens Creek**	**43.56**	**241**	P	**P**	**19 21 59.1**	**-0.3**
STKA	**Stephens Creek**	**43.56**	**241**	P	**P**	**19 21 59.1**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=86,slow=9.6,SNR=12						
	comp=Z,2.9nm,0.7s						
BBOO	**Buckleboo**	**48.33**	**240**	P	**P**	**19 22 36.7**	**-0.2**
WB0	**Warramunga Arr**	**49.59**	**258**	P	**P**	**19 22 46.0**	**-0.7**
WB0				IAmb	IAmb	19 22 48.9	
	comp=Z,5.3nm,1.2s						
WRA	**Warramunga Arr**	**49.62**	**258**	P	**P**	**19 22 46.1**	**-0.9**
WRA				PcP	**PcP**	**19 24 08.2**	**+0.5**
WRA	**Warramunga Arr**	**49.62**	**258**	P	**P**	**19 22 46.0**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=92,slow=6.4,SNR=23						
WRA				PcP	**PcP**	**19 24 08.5**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=95,slow=3.1,SNR=2.2						
	comp=Z,0.4nm,0.4s						
AS31	**Alice Springs**	**49.81**	**253**	P	**P**	**19 22 47.5**	**-0.9**
ASAR	**Alice Springs**	**49.81**	**253**	P	**P**	**19 22 47.7**	**-0.7**
ASAR				PcP	**PcP**	**19 24 08.6**	**+0.2**
ASAR	**Alice Springs**	**49.81**	**253**	P	**P**	**19 22 47.2**	**-1.2**
	comp=Z,2.9nm,0.5s,baz=88,slow=8.1,SNR=120						
ASAR				PcP	**PcP**	**19 24 08.8**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=107,slow=4.0,SNR=0.6						
	comp=Z,2.9nm,0.5s						
MTN	**Manton Dam**	**53.65**	**266**	P	**P**	**19 23 17.0**	**0.0**
MTN				IAmb	IAmb	19 23 58.0	
	comp=Z,9.2nm,1.2s						
FORT	**Forrest**	**54.98**	**244**	P	**P**	**19 23 25.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**58.01**	**259**	P	**P**	**19 23 46.2**	**-2.0**
VNDA	**Vanda**	**62.45**	**186**	P	**P**	**19 24 19.8**	**+2.3**
VNDA				IAmb	IAmb	19 24 20.8	
	comp=Z,2.5nm,0.9s						
VNDA				PcP	**PcP**	**19 24 58.2**	**+1.9**
VNDA	**Vanda**	**62.45**	**186**	P	**P**	**19 24 19.8**	**+2.3**
	comp=Z,2.0nm,0.9s,baz=7.0,slow=6.8,SNR=6.6						
	comp=Z,2.0nm,0.9s						
PSA00	**Pilbara Seismi**	**62.93**	**254**	P	**P**	**19 24 21.3**	**-0.5**
MBWA	**Marble Bar**	**63.09**	**254**	P	**P**	**19 24 22.4**	**-0.4**
ERM	**Erimo**	**70.54**	**327**	P	**P**	**19 25 07.5**	**-2.1**
QSPA	**South Pole Qui**	**73.71**	**180**	P	**P**	**19 25 29.4**	**+0.9**
QSPA				IAmb	IAmb	19 25 31.1	
	comp=Z,6.5nm,0.8s						
PDAR	**Pinedale Array**	**82.97**	**42**	P	**P**	**19 26 21.1**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=222,slow=2.0,SNR=7.3						
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	**83.36**	**11**	P	**P**	**19 26 21.2**	**0.0**
	comp=Z,0.3nm,0.6s,baz=234,slow=6.1,SNR=6.1						
	comp=Z,0.3nm,0.6s						
ARCES	**ARCESS Array B**	**125.53**	**352**	PKP	**PKiKP**	**19 32 55.5**	**+0.2**
	comp=Z,2.7nm,1.0s,baz=37,slow=2.3,SNR=5.2						
FINES	**FINESS Array B**	**132.85**	**347**	PKP	**PKiKP**	**19 33 10.4**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=54,slow=4.9,SNR=4.1						
BRTR	**Keskin Array B**	**146.87**	**320**	PKPbc	**PKPab**	**19 33 37.6**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=126,slow=3.1,SNR=8.8						
GERES	**GERESS Array B**	**147.06**	**351**	PKPbc	**PKPab**	**19 33 38.0**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=45,slow=2.1,SNR=4.7						

*IDC **15** 19:19:59.5±0.8, 37°.19N×142°.45E, h0km, mb3.7/12, mbtmp3.8/16, ML3.3/4, Error ellipse: s-maj=19.8km s-min=16.1km az=124.0*
*JMA **15** 19:20:03.2±0.2, 37°.3N±0°.5×142°.2E±0°.9, h31km±3km, MD4.0/40, MV4.1/40, E OFF FUKUSHIMA PREF*
*NEIC **15** 19:20:07.0±2.4, 37°.39N±0°.06×142°.04E±0°.08, h35km±8km, mb4.3/17, Error ellipse: s-maj=9.2km s-min=8.7km az=52.0*

ISC 15 19:20:05.0±0.6, 37°.26N±0°.05×142°.17E±0°.06, h35km, n78, σ1§22/57, mb4.0/21, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.04**	**276**	*i* P	**Pn**	**19 20 22.0**	**-1.1**
JFK				S	**Sn**	**19 20 35.2**	**-1.2**
JFK	**Kawauchi**	**1.04**	**276**	A	A	19 20 22.0	
	comp=E,3.0nm,0.8s,comp=N,2.0nm,0.5s						
**ON

H11S2	**WAKE ISLAND Hy**	**28.50**	**124**		T		T	19 56 17.1	
	baz=316,slow=76,SNR=30								
CRAI	**Chiangrai**	**40.03**	**257**		P		**P**	**19 27 36.6**	**-0.2**
CRAI					IAmb		IAmb	19 28 09.7	
	comp=Z,4.6nm,1.5s								
ZALV	**Zalesovo Beam**	**42.21**	**312**		P		**P**	**19 27 54.7**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=106,slow=7.2,SNR=2.5								
	comp=Z,0.3nm,0.4s								
C18K	**Utukok River**	**43.80**	**26**		P		**P**	**19 28 07.4**	**+0.3**
C18K					IAmb		IAmb	19 28 42.8	
	comp=Z,8.1nm,1.4s								
MK31	**Makanchi Array**	**44.51**	**302**		P		**P**	**19 28 13.9**	**+0.9**
MK31					IAmb		IAmb	19 28 34.1	
	comp=Z,12nm,1.5s								
MKAR	**Makanchi Array**	**44.51**	**302**		P		**P**	**19 28 13.8**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=84,slow=9.6,SNR=5.6								
	comp=Z,0.4nm,0.5s								
E19K	**Redstone River**	**44.98**	**28**		P		P	19 28 18.0	+1.5
E19K					IAmb		IAmb	19 28 37.0	
	comp=Z,5.2nm,1.4s								
IMAR	**Indian Mountai**	**46.15**	**31**		P		**P**	**19 28 26.7**	**+1.1**
KURK	**Kurchatov**	**46.27**	**308**		P		**P**	**19 28 27.2**	**+0.4**
KURK					IAmb		IAmb	19 28 34.6	
	comp=Z,3.6nm,0.8s								
KURBB	**Kurchatov Arra**	**46.34**	**308**		P		**P**	**19 28 27.5**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=81,slow=7.7,SNR=10								
	comp=Z,0.5nm,0.3s								
TAPN	**Taplejung**	**46.53**	**274**	*eP*	P		P	19 28 38.2	+8.7
	comp=Z,4.0nm,0.6s								
RAMN	**Ramite**	**47.59**	**274**	*eP*	P		P	19 28 42.2	+4.4
	comp=Z,3.4nm,0.5s								
C23K	**Itkillik River**	**47.73**	**26**		P		P	19 28 39.4	+1.5
C23K					IAmb		IAmb	19 28 54.5	
	comp=Z,3.4nm,1.1s								
GUN	**Gumba**	**47.74**	**276**	*eP*	P		P	19 28 47.7	+8.7
	comp=Z,6.7nm,0.5s								
GKN	**Gorkha**	**48.68**	**277**	*eP*	P		P	19 28 53.4	+7.3
	comp=Z,5.5nm,0.5s								
ILAR	**Eielson Array**	**48.98**	**32**		P		**P**	**19 28 46.8**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=263,slow=5.9,SNR=11								
	comp=Z,1.0nm,0.8s								
DANN	**Dangsing**	**49.22**	**277**	*eP*	P		P	19 28 57.3	+6.9
	comp=Z,11nm,0.5s								
PYUN	**Piuthan**	**49.94**	**278**	*eP*	P		P	19 28 59.9	+4.1
	comp=Z,4.6nm,0.5s								
BVAR	**Borovoye Array**	**50.87**	**312**		P		P	19 29 04.6	+2.4
	comp=Z,0.2nm,0.3s,baz=56,slow=7.8,SNR=1.5								
	comp=Z,0.2nm,0.3s								
I28M	**Miner Creek**	**51.85**	**31**		P		P	19 29 10.7	+1.2
G29M	**Pine Creek**	**52.43**	**29**		P		P	19 29 15.4	+1.8
G29M					IAmb		IAmb	19 29 47.6	
	comp=Z,3.6nm,1.2s								
G30M	**tAoh Zraii Nji**	**53.12**	**29**		P		P	19 29 20.1	+1.3
WB0	**Warramunga Arr**	**57.20**	**189**		P		**P**	**19 29 48.7**	**+0.1**
WB0					IAmb		IAmb	19 30 23.9	
	comp=Z,6.3nm,1.4s								
WRA	**Warramunga Arr**	**57.38**	**189**		P		**P**	**19 29 49.6**	**-0.3**
WRA	**Warramunga Arr**	**57.38**	**189**		P		**P**	**19 29 48.5**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=6.2,slow=7.4,SNR=11								
	comp=Z,0.8nm,0.6s								
ABKAR	**Akbulak array**	**58.26**	**310**		P		**P**	**19 29 56.3**	**+0.5**
EUNU	**Eureka**	**59.87**	**9**		P		**P**	**19 30 06.6**	**-0.1**
EUNU					IAmb		IAmb	19 30 17.1	
	comp=Z,1.3nm,1.1s								
SPITS	**Spitsbergen Ar**	**60.42**	**349**		P		**P**	**19 30 11.2**	**+0.8**
	comp=Z,5.9nm,0.9s,baz=67,slow=16,SNR=5.3								
	comp=Z,5.9nm,0.9s								
ASAR	**Alice Springs**	**61.10**	**189**		P		**P**	**19 30 15.2**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=12,slow=7.0,SNR=5.4								
	comp=Z,0.5nm,0.8s								
RES	**Resolute Bay**	**62.23**	**15**		P		**P**	**19 30 23.3**	**+0.8**
YKA	**Yellowknife Ar**	**63.30**	**30**		P		**P**	**19 30 28.7**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=298,slow=7.3,SNR=3.0								
	comp=Z,0.3nm,0.8s								
OUENC	**Ouen Island, N**	**63.75**	**154**		P		P	19 30 37.6	+4.3
FINES	**FINESS Array B**	**68.89**	**332**		P		**P**	**19 31 06.9**	**+1.1**
NVAR	**Mina Array Bea**	**74.36**	**54**		P		**P**	**19 31 39.1**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=299,slow=9.2,SNR=2.2								
	comp=Z,0.4nm,0.7s								
SFJD	**Kangerlussuaq**	**75.61**	**5**		P		P	19 31 47.9	+2.2
PDAR	**Pinedale Array**	**77.07**	**46**		P		**P**	**19 31 55.0**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=250,slow=3.0,SNR=3.6								
	comp=Z,0.4nm,0.7s								

FUNV ***15*** *19:48:53.8,9.87N×72.92W,h32km,MW3.6*
RSNC ***15*** *19:48:55.3±2.4,9.69N×72.80W,h2km±9km,ML2.8*
ISC 15 19:48:55.7±1.1**,9.74N**±0.03×**72.66W**±0.03**,h29**km±11km**,**
n18,σ1§**34/34,1C,Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MCQV	**Machiques**	**0.33**	**22**⇑	*eP*		**Pb**	**19 49 03.1**	**-0.3**
MCQV				*eS*		**Sn**	**19 49 09.8**	**-0.5**
CRJC	**Cerrejon, Guaj**	**1.29**	**350**	*eP*		**Pb**	**19 49 18.0**	**-1.4**
CRJC				*eS*		**Sb**	**19 49 35.8**	**+0.2**
CRJC				*i*			19 49 37.3	
	comp=Z,351nm,0.2s							
ARGC	**Ariguani, Magd**	**1.57**	**274**	*eP*		**Pn**	**19 49 20.7**	**-0.9**
ARGC				*eS*		**Sn**	**19 49 41.2**	**+0.2**
ARGC				*i*			19 49 42.3	
	comp=Z,66nm,0.2s							
OCAC	**Ocana**	**1.63**	**204**	*eP*		**Pn**	**19 49 21.1**	**-1.5**
OCAC				*eS*		**Sn**	**19 49 42.1**	**-0.7**
OCAC				*i*			19 49 45.3	
	comp=Z,732nm,0.4s							
CAPV	**Capacho**	**1.90**	**170**	*eP*		**Pn**	**19 49 26.0**	**-0.4**
CAPV				*eS*		**Sn**	**19 49 50.0**	**+0.5**
URIC	**Uribia, Colomb**	**2.05**	**18**	*eP*		**Pb**	**19 49 31.6**	**-0.7**
URIC				*eS*		**Sb**	**19 49 59.4**	**+2.0**
URIC				*i*			19 50 02.7	
	comp=Z,67nm,0.5s							
SMRC	**Santa Marta, M**	**2.09**	**313**	*eP*		**Pn**	**19 49 29.0**	**+0.2**
SMRC				*eS*		**Sn**	**19 49 54.8**	**+0.9**
SDV	**Santo Domingo**	**2.17**	**113**	*eP*		**Pb**	**19 49 33.3**	**-1.1**
SDV				*eS*		**Sb**	**19 50 02.3**	**+1.3**
SDV				*i*			19 50 05.7	
	comp=Z,28nm,0.3s							
SOCV	**Socops**	**2.29**	**129**	*eP*		**Pn**	**19 49 32.6**	**+1.0**
SOCV				*eS*		**Sn**	**19 50 01.3**	**+2.3**
PAMC	**Pamplona, Colo**	**2.39**	**181**	*eP*		**Pn**	**19 49 34.6**	**+1.3**
PAMC				*eS*		**Sb**	**19 50 07.2**	**-0.3**
PAMC				*i*			19 50 12.4	
	comp=Z,30nm,0.4s							
SJCC	**San Jacinto, C**	**2.49**	**274**	*eP*		**Pn**	**19 49 35.1**	**+0.7**
SJCC				*eS*		**Sn**	**19 50 06.0**	**+2.2**
CURV	**Curarigua**	**2.67**	**84**	*eP*		**Pn**	**19 49 37.9**	**+1.0**
CURV				*eS*		**Sn**	**19 50 09.2**	**+0.9**
SIQV	**Siquisique**	**2.94**	**72**	*eP*		**Pn**	**19 49 40.3**	**-0.3**
SIQV				*eS*		**Sn**	**19 50 14.7**	**-0.4**
ZARC	**Zaragoza, Cauc**	**3.12**	**224**	*eP*		**Pn**	**19 49 43.2**	**+0.2**
ZARC				*eS*		**Sn**	**19 50 16.5**	**-2.9**
ZARC				*i*			19 50 28.9	
	comp=Z,20nm,0.2s							
PTBC	**PUERTO BERRIO,**	**3.65**	**209**	*eP*		**Pn**	**19 49 50.9**	**+0.6**
PTBC				*eS*		**Sn**	**19 50 35.3**	**+2.9**
PTBC				*i*			19 50 44.1	
	comp=Z,6.4nm,0.2s							
BAUV	**El Baul**	**4.62**	**100**	*eP*		**Pn**	**19 50 03.6**	**0.0**
BAUV				*eS*		**Sn**	**19 50 55.5**	**-1.0**
BENV	**Beln**	**4.99**	**87**	*eP*		**Pn**	**19 50 08.2**	**-0.5**
BENV				*eS*		**Sn**	**19 51 03.3**	**-2.3**
CACV	**CAICARA DEL OR**	**6.42**	**109**	*eP*		Pn	19 50 35.2	+6.8
CACV				*eS*		Sn	19 51 50.1	+9.3

NNC 15 19:52:12.1±4.7**,36.91N**×**70.77E,h229**km±163km**,mb2.5,**
mpv3.6,6C-1D,Error ellipse: s-maj=72.2km
s-min=31.8km az=179.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**5.68**	**23**	P		Pn	19 53 36.5	+0.4
	SNR=62							
AML	**Almayashu**	**5.68**	**23**	⇓P		Pn	19 53 35.9	-0.2
	0.9nm,0.3s							
AML				⇑S		S	19 54 43.4	+0.7
	9.7nm,0.8s							
UCH	**Uchtor**	**6.04**	**27**	P		Pn	19 53 41.0	+0.3
	SNR=26							
KK31	**Karatay Array**	**6.18**	**358**	P		Pn	19 53 42.7	+0.6
	1.7nm,0.3s,baz=193,slow=14,SNR=128							
KK31				⇑S		S	19 54 54.3	+0.5
	4.8nm,0.6s,baz=205,slow=27,SNR=15							
EKS2	**Erkin-Say**	**6.19**	**21**	P		Pn	19 53 43.8	+1.5
	SNR=22							
AAK	**Ala-Archa**	**6.39**	**26**	P		Pn	19 53 45.8	+0.8
	SNR=9.2							
KBK	**Karagaybulak**	**6.58**	**28**	P		Pn	19 53 48.8	+1.6
	SNR=9.3							
ULHL	**Ulahol**	**6.80**	**37**	P		Pn	19 53 50.3	+0.2
	SNR=8.6							
CHMS	**Chumysh**	**6.80**	**25**	⇑P		Pn	19 53 49.3	-0.6
	3.2nm,0.4s							
CHMS				⇑S		S	19 55 08.5	+0.4
	3.8nm,0.7s							
TKM2	**Tokmak 2**	**7.05**	**30**	P		Pn	19 53 54.1	+0.7
	SNR=7.3							
TKM2	**Tokmak 2**	**7.05**	**30**	⇑P		Pn	19 53 53.7	+0.3
	3.1nm,0.5s							
TKM2				⇑S		S	19 55 14.8	+0.5
	1.2nm,0.7s							

UPP ***15*** *19:56:34.5±2.4,63.44N×26.36E,h0km,ML1.8*
HEL 15 19:56:35.9±0.1**,63.64N×26.08E,h0**km**,ML1.4,**
Suspected explosion,Finland

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NIF	**Nilsia**	**0.82**	**107**	PG		Pg	19 56 50.9	-0.7
OUF	**Merijarvi**	**0.94**	**321**	PG		Pg	19 56 50.7	-3.1
OUF				MSG			19 57 04.7	
	comp=Z,2.5nm,0.2s							
OUF				SB		Sg	19 57 05.3	-0.7
OBF0	**Syolatti, Pyha**	**1.18**	**318**	PG		Pg	19 56 57.4	-1.0
OBF0				MSG			19 57 11.7	
	comp=Z,2.6nm,0.2s							
OBF4	**Vikkela, Lumij**	**1.25**	**341**	PB		Pg	19 56 59.0	-0.8
	baz=160							
OBF4				MSG			19 57 13.8	
	comp=Z,2.0nm,0.2s							
OBF8	**Ulkokalla**	**1.35**	**302**	PG		Pg	19 57 00.3	-1.4
	baz=119							
OBF8				MSG			19 57 16.6	
	comp=Z,2.1nm,0.2s							
OUL	**Oulu**	**1.45**	**357**	PG		Pn	19 57 02.2	-1.2
OUL				SG		Sg	19 57 20.5	-1.9
KAF	**Kangasniemi**	**1.54**	**176**	PG		Pn	19 57 04.4	-0.2
KAF				MSG			19 57 22.0	
	comp=Z,5.6nm,0.2s							
KAF				SN		Sn	19 57 25.0	-0.2
KEF	**Keuruu**	**1.58**	**201**	PG		Pn	19 57 04.6	-0.5
KEF				MSG			19 57 23.3	
	comp=Z,3.2nm,0.2s							
VAF	**Ylistaro**	**1.65**	**250**	PG		Pn	19 57 06.1	0.0
VAF				MSG			19 57 25.1	
	comp=Z,3.0nm,0.2s							
VAF				SN		Sn	19 57 27.9	0.0
RMF	**Romuvaara**	**1.80**	**70**	PG		Pn	19 57 08.5	+0.4
RMF				MSG			19 57 29.6	
	comp=Z,3.0nm,0.2s							
RMF				SG		Sb	19 57 32.7	0.0
FIA0	**FINESS Array S**	**2.21**	**180**	PG		Pb	19 57 15.2	-1.4
FIA0				MSG			19 57 41.2	
	comp=Z,3.0nm,0.2s							
BURU	**Burvik**	**2.27**	**297**	P		Pn	19 57 16.1	+1.5
BURU				S		Sb	19 57 45.6	-0.6
BURU	**Burvik**	**2.27**	**297**	PG		Pb	19 57 16.2	-1.4
BURU				SG		Sb	19 57 47.1	+1.0
UMAU	**Umeaa**	**2.41**	**278**	P		Pn	19 57 16.6	+0.1
UMAU				S		Sb	19 57 48.6	-1.7
UMAU	**Umeaa**	**2.41**	**278**	PB		Pn	19 57 17.1	+0.6
UMAU				SG		Sb	19 57 49.3	-1.0
JOF	**Joensuu**	**2.48**	**105**	PG		Pb	19 57 19.5	-1.7
	baz=289							
JOF				SG		Sb	19 57 51.9	-0.3
ODEU	**Stanfors**	**2.48**	**290**	P		Pb	19 57 19.4	-1.9
KALU	**Kalix**	**2.51**	**334**	P		Pn	19 57 19.5	+1.6
KALU	**Kalix**	**2.51**	**334**	PG		Pn	19 57 19.7	+1.8
RUF	**Ruokolahti**	**2.59**	**148**	MSG			19 57 52.3	
	comp=Z,1.9nm,0.2s							
RUF				SG		Sb	19 57 57.3	+1.7
MSF	**Maaselka**	**2.61**	**28**	PG		Pb	19 57 21.4	-2.1
SJUU	**Sjulsmark**	**2.69**	**316**	P		Pb	19 57 22.7	-2.1
KU6	**Riekki**	**2.90**	**33**	MSG			19 58 01.1	
	comp=Z,1.1nm,0.2s							
KU6				SG		Sb	19 58 04.2	0.0
RNF	**Rovaniemi**	**2.98**	**360**	PB		Pn	19 57 25.6	+1.3
SVAU	**Svanoeiden**	**2.98**	**289**	P		Pn	19 57 27.0	+2.6
ERTU	**Ertsjaerv**	**3.35**	**332**	PB		Pn	19 57 31.4	+1.9
ERTU				SG		Sb	19 58 19.5	+2.1
HEMU	**Hemsoen**	**3.77**	**259**	PN		Pn	19 57 34.3	-0.9
LANU	**Lannavaara**	**4.73**	**341**	PN		Pn	19 57 49.5	+1.2

IDC ***15*** *20:17:26.7±0.7,52.91N×162.27E,h0km,mb3.7/16,*
mbtmp3.7/19,ML3.5/4,MS3.3/2,Error ellipse:
s-maj=23.9km s-min=13.4km az=168.0
KRSC ***15*** *20:17:26.9±1.9,52.90N×162.39E,h64km±33km,Ml4.1*
ISC 15 20:17:31.2±0.6**,52.91N**±0.05×**162.39E**±0.05**,h35**km**,n60,**
σ1§54/80,mb3.7/16,Off east coast of Kamchatka
Peninsula

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SPN	**Mys Shipunski**	**1.45**	**279**	*eP*		**Pn**	**20 17 52.9**	**-1.9**
SPN				*eS*		**Sn**	**20 18 09.6**	**-2.9**
NLC	**Nalytchevo**	**1.86**	**279**	*eP*		**Pn**	**20 17 60.0**	**-0.5**
NLC				*eS*		**Sn**	**20 18 21.8**	**-0.9**
UGLR	**Uglovaya**	**2.17**	**279**	*eP*		**Pn**	**20 18 04.0**	**-1.0**
UGLR				*eS*		**Sn**	**20 18 29.2**	**-1.5**
SMAR	**Somma**	**2.20**	**281**	*eP*		**Pn**	**20 18 04.0**	**-1.3**
SMAR				*eS*		**Sn**	**20 18 29.6**	**-1.7**
DALK	**Dalny**	**2.21**	**275**	*eP*		**Pn**	**20 18 03.8**	**-1.5**
DALK				*eS*		**Sn**	**20 18 28.6**	**-2.6**
AVH	**Avacha**	**2.23**	**281**	*eP*		**Pn**	**20 18 04.9**	**-0.9**
AVH				*eS*		**Sn**	**20 18 30.9**	**-1.2**
PET	**Petropavlovsk**	**2.27**	**274**	*eP*		**Pn**	**20 18 05.1**	**-1.0**
PET				*eS*		**Sn**	**20 18 30.9**	**-1.9**
INSR	**Institute**	**2.30**	**275**	*eS*		**Sn**	**20 18 31.5**	**-2.0**
KOK	**Koryaka**	**2.30**	**281**	*eP*		**Pn**	**20 18 05.6**	**-1.0**
KOK				*eS*		**Sn**	**20 18 32.0**	**-1.7**
KRX	**Arik**	**2.30**	**283**	*eP*		**Pn**	**20 18 05.4**	**-1.3**
KRX				*eS*		**Sn**	**20 18 31.7**	**-2.2**
TUMD	**Tumrok D**	**2.58**	**334**	*eP*		**Pn**	**20 18 08.8**	**-1.7**
TUMD				*eS*		**Sn**	**20 18 37.5**	**-3.2**
KRMR	**Karymshinskiy**	**2.59**	**270**	*eP*		**Pn**	**20 18 09.1**	**-1.4**
KRMR				*eS*		**Sn**	**20 18 39.1**	**-1.5**
GRL	**Gorelyy**	**2.65**	**264**	*eP*		**Pn**	**20 18 10.9**	**-0.7**
GRL				*eS*		**Sn**	**20 18 41.6**	**-0.9**
ASAK	**Asacha**	**2.79**	**261**	*eP*		**Pn**	**20 18 12.7**	**-0.7**
ASAK				*eS*		**Sn**	**20 18 44.9**	**-0.8**
PETK	**Petropavlovsk-**	**2.84**	**276**	Pn		**Pn**	**20 18 12.8**	**-1.2**
	7.9nm,0.3s,baz=91,slow=18,SNR=156							
PETK					Sn	**Sn**	**20 18 46.0**	**-1.0**
	12nm,0.3s,baz=90,slow=25,SNR=13							
PETK					LR	LR	20 19 31.3	
	comp=Z,173nm,20.1s,baz=193,slow=45							
	57nm,0.6s							
KDTR	**Khodutka, Kamc**	**2.87**	**249**	*eP*		**Pn**	**20 18 12.7**	**-1.6**
KDTR				*eS*		**Sn**	**20 18 44.2**	**-3.4**
BKI	**Bering**	**3.12**	**41**	*eS*		**Sn**	**20 18 48.5**	**-5.3**
KMNR	**Kamenistaya**	**3.12**	**337**	*eP*		**Pn**	**20 18 17.8**	**-0.2**
KMNR				*eS*		**Sn**	**20 18 53.4**	**-0.7**
APC	**Apacha**	**3.17**	**272**	*eP*		**Pn**	**20 18 18.7**	**+0.2**
APC				*eS*		**Sn**	**20 18 55.5**	**+0.5**
BZMR	**Bezymyannaya**	**3.23**	**341**	*eP*		**Pn**	**20 18 19.1**	**-0.4**
BZWR	**Bezymyannyi-We**	**3.26**	**341**	*eP*		**Pn**	**20 18 19.1**	**-0.8**
KBTR	**Krutoberegovo**	**3.32**	**4**	*eP*		**Pn**	**20 18 17.9**	**-2.7**
KPT	**Kopyto**	**3.32**	**338**	*eP*		**Pn**	**20 18 20.2**	**-0.4**
KBG	**Krutoberegovo**	**3.36**	**3**	*eP*		**Pn**	**20 18 19.0**	**-2.1**
KBG				*eS*		**Sn**	**20 18 56.0**	**-3.7**
KOZ	**Kozyrevsk**	**3.48**	**336**	*eP*		**Pn**	**20 18 23.1**	**+0.3**
KRSR	**Krestovskiy**	**3.48**	**343**	*eP*		**Pn**	**20 18 22.9**	**0.0**
KRSR				*eS*		**Sn**	**20 19 02.3**	**-0.6**
KLY	**Klyuchi**	**3.56**	**344**	*eP*		**Pn**	**20 18 22.9**	**-1.0**
KLY				*eS*		**Sn**	**20 19 02.6**	**-2.0**
ESO	**Esso**	**3.71**	**326**	*eP*		**Pn**	**20 18 26.9**	**+0.9**
SMKR	**Semkarok**	**3.72**	**352**	*eP*		**Pn**	**20 18 25.7**	**-0.5**
SMKR				*eS*		**Sn**	**20 19 08.2**	**-0.5**
BDR	**Baidarnaya**	**3.73**	**350**	*eP*		**Pn**	**20 18 26.2**	**-0.1**
SRDR	**Sredinnyy**	**3.75**	**337**	*eP*		**Pn**	**20 18 25.8**	**-0.8**
SKR	**Severo-Kuril's**	**4.49**	**243**	*eP*		**Pn**	**20 18 34.7**	**-1.9**
SHEM	**Shemya Is, Ala**	**7.10**	**87**	Pn		Pn	20 19 12.1	-0.4
	6.7nm,0.3s,baz=220,slow=3.1,SNR=14							
ASAJ	**Asahikawa**	**15.75**	**244**	Pn		**Pn**	**20 21 08.7**	**-1.5**
	0.3nm,0.3s,baz=80,slow=23,SNR=1.4							
	3.0nm,0.6s							
KLR	**Kul'dur**	**19.53**	**271**	P		**P**	**20 21 55.0**	**-0.3**
	0.1nm,0.3s,baz=166,slow=2.3,SNR=1.8							
	0.6nm,0.6s							
USRK	**Ussuriysk Ar.**	**21.79**	**259**	P		**P**	**20 22 19.9**	**+0.1**
	0.8nm,0.6s,baz=182,slow=28,SNR=1.7							
	0.8nm,0.6s							
ILAR	**Eielson Array**	**27.96**	**45**	P		**P**	**20 23 19.8**	**+1.9**
	0.6nm,0.8s,baz=246,slow=6.8,SNR=4.2							
	0.6nm,0.8s							
SONM	**Songino Array**	**35.29**	**285**	P		**P**	**20 24 22.5**	**-0.1**
	0.5nm,0.6s,baz=80,slow=9.2,SNR=3.9							
	0.5nm,0.6s							
YKA	**Yellowknife Ar**	**42.35**	**43**	P		**P**	**20 25 22.0**	**+0.6**
	0.6nm,0.8s,baz=299,slow=8.0,SNR=5.5							
	0.6nm,0.8s							
KURBB	**Kurchatov Arra**	**49.11**	**303**	P		**P**	**20 26 13.8**	**-1.0**
	0.6nm,0.2s,baz=56,slow=8.1,SNR=4.3							
	0.6nm,0.2s							
MKAR	**Makanchi Array**	**49.48**	**297**	P		**P**	**20 26 17.1**	**-0.7**
	0.7nm,0.7s,baz=54,slow=8.9,SNR=1.9							
	0.7nm,0.7s							
BVAR	**Borovoye Array**	**51.59**	**310**	P		**P**	**20 26 34.2**	**+0.6**
	0.8nm,0.6s,baz=38,slow=7.3,SNR=3.4							
	0.8nm,0.6s							
NVAR	**Mina Array Bea**	**54.49**	**71**	P		**P**	**20 26 57.2**	**+1.8**
	0.4nm,0.6s,baz=52,slow=22,SNR=2.8							
	0.4nm,0.6s							
PDAR	**Pinedale Array**	**56.39**	**62**	P		**P**	**20 27 10.3**	**+1.3**
	0.7nm,0.8s,baz=244,slow=26,SNR=3.0							
	0.7nm,0.8s							
CMAR	**Chiang Mai Arr**	**59.51**	**260**	P		**P**	**20 27 31.9**	**+1.0**
	0.5nm,0.7s,baz=24,slow=7.0,SNR=1.5							
	0.5nm,0.7s							
TAPN	**Taplejung**	**59.61**	**276**	*eP*		**P**	**20 27 32.0**	**+0.2**
	5.3nm,0.6s							
JIRN	**Jiri**	**60.29**	**277**	*eP*		**P**	**20 27 36.6**	**0.0**
RAMN	**Ramite**	**60.57**	**277**	*eP*		**P**	**20 27 38.2**	**-0.1**
	9.4nm,0.7s							
PKI	**Pulchoki**	**60.83**	**278**	*eP*		**P**	**20 27 40.1**	**-0.1**
	9.5nm,0.8s							
PKIN	**Phulchoki**	**60.83**	**278**	*eP*		**P**	**20 27 39.9**	**-0.3**
	7.5nm,0.6s							
FINES	**FINESS Array B**	**60.83**	**338**	P		**P**	**20 27 40.3**	**+1.0**
	2.5nm,0.9s,baz=31,slow=9.2,SNR=5.8							
	2.5nm,0.9s							
DANN	**Dangsing**	**61.24**	**280**	*eP*		**P**	**20 27 41.3**	**-1.7**
PYUN	**Piuthan**	**61.89**	**280**	*eP*		**P**	**20 27 45.7**	**-1.5**
NB2	**NORSAR Subarra**	**64.10**	**345**	P		**P**	**20 28 00.5**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=21,slow=6.9							
NOA	**NORSAR Array B**	**64.10**	**345**	P		**P**	**20 28 00.1**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=21,slow=6.6,SNR=4.0							
	comp=Z,0.8nm,0.7s							
TXAR	**Lajitas Array**	**69.42**	**69**	P		**P**	**20 28 36.8**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=306,slow=4.8,SNR=5.6							
	comp=Z,0.6nm,0.7s							
AKASG	**Malin Array Be**	**69.48**	**330**	P		**P**	**20 28 37.2**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=27,slow=6.0,SNR=2.3							
	comp=Z,0.8nm,0.5s							
KBZ	**Khabaz**	**70.61**	**318**	LR		LR	21 04 57.1	
	comp=Z,56nm,18.6s,baz=44,slow=40							
WRA	**Warramunga Arr**	**76.52**	**207**	P		**P**	**20 29 17.3**	**-0.2**
	comp=Z,0.9nm,1.0s,baz=19,slow=5.9,SNR=4.3							
	comp=Z,0.9nm,1.0s							
ASAR	**Alice Springs**	**80.18**	**206**	P		**P**	**20 29 38.6**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=15,slow=5.4,SNR=6.0							
	comp=Z,0.7nm,0.8s							

NEIC ***15*** *20:19:40.2±1.9,44.62N±0.05×105.61W±0.06,h0km±2km,*
ML2.8/34, Error ellipse: s-maj=9.8km s-min=4.2km
az=40.0
IDC ***15*** *20:19:41.2±3.1,43.63N×104.96W,h0km,mbtmp3.0/2,*
ML2.7/2, Error ellipse: s-maj=76.2km s-min=10.7km
az=152.0
ISC 15 20:19:40.3±1.1

TGIG		1.34	22	*eP*		**Pn**	**20 42 38.3**	**0.0**
TGIG				*eS*		**Sn**	**20 42 54.7**	**-0.8**
TGBT	**Tuxtla Gutierr**	1.35	23			**Pn**	**20 42 38.5**	**+0.1**
TGBT						**Sn**	**20 42 55.2**	**-0.5**
TGBT	**Tuxtla Gutierr**	1.35	23	*eP*		**Pn**	**20 42 38.5**	**+0.1**
TGBT				*eS*		**Sn**	**20 42 55.2**	**-0.5**
NILT	**Santiago Nilte**	1.39	318	*eP*		**Pn**	**20 42 39.5**	**+0.6**
NILT				*eS*		**Sn**	**20 42 57.5**	**+0.9**
PATR	**El Naranjo**	1.42	107	*eP*		**Pn**	**20 42 38.5**	**-1.0**
PATR				*eS*		**Sn**	**20 42 56.7**	**-1.1**
PAVE	**Pavencul**	1.46	103	*eP*		**Pn**	**20 42 39.6**	**-0.3**
PAVE				*eS*		**Sn**	**20 42 58.5**	**0.0**
THIG		1.47	115			**Pn**	**20 42 39.4**	**-0.5**
THIG						**Sn**	**20 42 57.6**	**-0.8**
THIG		1.47	115	*eP*		**Pn**	**20 42 39.4**	**-0.5**
THIG				*eS*		**Sn**	**20 42 57.6**	**-0.8**
CHUJ	**Union Juarez**	1.54	106	*eP*		**Pn**	**20 42 40.7**	**-0.5**
CHUJ				*eS*		**Sn**	**20 42 59.6**	**-1.1**
CCIG	**Comitan**	1.63	63			**Pn**	**20 42 41.9**	**-0.3**
CCIG	**Comitan**	1.63	63	*eP*		**Pn**	**20 42 42.3**	**+0.1**
CCIG				*eS*		**Sn**	**20 42 59.6**	**-3.0**
CCIG	**Comitan**	1.63	63	*i* P		**Pn**	**20 42 42.3**	**+0.1**
CCIG				*i* S		**Sn**	**20 42 59.7**	**-3.0**
CCIG				IAML			20 43 12.8	
	comp=Z,4µm,1.0s							
SMCA	**Catarina**	1.66	114	*i* P		**Pn**	**20 42 41.5**	**-0.9**
SMCA				*i* S		**Sn**	**20 43 00.5**	**-2.5**
SMCA				IAML			20 43 01.4	
	comp=Z,5µm,1.0s							
UXUV	**UXUV**	1.84	345	*eP*		**Pn**	**20 42 45.9**	**+1.0**
UXUV				*eS*		**Sn**	**20 43 04.2**	**-3.2**
SMSP	**San Marcos**	1.88	107	*eP*		**Pn**	**20 42 46.3**	**+0.6**
SMSP				*eS*		**Sn**	**20 43 09.0**	**+0.2**
CMIG	**Matias Romero**	1.96	323	P		**Pn**	**20 42 46.5**	**+0.1**
	comp=Z,70nm,0.3s,baz=146,slow=11,SNR=200							
CMIG				S		**Sn**	**20 43 11.5**	**+1.5**
	comp=Z,270nm,0.3s,baz=133,slow=13,SNR=12							
CMIG				LR		LR	20 43 30.4	
	comp=Z,221nm,19.6s,baz=180,slow=38							
CMIG	**Matias Romero**	1.96	323	*eP*		**Pn**	**20 42 46.5**	**+0.1**
CMIG				*eS*		**Sn**	**20 43 03.3**	**-6.8**
HUEH	**Huehuetenango**	2.08	96			**Pn**	**20 42 46.7**	**-1.5**
HUEH	**Huehuetenango**	2.08	96	*eP*		**Pn**	**20 42 48.1**	**-0.1**
HUEH				*i* S		**Sn**	**20 43 15.4**	**+2.0**
RTAL	**Retalhuleu**	2.13	118			**Pn**	**20 42 48.8**	**0.0**
RTAL	**Retalhuleu**	2.13	118	*eP*		**Pn**	**20 42 48.9**	**+0.1**
RTAL				*i* S		**Sn**	**20 43 13.8**	**-0.6**
RTAL	**Retalhuleu**	2.13	118	*i* P		**Pn**	**20 42 49.1**	**+0.3**
RTAL				*i* S		**Sn**	**20 43 13.6**	**-0.8**
RTAL				IAML			20 43 15.6	
	comp=Z,2µm,1.0s							
STG3	**Santiaguito 3,**	2.16	112	*i* P		**Pn**	**20 42 49.6**	**+0.2**
STG3				*i* S		**Sn**	**20 43 14.4**	**-1.0**
SOKI	**Kika Raxquin**	2.28	108	*i* P		**Pn**	**20 42 53.1**	**+2.0**
SOKI				*i* S		**Sn**	**20 43 18.0**	**-0.4**
SOKI				IAML			20 43 25.0	
	comp=Z,2µm,1.0s							
SULM	**Suchitepequez,**	2.35	121	*i* P		**Pn**	**20 42 53.0**	**+1.3**
HUIG	**Huatulco**	2.38	276			**Pn**	**20 42 51.3**	**-0.9**
HUIG						**Sn**	**20 43 17.2**	**-3.3**
HUIG	**Huatulco**	2.38	276	*eP*		**Pn**	**20 42 51.3**	**-0.9**
HUIG				*eS*		**Sn**	**20 43 17.2**	**-3.3**
QUIS	**Sacapulas**	2.47	95	*i* P		**Pn**	**20 42 54.1**	**+0.6**
QUIS				IAML			20 43 26.4	
	comp=Z,2µm,1.0s							
VHSA	**Villahermosa**	2.53	15	*e*		**Sn**	**20 43 27.4**	**+3.4**
TUIG	**Tuzandepetl**	2.60	343	*e*		Pn	20 42 44.2	-11
TUIG				*e*			20 43 21.8	
FUG	**Fuego 3**	2.92	111	*i* P		**Pn**	**20 43 01.7**	**+2.2**
FUG				*i* S		**Sn**	**20 43 32.5**	**-1.1**
NEUV	**Arroyo Zacate**	3.00	317	*eP*		**Pn**	**20 43 01.3**	**+0.8**
NEUV				*eS*		**Sn**	**20 43 35.4**	**0.0**
OXLC	**Oaxaca**	3.31	298	*i* S		**Sn**	**20 43 45.2**	**+1.9**
PMUV	**Sontecomapan**	3.31	335	*eP*		**Pn**	**20 43 04.0**	**-0.9**
PMUV				*i* S		**Sn**	**20 43 40.3**	**-2.9**
NBG	**Las Nubes**	3.32	106	*i* P		Pn	20 43 10.7	+5.5
OXIG	**Oaxaca**	3.34	298			**Pn**	**20 43 07.7**	**+2.4**
OXIG						**Sn**	**20 43 43.8**	**-0.2**
VHO	**Vista Hermosa**	3.34	298	*eP*		**Pn**	**20 43 07.7**	**+2.4**
VHO				*eS*		**Sn**	**20 43 43.8**	**-0.2**
PEIG	**Puerto Escondi**	3.40	278			**Pn**	**20 43 05.4**	**-0.7**
PEIG						**Sn**	**20 43 42.2**	**-3.1**
PEIG	**Puerto Escondi**	3.40	278	*eP*		**Pn**	**20 43 05.4**	**-0.7**
PEIG				*eS*		**Sn**	**20 43 42.2**	**-3.1**
PETF	**Flores**	3.88	69			**Pn**	**20 43 12.0**	**-0.5**
PETF	**Flores**	3.88	69	*eP*		**Pn**	**20 43 13.0**	**+0.5**
PETF				*eS*		**Sn**	**20 43 54.5**	**-2.5**
PETF	**Flores**	3.88	69	*i* P		**Pn**	**20 43 13.0**	**+0.5**
PETF				*i* S		**Sn**	**20 43 56.0**	**-1.0**
PETF				IAML			20 44 00.9	
	comp=Z,2µm,1.0s							
YOIG	**Yosondua**	3.97	290			**Pn**	**20 43 16.7**	**+2.7**
YOIG						**Sn**	**20 44 02.2**	**+2.6**
YOIG	**Yosondua**	3.97	290	*eP*		**Pn**	**20 43 16.7**	**+2.7**
YOIG				*eS*		**Sn**	**20 44 02.2**	**+2.6**
NUBE	**Las Nubes**	4.08	113	*i* P		**Pn**	**20 43 16.9**	**+1.5**
NUBE				IAML			20 44 12.7	
	comp=Z,440nm,1.0s							
CEVE	**Cerro Verde**	4.24	113	*i* P		**Pn**	**20 43 19.5**	**+1.8**
CEVE				IAML			20 44 16.0	
	comp=Z,1µm,1.0s							
ESQI	**Esquipulas**	4.27	103			**Pn**	**20 43 17.2**	**-0.7**
MTO3	**Montecristo**	4.29	105			**Pn**	**20 43 17.6**	**-0.8**
MTO3	**Montecristo**	4.29	105	*i* P		**Pn**	**20 43 17.9**	**-0.5**
MTO3				IAML			20 45 31.3	
	comp=Z,520nm,1.0s							
TXIG	**Tlaxiaco**	4.31	294			**Pn**	**20 43 21.7**	**+3.0**
TXIG						**Sn**	**20 44 06.5**	**-1.4**
TXIG	**Tlaxiaco**	4.31	294	*eP*		**Pn**	**20 43 21.7**	**+3.0**
TXIG				*eS*		**Sn**	**20 44 06.5**	**-1.4**
PNIG	**Pinotepa**	4.40	282			**Pn**	**20 43 19.8**	**+0.2**
PNIG						**Sn**	**20 44 04.3**	**-5.3**
PNIG	**Pinotepa**	4.40	282	*eP*		**Pn**	**20 43 19.8**	**+0.2**
PNIG				*eS*		**Sn**	**20 44 04.3**	**-5.3**
PMON	**Piamonte**	4.56	113	*i* P		**Pn**	**20 43 23.3**	**+1.3**
PMON				IAML			20 44 31.0	
	comp=Z,520nm,1.0s							
TPIG	**Tehuac#an**	4.57	309			**Pn**	**20 43 22.5**	**+0.4**
TPIG						**Sn**	**20 44 13.8**	**-0.3**
TPIG	**Tehuac#an**	4.57	309	*eP*		**Pn**	**20 43 22.5**	**+0.4**
TPIG				*eS*		**Sn**	**20 44 13.8**	**-0.3**
HLIG	**Huajuapan de L**	4.59	300			**Pn**	**20 43 24.6**	**+2.1**
HLIG						**Sn**	**20 44 15.5**	**+0.8**
HLIG	**Huajuapan de L**	4.59	300	*eP*		**Pn**	**20 43 24.6**	**+2.1**
HLIG				*i* S		**Sn**	**20 44 15.5**	**+0.8**
JAUV	**Jalcomulco**	4.86	322	*eP*		**Pn**	**20 43 24.8**	**-1.2**
JAUV				*eS*		**Sn**	**20 44 18.1**	**-3.0**
FTIG	**Fresnillo de T**	4.91	299			**Pn**	**20 43 28.6**	**+1.9**
FTIG						Sn	20 44 13.4	-8.8
FTIG	**Fresnillo de T**	4.91	299	*eP*		**Pn**	**20 43 28.6**	**+1.9**
FTIG				*eS*		**Sn**	**20 44 22.1**	**-0.1**
LVIG	**Laguna Verde**	4.94	328	*eP*		**Pn**	**20 43 25.4**	**-1.6**
LVIG				*i* S		**Sn**	**20 44 17.8**	**-5.0**
MGIG	**Malinaltepec**	5.08	290			**Pn**	**20 43 30.5**	**+1.4**
MGIG						**Sn**	**20 44 24.2**	**-2.3**
MGIG	**Malinaltepec**	5.08	290	*eP*		**Pn**	**20 43 30.5**	**+1.4**
MGIG				*eS*		**Sn**	**20 44 24.2**	**-2.3**
TLIG	**Tlapa**	5.13	294			**Pn**	**20 43 33.1**	**+3.3**
TLIG	**Tlapa**	5.13	294	*eP*		**Pn**	**20 43 31.5**	**+1.7**
TLIG				*eS*		**Sn**	**20 44 29.2**	**+1.4**
NISHN	**Nisperales Com**	5.55	87	*i* P		**Pn**	**20 43 33.5**	**-2.0**
PPM	**Popocatepetl**	5.92	307	*e*		Pn	20 43 46.3	+5.5
PPM				*e*			20 44 29.0	
YORHN	**Yoro**	6.31	93	*i* P		**Pn**	**20 43 45.2**	**-0.6**
TGUH	**Tegucigalpa,Un**	6.33	103	Pn		**Pn**	**20 43 46.2**	**0.0**
YUSH	**Yuscaran**	6.76	103	*i* P		**Pn**	**20 43 52.8**	**+0.7**
TEIG	**Tepich**	6.92	47	Pn		**Pn**	**20 43 52.2**	**-1.9**
TEIG	**Tepich**	6.92	47	P		**Pn**	**20 43 52.5**	**-1.6**
	comp=Z,1µm,0.4s,baz=21,slow=1.3,SNR=124							
TEIG				S		**Sn**	**20 45 08.3**	**-3.1**
	comp=Z,2µm,0.5s,baz=218,slow=22,SNR=17							
TEIG				LR		LR	20 47 05.0	
	comp=Z,2µm,19.4s,baz=8.5,slow=43							
CRIN	**San Cristobal**	6.99	113			**Pn**	**20 43 56.5**	**+1.3**
CNGN	**Cerro Negro**	7.38	113	Pn		**Pn**	**20 44 00.5**	**0.0**
MATN	**Matagalpa**	7.92	108			**Pn**	**20 44 06.1**	**-1.7**
BOAB	**BOACO BROADBAN**	8.33	111	Pn		**Pn**	**20 44 13.1**	**-0.3**
ACON	**Acoyapa**	8.96	112	Pn		**Pn**	**20 44 21.7**	**-0.3**
HZTE	**Horizontes, Gu**	9.19	120	Pn		**Pn**	**20 44 26.2**	**+1.1**
ORTG	**Ortega, Santa**	9.49	122			**Pn**	**20 44 30.4**	**+1.1**
DUNO	**Dulce Nombre,**	9.62	123	Pn		**Pn**	**20 44 31.2**	**+0.2**

ESPN	**Las Esperanzas**	9.66	109	Pn		**Pn**	**20 44 32.0**	**+0.5**
JTS	**Las Juntas de**	9.95	121	Pn		**Pn**	**20 44 34.5**	**-1.0**
JTS	**Las Juntas de**	9.95	121	P		**Pn**	**20 44 36.0**	**+0.6**
	comp=Z,9.3nm,0.5s,baz=265,slow=13,SNR=5.2								
ARE1	**Arenal 1**	10.05	119	Pn		**Pn**	**20 44 36.4**	**-0.5**
COVE	**Coope Vega, Sa**	10.19	117	Pn		**Pn**	**20 44 37.2**	**-1.6**
JACO	**JACO, Garabito**	10.53	123			**Pn**	**20 44 44.3**	**+0.8**
LCR2	**La Lucha 2**	11.03	120			**Pn**	**20 44 50.5**	**+0.1**
RIMA	**Rio Macho**	11.13	120			**Pn**	**20 44 51.7**	**-0.1**
SRBA	**San Rafael, Bu**	11.83	121			**Pn**	**20 45 01.0**	**-0.3**
SOR	**Soroa**	12.37	53	Pn		**Pn**	**20 45 05.4**	**-3.2**
HBVL	**Hebbronville**	12.39	339	Pn		**Pn**	**20 45 07.5**	**-1.3**
833A	**Chaparral WMA,**	13.80	338	Pn		**Pn**	**20 45 26.1**	**-1.5**
JCT	**Junction City**	15.91	340			**Pn**	**20 45 54.6**	**-0.4**
HPIG		15.93	317			**Pn**	**20 45 55.7**	**+0.3**
SAND	**Sanderson**	16.34	333	Pn		**Pn**	**20 46 00.5**	**+0.3**
SAND				IAmb	IAmb		20 46 04.2		
	comp=Z,8.3nm,0.9s								
BRDY	**Brady**	16.43	344			**Pn**	**20 46 01.5**	**+0.1**
BRDY				IAmb	IAmb		20 46 34.8		
	comp=Z,6.2nm,0.8s								
TX31	**Lajitas Ar. Si**	16.55	328			**P**	**20 46 04.9**	**+0.5**
TXAR	**Lajitas Array**	16.55	328			**P**	**20 46 04.9**	**+0.5**
TXAR	**Lajitas Array**	16.55	328	P		**P**	**20 46 04.4**	**0.0**
	comp=Z,2.7nm,0.8s,baz=149,slow=13,SNR=30								
OZNA	**Ozona**	16.78	337			**P**	**20 46 06.7**	**-0.2**
OZNA				IAmb	IAmb		20 46 48.8		
	comp=Z,6.4nm,0.6s								
ALPN	**Alpine**	17.39	330			**P**	**20 46 15.1**	**+1.4**
ALPN				IAmb	IAmb		20 46 18.3		
	comp=Z,5.5nm,0.7s								
SGCY	**Sterling City**	17.68	339	P		**Pn**	**20 46 17.9**	**+1.1**
SGCY				IAmb	IAmb		20 46 19.0		
	comp=Z,19nm,0.5s								
MNHN	**Monahans**	17.81	334	P		**Pn**	**20 46 19.9**	**+1.6**
MNHN				IAmb	IAmb		20 46 38.3		
	comp=Z,11nm,0.9s								
ABTX	**Abilene, Hawle**	17.87	343	P		**Pn**	**20 46 20.6**	**+1.5**
FW03	**Perrin-Whitt E**	17.89	348	P		**Pn**	**20 46 19.4**	**+0.1**
FW03				IAmb	IAmb		20 46 54.0		
	comp=Z,10nm,0.5s								
Z35A	**Perchaven, San**	18.02	350	P		**Pn**	**20 46 21.2**	**+0.3**
Z35A				IAmb	IAmb		20 46 42.3		
	comp=Z,13nm,0.6s								
425A	**Indio Mountain**	18.40	328	P		**Pn**	**20 46 26.5**	**+0.9**
ODSA	**Odessa**	18.40	335	P		**Pn**	**20 46 26.6**	**+1.0**
ODSA				IAmb	IAmb		20 46 27.4		
	comp=Z,17nm,0.9s								
LRAL	**Lakeview Retre**	18.44	18			**Pn**	**20 46 26.1**	**+0.2**
SN01	**Snyder 1**	18.46	340	P		**Pn**	**20 46 27.1**	**+0.8**
SN01				IAmb	IAmb		20 46 30.0		
	comp=Z,11nm,0.5s								
MIAR	**Mount Ida**	18.93	0	P		**P**	**20 46 29.9**	**-0.6**
DKNS	**Dickens**	19.22	341	P		**Pn**	**20 46 34.5**	**-0.8**
DKNS				IAmb	IAmb		20 46 39.9		
	comp=Z,9.6nm,1.0s								
W35A	**Tecumseh**	19.75	352	P		**P**	**20 46 39.5**	**+0.1**
W35A				IAmb	IAmb		20 47 08.8		
	comp=Z,25nm,1.0s								
X48A	**Hartselle**	19.75	16	P		**P**	**20 46 39.7**	**+0.2**
X48A				IAmb	IAmb		20 46 43.9		
	comp=Z,22nm,0.8s								
MSTX	**Muleshoe**	20.12	337	P		**P**	**20 46 43.2**	**-0.3**
FPAL	**Fort Paine**	20.26	19	P		**P**	**20 46 43.9**	**-1.1**
SMWD	**Samnorwood**	20.37	344	P		**P**	**20 46 45.5**	**-0.6**
SMWD				IAmb	IAmb		20 46 50.8		
	comp=Z,22nm,0.6s								
LCAR	**Lake Charles**	20.57	6	P		**P**	**20 46 47.8**	**-0.4**
LCAR				IAmb	IAmb		20 47 14.9		
	comp=Z,16nm,1.0s								
AMTX	**Amarillo**	20.58	341	P		**P**	**20 46 48.6**	**+0.1**
AMTX				IAmb	IAmb		20 46 52.8		
	comp=Z,16nm,0.6s								
W50A	**Signal Mountai**	20.96	19	P		**P**	**20 46 52.4**	**-0.2**
W50A				IAmb	IAmb		20 47 22.3		
	comp=Z,16nm,0.9s								
121A	**Cookes Peak, D**	21.25	325	P		**P**	**20 46 58.0**	**+2.2**
121A				IAmb	IAmb		20 47 01.5		
	comp=Z,14nm,0.8s								
MGMO	**Mountain Grove**	21.57	3	P		**P**	**20 46 59.7**	**+0.7**
MGMO				IAmb	IAmb		20 47 29.2		
	comp=Z,18nm,1.4s								
TKL	**Tuckaleechee C**	21.90	22	LR		LR	20 56 34.3		
	comp=Z,82nm,18.0s,baz=260,slow=40								
U49A	**Red Boiling Sp**	22.04	17	P		**P**	**20 47 03.9**	**0.0**
S39A	**Bolivar**	22.07	1	P		**P**	**20 47 04.7**	**+0.4**
S39A				IAmb	IAmb		20 47 31.0		
	comp=Z,12nm,1.2s								
T47A	**Sharon Grove**	22.15	14			**P**	**20 47 03.3**	**-1.8**
RTBA	**Rita Blanca**	22.34	340	P		**P**	**20 47 07.0**	**-0.4**
RTBA				IAmb	IAmb		20 47 09.8		
	comp=Z,8.9nm,0.6s								
S44A	**Carbondale**	22.41	9	P		**P**	**20 47 06.8**	**-1.2**
SIUC	**Southern Illin**	22.44	9	P		**P**	**20 47 07.4**	**-0.9**
ANMO	**Albuquerque**	22.50	332	P		**P**	**20 47 10.4**	**+1.2**
ANMO	**Albuquerque**	22.50	332	P		**P**	**20 47 10.0**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=245,slow=12,SNR=4.5								
	comp=Z,2.0nm,0.7s								
CCM	**Cathedral Cave**	22.54	5	P		**P**	**20 47 08.5**	**-0.8**
CCM				IAmb	IAmb		20 47 28.6		
	comp=Z,10nm,0.9s								
SDV	**Santo Domingo**	23.43	104			**P**	**20 47 19.2**	**+0.6**
SDV				IAmb	IAmb		20 47 47.9		
	comp=Z,7.9nm,0.9s								
T25A	**Trinidad**	23.55	338	P		**P**	**20 47 20.9**	**+1.4**
T25A				IAmb	IAmb		20 47 22.5		
	comp=Z,7.9nm,0.8s								
OLIL	**Olney**	23.62	11	P		**P**	**20 47 18.6**	**-1.2**
SDCO	**Great Sand Dun**	24.49	337	P		**P**	**20 47 28.1**	**+0.1**
P46A	**Rosedale**	24.65	12	P		**P**	**20 47 27.8**	**-1.4**
TCUT	**Toone Canyon**	29.79	332	P		**P**	**20 48 16.0**	**+0.5**
TCUT				IAmb	IAmb		20 48 18.3		
	comp=Z,6.9nm,0.8s								
PDAR	**Pinedale Array**	30.38	336	P		**P**	**20 48 21.2**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=145,slow=11,SNR=7.0								
	comp=Z,0.6nm,0.7s								
HVU	**Hansel Valley**	30.93	332	P		**P**	**20 48 25.9**	**+0.4**
HVU				IAmb	IAmb		20 48 28.1		
	comp=Z,3.6nm,0.8s								
ELK	**Elko**	31.35	327	P		**P**	**20 48 31.5**	**+2.1**
	comp=Z,0.9nm,0.7s,baz=66,slow=8.7,SNR=5.3								
	comp=Z,0.9nm,0.7s								
REDW	**Red Top Meadow**	31.39	336	P		**P**	**20 48 30.8**	**+1.1**
SNOW	**Snow King Moun**	31.44	336	P		**P**	**20 48 30.9**	**+0.8**
NVAR	**Mina Arroyo Bea**	31.49	321	P		**P**	**20 48 33.5**	**+3.0**
	comp=Z,2.6nm,0.7s,baz=134,slow=8.9,SNR=20								
	comp=Z,2.6nm,0.7s								
LOHW	**Long Hollow**	31.50	336	P		**P**	**20 48 30.4**	**-0.2**
LOHW				IAmb	IAmb		20 48 32.9		
	comp=Z,4.0nm,0.8s								
TPAW	**Teton Pass**	31.54	336	P		**P**	**20 48 31.9**	**+0.9**
TPAW				IAmb	IAmb		20 48 36.8		
	comp=Z,6.6nm,1.1s								
MOOW	**Moose Ponds**	31.68	336	P		**P**	**20 48 32.3**	**+0.2**
YMR	**Madison River**	32.54	337	P		**P**	**20 48 40.3**	**+0.6**
YMR				IAmb	IAmb		20 48 42.5		
	comp=Z,5.3nm,0.9s								
PLID	**Pearl Lake**	34.98	332	P		**P**	**20 49 01.1**	**+0.2**
PLID				IAmb	IAmb		20 49 29.3		
	comp=Z,2.6nm,0.9s								
CHMT	**Chamberlain Mo**	35.29	337	P		**P**	**20 49 02.7**	**-0.8**
F10A	**Beach Ranch, E**	36.21	332	P		**P**	**20 49 11.1**	**-0.2**
YKA	**Yellowknife Ar**	49.19	347	P		**P**	**20 50 55.1**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=153,slow=7.3,SNR=25								
YKA				PcP		**PcP**	**20 52 17.0**	**-1.0**	
	comp=Z,0.1nm,0.5s,baz=163,slow=3.0,SNR=1.1								
	comp=Z,1.7nm,0.7s								
DLBC	**Dease Lake**	50.62	336	P		**P**	**20 51 09.9**	**+3.0**
DLBC	**Dease Lake**	50.62	336	P		**P**	**20 51 08.7**	**+1.8**
	comp=Z,2.7nm,0.7s,baz=154,slow=5.2,SNR=5.6								
	comp=Z,2.7nm,0.7s								
M31M	**Drury Creek, Y**	54.73	338	P		**P**	**20 51 38.3**	**+1.2**
M29M	**Somme Creek**	56.39	337	P		**P**	**20 51 50.2**	**+1.1**
K29M	**Barlow Dome**	56.87	338	P		**P**	**20 51 53.0**	**+0.5**
J30M	**Hart River**	56.91	340	P		**P**	**20 51 54.0**	**+1.2**
J30M				IAmb	IAmb		20 52 14.6		
	comp=Z,3.6nm,1.2s								
I30M	**Mount Dempster**	57.34	340	P		**P**	**20 51 56.2**	**+0.4**
I30M				IAmb	IAmb		20 52 08.0		
	comp=Z,4.8nm,1.4s								
G31M	**Satah River**	57.80	342	P		**P**	**20 51 58.7**	**0.0**
G31M				IAmb	IAmb		20 52 18.1		
	comp=Z,3.6nm,1.2s								
BCAR	**Beaver Creek A**	58.01	336	P		**P**	**20 52 01.0**	**+0.6**
INK	**Inuvik**	58.53	344	P		**P**	**20 52 03.5**	**-0.3**

H29M	**Whitestone**	58.60	340	P		**P**	**20 52 04.3**	**-0.2**
H29M				IAmb	IAmb		20 52 43.0		
	comp=Z,4.1nm,1.4s								
K27K	**Chicken**	58.63	337	P		**P**	**20 52 05.4**	**+0.7**
K27K				IAmb	IAmb		20 52 16.2		
	comp=Z,3.2nm,1.4s								
G29M	**Pine Creek**	58.92	341	P		**P**	**20 52 06.9**	**+0.2**
RES	**Resolute Bay**	59.16	360	P		**P**	**20 52 06.6**	**-1.5**
RES				IAmb	IAmb		20 52 44.4		
	comp=Z,2.6nm,1.1s								
E29M	**Blow River**	59.80	343	P		**P**	**20 52 12.2**	**-0.5**
E29M				IAmb	IAmb		20 52 14.1		
	comp=Z,4.5nm,1.1s								
E28M	**Babbage River**	60.41	342			**P**	**20 52 16.6**	**-0.3**
E28M				IAmb	IAmb		20 52 42.5		
	comp=Z,3.6nm,1.4s								
ILAR	**Eielson Array**	60.81	337	P		**P**	**20 52 19.9**	**+0.2**
ILAR	**Eielson Array**	60.81	337	P		**P**	**20 52 19.7**	**0.0**
	comp=Z,1.0nm,0.8s,baz=142,slow=5.9,SNR=12								
	comp=Z,1.0nm,0.8s								
D27M	**Malcolm River**	61.21	343	P		**P**	**20 52 22.2**	**-0.2**
D27M				IAmb	IAmb		20 52 53.3		
	comp=Z,6.0nm,1.4s								
BMAR	**Burnt Mountain**	61.32	340	P		**P**	**20 52 23.4**	**+0.3**
TULEG	**Thule**	62.38	6	P		**P**	**20 52 30.6**	**+0.6**
D25K	**Kavik River**	62.87	341	P		**P**	**20 52 33.1**	**-0.3**
K20K	**Telida**	63.13	334	P		**P**	**20 52 34.6**	**-0.6**
J19K	**Poorman**	63.99	334	P		**P**	**20 52 40.5**	**-0.3**
J19K				IAmb	IAmb		20 53 05.3		
	comp=Z,8.3nm,1.4s								
F21K	**Alatna River**	64.30	338	P		**P**	**20 52 43.8**	**+0.9**
F21K				IAmb	IAmb		20 52 44.7		
	comp=Z,3.5nm,0.8s								
C23K	**Itkillik River**	64.42	341	P		**P**	**20 52 44.2**	**+0.7**
C23K				IAmb	IAmb		20 53 27.7		
	comp=Z,9.4nm,1.4s								
D22K	**Ayikyak River**	64.67	340	P		**P**	**20 52 45.8**	**+0.5**
D22K				IAmb	IAmb		20 52 46.4		
	comp=Z,2.3nm,0.8s								
E21K	**Killik River**	64.94	339	P		**P**	**20 52 47.2**	**+0.2**
F20K	**Avaraart Lake**	65.05	338	P		**P**	**20 52 48.0**	**+0.3**
D19K	**Kuna River**	66.39	339

3.7nm,0.6s
MESJ Messejana 3.37 290 *e*P **Pn** **20 45 31.1 +1.4**
MESJ S **Sn** **20 46 07.3 -1.1**
MESJ A A 20 46 11.7
3.6nm,0.5s
MESJ Messejana 3.37 290 *e*P **Pn** **20 45 31.1 +1.4**
MESJ *e*S **Sn** **20 46 07.3 -1.1**
MESJ IAML 20 46 07.9
comp=N,0.9nm,0.1s
PESTR Estremoz 3.39 309 *e*P **Pn** **20 45 31.7 +1.7**
PESTR *e*S **Sn** **20 46 07.4 -1.7**
EVIV Cofrentes, Val 3.48 44 Pn **Pn** **20 45 31.4 +0.1**
EVIV ⇑*i*Vmb_V 20 45 33.4
comp=N,246nm,SNR=1.0
EVIV Sn **Sn** **20 46 08.7 -2.6**
PMRV Marv??o 3.65 317 *e*P Pn 20 45 28.6 -4.9
PMRV *e*S **Sn** **20 46 13.6 -1.7**
PNCL Nicolau / Gran 3.69 292 *e*P **Pn** **20 45 35.5 +1.5**
PNCL S **Sn** **20 46 14.7 -1.5**
PNCL A A 20 46 16.5
comp=N,4.3nm,0.7s
PTEO Sao Teotonio 3.69 283 *e*P **Pn** **20 45 35.6 +1.6**
PTEO S **Sn** **20 46 15.8 -0.4**
PFVI Vila Bisbo 3.71 277 *e*S **Sn** **20 46 15.3 -1.6**
PMTG Montargil 3.91 307 *e*P **Pn** **20 45 38.5 +1.4**
PMTG *e*S **Sn** **20 46 19.0 -2.8**
MD31 MD31 3.93 187 P **Pn** **20 45 38.0 +0.6**
MD31 S **Sn** **20 46 19.9 -2.4**
MDT Midelt 3.97 185 P **Pn** **20 45 39.1 +1.1**
MDT S **Sn** **20 46 20.7 -2.6**
ETOR Torete 4.37 22 Pn **Pn** **20 45 44.4 +0.9**
ETOR Sn **Sn** **20 46 29.4 -3.8**
PSBE So Bento 4.53 308 *e*P **Pn** **20 45 47.5 +1.9**

IDC 15 20:46:57.9±2.9, 31°51S×177°77W, h0km, mb3.5/2, mbtmp3.5/3, ML3.0/1, Error ellipse: s-maj=69.5km s-min=36.7km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.93**	**211**	Pn	Pn	20 48 53.1	-1.4
	0.2nm,0.3s,baz=30,slow=23,SNR=1.7						
URZ				Sn	Sn	20 50 26.6	+1.7
	0.7nm,0.3s,baz=300,slow=23,SNR=1.4 4.6nm,0.9s						
ASAR	**Alice Springs**	**43.25**	**268**	P	P	20 55 01.4	+0.1
	0.2nm,0.3s,baz=107,slow=7.8,SNR=6.0 0.2nm,0.3s						
WRA	**Warramunga Arr**	**44.34**	**273**	P	P	20 55 10.2	+0.1
	0.3nm,0.3s,baz=112,slow=7.9,SNR=9.6 0.3nm,0.3s						
FINES	**FINESS Array B**	**146.25**	**340**	PKPbc	PKPdf	21 06 38.7	+0.2
	8.8nm,1.1s,baz=48,slow=2.8,SNR=8.3						

IDC 15 20:48:28.7±2.4, 3°46S×130°07E, h0km, mb3.4/2, mbtmp3.4/3, ML2.9/1, Error ellipse: s-maj=183.4km s-min=30.9km az=73.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.90**	**166**	Pn	Pn	20 52 26.8	-0.1
	baz=349,slow=13,SNR=1.8 0.4nm,0.7s						
ASAR	**Alice Springs**	**20.42**	**170**	P	P	20 53 07.7	0.0
	0.5nm,0.4s,baz=352,slow=11,SNR=13 0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**68.47**	**333**	P	P	20 59 32.6	0.0
	0.3nm,0.3s,baz=124,slow=7.7,SNR=2.0 0.3nm,0.3s						

IDC ***15*** *20:57:31.4±2.0, 34°34N×134°89E, h0km, mb3.5/2, mbtmp3.4/5, ML2.7/3, MS3.3/2, Error ellipse: s-maj=45.8km s-min=13.8km az=154.0*
NIED ***15*** *20:57:32.5, 34°36N×134°89E, h12km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}2.39; $M_{\theta\theta}$-0.43; $M_{\phi\phi}$-1.97; $M_{r\theta}$1.10; $M_{r\phi}$0.52; $M_{\theta\phi}$-0.72; Fault plane solution: $M_0$2.60000×10¹⁴ NP1: ϕ_s146.00000°, δ59.00000°, λ74.00000°. NP2: ϕ_s355.00000°, δ34.00000°, λ114.00000°.*
JMA ***15*** *20:57:32.5±0.0, 34°4N±0°1×134°9E±0°2, h12km, MV3.6/20, AWAJISHIMA ISLAND REGION*
JMA Felt III J1 at AWAJISHIMA ISLAND REGION.
ISC 15 20:57:32.8±0.9, 34°37N±0°03×134°90E±0°02, h10km±7km, n18, σ0°66/30, 14D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAWN	**Awajishima-nag**	**0.12**	**359**	⇓P	**Pg**	**20 57 35.7**	**+0.1**
JAWN				⇓S	**Sg**	**20 57 37.9**	**+0.3**
JMIK	**Miki**	**0.46**	**16**	P	**Pg**	**20 57 41.8**	**0.0**
JMIK				S	**Sg**	**20 57 48.3**	**+0.5**
JWY	**Kouya**	**0.59**	**104**	P	**Pg**	**20 57 43.6**	**-0.6**
JWY				S	**Sg**	**20 57 51.7**	**-0.3**
JKS	**Kasai**	**0.61**	**355**	P	**Pg**	**20 57 44.6**	**-0.2**
JKS				S	**Sg**	**20 57 53.0**	**+0.1**
JWM	**Minabe**	**0.64**	**144**	⇓P	**Pg**	**20 57 45.2**	**0.0**
JWM				⇓S	**Sg**	**20 57 53.5**	**0.0**
JAI	**Aioi**	**0.69**	**213**	⇓P	**Pg**	**20 57 45.7**	**-0.4**
JAI				⇓S	**Sg**	**20 57 54.8**	**-0.3**
JHE	**Heguri**	**0.70**	**66**	⇓P	**Pg**	**20 57 45.7**	**-0.7**
JHE				⇓S	**Sg**	**20 57 55.2**	**-0.4**
JTNC	**Tanabenakahech**	**0.80**	**133**	⇓P	**Pb**	**20 57 48.4**	**-0.6**
JTNC				⇓S	**Sg**	**20 57 58.8**	**+0.1**
JJS	**Sakaide**	**0.81**	**271**	⇓P	**Pg**	**20 57 47.0**	**-1.3**
JJS				⇓S	**Sg**	**20 57 57.7**	**-1.2**
JAD	**Aida**	**0.83**	**313**	⇓P	**Pg**	**20 57 48.1**	**-0.8**
JAD				⇓S	**Sg**	**20 57 59.0**	**-0.7**
JWT	**Wachi**	**1.00**	**24**	P	**Pb**	**20 57 51.4**	**-0.8**
JWT				S	**Sg**	**20 58 04.6**	**-0.5**
MJAR	**Matsushiro Arr**	**3.46**	**50**	Pn	**Pn**	**20 58 27.8**	**+0.9**
	0.9nm,0.3s,baz=237,slow=14,SNR=42						
MJAR				Pg	**Pg**	**20 58 38.7**	**-0.5**
	0.5nm,0.3s,baz=232,slow=14,SNR=14						
MJAR				Lg	Lg	20 59 23.0	
	0.4nm,0.3s,baz=228,slow=28,SNR=8.3 10.0nm,0.4s						
JNU	**Nakatsue**	**3.58**	**251**	Pn	**Pn**	**20 58 29.1**	**+0.7**
	0.8nm,0.3s,baz=112,slow=5.4,SNR=13						
JNU				Pg	**Pb**	**20 58 37.4**	**+1.2**
	4.2nm,0.3s,baz=108,slow=3.9,SNR=18						
JNU				Lg	Lg	20 59 22.3	
	baz=193,slow=10 2.9nm,0.3s						
KSRS	**Korea Array**	**6.45**	**301**	Pn	**Pn**	**20 59 08.6**	**+0.8**
	0.2nm,0.3s,baz=118,slow=15,SNR=1.7						
KSRS				Sn	**Sn**	**21 00 21.7**	**+0.3**
	0.4nm,0.3s,baz=118,slow=24,SNR=6.1 0.9nm,0.6s						
SHEM	**Shemya Is, Ala**	**33.29**	**44**	LR	LR	21 18 36.3	
	comp=Z,32nm,20.4s,baz=348,slow=38						
ILAR	**Eielson Array**	**54.54**	**31**	P	**P**	**21 07 00.2**	**-0.4**
	0.3nm,0.9s,baz=267,slow=6.6,SNR=4.3 0.3nm,0.9s						
STKA	**Stephens Creek**	**66.19**	**174**	LR	LR	21 37 01.3	
	comp=Z,29nm,18.6s,baz=23,slow=36						
BRTR	**Keskin Array B**	**76.52**	**309**	P	**P**	**21 09 23.6**	**+0.2**
	0.3nm,0.4s,baz=72,slow=4.0,SNR=3.8 0.3nm,0.4s						

CATAC ***15*** *21:01:22.7±0.9, 12°71N×88°32W, h30km±11km, ML3.4*
SNET ***15*** *21:01:22.8±0.9, 12°69N×88°33W, h34km, ML3.5*
ISC 15 21:01:22.3±1.8, 12°67N±0°08×88°35W±0°05, h30km±13km, n31, σ0°28/40, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuar¡n**	**0.59**	**9**	*e*P	**Pn**	**21 01 34.6**	**-0.2**
JUCU				*e*S	**Sn**	**21 01 43.5**	**+0.2**
LCY	**Lacayo**	**0.75**	**4**	*e*P	**Pb**	**21 01 37.1**	**+0.2**
VSM	**San Miguel**	**0.76**	**5**	*e*P	**Pb**	**21 01 37.6**	**+0.4**
LCND	**La Caada**	**0.78**	**35**	*i* P	**Pn**	**21 01 37.0**	**-0.2**
LCND				*i* S	**Sn**	**21 01 47.6**	**-0.3**
LCND				IAML		21 01 52.1	
	comp=Z,1μm,1.0s						
BLLM	**Bellamira**	**0.78**	**8**	*e*P	**Pb**	**21 01 37.7**	**+0.4**
CNCH	**Conchagua**	**0.78**	**40**	*e*P	**Pb**	**21 01 37.5**	**0.0**
CNCH				*e*S	**Sn**	**21 01 48.7**	**+0.5**
CNCH	**Conchagua**	**0.78**	**40**	*i* P	**Pb**	**21 01 37.3**	**-0.2**
CNCH				*i* S	**Sn**	**21 01 48.1**	**-0.1**
CNCH				IAML		21 01 53.2	
	comp=Z,2μm,1.0s						
PACA	**Pacayal**	**0.80**	**2**	*e*P	**Pb**	**21 01 37.8**	**+0.1**
PACA	**Pacayal**	**0.80**	**2**	*i* P	**Pb**	**21 01 37.7**	**+0.1**
PACA				*i* S	**Sn**	**21 01 48.8**	**+0.2**
PACA				IAML		21 01 50.9	
	comp=Z,6μm,1.0s						
CSGN	**Cosiguina Volc**	**0.83**	**68**	*i* P	**Pn**	**21 01 37.7**	**-0.3**
CSGN				IAML		21 01 50.6	
	comp=Z,3μm,1.0s						
TECA	**Tecapa**	**0.83**	**349**	*e*P	**Pn**	**21 01 38.3**	**+0.1**
TECO	**Alcaldia de Te**	**0.96**	**334**	*i* P	**Pn**	**21 01 39.4**	**-0.4**
TECO				IAML		21 01 40.5	
	comp=Z,740nm,1.0s						
UESV	**Universidad de**	**1.05**	**336**	*i* P	**Pn**	**21 01 41.2**	**+0.1**
UESV				IAML		21 01 41.7	
	comp=Z,1μm,1.0s						
UESV				*i* S	**Sb**	**21 01 55.1**	**-0.3**
COEG	**Centro de Oper**	**1.08**	**331**	*e*P	**Pn**	**21 01 41.4**	**0.0**
COEG	**Centro de Oper**	**1.08**	**331**	*i* P	**Pn**	**21 01 41.3**	**-0.2**
COEG				IAML		21 01 59.7	
	comp=Z,620nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.09**	**340**	*e*P	**Pn**	**21 01 42.0**	**+0.3**
SCLA				*e*S	**Sb**	**21 01 56.4**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.09**	**340**	*i* P	**Pn**	**21 01 41.9**	**+0.3**
SCLA				IAML		21 01 42.5	
	comp=Z,520nm,1.0s						
SJTE	**Alcalda de S**	**1.14**	**326**	*e*P	**Pn**	**21 01 42.3**	**0.0**
SJTE				*e*S	**Sn**	**21 01 56.8**	**-0.2**
LFRS	**El Faro**	**1.18**	**324**	*e*P	**Pn**	**21 01 42.9**	**+0.1**
PAVA	**Las Pavas**	**1.19**	**331**	*i* P	**Pn**	**21 01 43.2**	**+0.2**
PAVA				IAML		21 02 03.9	
	comp=Z,1μm,1.0s						
LOMA	**Loma Large**	**1.26**	**320**	*i* P	**Pn**	**21 01 44.1**	**+0.1**
LOMA				IAML		21 02 01.2	
	comp=Z,990nm,1.0s						
CRIN	**San Cristobal**	**1.27**	**88**	*i* P	**Pn**	**21 01 44.6**	**+0.6**
CRIN				IAML		21 02 07.1	
	comp=Z,1μm,1.0s						
PMON	**Piamonte**	**1.40**	**318**	*i* P	**Pn**	**21 01 46.0**	**+0.1**
PMON				IAML		21 02 06.2	
	comp=Z,860nm,1.0s						
JAYA	**Jayaque - finc**	**1.45**	**312**	*e*P	**Pn**	**21 01 46.5**	**-0.1**
JAYA	**Jayaque - finc**	**1.45**	**312**	*i* P	**Pn**	**21 01 46.4**	**-0.3**
JAYA				IAML		21 02 07.3	
	comp=Z,2μm,1.0s						
CNGA	**Al SSO del Vol**	**1.61**	**96**	*i* P	**Pn**	**21 01 48.4**	**-0.4**
CNGA				IAML		21 02 11.9	
	comp=Z,400nm,1.0s						
CNGN	**Cerro Negro**	**1.62**	**96**	*i* P	**Pn**	**21 01 49.5**	**+0.7**
CNGN				IAML		21 02 17.7	
	comp=Z,290nm,1.0s						
COPN	**Copaltepe**	**1.78**	**106**	*i* P	**Pn**	**21 01 50.9**	**-0.1**
COPN				IAML		21 02 18.0	
	comp=Z,200nm,1.0s						
MOMN	**Momotombo**	**1.78**	**98**	*i* P	**Pn**	**21 01 51.0**	**-0.1**
MOMN				IAML		21 02 14.6	
	comp=Z,11nm,1.0s						
NUBE	**Las Nubes**	**1.86**	**311**	*i* P	**Pn**	**21 01 52.5**	**+0.3**
NUBE				*i* S	**Sn**	**21 02 14.6**	**-0.2**
NUBE				IAML		21 02 17.9	
	comp=Z,320nm,1.0s						
LIMN	**Finca el Limon**	**1.97**	**78**	*i* P	**Pn**	**21 01 53.5**	**-0.2**
LIMN				IAML		21 02 18.6	
	comp=Z,65nm,1.0s						

NEIC ***15*** *21:02:10.1±2.4, 6°8S±0°1×128°99E±0°09, h10km±2km, mb4.3/4, Error ellipse: s-maj=26.2km s-min=5.2km az=35.0*
IDC ***15*** *21:02:10.4±1.8, 6°99S×128°99E, h0km, mb3.7/2, mbtmp3.7/4, ML3.9/2, Error ellipse: s-maj=110.4km s-min=30.5km az=67.0*
ISC 15 21:02:11.1±0.9, 6°9S±0°1×129°0E±0°1, h10km, n19, σ1°38/19, mb4.1/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.54**	**116**	Pg	**Pb**	**21 02 56.5**	**-0.3**
MTN	**Manton Dam**	**6.31**	**161**	Pn	**Pn**	**21 03 46.8**	**+2.6**
KNRA	**Kununurra**	**8.77**	**181**	Pn	**Pn**	**21 04 18.1**	**+0.2**
TOLI2	**Tolitoli**	**11.40**	**314**	Pn	**Pn**	**21 04 52.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**11.64**	**196**	Pn	**Pn**	**21 04 57.5**	**+0.1**
WB0	**Warramunga Arr**	**13.86**	**158**	Pn	**Pn**	**21 05 26.3**	**-1.5**
WRAB	**Tennant Creek**	**13.99**	**159**	Pn	**Pn**	**21 05 28.5**	**-1.1**
WRA	**Warramunga Arr**	**14.00**	**159**	Pn	**Pn**	**21 05 27.6**	**-2.1**
	0.6nm,0.3s,baz=337,slow=14,SNR=41						
WRA				Sn	Sn	21 07 51.4	-14
	1.0nm,0.3s,baz=338,slow=22,SNR=9.5 0.7nm,0.3s						
WB2	**Warramunga Arr**	**14.00**	**159**	Pn	**Pn**	**21 05 28.4**	**-1.4**
WR0	**Warramunga Arr**	**14.09**	**158**	Pn	**Pn**	**21 05 29.7**	**-1.2**
PSA00	**Pilbara Seismi**	**17.09**	**210**	P	**Pn**	**21 06 10.9**	**+0.6**
PSA00				IAmb	IAmb	21 06 43.9	
	comp=Z,31nm,1.4s						
AS31	**Alice Springs**	**17.36**	**165**	P	**Pn**	**21 06 14.5**	**+0.8**
ASAR	**Alice Springs**	**17.36**	**165**	P	**P**	**21 06 14.5**	**-0.5**
ASAR	**Alice Springs**	**17.36**	**165**	P	**Pn**	**21 06 13.8**	**0.0**
	comp=Z,0.4nm,0.3s,baz=345,slow=10,SNR=32						
ASAR				S	Sn	21 09 16.7	-10
	comp=Z,0.5nm,0.5s,baz=325,slow=16,SNR=5.2 comp=Z,0.8nm,0.3s						
BBOO	**Buckleboo**	**26.64**	**167**	P	**P**	**21 07 50.3**	**+0.2**
BBOO				IAmb	IAmb	21 08 28.4	
	comp=Z,9.0nm,1.2s						
OXZ	**Oxford**	**52.36**	**141**	P	**P**	**21 11 22.3**	**-1.1**
BSWZ	**Blackbirch Sta**	**52.74**	**138**	P	**P**	**21 11 24.4**	**-1.9**
MKAR	**Makanchi Array**	**67.57**	**327**	P	**P**	**21 13 09.9**	**+2.0**
	comp=Z,1.4nm,1.1s,baz=116,slow=8.3,SNR=2.1 comp=Z,1.4nm,1.1s						
KURBB	**Kurchatov Arra**	**71.88**	**329**	P	**P**	**21 13 35.5**	**+1.2**
	comp=Z,0.4nm,0.9s,baz=128,slow=6.0,SNR=2.8 comp=Z,0.4nm,0.9s						

DJA ***15*** *21:10:03.5±0.6, 8°S±2°×10°7E±°, h30km±6km, M4.8/17, mB6.0/3, mb5.2/3, MLv4.5/17, Mw(mB)5.7/3*
NEIC ***15*** *21:10:09.8±1.9, 7°5S±0°1×107°09E±0°10, h83km±3km, mb4.3/15, Error ellipse: s-maj=23.9km s-min=9.4km az=209.0*
IDC ***15*** *21:10:11.6±2.0, 7°50S×107°05E, h95km±12km, mb3.7/16, mbtmp4.0/16, MS3.1/2, Error ellipse: s-maj=35.6km s-min=13.6km az=51.0*
ISC 15 21:10:06.2±1.3, 7°85S±0°10×106°90E±0°06, h59km±10km, n67, σ1°42/63, mb4.2/23, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.58**	**23**	P	**Pn**	**21 10 17.8**	**-1.2**
CNJI				S	**Sn**	**21 10 28.2**	**-0.1**
SKJI	**Sukabumi**	**0.90**	**338**	P	**Pn**	**21 10 22.2**	**-0.8**
SKJI				S	**Sn**	**21 10 35.8**	**+0.5**
LEM	**Lembang**	**1.24**	**35**	P	**Pn**	**21 10 28.5**	**+1.0**
LEM				S	Sn	21 10 48.4	+5.0
LEM	**Lembang**	**1.24**	**35**	P	**Pn**	**21 10 29.0**	**+1.4**
	2μm,0.5s,baz=270,slow=2.1,SNR=110						
LEM				S	**Sn**	**21 10 45.7**	**+2.3**
	3μm,0.6s,baz=346,slow=14,SNR=13						
LEM				LR	LR	21 11 04.9	
	comp=Z,948nm,20.2s,baz=254,slow=61						
DBJI	**Dramaga**	**1.29**	**353**	P	**Pn**	**21 10 28.7**	**+0.5**
DBJI				S	**Sn**	**21 10 47.3**	**+2.8**
CMJI	**Cimerak**	**1.53**	**88**	P	**Pn**	**21 10 29.6**	**-1.8**
CMJI				S	**Sn**	**21 10 47.8**	**-2.5**
CGJI	**Cibinong**	**1.71**	**315**	P	**Pn**	**21 10 32.7**	**-1.1**
CGJI				S	**Sn**	**21 10 53.2**	**-1.5**
SBJI	**Serang**	**1.88**	**336**	P	**Pn**	**21 10 37.1**	**+1.1**
SBJI				S	**Sn**	**21 11 00.5**	**+1.8**
KPJI	**Karang Pucung**	**2.07**	**76**	P	**Pn**	**21 10 39.3**	**+0.6**
XMIS	**Christmas Isla**	**2.90**	**205**		Pn	21 10 45.3	-4.6
KASI	**Kota Agung**	**3.32**	**314**	P	**Pn**	**21 10 57.0**	**+1.2**
YOGI	**Yogyakarta**	**3.36**	**90**	P	**Pn**	**21 10 55.8**	**-0.5**
UGM	**Wanagama**	**3.59**	**91**	Pn	**Pn**	**21 10 59.1**	**-0.3**
UGM	**Wanagama**	**3.59**	**91**	P	**Pn**	**21 10 58.4**	**-1.0**
LWLI	**Liwa**	**3.98**	**315**	P	**Pn**	**21 11 06.1**	**+1.1**
MNAI	**Manna**	**5.23**	**311**	Pn	**Pn**	**21 11 22.9**	**+1.0**
MNAI	**Manna**	**5.23**	**311**	P	**Pn**	**21 11 22.6**	**+0.6**
	184nm,1.2s,12μm1.9nm						
JAGI	**Jajag, Banyuwa**	**7.20**	**95**		**Pn**	**21 11 49.6**	**+0.6**
KSM	**Kuching**	**9.86**	**20**	Pn	**Pn**	**21 12 25.0**	**-0.3**
GSI	**Gunungsitoli**	**13.01**	**314**		**Pn**	**21 13 05.1**	**-3.3**
KAPI	**Kappang**	**13.07**	**78**	LR	LR	21 18 30.0	
	comp=Z,92nm,19.7s,baz=261,slow=39						
MMRI	**Maumere**	**15.20**	**94**	Pn	**Pn**	**21 13 35.9**	**-1.6**
MTN	**Manton Dam**	**24.34**	**104**	P	**P**	**21 15 20.0**	**+1.2**
MTN				IAmb	IAmb	21 15 43.0	
	comp=Z,7.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**27.29**	**343**	P	**P**	**21 15 43.8**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=179,slow=9.4,SNR=5.5 comp=Z,0.4nm,0.4s						
H01W3	**Cape Leeuwin H**	**27.72**	**167**	T	T	21 45 46.1	
	baz=345,slow=76,SNR=9.8						
H01W1	**Cape Leeuwin H**	**27.73**	**167**	T	T	21 45 41.5	
	baz=345,slow=76,SNR=6.5						
H01W2	**Cape Leeuwin H**	**27.73**	**167**	T	T	21 45 43.5	
	baz=345,slow=76,SNR=12						
WB0	**Warramunga Arr**	**29.15**	**117**	P	**P**	**21 16 03.2**	**+1.1**
WRA	**Warramunga Arr**	**29.17**	**117**	P	**P**	**21 16 03.2**	**+0.9**
WRA	**Warramunga Arr**	**29.17**	**117**	P	**P**	**21 16 03.0**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=292,slow=10,SNR=9.7 comp=Z,1.2nm,0.8s						
WRAB	**Tennant Creek**	**29.17**	**117**	P	**P**	**21 16 02.4**	**+0.1**
WRAB				IAmb	IAmb	21 16 19.0	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**29.18**	**117**	P	**P**	**21 16 02.3**	**0.0**
WB2				IAmb	IAmb	21 16 10.5	
	comp=Z,12nm,1.4s						
PALK	**Pallekele**	**30.13**	**299**	LR	LR	21 27 29.2	
	comp=Z,35nm,21.4s,baz=186,slow=34						
ASAR	**Alice Springs**	**30.29**	**124**	P	**P**	**21 16 13.9**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=295,slow=7.0,SNR=7.1 comp=Z,0.6nm,0.8s						
H08S2	**Diego Garcia H**	**34.09**	**268**	T	T	21 52 23.8	
	baz=91,slow=76,SNR=43						
H08S3	**Diego Garcia H**	**34.10**	**268**	T	T	21 52 25.9	
	baz=91,slow=76,SNR=47						
H08S1	**Diego Garcia H**	**34.11**	**268**	T	T	21 52 27.1	
	baz=91,slow=76,SNR=36						
STKA	**Stephens Creek**	**40.15**	**131**	P	**P**	**21 17 38.0**	**+1.3**
STKA	**Stephens Creek**	**40.15**	**131**	P	**P**	**21 17 41.2**	**+4.5**
	comp=Z,2.7nm,0.7s,baz=328,slow=6.3,SNR=6.1 comp=Z,2.7nm,0.7s						
NIL	**Nilore**	**52.18**	**324**	P	**P**	**21 19 09.9**	**-1.3**
NIL				IAmb	IAmb	21 19 12.4	
	comp=Z,4.6nm,0.8s						
SONM	**Songino Array**	**55.44**	**360**	P	**P**	**21 19 34.7**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=166,slow=8.0,SNR=3.2						
SONM				PcP	**PcP**	**21 20 34.3**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=182,slow=2.3,SNR=4.4 comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**58.64**	**340**	P	**P**	**21 19 55.9**	**-1.5**
	comp=Z,1.5nm,0.7s,baz=148,slow=8.8,SNR=11 comp=Z,1.5nm,0.7s						
H04N2	**CROZET ISLANDS**	**60.56**	**221**	T	T	22 26 15.3	
	baz=69						
H04N1	**CROZET ISLANDS**	**60.58**	**221**	T	T	22 26 15.5	
	baz=69						
H04N3	**CROZET ISLANDS**	**60.58**	**221**	T	T	22 26 14.2	
	baz=69						
KLR	**Kul'dur**	**60.86**	**18**	P	**P**	**21 20 11.2**	**-1.4**
	comp=Z,1.6nm,0.5s,baz=218,slow=4.5,SNR=13 comp=Z,1.6nm,0.5s						
KURBB	**Kurchatov Arra**	**63.21**	**340**	P	**P**	**21 20 27.8**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=149,slow=6.1,SNR=15 comp=Z,1.3nm,0.6s						
KURK	**Kurchatov**	**63.26**	**340**	P	**P**	**21 20 27.1**	**-1.5**
KURK				IAmb	IAmb	21 20 31.3	
	comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**64.32**	**346**	P	**P**	**21 20 33.2**	**-2.2**
ZALV	**Zalesovo Beam**	**64.32**	**346**	P	**P**	**21 20 35.0**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=160,slow=4.4,SNR=4.7 comp=Z,0.8nm,0.5s						
GEYT	**Alibeck**	**64.33**	**319**	P	**P**	**21 20 36.5**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=162,slow=6.1,SNR=4.0 comp=Z,2.2nm,0.8s						
BVAR	**Borovoye Array**	**68.10**	**337**	P	**P**	**21 20 59.1**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=129,slow=8.3,SNR=12 comp=Z,1.6nm,0.5s						
BRVK	**Borovoye**	**68.17**	**337**	P	**P**	**21 20 59.0**	**-1.2**
BRVK				IAmb	IAmb	21 21 10.9	
	comp=Z,6.4nm,1.5s						
ABKAR	**Akbulak array**	**70.08**	**329**	P	**P**	**21 21 11.1**	**-1.0**
PETK	**Petropavlovsk-**	**74.37**	**29**	P	**P**	**21 21 36.9**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=216,slow=7.3,SNR=1.9 comp=Z,2.5nm,0.9s						
SIRT	**Sirnak**	**75.08**	**312**	P	**P**	**21 21 41.8**	**-0.4**
VNDA	**Vanda**	**75.16**	**169**	P	**P**	**21 21 43.7**	**+1.9**
VNDA				IAmb	IAmb	21 22 01.8	
	comp=Z,2.8nm,1.1s						
ARU	**Arti**	**75.34**	**335**	P	**P**	**21 21 43.0**	**-0.1**
ARU				IAmb	IAmb	21 21 44.3	
	comp=Z,2.8nm,0.7s						
ARU	**Arti**	**75.34**	**335**	P	**P**	**21 21 43.7**	**+0.6**
	comp=Z,2.4nm,0.5s,baz=123,slow=4.6,SNR=4.6 comp=Z,2.4nm,0.5s						
BELG	**Belogornoye**	**78.29**	**327**	P	**P**	**21 21 59.1**	**-0.6**
	comp=Z,2.0nm,0.4s,baz=38,slow=15,SNR=1.1 comp=Z,2.0nm,0.4s						
MMAI	**Mount Meron Ar**	**79.01**	**306**	P	**P**	**21 22 07.1**	**+2.8**
	comp=Z,0.5nm,0.5s,baz=108,slow=9.5,SNR=1.7 comp=Z,0.5nm,0.5s						
BR131	**Keskin Array S**	**82.31**	**312**	P	**P**	**21 22 21.4**	**-0.6**
BR131				IAmb	IAmb	21 22 47.5	
	comp=Z,1.7nm,0.8s						
BRTR	**Keskin Array B**	**82.31**	**312**	P	**P**	**21 22 21.4**	**-0.6**
BRTR	**Keskin Array B**	**82.31**	**312**	P	**P**	**21 22 22.9**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=152,slow=5.6,SNR=5.0 comp=Z,0.7nm,0.8s						
YKA	**Yellowknife Ar**	**117.68**	**20**	PKP	**PKiKP**	**21 28 45.4**	**0.0**
	comp=Z,0.1nm,0.6s,baz=344,slow=2.5,SNR=2.1						
TXAR	**Lajitas Array**	**144.19**	**49**	PKP	**PKPdf**	**21 29 35.2**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=245,slow=2.6,SNR=5.3						
TKL	**Tuckaleechee C**	**150.64**	**18**	PKPbc	**PKiKP**	**21 29 53.2**	**+0.3**

40nm,0.6s,baz=242,slow=23,SNR=1.2
KAPI LR LR 21 31 26.8
comp=Z,276nm,19.7s,baz=30,slow=38
BKSI Bulukumba 6.27 201 P **Pn 21 29 02.5 +2.2**
106nm,0.7s,942nm0.3nm
DAV Davao City (W) 7.21 26 Pn **Pn 21 29 13.2 +0.1**
DAV Davao City (W) 7.21 26 P **Pn 21 29 16.0 +2.8**
198nm,0.3s,baz=193,slow=19,SNR=6.2
DAV S **Sn 21 30 37.2 +3.7**
405nm,0.4s,baz=271,slow=23,SNR=6.4
DAV LR LR 21 32 09.1
comp=Z,75nm,19.2s,baz=126,slow=39
MTKI Muara Teweh, K 7.64 259 P **Pn 21 29 19.3 +0.3**
220nm,0.5s,4μm1.0nm
KKM Kota Kinabalu 8.22 312 **Pn 21 29 28.1 +1.0**
KKM Kota Kinabalu 8.22 312 P **Pn 21 29 28.4 +1.3**
BBKI Banjar Baru 8.54 242 P **Pn 21 29 32.7 +1.4**
85nm,0.7s,6μm
SWI Sorong 8.98 99 P **Pn 21 29 38.1 +0.7**
111nm,0.7s
BNDI Bandanaira 9.05 124 P **Pn 21 29 41.0 +2.7**
BNDI Bandanaira 9.05 124 P **Pn 21 29 39.4 +1.1**
234nm,0.7s,4μm
MMRI Maumere 9.14 181 Pn **Pn 21 29 39.5 0.0**
EDFI Ende, Flores 9.28 184 P **Pn 21 29 43.6 +2.1**
46nm,0.6s
SBUM Sibu 10.33 281 Pn **Pn 21 29 55.6 -0.2**
SOEI Soe 10.42 170 Pn **Pn 21 29 59.5 +2.4**
KSM Kuching 12.11 274 Pn **Pn 21 30 20.9 +1.0**
KSM Kuching 12.11 274 P **Pn 21 30 22.0 +2.1**
JAGI Jajag, Banyuwa 12.16 222 **Pn 21 30 21.3 +0.8**
UGM Wanagama 14.52 234 **P 21 30 58.3 +2.6**
KPJI Karang Pucung 15.54 239 P **P 21 31 07.4 +0.4**
149nm,0.8s
MTN Manton Dam 15.89 147 Pn **Pn 21 31 09.6 +0.6**
MTN Manton Dam 15.89 147 P **Pn 21 31 10.1 +1.1**
LEM Lembang 16.46 243 P **Pn 21 31 17.8 +1.6**
18nm,0.6s,baz=56,slow=11,SNR=5.1
KDU Kakadu 16.54 143 P **P 21 31 17.7 -0.3**
BBJI Bungbulang 16.72 241 P **Pn 21 31 20.4 +1.1**
CBJI Citeko 16.99 246 P **P 21 31 24.8 +1.8**
86nm,0.7s
CNJI Cibinong 17.11 243 P **Pn 21 31 25.0 +1.0**
28nm,0.9s
KNRA Kununurra 17.32 159 P **Pn 21 31 27.0 +0.4**
KNRA Kununurra 17.32 159 P **P 21 31 28.3 +1.6**
CGJI Cibinong 18.12 247 P **Pn 21 31 37.7 +1.4**
46nm,0.6s,1μm
FITZ Fitzroy Crossi 18.82 170 P **P 21 31 43.7 +0.6**
FITZ Fitzroy Crossi 18.82 170 P **P 21 31 44.1 +1.0**
KASI Kota Agung 18.86 251 P **Pn 21 31 46.5 +1.3**
74nm,0.8s
LWLI Liwa 19.13 253 P **Pn 21 31 49.3 +0.9**
78nm,0.7s
XMIS Christmas Isla 19.94 236 P **P 21 31 53.5 -1.9**
TWGBT Beinan 22.16 357 P **P 21 32 21.7 +2.6**
TWG Pinlang 22.16 357 P **P 21 32 19.3 +0.2**
KULM Kulim 22.20 283 P **P 21 32 19.2 -0.5**
TPUB Ta-pu 22.67 356 P **P 21 32 24.9 +0.4**
TPUB Ta-pu 22.67 356 P **P 21 32 27.9 +3.5**
YULB Yu-li 22.72 357 P **P 21 32 23.5 -1.4**
YULB Yu-li 22.72 357 P **P 21 32 28.1 +3.1**
SSLB Suanglung 23.13 357 P **P 21 32 28.6 -0.4**
SSLB Suanglung 23.13 357 P **P 21 32 31.8 +2.8**
WB0 Warramunga Arr 23.38 150 P **P 21 32 30.3 -1.1**
WRAB Tennant Creek 23.50 151 P **P 21 32 31.7 -0.8**
WRA Warramunga Arr 23.50 151 P **P 21 32 31.1 -1.4**
WRA Warramunga Arr 23.50 151 P **P 21 32 31.9 -0.7**
9.7nm,0.6s,baz=326,slow=10,SNR=204
WRA pP **pP 21 32 51.0 -0.4**
9.1nm,0.7s,baz=328,slow=10,SNR=6.2
WRA PcP **PcP 21 36 15.0 -0.9**
1.0nm,0.5s,baz=319,slow=2.3,SNR=4.8
WRA ScP **ScP 21 39 43.6 -2.5**
1.0nm,0.7s,baz=337,slow=3.1,SNR=2.0
9.7nm,0.6s
WB2 Warramunga Arr 23.51 151 P **P 21 32 31.0 -1.6**
RPSI Rantau Prapat 23.55 275 P **P 21 32 31.7 -1.2**
PSI Prapat 23.56 276 P **P 21 32 34.3 +1.1**
WR0 Warramunga Arr 23.62 150 P **P 21 32 32.9 -0.6**
GSI Gunungsitoli 24.82 272 P **P 21 32 43.3 -1.2**
GSI Gunungsitoli 24.82 272 P **P 21 32 45.6 +1.1**
WRKA Warakurna 26.08 168 P **P 21 32 56.1 +0.3**
AS31 Alice Springs 26.56 156 P **P 21 32 59.3 -0.8**
ASAR Alice Springs 26.56 156 P **P 21 33 00.4 +0.3**
ASAR Alice Springs 26.56 156 P **P 21 32 59.8 -0.3**
3.3nm,0.7s,baz=345,slow=14,SNR=121
ASAR PcP **PcP 21 36 22.1 -0.6**
1.8nm,0.4s,baz=348,slow=2.2,SNR=8.3
ASAR ScP **ScP 21 39 52.5 -2.3**
0.7nm,0.5s,baz=342,slow=2.9,SNR=7.8
3.3nm,0.7s
QIS Mount Isa 26.92 142 P **P 21 33 04.3 +0.9**
MEEK Meekatharra 27.29 187 P **P 21 33 06.4 -0.2**
CMAR Chiang Mai Arr 29.09 309 P **P 21 33 24.9 +2.2**
1.3nm,0.6s,baz=112,slow=9.8,SNR=5.5
CMAR PcP **PcP 21 36 28.5 -0.4**
1.1nm,0.7s,baz=158,slow=2.4,SNR=5.2
CMAR ScP **ScP 21 40 02.0 -0.6**
0.8nm,0.3s,baz=173,slow=3.0,SNR=11
CMAR LR LR 21 45 10.0
comp=Z,30nm,20.9s,baz=95,slow=36
1.3nm,0.6s
CHTO Chiang Mai 29.29 310 P **P 21 33 25.6 +1.0**
CHTO Chiang Mai 29.29 310 P **P 21 33 27.2 +2.7**
MORW Morawa 30.08 191 P **P 21 33 30.6 -0.7**
MORW IAmb IAmb 21 33 31.7
comp=Z,20nm,0.6s
WHN Wuhan 30.78 346 P **P 21 33 39.8 +2.3**
KMI Kunming 30.93 324 ⇑P **P 21 33 42.3 +3.1**
KMI pP pP 21 34 03.8 +4.0
KMI pmax pmax
comp=Z,7.0nm,1.0s
BLDU Ballidu 31.47 189 P **P 21 33 42.9 -0.7**
NJ2 Nanjing 31.50 354 *e*P **P 21 33 44.4 +0.6**
NJ2 pP **pP 21 34 06.8 +2.4**
NJ2 pmax pmax
comp=Z,15nm,0.6s
NJ2 pmax pmax
comp=Z,310nm,5.0s
FORT Forrest 31.63 171 P **P 21 33 44.5 -0.5**
FORT IAmb IAmb 21 33 45.7
comp=Z,26nm,0.7s
FORT Forrest 31.63 171 P **P 21 33 45.3 +0.3**
KMBL Kambalda 31.76 181 P **P 21 33 46.1 0.0**
PZH PanZhiHua 32.56 324 P **P 21 33 54.8 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,150nm,4.7s
MULG Mulgathing 32.63 161 P **P 21 33 53.8 +0.1**
MND Mandalay 33.31 312 P **P 21 34 02.9 +3.1**
NWAO Narrogin (SRO) 33.66 188 P **P 21 34 02.1 -0.6**
CD2 Chengdu 34.98 331 P **P 21 34 15.3 +1.1**
CD2 pmax pmax
comp=Z,20nm,0.6s
LYN LuoYang 35.06 346 ⇑P **P 21 34 16.4 +1.6**
LYN pP pP 21 34 40.6 +5.0
LYN sP sP 21 34 50.3 +4.3
LYN S **S 21 39 43.3 +2.6**
LYN pmax pmax
comp=Z,35nm,1.1s
LYN pmax pmax
comp=Z,190nm,5.6s
XAN Xi'an 35.62 341 P **P 21 34 19.9 +0.3**
XAN pmax pmax
comp=Z,10.0nm,0.6s
TIA Tai'an 35.80 353 P **P 21 34 22.0 +0.9**
TIA pmax pmax
comp=Z,19nm,0.7s
STKA Stephens Creek 37.04 152 P **P 21 34 31.1 -0.6**
STKA Stephens Creek 37.04 152 P **P 21 34 32.1 +0.4**
STKA Stephens Creek 37.04 152 P **P 21 34 31.8 +0.1**
comp=Z,4.4nm,0.4s,baz=324,slow=9.0,SNR=15
comp=Z,4.4nm,0.4s
KSRS Korea Array 37.06 7 P **P 21 34 32.7 +0.9**
comp=Z,2.7nm,0.7s,baz=188,slow=10,SNR=7.8
comp=Z,2.7nm,0.7s
HTT Hallett 37.22 157 P **P 21 34 34.3 +1.0**
HNS HongShan 37.34 350 ⇑P **P 21 34 35.3 +1.2**
HNS pmax pmax
comp=Z,8.0nm,1.1s
MAJO Matsushiro 38.69 21 P **P 21 34 44.3 -1.2**
MAJO pP **pP 21 35 06.5 +0.1**
MJAR Matsushiro Arr 38.69 21 P **P 21 34 44.6 -0.9**
comp=Z,4.1nm,0.7s,baz=192,slow=9.1,SNR=9.4
MJAR pP **pP 21 35 06.9 +0.5**
comp=Z,4.8nm,0.8s,baz=191,slow=8.7,SNR=4.3
comp=Z,4.1nm,0.7s
CMSA Cobar Meteorol 38.82 147 P **P 21 34 47.9 +1.2**
LZH Lanzhou 39.32 336 *e*P **P 21 34 52.4 +1.4**
LZH pP pP 21 35 16.3 +4.1
LZH sP sP 21 35 24.4 +1.8
LZH pmax pmax
comp=Z,21nm,1.3s
BJI Beijing 39.70 353 P **P 21 34 54.5 +0.7**
BJI pmax pmax
comp=Z,4.0nm,0.8s
BJI pmax pmax
comp=Z,55nm,6.5s
HHC Hu-ho-hao-te 41.29 348 *e*P **P 21 35 09.0 +1.9**
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,140nm,4.5s
BTO Baotou 41.41 346 *e*P P 21 35 12.9 +4.8
BTO pP sP 21 35 35.1 -4.5
BTO PP **PnPn 21 36 54.6 +3.7**
BTO S S 21 41 25.8 +9.2
BTO SS **SS 21 44 28.8 +4.7**
BTO pmax pmax
comp=Z,14nm,0.6s
BTO pmax pmax
comp=Z,310nm,5.0s
BTO LR LR
comp=Z,220nm,6.1s
BTO LR LR
comp=Z,320nm,7.6s
BTO LR LR
comp=Z,190nm,6.1s
LSA Lhasa 41.52 317 P **P 21 35 12.0 +2.3**
LSA Lhasa 41.52 317 P **P 21 35 11.8 +2.1**
TAPN Taplejung 42.62 312 *e*P **P 21 35 19.6 +1.2**
comp=Z,28nm,0.4s
RAMN Ramite 43.24 310 *e*P **P 21 35 25.1 +1.7**
comp=Z,38nm,0.5s
CAN Canberra 43.49 148 P **P 21 35 26.0 +1.0**
GTA Gaotai 43.82 335 ⇓P **P 21 35 29.3 +1.6**
GTA pP pP 21 35 51.3 +2.1
GTA sP sP 21 36 00.8 +1.3
GTA PcP **PcP 21 37 12.6 -0.2**
GTA pmax pmax
comp=Z,13nm,1.1s
JIRN Jiri 43.92 311 *e*P **P 21 35 30.1 +1.1**
comp=Z,33nm,0.4s
USA0B Ussuriysk Arra 44.28 10 P **P 21 35 30.7 -0.4**
USA0B IAmb IAmb 21 35 32.0
comp=Z,9.5nm,0.7s
USRK Ussuriysk Ar. 44.28 10 P **P 21 35 30.4 -0.7**
USRK Ussuriysk Ar. 44.28 10 P **P 21 35 29.7 -1.4**
comp=Z,8.1nm,0.6s,baz=193,slow=6.0,SNR=14
comp=Z,8.1nm,0.6s
GUN Gumba 44.29 311 *e*P **P 21 35 33.1 +1.2**
comp=Z,53nm,0.4s
MDJ Mudanjiang 44.33 7 P **P 21 35 31.9 +0.4**
MDJ IAmb IAmb 21 35 32.5
comp=Z,16nm,0.8s
MDJ Mudanjiang 44.33 7 P **P 21 35 32.5 +1.0**
MDJ Mudanjiang 44.33 7 P **P 21 35 32.0 +0.5**
MDJ pP pP 21 35 53.0 0.0
MDJ ScP **ScP 21 40 57.8 -0.4**
MDJ S **S 21 42 00.4 +1.4**
MDJ sS sS 21 42 36.4 +0.5
MDJ ScS **ScS 21 45 21.6 +0.8**
MDJ pmax pmax
comp=Z,26nm,0.8s
MDJ pmax pmax
comp=Z,290nm,4.3s
MDJ Mudanjiang 44.33 7 P **P 21 35 31.8 +0.3**
PKI Pulchoki 44.47 310 *e*P **P 21 35 34.0 +0.7**
comp=Z,21nm,0.5s
PKIN Phulchoki 44.48 310 *e*P **P 21 35 34.1 +0.8**
comp=Z,22nm,0.4s
DMN Daman 44.72 310 *e*P **P 21 35 36.3 +1.1**
comp=Z,26nm,0.6s
GKN Gorkha 45.28 310 *e*P **P 21 35 40.3 +0.8**
DANN Dangsing 46.12 310 *e*P **P 21 35 46.7 +0.4**
comp=Z,68nm,0.6s
PYUN Piuthan 46.59 309 *e*P **P 21 35 51.2 +1.3**
comp=Z,72nm,0.5s
JKA Kamikawa-asahi 46.95 20 P **P 21 35 52.4 +0.2**
ULN Ulaanbaatar 48.96 346 P **P 21 36 06.8 -1.1**
SONM Songino Array 49.09 346 P **P 21 36 08.6 -0.2**
SONM Songino Array 49.09 346 P **P 21 36 09.3 +0.5**
comp=Z,2.4nm,0.5s,baz=164,slow=9.1,SNR=21
SONM pP **pP 21 36 31.2 +0.6**
comp=Z,3.1nm,0.7s,baz=168,slow=7.9,SNR=5.8
SONM PcP **PcP 21 37 30.1 -1.1**
comp=Z,3.4nm,0.8s,baz=156,slow=3.3,SNR=6.9
comp=Z,2.4nm,0.5s
HEH HeiHe 49.69 4 *e*P **P 21 36 12.8 -0.3**
HEH pmax pmax
comp=Z,13nm,0.7s
HEH pmax pmax
comp=Z,190nm,5.1s
WMQ Urumqi 53.00 329 *e*P **P 21 36 40.3 +2.2**
WMQ pP pP 21 37 03.3 +2.9
WMQ pmax pmax
comp=Z,34nm,0.7s
NIL Nilore 56.56 311 P **P 21 37 03.3 -0.6**
NIL Nilore 56.56 311 P **P 21 37 04.5 +0.6**
NIL pP **pP 21 37 26.6 0.0**
NIL sP **sP 21 37 35.7 -1.0**
KSH Kashi 57.35 318 P **P 21 37 11.3 +1.8**
KSH pP pP 21 37 34.0 +1.8
KSH pmax pmax
comp=Z,13nm,0.7s
PRZ Przheval'sk 57.40 322 P **P 21 37 09.7 -0.2**
PRZ IAmb IAmb 21 37 12.9
comp=Z,17nm,0.8s
MK31 Makanchi Array 57.82 328 P **P 21 37 12.6 0.0**
MK31 IAmb IAmb 21 37 14.1
comp=Z,7.4nm,0.7s
MKAR Makanchi Array 57.82 328 P **P 21 37 12.9 +0.4**
MKAR Makanchi Array 57.82 328 P **P 21 37 13.3 +0.8**
comp=Z,8.9nm,0.4s,baz=125,slow=8.6,SNR=156
MKAR pP **pP 21 37 36.7 +1.6**
comp=Z,6.3nm,0.7s,baz=127,slow=8.2,SNR=4.9
MKAR PcP **PcP 21 38 03.0 -1.2**
comp=Z,2.6nm,0.6s,baz=112,slow=7.5,SNR=1.8
comp=Z,8.9nm,0.4s
TKM2 Tokmak 2 59.37 322 P **P 21 37 24.9 +1.3**
SNR=14
KBK Karagaybulak 59.63 321 P **P 21 37 27.8 +2.4**
SNR=5.4
UCH Uchtor 59.69 320 P **P 21 37 28.0 +1.9**
SNR=5.3
AAK Ala-Archa 59.91 321 P **P 21 37 29.1 +1.8**
SNR=7.5
AAK Ala-Archa 59.91 321 P **P 21 37 26.9 -0.4**
AAK IAmb IAmb 21 37 53.2
comp=Z,6.3nm,0.6s
AAK Ala-Archa 59.91 321 P **P 21 37 28.6 +1.3**
AAK pP **pP 21 37 52.2 +2.1**
PETK Petropavlovsk- 60.02 24 P **P 21 37 26.8 -0.8**
PETK Petropavlovsk- 60.02 24 P **P 21 37 28.0 +0.4**
comp=Z,6.0nm,0.5s,baz=203,slow=3.6,SNR=21
comp=Z,6.0nm,0.5s
KBL Kabul 60.11 310 P **P 21 37 28.9 0.0**
AML Almayashu 60.16 320 P **P 21 37 30.6 +1.3**
SNR=6.4
ARSB Arslanbob 60.23 319 P **P 21 37 30.0 +0.5**
ARSB IAmb IAmb 21 37 31.9
comp=Z,3.4nm,0.5s
EKS2 Erkin-Say 60.38 320 P **P 21 37 32.0 +1.6**
SNR=6.6
BTK Batken 61.10 317 P **P 21 37 35.4 +0.1**
BTK IAmb IAmb 21 37 37.5
comp=Z,11nm,0.8s
ZAA0 Zalesovo Array 61.55 336 P **P 21 37 36.9 -1.0**
ZAA0 IAmb IAmb 21 37 38.4
comp=Z,14nm,1.0s
ZALV Zalesovo Beam 61.55 336 P **P 21 37 37.0 -1.0**
ZALV Zalesovo Beam 61.55 336 P **P 21 37 37.4 -0.6**
comp=Z,5.4nm,0.5s,baz=125,slow=5.8,SNR=43
comp=Z,5.4nm,0.5s
YAK Yakutsk 61.56 4 P **P 21 37 36.9 -1.0**
YAK Yakutsk 61.56 4 P **P 21 37 37.4 -0.5**
YAK sP **sP 21 38 09.5 -1.3**
CHGR Chuyangaron 61.66 315 P **P 21 37 38.9 -0.2**
RPZ Rata Peaks 61.83 142 LR LR 22 03 47.7
comp=Z,30nm,20.0s,baz=340,slow=35
KURBB Kurchatov Arra 62.17 330 P **P 21 37 42.4 +0.2**
comp=Z,11nm,0.7s,baz=124,slow=5.7,SNR=109
KURBB pP **pP 21 38 06.5 +1.6**
comp=Z,2.6nm,0.5s,baz=122,slow=6.1,SNR=3.8
comp=Z,11nm,0.7s
KURK Kurchatov 62.19 330 P **P 21 37 42.1 -0.2**
KURK Kurchatov 62.19 330 P **P 21 37 42.6 +0.3**
KURK pP **pP 21 38 05.5 +0.5**
TUWZ Tuamarina 62.54 138 P **P 21 37 44.0 -0.8**
KK31 Karatay Array 62.69 320 P **P 21 37 45.4 -0.5**
KK31 IAmb IAmb 21 37 48.1
comp=Z,8.3nm,1.0s
KKAR Karatay Array 62.69 320 P **P 21 37 45.4 -0.5**
KKAR IAmb IAmb 21 37 48.1
comp=Z,8.3nm,1.0s
KKAR Karatay Array 62.69 320 P **P 21 37 45.4 -0.5**
MA2 Magadan 62.86 16 P **P 21 37 47.2 +0.6**
HRA Herat 65.34 308 P **P 21 38 03.2 -0.5**
BVAR Borovoye Array 67.69 329 P **P 21 38 17.9 0.0**
comp=Z,9.0nm,0.7s,baz=136,slow=8.5,SNR=44
BVAR pP **pP 21 38 40.9 -0.2**
comp=Z,2.8nm,0.8s,baz=166,slow=7.4,SNR=2.9
comp=Z,9.0nm,0.7s
BRVK Borovoye 67.76 329 P **P 21 38 17.0 -1.4**
BRVK IAmb IAmb 21 38 20.0
comp=Z,15nm,1.0s
BRVK Borovoye 67.76 329 P **P 21 38 18.5 +0.1**
BRVK pP **pP 21 38 41.7 +0.1**
BRVK PcP **PcP 21 38 46.2 +1.7**
DRV Dumont d'Urvil 68.24 173 P **P 21 38 21.6 +0.5**
DRV pP **pP 21 38 44.3 +0.7**
RER Riviere de l'E 68.50 247 P **P 21 38 21.5 -2.2**
RER pP **pP 21 38 44.2 -2.2**
RER PcP **PcP 21 38 46.9 -1.5**
GEYT Alibeck 69.56 311 P **P 21 38 29.9 0.0**
GEYT IAmb IAmb 21 38 31.5
comp=Z,12nm,0.8s
GEYT Alibeck 69.56 311 P **P 21 38 30.3 +0.3**
comp=Z,7.9nm,0.7s,baz=168,slow=7.6,SNR=16
GEYT pP **PcP 21 38 53.0 +0.5**
comp=Z,3.6nm,0.7s,baz=147,slow=8.8,SNR=3.1
comp=Z,7.9nm,0.7s
GYA0B ALIBECK ARRAY 69.56 311 P **P 21 38 29.9 0.0**
GYA0B IAmb IAmb 21 38 31.4
comp=Z,10nm,0.8s
TIXI Tiksi 71.10 2 P **P 21 38 36.7 -1.9**
TIXI IAmb IAmb 21 38 38.1
comp=Z,12nm,0.8s
TIXI Tiksi 71.10 2 P **P 21 38 37.5 -1.1**
TIXI pP **pP 21 39 00.4 -1.5**
TIXI sP **sP 21 39 10.6 -1.1**
ABKAR Akbulak array 71.91 322 P **P 21 38 43.2 -0.7**
ABKAR Akbulak array 71.91 322 P **P 21 38 43.4 -0.6**
ABKAR IAmb IAmb 21 38 44.7
comp=Z,8.2nm,0.8s
AKTO Aktyubinsk 73.50 323 P **P 21 38 53.2 -0.1**
comp=Z,10nm,0.7s,baz=106,slow=5.6,SNR=42
comp=Z,10nm,0.7s
ARU Arti 75.34 329 P **P 21 39 02.4 -1.4**
ARU IAmb IAmb 21 39 03.7
comp=Z,25nm,1.5s
ARU pP **pP 21 39 25.5 -1.9**
VNDA Vanda 80.89 172 P **P 21 39 34.2 +0.1**
comp=Z,1.7nm,0.6s,baz=318,slow=7.4,SNR=13
comp=Z,1.7nm,0.6s
GURO Guroymak-BITLI 82.10 309 P **P 21 39 40.8 -0.7**
GURO pP **pP 21 40 04.3 -1.1**
E18K Tukpahlearik C 84.50 22 P **P 21 39 53.4 +0.3**
E18K IAmb IAmb 21 40 26.1
comp=Z,12nm,1.1s
ARPR Arapgir-MALATY 85.02 309 P **P 21 39 55.9 -0.5**
ARPR IAmb IAmb 21 40 21.9
comp=Z,11nm,1.2s
C19K Lookout Ridge 85.21 21 IAmb IAmb 21 39 59.6
comp=Z,26nm,1.4s
KLMR Klimovskoe 86.03 331 *e*P **P 21 39 58.3 -2.4**
KLMR AMP 21 40 00.4
comp=Z,19nm,0.8s
KLMR *e*pP **pP 21 40 21.5 -3.3**
B21K Ikpikpuk River 87.03 20 IAmb IAmb 21 40 45.6
comp=Z,18nm,1.3s
MMAI Mount Meron Ar 87.16 303 P **P 21 40 06.9 -0.2**
comp=Z,1.1nm,0.7s,baz=80,slow=10,SNR=2.7
comp=Z,1.1nm,0.7s
BRTR Keskin Array B 88.68 310 P **P 21 40 12.8 -1.4**
comp=Z,0.9nm,0.8s,baz=149,slow=5.9,SNR=5.8
comp=Z,0.9nm,0.8s
ILAR Eielson Array 89.81 25 P **P 21 40 15.8 -2.9**
comp=Z,0.2nm,0.6s,baz=251,slow=5.2,SNR=5.3
ILAR pP **pP 21 40 46.1 +3.2**
comp=Z,0.3nm,0.6s,baz=260,slow=5.2,SNR=2.5
L26K Log Cabin Wild 91.45 27 P **P 21 40 26.6 +0.2**
L26K IAmb IAmb 21 40 55.1
comp=Z,12nm,1.1s
AKASG Malin Array Be 91.58 321 P **P 21 40 25.4 -1.8**
comp=Z,0.2nm,0.2s,baz=78,slow=0.9,SNR=2.0
comp=Z,0.2nm,0.2s
ARCES ARCESS Array B 91.89 340 P **P 21 40 26.1 -2.3**
comp=Z,2.4nm,0.8s,baz=59,slow=4.7,SNR=8.8
comp=Z,2.4nm,0.8s
MNK Minsk 92.17 324 *i* P **P 21 40 27.7 -2.2**
comp=E,3.0nm,0.8s
MNK *i* P **P 21 40 27.7 -2.2**
comp=N,12nm,0.9s
MNK *i* P **P 21 40 27.7 -2.2**
comp=Z,3.0nm,0.7s,baz=86
MNK *i* pP **pP 21 40 51.7 -2.4**
MNK *i* PP **PP 21 44 08.6 -2.5**
MNK *i* PPP PPP 21 46 07.9
MNK *i* S **SKSac 21 50 52.0 -2.9**
MNK *i* sS **ScS 21 51 35.5 +8.3**
MNK *i* SS **SS 21 57 35.2 -1.2**
MNK *i* SSS SSS 22 01 28.4
MNK *i* LR LR 22 19 21.2
MNK *i* LRM MLR 22 20 53.7
comp=N,630nm,24.6s
MNK *i* LRM MLR 22 21 08.1
comp=E,180nm,23.8s
MNK *i* LRM MLR 22 21 13.2
comp=Z,112nm,18.6s
FINES FINESS Array B 92.54 331 P **P 21 40 29.1 -2.3**
comp=Z,1.5nm,0.7s,baz=37,slow=4.8,SNR=7.5
comp=Z,1.5nm,0.7s
SPB2 Spitsbergen Ar 92.71 349 P **P 21 40 30.1 -1.9**
SPITS Spitsbergen Ar 92.72 349 P **P 21 40 30.4 -1.6**
comp=Z,17nm,0.6s,baz=88,slow=10,SNR=24
DAG Danmarks Havn 99.76 352 *i* P **Pdif 21 41 01.0 -2.9**
YKA Yellowknife Ar 104.14 24 PKiKP **PKiKP 21 45 39.6 -0.6**
comp=Z,0.3nm,0.8s,baz=298,slow=1.5,SNR=4.1
NVAR Mina Array Bea 112.24 48 PKiKP **PKiKP 21 45 56.5 0.0**
comp=Z,1.3nm,0.6s,baz=255,slow=2.0,SNR=11
PDAR Pinedale Array 116.57 40 PKP **PKPdf 21 46 03.5 -1.1**
comp=Z,0.4nm,0.5s,baz=132,slow=2.2,SNR=5.1
TORD Torodi Ar. Bea 119.67 285 PKP **PKPdf 21 46 09.1 -1.9**
comp=Z,0.9nm,0.4s,baz=72,slow=2.2,SNR=10
TORD pPKP **pPKPdf 21 46 38.5 +2.3**
comp=Z,1.4nm,0.9s,baz=43,slow=3.2,SNR=4.1
DBIC Dimbokro 126.87 279 PKP **PKPdf 21 46 23.9 -1.0**
comp=Z,2.9nm,0.9s,baz=36,slow=3.8,SNR=3.5
TXAR Lajitas Array 126.96 52 PKP **PKPdf 21 46 24.5 -0.3**
comp=Z,1.4nm,0.7s,baz=243,slow=0.6,SNR=3.5

NEIC ***15*** *21:41:27.6±2.5, 19°.3N±0°.1×64°.54W±0°.04, h35km±2km, ML3.6/16, Md3.7/7(RSPR), Error ellipse: s-maj=23.5km s-min=4.7km az=12.0*
RSPR ***15*** *21:41:30.3, 19°.20N×64°.61W, h31km±26km, MD3.7/7*
ISC 15 21:41:29.1±2.4, 19°.2N±0°.2×64°.57W±0°.05, h35km, n35,
σ0°96/41, 9C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**1.81**	**128**		**Pn**	**Pn**	**21 41 55.7**	**-2.1**
SMRT					Sn	**Sn**	**21 42 18.5**	**-1.1**
SMRT					IAML		21 42 20.4	
	comp=N,563nm,0.5s							
SMRT					IAML		21 42 24.5	
	comp=E,748nm,0.4s							
SJG	**San Juan**	**1.84**	**235**	⇑*e*P	**Pn**	**Pn**	**21 41 57.4**	**-0.8**
SJG	**San Juan**	**1.84**	**235**	*e*S	**Sn**	**Sn**	**21 42 18.3**	**-1.9**
SJG	**San Juan**	**1.84**	**235**		**Pn**	**Pn**	**21 41 57.3**	**-0.8**
SJG					IAML		21 42 23.7	
	comp=E,471nm,0.4s							
SJG					IAML		21 42 29.3	

	comp=E,404nm,0.5s							
SJG	San Juan	1.84 235	Sn	Sn	21 42 19.6	-0.6		
EMPR	Esperanza - Ma	1.98 250⇑	eP	Pn	21 41 59.6	-0.6		
EMPR	Esperanza - Ma	1.98 250	eS	Sn	21 42 24.3	+0.5		
EMPR	Esperanza - Ma	1.98 250		Pn	21 41 59.6	-0.6		
EMPR				Sn	21 42 24.3	+0.5		
EMPR	Esperanza - Ma	1.98 250	IAML		21 42 32.0			
	comp=N,544nm,0.7s							
EMPR			IAML		21 42 32.1			
	comp=E,653nm,0.7s							
SABA	Saba	2.00 141⇑	eP	Pn	21 42 01.2	+0.8		
SABA	Saba	2.00 141		Pn	21 42 01.2	+0.8		
SABA	Saba	2.00 141	Sn	Sn	21 42 26.9	+2.6		
AOPR	Arecibo Observ	2.23 248⇑	eP	Pn	21 42 03.2	-0.3		
AOPR	Arecibo Observ	2.23 248	eS	Sn	21 42 29.4	-0.5		
AOPR	Arecibo Observ	2.23 248		Pn	21 42 03.2	-0.3		
AOPR				Sn	21 42 29.4	-0.5		
GBPR	Guanica, Bosqu	2.50 242⇓	eP	Pn	21 42 07.7	+0.5		
GBPR	Guanica, Bosqu	2.50 242	eS	Sn	21 42 36.2	-0.2		
GBPR	Guanica, Bosqu	2.50 242		Pn	21 42 07.7	+0.5		
GBPR				Sn	21 42 36.2	-0.2		
AGPR	Aguadilla, PR	2.51 254⇑	eP	Pn	21 42 07.1	-0.3		
AGPR	Aguadilla, PR	2.51 254	eS	Sn	21 42 36.5	-0.3		
AGPR	Aguadilla, PR	2.51 254		Pn	21 42 07.1	-0.3		
AGPR				Sn	21 42 36.5	-0.3		
AGPR	Aguadilla, PR	2.51 254	IAML		21 42 53.3			
	comp=N,236nm,0.5s							
LSP	Las Mesas	2.59 248⇑	eP	Pn	21 42 08.7	+0.2		
LSP	Las Mesas	2.59 248	eS	Sn	21 42 38.3	-0.4		
LSP	Las Mesas	2.59 248		Pn	21 42 08.7	+0.2		
LSP				Sn	21 42 38.3	-0.4		
MLPR	Magueyes Islan	2.64 243⇑	eP	Pn	21 42 09.3	+0.1		
MLPR	Magueyes Islan	2.64 243	eS	Sn	21 42 41.4	+1.5		
MLPR	Magueyes Islan	2.64 243		Pn	21 42 09.3	+0.1		
MLPR				Sn	21 42 41.4	+1.5		
MLPR	Magueyes Islan	2.64 243	IAML		21 42 46.7			
	comp=N,203nm,0.7s							
CRPR	Cabo Rojo, PR	2.68 244⇑	eP	Pn	21 42 09.7	0.0		
CRPR	Cabo Rojo, PR	2.68 244	eS	Sn	21 42 40.0	-1.0		
CRPR	Cabo Rojo, PR	2.68 244		Pn	21 42 09.9	+0.2		
CRPR				Sn	21 42 40.5	-0.4		
IDE	Isla Desecheo	2.86 254⇑	eP	Pn	21 42 14.2	+1.9		
IDE	Isla Desecheo	2.86 254	eS	Sn	21 42 45.9	+0.3		
IDE	Isla Desecheo	2.86 254		Pn	21 42 14.2	+1.9		
IDE				Sn	21 42 45.9	+0.3		

NEIC ***15*** *21:53:19.9±2.0,56˚.36S±0˚.09×26˚.74W±0˚.08,h51km±5km, mb5.1/94, Error ellipse: s-maj=13.9km s-min=5.9km az=164.0*
IDC ***15*** *21:53:22.3±2.4,56˚.33S×26˚.75W,h72km±20km,mb4.4/14, mbtmp4.7/16,MS3.9/29, Error ellipse: s-maj=17.2km s-min=12.7km az=52.0*

ISC 15 21:53:20.6±0.6,56˚.33S±0˚.05×26˚.79W±0˚.06,h57km±5km, h57km:pP-P,n278,σ1$27/270,mb5.0/60,MS3.9/28,8C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
HOPE	Hope Point	5.91	286			Pn	21 54 46.4	+1.1
ORCD	Orcadas	10.35	237			Pn	21 55 43.5	-2.6
VNA1	Neumayer--Stat	16.45	158	⇑P		P	21 57 13.3	+4.3
	comp=Z,28nm,0.8s							
VNA3	Neumayer Olymp	16.65	161	⇑P		P	21 57 15.8	+4.5
	comp=Z,27nm,1.0s							
VNA2	Neumayer--Watz	16.85	158	⇑P		P	21 57 16.0	+2.5
	comp=Z,15nm,0.6s,baz=323,slow=12							
SNAA	Sanae	18.39	156	P		P	21 57 30.1	-0.4
SNAA	Sanae	18.39	156	⇑P		P	21 57 30.1	-0.4
	comp=Z,145nm,0.5s							
SNAA	Sanae	18.39	156	P		P	21 57 30.2	-0.4
	comp=Z,5.4nm,0.5s,baz=288,slow=10,SNR=15							
SNAA				LR		LR	22 02 56.1	
	comp=Z,544nm,20.1s,baz=6.0,slow=31							
EFI	East Falkland	18.86	271	P		P	21 57 36.4	+0.7
PMSA	Palmer Station	19.88	230	P		Pn	21 57 48.7	-0.1
PMSA				IAmb		IAmb	21 57 57.9	
	comp=Z,110nm,0.8s							
PMSA	Palmer Station	19.88	230	eP		Pn	21 57 51.1	+2.3
PMSA	Palmer Station	19.88	230	P		Pn	21 57 49.5	+0.7
	comp=Z,42nm,0.8s,baz=53,slow=6.3,SNR=15							
PMSA				LR		LR	22 04 35.3	
	comp=Z,582nm,18.4s,baz=80,slow=34							
TROLL	Troll, Antarti	19.89	153	⇑P		P	21 57 38.4	-8.7
	comp=Z,68nm,0.2s							
SMAI	San Martin Ant	21.70	221	P		P	21 58 08.0	+1.8
SMAI				IAmb		IAmb	21 58 29.8	
	comp=Z,64nm,1.1s							
BELA	Belgrano 2	21.81	184	P		P	21 58 06.7	-0.7
BELA				IAmb		IAmb	21 58 13.1	
	comp=Z,36nm,0.7s							
MG02	Cerro Sombrero	24.57	260	P		P	21 58 34.4	-0.3
GO10	Punta Arenas	25.41	258	P		P	21 58 43.3	+0.9
GO10				IAmb		IAmb	21 59 07.7	
	comp=Z,65nm,0.8s							
MG04	Isla Riesco	25.82	259	P		P	21 58 48.6	+2.5
MG04				IAmb		IAmb	21 59 07.3	
	comp=Z,47nm,0.9s							
GO09	Cerro Castillo	26.97	261	P		P	21 58 55.5	-1.0
GO09				IAmb		IAmb	21 59 16.5	
	comp=Z,29nm,0.8s							
GO08	Villa O'Higgin	28.54	266	P		P	21 59 11.7	+1.2
TRQA	Tornquist	29.64	293	P		P	21 59 19.8	-0.6
COYC	Coyhaique	29.96	272	P		P	21 59 22.3	-0.8
COYC				IAmb		IAmb	21 59 25.7	
	comp=Z,27nm,0.8s							
PLTB	Pedras Altas	30.85	311	P		P	21 59 31.5	+0.4
PLTB	Pedras Altas	30.85	311	eP		P	21 59 31.6	+0.4
AY01	Puyuhuapi	30.99	273	P		P	21 59 33.0	+0.9
AY01				IAmb		IAmb	21 59 36.2	
	comp=Z,53nm,1.1s							
LL02	Futaleuf	31.33	275	P		P	21 59 34.9	-0.3
CNLB	Canela	31.93	318	eP		P	21 59 41.5	+0.8
CPSB	Cacapava Do Su	31.97	313	eP		P	21 59 41.5	+0.5
PLCA	Paso Flores	32.27	280	P		P	21 59 43.5	-0.1
PLCA	Paso Flores	32.27	280	eP		P	21 59 44.0	+0.4
PLCA	Paso Flores	32.27	280	P		P	21 59 43.2	-0.4
	comp=Z,4.8nm,0.8s,baz=152,slow=9.0,SNR=9.0							
PLCA				PcP		PcP	22 02 30.1	-0.5
	comp=Z,1.7nm,0.7s,baz=120,slow=1.7,SNR=5.2							
PLCA				LR		LR	22 12 01.3	
	comp=Z,208nm,21.0s,baz=148,slow=35							
	comp=Z,4.8nm,0.8s							
PLCA	Paso Flores	32.27	280	P		P	21 59 43.6	0.0
PLCA				PcP		PcP	22 02 30.2	-0.3
RODS	Rosario do Sul	32.75	311	eP		P	21 59 48.9	+1.1
ALGR	Alto Alegre (B	33.23	315	eP		P	21 59 53.3	+1.2
GO06	Curarrehue	33.58	281	P		P	21 59 54.1	-1.0
GO06						PcP	22 02 32.6	-1.7
UNIS	Unistalda (Bra	33.82	312	eP		P	21 59 57.6	+0.5
QSPA	South Pole Qui	33.92	180	LR		LR	22 13 00.9	
	comp=Z,288nm,22.0s,baz=194,slow=35							
QSPA	South Pole Qui	33.92	180	P		P	21 59 58.3	+0.5
QSPA				PcP		PcP	22 02 34.3	-0.5
QSPA				ScP		ScP	22 06 13.8	-0.6
ITQB	Itaqui	33.95	309	P		P	22 00 00.6	+2.4
ITQB				IAmb		IAmb	22 00 04.8	
	comp=Z,12nm,0.8s							
ITQB	Itaqui	33.95	309	eP		P	21 59 58.6	+0.4
ITAB	Concordia	34.28	317	P		P	22 00 01.9	+0.8
ITAB	Concordia	34.28	317	eP		P	22 00 02.6	+1.4
CRSM	Crissiumal (Br	34.79	315	eP		P	22 00 06.0	+0.5
PET01	Itanhaem-SP	35.33	326	eP		P	22 00 11.2	+1.6
PARB	Paraibuna	35.74	329	eP		P	22 00 15.3	+1.6
FRBT	Francisco Belt	35.77	317	eP		P	22 00 14.5	+0.5
SPB	Sao Paulo	36.03	327	P		P	22 00 18.0	+1.9
SPB	Sao Paulo	36.03	327	eP		P	22 00 18.3	+2.1
SPB	Sao Paulo	36.03	327	P		P	22 00 18.1	+1.9
VAO	Valinhos	36.45	328	eP		P	22 00 21.9	+2.1
PTGB	Pitanga	36.55	319	eP		P	22 00 21.0	+0.3
SCCA	San Cayetano,	36.64	308	eP		P	22 00 22.1	+0.8
BO02	Sierra Bellavi	36.72	287	P		P	22 00 22.1	0.0
BO02						PcP	22 02 43.6	+0.1
FRTB	Fartura	36.94	324	eP		P	22 00 25.8	+1.8
CPUP	Villa Florida	37.16	311	P		P	22 00 25.6	-0.2
CPUP	Villa Florida	37.16	311	eP		P	22 00 25.7	-0.2
CPUP	Villa Florida	37.16	311	P		P	22 00 25.4	-0.4
	comp=Z,6.5nm,0.8s,baz=151,slow=8.2,SNR=17							
CPUP				PcP		PcP	22 02 44.9	0.0
	comp=Z,2.4nm,0.5s,baz=137,slow=1.6,SNR=6.8							
CPUP				LR		LR	22 13 56.6	
	comp=Z,89nm,19.2s,baz=155,slow=33							
	comp=Z,6.5nm,0.8s							
CPUP	Villa Florida	37.16	311	P		P	22 00 25.3	-0.4
CPUP				PcP		PcP	22 02 44.8	0.0
GO05	Huala	37.17	286	P		P	22 00 23.9	-1.9
GO05				IAmb		IAmb	22 00 51.1	
	comp=Z,38nm,1.5s							
BO01	Tunca	37.19	287	P		P	22 00 24.4	-1.6
BO04	La Punta	37.24	288	P		P	22 00 26.3	-0.2
LDASE	Londrina, Braz	37.42	321	eP		P	22 00 29.1	+1.0
MT09	Talagante	37.61	288	P		P	22 00 28.3	-1.4
MT09				IAmb		IAmb	22 00 30.9	
	comp=Z,20nm,0.5s							
MT01	Popeta	37.68	288	P		P	22 00 29.3	-0.8
MT01				IAmb		IAmb	22 00 30.0	
	comp=Z,22nm,1.1s							
BSCB	Bom Sucesso	37.73	332	eP		P	22 00 31.8	+1.0
CFA	Coronel Fontan	37.88	293	LR		LR	22 19 19.0	
	comp=Z,80nm,18.0s,baz=96,slow=41							
PEL	Peldehue	37.94	289	P		P	22 00 30.5	-1.9
PEL	Peldehue	37.94	289	P		P	22 00 31.5	-0.9
MT02	Curacav	38.09	288	P		P	22 00 32.5	-1.1
ZON	Zonda	38.15	293	P		P	22 00 32.9	-1.3
ZON				IAmb		IAmb	22 00 35.7	
	comp=Z,19nm,0.5s							
VA03	San Esteban	38.16	289	IAmb		IAmb	22 00 53.3	
	comp=Z,16nm,0.8s							
ROC1	El Roble	38.24	289	P		P	22 00 34.6	-0.6
RIB01	Linhares ES	38.34	339	eP		P	22 00 37.1	+1.3
BB19B	Bebedouro	38.74	326	eP		P	22 00 39.8	+0.6
ESFA	Espinillo Form	38.86	311	eP		P	22 00 41.6	+1.5
SJMB	Sao Joao De Ma	39.10	338	eP		P	22 00 44.4	+2.2
PCMB	Pacaembu	39.12	322	eP		P	22 00 43.1	+0.8
CO02	Combarbal	39.62	290	P		P	22 00 46.0	-0.5
CO02				IAmb		IAmb	22 00 50.6	
	comp=Z,78nm,1.5s							
MAW	Mawson	39.79	143	P		P	22 00 47.4	0.0
	comp=Z,2.3nm,0.4s,baz=211,slow=7.1,SNR=6.3							
MAW				LR		LR	22 14 44.8	
	comp=Z,203nm,21.9s,baz=248,slow=32							
	comp=Z,2.3nm,0.4s							
DIAM	Diamantina, MG	40.05	335	eP		P	22 00 51.4	+1.2
CO01	Juntas del Tor	40.13	293	P		P	22 00 51.3	+0.4
CO01				IAmb		IAmb	22 00 54.1	
	comp=Z,18nm,0.6s							
GO04	Tololo Observa	40.34	292	P		P	22 00 52.3	-0.3
GO04				IAmb		IAmb	22 01 05.5	
	comp=Z,49nm,1.4s							
ANTJ	Antonio Joao (	40.49	316	eP		P	22 00 53.1	-0.6
SUR	Sutherland	40.50	74	LR		LR	22 13 43.8	
	comp=Z,432nm,20.4s,baz=245,slow=30							
PMNB	Patos De Minas	40.53	331	eP		P	22 00 55.1	+1.0
ITRB	Iturama	40.59	325	eP		P	22 00 55.5	+1.0
GUA01	Guaratinga, BA	40.89	341	eP		P	22 00 57.9	+0.9
RPRD	Ribas do Rio P	41.02	320	eP		P	22 00 58.5	+0.5
AC05	El Transito	41.14	293	P		P	22 00 58.6	-0.6
AC05				IAmb		IAmb	22 01 01.1	
	comp=Z,34nm,0.9s							
MURT	Porto Murtinho	41.44	314	eP		P	22 01 00.5	-0.9
IPMB	Ipameri, GO	41.55	328	eP		P	22 01 03.5	+1.0
AQDB	Aquidauana	41.76	317	P		P	22 01 03.6	-0.5
AQDB	Aquidauana	41.76	317	eP		P	22 01 03.8	-0.3
AC04	Llanos de Chal	42.06	293	P		P	22 01 06.3	-0.2
GO03	Copiap	42.13	295	IAmb		IAmb	22 01 08.8	
	comp=Z,19nm,0.8s							
BDQN	Bodoquena, MS	42.19	316	eP		P	22 01 06.9	-0.7
AC06	Mina Casimiro	42.39	295	P		P	22 01 08.2	-1.0
AC06				IAmb		IAmb	22 01 10.5	
	comp=Z,21nm,0.8s							
RVDE	Rio Verde (Bra	42.80	319	eP		P	22 01 12.7	+0.1
JANB	Januaria	43.32	335	eP		P	22 01 17.3	+0.5
BDFB	Brasilia	43.72	330	P		P	22 01 21.4	+1.3
BDFB	Brasilia	43.72	330	P		P	22 01 21.4	+1.3
	comp=Z,8.0nm,0.6s,baz=146,slow=7.3,SNR=16							
BDFB				LR		LR	22 16 31.7	
	comp=Z,141nm,21.1s,baz=141,slow=32							
	comp=Z,8.0nm,0.6s							
PP1B	Ponte de Pedra	44.09	320	eP		P	22 01 23.4	+0.5
PB14	IPOC Station P	44.67	297	IAmb		IAmb	22 01 29.0	
	comp=Z,16nm,0.7s							
BBRB	Robore, Bolivi	45.36	313	eP		P	22 01 32.6	-0.4
LVC	Limon Verde	45.63	300	P		P	22 01 36.2	+0.6
LVC				IAmb		IAmb	22 01 40.0	
	comp=Z,35nm,0.8s							
LVC	Limon Verde	45.63	300	eP		P	22 01 36.0	+0.4
LVC	Limon Verde	45.63	300	P		P	22 01 35.9	+0.3
LVC				PcP		PcP	22 03 13.7	+0.7
SBA	Scott Base	45.81	184	P		P	22 01 38.7	+2.7
SBA	Scott Base	45.81	184	P		P	22 01 38.5	+2.5
BOSA	Boshof	45.83	75	P		P	22 01 38.6	+1.8
	comp=Z,1.5nm,0.6s,baz=224,slow=6.5,SNR=3.6							
	comp=Z,1.5nm,0.6s							
SALV	Santo Antonio	45.95	320	eP		P	22 01 38.2	+0.5
SDBA	SAO DESIDERO	46.01	335	eP		P	22 01 38.9	+0.7
PB05	IPOC Station P	46.06	298	IAmb		IAmb	22 01 41.1	
	comp=Z,25nm,0.8s							
VNDA	Vanda	46.30	183	P		P	22 01 40.6	+0.8
VNDA				IAmb		IAmb	22 01 43.3	
	comp=Z,16nm,0.7s							
VNDA	Vanda	46.30	183	P		P	22 01 40.8	+1.0
	comp=Z,14nm,0.6s,baz=186,slow=7.1,SNR=57							
VNDA				LR		LR	22 21 52.3	
	comp=Z,66nm,18.0s,baz=154,slow=37							
	comp=Z,14nm,0.6s							
VNDA	Vanda	46.30	183	P		P	22 01 40.4	+0.6
VNDA				pP		pP	22 01 54.3	+0.2
VNDA				PcP		PcP	22 03 16.4	+2.3
VNDA				ScP		ScP	22 07 03.0	+0.8
PB04	IPOC Station P	46.47	299	P		P	22 01 41.7	-0.3
PB04				IAmb		IAmb	22 01 44.5	
	comp=Z,50nm,1.2s							
PB09	IPOC Station P	46.49	300	IAmb		IAmb	22 01 46.7	
	comp=Z,19nm,0.6s							
BBSD	Serra de San D	46.67	313	eP		P	22 01 43.0	-0.4
PB07	IPOC Station P	46.86	299	IAmb		IAmb	22 01 47.8	
	comp=Z,25nm,0.6s							
PB02	IPOC Station P	47.21	300	IAmb		IAmb	22 01 51.2	
	comp=Z,21nm,0.7s							
H04S2	CROZET ISLANDS	47.23	114	T		T	22 53 55.4	
	baz=230,slow=76,SNR=2.9							
H04S3	CROZET ISLANDS	47.24	114	T		T	22 53 52.7	
	baz=230,slow=76,SNR=3.0							
H04S1	CROZET ISLANDS	47.25	114	T		T	22 53 47.0	
	baz=230,slow=76,SNR=2.9							
CCD	Concordia, Ant	47.36	170	P		P	22 01 48.3	-0.3
CCD				PcP		PcP	22 03 20.1	+1.7
CCD				ScP		ScP	22 07 07.5	+0.3
PTLB	Pontes e Lacer	47.65	316	eP		P	22 01 51.0	0.0
PATCX	Punta Patache	47.76	300	P		P	22 01 51.5	-0.4
PATCX				IAmb		IAmb	22 01 54.4	
	comp=Z,25nm,0.7s							
SIV	San Ignacio	47.93	313	LR		LR	22 21 33.7	
	comp=Z,39nm,21.6s,baz=114,slow=35							
SNDB	Serra Nova Dou	48.16	327	eP		P	22 01 56.1	+1.2
TA02	Huaiquique	48.22	300	IAmb		IAmb	22 01 58.9	
	comp=Z,20nm,0.8s							
PB11	IPOC Station P	48.42	301	P		P	22 01 56.7	-0.5
PB11				IAmb		IAmb	22 01 59.4	
	comp=Z,22nm,0.7s							
LBTB	Lobatse	48.88	73	P		P	22 01 60.0	-0.6
LBTB				pP		pP	22 02 13.4	-1.0
LBTB				sP		pwP	22 02 19.9	+1.0
H10N1	ASCENSION HYDR	49.33	16	T		T	22 55 54.2	
	baz=188,slow=75,SNR=153							
H10N3	ASCENSION HYDR	49.33	16	T		T	22 55 54.7	
	baz=188,slow=75,SNR=415							
H10N2	ASCENSION HYDR	49.34	16	T		T	22 55 55.5	
	baz=188,slow=75,SNR=276							
PB16	IPOC Station P	49.58	302	P		P	22 02 06.3	-0.2
PB16				IAmb		IAmb	22 02 09.8	
	comp=Z,9.1nm,0.6s							
TSUM	Tsumeb	49.63	60	LR		LR	22 18 55.0	
	comp=Z,152nm,20.9s,baz=160,slow=31							
PB12	IPOC Station P	49.73	301	P		P	22 02 05.6	-1.5
PB12				IAmb		IAmb	22 02 08.0	
	comp=Z,10nm,0.6s							
PB18	Visviri	50.21	303	P		P	22 02 10.8	-0.4
PDRB	Porto dos Gac	50.28	321	eP		P	22 02 11.1	-0.1
VILB	Vilhena	50.34	316	P		P	22 02 11.9	-0.7
VILB	Vilhena	50.34	316	eP		P	22 02 11.5	-0.1
CLDB	Colider	50.65	322	eP		P	22 02 14.2	+0.3
PRPB	Parauapebas	53.25	331	eP		P	22 02 34.4	+1.2
NPGB	Novo Progresso	54.08	324	eP		P	22 02 39.4	+0.1
SAML	Samuel	55.16	314	P		P	22 02 46.5	-0.7
SAML				IAmb		IAmb	22 02 47.9	
	comp=Z,19nm,0.9s							
SAML	Samuel	55.16	314	eP		P	22 02 46.8	-0.3
SAML	Samuel	55.16	314	P		P	22 02 46.8	-0.3
SAML				PcP		PcP	22 03 47.4	-0.3
ETMB	Extrema	55.62	311	P		P	22 02 49.9	-0.6
ETMB				IAmb		IAmb	22 02 51.1	
	comp=Z,14nm,0.9s							
ETMB	Extrema	55.62	311	eP		P	22 02 50.1	-0.3
TMAB	Tom-Au,PA,Br	56.46	334	eP		P	22 02 58.1	+1.7
ITTB	Itaituba	56.71	325	eP		P	22 02 58.3	0.0
DRV	Dumont d'Urvil	56.92	174	P		P	22 02 58.7	-0.3
LSZ	Lusaka	58.27	68	P		P	22 03 08.7	-0.7
LSZ	Lusaka	58.27	68	LR		LR	22 26 57.4	
	comp=Z,100nm,18.0s,baz=170,slow=35							
LSZ	Lusaka	58.27	68	P		P	22 03 08.6	-0.8
LSZ				pP		pP	22 03 21.9	-1.7
MALB	Monte Alegre	58.63	327	eP		P	22 03 12.7	+1.1
MCPB	Macapa, AP	59.41	330	eP		P	22 03 18.3	+1.2
MACA	Manacapuru-AM	59.53	320	P		P	22 03 16.6	-1.3
CZSB	Cruzeiro do Su	60.33	305	P		P	22 03 22.5	-1.0
CZSB				IAmb		IAmb	22 03 27.5	
	comp=Z,26nm,1.0s							
CZSB	Cruzeiro do Su	60.33	305	eP		P	22 03 23.5	+0.1
ATAH	Atahualpa	63.53	000	P		P	22 03 46.6	+1.2
	comp=Z,8.5nm,0.6s,baz=185,slow=1.8,SNR=6.9							
ATAH				LR		LR	22 33 58.1	
	comp=Z,30nm,19.7s,baz=130,slow=38							
	comp=Z,8.5nm,0.6s							
RPN	Rapa Nui	63.83	260	LR		LR	22 27 27.3	
	comp=Z,73nm,19.6s,baz=353,slow=32							
BOAV	Boa Vista	64.64	322	P		P	22 03 51.2	-0.9
BOAV	Boa Vista	64.64	322	eP		P	22 03 51.6	-0.5
MPGF	Montagnes des	64.80	331	P		P	22 03 53.2	0.0
LIC	Lamto	64.86	24⇑	iP		P	22 03 54.0	+0.5
	comp=Z,19nm,0.7s							
KIC	Kosan Boka	65.06	24⇑	eP		P	22 03 54.5	-0.3
	comp=Z,9.1nm,0.7s							
TIC	Toumodi	65.27	24	eP		P	22 03 56.6	+0.4
	comp=Z,8.1nm,0.6s							
DBIC	Dimbokro	65.33	24	P		P	22 03 56.5	-0.1
	comp=Z,3.9nm,0.5s,baz=173,slow=5.6,SNR=12							
DBIC				LR		LR	22 25 28.0	
	comp=Z,200nm,21.0s,baz=178,slow=30							
	comp=Z,3.9nm,0.5s							
DBIC	Dimbokro	65.33	24	P		P	22 03 56.5	-0.1
OPO	Ambohidratompo	65.88	87	LR		LR	22 26 25.8	
	comp=Z,138nm,22.0s,baz=326,slow=30							
BOSC	San Juan Bosco	67.05	302	P		P	22 04 07.4	-0.4
ARNL	Arenillas	67.45	300	P		P	22 04 10.7	+0.5
COHC	Cochancay	68.00	301	P		P	22 04 14.3	+0.6
CHSH	Refugio Sur-Vo	68.67	302	P		P	22 04 19.0	+0.5
CHSH				IAmb		IAmb	22 04 22.6	
	comp=Z,32nm,0.9s							
OTAV	Otavalo	70.00	303	P		P	22 04 27.6	+1.0
OTAV				IAmb		IAmb	22 04 30.5	
	comp=Z,36nm,1.2s							
OTAV	Otavalo	70.00	303	eP		P	22 04 28.0	+1.4
OTAV	Otavalo	70.00	303	P		P	22 04 27.8	+1.2
PAC1	Pacto, Paraso	70.18	303	eP		P	22 04 27.6	+0.2
GARC	Garzon, Huila	70.38	307	eP		P	22 04 28.2	-0.4
BBAC	Balboa, Cauca	71.02	305	eP		P	22 04 32.2	-0.3
POPC	Popayan, Colom	71.22	306	eP		P	22 04 33.9	+0.1
PRAC	Prado	71.47	308	eP		P	22 04 34.7	-0.4
ORTC	Ortega, Tolima	71.80	308	eP		P	22 04 36.5	-0.5
ROSC	El Rosal	72.23	309	P		P	22 04 40.1	+0.1
	comp=Z,11nm,0.5s,baz=96,slow=19,SNR=4.3							
ROSC				LR		LR	22 35 34.9	
	comp=Z,55nm,22.0s,baz=38,slow=35							
	comp=Z,11nm,0.5s							
GR1C	Gorgona, Isla	72.30	305	eP		P	22 04 40.5	+0.5
YOTC	Yotoco, Valle	72.35	307	eP		P	22 04 39.3	-1.1
GUY2C	Guyana, Caldas	73.03	309	eP		P	22 04 43.3	-1.5
TOA0	Torodi Ar. Sit	73.19	29	P		P	22 04 45.2	+0.1
TOA0				IAmb		IAmb	22 04 46.0	
	comp=Z,8.4nm,0.6s							
TORD	Torodi Ar. Bea	73.19	29	P		P	22 04 45.1	0.0
TORD	Torodi Ar. Bea	73.19	29	P		P	22 04 45.1	0.0
	comp=Z,7.7nm,0.6s,baz=201,slow=6.3,SNR=51							
TORD				LR		LR	22 30 35.4	
	comp=Z,64nm,19.5s,baz=184,slow=30							
	comp=Z,7.7nm,0.6s		

MNK				*i* PPP	PPP	22 15 57.1			
MNK				*i* SKS	**SKSdf**	**22 19 12.2 +4.1**			
MNK				*i* PS	**PS**	**22 23 14.2 +3.3**			
MNK				*i* SS	**SS**	**22 29 44.6 +4.7**			
MNK				*i* SSS	SSS	22 34 09.4			
MNK				*i* LR	LR	23 02 23.1			
MNK				*i* LRM	MLR	23 03 20.5			
	comp=E,172nm,21.3s								
MNK				*i* LRM	MLR	23 03 27.6			
	comp=N,394nm,18.7s								
MNK				*i* LRM	MLR	23 03 39.2			
	comp=Z,80nm,15.4s								
NACGM	**Naroch**	**119.15**	**32**	*e*PKP	**PKiKP**	**22 12 02.1 +0.4**			
	comp=Z,14nm,0.8s,baz=211								
HFS	**Hagfors**	**120.47**	**22**	PKP	**PKPdf**	**22 12 02.5 -1.5**			
	comp=Z,3.0nm,0.9s,baz=134,slow=4.3,SNR=4.4								
ULM	**Lac du Bonnet**	**120.61**	**316**	PKP	**PKPdf**	**22 12 03.3 -1.3**			
	comp=Z,3.0nm,0.6s,baz=99,slow=0.8,SNR=10								
PDAR	**Pinedale Array**	**120.68**	**302**	PKP	**PKPdf**	**22 12 04.1 -1.3**			
	comp=Z,0.8nm,0.5s,baz=133,slow=5.5,SNR=16								
NOA	**NORSAR Array B**	**120.79**	**20**	PKP	**PKPdf**	**22 12 03.9 -0.8**			
	comp=Z,0.8nm,0.9s,baz=157,slow=3.5,SNR=4.4								
NVAR	**Mina Array Bea**	**121.71**	**293**	PKP	**PKPdf**	**22 12 07.5 +0.1**			
	comp=Z,0.7nm,0.6s,baz=142,slow=3.6,SNR=7.3								
MOOW	**Moose Ponds**	**121.99**	**302**		**PKPdf**	**22 12 07.8 -0.1**			
PYUN	**Piuthan**	**123.76**	**89**	*e*P	**PKPdf**	**22 12 09.5 -2.2**			
DANN	**Dangsing**	**124.38**	**90**	*e*P	**PKPdf**	**22 12 09.4 -3.6**			
FINES	**FINESS Array B**	**124.53**	**28**	PKP	**PKPdf**	**22 12 11.0 -0.7**			
	comp=Z,4.4nm,0.5s,baz=153,slow=1.4,SNR=50								
CMAR	**Chiang Mai Arr**	**124.76**	**110**	PKP	**PKPdf**	**22 12 13.1 -0.6**			
	comp=Z,1.2nm,0.6s,baz=232,slow=4.1,SNR=6.8								
RAMN	**Ramite**	**124.88**	**93**	*e*P	**PKPdf**	**22 12 13.1 -0.8**			
	comp=Z,6.1nm,0.4s								
JIRN	**Jiri**	**125.20**	**92**	*e*P	**PKPdf**	**22 12 12.1 -2.6**			
	comp=Z,5.8nm,0.4s								
PLID	**Pearl Lake**	**125.50**	**300**		**PKPdf**	**22 12 14.7 +0.2**			
G08A	**Pilot Rock**	**127.10**	**298**		**PKiKP**	**22 12 18.2 +0.3**			
AKTO	**Aktyubinsk**	**127.32**	**53**	PKP	**PKPdf**	**22 12 16.8 -0.7**			
	comp=Z,0.8nm,0.5s,baz=107,slow=5.6,SNR=3.6								
ABKAR	**Akbulak array**	**127.35**	**55**		**PKPdf**	**22 12 17.2 -0.3**			
KKAR	**Karatay Array**	**128.12**	**67**		**PKPdf**	**22 12 18.5 -0.8**			
KSH	**Kashi**	**128.43**	**74**	PKP	**PKPdf**	**22 12 19.9 -0.3**			
AAK	**Ala-Archa**	**129.86**	**71**		**PKPdf**	**22 12 22.9 +0.1**			
TNCH	**TengChong**	**129.90**	**105**	*e*PKP	**PKPdf**	**22 12 21.8 -1.7**			
ARCES	**ARCESS Array B**	**131.12**	**22**	PKP	**PKPdf**	**22 12 23.8 -0.4**			
	comp=Z,2.3nm,0.6s,baz=197,slow=1.6,SNR=22								
ARCES				PP	**PP**	**22 14 40.8 -2.4**			
	comp=Z,3.6nm,1.0s,baz=231,slow=3.9,SNR=3.7								
PZH	**PanZhiHua**	**132.81**	**107**	PKP	**PKPdf**	**22 12 29.0 +0.1**			
BVAR	**Borovoye Array**	**134.75**	**58**	PKP	**PKPdf**	**22 12 31.5 0.0**			
	comp=Z,2.1nm,0.5s,baz=234,slow=2.1,SNR=13								
YKA	**Yellowknife Ar**	**136.53**	**318**	PKP	**PKPdf**	**22 12 33.5 -1.0**			
	comp=Z,2.3nm,0.6s,baz=132,slow=1.3,SNR=25								
YKA				PP	**PP**	**22 15 14.7 -3.0**			
	comp=Z,1.2nm,0.9s,baz=120,slow=6.5,SNR=5.9								
YKA				SKPbc	**SKPbc**	**22 16 00.3 -1.4**			
	comp=Z,0.9nm,0.7s,baz=127,slow=3.2,SNR=8.8								
MKAR	**Makanchi Array**	**136.77**	**71**	PKP	**PKPdf**	**22 12 35.3 -0.2**			
	comp=Z,0.5nm,0.6s,baz=180,slow=1.1,SNR=4.5								
SPITS	**Spitsbergen Ar**	**136.80**	**12**	PKP	**PKPdf**	**22 12 34.2 -0.4**			
	comp=Z,1.3nm,0.5s,baz=116,slow=3.8,SNR=4.2								
KURBB	**Kurchatov Arra**	**137.22**	**65**	PKP	**PKPdf**	**22 12 36.7 +0.6**			
	comp=Z,0.5nm,0.6s,baz=237,slow=2.3,SNR=5.0								
WMQ	**Urumqi**	**137.75**	**78**	*e*PKP	**PKiKP**	**22 12 38.6 -0.8**			
GTA	**Gaotai**	**141.49**	**93**	*e*PKP	**PKPdf**	**22 12 44.8 +0.3**			
ZALV	**Zalesovo Beam**	**142.29**	**64**		**PKPdf**	**22 12 46.1 +0.9**			
ZALV	**Zalesovo Beam**	**142.29**	**64**	PKhKP	PKPpre	22 12 40.4			
	comp=Z,0.9nm,0.4s,baz=251,slow=4.5,SNR=4.8								
LYN	**LuoYang**	**144.81**	**111**	⇓PKP	**PKPab**	**22 12 49.3 -0.1**			
JOW	**Kunigami**	**145.50**	**138**	PKPbc	**PKPdf**	**22 12 51.0 -0.8**			
	comp=Z,9.6nm,0.8s,baz=286,slow=13,SNR=2.1								
NJ2	**Nanjing**	**146.00**	**121**	*e*PKPbc	**PKPdf**	**22 12 52.6 +0.2**			
DAWY	**Dawson**	**147.15**	**312**		**PKPbc**	**22 12 55.4 -0.4**			
HNS	**HongShan**	**148.15**	**113**	⇑PKPbc	**PKPbc**	**22 12 56.8 -0.1**			
TIA	**Tai'an**	**148.49**	**114**	PKPbc	**PKPbc**	**22 12 59.6 -0.5**			
HHC	**Hu-ho-hao-te**	**148.97**	**102**	*e*PKPbc	**PKPdf**	**22 12 56.8 -0.5**			
SCRK	**Sand Creek**	**149.05**	**310**		**PKPbc**	**22 13 01.1 +0.2**			
ILAR	**Eielson Array**	**150.47**	**311**	PKPbc	**PKPbc**	**22 13 03.8 -0.4**			
	comp=Z,9.7nm,0.7s,baz=141,slow=2.7,SNR=146								
SONM	**Songino Array**	**150.52**	**87**	PKPbc	**PKPbc**	**22 13 04.3 -0.6**			
	comp=Z,6.8nm,0.6s,baz=223,slow=3.3,SNR=50								
COLA	**College**	**150.89**	**311**		**PKPbc**	**22 13 04.7 -0.4**			
ULN	**Ulaanbaatar**	**150.91**	**87**		**PKPab**	**22 13 10.3 -3.2**			
JNU	**Nakatsue**	**152.13**	**137**	PKPbc	**PKPbc**	**22 13 08.2 -0.8**			
	comp=Z,9.1nm,0.9s,baz=260,slow=0.8,SNR=4.3								
B21K	**Ikpikpuk River**	**153.84**	**321**		**PKiKP**	**22 13 12.1 +0.5**			
MJAR	**Matsushiro Arr**	**157.75**	**147**	PKPab	**PKPab**	**22 13 40.9 -1.8**			
	comp=Z,1.5nm,0.6s,baz=193,slow=4.1,SNR=1.8								
USRK	**Ussuriysk Ar.**	**161.89**	**123**	PKPab	**PKPab**	**22 13 59.5 -1.0**			
	comp=Z,1.3nm,0.5s,baz=232,slow=4.7,SNR=2.4								

NOU ***15*** *21:55:09.5, 38.87S × 175.86E, h119km, MLv3.5/11, North Island, New Zealand*
WEL ***15*** *21:55:11.7 ± 0.4, 39.3S × 17.6E ± , h95km ± 4km, M3.0/71, ML3.0/52, MLv3.0/71, Error ellipse: s-maj=0.0km s-min=0.0km az=123.8, confirmed*
ISC 15 21:55:08.6 ±1.5, **38.81S** ±0.04 × **175.80E** ±0.04, **h127km** ±7km, **n145,** σ1§**05**/156, **North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATZ	**Rangitukua**	**0.06**	**202**	P	**Pn**	**21 55 26.1**	**+0.1**
WATZ	**Wairara**	**0.12**	**333**	P	**Pn**	**21 55 26.3**	**+0.3**
RITZ	**Rihia Road**	**0.17**	**165**	P	**Pn**	**21 55 26.7**	**+0.6**
KATZ	**Kakaramea**	**0.18**	**207**	P	**Pn**	**21 55 26.5**	**+0.2**
HATZ	**Hinemaiaia**	**0.24**	**109**	P	**Pn**	**21 55 26.4**	**+0.1**
HATZ				S	**Sn**	**21 55 38.0**	**-1.5**
NTVZ	**North Tongarir**	**0.30**	**199**	P	**Pn**	**21 55 27.0**	**+0.5**
NTVZ				S	**Sn**	**21 55 40.1**	**-0.1**
KRVZ	**Karewarewa**	**0.31**	**204**	P	**Pn**	**21 55 26.9**	**+0.3**
TMVZ	**Te Maari**	**0.31**	**194**	P	**Pn**	**21 55 27.1**	**+0.5**
TMVZ				S	**Sn**	**21 55 39.5**	**-0.7**
KUTZ	**Kaahu Road**	**0.32**	**3**	P	**Pn**	**21 55 26.8**	**+0.3**
ETVZ	**East Tongariro**	**0.33**	**192**	P	**Pn**	**21 55 27.3**	**+0.6**
ETVZ				S	**Sn**	**21 55 39.7**	**-0.7**
WTVZ	**West Tongariro**	**0.34**	**208**	P	**Pn**	**21 55 27.2**	**+0.5**
NNVZ	**North Ngauruho**	**0.35**	**204**	P	**Pn**	**21 55 27.2**	**+0.4**
OTVZ	**Oturere**	**0.37**	**197**	P	**Pn**	**21 55 27.3**	**+0.5**
TWVZ	**Taurewa**	**0.38**	**227**	P	**Pn**	**21 55 27.4**	**+0.6**
TWVZ				S	**Sn**	**21 55 40.0**	**-0.7**
SNVZ	**South Ngauruho**	**0.39**	**198**	P	**Pn**	**21 55 27.5**	**+0.5**
SNVZ				S	**Sn**	**21 55 41.0**	**+0.1**
NGZ	**Ngauruhoe**	**0.40**	**203**	P	**Pn**	**21 55 27.5**	**+0.5**
WPRZ	**Whakapapatarin**	**0.41**	**44**	P	**Pn**	**21 55 27.0**	**+0.1**
COVZ	**Chateau Observ**	**0.44**	**207**	P	**Pn**	**21 55 27.8**	**+0.7**
TUVZ	**Tukino**	**0.47**	**194**	P	**Pn**	**21 55 28.1**	**+0.8**
TUVZ				S	**Sn**	**21 55 41.6**	**0.0**
FWVZ	**Far West T-bar**	**0.48**	**203**	P	**Pn**	**21 55 28.0**	**+0.5**
MRHZ	**Matea Rd**	**0.48**	**93**	P	**Pn**	**21 55 27.4**	**+0.1**
MRHZ				S	**Sn**	**21 55 39.6**	**-1.8**
MAVZ	**Matarangi**	**0.49**	**202**	P	**Pn**	**21 55 28.2**	**+0.6**
ALRZ	**Allen Road**	**0.49**	**60**	P	**Pn**	**21 55 27.4**	**+0.1**
WHVZ	**Whangaehu Hut**	**0.50**	**199**	P	**Pn**	**21 55 28.2**	**+0.6**
GRRZ	**Galatos Road**	**0.52**	**28**	P	**Pn**	**21 55 27.8**	**+0.3**
TLZ	**Tolley Road**	**0.52**	**337**	P	**Pn**	**21 55 27.9**	**+0.4**
TLZ				S	**Sn**	**21 55 40.8**	**-0.9**
TRVZ	**Turoa**	**0.53**	**202**	P	**Pn**	**21 55 28.5**	**+0.7**
WNVZ	**Wahianoa**	**0.54**	**197**	P	**Pn**	**21 55 28.6**	**+0.8**
PRRZ	**Plateau Road**	**0.56**	**56**	P	**Pn**	**21 55 27.7**	**0.0**
HRRZ	**Handcock Road**	**0.57**	**42**	P	**Pn**	**21 55 28.1**	**+0.3**
PKVZ	**Pokaka**	**0.59**	**216**	P	**Pn**	**21 55 28.9**	**+0.9**
PKVZ				S	**Sn**	**21 55 42.7**	**0.0**
MOVZ	**Moawhango**	**0.59**	**184**	P	**Pn**	**21 55 28.7**	**+0.7**
MOVZ				S	**Sn**	**21 55 41.6**	**-1.2**
HSRZ	**Hossack Road**	**0.61**	**35**	P	**Pn**	**21 55 28.4**	**+0.3**
MTVZ	**Mangateitei**	**0.63**	**204**	P	**Pn**	**21 55 29.2**	**+0.9**
BKZ	**Black Stump Fm**	**0.65**	**123**	P	**Pn**	**21 55 28.7**	**+0.4**
BKZ	**Black Stump Fm**	**0.65**	**123**	P	**Pn**	**21 55 28.9**	**+0.6**
UTU	**Utuhina**	**0.70**	**26**	P	**Pn**	**21 55 29.3**	**+0.5**
BHHZ	**Black Hill Sta**	**0.71**	**163**	P	**Pn**	**21 55 29.5**	**+0.7**
HLRZ	**Highlands Stat**	**0.71**	**38**	P	**Pn**	**21 55 29.8**	**+1.0**
NGRZ	**Ngongotaha**	**0.77**	**23**	P	**Pn**	**21 55 29.7**	**+0.4**
KWHZ	**Kawekа Forest**	**0.78**	**142**	P	**Pn**	**21 55 30.3**	**+0.9**
HIZ	**Hauiti**	**0.80**	**292**	P	**Pn**	**21 55 30.1**	**+0.7**
HIZ	**Hauiti**	**0.80**	**292**	P	**Pn**	**21 55 30.2**	**+0.8**
TARZ	**Mount Tarawera**	**0.80**	**44**	P	**Pn**	**21 55 29.9**	**+0.4**
MTHZ	**Maungataniwha**	**0.81**	**93**	P	**Pn**	**21 55 30.2**	**+0.6**
MUGZ	**Murupara**	**0.83**	**67**	P	**Pn**	**21 55 29.8**	**0.0**
NMHZ	**Naumai**	**0.83**	**110**	P	**Pn**	**21 55 31.8**	**+2.0**
OMRZ	**Omania**	**0.83**	**33**	P	**Pn**	**21 55 30.2**	**+0.3**
MKRZ	**Makatiti**	**0.85**	**38**	P	**Pn**	**21 55 30.9**	**+0.9**
KARZ	**Kaharoa**	**0.86**	**24**	P	**Pn**	**21 55 30.4**	**+0.4**
VRZ	**Vera Road**	**0.87**	**249**	P	**Pn**	**21 55 31.3**	**+1.2**
KRHZ	**Kereru**	**0.94**	**152**	P	**Pn**	**21 55 32.0**	**+1.3**
MCHZ	**McNeill Hill**	**0.94**	**132**	P	**Pn**	**21 55 32.7**	**+2.1**
RTZ	**Ruatahuna**	**0.94**	**78**	P	**Pn**	**21 55 31.1**	**+0.3**
KMRZ	**Kaimai**	**0.97**	**7**	P	**Pn**	**21 55 31.6**	**+0.5**
RAHZ	**Arahi**	**1.01**	**96**	P	**Pn**	**21 55 32.6**	**+1.2**
EDRZ	**Edgecumbe**	**1.02**	**47**	P	**Pn**	**21 55 31.2**	**-0.3**
ARHZ	**Aropaoanui**	**1.03**	**116**	P	**Pn**	**21 55 33.3**	**+1.8**
TOZ	**Tahuroa Road**	**1.10**	**348**	P	**Pn**	**21 55 33.1**	**+0.8**
OPRZ	**Ohinepanea**	**1.13**	**32**	P	**Pn**	**21 55 32.9**	**+0.4**
WAZ	**Wanganui**	**1.13**	**214**	P	**Pn**	**21 55 34.2**	**+1.6**
TGRZ	**Tauranga**	**1.14**	**19**	P	**Pn**	**21 55 33.2**	**+0.6**
PNHZ	**Pukenui**	**1.14**	**164**	P	**Pn**	**21 55 34.0**	**+1.3**
WHHZ	**Waihua**	**1.15**	**104**	P	**Pn**	**21 55 35.2**	**+2.5**
URZ	**Urewera**	**1.17**	**62**	P	**Pn**	**21 55 32.8**	**-0.1**
URZ	**Urewera**	**1.17**	**62**	P	**Pn**	**21 55 32.9**	**+0.1**
TSZ	**Takapari Road**	**1.25**	**174**	P	**Pn**	**21 55 35.1**	**+1.3**
LREZ	**Lake Rotokare**	**1.27**	**239**	P	**Pn**	**21 55 35.7**	**+1.9**
KAHZ	**Kahuranaki**	**1.29**	**140**	P	**Pn**	**21 55 35.9**	**+1.7**
CKHZ	**Cape Kidnapper**	**1.30**	**131**	P	**Pn**	**21 55 36.0**	**+1.7**
RAGZ	**Rawiri**	**1.30**	**76**	P	**Pn**	**21 55 35.5**	**+1.1**
WPHZ	**Waipukurau**	**1.35**	**159**	P	**Pn**	**21 55 36.2**	**+1.4**
PREZ	**Palmer Road**	**1.38**	**247**	P	**Pn**	**21 55 37.4**	**+2.2**
NEZ	**North Egmont**	**1.40**	**250**	P	**Pn**	**21 55 37.6**	**+2.1**
MWZ	**Matawai**	**1.44**	**71**	P	**Pn**	**21 55 36.5**	**+0.7**
OHWZ	**Ohakea**	**1.44**	**195**	P	**Pn**	**21 55 37.9**	**+2.1**
PKE	**Pukeiti**	**1.46**	**254**	P	**Pn**	**21 55 37.9**	**+1.8**
PXZ	**Pawanui**	**1.47**	**146**	P	**Pn**	**21 55 37.4**	**+1.3**
KHEZ	**Kahui Hut**	**1.47**	**250**	P	**Pn**	**21 55 38.2**	**+2.0**
KHEZ	**Kahui Hut**	**1.47**	**250**	P	**Pn**	**21 55 38.3**	**+2.1**
KNZ	**Kokohu**	**1.48**	**99**	P	**Pn**	**21 55 37.5**	**+1.3**
DVHZ	**Dannevirke**	**1.51**	**169**	P	**Pn**	**21 55 37.6**	**+1.0**
RIGZ	**Rimuhau**	**1.54**	**87**	P	**Pn**	**21 55 38.2**	**+1.3**
NBEZ	**Newall Road No**	**1.57**	**253**	P	**Pn**	**21 55 39.1**	**+1.8**
POWZ	**Post Office Ro**	**1.58**	**181**	P	**Pn**	**21 55 38.5**	**+1.1**
PRHZ	**Porangahau**	**1.59**	**156**	P	**Pn**	**21 55 38.9**	**+1.3**
PRGZ	**Paritu Road**	**1.63**	**95**	P	**Pn**	**21 55 39.2**	**+1.2**
TKGZ	**Te Karaka**	**1.65**	**78**	P	**Pn**	**21 55 39.6**	**+1.5**
MHGZ	**Mahia Peninsul**	**1.68**	**102**	P	**Pn**	**21 55 40.1**	**+1.6**
RUGZ	**Raukumara Rang**	**1.70**	**61**	P	**Pn**	**21 55 38.9**	**0.0**
ANWZ	**Angora Road**	**1.73**	**163**	P	**Pn**	**21 55 40.5**	**+1.4**
PRWZ	**Pori Road**	**1.75**	**176**	P	**Pn**	**21 55 40.5**	**+1.2**
MKAZ	**Moumakai**	**1.78**	**343**	P	**Pn**	**21 55 40.8**	**+1.1**
TWGZ	**Tauwhareparae**	**1.82**	**70**	P	**Pn**	**21 55 41.6**	**+1.2**
MRZ	**Mangatainoka R**	**1.85**	**185**	P	**Pn**	**21 55 41.4**	**+0.8**
HAZ	**Te Kaha**	**1.88**	**57**	P	**Pn**	**21 55 41.0**	**0.0**
BFZ	**Birch Farm**	**1.90**	**170**	P	**Pn**	**21 55 42.1**	**+0.9**
BFZ	**Birch Farm**	**1.90**	**170**	P	**Pn**	**21 55 42.1**	**+0.9**
TIWZ	**Tintock**	**1.96**	**178**	P	**Pn**	**21 55 42.9**	**+0.9**
AWAZ	**Awhitu Peninsu**	**1.97**	**332**	P	**Pn**	**21 55 43.3**	**+1.3**
ETAZ	**East Tamaki Re**	**1.98**	**339**	P	**Pn**	**21 55 43.3**	**+1.2**
PKGZ	**Pakihiroa**	**2.01**	**63**	P	**Pn**	**21 55 43.4**	**+0.8**
OGWZ	**Otaki Gorge**	**2.06**	**193**	P	**Pn**	**21 55 43.9**	**+0.8**
KUZ	**Kuaotunu**	**2.06**	**358**	P	**Pn**	**21 55 44.0**	**+0.8**
KUZ	**Kuaotunu**	**2.06**	**358**	P	**Pn**	**21 55 44.1**	**+0.8**
PUZ	**Puketiti**	**2.07**	**70**	P	**Pn**	**21 55 43.9**	**+0.7**
WIAZ	**Waiheke Island**	**2.08**	**345**	P	**Pn**	**21 55 44.5**	**+1.1**
HOWZ	**Holdsworth Sta**	**2.10**	**186**	P	**Pn**	**21 55 44.1**	**+0.5**
WTAZ	**Waiatarua**	**2.11**	**332**	P	**Pn**	**21 55 45.3**	**+1.5**
CPWZ	**Castlepoint**	**2.12**	**172**	P	**Pn**	**21 55 45.1**	**+1.3**
KIW	**Kapiti Island**	**2.16**	**198**	P	**Pn**	**21 55 44.8**	**+0.4**
MBAZ	**Motutapu North**	**2.16**	**340**	P	**Pn**	**21 55 45.5**	**+1.1**
WMGZ	**Waiomatatini S**	**2.28**	**65**	P	**Pn**	**21 55 46.4**	**+0.5**
TMWZ	**Te Maipa**	**2.29**	**178**	P	**Pn**	**21 55 46.5**	**+0.4**
MXZ	**Matakaoa Point**	**2.34**	**59**	P	**Pn**	**21 55 47.5**	**+0.9**
MXZ	**Matakaoa Point**	**2.34**	**59**	P	**Pn**	**21 55 47.4**	**+0.9**
ABAZ	**Army Bay**	**2.34**	**341**	P	**Pn**	**21 55 48.0**	**+1.3**
MTW	**Mount Morrison**	**2.35**	**185**	P	**Pn**	**21 55 47.0**	**+0.2**
CAW	**Cannon Point**	**2.36**	**194**	P	**Pn**	**21 55 47.2**	**+0.3**
DUWZ	**D'Urville Isla**	**2.46**	**215**	P	**Pn**	**21 55 48.3**	**+0.2**
PAWZ	**Paruwai Farm**	**2.58**	**186**	P	**Pn**	**21 55 49.7**	**0.0**
TRWZ	**Traveller**	**2.58**	**182**	P	**Pn**	**21 55 49.8**	**0.0**
WEL	**Wellington**	**2.59**	**197**	P	**Pn**	**21 55 49.9**	**0.0**
SNZO	**South Karori**	**2.63**	**198**	P	**Pn**	**21 55 50.3**	**0.0**
TCW	**Tory Channel**	**2.67**	**206**	P	**Pn**	**21 55 50.7**	**0.0**
BHW	**Baring Head**	**2.69**	**195**	P	**Pn**	**21 55 50.9**	**-0.2**
PLWZ	**Palliser**	**2.79**	**188**	P	**Pn**	**21 55 52.0**	**-0.3**
TUWZ	**Tuamarina**	**2.98**	**208**	P	**Pn**	**21 55 54.5**	**-0.2**
NNZ	**Nelson**	**3.04**	**217**	P	**Pn**	**21 55 55.3**	**-0.2**
WCZ	**Waipu Caves**	**3.09**	**338**	P	**Pn**	**21 55 58.0**	**+1.7**
TKNZ	**Takaka Hill**	**3.11**	**224**	P	**Pn**	**21 55 56.5**	**0.0**
QRZ	**Quartz Range**	**3.22**	**230**	P	**Pn**	**21 55 58.3**	**+0.3**
QRZ	**Quartz Range**	**3.22**	**230**	P	**Pn**	**21 55 58.2**	**+0.2**
BSWZ	**Blackbirch Sta**	**3.25**	**206**	P	**Pn**	**21 55 58.0**	**-0.4**
MRNZ	**Matariki Terra**	**3.48**	**221**	P	**Pn**	**21 56 01.1**	**-0.3**
THZ	**Tophouse**	**3.69**	**216**	P	**Pn**	**21 56 03.8**	**-0.3**
KHZ	**Kahutara**	**3.99**	**205**	P	**Pn**	**21 56 07.3**	**-0.8**
KHZ	**Kahutara**	**3.99**	**205**	P	**Pn**	**21 56 07.3**	**-0.8**
OUZ	**Omahuta**	**4.00**	**333**	P	**Pn**	**21 56 10.3**	**+2.1**
OUZ	**Omahuta**	**4.00**	**333**	P	**Pn**	**21 56 10.2**	**+2.0**
DSZ	**Denniston Nort**	**4.23**	**225**	P	**Pn**	**21 56 10.6**	**-0.8**
GVZ	**Greta Valley S**	**4.65**	**206**	P	**Pn**	**21 56 15.4**	**-1.5**
ARCZ	**Arundel**	**6.20**	**213**	P	**Pn**	**21 56 36.3**	**-1.3**
CTZ	**Chatham Island**	**7.54**	**133**	P	**Pn**	**21 56 57.4**	**+1.7**
MSZ	**Milford Sound**	**8.30**	**223**	P	**Pn**	**21 57 09.4**	**+3.5**

IDC ***15*** *22:01:08.8 ± 1.4, 30.55N × 57.29E, h0km, mb3.7/10, mbtmp3.7/15, ML3.6/4, MS2.9/4, Error ellipse: s-maj=31.3km s-min=16.9km az=162.0*
TEH ***15*** *22:01:10.1, 30.78N × 57.30E, h9km ± 56km, ML4.1*
DSN ***15*** *22:01:11.3 ± 1.5, 30.26N × 59.39E, h10km, ML3.4/6, Error ellipse: s-maj=66.7km s-min=14.3km az=117.0*
OMAN ***15*** *22:01:12.1 ± 1.2, 30.93N × 57.16E, h10km, mb4.8/11, ml3.1/2, ms2.4/2, Error ellipse: s-maj=42.2km s-min=9.9km az=100.0*
ISC 15 22:01:11.6 ±0.5, **30.80N** ±0.04 × **57.31E** ±0.04, **h10km, n93,** σ2§**05**/106, **mb3.6**/10, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.69**	**284**	Pg	**Pg**	**22 01 23.2**	**-1.7**
KHGB	**Koh Gabri**	**0.84**	**239**	Pg	**Pg**	**22 01 25.5**	**-2.2**
KHGB				Sg	**Sg**	**22 01 36.1**	**-2.5**
TVBK	**TV Kerman**	**0.94**	**210**	Pg	**Pg**	**22 01 28.4**	**-1.4**
CHMN	**Cheshme madani**	**0.96**	**168**	Pg	**Pg**	**22 01 27.4**	**-2.7**
NGRK	**Negar Kerman**	**1.26**	**204**	Pg	**Pn**	**22 01 34.0**	**-1.6**
NGRK				Sg	**Sb**	**22 01 50.5**	**-1.6**
IBAF	**Bafgh**	**1.69**	**298**	Pg	**Pn**	**22 01 41.9**	**+0.7**
KBAM	**BAM**	**1.94**	**149**	Pn	**Pn**	**22 01 44.3**	**-0.3**
BSRN	**Basiran**	**1.94**	**53**	Pn	**Pn**	**22 01 45.0**	**+0.3**
IKOO	**Kooshah**	**2.17**	**41**	Pn	**Pn**	**22 01 48.4**	**+0.4**
TPRV	**Parvadeh(Tabas**	**2.28**	**347**	Pn	**Pn**	**22 01 49.8**	**+0.4**
IMEH	**Mehriz**	**2.38**	**285**	Pn	**Pn**	**22 01 52.2**	**+1.3**
ITEG	**Tejag**	**2.42**	**30**	Pn	**Pn**	**22 01 51.6**	**+0.2**
NHDN	**Nehbandan**	**2.42**	**75**	Pn	**Pn**	**22 01 52.0**	**+0.6**
TKDS	**Kookchasht(Taba**	**2.81**	**357**	Pn	**Pn**	**22 01 57.3**	**+0.7**
ICHK	**Chekchek**	**2.86**	**301**	Pn	**Pn**	**22 01 58.2**	**+0.6**
KHNJ	**Kahnooj**	**2.87**	**173**	Pn	**Pn**	**22 01 58.7**	**+1.3**
AFRZ	**Afriz**	**2.99**	**29**	Pn	**Pn**	**22 01 59.6**	**+0.4**
TNSJ	**Nastanj**	**3.21**	**350**	Pn	**Pn**	**22 02 02.7**	**+0.6**
ISAD	**Sadrabad**	**3.29**	**291**	Pn	**Pn**	**22 02 04.5**	**+1.1**
ZHDN	**Zahedan**	**3.34**	**114**	Pn	**Pn**	**22 02 04.7**	**+0.6**
IBND	**Bandar-abas**	**3.41**	**192**	Pn	**Pn**	**22 02 06.4**	**+1.6**
SHRT	**Shahrakht**	**3.80**	**41**	Pn	**Pn**	**22 02 10.9**	**+0.7**
ANAR	**Anarak**	**3.86**	**309**	Pn	**Pn**	**22 02 11.6**	**+0.5**
LAR1	**LAR**	**4.04**	**220**	Pn	**Pn**	**22 02 15.0**	**+1.4**
SHI	**Shiraz**	**4.31**	**256**	Pn	**Pn**	**22 02 18.7**	**+1.3**
IRAM	**Ramesheh**	**4.33**	**285**	Pn	**Pn**	**22 02 19.3**	**+1.5**
QIR1	**Qir**	**4.38**	**239**	Pn	**Pn**	**22 02 19.4**	**+1.2**
IZEF	**Zefreh**	**4.72**	**297**	Pn	**Pn**	**22 02 24.2**	**+1.1**
SHME	**Shamm**	**4.85**	**193**	P	**Pn**	**22 02 27.3**	**+2.6**
SHME	**Shamm**	**4.85**	**193**	P	**Pn**	**22 02 27.5**	**+2.9**
SHME				S	**Sn**	**22 02 52.2**	**+4.4**
KLNJ	**Kolanjah**	**4.92**	**274**	Pn	**Pn**	**22 02 27.9**	**+2.0**
JASK	**Jask - Hormozg**	**4.94**	**174**	P	**Pn**	**22 02 28.3**	**+2.3**
	SNR=7.0						
BANOM	**Banah**	**4.94**	**191**	P	**Pn**	**22 02 28.2**	**+2.2**
BANOM	**Banah**	**4.94**	**191**	P	**Pn**	**22 02 28.9**	**+2.9**
BANOM				S	**Sn**	**22 03 29.4**	**+6.2**
TBJM	**Torbat-e-JAM**	**5.12**	**29**	Pn	**Pn**	**22 02 29.3**	**+0.8**
KRSH	**Karshahi**	**5.39**	**307**	Pn	**Pn**	**22 02 33.7**	**+1.4**
MASF	**Masafi**	**5.51**	**191**	P	**Pn**	**22 02 36.7**	**+3.0**
MASF				S	**Sn**	**22 03 42.9**	**+5.7**
MSFE	**Esma-Masafi**	**5.52**	**191**	P	**Pn**	**22 02 36.3**	**+2.4**
ISFB	**Sefidab**	**5.55**	**311**	Pn	**Pn**	**22 02 35.3**	**+1.0**
SBZV	**Sabzevar**	**5.58**	**3**	Pn	**Pn**	**22 02 35.4**	**+0.6**
IPAY	**Payeh**	**5.80**	**14**	Pn	**Pn**	**22 02 39.0**	**+1.0**
JHBN	**Jahan bin**	**5.85**	**286**	Pn	**Pn**	**22 02 40.0**	**+1.3**
UOSS	**Minazif**	**5.92**	**190**	P	**Pn**	**22 02 40.8**	**+1.5**
UOSS	**Minazif**	**5.92**	**190**	P	**Pn**	**22 02 41.9**	**+2.6**
UOSS				S	**Sn**	**22 03 51.2**	**+4.0**
NAZ	**Nazwa, Dubai**	**5.97**	**195**	P	**Pn**	**22 02 43.1**	**+3.0**
HATD	**Hatta, Dubai**	**6.05**	**190**	P	**Pn**	**22 02 43.0**	**+1.9**
HATD	**Hatta, Dubai**	**6.05**	**190**	P	**Pn**	**22 02 44.4**	**+3.3**
HATD				S	**Sn**	**22 03 54.8**	**+4.3**
ASHO	**Ashiyiah**	**6.20**	**191**	P	**Pn**	**22 02 42.9**	**-0.3**
ASHO				S	**Sn**	**22 03 57.7

	comp=Z,4.0nm,0.9s							
QSPA	**South Pole Qui**	**62.98**	**180**	P		**P**	**22 11 58.3**	**+1.0**
	comp=Z,3.2nm,0.8s,baz=253,slow=3.5,SNR=2.1							
	comp=Z,3.2nm,0.8s							
TRIS	**Tristan da Cun**	**65.42**	**239**	P		**P**	**22 12 12.8**	**-0.8**
TOO	**Toolangi**	**66.06**	**121**	P		**P**	**22 12 18.4**	**+0.6**
TOO				IAmb		IAmb	22 12 44.4	
	comp=Z,11nm,1.2s							
MCQ	**Macquarie Isla**	**69.96**	**142**	P		**P**	**22 12 43.0**	**+1.2**
LZH	**Lanzhou**	**72.29**	**31**	*e*PKP		**P**	**22 12 53.4**	**-2.9**
LZH				pPKP		pwP	22 13 05.3	+2.1
TPUB	**Ta-pu**	**72.76**	**52**	P		**P**	**22 12 58.6**	**-0.6**
IDI	**Anoyia**	**73.30**	**326**	P		**P**	**22 13 01.4**	**-0.8**
IDI				IAmb		IAmb	22 13 04.2	
	comp=Z,43nm,1.5s							
TORD	**Torodi Ar. Bea**	**74.18**	**294**	P		**P**	**22 13 10.3**	**+2.5**
	comp=Z,0.3nm,0.6s,baz=138,slow=5.2,SNR=1.8							
	comp=Z,0.3nm,0.6s							
BALB	**Balikesir**	**75.39**	**330**	P		**P**	**22 13 14.5**	**+0.3**
BALB				IAmb		IAmb	22 13 15.6	
	comp=Z,12nm,0.6s							
ALN	**Alexandroupoli**	**77.23**	**330**	P		**P**	**22 13 24.4**	**-0.2**
PYZ	**Puysegur Point**	**77.73**	**136**	P		**P**	**22 13 28.0**	**+0.4**
PYZ				IAmb		IAmb	22 13 54.4	
	comp=Z,57nm,1.1s							
JOW	**Kunigami**	**80.36**	**53**	P		**P**	**22 13 41.1**	**-1.1**
JOW				IAmb		IAmb	22 13 52.4	
	comp=Z,41nm,1.3s							
FOZ	**Fox Glacier**	**80.93**	**134**	P		**P**	**22 13 44.7**	**-0.3**
FOZ				IAmb		IAmb	22 14 04.7	
	comp=Z,58nm,1.4s							
ZALV	**Zalesovo Beam**	**82.39**	**11**	P		**P**	**22 13 55.4**	**+3.1**
	comp=Z,1.6nm,0.8s,baz=198,slow=4.4,SNR=3.9							
	comp=Z,1.6nm,0.8s							
BURAR	**Bucovina Array**	**83.02**	**334**	P		**P**	**22 13 55.0**	**-0.9**
NNZ	**Nelson**	**84.37**	**134**	P		**P**	**22 14 02.0**	**-1.1**
NNZ				IAmb		IAmb	22 14 18.0	
	comp=Z,40nm,1.2s							
YKA	**Yellowknife Ar**	**144.67**	**1**	PKP		**PKPdf**	**22 21 07.8**	**+1.1**
	comp=Z,1.7nm,0.7s,baz=338,slow=3.6,SNR=21							

*IDC **15** 22:11:18.1±0.9, 18°.38N×144°.90E, h0km, mb3.9/13, mbtmp3.9/14, ML3.0/1, MS3.8/5, Error ellipse: s-maj=27.2km s-min=19.6km az=87.0*

ISC 15 22:11:19.7±0.9, 18°.4N±0°.1×144°.9E±0°.2, h10km, n25, σ0s76/14, mb3.9/13, MS3.9/4, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**17.47**	**302**	LR	LR	22 20 24.9	
	comp=Z,361nm,20.2s,baz=68,slow=31						
MJAR	**Matsushiro Arr**	**19.01**	**343**	P	**P**	**22 15 40.3**	**-1.4**
	0.1nm,0.3s,baz=156,slow=9.3,SNR=3.1						
	3.9nm,0.9s						
H11S3	**WAKE ISLAND Hy 20.69**	**86**		T	T	22 37 19.8	
	baz=274,slow=74,SNR=246						
H11S1	**WAKE ISLAND Hy 20.70**	**86**		T	T	22 37 19.7	
	baz=274,slow=74,SNR=194						
H11S2	**WAKE ISLAND Hy 20.70**	**86**		T	T	22 37 29.1	
	baz=274,slow=74,SNR=219						
H11N1	**WAKE ISLAND Hy 20.84**	**83**		T	T	22 37 55.2	
	baz=268,slow=75,SNR=80						
H11N2	**WAKE ISLAND Hy 20.85**	**83**		T	T	22 37 55.8	
	baz=268,slow=75,SNR=51						
H11N3	**WAKE ISLAND Hy 20.86**	**83**		T	T	22 37 56.7	
	baz=268,slow=75,SNR=67						
KSRS	**Korea Array**	**24.12**	**325**	P	**P**	**22 16 36.2**	**+0.5**
	2.8nm,0.8s,baz=154,slow=10,SNR=5.9						
	2.8nm,0.8s						
HNR	**Honiara**	**31.39**	**151**	LR	LR	22 28 41.6	
	comp=Z,1μm,21.4s,baz=314,slow=33						
PETK	**Petropavlovsk-**	**36.06**	**13**	LR	LR	22 32 32.1	
	comp=Z,30nm,19.3s,baz=202,slow=35						
WRA	**Warramunga Arr**	**39.48**	**196**	P	**P**	**22 18 49.1**	**-1.4**
	1.4nm,1.0s,baz=15,slow=9.0,SNR=5.4						
	1.4nm,1.0s						
SONM	**Songino Array**	**42.90**	**322**	P	**P**	**22 19 18.8**	**+0.2**
	0.5nm,0.5s,baz=135,slow=7.3,SNR=3.8						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**43.16**	**195**	P	**P**	**22 19 21.3**	**+0.5**
	0.5nm,0.7s,baz=15,slow=10,SNR=5.3						
	0.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**43.49**	**278**	P	**P**	**22 19 23.8**	**+0.1**
	1.4nm,0.3s,baz=68,slow=7.1,SNR=7.8						
	1.4nm,0.3s						
ZALV	**Zalesovo Beam**	**57.79**	**323**	P	**P**	**22 21 10.7**	**-0.4**
	1.2nm,0.7s,baz=101,slow=6.2,SNR=6.4						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**58.12**	**314**	P	**P**	**22 21 13.8**	**+0.3**
	0.7nm,0.5s,baz=95,slow=7.5,SNR=7.0						
	0.7nm,0.5s						
KDAK	**Kodiak Island**	**60.04**	**33**	LR	LR	22 43 39.2	
	comp=Z,35nm,21.9s,baz=242,slow=32						
KURBB	**Kurchatov Arra**	**61.03**	**318**	P	**P**	**22 21 33.4**	**-0.1**
	2.8nm,0.7s,baz=96,slow=7.3,SNR=24						
	2.8nm,0.7s						
ILAR	**Eielson Array**	**64.26**	**26**	P	**P**	**22 21 54.1**	**-0.7**
	0.5nm,0.8s,baz=253,slow=4.0,SNR=4.5						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**66.22**	**320**	P	**P**	**22 22 07.8**	**+0.1**
	2.3nm,0.7s,baz=91,slow=7.1,SNR=13						
	2.3nm,0.7s						
GEYT	**Alibeck**	**76.45**	**306**	P	**P**	**22 23 10.4**	**+0.5**
	2.3nm,0.9s,baz=82,slow=14,SNR=3.9						
	2.3nm,0.9s						
YKA	**Yellowknife Ar**	**78.62**	**28**	P	**P**	**22 23 22.0**	**+0.4**
	0.4nm,0.7s,baz=291,slow=5.9,SNR=5.1						
	0.4nm,0.7s						
ARCES	**ARCESS Array B**	**82.54**	**342**	LR	LR	23 04 38.9	
	comp=Z,105nm,18.1s,baz=142,slow=39						
NVAR	**Mina Array Bea**	**83.94**	**52**	P	**P**	**22 23 51.3**	**+0.7**
	0.3nm,0.6s,baz=263,slow=7.2,SNR=2.7						
	0.3nm,0.6s						

*IDC **15** 22:11:36.2±2.6, 21°.32S×178°.83W, h481km±30km, mb3.4/12, mbtmp4.3/14, Error ellipse: s-maj=21.0km s-min=13.8km az=162.0*
*NEIC **15** 22:11:40.0±1.3, 21°.3S±0°.3×178°.6W±0°.2, h551km±28km, mb4.3/16, Error ellipse: s-maj=38.5km s-min=26.2km az=178.0*

ISC 15 22:11:41.5±0.5, 21°.45S±0°.09×178°.82W±0°.10, h550km, n75, σ1s86/81, mb4.0/20, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUZ	**Kuaotunu**	**15.97**	**196**	P	**P**	**22 15 02.1**	**+1.6**
WIAZ	**Waiheke Island**	**16.17**	**198**	P	**P**	**22 15 08.2**	**+5.7**
MBAZ	**Motutapu North**	**16.22**	**198**	P	**P**	**22 15 08.1**	**+5.2**
ETAZ	**East Tamaki Re**	**16.38**	**198**	P	**P**	**22 15 08.8**	**+4.4**
MKAZ	**Moumakai**	**16.45**	**197**	P	**P**	**22 15 04.9**	**-0.2**
WTAZ	**Waiatarua**	**16.46**	**199**	P	**P**	**22 15 05.2**	**-0.1**
TGRZ	**Tauranga**	**16.77**	**194**	P	**P**	**22 15 06.9**	**-1.1**
OPRZ	**Ohinepanea**	**16.82**	**193**	P	**P**	**22 15 08.6**	**+0.1**
KARZ	**Kaharoa**	**17.06**	**193**	P	**P**	**22 15 09.1**	**-1.5**
URZ	**Urewera**	**17.12**	**191**	P	**P**	**22 15 10.1**	**-1.0**
URZ	**Urewera**	**17.12**	**191**	P	**P**	**22 15 08.7**	**-2.4**
	6.2nm,0.3s,baz=12,slow=2.9,SNR=24						
URZ				S	**S**	**22 17 57.6**	**-4.5**
	2.9nm,0.6s,baz=100,slow=21,SNR=1.6						
RTZ	**Ruatahuna**	**17.49**	**191**	P	**P**	**22 15 14.1**	**-0.5**
RTZ	**Ruatahuna**	**17.49**	**191**	P	**P**	**22 15 14.4**	**-0.3**
RAR	**Rarotonga**	**17.75**	**93**	P	**P**	**22 15 13.3**	**-3.9**
RAR	**Rarotonga**	**17.75**	**93**	P	**P**	**22 15 13.4**	**-3.7**
	6.9nm,0.4s,baz=169,slow=18,SNR=5.3						
LBZ	**Lake Benmore**	**24.62**	**199**	P	**P**	**22 16 17.8**	**-0.9**
LBZ	**Lake Benmore**	**24.62**	**199**	P	**P**	**22 16 15.8**	**-2.9**
MLZ	**Mavora Lakes**	**26.16**	**201**	P	**P**	**22 16 33.4**	**+1.1**
MLZ				IAmb	IAmb	22 16 50.3	
	comp=Z,13nm,1.2s						
WHZ	**Wether Hill Ro**	**26.68**	**201**	P	**P**	**22 16 38.6**	**+1.8**
EIDS	**Eidsvold**	**27.86**	**256**	P	**P**	**22 16 47.9**	**+0.4**
EIDS				IAmb	IAmb	22 16 48.9	
	comp=Z,4.5nm,0.7s						
ARMA	**Armidale**	**27.97**	**245**	P	**P**	**22 16 48.1**	**-0.4**
ARMA				IAmb	IAmb	22 17 00.0	
	comp=Z,4.2nm,1.0s						
CTAO	**Charters Tower**	**32.64**	**266**	P	**P**	**22 17 28.4**	**-0.3**
CTAO				IAmb	IAmb	22 17 36.9	
	comp=Z,14nm,1.2s						
STKA	**Stephens Creek**	**36.69**	**245**	P	**P**	**22 18 03.0**	**+0.6**
STKA	**Stephens Creek**	**36.69**	**245**	P	**P**	**22 18 02.4**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=74,slow=7.9,SNR=6.2						
	comp=Z,1.8nm,0.5s						
BBOO	**Buckleboo**	**41.44**	**244**	P	**P**	**22 18 40.9**	**+0.3**
BBOO				IAmb	IAmb	22 18 46.4	
	comp=Z,11nm,1.2s						
WR0	**Warramunga Arr**	**43.53**	**263**	P	**P**	**22 18 56.8**	**-0.3**
AS31	**Alice Springs**	**43.56**	**258**	P	**P**	**22 18 57.7**	**+0.3**
ASAR	**Alice Springs**	**43.56**	**258**	P	**P**	**22 18 57.4**	**+0.4**
ASAR	**Alice Springs**	**43.56**	**258**	P	**P**	**22 18 57.2**	**-0.1**
	comp=Z,6.2nm,0.6s,baz=96,slow=7.9,SNR=106						
ASAR				PcP	**PcP**	**22 20 33.2**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=105,slow=4.0,SNR=7.2						
ASAR				S	**S**	**22 24 43.0**	**-4.1**
	comp=Z,1.0nm,0.8s,baz=93,slow=16,SNR=8.4						
	comp=Z,6.2nm,0.6s						
WB0	**Warramunga Arr**	**43.70**	**263**	P	**P**	**22 18 58.4**	**-0.1**
WB0				IAmb	IAmb	22 18 58.9	
	comp=Z,7.2nm,0.6s						
WB2	**Warramunga Arr**	**43.71**	**263**	P	**P**	**22 18 57.5**	**-1.1**
WB2				IAmb	IAmb	22 18 59.0	
	comp=Z,6.9nm,0.9s						
WRAB	**Tennant Creek**	**43.71**	**263**	P	**P**	**22 18 56.6**	**-2.0**
WRAB				IAmb	IAmb	22 19 03.6	
	comp=Z,8.1nm,1.0s						
WRA	**Warramunga Arr**	**43.72**	**263**	P	**P**	**22 18 57.9**	**-0.7**
WRA	**Warramunga Arr**	**43.72**	**263**	P	**P**	**22 18 57.8**	**-0.9**
	comp=Z,3.4nm,0.6s,baz=96,slow=7.6,SNR=37						
WRA				S	**S**	**22 24 44.5**	**-4.9**
	comp=Z,0.5nm,0.9s,baz=100,slow=14,SNR=3.2						
	comp=Z,3.4nm,0.6s						
VNDA	**Vanda**	**56.90**	**185**	P	**P**	**22 20 35.9**	**+2.0**
	comp=Z,0.5nm,0.5s,baz=9.3,slow=7.9,SNR=9.9						
	comp=Z,0.5nm,0.5s						
MJAR	**Matsushiro Arr**	**70.52**	**324**	P	**P**	**22 22 01.5**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=159,slow=5.1,SNR=4.3						
	comp=Z,2.8nm,0.8s						
PETK	**Petropavlovsk-**	**76.99**	**346**	P	**P**	**22 22 37.7**	**+0.1**
	comp=Z,4.1nm,1.1s,baz=139,slow=7.1,SNR=1.8						
	comp=Z,4.1nm,1.1s						
USRK	**Usuriysk Ar.**	**79.32**	**326**	P	**P**	**22 22 51.5**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=173,slow=5.8,SNR=3.4						
	comp=Z,2.0nm,0.8s						
NVAR	**Mina Array Bea**	**82.24**	**44**	P	P	22 23 07.8	+2.0
	comp=Z,1.5nm,0.7s,baz=221,slow=8.5,SNR=11						
	comp=Z,1.5nm,0.7s						
TXAR	**Lajitas Array**	**88.21**	**58**	P	P	22 23 36.8	+2.1
	comp=Z,1.0nm,0.9s,baz=223,slow=5.1,SNR=5.7						
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**89.40**	**13**	P	**P**	**22 23 39.2**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=219,slow=5.1,SNR=14						
	comp=Z,0.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.71**	**290**	P	**P**	**22 23 43.4**	**+1.6**
	comp=Z,1.3nm,0.7s,baz=124,slow=3.2,SNR=8.2						
	comp=Z,1.3nm,0.7s						
PDAR	**Pinedale Array**	**90.17**	**44**	P	**P**	**22 23 45.2**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=235,slow=3.2,SNR=7.9						
	comp=Z,1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**110.74**	**321**	PKiKP	**PKiKP**	**22 29 11.1**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=88,slow=3.3,SNR=2.2						
MKAR	**Makanchi Array**	**111.28**	**313**	PKiKP	**PKiKP**	**22 29 11.5**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=183,slow=1.2,SNR=4.4						
BVAR	**Borovoye Array**	**119.30**	**320**	PKP	**PKiKP**	**22 29 28.0**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=100,slow=1.8,SNR=9.7						
SPITS	**Spitsbergen Ar**	**122.76**	**356**	PKP	**PKiKP**	**22 29 34.4**	**-0.1**
	comp=Z,4.9nm,0.7s,baz=64,slow=1.9,SNR=2.0						
GEYT	**Alibeck**	**128.64**	**302**	PKP	**PKiKP**	**22 29 47.7**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=152,slow=13,SNR=2.5						
ARCES	**ARCESS Array B**	**129.71**	**349**	PKP	**PKiKP**	**22 29 47.9**	**-0.7**
	comp=Z,3.1nm,0.7s,baz=34,slow=1.5,SNR=12						
FINES	**FINESS Array B**	**136.45**	**343**	PKP	**PKiKP**	**22 30 01.9**	**-0.5**
	comp=Z,4.5nm,0.9s,baz=75,slow=1.6,SNR=6.0						
NB2	**NORSAR Subarra**	**139.82**	**352**	PKP	PKPpre	22 30 00.2	
	comp=Z,0.6nm,0.6s,baz=8.5,slow=4.0						
NOA	**NORSAR Array B**	**139.82**	**352**	PKhKP	PKPpre	22 30 00.7	
	comp=Z,0.3nm,0.6s,baz=18,slow=1.6,SNR=4.6						
HFS	**Hagfors**	**140.34**	**350**	PKhKP	PKPpre	22 30 01.2	
	comp=Z,1.1nm,0.4s,baz=64,slow=3.4,SNR=14						
AKASG	**Malin Array Be**	**143.45**	**330**	PKhKP	PKPpre	22 30 11.8	
	comp=Z,3.8nm,0.5s,baz=41,slow=4.3,SNR=32						
EKA	**Eskdalemuir Ar**	**146.01**	**4**	PKPbc	**PKPab**	**22 30 19.6**	**-2.0**
	comp=Z,3.8nm,0.8s,baz=347,slow=3.3,SNR=7.5						
BRTR	**Keskin Array B**	**146.89**	**311**	PKPbc	**PKiKP**	**22 30 22.8**	**-1.9**
	comp=Z,1.4nm,0.6s,baz=140,slow=5.1,SNR=12						
MMAI	**Mount Meron Ar**	**147.60**	**298**	PKPbc	**PKiKP**	**22 30 25.4**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=74,slow=7.0,SNR=16						
OSTC	**Ostas**	**148.63**	**341**	*e*PKP	**PKiKP**	**22 30 28.2**	**+0.4**
OSTC				*ep*PKP	**pPKPab**	**22 32 38.7**	**+3.5**
UPC	**Upice**	**148.74**	**342**	*e*PKP	**PKiKP**	**22 30 28.0**	**0.0**
DPC	**Dobruska-Polom**	**148.78**	**341**	*e*PKP	**PKiKP**	**22 30 28.2**	**+0.1**
DPC				*ep*PKP	**pPKPab**	**22 32 39.0**	**+3.5**
DPC				*ex*	x	22 32 45.1	
CLL	**Collm**	**148.79**	**346**	*i* PKPbc	**PKiKP**	**22 30 27.7**	**-0.3**
	comp=Z,6.0nm,1.0s						
CLL				*e*PKPab	**PKPab**	**22 30 34.0**	**+0.9**
KRLC	**Kraliky**	**148.88**	**340**	*e*PKP	**PKiKP**	**22 30 28.5**	**+0.1**
KRLC				*ep*PKP	**pPKPab**	**22 32 38.9**	**+2.9**
PVCC	**Panska Ves**	**149.12**	**343**	*e*PKP	**PKiKP**	**22 30 28.7**	**-0.1**
MAUC	**Maruska**	**149.16**	**339**	*e*PKP	**PKiKP**	**22 30 28.3**	**-0.6**
PRU	**Pruhonice**	**149.62**	**343**	*e*PKP	**PKiKP**	**22 30 29.8**	**0.0**
PRU				*ep*PKP	**pPKPab**	**22 32 40.4**	**+1.4**
ZVC	**Zvikov**	**150.21**	**343**	*e*PKP	**PKiKP**	**22 30 31.0**	**-0.1**
ZVC				*ep*PKP	**pPKPab**	**22 32 42.4**	**+1.0**
KHC	**Kasperske Hory**	**150.66**	**343**	*e*PKP	**PKiKP**	**22 30 32.3**	**+0.3**
KHC				*ep*PKP	**pPKPab**	**22 32 42.8**	**-0.5**
CKRC	**Cesky Krumlov**	**150.74**	**342**	*e*PKP	**PKiKP**	**22 30 32.8**	**+0.6**
CKRC				*ep*PKP	**pPKPab**	**22 32 43.2**	**-0.4**
GERES	**GERESS Array B**	**150.89**	**343**	PKPbc	**PKiKP**	**22 30 32.8**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=28,slow=3.2,SNR=8.0						
CONA	**Conrad Observa**	**151.06**	**339**	*i* PKP	**PKiKP**	**22 30 33.1**	**+0.1**
	comp=Z,3.1nm,0.6s						
RONA	**Rosalia, Austr**	**151.11**	**339**	*i* PKP	**PKiKP**	**22 30 33.3**	**+0.3**
	comp=Z,3.3nm,0.5s						
WATA	**Walderalm**	**152.84**	**344**	*i* PKP	**PKiKP**	**22 30 36.8**	**+0.1**
	comp=Z,0.7nm,0.3s						
WTTA	**Wattenberg**	**152.89**	**344**	*i* PKP	**PKiKP**	**22 30 37.2**	**+0.3**
	comp=Z,1.8nm,0.4s						
MOTA	**Moosalm**	**152.94**	**345**	*i* PKP	**PKiKP**	**22 30 35.4**	**-1.5**
	comp=Z,0.9nm,0.5s						
ABTA	**Abfaltersbach**	**153.13**	**343**	*i* PKP	**PKiKP**	**22 30 35.8**	**-1.5**
	comp=Z,3.1nm,0.7s						

*IDC **15** 22:13:52.2±4.5, 21°.40S×178°.97W, h542km±49km, mb3.2/9, mbtmp4.1/10, Error ellipse: s-maj=25.7km s-min=20.7km az=176.0*

ISC 15 22:13:57.0±0.6, 21°.6S±0°.1×179°.0W±0°.2, h602km, n22, σ1s08/22, mb3.6/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**16.94**	**191**	P	**P**	**22 17 20.7**	**-2.0**
	3.1nm,0.3s,baz=93,slow=5.2,SNR=6.6						
URZ				S	**S**	**22 20 09.4**	**-0.6**
	1.6nm,0.4s,baz=155,slow=14,SNR=1.3						
ASAR	**Alice Springs**	**43.37**	**258**	P	**P**	**22 21 07.8**	**-0.2**
	2.9nm,0.8s,baz=98,slow=7.9,SNR=13						
ASAR				PcP	**PcP**	**22 22 43.8**	**+1.1**
	0.5nm,0.6s,baz=104,slow=3.6,SNR=5.1						
	2.9nm,0.8s						
WRA	**Warramunga Arr**	**43.54**	**263**	P	**P**	**22 21 08.1**	**-1.3**
	1.5nm,0.7s,baz=95,slow=7.5,SNR=16						
	1.5nm,0.7s						
VNDA	**Vanda**	**56.74**	**185**	P	**P**	**22 22 46.6**	**+2.2**
	0.7nm,0.6s,baz=1.2,slow=4.8,SNR=5.6						
	0.7nm,0.6s						
USRK	**Ussuriysk Ar.**	**79.35**	**326**	P	**P**	**22 25 02.4**	**+1.0**
	2.4nm,0.8s,baz=180,slow=5.5,SNR=4.1						
	2.4nm,0.8s						
NVAR	**Mina Array Bea**	**82.46**	**44**	P	**P**	**22 25 18.1**	**+0.3**
	1.1nm,0.7s,baz=230,slow=7.8,SNR=6.6						
	1.1nm,0.7s						
TXAR	**Lajitas Array**	**88.43**	**58**	P	**P**	**22 25 47.5**	**+0.9**
	0.5nm,0.9s,baz=212,slow=4.4,SNR=4.2						
	0.5nm,0.9s						
ILAR	**Eielson Array**	**89.59**	**13**	P	**P**	**22 25 49.6**	**-1.5**
	0.7nm,0.5s,baz=218,slow=5.0,SNR=17						
	0.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.61**	**290**	P	**P**	**22 25 53.9**	**+1.8**
	0.6nm,0.2s,baz=149,slow=3.7,SNR=4.6						
	0.6nm,0.2s						
PDAR	**Pinedale Array**	**90.40**	**44**	P	**P**	**22 25 55.3**	**-0.3**
	0.5nm,0.7s,baz=204,slow=3.3,SNR=5.3						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**111.27**	**313**	PKiKP	**PKiKP**	**22 31 23.6**	**+0.2**
	0.2nm,0.4s,baz=71,slow=0.4,SNR=4.0						
BVAR	**Borovoye Array**	**119.31**	**320**	PKP	**PKPdf**	**22 31 38.2**	**-0.5**
	1.0nm,0.4s,baz=104,slow=2.6,SNR=11						
SPITS	**Spitsbergen Ar**	**122.90**	**356**	PKP	**PKPdf**	**22 31 44.8**	**-0.1**
	13nm,0.9s,baz=72,slow=2.7,SNR=3.0						
ARCES	**ARCESS Array B**	**129.82**	**349**	PKP	**PKPdf**	**22 31 58.3**	**0.0**
	0.7nm,0.4s,baz=30,slow=1.6,SNR=15						
FINES	**FINESS Array B**	**136.55**	**343**	PKP	**PKiKP**	**22 32 12.0**	**-1.0**
	2.4nm,0.9s,baz=100,slow=2.1,SNR=6.0						
NOA	**NORSAR Array B**	**139.95**	**352**	PKP	**PKiKP**	**22 32 19.3**	**-0.7**
	0.6nm,0.9s,baz=14,slow=3.7,SNR=1.4						
HFS	**Hagfors**	**140.46**	**350**	PKhKP	PKPpre	22 32 12.0	
	0.9nm,0.3s,baz=78,slow=2.1,SNR=14						
AKASG	**Malin Array Be**	**143.50**	**330**	PKP	PKPab	22 32 21.9	-0.8
	2.4nm,0.5s,baz=41,slow=4.2,SNR=16						
EKA	**Eskdalemuir Ar**	**146.17**	**4**	PKPbc	**PKPbc**	**22 32 29.8**	**-0.8**
	1.2nm,0.6s,baz=345,slow=2.6,SNR=5.1						
BRTR	**Keskin Array B**	**146.86**	**310**	PKPbc	**PKPbc**	**22 32 33.1**	**-0.1**
	0.9nm,0.6s,baz=107,slow=4.0,SNR=6.7						
MMAI	**Mount Meron Ar**	**147.52**	**298**	PKPbc	**PKiKP**	**22 32 36.0**	**-0.5**
	1.4nm,0.5s,baz=76,slow=7.1,SNR=10						
GERES	**GERESS Array B**	**150.98**	**343**	PKPbc	**PKPbc**	**22 32 42.2**	**-0.6**
	1.1nm,0.6s,baz=9.5,slow=4.1,SNR=5.5						

*NOU **15** 22:14:27.8, 38°.00S×173°.82E, h0km, MLv3.5/8, Off W. Coast of N. Island, N.Z.*
*WEL **15** 22:14:36.9±0.5, 39°.3S±3°.3×17°.4E±°, h12km, M3.4/32, ML3.7/31, MLv3.4/32, Error ellipse: s-maj=0.0km s-min=0.0km az=137.3, confirmed*

ISC 15 22:14:36.4±1.3, 38°.60S±0°.04×174°.30E±0°.03, h14km±10km, n86, σ0s75/100, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HIZ	**Hauiti**	**0.44**	**79**	P	**Pb**	**22 14 46.2**	**+0.2**
HIZ	**Hauiti**	**0.44**	**79**	P	**Pb**	**22 14 46.3**	**+0.3**
HIZ				S	**Sb**	**22 14 53.3**	**+0.8**
MHEZ	**Mangahewa**	**0.47**	**178**	P	**Pb**	**22 14 46.9**	**+0.3**
MHEZ				S	**Sb**	**22 14 54.3**	**+0.9**
DREZ	**Durham Road**	**0.59**	**188**	P	**Pb**	**22 14 48.5**	**0.0**
VRZ	**Vera Road**	**0.63**	**146**	P	**Pg**	**22 14 48.9**	**+0.2**
VRZ				S	**Sb**	**22 14 57.7**	**-0.2**
PKE	**Pukeiti**	**0.64**	**203**	P	**Pg**	**22 14 49.4**	**+0.5**
PKE				S	**Sb**	**22 14 58.6**	**+0.3**
NEZ	**North Egmont**	**0.69**	**194**	P	**Pb**	**22 14 50.3**	**+0.1**
NEZ				S	**Sb**	**22 15 00.4**	**+0.8**
KHEZ	**Kahui Hut**	**0.73**	**198**	P	**Pg**	**22 14 50.8**	**+0.2**
KHEZ	**Kahui Hut**	**0.73**	**198**	P	**Pg**	**22 14 50.8**	**+0.2**
KHEZ				S	**Sg**	**22 15 00.3**	**+0.2**
NBEZ	**Newall Road No**	**0.75**	**207**	P	**Pg**	**22 14 51.4**	**+0.5**
NBEZ				S	**Sb**	**22 15 02.2**	**+0.9**
PREZ	**Palmer Road**	**0.75**	**189**	P	**Pb**	**22 14 51.7**	**+0.4**
PREZ				S	**Sb**	**22 15 02.8**	**+1.5**
LREZ	**Lake Rotokare**	**0.86**	**175**	P	**Pg**	**22 14 53.3**	**+0.2**
NMEZ	**Namu Road**	**0.88**	**202**	P	**Pg**	**22 14 53.4**	**+0.1**
NMEZ				S	**Sn**	**22 15 06.4**	**-0.5**
TWVZ	**Taurewa**	**1.00**	**118**	P	**Pg**	**22 14 55.2**	**-0.6**
TWVZ				S	**Sg**	**22 15 01.3**	**-0.8**
TLZ	**Tolley Road**	**1.01**	**75**	P	**Pg**	**22 14 55.7**	**-0.2**
TLZ				S	**Sb**	**22 15 09.5**	**+0.7**
PKVZ	**Pokaka**	**1.06**	**130**	P	**Pb**	**22 14 56.3**	**-0.4**
PKVZ				S	**Sb**	**22 15 10.6**	**+0.1**
WATZ	**Wairara**	**1.12**	**96**	P	**Pb**	**22 14 57.7**	**+0.1**
WATZ				S	**Sg**	**22 15 12.9**	**+0.1**
WTVZ	**West Tongariro**	**1.13**	**117**	P	**Pb**	**22 14 57.7**	**-0.1**
WTVZ				S	**Sb**	**22 15 12.5**	**+0.1**
COVZ	**Chateau Observ**	**1.14**	**122**	P	**Pb**	**22 14 57.3**	**-0.6**
KATZ	**Kakaramea**	**1.15**

TKNZ	**Takaka Hill**	**24.38**	**73**	P	**P**	**22 27 36.5**	**+1.6**
NNZ	**Nelson**	**24.50**	**74**	P	**P**	**22 27 37.4**	**+1.4**
NNZ				IAmb	IAmb	22 27 39.4	
	comp=Z,56nm,1.3s						
VNDA	**Vanda**	**25.66**	**170**	P	**P**	**22 27 44.8**	**-1.3**
VNDA	**Vanda**	**25.66**	**170**	P	**P**	**22 27 43.6**	**-2.5**
	comp=Z,2.1nm,1.1s,baz=334,slow=7.9,SNR=4.8						
	comp=Z,2.1nm,1.1s						
BFZ	**Birch Farm**	**26.52**	**76**	P	**P**	**22 27 56.3**	**+2.0**
BFZ				IAmb	IAmb	22 28 11.8	
	comp=Z,39nm,1.2s						
H01W1	**Cape Leeuwin H**	**26.53**	**302**	T	T	22 55 04.4	
	baz=142,slow=75,SNR=22						
H01W2	**Cape Leeuwin H**	**26.53**	**302**	T	T	22 55 04.0	
	baz=142,slow=75,SNR=23						
H01W3	**Cape Leeuwin H**	**26.54**	**302**	T	T	22 55 03.7	
	baz=142,slow=75,SNR=21						
NWAO	**Narrogin (SRO)**	**26.61**	**310**	LR	LR	22 35 45.3	
	comp=Z,134nm,19.3s,baz=205,slow=30						
ASAR	**Alice Springs**	**29.92**	**346**	P	**P**	**22 28 22.2**	**-2.6**
	comp=Z,0.5nm,0.6s,baz=166,slow=10.0,SNR=9.2						
ASAR				PcP	**PcP**	**22 31 27.1**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=142,slow=3.5,SNR=1.3						
	comp=Z,0.5nm,0.6s						
AS31	**Alice Springs**	**29.92**	**346**	P	**P**	**22 28 25.5**	**+0.7**
WR0	**Warramunga Arr**	**33.49**	**348**	P	**P**	**22 28 55.0**	**-1.1**
WR0				IAmb	IAmb	22 29 00.7	
	comp=Z,6.6nm,1.1s						
WB2	**Warramunga Arr**	**33.53**	**348**	P	**P**	**22 28 54.5**	**-1.9**
WB2				IAmb	IAmb	22 29 11.0	
	comp=Z,8.6nm,1.0s						
WRA	**Warramunga Arr**	**33.53**	**348**	P	**P**	**22 28 54.0**	**-2.5**
	comp=Z,2.7nm,1.0s,baz=174,slow=7.3,SNR=14						
WRA				PcP	**PcP**	**22 31 36.3**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=188,slow=2.8,SNR=1.2						
	comp=Z,2.7nm,1.0s						
PSA00	**Pilbara Seismi**	**35.56**	**324**	P	**P**	**22 29 14.2**	**+0.1**
PSA00				IAmb	IAmb	22 29 15.6	
	comp=Z,11nm,1.5s						
PSA00	**Pilbara Seismi**	**35.56**	**324**	P	**P**	**22 29 14.9**	**+0.9**
PSA00				IAmb	IAmb	22 29 20.0	
	comp=Z,34nm,1.4s						
ONTNC	**Ouen Toro**	**36.15**	**42**	P	**P**	**22 29 19.6**	**+0.6**
OUENC	**Ouen Island, N**	**36.20**	**42**	P	**P**	**22 29 18.6**	**-0.9**
DZM	**Mont Dzumac**	**36.35**	**41**	LR	LR	22 42 21.7	
	comp=Z,168nm,18.0s,baz=216,slow=33						
FITZ	**Fitzroy Crossi**	**37.03**	**334**	P	**P**	**22 29 26.8**	**+0.2**
QSPA	**South Pole Qui**	**37.04**	**180**	P	**P**	**22 29 26.3**	**-0.2**
QSPA				IAmb	IAmb	22 29 30.8	
	comp=Z,6.2nm,1.0s						
MAW	**Mawson**	**38.54**	**217**	P	**P**	**22 29 41.0**	**+2.1**
MAW	**Mawson**	**38.54**	**217**	LR	LR	22 43 41.0	
	comp=Z,179nm,19.7s,baz=93,slow=33						
MTN	**Manton Dam**	**40.97**	**344**	P	**P**	**22 30 00.1**	**+0.5**
MTN				IAmb	IAmb	22 30 04.1	
	comp=Z,10nm,1.1s						
NIUE	**Niue**	**50.46**	**67**	P	**P**	**22 31 15.4**	**+0.8**
KAPI	**Kappang**	**51.13**	**332**	LR	LR	22 52 17.6	
	comp=Z,56nm,20.2s,baz=144,slow=35						
SNAA	**Sanae**	**53.03**	**193**	LR	LR	22 53 17.7	
	comp=Z,154nm,20.8s,baz=185,slow=35						
H04S1	**CROZET ISLANDS**	**54.34**	**238**	T	T	23 30 28.8	
	baz=131,slow=75,SNR=4.6						
H04S2	**CROZET ISLANDS**	**54.34**	**238**	T	T	23 30 23.5	
	baz=131,slow=75,SNR=6.7						
H04S3	**CROZET ISLANDS**	**54.36**	**238**	T	T	23 30 11.4	
	baz=131,slow=75,SNR=6.1						
LHMI	**Lhok Sumawe**	**69.14**	**312**	P	**P**	**22 33 22.4**	**-0.7**
H08S2	**Diego Garcia H**	**71.35**	**282**	T	T	23 50 47.6	
	baz=144,slow=76,SNR=7.1						
H08S1	**Diego Garcia H**	**71.36**	**282**	T	T	23 50 51.0	
	baz=144,slow=76,SNR=5.2						
H08S3	**Diego Garcia H**	**71.37**	**282**	T	T	23 50 52.4	
	baz=144,slow=76,SNR=7.7						
PALK	**Pallekele**	**78.94**	**298**	P	**P**	**22 34 20.2**	**-0.3**
PALK	**Pallekele**	**78.94**	**298**	LR	LR	23 04 32.5	
	comp=Z,36nm,18.1s,baz=237,slow=32						
SUR	**Sutherland**	**80.53**	**228**	LR	LR	23 04 15.9	
	comp=Z,53nm,18.4s,baz=162,slow=31						
BOSA	**Boshof**	**81.64**	**233**	LR	LR	23 04 14.0	
	comp=Z,50nm,19.4s,baz=170,slow=31						
MSEY	**Mahe Island**	**83.89**	**270**	P	**P**	**22 34 46.9**	**+0.1**
LBTB	**Lobatse**	**84.47**	**235**	LR	LR	23 09 16.7	
	comp=Z,34nm,18.3s,baz=176,slow=33						
LSZ	**Lusaka**	**91.23**	**242**	LR	LR	23 11 33.7	
	comp=Z,62nm,18.1s,baz=173,slow=32						
TSUM	**Tsumeb**	**93.29**	**232**	LR	LR	23 09 31.1	
	comp=Z,36nm,21.8s,baz=150,slow=30						
USRK	**Ussuriysk Ar.**	**97.24**	**353**	LR	LR	23 18 14.0	
	comp=Z,35nm,20.4s,baz=169,slow=34						
KMBO	**Kilima Mbogo**	**97.63**	**258**	LR	LR	23 10 52.1	
	comp=Z,33nm,20.1s,baz=90,slow=30						
FINES	**FINESS Array B**	**145.46**	**310**	PKPbc	**PKPdf**	**22 41 52.0**	**-1.6**
	comp=Z,5.3nm,1.0s,baz=178,slow=9.3,SNR=4.6						
ARCES	**ARCESS Array B**	**147.09**	**324**	PKPbc	**PKPbc**	**22 41 58.1**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=98,slow=2.5,SNR=4.9						
GERES	**GERESS Array B**	**147.45**	**284**	PKPbc	**PKPdf**	**22 41 58.2**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=108,slow=6.3,SNR=1.6						

KRSC 15 22:24:47.1±0.5, 48°40N×156°21E, h15km±8km, MI3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.28**	**358**	*eP*	Pn	22 25 25.5	+1.2
KDTR	**Khodutka, Kamc**	**3.62**	**19**	*eP*	Pn	22 25 45.7	+3.2
KDTR				*eS*	Sn	22 26 29.5	+4.6
GRL	**Gorelyy**	**4.32**	**15**	*eP*	Pn	22 25 56.4	+4.1
SPN	**Mys Shipunski**	**5.29**	**26**	*eP*	Pn	22 26 10.0	+4.5
SPN				*eS*	Sn	22 27 11.4	+5.4

*NEIC **15** 23:13:26.6±2.3, 16°.0N±0°.1×101°.1W±0°.2, h19km±8km, mb4.5/184, Error ellipse: s-maj=23.7km s-min=18.8km az=135.0*
*IDC **15** 23:13:42.3±0.7, 17°.62N×101°.01W, h28km±4km, mb4.1/11, mbtmp4.3/15, ML3.8/4, MS3.8/30, Error ellipse: s-maj=19.7km s-min=11.1km az=51.0*
*MEX **15** 23:13:43.4±1.5, 17°.45N×101°.35W, h10km±12km, MD4.6*
ISC 15 23:13:41.8±0.6, 17°.58N±0°.03×101°.23W±0°.02, h33km±2km, n498, σ1s77/517, mb4.4/58, MS3.7/26, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET2	**Petatlan**	**0.05**	**210**	*eP*	**Pb**	**23 13 47.8**	**+0.5**
PET2				*eS*	Sb	23 13 52.1	+1.0
ZIIG	**Zihuatanejo**	**0.22**	**276**	*i* P	**Pb**	**23 13 48.9**	**+0.3**
ZIIG				*i* S	Sb	23 13 53.7	+0.5
UON	**La Union**	**0.68**	**305**	*eP*	**Pn**	**23 13 54.6**	**-0.4**
UON				*i* S	**Sb**	**23 14 03.8**	**-0.5**
ATYC	**Atoyac**	**0.85**	**116**	*eP*	**Pb**	**23 13 58.7**	**+0.5**
ATYC				*eS*	**Sb**	**23 14 10.3**	**+1.0**
CAIG	**El Cayaco**	**1.07**	**120**	*eP*	**Pb**	**23 14 01.4**	**-0.4**
CAIG				*eS*	**Sn**	**23 14 10.0**	**-4.1**
ARIG	**Puente Sto Nin**	**1.09**	**50**	*i* P	**Pb**	**23 14 01.7**	**-0.5**
ARIG				*eS*	**Sb**	**23 14 16.2**	**-0.1**
ACP2	**Acapulco**	**1.47**	**118**	*eP*	**Pb**	**23 14 08.6**	**+0.1**
ACP2				*eS*	**Sb**	**23 14 27.4**	**+0.6**
TEJU	**Tejupilco**	**1.66**	**38**	*eP*	**Pb**	**23 14 11.3**	**-0.6**
TEJU				*eS*	**Sb**	**23 14 32.5**	**-0.1**
PLIG	**Platanillo**	**1.83**	**64**	*eP*	**Pb**	**23 14 13.1**	**-1.7**
PLIG				*eS*	**Sb**	**23 14 38.5**	**+1.1**
INVM	**La Marquesa**	**2.44**	**46**	*eP*	**Pb**	**23 14 22.8**	**-2.6**
INVM				*eS*	**Sb**	**23 14 55.6**	**+0.4**
AOVM	**Tlapan**	**2.47**	**47**	*eP*	**Pb**	**23 14 23.1**	**-2.8**
AOVM				*eS*	**Sb**	**23 14 59.8**	**+3.8**
MZVM		**2.48**	**50**	*eP*	**Pb**	**23 14 23.2**	**-2.6**
MZVM				*eS*	**Sb**	**23 14 56.2**	**+0.2**
ACAM	**Acambaro**	**2.50**	**11**	*eP*	**Pb**	**23 14 25.6**	**-0.6**
ACAM				*eS*	**Sb**	**23 14 57.5**	**+0.9**
MGIG	**Malinaltepec**	**2.51**	**98**	*eP*	**Pn**	**23 14 22.1**	**+1.7**
MGIG				*eS*	**Sb**	**23 14 57.5**	**+0.8**
ATVM	**ATLACOMULCO**	**2.54**	**31**	*eP*	**Pb**	**23 14 26.7**	**-0.2**
ATVM				*eS*	**Sb**	**23 14 59.7**	**+1.9**
TLIG	**Tlapa**	**2.54**	**90**	*eP*	**Pn**	**23 14 23.3**	**+2.4**
TLIG				*eS*	**Sn**	**23 14 51.8**	**+1.0**
TLVM	**San Miguel Top**	**2.55**	**50**	*eP*	**Pn**	**23 14 24.1**	**+2.9**
TLVM				*eS*	**Sb**	**23 14 57.2**	**-1.1**
HMTT	**Tlapaneco**	**2.56**	**85**	*eP*	**Pb**	**23 14 25.9**	**-1.2**
HMTT				*eS*	**Sn**	**23 14 54.0**	**+2.9**
CJVM	**Cuajimalpa**	**2.56**	**46**	*eP*	**Pb**	**23 14 26.3**	**-0.9**
CJVM				*eS*	**Sb**	**23 15 00.9**	**+2.5**
CNCY	**Coyoacan**	**2.60**	**48**	*eP*	**Pn**	**23 14 24.8**	**+2.9**
CNCY				*i* S	**Sb**	**23 14 57.7**	**-2.1**
XCVM	**Xochimilco**	**2.61**	**50**	*eP*	**Pb**	**23 14 25.5**	**-2.6**
XCVM				*eS*	**Sb**	**23 14 58.4**	**-1.4**
CUP5	**Mexico City**	**2.61**	**48**	*eP*	**Pb**	**23 14 25.4**	**-2.7**
CUP5				*eS*	**Sn**	**23 14 54.8**	**+2.1**
UNM	**Universidad Na**	**2.61**	**48**	Pn	**Pn**	**23 14 24.5**	**+2.6**
UNM				Sn	**Sb**	**23 15 08.2**	**+8.3**
UNM	**Universidad Na**	**2.61**	**48**	*eP*	**Pn**	**23 14 24.8**	**+2.8**
UNM				*eS*	**Sb**	**23 15 00.2**	**+0.3**
COVM	**Coyoacan**	**2.64**	**48**	*eP*	**Pn**	**23 14 24.6**	**+2.2**
COVM				*eP*	**Pb**	**23 14 26.9**	**-1.7**
COVM				*eS*	**Sb**	**23 15 02.7**	**+1.9**
COVM				*eS*	Sn	23 15 03.9	+11
BJVM	**Benito Juarez**	**2.65**	**47**	*eP*	**Pb**	**23 14 27.5**	**-1.2**
BJVM				*eS*	**Sb**	**23 15 03.1**	**+2.2**
MPVM	**San Francisco**	**2.66**	**52**	*eP*	**Pn**	**23 14 25.5**	**+3.0**
MPVM				*eS*	**Sb**	**23 14 59.8**	**-1.4**
SCT2	**Benito Juarez**	**2.68**	**47**	*eP*	**Pn**	**23 14 19.8**	**-3.1**
SCT2				*eS*	**Sb**	**23 15 05.2**	**+3.4**
VRVM	**Mexico City**	**2.72**	**47**	*eP*	**Pb**	**23 14 32.8**	**+2.9**
VRVM				*eS*	**Sb**	**23 15 00.9**	**-2.0**
AZVM	**Cuida Lopez Ma**	**2.72**	**43**	*eP*	**Pb**	**23 14 26.8**	**-3.2**
AZVM				*eS*	**Sn**	**23 14 58.4**	**+3.0**
THVM	**De Xico**	**2.75**	**51**	*eP*	**Pn**	**23 14 26.7**	**+2.8**
THVM				*eS*	**Sb**	**23 15 05.5**	**+1.6**
PBVM	**Pinon**	**2.75**	**47**	*eP*	**Pn**	**23 14 26.2**	**+2.6**
PBVM				*eS*	**Sb**	**23 15 05.7**	**+2.0**
AMVM	**AMECAMECA**	**2.79**	**56**	*eP*	**Pb**	**23 14 27.8**	**-3.4**
AMVM				*eS*	**Sb**	**23 15 06.8**	**+1.8**
COIG	**Colima**	**2.82**	**305**	*eP*	**Pn**	**23 14 26.4**	**+1.7**
COIG				*eS*	**Sn**	**23 14 59.0**	**+1.4**
PTVM	**Pico Tres Padr**	**2.84**	**45**	*eP*	**Pn**	**23 14 27.6**	**+2.5**
PTVM				*eS*	**Sb**	**23 15 07.6**	**+1.2**
TXVM	**Universitario**	**2.87**	**50**	*eP*	**Pb**	**23 14 31.6**	**-0.9**
TXVM				*eS*	**Sb**	**23 15 05.4**	**-1.8**
EZ5V		**2.93**	**310**	*eP*	**Pn**	**23 14 29.3**	**+2.9**
EZ5V				*e*		23 15 13.8	
JUBC	**Volcan de Coli**	**2.93**	**311**	*eP*	**Pn**	**23 14 29.4**	**+3.1**
JUBC				*e*		23 15 13.7	
MNGA	**Volcan de Coli**	**2.94**	**310**	*eP*	**Pn**	**23 14 28.7**	**+2.3**
MNGA				*e*		23 15 11.7	
COMA	**Comala**	**2.96**	**306**	*eP*	**Pb**	**23 14 34.9**	**+1.0**
COMA				*eS*	**Sn**	**23 15 02.0**	**+1.0**
CDAR	**Ciudad de Arme**	**2.96**	**298**	*eP*	**Pn**	**23 14 27.4**	**+0.9**
CDAR				*eS*	**Sn**	**23 14 56.6**	**-4.4**
INCO	**Volcan de Coli**	**2.96**	**311**	*eP*	**Pn**	**23 14 28.7**	**+1.8**
INCO				*e*		23 15 15.2	
SOMAC	**Volcano de Col**	**2.98**	**311**	*eP*	**Pn**	**23 14 29.6**	**+2.4**
SOMAC				*e*		23 15 15.2	
ZUVM	**ZUMPANGO**	**3.03**	**42**	*eP*	**Pn**	**23 14 30.6**	**+2.9**
ZUVM				*eS*	**Sb**	**23 15 08.0**	**-3.8**
CEGR	**Campo Tres**	**3.07**	**306**	*eP*	**Pn**	**23 14 30.3**	**+2.1**
CEGR				*eS*	**Sn**	**23 15 04.1**	**+0.2**
VTVM	**Tizayuca**	**3.19**	**47**	*eP*	**Pn**	**23 14 31.4**	**+1.4**
VTVM				*eS*	**Sb**	**23 15 15.0**	**-1.5**
PNIG	**Pinotepa**	**3.20**	**111**	*eP*	**Pn**	**23 14 31.3**	**+1.5**
PNIG				*eS*	**Sn**	**23 15 07.0**	**+0.2**
PHPU	**Puebla**	**3.25**	**63**	*eP*	**Pb**	**23 14 35.4**	**-3.6**
PHPU				*eS*	**Sb**	**23 15 19.4**	**+1.0**
HLIG	**Huajuapan de L**	**3.28**	**85**	*i* P	**Pn**	**23 14 33.9**	**+2.8**
HLIG				*eS*	**Sn**	**23 15 10.3**	**+1.2**
TXIG	**Tlaxiaco**	**3.33**	**95**	*eP*	**Pn**	**23 14 34.8**	**+3.0**
TXIG				*eS*	**Sn**	**23 15 12.6**	**+2.3**
DEIG	**Demacu**	**3.41**	**37**	*eP*	**Pn**	**23 14 34.5**	**+1.6**
DEIG				*eS*	**Sb**	**23 15 17.8**	**-5.1**
YOIG	**Yosondua**	**3.60**	**101**	*eP*	**Pn**	**23 14 37.8**	**+3.2**
YOIG				*eS*	**Sn**	**23 15 17.3**	**+0.3**
CIHU	**Emiliano Zapat**	**3.72**	**297**	*e*	**Pn**	**23 14 37.6**	**+0.7**
CIHU				*i*		23 15 29.8	
CJM	**Chamela**	**4.09**	**298**	*eP*	**Pn**	**23 14 43.4**	**+1.5**
CJM				*eS*	**Sn**	**23 15 27.3**	**-1.4**
OZST	**Orizaba**	**4.13**	**71**	*e*	**Pb**	**23 14 51.7**	**-2.2**
OZST				*e*		23 15 47.5	
PEIG	**Puerto Escondi**	**4.22**	**111**	*eP*	**Pn**	**23 14 45.8**	**+2.0**
PEIG				*e*		23 15 55.0	
VHO	**Vista Hermosa**	**4.33**	**96**	*eP*	**Pn**	**23 14 48.3**	**+2.8**
VHO				*e*		23 15 49.4	
RPIG	**Rio Verde**	**4.44**	**15**	*eP*	**Pb**	**23 15 02.3**	**+3.1**
RPIG				*e*		23 16 02.7	
AAIG	**Aguscalientes**	**4.50**	**346**	*eP*	**Pn**	**23 14 50.5**	**+2.7**
AAIG				*e*		23 16 02.0	
JAUV	**Jalcomulco**	**4.56**	**66**	*eP*	**Pb**	**23 14 58.0**	**-3.3**
JAUV				*eS*	**Sb**	**23 15 51.4**	**-4.4**
CTUV	**Llano Grande**	**4.73**	**35**	*eP*	**Pb**	**23 14 59.8**	**+0.9**
CTUV				*eS*	**Sb**	**23 15 59.7**	**-0.7**
NEUV	**Arroyo Zacate**	**5.18**	**88**	*eP*	**Pn**	**23 14 58.9**	**+1.9**
NEUV				*eS*	**Sn**	**23 16 02.6**	**+6.9**
HUIG	**Huatulco**	**5.23**	**109**	*eP*	**Pn**	**23 15 00.8**	**+3.0**
HUIG				*eS*	**Sn**	**23 15 50.8**	**-6.2**
GTIG	**Gomez Farias**	**5.79**	**19**	*eP*	**Pn**	**23 15 06.6**	**+1.2**
GTIG				*eS*	Sn	23 16 19.8	+9.1
CMIG	**Matias Romero**	**6.08**	**94**	Pn	**Pn**	**23 15 08.3**	**-1.2**
	2.7nm,0.3s,baz=293,slow=12,SNR=9.8						
CMIG				Sn	**Sn**	**23 16 16.1**	**-1.9**
	8.6nm,0.3s,baz=329,slow=13,SNR=2.1						
CMIG				Lg	Lg	23 16 49.2	
	21nm,0.3s,baz=13,slow=23,SNR=6.2						
CMIG				LR	LR	23 17 48.1	
	comp=Z,836nm,19.2s,baz=280,slow=42						
	7.7nm,0.4s						
UXUV	**UXUV**	**6.77**	**91**	*eP*	**Pn**	**23 15 20.4**	**+1.5**
UXUV				*e*		23 16 32.9	
PATR	**El Naranjo**	**8.98**	**105**	*eP*	**Pn**	**23 15 53.6**	**+4.1**
PATR				*eS*	**Sn**	**23 17 32.5**	**+2.9**
PAVE	**Pavencul**	**9.01**	**104**	*eP*	**Pn**	**23 15 54.4**	**+4.5**
PAVE				*eS*	**Sn**	**23 17 34.5**	**+4.1**
CHUJ	**Union Juarez**	**9.10**	**104**	*eP*	**Pn**	**23 15 55.4**	**+4.3**
CHUJ				*eS*	**Sn**	**23 17 33.8**	**+1.1**
833A	**Chaparral WMA,**	**10.82**	**9**	Pn	Pn	23 16 20.4	+5.9
833A	**Chaparral WMA,**	**10.82**	**9**	P	Pn	23 16 20.7	+6.2
	baz=188						
DRIO	**Del Rio**	**11.80**	**3**		Pn	23 16 34.4	+6.5
TXAR	**Lajitas Array**	**11.91**	**350**		Pn	23 16 36.0	+6.6
TXAR	**Lajitas Array**	**11.91**	**350**	Pn	Pn	23 16 35.8	+6.4
	0.1nm,0.3s,baz=167,slow=15,SNR=17						
TXAR				LR	LR	23 21 39.7	
	comp=Z,482nm,18.7s,baz=154,slow=40						
TX31	**Lajitas Ar. Si**	**11.91**	**350**		Pn	23 16 35.0	+5.6
HNDO	**Hondo**	**12.03**	**8**		Pn	23 16 35.9	+5.0
SAND	**Sanderson**	**12.34**	**356**		P	23 16 42.0	-5.0
TEIG	**Tepich**	**12.54**	**76**	Pn	**Pn**	**23 16 37.9**	**-0.1**
	2.7nm,0.3s,baz=260,slow=12,SNR=2.4						
TEIG				Sn	**Sn**	**23 18 54.7**	**-1.9**
	12nm,0.3s,baz=31,slow=21,SNR=1.8						
TEIG				LR	LR	23 22 08.0	
	comp=Z,2μm,19.8s,baz=12,slow=41						
	30nm,0.4s						
JCT	**Junction City**	**12.91**	**6**	Pn	**P**	**23 16 50.2**	**-3.0**
ALPN	**Alpine**	**12.92**	**351**		**P**	**23 16 49.6**	**-3.9**
HKT	**Hockley**	**13.26**	**21**		**Pn**	**23 16 49.9**	**+2.2**
OZNA	**Ozona**	**13.28**	**0**		**P**	**23 16 53.8**	**-3.6**
435B	**Jarrell**	**13.55**	**14**	P	**P**	**23 17 00.8**	**+0.4**
435B				IAmb	IAmb	23 17 19.3	
	comp=Z,18nm,0.8s						
435B	**Jarrell**	**13.55**	**14**	P	**P**	**23 16 57.9**	**-2.5**
	baz=193						
425A	**Indio Mountain**	**13.58**	**346**	Pn	**P**	**23 16 59.4**	**-1.5**
MNHN	**Monahans**	**13.77**	**355**		**P**	**23 17 01.6**	**-1.3**
MNHN				IAmb	IAmb	23 17 13.6	
	comp=Z,13nm,1.1s						
BRDY	**Brady**	**13.79**	**8**		**P**	**23 16 59.2**	**-3.9**
BRDY				IAmb	IAmb	23 17 15.1	
	comp=Z,7.9nm,0.8s						
PECS	**Pecos**	**13.93**	**351**		**P**	**23 17 03.5**	**-1.2**
PECS				IAmb	IAmb	23 17 17.5	
	comp=Z,11nm,0.8s						
HNVL	**Huntsville, TX**	**14.13**	**21**	Pn	**P**	**23 17 04.5**	**-2.3**
HNVL				IAmb	IAmb	23 17 21.6	
	comp=Z,47nm,1.3s						
SGCY	**Sterling City**	**14.27**	**0**		**P**	**23 17 08.5**	**0.0**
SGCY				IAmb	IAmb	23 17 23.3	
	comp=Z,21nm,1.0s						
ODSA	**Odessa**	**14.52**	**356**	Pn	**P**	**23 17 10.8**	**-0.5**
ODSA				IAmb	IAmb	23 17 22.4	
	comp=Z,20nm,1.1s						
MNTX	**Cornudas Mount**	**14.55**	**346**	P	**P**	**23 17 12.3**	**+0.8**
	baz=165,SNR=14						
WHTX	**Lake Whitney,**	**14.75**	**13**		**P**	**23 17 12.0**	**-1.7**
WHTX				IAmb	IAmb	23 17 40.5	
	comp=Z,38nm,1.4s						
WHTX	**Lake Whitney,**	**14.75**	**13**	P	**P**	**23 17 13.2**	**-0.4**
	baz=192						
441A	**DeRidder**	**15.02**	**28**	Pn	**Pn**	**23 17 13.4**	**+1.8**
ABTX	**Abilene, Hawle**	**15.05**	**5**	Pn	**P**	**23 17 16.9**	**-0.2**
ABTX	**Abilene, Hawle**	**15.05**	**5**	P	**P**	**23 17 17.7**	**+0.7**
	baz=185,SNR=5.7						
FW13	**Cleburne**	**15.10**	**12**	Pn	**P**	**23 17 17.5**	**-0.1**
FW13				IAmb	IAmb	23 17 19.3	
	comp=Z,22nm,1.1s						
237A	**Washetta, Mont**	**15.17**	**18**	Pn	**P**	**23 17 17.4**	**-1.0**
237A				IAmb	IAmb	23 17 21.2	
	comp=Z,43nm,0.8s						
SN01	**Snyder 1**	**15.22**	**1**		**P**	**23 17 18.8**	**-0.1**
SN01				IAmb	IAmb	23 17 29.1	
	comp=Z,19nm,0.8s						
NATX	**Nacogdoches**	**15.32**	**22**		**P**	**23 17 18.8**	**-1.2**
NATX				IAmb	IAmb	23 17 34.1	
	comp=Z,44nm,0.9s						
NATX	**Nacogdoches**	**15.32**	**22**	P	**P**	**23 17 20.1**	**+0.1**
	baz=202						
FW16	**Waxahatchie**	**15.34**	**14**	P	**P**	**23 17 20.3**	**0.0**
FW16				IAmb	IAmb	23 17 22.5	
	comp=Z,28nm,0.6s						
FW07	**Weatherford**	**15.37**	**11**	Pn	**P**	**23 17 20.4**	**-0.3**
FW07				IAmb	IAmb	23 17 34.1	
	comp=Z,20nm,0.7s						
PLPT	**Palo Pinto**	**15.39**	**9**		**P**	**23 17 20.7**	**-0.1**
PLPT				IAmb	IAmb	23 17 22.6	
	comp=Z,28nm,1.0s						
POST	**Post**	**15.42**	**359**	P	**P**	**23 17 22.0**	**+0.8**
POST				IAmb	IAmb	23 17 35.7	
	comp=Z,25nm,0.8s						
FW03	**Perrin-Whitt E**	**15.65**	**10**	P	**P**	**23 17 23.8**	**+0.1**
FW03				IAmb	IAmb	23 17 26.1	
	comp=Z,19nm,0.7s						
FW06	**Azle**	**15.68**	**12**	Pn	**P**	**23 17 23.4**	**-0.6**
FW06				IAmb	IAmb	23 17 25.8	
	comp=Z,18nm,0.7s						
APMT	**Aspermont**	**15.71**	**3**	Pn	**P**	**23 17 25.4**	**+1.1**
APMT				IAmb	IAmb	23 17 40.2	
	comp=Z,27nm,1.1s						
121A	**Cookes Peak, D**	**16.02**	**340**		**P**	**23 17 28.8**	**+0.8**
121A	**Cookes Peak, D**	**16.02**	**340**	P	**P**	**23 17 30.4**	**+2.4**
	baz=158						
DKNS	**Dickens**	**16.02**	**1**	P	**P**	**23 17 30.4**	**+2.5**
DKNS				IAmb	IAmb	23 17 56.9	
	comp=Z,18nm,0.8s						
Z35A	**Perchaven, San**	**16.09**	**12**	Pn	**P**	**23 17 29.4**	**+0.8**
Z35A				IAmb	IAmb	23 18 01.3	
	comp=Z,17nm,0.7s						
WTFS	**Witchita Falls**	**16.31**	**8**	Pn	**P**	**23 17 31.8**	**+0.8**
WTFS				IAmb	IAmb	23 18 03.5	
	comp=Z,16nm,1.0s						
MSTX	**Muleshoe**	**16.38**	**355**	P	**P**	**23 17 31.5**	**-0.4**
MSTX	**Muleshoe**	**16.38**	**355**	P	**P**	**23 17 34.2**	**+2.3**
	baz=175						
Z38A	**Mt. Pleasant**	**16.59**	**19**	Pn	**P**	**23 17 34.4**	**+0.3**
Z38A				IAmb	IAmb	23 17 55.7	
	comp=Z,40nm,1.2s						
TUC	**Tucson**	**17.02**	**331**	P	**P**	**23 17 41.5**	**+2.5**
	baz=149						
WMOK	**Wichita Mounta**	**17.23**	**7**		**P**	**23 17 42.2**	**+1.1**
AMTX	**Amarillo**	**17.24**	**359**	P	**P**	**23 17 43.0**	**+1.6**
AMTX				IAmb	IAmb	23 17 54.4	
	comp=Z,20nm,0.9s						
Z41A	**Richland Creek**	**17.35**	**24**	P	**P**	**23 17 42.7**	**+0.1**
Z41A				IAmb	IAmb	23 18 00.1	
	comp=Z,52nm,1.0s						
JTS	**Las Juntas de**	**17.38**	**113**	P	**Pn**	**23 17 41.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=252,slow=16

comp=Z,33nm,1.3s
BC3 **Big Chuckawall** 20.47 324 P Pn 23 18 18.5 -0.7
baz=140,SNR=5.2
MONP2 **Monument Peak** 20.48 321 P Pn 23 18 18.6 -0.8
baz=137
MVCO **Mesa Verde** 20.57 343 P Pn 23 18 20.9 +0.4
MVCO IAmb IAmb 23 18 32.5
comp=Z,21nm,0.9s
MVCO **Mesa Verde** 20.57 343 P Pn 23 18 20.9 +0.4
baz=161
IRM **Iron Mountain** 20.68 326 P Pn 23 18 21.0 -0.5
baz=142,SNR=8.7
S22A **4UR Ranch, Cre** 20.68 347 P Pn 23 18 21.1 -0.7
S22A **4UR Ranch, Cre** 20.68 347 P Pn 23 18 22.0 +0.3
baz=165,SNR=5.2
W13A **Hualapai Mount** 20.77 330 P Pn 23 18 21.7 -1.0
PLAL **Pickwick Lake** 20.93 32 P P 23 18 21.0 -0.7
Y49A **Blount Mountai** 20.96 37 P P 23 18 21.2 -0.9
Y49A IAmb IAmb 23 18 38.0
comp=Z,9.9nm,0.8s
PMD **Palm Desert** 20.99 323 P P 23 18 23.1 +0.7
TPFO **Pinon Flats** 21.01 322 P P 23 18 24.1 +1.4
baz=138,SNR=7.2
PFO **Pinyon Flats O** 21.01 322 P P 23 18 23.2 +0.5
PFO **Pinyon Flats O** 21.01 322 P P 23 18 24.6 +1.8
baz=138,SNR=5.4
PFO **Pinyon Flats O** 21.01 322 P P 23 18 26.0 +3.2
comp=Z,5.6nm,0.9s,baz=124,slow=7.1,SNR=6.1
PFO LR LR 23 27 19.5
comp=Z,153nm,19.8s,baz=150,slow=39
comp=Z,5.6nm,0.9s
BELC **Belle Mtn. Jos** 21.03 324 P P 23 18 25.9 +3.0
baz=140,SNR=8.6
MGMO **Mountain Grove** 21.04 20 P P 23 18 23.1 +0.2
MGMO IAmb IAmb 23 18 39.6
comp=Z,22nm,0.9s
X48A **Hartselle** 21.05 34 P P 23 18 22.0 -1.0
X48A IAmb IAmb 23 19 03.7
comp=Z,16nm,1.1s
U15A **North Rim** 21.17 335 P P 23 18 24.8 +0.2
S39A **Bolivar** 21.20 18 P P 23 18 25.3 +0.7
S39A IAmb IAmb 23 18 37.3
comp=Z,24nm,0.9s
PBMO **Poplar Bluff** 21.37 24 P P 23 18 26.6 +0.2
PBMO IAmb IAmb 23 18 48.2
comp=Z,12nm,0.9s
KSCO **Kaye Shedlock'** 21.39 357 P P 23 18 27.1 +0.3
GMRC **Granite Mounta** 21.43 326 P P 23 18 30.0 +2.8
baz=142
MURC **Murrieta** 21.44 321 P P 23 18 30.0 +2.7
baz=136
ELS **Elsinore Mount** 21.61 321 P P 23 18 28.8 -0.3
V12A **Nelson** 21.74 329 P P 23 18 31.5 +0.9
HEC **Hector,Ludlow** 21.83 325 P P 23 18 34.1 +2.7
baz=140
KNB **Kanab** 21.89 334 P P 23 18 34.9 +2.7
FPAL **Fort Paine** 21.91 37 P P 23 18 30.1 -2.2
FPAL IAmb IAmb 23 18 42.7
comp=Z,11nm,0.9s
HMU **Henry Mountain** 21.93 340 P P 23 18 34.4 +1.7
WVT **Waverly** 21.96 30 P P 23 18 32.9 +0.1
WVT IAmb IAmb 23 18 50.1
comp=Z,18nm,1.1s
WVT **Waverly** 21.96 30 P P 23 18 34.1 +1.3
baz=214
CIS **Catalina Islan** 22.05 319 P P 23 18 36.1 +2.2
baz=134
LCMT **Little Creek M** 22.06 334 P P 23 18 35.6 +1.5
TUQ **Turquoise Moun** 22.06 327 P P 23 18 37.1 +3.0
baz=142,SNR=8.0
R40A **Maddies Statio** 22.07 19 P P 23 18 33.8 -0.2
R40A IAmb IAmb 23 18 49.1
comp=Z,16nm,0.9s
CGM3 **Cape Girardeau** 22.13 25 P P 23 18 33.5 -1.0
CGM3 IAmb IAmb 23 18 51.7
comp=Z,13nm,0.8s
WTNK **Soaring Height** 22.19 329 P P 23 18 36.7 +1.4
CCM **Cathedral Cave** 22.20 21 P P 23 18 34.7 -0.6
CCM IAmb IAmb 23 18 49.9
comp=Z,14nm,1.1s
CCM **Cathedral Cave** 22.20 21 P P 23 18 35.6 +0.4
baz=204
FVM **French Village** 22.43 23 P P 23 18 38.4 +0.6
FVM IAmb IAmb 23 18 47.0
comp=Z,14nm,0.8s
GOGA **Godfrey** 22.43 42 P P 23 18 34.1 -3.7
GOGA IAmb IAmb 23 18 55.8
comp=Z,10nm,0.8s
GOGA **Godfrey** 22.43 42 P P 23 18 35.9 -2.0
baz=227
GSC **Goldstone, Bar** 22.44 325 P P 23 18 39.9 +1.9
GSC **Goldstone, Bar** 22.44 325 P P 23 18 39.3 +1.3
baz=140
SZCU **Shurtz Canyon** 22.50 335 P P 23 18 40.9 +2.1
SHPR **Sheep Range** 22.52 330 P P 23 18 40.1 +1.2
MTPU **Mount Pierson** 22.53 337 P P 23 18 39.8 +0.6
MTPU IAmb IAmb 23 18 51.3
comp=Z,10nm,0.9s
CCUT **Cedar City** 22.57 334 P P 23 18 40.0 +0.4
S44A **Carbondale** 22.63 25 P P 23 18 40.4 +0.5
SNCC **San Nicolas Is** 22.66 317 P P 23 18 40.9 +0.6
baz=132
CLTN **Cedars of Leba** 22.68 33 P P 23 18 39.7 -0.7
CLTN IAmb IAmb 23 18 54.3
comp=Z,16nm,0.8s
EDW2 **Edwards Air Fo** 22.81 322 P P 23 18 43.1 +1.2
baz=137
QSM **Queen of Sheba** 22.97 326 P P 23 18 43.0 -0.5
QSM IAmb IAmb 23 18 55.3
comp=Z,15nm,1.2s
T47A **Sharon Grove** 23.00 30 P P 23 18 42.2 -1.6
T47A IAmb IAmb 23 18 52.6
comp=Z,19nm,0.9s
GWY **Greenwater Val** 23.03 327 P P 23 18 43.2 -1.1
GWY IAmb IAmb 23 19 14.4
comp=Z,8.4nm,0.9s
PRN **Pahroc Range** 23.19 331 P P 23 18 45.8 -0.1
PRN IAmb IAmb 23 19 17.7
comp=Z,8.8nm,1.1s
P40A **Paris** 23.28 18 P P 23 18 46.2 -0.4
P40A IAmb IAmb 23 18 59.9
comp=Z,16nm,0.9s
MPMC **Manual Prospec** 23.37 325 P P 23 18 48.8 +1.0
baz=140,SNR=5.3
TPNV **Topopah Spring** 23.40 328 P P 23 18 47.1 -0.9
TPNV IAmb IAmb 23 18 52.9
comp=Z,13nm,1.0s
TPNV **Topopah Spring** 23.40 328 P P 23 18 49.7 +1.7
baz=143,SNR=9.9
WCT **Wildcat Mounta** 23.47 328 P P 23 18 48.5 -0.1
N23A **Red Feather La** 23.59 351 P P 23 18 51.6 +1.8
baz=169
PSUT **Pine Spring** 23.61 335 P P 23 18 49.8 -0.3
ISA **Isabella, Lake** 23.64 323 P P 23 18 49.0 -1.2
ISA IAmb IAmb 23 19 02.7
comp=Z,12nm,1.1s
ISA **Isabella, Lake** 23.64 323 P P 23 18 51.5 +1.3
baz=137
S11A **Rachel** 23.71 330 P P 23 18 51.7 +0.7
S11A IAmb IAmb 23 19 17.1
comp=Z,13nm,1.0s
TKL **Tuckaleechee C** 23.76 37 P P 23 18 49.6 -1.7
comp=Z,5.8nm,0.7s,baz=225,slow=10,SNR=5.7
comp=Z,5.8nm,0.7s
Q44A **Meyer Farm, Va** 23.77 24 P P 23 18 50.2 -1.1
CWC **Cottonwood Cre** 23.97 325 P P 23 18 54.1 +0.7
baz=139
OLIL **Olney** 23.99 26 P P 23 18 52.1 -1.2
OLIL IAmb IAmb 23 19 02.0
comp=Z,19nm,0.9s
GRAC **Grapevine Rang** 24.01 327 P P 23 18 53.8 +0.2
baz=141
N38A **Joes South For** 24.14 15 P P 23 18 54.3 -0.4
T50A **Nancy** 24.16 33 P P 23 18 53.4 -1.6
T50A IAmb IAmb 23 18 56.9
comp=Z,10nm,0.8s
GMN **Gold Mountain** 24.18 327 P P 23 18 55.1 -0.4
SPR3 **Spring Creek 3** 24.20 334 P P 23 18 55.0 -0.8
R11B **Troy Canyon, C** 24.20 332 P P 23 18 54.9 -0.7
R11B **Troy Canyon, C** 24.20 332 P P 23 18 56.7 +1.1
baz=146
P43A **Skaggs, Pawnee** 24.22 22 P P 23 18 53.8 -1.7
V53A **Saluda** 24.33 39 P P 23 18 54.0 -2.6
V53A IAmb IAmb 23 19 06.4
comp=Z,11nm,0.8s
WCI **Wyandotte Cave** 24.38 29 P P 23 18 54.0 -3.0
WCI IAmb IAmb 23 19 06.5
comp=Z,15nm,0.8s
WCI **Wyandotte Cave** 24.38 29 P P 23 18 56.2 -0.7
baz=214
TZTN **Tazewell** 24.52 36 P P 23 18 56.3 -2.0
baz=222
MZP **Montezuma Peak** 24.55 328 P P 23 18 58.0 -0.8
DUG **Dugway, Tooele** 24.66 338 P P 23 19 00.9 +1.3
baz=154
TPH **Tonopah** 24.76 329 P P 23 19 00.5 -0.2
O44A **Mansfield** 25.06 24 P P 23 19 01.9 -1.3
HDIL **Hopedale** 25.11 22 P P 23 19 03.2 -0.3
baz=206
S51A **Beattyville** 25.29 34 P P 23 19 03.1 -2.0
OMMB **Old Mammoth Mi** 25.33 326 P P 23 19 04.5 -1.5
OMMB IAmb IAmb 23 19 18.6
comp=Z,9.6nm,0.9s
R50A **Paris** 25.38 32 P P 23 19 02.0 -4.0
R50A IAmb IAmb 23 19 19.3
comp=Z,13nm,0.9s
MDPB **Devils Postpil** 25.39 325 P P 23 19 02.1 -4.4
MDPB IAmb IAmb 23 19 12.0
comp=Z,17nm,1.1s
U54A **Nelsons Funny** 25.50 38 P P 23 19 03.7 -3.5
NV11 **Mina Array Sit** 25.50 328 P P 23 19 06.9 -0.4
NV11 IAmb IAmb 23 19 20.3
comp=Z,13nm,1.1s
LHV **Little Huntoon** 25.55 327 P P 23 19 06.4 -1.1
NVAR **Mina Array Bea** 25.58 328 P P 23 19 06.9 -1.2
NVAR **Mina Array Bea** 25.58 328 P P 23 19 11.0 +2.9
comp=Z,10nm,0.9s,baz=151,slow=9.9,SNR=28
NVAR LR LR 23 30 31.9
comp=Z,127nm,19.6s,baz=136,slow=40
comp=Z,10nm,0.9s
SFIN **Lafayette** 25.80 25 P P 23 19 09.9 +0.1
baz=210
RYN **Ryan** 25.84 328 P P 23 19 09.6 -0.8
RYN IAmb IAmb 23 19 16.5
comp=Z,8.5nm,0.9s
KVN **Kaiserville** 25.95 329 P P 23 19 11.3 -0.2
KVN IAmb IAmb 23 19 17.6
comp=Z,13nm,1.0s
ELK **Elko** 26.05 335 LR LR 23 29 15.4
comp=Z,176nm,20.6s,baz=154,slow=36
BW06 **Boulder Array** 26.08 346 P P 23 19 13.0 +0.3
BW06 IAmb IAmb 23 19 25.1
comp=Z,9.0nm,1.1s
BW06 **Boulder Array** 26.08 346 P P 23 19 14.1 +1.4
baz=162
PD31 **Pinedale Array** 26.08 346 P P 23 19 13.0 +0.3
PD31 IAmb IAmb 23 19 25.1
comp=Z,8.2nm,1.1s
PDAR **Pinedale Array** 26.08 346 P P 23 19 13.1 +0.4
PDAR **Pinedale Array** 26.08 346 P P 23 19 13.9 +1.2
comp=Z,2.3nm,0.9s,baz=154,slow=11,SNR=3.7
PDAR pP pP 23 19 22.7 +0.4
comp=Z,4.4nm,1.0s,baz=159,slow=8.9,SNR=5.1
PDAR LR LR 23 30 29.4
comp=Z,219nm,20.9s,baz=180,slow=39
comp=Z,2.3nm,0.9s
P49A **Miami Univ. Ec** 26.16 30 P P 23 19 11.1 -2.1
P49A **Miami Univ. Ec** 26.16 30 P P 23 19 12.8 -0.3
baz=216
ECSD **EROS Data Cent** 26.36 8 P P 23 19 14.2 -0.7
ECSD IAmb IAmb 23 19 58.8
comp=Z,7.1nm,0.9s
ECSD **EROS Data Cent** 26.36 8 P P 23 19 16.4 +1.5
baz=189
Q51A **Peebles** 26.45 32 P P 23 19 13.2 -2.6
O48B **Farmland** 26.53 28 P P 23 19 16.0 -0.4
baz=214
BMN **Battle Mountai** 26.63 332 P P 23 19 17.1 -0.5
BMN IAmb IAmb 23 19 47.0
comp=Z,7.7nm,1.3s
BLA **Blacksburg** 26.79 39 P P 23 19 15.2 -3.7
BLA **Blacksburg** 26.79 39 P P 23 19 16.5 -2.5
baz=226
N47A **Urbana** 26.80 27 P P 23 19 17.4 -1.4
EMB **Emerald Bay** 26.92 326 P P 23 19 19.2 -1.0
EMB IAmb IAmb 23 19 33.0
comp=Z,12nm,1.2s
P51A **Williamsport** 26.93 32 P P 23 19 17.4 -2.7
Q52A **Bidwell** 26.96 34 P P 23 19 17.1 -3.3
P52A **Corning** 27.53 33 P P 23 19 23.5 -1.9
baz=220
ACSO **Alum Creek Sta** 27.54 31 P P 23 19 24.9 -0.7
baz=218
O52A **Adamsville** 28.04 33 P P 23 19 27.1 -2.8
HLID **Hailey** 28.20 339 P P 23 19 33.3 +1.7
baz=154
ERPA **Erie** 30.45 32 P P 23 19 51.4 0.0
baz=221
GLMI **Grayling** 30.53 24 P P 23 19 51.6 -0.4
baz=211
DGMT **Dagmar** 30.90 356 P P 23 19 56.4 +1.1
baz=174
AGMN **Agassiz Nation** 30.95 7 P P 23 19 56.5 +0.8
baz=189
SDV **Santo Domingo** 30.98 102 LR LR 23 32 46.0
comp=Z,65nm,19.8s,baz=270,slow=37
F10A **Beach Ranch, E** 31.28 338 P P 23 19 58.4 -0.4
F10A IAmb IAmb 23 20 18.4
comp=Z,8.1nm,1.1s
BINY **Binghamton** 32.65 36 P P 23 20 08.7 -2.0
baz=227
SADO **Sadowa** 32.83 30 LR LR 23 35 39.8
comp=Z,111nm,19.9s,baz=232,slow=40
ULM **Lac du Bonnet** 32.87 6 P P 23 20 11.9 -0.6
comp=Z,1.5nm,0.6s,baz=192,slow=8.3,SNR=3.2
ULM LR LR 23 33 55.3
comp=Z,156nm,18.1s,baz=211,slow=37
comp=Z,1.5nm,0.6s
NEW **Newport** 33.24 341 LR LR 23 35 11.1
comp=Z,275nm,18.4s,baz=157,slow=39
ATAH **Atahualpa** 33.35 136 LR LR 23 31 13.2
comp=Z,79nm,19.8s,baz=325,slow=32
BBB **Bella Bella** 40.50 335 LR LR 23 38 06.3
comp=Z,85nm,20.0s,baz=171,slow=36
SCHQ **Schefferville** 45.55 27 LR LR 23 42 06.0
comp=Z,85nm,20.1s,baz=284,slow=38
YKA **Yellowknife Ar** 45.83 351 P P 23 22 00.3 0.0
comp=Z,0.5nm,0.9s,baz=160,slow=7.3,SNR=5.0
YKA pP pP 23 22 09.1 -1.2
comp=Z,2.4nm,0.8s,baz=162,slow=7.3,SNR=21
YKA LR LR 23 42 38.6
comp=Z,272nm,18.3s,baz=26,slow=38
comp=Z,0.5nm,0.9s
DLBC **Dease Lake** 45.97 339 LR LR 23 43 03.5
comp=Z,270nm,19.6s,baz=123,slow=38
R33M **Jennings River** 47.02 340 P P 23 22 09.8 -0.1
baz=140
SKAG **Skagway** 48.58 338 P P 23 22 21.2 -0.7
baz=135
P29M **Windy Craggy** 49.60 337 P P 23 22 29.1 -0.5
baz=132
O30N **Mendenhall** 49.78 338 P P 23 22 30.1 -1.0
baz=135
FARO **Faro, Yukon** 49.93 341 P P 23 22 31.8 -0.4
baz=139
N31M **Braeburn, Yuko** 50.18 339 P P 23 22 33.5 -0.6
baz=136
M31M **Drury Creek, Y** 50.24 341 P P 23 22 33.8 -0.8
baz=138
PNL **Peninsula** 50.26 336 P P 23 22 33.7 -1.0
baz=131
HYT **Haines Junctio** 50.32 338 P P 23 22 35.8 +0.6
baz=134
N30M **Aishikik Lake** 50.61 339 P P 23 22 38.8 +1.4
baz=134
YUK4 **Talbot Arm** 51.08 338 P P 23 22 40.7 -0.4
baz=133
FRB **Frobisher Bay** 51.25 18 LR LR 23 47 35.6
comp=Z,253nm,18.3s,baz=348,slow=40
M30M **Minto, Yukon** 51.29 340 P P 23 22 42.9 +0.5
baz=135
YUK8 **Steele Glacier** 51.45 337 P P 23 22 43.4 -0.4
baz=131
M29M **Somme Creek** 51.76 339 P P 23 22 47.0 +1.0
baz=133
SIV **San Ignacio** 51.76 128 LR LR 23 42 29.3
comp=Z,60nm,20.1s,baz=289,slow=34
YUK3 **Moose Creek** 52.02 338 P P 23 22 47.4 -0.7
baz=131
L29M **L29M** 52.10 340 P P 23 22 49.1 +0.6
baz=134
K29M **Barlow Dome** 52.42 341 P P 23 22 49.5 -1.4
K29M IAmb IAmb 23 22 54.6
comp=Z,8.6nm,1.0s
K29M **Barlow Dome** 52.42 341 P P 23 22 51.7 +0.8
baz=135
J30M **Hart River** 52.58 342 P P 23 22 52.6 +0.5
baz=137
M27K **Edge Creek, AK** 52.91 338 P P 23 22 55.4 +0.8
baz=129
Q23K **Middleton Isla** 52.98 333 P P 23 22 55.6 +0.7
baz=123
I30M **Mount Dempster** 53.06 342 P P 23 22 53.2 -2.4
I30M IAmb IAmb 23 22 58.3
comp=Z,4.7nm,0.9s
I30M **Mount Dempster** 53.06 342 P P 23 22 56.9 +1.3
baz=137
DAWY **Dawson** 53.17 340 P P 23 22 54.8 -1.6
DAWY IAmb IAmb 23 23 09.2
comp=Z,9.2nm,1.5s
DAWY **Dawson** 53.17 340 P P 23 22 56.5 +0.1
baz=133
L27K **Beaver Creek,** 53.33 338 P P 23 22 59.0 +1.4
baz=130
M26K **Nabesna, AK** 53.34 337 P P 23 22 58.8 +1.1
baz=128
N25K **Chitina, Valde** 53.47 336 P P 23 22 59.0 +0.3
baz=126
C36M **Paulatuk** 53.66 350 P P 23 23 01.7 +1.9
baz=153
G31M **Satah River** 53.76 345 P P 23 22 59.3 -1.3
G31M **Satah River** 53.76 345 P P 23 23 01.2 +0.6
baz=140,SNR=5.5
L26K **Log Cabin Wild** 53.85 338 P P 23 22 59.4 -2.0
L26K IAmb IAmb 23 23 05.5
comp=Z,4.4nm,0.9s
L26K **Log Cabin Wild** 53.85 338 P P 23 23 01.5 +0.1
baz=128
KLU **Klutina** 53.93 335 P P 23 23 01.5 -0.5
baz=125
EPYK **Eagle Plains** 54.00 343 P P 23 23 02.5 +0.1
baz=137
F31M **Tsiigehtchic** 54.03 345 P P 23 23 02.6 +0.1
baz=141
K27K **Chicken** 54.03 339 P P 23 23 04.1 +1.4
baz=130
EGAK **Eagle** 54.22 340 P P 23 23 03.2 -0.8
I28M **Miner Creek** 54.28 341 P P 23 23 05.9 +1.4
baz=133
G30M **tAoh Zrii Nji** 54.31 344 P P 23 23 05.7 +1.0
baz=138
H29M **Whitestone** 54.35 342 P P 23 23 04.0 -1.0
H29M **Whitestone** 54.35 342 P P 23 23 05.7 +0.8
baz=135
PAX **Paxson** 54.60 337 P P 23 23 07.3 +0.4
baz=126
INK **Inuvik** 54.65 346 P P 23 23 06.0 -1.1
INK **Inuvik** 54.65 346 P P 23 23 08.5 +1.4
baz=142,SNR=7.4
INK **Inuvik** 54.65 346 LR LR 23 48 15.0
comp=Z,158nm,19.5s,baz=196,slow=38
SCRK **Sand Creek** 54.66 338 P P 23 23 07.6 +0.2
baz=128
F30M **Barrier River** 54.67 345 P P 23 23 07.8 +0.6
baz=139
G29M **Pine Creek** 54.75 343 P P 23 23 06.5 -1.3
G29M **Pine Creek** 54.75 343 P P 23 23 08.8 +1.0
baz=136
RIDG **Independent Ri** 54.82 338 P P 23 23 07.2 -1.3
RIDG **Independent Ri** 54.82 338 P P 23 23 09.3 +0.8
baz=127
J26L **Joseph Creek** 54.84 339 P P 23 23 07.0 -1.6
J26L **Joseph Creek** 54.84 339 P P 23 23 10.0 +1.4
baz=129,SNR=5.4
I27K **Kandik River** 54.91 341 P P 23 23 09.4 +0.3
baz=131
H03N2 **Juan Fernandez** 55.02 157 T T 00 22 17.9
baz=335,slow=77,SNR=171
H03N1 **Juan Fernandez** 55.03 157 T T 00 22 17.6
baz=335,slow=77,SNR=268
H03N3 **Juan Fernandez** 55.04 157 T T 00 22 18.4
baz=335,slow=77,SNR=170
I26K **Coal Creek Min** 55.21 340 P P 23 23 12.5 +1.4
baz=130
WAT6 **Susitna Watana** 55.25 336 P P 23 23 10.8 -0.9
baz=123
PMR **Palmer** 55.28 334 P P 23 23 11.8 +0.1
baz=121
H27K **Steamboat Moun** 55.29 341 P P 23 23 14.9 +3.1
baz=132
J25K **Salcha River,** 55.53 339 P P 23 23 14.7 +1.1
baz=127
WAT1 **Susitna Watana** 55.70 336 P P 23 23 15.3 +0.5
baz=122
G27K **Doyon Strip** 55.72 342 P P 23 23 12.6 -2.2
G27K IAmb IAmb 23 23 26.0
comp=Z,7.1nm,0.8s
G27K **Doyon Strip** 55.72 342 P P 23 23 16.4 +1.6
baz=132
F28M **Old Crow** 55.76 343 P P 23 23 14.0 -1.1
F28M **Old Crow** 55.76 343 P P 23 23 15.7 +0.6
baz=134,SNR=10
E29M **Blow River** 55.78 344 P P 23 23 14.5 -0.7
E29M **Blow River** 55.78 344 P P 23 23 16.7 +1.5
baz=137
HDA **Harding Lake** 55.97 338 P P 23 23 16.8 +0.2
baz=125
HDA P P 23 23 16.8 +0.2
baz=125
PRP **Porcupine Dome** 56.12 339 P P 23 23 16.6 -1.3
PRP **Porcupine Dome** 56.12 339 P P 23 23 18.0 +0.1
baz=127,SNR=5.7
IL31 56.15 338 P P 23 23 17.2 -0.7
ILAR **Eielson Array** 56.15 338 P P 23 23 15.1 -2.9
ILAR **Eielson Array** 56.15 338 P P 23 23 19.4 +1.5
comp=Z,4.2nm,0.9s,baz=148,slow=5.5,SNR=34
ILAR pP pP 23 23 28.7 +0.6
comp=Z,3.8nm,0.9s,baz=143,slow=5.6,SNR=11
ILAR LR LR 23 48 28.5
comp=Z,97nm,20.0s,baz=86,slow=37
comp=Z,4.2nm,0.9s
CUT **Chulitna** 56.16 335 P P 23 23 17.6 -0.4
baz=120
A36M **Sachs Harbour** 56.19 351 P P 23 23 14.6 -3.5
A36M IAmb IAmb 23 23 20.4
comp=Z,6.9nm,0.8s
A36M **Sachs Harbour** 56.19 351 P P 23 23 19.5 +1.4
baz=152
MCK **McKinley** 56.32 337 P P 23 23 19.9 +0.7
baz=123
E28M **Babbage River** 56.36 344 P P 23 23 18.5 -0.9
E28M IAmb IAmb 23 23 21.9
comp=Z,6.7nm,1.0s
E28M **Babbage River** 56.36 344 P P 23 23 19.8 +0.4
baz=135
G26K **Porcupine Rive** 56.45 341 P P 23 23 21.2 +1.3
baz=130
SKT **Skwentna** 56.47 334 P P 23 23 20.7 +0.5
baz=119
POKR **Poker Plat Res** 56.54 339 P P 23 23 21.5 +0.8
baz=125
Q18K **Katmai Hardscr** 56.59 330 P P 23 23 21.2 -0.1
baz=114
E27K **Coleen River** 56.62 343 P P 23 23 19.8 -1.5
E27K IAmb IAmb 23 23 24.0
comp=Z,8.6nm,1.1s
E27K **Coleen River** 56.62 343 P P 23 23 22.1 +0.8
baz=133
D28M **Stokes Point** 56.68 345 P P 23 23 22.5 +0.9
baz=136
TRF **Thorofare Moun** 56.69 336 P P 23 23 18.4 -3.7
TRF **Thorofare Moun** 56.69 336 P P 23 23 22.5 +0.5
baz=121
BWN **Browne** 56.75 337 P P 23 23 19.7 -2.5
F26K **Sheenjek River** 57.03 342 P P 23 23 24.4 +0.2
baz=130
G25K **Bearman Lake** 57.06 341 P P 23 23 25.5 +1.2
baz=127
H24K **Noodor Dome** 57.10 339 P P 23 23 23.0 -1.7
H24K **Noodor Dome** 57.10 339 P P 23 23 26.0 +1.3
baz=125
O18K **Koktuh Hills** 57.16 331 P P 23 23 25.7 +0.5
baz=114
PPLA **Purkeypile** 57.17 335 P P 23 23 25.8 +0.4
baz=119
D27M **Malcolm River** 57.18 344 P P 23 23 20.3 -4.9
D27M IAmb IAmb 23 23 28.1
comp=Z,6.9nm,1.1s
D27M **Malcolm River** 57.18 344 P P 23 23 25.7 +0.5
baz=134

RES	Resolute Bay	57.22	2	LR	LR	23 49 00.8	
	comp=Z,194nm,18.6s,baz=27,slow=37						
I23K	Minto, Yukon-K	57.24	338	P	P	23 23 24.3	-1.3
I23K	Minto, Yukon-K	57.24	338	P	P	23 23 26.1	+0.5
	baz=123						
CAST	Castle Rocks	57.38	336	P	P	23 23 26.8	+0.1
	baz=119						
F25K	Christian Rive	57.42	341	P	P	23 23 28.3	+1.3
	baz=128						
G24K	Hadweenzic Riv	57.46	340	P	P	23 23 25.0	-2.2
G24K	Hadweenzic Riv	57.46	340	P	P	23 23 28.3	+1.1
	baz=126						
MLY	Manley	57.67	338	P	P	23 23 29.9	+1.1
	baz=121						
E25K	Arctic Village	57.72	342	P	P	23 23 29.8	+0.8
	baz=128						
N18K	Kilae Creek	57.80	332	P	P	23 23 30.2	+0.5
	baz=114						
L19K	White Mountain	57.96	334	P	P	23 23 30.9	+0.1
	baz=116						
F24K	Squaw Lake	58.06	341	P	P	23 23 33.3	+1.8
	baz=126						
K20K	Telida	58.14	335	P	P	23 23 32.5	+0.5
	baz=117						
P16K	Nushagak River	58.17	329	P	P	23 23 32.6	+0.4
	baz=111						
CFA	Coronel Fontan	58.26	147	P	P	23 23 34.9	+1.6
	comp=Z,5.0nm,1.0s,baz=320,slow=8.3,SNR=5.4						
	comp=Z,5.0nm,1.0s						
G23K	Bananza Creek	58.31	339	P	P	23 23 31.0	-2.2
G23K				IAmb	IAmb	23 23 44.8	
	comp=Z,7.0nm,1.1s						
G23K	Bananza Creek	58.31	339	P	P	23 23 33.9	+0.7
	baz=123						
H22K	Ishtalitna Cre	58.34	338	P	P	23 23 33.8	+0.4
	baz=121						
O16K	Kokwok River B	58.42	330	P	P	23 23 30.1	-3.9
	baz=111						
J20K	Nowinta River	58.54	336	P	P	23 23 35.6	+0.8
	baz=118						
E24K	Your Creek	58.57	341	P	P	23 23 32.5	-2.6
E24K	Your Creek	58.57	341	P	P	23 23 36.5	+1.5
	baz=125						
COLD	Coldfoot	58.65	340	P	P	23 23 36.3	+0.8
	baz=123						
C26K	Camden Bay	58.66	344	P	P	23 23 37.5	+1.9
	baz=130						
D25K	Kavik River	58.69	343	P	P	23 23 33.8	-2.1
D25K	Kavik River	58.69	343	P	P	23 23 37.9	+2.0
	baz=128						
H21K	Melozitna Rive	58.74	338	P	P	23 23 36.5	+0.3
	baz=120						
L18K	Granite Mounta	58.76	333	P	P	23 23 33.0	-3.3
E23K	Chandalar	58.91	341	P	P	23 23 38.6	+1.1
	baz=124						
PPT	Papeete	59.02	236	LR	LR	23 42 36.5	
	comp=Z,42nm,19.5s,baz=40,slow=29						
J19K	Poorman	59.05	335	P	P	23 23 37.5	-0.8
	baz=116						
SFJD	Kangerlussuaq	59.07	21	LR	LR	23 49 33.7	
	comp=Z,148nm,19.1s,baz=190,slow=36						
TOLK	Toolik Lake Re	59.23	341	P	P	23 23 39.7	+0.1
	baz=124						
J18K	Innoko River	59.27	334	P	P	23 23 37.7	-2.2
	baz=114						
D24K	Happy Valley	59.29	342	P	P	23 23 41.0	+1.0
	baz=125						
M16K	Timber Creek	59.32	331	P	P	23 23 40.0	-0.2
	baz=111						
H20K	Anotleneega Mo	59.42	337	P	P	23 23 41.9	+1.0
	baz=117						
F22K	John River	59.45	340	P	P	23 23 41.4	+0.3
	baz=121						
C24K	Franklin Bluff	59.59	343	P	P	23 23 42.7	+0.7
	baz=126,SNR=6.8						
E22K	Anaktuvuk Pass	59.65	340	P	P	23 23 43.3	+0.8
	baz=122						
F21K	Alatna River	59.74	339	P	P	23 23 40.8	-2.3
F21K	Alatna River	59.74	339	P	P	23 23 42.9	-0.2
	baz=120						
D23K	Nanushuk River	59.74	341	P	P	23 23 41.7	-1.3
	baz=123						
L16K	Owhat River	59.79	332	P	P	23 23 43.3	-0.2
	baz=111						
O14K	Tigyukauivet M	59.84	329	P	P	23 23 41.0	-2.8
M15K	Kasigluk River	60.01	331	P	P	23 23 43.0	-2.0
	baz=109						
C23K	Itkillik River	60.20	342	P	P	23 23 44.0	-2.1
C23K	Itkillik River	60.20	342	P	P	23 23 46.8	+0.7
	baz=124						
D22K	Ayikyak River	60.31	341	P	P	23 23 44.2	-2.8
D22K	Ayikyak River	60.31	341	P	P	23 23 47.3	+0.3
	baz=121						
F20K	Avaraart Lake	60.43	338	P	P	23 23 48.3	+0.5
	baz=117						
E21K	Killik River	60.50	340	P	P	23 23 48.8	+0.5
	baz=120						
G19K	Purcell Mounta	60.52	337	P	P	23 23 45.1	-3.4
G19K	Purcell Mounta	60.52	337	P	P	23 23 49.8	+1.4
	baz=116						
H18K	Honhosa River	60.60	336	P	P	23 23 49.1	+0.1
	baz=114						
J16K	Anvik River	60.82	334	P	P	23 23 50.7	+0.1
	baz=111						
G18K	Tagagawik	61.01	337	P	P	23 23 51.6	-0.2
	baz=114						
CPUP	Villa Florida	61.03	135	P	P	23 23 52.7	+0.2
	comp=Z,5.2nm,0.8s,baz=329,slow=8.2,SNR=15						
CPUP				pP	pP	23 24 00.7	-1.9
	comp=Z,3.9nm,0.8s,baz=330,slow=7.6,SNR=6.7						
CPUP				LR	LR	23 49 36.4	
	comp=Z,41nm,20.9s,baz=10.0,slow=35						
	comp=Z,5.2nm,0.8s						
F19K	Shaleruckik Mo	61.06	338	P	P	23 23 52.5	+0.4
	baz=115						
I17K	Unalakleet	61.07	334	P	P	23 23 51.8	-0.3
	baz=111						
C21K	Knifeblade Rid	61.11	341	P	P	23 23 53.6	+1.2
	baz=119						
H17K	Granite Mounta	61.13	335	P	P	23 23 53.0	+0.5
	baz=112						
E19K	Redstone River	61.14	339		P	23 23 54.1	+1.5
E19K	Redstone River	61.14	339	P	P	23 23 53.0	+0.4
	baz=116						
E20K	Nigu River	61.14	340	P	P	23 23 52.8	+0.1
	baz=117						
M13K	Dall Lake	61.18	330	P	P	23 23 52.3	-0.6
	baz=106						
B21K	Ikpikpuk River	61.28	341	P	P	23 23 50.3	-3.2
	baz=120						
B22K	Teshekpuk Lake	61.28	342	P	P	23 23 54.1	+0.6
	baz=121						
UNV	Unalaska Valle	61.43	322	P	P	23 23 51.4	-3.3
	baz=100						
D20K	Etivluk River	61.48	340	P	P	23 23 55.1	+0.1
	baz=117						
G17K	Kiwalik Mounta	61.62	336	P	P	23 23 54.8	-1.1
	baz=112						
J14K	Nanvaranak Lak	61.93	332	P	P	23 24 00.2	+2.3
	baz=108						
H16K	Elim	61.96	335	P	P	23 24 01.3	+3.1
	baz=110						
BDFB	Brasilia	61.98	119	P	P	23 23 59.1	-0.1
	comp=Z,3.6nm,0.8s,baz=303,slow=8.3,SNR=6.5						
	comp=Z,3.6nm,0.8s						
A22K	Sinclair Lake	62.07	343	P	P	23 23 57.0	-1.7
	baz=120						
F17K	Baldwin Pennin	62.19	337	P	P	23 23 56.6	-3.0
	baz=112						
B20K	Meade River	62.24	341	P	P	23 24 01.4	+1.4
	baz=117						
E18K	Tukpahlearik C	62.31	338		P	23 24 02.5	+1.9
E18K	Tukpahlearik C	62.31	338	P	P	23 24 00.8	+0.2
	baz=113						
C19K	Lookout Ridge	62.63	340	P	P	23 24 03.4	+0.7
	baz=114						
C18K	Utukok River	62.98	339	P	P	23 24 05.1	0.0
	baz=112						
ANM	Nome	63.23	334	P	P	23 24 06.8	+0.2
	baz=107						
F15K	North Star Dit	63.26	336	P	P	23 24 07.6	+0.7
	baz=108						
C17K	DeLong Mountai	63.60	339	P	P	23 24 10.2	+1.1
	baz=110						
F14K	Arctic Creek	63.86	335	P	P	23 24 11.5	+0.7
	baz=106						
PLCA	Paso Flores	64.64	155	P	P	23 24 17.0	+0.7
	comp=Z,6.1nm,1.0s,baz=316,slow=6.2,SNR=5.2						
PLCA				LR	LR	23 45 55.8	
	comp=Z,42nm,19.2s,baz=344,slow=30						
	comp=Z,6.1nm,1.0s						
NEEM	North Greenlan	64.75	11	*i* P	P	23 24 18.5	+1.7
RAR	Rarotonga	69.11	238	LR	LR	23 46 40.6	
	comp=Z,72nm,20.5s,baz=176,slow=28						
NB2	NORSAR Subarra	85.12	27	P	P	23 26 25.5	+11
	comp=Z,1.4nm,0.7s,baz=299,slow=4.8						
NOA	NORSAR Array B	85.12	27	LR	LR	00 05 12.0	
	comp=Z,31nm,18.1s,baz=290,slow=36						
HFS	Hagfors	86.63	27	LR	LR	00 05 41.6	
	comp=Z,58nm,19.3s,baz=284,slow=36						
VRAC	Vranov	93.69	35	LR	LR	00 10 43.6	
	comp=Z,28nm,19.5s,baz=331,slow=37						
STKA	Stephens Creek	121.89	243	PKP	PKiKP	23 32 33.9	+0.6
	comp=Z,1.2nm,1.0s,baz=123,slow=3.6,SNR=4.3						
WRA	Warramunga Arr	127.53	258	PKP	PKiKP	23 32 44.9	+0.1
	comp=Z,2.2nm,0.8s,baz=84,slow=2.3,SNR=18						
WRA				pPKP	pPKPdf	23 32 55.7	+0.5
	comp=Z,1.2nm,0.8s,baz=84,slow=1.9,SNR=6.1						
ASAR	Alice Springs	128.30	253	PKP	PKiKP	23 32 46.7	+0.4
	comp=Z,2.0nm,0.9s,baz=93,slow=1.6,SNR=16						
ASAR				pPKP	pPKPdf	23 32 57.1	+0.5
	comp=Z,1.0nm,0.8s,baz=112,slow=2.1,SNR=4.5						
BOSA	Boshof	129.92	113	PKP	PKiKP	23 32 49.4	-0.2
	comp=Z,2.1nm,0.8s,baz=231,slow=6.5,SNR=2.1						
CMAR	Chiang Mai Arr	139.06	330	PKP	PKPdf	23 33 06.6	+0.6
	comp=Z,1.1nm,0.3s,baz=328,slow=2.6,SNR=7.0						

IDC 15 23:21:46.7±1.9, **53.03S**×**138.24E, h0**km, **mb3.6**/3, **mbtmp3.6**/3, **MS3.6**/3, **Error ellipse: s-maj=382.1km s-min=27.4km az=81.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	Cape Leeuwin H	24.89	307	T	T	23 54 10.3	
	baz=141,slow=75,SNR=3.4						
H01W2	Cape Leeuwin H	24.89	307	T	T	23 54 11.5	
	baz=141,slow=75,SNR=4.2						
H01W3	Cape Leeuwin H	24.90	307	T	T	23 54 12.2	
	baz=141,slow=75,SNR=4.7						
VNDA	Vanda	26.07	169	P	P	23 27 21.4	0.0
	1.1nm,0.8s,baz=341,slow=9.7,SNR=3.6						
	1.1nm,0.8s						
ASAR	Alice Springs	29.50	352	P	P	23 27 52.2	-0.3
	0.4nm,0.8s,baz=170,slow=9.5,SNR=5.1						
	0.4nm,0.8s						
WRA	Warramunga Arr	33.16	353	P	P	23 28 25.0	+0.3
	1.0nm,0.9s,baz=176,slow=7.5,SNR=5.2						
	1.0nm,0.9s						
MAW	Mawson	37.38	218	LR	LR	23 43 18.1	
	comp=Z,48nm,19.1s,baz=112,slow=34						
DZM	Mont Dzumac	37.67	46	LR	LR	23 43 37.7	
	comp=Z,59nm,18.1s,baz=267,slow=35						
SUR	Sutherland	79.09	230	LR	LR	00 02 53.5	
	comp=Z,88nm,19.1s,baz=217,slow=31						

IDC ***15*** *23:47:18.1*±*1.4, 59.62N*×*154.28W, h113km*±*16km, mb3.3/7, mbtmp3.7/12, Error ellipse: s-maj=18.4km s-min=15.3km az=49.0*

AEIC ***15*** *23:47:20.9*±*1.1, 59.66N*±*0.04*×*153.90W*±*0.07, h128km*±*6km, ML3.4, ML3.6/126(NEIC), Error ellipse: s-maj=6.7km s-min=5.3km az=189.0*

NEIC ***15*** *23:47:20.0*±*1.0, 59.60N*±*0.05*×*153.89W*±*0.08, h138km*±*6km, Error ellipse: s-maj=6.9km s-min=5.7km az=174.0*

ISC 15 23:47:20.5±0.7, **59.62N**±0.04×**153.89W**±0.04, **h140**km±5km, **n160**, σ1s **11**/172, **mb3.6**/7, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPT	Oil Point	0.34	84	P	Pn	23 47 39.9	-0.1
	baz=263						
P19K	Oil Pt	0.34	84		Pn	23 47 39.9	-0.1
P19K				Sn	Sn	23 47 54.4	-0.4
P19K				IAML		23 47 55.5	
	comp=E,3μm,0.5s						
P19K				IAML		23 47 55.5	
	comp=N,3μm,0.5s						
P19K	Oil Pt	0.34	84	P	Pn	23 47 39.8	-0.1
	baz=263						
P19K				S	Sn	23 47 54.5	-0.4
	baz=263						
ILSW	Iliamna Southw	0.53	46		Pn	23 47 40.1	-0.8
ILSW				Sn	Sn	23 47 55.4	-1.2
ILSW				IAML		23 47 56.4	
	comp=N,586nm,0.8s						
ILSW				IAML		23 47 57.2	
	comp=E,758nm,0.8s						
O19K	Port Alsworth	0.61	340		Pn	23 47 40.4	-0.9
O19K				Sn	Sn	23 47 55.9	-1.2
O19K				IAML		23 47 57.0	
	comp=E,1μm,0.5s						
O19K				IAML		23 47 58.1	
	comp=N,1μm,0.5s						
O19K	Port Alsworth	0.61	340	P	Pn	23 47 40.4	-0.9
	baz=159						
O18K	Koktuh Hills	0.71	290	Pn	Pn	23 47 41.3	-0.6
O18K				Sn	Sn	23 47 57.4	-0.9
O18K				IAML		23 47 58.2	
	comp=E,389nm,0.7s						
O18K	Koktuh Hills	0.71	290	P	Pn	23 47 41.4	-0.6
	baz=109						
Q19K	Cape Douglas,	0.71	170		Pn	23 47 41.4	-0.6
Q19K				IAML		23 47 58.6	
	comp=E,1μm,1.1s						
Q19K				IAML		23 48 01.0	
	comp=N,1μm,0.6s						
Q19K	Cape Douglas,	0.71	170	P	Pn	23 47 41.5	-0.6
	baz=350						
P18K	Big Mountain,	0.72	252		Pn	23 47 41.2	-0.9
P18K				Sn	Sn	23 47 57.0	-1.5
P18K	Big Mountain,	0.72	252	P	Pn	23 47 41.2	-0.9
	baz=72						
P18K				S	Sn	23 47 57.0	-1.5
	baz=72						
O20K	Slope Mountain	0.79	54	P	Pn	23 47 42.4	-0.2
	baz=234						
O20K				S	Sn	23 47 59.5	0.0
	baz=234						
RSO	Redoubt South	1.02	34		Pn	23 47 44.1	-0.6
KAHC	Katmai Hardscr	1.13	211	P	Pn	23 47 45.0	-0.7
	baz=31						
Q18K	Katmai Hardscr	1.13	211	P	Pn	23 47 45.0	-0.7
	baz=31						
HOM	Homer	1.14	87		Pn	23 47 45.2	-0.3
HOM				Sn	Sn	23 48 04.6	-0.1
HOM				IAML		23 48 05.8	
	comp=E,2μm,0.7s						
HOM	Homer	1.14	87	P	Pn	23 47 45.3	-0.3
	baz=269						
HOM				S	Sn	23 48 04.5	-0.2
	baz=269						
N19K	Bonanza Creek	1.23	346		Pn	23 47 46.0	-0.6
N19K	Bonanza Creek	1.23	346	P	Pn	23 47 46.1	-0.6
	baz=166						
N19K				S	Sn	23 48 05.5	-1.0
	baz=166						
Q20K	Shuyak Island	1.28	142	P	Pn	23 47 46.4	-0.5
	baz=324						
SYI	Shuyak Island	1.28	142		Pn	23 47 46.3	-0.6
SYI				IAML		23 48 06.0	
	comp=N,2μm,0.6s						
SYI				IAML		23 48 06.1	
	comp=E,1μm,0.4s						
CNPM	China Poot	1.35	93	Pn	Pn	23 47 47.2	-0.6
CNPM				IAML		23 48 07.4	
	comp=N,1μm,0.7s						
CNPM				IAML		23 48 07.8	
	comp=E,820nm,0.4s						
P17K	Kvichak River	1.37	253	P	Pn	23 47 47.8	-0.1
	baz=71						
N18K	Kilae Creek	1.46	318		Pn	23 47 48.6	-0.3
N18K				IAML		23 48 10.3	
	comp=E,151nm,1.1s						
N18K	Kilae Creek	1.46	318	P	Pn	23 47 48.6	-0.3
	baz=136						
BRLK	Bradley Lake	1.53	83		Pn	23 47 48.5	-1.2
BRLK				IAML		23 48 11.6	
	comp=N,653nm,0.4s						
BRLK				IAML		23 48 11.8	
	comp=E,729nm,0.4s						
BRSE	Bradley Lake S	1.60	84	P	Pn	23 47 49.6	-0.8
	baz=267						
O17K	Koliganek Bris	1.63	277	P	Pn	23 47 50.6	0.0
	baz=94						
O17K				S	Sn	23 48 13.7	0.0
	baz=94						
SVW2	Sparrevohn	1.70	331	Pn	Pn	23 47 50.8	-0.7
SVW2				IAML		23 48 15.1	
	comp=N,142nm,0.6s						
SVW2	Sparrevohn	1.70	331	P	Pn	23 47 51.1	-0.4
Q17K	Contact Creek	1.71	218	P	Pn	23 47 51.3	-0.5
	baz=37						
CAPN	Captain Cook N	1.79	49	Pn	Pn	23 47 53.4	+1.0
CAPN				IAML		23 48 31.1	
	comp=E,1μm,0.6s						
N17K	Nushagak Hills	1.89	300		Pn	23 47 53.4	-0.2
N17K				IAML		23 48 19.1	
	comp=N,102nm,0.9s						
N17K				IAML		23 48 19.9	
	comp=E,158nm,1.0s						
N17K	Nushagak Hills	1.89	300	P	Pn	23 47 53.6	0.0
	baz=118						
KDAK	Kodiak Island	1.97	159	Pn	Pn	23 47 53.2	-1.4
KDAK				IAML		23 48 20.1	
	comp=E,595nm,0.4s						
KDAK				IAML		23 48 22.3	
	comp=E,408nm,0.4s						
KDAK	Kodiak Island	1.97	159	P	Pn	23 47 53.1	-1.4
	comp=E,53nm,0.2s,baz=310,slow=18,SNR=172						
KDAK				S	Sn	23 48 17.7	-3.0
	comp=E,167nm,0.3s,baz=228,slow=21,SNR=40						
M18K	Stony River	2.10	334	P	Pn	23 47 55.9	-0.3
	baz=152						
O16K	Kokwok River B	2.14	271	Pn	Pn	23 47 56.5	-0.1
O16K				IAML		23 48 24.8	
	comp=N,106nm,0.8s						
O16K	Kokwok River B	2.14	271	P	Pn	23 47 56.5	-0.1
	baz=88						
P16K	Nushagak River	2.18	256	P	Pn	23 47 57.4	+0.2
	baz=73						
O22K	Cooper Landing	2.26	66		Pn	23 47 57.6	-0.5
O22K	Cooper Landing	2.26	66	P	Pn	23 47 57.9	-0.2
	baz=249						
O22K				S	Sn	23 48 24.7	-2.3
	baz=249						
SEW	Seward	2.29	76	P	Pn	23 47 57.6	-0.8
	baz=259						
M20K	Styx River	2.30	9		Pn	23 47 58.3	-0.4
M20K	Styx River	2.30	9	P	Pn	23 47 58.3	-0.4
	baz=189						
R17K	Ugashik Creek	2.38	214		Pn	23 47 59.5	0.0
R17K				IAML		23 48 30.9	
	comp=E,114nm,1.0s						
R17K				IAML		23 48 31.0	
	comp=N,101nm,1.0s						
R17K	Ugashik Creek	2.38	214	P	Pn	23 47 59.6	0.0
	baz=32						
FIS	Fire Island	2.38	48	Pn	Pn	23 47 59.8	+0.3
FIS				IAML		23 48 34.4	
	comp=N,756nm,0.4s						
SUA	Susitna One	2.42	39		Pn	23 48 00.1	-0.1
SUA				IAML		23 48 32.3	
	comp=N,592nm,0.4s						
SUA	Susitna One	2.42	39	P	Pn	23 48 00.2	+0.1
	baz=221						
SUA				S	Sn	23 48 30.1	-0.5
	baz=221						
OHAK	Old Harbor	2.43	172	Pn	Pn	23 47 58.6	-1.6
OHAK				IAML		23 48 30.1	
	comp=N,276nm,0.3s						
OHAK				IAML		23 48 30.3	
	comp=E,357nm,0.3s						
OHAK	Old Harbor	2.43	172	P	Pn	23 47 58.5	-1.7
M17K	Holitna River	2.50	317		Pn	23 48 01.2	+0.1
M17K				IAML		23 48 32.7	
	comp=N,83nm,1.4s						
M17K				IAML		23 48 34.6	
	comp=E,117nm,1.3s						
M17K	Holitna River	2.50	317	P	Pn	23 48 01.2	+0.1
	baz=134						
RC01	Rabbit Creek A	2.54	53	Pn	Pn	23 48 00.8	-0.7
RC01	Rabbit Creek A	2.54	53	P	Pn	23 48 00.8	-0.7
	baz=236						
L19K	White Mountain	2.61	350		Pn	23 48 01.6	-0.8
L19K	White Mountain	2.61	350	P	Pn	23 48 01.7	-0.8
	baz=169						
SKT	Skwentna	2.63	25		Pn	23 48 02.7	-0.1
SKT				IAML		23 48 37.4	
	comp=N,185nm,0.4s						
SKT				IAML		23 48 39.3	
	comp=E,153nm,0.4s						
SKT	Skwentna	2.63	25	P	Pn	23 48 02.6	-0.1
	baz=207						
SKT				S	Sn	23 48 36.3	+0.9
	baz=207						
M22K	Willow	2.83	39	Pn	Pn	23 48 05.0	-0.2
L20K	Farewell, AK	2.87	0	P	Pn	23 48 05.2	-0.5
	baz=180						
M16K	Timber Creek	2.89	301		Pn	23 48 05.9	0.0
L18K	Granite Mounta	2.94	334		Pn	23 48 05.9	-0.7
L18K	Granite Mounta	2.94	334	P	Pn	23 48 06.4	-0.3
	baz=151						
PMR	Palmer	3.07	48	Pn	Pn	23 48 08.0	-0.2
PMR				IAML		23 48 43.0	
	comp=E,257nm,0.4s						
PMR				IAML		23 48 43.2	
	comp=N,206nm,0.3s						
PMR	Palmer	3.07	48	P	Pn	23 48 08.0	-0.2
PMR	Palmer	3.07	48	P	Pn	23 48 07.7	-0.5
	baz=232						
SII	Sitkinak Islan	3.08	183	Pn	Pn	23 48 06.9	-1.5
SII				IAML		23 48 44.3	
	comp=N,331nm,0.3s						
SII	Sitkinak Islan	3.08	183	P	Pn	23 48 06.9	-1.5
N15K	Kwethluk River	3.17	283	Pn	Pn	23 48 09.2	-0.4
N15K				IAML		23 48 50.6	
	comp=E,71nm,1.1s						
N15K				IAML		23 49 05.0	
	comp=N,59nm,0.9s						
KNK	Knik Glacier	3.23	54		Pn	23 48 08.8	-1.6
GHO	Glory Hole Cre	3.26	46		Pn	23 48 09.4	-1.4
GHO				IAML		23 48 47.8	
	comp=N,359nm,0.4s						
P23K	Montague Islan	3.30	81	P	Pn	23 48 10.7	-0.5
	baz=266						
CUT	Chulitna	3.30	31		Pn	23 48 10.8	-0.4
CUT	Chulitna	3.30	31	P	Pn	23 48 10.9	-0.3
	baz=214						
L17K	Donlin	3.31	321	P	Pn	23 48 11.5	0.0
	baz=138						
PPLA	Purkeypile	3.39	13	P	Pn	23 48 12.9	+0.4
	baz=195						
L16K	Owhat River	3.46	310		Pn	23 48 13.2	0.0
TTA	Tatalina	3.47	344	Pn	Pn	23 48 12.6	-0.9
TTA	Tatalina	3.47	344	P	Pn	23 48 12.8	-0.8
TTA	Tatalina	3.47	344	P	Pn	23 48 12.7	-0.9
	baz=162						
SML	Sawmill	3.50	49		Pn	23 48 12.4	-1.5
SML				IAML		23 48 53.2	
	comp=N,212nm,0.8s						
SML				IAML		23 48 54.0	
	comp=E,170nm,0.4s						
SML	Sawmill	3.50	49	P	Pn	23 48 12.2	-1.8
	baz=233						
GLI	Glacier Island	3.62	67	Pn	Pn	23 48 14.5	-0.8
GLI				IAML		23 48 55.9	
	comp=N,218nm,0.7s						
GLI	Glacier Island	3.62	67	P	Pn	23 48 13.2	-2.2
	baz=252						
K20K	Telida	3.75	359		Pn	23 48 16.2	-0.9
K17K	Iditarod	3.77	327		Pn	23 48 17.4	+0.1
K17K				IAML		23 48 57.3	
	comp=N,23nm,1.0s						
HIN	Hinchinbrook I	3.79	75	Pn	Pn	23 48 17.4	-0.3
HIN				IAML		23 49 02.5	
	comp=N,153nm,1.1s						
HIN				IAML		23 49 04.2	
	comp=E,169nm,0.8s						
Q23K	Middleton Isla	3.85	90	Pn	Pn	23 48 17.5	-0.8
MID	Middleton Isla	3.85	90	Pn	Pn	23 48 17.6	-0.8
MID	Middleton Isla	3.85	90	P	Pn	23 48 17.9	-0.5
FID	Port Fidalgo	3.87	70		Pn	23 48 17.4	-1.3
CAST	Castle Rocks	3.91	12	Pn	Pn	23 48 18.9	-0.3
CAST	Castle Rocks	3.91	12	P	Pn	23 48 19.0	-0.1
	baz=193						
SCM	Sheep Creek Mo	3.91	53		Pn	23 48 17.9	-1.4
SCM				IAML		23 49 04.3	
	comp=N,158nm,0.6s					

SCM					IAML			23 49 06.8		
	comp=E,182nm,0.3s									
SCM	**Sheep Creek Mo**	**3.91**	**53**	P		**Pn**		**23 48 17.9**	**-1.4**	
	baz=238									
CHIR	**Chirikof Islan**	**3.92**	**194**	Pn		**Pn**		**23 48 17.4**	**-2.0**	
CHIR				IAML				23 49 02.0		
	comp=N,205nm,0.5s									
CHIR				IAML				23 49 02.8		
	comp=E,129nm,1.5s									
CHGN	**Chignik**	**4.11**	**218**	Pn		**Pn**		**23 48 20.9**	**-0.9**	
CHGN				IAML				23 49 15.4		
	comp=N,102nm,1.2s									
CHGN				IAML				23 49 15.0		
	comp=E,101nm,0.1s									
WAT1	**Susitna Watana**	**4.13**	**36**	P		**Pn**		**23 48 21.0**	**-1.1**	
	baz=221									
EYAK	**Cordova Ski Ar**	**4.18**	**74**	P		**Pn**		**23 48 21.8**	**-1.0**	
EYAK	**Cordova Ski Ar**	**4.18**	**74**	P		**Pn**		**23 48 21.7**	**-1.0**	
	baz=260									
KTH	**Kantishna Hill**	**4.19**	**19**	IAML				23 49 11.7		
	comp=E,36nm,0.5s									
KTH				IAML				23 49 12.5		
	comp=N,64nm,0.7s									
WAT6	**Susitna Watana**	**4.21**	**43**	P		**Pn**		**23 48 21.8**	**-1.5**	
	baz=228									
TRF	**Thorofare Moun**	**4.21**	**23**	IAML				23 49 12.5		
	comp=N,83nm,0.4s									
TRF				IAML				23 49 12.8		
	comp=E,94nm,0.5s									
TRF	**Thorofare Moun**	**4.21**	**23**	P		**Pn**		**23 48 22.7**	**-0.6**	
	baz=206									
KLU	**Klutina**	**4.36**	**61**	P		**Pn**		**23 48 23.9**	**-1.3**	
	baz=248									
RND	**Reindeer**	**4.50**	**30**	IAML				23 49 19.7		
	comp=N,42nm,0.6s									
RND				IAML				23 49 20.8		
	comp=E,59nm,0.4s									
M24K	**Tolsona, Glenn**	**4.52**	**53**	P		**Pn**		**23 48 26.7**	**-0.6**	
	baz=240									
J20K	**Nowinta River**	**4.57**	**359**	P		**Pn**		**23 48 27.2**	**-0.7**	
	baz=178									
DHY	**Denali Highway**	**4.67**	**39**	IAML				23 49 22.6		
	comp=E,93nm,0.3s									
DHY				IAML				23 49 23.9		
	comp=N,106nm,0.4s									
DHY	**Denali Highway**	**4.67**	**39**	P		**Pn**		**23 48 28.3**	**-1.1**	
	baz=225									
L14K	**Kuka Creek**	**4.68**	**295**	IAML				23 49 26.5		
	comp=E,25nm,1.4s									
L14K				IAML				23 49 39.1		
	comp=N,17nm,1.3s									
BPAW	**Bear Paw Mtn.**	**4.70**	**16**	IAML				23 49 22.5		
	comp=E,21nm,0.7s									
BPAW				IAML				23 49 24.6		
	comp=N,25nm,0.8s									
BPAW	**Bear Paw Mtn.**	**4.70**	**16**	P		**Pn**		**23 48 28.9**	**-0.8**	
	baz=198									
MCK	**McKinley**	**4.75**	**28**	P		**Pn**		**23 48 29.6**	**-0.7**	
	baz=212									
BMRM	**Bremner River**	**4.81**	**70**	P		**Pn**		**23 48 30.5**	**-0.7**	
	baz=258									
N25K	**Chitina, Valde**	**4.99**	**63**	P		**Pn**		**23 48 32.4**	**-1.2**	
	baz=250									
HARP	**HAARP**	**5.08**	**53**	P		**Pn**		**23 48 33.9**	**-0.8**	
	baz=240									
PAX	**Paxson**	**5.27**	**47**	P		**Pn**		**23 48 36.3**	**-1.0**	
	baz=234									
MLY	**Manley**	**5.62**	**14**	P		**Pn**		**23 48 42.1**	**+0.1**	
	baz=196									
MCARA	**McCarthy VSAT**	**5.65**	**67**	P		**Pn**		**23 48 42.1**	**-0.2**	
	baz=256									
HDA	**Harding Lake**	**5.81**	**31**	P		**Pn**		**23 48 43.2**	**-1.2**	
	baz=217									
HDA				P		**Pn**		**23 48 43.2**	**-1.2**	
	baz=217									
I23K	**Minto, Yukon-K**	**5.93**	**19**	P		**Pn**		**23 48 45.6**	**-0.3**	
	baz=203									
COLA	**College**	**5.98**	**26**	P		**Pn**		**23 48 46.2**	**-0.4**	
MESA	**MESA**	**6.04**	**80**	P		**Pn**		**23 48 47.5**	**-0.2**	
	baz=270									
ILAR	**Eielson Array**	**6.12**	**29**			**Pn**		**23 48 46.8**	**-1.7**	
ILAR	**Eielson Array**	**6.12**	**29**	P		**Pn**		**23 48 47.0**	**-1.5**	
	comp=N,7.9nm,0.5s,baz=213,slow=13,SNR=154									
ILAR				S		**Sn**		**23 49 50.4**	**-6.9**	
	comp=N,2.3nm,0.5s,baz=192,slow=29,SNR=4.8									
POKR	**Poker Plat Res**	**6.28**	**26**	P		**Pn**		**23 48 49.9**	**-0.8**	
	baz=211									
CTG	**Chitna Glacier**	**6.38**	**72**	P		**Pn**		**23 48 52.1**	**-0.1**	
	baz=263									
H22K	**Ishtalitna Cre**	**6.40**	**9**	P		**Pn**		**23 48 52.6**	**+0.3**	
	baz=191									
SCRK	**Sand Creek**	**6.41**	**43**	P		**Pn**		**23 48 51.0**	**-1.5**	
	baz=231									
L27K	**Beaver Creek,**	**6.75**	**54**	P		**Pn**		**23 48 56.7**	**-0.3**	
	baz=244									
H24K	**Noodor Dome**	**6.82**	**21**	P		**Pn**		**23 48 56.7**	**-1.2**	
	baz=206									
G21K	**Allakaket**	**6.92**	**1**	P		**Pn**		**23 48 59.1**	**-0.2**	
	baz=182									
YUK3	**Moose Creek**	**6.94**	**66**	P		**Pn**		**23 48 59.6**	**-0.1**	
	baz=258									
FALS	**False Pass**	**7.03**	**231**	P		**Pn**		**23 49 03.2**	**+2.4**	
PRP	**Porcupine Dome**	**7.06**	**30**	P		**Pn**		**23 48 60.0**	**-1.3**	
	baz=217									
G23K	**Bananza Creek**	**7.33**	**12**	P		**Pn**		**23 49 04.8**	**+0.1**	
	baz=196									
PNL	**Peninsula**	**7.35**	**83**	P		**Pn**		**23 49 04.6**	**-0.5**	
PNL	**Peninsula**	**7.35**	**83**	P		**Pn**		**23 49 04.5**	**-0.5**	
	baz=276									
YUK4	**Talbot Arm**	**7.73**	**71**	P		**Pn**		**23 49 10.4**	**+0.2**	
	baz=263									
G25K	**Bearman Lake**	**7.98**	**23**	P		**Pn**		**23 49 12.4**	**-1.0**	
	baz=210									
M29M	**Somme Creek**	**8.00**	**63**	P		**Pn**		**23 49 13.7**	**-0.2**	
	baz=256									
I27K	**Kandik River**	**8.24**	**38**	P		**Pn**		**23 49 16.4**	**-0.5**	
	baz=229									
F24K	**Squaw Lake**	**8.36**	**16**	P		**Pn**		**23 49 17.7**	**-0.9**	
	baz=201									
SIT	**Sitka**	**10.09**	**97**	P		**Pn**		**23 49 41.8**	**+0.2**	
JIS	**Juneau Island**	**10.16**	**89**	P		**Pn**		**23 49 43.6**	**+1.0**	
CRAG	**Craig**	**11.89**	**101**	P		**Pn**		**23 50 07.9**	**+2.5**	
DLBC	**Dease Lake**	**12.33**	**85**	P		**Pn**		**23 50 13.4**	**+2.2**	
	comp=N,3.0nm,0.4s,baz=262,slow=11,SNR=9.3									
INK	**Inuvik**	**12.41**	**37**	P		**Pn**		**23 50 12.1**	**0.0**	
	comp=N,0.9nm,0.4s,baz=244,slow=16,SNR=7.8									
YKA	**Yellowknife Ar**	**19.02**	**64**	P		**P**		**23 51 31.4**	**+0.2**	
	comp=N,0.4nm,0.9s,baz=278,slow=9.9,SNR=3.9									
PETK	**Petropavlovsk-**	**27.06**	**278**	P		**P**		**23 52 45.9**	**-3.6**	
	comp=N,1.8nm,0.8s,baz=62,slow=13,SNR=1.6									
	comp=N,1.8nm,0.8s									
NVAR	**Mina Array Bea**	**30.94**	**117**	P		**P**		**23 53 26.4**	**+2.2**	
	comp=N,0.6nm,0.5s,baz=304,slow=8.6,SNR=6.5									
	comp=N,0.6nm,0.5s									
PDAR	**Pinedale Array**	**31.75**	**102**	P		**P**		**23 53 32.6**	**+1.4**	
	comp=N,0.2nm,0.5s,baz=359,slow=4.5,SNR=2.7									
	comp=N,0.2nm,0.5s									
TXAR	**Lajitas Array**	**45.28**	**109**	P		**P**		**23 55 25.5**	**+1.5**	
	comp=N,0.4nm,0.7s,baz=331,slow=4.9,SNR=4.5									
	comp=N,0.4nm,0.7s									
SONM	**Songino Array**	**54.65**	**305**	P		**P**		**23 56 34.7**	**+0.3**	
	comp=N,0.8nm,0.6s,baz=46,slow=6.4,SNR=6.4									
	comp=N,0.8nm,0.6s									
ZALV	**Zalesovo Beam**	**57.41**	**323**	P		**P**		**23 56 53.4**	**-0.4**	
	comp=N,0.7nm,0.5s,baz=32,slow=8.7,SNR=4.0									
	comp=N,0.7nm,0.5s									
MKAR	**Makanchi Array**	**64.44**	**321**	P		**P**		**23 57 41.6**	**+0.2**	
	comp=N,0.7nm,0.9s,baz=15,slow=6.1,SNR=1.7									
	comp=N,0.7nm,0.9s									

*SJA **15** 23:48:42.1±2.0,22.˚15S×68.˚33W,h100km,ML3.7,MW3.9*
*IDC **15** 23:48:43.5±8.4,22.˚03S×68.˚21W,h116km±70km,mb3.6/4, mbtmp3.9/5,Error ellipse: s-maj=76.7km s-min=52.0km az=169.0*
*GUC **15** 23:48:43.4±0.8,22.˚13S×68.˚47W,h125km±5km,ML3.8*
ISC 15 23:48:43.3±0.8,22.˚13S±0.˚03×68.˚52W±0.˚06,h130km±6km, n43,σ1°06/70,mb3.7/3,6C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
					Op	ISC	h	m	s	ISC
LVC	**Limon Verde**	**0.60**	**217**	*eP*		**Pn**	**23**	**49**	**03.0**	**-0.5**
LVC				*eS*		**Sn**	**23**	**49**	**17.3**	**-1.4**
LVC				IAML			23	49	18.3	
	comp=Z,731nm,0.8s									
LVC	**Limon Verde**	**0.60**	**217**	*eP*		**Pn**	**23**	**49**	**02.3**	**-1.2**
LVC				*i* S		**Sn**	**23**	**49**	**16.9**	**-1.8**
PB09	**IPOC Station P**	**0.75**	**296**	*eP*		**Pn**	**23**	**49**	**04.3**	**0.0**
PB09				*eS*		**Sn**	**23**	**49**	**20.7**	**+0.5**
PB09				IAML			23	49	21.0	
	comp=Z,1μm,0.7s									
PB09	**IPOC Station P**	**0.75**	**296**	⇑*iP*		**Pn**	**23**	**49**	**04.4**	**+0.1**
PB09				*i* S		**Sn**	**23**	**49**	**19.9**	**-0.2**
PB09				IAML			23	49	22.1	
	comp=E,1μm,0.7s									
PB06	**IPOC Station P**	**1.13**	**239**	*eP*		**Pn**	**23**	**49**	**07.3**	**-0.4**
PB06				*eS*		**Sn**	**23**	**49**	**26.6**	**+0.5**
PB06				IAML			23	49	30.6	
	comp=Z,468nm,0.3s									
PB06	**IPOC Station P**	**1.13**	**239**	⇑*iP*		**Pn**	**23**	**49**	**07.7**	**+0.1**
PB06				*i* S		**Sn**	**23**	**49**	**25.9**	**-0.2**
PB06				IAML			23	49	27.2	
	comp=N,2μm,0.5s									
PB07	**IPOC Station P**	**1.33**	**287**	*eP*		**Pn**	**23**	**49**	**09.2**	**-0.6**
PB07				*eS*		**Sn**	**23**	**49**	**30.2**	**+0.4**
PB07				IAML			23	49	31.4	
	comp=Z,1μm,0.5s									
PB07	**IPOC Station P**	**1.33**	**287**	⇑*iP*		**Pn**	**23**	**49**	**09.9**	**+0.2**
PB07				*i* S		**Sn**	**23**	**49**	**29.5**	**-0.4**
PB15	**IPOC Station P**	**1.39**	**219**	*eP*		**Pn**	**23**	**49**	**11.0**	**+0.6**
PB15				*eS*		**Sn**	**23**	**49**	**32.2**	**+1.2**
PB15				IAML			23	49	35.1	
	comp=Z,3μm,0.2s									
PB15	**IPOC Station P**	**1.39**	**219**	*eP*		**Pn**	**23**	**49**	**10.8**	**+0.4**
PB15				*i* S		**Sn**	**23**	**49**	**31.7**	**+0.7**
PB01	**IPOC Station P**	**1.41**	**320**	*eP*		**Pn**	**23**	**49**	**10.3**	**-0.2**
PB01				*eS*		**Sn**	**23**	**49**	**31.5**	**+0.3**
PB01				IAML			23	49	35.9	
	comp=Z,401nm,0.2s									
PB01	**IPOC Station P**	**1.41**	**320**	⇑*iP*		**Pn**	**23**	**49**	**10.3**	**-0.2**
PB01				*i* S		**Sn**	**23**	**49**	**30.9**	**-0.4**
PB01				IAML			23	49	33.8	
	comp=N,959nm,0.3s									
PB02	**IPOC Station P**	**1.52**	**302**	*eP*		**Pn**	**23**	**49**	**11.7**	**0.0**
PB02				*eS*		**Sn**	**23**	**49**	**33.5**	**+0.2**
PB02				IAML			23	49	34.0	
	comp=Z,1μm,0.4s									
PB02	**IPOC Station P**	**1.52**	**302**	⇑*iP*		**Pn**	**23**	**49**	**11.7**	**0.0**
PB02				*i* S		**Sn**	**23**	**49**	**32.7**	**-0.6**
PB02				IAML			23	49	38.1	
	comp=E,1μm,0.4s									
PB04	**IPOC Station P**	**1.53**	**262**	*eP*		**Pn**	**23**	**49**	**11.4**	**-0.5**
PB04				*eS*		**Sn**	**23**	**49**	**33.9**	**+0.3**
PB04				IAML			23	49	35.7	
	comp=Z,1μm,0.5s									
PB04	**IPOC Station P**	**1.53**	**262**	*i* P		**Pn**	**23**	**49**	**11.9**	**+0.1**
PB04				*i* S		**Sn**	**23**	**49**	**33.6**	**0.0**
PB04				IAML			23	49	34.5	
	comp=N,2μm,0.7s									
PB05	**IPOC Station P**	**1.72**	**245**	*eP*		**Pn**	**23**	**49**	**13.5**	**-0.5**
PB05				*eS*		**Sn**	**23**	**49**	**37.3**	**-0.1**
PB05				IAML			23	49	41.7	
	comp=Z,312nm,0.4s									
PB05	**IPOC Station P**	**1.72**	**245**	*eP*		**Pn**	**23**	**49**	**14.0**	**0.0**
PB05				*i* S		**Sn**	**23**	**49**	**36.9**	**-0.6**
PB05				IAML			23	49	38.0	
	comp=N,555nm,0.5s									
PATCX	**Punta Patache**	**2.01**	**310**	*eP*		**Pn**	**23**	**49**	**17.1**	**-0.4**
PATCX				*eS*		**Sn**	**23**	**49**	**42.2**	**-1.3**
PATCX				IAML			23	49	50.8	
	comp=Z,539nm,0.4s									
PATCX	**Punta Patache**	**2.01**	**310**	*eP*		**Pn**	**23**	**49**	**17.0**	**-0.4**
PATCX				*i* S		**Sn**	**23**	**49**	**43.7**	**+0.1**
PATCX				IAML			23	49	48.6	
	comp=E,747nm,0.6s									
PB08	**IPOC Station P**	**2.07**	**343**	*eP*		**Pn**	**23**	**49**	**19.2**	**+0.7**
PB08				*eS*		**Sn**	**23**	**49**	**46.4**	**+0.9**
PB08				IAML			23	49	49.8	
	comp=Z,571nm,0.3s									
PB08	**IPOC Station P**	**2.07**	**343**	⇑*iP*		**Pn**	**23**	**49**	**19.3**	**+0.7**
PB08				*i* S		**Sn**	**23**	**49**	**45.9**	**+0.4**
PB08				IAML			23	49	47.8	
	comp=E,1μm,0.1s									
TA01	**Diego Aracena**	**2.20**	**315**	*eP*		**Pn**	**23**	**49**	**19.2**	**-0.6**
TA01				*eS*		**Sn**	**23**	**49**	**47.0**	**-0.7**
TA01				IAML			23	49	53.2	
	comp=Z,247nm,0.5s									
TA01	**Diego Aracena**	**2.20**	**315**	*eP*		**Pn**	**23**	**49**	**18.9**	**-0.8**
TA01				*i* S		**Sn**	**23**	**49**	**46.1**	**-1.5**
TA01				IAML			23	49	49.6	
	comp=E,579nm,0.5s									
TA02	**Huaiquique**	**2.39**	**321**	*eP*		**Pn**	**23**	**49**	**21.2**	**-0.9**
GO01	**Chusmiza**	**2.53**	**345**	*eP*		**Pn**	**23**	**49**	**24.4**	**+0.1**
GO01				*eS*		**Sn**	**23**	**49**	**57.5**	**+1.6**
GO01				IAML			23	49	58.4	
	comp=Z,273nm,0.4s									
GO01	**Chusmiza**	**2.53**	**345**	*eP*		**Pn**	**23**	**49**	**24.5**	**+0.1**
GO01				*i* S		**Sn**	**23**	**49**	**56.1**	**+0.2**
PB11	**IPOC Station P**	**2.59**	**335**	*eP*		**Pn**	**23**	**49**	**24.2**	**-0.6**
PB11				*eS*		**Sn**	**23**	**49**	**53.5**	**-3.1**
PB11				IAML			23	49	57.0	
	comp=Z,526nm,0.4s									
YJA	**Yavi**	**2.78**	**91**	*eP*		**Pn**	**23**	**49**	**28.8**	**+1.3**
PB14	**IPOC Station P**	**3.03**	**215**	*eP*		**Pn**	**23**	**49**	**30.0**	**-0.5**
PB14				*eS*		**Sn**	**23**	**50**	**05.5**	**-1.6**
GO02	**Mina Guanaco**	**3.17**	**198**	*eP*		**Pn**	**23**	**49**	**31.9**	**-0.5**
GO02				*eS*		**Sn**	**23**	**50**	**11.1**	**+0.6**
GO02				IAML			23	50	12.4	
	comp=Z,169nm,0.3s									
SLA	**San Lorenzo**	**3.78**	**134**	*eP*		**Pn**	**23**	**49**	**42.1**	**+1.8**
PB12	**IPOC Station P**	**3.89**	**334**	*eP*		**Pn**	**23**	**49**	**39.6**	**-2.1**
PB12				*eS*		**Sn**	**23**	**50**	**24.5**	**-2.5**
PB12				IAML			23	50	42.2	
	comp=Z,128nm,0.5s									
AC01	**Pan de Azucar**	**4.43**	**205**	*eS*		**Sn**	**23**	**50**	**36.7**	**-2.9**
AC01				IAML			23	50	39.0	
	comp=Z,44nm,0.7s									
CPUP	**Villa Florida**	**11.03**	**114**	P		**Pn**	**23**	**51**	**15.1**	**-2.3**
	comp=Z,0.9nm,0.5s,baz=227,slow=14,SNR=2.5									
H03N1	**Juan Fernandez**	**14.53**	**217**	T		T	00	06	51.5	
	baz=36									
H03N2	**Juan Fernandez**	**14.54**	**217**	T		T	00	06	50.9	
	baz=36									
H03N3	**Juan Fernandez**	**14.55**	**217**	T		T	00	06	46.8	
	baz=36									
BDFB	**Brasilia**	**20.43**	**75**	P		**P**	**23**	**53**	**08.8**	**-1.8**
	comp=Z,2.2nm,0.5s,baz=253,slow=14,SNR=4.4									
	comp=Z,2.2nm,0.5s									
DBIC	**Dimbokro**	**68.57**	**73**	P		**P**	**23**	**59**	**32.3**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=239,slow=4.7,SNR=1.7									
	comp=Z,2.2nm,0.8s									
TORD	**Torodi Ar. Bea**	**77.22**	**70**	P		**P**	**00**	**00**	**23.8**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=258,slow=5.6,SNR=14									
	comp=Z,0.8nm,0.6s									
YKA	**Yellowknife Ar**	**91.90**	**340**	P		**P**	**00**	**01**	**38.2**	**+1.9**
	comp=Z,0.2nm,0.7s,baz=133,slow=4.5,SNR=4.0									
	comp=Z,0.2nm,0.7s									
WRA	**Warramunga Arr**	**132.59**	**210**	PKP		**PKiKP**	**00**	**07**	**45.5**	**+1.0**
	comp=Z,0.3nm,0.9s,baz=156,slow=1.6,SNR=1.8									

*NEIC **16** 00:05:41.0±0.7,36.˚24N±0.˚02×97.˚55W±0.˚01,h6km±5km, Error ellipse: s-maj=2.7km s-min=0.9km az=212.0*
TUL 16 00:05:41.1±0.8,36.˚23N±0.˚01×97.˚55W±0.˚02,h7km±4km, ML2.8,mb_Lg2.8/61(NEIC),ML3.1/38(NEIC),Error ellipse: s-maj=2.5km s-min=1.0km az=225.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
					Op	ISC	h	m	s	ISC
OK029	**Liberty Lake**	**0.44**	**170**		Pg	Pg	00	05	49.8	+0.2
OK029					Sg	Sg	00	05	55.9	+0.5
OK029				IAML			00	05	56.2	
	1μm,0.4s									
OK029				IAML			00	05	56.2	
	2μm,0.4s									
CROK	**Carrier**	**0.45**	**308**		Pg	Pg	00	05	49.8	0.0
CROK					Sg	Sg	00	05	56.2	+0.6
CROK				IAML			00	05	56.5	
	comp=N,2μm,0.3s									
CROK				IAML			00	06	02.0	
	comp=E,1μm,0.4s									
BLOK	**Blackwell**	**0.59**	**27**		Pg		00	05	52.7	+0.2
BLOK				IAML			00	06	01.1	
	comp=E,1μm,0.3s									
BLOK				IAML			00	06	01.4	
	comp=N,1μm,0.2s									
OK051	**E0350 and S346**	**0.63**	**64**		Pg		00	05	53.5	+0.1
OK051					Sg	Sg	00	06	02.1	+0.5
OK051				IAML			00	06	07.0	
	comp=N,610nm,0.2s									
OK052	**Battle Ridge R**	**0.65**	**111**	Pg		Pg	00	05	53.7	+0.1
OK052					Sg	Sg	00	06	02.5	+0.5
OK052				IAML			00	06	04.8	
	comp=N,740nm,0.3s									
GC02	**Grant County #**	**0.67**	**338**	Pg		Pg	00	05	53.9	-0.1
GC02				Sg		Sg	00	06	03.1	+0.4
QUOK	**Quay**	**0.68**	**95**	Pg		Pg	00	05	54.3	+0.1
QUOK				Sg		Sg	00	06	03.5	+0.5
QUOK				IAML			00	06	03.7	
	comp=N,774nm,0.3s									
KAN13	**South Haven SW**	**0.78**	**4**			Pg	00	05	56.0	-0.2
KAN13				IAML			00	06	07.1	
	comp=N,989nm,0.4s									
OKCSW	**OKLAHOMA CITY**	**0.83**	**174**	Pg		Pg	00	05	57.0	-0.1
KAN09	**Caldwell North**	**0.90**	**356**			Pg	00	05	58.2	-0.2
KAN05	**Bluff City Nor**	**0.91**	**343**			Pg	00	05	58.1	-0.6
KAN05				IAML			00	06	17.6	
	comp=E,710nm,0.2s									
KAN05				IAML			00	06	19.8	
	comp=N,550nm,0.2s									
KAN10	**Anthony SW Sta**	**0.99**	**334**			Pg	00	05	59.6	-0.6
KAN10				IAML			00	06	19.9	
	comp=E,359nm,0.1s									
KAN06	**Argonia West S**	**1.04**	**346**			Pg	00	06	00.8	-0.4
KAN06				IAML			00	06	15.4	
	comp=E,426nm,0.6s									
KAN06				IAML			00	06	20.0	
	comp=N,411nm,0.2s									
KAN08	**Anthony NE Sta**	**1.05**	**341**			Pg	00	06	00.8	-0.5
KAN08				IAML			00	06	17.6	
	comp=N,340nm,0.2s									
OK035	**E0210 Rd and N**	**1.05**	**297**			Pg	00	06	00.8	-0.6
KS21	**Milan North St**	**1.06**	**355**	IAML			00	06	21.2	
	comp=N,587nm,0.3s									
KS21	**Milan North St**	**1.06**	**355**	Pg		Pg	00	06	00.9	-0.5
U32A	**Winter Ranch,**	**1.19**	**278**	Pg		Pg	00	06	03.4	-0.5
U32A				IAML			00	06	21.7	
	comp=N,480nm,0.2s									
U32A				IAML			00	06	24.6	
	comp=E,331nm,0.2s									
NOKA	**Waynoka**	**1.19**	**290**	Pg		Pg	00	06	01.8	-2.1
TUL3	**Leonard**	**1.46**	**102**			Pn	00	06	07.6	-0.2
TUL3				IAmb_Lg			00	06	29.3	
	comp=Z,49nm,0.8s									
WMOK	**Wichita Mounta**	**1.80**	**214**	Pn		Pn	00	06	12.7	+0.2
RLO	**Rose Lookout**	**2.04**	**91**			Pb	00	06	17.2	-1.3
LOOK	**Love County**	**2.25**	**172**	Pn		Pn	00	06	19.3	+0.5
LOOK				IAmb_Lg			00	06	57.3	
	comp=Z,41nm,0.8s									
R32A	**Long Quarter,**	**2.38**	**337**			Pn	00	06	21.3	+0.9
X37A	**Clayton**	**2.42**	**132**	IAmb_Lg			00	06	56.3	
	comp=Z,50nm,0.8s									
SMWD	**Samnorwood**	**2.47**	**244**	Pn		Pn	00	06	22.2	+0.5
SMWD				IAmb_Lg			00	06	57.8	
	comp=Z,41nm,0.9s									
U38A	**Gravette**	**2.56**	**84**			Pn	00	06	24.3	+1.3
WTFS	**Witchita Falls**	**2.57**	**197**			Pn	00	06	23.8	+0.6
WTFS				IAmb_Lg			00	07	07.7	
	comp=Z,22nm,0.7s									
Z35A	**Perchaven, San**	**2.91**	**175**	Pn		Pn	00	06	28.6	+0.9
HHAR	**Hobbs**	**2.91**	**88**			Pn	00	06	27.5	-0.4
KSU1	**Kansas State U**	**2.96**	**14**			Pg	00	06	36.5	-1.3
KSU1				IAmb_Lg			00	07	19.6	
	comp=Z,24nm,0.7s									
CBKS	**Cedar Bluff**	**3.11**	**327**			Pn	00	06	31.3	+0.8
FW03	**Perrin-Whitt E**	**3.21**	**188**			Pn	00	06	32.0	0.0
FW03				IAmb_Lg			00	07	32.0	
	comp=Z,11nm,0.9s									
FW06	**Azle**	**3.25**	**180**	Pn		Pn	00	06	33.7	+1.3
FW06				IAmb_Lg			00	07	25.0	
	comp=Z,13nm,0.7s									
PLPT	**Palo Pinto**	**3.47**	**191**			Pg	00	06	45.7	-1.9
PLPT				IAmb_Lg			00

IDC **16** *00:22:29.9±1.4, 7.64S±.107.00E, h34km±9km, mb5.0/30, mbtmp5.2/30, MS4.5/50 Error ellipse: s-maj=15.2km s-min=10.0km az=70.0*

DJA **16** *00:22:30.4±0.3, 8.3°S±2.1°×10.7E±.1°, h37km±4km, M5.4/49, mB5.9/38, mb5.7/49, MLv5.8/25, Mw(mB)5.4/38, MwMwp5.0/11, Mwp5.3/11*

NEIC **16** *00:22:30.8±2.0, 7.88S±0.06×106.82E±0.06, h44km±1km, mb5.4/187, Mww5.2/17, Error ellipse: s-maj=9.9km s-min=9.3km az=186.0*

MOS **16** *00:22:33.9±1.4, 7.63S±.107.03E, h45km, mb5.3/71, Error ellipse: s-maj=7.0km s-min=3.9km az=114.4*

GCMT **16** *00:22:33.8±0.1, 8.15S±0.01×106.85E±0.01, h38km, MW5.3/118, Moment Tensor Solution. s96,c143; s118,c192; Duration: 1!1 Moment tensor: Scale 10^{17} Nm; Mrr0.75±.02; Mθθ-0.62±.02; Mφφ-0.13±.02; Mrθ0.64±.02; Mθφ0.42±.01; Mφr-0.68±.03; Best double couple: Mo1.23100×10^{17} NP1:φ133.00000°, δ70.00000°, λ100.00000°. NP2:φ285.00000°, δ22.00000°, λ64.00000°. Principal axes: T 1.2000, Plg63.0000°, Azm60.0000°; N 0.0620, Plg10.0000°, Azm310.0000°; P -1.2620, Plg24.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 00:22:31.1±0.3, 7.89S±.0.03×106.85E±.0.03, h49km±2km, h49km:pP-P, n1354, σ1!55/1458, mb5.4/208, MS4.6/79, 47C-30D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.64**	**26**	P	**Pn**	**00 22 44.4**	**+0.4**
BBJI	**Bungbulang**	**0.90**	**62**	P	**Pn**	**00 22 47.3**	**-0.2**
SKJI	**Sukabumi**	**0.92**	**342**	P	**Pn**	**00 22 48.3**	**+0.5**
LEM	**Lembang**	**1.30**	**36**	P	**Pn**	**00 22 54.9**	**+1.9**
LEM	**Lembang**	**1.30**	**36**	Pg	**Pn**	**00 22 54.7**	**+1.7**
	5µm,0.3s,baz=238,slow=4.3,SNR=1060						
LEM				LR	LR	00 23 12.7	
	comp=Z,8µm,20.0s,baz=238,slow=42						
LEM				Lg	Lg	00 23 13.7	
	9µm,0.3s,baz=313,slow=22,SNR=24						
DBJI	**Dramaga**	**1.33**	**356**	P	**Pn**	**00 22 55.1**	**+1.8**
CMJI	**Cimerak**	**1.59**	**86**	P	**Pn**	**00 22 56.4**	**-0.4**
CGJI	**Cibinong**	**1.71**	**318**	P	**Pn**	**00 22 58.5**	**+0.1**
SBJI	**Serang**	**1.89**	**338**	P	**Pn**	**00 23 02.8**	**+1.8**
KPJI	**Karang Pucung**	**2.14**	**75**	P	**Pn**	**00 23 05.4**	**+1.1**
XMI	**Christmas Isla**	**2.79**	**204**	P	**Pn**	**00 23 10.8**	**-2.5**
XMIS	**Christmas Isla**	**2.84**	**205**		**Pn**	**00 23 10.9**	**-3.0**
XMIS					**Sn**	**00 23 39.2**	**-7.7**
XMIS	**Christmas Isla**	**2.84**	**205**	P	**Pn**	**00 23 11.0**	**-3.0**
BLSI	**Bandar Lampung**	**2.97**	**327**	P	**Pn**	**00 23 18.0**	**+2.3**
KASI	**Kota Agung**	**3.31**	**315**	P	**Pn**	**00 23 21.4**	**+1.0**
YOGI	**Yogyakarta**	**3.42**	**89**	P	**Pn**	**00 23 21.4**	**-0.5**
KLI	**Kotabumi**	**3.60**	**326**	P	**Pn**	**00 23 26.8**	**+2.4**
UGM	**Wanagama**	**3.64**	**91**	Pn	**Pn**	**00 23 24.7**	**-0.3**
UGM					**Sn**	**00 24 04.2**	**-2.5**
UGM	**Wanagama**	**3.64**	**91**	P	**Pn**	**00 23 25.1**	**+0.1**
UGM	**Wanagama**	**3.64**	**91**	P	**Pn**	**00 23 24.4**	**-0.6**
LWLI	**Liwa**	**3.98**	**316**	P	**Pn**	**00 23 31.5**	**+1.8**
NGJI	**Ngawi**	**4.60**	**84**	P	**Pn**	**00 23 40.1**	**+0.9**
LHSI	**Lahat**	**5.22**	**320**	P	**Pn**	**00 23 49.2**	**+2.6**
	1µm,0.8s,15µm8.6nm						
MNAI	**Manna**	**5.22**	**312**		**Pn**	**00 23 46.0**	**-0.7**
MNAI	**Manna**	**5.22**	**312**	P	**Pn**	**00 23 46.6**	**-0.1**
MNAI	**Manna**	**5.22**	**312**	P	**Pn**	**00 23 47.5**	**+0.8**
	1µm,0.6s,21µm8.2nm						
PMBI	**Palembang**	**5.34**	**337**		**Pn**	**00 23 48.8**	**+0.5**
PMBI	**Palembang**	**5.34**	**337**	P	**Pn**	**00 23 52.4**	**+4.1**
	2µm,1.3s,18µm11nm						
PPBI	**Pangkal Pinang**	**5.73**	**353**	P	**Pn**	**00 23 56.9**	**+3.2**
	464nm,1.0s,30µm2.5nm						
BWJI	**Bawean**	**6.11**	**71**	P	**Pn**	**00 24 02.2**	**+3.3**
	922nm,0.8s,18µm9µm9.9nm						
BLJI	**Banyuglugur**	**6.69**	**89**	P	**Pn**	**00 24 07.1**	**+0.3**
	951nm,0.7s,13µm3.5nm						
JMBI	**JAMBI**	**6.99**	**333**	P	**Pn**	**00 24 11.7**	**+0.8**
	398nm,1.1s,4µm1.8nm						
JAGI	**Jajag, Banyuwa**	**7.25**	**95**	Pn	**Pn**	**00 24 14.6**	**+0.1**
JAGI				Sn	**Sn**	**00 25 34.1**	**-1.5**
JAGI	**Jajag, Banyuwa**	**7.25**	**95**	P	**Pn**	**00 24 15.8**	**+1.2**
JAGI	**Jajag, Banyuwa**	**7.25**	**95**	P	**Pn**	**00 24 15.0**	**+0.4**
	946nm,0.7s,12µm4µm5.4nm						
ABJI	**Asem Bagus**	**7.32**	**90**	P	Pn	00 24 20.5	+5.1
DSRI	**Dabo**	**7.70**	**343**	P	**Pn**	**00 24 24.8**	**+4.1**
	308nm,1.0s,5µm4µm1.4nm						
SRBI	**Singaraja**	**8.29**	**92**	P	**Pn**	**00 24 30.4**	**+1.7**
	1µm,0.9s,10µm3µm						
DNP	**Denpasar**	**8.31**	**96**	P	**Pn**	**00 24 30.9**	**+1.8**
	2µm,0.5s,27µm						
DNP	**Denpasar**	**8.31**	**96**	P	**Pn**	**00 24 32.1**	**+3.0**
DNP				pmax	pmax		
	comp=Z,1µm,0.5s						
PPSI	**Pulau Pagai**	**8.50**	**306**	P	**Pn**	**00 24 30.4**	**-1.2**
	comp=Z,2µm,0.6s,comp=Z,18µm						
TPRI	**Tanjung Pinang**	**9.05**	**345**	P	Pn	00 24 46.5	+7.3
BBKI	**Banjar Baru**	**9.09**	**62**	P	Pn	00 24 44.6	+4.9
STKI	**Sintang**	**9.15**	**31**	P	Pn	00 24 45.4	+4.9
	comp=Z,231nm,0.8s						
PDSI	**Padang**	**9.41**	**317**	P	**Pn**	**00 24 42.9**	**-1.2**
	comp=Z,165nm,0.8s,comp=Z,8µm						
KSM	**Kuching**	**9.92**	**21**		**Pn**	**00 24 52.1**	**+1.0**
KSM	**Kuching**	**9.92**	**21**	P	**Pn**	**00 24 52.5**	**+1.4**
TWSI	**Taliwang, Sumb**	**9.98**	**96**	P	**Pn**	**00 24 51.7**	**0.0**
	comp=Z,375nm,0.7s,comp=Z,4µm						
BKNI	**Bangkinang**	**10.01**	**324**	Pn	**Pn**	**00 24 52.0**	**-0.3**
BKNI	**Bangkinang**	**10.01**	**324**	P	**Pn**	**00 24 50.9**	**-1.4**
MYKOM	**Kota Tinggi**	**10.07**	**343**		**Pn**	**00 24 54.9**	**+1.7**
MTKI	**Muara Teweh, K**	**10.58**	**50**	P	Pn	00 25 07.4	+7.3
I06AU	**Cocos Islands**	**10.74**	**246**	I	I	01 29 10.0	
	baz=64,slow=312,SNR=0.9						
COCO	**West Island**	**10.75**	**246**		**Pn**	**00 25 00.9**	**-1.5**
COCO	**West Island**	**10.75**	**246**	P	**Pn**	**00 25 00.9**	**-1.5**
PLAI	**Plampang**	**10.85**	**96**	P	**Pn**	**00 25 04.3**	**+0.4**
PLAI	**Plampang**	**10.85**	**96**	P	**Pn**	**00 25 03.2**	**-0.7**
	comp=Z,675nm,0.9s,comp=Z,5µmcomp=Z,2µm						
PBSI	**Pulau Batu**	**11.55**	**312**	P	**Pn**	**00 25 10.2**	**-3.2**
SBUM	**Sibu**	**11.58**	**28**	Pn	**Pn**	**00 25 16.6**	**+2.8**
SBUM	**Sibu**	**11.58**	**28**	P	Pn	00 25 19.0	+5.2
GSI	**Gunungsitoli**	**12.99**	**314**	Pn	**Pn**	**00 25 30.2**	**-3.0**
GSI	**Gunungsitoli**	**12.99**	**314**	P	**Pn**	**00 25 30.1**	**-3.0**
GSI	**Gunungsitoli**	**12.99**	**314**	P	**Pn**	**00 25 29.9**	**-3.3**
KAPI	**Kappang**	**13.13**	**78**	Pn	**Pn**	**00 25 35.8**	**+0.8**
KAPI	**Kappang**	**13.13**	**78**	P	**Pn**	**00 25 35.8**	**+0.8**
KAPI	**Kappang**	**13.13**	**78**	Pn	**Pn**	**00 25 36.8**	**+1.7**
	comp=Z,2.2nm,0.3s,baz=258,slow=9.6,SNR=9.8						
KAPI				LR	LR	00 31 17.4	
	comp=Z,3µm,19.8s,baz=260,slow=41						
RPSI	**Rantau Prapat**	**13.15**	**323**	Pn	**Pn**	**00 25 32.3**	**-3.0**
PSI	**Prapat**	**13.24**	**323**	P	**Pn**	**00 25 32.4**	**-4.2**
PSI	**Prapat**	**13.24**	**323**	P	**Pn**	**00 25 32.3**	**-4.3**
SPSI	**Sidrap Palu**	**13.43**	**74**	P	**Pn**	**00 25 41.2**	**+2.1**
	comp=Z,113nm,1.1s,comp=Z,2µm						
BKSI	**Bulukumba**	**13.43**	**80**	P	**Pn**	**00 25 41.1**	**+2.0**
	comp=Z,318nm,0.9s,comp=Z,3µm						
BASI	**Baing, Sumba**	**13.76**	**101**	P	**Pn**	**00 25 43.0**	**-0.6**
	comp=Z,516nm,1.2s,comp=Z,6µm						
TTSI	**Tana Toraja**	**13.78**	**70**	P	**P**	**00 25 48.3**	**-2.7**
	comp=Z,118nm,1.2s,comp=Z,2µm						
KULM	**Kulim**	**14.48**	**335**	Pn	**Pn**	**00 25 51.8**	**-1.4**
SNSI	**Sinabang, Aceh**	**14.65**	**314**	P	**Pn**	**00 25 52.3**	**-3.3**
EDFI	**Ende, Flores**	**14.71**	**94**	P	**Pn**	**00 25 52.0**	**-4.4**
MMRI	**Maumere**	**15.25**	**94**	Pn	**Pn**	**00 26 00.4**	**-2.9**
MMRI	**Maumere**	**15.25**	**94**	P	**Pn**	**00 26 04.4**	**+1.1**
MMRI	**Maumere**	**15.25**	**94**	P	**Pn**	**00 26 00.4**	**-2.9**
SPMM	**Sapulut**	**15.77**	**38**	P	**P**	**00 26 14.0**	**+0.8**
BBSI	**Bau Bau**	**15.80**	**82**	P	**P**	**00 26 12.9**	**-0.6**
	comp=Z,212nm,1.0s,comp=Z,2µm						
GIRL	**Giralia**	**16.30**	**155**	P	**Pn**	**00 26 14.4**	**-2.3**
	baz=16,SNR=14						
GIRL	**Giralia**	**16.30**	**155**	P	**Pn**	**00 26 13.6**	**-3.2**
GIRL	**Giralia**	**16.30**	**155**	P	**Pn**	**00 26 14.6**	**-2.1**
LHMI	**Lhok Sumawe**	**16.35**	**323**	Pn	**Pn**	**00 26 16.0**	**-1.4**
TOLI2	**Tolitoli**	**16.52**	**58**		**P**	**00 26 21.2**	**-0.3**
TOLI2	**Tolitoli**	**16.52**	**58**	P	**P**	**00 26 21.6**	**+0.1**
KKM	**Kota Kinabalu**	**16.70**	**34**	P	**Pn**	**00 26 22.6**	**+0.7**
KKM	**Kota Kinabalu**	**16.70**	**34**	P	**P**	**00 26 23.2**	**-0.4**
MRSI	**Marisa**	**17.19**	**62**	P	**P**	**00 26 29.4**	**+0.5**
	comp=Z,265nm,0.6s,comp=Z,3µmcomp=Z,3µm						
LUWI	**Luwuk**	**17.26**	**68**	P	**Pn**	**00 26 28.3**	**-0.5**
LUWI	**Luwuk**	**17.26**	**68**	P	**P**	**00 26 30.1**	**+0.4**
LUWI	**Luwuk**	**17.26**	**68**	P	**P**	**00 26 30.8**	**+1.1**
	comp=Z,670nm,0.8s,comp=Z,7µm						
SOEI	**Soe**	**17.31**	**97**		**Pn**	**00 26 27.4**	**-2.2**
SOEI	**Soe**	**17.31**	**97**	P	**Pn**	**00 26 29.3**	**-0.3**
SOEI	**Soe**	**17.31**	**97**	P	**Pn**	**00 26 29.2**	**-0.3**
	comp=Z,597nm,0.7s,comp=Z,6µm						
MYLDM	**Lahad Datu**	**17.42**	**42**	P	**Pn**	**00 26 30.4**	**-0.4**
MYLDM				IAmb	IAmb	00 26 58.5	
	comp=Z,276nm,0.9s						
SRIT	**Nakonsritamara**	**17.89**	**336**	Pn	**Pn**	**00 26 34.0**	**-2.6**
SRIT	**Nakonsritamara**	**17.89**	**336**	P	**Pn**	**00 26 35.7**	**-0.9**
MBWA	**Marble Bar**	**18.14**	**138**	P	**P**	**00 26 37.6**	**-1.7**
MBWA	**Marble Bar**	**18.14**	**138**	P	**Pn**	**00 26 40.5**	**+1.0**
MBWA	**Marble Bar**	**18.14**	**138**	P	**P**	**00 26 38.6**	**-0.8**
MBWA				P	**P**	**00 26 38.6**	**-0.8**
MBWA				S	**Sn**	**00 29 59.6**	**-1.5**
MBWA				S	**Sn**	**00 29 59.6**	**-1.5**
SURA	**Surathani**	**18.40**	**337**	P	**P**	**00 26 41.1**	**-1.2**
PSA00	**Pilbara Seismi**	**18.50**	**139**	P	**P**	**00 26 43.1**	**-0.3**
PSA00	**Pilbara Seismi**	**18.50**	**139**	P	**P**	**00 26 43.2**	**-0.2**
PSA00				IAmb	IAmb	00 27 03.7	
	comp=Z,44nm,0.9s						
PSA00	**Pilbara Seismi**	**18.50**	**139**	P	**Pn**	**00 26 44.2**	**+0.2**
KMSI	**Cibinong**	**19.04**	**65**	P	**Pn**	**00 26 52.4**	**+2.0**
	comp=Z,584nm,0.8s,comp=Z,7µmcomp=Z,3µm						
DLV	**T Lat**	**19.77**	**5**	P	**P**	**00 26 57.0**	**-0.4**
DLV	**T Lat**	**19.77**	**5**	P	**Pn**	**00 26 58.7**	**-0.6**
SANI	**Sanana**	**19.92**	**74**	P	**P**	**00 26 59.0**	**0.0**
SANI	**Sanana**	**19.92**	**74**	P	**P**	**00 26 58.8**	**-0.2**
	comp=Z,380nm,0.9s,comp=Z,3µm						
NLAI	**Namlea**	**20.67**	**78**	P	Pn	00 27 09.0	-0.9
	comp=Z,352nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.91**	**121**	P	**P**	**00 27 11.2**	**+1.5**
	baz=21,SNR=91						
FITZ	**Fitzroy Crossi**	**20.91**	**121**	P	**P**	**00 27 10.5**	**+0.8**
MEEK	**Meekatharra**	**21.74**	**150**	P	**P**	**00 27 19.7**	**+1.2**
	baz=22,SNR=18						
MEEK	**Meekatharra**	**21.74**	**150**	P	**P**	**00 27 19.5**	**+1.0**
LBMI	**Labuha**	**21.80**	**72**	P	**P**	**00 27 19.8**	**+0.5**
	comp=Z,644nm,0.8s,comp=Z,7µm						
TNTI	**Ternate**	**22.19**	**68**	P	**P**	**00 27 24.2**	**+0.7**
TNTI	**Ternate**	**22.19**	**68**	P	**P**	**00 27 25.0**	**+1.5**
TNTI	**Ternate**	**22.19**	**68**	P	**P**	**00 27 21.9**	**-1.6**
NAYO	**Nakonayok**	**22.73**	**346**	P	**P**	**00 27 28.1**	**-1.0**
MORW	**Morawa**	**22.78**	**159**	P	**P**	**00 27 30.8**	**+1.3**
	baz=23,SNR=8.6						
MORW	**Morawa**	**22.78**	**159**	P	**P**	**00 27 29.3**	**-0.3**
MORW				IAmb	IAmb	00 27 47.0	
	comp=Z,125nm,1.0s						
MORW	**Morawa**	**22.78**	**159**	P	**P**	**00 27 30.9**	**+1.3**
KNRA	**Kununurra**	**22.79**	**112**	P	**P**	**00 27 30.2**	**+0.4**
	baz=23,SNR=23						
KNRA	**Kununurra**	**22.79**	**112**	P	**P**	**00 27 28.9**	**-0.9**
KNRA				IAmb	IAmb	00 27 49.1	
	comp=Z,161nm,0.8s						
KNRA	**Kununurra**	**22.79**	**112**	P	**P**	**00 27 31.6**	**+1.8**
UBPT	**Khong Chiam**	**23.06**	**357**	P	**P**	**00 27 31.5**	**-1.0**
UBPT	**Khong Chiam**	**23.06**	**357**	P	**P**	**00 27 33.6**	**+1.2**
BNDI	**Bandanaira**	**23.16**	**83**	P	**P**	**00 27 35.2**	**+1.6**
BNDI	**Bandanaira**	**23.16**	**83**	P	**P**	**00 27 32.1**	**-1.5**
SRDT	**SRDT**	**23.38**	**341**	P	**P**	**00 27 34.3**	**-1.3**
DAV	**Davao City (W)**	**23.87**	**52**	P	**P**	**00 27 39.9**	**-0.3**
DAV	**Davao City (W)**	**23.87**	**52**	LR	LR	00 37 26.8	
	comp=Z,2µm,21.1s,baz=244,slow=38						
PBA	**Port Blair**	**23.95**	**324**	P	**P**	**00 27 38.6**	**-2.4**
PBA				IAmb	IAmb	00 27 53.1	
	comp=Z,99nm,1.1s						
SAUI	**Saumlaki**	**24.22**	**92**	P	**P**	**00 27 41.9**	**-1.6**
SAUI	**Saumlaki**	**24.22**	**92**	P	**P**	**00 27 45.3**	**+1.8**
SAUI	**Saumlaki**	**24.22**	**92**	P	**P**	**00 27 42.3**	**-1.2**
	comp=Z,401nm,0.8s,comp=Z,10µm						
MTN	**Manton Dam**	**24.38**	**104**	P	**P**	**00 27 46.3**	**+1.4**
	baz=24,SNR=13						
MTN	**Manton Dam**	**24.38**	**104**	P	**P**	**00 27 44.7**	**-0.3**
MTN	**Manton Dam**	**24.38**	**104**	P	**P**	**00 27 46.5**	**+1.5**
BLDU	**Ballidu**	**24.42**	**159**	P	**P**	**00 27 46.6**	**+1.4**
	baz=25,SNR=5.7						
BLDU	**Ballidu**	**24.42**	**159**	P	**P**	**00 27 46.8**	**+1.6**
SWI	**Sorong**	**25.31**	**75**	P	**P**	**00 27 52.2**	**-1.2**
MUN	**Mundaring**	**25.51**	**161**	P	**P**	**00 27 55.6**	**+0.6**
	baz=26,SNR=6.0						
MUN	**Mundaring**	**25.51**	**161**	P	**P**	**00 27 55.5**	**+0.5**
KDU	**Kakadu**	**25.65**	**103**	P	**P**	**00 27 56.1**	**-0.4**
	baz=26,SNR=55						
KDU	**Kakadu**	**25.65**	**103**	P	**P**	**00 27 56.9**	**+0.4**
KLBR	**Kellerberrin**	**25.68**	**158**	P	**P**	**00 27 57.7**	**+1.0**
	baz=26,SNR=8.7						
KLBR	**Kellerberrin**	**25.68**	**158**	P	**P**	**00 27 58.9**	**+2.3**
	comp=Z,80nm,0.9s						
TGY	**Tagaytay City**	**25.94**	**33**	LR	LR	00 40 36.1	
	comp=Z,563nm,19.3s,baz=252,slow=42						
NONG	**Nongkai**	**26.04**	**352**	P	**P**	**00 27 58.3**	**-1.6**
WRKA	**Warakurna**	**26.65**	**132**	P	**P**	**00 28 06.3**	**+0.8**
	baz=27,SNR=33						
WRKA	**Warakurna**	**26.65**	**132**	P	**P**	**00 28 06.6**	**+1.1**
NWAO	**Narrogin (SRO)**	**26.71**	**160**	P	**P**	**00 28 06.3**	**+0.4**
	baz=27,SNR=5.9						
NWAO				P	**P**	**00 28 06.3**	**+0.4**
	baz=27,SNR=5.9						
NWAO	**Narrogin (SRO)**	**26.71**	**160**	P	**P**	**00 28 06.1**	**+0.1**
NWAO	**Narrogin (SRO)**	**26.71**	**160**	P	**P**	**00 28 06.0**	**+0.1**
NWAO				IAmb	IAmb	00 28 26.4	
	comp=Z,170nm,1.1s						
NWAO	**Narrogin (SRO)**	**26.71**	**160**	P	**P**	**00 28 07.3**	**+1.4**
NWAO	**Narrogin (SRO)**	**26.71**	**160**	P	**P**	**00 28 05.8**	**-0.1**
NWAO				S	**S**	**00 32 37.7**	**-0.4**
NWAO	**Narrogin (SRO)**	**26.71**	**160**	P	**P**	**00 28 06.8**	**+0.9**
	comp=Z,18nm,0.8s,baz=329,slow=8.3,SNR=9.0						
NWAO				S	S	00 33 03.3	+25
	comp=Z,4.5nm,0.5s,baz=90,slow=20,SNR=1.6						
NWAO				LR	LR	00 37 41.8	
	comp=Z,2µm,21.6s,baz=337,slow=34						
	comp=Z,18nm,0.8s						
QIZ	**Qiongzhong**	**26.91**	**6**	P	**P**	**00 28 10.4**	**+2.7**
QIZ				S	**S**	**00 32 49.4**	**+8.0**
QIZ				LR	LR		
	comp=Z,2µm,16.0s						
QIZ				LR	LR		
	comp=Z,2µm,17.7s						
QIZ				LR	LR		
	comp=Z,2µm,20.2s						
KMPI	**Kaimana, Papua**	**27.04**	**83**	P	**P**	**00 28 09.2**	**+0.1**
	comp=Z,300nm,1.0s,comp=Z,3µm						
KMBL	**Kambalda**	**27.25**	**151**	P	**P**	**00 28 12.1**	**+1.4**
	baz=27,SNR=4.5						
KMBL	**Kambalda**	**27.25**	**151**	P	**P**	**00 28 12.2**	**+1.4**
CM31	**Chiang Mai Arr**	**27.31**	**343**	P	**P**	**00 28 09.6**	**-1.8**
CM31	**Chiang Mai Arr**	**27.31**	**343**	P	**P**	**00 28 09.7**	**-1.8**
	SNR=10						
CMAR	**Chiang Mai Arr**	**27.31**	**343**	*ce*P	**P**	**00 28 09.3**	**-2.1**
CMAR				pmax	pmax		
	comp=Z,16nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.31**	**343**	P	**P**	**00 28 09.4**	**-2.0**
	comp=Z,14nm,0.8s,baz=178,slow=8.7,SNR=75						
CMAR				PcP	**PcP**	**00 31 31.6**	**+1.5**
	comp=Z,6.7nm,0.8s,baz=196,slow=2.8,SNR=5.6						
CMAR				ScP	**ScP**	**00 35 07.9**	**+1.2**
	comp=Z,7.0nm,0.9s,baz=198,slow=3.2,SNR=13						
CMAR				LR	LR	00 40 59.6	
	comp=Z,1µm,18.0s,baz=165,slow=41						
	comp=Z,14nm,0.8s						
CHTO	**Chiang Mai**	**27.65**	**344**	P	**P**	**00 28 11.8**	**-2.6**
CHTO	**Chiang Mai**	**27.65**	**344**	P	**P**	**00 28 12.5**	**-1.9**
CHTO	**Chiang Mai**	**27.65**	**344**	P	**P**	**00 28 12.6**	**-1.9**
CHTO	**Chiang Mai**	**27.65**	**344**	P	**P**	**00 28 11.8**	**-2.6**
CHTO				pmax	pmax		
	comp=Z,20nm,0.9s						
H01W3	**Cape Leeuwin H**	**27.69**	**167**	T	T	00 57 53.1	
	baz=347,slow=76,SNR=73						
H01W1	**Cape Leeuwin H**	**27.70**	**167**	T	T	00 57 52.4	
	baz=347,slow=76,SNR=60						
H01W2	**Cape Leeuwin H**	**27.70**	**167**	T	T	00 57 51.1	
	baz=347,slow=76,SNR=74						
CRAI	**Chiangrai**	**28.66**	**347**	P	**P**	**00 28 22.0**	**-1.3**
SLVN	**Son La**	**29.18**	**354**	P	**P**	**00 28 26.1**	**-2.0**
WB0	**Warramunga Arr**	**29.18**	**117**	P	**P**	**00 28 27.1**	**-1.1**
WRA	**Warramunga Arr**	**29.20**	**117**	P	**P**	**00 28 28.5**	**+0.2**
WRA	**Warramunga Arr**	**29.20**	**117**	P	**P**	**00 28 28.8**	**+0.5**
	comp=Z,25nm,0.8s,baz=288,slow=10,SNR=171						
WRA				PcP	**PcP**	**00 31 35.2**	**+0.3**
	comp=Z,4.3nm,0.6s,baz=317,slow=2.2,SNR=4.8						
	comp=Z,25nm,0.8s						
WRAB	**Tennant Creek**	**29.20**	**117**	P	**P**	**00 28 29.0**	**+0.7**
WRAB	**Tennant Creek**	**29.20**	**117**	P	**P**	**00 28 29.0**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,65nm,1.1s						
WB2	**Warramunga Arr**	**29.20**	**117**	P	**P**	**00 28 28.4**	**+0.1**
WR0	**Warramunga Arr**	**29.38**	**117**	P	**P**	**00 28 30.1**	**+0.2**
PALK	**Pallekele**	**30.11**	**299**	P	**P**	**00 28 40.0**	**+3.6**
PALK				P	**P**	**00 28 40.0**	**+3.6**
PALK	**Pallekele**	**30.11**	**299**	LR	LR	00 39 40.9	
	comp=Z,554nm,20.3s,baz=224,slow=34						
PALK	**Pallekele**	**30.11**	**299**	P	**P**	**00 28 40.1**	**+3.7**
FORT	**Forrest**	**30.20**	**142**	P	**P**	**00 28 38.1**	**+1.1**
	baz=30,SNR=23						
FORT	**Forrest**	**30.20**	**142**	P	**P**	**00 28 37.3**	**+0.3**
FORT				IAmb	IAmb	00 28 53.5	
	comp=Z,58nm,0.8s						
FORT	**Forrest**	**30.20**	**142**	P	**P**	**00 28 39.0**	**+2.0**
ASAR	**Alice Springs**	**30.31**	**124**	P	**P**	**00 28 38.4**	**+0.3**
ASAR	**Alice Springs**	**30.31**	**124**	P	**P**	**00 28 39.1**	**+1.0**
	comp=Z,33nm,1.0s,baz=299,slow=8.3,SNR=135						
ASAR				LR	LR	00 42 57.7	
	comp=Z,823nm,19.1s,baz=299,slow=40						
	comp=Z,33nm,1.0s						
AS31	**Alice Springs**	**30.31**	**124**	P	**P**	**00 28 38.5**	**+0.4**
AS01	**Alice Springs**	**30.34**	**124**	P	**P**	**00 28 39.9**	**+1.5**
	comp=Z,47nm,1.0s						
MND	**Mandalay**	**31.53**	**341**	P	**P**	**00 28 49.1**	**+0.4**
KMI	**Kunming**	**33.05**	**353**	⇓P	P	00 29 10.4	+8.1
KMI				LR	LR		
	comp=N,2µm,13.5s						
KMI				LR	LR		
	comp=E,660nm,12.9s						
KMI				LR	LR		
	comp=Z,2µm,13.1s						
TWG	**Pinlang**	**33.55**	**24**	P	**P**	**00 29 06.3**	**-0.1**
GENI	**Genyem**	**33.58**	**83**	P	**P**	**00 29 08.8**	**+1.9**
OOD	**Oodnadatta**	**33.69**	**130**	P	**P**	**00 29 09.1**	**+1.4**
TNCH	**TengChong**	**33.71**	**346**	P	**P**	**00 29 10.8**	**+2.8**
TNCH				pP	pP	00 29 15.0	-5.3
TNCH				S	**S**	**00 34 33.8**	**+5.7**
TNCH				sS	sS	00 34 39.8	-8.5
TNCH				pmax	pmax		
	comp=Z,57nm,0.8s						
TNCH				pmax	pmax		
	comp=Z,110nm,3.9s						
TNCH				LR	LR		
	comp=Z,1µm,13.3s						
TNCH				LR	LR		
	comp=Z,670nm,10.6s						
TNCH				LR	LR		
	comp=Z,2µm,14.9s						
TPUB	**Ta-pu**	**33.80**	**23**	P	**P**	**00 29 07.9**	**-0.7**
TPUB				IAmb	IAmb	00 29 31.4	
	comp=Z,36nm,0.9s						
MULG	**Mulgathing**	**33.85**	**135**	P	**P**	**00 29 10.3**	**+1.3**
H08S2	**Diego Garcia H**	**34.03**	**268**	T	T	01 04 56.1	
	baz=92,slow=75,SNR=142						
H08S3	**Diego Garcia H**	**34.05**	**268**	T	T	01 04 46.5	
	baz=92,slow=75,SNR=165						
H08S1	**Diego Garcia H**	**34.05**	**268**	T	T	01 04 49.9	
	baz=92,slow=75,SNR=123						
QIS	**Mount Isa**	**34.08**	**115**	P	**P**	**00 29 12.6**	**+1.4**
	baz=34,SNR=34						
QIS	**Mount Isa**	**34.08**	**115**	P	**P**	**00 29 12.4**	**+1.2**
DGAR	**Diego Garcia**	**34.09**	**268**	P	**P**	**00 29 10.1**	**-1.2**
DGAR	**Diego Garcia**	**34.09**	**268**	P	**P**	**00 29 15.1**	**+3.8**
DGAR	**Diego Garcia**	**34.09**	**268**	P	**P**	**00 29 10.1**	**-1.2**
DGAR				pmax

PMG	**Port Moresby**	**39.87**	**95**	P	**P**	**00 30 00.6**	**+0.2**			
PMG				pP	**pP**	**00 30 14.0**	**+1.3**			
CTA	**Charters Tower**	**40.00**	**112**	LR	LR	00 46 37.5				
	comp=Z,906nm,21.9s,baz=281,slow=36									
CTAO	**Charters Tower**	**40.00**	**112**	P	**P**	**00 30 02.1**	**+0.7**			
CTAO				IAmb	IAmb	00 30 23.6				
	comp=Z,72nm,0.9s									
CTAO	**Charters Tower**	**40.00**	**112**	P	**P**	**00 30 04.7**	**+3.2**			
CTAO	**Charters Tower**	**40.00**	**112**	P	**P**	**00 30 02.2**	**+0.7**			
CTAO				pmax	pmax					
	comp=Z,72nm,0.9s									
CTAO	**Charters Tower**	**40.00**	**112**	P	**P**	**00 30 03.3**	**+1.8**			
CTAO				pP	**pwP**	**00 30 17.0**	**-0.3**			
CTAO				sP	**sP**	**00 30 22.2**	**+3.1**			
QLP	**Quilpie**	**40.04**	**122**	P	**P**	**00 30 04.1**	**+2.4**			
	baz=40,SNR=14									
QLP	**Quilpie**	**40.04**	**122**	P	**P**	**00 30 05.6**	**+3.9**			
STKA	**Stephens Creek**	**40.17**	**131**	P	**P**	**00 30 04.0**	**+1.4**			
	baz=40,SNR=39									
STKA	**Stephens Creek**	**40.17**	**131**	P	**P**	**00 30 03.4**	**+0.7**			
STKA	**Stephens Creek**	**40.17**	**131**	P	**P**	**00 30 04.2**	**+1.5**			
STKA	**Stephens Creek**	**40.17**	**131**	*i* P	**P**	**00 30 02.3**	**-0.4**			
STKA	**Stephens Creek**	**40.17**	**131**	P	**P**	**00 30 04.1**	**+1.4**			
	comp=Z,43nm,0.7s,baz=303,slow=8.2,SNR=82									
STKA				LR	LR	00 49 26.9				
	comp=Z,578nm,18.5s,baz=291,slow=40									
	comp=Z,43nm,0.7s									
JOW	**Kunigami**	**40.28**	**30**	P	**P**	**00 30 02.0**	**-1.7**			
JOW				IAmb	IAmb	00 30 04.6				
	comp=Z,67nm,1.0s									
JOW	**Kunigami**	**40.28**	**30**	P	**P**	**00 30 04.0**	**+0.4**			
JOW	**Kunigami**	**40.28**	**30**	LR	LR	00 48 17.6				
	comp=Z,413nm,20.8s,baz=239,slow=39									
LSA	**Lhasa**	**40.31**	**339**	P	**P**	**00 30 02.5**	**-1.8**			
LSA	**Lhasa**	**40.31**	**339**	P	**P**	**00 30 03.5**	**-0.8**			
LSA				P	**P**	**00 30 03.5**	**-0.8**			
LSA	**Lhasa**	**40.31**	**339**	P	**P**	**00 30 02.5**	**-1.8**			
LSA				pmax	pmax					
	comp=Z,24nm,0.8s									
TV1H	**Townsville Har**	**40.34**	**110**	P	**P**	**00 30 07.4**	**+3.1**			
	comp=Z,48nm,0.8s									
JIRN	**Jiri**	**40.60**	**331**	*e*P	**P**	**00 30 04.8**	**-1.9**			
	comp=Z,65nm,0.6s									
PKI	**Pulchoki**	**40.90**	**330**	*e*P	**P**	**00 30 06.9**	**-2.2**			
PKIN	**Phulchoki**	**40.91**	**330**	*e*P	**P**	**00 30 07.6**	**-1.6**			
	comp=Z,12nm,0.4s									
GUN	**Gumba**	**40.96**	**331**	*e*P	**P**	**00 30 07.6**	**-2.0**			
	comp=Z,59nm,0.6s									
AUAYR	**Ayr State High**	**40.97**	**111**	P	**P**	**00 30 11.4**	**+1.9**			
DMN	**Daman**	**41.08**	**330**	*e*P	**P**	**00 30 08.9**	**-1.6**			
SSE	**Sheshan**	**41.12**	**19**	P	**P**	**00 30 10.3**	**-0.1**			
SSE				S	**S**	**00 36 20.5**	**+0.3**			
SSE				pmax	pmax					
	comp=Z,15nm,0.7s									
SSE				pmax	pmax					
	comp=Z,150nm,3.5s									
SSE				LR	LR					
	comp=Z,250nm,23.1s									
SSE				LR	LR					
	comp=Z,220nm,23.5s									
NJ2	**Nanjing**	**41.34**	**16**	*e*P	**P**	**00 30 14.5**	**+2.3**			
NJ2				pP	**pP**	**00 30 17.4**	**-7.3**			
NJ2				sP	pwP	00 30 18.5	-8.7			
NJ2				pmax	pmax					
	comp=Z,23nm,0.8s									
NJ2				pmax	pmax					
	comp=Z,180nm,3.8s									
NJ2				LR	LR					
	comp=Z,850nm,20.8s									
NJ2				LR	LR					
	comp=Z,860nm,18.2s									
NJ2				LR	LR					
	comp=Z,740nm,15.7s									
GKN	**Gorkha**	**41.64**	**330**	*e*P	**P**	**00 30 12.9**	**-2.1**			
	comp=Z,28nm,0.3s									
XAN	**Xi'an**	**41.74**	**3**	⇑P	**P**	**00 30 13.6**	**-2.0**			
XAN				sP	pP	00 30 20.5	-7.6			
XAN				S	**S**	**00 36 32.4**	**+3.0**			
XAN				SS	**SS**	**00 39 37.3**	**+0.5**			
XAN				pmax	pmax					
	comp=Z,9.0nm,0.7s									
XAN				pmax	pmax					
	comp=Z,270nm,3.9s									
XAN				LR	LR					
	comp=Z,2μm,19.0s									
XAN				LR	LR					
	comp=Z,1μm,16.1s									
XAN				LR	LR					
	comp=Z,3μm,19.8s									
KOLN	**Koldanda**	**41.98**	**328**	*e*P	**P**	**00 30 15.9**	**-1.9**			
	comp=Z,148nm,0.7s									
DANN	**Dangsing**	**42.37**	**329**	*e*P	**P**	**00 30 18.9**	**-2.2**			
	comp=Z,48nm,0.5s									
LYN	**LuoYang**	**42.54**	**7**	⇑P	**P**	**00 30 22.9**	**+0.9**			
LYN				pmax	pmax					
	comp=Z,31nm,0.6s									
LYN				pmax	pmax					
	comp=Z,350nm,4.0s									
LYN				LR	LR					
	comp=Z,820nm,18.9s									
LYN				LR	LR					
	comp=Z,930nm,18.0s									
LYN				LR	LR					
	comp=Z,2μm,16.7s									
PYUN	**Piuthan**	**42.56**	**328**	*e*P	**P**	**00 30 20.8**	**-1.8**			
	comp=Z,35nm,0.4s									
ARPS	**Mount Arapiles**	**42.87**	**137**	P	**P**	**00 30 26.6**	**+1.9**			
	baz=43,SNR=7.6									
ARPS	**Mount Arapiles**	**42.87**	**137**	P	**P**	**00 30 27.3**	**+2.6**			
	comp=Z,46nm,1.3s									
CMSA	**Cobar Meteorol**	**43.13**	**128**	P	**P**	**00 30 28.9**	**+2.0**			
	baz=43,SNR=49									
CMSA	**Cobar Meteorol**	**43.13**	**128**	P	**P**	**00 30 29.0**	**+2.0**			
GUMO	**Guam**	**43.36**	**61**	LR	LR	00 49 14.4				
	comp=Z,214nm,22.0s,baz=242,slow=37									
ROCAM	**Rodrigues Isla**	**43.71**	**250**	P	**P**	**00 30 30.4**	**-1.3**			
LZH	**Lanzhou**	**43.83**	**356**	*e*P	**P**	**00 30 35.8**	**+3.2**			
LZH				sP	pP	00 30 44.3	-1.0			
LZH				S	**S**	**00 37 04.4**	**+4.1**			
LZH				pmax	pmax					
	comp=Z,45nm,1.0s									
LZH				LR	LR					
	comp=Z,1μm,16.5s									
LZH				LR	LR					
	comp=Z,780nm,14.1s									
LZH				LR	LR					
	comp=Z,1μm,18.2s									
AULRC	**Lightning Ridg**	**44.15**	**125**	P	**P**	**00 30 36.7**	**+1.6**			
TIA	**Tai'an**	**44.91**	**12**	P	**P**	**00 30 39.8**	**-1.3**			
TIA				pmax	pmax					
	comp=Z,24nm,0.8s									
TIA				LR	LR					
	comp=Z,740nm,17.1s									
TIA				LR	LR					
	comp=Z,770nm,16.7s									
TIA				LR	LR					
	comp=Z,860nm,17.1s									
GOMU	**GeErMu**	**45.29**	**346**	P	**P**	**00 30 43.3**	**-1.2**			
GOMU				S	**S**	**00 37 16.5**	**-5.3**			
GOMU				pmax	pmax					
	comp=Z,6.0nm,0.7s									
GOMU				LR	LR					
	comp=Z,500nm,17.5s									
GOMU				LR	LR					
	comp=Z,270nm,17.7s									
GOMU				LR	LR					
	comp=Z,940nm,18.7s									
EIDS	**Eidsvold**	**45.55**	**118**	P	**P**	**00 30 47.0**	**+0.6**			
	baz=46,SNR=4.3									
EIDS	**Eidsvold**	**45.55**	**118**	P	**P**	**00 30 45.9**	**-0.5**			
EIDS				IAmb	IAmb	00 31 04.1				
	comp=Z,47nm,1.2s									
EIDS	**Eidsvold**	**45.55**	**118**	P	**P**	**00 30 48.3**	**+1.9**			
HNS	**HongShan**	**45.65**	**9**	⇑P	**P**	**00 30 45.9**	**-0.9**			
HNS				PcP	**PcP**	**00 32 26.4**	**+2.0**			
HNS				ScP	**ScP**	**00 36 15.1**	**+1.7**			
HNS				*e*S	**S**	**00 37 25.0**	**-1.1**			
HNS				ScS	**ScS**	**00 40 38.1**	**-0.7**			
HNS				pmax	pmax					
	comp=Z,12nm,1.0s									
HNS				LR	LR					
	comp=Z,800nm,15.1s									
HNS				LR	LR					
	comp=Z,630nm,17.7s									
HNS				LR	LR					
	comp=Z,790nm,15.3s									

AUDCS	**Dubbo College**	**45.70**	**128**	P	**P**	**00 30 49.0**	**+1.5**			
TOO	**Toolangi**	**45.77**	**136**	P	**P**	**00 30 49.1**	**+1.1**			
	baz=46,SNR=5.3									
TOO	**Toolangi**	**45.77**	**136**	P	**P**	**00 30 47.6**	**-0.4**			
TOO				IAmb	IAmb	00 31 07.4				
	comp=Z,59nm,1.1s									
TOO	**Toolangi**	**45.77**	**136**	P	**P**	**00 30 49.3**	**+1.3**			
TOO	**Toolangi**	**45.77**	**136**	P	**P**	**00 30 47.6**	**-0.4**			
TOO				pmax	pmax					
	comp=Z,59nm,1.2s									
JNU	**Nakatsue**	**46.75**	**28**	P	**P**	**00 30 54.4**	**-1.2**			
JNU				IAmb	IAmb	00 31 05.2				
	comp=Z,37nm,0.9s									
JNU	**Nakatsue**	**46.75**	**28**	P	**P**	**00 30 57.8**	**+2.1**			
AUPHS	**Peel High Scho**	**47.09**	**125**	P	**P**	**00 31 00.8**	**+2.4**			
CAN	**Canberra**	**47.23**	**132**	P	**P**	**00 30 58.8**	**-0.7**			
CAN				IAmb	IAmb	00 31 22.3				
	comp=Z,48nm,0.8s									
CAN	**Canberra**	**47.23**	**132**	P	**P**	**00 31 02.0**	**+2.5**			
CAN	**Canberra**	**47.23**	**132**	P	**P**	**00 30 58.8**	**-0.7**			
CAN				pmax	pmax					
	comp=Z,48nm,0.8s									
CAN	**Canberra**	**47.23**	**132**	P	**P**	**00 31 01.6**	**+2.2**			
JTU	**Tsushima**	**47.27**	**26**	P	**P**	**00 30 59.2**	**-0.5**			
JTU				IAmb	IAmb	00 31 00.1				
	comp=Z,67nm,1.0s									
AUSMG	**Snowy Mountain**	**47.42**	**133**	P	**P**	**00 31 02.6**	**+1.6**			
ARMA	**Armidale**	**47.46**	**124**	P	**P**	**00 31 02.4**	**+0.9**			
	baz=48,SNR=6.3									
ARMA	**Armidale**	**47.46**	**124**	P	**P**	**00 31 01.2**	**-0.2**			
ARMA	**Armidale**	**47.46**	**124**	P	**P**	**00 31 03.0**	**+1.6**			
CNB	**Canberra Magne**	**47.50**	**131**	P	**P**	**00 31 01.8**	**+0.3**			
	baz=48,SNR=5.0									
CNB	**Canberra Magne**	**47.50**	**131**	P	**P**	**00 31 01.7**	**+0.1**			
GTA	**Gaotai**	**47.51**	**353**	*e*P	**P**	**00 31 00.4**	**-1.2**			
GTA				PcP	**PcP**	**00 32 36.3**	**+5.2**			
GTA				ScP	**ScP**	**00 36 23.6**	**+2.2**			
GTA				S	**S**	**00 37 52.6**	**-0.5**			
GTA				ScS	**ScS**	**00 40 49.6**	**-1.7**			
GTA				pmax	pmax					
	comp=Z,6.0nm,0.9s									
GTA				pmax	pmax					
	comp=Z,170nm,4.7s									
GTA				LR	LR					
	comp=Z,940nm,18.2s									
GTA				LR	LR					
	comp=Z,530nm,17.1s									
GTA				LR	LR					
	comp=Z,940nm,18.9s									
TJN	**Taejon**	**48.06**	**22**	P	**P**	**00 31 05.1**	**-0.6**			
TJN	**Taejon**	**48.06**	**22**	P	**P**	**00 31 05.3**	**-0.4**			
TJN	**Taejon**	**48.06**	**22**	*ce*P	**P**	**00 31 05.1**	**-0.6**			
BTO	**Baotou**	**48.34**	**3**	*e*P	**P**	**00 31 09.3**	**+1.4**			
BTO				S	**S**	**00 38 05.8**	**+1.1**			
BTO				SS	**SS**	**00 41 28.8**	**-6.3**			
BTO				pmax	pmax					
	comp=Z,32nm,0.7s									
BTO				pmax	pmax					
	comp=Z,360nm,4.8s									
BTO				LR	LR					
	comp=Z,2μm,22.0s									
BTO				LR	LR					
	comp=Z,1μm,16.6s									
BTO				LR	LR					
	comp=Z,2μm,23.5s									
BJT	**Baijiatuau**	**48.44**	**10**	P	**P**	**00 31 05.9**	**-2.7**			
BJT	**Baijiatuau**	**48.44**	**10**	P	**P**	**00 31 08.8**	**+0.2**			
BJT	**Baijiatuau**	**48.44**	**10**	P	**P**	**00 31 05.9**	**-2.7**			
BJT				pmax	pmax					
	comp=Z,16nm,0.7s									
BJT	**Baijiatuau**	**48.44**	**10**	P	**P**	**00 31 07.6**	**-0.9**			
BJI	**Beijing**	**48.46**	**10**	P	**P**	**00 31 08.4**	**-0.3**			
BJI				ScP	**ScP**	**00 36 26.9**	**+1.7**			
BJI				S	**S**	**00 38 13.3**	**+7.1**			
BJI				pmax	pmax					
	comp=Z,11nm,0.8s									
BJI				pmax	pmax					
	comp=Z,58nm,4.1s									
BJI				LR	LR					
	comp=Z,430nm,14.7s									
BJI				LR	LR					
	comp=Z,140nm,16.2s									
BJI				LR	LR					
	comp=Z,450nm,17.0s									
DL2	**Dalian**	**48.54**	**15**	P	**P**	**00 31 08.4**	**-0.9**			
DL2				*e*S	**S**	**00 38 06.3**	**-1.0**			
DL2				pmax	pmax					
	comp=Z,35nm,1.5s									
DL2				pmax	pmax					
	comp=Z,460nm,3.5s									
DL2				LR	LR					
	comp=Z,530nm,13.2s									
DL2				LR	LR					
	comp=Z,500nm,10.6s									
DL2				LR	LR					
	comp=Z,840nm,20.0s									
HHC	**Hu-ho-hao-te**	**48.69**	**5**	*e*P	**P**	**00 31 13.6**	**+3.0**			
HHC				S	**S**	**00 38 17.4**	**+7.7**			
HHC				sS	sS	00 38 24.1	-6.5			
HHC				pmax	pmax					
	comp=Z,21nm,0.8s									
HHC				pmax	pmax					
	comp=Z,290nm,4.7s									
HHC				LR	LR					
	comp=Z,850nm,21.0s									
HHC				LR	LR					
	comp=Z,1μm,19.9s									
HHC				LR	LR					
	comp=Z,2μm,19.9s									
JMN	**Monobe**	**48.69**	**30**	P	**P**	**00 31 09.4**	**-1.3**			
JMN				IAmb	IAmb	00 31 10.1				
	comp=Z,50nm,1.0s									
JMN	**Monobe**	**48.69**	**30**	P	**P**	**00 31 09.8**	**-0.9**			
INCN	**Inchon**	**48.78**	**21**	P	**P**	**00 31 10.3**	**-1.0**			
INCN				IAmb	IAmb	00 31 10.7				
	comp=Z,38nm,0.8s									
INCN	**Inchon**	**48.78**	**21**	P	**P**	**00 31 10.2**	**-1.1**			
INCN	**Inchon**	**48.78**	**21**	P	**P**	**00 31 10.3**	**-1.0**			
INCN				pmax	pmax					
	comp=Z,38nm,0.9s									
JCJ	**Chichijima**	**48.80**	**43**		**P**	**00 31 11.3**	**-0.3**			
JCJ	**Chichijima**	**48.80**	**43**	LR	LR	00 50 39.4				
	comp=Z,219nm,21.9s,baz=243,slow=35									
KSAR	**Wonju Array Be**	**49.20**	**22**	P	**P**	**00 31 14.0**	**-0.4**			
KSAR	**Wonju Array Be**	**49.20**	**22**	P	**P**	**00 31 14.0**	**-0.4**			
KSRS	**Korea Array**	**49.22**	**22**	P	**P**	**00 31 14.0**	**-0.6**			
KSRS	**Korea Array**	**49.22**	**22**	P	**P**	**00 31 13.9**	**-0.6**			
	comp=Z,32nm,0.8s,baz=209,slow=8.5,SNR=64									
KSRS				LR	LR	00 54 02.5				
	comp=Z,197nm,21.6s,baz=210,slow=39									
	comp=Z,32nm,0.8s									
KS19	**Wonju Array Si**	**49.24**	**22**	P	**P**	**00 31 14.2**	**-0.6**			
KS19				IAmb	IAmb	00 31 16.1				
	comp=Z,40nm,0.8s									
RER	**Riviere de l'E**	**50.98**	**249**	P	**P**	**00 31 27.9**	**-0.5**			
RER	**Riviere de l'E**	**50.98**	**249**	P	**P**	**00 31 31.1**	**+2.7**			
RER	**Riviere de l'E**	**50.98**	**249**	P	**P**	**00 31 30.9**	**+2.5**			
RER				pP	**pwP**	**00 31 43.5**	**-1.5**			
RER				sP	**sP**	**00 31 50.1**	**+3.9**			
MSEY	**Mahe Island**	**51.14**	**270**	P	**P**	**00 31 29.1**	**-0.5**			
MSEY				IAmb	IAmb	00 31 33.5				
	comp=Z,40nm,1.2s									
MSEY	**Mahe Island**	**51.14**	**270**	P	**P**	**00 31 28.4**	**-1.3**			
MSEY	**Mahe Island**	**51.14**	**270**	P	**P**	**00 31 29.2**	**-0.5**			
MSEY				pmax	pmax					
	comp=Z,40nm,1.2s									
JHJ	**Hachijo jima 2**	**51.42**	**36**	LR	LR	00 53 43.6				
	comp=Z,308nm,19.6s,baz=164,slow=37									
SNY	**Shenyang**	**51.79**	**16**	⇑P	**P**	**00 31 32.0**	**-1.9**			
SNY				pmax	pmax					
	comp=Z,17nm,0.9s									
NIL	**Nilore**	**52.18**	**324**	P	**P**	**00 31 36.2**	**-0.9**			
NIL	**Nilore**	**52.18**	**324**	P	**P**	**00 31 37.0**	**-0.1**			
NIL				P	**P**	**00 31 37.0**	**-0.1**			
NIL	**Nilore**	**52.18**	**324**	P	**P**	**00 31 36.2**	**-0.9**			
NIL				pmax	pmax					
	comp=Z,78nm,0.7s									
NIL	**Nilore**	**52.18**	**324**	P	**P**	**00 31 36.4**	**-0.7**			
NIL				pP	**pP**	**00 31 49.1**	**-0.7**			
NIL				sP	**sP**	**00 31 54.6**	**-0.6**			
XLT	**XiLinHaoTe**	**52.22**	**8**	*e*P	**P**	**00 31 36.6**	**-0.6**			
XLT				S	**S**	**00 38 56.6**	**-2.0**			
XLT				pmax	pmax					
	comp=Z,30nm,0.9s									
XLT				pmax	pmax					
	comp=Z,130nm,5.2s									
XLT				LR	LR					
	comp=Z,410nm,23.9s									
XLT				LR	LR					
	comp=Z,260nm,22.6s									
HNR	**Honiara**	**52.48**	**96**	LR	LR	00 55 56.1				
	comp=Z,3μm,20.2s,baz=294,slow=38									
MAJO	**Matsushiro**	**53.10**	**32**	P	**P**	**00 31 41.7**	**-2.0**			
MAJO				IAmb	IAmb	00 31 53.5				
	comp=Z,38nm,1.2s									
MAJO	**Matsushiro**	**53.10**	**32**	P	**P**	**00 31 41.7**	**-2.0**			
MAJO				pmax	pmax					
	comp=Z,39nm,1.3s									
MAJO	**Matsushiro**	**53.10**	**32**	P	**P**	**00 31 41.1**	**-2.7**			
MJAR	**Matsushiro Arr**	**53.10**	**32**	P	**P**	**00 31 41.1**	**-2.6**			
	comp=Z,15nm,0.9s,baz=213,slow=6.6,SNR=26									
MJAR				ScP	**ScP**	**00 36 45.7**	**+0.4**			
	comp=Z,0.9nm,0.3s,baz=227,slow=5.6,SNR=5.8									
MJAR				LR	LR	00 55 09.9				
	comp=Z,377nm,20.6s,baz=220,slow=37									
	comp=Z,15nm,0.9s									
MJB9	**Matsu-Tunnel**	**53.10**	**32**	P	**P**	**00 31 42.5**	**-1.3**			
MJB9				IAmb	IAmb	00 31 54.5				
	comp=Z,36nm,1.2s									
CN2	**Changchun**	**54.14**	**17**	*e*P	**P**	**00 31 49.4**	**-1.8**			
CN2				pmax	pmax					
	comp=Z,40nm,0.7s									
CN2				pmax	pmax					
	comp=Z,100nm,3.0s									
CN2				LR	LR					
	comp=Z,500nm,15.0s									
CN2				LR	LR					
	comp=Z,500nm,15.0s									
CN2				LR	LR					
	comp=Z,500nm,16.0s									
WMQ	**Urumqi**	**54.31**	**343**	*e*P	**P**	**00 31 51.9**	**-0.7**			
WMQ				pP	pP	00 31 56.8	-8.5			
WMQ				sP	pwP	00 32 03.8	-4.8			
WMQ				ScP	**ScP**	**00 36 52.3**	**+1.8**			
WMQ				S	**S**	**00 39 22.6**	**-4.4**			
WMQ				pmax	pmax					
	comp=Z,22nm,1.3s									
WMQ				LR	LR					
	comp=Z,330nm,15.1s									
WMQ				LR	LR					
	comp=Z,320nm,12.1s									
WMQ				LR	LR					
	comp=Z,190nm,24.9s									
WUS	**Wushi**	**55.05**	**335**	P	**P**	**00 31 56.8**	**-1.2**			
KSH	**Kashi**	**55.16**	**331**	P	**P**	**00 31 56.0**	**-2.9**			
KSH				pP	pP	00 32 01.5	-10			
KSH				S	**S**	**00 39 33.5**	**-5.1**			
KSH				pmax	pmax					
	comp=Z,40nm,0.9s									
JLN	**Jalan Bani Buh**	**55.24**	**304**	P	**P**	**00 32 02.5**	**+2.9**			
JLN				P	**P**	**00 32 02.5**	**+2.9**			
KBL	**Kabul**	**55.30**	**322**	P	**P**	**00 31 59.0**	**-1.2**			
KBL				IAmb	IAmb	00 32 03.2				
	comp=Z,39nm,0.8s									
KBL	**Kabul**	**55.30**	**322**	P	**P**	**00 31 59.9**	**-0.3**			
	SNR=25									
KBL				S	**S**	**00 39 44.5**	**+3.6**			
KBL	**Kabul**	**55.30**	**322**	P	**P**	**00 31 59.0**	**-1.2**			
KBL				pmax	pmax					
	comp=Z,39nm,0.8s									
NGCH	**Negor - Chabah**	**55.40**	**308**	P	**P**	**00 32 03.8**	**+3.0**			
JMM	**Marumori**	**55.45**	**32**	P	**P**	**00 31 58.3**	**-2.5**			
JMM				IAmb	IAmb	00 31 59.5				
	comp=Z,44nm,1.0s									
SONM	**Songino Array**	**55.48**	**360**	P	**P**	**00 31 59.6**	**-1.4**			
SONM	**Songino Array**	**55.48**	**360**	P	**P**	**00 32 00.1**	**-0.9**			
	comp=Z,4.9nm,0.7s,baz=174,slow=8.3,SNR=45									
SONM				PcP	**PcP**	**00 33 00.5**	**-0.1**			
	comp=Z,11nm,0.7s,baz=177,slow=3.2,SNR=6.5									
SONM				ScP	**ScP**	**00 36 56.4**	**+0.7**			
	comp=Z,7.8nm,0.9s,baz=159,slow=4.1,SNR=10.0									
SONM				LR	LR	00 57 19.2				
	comp=Z,1μm,20.9s,baz=172,slow=38									
SONM				PKPPKP	**P'P'df**	**01 01 58.9**	**-3.7**			
	comp=Z,0.9nm,1.0s,baz=338,slow=6.4,SNR=3.9									
	comp=Z,4.9nm,0.7s									
ULN	**Ulaanbaatar**	**55.51**	**0**	P	**P**	**00 32 00.4**	**-0.8**			
ULN	**Ulaanbaatar**	**55.51**	**0**	P	**P**	**00 32 00.9**	**-0.4**			
ULN				P	**P**	**00 32 00.9**	**-0.4**			
ULN	**Ulaanbaatar**	**55.51**	**0**	*i* P	**P**	**00 32 01.3**	**0.0**			
ULN				pmax	pmax					
	comp=Z,11nm,0.8s									
ULN	**Ulaanbaatar**	**55.51**	**0**	P	**P**	**00 32 00.7**	**-0.6**			
WBK	**Wadi Bani Khal**	**55.81**	**304**	P	**P**	**00 32 06.3**	**+2.6**			
WBK				P	**P**	**00 32 06.3**	**+2.6**			
MHTO	**MHTO**	**55.93**	**302**	P	**P**	**00 32 06.3**	**+1.8**			
MHTO				P	**P**	**00 32 06.3**	**+1.8**			
MHTO				S	**S**	**00 39 48.1**	**-1.1**			
MHTO				S	**S**	**00 39 48.1**	**-1.1**			
MDJ	**Mudanjiang**	**56.15**	**19**	P	**P**	**00 32 04.1**	**-1.6**			
MDJ	**Mudanjiang**	**56.15**	**19**	P	**P**	**00 32 04.5**	**-1.2**			
MDJ				PP	**PP**	**00 34 11.3**	**-0.1**			
MDJ				PcS	**PcS**	**00 36 59.9**	**-3.6**			
MDJ				S	**S**	**00 39 54.3**	**+3.0**			
MDJ				SS	**SS**	**00 43 40.8**	**+2.2**			
MDJ				pmax	pmax					
	comp=Z,37nm,1.9s									
MDJ				pmax	pmax					
	comp=Z,520nm,3.8s									
MDJ	**Mudanjiang**	**56.15**	**19**	P	**P**	**00 32 05.0**	**-0.7**			
WSAR	**Wadi Sarin**	**56.38**	**305**	P	**P**	**00 32 10.4**	**+2.6**			
	SNR=9.0									
WSAR	**Wadi Sarin**	**56.38**	**305**	LR	LR	00 54 36.0				
	comp=Z,331nm,20.4s,baz=138,slow=34									
JMDO	**Jabal Madar**	**56.42**	**303**	P	**P**	**00 32 11.6**	**+3.5**		

ZHN	**Zhinishke**	**57.00**	**335**	*e*P		**P**	**00 32 10.7**	**-1.3**	
KPKS	**Kokpek**	**57.15**	**336**	*e*P		**P**	**00 32 11.2**	**-1.8**	
	comp=Z,6.6nm,0.6s,baz=336								
KPKS	**Kokpek**	**57.15**	**336**	*e*P		**P**	**00 32 11.2**	**-1.8**	
KPKS				pmax		pmax			
	comp=Z,7.0nm,0.6s								
DMTO	**DMTO**	**57.22**	**297**	P		**P**	**00 32 13.7**	**-0.1**	
DMTO				P		**P**	**00 32 13.7**	**-0.1**	
BSY	**Bisya**	**57.33**	**303**	P		**P**	**00 32 16.9**	**+2.3**	
	SNR=9.5								
BSY				P		**P**	**00 32 16.9**	**+2.3**	
	SNR=9.5								
KZA	**Kyzart**	**57.51**	**332**	P		**P**	**00 32 16.7**	**+0.7**	
	SNR=25								
TNSS	**Tian-Shan**	**57.52**	**334**	*e*P		**P**	**00 32 14.2**	**-1.8**	
	baz=334								
TNSS	**Tian-Shan**	**57.52**	**334**	*e*P		**P**	**00 32 14.1**	**-1.8**	
MDOK	**Medeo**	**57.58**	**334**	*e*P		**P**	**00 32 14.4**	**-1.8**	
	baz=334								
MDOK	**Medeo**	**57.58**	**334**	*e*P		**P**	**00 32 14.3**	**-1.8**	
HOQ	**Hoqain**	**57.62**	**304**	P		**P**	**00 32 19.0**	**+2.5**	
	SNR=6.6								
HOQ				P		**P**	**00 32 19.0**	**+2.5**	
	SNR=6.6								
AAA	**Alma-Ata**	**57.67**	**334**	*e*P		**P**	**00 32 15.1**	**-1.6**	
	baz=334								
AAA	**Alma-Ata**	**57.67**	**334**	*e*P		**P**	**00 32 15.0**	**-1.6**	
JTM	**Tenmabayashi**	**57.77**	**30**	P		**P**	**00 32 15.5**	**-1.8**	
RBK	**Rabkut**	**57.80**	**296**	P		**P**	**00 32 20.0**	**+2.1**	
RBK				P		**P**	**00 32 20.0**	**+2.1**	
RBK				S		**S**	**00 40 15.4**	**+1.2**	
RBK				S		**S**	**00 40 15.4**	**+1.2**	
UCH	**Uchtor**	**57.97**	**332**	P		**P**	**00 32 17.1**	**-2.0**	
	SNR=13								
ARSB	**Arslanbob**	**58.00**	**330**	P		**P**	**00 32 18.3**	**-0.8**	
ARSB				IAmb		IAmb	00 32 24.0		
	comp=Z,36nm,1.4s								
ARSB	**Arslanbob**	**58.00**	**330**	P		**P**	**00 32 18.3**	**-0.8**	
ARSB				pmax		pmax			
	comp=Z,36nm,1.4s								
TKM2	**Tokmak 2**	**58.02**	**333**	P		**P**	**00 32 17.4**	**-1.9**	
	SNR=57								
TKM2	**Tokmak 2**	**58.02**	**333**	*i* P		**P**	**00 32 17.0**	**-2.2**	
TKM2				pmax		pmax			
	comp=Z,31nm,0.5s								
HIA	**Hailar**	**58.02**	**10**	P		**P**	**00 32 15.9**	**-3.0**	
HIA	**Hailar**	**58.02**	**10**	*i* P		**P**	**00 32 17.4**	**-1.5**	
HIA				pmax		pmax			
	comp=Z,13nm,0.8s								
HIA	**Hailar**	**58.02**	**10**	P		**P**	**00 32 17.4**	**-1.5**	
CHGR	**Chuyangaron**	**58.06**	**326**	P		**P**	**00 32 16.7**	**-2.8**	
CHGR	**Chuyangaron**	**58.06**	**326**	P		**P**	**00 32 16.7**	**-2.8**	
CHGR				pmax		pmax			
	comp=Z,95nm,0.8s								
KBK	**Karagaybulak**	**58.10**	**333**	P		**P**	**00 32 18.5**	**-1.3**	
	SNR=27								
ZAK	**Zakamensk**	**58.11**	**357**	*e*P		**P**	**00 32 18.0**	**-1.6**	
ZAK				pmax		pmax			
	comp=Z,18nm,1.2s								
ARXS	**Arharly**	**58.12**	**336**	*e*P		**P**	**00 32 18.8**	**-0.9**	
ARQ	**Araqi**	**58.15**	**304**	P		**P**	**00 32 22.5**	**+2.1**	
ARQ				P		**P**	**00 32 22.5**	**+2.1**	
BTK	**Batken**	**58.16**	**328**	P		**P**	**00 32 19.1**	**-1.0**	
BTK				IAmb		IAmb	00 32 24.8		
	comp=Z,41nm,0.8s								
BTK	**Batken**	**58.16**	**328**	P		**P**	**00 32 19.2**	**-1.0**	
BTK				pmax		pmax			
	comp=Z,41nm,0.8s								
CHKK	**Chushkaly**	**58.17**	**335**	*e*P		**P**	**00 32 19.0**	**-1.1**	
	baz=335								
CHKK	**Chushkaly**	**58.17**	**335**	*e*P		**P**	**00 32 18.9**	**-1.1**	
JASK	**Jask - Hormozg**	**58.22**	**307**	P		P	00 32 15.1	-5.6	
AML	**Almayashu**	**58.27**	**331**	P		**P**	**00 32 19.9**	**-1.4**	
	SNR=18								
AAK	**Ala-Archa**	**58.30**	**332**	P		**P**	**00 32 21.4**	**+0.3**	
	SNR=11								
AAK	**Ala-Archa**	**58.30**	**332**	P		**P**	**00 32 20.7**	**-0.4**	
AAK	**Ala-Archa**	**58.30**	**332**	*i* P		**P**	**00 32 19.7**	**-1.4**	
	SNR=16								
AAK	**Ala-Archa**	**58.30**	**332**	P		**P**	**00 32 20.1**	**-1.0**	
AAK				P		**P**	**00 32 20.1**	**-1.0**	
AAK	**Ala-Archa**	**58.30**	**332**	*ce*P		**P**	**00 32 21.6**	**+0.5**	
AAK				pmax		pmax			
	comp=Z,32nm,1.7s								
AAK	**Ala-Archa**	**58.30**	**332**	LR		LR	01 02 38.8		
	comp=Z,358nm,18.1s,baz=144,slow=41								
AAK	**Ala-Archa**	**58.30**	**332**	P		**P**	**00 32 20.0**	**-1.1**	
WHFO	**Wadi Hawf**	**58.34**	**297**	P		**P**	**00 32 23.1**	**+1.4**	
WHFO				P		**P**	**00 32 23.1**	**+1.4**	
WHFO				S		**S**	**00 40 20.4**	**-0.7**	
WHFO				S		**S**	**00 40 20.4**	**-0.7**	
CASY	**Casey**	**58.36**	**178**	P		**P**	**00 32 21.8**	**+0.8**	
CASY				pP		**pP**	**00 32 34.3**	**+0.6**	
CASY				sP		**sP**	**00 32 40.6**	**+1.7**	
FRU1	**Bishkek**	**58.37**	**333**	P		**P**	**00 32 20.9**	**-0.6**	
FRU1				IAmb		IAmb	00 32 23.4		
	comp=Z,33nm,0.8s								
FRU1	**Bishkek**	**58.37**	**333**	P		**P**	**00 32 20.9**	**-0.6**	
FRU1				pmax		pmax			
	comp=Z,33nm,0.8s								
ZSN	**Zaisan**	**58.44**	**343**	*e*P		**P**	**00 32 20.4**	**-1.5**	
	comp=Z,6.8nm,0.8s,baz=343								
ZSN	**Zaisan**	**58.44**	**343**	*e*P		**P**	**00 32 20.3**	**-1.5**	
ZSN				pmax		pmax			
	comp=Z,7.0nm,0.8s								
CHMS	**Chumysh**	**58.46**	**333**	P		**P**	**00 32 21.5**	**-0.7**	
	SNR=8.2								
KUU	**Kurty**	**58.48**	**334**	*e*P		**P**	**00 32 19.9**	**-2.3**	
	baz=334								
KUU	**Kurty**	**58.48**	**334**	*e*P		**P**	**00 32 19.9**	**-2.3**	
SOHO	**SOHO**	**58.50**	**304**	*i* P		**P**	**00 32 23.5**	**+0.9**	
	SNR=7.4								
SOHO	**SOHO**	**58.50**	**304**	P		**P**	**00 32 24.5**	**+1.9**	
SOHO				P		**P**	**00 32 24.5**	**+1.9**	
SOHO				S		**S**	**00 40 24.6**	**+1.7**	
SOHO				S		**S**	**00 40 24.6**	**+1.7**	
TDK	**Taldyqorghan**	**58.54**	**337**	*e*P		**P**	**00 32 21.1**	**-1.5**	
	baz=337								
TDK	**Taldyqorghan**	**58.54**	**337**	*e*P		**P**	**00 32 21.1**	**-1.5**	
ABTO	**Aybut**	**58.55**	**296**	P		**P**	**00 32 25.0**	**+1.7**	
	SNR=10								
ABTO				P		**P**	**00 32 25.0**	**+1.7**	
	SNR=10								
EKS2	**Erkin-Say**	**58.65**	**332**	P		**P**	**00 32 22.6**	**-1.0**	
	SNR=34								
MK31	**Makanchi Array**	**58.66**	**340**	P		**P**	**00 32 21.6**	**-1.8**	
MK31				IAmb		IAmb	00 32 24.9		
	comp=Z,18nm,0.7s								
MK31	**Makanchi Array**	**58.66**	**340**	*i* P		**P**	**00 32 21.4**	**-2.0**	
MK31				pmax		pmax			
	comp=Z,21nm,0.6s								
MKAR	**Makanchi Array**	**58.66**	**340**	P		**P**	**00 32 21.8**	**-1.7**	
MKAR	**Makanchi Array**	**58.66**	**340**	*ce*P		**P**	**00 32 21.7**	**-1.7**	
MKAR				pmax		pmax			
	comp=Z,29nm,0.8s								
MKAR	**Makanchi Array**	**58.66**	**340**	P		**P**	**00 32 21.9**	**-1.6**	
	comp=Z,29nm,0.7s,baz=150,slow=8.5,SNR=134								
MKAR				S		**S**	**00 40 16.8**	**-7.6**	
	comp=Z,0.5nm,0.7s,baz=99,slow=19,SNR=2.2								
MKAR				LR		LR	01 01 18.7		
	comp=Z,641nm,18.8s,baz=171,slow=40								
	comp=Z,29nm,0.7s								
MAKZ	**Makanchi**	**58.78**	**340**	P		**P**	**00 32 23.1**	**-1.1**	
MAKZ	**Makanchi**	**58.78**	**340**	P		**P**	**00 32 23.1**	**-1.1**	
MAKZ				pmax		pmax			
	comp=Z,11nm,0.9s								
ABPO	**Ambohimpanom**	**58.79**	**253**	P		**P**	**00 32 23.5**	**-1.6**	
ABPO				IAmb		IAmb	00 32 45.2		
	comp=Z,50nm,1.2s								
ABPO	**Ambohimpanom**	**58.79**	**253**	P		**P**	**00 32 23.5**	**-1.6**	
ABPO				pmax		pmax			
	comp=Z,50nm,1.2s								
ABPO	**Ambohimpanom**	**58.79**	**253**	P		**P**	**00 32 27.2**	**+2.1**	
ABPO				pP		**pwP**	**00 32 41.0**	**-0.7**	
SGDS	**Sogindy**	**58.87**	**333**	*e*P		**P**	**00 32 23.9**	**-1.2**	
	baz=333								
SGDS	**Sogindy**	**58.87**	**333**	*e*P		**P**	**00 32 23.8**	**-1.2**	
DZM	**Mont Dzumac**	**58.94**	**111**	P		**P**	**00 32 25.3**	**-0.6**	
DZM				IAmb		IAmb	00 32 33.0		
	comp=Z,31nm,1.1s								
DZM	**Mont Dzumac**	**58.94**	**111**	*e*P		**P**	**00 32 27.1**	**+1.2**	
	comp=Z,60nm,1.1s								
DZM				*e*S		**S**	**00 40 25.4**	**-3.6**	
	comp=Z,74nm,23.4s								
DZM				*e*LR		LR	00 49 47.4		
	comp=Z,1μm,23.2s								
DZM	**Mont Dzumac**	**58.94**	**111**	LR		LR	00 59 51.1		
	comp=Z,476nm,19.8s,baz=240,slow=38								
ONTNC	**Ouen Toro**	**58.96**	**111**	P		**P**	**00 32 26.9**	**+0.9**	
ALNE	**Al Ain**	**59.10**	**304**	*i* P		**P**	**00 32 28.5**	**+1.5**	
	SNR=14								
ALNE	**Al Ain**	**59.10**	**304**	P		**P**	**00 32 29.1**	**+2.2**	
	SNR=6.1								
ALNE				P		**P**	**00 32 29.1**	**+2.2**	
	SNR=6.1								
ALNE				S		**S**	**00 40 31.8**	**+0.9**	
ALNE				S		**S**	**00 40 31.8**	**+0.9**	
UOSS	**Minazif**	**59.13**	**305**	P		**P**	**00 32 26.1**	**-0.9**	
UOSS				IAmb		IAmb	00 32 37.3		
	comp=Z,52nm,1.0s								
UOSS	**Minazif**	**59.13**	**305**	P		**P**	**00 32 27.8**	**+0.8**	
UOSS	**Minazif**	**59.13**	**305**	P		**P**	**00 32 28.7**	**+1.7**	
UOSS				S		**S**	**00 40 32.6**	**+1.4**	
UOSS	**Minazif**	**59.13**	**305**	P		**P**	**00 32 28.6**	**+1.5**	
ASHO	**Ashiyiah**	**59.13**	**305**	*i* P		**P**	**00 32 28.6**	**+1.5**	
	SNR=9.2								
ASHO	**Ashiyiah**	**59.13**	**305**	P		**P**	**00 32 29.2**	**+2.1**	
HATD	**Hatta, Dubai**	**59.13**	**305**	*i* P		**P**	**00 32 28.9**	**+1.8**	
	SNR=8.8								
HATD	**Hatta, Dubai**	**59.13**	**305**	P		**P**	**00 32 29.3**	**+2.2**	
HATD				P		**P**	**00 32 29.3**	**+2.2**	
HATD				S		**S**	**00 40 34.3**	**+3.1**	
HATD				S		**S**	**00 40 34.3**	**+3.1**	
OUENC	**Ouen Island, N**	**59.33**	**111**	P		**P**	**00 32 28.9**	**+0.4**	
OUENC				IAmb		IAmb	00 32 35.9		
	comp=Z,33nm,0.8s								
VOI	**Vohitsoka**	**59.35**	**249**	P		**P**	**00 32 27.1**	**-1.7**	
VOI	**Vohitsoka**	**59.35**	**249**	P		**P**	**00 32 32.3**	**+3.5**	
MSFE	**Esma-Masafi**	**59.35**	**306**	*i* P		**P**	**00 32 30.4**	**+1.8**	
	SNR=7.2								
MASF	**Masafi**	**59.36**	**306**	P		**P**	**00 32 30.6**	**+2.0**	
MASF				P		**P**	**00 32 30.6**	**+2.0**	
FOMA	**Nahampoana Res**	**59.43**	**246**	P		**P**	**00 32 27.8**	**-1.4**	
FOMA	**Nahampoana Res**	**59.43**	**246**	P		**P**	**00 32 27.8**	**-1.4**	
FOMA				sP		**sP**	**00 32 48.5**	**+1.4**	
BANOM	**Banah**	**59.49**	**306**	P		**P**	**00 32 29.5**	**-0.1**	
MOY	**Mondy**	**59.53**	**356**	*e*P		**P**	**00 32 31.2**	**+1.8**	
MOY				pmax		pmax			
	comp=Z,19nm,1.5s								
FAQ	**Al Faqa, Dubai**	**59.54**	**305**	*i* P		**P**	**00 32 32.0**	**+2.1**	
	SNR=24								
FAQ	**Al Faqa, Dubai**	**59.54**	**305**	P		**P**	**00 32 32.0**	**+2.1**	
	SNR=10								
FAQ				P		**P**	**00 32 32.0**	**+2.1**	
	SNR=10								
HRA	**Herat**	**59.56**	**318**	P		**P**	**00 32 28.9**	**-1.2**	
HRA				IAmb		IAmb	00 32 54.1		
	comp=Z,39nm,1.2s								
NAZ	**Nazwa, Dubai**	**59.59**	**305**	*i* P		**P**	**00 32 31.8**	**+1.6**	
	SNR=9.0								
NAZ	**Nazwa, Dubai**	**59.59**	**305**	P		**P**	**00 32 32.5**	**+2.3**	
SHME	**Shamm**	**59.68**	**306**	P		**P**	**00 32 32.9**	**+2.1**	
ASUD	**Al Ashush, Dub**	**59.70**	**304**	*i* P		**P**	**00 32 32.7**	**+1.7**	
	SNR=8.4								
ASUD	**Al Ashush, Dub**	**59.70**	**304**	P		**P**	**00 32 33.3**	**+2.4**	
ASUD				P		**P**	**00 32 33.3**	**+2.4**	
DGZ	**Jazzator, Alta**	**59.80**	**346**	*c* *i* P		**P**	**00 32 30.1**	**-1.3**	
DGZ				pmax		pmax			
	comp=Z,28nm,0.8s								
CHM	**Chimkent**	**60.43**	**329**	*e*P		**P**	**00 32 34.8**	**-1.0**	
	baz=329								
CHM	**Chimkent**	**60.43**	**329**	*e*P		**P**	**00 32 34.7**	**-1.0**	
H04N2	**CROZET ISLANDS**	**60.50**	**221**	T		T	01 38 42.3		
	baz=68,slow=75,SNR=107								
H04N1	**CROZET ISLANDS**	**60.51**	**221**	T		T	01 39 10.2		
	baz=68,slow=75,SNR=265								
H04N3	**CROZET ISLANDS**	**60.51**	**221**	T		T	01 38 41.2		
	baz=68,slow=75,SNR=388								
KK31	**Karatay Array**	**60.55**	**330**	P		**P**	**00 32 35.1**	**-1.4**	
KK31	**Karatay Array**	**60.55**	**330**	P		**P**	**00 32 35.1**	**-1.4**	
KK31				pmax		pmax			
	comp=Z,10.0nm,0.8s								
KKAR	**Karatay Array**	**60.55**	**330**	P		**P**	**00 32 34.4**	**-2.1**	
KKAR	**Karatay Array**	**60.55**	**330**	P		**P**	**00 32 34.8**	**-1.7**	
KKAR				IAmb		IAmb	00 32 59.8		
	comp=Z,9.9nm,0.8s								
KKAR	**Karatay Array**	**60.55**	**330**	P		**P**	**00 32 34.8**	**-1.7**	
KKAR				pmax		pmax			
	comp=Z,10.0nm,0.8s								
HEH	**HeiHe**	**60.60**	**15**	*e*P		**P**	**00 32 35.3**	**-1.3**	
HEH				pmax		pmax			
	comp=Z,55nm,0.6s								
HEH				pmax		pmax			
	comp=Z,240nm,4.6s								
HEH				LR		LR			
	comp=Z,580nm,16.8s								
HEH				LR		LR			
	comp=Z,460nm,17.3s								
HEH				LR		LR			
	comp=Z,590nm,21.4s								
H04S1	**CROZET ISLANDS**	**60.67**	**220**	T		T	01 38 49.6		
	baz=72,SNR=4.0								
H04S3	**CROZET ISLANDS**	**60.69**	**220**	T		T	01 38 53.0		
	baz=72								
H04S2	**CROZET ISLANDS**	**60.69**	**220**	T		T	01 38 51.9		
	baz=72								
KLR	**Kul'dur**	**60.91**	**18**	*ce*P		**P**	**00 32 36.8**	**-2.0**	
KLR				pmax		pmax			
	comp=Z,42nm,1.0s								
ASAJ	**Asahikawa**	**61.02**	**29**	P		**P**	**00 32 39.2**	**-0.4**	
ASAJ				pmax		pmax			
	comp=Z,27nm,0.7s								
JKA	**Kamikawa-asahi**	**61.02**	**29**	P		**P**	**00 32 39.2**	**-0.4**	
JKA				IAmb		IAmb	00 32 42.0		
	comp=Z,27nm,0.7s								
SEM	**Semipalatinsk**	**62.48**	**341**	*e*P		**P**	**00 32 48.6**	**-1.0**	
	baz=341								
SEM	**Semipalatinsk**	**62.48**	**341**	*e*P		**P**	**00 32 48.6**	**-1.0**	
DRV	**Dumont d'Urvil**	**62.91**	**166**	P		**P**	**00 32 52.5**	**+0.5**	
KURBB	**Kurchatov Arra**	**63.23**	**340**	P		**P**	**00 32 52.1**	**-2.2**	
KURBB	**Kurchatov Arra**	**63.23**	**340**	P		**P**	**00 32 53.1**	**-1.2**	
	comp=Z,26nm,0.6s,baz=150,slow=6.1,SNR=138								
KURBB				S		**S**	**00 41 17.4**	**-4.9**	
	comp=Z,1.4nm,0.8s,baz=135,slow=18,SNR=5.5								
KURBB				PKP2bc			01 02 00.1		
	comp=Z,0.3nm,0.2s,baz=328,slow=2.4,SNR=4.3								
KURBB				LR		LR	01 03 23.9		
	comp=Z,634nm,18.8s,baz=164,slow=39								
	comp=Z,26nm,0.6s								
YSS	**Yuzh-Sakhalins**	**63.23**	**27**	P		**P**	**00 32 53.4**	**-1.0**	
YSS	**Yuzh-Sakhalins**	**63.23**	**27**	*i* *e*P		**P**	**00 32 53.1**	**-1.3**	
YSS				pmax		pmax			
	comp=Z,90nm,0.7s								
YSS	**Yuzh-Sakhalins**	**63.23**	**27**	P		**P**	**00 32 53.2**	**-1.1**	
KURK	**Kurchatov**	**63.28**	**340**	P		**P**	**00 32 53.5**	**-1.2**	
KURK				IAmb		IAmb	00 32 57.3		
	comp=Z,44nm,0.8s								
KURK	**Kurchatov**	**63.28**	**340**	*ce*P		**P**	**00 32 53.4**	**-1.2**	
KURK				pmax		pmax			
	comp=Z,45nm,0.8s								
KURK	**Kurchatov**	**63.28**	**340**	P		**P**	**00 32 53.2**	**-1.4**	
KURK				sP		**sP**	**00 33 14.0**	**+1.1**	
SMRA	**Abu-Samra**	**63.47**	**303**	P		**P**	**00 32 58.3**	**+1.9**	
SMRA				S		**S**	**00 41 26.5**	**+0.2**	
ZEA	**Zeya**	**63.77**	**13**	*e*P		**P**	**00 32 57.1**	**-0.7**	
ZEA				pmax		pmax			
	comp=N,20nm,0.8s								
ZEA				pmax		pmax			
	comp=Z,30nm,0.8s								
GRNR	**Gornyy**	**63.78**	**20**	*i* *e*P		**P**	**00 32 56.2**	**-1.8**	
GRNR				pmax		pmax			
	comp=Z,7.0nm,1.0s								
GEYT	**Alibeck**	**64.32**	**319**	P		**P**	**00 33 01.7**	**-0.2**	
GEYT	**Alibeck**	**64.32**	**319**	P		**P**	**00 33 02.3**	**+0.5**	
	comp=Z,24nm,0.7s,baz=132,slow=6.6,SNR=43								
GEYT				LR		LR	01 04 14.5		
	comp=Z,200nm,20.4s,baz=138,slow=39								
	comp=Z,24nm,0.7s								
GYA0	**ALIBECK ARRAY**	**64.32**	**319**	P		**P**	**00 33 01.8**	**-0.1**	
GYA0				pmax		pmax			
	comp=Z,42nm,0.8s								
GYA0B	**ALIBECK ARRAY**	**64.32**	**319**	P		**P**	**00 33 01.8**	**0.0**	
GYA0B				IAmb		IAmb	00 33 22.0		
	comp=Z,43nm,0.8s								
ZAA0	**Zalesovo Array**	**64.35**	**346**	P		**P**	**00 33 00.2**	**-1.4**	
ZAA0				IAmb		IAmb	00 33 09.2		
	comp=Z,29nm,1.1s								
ZALV	**Zalesovo Beam**	**64.35**	**346**	*i* P		**P**	**00 32 59.5**	**-2.1**	
ZALV				pmax		pmax			
	comp=Z,11nm,0.5s								
ZALV	**Zalesovo Beam**	**64.35**	**346**	P		**P**	**00 32 59.7**	**-1.9**	
	comp=Z,11nm,0.5s,baz=140,slow=4.8,SNR=33								
ZALV				S		**S**	**00 41 30.3**	**-5.8**	
	comp=Z,2.4nm,0.9s,baz=166,slow=13,SNR=6.1								
ZALV				PKP2bc			01 01 56.5		
	comp=Z,1.8nm,0.8s,baz=358,slow=4.5,SNR=5.9								
	comp=Z,11nm,0.5s								
MLZ	**Mavora Lakes**	**64.38**	**137**	P		**P**	**00 33 02.4**	**+0.2**	
MLZ				IAmb		IAmb	00 33 05.3		
	comp=Z,59nm,1.2s								
BRZS	**Berezniki**	**64.85**	**336**	*e*P		**P**	**00 33 04.5**	**-0.5**	
	comp=Z,7.8nm,0.8s,baz=336								
BRZS	**Berezniki**	**64.85**	**336**	*e*P		**P**	**00 33 04.5**	**-0.5**	
BRZS				pmax		pmax			
	comp=Z,8.0nm,0.8s								
BOD	**Bodaibo**	**65.74**	**4**	*e*P		**P**	**00 33 09.0**	**-1.5**	
BOD				pmax		pmax			
	comp=Z,31nm,1.5s								
RPZ	**Rata Peaks**	**66.02**	**134**	P		**P**	**00 33 12.7**	**-0.1**	
RPZ	**Rata Peaks**	**66.02**	**134**	LR		LR	01 00 43.9		
	comp=Z,337nm,21.6s,baz=285,slow=35								
INZ	**Inchbonnie**	**66.09**	**133**	P		**P**	**00 33 13.3**	**+0.1**	
INZ				IAmb		IAmb	00 33 30.4		
	comp=Z,52nm,0.9s								
DSZ	**Denniston Nort**	**66.16**	**132**	P		**P**	**00 33 13.8**	**0.0**	
DSZ				IAmb		IAmb	00 33 31.5		
	comp=Z,40nm,0.9s								
TYV	**Tymovskoe**	**66.19**	**24**	*e*P		**P**	**00 33 14.3**	**+0.7**	
TYV				pmax		pmax			
	comp=Z,11nm,1.1s								
TYV				pmax		pmax			
	comp=Z,100nm,3.1s								
MAW	**Mawson**	**66.48**	**197**	P		**P**	**00 33 17.1**	**+1.9**	
	baz=66,SNR=14								
MAW	**Mawson**	**66.48**	**197**	P		**P**	**00 33 15.5**	**+0.3**	
MAW	**Mawson**	**66.48**	**197**	P		**P**	**00 33 17.1**	**+1.9**	
	comp=Z,49nm,1.0s,baz=43,slow=5.9,SNR=19								
MAW				LR		LR	00 55 50.9		
	comp=Z,313nm,21.9s,baz=26,slow=90								
MAW				PKP2bc			01 01 51.1		
	comp=Z,5.8nm,1.1s,baz=172,slow=6.0,SNR=3.5								
	comp=Z,49nm,1.0s								
ATD	**Arta Tunnel**	**66.51**	**286**	P		**P**	**00 33 15.2**	**-1.3**	
QRZ	**Quartz Range**	**66.52**	**131**	P		**P**	**00 33 17.0**	**+0.9**	
OXZ	**Oxford**	**66.64**	**134**	P		**P**	**00 33 17.1**	**+0.4**	
OXZ				IAmb		IAmb	00 33 39.4		
	comp=Z,39nm,0.6s								
LTZ	**Lake Taylor**	**66.70**	**133**	P		**P**	**00 33 17.5**	**+0.3**	
LTZ				IAmb		IAmb	00 33 38.9		
	comp=Z,64nm,1.5s								
MRNZ	**Matariki Terra**	**66.80**	**132**	P		**P**	**00 33 18.0**	**+0.2**	
THZ	**Tophouse**	**66.97**	**132**	P		**P**	**00 33 20.1**	**+1.1**	
THZ				IAmb		IAmb	00 33 39.8		
	comp=Z,52nm,0.8s								
CCD	**Concordia, Ant**	**67.83**	**175**	P		**P**	**00 33 26.1**	**+2.0**	
CMWZ	**Cape Campbell**	**67.93**	**132**	P		**P**	**00 33 25.7**	**+0.8**	
HIZ	**Hauiti**	**67.94**	**128**	P		**P**	**00 33 24.8**	**-0.2**	
BVA0	**Borovoye Array**	**68.12**	**337**	P		**P**	**00 33 24.0**	**-1.8**	
BVAR	**Borovoye Array**	**68.12**	**337**	P		**P**	**00 33 24.7**	**-1.1**	
	comp=Z,48nm,0.7s,baz=142,slow=7.8,SNR=154								
BVAR				LR		LR	01 07 27.3		
	comp=Z,252nm,19.1s,baz=133,slow=40								
	comp=Z,48nm,0.7s								
BRVK	**Borovoye**	**68.19**	**337**	P		**P**	**00 33 24.8**	**-1.5**	
BRVK				IAmb		IAmb	00 33 28.3		
	comp=Z,30nm,0.8s								
BRVK	**Borovoye**	**68.19**	**337**	P		**P**	**00 33 25.6**	**-0.6**	
BRVK				P		**P**	**00 33 25.6**	**-0.6**	
BRVK	**Borovoye**	**68.19**	**337**	*ce*P		**P**	**00 33 25.5**	**-0.6**	
BRVK				pmax		pmax			
	comp=Z,40nm,1.0s								
BRVK	**Borovoye**	**68.19**	**337**	P		**P**	**00 33 25.1**	**-1.1**	
SNZO	**South Karori**	**68.23**	**131**	P		**P**	**00 33 26.0**	**-0.7**	
SNZO				IAmb		IAmb	00 33 43.4		
	comp=Z,59nm,0.9s								
SNZO	**South Karori**	**68.23**	**131**	P		**P**	**00 33 27.8**	**+1.1**	
SNZO				pP		**pwP**	**00 33 41.7**	**-2.1**	
TOZ	**Tahuroa Road**	**68.35**	**127**	P		**P**	**00 33 28.4**	**+0.8**	
TOZ				IAmb		IAmb	00 33 46.4		
	comp=Z,35nm,1.0s								
BHW	**Baring Head**	**68.36**	**131**	P		**P**	**00 33 27.1**	**-0.6**	
BHW				IAmb		IAmb	00 33 55.1		
	comp=Z,55nm,1.2s								
KIBK	**Kibwezi**	**68.69**	**271**	P		**P**	**00 33 30.4**	**+0.1**	
KIBK				IAmb		IAmb	00 33 33.5		
	comp=Z,90nm,1.5s								
KIBK	**Kibwezi**	**68.69**	**271**	P		**P**	**00 33 32.8**	**+2.5**	
	SNR=5.1								
MRZ	**Mangatainoka R**	**68.78**	**130**	P		**P**	**00 33 31.1**	**+0.8**	
MRZ				IAmb		IAmb	00 33 49.6		
	comp=Z,44nm,1.0s								
BKZ	**Black Stump Fm**	**69.29**	**129**	P		**

MAK eSS SS 00 48 10.9 -2.9
MAK pmax pmax
comp=Z,424nm,1.3s
MAK MLR MLR
comp=Z,159nm,19.0s
CUKT Cukurca 74.11 312 *e*P **P** **00 34 02.9 +0.3**
PEA0B Petropavlovsk- 74.44 29 P **P** **00 34 03.2 -0.7**
PEA0B IAmb IAmb 00 34 12.9
comp=Z,84nm,1.5s
PEA0B Petropavlovsk- 74.44 29 P **P** **00 34 03.2 -0.7**
PEA0B pmax pmax
comp=Z,84nm,1.5s
PETK Petropavlovsk- 74.44 29 P **P** **00 34 02.6 -1.3**
PETK Petropavlovsk- 74.44 29 P **P** **00 34 02.6 -1.3**
PETK Petropavlovsk- 74.44 29 P **P** **00 34 02.4 -1.5**
comp=Z,12nm,0.6s,baz=198,slow=2.0,SNR=41
comp=Z,12nm,0.6s
GNI Garni 74.47 315 P **P** **00 34 04.5 -0.2**
GNI IAmb IAmb 00 34 27.3
comp=Z,42nm,1.1s
GNI Garni 74.47 315 P **P** **00 34 07.3 +2.7**
GNI P **P** **00 34 07.3 +2.7**
GNI Garni 74.47 315*ce*P **P** **00 34 04.5 -0.2**
GNI pmax pmax
comp=Z,34nm,1.7s
CLDR Caldiran 74.64 314 *e*P **P** **00 34 06.9 +1.1**
SVE Sverdlovsk 74.75 336*de*P **P** **00 34 06.5 +0.8**
SVE *e*S **S** **00 43 38.2 -0.1**
SVE pmax pmax
comp=Z,85nm,0.8s
TASB TASBURUN-IGDIR 74.76 315 *e*P **P** **00 34 07.6 +1.4**
PET Petropavlovsk 74.85 29 P **P** **00 34 04.9 -1.3**
PET IAmb IAmb 00 34 08.1
comp=Z,74nm,1.3s
PET Petropavlovsk 74.85 29 *e*P **P** **00 34 05.3 -1.0**
PET *e**PP **sP** **00 34 25.9 +1.0**
PET *e* 00 36 50.7
PET *e*S **S** **00 43 36.8 -2.7**
PET pmax pmax
comp=Z,62nm,1.3s
PET MLR MLR
comp=Z,800nm,14.0s
CTZ Chatham Island 74.86 133 P **P** **00 34 07.0 +0.3**
CTZ IAmb IAmb 00 34 24.4
comp=Z,43nm,1.3s
AKDM Akdamar-Van 74.99 313 *e*P **P** **00 34 10.6 +2.9**
SIRT Sirnak 75.07 312 P **P** **00 34 08.4 +0.3**
VNDA Vanda 75.13 169 P **P** **00 34 08.3 +0.7**
VNDA IAmb IAmb 00 34 10.1
comp=Z,60nm,1.1s
VNDA Vanda 75.13 169 P **P** **00 34 09.0 +1.4**
comp=Z,37nm,1.0s,baz=294,slow=6.2,SNR=87
VNDA LR LR 01 02 20.0
comp=Z,308nm,21.8s,baz=317,slow=32
comp=Z,37nm,1.0s
ARU Arti 75.35 335 P **P** **00 34 09.1 -0.1**
ARU **P** **00 34 09.4 +0.2**
ARU Arti 75.35 335*c i*P **P** **00 34 09.1 -0.1**
ARU 00 36 53.5
ARU S **S** **00 43 48.5 +3.5**
ARU SS **SS** **00 48 38.8 +2.6**
ARU pmax pmax
comp=Z,45nm,0.6s
AGRB Hanur-Agry 75.47 314 *e*P **P** **00 34 11.8 +1.3**
MLAZ Malazgirt-MUS 75.62 314 *e*P **P** **00 34 12.8 +1.5**
GURO Guroymak-BITLI 75.76 313 *e*P **P** **00 34 13.6 +1.5**
GURO Guroymak-BITLI 75.76 313 P **P** **00 34 12.2 0.0**
MA2 Magadan 75.77 21 P **P** **00 34 11.2 -0.3**
MA2 IAmb IAmb 00 34 14.9
comp=Z,49nm,1.0s
MA2 Magadan 75.77 21*ce*P **P** **00 34 11.9 +0.4**
MA2 pmax pmax
comp=Z,67nm,1.3s
KARS Kars 75.83 315 *e*P **P** **00 34 14.3 +1.9**
KARS Kars 75.83 315 P **P** **00 34 13.3 +0.8**
KARS Kars 75.83 315 P **P** **00 34 13.3 +0.8**
KARS pmax pmax
comp=Z,277nm,0.8s
ZEI Tsey 76.15 318 *e*P **P** **00 34 14.6 +0.3**
ZEI pmax pmax
comp=Z,54nm,1.5s
SBA Scott Base 76.21 169 P **P** **00 34 14.3 +0.6**
SBA IAmb IAmb 00 34 45.7
comp=Z,50nm,1.1s
SBA Scott Base 76.21 169 P **P** **00 34 14.3 +0.6**
SBA pmax pmax
comp=Z,50nm,1.1s
SVAN Silvan-Diyarba 76.22 312 *e*P **P** **00 34 15.7 +1.1**
SENK Senkaya-Erzuru 76.31 315 *e*P **P** **00 34 16.8 +1.5**
ONI Oni 76.37 317 *e*P **P** **00 34 16.8 +1.4**
ONI Oni 76.37 317 P **P** **00 34 15.9 +0.5**
ONI Oni 76.37 317 P **P** **00 34 15.9 +0.5**
ONI pmax pmax
comp=Z,16nm,0.8s
VRTB Varto-Mus 76.41 313 *e*P **P** **00 34 17.6 +1.8**
MATP Matopo 76.41 251 LR LR 01 02 13.5
comp=Z,374nm,20.4s,baz=64,slow=31
MAZI Mazidag 76.52 311 *e*P **P** **00 34 17.4 +1.0**
BNGB Bingl 76.91 313 *e*P **P** **00 34 19.8 +1.2**
DYBB Diyarbakir 76.93 312 *e*P **P** **00 34 20.3 +1.7**
LSZ Lusaka 77.07 256 P **P** **00 34 20.5 +0.5**
LSZ IAmb IAmb 00 34 43.1
comp=Z,57nm,1.2s
LSZ Lusaka 77.07 256 P **P** **00 34 22.3 +2.3**
LSZ P **P** **00 34 22.3 +2.3**
LSZ Lusaka 77.07 256 P **P** **00 34 20.5 +0.5**
LSZ pmax pmax
comp=Z,57nm,1.2s
LSZ Lusaka 77.07 256 LR LR 01 03 08.9
comp=Z,1μm,21.7s,baz=112,slow=32
KBZ Khabaz 77.20 318*ce*P **P** **00 34 19.5 -0.4**
KBZ pmax pmax
comp=Z,38nm,1.0s
KBZ Khabaz 77.20 318 P **P** **00 34 20.3 +0.4**
comp=Z,23nm,0.8s,baz=119,slow=7.8,SNR=26
comp=Z,23nm,0.8s
KIV Kislovodsk 77.44 318 ⇑P **P** **00 34 23.0 +1.6**
KIV Kislovodsk 77.44 318 P **P** **00 34 21.8 +0.4**
KIV IAmb IAmb 00 34 47.7
comp=Z,26nm,0.8s
KIV Kislovodsk 77.44 318 *i* P **P** **00 34 21.6 +0.2**
SNR=13
KIV Kislovodsk 77.44 318 P **P** **00 34 23.0 +1.6**
KIV P **P** **00 34 23.0 +1.6**
KIV Kislovodsk 77.44 318 *e*P **P** **00 34 22.3 +0.9**
KIV *e*S **S** **00 44 12.8 +4.2**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV MLR MLR
comp=Z,60nm,18.0s
GOF Gofitskoye 77.66 319*ce*P **P** **00 34 24.3 +1.8**
URFA Urfa 77.73 311 *e*P **P** **00 34 24.7 +1.5**
GRHM Grahamstown, E 77.77 238 P **P** **00 34 23.0 -0.5**
GRHM IAmb IAmb 00 34 27.6
comp=Z,70nm,1.1s
BELG Belogornoye 78.29 327 *i* P **P** **00 34 25.3 -0.5**
BELG pmax pmax
comp=Z,10.0nm,1.0s
EIL Elat 78.42 302 LR LR 01 09 36.8
comp=Z,232nm,18.5s,baz=82,slow=36
ILIC ilic-Erzincan 78.61 313 *e*P **P** **00 34 29.6 +1.6**
ARPR Arapgir-MALATY 78.65 312 *e*P **P** **00 34 29.8 +1.5**
ARPR Arapgir-MALATY 78.65 312 P **P** **00 34 27.6 -0.7**
SEY Seymchan 78.68 19*ce*P **P** **00 34 27.5 -0.2**
SEY pmax pmax
comp=Z,36nm,1.3s
LBTB Lobatse 78.81 246 P **P** **00 34 29.1 -0.4**
LBTB Lobatse 78.81 246 P **P** **00 34 29.1 -0.4**
LBTB pmax pmax
comp=Z,41nm,1.4s
LBTB Lobatse 78.81 246 LR LR 01 04 44.1
comp=Z,455nm,19.3s,baz=90,slow=32
GAZ Gaziantep 78.85 310 *e*P **P** **00 34 31.0 +1.6**
GAZ Gaziantep 78.85 310 P **P** **00 34 29.9 +0.5**
GAZ IAmb IAmb 00 34 49.9
comp=Z,27nm,0.8s
BOSA Boshof 78.91 242 P **P** **00 34 29.8 -0.2**
BOSA IAmb IAmb 00 34 33.0
comp=Z,42nm,1.2s
BOSA Boshof 78.91 242 P **P** **00 34 31.6 +1.6**
comp=Z,17nm,1.1s,baz=96,slow=6.5,SNR=11
BOSA LR LR 01 05 07.1
comp=Z,238nm,19.0s,baz=96,slow=32
comp=Z,17nm,1.1s

MMAI Mount Meron Ar 78.99 306 P **P** **00 34 32.6 +2.4**
comp=Z,13nm,0.7s,baz=92,slow=8.3,SNR=38
MMAI LR LR 01 12 00.2
comp=Z,236nm,18.0s,baz=82,slow=38
comp=Z,13nm,0.7s
DARE Darende-Malaty 79.10 312 *e*P **P** **00 34 32.4 +1.7**
KMRS Kahramanmaras 79.19 310 *e*P **P** **00 34 32.6 +1.4**
SOC Sochi 79.27 317 *e*P **P** **00 34 30.4 -1.0**
SOC *e* 00 37 28.2
SOC *e*PPP PPP 00 39 16.8
SOC *e*S **S** **00 44 32.1 +4.0**
SOC *e*SS **SS** **00 49 27.7 -8.2**
SOC pmax pmax
comp=Z,26nm,0.6s
TAHT Tahtakopru-Hat 79.38 309 *e*P **P** **00 34 34.2 +2.0**
AFI Afiamalu 79.81 103 P **P** **00 34 33.9 -1.2**
AFI IAmb IAmb 00 34 51.8
comp=Z,42nm,1.0s
AFI Afiamalu 79.81 103 P **P** **00 34 33.9 -1.2**
AFI pmax pmax
comp=Z,42nm,1.0s
RSDY Resadiye-TOKAT 79.82 313 *e*P **P** **00 34 35.9 +1.4**
SVSK Karacayir 79.90 313 *e*P **P** **00 34 36.7 +1.8**
CEYT Ceyhan 79.91 310 *e*P **P** **00 34 37.4 +2.4**
KOZT Kozan 80.00 310 *e*P **P** **00 34 37.4 +1.9**
BNN Bunyan 80.41 312 *e*P **P** **00 34 39.7 +1.8**
BNN Bunyan 80.41 312 P **P** **00 34 37.8 -0.1**
BNN IAmb IAmb 00 35 00.3
comp=Z,73nm,0.9s
KARA Karaisali 80.52 310 *e*P **P** **00 34 40.5 +2.2**
ELIB Princess Elisa 80.53 198 *d*P **P** **00 34 39.9 +2.0**
comp=Z,40nm,1.1s
KIRV Kirov 80.61 333*ce*P **P** **00 34 38.6 +0.4**
CMRD Camardi-Nigde 80.69 310 *e*P **P** **00 34 41.1 +1.7**
TIXI Tiksi 80.70 7 P **P** **00 34 36.0 -2.5**
TIXI IAmb IAmb 00 34 38.5
comp=Z,24nm,0.8s
TIXI Tiksi 80.70 7*ce*P **P** **00 34 36.8 -1.7**
TIXI Tiksi 80.70 7 LR LR 01 14 09.8
comp=Z,30nm,19.4s,baz=186,slow=38
KIZK Mersin 80.98 309 *e*P **P** **00 34 41.6 +0.8**
VRH Novokhopyorsk 81.01 325 *e*P **P** **00 34 40.6 0.0**
VRH pmax pmax
comp=Z,100nm,0.7s
LFK Lefkose 81.12 308 *e*P **P** **00 34 44.2 +2.5**
CSS Mathiatis 81.19 307 *e*P **P** **00 34 43.5 +1.5**
CSS Mathiatis 81.19 307 P **P** **00 34 42.3 +0.3**
IKL Isikli 81.27 308 *e*P **P** **00 34 41.9 -0.4**
KEBE Keben-Mersin 81.31 309 *e*P **P** **00 34 44.5 +1.9**
LEF Lefka 81.58 307 *e*P **P** **00 34 46.2 +2.2**
BERE Bereket-Mersin 81.66 308 *e*P **P** **00 34 46.4 +1.8**
KRMN Karaman 81.86 309 *e*P **P** **00 34 46.9 +1.3**
SULT Sultanhani-AKS 81.96 310 *e*P **P** **00 34 47.8 +1.8**
QSPA South Pole Qui 82.11 180 P **P** **00 34 47.2 +0.9**
QSPA South Pole Qui 82.11 180 LR LR 01 06 42.0
comp=Z,320nm,20.7s,baz=324,slow=32
BR131 Keskin Array S 82.30 312 P **P** **00 34 48.0 +0.1**
BR131 IAmb IAmb 00 35 08.7
comp=Z,35nm,0.7s
BR131 Keskin Array S 82.30 312 P **P** **00 34 48.8 +0.9**
SNR=20
BR131 Keskin Array S 82.30 312*d i*P **P** **00 34 48.4 +0.6**
BRTR Keskin Array B 82.30 312 P **P** **00 34 48.7 +0.8**
BRTR Keskin Array B 82.30 312*ce*P **P** **00 34 48.5 +0.5**
BRTR pmax pmax
comp=Z,15nm,0.8s
BRTR Keskin Array B 82.30 312 P **P** **00 34 48.4 +0.5**
comp=Z,14nm,0.8s,baz=134,slow=7.3,SNR=111
BRTR LR LR 01 13 18.8
comp=Z,196nm,20.1s,baz=109,slow=37
comp=Z,14nm,0.8s
VORD Divnogorie 82.32 324 *e*P **P** **00 34 47.2 -0.3**
VORD pmax pmax
comp=Z,30nm,0.5s
VSR Storozhevoye 82.49 324 *e*P **P** **00 34 47.9 -0.5**
VSR pmax pmax
comp=Z,80nm,0.5s
SUR Sutherland 82.50 238 P **P** **00 34 48.4 -0.8**
SUR IAmb IAmb 00 34 53.3
comp=Z,78nm,1.1s
SUR Sutherland 82.50 238 P **P** **00 34 52.4 +3.2**
SUR P **P** **00 34 52.4 +3.2**
SUR Sutherland 82.50 238 LR LR 01 03 57.2
comp=Z,1μm,21.9s,baz=99,slow=30
AFSR Afar-Bala (An 82.64 311 *e*P **P** **00 34 50.9 +1.3**
VORR Voronezh 82.64 325 *e*P **P** **00 34 49.2 0.0**
VORR pmax pmax
comp=Z,90nm,0.6s
LADK Ladik-KONYA 82.83 310 *e*P **P** **00 34 51.8 +1.2**
SHEM Shemya Is, Ala 82.83 34 LR LR 01 09 06.2
comp=Z,248nm,20.4s,baz=279,slow=34
ANTO Ankara 82.97 312 P **P** **00 34 51.6 +0.4**
ANTO IAmb IAmb 00 35 17.4
comp=Z,36nm,1.0s
ANTO Ankara 82.97 312 P **P** **00 34 52.9 +1.6**
ANTO P **P** **00 34 52.9 +1.6**
ANTO Ankara 82.97 312 P **P** **00 34 51.6 +0.4**
ANTO pmax pmax
comp=Z,36nm,1.0s
BR231 Keskin MP Arra 82.97 312 P **P** **00 34 51.2 -0.1**
BR231 IAmb IAmb 00 35 12.7
comp=Z,34nm,0.9s
SEYD Seydisehir-KON 83.02 309 *e*P **P** **00 34 53.2 +1.6**
LPSR Galich'ya Gora 83.16 325 *e*P **P** **00 34 51.3 -0.5**
LPSR pmax pmax
comp=Z,50nm,0.7s
KIZT Kizilcal 83.38 311 *e*P **P** **00 34 55.6 +2.2**
SIM Simferopol' 83.52 317 *e*P **P** **00 34 53.6 -0.3**
SIM *e*S S 00 44 57.5 -15
SIM pmax pmax
comp=Z,65nm,0.8s
SIM smax smax
comp=N,50nm,12.2s
SIM MLR MLR
comp=Z,54nm,15.0s
SVRH Sivrihisar-ESK 83.80 311 *e*P **P** **00 34 56.8 +1.2**
PRGR Permogore 83.80 335 *e*P **P** **00 34 54.2 -0.7**
PRGR *e*S **SKSac** **00 45 13.1 -0.4**
PRGR pmax pmax
comp=Z,54nm,0.7s
YUVA Yuva-Kibriscik 83.93 312 *e*P **P** **00 34 58.3 +2.1**
CIFT Cifteler, Eski 84.12 311 *e*P **P** **00 34 58.6 +1.4**
ISP Isparta 84.13 309 P **P** **00 34 56.4 -0.9**
ISP IAmb IAmb 00 35 16.0
comp=Z,26nm,0.7s
ISP Isparta 84.13 309 P **P** **00 34 56.4 -0.9**
ISP pmax pmax
comp=Z,26nm,0.7s
NVL N'lazarevskaya 84.27 199 *e*P **P** **00 34 58.3 +1.1**
NVL pmax pmax
comp=Z,27nm,1.3s
SHUT Suhut-Afyon 84.30 310 *e*P **P** **00 34 59.1 +0.9**
MDUB Mudurnu 84.31 312 *e*P **P** **00 34 59.5 +1.3**
MDUB Mudurnu 84.31 312 P **P** **00 34 57.8 -0.4**
ELL Elmali 84.34 308 P **P** **00 34 58.8 +0.4**
ELL Elmali 84.34 308 P **P** **00 34 58.8 +0.4**
ELL pmax pmax
comp=Z,106nm,0.9s
SRCK Saricakaya, Es 84.62 312 *e*P **P** **00 35 00.8 +1.2**
GULT Gulveren 84.80 312 *e*P **P** **00 35 03.7 +3.1**
MOS Moscow 85.05 328 *e*P **P** **00 35 01.5 +0.2**
MOS *e* 00 35 20.7
MOS *e*S **SKSac** **00 45 23.8 +2.0**
MOS pmax pmax
comp=Z,100nm,1.0s
MOS pmax pmax
comp=Z,33nm,0.9s
OBN Obninsk 85.38 327 ⇓P **P** **00 35 03.8 +0.8**
OBN Obninsk 85.38 327 *i* P **P** **00 35 03.4 +0.4**
OBN *i* 00 38 25.8
OBN *i* S SKSac 00 45 08.6 -15
OBN pmax pmax
comp=Z,40nm,0.7s
OBN MLR MLR
comp=Z,297nm,21.0s
OBN Obninsk 85.38 327 LR LR 01 18 40.3
comp=Z,150nm,18.2s,baz=167,slow=40
ISK Istanbul-Kandi 86.03 312 P **P** **00 35 10.9 +4.3**
KLMR Klimovskoe 86.10 333 *e*P **P** **00 35 05.3 -1.2**
KLMR AMP 00 35 15.0
comp=Z,86nm,1.4s
KLMR Klimovskoe 86.10 333 *e*P **P** **00 35 05.2 -1.2**
KLMR pmax pmax
comp=Z,86nm,1.4s

KARP Karpathos 86.23 306 P **P** **00 35 06.8 -1.0**
TSUM Tsumeb 86.76 251 P **P** **00 35 09.8 -1.1**
TSUM IAmb IAmb 00 35 30.0
comp=Z,30nm,1.1s
TSUM Tsumeb 86.76 251 LR LR 01 08 13.1
comp=Z,858nm,21.3s,baz=146,slow=32
TLCR 87.20 316 ⇑P **P** **00 35 14.1 +1.9**
TLCR 87.20 316 P **P** **00 35 14.0 +1.9**
TIRR Tirgusor 87.30 315 ⇓P **P** **00 35 14.2 +1.4**
TIRR Tirgusor 87.30 315 P **P** **00 35 13.8 +1.1**
TIRR Tirgusor 87.30 315 P **P** **00 35 14.1 +1.4**
MILM Milestii Mici 87.62 318 ⇑*i*P **P** **00 35 14.5 +0.3**
comp=Z,25nm,0.7s
MILM Milestii Mici 87.62 318 ⇓P **P** **00 35 15.0 +0.8**
MILM Milestii Mici 87.62 318*c i*P **P** **00 35 14.5 +0.3**
MILM pmax pmax
comp=Z,25nm,0.7s
CFR Carcaliu 87.66 316 ⇓P **P** **00 35 15.9 +1.4**
CFR Carcaliu 87.66 316 P **P** **00 35 15.8 +1.4**
HARR Harsova 87.69 316 ⇓P **P** **00 35 16.2 +1.6**
HARR Harsova 87.69 316 P **P** **00 35 16.1 +1.6**
VLDR Vladesti 87.86 317 ⇑P **P** **00 35 16.4 +1.1**
LEOM Leova 87.89 317 ⇓P **P** **00 35 17.6 +2.1**
LEOM Leova 87.89 317 P **P** **00 35 17.6 +2.1**
IDI Anoyia 88.00 306 LR LR 01 15 55.0
comp=Z,126nm,21.9s,baz=93,slow=36
SORM Soroca 88.22 319 ⇓P **P** **00 35 17.6 +0.5**
SORM Soroca 88.22 319 P **P** **00 35 17.5 +0.5**
AKASG Malin Array Be 88.29 322 P **P** **00 35 17.2 -0.1**
AKASG Malin Array Be 88.29 322*ce*P **P** **00 35 17.3 0.0**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG Malin Array Be 88.29 322 P **P** **00 35 17.1 -0.1**
comp=Z,3.5nm,0.5s,baz=88,slow=4.8,SNR=40
AKASG PP **PP** **00 38 44.8 -0.5**
comp=Z,3.2nm,0.9s,baz=101,slow=6.4,SNR=8.5
comp=Z,3.5nm,0.5s
AKBB Malin Array Si 88.29 322 P **P** **00 35 17.0 -0.3**
AKBB IAmb IAmb 00 35 19.4
comp=Z,16nm,0.6s
AKBB Malin Array Si 88.29 322*ce*P **P** **00 35 17.8 +0.5**
KIEV Kiev 88.30 322 ⇑P **P** **00 35 17.7 +0.4**
KIEV Kiev 88.30 322 P **P** **00 35 16.9 -0.5**
KIEV IAmb IAmb 00 35 19.4
comp=Z,14nm,0.6s
KIEV Kiev 88.30 322 *i* P **P** **00 35 17.6 +0.2**
SNR=11
KIEV Kiev 88.30 322 P **P** **00 35 17.7 +0.4**
LOZB Loznitsa 88.34 314 ⇓P **P** **00 35 19.3 +1.6**
GHRR 88.36 317 ⇓P **P** **00 35 20.1 +2.3**
RAZG Razgrad 88.44 314 ⇑P **P** **00 35 19.9 +1.7**
ODBI Odobesti 88.54 316 ⇓P **P** **00 35 21.0 +2.4**
SNAA Sanae 88.64 197 P **P** **00 35 19.1 +0.4**
SNAA Sanae 88.64 197 ⇓P **P** **00 35 21.0 +2.2**
comp=Z,374nm,0.7s
SNAA Sanae 88.64 197 *i* P **P** **00 35 19.0 +0.3**
SNAA pmax pmax
comp=Z,69nm,1.4s
SNAA Sanae 88.64 197 P **P** **00 35 20.3 +1.5**
comp=Z,30nm,1.0s,baz=157,slow=4.3,SNR=26
SNAA LR LR 01 09 06.1
comp=Z,1μm,20.9s,baz=184,slow=31
comp=Z,30nm,1.0s
RDO Rodhopi 88.64 312 P **P** **00 35 19.2 0.0**
RDO IAmb IAmb 00 35 41.3
comp=Z,32nm,0.9s
ISR Istrita 88.75 316 ⇑P **P** **00 35 21.8 +2.1**
ISR Istrita 88.75 316 P **P** **00 35 21.8 +2.1**
ELND Elena 88.76 313 ⇓P **P** **00 35 21.3 +1.6**
VRI Vrincioaia 88.78 316 ⇓P **P** **00 35 21.6 +1.8**
VRI Vrincioaia 88.78 316 P **P** **00 35 21.6 +1.8**
SULR 88.85 315 ⇑P **P** **00 35 22.7 +2.6**
TESR Tescani 88.97 317 ⇑P **P** **00 35 21.7 +1.0**
NEHR Nehoiu 88.98 316 ⇑P **P** **00 35 23.1 +2.3**
COVR Voineasa-Covas 89.14 316 ⇓P **P** **00 35 22.4 +1.0**
MLR Muntele Rosu 89.24 316 ⇓P **P** **00 35 23.6 +1.5**
MLR Muntele Rosu 89.24 316 P **P** **00 35 22.6 +0.5**
MLR Muntele Rosu 89.24 316 P **P** **00 35 23.6 +1.5**
TURR Turia 89.31 317 ⇓P **P** **00 35 23.6 +1.3**
HUMR Humele 89.72 315 ⇑P **P** **00 35 25.7 +1.6**
DOPR Dopca 89.72 316 ⇓P **P** **00 35 26.3 +2.1**
PLVB Pleven 89.75 314 ⇑P **P** **00 35 26.3 +1.9**
MTUR Matau 89.79 316 ⇓P **P** **00 35 26.0 +1.3**
MTUR Matau 89.79 316 P **P** **00 35 25.9 +1.3**
VOIR 89.84 316 ⇑P **P** **00 35 25.9 +1.1**
VOIR 89.84 316 P **P** **00 35 25.9 +1.1**
MNK Minsk 90.01 325 *i* P **P** **00 35 23.0 -2.2**
MNK comp=E,9.0nm,1.0s *i* P **P** **00 35 23.0 -2.2**
comp=N,13nm,0.9s
MNK *i* P **P** **00 35 23.0 -2.2**
comp=Z,29nm,0.9s,baz=103
MNK *i* PP **PP** **00 38 54.5 -4.4**
MNK *i* PPP PPP 00 40 51.2
MNK *i* S **SKSac** **00 45 53.3 +1.3**
MNK *i* SS **SS** **00 52 14.2 +0.6**
MNK *i* SSS SSS 00 55 50.7
MNK *i* LR LR 01 10 01.0
MNK *i* LRM MLR 01 13 22.0
comp=Z,118nm,20.0s
MNK *i* LRM MLR 01 16 39.9
comp=N,388nm,23.9s
MNK *i* LRM MLR 01 17 25.7
comp=E,89nm,17.4s
MNK Minsk 90.01 325 *i* P **P** **00 35 23.0 -2.2**
MNK *i* 00 38 54.4
MNK *i* SS SS 00 52 14.1 +0.5
MNK *i* SSS SSS 00 55 50.7
MNK pmax pmax
comp=E,9.0nm,1.0s
MNK pmax pmax
comp=N,13nm,0.9s
MNK pmax pmax
comp=Z,29nm,0.9s
MNK MLR MLR
comp=Z,118nm,20.0s
MNK MLR MLR
comp=N,388nm,24.0s
MNK MLR MLR
comp=E,89nm,17.0s
ARR Arges 90.12 316 ⇑P **P** **00 35 27.0 +0.8**
BURAR Bucovina Array 90.16 318 ⇓P **P** **00 35 27.9 +1.6**
BURAR Bucovina Array 90.16 318 P **P** **00 35 27.3 +1.0**
BURAR IAmb IAmb 00 35 49.6
comp=Z,18nm,0.9s
BURAR Bucovina Array 90.16 318 P **P** **00 35 27.9 +1.6**
BUR08 Bucovina Ar. S 90.18 318 P **P** **00 35 26.4 0.0**
BUR08 IAmb IAmb 00 35 49.9
comp=Z,24nm,0.9s
RAR Rarotonga 90.31 111 LR LR 01 13 50.5
comp=Z,105nm,21.9s,baz=310,slow=34
LVZ Lovozero 90.66 339*ce*P **P** **00 35 27.3 -0.8**
LVZ pmax pmax
comp=Z,20nm,1.0s
VNA1 Neumayer--Stat 90.67 198 ⇓P **P** **00 35 31.2 +3.1**
comp=Z,29nm,1.0s
AGG Agios Georgios 90.67 309 P **P** **00 35 28.4 -0.4**
AGG Agios Georgios 90.67 309 P **P** **00 35 28.4 -0.4**
NACGM Naroch 90.72 325 *e*P **P** **00 35 30.4 +1.9**
comp=Z,35nm,0.9s,baz=103
LOT Lotru 90.73 316 ⇓P **P** **00 35 30.2 +1.2**
APA Apatity 91.00 338 ⇓*i*P **P** **00 35 28.7 -0.9**
APA pmax pmax
comp=Z,11nm,1.0s
LVV L'vov 91.35 320 *e*P P 00 35 20.3 -11
DEV Deva 91.41 316 ⇑P **P** **00 35 33.8 +1.8**
DEV Deva 91.41 316 P **P** **00 35 33.9 +1.9**
GZR Gura Zlata 91.41 315 ⇑P **P** **00 35 34.6 +2.5**
GZR Gura Zlata 91.41 315 P **P** **00 35 34.6 +2.5**
HERR Herculane 91.58 315 ⇓P **P** **00 35 34.1 +1.3**
BELA Belgrano 2 91.75 188 P **P** **00 35 33.3 +0.2**
BELA IAmb IAmb 00 35 51.7
comp=Z,16nm,0.9s
KWP Kalwaria Pacla 92.17 320 P **P** **00 35 35.9 +0.5**
KWP IAmb IAmb 00 36 02.2
comp=Z,34nm,1.5s
KWP Kalwaria Pacla 92.17 320 P **P** **00 35 35.9 +0.5**
KWP pmax pmax
comp=Z,34nm,1.5s
BZS Buzias 92.25 316 ⇓P **P** **00 35 36.8 +0.9**
BZS Buzias 92.25 316 P **P** **00 35 36.8 +0.9**
FINES FINESS Array B 92.48 332*ce*P **P** **00 35 37.7 +1.1**
FINES pmax pmax
comp=Z,8.0nm,0.6s

FINES FINESS Array B 92.48 332 P **P** 00 35 36.7 +0.1
comp=Z,7.7nm,0.7s,baz=122,slow=7.2,SNR=26
FINES LR LR 01 21 17.0
comp=Z,134nm,21.3s,baz=52,slow=38
comp=Z,7.7nm,0.7s
SUW Suwalki 92.61 324 P **P** 00 35 36.9 -0.5
SUW Suwalki 92.61 324 P **P** 00 35 36.9 -0.5
SUW pmax pmax
comp=Z,66nm,1.0s
NIKH Nikolski High 92.81 37 P **P** 00 35 38.7 +0.4
baz=261
CRVS Cervenica-Dubn 92.86 319 *e*P **P** 00 35 40.8 +2.1
CRVS Cervenica-Dubn 92.86 319 *e*P **P** 00 35 40.8 +2.1
ARA0 ARCESS Array S 94.31 340 *e*P **P** 00 35 46.2 +1.3
ARCES ARCESS Array B 94.31 340 P **P** 00 35 44.4 -0.5
comp=Z,7.6nm,0.9s,baz=104,slow=4.5,SNR=15
ARCES LR LR 01 22 45.9
comp=Z,379nm,20.4s,baz=80,slow=38
comp=Z,7.6nm,0.9s
UNV Unalaska Valle 94.33 36 P **P** 00 35 45.3 +0.1
baz=263
VYHS Vyhne 94.53 318 *e*P **P** 00 35 50.4 +4.0
VYHS Vyhne 94.53 318 *e*P **P** 00 35 50.4 +4.0
KTK1 Kautokeino 95.02 339 *e*P **P** 00 35 47.5 -0.6
TNA Tin City 95.14 25 P **P** 00 35 49.7 +0.9
baz=262
MORC Moravsky Berou 95.51 319 P **P** 00 35 50.5 -0.4
MORC Moravsky Berou 95.51 319 P **P** 00 35 50.5 -0.4
MORC pmax pmax
comp=Z,10.0nm,1.3s
F14K Arctic Creek 95.79 25 P **P** 00 35 52.3 +0.5
baz=264
KRLC Kraliky 96.03 320 *e*P **P** 00 35 52.2 -1.0
KRLC *ex* x 00 36 15.0
KRLC Kraliky 96.03 320 *e*P **P** 00 35 52.2 -1.0
KRLC *e* 00 36 15.0
JETT Jettan, Norway 96.08 339 *e*P **P** 00 35 54.1 +1.1
ANM Nome 96.11 26 P **P** 00 35 53.7 +0.5
baz=265
RONA Rosalia, Austr 96.14 317 *i* PP **PP** 00 39 49.1 +1.9
comp=Z,6.5nm,1.2s
FALS False Pass 96.23 36 P **P** 00 35 54.6 +0.7
baz=265
CONA Conrad Observa 96.45 317 *e*PP **PP** 00 39 49.5 -0.2
comp=Z,12nm,1.7s
C16K Lisburne Hills 96.45 22 P **P** 00 35 53.9 -0.8
C16K Lisburne Hills 96.45 22 P **P** 00 35 55.2 +0.6
baz=265
F15K North Star Dit 96.51 25 P **P** 00 35 55.0 0.0
F15K North Star Dit 96.51 25 P **P** 00 35 55.9 +0.9
baz=265
G15K Niukluk 96.71 25 P **P** 00 35 56.3 +0.4
baz=266
J14K Nanvaranak Lak 96.77 28 P **P** 00 35 56.9 +0.7
baz=266
SOKA Soboth 96.92 316 *e*PP **PP** 00 39 53.9 +0.5
comp=Z,15nm,1.6s
L14K Kuka Creek 97.08 29 P **P** 00 35 57.4 -0.3
baz=267
C17K DeLong Mountai 97.27 22 P **P** 00 35 58.3 -0.1
baz=267
RDOG Red Dog Mine 97.35 22 P **P** 00 35 58.3 -0.5
RDOG IAmb IAmb 00 36 03.8
comp=Z,12nm,1.0s
RDOG Red Dog Mine 97.35 22 P **P** 00 35 58.6 -0.1
baz=267
M14K Bethel 97.40 30 P Pdif 00 35 59.6 +0.4
baz=267
G16K Koyuk River 97.44 25 P **P** 00 35 58.8 -0.4
G16K Koyuk River 97.44 25 P Pdif 00 35 59.3 +0.1
baz=268
H16K Elim 97.46 26 P Pdif 00 35 59.4 0.0
baz=268
MOA Molln 97.52 317 *e*PP **PP** 00 39 57.5 -0.3
comp=Z,9.6nm,1.1s
CKRC Cesky Krumlov 97.54 318 *e*P Pdif 00 36 00.8 +0.7
CKRC *ex* x 00 36 09.3
CKRC *ex* x 00 36 19.7
CKRC Cesky Krumlov 97.54 318 *e*P Pdif 00 36 00.8 +0.7
CKRC *e* 00 36 19.7
SPB2 Spitsbergen Ar 97.76 348 P **P** 00 35 59.8 -0.6
SPA0 Spitsbergen Ar 97.76 348 *e*P **P** 00 35 59.4 -1.1
SPITS Spitsbergen Ar 97.76 348 P **P** 00 35 59.7 -0.8
SPITS pmax pmax
comp=Z,34nm,1.0s
SPITS Spitsbergen Ar 97.76 348 P **P** 00 35 59.4 -1.1
comp=Z,13nm,0.7s,baz=101,slow=7.7,SNR=14
SPITS LR LR 01 27 51.0
comp=Z,313nm,18.1s,baz=52,slow=40
comp=Z,13nm,0.7s
B18K Kokolik River 97.80 21 P **P** 00 36 00.6 -0.1
baz=268
FAUS Fauske 97.82 337 *e*P **P** 00 36 00.0 -0.8
STEI Steigen 97.86 338 *e*P **P** 00 36 00.2 -0.8
F17K Baldwin Pennin 97.93 24 P **P** 00 36 01.2 -0.1
baz=269
GERES GERESS Array B 97.95 318 P Pdif 00 36 02.3 +0.2
comp=Z,1.0nm,0.6s,baz=103,slow=3.6,SNR=5.2
GERES PP **PP** 00 40 00.0 -1.1
comp=Z,1.4nm,0.8s,baz=99,slow=8.2,SNR=3.9
comp=Z,1.0nm,0.6s
SDPT Sand Point 97.95 35 P **P** 00 36 01.6 -0.1
baz=268
C18K Utukok River 98.00 22 P **P** 00 36 01.2 -0.5
C18K IAmb IAmb 00 36 02.5
comp=Z,9.5nm,0.7s
C18K Utukok River 98.00 22 P **P** 00 36 01.8 0.0
baz=269
M15K Kasigluk River 98.03 30 P **P** 00 36 01.9 0.0
baz=268
KHC Kasperske Hory 98.04 319 *e*P **P** 00 36 02.4 +0.1
KHC Kasperske Hory 98.04 319 *e*P **P** 00 36 02.4 +0.1
I17K Unalakleet 98.11 27 P Pdif 00 36 02.4 +0.1
baz=269
MOR8 Moi Rana 98.13 336 *e*P **P** 00 36 01.5 -0.8
J16K Anvik River 98.14 27 P **P** 00 36 02.4 0.0
baz=269
G17K Kiwalik Mounta 98.16 25 P Pdif 00 36 02.6 +0.1
baz=269
E18K Tukpahlearik C 98.21 23 P Pdif 00 36 02.7 +0.1
E18K IAmb IAmb 00 36 08.8
comp=Z,14nm,0.9s
E18K Tukpahlearik C 98.21 23 P Pdif 00 36 03.0 +0.4
baz=269
N15K Kwethluk River 98.31 30 Pdiff Pdif 00 36 03.7 +0.5
baz=269
HFS Hagfors 98.35 330 P **P** 00 36 03.4 0.0
comp=Z,7.0nm,0.9s,baz=106,slow=3.1,SNR=5.7
HFS PP **PP** 00 40 04.8 +1.0
comp=Z,4.2nm,1.0s,baz=104,slow=6.3,SNR=3.8
comp=Z,7.0nm,0.9s
H17K Granite Mounta 98.46 25 Pdiff Pdif 00 36 04.5 +0.7
baz=270
LESA Schwarzleotal 98.57 317 *i* PP **PP** 00 40 07.6 +1.7
comp=Z,16nm,1.4s
C19K Lookout Ridge 98.59 21 P **P** 00 36 03.7 -0.6
C19K IAmb IAmb 00 36 16.9
comp=Z,12nm,0.9s
C19K Lookout Ridge 98.59 21 Pdiff Pdif 00 36 04.7 +0.3
baz=270
L16K Owhat River 98.63 29 Pdiff Pdif 00 36 05.3 +0.7
baz=270
ABTA Abfaltersbach 98.65 316 *e*PP **PP** 00 40 08.1 +1.4
comp=Z,20nm,1.8s
M16K Timber Creek 98.88 29 Pdiff Pdif 00 36 05.8 +0.1
baz=270
G18K Tagagawik 98.99 24 Pdiff Pdif 00 36 06.3 +0.1
baz=271
H18K Honhosa River 99.12 25 Pdiff **Pdif** 00 36 07.4 +0.7
baz=271
D19K Kuna River 99.14 22 Pdiff **Pdif** 00 36 07.2 +0.4
baz=272
NSS Namsos 99.17 334 *e*P **Pdif** 00 36 01.6 -5.4
K17K Iditarod 99.18 28 Pdiff **Pdif** 00 36 07.2 +0.1
baz=271
L17K Donlin 99.19 28 Pdiff **Pdif** 00 36 07.4 +0.3
baz=271
WTTA Wattenberg 99.27 317 *e*PP **PP** 00 40 11.3 -0.2
comp=Z,16nm,1.9s
TBI Tubuai 99.31 115 *e*SS SS 00 54 31.9 +4.7
comp=Z,439nm,32.2s
TBI Tubuai 99.31 115 *e*LR LR 01 08 36.5
comp=Z,1μm,25.0s
F19K Shaleruckik Mo 99.32 24 Pdiff **Pdif** 00 36 08.2 +0.6
baz=272
B20K Meade River 99.41 20 Pdiff **Pdif** 00 36 08.4 +0.5
baz=273

E19K Redstone River 99.51 23 Pdiff **Pdif** 00 36 08.9 +0.4
baz=272
NOA NORSAR Array B 99.58 331 P **Pdif** 00 36 09.0 +0.1
comp=Z,0.8nm,0.8s,baz=90,slow=4.3,SNR=2.2
NOA PP **PP** 00 40 13.9 +0.8
comp=Z,0.5nm,0.6s,baz=83,slow=5.0,SNR=1.8
NOA LR LR 01 27 17.0
comp=Z,143nm,18.2s,baz=60,slow=39
comp=Z,0.8nm,0.8s
M17K Holitna River 99.61 29 Pdiff **Pdif** 00 36 10.3 +1.2
baz=271
G19K Purcell Mounta 99.62 24 Pdiff **Pdif** 00 36 09.6 +0.7
baz=272
MOTA Moosalm 99.64 317 *e*PP **PP** 00 40 14.5 +0.3
comp=Z,14nm,1.6s
D20K Etivluk River 99.68 22 Pdiff **Pdif** 00 36 09.5 +0.3
baz=273
E20K Nigu River 99.86 22 Pdiff **Pdif** 00 36 10.2 +0.1
baz=274
H19K Roundabout Mou 99.91 25 Pdiff **Pdif** 00 36 10.8 +0.6
baz=273
L18K Granite Mounta 99.94 28 Pdiff **Pdif** 00 36 10.5 0.0
baz=272
A22K Sinclair Lake 100.08 19 Pdiff **Pdif** 00 36 11.2 +0.4
baz=275
F20K Avaraart Lake 100.11 23 Pdiff **Pdif** 00 36 11.1 0.0
baz=274
TTA Tatalina 100.23 27 Pdiff **Pdif** 00 36 11.9 +0.1
baz=273
C21K Knifeblade Rid 100.31 21 Pdiff **Pdif** 00 36 12.0 +0.1
baz=275
B21K Ikpikpuk River 100.32 21 Pdif **Pdif** 00 36 11.5 -0.4
B21K Ikpikpuk River 100.32 21 Pdiff **Pdif** 00 36 11.8 -0.2
baz=275
J19K Poorman 100.34 26 Pdiff **Pdif** 00 36 12.6 +0.4
baz=273
M18K Stony River 100.38 29 Pdiff **Pdif** 00 36 13.1 +0.7
baz=273
PPT2 Papeete2 100.42 109 *e*SS SS 00 54 41.7 -1.5
comp=Z,82nm,27.8s
PPT2 Papeete2 100.42 109 *e*LR LR 01 08 58.9
comp=Z,421nm,25.8s
PPT2 *e*LR LR 01 09 09.5
comp=Z,325nm,27.2s
H20K Anvilleneega Mo 100.56 25 Pdiff **Pdif** 00 36 13.7 +0.5
baz=274
B22K Teshekpuk Lake 100.66 20 Pdiff **Pdif** 00 36 14.2 +0.7
baz=277
E21K Killik River 100.67 22 Pdiff **Pdif** 00 36 13.8 +0.2
baz=276
F21K Alatna River 100.97 23 Pdiff **Pdif** 00 36 15.0 0.0
baz=276
J20K Nowinta River 100.98 26 Pdiff **Pdif** 00 36 14.9 -0.1
baz=276
G21K Allakaket 101.03 24 Pdiff **Pdif** 00 36 15.7 +0.5
baz=276
K20K Telida 101.08 27 Pdiff **Pdif** 00 36 15.9 +0.4
baz=275
D22K Ayikyak River 101.09 21 Pdif **Pdif** 00 36 13.4 -2.1
D22K Ayikyak River 101.09 21 Pdiff **Pdif** 00 36 15.7 +0.2
baz=277
H21K Melozitna Rive 101.41 25 Pdiff **Pdif** 00 36 17.6 +0.7
baz=276
F22K Jo River 101.44 23 Pdiff **Pdif** 00 36 17.6 +0.6
baz=277
E22K Anaktuvuk Pass 101.50 22 Pdiff **Pdif** 00 36 17.6 +0.3
baz=278
C23K Itkillik River 101.68 20 Pdiff **Pdif** 00 36 18.4 +0.4
baz=279
G22K Bettles 101.78 23 Pdiff **Pdif** 00 36 18.9 +0.4
baz=278
D23K Nanushuk River 101.79 21 Pdiff **Pdif** 00 36 18.8 +0.3
baz=279
CHUM Lake Minchumin 101.81 26 Pdiff **Pdif** 00 36 18.9 +0.2
baz=276
CAST Castle Rocks 101.96 27 Pdiff **Pdif** 00 36 20.0 +0.5
baz=276
H22K Ishtalitna Cre 101.97 24 Pdiff **Pdif** 00 36 19.7 +0.3
baz=278
COLD Coldfoot 102.24 23 Pdiff **Pdif** 00 36 21.2 +0.6
baz=279
TOLK Toolik Lake Re 102.24 21 Pdiff **Pdif** 00 36 20.9 +0.3
baz=280
E23K Chandalar 102.33 22 Pdiff **Pdif** 00 36 21.0 -0.1
baz=280
MLY Manley 102.34 25 Pdiff **Pdif** 00 36 20.8 -0.3
baz=278
C24K Franklin Bluff 102.35 20 Pdiff **Pdif** 00 36 21.4 +0.4
baz=281
BPAW Bear Paw Mtn. 102.36 26 Pdiff **Pdif** 00 36 21.3 0.0
baz=278
G23K Bananza Creek 102.39 23 Pdiff **Pdif** 00 36 21.0 -0.3
baz=279
D24K Happy Valley 102.42 21 Pdiff **Pdif** 00 36 20.9 -0.4
baz=281
E24K Your Creek 102.74 22 Pdiff **Pdif** 00 36 22.4 -0.5
baz=281
I23K Minto, Yukon-K 102.91 25 Pdiff **Pdif** 00 36 23.2 -0.4
baz=279
F24K Squaw Lake 103.07 22 Pdiff **Pdif** 00 36 25.4 +1.1
baz=281
NEA2 Nenana 103.12 25 Pdiff **Pdif** 00 36 25.0 +0.5
baz=279
D25K Kavik River 103.24 20 Pdiff **Pdif** 00 36 25.3 +0.3
baz=283
MCK McKinley 103.32 26 Pdiff **Pdif** 00 36 26.2 +0.8
baz=279
H24K Noodor Dome 103.39 24 Pdiff **Pdif** 00 36 26.7 +0.9
baz=281
O22K Cooper Landing 103.44 30 Pdiff **Pdif** 00 36 26.5 +0.5
baz=278
PMR Palmer 103.56 29 Pdiff **Pdif** 00 36 26.9 +0.4
baz=279
C26K Camden Bay 103.59 20 Pdiff **Pdif** 00 36 27.2 +0.6
baz=285
E25K Arctic Village 103.80 22 Pdiff **Pdif** 00 36 27.7 +0.1
baz=284
SML Sawmill 103.90 28 Pdiff **Pdif** 00 36 28.5 +0.3
baz=279
KNK Knik Glacier 103.91 29 Pdiff **Pdif** 00 36 28.7 +0.5
baz=279
ILAR Eielson Array 104.01 25 Pdiff **Pdif** 00 36 26.1 -2.5
comp=Z,0.4nm,0.7s,baz=282,slow=4.0,SNR=5.7
ILAR PKiKP **PKiKP** 00 40 45.8 +0.2
comp=Z,1.1nm,0.8s,baz=273,slow=3.6,SNR=6.7
ILAR PKKPbc **PKKPbc** 00 52 19.9 -0.6
comp=Z,2.3nm,1.0s,baz=122,slow=1.7,SNR=9.3
WAT6 Susitna Watana 104.05 27 Pdiff **Pdif** 00 36 29.0 +0.1
baz=280
M23K Glacier View 104.19 28 Pdiff **Pdif** 00 36 29.4 0.0
baz=280
F26K Sheenjek River 104.43 22 Pdiff **Pdif** 00 36 30.0 -0.4
baz=285
G26K Porcupine Rive 104.75 23 Pdiff **Pdif** 00 36 32.6 +0.8
baz=285
DAG Danmarks Havn 105.38 349 *i* P **Pdif** 00 36 33.0 -1.3
G27K Doyon Strip 105.60 22 PKiKP **PKiKP** 00 40 49.4 +0.9
baz=287
E28M Babbage River 105.81 20 PKiKP **PKiKP** 00 40 50.6 +1.7
baz=289
H27K Steamboat Moun 105.82 23 PKiKP **PKiKP** 00 40 50.2 +1.2
baz=287
D28M Stokes Point 105.83 20 PKiKP **PKiKP** 00 40 49.8 +1.0
baz=290
F28M Old Crow 106.02 21 PKiKP **PKiKP** 00 40 50.3 +1.0
baz=289
KAIM Kayak Island 106.14 30 PKiKP **PKiKP** 00 40 50.5 +0.9
baz=282
K27K Chicken 106.22 25 PKiKP **PKiKP** 00 40 50.6 +0.9
baz=286
TORD Torodi Ar. Bea 106.44 281 PKiKP **PKiKP** 00 40 51.9 +0.3
comp=Z,0.7nm,0.5s,baz=21,slow=1.4,SNR=9.4
CRQE Cirque 106.59 29 PKiKP **PKiKP** 00 40 51.6 +0.9
baz=284
BGLC Bering Glacier 106.65 29 PKiKP **PKiKP** 00 40 51.7 +1.2
baz=284
I28M Miner Creek 106.68 24 PKiKP **PKiKP** 00 40 51.6 +1.0
baz=288
H29M Whitestone 107.04 23 PKiKP **PKiKP** 00 40 52.4 +1.2
baz=290
DAWY Dawson 107.33 25 PKiKP **PKiKP** 00 40 52.6 +0.8
baz=288
I29M Ogilvie Camp, 107.35 23 PKiKP **PKiKP** 00 40 52.9 +1.1
baz=290
G30M tAoh Zraii Nji 107.56 22 PKiKP **PKiKP** 00 40 53.2 +1.0
baz=292
EPYK Eagle Plains 107.61 22 PKiKP **PKiKP** 00 40 52.9 +0.6
baz=292

INK Inuvik 107.98 20 PKiKP **PKiKP** 00 40 54.1 +1.3
baz=295
YUK8 Steele Glacier 108.02 28 PKiKP **PKiKP** 00 40 54.3 +0.8
baz=287
I30M Mount Dempster 108.16 23 PKiKP **PKiKP** 00 40 54.2 +0.8
baz=292
L29M L29M 108.18 26 PKiKP **PKiKP** 00 40 54.6 +1.1
baz=289
K29M Barlow Dome 108.19 25 PKiKP **PKiKP** 00 40 54.2 +0.7
baz=290
M29M Somme Creek 108.25 26 PKiKP **PKiKP** 00 40 54.4 +0.8
baz=289
F31M Tsiigehtchic 108.27 21 PKiKP **PKiKP** 00 40 54.6 +1.2
baz=295
G31M Satah River 108.29 21 PKiKP **PKiKP** 00 40 54.7 +1.3
baz=294
J30M Hart River 108.42 24 PKiKP **PKiKP** 00 40 54.7 +0.8
baz=291
A36M Sachs Harbour 108.60 15 PKiKP **PKiKP** 00 40 54.9 +1.0
baz=304
M30M Minto, Yukon 108.93 26 PKiKP **PKiKP** 00 40 55.7 +0.8
baz=290
N30M Aishikik Lake 109.18 27 PKiKP **PKiKP** 00 40 57.1 +1.7
baz=290
HYT Haines Junctio 109.20 28 PKiKP **PKiKP** 00 40 56.3 +0.8
baz=289
ESDC Sonseca Array 111.00 309 PP **PP** 00 41 38.6 +0.3
comp=Z,1.4nm,0.9s,baz=85,slow=8.3,SNR=6.1
TAOE Nuku Hiva Isla 111.21 103 *e*LR LR 01 14 11.0
comp=Z,315nm,27.3s
TGTN Hyland Airport 113.02 25 PKiKP **PKiKP** 00 41 03.5 +0.9
baz=298
S34M Telegraph Cree 113.31 30 PKiKP **PKiKP** 00 41 04.3 +1.1
baz=294
WTLY Watson Lake, Y 113.45 27 PKiKP **PKiKP** 00 41 04.6 +1.1
baz=297
WRGLY Wrigley 114.08 22 PKiKP **PKiKP** 00 41 05.8 +1.3
baz=304
T35M Bob Quinn 114.12 30 PKiKP **PKiKP** 00 41 05.4 +0.5
baz=294
YKA Yellowknife Ar 117.74 20 PKPdf **PKiKP** 00 41 11.7 +0.1
YKA Yellowknife Ar 117.74 20 PKP **PKiKP** 00 41 11.9 +0.3
comp=Z,2.5nm,0.6s,baz=331,slow=2.2,SNR=43
YKA PKKPbc **PKKPbc** 00 51 34.4 -0.9
comp=Z,1.1nm,0.8s,baz=121,slow=4.3,SNR=12
YKA SKKPbc SKKPbc 00 55 20.7 +1.3
comp=Z,0.5nm,1.0s,baz=134,slow=3.5,SNR=2.7
NEW Newport 125.30 35 PKiKP **PKPdf** 00 41 26.8 +0.2
baz=303
MSO Missoula 127.89 35 PKiKP **PKiKP** 00 41 32.3 0.0
baz=305
FFC Flin Flon 127.92 21 PKPdf **PKiKP** 00 41 32.7 +0.8
FFC Flin Flon 127.92 21 PKiKP **PKiKP** 00 41 32.7 +0.8
KVN Kaiserville 129.16 45 PKPdf **PKiKP** 00 41 36.2 +1.0
KVN Kaiserville 129.16 45 PKiKP **PKiKP** 00 41 36.2 +1.0
NVAR Mina Array Bea 129.28 46 PKP **PKiKP** 00 41 35.6 +0.1
comp=Z,2.2nm,0.7s,baz=277,slow=1.5,SNR=13
NVAR SKPbc SKPbc 00 44 52.4 -0.1
comp=Z,3.8nm,0.8s,baz=270,slow=4.1,SNR=11
EGMT Eagleton 129.41 31 PKiKP **PKiKP** 00 41 35.3 0.0
baz=310
HLID Hailey 129.41 38 PKiKP **PKiKP** 00 41 35.3 -0.3
baz=302
PKM Mcpherson Peak 129.53 51 PKiKP **PKiKP** 00 41 36.1 0.0
baz=291
BOZ Bozeman (W) 129.91 35 PKiKP **PKiKP** 00 41 36.5 0.0
baz=307
CWC Cottonwood Cre 130.25 48 PKiKP **PKiKP** 00 41 37.4 -0.1
baz=294
ISA Isabella, Lake 130.26 49 PKiKP **PKiKP** 00 41 37.8 +0.4
baz=293
GRAC Grapevine Rang 130.55 47 PKiKP **PKiKP** 00 41 38.2 +0.3
baz=295
MPMC Manual Prospec 130.85 48 PKiKP **PKiKP** 00 41 38.9 +0.2
baz=294
EDW2 Edwards Air Fo 130.93 50 PKiKP **PKPdf** 00 41 38.2 +0.4
baz=292
LRMC Laurel Mtn Rad 130.93 49 PKiKP **PKiKP** 00 41 39.0 +0.2
baz=293
FURC Furnace Creek, 131.14 48 PKiKP **PKiKP** 00 41 38.9 0.0
baz=295
CIS Catalina Islan 131.15 52 PKiKP **PKiKP** 00 41 39.5 +0.4
baz=291
H17A Grant Village 131.23 35 PKiKP **PKiKP** 00 41 39.8 +0.5
baz=307
R11B Troy Canyon, C 131.23 45 PKiKP **PKiKP** 00 41 39.7 +0.3
baz=297
TPNV Topopah Spring 131.38 47 PKiKP **PKiKP** 00 41 40.1 +0.4
baz=296
BFSC Mount Baldy Ra 131.43 51 PKiKP **PKiKP** 00 41 40.0 +0.1
baz=292
RLMT Red Lodge 131.52 34 PKiKP **PKiKP** 00 41 40.2 +0.4
baz=309
PLCA Paso Flores 131.56 183 PKP **PKPdf** 00 41 39.0 +0.1
comp=Z,2.3nm,0.7s,baz=219,slow=6.5,SNR=3.2
PLCA SKPbc **SKPab** 00 45 01.7 +0.7
comp=Z,9.3nm,1.0s,baz=188,slow=6.4,SNR=6.5
GSC Goldstone, Bar 131.66 49 PKiKP **PKiKP** 00 41 40.2 -0.1
baz=294
RRX Edison Barstow 131.69 50 PKiKP **PKiKP** 00 41 40.2 0.0
baz=293
DGMT Dagmar 131.81 27 PKiKP **PKiKP** 00 41 40.5 +0.5
baz=317
LAO LASA Array 132.09 30 PKiKP **PKiKP** 00 41 40.9 +0.1
baz=313
HEC Hector,Ludlow 132.20 49 PKiKP **PKiKP** 00 41 41.0 -0.3
baz=294
DUG Dugway, Tooele 132.21 41 PKiKP **PKiKP** 00 41 41.4 +0.1
baz=302
109C Camp Elliot, M 132.35 52 PKiKP **PKiKP** 00 41 41.8 +0.3
baz=292
PFO Pinyon Flats O 132.59 51 PKiKP **PKiKP** 00 41 42.0 -0.2
baz=293
TPFO Pinon Flats 132.59 51 PKiKP **PKiKP** 00 41 42.5 +0.3
baz=293
GMRC Granite Mounta 132.73 49 PKiKP **PKiKP** 00 41 42.3 -0.2
baz=294
BELC Belle Mtn. Jos 132.79 50 PKiKP **PKiKP** 00 41 43.0 +0.3
baz=294
BW06 Boulder Array 132.79 37 PKiKP **PKiKP** 00 41 42.8 +0.3
baz=307
PDAR Pinedale Array 132.79 37 PKP **PKPdf** 00 41 41.1 -0.2
comp=Z,2.8nm,0.6s,baz=138,slow=0.9,SNR=16
PDAR SKPbc **SKPbc** 00 45 05.3 +0.4
comp=Z,6.3nm,1.1s,baz=318,slow=2.0,SNR=9.4
MONP2 Monument Peak 132.89 52 PKiKP **PKiKP** 00 41 43.3 +0.4
baz=292
SCHQ Schefferville 132.91 355 PKP **PKPdf** 00 41 40.5 -0.4
comp=Z,5.6nm,0.6s,baz=307,slow=5.1,SNR=7.3
SCHQ SKPbc **SKPbc** 00 45 05.0 +0.5
comp=Z,14nm,0.9s,baz=7.6,slow=4.5,SNR=6.8
TRQA Tornquist 133.12 192 PKPdf **PKPdf** 00 41 42.0 +0.2
TRQA Tornquist 133.12 192 PKiKP **PKPdf** 00 41 42.0 +0.2
IKP In-Ko-Pah, Jac 133.22 52 PKiKP **PKiKP** 00 41 43.6 +0.2
baz=292
SWSC Sam W. Stewart 133.35 52 PKiKP **PKiKP** 00 41 44.5 +1.0
baz=293
IRM Iron Mountain 133.37 50 PKiKP **PKiKP** 00 41 44.9 +1.3
baz=294
ULM Lac du Bonnet 133.72 20 PKP **PKPdf** 00 41 41.6 -0.9
comp=Z,7.8nm,0.8s,baz=307,slow=2.8,SNR=13
ULM SKPbc **SKPbc** 00 45 07.6 +0.2
comp=Z,21nm,0.9s,baz=323,slow=4.4,SNR=19
PDMCI Parker Dam,Lak 134.07 49 PKiKP **PKiKP** 00 41 45.6 +0.6
baz=295
MDND Maddock 134.28 25 PKiKP **PKiKP** 00 41 45.9 +0.9
baz=322
K22A Casper 134.62 35 PKiKP **PKiKP** 00 41 46.8 +0.7
baz=310
RSSD Black Hills 134.98 32 PKiKP **PKiKP** 00 41 47.4 +0.5
baz=314
O20A White River Ci 135.15 39 PKiKP **PKiKP** 00 41 48.0 +0.7
baz=306
AGMN Agassiz Nation 135.37 22 PKiKP **PKiKP** 00 41 47.9 +0.7
baz=327
WUAZ Wupatki 135.54 46 PKiKP **PKiKP** 00 41 48.6 +0.4
baz=299
214A Organ Pipe Nat 136.06 51 PKiKP **PKiKP** 00 41 49.7 +0.6
baz=294
N23A Red Feather La 136.07 36 PKiKP **PKiKP** 00 41 49.4 +0.2
baz=310
MVCO Mesa Verde 136.65 42 PKiKP **PKiKP** 00 41 51.0 +0.5
baz=304
W18A Petrified Fore 136.90 46 PKiKP **PKiKP** 00 41 51.1 +0.1
baz=300
ISCO Idaho Springs 136.96 37 PKiKP **PKiKP** 00 41 51.5 +0.4
baz=309
EYMN Ely 137.15 18 PKiKP **PKiKP** 00 41 51.5 +0.7

baz=333
F33A 5 Mile Ranch, 137.25 24 P PKiKP 00 41 50.3 -0.8
baz=325
TUC Tucson 137.46 50 PKiKP PKiKP 00 41 52.3 +0.2
baz=297
Q24A Divide 137.76 38 PKiKP PKiKP 00 41 53.0 +0.2
baz=309
SDCO Great Sand Dun 138.29 40 PKiKP PKiKP 00 41 54.3 +0.5
baz=307
ECSD EROS Data Cent 138.82 26 PKPpre 00 41 44.5
ECSD PKPdf PKiKP 00 41 53.9 -0.5
ECSD EROS Data Cent 138.82 26 PKiKP PKiKP 00 41 54.8 +0.4
baz=323
SPMN Marine on St. 139.09 21 PKiKP PKiKP 00 41 55.7 +0.8
baz=330
ANMO Albuquerque 139.28 44 PKPdf PKPdf 00 41 49.5 -4.0
ANMO Albuquerque 139.28 44 *c i* PKIKP PKPdf 00 41 52.4 -1.2
ANMO pmax pmax
comp=Z,9.0nm,1.3s
ITQB Itaqui 139.41 202 PKPdf 00 41 48.5 -5.2
121A Cookes Peak, D 139.60 48 PKiKP PKiKP 00 41 56.7 +0.2
baz=300
BGNE Belgrade 139.93 30 PKiKP PKiKP 00 41 57.1 +0.4
baz=320
VAO Valinhos 140.01 219 *eP* PKiKP 00 41 58.1 +0.6
FRTB Fartura 141.33 216 *eP* PKiKP 00 41 59.8 -0.3
PTGB Pitanga 141.62 212 *eP* PKiKP 00 42 00.9 +0.1
LDASE Londrina, Braz 142.18 214 *eP* PKiKP 00 42 01.5 -0.5
CPUP Villa Florida 142.68 204 PKhKP PKPpre 00 41 56.8
comp=Z,6.5nm,0.6s,baz=172,slow=1.1,SNR=12
VACA Villa Angela C 142.69 198 *eP* PKiKP 00 42 02.5 -0.2
LCO Las Campanas 143.24 184 PKPdf 00 41 59.6 -1.4
LCO Las Campanas 143.24 184 PKiKP PKPdf 00 41 59.6 -1.4
P38A Dawn 143.50 27 P PKPbc 00 41 58.8 +0.7
baz=325
PCMB Pacaembu 143.66 216 *eP* PKiKP 00 42 04.0 -1.0
TICA Tres Isletas 143.74 200 *eP* PKiKP 00 42 04.1 -0.9
LBNH Lisbon 143.77 359 PKPdf PKPbc 00 41 59.9 +1.2
baz=2.1
NCB Newcomb 144.04 1 P PKPbc 00 42 00.1 +0.6
baz=358,SNR=9.2
MCVT Middlebury Col 144.07 360 P PKPbc 00 42 00.1 +0.5
baz=0.4
I62A Tamworth 144.12 358 P PKPbc 00 41 59.9 +0.1
baz=3.1
I62A P PKPbc 00 41 59.9 +0.1
baz=3.1
T35B Sooner Cattle 144.14 33 P PKPbc 00 42 00.0 0.0
baz=318,SNR=13
P40A Paris 144.22 25 P PKPbc 00 42 00.5 +0.2
baz=327
TX31 Lajitas Ar. Si 144.26 49 P PKPdf 00 42 01.9 -0.6
baz=301,SNR=37
TXAR Lajitas Array 144.26 49 PKPdf PKPdf 00 42 01.7 -0.8
TXAR Lajitas Array 144.26 49 PKP PKPdf 00 42 01.9 -0.7
comp=Z,12nm,0.8s,baz=169,slow=0.8,SNR=89
TXAR SKPbc SKiKP 00 45 39.1 +0.7
comp=Z,4.7nm,1.0s,baz=318,slow=1.7,SNR=4.4
ESFA Espinillo Form 144.37 203 *eP* PKPdf 00 42 04.0 +1.3
WMOK Wichita Mounta 144.38 38 PKPdf PKPdf 00 42 02.0 -0.5
baz=313
WMOK Wichita Mounta 144.38 38 P PKPbc 00 42 01.7 +0.8
baz=313
IPMB Ipameri, GO 144.40 224 *eP* PKPdf 00 42 03.4 +0.4
HDIL Hopedale 144.42 21 PKPdf PKPbc 00 42 01.3 +0.5
baz=332
HDIL Hopedale 144.42 21 P PKPab 00 42 00.7 +0.2
baz=332
APMT Aspermont 144.47 41 PKPdf PKPdf 00 42 02.8 +0.1
AAM Ann Arbor 144.49 13 PKPdf PKPdf 00 42 02.5 +0.2
baz=342
J57A Williamstown 144.53 4 P PKPbc 00 42 01.4 +0.4
baz=355,SNR=7.6
J57A P PKPbc 00 42 01.4 +0.4
baz=355,SNR=7.6
J59A Piesco 144.54 2 P PKPbc 00 42 01.4 +0.3
baz=358
J59A P PKPbc 00 42 01.4 +0.3
baz=358
ITRB Iturama 144.57 219 *eP* PKPdf 00 42 04.4 +1.2
AMBA Amambai (Brazi 144.59 210 *eP* PKPdf 00 42 04.2 +1.1
J58A Remsen 144.62 3 P PKPbc 00 42 01.6 +0.3
baz=356
J58A P PKPbc 00 42 01.6 +0.3
baz=356
ACCN Adirondack Com 144.64 1 P PKPab 00 42 01.2 0.0
baz=359,SNR=9.4
L48A N Adams 144.64 15 P PKPbc 00 42 01.8 +0.3
baz=341
L48A P PKPbc 00 42 01.8 +0.3
baz=341
J61A Chester 144.68 359 P PKPbc 00 42 01.7 +0.1
baz=1.1,SNR=9.1
J61A P PKPbc 00 42 01.7 +0.1
baz=1.1,SNR=9.1
UNH University of 144.88 357 P PKPbc 00 42 02.5 +0.4
baz=4.0,SNR=6.6
O44A Mansfield 145.07 21 P PKPab 00 42 03.1 +0.2
baz=333
P43A Skaggs, Pawnee 145.14 22 P PKPbc 00 42 03.1 -0.1
baz=331
R40A Maddies Statio 145.15 27 P PKPbc 00 42 03.2 0.0
baz=326,SNR=129
S39A Bolivar 145.15 29 P PKPbc 00 42 02.7 -0.5
baz=324,SNR=32
K57A Scipio Center 145.17 4 P PKPbc 00 42 02.8 -0.3
baz=354,SNR=12
ABTX Abilene, Hawle 145.22 41 PKPdf PKPdf 00 42 04.3 +0.3
baz=309
ABTX Abilene, Hawle 145.22 41 P PKPdf 00 42 05.0 +1.0
baz=309,SNR=38
TUL3 Leonard 145.27 33 PKPdf PKPdf 00 42 03.9 0.0
baz=318
TUL3 Leonard 145.27 33 P PKPdf 00 42 04.2 +0.2
baz=318,SNR=25
WVNY West Valley, N 145.28 7 P PKPbc 00 42 03.4 -0.2
baz=351,SNR=7.6
TRY Troy 145.29 1 P PKPdf 00 42 04.0 +0.3
baz=359,SNR=6.8
N47A Urbana 145.30 17 P PKPbc 00 42 03.3 -0.3
baz=338
N47A P PKPbc 00 42 03.3 -0.3
baz=338
HCNY Howe Caverns 145.31 2 P PKPbc 00 42 03.6 +0.1
baz=358,SNR=20
SFIN Lafayette 145.33 19 PKPdf PKPab 00 42 03.9 0.0
baz=335
K62A Royalston 145.35 359 P PKPab 00 42 04.4 +0.6
baz=1.7,SNR=11
K62A P PKPab 00 42 04.4 +0.6
baz=1.7,SNR=11
ERPA Erie 145.38 9 PKPdf PKPbc 00 42 03.3 -0.5
baz=348
SDBA SAO DESIDERIO 145.43 235 *eP* PKiKP 00 42 07.6 -1.2
M50A Fremont 145.49 13 P PKPdf 00 42 03.4 -0.7
baz=343,SNR=6.6
M50A P PKPdf 00 42 03.4 -0.7
baz=343,SNR=6.6
HRV Adam Dziewonsk 145.49 358 PKPab 00 42 04.7 +0.3
HRV Adam Dziewonsk 145.49 358 PKPdf PKPab 00 42 04.4 0.0
baz=2.9
HRV Adam Dziewonsk 145.49 358 P PKPab 00 42 04.6 +0.3
baz=2.9,SNR=7.4
HRV Adam Dziewonsk 145.49 358 PKIKP PKPab 00 42 05.1 +0.7
L61B Northampton 145.57 359 PKPdf PKPdf 00 42 04.2 0.0
baz=0.9
L61B Northampton 145.57 359 P PKPab 00 42 04.6 -0.1
baz=0.9
U38A Gravette 145.61 31 P PKPab 00 42 05.0 0.0
baz=321,SNR=40
L56A Greenwood 145.67 6 P PKPdf 00 42 04.4 -0.1
baz=352,SNR=9.1
L56A P PKPdf 00 42 04.4 -0.1
baz=352,SNR=9.1
N49A Columbus Grove 145.67 15 P PKPdf 00 42 04.6 +0.1
baz=340,SNR=12
N49A P PKPdf 00 42 04.6 +0.1
baz=340,SNR=12
BINY Binghamton 145.74 4 PKPdf PKPdf 00 42 04.7 +0.2
baz=355
BINY Binghamton 145.74 4 P PKPdf 00 42 03.8 -0.7
baz=355,SNR=18
QUA2 Belchertown 145.74 359 P PKPbc 00 42 05.0 +0.1
baz=1.5
L59A Walton 145.79 2 P PKPdf 00 42 04.2 -0.5
baz=357,SNR=14
L59A P PKPdf 00 42 04.2 -0.5
baz=357,SNR=14
CCM Cathedral Cave 145.80 26 PKPbc 00 42 05.4 +0.1
CCM Cathedral Cave 145.80 26 PKPdf PKPbc 00 42 05.2 -0.1
baz=327
CCM Cathedral Cave 145.80 26 P PKPbc 00 42 05.2 -0.1
baz=327,SNR=38
CCM Cathedral Cave 145.80 26 PKP2 PKPbc 00 42 05.4 +0.1
BDFB Brasilia 145.85 227 PKPbc PKPab 00 42 07.7 +1.1
comp=Z,55nm,0.6s,baz=116,slow=2.6,SNR=44
ANTJ Antonio Joao (145.87 209 *eP* PKiKP 00 42 08.2 -1.3
M53A WI Miller and 145.92 10 PKPdf PKPbc 00 42 05.3 -0.3
baz=347
RPRD Ribas do Rio P 145.93 214 *eP* PKiKP 00 42 08.9 -0.8
Q44A Meyer Farm, Va 145.97 22 P PKPbc 00 42 06.0 +0.2
baz=331,SNR=10.0
P46A Rosedale 145.98 20 P PKPab 00 42 06.4 +0.1
baz=335,SNR=10
O48B Farmland 146.03 17 PKPdf 00 42 05.5 +0.4
O48B Farmland 146.03 17 PKPdf PKPdf 00 42 05.5 +0.4
baz=338
O48B Farmland 146.03 17 P PKPbc 00 42 06.0 0.0
baz=338,SNR=12
MGMO Mountain Grove 146.08 28 PKPbc 00 42 05.8 -0.4
N51A Ashland 146.10 13 PKPdf PKPbc 00 42 05.8 -0.3
N51A Ashland 146.10 13 P PKPbc 00 42 06.1 0.0
baz=344,SNR=7.5
N51A P PKPbc 00 42 06.1 0.0
baz=344,SNR=7.5
M55A Ridgway 146.19 8 PKPab 00 42 07.9 +0.8
FVM French Village 146.21 25 P PKPbc 00 42 06.6 +0.1
baz=328,SNR=14
NPNY Mohonk Preserv 146.26 1 P PKPbc 00 42 06.8 +0.3
baz=358
Z35A Perchaven, San 146.27 38 P PKPab 00 42 07.5 -0.2
baz=313,SNR=24
O49A Covington 146.32 16 P PKPbc 00 42 06.8 0.0
baz=340,SNR=12
O49A P PKPbc 00 42 06.8 0.0
baz=340,SNR=12
KSPA Keystone Colle 146.39 4 P PKPdf 00 42 06.0 +0.3
baz=355,SNR=18
JCT Junction City 146.43 44 PKiKP PKPab 00 42 08.7 +0.3
baz=307
JCT Junction City 146.43 44 P PKPab 00 42 08.0 -0.4
baz=307
U40A Yellville 146.44 29 P PKPbc 00 42 06.9 -0.4
baz=323,SNR=66
U40A P PKPbc 00 42 06.9 -0.4
baz=323,SNR=66
OLIL Olney 146.46 21 P PKPab 00 42 08.0 -0.2
baz=333,SNR=18
M57A Sunshine Farm, 146.50 5 P PKPbc 00 42 07.6 +0.3
baz=353,SNR=13
M57A P PKPbc 00 42 07.6 +0.3
baz=353,SNR=13
PAMR Moraine State 146.51 10 P PKPbc 00 42 07.4 +0.1
baz=348
N53A Lisbon 146.51 11 P PKPbc 00 42 07.8 +0.4
baz=346,SNR=12
N53A P PKPbc 00 42 07.8 +0.4
baz=346,SNR=12
PSDB Penn State Uni 146.52 8 P PKPab 00 42 08.6 +0.2
baz=350
BRNY Black Rk. Fore 146.60 1 P PKPbc 00 42 07.9 +0.3
baz=359
ACSO Alum Creek Sta 146.61 14 PKiKP PKPbc 00 42 07.8 +0.2
baz=342
ACSO Alum Creek Sta 146.61 14 P PKPbc 00 42 07.9 +0.3
baz=342,SNR=18
P48A Milroy 146.69 17 PKPbc 00 42 07.9 0.0
P48A Milroy 146.69 17 P PKPbc 00 42 08.0 +0.1
baz=338,SNR=15
P48A P PKPbc 00 42 08.0 +0.1
baz=338,SNR=15
C2SB Chapadao do Su 146.79 217 *eP* PKiKP 00 42 11.6 +0.2
P49A Miami Univ. Ec 146.82 16 PKiKP PKPbc 00 42 08.4 +0.1
baz=339
P49A Miami Univ. Ec 146.82 16 P PKPbc 00 42 08.4 +0.1
baz=339,SNR=23
WSPT Westport, CT 146.85 0 PKPdf 00 42 06.8 +0.3
ODNJ Ogdensburg 146.92 2 P PKPbc 00 42 08.9 +0.4
baz=358,SNR=19
SIUC Southern Illin 146.93 24 PKPbc 00 42 08.9 +0.3
S44A Carbondale 146.93 24 P PKPbc 00 42 09.1 +0.5
baz=330,SNR=11
UPAO U. Pittsburgh 146.97 10 P PKPab 00 42 09.5 -0.6
baz=348
O53A New Philadelph 146.98 11 PKPab 00 42 09.5 -0.7
O53A New Philadelph 146.98 11 PKiKP PKPbc 00 42 08.8 +0.1
baz=345
O52A Adamsville 146.98 12 PKPab 00 42 09.6 -0.6
O52A Adamsville 146.98 12 P PKPbc 00 42 09.0 +0.3
baz=344,SNR=12
O52A P PKPbc 00 42 09.0 +0.3
baz=344,SNR=12
AQDB Aquidauana 147.00 211 PKPbc 00 42 08.6 -0.7
AQDB Aquidauana 147.00 211 *eP* PKPbc 00 42 09.3 0.0
PAL Palisades 147.01 1 PKPbc 00 42 09.2 +0.5
PAL Palisades 147.01 1 PKiKP PKPbc 00 42 08.9 +0.2
baz=359
PAL Palisades 147.01 1 P PKPbc 00 42 08.6 -0.2
baz=359
PAL Palisades 147.01 1 PKP2 PKPbc 00 42 09.2 +0.5
N58A Sunbury 147.03 5 P PKPbc 00 42 09.2 +0.4
baz=354,SNR=22
N58A P PKPbc 00 42 09.2 +0.4
baz=354,SNR=22
WHTX Lake Whitney, 147.04 40 PKiKP PKPbc 00 42 09.7 +0.6
baz=312
WHTX Lake Whitney, 147.04 40 P PKPab 00 42 10.2 -0.5
baz=312,SNR=18
SSPA Standing Stone 147.12 7 PKPbc 00 42 08.2 -0.9
SSPA Standing Stone 147.12 7 PKiKP PKPbc 00 42 09.2 +0.2
baz=352
SSPA Standing Stone 147.12 7 P PKPbc 00 42 08.8 -0.3
baz=352,SNR=15
FCAR Ozark Folk Cen 147.17 29 PKPbc 00 42 09.3 -0.1
O54A Avella 147.20 10 P PKPbc 00 42 09.9 +0.6
baz=347,SNR=11
O54A P PKPbc 00 42 09.9 +0.6
baz=347,SNR=11
PBMO Poplar Bluff 147.22 26 PKPbc 00 42 09.3 -0.2
PBMO Poplar Bluff 147.22 26 P PKPbc 00 42 09.7 +0.3
baz=327,SNR=29
P51A Williamsport 147.31 14 PKPbc 00 42 09.0 -0.6
P51A Williamsport 147.31 14 P PKPbc 00 42 09.7 0.0
baz=342,SNR=19
P51A P PKPbc 00 42 09.7 0.0
baz=342,SNR=19
BRNJ Basking Ridge 147.32 2 PKPbc 00 42 09.4 -0.2
P52A Corning 147.38 13 PKPbc 00 42 10.1 +0.2
P52A Corning 147.38 13 PKiKP PKPbc 00 42 09.5 -0.3
baz=344
PABK Blue Knob Stat 147.39 8 P PKPbc 00 42 10.0 +0.1
baz=350
LCAR Lake Charles 147.48 28 PKPbc 00 42 09.7 -0.5
LCAR Lake Charles 147.48 28 P PKPbc 00 42 09.9 -0.3
baz=326,SNR=58
MIAR Mount Ida 147.49 32 PKPbc 00 42 10.6 +0.3
MIAR Mount Ida 147.49 32 PKiKP PKPbc 00 42 10.7 +0.4
baz=320
MIAR Mount Ida 147.49 32 P PKPbc 00 42 10.9 +0.6
baz=320
MIAR Mount Ida 147.49 32 PKP2 PKPbc 00 42 10.6 +0.3
WCI Wyandotte Cave 147.54 19 PKPbc 00 42 10.2 -0.1
WCI Wyandotte Cave 147.54 19 PKiKP PKPbc 00 42 10.7 +0.4
baz=335
WCI Wyandotte Cave 147.54 19 P PKPbc 00 42 10.3 -0.1
baz=335,SNR=23
WCI Wyandotte Cave 147.54 19 PKP2 PKPbc 00 42 10.2 -0.1
BDQN Bodoquena, MS 147.55 210 *eP* PKPbc 00 42 11.0 +0.1
WHAR Wooly Hollow 147.57 30 PKPbc 00 42 10.8 +0.3
PANJ Princeton 147.62 2 P PKPbc 00 42 11.0 +0.5
baz=357,SNR=10
Q51A Peebles 147.67 15 PKPbc 00 42 10.8 +0.2
Q51A Peebles 147.67 15 P PKPbc 00 42 10.7 0.0
baz=341,SNR=27
Q51A P PKPbc 00 42 10.7 0.0
baz=341,SNR=27
P53A Whipple 147.68 12 P PKPbc 00 42 09.9 -0.8
baz=345,SNR=25
P53A P PKPbc 00 42 09.9 -0.8
baz=345,SNR=25
435B Jarrell 147.74 42 PKiKP PKiKP 00 42 12.2 -0.9
baz=310
T45B Paducah 147.76 24 P PKPbc 00 42 11.5 +0.6
baz=330,SNR=9.1
RVDE Rio Verde (Bra 147.79 214 *eP* PKPbc 00 42 11.4 -0.2
MCWV Mont Chateau 147.80 10 PKiKP PKPbc 00 42 11.5 +0.5
baz=348
MCWV Mont Chateau 147.80 10 P PKPbc 00 42 11.5 +0.5
baz=348,SNR=15
TUPA Temple Univers 147.81 3 P PKPbc 00 42 11.5 +0.6
baz=356
R49A Shelbyville 147.84 18 P PKPbc 00 42 11.1 -0.1
baz=337,SNR=21
R49A P PKPbc 00 42 11.1 -0.1
baz=337,SNR=21
833A Chaparral WMA, 147.96 47 PKiKP PKiKP 00 42 12.9 -0.7
baz=304
833A Chaparral WMA, 147.96 47 P PKiKP 00 42 13.5 -0.1
baz=304,SNR=22
Q52A Bidwell 147.99 13 PKPbc 00 42 11.7 +0.1
Q52A Bidwell 147.99 13 P PKPbc 00 42 11.3 -0.2
baz=343,SNR=23
Q52A P PKPbc 00 42 11.3 -0.2
baz=343,SNR=23
WUPA West Chester U 148.01 4 PKPbc 00 42 11.9 +0.4
PSUB Penn St. - Bra 148.03 3 P PKPbc 00 42 11.6 0.0
baz=356
237A Washetta, Mont 148.06 38 P PKiKP 00 42 13.7 0.0
baz=314,SNR=30
R50A Paris 148.10 17 P PKPbc 00 42 11.3 -0.5
baz=339,SNR=12
R50A P PKPbc 00 42 11.3 -0.5
baz=339,SNR=12
GEDE Greenville 148.13 4 P PKPbc 00 42 11.7 -0.1
baz=355,SNR=14
P57A Homestead Farm 148.24 7 P PKPbc 00 42 12.4 +0.3
baz=351,SNR=12
P57A P PKPbc 00 42 12.4 +0.3
baz=351,SNR=12
Q54A Coxs Mills 148.28 11 PKPab PKPbc 00 42 12.9 +0.6
Q54A Coxs Mills 148.28 11 P PKPbc 00 42 12.6 +0.4
baz=346,SNR=18
Q54A P PKPbc 00 42 12.6 +0.4
baz=346,SNR=18
T47A Sharon Grove 148.37 22 P PKPbc 00 42 13.0 +0.4
baz=333,SNR=27
SDMD Soldier's Deli 148.44 5 P PKPbc 00 42 12.7 +0.1
baz=353,SNR=11
Q56A Snyder Ridge, 148.51 9 P PKPbc 00 42 13.1 +0.2
baz=349
Q56A P PKPbc 00 42 13.1 +0.2
baz=349
R53A Hurricane 148.66 13 P PKPbc 00 42 13.4 +0.1
baz=343,SNR=22
R53A P PKPbc 00 42 13.4 +0.1
baz=343,SNR=22
PANT Pantanal (Braz 148.71 211 *eP* PKPbc 00 42 12.9 -1.1
WVT Waverly 148.85 23 PKPbc 00 42 13.3 -0.5
WVT Waverly 148.85 23 PKiKP PKPbc 00 42 14.6 +0.7
baz=331
WVT Waverly 148.85 23 P PKPbc 00 42 13.9 +0.1
baz=331
WVT Waverly 148.85 23 PKP2 PKPbc 00 42 13.3 -0.5
PP1B Ponte de Pedra 148.90 215 *eP* PKPbc 00 42 13.5 -1.0
S51A Beattyville 148.90 16 PKPbc 00 42 13.7 -0.3
S51A Beattyville 148.90 16 P PKPbc 00 42 13.9 0.0
baz=340,SNR=28
S51A P PKPbc 00 42 13.9 0.0
baz=340,SNR=28
CCAR Cane Creek 148.91 31 P PKiKP 00 42 15.3 -0.1
baz=322,SNR=6.6
NATX Nacogdoches 148.93 37 PKiKP PKiKP 00 42 15.6 +0.1
baz=316
NATX Nacogdoches 148.93 37 P PKiKP 00 42 15.9 +0.4
baz=316,SNR=9.7
R55A Marlinton 149.09 11 P PKPbc 00 42 14.9 +0.4
baz=347
R55A P PKPbc 00 42 14.9 +0.4
baz=347
T50A Nancy 149.11 18 P PKPbc 00 42 14.7 +0.3
baz=337
T50A P PKPbc 00 42 14.7 +0.3
baz=337
ROSB Rosrio 149.13 251 *eP* PKPbc 00 42 13.5 -1.7
U49A Red Boiling Sp 149.27 20 P PKPbc 00 42 15.4 +0.5
baz=335
S54A Dingess, Beckl 149.32 13 P PKPbc 00 42 15.3 +0.2
baz=344,SNR=8.5
S54A P PKPbc 00 42 15.3 +0.2
baz=344,SNR=8.5
LVC Limon Verde 149.41 188 PKPab PKiKP 00 42 18.7 +1.5
LVC Limon Verde 149.41 188 PKP2 PKiKP 00 42 18.7 +1.5
LVC Limon Verde 149.41 188 *eP* PKPbc 00 42 14.1 -2.0
HKT Hockley 149.43 41 PKPab PKiKP 00 42 17.6 +1.1
HKT Hockley 149.43 41 PKP2 PKiKP 00 42 17.6 +1.1
OXF Oxford 149.57 27 PKiKP PKPbc 00 42 16.1 +0.5
baz=327
OXF Oxford 149.57 27 P PKPbc 00 42 16.2 +0.5
baz=327,SNR=21
CBN Corbin Frederi 149.58 7 PKiKP PKPbc 00 42 16.0 +0.5
baz=352
V48A Smith Brothers 149.58 22 P PKPbc 00 42 16.0 +0.3
baz=333
R58B Mineral 149.75 7 P PKiKP 00 42 16.8 -0.2
baz=351
R58B P PKiKP 00 42 16.8 -0.2
baz=351
S57A Dark Hollow, R 149.80 9 P PKiKP 00 42 17.0 -0.1
baz=349,SNR=10
S57A P PKiKP 00 42 17.0 -0.1
baz=349,SNR=10
TZTN Tazewell 149.94 17 PKiKP PKiKP 00 42 17.1 -0.4
baz=339
TZTN Tazewell 149.94 17 P PKiKP 00 42 17.1 -0.4
baz=339,SNR=22
Y45A Yeager Farm, C 150.04 28 P PKiKP 00 42 18.2 +0.4
baz=326,SNR=22
BLA Blacksburg 150.07 12 PKiKP PKiKP 00 42 17.4 -0.3
baz=346
BLA Blacksburg 150.07 12 P PKPbc 00 42 17.0 +0.1
baz=346,SNR=5.7
V51A Loudon 150.38 19 P PKiKP 00 42 18.2 -0.2
baz=337,SNR=26
U54A Nelsons Funny 150.42 14 P PKPbc 00 42 18.0 +0.2
baz=343,SNR=7.0
U54A P PKPbc 00 42 18.0 +0.2
baz=343,SNR=7.0
T57A Hurt 150.49 10 P PKiKP 00 42 18.3 -0.3
baz=348,SNR=9.2
T57A P PKiKP 00 42 18.3 -0.3
baz=348,SNR=9.2
V52A Sevierville 150.58 17 P PKiKP 00 42 18.9 +0.1
baz=339,SNR=57
W50A Signal Mountai 150.61 21 P PKPbc 00 42 18.6 +0.3
baz=335,SNR=19
X48A Hartselle 150.63 24 P PKPbc 00 42 18.1 -0.2
baz=331,SNR=32
SNDB Serra Nova Dou 150.65 228 *eP* PKPbc 00 42 16.2 -2.6
TKL Tuckaleechee C 150.70 18 P PKiKP 00 42 19.0 -0.1
baz=338,SNR=31
SALV Santo Antonio 150.72 216 *eP* PKPbc 00 42 16.7 -2.3
T59A Double "B" Far 150.77 7 P PKiKP 00 42 19.2 0.0
baz=351,SNR=17
T59A P PKiKP 00 42 19.2 0.0
baz=351,SNR=17
BBRB Robore, Bolivi 150.86 207 *eP* PKPbc 00 42 16.7 -2.6
VBMS Vicksburg 150.90 31 PKiKP PKiKP 00 42 19.6 +0.1
baz=323
VBMS Vicksburg 150.90 31 P PKiKP 00 42 19.6 +0.1
baz=323
U56A King 150.91 12 P PKiKP 00 42 19.7 +0.2
baz=345,SNR=5.9
U56A P PKiKP 00 42 19.7 +0.2
baz=345,SNR=5.9
V53A Saluda 150.97 16 P PKPbc 00 42 19.3 +0.3
baz=340,SNR=44
V53A P PKPbc 00 42 19.3 +0.3
baz=340,SNR=44
W52A Murphy 151.17 19 P PKiKP 00 42 20.1 0.0
baz=336,SNR=26
V55A Taylorsville 151.20 14 P PKPbc 00 42 19.5 0.0
baz=343,SNR=16
V55A P PKPbc 00 42 19.5 0.0
baz=343,SNR=16
Z47A Carrollton 151.27 27 P PKPbc 00 42 19.9 +0.2
baz=328,SNR=21
146A Union 151.29 29 P PKiKP 00 42 21.4 +1.0
baz=326,SNR=14
X51A Calhoun 151.34 20 P PKPbc 00 42 19.7 -0.3
baz=335,SNR=11
X51A P PKPbc 00 42 19.7 -0.3

	baz=335,SNR=11							
U59A	**Littleton**	**151.35**	**8**	P		**PKiKP**	**00 42 20.9**	**+0.6**
	baz=350,SNR=11							
U59A				P		**PKiKP**	**00 42 20.9**	**+0.6**
	baz=350,SNR=11							
Y49A	**Blount Mountai**	**151.40**	**24**	P		**PKPbc**	**00 42 19.9**	**-0.2**
	baz=332,SNR=36							
CASEE	**Lake Jocassee**	**151.56**	**17**	P		**PKiKP**	**00 42 21.3**	**+0.4**
	baz=340,SNR=22							
V58A	**Windy Hill, Pi**	**151.69**	**10**	P		**PKiKP**	**00 42 21.3**	**+0.3**
	baz=348,SNR=11							
V58A				P		**PKiKP**	**00 42 21.3**	**+0.3**
	baz=348,SNR=11							
KMSC	**Kings Mountain**	**151.85**	**14**	PKiKP		**PKiKP**	**00 42 21.4**	**0.0**
	baz=343							
KMSC	**Kings Mountain**	**151.85**	**14**	P		**PKiKP**	**00 42 21.6**	**+0.1**
	baz=343,SNR=18							
LRAL	**Lakeview Retre**	**151.88**	**25**	PKiKP		**PKiKP**	**00 42 21.7**	**+0.2**
	baz=330							
LRAL	**Lakeview Retre**	**151.88**	**25**	P		**PKiKP**	**00 42 21.8**	**+0.3**
	baz=330,SNR=20							
PAULI	**Pauline**	**152.03**	**15**	P		**PKPbc**	**00 42 21.4**	**-0.1**
	baz=342,SNR=20							
W57A	**Gilead**	**152.15**	**12**	P		**PKPbc**	**00 42 21.2**	**-0.5**
	baz=346,SNR=9.1							
W57A				P		**PKPbc**	**00 42 21.2**	**-0.5**
	baz=346,SNR=9.1							
BBSD	**Serra de San D**	**152.17**	**206**	*eP*		**PKPdf**	**00 42 18.4**	**+2.7**
Y52A	**Lilburn**	**152.25**	**20**	P		**PKPbc**	**00 42 21.8**	**-0.2**
	baz=336,SNR=27							
Y52A				P		**PKPbc**	**00 42 21.8**	**-0.2**
	baz=336,SNR=27							
CNNC	**Cliffs of the**	**152.43**	**8**	PKiKP		**PKiKP**	**00 42 22.8**	**+0.2**
	baz=350							
HODGE	**Hodges**	**152.47**	**16**	P		**PKiKP**	**00 42 22.7**	**0.0**
	baz=340,SNR=15							
BIRD	**Birdtown, Kers**	**152.53**	**13**	P		**PKPbc**	**00 42 22.4**	**-0.2**
	baz=344,SNR=9.0							
X58A	**Rowland**	**152.85**	**11**	P		**PKPbc**	**00 42 22.8**	**-0.4**
	baz=347,SNR=5.9							
X58A				P		**PKPbc**	**00 42 22.8**	**-0.4**
	baz=347,SNR=5.9							
PRPB	**Parauapebas**	**152.86**	**240**	*eP*		**PKPdf**	**00 42 19.2**	**+2.5**
GOGA	**Godfrey**	**152.87**	**19**	PKiKP		**PKiKP**	**00 42 24.1**	**+0.5**
	baz=337							
GOGA	**Godfrey**	**152.87**	**19**	P		**PKPbc**	**00 42 23.4**	**+0.1**
	baz=337							
PTLB	**Pontes e Lacer**	**152.97**	**211**	*eP*		**PKPdf**	**00 42 19.6**	**+2.8**
250A	**Grady**	**153.10**	**25**	P		**PKiKP**	**00 42 24.2**	**+0.1**
	baz=330,SNR=8.0							
152A	**Waverly Hall**	**153.10**	**22**	P		**PKPbc**	**00 42 23.9**	**0.0**
	baz=334,SNR=11							
Y58A	**Scranton**	**153.42**	**12**	P		**PKiKP**	**00 42 24.8**	**+0.1**
	baz=346,SNR=5.3							
Y58A				P		**PKiKP**	**00 42 24.8**	**+0.1**
	baz=346,SNR=5.3							
BRAL	**Brewton**	**153.45**	**27**	PKiKP		**PKiKP**	**00 42 25.6**	**+0.7**
	baz=328							
BRAL	**Brewton**	**153.45**	**27**	P		**PKiKP**	**00 42 25.3**	**+0.5**
	baz=328,SNR=9.2							
NHSC	**New Hope**	**154.07**	**14**	PKiKP		**PKiKP**	**00 42 26.9**	**+0.9**
	baz=344							
352A	**Blakely**	**154.08**	**24**	P		**PKPbc**	**00 42 25.9**	**-0.2**
	baz=333							
CLDB	**Colider**	**154.59**	**223**	*eP*		**PKPdf**	**00 42 21.7**	**+2.5**
TIGA	**Tifton**	**154.62**	**21**	PKiKP		**PKiKP**	**00 42 28.5**	**+1.3**
	baz=335							
PDRB	**Porto dos Gac**	**154.66**	**220**	*eP*		**PKPdf**	**00 42 21.7**	**+2.5**
VILB	**Vilhena**	**155.62**	**212**	*eP*		**PKPdf**	**00 42 23.0**	**+2.4**
NPGB	**Novo Progresso**	**156.87**	**231**	*eP*		**PKPdf**	**00 42 24.5**	**+2.2**
ITTB	**Itaituba**	**158.78**	**236**	*eP*		**PKPdf**	**00 42 26.8**	**+2.2**
SAML	**Samuel**	**160.55**	**211**	*eP*		**PKPdf**	**00 42 29.1**	**+2.5**
ETMB	**Extrema**	**161.10**	**202**	*eP*		**PKPdf**	**00 42 30.1**	**+3.0**
MACA	**Manacapuru-AM**	**163.41**	**229**	*eP*		**PKPdf**	**00 42 32.5**	**+2.9**
TEFE	**Tefe**	**165.85**	**217**	*eP*		**PKPdf**	**00 42 34.4**	**+2.7**
BOAV	**Boa Vista**	**166.29**	**247**	*eP*		**PKPdf**	**00 42 34.4**	**+2.3**
ACON	**Acoyapa**	**167.48**	**70**	pPKPab		pPKPab	00 43 54.0	+1.9
TBTG	**Tabatinga, AM**	**167.58**	**195**	*eP*		**PKPdf**	**00 42 35.9**	**+2.9**

TAP ***16*** *00:51:32.3,24.˚81N×122.˚43E,h5km±1km,ML3.3,D*
JMA ***16*** *00:51:32.9±0.1,24.˚8N±0.˚8×122.˚5E±0.˚3,h10km±2km,*
MV3.0/12,NW OFF ISHIGAKIJIMA IS

ISC 16 00:51:32.3±1.1,24.˚80N±0.˚02×122.˚46E±0.˚02,h8km±9km,
n95,σ0ˢ74/180,3C-4D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.44**	**209**	P		**Pb**	**00 51 42.0**	**-0.1**
	baz=204							
EOS2				S		**Sb**	**00 51 49.0**	**+0.2**
	baz=204							
TWB1	**Santiao Chiao**	**0.48**	**295**	⇑*i*	P	**Pb**	**00 51 42.5**	**-0.5**
	baz=296							
TWB1				*i*	S	**Sb**	**00 51 49.3**	**-0.8**
	baz=296							
EGS		**0.48**	**275**	*i*	P	**Pg**	**00 51 42.1**	**+0.4**
	baz=274							
EGS				S		**Sb**	**00 51 50.4**	**+0.1**
	baz=274							
EOS3	**EOS3**	**0.53**	**194**	⇓	P	**Pb**	**00 51 43.6**	**-0.1**
	baz=190							
EOS3				S		**Sb**	**00 51 52.9**	**+1.4**
	baz=190							
JYNG	**Yonagunijimaku**	**0.56**	**129**	P		**Pg**	**00 51 43.4**	**+0.1**
JYNG				*eS*		**Sg**	**00 51 50.8**	**+0.2**
TWC	**Suao**	**0.59**	**251**	⇑*i*	P	**Pg**	**00 51 43.9**	**+0.2**
	baz=248							
TWC				S		**Sb**	**00 51 54.4**	**+1.0**
	baz=248							
TIPB	**Shuangxi**	**0.60**	**286**	⇓*i*	P	**Pb**	**00 51 45.1**	**0.0**
	baz=286							
TIPB				*i*	S	**Sb**	**00 51 53.6**	**-0.1**
	baz=286							
YOJ	**Yonaguni jima**	**0.60**	**124**	P		**Pg**	**00 51 44.0**	**0.0**
YOJ				*eS*		**Sg**	**00 51 51.9**	**-0.1**
SXI1	**Grass Mountain**	**0.61**	**299**	⇓	P	**Pb**	**00 51 45.2**	**0.0**
	baz=299							
SXI1				S		**Sb**	**00 51 53.7**	**-0.2**
	baz=299							
NWF	**Wu-fen Shan**	**0.67**	**293**	*i*	P	**Pb**	**00 51 46.3**	**0.0**
	baz=294							
NWF				*i*	S	**Sb**	**00 51 56.1**	**+0.2**
	baz=294							
WFSB	**Wu-fen Shan**	**0.67**	**293**	P		**Pb**	**00 51 46.2**	**-0.1**
	baz=294							
WFSB				S		**Sb**	**00 51 56.0**	**+0.2**
	baz=294							
EOS4	**EOS4**	**0.69**	**191**	P		**Pb**	**00 51 46.5**	**+0.1**
	baz=188							
EOS4				S		**Sb**	**00 51 56.9**	**+0.9**
	baz=188							
NDS	**Dongshan**	**0.70**	**256**	P		**Pb**	**00 51 46.3**	**-0.4**
	baz=255							
NDS				S		**Sn**	**00 51 58.6**	**-0.9**
	baz=255							
TNOU	**National Taiwa**	**0.71**	**299**	P		**Pg**	**00 51 46.1**	**0.0**
	baz=299							
TNOU				S		**Sb**	**00 51 56.7**	**-0.2**
	baz=299							
EWUT	**Wuta**	**0.72**	**240**	⇓	P	**Pb**	**00 51 46.8**	**-0.2**
	baz=238							
EWUT				S		**Sb**	**00 51 57.2**	**+0.2**
	baz=238							
TWE	**Neicheng**	**0.73**	**264**	⇑*i*	P	**Pg**	**00 51 46.6**	**+0.3**
	baz=262							
TWE				*i*	S	**Sb**	**00 51 57.1**	**-0.2**
	baz=262							
ENA	**Nanau**	**0.76**	**240**	*i*	P	**Pb**	**00 51 47.3**	**-0.4**
	baz=238							
ENA				*i*	S	**Sb**	**00 51 57.1**	**-1.0**
	baz=238							
FUSB	**Fushanzhiwuyua**	**0.80**	**267**	P		**Pb**	**00 51 48.1**	**-0.3**
	baz=266							
FUSB				S		**Sb**	**00 52 00.4**	**+1.1**
	baz=266							
EAHA	**Aohua**	**0.81**	**234**	P		**Pb**	**00 51 48.3**	**-0.4**
	baz=232							
EAHA				S		**Sb**	**00 51 58.9**	**-0.8**
	baz=232							
TWA	**Mucha**	**0.82**	**283**	*i*	P	**Pb**	**00 51 48.6**	**-0.2**
	baz=282							
TWA				S		**Sb**	**00 51 59.7**	**-0.2**
	baz=282							
ENTT	**Nioudou**	**0.83**	**259**	*i*	P	**Pb**	**00 51 48.9**	**-0.1**
	baz=257							
ENTT				*i*	S	**Sn**	**00 52 01.6**	**-1.1**
	baz=257							
NHDH	**Xindian Distri**	**0.86**	**281**	P		**Pb**	**00 51 49.8**	**+0.2**
	baz=280							
NHDH				S		**Sb**	**00 52 01.4**	**+0.1**
	baz=280							
NWLT	**Wulai**	**0.87**	**268**	P		**Pb**	**00 51 49.6**	**-0.1**
	baz=267							
NWLT				S		**Sn**	**00 52 02.6**	**-1.1**
	baz=267							
YM01	**YM01**	**0.88**	**293**	P		**Pg**	**00 51 49.6**	**+0.3**
	baz=293							
YM01				S		**Sb**	**00 52 01.5**	**-0.2**
	baz=293							
YM08	**YM08**	**0.88**	**296**	P		**Pg**	**00 51 48.0**	**-1.2**
	baz=296							
YM08				*eS*		**Sb**	**00 52 02.1**	**+0.4**
	baz=296							
NDT	**Datong Townshi**	**0.89**	**257**	P		**Pb**	**00 51 49.9**	**0.0**
	baz=256							
NDT				S		**Sb**	**00 52 02.8**	**+0.9**
	baz=256							
LATG	**Datong**	**0.89**	**253**	P		**Pb**	**00 51 49.9**	**-0.2**
	baz=251							
LATG				S		**Sb**	**00 52 02.7**	**+0.5**
	baz=251							
TATO	**Taipei**	**0.90**	**281**	P		**Pg**	**00 51 49.9**	**+0.2**
ANP	**Anpu**	**0.94**	**294**	P		**Pg**	**00 51 50.3**	**0.0**
	baz=294							
NTST	**Danshui**	**0.99**	**292**	*eP*		**Pg**	**00 51 50.8**	**-0.5**
	baz=291							
NTST				S		**Sb**	**00 52 05.1**	**+0.3**
	baz=291							
TWS1	**Kuangyinshan**	**0.99**	**288**	P		**Pg**	**00 51 50.5**	**-0.9**
	baz=287							
TWS1				S		**Sb**	**00 52 05.2**	**+0.2**
	baz=287							
YHNB	**Yeheng**	**1.00**	**262**	P		**Pb**	**00 51 52.0**	**+0.1**
YHNB	**Yeheng**	**1.00**	**262**	P		**Pg**	**00 51 51.6**	**+0.1**
	baz=261							
YHNB				S		**Sn**	**00 52 06.1**	**-0.8**
	baz=261							
ETL	**Fush Village**	**1.00**	**230**	*eP*		**Pg**	**00 51 51.2**	**-0.3**
	baz=228							
ETL				*eS*		**Sb**	**00 52 05.6**	**+0.4**
	baz=228							
NACB	**Ninganchiao**	**1.01**	**232**	P		**Pg**	**00 51 51.4**	**-0.3**
	baz=230							
NACB				S		**Sb**	**00 52 05.4**	**-0.1**
	baz=230							
NSK	**Sanguang**	**1.01**	**263**	*i*	P	**Pg**	**00 51 51.9**	**+0.1**
	baz=262							
NSK				*i*	S	**Sb**	**00 52 05.7**	**+0.1**
	baz=262							
NNSB	**Datong**	**1.05**	**249**	P		**Pg**	**00 51 52.6**	**+0.1**
	baz=248							
NNSB				S		**Sn**	**00 52 07.5**	**-0.8**
	baz=248							
NNS	**Nan Shan**	**1.05**	**250**	*i*	P	**Pb**	**00 51 53.0**	**+0.1**
	baz=248							
NNS				*i*	S	**Sn**	**00 52 07.7**	**-0.8**
	baz=248							
TWD	**Chiawan**	**1.07**	**228**	*i*	P	**Pb**	**00 51 52.9**	**-0.2**
	baz=226							
TWD				S		**Sn**	**00 52 08.0**	**-0.6**
	baz=226							
ETLH	**Xiulin Townshi**	**1.07**	**237**	P		**Pb**	**00 51 53.0**	**-0.1**
	baz=235							
ETLH				S		**Sb**	**00 52 08.2**	**-0.6**
	baz=235							
ETM	**Tongmen**	**1.22**	**227**	P		**Pb**	**00 51 55.1**	**-0.4**
	baz=225							
ETM				S		**Sn**	**00 52 13.3**	**+1.0**
	baz=225							
LXIB	**Xiulin Townshi**	**1.23**	**231**	P		**Pg**	**00 51 55.5**	**-0.5**
	baz=229							
LXIB				S		**Sn**	**00 52 13.7**	**+0.8**
	baz=229							
NFF	**Wufeng Townshi**	**1.23**	**262**	P		**Pb**	**00 51 55.5**	**-0.4**
	baz=261							
NFF				S		**Sn**	**00 52 12.8**	**+0.1**
	baz=261							
FUSS	**Fushou**	**1.24**	**244**	P		**Pn**	**00 51 56.4**	**+0.2**
	baz=242							
FUSS				S		**Sn**	**00 52 12.8**	**-0.4**
	baz=242							
WHF	**Hehuan Shan**	**1.27**	**239**	*i*	P	**Pn**	**00 51 56.8**	**0.0**
	baz=237							
WHF				*i*	S	**Sn**	**00 52 14.6**	**+0.4**
	baz=237							
TWT	**Tachien**	**1.29**	**245**	P		**Pg**	**00 51 58.0**	**+0.8**
	baz=244							
TWT				S		**Sn**	**00 52 15.7**	**+1.3**
	baz=244							
SHUL	**Shoufeng**	**1.30**	**219**	*eP*		**Pg**	**00 51 57.3**	**-0.1**
	baz=217							
SHUL				S		**Sn**	**00 52 15.7**	**+1.3**
	baz=217							
TDCB	**Techi**	**1.31**	**245**	*eP*		**Pg**	**00 51 57.6**	**+0.2**
	baz=244							
TDCB				*eS*		**Sn**	**00 52 16.9**	**+2.2**
	baz=244							
LIOB	**Emei**	**1.32**	**263**	*i*	P	**Pn**	**00 51 56.8**	**-0.4**
	baz=262							
LIOB				*eS*		**Sn**	**00 52 15.3**	**+0.4**
	baz=262							
NSTT	**Nanjuang**	**1.34**	**263**	*i*	P	**Pn**	**00 51 57.1**	**-0.2**
	baz=262							
NSTT				*eS*		**Sg**	**00 52 15.1**	**-0.4**
	baz=262							
ESL	**Shilin**	**1.36**	**224**	*i*	P	**Pg**	**00 51 58.2**	**-0.2**
	baz=222							
ESL				*eS*		**Sg**	**00 52 16.3**	**+0.2**
	baz=222							
CHGB	**Renai**	**1.39**	**238**	P		**Pg**	**00 51 58.9**	**-0.1**
	baz=236							
CHGB				S		**Sn**	**00 52 17.5**	**+0.7**
	baz=236							
HATJ	**Hateruma jima**	**1.43**	**121**	*eP*		**Pn**	**00 51 58.5**	**-0.1**
HATJ				*eS*		**Sn**	**00 52 15.2**	**-2.3**
OWD	**Renai**	**1.45**	**234**	P		**Pb**	**00 51 59.4**	**-0.2**
	baz=233							
OWD				*eS*		**Sn**	**00 52 18.0**	**-0.1**
	baz=233							
WARBT	**Fenglin Townsh**	**1.46**	**222**	P		**Pn**	**00 51 58.5**	**-0.4**
	baz=221							
WARBT				*eS*		**Sb**	**00 52 18.2**	**-0.3**
	baz=221							
WUSB	**Renai**	**1.47**	**237**	P		**Pb**	**00 52 00.0**	**+0.1**
	baz=235							
WUSB				S		**Sg**	**00 52 18.9**	**-0.7**
	baz=235							
EGFH	**Guangfu**	**1.47**	**220**	*eP*		**Pn**	**00 51 58.8**	**-0.3**
	baz=218							
EGFH				*eS*		**Sn**	**00 52 17.5**	**-1.0**
	baz=218							
WHP	**Taichung City**	**1.48**	**250**	P		**Pg**	**00 52 01.0**	**+0.3**
	baz=248							
WHP				S		**Sg**	**00 52 21.2**	**+1.3**
	baz=248							
JKRS	**Kuro-shima**	**1.52**	**112**	P		**Pb**	**00 52 00.7**	**0.0**
JKRS				*eS*		**Sb**	**00 52 20.8**	**+0.7**
NMLH	**Miaoli**	**1.54**	**260**	*eP*		**Pb**	**00 52 01.4**	**+0.3**
	baz=259							
NMLH				*eS*		**Sb**	**00 52 20.9**	**0.0**
	baz=259							
JIJ	**Ishigaki jima**	**1.59**	**106**	P		**Pn**	**00 52 00.8**	**0.0**
JIJ				*eS*		**Sn**	**00 52 20.9**	**-0.6**
VWDT	**VWDT**	**1.60**	**229**	P		**Pn**	**00 52 01.1**	**+0.3**
	baz=228							
VWDT				*eS*		**Sb**	**00 52 22.2**	**-0.1**
	baz=228							
WCS	**Beigang Elemen**	**1.60**	**243**	P		**Pg**	**00 52 02.5**	**-0.5**
	baz=241							
WCS				S		**Sg**	**00 52 23.1**	**-0.6**
	baz=241							
TWQ1	**Liyutan**	**1.60**	**254**	*eP*		**Pb**	**00 52 01.9**	**-0.3**
	baz=253							
TWQ1				*eS*		**Sb**	**00 52 22.3**	**-0.3**
	baz=253							
HGSD	**Ruisui**	**1.61**	**216**	P		**Pn**	**00 52 01.1**	**0.0**
	baz=214							
HGSD				*eS*		**Sg**	**00 52 23.2**	**-1.0**
	baz=214							
EHY	**Hungye**	**1.66**	**219**	*eP*		**Pn**	**00 52 02.3**	**+0.6**
	baz=217							
EHY				*eS*		**Sn**	**00 52 22.3**	**-0.9**
	baz=217							
JISG	**Ishigakijimahi**	**1.70**	**97**	*eP*		**Pn**	**00 52 03.5**	**+1.3**
SSLB	**Suanglung**	**1.71**	**234**	P		**Pg**	**00 52 05.1**	**0.0**
SSLB	**Suanglung**	**1.71**	**234**	P		**Pn**	**00 52 02.8**	**+0.4**
	baz=232							
SSLB				S		**Sn**	**00 52 24.5**	**+0.1**
	baz=232							
TYC	**Yuchr**	**1.72**	**239**	*i*	P	**Pb**	**00 52 04.4**	**+0.3**
	baz=237							
TYC				S		**Sb**	**00 52 25.9**	**+0.1**
	baz=237							
WDJ	**Dajia District**	**1.72**	**255**	*eP*		**Pb**	**00 52 03.8**	**-0.3**
	baz=254							
WDJ				*eS*		**Sb**	**00 52 26.4**	**+0.5**
	baz=254							
YULB	**Yu-li**	**1.76**	**217**	P		**Pg**	**00 52 07.8**	**+1.7**
YULB	**Yu-li**	**1.76**	**217**	P		**Pn**	**00 52 01.9**	**-1.3**
	baz=216							
YULB				S		**Sb**	**00 52 26.5**	**-0.7**
	baz=216							
TWF1	**Yuli**	**1.79**	**217**	*i*	P	**Pn**	**00 52 03.1**	**-0.5**
	baz=215							
TWF1				*eS*		**Sb**	**00 52 27.3**	**-0.9**
	baz=215							
WHYT	**Xinyi Township**	**1.84**	**233**	P		**Pb**	**00 52 05.6**	**-0.6**
	baz=232							
WHYT				S		**Sb**	**00 52 29.4**	**0.0**
	baz=232							
WNT	**Mingjian**	**1.87**	**241**	*eP*		**Pn**	**00 52 05.5**	**+1.0**
	baz=239							
WNT				*eS*		**Sb**	**00 52 29.2**	**-0.9**
	baz=239							
CHKH	**Chenggong**	**1.88**	**211**	*eP*		**Pn**	**00 52 03.8**	**-0.9**
	baz=210							
CHKH				*eS*		**Sn**	**00 52 29.1**	**+0.5**
	baz=210							
FULB	**Fuli**	**1.92**	**214**	*eP*		**Pn**	**00 52 04.6**	**-0.8**
	baz=212							
FULB				*eS*		**Sn**	**00 52 29.1**	**-0.6**
	baz=212							
ALS	**Alishan**	**1.99**	**230**	*i*	P	**Pn**	**00 52 07.6**	**+1.1**
	baz=228							
ALS				*eS*		**Sb**	**00 52 32.8**	**-1.2**
	baz=228							
CHN5	**Tsauling**	**2.02**	**234**	*i*	P	**Pb**	**00 52 08.3**	**-1.1**
	baz=232							
CHN5				*eS*		**Sb**	**00 52 34.5**	**-0.3**
	baz=232							
ELDTW	**Lidau**	**2.08**	**220**	P		**Pn**	**00 52 07.2**	**-0.4**
	baz=218							
ELDTW				*eS*		**Sn**	**00 52 33.9**	**+0.1**
	baz=218							
EDH	**Donghe**	**2.11**	**210**	*eP*		**Pn**	**00 52 08.2**	**+0.3**
	baz=209							
EDH				*eS*		**Sn**	**00 52 31.2**	**-3.1**
	baz=209							
WCKO	**Fanlu**	**2.17**	**232**	P		**Pn**	**00 52 09.9**	**+1.1**
	baz=230							
WCKO				*eS*		**Sn**	**00 52 36.6**	**+0.7**
	baz=230							
STYH	**Taoyuan**	**2.24**	**224**	P		**Pn**	**00 52 10.7**	**+1.0**
	baz=222							
STYH				*eS*		**Sn**	**00 52 38.0**	**+0.5**
	baz=222							
TPUB	**Ta-pu**	**2.25**	**229**	P		**Pb**	**00 52 13.3**	**+0.1**
TPUB	**Ta-pu**	**2.25**	**229**	P		**Pn**	**00 52 10.8**	**+1.0**
	baz=227							
TPUB				*eS*		**Sn**	**00 52 38.2**	**+0.5**
	baz=227							
WTP	**Ta-pu**	**2.29**	**228**	*i*	P	**Pn**	**00 52 11.9**	**+1.4**
	baz=226							
WTP				*eS*		**Sb**	**00 52 41.0**	**-1.5**
	baz=226							
TWGBT	**Beinan**	**2.35**	**213**	*eP*		**Pn**	**00 52 10.3**	**-0.9**
	baz=211							
TWG	**Pinlang**	**2.35**	**213**	*eP*		**Pn**	**00 52 12.0**	**+0.8**
	baz=211							
CHN1	**Nanshi**	**2.39**	**228**	P		**Pn**	**00 52 13.3**	**+1.4**
	baz=227							
CHN1				*eS*		**Sb**	**00 52 43.5**	**-1.9**
	baz=227							
SGST	**Jiashian**	**2.43**	**225**	*eP*		**Pn**	**00 52 12.4**	**+0.1**
	baz=224							
SGST				*eS*		**Sn**	**00 52 43.1**	**+0.9**
	baz=224							
SLGT	**Liugui**	**2.45**	**223**	P		**Pn**	**00 52 14.2**	**+1.6**
	baz=222							
SLGT				S		**Sn**	**00 52 44.0**	**+1.2**
	baz=222							
MATB	**Ma-tsu**	**2.64**	**301**	*eP*		**Pn**	**00 52 16.2**	**+1.0**
	baz=300							
MASBT	**Mashibuluo**	**2.75**	**218**	P		**Pn**	**00 52 17.9**	**+1.1**
	baz=216							
MASBT				*eS*		**Sn**	**00 52 51.6**	**+1.4**
	baz=216							
EAST	**Anshuo**	**2.83**	**212**	P		**Pn**	**00 52 17.8**	**-0.1**
	baz=210							
EAST				S		**Sn**	**00 52 52.9**	**+0.7**
	baz=210							

IDC ***16*** *00:51:40.3±0.8,45.˚82N×151.˚72E,h0km,mb3.8/19,*
mbtmp3.8/20,ML3.3/1,Error ellipse: s-maj=23.6km
s-min=17.9km az=168.0
JMA ***16*** *00:51:40.8±0.9,46.˚N±5.˚×15.˚2E±.˚,h30km,MV4.0/9,*
KURILE ISLANDS REGION
SKHL ***16*** *00:51:41.2±0.1,44.˚60N×152.˚30E,h60km±4km,mb4.5/3*

ISC 16 00:51:42.4±1.0,45.˚3N±0.˚2×151.˚80E±0.˚08,h30km,n39,
σ1ˢ28/37,mb3.9/19,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.78**	**269**	*eP*		**Pb**	**00 52 29.0**	**-2.3**
KUR					AMB	AMB	00 52 32.5	
	60nm,0.4s							
KUR				*eS*		**Sb**	**00 53 04.9**	**0.0**
KUR				A		A	00 53 15.7	
	230nm,0.7s							
KUR				A		A	00 53 15.7	
	110nm,0.7s							
SHO	**Shikotan**	**3.84**	**249**	*eP*		**Pn**	**00 52 40.2**	**+0.9**
SHO					AMB	AMB	00 52 49.4	
	40nm,0.4s							
SHO				*eS*		**Sn**	**00 53 24.4**	**+1.0**
SHO				A		A	00 53 31.5	
	80nm,0.5s							
SHO				A		A	00 53 31.5	
	90nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**4.43**	**255**	*eP*		**Pn**	**00 52 49.8**	**+2.4**
YUK					AMB	AMB	00 52 51.2	
	40nm,0.4s							
YUK				*eS*		**Sn**	**00 53 40.7**	**+2.7**
YUK				A		A	00 53 47.5	
	90nm,0.5s							
YUK				A		A	00 53 47.5	
	110nm,0.5s							
NEM2	**Nemuro 2**	**4.77**	**248**	*eP*		**Pn**	**00 52 51.6**	**-0.5**
NEM2				*eS*		**Sn**	**00 53 44.3**	**-2.0**
NMR	**Nemuro--Hokkai**	**4.78**	**248**	*eP*		**Pn**	**00 52 51.7**	**-0.5**
NMR				*eS*		**Sn**	**00 53 45.1**	**-1.4**
JRA	**Rausu**	**4.97**	**256**	*eP*		**Pn**	**00 52 56.9**	**+2.1**
JNK	**Nakash**	**5.36**	**254**	*eP*		**Pn**	**00 53 01.3**	**+1.0**
AKK	**Akkeshi**	**5.51**	**248**	*eP*		**Pn**	**00 53 03.1**	**+0.8**
AKK				*eS*		**Sn**	**00 54 04.7**	**0.0**
JAK	**Akke

ILAR	**Eielson Array**	**38.23**	**37**	P	**P**	**00 58 58.8**	**-0.4**
	0.3nm,0.8s,baz=263,slow=7.2,SNR=2.1							
	0.3nm,0.8s							
MKAR	**Makanchi Array**	**46.79**	**298**	P	**P**	**01 00 09.2**	**+0.2**
	1.1nm,0.8s,baz=61,slow=5.2,SNR=6.2							
	1.1nm,0.8s							
KURBB	**Kurchatov Arra**	**47.49**	**304**	P	**P**	**01 00 13.8**	**-0.5**
	0.5nm,0.4s,baz=73,slow=8.4,SNR=8.1							
	0.5nm,0.4s							
YKA	**Yellowknife Ar**	**52.61**	**36**	P	**P**	**01 00 52.7**	**-0.2**
	0.2nm,0.6s,baz=298,slow=7.4,SNR=5.4							
	0.2nm,0.6s							
ARCES	**ARCESS Array B**	**58.90**	**341**	P	**P**	**01 01 37.5**	**-0.4**
	3.5nm,1.0s,baz=51,slow=6.3,SNR=7.4							
	3.5nm,1.0s							
NVAR	**Mina Array Bea**	**63.91**	**61**	P	**P**	**01 02 13.8**	**+1.2**
	0.6nm,0.7s,baz=292,slow=7.0,SNR=4.0							
	0.6nm,0.7s							
FINES	**FINESS Array B**	**64.93**	**334**	P	**P**	**01 02 17.5**	**-1.0**
	1.3nm,0.5s,baz=35,slow=7.2,SNR=19							
	1.3nm,0.5s							
PDAR	**Pinedale Array**	**66.33**	**53**	P	**P**	**01 02 29.2**	**+1.0**
	0.2nm,0.5s,baz=294,slow=6.8,SNR=1.9							
	0.2nm,0.5s							
GEYT	**Alibeck**	**66.55**	**301**	P	**P**	**01 02 30.0**	**+0.6**
	2.3nm,0.8s,baz=327,slow=6.9,SNR=5.8							
	2.3nm,0.8s							
WRA	**Warramunga Arr**	**66.87**	**198**	P	P	01 02 36.8	+5.3
	0.3nm,0.8s,baz=13,slow=6.6,SNR=1.7							
	0.3nm,0.8s							
NOA	**NORSAR Array B**	**69.27**	**341**	P	**P**	**01 02 45.8**	**-0.4**
	1.0nm,0.7s,baz=28,slow=6.0,SNR=4.5							
	1.0nm,0.7s							
HFS	**Hagfors**	**69.47**	**339**	P	**P**	**01 02 46.8**	**-0.5**
	3.5nm,0.7s,baz=69,slow=8.1,SNR=6.7							
	3.5nm,0.7s							
ASAR	**Alice Springs**	**70.57**	**197**	P	P	01 03 00.2	+5.7
	0.3nm,0.8s,baz=18,slow=6.0,SNR=1.0							
	0.3nm,0.8s							
KBZ	**Khabaz**	**71.19**	**314**	P	**P**	**01 02 59.2**	**+1.1**
	3.8nm,0.8s,baz=57,slow=5.8,SNR=8.2							
	3.8nm,0.8s							
AKASG	**Malin Array Be**	**72.22**	**326**	P	**P**	**01 03 03.9**	**-0.3**
	1.0nm,0.5s,baz=34,slow=6.1,SNR=6.0							
	1.0nm,0.5s							
BRTR	**Keskin Array B**	**78.79**	**316**	P	**P**	**01 03 42.9**	**+0.6**
	0.2nm,0.5s,baz=76,slow=5.5,SNR=2.2							
	0.2nm,0.5s							
TXAR	**Lajitas Array**	**78.99**	**59**	P	**P**	**01 03 44.6**	**+1.1**
	0.2nm,0.6s,baz=298,slow=1.9,SNR=2.5							
	0.2nm,0.6s							
MMAI	**Mount Meron Ar**	**83.06**	**311**	P	**P**	**01 04 05.8**	**+0.8**
	1.7nm,0.9s,baz=52,slow=9.6,SNR=4.1							
	1.7nm,0.9s							

IDC ***16*** *00:56:38.3±0.6, 45.44N×151.72E, h0km, mb4.5/26, mbtmp4.5/31, ML3.6/5, MS4.4/38, Error ellipse: s-maj=16.3km s-min=12.3km az=149.0*

BJI ***16*** *00:56:39.6, 45.52N×151.73E, h21km, mb5.0/66, mB5.0/35, Ms4.7/46, Ms7 4.5/46*

NIED ***16*** *00:56:41.7, 45.64N×151.64E, h30km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.04; Mθθ-0.16; Mφφ0.11; Mrθ-0.11; Mθφ0.50; Mφr-1.81; Fault plane solution: M₀1.88000×10¹⁶ NP1:φs1.00000°, δ89.00000°, λ-105.00000°. NP2:φs269.00000°, δ15.00000°, λ-2.00000°.*

JMA ***16*** *00:56:41.7±1.1, 46.4N×15.2E±, h30km, MV5.1/15, KURILE ISLANDS REGION*

SKHL ***16*** *00:56:42.1±0.5, 45.30N×151.80E, h49km±3km, mb5.2/2, Ms4.6/5, msh4.6/5*

MOS ***16*** *00:56:42.9±1.1, 45.48N×151.53E, h47km, mb5.2/71, MS4.2/14, Error ellipse: s-maj=6.4km s-min=4.4km az=117.1*

NEIC ***16*** *00:56:47.0±2.5, 46.05N±0.10×151.1E±0.1, h35km±2km, mb4.9/178, Error ellipse: s-maj=18.2km s-min=11.7km az=143.0*

BGR ***16*** *00:57:02.9, 47.92N×149.13E, h33km, mb4.9, Ms4.5*

ISC 16 00:56:44.2±0.4, 45.56N±0.05×151.53E±0.04, h36km±1km, h38km:pP-P, n633, σ1s71/647, mb4.9/225, MS4.4/56, 44C-34D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.60**	**264**	*e*P		**Pn**	**00 57 24.5**	**+0.9**
KUR					AMB	AMB	00 57 32.2	
	380nm,0.5s							
KUR				*e*S		**Sn**	**00 58 02.1**	**+8.2**
KUR					A	A	00 58 09.5	
	2µm,0.6s							
KUR					A	A	00 58 09.5	
	880nm,0.6s							
KUR	**Kuril'sk**	**2.60**	**264**	*e*PN		**Pn**	**00 57 24.9**	**+1.3**
KUR				*e*S		**Sn**	**00 58 02.1**	**+8.2**
KUR					pmax	pmax		
	comp=Z,383nm,0.5s							
KUR					pmax	pmax		
	comp=E,138nm,0.7s							
KUR					smax	smax		
	comp=N,2µm,0.5s							
KUR					smax	smax		
	comp=E,875nm,0.6s							
SHO	**Shikotan**	**3.75**	**245**	*e*P		**Pn**	**00 57 38.5**	**-0.9**
SHO					AMB	AMB	00 57 46.9	
	comp=E,110nm,0.3s							
SHO				*e*S		**Sn**	**00 58 20.5**	**-1.8**
SHO					A	A	00 58 37.2	
	comp=E,180nm,0.5s							
SHO					A	A	00 58 37.2	
	comp=E,510nm,0.5s							
SHO					AMS	AMS	00 59 59.0	
	comp=E,4µm,11.0s							
SHO					AMS	AMS	00 59 59.0	
	comp=E,4µm,11.0s							
SHO					AMS	AMS	00 59 59.0	
	comp=E,3µm,11.0s							
SHO	**Shikotan**	**3.75**	**245**	*e*PN		**Pn**	**00 57 37.4**	**-2.0**
SHO					pmax	pmax		
	comp=Z,112nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**4.31**	**251**		AMS	AMS	01 00 25.0	
	comp=Z,4µm,8.0s							
YUK				*e*P		**Pn**	**00 57 48.0**	**+0.8**
YUK					AMB	AMB	00 57 55.1	
	comp=Z,450nm,0.6s							
YUK				*e*S		**Sn**	**00 58 36.9**	**+0.8**
YUK					A	A	00 58 52.0	
	comp=Z,1µm,0.6s							
YUK					A	A	00 58 52.0	
	comp=Z,410nm,0.6s							
YUK					AMS	AMS	01 00 25.0	
	comp=Z,6µm,8.0s							
YUK	**Yuzh-Kuril'sk**	**4.31**	**251**	*e*PN		**Pn**	**00 57 47.7**	**+0.5**
YUK				*e*S		**Sn**	**00 58 36.6**	**+0.5**
YUK					pmax	pmax		
	comp=Z,453nm,0.6s							
YUK					smax	smax		
	comp=N,1µm,0.6s							
YUK					smax	smax		
	comp=E,407nm,0.4s							
NEM2	**Nemuro 2**	**4.69**	**244**	*e*P		**Pn**	**00 57 51.1**	**-1.2**
NEM2				*e*S		**Sn**	**00 58 42.5**	**-2.9**
NMR	**Nemuro--Hokkai**	**4.69**	**244**	*e*P		**Pn**	**00 57 51.4**	**-1.0**
NMR				*e*S		**Sn**	**00 58 43.9**	**-1.6**
NMR	**Nemuro--Hokkai**	**4.69**	**244**	*e*PN		**Pn**	**00 57 50.9**	**-1.5**
JRA	**Rausu**	**4.84**	**253**	*e*P		**Pn**	**00 57 55.7**	**+1.3**
JNK	**Nakash**	**5.25**	**250**	*e*P		**Pn**	**00 58 00.7**	**+0.7**
JAK	**Akkeshi**	**5.53**	**245**	*e*P		**Pn**	**00 58 02.7**	**-1.3**
JTKR	**Abashiri--Toko**	**5.65**	**256**	*e*P		**Pn**	**00 58 06.8**	**+1.2**
SKR	**Severo-Kuril's**	**5.98**	**29**		AMS	AMS	01 00 22.0	
	comp=E,3µm,14.0s							
SKR				*e*P		**Pn**	**00 58 10.1**	**+0.1**
SKR					AMB	AMB	00 58 11.5	
	comp=E,80nm,0.5s							
SKR					AMB	AMB	00 58 12.4	
	comp=E,300nm,5.0s							
SKR				*e*S		**Sn**	**00 59 16.4**	**-0.7**
SKR					A	A	00 59 26.5	
	comp=E,90nm,0.4s							
SKR					A	A	00 59 26.5	
	comp=E,80nm,0.4s							
SKR					AMS	AMS	01 00 22.0	
	comp=E,3µm,14.0s							
SKR					AMS	AMS	01 00 22.0	
	comp=E,3µm,14.0s							
SKR	**Severo-Kuril's**	**5.98**	**29**	*e*PN		**Pn**	**00 58 10.1**	**+0.1**
SKR				*e*S		Sn	00 59 26.6	+9.5
SKR					pmax	pmax		
	comp=Z,122nm,0.6s							
SKR					pmax	pmax		
	comp=Z,300nm,4.5s							
SKR					MLR	MLR		
	comp=Z,3µm,14.0s							
JAR	**Ashorobuto**	**6.00**	**251**	*e*P		**Pn**	**00 58 11.7**	**+1.4**
JOB	**Onbets**	**6.13**	**247**	*e*P		**Pn**	**00 58 11.9**	**-0.2**
YSS	**Yuzh-Sakhalins**	**6.24**	**286**		Pn	Pn	00 58 08.5	-5.1
YSS	**Yuzh-Sakhalins**	**6.24**	**286**		AMS	AMS	01 00 40.2	
	comp=Z,2µm,17.0s							
YSS				*e*P		**Pn**	**00 58 17.4**	**+3.7**
YSS					AMB	AMB	00 58 23.6	
	comp=Z,30nm,0.5s							
YSS				*e*S		**Sn**	**00 59 27.2**	**+3.5**
YSS					A	A	00 59 31.5	
	comp=Z,50nm,0.5s							
YSS					A	A	00 59 31.5	
	comp=Z,50nm,0.5s							
YSS					AMS	AMS	01 00 40.2	
	comp=Z,4µm,17.0s							
YSS	**Yuzh-Sakhalins**	**6.24**	**286**	*e*PN		**Pn**	**00 58 18.2**	**+4.5**
YSS				*e*S		**Sn**	**00 59 31.3**	**+7.6**
YSS					pmax	pmax		
	comp=Z,60nm,0.7s							
YSS					MLR	MLR		
	comp=E,2µm,14.0s							
JKK2	**Kamakawa 2**	**6.48**	**258**	*e*P		**Pn**	**00 58 19.3**	**+2.3**
JKA	**Kamikawa-asahi**	**6.51**	**260**		Pn	**Pn**	**00 58 18.1**	**+0.7**
ASAJ	**Asahikawa**	**6.51**	**260**		PN	**Pn**	**00 58 18.1**	**+0.7**
ASAJ	**Asahikawa**	**6.51**	**260**		Pn	**Pn**	**00 58 20.4**	**+3.1**
	comp=E,3.3nm,0.3s,baz=87,slow=15,SNR=14							
ASAJ					Sn	Sn	00 59 40.5	+10
	comp=E,0.5nm,0.3s,baz=76,slow=19,SNR=0.6							
ASAJ					LR	LR	01 01 18.6	
	comp=E,3µm,19.3s,baz=82,slow=42							
JCH	**Churui**	**6.57**	**246**	*e*P		**Pn**	**00 58 17.6**	**-0.6**
PAU	**Pauzhetka**	**6.87**	**29**	*e*P		**Pn**	**00 58 23.0**	**+0.7**
PAU					AMB	AMB	00 58 26.0	
	comp=E,30nm,0.3s							
PAU				*e*S		**Sn**	**00 59 37.3**	**-1.9**
PAU					A	A	00 59 40.2	
	comp=E,80nm,0.5s							
PAU					A	A	00 59 40.2	
	comp=E,100nm,0.5s							
ERM	**Erimo**	**7.01**	**243**		Pn	**Pn**	**00 58 26.8**	**+2.5**
ERM	**Erimo**	**7.01**	**243**	*i*	PN	**Pn**	**00 58 25.3**	**+1.0**
JNBK	**Urakawa-nobuka**	**7.13**	**246**	*e*P		**Pn**	**00 58 25.0**	**-0.9**
UGL	**Uglegorsk**	**7.33**	**302**		A	A	01 00 02.1	
	comp=E,80nm,0.5s							
UGL				*e*P		**Pn**	**00 58 32.7**	**+4.1**
UGL					AMB	AMB	00 58 36.7	
	comp=E,80nm,0.6s							
UGL				*e*S		**Sn**	**00 59 53.5**	**+3.1**
UGL					A	A	01 00 02.1	
	comp=E,90nm,0.5s							
JRBN	**Rebuntou**	**7.36**	**273**	*e*P		**Pn**	**00 58 32.4**	**+3.4**
TYV	**Tymovskoe**	**7.95**	**315**	*e*S		**Sn**	**01 00 09.1**	**+3.4**
TYV					A	A	01 00 10.0	
	comp=E,10.0nm,1.7s							
TYV					A	A	01 00 10.0	
	comp=E,10.0nm,1.7s							
TYV					A	A	01 00 11.6	
	comp=E,5µm,5.0s							
TYV					AMS	AMS	01 00 38.9	
	comp=E,2µm,13.0s							
TYV					AMS	AMS	01 00 38.9	
	comp=E,2µm,13.0s							
TYV					AMS	AMS	01 00 38.9	
	comp=E,3µm,13.0s							
TYV	**Tymovskoe**	**7.95**	**315**	*e*PN		**Pn**	**00 58 40.7**	**+3.6**
TYV					pmax	pmax		
	comp=Z,44nm,0.9s							
TYV					pmax	pmax		
	comp=Z,300nm,3.5s							
TYV	**Tymovskoe**	**7.95**	**315**	*e*P		**Pn**	**00 58 40.7**	**+3.6**
TYV					AMB	AMB	00 58 42.8	
	comp=Z,40nm,0.9s							
TYV					AMB	AMB	00 58 44.8	
	comp=Z,300nm,4.0s							
PEA0B	**Petropavlovsk-**	**8.56**	**26**	*i*	PN	**Pn**	**00 58 44.3**	**-1.2**
PETK	**Petropavlovsk-**	**8.56**	**26**		Pn	**Pn**	**00 58 44.2**	**-1.3**
PETK	**Petropavlovsk-**	**8.56**	**26**		Pn	**Pn**	**00 58 44.3**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=180,slow=12,SNR=21							
	comp=Z,2.8nm,0.6s							
PET	**Petropavlovsk**	**8.80**	**29**	*i*	PN	**Pn**	**00 58 48.0**	**-0.7**
PET					pmax	pmax		
	comp=Z,14nm,1.1s							
PET					MLR	MLR		
	comp=Z,597nm,13.0s							
JANG	**Nango**	**8.98**	**238**	*e*P		**Pn**	**00 58 48.0**	**-3.3**
JANG				*e*S		**Sn**	**01 00 23.0**	**-8.2**
OKH	**Okha**	**9.75**	**328**	*e*S		**Sn**	**01 00 52.7**	**+2.9**
OKH					A	A	01 00 57.6	
	comp=Z,40nm,0.3s							
OKH					A	A	01 00 57.6	
	comp=Z,60nm,0.3s							
OKH	**Okha**	**9.75**	**328**	*e*P		**Pn**	**00 59 06.1**	**+4.4**
OKH					AMB	AMB	00 59 07.7	
	comp=Z,50nm,0.5s							
NKL	**Nikolayevsk**	**10.37**	**321**	*e*P		**Pn**	**00 59 13.2**	**+3.0**
TEY	**Ternei**	**10.53**	**272**	*e*PN		Pn	00 59 17.3	+4.8
GRNR	**Gornyy**	**11.35**	**303**	*i*	PN	Pn	00 59 29.3	+5.6
GRNR					pmax	pmax		
	comp=Z,8.0nm,0.9s							
GRNR					MLR	MLR		
	comp=N,680nm,15.0s							
MJAR	**Matsushiro Arr**	**13.48**	**233**		Pn	**Pn**	**00 59 50.1**	**-2.7**
	comp=N,0.1nm,0.3s,baz=25,slow=14,SNR=7.8							
	comp=N,1.7nm,0.4s							
MJB9	**Matsu-Tunnel**	**13.48**	**233**		Pn	**Pn**	**00 59 55.0**	**+2.1**
MAJO	**Matsushiro**	**13.48**	**233**		Pn	**Pn**	**00 59 55.3**	**+2.4**
MAJO	**Matsushiro**	**13.48**	**233**		PN	**Pn**	**00 59 55.3**	**+2.4**
KLR	**Kul'dur**	**13.88**	**292**	*e*P		**Pn**	**00 59 59.3**	**+1.0**
KLR	**Kul'dur**	**13.88**	**292**	*i*	P	**Pn**	**00 59 54.3**	**-4.0**
KLR					pmax	pmax		
	comp=Z,14nm,1.2s							
KLR					MLR	MLR		
	comp=Z,1µm,16.0s							
KLR	**Kul'dur**	**13.88**	**292**		Pn	**Pn**	**01 00 02.0**	**+3.8**
	comp=Z,0.1nm,0.3s,baz=105,slow=15,SNR=8.7							
KLR					LR	LR	01 06 03.7	
	comp=Z,2µm,18.5s,baz=114,slow=40							
USA0B	**Ussuriysk Arra**	**13.92**	**271**			**Pn**	**00 59 57.2**	**-1.6**
USA0B	**Ussuriysk Arra**	**13.92**	**271**	*i*	P	**Pn**	**00 59 58.1**	**-0.7**
USRK	**Ussuriysk Ar.**	**13.92**	**271**		Pn	**Pn**	**00 59 57.2**	**-1.7**
USRK	**Ussuriysk Ar.**	**13.92**	**271**		P	**Pn**	**01 00 00.0**	**+1.2**
USRK	**Ussuriysk Ar.**	**13.92**	**271**		Pn	**Pn**	**00 59 60.0**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=88,slow=12,SNR=21							
USRK					LR	LR	01 05 48.4	
	comp=Z,1µm,18.7s,baz=64,slow=39							
	comp=Z,24nm,0.9s							
MDJ	**Mudanjiang**	**15.52**	**274**		P	**Pn**	**01 00 20.8**	**+0.6**
MDJ					lAmb	lAmb	01 00 25.8	
	comp=Z,59nm,0.9s							
MDJ	**Mudanjiang**	**15.52**	**274**		P	**Pn**	**01 00 20.8**	**+0.6**
MDJ					S	**Sn**	**01 03 07.1**	**-3.7**
MDJ					pmax	pmax		
	comp=Z,17nm,1.3s							
MDJ					pmax	pmax		
	comp=Z,350nm,3.7s							
MDJ					LR	LR		
	comp=Z,810nm,18.9s							
MDJ					LR	LR		
	comp=Z,1µm,19.2s							
MDJ					LR	LR		
	comp=Z,2µm,18.7s							
HEH	**HeiHe**	**16.81**	**295**	*e*P		**P**	**01 00 39.8**	**+1.4**
HEH					pmax	pmax		
	comp=Z,54nm,0.9s							
HEH					pmax	pmax		
	comp=Z,420nm,5.3s							
HEH					LR	LR		
	comp=Z,650nm,17.6s							
HEH					LR	LR		
	comp=Z,1µm,17.8s							
HEH					LR	LR		
	comp=Z,2µm,17.4s							
BNX	**BinXian**	**16.86**	**279**		P	**Pn**	**01 00 37.9**	**+0.7**
BNX					pmax	pmax		
	comp=Z,9.0nm,1.0s							
BNX					pmax	pmax		
	comp=Z,280nm,9.5s							
SEY	**Seymchan**	**17.42**	**1**	*e*P		**Pn**	**01 00 40.7**	**-3.3**
SEY					pmax	pmax		
	comp=Z,11nm,0.9s							
SEY					MLR	MLR		
	comp=Z,532nm,15.0s							
SEY	**Seymchan**	**17.42**	**1**	P		**Pn**	**01 00 42.6**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=163,slow=6.0,SNR=5.8							
	comp=Z,1.9nm,0.3s							
ZEA	**Zeya**	**17.66**	**306**	*e*P		**Pn**	**01 00 47.3**	**+0.2**
ZEA	**Zeya**	**17.66**	**306**	*e*P		**P**	**01 00 48.7**	**+1.0**
ZEA					pmax	pmax		
	comp=E,20nm,1.1s							
ZEA					pmax	pmax		
	comp=Z,20nm,1.2s							
CN2	**Changchun**	**18.61**	**274**	*e*P		**P**	**01 00 58.1**	**-0.2**
CN2				*e*S		**Sn**	**01 04 20.9**	**-4.7**
CN2					pmax	pmax		
	comp=Z,20nm,0.8s							
CN2					pmax	pmax		
	comp=Z,100nm,4.0s							
CN2					LR	LR		
	comp=Z,700nm,13.0s							
CN2					LR	LR		
	comp=Z,900nm,13.0s							
CN2					LR	LR		
	comp=Z,1µm,16.0s							
AMKA	**Amchitka**	**19.25**	**62**	P		**Pn**	**01 01 09.8**	**+3.4**
KSRS	**Korea Array**	**19.39**	**254**	P		**P**	**01 01 07.1**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=58,slow=11,SNR=16							
	comp=Z,6.9nm,0.7s							
KS19	**Wonju Array Si**	**19.41**	**254**	P		**Pn**	**01 01 09.0**	**+0.5**
KSAR	**Wonju Array Be**	**19.43**	**254**	P		**Pn**	**01 01 08.9**	**+0.2**
KSAR	**Wonju Array Be**	**19.43**	**254**	P		**Pn**	**01 01 08.9**	**+0.2**
JNU	**Nakatsue**	**20.16**	**239**	P		**P**	**01 01 15.8**	**+0.4**
	comp=Z,13nm,0.8s,baz=77,slow=5.2,SNR=4.9							
JNU					LR	LR	01 09 54.8	
	comp=Z,663nm,21.1s,baz=32,slow=39							
	comp=Z,13nm,0.8s							
TJN	**Taejon**	**20.36**	**252**	*i*	P	Pn	01 01 19.5	-0.2
SNY	**Shenyang**	**20.50**	**270**	⇓	P	**P**	**01 01 20.1**	**+1.1**
SNY					S	Sn	01 05 10.0	-1.4
SNY					pmax	pmax		
	comp=Z,55nm,1.2s							
SNY					pmax	pmax		
	comp=Z,260nm,3.5s							
SNY					LR	LR		
	comp=Z,360nm,13.6s							
SNY					LR	LR		
	comp=Z,710nm,17.0s							
SNY					LR	LR		
	comp=Z,1µm,18.2s							
YAK	**Yakutsk**	**20.77**	**330**	P		**P**	**01 01 16.5**	**-5.2**
YAK					lAmb	lAmb	01 01 34.4	
	comp=Z,41nm,0.8s							
YAK	**Yakutsk**	**20.77**	**330**	*e*P		Pn	01 01 24.0	-0.2
YAK	**Yakutsk**	**20.77**	**330**	*e*P		Pn	01 01 24.0	-0.2
YAK				*e*			01 01 43.6	
YAK				*e*S		Sn	01 05 16.0	-1.4
YAK				*e**SS		**SnSn**	**01 05 36.2**	**+4.0**
YAK					pmax	pmax		
	comp=Z,25nm,0.8s							
YAK					pmax	pmax		
	comp=N,6.0nm,1.0s							
YAK					pmax	pmax		
	comp=E,7.0nm,1.1s							
YAK					pmax	pmax		
	comp=Z,492nm,6.5s							
YAK					pmax	pmax		
	comp=N,231nm,5.9s							
YAK					pmax	pmax		
	comp=E,264nm,5.1s							
YAK					smax	smax		
	comp=E,155nm,5.2s							
YAK					smax	smax		
	comp=N,72nm,3.5s							
YAK	**Yakutsk**	**20.77**	**330**	P		Pn	01 01 23.6	-0.6
	comp=N,1.1nm,0.7s,baz=305,slow=1.4,SNR=4.6							
HIA	**Hailar**	**21.74**	**291**	*i*	P	**P**	**01 01 30.5**	**-1.8**
HIA					pmax	pmax		
	comp=Z,8.0nm,1.0s							
XLT	**XiLinHaoTe**	**25.12**	**279**	*e*P		**P**	**01 02 06.4**	**+0.8**
XLT					pmax	pmax		
	comp=Z,44nm,1.0s							
XLT					pmax	pmax		
	comp=Z,240nm,10.9s							
XLT					LR	LR		
	comp=Z,730nm,17.1s							
XLT					LR	LR		
	comp=Z,790nm,16.7s							
BOD	**Bodaibo**	**25.93**	**312**	*e*P		**P**	**01 02 11.6**	**-1.1**
BOD					pmax	pmax		
	comp=Z,10.0nm,2.0s							
BJI	**Beijing**	**26.37**	**271**	P		**P**	**01 02 17.9**	**+1.0**
BJI				S		**S**	**01 06 58.3**	**+11**
BJI					pmax	pmax		
	comp=Z,13nm,1.1s							
BJI					LR	LR		
	comp=Z,190nm,14.7s							
BJI					LR	LR		
	comp=Z,320nm,19.0s							
BJI					LR	LR		
	comp=Z,410nm,16.4s							
TIXI	**Tiksi**	**28.32**	**345**	*ce*P		**P**	**01 02 31.3**	**-2.7**
HNS	**HongShan**	**28.56**	**267**	⇑	P	**P**	**01 02 37.8**	**+1.3**
HNS					sP	**sP**	**01 02 50.6**	**-0.2**
HNS				*e*S		**S**	**01 07 19.4**	**-2.8**
HNS					pmax	pmax		
	comp=Z,15nm,0.8s							
HNS					LR	LR		
	comp=Z,380nm,15.6s							
HNS					LR	LR		
	comp=Z,690nm,16.4s							
HNS					LR	LR		
	comp=Z,470nm,16.7s							
NJ2	**Nanjing**	**28.60**	**253**	*e*P		**P**	**01 02 38.8**	**+1.9**
NJ2					pP	**pP**	**01 02 47.3**	**+1.1**
NJ2					sP	**sP**	**01 02 51.1**	**-0.1**
NJ2					pmax	pmax		
	comp=Z,7.0nm,0.5s							
NJ2					pmax	pmax		
	comp=Z,160nm,3.7s							
H11N2	**WAKE ISLAND Hy**	**28.72**	**149**		T	T	01 33 26.8	
	baz=334,slow=74,SNR=82							
H11N1	**WAKE ISLAND Hy**	**28.73**	**149**		T	T	01 33 32.5	
	baz=334,SNR=84							
H11N3	**WAKE ISLAND Hy**	**28.74**	**149**		T	T	01 33 35.0	
	baz=334,slow=74,SNR=80							
HHC	**Hu-ho-hao-te**	**29.29**	**275**	*e*P		**P**	**01 02 44.8**	**+1.7**
HHC				S		**S**	**01 07 32.9**	**-0.9**
HHC				sS		sS	01 07 47.4	+0.9
HHC					pmax	pmax		
	comp=Z,50nm,0.7s							
HHC					pmax	pmax		
	comp=Z,340nm,4.4s							
HHC					LR	LR		
	comp=Z,950nm,18.3s							
HHC					LR	LR		
	comp=Z,2µm,17.6s							
HHC					LR	LR		
	comp=Z,2µm,17.3s							
H11S1	**WAKE ISLAND Hy**	**29.77**	**150**		T	T	01 34 49.8	
	baz=338,slow=76,SNR=72							
H11S3	**WAKE ISLAND Hy**	**29.78**	**150**		T	T	01 34 59.4	
	baz=338,slow=76,SNR=56							
H11S2	**WAKE ISLAND Hy**	**29.79**	**150**		T	T	01 34 50.0	
	baz=338,slow=76,SNR=68							
ULN	**Ulaanbaatar**	**30.27**	**291**	P		**P**	**01 02 50.9**	**-0.8**
ULN	**Ulaanbaatar**	**30.27**	**291**	*e*P		**P**	**01 02 51.6**	**-0.2**
ULN	**

comp=Z,980nm,18.0s
SONM Songino Array 30.71 291 P P 01 02 54.5 -1.1
SONM Songino Array 30.71 291 P P 01 02 56.2 +0.6
comp=Z,5.6nm,0.8s,baz=76,slow=7.4,SNR=19
SONM LR LR 01 16 29.7
comp=Z,841nm,19.4s,baz=95,slow=39
comp=Z,5.6nm,0.8s
LYN LuoYang 31.57 263 ⇓P P 01 03 04.6 +1.5
LYN pmax pmax
comp=Z,31nm,1.1s
LYN pmax pmax
comp=Z,240nm,3.5s
ZAK Zakamensk 32.20 296 *e*P P 01 03 03.1 -5.6
ZAK pmax pmax
comp=Z,6.0nm,1.1s
XAN Xi'an 34.32 266 ⇓P P 01 03 27.4 +0.1
XAN S S **01 08 50.3 -1.9**
XAN pmax pmax
comp=Z,17nm,1.2s
XAN pmax pmax
comp=Z,440nm,4.5s
XAN LR LR
comp=Z,490nm,13.1s
XAN LR LR
comp=Z,630nm,17.3s
XAN LR LR
comp=Z,1μm,15.9s
XAN Xi'an 34.32 266 P P 01 03 28.2 +1.0
H21K Melozitna Rive 35.72 36 P P 01 03 39.1 +0.1
E22K Anaktuvuk Pass 36.44 32 P P 01 03 45.6 +0.5
E22K IAmb IAmb 01 04 23.0
comp=Z,11nm,1.1s
LZH Lanzhou 36.83 272 ⇑P P 01 03 50.8 +1.9
LZH pP sP 01 04 02.8 -0.6
LZH sS sS 01 09 45.6 +1.7
LZH pmax pmax
comp=Z,97nm,1.1s
LZH LR LR
comp=Z,290nm,15.8s
LZH LR LR
comp=Z,420nm,17.5s
LZH LR LR
comp=Z,540nm,19.6s
BWN Browne 37.04 39 P P 01 03 50.3 +0.1
MDM Murphy Dome 37.59 37 P P 01 03 55.4 +0.5
MDM IAmb IAmb 01 04 09.8
comp=Z,34nm,1.9s
SML Sawmill 37.59 42 P P 01 03 55.0 0.0
SML Sawmill 37.59 42 P P 01 03 55.0 0.0
SML pmax pmax
comp=Z,91nm,1.8s
COLA College 37.75 37 P P 01 03 56.6 +0.4
POKR Poker Plat Res 37.94 37 P P 01 03 58.9 +1.1
POKR IAmb IAmb 01 03 59.7
comp=Z,14nm,1.0s
SCM Sheep Creek Mo 38.07 42 P P 01 03 59.0 0.0
SCM Sheep Creek Mo 38.07 42 P P 01 03 59.0 0.0
SCM pmax pmax
comp=Z,80nm,1.6s
GTA Gaotai 38.07 280 ⇑P P 01 04 01.3 +1.9
GTA pmax pmax
comp=Z,50nm,1.0s
GTA LR LR
comp=Z,310nm,16.4s
GTA LR LR
comp=Z,230nm,17.4s
GTA LR LR
comp=Z,480nm,16.4s
HDA Harding Lake 38.14 38 P P 01 03 59.4 -0.2
IL31 38.17 38 P P 01 03 59.4 -0.2
IL31 IAmb IAmb 01 04 15.9
comp=Z,27nm,1.6s
ILAR Eielson Array 38.17 38 P P 01 03 59.9 +0.2
ILAR Eielson Array 38.17 38 P P 01 03 59.9 +0.2
ILAR Eielson Array 38.17 38 P P 01 03 59.0 -0.7
comp=Z,2.4nm,0.9s,baz=258,slow=7.3,SNR=15
comp=Z,2.4nm,0.9s
M24K Tolsona, Glenn 38.59 42 P P 01 04 04.0 +0.6
KLU Klutina 38.76 43 P P 01 04 05.0 +0.2
KLU IAmb IAmb 01 04 34.4
comp=Z,47nm,1.5s
E25K Arctic Village 38.77 32 P P 01 04 04.8 +0.1
N25K Chitina, Valde 39.38 43 P P 01 04 10.7 +0.7
N25K IAmb IAmb 01 04 36.6
comp=Z,23nm,1.4s
SCRK Sand Creek 39.46 39 P P 01 04 10.2 -0.4
CD2 Chengdu 39.68 265 P P 01 04 13.8 +1.0
CD2 pmax pmax
comp=Z,40nm,0.7s
M26K Nabesna, AK 40.05 41 P P 01 04 15.3 -0.1
K27K Chicken 40.29 39 P P 01 04 17.5 0.0
WAX Waxell Ridge 40.38 44 P P 01 04 19.2 +0.9
D27M Malcolm River 40.48 30 P P 01 04 18.6 -0.4
D27M IAmb IAmb 01 05 01.6
comp=Z,25nm,1.7s
BCAR Beaver Creek A 40.52 40 P P 01 04 20.7 +1.3
EGAK Eagle 40.62 37 P P 01 04 19.6 -0.5
F28M Old Crow 40.93 33 P P 01 04 24.2 +1.5
F28M IAmb IAmb 01 05 14.0
comp=Z,31nm,2.0s
CTGM Chitina Glacie 41.03 43 P P 01 04 24.4 +0.6
CTGM IAmb IAmb 01 04 38.0
comp=Z,28nm,1.4s
I28M Miner Creek 41.07 36 P P 01 04 23.1 -0.8
LOGN Logan Glacier 41.22 43 P P 01 04 25.8 +0.5
LOGN IAmb IAmb 01 05 17.0
comp=Z,67nm,1.8s
TABL Table Mountain 41.22 44 P P 01 04 26.0 +0.7
TABL IAmb IAmb 01 05 56.5
comp=Z,89nm,1.8s
DGZ Jazzator, Alta 42.23 300 *i* P P **01 04 32.8 -0.9**
DGZ pmax pmax
comp=Z,4.0nm,0.9s
ZALV Zalesovo Beam 42.42 306 P P 01 04 35.2 +0.2
comp=Z,1.7nm,0.7s,baz=78,slow=7.7,SNR=6.5
ZALV PcP **PcP 01 06 27.4 -0.1**
comp=Z,3.4nm,0.8s,baz=69,slow=3.9,SNR=6.8
ZALV LR LR 01 23 40.9
comp=Z,1μm,18.3s,baz=73,slow=38
comp=Z,1.7nm,0.7s
M30M Minto, Yukon 42.86 40 P P 01 04 40.6 +2.1
M30M IAmb IAmb 01 04 42.5
comp=Z,30nm,1.9s
HYT Haines Junctio 42.90 43 P P 01 04 40.6 +1.6
HYT IAmb IAmb 01 05 15.3
comp=Z,46nm,1.9s
GOMU GeErMu 43.09 278 P P 01 04 42.5 +1.4
GOMU pmax pmax
comp=Z,43nm,0.9s
GOMU LR LR
comp=Z,440nm,19.5s
GOMU LR LR
comp=Z,490nm,17.0s
GOMU LR LR
comp=Z,670nm,16.2s
INK Inuvik 43.24 32 P P 01 04 42.3 +0.8
INK Inuvik 43.24 32 P P 01 04 42.3 +0.8
INK pmax pmax
comp=Z,9.0nm,1.0s
F31M Tsiigehtchic 43.29 33 P P 01 04 43.0 +1.2
QIZ Qiongzhong 43.36 246 P P 01 04 45.9 +2.9
QIZ S S **01 11 11.6 +3.1**
QIZ LR LR
comp=Z,600nm,19.3s
QIZ LR LR
comp=Z,540nm,21.0s
QIZ LR LR
comp=Z,440nm,22.7s
PZH PanZhiHua 43.75 262 P P 01 04 47.1 +0.9
PZH S S **01 11 14.6 +0.3**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.1s
PZH LR LR
comp=Z,230nm,11.0s
PZH LR LR
comp=Z,190nm,12.0s
PZH LR LR
comp=Z,240nm,15.2s
M31M Drury Creek, Y 44.04 40 P P 01 04 49.4 +1.4
M31M IAmb IAmb 01 05 17.0
comp=Z,38nm,1.9s
WMQ Urumqi 44.34 292 ⇓P P 01 04 52.9 +2.2
WMQ pP pP 01 04 58.8 -2.0
WMQ pmax pmax
comp=Z,21nm,0.9s
WMQ LR LR
comp=Z,530nm,8.7s
WMQ LR LR
comp=Z,200nm,13.5s
WMQ LR LR
comp=Z,350nm,12.1s
FARO Faro, Yukon 44.50 40 P P 01 04 52.3 +0.5
A36M Sachs Harbour 45.41 26 P P 01 05 00.3 +1.6
A36M IAmb IAmb 01 05 36.9
comp=Z,12nm,0.8s
C36M Paulatuk 46.40 29 P P 01 05 07.6 +1.1
C36M IAmb IAmb 01 05 08.0
comp=Z,13nm,0.9s
MK31 Makanchi Array 46.51 298 P P 01 05 08.1 +0.2
MK31 Makanchi Array 46.51 298 *i* P **P 01 05 07.8 0.0**
MKAR Makanchi Array 46.51 298 P P 01 05 08.2 +0.3
comp=Z,4.8nm,0.8s,baz=63,slow=5.6,SNR=20
MKAR PcP **PcP 01 06 41.9 +0.2**
comp=Z,2.5nm,0.8s,baz=51,slow=2.3,SNR=3.6
MKAR LR LR 01 26 09.2
comp=Z,1μm,18.6s,baz=78,slow=38
comp=Z,4.8nm,0.8s
MAKZ Makanchi 46.70 298 P P 01 05 10.1 +0.8
MAKZ IAmb IAmb 01 05 33.6
comp=Z,15nm,1.3s
MAKZ Makanchi 46.70 298 P P 01 05 10.1 +0.8
MAKZ pmax pmax
comp=Z,15nm,1.3s
TNCH TengChong 46.93 263 P P 01 05 12.3 +0.8
TNCH pmax pmax
comp=Z,220nm,3.4s
KURK Kurchatov 47.11 304 P P 01 05 12.4 0.0
KURK IAmb IAmb 01 05 12.8
comp=Z,7.7nm,0.9s
KURK Kurchatov 47.11 304 *e*P **P 01 05 12.5 +0.1**
KURK Kurchatov 47.11 304 *ce*P **P 01 05 12.5 +0.1**
KURK pmax pmax
comp=Z,11nm,1.3s
KURK Kurchatov 47.11 304 P P 01 05 11.9 -0.5
KURBB Kurchatov Arra 47.20 304 P P 01 05 12.4 -0.7
KURBB Kurchatov Arra 47.20 304 P P 01 05 12.9 -0.1
comp=Z,5.8nm,0.7s,baz=70,slow=8.5,SNR=30
KURBB LR LR 01 26 15.1
comp=Z,280nm,18.5s,baz=171,slow=38
comp=Z,5.8nm,0.7s
WRGLY Wrigley 48.54 37 P P 01 05 23.4 +0.1
WRGLY IAmb IAmb 01 05 46.8
comp=Z,18nm,1.1s
CRAI Chiangrai 48.82 256 P P 01 05 26.8 +0.8
BBB Bella Bella 50.72 52 LR LR 01 27 21.2
comp=Z,100nm,19.5s,baz=286,slow=36
BVAR Borovoye Array 50.77 310 P P 01 05 40.5 +0.1
comp=Z,2.4nm,0.6s,baz=48,slow=7.1,SNR=13
BVAR PcP **PcP 01 06 57.5 +0.6**
comp=Z,3.3nm,0.7s,baz=85,slow=3.7,SNR=5.0
BVAR LR LR 01 29 20.8
comp=Z,642nm,19.0s,baz=74,slow=38
comp=Z,2.4nm,0.6s
CHTO Chiang Mai 50.77 256 P P 01 05 41.8 +1.0
CHTO IAmb IAmb 01 05 58.4
comp=Z,7.1nm,0.8s
CHTO Chiang Mai 50.77 256 P P 01 05 41.8 +1.0
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 50.77 256 P P 01 05 41.6 +0.8
BRVK Borovoye 50.81 310 P P 01 05 39.9 -0.8
BRVK IAmb IAmb 01 05 43.3
comp=Z,6.1nm,0.8s
BRVK Borovoye 50.81 310 *e*P **P 01 05 40.2 -0.5**
BRVK Borovoye 50.81 310 *ce*P **P 01 05 40.2 -0.5**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 50.81 310 P P 01 05 40.8 +0.1
CMAR Chiang Mai Arr 51.01 256 P P 01 05 44.1 +1.4
CMAR Chiang Mai Arr 51.01 256 P P 01 05 44.1 +1.4
CMAR Chiang Mai Arr 51.01 256 P P 01 05 43.8 +1.1
comp=Z,3.3nm,0.7s,baz=38,slow=7.4,SNR=14
comp=Z,3.3nm,0.7s
ALE Alert 51.04 5 P P 01 05 41.9 -0.1
WUS Wushi 51.09 293 P P 01 05 44.8 +1.6
SHL Shillong 51.23 268 P P 01 05 44.9 +0.4
SHL Shillong 51.23 268 P P 01 05 44.9 +0.4
SHL pmax pmax
comp=Z,43nm,0.8s
RES Resolute Bay 52.31 18 P P 01 05 51.0 -0.6
RES Resolute Bay 52.31 18 P P 01 05 51.0 -0.6
RES pmax pmax
comp=Z,9.0nm,1.1s
ULHL Ulahol 52.47 295 P P 01 05 55.6 +2.1
SNR=5.2
TKM2 Tokmak 2 52.53 296 P P 01 05 56.0 +2.0
SNR=12
TKM2 Tokmak 2 52.53 296 P P 01 05 55.1 +1.1
YKA Yellowknife Ar 52.54 36 P P 01 05 53.7 +0.3
comp=Z,4.4nm,1.0s,baz=298,slow=7.6,SNR=23
YKA LR LR 01 30 33.6
comp=Z,150nm,20.4s,baz=354,slow=39
comp=Z,4.4nm,1.0s
CHMS Chumysh 53.02 297 P P 01 05 58.8 +1.4
SNR=6.6
KBK Karagaybulak 53.08 296 P P 01 05 58.7 +0.7
SNR=20
KZA Kyzart 53.19 295 P P 01 06 01.0 +1.9
SNR=22
FRU1 Bishkek 53.20 296 P P 01 05 58.4 -0.3
FRU1 IAmb IAmb 01 06 01.3
comp=Z,23nm,0.9s
FRU1 Bishkek 53.20 296 P P 01 05 58.4 -0.3
FRU1 pmax pmax
comp=Z,23nm,0.9s
AAK Ala-Archa 53.37 296 P P 01 06 00.0 -0.1
SNR=19
AAK Ala-Archa 53.37 296 P P 01 06 00.3 +0.2
AAK IAmb IAmb 01 06 02.9
comp=Z,21nm,0.8s
AAK Ala-Archa 53.37 296 *e*P **P 01 06 01.3 +1.2**
AAK Ala-Archa 53.37 296 *ce*P **P 01 06 01.3 +1.2**
AAK pmax pmax
comp=Z,19nm,0.7s
AAK Ala-Archa 53.37 296 LR LR 01 30 21.4
comp=Z,520nm,19.2s,baz=45,slow=38
AAK Ala-Archa 53.37 296 P P 01 06 01.4 +1.2
KBS Kingsbay 53.50 351 *i* P **P 01 05 59.5 -0.8**
KBS Kingsbay 53.50 351 P P 01 06 01.3 +0.9
SPITS Spitsbergen Ar 53.59 350 P P 01 06 01.6 +0.6
comp=Z,20nm,1.1s,baz=59,slow=8.8,SNR=6.4
comp=Z,20nm,1.1s
EKS2 Erkin-Say 53.81 297 P P 01 06 04.7 +1.4
SNR=22
JIRN Jiri 53.94 274 *e*P **P 01 06 06.0 +1.3**
comp=Z,65nm,0.9s
SVE Sverdlovsk 53.95 317 *e*P **P 01 06 04.1 +0.2**
SVE Sverdlovsk 53.95 317 *e*P **P 01 06 04.1 +0.2**
SVE pmax pmax
comp=Z,12nm,0.9s
GUN Gumba 54.00 275 *e*P **P 01 06 06.7 +1.6**
KSH Kashi 54.09 292 P P 01 06 10.4 +5.1
KSH pmax pmax
comp=Z,21nm,1.0s
KSH LR LR
comp=Z,620nm,19.2s
KSH LR LR
comp=Z,300nm,15.1s
KSH LR LR
comp=Z,770nm,22.0s
RAMN Ramite 54.09 273 *e*P **P 01 06 06.6 +1.0**
comp=Z,46nm,0.6s
AML Almayashu 54.14 296 P P 01 06 08.0 +2.0
SNR=9.5
PKI Pulchoki 54.54 275 *e*P **P 01 06 09.9 +0.9**
PKIN Phulchoki 54.55 275 *e*P **P 01 06 10.3 +1.3**
DMN Daman 54.73 275 *e*P **P 01 06 11.7 +1.4**
GKN Gorkha 54.82 276 *e*P **P 01 06 12.4 +1.6**
PMG Port Moresby 54.85 185 LR LR 01 27 42.3
comp=Z,91nm,21.0s,baz=319,slow=34
ARSB Arslanbob 55.03 296 P P 01 06 13.3 +1.1
ARSB IAmb IAmb 01 06 15.6
comp=Z,11nm,0.9s
ARSB Arslanbob 55.03 296 P P 01 06 13.3 +1.1
ARSB pmax pmax
comp=Z,11nm,0.9s
ARU Arti 55.15 317 P P 01 06 11.6 -1.0
ARU IAmb IAmb 01 06 14.5
comp=Z,8.7nm,0.9s
ARU Arti 55.15 317 *e*P **P 01 06 11.7 -0.9**
ARU Arti 55.15 317 *c i*P **P 01 06 11.6 -1.0**
ARU 01 07 09.4
ARU S **S 01 13 51.0 -1.8**
ARU SS **SS 01 17 32.0 -4.3**
ARU pmax pmax
comp=Z,10.0nm,0.9s
ARU Arti 55.15 317 LR LR 01 33 02.9
comp=Z,275nm,18.3s,baz=44,slow=40
ARU Arti 55.15 317 P P 01 06 11.7 -0.9
DANN Dangsing 55.22 277 *e*P **P 01 06 15.3 +1.4**
comp=Z,62nm,0.8s
HNR Honiara 55.26 170 LR LR 01 32 47.3
comp=Z,2μm,18.0s,baz=326,slow=39
KK31 Karatay Array 55.61 299 P P 01 06 16.4 +0.2
KK31 IAmb IAmb 01 06 18.0
comp=Z,19nm,0.8s
KK31 Karatay Array 55.61 299 *i* P **P 01 06 16.7 +0.5**
KKAR Karatay Array 55.61 299 P P 01 06 16.7 +0.5
KKAR IAmb IAmb 01 06 18.0
comp=Z,19nm,0.8s
KKAR Karatay Array 55.61 299 P P 01 06 16.7 +0.5
KKAR pmax pmax
comp=Z,19nm,0.8s
PYUN Piuthan 55.91 277 *e*P **P 01 06 19.9 +1.2**
comp=Z,110nm,0.9s
NEEM North Greenlan 56.46 6 *i* P **P 01 06 21.4 -0.7**
NEEM IAmb IAmb 01 06 24.6
comp=Z,10nm,0.8s
F04D Rainier, OR 56.66 56 P P 01 06 25.2 +1.7
BTK Batken 57.10 296 P P 01 06 27.3 +0.4
BTK Batken 57.10 296 P P 01 06 27.3 +0.4
BTK pmax pmax
comp=Z,39nm,0.9s
PRGR Permogore 57.77 327 *e*P **P 01 06 30.4 -0.7**
PRGR pmax pmax
comp=Z,8.0nm,0.8s
DAG Danmarks Havn 57.79 357 P P 01 06 31.2 +0.1
DAG pmax pmax
comp=Z,15nm,0.9s
DAG Danmarks Havn 57.79 357 *i* P **P 01 06 30.0 -1.1**
DAG IAmb IAmb 01 06 53.9
comp=Z,6.2nm,0.8s
KIRV Kirov 58.06 323 LR LR 01 34 17.2
comp=Z,395nm,18.4s,baz=54,slow=39
KEV Kevo 58.09 340 P P 01 06 33.6 +0.3
AB31 Akbulak array 58.34 310 P P 01 06 35.0 -0.4
ABKAR Akbulak array 58.34 310 P P 01 06 35.0 -0.4
ABKAR Akbulak array 58.34 310 P P 01 06 34.7 -0.7
ABKAR IAmb IAmb 01 06 58.2
comp=Z,7.2nm,0.6s
ARCES ARCESS Array B 58.61 341 P P 01 06 36.9 0.0
ARCES ARCESS Array B 58.61 341 P P 01 06 37.4 +0.4
comp=Z,7.3nm,0.8s,baz=47,slow=6.9,SNR=25
comp=Z,7.3nm,0.8s
AKTO Aktyubinsk 58.70 312 P P 01 06 36.7 -1.1
AKTO Aktyubinsk 58.70 312 LR LR 01 34 34.3
comp=Z,1μm,19.0s,baz=48,slow=39
CHGR Chuyangaron 58.95 295 P P 01 06 40.6 +0.7
CHGR Chuyangaron 58.95 295 P P 01 06 40.6 +0.7
CHGR pmax pmax
comp=Z,134nm,0.9s
NIL Nilore 59.23 288 P P 01 06 42.6 +0.8
NIL Nilore 59.23 288 P P 01 06 42.6 +0.8
NIL pmax pmax
comp=Z,47nm,0.9s
NIL Nilore 59.23 288 P P 01 06 43.7 +1.9
DBG Daneborg 60.30 357 *i* P **P 01 06 47.0 -1.5**
DBG IAmb IAmb 01 06 49.6
comp=Z,3.3nm,1.0s
KLMR Klimovskoe 60.55 329 *e*P **P 01 06 48.2 -2.2**
KLMR AMP 01 06 51.6
comp=Z,14nm,1.5s
KLMR Klimovskoe 60.55 329 *e*P **P 01 06 48.2 -2.2**
KLMR pmax pmax
comp=Z,14nm,1.5s
PLID Pearl Lake 61.26 54 P P 01 06 55.8 0.0
PLID IAmb IAmb 01 07 09.5
comp=Z,6.3nm,0.9s
WVOR Wild Horse Val 61.32 58 P P 01 06 56.0 -0.2
WVOR IAmb IAmb 01 07 30.2
comp=Z,8.2nm,1.1s
WVOR Wild Horse Val 61.32 58 P P 01 06 56.0 -0.2
WVOR pmax pmax
comp=Z,8.0nm,1.2s
KBL Kabul 61.48 291 P P 01 06 57.0 -0.4
KBL Kabul 61.48 291 P P 01 06 57.0 -0.4
KBL pmax pmax
comp=Z,22nm,0.9s
CHMT Chamberlain Mo 61.69 51 P P 01 06 58.0 -0.7
BPMT Black Pine Rid 61.87 51 P P 01 07 00.2 +0.3
SUMG Summit 61.96 3 P P 01 07 00.5 +0.2
SUMG Summit 61.96 3 P P 01 07 00.5 +0.2
SUMG pmax pmax
comp=Z,35nm,0.9s
SUMG Summit 61.96 3 *i* P **P 01 07 00.0 -0.3**
SUMG IAmb IAmb 01 07 04.0
comp=Z,21nm,0.8s
SUMG *e* 01 07 23.5
FFC Flin Flon 62.36 39 P P 01 07 03.0 +0.3
PAHR Pah Rah Range 62.52 60 P P 01 07 04.7 +0.5
PAHR IAmb IAmb 01 07 17.9
comp=Z,5.7nm,1.0s
BELG Belogornoye 62.69 318 *i* P **P 01 07 04.7 -0.2**
BELG pmax pmax
comp=Z,2.0nm,0.9s
YERR Yerington 63.05 61 P P 01 07 09.7 +1.9
YERR IAmb IAmb 01 07 30.7
comp=Z,9.1nm,1.0s
HLID Hailey 63.09 54 P P 01 07 08.6 +0.5
HLID IAmb IAmb 01 07 13.7
comp=Z,11nm,1.7s
KVN Kaiserville 63.71 60 P P 01 07 12.5 +0.3
KVN IAmb IAmb 01 07 26.0
comp=Z,7.6nm,1.0s
KVN Kaiserville 63.71 60 P P 01 07 12.5 +0.3
KVN pmax pmax
comp=Z,8.0nm,1.0s
RYN Ryan 63.71 61 P P 01 07 15.1 +2.9
LHV Little Huntoon 63.96 61 P P 01 07 15.5 +1.9
LHV IAmb IAmb 01 07 28.0
comp=Z,15nm,1.1s
NVAR Mina Array Bea 63.97 61 P P 01 07 13.4 -0.5
comp=Z,1.2nm,0.5s,baz=299,slow=7.5,SNR=11
comp=Z,1.2nm,0.5s
NV11 Mina Array Sit 64.06 61 P P 01 07 16.5 +2.1
SCO Scoresbysund 64.17 358 *i* P **P 01 07 14.3 -0.2**
SCO IAmb IAmb 01 07 18.0
comp=Z,5.2nm,0.9s
ELK Elko 64.37 57 LR LR 01 34 36.4
comp=Z,146nm,19.1s,baz=318,slow=35
FINES FINESS Array B 64.64 334 P P 01 07 17.4 -0.3
FINES FINESS Array B 64.64 334 *ce*P **P 01 07 17.2 -0.5**
FINES pmax pmax
comp=Z,16nm,0.8s
FINES FINESS Array B 64.64 334 P P 01 07 17.7 0.0
comp=Z,16nm,0.8s,baz=36,slow=6.9,SNR=56
FINES LR LR 01 38 14.3
comp=Z,149nm,18.4s,baz=44,slow=38
comp=Z,16nm,0.8s
TPH Tonopah 64.86 61 P P 01 07 20.9 +1.2
TPH Tonopah 64.86 61 P P 01 07 20.9 +1.2
TPH pmax pmax
comp=Z,44nm,1.1s
MZP Montezuma Peak 64.99 61 P P 01 07 23.4 +2.7
MOOW Moose Ponds 65.05 52 P P 01 07 21.3 +0.4
MOOW IAmb IAmb 01 07 34.3
comp=Z,13nm,1.9s
TPAW Teton Pass 65.10 53 P P 01 07 21.5 +0.1
HVU Hansel Valley 65.15 55 P P 01 07 21.7 +0.1
HVU Hansel Valley 65.15 55 P P 01 07 21.7 +0.1
HVU pmax pmax
comp=Z,3.0nm,0.9s
GRAC Grapevine Rang 65.45 62 P P 01 07 26.4 +3.0
GRAC IAmb IAmb 01 07 36.8
comp=Z,9.3nm,1.0s
SPUT South Promonto 65.64 55 P P 01 07 26.9 +2.1
OBN Obninsk 65.66 325 *e*P **P 01 07 24.7 +0.3**
OBN Obninsk 65.66 325 *i* P **P 01 07 24.7 +0.3**
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN MLR MLR
comp=Z,128nm,19.0s
R11B Troy Canyon, C 65.68 60 P P 01 07 26.0 +1.0
Q12A Willow Creek R 65.69 59 P P 01 07 27.2 +2.1

Q12A IAmb IAmb 01 08 04.2
comp=Z,7.0nm,1.0s
HRA Herat 65.96 295 P **P** **01 07 27.6 +0.6**
HRA IAmb IAmb 01 08 03.4
comp=Z,9.4nm,0.8s
HEL Helsinki 65.98 334 P **P** **01 07 28.3 +2.0**
HEL pmax pmax
comp=Z,4.0nm,0.9s
SPR3 Spring Creek 3 66.02 58 P **P** **01 07 28.6 +1.2**
S11A Rachel 66.03 60 P **P** **01 07 30.0 +2.8**
S11A IAmb IAmb 01 07 50.0
comp=Z,17nm,1.1s
WCT Wildcat Mounta 66.03 61 P **P** **01 07 29.9 +2.6**
DUG Dugway, Tooele 66.15 56 P **P** **01 07 29.9 +1.9**
DUG Dugway, Tooele 66.15 56 P **P** **01 07 29.9 +1.9**
DUG pmax pmax
comp=Z,6.0nm,1.0s
TPNV Topopah Spring 66.17 61 P **P** **01 07 28.7 +0.5**
TPNV Topopah Spring 66.17 61 P **P** **01 07 28.7 +0.5**
TPNV pmax pmax
comp=Z,6.0nm,1.1s
VRH Novokhopyorsk 66.21 320 *e*P **P** **01 07 27.8 -0.2**
VRH pmax pmax
comp=Z,6.0nm,0.6s
CCAC Calif City Air 66.22 64 P **P** **01 07 29.0 +0.6**
CCAC IAmb IAmb 01 07 41.1
comp=Z,9.4nm,0.6s
GEYT Alibeck 66.26 300 P **P** **01 07 28.9 +0.3**
GEYT Alibeck 66.26 300 P **P** **01 07 30.3 +1.7**
comp=Z,24nm,0.9s,baz=48,slow=4.4,SNR=45
comp=Z,24nm,0.9s
GYA0 ALIBECK ARRAY 66.26 300 P **P** **01 07 29.5 +0.9**
GYA0 pmax pmax
comp=Z,27nm,1.0s
GYA0B ALIBECK ARRAY 66.26 300 P **P** **01 07 29.5 +0.9**
PD31 Pinedale Array 66.34 53 P **P** **01 07 29.5 +0.2**
PD31 IAmb IAmb 01 08 18.2
comp=Z,13nm,1.6s
PDAR Pinedale Array 66.34 53 P **P** **01 07 29.4 +0.1**
PDAR Pinedale Array 66.34 53 P **P** **01 07 28.7 -0.6**
comp=Z,0.8nm,0.7s,baz=266,slow=0.8,SNR=9.7
comp=Z,0.8nm,0.7s
GWY Greenwater Val 66.40 62 P **P** **01 07 30.5 +0.8**
GWY IAmb IAmb 01 07 55.5
comp=Z,23nm,1.8s
QSM Queen of Sheba 66.41 62 P **P** **01 07 31.3 +1.7**
QSM IAmb IAmb 01 07 42.5
comp=Z,7.3nm,1.1s
SFJD Kangerlussuaq 66.51 9 LR LR 01 40 27.1
comp=Z,298nm,18.1s,baz=3.5,slow=40
FRB Frobisher Bay 66.53 18 LR LR 01 39 53.6
comp=Z,168nm,19.0s,baz=358,slow=39
PRN Pahroc Range 66.61 60 P **P** **01 07 31.9 +0.9**
PRN IAmb IAmb 01 07 45.1
comp=Z,12nm,1.4s
NLU North Lily Min 66.73 56 P **P** **01 07 33.1 +1.2**
VSU Vasula 66.75 332 *e*P **P** **01 07 31.2 -0.2**
WRA Warramunga Arr 67.03 198 P **P** **01 07 31.7 -1.8**
comp=Z,1.7nm,1.0s,baz=16,slow=6.9,SNR=6.4
comp=Z,1.7nm,1.0s
SHPR Sheep Range 67.12 61 P **P** **01 07 36.8 +2.5**
VSR Storozhevoye 67.35 321 *e*P **P** **01 07 35.2 0.0**
VSR pmax pmax
comp=Z,7.0nm,0.6s
CCUT Cedar City 67.53 59 P **P** **01 07 37.7 +0.8**
RDMU Red Mountain 67.78 54 P **P** **01 07 38.8 +0.3**
RDMU IAmb IAmb 01 07 52.3
comp=Z,8.8nm,0.9s
V12A Nelson 67.82 61 P **P** **01 07 40.8 +2.1**
MTPU Mount Pierson 67.92 58 P **P** **01 07 40.7 +1.1**
LCMT Little Creek M 67.96 59 P **P** **01 07 39.9 +0.3**
LCMT IAmb IAmb 01 07 53.5
comp=Z,5.4nm,0.9s
PFO Pinyon Flats O 68.19 64 LR LR 01 33 11.7
comp=Z,120nm,20.8s,baz=292,slow=32
SRU San Rafael Swe 68.19 56 P **P** **01 07 41.4 +0.4**
SRU IAmb IAmb 01 07 54.6
comp=Z,7.2nm,0.9s
SRU San Rafael Swe 68.19 56 P **P** **01 07 41.4 +0.4**
SRU pmax pmax
comp=Z,7.0nm,0.9s
KNB Kanab 68.21 59 P **P** **01 07 42.0 +0.8**
KNB IAmb IAmb 01 07 55.3
comp=Z,6.8nm,0.9s
KNB Kanab 68.21 59 P **P** **01 07 42.0 +0.8**
KNB pmax pmax
comp=Z,7.0nm,0.9s
PMD Palm Desert 68.22 64 P **P** **01 07 43.6 +2.5**
UPP Uppsala 68.38 337 *e*P **P** **01 07 41.4 -0.1**
DZM Mont Dzumac 68.66 165 *e*LR LR 01 29 01.6
comp=Z,253nm,20.7s
DZM Mont Dzumac 68.66 165 LR LR 01 34 59.2
comp=Z,232nm,18.8s,baz=45,slow=34
NC405 NORSAR Array S 68.81 340 P **P** **01 07 44.3 0.0**
HMU Henry Mountain 68.84 57 P **P** **01 07 46.4 +1.2**
HMU IAmb IAmb 01 07 58.7
comp=Z,6.6nm,0.8s
NC204 NORSAR Array S 68.89 341 P **P** **01 07 44.3 -0.6**
U15A North Rim 68.92 59 P **P** **01 07 45.8 +0.1**
NB201 NORSAR Array S 68.97 341 P **P** **01 07 44.8 -0.5**
NB2 NORSAR Subarra 68.99 341 P **P** **01 07 45.4 0.0**
comp=Z,14nm,0.8s,baz=28,slow=6.5
NB2 NORSAR Subarra 68.99 341 P **P** **01 07 44.0 -1.4**
NB2 pmax pmax
comp=Z,2.0nm,0.9s
NOA NORSAR Array B 68.99 341 P **P** **01 07 45.4 0.0**
comp=Z,10nm,0.8s,baz=30,slow=6.3,SNR=33
NOA LR LR 01 40 25.8
comp=Z,160nm,21.2s,baz=65,slow=38
comp=Z,10nm,0.8s
MAK Makhachkala 69.01 310 *e*P **P** **01 07 42.6 -3.2**
MAK *e* 01 10 16.5
MAK *e*PPP PPP 01 11 55.0
MAK *e*S **S** **01 16 41.4 -6.5**
MAK *e*SS **SS** **01 21 08.7 -4.4**
MAK *e*SSS SSS 01 24 25.2
MAK MLR MLR
comp=Z,412nm,16.0s
HFS Hagfors 69.18 339 P **P** **01 07 46.7 +0.2**
comp=Z,20nm,0.7s,baz=45,slow=6.5,SNR=30
HFS LR LR 01 40 52.3
comp=Z,269nm,21.4s,baz=40,slow=38
comp=Z,20nm,0.7s
NC602 NORSAR Array S 69.18 340 P **P** **01 07 46.0 -0.5**
NORES NORESS Array B 69.18 340 P **P** **01 07 46.7 +0.1**
NAO01 NORSAR Array S 69.24 341 P **P** **01 07 46.8 -0.1**
MNK Minsk 69.45 329 *i* P **P** **01 07 47.6 -0.7**
comp=E,4.0nm,1.0s
MNK *i* P **P** **01 07 47.6 -0.7**
comp=N,14nm,1.0s
MNK *i* P **P** **01 07 47.6 -0.7**
comp=Z,31nm,0.8s,baz=39
MNK *i* PP **PP** **01 10 19.0 -2.4**
MNK *i* PPP PPP 01 11 59.3
MNK *i* S **S** **01 16 49.1 -3.7**
MNK *i* SS **SS** **01 21 16.6 -2.8**
MNK *i* SSS SSS 01 24 34.3
MNK *i* LQ LQ 01 33 24.4
MNK *i* LR LR 01 37 52.8
MNK *i* LRM MLR 01 40 34.6
comp=N,563nm,18.8s
MNK *i* LRM MLR 01 40 44.8
comp=E,216nm,17.8s
MNK *i* LRM MLR 01 40 59.0
comp=Z,94nm,13.2s
MNK Minsk 69.45 329 *i* P **P** **01 07 47.6 -0.7**
MNK *i* 01 10 19.0
MNK *i* PPP PPP 01 11 59.3
MNK *i* S **S** **01 16 49.1 -3.7**
MNK *i* SS **SS** **01 21 16.6 -2.8**
MNK pmax pmax
comp=E,4.0nm,1.0s
MNK pmax pmax
comp=Z,31nm,0.8s
MNK pmax pmax
comp=N,14nm,1.0s
MNK MLR MLR
comp=N,563nm,19.0s
MNK MLR MLR
comp=E,216nm,18.0s
MNK MLR MLR
comp=Z,94nm,13.0s
NACGM Naroch 69.53 330 *e*P **P** **01 07 50.0 +1.2**
comp=Z,42nm,0.9s,baz=38
PV19 Morning Glory 69.62 56 P **P** **01 07 51.1 +1.1**
PV19 IAmb IAmb 01 08 03.5
comp=Z,10nm,1.0s
VSVD Vaisvydziai 69.66 332 *e*P **P** **01 07 50.1 +0.6**
PV17 East Wray Mesa 69.66 56 P **P** **01 07 51.3 +1.1**
PV17 IAmb IAmb 01 08 03.7
comp=Z,9.2nm,0.8s
PV16 Nyswonger Mesa 69.66 56 P **P** **01 07 51.6 +1.4**
PV16 IAmb IAmb 01 08 26.9
comp=Z,9.6nm,1.2s
PV11 David Mesa, Pa 69.70 56 P **P** **01 07 53.1 +2.7**
PV11 IAmb IAmb 01 08 04.6
comp=Z,19nm,1.4s
PV07 Paradox Valley 69.73 56 P **P** **01 07 53.1 +2.5**
VIKU Vikbolandet 69.78 337 *e*P **P** **01 07 50.2 -0.1**
GOF Gofitskoye 69.87 314⇑*e*P **P** **01 07 52.3 +1.2**
PABE Paberze 70.03 331 P **P** **01 07 51.4 -0.4**
PABE Paberze 70.03 331 *e*P **P** **01 07 52.7 +0.8**
WUAZ Wupatki 70.08 59 P **P** **01 07 54.6 +1.9**
WUAZ IAmb IAmb 01 08 06.2
comp=Z,11nm,1.4s
Y14A Wickenburg 70.14 62 P **P** **01 07 55.1 +2.1**
SEKA Sheki 70.38 309 P **P** **01 07 55.1 +0.8**
ZKTA Zakatala 70.39 310 P **P** **01 07 55.3 +0.9**
AS31 Alice Springs 70.73 197 P P 01 08 02.2 +5.7
ASAR Alice Springs 70.74 197 P P 01 08 01.9 +5.4
ASAR Alice Springs 70.74 197 P **P** **01 07 55.6 -0.9**
comp=Z,1.0nm,0.8s,baz=13,slow=5.8,SNR=12
comp=Z,1.0nm,0.8s
MNGR Mingechevir, A 70.74 309 P **P** **01 07 56.6 +0.1**
X16A Lo Mia Camp, P 70.78 60 P **P** **01 07 58.2 +1.2**
KIV Kislovodsk 70.83 314⇑P **P** **01 07 58.5 +1.3**
KIV Kislovodsk 70.83 314 P **P** **01 07 57.6 +0.5**
KIV Kislovodsk 70.83 314 *e*P **P** **01 07 58.4 +1.3**
KIV Kislovodsk 70.83 314 *e*P **P** **01 07 58.4 +1.3**
KIV pmax pmax
comp=Z,38nm,1.0s
KIV MLR MLR
comp=Z,258nm,17.0s
KIV Kislovodsk 70.83 314 P **P** **01 07 57.6 +0.5**
KBZ Khabaz 70.89 313 *e*P **P** **01 07 58.8 +1.5**
KBZ Khabaz 70.89 313 *ce*P **P** **01 07 58.8 +1.5**
KBZ pmax pmax
comp=Z,49nm,0.9s
KBZ Khabaz 70.89 313 P **P** **01 07 59.1 +1.8**
comp=Z,38nm,0.9s,baz=57,slow=4.3,SNR=63
KBZ LR LR 01 43 41.7
comp=Z,643nm,18.5s,baz=40,slow=40
ZEI Tsey 71.03 312 *e*P **P** **01 07 58.6 +0.1**
ZEI pmax pmax
comp=Z,19nm,1.0s
LKRN Lenkeran, Azer 71.22 306 P **P** **01 07 59.2 -0.2**
GANJ Ganja 71.25 309 P **P** **01 07 59.7 +0.1**
S22A 4UR Ranch, Cre 71.25 55 P **P** **01 08 02.4 +2.4**
S22A IAmb IAmb 01 08 13.6
comp=Z,11nm,1.4s
ONI Oni 71.41 312 P **P** **01 08 01.0 +0.4**
ONI Oni 71.41 312 P **P** **01 08 01.0 +0.4**
ONI pmax pmax
comp=Z,26nm,0.9s
PALK Pallekele 71.43 261 LR LR 01 41 31.7
comp=Z,78nm,20.2s,baz=154,slow=38
SUW Suwalki 71.51 331 P **P** **01 08 00.3 -0.6**
SUW Suwalki 71.51 331 *e*P **P** **01 08 01.0 +0.2**
SUW Suwalki 71.51 331 P **P** **01 08 00.3 -0.6**
SUW pmax pmax
comp=Z,26nm,1.0s
AKASG Malin Array Be 71.91 326 P **P** **01 08 03.2 -0.2**
AKASG IAmb IAmb 01 08 04.8
comp=Z,9.5nm,1.1s
AKASG Malin Array Be 71.91 326 *ce*P **P** **01 08 03.5 +0.2**
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKASG Malin Array Be 71.91 326 P **P** **01 08 03.6 +0.2**
comp=Z,7.3nm,0.6s,baz=35,slow=5.9,SNR=32
AKASG LR LR 01 42 36.2
comp=Z,254nm,18.5s,baz=31,slow=38
comp=Z,7.3nm,0.6s
AKBB Malin Array Si 71.91 326 P **P** **01 08 03.1 -0.3**
AKBB IAmb IAmb 01 08 04.5
comp=Z,18nm,0.8s
AKBB Malin Array Si 71.91 326 *ce*P **P** **01 08 03.8 +0.4**
AKBB pmax pmax
comp=Z,21nm,0.9s
KIEV Kiev 71.93 326⇑P **P** **01 08 03.6 +0.1**
KIEV Kiev 71.93 326 P **P** **01 08 03.2 -0.2**
KIEV IAmb IAmb 01 08 04.5
comp=Z,16nm,0.8s
KIEV Kiev 71.93 326⇑P **P** **01 08 03.6 +0.1**
KIEV Kiev 71.93 326 P **P** **01 08 03.7 +0.2**
GNI Garni 72.45 310 P **P** **01 08 08.5 +1.5**
GNI Garni 72.45 310 *ce*P **P** **01 08 09.2 +2.2**
GNI pmax pmax
comp=Z,26nm,1.3s
GNI Garni 72.45 310 LR LR 01 43 47.4
comp=Z,269nm,18.6s,baz=31,slow=39
GNI Garni 72.45 310 P **P** **01 08 09.7 +2.7**
SOC Sochi 72.59 315 *e*P **P** **01 08 07.8 +0.2**
SOC *e* 01 10 46.0
SOC *e*PPP PPP 01 12 30.1
SOC *e*S **S** **01 17 28.6 -1.0**
SOC *e*SS **SS** **01 22 04.6 -3.5**
SOC *e*SSS SSS 01 25 25.6
SOC pmax pmax
comp=Z,16nm,0.7s
SOC MLR MLR
comp=Z,247nm,16.0s
NAX Nakhchivan 72.73 309 P **P** **01 08 09.0 +0.4**
KARS Kars 73.00 311 P **P** **01 08 10.9 +0.7**
KARS Kars 73.00 311 P **P** **01 08 10.9 +0.7**
KARS pmax pmax
comp=Z,85nm,1.0s
SIM Simferopol' 74.25 319 *e*P **P** **01 08 18.2 +0.9**
SIM *e*S **S** **01 17 46.8 -1.5**
SIM pmax pmax
comp=Z,42nm,0.9s
SIM smax smax
comp=E,64nm,15.0s
SORM Soroca 74.29 324⇓P **P** **01 08 17.9 +0.5**
SORM Soroca 74.29 324⇓P **P** **01 08 17.9 +0.5**
LVV L'vov 74.62 328 *e*P **P** **01 08 19.9 +0.5**
GURO Guroymak-BITLI 75.06 310 P **P** **01 08 23.6 +1.3**
GURO IAmb IAmb 01 09 00.2
comp=Z,16nm,1.0s
MILM Milestii Mici 75.06 323⇑*i*P **P** **01 08 21.0 -0.9**
comp=Z,4.0nm,0.8s
MILM Milestii Mici 75.06 323 *e*PCP **PcP** **01 08 34.0 -1.5**
MILM *e*L L 01 43 43.0
MILM LRM MLR 01 44 03.0
comp=Z,300nm,18.0s
MILM Milestii Mici 75.06 323⇑P **P** **01 08 21.4 -0.5**
MILM Milestii Mici 75.06 323 *c*/P **P** **01 08 21.0 -0.9**
MILM *e* 01 08 34.0
MILM pmax pmax
comp=Z,4.0nm,0.8s
KWP Kalwaria Pacla 75.27 328 *e*P **P** **01 08 24.3 +1.2**
KWP Kalwaria Pacla 75.27 328 P **P** **01 08 23.3 +0.2**
KWP Kalwaria Pacla 75.27 328 P **P** **01 08 23.3 +0.2**
KWP pmax pmax
comp=Z,63nm,1.0s
BSEG Bad Segeberg 75.52 338 *e*P **P** **01 08 26.1 +1.7**
comp=Z,16nm,1.2s,baz=28,slow=5.7
SIRT Sirnak 75.60 309 P **P** **01 08 26.3 +1.0**
OJC Ojcow 75.82 330 *e*P **P** **01 08 27.2 +1.0**
OJC Ojcow 75.82 330 P **P** **01 08 26.8 +0.5**
OJC IAmb IAmb 01 08 28.3
comp=Z,27nm,1.0s
OJC Ojcow 75.82 330 P **P** **01 08 26.8 +0.5**
OJC pmax pmax
comp=Z,27nm,1.0s
BUR08 Bucovina Ar. S 75.95 326 P **P** **01 08 27.5 +0.4**
BUR08 IAmb IAmb 01 08 29.1
comp=Z,17nm,0.8s
BURAR Bucovina Array 75.96 326⇑P **P** **01 08 28.5 +1.2**
BURAR Bucovina Array 75.96 326 P **P** **01 08 27.8 +0.5**
BURAR IAmb IAmb 01 08 29.5
comp=Z,20nm,0.8s
BURAR Bucovina Array 75.96 326⇑P **P** **01 08 28.5 +1.2**
GORT1 Trebel 76.09 337 *e*P **P** **01 08 29.7 +2.1**
comp=Z,39nm,1.5s,baz=28,slow=5.7
TESR Tescani 76.28 324⇓P **P** **01 08 30.0 +1.1**
NIE Niedzica 76.32 330 *e*P **P** **01 08 30.7 +1.5**
CRVS Cervenica-Dubn 76.33 329 *e*P **P** **01 08 30.6 +1.4**
CRVS Cervenica-Dubn 76.33 329 *e*P **P** **01 08 30.6 +1.4**
CRVS pmax pmax
comp=Z,29nm,1.2s
TLCR 76.43 322⇑P **P** **01 08 31.3 +1.5**
TLCR 76.43 322⇑P **P** **01 08 31.3 +1.5**
PANC Panciu 76.59 324⇓P **P** **01 08 32.8 +2.2**
ARPR Arapgir-MALATY 76.61 313 P **P** **01 08 32.5 +1.3**
FLTG Flechtingen 76.69 336 *e*P **P** **01 08 32.2 +1.1**
comp=Z,25nm,1.2s,baz=28,slow=5.7
KAN05 Bluff City Nor 76.71 50 P **P** **01 08 33.0 +1.5**
OKC Ostrava-Krasne 76.71 331 *e*P **P** **01 08 32.7 +1.4**
OKC Ostrava-Krasne 76.71 331 *e*P **P** **01 08 32.7 +1.4**
ODBI Odobesti 76.71 324⇑P **P** **01 08 34.3 +2.9**
CFR Carcaliu 76.73 323⇑P **P** **01 08 32.9 +1.5**
CFR Carcaliu 76.73 323⇑P **P** **01 08 32.9 +1.5**
ARCR ARCALIA 76.74 326⇓P **P** **01 08 33.6 +2.1**
OSTC Ostas 76.74 333 *e*P **P** **01 08 32.0 +0.5**
OSTC Ostas 76.74 333 *e*P **P** **01 08 32.0 +0.5**
CHVC Chvalec 76.76 333 *e*P **P** **01 08 32.3 +0.7**
CHVC Chvalec 76.76 333 *e*P **P** **01 08 32.3 +0.7**
VRI Vrincioaia 76.77 324⇓P **P** **01 08 34.5 +2.8**
VRI Vrincioaia 76.77 324⇓P **P** **01 08 34.5 +2.8**
UPC Upice 76.84 333 *e*P **P** **01 08 33.1 +1.0**
UPC Upice 76.84 333 *e*P **P** **01 08 33.1 +1.0**
RETH Rethem/Aller, 76.85 337 *e*P **P** **01 08 33.7 +1.8**
comp=Z,25nm,1.3s,baz=28,slow=5.7
NRDL Niedersach Rie 76.86 337 *e*P **P** **01 08 33.7 +1.7**
comp=Z,11nm,1.1s,baz=28,slow=5.7
TPGR Topolog 76.86 322⇓P **P** **01 08 33.6 +1.3**
DPC Dobruska-Polom 76.88 332 *e*P **P** **01 08 33.1 +0.8**
DPC Dobruska-Polom 76.88 332 *e*P **P** **01 08 33.1 +0.8**
TURR Turia 76.91 324⇓P **P** **01 08 34.6 +2.0**
KRLC Kraliky 76.97 332 *e*P **P** **01 08 33.9 +1.1**
KRLC *e*pP **pwP** **01 08 46.3 +0.7**
KRLC Kraliky 76.97 332 *e*P **P** **01 08 33.9 +1.1**
KRLC *e* 01 08 46.3
MORC Moravsky Berou 76.97 331⇓P **P** **01 08 34.3 +1.4**
MORC Moravsky Berou 76.97 331 P **P** **01 08 33.3 +0.5**
MORC IAmb IAmb 01 08 35.1
comp=Z,28nm,1.1s
MORC Moravsky Berou 76.97 331 *e*P **P** **01 08 33.6 +0.8**
MORC Moravsky Berou 76.97 331⇓P **P** **01 08 34.3 +1.4**
OZUR 76.97 325⇓P **P** **01 08 35.0 +2.1**
COVR Voineasa-Covas 77.00 324⇑P **P** **01 08 35.0 +1.9**
KECS Kecovo 77.04 329 *e*P **P** **01 08 35.0 +1.8**
KECS Kecovo 77.04 329 *e*P **P** **01 08 35.0 +1.8**
CLL Collm 77.08 335 P **P** **01 08 33.3 -0.1**
CLL Collm 77.08 335⇑*i*P **P** **01 08 33.5 +0.1**
comp=Z,37nm,1.2s
CLL *i* PcP **pwP** **01 08 46.4 +0.2**
CLL *i* pPcP 01 08 55.4
CLL *ex* x 01 09 07.0
CLL AMS AMS 01 41 00.0
comp=N,100nm,19.0s
CLL AMS AMS 01 41 00.0
comp=E,300nm,19.4s
CLL AMS AMS 01 45 00.0
comp=Z,200nm,22.0s
CLL Collm 77.08 335⇑*i*P **P** **01 08 33.5 +0.1**
CLL pmax pmax
comp=Z,37nm,1.2s
CLL Collm 77.08 335 *e*P **P** **01 08 34.6 +1.2**
comp=Z,37nm,1.2s,baz=28,slow=5.7
BRG Berggiesshubel 77.18 334 P **P** **01 08 35.6 +1.7**
BRG Amp 01 08 38.9
comp=Z,5.8nm,1.1s
BRG Berggiesshubel 77.18 334 *e*P **P** **01 08 35.6 +1.7**
comp=Z,8.5nm,1.2s,baz=28,slow=5.7
EKA Eskdalemuir Ar 77.23 345 P **P** **01 08 34.9 +0.8**
comp=Z,3.9nm,0.8s,baz=21,slow=4.7,SNR=6.6
comp=Z,3.9nm,0.8s
MESR Meseseni 77.23 327⇑P **P** **01 08 36.5 +2.2**
PVCC Panska Ves 77.28 333 *e*P **P** **01 08 35.6 +1.1**
PVCC Panska Ves 77.28 333 *e*P **P** **01 08 35.6 +1.1**
FBE Freiberg 77.32 334 *e*P **P** **01 08 36.3 +1.6**
comp=Z,15nm,1.1s,baz=28,slow=5.7
CJR Cluj-Napoca 77.34 326⇓P **P** **01 08 37.8 +2.8**
CJR Cluj-Napoca 77.34 326⇓P **P** **01 08 37.8 +2.8**
CLZ Clausthal 77.37 336 *e*P **P** **01 08 36.9 +1.9**
comp=Z,28nm,1.2s,baz=28,slow=5.7
MLR Muntele Rosu 77.39 324⇑P **P** **01 08 35.9 +0.5**
MLR Muntele Rosu 77.39 324 P **P** **01 08 35.8 +0.4**
MLR IAmb IAmb 01 08 38.3
comp=Z,14nm,1.0s
MLR Muntele Rosu 77.39 324⇑P **P** **01 08 35.9 +0.5**
ISR Istrita 77.45 324⇓P **P** **01 08 37.5 +1.9**
ISR Istrita 77.45 324⇓P **P** **01 08 37.5 +1.9**
NEUB Neuenburg 77.53 335 *e*P **P** **01 08 37.4 +1.5**
comp=Z,24nm,1.1s,baz=28,slow=5.7
HSKC Hora Svate Kat 77.57 334 *e*P **P** **01 08 36.4 +0.2**
T35A Sooner Cattle 77.58 50 P **P** **01 08 38.0 +1.6**
T35A IAmb IAmb 01 11 07.2
comp=Z,47nm,1.9s
STKA Stephens Creek 77.60 189 LR LR 01 43 00.1
comp=Z,78nm,20.6s,baz=23,slow=36
VYHS Vyhne 77.62 330 *e*P **P** **01 08 37.7 +1.2**
VYHS Vyhne 77.62 330 *e*P **P** **01 08 37.7 +1.2**
VYHS pmax pmax
comp=Z,21nm,1.2s
VRAC Vranov 77.69 332⇓P **P** **01 08 38.4 +1.6**
VRAC Vranov 77.69 332 *e*P **P** **01 08 37.9 +1.1**
VRAC Vranov 77.69 332⇓P **P** **01 08 38.4 +1.6**
VRAC Vranov 77.69 332 LR LR 01 47 36.7
comp=Z,173nm,19.3s,baz=35,slow=39
JAVC Velka Javorina 77.71 331 *e*P **P** **01 08 38.8 +1.8**
PSZ Piszkesteto 77.73 329 P **P** **01 08 37.6 +0.5**
PSZ IAmb IAmb 01 08 52.0
comp=Z,16nm,1.1s
PSZ Piszkesteto 77.73 329 P **P** **01 08 37.6 +0.5**
PSZ pmax pmax
comp=Z,16nm,1.1s
GTTG Gottingen 77.75 337 *e*P **P** **01 08 38.9 +1.8**
comp=Z,29nm,1.2s,baz=28,slow=5.7
GOPC GO Pecny, Ondr 77.75 333 *e*P **P** **01 08 38.3 +1.1**
GOPC GO Pecny, Ondr 77.75 333 *e*P **P** **01 08 38.3 +1.1**
PRU Pruhonice 77.77 333 *e*P **P** **01 08 38.2 +1.0**
PRU *e*pP **pwP** **01 08 50.8 +0.8**
PRU AMS AMS 01 46 30.0
comp=Z,300nm,15.4s
PRU Pruhonice 77.77 333 *e*P **P** **01 08 38.2 +1.0**
PRU *e* 01 08 50.8
PRU MLR MLR
comp=Z,300nm,15.4s
VOIR 77.81 325⇑P **P** **01 08 38.8 +1.2**
VOIR 77.81 325⇑P **P** **01 08 38.8 +1.2**
KRUC Moravsky 77.97 332 *e*P **P** **01 08 39.2 +0.8**
ARR Arges 78.03 325⇑P **P** **01 08 41.4 +2.5**
TANN Tannenbergstha 78.03 335 *e*P **P** **01 08 40.2 +1.4**
comp=Z,23nm,1.7s,baz=28,slow=5.7
WERD Werda 78.05 335 *e*P **P** **01 08 40.3 +1.5**
comp=Z,12nm,1.4s,baz=28,slow=5.7
PLN Plauen 78.06 335 *e*P **P** **01 08 40.6 +1.7**
comp=Z,11nm,1.3s,baz=28,slow=5.7
BNN Bunyan 78.06 314 P **P** **01 08 40.2 +0.9**
MOX Moxa 78.08 335 *e*P **P** **01 08 40.6 +1.6**
comp=Z,19nm,1.4s,baz=28,slow=5.7
MOX *e*L L 01 46 06.3
comp=Z,220nm,20.3s
SMOL Smolenice 78.09 331 *e*P **P** **01 08 41.0 +1.9**
SMOL pmax pmax
comp=Z,12nm,1.4s
GUNZ Gunzen 78.12 335 *e*P **P** **01 08 40.8 +1.6**
comp=Z,11nm,1.3s,baz=28,slow=5.7
WERN Wernitzgruen 78.17 335 *e*P **P** **01 08 41.1 +1.6**
comp=Z,8.3nm,1.0s,baz=28,slow=5.7
NKC Novy Kostel 78.20 335 *e*P **P** **01 08 40.2 +0.5**
NKC Novy Kostel 78.20 335 *e*P **P** **01 08 40.2 +0.5**
MODS Modra-Piesok 78.26 331 *e*P **P** **01 08 41.4 +1.4**
MODS Modra-Piesok 78.26 331 *e*P **P** **01 08 41.4 +1.4**
ZVC Zvikov 78.36 333 *e*P **P** **01 08 41.8 +1.3**
SRO Srobarova 78.38 330 *e*P **P** **01 08 42.5 +1.9**
SRO Srobarova 78.38 330 *e*P **P** **01 08 42.5 +1.9**
SRO pmax pmax
comp=Z,13nm,1.0s
UBBA Unterbreizbach 78.39 336 *e*P **P** **01 08 42.4 +1.9**
comp=Z,16nm,1.3s,baz=28,slow=5.7
ZST Bratislava 78.47 331 *e*P **P** **01 08 43.2 +2.0**
ZST Bratislava 78.47 331 *e*P **P** **01 08 43.2 +2.0**
KASTN Kahler Asten 78.48 337 *e*P **P** **01 08 43.0 +1.8**
comp=Z,23nm,1.3s,baz=28,slow=5.7
BR131 Keskin Array S 78.49 316 P **P** **01 08 41.7 +0.1**
BR131 IAmb IAmb 01 09 18.6
comp=Z,11nm,1.0s
BR131 Keskin Array S 78.49 316 P **P** **01 08 41.7 +0.1**
BR131 pmax pmax
comp=Z,11nm,1.0s

BRTR	**Keskin Array B**	**78.49 316**	P	**P**	**01 08 41.4 -0.2**		
BRTR	**Keskin Array B**	**78.49 316**	P	**P**	**01 08 43.0 +1.3**		
BRTR	**Keskin Array B**	**78.49 316**	P	**P**	**01 08 43.0 +1.3**		
	comp=Z,3.5nm,0.8s,baz=94,slow=4.1,SNR=19						
BRTR			LR	LR	01 49 05.1		
	comp=Z,336nm,18.6s,baz=56,slow=40						
	comp=Z,3.5nm,0.8s						
MANZ	**Manzenberg**	**78.52 335**	*e*P	**P**	**01 08 42.9 +1.5**		
	comp=Z,5.2nm,1.4s,baz=28,slow=5.7						
BUG	**Bochum--Univer**	**78.58 338**	*e*P	**P**	**01 08 43.3 +1.7**		
	comp=Z,22nm,1.2s,baz=28,slow=5.7						
ROTZ	**Rotzenmuhle**	**78.68 334**	*e*P	**P**	**01 08 44.2 +1.9**		
	comp=Z,2.1nm,1.1s,baz=28,slow=5.7						
GZR	**Gura Zlata**	**78.75 326**	⇑P	**P**	**01 08 44.1 +1.3**		
GZR	**Gura Zlata**	**78.75 326**	⇑P	**P**	**01 08 44.2 +1.3**		
R40A	**Maddies Statio**	**78.76 46**	P	**P**	**01 08 45.7 +2.8**		
R40A			IAmb	IAmb	01 08 47.8		
	comp=Z,46nm,2.0s						
ANTO	**Ankara**	**78.79 317**	P	**P**	**01 08 44.2 +1.0**		
ANTO			IAmb	IAmb	01 08 58.3		
	comp=Z,20nm,1.2s						
ANTO	**Ankara**	**78.79 317**	P	**P**	**01 08 44.2 +1.0**		
ANTO			pmax	pmax			
	comp=Z,20nm,1.2s						
KHC	**Kasperske Hory**	**78.82 333**	P	**P**	**01 08 43.3 +0.1**		
KHC			IAmb	IAmb	01 09 19.5		
	comp=Z,24nm,1.3s						
KHC	**Kasperske Hory**	**78.82 333**	*e*P	**P**	**01 08 43.9 +0.8**		
KHC			*e*x	x	01 08 57.3		
KHC	**Kasperske Hory**	**78.82 333**	*ce*P	**P**	**01 08 43.0 -0.1**		
KHC			pmax	pmax			
	comp=Z,47nm,1.7s						
CKRC	**Cesky Krumlov**	**78.86 333**	*e*P	**P**	**01 08 44.3 +1.0**		
CKRC	**Cesky Krumlov**	**78.86 333**	*e*P	**P**	**01 08 44.3 +1.0**		
BZS	**Buzias**	**79.02 327**	⇑P	**P**	**01 08 45.3 +1.1**		
BZS	**Buzias**	**79.02 327**	⇑P	**P**	**01 08 45.3 +1.1**		
WET	**Wettzell**	**79.03 334**	*e*P	**P**	**01 08 46.2 +1.9**		
	comp=Z,32nm,1.5s,baz=28,slow=5.7						
GEC2	**GERESS Array S**	**79.03 333**	P	**P**	**01 08 44.9 +0.5**		
GEC2			IAmb	IAmb	01 09 08.6		
	comp=Z,8.5nm,1.1s						
GERES	**GERESS Array B**	**79.03 333**	P	**P**	**01 08 44.2 -0.2**		
GERES	**GERESS Array B**	**79.03 333**	P	**P**	**01 08 45.2 +0.8**		
	comp=Z,1.5nm,0.6s,baz=35,slow=4.9,SNR=10						
	comp=Z,1.5nm,0.6s						
TXAR	**Lajitas Array**	**79.04 59**	P	**P**	**01 08 47.7 +2.9**		
TXAR	**Lajitas Array**	**79.04 59**	P	**P**	**01 08 44.0 -0.8**		
	comp=Z,0.7nm,0.5s,baz=305,slow=4.6,SNR=9.5						
	comp=Z,0.7nm,0.5s						
GRA1	**Grafenberg Arr**	**79.05 335**	P	**P**	**01 08 45.5 +1.2**		
GRA1			IAmb	IAmb	01 09 09.1		
	comp=Z,16nm,0.8s						
GRF	**Grafenberg Arr**	**79.05 335**	P	**P**	**01 08 45.5 +1.2**		
GRF			pmax	pmax			
	comp=Z,16nm,0.8s						
GRF	**Grafenberg Arr**	**79.05 335**	*e*P	**P**	**01 08 46.3 +2.0**		
	comp=Z,16nm,1.0s,baz=28,slow=5.7						
GRF			*e*L	L	01 49 29.5		
	comp=Z,301nm,19.5s						
GRFO	**Grafenberg**	**79.05 335**	P	**P**	**01 08 45.0 +0.7**		
GRFO			IAmb	IAmb	01 09 09.0		
	comp=Z,15nm,0.8s						
GRFO	**Grafenberg**	**79.05 335**	P	**P**	**01 08 45.0 +0.7**		
GRFO			pmax	pmax			
	comp=Z,15nm,0.8s						
P43A	**Skaggs, Pawnee**	**79.07 43**	P	**P**	**01 08 48.2 +3.6**		
P43A			IAmb	IAmb	01 10 10.9		
	comp=Z,11nm,0.8s						
MDUB	**Mudurnu**	**79.08 318**	P	**P**	**01 08 45.9 +1.1**		
CONA	**Conrad Observa**	**79.12 331**	*i* P	**P**	**01 08 46.7 +1.8**		
	comp=Z,12nm,0.9s						
CONA			*i* sP	**sP**	**01 08 59.6 -0.1**		
	comp=Z,15nm,1.3s						
RONA	**Rosalia, Austr**	**79.18 331**	*e*P	**P**	**01 08 47.0 +1.9**		
	comp=Z,15nm,1.0s						
RONA			*es*P	**sP**	**01 08 60.0 +0.1**		
	comp=Z,17nm,1.3s						
BTNL	**Ternell**	**79.65 338**	*d*P	**P**	**01 08 48.4 +0.8**		
PLVB	**Pleven**	**79.66 324**	⇓P	**P**	**01 08 48.8 +1.0**		
MEM	**Membach**	**79.66 338**	*d*P	**P**	**01 08 50.4 +2.8**		
	comp=Z,13nm,0.9s						
BSTI	**Sart Tilman**	**79.80 339**	*d*P	**P**	**01 08 50.2 +1.8**		
RAR	**Rarotonga**	**79.82 135**	LR	LR	01 39 18.9		
	comp=Z,152nm,20.7s,baz=292,slow=32						
BCLA	**Clavier**	**80.02 339**	*d*P	**P**	**01 08 49.6 0.0**		
BIOA	**Bad Ischl, Aus**	**80.06 333**	*e*P	**P**	**01 08 50.8 +0.9**		
	comp=Z,9.5nm,0.9s						
BIOA			*i* sP	**sP**	**01 09 04.5 -0.3**		
	comp=Z,13nm,1.2s						
FRGS	**Fruska Gora**	**80.09 328**	⇓P	**P**	**01 08 50.9 +0.8**		
BGES	**Gesves**	**80.10 339**	*d*P	**P**	**01 08 50.9 +0.9**		
	comp=Z,7.5nm,0.9s						
BMRD	**Maredsous**	**80.26 339**	*d*P	**P**	**01 08 50.9 +0.1**		
	comp=Z,8.8nm,1.0s						
RCHB	**Rochefort**	**80.28 339**	*d*P	**P**	**01 08 51.8 +0.8**		
WLF	**Walferdange**	**80.49 338**	*d*P	**P**	**01 08 55.1 +3.0**		
SOKA	**Soboth**	**80.49 331**	*e*PcP	**P**	**01 08 54.6 +2.3**		
	comp=Z,11nm,1.0s						
SOKA			*i* sP	**sP**	**01 09 06.5 -0.6**		
	comp=Z,23nm,1.3s						
LESA	**Schwarzleotal**	**80.61 333**	*e*P	**P**	**01 08 54.4 +1.5**		
	comp=Z,17nm,0.9s						
KBA	**Koelnbreinsper**	**80.70 332**	*e*PcP	**P**	**01 08 55.6 +2.1**		
	comp=Z,19nm,1.2s						
OBKA	**Obir**	**80.80 331**	*e*P	**P**	**01 08 55.3 +1.3**		
	comp=Z,6.6nm,0.8s						
DIVS	**Divibare**	**80.92 327**	P	**P**	**01 08 53.8 -0.9**		
DIVS			IAmb	IAmb	01 08 57.5		
	comp=Z,12nm,0.9s						
WATA	**Walderalm**	**81.03 334**	*e*P	**P**	**01 08 56.6 +1.3**		
	comp=Z,14nm,0.9s,SNR=6.6						
WATA			*i* sP	**sP**	**01 09 09.5 -0.5**		
	comp=Z,23nm,1.3s						
WTTA	**Wattenberg**	**81.08 334**	*e*P	**P**	**01 08 57.0 +1.5**		
	comp=Z,24nm,0.9s,SNR=11						
WTTA			*i* sP	**sP**	**01 09 10.1 -0.2**		
	comp=Z,22nm,1.4s						
RDO	**Rodhopi**	**81.10 322**	P	**P**	**01 08 56.2 +0.7**		
RDO			IAmb	IAmb	01 08 58.4		
	comp=Z,14nm,0.8s						
BFO	**Black Forest**	**81.11 336**	P	**P**	**01 08 55.7 +0.2**		
BFO			IAmb	IAmb	01 08 58.3		
	comp=Z,9.1nm,0.9s						
BFO	**Black Forest**	**81.11 336**	P	**P**	**01 08 55.7 +0.2**		
BFO			pmax	pmax			
	comp=Z,9.0nm,0.9s						
RETA	**Reutte**	**81.15 334**	*e*P	**P**	**01 08 57.1 +1.3**		
	comp=Z,7.7nm,1.0s,SNR=4.8						
RETA			*i* sP	**sP**	**01 09 10.1 -0.5**		
	comp=Z,12nm,1.2s						
MOTA	**Moosalm**	**81.17 334**	*e*P	**P**	**01 08 57.3 +1.3**		
	comp=Z,20nm,1.0s,SNR=11						
MOTA			*es*P	**sP**	**01 09 10.3 -0.5**		
	comp=Z,16nm,1.1s						
SQTA	**Sankt Quirin**	**81.25 334**	*e*P	**P**	**01 08 57.9 +1.5**		
	comp=Z,14nm,0.9s						
CDF	**Champ du Feu**	**81.33 337**	*e*P	**P**	**01 08 58.1 +1.3**		
CDF			pmax	pmax			
	comp=Z,12nm,1.0s						
ECH	**Echery**	**81.54 337**	P	**P**	**01 08 57.8 0.0**		
ECH			IAmb	IAmb	01 09 00.1		
	comp=Z,13nm,0.9s						
ECH	**Echery**	**81.54 337**	P	**P**	**01 08 57.8 0.0**		
ECH			pmax	pmax			
	comp=Z,13nm,0.9s						
FETA	**Feichten**	**81.58 334**	*e*P	**P**	**01 08 58.8 +0.7**		
	comp=Z,9.7nm,1.0s						
DAVA	**Damuels**	**81.60 335**	*i* P	**P**	**01 08 59.4 +1.2**		
	comp=Z,22nm,1.0s						
HAU	**Haudompre**	**81.95 337**	*e*P	**P**	**01 09 01.2 +1.2**		
HAU			pmax	pmax			
	comp=Z,16nm,1.2s						
HINF	**Hinteralfeld**	**81.99 337**	*e*P	**P**	**01 09 01.2 +1.0**		
HINF			pmax	pmax			
	comp=Z,41nm,2.0s						
FUORN	**Ofenpass-Fuorn**	**82.08 334**	P	**P**	**01 09 01.1 +0.1**		
FUORN			IAmb	IAmb	01 09 37.5		
	comp=Z,13nm,1.2s						
T47A	**Sharon Grove**	**82.33 44**	P	**P**	**01 09 02.7 +0.6**		
T47A			IAmb	IAmb	01 10 26.5		
	comp=Z,25nm,1.6s						
CSS	**Mathiatis**	**82.34 313**	P	**P**	**01 09 02.2 0.0**		
CSS			IAmb	IAmb	01 09 18.0		
	comp=Z,32nm,1.6s						
PPT	**Papeete**	**82.37 125**	LR	LR	01 39 48.5		
	comp=Z,118nm,21.4s,baz=320,slow=32						
PPT2	**Papeete2**	**82.39 125**	*e*LR	LR	01 35 03.9		
	comp=Z,231nm,22.2s						
PPT2			*e*LR	LR	01 35 09.0		
	comp=Z,226nm,23.8s						
TUE	**Stuetta**	**82.49 335**	P	**P**	**01 09 03.3 +0.2**		
TUE			IAmb	IAmb	01 09 18.3		
	comp=Z,13nm,1.1s						
ELL	**Elmali**	**82.64 316**	P	**P**	**01 09 03.2 -0.7**		
ELL	**Elmali**	**82.64 316**	P	**P**	**01 09 03.2 -0.7**		
ELL			pmax	pmax			
	comp=Z,34nm,0.8s						
MMAI	**Mount Meron Ar**	**82.76 310**	P	**P**	**01 09 06.0 +1.4**		
	comp=Z,23nm,1.0s,baz=36,slow=7.2,SNR=24						
MMAI			LR	LR	01 50 56.3		
	comp=Z,343nm,20.2s,baz=354,slow=39						
	comp=Z,23nm,1.0s						
FNA	**Florina**	**83.16 324**	P	**P**	**01 09 05.8 -0.6**		
FNA			IAmb	IAmb	01 09 08.7		
	comp=Z,7.8nm,0.9s						
FNA	**Florina**	**83.16 324**	P	**P**	**01 09 05.8 -0.6**		
FNA			pmax	pmax			
	comp=Z,8.0nm,0.9s						
SENIN	**Lac Senin/Sane**	**83.19 336**	P	**P**	**01 09 06.1 -0.6**		
LOR	**Lormes**	**83.29 338**	*e*P	**P**	**01 09 08.4 +1.5**		
LOR			pmax	pmax			
	comp=Z,12nm,0.8s						
GRR	**Gorron**	**83.37 342**	*e*P	**P**	**01 09 09.1 +1.8**		
GRR			pmax	pmax			
	comp=Z,111nm,1.8s						
SSF	**Saint Saulge**	**83.58 339**	*e*P	**P**	**01 09 10.0 +1.6**		
SSF			pmax	pmax			
	comp=Z,13nm,0.9s						
AVF	**Avril sur Loir**	**83.87 339**	*e*P	**P**	**01 09 10.8 +1.0**		
AVF			pmax	pmax			
	comp=Z,17nm,1.1s						
SMF	**Signal de Mont**	**83.88 338**	*e*P	**P**	**01 09 10.9 +1.0**		
SMF			pmax	pmax			
	comp=Z,27nm,0.9s						
LPL	**La Plagne**	**84.12 336**	*e*P	**P**	**01 09 12.7 +1.2**		
LPL			pmax	pmax			
	comp=Z,17nm,1.2s						
LPG	**La Plagne**	**84.14 336**	*e*P	**P**	**01 09 12.9 +1.3**		
LPG			pmax	pmax			
	comp=Z,16nm,1.0s						
MURB	**Monte Urbino**	**84.34 331**	P	**P**	**01 09 12.9 +0.5**		
NRCA	**Norcia**	**84.52 331**	P	**P**	**01 09 13.6 +0.2**		
TCF	**Toulx Ste Croi**	**84.62 339**	*e*P	**P**	**01 09 14.9 +1.1**		
TCF			pmax	pmax			
	comp=Z,26nm,1.2s						
MBDF	**Montbardon**	**84.83 336**	*e*P	**P**	**01 09 17.7 +2.7**		
MBDF			pmax	pmax			
	comp=Z,40nm,1.6s						
ORIF	**Oris-en-Rattie**	**84.91 336**	*e*P	**P**	**01 09 17.4 +2.1**		
ORIF			pmax	pmax			
	comp=Z,21nm,1.3s						
SSB	**Saint Sauveur**	**84.95 337**	P	**P**	**01 09 15.4 0.0**		
SSB	**Saint Sauveur**	**84.95 337**	P	**P**	**01 09 15.5 0.0**		
SSB			pmax	pmax			
	comp=Z,54nm,1.6s						
INTR	**Introdacqua**	**84.97 330**	P	**P**	**01 09 14.9 -0.7**		
TKL	**Tuckaleechee C**	**84.99 42**	LR	LR	01 46 29.0		
	comp=Z,129nm,21.9s,baz=5.5,slow=35						
VIVF	**Saint-Julien-l**	**85.31 337**	*e*P	**P**	**01 09 18.6 +1.4**		
VIVF			pmax	pmax			
	comp=Z,158nm,2.4s						
EIL	**Elat**	**85.59 309**	LR	LR	01 54 18.5		
	comp=Z,134nm,18.2s,baz=56,slow=40						
CAF	**Calviac**	**85.93 339**	*e*P	**P**	**01 09 23.1 +2.8**		
CAF			pmax	pmax			
	comp=Z,55nm,1.6s						
URZ	**Urewera**	**86.56 160**	LR	LR	01 42 19.8		
	comp=Z,181nm,20.7s,baz=42,slow=32						
TBI	**Tubuai**	**87.02 128**	*e*LR	LR	01 37 14.4		
	comp=Z,713nm,24.8s						
MTLF	**Montolieu**	**87.37 338**	*e*P	**P**	**01 09 30.2 +2.8**		
MTLF			pmax	pmax			
	comp=Z,137nm,2.1s						
ETSF	**Etsaut**	**88.48 340**	*e*P	**P**	**01 09 36.6 +3.8**		
ETSF			pmax	pmax			
	comp=Z,31nm,1.8s						
KEST	**Kesra**	**92.17 330**	P	**P**	**01 09 50.7 +0.6**		
	comp=Z,8.7nm,0.9s,baz=332,slow=5.2,SNR=5.2						
	comp=Z,8.7nm,0.8s						
H03N2	**Juan Fernandez**	**139.84 91**	T	T	03 52 10.3		
	baz=308,slow=77,SNR=4.3						
H03N3	**Juan Fernandez**	**139.86 91**	T	T	03 52 15.6		
	baz=308,slow=77,SNR=5.9						
H03N1	**Juan Fernandez**	**139.86 91**	T	T	03 52 19.8		
	baz=308,slow=77,SNR=5.7						
ELIB	**Princess Elisa**	**144.25 205**	*d*PKP	**PKPab**	**01 16 12.5 -0.5**		
BDFB	**Brasilia**	**145.95 35**	PKPbc	**PKPdf**	**01 16 19.9 +0.3**		
	comp=Z,1.0nm,0.4s,baz=76,slow=3.9,SNR=4.1						

UPA ***16*** *01:32:12.3±0.6, 9°.21N×84°.84W, h10km±9km, MW3.6*
CATAC ***16*** *01:32:13.0±0.6, 9°.25N×84°.53W, h10km, ML3.1*
UCR ***16*** *01:32:13.8±0.7, 9°.35N×84°.51W, h8km±4km, MW3.9*

ISC 16 01:32:12.5±1.3, 9°.30N±0°.04×84°.56W±0°.03, h6km±11km, n54, σ0°86/65, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JACO	**JACO, Garabito**	**0.38**	**344**	*e*P		**Pb**	**01 32 20.3**	**-1.2**
JACO				*e*S		**Sb**	**01 32 26.8**	**-0.9**
JACO	**JACO, Garabito**	**0.38**	**344**	*i* P		**Pb**	**01 32 20.4**	**-1.2**
JACO				*i* S		**Sb**	**01 32 27.2**	**-0.5**
JACO				IAML			01 32 27.7	
	comp=Z,2μm,1.0s							
LLNJ	**Naranjito**	**0.48**	**69**	*e*P		**Pg**	**01 32 22.2**	**+0.4**
CBL1	**Cabuya**	**0.60**	**299**	*e*P		**Pb**	**01 32 25.5**	**+0.1**
ABE2	**San Pablo**	**0.64**	**51**	*e*P		**Pg**	**01 32 24.7**	**-0.1**
LCR2	**La Lucha 2**	**0.70**	**51**	*i* P		**Pg**	**01 32 25.6**	**-0.4**
LCR2				*i* S		**Sg**	**01 32 35.8**	**+0.7**
LCR2				IAML			01 32 38.9	
	comp=Z,430nm,1.0s							
TCS1	**Tacares**	**0.78**	**19**	*i* P		**Sn**	**01 32 41.0**	**-1.3**
CDM	**Cerro de Muert**	**0.82**	**72**	*i* P		**Pg**	**01 32 27.6**	**-0.8**
CDM				*i* S		**Sb**	**01 32 40.8**	**-0.2**
CDM				IAML			01 32 48.3	
	comp=Z,290nm,1.0s							
OCM	**Ochomogo**	**0.83**	**45**	*i* P		**Pb**	**01 32 28.9**	**-0.7**
OCM				IAML			01 32 47.2	
	comp=Z,320nm,1.0s							
OCHAL	**Ojochal**	**0.92**	**102**	*i* P		**Pn**	**01 32 31.4**	**-0.6**
VPTE	**Poasito**	**0.94**	**22**	*i* P		**Pb**	**01 32 31.8**	**+0.5**
VPTE				IAML			01 32 44.1	
	comp=Z,720nm,1.0s							
CPMI	**Catarata Coope**	**0.99**	**10**	*i* P		**Pn**	**01 32 32.7**	**-0.5**
CPMI				IAML			01 32 48.8	
	comp=Z,360nm,1.0s							
MONTE	**Monteverde**	**1.03**	**346**	*e*P		**Pb**	**01 32 32.6**	**-0.3**
JTS	**Las Juntas de**	**1.06**	**338**	*e*P		**Pg**	**01 32 32.1**	**-0.8**
JTS				*e*S		**Sb**	**01 32 47.2**	**-0.2**
JTS	**Las Juntas de**	**1.06**	**338**	*e*P		**Pg**	**01 32 32.0**	**-0.8**
VERB	**Verbena**	**1.06**	**53**	*e*P		**Pg**	**01 32 32.3**	**-0.7**
SOCE	**Pocosol**	**1.08**	**357**	*e*P		**Pb**	**01 32 33.4**	**-0.2**
SOCE	**Pocosol**	**1.08**	**357**	*i* P		**Pb**	**01 32 33.4**	**-0.2**
SOCE				IAML			01 32 52.7	
	comp=Z,670nm,1.0s							
CASO	**Castillo**	**1.14**	**351**	*e*P		**Pb**	**01 32 34.3**	**-0.4**
FORC	**Fortuna**	**1.17**	**355**	*e*P		**Pb**	**01 32 35.0**	**-0.1**
RIFO	**Rio Frio, Sara**	**1.19**	**32**	*i* P		**Pg**	**01 32 34.9**	**-0.5**
RIFO				IAML			01 33 04.2	
	comp=Z,530nm,1.0s							
TABAC	**Tabacon**	**1.21**	**350**	*e*P		**Pn**	**01 32 36.0**	**-0.1**
ORTG	**Ortega, Santa**	**1.38**	**320**	*i* P		**Pb**	**01 32 39.0**	**+0.2**
ORTG				*i* S		**Sn**	**01 32 59.7**	**+2.6**
ORTG				IAML			01 33 08.2	
	comp=Z,140nm,1.0s							
ACAL	**Aguas Claras**	**1.41**	**341**	*e*P		**Pn**	**01 32 38.5**	**-0.3**
COVE	**Coope Vega, Sa**	**1.42**	**6**	*i* P		**Pg**	**01 32 40.1**	**+0.3**
COVE				IAML			01 33 08.9	
	comp=Z,250nm,1.0s							
POTG	**Potrero Grande**	**1.44**	**100**	*i* P		**Pg**	**01 32 39.6**	**-0.6**
POTG				IAML			01 33 11.9	
	comp=Z,340nm,1.0s							
MOTZ	**Rio Naranjo**	**1.47**	**340**	*e*P		**Pb**	**01 32 39.8**	**-0.5**
PTEN	**Parque Tenorio**	**1.47**	**343**	*e*P		**Pn**	**01 32 39.7**	**0.0**
CUI	**Cuipilapa**	**1.48**	**336**	*e*P		**Pn**	**01 32 39.5**	**-0.3**
TRT2	**Tortugero**	**1.49**	**33**	*i* P		**Pg**	**01 32 40.7**	**-0.4**
TRT2				*i* S		**Sg**	**01 33 03.9**	**+3.5**
TRT2				IAML			01 33 07.2	
	comp=Z,200nm,1.0s							
COLC	**Colonia**	**1.50**	**335**	*e*P		**Pb**	**01 32 40.4**	**-0.4**
EDAD	**Golfito**	**1.52**	**115**	*e*P		**Pb**	**01 32 40.5**	**-0.6**
HORNC	**Hornillas**	**1.53**	**337**	*e*P		**Pb**	**01 32 40.8**	**-0.6**
MESS	**Mesas**	**1.56**	**336**	*e*P		**Pn**	**01 32 40.8**	**-0.1**
CLARA	**Aguas Claras**	**1.60**	**338**	*e*P		**Pn**	**01 32 41.4**	**0.0**
VMAR	**Armenia, Volca**	**1.60**	**340**	*e*P		**Pb**	**01 32 42.3**	**-0.2**
VMAR				*e*P		**Pn**	**01 32 41.6**	**+0.2**
VMAR	**Armenia, Volca**	**1.60**	**340**	*i* P		**Pb**	**01 32 42.4**	**-0.2**
VMAR				IAML			01 33 11.9	
	comp=Z,490nm,1.0s							
CANAL	**Canalete**	**1.60**	**342**	*e*P		**Pb**	**01 32 41.9**	**-0.7**
GP77	**Hacienda Santa**	**1.64**	**333**	*e*P		**Pn**	**01 32 42.2**	**+0.2**
GPS3	**Bodega del ICE**	**1.65**	**331**	*e*P		**Pb**	**01 32 42.9**	**-0.5**
LAPC	**Finca la Perla**	**1.69**	**329**	*e*P		**Pb**	**01 32 43.4**	**-0.8**
BUEV	**Buena Vista**	**1.71**	**331**	*e*P		**Pb**	**01 32 43.5**	**-0.9**
GBS3	**Finca Las Img**	**1.72**	**329**	*e*P		**Pb**	**01 32 44.0**	**-0.6**
GB1A	**Borinquen Arri**	**1.72**	**331**	*e*P		**Pb**	**01 32 43.7**	**-0.9**
HZTE	**Horizontes, Gu**	**1.74**	**324**	*e*P		**Pg**	**01 32 45.5**	**-0.3**
HZTE	**Horizontes, Gu**	**1.74**	**324**	*i* P		**Pg**	**01 32 45.6**	**-0.3**
BUAI	**Buenos Aires**	**1.74**	**334**	*e*P		**Pb**	**01 32 44.9**	**-0.1**
CDITO	**Canoas**	**1.81**	**113**	*e*P		**Pb**	**01 32 46.0**	**-0.1**
CDITO				*e*S		**Sg**	**01 33 12.0**	**+1.1**
CTCR	**Cotoan**	**1.82**	**103**	*i* P		Pg	01 32 54.0	+6.5
BRU2	**Volcan**	**1.91**	**105**	*e*P		**Pg**	**01 32 48.4**	**-0.8**
BRU2				*e*S		**Sg**	**01 33 14.8**	**+0.9**
PTPM	**Petroterminale**	**1.98**	**123**	*e*P		**Pn**	**01 32 47.3**	**+0.7**
PTPM				*e*S		**Sg**	**01 33 15.2**	**-1.1**
CNI2	**El Empalme, Bo**	**2.06**	**86**	*e*S		**Sg**	**01 33 17.7**	**-1.1**
BCO2	**Palmira**	**2.08**	**106**	*e*P		**Pb**	**01 32 50.6**	**-0.2**
BCO2				*e*S		**Sg**	**01 33 20.5**	**+0.9**
GMAL	**Guarumal, Vera**	**3.62**	**115**	*e*P		**Pn**	**01 33 11.0**	**+1.7**

DNK ***16*** *01:33:08.7±3.5, 71°.18N×9°.09W, h1km±60km, ML1.4*
BER ***16*** *01:33:09.7±2.6, 71°.21N×8°.91W, h0km±38km, mb(Pn)3.9, ML2.6, ML1.4(DNK), Confirmed Earthquake*

ISC 16 01:33:07.4±1.0, 71°.30N±0°.05×8°.59W±0°.09, h10km, n14, σ1°76/24, 4D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JMIC	**Jan Mayen**	**0.31**	**175**	⇓*i* P		**Pg**	**01 33 13.5**	**0.0**
JMIC				*e*S		**Sg**	**01 33 17.4**	**-0.3**
JMIC				IAML			01 33 20.9	
	comp=Z,1μm,0.4s							
JMIC	**Jan Mayen**	**0.31**	**175**	⇓*i* P		**Pg**	**01 33 13.5**	**0.0**
JMIC				*i* S		**Sg**	**01 33 17.0**	**-0.7**
JNE	**Jan Mayen East**	**0.32**	**163**	⇓*i* P		**Pg**	**01 33 13.2**	**-0.6**
JNE				*e*S		**Sg**	**01 33 16.1**	**-1.9**
JNE				IAML			01 33 19.7	
	comp=Z,648nm,0.3s							
JMI	**Jan Mayen**	**0.37**	**187**	⇓*i* P		**Pg**	**01 33 15.1**	**+0.5**
JMI				*e*S		**Sg**	**01 33 20.0**	**+0.4**
JMI				IAML			01 33 24.4	
	comp=Z,726nm,0.4s							
DBG	**Daneborg**	**4.58**	**317**	*e*P		**Pn**	**01 34 18.5**	**+1.9**
DBG				*e*S		**Sn**	**01 35 08.6**	**-1.2**
DBG	**Daneborg**	**4.58**	**317**	*i* P		**Pn**	**01 34 18.3**	**+1.7**
DBG				*i* S		**Sn**	**01 35 09.2**	**-0.6**
DBG				IAML			01 35 11.6	
	comp=Z,1.1nm,0.4s							
DAG	**Danmarks Havn**	**6.15**	**338**	*e*P		**Pn**	**01 34 40.2**	**+2.1**
DAG				*e*S		**Sn**	**01 35 44.9**	**-3.5**
DAG	**Danmarks Havn**	**6.15**	**338**	*e*		**Pn**	**01 34 36.8**	**-1.3**
	baz=145,slow=18							
DAG				*i* P		**Pn**	**01 34 39.0**	**+0.9**
DAG				*i* P		**Pn**	**01 34 40.1**	**+2.0**
DAG				*i* S		**Sn**	**01 35 45.4**	**-2.9**
DAG				IAML			01 35 52.3	
	comp=Z,1.1nm,0.3s							
HSPB	**Hornsund (broa**	**8.66**	**38**	*e*P		**Pn**	**01 35 13.1**	**+0.7**
BRBB	**Barentsburg B**	**9.01**	**31**	*e*P		**Pn**	**01 35 19.9**	**+2.7**
KBS	**Kingsbay**	**9.22**	**25**	*e*P		**Pn**	**01 35 21.6**	**+1.5**
KBS				*e*S		Sn	01 37 00.1	-3.6
KBS				IAML			01 37 14.9	
	comp=Z,2.3nm,0.8s							
KBS	**Kingsbay**	**9.22**	**25**	*i* P		**Pn**	**01 35 20.5**	**+0.4**
SPA0	**Spitsbergen Ar**	**9.43**	**32**	*e*P		**Pn**	**01 35 24.9**	**+2.0**
NOR	**Nord**	**10.52**	**353**	*e*P		**Pn**	**01 35 40.2**	**+2.4**

IDC ***16*** *01:41:43.9±0.7, 45°.44N×151°.79E, h0km, mb4.1/23, mbtmp4.1/29, ML3.6/6, MS3.6/9, Error ellipse: s-maj=19.8km s-min=14.0km az=153.0*
SKHL ***16*** *01:41:43.1±0.3, 45°.10N×152°.40E, h35km±2km, mb4.9/9*
NEIC ***16*** *01:41:46.2±1.0

SKR A A 01 44 18.9
comp=E,400nm,3.0s
SKR A A 01 44 22.2
comp=E,20nm,0.2s
SKR A A 01 44 22.2
comp=E,10.0nm,0.2s
SKR AMS AMS 01 45 49.5
comp=E,1μm,12.0s
SKR AMS AMS 01 45 49.5
comp=E,1μm,12.0s
SKR AMS AMS 01 45 49.5
comp=E,900nm,12.0s
SKR Severo-Kuril's 6.06 26 *e*PN **Pn 01 43 16.2 +1.2**
JAR Ashorobuto 6.16 254 *e*P **Pn 01 43 17.6 +1.2**
YSS Yuzh-Sakhalins 6.54 288 Pn **Pn 01 43 18.5 -3.1**
YSS Yuzh-Sakhalins 6.54 288 *e*P **Pn 01 43 24.6 +3.0**
YSS AMB AMB 01 43 32.0
comp=E,20nm,0.4s
YSS *e*S **Sn 01 44 40.2 +4.7**
YSS A A 01 44 48.5
comp=E,30nm,0.6s
YSS A A 01 44 48.5
comp=E,30nm,0.6s
YSS AMS AMS 01 45 55.4
comp=E,500nm,16.0s
YSS AMS AMS 01 45 55.4
comp=E,900nm,16.0s
YSS Yuzh-Sakhalins 6.54 288 *e*PN **Pn 01 43 23.8 +2.2**
YSS *e*S **Sn 01 44 37.0 +1.5**
YSS pmax pmax
comp=Z,50nm,1.4s
YSS MLR MLR
comp=E,500nm,16.0s
YSS MLR MLR
comp=Z,900nm,16.0s
JKK2 Kamakawa 2 6.68 261 *e*P **Pn 01 43 25.5 +1.9**
JCH Churui 6.72 249 *e*P **Pn 01 43 24.6 +0.6**
JKA Kamikawa-asahi 6.72 263 Pn **Pn 01 43 24.2 +0.1**
JKA Kamikawa-asahi 6.72 263 *e*P **Pn 01 43 25.2 +1.1**
ASAJ Asahikawa 6.72 263 Pn **Pn 01 43 25.2 +1.1**
comp=Z,3.9nm,0.3s,baz=48,slow=12,SNR=11
ASAJ LR LR 01 46 14.6
comp=Z,482nm,18.8s,baz=114,slow=41
comp=Z,10nm,0.4s
PAU Pauzhetka 6.96 26 *e*P **Pn 01 43 25.8 -1.6**
PAU AMB AMB 01 43 30.1
comp=Z,10.0nm,0.2s
PAU *e*S **Sn 01 44 42.4 -3.3**
PAU A A 01 44 54.7
comp=Z,50nm,0.4s
PAU A A 01 44 54.7
comp=Z,50nm,0.4s
ERM Erimo 7.14 245 Pn **Pn 01 43 29.8 -0.1**
ERM Erimo 7.14 245 *i* PN **Pn 01 43 31.8 +2.0**
UGL Uglegorsk 7.66 303 *e*P **Pn 01 43 40.1 +3.2**
UGL AMB AMB 01 43 43.2
comp=Z,50nm,0.5s
UGL *e*S **Sn 01 45 05.9 +3.0**
UGL A A 01 45 21.0
comp=Z,170nm,0.6s
UGL A A 01 45 21.0
comp=Z,130nm,0.6s
TYV Tymovskoe 8.28 315 *e*P **Pn 01 43 47.9 +2.4**
TYV AMB AMB 01 43 49.1
comp=Z,20nm,0.7s
TYV AMB AMB 01 43 51.5
comp=Z,100nm,3.0s
TYV A A 01 45 19.9
comp=Z,80nm,0.8s
TYV A A 01 45 19.9
comp=Z,110nm,0.8s
TYV *e*S **Sn 01 45 20.2 +1.9**
TYV A A 01 45 22.9
comp=Z,100nm,2.0s
TYV A A 01 45 22.9
comp=Z,100nm,2.0s
TYV A A 01 45 25.0
comp=Z,10.0nm,0.6s
TYV A A 01 45 25.0
comp=Z,10.0nm,0.6s
TYV Tymovskoe 8.28 315 *e*PN **Pn 01 43 47.0 +1.5**
TYV pmax pmax
comp=Z,19nm,0.8s
TYV pmax pmax
comp=Z,100nm,2.7s
PEA0B Petropavlovsk- 8.66 24 Pn **Pn 01 43 50.4 -0.3**
PEA0B Petropavlovsk- 8.66 24 PN **Pn 01 43 50.4 -0.3**
PETK Petropavlovsk- 8.66 24 Pn **Pn 01 43 50.6 -0.1**
PETK Petropavlovsk- 8.66 24 Pn **Pn 01 43 50.8 +0.1**
comp=Z,0.4nm,0.3s,baz=176,slow=13,SNR=5.1
comp=Z,2.1nm,0.5s
JANG Nango 9.08 241 *e*P **Pn 01 43 54.3 -2.2**
JTM Tennmabayashi 9.12 244 Pn **Pn 01 43 55.9 -1.2**
MJAR Matsushiro Arr 13.54 234 Pn **Pn 01 44 56.4 -1.1**
baz=21,slow=14,SNR=4.6
comp=Z,0.9nm,0.3s
MJB9 Matsu-Tunnel 13.54 234 **Pn 01 44 54.9 -2.7**
MAJO Matsushiro 13.54 234 Pn **Pn 01 44 56.5 -1.1**
MAJO Matsushiro 13.54 234 P **Pn 01 44 56.5 -1.1**
USA0B Ussuriysk Arra 14.18 272 **Pn 01 45 04.2 -2.0**
USA0B Ussuriysk Arra 14.18 272 *i* P **Pn 01 45 06.5 +0.4**
USRK Ussuriysk Ar. 14.18 272 **Pn 01 45 04.7 -1.4**
USRK Ussuriysk Ar. 14.18 272 Pn **Pn 01 45 05.4 -0.7**
comp=Z,0.5nm,0.3s,baz=81,slow=12,SNR=8.4
USRK LR LR 01 50 53.3
comp=Z,262nm,19.1s,baz=74,slow=39
comp=Z,10.0nm,0.9s
KLR Kul'dur 14.20 293 *e*P **Pn 01 45 06.3 -0.1**
KLR Kul'dur 14.20 293 *i* P **Pn 01 45 06.3 -0.1**
KLR pmax pmax
comp=Z,9.0nm,1.4s
KLR MLR MLR
comp=Z,304nm,15.0s
KLR Kul'dur 14.20 293 Pn **Pn 01 45 08.6 +2.1**
comp=Z,0.2nm,0.3s,baz=94,slow=16,SNR=4.7
KLR LR LR 01 50 59.2
comp=Z,293nm,18.2s,baz=138,slow=39
MA2 Magadan 14.28 358 LR LR 01 50 38.8
comp=Z,126nm,18.9s,baz=242,slow=38
MDJ Mudanjiang 15.78 275 P **P 01 45 30.3 -1.0**
MDJ pmax pmax
comp=Z,28nm,0.9s
MDJ pmax pmax
comp=Z,200nm,3.6s
HEH HeiHe 17.12 295 *e*P **Pn 01 45 44.6 0.0**
HEH pmax pmax
comp=Z,20nm,0.9s
HEH pmax pmax
comp=Z,130nm,4.1s
HEH LR LR
comp=N,180nm,11.7s
HEH LR LR
comp=E,360nm,11.7s
HEH LR LR
comp=Z,530nm,14.3s
SEY Seymchan 17.64 1 *i* P **Pn 01 45 51.2 +0.4**
SEY pmax pmax
comp=Z,3.0nm,1.1s
SEY Seymchan 17.64 1 P **Pn 01 45 49.8 -1.1**
comp=Z,0.2nm,0.3s,baz=165,slow=9.2,SNR=4.2
comp=Z,0.8nm,0.4s
ZEA Zeya 17.99 307 *e*P **Pn 01 45 55.2 0.0**
ZEA Zeya 17.99 307 *e*P **Pn 01 45 54.7 -0.5**
ZEA pmax pmax
comp=Z,10.0nm,0.5s
CN2 Changchun 18.87 275 *e*P **P 01 46 03.8 -1.6**
CN2 *e*S **Sn 01 49 30.0 -6.4**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,300nm,10.0s
CN2 LR LR
comp=E,400nm,10.0s
CN2 LR LR
comp=Z,400nm,14.0s
KSRS Korea Array 19.57 255 P **P 01 46 13.4 +0.4**
comp=Z,0.2nm,0.3s,baz=59,slow=11,SNR=7.5
KSRS LR LR 01 54 42.3
comp=Z,91nm,18.4s,baz=145,slow=40
comp=Z,3.1nm,0.7s
SNY Shenyang 20.75 270 ⇓P **P 01 46 23.4 -2.5**
SNY S **S 01 50 09.0 -7.3**
SNY pmax pmax
comp=Z,18nm,2.3s
SNY pmax pmax
comp=Z,280nm,3.6s
SNY LR LR
comp=N,210nm,3.1s
SNY LR LR
comp=E,280nm,3.4s
SNY LR LR
comp=Z,220nm,4.1s
YAK Yakutsk 21.09 330 *e*P **P 01 46 29.9 +0.6**
YAK Yakutsk 21.09 330 *e*P **P 01 46 32.8 +3.5**
YAK *e* 01 46 51.2
YAK *e*S **S 01 50 24.5 +1.8**
YAK *e**SS **SnSn 01 50 49.6 +5.2**
YAK pmax pmax
comp=Z,19nm,1.3s
YAK pmax pmax
comp=N,10.0nm,1.7s
YAK pmax pmax
comp=E,8.0nm,1.5s
YAK pmax pmax
comp=Z,130nm,4.4s
YAK pmax pmax
comp=N,123nm,4.9s
YAK pmax pmax
comp=E,103nm,4.4s
YAK smax smax
comp=E,209nm,6.3s
YAK smax smax
comp=N,173nm,4.7s
BJI Beijing 26.62 271 P **P 01 47 25.9 +2.4**
BJI pmax pmax
comp=Z,6.0nm,0.9s
BJI pmax pmax
comp=Z,73nm,4.0s
BJI LR LR
comp=N,110nm,15.6s
BJI LR LR
comp=E,100nm,17.0s
BJI LR LR
comp=Z,95nm,15.0s
NJ2 Nanjing 28.77 254 *e*P **P 01 47 42.8 0.0**
NJ2 pP **pP 01 47 46.3 -1.7**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,180nm,3.6s
HNS HongShan 28.80 267 ⇑P **P 01 47 43.4 +0.4**
HNS pmax pmax
comp=Z,8.0nm,0.8s
H11S1 WAKE ISLAND Hy 29.46 150 T T 02 20 14.4
baz=339,slow=76,SNR=115
H11S3 WAKE ISLAND Hy 29.47 150 T T 02 19 48.7
baz=339,slow=76,SNR=72
H11S2 WAKE ISLAND Hy 29.48 150 T T 02 19 43.0
baz=339,slow=76,SNR=86
HHC Hu-ho-hao-te 29.55 276 *e*P **P 01 47 50.4 +0.5**
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,160nm,5.0s
HHC LR LR
comp=N,330nm,14.5s
HHC LR LR
comp=E,460nm,15.3s
HHC LR LR
comp=Z,560nm,14.5s
ULN Ulaanbaatar 30.58 291 *e*P **P 01 47 59.4 +0.5**
ULN Ulaanbaatar 30.58 291 *ce*P **P 01 47 59.4 +0.5**
ULN pmax pmax
comp=Z,3.0nm,1.0s
BTO Baotou 30.73 276 *e*P **P 01 48 01.9 +1.6**
BTO pP **pP 01 48 06.3 +0.6**
BTO sP **sP 01 48 08.3 +0.5**
BTO PP **PP 01 49 10.1 +0.5**
BTO S **S 01 53 06.4 +4.5**
BTO SS **SnSn 01 54 46.3 +5.8**
BTO pmax pmax
comp=Z,9.0nm,0.6s
BTO pmax pmax
comp=Z,270nm,4.6s
BTO LR LR
comp=N,480nm,10.5s
BTO LR LR
comp=E,320nm,8.6s
BTO LR LR
comp=Z,370nm,17.3s
SONM Songino Array 31.02 291 P **P 01 48 02.5 -0.2**
SONM Songino Array 31.02 291 P **P 01 48 02.8 +0.1**
comp=Z,2.1nm,0.8s,baz=82,slow=8.1,SNR=12
comp=Z,2.1nm,0.8s
H19K Roundabout Mou 34.25 36 P **P 01 48 30.7 +0.1**
B20K Meade River 35.08 28 P **P 01 48 38.1 +0.4**
B20K IAmb IAmb 01 49 04.3
comp=Z,28nm,1.6s
IMAR Indian Mountai 35.42 35 P **P 01 48 41.1 +0.4**
B21K Ikpikpuk River 35.82 29 P **P 01 48 44.8 +0.7**
B21K IAmb IAmb 01 49 08.5
comp=Z,19nm,1.4s
LZH Lanzhou 37.08 273 *e*P **P 01 48 56.6 +1.1**
LZH sP pwP 01 49 07.5 +0.4
LZH pmax pmax
comp=Z,27nm,1.0s
SML Sawmill 37.59 42 P **P 01 48 59.7 +0.3**
SML Sawmill 37.59 42 P **P 01 48 59.7 +0.3**
SML pmax pmax
comp=Z,78nm,1.7s
SCM Sheep Creek Mo 38.07 42 P **P 01 49 04.0 +0.6**
SCM Sheep Creek Mo 38.07 42 P **P 01 49 04.0 +0.6**
SCM pmax pmax
comp=Z,83nm,1.6s
ILAR Eielson Array 38.20 37 P **P 01 49 04.7 +0.3**
comp=Z,0.7nm,1.0s,baz=256,slow=7.2,SNR=2.9
comp=Z,0.7nm,1.0s
GTA Gaotai 38.35 280 ⇑P **P 01 49 06.8 +0.6**
GTA pP pP 01 49 13.3 +1.6
GTA sP pwP 01 49 17.6 -0.2
GTA pmax pmax
comp=Z,19nm,1.0s
GTA LR LR
comp=N,140nm,16.4s
GTA LR LR
comp=E,150nm,16.4s
GTA LR LR
comp=Z,150nm,16.4s
BMAR Burnt Mountain 39.18 33 P **P 01 49 13.3 +0.7**
L27K Beaver Creek, 40.52 40 P **P 01 49 25.4 +1.6**
BCAR Beaver Creek A 40.54 40 P **P 01 49 25.4 +1.5**
L29M L29M 42.18 40 P **P 01 49 38.4 +1.0**
L29M IAmb IAmb 01 50 00.8
comp=Z,19nm,1.8s
DGZ Jazzator, Alta 42.55 300 *i* P **P 01 49 40.0 -0.8**
DGZ pmax pmax
comp=Z,2.0nm,0.9s
ZALV Zalesovo Beam 42.75 307 P **P 01 49 42.2 0.0**
comp=Z,0.6nm,0.5s,baz=76,slow=6.1,SNR=2.9
ZALV PcP **PcP 01 51 33.2 0.0**
comp=Z,1.3nm,0.8s,baz=79,slow=3.2,SNR=5.3
ZALV LR LR 02 08 28.8
comp=Z,130nm,18.6s,baz=70,slow=38
comp=Z,0.6nm,0.5s
HYT Haines Junctio 42.89 43 P **P 01 49 45.0 +1.6**
HYT IAmb IAmb 01 50 06.3
comp=Z,16nm,1.6s
INK Inuvik 43.31 32 P **P 01 49 47.0 +0.6**
INK Inuvik 43.31 32 P **P 01 49 47.0 +0.6**
INK pmax pmax
comp=Z,6.0nm,1.1s
GOMU GeErMu 43.36 279 P **P 01 49 48.4 +0.6**
GOMU pmax pmax
comp=Z,13nm,0.8s
GOMU LR LR
comp=N,140nm,17.3s
GOMU LR LR
comp=E,160nm,15.5s
GOMU LR LR
comp=Z,230nm,14.8s
PZH PanZhiHua 43.96 262 P **P 01 49 53.4 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,4.1s
M31M Drury Creek, Y 44.05 40 P **P 01 49 53.1 +0.6**
WMQ Urumqi 44.65 292 *e*P **P 01 49 59.1 +1.5**
A36M Sachs Harbour 45.50 26 P **P 01 50 04.6 +0.7**
A36M IAmb IAmb 01 50 09.9
comp=Z,5.0nm,0.8s
MK31 Makanchi Array 46.84 298 P **P 01 50 13.7 -1.1**
MK31 IAmb IAmb 01 50 21.2
comp=Z,8.4nm,1.1s
MK31 Makanchi Array 46.84 298 P **P 01 50 13.7 -1.1**
MK31 pmax pmax
comp=Z,8.0nm,1.2s
MKAR Makanchi Array 46.84 298 P **P 01 50 14.1 -0.7**
MKAR Makanchi Array 46.84 298 P **P 01 50 14.6 -0.2**
comp=Z,1.4nm,0.7s,baz=65,slow=4.9,SNR=7.4
MKAR LR LR 02 10 56.3
comp=Z,192nm,18.7s,baz=76,slow=38
comp=Z,1.4nm,0.7s
KURK Kurchatov 47.44 304 P **P 01 50 17.8 -1.6**
KURK IAmb IAmb 01 50 18.4
comp=Z,3.0nm,0.6s
KURK Kurchatov 47.44 304 *e*P **P 01 50 18.3 -1.1**
KURK Kurchatov 47.44 304 *ce*P **P 01 50 18.3 -1.1**
KURK pmax pmax
comp=Z,15nm,2.5s
KURBB Kurchatov Arra 47.53 304 P **P 01 50 18.9 -1.3**
comp=Z,2.0nm,0.5s,baz=70,slow=8.6,SNR=6.8
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 51.10 310 P **P 01 50 46.5 -0.8**
comp=Z,1.1nm,0.6s,baz=44,slow=8.9,SNR=7.7
BVAR PcP **PcP 01 52 03.0 +0.2**
comp=Z,1.2nm,0.7s,baz=69,slow=2.0,SNR=5.0
comp=Z,1.1nm,0.6s
BRVK Borovoye 51.14 310 P **P 01 50 46.6 -1.1**
BRVK Borovoye 51.14 310 *e*P **P 01 50 47.4 -0.3**
BRVK Borovoye 51.14 310 *i* P **P 01 50 47.4 -0.3**
BRVK pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 51.20 256 P **P 01 50 49.2 +0.7**
comp=Z,1.1nm,0.3s,baz=37,slow=7.5,SNR=4.1
comp=Z,1.1nm,0.3s
SHL Shillong 51.48 269 P **P 01 50 50.3 -0.4**
SHL Shillong 51.48 269 P **P 01 50 50.3 -0.4**
SHL pmax pmax
comp=Z,13nm,0.7s
YKA Yellowknife Ar 52.58 36 *i* P **P 01 50 59.4 +1.2**
YKA pmax pmax
comp=Z,2.0nm,1.0s
YKA Yellowknife Ar 52.58 36 P **P 01 50 58.8 +0.6**
comp=Z,1.5nm,1.0s,baz=296,slow=7.1,SNR=6.6
comp=Z,1.5nm,1.0s
AAK Ala-Archa 53.69 297 P **P 01 51 06.2 -0.8**
AAK IAmb IAmb 01 51 08.5
comp=Z,8.2nm,0.8s
AAK Ala-Archa 53.69 297 *e*P **P 01 51 07.1 +0.1**
AAK Ala-Archa 53.69 297 *ce*P **P 01 51 07.1 +0.1**
AAK pmax pmax
comp=Z,7.0nm,0.7s
JIRN Jiri 54.20 275 *e*P **P 01 51 11.6 +0.5**
comp=Z,19nm,0.8s
GUN Gumba 54.27 275 *e*P **P 01 51 12.1 +0.5**
RAMN Ramite 54.35 274 *e*P **P 01 51 12.7 +0.7**
comp=Z,24nm,0.4s
KSH Kashi 54.40 293 P **P 01 51 16.6 +4.5**
KSH sP pwP 01 51 23.6 -1.0
KSH pmax pmax
comp=Z,7.0nm,1.0s
ARSB Arslanbob 55.34 296 P **P 01 51 19.0 +0.1**
ARSB Arslanbob 55.34 296 P **P 01 51 19.0 +0.1**
ARSB pmax pmax
comp=Z,4.0nm,0.8s
ARU Arti 55.48 318 *e*P **P 01 51 19.5 0.0**
ARU Arti 55.48 318 *c i*P **P 01 51 19.5 0.0**
ARU 01 53 22.9
ARU S **S 01 59 03.6 +0.7**
ARU SS **SS 02 02 40.8 -6.2**
ARU pmax pmax
comp=Z,2.0nm,0.7s
DANN Dangsing 55.49 277 *e*P **P 01 51 21.4 +1.1**
comp=Z,36nm,0.8s
KK31 Karatay Array 55.93 299 P **P 01 51 22.1 -0.8**
KK31 IAmb IAmb 01 51 23.6
comp=Z,6.9nm,0.8s
KK31 Karatay Array 55.93 299 P **P 01 51 22.2 -0.8**
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 55.93 299 P **P 01 51 21.9 -1.1**
KKAR IAmb IAmb 01 51 23.6
comp=Z,6.9nm,0.8s
KKAR Karatay Array 55.93 299 P **P 01 51 21.9 -1.1**
KKAR pmax pmax
comp=Z,7.0nm,0.8s
PYUN Piuthan 56.18 277 *e*P **P 01 51 27.3 +2.1**
comp=Z,37nm,0.9s
NEEM North Greenlan 56.66 6 *i* P **P 01 51 27.6 -0.4**
BTK Batken 57.41 296 P **P 01 51 33.8 +0.2**
BTK IAmb IAmb 01 51 35.2
comp=Z,11nm,0.8s
BTK Batken 57.41 296 P **P 01 51 33.8 +0.2**
BTK pmax pmax
comp=Z,11nm,0.8s
ABKAR Akbulak array 58.67 310 P **P 01 51 41.4 -0.8**
ARCES ARCESS Array B 58.91 341 P **P 01 51 43.0 -0.5**
comp=Z,2.6nm,0.6s,baz=54,slow=7.6,SNR=23
comp=Z,2.6nm,0.6s
NIL Nilore 59.53 288 P **P 01 51 48.6 +0.2**
NIL Nilore 59.53 288 P **P 01 51 48.6 +0.2**
NIL pmax pmax
comp=Z,13nm,0.9s
KBL Kabul 61.79 292 P **P 01 52 03.3 -0.7**
KBL IAmb IAmb 01 52 04.7
comp=Z,6.0nm,0.7s
KBL Kabul 61.79 292 P **P 01 52 03.3 -0.7**
KBL pmax pmax
comp=Z,6.0nm,0.7s
SUMG Summit 62.17 4 **P 01 52 06.4 +0.2**
SUMG Summit 62.17 4 P **P 01 52 06.4 +0.2**
SUMG pmax pmax
comp=Z,16nm,1.0s
NVAR Mina Array Bea 63.86 61 P **P 01 52 19.2 +1.4**
comp=Z,0.5nm,0.6s,baz=295,slow=7.7,SNR=5.7
comp=Z,0.5nm,0.6s
YMP Mirror Lake Pl 64.69 51 P **P 01 52 24.5 +1.3**
YMP IAmb IAmb 01 52 27.0
comp=Z,6.5nm,0.8s
FINES FINESS Array B 64.95 335 *ce*P **P 01 52 23.5 -0.7**
FINES pmax pmax
comp=Z,6.0nm,0.5s
FINES FINESS Array B 64.95 335 P **P 01 52 23.2 -1.0**
comp=Z,5.5nm,0.5s,baz=36,slow=7.3,SNR=49
comp=Z,5.5nm,0.5s
OBN Obninsk 65.99 325 *e*P **P 01 52 31.1 +0.1**
OBN Obninsk 65.99 325 *i* P **P 01 52 31.1 +0.1**
OBN pmax pmax
comp=Z,2.0nm,1.0s
OBN MLR MLR
comp=Z,72nm,16.0s
PDAR Pinedale Array 66.28 53 P **P 01 52 34.2 +0.7**
comp=Z,0.3nm,0.6s,baz=260,slow=2.6,SNR=3.7
comp=Z,0.3nm,0.6s
GEYT Alibeck 66.59 301 P **P 01 52 35.7 +0.5**
comp=Z,6.7nm,0.8s,baz=60,slow=8.8,SNR=16
comp=Z,6.7nm,0.8s
GYA0B ALIBECK ARRAY 66.59 301 P **P 01 52 35.0 -0.2**
GYA0B IAmb IAmb 01 52 37.2
comp=Z,6.2nm,0.8s
WRA Warramunga Arr 66.90 198 P **P 01 52 37.3 +0.1**
comp=Z,0.5nm,0.9s,baz=13,slow=6.8,SNR=3.0
comp=Z,0.5nm,0.8s
NB2 NORSAR Subarra 69.28 341 P **P 01 52 51.0 -0.8**
comp=Z,2.5nm,0.8s,baz=28,slow=6.5
NOA NORSAR Array B 69.28 341 P **P 01 52 51.2 -0.6**
comp=Z,3.6nm,0.8s,baz=29,slow=6.3,SNR=13
comp=Z,3.6nm,0.8s
HFS Hagfors 69.48 339 P **P 01 52 52.0 -0.9**
HFS Hagfors 69.48 339 P **P 01 52 52.0 -0.9**
comp=Z,9.1nm,0.7s,baz=35,slow=5.4,SNR=16
comp=Z,9.1nm,0.7s
MNK Minsk 69.77 329 *i* P **P 01 52 52.7 -2.1**
comp=E,4.0nm,1.4s
MNK *i* P **P 01 52 52.7 -2.1**
comp=Z,14nm,0.8s,baz=38
MNK *i* P pP 01 52 53.1 -7.4
comp=N,9.0nm,1.4s
MNK *i* PP **PP 01 55 26.3 -2.3**
MNK *i* PPP PPP 01 57 07.6
MNK *i* S **S 02 01 59.5 -2.9**
MNK *i* SS **SS 02 06 28.1 -1.7**
MNK *i* SSS SSS 02 09 45.4
MNK *i* LQ LQ 02 18 39.1
MNK *i* LR LR 02 23 43.8
MNK *i* LRM MLR 02 25 40.1

comp=N,71nm,16.8s
MNK *i* LRM MLR 02 25 40.8
comp=E,50nm,15.4s
MNK *i* LRM MLR 02 26 19.4
comp=Z,56nm,11.6s
MNK Minsk 69.77 329 *i* P **P 01 52 52.7 -2.1**
MNK *i* 01 55 26.3
MNK *i* PPP PPP 01 57 07.6
MNK *i* S **S 02 01 59.4 -2.9**
MNK *i* SS **SS 02 06 28.1 -1.7**
MNK pmax pmax
comp=Z,14nm,0.8s
MNK pmax pmax
comp=E,4.0nm,1.4s
MNK pmax pmax
comp=N,9.0nm,1.4s
MNK MLR MLR
comp=N,71nm,17.0s
MNK MLR MLR
comp=E,50nm,15.0s
MNK MLR MLR
comp=Z,56nm,12.0s
ASAR Alice Springs 70.59 197 P **P 01 53 01.3 +1.1**
comp=Z,0.4nm,0.8s,baz=180,slow=3.8,SNR=4.3
ASAR LR LR 02 25 47.9
comp=Z,13nm,19.1s,baz=31,slow=37
comp=Z,0.4nm,0.8s
KIV Kislovodsk 71.16 314 **P 01 53 03.2 -0.4**
KIV Kislovodsk 71.16 314 *e*P **P 01 53 04.4 +0.7**
KIV Kislovodsk 71.16 314 *e*P **P 01 53 04.4 +0.7**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,56nm,18.0s
KBZ Khabaz 71.22 314 *e*P **P 01 53 04.0 +0.2**
KBZ Khabaz 71.22 314*ce*P **P 01 53 04.0 +0.2**
KBZ pmax pmax
comp=Z,15nm,0.9s
KBZ Khabaz 71.22 314 P **P 01 53 04.4 +0.6**
comp=Z,12nm,0.8s,baz=43,slow=3.5,SNR=24
ZEI Tsey 71.36 312 *e*P **P 01 53 04.7 -0.4**
ZEI pmax pmax
comp=Z,6.0nm,0.9s
ONI Oni 71.74 312 **P 01 53 08.3 +1.1**
ONI IAmb IAmb 01 53 09.7
comp=Z,9.1nm,0.9s
ONI Oni 71.74 312 P **P 01 53 08.3 +1.1**
ONI pmax pmax
comp=Z,9.0nm,0.9s
AKASG Malin Array Be 72.24 326 P **P 01 53 09.4 -0.4**
comp=Z,1.4nm,0.4s,baz=33,slow=6.2,SNR=13
comp=Z,1.4nm,0.4s
AKBB Malin Array Si 72.24 326*ce*P **P 01 53 09.6 -0.3**
AKBB pmax pmax
comp=Z,11nm,0.9s
KIEV Kiev 72.25 326 P **P 01 53 08.4 -1.5**
KIEV IAmb IAmb 01 53 10.0
comp=Z,8.8nm,0.9s
KIEV Kiev 72.25 326 P **P 01 53 08.4 -1.5**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
GNI Garni 72.78 310*ce*P **P 01 53 14.0 +0.5**
GNI pmax pmax
comp=Z,9.0nm,1.3s
KARS Kars 73.33 311 P **P 01 53 17.6 +0.8**
KARS Kars 73.33 311 P **P 01 53 17.6 +0.8**
KARS pmax pmax
comp=Z,43nm,1.2s
KMPD K-Podol'skiy 75.03 326 P **P 01 53 26.0 -0.3**
MORS Morshin 75.56 328 P **P 01 53 30.0 +0.7**
KSV Kosov 75.78 327 P **P 01 53 31.1 +0.5**
OJC Ojcow 76.14 331 IAmb IAmb 01 53 34.3
comp=Z,9.9nm,1.1s
BUR08 Bucovina Ar. S 76.27 326 **P 01 53 32.8 -0.8**
BUR08 IAmb IAmb 01 53 35.0
comp=Z,5.5nm,0.8s
BURAR Bucovina Array 76.29 326 ||P **P 01 53 34.0 +0.3**
BURAR Bucovina Array 76.29 326 **P 01 53 33.5 -0.2**
BURAR IAmb IAmb 01 53 35.0
comp=Z,5.7nm,0.8s
BURAR Bucovina Array 76.29 326 ||P **P 01 53 34.0 +0.3**
TESR Tescani 76.61 325 ||P **P 01 53 36.0 +0.6**
TRSU Trosnyk 76.77 328 P **P 01 53 36.7 +0.5**
OSTC Ostas 77.05 333 *e*P **P 01 53 38.4 +0.6**
OSTC Ostas 77.05 333 *e*P **P 01 53 38.4 +0.6**
CHVC Chvalec 77.07 333 *e*P **P 01 53 39.5 +1.5**
CHVC Chvalec 77.07 333 *e*P **P 01 53 39.5 +1.5**
DPC Dobruska-Polom 77.19 333 *e*P **P 01 53 39.2 +0.5**
DPC Dobruska-Polom 77.19 333 *e*P **P 01 53 39.2 +0.5**
TURR Turia 77.23 325 ||P **P 01 53 40.2 +1.3**
KRLC Kraliky 77.28 332 *e*P **P 01 53 39.5 +0.3**
KRLC Kraliky 77.28 332 *e*P **P 01 53 39.5 +0.3**
MORC Moravsky Berou 77.28 332 **P 01 53 38.5 -0.7**
MORC IAmb IAmb 01 53 41.2
comp=Z,6.2nm,1.0s
MORC Moravsky Berou 77.28 332 *e*P **P 01 53 38.8 -0.4**
MORC Moravsky Berou 77.28 332 P **P 01 53 38.5 -0.7**
MORC pmax pmax
comp=Z,6.0nm,1.0s
CLL Collm 77.39 335 **P 01 53 39.6 -0.1**
CLL IAmb IAmb 01 53 40.9
comp=Z,12nm,1.2s
CLL Collm 77.39 335 *e*P **P 01 53 39.0 -0.7**
comp=Z,11nm,1.2s
CLL *es*P **pP 01 53 45.0 -0.2**
CLL *e*PcP **PcP 01 53 50.0 -0.1**
CLL Collm 77.39 335 *e*P **P 01 53 39.0 -0.7**
CLL *e**SP **pP 01 53 45.0 -0.2**
CLL pmax pmax
comp=Z,11nm,1.2s
EKA Eskdalemuir Ar 77.50 346 P **P 01 53 40.6 +0.4**
comp=Z,0.9nm,0.5s,baz=15,slow=6.9,SNR=4.2
comp=Z,0.9nm,0.5s
MLR Muntele Rosu 77.72 324 ||P **P 01 53 43.3 +1.5**
MLR Muntele Rosu 77.72 324 ||P **P 01 53 43.3 +1.5**
VYHS Vyhne 77.93 330 *e*P **P 01 53 44.1 +1.3**
VYHS Vyhne 77.93 330 *e*P **P 01 53 44.1 +1.3**
VRAC Vranov 78.00 332 ||P **P 01 53 44.4 +1.2**
VRAC Vranov 78.00 332 *e*P **P 01 53 43.3 +0.1**
VRAC Vranov 78.00 332 ||P **P 01 53 44.4 +1.2**
VOIR 78.13 325 ||P **P 01 53 44.6 +0.6**
VOIR 78.13 325 ||P **P 01 53 44.6 +0.6**
KRUC Moravsky 78.28 332 *e*P **P 01 53 44.7 0.0**
ARR Arges 78.36 325 ||P **P 01 53 46.3 +1.0**
MODS Modra-Piesok 78.58 331 *e*P **P 01 53 48.5 +2.1**
MODS Modra-Piesok 78.58 331 *e*P **P 01 53 48.5 +2.1**
BR131 Keskin Array S 78.82 316 P **P 01 53 47.8 -0.3**
BR131 Keskin Array S 78.82 316 P **P 01 53 47.8 -0.3**
BR131 pmax pmax
comp=Z,4.0nm,1.3s
BRTR Keskin Array B 78.82 316 P **P 01 53 48.7 +0.7**
comp=Z,1.2nm,0.7s,baz=80,slow=4.2,SNR=11
comp=Z,1.2nm,0.7s
TXAR Lajitas Array 78.95 59 P **P 01 53 49.6 +0.7**
comp=Z,0.2nm,0.5s,baz=298,slow=2.4,SNR=4.5
comp=Z,0.2nm,0.5s
KHC Kasperske Hory 79.13 334 *e*P **P 01 53 49.9 +0.5**
KHC Kasperske Hory 79.13 334*ce*P **P 01 53 49.6 +0.2**
KHC pmax pmax
comp=Z,6.0nm,1.3s
CKRC Cesky Krumlov 79.17 333 *e*P **P 01 53 50.2 +0.6**
CKRC Cesky Krumlov 79.17 333 *e*P **P 01 53 50.2 +0.6**
GERES GERESS Array B 79.34 333 P **P 01 53 51.0 +0.3**
GERES GERESS Array B 79.34 333 P **P 01 53 51.0 +0.3**
comp=Z,0.9nm,0.6s,baz=34,slow=5.3,SNR=6.1
comp=Z,0.9nm,0.6s
CONA Conrad Observa 79.44 332 *i* P **P 01 53 51.8 +0.6**
comp=Z,1.6nm,0.5s
RONA Rosalia, Austr 79.49 331 *i* pP **P 01 53 53.4 +2.0**
comp=Z,3.7nm,0.6s
MOA Molln 80.03 333 *i* P **P 01 53 55.2 +0.9**
comp=Z,1.8nm,0.7s
SOKA Soboth 80.81 332 *i* P **P 01 53 59.4 +0.8**
comp=Z,2.6nm,0.7s
LESA Schwarzleotal 80.92 333 *i* pP **P 01 54 00.2 +1.1**
comp=Z,2.4nm,0.4s
WATA Walderalm 81.34 334 *i* pP **P 01 54 02.5 +0.9**
comp=Z,5.9nm,0.7s
WTTA Wattenberg 81.39 334 *i* pP **P 01 54 03.0 +1.2**
comp=Z,7.3nm,0.9s
MOTA Moosalm 81.48 334 *i* pP **P 01 54 03.3 +1.1**
comp=Z,3.2nm,0.6s
SQTA Sankt Quirin 81.56 334 *i* pP **P 01 54 03.8 +1.1**
comp=Z,2.4nm,0.5s
MMAI Mount Meron Ar 83.09 311 P **P 01 54 11.7 +0.9**
comp=Z,3.4nm,0.7s,baz=46,slow=7.1,SNR=11
MMAI LR LR 02 36 00.3
comp=Z,81nm,18.1s,baz=3.0,slow=39
comp=Z,3.4nm,0.7s

IDC ***16*** *01:55:59.5±2.0,0.°92N×126.°58E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=168.8km s-min=26.0km az=65.0*
DJA ***16*** *01:56:09.7±0.6,1.°1N±3.°×12.°8E±.°,h33km±5km,M3.8/7, MLv3.8/7*
ISC 16 01:56:01.3±1.1,0.°86N±0.°06×126.°60E±0.°08,h10km,n8, σ0°53/9,mb3.2/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.77**	**97**	P	**Pn**	**01 56 18.0**	**-0.2**
TNTI				S	**Sb**	**01 56 27.1**	**-0.2**
LBMI	**Labuha**	**1.74**	**149**	P	**Pg**	**01 56 35.3**	**+0.5**
LBMI				S	**Sg**	**01 56 57.6**	**+0.2**
KMSI	**Cibinong**	**2.64**	**264**	P	Pg	01 57 04.1	+12
SANI	**Sanana**	**2.96**	**192**	P	**Pg**	**01 56 58.3**	**+0.2**
SGSI	**Sangihe**	**3.00**	**339**	P	**Pg**	**01 56 59.6**	**+0.7**
WRA	**Warramunga Arr**	**22.02**	**160**	P	**P**	**02 00 56.5**	**+0.4**
	0.4nm,0.5s,baz=339,slow=11,SNR=14						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**25.39**	**164**	P	**P**	**02 01 29.2**	**+0.1**
	0.3nm,0.6s,baz=345,slow=7.2,SNR=7.2						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**59.84**	**326**	P	**P**	**02 06 06.4**	**-0.7**
	0.2nm,0.3s,baz=118,slow=7.9,SNR=5.2						
	0.2nm,0.3s						

LDG ***16*** *01:56:59.9±0.1,39.°92N×0.°03E,h11km,Ml2.3/5,Error ellipse: s-maj=3.9km s-min=2.2km az=113.0*
SFS ***16*** *01:57:00.4,39.°93N×0.°02E,h13km,ML3.5/5,ML3.4/5, MLv3.4/5*
MDD ***16*** *01:57:01.0±0.3,39.°91N×0.°02W,h11km,mb_Lg2.4/7, Error ellipse: s-maj=2.7km s-min=1.3km az=136.0*
ISC 16 01:56:58.7±1.1,39.°94N±0.°02×0.°01W±0.°03,h9km±10km, n28,σ1°§28/52,Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMOS	**Mosqueruela**	**0.55**	**320**	Pg	**Pb**	**01 57 10.4**	**-0.3**
EMOS				Sg	**Sb**	**01 57 18.8**	**-0.1**
EMOS				*i* Vmb_Lg		01 57 22.5	
ECHE	**Chera**	**0.81**	**245**	Pg	**Pb**	**01 57 15.7**	**+0.6**
ECHE				Sg	**Sg**	**01 57 25.6**	**+0.6**
ECHE	**Chera**	**0.81**	**245**	Sg	**Sg**	**01 57 25.8**	**+0.8**
ECHE				Pg	**Pb**	**01 57 15.6**	**+0.5**
ERTA	**Horta de San J**	**1.05**	**14**	Pg	**Pn**	**01 57 20.2**	**+0.5**
ERTA				Sg	**Sn**	**01 57 34.0**	**-0.5**
ERTA				*i* Vmb_Lg		01 57 36.2	
EVIV	**Cofrentes, Val**	**1.09**	**232**	Pg	**Pb**	**01 57 20.2**	**+0.5**
EVIV				Sg	**Sg**	**01 57 34.0**	**+0.3**
EVIV				*i* Vmb_Lg		01 57 36.5	
EBEN2	**Beniarda presa**	**1.27**	**186**	Pg	**Pg**	**01 57 22.4**	**-0.6**
EBEN2				Sg	**Sg**	**01 57 38.4**	**-1.1**
AFON	**Font Roja**	**1.34**	**198**	Pg	**Pb**	**01 57 25.6**	**+1.5**
AFON				Sg	**Sn**	**01 57 43.1**	**+1.5**
EIBI	**Ibiza**	**1.39**	**131**	Pg	**Pn**	**01 57 23.9**	**-0.3**
EIBI	**Ibiza**	**1.39**	**131**	Pn	**Pn**	**01 57 23.5**	**-0.8**
EPOB	**Poblet**	**1.64**	**30**	Pn	**Pb**	**01 57 28.2**	**-1.0**
EPOB				Pg	**Pg**	**01 57 31.0**	**+0.8**
EPOB				Sn	**Sg**	**01 57 50.1**	**-1.3**
EPOB				*i* Vmb_Lg		01 57 56.3	
ETOB	**Tobarra**	**1.76**	**223**	Pn	**Pn**	**01 57 29.5**	**+0.1**
ETOB				Sn	**Sn**	**01 57 50.1**	**-1.8**
ETOB				Sg	**Sg**	**01 57 55.8**	**+0.6**
ETOB	**Tobarra**	**1.76**	**223**	Sn	**Sn**	**01 57 51.9**	**-0.1**
ETOB				Pn	**Pn**	**01 57 29.2**	**-0.2**
ETOR	**Torete**	**1.79**	**300**	Pg	**Pg**	**01 57 33.5**	**+0.4**
ETOR				Sg	**Sg**	**01 57 56.8**	**+0.4**
ETOR				*i* Vmb_Lg		01 58 02.0	
ESAC	**San Caprasio**	**1.82**	**349**	Pn	**Pg**	**01 57 32.7**	**-0.9**
ESAC				Pg	**Pb**	**01 57 33.7**	**+1.5**
ESAC				Sg	**Sg**	**01 57 59.0**	**+1.8**
ESAC				*i* Vmb_Lg		01 58 00.4	
UCM	**Universidad Co**	**2.51**	**280**	Sg	**Sg**	**01 58 17.8**	**-1.4**
UCM				Pg	**Pg**	**01 57 46.4**	**-0.3**
ETSF	**Etsaut**	**2.99**	**352**	*e*Pg	**Pg**	**01 57 54.9**	**-1.1**
ETSF				*e*Sg	**Sg**	**01 58 33.5**	**-1.2**
	1.9nm,0.3s						
EPF	**Esparros**	**3.10**	**5**	*e*P	**Pn**	**01 57 49.9**	**+2.0**
EPF	**Esparros**	**3.10**	**5**	*e*Pg	**Pg**	**01 57 57.3**	**-0.9**
EPF				*e*Sg	**Sg**	**01 58 36.8**	**-1.6**
	3.6nm,0.2s						
PSIM	**Granatula de C**	**3.11**	**250**	Pn	**Pn**	**01 57 48.7**	**+0.7**
PSIM				Sn	**Sn**	**01 58 23.0**	**-2.3**
EQES	**Quesada**	**3.20**	**229**	Pn	**Pn**	**01 57 49.3**	**0.0**
EQES				Pg	**Pb**	**01 57 57.9**	**+2.0**
EQES				Sn	**Sn**	**01 58 27.3**	**-0.4**
EQES				Sg	**Sg**	**01 58 40.6**	**-1.0**
GUD	**Guadarrama**	**3.25**	**284**	Pn	**Pn**	**01 57 50.9**	**+0.9**
SJPF	**Ste Jean**	**3.30**	**344**	*e*Sg	**Sg**	**01 58 44.0**	**-0.8**
	1.8nm,0.3s						
PAB	**San Pablo**	**3.37**	**265**	Pn	**Pn**	**01 57 51.6**	**0.0**
PAB				Sn	**Sn**	**01 58 29.6**	**-2.1**
PAB				*i* Vmb_Lg		01 58 32.4	
MTLF	**Montolieu**	**3.79**	**25**	*e*P	**Pn**	**01 58 00.4**	**+3.1**
MTLF	**Montolieu**	**3.79**	**25**	*e*Pg	**Pg**	**01 58 09.9**	**-1.4**
MTLF				*e*Sg	**Sg**	**01 58 59.1**	**-1.3**
	1.6nm,0.3s						
EADA	**Adamuz**	**3.97**	**245**	Pn	**Pn**	**01 57 59.6**	**-0.2**
LASF	**Ste Croix**	**5.04**	**34**	*e*P	**Pn**	**01 58 18.2**	**+3.7**
ECAL	**Calabor**	**5.47**	**294**	Pn	**Pn**	**01 58 20.3**	**-0.3**

TEH ***16*** *02:20:28.3,30.°77N×57.°27E,h9km±35km,ML4.7*
IDC ***16*** *02:20:29.1±0.6,30.°67N×57.°22E,h0km,mb4.3/22, mbtmp4.3/31,ML3.7/9,MS3.7/24,Error ellipse: s-maj=14.4km s-min=12.0km az=15.0*
THR ***16*** *02:20:30.4±0.6,30.°79N×57.°28E,h15km±4km,ML4.5*
MOS ***16*** *02:20:30.3±1.0,30.°78N×57.°28E,h17km,mb4.7/30,Error ellipse: s-maj=6.4km s-min=4.6km az=98.8*
DSN ***16*** *02:20:31.5±1.9,30.°78N×57.°70E,h10km,ML4.0/8,Error ellipse: s-maj=94.4km s-min=18.0km az=103.0*
NEIC ***16*** *02:20:31.4±1.6,30.°77N±0.°07×57.°28E±0.°09,h10km±1km, mb4.4/41,Error ellipse: s-maj=13.4km s-min=12.0km az=115.0*
OMAN ***16*** *02:20:34.1±0.6,30.°62N×57.°07E,h10km,mb4.8/22, ml4.4/4,ms2.9/4,Error ellipse: s-maj=4.8km s-min=4.1km az=1.0*
ISC 16 02:20:30.2±1.2,30.°79N±0.°03×57.°24E±0.°03,h4km±7km, n343,σ1°§38/385,mb4.4/75,MS3.6/22,18C-13D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.63**	**287**	Pg	**Pg**	**02 20 42.8**	**+0.5**
KHGB	**Koh Gabri**	**0.77**	**238**	Pg	**Pg**	**02 20 45.0**	**-0.1**
KHGB				Sg	**Sg**	**02 20 56.0**	**+0.8**
TVBK	**TV Kerman**	**0.90**	**207**	Pg	**Pg**	**02 20 47.7**	**+0.2**
KRBR	**Kerman**	**0.90**	**207**	*e*Pg	**Pg**	**02 20 47.9**	**+0.3**
KRBR				*e*Sg	**Sg**	**02 21 00.6**	**+1.3**
KRBR				IAML		02 21 09.1	
	comp=E,7μm,0.3s						
CHMN	**Cheshme madani**	**0.96**	**164**	Pg	**Pg**	**02 20 47.1**	**-1.5**
NGRK	**Negar Kerman**	**1.22**	**201**	Pg	**Pb**	**02 20 53.5**	**-0.6**
NGRK				Sg	**Sg**	**02 21 10.4**	**+0.9**
IBAF	**Bafgh**	**1.64**	**300**	Pg	**Pn**	**02 21 00.8**	**+0.9**
KBAM	**BAM**	**1.96**	**147**	Pn	**Pn**	**02 21 04.2**	**0.0**
BSRN	**Basiran**	**2.00**	**54**	*e*Pn	**Pn**	**02 21 04.9**	**+0.1**
BSRN				*e*Sg	**Sb**	**02 21 32.7**	**+0.3**
BSRN				IAML		02 21 35.0	
	comp=E,5μm,0.3s						
BSRN				IAML		02 21 37.7	
	comp=N,4μm,0.4s						
BSRN	**Basiran**	**2.00**	**54**	Pn	**Pn**	**02 21 04.7**	**-0.1**
IKOO	**Kooshah**	**2.22**	**42**	Pn	**Pn**	**02 21 08.3**	**+0.3**
TPRV	**Parvadeh(Tabas**	**2.28**	**348**	Pn	**Pn**	**02 21 09.3**	**+0.6**
IMEH	**Mehriz**	**2.33**	**286**	Pn	**Pn**	**02 21 10.9**	**+1.4**
ITEG	**Tejag**	**2.46**	**31**	Pn	**Pn**	**02 21 11.6**	**+0.3**
NHDN	**Nehbandan**	**2.49**	**75**	Pn	**Pn**	**02 21 11.7**	**+0.1**
YZKH	**Yazd**	**2.77**	**306**	*e*Pn	**Pn**	**02 21 16.8**	**+1.5**
YZKH				*e*Sg	**Sg**	**02 21 57.9**	**-1.2**
YZKH				IAML		02 22 05.9	
	comp=E,1μm,0.6s						
YZKH				IAML		02 22 06.5	
	comp=N,984nm,0.4s						
TKDS	**Koohdasht(Taba**	**2.82**	**358**	Pn	**Pn**	**02 21 16.7**	**+0.6**
ICHK	**Chekchek**	**2.82**	**302**	Pn	**Pn**	**02 21 17.6**	**+1.4**
TABS	**Tabas**	**2.85**	**358**	*e*Pn	**Pn**	**02 21 17.4**	**+0.8**
KHNJ	**Kahnooj**	**2.86**	**172**	Pn	**Pn**	**02 21 17.7**	**+1.1**
IDAH	**Dahanechah**	**2.97**	**48**	Pn	**Pn**	**02 21 18.8**	**+0.5**
AFRZ	**Afriz**	**3.03**	**29**	Pn	**Pn**	**02 21 19.7**	**+0.6**
IMON	**Monand**	**3.16**	**40**	Pn	**Pn**	**02 21 22.7**	**+1.7**
TNSJ	**Nastanj**	**3.21**	**351**	Pn	**Pn**	**02 21 22.3**	**+0.8**
ISAD	**Sadrabad**	**3.24**	**291**	Pn	**Pn**	**02 21 23.5**	**+1.4**
IBND	**Bandar-abas**	**3.38**	**191**	Pn	**Pn**	**02 21 26.2**	**+2.4**
ZHDN	**Zahedan**	**3.39**	**113**	Pn	**Pn**	**02 21 24.0**	**0.0**
GENO	**Geno**	**3.50**	**196**	Pn	**Pn**	**02 21 27.7**	**+2.1**
BNDS	**Bandar-Abbas**	**3.50**	**196**	*e*Pn	**Pn**	**02 21 27.2**	**+1.6**
ANAR	**Anarak**	**3.82**	**310**	Pn	**Pn**	**02 21 30.6**	**+0.7**
SHRT	**Shahrakht**	**3.85**	**41**	*e*Pn	**Pn**	**02 21 31.2**	**+1.0**
SHRT	**Shahrakht**	**3.85**	**41**	Pn	**Pn**	**02 21 30.9**	**+0.7**
JHRM	**Jahrom**	**3.92**	**235**	Pn	**Pn**	**02 21 32.8**	**+1.6**
LAR1	**LAR**	**3.99**	**220**	Pn	**Pn**	**02 21 33.9**	**+1.7**
SHI	**Shiraz**	**4.25**	**256**	Pn	**Pn**	**02 21 37.5**	**+1.7**
NASN	**Na'in**	**4.27**	**299**	*e*Pn	**Pn**	**02 21 37.6**	**+1.3**
IRAM	**Ramesheh**	**4.28**	**285**	Pn	**Pn**	**02 21 38.3**	**+2.0**
QIR1	**Qir**	**4.32**	**239**	Pn	**Pn**	**02 21 38.2**	**+1.5**
IZEF	**Zefreh**	**4.67**	**298**	Pn	**Pn**	**02 21 43.4**	**+1.6**
IGAR	**Gharneh**	**4.72**	**291**	Pn	**Pn**	**02 21 44.3**	**+2.0**
SHME	**Shamm**	**4.82**	**192**	P	**Pn**	**02 21 45.1**	**+1.6**
SHME	**Shamm**	**4.82**	**192**	P	**Pn**	**02 21 44.6**	**+1.1**
SHME				S	**Sn**	**02 22 39.9**	**+0.2**
KLNJ	**Kolanjah**	**4.86**	**274**	Pn	**Pn**	**02 21 46.3**	**+1.9**
TBHD	**Torbat heydari**	**4.91**	**19**	Pn	**Pn**	**02 21 45.9**	**+1.0**
BANOM	**Banah**	**4.92**	**190**	P	**Pn**	**02 21 47.4**	**+2.5**
BANOM	**Banah**	**4.92**	**190**	P	**Pn**	**02 21 46.0**	**+1.1**
BANOM				S	**Sn**	**02 22 42.6**	**+0.3**
JASK	**Jask - Hormozg**	**4.94**	**173**	P	**Pn**	**02 21 46.6**	**+1.5**
	SNR=10						
JASK	**Jask - Hormozg**	**4.94**	**173**	Pn	**Pn**	**02 21 46.1**	**+1.0**
TBJM	**Torbat-e-JAM**	**5.17**	**29**	Pn	**Pn**	**02 21 49.3**	**+0.8**
SHRO	**Shahrood**	**5.29**	**349**	*e*Pn	**Pn**	**02 21 51.4**	**+1.4**
SHRO				IAML		02 23 26.8	
	comp=N,277nm,0.8s						
SHRO				IAML		02 23 30.7	
	comp=E,166nm,0.5s						
KRSH	**Karshahi**	**5.36**	**308**	Pn	**Pn**	**02 21 52.5**	**+1.5**
UMQ	**Umm Al-Quwin**	**5.42**	**195**	P	**Pn**	**02 21 52.9**	**+1.0**
IKLH	**Kolahrood**	**5.43**	**299**	Pn	**Pn**	**02 21 53.9**	**+1.8**
IANJ	**Anjilo**	**5.43**	**330**	Pn	**Pn**	**02 21 52.7**	**+0.6**
MASF	**Masafi**	**5.48**	**190**	P	**Pn**	**02 21 53.5**	**+0.9**
	SNR=13						
MASF				S	**Sn**	**02 22 56.6**	**+0.4**
MSFE	**Esma-Masafi**	**5.49**	**190**	P	**Pn**	**02 21 55.8**	**+3.0**
MSFE				S	**Sn**	**02 22 60.0**	**+3.5**
ISFB	**Sefidab**	**5.51**	**311**	Pn	**Pn**	**02 21 54.6**	**+1.5**
HRA	**Herat**	**5.54**	**48**	Pn	**Pn**	**02 21 54.8**	**+1.1**
SBZV	**Sabzevar**	**5.59**	**3**	Pn	**Pn**	**02 21 55.7**	**+1.3**
ZNGN	**Zangian**	**5.61**	**285**	Pn	**Pn**	**02 21 56.9**	**+2.2**
SRVN	**Saravan**	**5.64**	**125**	Pn	**Pn**	**02 21 55.6**	**+0.7**
IPIR	**Pirpir**	**5.73**	**291**	Pn	**Pn**	**02 21 59.0**	**+2.7**
JRKH	**Jarkhoshk**	**5.73**	**26**	Pn	**Pn**	**02 21 57.3**	**+1.1**
QAMS	**Qamsar**	**5.75**	**302**	Pn	**Pn**	**02 21 59.0**	**+2.4**
JHBN	**Jahan bin**	**5.79**	**286**	Pn	**Pn**	**02 21 59.5**	**+2.3**
ILAS	**Lasjerd**	**5.82**	**323**	Pn	**Pn**	**02 21 59.0**	**+1.5**
IPAY	**Payeh**	**5.83**	**14**	Pn	**Pn**	**02 21 59.0**	**+1.4**
UOSS	**Minazif**	**5.89**	**189**		**Pn**	**02 22 00.1**	**+1.8**
UOSS	**Minazif**	**5.89**	**189**	P	**Pn**	**02 21 59.1**	**+0.8**
UOSS				S	**Sn**	**02 23 06.3**	**+0.1**
CHBR	**Chabahar**	**5.91**	**150**	Pn	**Pn**	**02 21 59.2**	**+0.7**
IAKL	**Akhelmad**	**5.94**	**12**	Pn	**Pn**	**02 22 00.6**	**+1.5**
NAZ	**Nazwa, Dubai**	**5.94**	**194**	P	**Pn**	**02 22 01.3**	**+2.3**
NAZ	**Nazwa, Dubai**	**5.94**	**194**	P	**Pn**	**02 22 00.2**	**+1.2**
	SNR=8.7						
NAZ				S	**Sn**	**02 23 07.6**	**+0.1**
HATD	**Hatta, Dubai**	**6.02**	**190**	P	**Pn**	**02 22 02.8**	**+2.8**
HATD	**Hatta, Dubai**	**6.02**	**190**	P	**Pn**	**02 22 01.3**	**+1.2**
HATD				S	**Sn**	**02 23 09.2**	**-0.2**
IMYA	**Miami**	**6.03**	**23**	Pn	**Pn**	**02 22 02.6**	**+2.2**
IFIR	**Firoozkooh**	**6.13**	**323**	Pn	**Pn**	**02 22 03.0**	**+1.2**
ASHO	**Ashiyiah**	**6.17**	**190**	P	**Pn**	**02 22 04.4**	**+2.2**
ASHO	**Ashiyiah**	**6.17**	**190**	P	**Pn**	**02 22 03.2**	**+1.0**
	SNR=9.2						
ASHO				S	**Sn**	**02 23 13.4**	**+0.2**
FAQ	**Al Faqa, Dubai**	**6.19**	**194**	P	**Pn**	**02 22 03.3**	**+0.9**
	SNR=14						
FAQ				S	**Sn**	**02 23 13.9**	**+0.2**
IKRD	**Kardeh**	**6.26**	**17**	Pn	**Pn**	**02 22 04.9**	**+1.3**
ISFR	**Sfrayin**	**6.28**	**6**	Pn	**Pn**	**02 22 05.0**	**+1.1**
IGLO	**Ghaloghah**	**6.37**	**334**	Pn	**Pn**	**02 22 06.9**	**+1.9**
ASUD	**Al Ashush, Dub**	**6.37**	**196**	P	**Pn**	**02 22 05.1**	**+1.1**
ASUD	**Al Ashush, Dub**	**6.37**	**196**	P	**Pn**	**02 22 05.7**	**+0.9**
ASUD				S	**Sn**	**02 23 17.2**	**-0.7**
NGCH	**Negor - Chabah**	**6.41**	**147**	P	**Pn**	**02 22 07.8**	**+2.5**
NGCH				S	**Sn**	**02 23 20.7**	**+1.7**
IDMV	**Damavand**	**6.47**	**319**	Pn	**Pn**	**02 22 07.9**	**+1.5**
AJN	**Ajban**	**6.51**	**198**	P	**Pn**	**02 22 07.8**	**+1.0**
AJN				S	**Sn**	**02 23 21.0**	**-0.6**
IMND	**Minoodasht**	**6.63**	**347**	Pn	**Pn**	**02 22 09.6**	**+1.3**
SOHO	**SOHO**	**6.66**	**186**	P	**Pn**	**02 22 08.7**	**0.0**
SOHO	**SOHO**	**6.66**	**186**	P	**Pn**	**02 22 09.4**	**+0.6**
SOHO				S	**Sn**	**02 23 26.2**	**+1.1**
IEMG	**Emamgholi**	**6.71**	**10**	Pn	**Pn**	**02 22 11.0**	**+1.2**
IPRN	**Peran**	**6.80**	**324**	Pn	**Pn**	**02 22 12.5**	**+1.6**
IHSB	**Hasanabad**	**6.82**	**314**	Pn	**Pn**	**02 22 12.9**	**+1.9**
ALNE	**Al Ain**	**6.83**	**191**	P	**Pn**	**02 22 11.3**	**+0.1**
ALNE				S	**Sn**	**02 23 29.9**	**+0.4**
MRVT	**Maraveh tapeh**	**6.92**	**352**	*e*Pn	**Pn**	**02 22 13.7**	**+1.3**
MRVT	**Maraveh tapeh**	**6.92**	**352**	Pn	**Pn**	**02 22 13.7**	**+1.3**
JRN	**Qarnain Island**	**7.00**	**215**	P	**Pn**	**02 22 13.7**	**+0.3**
JRN				S	**Sn**	**02 23 32.5**	**-1.0**
GEYT	**Alibeck**	**7.16**	**6**		**Pn**	**02 22 17.8**	**+2.1**
GEYT	**Alibeck**	**7.16**	**6**	P	**Pn**	**02 22 17.8**	**+2.1**
GEYT	**Alibeck**	**7.16**	**6**	Pn	**Pn**	**02 22 16.8**	**+1.1**
	comp=E,1.5nm,0.3s,baz=186,slow=16,SNR=12						
GEYT				Sn

QSDN	Sirdan	8.81	312		Pn		Pn	02 22 40.8	+2.3	
JLN	Jalan Bani Buh	8.82	167		P		Pn	02 22 39.8	+1.3	
JLN					P		Pn	02 22 39.8	+1.3	
JLN					S		Sn	02 24 20.0	+1.6	
JLN					S		Sn	02 24 20.0	+1.6	
IKOM	Komasi	8.88	295		Pn		Pn	02 22 41.4	+1.9	
IGHG	Ghaleghazi	9.67	294		Pn		Pn	02 22 52.4	+2.1	
MHTO	MHTO	9.78	176		P		Pn	02 22 53.6	+1.9	
MHTO					S		Sn	02 24 43.2	+1.2	
CHGR	Chuyangaron	12.55	48				Pn	02 23 28.2	-1.4	
CHGR	Chuyangaron	12.55	48		P		Pn	02 23 28.2	-1.4	
DMTO	DMTO	13.18	190		P		Pn	02 23 39.2	+1.0	
DMTO					S		Sn	02 26 05.4	+0.1	
WHFO	Wadi Hawf	13.20	195		P		Pn	02 23 37.8	-0.6	
	SNR=41									
WHFO					S		Sn	02 26 03.8	-1.9	
RBK	Rabkut	13.51	192		P		Pn	02 23 41.8	-0.9	
GNI	Garni	13.80	316				Pn	02 23 48.1	+1.3	
GNI	Garni	13.80	316	*i*	P		Pn	02 23 47.2	+0.4	
GNI					pmax	pmax				
	comp=Z,8.0nm,0.8s									
GNI	Garni	13.80	316		Pn		Pn	02 23 47.8	+1.1	
	comp=Z,0.1nm,0.3s,baz=222,slow=19,SNR=1.5									
GNI					LR		LR	02 29 20.6		
	comp=Z,139nm,18.8s,baz=98,slow=38									
	comp=Z,0.9nm,0.4s									
ABTO	Aybut	13.85	196		P		Pn	02 23 46.0	-1.3	
	SNR=25									
ABTO					P		Pn	02 23 46.0	-1.3	
	SNR=25									
ABTO					S		Sn	02 26 19.3	-2.4	
ABTO					S		Sn	02 26 19.3	-2.4	
SIRT	Sirnak	13.96	303		Pn		Pn	02 23 49.5	+0.7	
BTK	Batken	14.41	46				Pn	02 23 54.4	-0.6	
BTK	Batken	14.41	46		P		Pn	02 23 54.4	-0.6	
MAK	Makhachkala	14.42	330	*eP*			Pn	02 23 51.6	-3.4	
MAK				*eS*			Sn	02 26 30.2	-5.0	
MAK					pmax	pmax				
	comp=Z,387nm,1.4s									
MAK					MLR	MLR				
	comp=Z,92nm,11.0s									
GURO	Guroymak-BITLI	14.70	306		Pn		Pn	02 24 01.0	+1.9	
ZEI	Tsey	16.02	322	*eP*			P	02 24 22.7	+2.6	
ZEI					pmax	pmax				
	comp=Z,10.0nm,1.0s									
ONI	Oni	16.13	321		Pn		Pn	02 24 16.1	-1.6	
ONI	Oni	16.13	321		P		Pn	02 24 16.1	-1.6	
ONI					pmax	pmax				
	comp=Z,111nm,1.2s									
KK31	Karatay Array	16.21	37		Pn		Pn	02 24 18.3	-0.5	
KK31	Karatay Array	16.21	37		P		Pn	02 24 18.3	-0.5	
KK31					pmax	pmax				
	comp=Z,8.0nm,1.1s									
KKAR	Karatay Array	16.21	37		Pn		Pn	02 24 19.8	+1.0	
KKAR	Karatay Array	16.21	37		P		Pn	02 24 19.8	+1.0	
ARSB	Arslanbob	16.48	46		Pn		Pn	02 24 21.6	-0.8	
ARSB	Arslanbob	16.48	46		P		Pn	02 24 21.6	-0.8	
ARSB					pmax	pmax				
	comp=Z,6.0nm,0.8s									
KBZ	Khabaz	17.20	323	*i*	P		Pn	02 24 32.4	+1.1	
KBZ					pmax	pmax				
	comp=Z,5.0nm,0.9s									
KBZ	Khabaz	17.20	323		P		Pn	02 24 32.4	+1.1	
	comp=Z,0.1nm,0.3s,baz=94,slow=11,SNR=5.7									
	comp=Z,1.6nm,0.7s									
ASF	Jabal al Asfar	17.41	280		P		Pn	02 24 33.5	-0.5	
	comp=Z,0.7nm,0.3s,baz=74,slow=9.9,SNR=13									
	comp=Z,5.2nm,0.6s									
KVAR	Kislovodsk Arr	17.47	323		P		P	02 24 36.8	+0.8	
	baz=268,slow=23									
	comp=Z,9.4nm,1.3s									
KIV	Kislovodsk	17.47	323				Pn	02 24 35.3	+0.6	
KIV					IAmb	IAmb		02 24 46.3		
	comp=Z,22nm,1.0s									
KIV	Kislovodsk	17.47	323	*eP*			P	02 24 36.0	0.0	
KIV					pmax	pmax				
	comp=Z,19nm,1.0s									
ARPR	Arapgir-MALATY	17.55	303		Pn		Pn	02 24 35.7	-0.1	
KSH	Kashi	17.60	55		P		Pn	02 24 30.4	-6.0	
KSH					pP		P	02 24 33.3	-4.2	
KSH					pmax	pmax				
	comp=Z,8.0nm,0.7s									
KSH					LR	LR				
	comp=N,130nm,5.2s									
KSH					LR	LR				
	comp=E,250nm,9.3s									
KSH					LR	LR				
	comp=Z,250nm,11.7s									
GAZ	Gaziantep	17.77	296		Pn		Pn	02 24 37.5	-1.1	
AAK	Ala-Archa	18.16	45		Pn		Pn	02 24 42.0	-1.4	
AAK	Ala-Archa	18.16	45	*ceP*			P	02 24 44.2	+0.5	
AAK					pmax	pmax				
	comp=Z,18nm,1.7s									
AAK	Ala-Archa	18.16	45		P		P	02 24 44.4	+0.7	
	comp=Z,0.2nm,0.3s,baz=238,slow=19,SNR=15									
AAK					LR	LR		02 32 39.9		
	comp=Z,139nm,19.6s,baz=254,slow=40									
	comp=Z,5.7nm,0.7s									
FRU1	Bishkek	18.34	44		P		Pn	02 24 44.0	-1.5	
FRU1					IAmb	IAmb		02 25 05.8		
	comp=Z,12nm,0.7s									
FRU1	Bishkek	18.34	44		P		Pn	02 24 44.0	-1.5	
FRU1					pmax	pmax				
	comp=Z,12nm,0.7s									
ABKAR	Akbulak array	18.56	6		P		P	02 24 47.1	-0.7	
GHAJ	Ghor Haditha	18.58	277		P		P	02 24 47.5	-0.6	
GHAJ					IAmb	IAmb		02 25 02.2		
	comp=Z,26nm,1.1s									
MMAI	Mount Meron Ar	18.67	283		P		P	02 24 49.4	+0.1	
	comp=Z,0.3nm,0.3s,baz=99,slow=11,SNR=9.4									
	comp=Z,5.2nm,0.9s									
SOC	Sochi	18.87	317	*eP*			P	02 24 50.5	-0.8	
SOC				*e*				02 28 22.1		
SOC					MLR	MLR				
	comp=Z,77nm,18.0s									
BOOM	Boomskoye usch	18.97	47		P		P	02 24 52.4	-0.2	
BOOM	Boomskoye usch	18.97	47		P		P	02 24 52.4	-0.2	
BOOM					pmax	pmax				
	comp=Z,7.0nm,0.9s									
BNN	Bunyan	19.29	300		P		P	02 24 56.6	+0.5	
BNN					IAmb	IAmb		02 25 06.2		
	comp=Z,17nm,0.9s									
EIL	Elat	19.29	272		P		Pn	02 24 58.0	+1.0	
	comp=Z,7.0nm,0.8s,baz=90,slow=5.1,SNR=5.4									
AKTO	Aktyubinsk	19.64	1		P		P	02 25 00.6	+0.9	
	comp=Z,1.8nm,0.3s,baz=182,slow=11,SNR=34									
AKTO					LR	LR		02 34 00.6		
	comp=Z,339nm,18.7s,baz=126,slow=41									
	comp=Z,18nm,0.6s									
CSS	Mathiatis	20.49	288		P		P	02 25 09.5	+0.4	
CSS					IAmb	IAmb		02 25 15.3		
	comp=Z,17nm,0.8s									
BR131	Keskin Array S	21.19	301		IAmb	IAmb		02 25 21.4		
	comp=Z,32nm,1.4s									
BR131	Keskin Array S	21.19	301	*i*	P		P	02 25 17.4	+0.7	
BRTR	Keskin Array B	21.19	301		P		P	02 25 17.2	+0.4	
BRTR	Keskin Array B	21.19	301		P		P	02 25 17.5	+0.8	
	comp=Z,27nm,1.2s,baz=122,slow=13,SNR=37									
BRTR					LR	LR		02 34 10.2		
	comp=Z,127nm,20.0s,baz=96,slow=39									
	comp=Z,27nm,1.2s									
ANTO	Ankara	21.85	301		P		P	02 25 23.8	0.0	
ANTO					IAmb	IAmb		02 25 29.3		
	comp=Z,12nm,0.6s									
ANTO	Ankara	21.85	301		P		P	02 25 23.8	0.0	
ANTO					pmax	pmax				
	comp=Z,12nm,0.6s									
PYUN	Piuthan	22.57	90	*eP*			P	02 25 30.2	-1.6	
	comp=Z,57nm,0.8s									
BELG	Belogornoye	22.71	345	*i*	P		P	02 25 33.5	+0.7	
BELG					pmax	pmax				
	comp=Z,8.0nm,1.0s									
BELG	Belogornoye	22.71	345		LR	LR		02 37 08.0		
	comp=Z,114nm,20.2s,baz=140,slow=44									
ISP	Isparta	23.11	295	*ceP*			P	02 25 39.0	+1.8	
ISP					pmax	pmax				
	comp=Z,41nm,0.8s									
DANN	Dangsing	23.18	89	*eP*			P	02 25 37.9	-0.3	
	comp=Z,129nm,0.9s									
VRH	Novokhopyorsk	23.43	335	*eP*			P	02 25 39.3	-0.8	
VRH					pmax	pmax				
	comp=Z,10.0nm,1.0s									
GKN	Gorkha	24.01	90	*eP*			P	02 25 45.5	-0.8	
	comp=Z,20nm,0.6s									
BRVK	Borovoye	24.20	19		P		P	02 25 47.2	-0.4	
BRVK					IAmb	IAmb		02 25 53.6		
	comp=Z,8.5nm,0.8s									
BRVK	Borovoye	24.20	19	*ceP*			P	02 25 48.1	+0.5	
BRVK					pmax	pmax				
	comp=Z,16nm,1.3s									
BVAR	Borovoye Array	24.20	20		P		P	02 25 48.6	+1.0	
	comp=Z,8.8nm,0.5s,baz=199,slow=7.5,SNR=40									
BVAR					LR	LR		02 36 40.3		
	comp=Z,341nm,18.1s,baz=208,slow=40									
	comp=Z,8.8nm,0.5s									
VSR	Storozhevoye	24.42	332	*eP*			P	02 25 47.6	-2.0	
VSR					pmax	pmax				
	comp=Z,6.0nm,1.0s									
DMN	Daman	24.51	90	*eP*			P	02 25 49.6	-1.4	
	comp=Z,6.6nm,0.3s									
VORR	Voronezh	24.75	333	*eP*			P	02 25 51.8	-0.8	
VORR					pmax	pmax				
	comp=Z,10.0nm,0.9s									
PKIN	Phulchoki	24.77	90	*eP*			P	02 25 52.5	-0.8	
PKI	Pulchoki	24.78	90	*eP*			P	02 25 52.5	-1.0	
	comp=Z,74nm,1.1s									
MAKZ	Makanchi	24.90	43		P		P	02 25 53.7	-0.4	
MAKZ	Makanchi	24.90	43		P		P	02 25 53.7	-0.4	
MAKZ					pmax	pmax				
	comp=Z,19nm,1.0s									
MK31	Makanchi Array	25.08	43		P		P	02 25 55.5	-0.2	
MK31					IAmb	IAmb		02 26 00.0		
	comp=Z,7.4nm,0.9s									
MK31	Makanchi Array	25.08	43	*ceP*			P	02 25 56.3	+0.6	
MKAR	Makanchi Array	25.08	43		P		P	02 25 55.1	-0.6	
MKAR	Makanchi Array	25.08	43		P		P	02 25 55.1	-0.6	
MKAR	Makanchi Array	25.08	43		P		P	02 25 56.4	+0.7	
	comp=Z,3.7nm,0.7s,baz=230,slow=9.6,SNR=23									
MKAR					LR	LR		02 37 20.7		
	comp=Z,137nm,19.9s,baz=296,slow=40									
	comp=Z,3.7nm,0.7s									
GUN	Gumba	25.10	89	*eP*			P	02 25 56.8	+0.3	
	comp=Z,116nm,1.0s									
KURBB	Kurchatov Arra	25.39	33		P		P	02 25 59.0	+0.6	
	comp=Z,6.4nm,0.7s,baz=233,slow=8.9,SNR=52									
KURBB					LR	LR		02 36 29.4		
	comp=Z,114nm,20.2s,baz=154,slow=38									
	comp=Z,6.4nm,0.7s									
JIRN	Jiri	25.43	90	*eP*			P	02 25 59.7	+0.3	
	comp=Z,59nm,0.8s									
KURK	Kurchatov	25.50	33		P		P	02 25 59.7	+0.3	
KURK					IAmb	IAmb		02 26 03.4		
	comp=Z,9.3nm,0.8s									
KURK	Kurchatov	25.50	33	*ceP*			P	02 26 00.3	+0.9	
KURK					pmax	pmax				
	comp=Z,17nm,1.3s									
ARU	Arti	25.65	2		P		P	02 26 01.7	+1.0	
ARU	Arti	25.65	2	*c i*	P		P	02 26 02.9	+2.2	
ARU								02 26 36.5		
ARU					S		S	02 30 33.8	+4.4	
ARU					SS		SnSn	02 31 29.0	+5.9	
ARU					pmax	pmax				
	comp=Z,22nm,1.4s									
ARU	Arti	25.65	2		LR	LR		02 36 52.5		
	comp=Z,145nm,18.9s,baz=144,slow=38									
RAMN	Ramite	25.96	91	*eP*			P	02 26 04.0	-0.2	
	comp=Z,63nm,0.8s									
SVE	Sverdlovsk	26.14	4	*eP*			P	02 26 10.5	+5.4	
SVE					pmax	pmax				
	comp=Z,18nm,1.5s									
WMQ	Urumqi	27.33	53	*eP*			P	02 26 18.8	+2.7	
IDI	Anoyia	27.42	288		LR	LR		02 41 12.0		
	comp=Z,40nm,18.7s,baz=320,slow=45									
SORM	Soroca	28.00	316	⇑	P		P	02 26 22.2	+0.2	
SORM	Soroca	28.00	316		P		P	02 26 22.2	+0.2	
NEHR	Nehoiu	28.19	310	⇓	P		P	02 26 26.2	+2.5	
KIRV	Kirov	28.30	351	*i*	P		P	02 26 25.3	+0.8	
KIRV	Kirov	28.30	351		LR	LR		02 40 12.2		
	comp=Z,216nm,19.5s,baz=166,slow=42									
TESR	Tescani	28.36	312	⇓	P		P	02 26 26.4	+1.1	
COVR	Voineasa-Covas	28.40	311	⇓	P		P	02 26 27.7	+2.1	
OBN	Obninsk	28.42	335		P		P	02 26 26.4	+0.8	
OBN	Obninsk	28.42	335	*i*	P		P	02 26 25.6	0.0	
OBN				*i*				02 27 14.7		
OBN				*i*				02 29 37.2		
OBN					pmax	pmax				
	comp=Z,21nm,1.3s									
MLR	Muntele Rosu	28.44	310	⇓	P		P	02 26 28.8	+2.6	
MLR	Muntele Rosu	28.44	310	⇓	P		P	02 26 28.8	+2.6	
AKASG	Malin Array Be	28.81	322	*ceP*			P	02 26 29.7	+0.5	
AKASG					pmax	pmax				
	comp=Z,1.0nm,0.4s									
AKASG	Malin Array Be	28.81	322		P		P	02 26 29.6	+0.4	
	comp=Z,0.7nm,0.5s,baz=133,slow=8.6,SNR=7.5									
	comp=Z,0.7nm,0.5s									
KIEV	Kiev	28.82	322	⇑	P		P	02 26 28.4	-0.8	
KIEV	Kiev	28.82	322	⇑	P		P	02 26 28.4	-0.8	
DOPR	Dopca	28.97	311	⇓	P		P	02 26 31.6	+0.9	
VOIR		29.02	309	⇑	P		P	02 26 32.7	+1.5	
VOIR		29.02	309		P		P	02 26 32.7	+1.5	
ARR	Arges	29.27	309	⇑	P		P	02 26 34.3	+0.8	
DGZ	Jazzator, Alta	29.50	42	*i*	P		P	02 26 35.6	+0.1	
DGZ					pmax	pmax				
	comp=Z,2.0nm,0.9s									
BURAR	Bucovina Array	29.69	314	⇓	P		P	02 26 38.6	+1.5	
BURAR	Bucovina Array	29.69	314		P		P	02 26 38.0	+0.8	
BURAR	Bucovina Array	29.69	314	⇓	P		P	02 26 38.6	+1.5	
ZAA0	Zalesovo Array	30.49	33		P		P	02 26 43.8	-0.2	
ZALV	Zalesovo Beam	30.49	33		P		P	02 26 43.8	-0.3	
ZALV	Zalesovo Beam	30.49	33		P		P	02 26 44.3	+0.3	
	comp=Z,12nm,0.6s,baz=238,slow=8.9,SNR=64									
ZALV					LR	LR		02 40 44.5		
	comp=Z,89nm,20.2s,baz=241,slow=40									
	comp=Z,12nm,0.6s									
SHL	Shillong	30.90	91		P		P	02 26 45.9	-2.3	
SHL					IAmb	IAmb		02 26 47.8		
	comp=Z,5.5nm,0.8s									
SHL	Shillong	30.90	91		P		P	02 26 45.9	-2.3	
SHL					pmax	pmax				
	comp=Z,6.0nm,0.8s									
MNK	Minsk	31.66	327	*i*	P		P	02 26 53.7	-0.6	
	comp=E,4.0nm,0.9s									
MNK				*i*	P		P	02 26 53.7	-0.6	
	comp=N,12nm,1.4s									
MNK				*i*	P		P	02 26 53.7	-0.6	
	comp=Z,13nm,0.9s,baz=126									
MNK				*i*	PP		PnPn	02 27 56.5	-1.3	
MNK				*i*	PPP		PPP	02 28 06.8		
MNK				*i*	S		S	02 32 03.7	-0.2	
MNK				*i*	SS		SnSn	02 33 50.1	+0.6	
MNK				*i*	SSS		SSS	02 34 05.6		
MNK				*i*	LQ		LQ	02 37 20.1		
MNK				*i*	LR		LR	02 39 40.4		
MNK				*i*	LRM		MLR	02 41 01.4		
	comp=E,41nm,12.4s									
MNK				*i*	LRM		MLR	02 41 17.2		
	comp=N,128nm,16.0s									
MNK				*i*	LRM		MLR	02 41 17.6		
	comp=Z,75nm,13.4s									
MNK	Minsk	31.66	327	*i*	P		P	02 26 53.6	-0.6	
MNK				*i*				02 27 56.4		
MNK				*i*	S		S	02 32 03.7	-0.2	
MNK				*i*	SS		SnSn	02 33 50.0	+0.6	
MNK								02 37 20.0		
MNK					pmax	pmax				
	comp=Z,13nm,0.9s									
MNK					pmax	pmax				
	comp=E,4.0nm,0.9s									
MNK					pmax	pmax				
	comp=N,12nm,1.4s									
MNK					MLR	MLR				
	comp=E,41nm,12.0s									
MNK					MLR	MLR				
	comp=N,128nm,16.0s									
MNK					MLR	MLR				
	comp=Z,75nm,13.0s									
KWP	Kalwaria Pacla	32.01	316		P		P	02 26 57.8	+0.3	
KWP	Kalwaria Pacla	32.01	316		P		P	02 26 57.8	+0.3	
KWP					pmax	pmax				
	comp=Z,23nm,1.2s									
PALK	Pallekele	32.09	132		LR	LR		02 40 13.3		
	comp=Z,45nm,19.1s,baz=88,slow=37									
KLMR	Klimovskoe	32.28	344	*eP*			P	02 26 58.4	-1.3	
KLMR					AMP			02 27 04.6		
	comp=Z,34nm,1.7s									
KLMR	Klimovskoe	32.28	344	*eP*			P	02 26 58.3	-1.4	
KLMR					pmax	pmax				
	comp=Z,34nm,1.7s									
OJC	Ojcow	33.98	316		P		P	02 27 15.3	+0.7	
OJC	Ojcow	33.98	316		P		P	02 27 15.3	+0.7	
OJC					pmax	pmax				
	comp=Z,22nm,1.3s									
VYHS	Vyhne	34.01	312	*eP*			P	02 27 15.8	+0.8	
VYHS	Vyhne	34.01	312	*eP*			P	02 27 15.8	+0.8	
PABE	Paberze	34.08	326		P		P	02 27 16.4	+0.9	
LODK	Lodwar	34.17	221		P		P	02 27 17.4	+0.7	
LODK					IAmb	IAmb		02 27 19.4		
	comp=Z,5.4nm,1.2s									
GTA	Gaotai	35.61	64	*eP*			P	02 27 30.3	+1.2	
GTA					pmax	pmax				
	comp=Z,8.0nm,1.0s									
CHVC	Chvalec	36.36	315	*eP*			P	02 27 36.2	+1.0	
CHVC	Chvalec	36.36	315	*eP*			P	02 27 36.2	+1.0	
MOA	Molln	36.81	310	*i*	P		P	02 27 39.5	+0.4	
	comp=Z,2.5nm,0.6s									
FINES	FINESS Array B	36.82	335		P		P	02 27 39.1	+0.1	
FINES	FINESS Array B	36.82	335	*ceP*			P	02 27 39.0	+0.1	
FINES					pmax	pmax				
	comp=Z,6.0nm,0.7s									
FINES	FINESS Array B	36.82	335		P		P	02 27 39.4	+0.4	
	comp=Z,5.5nm,0.7s,baz=133,slow=9.5,SNR=25									
	comp=Z,5.5nm,0.7s									
CKRC	Cesky Krumlov	36.99	312	*eP*			P	02 27 41.2	+0.5	
CKRC	Cesky Krumlov	36.99	312	*eP*			P	02 27 41.2	+0.5	
KMBO	Kilima Mbogo	37.00	215	*ceP*			P	02 27 42.5	+1.3	
KMBO					pmax	pmax				
	comp=Z,2.0nm,1.0s									
BIOA	Bad Ischl, Aus	37.20	310	*i*	P		P	02 27 42.3	-0.1	
	comp=Z,1.1nm,0.4s									
ZVC	Zvikov	37.21	313	*eP*			P	02 27 42.7	+0.2	
GEC2	GERESS Array S	37.39	311		IAmb	IAmb		02 27 45.3		
	comp=Z,8.3nm,0.9s									
GEC2	GERESS Array S	37.39	311		P		P	02 27 42.7	-1.4	
GEC2					pmax	pmax				
	comp=Z,10.0nm,1.1s									
GERES	GERESS Array B	37.39	311		P		P	02 27 44.4	+0.2	
	comp=Z,4.7nm,0.8s,baz=98,slow=8.5,SNR=20									
GERES					PcP		PcP	02 30 02.5	-0.5	
	comp=Z,0.3nm,0.4s,baz=222,slow=1.8,SNR=4.3									
	comp=Z,4.7nm,0.8s									
KHC	Kasperske Hory	37.53	312	*eP*			P	02 27 45.7	+0.4	
KHC	Kasperske Hory	37.53	312	*ceP*			P	02 27 46.3	+1.0	
KHC					pmax	pmax				
	comp=Z,32nm,2.5s									
LESA	Schwarzleotal	37.79	309	*i*	P		P	02 27 47.4	-0.1	
	comp=Z,4.8nm,0.6s									
ABTA	Abfaltersbach	37.79	308	*i*	P		P	02 27 47.6	+0.1	
	comp=Z,3.0nm,0.6s									
CLL	Collm	38.41	315		IAmb	IAmb		02 27 54.8		
	comp=Z,7.4nm,0.9s									
CLL	Collm	38.41	315	*i*	P		P	02 27 53.5	+0.9	
	comp=Z,12nm,1.2s									
CLL				*i*	x		x	02 28 03.0		
CLL	Collm	38.41	315	*i*	P		P	02 27 53.5	+0.9	
CLL				*i*				02 28 03.0		
CLL					pmax	pmax				
	comp=Z,12nm,1.2s									
WTTA	Wattenberg	38.46	309	*eP*			P	02 27 53.0	-0.3	
	comp=Z,8.3nm,0.7s,SNR=5.6									
WATA	Walderalm	38.51	309	*i*	P		P	02 27 53.1	-0.6	
	comp=Z,2.7nm,0.3s									
SQTA	Sankt Quirin	38.74	308	*eP*			P	02 27 55.0	-0.6	
	comp=Z,8.3nm,0.5s,SNR=11									
MOTA	Moosalm	38.83	309	*i*	P		P	02 27 55.5	-0.8	
	comp=Z,3.8nm,0.6s									
LZH	Lanzhou	38.96	69	*eP*			P	02 27 56.8	-0.8	
LZH					pP	pP		02 28 00.9	+1.5	
LZH					pmax	pmax				
	comp=Z,9.0nm,1.3s									
FETA	Feichten	39.04	308	*eP*			P	02 27 57.7	-0.4	
	comp=Z,6.7nm,0.6s,SNR=7.4									
RETA	Reutte	39.08	309	*i*	P		P	02 27 57.6	-0.8	
	comp=Z,4.3nm,0.6s									
PZH	PanZhiHua	39.10	85		P		P	02 27 59.1	+0.3	
PZH					pmax	pmax				
	comp=Z,10.0nm,0.5s									
PZH					pmax	pmax				
	comp=Z,100nm,5.0s									
FUORN	Ofenpass-Fuorn	39.31	307		IAmb	IAmb		02 28 03.7		
	comp=Z,4.4nm,0.7s									
OUL	Oulu	39.40	340		P		P	02 28 01.0	+0.4	
OUL					pmax	pmax				
	comp=Z,15nm,1.4s									
CHTO	Chiang Mai	39.48	98		P		P	02 28 01.0	-0.9	
CHTO					IAmb	IAmb		02 28 02.7		
	comp=Z,8.1nm,0.9s									
CHTO	Chiang Mai	39.48	98		P		P	02 28 01.0	-0.9	
CHTO					pmax	pmax				
	comp=Z,8.0nm,1.0s									
CMAR	Chiang Mai Arr	39.63	98		P		P	02 28 02.9	-0.3	
CMAR	Chiang Mai Arr	39.63	98		P		P	02 28 03.2	0.0	
	comp=Z,1.9nm,0.3s,baz=294,slow=8.2,SNR=12									
CMAR					PcP		PcP	02 30 09.6	-0.7	
	comp=Z,0.8nm,0.3s,baz=290,slow=5.6,SNR=4.3									
	comp=Z,1.9nm,0.3s									
DAVA	Damuels	39.65	308	*i*	P		P	02 28 02.6	-0.6	
	comp=Z,9.0nm,0.7s			

DAG	**Danmarks Havn**	**57.05**	**345**	*i* P		**P**		**02 30 16.0**	**-0.8**
DAG				IAmb		IAmb		02 30 21.0	
	comp=Z,2.2nm,0.8s								
DBG	**Daneborg**	**57.25**	**342**	*i* P		**P**		**02 30 16.4**	**-1.8**
DBG				IAmb		IAmb		02 30 19.9	
	comp=Z,1.3nm,0.8s								
NOR	**Nord**	**57.40**	**350**	*i* P		**P**		**02 30 16.4**	**-2.8**
NOR				IAmb		IAmb		02 30 20.9	
	comp=Z,1.8nm,0.9s								
KLR	**Kul'dur**	**57.64**	**48**	*i* P		**P**		**02 30 20.2**	**-1.2**
KLR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
KLR	**Kul'dur**	**57.64**	**48**	LR		LR		02 57 45.1	
	comp=Z,98nm,18.8s,baz=300,slow=39								
KSRS	**Korea Array**	**57.66**	**63**	P		**P**		**02 30 21.8**	**+0.1**
KSRS				LR		LR		02 57 55.1	
	comp=Z,2.1nm,0.8s,baz=278,slow=6.8,SNR=2.4								
	comp=Z,37nm,21.0s,baz=295,slow=39								
	comp=Z,2.1nm,0.8s								
SUMG	**Summit**	**62.62**	**340**	*i* P		**P**		**02 30 55.3**	**-0.3**
SUMG				IAmb		IAmb		02 30 57.2	
	comp=Z,2.3nm,0.8s								
TSUM	**Tsumeb**	**62.64**	**223**	LR		LR		02 59 29.4	
	comp=Z,62nm,18.2s,baz=329,slow=37								
DBIC	**Dimbokro**	**62.69**	**261**	P		**P**		**02 30 56.0**	**-0.5**
DBIC	**Dimbokro**	**62.69**	**261**	P		**P**		**02 30 56.0**	**-0.5**
	comp=Z,5.9nm,1.1s,baz=256,slow=3.7,SNR=3.5								
DBIC				LR		LR		02 59 12.5	
	comp=Z,84nm,18.6s,baz=58,slow=37								
	comp=Z,5.9nm,1.1s								
LBTB	**Lobatse**	**63.22**	**212**	LR		LR		03 01 03.3	
	comp=Z,77nm,18.3s,baz=357,slow=39								
SEY	**Seymchan**	**65.32**	**30**	*i* P		**P**		**02 31 12.4**	**-0.6**
SEY				pmax		pmax			
	comp=Z,4.0nm,0.9s								
SEY	**Seymchan**	**65.32**	**30**	LR		LR		03 02 53.0	
	comp=Z,121nm,18.9s,baz=336,slow=39								
BOSA	**Boshof**	**66.48**	**211**	LR		LR		03 02 37.5	
	comp=Z,44nm,19.3s,baz=12,slow=38								
SUR	**Sutherland**	**71.67**	**212**	LR		LR		03 05 42.6	
	comp=Z,67nm,18.7s,baz=0.5,slow=38								
A36M	**Sachs Harbour**	**77.49**	**1**	P		**P**		**02 32 26.6**	**+0.3**
E24K	**Your Creek**	**79.58**	**10**	P		**P**		**02 32 37.8**	**-0.3**
E24K				IAmb		IAmb		02 32 44.8	
	comp=Z,9.6nm,1.4s								
BMAR	**Burnt Mountain**	**80.71**	**8**	P		**P**		**02 32 45.5**	**+1.3**
ILAR	**Eielson Array**	**82.90**	**10**	P		**P**		**02 32 55.8**	**+0.1**
ILAR	**Eielson Array**	**82.90**	**10**	P		**P**		**02 32 55.8**	**+0.1**
ILAR	**Eielson Array**	**82.90**	**10**	P		**P**		**02 32 55.0**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=327,slow=4.1,SNR=9.7								
	comp=Z,0.8nm,0.8s								
YKA	**Yellowknife Ar**	**86.81**	**356**	P		**P**		**02 33 15.2**	**-0.3**
	comp=Z,1.3nm,1.0s,baz=356,slow=5.5,SNR=13								
	comp=Z,1.3nm,1.0s								
WRA	**Warramunga Arr**	**89.54**	**114**	*ce*P		**P**		**02 33 29.0**	**-0.1**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
WRA	**Warramunga Arr**	**89.54**	**114**	P		**P**		**02 33 27.6**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=313,slow=4.2,SNR=9.7								
	comp=Z,0.8nm,0.8s								
ASAR	**Alice Springs**	**91.22**	**117**	P		**P**		**02 33 35.9**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=302,slow=4.5,SNR=9.2								
	comp=Z,0.9nm,0.8s								
QSPA	**South Pole Qui**	**120.62**	**180**	PKP		**PKPdf**		**02 39 21.2**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=262,slow=2.5,SNR=3.6								

WEL ***16*** *02:41:03.6±0.4, 41°S±3°×17°4E±°, h54km±5km, M3.4/28, ML3.6/28, MLv3.4/28, Error ellipse: s-maj=0.0km s-min=0.0km az=173.0, confirmed*
NOU ***16*** *02:41:03.7, 40.98S×173.66E, h29km, MLv3.5/8, Cook Strait, New Zealand*
ISC 16 02:41:02.5±1.3, 40.95S±0.03×173.82E±0.03, h77km±7km, n120, σ1s03/138, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.17**	**28**	P		**Pn**	**02 41 13.5**	**-0.3**
DUWZ				S		**Sn**	**02 41 21.8**	**-0.5**
HAVS	**Havelock**	**0.32**	**185**	P		**Pn**	**02 41 14.9**	**+0.3**
NNZ	**Nelson**	**0.42**	**231**	P		**Pn**	**02 41 15.4**	**+0.1**
NNZ				S		**Sn**	**02 41 24.9**	**+0.1**
TCW	**Tory Channel**	**0.43**	**127**	P		**Pn**	**02 41 16.0**	**+0.6**
TCW				S		**Sn**	**02 41 24.9**	**-0.1**
TUWZ	**Tuamarina**	**0.49**	**169**	P		**Pn**	**02 41 16.2**	**+0.3**
TUWZ				S		**Sn**	**02 41 25.8**	**+0.1**
NELH	**Nelson Hospita**	**0.53**	**231**	P		**Pn**	**02 41 15.5**	**-0.8**
NELH				S		**Sn**	**02 41 25.9**	**-0.5**
MGCS	**Blenheim Marlb**	**0.56**	**170**	P		**Pn**	**02 41 15.4**	**-1.2**
TKNZ	**Takaka Hill**	**0.65**	**263**	P		**Pn**	**02 41 17.5**	**0.0**
TKNZ				S		**Sn**	**02 41 28.7**	**+0.1**
MKVS	**Makara Village**	**0.74**	**115**	P		**Pn**	**02 41 17.7**	**-0.7**
MKVS				S		**Sn**	**02 41 29.5**	**-0.6**
SEDS	**Seddon Fire St**	**0.75**	**165**	P		**Pn**	**02 41 19.9**	**+1.4**
SNZO	**South Karori**	**0.76**	**118**	P		**Pn**	**02 41 19.2**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.76**	**177**	P		**Pn**	**02 41 19.7**	**+1.1**
BSWZ				S		**Sn**	**02 41 33.0**	**+2.3**
WEL	**Wellington**	**0.79**	**115**	P		**Pn**	**02 41 19.5**	**+0.5**
WEL				S		**Sn**	**02 41 31.2**	**+0.1**
KIW	**Kapiti Island**	**0.83**	**84**	P		**Pn**	**02 41 19.8**	**+0.4**
KIW				S		**Sn**	**02 41 32.4**	**+0.4**
CMWZ	**Cape Campbell**	**0.85**	**160**	P		**Pn**	**02 41 21.4**	**+1.4**
BHW	**Baring Head**	**0.92**	**120**	P		**Pn**	**02 41 20.5**	**+0.1**
MRNZ	**Matariki Terra**	**0.92**	**240**	P		**Pn**	**02 41 21.2**	**+0.8**
MRNZ				S		**Sn**	**02 41 34.8**	**+1.1**
CAW	**Cannon Point**	**0.96**	**100**	P		**Pn**	**02 41 21.0**	**+0.2**
QRZ	**Quartz Range**	**0.98**	**277**	P		**Pn**	**02 41 20.7**	**-0.5**
QRZ	**Quartz Range**	**0.98**	**277**	P		**Pn**	**02 41 20.8**	**-0.4**
QRZ				S		**Sn**	**02 41 34.1**	**-1.0**
OGWZ	**Otaki Gorge**	**1.03**	**83**	P		**Pn**	**02 41 22.0**	**+0.2**
OGWZ				S		**Sn**	**02 41 36.3**	**+0.1**
THZ	**Tophouse**	**1.06**	**220**	P		**Pn**	**02 41 22.9**	**+0.7**
THZ				S		**Sn**	**02 41 39.0**	**+2.1**
PLWZ	**Palliser**	**1.25**	**120**	P		**Pn**	**02 41 24.5**	**0.0**
PLWZ				S		**Sn**	**02 41 40.1**	**-0.9**
HOWZ	**Holdsworth Sta**	**1.29**	**88**	P		**Pn**	**02 41 24.8**	**-0.2**
HOWZ				S		**Sn**	**02 41 41.3**	**-0.6**
PAWZ	**Paruwai Farm**	**1.29**	**110**	P		**Pn**	**02 41 25.0**	**0.0**
PAWZ				S		**Sn**	**02 41 40.8**	**-1.1**
MTW	**Mount Morrison**	**1.29**	**100**	P		**Pn**	**02 41 24.7**	**-0.2**
MTW				S		**Sn**	**02 41 41.1**	**-0.8**
OHWZ	**Ohakea**	**1.36**	**57**	P		**Pn**	**02 41 27.2**	**+1.3**
MRZ	**Mangatainoka R**	**1.37**	**78**	P		**Pn**	**02 41 25.4**	**-0.6**
KHZ	**Kahutara**	**1.48**	**188**	P		**Pn**	**02 41 28.1**	**+0.7**
KHZ	**Kahutara**	**1.48**	**188**	P		**Pn**	**02 41 28.1**	**+0.7**
TRWZ	**Traveller**	**1.48**	**108**	P		**Pn**	**02 41 27.4**	**-0.1**
WAZ	**Wanganui**	**1.49**	**37**	P		**Pn**	**02 41 28.7**	**+1.1**
NMEZ	**Namu Road**	**1.54**	**2**	P		**Pn**	**02 41 28.6**	**+0.4**
LREZ	**Lake Rotokare**	**1.56**	**17**	P		**Pn**	**02 41 29.7**	**+1.3**
TMWZ	**Te Maipa**	**1.57**	**96**	P		**Pn**	**02 41 28.4**	**-0.3**
TIWZ	**Tintock**	**1.58**	**84**	P		**Pn**	**02 41 28.8**	**+0.1**
POWZ	**Post Office Ro**	**1.58**	**70**	P		**Pn**	**02 41 28.2**	**-0.6**
PREZ	**Palmer Road**	**1.63**	**9**	P		**Pn**	**02 41 30.0**	**+0.6**
KHEZ	**Kahui Hut**	**1.66**	**5**	P		**Pn**	**02 41 30.4**	**+0.5**
KHEZ	**Kahui Hut**	**1.66**	**5**	P		**Pn**	**02 41 30.3**	**+0.5**
NBEZ	**Newall Road No**	**1.68**	**1**	P		**Pn**	**02 41 30.6**	**+0.5**
PRWZ	**Pori Road**	**1.68**	**77**	P		**Pn**	**02 41 29.8**	**-0.3**
NEZ	**North Egmont**	**1.69**	**7**	P		**Pn**	**02 41 30.6**	**+0.3**
DSZ	**Denniston Nort**	**1.71**	**242**	P		**Pn**	**02 41 30.8**	**+0.2**
PKE	**Pukeiti**	**1.76**	**4**	P		**Pn**	**02 41 31.6**	**+0.5**
TSZ	**Takapari Road**	**1.86**	**62**	P		**Pn**	**02 41 35.0**	**+2.5**
BFZ	**Birch Farm**	**1.86**	**82**	P		**Pn**	**02 41 36.0**	**+3.5**
BFZ	**Birch Farm**	**1.86**	**82**	P		**Pn**	**02 41 31.8**	**-0.7**
DVHZ	**Dannevirke**	**1.90**	**71**	P		**Pn**	**02 41 35.6**	**+2.6**
MHEZ	**Mangahewa**	**1.91**	**12**	P		**Pn**	**02 41 34.0**	**+0.9**
VRZ	**Vera Road**	**1.96**	**22**	P		**Pn**	**02 41 34.6**	**+0.8**
MTVZ	**Mangateitei**	**2.01**	**40**	P		**Pn**	**02 41 35.2**	**+0.6**
PKVZ	**Pokaka**	**2.03**	**36**	P		**Pn**	**02 41 35.1**	**+0.3**
PNHZ	**Pukenui**	**2.09**	**61**	P		**Pn**	**02 41 35.2**	**-0.4**
GVZ	**Greta Valley S**	**2.10**	**196**	P		**Pn**	**02 41 36.1**	**+0.5**
TRVZ	**Turoa**	**2.12**	**39**	P		**Pn**	**02 41 36.4**	**+0.3**
WNVZ	**Wahianoa**	**2.12**	**41**	P		**Pn**	**02 41 36.3**	**+0.3**
MOVZ	**Moawhango**	**2.14**	**44**	P		**Pn**	**02 41 35.8**	**-0.4**
MAVZ	**Matarangi**	**2.15**	**39**	P		**Pn**	**02 41 39.5**	**+2.9**
WHVZ	**Whangaehu Hut**	**2.15**	**40**	P		**Pn**	**02 41 37.0**	**+0.4**
FWVZ	**Far West T-bar**	**2.15**	**39**	P		**Pn**	**02 41 37.1**	**+0.5**
LTZ	**Lake Taylor**	**2.16**	**212**	P		**Pn**	**02 41 37.2**	**+0.7**
TUVZ	**Tukino**	**2.19**	**41**	P		**Pn**	**02 41 37.3**	**+0.3**
NGZ	**Ngauruhoe**	**2.24**	**38**	P		**Pn**	**02 41 37.8**	**+0.1**
SNVZ	**South Ngauruho**	**2.25**	**39**	P		**Pn**	**02 41 38.1**	**+0.2**
TWVZ	**Taurewa**	**2.25**	**34**	P		**Pn**	**02 41 37.9**	**+0.1**
BHHZ	**Black Hill Sta**	**2.25**	**50**	P		**Pn**	**02 41 37.1**	**-0.7**
OTVZ	**Oturere**	**2.28**	**39**	P		**Pn**	**02 41 38.4**	**+0.2**
NNVZ	**North Ngauruho**	**2.28**	**38**	P		**Pn**	**02 41 38.3**	**+0.1**
WTVZ	**West Tongariro**	**2.28**	**37**	P		**Pn**	**02 41 38.2**	**0.0**
ETVZ	**East Tongariro**	**2.32**	**39**	P		**Pn**	**02 41 38.7**	**-0.1**
KRVZ	**Karewarewa**	**2.32**	**38**	P		**Pn**	**02 41 39.4**	**+0.6**
NTVZ	**North Tongarir**	**2.34**	**38**	P		**Pn**	**02 41 40.8**	**+1.8**
TMVZ	**Te Maari**	**2.34**	**39**	P		**Pn**	**02 41 39.0**	**+0.1**
KRHZ	**Kereru**	**2.35**	**57**	P		**Pn**	**02 41 38.3**	**-0.8**
AMCZ	**Amberley**	**2.39**	**201**	P		**Pn**	**02 41 39.3**	**-0.2**
KATZ	**Kakaramea**	**2.44**	**37**	P		**Pn**	**02 41 41.6**	**+1.2**
INZ	**Inchbonnie**	**2.51**	**224**	P		**Pn**	**02 41 41.9**	**+0.9**
KWHZ	**Kaweka Forest**	**2.51**	**53**	P		**Pn**	**02 41 41.6**	**+0.4**
HIZ	**Hauiti**	**2.56**	**19**	P		**Pn**	**02 41 41.9**	**+0.1**
RATZ	**Rangitukua**	**2.57**	**36**	P		**Pn**	**02 41 44.9**	**+2.9**
KAHZ	**Kahuranaki**	**2.61**	**65**	P		**Pn**	**02 41 42.1**	**-0.4**
WATZ	**Wairara**	**2.68**	**34**	P		**Pn**	**02 41 45.0**	**+1.5**
OXZ	**Oxford**	**2.72**	**209**	P		**Pn**	**02 41 43.3**	**-0.6**
BKZ	**Black Stump Fm**	**2.72**	**50**	P		**Pn**	**02 41 47.5**	**+3.5**
BKZ	**Black Stump Fm**	**2.72**	**50**	P		**Pn**	**02 41 42.9**	**-1.1**
MQZ	**McQueen's Vall**	**2.88**	**197**	P		**Pn**	**02 41 45.0**	**-1.2**
TLZ	**Tolley Road**	**2.94**	**27**	P		**Pn**	**02 41 46.8**	**-0.1**
NMHZ	**Naumai**	**2.95**	**52**	P		**Pn**	**02 41 45.9**	**-1.3**
AKCZ	**Akaroa Harbour**	**3.00**	**193**	P		**Pn**	**02 41 47.2**	**-0.5**
RACZ	**Rakaia**	**3.04**	**204**	P		**Pn**	**02 41 47.5**	**-0.8**
MHCZ	**Mount Hutt**	**3.07**	**212**	P		**Pn**	**02 41 48.2**	**-0.6**
WVZ	**Waitaha Valley**	**3.13**	**226**	P		**Pn**	**02 41 49.4**	**0.0**
MTHZ	**Maungataniwha**	**3.13**	**49**	P		**Pn**	**02 41 47.7**	**-1.9**
WACZ	**Wakanui South**	**3.33**	**205**	P		**Pn**	**02 41 52.3**	**+0.1**
RPZ	**Rata Peaks**	**3.44**	**216**	P		**Pn**	**02 41 53.5**	**-0.2**
RPZ	**Rata Peaks**	**3.44**	**216**	P		**Pn**	**02 41 53.4**	**-0.3**
TOZ	**Tahuroa Road**	**3.47**	**23**	P		**Pn**	**02 41 53.9**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**3.51**	**227**	P		**Pn**	**02 41 54.4**	**-0.3**
ARCZ	**Arundel**	**3.58**	**212**	P		**Pn**	**02 41 54.7**	**-0.8**
URZ	**Urewera**	**3.70**	**44**	P		**Pn**	**02 42 00.7**	**+3.4**
FOZ	**Fox Glacier**	**3.93**	**228**	P		**Pn**	**02 41 59.9**	**-0.5**
AWAZ	**Awhitu Peninsu**	**3.94**	**10**	P		**Pn**	**02 42 00.7**	**+0.2**
MKAZ	**Moumakai**	**3.98**	**16**	P		**Pn**	**02 42 01.1**	**0.0**
TMZ	**Timaru**	**4.01**	**210**	P		**Pn**	**02 42 00.8**	**-0.7**
WTAZ	**Waiatarua**	**4.06**	**9**	P		**Pn**	**02 42 02.6**	**+0.4**
ETAZ	**East Tamaki Re**	**4.08**	**13**	P		**Pn**	**02 42 02.7**	**+0.1**
EPAZ	**Eden Park BICE**	**4.13**	**10**	P		**Pn**	**02 42 03.7**	**+0.5**
RVAZ	**Riverhead Bore**	**4.22**	**8**	P		**Pn**	**02 42 04.6**	**+0.2**
MBAZ	**Motutapu North**	**4.26**	**12**	P		**Pn**	**02 42 05.0**	**+0.1**
WIAZ	**Waiheke Island**	**4.28**	**14**	P		**Pn**	**02 42 05.4**	**+0.2**
LBZ	**Lake Benmore**	**4.35**	**217**	P		**Pn**	**02 42 04.4**	**-1.8**
ABAZ	**Army Bay**	**4.42**	**11**	P		**Pn**	**02 42 07.4**	**+0.4**
KUZ	**Kuaotunu**	**4.46**	**20**	P		**Pn**	**02 42 06.9**	**-0.6**
ODZ	**Otahua Downs**	**4.71**	**209**	P		**Pn**	**02 42 10.5**	**-0.4**
JCZ	**Jackson Bay**	**4.85**	**228**	P		**Pn**	**02 42 12.1**	**-1.0**
WCZ	**Waipu Caves**	**5.02**	**5**	P		**Pn**	**02 42 15.8**	**+0.5**
EAZ	**Earnscleugh**	**5.40**	**216**	P		**Pn**	**02 42 17.8**	**-2.7**
OUZ	**Omahuta**	**5.72**	**358**	P		**Pn**	**02 42 25.4**	**+0.5**
CTZ	**Chatham Island**	**7.61**	**115**	P		**Pn**	**02 42 49.4**	**-1.2**

REY ***16*** *02:41:33.5, 64.62N×17.51W, h5km*
ISC 16 02:41:33.1±1.0, 64.63N±0.02×17.53W±0.02, h13km±6km, n54, σ1s49/59, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IKIS	**Kista**	**0.04**	**343**	P		**Pg**	**02 41 35.0**	**-0.7**
	baz=335							
IDJK	**Dyngjujokull**	**0.18**	**135**	P		**Pg**	**02 41 37.2**	**-0.1**
	baz=135							
IDJK				S		**Sg**	**02 41 40.1**	**-0.2**
	baz=135							
IURH	**Urdarhals**	**0.25**	**41**	P		**Pg**	**02 41 38.8**	**+0.3**
	baz=38							
IGRF	**Grimsfjall**	**0.26**	**153**	P		**Pg**	**02 41 38.4**	**-0.2**
	baz=154							
IHUS	**Husbondi**	**0.34**	**189**	P		**Pg**	**02 41 39.8**	**-0.3**
	baz=191							
ISKR	**Skrokkalda**	**0.38**	**259**	P		**Pg**	**02 41 40.9**	**+0.2**
	baz=261							
IBJK	**Bruarjokull**	**0.38**	**116**	P		**Pg**	**02 41 40.4**	**-0.3**
	baz=115							
IBJK				S		**Sg**	**02 41 44.9**	**-0.9**
	baz=115							
IJOK	**Jokulheimar**	**0.44**	**223**	P		**Pg**	**02 41 41.6**	**-0.2**
	baz=226							
IJOK				S		**Sg**	**02 41 48.2**	**+0.5**
	baz=226							
THOR	**Thorvaldshraun**	**0.47**	**50**	P		**Pg**	**02 41 42.1**	**-0.4**
	baz=48							
THOR				S		**Sg**	**02 41 48.3**	**-0.5**
	baz=48							
IKRE	**Kreppuhraun**	**0.52**	**73**	P		**Pg**	**02 41 42.3**	**-0.9**
	baz=71							
IKRE				S		**Sg**	**02 41 49.2**	**-0.9**
	baz=71							
IIEY	**Innrieyrar**	**0.60**	**206**	P		**Pg**	**02 41 44.1**	**-0.7**
	baz=207							
IIEY				S		**Sg**	**02 41 52.6**	**-0.1**
	baz=207							
IMKO	**Mokollar**	**0.62**	**55**	P		**Pg**	**02 41 44.7**	**-0.4**
	baz=54							
IKSK	**Karasker**	**0.66**	**135**	P		**Pg**	**02 41 44.4**	**-1.6**
	baz=135							
IKAL	**Kalfafell**	**0.69**	**186**	P		**Pg**	**02 41 45.6**	**-0.9**
	baz=187							
IKAL				S		**Sg**	**02 41 55.0**	**-0.6**
	baz=187							
ISVA	**Svartarkot**	**0.71**	**9**	P		**Pg**	**02 41 46.4**	**-0.6**
	baz=8.4							
IFAL	**Falljokull**	**0.75**	**155**	P		**Pg**	**02 41 46.4**	**-1.1**
	baz=156							
IVAT	**Vatnsfell**	**0.75**	**234**	P		**Pg**	**02 41 47.3**	**-0.3**
	baz=235							
IVSH	**V-Sauoahnukur**	**0.79**	**77**	P		**Pg**	**02 41 47.7**	**-0.8**
	baz=76							
IKVI	**Kvisker**	**0.81**	**143**	P		**Pg**	**02 41 47.3**	**-1.4**
	baz=144							
IHOX	**Haoxl**	**0.83**	**151**	P		**Pg**	**02 41 48.0**	**-1.1**
	baz=151							
IFAG	**Fagurholsmyri**	**0.85**	**153**	P		**Pg**	**02 41 48.1**	**-1.4**
	baz=153							
IADA	**Aoalbol**	**0.92**	**64**	P		**Pg**	**02 41 49.4**	**-1.5**
	baz=63							
ISTE	**Stelbrattur**	**0.93**	**285**	P		**Pg**	**02 41 50.2**	**-0.8**
	baz=285							
IMEL	**Melhnausar**	**1.01**	**21**	P		**Pg**	**02 41 50.3**	**-2.2**
	baz=20							
ISNB	**Snabyli**	**1.02**	**209**	P		**Pg**	**02 41 50.5**	**-2.3**
	baz=210							
ILOD	**Lodnugiljahaus**	**1.06**	**212**	P		**Pg**	**02 41 51.7**	**-1.7**
	baz=213							
IHES	**Hestalda**	**1.06**	**237**	P		**Pg**	**02 41 51.9**	**-1.6**
	baz=238							
IKVO	**Krokottuvotn**	**1.12**	**14**	P		**Pg**	**02 41 52.2**	**-2.4**
	baz=13							
IRJU	**Rjupnafell**	**1.14**	**207**	P		**Pg**	**02 41 53.4**	**-1.6**
	baz=207							
IMJO	**Mjoaskard**	**1.17**	**234**	P		**Pg**	**02 41 53.8**	**-1.7**
	baz=235							
IGRS	**Grimsstaoir**	**1.17**	**30**	P		**Pg**	**02 41 54.0**	**-1.7**
	baz=29							
IAUS	**Austmannsbunga**	**1.18**	**216**	P		**Pg**	**02 41 53.6**	**-2.2**
	baz=217							
IENT	**Enta**	**1.18**	**218**	P		**Pg**	**02 41 54.2**	**-1.7**
	baz=219							
IGYG	**Gygjarholskot**	**1.22**	**254**	P		**Pg**	**02 41 54.7**	**-1.8**
	baz=255							
IHAU	**Haukadalur**	**1.25**	**239**	P		**Pg**	**02 41 54.9**	**-2.3**
	baz=240							
IHVO	**Lagu-Hvolar**	**1.25**	**208**	P		**Pg**	**02 41 54.7**	**-2.5**
	baz=209							
ISKI	**Skildingahlsh**	**1.26**	**10**	P		**Pg**	**02 41 54.5**	**-2.8**
	baz=8.9							
IGHA	**Grjothals**	**1.27**	**16**	P		**Pg**	**02 41 54.5**	**-2.9**
	baz=16							
IGRA	**Granastaoir**	**1.29**	**359**	P		**Pn**	**02 41 56.1**	**-0.6**
	baz=359							
IDIM	**Dimmadalss**	**1.36**	**10**	P		**Pn**	**02 41 56.3**	**-1.4**
	baz=9.9							
IHLA	**Hella**	**1.36**	**345**	P		**Pn**	**02 41 56.6**	**-1.2**
	baz=345							
IESK	**Eystri-Skogar**	**1.40**	**218**	P		**Pn**	**02 41 57.4**	**-0.9**
	baz=219							
ISAU	**Saurbar**	**1.41**	**244**	P		**Pn**	**02 41 57.0**	**-1.5**
	baz=245							
IHED	**Heoinshofoi**	**1.46**	**4**	P		**Pn**	**02 41 57.6**	**-1.4**
	baz=3.1							
IBRE	**Brettingsstaoi**	**1.50**	**354**	P		**Pn**	**02 41 59.1**	**-0.7**
	baz=354							
IGIL	**Gilhagi**	**1.53**	**18**	P		**Pn**	**02 41 59.2**	**-0.9**
	baz=18							
ISIG	**Siglufjorour**	**1.61**	**340**	P		**Pn**	**02 42 00.4**	**-0.8**
	baz=339							
BORG	**Borgarnes**	**1.63**	**276**	Lg		Lg	02 42 13.6	
	16nm,0.3s,baz=102,slow=11,SNR=8.6							
BORG	**Borgarnes**	**1.63**	**276**	Pg		**Pn**	**02 42 00.5**	**-1.0**
	10nm,0.3s,baz=92,slow=12,SNR=25							
IASB	**`sbjarnarst**	**1.63**	**276**	P		**Pn**	**02 42 00.6**	**-0.9**
	baz=276							
ISOL	**Solvholt**	**1.65**	**246**	P		**Pn**	**02 42 00.8**	**-0.9**
	baz=247							
SCO	**Scoresbysund**	**6.11**	**346**	*i* P		**Pn**	**02 43 06.0**	**+3.0**
PDAR	**Pinedale Array**	**53.18**	**293**	P		**P**	**02 50 54.4**	**+3.7**
	0.3nm,0.7s,baz=58,slow=5.6,SNR=3.6							
PDAR	**Pinedale Array**	**53.18**	**293**					
	0.3nm,0.7s							

IDC ***16*** *02:41:40.3±1.4, 64.17N×19.41W, h0km, mb3.4/5, mbtmp3.5/6, ML4.3/1, MS3.3/3, Error ellipse: s-maj=57.0km s-min=10.5km az=30.0*
REY ***16*** *02:41:44.1, 64.63N×17.46W, h5km*
ISC 16 02:41:43.7±0.8, 64.63N±0.02×17.51W±0.02, h11km±6km, n48, σ1s34/61, mb3.3/4, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IKIS	**Kista**	**0.05**	**331**	P		**Pg**	**02 41 45.8**	**-0.3**
	baz=318							
IDJK	**Dyngjujokull**	**0.18**	**138**	P		**Pg**	**02 41 47.6**	**-0.1**
	baz=142							
IDJK				S		**Sg**	**02 41 50.6**	**+0.1**
	baz=142							
IURH	**Urdarhals**	**0.24**	**40**	P		**Pg**	**02 41 48.8**	**0.0**
	baz=35							
IURH				S		**Sg**	**02 41 52.8**	**+0.5**
	baz=35							
IGRF	**Grimsfjall**	**0.25**	**155**	P		**Pg**	**02 41 48.9**	**-0.1**
	baz=159							
IHUS	**Husbondi**	**0.35**	**191**	P		**Pg**	**02 41 50.8**	**+0.1**
	baz=194							
IHUS				S		**Sg**	**02 41 55.7**	**+0.4**
	baz=194							
IBJK	**Bruarjokull**	**0.37**	**116**	P		**Pg**	**02 41 50.9**	**-0.2**
	baz=117							
IJOK	**Jokulheimar**	**0.45**	**224**	P		**Pg**	**02 41 52.8**	**+0.4**
	baz=227							
IJOK				S		**Sg**	**02 41 58.9**	**+0.6**
	baz=227							
THOR	**Thorvaldshraun**	**0.47**	**50**	P		**Pg**	**02 41 52.5**	**-0.3**
	baz=47							
THOR				S		**Sg**	**02 41 59.7**	**+0.6**
	baz=47							
IKRE	**Kreppuhraun**	**0.51**	**72**	P		**Pg**	**02 41 53.0**	**-0.5**
	baz=71							
IKRE				S		**Sg**	**02 42 00.1**	**-0.2**
	baz=71							
IIEY	**Innrieyrar**	**0.60**	**207**	P		**Pg**	**02 41 54.5**	**-0.9**
	baz=209							
IIEY				S		**Sg**	**02 42 03.2**	**-0.1**
	baz=209							
IMKO	**Mokollar**	**0.61**	**55**	P		**Pg**	**02 41

ISC 16 03:00:43.3±1.2, 24°83N±0°02×122°39E±0°02, h8km±9km, n104, σ0°77/206, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
TWB1	**Santiao Chiao** baz=306	**0.40**	**297**	⇑*i*P		**Pb**	**03 00 52.4**	**-0.2**
TWB1				*i* S		**Sb**	**03 00 57.4**	**-1.6**
EGS	baz=306	**0.41**	**273**	*e*P		**Pb**	**03 00 52.0**	**-0.8**
EGS	baz=277			S		**Sb**	**03 00 58.8**	**-0.4**
EOS2	**EOS2** baz=192	**0.43**	**199**	⇑P		**Pb**	**03 00 53.1**	**+0.1**
EOS2				S		**Sb**	**03 01 00.6**	**+1.1**
TIPB	**Shuangxi** baz=291	**0.53**	**286**	P		**Pb**	**03 00 54.9**	**+0.1**
TIPB				S		**Sb**	**03 01 03.0**	**+0.4**
SXI1	**Grass Mountain** baz=307	**0.53**	**300**	P		**Pb**	**03 00 55.4**	**+0.4**
SXI1				S		**Sb**	**03 01 03.7**	**+0.9**
TWC	**Suao** baz=254	**0.54**	**246**	*i* P		**Pg**	**03 00 53.7**	**+0.1**
TWC				S		**Sg**	**03 01 00.3**	**-0.4**
EOS3	**EOS3** baz=176	**0.54**	**187**	P		**Pb**	**03 00 55.4**	**+0.5**
EOS3				S		**Sb**	**03 01 04.4**	**+1.6**
ILA	**Ilan** baz=254	**0.58**	**264**	*e*P		**Pb**	**03 00 55.1**	**-0.6**
ILA				*i* S		**Sb**	**03 01 03.9**	**-0.2**
NWF	**Wu-fen Shan** baz=299	**0.60**	**294**	*i* P		**Pn**	**03 00 57.4**	**-0.7**
NWF				*i* S		**Sb**	**03 01 05.5**	**+0.8**
WFSB	**Wu-fen Shan** baz=299	**0.60**	**294**	P		**Pn**	**03 00 57.3**	**-0.8**
WFSB				S		**Sb**	**03 01 05.3**	**+0.7**
JYNG	**Yonagunijimaku**	**0.63**	**126**	P		**Pn**	**03 00 57.6**	**-0.9**
JYNG				S		**Sb**	**03 01 07.0**	**+1.5**
NDS	**Dongshan** baz=252	**0.64**	**253**	P		**Pb**	**03 00 56.3**	**-0.3**
NDS				S		**Sg**	**03 01 04.3**	**+0.3**
TNOU	**National Taiwa** baz=306	**0.64**	**300**	*e*P		**Pn**	**03 00 57.5**	**-1.2**
TNOU				S		**Sb**	**03 01 06.5**	**+0.6**
TWE	**Neicheng** baz=254	**0.66**	**261**	*i* P		**Pb**	**03 00 56.4**	**-0.7**
TWE				*i* S		**Sg**	**03 01 04.6**	**-0.1**
EWUT	**Wuta** baz=233	**0.67**	**236**	P		**Pg**	**03 00 56.5**	**+0.2**
EWUT				S		**Sg**	**03 01 04.9**	**-0.1**
YOJ	**Yonaguni jima**	**0.68**	**123**	P		**Pn**	**03 00 58.6**	**-0.4**
YOJ				S		**Sb**	**03 01 07.3**	**+0.6**
YOJ	**Yonaguni jima** baz=117	**0.68**	**123**	P		**Pn**	**03 00 58.4**	**-0.7**
YOJ				S		**Sn**	**03 01 08.4**	**-1.4**
EOS4	**EOS4** baz=161	**0.71**	**185**	P		**Pn**	**03 00 58.3**	**-0.9**
EOS4				S		**Sb**	**03 01 07.9**	**+0.6**
ENA	**Nanau** baz=233	**0.71**	**236**	*i* P		**Pg**	**03 00 57.1**	**+0.1**
ENA				*i* S		**Sg**	**03 01 06.0**	**-0.2**
FUSB	**Fushanzhiwuyua** baz=266	**0.73**	**265**	P		**Pb**	**03 00 57.9**	**-0.4**
FUSB				S		**Sb**	**03 01 08.5**	**+0.1**
TWA	**Mucha** baz=285	**0.74**	**282**	*i* P		**Pn**	**03 00 59.5**	**-0.6**
TWA				*i* S		**Sn**	**03 01 10.1**	**-1.4**
NWRT	**Kuosheng** baz=304	**0.76**	**300**	*e*P		**Pn**	**03 00 59.6**	**-0.7**
NWRT				S		**Sb**	**03 01 09.8**	**+0.6**
ENTT	**Nioudou** baz=256	**0.77**	**256**	*i* P		**Pb**	**03 00 58.5**	**-0.4**
ENTT				S		**Sg**	**03 01 08.3**	**+0.2**
NHDH	**Xindian Distri** baz=283	**0.79**	**280**	P		**Pn**	**03 01 00.3**	**-0.4**
NHDH				S		**Sb**	**03 01 10.7**	**+0.5**
NWLT	**Wulai** baz=268	**0.81**	**267**	P		**Pb**	**03 00 59.5**	**0.0**
NWLT				S		**Sb**	**03 01 09.9**	**-0.7**
YM01	**YM01** baz=297	**0.81**	**293**	P		**Pn**	**03 01 00.3**	**-0.7**
YM01				S		**Sb**	**03 01 11.2**	**+0.6**
YM08	**YM08** baz=301	**0.81**	**297**	P		**Pn**	**03 01 00.2**	**-0.7**
YM08				S		**Sb**	**03 01 10.8**	**+0.1**
NDT	**Datong Townshi** baz=263	**0.82**	**254**	P		**Pb**	**03 00 59.8**	**0.0**
NDT				S		**Sg**	**03 01 10.1**	**+0.2**
TATO	**Taipei** baz=283	**0.83**	**280**	P		**Pn**	**03 01 00.9**	**-0.3**
TATO				S		**Sb**	**03 01 11.6**	**+0.4**
LATG	**Datong** baz=249	**0.83**	**250**	P		**Pb**	**03 00 59.6**	**-0.5**
LATG				S		**Sg**	**03 01 10.4**	**+0.2**
TWY	**Chenhua** baz=306	**0.84**	**302**	*i* P		**Pn**	**03 01 01.5**	**+0.2**
TWY				*i* S		**Sn**	**03 01 12.9**	**-1.0**
PCYT	**Pengchaiyu** baz=347	**0.85**	**340**	P		**Pn**	**03 01 02.6**	**+1.1**
PCYT				S		**Sn**	**03 01 15.0**	**+0.9**
ANP	**Anpu** baz=298	**0.86**	**295**	*i* P		**Pn**	**03 01 01.9**	**+0.1**
ANP				S		**Sb**	**03 01 12.9**	**+0.6**
NTST	**Danshui** baz=307	**0.91**	**292**	*e*P		**Pb**	**03 01 01.3**	**0.0**
NTST				*e*S		**Sn**	**03 01 14.7**	**-1.0**
TWS1	**Kuangyinshan** baz=290	**0.92**	**287**	*i* P		**Pn**	**03 01 02.7**	**+0.3**
TWS1				*i* S		**Sn**	**03 01 15.1**	**-0.8**
YHNB	**Yeheng** baz=261	**0.93**	**261**	P		**Pb**	**03 01 01.8**	**+0.1**
YHNB				S		**Sg**	**03 01 13.3**	**0.0**
NSK	**Sanguang** baz=261	**0.95**	**261**	*i* P		**Pb**	**03 01 01.7**	**-0.3**
NSK				*i* S		**Sg**	**03 01 13.2**	**-0.6**
ETL	**Fush Village** baz=234	**0.96**	**226**	P		**Pg**	**03 01 01.6**	**-0.2**
ETL				S		**Sg**	**03 01 14.3**	**0.0**
NACB	**Ninganchiao** baz=234	**0.97**	**228**	P		**Pg**	**03 01 01.8**	**-0.2**
NACB				S		**Sg**	**03 01 14.2**	**-0.4**
NNSB	**Datong** baz=235	**1.00**	**247**	P		**Pg**	**03 01 02.4**	**-0.1**
NNSB				S		**Sb**	**03 01 15.6**	**-0.5**
NNS	**Nan Shan** baz=236	**1.00**	**248**	*i* P		**Pb**	**03 01 02.8**	**-0.1**
NNS				*i* S		**Sg**	**03 01 15.6**	**+0.1**
ETLH	**Xiulin Townshi** baz=239	**1.03**	**233**	P		**Pg**	**03 01 02.9**	**-0.2**
ETLH				S		**Sg**	**03 01 16.1**	**-0.4**
TWD	**Chiawan** baz=230	**1.04**	**224**	*i* P		**Pb**	**03 01 03.1**	**-0.3**
TWD				S		**Sg**	**03 01 16.7**	**0.0**
NCUH	**Zhongli** baz=279	**1.10**	**278**	P		**Pn**	**03 01 05.6**	**+0.7**
NCUH				*e*S		**Sn**	**03 01 20.6**	**+0.3**
HWA	**Hwalien** baz=194	**1.11**	**220**	*e*P		**Pn**	**03 01 06.5**	**+1.5**
HWA				*e*S		**Sn**	**03 01 21.4**	**+0.9**
NFF	**Wufeng Townshi** baz=260	**1.17**	**261**	P		**Pn**	**03 01 06.4**	**+0.4**
NFF				S		**Sn**	**03 01 21.9**	**-0.3**
ETM	**Tongmen** baz=199	**1.18**	**224**	P		**Pb**	**03 01 05.7**	**-0.3**
ETM				S		**Sn**	**03 01 22.1**	**-0.3**
FUSS	**Fushou** baz=239	**1.19**	**241**	P		**Pn**	**03 01 06.3**	**-0.2**
FUSS				S		**Sb**	**03 01 21.7**	**-0.2**
LXIB	**Xiulin Townshi** baz=235	**1.20**	**228**	P		**Pb**	**03 01 05.7**	**-0.5**
LXIB				S		**Sg**	**03 01 21.2**	**-0.6**
WHF	**Hehuan Shan** baz=234	**1.23**	**237**	*i* P		**Pn**	**03 01 07.1**	**0.0**
WHF				*i* S		**Sg**	**03 01 22.5**	**-0.3**
TWT	**Tachien** baz=241	**1.24**	**243**	*i* P		**Pg**	**03 01 07.7**	**+0.5**
TWT				S		**Sn**	**03 01 25.2**	**+1.1**
TDCB	**Techi** baz=241	**1.26**	**243**	P		**Pg**	**03 01 07.8**	**+0.4**
TDCB				S		**Sg**	**03 01 23.7**	**0.0**
LIOB	**Emei** baz=262	**1.26**	**262**	P		**Pg**	**03 01 07.8**	**+0.4**
LIOB				S		**Sn**	**03 01 26.4**	**+2.1**
SBCB	**Hsinchu** baz=289	**1.27**	**269**	*e*P		**Pg**	**03 01 08.3**	**+0.6**
SBCB				*e*S		**Sn**	**03 01 25.0**	**+0.4**
NSTT	**Nanjuang** baz=261	**1.27**	**261**	*i* P		**Pg**	**03 01 07.7**	**0.0**
NSTT				*i* S		**Sn**	**03 01 25.6**	**+1.0**
ESL	**Shilin** baz=197	**1.33**	**221**	*i* P		**Pg**	**03 01 09.2**	**+0.4**
ESL				S		**Sb**	**03 01 25.7**	**0.0**
CHGB	**Renai** baz=233	**1.34**	**236**	P		**Pg**	**03 01 09.1**	**0.0**
CHGB				S		**Sb**	**03 01 26.2**	**0.0**
TEGC	**Jichi Village** baz=192	**1.35**	**215**	*e*P		**Pn**	**03 01 08.2**	**-0.2**
TEGC				*e*S		**Sg**	**03 01 28.6**	**+1.7**
OWD	**Renai** baz=247	**1.41**	**232**	P		**Pb**	**03 01 09.6**	**-0.2**
OWD				*e*S		**Sg**	**03 01 28.3**	**-0.2**
WHP	**Taichung City** baz=246	**1.42**	**248**	P		**Pg**	**03 01 11.1**	**+0.5**
WHP				S		**Sn**	**03 01 28.5**	**+0.1**
WUSB	**Renai** baz=250	**1.43**	**235**	P		**Pg**	**03 01 10.7**	**+0.1**
WUSB				S		**Sb**	**03 01 28.5**	**0.0**
WARBT	**Fenglin Townsh** baz=197	**1.43**	**220**	P		**Pb**	**03 01 10.0**	**-0.2**
WARBT				S		**Sg**	**03 01 29.9**	**+0.5**
EGFH	**Guangfu** baz=195	**1.45**	**217**	P		**Pb**	**03 01 09.9**	**-0.5**
EGFH				*e*S		**Sb**	**03 01 29.0**	**0.0**
NMLH	**Miaoli** baz=259	**1.48**	**259**	P		**Pg**	**03 01 12.9**	**+1.2**
NMLH				S		**Sg**	**03 01 33.0**	**+2.1**
HATJ	**Hateruma jima**	**1.50**	**120**	*e*S		**Sn**	**03 01 29.9**	**-0.4**
TWQ1	**Liyutan** baz=272	**1.54**	**252**	P		**Pg**	**03 01 12.8**	**-0.1**
TWQ1				S		**Sg**	**03 01 32.8**	**-0.1**
WCS	**Beigang Elemen** baz=239	**1.55**	**241**	P		**Pg**	**03 01 13.6**	**+0.6**
WCS				S		**Sg**	**03 01 32.5**	**-0.5**
VWDT	**VWDT** baz=204	**1.56**	**227**	P		**Pg**	**03 01 13.0**	**-0.2**
VWDT				S		**Sg**	**03 01 34.1**	**+0.7**
JKRS	**Kuro-shima**	**1.59**	**111**	P		**Pn**	**03 01 11.8**	**+0.1**
JKRS				S		**Sn**	**03 01 32.1**	**-0.3**
HGSD	**Ruisui** baz=194	**1.59**	**214**	P		**Pb**	**03 01 12.8**	**-0.2**
HGSD				*e*S		**Sb**	**03 01 33.1**	**-0.2**
EHY	**Hungye** baz=194	**1.64**	**217**	*i* P		**Pn**	**03 01 12.3**	**0.0**
EHY				S		**Sb**	**03 01 34.2**	**-0.2**
SMLT	**Sun Moon Lake** baz=233	**1.65**	**236**	*i* P		**Pg**	**03 01 14.8**	**-0.1**
SMLT				S		**Sg**	**03 01 36.4**	**0.0**
WDJ	**Dajia District** baz=272	**1.66**	**254**	*e*P		**Pg**	**03 01 15.3**	**+0.1**
WDJ				S		**Sg**	**03 01 36.6**	**-0.1**
JIJ	**Ishigaki jima**	**1.66**	**106**	*e*P		**Pn**	**03 01 13.0**	**+0.3**
SSLB	**Suanglung** baz=242	**1.67**	**232**	P		**Pg**	**03 01 14.6**	**-0.7**
SSLB				S		**Sg**	**03 01 36.5**	**-0.4**
TYC	**Yuchr** baz=234	**1.67**	**237**	*i* P		**Pg**	**03 01 15.1**	**-0.3**
TYC				S		**Sg**	**03 01 36.5**	**-0.5**
YULB	**Yu-li** baz=211	**1.74**	**215**	P		**Pn**	**03 01 13.3**	**-0.5**
YULB				*e*S		**Sn**	**03 01 36.0**	**-0.2**
EYUL	**Yuli** baz=195	**1.77**	**214**	P		**Pn**	**03 01 14.7**	**+0.6**
EYUL				*e*S		**Sn**	**03 01 37.4**	**+0.6**
TWF1	**Yuli** baz=210	**1.77**	**214**	*i* P		**Pn**	**03 01 14.0**	**-0.2**
TWF1				*e*S		**Sn**	**03 01 36.7**	**-0.3**
WHYT	**Xinyi Township** baz=242	**1.80**	**231**	P		**Pg**	**03 01 17.2**	**-0.5**
WHYT				S		**Sg**	**03 01 42.1**	**+1.1**
WJS	**Zhushan** baz=235	**1.81**	**237**	P		**Pg**	**03 01 18.2**	**+0.1**
WJS				S		**Sg**	**03 01 43.1**	**+1.5**
CHKH	**Chenggong** baz=189	**1.86**	**209**	P		**Pb**	**03 01 17.2**	**-0.4**
CHKH				*e*S		**Sn**	**03 01 39.3**	**+0.2**
FULB	**Fuli** baz=191	**1.91**	**212**	P		**Pn**	**03 01 16.1**	**0.0**
FULB				S		**Sb**	**03 01 41.7**	**-0.5**
ALS	**Alishan** baz=206	**1.95**	**228**	*i* P		**Pb**	**03 01 19.5**	**+0.2**
ALS				S		**Sb**	**03 01 44.5**	**+0.7**
CHN5	**Tsauling** baz=229	**1.98**	**232**	*i* P		**Pb**	**03 01 20.3**	**+0.6**
CHN5				*i* S		**Sg**	**03 01 47.0**	**-0.1**
WDLH	**Douliu** baz=257	**2.03**	**236**	P		**Pb**	**03 01 20.7**	**+0.3**
WDLH				S		**Sg**	**03 01 47.5**	**-1.1**
WRL	**Guolierlin Hig** baz=262	**2.05**	**244**	*e*P		**Pb**	**03 01 19.6**	**-1.2**
WRL				S		**Sb**	**03 01 45.9**	**-0.5**
ELDTW	**Lidau** baz=198	**2.06**	**218**	*i* P		**Pn**	**03 01 17.8**	**-0.5**
ELDTW				S		**Sn**	**03 01 44.1**	**0.0**
WCKO	**Fanlu** baz=208	**2.14**	**230**	P		**Pb**	**03 01 21.9**	**-0.3**
WCKO				S		**Sg**	**03 01 51.2**	**-0.7**
WTK	**Tuku** baz=237	**2.15**	**239**	*e*P		**Pb**	**03 01 22.4**	**0.0**
WTK				S		**Sb**	**03 01 49.8**	**+0.6**
CHN4	**Tsaushan** baz=206	**2.20**	**228**	*i* P		**Pb**	**03 01 22.8**	**-0.6**
CHN4				*i* S		**Sb**	**03 01 51.8**	**+1.1**
TPUB	**Ta-pu** baz=206	**2.21**	**227**	*i* P		**Pn**	**03 01 20.8**	**+0.6**
TPUB				S		**Sb**	**03 01 50.3**	**-0.7**
STYH	**Taoyuan** baz=203	**2.21**	**222**	P		**Pb**	**03 01 22.1**	**-1.4**
STYH				*e*S		**Sb**	**03 01 50.5**	**-0.5**
WTP	**Ta-pu** baz=205	**2.26**	**226**	*i* P		**Pb**	**03 01 23.0**	**-1.4**
WTP				*i* S		**Sb**	**03 01 53.3**	**+0.8**
LDUT	**Ludao** baz=197	**2.30**	**202**	P		**Pn**	**03 01 20.6**	**-0.9**
LDUT				S		**Sn**	**03 01 48.3**	**-1.7**
TWK	**Hsinying** baz=207	**2.33**	**229**	P		**Pb**	**03 01 25.4**	**-0.2**
TWK				S		**Sb**	**03 01 56.0**	**+1.5**
TWG	**Pinlang** baz=206	**2.33**	**211**	*e*P		**Pn**	**03 01 21.1**	**-0.9**
TWG				S		**Sn**	**03 01 50.3**	**-0.4**
CHN1	**Nanshi** baz=205	**2.36**	**226**	*i* P		**Pb**	**03 01 25.9**	**-0.1**
CHN1				*i* S		**Sb**	**03 01 56.2**	**+0.9**
SGST	**Jiashian** baz=203	**2.40**	**224**	P		**Pb**	**03 01 24.8**	**-1.9**
SGST				S		**Sb**	**03 01 54.9**	**-1.5**
SLGT	**Liugui** baz=201	**2.42**	**221**	P		**Pb**	**03 01 26.1**	**-1.0**
SLGT				S		**Sn**	**03 01 54.9**	**+1.9**
MATB	**Ma-tsu** baz=301	**2.57**	**301**	P		**Pn**	**03 01 24.8**	**-0.4**
MATB				*e*S		**Sn**	**03 01 55.0**	**-1.6**
TSMG	**Majia** baz=198	**2.65**	**217**	*e*P		**Pb**	**03 01 28.6**	**-2.3**
TSMG				S		**Sn**	**03 02 00.7**	**+2.1**
MASBT	**Mashibuluo** baz=197	**2.73**	**216**	P		**Pn**	**03 01 29.6**	**+2.2**
MASBT				S		**Sn**	**03 02 01.8**	**+1.2**
EAST	**Anshuo** baz=193	**2.81**	**210**	P		**Pn**	**03 01 30.4**	**+1.8**
EAST				S		**Sn**	**03 02 01.0**	**-1.7**

IDC ***16*** *04:55:27.3±4.1, 7°.14S×108°.98E, h82km±55km, mb3.5/4, mbtmp3.8/4, MS3.9/2, Error ellipse: s-maj=93.7km s-min=23.2km az=46.0*

DJA ***16*** *04:55:28.7±0.4, 8°.5S×4°×10°.8E±°, h61km±7km, M4.0/11, MLv4.0/11*

ISC 16 04:55:27.2±1.0, 8°.0S±0°.1×108°.12E±0°.07, h100km, n18, σ0°98/15, mb3.5/4, Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
CMJI	**Cimerak**	**0.39**	**56**	P		**Pn**	**04 55 42.3**	**+0.1**
CMJI				S		**Sn**	**04 55 53.1**	**-0.4**
KPJI	**Karang Pucung**	**1.04**	**50**	P		**Pn**	**04 55 48.2**	**+0.1**
CNJI	**Cibinong**	**1.20**	**305**	P		**Pn**	**04 55 49.4**	**-0.5**
CNJI				S		**Sn**	**04 56 06.3**	**-0.7**
LEM	**Lembang**	**1.27**	**337**	P		**Pn**	**04 55 51.5**	**+0.6**
LEM	**Lembang** 175nm,0.4s,baz=50,slow=20,SNR=19	**1.27**	**337**	P		**Pn**	**04 55 51.3**	**+0.4**
LEM	601nm,0.8s,baz=342,slow=20,SNR=29			S		**Sn**	**04 56 09.4**	**+0.7**
SKJI	**Sukabumi**	**1.84**	**302**	P		**Pn**	**04 55 58.2**	**+0.4**
DBJI	**Dramaga**	**1.98**	**316**	P		Pn	04 56 09.1	+10
CGJI	**Cibinong**	**2.78**	**300**	P		**Pn**	**04 56 09.6**	**-0.4**
KASI	**Kota Agung**	**4.36**	**304**	P		**Pn**	**04 56 33.0**	**+1.7**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=292,slow=11,SNR=6.3	**28.02**	**118**	P		**P**	**05 01 08.2**	**-0.9**
ASAR	**Alice Springs** 0.2nm,0.3s	**29.20**	**125**	P		**P**	**05 01 19.2**	**-0.4**
	0.3nm,0.5s,baz=308,slow=8.9,SNR=7.2							
STKA	**Stephens Creek** 0.3nm,0.5s	**39.15**	**132**	P		**P**	**05 02 47.0**	**+1.7**
	5.9nm,0.5s,baz=306,slow=8.2,SNR=18							
SONM	5.9nm,0.5s **Songino Array** comp=Z,143nm,19.9s,baz=151,slow=37	**55.61**	**359**	LR		LR	05 29 01.5	
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=160,slow=7.5,SNR=1.6	**59.20**	**340**	P		**P**	**05 05 16.3**	**-1.5**
	0.3nm,0.6s							
H04N2	**CROZET ISLANDS** baz=70,slow=75,SNR=50	**61.24**	**221**	T		T	06 12 41.5	
H04N1	**CROZET ISLANDS** baz=70,slow=75,SNR=48	**61.26**	**221**	T		T	06 12 44.8	
H04N3	**CROZET ISLANDS** baz=70,slow=75,SNR=45	**61.26**	**221**	T		T	06 12 40.6	
ZALV	**Zalesovo Beam** comp=Z,76nm,18.1s,baz=109,slow=37	**64.78**	**345**	LR		LR	05 35 12.8	

IDC ***16*** *05:05:56.4±0.7, 59°.49S×150°.85W, h0km, mb4.6/8, mbtmp4.6/8, MS4.2/38, Error ellipse: s-maj=27.2km s-min=18.3km az=21.0*

NEIC ***16*** *05:05:58.5±1.3, 59°.6S±0°.2×150°.6W±0°.2, h10km±1km, mb5.0/32, Error ellipse: s-maj=27.9km s-min=17.8km az=16.0*

GCMT ***16*** *05:06:01.5±0.2, 59°.71S±0°.01×150°.70W±0°.03, h21km±1km, MW5.0/92, Moment Tensor Solution. s30,c36; s92,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.73±.22; $M_{\theta\theta}$4.71±.21; $M_{\phi\phi}$-2.97±.13; $M_{r\theta}$-0.71±.26; $M_{\theta\phi}$1.00±.10; $M_{\phi r}$0.84±.25; Best double couple: M_o4.23500×10^{16} NP1:φs124.00000°, δ75.00000°, λ-24.00000°. NP2: φs220.00000°, δ67.00000°, λ-164.00000°. Principal axes: T 4.8940, Plg5.0000°, Azm173.0000°; N -1.3080, Plg62.0000°, Azm273.0000°; P -3.5760, Plg27.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 05:05:57.9±0.4, 59°.5S±0°.1×150°.69W±0°.08, h10km, n115, σ1s35/67, mb5.0/25, MS4.2/38, 4C-1D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
CTZ	**Chatham Island**	**22.30**	**303**	P		**P**	**05 10 57.4**	**+2.2**
CTZ	comp=Z,72nm,1.4s			IAmb		IAmb	05 11 00.7	
SBA	**Scott Base**	**23.08**	**201**	P		**P**	**05 11 02.3**	**-0.9**
SBA	comp=Z,66nm,1.5s			IAmb		IAmb	05 11 06.2	
VNDA	**Vanda**	**23.89**	**203**	P		**P**	**05 11 10.8**	**-0.4**
VNDA	**Vanda** comp=Z,4.7nm,1.2s,baz=66,slow=9.9,SNR=6.4	**23.89**	**203**	P		**P**	**05 11 11.7**	**+0.5**
VNDA	comp=Z,444nm,21.9s,baz=77,slow=30			LR		LR	05 18 01.6	
ODZ	**Otahua Downs** comp=Z,4.7nm,1.2s	**27.24**	**285**	P		**P**	**05 11 42.4**	**+0.5**
ODZ	comp=Z,46nm,1.2s			IAmb		IAmb	05 11 45.1	
BFZ	**Birch Farm**	**27.90**	**298**	P		**P**	**05 11 50.2**	**+2.4**
BFZ	comp=Z,42nm,1.3s			IAmb		IAmb	05 12 07.4	

RPZ	**Rata Peaks**	**28.01**	**287**	LR	LR	05 21 14.1			
	comp=Z,306nm,18.4s,baz=130,slow=33								
BSWZ	**Blackbirch Sta**	**28.18**	**293**	P	**P**	**05 11 52.8**	**+2.6**		
URZ	**Urewera**	**29.50**	**302**	LR	LR	05 21 37.3			
	comp=Z,422nm,18.9s,baz=244,slow=32								
QSPA	**South Pole Qui**	**30.68**	**180**	P	**P**	**05 12 12.6**	**+0.2**		
	comp=Z,27nm,1.0s,baz=65,slow=3.0,SNR=47								
QSPA				LR	LR	05 22 11.1			
	comp=Z,643nm,21.9s,baz=58,slow=32								
	comp=Z,27nm,1.0s								
TBI	**Tubuai**	**36.09**	**2**	*e*S	S	05 18 50.5	+12		
	comp=Z,494nm,44.2s								
TBI				*e*LR	LR	05 22 31.8			
	comp=Z,5μm,28.2s								
TBI	**Tubuai**	**36.09**	**2**	*e*T	T	05 51 22.9			
	comp=Z,72nm,0.4s								
BELA	**Belgrano 2**	**37.54**	**162**	P	**P**	**05 13 11.2**	**-0.3**		
BELA				IAmb	IAmb	05 13 12.4			
	comp=Z,33nm,1.2s								
PMSA	**Palmer Station**	**37.85**	**136**	LR	LR	05 25 14.5			
	comp=Z,348nm,19.0s,baz=250,slow=31								
RAR	**Rarotonga**	**38.76**	**346**	LR	LR	05 25 51.3			
	comp=Z,495nm,19.0s,baz=164,slow=31								
MEH	**Mehetia**	**41.57**	**4**	*e*T	T	05 58 13.8			
	comp=Z,11nm,0.3s								
TVO	**Taravao**	**41.63**	**2**	*e*T	T	05 58 15.8			
	comp=Z,3.9nm,0.4s								
PAE	**Paea**	**41.75**	**2**	*e*T	T	05 58 24.0			
	comp=Z,2.7nm,0.3s								
PPT2	**Papeete2**	**41.82**	**2**	*e*S	S	05 20 15.2	+10		
	comp=Z,123nm,23.5s								
PPT2				*e*LR	LR	05 25 08.2			
	comp=Z,1μm,25.2s								
PPT2				*e*LR	LR	05 25 15.5			
	comp=Z,874nm,27.0s								
PPT2	**Papeete2**	**41.82**	**2**	*e*T	T	05 58 26.9			
	comp=Z,4.8nm,0.4s								
PPT	**Papeete**	**41.84**	**2**	LR	LR	05 26 40.6			
	comp=Z,343nm,20.8s,baz=187,slow=30								
GO09	**Cerro Castillo**	**42.80**	**115**	P	**P**	**05 13 55.7**	**+0.3**		
GO09				IAmb	IAmb	05 13 57.7			
	comp=Z,48nm,1.2s								
RPN	**Rapa Nui**	**42.98**	**60**	LR	LR	05 27 33.1			
	comp=Z,281nm,21.8s,baz=298,slow=30								
VAH	**Vaihoa**	**44.21**	**4**	*e*T	T	06 01 27.1			
	comp=Z,176nm,0.4s								
TOO	**Toolangi**	**45.48**	**269**	P	**P**	**05 14 17.6**	**+0.5**		
TOO				IAmb	IAmb	05 14 37.0			
	comp=Z,48nm,1.8s								
VNA3	**Neumayer Olymp**	**46.75**	**164**	⇑P	**P**	**05 14 25.7**	**-1.0**		
	comp=Z,21nm,1.0s								
SNAA	**Sanae**	**47.25**	**167**	P	**P**	**05 14 29.4**	**-1.2**		
SNAA	**Sanae**	**47.25**	**167**	⇑P	**P**	**05 14 29.6**	**-1.0**		
	comp=Z,114nm,0.5s								
SNAA	**Sanae**	**47.25**	**167**	P	**P**	**05 14 29.9**	**-0.7**		
	comp=Z,11nm,0.9s,baz=207,slow=12,SNR=12								
SNAA				LR	LR	05 33 08.1			
	comp=Z,230nm,18.4s,baz=185,slow=34								
	comp=Z,11nm,0.9s								
VNA1	**Neumayer--Stat**	**47.49**	**164**	⇑P	**P**	**05 14 31.8**	**-0.5**		
	comp=Z,59nm,0.9s								
TROLL	**Troll, Antarti**	**47.50**	**169**	⇑P	**P**	**05 14 32.5**	**-0.1**		
	comp=Z,754nm,0.9s								
DZM	**Mont Dzumac**	**48.05**	**302**	*e*S	**S**	**05 21 30.6**	**-5.0**		
	comp=Z,44nm,29.4s								
DZM				*e*LR	LR	05 28 05.0			
	comp=Z,459nm,27.0s								
DZM	**Mont Dzumac**	**48.05**	**302**	LR	LR	05 31 14.5			
	comp=Z,76nm,21.2s,baz=200,slow=32								
ELIB	**Princess Elisa**	**48.81**	**178**	*d*P	**P**	**05 14 41.9**	**-0.8**		
MAW	**Mawson**	**50.87**	**196**	LR	LR	05 33 55.5			
	comp=Z,257nm,21.5s,baz=158,slow=33								
TAOE	**Nuku Hiva Isla**	**51.13**	**13**	*e*S	S	05 22 05.5	-13		
	comp=Z,333nm,26.3s								
TAOE				*e*LR	LR	05 29 37.6			
	comp=Z,488nm,23.9s								
PLCA	**Paso Flores**	**51.30**	**106**	P	**P**	**05 15 03.0**	**+1.1**		
PLCA				IAmb	IAmb	05 15 15.2			
	comp=Z,20nm,1.4s								
PLCA	**Paso Flores**	**51.30**	**106**	P	**P**	**05 15 03.2**	**+1.3**		
	comp=Z,2.5nm,0.7s,baz=203,slow=14,SNR=3.2								
PLCA				LR	LR	05 31 18.6			
	comp=Z,129nm,20.8s,baz=216,slow=30								
	comp=Z,2.5nm,0.7s								
STKA	**Stephens Creek**	**51.93**	**271**	P	**P**	**05 15 07.2**	**+0.6**		
STKA	**Stephens Creek**	**51.93**	**271**	P	**P**	**05 15 06.5**	**-0.1**		
	comp=Z,9.5nm,0.8s,baz=132,slow=8.0,SNR=19								
STKA				LR	LR	05 34 10.5			
	comp=Z,233nm,18.1s,baz=169,slow=33								
	comp=Z,9.5nm,0.8s								
EIDS	**Eidsvold**	**52.44**	**284**	P	**P**	**05 15 10.7**	**+0.2**		
EIDS				IAmb	IAmb	05 15 12.0			
	comp=Z,11nm,0.8s								
H03S2	**Juan Fernandez**	**52.45**	**94**	T	T	06 12 00.7			
	baz=216,slow=74,SNR=323								
H03S1	**Juan Fernandez**	**52.45**	**94**	T	T	06 12 02.0			
	baz=216,slow=74,SNR=424								
H03S3	**Juan Fernandez**	**52.46**	**94**	T	T	06 12 00.0			
	baz=216,slow=74,SNR=372								
H03N3	**Juan Fernandez**	**52.75**	**94**	T	T	06 12 26.1			
	baz=219,slow=72,SNR=154								
H03N2	**Juan Fernandez**	**52.76**	**94**	T	T	06 12 26.5			
	baz=219,slow=72,SNR=204								
H03N1	**Juan Fernandez**	**52.77**	**94**	T	T	06 12 20.8			
	baz=219,slow=72,SNR=112								
BBOO	**Buckleboo**	**54.01**	**265**	P	**P**	**05 15 21.9**	**-0.1**		
BO02	**Sierra Bellavi**	**55.81**	**102**	P	**P**	**05 15 34.7**	**-0.4**		
BO02				IAmb	IAmb	05 16 08.8			
	comp=Z,17nm,1.1s								
BO01	**Tunca**	**55.97**	**101**	P	**P**	**05 15 36.0**	**-0.2**		
MT02	**Curacav**	**56.85**	**100**	P	**P**	**05 15 43.6**	**+1.2**		
ROC1	**El Roble**	**57.13**	**100**	P	**P**	**05 15 45.1**	**+0.3**		
ROC1				IAmb	IAmb	05 16 06.3			
	comp=Z,21nm,1.1s								
TRQA	**Tornquist**	**57.53**	**111**	P	**P**	**05 15 47.3**	**+0.1**		
CTA	**Charters Tower**	**59.26**	**283**	LR	LR	05 37 06.6			
	comp=Z,137nm,21.4s,baz=101,slow=32								
CTAO	**Charters Tower**	**59.26**	**283**	P	**P**	**05 16 00.4**	**+0.9**		
CFA	**Coronel Fontan**	**59.63**	**101**	LR	LR	05 36 32.5			
	comp=Z,89nm,18.3s,baz=320,slow=31								
FORT	**Forrest**	**59.69**	**260**	P	**P**	**05 16 04.0**	**+1.7**		
HNR	**Honiara**	**62.09**	**302**	LR	LR	05 38 06.4			
	comp=Z,1μm,20.6s,baz=70,slow=31								
AS31	**Alice Springs**	**62.54**	**270**	P	**P**	**05 16 20.4**	**-1.4**		
ASAR	**Alice Springs**	**62.54**	**270**	P	**P**	**05 16 20.7**	**-1.1**		
ASAR	**Alice Springs**	**62.54**	**270**	P	**P**	**05 16 21.0**	**-0.8**		
	comp=Z,11nm,0.8s,baz=143,slow=6.8,SNR=114								
ASAR				LR	LR	05 40 12.6			
	comp=Z,249nm,18.8s,baz=154,slow=33								
	comp=Z,11nm,0.8s								
H01W1	**Cape Leeuwin H**	**63.13**	**247**	T	T	06 25 17.1			
	baz=144,slow=76,SNR=12								
H01W2	**Cape Leeuwin H**	**63.14**	**247**	T	T	06 25 25.5			
	baz=144,slow=76,SNR=11								
H01W3	**Cape Leeuwin H**	**63.15**	**247**	T	T	06 25 18.1			
	baz=144,slow=76,SNR=12								
NWAO	**Narrogin (SRO)**	**63.28**	**250**	LR	LR	05 37 48.0			
	comp=Z,186nm,18.9s,baz=154,slow=30								
WR0	**Warramunga Arr**	**65.29**	**272**	P	**P**	**05 16 39.4**	**-0.5**		
WR0				IAmb	IAmb	05 16 40.5			
	comp=Z,11nm,1.1s								
WRA	**Warramunga Arr**	**65.41**	**272**	P	**P**	**05 16 39.9**	**-0.8**		
	comp=Z,5.1nm,0.9s,baz=151,slow=5.5,SNR=38								
	comp=Z,5.1nm,0.9s								
LVC	**Limon Verde**	**66.67**	**95**	P	**P**	**05 16 49.0**	**-0.1**		
LVC				IAmb	IAmb	05 16 57.6			
	comp=Z,8.4nm,0.7s								
LVC	**Limon Verde**	**66.67**	**95**	LR	LR	05 38 29.3			
	comp=Z,93nm,21.2s,baz=211,slow=29								
ITQB	**Itaqui**	**66.93**	**109**	P	**P**	**05 16 50.0**	**-0.3**		
ITQB				IAmb	IAmb	05 16 57.4			
	comp=Z,15nm,1.1s								
PMG	**Port Moresby**	**67.97**	**290**	P	**P**	**05 16 57.3**	**+0.3**		
PB11	**IPOC Station P**	**68.66**	**93**	P	**P**	**05 17 00.0**	**-1.5**		
PB11				IAmb	IAmb	05 17 05.0			
	comp=Z,13nm,1.1s								
CPUP	**Villa Florida**	**69.37**	**107**	P	**P**	**05 17 04.5**	**-1.1**		
CPUP	**Villa Florida**	**69.37**	**107**	P	**P**	**05 17 05.9**	**+0.3**		
CPUP				LR	LR	05 43 08.6			
	comp=Z,84nm,19.5s,baz=210,slow=32								
	comp=Z,3.3nm,1.0s								
PB16	**IPOC Station P**	**69.93**	**92**	P	**P**	**05 17 10.0**	**+0.1**		
PB16				IAmb	IAmb	05 17 23.0			
	comp=Z,25nm,1.9s								
LPAZ	**La Paz**	**72.36**	**92**	P	**P**	**05 17 24.9**	**+0.2**		
ATAH	**Atahualpa**	**74.92**	**78**	LR	LR	05 42 44.0			
	comp=Z,226nm,20.3s,baz=237,slow=29								
SIV	**San Ignacio**	**76.19**	**98**	LR	LR	05 45 32.6			
	comp=Z,106nm,19.5s,baz=278,slow=31								
MCRA	**Macar, Loja**	**76.53**	**75**	P	**P**	**05 17 48.6**	**+0.4**		
CZSB	**Cruzeiro do Su**	**77.28**	**84**	P	**P**	**05 17 52.4**	**-0.1**		
BOSC	**San Juan Bosco**	**78.30**	**76**	P	**P**	**05 17 58.4**	**+0.1**		
ETMB	**Extrema**	**78.81**	**90**	P	**P**	**05 18 00.8**	**-0.1**		
BDFB	**Brasilia**	**82.97**	**109**	LR	LR	05 51 21.1			
	comp=Z,150nm,19.8s,baz=168,slow=33								
KAPI	**Kapping**	**85.49**	**268**	LR	LR	05 56 30.7			
	comp=Z,100nm,18.0s,baz=140,slow=36								
JTS	**Las Juntas de**	**86.91**	**64**	LR	LR	05 49 06.9			
	comp=Z,123nm,19.4s,baz=195,slow=30								
ROSC	**El Rosal**	**87.26**	**76**	LR	LR	05 51 00.9			
	comp=Z,113nm,18.4s,baz=214,slow=31								
SUR	**Sutherland**	**88.23**	**173**	LR	LR	05 53 24.0			
	comp=Z,163nm,21.8s,baz=170,slow=32								
CMIG	**Matias Romero**	**88.67**	**52**	LR	LR	05 50 47.8			
	comp=Z,36nm,18.7s,baz=254,slow=30								
LPIG	**La Paz**	**89.64**	**36**	LR	LR	05 50 09.0			
	comp=Z,105nm,18.6s,baz=232,slow=30								
LEM	**Lembang**	**90.07**	**257**	LR	LR	05 54 13.1			
	comp=Z,75nm,19.1s,baz=150,slow=32								
BOSA	**Boshof**	**92.19**	**176**	LR	LR	05 55 50.2			
	comp=Z,376nm,21.6s,baz=198,slow=32								
SDV	**Santo Domingo**	**92.57**	**77**	LR	LR	05 54 10.9			
	comp=Z,111nm,20.8s,baz=168,slow=31								
DAV	**Davao City (W)**	**92.85**	**279**	LR	LR	05 59 35.5			
	comp=Z,42nm,20.0s,baz=194,slow=35								
TEIG	**Tepich**	**94.21**	**57**	LR	LR	05 54 38.9			
	comp=Z,438nm,18.3s,baz=341,slow=31								
LBTB	**Lobatse**	**95.78**	**177**	LR	LR	05 58 18.9			
	comp=Z,372nm,20.9s,baz=168,slow=33								
TXAR	**Lajitas Array**	**96.61**	**40**	LR	LR	05 54 38.0			
	comp=Z,44nm,18.4s,baz=246,slow=30								
PCRV	**Puerto La Cruz**	**96.68**	**81**	LR	LR	05 57 56.5			
	comp=Z,13nm,18.2s,slow=32								
PFO	**Pinyon Flats O**	**96.97**	**28**	LR	LR	05 55 23.6			
	comp=Z,110nm,18.1s,baz=218,slow=31								
NJ2	**Nanjing**	**117.22**	**287**	*e*P	**PKiKP**	**05 24 44.4**	**+1.7**		
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
PZH	**PanZhiHua**	**121.31**	**270**	PKP	**PKiKP**	**05 24 51.9**	**+0.8**		
ILAR	**Eielson Array**	**123.95**	**2**	PKP	**PKiKP**	**05 24 56.0**	**+1.2**		
	comp=Z,2.9nm,0.9s,baz=244,slow=2.1,SNR=10								
YKA	**Yellowknife Ar**	**124.74**	**19**	PKP	**PKiKP**	**05 24 57.1**	**+0.7**		
	comp=Z,0.3nm,1.0s,baz=190,slow=2.6,SNR=3.7								
HHC	**Hu-ho-hao-te**	**127.76**	**288**	*e*P	**PKPdf**	**05 25 00.3**	**-2.5**		
BTO	**Baotou**	**128.33**	**287**	*e*PKP	**PKPdf**	**05 25 02.6**	**-1.3**		
BTO				sPKP		05 25 16.6			
TORD	**Torodi Ar. Bea**	**129.43**	**144**	PKP	**PKiKP**	**05 25 11.4**	**+4.1**		
	comp=Z,0.6nm,0.8s,baz=117,slow=4.2,SNR=4.0								
WMQ	**Urumqi**	**141.90**	**272**	*e*P	**PKPdf**	**05 25 28.4**	**-0.6**		
MK31	**Makanchi Array**	**146.71**	**272**	PKPdf	**PKPbc**	**05 25 38.0**	**-1.0**		
MKAR	**Makanchi Array**	**146.71**	**272**	PKPdf	**PKPbc**	**05 25 38.6**	**-0.3**		
MKAR	**Makanchi Array**	**146.71**	**272**	PKPbc	**PKPbc**	**05 25 38.0**	**-1.0**		
	comp=Z,6.2nm,0.7s,baz=104,slow=5.1,SNR=33								
NEEM	**North Greenlan**	**149.05**	**25**	*i* P	**PKiKP**	**05 25 46.4**	**+0.5**		
NEEM				IAmb	IAmb	05 25 52.1			
	comp=Z,8.8nm,0.6s								
ZALV	**Zalesovo Beam**	**149.82**	**284**	PKPbc	**PKPbc**	**05 25 45.1**	**-1.6**		
	comp=Z,1.4nm,0.7s,baz=113,slow=3.4,SNR=4.5								
ICESG	**Greenland Ices**	**150.26**	**42**	*i* P	**PKiKP**	**05 25 50.4**	**+1.7**		
ICESG				IAmb	IAmb	05 25 59.2			
	comp=Z,6.4nm,0.8s								
KURBB	**Kurchatov Arra**	**151.07**	**274**	PKPbc	**PKPbc**	**05 25 49.0**	**-0.9**		
	comp=Z,2.8nm,0.8s,baz=123,slow=1.8,SNR=15								
ESDC	**Sonseca Array**	**151.19**	**119**	PKPbc	**PKiKP**	**05 25 50.8**	**-0.4**		
	comp=Z,1.5nm,0.8s,baz=173,slow=0.6,SNR=8.0								
ESDC				PKPab	**PKPab**	**05 25 57.1**	**-1.5**		
	comp=Z,4.8nm,0.8s,baz=264,slow=2.1,SNR=15								
SUMG	**Summit**	**151.41**	**36**	*i* P	**PKPab**	**05 25 56.0**	**-3.0**		
SUMG				IAmb	IAmb	05 25 58.2			
	comp=Z,5.7nm,0.7s								

IDC 16 05:20:43.8±1.8, 3°51N×125°46E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=200.0km s-min=23.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.88**	**160**	P	P	05 26 08.5	0.0
	0.4nm,0.7s,baz=338,slow=10,SNR=11						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**28.24**	**163**	P	P	05 26 38.7	0.0
	0.2nm,0.3s,baz=345,slow=7.2,SNR=2.0						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**57.02**	**326**	P	P	05 30 32.0	+0.4
	0.4nm,0.6s,baz=113,slow=7.8,SNR=4.2						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**61.25**	**328**	P	P	05 31 00.2	-0.5
	0.4nm,0.5s,baz=127,slow=5.6,SNR=4.8						
	0.4nm,0.5s						

*IDC **16** 05:21:57.9±0.5, 25°61S×75°59E, h0km, mb4.2/20, mbtmp4.2/20, MS3.6/6, Error ellipse: s-maj=18.4km s-min=14.9km az=85.0*
*NEIC **16** 05:22:00.3±0.9, 25°75S±0°1×75°6E±0°1, h10km±1km, mb4.6/22, Error ellipse: s-maj=19.8km s-min=16.8km az=206.0*

ISC 16 05:21:59.6±0.5, 25°64S±0°09×75°60E±0°09, h10km, n57, σ0°63/44, mb4.4/28, MS3.7/6, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**12.71**	**295**	Pn	**Pn**	**05 25 01.3**	**+0.8**
H08S2	**Diego Garcia H**	**18.14**	**350**	T	T	05 44 35.1	
	baz=172,slow=76,SNR=26						
H08S1	**Diego Carcia H**	**18.14**	**350**	T	T	05 44 27.3	
	baz=172,slow=76,SNR=10						
H08S3	**Diego Garcia H**	**18.16**	**350**	T	T	05 44 36.5	
	baz=172,slow=76,SNR=31						
DGAR	**Diego Garcia**	**18.37**	**350**	P	**Pn**	**05 26 13.6**	**-1.1**
COCO	**West Island**	**24.09**	**60**	P	**P**	**05 27 15.9**	**+0.4**
H04N2	**CROZET ISLANDS**	**27.94**	**217**	T	T	05 57 03.6	
	baz=51,slow=74,SNR=28						
H04N1	**CROZET ISLANDS**	**27.95**	**217**	T	T	05 57 04.3	
	baz=51,slow=74,SNR=22						
H04N3	**CROZET ISLANDS**	**27.95**	**217**	T	T	05 57 02.9	
	baz=51,slow=74,SNR=24						
H04S1	**CROZET ISLANDS**	**28.31**	**216**	T	T	05 57 31.6	
	baz=48						
H04S3	**CROZET ISLANDS**	**28.32**	**216**	T	T	05 57 32.1	
	baz=48,slow=74,SNR=3.9						
H04S2	**CROZET ISLANDS**	**28.33**	**216**	T	T	05 57 32.7	
	baz=48,slow=74						
XMIS	**Christmas Isla**	**32.20**	**68**	P	**P**	**05 28 29.3**	**+1.2**
PALK	**Pallekele**	**33.09**	**9**	LR	LR	05 40 25.9	
	comp=Z,34nm,18.9s,baz=161,slow=34						
MAW	**Mawson**	**42.70**	**187**	P	**P**	**05 29 56.5**	**+0.1**
MAW	**Mawson**	**42.70**	**187**	P	**P**	**05 29 56.5**	**+0.1**
	2.8nm,0.6s,baz=28,slow=15,SNR=2.3						
	2.8nm,0.6s						
BOSA	**Boshof**	**44.64**	**254**	P	**P**	**05 30 12.2**	**-0.5**
BOSA				IAmb	IAmb	05 30 17.7	
	comp=Z,22nm,1.4s						
BOSA	**Boshof**	**44.64**	**254**	P	**P**	**05 30 12.6**	**-0.1**
	comp=Z,5.3nm,0.7s,baz=107,slow=9.3,SNR=11						
	comp=Z,5.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**46.83**	**91**	P	**P**	**05 30 30.1**	**+0.2**
FITZ				IAmb	IAmb	05 30 31.3	
	comp=Z,2.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**49.37**	**30**	P	**P**	**05 30 49.8**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=222,slow=7.7,SNR=9.6						
	comp=Z,0.7nm,0.3s						
BBOO	**Buckleboo**	**52.64**	**113**	P	**P**	**05 31 14.2**	**0.0**
BBOO				IAmb	IAmb	05 31 15.2	
	comp=Z,13nm,1.1s						
ASAR	**Alice Springs**	**52.66**	**101**	P	**P**	**05 31 13.9**	**-0.5**
ASAR	**Alice Springs**	**52.66**	**101**	P	**P**	**05 31 14.3**	**-0.1**
	comp=Z,5.5nm,0.8s,baz=252,slow=6.4,SNR=51						
	comp=Z,5.5nm,0.8s						
AS31	**Alice Springs**	**52.66**	**101**	P	**P**	**05 31 14.2**	**-0.2**
SHL	**Shillong**	**53.28**	**18**	P	**P**	**05 31 18.6**	**-0.4**
SHL				IAmb	IAmb	05 31 22.6	
	comp=Z,13nm,1.1s						
WRA	**Warramunga Arr**	**54.09**	**97**	P	**P**	**05 31 24.3**	**-0.6**
WRA	**Warramunga Arr**	**54.09**	**97**	P	**P**	**05 31 24.8**	**-0.2**
	comp=Z,5.1nm,0.6s,baz=254,slow=7.5,SNR=59						
	comp=Z,5.1nm,0.6s						
WRAB	**Tennant Creek**	**54.10**	**97**	P	**P**	**05 31 24.8**	**-0.3**
WRAB				IAmb	IAmb	05 31 25.5	
	comp=Z,6.0nm,0.7s						
WB0	**Warramunga Arr**	**54.19**	**97**	P	**P**	**05 31 25.5**	**-0.2**
WB0				IAmb	IAmb	05 31 25.9	
	comp=Z,5.1nm,0.8s						
STKA	**Stephens Creek**	**57.42**	**113**	P	**P**	**05 31 48.6**	**0.0**
	comp=Z,4.0nm,0.8s,baz=315,slow=6.1,SNR=6.2						
	comp=Z,4.0nm,0.8s						
KBL	**Kabul**	**60.17**	**354**	P	**P**	**05 32 09.9**	**+2.1**
KBL				IAmb	IAmb	05 32 11.3	
	comp=Z,4.0nm,1.1s						
SNAA	**Sanae**	**62.26**	**201**	P	**P**	**05 32 21.5**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=229,slow=9.3,SNR=1.6						
	comp=Z,1.7nm,0.6s						
VNDA	**Vanda**	**64.35**	**166**	P	**P**	**05 32 35.6**	**+0.5**
VNDA				IAmb	IAmb	05 32 36.2	
	comp=Z,4.5nm,1.1s						
VNDA	**Vanda**	**64.35**	**166**	P	**P**	**05 32 35.2**	**+0.1**
	comp=Z,3.3nm,1.1s,baz=280,slow=7.6,SNR=8.1						
VNDA				LR	LR	05 56 29.3	
	comp=Z,64nm,20.1s,baz=260,slow=32						
	comp=Z,3.3nm,1.1s						
QSPA	**South Pole Qui**	**64.48**	**180**	P	**P**	**05 32 35.9**	**-0.4**
QSPA	**South Pole Qui**	**64.48**	**180**	P	**P**	**05 32 36.3**	**-0.1**
	comp=Z,12nm,0.8s,baz=286,slow=1.4,SNR=55						
QSPA				LR	LR	05 56 51.6	
	comp=Z,45nm,20.4s,baz=242,slow=32						
	comp=Z,12nm,0.8s						
CTA	**Charters Tower**	**64.66**	**101**	LR	LR	05 59 00.3	
	comp=Z,36nm,18.2s,baz=268,slow=34						
KK31	**Karatay Array**	**68.56**	**356**	P	**P**	**05 33 03.3**	**+0.9**
KK31				IAmb	IAmb	05 33 07.0	
	comp=Z,2.9nm,1.0s						
KKAR	**Karatay Array**	**68.56**	**356**	P	**P**	**05 33 02.8**	**+0.4**
MKAR	**Makanchi Array**	**72.35**	**5**	P	**P**	**05 33 24.0**	**-1.5**
	comp=Z,1.7nm,0.8s,baz=190,slow=6.2,SNR=6.5						
	comp=Z,1.7nm,0.8s						
KBZ	**Khabaz**	**75.27**	**336**	P	**P**	**05 33 43.6**	**+1.1**
	comp=Z,2.3nm,0.9s,baz=155,slow=6.4,SNR=4.1						
	comp=Z,2.3nm,0.9s						
ABKAR	**Akbulak array**	**75.86**	**349**	P	**P**	**05 33 45.1**	**-0.7**
BRTR	**Keskin Array B**	**75.89**	**328**	P	**P**	**05 33 46.3**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=147,slow=7.0,SNR=5.8						
	comp=Z,1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**75.97**	**2**	P	**P**	**05 33 46.5**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=189,slow=6.1,SNR=4.7						
	comp=Z,0.5nm,0.8s						
SONM	**Songino Array**	**78.21**	**21**	P	**P**	**05 33 59.2**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=208,slow=7.8,SNR=4.7						
	comp=Z,0.9nm,0.9s						
BVAR	**Borovoye Array**	**78.46**	**357**	P	**P**	**05 33 59.7**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=147,slow=8.2,SNR=2.6						
	comp=Z,0.3nm,0.3s						
ZAA0	**Zalesovo Array**	**79.66**	**6**	P	**P**	**05 34 07.1**	**+0.2**
ZALV	**Zalesovo Beam**	**79.66**	**6**	P	**P**	**05 34 07.5**	**+0.6**
ZALV	**Zalesovo Beam**	**79.66**	**6**	P	**P**	**05 34 07.0**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=180,slow=5.6,SNR=4.7						
	comp=Z,0.6nm,0.4s						
KSRS	**Korea Array**	**79.72**	**40**	P	**P**	**05 34 07.6**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=225,slow=4.9,SNR=4.3						
	comp=Z,2.1nm,0.8s						
TOA0	**Torodi Ar. Sit**	**81.57**	**289**	P	**P**	**05 34 18.0**	**-0.1**
TOA0				IAmb	IAmb	05 34 46.5	
	comp=Z,6.1nm,1.5s						
TORD	**Torodi Ar. Bea**	**81.57**	**289**	P	**P**	**05 34 17.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**81.57**	**289**	P	**P**	**05 34 17.6**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=106,slow=3.6,SNR=7.6						
	comp=Z,1.3nm,0.8s						
DBIC	**Dimbokro**	**84.31**	**280**	LR	LR	06 08 38.8	
	comp=Z,89nm,21.2s,baz=160,slow=33						
PMSA	**Palmer Station**	**84.60**	**196**	LR	LR	06 09 55.

comp=Z,0.8nm,0.7s,baz=120,slow=6.0,SNR=3.8
comp=Z,0.8nm,0.7s
ILAR Eielson Array 61.17 337 P P 05 39 58.6 +1.5
comp=Z,0.6nm,0.7s,baz=127,slow=6.7,SNR=5.8
comp=Z,0.6nm,0.7s

NEIC ***16*** *05:32:39.0±0.8, 59°.94N±0°.03×152°.98W±0°.06, h102km±4km, Error ellipse: s-maj=4.7km s-min=4.6km az=48.0*

IDC ***16*** *05:32:38.9±1.9, 59°.87N×152°.95W, h95km±25km, mb3.8/2, mbtmp3.7/7, MS3.8/4, Error ellipse: s-maj=27.5km s-min=15.7km az=117.0*

AEIC ***16*** *05:32:40.2±1.1, 59°.93N±0°.03×152°.99W±0°.06, h95km±4km, ML3.0, ML3.3/136(NEIC), Error ellipse: s-maj=4.8km s-min=4.4km az=111.0*

ISC 16 05:32:39.1±0.8, 59°.92N±0°.03×152°.98W±0°.03, h101km±5km, n294, σ0°62/287, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IVE	**Iliamna Volcan**	**0.10**	**349**			**Pn**	**05 32 52.9**	**-0.4**
IVE						**Sn**	**05 33 03.6**	**-0.4**
ILSW	**Iliamna Southw**	**0.11**	**310**			**Pn**	**05 32 52.8**	**-0.6**
ILSW						**Sn**	**05 33 03.7**	**-0.3**
ILSW	**Iliamna Southw**	**0.11**	**310**	IAML			05 33 04.3	
	comp=E,676nm,0.3s							
O20K	**Slope Mountain**	**0.24**	**47**			**Pn**	**05 32 53.6**	**0.0**
O20K						**Sn**	**05 33 05.1**	**+0.5**
O20K	**Slope Mountain**	**0.24**	**47**	P		**Pn**	**05 32 53.6**	**0.0**
	baz=230							
O20K				S		**Sn**	**05 33 05.1**	**+0.5**
	baz=230							
P19K	**Oil Pt**	**0.29**	**206**			**Pn**	**05 32 53.8**	**-0.1**
P19K	**Oil Pt**	**0.29**	**206**			**Sn**	**05 33 04.9**	**0.0**
P19K	**Oil Pt**	**0.29**	**206**	IAML			05 33 05.5	
	comp=N,1μm,0.5s							
P19K				IAML			05 33 06.5	
	comp=E,1μm,0.6s							
P19K	**Oil Pt**	**0.29**	**206**	P		**Pn**	**05 32 53.7**	**-0.1**
	baz=24							
P19K				S		**Sn**	**05 33 04.9**	**0.0**
	baz=24							
RED	**Redoubt Volcan**	**0.52**	**11**			**Pn**	**05 32 55.0**	**-0.2**
RED						**Sn**	**05 33 06.6**	**-0.7**
RDSO	**Redoubt South**	**0.55**	**12**			**Pn**	**05 32 55.3**	**-0.2**
RDSO						**Sn**	**05 33 07.3**	**-0.6**
RSO	**Redoubt South**	**0.56**	**11**			**Pn**	**05 32 55.3**	**-0.4**
AU22	**Augustine Moun**	**0.58**	**200**			**Pn**	**05 32 55.6**	**+0.1**
AU22						**Sn**	**05 33 08.2**	**+0.3**
RDWB	**Redoubt West**	**0.58**	**7**			**Pn**	**05 32 55.5**	**-0.3**
RDWB						**Sn**	**05 33 07.6**	**-0.7**
AUL	**Augustine Lava**	**0.58**	**204**			**Pn**	**05 32 55.8**	**+0.2**
AUQ	**Augustine Qik'**	**0.60**	**202**			**Pn**	**05 32 55.9**	**+0.1**
NCT	**North Crescent**	**0.65**	**2**			**Pn**	**05 32 56.2**	**-0.1**
RDJH	**Redoubt Jeurge**	**0.68**	**7**			**Pn**	**05 32 56.4**	**-0.2**
DFR	**Drift River**	**0.69**	**12**			**Pn**	**05 32 56.5**	**-0.2**
RDT	**Redoubt**	**0.72**	**23**			**Pn**	**05 32 56.7**	**-0.2**
HOM	**Homer**	**0.72**	**110**			**Pn**	**05 32 57.2**	**+0.4**
HOM	**Homer**	**0.72**	**110**	P		**Pn**	**05 32 57.1**	**+0.3**
	baz=292							
O19K	**Port Alsworth**	**0.73**	**293**			**Pn**	**05 32 56.4**	**-0.4**
O19K	**Port Alsworth**	**0.73**	**293**			**Sn**	**05 33 09.6**	**-0.5**
O19K	**Port Alsworth**	**0.73**	**293**	IAML			05 33 10.4	
	comp=N,2μm,0.5s							
O19K				IAML			05 33 11.6	
	comp=E,839nm,0.4s							
O19K	**Port Alsworth**	**0.73**	**293**	P		**Pn**	**05 32 56.5**	**-0.4**
	baz=112							
O19K				S		**Sn**	**05 33 09.6**	**-0.5**
	baz=112							
CNPM	**China Poot**	**0.96**	**113**	Pn		**Pn**	**05 32 59.0**	**-0.2**
CNPM	**China Poot**	**0.96**	**113**			**Sn**	**05 33 14.2**	**-0.2**
CNPM	**China Poot**	**0.96**	**113**	IAML			05 33 16.0	
	comp=E,739nm,0.3s							
CNPM				IAML			05 33 16.2	
	comp=N,641nm,0.6s							
Q19K	**Cape Douglas,**	**1.05**	**199**			**Pn**	**05 32 59.7**	**-0.5**
Q19K				IAML			05 33 19.5	
	comp=E,442nm,1.3s							
Q19K				IAML			05 33 20.0	
	comp=N,304nm,1.4s							
Q19K	**Cape Douglas,**	**1.05**	**199**	P		**Pn**	**05 32 59.9**	**-0.2**
	baz=18							
BRLK	**Bradley Lake**	**1.07**	**97**			**Pn**	**05 32 59.8**	**-0.5**
BRLK				IAML			05 33 17.8	
	comp=N,593nm,0.3s							
BRLK				IAML			05 33 18.5	
	comp=E,452nm,0.4s							
O18K	**Koktuh Hills**	**1.13**	**268**			**Pn**	**05 33 00.3**	**-0.7**
O18K	**Koktuh Hills**	**1.13**	**268**			**Sn**	**05 33 16.9**	**-0.6**
O18K	**Koktuh Hills**	**1.13**	**268**	IAML			05 33 17.4	
	comp=N,244nm,0.8s							
O18K				IAML			05 33 17.6	
	comp=E,146nm,0.5s							
O18K	**Koktuh Hills**	**1.13**	**268**	P		**Pn**	**05 33 00.6**	**-0.4**
	baz=85							
O18K				S		**Sn**	**05 33 16.9**	**-0.6**
	baz=85							
BRSE	**Bradley Lake S**	**1.14**	**98**			**Pn**	**05 33 01.0**	**-0.2**
BRSE	**Bradley Lake S**	**1.14**	**98**	P		**Pn**	**05 33 01.0**	**-0.2**
	baz=280							
N19K	**Bonanza Creek**	**1.17**	**321**			**Pn**	**05 33 01.3**	**-0.2**
N19K	**Bonanza Creek**	**1.17**	**321**			**Sn**	**05 33 18.0**	**-0.6**
N19K	**Bonanza Creek**	**1.17**	**321**	IAML			05 33 18.8	
	comp=N,203nm,0.8s							
N19K				IAML			05 33 19.2	
	comp=E,87nm,0.7s							
N19K	**Bonanza Creek**	**1.17**	**321**	P		**Pn**	**05 33 01.3**	**-0.2**
	baz=140							
N19K				S		**Sn**	**05 33 18.0**	**-0.6**
	baz=140							
CAPN	**Captain Cook N**	**1.25**	**46**			**Pn**	**05 33 03.9**	**+1.6**
CAPN	**Captain Cook N**	**1.25**	**46**	P		**Pn**	**05 33 03.9**	**+1.6**
	baz=228							
P18K	**Big Mountain,**	**1.26**	**246**			**Pn**	**05 33 02.0**	**-0.5**
P18K	**Big Mountain,**	**1.26**	**246**	P		**Pn**	**05 33 02.0**	**-0.5**
	baz=64							
P18K				S		**Sn**	**05 33 18.8**	**-1.4**
	baz=64							
Q20K	**Shuyak Island**	**1.34**	**167**	P		**Pn**	**05 33 03.7**	**+0.2**
	baz=347							
SYI	**Shuyak Island**	**1.34**	**167**			**Pn**	**05 33 03.6**	**+0.1**
SYI				IAML			05 33 23.0	
	comp=N,379nm,0.3s							
SYI				IAML			05 33 25.1	
	comp=E,334nm,0.6s							
SPBG	**Spurr Blockage**	**1.38**	**12**			**Pn**	**05 33 04.3**	**+0.3**
SPCP	**Crater Peak Br**	**1.42**	**16**			**Pn**	**05 33 04.7**	**+0.2**
SPCG	**Spurr Capps Gl**	**1.46**	**18**			**Pn**	**05 33 05.2**	**+0.2**
SLKM	**Skilak Lake**	**1.50**	**65**			**Pn**	**05 33 05.7**	**+0.3**
KAHG	**Katmai Hook Gl**	**1.64**	**210**			**Pn**	**05 33 07.3**	**+0.1**
N18K	**Kilae Creek**	**1.64**	**299**			**Pn**	**05 33 06.6**	**-0.5**
N18K	**Kilae Creek**	**1.64**	**299**	P		**Pn**	**05 33 06.8**	**-0.4**
	baz=116							
KAHC	**Katmai Hardscr**	**1.64**	**220**			**Pn**	**05 33 07.2**	**0.0**
KAHC	**Katmai Hardscr**	**1.64**	**220**			**Pn**	**05 33 07.2**	**0.0**
KAHC	**Katmai Hardscr**	**1.64**	**220**	P		**Pn**	**05 33 07.2**	**0.0**
	baz=38							
Q18K	**Katmai Hardscr**	**1.64**	**220**	P		**Pn**	**05 33 07.2**	**0.0**
	baz=38							
STLK	**Strandline Lak**	**1.69**	**19**			**Pn**	**05 33 08.2**	**+0.5**
O22K	**Cooper Landing**	**1.72**	**69**			**Pn**	**05 33 08.3**	**+0.3**
O22K	**Cooper Landing**	**1.72**	**69**	P		**Pn**	**05 33 08.4**	**+0.3**
	baz=252							
SVW2	**Sparrevohn**	**1.75**	**314**	Pn		**Pn**	**05 33 07.6**	**-0.9**
SVW2	**Sparrevohn**	**1.75**	**314**	P		**Pn**	**05 33 08.0**	**-0.5**
SEW	**Seward**	**1.78**	**82**			**Pn**	**05 33 08.6**	**-0.2**
SEW	**Seward**	**1.78**	**82**	P		**Pn**	**05 33 08.6**	**-0.2**
	baz=266							
FIS	**Fire Island**	**1.84**	**47**			**Pn**	**05 33 10.8**	**+1.2**
FIS	**Fire Island**	**1.84**	**47**	IAML			05 34 10.0	
	comp=N,382nm,1.3s							
SUA	**Susitna One**	**1.90**	**34**			**Pn**	**05 33 10.6**	**+0.1**
SUA				IAML			05 33 37.7	
	comp=N,358nm,0.9s							
SUA				IAML			05 33 38.8	
	comp=E,306nm,0.8s							
P17K	**Kvichak River**	**1.91**	**249**			**Pn**	**05 33 10.5**	**+0.1**
P17K	**Kvichak River**	**1.91**	**249**	P		**Pn**	**05 33 10.3**	**0.0**
	baz=66							
KAKN	**Katmai Knife C**	**1.95**	**214**			**Pn**	**05 33 11.2**	**+0.1**
KVTA	**Katmai Vly 10**	**1.95**	**219**			**Pn**	**05 33 11.2**	**+0.2**
M20K	**Styx River**	**1.98**	**358**			**Pn**	**05 33 11.6**	**+0.1**
M20K	**Styx River**	**1.98**	**358**	P		**Pn**	**05 33 11.5**	**+0.1**
	baz=178							
RC01	**Rabbit Creek A**	**1.99**	**52**	Pn		**Pn**	**05 33 11.3**	**-0.2**
RC01				IAML			05 33 37.9	
	comp=N,322nm,0.2s							
RC01				IAML			05 33 37.9	
	comp=E,300nm,0.2s							
RC01	**Rabbit Creek A**	**1.99**	**52**	P		**Pn**	**05 33 11.6**	**+0.1**
	baz=235							
KCE	**Katmai Mt Cerb**	**2.03**	**215**			**Pn**	**05 33 12.7**	**+0.6**
KABU	**Katmai Buttres**	**2.03**	**217**			**Pn**	**05 33 12.7**	**+0.5**
O17K	**Koliganek Bris**	**2.08**	**268**			**Pn**	**05 33 12.5**	**-0.2**
O17K	**Koliganek Bris**	**2.08**	**268**	P		**Pn**	**05 33 12.5**	**-0.2**
	baz=84							
ACHA	**Angle Creek He**	**2.10**	**216**			**Pn**	**05 33 13.2**	**+0.3**
M18K	**Stony River**	**2.11**	**320**			**Pn**	**05 33 12.6**	**-0.4**
M18K	**Stony River**	**2.11**	**320**	P		**Pn**	**05 33 12.6**	**-0.4**
	baz=137							
KDAK	**Kodiak Island**	**2.15**	**174**	Pn		**Pn**	**05 33 12.5**	**-1.0**
KDAK				IAML			05 33 40.8	
	comp=E,185nm,0.3s							
KDAK				IAML			05 33 40.8	
	comp=E,233nm,0.3s							
KDAK	**Kodiak Island**	**2.15**	**174**	P		**Pn**	**05 33 12.8**	**-0.8**
	comp=E,74nm,0.3s,baz=25,slow=9.1,SNR=172							
KDAK				S		**Sn**	**05 33 38.8**	**-1.1**
	comp=E,38nm,0.3s,baz=126,slow=24,SNR=27							
ANCK	**Angle Creek**	**2.16**	**218**			**Pn**	**05 33 14.0**	**+0.2**
N17K	**Nushagak Hills**	**2.19**	**288**			**Pn**	**05 33 13.6**	**-0.4**
N17K	**Nushagak Hills**	**2.19**	**288**	P		**Pn**	**05 33 13.8**	**-0.3**
	baz=104							
SKT	**Skwentna**	**2.19**	**18**			**Pn**	**05 33 14.0**	**-0.2**
SKT	**Skwentna**	**2.19**	**18**	P		**Pn**	**05 33 14.0**	**-0.2**
	baz=200							
CNTC	**Contact Creek**	**2.23**	**223**			**Pn**	**05 33 14.9**	**+0.1**
Q17K	**Contact Creek**	**2.23**	**223**	P		**Pn**	**05 33 14.9**	**+0.1**
	baz=41							
Q16K	**King Salmon**	**2.26**	**238**			**Pn**	**05 33 15.3**	**+0.3**
Q16K	**King Salmon**	**2.26**	**238**	P		**Pn**	**05 33 15.3**	**+0.3**
	baz=55							
M22K	**Willow**	**2.31**	**36**			**Pn**	**05 33 16.3**	**+0.6**
M22K	**Willow**	**2.31**	**36**	P		**Pn**	**05 33 16.3**	**+0.6**
	baz=219							
L19K	**White Mountain**	**2.45**	**339**	Pn		**Pn**	**05 33 17.1**	**-0.5**
L19K	**White Mountain**	**2.45**	**339**	P		**Pn**	**05 33 17.3**	**-0.2**
	baz=157							
R18K	**Karluk**	**2.48**	**199**			**Pn**	**05 33 17.2**	**-0.6**
R18K	**Karluk**	**2.48**	**199**	P		**Pn**	**05 33 17.2**	**-0.6**
	baz=17							
PMR	**Palmer**	**2.53**	**47**	Pn		**Pn**	**05 33 17.6**	**-0.9**
PMR				IAML			05 33 54.4	
	comp=E,113nm,0.7s							
PMR				IAML			05 33 55.1	
	comp=N,93nm,0.8s							
PMR	**Palmer**	**2.53**	**47**	P		**Pn**	**05 33 17.8**	**-0.7**
PMR	**Palmer**	**2.53**	**47**	P		**Pn**	**05 33 17.5**	**-0.9**
	baz=230							
O16K	**Kokwok River B**	**2.61**	**265**			**Pn**	**05 33 19.4**	**-0.2**
O16K	**Kokwok River B**	**2.61**	**265**	P		**Pn**	**05 33 19.3**	**-0.2**
	baz=80							
L20K	**Farewell, AK**	**2.61**	**351**			**Pn**	**05 33 19.7**	**+0.1**
L20K	**Farewell, AK**	**2.61**	**351**	P		**Pn**	**05 33 19.7**	**+0.1**
	baz=170							
M17K	**Holitna River**	**2.65**	**306**			**Pn**	**05 33 19.7**	**-0.5**
M17K	**Holitna River**	**2.65**	**306**	P		**Pn**	**05 33 19.7**	**-0.5**
	baz=122							
KNK	**Knik Glacier**	**2.69**	**54**			**Pn**	**05 33 19.7**	**-0.9**
KNK				IAML			05 33 52.0	
	comp=E,155nm,0.3s							
KNK				IAML			05 33 52.7	
	comp=N,157nm,0.4s							
KNK	**Knik Glacier**	**2.69**	**54**	P		**Pn**	**05 33 19.7**	**-0.9**
	baz=238							
OHAK	**Old Harbor**	**2.71**	**184**			**Pn**	**05 33 19.8**	**-1.1**
OHAK	**Old Harbor**	**2.71**	**184**	IAML			05 34 51.3	
	comp=E,79nm,2.9s							
OHAK				IAML			05 35 13.0	
	comp=N,75nm,3.0s							
OHAK	**Old Harbor**	**2.71**	**184**	P		**Pn**	**05 33 19.9**	**-1.0**
P16K	**Nushagak River**	**2.71**	**253**			**Pn**	**05 33 21.4**	**+0.5**
P16K	**Nushagak River**	**2.71**	**253**	P		**Pn**	**05 33 21.4**	**+0.5**
	baz=68							
GHO	**Glory Hole Cre**	**2.72**	**45**			**Pn**	**05 33 20.8**	**-0.3**
GHO				IAML			05 33 54.0	
	comp=N,145nm,0.6s							
P23K	**Montague Islan**	**2.81**	**86**			**Pn**	**05 33 21.8**	**-0.4**
CUT	**Chulitna**	**2.82**	**27**			**Pn**	**05 33 22.9**	**+0.5**
CUT	**Chulitna**	**2.82**	**27**	P		**Pn**	**05 33 23.3**	**+0.9**
	baz=209							
R17K	**Ugashik Creek**	**2.89**	**219**			**Pn**	**05 33 24.0**	**+0.7**
R17K	**Ugashik Creek**	**2.89**	**219**	IAML			05 34 07.8	
	comp=E,58nm,3.6s							
R17K				IAML			05 35 19.4	
	comp=N,66nm,3.7s							
R17K	**Ugashik Creek**	**2.89**	**219**	P		**Pn**	**05 33 24.0**	**+0.7**
	baz=36							
L18K	**Granite Mounta**	**2.93**	**324**			**Pn**	**05 33 23.4**	**-0.5**
L18K	**Granite Mounta**	**2.93**	**324**	P		**Pn**	**05 33 23.4**	**-0.5**
	baz=140							
N16K	**Nishlik Lake**	**2.95**	**283**			**Pn**	**05 33 24.4**	**+0.3**
N16K	**Nishlik Lake**	**2.95**	**283**	P		**Pn**	**05 33 24.4**	**+0.3**
	baz=98							
SML	**Sawmill**	**2.96**	**48**	Pn		**Pn**	**05 33 23.7**	**-0.6**
SML				IAML			05 34 06.7	
	comp=E,112nm,1.0s							
SML				IAML			05 34 08.8	
	comp=N,144nm,0.8s							
SML	**Sawmill**	**2.96**	**48**	P		**Pn**	**05 33 23.5**	**-0.8**
	baz=232							
PPLA	**Purkeypile**	**3.02**	**7**			**Pn**	**05 33 26.2**	**+1.1**
PPLA	**Purkeypile**	**3.02**	**7**	P		**Pn**	**05 33 26.2**	**+1.1**
	baz=188							
GLI	**Glacier Island**	**3.08**	**69**			**Pn**	**05 33 24.4**	**-1.3**
GLI	**Glacier Island**	**3.08**	**69**	IAML			05 34 01.1	
	comp=N,101nm,1.0s							
GLI				IAML			05 34 15.3	
	comp=E,96nm,1.8s							
GLI	**Glacier Island**	**3.08**	**69**	P		**Pn**	**05 33 24.4**	**-1.3**
	baz=254							
M16K	**Timber Creek**	**3.16**	**293**			**Pn**	**05 33 26.8**	**-0.2**
M23K	**Glacier View**	**3.19**	**51**			**Pn**	**05 33 26.4**	**-0.8**
M23K	**Glacier View**	**3.19**	**51**	P		**Pn**	**05 33 26.4**	**-0.8**
	baz=236							
FID	**Port Fidalgo**	**3.34**	**73**			**Pn**	**05 33 27.0**	**-2.3**
FID	**Port Fidalgo**	**3.34**	**73**	IAML			05 34 07.2	
	comp=E,94nm,0.8s							
TTA	**Tatalina**	**3.36**	**336**			**Pn**	**05 33 29.0**	**-0.6**
TTA	**Tatalina**	**3.36**	**336**	P		**Pn**	**05 33 29.0**	**-0.6**
	baz=153							
SCM	**Sheep Creek Mo**	**3.37**	**53**			**Pn**	**05 33 28.8**	**-1.0**
SCM	**Sheep Creek Mo**	**3.37**	**53**	IAML			05 34 23.1	
	comp=E,97nm,0.8s							
SCM				IAML			05 34 28.3	
	comp=N,104nm,0.9s							
SCM	**Sheep Creek Mo**	**3.37**	**53**	P		**Pn**	**05 33 28.8**	**-1.0**
	baz=288							
Q23K	**Middleton Isla**	**3.40**	**95**			**Pn**	**05 33 29.9**	**-0.1**
Q23K	**Middleton Isla**	**3.40**	**95**	P		**Pn**	**05 33 29.9**	**-0.1**
	baz=281							
L17K	**Donlin**	**3.41**	**313**			**Pn**	**05 33 29.8**	**-0.5**
L17K	**Donlin**	**3.41**	**313**	P		**Pn**	**05 33 29.8**	**-0.5**
	baz=128							
SII	**Sitkinak Islan**	**3.42**	**191**	P		**Pn**	**05 33 31.1**	**+0.6**
K20K	**Telida**	**3.49**	**352**			**Pn**	**05 33 31.0**	**-0.4**
K20K	**Telida**	**3.49**	**352**	P		**Pn**	**05 33 31.4**	**0.0**
	baz=171							
WAT7	**Susitna Watana**	**3.54**	**32**			**Pn**	**05 33 32.3**	**+0.2**
CAST	**Castle Rocks**	**3.54**	**7**	Pn		**Pn**	**05 33 32.4**	**+0.4**
CAST	**Castle Rocks**	**3.54**	**7**	P		**Pn**	**05 33 32.5**	**+0.4**
	baz=187							
O15K	**Ungalikthiuk R**	**3.56**	**261**			**Pn**	**05 33 32.9**	**+0.6**
O15K	**Ungalikthiuk R**	**3.56**	**261**	P		**Pn**	**05 33 32.9**	**+0.6**
	baz=75							
N15K	**Kwethluk River**	**3.58**	**277**			**Pn**	**05 33 33.3**	**+0.8**
N15K	**Kwethluk River**	**3.58**	**277**	IAML			05 34 11.6	
	comp=N,50nm,3.3s							
N15K				IAML			05 34 12.4	
	comp=E,56nm,3.2s							
N15K	**Kwethluk River**	**3.58**	**277**	P		**Pn**	**05 33 33.3**	**+0.8**
	baz=91							
WAT1	**Susitna Watana**	**3.62**	**34**			**Pn**	**05 33 33.0**	**0.0**
WAT1	**Susitna Watana**	**3.62**	**34**	P		**Pn**	**05 33 33.0**	**0.0**
	baz=218							
L16K	**Owhat River**	**3.66**	**302**			**Pn**	**05 33 32.8**	**-0.7**
L16K	**Owhat River**	**3.66**	**302**	IAML			05 34 05.0	
	comp=E,33nm,4.2s							
L16K				IAML			05 35 05.5	
	comp=N,39nm,3.7s							
L16K	**Owhat River**	**3.66**	**302**	P		**Pn**	**05 33 32.8**	**-0.7**
	baz=117							
EYAK	**Cordova Ski Ar**	**3.66**	**77**			**Pn**	**05 33 33.1**	**-0.5**
EYAK	**Cordova Ski Ar**	**3.66**	**77**	P		**Pn**	**05 33 33.5**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.66**	**77**	P		**Pn**	**05 33 33.1**	**-0.5**
	baz=263							
WAT6	**Susitna Watana**	**3.68**	**41**			**Pn**	**05 33 33.5**	**-0.6**
WAT6	**Susitna Watana**	**3.68**	**41**	P		**Pn**	**05 33 33.4**	**-0.6**
	baz=226							
DIV	**Divide**	**3.76**	**68**			**Pn**	**05 33 34.5**	**-0.6**
TRF	**Thorofare Moun**	**3.77**	**19**	Pn		**Pn**	**05 33 36.0**	**+0.8**
TRF				IAML			05 34 21.4	
	comp=N,63nm,0.6s							
TRF				IAML			05 35 53.2	
	comp=E,36nm,3.8s							
TRF	**Thorofare Moun**	**3.77**	**19**	P		**Pn**	**05 33 37.1**	**+1.9**
	baz=201							
KTH	**Katishna Hill**	**3.78**	**14**			**Pn**	**05 33 35.6**	**+0.3**
KTH				IAML			05 34 21.1	
	comp=E,32nm,3.1s							
KTH				IAML			05 34 57.2	
	comp=N,34nm,2.7s							
K17K	**Iditarod**	**3.81**	**320**	Pn		**Pn**	**05 33 35.3**	**-0.2**
K17K				IAML			05 36 05.9	
	comp=E,31nm,3.1s							
K17K				IAML			05 36 12.3	
	comp=N,43nm,3.2s							
K17K	**Iditarod**	**3.81**	**320**	P		**Pn**	**05 33 35.1**	**-0.5**
	baz=135							
KLU	**Klutina**	**3.81**	**62**			**Pn**	**05 33 34.2**	**-1.5**
KLU	**Klutina**	**3.81**	**62**	P		**Pn**	**05 33 34.5**	**-1.2**
	baz=249							
M24K	**Tolsona, Glenn**	**3.97**	**53**	Pn		**Pn**	**05 33 37.4**	**-0.5**
M24K	**Tolsona, Glenn**	**3.97**	**53**	P		**Pn**	**05 33 37.6**	**-0.2**
	baz=240							
J18K	**Innoko River**	**3.98**	**335**	Pn		**Pn**	**05 33 37.7**	**-0.2**
J18K				IAML			05 35 45.2	
	comp=E,26nm,4.2s							
J18K	**Innoko River**	**3.98**	**335**	P		**Pn**	**05 33 37.6**	**-0.3**
	baz=152							
CHUM	**Lake Minchumin**	**4.00**	**4**			**Pn**	**05 33 38.5**	**+0.4**
RND	**Reindeer**	**4.02**	**28**			**Pn**	**05 33 38.6**	**+0.2**
RND	**Reindeer**	**4.02**	**28**	IAML			05 34 43.9	
	comp=E,31nm,2.0s							
RND				IAML			05 34 47.0	
	comp=N,30nm,1.4s							
GOAT	**Goat Mountain**	**4.17**	**77**			**Pn**	**05 33 38.8**	**-1.7**
O14K	**Tigyukauivet M**	**4.26**	**265**			**Pn**	**05 33 42.3**	**+0.5**
O14K	**Tigyukauivet M**	**4.26**	**265**	P		**Pn**	**05 33 41.7**	**0.0**
	baz=77							
BMRM	**Bremner River**	**4.28**	**72**			**Pn**	**05 33 40.2**	**-1.8**
BMRM	**Bremner River**	**4.28**	**72**	P		**Pn**	**05 33 41.5**	**-0.5**
	baz=260							
J19K	**Poorman**	**4.28**	**344**			**Pn**	**05 33 41.8**	**-0.2**
J19K				IAML			05 35 04.9	
	comp=E,20nm,3.1s							
J19K				IAML			05 35 52.9	
	comp=N,20nm,4.0s							
J19K	**Poorman**	**4.28**	**344**	P		**Pn**	**05 33 41.5**	**-0.4**
	baz=162							
MCK	**McKinley**	**4.28**	**25**			**Pn**	**05 33 42.2**	**+0.2**
MCK	**McKinley**	**4.28**	**25**	P		**Pn**	**05 33 42.8**	**+0.8**
	baz=208							
BPAW	**Bear Paw Mtn.**	**4.30**	**12**			**Pn**	**05 33 42.0**	**-0.3**
BPAW				IAML			05 34 22.4	
	comp=N,27nm,3.6s							
BPAW				IAML			05 36 28.6	
	comp=E,28nm,3.8s							
BPAW	**Bear Paw Mtn.**	**4.30**	**12**	P		**Pn**	**05 33 42.5**	**+0.2**
	baz=194							
J20K	**Nowinta River**	**4.31**	**353**	Pn		**Pn**	**05 33 42.1**	**-0.3**
J20K				IAML			05 34 19.3	
	comp=E,29nm,3.6s							
J20K				IAML			05 34 47.2	
	comp=N,26nm,3.7s							
J20K	**Nowinta River**	**4.31**	**353**	P		**Pn**	**05 33 42.4**	**0.0**
	baz=172							
N14K	**Kuskokwak Cree**	**4.38**	**274**			**Pn**	**05 33 43.5**	**+0.2**
N14K	**Kuskokwak Cree**	**4.38**	**274**	P		**Pn**	**05 33 43.3**	**0.0**
	baz=86							
N25K	**Chitina, Valde**	**4.45**	**64**			**Pn**	**05 33 43.2**	**-1.0**
N25K				IAML			05 34 49.6	
	comp=N,38nm,3.5s							
N25K				IAML			05 34 52.7	
	comp=E,34nm,4.0s							
N25K	**Chitina, Valde**	**4.45**	**64**	P		**Pn**	**05 33 43.0**	**-1.3**
	baz=251							
HARP	**HAARP**	**4.53**	**53**			**Pn**	**05 33 44.7**	**-0.7**
HARP	**HAARP**	**4.53**	**53**	P		**Pn**	**05 33 44.7**	**-0.7**
	baz=240							
J17K	**VABM Dome**	**4.54**	**323**			**Pn**	**05 33 44.8**	**-0.7**
J17K	**VABM Dome**	**4.54**	**323**	IAML			05 35 44.1	
	comp=E,38nm,3.7s							
J17K				IAML			05 36 42.6	
	comp=N,31nm,3.9s							
J17K	**VABM

H18K	**Honhosa River**	**5.82**	**337**	P		**Pn**	**05 34 02.3**	**-0.4**
	baz=152							
POKR	**Poker Plat Res**	**5.82**	**24**			**Pn**	**05 34 02.8**	**+0.1**
POKR	**Poker Plat Res**	**5.82**	**24**	P		**Pn**	**05 34 02.8**	**+0.1**
	baz=209							
CTG	**Chitna Glacier**	**5.86**	**75**	P		**Pn**	**05 34 03.6**	**+0.2**
	baz=265							
CTGM	**Chitina Glacie**	**5.86**	**75**			**Pn**	**05 34 03.6**	**+0.1**
SCRK	**Sand Creek**	**5.88**	**42**			**Pn**	**05 34 02.7**	**-1.0**
SCRK	**Sand Creek**	**5.88**	**42**	P		**Pn**	**05 34 02.9**	**-0.8**
	baz=230							
J25K	**Salcha River,**	**5.90**	**34**			**Pn**	**05 34 03.4**	**-0.6**
J25K	**Salcha River,**	**5.90**	**34**	P		**Pn**	**05 34 03.3**	**-0.6**
	baz=220							
M27K	**Edge Creek, AK**	**5.91**	**61**			**Pn**	**05 34 04.0**	**-0.1**
M27K	**Edge Creek, AK**	**5.91**	**61**	P		**Pn**	**05 34 04.0**	**-0.1**
	baz=251							
TABL	**Table Mountain**	**5.93**	**80**			**Pn**	**05 34 04.2**	**-0.3**
H17K	**Granite Mounta**	**5.98**	**330**			**Pn**	**05 34 04.9**	**0.0**
H17K	**Granite Mounta**	**5.98**	**330**	P		**Pn**	**05 34 04.9**	**0.0**
	baz=144							
LOGN	**Logan Glacier**	**6.01**	**76**			**Pn**	**05 34 05.7**	**+0.2**
H22K	**Ishtalitna Cre**	**6.05**	**6**			**Pn**	**05 34 05.8**	**0.0**
H22K	**Ishtalitna Cre**	**6.05**	**6**	P		**Pn**	**05 34 05.8**	**0.0**
	baz=188							
IMAR	**Indian Mountai**	**6.10**	**357**	Pn		**Pn**	**05 34 06.9**	**+0.3**
YUK2	**White River**	**6.22**	**67**			**Pn**	**05 34 08.0**	**-0.3**
J26L	**Joseph Creek**	**6.37**	**40**			**Pn**	**05 34 09.8**	**-0.4**
H24K	**Noodor Dome**	**6.38**	**19**			**Pn**	**05 34 09.9**	**-0.6**
H24K	**Noodor Dome**	**6.38**	**19**	P		**Pn**	**05 34 09.9**	**-0.6**
	baz=204							
PCA	**Pinnacle**	**6.38**	**83**			**Pn**	**05 34 10.6**	**+0.1**
PINM	**Pinnacle**	**6.39**	**83**	P		**Pn**	**05 34 10.6**	**+0.1**
	baz=274							
PRP	**Porcupine Dome**	**6.58**	**28**			**Pn**	**05 34 13.3**	**+0.1**
PRP	**Porcupine Dome**	**6.58**	**28**	P		**Pn**	**05 34 13.3**	**+0.1**
	baz=215							
G21K	**Allakaket**	**6.63**	**358**			**Pn**	**05 34 13.9**	**+0.2**
G21K	**Allakaket**	**6.63**	**358**	P		**Pn**	**05 34 13.6**	**-0.1**
	baz=178							
BCPM	**Bancas Point**	**6.71**	**84**			**Pn**	**05 34 14.8**	**0.0**
PNL	**Peninsula**	**6.86**	**86**			**Pn**	**05 34 16.5**	**-0.4**
PNL	**Peninsula**	**6.86**	**86**	P		**Pn**	**05 34 16.8**	**-0.1**
PNL	**Peninsula**	**6.86**	**86**	P		**Pn**	**05 34 16.5**	**-0.4**
	baz=278							
G23K	**Bananza Creek**	**6.95**	**10**			**Pn**	**05 34 17.7**	**-0.5**
G23K	**Bananza Creek**	**6.95**	**10**	P		**Pn**	**05 34 18.0**	**-0.2**
	baz=192							
G16K	**Koyuk River**	**6.99**	**326**			**Pn**	**05 34 17.9**	**-0.6**
G16K	**Koyuk River**	**6.99**	**326**	P		**Pn**	**05 34 18.1**	**-0.5**
	baz=138							
I26K	**Coal Creek Min**	**7.05**	**36**			**Pn**	**05 34 19.0**	**-0.4**
O29M	**Mount Kennedy**	**7.21**	**81**			**Pn**	**05 34 21.6**	**-0.2**
F21K	**Alatna River**	**7.34**	**358**	Pn		**Pn**	**05 34 23.4**	**0.0**
SKAG	**Skagway**	**8.94**	**85**	P		**Pn**	**05 34 46.7**	**+1.6**
JIS	**Juneau Island**	**9.70**	**92**	P		**Pn**	**05 34 57.9**	**+2.4**
DLBC	**Dease Lake**	**11.85**	**87**	P		**Pn**	**05 35 26.3**	**+1.7**
	comp=N,1.6nm,0.3s,baz=283,slow=8.7,SNR=12							
DLBC				S		**Sn**	**05 37 33.1**	**-1.6**
	comp=N,0.8nm,0.5s,baz=201,slow=17,SNR=1.6							
INK	**Inuvik**	**11.90**	**37**	P		**Pn**	**05 35 25.4**	**+0.4**
	comp=N,0.7nm,0.7s,baz=229,slow=9.5,SNR=4.3							
YKA	**Yellowknife Ar**	**18.48**	**65**	P		**P**	**05 36 47.3**	**+0.7**
	comp=N,0.2nm,0.5s,baz=277,slow=11,SNR=7.5							
ANMO	**Albuquerque**	**38.98**	**109**	LR		LR	05 56 40.4	
	comp=N,93nm,18.6s,baz=310,slow=37							
SCHQ	**Schefferville**	**43.60**	**57**	P		**P**	**05 40 32.9**	**+0.2**
	comp=N,6.2nm,0.6s,baz=235,slow=18,SNR=5.8							
	comp=N,6.2nm,0.6s							
TKL	**Tuckaleechee C**	**49.69**	**87**	LR		LR	06 04 54.8	
	comp=N,49nm,19.5s,baz=175,slow=39							
SONM	**Songino Array**	**54.85**	**306**	P		**P**	**05 41 59.3**	**+0.8**
	comp=N,0.5nm,0.7s,baz=52,slow=6.6,SNR=2.7							
	comp=N,0.5nm,0.7s							
MDT	**Midelt**	**83.99**	**26**	LR		LR	06 25 28.2	
	comp=N,97nm,18.8s,baz=172,slow=38							
MMAI	**Mount Meron Ar**	**87.15**	**353**	LR		LR	06 29 17.8	
	comp=N,76nm,22.0s,baz=169,slow=39							

SJA ***16*** *05:34:11.3±0.7, 19°.22S×70°.02W, h69km±3km, ML3.7, MW3.8*

GUC ***16*** *05:34:13.1±0.8, 19°.20S×69°.99W, h64km±5km, ML3.6*

ISC 16 05:34:14.6±1.2, 19°.23S±0°.02×70°.03W±0°.05, h43km±14km, n29,σ1°947/56, 2C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PX02	**IPOC Station P**	**0.31**	**329**	*e*P		**Pn**	**05 34 22.7**	**-0.7**
PX02				*e*S		**Sn**	**05 34 31.1**	**+1.5**
PX02				IAML			05 34 35.0	
	comp=N,2μm,0.4s							
PB11	**IPOC Station P**	**0.63**	**146**	*e*P		**Pn**	**05 34 26.5**	**-0.9**
PB11				*e*S		**Sn**	**05 34 37.8**	**+1.2**
PB11				IAML			05 34 37.8	
	comp=Z,2μm,0.3s							
PB11	**IPOC Station P**	**0.63**	**146**	*i* P		**Pn**	**05 34 26.6**	**-0.9**
PB11				*e*S		**Sn**	**05 34 37.4**	**+0.8**
PB11				IAML			05 34 38.1	
	comp=E,9μm,0.2s							
PB12	**IPOC Station P**	**0.68**	**335**	*e*P		**Pn**	**05 34 26.7**	**-1.2**
PB12				*e*S		**Sn**	**05 34 38.5**	**+1.0**
PB12				IAML			05 34 42.0	
	comp=Z,1μm,0.1s							
PB12	**IPOC Station P**	**0.68**	**335**	⇓*i*P		**Pn**	**05 34 26.9**	**-1.1**
PB12				*e*S		**Sn**	**05 34 37.8**	**+0.3**
PB12				IAML			05 34 41.8	
	comp=E,3μm,0.1s							
GO01	**Chusmiza**	**0.90**	**119**	*e*P		**Pn**	**05 34 30.2**	**-1.1**
GO01				*e*S		**Sn**	**05 34 44.2**	**+0.8**
GO01				IAML			05 34 45.6	
	comp=Z,1μm,0.3s							
GO01	**Chusmiza**	**0.90**	**119**	⇓*i*P		**Pn**	**05 34 30.4**	**-0.9**
GO01				*e*S		**Sn**	**05 34 43.8**	**+0.4**
AP01	**Chacalluta**	**0.91**	**341**	⇓*i*P		**Pn**	**05 34 29.7**	**-1.2**
AP01				*e*S		**Sn**	**05 34 43.0**	**+0.1**
AP01				IAML			05 34 44.1	
	comp=E,5μm,0.3s							
PB16	**IPOC Station P**	**1.02**	**29**	*e*P		**Pn**	**05 34 31.6**	**-1.4**
PB16				*e*S		**Sn**	**05 34 46.1**	**-0.4**
PB16				IAML			05 34 46.3	
	comp=Z,788nm,0.5s							
PB16	**IPOC Station P**	**1.02**	**29**	⇑*i*P		**Pn**	**05 34 31.6**	**-1.4**
PB16				*e*S		**Sn**	**05 34 46.1**	**-0.4**
PB16				IAML			05 34 49.8	
	comp=N,1μm,0.2s							
TA02	**Huaiquique**	**1.04**	**185**	*e*P		**Pn**	**05 34 31.4**	**-1.3**
TA02				*e*S		**Sn**	**05 34 46.6**	**+0.5**
TA02				IAML			05 34 51.7	
	comp=Z,2μm,0.1s							
TA02	**Huaiquique**	**1.04**	**185**	*e*P		**Pn**	**05 34 31.5**	**-1.3**
TA02				*e*S		**Sn**	**05 34 46.3**	**+0.2**
TA02				IAML			05 34 49.4	
	comp=N,3μm,0.5s							
HMBC	**Humberstone**	**1.05**	**173**	*e*P		**Pn**	**05 34 31.7**	**-1.3**
HMBC				*e*S		**Sn**	**05 34 47.0**	**+0.4**
HMBC				IAML			05 34 48.1	
	comp=Z,2μm,0.4s							
HMBC	**Humberstone**	**1.05**	**173**	⇑*i*P		**Pn**	**05 34 31.7**	**-1.3**
HMBC				*e*S		**Sn**	**05 34 46.1**	**-0.4**
HMBC				IAML			05 34 47.6	
	comp=N,4μm,0.4s							
PB08	**IPOC Station P**	**1.22**	**138**	*e*P		**Pn**	**05 34 34.6**	**-1.0**
PB08				*e*S		**Sn**	**05 34 51.4**	**+0.2**
PB08				*e*S			05 34 51.4	
PB08				IAML			05 34 52.5	
	comp=Z,2μm,0.2s							
PB08	**IPOC Station P**	**1.22**	**138**	*i* P		**Pn**	**05 34 34.6**	**-1.0**
PB08				*e*S		**Sn**	**05 34 51.2**	**0.0**
PB08				IAML			05 34 52.1	
	comp=E,3μm,0.2s							
TA01	**Diego Aracena**	**1.33**	**186**	*e*P		**Pn**	**05 34 35.3**	**-1.5**
TA01				*e*S		**Sn**	**05 34 53.3**	**0.0**
TA01				IAML			05 34 56.6	
	comp=Z,737nm,0.3s							
TA01	**Diego Aracena**	**1.33**	**186**	*e*P		**Pn**	**05 34 35.3**	**-1.5**
TA01				*e*S		**Sn**	**05 34 52.4**	**-1.0**
TA01				IAML			05 34 56.7	
	comp=N,2μm,0.7s							
PATCX	**Punta Patache**	**1.58**	**184**	*e*P		**Pn**	**05 34 39.0**	**-1.4**
PATCX				*e*S		**Sn**	**05 35 04.6**	**+4.9**
PATCX				IAML			05 35 06.4	
	comp=Z,671nm,0.5s							
PB18	**Visviri**	**1.72**	**18**	*e*S		**Sn**	**05 35 06.8**	**+3.3**
PB18				IAML			05 35 10.9	
	comp=Z,1μm,0.4s							
PB18				IAML			05 35 11.3	
	comp=E,974nm,0.4s							
PB01	**IPOC Station P**	**1.87**	**164**	*e*P		**Pn**	**05 34 43.0**	**-1.3**
PB01				*e*S		**Sn**	**05 35 07.2**	**+0.4**
PB01				IAML			05 35 08.1	
	comp=Z,524nm,0.2s							
PB01	**IPOC Station P**	**1.87**	**164**	*e*P		**Pn**	**05 34 42.9**	**-1.3**
PB01				*e*S		**Sn**	**05 35 06.9**	**+0.1**
PB01				IAML			05 35 09.2	
	comp=N,800nm,0.4s							
PB02	**IPOC Station P**	**2.08**	**177**	*e*P		**Pn**	**05 34 46.0**	**-1.2**
PB02				*e*P			05 34 46.1	
PB02				*e*S		**Sn**	**05 35 13.6**	**+1.7**
PB02				IAML			05 35 18.2	
	comp=Z,2μm,0.3s							
PB07	**IPOC Station P**	**2.48**	**177**	*e*P		**Pn**	**05 34 51.4**	**-1.4**
PB07				*e*S		**Sn**	**05 35 25.7**	**+3.7**
PB07				IAML			05 35 29.9	
	comp=Z,535nm,0.4s							
PB09	**IPOC Station P**	**2.66**	**164**	*e*P		**Pn**	**05 34 54.3**	**-0.8**
PB09				*e*S		**Sn**	**05 35 28.4**	**+2.2**
PB09				IAML			05 35 36.1	
	comp=Z,533nm,0.7s							
PB04	**IPOC Station P**	**3.09**	**182**	*e*P		**Pn**	**05 35 00.5**	**-0.6**
PB04				*e*S		**Sn**	**05 35 38.5**	**+1.6**
PB04				IAML			05 35 52.8	
	comp=Z,352nm,0.6s							
LPAZ	**La Paz**	**3.44**	**32**	*e*P		**Pn**	**05 35 07.0**	**+0.6**
LPAZ				*e*S		Sn	05 36 04.4	+18
PB06	**IPOC Station P**	**3.48**	**173**	*e*P		**Pn**	**05 35 04.9**	**-1.6**
PB06				*e*S		**Sn**	**05 35 47.0**	**+0.4**
PB06				IAML			05 36 07.7	
	comp=Z,172nm,0.4s							
LVC	**Limon Verde**	**3.52**	**163**	*e*P		**Pn**	**05 35 06.4**	**-0.8**
LVC				*e*S		**Sn**	**05 35 50.0**	**+2.2**
LVC				IAML			05 35 59.1	
	comp=Z,79nm,0.7s							

IDC ***16*** *05:49:42.5±1.0, 40°.65N×72°.92E, h0km, mb3.7/5, mbtmp3.5/10, ML2.7/3, MS3.7/2, Error ellipse: s-maj=21.0km s-min=10.5km az=129.0*

MOS ***16*** *05:49:46.2±1.2, 40°.82N×72°.71E, h15km, mb4.0/1, Error ellipse: s-maj=8.4km s-min=4.2km az=68.9*

ISU ***16*** *05:49:46.1, 40°.80N×72°.92E, h15km*

KRNET ***16*** *05:49:46.1±0.1, 40°.86N×72°.81E, h15km, mb4.1*

KNET ***16*** *05:49:47.8±0.4, 40°.95N×72°.97E, h7km,3km, ml3.9, Error ellipse: s-maj=5.0km s-min=3.3km az=102.0*

NNC ***16*** *05:49:47.9±0.8, 40°.94N×72°.92E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=6.0km s-min=4.9km az=147.0*

SOME ***16*** *05:49:47.5, 41°.07N×72°.92E, h0km*

ISC 16 05:49:46.6±0.8, 40°.88N±0°.02×72°.82E±0°.02, h17km±6km, n167,σ2°15/224, mb3.7/5, 37C-59D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHH	**Osh**	**0.35**	**185**	⇑*i*P		**Pg**	**05 49 52.9**	**-1.1**
	baz=84							
OHH				⇑*i*S		**Sg**	**05 49 57.7**	**-1.3**
	baz=84							
OHH	**Osh**	**0.35**	**185**	P		**Pg**	**05 49 52.9**	**-1.1**
OHH				S		**Sg**	**05 49 57.8**	**-1.3**
OHH	**Osh**	**0.35**	**185**	*i* PG		**Pg**	**05 49 52.9**	**-1.1**
OHH				*i* S		**Sg**	**05 49 57.7**	**-1.3**
ANR	**Andizhan**	**0.37**	**251**	P		**Pg**	**05 49 54.4**	**+0.1**
ANR				S		**Sb**	**05 50 01.0**	**+0.7**
TSTA	**Tashata**	**0.40**	**222**	P		**Pg**	**05 49 54.1**	**-0.7**
TSTA				S		**Sg**	**05 50 00.3**	**0.0**
ARSB	**Arslanbob**	**0.46**	**15**	⇑*i*P		**Pg**	**05 49 55.5**	**-0.5**
	baz=15							
ARSB				⇑*i*S		**Sg**	**05 50 01.9**	**-0.5**
	baz=15							
ARSB	**Arslanbob**	**0.46**	**15**	*i* PG		**Pg**	**05 49 55.5**	**-0.5**
FRG	**Fergana**	**0.94**	**238**	P		**Pb**	**05 50 04.5**	**+0.1**
FRG				S		**Sg**	**05 50 17.9**	**+0.8**
SFK	**Sufi-Kurgan**	**1.00**	**149**	⇑*i*P		**Pb**	**05 50 04.9**	**-0.8**
	baz=48							
SFK				⇑*i*S		**Sb**	**05 50 18.8**	**+0.1**
	baz=48							
SFK	**Sufi-Kurgan**	**1.00**	**149**	*i* PG		**Pb**	**05 50 04.9**	**-0.8**
SFK				*i* S		**Sb**	**05 50 18.8**	**+0.1**
KSNS	**Kasansay**	**1.03**	**286**	P		**Pn**	**05 50 07.5**	**+1.2**
ARK	**Arkit**	**1.13**	**325**	⇓*i*P		**Pb**	**05 50 07.3**	**-0.4**
	baz=26							
ARK				⇓*i*S		**Sg**	**05 50 23.1**	**-0.1**
	baz=26							
ARK	**Arkit**	**1.13**	**325**	⇓*i*PG		**Pb**	**05 50 07.3**	**-0.4**
ARK				*i* S		**Sg**	**05 50 23.1**	**-0.1**
CHMI	**Chimion**	**1.16**	**239**	P		**Pn**	**05 50 08.7**	**+0.6**
CHMI				P		**Pn**	**05 50 08.7**	**+0.6**
CHMI				S		**Sg**	**05 50 25.0**	**+0.7**
CHMI				S		**Sg**	**05 50 25.0**	**+0.7**
AML	**Almayashu**	**1.42**	**27**	⇑P		**Pn**	**05 50 12.8**	**+0.9**
	233nm,0.2s,SNR=447							
AML				⇓S		**Sg**	**05 50 32.1**	**-0.3**
	2μm,0.3s							
AML	**Almayashu**	**1.42**	**27**	⇓*i*P		**Pb**	**05 50 13.0**	**+0.2**
	baz=27							
AML				⇓*i*S		**Sg**	**05 50 32.8**	**+0.4**
	baz=27							
AML	**Almayashu**	**1.42**	**27**	⇓*i*PG		**Pb**	**05 50 13.0**	**+0.2**
AML				*i* S		**Sg**	**05 50 32.8**	**+0.4**
AML	**Almayashu**	**1.42**	**27**	⇓P		**Pn**	**05 50 12.8**	**+0.9**
	23nm,0.6s							
AML				⇓S		**Sg**	**05 50 32.1**	**-0.3**
	53nm,0.5s							
TRKS	**Terek-Say**	**1.43**	**298**	⇓*i*P		**Pn**	**05 50 12.0**	**+0.1**
	baz=96							
TRKS				⇓*i*S		**Sn**	**05 50 30.6**	**+0.2**
	baz=96							
TRKS	**Terek-Say**	**1.43**	**298**	⇓*i*PG		**Pn**	**05 50 12.0**	**+0.1**
TRKS				*i* S		**Sn**	**05 50 30.6**	**+0.2**
ARLS	**Aral**	**1.50**	**48**	⇓*i*P		**Pn**	**05 50 14.0**	**+1.2**
	baz=49							
ARLS				⇓*i*S		**Sb**	**05 50 34.1**	**+1.3**
	baz=49							
ARLS	**Aral**	**1.50**	**48**	⇓*i*PN		**Pn**	**05 50 14.0**	**+1.2**
ARLS				*i* S		**Sb**	**05 50 34.1**	**+1.3**
DRK	**Karamyk**	**1.60**	**210**	⇑*e*P		**Pn**	**05 50 15.6**	**+1.2**
	baz=10.0							
DRK				⇑*e*S		**Sb**	**05 50 37.0**	**+1.1**
	baz=10.0							
BTK	**Batken**	**1.73**	**243**	⇑*i*P		**Pn**	**05 50 17.3**	**+1.3**
	baz=43							
BTK				⇑*i*S		**Sb**	**05 50 40.9**	**+1.3**
	baz=43							
BTK	**Batken**	**1.73**	**243**	*i* PN		**Pn**	**05 50 17.3**	**+1.3**
BTK				*i* S		**Sb**	**05 50 40.9**	**+1.3**
UCH	**Uchtor**	**1.85**	**43**	⇑P		**Pb**	**05 50 20.6**	**+0.4**
	286nm,0.3s,SNR=400							
UCH				⇓S		**Sg**	**05 50 45.7**	**-0.7**
	1μm,0.3s							
UCH	**Uchtor**	**1.85**	**43**	⇓*i*P		**Pb**	**05 50 20.7**	**+0.4**
	baz=43							
UCH				⇓*i*S		**Sg**	**05 50 45.8**	**-0.6**
	baz=43							
UCH	**Uchtor**	**1.85**	**43**	⇓*i*PN		**Pb**	**05 50 20.7**	**+0.4**
UCH				*i* S		**Sg**	**05 50 45.8**	**-0.6**
MRKS	**Merke**	**1.89**	**9**	*e*P		**Pb**	**05 50 21.5**	**+0.8**
	909nm,0.2s							
MRKS				*e*S		**Sg**	**05 50 47.1**	**-0.4**
	2μm,0.2s							
MRKS	**Merke**	**1.89**	**9**	Pg		**Pb**	**05 50 21.5**	**+0.8**
	920nm,0.5s							
MRKS				Lg		Lg	05 50 47.1	
	2μm,0.5s							
EKS2	**Erkin-Say**	**1.92**	**21**	⇓P		**Pb**	**05 50 21.7**	**+0.5**
	66nm,0.2s,SNR=181							
EKS2				⇓S		**Sg**	**05 50 47.5**	**-1.0**
	291nm,0.2s							
EKS2	**Erkin-Say**	**1.92**	**21**	⇓*i*P		**Pb**	**05 50 21.8**	**+0.5**
	baz=22							
EKS2				⇓*i*S		**Sg**	**05 50 47.1**	**-1.4**
	baz=22							
EKS2	**Erkin-Say**	**1.92**	**21**	⇓*i*PN		**Pb**	**05 50 21.8**	**+0.5**
AAK	**Ala-Archa**	**2.16**	**35**	⇓P		**Pb**	**05 50 25.3**	**0.0**
	105nm,0.2s,SNR=140							
AAK				⇓S		**Sg**	**05 50 54.7**	**-1.4**
	908nm,0.4s							
AAK	**Ala-Archa**	**2.16**	**35**	⇓*i*P		**Pb**	**05 50 25.0**	**-0.3**
	baz=35							
AAK				⇓*i*S		**Sb**	**05 50 53.1**	**+1.2**
	baz=35							
AAK	**Ala-Archa**	**2.16**	**35**	*c i*PN		**Pb**	**05 50 25.5**	**+0.2**
AAK				*i* S		**Sg**	**05 50 55.1**	**-1.0**
AAK				pmax	pmax			
	comp=Z,175nm,0.6s							
AAK	**Ala-Archa**	**2.16**	**35**	Pn		**Pb**	**05 50 25.6**	**+0.3**
	comp=Z,144nm,0.3s,baz=225,slow=12,SNR=282							
AAK				Sn		**Sg**	**05 50 55.2**	**-0.9**
	comp=Z,64nm,0.3s,baz=41,slow=18,SNR=14							
AAK				LR		LR	05 50 57.6	
	comp=Z,14nm,19.1s,baz=10,slow=32							
KZA	**Kyzart**	**2.18**	**56**	⇑P		**Pb**	**05 50 25.6**	**-0.3**
	comp=Z,95nm,0.4s,SNR=135							
KZA				⇓S		**Sb**	**05 50 55.0**	**+2.2**
	comp=Z,217nm,0.3s							
KZA	**Kyzart**	**2.18**	**56**	⇓*i*P		**Pb**	**05 50 25.4**	**-0.5**
	baz=56							
KZA				⇓*i*S		**Sb**	**05 50 53.8**	**+1.0**
	baz=56							
KZA	**Kyzart**	**2.18**	**56**	⇓*i*PN		**Pb**	**05 50 25.4**	**-0.5**
KZA				*i* S		**Sb**	**05 50 53.8**	**+1.0**
CHMG	**Chimgan**	**2.23**	**289**	P		**Pb**	**05 50 26.9**	**+0.4**
CHRV	**Charvak**	**2.30**	**290**	P		**Pb**	**05 50 28.2**	**+0.6**
DZA	**Taraz**	**2.30**	**332**	*e*Pn		**Pb**	**05 50 26.6**	**-1.1**
	baz=333							
DZA				*e*Pb		**Pg**	**05 50 28.4**	**-2.4**
	baz=333							
DZA	**Taraz**	**2.30**	**332**	*e*Pg		**Pb**	**05 50 28.9**	**+1.2**
	comp=Z,632nm,0.1s							
DZA				*e*Lg		Lg	05 50 58.9	
	comp=Z,2μm,0.3s							
DZA	**Taraz**	**2.30**	**332**	*e*PN		**Pb**	**05 50 26.6**	**-1.1**
FRU1	**Bishkek**	**2.36**	**34**	⇑P		**Pb**	**05 50 28.1**	**-0.5**
	baz=34							
FRU1				⇑*i*S		**Sb**	**05 50 58.5**	**+1.0**
	baz=34							
FRU1	**Bishkek**	**2.36**	**34**	*i* PN		**Pb**	**05 50 28.1**	**-0.5**
FRU1				*i* S		**Sb**	**05 50 58.5**	**+1.0**
KBK	**Karagaybulak**	**2.38**	**41**	⇑P		**Pb**	**05 50 29.0**	**-0.1**
	comp=Z,141nm,0.4s,SNR=59							
KBK				⇓S		**Sb**	**05 51 00.7**	**+2.3**
	comp=Z,2μm,0.4s							
KBK	**Karagaybulak**	**2.38**	**41**	⇓*i*P		**Pb**	**05 50 28.4**	**-0.8**
	baz=41							
KBK				⇓*i*S		**Sb**	**05 50 58.9**	**+0.5**
	baz=41							
KBK	**Karagaybulak**	**2.38**	**41**	⇓*i*PN		**Pb**	**05 50 28.4**	**-0.8**
KBK				*i* S		**Sb**	**05 50 58.9**	**+0.5**
YBZ	**Yangibazar**	**2.48**	**281**	P		**Pb**	**05 50 31.9**	**+1.1**
TGS	**TashGRES**	**2.55**	**283**	S		**Sg**	**05 51 11.1**	**+2.4**
CHMS	**Chumysh**	**2.56**	**33**	⇓P		**Pb**	**05 50 30.9**	**-1.2**
	comp=Z,50nm,0.2s,SNR=17							
CHMS				⇑S		**Sb**	**05 51 04.8**	**+1.4**
	comp=Z,173nm,0.4s							
CHMS	**Chumysh**	**2.56**	**33**	⇓*i*P		**Pb**	**05 50 30.7**	**-1.4**
	baz=33							
CHMS				⇓*i*S		**Sb**	**05 51 02.9**	**-0.5**
	baz=33							
CHMS	**Chumysh**	**2.56**	**33**	⇓*i*PN		**Pb**	**05 50 30.7**	**-1.4**
CHMS				*i* S		**Sb**	**05 51 02.9**	**-0.5**
CHMS	**Chumysh**	**2.56**	**33**	⇑Pg		**Pb**	**05 50 31.2**	**-1.0**
	comp=Z,34nm,0.3s							
CHMS				⇓Lg		Lg	05 51 04.8	
	comp=Z,169nm,0.6s							
USP	**Ospenovka**	**2.70**	**27**	⇓P		**Pb**	**05 50 32.4**	**-2.0**
	comp=Z,163nm,0.2s,SNR=31							
USP				⇑S		**Sb**	**05 51 07.3**	**+0.1**
	comp=Z,257nm,0.2s							
USP	**Ospenovka**	**2.70**	**27**	⇑*i*P		**Pb**	**05 50 32.6**	**-1.8**
	baz=27							
USP				⇑*i*S		**Sb**	**05 51 06.0**	**-1.2**
	baz=27							
USP	**Ospenovka**	**2.70**	**27**	*i* PN		**Pb**	**05 50 32.6**	**-1.8**
USP				*i* S		**Sb**	**05 51 06.0**	**-1.2**
TAS	**Tashkent**	**2.71**	**281**	P		**Sb**	**05 51 12.2**	**+4.8**
KUMR	**Kumaryk**	**2.72**	**279**	P		**Sb**	**05 51 12.8**	**+5.0**
CHM	**Chimkent**	**2.81**	**302**	*e*Pg		**Pg**	**05 50 40.4**	**-0.1**
	comp=Z,63nm,0.1s							
CHM				*e*Lg		Lg	05 51 18.7	
	comp=Z,683nm,0.2s							
KK31	**Karatay Array**	**2.82**	**323**	PN		**Pn**	**05 50 32.8**	**+1.9**
KK31	**Karatay Array**	**2.82**	**323**	⇓Pn		**Pn**	**05 50 32.8**	**+1.9**
	comp=Z,74nm,0.6s,baz=133,slow=13,SNR=465							
KK31				⇑Lg		Lg	05 51 14.1	
	comp=Z,167nm,0.7s,baz=136,slow=29,SNR=5.7							
KKAR	**Karatay Array**	**2.82**	**323**	⇑P		**Pn**	**05 50 33.9**	**+3.1**
	baz=23							
KKA

TNSS					Lg	Lg	05 51 42.9	
	comp=Z,54nm,0.6s							
AAA	**Alma-Ata**	**3.84**	**51**	*e*Pn	**Pn**	**05 50 48.2**	**+3.3**	
	baz=51							
AAA	**Alma-Ata**	**3.84**	**51**	*e*Pg	**Pb**	**05 50 56.9**	**+3.0**	
	comp=Z,39nm,0.1s							
AAA				*e*Lg	Lg	05 51 46.4		
	comp=Z,216nm,0.3s							
AAA	**Alma-Ata**	**3.84**	**51**	*e*PN	**Pn**	**05 50 48.2**	**+3.3**	
AAA	**Alma-Ata**	**3.84**	**51**	Pg	**Pb**	**05 50 56.5**	**+2.6**	
	comp=Z,48nm,0.5s							
AAA				Lg	Lg	05 51 46.4		
	comp=Z,218nm,0.8s							
BXML	**Bakhmal**	**3.85**	**254**	P	**Sb**	**05 51 38.7**	**-1.9**	
KNDC	**Almaty**	**3.87**	**51**	PN	**Pb**	**05 50 57.0**	**+2.6**	
KNDC	**Almaty**	**3.87**	**51**	⇑Pg	**Pb**	**05 50 57.8**	**+3.4**	
	comp=Z,36nm,0.5s							
KNDC				⇓Lg	Lg	05 51 47.9		
	comp=Z,200nm,0.7s							
MDOK	**Medeo**	**3.89**	**53**	*e*Pn	**Pn**	**05 50 49.0**	**+3.3**	
	baz=52							
MDOK				*e*Pg	**Pg**	**05 50 59.4**	**-1.7**	
	baz=52							
MDOK	**Medeo**	**3.89**	**53**	*e*Pg	**Pb**	**05 50 57.5**	**+2.8**	
	comp=Z,13nm,0.3s							
MDOK				*e*Lg	Lg	05 51 47.7		
	comp=Z,98nm,0.5s							
MDOK	**Medeo**	**3.89**	**53**	*e*PN	**Pn**	**05 50 49.0**	**+3.3**	
MDOK				*e*		05 50 59.4		
MDOK	**Medeo**	**3.89**	**53**	Pg	**Pb**	**05 50 57.5**	**+2.8**	
	comp=Z,22nm,0.5s							
MDOK				⇓Pg	**Pg**	**05 50 57.8**	**-3.2**	
	comp=Z,26nm,0.6s							
MDOK				⇓Lg	Lg	05 51 47.4		
	comp=Z,88nm,0.7s							
MDOK				Lg	Lg	05 51 47.7		
	comp=Z,98nm,0.9s							
KOTS	**Kotyrbulak**	**3.97**	**52**	*e*Pg	**Pb**	**05 50 59.0**	**+2.8**	
	comp=Z,23nm,0.2s							
KOTS				*e*Lg	Lg	05 51 50.4		
	comp=Z,186nm,0.4s							
KOTS	**Kotyrbulak**	**3.97**	**52**	Pg	**Pb**	**05 50 59.0**	**+2.8**	
	comp=Z,22nm,0.2s							
KOTS				Lg	Lg	05 51 50.4		
	comp=Z,186nm,0.6s							
KUU	**Kurty**	**3.98**	**40**	*e*Pn	**Pn**	**05 50 49.2**	**+2.3**	
	baz=39							
KUU	**Kurty**	**3.98**	**40**	*e*Pg	**Pb**	**05 50 58.5**	**+2.1**	
	comp=Z,10nm,0.2s							
KUU				*e*Lg	Lg	05 51 49.7		
	comp=Z,130nm,0.3s							
KUU	**Kurty**	**3.98**	**40**	*e*PN	**Pn**	**05 50 49.2**	**+2.3**	
KUU	**Kurty**	**3.98**	**40**	Pg	**Pb**	**05 50 58.5**	**+2.1**	
	comp=Z,29nm,0.5s							
KUU				Lg	Lg	05 51 49.7		
	comp=Z,130nm,0.6s							
KTBS	**Karatobe**	**4.03**	**44**	*e*Pg	**Pb**	**05 50 59.9**	**+2.8**	
	comp=Z,22nm,0.2s							
KTBS				*e*Lg	Lg	05 51 51.8		
	comp=Z,270nm,0.3s							
KTBS	**Karatobe**	**4.03**	**44**	Pg	**Pb**	**05 50 59.9**	**+2.8**	
	comp=Z,22nm,0.5s							
KTBS				Lg	Lg	05 51 51.8		
	comp=Z,270nm,0.7s							
ANVS	**Anan'yevo**	**4.09**	**61**	⇓*i*P	**Pn**	**05 50 51.7**	**+3.2**	
	baz=60							
ANVS				⇓*i*S	**Sn**	**05 51 39.4**	**+3.3**	
	baz=60							
ANVS	**Anan'yevo**	**4.09**	**61**	⇓*i*PN	**Pb**	**05 50 54.7**	**-3.5**	
ANVS				*i* S	**Sn**	**05 51 39.4**	**+3.3**	
BTLS	**Baital**	**4.26**	**12**	*e*Pn	**Pn**	**05 50 53.2**	**+2.5**	
	baz=12							
BTLS	**Baital**	**4.26**	**12**	*e*Pg	**Pb**	**05 51 04.2**	**+3.3**	
	comp=Z,54nm,0.6s							
BTLS				*e*Lg	Lg	05 51 59.7		
	comp=Z,61nm,0.1s							
BTLS	**Baital**	**4.26**	**12**	*e*PN	**Pn**	**05 50 53.1**	**+2.5**	
BTLS	**Baital**	**4.26**	**12**	Pg	**Pb**	**05 51 04.3**	**+3.3**	
	comp=Z,54nm,0.6s							
BTLS				Lg	Lg	05 51 59.7		
	comp=Z,61nm,0.6s							
CHKK	**Chushkaly**	**4.29**	**45**	*e*Pn	**Pn**	**05 50 53.3**	**+2.2**	
	baz=44							
CHKK	**Chushkaly**	**4.29**	**45**	*e*Pg	**Pb**	**05 51 04.2**	**+2.7**	
	comp=Z,12nm,0.3s							
CHKK				*e*Lg	Lg	05 52 00.0		
	comp=Z,155nm,0.3s							
CHKK	**Chushkaly**	**4.29**	**45**	*e*PN	**Pn**	**05 50 53.2**	**+2.2**	
CHKK	**Chushkaly**	**4.29**	**45**	Pg	**Pb**	**05 51 04.2**	**+2.7**	
	comp=Z,12nm,0.7s							
CHKK				Lg	Lg	05 52 00.0		
	comp=Z,155nm,0.8s							
SATY	**Saty**	**4.70**	**60**	*e*Pg	**Pg**	**05 51 14.2**	**-2.4**	
	baz=60							
SATY	**Saty**	**4.70**	**60**	*e*Pg	**Pg**	**05 51 13.2**	**-3.4**	
	comp=Z,7.1nm,0.2s							
SATY				*e*Lg	Lg	05 52 14.5		
	comp=Z,61nm,0.2s							
SATY	**Saty**	**4.70**	**60**	Pg	**Pg**	**05 51 13.2**	**-3.4**	
	comp=Z,13nm,0.5s							
SATY				Lg	Lg	05 52 14.5		
	comp=Z,61nm,0.5s							
KURS	**Kuram**	**4.75**	**55**	*e*Pg	**Pb**	**05 51 13.2**	**+3.8**	
	comp=Z,3.6nm,0.3s							
KURS				*e*Lg	Lg	05 52 14.7		
	comp=Z,21nm,0.4s							
KURS	**Kuram**	**4.75**	**55**	Pg	**Pb**	**05 51 13.2**	**+3.8**	
	comp=Z,9.0nm,0.7s							
KURS				Lg	Lg	05 52 14.7		
	comp=Z,26nm,0.9s							
ZHN	**Zhinishke**	**4.77**	**59**	*e*Pg	**Pg**	**05 51 15.3**	**-2.6**	
	baz=59							
ARXS	**Arharly**	**4.98**	**46**	*e*Pg	**Pb**	**05 51 16.9**	**+3.6**	
	comp=Z,6.4nm,0.3s							
ARXS				*e*Lg	Lg	05 52 21.4		
	comp=Z,110nm,0.5s							
ARXS	**Arharly**	**4.98**	**46**	Pg	**Pb**	**05 51 16.9**	**+3.6**	
	comp=Z,18nm,0.5s							
ARXS				Lg	Lg	05 52 21.4		
	comp=Z,110nm,0.5s							
KPKS	**Kokpek**	**5.07**	**57**	*e*Pg	**Pg**	**05 51 20.6**	**-3.0**	
	baz=57							
KPKS	**Kokpek**	**5.07**	**57**	*e*Pg	**Pb**	**05 51 19.2**	**+4.4**	
	comp=Z,5.7nm,0.1s							
KPKS				*e*Lg	Lg	05 52 24.9		
	comp=Z,86nm,0.4s							
KPKS	**Kokpek**	**5.07**	**57**	Pg	**Pb**	**05 51 19.2**	**+4.4**	
	comp=Z,7.0nm,0.3s							
KPKS				Lg	Lg	05 52 24.9		
	comp=Z,86nm,0.8s							
UZB	**Uzynbulak**	**5.14**	**62**	*e*Pg	**Pg**	**05 51 22.2**	**-2.8**	
	baz=61							
UZB	**Uzynbulak**	**5.14**	**62**	*e*Pg	**Pb**	**05 51 20.0**	**+3.8**	
	comp=Z,3.8nm,0.1s							
UZB				*e*Lg	Lg	05 52 26.0		
	comp=Z,29nm,0.3s							
UZB	**Uzynbulak**	**5.14**	**62**	Pg	**Pb**	**05 51 20.0**	**+3.8**	
	comp=Z,9.1nm,0.6s							
UZB				Lg	Lg	05 52 26.0		
	comp=Z,27nm,0.9s							
SHLS	**Shalkode**	**5.44**	**63**	*e*Pg	**Pg**	**05 51 32.5**	**+1.7**	
	baz=64							
SHLS	**Shalkode**	**5.44**	**63**	*e*Pg	**Pb**	**05 51 30.5**	**-0.3**	
	comp=Z,4.5nm,0.2s							
SHLS				*e*Lg	Lg	05 52 44.2		
	comp=Z,35nm,0.3s							
SHLS	**Shalkode**	**5.44**	**63**	Pg	**Pg**	**05 51 30.5**	**-0.3**	
	comp=Z,12nm,0.7s							
SHLS				Lg	Lg	05 52 44.2		
	comp=Z,35nm,0.7s							
PDGK	**Podgornoye**	**5.53**	**61**	Pg	Pb	05 51 27.9	+5.2	
	comp=Z,2.0nm,0.4s							
PDGK				Lg	Lg	05 52 39.8		
	comp=Z,12nm,0.8s							
PDGK	**Podgornoye**	**5.53**	**61**	⇓Pg	Pb	05 51 27.6	+4.8	
	comp=Z,7.4nm,0.7s							
PDGK				⇑Lg	Lg	05 52 39.1		
	comp=Z,36nm,0.8s							
TDK	**Taldyqorghan**	**5.81**	**43**	*e*Pg	**Pb**	**05 51 31.7**	**+4.2**	
	comp=Z,26nm,0.2s							
TDK				*e*Lg	Lg	05 52 46.2		
	comp=Z,95nm,0.2s							
TDK	**Taldyqorghan**	**5.81**	**43**	Pg	**Pb**	**05 51 31.7**	**+4.2**	
	comp=Z,31nm,0.4s							
TDK				Lg	Lg	05 52 46.2		
	comp=Z,95nm,0.5s							
KNOS	**Konyrlen**	**5.84**	**51**	Pg	**Pb**	**05 51 32.2**	**+4.2**	
	comp=Z,12nm,0.3s							
KNOS				Lg	Lg	05 52 47.1		
	comp=Z,28nm,0.8s							
KTMS	**Ketmen**	**6.16**	**63**	Pg	Pb	05 51 38.8	+5.4	
	comp=Z,1.1nm,0.4s							
KTMS				Lg	Lg	05 52 58.5		
	comp=Z,9.9nm,0.4s							
KAPS	**Kapalarasan**	**6.50**	**45**	*e*Pg	**Pb**	**05 51 43.4**	**+4.1**	
	comp=Z,1.4nm,0.2s							
KAPS				*e*Lg	Lg	05 53 06.5		
	comp=Z,19nm,0.4s							
OTUK	**Ortayu**	**7.38**	**357**	Pg	Pg	05 52 01.4	-6.3	
	comp=Z,3.3nm,0.6s							
OTUK				Lg	Lg	05 53 38.1		
	comp=Z,13nm,1.1s							
MK31	**Makanchi Array**	**9.04**	**46**	⇑*e*P	**Pn**	**05 51 58.0**	**+1.7**	
MK31	**Makanchi Array**	**9.04**	**46**	Pn	**Pn**	**05 51 59.9**	**+3.6**	
	comp=Z,1.9nm,0.7s,baz=219,slow=14,SNR=6.0							
MK31				⇓Lg	Lg	05 54 29.9		
	comp=Z,5.7nm,0.8s,baz=230,slow=25,SNR=3.9							
MKAR	**Makanchi Array**	**9.04**	**46**	*i* P	**Pn**	**05 52 00.8**	**+4.5**	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**9.04**	**46**	Pn	**Pn**	**05 51 57.5**	**+1.2**	
	comp=Z,0.2nm,0.3s,baz=229,slow=14,SNR=4.9							
MKAR				Sn	**Sn**	**05 53 38.4**	**+0.7**	
	comp=Z,0.1nm,0.3s,baz=244,slow=19,SNR=1.8							
MKAR				Lg	Lg	05 54 32.6		
	comp=Z,0.5nm,0.3s,baz=234,slow=24,SNR=5.7							
	comp=Z,0.4nm,0.5s							
BRZS	**Berezniki**	**9.11**	**359**	*e*Pn	**Pn**	**05 51 59.7**	**+2.5**	
	baz=360							
BRZS	**Berezniki**	**9.11**	**359**	*e*P	**Pn**	**05 51 59.7**	**+2.5**	
KURBB	**Kurchatov Arra**	**10.53**	**20**	Pn	**Pn**	**05 52 16.8**	**+0.2**	
	comp=Z,0.1nm,0.3s,baz=215,slow=13,SNR=4.4							
KURBB				Sn	**Sn**	**05 54 13.3**	**-0.7**	
	baz=210,slow=18,SNR=1.9							
KURBB				Lg	Lg	05 55 19.9		
	comp=Z,0.2nm,0.3s,baz=210,slow=24,SNR=5.4							
	comp=Z,0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**10.53**	**20**	⇑Lg	Lg	05 55 22.2		
	comp=Z,29nm,0.7s							
KURK	**Kurchatov**	**10.64**	**20**	⇑*e*P	**Pn**	**05 52 20.1**	**+2.0**	
KURK	**Kurchatov**	**10.64**	**20**	⇓Lg	Lg	05 55 21.6		
	comp=Z,32nm,1.1s							
BVAR	**Borovoye Array**	**12.27**	**353**	Pn	**Pn**	**05 52 39.8**	**-0.6**	
	comp=Z,0.2nm,0.3s,baz=172,slow=16,SNR=1.7							
BVAR				Lg	Lg	05 56 20.2		
	comp=Z,0.1nm,0.3s,baz=162,slow=24,SNR=2.3							
BRVK	**Borovoye**	**12.31**	**353**	⇑*e*P	**Pn**	**05 52 42.2**	**+1.3**	
AKTO	**Aktyubinsk**	**14.07**	**318**	Pn	**Pn**	**05 53 07.9**	**+2.9**	
	comp=Z,0.2nm,0.3s,baz=132,slow=16,SNR=2.9							
AKTO				Sn	**Sn**	**05 55 35.0**	**-5.7**	
	baz=335,slow=23,SNR=1.1							
ZALV	**Zalesovo Beam**	**15.36**	**28**	Pn	**Pn**	**05 53 23.2**	**+0.8**	
	comp=Z,0.1nm,0.3s,baz=226,slow=14,SNR=2.7							
ZALV				Lg	Lg	05 57 55.7		
	comp=Z,0.1nm,0.3s,baz=203,slow=25,SNR=2.2							
	comp=Z,0.6nm,0.4s							
OBN	**Obninsk**	**27.76**	**313**	LR	LR	06 05 43.2		
	comp=Z,82nm,21.1s,baz=254,slow=34							
BRTR	**Keskin Array B**	**29.74**	**281**	P	**P**	**05 55 52.2**	**+0.1**	
	comp=Z,0.2nm,0.3s,baz=72,slow=9.3,SNR=1.8							
	comp=Z,0.2nm,0.3s							
FINES	**FINESS Array B**	**34.78**	**322**	P	**P**	**05 56 36.4**	**+0.6**	
	comp=Z,1.8nm,0.8s,baz=86,slow=8.5,SNR=1.5							
	comp=Z,1.8nm,0.8s							
CLL	**Collm**	**41.69**	**305**	⇓*i*P	**P**	**05 57 33.0**	**-1.1**	
CLL	**Collm**	**41.69**	**305**	⇓*i*P	**P**	**05 57 33.0**	**-1.1**	
JCJ	**Chichijima**	**57.75**	**81**	LR	LR	06 25 17.6		
	comp=Z,132nm,20.3s,baz=108,slow=37							
TORD	**Torodi Ar. Bea**	**67.28**	**268**	P	**P**	**06 00 39.3**	**-1.2**	
	comp=Z,0.7nm,0.5s,baz=50,slow=5.8,SNR=9.8							
	comp=Z,0.7nm,0.5s							
WRA	**Warramunga Arr**	**83.15**	**124**	P	**P**	**06 02 09.1**	**-2.6**	
	comp=Z,0.3nm,0.8s,baz=329,slow=4.6,SNR=2.5							
	comp=Z,0.3nm,0.8s							
ASAR	**Alice Springs**	**85.64**	**126**	P	**P**	**06 02 21.8**	**-2.5**	
	comp=Z,0.4nm,0.7s,baz=317,slow=4.5,SNR=4.2							
	comp=Z,0.4nm,0.7s							

NEIC ***16*** *05:56:23.4±0.3, 37°.21N±0°.02×97°.81W±0°.02, h2km±2km, Error ellipse: s-maj=2.5km s-min=2.0km az=184.0*

NEIC 16 05:56:23.0±0.6, 37°.20N±0°.02×97°.81W±0°.02, h6km±2km, mb_Lg2.2/8, ML2.2/18, ML2.5/38, Error ellipse: s-maj=2.6km s-min=2.0km az=176.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN06	**Argonia West S**	**0.06**	**319**		Pg	05 56 24.7	+0.1
KAN06				IAML		05 56 26.0	
	comp=E,5μm,0.1s						
KAN01	**Argonia South**	**0.06**	**141**	Pg	Pg	05 56 24.6	0.0
KAN05	**Bluff City Nor**	**0.11**	**208**		Pg	05 56 25.5	+0.2
KAN05				IAML		05 56 29.0	
	comp=N,3μm,0.1s						
KAN08	**Anthony NE Sta**	**0.13**	**281**		Pg	05 56 25.9	+0.2
KAN08				IAML		05 56 28.2	
	comp=N,2μm,0.1s						
KS21	**Milan North St**	**0.14**	**54**	Pg	Pg	05 56 26.2	+0.2
KS21	**Milan North St**	**0.14**	**54**	IAML		05 56 29.9	
	comp=N,2μm,0.1s						
KS21				IAML		05 56 29.9	
	comp=N,3μm,0.1s						
KAN17	**Caldwell West**	**0.16**	**167**		Pg	05 56 26.6	+0.3
KAN17				IAML		05 56 30.2	
	comp=E,1μm,0.3s						
KAN09	**Caldwell North**	**0.17**	**113**		Pg	05 56 26.6	+0.2
KAN09				IAML		05 56 29.4	
	comp=N,1μm,0.2s						
KAN09				IAML		05 56 31.4	
	comp=E,1μm,0.2s						
KAN12	**Harper NE Stat**	**0.18**	**302**		Pg	05 56 26.9	+0.3
KAN12				IAML		05 56 30.0	
	comp=N,938nm,0.4s						
KAN12				IAML		05 56 31.7	
	comp=E,869nm,0.4s						
KAN10	**Anthony SW Sta**	**0.24**	**251**		Pg	05 56 27.9	+0.1
KAN14	**Manchester OK**	**0.27**	**207**	Pg	Pg	05 56 28.5	+0.1
KAN14				IAML		05 56 32.7	
	comp=E,847nm,0.2s						
KAN14				IAML		05 56 33.5	
	comp=N,566nm,0.2s						
KAN13	**South Haven SW**	**0.33**	**125**	Pg	Pg	05 56 29.5	+0.1
KAN13				IAML		05 56 34.3	
	comp=E,521nm,0.4s						
KAN13				IAML		05 56 39.3	
	comp=N,674nm,0.3s						
GC02	**Grant County #**	**0.35**	**187**		Pg	05 56 30.1	+0.2
GC02					Sg	05 56 35.0	+0.5
OK032	**Salt Plains WL**	**0.51**	**219**	Pg	Pg	05 56 33.0	+0.1
OK032					Sg	05 56 40.0	+0.6
OK032				IAML		05 56 42.0	
	comp=N,429nm,0.3s						
OK032				IAML		05 56 43.9	
	comp=N,254nm,0.3s						
BLOK	**Blackwell**	**0.65**	**133**		Sg	05 56 44.6	+0.7
CROK	**Carrier**	**0.71**	**191**		Pg	05 56 36.7	+0.1
OK038	**West end E0370**	**1.04**	**226**		Pg	05 56 42.6	-0.4
OK038				IAML		05 57 15.0	
	comp=N,185nm,0.5s						
OK051	**E0350 and S346**	**1.04**	**131**	Pg	Pg	05 56 42.8	-0.3
OK051				IAML		05 57 00.1	
	comp=N,139nm,0.2s						
OK051				IAML		05 57 00.5	
	comp=N,152nm,0.2s						
OK048	**Pawnee Station**	**1.05**	**138**		Pg	05 56 42.5	-0.6
T35A	**Sooner Cattle**	**1.08**	**105**		Pg	05 56 42.8	-0.8
U32A	**Winter Ranch,**	**1.26**	**230**		Pg	05 56 46.5	-0.6
U32A				IAML		05 57 04.0	
	comp=N,66nm,0.1s						
OK033	**Mehan**	**1.35**	**149**		Pn	05 56 48.0	-0.4
QUOK	**Quay**	**1.36**	**139**		Pn	05 56 48.0	-0.5
R32A	**Long Quarter,**	**1.41**	**330**		Pn	05 56 48.7	-0.6
OK029	**Liberty Lake**	**1.43**	**168**		Pn	05 56 49.5	0.0
OK052	**Battle Ridge R**	**1.45**	**146**		Pn	05 56 49.8	0.0
OK052				IAmb_Lg		05 57 08.9	
	comp=Z,12nm,1.3s						
ELIS	**Ellis County**	**1.72**	**229**	Pn	Pn	05 56 54.3	+0.7
TUL3	**Leonard**	**2.07**	**128**	IAmb_Lg		05 57 28.9	
	comp=Z,19nm,0.8s						
OLIL	**Olney**	**7.82**	**76**	IAmb_Lg		06 00 44.0	
	comp=Z,4.0nm,0.8s						

IDC ***16*** *06:06:54.0±14.0, 14°.46S×167°.37E, h121km±128km, mb3.6/8, mbtmp3.9/8, MS3.4/2, Error ellipse: s-maj=46.8km s-min=22.6km az=83.0*

ISC 16 06:06:59.6±1.0, 14°.5S±0°.2×167°.3E±0°.2, h170km, n11, σ0673/10, mb3.7/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.17**	**229**	P	**P**	**06 12 46.2**	**+1.1**
	1.9nm,0.5s,baz=49,slow=6.8,SNR=5.0						
	1.9nm,0.5s						
WRA	**Warramunga Arr**	**31.90**	**255**	P	**P**	**06 13 08.2**	**-1.1**
	0.8nm,0.8s,baz=86,slow=8.8,SNR=6.7						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**32.78**	**249**	P	**P**	**06 13 16.3**	**-0.6**
	0.7nm,0.5s,baz=76,slow=9.0,SNR=17						
ASAR				PcP	**PcP**	**06 15 58.0**	**-0.1**
	0.6nm,0.9s,baz=90,slow=2.8,SNR=4.1						
	0.7nm,0.5s						
PPT	**Papeete**	**41.52**	**100**	LR	LR	06 27 34.1	
	comp=Z,63nm,20.9s,baz=198,slow=30						
KAPI	**Kappang**	**47.69**	**276**	LR	LR	06 35 49.4	
	comp=Z,31nm,18.6s,baz=48,slow=36						
VNDA	**Vanda**	**63.12**	**181**	P	**P**	**06 17 08.4**	**-0.3**
	0.9nm,0.6s,baz=358,slow=5.5,SNR=8.4						
	0.9nm,0.6s						
PETK	**Petropavlovsk-**	**67.81**	**354**	P	**P**	**06 17 38.7**	**-0.3**
	3.0nm,0.8s,baz=134,slow=8.4,SNR=3.0						
	3.0nm,0.8s						
QSPA	**South Pole Qui**	**75.56**	**180**	P	**P**	**06 18 25.1**	**-0.2**
	0.9nm,0.6s,baz=338,slow=5.4,SNR=8.9						
	0.9nm,0.6s						
SONM	**Songino Array**	**82.30**	**324**	P	**P**	**06 19 02.9**	**+0.7**
	0.3nm,0.5s,baz=121,slow=5.3,SNR=1.9						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**86.28**	**18**	P	**P**	**06 19 21.6**	**-0.1**
	0.5nm,0.7s,baz=238,slow=5.1,SNR=12						
	0.5nm,0.7s						
ARCES	**ARCESS Array B**	**120.01**	**345**	PKP	**PKiKP**	**06 25 30.1**	**+0.6**
	1.1nm,0.6s,baz=13,slow=2.0,SNR=6.4						

NEIC ***16*** *06:09:35.7±0.4, 36°.733N±0°.010×98°.36W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.0km az=23.0*

TUL 16 06:09:35±0.6, 36°.74N±0°.01×98°.37W±0°.02, h7km±4km, ML2.5, mb_Lg2.5/6(NEIC), ML2.5/32(NEIC), Error ellipse: s-maj=2.6km s-min=1.6km az=122.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.14**	**63**	Pg	Pg	06 09 38.5	+0.4
OK032				Sg	Sg	06 09 40.9	+0.8
OK032				IAML		06 09 41.1	
	2μm,0.1s						
CROK	**Carrier**	**0.39**	**127**		Pg	06 09 42.8	+0.1
CROK				Sg	Sg	06 09 48.1	+0.3
CROK				IAML		06 09 50.8	
	comp=N,612nm,0.2s						
KAN14	**Manchester OK**	**0.39**	**56**		Pg	06 09 42.2	-0.5
KAN14				Sg	Sg	06 09 48.4	+0.5
KAN14				IAML		06 09 48.6	
	comp=N,422nm,0.3s						
OK038	**West end E0370**	**0.40**	**229**	Pg	Pg	06 09 43.3	+0.5
OK038				Sg	Sg	06 09 48.5	+0.6
OK038				IAML		06 09 52.4	
	comp=N,562nm,0.3s						
GC02	**Grant County #**	**0.42**	**75**		Pg	06 09 43.4	+0.1
GC02				Sg	Sg	06 09 49.0	+0.1
KAN10	**Anthony SW Sta**	**0.44**	**30**		Pg	06 09 44.0	+0.4
KAN10				IAML		06 09 50.4	
	comp=N,321nm,0.2s						
KAN10				IAML		06 09 50.4	
	comp=E,307nm,0.3s						
KAN05	**Bluff City Nor**	**0.54**	**47**	Pg	Pg	06 09 45.5	0.0
KAN05				IAML		06 09 54.6	
	comp=E,401nm,0.2s						
KAN08	**Anthony NE Sta**	**0.58**	**33**		Pg	06 09 46.4	+0.1
KAN12	**Harper NE Stat**	**0.63**	**28**	Pg	Pg	06 09 47.3	+0.1
KAN12				IAML		06 10 01.1	
	comp=E,200nm,0.3s						
KAN01	**Argonia South**	**0.64**	**50**	Pg	Pg	06 09 47.1	-0.2
KAN01				IAML		06 09 56.5	
	comp=N,252nm,0.4s						
KAN01				IAML		06 09 56.5	
	comp=E,286nm,0.1s						
KAN06	**Argonia West S**	**0.65**	**39**	Pg	Pg	06 09 47.7	+0.1
KAN06				IAML		06 09 56.9	
	comp=E,215nm,0.1s						
KS21	**Milan North St**	**0.79**	**46**	IAML		06 10 00.9	
	comp=E,251nm,0.3s						
KS21				IAML		06 10 01.0	
	comp=E,203nm,0.3s						
KS21	**Milan North St**	**0.79**	**46**	Pg	Pg	06 09 50.0	-0.1
BLOK	**Blackwell**	**0.93**	**88**	Pg	Pg	06 09 52.4	-0.5
OK048	**Pawnee Station**	**1.19**	**105**		Pg	06 09 57.1	-0.8
OK051	**E0350 and S346**	**1.26**	**100**	Pg	Pn	06 09 58.3	-0.6
OK051				IAmb_Lg		06 10 16.7	
	comp=Z,22nm,0.9s						
OK033	**Mehan**	**1.35**	**121**		Pn	06 09 59.9	-0.3
OK033				IAML		06 10 20.5	
	comp=Z,80nm,0.3s						
OK033				IAML		06 10 21.4	
	comp=Z,96nm,0.2s						
QUOK	**Quay**	**1.46**	**112**		Pn	06 10 01.8	+0.2
OK052	**Battle Ridge R**	**1.47**	**120**		Pn	06 10 01.8	0.0
T35A	**Sooner Cattle**	**1.50**	**83**		Pn	06 10 02.6	+0.2
R32A	**Long Quarter,**	**1.70**	**351**		Pb	06 10 06.1	-0.5
WMOK	**Wichita Mounta**	**2.02**	**190**	Pn	Pn	06 10 10.1	+0.6
X37A	**Clayton**	**3.25**	**130**	IAmb_Lg		06 11 17.4	
	comp=Z,75nm,1.

TOO	Toolangi	37.30	230	P		P	06 20 11.7	+0.3	
STKA	Stephens Creek	38.71	241	P		P	06 20 23.1	+0.1	
STKA	Stephens Creek	38.71	241	P		P	06 20 23.4	+0.5	
STKA	Stephens Creek	38.71	241	P		P	06 20 23.2	+0.3	
	comp=Z,8.7nm,0.5s,baz=94,slow=11,SNR=26								
	comp=Z,8.7nm,0.5s								
QIS	Mount Isa	39.64	259	P		P	06 20 29.7	-0.9	
HTT	Hallett	41.24	239	P		P	06 20 43.6	+0.4	
LCRK	Leigh Creek	41.32	244	P		P	06 20 44.1	+0.3	
OOD	Oodnadatta	43.26	248	P		P	06 20 59.6	+0.5	
BBOO	Buckleboo	43.49	241	P		P	06 21 00.2	-0.6	
BBOO	Buckleboo	43.49	241	P		P	06 21 00.8	0.0	
WR0	Warramunga Arr	44.43	259	P		P	06 21 07.1	-1.2	
WR0				IAmb		IAmb	06 21 08.2		
	comp=Z,12nm,1.4s								
WRA	Warramunga Arr	44.62	259	P		P	06 21 08.1	-1.6	
WRA	Warramunga Arr	44.62	259	P		P	06 21 08.7	-1.1	
	comp=Z,5.8nm,0.6s,baz=91,slow=6.7,SNR=159								
WRA				PcP		PcP	06 22 40.4	-0.4	
	comp=Z,0.4nm,0.5s,baz=103,slow=3.5,SNR=1.9								
WRA				ScP		ScP	06 25 42.4	+1.3	
	comp=Z,0.5nm,0.9s,baz=88,slow=4.1,SNR=5.2								
	comp=Z,5.8nm,0.6s								
AS31	Alice Springs	44.80	254	P		P	06 21 10.2	-1.0	
ASAR	Alice Springs	44.81	254	P		P	06 21 10.4	-0.7	
ASAR	Alice Springs	44.81	254	P		P	06 21 10.7	-0.5	
	comp=Z,64nm,0.6s,baz=88,slow=8.2,SNR=1183								
ASAR				PcP		PcP	06 22 41.1	-0.3	
	comp=Z,1.0nm,0.5s,baz=101,slow=4.0,SNR=3.2								
ASAR				ScP		ScP	06 25 43.2	+1.4	
	comp=Z,0.7nm,0.7s,baz=96,slow=4.3,SNR=5.8								
ASAR				S		S	06 27 08.3	-0.7	
	comp=Z,0.3nm,0.8s,baz=86,slow=14,SNR=2.9								
	comp=Z,64nm,0.6s								
MULG	Mulgathing	44.88	245	P		P	06 21 11.3	-0.2	
KDU	Kakadu	47.50	269	P		P	06 21 31.3	-0.3	
WRKA	Warakurna	49.87	252	P		P	06 21 48.9	-0.3	
FORT	Forrest	50.07	244	P		P	06 21 49.2	-1.3	
FORT	Forrest	50.07	244	P		P	06 21 49.6	-0.9	
KNRA	Kununurra	50.45	264	P		P	06 21 52.0	-1.4	
KNRA				IAmb		IAmb	06 21 53.9		
	comp=Z,16nm,0.6s								
KNRA	Kununurra	50.45	264	P		P	06 21 53.0	-0.4	
FITZ	Fitzroy Crossi	53.01	260	P		P	06 22 11.2	-0.7	
SOEI	Soe	56.00	270	P		P	06 22 33.7	+0.6	
SOEI				IAmb		IAmb	06 22 35.1		
	comp=Z,26nm,0.8s								
PSA00	Pilbara Seismi	57.92	255	P		P	06 22 44.5	-1.5	
PSA00				IAmb		IAmb	06 22 45.9		
	comp=Z,12nm,0.6s								
MBWA	Marble Bar	58.08	256	P		P	06 22 46.1	-0.9	
MBWA				IAmb		IAmb	06 23 03.2		
	comp=Z,26nm,1.4s								
MORW	Morawa	60.54	246	P		P	06 23 01.7	-1.6	
MORW				IAmb		IAmb	06 23 19.4		
	comp=Z,16nm,1.4s								
GIRL	Giralia	62.91	253	P		P	06 23 19.0	+0.1	
UGM	Wanagama	69.59	268	P		P	06 23 59.0	-1.5	
QSPA	South Pole Qui	72.44	180	P		P	06 24 16.3	0.0	
	comp=Z,1.5nm,0.9s,baz=9.2,slow=3.7,SNR=6.1								
	comp=Z,1.5nm,0.9s								
GDXM	Geysers	76.57	42	P		P	06 24 42.0	+2.1	
ISA	Isabella, Lake	77.66	46	P		P	06 24 46.5	+0.5	
PNTR	Pine Nut	78.77	43	P		P	06 24 53.0	+0.9	
PNTR				IAmb		IAmb	06 24 54.2		
	comp=Z,10nm,0.8s								
YERR	Yerington	78.95	43	P		P	06 24 53.5	+0.6	
YERR				IAmb		IAmb	06 24 54.8		
	comp=Z,7.2nm,0.7s								
NVAR	Mina Array Bea	79.26	44	P		P	06 24 55.8	+1.2	
	comp=Z,3.5nm,0.8s,baz=224,slow=8.9,SNR=25								
	comp=Z,3.5nm,0.8s								
J05D	Fort Rock, OR	80.14	39	P		P	06 25 00.0	+1.0	
J05D				IAmb		IAmb	06 25 01.2		
	comp=Z,11nm,0.7s								
I07A	Izee	81.62	39	P		P	06 25 07.1	+0.4	
KNB	Kanab	82.28	47	P		P	06 25 11.4	+1.2	
PSUT	Pine Spring	82.30	46	P		P	06 25 11.4	+1.0	
U15A	North Rim	82.37	48	P		P	06 25 11.8	+0.9	
U15A				IAmb		IAmb	06 25 13.4		
	comp=Z,6.6nm,0.8s								
F10A	Beach Ranch, E	84.01	38	P		P	06 25 18.7	+0.1	
F10A				IAmb		IAmb	06 25 19.9		
	comp=Z,7.1nm,1.0s								
ILAR	Eielson Array	85.62	13	P		P	06 25 25.2	-0.6	
	comp=Z,0.9nm,0.4s,baz=226,slow=5.3,SNR=33								
	comp=Z,0.9nm,0.4s								
TX31	Lajitas Ar. Si	85.90	58	P		P	06 25 29.8	+1.7	
TX31				IAmb		IAmb	06 25 31.1		
	comp=Z,10nm,0.9s								
TXAR	Lajitas Array	85.90	58	P		P	06 25 30.1	+2.0	
	comp=Z,3.4nm,0.8s,baz=218,slow=6.3,SNR=46								
	comp=Z,3.4nm,0.8s								
HHC	Hu-ho-hao-te	87.02	314	*e*P		P	06 25 32.3	-0.9	
BW06	Boulder Array	87.19	43	P		P	06 25 34.4	+0.3	
PDAR	Pinedale Array	87.19	43	P		P	06 25 34.6	+0.5	
	comp=Z,1.5nm,0.5s,baz=213,slow=2.9,SNR=23								
	comp=Z,1.5nm,0.5s								
PZH	PanZhiHua	88.96	298	P		P	06 25 43.0	+0.4	
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,100nm,4.8s								
YKA	Yellowknife Ar	94.09	25	P		P	06 26 04.9	-0.2	
	comp=Z,0.7nm,0.8s,baz=249,slow=4.8,SNR=10								
	comp=Z,0.7nm,0.8s								
BRTR	Keskin Array B	144.53	315	PKP		PKPbc	06 32 18.9	-1.5	
	comp=Z,0.7nm,0.6s,baz=116,slow=2.9,SNR=4.3								
OSTC	Ostas	145.09	344	*e*PKP		PKPab	06 32 22.6	+0.1	
CLL	Collm	145.16	347	*i* PKPbc		PKPbc	06 32 21.7	0.0	
	comp=Z,7.0nm,0.8s								
VYHS	Vyhne	146.12	339	*e*PKP		PKPbc	06 32 25.6	+1.1	
ZVC	Zvikov	146.64	345	*e*PKP		PKPbc	06 32 26.8	+0.9	
MODS	Modra-Piesok	146.74	341	*e*PKP		PKiKP	06 32 27.9	-0.3	
KHC	Kasperske Hory	147.08	345	*e*PKP		PKPbc	06 32 27.7	+0.6	
CKRC	Cesky Krumlov	147.18	344	*e*PKP		PKPbc	06 32 27.7	+0.3	
GERES	GERESS Array B	147.31	345	PKPbc		PKPbc	06 32 27.6	-0.3	
	comp=Z,1.7nm,0.5s,baz=28,slow=3.2,SNR=8.8								

GCG ***16*** *06:37:52.5±3.0, 16°.25N×94°.57W, h50km, MD4.3*
MEX ***16*** *06:37:54.0±1.3, 15°.27N×94°.82W, h17km±11km, MD4.5*
NEIC ***16*** *06:37:55.0±2.3, 15°.36N±0°.08×94°.84W±0°.04, h35km±9km, mb4.3/28, Md4.6/22(MEX), Error ellipse: s-maj=11.7km s-min=5.6km az=183.0*
IDC ***16*** *06:37:58.6±2.9, 15°.60N×94°.55W, h60km±20km, mb3.8/14, mbtmp4.1/15, ML4.8/2, MS3.4/10, Error ellipse: s-maj=31.4km s-min=12.1km az=39.0*
CATAC ***16*** *06:38:05.4±0.8, 14°.70N×93°.54W, h225km±7km, ML4.5*
ISC 16 06:37:53.4±1.9, 15°.31N±0°.05×94°.85W±0°.03, h32km±15km, n123, σ2s00/155, mb4.0/15, MS3.4/7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res	
				Op		ISC	h m s	ISC	
NILT	Santiago Nilte	1.27	10	*i* P		Pn	06 38 13.4	-1.6	
NILT				*i* S		Sn	06 38 28.0	-3.0	
HUIG	Huatulco	1.30	291			Pn	06 38 14.0	-1.3	
HUIG						Sn	06 38 28.8	-2.8	
HUIG	Huatulco	1.30	291	*i* P		Pn	06 38 14.3	-1.0	
HUIG				*i* S		Sn	06 38 28.9	-2.7	
CARR	Arriaga	1.30	44	*i* P		Pn	06 38 13.3	-2.0	
CARR				*i* S		Sn	06 38 28.3	-3.4	
PCIG		1.62	76	*i* P		Pn	06 38 18.2	-1.6	
PCIG				*e*S		Sn	06 38 36.4	-3.2	
CMIG	Matias Romero	1.77	359			Pn	06 38 21.4	-0.6	
CMIG						Sn	06 38 41.5	-1.9	
CMIG	Matias Romero	1.77	359	P		Pn	06 38 21.3	-0.6	
	1μm,0.5s,baz=168,slow=12,SNR=957								
CMIG				S		Sn	06 38 42.4	-1.0	
	3μm,0.5s,baz=108,slow=24,SNR=36								
CMIG	Matias Romero	1.77	359	*e*P		Pn	06 38 21.4	-0.6	
CMIG				*e*S		Sn	06 38 42.0	-1.4	
UXUV	UXUV	2.11	19	*e*P		Pn	06 38 26.8	+0.2	
UXUV				*e*S		Sn	06 38 51.5	-0.3	
TGIG		2.21	48	*e*P		Pn	06 38 28.0	-0.1	
TGIG				*e*S		Sn	06 38 53.4	-1.0	
TGBT	Tuxtla Gutierr	2.24	49			Pn	06 38 28.2	-0.1	
TGBT						Sn	06 38 53.5	-1.3	
PEIG	Puerto Escondi	2.32	288			Pn	06 38 28.6	-0.8	
PEIG	Puerto Escondi	2.32	288	*e*P		Pn	06 38 28.8	-0.6	
PEIG				*e*S		Sn	06 38 53.2	-3.7	
OXIG	Oaxaca	2.52	314			Pn	06 38 33.8	+1.4	
OXIG						Sn	06 39 02.2	+0.1	
VHO	Vista Hermosa	2.52	314	*e*P		Pn	06 38 32.9	+0.5	
VHO				*e*S		Sn	06 39 02.5	+0.3	
THIG		2.53	99	*e*P		Pn	06 38 31.5	-0.7	
THIG				*e*S		Sn	06 38 57.9	-4.1	
PATR	El Naranjo	2.53	94	*e*P		Pn	06 38 30.9	-1.7	
PATR				*e*S		Sn	06 38 58.9	-3.6	
NEUV	Arroyo Zacate	2.56	339	*e*P		Pn	06 38 32.5	-0.3	
NEUV				*e*S		Sn	06 39 03.0	+0.1	
PAVE	Pavencul	2.58	92	*e*P		Pn	06 38 32.1	-1.2	
PAVE				*e*S		Sn	06 39 00.8	-2.9	
CHUJ	Union Juarez	2.66	94	*e*P		Pn	06 38 32.8	-1.4	
CHUJ				*e*S		Sn	06 39 02.2	-3.4	
SMCA	Catarina	2.72	99	*i* P		Pn	06 38 33.6	-1.3	
SMCA				IAML			06 39 09.9		
	comp=Z,2μm,1.0s								
CCIG	Comitan	2.79	69			Pn	06 38 35.5	-0.5	
CCIG	Comitan	2.79	69	*e*P		Pn	06 38 36.9	+0.9	
CCIG				*e*S		Sn	06 39 07.6	-1.1	
SMSP	San Marcos	2.98	96	*i* P		Pn	06 38 39.8	+1.0	
SMSP				*i* S		Sn	06 39 13.4	-0.3	
SMSP				IAML			06 39 16.6		
	comp=Z,5μm,1.0s								
YOIG	Yosondua	3.02	301			Pn	06 38 40.5	+1.2	
YOIG	Yosondua	3.02	301	*e*P		Pn	06 38 40.5	+1.2	
YOIG				*e*S		Sn	06 39 11.5	-2.9	
RTAL	Retalhuleu	3.15	104			Pn	06 38 40.1	-0.7	
RTAL	Retalhuleu	3.15	104	*i* P		Pn	06 38 43.8	+3.0	
RTAL				*i* S		Sn	06 39 18.3	+0.9	
RTAL				IAML			06 39 40.8		
	comp=Z,1μm,1.0s								
STG3	Santiaguito 3,	3.23	100	*i* P		Pn	06 38 41.7	-0.4	
HUEH	Huehuetenango	3.23	89			Pn	06 38 42.7	+0.5	
HUEH	Huehuetenango	3.23	89	*i* P		Pn	06 38 43.8	+1.6	
HUEH				*i* S		Sn	06 39 21.5	+1.8	
HUEH				IAML			06 39 24.8		
	comp=Z,9μm,1.0s								
PMUV	Sontecomapan	3.23	355	*e*P		Pn	06 38 39.9	-2.1	
PMUV				*e*S		Sn	06 39 16.1	-3.4	
QUEO	Labor Ovalle	3.25	97	*i* P		Pn	06 38 46.1	+3.6	
QUEO				IAML			06 39 32.9		
	comp=Z,3μm,1.0s								
SULM	Suchitepequez,	3.33	107	*i* P		Pn	06 38 44.1	+0.8	
PNIG	Pinotepa	3.33	289	*e*P		Pn	06 38 43.5	+0.1	
PNIG				*e*S		Sn	06 39 17.4	-4.5	
SOKI	Kika Raxquin	3.37	98	*i* P		Pn	06 38 45.7	+1.5	
SOKI				IAML			06 39 53.8		
	comp=Z,1μm,1.0s								
TXIG	Tlaxiaco	3.41	305	*e*P		Pn	06 38 46.8	+2.2	
TXIG				*e*S		Sn	06 39 23.4	-0.7	
QUIS	Sacapulas	3.63	90	*i* P		Pn	06 38 49.7	+2.2	
QUIS				*i* S		Sn	06 39 31.1	+1.7	
QUIS				IAML			06 39 44.3		
	comp=Z,2μm,1.0s								
HLIG	Huajuapan de L	3.78	312			Pn	06 38 52.1	+2.4	
HLIG	Huajuapan de L	3.78	312	*e*P		Pn	06 38 52.1	+2.4	
HLIG				*e*S		Sn	06 39 31.2	-2.1	
FUG	Fuego 3	3.97	102	*e*S		Sn	06 39 38.6	+0.7	
FTIG	Fresnillo de T	4.07	310			Pn	06 38 56.2	+2.6	
FTIG	Fresnillo de T	4.07	310	*e*P		Pn	06 38 56.3	+2.6	
FTIG				*e*S		Sn	06 39 39.2	-1.1	
TLIG	Tlapa	4.21	303			Pn	06 38 58.0	+2.4	
TLIG	Tlapa	4.21	303	*e*P		Pn	06 38 57.9	+2.4	
TLIG				*e*S		Sn	06 39 41.2	-2.6	
GUNB	GUNB	4.41	99	*i* P		Pb	06 39 09.8	-0.6	
JAUV	Jalcomulco	4.45	335	*e*P		Pn	06 38 57.8	-0.9	
JAUV				*e*S		Sn	06 39 43.6	-5.8	
PETF	Flores	5.05	71			Pn	06 39 06.8	-0.2	
PETF	Flores	5.05	71	*i* P		Pn	06 39 07.0	0.0	
PETF				IAML			06 40 22.2		
	comp=Z,550nm,1.0s								
NUBE	Las Nubes	5.10	105	*i* P		Pn	06 39 10.1	+2.2	
NUBE				IAML			06 40 15.0		
	comp=Z,280nm,1.0s								
ESQI	Esquipulas	5.38	97			Pn	06 39 11.2	-0.4	
MTO3	Montecristo	5.38	99			Pn	06 39 11.1	-0.7	
PLIG	Platanillo	5.41	305	*e*P		Pn	06 39 14.9	+2.9	
PLIG				*e*S		Sn	06 40 09.5	-3.8	
JAYA	Jayaque - finc	5.48	107	*i* P		Pb	06 39 22.5	-6.1	
CAIG	El Cayaco	5.49	289	*e*P		Pn	06 39 14.2	+1.2	
CAIG				*e*S		Sn	06 40 06.9	-8.1	
SNET	Serv Nac Est T	5.67	106	Pn		Pn	06 39 16.7	+1.1	
UNM	Universidad Na	5.75	315	Pn		Pn	06 39 18.1	+1.2	
SJTE	Alcalda de S	5.91	106	*i* P		Pn	06 39 20.5	+1.7	
SJTE				*i* S		Sn	06 39 58.0	-28	
ARIG		6.04	300	*e*P		Pn	06 39 23.7	+3.1	
ARIG				*e*S		Sn	06 40 24.4	-4.3	
UESV	Universidad de	6.10	105	*i* P		Pn	06 39 22.6	+1.1	
DEIG	Demacu	6.37	322	*e*P		Pn	06 39 26.2	+0.9	
DEIG				*e*S		Sn	06 40 37.6	+0.5	
ZIIG	Zihuatanejo	6.75	291	*e*P		Pn	06 39 32.1	+1.8	
ZIIG				*e*S		Sn	06 40 39.6	-6.4	
TEIG	Tepich	7.95	51			Pn	06 39 45.9	-0.9	
TEIG	Tepich	7.95	51	P		Pn	06 39 45.5	-1.3	
	comp=Z,86nm,0.3s,baz=168,slow=2.9,SNR=48								
TEIG				S		Sn	06 41 11.0	-4.6	
	comp=Z,491nm,0.6s,baz=320,slow=24,SNR=3.7								
TEIG				LR		LR	06 42 45.9		
	comp=Z,973nm,20.5s,baz=18,slow=38								
MMIG	Aquila	8.66	291	*e*P		Pn	06 39 59.0	+2.5	
MMIG				*e*S		Sn	06 41 33.8	+0.7	
ZAIG	Zacatecas	10.41	317	Pn		Pn	06 40 24.0	+3.2	
SOR	Soroa	13.44	55	Pn		Pn	06 41 00.3	-1.7	
833A	Chaparral WMA,	13.62	343			Pn	06 41 06.2	+1.8	
HNDO	Hondo	14.73	345			Pn	06 41 19.0	-0.6	
HPIG		15.34	321			Pn	06 41 28.8	+1.0	
435B	Jarrell	15.61	351			Pn	06 41 31.8	+0.7	
JCT	Junction City	15.77	344			Pn	06 41 33.2	-0.2	
SAND	Sanderson	16.04	337	Pn		Pn	06 41 37.4	+0.6	
SAND				IAmb		IAmb	06 41 43.2		
	comp=Z,8.7nm,0.9s								
TXAR	Lajitas Array	16.16	331			Pn	06 41 39.5	+1.2	
TXAR	Lajitas Array	16.16	331	P		P	06 41 40.5	-0.8	
	comp=Z,0.2nm,0.3s,baz=157,slow=13,SNR=59								
TXAR				LR		LR	06 48 27.1		
	comp=Z,42nm,18.2s,baz=143,slow=39								
	comp=Z,8.6nm,0.9s								
TX31	Lajitas Ar. Si	16.16	331			Pn	06 41 38.5	+0.2	
TX31				IAmb		IAmb	06 41 44.5		
	comp=Z,55nm,1.5s								
BRDY	Brady	16.35	347			Pn	06 41 41.6	+0.9	
BRDY				IAmb		IAmb	06 41 59.2		
	comp=Z,18nm,0.8s								
OZNA	Ozona	16.57	341			Pn	06 41 44.1	+0.5	
OZNA				IAmb		IAmb	06 41 51.0		
	comp=Z,28nm,0.9s								
WHTX	Lake Whitney,	16.78	352	P		Pn	06 41 46.7	+0.6	
LPIG	La Paz	16.97	303	LR		LR	06 48 09.0		
	comp=Z,23nm,18.1s,baz=122,slow=36								
ALPN	Alpine	17.03	333			Pn	06 41 49.9	+0.5	
ALPN				IAmb		IAmb	06 41 52.3		
	comp=Z,22nm,0.8s								
FW14	Alvarado	17.15	353	P		P	06 41 51.9	-0.2	
FW14				IAmb		IAmb	06 42 10.0		
	comp=Z,24nm,0.7s								
TREL	Terrell	17.38	357	P		Pn	06 41 53.3	-0.3	
TREL				IAmb		IAmb	06 42 07.4		
	comp=Z,19nm,0.8s								
SGCY	Sterling City	17.50	342	P		Pn	06 41 55.2	+0.1	
SGCY				IAmb		IAmb	06 42 00.0		
	comp=Z,28nm,0.9s								
PLPT	Palo Pinto	17.71	350	P		P	06 41 58.5	+0.2	
PLPT				IAmb		IAmb	06 42 21.2		
	comp=Z,17nm,0.8s								
ABTX	Abilene, Hawle	17.78	347	P		P	06 41 59.0	-0.1	
ABTX				IAmb		IAmb	06 42 03.6		
	comp=Z,23nm,0.9s								
FW03	Perrin-Whitt E	17.89	351	P		P	06 42 00.4	+0.1	
FW03				IAmb		IAmb	06 42 09.7		
	comp=Z,47nm,1.4s								
Z41A	Richland Creek	17.97	6	P		P	06 42 02.0	+0.8	
425A	Indio Mountain	17.99	331	P		P	06 42 02.6	+1.0	
ODSA	Odessa	18.15	339	P		P	06 42 03.2	0.0	
ODSA				IAmb		IAmb	06 42 07.6		
	comp=Z,43nm,1.4s								
SN01	Snyder 1	18.32	344	P		Pn	06 42 05.2	0.0	
SN01				IAmb		IAmb	06 42 09.9		
	comp=Z,21nm,0.9s								
APMT	Aspermont	18.57	346	P		Pn	06 42 08.4	+0.2	
APMT				IAmb		IAmb	06 42 10.5		
	comp=Z,24nm,1.0s								
POST	Post	18.68	342	P		Pn	06 42 09.5	-0.1	
POST				IAmb		IAmb	06 42 26.5		
	comp=Z,17nm,0.9s								
DKNS	Dickens	19.09	344	P		P	06 42 13.9	+0.4	
DKNS				IAmb		IAmb	06 42 17.0		
	comp=Z,26nm,0.9s								
SMWD	Samnorwood	20.30	347	P		P	06 42 27.8	+1.0	
SMWD				IAmb		IAmb	06 42 32.0		
	comp=Z,37nm,0.8s								
UREC	San Jos de Ur	20.35	109	*e*P		P	06 42 26.5	-1.0	
PLMC	San Jos del P	20.98	118	*e*P		Pn	06 42 36.2	-0.7	
YOTC	Yotoco, Valle	21.41	120	*e*P		P	06 42 40.2	+1.2	
JAMC	Jamundi, Valle	21.56	122	*e*P		P	06 42 43.7	+3.0	
GUY2C	Guyana, Caldas	21.61	116	*e*P		P	06 42 43.7	+2.2	
KAN08	Anthony NE Sta	22.01	353	P		P	06 42 45.8	+0.7	
ANMO	Albuquerque	22.16	334	P		P	06 42 48.4	+1.4	
	comp=Z,3.6nm,0.8s,baz=233,slow=13,SNR=15								
	comp=Z,3.6nm,0.8s								
ROSC	El Rosal	22.71	115	P		P	06 42 53.7	+0.5	
ROSC	El Rosal	22.71	115	P		P	06 42 55.6	+2.5	
	comp=Z,8.5nm,0.5s,baz=277,slow=16,SNR=8.5								
	comp=Z,8.5nm,0.5s								
214A	Organ Pipe Nat	23.30	318	P		P	06 43 00.6	+2.0	
SDV	Santo Domingo	24.51	102	P		P	06 43 10.7	+0.3	
	comp=Z,4.1nm,0.6s,baz=320,slow=14,SNR=5.3								
SDV				LR		LR	06 53 07.3		
	comp=Z,64nm,18.2s,baz=261,slow=37								
	comp=Z,4.1nm,0.6s								
MVCO	Mesa Verde	24.96	333	P		P	06 43 15.0	+0.7	
MVCO				IAmb		IAmb	06 43 37.5		
	comp=Z,12nm,1.3s								
ATAH	Atahualpa	27.62	143	LR		LR	06 52 52.7		
	comp=Z,69nm,18.5s,baz=349,slow=32								
PCRV	Puerto La Cruz	29.89	96	LR		LR	06 57 10.6		
	comp=Z,110nm,19.6s,slow=39								
PDAR	Pinedale Array	30.14	338	P		P	06 44 01.4	+0.7	
	comp=Z,0.4nm,0.7s,baz=142,slow=7.6,SNR=6.0								
	comp=Z,0.4nm,0.7s								
NVAR	Mina Array Bea	30.95	323	P		P	06 44 11.2	+3.3	
	comp=Z,2.3nm,0.8s,baz=141,slow=9.6,SNR=10								
NVAR				LR		LR	06 58 21.0		
	comp=Z,140nm,20.7s,baz=135,slow=40								
	comp=Z,2.3nm,0.8s								
SNOW	Snow King Moun	31.18	337	P		P	06 44 10.6	+0.7	
ULM	Lac du Bonnet	34.86	359	P		P	06 44 39.9	-1.8	
	comp=Z,4.8nm,1.0s,baz=172,slow=6.4,SNR=4.3								
	comp=Z,4.8nm,1.0s								
YBH	Yreka Blue Hor	35.66	323	LR		LR	07 00 36.5		
	comp=Z,88nm,18.1s,baz=194,slow=38								
NEW	Newport	37.64	336	P		P	06 45 06.1	+0.6	
	comp=Z,1.7nm,0.7s,baz=146,slow=8.6,SNR=5.5								
NEW				LR		LR	07 01 49.1		
	comp=Z,68nm,21.6s,baz=222,slow=38								
	comp=Z,1.7nm,0.7s								
YKA	Yellowknife Ar	49.16	348	P		P	06 46 38.0	0.0	
	comp=Z,1.3nm,0.7s,baz=154,slow=7.1,SNR=20								
	comp=Z,1.3nm,0.7s								
CPUP	Villa Florida	55.17	138	LR		LR	07 12 12.3		
	comp=Z,27nm,18.1s,baz=30,slow=37								
BDFB	Brasilia	55.55	122	P		P	06 47 27.5	+1.2	
	comp=Z,2.6nm,0.7s,baz=297,slow=9.0,SNR=4.3								
	comp=Z,2.6nm,0.7s								
INK	Inuvik	58.42	344	P		P	06 47 46.2	+0.5	
	comp=Z,2.0nm,0.9s,baz=124,slow=5.3,SNR=12								
	comp=Z,2.0nm,0.9s								
ILAR	Eielson Array	60.57	337	P		P	06 48 01.3	+0.7	
	comp=Z,1.8nm,1.0s,baz=144,slow=5.2,SNR=17								
	comp=Z,1.8nm,1.0s								
EKA	Eskdalemuir Ar	78.52	36	P		P	06 49 51.7	+0.2	
	comp=Z,0.9nm,0.6s,baz=279,slow=5.8,SNR=4.7								
	comp=Z,0.9nm,0.6s								
ESDC	Sonseca Array	81.07	51	P		P	06 50 05.5	-0.3	
	comp=Z,1.5nm,0.9s,baz=291,slow=4.2,SNR=4.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,240nm,1.0s						
GPS1	**Guardaparques**	**2.06**	**108**	*e*P	**Pb**	**06 39 10.9**	**+0.9**
GP77	**Hacienda Santa**	**2.09**	**109**	*e*P	**Pb**	**06 39 10.1**	**-0.3**
SAJU	**San Juanillo,**	**2.10**	**130**	*e*P	**Pb**	**06 39 11.3**	**+0.7**
SAJU				*e*S	**Sg**	**06 39 40.3**	**0.0**
ORTG	**Ortega, Santa**	**2.14**	**120**		**Pn**	**06 39 08.0**	**0.0**
ORTG	**Ortega, Santa**	**2.14**	**120**	*e*P	**Pn**	**06 39 08.1**	**+0.1**
ORTG				*e*S	**Sn**	**06 39 32.9**	**-1.5**
ORTG	**Ortega, Santa**	**2.14**	**120**	*i* P	**Pb**	**06 39 11.4**	**+0.2**
ACON	**Acoyapa**	**2.19**	**76**		**Pn**	**06 39 07.9**	**-0.7**
ACON	**Acoyapa**	**2.19**	**76**	*e*P	**Pn**	**06 39 08.0**	**-0.6**
ACON	**Acoyapa**	**2.19**	**76**	*i* P	**Pg**	**06 39 13.8**	**-0.8**
MESS	**Mesas**	**2.22**	**108**	*e*P	**Pn**	**06 39 09.8**	**+0.7**
COLC	**Colonia**	**2.23**	**110**	*e*P	**Pb**	**06 39 11.8**	**-1.0**
PLVR	**Palo Verde**	**2.24**	**119**	*e*P	**Pn**	**06 39 09.9**	**+0.4**
HORNC	**Hornillas**	**2.24**	**109**	*e*P	**Pn**	**06 39 09.9**	**+0.4**
DUNO	**Dulce Nombre,**	**2.26**	**126**		**Pn**	**06 39 09.1**	**-0.5**
NICO	**Nicoya**	**2.27**	**125**	*e*P	**Pg**	**06 39 18.5**	**+2.4**
CUI	**Cuipilapa**	**2.27**	**110**	*e*P	**Pn**	**06 39 10.4**	**+0.5**
VMAR	**Armenia, Volca**	**2.27**	**106**	*e*P	**Pn**	**06 39 10.3**	**+0.4**
VMAR				⇓*e*P	**Pn**	**06 39 10.4**	**+0.4**
VMAR				*e*S	**Sn**	**06 39 39.0**	**+1.2**
VMAR	**Armenia, Volca**	**2.27**	**106**	*i* P	**Pn**	**06 39 10.8**	**+0.9**
VMAR				*i* S	**Sn**	**06 39 39.4**	**+1.6**
VMAR				IAML		06 39 45.7	
	comp=Z,900nm,1.0s						
CANAL	**Canalete**	**2.32**	**105**	⇓*i*P	**Pn**	**06 39 10.6**	**+0.1**
CANAL				*e*S	**Sn**	**06 39 37.5**	**-1.4**
CMARA	**Lajas Hojancha**	**2.35**	**127**	*e*P	**Pn**	**06 39 11.8**	**+0.8**
ACAL	**Aguas Claras**	**2.40**	**109**	*e*P	**Pn**	**06 39 12.8**	**+1.1**
RCPN	**Sur Rio San Ju**	**2.41**	**30**	*i* P	**Pn**	**06 39 12.1**	**+0.3**
PTEN	**Parque Tenorio**	**2.42**	**107**	*e*P	**Pn**	**06 39 12.5**	**+0.6**
PQSS	**Presa 15 de Se**	**2.48**	**331**	*i* P	**Pn**	**06 39 13.1**	**+0.5**
PQSS				IAML		06 39 47.3	
	comp=Z,160nm,1.0s						
VERA	**Finca Concepci**	**2.50**	**103**	*e*P	**Pn**	**06 39 13.2**	**+0.4**
TECO	**Alcaldia de Te**	**2.52**	**326**	*e*P	**Pn**	**06 39 13.5**	**+0.3**
TECO	**Alcaldia de Te**	**2.52**	**326**	*i* P	**Pn**	**06 39 13.3**	**+0.1**
TECO				IAML		06 39 54.6	
	comp=Z,150nm,1.0s						
COTE	**Lago Cote**	**2.53**	**110**	*e*P	**Pb**	**06 39 19.4**	**+1.5**
UESV	**Universidad de**	**2.60**	**327**	*i* P	**Pn**	**06 39 14.9**	**+0.5**
UESV				IAML		06 39 54.3	
	comp=Z,360nm,1.0s						
UESV	**Universidad de**	**2.60**	**327**	IAML		06 39 54.3	
	comp=Z,370nm,1.0s						
TGUH	**Tegucigalpa,Un**	**2.60**	**1**	Pn	**Pn**	**06 39 15.8**	**+1.3**
TGUH	**Tegucigalpa,Un**	**2.60**	**1**	*i* P	**Pn**	**06 39 15.5**	**+1.0**
TGUH				IAML		06 39 40.7	
	comp=Z,370nm,1.0s						
JUNT	**Juntas**	**2.61**	**116**	*e*P	**Pn**	**06 39 16.0**	**+1.6**
LCHIL	**Los Chiles**	**2.61**	**99**	*e*P	**Pg**	**06 39 24.6**	**+2.0**
JTS	**Las Juntas de**	**2.61**	**116**	Pn	**Pn**	**06 39 15.2**	**+0.7**
	comp=Z,2.0nm,0.3s,baz=315,slow=15,SNR=9.4						
JTS				Sn	**Sn**	**06 39 45.1**	**-0.9**
	comp=Z,18nm,0.3s,baz=70,slow=22,SNR=11						
	comp=Z,11nm,0.4s						
JTS	**Las Juntas de**	**2.61**	**116**	*e*P	**Pn**	**06 39 15.3**	**+0.8**
SCLA	**Alcaldia de Sa**	**2.63**	**329**	*e*P	**Pn**	**06 39 15.6**	**+0.9**
SCLA	**Alcaldia de Sa**	**2.63**	**329**	*i* P	**Pn**	**06 39 15.8**	**+1.1**
SCLA				IAML		06 40 09.1	
	comp=Z,180nm,1.0s						
COEG	**Centro de Oper**	**2.64**	**325**	*e*P	**Pn**	**06 39 14.7**	**-0.2**
COEG	**Centro de Oper**	**2.64**	**325**	*i* P	**Pn**	**06 39 16.0**	**+1.1**
COEG				IAML		06 39 58.5	
	comp=Z,210nm,1.0s						
SJTE	**Alcalda de S**	**2.71**	**323**	*i* P	**Pn**	**06 39 16.6**	**+0.8**
SJTE				IAML		06 40 02.9	
	comp=Z,280nm,1.0s						
SJTE	**Alcalda de S**	**2.71**	**323**	IAML		06 40 02.9	
	comp=Z,280nm,1.0s						
PAVA	**Las Pavas**	**2.75**	**326**	*e*P	**Pn**	**06 39 16.5**	**+0.1**
PAVA	**Las Pavas**	**2.75**	**326**	IAML		06 40 17.2	
	comp=Z,380nm,1.0s						
PAVA	**Las Pavas**	**2.75**	**326**	*i* P	**Pn**	**06 39 17.5**	**+1.0**
PAVA				IAML		06 40 17.2	
	comp=Z,380nm,1.0s						
PAVA	**Las Pavas**	**2.75**	**326**	*i* P	**Pn**	**06 39 17.4**	**+1.0**
ARE1	**Arenal 1**	**2.75**	**110**		**Pn**	**06 39 15.7**	**-0.8**
ARE1	**Arenal 1**	**2.75**	**110**	*e*P	**Pb**	**06 39 20.4**	**-1.3**
CEDE	**Laguna Cedeo**	**2.76**	**110**	*e*P	**Pn**	**06 39 19.0**	**+2.5**
SOCE	**Pocosol**	**2.87**	**111**		**Pn**	**06 39 17.7**	**-0.4**
SOCE	**Pocosol**	**2.87**	**111**	*e*P	**Pb**	**06 39 23.4**	**-0.4**
CBL1	**Cabuya**	**2.88**	**130**	*e*P	**Pg**	**06 39 29.0**	**+1.2**
PMON	**Piamonte**	**2.97**	**320**	*i* P	**Pn**	**06 39 20.3**	**+0.8**
PMON				IAML		06 40 05.0	
	comp=Z,400nm,1.0s						
COVE	**Coope Vega, Sa**	**2.97**	**104**		**Pn**	**06 39 19.7**	**+0.2**
COVE	**Coope Vega, Sa**	**2.97**	**104**	*e*P	**Pb**	**06 39 24.8**	**-0.7**
JAYA	**Jayaque - finc**	**3.01**	**317**	*i* P	**Pn**	**06 39 21.1**	**+0.9**
JAYA				IAML		06 40 00.1	
	comp=Z,570nm,1.0s						
ESPN	**Las Esperanzas**	**3.07**	**76**		**Pn**	**06 39 22.2**	**+1.4**
JACO	**JACO, Garabito**	**3.17**	**124**		**Pn**	**06 39 23.7**	**+1.5**
JACO	**JACO, Garabito**	**3.17**	**124**	*e*P	**Pn**	**06 39 24.4**	**+2.3**
JACO	**JACO, Garabito**	**3.17**	**124**	*i* P	**Pn**	**06 39 24.6**	**+2.4**
HDC	**Heredia**	**3.48**	**114**	Pn	**Pn**	**06 39 26.9**	**+0.4**
ACOS	**Acosta**	**3.52**	**117**	*e*P	**Pn**	**06 39 29.6**	**+2.4**
RIFO	**Rio Frio, Sara**	**3.54**	**108**	*i* P	**Pg**	**06 39 40.2**	**-0.3**
AMPA	**Desamparados**	**3.57**	**115**	*e*P	**Pn**	**06 39 31.3**	**+3.5**
CVIMO	**Finca Echandi**	**3.62**	**112**	*e*P	**Pb**	**06 39 34.1**	**-2.5**
OCM	**Ochomogo**	**3.66**	**114**	*i* P	**Pn**	**06 39 32.2**	**+3.1**
ABE2	**San Pablo**	**3.66**	**118**	*e*P	**Pn**	**06 39 31.3**	**+2.1**
LCR2	**La Lucha 2**	**3.69**	**117**		**Pn**	**06 39 30.9**	**+1.4**
LCR2	**La Lucha 2**	**3.69**	**117**	*e*P	**Pn**	**06 39 32.7**	**+3.2**
LCR2	**La Lucha 2**	**3.69**	**117**	*i* P	**Pn**	**06 39 31.9**	**+2.4**
LLNJ	**Naranjito**	**3.74**	**121**	*e*P	**Pn**	**06 39 31.8**	**+1.8**
RIMA	**Rio Macho**	**3.80**	**116**		**Pn**	**06 39 32.3**	**+1.3**
RIMA	**Rio Macho**	**3.80**	**116**	*e*P	**Pn**	**06 39 32.9**	**+1.9**
RIMA	**Rio Macho**	**3.80**	**116**	*i* P	**Pn**	**06 39 33.7**	**+2.7**
VTCV	**VTCV, Calle Va**	**3.84**	**112**	*e*P	**Pn**	**06 39 34.5**	**+3.0**
VERB	**Verbena**	**3.88**	**112**	*e*P	**Pn**	**06 39 35.5**	**+3.5**
CDM	**Cerro de Muert**	**3.99**	**118**	*e*P	**Pn**	**06 39 35.4**	**+1.6**
CDM	**Cerro de Muert**	**3.99**	**118**	*i* P	**Pn**	**06 39 35.9**	**+2.1**
BUS1	**Rivas**	**4.00**	**118**	*e*P	**Pn**	**06 39 36.3**	**+2.3**
CDITO	**Canoas**	**5.24**	**122**	Pn	**Pn**	**06 39 51.6**	**+0.9**
POPC	**Popayan, Colom**	**13.79**	**129**	*e*P	**P**	**06 42 00.6**	**+4.0**
ORTC	**Ortega, Tolima**	**14.12**	**121**	*e*P	**P**	**06 42 03.4**	**+3.3**
SPBC	**San Pablo de B**	**14.32**	**113**	*e*P	**P**	**06 41 59.4**	**-3.0**
PRAC	**Prado**	**14.53**	**121**	*e*P	**P**	**06 42 06.3**	**+1.6**
PIAT	**Ana Tenorio**	**15.30**	**143**	*e*P	**P**	**06 42 13.9**	**+0.3**
SDV	**Santo Domingo**	**16.64**	**97**	Pn	**Pn**	**06 42 22.8**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=280,slow=11,SNR=2.1						
	comp=Z,2.4nm,0.8s						
PTGC	**Puerto Gaitan,**	**16.69**	**114**	*e*P	**P**	**06 42 30.0**	**+1.4**
HBVL	**Hebbronville**	**18.85**	**327**	P	**Pn**	**06 42 54.6**	**+1.7**
HBVL				IAmb	IAmb	06 43 00.0	
	comp=Z,21nm,1.1s						
Y49A	**Blount Mountai**	**22.33**	**2**	P	**P**	**06 43 30.1**	**0.0**
Y49A				IAmb	IAmb	06 43 31.6	
	comp=Z,14nm,0.8s						
X48A	**Hartselle**	**22.91**	**1**	P	**P**	**06 43 36.0**	**-0.2**
TXAR	**Lajitas Array**	**23.43**	**322**	P	**P**	**06 43 42.2**	**+0.5**
TXAR	**Lajitas Array**	**23.43**	**322**	P	**P**	**06 43 42.5**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=136,slow=9.9,SNR=9.3						
	comp=Z,1.3nm,0.6s						
TX31	**Lajitas Ar. Si**	**23.43**	**322**	P	**P**	**06 43 41.8**	**+0.2**
MIAR	**Mount Ida**	**23.69**	**347**	P	**P**	**06 43 43.2**	**-0.9**
MIAR				IAmb	IAmb	06 43 45.8	
	comp=Z,6.6nm,0.8s						
TKL	**Tuckaleechee C**	**24.33**	**7**	P	**P**	**06 43 50.2**	**+0.1**
	comp=Z,5.7nm,0.5s,baz=184,slow=7.9,SNR=13						
	comp=Z,5.7nm,0.5s						
V51A	**Loudon**	**24.41**	**6**	P	**P**	**06 43 50.6**	**-0.1**
V51A				IAmb	IAmb	06 44 13.3	
	comp=Z,23nm,1.4s						
CLTN	**Cedars of Leba**	**24.56**	**2**	P	**P**	**06 43 51.9**	**-0.2**
TUL3	**Leonard**	**25.54**	**344**	P	**P**	**06 44 02.1**	**+1.1**
S39A	**Bolivar**	**26.69**	**349**	P	**P**	**06 44 10.3**	**-1.1**
S39A				IAmb	IAmb	06 44 10.9	
	comp=Z,7.0nm,0.8s						
Q51A	**Peebles**	**27.70**	**7**	P	**P**	**06 44 19.9**	**-0.7**
ETMB	**Extrema**	**29.78**	**134**	P	**P**	**06 44 40.2**	**+1.0**
ETMB				IAmb	IAmb	06 44 43.2	
	comp=Z,3.6nm,0.7s						
PDAR	**Pinedale Array**	**36.71**	**332**	P	**P**	**06 45 39.6**	**0.0**
	comp=Z,0.6nm,0.5s,baz=133,slow=9.6,SNR=6.9						
	comp=Z,0.6nm,0.5s						
ULM	**Lac du Bonnet**	**39.33**	**351**	P	**P**	**06 45 59.0**	**-2.4**
	comp=Z,5.3nm,0.8s,baz=168,slow=8.9,SNR=6.1						
	comp=Z,5.3nm,0.8s						
BDFB	**Brasilia**	**47.32**	**124**	P	**P**	**06 47 06.1**	**-0.4**
	comp=Z,2.2nm,0.5s,baz=284,slow=9.1,SNR=6.2						
	comp=Z,2.2nm,0.5s						
BBB	**Bella Bella**	**52.24**	**329**	P	**P**	**06 47 42.3**	**-0.9**
	comp=Z,15nm,1.0s,baz=146,slow=10,SNR=2.1						
	comp=Z,15nm,1.0s						
YKA	**Yellowknife Ar**	**54.61**	**345**	P	**P**	**06 47 59.1**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=145,slow=6.8,SNR=3.2						
	comp=Z,0.6nm,0.7s						
ILAR	**Eielson Array**	**66.98**	**336**	P	**P**	**06 49 24.2**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=136,slow=5.0,SNR=6.8						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**138.98**	**247**	PKP	**PKPdf**	**06 57 59.0**	**-0.7**
	comp=Z,0.3nm,1.0s,baz=72,slow=3.0,SNR=1.5						
WRA	**Warramunga Arr**	**139.08**	**253**	PKP	**PKPdf**	**06 58 00.8**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=100,slow=2.0,SNR=2.0						
PZH	**PanZhiHua**	**141.27**	**347**	PKP	**PKPdf**	**06 58 02.5**	**-1.5**
CMAR	**Chiang Mai Arr**	**149.65**	**348**	PKPbc	**PKPbc**	**06 58 23.2**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=358,slow=2.7,SNR=5.0						

IDC 16 07:31:48.8±9.8**, 17.°96S**×**178.°64W, h607**km±119km**, mb3.0**/4**, mbtmp4.0**/4**, Error ellipse: s-maj=123.3km s-min=46.2km az=158.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.41**	**241**	P	P	07 38 20.1	-0.1
	0.9nm,0.5s,baz=82,slow=9.4,SNR=3.9						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**44.41**	**260**	P	P	07 39 07.2	-0.3
	1.1nm,0.5s,baz=96,slow=7.1,SNR=39						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**44.56**	**254**	P	P	07 39 08.8	+0.1
	6.5nm,0.6s,baz=87,slow=8.6,SNR=118						
ASAR				PcP	PcP	07 40 37.8	-0.4
	0.2nm,0.5s,baz=102,slow=3.9,SNR=2.9						
	6.5nm,0.6s						
TXAR	**Lajitas Array**	**86.21**	**58**	P	P	07 43 27.6	0.0
	0.3nm,0.7s,baz=205,slow=5.5,SNR=3.8						
	0.3nm,0.7s						

*NAO **16** 07:32:09.2±2.1, 72.°01N×0.°22W, ML2.6*
*BER **16** 07:32:11.0±3.7, 72.°06N×0.°23W, h10km, mb(Pn)4.0, ML2.6(NAO), Confirmed Earthquake*
*IDC **16** 07:32:11.2±1.4, 72.°00N×0.°57E, h0km, mb3.4/4, mbtmp3.5/8, ML3.4/4, MS3.0/6, Error ellipse: s-maj=30.7km s-min=20.2km az=82.0*
*KOLA **16** 07:32:14.8, 71.°91N×0.°44E, h0km, ML1.4, Error ellipse: s-maj=86.1km s-min=49.4km az=60.0, Norwegian sea, Mohn ridge*
*DNK **16** 07:32:16.4±2.0, 72.°44N×0.°44W, h35km±114km, ML1.6*
ISC 16 07:32:09.2±0.7**, 72.°18N**±0.°06×**0.°11E**±0.°05**, h10**km**, n38, σ3.ˢ65**/47**, mb3.5**/4**, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**6.11**	**125**	*e*P	**Pn**	**07 33 41.1**	**+1.8**
LOF				IAML		07 34 49.1	
	comp=Z,4.1nm,0.6s						
DBG	**Daneborg**	**6.24**	**299**	Pn	**Pn**	**07 33 40.5**	**-0.5**
DBG				Sn	**Sn**	**07 34 47.2**	**-5.0**
DBG	**Daneborg**	**6.24**	**299**	Pn	**Pn**	**07 33 40.5**	**-0.5**
DBG				Sn	**Sn**	**07 34 47.2**	**-5.0**
DBG	**Daneborg**	**6.24**	**299**	*i* P	**Pn**	**07 33 40.6**	**-0.5**
DBG				*e*S	**Sn**	**07 34 44.1**	**-8.1**
TRO	**Tromso**	**6.67**	**103**	*e*P	**Pn**	**07 33 46.7**	**-0.3**
TRO				IAML		07 35 01.9	
	comp=Z,2.0nm,0.4s						
STEI	**Steigen**	**6.69**	**122**	*e*P	**Pn**	**07 33 48.0**	**+0.7**
STEI				*e*S	**Sn**	**07 34 57.1**	**-6.4**
STEI				IAML		07 34 59.1	
	comp=Z,2.5nm,0.5s						
DAG	**Danmarks Havn**	**6.79**	**321**	*e*P	**Pn**	**07 33 48.2**	**-0.4**
DAG				*e*S	Sn	07 34 56.5	-9.3
DAG	**Danmarks Havn**	**6.79**	**321**	*e*	**Pn**	**07 33 48.0**	**-0.6**
	baz=127,slow=18						
DAG				*i* P	**Pn**	**07 33 48.4**	**-0.2**
DAG				*e*S	Sn	07 34 49.5	-16
DAG				IAML		07 35 00.5	
	comp=Z,1.9nm,0.4s						
BRBB	**Barentsburg B**	**6.93**	**25**	Pn	**Pn**	**07 33 55.3**	**+4.8**
BRBB	**Barentsburg B**	**6.93**	**25**	Pn	**Pn**	**07 33 55.3**	**+4.8**
FAUS	**Fauske**	**7.11**	**125**	P	**Pn**	**07 33 54.0**	**+1.0**
FAUS				S	**Sn**	**07 35 07.6**	**-6.2**
FAUS	**Fauske**	**7.11**	**125**	*e*P	**Pn**	**07 33 52.9**	**-0.1**
FAUS				*e*S	**Sn**	**07 35 05.1**	**-8.7**
FAUS				IAML		07 35 23.6	
	comp=Z,3.0nm,0.8s						
JETT	**Jettan, Norway**	**7.15**	**102**	Pn	**Pn**	**07 33 54.6**	**+1.0**
JETT				Sn	**Sn**	**07 35 10.5**	**-4.3**
JETT	**Jettan, Norway**	**7.15**	**102**	Pn	**Pn**	**07 33 54.6**	**+1.0**
JETT				Sn	**Sn**	**07 35 10.5**	**-4.3**
SCO	**Scoresbysund**	**7.26**	**267**	*i* P	**Pn**	**07 33 56.2**	**+1.1**
SPA0	**Spitsbergen Ar**	**7.29**	**27**	Pn	**Pn**	**07 33 59.3**	**+3.8**
	baz=214,slow=16						
SPA0	**Spitsbergen Ar**	**7.29**	**27**	Pn	**Pn**	**07 33 59.3**	**+3.8**
	baz=214,slow=16						
SPITS	**Spitsbergen Ar**	**7.29**	**27**	Pn	**Pn**	**07 33 59.6**	**+4.2**
	baz=220,slow=13						
	comp=Z,1.1nm,0.3s						
KBS	**Kingsbay**	**7.37**	**18**	*e*P	**Pn**	**07 34 00.6**	**+4.0**
KBS	**Kingsbay**	**7.37**	**18**	*i* P	**Pn**	**07 34 00.4**	**+3.8**
KBS				*i* S	**Sb**	**07 35 41.7**	**-3.0**
ARA0	**ARCESS Array S**	**8.71**	**95**	Pn	**Pn**	**07 34 16.0**	**+1.0**
	baz=296,slow=12						
ARA0				Sn	**Sn**	**07 35 47.7**	**-5.4**
	baz=307,slow=28						
ARA0	**ARCESS Array S**	**8.71**	**95**	Pn	**Pn**	**07 34 16.0**	**+1.0**
	baz=296,slow=12						
ARA0				Sn	**Sn**	**07 35 47.7**	**-5.4**
	baz=307,slow=28						
ARCES	**ARCESS Array B**	**8.71**	**95**	P	**Pn**	**07 34 16.4**	**+1.3**
ARCES				S	**Sn**	**07 35 47.2**	**-6.0**
ARCES	**ARCESS Array B**	**8.71**	**95**	Pn	**Pn**	**07 34 15.7**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=301,slow=12,SNR=8.7						
ARCES				LR	LR	07 37 00.3	
	comp=Z,51nm,21.7s,baz=286,slow=34						
	comp=Z,1.1nm,0.7s						
AKN	**Aaknes**	**10.39**	**162**	Pn	**Pn**	**07 34 39.1**	**+1.2**
AKN	**Aaknes**	**10.39**	**162**	Pn	**Pn**	**07 34 39.1**	**+1.2**
NOA	**NORSAR Array B**	**11.99**	**153**	LR	LR	07 39 11.3	
	comp=Z,40nm,21.0s,baz=335,slow=36						
HFS	**Hagfors**	**13.23**	**149**	Pn	**Pn**	**07 35 17.7**	**+1.0**
	baz=332,slow=14						
HFS	**Hagfors**	**13.23**	**149**	Pn	**Pn**	**07 35 17.7**	**+1.0**
	baz=332,slow=14						
HFS	**Hagfors**	**13.23**	**149**	Pn	**Pn**	**07 35 18.0**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=345,slow=15,SNR=5.8						
HFS				LR	LR	07 39 48.9	
	comp=Z,86nm,18.5s,baz=359,slow=35						
	comp=Z,1.1nm,0.6s						
FINES	**FINESS Array B**	**14.67**	**124**	LR	LR	07 40 21.5	
	comp=Z,94nm,18.6s,baz=50,slow=34						
EKA	**Eskdalemuir Ar**	**16.97**	**186**	Pn	**P**	**07 36 09.6**	**+1.4**
	baz=9.8,slow=12						
	comp=Z,1.5nm,0.6s						
KIRV	**Kirov**	**23.71**	**99**	LR	LR	07 46 03.4	
	comp=Z,52nm,19.8s,baz=255,slow=35						
GERES	**GERESS Array B**	**24.22**	**158**	P	**P**	**07 37 26.2**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=0.9,slow=8.3,SNR=5.6						
	comp=Z,1.8nm,0.8s						
AKASG	**Malin Array Be**	**25.13**	**133**	P	**P**	**07 37 34.3**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=338,slow=9.6,SNR=2.1						
	comp=Z,0.4nm,0.6s						
ARU	**Arti**	**28.29**	**92**	LR	LR	07 47 52.8	
	comp=Z,44nm,21.0s,baz=89,slow=34						
ILAR	**Eielson Array**	**41.50**	**339**	P	**P**	**07 40 00.1**	**+4.4**
	comp=Z,0.3nm,0.8s,baz=8.7,slow=6.6,SNR=4.2						
	comp=Z,0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**59.01**	**178**	P	**P**	**07 42 12.1**	**+3.3**
	comp=Z,0.5nm,0.7s,baz=352,slow=8.7,SNR=2.1						
	comp=Z,0.5nm,0.7s						

IDC 16 07:37:21.5±7.5**, 31.°65N**×**79.°14E, h0**km**, mb3.6**/2**, mbtmp3.5**/4**, ML3.1**/2**, MS3.2**/2**, Error ellipse: s-maj=302.2km s-min=30.7km az=75.0, Western Xizang-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.32**	**8**	Pn	Pn	07 40 58.8	-0.2
	0.3nm,0.3s,baz=192,slow=13,SNR=9.9						
	1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**18.96**	**359**	P	P	07 41 43.2	-1.0
	baz=174,slow=11,SNR=5.0						
	0.2nm,0.5s						
GNI	**Garni**	**28.99**	**297**	LR	LR	07 57 05.2	
	comp=Z,28nm,18.2s,baz=60,slow=41						
LEM	**Lembang**	**46.94**	**140**	LR	LR	08 09 47.5	
	comp=Z,46nm,18.9s,baz=185,slow=42						
WRA	**Warramunga Arr**	**73.69**	**126**	P	P	07 48 56.7	-0.7
	0.5nm,0.7s,baz=323,slow=6.2,SNR=8.0						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**75.95**	**129**	P	P	07 49 11.3	+0.8
	0.3nm,0.6s,baz=312,slow=5.5,SNR=6.7						
	0.3nm,0.6s						

*IDC **16** 07:53:04.4±1.0, 6.°32S×154.°94E, h0km, mb4.2/12, mbtmp4.2/15, ML3.4/3, MS3.6/21, Error ellipse: s-maj=31.9km s-min=18.0km az=112.0*
*NEIC **16** 07:53:10.9±1.9, 6.°49S±0.°08×154.°78E±0.°06, h29km±6km, mb4.4/18, Error ellipse: s-maj=13.5km s-min=3.1km az=214.0*
ISC 16 07:53:11.2±0.5**, 6.°52S**±0.°06×**154.°84E**±0.°08**, h35**km**, n63, σ1.ˢ69**/51**, mb4.4**/24**, MS3.7**/18**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.53**	**311**		**Pn**	**07 54 03.9**	**+0.4**
KRVT	**Keravat (AS076**	**3.56**	**308**	Pn	**Pn**	**07 54 02.3**	**-1.7**
	25nm,0.3s,baz=196,slow=20,SNR=18						
KRVT				Sn	**Sn**	**07 54 49.1**	**+4.3**
	102nm,0.3s,baz=347,slow=20,SNR=3.0						
	91nm,0.4s						
HNR	**Honiara**	**5.83**	**120**	LR	LR	07 57 10.0	
	comp=Z,6µm,19.9s,baz=307,slow=42						
PMG	**Port Moresby**	**8.13**	**249**	Pn	**Pn**	**07 55 05.9**	**-0.9**
PMG	**Port Moresby**	**8.13**	**249**	Pn	**Pn**	**07 55 07.2**	**+0.5**
	5.5nm,0.3s,baz=54,slow=8.3,SNR=34						
PMG				Sn	**Sn**	**07 56 37.5**	**0.0**
	2.5nm,0.3s,baz=260,slow=20,SNR=7.8						
PMG				LR	LR	07 58 23.1	
	comp=Z,248nm,20.2s,baz=56,slow=38						
	53nm,0.6s						
PATS	**Pohnpei**	**13.71**	**15**	Pn	**Pn**	**07 56 23.5**	**+0.3**
CTA	**Charters Tower**	**15.86**	**211**	Pn	**Pn**	**07 56 51.4**	**-0.5**
	0.1nm,0.3s,baz=30,slow=16,SNR=1.9						
CTA				LR	LR	08 02 11.5	
	comp=Z,179nm,21.2s,baz=82,slow=34						
	3.5nm,1.0s						
CTAO	**Charters Tower**	**15.86**	**211**		**Pn**	**07 56 51.7**	**-0.1**
CTAO				IAmb	IAmb	07 56 59.7	
	comp=Z,19nm,0.8s						
KOUNC	**Koumac, New Ca**	**16.69**	**148**		**P**	**07 57 05.1**	**+0.7**
KOUNC				IAmb	IAmb	07 57 32.9	
	comp=Z,37nm,1.2s						
DZM	**Mont Dzumac**	**19.10**	**145**	LR	LR	08 04 17.1	
	comp=Z,158nm,19.2s,baz=206,slow=35						
MARNC	**Mare, Loyalty**	**19.60**	**141**	P	**P**	**07 57 36.9**	**+0.4**
GUMO	**Guam**	**22.30**	**334**	LR	LR	08 05 26.5	
	comp=Z,32nm,20.4s,baz=155,slow=34						
WR0	**Warramunga Arr**	**23.81**	**234**	P	**P**	**07 58 20.9**	**-0.1**
WR0				IAmb	IAmb	07 58 22.8	
	comp=Z,17nm,0.7s						
WRA	**Warramunga Arr**	**23.96**	**234**	P	**P**	**07 58 21.8**	**-0.7**
WRA	**Warramunga Arr**	**23.96**	**234**	P	**P**	**07 58 22.4**	**-0.1**
	comp=Z,11nm,0.7s,baz=59,slow=9.6,SNR=54						
WRA				PcP	**PcP**	**08 02 04.8**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=64,slow=1.8,SNR=2.6						
	comp=Z,11nm,0.7s						
MTN	**Manton Dam**	**24.19**	**253**	P	**P**	**07 58 23.0**	**-1.5**
MTN				IAmb	IAmb	07 58 36.4	
	comp=Z,13nm,1.2s						
AS31	**Alice Springs**	**26.37**	**228**	P	**P**	**07 58 44.0**	**-0.4**
ASAR	**Alice Springs**	**26.37**	**228**	P	**P**	**07 58 43.9**	**-0.6**
ASAR	**Alice Springs**	**26.37**	**228**	P	**P**	**07 58 44.1**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=57,slow=9.8,SNR=47						
ASAR				PcP	**PcP**	**08 02 09.3**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=55,slow=2.0,SNR=2.6						
ASAR				LR	LR	08 08 40.3	
	comp=Z,156nm,20.9s,baz=40,slow=35						
	comp=Z,2.3nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**27.47**	**25**	T	T	08 27 31.6	
	baz=202,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**27.47**	**25**	T	T	08 27 36.8	
	baz=202,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**27.48**	**25**	T	T	08 27 38.5	
	baz=202,slow=76,SNR=12						
STKA	**Stephens Creek**	**28.10**	**204**	P	**P**	**07 58 59.7**	**0.0**
STKA	**Stephens Creek**	**28.10**	**204**	P	**P**	**07 58 59.9**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=28,slow=13,SNR=8.2						
STKA				LR	LR	08 09 49.2	
	comp=Z,146nm,20.4s,baz=26,slow=36						
	comp=Z,1.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**30.70**	**245**	P	**P**	**07 59 21.6**	**-1.4**
FITZ				IAmb	IAmb	07 59 35.7	
	comp=Z,1.8nm,0.9s						
MRNZ	**Matariki Terra**	**38.23**	**158**	P	**P**	**08 00 31.4**	**+3.6**
THZ	**Tophouse**	**38.60**	**158**	P	**P**	**08 00 32.9**	**+1.9**
RPZ	**Rata Peaks**	**39.69**	**162**	LR	LR	08 15 23.8	
	comp=Z,42nm,19.4s,baz=292,slow=34						
JNU	**Nakatsue**	**45.52**	**331**	P	**P**	**08 01 28.3**	**+0.8**
ASAJ	**Asahikawa**	**51.60**	**349**	LR	LR	08 21 17.2	
	comp=Z,47nm,21.9s,baz=158,slow=33						
KLR	**Kul'dur**	**59.07**	**343**	P	**P**	**08 03 05.0**	**-2.8**
	comp=Z,3.1nm,0.8s,baz=185,slow=3.6,SNR=3.9						
KLR				LR	LR	08 26 28.9	
	comp=Z,17nm,21.4s,baz=190,slow=34						
	comp=Z,3.1nm,0.8s						
PETK	**Petropavlovsk-**	**59.45**	**2**	LR	LR	08 24 59.1	
	comp=Z,38nm,21.6s,baz=166,slow=32						
CMAR	**Chiang Mai Arr**	**60.44**	**295**	P	**P**	**08 03 16.6**	**-1.2**
	comp=Z,1.6nm,0.3s,baz=125,slow=6.8,SNR=5.8						
CMAR				LR	LR	08 27 48.0	
	comp=Z,18nm,20.9s,baz=80,slow=34						
	comp=Z,1.6nm,0.3s						
PZH	**PanZhiHua**	**61.02**	**305**	P	**P**	**08 03 24.0**	**+2.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,4.8s						
XLT	**XiLinHaoTe**	**61.17**	**329**	*e*P	**P**	**08 03 23.8**	**+1.4**
XLT				pmax	pmax		
	comp=Z,25nm,0.7s						
XLT				pmax	pmax		
	comp=Z,110nm,5.8s						
SHEM	**Shemya Is, Ala**	**61.26**	**13**	LR	LR	08 26 54.6	
	comp=Z,80nm,19.4s,baz=304,slow=33						
HHC	**Hu-ho-hao-te**	**61.62**	**324**	*e*P	**P**	**08 03 28.8**	**+3.3**
HHC				pmax	pmax		
	comp=Z,26nm,0.8s						
HHC				pmax	pmax		
	comp=Z,100nm,6.5s						
LZH	**Lanzhou**	**63.87**	**315**	*e*P	**P**	**08 03 42.9**	**+2.2**
LZH				sP	sP	08 04 02.0	+6.6
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
SONM	**Songino Array**	**68.86**	**327**	P	**P**	**08 04 13.1**	**+0.8**
SONM				IAmb	IAmb	08 04 15.4	
	comp=Z,1.8nm,0.9s						
SONM	**Songino Array**	**68.86**	**327**	P	**P**	**08 04 09.3**	**-3.0**
	comp=Z,0.3nm,0.4s,baz=134,slow=4.2,SNR=1.6						
	comp=Z,0.3nm,0.4s						
SHL	**Shillong**	**68.92**	**300**	P	**P**	**08 04 12.2**	**-1.1**
KDAK	**Kodiak Island**	**76.81**	**26**	LR	LR	08 31 59.5	
	comp=Z,51nm,21.9s,baz=237,slow=30						
ANM	**Nome**	**76.82**	**16**	P	**P**	**08 05 02.1**	**+3.1**
WMQ	**Urumqi**	**78.37**	**317**	*e*P	**P**	**08 05 09.6**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CAST	**Castle Rocks**	**80.34**	**21**	P	**P**	**08 05 17.9**	**-0.6**
CAST				IAmb	IAmb	08 05 21.3	
	comp=Z,8.8nm,1.2s						
E19K	**Redstone River**	**81.22**	**17**	P	**P**	**08 05 22.9**	**-0.2**
E19K				IAmb	IAmb	08 05 27.4	
	comp=Z,4.6nm,0.7s						
IMAR	**Indian Mountai**	**81.33**	**19**	P	**P**	**08 05 22.8**	**-0.9**
MKAR	**Makanchi Array**	**82.95**	**319**	P	**P**	**08 05 31.1**	**-1.6**
MKAR	**Makanchi Array**	**82.95**	**319**	P	**P**	**08 05 31.5**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=99,slow=7.0,SNR=5.2						
MKAR				LR	LR	08 40 53.6	
	comp=Z,14nm,21.6s,baz=34,slow=35						
	comp=Z,1.7nm,0.8s						
ILAR	**Eielson Array**	**82.99**	**22**	P	**P**	**08 05 30.1**	**-2.4**
	comp=Z,0.9nm,0.9s,baz=235,slow=4.3,SNR=7.7						
ILAR				LR	LR	08 38 55.4	
	comp=Z,58nm,18.9s,baz=232,slow=33						
	comp=Z,0.9nm,0.9s						
QSPA	**South Pole Qui**	**83.45**	**180**	P	**P**	**08 05 36.0**	**+1.0**

QSPA				IAmb	IAmb	08 05 39.9	
	comp=Z,2.4nm,0.8s						
J25K	**Salcha River,**	**83.47**	**22**	P	**P**	**08 05 33.4**	**-1.6**
J25K				IAmb	IAmb	08 05 47.3	
	comp=Z,2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**83.70**	**326**	P	**P**	**08 05 33.9**	**-2.4**
	comp=Z,0.8nm,0.6s,baz=123,slow=5.5,SNR=3.9						
	comp=Z,0.8nm,0.6s						
BCAR	**Beaver Creek A**	**84.12**	**24**	P	**P**	**08 05 38.3**	**-0.1**
KURBB	**Kurchatov Arra**	**86.40**	**322**	P	**P**	**08 05 46.7**	**-3.2**
	comp=Z,0.4nm,0.7s,baz=101,slow=4.0,SNR=1.7						
	comp=Z,0.4nm,0.7s						
YBH	**Yreka Blue Hor**	**88.69**	**48**	LR	LR	08 41 22.2	
	comp=Z,66nm,19.1s,baz=328,slow=33						
NVAR	**Mina Array Bea**	**91.55**	**52**	LR	LR	08 39 56.3	
	comp=Z,48nm,18.8s,baz=160,slow=31						
BVAR	**Borovoye Array**	**91.83**	**323**	P	**P**	**08 06 13.9**	**-1.6**
	comp=Z,1.1nm,0.7s,baz=108,slow=4.8,SNR=4.5						
	comp=Z,1.1nm,0.7s						
PFO	**Pinyon Flats O**	**92.48**	**57**	LR	LR	08 44 48.9	
	comp=Z,40nm,18.1s,baz=167,slow=34						
NEW	**Newport**	**93.51**	**42**	LR	LR	08 41 45.5	
	comp=Z,95nm,20.4s,baz=264,slow=31						
PDAR	**Pinedale Array**	**98.50**	**48**	P	**P**	**08 06 45.6**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=191,slow=1.5,SNR=4.5						
PDAR				LR	LR	08 50 36.1	
	comp=Z,30nm,18.1s,baz=302,slow=35						
	comp=Z,0.4nm,0.7s						
ARU	**Arti**	**98.87**	**326**	LR	LR	08 54 42.2	
	comp=Z,28nm,18.8s,baz=34,slow=37						
TORD	**Torodi Ar. Bea**	**152.75**	**286**	PKPbc	**PKPbc**	**08 13 03.7**	**-1.7**
	comp=Z,1.5nm,0.6s,baz=104,slow=2.5,SNR=9.2						

*ECX **16** 08:22:17.5±0.6,31°.55N×114°.41W,h20km±10km,MD3.0, ML3.2*
*MEX **16** 08:22:20.2±0.9,31°.48N×114°.54W,h5km,MD2.6*
ISC 16 08:22:15.8±1.3,**31°.55N**±0°.05×**114°.35W**±0°.03,**h19**km±3km,
n13,σ0**54/22,5C,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDOMX	**El Doctor, EDO**	**0.53**	**321**	*e*P	**Pn**	**08 22 28.9**	**+0.6**
EDOMX				*e*S	**Sn**	**08 22 36.6**	**-0.1**
ECBX	**El Chinero**	**0.60**	**263**⇑	*i*P	**Pg**	**08 22 27.8**	**0.0**
ECBX				*e*S	**Sg**	**08 22 35.5**	**-0.5**
PPXB	**Puerto Peasco**	**0.65**	**109**⇑	*e*P	**Pn**	**08 22 30.0**	**+0.1**
PPXB				*e*S	**Sn**	**08 22 39.5**	**-0.2**
SFX	**San Felipe**	**0.67**	**220**⇑	*e*P	**Pb**	**08 22 29.1**	**+0.3**
SFX				*e*S	**Sb**	**08 22 37.5**	**-0.1**
SFX				IAML		08 22 37.9	
	comp=N,963nm,0.3s						
SFX				IAML		08 22 38.2	
	comp=E,1µm,0.3s						
SFX	**San Felipe**	**0.67**	**220**	*e*P	**Pb**	**08 22 29.0**	**+0.2**
SFX				*i* S	**Sb**	**08 22 37.5**	**-0.1**
RHX	**Rio Hardy**	**0.98**	**306**	*e*P	**Pb**	**08 22 33.7**	**-0.6**
SPIG	**San Pedro Mart**	**1.08**	**242**	*e*P	**Pb**	**08 22 35.9**	**-0.1**
SPIG				*e*S	**Sb**	**08 22 50.1**	**+0.2**
SPIG	**San Pedro Mart**	**1.08**	**242**	*i* P	**Pn**	**08 22 36.2**	**0.0**
SPIG				*i* S	**Sb**	**08 22 49.4**	**-0.5**
MBIG	**Mexicali**	**1.12**	**320**	*e*P	**Pg**	**08 22 38.2**	**+0.7**
MBIG				*i* P	**Pg**	**08 22 38.2**	**+0.7**
ALAMX	**Rancho Alamar**	**1.24**	**292**⇑	*e*P	**Pn**	**08 22 37.5**	**-0.7**
SJX	**San Joaquin**	**1.39**	**279**	*e*P	**Pn**	**08 22 41.1**	**0.0**
SQX	**San Quintin**	**1.63**	**234**	*e*P	**Pn**	**08 22 44.3**	**+0.8**
SQX				IAML		08 23 07.5	
	comp=E,293nm,0.3s						
SQX			⇑	*e*		08 23 07.6	
SQX				IAML		08 23 07.6	
	comp=N,280nm,0.3s						
LAPR	**La Primavera**	**2.03**	**120**	*e*P	**Pb**	**08 22 52.4**	**+0.2**
LAPR				*e*S	**Sg**	**08 23 20.1**	**-1.2**

*AFAD **16** 08:39:25.1±0.0,37°.40N×37°.64E,h6km±1km,MW3.9*
*ISK **16** 08:39:25.1,37°.36N×37°.65E,h6km,ML3.8/21*
*GII **16** 08:39:26.9±0.0,37°.40N×37°.53E,h1km±4km*
ISC 16 08:39:25.6±0.9,**37°.40N**±0°.02×**37°.65E**±0°.02,**h6**km±7km,
n62,σ1**58/80,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZT	**Gaziantep**	**0.08**	**236**	P	**Pg**	**08 39 27.6**	**0.0**
GZT				S	**Sg**	**08 39 29.1**	**0.0**
NZIP	**Nizip/Gaziante**	**0.36**	**177**	P	**Pg**	**08 39 32.4**	**-0.2**
NZIP				S	**Sb**	**08 39 38.9**	**-1.4**
AKCA	**Adyaman/G¶l**	**0.39**	**4**	P	**Pg**	**08 39 33.1**	**-0.1**
AKCA				S	**Sg**	**08 39 38.8**	**+0.4**
KHMN	**Narli-Kahraman**	**0.39**	**269**	Pg	**Pb**	**08 39 33.6**	**-1.4**
GAZ	**Gaziantep**	**0.42**	**237**	Pg	**Pg**	**08 39 33.7**	**0.0**
GAZ				Sg	**Sg**	**08 39 38.7**	**+0.5**
KAHM	**Kahramanmaras,**	**0.54**	**282**	P	**Pg**	**08 39 36.0**	**-0.1**
KAHM				S	**Sg**	**08 39 43.4**	**+0.3**
HCB	**Kahramanmara**	**0.59**	**265**	P	**Pg**	**08 39 36.8**	**-0.3**
HCB				S	**Sn**	**08 39 48.8**	**-1.8**
KMRS	**Kahramanmaras**	**0.61**	**280**	Pg	**Pg**	**08 39 36.9**	**-0.4**
AZEY	**Adyaman-Merk**	**0.63**	**49**	P	**Pg**	**08 39 37.5**	**-0.2**
AZEY				S	**Sg**	**08 39 46.2**	**+0.3**
KAMA	**Osmaniye**	**0.81**	**255**	P	**Pg**	**08 39 40.5**	**-0.7**
KAMA				S	**Sb**	**08 39 53.5**	**+0.1**
URFA	**Urfa**	**0.93**	**87**	Pg	**Pg**	**08 39 42.7**	**-0.8**
URFA				Sg	**Sb**	**08 39 57.3**	**+0.5**
HANM	**anlurfa/Hi**	**0.99**	**79**	P	**Pg**	**08 39 43.9**	**-0.8**
HANM				S	**Sb**	**08 39 58.5**	**0.0**
NARI	**Adyaman-Kaht**	**1.00**	**61**	P	**Pg**	**08 39 44.2**	**-0.7**
NARI				S	**Sb**	**08 39 59.2**	**+0.3**
ELBS	**KAHRAMANMARAS**	**1.01**	**336**	P	**Pg**	**08 39 44.7**	**-0.3**
ELBS				S	**Sb**	**08 39 59.4**	**+0.3**
SANL	**SANLIURFA_Merk**	**1.09**	**102**	P	**Pg**	**08 39 45.7**	**-0.8**
SANL				S	**Sg**	**08 39 60.0**	**-0.7**
MAYA	**Malatya/Merkez**	**1.11**	**33**	P	**Pg**	**08 39 46.1**	**-0.8**
MAYA				S	**Sb**	**08 40 01.8**	**-0.1**
DARE	**Darende-Malaty**	**1.18**	**354**	Pn	**Pg**	**08 39 47.4**	**-0.8**
DARE				Sn	**Sn**	**08 40 06.3**	**+1.3**
SAIM	**ADANA**	**1.37**	**295**	P	**Pn**	**08 39 50.9**	**-0.5**
SAIM				S	**Sn**	**08 40 10.5**	**+0.6**
SARI	**SarD1z-Kayseri**	**1.40**	**316**	Pn	**Pg**	**08 39 52.1**	**-0.4**
RHAN	**Hatay/Reyhanl**	**1.42**	**217**	P	**Pg**	**08 39 52.4**	**-0.4**
RHAN				S	**Sg**	**08 40 10.9**	**-0.3**
KOZT	**Kozan**	**1.45**	**274**	Pn	**Pb**	**08 39 52.6**	**-0.5**
TAHT	**Tahtakopru-Hat**	**1.56**	**229**	Pn	**Pn**	**08 39 53.5**	**-0.3**
CEYT	**Ceyhan**	**1.57**	**256**	Pn	**Pn**	**08 39 53.6**	**-0.3**
YURE	**YUREGIR**	**1.71**	**251**	P	**Pg**	**08 39 57.8**	**-0.7**
YURE				S	**Sg**	**08 40 20.7**	**0.0**
AKO	**Adana**	**1.76**	**273**	P	**Pn**	**08 39 55.6**	**-0.9**
AKO				S	**Sb**	**08 40 19.3**	**-1.2**
ARPR	**Arapgir-MALATY**	**1.77**	**17**	Pn	**Pb**	**08 39 57.7**	**-0.9**
PTK	**Pertek**	**2.02**	**42**	Pn	**Pn**	**08 40 01.3**	**+0.9**
BNN	**Bunyan**	**2.03**	**316**	Pn	**Pb**	**08 40 01.3**	**-1.7**
DYBB	**Diyarbakir**	**2.05**	**74**	Pn	**Pb**	**08 40 01.8**	**-1.4**
KARA	**Karaisali**	**2.08**	**267**	Pn	**Pn**	**08 40 01.5**	**+0.6**
CMRD	**Camardi-Nigde**	**2.13**	**278**	Pn	**Pn**	**08 40 02.1**	**+0.3**
ILIC	**ilic-Erzincan**	**2.17**	**19**	Pn	**Pb**	**08 40 03.8**	**-1.5**
MAZI	**Mazidag**	**2.23**	**88**	Pn	**Pn**	**08 40 03.4**	**+0.3**
SVSK	**Karacayir**	**2.56**	**349**	Pn	**Pn**	**08 40 09.2**	**+1.6**
KOZK	**Kozakli-Nevseh**	**2.84**	**310**	Pn	**Pn**	**08 40 13.2**	**+1.7**
GULA	**Gulagac**	**2.86**	**290**	Pn	**Pn**	**08 40 12.8**	**+1.0**
YOZ	**Yozgat**	**2.89**	**321**	Pn	**Pn**	**08 40 13.4**	**+1.2**
KIZK	**Mersin**	**2.96**	**253**	Pn	**Pn**	**08 40 13.4**	**+0.4**
CSS	**Mathiatis**	**4.26**	**236**	Pn	**Pn**	**08 40 32.1**	**+1.1**
NATI	**Neve Ativ**	**4.42**	**201**	Pn	**Pn**	**08 40 34.8**	**+1.7**
NATI	**Neve Ativ**	**4.42**	**201**	P	**Pn**	**08 40 34.4**	**+1.3**
GEM	**Giv'at Ha'Em**	**4.49**	**202**	Pn	**Pn**	**08 40 35.4**	**+1.3**
GEM				Sn	**Sn**	**08 41 28.6**	**+2.0**
GEM	**Giv'at Ha'Em**	**4.49**	**202**	P	**Pb**	**08 40 46.8**	**+2.1**
KSHT	**Keshet**	**4.66**	**199**	Pn	**Pn**	**08 40 38.9**	**+2.4**
HNTI	**Hanita**	**4.76**	**206**	Pn	**Pn**	**08 40 39.1**	**+1.2**
HNTI	**Hanita**	**4.76**	**206**	P	**Pg**	**08 40 53.4**	**-3.4**
SHMJ	**Saham**	**4.91**	**199**	P	**Pb**	**08 40 54.6**	**+2.6**
BLGI	**Bet Lehem HaGe**	**5.08**	**204**	P	**Pb**	**08 40 57.1**	**+2.3**
OFRI	**`Ofer**	**5.25**	**205**	P	**Pg**	**08 41 04.1**	**-2.0**
ASF	**Jabal al Asfar**	**5.25**	**187**	P	**Pg**	**08 41 02.5**	**-3.8**
HSUJ	**Al Zarqa**	**5.42**	**193**	P	**Pg**	**08 41 06.6**	**-2.8**
HMDT	**Nahal Hemdat**	**5.43**	**199**	P	**Pg**	**08 41 05.8**	**-3.7**
SLTI	**Sal'it**	**5.58**	**203**	P	**Pb**	**08 41 05.8**	**+2.4**
UJAP	**Al Uja**	**5.73**	**199**	P	**Pb**	**08 41 09.5**	**+3.6**
DSI	**Dead Sea**	**6.11**	**199**	P	**Pg**	**08 41 21.1**	**-1.6**
AMAZ	**Amatzia**	**6.28**	**202**	P	**Pg**	**08 41 23.9**	**-1.9**
SWQJ	**Swaqa**	**6.28**	**193**	P	**Pg**	**08 41 21.9**	**-4.0**
GHAJ	**Ghor Haditha**	**6.32**	**196**	P	**Pb**	**08 41 16.9**	**+0.9**
KARJ	**KARJ**	**6.48**	**195**	P	Pn	08 41 07.4	+5.9
KZIT	**Kziot**	**7.02**	**204**	P	**Pg**	**08 41 36.3**	**-3.7**
ZFRI	**Zfri**	**7.13**	**197**	P	Pg	08 41 35.5	-6.7
PRNI	**Paran**	**7.37**	**198**	P	**Pb**	**08 41 37.2**	**+3.4**

*AEIC **16** 08:41:19.8±0.8,51°.4N±0°.1×179°.12W±0°.03,h84km±6km, Error ellipse: s-maj=18.9km s-min=2.0km az=176.0*
*NEIC **16** 08:41:20.2±1.1,51°.4N±0°.1×179°.14W±0°.05,h87km±8km, mb3.9/38,ML3.6(AEIC),Error ellipse: s-maj=16.0km s-min=4.6km az=182.0*
*IDC **16** 08:41:22.3±6.9,51°.61N×179°.15W,h99km±63km,mb3.4/8, mbtmp3.8/9,ML2.6/1,Error ellipse: s-maj=34.7km s-min=19.7km az=173.0*
ISC 16 08:41:20.5±1.0,**51°.4N**±0°.1×**179°.13W**±0°.03,**h87**km±7km,
n76,σ0**60/76,mb3.9/17,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.40**	**34**		**Pn**	**08 41 34.2**	**+0.1**
GALAA					**Sn**	**08 41 44.0**	**-0.2**
GAEA	**Gareloi East**	**0.42**	**34**		**Pn**	**08 41 34.3**	**0.0**
TANO	**Tanaga North**	**0.79**	**52**		**Pn**	**08 41 37.7**	**+0.1**
TAFP	**Tanaga Falls P**	**0.85**	**56**		**Pn**	**08 41 38.2**	**-0.1**
TAFP					**Sn**	**08 41 51.7**	**+0.1**
TAPA	**Tanaga Point A**	**0.91**	**65**		**Pn**	**08 41 39.0**	**+0.1**
CERB	**Semis' Cerberu**	**0.92**	**303**		**Pn**	**08 41 39.3**	**+0.3**
CERB					**Sn**	**08 41 53.1**	**+0.3**
CESW	**Semis' Southwe**	**0.94**	**300**		**Pn**	**08 41 39.4**	**+0.2**
AMKA	**Amchitka**	**0.98**	**267**		**Pn**	**08 41 39.5**	**-0.2**
AMKA	**Amchitka**	**0.98**	**267**		**Sn**	**08 41 53.5**	**-0.6**
KIMD	**Kanaga Island**	**1.23**	**74**		**Pn**	**08 41 42.6**	**0.0**
KIWB	**Kanaga Island**	**1.30**	**70**		**Pn**	**08 41 43.8**	**+0.2**
KIRH	**Kanaga Island**	**1.35**	**69**		**Pn**	**08 41 44.4**	**+0.2**
KIRH					**Sn**	**08 42 02.0**	**0.0**
LSSE	**Little Sitkin**	**1.52**	**290**		**Pn**	**08 41 46.7**	**+0.4**
LSPA	**Little Sitkin**	**1.52**	**291**		**Pn**	**08 41 46.8**	**+0.5**
LSPA					**Sn**	**08 42 06.2**	**+0.3**
ADK	**Adak**	**1.59**	**73**		**Pn**	**08 41 47.1**	**0.0**
ADK	**Adak**	**1.59**	**73**		**Sn**	**08 42 07.1**	**-0.3**
GSCK	**Great Sitkin C**	**1.94**	**71**		**Pn**	**08 41 52.0**	**+0.4**
GSMY	**Great Sitkin M**	**2.01**	**71**		**Pn**	**08 41 52.7**	**0.0**
GSTR	**Great Sitkin T**	**2.02**	**70**	Pn	**Pn**	**08 41 52.5**	**-0.4**
ATKA	**Atka Island**	**3.16**	**74**		**Pn**	**08 42 08.3**	**+0.3**
ATKA					**Sn**	**08 42 44.5**	**-0.1**
CLCO	**Concord Point,**	**5.95**	**73**		**Pn**	**08 42 47.1**	**+1.1**
PETK	**Petropavlovsk-**	**14.27**	**286**	P	**Pn**	**08 44 38.4**	**+0.2**
	0.1nm,0.3s,baz=84,slow=15,SNR=1.7						
	4.9nm,1.1s						
J18K	**Innoko River**	**16.93**	**36**	P	**P**	**08 45 13.2**	**+1.0**
J18K				IAmb	IAmb	08 45 14.2	
	comp=Z,14nm,1.4s						
H18K	**Honhosa River**	**17.42**	**30**	P	**Pn**	**08 45 18.4**	**+0.8**
H18K				IAmb	IAmb	08 45 18.6	
	comp=Z,14nm,1.4s						
K20K	**Telida**	**17.87**	**38**	P	**Pn**	**08 45 23.2**	**+0.1**
J20K	**Nowinta River**	**18.27**	**36**	P	**P**	**08 45 27.4**	**+0.5**
J20K				IAmb	IAmb	08 45 57.8	
	comp=Z,7.8nm,1.4s						
CAST	**Castle Rocks**	**18.69**	**40**	P	**P**	**08 45 32.4**	**+0.8**
CAST				IAmb	IAmb	08 45 59.5	
	comp=Z,12nm,1.4s						
KTH	**Kantishna Hill**	**19.21**	**40**	P	**P**	**08 45 37.8**	**+0.5**
C18K	**Utukok River**	**19.30**	**20**	P	**P**	**08 45 38.7**	**+0.4**
C18K				IAmb	IAmb	08 45 55.7	
	comp=Z,6.5nm,1.2s						
E19K	**Redstone River**	**19.35**	**26**	P	**P**	**08 45 39.2**	**+0.4**
F20K	**Avaraart Lake**	**19.50**	**28**	P	**P**	**08 45 40.7**	**+0.5**
F20K				IAmb	IAmb	08 46 19.4	
	comp=Z,7.2nm,1.5s						
H21K	**Melozitna Rive**	**19.57**	**33**	P	**P**	**08 45 41.6**	**+0.5**
H21K				IAmb	IAmb	08 45 51.5	
	comp=Z,11nm,1.5s						
G21K	**Allakaket**	**19.84**	**31**	P	**P**	**08 45 44.0**	**0.0**
D19K	**Kuna River**	**19.89**	**23**	P	**P**	**08 45 45.0**	**+0.4**
D19K				IAmb	IAmb	08 45 46.9	
	comp=Z,5.1nm,1.1s						
RND	**Reindeer**	**20.00**	**42**	P	**P**	**08 45 46.2**	**+0.3**
RND				IAmb	IAmb	08 46 08.1	
	comp=Z,12nm,1.4s						
F21K	**Alatna River**	**20.28**	**29**	P	**P**	**08 45 49.0**	**+0.3**
I23K	**Minto, Yukon-K**	**20.54**	**37**	P	**P**	**08 45 51.4**	**-0.2**
I23K				IAmb	IAmb	08 46 04.1	
	comp=Z,11nm,1.5s						
M24K	**Tolsona, Glenn**	**20.73**	**46**	P	**P**	**08 45 53.8**	**0.0**
MDM	**Murphy Dome**	**20.89**	**38**	P	**P**	**08 45 54.5**	**-0.8**
E21K	**Killik River**	**20.93**	**26**	P	**P**	**08 45 55.0**	**-0.8**
E21K				IAmb	IAmb	08 46 02.5	
	comp=Z,11nm,1.5s						
B20K	**Meade River**	**21.26**	**21**	P	**P**	**08 45 58.9**	**-0.4**
ILAR	**Eielson Array**	**21.33**	**39**	P	**P**	**08 45 59.4**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=239,slow=8.2,SNR=8.0						
	comp=Z,0.4nm,0.7s						
N25K	**Chitina, Valde**	**21.33**	**48**	P	**P**	**08 46 01.1**	**+0.8**
E22K	**Anaktuvuk Pass**	**21.35**	**28**	P	**P**	**08 46 00.1**	**-0.1**
E22K				IAmb	IAmb	08 46 29.9	
	comp=Z,9.1nm,1.5s						
B21K	**Ikpikpuk River**	**21.57**	**23**	P	**P**	**08 46 01.8**	**-0.8**
B21K				IAmb	IAmb	08 46 18.3	
	comp=Z,11nm,1.4s						
GLB	**Gilahina Butte**	**21.67**	**49**	P	**P**	**08 46 02.7**	**-1.1**
F24K	**Squaw Lake**	**22.23**	**32**	P	**P**	**08 46 09.7**	**+0.1**
L26K	**Log Cabin Wild**	**22.24**	**45**	P	**P**	**08 46 09.8**	**+0.1**
L26K				IAmb	IAmb	08 46 41.1	
	comp=Z,6.8nm,1.3s						
TOLK	**Toolik Lake Re**	**22.32**	**28**	P	**P**	**08 46 10.0**	**-0.6**
B22K	**Teshekpuk Lake**	**22.38**	**23**	P	**P**	**08 46 10.5**	**-0.6**
B22K				IAmb	IAmb	08 46 13.1	
	comp=Z,7.9nm,1.3s						
J26L	**Joseph Creek**	**22.57**	**41**	P	**P**	**08 46 11.5**	**-1.9**
M27K	**Edge Creek, AK**	**22.75**	**47**	P	**P**	**08 46 15.3**	**+0.1**
C23K	**Itkillik River**	**22.75**	**25**	P	**P**	**08 46 14.2**	**-0.9**
D24K	**Happy Valley**	**22.84**	**28**	P	**P**	**08 46 14.8**	**-1.1**
D24K				IAmb	IAmb	08 46 27.9	
	comp=Z,5.6nm,1.4s						
L27K	**Beaver Creek,**	**22.92**	**45**	P	**P**	**08 46 16.0**	**-0.9**
L27K				IAmb	IAmb	08 46 27.4	
	comp=Z,9.9nm,1.5s						
BCAR	**Beaver Creek A**	**22.94**	**45**	P	**P**	**08 46 16.3**	**-0.8**
K27K	**Chicken**	**23.05**	**43**	P	**P**	**08 46 17.5**	**-0.6**
K27K				IAmb	IAmb	08 46 37.0	
	comp=Z,8.3nm,1.4s						
E25K	**Arctic Village**	**23.29**	**32**	P	**P**	**08 46 19.4**	**-1.0**
BMAR	**Burnt Mountain**	**23.30**	**34**	P	**P**	**08 46 20.3**	**-0.2**
EGAK	**Eagle**	**23.64**	**41**	P	**P**	**08 46 23.2**	**-0.3**
EGAK				IAmb	IAmb	08 46 25.8	
	comp=Z,8.7nm,1.4s						
I28M	**Miner Creek**	**24.33**	**40**	P	**P**	**08 46 28.9**	**-0.9**
I28M				IAmb	IAmb	08 46 32.9	
	comp=Z,5.8nm,1.2s						
M29M	**Somme Creek**	**24.33**	**47**	P	**P**	**08 46 30.1**	**+0.2**
F28M	**Old Crow**	**25.04**	**35**	P	**P**	**08 46 36.8**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**33.49**	**204**	T	T	09 23 46.4	
	baz=19,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	**33.50**	**204**	T	T	09 23 43.0	
	baz=19,SNR=19						
H11N1	**WAKE ISLAND Hy**	**33.51**	**204**	T	T	09 23 44.1	
	baz=19,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**34.72**	**204**	T	T	09 25 18.2	
	baz=6.8,slow=74,SNR=22						
H11S2	**WAKE ISLAND Hy**	**34.73**	**204**	T	T	09 25 16.5	
	baz=6.8,slow=74,SNR=9.0						
H11S3	**WAKE ISLAND Hy**	**34.73**	**204**	T	T	09 25 17.6	
	baz=6.8,SNR=10						
YKA	**Yellowknife Ar**	**35.34**	**46**	P	**P**	**08 48 06.3**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=301,slow=8.2,SNR=12						
	comp=Z,0.4nm,0.6s						
SONM	**Songino Array**	**46.44**	**296**	P	**P**	**08 49 39.0**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=72,slow=6.4,SNR=3.4						
	comp=Z,0.6nm,0.5s						
PDAR	**Pinedale Array**	**46.49**	**72**	P	**P**	**08 49 39.6**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=340,slow=2.9,SNR=10.0						
	comp=Z,0.7nm,0.5s						
SPITS	**Spitsbergen Ar**	**50.30**	**356**	P	**P**	**08 50 06.7**	**-0.8**
	comp=Z,5.7nm,0.9s,baz=30,slow=6.8,SNR=12						
	comp=Z,5.7nm,0.9s						
TXAR	**Lajitas Array**	**58.85**	**81**	P	**P**	**08 51 10.4**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=298,slow=5.0,SNR=4.1						
	comp=Z,0.5nm,0.9s						
AKASG	**Malin Array Be**	**75.43**	**342**	P	**P**	**08 52 53.3**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=10,slow=5.2,SNR=3.3						
	comp=Z,0.5nm,0.3s						
ASAR	**Alice Springs**	**85.39**	**222**	P	**P**	**08 53 48.5**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=22,slow=5.5,SNR=5.1						
	comp=Z,0.4nm,0.7s						

*HEL **16** 09:56:30.6±0.3,60°.97N×29°.05E,h0km,ML1.9, Explosion*
*IDC **16** 09:56:32.4±2.0,60°.89N×28°.87E,h0km,mbtmp3.2/3, ML2.1/3,Error ellipse: s-maj=16.6km s-min=12.0km az=162.0*
ISC 16 09:56:29.7±1.2,**61°.00N**±0°.04×**28°.96E**±0°.05,**h0**km,**n21,**
σ1**41/34,Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.43**	**359**	P	**Pg**	**09 56 39.2**	**-1.0**
RUF				S	**Sg**	**09 56 44.9**	**+1.4**
VJF	**Virojoki**	**0.83**	**237**	PB	**Pb**	**09 56 46.7**	**-0.3**
	baz=57						
VJF				MSG		09 56 57.1	
	comp=Z,14nm,0.2s						
VJF				SB	**Sb**	**09 56 58.8**	**+0.1**
FIA0	**FINESS Array S**	**1.46**	**289**	PG	**Pn**	**09 56 57.5**	**+0.1**
	baz=107						
FIA0				MSG		09 57 16.0	
	comp=Z,17nm,0.2s						
FIA0				SN	**Sn**	**09 57 18.3**	**+1.1**
FINES	**FINESS Array B**	**1.46**	**289**	Pg	**Pg**	**09 56 58.0**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=114,slow=16,SNR=68						
FINES				Lg	Lg	09 57 18.4	
	comp=Z,3.5nm,0.3s,baz=114,slow=28,SNR=25						
FINES				Rg	Rg	09 57 26.4	
	comp=Z,18nm,0.7s,baz=116,slow=36,SNR=14						
PVF	**Pernaja**	**1.59**	**255**	PG	**Pb**	**09 56 59.6**	**-0.3**
	baz=72						
PVF				MSG		09 57 19.1	
	comp=Z,13nm,0.2s						
PVF				SN	**Sg**	**09 57 22.8**	**+2.2**
KAF	**Kangasniemi**	**1.69**	**313**	PG	**Pg**	**09 57 02.7**	**+0.6**
KAF				MSG		09 57 22.7	
	comp=Z,11nm,0.2s						
KAF				SN	**Sg**	**09 57 25.1**	**+1.1**
ARBE	**Arbavere**	**2.16**	**225**	PG	**Pg**	**09 57 10.1**	**-1.0**
NUR	**Nurmijrvi**	**2.17**	**259**	PG	**Pb**	**09 57 09.2**	**-0.7**
NUR				MSG		09 57 36.2	
	comp=Z,5.0nm,0.2s						
HEL1	**Helsinki**	**2.17**	**250**	PG	**Pb**	**09 57 09.8**	**0.0**
HEL1				SG	**Sb**	**09 57 38.4**	**+1.0**
JOF	**Joensuu**	**2.23**	**29**	PG	**Pb**	**09 57 10.5**	**-0.3**
	baz=214						
JOF				SG	**Sb**	**09 57 38.6**	**-0.2**
KEF	**Keuruu**	**2.28**	**303**	PG	**Pb**	**09 57 11.7**	**0.0**
KEF				MSG		09 57 39.5	
	comp=Z,3.9nm,0.2s						
KEF				SG	**Sg**	**09 57 43.1**	**+0.2**
MEF	**Metsahovi**	**2.38**	**253**	PB	**Pb**	**09 57 12.2**	**-1.3**
MEF				MSG		09 57 42.1	
	comp=Z,4.8nm,0.2s						
MEF				SG	**Sb**	**09 57 43.5**	**+0.2**
NIF	**Nilsia**	**2.46**	**348**	PG	**Pb**	**09 57 14.5**	**-0.3**
NIF				SG	**Sb**	**09 57 46.6**	**+1.0**
RMF	**Romuvaara**	**3.26**	**7**	PB	**Pb**	**09 57 27.4**	**-1.1**
RAF	**Rauma**	**3.50**	**274**	PB	**Pb**	**09 57 29.7**	**-2.8**
VAF	**Ylistaro**	**3.60**	**307**	PB	**Pb**	**09 57 30.9**	**-3.3**
	baz=120						
VAF				SB	**Sb**	**09 58 19.0**	**+0.5**
OBF8	**Ulkokalla**	**4.20**	**325**	PN	**Pn**	**09 57 34.8**	**-0.1**
AAL	**Aland**	**4.50**	**263**	PN	**Pn**	**09 57 41.9**	**+2.9**
HFS	**Hagfors**	**7.57**	**270**	Pn	**Pn**	**09 58 22.5**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=84,slow=13,SNR=1.3						
HFS	

PDGK	**Podgornoye**	**1.48**	**214**	P	**Pn**	**10 02 43.8**	**0.0**
	216nm,0.3s							
PDGK				S	**Sg**	**10 03 02.7**	**-1.0**
	620nm,0.5s							
PDGK	**Podgornoye**	**1.48**	**214**	⇓P	**Pn**	**10 02 43.6**	**-0.2**
	313nm,0.6s							
PDGK				⇑S	**Sg**	**10 03 02.8**	**-1.0**
	898nm,0.7s							
SHLS	**Shalkode**	**1.64**	**212**	*e*P	**Pn**	**10 02 44.3**	**-1.7**
	492nm,0.3s							
SHLS				*e*S	**Sn**	**10 03 03.5**	**-4.1**
	1µm,0.3s							
SHLS	**Shalkode**	**1.64**	**212**	*e*PN	**Pn**	**10 02 44.1**	**-1.8**
SHLS	**Shalkode**	**1.64**	**212**	P	**Pn**	**10 02 44.3**	**-1.7**
	492nm,0.3s							
SHLS				S	**Sn**	**10 03 03.5**	**-4.1**
	1µm,0.3s							
TDK	**Taldyqorghan**	**1.65**	**286**	*e*P	**Pn**	**10 02 46.0**	**+0.1**
	1µm,0.5s							
TDK				*e*S	**Sn**	**10 03 06.4**	**-1.3**
	1µm,0.4s							
TDK	**Taldyqorghan**	**1.65**	**286**	P	**Pn**	**10 02 46.0**	**+0.1**
	1µm,0.5s							
TDK				S	**Sn**	**10 03 06.4**	**-1.3**
	1µm,0.4s							
KPKS	**Kokpek**	**1.79**	**233**	*e*P	**Pn**	**10 02 48.7**	**+0.8**
	394nm,0.2s							
KPKS				*e*S	**Sn**	**10 03 11.2**	**+0.1**
	4µm,0.3s							
KPKS	**Kokpek**	**1.79**	**233**	*e*PN	**Pn**	**10 02 48.4**	**+0.5**
KPKS	**Kokpek**	**1.79**	**233**	P	**Pn**	**10 02 48.7**	**+0.8**
	394nm,0.2s							
KPKS				S	**Sn**	**10 03 11.2**	**+0.1**
	4µm,0.3s							
UZB	**Uzynbulak**	**1.83**	**220**	*e*P	**Pn**	**10 02 49.8**	**+1.2**
	200nm,0.1s							
UZB				*e*S	**Sn**	**10 03 13.0**	**+0.6**
	1µm,0.4s							
UZB	**Uzynbulak**	**1.83**	**220**	*e*PN	**Pn**	**10 02 49.3**	**+0.7**
UZB	**Uzynbulak**	**1.83**	**220**	P	**Pn**	**10 02 49.8**	**+1.2**
	200nm,0.1s							
UZB				S	**Sn**	**10 03 13.0**	**+0.6**
	1µm,0.4s							
ARXS	**Arharly**	**2.04**	**261**	*e*P	**Pb**	**10 02 53.8**	**-0.1**
	256nm,0.6s							
ARXS				*e*S	**Sb**	**10 03 19.4**	**-0.4**
	2µm,0.4s							
ARXS	**Arharly**	**2.04**	**261**	*e*PN	**Pn**	**10 02 52.4**	**+1.0**
ARXS	**Arharly**	**2.04**	**261**	Pg	**Pb**	**10 02 53.8**	**-0.1**
	256nm,0.6s							
ARXS				Lg	Lg	10 03 19.3		
	2µm,0.4s							
KURS	**Kuram**	**2.08**	**240**	*e*P	**Pb**	**10 02 53.7**	**-0.7**
	144nm,0.3s							
KURS				*e*S	**Sb**	**10 03 20.0**	**-0.6**
	467nm,0.4s							
KURS	**Kuram**	**2.08**	**240**	Pg	**Pb**	**10 02 53.7**	**-0.7**
	144nm,0.3s							
KURS				Lg	Lg	10 03 20.0		
	467nm,0.4s							
ZHN	**Zhinishke**	**2.12**	**230**	*e*P	**Pn**	**10 02 54.2**	**+1.8**
	449nm,0.3s							
ZHN				*e*S	**Sn**	**10 03 20.1**	**+0.8**
	2µm,0.3s							
ZHN	**Zhinishke**	**2.12**	**230**	*e*PN	**Pn**	**10 02 53.7**	**+1.3**
ZHN	**Zhinishke**	**2.12**	**230**	Pg	**Pn**	**10 02 54.2**	**+1.8**
	449nm,0.3s							
ZHN				Lg	Lg	10 03 20.1		
	2µm,0.3s							
SATY	**Saty**	**2.21**	**228**	*e*Pg	**Pb**	**10 02 56.6**	**0.0**
	252nm,0.5s							
SATY				*e*Lg	Lg	10 03 24.6		
	774nm,3.0s							
SATY	**Saty**	**2.21**	**228**	Pg	**Pb**	**10 02 56.6**	**0.0**
	252nm,0.5s							
SATY				Lg	Lg	10 03 24.6		
	3µm,0.3s							
MAKZ	**Makanchi**	**2.44**	**22**	PN	**Pn**	**10 02 59.3**	**+2.6**
MAKZ						10 03 30.5		
MAKZ	**Makanchi**	**2.44**	**22**	⇓Pn	**Pn**	**10 02 59.4**	**+2.6**
	18nm,0.3s							
MAKZ				⇑Sn	**Sb**	**10 03 31.5**	**+0.6**
	235nm,0.5s							
MK31	**Makanchi Array**	**2.52**	**27**	*d i*PN	**Pn**	**10 03 00.1**	**+2.3**
MK31	**Makanchi Array**	**2.52**	**27**	Pn	**Pn**	**10 03 00.2**	**+2.3**
	21nm,0.3s,baz=205,slow=13,SNR=555							
MK31				⇑Sn	**Sb**	**10 03 33.0**	**-0.3**
	278nm,0.5s,baz=212,slow=23,SNR=30							
MKAR	**Makanchi Array**	**2.52**	**27**	PN	**Pn**	**10 02 59.7**	**+1.9**
MKAR						10 03 31.7		
MKAR	**Makanchi Array**	**2.52**	**27**	Pn	**Pn**	**10 03 00.2**	**+2.4**
	18nm,0.3s,baz=210,slow=16,SNR=242							
MKAR				Sn	**Sb**	**10 03 32.6**	**-0.6**
	172nm,0.3s,baz=207,slow=24,SNR=50							
	28nm,0.2s							
PRZ	**Przheval'sk**	**2.64**	**219**	PN	**Pn**	**10 03 01.2**	**+1.5**
PRZ						10 03 38.3		
CHKK	**Chushkaly**	**2.72**	**256**	*e*Pg	**Pb**	**10 03 05.2**	**0.0**
	70nm,0.3s							
CHKK				*e*Lg	Lg	10 03 38.9		
	1µm,0.3s							
CHKK	**Chushkaly**	**2.72**	**256**	Pg	**Pb**	**10 03 05.2**	**0.0**
	70nm,0.3s							
CHKK				Lg	Lg	10 03 38.9		
	1µm,0.3s							
KOTS	**Kotyrbulak**	**2.87**	**244**	*e*Pg	**Pb**	**10 03 08.2**	**+0.2**
	77nm,0.4s							
KOTS				*e*Lg	Lg	10 03 43.9		
	849nm,0.7s							
KOTS	**Kotyrbulak**	**2.87**	**244**	Pg	**Pb**	**10 03 08.2**	**+0.2**
	77nm,0.4s							
KOTS				Lg	Lg	10 03 43.9		
	849nm,0.7s							
MDOK	**Medeo**	**2.95**	**243**	*e*Pg	**Pb**	**10 03 07.6**	**-1.7**
	68nm,0.4s							
MDOK				*e*Lg	Lg	10 03 43.7		
	369nm,0.8s							
MDOK	**Medeo**	**2.95**	**243**	PN	**Pb**	**10 03 07.7**	**-1.6**
MDOK						10 03 45.8		
MDOK	**Medeo**	**2.95**	**243**	Pg	**Pb**	**10 03 07.6**	**-1.7**
	68nm,0.4s							
MDOK				⇓Pg	**Pb**	**10 03 07.7**	**-1.6**
	50nm,0.5s							
MDOK				Lg	Lg	10 03 43.7		
	369nm,0.8s							
MDOK				⇓Lg	Lg	10 03 45.8		
	457nm,0.8s							
KTBS	**Karatobe**	**2.97**	**255**	*e*Pg	**Pb**	**10 03 09.8**	**+0.2**
	69nm,0.4s							
KTBS				*e*Lg	Lg	10 03 46.6		
	2µm,0.6s							
KTBS	**Karatobe**	**2.97**	**255**	Pg	**Pb**	**10 03 09.8**	**+0.2**
	69nm,0.4s							
KTBS				Lg	Lg	10 03 46.6		
	2µm,0.6s							
KNDC	**Almaty**	**2.97**	**244**	PN	**Pg**	**10 03 12.5**	**-0.5**
KNDC						10 03 47.5		
KNDC	**Almaty**	**2.97**	**244**	⇑Pg	**Pg**	**10 03 12.5**	**-0.5**
	120nm,0.5s							
KNDC				⇑Lg	Lg	10 03 47.5		
	660nm,0.5s							
AAA	**Alma-Ata**	**3.01**	**245**	*e*Pg	**Pb**	**10 03 10.8**	**+0.5**
	55nm,0.1s							
AAA				*e*Lg	Lg	10 03 48.5		
	574nm,0.7s							
AAA	**Alma-Ata**	**3.01**	**245**	Pg	**Pb**	**10 03 10.8**	**+0.5**
	55nm,0.1s							
AAA				Lg	Lg	10 03 48.5		
	574nm,0.7s							
TNSS	**Tian-Shan**	**3.08**	**242**	*e*Pg	**Pb**	**10 03 11.9**	**+0.3**
	19nm,0.3s							
TNSS				*e*Lg	Lg	10 03 50.4		
	138nm,0.4s							
TNSS	**Tian-Shan**	**3.08**	**242**	Pg	**Pb**	**10 03 11.9**	**+0.3**
	19nm,0.3s							
TNSS				Lg	Lg	10 03 50.4		
	138nm,0.4s							
KUU	**Kurty**	**3.16**	**259**	*e*Pg	**Pb**	**10 03 12.8**	**-0.1**
	29nm,0.2s							
KUU				*e*Lg	Lg	10 03 51.7		
	1µm,0.6s							
KUU	**Kurty**	**3.16**	**259**	Pg	**Pb**	**10 03 12.8**	**-0.1**
	29nm,0.2s							
KUU				Lg	Lg	10 03 51.7		
	1µm,0.6s							
KASK	**Kaskelen**	**3.19**	**246**	⇑Pg	**Pb**	**10 03 15.0**	**+1.7**
KASK				⇑Lg	Lg	10 03 52.9		

IZV	**Izvestkoviy**	**3.29**	**244**	*e*Pg	**Pb**	**10 03 17.1**	**+2.0**
	22nm,0.7s							
IZV				*e*Lg	Lg	10 03 59.2		
	422nm,0.6s							
MTBS	**Maitube**	**3.36**	**246**	*e*Pg	**Pb**	**10 03 16.5**	**+0.1**
	54nm,0.2s							
MTBS				*e*Lg	Lg	10 03 58.0		
	685nm,0.3s							
MTBS	**Maitube**	**3.36**	**246**	Pg	**Pb**	**10 03 16.5**	**+0.1**
	54nm,0.2s							
MTBS				Lg	Lg	10 03 58.0		
	685nm,0.3s							
KST	**Kastek**	**3.71**	**247**	*e*Pg	**Pb**	**10 03 22.4**	**+0.2**
	45nm,0.5s							
KST				*e*Lg	Lg	10 04 08.2		
	181nm,0.5s							
KST	**Kastek**	**3.71**	**247**	Pg	**Pb**	**10 03 22.4**	**+0.2**
	45nm,0.5s							
KST				Lg	Lg	10 04 08.2		
	181nm,0.5s							
DGS	**Degeres**	**3.75**	**251**	*e*Pg	**Pb**	**10 03 22.9**	**-0.1**
	82nm,0.6s							
DGS				*e*Lg	Lg	10 04 09.1		
	304nm,0.5s							
DGS	**Degeres**	**3.75**	**251**	Pg	**Pb**	**10 03 22.9**	**-0.1**
	82nm,0.6s							
DGS				Lg	Lg	10 04 09.1		
	304nm,0.5s							
ULHL	**Ulahol**	**3.95**	**236**	P	**Pn**	**10 03 21.8**	**+4.1**
	SNR=14							
BOOM	**Boomskoye usch**	**3.99**	**240**	PN	**Pn**	**10 03 20.1**	**+1.8**
BOOM						10 04 16.2		
TKM2	**Tokmak 2**	**4.00**	**248**	P	**Pn**	**10 03 19.7**	**+1.2**
	SNR=8.4							
TKM2	**Tokmak 2**	**4.00**	**248**	*i* PN	**Pn**	**10 03 19.5**	**+1.0**
TKM2				pmax	pmax			
	comp=Z,1.0nm,0.4s							
TKM2	**Tokmak 2**	**4.00**	**248**	⇓Pn	**Pn**	**10 03 19.4**	**+1.0**
	comp=Z,4.0nm,0.7s							
TKM2				⇓Pg	**Pb**	**10 03 28.7**	**+1.4**
	comp=Z,44nm,0.7s							
TKM2				⇑Lg	Lg	10 04 19.6		
	comp=Z,113nm,0.5s							
ZSN	**Zaisan**	**4.13**	**44**	*e*Pg	**Pb**	**10 03 32.2**	**+2.9**
	comp=Z,30nm,0.5s							
ZSN				*e*Lg	Lg	10 04 25.2		
	comp=Z,171nm,0.7s							
CHMS	**Chumysh**	**4.54**	**252**	P	**Pn**	**10 03 26.7**	**+1.1**
	SNR=5.3							
CHMS	**Chumysh**	**4.54**	**252**	PN	**Pn**	**10 03 26.3**	**+0.7**
CHMS	**Chumysh**	**4.54**	**252**	⇑Pn	**Pn**	**10 03 26.3**	**+0.7**
	comp=Z,2.5nm,0.3s							
CHMS				⇓Pg	**Pb**	**10 03 38.8**	**+2.5**
	comp=Z,25nm,0.6s							
CHMS				⇓Lg	Lg	10 04 39.2		
	comp=Z,151nm,0.6s							
KBK	**Karagaybulak**	**4.55**	**247**	P	**Pn**	**10 03 27.3**	**+1.4**
	SNR=17							
USP	**Ospenovka**	**4.62**	**256**	P	**Pn**	**10 03 27.8**	**+1.0**
	SNR=5.8							
KZA	**Kyzart**	**4.65**	**240**	P	**Pb**	**10 03 42.1**	**+3.6**
	SNR=9.5							
BTLS	**Baital**	**4.71**	**278**	*e*Pg	**Pb**	**10 03 41.2**	**+1.9**
	comp=Z,24nm,0.8s							
BTLS				*e*Lg	Lg	10 04 40.4		
	comp=Z,32nm,0.4s							
BTLS	**Baital**	**4.71**	**278**	*e*PN	**Pn**	**10 03 28.4**	**+0.4**
BTLS	**Baital**	**4.71**	**278**	Pg	**Pb**	**10 03 41.2**	**+1.9**
	comp=Z,24nm,0.8s							
AAK	**Ala-Archa**	**4.86**	**249**	*ce*PN	**Pn**	**10 03 31.3**	**+1.1**
AAK	**Ala-Archa**	**4.86**	**249**	Pn	**Pn**	**10 03 31.6**	**+1.5**
	comp=Z,0.9nm,0.3s,baz=84,slow=6.2,SNR=8.8							
AAK				Pg	**Pb**	**10 03 39.3**	**-2.5**
	comp=Z,1.4nm,0.3s,baz=152,slow=10,SNR=11							
AAK				Lg	Lg	10 04 43.1		
	comp=Z,4.2nm,0.3s,baz=331,slow=22,SNR=1.9							
AAK				LR	LR	10 05 32.1		
	comp=Z,61nm,19.8s,baz=42,slow=41							
	comp=Z,2.9nm,0.5s							
UCH	**Uchtor**	**5.04**	**245**	P	**Pn**	**10 03 34.9**	**+2.1**
	SNR=5.6							
WMQ	**Urumqi**	**5.13**	**96**	*e*Pn	**Pn**	**10 03 34.1**	**+0.3**
WMQ				Sn	**Sn**	**10 04 35.0**	**+1.4**
WMQ				Sg	**Sg**	**10 04 59.1**	**-1.6**
WMQ				smax	smax			
	comp=N,87nm,0.7s							
WMQ				smax	smax			
	comp=E,150nm,0.9s							
AML	**Almayashu**	**5.62**	**247**	P	**Pn**	**10 03 42.9**	**+2.1**
	SNR=7.4							
AML	**Almayashu**	**5.62**	**247**	PN	**Pn**	**10 03 42.6**	**+1.8**
AML	**Almayashu**	**5.62**	**247**	⇑Pn	**Pn**	**10 03 42.6**	**+1.8**
	comp=E,0.7nm,0.6s							
AML				⇑Pg	**Pb**	**10 03 58.8**	**+3.9**
	comp=E,2.2nm,0.7s							
AML				⇓Lg	Lg	10 05 11.3		
	comp=E,12nm,0.7s							
MRKS	**Merke**	**5.67**	**254**	*e*Pg	**Pb**	**10 03 58.7**	**+2.9**
	comp=E,12nm,0.6s							
MRKS				*e*Lg	Lg	10 05 10.4		
	comp=E,84nm,0.6s							
SEM	**Semipalatinsk**	**5.86**	**358**	*e*Pg	**Pg**	**10 04 05.7**	**-2.5**
	comp=E,11nm,0.4s							
SEM				*e*Lg	Lg	10 05 22.4		
	comp=E,46nm,1.0s							
KSH	**Kashi**	**6.12**	**216**	P	**Pb**	**10 04 01.1**	**-2.2**
KSH				S	**Sb**	**10 05 19.0**	**+2.0**
KSH				smax	smax			
	comp=N,45nm,0.9s							
KSH				smax	smax			
	comp=E,33nm,1.2s							
KURBB	**Kurchatov Arra**	**6.23**	**348**	Pn	**Pn**	**10 03 50.0**	**+1.2**
	comp=E,0.2nm,0.3s,baz=172,slow=12,SNR=5.7							
KURBB				Sn	**Sn**	**10 04 59.8**	**-0.6**
	comp=E,0.5nm,0.3s,baz=160,slow=22,SNR=5.2							
KURBB				Lg	Lg	10 05 31.0		
	comp=E,1.0nm,0.3s,baz=160,slow=31,SNR=8.6							
	comp=E,0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**6.23**	**348**	⇑Pg	**Pb**	**10 04 08.3**	**+3.2**
	comp=E,5.0nm,0.6s							
KURBB				⇑Lg	Lg	10 05 34.3		
	comp=E,119nm,0.6s							
KURK	**Kurchatov**	**6.30**	**348**	⇓*e*PN	**Pn**	**10 03 51.2**	**+1.4**
KURK	**Kurchatov**	**6.30**	**348**	⇓Pg	Pb	10 04 11.4	+5.1
	comp=E,8.6nm,0.9s							
KURK				⇑Lg	Lg	10 05 36.5		
	comp=E,53nm,0.7s							
OTUK	**Ortayu**	**6.82**	**306**	PN	**Pn**	**10 03 55.6**	**-1.3**
OTUK	**Ortayu**	**6.82**	**306**	⇓Pn	**Pn**	**10 03 55.6**	**-1.3**
	comp=E,3.6nm,0.5s							
OTUK				⇑Lg	Lg	10 05 52.4		
	comp=E,42nm,0.7s							
DGZ	**Jazzator, Alta**	**6.92**	**40**	*d i*PN	**Pn**	**10 04 01.5**	**+3.1**
KK31	**Karatay Array**	**7.47**	**262**	*e*P	**Pn**	**10 04 06.3**	**+0.5**
KK31	**Karatay Array**	**7.47**	**262**	Pn	**Pn**	**10 04 06.3**	**+0.5**
	comp=E,1.2nm,0.6s,baz=71,slow=14,SNR=14							
KK31				⇑Pg	Pg	10 04 33.2	-5.7	
	comp=E,3.2nm,0.5s,baz=72,slow=16,SNR=12							
KK31				⇑Lg	Lg	10 06 10.0		
	comp=E,39nm,0.7s,baz=75,slow=28,SNR=23							
BRZS	**Berezniki**	**7.66**	**318**	*e*Pg	Pb	10 04 35.9	+6.5	
	comp=E,2.9nm,0.4s							
BRZS				*e*Lg	Lg	10 06 14.3		
	comp=E,32nm,1.0s							
ZALV	**Zalesovo Beam**	**9.78**	**15**	*i* P	**Pn**	**10 04 38.2**	**+0.7**
ZALV				pmax	pmax			
	comp=Z,3.0nm,0.5s							
ZALV	**Zalesovo Beam**	**9.78**	**15**	Pn	**Pn**	**10 04 38.0**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=199,slow=14,SNR=9.3							
ZALV				Sn	**Sn**	**10 06 27.9**	**+0.1**
	comp=Z,2.6nm,0.3s,baz=211,slow=25,SNR=12							
ZALV				Lg	Lg	10 07 24.3		
	comp=Z,0.7nm,0.3s,baz=195,slow=27,SNR=5.1							
	comp=Z,2.6nm,0.5s							
BVAR	**Borovoye Array**	**10.82**	**325**	Pn	**Pn**	**10 04 51.8**	**0.0**
	comp=Z,0.1nm,0.3s,baz=139,slow=14,SNR=2.0							
BVAR				Sn	**Sn**	**10 06 53.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=134,slow=21,SNR=3.6							
BVAR				Lg	Lg	10 07 52.4		
	comp=Z,0.1nm,0.3s,baz=128,slow=20,SNR=3.5							
	comp=Z,0.4nm,0.3s							
BRVK	**Borovoye**	**10.89**	**325**	⇑*e*P	**Pn**	**10 04 53.1**	**+0.4**
GTA	**Gaotai**	**15.15**	**103**	*e*P	**P**	**10 05 57.6**	**+1.2**
GTA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
AKTO	**Aktyubinsk**	**16.34**	**299**	Pn	**Pn**	**10 06 05.0**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=94,slow=16,SNR=3.1							
AKTO				Lg	Lg	10 10 46.3		

	baz=120,slow=20							
SONM	**Songino Array**	**18.10**	**70**	P	**Pn**	**10 06 28.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=256,slow=12,SNR=4.8							
SONM				Lg	Lg	10 11 49.6		
	baz=270,slow=39							
	comp=Z,0.7nm,0.4s							
ARU	**Arti**	**18.29**	**318**	P	**Pn**	**10 06 30.5**	**-0.1**
ARU				S	**S**	**10 09 58.6**	**-1.9**
YAK	**Yakutsk**	**33.11**	**41**	⇑*e*P	**P**	**10 08 54.2**	**+1.3**
YAK				pmax	pmax			
	comp=Z,10.0nm,0.5s							
KLR	**Kul'dur**	**34.69**	**64**	LR	LR	10 25 13.3		
	comp=Z,60nm,18.4s,baz=228,slow=40							
NOA	**NORSAR Array B**	**42.85**	**318**	P	**P**	**10 10 13.4**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=80,slow=8.1,SNR=1.7							
	comp=Z,0.5nm,0.8s							
ILAR	**Eielson Array**	**64.85**	**20**	P	**P**	**10 12 56.1**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=327,slow=6.5,SNR=3.2							
	comp=Z,0.3nm,0.7s							
YKA	**Yellowknife Ar**	**72.59**	**7**	P	**P**	**10 13 43.8**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=339,slow=5.5,SNR=4.3							
	comp=Z,0.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**73.05**	**272**	P	**P**	**10 13 46.6**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=44,slow=5.7,SNR=5.5							
	comp=Z,0.4nm,0.5s							
WRA	**Warramunga Arr**	**80.73**	**130**	P	**P**	**10 14 30.1**	**-0.6**
	comp=Z,0.5nm,1.1s,baz=317,slow=7.3,SNR=1.1							
	comp=Z,0.5nm,1.1s							

NEIC ***16*** *10:17:34.6s±1.6, 17.8°S±0.2°×178.6°W±0.07°, h559km±10km, mb4.2/45, Error ellipse: s-maj=26.4km s-min=5.0km az=161.0*

IDC ***16*** *10:17:35.5s±1.8, 17.56°S×178.84°W, h567km±20km, mb3.5/11, mbtmp4.4/12, Error ellipse: s-maj=23.4km s-min=12.1km az=148.0*

ISC 16 10:17:33.6s±0.5, 17.6°S±0.1°×178.72°W±0.08°, h547km, n67, σ0894/70, mb4.2/31, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.64**	**62**	P	**P**	**10 19 27.8**	**-0.1**
NIUE	**Niue**	**8.47**	**101**	P	**P**	**10 19 36.3**	**+0.4**
PINNC	**Pines Island,**	**13.90**	**247**	P	**P**	**10 20 34.4**	**+2.6**
DZM	**Mont Dzumac**	**14.63**	**250**	P	**P**	**10 20 40.1**	**+0.6**
DZM	**Mont Dzumac**	**14.63**	**250**	P	**P**	**10 20 41.1**	**+1.6**
	9.7nm,0.7s,baz=85,slow=18,SNR=12						
ONTNC	**Ouen Toro**	**14.69**	**249**	P	**P**	**10 20 39.9**	**0.0**
KOUNC	**Koumac, New Ca**	**16.32**	**257**	P	**P**	**10 20 56.1**	**-0.2**
URZ	**Urewera**	**20.87**	**189**	P	**P**	**10 21 39.9**	**+2.5**
	6.8nm,0.7s,baz=17,slow=19,SNR=2.2						
	6.8nm,0.7s						
NNZ	**Nelson**	**24.46**	**195**	P	**P**	**10 22 06.8**	**-2.7**
NNZ				IAmb	IAmb	10 22 33.2	
	comp=Z,1.1nm,1.1s						
EIDS	**Eidsvold**	**29.08**	**249**	P	**P**	**10 22 50.5**	**+0.2**
EIDS				IAmb	IAmb	10 22 50.8	
	comp=Z,9.7nm,0.9s						
ARMA	**Armidale**	**29.82**	**239**	P	**P**	**10 22 57.7**	**+0.9**
ARMA				IAmb	IAmb	10 22 58.1	
	comp=Z,6.5nm,0.6s						
CTAO	**Charters Tower**	**33.20**	**260**	P	**P**	**10 23 26.1**	**+0.4**
CTAO				IAmb	IAmb	10 23 26.9	
	comp=Z,5.9nm,0.8s						
CAN	**Canberra**	**33.63**	**232**	P	**P**	**10 23 29.5**	**+0.3**
CAN				IAmb	IAmb	10 23 54.7	
	comp=Z,6.2nm,1.0s						
PMG	**Port Moresby**	**34.12**	**279**	P	**P**	**10 23 35.5**	**+2.1**
TOO	**Toolangi**	**37.11**	**230**	P	**P**	**10 23 58.7**	**+0.8**
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**10 24 10.2**	**+0.8**
STKA				IAmb	IAmb	10 24 10.4	
	comp=Z,2.1nm,0.6s						
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**10 24 09.6**	**+0.3**
	comp=Z,8.4nm,0.5s,baz=89,slow=12,SNR=32						
	comp=Z,8.4nm,0.5s						
BBOO	**Buckleboo**	**43.28**	**241**	P	**P**	**10 24 47.3**	**0.0**
WR0	**Warramunga Arr**	**44.20**	**259**	P	**P**	**10 24 54.3**	**-0.3**
WB0	**Warramunga Arr**	**44.35**	**260**	P	**P**	**10 24 55.5**	**-0.3**
WB0				IAmb	IAmb	10 24 56.1	
	comp=Z,6.3nm,0.6s						
WB2	**Warramunga Arr**	**44.38**	**259**	P	**P**	**10 24 55.8**	**-0.2**
WRAB	**Tennant Creek**	**44.38**	**259**	P	**P**	**10 24 55.5**	**-0.5**
WRAB				IAmb	IAmb	10 24 56.3	
	comp=Z,7.1nm,0.8s						
WRA	**Warramunga Arr**	**44.39**	**259**	P	**P**	**10 24 55.5**	**-0.6**
WRA	**Warramunga Arr**	**44.39**	**259**	P	**P**	**10 24 55.5**	**-0.6**
	comp=Z,4.5nm,0.5s,baz=91,slow=6.8,SNR=188						
WRA				PcP	**PcP**	**10 26 27.4**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=91,slow=3.5,SNR=3.7						
WRA				ScP	**ScP**	**10 29 27.6**	**-0.7**
	comp=Z,0.4nm,0.9s,baz=91,slow=4.2,SNR=2.6						
	comp=Z,4.5nm,0.5s						
AS31	**Alice Springs**	**44.58**	**254**	P	**P**	**10 24 58.0**	**+0.4**
ASAR	**Alice Springs**	**44.58**	**254**	P	**P**	**10 24 57.8**	**+0.3**
ASAR	**Alice Springs**	**44.58**	**254**	P	**P**	**10 24 57.5**	**-0.1**
	comp=Z,53nm,0.6s,baz=90,slow=7.7,SNR=1141						
ASAR				PcP	**PcP**	**10 26 27.9**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=103,slow=3.6,SNR=4.2						
ASAR				ScP	**ScP**	**10 29 28.6**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=105,slow=5.1,SNR=4.5						
ASAR				S	**S**	**10 30 50.3**	**-3.6**
	comp=Z,0.5nm,1.1s,baz=88,slow=15,SNR=4.0						
MTN	**Manton Dam**	**48.51**	**268**	P	**P**	**10 25 27.3**	**0.0**
MTN				IAmb	IAmb	10 25 27.7	
	comp=Z,8.1nm,0.7s						
FORT

comp=Z,7.2nm,0.9s
TXAR Lajitas Array 86.10 58 P P 10 29 16.9 -0.4
TXAR Lajitas Array 86.10 58 P P 10 29 18.0 +0.8
comp=Z,2.1nm,0.7s,baz=217,slow=6.1,SNR=27
comp=Z,2.1nm,0.7s
J26L Joseph Creek 86.22 14 P P 10 29 17.3 +0.4
PD31 Pinedale Array 87.36 44 P P 10 29 22.5 -0.5
PDAR Pinedale Array 87.36 44 P P 10 29 22.8 -0.2
comp=Z,1.2nm,0.5s,baz=212,slow=3.2,SNR=15
comp=Z,1.2nm,0.5s
CMAR Chiang Mai Arr 88.52 290 P P 10 29 28.7 0.0
comp=Z,2.4nm,0.3s,baz=90,slow=4.0,SNR=1.6
comp=Z,2.4nm,0.3s
YKA Yellowknife Ar 94.21 25 P P 10 29 53.1 -0.7
comp=Z,0.3nm,0.8s,baz=255,slow=4.6,SNR=4.6
comp=Z,0.3nm,0.8s
AKASG Malin Array Be 140.19 332 PKhKP PKPpre 10 36 02.0
comp=Z,0.6nm,0.4s,baz=33,slow=0.1,SNR=2.9
BRTR Keskin Array B 144.38 315 PKP PKPbc 10 36 07.0 -1.0
comp=Z,1.0nm,0.5s,baz=117,slow=1.4,SNR=6.1
MMAI Mount Meron Ar 145.75 303 PKPbc **PKPdf 10 36 11.0 +0.4**
comp=Z,1.5nm,0.5s,baz=55,slow=7.6,SNR=4.6

*IDC **16** 10:26:54.1±0.8, 30.66N×57.13E, h0km, mb3.7/13, mbtmp3.8/19, ML3.8/6, MS3.0/2, Error ellipse: s-maj=18.5km s-min=16.5km az=178.0*
*TEH **16** 10:26:54.6, 30.79N×57.23E, h9km±35km, ML4.0*
*NEIC **16** 10:26:56.1±0.9, 30.72N±0.08×57.17E±0.08, h10km±1km, mb4.1/11, Error ellipse: s-maj=13.5km s-min=12.0km az=203.0*
ISC 16 10:26:56.0±0.5, 30.74N±0.04×57.20E±0.04, h11km, n77, σ0§94/77, mb3.8/18, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHGB	**Koh Gabri**	**0.72**	**240**	**Pg**	**Pg**	**10 27 09.0**	**-1.0**
TVBK	**TV Kerman**	**0.84**	**207**	**Pg**	**Pb**	**10 27 12.2**	**-0.6**
CHMN	**Cheshme madani**	**0.93**	**161**	**Pg**	**Pg**	**10 27 13.2**	**-0.7**
NGRK	**Negar Kerman**	**1.17**	**200**	**Pg**	**Pg**	**10 27 17.8**	**-0.6**
NGRK				Sg	**Sn**	**10 27 34.6**	**-0.1**
IBAF	**Bafgh**	**1.63**	**302**	Pg	**Pn**	**10 27 25.2**	**+0.4**
KBAM	**BAM**	**1.94**	**145**	Pn	**Pn**	**10 27 29.7**	**+0.7**
BSRN	**Basiran**	**2.05**	**53**	Pn	**Pn**	**10 27 30.3**	**-0.3**
IKOO	**Kooshah**	**2.28**	**42**	Pn	**Pn**	**10 27 33.4**	**-0.5**
IMEH	**Mehriz**	**2.31**	**287**	Pn	**Pn**	**10 27 35.1**	**+0.9**
TPRV	**Parvadeh(Tabas**	**2.32**	**349**	Pn	**Pn**	**10 27 34.2**	**-0.1**
ITEG	**Tejag**	**2.52**	**31**	Pn	**Pn**	**10 27 36.4**	**-0.8**
NHDN	**Nehbandan**	**2.53**	**74**	Pn	**Pn**	**10 27 37.7**	**+0.5**
ICHK	**Chekchek**	**2.82**	**303**	Pn	**Pn**	**10 27 42.2**	**+1.0**
KHNJ	**Kahnooj**	**2.82**	**171**	Pn	**Pn**	**10 27 42.5**	**+1.4**
TKDS	**Koohdasht(Taba**	**2.87**	**359**	Pn	**Pn**	**10 27 41.4**	**-0.4**
IDAH	**Dahanechah**	**3.02**	**48**	Pn	**Pn**	**10 27 44.1**	**0.0**
AFRZ	**Afriz**	**3.09**	**29**	Pn	**Pn**	**10 27 44.0**	**-0.9**
ISAD	**Sadrabad**	**3.23**	**292**	Pn	**Pn**	**10 27 48.6**	**+1.7**
TNSJ	**Nastanj**	**3.25**	**351**	Pn	**Pn**	**10 27 47.1**	**0.0**
ZHDN	**Zahedan**	**3.41**	**112**	Pn	**Pn**	**10 27 49.4**	**+0.1**
ANAR	**Anarak**	**3.83**	**311**	Pn	**Pn**	**10 27 55.0**	**-0.1**
SHRT	**Shahrakht**	**3.91**	**41**	Pn	**Pn**	**10 27 56.9**	**+0.9**
IRAM	**Ramesheh**	**4.26**	**286**	Pn	**Pn**	**10 28 02.2**	**+1.2**
IZEF	**Zefreh**	**4.67**	**299**	Pn	**Pn**	**10 28 07.7**	**+1.0**
TBJM	**Torbat-e-JAM**	**5.22**	**29**	Pn	**Pn**	**10 28 14.0**	**-0.3**
KRSH	**Karshahi**	**5.36**	**308**	Pn	**Pn**	**10 28 17.0**	**+0.9**
ISFB	**Sefidab**	**5.52**	**312**	Pn	**Pn**	**10 28 19.8**	**+1.6**
HRA	**Herat**	**5.60**	**48**		**Pn**	**10 28 19.9**	**+0.5**
SRVN	**Saravan**	**5.64**	**125**	Pn	**Pn**	**10 28 20.1**	**+0.2**
SBZV	**Sabzevar**	**5.64**	**3**	Pn	**Pn**	**10 28 20.5**	**+0.4**
JHBN	**Jahan bin**	**5.77**	**287**	Pn	**Pn**	**10 28 23.5**	**+1.5**
JRKH	**Jarkhoshk**	**5.79**	**26**	Pn	**Pn**	**10 28 22.8**	**+0.8**
UOSS	**Minazif**	**5.84**	**189**	Pn	**Pn**	**10 28 21.6**	**-1.0**
IVRN	**Varamin**	**6.26**	**314**	Pn	**Pn**	**10 28 29.7**	**+1.3**
ISFR	**Sfrayin**	**6.33**	**6**	Pn	**Pn**	**10 28 30.9**	**+1.3**
IGLO	**Ghaloghah**	**6.39**	**335**	Pn	**Pn**	**10 28 31.7**	**+1.3**
GEYT	**Alibeck**	**7.21**	**6**	Pn	**Pn**	**10 28 42.0**	**+0.6**
GEYT	**Alibeck**	**7.21**	**6**	Pn	**Pn**	**10 28 44.1**	**+2.7**
	1.0nm,0.3s,baz=180,slow=17,SNR=2.5						
GEYT				Lg	Lg	10 30 51.4	
	1.2nm,0.3s,baz=216,slow=32,SNR=1.8						
	1.8nm,0.3s						
GYA0B	**ALIBECK ARRAY**	**7.21**	**6**	Pn	**Pn**	**10 28 41.3**	**-0.1**
WSAR	**Wadi Sarin**	**7.58**	**170**	Pn	**Pn**	**10 28 46.6**	**+0.1**
	0.7nm,0.3s,baz=15,slow=16,SNR=5.1						
WSAR				Sn	**Sn**	**10 30 12.9**	**+0.5**
	baz=58,slow=17						
	5.5nm,0.8s						
KBL	**Kabul**	**10.68**	**66**	Pn	**Pn**	**10 29 29.5**	**+0.4**
GNI	**Garni**	**13.81**	**316**	Pn	**Pn**	**10 30 11.6**	**-0.3**
GNI	**Garni**	**13.81**	**316**	Pn	**Pn**	**10 30 14.9**	**+3.0**
	1.3nm,0.3s,baz=138,slow=22,SNR=2.4						
	3.7nm,0.4s						
BTK	**Batken**	**14.47**	**46**	Pn	**Pn**	**10 30 20.6**	**-0.2**
ASF	**Jabal al Asfar**	**17.38**	**280**	P	**P**	**10 30 59.2**	**-0.8**
	0.2nm,0.3s,baz=72,slow=18,SNR=2.4						
	1.5nm,0.4s						
AAK	**Ala-Archa**	**18.22**	**45**	LR	LR	10 39 28.4	
	comp=Z,30nm,18.4s,baz=338,slow=41						
ABKAR	**Akbulak array**	**18.61**	**6**	P	**P**	**10 31 12.9**	**-0.3**
MMAI	**Mount Meron Ar**	**18.65**	**283**	P	**Pn**	**10 31 14.7**	**+0.5**
	0.4nm,0.3s,baz=96,slow=12,SNR=1.9						
	0.4nm,0.4s						
AKTO	**Aktyubinsk**	**19.68**	**2**	P	**P**	**10 31 25.1**	**+0.1**
	0.3nm,0.3s,baz=172,slow=11,SNR=7.1						
	1.3nm,0.5s						
BR131	**Keskin Array S**	**21.18**	**301**	P	**P**	**10 31 41.2**	**-0.4**
BR131				IAmb	IAmb	10 31 42.7	
	comp=Z,5.2nm,1.1s						
BRTR	**Keskin Array B**	**21.18**	**301**	P	**P**	**10 31 41.4**	**-0.2**
BRTR	**Keskin Array B**	**21.18**	**301**	P	**P**	**10 31 41.0**	**-0.6**
	comp=Z,2.1nm,0.9s,baz=120,slow=13,SNR=8.8						
	comp=Z,2.1nm,0.9s						
BVAR	**Borovoye Array**	**24.26**	**20**	P	**P**	**10 32 13.8**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=200,slow=7.7,SNR=10						
	comp=Z,2.3nm,0.7s						
MK31	**Makanchi Array**	**25.14**	**43**	P	**P**	**10 32 21.3**	**+0.3**
MK31				IAmb	IAmb	10 32 24.5	
	comp=Z,3.2nm,1.1s						
MKAR	**Makanchi Array**	**25.14**	**43**	P	**P**	**10 32 21.5**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=231,slow=9.4,SNR=2.6						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**25.45**	**33**	P	**P**	**10 32 24.4**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=232,slow=9.0,SNR=4.8						
	comp=Z,0.7nm,0.6s						
OBN	**Obninsk**	**28.45**	**335**	LR	LR	10 48 00.1	
	comp=Z,40nm,19.0s,baz=88,slow=44						
ZALV	**Zalesovo Beam**	**30.55**	**33**	P	**P**	**10 33 09.3**	**0.0**
ZALV	**Zalesovo Beam**	**30.55**	**33**	P	**P**	**10 33 09.1**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=238,slow=9.9,SNR=9.4						
	comp=Z,1.7nm,0.5s						
FIA1	**FINESS Array S**	**36.85**	**336**	P	**P**	**10 34 04.3**	**+0.3**
FIA1				IAmb	IAmb	10 34 26.4	
	comp=Z,21nm,1.1s						
FINES	**FINESS Array B**	**36.85**	**336**	P	**P**	**10 34 04.3**	**+0.3**
FDMO	**Fiordimonte**	**36.95**	**302**	P	**P**	**10 34 04.5**	**-0.7**
FDMO				IAmb	IAmb	10 34 10.1	
	comp=Z,5.0nm,0.9s						
GERES	**GERESS Array B**	**37.40**	**312**	P	**P**	**10 34 08.6**	**-0.3**
GERES	**GERESS Array B**	**37.40**	**312**	P	**P**	**10 34 08.8**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=109,slow=11,SNR=5.8						
	comp=Z,0.9nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**39.31**	**307**	P	**P**	**10 34 25.3**	**0.0**
CMAR	**Chiang Mai Arr**	**39.66**	**98**	P	**P**	**10 34 29.8**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=303,slow=8.5,SNR=2.0						
	comp=Z,0.5nm,0.3s						
TUE	**Stuetta**	**39.92**	**307**	P	**P**	**10 34 29.5**	**-0.9**
TUE				IAmb	IAmb	10 34 37.9	
	comp=Z,2.6nm,0.9s						
SONM	**Songino Array**	**40.98**	**51**	P	**P**	**10 34 40.9**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=238,slow=11,SNR=3.2						
	comp=Z,0.3nm,0.5s						
SENIN	**Lac Senin/Sane**	**41.32**	**307**	P	**P**	**10 34 40.6**	**-1.3**
SPB1	**Spitsbergen Ar**	**50.80**	**350**	P	**P**	**10 35 56.0**	**+0.1**
TOA0	**Torodi Ar. Sit**	**53.84**	**264**	P	**P**	**10 36 18.5**	**-0.9**
TOA0				IAmb	IAmb	10 36 19.4	
	comp=Z,3.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**53.84**	**264**		**P**	**10 36 18.6**	**-0.8**
TORD				IAmb	IAmb	10 36 19.4	
	comp=Z,1.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**53.84**	**264**	P	**P**	**10 36 17.9**	**-1.4**
	comp=Z,2.3nm,0.7s,baz=52,slow=8.3,SNR=18						
	comp=Z,2.3nm,0.7s						
ILAR	**Eielson Array**	**82.95**	**10**	P	**P**	**10 39 20.2**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=321,slow=4.5,SNR=2.7						
	comp=Z,0.4nm,0.8s						
YKA	**Yellowknife Ar**	**86.86**	**356**	P	**P**	**10 39 40.4**	**0.0**
	comp=Z,0.4nm,0.9s,baz=358,slow=5.2,SNR=4.0						
	comp=Z,0.4nm,0.9s						
WRA	**Warramunga Arr**	**89.55**	**113**	P	**P**	**10 39 53.3**	**-0.6**
	comp=Z,0.1nm,0.6s,baz=313,slow=4.0,SNR=1.4						
	comp=Z,0.1nm,0.6s						
ASAR	**Alice Springs**	**91.23**	**117**	P	**P**	**10 39 59.8**	**-1.8**
	comp=Z,0.4nm,0.9s,baz=305,slow=5.1,SNR=2.2						
	comp=Z,0.4nm,0.9s						

IDC 16 10:29:23.8±2.2, 18.65N×146.13E, h0km, mb3.3/3, mbtmp3.3/3, MS3.1/1, Error ellipse: s-maj=329.9km s-min=32.8km az=111.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**35.55**	**12**	LR	LR	10 48 55.4	
	comp=Z,30nm,19.9s,baz=186,slow=33						
WRA	**Warramunga Arr**	**40.06**	**197**	P	P	10 37 00.9	-0.1
	0.5nm,0.8s,baz=19,slow=9.1,SNR=6.7						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**43.72**	**196**	P	P	10 37 30.8	-0.1
	0.5nm,1.1s,baz=17,slow=6.8,SNR=1.9						
	0.5nm,1.1s						
YKA	**Yellowknife Ar**	**77.84**	**28**	P	P	10 41 23.0	+0.1
	0.2nm,0.7s,baz=287,slow=5.6,SNR=2.7						
	0.2nm,0.7s						

*IDC **16** 10:34:47.3±1.5, 36.19N×21.74E, h0km, mb3.7/7, mbtmp3.7/8, ML3.0/1, MS3.2/3, Error ellipse: s-maj=32.3km s-min=25.6km az=152.0*
*THE **16** 10:34:50.9, 35.99N×21.83E, h3km±3km, ML3.3/4, Error ellipse: s-maj=4.6km s-min=1.2km az=47.0*
*BEO **16** 10:34:51.1±1.5, 36.21N×21.13E, h0km, ML3.8/2*
*ATH **16** 10:34:51.5, 36.06N×21.94E, h10km±3km, ML3.3/10, Manual Solution by A.Agalos This location: 2019/12/22 14:30:40 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
ISC 16 10:34:48.9±1.6, 36.03N±0.05×21.69E±0.05, h17km±9km, n51, σ1§60/64, mb3.8/7, MS3.3/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.87**	**3**	P	**Pn**	**10 35 07.4**	**+1.0**
PYL	**PYLOS**	**0.87**	**3**	P	**Pn**	**10 35 07.8**	**+1.4**
PYL				S	**Sn**	**10 35 19.5**	**+0.8**
KLMT	**Kalamata**	**1.07**	**16**	P	**Pn**	**10 35 10.8**	**+1.6**
KLMT				S	**Sn**	**10 35 26.9**	**+3.1**
	2µm,0.4s						
VLI	**Veliai**	**1.22**	**55**	P	**Pg**	**10 35 11.9**	**-0.6**
VLI				S	**Sn**	**10 35 28.6**	**+1.3**
	1µm,0.6s						
VLI	**Veliai**	**1.22**	**55**	P	**Pn**	**10 35 11.4**	**+0.2**
VLI				S	**Sb**	**10 35 25.2**	**-1.8**
MNVA	**Monemvasia**	**1.27**	**58**	P	**Pg**	**10 35 13.2**	**-0.2**
ANKY	**Antikythira Is**	**1.31**	**96**	P	**Pg**	**10 35 13.6**	**-0.7**
ANKY				S	**Sn**	**10 35 32.0**	**+2.3**
	1µm,0.5s						
ANKY	**Antikythira Is**	**1.31**	**96**	P	**Pg**	**10 35 13.2**	**-1.0**
ANKY				S	**Sb**	**10 35 28.7**	**-1.4**
RODP	**Rodopos**	**1.74**	**105**	P	**Pb**	**10 35 19.6**	**-0.8**
KRND	**KRANIDI**	**1.79**	**40**	P	**Pn**	**10 35 20.3**	**+1.2**
KRND				S	**Sn**	**10 35 42.1**	**+0.6**
DRO	**Drossia**	**1.92**	**0**	P	**Pg**	**10 35 25.3**	**-0.6**
DRO				S	**Sb**	**10 35 48.4**	**+1.1**
IMMV	**Iera Moni Meta**	**1.94**	**106**	P	**Pn**	**10 35 21.9**	**+0.8**
IMMV				S	**Sg**	**10 35 53.1**	**+1.6**
	560nm,0.8s						
IMMV	**Iera Moni Meta**	**1.94**	**106**	P	**Pn**	**10 35 22.0**	**+0.8**
IMMV				S	**Sn**	**10 35 45.6**	**+0.3**
EPID	**Epidavros**	**1.96**	**35**	P	**Pb**	**10 35 24.1**	**0.0**
EPID	**Epidavros**	**1.96**	**35**	P	**Pb**	**10 35 23.6**	**-0.5**
CHAN	**Chania**	**1.98**	**104**	P	**Pn**	**10 35 22.6**	**+1.0**
CHAN				S	**Sb**	**10 35 46.7**	**-2.1**
GUR	**Goura**	**1.98**	**15**	P	**Pb**	**10 35 24.6**	**0.0**
GUR	**Goura**	**1.98**	**15**	P	**Pb**	**10 35 24.5**	**0.0**
RLS	**Riolos of Patr**	**2.04**	**355**	P	**Pb**	**10 35 25.9**	**+0.4**
RLS	**Riolos of Patr**	**2.04**	**355**	P	**Pb**	**10 35 26.0**	**+0.5**
KLV	**Kalavryta, Ach**	**2.05**	**10**	P	**Pb**	**10 35 25.1**	**-0.6**
KLV				S	**Sn**	**10 35 49.6**	**+1.7**
THAL	**Thalero**	**2.15**	**21**	P	**Pb**	**10 35 27.3**	**-0.2**
LAKA	**Lakka**	**2.22**	**6**	P	**Pb**	**10 35 28.5**	**-0.2**
LTK	**Loutraki**	**2.24**	**27**	P	**Pb**	**10 35 28.1**	**-0.9**
LTK				S	**Sn**	**10 35 53.3**	**+0.8**
VLS	**Valsamata**	**2.32**	**338**	P	**Pb**	**10 35 29.9**	**-0.5**
EFP	**Efpalio**	**2.40**	**4**	P	**Pb**	**10 35 30.8**	**-1.0**
VLY	**Voula,Athens**	**2.48**	**42**	P	**Pn**	**10 35 30.4**	**+1.8**
VIL2	**Platees**	**2.52**	**30**	P	**Pn**	**10 35 30.8**	**+1.7**
ANX	**Ano Chora**	**2.57**	**4**	P	**Pb**	**10 35 33.8**	**-0.8**
IDI	**Anoyia**	**2.71**	**105**	P	**Pn**	**10 35 32.2**	**+0.5**
AXAR	**Agios Charalam**	**2.84**	**15**	P	**Pn**	**10 35 36.7**	**+3.1**
EVR	**Evrytania**	**2.89**	**2**	P	**Pb**	**10 35 38.4**	**-1.6**
AGG	**Agios Georgios**	**3.03**	**9**	P	**Pn**	**10 35 38.7**	**+2.5**
PRVS	**Prvonek**	**6.48**	**3**	*e*Pn	**Pn**	**10 36 25.0**	**+1.4**
BARS	**Barje**	**6.78**	**1**	*e*Pn	**Pn**	**10 36 28.9**	**+1.2**
SELS	**Selova**	**7.20**	**357**	*e*Pn	**Pn**	**10 36 33.5**	**+0.1**
IVAS	**Ivanjica**	**7.63**	**352**	*e*Pn	**Pn**	**10 36 39.3**	**-0.1**
IVAS				*e*Sn	**Sn**	**10 38 02.2**	**-3.3**
ZAGS	**Zajecar**	**7.79**	**3**	*e*Pn	**Pn**	**10 36 42.3**	**+0.8**
GRUS	**Gruza**	**7.89**	**355**	*e*Pn	**Pn**	**10 36 43.1**	**+0.3**
DIVS	**Divibare**	**8.17**	**351**	*e*Pn	**Pn**	**10 36 46.6**	**-0.2**
DIVS				*e*Sn	**Sn**	**10 38 11.8**	**-6.9**
TEKS	**Tekeris**	**8.67**	**350**	*e*Pn	**Pn**	**10 36 53.0**	**-0.6**
BRTR	**Keskin Array B**	**10.14**	**65**	Pn	**Pn**	**10 37 16.1**	**+2.2**
	0.1nm,0.3s,baz=240,slow=16,SNR=1.8						
	0.3nm,0.3s						
HFS	**Hagfors**	**24.67**	**350**	P	**P**	**10 40 07.7**	**-0.9**
	3.1nm,0.8s,baz=150,slow=9.3,SNR=5.8						
	3.1nm,0.8s						
EKA	**Eskdalemuir Ar**	**25.73**	**326**	P	**P**	**10 40 18.0**	**-0.2**
	1.1nm,0.5s,baz=127,slow=9.8,SNR=4.9						
	1.1nm,0.5s						
NOA	**NORSAR Array B**	**25.91**	**348**	P	**P**	**10 40 20.3**	**+0.4**
	0.2nm,0.5s,baz=162,slow=11,SNR=1.6						
NOA				LR	LR	10 51 06.6	
	comp=Z,21nm,18.2s,baz=335,slow=38						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**29.03**	**223**	P	**P**	**10 40 50.7**	**+2.5**
	0.2nm,0.4s,baz=22,slow=9.2,SNR=1.9						
	0.2nm,0.4s						
AKTO	**Aktyubinsk**	**29.79**	**50**	P	**P**	**10 40 55.0**	**+0.3**
	1.3nm,0.7s,baz=267,slow=19,SNR=6.3						
	1.3nm,0.7s						
ARCES	**ARCESS Array B**	**33.63**	**2**	P	**P**	**10 41 27.9**	**-0.3**
	3.0nm,0.8s,baz=184,slow=9.0,SNR=14						
	3.0nm,0.8s						
BVAR	**Borovoye Array**	**37.83**	**48**	LR	LR	11 00 50.3	
	comp=Z,50nm,19.2s,baz=73,slow=42						
JMIC	**Jan Mayen**	**38.48**	**345**	LR	LR	10 58 57.7	
	comp=Z,48nm,18.8s,baz=226,slow=38						
MKAR	**Makanchi Array**	**45.66**	**57**	P	**P**	**10 43 07.3**	**-1.4**
	0.3nm,0.4s,baz=270,slow=7.7,SNR=4.3						
	0.3nm,0.4s						

IDC 16 10:35:33.3±8.9, 20.03N×103.34E, h0km, mb3.2/2, mbtmp3.2/3, ML3.6/1, MS2.1/1, Error ellipse: s-maj=208.9km s-min=23.7km az=175.0, Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**4.44**	**250**	Pn	Pn	10 36 41.9	0.0
	0.8nm,0.3s,baz=35,slow=14,SNR=4.7						
CMAR				Lg	Lg	10 37 54.3	
	2.4nm,0.3s,baz=52,slow=35,SNR=10						
CMAR				LR	LR	10 38 39.5	
	comp=Z,22nm,18.3s,baz=55,slow=42						
	1.0nm,0.3s						
WRA	**Warramunga Arr**	**50.01**	**141**	P	P	10 44 29.9	+0.2
	0.3nm,0.9s,baz=327,slow=7.8,SNR=2.0						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**52.67**	**144**	P	P	10 44 49.2	-0.4
	0.3nm,0.8s,baz=322,slow=7.9,SNR=2.5						
	0.3nm,0.8s						

*NEIC **16** 10:38:52.5±2.0, 48.22N±0.02×122.21W±0.03, h17km±3km, Error ellipse: s-maj=2.9km s-min=2.8km az=202.0*
*SEA **16** 10:38:53.1±2.0, 48.20N±0.02×122.19W±0.03, h15km±3km, ML2.2/20, ML2.5/46(NEIC), Error ellipse: s-maj=2.9km s-min=2.1km az=123.0*
PNSN 16 10:38:53.1, 48.20N×122.18W, h16km, MD2.3, Fault plane solution: NP1:ϕ50.00000°, δ45.00000°, λ70.00000°., Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCW	**Jim Creek**	**0.17**	**91**		Pg	10 38 56.9	-0.5
EVCC	**Everett Colleg**	**0.19**	**185**		Pb	10 38 58.0	-0.2
CMW	**Cultus Mountai**	**0.23**	**11**		Pg	10 38 57.9	-0.6
SWID	**South Whidbey**	**0.24**	**219**		Pg	10 38 58.5	0.0
SWID					Sb	10 39 03.3	+0.2
SVOH	**Skagit Valley**	**0.32**	**287**		Pg	10 38 59.2	-0.5
EVGW	**Everett Gatewa**	**0.34**	**177**		Pg	10 39 00.3	+0.1
LEOT	**Leota Junior H**	**0.43**	**174**		Pg	10 39 01.9	+0.2
RPW	**Rockport**	**0.51**	**60**		Pg	10 39 02.6	-0.7
B06A	**Marblemount**	**0.57**	**55**		Pg	10 39 03.6	-0.7
B06A				Sg	Sg	10 39 10.7	-1.2
B06A				IAML		10 39 11.7	
	comp=N,186nm,0.4s						
B06A				IAML		10 39 15.2	
	comp=E,170nm,0.4s						
SQM	**Sequim**	**0.59**	**258**		Pg	10 39 04.1	-0.6
C05A	**Tolt Reservoir**	**0.60**	**146**		Pg	10 39 03.9	-1.1
MBW	**Mount Baker**	**0.62**	**18**		Pg	10 39 04.6	-0.8
B013	**Quilcene**	**0.62**	**232**		Pg	10 39 04.0	-1.3
B013	**Quilcene**	**0.62**	**232**		Pg	10 39 04.1	-1.2
SP2	**Seward Park 2**	**0.64**	**184**		Pg	10 39 05.7	0.0
MCW	**Mount Constitu**	**0.65**	**318**		Pg	10 39 04.5	-1.4
GPW	**Glacier Peak**	**0.70**	**96**		Pg	10 39 06.0	-1.0
C04A	**Brinnon**	**0.71**	**228**		Pg	10 39 05.4	-1.6
GMW	**Gold Mountain**	**0.77**	**212**		Pb	10 39 06.3	-1.7
GNW	**Green Mountain**	**0.77**	**215**		Pb	10 39 06.4	-1.6
GNW					Sb	10 39 16.8	-1.4
RATT	**Rattlesnake La**	**0.81**	**161**		Pb	10 39 07.6	-1.2
B04A	**Port Angeles**	**0.90**	**262**		Pb	10 39 08.5	+1.7
B04A	**Port Angeles**	**0.90**	**262**		Pb	10 39 08.4	-1.8
B04A				IAML	Sg	10 39 20.6	-1.6
	comp=N,47nm,0.7s						
B04A				Sg	Sg	10 39 20.6	-1.6
B04A				IAML		10 39 25.8	
	comp=E,57nm,0.2s						
WRW	**Wenatchee Ridg**	**0.94**	**111**		Pb	10 39 09.9	-1.0
B011	**North Saanich**	**0.96**	**299**		Pb	10 39 09.6	-1.6
PGC	**Sidney**	**0.96**	**299**		Pb	10 39 09.4	-1.9
PGC				Sg	Sb	10 39 21.7	-2.0
PGC				IAML		10 39 23.5	
	comp=N,112nm,0.5s						
PGC				IAML		10 39 24.7	
	comp=E,99nm,0.3s						
D05A	**Enumclaw**	**1.02**	**173**		Pb	10 39 11.5	-0.8
D05A				Sg	Sb	10 39 25.4	0.0
GSM	**Grass Mountain**	**1.03**	**165**		Pb	10 39 10.9	-1.6
GHW	**Garrison Hill**	**1.16**	**183**		Pn	10 39 12.8	-1.8
B941	**Kapowsin**	**1.21**	**181**		Pn	10 39 13.4	-1.8
NLW	**Nelson Butte**	**1.24**	**95**		Pn	10 39 15.6	-0.3
RVC	**Mount Rainier-**	**1.26**	**173**		Pn	10 39 14.7	-1.4
OLQ	**Olympics--Lake**	**1.29**	**239**		Pn	10 39 16.6	+0.3
FMW	**Mount Fremont**	**1.31**	**165**		Pn	10 39 15.5	-1.4
P403	**Sandy Floe Qua**	**1.32**	**265**		Pn	10 39 17.0	+0.2
OBSR	**Observation Ro**	**1.32**	**169**		Pn	10 39 15.9	-1.2
RCS	**Mount Rainier-**	**1.36**	**167**		Pn	10 39 16.8	-0.9
ETW	**Entiat**	**1.38**	**115**		Pn	10 39 17.5	-0.3
SR41	**SR410 Landslid**	**1.38**	**161**		Pn	10 39 16.7	-1.1
LTY	**Liberty**	**1.39**	**132**		Pn	10 39 17.2	-0.6
LTY				Sn	Sn	10 39 35.2	-0.6
LTY				IAML		10 39 35.5	
	comp=N,46nm,0.3s						
NLWA	**Neilton Lookou**	**1.39**	**235**	Pn	Pn	10 39 17.8	-0.1
RCM	**Mount Rainier-**	**1.40**	**167**		Pn	10 39 17.1	-1.0
REMR	**Mount Rainier-**	**1.40**	**170**		Pn	10 39 17.1	-0.9
CLRS	**Cowichan Lake**	**1.44**	**296**	Pn	Pn	10 39 16.9	-1.6
CLRS				IAML		10 39 37.5	
	comp=N,39nm,0.4s						
CLRS				IAML		10 39 38.4	
	comp=E,38nm,0.4s						
LON	**Longmire**	**1.47**	**170**		Pn	10 39 17.8	-1.1
LON				IAML		10

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**13**	⇓P	**Pg**	**10 48 05.9**	**+0.8**
KUA				S	**Sg**	**10 48 07.9**	**+1.0**
KOVU	**Salmi**	**0.41**	**355**	⇓P	**Pg**	**10 48 10.7**	**+0.5**
KOVU				S	**Sg**	**10 48 16.6**	**+1.1**
LANU	**Lannavaara**	**0.70**	**70**	⇓P	**Pg**	**10 48 16.3**	**+0.6**
LANU				S	**Sg**	**10 48 25.9**	**+1.1**
LANU	**Lannavaara**	**0.70**	**70**	PB	**Pg**	**10 48 16.3**	**+0.6**
LANU				SB	**Sg**	**10 48 25.3**	**+0.5**
DUNU	**Dundret**	**0.71**	**170**	P	**Pg**	**10 48 16.4**	**+0.3**
DUNU				S	**Sg**	**10 48 26.1**	**+0.9**
MASU	**Masugnsbyn**	**0.76**	**118**	P	**Pg**	**10 48 17.6**	**+0.6**
MASU				S	**Sg**	**10 48 28.4**	**+1.6**
SALU	**Saltoluokta**	**0.80**	**237**	P	**Pg**	**10 48 17.9**	**+0.1**
SALU				S	**Sg**	**10 48 28.9**	**+0.8**
KIF	**Kilpisjarvi**	**1.21**	**9**	*e*P	**Pn**	**10 48 25.7**	**+0.1**
KIF	**Kilpisjarvi**	**1.21**	**9**	PN	**Pg**	**10 48 25.5**	**-0.1**
KIF				MSG		10 48 39.2	
	comp=Z,20nm,0.2s						
KIF				SN	**Sb**	**10 48 42.2**	**-0.1**
PAJU	**Pajala**	**1.36**	**125**	P	**Pg**	**10 48 28.2**	**-0.3**
PAJU				S	**Sg**	**10 48 46.6**	**+0.4**
PAJU	**Pajala**	**1.36**	**125**	PG	**Pg**	**10 48 27.5**	**-1.0**
PAJU				SG	**Sg**	**10 48 46.5**	**+0.4**
HEF	**Hetta**	**1.41**	**64**	*e*P	**Pn**	**10 48 28.2**	**-1.2**
HEF	**Hetta**	**1.41**	**64**	PG	**Pn**	**10 48 28.7**	**-0.6**
	baz=249						
HEF				MSG		10 48 46.0	
	comp=Z,9.7nm,0.2s						
HEF				SN	**Sg**	**10 48 48.0**	**+0.4**
ERTU	**Ertsjaerv**	**1.48**	**148**	P	**Pn**	**10 48 30.2**	**-0.1**
ERTU				S	**Sg**	**10 48 50.5**	**+0.7**
ERTU	**Ertsjaerv**	**1.48**	**148**	PB	**Pn**	**10 48 29.8**	**-0.5**
ERTU				SG	**Sg**	**10 48 50.5**	**+0.7**
KLF	**Kolari**	**1.54**	**111**	PG	**Pn**	**10 48 31.2**	**0.0**
KLF				MSG		10 48 50.9	
	comp=Z,12nm,0.2s						
KLF				SG	**Sg**	**10 48 52.4**	**+0.6**
KTK1	**Kautokeino**	**1.63**	**41**	PN	**Pn**	**10 48 32.8**	**+0.4**
HARU	**Harads**	**1.69**	**170**	P	**Pn**	**10 48 33.8**	**+0.7**
HARU				S	**Sb**	**10 48 56.6**	**+0.5**
KALU	**Kalix**	**2.32**	**147**	PN	**Pn**	**10 48 43.4**	**+1.6**
	baz=329						
KALU				SN	**Sb**	**10 49 13.9**	**-0.2**
TOF	**Tornio**	**2.37**	**136**	PN	**Pn**	**10 48 44.3**	**+1.8**
	baz=315						
TOF				MSG		10 49 14.7	
	comp=Z,9.5nm,0.2s						
TOF				SB	**Sb**	**10 49 16.2**	**+0.6**
SGF	**Sodankyl**	**2.43**	**96**	PB	**Pn**	**10 48 44.9**	**+1.6**
SGF				SB	**Sb**	**10 49 16.3**	**-1.1**
RNF	**Rovaniemi**	**2.55**	**116**	PN	**Pn**	**10 48 47.2**	**+2.2**
	baz=306						
RNF				SB	**Sb**	**10 49 20.8**	**0.0**
ARA0	**ARCESS Array S**	**2.58**	**46**	SG	**Sn**	**10 49 19.8**	**+2.4**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**10 48 46.2**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=231,slow=14,SNR=123						
ARCES				Pg	**Pb**	**10 48 47.3**	**-2.2**
	comp=Z,0.8nm,0.3s,baz=227,slow=15,SNR=7.3						
ARCES				Sn	Sn	10 49 06.9	-11
	comp=Z,0.7nm,0.3s,baz=225,slow=15,SNR=3.7						
ARCES				Lg	Lg	10 49 20.1	
	comp=Z,3.3nm,0.3s,baz=225,slow=25,SNR=10 comp=Z,2.1nm,0.2s						
KEV	**Kevo**	**3.13**	**49**	PB	**Pn**	**10 48 54.0**	**+1.1**
KEV				SB	**Sn**	**10 49 32.7**	**+1.7**
BURU	**Burvik**	**3.28**	**172**	PN	**Pn**	**10 48 57.1**	**+2.1**
BURU				SN	**Sn**	**10 49 37.7**	**+3.0**
VRF	**Varrio**	**3.55**	**87**	PN	**Pn**	**10 48 59.7**	**+0.9**
VRF				SB	**Sb**	**10 49 49.8**	**+0.1**
OUL	**Oulu**	**3.56**	**138**	PN	**Pn**	**10 49 02.3**	**+3.5**
	baz=324						
OUL				SB	**Sb**	**10 49 51.4**	**+1.6**
OBF4	**Vikkela, Lumij**	**3.60**	**145**	PN	**Pn**	**10 49 02.6**	**+3.3**
	baz=326						
OLKF	**Oulanka, Finla**	**3.88**	**109**	PN	**Pn**	**10 49 04.5**	**+1.2**
OUF	**Merijarvi**	**3.92**	**150**	PN	**Pn**	**10 49 07.6**	**+3.9**
OUF				SG	**Sg**	**10 50 07.5**	**-0.6**
UMAU	**Umeaa**	**3.96**	**177**	PN	**Pn**	**10 49 06.2**	**+1.9**
UMAU				SN	**Sn**	**10 49 52.8**	**+1.5**
MSF	**Maaselka**	**3.96**	**115**	PN	**Pn**	**10 49 06.3**	**+1.9**
MSF				SG	**Sg**	**10 50 06.9**	**-2.6**
KU6	**Riekki**	**4.20**	**111**	PN	**Pn**	**10 49 09.0**	**+1.4**
KU6				SG	**Sg**	**10 50 16.0**	**-1.1**
FINES	**FINESS Array B**	**6.87**	**156**	Pn	**Pn**	**10 49 45.2**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=343,slow=10,SNR=6.9						
FINES				Sn	**Sn**	**10 51 01.2**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=346,slow=23,SNR=7.1						
FINES				Lg	Lg	10 51 33.6	
	comp=Z,0.2nm,0.3s,baz=346,slow=22,SNR=2.6 comp=Z,1.4nm,0.9s						
NOA	**NORSAR Array B**	**7.84**	**214**	Pn	**Pn**	**10 49 58.2**	**+0.6**
	baz=22,slow=11,SNR=4.2						
NOA				Lg	Lg	10 52 06.5	
	baz=49,slow=6.9,SNR=2.8 comp=Z,0.2nm,0.5s						
HFS	**Hagfors**	**8.23**	**204**	Pn	**Pn**	**10 50 03.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=17,slow=13,SNR=2.5						
HFS				Sn	**Sn**	**10 51 29.7**	**-6.8**
	comp=Z,0.2nm,0.3s,baz=180,slow=40,SNR=1.2						
HFS				Lg	Lg	10 52 20.3	
	comp=Z,0.4nm,0.3s,baz=26,slow=30,SNR=3.1 comp=Z,2.1nm,0.8s						
SPITS	**Spitsbergen Ar**	**10.47**	**356**	Pn	**Pn**	**10 50 33.1**	**-0.5**
	baz=168,slow=14 comp=Z,4.7nm,0.9s						

*OSPL **16** 10:50:43.1±1.9, 19.°03N×66.°50W, h3$^{km}_{\pm}$13^{km}, ML3.5*
*NEIC **16** 10:50:47.7±1.1, 18.°92N±0.°05×66.°86W±0.°03, h35$^{km}_{\pm}$2^{km}, ML3.5/22, Md3.1/12(RSPR), Error ellipse: s-maj=9.4km s-min=3.1km az=204.0*
*RSPR **16** 10:50:47.2, 19.°05N×66.°79W, h51$^{km}_{\pm}$10^{km}, MD3.1/12*
ISC 16 10:50:47.4±1.6, 18.°97N±0.°07×66.°83W±0.°04, h31$^{km}_{\pm}$11^{km}, n35, σ1s04/44, 6C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.57**	**208**	⇓*e*P	**Pb**	**10 50 58.3**	**-0.7**
AGPR	**Aguadilla, PR**	**0.57**	**208**		**Pb**	**10 50 58.2**	**-0.7**
AGPR					**Sb**	**10 51 04.6**	**-2.2**
AGPR				IAML		10 51 11.2	
	comp=N,2μm,0.4s						
AGPR	**Aguadilla, PR**	**0.57**	**208**	*i* P	**Pb**	**10 50 58.2**	**-0.7**
AGPR				*e*S	**Sb**	**10 51 08.0**	**+1.2**
AGPR				IAML		10 51 12.6	
	comp=Z,683nm,0.2s						
EMPR	**Esperanza - Ma**	**0.57**	**150**	⇑*e*P	**Pb**	**10 50 58.8**	**-0.1**
EMPR	**Esperanza - Ma**	**0.57**	**150**	*e*S	**Sb**	**10 51 08.6**	**+1.7**
EMPR	**Esperanza - Ma**	**0.57**	**150**		**Pb**	**10 50 58.3**	**-0.7**
EMPR					**Sb**	**10 51 08.5**	**+1.7**
EMPR				IAML		10 51 09.2	
	comp=E,5μm,0.6s						
EMPR				IAML		10 51 22.4	
	comp=N,2μm,0.6s						
AOPR	**Arecibo Observ**	**0.62**	**173**	⇓*e*P	**Pb**	**10 50 59.4**	**-0.5**
AOPR	**Arecibo Observ**	**0.62**	**173**	*e*S	**Sb**	**10 51 09.4**	**+0.9**
AOPR	**Arecibo Observ**	**0.62**	**173**		**Pb**	**10 50 59.4**	**-0.5**
AOPR				IAML		10 51 18.5	
	comp=N,2μm,0.4s						
PRSN	**Puerto Rico Se**	**0.81**	**202**	⇓*e*P	**Pn**	**10 51 01.9**	**-0.8**
PRSN	**Puerto Rico Se**	**0.81**	**202**	*e*S	**Sb**	**10 51 14.2**	**+0.7**
PRSN	**Puerto Rico Se**	**0.81**	**202**		**Pn**	**10 51 01.7**	**-0.9**
PRSN					**Sb**	**10 51 13.6**	**+0.1**
PRSN				IAML		10 51 17.7	
	comp=E,3μm,0.3s						
PRSN				IAML		10 51 19.6	
	comp=N,4μm,0.3s						
LSP	**Las Mesas**	**0.83**	**197**	⇑*e*P	**Pn**	**10 51 02.4**	**-0.6**
LSP	**Las Mesas**	**0.83**	**197**		**Pn**	**10 51 02.4**	**-0.6**
IDE	**Isla Desecheo**	**0.84**	**227**	⇑*e*P	**Pn**	**10 51 02.4**	**-0.7**
IDE	**Isla Desecheo**	**0.84**	**227**	*e*S	**Sb**	**10 51 14.9**	**+0.3**
IDE	**Isla Desecheo**	**0.84**	**227**		**Pn**	**10 51 02.4**	**-0.7**
IDE					**Sb**	**10 51 14.9**	**+0.3**
GCPR	**Guaynabo City**	**0.96**	**133**	Pn	**Pn**	**10 51 03.6**	**-1.2**
GBPR	**Guanica, Bosqu**	**0.99**	**183**	⇑*e*P	**Pn**	**10 51 05.2**	**0.0**
GBPR	**Guanica, Bosqu**	**0.99**	**183**	*e*S	**Sn**	**10 51 19.5**	**+1.3**
GBPR	**Guanica, Bosqu**	**0.99**	**183**		**Pn**	**10 51 05.2**	**0.0**
GBPR					**Sn**	**10 51 19.5**	**+1.3**
CRPR	**Cabo Rojo, PR**	**0.99**	**196**	⇓*e*P	**Pn**	**10 51 04.9**	**-0.4**
CRPR	**Cabo Rojo, PR**	**0.99**	**196**	*e*S	**Sn**	**10 51 18.8**	**+0.6**
CRPR	**Cabo Rojo, PR**	**0.99**	**196**		**Pn**	**10 51 04.8**	**-0.4**
CRPR					**Sn**	**10 51 17.3**	**-0.9**
CRPR	**Cabo Rojo, PR**	**0.99**	**196**	*i* P	**Pn**	**10 51 04.9**	**-0.4**
CRPR				*e*S	**Sn**	**10 51 19.1**	**+0.8**
CRPR				IAML		10 51 23.2	
	comp=Z,1μm,0.5s						
SJG	**San Juan**	**1.07**	**143**	⇑*e*P	**Pn**	**10 51 06.7**	**+0.4**
SJG	**San Juan**	**1.07**	**143**	*e*S	**Sn**	**10 51 19.1**	**-1.0**
SJG	**San Juan**	**1.07**	**143**		**Pn**	**10 51 05.7**	**-0.6**
SJG				IAML		10 51 22.0	
	comp=Z,621nm,0.4s						
SJG				IAML		10 51 29.9	
	comp=Z,792nm,0.6s						
PCDR	**Punta Cana, DR**	**1.54**	**253**	⇑*e*P	**Pn**	**10 51 12.9**	**+0.2**
PCDR	**Punta Cana, DR**	**1.54**	**253**		**Pn**	**10 51 12.2**	**-0.5**
PCDR				IAML		10 51 45.5	
	comp=E,368nm,0.5s						
PCDR				IAML		10 51 51.8	
	comp=N,851nm,0.7s						
PCDR	**Punta Cana, DR**	**1.54**	**253**	*i* P	**Pn**	**10 51 12.7**	**0.0**
PCDR				*e*S	**Sb**	**10 51 37.7**	**+3.3**
PCDR				IAML		10 51 45.4	
	comp=Z,399nm,0.4s						
SDD	**Santo Domingo**	**2.97**	**261**	Pn	**Pn**	**10 51 31.3**	**-1.1**
SDD				IAML		10 52 32.8	
	comp=E,113nm,0.9s						
SDD				IAML		10 52 34.9	
	comp=N,120nm,1.2s						
SC01	**Santiago de lo**	**3.71**	**278**	Pn	**Pn**	**10 51 41.5**	**-1.2**
SDDR	**Presa de Saban**	**4.22**	**271**		**Pn**	**10 51 49.2**	**-0.5**
SDDR	**Presa de Saban**	**4.22**	**271**	*i* P	**Pn**	**10 51 50.6**	**+0.9**
SDDR				IAML		10 53 05.7	
	comp=Z,79nm,1.0s						

*NEIC **16** 10:56:31.2±1.2, 5.°77S±0.°06×147.°68E±0.°08, h10$^{km}_{\pm}$1^{km}, mb4.5/25, Error ellipse: s-maj=13.3km s-min=9.7km az=256.0*
*IDC **16** 10:56:39.4±1.7, 6.°23S×147.°63E, h52$^{km}_{\pm}$14^{km}, mb3.9/10, mbtmp4.2/13, ML2.9/2, MS3.8/11, Error ellipse: s-maj=25.0km s-min=9.9km az=106.0*
*DJA **16** 10:56:40.5±0.6, 6.°5S±5.°1×14.°8E±.°, h51$^{km}_{\pm}$9^{km}, M4.9/10, mB5.4/3, mb4.6/10, MLv5.0/2, Mw(mB)4.8/3*
ISC 16 10:56:38.8±0.5, 6.°27S±0.°05×147.°68E±0.°07, h50^{km}, n84, σ2s16/80, mb4.5/23, MS3.7/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BULU	**Kimbe**	**2.72**	**75**	P	**Pn**	**10 57 20.0**	**-0.1**
PMG	**Port Moresby**	**3.16**	**189**	Pn	**Pn**	**10 57 27.1**	**+1.0**
PMG	**Port Moresby**	**3.16**	**189**	P	**Pn**	**10 57 26.8**	**+0.7**
PMG	**Port Moresby**	**3.16**	**189**	P	**Pn**	**10 57 27.2**	**+1.0**
PMG	**Port Moresby**	**3.16**	**189**	P	**Pn**	**10 57 26.9**	**+0.7**
	23nm,0.3s,baz=14,slow=7.2,SNR=37						
PMG				S	**Sn**	**10 58 06.0**	**+3.4**
	510nm,0.7s,baz=54,slow=11,SNR=5.9						
PMG				LR	LR	10 59 06.9	
	comp=Z,1μm,20.8s,baz=40,slow=46 635nm,1.1s						
MANU	**Manus Island**	**4.21**	**356**	Pn	Pn	10 57 28.3	-12
KRVT	**Keravat (AS076**	**4.75**	**66**	P	**Pn**	**10 57 47.9**	**0.0**
	388nm,0.4s,baz=176,slow=19,SNR=12						
KAVG	**Kavieng**	**4.81**	**41**	P	**Pn**	**10 57 52.2**	**+3.4**
RABL	**Rabaul**	**4.92**	**65**		Pn	10 57 43.0	-7.3
RABL	**Rabaul**	**4.92**	**65**	P	**Pn**	**10 57 51.1**	**+0.8**
TABU	**Tabiul**	**6.50**	**278**	P	Pn	10 58 17.3	+5.3
HNR	**Honiara**	**12.55**	**105**	LR	LR	11 03 52.4	
	comp=Z,1μm,20.1s,baz=291,slow=34						
CTA	**Charters Tower**	**13.81**	**186**	P	**Pn**	**10 59 53.4**	**+1.4**
	0.2nm,0.3s,baz=32,slow=9.5,SNR=2.2						
CTA				LR	LR	11 04 58.6	
	comp=Z,321nm,20.4s,baz=6.5,slow=36 5.1nm,0.9s						
CTAO	**Charters Tower**	**13.81**	**186**	Pn	**Pn**	**10 59 53.2**	**+1.2**
QIS	**Mount Isa**	**16.22**	**208**	P	**Pn**	**11 00 24.5**	**+1.0**
KDU	**Kakadu**	**16.29**	**246**	P	**P**	**11 00 28.9**	**+2.2**
SAUI	**Saumlaki**	**16.34**	**263**	Pn	**Pn**	**11 00 20.7**	**-4.3**
SWI	**Sorong**	**17.24**	**288**	P	**P**	**11 00 42.0**	**+4.9**
	73nm,1.1s						
MTN	**Manton Dam**	**17.57**	**247**		**Pn**	**11 00 39.5**	**-0.7**
BNDI	**Bandanaira**	**17.78**	**275**	P	**P**	**11 00 48.1**	**+5.0**
	91nm,0.9s,6μm						
WB0	**Warramunga Arr**	**18.62**	**223**	P	**P**	**11 00 51.9**	**-0.5**
WB0				IAmb	IAmb	11 00 57.7	
	comp=Z,12nm,0.5s						
WR0	**Warramunga Arr**	**18.66**	**222**		**P**	**11 00 53.0**	**+0.2**
WRAB	**Tennant Creek**	**18.77**	**222**	P	**P**	**11 00 53.9**	**-0.1**
WB2	**Warramunga Arr**	**18.77**	**222**		**P**	**11 00 53.5**	**-0.6**
WRA	**Warramunga Arr**	**18.78**	**222**	P	**P**	**11 00 54.4**	**+0.2**
WRA	**Warramunga Arr**	**18.78**	**222**	P	**P**	**11 00 54.1**	**-0.1**
	comp=Z,6.2nm,0.5s,baz=50,slow=11,SNR=156						
WRA				S	**Sn**	**11 04 17.8**	**-6.8**
	comp=Z,0.9nm,0.7s,baz=41,slow=19,SNR=1.7						
WRA				ScP	**ScP**	**11 08 53.4**	**+1.5**
	comp=Z,1.5nm,1.0s,baz=26,slow=1.1,SNR=5.7						
EIDS	**Eidsvold**	**19.27**	**171**		**P**	**11 00 59.4**	**0.0**
EIDS				IAmb	IAmb	11 01 02.1	
	comp=Z,11nm,0.8s						
EIDS	**Eidsvold**	**19.27**	**171**	P	**P**	**11 01 00.4**	**+0.9**
GUMO	**Guam**	**19.92**	**352**	LR	LR	11 08 54.6	
	comp=Z,192nm,18.1s,baz=168,slow=37						
QLP	**Quilpie**	**20.47**	**189**	P	**P**	**11 01 14.1**	**+1.6**
KNRA	**Kununurra**	**20.77**	**242**	P	**P**	**11 01 15.7**	**-0.1**
KNRA				IAmb	IAmb	11 01 39.6	
	comp=Z,14nm,0.8s						
AS31	**Alice Springs**	**21.79**	**216**	P	**P**	**11 01 27.8**	**+1.1**
ASAR	**Alice Springs**	**21.79**	**216**	P	**P**	**11 01 27.8**	**+1.1**
ASAR	**Alice Springs**	**21.79**	**216**	P	**P**	**11 01 27.4**	**+0.6**
	comp=Z,12nm,0.6s,baz=55,slow=8.5,SNR=145						
ASAR				S	**S**	**11 05 25.3**	**+0.1**
	comp=Z,4.3nm,1.1s,baz=29,slow=22,SNR=7.8						
ASAR				ScP	**ScP**	**11 09 00.3**	**+1.4**
	comp=Z,0.7nm,0.9s,baz=41,slow=1.8,SNR=3.0						
ASAR				LR	LR	11 10 31.1	
	comp=Z,274nm,20.3s,baz=46,slow=38 comp=Z,12nm,0.6s						
SANI	**Sanana**	**22.03**	**280**	P	**P**	**11 01 34.6**	**+5.2**
SANI	**Sanana**	**22.03**	**280**	P	P	11 01 48.0	+19
INKA	**Innaminka**	**22.35**	**196**	P	**P**	**11 01 34.9**	**+2.2**
AULRC	**Lightning Ridg**	**23.04**	**179**	P	**P**	**11 01 40.5**	**+0.6**
SOEI	**Soe**	**23.44**	**260**	P	**P**	**11 01 41.1**	**-2.9**
SOEI				IAmb	IAmb	11 02 05.9	
	comp=Z,16nm,0.7s						
OOD	**Oodnadatta**	**24.25**	**207**	P	**P**	**11 01 52.4**	**+1.1**
ARMA	**Armidale**	**24.31**	**172**	P	**P**	**11 01 53.1**	**+1.2**
ARMA	**Armidale**	**24.31**	**172**	P	**P**	**11 01 52.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**24.50**	**239**	P	**P**	**11 01 53.4**	**-0.3**
FITZ				IAmb	IAmb	11 01 56.7	
	comp=Z,6.9nm,1.1s						
FITZ	**Fitzroy Crossi**	**24.50**	**239**	P	**P**	**11 01 55.7**	**+2.0**
AUPHS	**Peel High Scho**	**24.89**	**173**	P	**P**	**11 01 58.4**	**+1.3**
CMSA	**Cobar Meteorol**	**25.21**	**184**	P	**P**	**11 02 01.8**	**+1.8**
LCRK	**Leigh Creek**	**25.65**	**199**	P	**P**	**11 02 05.5**	**+1.6**
AUDCS	**Dubbo College**	**25.85**	**178**	P	**P**	**11 02 05.8**	**+0.1**
STK2	**Stephens Creek**	**26.11**	**192**	P	**P**	**11 02 08.8**	**+0.6**
STKA	**Stephens Creek**	**26.11**	**192**	P	**P**	**11 02 08.7**	**+0.6**
STKA	**Stephens Creek**	**26.11**	**192**	P	**P**	**11 02 08.4**	**+0.3**
	comp=Z,10nm,0.6s,baz=4.1,slow=13,SNR=24						
STKA				LR	LR	11 13 35.1	
	comp=Z,210nm,18.2s,baz=18,slow=39 comp=Z,10nm,0.6s						
MULG	**Mulgathing**	**27.11**	**207**	P	**P**	**11 02 17.6**	**+0.5**
KAPI	**Kappang**	**27.82**	**271**	LR	LR	11 17 02.9	
	comp=Z,66nm,19.0s,baz=102,slow=44						
BBOO	**Buckleboo**	**28.54**	**201**	P	**P**	**11 02 30.2**	**+0.3**
BBOO				IAmb	IAmb	11 02 30.8	
	comp=Z,17nm,0.9s						
CAN	**Canberra**	**28.94**	**178**	P	**P**	**11 02 34.0**	**+0.5**
CAN				IAmb	IAmb	11 02 39.3	
	comp=Z,10.0nm,1.0s						
FORT	**Forrest**	**30.56**	**215**	P	**P**	**11 02 48.2**	**+0.4**
MBWA	**Marble Bar**	**30.84**	**239**	P	**P**	**11 02 48.6**	**-1.9**
MBWA				IAmb	IAmb	11 03 12.7	
	comp=Z,16nm,1.1s						
PSA00	**Pilbara Seismi**	**30.92**	**238**	P	**P**	**11 02 49.9**	**-1.2**
PSA00				IAmb	IAmb	11 02 52.2	
	comp=Z,11nm,0.9s						
JCJ	**Chichijima**	**33.59**	**351**	LR	LR	11 14 32.5	
	comp=Z,92nm,21.8s,baz=118,slow=32						
MORW	**Morawa**	**37.50**	**229**	P	**P**	**11 03 48.0**	**-0.1**
MORW				IAmb	IAmb	11 04 03.4	
	comp=Z,9.6nm,1.1s						
NWAO	**Narrogin (SRO)**	**38.79**	**223**	P	**P**	**11 03 58.9**	**+0.1**
NWAO	**Narrogin (SRO)**	**38.79**	**223**	LR	LR	11 20 51.6	
	comp=Z,259nm,19.2s,baz=38,slow=37						
NIUE	**Niue**	**43.15**	**111**	P	**P**	**11 04 32.0**	**-2.9**
MJAR	**Matsushiro Arr**	**43.50**	**349**	P	**P**	**11 04 38.0**	**+0.6**
	comp=Z,5.5nm,1.0s,baz=171,slow=8.9,SNR=6.6 comp=Z,5.5nm,1.0s						
USRK	**Ussuriysk Ar.**	**52.19**	**346**	LR	LR	11 25 24.7	
	comp=Z,75nm,21.0s,baz=144,slow=33						
BJI	**Beijing**	**54.46**	**330**	P	P	11 05 55.1	-6.2
BJI				pmax	pmax		
	comp=Z,4.0nm,1.5s						
BJI				pmax	pmax		
	comp=Z,95nm,4.7s						
BJI				LR	LR		
	comp=N,83nm,13.6s						
BJI				LR	LR		
	comp=E,100nm,15.9s						
BJI				LR	LR		
	comp=Z,110nm,16.3s						
PZH	**PanZhiHua**	**55.15**	**308**	P	**P**	**11 06 03.5**	**-3.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
HHC	**Hu-ho-hao-te**	**57.41**	**328**	*e*P	**P**	**11 06 18.4**	**-4.2**
HHC				pmax	pmax		
	comp=Z,31nm,0.8s						
HHC				pmax	pmax		
	comp=Z,230nm,4.9s						
BTO	**Baotou**	**58.07**	**327**	*e*P	**P**	**11 06 26.5**	**-0.7**
BTO				pP	**pP**	**11 06 34.1**	**-7.4**
BTO				sP	sP	11 06 37.3	-10
BTO				PP	**PP**	**11 08 39.5**	**+3.1**
BTO				S	**S**	**11 14 29.6**	**+5.0**
BTO	**Baotou**	**58.07**	**327**	SS	SS	11 18 16.0	-0.8
BTO				pmax	pmax		
	comp=Z,12nm,0.8s						
BTO				pmax	pmax		
	comp=Z,360nm,5.0s						
BTO				LR	LR		
	comp=N,270nm,5.0s						
BTO				LR	LR		
	comp=E,320nm,5.1s						
BTO				LR	LR		
	comp=Z,400nm,13.9s						
PETK	**Petropavlovsk-**	**59.76**	**7**	P	**P**	**11 06 38.7**	**+0.2**
	comp=Z,3.6nm,0.9s,baz=191,slow=14,SNR=3.6 comp=Z,3.6nm,0.9s						
SONM	**Songino Array**	**64.96**	**331**	P	**P**	**11 07 14.4**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=157,slow=7.8,SNR=4.0 comp=Z,0.7nm,0.9s						
VNDA	**Vanda**	**71.61**	**177**	P	**P**	**11 07 55.3**	**+0.8**
VNDA				IAmb	IAmb	11 08 05.5	
	comp=Z,3.6nm,1.1s						
VNDA	**Vanda**	**71.61**	**177**	P	**P**	**11 07 54.6**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=332,slow=8.4,SNR=8.9 comp=Z,1.5nm,0.8s						
SBA	**Scott Base**	**72.24**	**176**	P	**P**	**11 07 58.0**	**-0.3**
SBA				IAmb	IAmb	11 08 26.0	
	comp=Z,4.3nm,1.0s						
WMQ	**Urumqi**	**73.43**	**319**	*e*P	**P**	**11 08 03.9**	**-2.2**
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
MKAR	**Makanchi Array**	**78.13**	**320**	P	**P**	**11 08 31.9**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=95,slow=9.3,SNR=5.1 comp=Z,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**79.59**	**328**	P	**P**	**11 08 40.2**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=127,slow=8.4,SNR=2.9 comp=Z,0.6nm,0.4s						
QSPA	**South Pole Qui**	**83.70**	**180**	P	**P**	**11 09 03.1**	**+0.8**
QSPA				IAmb	IAmb	11 09 04.1	
	comp=Z,3.7nm,0.8s						
QSPA	**South Pole Qui**	**83.70**	**180**	P	**P**	**11 09 02.4**	**+0.2**
	comp=Z,3.0nm,0.6s,baz=174,slow=0.7,SNR=9.5 comp=Z,3.0nm,0.6s						
ILAR	**Eielson Array**	**85.46**	**23**	P	**P**	**11 09 11.1**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=257,slow=5.1,SNR=7.0 comp=Z,0.5nm,0.8s						
SNAA	**Sanae**	**99.84**	**189**	LR	LR	11 54 37.7	
	comp=Z,91nm,20.5s,baz=187,slow=35						
TORD	**Torodi Ar. Bea**	**145.81**	**284**	PKPbc	**PKPdf**	**11 16 12.9**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=62,slow=4.3,SNR=14						
BDFB	**Brasilia**	**153.25**	**145**	PKPbc	**PKPbc**	**11 16 33.1**	**+0.7**
	comp=Z,3.5nm,0.6s,baz=85,slow=7.1,SNR=4.0						
BDFB				PKPab	**PKPab**	**11 16 43.3**	**-1.0**
	comp=Z,2.6nm,0.5s,baz=204,slow=5.0,SNR=4.1						

*SJA **16** 11:16:48.0±0.7, 30.°65S×71.°65W, h29$^{km}_{\pm}$3^{km}, ML4.1, MW4.1*
*GUC **16** 11:16:49.8±0.5, 30.°66S×71.°52W, h33$^{km}_{\pm

AC04					IAML			11 18 09.4	
	comp=Z,764nm,0.8s								
PEL	**Peldehue**	**2.57**	**163**			**Pn**		**11 17 30.4**	**+1.4**
PEL	**Peldehue**	**2.57**	**163**	*eP*		**Pn**		**11 17 31.1**	**+2.1**
PEL				*eS*		**Sb**		**11 18 08.7**	**+2.4**
MT02	**Curacav**	**2.60**	**172**			**Pn**		**11 17 30.1**	**+0.8**
MT02	**Curacav**	**2.60**	**172**	*eP*		**Pn**		**11 17 30.8**	**+1.6**
MT02				*eS*		**Sb**		**11 18 08.7**	**+1.7**
MT02					IAML			11 18 09.7	
	comp=Z,675nm,0.2s								
ZON	**Zonda**	**2.64**	**110**			**Pb**		**11 17 33.6**	**-2.6**
ZON	**Zonda**	**2.64**	**110**	*eP*		**Pn**		**11 17 31.9**	**+2.1**
ZON					IAML			11 18 21.4	
	comp=Z,498nm,0.5s								
SJA	**San Juan**	**2.73**	**109**	*eP*		**Pb**		**11 17 35.0**	**-2.7**
SJA					IAML			11 18 34.3	
	comp=Z,370nm,1.2s								
RTLL	**Cerro Villicun**	**2.75**	**104**	*eP*		Pn		11 17 20.9	-10
RTLL					IAML			11 18 43.1	
	comp=Z,2μm,2.0s								
MT05	**Renca**	**2.80**	**165**			**Pn**		**11 17 34.1**	**+2.0**
MT05	**Renca**	**2.80**	**165**	*eP*		**Pn**		**11 17 34.1**	**+2.0**
MT05				*eS*		**Sb**		**11 18 10.5**	**-2.2**
MT05					IAML			11 18 21.1	
	comp=Z,887nm,0.8s								
FCH	**Farellones**	**2.86**	**158**	*eP*		**Pn**		**11 17 36.0**	**+2.9**
FCH				*eS*		**Sb**		**11 18 13.2**	**-1.6**
FCH					IAML			11 18 19.5	
	comp=E,1μm,0.2s								
RTCV	**Cerro Valdivia**	**2.86**	**115**	*eP*		**Pb**		**11 17 37.9**	**-2.1**
MT03	**Universidad Ad**	**2.95**	**162**	*eP*		**Pn**		**11 17 36.6**	**+2.4**
MT03				*eS*		**Sb**		**11 18 14.6**	**-2.5**
MT03					IAML			11 18 24.9	
	comp=Z,1μm,0.5s								
MT04	**Ro Olivares**	**2.98**	**156**	*eP*		**Pn**		**11 17 38.7**	**+3.9**
MT04				*eS*		**Sb**		**11 18 18.5**	**+0.3**
MT04					IAML			11 18 27.5	
	comp=E,1μm,0.5s								
CFA	**Coronel Fontan**	**3.01**	**109**	*eP*		**Pn**		**11 17 38.7**	**+3.7**
CFA				*eS*		**Sb**		**11 18 18.1**	**-0.9**
CFA					IAML			11 18 24.6	
	comp=Z,441nm,0.3s								
CFA	**Coronel Fontan**	**3.01**	**109**	P		**Pn**		**11 17 38.3**	**+3.2**
	comp=Z,337nm,0.4s,baz=290,slow=10.0,SNR=179								
CFA				S		**Sb**		**11 18 15.2**	**-3.7**
	comp=Z,178nm,0.3s,baz=94,slow=18,SNR=7.9								
CFA				LR		LR		11 19 06.8	
	comp=Z,291nm,21.2s,baz=280,slow=45								
MT01	**Popeta**	**3.19**	**175**	*eP*		**Pn**		**11 17 38.6**	**+1.2**
MT01				*eS*		**Sb**		**11 18 21.6**	**-2.3**
MT01					IAML			11 18 31.4	
	comp=Z,574nm,0.4s								
MT01	**Popeta**	**3.19**	**175**	*i* P		**Pn**		**11 17 38.3**	**+0.9**
MT01					IAML			11 18 30.9	
	comp=N,676nm,0.4s								
GO03	**Copiap**	**3.30**	**21**			**Pn**		**11 17 40.7**	**+1.8**
GO03	**Copiap**	**3.30**	**21**	*eP*		**Pn**		**11 17 40.3**	**+1.3**
GO03				*eS*		**Sb**		**11 18 29.6**	**+2.4**
GO03	**Copiap**	**3.30**	**21**	*eP*		**Pn**		**11 17 40.0**	**+1.0**
GO03				*eS*		**Sb**		**11 18 24.2**	**-2.9**
GO03					IAML			11 18 31.6	
	comp=N,650nm,0.6s								
LMEL	**Las Melosas**	**3.37**	**160**			**Pn**		**11 17 42.8**	**+2.8**
BO04	**La Punta**	**3.40**	**166**			**Pn**		**11 17 42.1**	**+1.7**
AC06	**Mina Casimiro**	**3.48**	**18**			**Pn**		**11 17 42.1**	**+0.6**
BO01	**Tunca**	**3.72**	**174**	Pn		**Pn**		**11 17 45.7**	**+0.9**
BO01	**Tunca**	**3.72**	**174**	*eP*		**Pn**		**11 17 45.8**	**+1.1**
BO01					IAML			11 18 42.0	
	comp=Z,242nm,0.6s								
BO02	**Sierra Bellavi**	**4.16**	**171**			**Pn**		**11 17 51.8**	**+1.1**
GO05	**Huala**	**4.33**	**184**			**Pn**		**11 17 52.5**	**-0.6**
AC01	**Pan de Azucar**	**4.60**	**11**	*eP*		**Pn**		**11 17 55.8**	**-1.1**
AC01					IAML			11 19 16.2	
	comp=Z,219nm,0.7s								
GO02	**Mina Guanaco**	**5.78**	**18**			**Pn**		**11 18 13.4**	**+0.1**
BI05	**Punta Hualpn**	**6.20**	**192**	Pn		**Pn**		**11 18 16.9**	**-1.8**
LVC	**Limon Verde**	**8.39**	**17**	P		Pn		11 18 57.6	+8.4
	comp=Z,5.4nm,0.5s,baz=184,slow=11,SNR=4.4								
LVC				S		Sn		11 20 35.8	+13
	comp=Z,17nm,0.6s,baz=278,slow=16,SNR=3.2								
LVC				LR		LR		11 21 58.9	
	comp=Z,128nm,20.7s,baz=204,slow=35								
PLCA	**Paso Flores**	**10.06**	**175**	Pn		**Pn**		**11 19 12.5**	**+0.7**
PLCA	**Paso Flores**	**10.06**	**175**	P		**Pn**		**11 19 11.9**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=339,slow=12,SNR=9.0								
PLCA				LR		LR		11 23 40.8	
	comp=Z,48nm,19.6s,baz=346,slow=42								
TRQA	**Tornquist**	**10.82**	**135**			**Pn**		**11 19 23.2**	**+1.1**
ITQB	**Itaqui**	**12.98**	**89**			**Pn**		**11 19 51.8**	**0.0**
CPUP	**Villa Florida**	**13.26**	**74**			**Pn**		**11 19 57.0**	**+1.4**
CPUP	**Villa Florida**	**13.26**	**74**	P		**Pn**		**11 19 57.6**	**+2.1**
	comp=Z,1.6nm,0.6s,baz=253,slow=14,SNR=3.9								
CPUP				LR		LR		11 25 25.9	
	comp=Z,99nm,19.8s,baz=228,slow=38								
PLTB	**Pedras Altas**	**15.43**	**99**	Pn		**Pn**		**11 20 24.0**	**-0.8**
ITAB	**Concordia**	**17.37**	**83**	P		**P**		**11 20 51.5**	**+1.0**
ITAB				IAmb		IAmb		11 21 04.2	
	comp=Z,27nm,1.4s								
SIV	**San Ignacio**	**17.50**	**36**	P		**Pn**		**11 20 51.9**	**+0.6**
	comp=Z,3.7nm,0.8s,baz=212,slow=10,SNR=9.7								
SIV				LR		LR		11 27 31.6	
	comp=Z,50nm,20.5s,baz=284,slow=36								
PTLB	**Pontes e Lacer**	**18.98**	**40**	P		**P**		**11 21 07.8**	**-0.4**
BDFB	**Brasilia**	**26.26**	**61**	P		**P**		**11 22 21.2**	**-0.9**
BDFB				IAmb		IAmb		11 22 31.8	
	comp=Z,7.3nm,1.1s								
BDFB	**Brasilia**	**26.26**	**61**	P		**P**		**11 22 21.7**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=226,slow=9.5,SNR=3.6								
BDFB				LR		LR		11 33 52.5	
	comp=Z,108nm,19.4s,baz=258,slow=38								
	comp=Z,2.0nm,0.5s								
BOAV	**Boa Vista**	**34.54**	**20**	P		**P**		**11 23 34.4**	**-0.7**
BOAV				IAmb		IAmb		11 23 45.8	
	comp=Z,3.5nm,0.9s								
SNAA	**Sanae**	**54.52**	**159**	P		**P**		**11 26 14.3**	**+0.5**
TXAR	**Lajitas Array**	**67.05**	**330**	P		**P**		**11 27 40.2**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=146,slow=8.3,SNR=2.6								
	comp=Z,0.2nm,0.6s								
VNDA	**Vanda**	**67.42**	**191**	P		**P**		**11 27 41.1**	**-0.2**
VNDA				IAmb		IAmb		11 28 00.0	
	comp=Z,3.2nm,1.4s								
DBIC	**Dimbokro**	**73.77**	**72**	P		**P**		**11 28 19.6**	**-1.4**
	comp=Z,4.9nm,0.9s,baz=227,slow=9.5,SNR=3.2								
	comp=Z,4.9nm,0.9s								
SUR	**Sutherland**	**76.11**	**119**	LR		LR		11 58 27.5	
	comp=Z,35nm,19.6s,baz=142,slow=33								
MAW	**Mawson**	**76.25**	**164**	P		P		11 28 30.6	-3.8
	comp=Z,3.3nm,0.4s,baz=215,slow=7.9,SNR=9.1								
	comp=Z,3.3nm,0.4s								
TOA0	**Torodi Ar. Sit**	**82.72**	**70**	P		**P**		**11 29 10.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**82.72**	**70**	P		**P**		**11 29 09.8**	**-0.6**
TORD				IAmb		IAmb		11 29 26.0	
	comp=Z,3.3nm,1.2s								
TORD	**Torodi Ar. Bea**	**82.72**	**70**	P		**P**		**11 29 10.2**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=227,slow=3.2,SNR=6.2								
	comp=Z,0.4nm,0.5s								
KURBB	**Kurchatov Arra**	**150.13**	**40**	PKPbc		**PKPbc**		**11 36 36.5**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=293,slow=3.2,SNR=2.2								
ZALV	**Zalesovo Beam**	**151.19**	**29**	PKPbc		**PKPbc**		**11 36 38.8**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=289,slow=2.7,SNR=8.4								

*BJI **16** 11:22:22.9, 16˚.97S×177˚.12W, h391km, mb5.1/51, mB5.4/29*

*NEIC **16** 11:22:23, 16˚.81S×177˚.61W, h420km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^17^Nm; Mrr0.36; Mθθ-0.76; Mφφ0.41; Mrθ-1.43; Mθφ-1.52; Mφr0.43; Fault plane solution: M0 2.23000×10^17^ NP1: φs277.54000°, δ82.88000°, λ137.27000°. NP2: φs14.07000°, δ47.68000°, λ9.65000°. Principal axes: T 2.2543, Plg34.0000°, Azm227.0000°; N -0.0483, Plg47.0000°, Azm90.0000°; P -2.2060, Plg23.0000°, Azm333.0000°;*

*BGR **16** 11:22:23.7, 18˚.31S×176˚.94W, h400km*

*NEIC **16** 11:22:23, 17˚.31S×177˚.51W, h420km*

*MOS **16** 11:22:23.4±1.1, 17˚.21S×177˚.84W, h380km, mb5.3/31, Error ellipse: s-maj=8.4km s-min=7.3km az=71.8*

*NEIC **16** 11:22:24.3, 17˚.34S×177˚.54W, h391km*

*NEIC **16** 11:22:24.4±1.7, 17˚.34S±0˚.09×177˚.5W±0˚.1, h392km±4km, mb5.2/93, Mwb5.5/18, Mww5.5/12, Error ellipse: s-maj=16.8km s-min=13.0km az=105.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr0.10; Mθθ-0.77; Mφφ0.67; Mrθ-1.82; Mθφ-1.49; Mφr0.44; Fault plane solution: M0 2.50000×10^17^ NP1: φs13.86000°, δ41.55000°, λ2.34000°. NP2: φs282.11000°, δ88.45000°, λ131.52000°. Principal axes: T 2.5032, Plg33.0000°, Azm226.0000°; N -0.0080, Plg42.0000°, Azm101.0000°; P -2.4952, Plg31.0000°, Azm339.0000°;*

*IDC **16** 11:22:25.6±0.6, 17˚.31S×177˚.86W, h397km±6km, mb4.5/29, mbtmp5.2/31 Error ellipse: s-maj=10.5km s-min=7.2km az=131.0*

*NOU **16** 11:22:25.7, 17˚.37S×177˚.53W, h400km, ML5.1/126, Fiji Islands Region*

*GCMT **16** 11:22:30.4±0.2, 17˚.25S±0˚.03×177˚.59W±0˚.02, h424km±1km, MW5.6/109, Moment Tensor Solution. s109,c175; Duration: 1s5 Moment tensor: Scale 10^17^ Nm; Mrr0.21±.04; Mθθ-0.65±.07; Mφφ0.43±.08; Mrθ-2.07±.07; Mθφ-2.16±.06; Mφr0.69±.07; Best double couple: M0 3.10600×10^17^ NP1: φs277.00000°, δ86.00000°, λ137.00000°. NP2: φs11.00000°, δ47.00000°, λ6.00000°. Principal axes: T 3.2890, Plg33.0000°, Azm224.0000°; N -0.3660, Plg46.0000°, Azm92.0000°; P -2.9230, Plg26.0000°, Azm332.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 16 11:22:25.1±0.4, **17˚.37S**±0˚.04×**177˚.57W**±0˚.04, **h399km**±3km, **h400km**; **pP-P, n1151**, σ1s**16**/1224, **mb5.2**/143, **90C-28D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
				Op	ISC		
TAVE	**Taveuni**	**2.33**	**286**	P	**Pn**	**11 23 25.2**	**+2.0**
DGTI	**Dogotuki**	**2.79**	**292**	P	**Pn**	**11 23 27.8**	**+1.2**
FUTU	**Fugatoga**	**3.09**	**350**	P	**Pn**	**11 23 29.4**	**+0.3**
YSA	**Yasawairara**	**4.69**	**277**	P	**Pn**	**11 23 45.4**	**+1.5**
AFI	**Afiamalu**	**6.56**	**59**	Pn	**Pn**	**11 24 01.6**	**-2.4**
AFI	**Afiamalu**	**6.56**	**59**	P	**Pn**	**11 24 03.0**	**-1.0**
AFI	**Afiamalu**	**6.56**	**59**	P	**Pn**	**11 24 01.6**	**-2.4**
NIUE	**Niue**	**7.46**	**104**	Pn	**P**	**11 24 14.4**	**-0.1**
NIUE	**Niue**	**7.46**	**104**	P	**P**	**11 24 14.9**	**+0.3**
FUNA	**Funafuti**	**9.33**	**340**		**P**	**11 24 32.2**	**-3.3**
RIZ	**Raoul Island**	**11.83**	**182**	S	**S**	**11 27 08.7**	**-4.5**
RAO	**Raoul Island**	**11.83**	**181**	S	**S**	**11 27 12.4**	**-1.0**
	670nm,0.5s,baz=96,slow=23,SNR=8.4						
GLKZ	**Green Lake**	**11.84**	**181**	P	**P**	**11 25 01.5**	**-1.5**
GLKZ				S	**S**	**11 27 10.3**	**-3.2**
RTV	**Rentapao**	**13.36**	**266**	P	**Pn**	**11 25 22.0**	**-0.1**
DVP	**Devils Point**	**13.59**	**266**	P	**Pn**	**11 25 24.5**	**-0.3**
MARNC	**Mare, Loyalty**	**14.18**	**251**	P	**P**	**11 25 28.7**	**-0.1**
MARNC	**Mare, Loyalty**	**14.18**	**251**	P	**P**	**11 25 29.7**	**+0.9**
LIFNC	**LIFOU**	**14.75**	**254**	P	**P**	**11 25 34.6**	**-0.4**
LIFNC	**LIFOU**	**14.75**	**254**	P	**P**	**11 25 35.8**	**+0.8**
PINNC	**Pines Island,**	**15.01**	**247**	P	**P**	**11 25 38.5**	**+0.7**
PINNC	**Pines Island,**	**15.01**	**247**	P	**P**	**11 25 39.0**	**+1.2**
YATNC	**Mamie plateau,**	**15.35**	**250**	P	**P**	**11 25 41.7**	**+0.2**
OUENC	**Ouen Island, N**	**15.49**	**249**	P	**P**	**11 25 42.9**	**-0.1**
OUENC	**Ouen Island, N**	**15.49**	**249**	P	**Pn**	**11 25 44.6**	**-1.5**
DZM	**Mont Dzumac**	**15.76**	**250**	P	**P**	**11 25 45.8**	**-0.1**
DZM	**Mont Dzumac**	**15.76**	**250**	P	**P**	**11 25 46.5**	**+0.5**
DZM	**Mont Dzumac**	**15.76**	**250**	*eP*	**P**	**11 25 45.1**	**-0.9**
	470nm,1.1s						
DZM	**Mont Dzumac**	**15.76**	**250**	P	**P**	**11 25 44.7**	**-1.2**
	99nm,0.9s,baz=78,slow=16,SNR=33						
DZM				S	**S**	**11 28 33.9**	**+1.7**
	29nm,0.9s,baz=184,slow=20,SNR=2.3						
ONTNC	**Ouen Toro**	**15.81**	**249**	P	**P**	**11 25 46.0**	**-0.4**
ONTNC	**Ouen Toro**	**15.81**	**249**	P	**P**	**11 25 47.6**	**+1.2**
NOUC	**Port Laguerre**	**15.89**	**250**	P	**P**	**11 25 47.8**	**+0.5**
RAR	**Rarotonga**	**17.23**	**106**	P	**Pn**	**11 26 06.0**	**+0.4**
RAR	**Rarotonga**	**17.23**	**106**	P	**Pn**	**11 26 06.0**	**+0.4**
	54nm,1.3s,baz=277,slow=6.7,SNR=4.0						
KOUNC	**Koumac, New Ca**	**17.45**	**257**	P	**P**	**11 26 03.7**	**-0.2**
KOUNC	**Koumac, New Ca**	**17.45**	**257**	P	**P**	**11 26 04.1**	**+0.2**
NFK	**Norfolk Island**	**17.65**	**226**	P	**Pn**	**11 26 09.6**	**-0.9**
	baz=18,SNR=3.4						
OUZ	**Omahuta**	**19.44**	**202**	P	**P**	**11 26 27.0**	**+2.7**
GRZ	**Great Barrier**	**19.80**	**197**	P	**P**	**11 26 29.3**	**+1.6**
WCZ	**Waipu Caves**	**19.84**	**200**	P	**P**	**11 26 29.3**	**+1.2**
KUZ	**Kuaotunu**	**20.19**	**196**	P	**P**	**11 26 33.9**	**+2.6**
KUZ	**Kuaotunu**	**20.19**	**196**	P	**P**	**11 26 32.6**	**+1.3**
ABAZ	**Army Bay**	**20.30**	**198**	P	**P**	**11 26 35.4**	**+3.1**
WIAZ	**Waiheke Island**	**20.40**	**197**	P	**P**	**11 26 35.9**	**+2.8**
MXZ	**Matakaoa Point**	**20.44**	**189**	P	**P**	**11 26 33.1**	**-0.4**
EPAZ	**Eden Park BICE**	**20.58**	**198**	P	**P**	**11 26 37.0**	**+2.2**
HAZ	**Te Kaha**	**20.72**	**190**	P	**P**	**11 26 35.4**	**-0.7**
TGRZ	**Tauranga**	**21.00**	**194**	P	**P**	**11 26 40.9**	**+2.3**
TOZ	**Tahuroa Road**	**21.18**	**195**	P	**P**	**11 26 41.6**	**+1.3**
TOZ	**Tahuroa Road**	**21.18**	**195**	P	**P**	**11 26 43.1**	**+2.9**
KMRZ	**Kaimai**	**21.18**	**194**	P	**P**	**11 26 42.7**	**+2.4**
EDRZ	**Edgecumbe**	**21.26**	**192**	P	**P**	**11 26 41.9**	**+0.9**
KARZ	**Kaharoa**	**21.28**	**194**	P	**P**	**11 26 44.5**	**+3.3**
URZ	**Urewera**	**21.33**	**192**	P	**P**	**11 26 40.6**	**-1.0**
	51nm,0.5s,baz=357,slow=2.4,SNR=48						
	51nm,0.5s						
OMRZ	**Omania**	**21.33**	**193**	P	**P**	**11 26 42.7**	**+1.0**
MKRZ	**Makatiti**	**21.34**	**193**	P	**P**	**11 26 46.1**	**+4.2**
CNGZ	**Carnagh Statio**	**21.36**	**189**	P	**P**	**11 26 42.4**	**+0.5**
TKGZ	**Te Karaka**	**21.37**	**190**	P	**P**	**11 26 43.3**	**+1.3**
TKGZ	**Te Karaka**	**21.37**	**190**	P	**P**	**11 26 40.4**	**-1.6**
TARZ	**Mount Tarawera**	**21.43**	**193**	P	**P**	**11 26 43.6**	**+1.0**
UTU	**Utuhina**	**21.44**	**194**	P	**P**	**11 26 46.3**	**+3.7**
HLRZ	**Highlands Stat**	**21.48**	**193**	P	**P**	**11 26 44.1**	**+1.0**
RRRZ	**Republican Roa**	**21.53**	**193**	P	**P**	**11 26 44.6**	**+1.1**
HSRZ	**Hossack Road**	**21.56**	**193**	P	**P**	**11 26 46.3**	**+2.5**
MUGZ	**Murupara**	**21.61**	**192**	P	**P**	**11 26 43.2**	**-0.9**
GRRZ	**Galatos Road**	**21.62**	**194**	P	**P**	**11 26 46.9**	**+2.6**
HRRZ	**Handcock Road**	**21.62**	**193**	P	**P**	**11 26 45.1**	**+0.8**
RTZ	**Ruatahuna**	**21.70**	**192**	P	**P**	**11 26 43.8**	**-1.3**
RTZ				IAmb	IAmb	11 26 46.9	
	comp=Z,212nm,1.5s						
RTZ	**Ruatahuna**	**21.70**	**192**	P	**P**	**11 26 45.5**	**+0.4**
PRRZ	**Plateau Road**	**21.71**	**193**	P	**P**	**11 26 45.2**	**+0.1**
TLZ	**Tolley Road**	**21.74**	**195**	P	**P**	**11 26 47.4**	**+2.0**
TLZ	**Tolley Road**	**21.74**	**195**	P	**P**	**11 26 44.8**	**-0.6**
WPRZ	**Whakapapatarin**	**21.78**	**193**	P	**P**	**11 26 46.7**	**+0.9**
ALRZ	**Allen Road**	**21.78**	**193**	P	**P**	**11 26 45.9**	**+0.2**
KUTZ	**Kaahu Road**	**21.82**	**194**	P	**P**	**11 26 48.4**	**+2.3**
MTNZ	**Maungataniwha**	**21.95**	**192**	P	**P**	**11 26 47.1**	**-0.3**
KNZ	**Kokohu**	**21.97**	**190**	P	**P**	**11 26 47.6**	**+0.1**
RAHZ	**Arahi**	**21.97**	**191**	P	**P**	**11 26 47.5**	**0.0**
MRHZ	**Matea Rd**	**22.02**	**193**	P	**P**	**11 26 47.4**	**-0.6**
WATZ	**Wairara**	**22.05**	**194**	P	**P**	**11 26 49.4**	**+1.2**
HIZ	**Hauiti**	**22.09**	**196**	P	**P**	**11 26 50.9**	**+2.4**
HIZ	**Hauiti**	**22.09**	**196**	P	**P**	**11 26 51.3**	**+2.8**
HIZ	**Hauiti**	**22.09**	**196**	P	**P**	**11 26 51.5**	**+3.0**
RATZ	**Rangitukua**	**22.20**	**194**	P	**P**	**11 26 50.3**	**+0.7**
NMHZ	**Naumai**	**22.20**	**192**	P	**P**	**11 26 49.7**	**+0.1**
RITZ	**Rihia Road**	**22.28**	**194**	P	**P**	**11 26 50.7**	**+0.4**
ARHZ	**Aropaoanui**	**22.32**	**191**	P	**P**	**11 26 51.4**	**+0.7**
BKZ	**Black Stump Fm**	**22.33**	**192**	P	**P**	**11 26 49.7**	**-1.0**
BKZ	**Black Stump Fm**	**22.33**	**192**	P	**P**	**11 26 51.5**	**+0.7**
BKZ	**Black Stump Fm**	**22.33**	**192**	P	**P**	**11 26 49.8**	**-1.0**
BKZ	**Black Stump Fm**	**22.33**	**192**	P	**P**	**11 26 47.0**	**-3.7**
NTVZ	**North Tongarir**	**22.44**	**194**	P	**P**	**11 26 53.2**	**+1.3**
TMVZ	**Te Maari**	**22.45**	**194**	P	**P**	**11 26 51.8**	**-0.1**
ETVZ	**East Tongariro**	**22.47**	**194**	P	**P**	**11 26 51.9**	**-0.2**
TWVZ	**Taurewa**	**22.47**	**194**	P	**P**	**11 26 52.5**	**+0.4**
WTVZ	**West Tongariro**	**22.48**	**194**	P	**P**	**11 26 52.4**	**+0.3**
NNVZ	**North Ngauruho**	**22.48**	**194**	P	**P**	**11 26 53.0**	**+0.7**
OTVZ	**Oturere**	**22.50**	**194**	P	**P**	**11 26 51.8**	**-0.6**
NGZ	**Ngauruhoe**	**22.53**	**194**	P	**P**	**11 26 53.5**	**+0.8**
SNVZ	**South Ngauruho**	**22.53**	**194**	P	**P**	**11 26 52.3**	**-0.4**
MCHZ	**McNeill Hill**	**22.56**	**192**	P	**P**	**11 26 52.4**	**-0.4**
COVZ	**Chateau Observ**	**22.57**	**194**	P	**P**	**11 26 52.9**	**-0.1**
KWHZ	**Kaweka Forest**	**22.59**	**192**	P	**P**	**11 26 52.8**	**-0.4**
TUVZ	**Tukino**	**22.61**	**194**	P	**P**	**11 26 52.7**	**-0.7**
MAVZ	**Matarangi**	**22.63**	**194**	P	**P**	**11 26 54.4**	**+0.6**
TRVZ	**Turoa**	**22.66**	**194**	P	**P**	**11 26 53.2**	**-0.8**
WNVZ	**Wahianoa**	**22.68**	**194**	P	**P**	**11 26 53.1**	**-0.9**
VRZ	**Vera Road**	**22.69**	**196**	P	**P**	**11 26 55.1**	**+1.2**
PKVZ	**Pokaka**	**22.70**	**194**	P	**P**	**11 26 54.6**	**+0.5**
MOVZ	**Moawhango**	**22.72**	**193**	P	**P**	**11 26 54.0**	**-0.3**
BHHZ	**Black Hill Sta**	**22.73**	**193**	P	**P**	**11 26 53.2**	**-1.2**
KRHZ	**Kereru**	**22.81**	**192**	P	**P**	**11 26 54.4**	**-0.7**
KAHZ	**Kahuranaki**	**22.86**	**191**	P	**P**	**11 26 55.5**	**-0.1**
PKE	**Pukeiti**	**22.96**	**197**	P	**P**	**11 27 01.0**	**+4.6**
NEZ	**North Egmont**	**23.00**	**197**	P	**P**	**11 26 59.8**	**+2.9**
KHEZ	**Kahui Hut**	**23.04**	**197**	P	**P**	**11 27 00.0**	**+2.7**
PXZ	**Pawanui**	**23.09**	**191**	P	**P**	**11 26 57.1**	**-0.5**
LREZ	**Lake Rotokare**	**23.09**	**196**	P	**P**	**11 26 59.3**	**+1.7**
PNHZ	**Pukenui**	**23.11**	**192**	P	**P**	**11 26 57.8**	**0.0**
WPHZ	**Waipukurau**	**23.20**	**192**	P	**P**	**11 26 59.5**	**+0.9**
WAZ	**Wanganui**	**23.23**	**195**	P	**P**	**11 26 59.5**	**+0.6**
HNR	**Horiana**	**23.23**	**287**	P	**P**	**11 26 59.3**	**+0.2**
HNR	**Horiana**	**23.23**	**287**	P	**P**	**11 26 59.8**	**+0.6**
HNR	**Horiana**	**23.23**	**287**	P	**P**	**11 26 59.3**	**+0.2**
HNR				pmax	pmax		
	comp=Z,265nm,1.0s						
TSZ	**Takapari Road**	**23.30**	**193**	P	**P**	**11 26 59.6**	**+0.2**
PRHZ	**Porangahau**	**23.36**	**191**	P	**P**	**11 27 00.2**	**+0.1**
DVHZ	**Dannevirke**	**23.48**	**192**	P	**P**	**11 27 00.9**	**-0.3**
ANWZ	**Angora Road**	**23.58**	**191**	P	**P**	**11 27 01.8**	**-0.2**
POWZ	**Post Office Ro**	**23.66**	**193**	P	**P**	**11 27 02.9**	**+0.2**
PRWZ	**Pori Road**	**23.77**	**192**	P	**P**	**11 27 04.6**	**+0.9**
BFZ	**Birch Farm**	**23.84**	**192**	P	**P**	**11 27 03.6**	**-0.7**
BFZ				IAmb	IAmb	11 27 08.2	
	comp=Z,174nm,1.4s						
BFZ	**Birch Farm**	**23.84**	**192**	P	**P**	**11 27 04.8**	**+0.5**
BFZ	**Birch Farm**	**23.84**	**192**	P	**P**	**11 27 03.7**	**-0.6**
MRZ	**Mangatainoka R**	**23.95**	**193**	P	**P**	**11 27 03.5**	**-1.9**
MRZ	**Mangatainoka R**	**23.95**	**193**	P	**P**	**11 27 03.9**	**-1.5**
SNZO	**South Karori**	**24.77**	**194**	P	**P**	**11 27 11.3**	**-1.3**
SNZO				IAmb	IAmb	11 27 13.0	
	comp=Z,219nm,1.4s						
SNZO	**South Karori**	**24.77**	**194**	P	**P**	**11 27 12.4**	**-0.2**
TCW	**Tory Channel**	**24.78**	**195**	P	**P**	**11 27 12.4**	**-0.2**
BHW	**Baring Head**	**24.82**	**194**	P	**P**	**11 27 12.4**	**-0.7**
BHW				IAmb	IAmb	11 27 12.9	
	comp=Z,82nm,0.8s						
QRZ	**Quartz Range**	**24.89**	**198**	P	**P**	**11 27 13.7**	**0.0**
QRZ				IAmb	IAmb	11 27 15.2	
	comp=Z,267nm,1.5s						
QRZ	**Quartz Range**	**24.89**	**198**	P	**P**	**11 27 14.4**	**+0.7**
PLWZ	**Palliser**	**24.89**	**193**	P	**P**	**11 27 13.0**	**-0.8**
TKNZ	**Takaka Hill**	**24.96**	**197**	P	**P**	**11 27 13.8**	**-0.5**
NNZ	**Nelson**	**25.01**	**196**	P	**P**	**11 27 14.1**	**-0.7**
NNZ				IAmb	IAmb	11 27 16.5	
	comp=Z,98nm,0.9s						
BSWZ	**Blackbirch Sta**	**25.35**	**195**	P	**P**	**11 27 17.8**	**0.0**
MRNZ	**Matariki Terra**	**25.35**	**197**	P	**P**	**11 27 17.8**	**0.0**
THZ	**Tophouse**	**25.65**	**197**	P	**P**	**11 27 19.6**	**-0.9**
THZ				IAmb	IAmb	11 27 22.4	
	comp=Z,82nm,1.0s						
DSZ	**Denniston Nort**	**25.95**	**198**	P	**P**	**11 27 23.1**	**-0.1**
KHZ	**Kahutara**	**26.09**	**195**	P	**P**	**11 27 23.7**	**-0.6**
KHZ				IAmb	IAmb	11 27 24.4	
	comp=Z,147nm,1.2s						
CTZ	**Chatham Island**	**26.30**	**178**	P	**P**	**11 27 29.4**	**+3

MANU Manus Island 37.66 290 P P 11 29 05.2 +0.9
TOO Toolangi 38.13 231 P P 11 29 08.2 +0.2
baz=38,SNR=51
TOO Toolangi 38.13 231 P P 11 29 08.4 +0.5
TOO Toolangi 38.13 231 P P 11 29 08.4 +0.5
TOO Toolangi 38.13 231 P P 11 29 08.4 +0.5
TOO pmax pmax
comp=Z,373nm,1.3s
MOO Moorlands 39.03 223 P P 11 29 15.6 +0.4
baz=39,SNR=7.2
MOO Moorlands 39.03 223 P P 11 29 16.0 +0.8
AUTAR Taroona High S 39.16 222 P P 11 29 17.2 +0.9
TAU Tasmania Unive 39.17 222 P P 11 29 16.1 -0.3
TAU lAmb lAmb 11 29 17.9
comp=Z,128nm,1.3s
TAU Tasmania Unive 39.17 222 P P 11 29 17.3 +0.9
TAU Tasmania Unive 39.17 222 P P 11 29 16.1 -0.3
TAU pmax pmax
comp=Z,128nm,1.3s
TAU Tasmania Unive 39.17 222 P P 11 29 16.4 0.0
WAKE Wake Island 39.58 336 P P 11 29 19.0 -0.9
WAKE Wake Island 39.58 336 P P 11 29 19.5 -0.4
WAKE Wake Island 39.58 336 P P 11 29 18.8 -1.2
STKA Stephens Creek 39.59 241 P P 11 29 20.0 0.0
baz=40,SNR=60
STKA Stephens Creek 39.59 241 P P 11 29 20.0 0.0
STKA Stephens Creek 39.59 241 P P 11 29 19.8 -0.2
STKA Stephens Creek 39.59 241 P P 11 29 19.6 -0.3
comp=Z,56nm,0.8s,baz=80,slow=9.1,SNR=78
comp=Z,56nm,0.8s
INKA Innaminka 39.69 247 P P 11 29 21.5 +0.7
QIS Mount Isa 40.54 259 P P 11 29 26.0 -1.9
baz=41,SNR=4.9
QIS Mount Isa 40.54 259 P P 11 29 26.2 -1.7
ARPS Mount Arapiles 40.61 233 P P 11 29 27.9 -0.2
baz=41,SNR=30
TABU Tabubil 42.05 282 P P 11 29 42.3 +2.2
HTT Hallett 42.10 239 P P 11 29 39.9 -0.3
baz=42,SNR=48
HTT Hallett 42.10 239 P P 11 29 40.9 +0.6
LCRK Leigh Creek 42.21 244 P P 11 29 40.9 -0.2
JAY Jayapura 43.53 285 P P 11 29 52.7 +0.9
comp=Z,130nm,1.1s,comp=Z,1μm
GENI Genyem 43.99 285 P P 11 29 56.2 +0.8
GENI Genyem 43.99 285 P P 11 29 57.0 +1.6
comp=Z,298nm,0.7s,comp=Z,4μm
OOD Oodnadatta 44.16 248 P P 11 29 56.9 +0.4
BBOO Buckleboo 44.36 241 P P 11 29 57.6 -0.4
baz=45,SNR=132
BBOO Buckleboo 44.36 241 P P 11 29 57.5 -0.6
BBOO lAmb lAmb 11 29 58.8
comp=Z,128nm,1.1s
BBOO Buckleboo 44.36 241 P P 11 29 57.9 -0.1
WR0 Warramunga Arr 45.33 259 P P 11 30 03.7 -2.0
WB2 Warramunga Arr 45.50 259 P P 11 30 05.5 -1.6
WRAB Tennant Creek 45.51 259 P P 11 30 05.1 -2.0
WRAB Tennant Creek 45.51 259 P P 11 30 05.1 -2.0
WRAB pmax pmax
comp=Z,39nm,1.2s
WRA Warramunga Arr 45.52 259 P P 11 30 05.1 -2.1
comp=Z,18nm,0.6s,baz=93,slow=6.9,SNR=144
WRA PcP PcP 11 31 39.6 +1.3
comp=Z,13nm,0.7s,baz=89,slow=3.8,SNR=8.4
WRA ScP ScP 11 34 52.1 -0.3
comp=Z,6.2nm,0.9s,baz=86,slow=4.6,SNR=5.9
WRA S S 11 36 14.5 -4.3
comp=Z,8.3nm,0.8s,baz=97,slow=13,SNR=6.6
comp=Z,18nm,0.6s
AS31 Alice Springs 45.70 254 P P 11 30 07.2 -1.4
AS31 lAmb lAmb 11 30 10.1
comp=Z,61nm,0.6s
ASAR Alice Springs 45.70 254 P P 11 30 07.7 -0.9
ASAR Alice Springs 45.70 254 P P 11 30 07.7 -0.9
ASAR Alice Springs 45.70 254 P P 11 30 07.5 -1.2
comp=Z,168nm,0.5s,baz=88,slow=7.9,SNR=1882
ASAR PcP PcP 11 31 40.2 +1.3
comp=Z,7.6nm,0.5s,baz=112,slow=3.2,SNR=4.9
ASAR S S 11 36 17.1 -4.3
comp=Z,32nm,0.9s,baz=90,slow=16,SNR=30
comp=Z,168nm,0.5s
MULG Mulgathing 45.76 244 P P 11 30 08.3 -0.6
GUMO Guam 48.17 307 P P 11 30 27.0 -0.5
GUMO Guam 48.17 307 P P 11 30 29.7 +2.3
GUMO Guam 48.17 307 P P 11 30 27.0 -0.5
GUMO pmax pmax
comp=Z,967nm,1.4s
GUMO Guam 48.17 307 P P 11 30 27.7 +0.3
GUMO pP pP 11 31 45.0 -1.8
KDU Kakadu 48.37 268 P P 11 30 27.8 -1.1
baz=49,SNR=38
KDU Kakadu 48.37 268 P P 11 30 28.3 -0.7
MTN Manton Dam 49.61 268 P P 11 30 36.9 -1.4
baz=50,SNR=17
MTN Manton Dam 49.61 268 P P 11 30 37.1 -1.2
MTN Manton Dam 49.61 268 P P 11 30 38.0 -0.3
SAUI Saumlaki 50.61 274 P P 11 30 46.9 +1.2
SAUI Saumlaki 50.61 274 P P 11 30 47.5 +1.8
comp=Z,270nm,1.1s
WRKA Warakurna 50.77 252 P P 11 30 45.8 -1.0
baz=51,SNR=590
WRKA Warakurna 50.77 252 P P 11 30 46.3 -0.5
FORT Forrest 50.96 244 P P 11 30 46.9 -1.1
baz=51,SNR=31
FORT Forrest 50.96 244 P P 11 30 47.3 -0.7
FORT Forrest 50.96 244 P P 11 30 48.5 +0.5
KNRA Kununurra 51.34 264 P P 11 30 50.0 -1.0
baz=52,SNR=18
KNRA Kununurra 51.34 264 P P 11 30 50.1 -1.0
KNRA lAmb lAmb 11 30 52.4
comp=Z,70nm,0.6s
KNRA Kununurra 51.34 264 P P 11 30 51.5 +0.5
SWI Sorong 52.90 282 P P 11 31 02.4 0.0
comp=Z,354nm,0.9s,comp=Z,3μm
FITZ Fitzroy Crossi 53.90 260 P P 11 31 09.1 -0.4
baz=54,SNR=24
FITZ Fitzroy Crossi 53.90 260 P P 11 31 09.2 -0.4
FITZ Fitzroy Crossi 53.90 260 P P 11 31 09.4 -0.2
KMBL Kambalda 56.26 244 P P 11 31 25.0 -1.1
baz=56,SNR=11
KMBL Kambalda 56.26 244 P P 11 31 26.0 -0.1
DRV Dumont d'Urvil 56.43 199 P P 11 31 27.6 +1.1
LBMI Labuha 56.49 281 P P 11 31 29.5 +1.6
comp=Z,117nm,0.6s
SOEI Soe 56.87 270 P P 11 31 31.8 +1.2
SOEI Soe 56.87 270 P P 11 31 31.9 +1.2
SOEI Soe 56.87 270 P P 11 31 31.9 +1.2
comp=Z,223nm,0.6s,comp=Z,3μm
TNTI Ternate 57.12 283 P P 11 31 33.1 +0.9
TNTI Ternate 57.12 283 P P 11 31 34.1 +1.9
comp=Z,77nm,0.9s
SANI Sanana 57.44 279 P P 11 31 34.5 0.0
SANI Sanana 57.44 279 P P 11 31 34.4 0.0
comp=Z,49nm,0.8s
PSA00 Pilbara Seismi 58.82 255 P P 11 31 42.9 -0.9
PSA00 lAmb lAmb 11 31 45.3
comp=Z,208nm,1.6s
PSA00 Pilbara Seismi 58.82 255 P P 11 31 43.3 -0.5
MBWA Marble Bar 58.98 255 P P 11 31 44.3 -0.6
MBWA lAmb lAmb 11 31 46.5
comp=Z,57nm,0.8s
MBWA Marble Bar 58.98 255 P P 11 31 45.5 +0.6
MBWA Marble Bar 58.98 255 P P 11 31 44.1 -0.7
MBWA PcP PcP 11 32 30.0 +0.8
MMRI Maumere 59.09 270 P P 11 31 44.8 -1.0
MMRI lAmb lAmb 11 31 46.5
comp=Z,84nm,0.6s
MMRI Maumere 59.09 270 P P 11 31 46.5 +0.8
MMRI Maumere 59.09 270 P P 11 31 46.2 +0.5
comp=Z,145nm,0.7s
MEEK Meekatharra 59.37 249 P P 11 31 46.4 -1.1
baz=60,SNR=62
MEEK Meekatharra 59.37 249 P P 11 31 47.1 -0.4
EDFI Ende, Flores 59.58 270 P P 11 31 49.1 -0.1
comp=Z,113nm,1.3s,comp=Z,1μm
KLBR Kellerberrin 59.78 243 P P 11 31 49.3 -0.8
baz=60,SNR=51
NWAO Narrogin (SRO) 60.17 242 P P 11 31 52.3 -0.4
baz=60,SNR=12
NWAO P P 11 31 52.3 -0.4
baz=60,SNR=12
NWAO Narrogin (SRO) 60.17 242 P P 11 31 52.6 -0.1
NWAO Narrogin (SRO) 60.17 242 P P 11 31 52.8 +0.1
NWAO Narrogin (SRO) 60.17 242 P P 11 31 52.6 -0.1
NWAO pmax pmax
comp=Z,324nm,1.7s
NWAO Narrogin (SRO) 60.17 242 P P 11 31 52.5 -0.3
RKGY Rocky Gully 60.33 240 P P 11 31 54.6 +0.8
baz=60,SNR=4.0
BLDU Ballidu 60.73 244 P P 11 31 55.7 -0.8
baz=61,SNR=57
BLDU Ballidu 60.73 244 P P 11 31 56.0 -0.5
SBA Scott Base 61.01 184 P P 11 32 00.5 +3.0
VNDA Vanda 61.05 185 P P 11 31 59.3 +1.5
VNDA Vanda 61.05 185 P P 11 31 59.3 +1.5
VNDA pmax pmax
comp=Z,61nm,1.4s
VNDA Vanda 61.05 185 P P 11 31 59.1 +1.4
comp=Z,31nm,1.1s,baz=4.5,slow=4.0,SNR=38
comp=Z,31nm,1.1s
VNDA Vanda 61.05 185 P P 11 31 59.6 +1.8
VNDA PcP PcP 11 32 38.2 +1.8
MUN Mundaring 61.08 243 P P 11 31 58.7 -0.1
baz=61,SNR=11
MUN Mundaring 61.08 243 P P 11 31 59.7 +0.9
MUN Mundaring 61.08 243 P P 11 31 58.2 -0.6
MORW Morawa 61.43 246 P P 11 32 00.5 -0.7
baz=62,SNR=28
MORW Morawa 61.43 246 P P 11 32 00.5 -0.7
MORW lAmb lAmb 11 32 02.7
comp=Z,46nm,0.7s
MORW Morawa 61.43 246 P P 11 32 01.4 +0.2
MRSI Marisa 62.10 280 P P 11 32 06.5 +0.7
comp=Z,38nm,0.6s
SPSI Sidrap Palu 62.74 275 P P 11 32 09.8 -0.2
comp=Z,34nm,1.0s,comp=Z,4μm
PLAI Plampang 63.30 269 P P 11 32 14.8 +1.2
PLAI Plampang 63.30 269 P P 11 32 14.1 +0.5
comp=Z,178nm,1.4s,comp=Z,2μm
GIRL Giralia 63.81 253 P P 11 32 18.3 +1.5
baz=64,SNR=9.8
GIRL Giralia 63.81 253 P P 11 32 17.2 +0.4
MPSI Mapaga 63.97 279 P P 11 32 18.5 +0.5
comp=Z,36nm,0.8s
TWSI Taliwang, Sumb 64.18 269 P P 11 32 19.0 -0.3
comp=Z,211nm,0.9s,comp=Z,2μm
CCD Concordia, Ant 65.58 194 P P 11 32 28.8 +1.1
CCD pP pP 11 33 55.8 +2.5
SRBI Singaraja 65.94 269 P P 11 32 29.7 -0.8
comp=Z,99nm,1.5s,comp=Z,2μm
JSG Sagara 66.68 321 P P 11 32 35.4 +0.7
JAGI Jajag, Banyuwa 66.85 268 P P 11 32 34.4 -1.8
JAGI Jajag, Banyuwa 66.85 268 P P 11 32 35.3 -0.9
JAGI Jajag, Banyuwa 66.85 268 P P 11 32 34.3 -1.9
comp=Z,133nm,1.4s
CASY Casey 66.96 205 P P 11 32 36.9 +1.0
CASY lAmb lAmb 11 32 38.3
comp=Z,48nm,0.8s
CASY Casey 66.96 205 P P 11 32 36.6 +0.7
JMM Marumori 67.45 325 P P 11 32 39.8 +0.4
BBKI Banjar Baru 67.59 273 P P 11 32 43.1 +2.3
comp=Z,116nm,0.8s
MJAR Matsushiro Arr 67.96 323 P P 11 32 41.6 -1.0
comp=Z,54nm,0.9s,baz=156,slow=6.0,SNR=73
comp=Z,54nm,0.9s
MAJO Matsushiro 67.96 323 P P 11 32 41.9 -0.7
MAJO lAmb lAmb 11 32 43.1
comp=Z,61nm,0.8s
MAJO Matsushiro 67.96 323 P P 11 32 42.4 -0.2
MAJO Matsushiro 67.96 323 *d iP* P 11 32 41.7 -0.9
MAJO pmax pmax
comp=Z,72nm,0.9s
MAJO Matsushiro 67.96 323 P P 11 32 42.0 -0.7
MJB9 Matsu-Tunnel 67.96 323 P P 11 32 42.2 -0.4
MJB9 lAmb lAmb 11 32 44.1
comp=Z,58nm,0.8s
JMN Monobe 68.72 318 P P 11 32 48.1 +0.7
ATKA Atka Island 69.34 2 P P 11 32 50.6 0.0
JNU Nakatsue 70.31 316 P P 11 32 56.4 -0.5
JNU lAmb lAmb 11 32 58.0
comp=Z,85nm,1.1s
JNU Nakatsue 70.31 316 P P 11 32 58.0 +1.0
NIKH Nikolski High 70.45 6 P P 11 32 56.9 -0.4
baz=189
UGM Wanagama 70.46 268 P P 11 32 57.9 -0.5
JKA Kamikawa-asahi 71.19 331 P P 11 33 02.4 +0.5
JKA lAmb lAmb 11 33 04.1
comp=Z,79nm,0.9s
ASAJ Asahikawa 71.19 331 P P 11 33 02.4 +0.5
ASAJ pmax pmax
comp=Z,79nm,0.9s
UNV Unalaska Valle 71.56 7 P P 11 33 03.5 -0.3
UNV Unalaska Valle 71.56 7 P P 11 33 02.8 -1.0
baz=191
SKR Severo-Kuril's 71.60 343⇑ *eP* P 11 33 03.8 -0.3
STKI Sintang 71.86 276 P P 11 33 07.4 +0.8
comp=Z,29nm,0.6s
KPJI Karang Pucung 72.14 268 P P 11 33 08.8 +0.6
comp=Z,99nm,1.4s,comp=Z,2μm
NACB Ninganchiao 72.29 303 P P 11 33 09.6 +0.8
TPUB Ta-pu 72.65 302 P P 11 33 09.2 -1.8
QSPA South Pole Qui 72.68 180 P P 11 33 11.4 +0.9
QSPA South Pole Qui 72.68 180 P P 11 33 11.7 +1.1
comp=Z,24nm,0.7s,baz=44,slow=1.8,SNR=72
comp=Z,24nm,0.7s
FALS False Pass 72.94 9 P P 11 33 11.9 0.0
baz=194
PET Petropavlovsk 73.05 345 P P 11 33 12.2 -0.4
PET lAmb lAmb 11 33 12.4
comp=Z,85nm,1.4s
PET Petropavlovsk 73.05 345 *eP* P 11 33 11.0 -1.6
PET *eS* SKiKP 11 42 04.3 +2.3
PET pmax pmax
comp=Z,60nm,1.3s
PET pmax pmax
comp=Z,200nm,14.1s
YSS Yuzh-Sakhalins 73.30 333 P P 11 33 15.4 +1.3
YSS Yuzh-Sakhalins 73.30 333 *eP* P 11 33 14.5 +0.4
YSS pmax pmax
comp=Z,60nm,1.0s
YSS pmax pmax
comp=Z,500nm,2.9s
BBJI Bungbulang 73.33 267 P P 11 33 15.3 +0.1
PEA0B Petropavlovsk- 73.37 345 P P 11 33 13.8 -0.6
PEA0B Petropavlovsk- 73.37 345 *deP* P 11 33 14.0 -0.4
PETK Petropavlovsk- 73.37 345 P P 11 33 14.1 -0.3
PETK Petropavlovsk- 73.37 345 P P 11 33 14.1 -0.3
PETK Petropavlovsk- 73.37 345 P P 11 33 13.8 -0.6
comp=Z,50nm,0.9s,baz=131,slow=8.6,SNR=46
comp=Z,50nm,0.9s
KSM Kuching 73.41 277 P P 11 33 17.6 +2.0
CHNA Chernabura Isl 73.53 11 P P 11 33 14.7 -0.6
baz=198
DBJI Dramaga 74.43 268 P P 11 33 22.1 +0.6
comp=Z,170nm,1.2s
KSRS Korea Array 74.83 318 P P 11 33 23.8 +0.7
comp=Z,38nm,1.1s,baz=136,slow=6.4,SNR=27
comp=Z,38nm,1.1s
S14K Fog Glacier 74.92 10 P P 11 33 23.7 +0.4
baz=198
CHGN Chignik 75.14 11 P P 11 33 25.6 +1.2
baz=199
CGJI Cibinong 75.42 268 P P 11 33 27.2 +0.2
comp=Z,202nm,0.7s,comp=Z,3μm
SMMC Simmler 75.64 45 P P 11 33 29.2 +1.3
baz=236
CIS Catalina Islan 75.70 48 P P 11 33 29.2 +1.1
baz=238
MSHR Mys Shultsa 76.04 324 *ceP* P 11 33 30.9 +1.1
MSHR pmax pmax
comp=Z,36nm,1.0s
PPBI Pangkal Pinang 76.27 272 P P 11 33 33.6 +1.8
ARVC Arvin 76.34 46 P P 11 33 32.7 +1.0
baz=237
109C Camp Elliot, M 76.37 49 P P 11 33 33.1 +1.2
baz=239
TYV Tymovskoe 76.37 335 *eP* P 11 33 31.5 +0.1
TYV *eS* S 11 42 37.6 -5.2
TYV pmax pmax
comp=Z,400nm,3.1s
TYV pmax pmax
comp=Z,99nm,1.1s
TYV smax smax
comp=N,300nm,5.9s
TYV smax smax
comp=E,300nm,5.9s
R16K Pilot Point 76.49 11 P P 11 33 32.6 +0.7
baz=200
VES Vestal, Richgr 76.55 45 P P 11 33 34.0 +1.2
baz=237,SNR=11
USA0B Ussuriysk Arra 76.62 325 *ceP* P 11 33 34.1 +1.1
USRK Ussuriysk Ar. 76.62 325 P P 11 33 33.1 +0.1
comp=E,8.2nm,0.8s,baz=116,slow=4.4,SNR=12
comp=E,8.2nm,0.8s
MURC Murrieta 76.67 48 P P 11 33 34.9 +1.2
baz=238,SNR=6.6
BFSC Mount Baldy Ra 76.68 47 P P 11 33 34.4 +0.7
baz=238
R17K Ugashik Creek 76.78 12 P P 11 33 33.8 +0.3
baz=201
EDW2 Edwards Air Fo 76.78 47 P P 11 33 35.5 +1.3
baz=238,SNR=14
ISA Isabella, Lake 76.87 46 P P 11 33 35.8 +1.0
baz=237
KASI Kota Agung 76.87 268 P P 11 33 34.8 -0.3
comp=E,205nm,1.0s,comp=E,2μm
IKP In-Ko-Pah, Jac 76.96 50 P P 11 33 37.1 +1.8
baz=239,SNR=11
OHAK Old Harbor 77.02 13 P P 11 33 35.8 +0.9
baz=204
R18K Karluk 77.09 13 P P 11 33 35.8 +0.5
baz=203
PFO Pinyon Flats O 77.20 49 P P 11 33 38.0 +1.3
baz=239,SNR=7.7
PFO Pinyon Flats O 77.20 49⇑ *eP* P 11 33 37.2 +0.5
PFO pmax pmax
comp=Z,34nm,1.3s
PFO Pinyon Flats O 77.20 49 P P 11 33 38.2 +1.6
comp=Z,8.5nm,1.0s,baz=266,slow=3.9,SNR=9.7
comp=Z,8.5nm,1.0s
TPFO Pinon Flats 77.20 49 P P 11 33 38.1 +1.5
baz=239,SNR=7.5
LRMC Laurel Mtn Rad 77.32 46 P P 11 33 38.0 +0.7
baz=238
SWSC Sam W. Stewart 77.34 49 P P 11 33 38.8 +1.6
baz=240,SNR=14
Q17K Contact Creek 77.46 12 P P 11 33 37.1 -0.3
baz=201,SNR=7.2
CWC Cottonwood Cre 77.56 45 P P 11 33 40.0 +1.4
baz=237
YBH Yreka Blue Hor 77.61 39 P P 11 33 40.1 +1.5
comp=Z,16nm,1.1s,baz=248,slow=3.9,SNR=15
comp=Z,16nm,1.1s
KDAK Kodiak Island 77.69 13 P P 11 33 39.6 +1.1
baz=204
KDAK Kodiak Island 77.69 13⇑ *eP* P 11 33 38.1 -0.5
KDAK pmax pmax
comp=Z,202nm,1.4s
KDAK Kodiak Island 77.69 13 P P 11 33 39.5 +0.9
comp=Z,50nm,1.1s,baz=173,slow=0.4,SNR=9.3
comp=Z,50nm,1.1s
MLAC Mammoth, Mammo 77.70 44 P P 11 33 41.0 +1.6
baz=237
Q16K King Salmon 77.70 11 P P 11 33 39.1 +0.5
baz=200,SNR=5.2
BELC Belle Mtn. Jos 77.73 48 P P 11 33 41.3 +1.8
baz=239
MPMC Manual Prospec 77.76 46 P P 11 33 41.3 +1.6
baz=238,SNR=18
TIN Tinemaha, Big 77.79 45 P P 11 33 41.3 +1.6
baz=237
P16K Nushagak River 77.80 10 P P 11 33 39.2 +0.1
baz=199
GSC Goldstone, Bar 77.83 47 P P 11 33 41.3 +1.3
baz=238,SNR=11
HEC Hector,Ludlow 77.92 48 P P 11 33 41.5 +1.0
baz=239,SNR=12
BC3 Big Chuckawall 77.95 49 P P 11 33 42.6 +1.9
baz=240,SNR=8.0
Q18K Katmai Hardscr 77.98 12 P P 11 33 40.0 -0.4
baz=202,SNR=7.4
M11K Mekoryuk 78.02 6 P P 11 33 41.3 +1.0
baz=191
N14K Kuskokwak Cree 78.09 8 P P 11 33 41.3 +0.6
baz=195
MDJ Mudanjiang 78.21 324 P P 11 33 42.6 +0.9
MDJ Mudanjiang 78.21 324 P P 11 33 42.6 +0.9
MDJ PcP PcP 11 33 53.5 +4.0
MDJ pP pP 11 35 09.9 -0.4
MDJ sP sP 11 35 49.4 -2.6
MDJ PP PP 11 36 46.1 +0.8
MDJ S S 11 43 03.6 +0.9
MDJ pmax pmax
comp=Z,67nm,1.5s
MDJ pmax pmax
comp=Z,500nm,5.0s
NJ2 Nanjing 78.22 309 *eP* P 11 33 42.9 +0.9
NJ2 pP pP 11 35 09.1 -1.9
NJ2 sP sP 11 35 48.8 -4.0
NJ2 pmax pmax
comp=Z,14nm,0.8s
NJ2 pmax pmax
comp=Z,150nm,4.0s
P17K Kvichak River 78.23 11 P P 11 33 41.3 -0.1
baz=200,SNR=9.1
DSRI Dabo 78.26 273 P P 11 33 44.9 +2.2
comp=Z,46nm,1.3s
O16K Kokwok River B 78.31 10 P P 11 33 41.2 -0.8
baz=199
GRAC Grapevine Rang 78.34 45 P P 11 33 44.6 +2.0
baz=238,SNR=16
M13K Dall Lake 78.36 7 P P 11 33 43.0 +0.9
baz=194
GMRC Granite Mounta 78.37 48 P P 11 33 44.8 +1.8
baz=239,SNR=12
FURC Furnace Creek, 78.40 46 P P 11 33 44.4 +1.5
baz=238,SNR=9.7
IRM Iron Mountain 78.42 49 P P 11 33 45.1 +2.0
baz=240,SNR=22
NVAR Mina Array Bea 78.48 44 P P 11 33 45.1 +1.5
comp=Z,15nm,0.8s,baz=226,slow=8.4,SNR=58
NVAR pP pwP 11 35 16.3 +1.0
comp=Z,2.4nm,1.0s,baz=237,slow=8.2,SNR=2.5
comp=Z,15nm,0.8s
Q20K Shuyak Island 78.49 13 P P 11 33 43.5 +0.6
baz=204
SHOC Shoshone, Teco 78.51 47 P P 11 33 45.0 +1.4
baz=239,SNR=8.3
Q19K Cape Douglas, 78.52 12 P P 11 33 43.3 +0.2
baz=203
TUQ Turquoise Moun 78.52 47 P P 11 33 45.2 +1.4
baz=239
N15K Kwethluk River 78.55 9 P P 11 33 43.7 +0.5
baz=197
P18K Big Mountain, 78.63 11 P P 11 33 43.4 -0.3
baz=202,SNR=9.4
O17K Koliganek Bris 78.65 10 P P 11 33 43.2 -0.5
baz=200,SNR=7.5
113A Mohawk Valley, 78.74 50 P P 11 33 46.1 +1.3
113A lAmb lAmb 11 33 48.1
comp=Z,44nm,1.2s
M14K Bethel 78.86 8 P P 11 33 45.7 +0.9
baz=195,SNR=5.4
GRNR Gornyy 78.93 332 ⇓ *iP* P 11 33 45.9 +0.4
GRNR pmax pmax
comp=E,10.0nm,1.1s
GRNR pmax pmax
comp=N,10.0nm,1.0s
GRNR pmax pmax
comp=Z,50nm,1.1s
M15K Kasigluk River 78.97 8 P P 11 33 45.9 +0.5
baz=196
N16K Nishlik Lake 79.04 9 P P 11 33 46.7 +0.8
baz=198
214A Organ Pipe Nat 79.06 52 P P 11 33 48.4 +1.8
baz=242,SNR=12
O18K Koktuh Hills 79.07 11 P P 11 33 46.1 +0.1
baz=202,SNR=13
TPNV Topopah Spring 79.07 46 P P 11 33 47.2 +0.4
baz=238,SNR=13
PDMCI Parker Dam,Lak 79.21 49 P P 11 33 48.9 +1.5
baz=240,SNR=9.9
P19K Oil Pt 79.27 12 P P 11 33 47.6 +0.5
baz=204
L14K Kuka Creek 79.34 7 P P 11 33 47.5 +0.2
baz=194
N17K Nushagak Hills 79.35 10 P P 11 33 47.6 +0.1
baz=200
M16K Timber Creek 79.54 9 P P 11 33 49.0 +0.6
baz=198
O19K Port Alsworth 79.55 12 P P 11 33 48.2 -0.3
baz=202,SNR=22
N18K Kilae Creek 79.72 11 P P 11 33 48.6 -0.8
N18K lAmb lAmb 11 33 50.4
comp=Z,47nm,1.3s
N18K Kilae Creek 79.72 11 P P 11 33 49.6 +0.2
baz=201
O20K Slope Mountain 79.78 12 P P 11 33 49.9 0.0
baz=204
L15K Ungalak Mounta 79.81 8 P P 11 33 50.4 +0.5

baz=196
BRSE Bradley Lake S 79.88 13 P P 11 33 50.7 +0.4
baz=206
KLR Kul'dur 80.06 329 *de*P P 11 33 51.5 0.0
KLR pmax pmax
comp=Z,29nm,1.3s
CN2 Changchun 80.08 322 *e*P P 11 33 52.0 +0.2
CN2 *e*S **SKSac** 11 43 25.9 -4.4
CN2 pmax pmax
comp=Z,50nm,1.0s
CN2 pmax pmax
comp=Z,400nm,3.4s
CN2 LR LR
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,300nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
N19K Bonanza Creek 80.10 11 P P 11 33 50.8 -0.7
baz=202
BNX BinXian 80.12 324 ⇓P P 11 33 51.8 -0.1
BNX pP **pP** 11 35 21.8 +0.8
BNX S **S** 11 43 22.1 -0.5
BNX pmax pmax
comp=Z,82nm,1.0s
BNX pmax pmax
comp=Z,340nm,3.4s
L16K Owhat River 80.12 9 P P 11 33 51.8 +0.2
baz=198,SNR=11
M17K Holitna River 80.13 10 P P 11 33 52.4 +0.8
baz=199
SVW2 Sparrevohn 80.16 11 P P 11 33 52.2 +0.4
R11B Troy Canyon, C 80.25 45 P P 11 33 53.7 +0.7
baz=239,SNR=11
K15K Wolf Creek Mou 80.41 8 P P 11 33 53.8 +0.8
baz=196
M18K Stony River 80.49 10 P P 11 33 54.4 +0.9
baz=201,SNR=6.6
J14K Nanvaranak Lak 80.61 6 P P 11 33 54.9 +0.8
baz=194
L17K Donlin 80.70 9 P P 11 33 56.3 +1.7
baz=199
TUC Tucson 80.74 52 P P 11 33 58.0 +2.4
baz=243
TUC Tucson 80.74 52 P P 11 33 58.3 +2.7
MA2 Magadan 80.89 344 *de*P P 11 33 54.5 -1.1
MA2 pmax pmax
comp=Z,124nm,2.5s
WHN Wuhan 80.93 306 P P 11 33 57.5 +1.0
WHN S **S** 11 43 31.4 -0.1
L18K Granite Mounta 81.03 10 P P 11 33 57.3 +1.0
baz=200
K17K Iditarod 81.25 9 P P 11 33 57.8 +0.3
K17K Iditarod 81.25 9 P P 11 33 58.8 +1.3
baz=198
L19K White Mountain 81.30 11 P P 11 33 58.0 +0.3
baz=202
RC01 Rabbit Creek A 81.31 13 P P 11 33 57.8 +0.1
baz=207
SUA Susitna One 81.43 13 P P 11 33 58.8 +0.2
baz=206
J16K Anvik River 81.48 8 P P 11 33 59.7 +1.1
baz=196
TIA Tai'an 81.48 312 P P 11 33 59.8 +0.5
TIA pmax pmax
comp=Z,44nm,0.9s
CRAG Craig 81.70 24 P P 11 34 01.0 +1.1
baz=222
ELK Elko 81.72 43 P P 11 34 01.8 +1.1
comp=Z,14nm,1.0s,baz=245,slow=5.0,SNR=33
comp=Z,14nm,1.0s
GLI Glacier Island 81.73 15 P P 11 33 59.4 -0.5
baz=209
SKT Skwentna 81.74 12 P P 11 33 59.5 -0.5
baz=205
L20K Farewell, AK 81.75 11 P P 11 33 59.8 -0.3
baz=203
J17K VABM Dome 81.79 8 P P 11 34 00.7 +0.5
baz=198
WUAZ Wupatki 81.79 49 P P 11 34 02.9 +1.8
baz=242,SNR=20
TTA Tatalina 81.81 10 P P 11 34 01.6 +1.2
TTA Tatalina 81.81 10 P P 11 34 00.9 +0.5
baz=201,SNR=20
M22K Willow 81.82 13 P P 11 33 59.7 -0.7
baz=206,SNR=6.6
BKNI Bangkinang 81.88 273 P P 11 34 03.2 +1.4
BKNI Bangkinang 81.88 273 P P 11 34 03.8 +2.0
comp=Z,141nm,1.2s,comp=Z,3μm
KNK Knik Glacier 81.88 14 P P 11 34 00.9 +0.1
baz=208
PMR Palmer 81.89 13 P P 11 33 60.0 -0.8
PMR IAmb IAmb 11 34 01.8
comp=Z,52nm,1.3s
PMR Palmer 81.89 13 P P 11 34 01.2 +0.5
PMR Palmer 81.89 13 P P 11 34 00.8 +0.1
baz=207
PMR Palmer 81.89 13 P P 11 34 00.0 -0.8
PMR pmax pmax
comp=Z,53nm,1.3s
GULI GuiLin 81.94 300 P P 11 34 09.8 +7.9
I17K Unalakleet 82.05 7 P P 11 34 02.1 +0.6
baz=196,SNR=5.2
V35K Ketchikan 82.19 24 P P 11 34 03.2 +0.8
baz=224
J18K Innoko River 82.20 9 P P 11 34 02.2 -0.1
J18K IAmb IAmb 11 34 04.1
comp=Z,85nm,1.2s
J18K Innoko River 82.20 9 P P 11 34 02.5 +0.2
baz=200,SNR=27
ANM Nome 82.21 5 P P 11 34 02.5 +0.2
baz=192
SML Sawmill 82.26 14 P P 11 34 02.9 +0.2
baz=208
CUT Chulitna 82.38 12 P P 11 34 02.9 -0.4
baz=206
M23K Glacier View 82.39 14 P P 11 34 02.7 -0.7
baz=209
BMRM Bremner River 82.42 16 P P 11 34 03.7 0.0
baz=212,SNR=5.3
PPLA Purkeypile 82.45 11 P P 11 34 04.0 +0.2
baz=204
S31K Pelican 82.46 21 P P 11 34 03.7 0.0
baz=219
MESA MESA 82.47 17 P P 11 34 04.1 +0.1
baz=214
SCM Sheep Creek Mo 82.51 14 P P 11 34 04.0 -0.1
SCM IAmb IAmb 11 34 05.0
comp=Z,56nm,1.0s
SCM Sheep Creek Mo 82.51 14 P P 11 34 05.5 +1.4
baz=209,SNR=5.3
SCM Sheep Creek Mo 82.51 14 P P 11 34 04.0 -0.1
SCM pmax pmax
comp=Z,56nm,1.0s
K20K Telida 82.53 10 P P 11 34 04.2 +0.1
baz=202
KLU Klutina 82.55 15 P P 11 34 04.3 0.0
baz=210
H16K Elim 82.59 7 P P 11 34 04.1 -0.1
baz=195,SNR=15
BELA Belgrano 2 82.60 173 P P 11 34 04.9 +0.6
BELA IAmb IAmb 11 34 08.4
comp=Z,39nm,0.9s
CRQE Cirque 82.64 16 P P 11 34 04.8 +0.1
baz=213
WRAK Wrangell Islan 82.70 23 P P 11 34 05.7 +0.7
baz=223
G15K Niukluk 82.76 6 P P 11 34 05.6 +0.5
baz=193
W18A Petrified Fore 82.79 50 P P 11 34 08.2 +2.0
baz=243,SNR=9.4
PNL Peninsula 82.80 18 P P 11 34 06.5 +1.1
baz=216
J19K Poorman 82.87 10 P P 11 34 06.0 +0.3
baz=201
HEH HeiHe 82.88 328 *e*P P 11 34 06.0 -0.1
HEH pmax pmax
comp=Z,40nm,1.5s
HEH pmax pmax
comp=Z,180nm,4.4s
CAST Castle Rocks 82.94 11 P P 11 34 05.1 -1.1
CAST IAmb IAmb 11 34 06.1
comp=Z,74nm,1.2s
CAST Castle Rocks 82.94 11 P P 11 34 04.9 -1.3
baz=204,SNR=14
N25K Chitina, Valde 82.97 15 P P 11 34 06.3 -0.1
N25K IAmb IAmb 11 34 07.8
comp=Z,51nm,1.1s
N25K Chitina, Valde 82.97 15 P P 11 34 06.3 -0.1
baz=212
TNA Tin City 83.00 4 P P 11 34 07.0 +0.7
baz=189
M24K Tolsona, Glenn 83.02 14 P P 11 34 07.3 +0.7
baz=210
F14K Arctic Creek 83.03 5 P P 11 34 07.1 +0.6
baz=191
GLB Gilahina Butte 83.03 16 P P 11 34 06.6 -0.1
GLB IAmb IAmb 11 34 08.0
comp=Z,80nm,1.3s
DUG Dugway, Tooele 83.04 44 P P 11 34 08.8 +1.5
baz=240,SNR=15
WAT6 Susitna Watana 83.08 13 P P 11 34 07.4 +0.4
baz=208,SNR=10
121A Cookes Peak, D 83.11 53 P P 11 34 10.4 +2.4
baz=244
121A Cookes Peak, D 83.11 53 P P 11 34 10.4 +2.4
baz=244
WAT1 Susitna Watana 83.12 13 P P 11 34 07.2 +0.1
baz=208
MCARA McCarthy VSAT 83.19 16 P P 11 34 07.8 +0.4
baz=213
P29M Windy Craggy 83.28 19 P P 11 34 08.2 +0.2
baz=218
J20K Nowinta River 83.28 10 P P 11 34 07.0 -0.8
J20K IAmb IAmb 11 34 09.3
comp=Z,59nm,1.1s
J20K Nowinta River 83.28 10 P P 11 34 08.2 +0.4
baz=202
R32K Eaglecrest 83.29 21 P P 11 34 07.7 -0.3
baz=221
CTG Chitna Glacier 83.29 17 P P 11 34 08.5 +0.4
baz=215
G16K Koyuk River 83.31 6 P P 11 34 08.3 +0.4
baz=195
TRF Thorofare Moun 83.32 12 P P 11 34 07.6 -0.6
TRF IAmb IAmb 11 34 08.8
comp=Z,92nm,1.2s
TRF Thorofare Moun 83.32 12 P P 11 34 07.2 -1.0
baz=206,SNR=12
CHUM Lake Minchumin 83.33 11 P P 11 34 07.4 -0.6
baz=204,SNR=22
GCSA Galena City Sc 83.38 9 P P 11 34 08.5 +0.2
baz=200,SNR=13
F15K North Star Dit 83.40 5 P P 11 34 08.5 +0.1
baz=192
SEY Seymchan 83.43 347 *de*P P 11 34 08.0 -0.6
SEY pmax pmax
comp=Z,122nm,1.3s
HARP HAARP 83.51 15 P P 11 34 09.2 +0.2
baz=211
O29M Mount Kennedy 83.55 18 P P 11 34 09.6 +0.1
baz=217
H18K Honnosa River 83.56 8 P P 11 34 09.0 -0.2
baz=198,SNR=5.9
DHY Denali Highway 83.59 13 P P 11 34 09.3 -0.3
baz=209
G17K Kiwalik Mounta 83.61 7 P P 11 34 09.6 +0.1
baz=196
HLID Hailey 83.70 41 P P 11 34 12.4 +1.7
baz=239,SNR=23
HNS HongShan 83.75 312 ⇓P P 11 34 11.3 +0.6
HNS pmax pmax
comp=Z,43nm,1.2s
BPAW Bear Paw Mtn. 83.77 11 P P 11 34 09.5 -0.8
baz=205,SNR=5.7
I20K Naaghedeneel 83.80 10 P P 11 34 10.4 +0.1
baz=202
MCK McKinley 83.84 12 P P 11 34 10.4 -0.2
baz=207,SNR=24
P30M Million Dollar 83.91 19 P P 11 34 11.9 +0.8
baz=219
T35M Bob Quinn 83.91 24 P P 11 34 12.1 +1.0
baz=225
SKAG Skagway 83.92 20 P P 11 34 12.0 +1.0
baz=220
PAX Paxson 83.93 14 P P 11 34 11.1 -0.1
baz=211,SNR=7.6
BJT Baijiatuau 83.96 315 P P 11 34 12.5 +0.7
BJI Beijing 83.97 315 P P 11 34 12.3 +0.5
BJI PcP **PcP** 11 34 16.0 +1.2
BJI S **SKSac** 11 43 54.9 -1.1
BJI ScS **SKKSac** 11 44 05.4 +3.1
BJI pmax pmax
comp=Z,22nm,1.1s
BJI pmax pmax
comp=Z,150nm,4.0s
YUK8 Steele Glacier 84.00 17 P P 11 34 12.3 +0.5
baz=216,SNR=8.3
M26K Nabesna, AK 84.05 15 P P 11 34 12.2 +0.5
baz=213
LYN LuoYang 84.11 309 *e*P P 11 34 13.3 +0.7
LYN S **S** 11 44 07.0 +3.8
LYN pmax pmax
comp=Z,34nm,1.5s
LYN pmax pmax
comp=Z,610nm,4.6s
YUK6 Outpost Mounta 84.13 18 P P 11 34 12.4 0.0
baz=217
H19K Roundabout Mou 84.18 9 P P 11 34 12.6 +0.4
baz=200,SNR=17
YUK3 Moose Creek 84.20 17 P P 11 34 12.8 0.0
baz=215,SNR=13
G18K Tagagawik 84.23 8 P P 11 34 12.2 -0.3
baz=198,SNR=12
S34M Telegraph Cree 84.24 23 P P 11 34 13.4 +0.7
baz=224,SNR=7.1
HYT Haines Junctio 84.29 18 P P 11 34 13.4 +0.3
baz=218,SNR=6.0
M27K Edge Creek, AK 84.30 16 P P 11 34 13.0 -0.1
baz=214
MENT Mentasta 84.32 15 P P 11 34 13.4 +0.4
MENT IAmb IAmb 11 34 14.6
comp=Z,48nm,1.1s
MENT Mentasta 84.32 15 P P 11 34 14.5 +1.4
Y22A Socorro 84.33 52 P P 11 34 15.9 +1.9
baz=245
YUK4 Talbot Arm 84.37 18 P P 11 34 14.1 +0.5
baz=217
H20K Anotleneega Mo 84.38 9 P P 11 34 13.8 +0.4
baz=202
F17K Baldwin Pennin 84.45 7 P P 11 34 13.6 +0.1
baz=196,SNR=5.4
L26K Log Cabin Wild 84.49 15 P P 11 34 14.3 +0.4
baz=213,SNR=13
P32M Atlin 84.56 21 P P 11 34 14.9 +0.5
baz=222
I21K Tanana 84.57 11 P P 11 34 14.3 +0.1
baz=204
K24K Donnelly Dome 84.58 14 P P 11 34 14.6 +0.3
baz=210
NEA2 Nenana 84.58 12 P P 11 34 13.3 -1.0
baz=207,SNR=5.8
Q32M Nakina River 84.59 22 P P 11 34 15.4 +0.6
baz=223
RPSI Rantau Prapat 84.60 275 P P 11 34 14.6 -1.0
RPSI IAmb IAmb 11 34 17.1
comp=Z,57nm,1.1s
NEW Newport 84.61 36 P P 11 34 15.4 +0.6
baz=236
NEW Newport 84.61 36 P P 11 34 15.8 +0.9
comp=Z,12nm,1.0s,baz=262,slow=4.3,SNR=4.7
comp=Z,12nm,1.0s
MNTX Cornudas Mount 84.62 55 P P 11 34 17.0 +1.8
baz=246
MNTX Cornudas Mount 84.62 55 P P 11 34 17.6 +2.3
baz=246
BVCY Beaver Creek 84.62 16 P P 11 34 15.3 +0.8
baz=215,SNR=7.1
MVCO Mesa Verde 84.63 49 P P 11 34 15.9 +0.4
baz=244
ENH Enshi 84.63 304 P P 11 34 16.2 +0.8
PSI Prapat 84.63 275 P P 11 34 16.5 +0.6
PSI Prapat 84.63 275 P P 11 34 14.6 -1.3
PSI pmax pmax
comp=Z,57nm,1.1s
MAW Mawson 84.63 200 P P 11 34 14.7 0.0
MAW Mawson 84.63 200 P P 11 34 15.5 +0.8
comp=Z,18nm,0.9s,baz=129,slow=5.9,SNR=11
comp=Z,18nm,0.9s
MLY Manley 84.66 11 P P 11 34 13.9 -0.9
baz=206,SNR=17
G19K Purcell Mounta 84.67 8 P P 11 34 14.4 -0.3
baz=200
O30N Mendenhall 84.68 19 P P 11 34 15.1 +0.2
baz=219,SNR=8.8
RIDG Independent Ri 84.74 14 P P 11 34 15.0 -0.2
baz=211,SNR=9.2
HDA Harding Lake 84.86 13 P P 11 34 15.1 -0.6
HDA IAmb IAmb 11 34 16.6
comp=Z,45nm,1.0s
HDA Harding Lake 84.86 13 P P 11 34 15.3 -0.4
baz=209,SNR=17
HDA P P 11 34 15.3 -0.4
baz=209,SNR=17
H21K Melozitna Rive 84.87 10 P P 11 34 15.7 0.0
baz=204
L27K Beaver Creek, 84.90 15 P P 11 34 15.8 -0.1
baz=214,SNR=10
BCAR Beaver Creek A 84.91 16 P P 11 34 16.1 +0.1
N30M Aishikik Lake 84.92 18 P P 11 34 15.8 -0.3
baz=218
WHY Whitehorse 84.98 20 P P 11 34 17.0 +0.6
baz=220,SNR=5.6
E17K Hotham Inlet 85.01 6 P P 11 34 16.7 +0.4
baz=195
IMAR Indian Mountai 85.02 10 P P 11 34 15.6 -0.8
I23K Minto, Yukon-K 85.02 12 P P 11 34 15.6 -0.8
baz=207,SNR=14
DLBC Dease Lake 85.02 23 P P 11 34 16.7 0.0
baz=225
DLBC Dease Lake 85.02 23 P P 11 34 15.9 -0.8
comp=Z,33nm,1.2s,baz=247,slow=5.5,SNR=5.1
comp=Z,33nm,1.2s
TX31 Lajitas Ar. Si 85.03 57 P P 11 34 20.1 +2.6
baz=247
TXAR Lajitas Array 85.03 57 P P 11 34 19.7 +2.2
comp=Z,26nm,1.0s,baz=226,slow=4.7,SNR=132
comp=Z,26nm,1.0s
COLA College 85.08 12 P P 11 34 16.6 -0.1
COLA College 85.08 12 P P 11 34 16.1 -0.6
baz=208
COLA College 85.08 12 P P 11 34 16.1 -0.6
ZEA Zeya 85.11 331 *e*P P 11 34 17.3 +0.2
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,40nm,1.2s
ANMO Albuquerque 85.14 51 P P 11 34 19.3 +1.3
baz=245
ANMO Albuquerque 85.14 51 P P 11 34 19.7 +1.8
baz=245
ANMO Albuquerque 85.14 51 *ce*P P 11 34 19.8 +1.8
ANMO pmax pmax
comp=Z,13nm,1.2s
ANMO Albuquerque 85.14 51 P P 11 34 19.4 +1.3
comp=Z,9.2nm,1.1s,baz=280,slow=6.1,SNR=24
ANMO pP **pwP** 11 35 50.7 -1.4
comp=Z,0.8nm,0.8s,baz=207,slow=2.2,SNR=1.9
comp=Z,9.2nm,1.1s
SCRK Sand Creek 85.14 14 P P 11 34 17.4 +0.2
baz=212,SNR=12
IL31 85.19 13 P P 11 34 16.6 -0.6
ILAR Eielson Array 85.19 13 P P 11 34 16.4 -0.9
comp=Z,31nm,1.0s,baz=237,slow=4.0,SNR=108
comp=Z,31nm,1.0s
F19K Shaleruckik Mo 85.24 8 P P 11 34 17.4 -0.1
baz=199,SNR=6.6
M29M Somme Creek 85.30 17 P P 11 34 18.2 +0.2
baz=217
P33M Teslin, Yukon 85.32 21 P P 11 34 18.6 +0.5
baz=222,SNR=5.6
H22K Ishtalitna Cre 85.33 10 P P 11 34 17.9 0.0
baz=205
N31M Braeburn, Yuko 85.33 19 P P 11 34 18.5 +0.4
baz=220,SNR=5.5
R33M Jennings River 85.37 22 P P 11 34 19.0 +0.6
baz=224
J25K Salcha River, 85.37 13 P P 11 34 18.0 -0.2
baz=211
POKR Poker Plat Res 85.38 12 P P 11 34 17.4 -0.8
POKR IAmb IAmb 11 34 18.8
comp=Z,59nm,1.1s
POKR Poker Plat Res 85.38 12 P P 11 34 17.4 -0.8
baz=209,SNR=22
E18K Tukpahlearik C 85.47 6 P P 11 34 18.6 0.0
baz=196
GSI Gunungsitoli 85.47 273 P P 11 34 22.1 +2.2
GSI Gunungsitoli 85.47 273 P P 11 34 21.5 +1.6
comp=Z,114nm,1.1s
D17K Noatak River 85.49 5 P P 11 34 19.5 +0.8
baz=194
TIY Taiyuan 85.50 312 *e*P P 11 34 20.0 +0.4
TIY SKS **SKSac** 11 44 07.9 +1.9
TIY S **S** 11 44 19.3 +2.4
TIY pmax pmax
comp=Z,46nm,1.0s
G21K Allakaket 85.55 9 P P 11 34 19.0 0.0
baz=203
K27K Chicken 85.64 15 P P 11 34 19.9 +0.4
baz=214
J26L Joseph Creek 85.69 14 P P 11 34 20.8 +1.0
baz=212
F20K Avaraart Lake 85.72 8 P P 11 34 19.9 +0.1
baz=201
SRIT Nakonsritamara 85.76 280 P P 11 34 23.9 +2.7
RDOG Red Dog Mine 85.85 5 P P 11 34 20.5 +0.1
baz=194
C16K Lisburne Hills 85.86 5 P P 11 34 21.4 +0.9
baz=192
XLT XiLinHaoTe 85.87 318 *e*P P 11 34 21.6 +0.4
XLT SKS **SKSac** 11 44 06.8 -1.3
XLT S **S** 11 44 18.8 -1.4
XLT pmax pmax
comp=Z,42nm,1.1s
XLT pmax pmax
comp=Z,120nm,3.8s
M30M Minto, Yukon 85.88 18 P P 11 34 20.5 -0.3
baz=219,SNR=13
E19K Redstone River 85.90 8 P P 11 34 20.7 0.0
baz=199
SURA Surathani 85.91 281 P P 11 34 24.5 +2.6
L29M L29M 85.92 17 P P 11 34 21.1 +0.2
baz=217
H24K Noodor Dome 85.92 12 P P 11 34 21.5 +0.6
baz=208
N32M Quiet Lake 85.93 20 P P 11 34 21.6 +0.6
baz=222
BILL Bilibino 85.98 354⇑ *e*P P 11 34 21.0 0.0
S22A 4UR Ranch, Cre 86.05 49 P P 11 34 23.7 +1.2
baz=245,SNR=23
O20A White River Ci 86.11 46 P P 11 34 23.0 +0.4
baz=244,SNR=6.3
PRP Porcupine Dome 86.12 13 P P 11 34 21.5 -0.5
baz=210,SNR=14
F21K Alatna River 86.20 9 P P 11 34 21.4 -0.8
F21K Alatna River 86.20 9 P P 11 34 22.3 +0.1
baz=203,SNR=6.1
C17K DeLong Mountai 86.24 5 P P 11 34 22.6 +0.3
baz=194
G22K Bettles 86.24 10 P P 11 34 22.3 0.0
baz=205
G23K Bananza Creek 86.31 11 P P 11 34 22.9 +0.2
baz=206
M31M Drury Creek, Y 86.31 19 P P 11 34 22.7 -0.1
baz=221,SNR=5.4
DAWY Dawson 86.35 16 P P 11 34 23.6 +0.6
baz=216,SNR=12
HIA Hailar 86.39 324 P P 11 34 24.2 +0.7
BW06 Boulder Array 86.41 43 P P 11 34 24.6 +0.5
baz=242,SNR=11
PD31 Pinedale Array 86.41 43 P P 11 34 23.6 -0.5
PDAR Pinedale Array 86.41 43 P P 11 34 24.4 +0.4
PDAR Pinedale Array 86.41 43 P P 11 34 24.6 +0.6
comp=Z,7.9nm,1.0s,baz=209,slow=2.7,SNR=29
PDAR pP **pwP** 11 35 58.1 -0.2
comp=Z,2.8nm,1.1s,baz=254,slow=6.5,SNR=3.9
PDAR PP **PP** 11 37 51.0 -1.4
comp=Z,0.9nm,0.9s,baz=227,slow=4.8,SNR=3.5
comp=Z,7.9nm,1.0s
BOZ Bozeman (W) 86.44 40 P P 11 34 23.5 -0.5
baz=241
I26K Coal Creek Min 86.46 14 P P 11 34 23.5 0.0
baz=213
EGAK Eagle 86.49 15 P P 11 34 23.2 -0.3
EGAK IAmb IAmb 11 34 24.9
comp=Z,45nm,1.2s
EGAK Eagle 86.49 15 P P 11 34 24.2 +0.6
baz=215,SNR=11
H17A Grant Village 86.52 41 P P 11 34 27.0 +2.5
baz=242,SNR=16
XAN Xi'an 86.57 307 ⇓P P 11 34 25.3 +0.6
XAN S **S** 11 44 29.3 +2.1

XAN sS sS 11 47 07.3 -1.2
XAN pmax pmax
comp=Z,88nm,1.2s
XAN pmax pmax
comp=Z,710nm,4.2s
C18K Utukok River 86.59 6 P P 11 34 25.3 +1.2
baz=196
FARO Faro, Yukon 86.65 19 P P 11 34 24.7 +0.3
baz=222
WTLY Watson Lake, Y 86.65 22 P P 11 34 24.8 +0.3
baz=226
F22K John River 86.67 10 P P 11 34 24.6 +0.2
baz=204,SNR=6.8
K29M Barlow Dome 86.67 17 P P 11 34 24.8 +0.2
baz=218
COLD Coldfoot 86.74 10 P P 11 34 25.2 +0.5
baz=206,SNR=21
G24K Hadweenzic Riv 86.76 12 P P 11 34 24.9 0.0
baz=209
D19K Kuna River 86.78 7 P P 11 34 24.7 -0.2
baz=198
E20K Nigu River 86.79 8 P P 11 34 25.1 0.0
baz=200,SNR=12
MAYO Mayo, Yukon 86.93 17 P P 11 34 26.2 +0.5
baz=219,SNR=8.4
SDCO Great Sand Dun 87.01 49 P P 11 34 26.9 -0.2
baz=245,SNR=12
SDCO Great Sand Dun 87.01 49 P P 11 34 28.5 +1.4
baz=245
I27K Kandik River 87.06 14 P P 11 34 26.2 -0.2
baz=214
G25K Bearman Lake 87.09 12 P P 11 34 26.2 -0.2
baz=210
D20K Etivluk River 87.17 8 P P 11 34 26.6 -0.1
baz=200
C19K Lookout Ridge 87.19 6 P P 11 34 26.0 -0.9
C19K Lookout Ridge 87.19 6 P P 11 34 27.0 +0.1
baz=197
B18K Kokolik River 87.23 6 P P 11 34 27.4 +0.4
baz=195
E22K Anaktuvuk Pass 87.30 9 P P 11 34 27.1 -0.4
E22K IAmb IAmb 11 34 28.6
comp=Z,36nm,1.1s
E22K Anaktuvuk Pass 87.30 9 P P 11 34 27.0 -0.4
baz=204,SNR=16
I28M Miner Creek 87.34 15 P P 11 34 27.5 -0.2
baz=216
F24K Squaw Lake 87.41 11 P P 11 34 27.7 -0.2
F24K Squaw Lake 87.41 11 P P 11 34 28.0 +0.1
baz=208
HHC Hu-ho-hao-te 87.47 314 *e*P P 11 34 30.0 +1.1
HHC SKS **SKSac** 11 44 19.5 +1.6
HHC S **S** 11 44 37.6 +2.1
HHC pmax pmax
comp=Z,71nm,1.1s
HHC pmax pmax
comp=Z,420nm,5.1s
MLSI Meulaboh, Aceh 87.47 275 P P 11 34 30.8 +1.4
comp=Z,85nm,1.3s
MSTX Muleshoe 87.53 53 P P 11 34 30.0 +0.6
baz=247
MSTX Muleshoe 87.53 53 P P 11 34 30.6 +1.2
baz=247
T25A Trinidad 87.55 50 P P 11 34 30.3 +0.8
baz=246
J30M Hart River 87.57 17 P P 11 34 28.8 -0.1
baz=219
E23K Chandalar 87.59 10 P P 11 34 29.1 +0.3
baz=207
H27K Steamboat Moun 87.61 14 P P 11 34 29.2 +0.3
baz=214
I29M Ogilvie Camp, 87.67 15 P P 11 34 28.7 -0.5
baz=217,SNR=7.3
RLMT Red Lodge 87.69 41 P P 11 34 30.8 +0.8
baz=243
G26K Porcupine Rive 87.72 13 P P 11 34 29.7 +0.4
baz=212
Q24A Divide 87.76 48 P P 11 34 31.1 +0.5
baz=246
ISCO Idaho Springs 87.78 47 P P 11 34 31.0 +0.3
baz=245
E24K Your Creek 87.80 11 P P 11 34 29.2 -0.5
baz=208
C21K Knifeblade Rid 87.82 8 P P 11 34 30.1 +0.4
baz=202,SNR=11
D22K Ayikyak River 87.85 9 P P 11 34 30.0 0.0
baz=204
F25K Christian Rive 87.90 12 P P 11 34 29.9 -0.3
baz=210
BMAR Burnt Mountain 87.96 12 P P 11 34 31.0 +0.5
SRDT SRDT 88.00 286 P P 11 34 32.9 +1.1
N23A Red Feather La 88.01 46 P P 11 34 31.3 -0.4
baz=245,SNR=5.4
G27K Doyon Strip 88.06 13 P P 11 34 30.8 -0.2
baz=214
I30M Mount Dempster 88.06 16 P P 11 34 30.3 -0.8
I30M IAmb IAmb 11 34 33.5
comp=Z,74nm,1.9s
I30M Mount Dempster 88.06 16 P P 11 34 31.3 +0.2
baz=219
TOLK Toolik Lake Re 88.12 10 P P 11 34 31.6 +0.4
baz=207,SNR=8.4
833A Chaparral WMA, 88.14 60 P P 11 34 31.6 -0.7
baz=249
D23K Nanushuk River 88.23 9 P P 11 34 32.1 +0.4
baz=206
B21K Ikpikpuk River 88.27 8 P P 11 34 31.9 +0.1
baz=202
F26K Sheenjek River 88.28 12 P P 11 34 32.2 +0.2
baz=212
KMI Kunming 88.30 297 ⇑P P 11 34 35.4 +2.1
KMI pmax pmax
comp=Z,16nm,1.1s
B20K Meade River 88.33 7 P P 11 34 32.4 +0.3
baz=199
H29M Whitestone 88.34 15 P P 11 34 32.5 +0.2
baz=217
K22A Casper 88.36 44 P P 11 34 32.7 -0.5
baz=245
E25K Arctic Village 88.37 11 P P 11 34 32.1 -0.3
E25K Arctic Village 88.37 11 P P 11 34 32.2 -0.1
baz=210,SNR=12
BTO Baotou 88.43 313 *e*P P 11 34 34.0 +0.6
BTO pP **pP** 11 36 09.5 +4.4
BTO SKS **SKSac** 11 44 20.5 -3.1
BTO S **SKKSac** 11 44 38.8 +2.8
BTO SS **SS** 11 50 50.3 +4.2
BTO pmax pmax
comp=Z,45nm,0.8s
BTO pmax pmax
comp=Z,340nm,5.4s
BTO LR LR
comp=Z,280nm,4.8s
BTO LR LR
comp=Z,310nm,4.8s
BTO LR LR
comp=Z,190nm,8.5s
KOTAN Kotaneelee Air 88.43 24 P P 11 34 33.8 +1.0
baz=230
JCT Junction City 88.57 58 P P 11 34 34.0 -0.2
baz=249
JCT Junction City 88.57 58 P P 11 34 36.4 +2.1
baz=249
D24K Happy Valley 88.70 10 P P 11 34 34.1 +0.3
baz=207
EPYK Eagle Plains 88.87 15 P P 11 34 34.5 -0.3
baz=219
G29M Pine Creek 88.98 15 P P 11 34 35.8 +0.5
baz=217
C23K Itkillik River 89.03 9 P P 11 34 34.7 -0.7
C23K IAmb IAmb 11 34 36.9
comp=Z,42nm,1.1s
C23K Itkillik River 89.03 9 P P 11 34 35.8 +0.4
baz=206
B22K Teshekpuk Lake 89.10 8 P P 11 34 36.1 +0.4
baz=203
F28M Old Crow 89.12 14 P P 11 34 36.0 +0.1
baz=216,SNR=6.7
E27K Coleen River 89.22 13 P P 11 34 36.8 +0.4
baz=214
C24K Franklin Bluff 89.23 10 P P 11 34 36.6 +0.3
baz=207
D25K Kavik River 89.27 11 P P 11 34 35.8 -0.8
baz=210,SNR=9.3
YAK Yakutsk 89.38 338 *e*P P 11 34 36.2 -0.9
YAK *e* 11 38 09.8
YAK *e*S **SKSac** 11 44 25.1 -2.8

YAK *e**SS **S** 11 44 47.4 -4.6
YAK pmax pmax
comp=Z,33nm,1.4s
YAK pmax pmax
comp=N,6.0nm,1.5s
YAK pmax pmax
comp=E,6.0nm,1.8s
YAK pmax pmax
comp=Z,251nm,5.6s
YAK pmax pmax
comp=N,204nm,5.9s
YAK pmax pmax
comp=E,181nm,4.9s
YAK smax smax
comp=E,119nm,3.1s
YAK smax smax
comp=N,71nm,3.0s
CMAR Chiang Mai Arr 89.46 289 *i*P P 11 34 39.7 +1.1
CMAR pmax pmax
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 89.46 289 P P 11 34 39.4 +0.8
comp=Z,4.8nm,0.9s,baz=106,slow=2.7,SNR=24
CMAR PP PP 11 38 12.0 -4.8
comp=Z,0.7nm,0.4s,baz=116,slow=4.9,SNR=2.0
comp=Z,4.8nm,0.9s
ABTX Abilene, Hawle 89.47 56 P P 11 34 38.3 0.0
baz=249
ABTX Abilene, Hawle 89.47 56 P P 11 34 40.1 +1.7
baz=249
G30M tAoh Zraii Nji 89.48 15 P P 11 34 37.8 +0.2
baz=219
A22K Sinclair Lake 89.52 7 P P 11 34 37.8 +0.2
baz=202
CHTO Chiang Mai 89.57 290 P P 11 34 41.9 +2.8
CHTO Chiang Mai 89.57 290 P P 11 34 40.3 +1.2
KSCO Kaye Shedlock' 89.58 49 P P 11 34 40.4 +1.5
baz=247
PZH PanZhiHua 89.61 298 P P 11 34 40.3 +1.0
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,170nm,4.3s
ELIB Princess Elisa 89.78 186 *d*P P 11 34 39.4 +0.2
comp=Z,24nm,1.1s
G31M Satah River 89.92 16 P P 11 34 39.5 -0.1
G31M Satah River 89.92 16 P P 11 34 39.5 -0.1
baz=221,SNR=18
E28M Babbage River 90.00 13 P P 11 34 39.6 -0.3
E28M Babbage River 90.00 13 P P 11 34 40.2 +0.2
baz=216,SNR=11
C26K Camden Bay 90.04 11 P P 11 34 40.4 +0.4
baz=211
F30M Barrier River 90.07 15 P P 11 34 39.9 -0.4
baz=220
E29M Blow River 90.19 14 P P 11 34 41.2 +0.4
baz=218
D27M Malcolm River 90.22 12 P P 11 34 41.4 +0.3
baz=215,SNR=6.1
F31M Tsiigehtchic 90.45 15 P P 11 34 41.5 -0.5
baz=221,SNR=29
RSSD Black Hills 90.62 44 P P 11 34 44.3 +0.6
baz=246
RSSD Black Hills 90.62 44 P P 11 34 44.6 +0.9
baz=246
RSSD Black Hills 90.62 44 P P 11 34 44.6 +0.9
OGNE Ogallala 90.75 47 P P 11 34 44.8 +0.7
baz=248
D28M Stokes Point 90.76 13 P P 11 34 43.8 +0.5
baz=217
TROLL Troll, Antarti 90.85 180 ⇑P P 11 34 44.5 +0.3
comp=Z,548nm,0.6s
WHTX Lake Whitney, 90.98 57 P P 11 34 45.5 +0.2
baz=250
WHTX Lake Whitney, 90.98 57 P P 11 34 47.3 +2.0
baz=250
SNAA Sanae 91.11 178 P P 11 34 45.3 -0.1
SNAA Sanae 91.11 178 ⇑P P 11 34 45.2 -0.1
comp=Z,103nm,0.6s
SNAA Sanae 91.11 178 ⇑*e*P P 11 34 45.4 +0.1
SNAA pmax pmax
comp=Z,31nm,1.7s
SNAA Sanae 91.11 178 P P 11 34 45.2 -0.1
comp=Z,5.1nm,0.6s,baz=189,slow=8.0,SNR=14
comp=Z,5.1nm,0.6s
PLCA Paso Flores 91.12 133 P P 11 34 47.9 +1.9
comp=Z,2.3nm,0.6s,baz=239,slow=5.9,SNR=6.5
comp=Z,2.3nm,0.6s
INK Inuvik 91.16 15 P P 11 34 45.2 -0.1
baz=222,SNR=22
INK Inuvik 91.16 15 P P 11 34 44.8 -0.4
comp=Z,25nm,1.1s,baz=216,slow=4.5,SNR=19
comp=Z,25nm,1.1s
LZH Lanzhou 91.19 307 *e*P P 11 34 47.4 +0.9
LZH SKS **SKSac** 11 44 37.8 -2.1
LZH S **ScS** 11 45 13.0 +0.9
LZH SS **SS** 11 51 23.3 -2.8
LZH pmax pmax
comp=Z,29nm,1.0s
VNA3 Neumayer Olymp 91.22 176 ⇑P P 11 34 46.0 +0.2
comp=Z,24nm,0.7s
U32A Winter Ranch, 91.29 52 P P 11 34 49.0 +2.2
baz=249
Z35A Perchaven, San 91.59 56 P P 11 34 50.0 +1.9
baz=250
HKT Hockley 91.62 59⇓*e*P P 11 34 50.0 +1.8
HKT pmax pmax
comp=Z,14nm,1.5s
VNA2 Neumayer--Watz 91.67 177 ⇑P P 11 34 49.1 +1.2
comp=Z,17nm,0.3s,baz=183,slow=4.0
NVL N'lazarevskaya 91.85 183 *e*P P 11 34 47.2 -1.4
NVL pmax pmax
comp=Z,46nm,1.9s
VNA1 Neumayer--Stat 91.90 176 ⇑P P 11 34 47.8 -1.1
comp=Z,32nm,0.8s
R32A Long Quarter, 92.22 50 P P 11 34 52.9 +2.0
baz=250
DGMT Dagmar 92.27 40 P P 11 34 51.7 +0.8
baz=246
DGMT Dagmar 92.27 40 P P 11 34 52.6 +1.6
baz=246
K30B Basset 93.06 46 P P 11 34 56.3 +1.6
baz=249
ULN Ulaanbaatar 93.27 319 *d i*P P 11 34 55.4 -0.3
ULN pmax pmax
comp=Z,26nm,1.3s
T35B Sooner Cattle 93.35 52 P P 11 34 57.8 +1.6
baz=251
YKA Yellowknife Ar 93.51 24 P P 11 34 56.8 +0.5
comp=Z,4.2nm,0.8s,baz=241,slow=4.3,SNR=3.8
comp=Z,4.2nm,0.8s
TUL3 Leonard 93.58 54 P P 11 34 57.1 -0.1
baz=251
TUL3 Leonard 93.58 54 P P 11 34 59.5 +2.2
baz=251
BOD Bodaibo 93.59 330 *e*P P 11 34 55.7 -1.0
BOD pmax pmax
comp=Z,16nm,1.7s
BGNE Belgrade 93.65 48 P P 11 34 58.2 +0.8
baz=250
BGNE Belgrade 93.65 48 P P 11 34 59.8 +2.4
baz=250
SONM Songino Array 93.67 319 P P 11 34 56.8 -0.7
comp=Z,5.9nm,1.1s,baz=116,slow=3.5,SNR=20
SONM PP PP 11 38 45.8 -3.3
comp=Z,2.6nm,1.0s,baz=112,slow=6.4,SNR=5.6
comp=Z,5.9nm,1.1s
KSU1 Kansas State U 93.99 50 P P 11 35 01.7 +2.6
baz=251
C36M Paulatuk 94.35 17 P P 11 34 59.6 -0.3
baz=230,SNR=9.7
N35A Tabor 95.26 49 P P 11 35 07.2 +2.4
baz=252
GTA Gaotai 95.31 310 *e*P P 11 35 05.6 +0.4
GTA PP PP 11 39 02.4 +0.4
GTA pmax pmax
comp=Z,5.0nm,1.0s
ECSD EROS Data Cent 95.48 46 P P 11 35 06.5 +0.7
baz=251,SNR=8.2
ECSD EROS Data Cent 95.48 46 P P 11 35 06.2 +0.5
baz=251
A36M Sachs Harbour 95.76 14 P P 11 35 05.5 -0.8
baz=229,SNR=21
TIXI Tiksi 95.84 345⇑*e*P P 11 35 05.7 -0.9
N38A Joes South For 96.98 50 P P 11 35 14.1 +1.6
baz=253
P40A Paris 97.50 51 P Pdif 11 35 15.6 +0.7
baz=254
CCM Cathedral Cave 97.69 53 P P 11 35 15.7 -0.1
baz=254
GOMU GeErMu 98.18 305 P P 11 35 19.6 +1.1
SPMN Marine on St. 98.53 45 P Pdif 11 35 19.2 -0.1
baz=254
WVT Waverly 99.83 55 P Pdif 11 35 25.6 +0.3
baz=256
EYMN Ely 100.12 43 P Pdif 11 35 26.5 +0.1
baz=255
L44A Lake County Fo 101.20 49 P Pdif 11 35 30.3 -0.9
baz=257
ZALV Zalesovo Beam 108.30 322 PKiKP PKiKP 11 40 05.7 -0.7
comp=Z,2.0nm,0.6s,baz=162,slow=1.1,SNR=9.7
MKAR Makanchi Array 109.33 314 PKiKP PKiKP 11 40 07.6 -1.0
comp=Z,1.4nm,0.5s,baz=172,slow=0.2,SNR=7.4
KURK Kurchatov 111.96 318 *i* PKiKP PKiKP 11 40 12.2 -1.2
KURBB Kurchatov Arra 112.01 318 PKiKP PKiKP 11 40 12.2 -1.3
comp=Z,1.6nm,0.5s,baz=93,slow=1.9,SNR=9.5
NEEM North Greenlan 114.44 11 *e*P PKiKP 11 40 18.2 +0.3
AAK Ala-Archa 114.66 309⇑*i*PKiKP PKPdf 11 40 18.3 -0.8
BVAR Borovoye Array 116.93 321 PKP PKPdf 11 40 22.2 -0.7
comp=Z,5.8nm,0.5s,baz=110,slow=1.3,SNR=30
BRVK Borovoye 116.99 321 PKPdf PKPdf 11 40 22.2 -0.8
BRVK Borovoye 116.99 321⇑*i*PKiKP PKPdf 11 40 22.4 -0.6
BRVK pmax pmax
comp=Z,6.0nm,1.0s
KK31 Karatay Array 117.58 310 PKPdf PKPdf 11 40 22.7 -1.9
KK31 Karatay Array 117.58 310 PKiKP PKPdf 11 40 22.7 -1.9
KKAR Karatay Array 117.58 310 PKPdf PKPdf 11 40 23.3 -1.2
KKAR Karatay Array 117.58 310 PKPdf PKPdf 11 40 22.7 -1.9
KKAR Karatay Array 117.58 310 PKiKP PKPdf 11 40 23.3 -1.2
CHGR Chuyangaron 118.68 305 PKPdf PKPdf 11 40 25.4 -1.5
CHGR Chuyangaron 118.68 305 PKiKP PKPdf 11 40 25.4 -1.5
KBL Kabul 118.71 300 PKPdf PKPdf 11 40 25.9 -1.3
KBL Kabul 118.71 300 PKiKP PKPdf 11 40 25.9 -1.3
SPITS Spitsbergen Ar 118.78 357 PKP PKPdf 11 40 25.9 0.0
comp=Z,9.0nm,0.8s,baz=23,slow=4.5,SNR=3.5
DAG Danmarks Havn 119.60 5 *i*P PKPdf 11 40 26.7 -0.7
SUMG Summit 120.03 13 *e*P PKiKP 11 40 29.1 +0.2
SVE Sverdlovsk 121.63 327 *e*PKiKP PKPdf 11 40 31.6 -0.2
SVE pmax pmax
comp=Z,12nm,0.8s
DY2G Dye2 121.65 21 *e*P PKPdf 11 40 31.9 0.0
DBG Daneborg 121.69 7 *i*P PKiKP 11 40 31.8 +0.1
ARU Arti 122.84 327 *i*PKiKP PKPdf 11 40 33.9 -0.3
ARU 11 42 17.9
ARU 11 47 06.4
ARU SP SP 11 51 32.0 -1.2
ARU Arti 122.84 327 PKP PKPdf 11 40 33.7 -0.5
comp=Z,13nm,0.5s,baz=84,slow=1.8,SNR=26
ABKAR Akbulak array 124.07 318 PKPdf PKPdf 11 40 36.4 -0.4
SCO Scoresbysund 124.87 10 *e*P PKiKP 11 40 38.7 +0.7
ARCES ARCESS Array B 125.92 350 PKPdf PKPdf 11 40 38.8 -0.9
ARCES ARCESS Array B 125.92 350 PKiKP PKPdf 11 40 38.8 -0.9
ARCES ARCESS Array B 125.92 350 PKP PKPdf 11 40 39.7 0.0
comp=Z,8.8nm,0.6s,baz=17,slow=0.9,SNR=28
APA Apatity 126.03 346⇓*i*PKiKP PKPdf 11 40 36.4 -3.6
APA pmax pmax
comp=Z,12nm,0.9s
KIRV Kirov 126.44 332 PKP PKPdf 11 40 40.8 -0.1
comp=Z,13nm,0.7s,baz=4.9,slow=2.0,SNR=5.0
GEYT Alibeck 127.39 305 PKP PKPdf 11 40 43.7 +0.2
comp=Z,10nm,0.9s,baz=81,slow=10,SNR=8.7
KLMR Klimovskoe 129.17 338 *e*PKPdf PKPdf 11 40 44.4 -1.7
KLMR AMP 11 40 46.4
comp=Z,24nm,1.6s
KLMR *e*PP **PP** 11 42 59.0 -1.0
KLMR *e* 11 43 28.1
KLMR Klimovskoe 129.17 338 *e*PKiKP PKPdf 11 40 44.4 -1.7
KLMR *e* 11 42 59.0
KLMR pmax pmax
comp=Z,24nm,1.6s
BOSA Boshof 129.24 206 PKP PKiKP 11 40 49.3 +1.0
comp=Z,4.2nm,1.0s,baz=180,slow=4.0,SNR=2.4
BELG Belogornoye 130.30 325 PKP PKPdf 11 40 48.7 +0.2
comp=Z,24nm,0.7s,baz=315,slow=6.5,SNR=4.5
BELG SKPbc **SKPab** 11 43 34.0 +0.1
comp=Z,58nm,1.0s,baz=262,slow=0.9,SNR=17
FINES FINESS Array B 132.88 345 PKhKP PKPpre 11 40 47.9
comp=Z,3.9nm,0.8s,baz=50,slow=3.0,SNR=6.4
FINES PKP PKPdf 11 40 52.9 -0.2
comp=Z,5.6nm,0.7s,baz=29,slow=3.2,SNR=6.0
FINES SKPab **SKPab** 11 43 44.5 -0.2
comp=Z,20nm,0.9s,baz=47,slow=3.9,SNR=25
VRH Novokhopyorsk 134.07 326 *e*PKiKP PKPdf 11 40 54.5 -1.2
VRH pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 134.18 333 *i*PKiKP PKiKP 11 40 57.1 -0.1
OBN pmax pmax
comp=Z,8.0nm,0.9s
LPSR Galich'ya Gora 134.69 329 *e*PKiKP PKPdf 11 40 55.2 -1.6
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VORR Voronezh 135.11 328 *e*PKiKP PKPdf 11 40 55.2 -2.4
VORR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 135.40 328 *e*PKiKP PKiKP 11 41 00.3 +0.5
VSR *e* 11 43 48.1
VSR pmax pmax
comp=Z,40nm,1.3s
VORD Divnogorie 135.47 327 *e*PKiKP PKPdf 11 40 56.8 -1.5
VORD pmax pmax
comp=Z,10.0nm,1.1s
NB2 NORSAR Subarra 135.93 354 PKP PKiKP 11 41 00.3 -0.4
comp=Z,2.8nm,0.7s,baz=10,slow=3.2
NB2 SKPa 11 43 53.9
comp=Z,162nm,2.0s,baz=11,slow=3.0
NB2 NORSAR Subarra 135.93 354 PKP 11 43 53.9
baz=11,slow=3.0
NOA NORSAR Array B 135.93 354 PKP PKPdf 11 40 59.4 +0.4
comp=Z,2.0nm,0.7s,baz=14,slow=4.0,SNR=8.1
NOA SKPbc **SKPbc** 11 43 53.2 +0.7
comp=Z,5.5nm,1.0s,baz=6.3,slow=4.0,SNR=13
HFS Hagfors 136.52 352 PKhKP PKPpre 11 40 52.0
comp=Z,1.6nm,0.5s,baz=32,slow=2.9,SNR=8.5
HFS PKP **PKPdf** 11 40 59.9 0.0
comp=Z,4.4nm,0.6s,baz=27,slow=0.6,SNR=6.4
HFS SKPbc **SKPbc** 11 43 55.3 +1.2
comp=Z,11nm,0.9s,baz=10,slow=1.7,SNR=10
ZEI Tsey 136.68 315 *e*PKiKP PKiKP 11 41 03.7 +0.7
ZEI pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 136.97 316 PKP PKiKP 11 41 02.6 -0.6
comp=Z,4.1nm,1.0s,baz=0.8,slow=2.0,SNR=5.9
KIV Kislovodsk 137.01 317 *e*PKiKP PKiKP 11 41 04.2 +0.7
KIV pmax pmax
comp=Z,7.0nm,1.1s
NACGM Naroch 138.13 339 *e*PKP PKiKP 11 41 04.5 -0.8
comp=Z,14nm,0.9s,baz=36
KIBK Kibwezi 139.79 244 PKPdf PKPdf 11 41 03.9 -3.6
ANN Anapa 139.93 321 *e*PKHKP PKPpre 11 41 01.8
ANN pmax pmax
comp=Z,123nm,1.7s
AKASG Malin Array Be 140.45 333 PKhKP PKPpre 11 41 01.0
comp=Z,1.3nm,0.5s,baz=44,slow=3.3,SNR=7.7
AKASG PKP **PKPdf** 11 41 07.2 -0.2
comp=Z,6.1nm,0.8s,baz=44,slow=2.5,SNR=9.0
AKASG SKPbc **SKPbc** 11 44 05.5 +0.1
comp=Z,5.0nm,0.9s,baz=40,slow=2.6,SNR=14
AKBB Malin Array Si 140.45 333 PKPdf PKPdf 11 41 07.6 +0.2
AKBB Malin Array Si 140.45 333 PKiKP PKPdf 11 41 07.6 +0.2
KIEV Kiev 140.46 333 PKPdf PKPdf 11 41 06.9 -0.6
KIEV Kiev 140.46 333 PKiKP PKPdf 11 41 06.9 -0.6
KMBO Kilima Mbogo 141.08 245 PKPdf PKPdf 11 41 07.7 -2.3
KMBO Kilima Mbogo 141.08 245 PKhKP PKPpre 11 41 05.8
KMBO PKP **PKPdf** 11 41 10.9 +0.8
comp=Z,1.7nm,0.5s,baz=130,slow=4.8,SNR=3.2
baz=114,slow=0.4,SNR=5.9
EKA Eskdalemuir Ar 141.86 5 PKhKP PKPpre 11 41 04.3
comp=Z,3.2nm,0.8s,baz=344,slow=2.1,SNR=6.2
EKA PKP **PKPdf** 11 41 10.2 +0.4
comp=Z,1.4nm,0.5s,baz=324,slow=2.8,SNR=6.2
EKA SKPbc **SKiKP** 11 44 10.2 -0.1
comp=Z,1.7nm,0.8s,baz=318,slow=2.4,SNR=5.0
ARPR Arapgir-MALATY 142.02 312 PKPdf PKPdf 11 41 08.2 -2.6
SORM Soroca 142.71 331 ⇑P PKPdf 11 41 09.1 -2.5
SORM Soroca 142.71 331 ⇑PKiKP PKPdf 11 41 09.1 -2.5
BSEG Bad Segeberg 142.99 352 *e*PKPbc PKPdf 11 41 08.9 -2.9
baz=13,slow=3.0
LVV L'vov 143.24 337 *e*PKiKP PKPbc 11 41 10.4 +0.2
GAZ Gaziantep 143.61 310 PKPdf PKPbc 11 41 12.5 +0.7
BNN Bunyan 143.88 313 PKPdf PKPbc 11 41 13.2 +0.4
KWP Kalwaria Pacla 143.89 338 *e*PKP PKPab 11 41 12.2 0.0
RETH Rethem/Aller, 144.29 353 *e*PKPbc **PKPab** 11 41 13.8 +0.3
baz=13,slow=3.0
RETH *e*PKPdf **PKiKP** 11 41 19.7 +1.9

OJC	**Ojcow**	**144.38**	**341**	*e*PKP	PKPbc	11 41 14.0	+0.1
OJC	**Ojcow**	**144.38**	**341**		**PKPab**	**11 41 14.0**	**0.0**
OJC	**Ojcow**	**144.38**	**341**	PKIKP	**PKPab**	**11 41 14.0**	**0.0**
FLTG	**Flechtingen**	**144.43**	**351**	*e*PKPbc	PKPbc	11 41 13.9	0.0
	baz=13,slow=3.0						
FLTG				*e*PKPdf	**PKiKP**	**11 41 19.7**	**+1.5**
NRDL	**Niedersach Rie**	**144.43**	**352**	*e*PKPbc	**PKPab**	**11 41 14.1**	**+0.1**
	baz=13,slow=3.0						
NRDL				*e*PKPdf	**PKiKP**	**11 41 20.0**	**+1.9**
BURGR	**Bucovina Ar. S**	**144.49**	**333**		PKPbc	11 41 14.2	-0.2
BURAR	**Bucovina Array**	**144.50**	**333**	⇑P	**PKPdf**	**11 41 15.1**	**+0.2**
BUR	**Bucovina Array**	**144.50**	**333**		PKPbc	11 41 14.7	+0.2
BURAR	**Bucovina Array**	**144.50**	**333**	⇑PKIKP	**PKPdf**	**11 41 15.1**	**+0.2**
TLCR		**144.56**	**327**	⇑P	**PKPdf**	**11 41 15.1**	**+0.2**
TLCR		**144.56**	**327**	⇑PKIKP	**PKPdf**	**11 41 15.1**	**+0.2**
KOLS	**Kolonicke sedl**	**144.62**	**337**	*e*PKP	**PKPab**	**11 41 15.3**	**+0.3**
KOLS				*e*		11 44 18.6	
KOLS	**Kolonicke sedl**	**144.62**	**337**	*e*PKIKP	**PKPab**	**11 41 15.3**	**+0.3**
GHRR		**144.66**	**329**	⇑P	**PKPab**	**11 41 16.7**	**+1.6**
TESR	**Tescani**	**144.69**	**331**	⇑P	**PKPab**	**11 41 15.3**	**0.0**
ASSE	**Asse, Remlinge**	**144.71**	**351**	*e*PKPbc	**PKPab**	**11 41 15.2**	**+0.2**
	baz=13,slow=3.0						
NEGRR	**Negrea**	**144.80**	**328**	⇑P	**PKPab**	**11 41 16.6**	**+0.9**
KSP	**Ksiaz**	**144.81**	**345**	*e*PKP	**PKPab**	**11 41 15.8**	**+0.2**
SLCR	**Slobozia Conac**	**144.81**	**329**	⇑P	**PKPab**	**11 41 15.8**	**+0.1**
IZVR	**Izvoarele**	**144.85**	**329**	⇑P	**PKPab**	**11 41 16.4**	**+0.6**
LODK	**Lodwar**	**144.85**	**251**		**PKPab**	**11 41 17.0**	**+0.1**
SCHLR	**Schela**	**144.87**	**328**	⇑P	**PKPab**	**11 41 16.9**	**+0.9**
IBBN	**Ibbenburen**	**144.88**	**354**	*e*PKPbc	**PKPab**	**11 41 15.9**	**+0.1**
	baz=13,slow=3.0						
NIE	**Niedzica**	**144.91**	**340**	*e*PKP	**PKPab**	**11 41 16.3**	**+0.3**
CFR	**Carcaliu**	**144.92**	**328**	⇓P	**PKPab**	**11 41 16.3**	**+0.2**
CFR	**Carcaliu**	**144.92**	**328**	⇓PKIKP	**PKPab**	**11 41 16.3**	**+0.2**
CRVS	**Cervenica-Dubn**	**144.95**	**338**	*e*PKP	**PKPab**	**11 41 16.6**	**+0.4**
CRVS				*e*		11 44 18.2	
CRVS	**Cervenica-Dubn**	**144.95**	**338**	*e*PKIKP	**PKPab**	**11 41 16.6**	**+0.4**
BRTR	**Keskin Array B**	**144.96**	**316**	PKPdf	**PKPdf**	**11 41 15.9**	**-0.1**
BRTR	**Keskin Array B**	**144.96**	**316**	PKIKP	**PKPdf**	**11 41 15.9**	**-0.1**
BRTR	**Keskin Array B**	**144.96**	**316**	PKP	PKPbc	11 41 16.2	0.0
	comp=Z,25nm,0.9s,baz=72,slow=2.2,SNR=64						
BRTR				SKPbc	**SKiKP**	**11 44 17.9**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=64,slow=3.4,SNR=4.2						
TPGR	**Topolog**	**144.99**	**327**	⇑P	PKPbc	11 41 16.2	+0.2
CLZ	**Clausthal**	**145.03**	**351**	*e*PKPbc	**PKPab**	**11 41 16.6**	**+0.2**
	baz=13,slow=3.0						
CLZ				*e*PKPdf	**PKiKP**	**11 41 20.2**	**+0.7**
ODBI	**Odobesti**	**145.04**	**329**	⇑P	**PKPab**	**11 41 17.8**	**+1.2**
OSTC	**Ostas**	**145.09**	**345**	*e*PKP	**PKPab**	**11 41 17.1**	**+0.4**
OSTC	**Ostas**	**145.09**	**345**	*e*PKIKP	**PKPab**	**11 41 17.1**	**+0.4**
CHVC	**Chvalec**	**145.10**	**345**	*e*PKP	**PKPab**	**11 41 17.0**	**+0.3**
CHVC	**Chvalec**	**145.10**	**345**	*e*PKIKP	**PKPab**	**11 41 17.0**	**+0.3**
CLL	**Collm**	**145.10**	**348**	PKPdf	**PKPdf**	**11 41 15.5**	**-0.2**
CLL	**Collm**	**145.10**	**348**	⇓*i*PKPbc	**PKPbc**	**11 41 16.0**	**-0.1**
	comp=Z,139nm,1.0s						
CLL				*i* SKPbc	**SKiKP**	**11 44 18.9**	**+1.7**
	comp=Z,17nm,1.0s						
CLL				*e*PP	**PP**	**11 44 35.0**	**-3.1**
CLL				*e*PKSdf	**PKSdf**	**11 44 48.0**	**-2.9**
CLL	**Collm**	**145.10**	**348**	⇓*i*PKIKP	**PKPbc**	**11 41 16.0**	**-0.1**
CLL				pmax	pmax		
	comp=Z,139nm,1.0s						
CLL	**Collm**	**145.10**	**348**	*e*PKPbc	**PKPab**	**11 41 16.5**	**-0.2**
	baz=13,slow=3.0						
VRI	**Vrincioaia**	**145.12**	**330**	⇑P	**PKPbc**	**11 41 16.7**	**+0.3**
VRI	**Vrincioaia**	**145.12**	**330**	⇑PKIKP	**PKPbc**	**11 41 16.7**	**+0.3**
PLOR	**Plostina**	**145.17**	**330**	⇑P	**PKPab**	**11 41 17.0**	**-0.2**
PLOR	**Plostina**	**145.17**	**330**	⇑PKIKP	**PKPab**	**11 41 17.0**	**-0.2**
BMR	**Baia Mare**	**145.18**	**335**	⇑P	**PKPbc**	**11 41 16.5**	**+0.1**
BMR	**Baia Mare**	**145.18**	**335**	⇑PKIKP	**PKPbc**	**11 41 16.5**	**+0.1**
UPC	**Upice**	**145.19**	**345**	*e*PKP	**PKPab**	**11 41 17.1**	**+0.1**
UPC	**Upice**	**145.19**	**345**	*e*PKIKP	**PKPab**	**11 41 17.1**	**+0.1**
DPC	**Dobruska-Polom**	**145.25**	**344**	*e*PKP	**PKPbc**	**11 41 16.9**	**+0.2**
DPC	**Dobruska-Polom**	**145.25**	**344**	*e*PKP2	**PKPbc**	**11 41 16.9**	**+0.2**
ARCR	**ARCALIA**	**145.28**	**333**	⇑P	**PKPab**	**11 41 17.9**	**+0.4**
BRG	**Berggiesshubel**	**145.33**	**347**	P	**PKPdf**	**11 41 15.7**	**-0.3**
BRG				Amp		11 41 16.5	
	comp=Z,15nm,0.9s						
BRG				pPKP	**SKPdf**	**11 44 07.2**	**-4.5**
BRG				Amp		11 44 08.9	
	comp=Z,8.0nm,0.9s						
BRG	**Berggiesshubel**	**145.33**	**347**	*i* PKHKP	PKPpre	11 41 04.3	
BRG						11 41 15.7	
BRG				pmax	pmax		
	comp=Z,83nm,1.0s						
BRG				pmax	pmax		
	comp=Z,15nm,0.9s						
HARR	**Harsova**	**145.36**	**327**	⇑P	**PKPab**	**11 41 17.8**	**0.0**
HARR	**Harsova**	**145.36**	**327**	⇑PKP2	**PKPab**	**11 41 17.8**	**0.0**
GTTG	**Gottingen**	**145.38**	**352**	*e*PKPbc	**PKPab**	**11 41 17.7**	**0.0**
	baz=13,slow=3.0						
KRLC	**Kraliky**	**145.38**	**344**	*e*PKP	**PKPbc**	**11 41 16.9**	**-0.2**
KRLC	**Kraliky**	**145.38**	**344**	*e*PKIKP	**PKPbc**	**11 41 16.9**	**-0.2**
COVR	**Voineasa-Covas**	**145.39**	**330**	⇑P	**PKPab**	**11 41 17.7**	**-0.3**
OZUR		**145.40**	**331**	⇑P	**PKPab**	**11 41 18.4**	**+0.3**
FBE	**Freiberg**	**145.40**	**348**	*e*PKPbc	**PKPab**	**11 41 18.1**	**+0.3**
	baz=13,slow=3.0						
LANS	**Liptovska Anna**	**145.41**	**340**	*e*PKP	**PKPab**	**11 41 17.9**	**-0.1**
LANS				*e*		11 44 21.1	
LANS	**Liptovska Anna**	**145.41**	**340**	*e*PKP2	**PKPab**	**11 41 17.9**	**-0.1**
NEUB	**Neuenburg**	**145.42**	**350**	*e*PKPbc	**PKPab**	**11 41 17.6**	**-0.2**
	baz=13,slow=3.0						
ANTO	**Ankara**	**145.44**	**317**	⇑P	**PKPab**	**11 41 18.2**	**-0.3**
ANTO	**Ankara**	**145.44**	**317**	⇑PKP2	**PKPab**	**11 41 18.2**	**-0.3**
MORC	**Moravsky Berou**	**145.44**	**343**	⇑P	**PKPbc**	**11 41 17.2**	**0.0**
MORC	**Moravsky Berou**	**145.44**	**343**	PKPdf	**PKPdf**	**11 41 16.3**	**-0.1**
MORC	**Moravsky Berou**	**145.44**	**343**	*e*PKP	**PKPbc**	**11 41 17.3**	**0.0**
MORC				*e*		11 44 19.7	
MORC	**Moravsky Berou**	**145.44**	**343**	⇑PKIKP	**PKPbc**	**11 41 17.2**	**0.0**
BOSR	**Bodos**	**145.47**	**331**	⇑P	**PKPab**	**11 41 18.6**	**+0.3**
PVCC	**Panska Ves**	**145.51**	**346**	*e*PKP	**PKPab**	**11 41 17.9**	**-0.4**
PVCC	**Panska Ves**	**145.51**	**346**	*e*PKP2	**PKPab**	**11 41 17.9**	**-0.4**
KECS	**Kecovo**	**145.65**	**339**	*e*PKP	**PKPab**	**11 41 19.0**	**+0.1**
KECS	**Kecovo**	**145.65**	**339**	*e*PKP2	**PKPab**	**11 41 19.0**	**+0.1**
DOPR	**Dopca**	**145.68**	**331**	⇑P	**PKPbc**	**11 41 18.6**	**+0.6**
HSKC	**Hora Svate Kat**	**145.69**	**348**	*e*PKP	**PKPbc**	**11 41 18.3**	**+0.4**
MAUC	**Maruska**	**145.73**	**342**	*e*PKP	**PKPab**	**11 41 19.1**	**-0.1**
ISR	**Istrita**	**145.75**	**329**	⇑P	**PKPbc**	**11 41 18.3**	**0.0**
ISR	**Istrita**	**145.75**	**329**	⇑PKP2	**PKPbc**	**11 41 18.3**	**0.0**
MLR	**Muntele Rosu**	**145.77**	**330**	⇑P	**PKPab**	**11 41 18.9**	**+0.4**
MLR	**Muntele Rosu**	**145.77**	**330**		**PKPbc**	**11 41 17.9**	**-0.5**
MLR	**Muntele Rosu**	**145.77**	**330**	⇑PKP2	**PKPbc**	**11 41 18.9**	**+0.4**
BUG	**Bochum--Univer**	**145.79**	**355**	*e*PKPbc	**PKPbc**	**11 41 18.6**	**+0.5**
	baz=13,slow=3.0						
KASTN	**Kahler Asten**	**145.91**	**353**	*e*PKPbc	**PKPbc**	**11 41 19.1**	**+0.6**
	baz=13,slow=3.0						
MOX	**Moxa**	**145.99**	**350**	*e*PKPbc	**PKPbc**	**11 41 19.4**	**+0.7**
	baz=13,slow=3.0						
PRU	**Pruhonice**	**146.03**	**346**	*e*PKP	**PKPbc**	**11 41 19.4**	**+0.6**
PRU	**Pruhonice**	**146.03**	**346**	*e*PKP2	**PKPbc**	**11 41 19.4**	**+0.6**
GOPC	**GO Pecny, Ondr**	**146.04**	**346**	*e*PKP	**PKPbc**	**11 41 19.6**	**+0.7**
GOPC	**GO Pecny, Ondr**	**146.04**	**346**	*e*PKP2	**PKPbc**	**11 41 19.6**	**+0.7**
PLN	**Plauen**	**146.05**	**349**	*e*PKPbc	**PKPbc**	**11 41 19.6**	**+0.7**
	baz=13,slow=3.0						
WERD	**Werda**	**146.06**	**349**	*e*PKPbc	**PKPbc**	**11 41 19.6**	**+0.7**
	baz=13,slow=3.0						
TANN	**Tannenbergstha**	**146.06**	**348**	*e*PKPbc	**PKPbc**	**11 41 19.8**	**+0.8**
	baz=13,slow=3.0						
UBBA	**Unterbreizbach**	**146.08**	**351**	*e*PKPbc	**PKPbc**	**11 41 19.4**	**+0.5**
	baz=13,slow=3.0						
MARR	**Marisel-Cluj**	**146.13**	**334**	⇑P	**PKPbc**	**11 41 19.9**	**+0.5**
VRAC	**Vranov**	**146.13**	**343**	⇑P	**PKPbc**	**11 41 20.0**	**+0.8**
VRAC	**Vranov**	**146.13**	**343**	*e*PKP	**PKPbc**	**11 41 19.4**	**+0.2**
VRAC				*e*		11 44 20.9	
VRAC	**Vranov**	**146.13**	**343**	⇑PKP2	**PKPbc**	**11 41 20.0**	**+0.8**
VRAC	**Vranov**	**146.13**	**343**	PKPbc	**PKPbc**	**11 41 19.3**	**+0.2**
	comp=Z,30nm,1.2s,baz=32,slow=3.9,SNR=14						
GUNZ	**Gunzen**	**146.13**	**349**	*e*PKPbc	**PKPbc**	**11 41 20.0**	**+0.8**
	baz=13,slow=3.0						
MDUB	**Mudurnu**	**146.14**	**319**		**PKPdf**	**11 41 18.2**	**+0.3**
VYHS	**Vyhne**	**146.19**	**340**	*e*PKP	**PKPbc**	**11 41 20.2**	**+0.8**
VYHS				*e*		11 44 22.2	
VYHS	**Vyhne**	**146.19**	**340**	*e*PKP2	**PKPbc**	**11 41 20.2**	**+0.8**
WERN	**Wernitzgruen**	**146.20**	**349**	*e*PKPbc	**PKPbc**	**11 41 20.2**	**+0.8**
	baz=13,slow=3.0						
JAVC	**Velka Javorina**	**146.23**	**342**	*e*PKP	**PKPab**	**11 41 20.6**	**-0.6**
VOIR		**146.24**	**331**	⇑P	**PKPbc**	**11 41 20.5**	**+0.8**
VOIR		**146.24**	**331**	⇑PKP2	**PKPbc**	**11 41 20.5**	**+0.8**
NKC	**Novy Kostel**	**146.24**	**348**	*e*PKP	**PKPbc**	**11 41 20.1**	**+0.6**
NKC	**Novy Kostel**	**146.24**	**348**	*e*PKP2	**PKPbc**	**11 41 20.1**	**+0.6**
PSZ	**Piszkesteto**	**146.33**	**339**	⇑P	**PKPbc**	**11 41 20.0**	**+0.1**
PSZ	**Piszkesteto**	**146.33**	**339**		**PKPdf**	**11 41 18.9**	**+0.9**
PSZ	**Piszkesteto**	**146.33**	**339**	⇑PKP2	**PKPbc**	**11 41 20.0**	**+0.1**
KRUC	**Moravsky**	**146.41**	**343**	*e*PKP	**PKPbc**	**11 41 20.1**	**+0.1**
KRUC				*e*		11 44 22.0	
ARR	**Arges**	**146.48**	**331**	⇑P	**PKPab**	**11 41 21.8**	**-0.5**
MMAI	**Mount Meron Ar**	**146.51**	**304**	PKPbc	**PKPbc**	**11 41 21.0**	**+0.2**
	comp=Z,56nm,1.0s,baz=66,slow=4.8,SNR=31						
MMAI				SKPbc	**SKiKP**	**11 44 21.0**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=52,slow=2.4,SNR=2.0						
MANZ	**Manzenberg**	**146.54**	**349**	*e*PKPbc	**PKPbc**	**11 41 21.2**	**+0.8**
	baz=13,slow=3.0						
ZVC	**Zvikov**	**146.62**	**346**	*e*PKP	**PKPab**	**11 41 21.7**	**-0.9**
AHRW	**Bad Neuenahr-A**	**146.70**	**355**	*e*PKPbc	**PKPbc**	**11 41 21.6**	**+1.0**
	baz=13,slow=3.0						
MEM	**Membach**	**146.71**	**356**	*d*PKP	**PKPbc**	**11 41 20.8**	**+0.1**
BTNL	**Ternell**	**146.73**	**356**	*d*PKP	**PKPbc**	**11 41 20.8**	**0.0**
ROTZ	**Rotzenmuhle**	**146.73**	**348**	*e*PKPbc	**PKPab**	**11 41 22.1**	**-1.0**
	baz=13,slow=3.0						
BSTI	**Sart Tilman**	**146.77**	**356**	*d*PKP	**PKPbc**	**11 41 21.4**	**+0.5**
MODS	**Modra-Piesok**	**146.78**	**342**	*e*PKP	**PKPbc**	**11 41 22.0**	**+1.0**
MODS				*e*		11 44 23.1	
MODS	**Modra-Piesok**	**146.78**	**342**	*e*PKP2	**PKPbc**	**11 41 22.1**	**+1.0**
TNS	**Taunus Mts**	**146.87**	**353**	*e*PKPbc	**PKPbc**	**11 41 22.2**	**+0.9**
	baz=13,slow=3.0						
RAZG	**Razgrad**	**146.88**	**327**	⇑P	**PKPbc**	**11 41 22.1**	**+0.7**
BCLA	**Clavier**	**146.95**	**357**	*d*PKP	**PKiKP**	**11 41 23.4**	**-0.1**
BHOU	**Houvegnez**	**146.97**	**356**	*d*PKP	**PKPbc**	**11 41 22.4**	**+0.9**
GRA1	**Grafenberg Arr**	**146.98**	**350**		**PKPbc**	**11 41 20.4**	**-1.2**
GRF	**Grafenberg Arr**	**146.98**	**350**	PKIKP	**PKPbc**	**11 41 20.4**	**-1.2**
GRF	**Grafenberg Arr**	**146.98**	**350**	*e*PKPbc	**PKPbc**	**11 41 22.5**	**+0.9**
	baz=13,slow=3.0						
ZST	**Bratislava**	**146.99**	**342**	*e*PKP	**PKPbc**	**11 41 22.7**	**+1.1**
ZST	**Bratislava**	**146.99**	**342**	*e*PKP2	**PKPbc**	**11 41 22.7**	**+1.1**
BGES	**Gesves**	**146.99**	**357**	*d*PKP	**PKiKP**	**11 41 23.2**	**-0.4**
KHC	**Kasperske Hory**	**147.05**	**346**		**PKPbc**	**11 41 21.6**	**-0.2**
KHC	**Kasperske Hory**	**147.05**	**346**	*e*PKP	**PKPdf**	**11 41 19.7**	**+0.6**
KHC				*ex*	x	11 41 22.6	
KHC	**Kasperske Hory**	**147.05**	**346**	*e*PKIKP	**PKPdf**	**11 41 19.7**	**+0.6**
KHC				*e*		11 41 22.6	
SIRR	**Siria**	**147.06**	**335**	⇑P	**PKPbc**	**11 41 22.7**	**+0.8**
BMRD	**Maredsous**	**147.09**	**357**	*d*PKP	**PKPbc**	**11 41 22.4**	**+0.6**
CKRC	**Cesky Krumlov**	**147.17**	**345**	*e*PKP	**PKPbc**	**11 41 19.6**	**+0.4**
CKRC				*ex*	x	11 41 22.9	
CKRC	**Cesky Krumlov**	**147.17**	**345**	*e*PKIKP	**PKPdf**	**11 41 19.6**	**+0.4**
CKRC				*e*		11 41 22.9	
WET	**Wettzell**	**147.19**	**347**	*e*PKPbc	**PKPbc**	**11 41 23.0**	**+0.9**
	baz=13,slow=3.0						
RCHB	**Rochefort**	**147.21**	**357**	*d*PKP	**PKPbc**	**11 41 22.5**	**+0.4**
SURR	**Surduc**	**147.28**	**334**	⇑P	**PKPbc**	**11 41 23.0**	**+0.6**
GEC2	**GERESS Array S**	**147.29**	**346**		**PKPbc**	**11 41 22.4**	**-0.1**
GEC2	**GERESS Array S**	**147.29**	**346**	*e*PKPbc	**PKPbc**	**11 41 23.2**	**+0.7**
	baz=13,slow=3.0						
GERES	**GERESS Array B**	**147.29**	**346**	PKPbc	**PKPdf**	**11 41 20.3**	**+0.8**
	comp=Z,8.7nm,0.6s,baz=28,slow=3.2,SNR=36						
GERES				SKPbc	**SKiKP**	**11 44 24.3**	**+2.4**
	comp=Z,2.6nm,0.9s,baz=108,slow=4.3,SNR=4.4						
GZR	**Gura Zlata**	**147.29**	**333**	⇑P	**PKPbc**	**11 41 22.2**	**-0.4**
GZR	**Gura Zlata**	**147.29**	**333**	⇑PKIKP	**PKPbc**	**11 41 22.2**	**-0.4**
DOU	**Dourbes**	**147.31**	**357**	*d*PKP	**PKPbc**	**11 41 23.0**	**+0.7**
CSS	**Mathiatis**	**147.38**	**309**		**PKPbc**	**11 41 22.2**	**-0.9**
CONA	**Conrad Observa**	**147.59**	**343**	*i* PKiKP	**PKPbc**	**11 41 24.1**	**+0.8**
	comp=Z,31nm,1.0s,SNR=19						
BZS	**Buzias**	**147.60**	**334**	⇑P	**PKPdf**	**11 41 20.4**	**+0.4**
BZS	**Buzias**	**147.60**	**334**	⇑PKIKP	**PKPdf**	**11 41 20.4**	**+0.4**
WLF	**Walferdange**	**147.64**	**355**		**PKPbc**	**11 41 23.4**	**+0.1**
WLF	**Walferdange**	**147.64**	**355**	*d*PKP	**PKiKP**	**11 41 24.2**	**-0.7**
WLF	**Walferdange**	**147.64**	**355**	PKP2	**PKPbc**	**11 41 23.4**	**+0.1**
WLF	**Walferdange**	**147.64**	**355**	*e*PKPbc	**PKiKP**	**11 41 24.7**	**-0.3**
	baz=13,slow=3.0						
ELND	**Elena**	**147.65**	**327**	⇑P	**PKPbc**	**11 41 23.5**	**-0.1**
RONA	**Rosalia, Austr**	**147.68**	**342**	*i* PKiKP	**PKPbc**	**11 41 24.2**	**+0.7**
	comp=Z,32nm,1.0s,SNR=15						
HERR	**Herculane**	**147.85**	**333**	⇑P	**PKPbc**	**11 41 24.6**	**+0.6**
PLVB	**Pleven**	**147.96**	**329**	⇑P	**PKPbc**	**11 41 24.9**	**+0.6**
MOA	**Molln**	**148.09**	**345**	*i* PKP	**PKPbc**	**11 41 24.9**	**+0.4**
	comp=Z,22nm,1.0s,SNR=11						
STU	**Stuttgart**	**148.19**	**351**	*e*PKPbc	**PKiKP**	**11 41 25.8**	**-0.3**
	baz=13,slow=3.0						
MDVR	**Moldovita**	**148.23**	**333**	⇑P	**PKPbc**	**11 41 25.3**	**+0.2**
ARSA	**Arzberg**	**148.30**	**343**	*i* PKP	**PKPbc**	**11 41 25.2**	**+0.1**
	comp=Z,14nm,1.2s						
BIOA	**Bad Ischl, Aus**	**148.39**	**345**	*i* PKP	**PKPbc**	**11 41 25.3**	**0.0**
	comp=Z,14nm,0.9s,SNR=15						
DIM	**Dimitrovgrad**	**148.43**	**326**	P	**PKPbc**	**11 41 26.0**	**+0.5**
FUR	**Furstenfeldbru**	**148.44**	**349**	*e*PKPbc	**PKiKP**	**11 41 26.2**	**-0.5**
	baz=13,slow=3.0						
FUR				*e*PKPab	**PKPab**	**11 41 30.1**	**+0.1**
BALB	**Balikesir**	**148.69**	**320**	PKPdf	**PKPdf**	**11 41 18.3**	**-3.7**
BALB				PKPbc	**PKPbc**	**11 41 26.2**	**0.0**
BALB				PKPab	**PKPab**	**11 41 30.3**	**-1.0**
FRGS	**Fruska Gora**	**148.70**	**336**	⇑P	**PKPbc**	**11 41 26.7**	**+0.5**
FRGS	**Fruska Gora**	**148.70**	**336**	⇑*i*P	**PKPbc**	**11 41 26.8**	**+0.6**
BFO	**Black Forest**	**148.74**	**352**	PKPdf	**PKPdf**	**11 41 19.6**	**-2.2**
BFO					**PKPbc**	**11 41 26.3**	**+0.1**
BFO				PKPab	**PKPab**	**11 41 30.6**	**-0.7**
BFO	**Black Forest**	**148.74**	**352**	PKP2	**PKPbc**	**11 41 26.3**	**+0.1**
BFO	**Black Forest**	**148.74**	**352**	*e*PKPbc	**PKiKP**	**11 41 26.9**	**-0.4**
	baz=13,slow=3.0						
BFO				*e*PKPab	**PKPab**	**11 41 31.0**	**-0.3**
KDZ	**Kurdzhali**	**148.84**	**326**	P	**PKPbc**	**11 41 26.0**	**-0.6**
LESA	**Schwarzleotal**	**148.86**	**346**	*i* PKP	**PKPbc**	**11 41 26.6**	**+0.1**
	comp=Z,12nm,0.6s						
SOKA	**Sosoth**	**148.96**	**343**	*i* PKP	**PKPbc**	**11 41 26.6**	**-0.3**
	comp=Z,26nm,1.2s,SNR=10						
PERS	**Pernice**	**148.98**	**343**	*i* PKPbc	**PKPbc**	**11 41 26.9**	**+0.1**
KBA	**Koelnbreinsper**	**149.03**	**345**	*i* PKP	**PKPbc**	**11 41 26.8**	**-0.3**
	comp=Z,18nm,0.7s						
UBR	**Ueberruh**	**149.12**	**350**	*e*PKPbc	**PKPbc**	**11 41 27.7**	**+0.6**
	baz=13,slow=3.0						
UBR				*e*PKPab	**PKPab**	**11 41 32.5**	**-0.4**
BOVS	**Bovan**	**149.15**	**332**	⇑P	**PKPbc**	**11 41 26.8**	**-0.4**
WATA	**Walderalm**	**149.18**	**348**	*i* PKP	**PKPbc**	**11 41 27.6**	**+0.1**
	comp=Z,24nm,0.8s,SNR=7.8						
RETA	**Reute**	**149.19**	**349**	*i* PKiKP	**PKPbc**	**11 41 27.9**	**+0.5**
	comp=Z,18nm,1.0s						
VTS	**Vitosha**	**149.21**	**329**	P	**PKPbc**	**11 41 27.0**	**-0.7**
WTTA	**Wattenberg**	**149.23**	**348**	*i* PKiKP	**PKPbc**	**11 41 28.0**	**+0.4**
	comp=Z,40nm,0.6s,SNR=11						
OBKA	**Obir**	**149.25**	**344**	*i* PKP	**PKPbc**	**11 41 27.1**	**-0.4**
	comp=Z,11nm,0.9s						
OBKA	**Obir**	**149.25**	**344**	⇑*i*P	**PKPbc**	**11 41 27.1**	**-0.4**
MOTA	**Moosalm**	**149.26**	**348**	*i* PKP	**PKPbc**	**11 41 27.7**	**+0.1**
	comp=Z,34nm,0.9s,SNR=8.0						
TEKS	**Tekeris**	**149.32**	**336**	⇑*i*P	**PKPbc**	**11 41 27.8**	**+0.1**
SQTA	**Sankt Quirin**	**149.36**	**348**	*i* PKiKP	**PKPbc**	**11 41 28.2**	**+0.3**
	comp=Z,28nm,0.7s,SNR=7.7						
MYKA	**Terra Mystica**	**149.38**	**345**	*i* PKP	**PKPbc**	**11 41 27.4**	**-0.4**
	comp=Z,15nm,0.6s,SNR=5.8						
CLF	**Chambon-Foret**	**149.42**	**0**	PKPdf	**PKPdf**	**11 41 21.1**	**-1.7**
CLF					**PKiKP**	**11 41 29.1**	**+0.5**
CLF				PKPab	**PKPab**	**11 41 34.0**	**0.0**
DIVS	**Divibare**	**149.51**	**335**	⇑*i*P	**PKiKP**	**11 41 28.8**	**-0.3**
ABTA	**Abfaltersbach**	**149.54**	**346**	*i* PKP	**PKPbc**	**11 41 28.0**	**-0.3**
	comp=Z,47nm,0.8s,SNR=12						
DAVA	**Daimuels**	**149.54**	**350**	*i* PKiKP	**PKPbc**	**11 41 28.7**	**+0.4**
	comp=Z,58nm,1.0s						
CRES	**Cresnjev**	**149.62**	**342**	⇑*i*P	**PKPbc**	**11 41 28.7**	**+0.4**
FETA	**Feichten**	**149.64**	**349**	*i* PKiKP	**PKPbc**	**11 41 29.0**	**+0.4**
	comp=Z,45nm,0.9s,SNR=9.0						
LJU	**Ljubljana**	**149.69**	**343**	*i* PKPbc	**PKiKP**	**11 41 29.0**	**-0.3**
MMB	**Musomishta**	**149.74**	**327**	P	**PKPbc**	**11 41 29.0**	**+0.2**
KKB	**Krupnik**	**149.84**	**328**	P	**PKPbc**	**11 41 29.0**	**0.0**
BOJS	**Bojanci**	**149.97**	**342**	⇑*i*P	**PKiKP**	**11 41 30.0**	**+0.1**
CEY	**Cerknica**	**149.99**	**343**	⇑*i*P	**PKiKP**	**11 41 29.8**	**-0.2**
CEY	**Cerknica**	**149.99**	**343**	*i* PKPbc	**PKPbc**	**11 41 29.5**	**+0.2**
BLY	**Banja Luka**	**150.02**	**339**	⇑*i*P	**PKiKP**	**11 41 30.1**	**+0.1**
FUORN	**Ofenpass-Fuorn**	**150.12**	**349**	PKPdf	**PKPdf**	**11 41 22.2**	**-2.2**
FUORN				PKPbc	**PKiKP**	**11 41 30.8**	**+0.3**
FUORN				PKPab	**PKPab**	**11 41 36.2**	**-1.1**
RUDO	**Rudo**	**150.16**	**335**	⇑*i*P	**PKPbc**	**11 41 29.5**	**-0.2**
SJES	**Sjenica**	**150.20**	**334**	⇑*i*P	**PKiKP**	**11 41 30.8**	**+0.2**
MGRS	**Mrkonjic Grad**	**150.34**	**339**	⇑*i*P	**PKiKP**	**11 41 30.8**	**+0.1**
TUE	**Stuetta**	**150.41**	**350**	PKPdf	**PKPdf**	**11 41 23.8**	**-1.0**
TUE				PKPbc	**PKiKP**	**11 41 31.1**	**0.0**
TUE				PKPab	**PKPab**	**11 41 36.4**	**-2.1**
STIP	**Stip**	**150.42**	**329**	*i* P	**PKPbc**	**11 41 30.4**	**0.0**
A050A	**Klekovaca**	**150.48**	**339**	⇑*i*P	**PKPbc**	**11 41 30.2**	**-0.3**
SKO	**Skopje**	**150.57**	**330**	*i* P	**PKPbc**	**11 41 30.9**	**+0.2**
BRY	**Bratogost**	**151.09**	**335**	⇑*i*P	**PKPbc**	**11 41 30.7**	**-1.4**
TREB	**Trebinje**	**151.32**	**335**	*e*P	**PKPbc**	**11 41 30.9**	**-1.5**
DRME	**Dracevica, Mon**	**151.41**	**333**	*e*P	**PKPbc**	**11 41 32.5**	**-0.1**
STON	**Ston**	**151.45**	**336**	⇑

NBC4				Sg	**Sb**	**11 30 29.9**	**+0.2**
BLBC	**Blue River**	**2.80**	**216**	Pn	**Pn**	**11 29 52.1**	**0.0**
SLEB	**Sale Mountain**	**3.30**	**198**	Pn	**Pn**	**11 29 58.2**	**-0.8**
SLEB				Pg	**Pb**	**11 30 05.4**	**-0.4**
SLEB				Sg	**Sb**	**11 30 45.1**	**-1.1**
BMTB	**Bullhead Mount**	**3.64**	**301**	Pn	**Pn**	**11 30 03.6**	**+0.1**
BMTB				Pg	**Pb**	**11 30 12.4**	**+0.9**
FSJB	**Fort St James**	**4.53**	**275**	Pn	**Pn**	**11 30 14.6**	**-1.1**
NBC5	**NorthernBC 5**	**4.71**	**315**	Pn	**Pn**	**11 30 18.3**	**+0.1**
NBC5				Pg	**Pg**	**11 30 34.4**	**-2.9**
NBC6	**NorthernBC 6**	**5.03**	**330**	Pn	**Pn**	**11 30 22.4**	**-0.1**
NBC6				Pg	Pb	11 30 39.9	+4.8
HSPGA	**Hill Springs,**	**5.28**	**159**	Pn	**Pn**	**11 30 26.9**	**+0.8**
HSPGA				Sn	**Sn**	**11 31 24.2**	**-2.7**
PNT	**Penticton**	**5.36**	**202**	Pn	**Pn**	**11 30 25.8**	**-1.3**
PNT				Sg	**Sb**	**11 31 48.6**	**+3.5**
FNSB	**Fort Nelson**	**5.65**	**325**	Pn	**Pn**	**11 30 30.9**	**-0.1**
FNSB				Sg	**Sb**	**11 32 00.9**	**+7.6**
NBC3	**NorthernBC 3**	**5.79**	**339**	Sn	**Sn**	**11 31 35.6**	**-3.6**
HOPB	**Hope**	**5.79**	**213**	Sg	**Sb**	**11 32 01.9**	**+4.5**
MKRVA	**Milk River, Al**	**5.97**	**148**	Pn	**Pn**	**11 30 35.2**	**-0.3**
NEW	**Newport**	**6.08**	**184**	Pn	**Pn**	**11 30 36.5**	**-0.5**
	0.3nm,0.3s,baz=8.4,slow=12,SNR=7.6						
NEW				Lg	Lg	11 32 13.0	
	5.3nm,0.3s,baz=65,slow=14,SNR=4.7						
	0.7nm,0.3s						
HNBB	**Haney**	**6.27**	**219**	Pg	**Pb**	**11 30 57.8**	**+1.5**
HNBB				Sg	**Sb**	**11 32 15.1**	**+3.8**
BIB	**Bowen Island**	**6.46**	**223**	Pg	**Pb**	**11 30 59.6**	**+0.1**
MBW	**Mount Baker**	**6.47**	**213**	Pg	**Pb**	**11 31 01.6**	**+1.8**
BSMT	**Bassoo Peak**	**6.57**	**170**	Pn	**Pn**	**11 30 43.0**	**-0.9**
B06A	**Marblemount**	**6.58**	**210**	Pg	**Pb**	**11 31 04.3**	**+2.8**
RPW	**Rockport**	**6.65**	**210**	Pg	**Pb**	**11 31 05.4**	**+2.7**
RPW				Sg	Sg	11 32 29.6	-11
YBMT	**Yellow Bay**	**6.66**	**165**	Pn	**Pn**	**11 30 44.3**	**-0.7**
YBMT				Pg	**Pb**	**11 31 06.1**	**+3.1**
TXB	**Texada**	**6.72**	**230**	Sg	**Sb**	**11 32 30.8**	**+6.7**
JTMT	**Jette**	**6.74**	**167**	Pn	**Pn**	**11 30 45.3**	**-0.8**
CMW	**Cultus Mountai**	**6.86**	**213**	Pg	**Pb**	**11 31 08.9**	**+2.6**
GOBB	**Galiano Island**	**6.90**	**222**	Pg	**Pb**	**11 31 08.6**	**+1.5**
SNB	**Saturna Island**	**6.92**	**219**	Pg	**Pb**	**11 31 09.9**	**+2.6**
JCW	**Jim Creek**	**7.00**	**211**	Pg	**Pb**	**11 31 11.6**	**+2.8**
JCW				Sg	**Sb**	**11 32 39.5**	**+7.2**
NCRB	**Newcastle Ridg**	**7.02**	**240**	Sg	**Sb**	**11 32 39.1**	**+6.2**
KITB	**Kitimat**	**7.10**	**273**	Pn	**Pn**	**11 30 50.1**	**-0.7**
B010	**North Saanich**	**7.13**	**220**	Sg	**Sb**	**11 32 42.0**	**+6.2**
LIRD	**Liard River Hi**	**7.31**	**318**	P	**Pn**	**11 30 52.4**	**-1.3**
GRIB	**Gribbell Islan**	**7.52**	**268**	P	**Pn**	**11 30 56.7**	**0.0**
LTY	**Liberty**	**7.54**	**202**	Sg	Sb	11 32 56.3	+8.6
LYMT	**Lyon Mountain**	**7.84**	**158**	P	**Pn**	**11 30 59.8**	**-1.5**
T35M	**Bob Quinn**	**8.20**	**295**	P	**Pn**	**11 31 06.1**	**+0.1**
YKA	**Yellowknife A**	**8.26**	**6**	Pn	**Pn**	**11 31 06.0**	**-0.8**
	0.4nm,0.3s,baz=188,slow=13,SNR=31						
YKA				Sn	**Sn**	**11 32 36.7**	**-3.2**
	1.7nm,0.3s,baz=184,slow=22,SNR=5.6						
YKA				Lg	Lg	11 33 22.4	
	3.4nm,0.3s,baz=185,slow=28,SNR=12						
	0.5nm,0.3s						
FFC	**Flin Flon**	**8.49**	**81**	P	**Pn**	**11 31 09.7**	**-0.2**
FFC				S	Sn	11 32 37.1	-8.5
DLBC	**Dease Lake**	**8.54**	**304**	Pn	**Pn**	**11 31 09.2**	**-1.5**
	0.3nm,0.3s,baz=117,slow=16,SNR=7.0						
DLBC				Lg	Lg	11 33 31.5	
	0.4nm,0.3s,baz=143,slow=16,SNR=2.2						
	1.0nm,0.4s						
DLBC	**Dease Lake**	**8.54**	**304**	P	**Pn**	**11 31 10.1**	**-0.6**
DLBC				Pg	Pg	11 31 42.1	-8.4
PDAR	**Pinedale Array**	**12.45**	**155**	Pn	**Pn**	**11 32 03.9**	**-0.5**
	baz=72,slow=39,SNR=1.6						
	0.2nm,0.5s						
FCC	**Fort Churchill**	**13.14**	**61**	P	Pn	11 32 09.9	-3.6
ULM	**Lac du Bonnet**	**13.28**	**99**	Pn	**Pn**	**11 32 13.6**	**-1.9**
	0.3nm,0.3s,baz=294,slow=10,SNR=4.6						
ULM				Pg	Pg	11 33 08.9	
	0.5nm,0.3s,baz=289,slow=14,SNR=5.3						
ULM				Sn	Sn	11 34 30.9	-12
	0.8nm,0.3s,baz=319,slow=17,SNR=2.9						
ULM				Lg	Lg	11 35 55.6	
	0.5nm,0.3s,baz=203,slow=23,SNR=1.7						
	1.0nm,0.4s						
EPLO	**Experimental L**	**14.78**	**99**	S	Sn	11 35 04.2	-15
INK	**Inuvik**	**16.13**	**337**	Pn	**Pn**	**11 32 50.2**	**-3.2**
	0.1nm,0.3s,baz=142,slow=7.7,SNR=8.1						
	0.8nm,0.5s						
INK	**Inuvik**	**16.13**	**337**	P	**Pn**	**11 32 49.8**	**-3.7**
ILAR	**Eielson Array**	**18.39**	**317**	P	**Pn**	**11 33 22.7**	**+0.8**
	baz=104,slow=9.8,SNR=6.0						
	0.3nm,0.6s						
ANMO	**Albuquerque**	**20.62**	**156**	P	**P**	**11 33 46.9**	**+0.4**
	0.4nm,0.5s,baz=77,slow=13,SNR=2.5						
	0.4nm,0.5s						
PFO	**Pinyon Flats O**	**20.70**	**180**	P	**P**	**11 33 48.1**	**+0.7**
	3.0nm,0.9s,baz=9.8,slow=14,SNR=2.8						
	3.0nm,0.9s						
MA2	**Magadan**	**46.87**	**316**	LR	LR	11 57 37.2	
	comp=Z,81nm,21.7s,baz=110,slow=36						

IDC 16 11:44:55.4±8.2, **18°.82S**×**174°.77W**, **h0**km, **mb3.5**/3, **mbtmp3.5**/3, **Error ellipse: s-maj=356.9km s-min=39.9km az=142.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.87**	**260**	P	P	11 53 35.2	-0.3
	0.2nm,0.3s,baz=98,slow=7.3,SNR=9.2						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**47.88**	**255**	P	P	11 53 35.7	+0.1
	0.4nm,0.6s,baz=89,slow=8.0,SNR=8.5						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**86.04**	**12**	P	P	11 57 37.4	0.0
	0.4nm,1.0s,baz=210,slow=5.2,SNR=4.3						
	0.4nm,1.0s						

*MOS **16** 12:27:42.1±1.1,48°.23N×156°.22E,h17km,mb3.9/1, Error ellipse: s-maj=25.8km s-min=5.8km az=74.9*
*KRSC **16** 12:27:45.5±1.5,48°.39N×156°.39E,h17km±27km,Ml4.3*
*SKHL **16** 12:27:47.3±0.1,48°.40N×155°.10E,h69km±3km,mb4.3/5*
*IDC **16** 12:27:47.9±2.6,48°.42N×155°.09E,h48km±24km,mb3.4/9, mbtmp3.7/11,ML3.5/2,MS3.3/4, Error ellipse: s-maj=31.9km s-min=16.1km az=123.0*

ISC 16 12:27:46.0±0.9, **48°.28N**±0°.10×**155°.3E**±0°.1, **h35**km, **n59**, **σ1s25/57**, **mb3.6/9**, **MS3.6/3**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.46**	**12**	*e*P	**Pn**	**12 28 24.1**	**+0.4**
SKR				*e*S	**Sn**	**12 28 52.4**	**-0.1**
SKR	**Severo-Kuril's**	**2.46**	**12**	*e*P	**Pn**	**12 28 24.0**	**+0.4**
SKR				AMB	AMB	12 28 24.5	
	40nm,0.3s						
SKR				*e*S	**Sn**	**12 28 51.4**	**-1.1**
SKR				A	A	12 29 00.2	
	120nm,0.5s						
SKR				A	A	12 29 00.2	
	210nm,0.5s						
SKR	**Severo-Kuril's**	**2.46**	**12**	*e*PN	**Pn**	**12 28 24.2**	**+0.6**
SKR				*e*S	**Sn**	**12 28 51.8**	**-0.7**
SKR				pmax	pmax		
	comp=Z,29nm,0.5s						
SKR				smax	smax		
	comp=N,124nm,0.4s						
SKR				smax	smax		
	comp=E,215nm,0.7s						
PAU	**Pauzhetka**	**3.34**	**17**	*e*P	**Pn**	**12 28 37.2**	**+1.6**
PAU				*e*S	**Sn**	**12 29 14.8**	**+0.7**
PAU	**Pauzhetka**	**3.34**	**17**	*e*P	**Pn**	**12 28 37.2**	**+1.6**
PAU				AMB	AMB	12 28 40.7	
	comp=E,30nm,0.3s						
PAU				*e*S	**Sn**	**12 29 14.6**	**+0.6**
PAU				A	A	12 29 19.8	
	comp=E,110nm,0.4s						
PAU				A	A	12 29 19.8	
	comp=E,90nm,0.4s						
PAU	**Pauzhetka**	**3.34**	**17**	PN	**Pn**	**12 28 37.2**	**+1.6**
KDTR	**Khodutka, Kamc**	**3.96**	**26**	*e*P	**Pn**	**12 28 43.8**	**-0.4**
KDTR				*e*S	**Sn**	**12 29 26.5**	**-2.9**
KDTR	**Khodutka, Kamc**	**3.96**	**26**	PN	**Pn**	**12 28 43.8**	**-0.4**
ASAK	**Asacha**	**4.43**	**21**	*e*P	**Pn**	**12 28 51.6**	**+0.8**
ASAK	**Asacha**	**4.43**	**21**	PN	**Pn**	**12 28 51.6**	**+0.8**
GRL	**Gorelyy**	**4.63**	**22**	*e*P	**Pn**	**12 28 54.6**	**+1.1**
GRL	**Gorelyy**	**4.63**	**22**	PN	**Pn**	**12 28 54.6**	**+1.1**
APC	**Apacha**	**4.80**	**14**	*e*P	**Pn**	**12 28 58.1**	**+2.4**
APC	**Apacha**	**4.80**	**14**	PN	**Pn**	**12 28 58.1**	**+2.4**
KRMR	**Karymshinskiy**	**4.90**	**21**	*e*P	**Pn**	**12 28 56.4**	**-0.7**
KRMR	**Karymshinskiy**	**4.90**	**21**	PN	**Pn**	**12 28 56.4**	**-0.7**
PETK	**Petropavlovsk-**	**5.07**	**17**	P	**Pn**	**12 29 00.3**	**+0.9**
	comp=E,1.3nm,0.3s,baz=174,slow=13,SNR=83						
PETK				S	**Sn**	**12 29 56.4**	**-0.4**
	comp=E,1.2nm,0.6s,baz=140,slow=15,SNR=1.4						
PETK				LR	LR	12 31 03.3	
	comp=E,72nm,20.4s,baz=231,slow=39						
	comp=E,2.7nm,0.4s						
PET	**Petropavlovsk**	**5.21**	**23**	*e*P	**Pn**	**12 29 01.8**	**+0.5**
PET	**Petropavlovsk**	**5.21**	**23**	*e*P	**Pn**	**12 29 01.8**	**+0.5**
PET	**Petropavlovsk**	**5.21**	**23**	PN	**Pn**	**12 29 01.8**	**+0.5**
DALK	**Dalny**	**5.24**	**24**	*e*P	**Pn**	**12 29 02.2**	**+0.4**
DALK				*e*S	**Sn**	**12 29 59.3**	**-1.6**
DALK	**Dalny**	**5.24**	**24**	PN	**Pn**	**12 29 02.2**	**+0.4**
UGLR	**Uglovaya**	**5.42**	**23**	*e*P	**Pn**	**12 29 05.2**	**+0.8**
UGLR	**Uglovaya**	**5.42**	**23**	PN	**Pn**	**12 29 05.2**	**+0.8**
KOK	**Koryaka**	**5.45**	**22**	*e*P	**Pn**	**12 29 06.3**	**+1.6**
KOK	**Koryaka**	**5.45**	**22**	*e*P	**Pn**	**12 29 06.3**	**+1.6**
KOK	**Koryaka**	**5.45**	**22**	PN	**Pn**	**12 29 06.3**	**+1.6**
AVH	**Avacha**	**5.45**	**22**	*e*P	**Pn**	**12 29 06.4**	**+1.7**
AVH	**Avacha**	**5.45**	**22**	*e*P	**Pn**	**12 29 06.4**	**+1.7**
AVH	**Avacha**	**5.45**	**22**	PN	**Pn**	**12 29 06.4**	**+1.7**
SMAR	**Somma**	**5.46**	**23**	*e*P	**Pn**	**12 29 06.2**	**+1.2**
SMAR	**Somma**	**5.46**	**23**	PN	**Pn**	**12 29 06.2**	**+1.2**
KRX	**Arik**	**5.51**	**21**	*e*P	**Pn**	**12 29 06.9**	**+1.2**
KRX	**Arik**	**5.51**	**21**	PN	**Pn**	**12 29 06.9**	**+1.2**
SHO	**Shikotan**	**7.35**	**236**	*e*P	**Pn**	**12 29 31.5**	**+0.8**
SHO				AMB	AMB	12 29 32.7	
	comp=E,10.0nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**7.80**	**240**	*e*P	**Pn**	**12 29 37.6**	**+0.7**
YUK				AMB	AMB	12 29 38.2	
	comp=E,10.0nm,0.4s						
YUK				*e*S	**Sn**	**12 31 01.7**	**-2.2**
YUK				A	A	12 31 13.6	
	comp=E,80nm,0.5s						
YUK				A	A	12 31 13.6	
	comp=E,70nm,0.5s						
ASAJ	**Asahikawa**	**9.73**	**249**	P	**Pn**	**12 30 05.8**	**+2.4**
	comp=E,1.2nm,0.3s,baz=60,slow=12,SNR=11						
	comp=E,4.5nm,0.4s						
KSRS	**Korea Array**	**22.67**	**252**	P	**P**	**12 32 42.7**	**-1.4**
	comp=E,1.7nm,0.7s,baz=46,slow=9.8,SNR=2.0						
	comp=E,1.7nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**29.99**	**158**	T	T	13 05 46.6	
	baz=345,slow=77,SNR=19						
H11N1	**WAKE ISLAND Hy**	**30.01**	**158**	T	T	13 05 39.5	
	baz=345,slow=77,SNR=27						
H11N3	**WAKE ISLAND Hy**	**30.01**	**158**	T	T	13 05 55.9	
	baz=345,slow=77,SNR=14						
H11S1	**WAKE ISLAND Hy**	**31.12**	**159**	T	T	13 07 06.4	
	baz=345,slow=76,SNR=156						
H11S3	**WAKE ISLAND Hy**	**31.13**	**159**	T	T	13 07 07.2	
	baz=345,slow=76,SNR=224						
H11S2	**WAKE ISLAND Hy**	**31.14**	**159**	T	T	13 07 12.2	
	baz=345,slow=76,SNR=130						
KURK	**Kurchatov**	**47.75**	**303**	*e*P	**P**	**12 36 18.3**	**-0.9**
KURK	**Kurchatov**	**47.75**	**303**	P	**P**	**12 36 18.3**	**-0.9**
KURBB	**Kurchatov Arra**	**47.84**	**303**	P	**P**	**12 36 18.3**	**-1.7**
	comp=E,0.2nm,0.4s,baz=63,slow=7.1,SNR=2.7						
	comp=E,0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**54.16**	**257**	P	**P**	**12 37 08.2**	**+0.4**
	comp=E,0.3nm,0.4s,baz=46,slow=2.8,SNR=1.9						
	comp=E,0.3nm,0.4s						
FINES	**FINESS Array B**	**63.27**	**335**	P	**P**	**12 38 09.5**	**-1.0**
	comp=E,2.1nm,0.9s,baz=37,slow=7.1,SNR=4.4						
FINES				LR	LR	13 08 55.0	
	comp=E,61nm,19.5s,baz=46,slow=39						
	comp=E,2.1nm,0.9s						
ULM	**Lac du Bonnet**	**64.40**	**42**	LR	LR	13 06 43.3	
	comp=E,28nm,21.7s,baz=40,slow=36						
NOA	**NORSAR Array B**	**67.24**	**342**	LR	LR	13 11 39.1	
	comp=E,33nm,19.2s,baz=45,slow=39						
WRA	**Warramunga Arr**	**70.46**	**201**	P	**P**	**12 38 56.9**	**+0.2**
	comp=E,0.3nm,0.5s,baz=17,slow=6.4,SNR=5.1						
	comp=E,0.3nm,0.5s						
ASAR	**Alice Springs**	**74.14**	**200**	P	**P**	**12 39 19.6**	**+0.9**
	comp=E,0.2nm,0.5s,baz=14,slow=5.7,SNR=5.3						
	comp=E,0.2nm,0.5s						
EKA	**Eskdalemuir Ar**	**75.18**	**347**	P	**P**	**12 39 24.1**	**-0.2**
	comp=E,2.3nm,1.0s,baz=27,slow=5.6,SNR=3.5						
	comp=E,2.3nm,1.0s						
TXAR	**Lajitas Array**	**75.47**	**62**	P	**P**	**12 39 27.6**	**+1.0**
	comp=E,0.2nm,0.8s,baz=299,slow=8.2,SNR=2.8						
	comp=E,0.2nm,0.8s						
MMAI	**Mount Meron Ar**	**82.88**	**313**	P	**P**	**12 40 07.2**	**+0.2**
	comp=E,0.6nm,0.5s,baz=57,slow=5.3,SNR=1.9						
	comp=E,0.6nm,0.5s						
H03N2	**Juan Fernandez**	**137.29**	**90**	T	T	15 20 18.8	
	baz=311,slow=77,SNR=11						
H03N1	**Juan Fernandez**	**137.30**	**90**	T	T	15 20 20.2	
	baz=311,slow=77,SNR=15						
H03N3	**Juan Fernandez**	**137.30**	**90**	T	T	15 20 16.5	
	baz=311,slow=77,SNR=11						

*IDC **16** 12:45:23.7±6.0,6°.48S×130°.16E,h103km±57km,mb3.5/9, mbtmp4.0/11, Error ellipse: s-maj=42.0km s-min=20.2km az=79.0*
*DJA **16** 12:45:24.4±0.3,6°.5±3°×13°1E±°, h179km±7km, M4.8/12, mb4.6/7,mB5.5/6, MLv4.8/12, Mw(mB)5.0/6*
*NEIC **16** 12:45:27.2±1.9,6°.52S±0°.09×130°.0E±0°.1, h127km±8km, mb4.3/14, Error ellipse: s-maj=16.2km s-min=11.9km az=66.0*

ISC 16 12:45:29.4±0.5, **6°.56S**±0°.05×**130°.15E**±0°.06, **h150**km, **n81**, **σ2s34/74**, **mb3.9/12**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.81**	**141**	Pn	**Pn**	**12 45 60.0**	**-2.4**
SAUI	**Saumlaki**	**1.81**	**141**	P	**Pn**	**12 45 59.5**	**-2.9**
SAUI				S	**Sn**	**12 46 25.9**	**-1.8**
BNDI	**Bandanaira**	**2.04**	**353**	P	Pn	12 46 00.0	-5.0
BNDI	**Bandanaira**	**2.04**	**353**	P	Pn	12 45 59.7	-5.3
NLAI	**Namlea**	**4.49**	**317**	P	**Pn**	**12 46 35.0**	**-1.0**
KMPI	**Kaimana, Papua**	**4.56**	**51**	P	Pn	12 46 28.2	-8.8
SWI	**Sorong**	**5.77**	**11**	P	Pn	12 46 45.5	-7.5
SANI	**Sanana**	**6.11**	**317**	P	**Pn**	**12 46 56.8**	**-0.8**
SANI	**Sanana**	**6.11**	**317**	P	**Pn**	**12 46 54.4**	**-3.2**
	36nm,0.6s,0.2nm						
MTN	**Manton Dam**	**6.32**	**171**	Pn	**Pn**	**12 46 58.0**	**-2.4**
MTN	**Manton Dam**	**6.32**	**171**	P	**Pn**	**12 46 58.4**	**-1.9**
LBMI	**Labuha**	**6.45**	**336**	P	**Pn**	**12 46 58.5**	**-3.6**
	149nm,1.0s,2μm0.7nm						
SOEI	**Soe**	**6.63**	**241**	Pn	**Pn**	**12 47 03.5**	**-1.1**
SOEI	**Soe**	**6.63**	**241**	P	**Pn**	**12 47 04.4**	**-0.3**
	113nm,0.8s,2μm0.6nm						
TNTI	**Ternate**	**7.80**	**339**	Pn	Pn	12 47 15.2	-4.9
TNTI	**Ternate**	**7.80**	**339**	P	**Pn**	**12 47 15.6**	**-4.5**
	72nm,0.8s,0.3nm						
KNRA	**Kununurra**	**9.16**	**188**	Pn	**Pn**	**12 47 35.3**	**-3.1**
KNRA	**Kununurra**	**9.16**	**188**	P	**Pn**	**12 47 35.2**	**-3.1**
MRSI	**Marisa**	**10.77**	**310**	P	**Pn**	**12 47 57.6**	**-2.0**
TABU	**Tabubil**	**11.09**	**84**	P	**Pn**	**12 48 02.3**	**-1.5**
JAY	**Jayapura**	**11.26**	**70**	P	Pn	12 47 55.4	-11
	27nm,1.3s						
FITZ	**Fitzroy Crossi**	**12.28**	**201**	Pn	**Pn**	**12 48 15.2**	**-4.2**
PLAI	**Plampang**	**12.47**	**259**	P	**Pn**	**12 48 21.6**	**-0.2**
WB0	**Warramunga Arr**	**13.76**	**163**	Pn	**Pn**	**12 48 33.8**	**-4.6**
WRAB	**Tennant Creek**	**13.90**	**163**		**Pn**	**12 48 36.4**	**-3.7**
WRA	**Warramunga Arr**	**13.91**	**163**		Pn	12 48 35.0	-5.3
WRA	**Warramunga Arr**	**13.91**	**163**	P	**Pn**	**12 48 36.0**	**-4.3**
	14nm,0.3s,baz=347,slow=13,SNR=83						
WRA				S	Sn	12 51 02.1	-12
	10nm,0.3s,baz=345,slow=22,SNR=9.8						
WB2	**Warramunga Arr**	**13.91**	**163**	Pn	**Pn**	**12 48 37.0**	**-3.3**
WR0	**Warramunga Arr**	**13.98**	**163**	Pn	**Pn**	**12 48 37.2**	**-4.0**
QIS	**Mount Isa**	**16.66**	**148**	P	**Pn**	**12 49 13.9**	**-0.4**
PMG	**Port Moresby**	**17.08**	**101**	P	**P**	**12 49 17.5**	**-1.1**
PMG				IAmb	IAmb	12 49 20.6	
	comp=Z,13nm,0.8s						
PMG	**Port Moresby**	**17.08**	**101**	P	**Pn**	**12 49 20.7**	**+1.4**
PMG	**Port Moresby**	**17.08**	**101**	P	**Pn**	**12 49 20.6**	**+1.3**
PMG	**Port Moresby**	**17.08**	**101**	P	**P**	**12 49 16.7**	**-1.9**
	comp=Z,10nm,0.7s,baz=295,slow=6.7,SNR=6.7						
AS31	**Alice Springs**	**17.39**	**168**	P	**P**	**12 49 21.8**	**-0.3**
AS31				IAmb	IAmb	12 49 26.6	
	comp=Z,10nm,0.5s						
ASAR	**Alice Springs**	**17.39**	**168**	P	**P**	**12 49 21.7**	**-0.3**
ASAR	**Alice Springs**	**17.39**	**168**	P	**P**	**12 49 21.1**	**-1.0**
	comp=Z,11nm,0.5s,baz=337,slow=9.0,SNR=275						
ASAR				S	**S**	**12 52 28.8**	**-6.8**
	comp=Z,4.7nm,0.5s,baz=349,slow=23,SNR=8.3						
MBWA	**Marble Bar**	**17.68**	**214**	P	**Pn**	**12 49 25.8**	**-0.6**
MBWA				IAmb	IAmb	12 49 32.8	
	comp=Z,21nm,1.1s						
MBWA	**Marble Bar**	**17.68**	**214**	P	**Pn**	**12 49 26.4**	**0.0**
PSA00	**Pilbara Seismi**	**17.95**	**213**	P	**P**	**12 49 26.5**	**-1.6**
PSA00				IAmb	IAmb	12 49 35.9	
	comp=Z,13nm,0.5s						
PSA00	**Pilbara Seismi**	**17.95**	**213**	P	**Pn**	**12 49 29.3**	**-0.3**
WRKA	**Warakurna**	**18.46**	**185**	P	**Pn**	**12 49 34.8**	**-0.9**
CTA	**Charters Tower**	**20.62**	**132**	P	Pn	12 50 00.4	-0.7
CTA	**Charters Tower**	**20.62**	**132**	P	**P**	**12 49 58.6**	**+1.5**
	comp=Z,3.8nm,0.6s,baz=309,slow=9.4,SNR=8.3						
CTAO	**Charters Tower**	**20.62**	**132**	P	**P**	**12 49 57.2**	**+0.1**
CTAO	**Charters Tower**	**20.62**	**132**	P	Pn	12 50 00.2	-0.9
OOD	**Oodnadatta**	**21.76**	**167**	P	**P**	**12 50 10.5**	**+1.3**
MEEK	**Meekatharra**	**22.79**	**208**	P	**P**	**12 50 20.7**	**+1.4**
INKA	**Innaminka**	**23.34**	**156**	P	**P**	**12 50 27.0**	**+2.7**
MULG	**Mulgathing**	**23.88**	**172**	P	**P**	**12 50 31.5**	**+2.3**
FORT	**Forrest**	**24.17**	**184**	P	**P**	**12 50 30.3**	**-1.5**
FORT	**Forrest**	**24.17**	**184**	P	**P**	**12 50 34.3**	**+2.5**
LCRK	**Leigh Creek**	**24.94**	**163**	P	**P**	**12 50 41.3**	**+2.5**
KMBL	**Kambalda**	**25.87**	**196**	P	**P**	**12 50 48.5**	**+1.3**
BBOO	**Buckleboo**	**26.69**	**169**	P	**P**	**12 50 54.6**	**+0.1**
BBOO				IAmb	IAmb	12 51 28.8	
	comp=Z,7.5nm,0.8s						
BBOO	**Buckleboo**	**26.69**	**169**	P	**P**	**12 50 58.5**	**+3.9**
BLDU	**Ballidu**	**27.05**	**206**	P	**P**	**12 50 59.0**	**+1.2**
STKA	**Stephens Creek**	**27.36**	**158**	P	**P**	**12 51 01.5**	**+1.0**
STKA	**Stephens Creek**	**27.36**	**158**	P	**P**	**12 51 04.5**	**+3.9**
CMSA	**Cobar Meteorol**	**28.79**	**152**	P	**P**	**12 51 14.6**	**+1.4**
PATS	**Pohnpei**	**31.09**	**65**	P	**P**	**12 51 35.6**	**+1.9**
CAN	**Canberra**	**33.46**	**151**	P	**P**	**12 51 55.6**	**+1.3**
PZH	**PanZhiHua**	**42.88**	**321**	P	**P**	**12 53 16.0**	**+2.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
HHC	**Hu-ho-hao-te**	**50.18**	**342**	*e*P	**P**	**12 54 13.8**	**+4.0**
TUWZ	**Tuamarina**	**52.11**	**139**	P	**P**	**12 54 23.8**	**-0.4**
SONM	**Songino Array**	**58.08**	**341**	P	**P**	**12 55 06.1**	**-0.9**
SONM	**Songino Array**	**58.08**	**341**	P	**P**	**12 55 06.8**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=159,slow=8.6,SNR=2.1						
	comp=Z,0.2nm,0.4s						
WMQ	**Urumqi**	**63.11**	**327**	*e*P	**P**	**12 55 44.4**	**+3.3**
PETK	**Petropavlovsk-**	**63.86**	**18**	P	**P**	**12 55 45.2**	**-0.6**
PETK	**Petropavlovsk-**	**63.86**	**18**	P	**P**	**12 55 45.3**	**-0.4**
	comp=Z,2.9nm,0.9s,baz=198,slow=4.2,SNR=4.4						
	comp=Z,2.9nm,0.9s						
MK31	**Makanchi Array**	**67.94**	**327**	P	**P**	**12 56 11.8**	**-0.2**
MK31				IAmb	IAmb	12 56 28.5	
	comp=Z,5.6nm,1.4s						
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**12 56 11.9**	**-0.1**
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**12 56 11.4**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=115,slow=8.3,SNR=17						
	comp=Z,1.4nm,0.6s						
ZALV	**Zalesovo Beam**	**71.26**	**334**	P	**P**	**12 56 30.3**	**-1.9**
	comp=Z,0.5nm,0.4s,baz=130,slow=6.9,SNR=2.8						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**72.22**	**328**	P	**P**	**12 56 37.2**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=128,slow=5.1,SNR=5.1						
	comp=Z,0.5nm,

IVAS	**Ivanjica**	**1.79**	**76**	*e*Pn		**Pn**	**12 49 22.6**	**0.0**
IVAS				*e*Sn		**Sg**	**12 49 48.5**	**+0.5**
DIVS	**Divibare**	**1.86**	**59**	*e*Pn		**Pn**	**12 49 22.9**	**-0.7**
DIVS	**Divibare**	**1.86**	**59**	*e*Pn		**Pn**	**12 49 23.4**	**-0.2**
DIVS				*e*Sn		**Sn**	**12 49 47.2**	**-0.6**
BCI	**Bajram Curri**	**1.88**	**115**	P		**Pb**	**12 49 25.4**	**-0.1**
	baz=104							
BCI				S		**Sg**	**12 49 53.3**	**+2.5**
	baz=104							
BCI				AMP				
	comp=N,0.7nm,0.5s,baz=104							
TEKS	**Tekeris**	**1.88**	**42**	*e*Pn		**Pb**	**12 49 25.2**	**-0.4**
TEKS	**Tekeris**	**1.88**	**42**	*e*Pn		**Pn**	**12 49 24.3**	**+0.5**
TEKS				*e*Sn		**Sn**	**12 49 47.8**	**-0.3**
UDBI	**Udbina**	**1.98**	**314**	*e*Pn		**Pg**	**12 49 27.7**	**-0.8**
UDBI				Sn		**Sg**	**12 49 55.6**	**+1.3**
SGRT	**San Giovanni R**	**2.06**	**227**	P		**Pn**	**12 49 25.3**	**-1.0**
	baz=233							
SGRT				S		**Sn**	**12 49 52.9**	**+0.3**
	baz=233							
DUGI	**Dugi Otok**	**2.13**	**294**	*e*Pn		**Pb**	**12 49 29.2**	**-0.7**
DUGI				Sn		**Sg**	**12 49 57.8**	**-1.2**
TRUS	**Trudelj**	**2.19**	**60**	*e*Pn		**Pn**	**12 49 28.3**	**+0.3**
VIRC	**Vir**	**2.26**	**301**	*e*Pn		**Pb**	**12 49 31.2**	**-0.9**
VIRC				Sn		**Sb**	**12 50 01.1**	**+0.5**
GRUS	**Gruza**	**2.26**	**70**	*e*Pn		**Pb**	**12 49 31.4**	**-0.8**
PLIT	**Plitvice**	**2.30**	**319**	*e*Pn		**Pb**	**12 49 32.0**	**-0.9**
PLIT				Sn		**Sb**	**12 50 01.9**	**+0.1**
NOCI	**Noci**	**2.44**	**193**	P		**Pn**	**12 49 30.0**	**-1.4**
	baz=193							
NOCI				S		**Sn**	**12 50 00.8**	**-1.0**
	baz=193							
NOCI				AMP				
	comp=N,baz=193							
SELS	**Selova**	**2.45**	**88**	*e*Pn		**Pn**	**12 49 31.8**	**+0.1**
FRGS	**Fruska Gora**	**2.47**	**36**	*e*Pn		**Pn**	**12 49 32.2**	**+0.3**
FRGS				*e*Sn		**Sn**	**12 50 01.9**	**-0.9**
NVLJ	**Novalja**	**2.51**	**305**	Sn		**Sb**	**12 50 06.5**	**-1.2**
MOSL	**Moslavina**	**2.55**	**344**	*e*Pn		**Pn**	**12 49 33.8**	**+0.8**
RABC	**Rab**	**2.67**	**307**	Sn		**Sb**	**12 50 11.5**	**-0.8**
BOJS	**Bojanci**	**2.95**	**323**	*e*Pn		**Pn**	**12 49 39.2**	**+0.8**
BOJS				*e*Sn		**Sn**	**12 50 14.9**	**+0.5**
BARS	**Barje**	**2.99**	**95**	*e*Pn		**Pn**	**12 49 40.4**	**+1.3**
BARS				*e*Sn		**Sb**	**12 50 18.6**	**-3.0**
KALN	**Kalnik**	**3.10**	**343**	*e*Pn		**Pn**	**12 49 40.6**	**0.0**
CRES	**Cresnjev**	**3.13**	**329**	*e*Pn		**Pn**	**12 49 42.1**	**+1.2**
CRES				*e*Sn		**Sn**	**12 50 19.3**	**+0.5**
LOBO	**Lobor**	**3.22**	**339**	*e*Pn		**Pn**	**12 49 42.3**	**+0.1**
PRVS	**Prvonek**	**3.24**	**100**	*e*Pn		**Pn**	**12 49 43.7**	**+1.2**
PRVS				*e*Sn		**Sn**	**12 50 23.5**	**+1.8**
BRJN	**Brijuni**	**3.37**	**302**	*e*Pn		**Pn**	**12 49 46.1**	**+1.8**
BRJN				Sn		**Sn**	**12 50 26.4**	**+1.5**
CEY	**Cerknica**	**3.51**	**318**	*e*Pn		**Pn**	**12 49 46.9**	**+0.7**
CEY				*e*Sn		**Sn**	**12 50 28.0**	**-0.3**
ZAPS	**Zavoj**	**3.56**	**87**	*e*Pn		**Pn**	**12 49 48.3**	**+1.4**
ZAPS				*e*Sn		**Sn**	**12 50 32.1**	**+2.5**
BZS	**Buzias**	**3.69**	**47**	*e*Pn		**Pn**	**12 49 49.0**	**+0.4**
BZS	**Buzias**	**3.69**	**47**	*e*Pg		**Pg**	**12 49 59.0**	**-2.2**
BZS				*e*Sn		**Sn**	**12 50 31.4**	**-1.3**
SOKA	**Soboth**	**4.01**	**332**	*i* Pn		**Pn**	**12 49 54.1**	**+1.0**
	comp=N,2.5nm,0.3s							
SOKA				*i* Sn		**Sn**	**12 50 40.6**	**-0.1**
	comp=N,2.1nm,0.3s							
ARSA	**Arzberg**	**4.38**	**340**	*i* Pn		**Pn**	**12 49 59.4**	**+1.3**
	comp=N,3.7nm,0.3s							
ARSA	**Arzberg**	**4.38**	**340**	*e*Pn		**Pn**	**12 49 58.2**	**+0.1**
ARSA				*e*Sn		**Sn**	**12 50 48.1**	**-1.6**
RONA	**Rosalia, Austr**	**4.65**	**348**	*i* Pn		**Pn**	**12 50 04.4**	**+2.5**
	comp=N,0.8nm,0.2s							
CONA	**Conrad Observa**	**4.94**	**345**	*e*Pn		**Pn**	**12 50 07.9**	**+2.0**
	comp=N,0.4nm,0.2s							
CONA				*i* Sn		**Sn**	**12 51 02.0**	**-1.7**
	comp=N,2.0nm,0.4s							
ABTA	**Abfaltersbach**	**5.16**	**316**	*i* Pn		**Pn**	**12 50 10.6**	**+1.7**
	comp=N,0.7nm,0.2s							
ABTA				*i* Sn		**Sn**	**12 51 11.5**	**+2.4**
	comp=N,1.3nm,0.3s							
MODS	**Modra-Piesok**	**5.21**	**356**	*e*PN		**Pn**	**12 50 10.9**	**+1.3**
MODS				*e*SN		**Sn**	**12 51 06.8**	**-3.5**
MOA	**Molln**	**5.29**	**334**	*i* Pn		**Pn**	**12 50 12.8**	**+2.3**
	comp=N,1.1nm,0.2s							
MOA				*i* Sn		**Sn**	**12 51 12.9**	**+0.9**
	comp=N,3.1nm,0.6s							
MOA	**Molln**	**5.29**	**334**	*e*Pn		**Pn**	**12 50 11.0**	**+0.4**
MOA				*e*Sn		**Sn**	**12 51 10.6**	**-1.5**
BIOA	**Bad Ischl, Aus**	**5.37**	**329**	*i* Pn		**Pn**	**12 50 14.0**	**+2.2**
	comp=N,1.7nm,0.3s							
LESA	**Schwarzleotal**	**5.56**	**322**	*e*Pn		**Pn**	**12 50 16.3**	**+1.9**
	comp=N,1.6nm,0.3s							
WTTA	**Wattenberg**	**5.96**	**316**	*e*Pn		**Pn**	**12 50 23.2**	**+3.3**
	comp=N,1.2nm,0.3s							

IDC ***16*** *12:54:13.3±1.1,0.°90N×27.°75W, h0km, mb3.9/9, mbtmp3.9/10, ML3.4/1, MS3.5/20, Error ellipse: s-maj=44.5km s-min=19.4km az=151.0*

ISC 16 12:54:14.1±0.8, 0.°7N±0.°2×27.°8W±0.°2, h10km, n28, σ2s10/11, mb4.0/9, MS3.5/19, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**10.38**	**231**	Pn	**Pn**	**12 56 45.6**	**+2.4**
	0.3nm,0.3s,baz=50,slow=16,SNR=1.7						
RCBR				Sn	**Sn**	**12 58 35.0**	**-4.7**
	0.2nm,0.3s,baz=98,slow=14,SNR=1.7						
RCBR				LR	LR	12 59 49.0	
	comp=Z,133nm,21.6s,baz=72,slow=32						
	2.0nm,0.5s						
H10N3	**ASCENSION HYDR**	**15.73**	**123**	T	T	13 14 10.7	
	baz=302,slow=74,SNR=45						
H10N2	**ASCENSION HYDR**	**15.74**	**123**	T	T	13 14 00.5	
	baz=302,slow=74,SNR=50						
H10N1	**ASCENSION HYDR**	**15.75**	**123**	T	T	13 14 12.2	
	baz=302,slow=74,SNR=52						
DBIC	**Dimbokro**	**23.63**	**75**	P	**P**	**12 59 25.6**	**-0.1**
	9.5nm,0.8s,baz=248,slow=11,SNR=8.8						
DBIC				LR	LR	13 07 16.8	
	comp=Z,120nm,18.4s,baz=208,slow=33						
	9.5nm,0.8s						
BDFB	**Brasilia**	**25.75**	**230**	P	**P**	**12 59 47.7**	**+2.3**
	2.0nm,0.6s,baz=61,slow=10,SNR=3.6						
BDFB				LR	LR	13 08 49.6	
	comp=Z,100nm,21.0s,baz=124,slow=34						
	2.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**31.71**	**66**	P	**P**	**13 00 37.6**	**-0.8**
	2.3nm,0.8s,baz=259,slow=8.1,SNR=12						
TORD				LR	LR	13 11 06.4	
	comp=Z,92nm,21.6s,baz=231,slow=32						
	2.3nm,0.8s						
SIV	**San Ignacio**	**36.81**	**242**	LR	LR	13 16 01.1	
	comp=Z,99nm,19.7s,baz=108,slow=35						
PCRV	**Puerto La Cruz**	**37.83**	**286**	LR	LR	13 14 59.2	
	comp=Z,45nm,19.3s,slow=33						
CPUP	**Villa Florida**	**39.17**	**224**	LR	LR	13 17 35.8	
	comp=Z,87nm,18.4s,baz=40,slow=36						
SJG	**San Juan**	**41.46**	**297**	LR	LR	13 15 49.3	
	comp=Z,34nm,18.1s,baz=71,slow=31						
SDV	**Santo Domingo**	**43.42**	**282**	LR	LR	13 20 30.4	
	comp=Z,21nm,19.7s,baz=130,slow=36						
ESDC	**Sonseca Array**	**44.46**	**26**	P	**P**	**13 02 24.5**	**-1.1**
	1.0nm,1.0s,baz=220,slow=8.9,SNR=4.0						
	1.0nm,1.0s						
LVC	**Limon Verde**	**46.26**	**237**	LR	LR	13 21 07.7	
	comp=Z,33nm,19.6s,baz=45,slow=35						
ROSC	**El Rosal**	**46.65**	**276**	LR	LR	13 21 28.2	
	comp=Z,100nm,18.4s,baz=184,slow=35						
ATAH	**Atahualpa**	**51.08**	**260**	LR	LR	13 25 03.7	
	comp=Z,68nm,18.8s,baz=63,slow=36						
PLCA	**Paso Flores**	**56.64**	**218**	LR	LR	13 28 23.7	
	comp=Z,47nm,18.4s,baz=356,slow=36						
LSZ	**Lusaka**	**57.53**	**109**	LR	LR	13 26 22.7	
	comp=Z,49nm,18.4s,baz=126,slow=34						
JTS	**Las Juntas de**	**57.61**	**282**	LR	LR	13 28 56.2	
	comp=Z,40nm,18.3s,baz=68,slow=36						
GERES	**GERESS Array B**	**59.73**	**30**	P	**P**	**13 04 19.1**	**-0.1**
	1.1nm,0.7s,baz=225,slow=7.4,SNR=4.8						
	1.1nm,0.7s						
EIL	**Elat**	**66.13**	**58**	LR	LR	13 34 17.2	
	comp=Z,31nm,18.3s,baz=244,slow=36						
MMAI	**Mount Meron Ar**	**67.32**	**54**	LR	LR	13 34 24.4	
	comp=Z,26nm,20.1s,baz=236,slow=36						
BRTR	**Keskin Array B**	**67.87**	**47**	P	**P**	**13 05 13.3**	**+0.2**
	0.3nm,0.3s,baz=203,slow=5.8,SNR=4.0						
BRTR				LR	LR	13 37 26.4	
	comp=Z,18nm,18.0s,baz=334,slow=38						
	0.3nm,0.3s						

AKASG	**Malin Array Be**	**69.17**	**35**	P		**P**	**13 05 20.9**	**+0.1**
	0.9nm,0.5s,baz=241,slow=6.5,SNR=6.2							
	0.9nm,0.5s							
GNI	**Garni**	**76.23**	**49**	LR		LR	13 41 55.8	
	comp=Z,20nm,19.1s,baz=57,slow=38							
TXAR	**Lajitas Array**	**77.35**	**300**	P		**P**	**13 06 10.0**	**+0.3**
	0.5nm,1.1s,baz=92,slow=10,SNR=3.1							
	0.5nm,1.1s							
PDAR	**Pinedale Array**	**83.47**	**313**	P		**P**	**13 06 42.7**	**+0.1**
	0.4nm,0.8s,baz=110,slow=7.8,SNR=2.3							
	0.4nm,0.8s							
YKA	**Yellowknife Ar**	**87.90**	**332**	LR		LR	13 42 01.1	
	comp=Z,31nm,20.9s,baz=315,slow=33							

JMA ***16*** *12:56:27.5±0.3, 44.°00N±0.°9×14.°5E±.°, h142km±2km, MV2.6/33, NEAR KUNASHIRI ISLAND*
SKHL ***16*** *12:56:28.1±0.5, 44.°00N×145.°30E, h138km±7km, mb4.2/4, msh4.7/4*

ISC 16 12:56:28.2±2.7, 44.°00N±0.°08×145.°32E±0.°06, h137km±17km, n17, σ0s33/27, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JRA	**Rausu**	**0.15**	**245**	*e*P	**Pn**	**12 56 46.5**	**-0.3**
JNSB	**Nemuroshibetsu**	**0.32**	**225**	*e*P	**Pn**	**12 56 47.5**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**0.40**	**85**	*e*P	**Pn**	**12 56 47.9**	**+0.4**
YUK				AMB	AMB	12 56 48.1	
	160nm,0.3s						
YUK				*e*S	**Sn**	**12 57 02.7**	**+0.5**
YUK				A	A	12 57 08.5	
	90nm,0.4s						
YUK				A	A	12 57 08.5	
	120nm,0.4s						
JNK	**Nakash**	**0.60**	**226**	*e*P	**Pn**	**12 56 48.7**	**0.0**
NMR	**Nemuro--Hokkai**	**0.70**	**155**	*e*P	**Pn**	**12 56 49.2**	**-0.1**
NMR				AMB	AMB	12 56 49.7	
	50nm,0.2s						
NMR				*e*S	**Sn**	**12 57 05.0**	**-0.3**
NMR				A	A	12 57 09.5	
	100nm,0.2s						
NMR				A	A	12 57 09.5	
	180nm,0.2s						
NEM2	**Nemuro 2**	**0.71**	**154**	*e*P	**Pn**	**12 56 49.2**	**-0.2**
NEM2				*e*S	**Sn**	**12 57 05.1**	**-0.4**
JKHN	**Kushirohamanak**	**0.93**	**187**	*e*P	**Pn**	**12 56 51.2**	**+0.1**
JKHN				*e*S	**Sn**	**12 57 09.1**	**+0.6**
JTKR	**Abashiri--Toko**	**1.02**	**269**	P	**Pn**	**12 56 51.7**	**-0.2**
JTKR				*e*S	**Sn**	**12 57 09.6**	**-0.2**
AKK	**Akkeshi**	**1.04**	**199**	*e*P	**Pn**	**12 56 52.0**	**-0.2**
AKK				*e*S	**Sn**	**12 57 10.2**	**-0.2**
SHO	**Shikotan**	**1.10**	**96**	*e*P	**Pn**	**12 56 52.6**	**-0.1**
SHO				AMB	AMB	12 56 53.5	
	20nm,0.2s						
SHO				*e*S	**Sn**	**12 57 11.2**	**-0.1**
SHO				A	A	12 57 13.1	
	130nm,0.3s						
SHO				A	A	12 57 13.1	
	110nm,0.3s						
JAK	**Akkeshi**	**1.10**	**204**	P	**Pn**	**12 56 52.8**	**+0.1**
JAK				*e*S	**Sn**	**12 57 11.2**	**-0.2**
JAR	**Ashorobuto**	**1.33**	**238**	*e*P	**Pn**	**12 56 55.5**	**+0.6**
JMP	**Maruseppu**	**1.41**	**271**	*e*P	**Pn**	**12 56 55.5**	**-0.4**
JOB	**Onbets**	**1.54**	**225**	*e*P	**Pn**	**12 56 57.6**	**+0.3**
JOB				*e*S	**Sn**	**12 57 19.8**	**+0.4**
JKK2	**Kamakawa 2**	**1.86**	**267**	*e*P	**Pn**	**12 57 00.9**	**0.0**
ASAJ	**Asahikawa**	**1.96**	**274**	*e*P	**Pn**	**12 57 02.4**	**+0.3**
JCH	**Churui**	**1.99**	**226**	*e*P	**Pn**	**12 57 02.4**	**0.0**
JCH				*e*S	**Sn**	**12 57 28.1**	**-0.5**

JMA ***16*** *13:14:29.3±0.1, 25.°1N×123.°1E±0.°4, h66km, MD3.5/16, MV3.7/16, NW OFF ISHIGAKIJIMA IS*

ISC 16 13:14:29.5±1.5, 24.°41N±0.°10×123.°09E±0.°04, h65km±9km, n20, σ0s43/25, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.09**	**305**	P	**Pn**	**13 14 39.1**	**0.0**
YOJ	**Yonaguni jima**	**0.09**	**305**	*i* P	**Pn**	**13 14 39.0**	**-0.1**
YOJ				S	**Sn**	**13 14 45.8**	**-0.2**
YOJ	**Yonaguni jima**	**0.09**	**305**	A	A	13 14 39.0	
	comp=E,13nm,1.3s,comp=N,10.0nm,4.4s						
JYNG	**Yonagunijimaku**	**0.14**	**287**	*i* P	**Pn**	**13 14 39.2**	**-0.1**
JYNG				S	**Sn**	**13 14 46.2**	**-0.1**
JYNG	**Yonagunijimaku**	**0.14**	**287**	A	A	13 14 39.2	
	comp=E,24nm,0.4s,comp=N,15nm,0.4s						
IRIF	**Iriomote-Funau**	**0.59**	**97**	*i* P	**Pn**	**13 14 42.7**	**-0.1**
IRIF				S	**Sn**	**13 14 52.9**	**+0.3**
IRIF	**Iriomote-Funau**	**0.59**	**97**	A	A	13 14 42.7	
	comp=E,7.0nm,0.4s,comp=N,7.0nm,0.3s						
HATJ	**Hateruma jima**	**0.74**	**118**	P	**Pn**	**13 14 45.1**	**+0.5**
HATJ				S	**Sn**	**13 14 56.5**	**+0.8**
JKRS	**Kuro-shima**	**0.86**	**101**	*i* P	**Pn**	**13 14 46.3**	**+0.3**
JKRS				S	**Sn**	**13 14 58.9**	**+0.7**
JIJ	**Ishigaki jima**	**0.96**	**93**	*i* P	**Pn**	**13 14 46.9**	**-0.4**
JIJ				S	**Sn**	**13 14 59.9**	**-0.6**
JISG	**Ishigakijimahi**	**1.13**	**81**	*i* P	**Pn**	**13 14 49.0**	**-0.4**
JISG				S	**Sn**	**13 15 03.6**	**-0.6**
NACB	**Ninganchiao**	**1.38**	**260**	P	**Pn**	**13 14 52.5**	**-0.3**
JTJ	**Tarama**	**1.49**	**81**	P	**Pn**	**13 14 54.2**	**0.0**
JTJ				S	**Sn**	**13 15 12.4**	**-0.3**
TATO	**Taipei**	**1.56**	**291**	P	**Pn**	**13 14 55.5**	**+0.4**
YHNB	**Yeheng**	**1.58**	**280**	P	**Pn**	**13 14 56.0**	**+0.5**
YULB	**Yu-li**	**1.93**	**239**	P	**Pn**	**13 14 59.8**	**-0.3**
JIRB	**Irabujima**	**1.94**	**77**	P	**Pn**	**13 15 00.2**	**0.0**
SSLB	**Suanglung**	**2.05**	**253**	P	**Pn**	**13 15 02.1**	**+0.4**
JMJ2	**Miyako jima3**	**2.07**	**80**	P	**Pn**	**13 15 02.2**	**+0.3**
TWGBT	**Beinan**	**2.43**	**230**	P	**Pn**	**13 15 06.3**	**-0.6**

IDC ***16*** *13:15:24.9±0.9, 22.°66S×170.°66E, h0km, mb3.9/10, mbtmp3.9/11, ML3.8/1, Error ellipse: s-maj=26.1km s-min=21.6km az=149.0*
NEIC ***16*** *13:15:25.8±2.9, 22.°75S±0.°09×170.°6E±0.°1, h10km±2km, mb4.2/7, Error ellipse: s-maj=20.7km s-min=14.6km az=65.0*
NOU ***16*** *13:16:00.9, 22.°26S×168.°07E, h0km, MLv2.8/6, New Caledonia*

ISC 16 13:15:28.9±0.7, 22.°6S±0.°1×170.°62E±0.°08, h33km, n36, σ1s58/37, mb4.0/13, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**2.66**	**295**	Pn	**Pn**	**13 16 10.2**	**+0.8**
PINNC	**Pines Island,**	**2.93**	**270**	Pn	**Pn**	**13 16 13.6**	**+0.4**
PINNC	**Pines Island,**	**2.93**	**270**	P	**Pn**	**13 16 14.1**	**+0.9**
YATNC	**Mamie plateau,**	**3.50**	**279**	P	**Pn**	**13 16 22.3**	**+1.3**
OUENC	**Ouen Island, N**	**3.50**	**273**	Pn	**Pn**	**13 16 22.1**	**+1.1**
OUENC	**Ouen Island, N**	**3.50**	**273**	P	**Pn**	**13 16 21.9**	**+0.9**
LIFNC	**LIFOU**	**3.64**	**300**	Pn	**Pn**	**13 16 20.4**	**-2.6**
LIFNC	**LIFOU**	**3.64**	**300**	P	**Pb**	**13 16 30.8**	**-1.8**
ONTNC	**Ouen Toro**	**3.87**	**274**	Pn	**Pn**	**13 16 24.3**	**-1.7**
ONTNC	**Ouen Toro**	**3.87**	**274**	P	**Pn**	**13 16 29.2**	**+3.1**
DZM	**Mont Dzumac**	**3.90**	**277**	Pn	**Pn**	**13 16 27.2**	**+0.5**
	6.6nm,0.3s,baz=129,slow=13,SNR=60						
DZM				Sn	**Sn**	**13 17 13.7**	**+2.2**
	7.3nm,0.3s,baz=113,slow=23,SNR=8.2						
	17nm,0.3s						
NOUC	**Port Laguerre**	**4.03**	**277**	P	**Pn**	**13 16 29.8**	**+1.5**
KOUNC	**Koumac, New Ca**	**6.25**	**288**	Pn	**Pn**	**13 16 59.5**	**+0.7**
EIDS	**Eidsvold**	**18.06**	**257**		**Pn**	**13 19 35.8**	**-1.5**
EIDS				IAmb	IAmb	13 19 52.4	
	comp=Z,14nm,1.2s						
TCW	**Tory Channel**	**18.78**	**171**	P	**P**	**13 19 42.3**	**-3.0**
TUWZ	**Tuamarina**	**18.95**	**172**	P	**P**	**13 19 45.4**	**-1.8**
RPZ	**Rata Peaks**	**21.03**	**179**	P	**P**	**13 20 09.2**	**-0.6**
	comp=Z,8.3nm,0.8s,baz=350,slow=15,SNR=4.5						
RPZ				S	Sn	13 24 10.2	+0.9
	comp=Z,4.2nm,0.4s,baz=160,slow=16,SNR=7.3						
	comp=Z,8.3nm,0.8s						
STKA	**Stephens Creek**	**27.33**	**244**	P	**P**	**13 21 11.8**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=169,slow=12,SNR=1.1						
	comp=Z,0.9nm,0.5s						
AS31	**Alice Springs**	**33.72**	**261**	P	**P**	**13 22 04.6**	**-2.8**
ASAR	**Alice Springs**	**33.72**	**261**	P	**P**	**13 22 05.6**	**-1.8**
ASAR	**Alice Springs**	**33.72**	**261**	P	**P**	**13 22 08.8**	**+1.4**
	comp=Z,1.2nm,0.8s,baz=92,slow=9.1,SNR=11						
	comp=Z,1.2nm,0.8s						
WB0	**Warramunga Arr**	**33.84**	**268**	P	**P**	**13 22 06.0**	**-2.5**
WB0				IAmb	IAmb	13 22 35.1	
	comp=Z,5.0nm,1.2s						
WRA	**Warramunga Arr**	**33.86**	**268**	P	**P**	**13 22 08.9**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=99,slow=8.3,SNR=5.3						
	comp=Z,0.2nm,0.6s						
MTN	**Manton Dam**	**38.74**	**278**	P	**P**	**13 22 48.9**	**-1.5**
MTN				IAmb	IAmb	13 23 17.6	
	comp=Z,12nm,1.1s						
FITZ	**Fitzroy Crossi**	**42.29**	**268**	P	**P**	**13 23 19.8**	**+0.1**
FITZ				IAmb	IAmb	13 23 33.1	
	comp=Z,3.3nm,1.4s						
PSA00	**Pilbara Seismi**	**46.87**	**261**	P	**P**	**13 23 55.9**	**-0.4**
QSPA	**South Pole Qui**	**67.44**	**180**	P	**P**	**13 26 20.8**	**-0.4**
QSPA				IAmb	IAmb	13 26 35.7	
	comp=Z,3.7nm,1.1s						
QSPA	**South Pole Qui**	**67.44**	**180**	P	**P**	**13 26 22.4**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=2.4,slow=5.0,SNR=1.7						
	comp=Z,0.6nm,0.8s						
PETK	**Petropavlovsk-**	**76.25**	**352**	P	**P**	**13 27 15.2**	**+1.3**
	comp=Z,2.5nm,0.7s,baz=118,slow=7.1,SNR=8.4						
	comp=Z,2.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**81.06**	**294**	P	**P**	**13 27 43.4**	**+2.2**
	comp=Z,0.5nm,0.3s,baz=154,slow=4.0,SNR=3.7						
	comp=Z,0.5nm,0.3s						
NVAR	**Mina Array Bea**	**90.09**	**48**	P	**P**	**13 28 26.9**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=221,slow=8.7,SNR=6.1						
	comp=Z,1.1nm,0.7s						
SONM	**Songino Array**	**90.69**	**323**	P	**P**	**13 28 28.9**	**+0.5**
	comp=Z,0.8nm,1.0s,baz=150,slow=5.5,SNR=3.5						
	comp=Z,0.8nm,1.0s						
ILAR	**Eielson Array**	**93.08**	**17**	P	**P**	**13 28 39.2**	**+0.4**
	comp=Z,0.2nm,0.8s,baz=201,slow=4.8,SNR=1.4						
	comp=Z,0.2nm,0.8s						
CLL	**Collm**	**146.52**	**334**	*e*PKPbc	**PKPab**	**13 35 08.0**	**+0.4**
EKA	**Eskdalemuir Ar**	**147.01**	**353**	PKPbc	**PKPab**	**13 35 09.0**	**-0.4**
	comp=Z,2.3nm,0.5s,baz=9.7,slow=3.1,SNR=14						
GERES	**GERESS Array B**	**148.07**	**331**	PKPbc	**PKiKP**	**13 35 12.7**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=32,slow=5.2,SNR=3.9						

IDC 16 13:18:37.7±7.1, 19.°29S×176.°24W, h0km, mb3.6/3, mbtmp3.6/3, MS3.1/1, Error ellipse: s-maj=304.1km s-min=41.8km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.41**	**255**	P	P	13 27 06.3	-0.1
	0.4nm,0.6s,baz=97,slow=8.4,SNR=9.6						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**46.42**	**261**	P	P	13 27 06.4	-0.1
	0.3nm,0.3s,baz=96,slow=7.4,SNR=17						
	0.3nm,0.3s						
GUMO	**Guam**	**50.34**	**308**	LR	LR	13 46 18.5	
	comp=Z,23nm,21.9s,baz=115,slow=33						
ILAR	**Eielson Array**	**86.78**	**12**	P	P	13 31 23.3	0.0
	0.5nm,0.9s,baz=207,slow=6.5,SNR=2.1						
	0.5nm,0.9s						

NEIC ***16*** *13:26:28.6±2.6, 20.°2S±0.°1×177.°6W±0.°2, h530km±10km, mb4.2/28, Error ellipse: s-maj=22.5km s-min=17.6km az=129.0*
IDC ***16*** *13:26:32.8±3.9, 20.°21S×177.°87W, h558km±43km, mb3.3/12, mbtmp4.2/13, Error ellipse: s-maj=23.9km s-min=19.2km az=71.0*

ISC 16 13:26:29.7±0.5, 20.°3S±0.°1×177.°76W±0.°10, h534km, n74, σ1s49/74, mb4.1/25, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**7.47**	**82**	P	**P**	**13 28 19.4**	**-2.3**
AFI	**Afiamalu**	**8.53**	**43**	P	P	13 28 26.9	-5.6
PINNC	**Pines Island,**	**13.97**	**258**	P	**P**	**13 29 29.7**	**+0.9**
DZM	**Mont Dzumac**	**14.85**	**260**	P	**P**	**13 29 41.3**	**+3.4**
	5.5nm,0.5s,baz=105,slow=22,SNR=10						
KUZ	**Kuaotunu**	**17.38**	**198**	P	**P**	**13 30 06.1**	**+3.7**
WMGZ	**Waiomatatini S**	**17.80**	**190**	P	**P**	**13 30 08.7**	**+2.4**
HAZ	**Te Kaha**	**17.85**	**192**	P	**P**	**13 30 07.8**	**+1.0**
MKAZ	**Moumakai**	**17.87**	**199**	P	**P**	**13 30 09.7**	**+2.7**
PKGZ	**Pakihiroa

TPUB	**Ta-pu**	**74.04**	**303**	P		**P**	**13 37 10.1**	**-1.4**
KSRS	**Korea Array**	**76.87**	**318**	P		**P**	**13 37 28.0**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=111,slow=5.4,SNR=2.2							
	comp=Z,1.3nm,0.8s							
CHGN	**Chignik**	**78.01**	**11**	P		**P**	**13 37 32.4**	**-0.1**
USRK	**Ussuriysk Ar.**	**78.90**	**326**	P		**P**	**13 37 39.2**	**+1.5**
	comp=Z,3.0nm,0.8s,baz=116,slow=3.4,SNR=4.9							
	comp=Z,3.0nm,0.8s							
TXAR	**Lajitas Array**	**86.74**	**57**	P		**P**	**13 38 19.3**	**+1.8**
	comp=Z,0.4nm,0.8s,baz=200,slow=5.3,SNR=4.7							
	comp=Z,0.4nm,0.8s							
I23K	**Minto, Yukon-K**	**87.89**	**12**	P		**P**	**13 38 19.9**	**-1.9**
IMAR	**Indian Mountai**	**87.89**	**10**	P		**P**	**13 38 21.5**	**-0.4**
ILAR	**Eielson Array**	**88.04**	**13**	P		**P**	**13 38 22.3**	**-0.3**
ILAR	**Eielson Array**	**88.04**	**13**	P		**P**	**13 38 22.0**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=218,slow=5.7,SNR=12							
	comp=Z,0.5nm,0.6s							
M29M	**Somme Creek**	**88.11**	**17**	P		**P**	**13 38 23.7**	**+0.6**
PDAR	**Pinedale Array**	**88.64**	**43**	P		**P**	**13 38 27.3**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=193,slow=2.8,SNR=2.2							
	comp=Z,0.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**90.25**	**289**	P		**P**	**13 38 35.6**	**+1.6**
	comp=Z,0.8nm,0.5s,baz=119,slow=3.1,SNR=9.7							
	comp=Z,0.8nm,0.5s							
BMAR	**Burnt Mountain**	**90.83**	**12**	P		**P**	**13 38 36.0**	**+0.5**
BVAR	**Borovoye Array**	**119.05**	**320**	PKP		**PKPdf**	**13 44 16.7**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=79,slow=0.9,SNR=8.2							
HFS	**Hagfors**	**139.35**	**351**	PKhKP	PKPpre		13 44 47.3	
	comp=Z,1.1nm,0.6s,baz=116,slow=3.4,SNR=5.9							
AKASG	**Malin Array Be**	**142.92**	**331**	PKhKP	PKPpre		13 44 59.3	
	comp=Z,1.9nm,0.4s,baz=42,slow=4.4,SNR=14							
EKA	**Eskdalemuir Ar**	**144.76**	**5**	PKP		**PKPdf**	**13 45 04.8**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=335,slow=3.7,SNR=3.5							
BRTR	**Keskin Array B**	**146.85**	**313**	PKPbc		**PKPbc**	**13 45 12.4**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=47,slow=8.5,SNR=7.7							
CLL	**Collm**	**147.89**	**347**	*i* PKPbc		**PKPbc**	**13 45 14.8**	**+0.2**
	comp=Z,8.0nm,1.0s							
CLL				*i* PKPab		**PKPab**	**13 45 18.9**	**-0.1**
MMAI	**Mount Meron Ar**	**147.90**	**300**	PKPbc		**PKPbc**	**13 45 15.8**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=63,slow=6.0,SNR=7.2							
GERES	**GERESS Array B**	**150.04**	**345**	PKPbc		**PKPbc**	**13 45 19.9**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=2.9,slow=2.0,SNR=6.4							

*IDC **16** 13:29:08.0±0.9, 0.°52N×27.°40W, h0km, mb4.0/8, mbtmp4.0/9, ML3.5/1, MS3.4/15, Error ellipse: s-maj=54.4km s-min=17.8km az=138.0*

ISC 16 13:29:08.9±0.7, 0.°5N±0.°3×27.°5W±0.°2, h10km, n23, σ2s 05/11, mb4.0/8, MS3.4/14, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
RCBR	**Riachuelo**	**10.44**	**233**	Pn	Pn		**13 31 40.3**	**+1.5**
	0.4nm,0.3s,baz=62,slow=15,SNR=1.8							
RCBR				Sn	Sn		**13 33 31.2**	**-4.8**
	0.4nm,0.3s,baz=3.3,slow=19,SNR=1.5							
RCBR				LR	LR		13 34 42.5	
	comp=Z,153nm,18.9s,baz=60,slow=32							
	2.7nm,0.5s							
H10N3	**ASCENSION HYDR**	**15.39**	**123**	T	T		13 49 07.1	
	baz=302,slow=74,SNR=24							
H10N2	**ASCENSION HYDR**	**15.39**	**123**	T	T		13 49 06.3	
	baz=302,slow=74,SNR=18							
H10N1	**ASCENSION HYDR**	**15.41**	**123**	T	T		13 49 08.4	
	baz=302,slow=74,SNR=35							
DBIC	**Dimbokro**	**23.44**	**74**	P		**P**	**13 34 17.9**	**-0.8**
	7.3nm,0.9s,baz=253,slow=9.1,SNR=4.8							
DBIC				LR	LR		13 42 00.8	
	comp=Z,108nm,18.1s,baz=308,slow=33							
	7.3nm,0.9s							
BDFB	**Brasilia**	**25.80**	**231**	P		**P**	**13 34 42.2**	**+1.6**
	2.7nm,0.8s,baz=65,slow=14,SNR=3.4							
BDFB				LR	LR		13 43 55.4	
	comp=Z,74nm,18.5s,baz=306,slow=34							
	2.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**31.58**	**65**	P		**P**	**13 35 31.4**	**-0.7**
	1.6nm,0.9s,baz=256,slow=6.2,SNR=6.7							
TORD				LR	LR		13 46 33.0	
	comp=Z,87nm,19.6s,baz=213,slow=33							
	1.6nm,0.9s							
SIV	**San Ignacio**	**36.93**	**242**	LR	LR		13 50 55.0	
	comp=Z,66nm,19.7s,baz=110,slow=35							
PCRV	**Puerto La Cruz**	**38.11**	**286**	LR	LR		13 50 51.1	
	comp=Z,50nm,19.3s,slow=34							
CPUP	**Villa Florida**	**39.18**	**225**	P		**P**	**13 36 39.4**	**+2.1**
	0.8nm,0.4s,baz=49,slow=6.9,SNR=3.3							
CPUP				LR	LR		13 52 08.4	
	comp=Z,46nm,20.5s,baz=38,slow=35							
	0.8nm,0.4s							
ESDC	**Sonseca Array**	**44.56**	**26**	P		**P**	**13 37 21.8**	**+0.5**
	1.8nm,1.0s,baz=224,slow=6.2,SNR=5.5							
	1.8nm,1.0s							
ROSC	**El Rosal**	**46.93**	**276**	LR	LR		13 55 52.9	
	comp=Z,94nm,19.2s,baz=176,slow=34							
TSUM	**Tsumeb**	**48.37**	**116**	LR	LR		13 54 35.6	
	comp=Z,39nm,20.1s,baz=169,slow=32							
ATAH	**Atahualpa**	**51.29**	**261**	LR	LR		13 59 26.6	
	comp=Z,66nm,19.2s,baz=69,slow=35							
LBTB	**Lobatse**	**57.25**	**120**	LR	LR		13 59 01.8	
	comp=Z,32nm,20.0s,baz=190,slow=31							
BOSA	**Boshof**	**58.14**	**124**	LR	LR		13 58 56.3	
	comp=Z,21nm,20.5s,baz=13,slow=31							
GERES	**GERESS Array B**	**59.81**	**30**	P		**P**	**13 39 14.1**	**-0.5**
	1.0nm,0.8s,baz=216,slow=4.8,SNR=3.8							
	1.0nm,0.8s							
BRTR	**Keskin Array B**	**67.85**	**47**	P		**P**	**13 40 07.7**	**-0.2**
	0.7nm,0.8s,baz=300,slow=9.4,SNR=2.2							
	0.7nm,0.8s							
AKASG	**Malin Array Be**	**69.22**	**35**	P		**P**	**13 40 15.3**	**-0.6**
	2.2nm,0.7s,baz=239,slow=7.4,SNR=7.5							
	2.2nm,0.7s							
ANMO	**Albuquerque**	**80.66**	**305**	LR	LR		14 11 29.3	
	comp=Z,19nm,21.8s,baz=142,slow=32							
NVAR	**Mina Array Bea**	**90.32**	**308**	LR	LR		14 23 58.6	
	comp=Z,9.1nm,18.6s,baz=267,slow=36							
DLBC	**Dease Lake**	**96.14**	**329**	LR	LR		14 25 55.7	
	comp=Z,22nm,18.0s,baz=276,slow=35							
ASAR	**Alice Springs**	**150.73**	**143**	PKPbc		**PKiKP**	**13 49 02.9**	**-0.2**
	0.7nm,1.0s,baz=215,slow=1.7,SNR=3.4							

*NEIC **16** 13:38:16.7±0.3, 35.°880N±0.°009×97.°29W±0.°01, h8km±8km, Error ellipse: s-maj=1.6km s-min=0.5km az=137.0*
*ANF **16** 13:38:16.5±0.3, 35.°93N×97.°27W, h6km, ML3.2/7, Error ellipse: s-maj=4.1km s-min=2.7km az=160.0*

TUL 16 13:38:16.5±0.4, 35.°889N±0.°010×97.°28W±0.°02, h6km±1km, ML3.0, mb_Lg2.9/50(NEIC), ML3.2/48(NEIC), Error ellipse: s-maj=1.8km s-min=1.4km az=94.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
OK029	**Liberty Lake**	**0.17**	**237**	Pg	Pg		13 38 20.2	+0.3
OK029				Sg	Sg		13 38 22.9	+0.7
OK029				IAML			13 38 23.0	
	5μm,0.4s							
OK029				IAML			13 38 23.1	
	10μm,0.3s							
ADOK	**Arcadia Dam**	**0.25**	**197**	Pg	Pg		13 38 21.7	+0.3
OK033	**Mehan**	**0.32**	**61**	Pg	Pg		13 38 22.9	+0.1
OK033				IAML			13 38 28.3	
	3μm,0.3s							
OK033				IAML			13 38 28.3	
	2μm,0.3s							
OK052	**Battle Ridge R**	**0.40**	**75**	Pg	Pg		13 38 24.8	+0.5
OK052				Sg	Sg		13 38 30.7	+1.1
OK052				IAML			13 38 30.7	
	2μm,0.3s							
OKCSW	**OKLAHOMA CITY**	**0.50**	**195**	Pg	Pg		13 38 26.4	+0.3
OKCSW				IAML			13 38 33.8	
	comp=N,2μm,0.3s							
OKCSW				IAML			13 38 34.0	
	comp=E,2μm,0.4s							
QUOK	**Quay**	**0.55**	**59**	Pg	Pg		13 38 27.4	+0.4
QUOK				IAML			13 38 36.2	
	comp=N,1μm,0.2s							
OK048	**Pawnee Station**	**0.59**	**27**	Pg	Pg		13 38 28.2	+0.2
OK048				Sg	Sg		13 38 36.2	+0.5
OK048				IAML			13 38 36.5	
	comp=N,959nm,0.5s							
FNO	**Franklin**	**0.64**	**189**	Pg	Pg		13 38 28.8	+0.1
DEOK	**Depew**	**0.64**	**94**	Pg	Pg		13 38 28.9	+0.1
OK051	**E0350 and S346**	**0.71**	**30**		Pg		13 38 30.3	+0.1
OK051				IAML			13 38 40.5	
	comp=N,1μm,0.2s							
OK051				IAML			13 38 47.3	
	comp=N,737nm,0.2s							
W35A	**Tecumseh**	**0.81**	**155**	Pg	Pg		13 38 31.6	-0.4
CROK	**Carrier**	**0.84**	**318**	Pg	Pg		13 38 32.5	-0.1
CROK				IAML			13 38 47.7	
	comp=E,2μm,0.2s							
BLOK	**Blackwell**	**0.87**	**4**		Pg		13 38 33.1	-0.1
BLOK				IAML			13 38 47.5	
	comp=N,835nm,0.2s							
BLOK				IAML			13 38 58.8	
	comp=E,644nm,0.2s							
GC02	**Grant County #**	**1.07**	**334**	Pg	Pg		13 38 36.7	-0.3
KAN13	**South Haven SW**	**1.13**	**352**		Pg		13 38 37.9	-0.4
OK032	**Salt Plains WL**	**1.18**	**321**	Pg	Pg		13 38 38.6	-0.6
KAN14	**Manchester OK**	**1.20**	**333**	Pg	Pg		13 38 39.0	-0.5
KAN14				IAML			13 38 59.5	
	comp=N,816nm,0.2s							
T35A	**Sooner Cattle**	**1.20**	**31**	Pg	Pg		13 38 39.1	-0.5
T35A				IAML			13 38 55.8	
	comp=N,450nm,0.2s							
T35A				IAML			13 39 01.9	
	comp=E,549nm,0.5s							
T35B	**Sooner Cattle**	**1.20**	**31**	P	Pg		13 38 38.8	-0.7
	baz=211							
T35B				S	Sg		13 38 55.0	0.0
	baz=211							
TUL3	**Leonard**	**1.21**	**89**	Pg	Pg		13 38 38.6	-1.2
TUL3				IAmb_Lg			13 38 56.4	
	comp=Z,64nm,0.9s							
TUL3	**Leonard**	**1.21**	**89**	P	Pg		13 38 38.5	-1.2
	baz=269							
TUL3				S	Sg		13 38 55.3	-0.1
	baz=269							
KAN17	**Caldwell West**	**1.22**	**342**		Pg		13 38 39.4	-0.5
KAN09	**Caldwell North**	**1.27**	**348**		Pn		13 38 40.4	-0.5
KAN05	**Bluff City Nor**	**1.31**	**339**		Pn		13 38 41.0	-0.3
KAN01	**Argonia South**	**1.32**	**343**		Pn		13 38 41.1	-0.4
KAN01				IAML			13 38 59.5	
	comp=E,665nm,0.5s							
KAN01				IAML			13 39 03.3	
	comp=N,541nm,0.1s							
KAN10	**Anthony SW Sta**	**1.40**	**332**		Pn		13 38 42.5	-0.1
KS21	**Milan North St**	**1.43**	**348**		Pn		13 38 43.1	+0.1
KAN06	**Argonia West S**	**1.43**	**341**		Pn		13 38 43.1	0.0
KAN08	**Anthony NE Sta**	**1.45**	**338**		Pn		13 38 43.3	+0.1
U32A	**Winter Ranch,**	**1.48**	**290**		Pn		13 38 43.5	-0.2
U32A	**Winter Ranch,**	**1.48**	**290**	P	Pn		13 38 43.5	-0.2
	baz=109							
U32A				S	Sg		13 39 04.0	+0.1
	baz=109							
KAN12	**Harper NE Stat**	**1.52**	**338**		Pb		13 38 44.7	-0.4
WMOK	**Wichita Mounta**	**1.68**	**227**		Pn		13 38 46.9	+0.4
WMOK	**Wichita Mounta**	**1.68**	**227**	P	Pn		13 38 46.9	+0.4
	baz=46							
WMOK				S	Sb		13 39 09.3	+0.1
	baz=46							
ELIS	**Ellis County**	**1.74**	**276**	Pn	Pb		13 38 48.3	-0.6
RLO	**Rose Lookout**	**1.85**	**81**	Pn	Pn		13 38 49.2	+0.3
LOOK	**Love County**	**1.89**	**177**	Pn	Pn		13 38 50.4	+1.0
LOOK				IAmb_Lg			13 39 20.6	
	comp=Z,49nm,0.9s							
WTFS	**Witchita Falls**	**2.33**	**205**	Pn	Pn		13 38 56.6	+1.3
U38A	**Gravette**	**2.41**	**76**	Pn	Pn		13 38 57.2	+0.8
U38A				IAmb_Lg			13 39 32.4	
	comp=Z,36nm,0.7s							
U38A	**Gravette**	**2.41**	**76**	P	Pn		13 38 57.2	+0.7
	baz=258							
SMWD	**Samnorwood**	**2.54**	**253**	Pn	Pn		13 38 59.0	+0.7
SMWD				IAmb_Lg			13 39 37.1	
	comp=Z,21nm,0.7s							
Z35A	**Perchaven, San**	**2.55**	**179**		Pn		13 38 59.3	+0.9
Z35A	**Perchaven, San**	**2.55**	**179**	P	Pn		13 38 59.1	+0.7
	baz=359							
HHAR	**Hobbs**	**2.74**	**81**	Pn	Pn		13 39 01.1	+0.2
HHAR	**Hobbs**	**2.74**	**81**	P	Pn		13 39 01.3	+0.3
	baz=263							
FW03	**Perrin-Whitt E**	**2.92**	**193**	Pn	Pn		13 39 02.8	-0.6
FW06	**Azle**	**2.92**	**185**		Pn		13 39 04.5	+1.1
FW06				IAmb_Lg			13 39 54.7	
	comp=Z,26nm,1.1s							
PLPT	**Palo Pinto**	**3.19**	**196**	Pn	Pn		13 39 07.7	+0.6
PLPT				IAmb_Lg			13 40 01.7	
	comp=Z,9.3nm,0.9s							
FW07	**Weatherford**	**3.21**	**188**	IAmb_Lg			13 40 05.2	
	comp=Z,15nm,0.8s							
Z38A	**Mt. Pleasant**	**3.24**	**143**	IAmb_Lg			13 40 05.6	
	comp=Z,33nm,0.7s							
MIAR	**Mount Ida**	**3.32**	**113**		Pn		13 39 09.0	+0.1
MIAR				IAmb_Lg			13 40 09.5	
	comp=Z,28nm,0.8s							
MIAR	**Mount Ida**	**3.32**	**113**	P	Pn		13 39 10.2	+1.3
	baz=295							
APMT	**Aspermont**	**3.47**	**223**	IAmb_Lg			13 40 10.5	
	comp=Z,16nm,0.8s							
CBKS	**Cedar Bluff**	**3.51**	**327**	IAmb_Lg			13 40 11.3	
	comp=Z,24nm,0.7s							
FW13	**Cleburne**	**3.53**	**182**	IAmb_Lg			13 40 15.9	
	comp=Z,8.6nm,0.9s							
S39A	**Bolivar**	**3.65**	**59**	Pn	Pn		13 39 13.3	-0.3
S39A				IAmb_Lg			13 40 17.2	
	comp=Z,20nm,0.7s							
DKNS	**Dickens**	**3.73**	**235**	IAmb_Lg			13 40 14.9	
	comp=Z,18nm,1.0s							
AMTX	**Amarillo**	**3.73**	**256**	Pn	Pn		13 39 13.1	-1.6
AMTX				IAmb_Lg			13 40 22.5	
	comp=Z,30nm,0.7s							
WHTX	**Lake Whitney,**	**3.89**	**182**	Pn	Pn		13 39 17.7	+0.8
X40A	**Basin Creek Fa**	**3.90**	**110**	Pn	Pn		13 39 17.5	+0.5
X40A				IAmb_Lg			13 40 25.8	
	comp=Z,25nm,0.7s							
WLAR	**White Oak Lake**	**4.08**	**121**	Pn	Pn		13 39 18.7	-0.6
WLAR				IAmb_Lg			13 40 33.8	
	comp=Z,23nm,1.0s							
WHAR	**Wooly Hollow**	**4.11**	**97**		Pn		13 39 20.2	+0.3
WHAR				IAmb_Lg			13 40 30.8	
	comp=Z,34nm,1.1s							
FCAR	**Ozark Folk Cen**	**4.19**	**88**	Pn	Pn		13 39 21.6	+0.7
FCAR				IAmb_Lg			13 40 35.1	
	comp=Z,20nm,0.8s							
MGMO	**Mountain Grove**	**4.23**	**71**	IAmb_Lg			13 40 32.2	
	comp=Z,27nm,0.8s							
SN01	**Snyder 1**	**4.24**	**226**	IAmb_Lg			13 40 35.8	
	comp=Z,65nm,1.2s							
RTBA	**Rita Blanca**	**4.45**	**279**		Pn		13 39 24.5	-0.1
RTBA				IAmb_Lg			13 40 47.1	
	comp=Z,13nm,0.7s							
POST	**Post**	**4.48**	**232**	IAmb_Lg			13 40 45.8	
	comp=Z,40nm,1.0s							
R40A	**Maddies Statio**	**4.67**	**58**	Pn	Pn		13 39 27.9	+0.4
R40A				IAmb_Lg			13 40 45.9	
	comp=Z,27nm,0.8s							
BRDY	**Brady**	**4.81**	**198**	Pn	Pn		13 39 29.0	-0.5
BRDY				IAmb_Lg			13 40 47.7	
	comp=Z,36nm,0.8s							
LCAR	**Lake Charles**	**4.97**	**86**	Pn	Pn		13 39 32.5	+0.8
SGCY	**Sterling City**	**5.09**	**220**	IAmb_Lg			13 41 11.1	
	comp=Z,35nm,0.8s							
435B	**Jarrell**	**5.10**	**183**	IAmb_Lg			13 40 59.2	
	comp=Z,18nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.27**	**308**	IAmb_Lg			13 41 08.5	
	comp=Z,20nm,0.8s							
CCM	**Cathedral Cave**	**5.30**	**64**	IAmb_Lg			13 41 11.9	
	comp=Z,24nm,1.0s							
JCT	**Junction City**	**5.79**	**202**	IAmb_Lg			13 41 26.8	
	comp=Z,20nm,0.8s							
T25A	**Trinidad**	**5.88**	**284**	Pn	Pn		13 39 44.0	-0.3
L34A	**Svendsen Farm,**	**6.11**	**6**	IAmb_Lg			13 41 46.1	
	comp=Z,24nm,0.9s							
HNDO	**Hondo**	**6.56**	**195**	IAmb_Lg			13 41 44.8	
	comp=Z,16nm,0.8s							
S44A	**Carbondale**	**6.69**	**72**	IAmb_Lg			13 41 53.4	
	comp=Z,20nm,0.8s							
SDCO	**Great Sand Dun**	**6.85**	**288**	Pn	Pn		13 39 56.7	-1.1
SAND	**Sanderson**	**7.18**	**216**	IAmb_Lg			13 42 13.6	
	comp=Z,10nm,0.8s							
ALPN	**Alpine**	**7.66**	**226**	IAmb_Lg			13 42 24.2	
	comp=Z,8.0nm,0.8s							
N23A	**Red Feather La**	**8.44**	**309**	IAmb_Lg			13 42 49.9	
	comp=Z,12nm,0.8s							

*IDC **16** 13:42:04.8±11.0, 36.°19N×74.°80E, h0km, mb4.0/1, mbtmp3.7/4, ML2.8/3, Error ellipse: s-maj=192.9km s-min=51.3km az=154.0*
*SOME **16** 13:42:35.0, 39.°27N×74.°72E, h0km*
*NNC **16** 13:42:39.6±6.5, 38.°76N×74.°06E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=49.3km s-min=43.7km az=157.0*

ISC 16 13:42:42.4±3.4, 38.°9N±0.°2×74.°3E±0.°1, h10km, n16, σ1s 80/17, 5C, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
AML	**Almayashu**	**3.24**	**352**	P		**Pn**	**13 43 35.1**	**+1.4**
	SNR=7.4							
AML	**Almayashu**	**3.24**	**352**	⇑Pn		**Pn**	**13 43 35.0**	**+1.4**
	0.1nm,0.3s							
AML				Sn		**Sb**	**13 44 17.5**	**-2.4**
	4.9nm,0.6s							
KZA	**Kyzart**	**3.24**	**13**	P		**Pn**	**13 43 34.6**	**+0.9**
	SNR=19							
UCH	**Uchtor**	**3.31**	**3**	P		**Pn**	**13 43 36.3**	**+1.7**
	SNR=6.5							
ULHL	**Ulahol**	**3.65**	**24**	P		**Pn**	**13 43 39.6**	**+0.5**
	SNR=11							
MRKS	**Merke**	**3.90**	**349**	*e*Pg		**Pn**	**13 43 44.0**	**+1.4**
	3.5nm,0.2s							
MRKS				*e*Lg		Lg	13 44 33.3	
	17nm,0.2s							
CHMS	**Chumysh**	**4.09**	**5**	P		**Pn**	**13 43 46.5**	**+1.4**
	SNR=12							
TKM2	**Tokmak 2**	**4.12**	**14**	P		**Pn**	**13 43 46.4**	**+0.8**
	SNR=25							
TKM2	**Tokmak 2**	**4.12**	**14**	⇑Pn		**Pn**	**13 43 46.0**	**+0.4**
	6.1nm,0.3s							
TKM2				⇑Sn		**Sn**	**13 44 37.7**	**+3.7**
	8.7nm,0.8s							
KST	**Kastek**	**4.32**	**17**	*e*Pg		**Pn**	**13 43 48.9**	**+0.7**
	5.6nm,0.3s							
KST				*e*Lg		Lg	13 44 42.0	
	13nm,0.5s							
DGS	**Degeres**	**4.47**	**14**	*e*Pg		**Pn**	**13 43 50.6**	**+0.4**
	3.9nm,0.4s							
DGS				*e*Lg		Lg	13 44 45.1	
	4.9nm,0.8s							
KK31	**Karatay Array**	**5.05**	**327**	⇑Pn		**Pn**	**13 43 57.3**	**-0.9**
	2.2nm,0.2s,baz=129,slow=11,SNR=155							
KK31				⇑Sn		**Sn**	**13 44 56.4**	**-0.3**
	3.5nm,0.3s,baz=154,slow=24,SNR=12							
MKAR	**Makanchi Array**	**9.82**	**34**	Pn		**Pn**	**13 45 00.5**	**-3.2**
	0.1nm,0.3s,baz=208,slow=15,SNR=5.2							
	1.1nm,0.7s							
BVAR	**Borovoye Array**	**14.36**	**351**	P		**Pn**	**13 46 04.5**	**-1.1**
	baz=151,slow=10,SNR=2.4							
	0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**16.67**	**22**	P		Pn	13 46 27.2	-8.6
	0.4nm,0.3s,baz=209,slow=10,SNR=6.8							
	1.2nm,0.3s							
FINES	**FINESS Array B**	**37.01**	**323**	P		P	13 49 36.8	-15
	2.2nm,0.9s,baz=111,slow=7.9,SNR=3.8							
	2.2nm,0.9s							

*ISK **16** 14:22:24.0, 36.°01N×33.°85E, h25km, ML2.9/18*
*AFAD **16** 14:22:24.9±0.0, 35.°98N±33.°88E, h7km±1km, ML2.3*
*NIC **16** 14:22:26.0, 35.°87N×33.°77E, h16km±1km, Ml1.9/6*

ISC 16 14:22:24.4±0.9, 35.°96N±0.°02×33.°88E±0.°03, h15km±7km, n35, σ0s 74/62, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
TISA	**Tisan-Mersin**	**0.26**	**321**	Pg		**Pg**	**14 22 29.8**	**-0.2**
TISA				Sg		**Sg**	**14 22 33.7**	**-0.2**
KARG	**Kargicak-Mersi**	**0.28**	**330**	Pg		**Pg**	**14 22 30.2**	**-0.2**
KARG				Sg		**Sg**	**14 22 34.6**	**+0.1**
YESI	**Yesilovacik-Me**	**0.30**	**321**	Pg		**Pg**	**14 22 31.0**	**+0.2**
YESI				Sg		**Sg**	**14 22 35.3**	**+0.1**
IKL	**Isikli**	**0.32**	**330**	Pg		**Pg**	**14 22 31.2**	**+0.1**
IKL				Sg		**Sg**	**14 22 35.5**	**-0.1**
AKK2	**Akkuyu-Mersin**	**0.32**	**303**	Pg		**Pg**	**14 22 30.7**	**-0.4**
AKK1	**Akkuyu-Mersin**	**0.33**	**304**	Pg		**Pg**	**14 22 31.1**	**-0.2**
AKK1				Sg		**Sb**	**14 22 36.5**	**-0.6**
AKKU	**Akkuyu-Mersin**	**0.33**	**307**	Pg		**Pg**	**14 22 31.1**	**-0.2**
AKKU				Sg		**Sb**	**14 22 36.6**	**-0.6**
GULN	**MERSIN_Gulnar**	**0.35**	**309**	P		**Pb**	**14 22 32.1**	**-0.3**
GULN				*i* AML		AML	14 22 37.0	
	comp=E,474nm,0.2s							
GULN				S		**Sb**	**14 22 37.3**	**-0.4**
TEPK	**Tepekoy-MERSIN**	**0.38**	**314**	Pg		**Pg**	**14 22 32.0**	**-0.1**
TEPK				Sg		**Sg**	**14 22 37.7**	**+0.3**
SILI	**Silifke-Mersin**	**0.41**	**5**	Pg		**Pg**	**14 22 32.6**	**0.0**
SILI				Sg		**Sg**	**14 22 38.7**	**+0.5**
OREN	**Orenkoy-Mersin**	**0.42**	**306**	Pg		**Pg**	**14 22 33.1**	**+0.2**
OREN				Sg		**Sb**	**14 22 39.5**	**-0.3**
SLFK	**Silifke-Mersin**	**0.43**	**7**	Pg		**Pg**	**14 22 32.9**	**-0.2**
SLFK				Sg		**Sg**	**14 22 38.9**	**-0.2**
KEBE	**Keben-Mersin**	**0.51**	**344**	Pg		**Pg**	**14 22 34.2**	**-0.3**
KEBE				Sg		**Sb**	**14 22 41.7**	**-0.5

MOS ***16*** *14:37:58.6s 1.1,0.7°78'N×27°67'69W, h10km, mb5.2/59, MS4.4/9, Error ellipse: s-maj=13.3km s-min=4.9km az=54.7*

NEIC ***16*** *14:37:59.9, 1.2°7N×27.7°65W, h18km, Moment Tensor Solution. Duration: 2s7 Moment tensor: Scale 10^17 Nm; Mrr=1.19; Mθθ=0.04; Mφφ 1.15; Mrθ=0.74; Mθφ=-0.26; Mφr=-0.10; Fault plane solution: M0=1.38000×10^17 NP1: φs=323.15000°, δ56.53000°, λ=-119.27000°. NP2: φs=188.61000°, δ43.30000°, λ=-53.52000°. Principal axes: T 1.2359, Plg7.0000°, Azm74.0000°; N 0.2982, Plg24.0000°, Azm340.0000°; P -1.5341, Plg65.0000°, Azm179.0000°;*

NEIC ***16*** *14:37:59.9s 2.4, 0.9N±0.1×27.7°2W±0.06, h10km±1km, mb5.3/156, Mww5.4/12 Error ellipse: s-maj=20.8km s-min=3.5km az=150.0*

IDC ***16*** *14:37:59.1s 0.5, 0.8°1N×27.7°65W, h0km, mb4.3/27, mbtmp4.3/28, ML4.2/1, MS4.6/79, Error ellipse: s-maj=17.8km s-min=12.7km az=141.0*

NEIC ***16*** *14:37:59.9, 0.9°7N×27.7°5W, h18km*

GCMT ***16*** *14:38:03.9s 0.1, 1.1°0N±0.1°01×27.6°2W±0.1°01, h12km, MW5.3/143, Moment Tensor Solution. s81,c106; s143,c256; Duration: 1s0 Moment tensor: Scale 1017 Nm; Mrr=0.99±.01; Mθθ=0.04±.01; Mφφ=0.95±.01; Mrθ=0.14±.04; Mθφ=-0.15±.01; Mφr=-0.04±.04; Best double couple: M0=0.99900×10^17 NP1:φs=344.0000°, δ47.0000°, λ=-100.00000°. NP2:φs=179.00000°, δ44.00000°, λ=-79.00000°. Principal axes: T 0.9830, Plg2.0000°; Azm81.0000°; N 0.0310, Plg7.0000°, Azm351.0000°; P -1.0150, Plg82.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 14:38:00.4±0.3, 0°88N±0°07×27°68W±0°06, h12km, n461, σ1§80/364, mb5.1/186, MS4.6/92, 28C-12D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**10.57**	**231**	Pn	**Pn**	**14 40 31.0**	**-0.9**
RCBR	**Riachuelo**	**10.57**	**231**	Pn	**Pn**	**14 40 31.1**	**-0.8**
	1.7nm,0.3s,baz=46,slow=16,SNR=15						
RCBR				Sn	Sn	14 42 18.6	-12
	0.5nm,0.3s,baz=84,slow=17,SNR=1.5						
RCBR				LR	LR	14 43 45.7	
	comp=Z,4μm,19.0s,baz=73,slow=33						
	13nm,0.6s						
SACV	**Santiago Islan**	**14.57**	**16**	Pn	**Pn**	**14 41 24.4**	**-2.2**
H10N3	**ASCENSION HYDR**	**15.73**	**124**	T	T	14 57 51.9	
	baz=303,slow=74,SNR=143						
H10N2	**ASCENSION HYDR**	**15.74**	**124**	T	T	14 57 45.8	
	baz=303,slow=74,SNR=128						
H10N1	**ASCENSION HYDR**	**15.76**	**124**	T	T	14 57 59.4	
	baz=303,slow=74,SNR=156						
MBO	**M'Bour**	**17.11**	**38**	Pn	**Pn**	**14 41 58.0**	**-1.5**
SMTB	**Santa Maria do**	**22.07**	**244**	*eP*	**P**	**14 42 56.8**	**+1.2**
PRPB	**Parauapebas**	**23.18**	**252**	*eP*	**P**	**14 43 06.7**	**-0.6**
LIC	**Lamto**	**23.21**	**76‖**	*eP*	**P**	**14 43 06.6**	**-1.0**
	59nm,1.1s						
TIC	**Toumodi**	**23.31**	**75‖**	*iP*	**P**	**14 43 09.4**	**+0.8**
	25nm,1.0s						
DBIC	**Dimbokro**	**23.48**	**75**	P	**P**	**14 43 08.5**	**-1.7**
DBIC				IAmb	IAmb	14 43 28.8	
	comp=Z,187nm,1.6s						
DBIC	**Dimbokro**	**23.48**	**75**	P	**P**	**14 43 09.5**	**-0.7**
	comp=Z,28nm,0.9s,baz=248,slow=12,SNR=24						
DBIC				LR	LR	14 50 32.4	
	comp=Z,6μm,19.4s,baz=230,slow=32						
	comp=Z,28nm,0.9s						
KIC	**Kosan Boka**	**23.52**	**76‖**	*eP*	**P**	**14 43 09.3**	**-1.4**
	comp=Z,25nm,0.8s						
MCPB	**Macapa, AP**	**24.41**	**267**	*eP*	**P**	**14 43 19.8**	**+0.7**
DIAM	**Diamantina, MG**	**24.71**	**219**	*eP*	**P**	**14 43 23.7**	**+1.8**
ALF01	**Guarapari-ES**	**24.89**	**210**	*eP*	**P**	**14 43 25.9**	**+2.7**
BDFB	**Brasilia**	**25.95**	**230**	P	**P**	**14 43 31.6**	**-1.5**
BDFB				IAmb	IAmb	14 43 42.5	
	comp=Z,68nm,1.3s						
BDFB	**Brasilia**	**25.95**	**230**	P	**P**	**14 43 33.3**	**+0.2**
	comp=Z,7.5nm,1.0s,baz=47,slow=16,SNR=7.0						
BDFB				LR	LR	14 52 48.3	
	comp=Z,4μm,20.3s,baz=47,slow=34						
	comp=Z,7.5nm,1.0s						
SNDB	**Serra Nova Dou**	**26.71**	**241**	*eP*	**P**	**14 43 40.9**	**+1.0**
DUB01	**Friburgo-RJ**	**26.95**	**211**	*eP*	**P**	**14 43 44.4**	**+2.4**
BSCB	**Bom Sucesso**	**27.43**	**217**	*eP*	**P**	**14 43 49.7**	**+3.3**
IPMB	**Ipameri, GO**	**27.56**	**226**	*eP*	**P**	**14 43 48.9**	**+1.4**
ITTB	**Itaituba**	**28.52**	**259**	*eP*	**P**	**14 43 56.1**	**0.0**
PARB	**Paraibuna**	**29.73**	**215**	*eP*	**P**	**14 44 10.5**	**+3.7**
ITRB	**Iturama**	**30.22**	**226**	*eP*	**P**	**14 44 13.0**	**+1.8**
VAO	**Valinhos**	**30.27**	**217**	*eP*	**P**	**14 44 13.2**	**+1.6**
CLDB	**Colider**	**30.30**	**247**	*eP*	**P**	**14 44 13.5**	**+1.5**
SPB	**Sao Paulo**	**30.99**	**217**	P	**P**	**14 44 17.9**	**0.0**
SPB				IAmb	IAmb	14 44 28.6	
	comp=Z,57nm,1.5s						
SPB	**Sao Paulo**	**30.99**	**217**	*eP*	**P**	**14 44 20.5**	**+2.7**
PDRB	**Porto dos Gac**	**31.42**	**246**	*eP*	**P**	**14 44 23.0**	**+1.2**
PET01	**Itanhaem-SP**	**31.43**	**216**	*eP*	**P**	**14 44 23.6**	**+1.9**
C2SB	**Chapadao do Su**	**31.50**	**230**	*eP*	**P**	**14 44 25.5**	**+3.0**
TOAD	**Torodi Ar. Sit**	**31.54**	**66**	P	**P**	**14 44 20.9**	**-2.0**
TORD	**Torodi Ar. Bea**	**31.54**	**66**	P	**P**	**14 44 20.1**	**-2.8**
TORD				IAmb	IAmb	14 44 41.3	
	comp=Z,88nm,1.8s						
TORD	**Torodi Ar. Bea**	**31.54**	**66**	P	**P**	**14 44 22.7**	**-0.2**
	comp=Z,6.9nm,0.9s,baz=261,slow=7.9,SNR=28						
TORD				LR	LR	14 55 12.9	
	comp=Z,3μm,21.4s,baz=242,slow=33						
	comp=Z,6.9nm,0.9s						
PCMB	**Pacaembu**	**32.09**	**224**	*eP*	**P**	**14 44 29.7**	**+2.0**
FRTB	**Fartura**	**32.14**	**220**	*eP*	**P**	**14 44 30.0**	**+2.0**
SALV	**Santo Antonio**	**32.30**	**238**	*eP*	**P**	**14 44 31.0**	**+1.5**
PP1B	**Ponte de Pedra**	**32.48**	**234**	*eP*	**P**	**14 44 33.2**	**+2.2**
BOAV	**Boa Vista**	**32.87**	**273**	P	**P**	**14 44 32.4**	**-2.2**
BOAV	**Boa Vista**	**32.87**	**273**	*eP*	**P**	**14 44 35.9**	**+1.3**
RPRD	**Ribas do Rio P**	**33.16**	**229**	*eP*	**P**	**14 44 39.6**	**+2.5**
LDASE	**Londrina, Braz**	**33.19**	**222**	*eP*	**P**	**14 44 39.5**	**+2.2**
MACA	**Manacapuru-AM**	**33.24**	**263**	*eP*	**P**	**14 44 39.0**	**+1.2**
RVDE	**Rio Verde (Braz**	**33.29**	**232**	*eP*	**P**	**14 44 39.2**	**+1.0**
PANT	**Pantanal (Braz**	**34.61**	**234**	*eP*	**P**	**14 44 51.5**	**+1.9**
AQDB	**Aquidauana**	**34.69**	**231**	P	**P**	**14 44 48.8**	**-1.5**
AQDB				IAmb	IAmb	14 45 00.1	
	comp=Z,40nm,1.1s						
AQDB	**Aquidauana**	**34.69**	**231**	*eP*	**P**	**14 44 52.2**	**+1.9**
PTGB	**Pitanga**	**34.73**	**221**	*eP*	**P**	**14 44 52.9**	**+2.3**
VILB	**Vilhena**	**35.06**	**246**	P	P	14 44 46.7	-6.9
VILB	**Vilhena**	**35.06**	**246**	*eP*	**P**	**14 44 53.5**	**-0.1**
PTLB	**Pontes e Lacer**	**35.07**	**241**	P	**P**	**14 44 51.4**	**-2.2**
PTLB	**Pontes e Lacer**	**35.07**	**241**	*eP*	**P**	**14 44 55.1**	**+1.5**
H05S1	**Guadeloupe/Mar**	**35.44**	**294**	T	T	15 22 27.7	
	SNR=13						
BDQN	**Bodoquena, MS**	**35.49**	**232**	*eP*	**P**	**14 44 59.9**	**+2.7**
AMBA	**Amambai (Brazi**	**35.59**	**227**	*eP*	**P**	**14 44 59.9**	**+1.8**
ANTJ	**Antonio Joao (**	**35.79**	**229**	*eP*	**P**	**14 45 01.8**	**+1.9**
MCR1	**Marechal Candi**	**35.88**	**224**	*eP*	**P**	**14 45 03.8**	**+3.2**
FRBT	**Francisco Belt**	**36.24**	**221**	*eP*	**P**	**14 45 07.3**	**+3.7**
ITAB	**Concordia**	**36.53**	**218**	P	**P**	**14 45 05.7**	**-0.4**
ITAB				IAmb	IAmb	14 45 17.9	
	comp=Z,97nm,1.5s						
ITAB	**Concordia**	**36.53**	**218**	*eP*	**P**	**14 45 08.6**	**+2.5**
SAML	**Samuel**	**36.70**	**254**	P	**P**	**14 45 03.7**	**-4.0**
SAML	**Samuel**	**36.70**	**254**	P	**P**	**14 45 03.7**	**-4.0**
SAML				pmax	pmax		
	comp=Z,27nm,1.2s						
SAML	**Samuel**	**36.70**	**254**	*eP*	**P**	**14 45 09.4**	**+1.8**
CBE	**Ff, Capester**	**36.70**	**296**	P	**P**	**14 45 04.5**	**-3.2**
MURT	**Porto Murtinho**	**36.82**	**231**	*eP*	**P**	**14 45 10.2**	**+1.5**
BBRB	**Robore, Bolivi**	**36.89**	**237**	*eP*	**P**	**14 45 11.9**	**+2.6**
SIV	**San Ignacio**	**36.99**	**242**	LR	LR	14 59 57.2	
	comp=Z,5μm,18.5s,baz=91,slow=36						
BBSD	**Serra de San D**	**37.09**	**240**	*eP*	**P**	**14 45 13.1**	**+2.2**
TEFE	**Tefe**	**37.20**	**263**	*eP*	**P**	**14 45 13.6**	**+1.6**
CNLB	**Canela**	**37.31**	**215**	*eP*	**P**	**14 45 15.8**	**+3.1**
PCRV	**Puerto La Cruz**	**37.89**	**285**	LR	LR	14 59 34.0	
	comp=Z,1μm,21.9s,slow=34						
CRSM	**Crissiumal (Br**	**37.92**	**220**	*eP*	**P**	**14 45 18.6**	**+0.7**
MDT	**Midelt**	**38.48**	**32**	LR	LR	15 00 31.3	
	comp=Z,1μm,18.6s,baz=250,slow=35						
TAM	**Tamanrasset**	**38.92**	**54**	P	**P**	**14 45 24.4**	**-2.2**
TAM	**Tamanrasset**	**38.92**	**54**	P	**P**	**14 45 24.4**	**-2.2**
TAM				pmax	pmax		
	comp=Z,31nm,1.5s						
ESFA	**Espinillo Form**	**39.37**	**227**	*eP*	**P**	**14 45 33.4**	**+3.4**
CPUP	**Villa Florida**	**39.37**	**224**	P	**P**	**14 45 28.7**	**-1.3**
CPUP				IAmb	IAmb	14 45 41.8	
	comp=Z,131nm,1.6s						
CPUP	**Villa Florida**	**39.37**	**224**	*eP*	**P**	**14 45 32.4**	**+2.4**
CPUP	**Villa Florida**	**39.37**	**224**	P	**P**	**14 45 31.6**	**+1.6**
	comp=Z,9.9nm,1.2s,baz=56,slow=6.6,SNR=8.0						
CPUP				LR	LR	15 01 32.7	
	comp=Z,3μm,18.6s,baz=50,slow=36						
	comp=Z,9.9nm,1.2s						
UNIS	**Unistalda (Bra**	**39.66**	**219**	*eP*	**P**	**14 45 34.3**	**+1.8**
ETMB	**Extrema**	**39.80**	**254**	P	**P**	**14 45 30.5**	**-3.3**
ETMB	**Extrema**	**39.80**	**254**	*eP*	**P**	**14 45 34.9**	**+1.0**
PLTB	**Pedras Altas**	**40.71**	**215**	P	**P**	**14 45 40.3**	**-0.8**
PVAQ	**Vaqueiros**	**40.75**	**25**	P	**P**	**14 45 39.9**	**-1.5**
PCVE	**Castro Verde**	**40.81**	**24**	*eP*	**P**	**14 45 43.8**	**+2.0**
	comp=Z,34nm,1.7s						
BAUV	**El Baul**	**40.97**	**283**	P	**P**	**14 45 41.2**	**-2.3**
BAUV				IAmb	IAmb	14 46 00.1	
	comp=Z,96nm,1.5s						
SCCA	**San Cayetano,**	**41.05**	**224**	*eP*	**P**	**14 45 46.5**	**+2.6**
ITQB	**Itaqui**	**41.06**	**220**	P	**P**	**14 45 42.5**	**-1.5**
ITQB				IAmb	IAmb	14 45 55.0	
	comp=Z,78nm,1.3s						
ITQB	**Itaqui**	**41.06**	**220**	*eP*	**P**	**14 45 46.5**	**+2.5**
SJG	**San Juan**	**41.48**	**297**	LR	LR	14 59 15.7	
	comp=Z,983nm,21.5s,baz=96,slow=31						
TICA	**Tres Isletas**	**41.59**	**227**	*eP*	**P**	**14 45 50.7**	**+2.3**
PMTG	**Montargil**	**41.97**	**23**	*eP*	**P**	**14 45 53.8**	**+2.4**
	comp=Z,35nm,1.8s						
PESTR	**Estremoz**	**42.05**	**24**	*eP*	P	14 46 04.1	+12
	comp=Z,43nm,1.7s						
VACA	**Villa Angela C**	**42.55**	**226**	*eP*	**P**	**14 45 57.7**	**+1.5**
PMRV	**Marv??o**	**42.61**	**23**	*eP*	**P**	**14 45 58.6**	**+2.0**
	comp=Z,52nm,1.9s						
PCAS	**Casmilo, Conde**	**42.72**	**22**	*eP*	**P**	**14 46 00.4**	**+2.9**
	comp=Z,47nm,1.5s						
MTE	**Manteigas**	**43.39**	**22**	*eP*	**P**	**14 46 07.5**	**+4.6**
	comp=Z,27nm,1.8s						
LPAZ	**La Paz**	**43.41**	**245**	P	**P**	**14 46 01.5**	**-2.6**
LPAZ	**La Paz**	**43.41**	**245**	*eP*	**P**	**14 46 01.5**	**-2.6**
SDV	**Santo Domingo**	**43.49**	**282**	P	**P**	**14 46 02.7**	**-1.7**
SDV	**Santo Domingo**	**43.49**	**282**	*eP*	**P**	**14 46 03.5**	**-0.9**
SDV	**Santo Domingo**	**43.49**	**282**	LR	LR	15 04 07.7	
	comp=Z,947nm,19.3s,baz=92,slow=36						
PVIS	**Viseu**	**43.53**	**22**	*eP*	**P**	**14 46 05.4**	**+1.4**
POLO	**Lamas de Olo**	**44.14**	**22**	*eP*	**P**	**14 46 09.2**	**+0.2**
	comp=Z,16nm,1.7s						
MVO	**Moncorvo**	**44.24**	**22**	*eP*	**P**	**14 46 11.7**	**+1.9**
	comp=Z,55nm,1.9s						
ESDC	**Sonseca Array**	**44.26**	**26**	P	**P**	**14 46 10.0**	**+0.1**
ESDC	**Sonseca Array**	**44.26**	**26**	P	**P**	**14 46 11.4**	**+1.4**
	comp=Z,3.5nm,0.9s,baz=226,slow=9.3,SNR=16						
ESDC				LR	LR	15 04 21.4	
	comp=Z,354nm,19.2s,baz=227,slow=36						
	comp=Z,3.5nm,0.9s						
ESBB	**Sonseca Array**	**44.26**	**26**	P	**P**	**14 46 07.4**	**-2.5**
PGAV	**Gavieira, Arco**	**44.48**	**21**	*eP*	**P**	**14 46 13.0**	**+1.2**
	comp=Z,70nm,1.6s						
CZSB	**Cruzeiro do Su**	**45.71**	**258**	P	**P**	**14 46 19.3**	**-2.5**
CZSB				IAmb	IAmb	14 46 30.5	
	comp=Z,63nm,1.4s						
CZSB	**Cruzeiro do Su**	**45.71**	**258**	*eP*	**P**	**14 46 21.5**	**-0.4**
BARC	**Barichara**	**45.74**	**278**	*eP*	**P**	**14 46 23.6**	**+1.3**
CRJC	**Cerrejon, Guaj**	**46.01**	**284**	*eP*	**P**	**14 46 28.0**	**+3.7**
LVC	**Limon Verde**	**46.45**	**237**	P	**P**	**14 46 25.2**	**-2.8**
LVC	**Limon Verde**	**46.45**	**237**	*eP*	**P**	**14 46 25.2**	**-2.8**
LVC	**Limon Verde**	**46.45**	**237**	*eP*	**P**	**14 46 28.3**	**+0.4**
LVC	**Limon Verde**	**46.45**	**237**	LR	LR	15 07 21.3	
	comp=Z,1μm,18.9s,baz=56,slow=38						
ROSC	**El Rosal**	**46.74**	**276**	P	**P**	**14 46 28.7**	**-1.7**
ROSC				IAmb	IAmb	14 47 16.4	
	comp=Z,55nm,1.5s						
ROSC	**El Rosal**	**46.74**	**276**	*eP*	**P**	**14 46 30.5**	**+0.1**
ROSC	**El Rosal**	**46.74**	**276**	P	**P**	**14 46 32.0**	**+1.6**
ROSC	**El Rosal**	**46.74**	**276**	P	**P**	**14 46 32.0**	**+1.6**
	comp=Z,5.7nm,0.4s,baz=121,slow=17,SNR=4.3						
ROSC				LR	LR	15 05 25.9	
	comp=Z,3μm,18.8s,baz=96,slow=35						
	comp=Z,5.7nm,0.4s						
PB07	**IPOC Station P**	**46.92**	**239**	P	**P**	**14 46 31.0**	**-0.4**
PB07				IAmb	IAmb	14 46 39.0	
	comp=Z,22nm,1.0s						
PB06	**IPOC Station P**	**47.04**	**237**	P	**P**	**14 46 28.7**	**-3.7**
PB06				IAmb	IAmb	14 46 40.3	
	comp=Z,21nm,1.0s						
PB15	**IPOC Station P**	**47.16**	**237**	P	**P**	**14 46 30.1**	**-3.3**
PB15				IAmb	IAmb	14 46 41.3	
	comp=Z,17nm,0.9s						
ORTC	**Ortega, Tolima**	**47.62**	**274**	*eP*	**P**	**14 46 33.7**	**-3.1**
GUY2C	**Guyana, Caldas**	**47.80**	**276**	*eP*	**P**	**14 46 36.8**	**-2.0**
GARC	**Garzon, Huila**	**47.82**	**272**	*eP*	**P**	**14 46 37.6**	**-1.0**
FLOC	**Florencia**	**47.97**	**271**	*eP*	**P**	**14 46 36.5**	**-3.1**
GO02	**Mina Guanaco**	**48.10**	**234**	P	**P**	**14 46 41.1**	**+0.4**
SJPF	**Ste Jean**	**48.25**	**26**	*eP*	**P**	**14 46 45.4**	**+4.2**
SJPF				pmax	pmax		
	comp=Z,72nm,1.6s						
ETSF	**Etsaut**	**48.37**	**27**	*eP*	**P**	**14 46 45.1**	**+2.8**
ETSF				pmax	pmax		
	comp=Z,24nm,1.5s						
PB14	**IPOC Station P**	**48.53**	**235**	P	**P**	**14 46 41.6**	**-2.5**
PB14				IAmb	IAmb	14 46 53.9	
	comp=Z,50nm,1.3s						
TSUM	**Tsumeb**	**48.69**	**117**	LR	LR	15 02 44.4	
	comp=Z,2μm,21.9s,baz=323,slow=30						
PLMC	**San Jos del P**	**48.70**	**276**	*eP*	**P**	**14 46 42.5**	**-2.7**
KEST	**Kesra**	**48.83**	**41**	P	**P**	**14 46 47.2**	**+1.3**
	comp=Z,4.3nm,0.9s,baz=193,slow=11,SNR=2.5						
KEST				LR	LR	15 07 21.6	
	comp=Z,768nm,21.5s,baz=181,slow=36						
	comp=Z,4.3nm,0.9s						
EPF	**Esparros**	**48.88**	**27**	*eP*	**P**	**14 46 49.6**	**+3.4**
EPF				pmax	pmax		
	comp=Z,10.0nm,1.1s						
JAMC	**Jamundi, Valle**	**49.02**	**273**	*eP*	**P**	**14 46 47.5**	**-0.4**
GCUF	**Volcan Galeras**	**49.66**	**271**	*eP*	**P**	**14 46 51.7**	**-1.5**
AC06	**Mina Casimiro**	**49.70**	**232**	P	**P**	**14 46 51.5**	**-1.2**
PIZC	**Pizarro, Choco**	**49.77**	**276**	*eP*	P	14 47 00.2	+6.8
BONI	**La Bonita**	**49.85**	**270**	*eP*	**P**	**14 46 51.2**	**-3.1**
AC05	**El Transito**	**50.32**	**230**	P	**P**	**14 46 57.5**	**0.0**
AC05				IAmb	IAmb	14 47 06.5	
	comp=Z,29nm,1.1s						
NNA	**Nana**	**50.46**	**254**	LR	LR	15 08 07.8	
	comp=Z,1μm,19.8s,baz=63,slow=36						
LFF	**La Frestale**	**50.56**	**26**	*eP*	**P**	**14 47 00.5**	**+1.7**
LFF				pmax	pmax		
	comp=Z,23nm,0.9s						
AC04	**Llanos de Chal**	**50.65**	**232**	P	**P**	**14 46 59.2**	**-0.6**
AC04				IAmb	IAmb	14 47 09.2	
	comp=Z,44nm,1.2s						
LCO	**Las Campanas**	**50.73**	**231**	P	**P**	**14 47 00.5**	**-0.3**
LCO	**Las Campanas**	**50.73**	**231**	*eP*	**P**	**14 47 00.5**	**-0.3**
BOSC	**San Juan Bosco**	**50.95**	**265**	P	**P**	**14 47 01.4**	**-1.2**
CAF	**Calviac**	**51.14**	**27**	*eP*	**P**	**14 47 04.7**	**+1.4**
CAF				pmax	pmax		
	comp=Z,50nm,1.9s						
ATAH	**Atahualpa**	**51.22**	**260**	LR	LR	15 08 31.3	
	comp=Z,2μm,21.1s,baz=68,slow=36						
GO04	**Tololo Observa**	**51.36**	**229**	P	**P**	**14 47 03.8**	**-1.7**
GO04				IAmb	IAmb	14 47 14.5	
	comp=Z,52nm,1.1s						
MFF	**Saint Martin d**	**51.51**	**24**	*eP*	**P**	**14 47 07.2**	**+1.2**
MFF				pmax	pmax		
	comp=Z,24nm,1.2s						
CO03	**El Pedregal**	**51.60**	**228**	P	**P**	**14 47 02.5**	**-4.5**
CO03				IAmb	IAmb	14 47 16.4	
	comp=Z,39nm,1.2s						
COHC	**Cochancay**	**51.67**	**266**	P	**P**	**14 47 06.7**	**-1.0**
COHC	**Cochancay**	**51.67**	**266**	*eP*	**P**	**14 47 05.7**	**-2.1**
CO06	**Fray Jorge**	**52.23**	**229**	P	**P**	**14 47 08.5**	**-3.1**
CO06				IAmb	IAmb	14 47 20.0	
	comp=Z,33nm,1.0s						
TCF	**Toulx Ste Croi**	**52.26**	**26**	*eP*	**P**	**14 47 13.7**	**+2.1**
TCF				pmax	pmax		
	comp=Z,115nm,2.4s						
VIVF	**Saint-Julien-l**	**52.30**	**29**	*eP*	**P**	**14 47 14.3**	**+2.3**
VIVF				pmax	pmax		
	comp=Z,12nm,1.1s						
MCRA	**Macar, Loja**	**52.49**	**264**	P	**P**	**14 47 12.2**	**-1.7**
MCRA	**Macar, Loja**	**52.49**	**264**	*eP*	**P**	**14 47 11.8**	**-2.2**
MT03	**Universidad Ad**	**52.81**	**225**	P	**P**	**14 47 15.1**	**-0.9**
FLN	**La Foliniere**	**53.14**	**22**	*eP*	**P**	**14 47 19.4**	**+1.4**
FLN				pmax	pmax		
	comp=Z,48nm,1.6s						
BO04	**La Punta**	**53.14**	**225**	P	**P**	**14 47 17.3**	**-1.1**
MT02	**Curacav**	**53.14**	**226**	P	**P**	**14 47 16.1**	**-2.3**
AVF	**Avril sur Loir**	**53.15**	**26**	*eP*	**P**	**14 47 19.4**	**+1.3**
AVF				pmax	pmax		
	comp=Z,27nm,1.7s						
VAE	**Valguarnera**	**53.16**	**42**	LR	LR	15 10 25.0	
	comp=Z,1μm,18.1s,baz=226,slow=37						
MT09	**Talagante**	**53.30**	**225**	P	**P**	**14 47 19.9**	**+0.3**
BO02	**Sierra Bellavi**	**53.69**	**224**	P	**P**	**14 47 23.3**	**+0.9**
BO02				IAmb	IAmb	14 47 33.9	
	comp=Z,54nm,1.1s						
BO01	**Tunca**	**53.69**	**225**	P	**P**	**14 47 22.2**	**-0.2**
BO01				IAmb	IAmb	14 47 31.4	
	comp=Z,53nm,1.1s						
LPG	**La Plagne**	**53.78**	**30**	*eP*	**P**	**14 47 26.1**	**+2.9**
LPG				pmax	pmax		
	comp=Z,39nm,1.6s						
ML02	**Panimavida**	**54.64**	**224**	P	**P**	**14 47 30.3**	**+1.0**
HAU	**Haudompre**	**55.41**	**27**	*eP*	**P**	**14 47 35.2**	**+0.6**
HAU				pmax	pmax		
	comp=Z,14nm,1.2s						
ECH	**Echery**	**55.93**	**27**	P	**P**	**14 47 38.4**	**0.0**
ECH				IAmb	IAmb	14 47 52.9	
	comp=Z,38nm,1.6s						
ECH	**Echery**	**55.93**	**27**	P	**P**	**14 47 38.4**	**0.0**
ECH				pmax	pmax		
	comp=Z,39nm,1.6s						
BAIF	**Baives**	**56.02**	**24**	*eP*	**P**	**14 47 41.5**	**+2.5**
BAIF				pmax	pmax		
	comp=Z,21nm,1.2s						
DAVOX	**Davos/Dischmat**	**56.23**	**30**	LR	LR	15 10 35.6	
	comp=Z,261nm,19.3s,baz=257,slow=35						
SUR	**Sutherland**	**56.45**	**131**	LR	LR	15 06 04.2	
	comp=Z,383nm,21.9s,baz=296,slow=30						
DAVA	**Damuels**	**56.58**	**30**	*eP*	**P**	**14 47 41.7**	**-1.5**
	comp=Z,19nm,1.2s						
GO06	**Curarrehue**	**56.76**	**220**	IAmb	IAmb	14 47 54.3	
	comp=Z,63nm,1.4s						
FETA	**Feichten**	**56.83**	**31**	*eP*	**P**	**14 47 43.2**	**-1.8**
	comp=Z,17nm,1.3s						
PLCA	**Paso Flores**	**56.84**	**218**	LR	LR	15 11 59.9	
	comp=Z,906nm,19.4s,baz=46,slow=36						
RETA	**Reutte**	**57.16**	**30**	*iP*	**P**	**14 47 47.6**	**+0.4**
	comp=Z,20nm,1.3s						
SQTA	**Sankt Quirin**	**57.20**	**31**	*iP*	**P**	**14 47 47.8**	**+0.2**
	comp=Z,23nm,1.2s						
MOTA	**Moosalm**	**57.23**	**30**	*iP*	**P**	**14 47 47.4**	**-0.4**
	comp=Z,12nm,1.2s						
CIMO	**Cimolais**	**57.25**	**32**	P	**P**	**14 47 47.3**	**-0.5**
CIMO				IAmb	IAmb	14 47 59.8	
	comp=Z,47nm,1.5s						
WTTA	**Wattenberg**	**57.45**	**31**	*iP*	**P**	**14 47 48.4**	**-1.0**
	comp=Z,20nm,1.6s						
WATA	**Walderalm**	**57.47**	**31**	*iP*	**P**	**14 47 48.9**	**-0.5**
	comp=Z,15nm,1.3s						
LSZ	**Lusaka**	**57.48**	**109**	LR	LR	15 07 42.8	
	comp=Z,765nm,21.5s,baz=296,slow=31						
ABTA	**Abfaltersbach**	**57.57**	**32**	*iP*	**P**	**14 47 51.2**	**+1.1**
	comp=Z,17nm,1.0s						
CLUD	**Cludinico**	**57.58**	**32**	P	**P**	**14 47 51.4**	**+1.3**
CLUD				IAmb	IAmb	14 48 04.6	
	comp=Z,41nm,1.2s						
LBTB	**Lobatse**	**57.58**	**121**	LR	LR	15 08 14.2	
	comp=Z,880nm,20.9s,baz=282,slow=32						
JTS	**Las Juntas de**	**57.68**	**282**	LR	LR	15 13 58.2	
	comp=Z,280nm,18.0s,baz=102,slow=37						
EKA	**Eskdalemuir Ar**	**57.84**	**16**	P	**P**	**14 47 53.3**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=228,slow=7.5,SNR=1.8						
	comp=Z,1.1nm,0.7s						
PRED	**Cave del Predi**	**57.94**	**33**	IAmb	IAmb	14 48 12.6	
	comp=Z,58nm,1.5s						
LESA	**Schwarzleotal**	**58.09**	**31**	*iP*	**P**	**14 47 54.2**	**+0.4**
	comp=Z,16nm,0.9s						
MYKA	**Terra Mystica**	**58.09**	**32**	*eP

BRG Amp 14 48 15.8
comp=Z,29nm,1.5s
BRG Amp 15 12 11.0
comp=Z,0.4nm,21.4s
BRG Amp 15 12 17.0
comp=E,0.3nm,19.8s
BRG Amp 15 12 21.0
comp=N,0.1nm,17.7s
PVCC Panska Ves 61.05 29 AMS AMS 15 22 10.0
comp=N,400nm,16.8s
PVCC Panska Ves 61.05 29 P **P** **14 48 17.1 +3.1**
PVCC pmax pmax
comp=Z,22nm,1.5s
KRUC Moravsky 61.05 32 *e*P **P** **14 48 14.1 0.0**
KRUC Moravsky 61.05 32 P **P** **14 48 15.4 +1.3**
KRUC pmax pmax
comp=Z,10.0nm,1.5s
MODS Modra-Piesok 61.11 33 *e*P **P** **14 48 15.4 +0.9**
MODS Modra-Piesok 61.11 33 *e*P **P** **14 48 15.4 +0.9**
MODS pmax pmax
comp=Z,346nm,2.6s
VRAC Vranov 61.31 31 ⇑P **P** **14 48 16.1 +0.3**
VRAC Vranov 61.31 31 *e*P **P** **14 48 16.3 +0.5**
VRAC Vranov 61.31 31 P **P** **14 48 17.0 +1.2**
VRAC pmax pmax
comp=Z,13nm,1.5s
SRO Srobarova 61.35 34 *e*P **P** **14 48 17.9 +1.8**
SRO Srobarova 61.35 34 *e*P **P** **14 48 17.9 +1.8**
SRO pmax pmax
comp=Z,17nm,1.3s
BSEG Bad Segeberg 61.43 24 P **P** **14 48 17.3 +0.8**
BSEG pmax pmax
comp=Z,27nm,1.5s
MDVR Moldovita 61.70 38 ⇑P **P** **14 48 20.1 +1.5**
UPC Upice 61.75 30 *e*P **P** **14 48 19.8 +1.0**
UPC AMS AMS 15 14 40.0
comp=Z,400nm,19.7s
UPC Upice 61.75 30 *e*P **P** **14 48 19.8 +1.0**
UPC MLR MLR
comp=Z,400nm,19.7s
DPC Dobruska-Polom 61.81 30 *e*P **P** **14 48 20.3 +1.1**
DPC Dobruska-Polom 61.81 30 *e*P **P** **14 48 20.3 +1.1**
KRLC Kraliky 61.87 31 *e*P **P** **14 48 21.3 +1.6**
KRLC AMS AMS 15 11 40.0
comp=Z,300nm,19.1s
KRLC Kraliky 61.87 31 *e*P **P** **14 48 21.3 +1.6**
KRLC MLR MLR
comp=Z,300nm,19.1s
OSTC Ostas 61.88 30 AMS AMS 15 12 50.0
comp=Z,500nm,20.4s
VYHS Vyhne 62.03 33 *e*P **P** **14 48 21.4 +0.7**
VYHS Vyhne 62.03 33 *e*P **P** **14 48 21.4 +0.7**
VYHS pmax pmax
comp=Z,29nm,1.7s
BZS Buzias 62.06 37 ⇑P **P** **14 48 22.3 +1.4**
BZS Buzias 62.06 37 P **P** **14 48 22.6 +1.6**
BZS pmax pmax
comp=Z,10.0nm,1.9s
MORC Moravsky Berou 62.08 31 ⇑P **P** **14 48 22.3 +1.2**
MORC Moravsky Berou 62.08 31 P **P** **14 48 19.4 -1.7**
MORC Moravsky Berou 62.08 31 *e*P **P** **14 48 21.8 +0.7**
MORC Moravsky Berou 62.08 31 P **P** **14 48 19.4 -1.7**
MORC pmax pmax
comp=Z,77nm,1.9s
HERR Herculane 62.18 38 ⇑P **P** **14 48 21.1 -0.6**
TEIG Tepich 62.22 292 LR LR 15 13 01.7
comp=Z,3µm,20.9s,baz=194,slow=34
PSZ Piszkesteto 62.29 34 ⇑P **P** **14 48 24.2 +1.7**
PSZ Piszkesteto 62.29 34 P **P** **14 48 23.1 +0.5**
PSZ Piszkesteto 62.29 34 P **P** **14 48 23.1 +0.5**
PSZ pmax pmax
comp=Z,84nm,1.5s
O53A New Philadelph 62.32 316 P **P** **14 48 22.3 -0.5**
TKL Tuckaleechee C 62.42 310 LR LR 15 09 31.8
comp=Z,552nm,21.4s,baz=120,slow=30
SIRR Siria 62.42 36 ⇑P **P** **14 48 24.7 +1.3**
SCHQ Schefferville 62.55 336 P **P** **14 48 25.9 +1.8**
comp=Z,8.1nm,1.1s,baz=210,slow=11,SNR=2.0
SCHQ LR LR 15 11 32.2
comp=Z,267nm,20.9s,baz=102,slow=32
comp=Z,8.1nm,1.1s
GZR Gura Zlata 62.65 38 ⇓P **P** **14 48 22.6 -2.4**
LANS Liptovska Anna 62.74 33 *e*P **P** **14 48 27.7 +2.2**
LANS Liptovska Anna 62.74 33 *e*P **P** **14 48 27.7 +2.2**
KECS Kecovo 62.93 34 *e*P **P** **14 48 30.0 +3.3**
KECS Kecovo 62.93 34 *e*P **P** **14 48 30.0 +3.3**
SADO Sadowa 62.98 321 LR LR 15 09 41.7
comp=Z,306nm,21.9s,baz=86,slow=30
NIE Niedzica 63.34 33 P **P** **14 48 31.3 +1.8**
NIE pmax pmax
comp=Z,7.0nm,1.5s
OJC Ojcow 63.53 32 P **P** **14 48 32.2 +1.6**
OJC pmax pmax
comp=Z,19nm,1.5s
CRVS Cervenica-Dubn 63.70 34 *e*P **P** **14 48 35.3 +3.5**
CRVS Cervenica-Dubn 63.70 34 *e*P **P** **14 48 35.3 +3.5**
ARR Arges 63.79 38 ⇑P **P** **14 48 33.5 +0.9**
BORG Borgarnes 63.90 3 LR LR 15 09 25.0
comp=Z,100nm,21.5s,baz=171,slow=30
VOIR 64.08 39 ⇓P **P** **14 48 35.4 +0.9**
VOIR 64.08 39 P **P** **14 48 36.0 +1.5**
VOIR pmax pmax
comp=Z,17nm,1.6s
DOPR Dopca 64.53 38 ⇑P **P** **14 48 36.5 -0.9**
MLR Muntele Rosu 64.66 39 ⇑P **P** **14 48 40.1 +1.7**
MLR Muntele Rosu 64.66 39 P **P** **14 48 37.2 -1.2**
MLR Muntele Rosu 64.66 39 P **P** **14 48 37.2 -1.2**
MLR pmax pmax
comp=Z,57nm,1.4s
MLR Muntele Rosu 64.66 39 LR LR 15 17 22.7
comp=Z,497nm,20.9s,baz=242,slow=36
OZUR 64.84 38 ⇓P **P** **14 48 35.5 -3.9**
KMBO Kilima Mbogo 64.95 92 P **P** **14 48 40.0 -1.0**
KMBO IAmb IAmb 14 48 58.6
comp=Z,48nm,1.8s
KMBO Kilima Mbogo 64.95 92 P **P** **14 48 43.5 +2.4**
comp=Z,1.3nm,0.7s,baz=274,slow=12,SNR=4.2
KMBO LR LR 15 14 03.6
comp=Z,492nm,18.7s,baz=270,slow=33
comp=Z,1.3nm,0.7s
TURR Turia 64.96 38 ⇑P **P** **14 48 42.5 +2.3**
COVR Voineasa-Covas 64.98 39 ⇑P **P** **14 48 40.7 +0.4**
BURAR Bucovina Array 65.21 36 ⇑P P 14 48 30.2 -12
VRI Vrincioaia 65.32 39 ⇑P **P** **14 48 44.0 +1.6**
VRI Vrincioaia 65.32 39 P **P** **14 48 44.1 +1.6**
VRI pmax pmax
comp=Z,26nm,1.5s
KSV Kosov 65.46 36 P **P** **14 48 43.9 +0.6**
LVV L'vov 65.61 34 *e*P P 14 48 52.6 +8.3
EIL Elat 65.95 58 LR LR 15 18 23.2
comp=Z,2µm,18.1s,baz=255,slow=37
P46A Rosedale 66.34 313 P **P** **14 48 47.1 -2.1**
P46A IAmb IAmb 14 48 58.2
comp=Z,27nm,1.1s
KMPD K-Podol'skiy 66.39 36 P **P** **14 48 50.0 +0.7**
NB2 NORSAR Subarra 66.92 19 P **P** **14 48 53.3 +0.8**
comp=Z,25nm,1.7s,baz=224,slow=6.5
NOA NORSAR Array B 66.92 19 P **P** **14 48 54.3 +1.8**
comp=Z,1.5nm,0.9s,baz=218,slow=8.6,SNR=3.9
NOA LR LR 15 14 33.7
comp=Z,186nm,20.1s,baz=220,slow=33
comp=Z,1.5nm,0.9s
MILM Milestii Mici 67.08 38 *e*P **P** **14 48 51.0 -2.7**
MILM *e*L L 15 13 00.0
MILM LRM MLR 15 23 43.0
comp=Z,300nm,20.0s
HFS Hagfors 67.13 21 P **P** **14 48 55.2 +1.4**
comp=Z,3.4nm,0.9s,baz=232,slow=16,SNR=2.5
HFS LR LR 15 14 04.0
comp=Z,314nm,21.8s,baz=222,slow=32
comp=Z,3.4nm,0.9s
MMAI Mount Meron Ar 67.13 54 LR LR 15 19 32.5
comp=Z,398nm,19.4s,baz=254,slow=37
SORM Soroca 67.32 37 ⇓P **P** **14 48 55.0 -0.2**
SUW Suwalki 67.37 30 P **P** **14 48 56.8 +1.4**
SUW pmax pmax
comp=Z,39nm,1.3s
BR131 Keskin Array S 67.68 47 P **P** **14 48 57.0 -1.0**
BR131 IAmb IAmb 14 49 16.9
comp=Z,22nm,1.4s
BR131 Keskin Array S 67.68 47 *de*P **P** **14 48 59.0 +1.1**
BRTR Keskin Array B 67.68 47 P **P** **14 48 56.9 -1.0**
BRTR Keskin Array B 67.68 47 P **P** **14 48 58.5 +0.7**
comp=Z,2.5nm,0.7s,baz=235,slow=4.7,SNR=12
BRTR LR LR 15 20 35.2
comp=Z,257nm,19.9s,baz=222,slow=38
comp=Z,2.5nm,0.7s
SFJD Kangerlussuaq 67.92 350 LR LR 15 12 58.1
comp=Z,260nm,18.7s,baz=161,slow=31
CMIG Matias Romero 67.98 288 LR LR 15 18 22.3
comp=Z,244nm,21.7s,baz=116,slow=36
ASF Jabal al Asfar 68.15 56 LR LR 15 20 48.5
comp=Z,640nm,18.1s,baz=244,slow=38
ICESG Greenland Ices 68.57 355 *i* P **P** **14 49 06.0 +2.8**
ICESG IAmb IAmb 14 49 13.0
comp=Z,9.9nm,0.9s
KIEV Kiev 68.95 35 ⇑P **P** **14 49 06.4 +1.0**
KIEV Kiev 68.95 35 P **P** **14 49 05.2 -0.2**
KIEV Kiev 68.95 35 P **P** **14 49 05.2 -0.2**
KIEV pmax pmax
comp=Z,137nm,1.7s
AKASG Malin Array Be 68.96 35 *ce*P **P** **14 49 06.0 +0.6**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKASG Malin Array Be 68.96 35 P **P** **14 49 06.1 +0.6**
comp=Z,4.3nm,0.6s,baz=241,slow=6.8,SNR=21
AKASG LR LR 15 17 20.2
comp=Z,173nm,21.9s,baz=212,slow=34
comp=Z,4.3nm,0.6s
AKBB Malin Array Si 68.96 35 *ce*P **P** **14 49 06.4 +0.9**
FRB Frobisher Bay 69.52 342 LR LR 15 15 22.7
comp=Z,114nm,21.8s,baz=182,slow=32
NACGM Naroch 69.63 30 ⇑ *i*P **P** **14 49 11.5 +2.0**
comp=Z,37nm,1.3s,baz=240
R40A Maddies Statio 69.70 311 IAmb IAmb 14 49 25.1
comp=Z,20nm,1.2s
MNK Minsk 69.99 31 *i* P **P** **14 49 10.4 -1.4**
comp=E,6.0nm,1.3s
MNK *i* P **P** **14 49 10.4 -1.4**
comp=N,15nm,1.3s
MNK *i* P **P** **14 49 10.4 -1.4**
comp=Z,12nm,0.9s,baz=241
MNK *i* PP **PP** **14 51 44.9 -1.8**
MNK *i* PPP PPP 14 53 24.9
MNK *i* S **S** **14 58 22.5 +0.5**
MNK *i* SS **SS** **15 02 50.1 -1.2**
MNK *i* SSS SSS 15 06 07.5
MNK *i* LQ LQ 15 15 10.7
MNK *i* LR LR 15 19 44.1
MNK *i* LRM MLR 15 22 43.7
comp=E,65nm,16.0s
MNK *i* LRM MLR 15 22 49.4
comp=Z,134nm,12.8s
MNK *i* LRM MLR 15 23 04.1
comp=N,159nm,18.5s
MNK Minsk 69.99 31 *i* P **P** **14 49 10.3 -1.4**
MNK *i* 14 51 44.9
MNK *i* PPP PPP 14 53 24.9
MNK *i* S **S** **14 58 22.4 +0.5**
MNK *i* SS **SS** **15 02 50.1 -1.2**
MNK pmax pmax
comp=N,15nm,1.3s
MNK pmax pmax
comp=E,6.0nm,1.3s
MNK pmax pmax
comp=Z,12nm,0.9s
MNK MLR MLR
comp=E,65nm,16.0s
MNK MLR MLR
comp=Z,134nm,13.0s
MNK MLR MLR
comp=N,159nm,19.0s
PMSA Palmer Station 70.65 196 LR LR 15 14 45.4
comp=N,196nm,19.2s,baz=30,slow=31
HKT Hockley 70.71 301 ⇑ *e*P **P** **14 49 16.3 -0.3**
HKT pmax pmax
comp=Z,3.0nm,0.9s
ARPR Arapgir-MALATY 70.98 49 IAmb IAmb 14 49 37.5
comp=Z,52nm,1.6s
JMIC Jan Mayen 71.10 7 LR LR 15 17 02.8
comp=Z,70nm,18.1s,baz=232,slow=33
SUMG Summit 71.92 357 *i* P **P** **14 49 25.5 +1.9**
SUMG IAmb IAmb 14 49 33.2
comp=Z,8.8nm,1.0s
SPMN Marine on St. 72.06 318 IAmb IAmb 14 49 32.1
comp=Z,30nm,1.0s
LOOK Love County 72.58 305 IAmb IAmb 14 49 29.2
comp=Z,45nm,1.4s
T35A Sooner Cattle 72.64 308 IAmb IAmb 14 49 37.0
comp=Z,51nm,1.4s
FINES FINESS Array B 72.70 24 *i* P **P** **14 49 29.2 +1.2**
FINES pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 72.70 24 P **P** **14 49 29.3 +1.3**
comp=Z,4.1nm,0.9s,baz=273,slow=5.4,SNR=6.2
FINES LR LR 15 17 29.3
comp=Z,394nm,21.6s,baz=229,slow=33
comp=Z,4.1nm,0.9s
SOC Sochi 73.16 44 *e*P **P** **14 49 31.1 0.0**
SOC *e* 14 52 12.1
SOC *e*PPP PPP 14 54 00.5
SOC *e*S **SKiKP** **14 59 01.3 -2.2**
SOC *e*SS **SS** **15 03 39.6 -0.8**
SOC *e*SSS SSS 15 07 00.8
SOC pmax pmax
comp=Z,26nm,1.1s
SOC MLR MLR
comp=Z,206nm,19.0s
DBG Daneborg 73.47 2 *i* P **P** **14 49 33.3 +1.0**
DBG IAmb IAmb 14 49 43.1
comp=Z,3.0nm,0.8s
BRDY Brady 73.62 302 IAmb IAmb 14 49 42.6
comp=Z,14nm,1.2s
GURO Guroymak-BITLI 73.66 50 IAmb IAmb 14 49 51.2
comp=Z,26nm,1.3s
SNAA Sanae 74.18 172 P **P** **14 49 36.8 +0.1**
comp=Z,4.0nm,0.9s,baz=297,slow=4.5,SNR=4.4
comp=Z,4.0nm,0.9s
OBN Obninsk 74.81 32 *i* P **P** **14 49 38.9 -1.6**
OBN *i* 14 49 47.5
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,248nm,17.0s
OBN Obninsk 74.81 32 LR LR 15 22 08.6
comp=Z,227nm,19.6s,baz=198,slow=35
VSR Storozhevoye 74.98 37 *e*P **P** **14 49 43.5 +1.9**
VSR pmax pmax
comp=Z,30nm,1.4s
VORR Voronezh 75.15 36 *e*P **P** **14 49 42.3 -0.2**
VORR pmax pmax
comp=Z,40nm,0.3s
LPSR Galich'ya Gora 75.27 35 *e*P **P** **14 49 43.5 +0.3**
LPSR pmax pmax
comp=Z,40nm,1.1s
KIV Kislovodsk 75.33 45 P **P** **14 49 44.4 +0.5**
KIV IAmb IAmb 14 50 02.0
comp=Z,44nm,1.3s
KIV Kislovodsk 75.33 45 *e*P **P** **14 49 46.7 +2.8**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,139nm,18.0s
OZNA Ozona 75.37 302 IAmb IAmb 14 49 58.8
comp=Z,52nm,1.9s
KBZ Khabaz 75.43 45 ⇑ *e*P **P** **14 49 46.0 +1.6**
KBZ Khabaz 75.43 45 P **P** **14 49 46.0 +1.6**
comp=Z,4.1nm,0.9s,baz=67,slow=7.7,SNR=7.9
KBZ LR LR 15 26 20.0
comp=Z,166nm,19.7s,baz=234,slow=38
comp=Z,4.1nm,0.9s
ULM Lac du Bonnet 75.52 322 P **P** **14 49 45.6 +0.8**
comp=Z,1.7nm,0.6s,baz=63,slow=4.5,SNR=3.3
ULM LR LR 15 17 16.0
comp=Z,280nm,21.3s,baz=102,slow=31
comp=Z,1.7nm,0.6s
ONI Oni 75.58 46 P **P** **14 49 45.8 +0.5**
ONI IAmb IAmb 14 50 10.2
comp=Z,47nm,1.6s
ONI Oni 75.58 46 P **P** **14 49 45.8 +0.5**
ONI pmax pmax
comp=Z,47nm,1.6s
MOS Moscow 75.59 32 *e*P **P** **14 49 45.1 +0.1**
MOS pmax pmax
comp=Z,29nm,0.7s
GOF Gofitskoye 75.83 44 *ce*P **P** **14 49 43.5 -3.2**
ZEI Tsey 75.94 46 *e*P **P** **14 49 47.8 +0.2**
ZEI pmax pmax
comp=Z,20nm,1.8s
DAG Danmarks Havn 75.98 2 *i* P **P** **14 49 47.0 +0.1**
DAG IAmb IAmb 14 49 56.4
comp=Z,5.9nm,0.9s
GNI Garni 76.04 49 *de*P **P** **14 49 49.7 +1.6**
GNI pmax pmax
comp=Z,15nm,1.6s
GNI Garni 76.04 49 LR LR 15 24 08.6
comp=Z,265nm,21.1s,baz=260,slow=36
SAND Sanderson 76.10 301 IAmb IAmb 14 50 03.0
comp=Z,8.1nm,1.1s
VRH Novokhopyorsk 76.52 37 *e*P **P** **14 49 49.4 -1.0**
VRH pmax pmax
comp=Z,30nm,1.5s
ARCES ARCESS Array B 77.00 17 P **P** **14 49 54.0 +1.2**
ARCES ARCESS Array B 77.00 17 P **P** **14 49 54.0 +1.2**
comp=Z,2.1nm,0.8s,baz=248,slow=4.8,SNR=4.7
ARCES LR LR 15 18 16.1
comp=Z,265nm,21.3s,baz=232,slow=31
comp=Z,2.1nm,0.8s
TXAR Lajitas Array 77.36 300 P **P** **14 49 56.3 +0.5**
comp=Z,1.0nm,1.0s,baz=121,slow=8.7,SNR=5.9
TXAR LR LR 15 22 04.5
comp=Z,78nm,21.8s,baz=78,slow=34
comp=Z,1.0nm,1.0s
NEEM North Greenlan 77.55 355 *i* P **P** **14 49 56.8 +0.7**
NEEM IAmb IAmb 14 50 06.2
comp=Z,19nm,0.9s
KLMR Klimovskoe 78.29 27 *e*P **P** **14 49 59.1 -1.0**
KLMR AMP 14 50 14.5
comp=Z,61nm,1.9s
KLMR LR LR 15 16 46.8
KLMR AMP 15 22 16.7
comp=Z,457nm,15.9s
KLMR LRM MLR 15 26 27.7
KLMR Klimovskoe 78.29 27 *e*P **P** **14 49 59.1 -1.0**
KLMR pmax pmax
comp=Z,61nm,1.9s
APA Apatity 78.49 20 ⇓ *i*P **P** **14 50 01.5 +0.4**
APA *i* 14 50 17.8
APA pmax pmax
comp=Z,7.0nm,1.0s
MAK Makhachkala 78.58 46 *e*P **P** **14 49 58.8 -3.3**
MAK *e* 14 52 56.3
MAK *e*S **S** **14 59 53.7 -5.0**
MAK *e*SS **SS** **15 05 00.0 -2.5**
MAK pmax pmax
comp=Z,227nm,1.0s
MAK MLR MLR
comp=Z,186nm,18.0s
BELA Belgrano 2 78.76 181 P **P** **14 50 03.6 +1.1**
BELA IAmb IAmb 14 50 12.2
comp=Z,29nm,1.1s
LVZ Lovozero 79.06 20 ⇑ *e*P **P** **14 50 03.4 -0.9**
LVZ pmax pmax
comp=Z,12nm,1.2s
ELIB Princess Elisa 79.53 166 *d*P **P** **14 50 08.7 +1.8**
comp=Z,6.3nm,1.6s
ANMO Albuquerque 80.30 305 P **P** **14 50 11.3 -0.7**
ANMO Albuquerque 80.30 305 *ce*P **P** **14 50 13.8 +1.8**
ANMO pmax pmax
comp=Z,13nm,2.5s
ANMO Albuquerque 80.30 305 LR LR 15 21 04.9
comp=Z,782nm,20.5s,baz=190,slow=32
BELG Belogornoye 80.36 37 ⇑ *e*P **P** **14 50 12.2 +0.6**
BELG pmax pmax
comp=Z,7.0nm,1.5s
BELG Belogornoye 80.36 37 LR LR 15 27 31.2
comp=Z,208nm,19.0s,baz=291,slow=37
N23A Red Feather La 80.56 311 IAmb IAmb 14 50 22.8
comp=Z,33nm,1.2s
SPITS Spitsbergen Ar 80.62 8 LR LR 15 18 39.1
comp=Z,177nm,18.4s,baz=188,slow=30
SMCO Snowmass 81.15 309 IAmb IAmb 14 50 26.9
comp=Z,35nm,1.6s
PRGR Permogore 81.34 28 *e*P **P** **14 50 17.7 +1.1**
PRGR pmax pmax
comp=Z,61nm,1.8s
LAO LASA Array 81.51 317 IAmb IAmb 14 50 27.8
comp=Z,36nm,1.1s
MVCO Mesa Verde 82.16 307 IAmb IAmb 14 50 32.2
comp=Z,32nm,1.4s
KIRV Kirov 82.53 31 ⇑ *e*P **P** **14 50 23.4 +0.5**
KIRV Kirov 82.53 31 LR LR 15 25 33.5
comp=Z,357nm,20.7s,baz=254,slow=35
LPIG La Paz 82.92 294 LR LR 15 29 11.4
comp=Z,86nm,18.1s,baz=102,slow=37
RPN Rapa Nui 82.97 243 LR LR 15 23 50.9
comp=Z,639nm,20.3s,baz=80,slow=33
PDAR Pinedale Array 83.44 313 P **P** **14 50 28.5 +0.1**
comp=Z,1.1nm,1.0s,baz=76,slow=3.8,SNR=6.1
PDAR LR LR 15 22 19.1
comp=Z,548nm,21.5s,baz=116,slow=32
comp=Z,1.1nm,1.0s
RLMT Red Lodge 83.44 315 IAmb IAmb 14 50 38.1
comp=Z,37nm,1.4s
HSIG 83.69 299 IAmb IAmb 14 50 31.7
comp=Z,25nm,1.3s
HMU Henry Mountain 83.99 308 IAmb IAmb 14 50 42.1
comp=Z,36nm,1.3s
YMP Mirror Lake PI 84.03 315 IAmb IAmb 14 50 53.1
comp=Z,26nm,1.3s
P17A Butcher Ranch, 84.08 309 P **P** **14 50 29.9 -1.7**
P17A IAmb IAmb 14 50 41.4
comp=Z,21nm,1.4s
BSUT Blindstream Ca 84.17 310 IAmb IAmb 14 50 42.3
comp=Z,50nm,1.8s
LOHW Long Hollow 84.27 314 IAmb IAmb 14 50 42.3
comp=Z,25nm,1.4s
WUAZ Wupatki 84.36 305 IAmb IAmb 14 50 42.8
comp=Z,20nm,1.1s
X16A Lo Mia Camp, P 84.36 304 IAmb IAmb 14 50 44.7
comp=Z,20nm,1.4s
TMUT Trail Mountain 84.44 309 IAmb IAmb 14 50 45.1
comp=Z,20nm,1.3s
TPAW Teton Pass 84.51 313 IAmb IAmb 14 50 43.7
comp=Z,21nm,1.2s
AHID Auburn Hatcher 84.57 313 IAmb IAmb 14 50 43.5
comp=Z,24nm,1.3s
MPU Maple Canyon 84.80 310 IAmb IAmb 14 50 49.2
comp=Z,39nm,2.0s
MTPU Mount Pierson 85.13 308 IAmb IAmb 14 50 46.8
comp=Z,21nm,1.0s
NLU North Lily Min 85.14 310 IAmb IAmb 14 50 47.9
comp=Z,45nm,1.9s
MVU Marysvale 85.17 308 P **P** **14 50 36.3 -1.0**
DUG Dugway, Tooele 85.72 310 IAmb IAmb 14 50 49.8
comp=Z,22nm,1.2s
HVU Hansel Valley 85.76 312 P **P** **14 50 39.3 -0.7**
HVU IAmb IAmb 14 50 48.6
comp=Z,20nm,1.1s
HVU Hansel Valley 85.76 312 P **P** **14 50 39.3 -0.7**
HVU pmax pmax
comp=Z,20nm,1.1s
SZCU Shurtz Canyon 85.83 307 IAmb IAmb 14 50 49.9
comp=Z,16nm,1.1s
GEYT Alibeck 86.14 52 P **P** **14 50 42.8 +1.0**
comp=Z,1.0nm,0.6s,baz=43,slow=33,SNR=2.3
GEYT LR LR 15 31 01.7
comp=Z,311nm,21.8s,baz=290,slow=37
comp=Z,1.0nm,0.6s
WSAR Wadi Sarin 86.26 67 LR LR 15 30 19.0
comp=Z,941nm,18.0s,baz=287,slow=36
PSUT Pine Spring 86.46 308 IAmb IAmb 14 50 53.2
comp=Z,15nm,1.0s
AKTO Aktyubinsk 86.58 40 LR LR 15 33 08.8
comp=Z,164nm,19.8s,baz=233,slow=38
EDM Edmonton 86.70 323 P **P** **14 50 44.3 0.0**
EDM Edmonton 86.70 323 P **P** **14 50 44.3 0.0**
EDM pmax pmax
comp=Z,132nm,1.8s
MSO Missoula 86.80 317 IAmb IAmb 14 50 54.6
comp=Z,32nm,1.6s
SPR3 Spring Creek 3 86.85 309 IAmb IAmb 14 50 55.1
comp=Z,16nm,1.1s
HLID Hailey 87.03 313 IAmb IAmb 14 50 57.7
comp=Z,28nm,1.6s
ARU Arti 87.19 34 *d i*P **P** **14 50 47.2 +0.7**
ARU 14 50 10.7
ARU S **SKSac** **15 01 14.3 +0.6**
ARU SS **SS** **15 07 09.3 -0.2**
ARU pmax pmax
comp=Z,19nm,3.6s
ARU Arti 87.19 34 LR LR 15 31 25.5
comp=Z,141nm,19.2s,baz=256,slow=37
Q12A Willow Creek R 87.24 309 IAmb IAmb 14 50 56.7
comp=Z,25nm,1.1s
ELK Elko 87.58 311 LR LR 15 27 54.8
comp=Z,219nm,18.8s,baz=102,slow=34
ABKAR Akbulak array 87.78 41 P **P** **14 50 46.8 -2.8**

YKA	**Yellowknife Ar**	**87.80**	**332**	*ce*P		**P**		**14 50 52.0**	**+2.7**
YKA	**Yellowknife Ar**	**87.80**	**332**	P		**P**		**14 50 49.1**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=88,slow=5.1,SNR=6.8								
YKA				LR		LR		15 26 09.2	
	comp=Z,291nm,20.9s,baz=84,slow=33								
	comp=Z,0.3nm,0.7s								
R11B	**Troy Canyon, C**	**87.82**	**308**	IAmb		IAmb		14 50 59.4	
	comp=Z,12nm,1.1s								
TPNV	**Topopah Spring**	**88.34**	**307**	IAmb		IAmb		14 51 02.3	
	comp=Z,22nm,1.2s								
SVE	**Sverdlovsk**	**88.35**	**33**	*e*P		P		14 51 01.7	+10
SVE				pmax		pmax			
	comp=Z,17nm,1.4s								
PFO	**Pinyon Flats O**	**88.50**	**303**	‖*e*P		**P**		**14 50 53.4**	**-0.1**
PFO				pmax		pmax			
	comp=Z,18nm,1.7s								
PFO	**Pinyon Flats O**	**88.50**	**303**	LR		LR		15 28 15.3	
	comp=Z,280nm,19.0s,baz=90,slow=34								
WCT	**Wildcat Mounta**	**88.64**	**307**	IAmb		IAmb		14 51 03.7	
	comp=Z,17nm,1.1s								
GWY	**Greenwater Val**	**88.67**	**306**	P		**P**		**14 50 53.7**	**-0.6**
GWY				IAmb		IAmb		14 51 03.8	
	comp=Z,21nm,1.1s								
GSC	**Goldstone, Bar**	**88.79**	**305**	IAmb		IAmb		14 51 04.0	
	comp=Z,15nm,1.2s								
QSM	**Queen of Sheba**	**88.84**	**306**	IAmb		IAmb		14 51 05.0	
	comp=Z,29nm,1.2s								
NEW	**Newport**	**88.98**	**318**	LR		LR		15 28 09.5	
	comp=Z,243nm,18.3s,baz=94,slow=34								
NVAR	**Mina Array Bea**	**89.95**	**308**	P		**P**		**14 50 59.2**	**-1.1**
NVAR	**Mina Array Bea**	**89.95**	**308**	P		**P**		**14 51 01.1**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=106,slow=5.7,SNR=5.0								
NVAR				LR		LR		15 27 00.1	
	comp=Z,241nm,18.4s,baz=94,slow=33								
	comp=Z,1.0nm,0.8s								
QSPA	**South Pole Qui**	**90.94**	**180**	P		**P**		**14 51 03.4**	**-0.8**
QSPA				IAmb		IAmb		14 51 14.1	
	comp=Z,26nm,1.3s								
QSPA	**South Pole Qui**	**90.94**	**180**	LR		LR		15 24 39.5	
	comp=Z,129nm,21.8s,baz=195,slow=31								
MAW	**Mawson**	**91.01**	**157**	LR		LR		15 23 25.5	
	comp=Z,222nm,20.9s,baz=324,slow=30								
YBH	**Yreka Blue Hor**	**93.19**	**312**	LR		LR		15 29 07.4	
	comp=Z,263nm,21.0s,baz=96,slow=33								
BVAR	**Borovoye Array**	**94.17**	**37**	P		**P**		**14 51 21.7**	**+2.5**
	comp=Z,0.2nm,0.4s,baz=323,slow=3.6,SNR=1.9								
BVAR				LR		LR		15 33 38.6	
	comp=Z,201nm,20.6s,baz=271,slow=35								
	comp=Z,0.2nm,0.4s								
INK	**Inuvik**	**95.02**	**339**	LR		LR		15 30 31.5	
	comp=Z,222nm,21.7s,baz=182,slow=33								
BBB	**Bella Bella**	**95.71**	**323**	LR		LR		15 30 18.0	
	comp=Z,309nm,21.4s,baz=66,slow=33								
DLBC	**Dease Lake**	**95.72**	**329**	LR		LR		15 31 51.0	
	comp=Z,194nm,19.4s,baz=122,slow=34								
AAK	**Ala-Archa**	**98.36**	**47**	LR		LR		15 39 14.2	
	comp=Z,219nm,20.8s,baz=264,slow=37								
KURBB	**Kurchatov Arra**	**99.56**	**38**	PP		**PP**		**14 55 50.0**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=288,slow=7.4,SNR=2.1								
KURBB				LR		LR		15 40 18.6	
	comp=Z,138nm,19.6s,baz=171,slow=38								
TAOE	**Nuku Hiva Isla**	**112.33**	**261**	*e*LR		LR		15 29 58.6	
	comp=Z,424nm,26.9s								
SONM	**Songino Array**	**117.22**	**33**	PKP		**PKPdf**		**14 56 45.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=29,slow=43,SNR=2.3								
TBI	**Tubuai**	**119.34**	**244**	*e*LR		LR		15 33 20.7	
	comp=Z,2μm,31.8s								
TBI				*e*LR		LR		15 33 28.5	
	comp=Z,856nm,35.5s								
PPT2	**Papeete2**	**120.57**	**250**	*e*SS		SS		15 14 29.7	-21
	comp=Z,147nm,30.2s								
PPT2	**Papeete2**	**120.57**	**250**	*e*LR		LR		15 33 41.2	
	comp=Z,566nm,25.2s								
PPT2				*e*LR		LR		15 33 50.8	
	comp=Z,386nm,25.5s								
BTO	**Baotou**	**123.59**	**38**	*e*PKP		**PKiKP**		**14 56 59.3**	**+0.6**
BTO				sPKP				14 57 13.1	
CMAR	**Chiang Mai Arr**	**124.15**	**67**	PKP		**PKiKP**		**14 57 00.8**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=271,slow=4.4,SNR=2.1								
PZH	**PanZhiHua**	**124.21**	**57**	PKP		**PKPdf**		**14 56 59.3**	**-0.8**
HHC	**Hu-ho-hao-te**	**124.38**	**37**	*e*P		**PKPdf**		**14 56 55.8**	**-4.2**
NJ2	**Nanjing**	**134.45**	**41**	*e*P		**PKPdf**		**14 57 17.8**	**-1.4**
NJ2				pmax		pmax			
	comp=Z,11nm,0.5s								
BBOO	**Buckleboo**	**144.74**	**156**	PKPdf		**PKPab**		**14 57 36.1**	**-0.5**
STKA	**Stephens Creek**	**147.54**	**163**	PKPdf		**PKPdf**		**14 57 39.0**	**-3.7**
STKA	**Stephens Creek**	**147.54**	**163**	PKPbc		**PKPbc**		**14 57 45.5**	**+0.3**
	comp=Z,2.2nm,1.0s,baz=166,slow=4.2,SNR=3.5								
ASAR	**Alice Springs**	**151.15**	**143**	PKPbc		**PKPbc**		**14 57 54.9**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=209,slow=1.8,SNR=17								
AS31	**Alice Springs**	**151.15**	**143**	PKPbc		**PKiKP**		**14 57 55.0**	**-0.1**
WRA	**Warramunga Arr**	**154.14**	**138**	PKPbc		**PKPbc**		**14 58 00.3**	**-1.0**
	comp=Z,1.0nm,1.0s,baz=247,slow=1.7,SNR=4.6								
DZM	**Mont Dzumac**	**154.84**	**212**	*e*LR		LR		15 49 55.4	
	comp=Z,368nm,21.9s								

TEH ***16*** *15:19:39.2, 31.83N×48.77E, h11km±42km, ML3.4*
IDC ***16*** *15:19:40.3±8.0, 32.21N×48.09E, h0km, mb4.0/5, mbtmp4.0/5, MS4.0/4, Error ellipse: s-maj=192.3km s-min=37.9km az=120.0*

ISC 16 15:19:38.9±0.9, 31.78N±0.07×48.72E±0.06, h10km, n32, σ1§51/27, mb3.9/5, MS4.0/4, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.45**	**188**	Pg	**Pb**	**15 19 49.9**	**+1.0**
AMIS	**Naft Sefid**	**0.50**	**103**	Pg	**Pg**	**15 19 48.3**	**-0.3**
JHBN	**Jahan bin**	**1.72**	**74**	Pg	**Pn**	**15 20 09.7**	**+0.5**
ZNGN	**Zangian**	**1.85**	**79**	Pg	**Pn**	**15 20 12.4**	**+1.4**
IKFM	**Kafar-mosalman**	**1.89**	**337**	Pn	**Pn**	**15 20 13.0**	**+1.7**
IPIR	**Pirpir**	**2.05**	**63**	Pn	**Pn**	**15 20 15.7**	**+1.9**
IBRJ	**Brojen**	**2.17**	**86**	Pn	**Pn**	**15 20 16.9**	**+1.5**
KLNJ	**Kolanjah**	**2.58**	**107**	Pn	**Pn**	**15 20 22.5**	**+1.5**
IKOM	**Komasi**	**2.59**	**337**	Pn	**Pn**	**15 20 23.1**	**+1.9**
ILBA	**Ilam Banvizeh**	**2.80**	**312**	Pn	**Pn**	**15 20 25.2**	**+1.3**
IKLH	**Kolahrood**	**2.86**	**57**	Pn	**Pn**	**15 20 26.6**	**+1.7**
IGAR	**Gharneh**	**2.89**	**77**	Pn	**Pn**	**15 20 27.1**	**+1.9**
QAMS	**Qamsar**	**2.98**	**48**	Pn	**Pn**	**15 20 28.0**	**+1.5**
HAGD	**Aghdareh**	**3.06**	**7**	Pn	**Pn**	**15 20 29.1**	**+1.6**
IRAM	**Ramesheh**	**3.12**	**88**	Pn	**Pn**	**15 20 29.8**	**+1.4**
IZEF	**Zefreh**	**3.25**	**69**	Pn	**Pn**	**15 20 31.8**	**+1.5**
IQOM	**Qom**	**3.63**	**32**	Pn	**Pn**	**15 20 37.4**	**+1.8**
IRAZ	**Razeghan**	**3.75**	**15**	Pn	**Pn**	**15 20 38.7**	**+1.6**
ISFB	**Sefidab**	**3.92**	**48**	Pn	**Pn**	**15 20 40.0**	**+0.8**
IVRN	**Varamin**	**4.08**	**37**	Pn	**Pn**	**15 20 42.8**	**+1.4**
ISAD	**Sadrabad**	**4.23**	**87**	Pn	**Pn**	**15 20 44.6**	**+0.9**
ANAR	**Anarak**	**4.46**	**70**	Pn	**Pn**	**15 20 47.9**	**+1.1**
KLST	**Kelardasht - M**	**5.11**	**22**	Pn	**Pn**	**15 20 57.1**	**+1.3**
MZPU	**Pul - Mazandar**	**5.22**	**26**	Pn	**Pn**	**15 20 58.7**	**+1.5**
FINES	**FINESS Array B**	**33.14**	**340**	P	P	15 26 12.6	-2.5
	1.8nm,0.9s,baz=148,slow=8.1,SNR=4.6						
	1.8nm,0.9s						
HFS	**Hagfors**	**36.60**	**331**	P	P	15 26 42.6	-2.4
	2.1nm,1.0s,baz=134,slow=10,SNR=1.3						
	2.1nm,1.0s						
ARCES	**ARCESS Array B**	**40.01**	**348**	P	**P**	**15 27 11.8**	**-1.8**
	1.5nm,0.9s,baz=165,slow=7.3,SNR=1.6						
	1.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**46.84**	**258**	P	**P**	**15 28 08.7**	**-0.6**
	0.5nm,0.5s,baz=62,slow=7.6,SNR=4.3						
TORD				LR	LR	15 48 12.5	
	comp=Z,100nm,18.1s,baz=156,slow=37						
	0.5nm,0.5s						
SPITS	**Spitsbergen Ar**	**48.61**	**352**	P	**P**	**15 28 21.3**	**-1.0**
	5.0nm,0.8s,baz=128,slow=11,SNR=6.7						
	5.0nm,0.8s						
DBIC	**Dimbokro**	**55.75**	**255**	LR	LR	15 56 25.9	
	comp=Z,55nm,18.8s,baz=129,slow=40						
TGY	**Tagaytay City**	**67.72**	**87**	LR	LR	16 04 11.1	
	comp=Z,290nm,18.3s,baz=98,slow=39						
JCJ	**Chichijima**	**78.96**	**65**	LR	LR	16 11 28.6	
	comp=Z,116nm,21.5s,baz=146,slow=39						

IDC 16 15:55:11.6±2.8, 8.89S×162.17E, h0km, mb3.7/4, mbtmp3.7/4, ML5.6/1, Error ellipse: s-maj=68.4km s-min=32.7km az=132.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.26**	**256**	Pn	Pn	15 55 51.5	+1.2
	2μm,0.3s,baz=179,slow=1.2,SNR=76						
HNR				Sn	Sn	15 56 18.0	-0.9
	2μm,0.3s,baz=40,slow=20,SNR=9.9						

H11S2	**WAKE ISLAND Hy**	**27.57**	**9**	T		T		16 30 02.9	
	baz=194,slow=76,SNR=8.6								
H11S3	**WAKE ISLAND Hy**	**27.57**	**9**	T		T		16 29 57.1	
	baz=194,slow=76,SNR=5.4								
H11S1	**WAKE ISLAND Hy**	**27.59**	**9**	T		T		16 29 44.8	
	baz=194,slow=76,SNR=3.7								
H11N1	**WAKE ISLAND Hy**	**28.80**	**9**	T		T		16 31 24.6	
	baz=192,slow=76,SNR=9.0								
H11N3	**WAKE ISLAND Hy**	**28.81**	**9**	T		T		16 31 25.3	
	baz=192,slow=76,SNR=8.7								
H11N2	**WAKE ISLAND Hy**	**28.82**	**9**	T		T		16 31 27.9	
	baz=192,slow=76,SNR=15								
WRA	**Warramunga Arr**	**29.06**	**245**	P		P		16 01 13.5	-0.5
	1.2nm,0.5s,baz=72,slow=8.8,SNR=21								
	1.2nm,0.5s								
ASAR	**Alice Springs**	**30.77**	**238**	P		P		16 01 28.9	-0.3
	0.6nm,0.7s,baz=63,slow=10,SNR=16								
	0.6nm,0.7s								
CMAR	**Chiang Mai Arr**	**68.03**	**294**	P		P		16 06 14.7	+1.3
	0.3nm,0.5s,baz=128,slow=5.8,SNR=4.5								
	0.3nm,0.5s								
SONM	**Songino Array**	**74.87**	**325**	P		P		16 06 53.4	-1.0
	0.2nm,0.3s,baz=116,slow=6.7,SNR=2.1								
	0.2nm,0.3s								

DNK ***16*** *16:09:52.9±1.4, 82.27N×5.89W, h37km±28km, ML1.5*
BER 16 16:09:51.7±2.4, 82.16N×5.44W, h10km, mb(Pn)3.0, ML1.5(DNK), **Confirmed Earthquake, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**1.69**	**256**	*e*P	Pn	16 10 19.6	-1.6
NOR				*e*S	Sn	16 10 38.8	-4.0
NOR				IAML		16 10 41.2	
	comp=Z,5.1nm,0.4s						
NOR	**Nord**	**1.69**	**256**	*i* P	Pn	16 10 19.0	-2.2
NOR				*i* S	Sn	16 10 38.4	-4.5
NOR				IAML		16 10 41.2	
	comp=Z,5.1nm,0.4s						
KBS	**Kingsbay**	**4.31**	**130**	*e*P	Pn	16 10 56.2	-0.9
KBS				IAML		16 11 48.2	
	comp=Z,2.0nm,1.4s						
KBS	**Kingsbay**	**4.31**	**130**	*e*P	Pn	16 10 55.9	-1.2
KBS				*e*P	Pb	16 10 56.2	-11
KBS				*e*S	Sn	16 11 35.4	-12
BRBB	**Barentsburg B**	**5.26**	**130**	*e*P	Pn	16 11 08.1	-2.1
BRBB				*e*S	Sn	16 12 04.0	-6.7
SPA0	**Spitsbergen Ar**	**5.42**	**126**	*e*P	Pn	16 11 11.6	-0.8
SPA0				*e*S	Sn	16 12 08.2	-6.4
SPA0				IAML		16 12 12.7	
	comp=Z,1.8nm,1.0s						
SPA0	**Spitsbergen Ar**	**5.42**	**126**	*e*P	Pn	16 11 11.6	-0.8
DAG	**Danmarks Havn**	**5.91**	**211**	*e*P	Pn	16 11 18.7	-0.3
DAG				*e*S	Sn	16 12 19.7	-6.9
DAG	**Danmarks Havn**	**5.91**	**211**	*e*P	Pn	16 11 18.7	-0.3
DAG				*e*S	Sn	16 12 19.7	-6.9
HSPB	**Hornsund (broa**	**6.36**	**133**	*e*P	Pn	16 11 20.9	-4.4

IDC ***16*** *16:13:54.0±3.5, 23.19N×143.86E, h72km±29km, mb3.8/13, mbtmp4.1/16, Error ellipse: s-maj=40.3km s-min=15.8km az=81.0*
NEIC ***16*** *16:13:59.2±2.2, 23.21N±0.09×143.7E±0.2, h120km±7km, mb4.2/14, Error ellipse: s-maj=30.5km s-min=12.3km az=86.0*
JMA ***16*** *16:14:03.0±0.2, 23°N±1′×14°3E±°, h174km, MV4.6/20, IOTO ISLANDS REGION*

ISC 16 16:13:57.1±0.9, 23.25N±0.08×143.7E±0.2, h100km, n42, σ1§48/44, mb4.2/20, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**3.64**	**338**	*e*P	**Pn**	**16 14 53.9**	**+2.4**
JHH2				*e*S	**Sn**	**16 15 34.5**	**+0.9**
CBIJ	**Chichi jima**	**4.07**	**341**	P	**Pn**	**16 14 59.4**	**+2.1**
CBIJ				S	**Sn**	**16 15 43.5**	**-0.4**
JCJ	**Chichijima**	**4.07**	**341**	Pn	**Pn**	**16 14 59.6**	**+2.3**
JCJ	**Chichijima**	**4.07**	**341**	P	**Pn**	**16 14 55.4**	**-1.9**
	64nm,0.4s,baz=327,slow=22,SNR=39						
JCJ				S	**Sn**	**16 15 39.1**	**-4.8**
	232nm,0.4s,baz=271,slow=23,SNR=20						
JOD2	**Odawara 2**	**12.63**	**343**	*e*P	Pn	16 16 50.2	-2.9
JHU	**Hanno**	**13.13**	**344**	*e*P	**Pn**	**16 16 57.6**	**-2.1**
JRY	**Ryogami san**	**13.39**	**343**	*e*P	**Pn**	**16 17 01.4**	**-1.7**
JHO	**Hitachi**	**13.59**	**349**	P	**Pn**	**16 17 05.6**	**-0.1**
JAG	**Ashikaga**	**13.64**	**345**	*e*S	Sn	16 19 27.7	-8.7
MJAR	**Matsushiro Arr**	**14.07**	**342**	P	**Pn**	**16 17 11.2**	**-0.8**
	1.2nm,0.8s,baz=157,slow=10,SNR=6.3						
MJAR				S	**Sn**	**16 19 45.8**	**-1.2**
	0.9nm,0.5s,baz=2.8,slow=28,SNR=2.2						
JMM	**Marumori**	**14.78**	**351**	Pn	**Pn**	**16 17 21.4**	**+0.4**
KSRS	**Korea Array**	**19.60**	**320**	P	**P**	**16 18 19.6**	**+2.2**
	3.5nm,0.7s,baz=135,slow=12,SNR=11						
KS19	**Wonju Array Si**	**19.67**	**320**	P	**P**	**16 18 19.1**	**+1.0**
MTN	**Manton Dam**	**37.92**	**200**	P	**P**	**16 21 02.7**	**-2.2**
SONM	**Songino Array**	**38.47**	**319**	P	**P**	**16 21 09.4**	**0.0**
SONM				IAmb	IAmb	16 21 18.1	
	comp=Z,3.4nm,1.5s						
SONM	**Songino Array**	**38.47**	**319**	P	**P**	**16 21 10.0**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=150,slow=9.1,SNR=2.1						
	comp=Z,0.2nm,0.5s						
WB0	**Warramunga Arr**	**43.70**	**193**	P	**P**	**16 21 52.2**	**-0.2**
WB0				IAmb	IAmb	16 22 17.1	
	comp=Z,3.3nm,1.1s						
WR0	**Warramunga Arr**	**43.86**	**192**	P	**P**	**16 21 51.4**	**-2.3**
WR0				IAmb	IAmb	16 21 52.4	
	comp=Z,6.0nm,1.3s						
WRAB	**Tennant Creek**	**43.88**	**193**	P	**P**	**16 21 53.7**	**-0.1**
WRAB				IAmb	IAmb	16 21 59.3	
	comp=Z,4.5nm,1.1s						
WB2	**Warramunga Arr**	**43.88**	**193**	P	**P**	**16 21 53.7**	**-0.2**
WB2				IAmb	IAmb	16 22 23.1	
	comp=Z,7.3nm,1.1s						
WRA	**Warramunga Arr**	**43.89**	**193**	P	**P**	**16 21 51.6**	**-2.3**
WRA	**Warramunga Arr**	**43.89**	**193**	P	**P**	**16 21 53.2**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=17,slow=9.2,SNR=30						
	comp=Z,1.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**44.72**	**205**	P	**P**	**16 21 58.7**	**-1.9**
AS31	**Alice Springs**	**47.59**	**192**	P	**P**	**16 22 22.7**	**-0.3**
ASAR	**Alice Springs**	**47.59**	**192**	P	**P**	**16 22 23.0**	**0.0**
ASAR	**Alice Springs**	**47.59**	**192**	P	**P**	**16 22 22.4**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=14,slow=6.6,SNR=9.1						
	comp=Z,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**53.30**	**321**	P	**P**	**16 23 05.5**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=115,slow=7.4,SNR=6.1						
	comp=Z,0.8nm,0.3s						
MKAR	**Makanchi Array**	**54.01**	**312**	P	**P**	**16 23 11.3**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=85,slow=9.5,SNR=29						
	comp=Z,1.8nm,0.4s						
KURK	**Kurchatov**	**56.68**	**316**	P	**P**	**16 23 29.1**	**-0.9**
KURBB	**Kurchatov Arra**	**56.73**	**316**	P	**P**	**16 23 30.8**	**+0.4**
	comp=Z,6.7nm,0.7s,baz=94,slow=7.7,SNR=53						
	comp=Z,6.7nm,0.7s						
IMAR	**Indan Mountai**	**57.89**	**25**	P	**P**	**16 23 38.0**	**-0.3**
BVAR	**Borovoye Array**	**61.81**	**319**	P	**P**	**16 24 06.4**	**+1.0**
	comp=Z,4.6nm,0.4s,baz=90,slow=7.2,SNR=36						
	comp=Z,4.6nm,0.4s						
BRVK	**Borovoye**	**61.88**	**319**	P	**P**	**16 24 06.4**	**+0.6**
BRVK				IAmb	IAmb	16 24 07.6	
	comp=Z,5.3nm,1.1s						
KKAR	**Karatay Array**	**62.48**	**308**	P	**P**	**16 24 09.1**	**-0.9**
ARU	**Arti**	**68.31**	**323**	P	**P**	**16 24 47.8**	**+0.4**
ARU				IAmb	IAmb	16 24 48.9	
	comp=Z,2.8nm,0.7s						
ABKAR	**Akbulak array**	**68.77**	**316**	P	**P**	**16 24 49.8**	**-0.6**
ABKAR				IAmb	IAmb	16 24 51.4	
	comp=Z,2.5nm,0.7s						
YKA	**Yellowknife Ar**	**74.87**	**28**	P	**P**	**16 25 25.8**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=277,slow=4.9,SNR=3.9						
	comp=Z,0.2nm,0.7s						
ARCES	**ARCESS Array B**	**77.61**	**341**	P	**P**	**16 25 44.0**	**+1.9**
	comp=Z,1.9nm,0.8s,baz=58,slow=8.6,SNR=5.1						
	comp=Z,1.9nm,0.8s						
KBZ	**Khabaz**	**81.64**	**314**	P	**P**	**16 26 05.4**	**+1.1**
	comp=Z,2.1nm,0.8s,baz=134,slow=6.0,SNR=6.3						
	comp=Z,2.1nm,0.8s						
FINES	**FINESS Array B**	**81.99**	**335**	P	**P**	**16 26 07.2**	**+1.4**
	comp=Z,1.4nm,0.5s,baz=68,slow=5.4,SNR=24						
	comp=Z,1.4nm,0.5s						
HFS	**Hagfors**	**87.49**	**337**	P	**P**	**16 26 33.9**	**+0.5**
	comp=Z,6.3nm,1.2s,baz=106,slow=4.8,SNR=6.3						
	comp=Z,6.3nm,1.2s						
NOA	**NORSAR Array B**	**87.68**	**339**	P	**P**	**16 26 34.6**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=49,slow=4.5,SNR=2.0						
	comp=Z,0.3nm,0.6s						

IDC ***16*** *16:15:06.4±0.8, 58.99S×150.68W, h0km, mb4.1/6, mbtmp4.1/6, MS4.6/37, Error ellipse: s-maj=46.4km s-min=24.6km az=6.0*
NEIC ***16*** *16:15:09.0±2.7, 59.6S±0.1×151.2W±0.2, h10km±1km, mb4.5/21, Error ellipse: s-maj=28.3km s-min=5.0km az=37.0*
GCMT ***16*** *16:15:14.0±0.2, 59.62S±0.01×151.04W±0.02, h15km±1km, MW5.2/117, Moment Tensor Solution. s72,c96; s117,c178; Duration: 1§0 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.08±.01; $M_{\theta\theta}$=0.72±.02; $M_{\phi\phi}$=-0.64±.01; $M_{r\theta}$=-0.04±.04; $M_{r\phi}$=0.31±.01; $M_{\theta\phi}$=-0.03±.04; Best double couple: M_0=0.74800×10^{17} NP1:ϕ_s=213.00000°, δ89.00000°, λ176.00000°. NP2:ϕ_s=303.00000°, δ86.00000°, λ1.00000°. Principal axes: T 0.7880, Plg3.0000°, Azm168.0000°; N -0.0800, Plg86.0000°, Azm18.0000°; P -0.7080, Plg2.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 16:15:08.8±0.5, 59.7S±0.1×151.13W±0.10, h10km, n84, σ1§53/35, mb4.5/17, MS4.6/37, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTZ	**Chatham Island**	**22.26**	**305**	P	**P**	**16 20 07.9**	**+2.3**
CTZ				IAmb	IAmb	16 20 09.6	
	comp=Z,20nm,1.1s						
SBA	**Scott Base**	**22.75**	**202**	P	**P**	**16 20 13.1**	**+2.5**
VNDA	**Vanda**	**23.56**	**203**	P	**P**	**16 20 18.1**	**-0.8**
VNDA	**Vanda**	**23.56**	**203**	P	P	16 20 26.7	+7.8
	comp=Z,1.2nm,1.0s,baz=70,slow=12,SNR=2.5						
	comp=Z,1.2nm,1.0s						
RPZ	**Rata Peaks**	**27.88**	**288**	LR	LR	16 29 33.7	
	comp=Z,868nm,20.0s,baz=132,slow=31						
LTZ	**Lake Taylor**	**28.00**	**291**	P	**P**	**16 21 00.5**	**+0.9**
URZ	**Urewera**	**29.45**	**303**	LR	LR	16 29 25.3	
	comp=Z,714nm,21.1s,baz=219,slow=29						
QSPA	**South Pole Qui**	**30.41**	**180**	P	**P**	**16 21 23.6**	**+2.7**
QSPA				IAmb	IAmb	16 21 26.0	
	comp=Z,11nm,1.0s						
QSPA	**South Pole Qui**	**30.41**	**180**	LR	LR	16 31 23.8	
	comp=Z,1μm,17.5s,baz=60,slow=31						
RAO	**Raoul Island**	**35.47**	**317**	LR	LR	16 32 58.9	
	comp=Z,378nm,21.4s,baz=158,slow=31						
TBI	**Tubuai**	**36.37**	**3**	*e*S	S	16 28 01.5	+7.7
	comp=Z,1μm,35.5s						
TBI				*e*LR	LR	16 31 44.4	
	comp=Z,2μm,27.2s						
TBI				*e*LR	LR	16 32 09.5	
	comp=Z,4μm,22.5s						
TBI	**Tubuai**	**36.37**	**3**	*e*T	T	17 00 23.7	
	comp=Z,60nm,0.4s						
BELA	**Belgrano 2**	**37.36**	**162**	P	**P**	**16 22 22.1**	**+1.2**
BELA				IAmb	IAmb	16 22 25.3	
	comp=Z,8.5nm,0.9s						
PMSA	**Palmer Station**	**37.81**	**136**	P	**P**	**16 22 24.0**	**-0.8**
PMSA	**Palmer Station**	**37.81**	**136**	LR	LR	16 35 45.6	
	comp=Z,547nm,18.2s,baz=240,slow=32						
RAR	**Rarotonga**	**38.96**	**347**	LR	LR	16 34 42.4	
	comp=Z,897nm,18.5s,baz=166,slow=31						
TVO	**Taravao**	**41.91**	**3**	*e*T	T	17 07 24.6	
	comp=Z,2.6nm,0.4s						
PPT2	**Papeete2**	**42.09**	**2**	*e*S	**S**	**16 29 24.4**	**+4.2**
	comp=Z,231nm,26.0s						
PPT2				*e*LR	LR	16 34 25.6	
	comp=Z,2μm,27.0s						
PPT2				*e*LR	LR	16 34 44.8	
	comp=Z,2μm,22.5s						
PPT	**Papeete**	**42.11**	**2**	LR	LR	16 35 29.4	
	comp=Z,928nm,19.7s,baz=186,slow=30						
RPN	**Rapa Nui**	**43.31**	**60**	LR	LR	16 36 46.5	
	comp=Z,980nm,21.4s,baz=206,slow=30						
VAH	**Vaihoa**	**44.49**	**5**	*e*T

MTN	**Manton Dam**	**72.82**	**274**	P		**P**		**16 26 36.1**	**-1.4**
ATAH	**Atahualpa**	**75.19**	**79**	LR		LR		16 52 27.3	
	comp=Z,674nm,19.4s,baz=222,slow=30								
SIV	**San Ignacio**	**76.38**	**98**	LR		LR		16 54 27.4	
	comp=Z,262nm,21.1s,baz=270,slow=31								
SAML	**Samuel**	**81.31**	**93**	P		**P**		**16 27 25.9**	**+0.6**
SAML				IAmb		IAmb		16 27 36.9	
	comp=Z,2.0nm,0.9s								
BDFB	**Brasilia**	**83.10**	**109**	LR		LR		17 00 37.0	
	comp=Z,377nm,20.3s,baz=191,slow=33								
KAPI	**Kappang**	**85.26**	**268**	LR		LR		17 03 39.5	
	comp=Z,395nm,20.1s,baz=147,slow=34								
JTS	**Las Juntas de**	**87.23**	**64**	LR		LR		16 58 29.8	
	comp=Z,397nm,18.2s,baz=210,slow=30								
ROSC	**El Rosal**	**87.54**	**76**	LR		LR		16 59 27.7	
	comp=Z,357nm,21.0s,baz=246,slow=30								
SUR	**Sutherland**	**88.00**	**173**	LR		LR		17 03 38.9	
	comp=Z,358nm,19.8s,baz=173,slow=33								
CMIG	**Matias Romero**	**89.00**	**53**	LR		LR		17 00 14.7	
	comp=Z,99nm,18.7s,baz=220,slow=31								
LEM	**Lembang**	**89.79**	**257**	LR		LR		17 02 50.1	
	comp=Z,187nm,20.5s,baz=172,slow=32								
LPIG	**La Paz**	**89.98**	**37**	LR		LR		16 59 47.8	
	comp=Z,208nm,19.3s,baz=208,slow=30								
BOSA	**Boshof**	**91.94**	**177**	LR		LR		17 05 03.1	
	comp=Z,842nm,21.5s,baz=178,slow=32								
DAV	**Davao City (W)**	**92.67**	**279**	LR		LR		17 11 51.0	
	comp=Z,112nm,18.1s,baz=135,slow=37								
SDV	**Santo Domingo**	**92.85**	**77**	LR		LR		17 03 14.6	
	comp=Z,277nm,21.6s,baz=199,slow=31								
TEIG	**Tepich**	**94.54**	**57**	LR		LR		17 02 49.8	
	comp=Z,1μm,21.5s,baz=358,slow=30								
LBTB	**Lobatse**	**95.53**	**177**	LR		LR		17 07 21.5	
	comp=Z,795nm,21.2s,baz=179,slow=33								
PCRV	**Puerto La Cruz**	**96.94**	**82**	LR		LR		17 07 20.3	
	comp=Z,516nm,18.5s,slow=32								
ILAR	**Eielson Array**	**124.22**	**2**	PKP		**PKPdf**		**16 34 05.6**	**-0.4**
	comp=Z,1.4nm,1.1s,baz=198,slow=2.7,SNR=4.8								
YKA	**Yellowknife Ar**	**125.06**	**20**	PKP		**PKPdf**		**16 34 06.3**	**-1.4**
	comp=Z,0.2nm,0.8s,baz=157,slow=2.0,SNR=1.9								
MKAR	**Makanchi Array**	**146.50**	**272**	PKPbc		**PKPdf**		**16 34 48.1**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=122,slow=2.6,SNR=8.2								
ZALV	**Zalesovo Beam**	**149.66**	**284**	PKPbc		**PKPbc**		**16 34 56.8**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=260,slow=2.5,SNR=1.7								
KURBB	**Kurchatov Arra**	**150.87**	**274**	PKPbc		**PKPbc**		**16 34 58.9**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=114,slow=1.9,SNR=7.4								
ESDC	**Sonseca Array**	**151.26**	**120**	PKPbc		**PKPbc**		**16 35 00.1**	**-1.5**
	comp=Z,1.2nm,0.9s,baz=224,slow=3.5,SNR=4.3								

*SNET **16** 16:29:24.4±0.9, 12°.55N×87°.18W, h134^{km}±5^{km}, ML3.5*
*CATAC **16** 16:29:25.6±0.4, 12°.58N×87°.13W, h127^{km}±3^{km}, ML3.5*

ISC 16 16:29:26.2±1.5, **12°.63N**±0°.06×**87°.15W**±0°.05, **h130**^{km}±9^{km}, **n43,σ1^{s}00/50, 1C, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.12**	**54**	⇑*eP*	**Pn**	**16 29 43.4**	**-0.6**
CRIN				*eS*	**Sn**	**16 29 57.5**	**+0.1**
CRIN				IAML		16 30 07.0	
	comp=Z,2μm,0.5s						
CRIN	**San Cristobal**	**0.12**	**54**	*i* S	**Sn**	**16 29 59.3**	**+1.9**
QUEN	**Al S del Volca**	**0.29**	**97**	*i* S	**Sn**	**16 29 59.7**	**+1.6**
ROCN	**Rota Cerro Neg**	**0.41**	**105**	*i* S	**Sn**	**16 29 59.9**	**+1.0**
CNGA	**Al SSO del Vol**	**0.46**	**107**	*i* S	**Sn**	**16 29 59.5**	**+0.1**
CNGN	**Cerro Negro**	**0.46**	**106**	*eP*	**Pn**	**16 29 43.7**	**-1.4**
CNGN	**Cerro Negro**	**0.46**	**106**	*i* S	**Sn**	**16 29 59.5**	**+0.1**
POTN	**Potosi Cosigui**	**0.51**	**317**	*i* S	**Sn**	**16 30 00.7**	**+0.9**
CSGN	**Cosiguina Volc**	**0.53**	**311**	*i* P	**Pn**	**16 29 45.2**	**-0.4**
CSGN				IAML		16 29 46.6	
	comp=Z,5μm,1.0s						
MOMN	**Momotombo**	**0.63**	**110**	*i* S	**Sn**	**16 30 00.8**	**-0.5**
MOM2	**El Cardon**	**0.68**	**106**	*i* S	**Sn**	**16 30 01.8**	**+0.1**
AMPH	**Amapala**	**0.82**	**323**	*i* S	**Sn**	**16 30 05.0**	**+1.3**
LIMN	**Finca el Limon**	**0.88**	**60**	*i* S	**Sn**	**16 30 05.3**	**+0.6**
CNCH	**Conchagua**	**0.93**	**314**	*eP*	**Pn**	**16 29 47.8**	**-0.8**
CNCH				*eS*	**Sn**	**16 30 06.7**	**+1.1**
CNCH	**Conchagua**	**0.93**	**314**	*i* S	**Sn**	**16 30 04.9**	**-0.7**
YUSH	**Yuscaran**	**1.35**	**13**	*i* P	**Pn**	**16 29 52.2**	**-0.6**
VSM	**San Miguel**	**1.35**	**306**	*eP*	**Pn**	**16 29 52.7**	**-0.3**
RCPN	**Sur Rio San Ju**	**1.36**	**49**	*i* P	**Pn**	**16 29 51.0**	**-1.9**
RCPN				IAML		16 29 51.8	
	comp=Z,4.3nm,1.0s						
RANC	**El Ranchito**	**1.37**	**306**	*eP*	**Pn**	**16 29 52.5**	**-0.6**
RANC				*eS*	**Sn**	**16 30 14.4**	**+1.0**
RANC				IAML		16 30 19.1	
	comp=Z,307nm,0.2s						
PACA	**Pacayal**	**1.42**	**306**	*eP*	**Pn**	**16 29 53.1**	**-0.4**
PACA				*eS*	**Sn**	**16 30 15.3**	**+1.0**
PACA				IAML		16 30 21.0	
	comp=Z,2μm,0.4s						
PACA	**Pacayal**	**1.42**	**306**	*i* S	**Sn**	**16 30 15.7**	**+1.4**
TGUH	**Tegucigalpa,Un**	**1.42**	**355**	*eP*	**Pn**	**16 29 53.2**	**-0.4**
TGUH	**Tegucigalpa,Un**	**1.42**	**355**	*i* S	**Sn**	**16 30 16.0**	**+1.5**
TECA	**Tecapa**	**1.57**	**303**	*eP*	**Pn**	**16 29 55.0**	**-0.4**
PQSS	**Presa 15 de Se**	**1.69**	**306**	*eP*	**Pn**	**16 29 56.0**	**-0.6**
PQSS	**Presa 15 de Se**	**1.69**	**306**	*i* S	**Sn**	**16 30 19.8**	**+0.1**
TECO	**Alcaldia de Te**	**1.83**	**300**	*eP*	**Pn**	**16 29 56.9**	**-1.3**
TECO				*eS*	**Sn**	**16 30 22.4**	**-0.2**
COMHN	**El Horno**	**1.85**	**348**	*i* P	**Pn**	**16 29 57.7**	**-0.9**
SCLA	**Alcaldia de Sa**	**1.87**	**305**	*eP*	**Pn**	**16 29 58.2**	**-0.5**
COEG	**Centro de Oper**	**1.95**	**300**	*eP*	**Pn**	**16 29 58.8**	**-1.0**
COEG				IAML		16 30 33.3	
	comp=Z,155nm,0.3s						
SJTE	**Alcalda de S**	**2.06**	**299**	*eP*	**Pn**	**16 30 00.1**	**-0.9**
SJTE				IAML		16 30 29.6	
	comp=Z,75nm,0.4s						
LFRS	**El Faro**	**2.11**	**298**	*eP*	**Pn**	**16 30 00.8**	**-0.8**
LFRS				*eS*	**Sn**	**16 30 29.4**	**+0.6**
LOMA	**Loma Larga**	**2.21**	**297**	*eP*	**Pn**	**16 30 02.6**	**-0.3**
JUTH	**Juticalpa Olan**	**2.22**	**24**	*i* P	**Pn**	**16 30 02.3**	**-0.7**
PMON	**Piamonte**	**2.37**	**297**	*eP*	**Pn**	**16 30 04.5**	**-0.3**
PMON				*eS*	**Sn**	**16 30 34.2**	**-0.3**
HZTE	**Horizontes, Gu**	**2.44**	**141**	*i* P	**Pn**	**16 30 05.9**	**+0.2**
HZTE				IAML		16 30 36.1	
	comp=Z,180nm,1.0s						
JAYA	**Jayaque - finc**	**2.46**	**295**	*eP*	**Pn**	**16 30 04.9**	**-1.2**
YORHN	**Yoro**	**2.48**	**1**	*i* P	**Pn**	**16 30 06.2**	**0.0**
ORTG	**Ortega, Santa**	**2.80**	**144**	*i* P	**Pn**	**16 30 08.5**	**-1.8**
ORTG				IAML		16 30 41.5	
	comp=Z,80nm,1.0s						
NUBE	**Las Nubes**	**2.86**	**297**	*i* S	**Sn**	**16 30 46.6**	**+0.8**
JACO	**JACO, Garabito**	**3.83**	**140**	*i* P	**Pn**	**16 30 22.8**	**-0.9**
JACO				IAML		16 31 06.9	
	comp=Z,48nm,1.0s						
LCR2	**La Lucha 2**	**4.21**	**133**	*i* P	**Pn**	**16 30 31.6**	**+2.6**
SRBA	**San Rafael, Bu**	**5.02**	**132**	*i* P	**Pn**	**16 30 38.9**	**-0.9**
SRBA				IAML		16 32 40.2	
	comp=Z,48nm,1.0s						

IDC 16 16:34:24.3±2.2, **58°.21S**×**151°.04W**, **h0^{km}, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=412.1km s-min=49.5km az=6.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	**Tubuai** 550nm,25.0s	**34.85**	**3**	*e*LR	LR	16 51 01.4	
TBI	**Tubuai** 20nm,0.4s	**34.85**	**3**	*e*T	T	17 19 47.9	
PPT2	**Papeete2** 113nm,22.2s	**40.57**	**2**	*e*LR	LR	16 54 03.5	
VAH	**Vaihoa** 45nm,0.3s	**42.98**	**5**	*e*T	T	17 29 55.1	
H03S2	**Juan Fernandez** baz=216,slow=74,SNR=19	**52.73**	**96**	T	T	17 40 24.2	
H03S1	**Juan Fernandez** baz=216,slow=74,SNR=18	**52.74**	**96**	T	T	17 40 25.6	
H03S3	**Juan Fernandez** baz=216,slow=74,SNR=19	**52.75**	**96**	T	T	17 40 24.4	
H03N3	**Juan Fernandez** baz=219,slow=72,SNR=22	**53.03**	**95**	T	T	17 40 44.9	
H03N2	**Juan Fernandez** baz=219,slow=72,SNR=23	**53.03**	**95**	T	T	17 40 49.7	
H03N1	**Juan Fernandez** baz=219,slow=72,SNR=16	**53.05**	**95**	T	T	17 40 48.2	
ASAR	**Alice Springs** 0.6nm,0.7s,baz=138,slow=6.5,SNR=8.4 0.6nm,0.7s	**62.37**	**269**	P	P	16 44 48.3	-0.3
H01W1	**Cape Leeuwin H** baz=144	**63.47**	**246**	T	T	17 53 46.7	
H01W2	**Cape Leeuwin H** baz=144	**63.47**	**246**	T	T	17 53 49.0	
H01W3	**Cape Leeuwin H** baz=144	**63.49**	**246**	T	T	17 53 46.0	
WRA	**Warramunga Arr** 0.2nm,0.7s,baz=148,slow=6.0,SNR=2.4 0.2nm,0.7s	**65.18**	**272**	P	P	16 45 07.4	+0.2
H10N3	**ASCENSION HYDR** baz=203,slow=75,SNR=8.6	**105.41**	**135**	T	T	18 45 43.8	
H10N1	**ASCENSION HYDR** baz=203,slow=75,SNR=9.8	**105.41**	**135**	T	T	18 45 46.2	
H10N2	**ASCENSION HYDR** baz=203,slow=75,SNR=8.4	**105.42**	**135**	T	T	18 45 45.3	
MKAR	**Makanchi Array** 0.8nm,0.7s,baz=127,slow=3.8,SNR=2.8	**146.47**	**274**	PKPbc	PKPbc	16 54 06.1	-0.2
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=101,slow=1.9,SNR=1.7	**150.77**	**277**	PKPbc	PKPbc	16 54 16.9	-0.4
ESDC	**Sonseca Array** 0.2nm,0.2s,baz=209,slow=2.4,SNR=1.8	**151.94**	**117**	PKPbc	PKPbc	16 54 20.1	-0.4

IDC 16 16:37:41.8±2.1, **58°.31S**×**150°.94W**, **h0^{km}, mb3.7/2, mbtmp3.7/2, MS3.8/5, Error ellipse: s-maj=382.3km s-min=48.1km az=6.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda** comp=Z,100nm,21.2s,baz=69,slow=29	**24.91**	**202**	LR	LR	16 49 48.0	
TBI	**Tubuai** 460nm,21.0s	**34.94**	**2**	*e*LR	LR	16 54 43.9	
TBI	**Tubuai** 27nm,0.4s	**34.94**	**2**	*e*T	T	17 22 57.1	
PPT2	**Papeete2** 159nm,29.2s	**40.67**	**2**	*e*LR	LR	16 56 58.7	
PPT2	130nm,22.5s			*e*LR	LR	16 57 18.6	
VAH	**Vaihoa** 37nm,0.2s	**43.06**	**5**	*e*T	T	17 33 04.8	
DZM	**Mont Dzumac** 94nm,23.6s	**47.34**	**301**	*e*LR	LR	17 00 04.4	
SNAA	**Sanae** comp=Z,86nm,18.0s,baz=187,slow=33	**48.41**	**167**	LR	LR	17 04 35.6	
STKA	**Stephens Creek** comp=Z,80nm,18.1s,baz=65,slow=34	**51.80**	**270**	LR	LR	17 06 35.8	
H03S2	**Juan Fernandez** baz=216,slow=74,SNR=20	**52.67**	**95**	T	T	17 43 48.1	
H03S1	**Juan Fernandez** baz=216,slow=74,SNR=26	**52.67**	**95**	T	T	17 43 49.1	
H03S3	**Juan Fernandez** baz=216,slow=74,SNR=16	**52.69**	**95**	T	T	17 44 00.6	
H03N3	**Juan Fernandez** baz=219,slow=72,SNR=22	**52.96**	**95**	T	T	17 44 08.5	
H03N2	**Juan Fernandez** baz=219,slow=72,SNR=36	**52.97**	**95**	T	T	17 44 06.9	
H03N1	**Juan Fernandez** baz=219,slow=72,SNR=17	**52.98**	**95**	T	T	17 44 12.7	
ASAR	**Alice Springs** 0.9nm,0.7s,baz=140,slow=6.0,SNR=12 0.9nm,0.7s	**62.42**	**269**	P	P	16 48 06.2	-0.3
H01W1	**Cape Leeuwin H** baz=144	**63.48**	**246**	T	T	17 56 59.4	
H01W2	**Cape Leeuwin H** baz=144	**63.49**	**246**	T	T	17 57 00.9	
H01W3	**Cape Leeuwin H** baz=144	**63.50**	**246**	T	T	17 57 01.8	
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=145,slow=6.1,SNR=5.1 0.4nm,0.7s	**65.24**	**272**	P	P	16 48 25.0	-0.1
NNA	**Nana** comp=Z,65nm,18.2s,baz=212,slow=30	**71.53**	**83**	LR	LR	17 13 14.3	
ATAH	**Atahualpa** comp=Z,79nm,18.8s,baz=237,slow=30	**74.81**	**79**	LR	LR	17 15 18.6	
H10N3	**ASCENSION HYDR** baz=203,slow=74,SNR=6.6	**105.30**	**135**	T	T	18 49 17.5	
H10N1	**ASCENSION HYDR** baz=203,slow=74,SNR=7.4	**105.31**	**135**	T	T	18 49 16.3	
H10N2	**ASCENSION HYDR** baz=203,slow=74,SNR=7.8	**105.32**	**135**	T	T	18 49 18.1	
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=126,slow=3.8,SNR=2.3	**146.54**	**274**	PKPbc	PKPbc	16 57 23.4	-0.6
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=122,slow=1.5,SNR=1.6	**150.84**	**277**	PKPbc	PKiKP	16 57 35.5	0.0
ESDC	**Sonseca Array** 0.4nm,0.9s,baz=194,slow=2.2,SNR=1.7	**151.84**	**117**	PKPbc	PKPbc	16 57 37.1	-0.6

*FUNV **16** 16:56:50.1, 9°.18N×70°.98W, h2^{km}, MW3.5*

ISC 16 16:56:49.9±1.2, **9°.18N**±0°.03×**70°.97W**±0°.02, **h19**^{km}±3^{km}, **n26,σ1^{s}56/44, 2C-3D, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.44**	**131**	⇓*iP*	**Pg**	**16 56 58.8**	**-0.3**
SDV				*eS*	**Sg**	**16 57 06.0**	**+0.7**
SOCV	**Socops**	**0.90**	**173**	⇓*eP*	**Pb**	**16 57 06.5**	**-0.4**
SOCV				*eS*	**Sb**	**16 57 18.8**	**+0.3**
CURV	**Curarigua**	**1.30**	**50**	⇑*iP*	**Pn**	**16 57 13.5**	**+0.4**
CURV				*eS*	**Sn**	**16 57 30.7**	**+0.8**
SANV	**Sanarito**	**1.45**	**77**	⇑*iP*	**Pb**	**16 57 17.3**	**+0.9**
SANV				*eS*	**Sg**	**16 57 37.2**	**+0.2**
MCQV	**Machiques**	**1.77**	**299**	*eP*	**Pb**	**16 57 21.5**	**-0.2**
MCQV				*eS*	**Sb**	**16 57 43.5**	**0.0**
SIQV	**Siquisique**	**1.86**	**38**	*eP*	**Pb**	**16 57 22.7**	**-0.5**
SIQV				*eS*	**Sb**	**16 57 46.6**	**+0.4**
CAPV	**Capacho**	**1.86**	**226**	*eP*	**Pn**	**16 57 22.2**	**+1.3**
CAPV				*eS*	**Sb**	**16 57 46.0**	**-0.4**
TEPV	**Terepaima**	**1.92**	**66**	*eP*	**Pb**	**16 57 23.8**	**-0.6**
TEPV				*eS*	**Sb**	**16 57 48.5**	**+0.5**
LL6C	**La Loma 6 Bece**	**2.33**	**284**	*eP*	**Pn**	**16 57 26.6**	**-0.7**
OCAC	**Ocana**	**2.50**	**248**	*eP*	**Pg**	**16 57 36.2**	**-1.7**
OCAC				*eP*	**Pb**	**16 57 37.5**	**+3.2**
OCAC				*eS*	**Sb**	**16 58 02.7**	**-2.1**
PAMC	**Pamplona, Colo**	**2.50**	**223**	*eP*	**Pn**	**16 57 31.1**	**+1.1**
PAMC				*eS*	**Sn**	**16 58 02.5**	**+2.2**
CRJC	**Cerrejon, Guaj**	**2.62**	**314**	*eP*	**Pn**	**16 57 29.9**	**-1.5**
CRJC				*eS*	**Sn**	**16 58 01.5**	**-1.2**
URIC	**Uribia, Colomb**	**2.70**	**338**	*eP*	**Pn**	**16 57 33.8**	**+1.5**
JACV	**Jacura**	**2.84**	**48**	*eP*	**Pn**	**16 57 35.8**	**+1.6**
JACV				*eS*	**Sn**	**16 58 09.5**	**+1.6**
TAMC	**Tame, Arauca**	**2.84**	**197**	*eP*	**Pb**	**16 57 39.1**	**-1.0**
BAUV	**El Baul**	**2.91**	**94**	⇓*iP*	**Pn**	**16 57 36.9**	**+1.8**
BAUV				*eS*	**Sn**	**16 58 11.0**	**+1.4**
TURV	**Turiamo**	**3.34**	**67**	*eP*	**Pn**	**16 57 42.2**	**+1.1**
TURV				*eS*	**Sn**	**16 58 21.7**	**+1.5**
BARC	**Barichara**	**3.38**	**221**	*eP*	**Pn**	**16 57 43.1**	**+1.3**
BENV	**Beln**	**3.42**	**77**	*eP*	**Pn**	**16 57 44.7**	**+2.5**
BENV				*eS*	**Sn**	**16 58 23.2**	**+0.9**
TACV	**Tcata**	**4.01**	**76**	*eP*	**Pn**	**16 57 52.0**	**+1.6**
TACV				*eS*	**Sn**	**16 58 37.4**	**+0.6**
ZARC	**Zaragoza, Cauc**	**4.19**	**247**	*eP*	**Pn**	**16 57 51.4**	**-1.5**
SPBC	**San Pablo de B**	**4.66**	**221**	*eP*	Pn	16 57 54.6	-4.7
CACV	**CAICARA DEL OR**	**4.67**	**110**	*eP*	**Pb**	**16 58 07.7**	**-3.5**
CACV				*eS*	**Sb**	**16 59 04.4**	**-2.7**
GUY2C	**Guyana, Caldas**	**5.87**	**228**	*eP*	**Pn**	**16 58 17.2**	**+0.9**
PRGV	**PARIAGUAN**	**6.26**	**93**	*eP*	**Pn**	**16 58 22.1**	**+0.7**
PRGV				*eS*	**Sn**	**16 59 29.0**	**-3.4**
ORTC	**Ortega, Tolima**	**6.74**	**219**	*eP*	**Pn**	**16 58 28.3**	**+0.4**

*BJI **16** 16:57:01.3, 34°.14N×26°.05E, h18^{km}, mb4.6/48, mB5.2/18, Ms4.4/6, Ms7 4.2/10*
*IDC **16** 16:57:02.6±0.5, 34°.31N×26°.40E, h0^{km}, mb4.5/28, mbtmp4.5/42, ML4.1/13, MS4.0/24, Error ellipse: s-maj=11.3km s-min=8.7km az=14.0*
*ISK **16** 16:57:04.5, 34°.30N×26°.47E, h7^{km}, ML4.3/26*
*MED_RC **16** 16:57:04.0±0.4, 34°.02N×26°.28E, h20^{km}±1^{km}, MW4.8/32, Moment Tensor Solution. Mantle waves: s32,c47; Duration: 1^{s}1 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.65±.22; $M_{\theta\theta}$-0.82±.11; $M_{\phi\phi}$2.47±.14; $M_{r\theta}$-0.85±.20; $M_{\theta\phi}$-0.11±.09; $M_{\phi r}$0.27±.15; Best double couple: M_o2.34000×10^{16} NP1:ϕ_s151.00000°, δ57.00000°, λ-128.00000°. NP2:ϕ_s26.00000°, δ49.00000°, λ-47.00000°. Principal axes: T 2.5000, Plg4.0000°, Azm267.0000°; N -0.3100, Plg31.0000°, Azm174.0000°; P -2.1800, Plg58.0000°, Azm4.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*NEIC **16** 16:57:04.4±2.4, 34°.24N±0°.07×26°.42E±0°.07, h10^{km}±1^{km}, mb4.8/118 Error ellipse: s-maj=12.3km s-min=9.0km az=203.0*
*ATH **16** 16:57:05.9, 34°.27N×26°.41E, h5^{km}±1^{km}, ML4.2/17, Error ellipse: s-maj=2.5km s-min=1.3km az=346.0*
*THE **16** 16:57:07.9, 34°.40N×26°.34E, h1^{km}±2^{km}, ML4.1/5, Error ellipse: s-maj=3.2km s-min=1.3km az=170.0*
*GII **16** 16:57:07.5±0.0, 34°.16N×26°.64E, h30^{km}, mb4.7/3, MD4.6/3, Mm4.8/3*
*MOS **16** 16:57:07.3±1.2, 34°.33N×26°.35E, h16^{km}, mb5.0/57, MS4.0/11, Error ellipse: s-maj=4.6km s-min=2.5km az=102.9*
*AFAD **16** 16:57:07.7±0.0, 34°.38N×26°.60E, h8^{km}±4^{km}, MW4.3*
*NAO **16** 16:57:17.1, 35°.08N×24°.47E, h33^{km}, mb4.6*

ISC 16 16:57:04.6±0.7, **34°.17N**±0°.03×**26°.45E**±0°.03, **h15**^{km}±4^{km}, **n714,σ1^{s}60/710, mb4.8/149, MS3.8/26, 34C-31D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.96**	**348**	Pg	**Pg**	**16 57 21.0**	**-2.1**
ZKR				Sg	**Sg**	**16 57 33.2**	**-2.5**
ZKR	**Zakros**	**0.96**	**348**	P	**Pg**	**16 57 21.1**	**-2.1**
ZKR				S	**Sb**	**16 57 34.9**	**-0.6**
	17μm,0.5s						
ZKR	**Zakros**	**0.96**	**348**	P	**Pg**	**16 57 21.0**	**-2.1**
ZKR				S	**Sb**	**16 57 34.8**	**-0.6**
ZKR				AML	AML	16 57 38.7	
	comp=E,46365μm,0.7s						
ZKR				AML	AML	16 57 40.7	
	comp=N,20822μm,0.4s						
FRMA	**Ierapetra Chan**	**1.03**	**325**	P	**Pg**	**16 57 21.8**	**-2.7**
FRMA				S	**Sg**	**16 57 34.8**	**-3.1**
FRMA	**Ierapetra Chan**	**1.03**	**325**	P	**Pg**	**16 57 21.7**	**-2.7**
FRMA				S	**Sg**	**16 57 34.5**	**-3.4**
FRMA				AML	AML	16 57 44.3	
	comp=N,44910μm,0.7s						
FRMA				AML	AML	16 57 52.9	
	comp=E,33297μm,0.5s						
KARP	**Karpathos**	**1.49**	**23**	Pn	**Pn**	**16 57 30.4**	**-0.5**
KARP				Sn	**Sb**	**16 57 49.9**	**-0.8**
KARP	**Karpathos**	**1.49**	**23**	Pn	**Pn**	**16 57 31.9**	**+1.1**
KARP	**Karpathos**	**1.49**	**23**	P	**Pb**	**16 57 32.7**	**+0.8**
KARP				S	**Sb**	**16 57 51.0**	**+0.3**
	comp=E,7μm,0.9s						
KARP	**Karpathos**	**1.49**	**23**	P	**Pb**	**16 57 32.8**	**+0.8**
KARP	**Karpathos**	**1.49**	**23**	P	**Pn**	**16 57 32.4**	**+1.5**
KARP				AML	AML	16 58 13.6	
	comp=E,11800μm,0.9s						
KARP				AML	AML	16 58 14.8	
	comp=N,15877μm,0.8s						
HRKL	**Herakleio**	**1.59**	**316**	Pn	**Pn**	**16 57 32.7**	**+0.5**
HRKL				Sn	**Sn**	**16 57 53.1**	**+0.6**
HRKL	**Herakleio**	**1.59**	**316**	P	**Pn**	**16 57 32.9**	**+0.7**
HRKL				S	**Sn**	**16 57 50.8**	**-1.7**
	comp=N,22μm,1.0s						
HRKL	**Herakleio**	**1.59**	**316**	P	**Pn**	**16 57 32.9**	**+0.7**
HRKL				AML	AML	16 58 25.6	
HRKL				AML	AML	16 58 32.2	
KSTL	**Kastelli Herak**	**1.60**	**315**	P	**Pn**	**16 57 29.3**	**-3.1**
KSTL				AML	AML	16 58 14.9	
	comp=N,22748μm,1.4s						
KSTL				AML	AML	16 58 29.2	
	comp=E,8789μm,1.1s						
IACM	**Heraklion**	**1.60**	**315**	P	**Pn**	**16 57 33.3**	**+0.9**
IACM	**Heraklion**	**1.60**	**315**	P	**Pn**	**16 57 33.3**	**+0.9**
TMBK	**Timbaki Herakl**	**1.66**	**303**	P	**Pn**	**16 57 34.4**	**+1.3**
TMBK	**Timbaki Herakl**	**1.66**	**303**	P	**Pn**	**16 57 33.8**	**+0.7**
IDI	**Anoyia**	**1.70**	**311**	⇑P	**Pn**	**16 57 35.2**	**+1.3**
IDI	**Anoyia**	**1.70**	**311**	Pn	**Pn**	**16 57 34.2**	**+0.4**
IDI				Sn	**Sn**	**16 57 56.2**	**+0.8**
IDI	**Anoyia**	**1.70**	**311**			**16 57 34.1**	**+0.3**
IDI	**Anoyia**	**1.70**	**311**	P	**Pn**	**16 57 34.4**	**+0.6**
IDI				S	**Sg**	**16 58 01.6**	**+2.2**
	comp=E,4μm,0.7s						
IDI	**Anoyia**	**1.70**	**311**	P	**Pn**	**16 57 35.1**	**+1.3**
IDI	**Anoyia**	**1.70**	**311**	S	**Sn**	**16 57 53.6**	**-1.8**
IDI				P	**Pn**	**16 57 35.0**	**+1.2**
IDI	**Anoyia**	**1.70**	**311**	Pg	**Pn**	**16 57 33.0**	**-0.8**
	comp=E,131nm,0.3s,baz=130,slow=8.8,SNR=375						
IDI				Lg	Lg	16 57 52.1	
	comp=E,116nm,0.3s,baz=273,slow=22,SNR=10						
IDI				LR	LR	16 57 52.5	
	comp=E,656nm,18.7s,baz=128,slow=32						
IDI	**Anoyia**	**1.70**	**311**	P	**Pn**	**16 57 34.3**	**+0.4**
IDI				AML	AML	16 58 06.5	
	comp=E,7675μm,0.7s						
IDI				AML	AML	16 58 19.6	
	comp=N,7144μm,0.8s						
PRNS	**Prines Rethymn**	**2.00**	**307**	P	**Pn**	**16 57 40.1**	**+2.3**
PRNS				S	**Sg**	**16 58 12.8**	**+3.9**
GVD	**Gavdhos**	**2.06**	**289**	Pn	**Pn**	**16 57 40.1**	**+1.4**
GVD				Sn	**Sn**	**16 58 06.2**	**+2.0**
GVD	**Gavdhos**	**2.06**	**289**	P	**Pn**	**16 57 40.6**	**+1.9**
GVD	**Gavdhos**	**2.06**	**289**	P	**Pn**	**16 57 40.3**	**+1.6**
GVD				AML	AML	16 58 27.

APE S Sn 16 58 25.9 -1.1
APE AML AML 16 58 31.0
comp=E,1552µm,1.1s
APE AML AML 16 58 39.5
comp=N,1398µm,0.7s
BDRM Kayabasi 3.00 15 P Pn 16 57 52.3 +0.8
BDRM S Sb 16 58 35.3 +1.3
RFTAA Mazikoy-Bodrum 3.01 20 Pn Pn 16 57 52.3 +0.6
MHLO Agia Marina, M 3.02 327 P Pn 16 57 51.9 0.0
ANKY Antikythira Is 3.09 304 P Pn 16 57 54.1 +1.2
ANKY AML AML 16 58 43.5
comp=E,3501µm,0.9s
ANKY AML AML 16 59 01.2
comp=N,2865µm,1.0s
DALY Dalyan (Mula) 3.19 34 Pn Pn 16 57 55.4 +1.2
IZZE Mula-Seydike 3.20 44 P Pn 16 57 55.0 +0.6
IZZE S Sn 16 58 29.6 -2.7
KSL Kastellorizon 3.23 52 P Pn 16 57 55.6 +0.8
KSL AML AML 16 58 38.4
comp=N,811µm,0.9s
KSL AML AML 16 58 43.8
comp=E,1075µm,1.0s
FETY Fethiye 3.26 40 Pn Pn 16 57 56.1 +0.9
FETY Fethiye 3.26 40 P Pn 16 57 58.8 +3.6
FETY S Sn 16 58 29.0 -4.8
MLSB Milas 3.29 19 Pn Pn 16 57 56.0 +0.3
AKAS Kas 3.30 51 Pn Pn 16 57 56.7 +0.9
AKAS Kas 3.30 51 Pn Pn 16 57 56.6 +0.8
AKAS Kas 3.30 51 P Pn 16 57 56.7 +0.9
AKAS S Sn 16 58 32.9 -1.9
YER Yerkesik 3.31 26 Pn Pn 16 57 56.7 +0.8
YER Yerkesik 3.31 26 P Pn 16 57 56.6 +0.7
DDIM Aydin, Didim 3.34 11 P Pb 16 58 01.1 -2.4
DDIM S Sg 16 58 59.1 +7.3
MULA Mugla, Merkez- 3.43 26 P Pn 16 57 59.2 +1.6
MULA S Sn 16 58 40.2 +2.2
DEMR Demre-Antalya 3.50 53 Pn Pn 16 58 00.2 +1.8
TNSA Tinos 3.52 343 P Pn 16 57 58.2 -0.5
TNSA S Sn 16 58 38.1 -1.9
SMG Samos 3.54 5 P Pn 16 57 59.9 +0.9
GCAM G?zelcaml? 3.58 10 Pn Pn 16 58 00.7 +1.2
GCAM G?zelcaml? 3.58 10 P Pn 16 57 59.2 -0.3
CAME Cameli-Denizli 3.61 39 Pn Pn 16 58 00.9 +0.8
MNVA Monemvasia 3.75 313 P Pn 16 58 02.2 +0.3
MNVA S Sn 16 58 43.8 -2.0
CAEL Denizli, Camel 3.75 38 P Pn 16 58 03.2 +1.1
CAEL S Sn 16 58 45.2 -0.9
ELL Elmali 3.81 47 Pn Pn 16 58 04.8 +1.9
ELL Elmali 3.81 47 P Pn 16 58 04.8 +1.9
VLI Veliai 3.83 312 P Pn 16 58 04.9 +1.9
VLI AML AML 16 58 51.1
comp=E,1141µm,1.0s
VLI AML AML 16 58 59.2
comp=N,1717µm,0.9s
AKUM Antalya-Kumluc 3.84 55 P Pn 16 58 03.0 0.0
AKUM S Sn 16 58 45.1 -2.8
TAVA DENIZLI_Tavas 3.84 31 P Pn 16 58 04.1 +0.8
TAVA S Sn 16 58 43.4 -4.9
GOLH Golhisar 3.97 39 P Pn 16 58 06.6 +1.6
GOLH S Sn 16 58 48.8 -2.5
APMY Acipayam-Deniz 4.02 34 Pn Pn 16 58 06.5 +0.8
DNIZ Denizli-Tavas- 4.03 31 P Pn 16 58 07.2 +1.3
DNIZ S Sn 16 58 50.2 -2.8
ZEYE Izmir, Urla-Ze 4.06 1 P Pn 16 58 06.3 +0.2
IZMR zmir-demi 4.14 17 P Pn 16 58 08.2 +1.0
IZMR S Sg 16 59 20.3 +2.9
URLA Izmir 4.18 2 Pn Pn 16 58 08.3 +0.5
URLA Izmir 4.18 2 P Pn 16 58 09.9 +2.0
KRND KRANIDI 4.18 321 P Pn 16 58 07.8 0.0
CHOS Chios Island 4.22 356 P Pn 16 58 08.7 +0.3
BLCB Balcova 4.23 6 Pn Pn 16 58 09.2 +0.7
KORT Korkueli 4.25 47 P Pn 16 58 10.5 +1.7
KORT S Sn 16 59 00.4 +2.2
VLY Voula,Athens 4.26 330 P Pn 16 58 10.2 +1.3
INCE Denizli-Bozkur 4.34 35 P Pn 16 58 10.8 +0.7
INCE S Sn 16 58 59.2 -1.3
ATHU Athens Univers 4.36 331 P Pn 16 58 10.2 -0.1
EPID Epidavros 4.37 323 P Pn 16 58 10.5 0.0
ATH Athens Observa 4.39 330 P Pn 16 58 10.7 0.0
PTL Penteli 4.40 332 P Pn 16 58 11.8 +0.9
BRDR BURDUR-Merkez 4.57 39 P Pn 16 58 15.0 +1.7
BRDR S Sn 16 59 05.7 -0.5
MANT Manisa 4.63 21 Pn Pn 16 58 13.1 -1.2
MANT Manisa 4.63 21 P Pn 16 58 14.8 +0.6
LOUT Loutraki 4.74 324 P Pn 16 58 15.2 -0.2
LTK Loutraki 4.77 325 P Pn 16 58 17.5 +1.6
VIL2 Platees 4.78 328 P Pn 16 58 15.5 -0.6
RFT7 Candarli 4.79 4 Pn Pn 16 58 17.7 +1.5
PASA Karahalli, USA 4.83 30 P Pn 16 58 16.9 0.0
PASA S Sn 16 59 10.0 -2.6
DKL Dikili 4.90 4 Pn Pn 16 58 19.5 +1.8
ISP Isparta 4.91 41 Pn Pn 16 58 20.4 +2.5
ISP Isparta 4.91 41 ||e P Pn 16 58 20.7 +2.7
ISP Isparta 4.91 41 P Pn 16 58 19.6 +1.7
THAL Thalero 4.93 323 P Pn 16 58 18.6 +0.5
GUR Goura 5.02 320 P Pn 16 58 20.2 +0.8
SIGR SIGRI 5.05 355 Pn Pn 16 58 20.5 +0.7
KLV Kalavryta, Ach 5.20 319 P Pn 16 58 22.6 +0.7
KLV AML AML 16 59 51.7
comp=N,346µm,0.8s
KLV AML AML 16 59 56.2
comp=E,826µm,1.1s
LAKA Lakka 5.44 320 P Pn 16 58 26.0 +0.9
AXAR Agios Charalam 5.51 327 P Pn 16 58 27.9 +1.8
BALB Balikesir 5.57 11 Pn Pn 16 58 25.6 -1.3
RLS Riolos of Patr 5.60 315 P Pn 16 58 28.4 +1.1
EFP Efpalio 5.61 320 P Pn 16 58 29.4 +1.9
CSS Mathiatis 5.73 80 Pn Pn 16 58 29.2 +0.1
CSS Mathiatis 5.73 80 Pn Pn 16 58 29.1 0.0
CSS Sn Sn 16 59 31.9 -2.7
CSS Mathiatis 5.73 80 P Pn 16 58 29.6 +0.5
ANX Ano Chora 5.73 322 P Pn 16 58 30.7 +1.5
NEO Neokhori 5.74 334 P Pn 16 58 30.1 +0.8
AGG Agios Georgios 5.87 327 P Pn 16 58 32.2 +1.1
MAKR Makrakomi, Fth 5.95 325 P Pn 16 58 33.3 +1.1
PVO Paravola 5.95 320 P Pn 16 58 33.8 +1.6
EVR Evrytania 6.03 323 P Pn 16 58 35.6 +2.2
VLS Valsamata 6.20 312 P Pn 16 58 37.0 +1.4
VLS Valsamata 6.20 312 P Pn 16 58 37.2 +1.6
KEF4 Livadi, Kephal 6.35 312 P Pn 16 58 40.5 +2.5
KEF3 Kipouria, Keph 6.37 311 P Pn 16 58 40.8 +2.9
DMLN Damoulianata-K 6.37 311 P Pn 16 58 39.5 +1.6
FSK Fiskardo 6.40 314 P Pn 16 58 41.0 +2.8
EVGI Lefkada island 6.45 315 P Pn 16 58 40.6 +1.7
THL Klokotos Trika 6.45 328 P Pn 16 58 39.6 +0.7
NYDR Nydri-Lefkada 6.48 316 P Pn 16 58 40.9 +1.5
BORA Eskisehir 6.53 28 Pn Pn 16 58 40.2 0.0
DRAG Dragano-Lefkad 6.54 315 P Pn 16 58 43.1 +2.9
ALN Alexandroupoli 6.72 357 P Pn 16 58 45.3 +2.6
THE Thessaloniki 7.02 338 P Pn 16 58 48.4 +1.6
THE pmax pmax
comp=Z,48nm,1.0s
KPRO Kipourio 7.06 326 P Pn 16 58 48.7 +1.3
JAN Janina 7.08 322 P Pn 16 58 48.8 +1.2
IGT Igoumenitsa 7.26 319 P Pn 16 58 53.0 +2.9
OFRI `Ofer 7.30 100 Pn Pn 16 58 50.6 -0.1
OFRI `Ofer 7.30 100 P Pn 16 58 51.2 +0.5
MDUB Mudurnu 7.33 30 Pn Pn 16 58 48.1 -3.1
SLTI Sal'it 7.45 103 Pn Pn 16 58 52.2 -0.5
SLTI Sal'it 7.45 103 P Pn 16 58 52.2 -0.5
KZIT Kziot 7.46 114 Pn Pn 16 58 53.2 +0.4
KZIT Sn Sn 17 00 13.9 -3.2
KNT Kendrikon 7.52 339 P Pn 16 58 55.3 +1.5
MMAI Mount Meron Ar 7.55 96 Pn Pn 16 58 53.8 -0.5
comp=Z,17nm,0.3s,baz=278,slow=13,SNR=52
MMAI Sn Sn 17 00 16.1 -3.6
comp=Z,12nm,0.3s,baz=269,slow=20,SNR=3.2
comp=Z,9.6nm,0.3s
MMA0B Mount Meron ar 7.56 96 Pn Pn 16 58 54.3 0.0
MMA0B Sn Sn 17 00 17.4 -2.3
NEST Nestorio 7.57 327 P Pn 16 58 55.2 +0.7
AMAZ Amatzia 7.59 108 Pn Pn 16 58 53.9 -0.8
AMAZ Sn Sn 17 00 17.7 -2.8
ANTO Ankara 7.62 40 Pn Pn 16 58 51.7 -3.3
ANTO Ankara 7.62 40 P Pn 16 58 56.4 +1.3
SALP Salfit 7.62 104 Pn Pn 16 58 54.4 -0.8
FNA Florina 7.73 330 Pn 16 58 59.2 +2.5
FNA Florina 7.73 330 P Pn 16 58 59.2 +2.5
FNA Florina 7.73 330 P Pn 16 58 57.0 +0.3
GEM Giv'at Ha'Em 7.74 95 Pn Pn 16 58 56.6 -0.1
NATI Neve Ativ 7.79 94 P Pn 16 58 57.4 +0.1

YTIR Yattir 7.81 109 Pn Pn 16 58 57.5 -0.3
YTIR Sn Sn 17 00 23.4 -2.7
YTIR Yattir 7.81 109 P Pn 16 58 57.6 -0.3
HMDT Nahal Hemdat 7.84 102 Pn Pn 16 58 57.7 -0.4
QRNJ Al-Qirein 7.86 101 P Pn 16 58 58.2 -0.1
UJAP Al Uja 7.88 104 P Pn 16 58 58.6 0.0
KSHT Keshet 7.90 96 Pn Pn 16 58 59.0 0.0
SHMJ Saham 7.91 98 P Pn 16 58 59.2 +0.1
DSI Dead Sea 7.94 107 Pn Pn 16 58 59.3 -0.2
DSI Dead Sea 7.94 107 P Pn 16 58 59.4 -0.1
BR131 Keskin Array S 7.98 44 Pn 16 59 00.3 +0.1
BR131 Keskin Array S 7.98 44 *d iP* Pn 16 59 01.2 +1.0
BRTR Keskin Array B 7.98 44 Pn 16 59 00.7 +0.5
BRTR Keskin Array B 7.98 44 *i* P Pn 16 59 01.5 +1.3
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR Keskin Array B 7.98 44 Pn Pn 16 59 01.1 +0.9
comp=Z,0.6nm,0.3s,baz=222,slow=14,SNR=24
BRTR Sn Sn 17 00 28.4 -1.9
comp=Z,0.5nm,0.3s,baz=208,slow=24,SNR=1.9
comp=Z,3.6nm,0.7s
MSBI Mazada 8.02 108 Pn Pn 16 59 00.0 -0.6
KRMI Paran Flat 8.09 118 Pn Pn 16 59 01.5 -0.1
KRMI Sn Sn 17 00 29.2 -3.7
PRNI Paran 8.18 115 Pn Pn 16 59 02.2 -0.6
PRNI Sn Sn 17 00 32.2 -2.8
PRNI Paran 8.18 115 P Pn 16 59 02.5 -0.3
GHAJ Ghor Haditha 8.19 108 Pn Pn 16 59 03.6 +0.7
GHAJ Ghor Haditha 8.19 108 P Pn 16 59 03.9 +1.0
ZFRI Zfri 8.21 114 Pn Pn 16 59 02.6 -0.6
ZFRI Zfri 8.21 114 P Pn 16 59 03.6 +0.4
STIP Stip 8.23 337 *i* Pn Pn 16 59 05.8 +2.4
OHR Ohrid 8.25 329 *i* Pn Pn 16 59 06.6 +2.8
KARJ KARJ 8.33 109 P Pn 16 58 59.4 -5.5
HRFI Mount Harif 8.37 117 Pn Pn 16 59 05.8 +0.4
HRFI Sn Sn 17 00 36.9 -2.7
MBRI Mt Berech 8.41 119 Pn Pn 16 59 06.4 +0.4
MBRI Mt Berech 8.41 119 P Pn 16 59 06.6 +0.6
HSUJ Al Zarqa 8.42 101 P Pn 16 59 10.6 +4.4
EIL Elat 8.50 120 Pn Pn 16 59 07.4 +0.2
EIL Sn Sn 17 00 40.7 -2.2
EIL Elat 8.50 120 P Pn 16 59 07.4 +0.2
EIL Elat 8.50 120 Pn Pn 16 59 07.2 0.0
comp=Z,2.7nm,0.3s,baz=253,slow=1.2,SNR=58
EIL Sn Sn 17 00 41.2 -1.7
comp=Z,8.3nm,0.3s,baz=168,slow=6.2,SNR=4.4
comp=Z,17nm,0.4s
AQBJ Aqaba 8.54 119 P Pn 16 59 09.1 +1.4
SWQJ Swaqa 8.61 107 P Pn 16 59 10.2 +1.5
ELND Elena 8.75 357 ||P Pn 16 59 13.0 +2.4
TIR Tirane 8.86 326 Pn Pn 16 59 06.8 -5.2
TIR Tirane 8.86 326 P Pn 16 59 06.8 -5.2
BNN Bunyan 8.88 56 Pn 16 59 15.3 +2.8
ASF Jabal al Asfar 8.98 100 P Pn 16 59 12.2 -1.6
ASF Jabal al Asfar 8.98 100 Pn Pn 16 59 12.8 -1.0
comp=Z,3.3nm,0.3s,baz=294,slow=6.8,SNR=8.7
ASF Sn Sn 17 00 53.0 -1.7
comp=Z,1.7nm,0.3s,baz=65,slow=19,SNR=1.7
comp=Z,6.7nm,0.3s
GAZ Gaziantep 9.25 68 Pn 16 59 19.2 +1.7
TIP Timpagrande 9.25 305 ||P Pn 16 59 15.7 -1.7
TIP Timpagrande 9.25 305 Pn 16 59 15.9 -1.6
PLVB Pleven 9.31 352 ||P Pn 16 59 22.9 +4.7
RAZG Razgrad 9.38 0 ||P Pn 16 59 25.1 +5.9
CEL Celeste 9.46 299 Pn 16 59 19.7 -0.6
DRLE Dracevica, Mon 9.83 327 *e*Pn Pn 16 59 23.1 -2.3
PDG Podgorica 9.99 328 ||P Pn 16 59 27.1 -0.4
PDG Podgorica 9.99 328 Pn 16 59 26.2 -1.3
PDG Podgorica 9.99 328 *e*Pn Pn 16 59 24.4 -3.2
BOVS Bovan 10.14 340 ||P Pn 16 59 30.9 +1.3
CUC Castrocucco 10.29 307 Pn 16 59 26.8 -4.9
VAE Valguarnera 10.32 292 Pn Pn 16 59 32.1 0.0
comp=Z,4.8nm,0.3s,baz=131,slow=4.4,SNR=9.4
VAE Sn Sn 17 01 18.4 -9.1
comp=Z,4.6nm,0.3s,baz=211,slow=4.2,SNR=3.9
comp=Z,42nm,0.7s
SJES Sjenica 10.39 333 *e*Pn Pn 16 59 30.1 -3.0
TREB Trebinje 10.63 326 *e*Pn Pn 16 59 32.3 -4.0
BRY Bratogost 10.69 327 *e*Pn Pn 16 59 34.6 -2.6
ARPR Arapgir-MALATY 10.73 59 Pn 16 59 33.4 -4.5
UPM Unac-Piva 10.77 329 *e*Pn Pn 16 59 36.8 -1.6
RUDO Rudo 10.92 332 *e*Pn Pn 16 59 39.9 -0.4
STON Ston 11.06 324 *e*Pn Pn 16 59 38.0 -4.1
DIVS Divibare 11.10 335 *e*Pn Pn 16 59 42.5 -0.4
MDVR Moldovita 11.21 342 ||P Pn 16 59 46.0 +1.8
CLTB Caltabellotta 11.26 291 Pn 16 59 44.4 -0.7
ARR Arges 11.27 353 ||P Pn 16 59 45.9 +0.8
VOIR 11.30 355 ||P Pn 16 59 49.3 +3.8
VOIR 11.30 355 P Pn 16 59 47.4 +1.8
VOIR pmax pmax
comp=Z,11nm,0.8s
MLR Muntele Rosu 11.31 358 Pn 16 59 46.0 +0.3
MLR Muntele Rosu 11.31 358 P Pn 16 59 46.1 +0.3
MLR Muntele Rosu 11.31 358 Pn Pn 16 59 45.9 +0.2
comp=Z,0.2nm,0.3s,baz=244,slow=1.8,SNR=3.4
comp=Z,6.2nm,1.1s
SGRT San Giovanni R 11.34 315 Pn 16 59 42.4 -3.7
TEKS Tekeris 11.66 335 *e*Pn Pn 16 59 46.1 -4.3
PLOR Plostina 11.66 1 ||P Pn 17 00 00.3 +10
VRI Vrincioaia 11.68 1 ||P Pn 16 59 57.1 +6.5
DEV Deva 12.01 348 P Pn 16 58 58.2 +3.1
DEV pmax pmax
comp=Z,31nm,0.9s
BZS Buzias 12.01 343 ||P Pn 16 59 56.1 +0.8
BZS Buzias 12.01 343 P Pn 16 59 57.0 +1.8
BZS pmax pmax
comp=Z,10.0nm,0.9s
MARD Mardin 12.05 71 Pn Pn 16 59 55.1 -0.9
FRGS Fruska Gora 12.10 337 ||P Pn 16 59 55.4 -1.0
FRGS Fruska Gora 12.10 337 *e*Pn Pn 16 59 44.5 -12
MGRS Mrkonjic Grad 12.53 327 *e*Pn Pn 16 59 58.3 -4.0
INTR Introdacqua 12.60 312 Pn 17 00 03.9 +0.6
SIRR Siria 12.62 345 ||P Pn 17 00 09.2 +5.7
BLY Banja Luka 12.75 329 *e*Pn Pn 16 59 59.8 -5.5
A050A Klekovaca 12.83 326 *e*Pn Pn 17 00 03.5 -3.0
MILM Milestii Mici 12.86 7 *e*P Pn 17 00 11.0 +4.3
MILM *e*S Sn 17 02 36.0 +6.5
MILM *e*L L 17 04 32.0
MILM LRM MLR 17 05 56.0
comp=Z,600nm,12.5s
BURAR Bucovina Array 13.46 356 ||P P 17 00 27.0 +2.6
NRCA Norcia 13.55 314 Pn 17 00 15.7 -0.5
SOC Sochi 13.95 44 *e*P Pn 17 00 21.4 -0.2
SOC *e* 17 02 57.2
SOC MLR MLR
comp=Z,229nm,14.0s
SORM Soroca 14.02 5 ||P P 17 00 29.6 -0.8
KEST Kesra 14.12 281 Pn Pn 17 00 24.7 +0.6
comp=Z,0.2nm,0.3s,baz=66,slow=12,SNR=4.4
KEST LR LR 17 06 25.5
comp=Z,564nm,21.9s,baz=14,slow=40
comp=Z,10nm,1.1s
BOJS Bojanci 14.20 326 *e*Pn Pn 17 00 21.2 -3.9
CRES Cresnjev 14.35 327 *e*Pn Pn 17 00 21.4 -5.8
PSZ Piszkesteto 14.59 342 Pn 17 00 25.2 -5.3
PSZ Piszkesteto 14.59 342 P Pn 17 00 30.8 +0.3
PSZ pmax pmax
comp=Z,16nm,0.9s
CEY Cerknica 14.76 325 *e*Pn Pn 17 00 28.9 -3.9
SRO Srobarova 14.94 338 P Pn 17 00 33.5 -1.6
SRO pmax pmax
comp=Z,126nm,0.7s
KOLS Kolonicke sedl 15.07 349 *e*P Pn 17 00 39.9 +3.0
KOLS Kolonicke sedl 15.07 349 P Pn 17 00 38.7 +1.8
KOLS pmax pmax
comp=Z,976nm,0.7s
SOKA Soboth 15.20 329 *i* Pn Pn 17 00 38.0 -0.7
comp=Z,2.7nm,0.4s
OBKA Obir 15.28 327 *e*Pn Pn 17 00 39.6 -0.2
comp=Z,2.1nm,0.3s
OBKA Obir 15.28 327 *e*Pn Pn 17 00 37.6 -2.2
VYHS Vyhne 15.40 341 *e*P Pn 17 00 39.9 -1.3
VYHS Vyhne 15.40 341 *e*P Pn 17 00 39.9 -1.3
SOP Sopron 15.41 334 P Pn 17 00 40.2 -1.2
SOP pmax pmax
comp=Z,42nm,1.0s
ARSA Arzberg 15.45 331 *i* Pn Pn 17 00 40.9 -1.0
comp=Z,4.8nm,0.7s,SNR=6.5
RONA Rosalia, Austr 15.52 334 *e*Pn Pn 17 00 41.6 -1.3
comp=Z,29nm,0.9s,SNR=21
ZST Bratislava 15.66 336 *e*P Pn 17 00 43.2 -1.4
ZST Bratislava 15.66 336 *e*P Pn 17 00 43.2 -1.4
LVV L'vov 15.74 354 *e*P Pn 17 00 45.5 -0.1

LVV *e*S Sn 17 03 38.9 -0.7
LVV MLR MLR
comp=E,600nm,12.6s
LVV MLR MLR
comp=N,600nm,11.7s
LVV MLR MLR
comp=Z,600nm,11.4s
ONI Oni 15.74 53 Pn 17 00 46.0 +0.3
ONI IAmb IAmb 17 01 03.8
comp=Z,54nm,1.2s
ONI Oni 15.74 53 P Pn 17 00 46.1 +0.3
ONI pmax pmax
comp=Z,54nm,1.2s
GNI Garni 15.74 62 Pn 17 00 46.0 0.0
GNI Garni 15.74 62 *de*P Pn 17 00 49.3 +3.4
GNI pmax pmax
comp=Z,20nm,1.0s
GNI Garni 15.74 62 Pn Pn 17 00 49.2 +3.3
comp=Z,0.6nm,0.3s,baz=270,slow=3.2,SNR=9.4
GNI LR LR 17 08 27.8
comp=Z,516nm,18.9s,baz=276,slow=44
comp=Z,12nm,0.8s
MODS Modra-Piesok 15.76 337 *e*P Pn 17 00 45.2 -0.7
MODS Modra-Piesok 15.76 337 *e*P Pn 17 00 45.2 -0.7
CONA Conrad Observa 15.87 333 *i* Pn Pn 17 00 45.7 -1.7
comp=Z,4.6nm,0.7s
TEOL Teolo 15.91 319 IAmb IAmb 17 01 03.5
comp=Z,76nm,0.9s
KIV Kislovodsk 15.92 47 ||P Pn 17 00 49.8 +1.7
KIV Kislovodsk 15.92 47 Pn 17 00 48.7 +0.5
KIV IAmb IAmb 17 01 05.9
comp=Z,83nm,1.0s
KIV Kislovodsk 15.92 47 *e*P Pn 17 00 51.3 +3.2
KIV *e*S Sn 17 03 48.7 +4.3
KIV pmax pmax
comp=Z,29nm,1.1s
KIV MLR MLR
comp=Z,130nm,13.0s
KVAR Kislovodsk Arr 15.93 47 Pn P 17 00 52.6 +0.7
baz=263,slow=19
comp=Z,7.6nm,1.0s
KBZ Khabaz 15.93 48 *ce*P Pn 17 00 50.5 +2.4
KBZ Khabaz 15.93 48 Pn Pn 17 00 51.4 +3.3
comp=Z,0.1nm,0.3s,baz=233,slow=5.6,SNR=7.5
comp=Z,7.8nm,1.1s
CLUD Cludinico 16.02 324 Pn 17 00 45.6 -3.8
JAVC Velka Javorina 16.06 339 *e*P Pn 17 00 48.2 -1.7
ZEI Tsey 16.12 53 *e*P Pn 17 00 51.2 +0.4
ZEI pmax pmax
comp=Z,38nm,1.1s
CIMO Cimolais 16.14 323 Pn 17 00 49.0 -1.8
CIMO IAmb IAmb 17 01 05.6
comp=Z,42nm,1.2s
NCK Nalchik 16.25 50 ||*e*P Pn 17 00 55.7 +3.4
KBA Koelnbreinsper 16.25 326 P Pn 17 00 52.7 +0.2
KBA pmax pmax
comp=Z,35nm,1.3s
CTI Castel Tesino 16.37 321 Pn 17 00 50.0 -3.9
CTI Castel Tesino 16.37 321 P Pn 17 00 49.0 -4.8
CTI pmax pmax
comp=Z,25nm,0.7s
ABTA Abfaltersbach 16.41 324 *i* Pn Pn 17 00 53.2 -1.1
comp=Z,12nm,0.6s
MOA Molln 16.44 330 *i* Pn Pn 17 00 53.3 -1.3
comp=Z,4.3nm,0.5s
MAUC Maruska 16.47 340 *e*P Pn 17 00 53.6 -1.4
BIOA Bad Ischl, Aus 16.59 328 *e*Pn Pn 17 00 54.8 -1.7
comp=Z,4.9nm,0.4s,SNR=7.0
KIEV Kiev 16.63 6 ||P Pn 17 00 58.1 +1.1
KIEV Kiev 16.63 6 Pn 17 00 53.8 -3.2
KIEV Kiev 16.63 6 P Pn 17 00 59.1 +2.1
KIEV pmax pmax
comp=Z,226nm,0.7s
AKASG Malin Array Be 16.64 6 Pn 17 00 55.2 -1.9
AKASG Malin Array Be 16.64 6 *ce*P Pn 17 00 57.5 +0.4
AKASG pmax pmax
comp=Z,7.0nm,0.4s
AKASG Malin Array Be 16.64 6 Pn Pn 17 00 55.3 -1.9
comp=Z,2.3nm,0.4s,baz=194,slow=10,SNR=38
AKBB Malin Array Si 16.64 6 Pn 17 00 54.2 -2.9
AKBB IAmb IAmb 17 01 08.6
comp=Z,41nm,0.7s
AKBB Malin Array Si 16.64 6 ||*e*P Pn 17 00 57.0 -0.1
KRUC Moravsky 16.64 336 *e*P Pn 17 00 56.7 -0.5
KRUC Moravsky 16.64 336 P Pn 17 00 57.3 +0.1
KRUC pmax pmax
comp=Z,19nm,1.3s
SALO Salr 16.70 318 Pn 17 00 54.0 -4.0
GOF Gofitskoye 16.74 45 *ce*P P 17 01 06.9 +6.2
OJC Ojcow 16.76 345 Pn 17 00 57.0 -1.8
OJC Ojcow 16.76 345 P Pn 17 00 57.0 -1.8
OJC pmax pmax
comp=Z,14nm,0.9s
VRAC Vranov 16.79 337 ||P Pn 17 00 58.4 -0.8
VRAC Vranov 16.79 337 *e*P Pn 17 00 56.4 -2.7
VRAC Vranov 16.79 337 Pn Pn 17 00 57.0 -2.1
comp=Z,0.4nm,0.3s,baz=144,slow=11,SNR=10.0
comp=Z,3.7nm,0.6s
OKC Ostrava-Krasne 16.81 341 AMS AMS 17 11 00.0
comp=Z,500nm,14.2s
OKC Ostrava-Krasne 16.81 341 P Pn 17 00 57.7 -1.6
OKC pmax pmax
comp=Z,46nm,1.1s
LESA Schwarzleotal 16.82 326 *e*Pn Pn 17 00 59.0 -0.5
comp=Z,16nm,0.7s
MORC Moravsky Berou 16.92 340 ||P Pn 17 00 59.2 -1.5
MORC Moravsky Berou 16.92 340 *e*P Pn 17 00 58.7 -2.1
MORC Moravsky Berou 16.92 340 P Pn 17 00 59.0 -1.8
MORC pmax pmax
comp=Z,33nm,1.3s
CKRC Cesky Krumlov 17.20 332 *e*P Pn 17 01 02.3 -1.9
CKRC AMS AMS 17 09 30.0
comp=Z,900nm,9.3s
CKRC Cesky Krumlov 17.20 332 *e*P Pn 17 01 02.3 -1.9
CKRC MLR MLR
comp=Z,900nm,9.3s
WTTA Wattenberg 17.20 324 *e*Pn Pn 17 01 03.3 -1.1
comp=Z,18nm,1.0s,SNR=11
WTTA Wattenberg 17.20 324 P Pn 17 01 04.9 +0.5
WTTA pmax pmax
comp=Z,42nm,1.1s
MDI Monti di Nese 17.25 317 P Pn 17 01 05.2 +0.2
MDI pmax pmax
comp=Z,76nm,1.3s
WATA Walderalm 17.28 324 *i* Pn Pn 17 01 04.9 -0.5
comp=Z,4.1nm,0.3s
SQTA Sankt Quirin 17.38 323 *e*Pn Pn 17 01 05.9 -0.7
comp=Z,11nm,0.5s,SNR=9.7
KRLC Kraliky 17.41 339 *e*P Pn 17 01 05.8 -1.1
KRLC Kraliky 17.41 339 *e*P Pn 17 01 05.8 -1.1
GEC2 GERESS Array S 17.46 331 P Pn 17 01 05.7 -1.8
GEC2 pmax pmax
comp=Z,21nm,0.8s
GERES GERESS Array B 17.46 331 P Pn 17 01 05.7 -1.8
comp=Z,1.0nm,0.3s,baz=141,slow=12,SNR=17
GERES LR LR 17 08 19.3
comp=Z,268nm,18.8s,baz=148,slow=39
comp=Z,2.7nm,0.5s
FETA Feichten 17.49 322 *e*Pn Pn 17 01 08.1 +0.1
comp=Z,14nm,0.9s,SNR=15
MOTA Moosalm 17.52 323 *e*Pn Pn 17 01 07.7 -0.7
comp=Z,17nm,0.9s
KHC Kasperske Hory 17.73 331 Pn 17 01 07.3 -3.6
KHC Kasperske Hory 17.73 331 *e*P Pn 17 01 10.6 -0.3
KHC *ex* x 17 01 18.0
KHC AMS AMS 17 10 00.0
comp=Z,1µm,10.4s
KHC Kasperske Hory 17.73 331 *e*P Pn 17 01 10.6 -0.3
KHC MLR MLR
comp=Z,1µm,10.4s
ZVC Zvikov 17.75 333 *e*P Pn 17 01 11.0 0.0
DAVOX Davos/Dischmat 17.77 320 P Pn 17 01 11.2 -0.4
comp=Z,1.1nm,0.3s,baz=134,slow=16,SNR=19
DAVOX LR LR 17 10 01.6
comp=Z,390nm,20.5s,baz=117,slow=44
comp=Z,12nm,0.9s
DPC Dobruska-Polom 17.79 338 *e*P Pn 17 01 10.3 -1.3
DPC Dobruska-Polom 17.79 338 *e*P Pn 17 01 10.3 -1.3
TUE Stuetta 17.87 319 P Pn 17 01 13.8 +1.1
GOPC GO Pecny, Ondr 17.92 335 *e*P Pn 17 01 12.7 -0.5
GOPC AMS AMS 17 09 40.0
comp=Z,500nm,11.3s
GOPC GO Pecny, Ondr 17.92 335 *e*P Pn 17 01 12.7 -0.5
GOPC MLR MLR
comp=Z,500nm,11.3s

OSTC Ostas 18.00 338 *e*P **Pn** **17 01 12.2 -2.0**
OSTC Ostas 18.00 338 *e*P **Pn** **17 01 12.2 -2.0**
FUR Furstenfeldbru 18.01 325 P **Pn** **17 01 13.5 -0.7**
FUR pmax pmax
comp=Z,58nm,1.0s
UPC Upice 18.02 338 *e*P **Pn** **17 01 13.0 -1.4**
UPC AMS AMS 17 10 40.0
comp=Z,500nm,9.2s
UPC Upice 18.02 338 *e*P **Pn** **17 01 13.0 -1.4**
UPC MLR MLR
comp=Z,500nm,9.2s
WET Wettzell 18.03 330 P **Pn** **17 01 12.8 -1.7**
WET pmax pmax
comp=Z,19nm,0.9s
PRU Pruhonice 18.07 335 *e*P **Pn** **17 01 15.3 +0.3**
PRU AMS AMS 17 09 40.0
comp=Z,500nm,11.8s
PRU Pruhonice 18.07 335 *e*P **Pn** **17 01 15.3 +0.3**
PRU MLR MLR
comp=Z,500nm,11.8s
DAVA Damuels 18.10 321 *i* Pn **Pn** **17 01 14.5 -1.1**
comp=Z,11nm,0.5s
BEL Belsk 18.12 349 P **Pn** **17 01 16.7 +1.1**
KSP Ksiaz 18.23 339 *e*P **Pn** **17 01 14.6 -2.4**
KSP Ksiaz 18.23 339 P **Pn** **17 01 15.3 -1.7**
KSP pmax pmax
comp=Z,22nm,0.9s
LLS Linth-Limmern 18.28 319 P **Pn** **17 01 18.6 +0.8**
LLS pmax pmax
comp=Z,37nm,1.1s
MMK Mattmark 18.41 316 P **Pn** **17 01 20.4 +1.0**
MMK pmax pmax
comp=Z,28nm,0.9s
MBDF Montbardon 18.45 311 *e*P **Pn** **17 01 18.1 -1.7**
MBDF pmax pmax
comp=Z,31nm,1.0s
PVCC Panska Ves 18.51 336 *e*P **Pn** **17 01 19.8 -0.6**
PVCC AMS AMS 17 10 00.0
comp=Z,500nm,9.0s
PVCC Panska Ves 18.51 336 *e*P **Pn** **17 01 19.8 -0.6**
PVCC MLR MLR
comp=Z,500nm,9.0s
RRL Rocca Remolon 18.53 311 P **P** **17 01 24.4 +3.7**
RRL pmax pmax
comp=Z,29nm,1.4s
MAK Makhachkala 18.62 56*c* *i*P **P** **17 01 17.5 -3.9**
MAK *e*S **Sn** **17 04 44.0 -5.5**
MAK pmax pmax
comp=Z,174nm,1.0s
MAK MLR MLR
comp=Z,300nm,19.0s
GRB1 Grafenberg Arr 18.74 329 P **P** **17 01 20.8 -1.9**
GRB1 pmax pmax
comp=Z,51nm,1.0s
LPG La Plagne 18.84 313 *e*P **P** **17 01 24.3 +0.2**
LPG pmax pmax
comp=Z,11nm,0.7s
LPL La Plagne 18.86 313 *e*P **P** **17 01 24.1 -0.2**
LPL pmax pmax
comp=Z,6.0nm,0.4s
SENIN Lac Senin/Sane 18.96 316 P **P** **17 01 25.3 -0.2**
RSL Roselend 19.01 313 P **Pn** **17 01 29.0 +2.4**
RSL pmax pmax
comp=Z,28nm,0.7s
BRG Berggiesshubel 19.02 335 Amp 17 01 18.7
comp=Z,12nm,0.9s
BRG Berggiesshubel 19.02 335 P **P** **17 01 22.7 -3.1**
BRG Amp 17 01 23.6
comp=Z,16nm,0.9s
BRG Amp 17 10 23.0
comp=E,0.3nm,15.2s
BRG Amp 17 10 23.0
comp=Z,0.7nm,10.4s
BRG Amp 17 10 25.0
comp=N,0.6nm,10.1s
NKC Novy Kostel 19.06 332 *e*P **P** **17 01 26.1 -0.1**
NKC Novy Kostel 19.06 332 *e*P **P** **17 01 26.1 -0.1**
ORIF Oris-en-Rattie 19.10 310 *e*P **P** **17 01 27.8 +1.0**
ORIF pmax pmax
comp=Z,18nm,1.0s
SLE Schleitheim 19.13 321 P **P** **17 01 26.4 -0.6**
SLE pmax pmax
comp=Z,38nm,0.9s
GRA1 Grafenberg Arr 19.15 329 P **P** **17 01 25.7 -1.5**
GRF Grafenberg Arr 19.15 329 P **P** **17 01 25.7 -1.5**
GRF pmax pmax
comp=Z,27nm,0.9s
GRFO Grafenberg 19.15 329 P **P** **17 01 25.8 -1.4**
GRFO Grafenberg 19.15 329 P **P** **17 01 25.8 -1.4**
GRFO pmax pmax
comp=Z,29nm,0.9s
VORD Divnogorie 19.21 25 *e*P **P** **17 01 29.3 +1.4**
VORD pmax pmax
comp=Z,70nm,0.4s
VSR Storozhevoye 19.38 25 *e*P **P** **17 01 31.3 +1.6**
VSR pmax pmax
comp=Z,30nm,0.5s
STU Stuttgart 19.43 324 P **P** **17 01 29.2 -1.0**
STU pmax pmax
comp=Z,41nm,0.8s
BFO Black Forest 19.57 322 P **P** **17 01 30.6 -1.3**
BFO Black Forest 19.57 322 P **P** **17 01 30.6 -1.3**
BFO pmax pmax
comp=Z,26nm,0.7s
MOX Moxa 19.71 331 P **P** **17 01 33.5 +0.2**
MOX pmax pmax
comp=Z,27nm,1.4s
CLL Collm 19.71 334 P **P** **17 01 31.1 -2.2**
CLL Collm 19.71 334 *i* P **P** **17 01 32.4 -0.9**
comp=Z,22nm,1.1s
CLL *i* x x 17 01 40.3
CLL *i* x x 17 01 42.2
comp=Z,32nm,1.1s
CLL *i* (PP) 17 01 46.8
CLL *e*S **S** **17 05 14.0 -1.1**
CLL Collm 19.71 334 *i* P **P** **17 01 32.4 -0.9**
CLL *e*S **S** **17 05 14.0 -1.1**
CLL pmax pmax
comp=Z,22nm,1.1s
VORR Voronezh 19.77 24 *e*P **P** **17 01 36.0 +2.0**
VORR pmax pmax
comp=Z,44nm,1.4s
CABF La Chapelle 19.80 315 *e*P **P** **17 01 32.3 -2.2**
CABF pmax pmax
comp=Z,65nm,1.4s
VIVF Saint-Julien-l 19.84 309 *e*P **P** **17 01 35.3 +0.4**
VIVF pmax pmax
comp=Z,70nm,1.8s
SUW Suwalki 19.97 354 *e*P **P** **17 01 35.3 -0.8**
SUW Suwalki 19.97 354 P **P** **17 01 33.0 -3.1**
SUW Suwalki 19.97 354 *e*P **P** **17 01 35.5 -0.6**
SUW Suwalki 19.97 354 P **P** **17 01 33.0 -3.1**
SUW pmax pmax
comp=Z,149nm,1.1s
HINF Hinteralfeld 20.04 319 *e*P **P** **17 01 35.4 -1.6**
HINF pmax pmax
comp=Z,11nm,0.7s
SSB Saint Sauveur 20.11 310 P **P** **17 01 34.8 -3.0**
SSB Saint Sauveur 20.11 310 P **P** **17 01 34.8 -3.0**
SSB pmax pmax
comp=Z,13nm,0.9s
ECH Echery 20.11 320 IAmb IAmb 17 01 50.2
comp=Z,35nm,1.0s
CDF Champ du Feu 20.17 321 *e*P **P** **17 01 37.7 -0.8**
CDF pmax pmax
comp=Z,30nm,0.8s
GKP Gorka Klasztor 20.19 344 P **P** **17 01 37.2 -1.3**
GKP pmax pmax
comp=Z,120nm,1.1s
VRH Novokhopyorsk 20.32 28 *e*P **P** **17 01 42.4 +2.5**
VRH pmax pmax
comp=Z,97nm,1.9s
MNK Minsk 20.35 2 *i* P **P** **17 01 40.6 +0.4**
comp=E,10.0nm,1.0s
MNK *i* P **P** **17 01 40.6 +0.4**
comp=N,67nm,0.8s
MNK *i* P **P** **17 01 40.6 +0.4**
comp=Z,72nm,0.8s,baz=184
MNK *i* PP **PnPn** **17 01 55.8 -1.5**
MNK *i* PPP PPP 17 02 04.6
MNK *i* S **S** **17 05 30.1 +2.4**
MNK *i* SS **SnSn** **17 05 46.6 +0.8**
MNK *i* SSS SSS 17 05 59.5
MNK *i* LQ LQ 17 07 22.6
MNK *i* LR LR 17 09 19.8
MNK *i* LRM MLR 17 09 57.8
comp=E,190nm,13.5s
MNK *i* LRM MLR 17 10 24.9
comp=Z,227nm,12.0s
MNK *i* LRM MLR 17 10 28.3
comp=N,126nm,11.6s
MNK Minsk 20.35 2 *i* P **P** **17 01 40.6 +0.4**
MNK *i* 17 01 55.7
MNK *i* PPP PPP 17 02 04.5
MNK *i* SS Sn 17 05 46.5 +15
MNK *i* SSS SSS 17 05 59.5
MNK pmax pmax
comp=Z,72nm,0.8s
MNK pmax pmax
comp=E,10.0nm,1.0s
MNK pmax pmax
comp=N,67nm,0.8s
MNK MLR MLR
comp=E,190nm,14.0s
MNK MLR MLR
comp=Z,227nm,12.0s
MNK MLR MLR
comp=N,126nm,12.0s
HAU Haudompre 20.43 319 *e*P **P** **17 01 39.8 -1.4**
HAU pmax pmax
comp=Z,22nm,0.7s
RUE Ruedersdorf 20.43 337 *e*P **P** **17 01 40.6 -0.5**
LPSR Galich'ya Gora 20.47 22 *e*P **P** **17 01 40.6 -1.0**
LPSR pmax pmax
comp=Z,70nm,0.8s
NACGM Naroch 20.73 1 *e*P **P** **17 01 40.7 -3.7**
comp=Z,8.0nm,0.8s,baz=181
TNS Taunus Mts 20.77 326 P **P** **17 01 44.4 -0.6**
TNS pmax pmax
comp=Z,46nm,0.7s
MTLF Montolieu 20.94 303 *e*P **P** **17 01 45.6 -1.2**
MTLF pmax pmax
comp=Z,29nm,1.2s
SMF Signal de Mont 21.16 313 *e*P **P** **17 01 47.8 -1.4**
SMF pmax pmax
comp=Z,14nm,0.8s
ISAL Salakas 21.40 359 *e*P **P** **17 01 51.8 +0.3**
PABE Paberze 21.40 356 P **P** **17 01 50.6 -1.0**
PABE IAmb IAmb 17 02 02.2
comp=Z,46nm,0.7s
PABE Paberze 21.40 356 *e*P **P** **17 01 50.8 -0.8**
LOR Lormes 21.45 314 P **P** **17 01 51.8 -0.5**
LOR pmax pmax
comp=Z,29nm,0.8s
WLF Walferdange 21.52 322 P **P** **17 01 50.1 -2.9**
WLF IAmb IAmb 17 02 12.9
comp=Z,56nm,0.9s
WLF Walferdange 21.52 322 *d*P **P** **17 01 52.8 -0.2**
WLF *d*PP **PnPn** **17 02 10.7 -2.6**
WLF Walferdange 21.52 322 P **P** **17 01 54.8 +1.8**
WLF Walferdange 21.52 322 P **P** **17 01 50.1 -2.9**
WLF pmax pmax
comp=Z,56nm,0.9s
AVF Avril sur Loir 21.53 313 *e*P **P** **17 01 52.2 -0.9**
AVF pmax pmax
comp=Z,7.0nm,0.8s
TAM Tamanrasset 21.57 244 P **P** **17 01 53.8 0.0**
TAM IAmb IAmb 17 02 08.9
comp=Z,29nm,1.0s
TAM Tamanrasset 21.57 244 P **P** **17 01 53.8 0.0**
TAM pmax pmax
comp=Z,29nm,1.0s
IZAR Zarasai 21.58 360 *e*P **P** **17 01 53.4 -0.1**
CAF Calviac 21.58 307 *e*P **P** **17 01 55.7 +2.1**
CAF pmax pmax
comp=Z,13nm,0.9s
VSVD Vaisvydziai 21.88 356 *e*P **P** **17 01 56.7 0.0**
BHOU Houvegnez 22.03 323 *d*P **P** **17 01 58.5 +0.1**
PBUR Paburge 22.07 353 *e*P **P** **17 01 58.3 -0.4**
RJF Les Rejaudoux 22.08 308 *e*P **P** **17 01 58.0 -1.0**
RJF pmax pmax
comp=Z,44nm,1.4s
OBN Obninsk 22.09 16 P **P** **17 01 58.6 -0.4**
OBN Obninsk 22.09 16 *i* P **P** **17 01 57.7 -1.3**
OBN *i* 17 02 20.3
OBN pmax pmax
comp=Z,20nm,0.8s
OBN MLR MLR
comp=Z,212nm,14.0s
OBN Obninsk 22.09 16 P **P** **17 01 58.8 -0.2**
comp=Z,17nm,0.4s,baz=339,slow=2.0,SNR=3.5
comp=Z,17nm,0.4s
BTNL Ternell 22.12 324 *d*P **P** **17 01 59.1 -0.2**
BUG Bochum--Univer 22.16 327 P **P** **17 01 59.0 -0.7**
BUG pmax pmax
comp=Z,55nm,1.2s
EPF Esparros 22.17 301 *e*P **P** **17 01 59.9 -0.2**
EPF pmax pmax
comp=Z,55nm,2.0s
MEM Membach 22.20 324 *d*P **P** **17 01 59.6 -0.5**
MEM Membach 22.20 324 P **P** **17 02 00.1 -0.1**
MEM pmax pmax
comp=Z,81nm,1.0s
RCHB Rochefort 22.30 322 *d*P **P** **17 01 59.9 -1.4**
BSTI Sart Tilman 22.39 323 *d*P **P** **17 02 02.4 +0.1**
BCLA Clavier 22.42 323 *d*P **P** **17 02 01.7 -0.9**
BSD Bornholm Skovb 22.43 342 *e*P **P** **17 02 00.0 -2.6**
BSD Bornholm Skovb 22.43 342 *e*P **P** **17 01 58.8 -3.8**
GIVF Givet 22.47 322 *e*P **P** **17 02 01.8 -1.4**
GIVF pmax pmax
comp=Z,12nm,0.6s
CART Cartagena 22.47 287 P **P** **17 02 05.6 +2.3**
BEBN Eben Emael 22.48 324 *d*P **P** **17 02 03.4 +0.3**
BGES Gesves 22.51 322 *d*P **P** **17 02 03.2 -0.4**
ECHE Chera 22.55 292 P **P** **17 02 05.7 +1.6**
DOU Dourbes 22.59 321 *d*P **P** **17 02 03.9 -0.5**
DOU Dourbes 22.59 321 P **P** **17 02 05.4 +1.0**
DOU pmax pmax
comp=Z,43nm,1.2s
BMRD Maredsous 22.62 322 *d*P **P** **17 02 05.7 +1.0**
EMUR La Murta 22.67 287 P **P** **17 02 07.8 +2.4**
BAIF Baives 22.77 321 *e*P **P** **17 02 06.0 -0.3**
BAIF pmax pmax
comp=Z,37nm,0.8s
ETSF Etsaut 22.78 300 *e*P **P** **17 02 07.3 +0.7**
ETSF pmax pmax
comp=Z,3.0nm,0.4s
BSEG Bad Segeberg 22.81 335 P **P** **17 02 05.4 -1.2**
BSEG pmax pmax
comp=Z,43nm,1.1s
MOS Moscow 22.91 16 *e*P **P** **17 02 04.5 -3.2**
MOS *e* 17 02 30.8
MOS *e*S **S** **17 06 11.2 -5.7**
MOS pmax pmax
comp=Z,61nm,1.0s
ETOB Tobarra 22.93 289 P **P** **17 02 09.3 +1.1**
SJPF Ste Jean 23.30 301 *e*P **P** **17 02 12.4 +0.5**
SJPF pmax pmax
comp=Z,33nm,1.3s
BLEU Blekinge 23.31 345 *e*P P 17 02 06.0 -5.7
ENIJ Nijar 23.44 285 P **P** **17 02 15.5 +2.2**
SLIT Slītere, Latvi 23.63 354 *e*P **P** **17 02 12.1 -2.7**
MFF Saint Martin d 23.64 310 *e*P **P** **17 02 14.9 -0.2**
MFF pmax pmax
comp=Z,18nm,0.6s
BELG Belogornoye 23.71 33⇑ *e*P **P** **17 02 14.7 -1.0**
BELG pmax pmax
comp=Z,3.0nm,1.0s
BELG Belogornoye 23.71 33 P **P** **17 02 15.1 -0.6**
comp=Z,16nm,0.6s,baz=246,slow=20,SNR=5.0
BELG LR LR 17 13 41.2
comp=Z,183nm,19.2s,baz=310,slow=42
comp=Z,16nm,0.6s
BJUU Bjuv 23.78 341 *i* P **P** **17 02 15.6 -0.7**
DEL Delary 23.91 343 *e*P **P** **17 02 13.6 -4.1**
DEL Delary 23.91 343 *i* P **P** **17 02 13.9 -3.7**
EBER Berja 23.99 285 P **P** **17 02 21.7 +2.8**
VSU Vasula 24.30 0 *e*P **P** **17 02 20.7 -0.5**
LDF La Druitiere 24.44 314 *e*P **P** **17 02 21.3 -1.3**
LDF pmax pmax
comp=Z,80nm,1.4s
MTSE Matsula 24.61 357 *e*P **P** **17 02 23.3 -0.7**
FABU Falkenberg 24.68 342 *e*P **P** **17 02 24.0 -0.7**
FLN La Foliniere 24.73 314 *e*P **P** **17 02 24.0 -1.2**
FLN pmax pmax
comp=Z,42nm,1.0s
GRR Gorron 24.79 313 *e*P **P** **17 02 26.0 +0.2**
GRR pmax pmax
comp=Z,21nm,0.7s
ESBB Sonseca Array 24.86 292 P **P** **17 02 26.5 -0.1**
ESBB IAmb IAmb 17 02 36.0
comp=Z,22nm,0.9s
ESDC Sonseca Array 24.86 292 P **P** **17 02 25.9 -0.7**
ESDC Sonseca Array 24.86 292 P **P** **17 02 26.4 -0.1**
comp=Z,21nm,1.0s,baz=81,slow=9.2,SNR=72
ESDC LR LR 17 13 18.7
comp=Z,92nm,21.0s,baz=92,slow=39
comp=Z,21nm,1.0s
GUD Guadarrama 25.07 294 P **P** **17 02 27.6 -1.0**
PAB San Pablo 25.15 291 P **P** **17 02 29.7 +0.5**
PAB IAmb IAmb 17 02 40.2
comp=Z,19nm,0.8s
PAB San Pablo 25.15 291 P **P** **17 02 29.7 +0.5**
PAB pmax pmax
comp=Z,19nm,0.9s
VIKU Vikbolandet 25.20 348 *e*P **P** **17 02 28.8 -0.5**
PUL Pulkovo 25.74 5‖ *e*P **P** **17 02 34.9 +0.7**
PUL pmax pmax
comp=Z,47nm,1.0s
SGMF Saint Gilles 25.78 312 *e*P **P** **17 02 34.7 0.0**
SGMF pmax pmax
comp=Z,96nm,1.6s
GEYT Alibeck 25.81 72 P **P** **17 02 35.7 +0.5**
GEYT IAmb IAmb 17 02 58.8
comp=Z,25nm,0.8s
GEYT Alibeck 25.81 72 P **P** **17 02 35.7 +0.5**
GEYT pmax pmax
comp=Z,25nm,0.9s
GEYT Alibeck 25.81 72 P **P** **17 02 35.5 +0.4**
comp=Z,7.2nm,0.4s,baz=279,slow=8.0,SNR=22
comp=Z,7.2nm,0.4s
GYA0B ALIBECK ARRAY 25.81 72 P **P** **17 02 36.0 +0.8**
MDT Midelt 25.89 276 LR LR 17 14 47.3
comp=Z,237nm,19.4s,baz=115,slow=41
MEF Metsahovi 26.09 358 *e*P **P** **17 02 36.2 -1.2**
ROSF Rostrenen 26.25 312 *e*P **P** **17 02 38.2 -0.8**
ROSF pmax pmax
comp=Z,61nm,1.2s
UPP Uppsala 26.34 350 *e*P **P** **17 02 39.9 +0.2**
RAF Rauma 27.04 355 *e*P **P** **17 02 44.1 -1.8**
PBRG Braganca 27.12 296 *e*P **P** **17 02 47.5 +0.5**
comp=Z,39nm,2.2s
PBAR Barrancos 27.24 288 *e*P **P** **17 02 48.0 -0.1**
comp=Z,35nm,1.2s
HFS Hagfors 27.28 346 P **P** **17 02 47.3 -0.9**
comp=Z,6.5nm,0.6s,baz=134,slow=8.5,SNR=28
HFS LR LR 17 15 16.2
comp=Z,219nm,19.7s,baz=158,slow=40
comp=Z,6.5nm,0.6s
FIA1 FINESS Array S 27.29 360 P **P** **17 02 46.9 -1.3**
FINES FINESS Array B 27.29 360 P **P** **17 02 46.3 -1.8**
FINES FINESS Array B 27.29 360 P **P** **17 02 45.8 -2.4**
comp=Z,3.0nm,0.4s,baz=160,slow=11,SNR=45
comp=Z,3.0nm,0.4s
MVO Moncorvo 27.29 295 *e*P **P** **17 02 48.3 -0.3**
comp=Z,34nm,1.8s
SNART Snartemo 27.39 338 *e*P **P** **17 02 48.5 -0.7**
PMRV Marv??o 27.50 291 *e*P **P** **17 02 50.4 0.0**
comp=Z,38nm,2.0s
MTE Manteigas 27.64 293 *e*P **P** **17 02 49.3 -2.4**
comp=Z,35nm,1.9s
PESTR Estremoz 27.66 290 *e*P **P** **17 02 52.1 +0.3**
comp=Z,54nm,1.7s
PESTR *e*pP **pwP** **17 03 00.8 +1.8**
PESTR Estremoz 27.66 290 P **P** **17 02 51.9 +0.1**
PVAQ Vaqueiros 27.82 287 *e*P **P** **17 02 53.9 +0.7**
comp=Z,6.6nm,1.8s
POLO Lamas de Olo 27.88 295 *e*pP pP 17 02 59.6 +2.0
PBEJ Beja 27.90 288 *e*pP pP 17 02 58.7 +1.0
PVIS Viseu 27.92 294 *e*P **P** **17 02 55.2 +1.0**
EVO Evora 28.00 289 *e*P **P** **17 02 55.9 +1.1**
comp=Z,30nm,1.3s
PBDV Barranco-do-Ve 28.00 286 *e*P **P** **17 02 55.7 +0.8**
comp=Z,67nm,1.1s
PBDV *e*pP **pwP** **17 03 04.1 +2.0**
KLMR Klimovskoe 28.00 14 *e*P **P** **17 02 52.7 -1.9**
KLMR AMP 17 03 03.0
comp=Z,48nm,0.7s
KLMR Klimovskoe 28.00 14 *e*P **P** **17 02 52.7 -1.9**
KLMR pmax pmax
comp=Z,48nm,0.7s
PCVE Castro Verde 28.06 287 *e*pP pP 17 03 03.8 +4.6
PMTG Montargil 28.15 290 *e*P **P** **17 02 56.7 +0.5**
comp=Z,25nm,1.5s
AKTO Aktyubinsk 28.16 45 LR LR 17 18 33.8
comp=Z,203nm,19.4s,baz=276,slow=46
MESJ Messejana 28.19 288 *e*P **P** **17 02 57.2 +0.6**
comp=Z,46nm,2.0s
NC602 NORSAR Array S 28.28 345 P **P** **17 02 56.8 -0.3**
NC602 IAmb IAmb 17 03 04.6
comp=Z,18nm,1.1s
NORES NORESS Array B 28.28 345 P **P** **17 02 56.4 -0.7**
PCAS Casmilo, Conde 28.36 292 *e*pP pP 17 03 09.6 +7.8
PTEO Sao Teotonio 28.61 287 *e*pP pP 17 03 09.8 +5.8
NB201 NORSAR Array S 28.62 345 P **P** **17 02 59.7 -0.4**
NB201 IAmb IAmb 17 03 08.8
comp=Z,33nm,1.2s
NB2 NORSAR Subarra 28.63 345 P **P** **17 02 58.4 -1.8**
comp=Z,14nm,1.4s,baz=156,slow=9.3
NOA NORSAR Array B 28.63 345 P **P** **17 02 58.1 -2.1**
comp=Z,1.0nm,0.5s,baz=146,slow=9.1,SNR=10
NOA LR LR 17 16 15.3
comp=Z,194nm,18.3s,baz=165,slow=40
comp=Z,1.0nm,0.5s
NBO00 NORSAR Array S 28.72 344 P **P** **17 02 59.3 -1.8**
PFVI Vila Bisbo 28.72 286 *e*P **P** **17 03 02.7 +1.4**
comp=Z,124nm,1.7s
KIRV Kirov 28.82 25‖ *e*P **P** **17 03 02.7 +0.8**
KIRV Kirov 28.82 25 LR LR 17 15 49.9
comp=Z,167nm,19.7s,baz=215,slow=39
ABKAR Akbulak array 28.90 48 P **P** **17 03 04.5 +1.7**
EKA Eskdalemuir Ar 29.46 325 P **P** **17 03 06.4 -1.2**
comp=Z,7.5nm,0.8s,baz=127,slow=12,SNR=20
comp=Z,7.5nm,0.8s
HRA Herat 29.48 79 P **P** **17 03 07.0 -1.3**
PRGR Permogore 30.09 18 *e*P **P** **17 03 16.3 +3.2**
PRGR pmax pmax
comp=Z,26nm,1.0s
TOA0 Torodi Ar. Sit 30.71 233 P **P** **17 03 20.1 +1.0**
TORD Torodi Ar. Bea 30.71 233 P **P** **17 03 19.3 +0.2**
TORD IAmb IAmb 17 03 26.4
comp=Z,11nm,0.8s
TORD Torodi Ar. Bea 30.71 233 P **P** **17 03 20.2 +1.2**
comp=Z,11nm,0.7s,baz=36,slow=12,SNR=63
TORD PcP **PcP** **17 06 17.4 +0.6**
comp=Z,0.5nm,0.5s,baz=52,slow=2.8,SNR=1.9
TORD LR LR 17 17 42.6
comp=Z,1μm,18.2s,baz=38,slow=40
comp=Z,11nm,0.7s
ARU Arti 31.23 35 P **P** **17 03 21.4 -1.9**
ARU Arti 31.23 35 *d* *i*P **P** **17 03 24.8 +1.5**
ARU 17 04 24.5
ARU S **S** **17 08 32.8 +3.8**
ARU SS **SnSn** **17 10 12.6 +1.1**
ARU pmax pmax
comp=Z,8.0nm,1.3s
ARU Arti 31.23 35 LR LR 17 18 11.3
comp=Z,125nm,20.5s,baz=222,slow=41
LODK Lodwar 31.70 163 P **P** **17 03 28.8 +1.0**
SVE Sverdlovsk 32.42 35 *e*P P 17 03 43.2 +9.4
SVE pmax pmax
comp=Z,11nm,0.6s
APA Apatity 33.68 5‖ *i*P **P** **17 03 44.7 +0.1**
APA pmax pmax
comp=Z,14nm,0.7s
APA MLR MLR
comp=Z,600nm,13.0s
LVZ Lovozero 34.10 6⇑ *e*P **P** **17 03 47.5 -0.8**
LVZ pmax pmax
comp=Z,18nm,1.6s
CHGR Chuyangaron 34.43 70 P **P** **17 03 51.4 -0.2**
CHGR Chuyangaron 34.43 70 P **P** **17 03 51.4 -0.2**
CHGR pmax pmax
comp=Z,26nm,0.5s
KK31 Karatay Array 35.21 62 IAmb IAmb 17 04 09.7
comp=Z,10.0nm,0.8s
KKAR Karatay Array 35.21 62 IAmb IAmb 17 04 09.7
comp=Z,10.0nm,0.8s
ARCES ARCESS Array B 35.42 359 IAmb IAmb 17 04 08.9
comp=Z,15nm,0.9s
ARCES ARCESS Array B 35.42 359 P **P** **17 03 57.5 -2.1**
comp=Z,1.8nm,0.4s,baz=180,slow=9.2,SNR=40
ARCES PcP **PcP** **17 06 28.9 -0.1**
comp=Z,1.6nm,0.6s,baz=184,slow=2.5,SNR=1.7
comp=Z,1.8nm,0.4s

BRVK Borovoye 36.22 45 P P 17 04 06.6 0.0
BRVK IAmb IAmb 17 04 17.9
comp=Z,13nm,1.0s
BRVK Borovoye 36.22 45 *ce*P **P 17 04 07.6 +0.9**
BRVK pmax pmax
comp=Z,13nm,1.7s
BVAR Borovoye Array 36.27 45 P P 17 04 08.1 +0.9
comp=Z,2.5nm,0.6s
comp=Z,2.5nm,0.6s
ARSB Arslanbob 37.12 65 P P 17 04 15.9 +1.2
ARSB Arslanbob 37.12 65 P P **17 04 15.9 +1.2**
ARSB pmax pmax
comp=Z,3.0nm,0.9s
KIBK Kibwezi 37.92 161 P P 17 04 23.0 +1.4
AAK Ala-Archa 38.15 63 P P 17 04 24.6 +1.2
AAK Ala-Archa 38.15 63 *d i*P **P 17 04 24.6 +1.2**
AAK pmax pmax
comp=Z,9.0nm,1.7s
NIL Nilore 38.57 77 P P 17 04 26.1 -0.8
NIL IAmb IAmb 17 04 39.2
comp=Z,15nm,0.7s
NIL Nilore 38.57 77 P P 17 04 26.2 -0.8
NIL pmax pmax
comp=Z,15nm,0.7s
KSH Kashi 39.58 67 P P 17 04 34.3 -1.1
KSH sP pwP 17 04 42.4 -0.7
KSH pmax pmax
comp=Z,4.0nm,1.0s
DBIC Dimbokro 39.81 234 P P 17 04 38.1 +0.7
comp=Z,5.9nm,0.4s,baz=38,slow=8.0,SNR=11
comp=Z,5.9nm,0.4s
TIC Toumodi 39.94 234⇑ *e*P **P 17 04 37.4 -1.1**
comp=Z,4.8nm,0.6s
KIC Kosan Boka 39.97 233⇑ *e*P **P 17 04 39.5 +0.8**
comp=Z,12nm,0.7s
LIC Lamto 40.26 233⇑ *e*P **P 17 04 41.9 +0.8**
comp=Z,14nm,0.5s
TARG Taragay, Kyrgy 40.68 64 P P 17 04 43.8 -1.0
TARG Taragay, Kyrgy 40.68 64 P P 17 04 43.8 -1.0
TARG pmax pmax
comp=Z,6.0nm,0.9s
KURBB Kurchatov Arra 40.92 50 P P 17 04 46.7 +0.5
comp=Z,6.9nm,0.6s,baz=277,slow=8.7,SNR=43
KURBB PcP **PcP 17 06 47.0 +0.6**
comp=Z,2.4nm,0.9s,baz=278,slow=4.3,SNR=3.2
comp=Z,6.9nm,0.6s
KURK Kurchatov 40.98 50 P P 17 04 46.6 -0.1
KURK IAmb IAmb 17 04 57.9
comp=Z,25nm,0.8s
KURK Kurchatov 40.98 50 *d i*P **P 17 04 47.1 +0.4**
KURK pmax pmax
comp=Z,19nm,1.3s
BORG Borgarnes 41.92 332 LR LR 17 23 18.6
comp=Z,120nm,19.6s,baz=136,slow=38
MK31 Makanchi Array 43.44 56 P P 17 05 07.2 +0.4
MK31 IAmb IAmb 17 05 18.6
comp=Z,16nm,0.7s
MK31 Makanchi Array 43.44 56 *de*P **P 17 05 07.3 +0.5**
MKAR Makanchi Array 43.44 56 P P 17 05 07.0 +0.2
MKAR Makanchi Array 43.44 56 P P 17 05 07.5 +0.7
comp=Z,2.8nm,0.4s,baz=267,slow=7.3,SNR=33
MKAR PcP **PcP 17 06 55.0 +0.1**
comp=Z,1.3nm,0.7s,baz=257,slow=3.4,SNR=0.9
comp=Z,2.8nm,0.4s
SPITS Spitsbergen Ar 44.32 357 P P 17 05 12.4 -1.1
comp=Z,1.5nm,0.4s,baz=149,slow=12,SNR=29
comp=Z,1.5nm,0.4s
SCO Scoresbysund 44.64 339 P P 17 05 16.6 +0.6
SCO IAmb IAmb 17 05 26.4
comp=Z,22nm,1.0s
SCO Scoresbysund 44.64 339 P P 17 05 16.6 +0.6
SCO pmax pmax
comp=Z,22nm,1.0s
SCO Scoresbysund 44.64 339 *i* P **P 17 05 16.6 +0.6**
SCO IAmb IAmb 17 05 26.4
comp=Z,8.6nm,0.8s
ZAA0 Zalesovo Array 44.92 45 P P 17 05 18.8 +0.2
ZALV Zalesovo Beam 44.92 45 P P 17 05 18.6 0.0
comp=Z,9.2nm,0.5s,baz=267,slow=8.9,SNR=42
ZALV LR LR 17 27 33.4
comp=Z,97nm,19.1s,baz=243,slow=41
comp=Z,9.2nm,0.5s
DBG Daneborg 46.14 344 *i* P **P 17 05 27.4 -0.5**
DBG IAmb IAmb 17 05 40.7
comp=Z,2.7nm,0.8s
DGZ Jazzator, Alta 46.65 51 *de*P **P 17 05 33.3 +0.8**
DGZ pmax pmax
comp=Z,7.0nm,0.8s
DAG Danmarks Havn 47.25 347 *i* P **P 17 05 35.9 -0.7**
DAG IAmb IAmb 17 05 45.3
comp=Z,3.1nm,0.6s
WMQ Urumqi 47.58 59 *e*P **P 17 05 41.1 +1.3**
WMQ sP pwP 17 05 50.8 +3.3
WMQ pmax pmax
comp=Z,9.0nm,0.9s
WMQ LR LR
comp=Z,160nm,29.2s
DANN Dangsing 48.79 80 *e*P **P 17 05 50.9 +1.4**
comp=Z,75nm,0.5s
GKN Gorkha 49.64 80 *e*P **P 17 05 56.6 +0.7**
comp=Z,22nm,0.4s
NOR Nord 50.06 352 *i* P **P 17 05 56.6 -1.6**
NOR IAmb IAmb 17 06 07.0
comp=Z,8.0nm,1.1s
DMN Daman 50.17 81 *e*P **P 17 06 00.8 +0.7**
KKN Kakani 50.24 80 *e*P **P 17 06 01.2 +0.6**
comp=Z,70nm,0.7s
PKIN Phulchoki 50.42 81 *e*P **P 17 06 02.9 +0.9**
PKI Pulchoki 50.43 81 *e*P **P 17 06 02.7 +0.6**
comp=Z,68nm,0.9s
GUN Gumba 50.69 80 *e*P **P 17 06 04.8 +0.7**
comp=Z,83nm,0.7s
JIRN Jiri 51.04 80 *e*P **P 17 06 07.6 +0.9**
comp=Z,74nm,0.8s
RAMN Ramite 51.65 81 *e*P **P 17 06 11.3 +0.1**
comp=Z,15nm,0.6s
ODAN Odare 52.33 81 *e*P **P 17 06 16.2 -0.1**
TAPN Taplejung 52.40 80 *e*P **P 17 06 17.1 +0.3**
comp=Z,9.7nm,0.3s
TSUM Tsumeb 53.75 190 LR LR 17 31 07.4
comp=Z,657nm,19.5s,baz=334,slow=38
SFJD Kangerlussuaq 54.05 332 LR LR 17 32 46.8
comp=Z,331nm,18.8s,baz=213,slow=40
LSA Lhasa 54.27 76 P P 17 06 29.2 -1.6
LSA IAmb IAmb 17 06 44.5
comp=Z,5.5nm,0.6s
LSA Lhasa 54.27 76 P P 17 06 29.2 -1.6
LSA pmax pmax
comp=Z,6.0nm,0.6s
GOMU GeErMu 54.83 67 P P 17 06 35.9 +1.3
GOMU pmax pmax
comp=Z,6.0nm,1.2s
MOY Mondy 54.89 47 *e*P P 17 06 45.8 +11
MOY pmax pmax
comp=Z,47nm,1.8s
MALK Mahakanadarawa 55.79 104 PP PP 17 08 52.2 +6.3
SHL Shillong 56.54 80 P P 17 06 46.0 -0.8
SHL Shillong 56.54 80 P P 17 06 46.0 -0.8
SHL pmax pmax
comp=Z,11nm,0.6s
PALK Pallekele 56.57 105 LR LR 17 34 54.8
comp=Z,269nm,18.5s,baz=50,slow=40
ZAK Zakamensk 56.60 48 *e*P **P 17 06 47.4 +0.6**
ZAK pmax pmax
comp=Z,19nm,1.0s
GTA Gaotai 57.49 62 *e*P **P 17 06 54.5 +1.2**
GTA sP pwP 17 07 04.0 +2.9
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA LR LR
comp=Z,120nm,20.7s
GTA LR LR
comp=Z,140nm,20.4s
GTA LR LR
comp=Z,180nm,21.1s
LBTB Lobatse 58.87 181 LR LR 17 33 43.8
comp=Z,229nm,19.6s,baz=351,slow=37
SONM Songino Array 59.29 50 P P 17 07 05.7 0.0
SONM Songino Array 59.29 50 P P 17 07 06.3 +0.6
comp=Z,3.5nm,0.7s,baz=280,slow=8.9,SNR=19
comp=Z,3.5nm,0.7s
ULN Ulaanbaatar 59.70 50 P P 17 07 09.4 +0.8
ULN IAmb IAmb 17 07 19.5
comp=Z,8.9nm,0.8s
ULN Ulaanbaatar 59.70 50 *de*P **P 17 07 09.3 +0.7**
ULN pmax pmax
comp=Z,10.0nm,1.7s
BOD Bodaibo 60.58 38 *e*P **P 17 07 15.5 +1.3**
BOD pmax pmax
comp=Z,14nm,1.2s
LZH Lanzhou 61.67 64 *e*P **P 17 07 23.5 +1.2**
LZH pP sP 17 07 27.8 +0.2
LZH pmax pmax
comp=Z,12nm,1.1s
TIXI Tiksi 61.71 21 P P **17 07 20.9 -0.8**
TIXI IAmb IAmb 17 07 31.1
comp=Z,8.0nm,0.8s
TIXI Tiksi 61.71 21⇓ *e*P **P 17 07 21.2 -0.5**
TNCH TengChong 62.17 77 P P **17 07 28.4 +2.6**
TNCH pmax pmax
comp=Z,150nm,7.4s
BOSA Boshof 62.46 181 P P **17 07 29.2 +1.9**
comp=Z,2.1nm,0.5s,baz=5.9,slow=6.9,SNR=13
comp=Z,2.1nm,0.5s
CD2 Chengdu 63.74 69 P P **17 07 37.3 +1.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
PZH PanZhiHua 64.10 74 P P **17 07 38.8 +0.3**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,200nm,5.1s
SCHQ Schefferville 64.63 320 P P **17 07 41.0 -0.4**
comp=Z,8.1nm,0.4s,baz=62,slow=3.9,SNR=20
comp=Z,8.1nm,0.4s
HHC Hu-ho-hao-te 65.30 56 *e*P P **17 07 47.4 +1.3**
HHC pmax pmax
comp=Z,52nm,0.8s
HHC pmax pmax
comp=Z,260nm,4.4s
CHTO Chiang Mai 65.45 83 P P **17 07 46.7 -0.5**
CHTO IAmb IAmb 17 08 00.8
comp=Z,5.2nm,0.9s
CHTO Chiang Mai 65.45 83 P P **17 07 46.7 -0.5**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CM31 Chiang Mai Arr 65.62 84 P P **17 07 48.4 0.0**
CMAR Chiang Mai Arr 65.62 84 P P **17 07 48.9 +0.5**
comp=Z,7.1nm,1.0s,baz=298,slow=8.2,SNR=40
CMAR LR LR 17 43 02.8
comp=Z,37nm,18.4s,baz=285,slow=42
comp=Z,7.1nm,1.0s
CRAI Chiangrai 65.93 81 P P **17 07 51.2 +0.8**
YAK Yakutsk 66.19 30 *e*P P **17 07 52.0 +0.7**
YAK *e**PP pwP 17 08 05.0 +6.1
YAK *e* 17 08 26.3
YAK *e* 17 10 17.9
YAK *e*PPP PPP 17 11 49.2
YAK *e*S **S 17 16 38.5 -0.8**
YAK *e**SS sS 17 17 13.9 +28
YAK pmax pmax
comp=Z,9.0nm,1.3s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,8.0nm,2.3s
YAK pmax pmax
comp=Z,79nm,5.8s
YAK pmax pmax
comp=N,106nm,5.9s
YAK pmax pmax
comp=E,89nm,5.3s
YAK smax smax
comp=E,92nm,3.6s
YAK smax smax
comp=N,79nm,4.0s
XAN Xi'an 66.31 64 P P **17 07 53.3 +0.7**
XAN pmax pmax
comp=N,11nm,1.0s
SUR Sutherland 66.41 185 LR LR 17 37 41.0
comp=N,310nm,19.0s,baz=0.0,slow=37
HIA Hailar 66.96 45 P P **17 07 55.1 -1.4**
HIA Hailar 66.96 45 P P **17 07 55.1 -1.4**
HIA pmax pmax
comp=Z,56nm,1.5s
GYA Guiyang 68.03 72 P P **17 08 04.3 +0.6**
GYA pmax pmax
comp=Z,14nm,1.0s
HNS HongShan 69.00 58 *e*P P **17 08 13.3 +3.8**
ZEA Zeya 69.05 39 *e*P P 17 08 19.7 +10
ZEA pmax pmax
comp=Z,10.0nm,0.8s
HEH HeiHe 70.88 42 *e*P P **17 08 21.3 +0.5**
HEH pmax pmax
comp=Z,11nm,0.8s
HEH pmax pmax
comp=Z,230nm,4.2s
BNX BinXian 73.21 46⇑P P **17 08 35.1 +0.2**
BNX pmax pmax
comp=Z,7.0nm,1.3s
BNX pmax pmax
comp=Z,170nm,5.2s
KLR Kul'dur 73.81 41⇑ *e*P P **17 08 38.2 -0.1**
KLR pmax pmax
comp=Z,5.0nm,1.0s
C36M Paulatuk 74.53 350 IAmb IAmb 17 08 51.8
comp=Z,7.7nm,0.9s
NJ2 Nanjing 74.58 62 *e*P P **17 08 43.4 +0.3**
NJ2 pP **pP 17 08 46.1 -1.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,610nm,4.7s
D25K Kavik River 76.67 357 IAmb IAmb 17 09 08.7
comp=Z,8.8nm,0.9s
USA0B Ussuriysk Arra 76.78 45⇑ *e*P P **17 08 55.8 +0.3**
USRK Ussuriysk Ar. 76.78 45 P P **17 08 55.4 -0.1**
comp=Z,6.1nm,0.6s,baz=292,slow=5.6,SNR=13
comp=Z,6.1nm,0.6s
D24K Happy Valley 76.92 358 IAmb IAmb 17 09 24.0
comp=Z,7.9nm,1.0s
E28M Babbage River 77.00 355 IAmb IAmb 17 09 08.1
comp=Z,4.8nm,0.8s
MSHR Mys Shultsa 77.20 47⇑ *e*P P **17 08 57.0 -0.9**
MSHR pmax pmax
comp=Z,12nm,0.8s
D22K Ayikyak River 77.25 360 IAmb IAmb 17 09 26.7
comp=Z,10nm,1.1s
E21K Killik River 77.69 0 IAmb IAmb 17 09 22.8
comp=Z,10nm,1.0s
E22K Anaktuvuk Pass 78.00 359 P P **17 09 01.9 0.0**
E22K IAmb IAmb 17 09 12.3
comp=Z,5.8nm,0.7s
KSRS Korea Array 78.03 53 P P **17 09 03.0 +0.4**
KSRS Korea Array 78.03 53 P P **17 09 03.0 +0.4**
comp=Z,2.2nm,0.6s,baz=304,slow=4.6,SNR=6.9
comp=Z,2.2nm,0.6s
G31M Satah River 78.15 352 IAmb IAmb 17 09 13.7
comp=Z,8.0nm,0.8s
G30M tAoh Zraii Nji 78.30 353 IAmb IAmb 17 09 20.1
comp=Z,9.8nm,1.2s
F24K Squaw Lake 78.53 358 IAmb IAmb 17 09 15.5
comp=Z,10nm,0.9s
G29M Pine Creek 78.54 354 IAmb IAmb 17 09 17.9
comp=Z,11nm,0.9s
E19K Redstone River 78.65 1 P P **17 09 05.6 +0.1**
YKA Yellowknife Ar 78.71 343 *i* P P **17 09 05.9 0.0**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 78.71 343 P P **17 09 05.2 -0.7**
comp=Z,1.1nm,0.7s,baz=30,slow=5.5,SNR=13
comp=Z,1.1nm,0.7s
F21K Alatna River 78.92 360 IAmb IAmb 17 09 17.9
comp=Z,17nm,1.2s
EPYK Eagle Plains 78.94 353 IAmb IAmb 17 09 15.2
comp=Z,9.0nm,0.9s
F20K Avaraart Lake 79.08 1 IAmb IAmb 17 09 30.5
comp=Z,12nm,1.2s
H29M Whitestone 79.25 354 IAmb IAmb 17 09 12.7
comp=Z,7.8nm,0.9s
F19K Shaleruckik Mo 79.26 2 IAmb IAmb 17 09 18.1
comp=Z,8.8nm,0.8s
G23K Bananza Creek 79.40 359 IAmb IAmb 17 09 29.2
comp=Z,6.9nm,0.9s
G21K Allakaket 79.63 360 IAmb IAmb 17 09 21.5
comp=Z,14nm,1.1s
I30M Mount Dempster 80.03 353 IAmb IAmb 17 09 22.8
comp=Z,16nm,1.3s
I29M Ogilvie Camp, 80.08 354 IAmb IAmb 17 09 22.3
comp=Z,15nm,1.1s
G18K Tagagawik 80.17 2 IAmb IAmb 17 09 23.9
comp=Z,11nm,0.9s
H21K Melozitna Rive 80.49 360 P P **17 09 16.6 +1.0**
H21K IAmb IAmb 17 09 26.2
comp=Z,11nm,1.0s
H19K Roundabout Mou 80.60 1 P P **17 09 16.8 +0.7**
H19K IAmb IAmb 17 09 26.2
comp=Z,12nm,0.9s
J30M Hart River 80.65 353 IAmb IAmb 17 09 26.7
comp=Z,7.9nm,0.9s
POKR Poker Plat Res 80.92 357 IAmb IAmb 17 09 28.4
comp=Z,8.8nm,0.8s
H18K Honhosa River 80.93 2 P P **17 09 17.6 -0.4**
H18K IAmb IAmb 17 09 28.0
comp=Z,11nm,0.9s
FFC Flin Flon 81.00 333 P P **17 09 17.2 -1.3**
FFC IAmb IAmb 17 09 35.5
comp=Z,9.3nm,1.1s
FFC Flin Flon 81.00 333 P P **17 09 17.2 -1.3**
FFC pmax pmax
comp=Z,9.0nm,1.1s
YSS Yuzh-Sakhalins 81.04 38 *e*P P 17 09 15.9 -2.9
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,700nm,16.0s
ILAR Eielson Array 81.24 357 P P **17 09 19.5 -0.1**
comp=Z,0.9nm,0.8s,baz=347,slow=3.5,SNR=16
comp=Z,0.9nm,0.8s
J26L Joseph Creek 81.34 356 IAmb IAmb 17 09 48.6
comp=Z,11nm,1.5s
K27K Chicken 81.71 355 P P **17 09 22.7 +0.6**
K27K IAmb IAmb 17 09 33.1
comp=Z,18nm,1.3s
ULM Lac du Bonnet 81.72 327 P P **17 09 21.9 -0.5**
comp=Z,0.9nm,0.4s,baz=47,slow=6.3,SNR=2.3
comp=Z,0.9nm,0.4s
HILA High Level 82.71 342 P P **17 09 26.9 -0.5**
M29M Somme Creek 82.95 353 P P **17 09 29.0 +0.2**
M29M IAmb IAmb 17 09 39.2
comp=Z,10.0nm,0.9s
MJAR Matsushiro Arr 85.18 49 P P **17 09 40.1 -0.3**
comp=Z,2.4nm,0.7s,baz=312,slow=3.3,SNR=7.6
comp=Z,2.4nm,0.7s
U49A Red Boiling Sp 85.50 312 P P **17 09 41.8 -0.3**
BDFB Brasilia 86.33 248 P P **17 09 45.4 -1.1**
BDFB IAmb IAmb 17 10 01.3
comp=Z,6.8nm,0.9s
BDFB Brasilia 86.33 248 P P **17 09 45.6 -0.8**
comp=Z,2.3nm,0.5s,baz=122,slow=4.1,SNR=5.7
BDFB LR LR 17 49 43.6
comp=Z,121nm,18.2s,baz=91,slow=37
comp=Z,2.3nm,0.5s
PDAR Pinedale Array 93.50 329 P P **17 10 18.6 -1.5**
comp=Z,0.5nm,0.7s,baz=48,slow=4.4,SNR=4.6
comp=Z,0.5nm,0.7s
SIV San Ignacio 96.81 255 LR LR 17 55 38.4
comp=Z,88nm,20.2s,baz=106,slow=36
TEIG Tepich 97.67 301 LR LR 17 52 04.0
comp=Z,244nm,18.4s,baz=160,slow=34
WRA Warramunga Arr 115.41 98 PKIKP **PKPdf 17 15 46.0 -0.2**
WRA Warramunga Arr 115.41 98 PKP **PKPdf 17 15 46.0 -0.2**
comp=Z,0.9nm,0.9s,baz=317,slow=1.9,SNR=1.6
ASAR Alice Springs 116.82 101 PKP **PKPdf 17 15 48.8 0.0**
comp=Z,0.5nm,0.3s,baz=313,slow=1.8,SNR=1.7

IDC ***16*** *17:05:39.5±0.6, 15°.21S×173°.50W, h0km, mb4.3/11, mbtmp4.3/12, ML3.6/1, MS4.4/0.41, Error ellipse: s-maj=26.7km s-min=17.1km az=139.0*

NEIC ***16*** *17:05:39.8±2.0, 15°.08S±0°.07×173°.3W±0°.1, h10km±1km, mb4.9/71, Error ellipse: s-maj=18.1km s-min=9.7km az=296.0*

NOU ***16*** *17:05:47.2, 14°.26S×172°.77W, h153km, mb4.8/11, Samoa Islands*

GCMT ***16*** *17:05:48.8±0.3, 15°.15S±0°.02×173°.38W±0°.02, h12km, MW5.2/89, Moment Tensor Solution. s15,c15; s89,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.56±.10; $M_{\theta\theta}$0.27±.11; $M_{\phi\phi}$0.29±.08; $M_{r\theta}$-7.28±.23; $M_{\theta\phi}$0.89±.07; $M_{\phi r}$0.05±.23; Best double couple: $M_0$7.34600×10^{16} NP1:ϕ_s90.00000°,δ88.00000°,λ-83.00000°. NP2: ϕ_s193.00000°,δ7.00000°,λ-166.00000°. Principal axes: T 7.2010, Plg43.0000°, Azm173.0000°; N 0.2900, Plg7.0000°, Azm270.0000°; P -7.4910, Plg46.0000°, Azm7.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 17:05:43.3±0.4, 15°.16S±0°.06×173°.26W±0°.07, h30km, n209,σ1°60/160, mb4.9/51, MS4.2/41, 23C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.90**	**49**	Pn	**Pn**	**17 06 12.0**	**-1.7**
AFI				Sn	**Sn**	**17 06 30.9**	**-5.7**
AFI	**Afiamalu**	**1.90**	**49**	P	**Pn**	**17 06 12.5**	**-1.2**
NIUE	**Niue**	**5.04**	**141**	Pn	**Pn**	**17 06 56.2**	**-0.6**
NIUE				Sn	Sn	17 07 47.1	-6.9
FUNA	**Funafuti**	**9.89**	**311**		Pn	17 07 51.2	-12
RAR	**Rarotonga**	**14.16**	**117**	Pn	**Pn**	**17 09 00.6**	**-1.3**
RAR	**Rarotonga**	**14.16**	**117**	Pn	**Pn**	**17 09 03.1**	**+1.3**
	2.6nm,0.3s,baz=234,slow=5.7,SNR=6.2						
RAR				Sn	Sn	17 11 27.5	-10
	1.4nm,0.3s,baz=338,slow=19,SNR=1.8						
	13nm,0.5s						
RAO	**Raoul Island**	**14.67**	**196**	LR	LR	17 13 14.4	
	comp=Z,240nm,19.5s,baz=112,slow=31						
PINNC	**Pines Island,**	**19.69**	**245**	P	**P**	**17 10 06.1**	**-4.1**
PINNC				IAmb	IAmb	17 10 15.0	
	comp=Z,66nm,1.1s						
OUENC	**Ouen Island, N**	**20.16**	**246**	P	**P**	**17 10 10.6**	**-4.7**
OUENC				IAmb	IAmb	17 10 20.6	
	comp=Z,43nm,1.0s						
DZM	**Mont Dzumac**	**20.42**	**247**		**P**	**17 10 12.2**	**-6.1**
DZM	**Mont Dzumac**	**20.42**	**247**	*e*P	Pn	17 10 22.8	+2.3
	comp=Z,56nm,1.2s						
DZM				*e*S	S	17 13 51.7	-14
	comp=Z,148nm,28.7s						
DZM				*e*LR	LR	17 15 06.0	
	comp=Z,660nm,25.3s						
DZM	**Mont Dzumac**	**20.42**	**247**	LR	LR	17 17 03.0	
	comp=Z,340nm,19.3s,baz=49,slow=34						
PPT	**Papeete**	**22.85**	**99**	LR	LR	17 17 08.1	
	comp=Z,167nm,21.5s,baz=252,slow=30						
PAE	**Paea**	**22.85**	**100**	*e*T	T	17 34 17.5	
	comp=Z,5.4nm,0.3s						
PPT2	**Papeete2**	**22.85**	**99**	*e*LR	LR	17 15 56.6	
	comp=Z,653nm,26.8s						
PPT2				*e*LR	LR	17 16 02.8	
	comp=Z,429nm,28.2s						
PPT2	**Papeete2**	**22.85**	**99**	*e*T	T	17 34 10.8	
	comp=Z,4.4nm,0.3s						
TVO	**Taravao**	**23.17**	**100**	*e*T	T	17 34 32.3	
	comp=Z,2.6nm,0.4s						
OUZ	**Omahuta**	**23.21**	**208**	P	**P**	**17 10 49.3**	**+1.6**
KUZ	**Kuaotunu**	**23.64**	**203**	P	**P**	**17 10 53.7**	**+1.8**
TBI	**Tubuai**	**23.87**	**114**	*e*LR	LR	17 16 30.6	
	comp=Z,4μm,27.5s						
TBI				*e*LR	LR	17 16 33.7	
	comp=Z,1μm,25.2s						
TBI	**Tubuai**	**23.87**	**114**	*e*T	T	17 35 17.7	
	comp=Z,12nm,0.3s						
PMOR	**Pomariorio Ree**	**24.49**	**93**	*e*T	T	17 36 09.5	
	comp=Z,3.3nm,0.2s						
URZ	**Urewera**	**24.54**	**198**	P	**P**	**17 11 01.4**	**+1.1**
URZ	**Urewera**	**24.54**	**198**	LR	LR	17 19 44.5	
	comp=Z,490nm,18.8s,baz=73,slow=35						
TOZ	**Tahuroa Road**	**24.59**	**202**	P	**P**	**17 10 59.1**	**-1.7**
TOZ				IAmb	IAmb	17 11 06.8	
	comp=Z,30nm,1.3s						
VAH	**Vaihoa**	**24.73**	**94**	*e*T	T	17 36 43.2	
	comp=Z,6.2nm,0.3s						
RTZ	**Ruatahuna**	**24.90**	**198**	P	**P**	**17 11 02.4**	**-1.3**
RTZ				IAmb	IAmb	17 11 13.7	
	comp=Z,19nm,1.0s						
BKZ	**Black Stump Fm**	**25.56**	**199**	P	**P**	**17 11 08.3**	**-1.3**
HNR	**Honiara**	**26.78**	**279**	LR	LR	17 20 47.3	
	comp=Z,1μm,18.0s,baz=104,slow=34						
BFZ	**Birch Farm**	**27.03**	**198**	P	**P**	**17 11 21.1**	**-1.7**
BFZ				IAmb	IAmb	17 11 26.1	
	comp=Z,42nm,1.0s						
MRZ	**Mangatainoka R**	**27.21**	**199**	P	**P**	**17 11 23.7**	**-0.7**
MRZ				IAmb	IAmb	17 11 27.1	
	comp=Z,14nm,0.9s						
BHW	**Baring Head**	**28.11**	**199**	P	**P**	**17 11 31.2**	**-1.3**
TCW	**Tory Channel**	**28.13**	**200**	P	**P**	**17 11 30.6**	**-2.1**

PLWZ **Palliser** 28.14 198 P **P** 17 11 31.8 -1.0
QRZ **Quartz Range** 28.41 203 P **P** 17 11 35.1 0.0
QRZ IAmb IAmb 17 11 36.7
comp=Z,18nm,0.8s
QRZ **Quartz Range** 28.41 203 P **P** 17 11 35.9 +0.7
TKNZ **Takaka Hill** 28.43 202 P **P** 17 11 34.7 -0.7
TUWZ **Tuamarina** 28.43 200 P **P** 17 11 35.1 -0.2
NNZ **Nelson** 28.44 201 P **P** 17 11 35.1 -0.3
NNZ IAmb IAmb 17 11 39.9
comp=Z,26nm,1.2s
CMWZ **Cape Campbell** 28.63 200 P **P** 17 11 35.9 -1.3
MRNZ **Matariki Terra** 28.82 202 P **P** 17 11 37.3 -1.5
THZ **Tophouse** 29.09 202 P **P** 17 11 40.4 -0.8
THZ IAmb IAmb 17 11 42.7
comp=Z,9.1nm,0.7s
KHZ **Kahutara** 29.45 200 P **P** 17 11 43.0 -1.4
KHZ IAmb IAmb 17 12 31.9
comp=Z,66nm,1.7s
DSZ **Denniston Nort** 29.48 203 P **P** 17 11 42.4 -2.3
DSZ IAmb IAmb 17 11 45.8
comp=Z,31nm,1.1s
GVZ **Greta Valley S** 30.11 200 P **P** 17 11 47.7 -2.6
LTZ **Lake Taylor** 30.21 201 P **P** 17 11 49.4 -1.7
LTZ IAmb IAmb 17 11 54.3
comp=Z,18nm,1.0s
AMCZ **Amberley** 30.42 201 P **P** 17 11 51.6 -1.4
INZ **Inchbonnie** 30.46 203 P **P** 17 11 51.6 -1.7
INZ IAmb IAmb 17 11 53.7
comp=Z,26nm,0.7s
OXZ **Oxford** 30.77 201 P **P** 17 11 54.5 -1.5
OXZ IAmb IAmb 17 11 58.4
comp=Z,19nm,0.9s
MQZ **McQueen's Vall** 30.89 200 P **P** 17 11 56.6 -0.6
RPZ **Rata Peaks** 31.46 202 P **P** 17 12 01.2 -0.9
RPZ IAmb IAmb 17 12 53.1
comp=Z,33nm,1.4s
RPZ **Rata Peaks** 31.46 202 LR LR 17 24 23.0
comp=Z,598nm,19.7s,baz=46,slow=36
FOZ **Fox Glacier** 31.77 204 P **P** 17 12 03.5 -1.3
LBZ **Lake Benmore** 32.35 202 P **P** 17 12 08.3 -1.7
LBZ IAmb IAmb 17 12 21.3
comp=Z,36nm,1.5s
JCZ **Jackson Bay** 32.62 204 P **P** 17 12 13.7 +1.2
TAOE **Nuku Hiva Isla** 32.96 83 *e*LR LR 17 20 56.7
comp=Z,223nm,23.6s
TAOE **Nuku Hiva Isla** 32.96 83 *e*T T 17 46 47.8
comp=Z,30nm,0.2s
WKZ **Wanaka** 33.17 203 P **P** 17 12 16.0 -1.1
MLZ **Mavora Lakes** 33.97 204 P **P** 17 12 23.1 -1.0
WHZ **Wether Hill Ro** 34.47 203 P **P** 17 12 28.1 -0.3
WHZ IAmb IAmb 17 12 31.4
comp=Z,30nm,1.0s
ARMA **Armidale** 35.58 239 P **P** 17 12 37.2 -1.2
ARMA IAmb IAmb 17 12 45.7
comp=Z,27nm,1.6s
RABL **Rabaul** 35.72 284 P **P** 17 12 38.9 -0.8
H11S2 **WAKE ISLAND Hy** 38.83 329 T T 17 53 41.3
baz=151
CTA **Charters Tower** 38.83 257 LR LR 17 26 30.0
comp=Z,95nm,20.5s,baz=86,slow=32
H11S3 **WAKE ISLAND Hy** 38.84 329 T T 17 54 40.0
baz=151,slow=74
H11S1 **WAKE ISLAND Hy** 38.84 329 T T 17 54 32.0
baz=151,slow=74
CAN **Canberra** 39.29 232 P **P** 17 13 08.4 -1.2
CAN **Canberra** 39.29 232 P **P** 17 13 08.6 -1.0
H11N3 **WAKE ISLAND Hy** 39.77 330 T T 17 55 27.8
baz=144,slow=76
H11N1 **WAKE ISLAND Hy** 39.77 330 T T 17 55 42.4
baz=144,slow=76
H11N2 **WAKE ISLAND Hy** 39.78 330 T T 17 55 29.5
baz=144,slow=76
TOO **Toolangi** 42.73 231 P **P** 17 13 36.3 -1.6
STKA **Stephens Creek** 44.28 240 P **P** 17 13 49.9 -0.6
STKA **Stephens Creek** 44.28 240 P **P** 17 13 49.5 -0.9
comp=Z,6.8nm,0.8s,baz=94,slow=9.9,SNR=9.4
STKA LR LR 17 30 11.9
comp=Z,100nm,18.4s,baz=40,slow=33
comp=Z,6.8nm,0.8s
BBOO **Buckleboo** 49.05 240 P **P** 17 14 26.4 -1.4
WR0 **Warramunga Arr** 49.84 257 P **P** 17 14 33.0 -1.0
WB0 **Warramunga Arr** 49.99 257 P **P** 17 14 33.3 -2.0
WB2 **Warramunga Arr** 50.02 257 P **P** 17 14 33.8 -1.6
WB2 IAmb IAmb 17 15 08.7
comp=Z,10nm,1.0s
WRA **Warramunga Arr** 50.03 257 P **P** 17 14 33.9 -1.7
WRA **Warramunga Arr** 50.03 257 P **P** 17 14 33.4 -2.2
comp=Z,1.3nm,0.6s,baz=90,slow=6.7,SNR=27
comp=Z,1.3nm,0.6s
AS31 **Alice Springs** 50.31 252 P **P** 17 14 36.1 -1.5
ASAR **Alice Springs** 50.32 252 P **P** 17 14 35.5 -2.2
ASAR **Alice Springs** 50.32 252 P **P** 17 14 35.8 -1.9
comp=Z,7.7nm,0.7s,baz=87,slow=7.8,SNR=124
ASAR LR LR 17 34 05.6
comp=Z,131nm,21.8s,baz=97,slow=34
comp=Z,7.7nm,0.7s
GUMO **Guam** 50.32 303 LR LR 17 34 58.4
comp=Z,75nm,18.1s,baz=120,slow=35
RPN **Rapa Nui** 60.26 113 LR LR 17 34 57.6
comp=Z,82nm,21.6s,baz=352,slow=29
SBA **Scott Base** 63.50 185 P **P** 17 16 12.4 +2.2
VNDA **Vanda** 63.63 186 P **P** 17 16 12.7 +1.6
VNDA IAmb IAmb 17 16 14.8
comp=Z,21nm,1.6s
VNDA **Vanda** 63.63 186 P **P** 17 16 12.3 +1.3
comp=Z,3.8nm,0.9s,baz=11,slow=6.0,SNR=11
VNDA LR LR 17 37 40.8
comp=Z,38nm,21.9s,baz=12,slow=30
comp=Z,3.8nm,0.9s
DAV **Davao City (W)** 64.50 286 LR LR 17 39 29.5
comp=Z,60nm,20.9s,baz=56,slow=32
NWAO **Narrogin (SRO)** 64.86 240 LR LR 17 42 30.2
comp=Z,96nm,21.0s,baz=35,slow=34
SHEM **Shemya Is, Ala** 68.48 352 LR LR 17 39 45.6
comp=Z,296nm,22.0s,baz=134,slow=30
MJAR **Matsushiro Arr** 68.84 320 LR LR 17 40 47.6
comp=Z,186nm,21.2s,baz=102,slow=31
ASAJ **Asahikawa** 71.41 328 LR LR 17 45 36.5
comp=Z,52nm,18.4s,baz=79,slow=34
JNU **Nakatsue** 71.73 313 LR LR 17 40 53.1
comp=Z,117nm,21.6s,baz=110,slow=30
PETK **Petropavlovsk-** 72.44 342 P **P** 17 17 08.8 +2.2
comp=Z,3.8nm,0.9s,baz=116,slow=6.8,SNR=3.9
PETK LR LR 17 40 48.3
comp=Z,96nm,21.8s,baz=174,slow=29
comp=Z,3.8nm,0.9s
PFO **Pinyon Flats O** 72.66 47 LR LR 17 41 07.7
comp=Z,174nm,19.7s,baz=244,slow=29
LPIG **La Paz** 72.79 58 LR LR 17 41 51.1
comp=Z,74nm,18.3s,baz=359,slow=30
YBH **Yreka Blue Hor** 73.32 37 LR LR 17 41 22.1
comp=Z,164nm,21.1s,baz=243,slow=29
NVAR **Mina Array Bea** 74.06 42 P **P** 17 17 18.7 +1.9
comp=Z,0.7nm,0.6s,baz=219,slow=8.2,SNR=3.7
NVAR LR LR 17 41 49.5
comp=Z,189nm,21.3s,baz=272,slow=29
comp=Z,0.7nm,0.6s
KDAK **Kodiak Island** 74.66 11 LR LR 17 41 29.8
comp=Z,260nm,20.4s,baz=230,slow=29
QSPA **South Pole Qui** 74.89 180 P **P** 17 17 22.6 +1.6
KSRS **Korea Array** 76.08 315 LR LR 17 47 07.6
comp=Z,45nm,19.9s,baz=135,slow=33
M14K **Bethel** 76.19 6 P **P** 17 17 28.6 +0.4
X16A **Lo Mia Camp, P** 76.65 48 P **P** 17 17 32.0 +0.2
J08A **Circle Bar Ran** 76.80 38 P **P** 17 17 33.6 +1.3
J08A IAmb IAmb 17 18 05.4
comp=Z,21nm,1.7s
319A **Douglas** 76.83 52 P **P** 17 17 34.2 +1.4
319A IAmb IAmb 17 17 35.9
comp=Z,10nm,1.1s
U15A **North Rim** 77.03 46 P **P** 17 17 35.1 +1.1
PSUT **Pine Spring** 77.04 44 P **P** 17 17 34.0 +0.2
ELK **Elko** 77.31 41 LR LR 17 44 00.2
comp=Z,108nm,21.0s,baz=356,slow=30
DUN6 **Lazy B Ranch** 77.51 51 P **P** 17 17 35.3 -1.2
BBB **Bella Bella** 77.61 27 LR LR 17 45 20.7
comp=Z,116nm,18.5s,baz=284,slow=31
G08A **Pilot Rock** 77.66 36 P **P** 17 17 36.4 -0.6
MVU **Marysvale** 78.13 45 P **P** 17 17 39.1 -0.9
MVU IAmb IAmb 17 17 44.7
comp=Z,27nm,1.2s
BMO **Blue Mountains** 78.35 37 **P** 17 17 41.4 +0.5
DUG **Dugway, Tooele** 78.59 43 **P** 17 17 42.8 +0.4
DUG IAmb IAmb 17 18 38.8
comp=Z,18nm,1.9s
MDJ **Mudanjiang** 78.92 322 P **P** 17 17 42.9 -1.0
MDJ pmax pmax
comp=Z,15nm,1.6s
MDJ pmax pmax
comp=Z,260nm,4.6s
HLID **Hailey** 79.35 39 **P** 17 17 46.6 +0.1
425A **Indio Mountain** 79.90 54 **P** 17 17 49.9 +0.2
BNM **Barren Site** 80.07 51 P **P** 17 17 50.8 +0.1
NJ2 **Nanjing** 80.13 307 *e*P **P** 17 17 51.9 +1.2
NJ2 pP **PcP** 17 17 54.9 -3.1
NJ2 sP **pP** 17 17 57.3 -2.3
comp=Z,12nm,0.6s
NJ2 pmax pmax
comp=Z,710nm,6.1s
TX31 **Lajitas Ar. Si** 80.36 56 P **P** 17 17 52.9 +0.7
TX31 IAmb IAmb 17 17 59.9
comp=Z,14nm,1.2s
TXAR **Lajitas Array** 80.36 56 P **P** 17 17 52.8 +0.6
TXAR **Lajitas Array** 80.36 56 P **P** 17 17 54.7 +2.5
comp=Z,2.9nm,1.0s,baz=231,slow=6.0,SNR=15
TXAR LR LR 17 45 26.7
comp=Z,56nm,19.4s,baz=281,slow=30
comp=Z,2.9nm,1.0s
NEW **Newport** 80.43 34 LR LR 17 45 52.0
comp=Z,116nm,18.8s,baz=236,slow=30
SKAG **Skagway** 80.47 19 P **P** 17 17 50.0 -1.9
ANMO **Albuquerque** 80.54 50 **P** 17 17 53.1 -0.1
ANMO **Albuquerque** 80.54 50 LR LR 17 45 47.4
comp=Z,120nm,18.9s,baz=66,slow=30
BNX **BinXian** 80.83 322 ⇑P **P** 17 17 56.4 +2.2
BNX pmax pmax
comp=Z,9.0nm,1.3s
BNX pmax pmax
comp=Z,270nm,4.9s
MSO **Missoula** 81.41 37 P **P** 17 17 56.9 -0.5
MSO IAmb IAmb 17 18 45.5
comp=Z,21nm,1.9s
S22A **4UR Ranch, Cre** 81.50 47 **P** 17 17 57.6 -0.7
HDA **Harding Lake** 81.84 11 P **P** 17 17 57.8 -1.4
HDA IAmb IAmb 17 18 03.1
comp=Z,8.9nm,1.0s
SAND **Sanderson** 81.84 56 **P** 17 17 58.8 -1.3
SAND IAmb IAmb 17 18 19.4
comp=Z,10nm,1.3s
PDAR **Pinedale Array** 81.99 42 P **P** 17 18 02.2 +1.5
comp=Z,1.2nm,0.8s,baz=199,slow=2.5,SNR=7.3
PDAR LR LR 17 48 15.5
comp=Z,119nm,20.4s,baz=292,slow=31
comp=Z,1.2nm,0.8s
COLA **College** 82.10 11 P **P** 17 17 59.3 -1.2
COLA IAmb IAmb 17 18 17.5
comp=Z,13nm,0.9s
ILAR **Eielson Array** 82.18 11 P **P** 17 18 02.1 +1.2
comp=Z,1.3nm,0.9s,baz=231,slow=6.2,SNR=15
ILAR LR LR 17 46 48.6
comp=Z,122nm,21.8s,baz=192,slow=30
comp=Z,1.3nm,0.9s
SEY **Seymchan** 82.32 345 LR LR 17 49 22.8
comp=Z,166nm,21.3s,baz=140,slow=32
POKR **Poker Plat Res** 82.39 11 P **P** 17 17 59.7 -2.4
POKR IAmb IAmb 17 18 14.9
comp=Z,14nm,1.1s
RWWY **Rawlins** 83.02 44 P **P** 17 18 04.5 -1.7
RWWY IAmb IAmb 17 18 08.7
comp=Z,20nm,1.4s
PRP **Porcupine Dome** 83.11 11 P **P** 17 18 03.5 -2.4
PRP IAmb IAmb 17 18 19.8
comp=Z,22nm,1.6s
I28M **Miner Creek** 84.20 13 P **P** 17 18 09.9 -1.5
I28M IAmb IAmb 17 18 14.1
comp=Z,26nm,1.7s
BELA **Belgrano 2** 84.22 172 P **P** 17 18 11.6 +0.2
BELA IAmb IAmb 17 18 14.4
comp=Z,9.4nm,0.9s
PMSA **Palmer Station** 84.34 156 LR LR 17 47 05.4
comp=Z,104nm,20.9s,baz=259,slow=30
E22K **Anaktuvuk Pass** 84.50 8 P **P** 17 18 10.9 -2.0
E22K IAmb IAmb 17 18 27.2
comp=Z,16nm,1.4s
ABTX **Abilene, Hawle** 84.81 54 P **P** 17 18 14.8 -0.4
D22K **Ayikyak River** 85.09 7 P **P** 17 18 14.0 -1.8
INK **Inuvik** 88.00 14 LR LR 17 50 34.4
comp=Z,142nm,21.1s,baz=186,slow=31
XAN **Xi'an** 88.60 306 P **P** 17 18 25.3 -8.4
XAN pmax pmax
comp=Z,8.0nm,0.9s
HHC **Hu-ho-hao-te** 88.96 313 *e*P **P** 17 18 36.8 +1.5
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,210nm,5.9s
YKA **Yellowknife Ar** 89.82 23 P **P** 17 18 40.1 +1.4
comp=Z,1.0nm,0.9s,baz=242,slow=4.7,SNR=12
YKA LR LR 17 52 03.4
comp=Z,136nm,18.7s,baz=270,slow=31
comp=Z,1.0nm,0.9s
BTO **Baotou** 89.97 312 *e*P **P** 17 18 43.8 +3.7
BTO PP **PP** 17 22 18.1 +4.6
BTO **Baotou** 89.97 312 S S 17 29 40.8 +10
BTO **Baotou** 89.97 312 SS SS 17 35 36.8 +6.8
BTO pmax pmax
comp=Z,24nm,0.9s
BTO pmax pmax
comp=Z,160nm,9.5s
BTO LR LR
comp=N,430nm,5.9s
BTO LR LR
comp=E,500nm,5.7s
BTO LR LR
comp=Z,380nm,11.4s
PZH **PanZhiHua** 92.28 297 P **P** 17 18 52.3 +1.1
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,200nm,4.7s
ELIB **Princess Elisa** 92.39 185 *d*P **P** 17 18 51.8 +0.9
comp=Z,11nm,1.1s
CMAR **Chiang Mai Arr** 92.67 288 LR LR 17 55 50.1
comp=Z,34nm,21.5s,baz=140,slow=33
ATAH **Atahualpa** 92.82 98 LR LR 17 51 55.4
comp=Z,75nm,21.2s,baz=82,slow=30
SNAA **Sanae** 93.14 177 P **P** 17 18 54.6 +0.4
comp=Z,3.2nm,0.9s,baz=214,slow=11,SNR=2.3
SNAA LR LR 18 00 31.5
comp=Z,188nm,18.7s,baz=6.0,slow=35
comp=Z,3.2nm,0.9s
ULM **Lac du Bonnet** 93.66 39 LR LR 17 54 41.6
comp=Z,212nm,19.0s,baz=298,slow=31
T50A **Nancy** 97.73 54 P P 17 19 10.6 -5.1
TKL **Tuckaleechee C** 98.26 55 LR LR 18 01 12.5
comp=Z,24nm,19.1s,baz=14,slow=34
KURBB **Kurchatov Arra** 113.11 319 PKiKP **PKiKP** 17 24 18.4 +0.8
comp=Z,0.3nm,0.3s,baz=82,slow=2.0,SNR=4.2
AKASG **Malin Array Be** 140.17 338 PKP **PKPdf** 17 25 09.3 +0.4
comp=Z,0.3nm,0.2s,baz=31,slow=1.3,SNR=4.2
CLL **Collm** 143.59 353 *e*PKPdf **PKPdf** 17 25 16.0 +0.9
DPC **Dobruska-Polom** 144.05 350 *e*PKP **PKPdf** 17 25 16.2 +0.2
BURAR **Bucovina Array** 144.19 339 ⇑P **PKPdf** 17 25 16.8 +0.4
KRLC **Kraliky** 144.23 349 *e*PKP **PKPdf** 17 25 16.9 +0.6
MAUC **Maruska** 144.70 347 *e*PKP **PKPdf** 17 25 19.1 +1.9
ARCR **ARCALIA** 144.95 339 ⇑P **PKPdf** 17 25 18.8 +1.2
VRAC **Vranov** 145.00 349 ⇑P **PKPdf** 17 25 19.5 +1.9
CFR **Carcaliu** 145.04 333 ⇑P **PKPdf** 17 25 18.6 +0.8
VRI **Vrincioaia** 145.08 335 ⇑P **PKiKP** 17 25 22.8 +1.0
PLOR **Plostina** 145.12 335 ⇑P **PKPdf** 17 25 18.3 +0.3
TPGR **Topolog** 145.17 333 ⇑P **PKPdf** 17 25 20.2 +2.1
ZVC **Zvikov** 145.27 351 *e*PKP **PKPdf** 17 25 19.5 +1.4
VYHS **Vyhne** 145.29 346 *e*PKP **PKPdf** 17 25 19.5 +1.3
HARR **Harsova** 145.52 333 ⇑P **PKPab** 17 25 20.4 +1.5
DOPR **Dopca** 145.52 337 ⇑P **PKiKP** 17 25 21.1 -1.6
TLBR **Topalu** 145.58 333 ⇑P **PKiKP** 17 25 21.4 -1.4
KHC **Kasperske Hory** 145.66 352 *e*PKP **PKPab** 17 25 20.3 +0.9
MLR **Muntele Rosu** 145.70 336 ⇑P **PKPab** 17 25 21.7 +1.8
MARR **Marisel-Cluj** 145.72 340 ⇑P **PKPab** 17 25 21.5 +1.7
MODS **Modra-Piesok** 145.75 347 *e*PKP **PKPab** 17 25 21.5 +1.7
KMBO **Kilima Mbogo** 145.76 244 PKPbc **PKPab** 17 25 21.4 +0.2
comp=Z,2.2nm,0.8s,baz=46,slow=2.6,SNR=3.4
CKRC **Cesky Krumlov** 145.86 351 *e*PKP **PKPab** 17 25 21.4 +1.3
GERES **GERESS Array B** 145.92 352 PKPbc **PKPbc** 17 25 20.0 0.0
comp=Z,1.7nm,0.7s,baz=33,slow=3.2,SNR=9.0
BRTR **Keskin Array B** 146.05 321 PKPbc **PKPab** 17 25 21.7 +0.3
comp=Z,12nm,0.9s,baz=97,slow=2.5,SNR=54
VOIR 146.10 337 ⇑P **PKiKP** 17 25 22.9 -1.0
ARR **Arges** 146.31 337 ⇑P **PKiKP** 17 25 23.9 -0.5
CONA **Conrad Observa** 146.46 349 *i* PKiKP **PKPab** 17 25 23.2 +0.7
comp=Z,2.1nm,0.6s
SIRR **Siria** 146.56 341 ⇑P **PKPbc** 17 25 22.4 +0.5
RONA **Rosalia, Austr** 146.60 348 *i* PKiKP **PKPab** 17 25 23.5 +0.5
comp=Z,2.3nm,0.6s
MOA **Molln** 146.81 351 *i* PKiKP **PKPab** 17 25 23.8 -0.1
comp=Z,1.8nm,0.6s
SURR **Surduc** 146.86 340 ⇑P **PKPbc** 17 25 22.5 -0.3
GZR **Gura Zlata** 146.96 339 ⇑P **PKPab** 17 25 20.5 +0.4
RAZG **Razgrad** 147.03 333 ⇑P **PKPab** 17 25 24.7 -0.2
BZS **Buzias** 147.15 341 ⇑P **PKPbc** 17 25 23.2 -0.4
ARSA **Arzberg** 147.18 349 *i* PKP **PKPbc** 17 25 23.9 +0.3
comp=Z,0.7nm,0.4s
HERR **Herculane** 147.53 339 ⇑P **PKPbc** 17 25 25.9 +1.2
WATA **Walderalm** 147.66 354 *e*PKiKP **PKPbc** 17 25 26.3 +1.1
comp=Z,5.5nm,0.9s
MOTA **Moosalm** 147.70 354 *e*PKiKP **PKPbc** 17 25 26.1 +0.8
comp=Z,9.3nm,1.3s
WTTA **Wattenberg** 147.73 354 *e*PKP **PKPbc** 17 25 25.0 -0.4
comp=Z,4.9nm,0.6s
SQTA **Sankt Quirin** 147.81 354 *e*PKP **PKPbc** 17 25 26.3 +0.8
comp=Z,5.7nm,0.9s
SOKA **Soboth** 147.82 349 *e*pPKP **PKiKP** 17 25 27.1 -0.4
comp=Z,11nm,1.3s
DAVA **Damuels** 147.86 356 *e*pPKP **PKiKP** 17 25 27.0 -0.6
comp=Z,4.1nm,0.7s
MDVR **Moldovita** 147.86 340 ⇑P **PKiKP** 17 25 27.8 +0.3
FRGS **Fruska Gora** 148.12 342 ⇑P **PKiKP** 17 25 28.4 +0.4
ABTA **Abfaltersbach** 148.14 352 *e*PKiKP **PKPbc** 17 25 27.0 +0.7
comp=Z,5.5nm,0.8s
MMAI **Mount Meron Ar** 148.52 309 PKPbc **PKPbc** 17 25 28.2 +0.5
comp=Z,2.9nm,0.8s,baz=58,slow=3.6,SNR=3.3
TORD **Torodi Ar. Bea** 174.71 112 PKPab **PKPab** 17 27 25.8 +0.6
comp=Z,1.7nm,1.1s,baz=269,slow=3.0,SNR=4.0

IDC ***16*** *17:14:37.9±2.1,6.77S×129.11E,h0km,mb3.6/1, mbtmp3.6/3,ML3.9/2,MS3.9/1,Error ellipse: s-maj=118.1km s-min=31.8km az=67.0*
DJA ***16*** *17:14:52.3±0.4,7.5S×13.0E, ,h173km±12km,M4.2/7, mb3.9/5,mB4.7/2,MLv4.3/7,Mw(mB)4.0/2*
ISC 16 17:14:52.5±1.2,7.04S±0.08×129.70E±0.09,h200km,n13, σ2°28/15,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.84**	**121**	P	**Pn**	**17 15 30.9**	**+1.5**
SAUI	**Saumlaki**	**1.84**	**121**	P	**Pn**	**17 15 29.3**	**-0.1**
SAUI				S	**Sn**	**17 15 56.7**	**-1.4**
KMPI	**Kaimana, Papua**	**5.21**	**50**	P	**Pn**	**17 16 11.1**	**+1.5**
	31nm,0.7s,884nm0.3nm						
KMPI				S	**Sn**	**17 17 08.8**	**-1.7**
	31nm,0.7s,884nm0.3nm						
MTN	**Manton Dam**	**5.94**	**166**	P	**Pn**	**17 16 20.4**	**+1.4**
SOEI	**Soe**	**6.01**	**243**	P	**Pn**	**17 16 19.2**	**-0.9**
SOEI	**Soe**	**6.01**	**243**	P	**Pn**	**17 16 18.5**	**-1.6**
	31nm,1.0s,0.2nm						
KDU	**Kakadu**	**6.24**	**154**	P	**Pn**	**17 16 24.4**	**+1.5**
GENI	**Genyem**	**11.32**	**68**	P	**Pn**	**17 17 28.1**	**-0.8**
	34nm,1.4s						
FITZ	**Fitzroy Crossi**	**11.68**	**199**	P	**Pn**	**17 17 34.1**	**+0.7**
WRA	**Warramunga Arr**	**13.59**	**161**	Pn	**Pn**	**17 17 58.3**	**+0.8**
	0.8nm,0.3s,baz=338,slow=13,SNR=25						
WRA				Sn	**S**	**17 20 24.0**	**-5.0**
	0.5nm,0.3s,baz=324,slow=25,SNR=7.2						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**17.02**	**167**	P	**Pn**	**17 18 42.7**	**+3.6**
	0.3nm,0.3s,baz=348,slow=11,SNR=12						
ASAR				S	**S**	**17 21 47.2**	**+2.3**
	0.5nm,0.9s,baz=52,slow=39,SNR=2.6						
	0.6nm,0.4s						
JOW	**Kunigami**	**33.70**	**358**	LR	LR	17 34 22.4	
	comp=Z,166nm,18.6s,baz=318,slow=35						
MKAR	**Makanchi Array**	**68.10**	**327**	P	P	17 25 36.2	+5.5
	0.3nm,0.4s,baz=130,slow=7.8,SNR=5.1						
	0.3nm,0.4s						

IDC ***16*** *17:20:39.1±2.2,2.37S×99.98E,h0km,mb4.0/9, mbtmp4.0/9,Error ellipse: s-maj=79.1km s-min=17.2km az=61.0*
NEIC ***16*** *17:20:43.0±2.0,2.47S±0.10×99.7E±0.1,h35km±8km, mb4.3/7,Error ellipse: s-maj=18.3km s-min=10.5km az=52.0*
ISC 16 17:20:42.8±0.9,2.29S±0.09×99.9E±0.1,h30km,n37, σ1°24/24,mb4.2/12,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKNI	**Bangkinang**	**2.84**	**24**		**Pb**	**17 21 30.0**	**-2.9**
MNAI	**Manna**	**3.69**	**124**	Pn	**Pn**	**17 21 37.5**	**-0.4**
GSI	**Gunungsitoli**	**4.25**	**327**	Pn	**Pn**	**17 21 44.8**	**-0.7**
MYKOM	**Kota Tinggi**	**5.67**	**44**	Pn	**Pn**	**17 22 06.4**	**+1.4**
DLV	**T Lat**	**16.52**	**31**	Pn	**Pn**	**17 24 32.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**20.64**	**357**	P	Pn	17 25 21.4	-1.1
	1.7nm,0.8s,baz=185,slow=10.0,SNR=17						
	1.7nm,0.8s						
H08S2	**Diego Garcia H**	**27.79**	**258**	T	T	17 55 11.6	
	baz=81,slow=76,SNR=319						
H08S3	**Diego Garcia H**	**27.80**	**258**	T	T	17 55 15.0	
	baz=81,slow=76,SNR=461						
H08S1	**Diego Garcia H**	**27.81**	**258**	T	T	17 55 13.0	
	baz=81,slow=76,SNR=209						
H01W3	**Cape Leeuwin H**	**35.04**	**159**	T	T	18 04 27.1	
	baz=334,slow=74						
H01W2	**Cape Leeuwin H**	**35.05**	**159**	T	T	18 04 26.2	
	baz=334,slow=74						
H01W1	**Cape Leeuwin H**	**35.05**	**159**	T	T	18 04 27.7	
	baz=334						
WB0	**Warramunga Arr**	**37.92**	**120**	P	**P**	**17 27 57.0**	**-0.8**
WB0				IAmb	IAmb	17 28 09.0	
	comp=Z,9.7nm,1.5s						
WRA	**Warramunga Arr**	**37.95**	**120**	P	**P**	**17 27 57.3**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=306,slow=9.1,SNR=27						
	comp=Z,1.3nm,0.4s						
WR0	**Warramunga Arr**	**38.13**	**120**	P	**P**	**17 27 58.2**	**-1.4**
WR0				IAmb	IAmb	17 28 27.5	
	comp=Z,11nm,1.5s						
AS31	**Alice Springs**	**39.18**	**126**	P	**P**	**17 28 07.1**	**-1.3**
ASAR	**Alice Springs**	**39.18**	**126**	P	**P**	**17 28 07.6**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=298,slow=7.5,SNR=20						
	comp=Z,1.0nm,0.7s						
STKA	**Stephens Creek**	**49.05**	**131**	P	**P**	**17 29 27.8**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=313,slow=16,SNR=1.8						
	comp=Z,1.2nm,0.6s						
SONM	**Songino Array**	**50.24**	**6**	P	**P**	**17 29 37.9**	**+1.6**
SONM				IAmb	IAmb	17 29 39.5	
	comp=Z,3.5nm,1.5s						
SONM	**Songino Array**	**50.24**	**6**	P	**P**	**17 29 38.2**	**+1.9**
	comp=Z,1.1nm,0.4s,baz=188,slow=10.0,SNR=15						
	comp=Z,1.1nm,0.4s						
MKAR	**Makanchi Array**	**51.27**	**345**	P	**P**	**17 29 45.1**	**+1.1**
MKAR	**Makanchi Array**	**51.27**	**345**	P	**P**	**17 29 45.4**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=153,slow=8.8,SNR=7.6						
	comp=Z,1.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**54.46**	**28**	P	**P**	**17 30 09.1**	**+1.6**
USRK	**Ussuriysk Ar.**	**54.46**	**28**	P	**P**	**17 30 08.1**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=233,slow=6.7,SNR=5.0						
	comp=Z,2.3nm,0.6s						
ZAA0	**Zalesovo Array**	**57.43**	**349**	P	**P**	**17 30 28.8**	**+0.2**
ZAA0				IAmb	IAmb	17 30 30.4	
	comp=Z,2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**57.43**	**349**	P	**P**	**17 30 28.9**	**+0.3**
ZALV	**Zalesovo Beam**	**57.43**	**349**	P	**P**	**17 30 29.2**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=176,slow=4.5,SNR=10						
	comp=Z,2.4nm,0.8s						
KLR	**Kul'dur**	**58.24**	**24**	P	**P**	**17 30 35.6**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=222,slow=8.1,SNR=3.9						
	comp=Z,1.1nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.50**	**216**	T	T	18 36 10.6	
	baz=58,slow=75,SNR=582						
H04N1	**CROZET ISLANDS**	**60.51**	**216**	T	T	18 36 11.8	
	baz=58,slow=75,SNR=615						
H04N3	**CROZET ISLANDS**	**60.52**	**216**	T	T	18 36 10.4	
	baz=58,slow=75,SNR=612						
H04S1	**CROZET ISLANDS**	**60.79**	**216**	T	T	18 36 31.2	
	baz=57,slow=75,SNR=66						
H04S3	**CROZET ISLANDS**	**60.80**	**216**	T	T	18 36 33.1	
	baz=57,slow=75,SNR=77						
H04S2	**CROZET ISLANDS**	**60.81**	**216**	T	T	18 36 27.1	
	baz=57,slow=75,SNR=37						
ABKAR	**Akbulak array**	**61.84**	**332**	P	**P**	**17 30 58.5**	**-0.6**
TIXI	**Tiksi**	**76.16**	**9**	P	**P**	**17 32 26.8**	**-0.8**
TIXI				IAmb	IAmb	17 32 49.3	
	comp=Z,4.4nm,1.4s						
TXAR	**Lajitas Array**	**145.00**	**37**	PKPbc	**PKPdf**	**17 40 18.9**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=307,slow=1.2,SNR=26						

BJI **16** *17:28:19.6,27˚.50N×139˚.86E,h456km,mb4.5/59, mB5.1/27*
MOS **16** *17:28:29.3±0.9,27˚.95N×139˚.15E,h517km,mb4.8/52, Error ellipse: s-maj=7.7km s-min=4.4km az=101.3*
IDC **16** *17:28:30.4±0.7,27˚.99N×139˚.20E,h517km±6km,mb4.1/39, mbtmp5.0/44,Error ellipse: s-maj=8.5km s-min=6.8km az=93.0*
NEIC **16** *17:28:30.1±1.5,28˚.02N±0˚.08×139˚.2E±0˚.1,h508km±6km, mb4.7/426,Error ellipse: s-maj=14.2km s-min=11.4km az=106.0*
ISC 16 17:28:29.1±0.4,28˚.02N±0˚.04×139˚.25E±0˚.05,h503km±4km, h504km:pP-P,n995,σ1927/930,mb4.7/316,17C-19D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.77**	**109**	P		**P**	**P**	**17 29 40.2**	**+1.3**
JCJ				S		**S**	**S**	**17 30 34.6**	**-0.9**
JCJ	**Chichijima**	**2.77**	**109**	P		**P**	**P**	**17 29 36.3**	**-2.5**
	603nm,0.5s,baz=284,slow=3.9,SNR=139								
JCJ				S		**S**	**S**	**17 30 31.3**	**-4.2**
	2μm,0.5s,baz=320,slow=23,SNR=17								
JHJ2	**Mitsune**	**5.10**	**5**	P		**P**	**P**	**17 29 59.3**	**+2.3**
JHJ2				S		**S**	**S**	**17 31 07.8**	**-1.1**
JHJ2	**Mitsune**	**5.10**	**5**	P		**P**	**P**	**17 29 59.8**	**+2.8**
JHJ	**Hachijo jima 2**	**5.10**	**5**	P		**P**	**P**	**17 29 59.0**	**+1.9**
	150nm,0.3s,baz=107,slow=22,SNR=27								
JHJ				S		**S**	**S**	**17 31 08.0**	**-1.0**
	233nm,0.3s,baz=73,slow=19,SNR=3.2								
JMN	**Monobe**	**7.32**	**322**	P		P		17 30 22.7	+4.1
JMN	**Monobe**	**7.32**	**322**	P		P		17 30 22.9	+4.3
MJAR	**Matsushiro Arr**	**8.54**	**354**	P		**P**	**P**	**17 30 32.1**	**+1.1**
	4.7nm,0.3s,baz=195,slow=29,SNR=11								
MJAR				S		**S**	**S**	**17 32 07.5**	**-3.8**
	5.9nm,0.4s,baz=142,slow=4.0,SNR=5.0								
MAJO	**Matsushiro**	**8.54**	**354**	P		**P**	**P**	**17 30 32.2**	**+1.2**
MAJO	**Matsushiro**	**8.54**	**354**	P		**P**	**P**	**17 30 32.3**	**+1.2**
MAJO	**Matsushiro**	**8.54**	**354**	*de*P		**P**	**P**	**17 30 32.2**	**+1.2**
JNU	**Nakatsue**	**8.82**	**307**	P		**P**	**P**	**17 30 37.4**	**+3.4**
JNU	**Nakatsue**	**8.82**	**307**	P		P	P	17 30 38.1	+4.0
JNU	**Nakatsue**	**8.82**	**307**	P		**P**	**P**	**17 30 36.0**	**+1.9**
	11nm,0.3s,baz=40,slow=2.4,SNR=35								
JOW	**Kunigami**	**9.82**	**266**	P		**P**	**P**	**17 30 48.4**	**+3.7**
JOW	**Kunigami**	**9.82**	**266**	P		P	P	17 30 48.7	+4.1
JMM	**Marumori**	**9.90**	**7**	P		**P**	**P**	**17 30 47.7**	**+2.4**
JMM	**Marumori**	**9.90**	**7**	P		**P**	**P**	**17 30 47.6**	**+2.4**
JTU	**Tsushima**	**10.63**	**310**	P		**P**	**P**	**17 30 55.1**	**+2.2**
JTU	**Tsushima**	**10.63**	**310**	P		**P**	**P**	**17 30 55.8**	**+2.8**
JTM	**Tenmabayashi**	**12.82**	**6**	P		**P**	**P**	**17 31 17.9**	**+1.7**
JTM	**Tenmabayashi**	**12.82**	**6**	P		**P**	**P**	**17 31 18.0**	**+1.9**
TJN	**Taejon**	**13.05**	**313**	P		**P**	**P**	**17 31 18.8**	**+0.2**
TJN	**Taejon**	**13.05**	**313**	P		**P**	**P**	**17 31 18.8**	**+0.2**
KSRS	**Korea Array**	**13.38**	**318**	P		**P**	**P**	**17 31 23.7**	**+1.6**
	2.4nm,0.5s,baz=126,slow=11,SNR=16								
KSAR	**Wonju Array Be**	**13.40**	**317**	P		**P**	**P**	**17 31 21.9**	**-0.3**
KSAR	**Wonju Array Be**	**13.40**	**317**	P		**P**	**P**	**17 31 21.9**	**-0.3**
KS19	**Wonju Array Si**	**13.45**	**318**	P		**P**	**P**	**17 31 22.0**	**-0.7**
ERM	**Erimo**	**14.32**	**12**	P		**P**	**P**	**17 31 31.3**	**-0.5**
ERM	**Erimo**	**14.32**	**12**	P		**P**	**P**	**17 31 34.1**	**+2.2**
ERM	**Erimo**	**14.32**	**12**	*de*P		**P**	**P**	**17 31 33.5**	**+1.6**
JEM	**Erimo**	**14.32**	**12**	P		**P**	**P**	**17 31 34.0**	**+2.1**
MSHR	**Mys Shultsa**	**15.94**	**338**	⇓*e*P		**P**	**P**	**17 31 51.1**	**+2.3**
MSHR				pmax		pmax			
	comp=Z,38nm,0.7s								
NMR	**Nemuro--Hokkai**	**16.19**	**17**	*e*P		**P**	**P**	**17 31 52.1**	**+0.8**
TATO	**Taipei**	**16.19**	**263**	P		**P**	**P**	**17 31 51.6**	**0.0**
TATO	**Taipei**	**16.19**	**263**	P		**P**	**P**	**17 31 52.8**	**+1.2**
JKA	**Kamikawa-asahi**	**16.29**	**9**	P		**P**	**P**	**17 31 53.5**	**+1.1**
ASAJ	**Asahikawa**	**16.29**	**9**	P		**P**	**P**	**17 31 53.5**	**+1.1**
ASAJ				pmax		pmax			
	comp=Z,39nm,0.7s								
ASAJ	**Asahikawa**	**16.29**	**9**	P		**P**	**P**	**17 31 54.1**	**+1.7**
	comp=Z,32nm,0.5s,baz=214,slow=20,SNR=17								
NACB	**Ninganchiao**	**16.31**	**260**	P		**P**	**P**	**17 31 51.8**	**-1.2**
NACB	**Ninganchiao**	**16.31**	**260**	P		**P**	**P**	**17 31 52.0**	**-1.0**
YHNB	**Yeheng**	**16.36**	**262**	P		**P**	**P**	**17 31 52.8**	**-0.8**
YHNB	**Yeheng**	**16.36**	**262**	P		**P**	**P**	**17 31 53.3**	**-0.3**
RUSJ	**Misakicho**	**16.76**	**15**	*e*P		**P**	**P**	**17 31 59.8**	**+2.5**
YULB	**Yu-li**	**16.82**	**258**	P		**P**	**P**	**17 31 57.9**	**-0.4**
YULB	**Yu-li**	**16.82**	**258**	P		**P**	**P**	**17 31 58.9**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**16.84**	**17**	*e*P		**P**	**P**	**17 31 59.8**	**+1.7**
YUK				pmax		pmax			
	comp=Z,268nm,0.7s								
YUK				pmax		pmax			
	comp=N,19nm,0.4s								
YUK				pmax		pmax			
	comp=E,21nm,0.4s								
SHO	**Shikotan**	**16.95**	**19**	*e*P		**P**	**P**	**17 32 00.4**	**+1.2**
SHO				pmax		pmax			
	comp=Z,32nm,0.4s								
SHO				pmax		pmax			
	comp=N,4.0nm,0.2s								
SHO				pmax		pmax			
	comp=E,22nm,0.3s								
SSLB	**Suanglung**	**16.99**	**260**	P		**P**	**P**	**17 31 59.9**	**0.0**
SSLB	**Suanglung**	**16.99**	**260**	P		**P**	**P**	**17 32 00.9**	**+1.0**
USA0B	**Ussuriysk Arra**	**17.16**	**342**	P		**P**	**P**	**17 32 01.7**	**+0.4**
USA0B	**Ussuriysk Arra**	**17.16**	**342**	*de*P		**P**	**P**	**17 32 03.5**	**+2.2**
USRK	**Ussuriysk Ar.**	**17.16**	**342**	P		**P**	**P**	**17 32 01.9**	**+0.6**
USRK	**Ussuriysk Ar.**	**17.16**	**342**	P		**P**	**P**	**17 32 01.9**	**+0.6**
USRK	**Ussuriysk Ar.**	**17.16**	**342**	P		**P**	**P**	**17 32 02.6**	**+1.3**
	comp=E,104nm,0.7s,baz=161,slow=9.9,SNR=103								
TWG	**Pinlang**	**17.21**	**257**	P		**P**	**P**	**17 32 01.9**	**-0.2**
TPUB	**Ta-pu**	**17.43**	**259**	P		**P**	**P**	**17 32 03.0**	**-1.1**
TPUB	**Ta-pu**	**17.43**	**259**	P		**P**	**P**	**17 32 04.7**	**+0.6**
NJ2	**Nanjing**	**18.11**	**288**	*e*P		**P**	**P**	**17 32 11.0**	**+0.8**
NJ2				pmax		pmax			
	comp=E,24nm,0.7s								
NJ2				pmax		pmax			
	comp=E,650nm,4.3s								
MDJ	**Mudanjiang**	**18.27**	**338**	P		**P**	**P**	**17 32 11.5**	**0.0**
MDJ				IAmb		IAmb	IAmb	17 32 18.9	
	comp=Z,17nm,1.0s								
MDJ	**Mudanjiang**	**18.27**	**338**	P		**P**	**P**	**17 32 13.0**	**+1.4**
MDJ	**Mudanjiang**	**18.27**	**338**	P		**P**	**P**	**17 32 12.1**	**+0.5**
MDJ				S		**S**	**S**	**17 35 19.4**	**+6.4**
MDJ				ScP		**ScP**	**ScP**	**17 39 02.6**	**-1.8**
MDJ				PcS		**PcS**	**PcS**	**17 39 48.6**	**-5.0**
MDJ				pmax		pmax			
	comp=Z,10.0nm,1.9s								
MDJ				pmax		pmax			
	comp=Z,310nm,5.4s								
QZH	**Quanzhou**	**18.74**	**265**	*e*P		**P**	**P**	**17 32 15.4**	**-0.7**
SNY	**Shenyang**	**18.79**	**321**	⇓P		**P**	**P**	**17 32 17.3**	**+1.0**
SNY				S		**S**	**S**	**17 35 19.0**	**-2.5**
SNY				pmax		pmax			
	comp=Z,12nm,0.8s								
SNY				pmax		pmax			
	comp=Z,340nm,4.3s								
KNMB	**Chin-men Tao**	**19.04**	**264**	P		**P**	**P**	**17 32 19.0**	**+0.2**
YSS	**Yuzh-Sakhalins**	**19.10**	**7**	P		**P**	**P**	**17 32 19.4**	**+0.3**
YSS	**Yuzh-Sakhalins**	**19.10**	**7**	P		**P**	**P**	**17 32 20.5**	**+1.4**
YSS	**Yuzh-Sakhalins**	**19.10**	**7**	*e*P		**P**	**P**	**17 32 21.1**	**+2.0**
YSS				*e*S		**S**	**S**	**17 35 24.6**	**-1.7**
YSS				pmax		pmax			
	comp=Z,30nm,0.4s								
YSS				pmax		pmax			
	comp=Z,200nm,2.7s								
BNX	**BinXian**	**20.02**	**335**	⇑P		**P**	**P**	**17 32 28.4**	**+0.9**
BNX				pmax		pmax			
	comp=Z,79nm,0.8s								
BNX				pmax		pmax			
	comp=Z,270nm,3.6s								
WHN	**Wuhan**	**21.85**	**283**	⇓*i*P		**P**	**P**	**17 32 45.5**	**+1.2**
WHN				pmax		pmax			
	comp=Z,46nm,0.7s								
KLR	**Kul'dur**	**21.95**	**347**	*c i*P		**P**	**P**	**17 32 46.3**	**+1.4**
KLR				pmax		pmax			
	comp=Z,26nm,0.7s								
KLR	**Kul'dur**	**21.95**	**347**	P		**P**	**P**	**17 32 46.1**	**+1.2**
	comp=Z,30nm,0.7s,baz=154,slow=8.2,SNR=98								
KLR				S		**S**	**S**	**17 36 11.8**	**0.0**
	comp=Z,1.0nm,0.7s,baz=240,slow=20,SNR=1.4								
KLR				ScP		**ScP**	**ScP**	**17 39 10.7**	**-2.4**
	comp=Z,4.8nm,0.6s,baz=183,slow=4.0,SNR=20								
	comp=Z,30nm,0.7s								
TGY	**Tagaytay City**	**21.95**	**235**	P		**P**	**P**	**17 32 45.2**	**-0.2**
	comp=Z,186nm,0.6s,baz=147,slow=5.5,SNR=4.8								
	comp=Z,186nm,0.6s								
BJI	**Beijing**	**22.50**	**308**	P		**P**	**P**	**17 32 56.3**	**+6.3**
BJI				sP		sP	sP	17 35 12.4	+7.1
BJI				S		**S**	**S**	**17 36 17.0**	**-3.7**
BJI				pmax		pmax			
	comp=Z,4.0nm,0.8s								
BJI				pmax		pmax			
	comp=Z,130nm,4.2s								
TYV	**Tymovskoe**	**22.96**	**6**	*e*P		**P**	**P**	**17 32 55.6**	**+1.7**
TYV				*e*S		**S**	**S**	**17 36 32.1**	**+4.4**
TYV				pmax		pmax			
	comp=Z,100nm,3.2s								
TYV				pmax		pmax			
	comp=Z,29nm,0.7s								
TYV				smax		smax			
	comp=N,600nm,5.3s								
TYV				smax		smax			
	comp=E,400nm,5.3s								
HKPS	**Hong Kong Po S**	**23.41**	**261**	P		**P**	**P**	**17 32 58.4**	**0.0**
LYN	**LuoYang**	**23.75**	**293**	⇑P		**P**	**P**	**17 33 02.4**	**+1.1**
LYN				pmax		pmax			
	comp=E,12nm,0.5s								
LYN				pmax		pmax			
	comp=E,450nm,5.3s								
HEH	**HeiHe**	**23.97**	**341**	*e*P		**P**	**P**	**17 33 04.0**	**+1.1**
HEH				ScP		**ScP**	**ScP**	**17 39 16.3**	**-2.2**
HEH				pmax		pmax			
	comp=E,53nm,0.7s								
HEH				pmax		pmax			
	comp=E,260nm,4.6s								
HIA	**Hailar**	**25.97**	**330**	P		**P**	**P**	**17 33 20.1**	**-0.7**
HIA				IAmb		IAmb	IAmb	17 33 23.1	
	comp=Z,14nm,0.8s								
HIA	**Hailar**	**25.97**	**330**	P		**P**	**P**	**17 33 20.1**	**-0.7**
HIA				pmax		pmax			
	comp=Z,14nm,0.8s								
SKR	**Severo-Kuril's**	**26.00**	**25**	⇑*e*P		**P**	**P**	**17 33 19.3**	**-1.6**
HHC	**Hu-ho-hao-te**	**26.05**	**307**	*e*P		**P**	**P**	**17 33 23.5**	**+1.8**
HHC				pmax		pmax			
	comp=Z,17nm,0.8s								
HHC				pmax		pmax			
	comp=Z,160nm,4.9s								
ENH	**Enshi**	**26.06**	**282**	P		**P**	**P**	**17 33 21.3**	**-0.5**
ENH	**Enshi**	**26.06**	**282**	P		**P**	**P**	**17 33 22.7**	**+0.9**
XAN	**Xi'an**	**26.61**	**291**	⇑P		**P**	**P**	**17 33 26.8**	**+0.1**
XAN				pmax		pmax			
	comp=Z,21nm,0.6s								
XAN				pmax		pmax			
	comp=Z,500nm,4.1s								
ZEA	**Zeya**	**27.17**	**344**	*e*P		**P**	**P**	**17 33 32.4**	**+1.2**
ZEA				pmax		pmax			
	comp=E,20nm,0.9s								
ZEA				pmax		pmax			
	comp=N,40nm,0.7s								
ZEA				pmax		pmax			
	comp=Z,70nm,0.7s								
PEA0B	**Petropavlovsk-**	**28.54**	**24**	P		**P**	**P**	**17 33 43.9**	**+0.6**
PEA0B				IAmb		IAmb	IAmb	17 33 53.9	
	comp=Z,44nm,1.2s								
PEA0B	**Petropavlovsk-**	**28.54**	**24**	P		**P**	**P**	**17 33 43.9**	**+0.6**
PEA0B				pmax		pmax			
	comp=Z,44nm,1.3s								
PETK	**Petropavlovsk-**	**28.54**	**24**	P		**P**	**P**	**17 33 43.3**	**0.0**
PETK				pP		**pP**	**pP**	**17 35 03.0**	**-3.2**
PETK	**Petropavlovsk-**	**28.54**	**24**	P		**P**	**P**	**17 33 44.8**	**+1.5**
	comp=Z,6.2nm,0.7s,baz=171,slow=6.2,SNR=36								
	comp=Z,6.2nm,0.7s								
PET	**Petropavlovsk**	**28.82**	**25**	P		**P**	**P**	**17 33 46.9**	**+1.3**
PET				IAmb		IAmb	IAmb	17 33 47.7	
	comp=Z,24nm,0.7s								
PET	**Petropavlovsk**	**28.82**	**25**	P		**P**	**P**	**17 33 47.2**	**+1.6**
PET	**Petropavlovsk**	**28.82**	**25**	*e*P		**P**	**P**	**17 33 46.9**	**+1.3**
PET				*e**SP		sP		17 36 14.0	+6.7
PET				*e*S		**S**	**S**	**17 38 00.5**	**+1.1**
PET				pmax		pmax			
	comp=Z,48nm,0.8s								
GYA	**Guiyang**	**28.97**	**275**	⇓*i*P		**P**	**P**	**17 33 48.3**	**+0.8**
GYA				pmax		pmax			
	comp=Z,34nm,1.2s								
TNTI	**Ternate**	**29.39**	**205**	P		**P**	**P**	**17 33 51.3**	**+0.2**
TNTI				IAmb		IAmb	IAmb	17 33 53.8	
	comp=Z,32nm,1.0s								
SWI	**Sorong**	**29.73**	**196**	P		**P**	**P**	**17 33 54.5**	**+0.5**
	comp=Z,72nm,0.6s								
SWI	**Sorong**	**29.73**	**196**	P		**P**	**P**	**17 33 54.8**	**+0.8**
SWI				pmax		pmax			
	comp=Z,70nm,0.6s								
MYLDM	**Lahad Datu**	**30.08**	**225**	P		**P**	**P**	**17 33 57.1**	**0.0**
LBMI	**Labuha**	**30.64**	**204**	P		**P**	**P**	**17 34 03.6**	**+1.6**
	comp=Z,119nm,0.8s,comp=Z,2μm								
KKM	**Kota Kinabalu**	**30.90**	**229**	P		**P**	**P**	**17 34 03.4**	**-1.0**
KKM				IAmb		IAmb	IAmb	17 34 08.1	
	comp=Z,37nm,1.0s								
LZH	**Lanzhou**	**30.93**	**294**	*e*P		**P**	**P**	**17 34 04.9**	**+0.4**
LZH				PP		**pwP**	**pwP**	**17 35 33.0**	**-2.0**
LZH				pmax		pmax			
	comp=Z,18nm,1.0s								
CD2	**Chengdu**	**30.95**	**284**	P		**P**	**P**	**17 34 05.4**	**+0.8**
CD2				pmax		pmax			
	comp=Z,80nm,0.6s								
KMSI	**Cibinong**	**30.96**	**211**	P		**P**	**P**	**17 34 06.0**	**+1.3**
	comp=Z,211nm,0.7s,comp=Z,2μm								
ULN	**Ulaanbaatar**	**31.87**	**317**	P		**P**	**P**	**17 34 12.1**	**-0.2**
ULN	**Ulaanbaatar**	**31.87**	**317**	*de*P		**P**	**P**	**17 34 13.5**	**+1.2**
ULN				pmax		pmax			
	comp=Z,14nm,1.0s								
MRSI	**Marisa**	**32.02**	**214**	P		**P**	**P**	**17 34 14.7**	**+0.9**
	comp=Z,82nm,0.6s,comp=Z,2μm								
TOLI2	**Tolitoli**	**32.07**	**217**	P		**P**	**P**	**17 34 12.5**	**-1.7**
TOLI2	**Tolitoli**	**32.07**	**217**	P		**P**	**P**	**17 34 14.3**	**+0.1**
SONM	**Songino Array**	**32.25**	**317**	P		**P**	**P**	**17 34 16.1**	**+0.5**
SONM	**Songino Array**	**32.25**	**317**	P		**P**	**P**	**17 34 16.3**	**+0.8**
	comp=Z,3.2nm,0.7s,baz=126,slow=8.3,SNR=24								
SONM				ScP		**ScP**	**ScP**	**17 39 42.6**	**-2.1**
	comp=Z,4.2nm,0.7s,baz=148,slow=3.5,SNR=23								
	comp=Z,3.2nm,0.7s								
SANI	**Sanana**	**32.50**	**205**	P		**P**	**P**	**17 34 17.3**	**-0.6**
SANI	**Sanana**	**32.50**	**205**	P		**P**	**P**	**17 34 17.0**	**-0.9**
	comp=Z,193nm,0.6s,comp=Z,2μm								
MA2	**Magadan**	**32.52**	**11**	P		**P**	**P**	**17 34 18.3**	**+0.8**
MA2	**Magadan**	**32.52**	**11**	P		**P**	**P**	**17 34 18.8**	**+1.3**
MA2	**Magadan**	**32.52**	**11**	*de*P		**P**	**P**	**17 34 19.0**	**+1.5**
MA2				pmax		pmax			
	comp=Z,215nm,2.5s								
MA2	**Magadan**	**32.52**	**11**	P		**P**	**P**	**17 34 18.3**	**+0.8**
	comp=Z,76nm,0.8s,baz=181,slow=7.7,SNR=30								
	comp=Z,76nm,0.8s								
KMI	**Kunming**	**32.70**	**273**	⇓P		**P**	**P**	**17 34 20.8**	**+1.0**
KMI				pmax		pmax			
	comp=Z,28nm,0.8s								
SLVN	**Son La**	**32.72**	**266**	P		**P**	**P**	**17 34 20.2**	**+0.4**
SLVN				IAmb		IAmb	IAmb	17 34 23.2	
	comp=Z,18nm,0.9s								
LUWI	**Luwuk**	**32.94**	**211**	P		**P**	**P**	**17 34 20.3**	**-1.4**
MPSI	**Mapaga**	**33.19**	**217**	P		**P**	**P**	**17 34 23.6**	**-0.1**
	comp=Z,25nm,0.7s								
NLAI	**Namlea**	**33.21**	**203**	P		**P**	**P**	**17 34 26.0**	**+2.1**
	comp=Z,22nm,0.7s,comp=Z,428μm								
PZH	**PanZhiHua**	**33.29**	**276**	P		**P**	**P**	**17 34 24.9**	**+0.2**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.8s								
PZH				pmax		pmax			
	comp=Z,250nm,5.3s								
UBPT	**Khong Chiam**	**33.74**	**255**	P		**P**	**P**	**17 34 28.2**	**-0.2**
UBPT				IAmb		IAmb	IAmb	17 34 36.4	
	comp=Z,48nm,1.4s								
GTA	**Gaotai**	**34.46**	**300**	*e*P		**P**	**P**	**17 34 35.3**	**+0.9**
GTA				ScP		**ScP**	**ScP**	**17 39 51.5**	**-1.2**
GTA				pmax		pmax			
	comp=Z,10.0nm,1.5s								
NONG	**Nongkai**	**34.56**	**261**	P		**P**	**P**	**17 34 36.8**	**+1.6**
YAK	**Yakutsk**	**34.60**	**352**	P		**P**	**P**	**17 34 35.0**	**+0.1**
YAK	**Yakutsk**	**34.60**	**352**	*e*P		**P**	**P**	**17 34 35.4**	**+0.5**
YAK				*e*				17 36 18.2	
YAK				*e*				17 36 53.1	
YAK				*e*S		**S**	**S**	**17 39 24.9**	**-2.8**
YAK				*e*				17 43 51.0	
YAK				pmax		pmax			
	comp=Z,64nm,0.9s								
YAK				pmax		pmax			
	comp=N,9.0nm,1.1s								
YAK				pmax		pmax			
	comp=E,5.0nm,0.9s								
YAK				pmax		pmax			
	comp=Z,141nm,6.9s								
YAK				pmax		pmax			
	comp=N,114nm,2.9s								
YAK				pmax		pmax			
	comp=E,191nm,5.8s								
YAK				smax		smax			
	comp=E,235nm,5.4s								
YAK				smax		smax			
	comp=N,70nm,2.5s								
YAK	**Yakutsk**	**34.60**	**352**	P		**P**	**P**	**17 34 35.1**	**+0.1**
	comp=N,1.7nm,0.3s,baz=54,slow=0.8,SNR=36								
ZAK	**Zakamensk**	**35.20**	**319**	*e*P		**P**	**P**	**17 34 40.8**	**+0.4**
ZAK				pmax		pmax			
	comp=Z,6.0nm,1.0s								
SEY	**Seymchan**	**35.96**	**10**	⇑*e*P		**P**	**P**	**17 34 47.9**	**+1.6**
SEY				pmax		pmax			
	comp=Z,20nm,0.7s								
SEY	**Seymchan**	**35.96**	**10**	P		**P**	**P**	**17 34 47.5**	**+1.2**
	comp=Z,26nm,0.7s,baz=192,slow=6.8,SNR=81								
	comp=Z,26nm,0.7s								
CRAI	**Chiangrai**	**36.20**	**266**	P		**P**	**P**	**17 34 50.0**	**+1.1**
CRAI				IAmb		IAmb	IAmb	17 34 51.9	
	comp=Z,15nm,0.8s								
SBUM	**Sibu**	**36.23**	**230**	P		**P**	**P**	**17 34 50.5**	**+1.3**
TNCH	**TengChong**	**36.45**	**275**	*e*P		**P**	**P**	**17 34 51.8**	**+0.7**
TNCH				pmax		pmax			
	comp=Z,24nm,0.9s								
SAUI	**Saumlaki**	**36.61**	**193**	P		**P**	**P**	**17 34 52.2**	**-0.1**
SPSI	**Sidrap Palu**	**36.92**	**214**	P		**P**	**P**	**17 34 54.9**	**0.0**
	comp=Z,60nm,0.7s,comp=Z,695nm								
MTKI	**Muara Teweh, K**	**37.09**	**223**	P		P		17 34 49.2	-7.1
NAYO	**Nakonayok**	**37.74**	**257**	P		**P**	**P**	**17 35 03.2**	**+1.6**
KAPI	**Kappang**	**37.84**	**213**	P		**P**	**P**	**17 35 02.6**	**+0.1**
KAPI				IAmb		IAmb	IAmb	17 35 03.6	
	comp=Z,18nm,0.7s								
KAPI	**Kappang**	**37.84**	**213**	P		**P**	**P**	**17 35 02.6**	**+0.1**
KAPI				pmax		pmax			
	comp=Z,18nm,0.7s								
KAPI	**Kappang**	**37.84**	**213**	P		**P**	**P**	**17 35 02.8**	**+0.4**
	comp=Z,16nm,0.6s,baz=59,slow=0.3,SNR=5.8								
	comp=Z,16nm,0.6s								
CHTO	**Chiang Mai**	**37.96**	**265**	P		**P**	**P**	**17 35 03.1**	**-0.3**
CHTO				IAmb		IAmb	IAmb	17 35 06.2	
	comp=Z,27nm,0.9s								
CHTO	**Chiang Mai**	**37.96**	**265**	P		**P**	**P**	**17 35 04.0**	**+0.6**
CHTO	**Chiang Mai**	**37.96**	**265**	P		**P**	**P**	**17 35 03.1**	**-0.3**
CHTO				pmax		pmax			
	comp=Z,27nm,0.9s								
AMKA	**Amchitka**	**37.98**	**41**	P		**P**	**P**	**17 35 04.1**	**+1.0**
PMG	**Port Moresby**	**37.99**	**167**	P		**P**	**P**	**17 35 03.4**	**-0.2**
PMG				IAmb		IAmb	IAmb	17 35 05.6	
	comp=Z,15nm,0.8s								
PMG	**Port Moresby**	**37.99**	**167**	P		**P**	**P**	**17 35 04.4**	**+0.8**
PMG	**Port Moresby**	**37.99**	**167**	P		**P**	**P**	**17 35 04.3**	**+0.7**
PMG	**Port Moresby**	**37.99**	**167**	*de*P		**P**	**P**	**17 35 04.2**	**+0.7**
PMG				pmax		pmax			
	comp=Z,6.0nm,0.6s								
CM31	**Chiang Mai Arr**	**38.09**	**264**	P		**P**	**P**	**17 35 04.8**	**+0.3**
CM31				IAmb		IAmb	IAmb	17 35 07.0	
	comp=Z,18nm,0.7s								
CMAR	**Chiang Mai Arr**	**38.09**	**264**	P		**P**	**P**	**17 35 04.5**	**0.0**
CMAR	**Chiang Mai Arr**	**38.09**	**264**	P		**P**	**P**	**17 35 04.5**	**0.0**
CMAR	**Chiang Mai Arr**	**38.09**	**264**	P		**P**	**P**	**17 35 05.3**	**+0.8**
	comp=Z,7.3nm,0.7s,baz=80,slow=4.9,SNR=67								
CMAR				ScP		**ScP**	**ScP**	**17 40 05.4**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=53,slow=2.2,SNR=8.4								
	comp=Z,7.3nm,0.7s								
GOMU	**GeErMu**	**38.24**	**294**	P		**P**	**P**	**17 35 07.3**	**+1.4**
GOMU				ScP		**ScP**	**ScP**	**17 40 06.8**	**-0.4**
GOMU				pmax		pmax			
	comp=Z,15nm,0.9s								
KSM	**Kuching**	**38.24**	**231**	P		**P**	**P**	**17 35 06.2**	**+0.5**
KSM				IAmb		IAmb	IAmb	17 35 08.4	
	comp=Z,27nm,0.7s								
STKI	**Sintang**	**38.48**	**228**	P		**P**	**P**	**17 35 09.6**	**+1.9**
	comp=Z,70nm,0.8s								
MND	**Mandalay**	**39.39**	**271**	P		**P**	**P**	**17 35 16.1**	**+1.1**
SRDT	**SRDT**	**39.62**	**258**	P		**P**	**P**	**17 35 18.3**	**+1.4**
MMRI	**Maumere**	**39.98**	**207**	P		**P**	**P**	**17 35 19.7**

LWLI **Liwa** 47.22 231 P P 17 36 16.4 0.0
comp=Z,154nm,0.7s
KASI **Kota Agung** 47.28 231 P P 17 36 15.8 -0.9
comp=Z,53nm,1.0s
PKI **Pulchoki** 47.29 283 *e*P P 17 36 17.6 +0.5
comp=Z,7.9nm,0.3s
PKIN **Phulchoki** 47.30 283 *e*P P 17 36 17.7 +0.6
comp=Z,8.6nm,0.3s
KKN **Kakani** 47.35 283 *e*P P 17 36 18.3 +0.9
MNAI **Manna** 47.53 233 P P 17 36 19.3 +0.8
DMN **Daman** 47.55 283 *e*P P 17 36 19.6 +0.7
comp=Z,22nm,0.4s
FITZ **Fitzroy Crossi** 47.70 198 P P 17 36 20.2 +0.5
FITZ **Fitzroy Crossi** 47.70 198 P P 17 36 20.4 +0.7
WB0 **Warramunga Arr** 47.74 186 P P 17 36 19.8 -0.2
WB0 PcP PcP 17 37 38.3 -1.2
GKN **Gorkha** 47.86 284 *e*P P 17 36 21.8 +0.7
comp=Z,7.2nm,0.3s
GSI **Gunungsitoli** 47.87 244 P P 17 36 21.3 +0.2
GSI **Gunungsitoli** 47.87 244 P P 17 36 21.5 +0.3
GSI **Gunungsitoli** 47.87 244 P P 17 36 21.4 +0.2
comp=Z,114nm,0.8s
MK31 **Makanchi Array** 47.87 309 P P 17 36 20.9 +0.1
MK31 **Makanchi Array** 47.87 309 *ce*P P 17 36 22.1 +1.3
MKAR **Makanchi Array** 47.87 309 P P 17 36 21.7 +1.0
MKAR PcP PcP 17 37 38.7 -1.0
MKAR **Makanchi Array** 47.87 309 *ce*P P 17 36 21.8 +1.0
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MKAR **Makanchi Array** 47.87 309 P P 17 36 21.5 +0.8
comp=Z,3.3nm,0.4s,baz=87,slow=11,SNR=49
MKAR ScP ScP 17 40 43.5 -2.3
comp=Z,4.5nm,0.7s,baz=84,slow=4.9,SNR=16
comp=Z,3.3nm,0.4s
WRAB **Tennant Creek** 47.91 186 P P 17 36 20.6 -0.6
WRAB IAmb IAmb 17 36 22.1
comp=Z,29nm,0.7s
WRAB **Tennant Creek** 47.91 186 P P 17 36 20.6 -0.6
WRAB pmax pmax
comp=Z,29nm,0.7s
WR0 **Warramunga Arr** 47.91 186 P P 17 36 20.9 -0.4
WB2 **Warramunga Arr** 47.92 186 P P 17 36 20.9 -0.4
WRA **Warramunga Arr** 47.92 186 P P 17 36 20.4 -1.0
WRA **Warramunga Arr** 47.92 186 *i* P P 17 36 20.1 -1.2
WRA pmax pmax
comp=Z,37nm,0.5s
WRA **Warramunga Arr** 47.92 186 P P 17 36 21.2 -0.1
comp=Z,35nm,0.5s,baz=2.2,slow=7.7,SNR=302
WRA pP pwP 17 37 57.1 -4.6
comp=Z,1.9nm,0.6s,baz=6.5,slow=8.5,SNR=2.0
WRA ScP ScP 17 40 43.6 -2.5
comp=Z,3.7nm,0.7s,baz=358,slow=4.6,SNR=12
comp=Z,35nm,0.5s
MAKZ **Makanchi** 48.09 309 P P 17 36 23.0 +0.7
MAKZ **Makanchi** 48.09 309 P P 17 36 23.0 +0.7
MAKZ pmax pmax
comp=Z,9.0nm,1.0s
QIS **Mount Isa** 48.29 180 P P 17 36 24.3 +0.2
CTAO **Charters Tower** 48.30 171 P P 17 36 24.5 +0.3
CTAO **Charters Tower** 48.30 171 P P 17 36 25.2 +1.0
CTAO **Charters Tower** 48.30 171 P P 17 36 24.5 +0.3
CTAO pmax pmax
comp=Z,10.0nm,0.9s
DANN **Dangsing** 48.53 284 *e*P P 17 36 27.4 +1.1
comp=Z,18nm,0.3s
FALS **False Pass** 48.91 40 P P 17 36 28.7 +0.5
baz=261
TNA **Tin City** 49.67 26 P P 17 36 33.2 -0.5
baz=248
SHLS **Shalkode** 49.90 304 *e*P P 17 36 34.4 -1.6
M13K **Dall Lake** 50.05 33 P P 17 36 37.2 +0.6
baz=256
F14K **Arctic Creek** 50.26 26 P P 17 36 39.8 +1.8
baz=249
ANM **Nome** 50.33 27 P P 17 36 40.0 +1.5
ANM **Nome** 50.33 27 P P 17 36 40.6 +2.0
baz=251,SNR=9.2
ANM **Nome** 50.33 27 P P 17 36 40.1 +1.5
ANM pmax pmax
comp=Z,44nm,0.7s
KURK **Kurchatov** 50.48 314 P P 17 36 40.0 +0.1
KURK IAmb IAmb 17 36 42.5
comp=Z,19nm,0.8s
KURK PcP PcP 17 37 48.6 -0.5
KURK **Kurchatov** 50.48 314 *di* P P 17 36 40.4 +0.5
KURK pmax pmax
comp=Z,27nm,1.0s
KURBB **Kurchatov Arra** 50.53 314 P P 17 36 40.8 +0.5
comp=Z,26nm,0.7s,baz=92,slow=7.8,SNR=183
KURBB PcP PcP 17 37 48.4 -1.0
comp=Z,1.5nm,0.5s,baz=88,slow=4.7,SNR=4.9
comp=Z,26nm,0.7s
J14K **Nanvaranak Lak** 50.55 30 P P 17 36 42.0 +1.7
J14K IAmb IAmb 17 36 42.8
comp=Z,23nm,0.8s
J14K **Nanvaranak Lak** 50.55 30 P P 17 36 42.1 +1.9
baz=254
L14K **Kuka Creek** 50.59 32 P P 17 36 41.8 +1.2
L14K IAmb IAmb 17 36 43.8
comp=Z,38nm,0.8s
L14K **Kuka Creek** 50.59 32 P P 17 36 42.2 +1.7
baz=256
SDPT **Sand Point** 50.66 40 P P 17 36 40.7 -0.4
SDPT **Sand Point** 50.66 40 P P 17 36 41.2 +0.1
SDPT **Sand Point** 50.66 40 P P 17 36 41.1 0.0
baz=263
PRZ **Przheval'sk** 50.72 303 P P 17 36 42.0 -0.2
PRZ IAmb IAmb 17 36 45.6
comp=Z,16nm,0.6s
PRZ **Przheval'sk** 50.72 303 P P 17 36 42.0 -0.2
PRZ pmax pmax
comp=Z,16nm,0.6s
N14K **Kuskokwak Cree** 50.76 34 P P 17 36 43.2 +1.5
baz=258
M14K **Bethel** 50.80 33 P P 17 36 43.8 +1.7
M14K IAmb IAmb 17 36 45.2
comp=Z,31nm,0.7s
M14K PcP PcP 17 37 51.2 +1.1
M14K **Bethel** 50.80 33 P P 17 36 44.1 +2.0
baz=257
O14K **Tigyukauivet M** 50.84 35 P P 17 36 43.8 +1.5
baz=259
F15K **North Star Dit** 50.99 26 P P 17 36 45.4 +1.9
baz=251,SNR=12
G15K **Niukluk** 51.01 27 P P 17 36 45.1 +1.6
baz=252,SNR=7.6
ARXS **Arharly** 51.03 306 *e*P P 17 36 45.2 +1.0
CHNA **Chernabura Isl** 51.11 41 P P 17 36 44.9 +0.5
baz=264
CNBA **Chernabura Isl** 51.11 41 P P 17 36 44.5 +0.1
L15K **Ungalak Mounta** 51.23 32 P P 17 36 46.8 +1.6
baz=257
S14K **Fog Glacier** 51.29 39 P P 17 36 47.2 +1.4
baz=263
K15K **Wolf Creek Mou** 51.35 31 IAmb IAmb 17 36 48.6
comp=Z,25nm,0.8s
K15K **Wolf Creek Mou** 51.35 31 P P 17 36 47.9 +1.8
baz=257
M15K **Kasigluk River** 51.40 33 P P 17 36 47.8 +1.3
baz=259
O15K **Ungalikthiuk R** 51.55 35 P P 17 36 48.5 +1.0
baz=261
N15K **Kwethluk River** 51.59 34 IAmb IAmb 17 36 51.0
comp=Z,27nm,0.7s
N15K **Kwethluk River** 51.59 34 P P 17 36 49.2 +1.3
baz=260
H16K **Elim** 51.64 28 P P 17 36 49.5 +1.4
baz=254,SNR=16
C16K **Lisburne Hills** 51.64 23 IAmb IAmb 17 36 50.3
comp=Z,22nm,0.8s
C16K **Lisburne Hills** 51.64 23 P P 17 36 49.4 +1.3
baz=248
AS31 **Alice Springs** 51.64 186 P P 17 36 48.5 -0.3
AS31 IAmb IAmb 17 36 50.8
comp=Z,13nm,0.6s
ASAR **Alice Springs** 51.64 186 P P 17 36 48.3 -0.4
ASAR PcP PcP 17 37 53.7 -0.2
ASAR **Alice Springs** 51.64 186 P P 17 36 48.8 0.0
comp=Z,11nm,0.6s,baz=0.8,slow=6.7,SNR=372
ASAR ScP ScP 17 40 59.8 -2.4
comp=Z,1.2nm,0.8s,baz=13,slow=5.1,SNR=4.3
comp=Z,11nm,0.6s
G16K **Koyuk River** 51.80 27 P P 17 36 50.5 +1.2
baz=253
CHGN **Chignik** 51.92 39 P P 17 36 50.0 -0.3
CHGN **Chignik** 51.92 39 P P 17 36 50.7 +0.5
baz=264
J16K **Anvik River** 51.99 30 P P 17 36 52.1 +1.4
baz=257
I17K **Unalakleet** 52.09 29 P P 17 36 52.8 +1.4
I17K IAmb IAmb 17 36 54.4
comp=Z,42nm,1.2s
I17K PcP PcP 17 37 56.2 +1.2
I17K **Unalakleet** 52.09 29 P P 17 36 53.2 +1.8
baz=256,SNR=5.7
L16K **Owhat River** 52.17 32 P P 17 36 53.3 +1.3
L16K PcP PcP 17 37 56.8 +1.5
L16K **Owhat River** 52.17 32 P P 17 36 53.5 +1.5
baz=259
M16K **Timber Creek** 52.29 33 IAmb IAmb 17 36 55.1
comp=Z,25nm,0.9s
M16K **Timber Creek** 52.29 33 P P 17 36 54.4 +1.5
baz=260
N16K **Nishlik Lake** 52.29 34 P P 17 36 54.7 +1.7
baz=261
MBWA **Marble Bar** 52.41 203 P P 17 36 54.3 0.0
MBWA **Marble Bar** 52.41 203 P P 17 36 54.6 +0.4
RDOG **Red Dog Mine** 52.42 24 P P 17 36 55.2 +1.5
RDOG IAmb IAmb 17 36 56.3
comp=Z,42nm,0.7s
RDOG PcP PcP 17 37 54.3 -1.9
RDOG **Red Dog Mine** 52.42 24 P P 17 36 55.5 +1.8
baz=251,SNR=14
C17K **DeLong Mountai** 52.46 23 P P 17 36 55.3 +1.3
baz=250
P16K **Nushagak River** 52.47 35 P P 17 36 55.6 +1.5
baz=262
O16K **Kokwok River B** 52.49 35 IAmb IAmb 17 36 56.2
comp=Z,16nm,0.7s
O16K PcP PcP 17 37 57.2 +0.6
O16K **Kokwok River B** 52.49 35 P P 17 36 55.5 +1.2
baz=262
E17K **Hotham Inlet** 52.50 25 P P 17 36 56.2 +1.9
baz=253
G17K **Kiwalik Mounta** 52.52 27 P P 17 36 56.2 +1.8
baz=255,SNR=12
F17K **Baldwin Pennin** 52.54 26 IAmb IAmb 17 36 57.4
comp=Z,43nm,1.1s
F17K **Baldwin Pennin** 52.54 26 P P 17 36 56.2 +1.7
baz=254
H17K **Granite Mounta** 52.68 28 P P 17 36 56.6 +1.0
H17K PcP PcP 17 37 58.1 +0.8
H17K **Granite Mounta** 52.68 28 P P 17 36 57.4 +1.8
baz=256
J17K **VABM Dome** 52.69 30 IAmb IAmb 17 36 58.7
comp=Z,21nm,0.7s
J17K **VABM Dome** 52.69 30 P P 17 36 57.7 +2.0
baz=258
PSA00 **Pilbara Seismi** 52.75 203 P P 17 36 56.7 0.0
PSA00 **Pilbara Seismi** 52.75 203 IAmb IAmb 17 36 57.8
comp=Z,36nm,0.7s
PSA00 **Pilbara Seismi** 52.75 203 P P 17 36 57.0 +0.3
L17K **Donlin** 52.80 32 P P 17 36 58.6 +2.1
baz=260
KSH **Kashi** 52.86 300 P P 17 37 01.8 +4.2
KSH S S 17 43 55.0 +6.7
KSH pmax pmax
comp=Z,8.0nm,0.7s
K17K **Iditarod** 52.90 31 P P 17 36 59.3 +2.1
baz=259
O17K **Koliganek Bris** 53.02 35 P P 17 36 59.7 +1.6
baz=263
E18K **Tukpahlearik C** 53.06 25 P P 17 36 59.9 +1.6
E18K **Tukpahlearik C** 53.06 25 P P 17 37 00.6 +2.3
baz=254,SNR=7.9
N17K **Nushagak Hills** 53.07 34 IAmb IAmb 17 37 01.5
comp=Z,21nm,0.8s
N17K PcP PcP 17 38 00.3 +1.5
N17K **Nushagak Hills** 53.07 34 P P 17 37 00.6 +2.1
baz=262
M17K **Holitna River** 53.08 33 IAmb IAmb 17 37 01.2
comp=Z,37nm,0.7s
M17K **Holitna River** 53.08 33 P P 17 37 00.3 +1.8
baz=261
Q16K **King Salmon** 53.11 36 P P 17 36 59.7 +1.0
baz=264
R17K **Ugashik Creek** 53.15 37 IAmb IAmb 17 37 00.5
comp=Z,20nm,0.8s
R17K **Ugashik Creek** 53.15 37 P P 17 37 00.1 +1.0
baz=265
C18K **Utukok River** 53.21 23 IAmb IAmb 17 37 01.1
comp=Z,16nm,0.7s
C18K PcP PcP 17 37 60.0 +0.7
C18K **Utukok River** 53.21 23 P P 17 37 00.6 +1.2
baz=252
P17K **Kvichak River** 53.28 35 P P 17 37 01.4 +1.4
baz=264
H18K **Honhosa River** 53.37 28 P P 17 37 01.5 +1.0
H18K **Honhosa River** 53.37 28 P P 17 37 01.9 +1.3
baz=258,SNR=5.7
SGDS **Sogindy** 53.40 305 *e*P P 17 37 00.8 -0.4
G18K **Tagagawik** 53.41 27 P P 17 37 01.6 +0.8
G18K IAmb IAmb 17 37 03.5
comp=Z,35nm,1.4s
G18K **Tagagawik** 53.41 27 P P 17 37 02.1 +1.3
baz=257,SNR=7.4
CHIR **Chirikof Islan** 53.44 40 P P 17 37 02.2 +1.0
CHIR **Chirikof Islan** 53.44 40 P P 17 37 02.3 +1.1
baz=267
Q17K **Contact Creek** 53.47 37 P P 17 37 02.4 +0.8
baz=265
L18K **Granite Mounta** 53.56 32 IAmb IAmb 17 37 05.3
comp=Z,24nm,0.7s
L18K **Granite Mounta** 53.56 32 P P 17 37 03.9 +2.0
baz=261
AAK **Ala-Archa** 53.58 304 P P 17 37 03.0 +0.3
AAK PcP PcP 17 38 00.7 -0.7
AAK **Ala-Archa** 53.58 304 *ce*P P 17 37 04.2 +1.5
AAK pmax pmax
comp=Z,3.0nm,0.9s
BTLS **Baital** 53.67 307 *e*P P 17 37 04.3 +1.3
BTLS pmax pmax
comp=Z,5.0nm,0.5s
N18K **Kilae Creek** 53.73 34 P P 17 37 04.6 +1.4
N18K PcP PcP 17 38 02.8 +1.4
N18K **Kilae Creek** 53.73 34 P P 17 37 04.5 +1.4
baz=263
A19K **Wainwright** 53.74 21 P P 17 37 04.9 +1.8
baz=251
J18K **Innoko River** 53.74 30 P P 17 37 04.9 +1.6
baz=260
WRKA **Warakurna** 53.80 192 P P 17 37 04.5 +0.4
M18K **Stony River** 53.86 33 P P 17 37 05.9 +1.8
baz=263
C19K **Lookout Ridge** 53.90 23 P P 17 37 06.0 +1.7
baz=254,SNR=22
GCSA **Galena City Sc** 53.90 28 P P 17 37 05.6 +1.3
baz=259,SNR=5.6
P18K **Big Mountain,** 53.92 35 P P 17 37 04.9 +0.3
P18K IAmb IAmb 17 37 06.1
comp=Z,23nm,0.8s
P18K **Big Mountain,** 53.92 35 P P 17 37 05.6 +1.1
baz=265
SVW2 **Sparrevohn** 53.93 33 P P 17 37 05.4 +0.8
SVW2 IAmb IAmb 17 37 07.3
comp=Z,27nm,0.7s
SVW2 PcP PcP 17 38 03.4 +1.3
SVW2 **Sparrevohn** 53.93 33 P P 17 37 06.4 +1.8
Q18K **Katmai Hardscr** 53.97 36 P P 17 37 05.2 +0.2
baz=265,SNR=5.3
O18K **Koktuh Hills** 53.97 35 P P 17 37 06.5 +1.6
O18K **Koktuh Hills** 53.97 35 P P 17 37 06.3 +1.3
baz=264,SNR=16
TTA **Tatalina** 53.97 31 P P 17 37 06.1 +1.1
TTA PcP PcP 17 38 02.5 +0.1
TTA **Tatalina** 53.97 31 P P 17 37 06.3 +1.3
TTA **Tatalina** 53.97 31 P P 17 37 06.5 +1.5
baz=261,SNR=5.6
TTA **Tatalina** 53.97 31 P P 17 37 06.1 +1.1
TTA pmax pmax 17 38 02.5
comp=Z,11nm,0.8s
F19K **Shaleruckik Mo** 53.98 26 P P 17 37 05.4 +0.6
F19K **Shaleruckik Mo** 53.98 26 P P 17 37 05.9 +1.1
baz=257
G19K **Purcell Mounta** 54.09 27 P P 17 37 06.7 +1.0
G19K PcP PcP 17 38 03.8 +1.1
G19K **Purcell Mounta** 54.09 27 P P 17 37 07.2 +1.6
baz=258
R18K **Karluk** 54.19 37 P P 17 37 07.6 +1.2
baz=267
H19K **Roundabout Mou** 54.23 28 IAmb IAmb 17 37 09.7
comp=Z,20nm,0.7s
H19K **Roundabout Mou** 54.23 28 P P 17 37 08.4 +1.8
baz=259
D19K **Kuna River** 54.25 24 P P 17 37 07.7 +0.9
D19K IAmb IAmb 17 37 09.1
comp=Z,23nm,0.7s
D19K PcP PcP 17 38 04.6 +1.4
D19K **Kuna River** 54.25 24 P P 17 37 08.1 +1.3
baz=255
BRZS **Berezniki** 54.28 313 *e*P P 17 37 08.1 +0.8
BRZS pmax pmax
comp=Z,5.0nm,0.9s
SII **Sitkinak Islan** 54.28 39 P P 17 37 08.1 +1.0
SII **Sitkinak Islan** 54.28 39 P P 17 37 08.1 +1.0
baz=268
J19K **Poorman** 54.31 30 IAmb IAmb 17 37 09.6
comp=Z,21nm,0.7s
J19K **Poorman** 54.31 30 P P 17 37 08.9 +1.6
baz=261
E19K **Redstone River** 54.33 25 P P 17 37 08.7 +1.4
baz=257
L19K **White Mountain** 54.40 32 IAmb IAmb 17 37 10.6
comp=Z,22nm,0.9s
L19K **White Mountain** 54.40 32 P P 17 37 09.5 +1.6
baz=263,SNR=8.9
N19K **Bonanza Creek** 54.43 33 IAmb IAmb 17 37 10.4
comp=Z,19nm,0.7s
N19K **Bonanza Creek** 54.43 33 P P 17 37 09.9 +1.7
baz=264
O19K **Port Alsworth** 54.45 34 P P 17 37 09.2 +1.0
O19K **Port Alsworth** 54.45 34 P P 17 37 09.8 +1.6
baz=265,SNR=12
QLP **Quilpie** 54.50 175 P P 17 37 09.3 +0.3
Q19K **Cape Douglas,** 54.70 36 P P 17 37 10.0 -0.1
Q19K **Cape Douglas,** 54.70 36 P P 17 37 09.9 -0.2
baz=266
OHAK **Old Harbor** 54.80 38 P P 17 37 11.1 +0.4
OHAK IAmb IAmb 17 37 12.1
comp=Z,18nm,0.7s
OHAK PcP PcP 17 38 06.2 +0.6
OHAK **Old Harbor** 54.80 38 P P 17 37 11.3 +0.6
OHAK **Old Harbor** 54.80 38 P P 17 37 11.1 +0.4
baz=268
F20K **Avaraart Lake** 54.81 26 P P 17 37 11.8 +1.1
baz=259
D20K **Etivluk River** 54.84 24 P P 17 37 12.4 +1.4
baz=257,SNR=72
H20K **Anotleneega Mo** 54.87 28 P P 17 37 12.7 +1.5
baz=261
ARSB **Arslanbob** 54.87 303 P P 17 37 12.9 +1.1
ARSB **Arslanbob** 54.87 303 P P 17 37 12.9 +1.1
E20K **Nigu River** 54.89 24 P P 17 37 12.8 +1.5
baz=257,SNR=14
L20K **Farewell, AK** 54.89 31 P P 17 37 13.0 +1.7
baz=264
K20K **Telida** 54.91 30 IAmb IAmb 17 37 14.5
comp=Z,42nm,0.8s
K20K **Telida** 54.91 30 P P 17 37 13.4 +1.9
baz=263
I20K **Naaghedeneel** 54.93 29 P P 17 37 13.5 +2.0
baz=262
P19K **Oil Pt** 54.95 35 P P 17 37 12.5 +0.7
P19K **Oil Pt** 54.95 35 P P 17 37 12.6 +0.7
baz=266,SNR=5.6
B20K **Meade River** 54.97 22 P P 17 37 13.3 +1.6
baz=255
J20K **Nowinta River** 54.98 29 P P 17 37 13.6 +1.7
J20K PcP PcP 17 38 07.7 +1.5
J20K **Nowinta River** 54.98 29 P P 17 37 14.0 +2.1
baz=262
M20K **Styx River** 55.18 32 P P 17 37 15.2 +1.7
baz=265
KDAK **Kodiak Island** 55.20 37 P P 17 37 14.1 +0.6
KDAK IAmb IAmb 17 37 14.7
comp=Z,28nm,0.7s
KDAK **Kodiak Island** 55.20 37 P P 17 37 14.1 +0.6
baz=268
KDAK **Kodiak Island** 55.20 37 *de*P P 17 37 13.4 -0.1
KDAK pmax pmax
comp=Z,35nm,0.9s
RSO **Redoubt South** 55.25 34 P P 17 37 14.3 +0.2
O20K **Slope Mountain** 55.29 34 P P 17 37 15.0 +0.8
baz=266
Q20K **Shuyak Island** 55.33 36 P P 17 37 14.7 +0.2
baz=268
SYI **Shuyak Island** 55.33 36 P P 17 37 14.8 +0.3
SYI IAmb IAmb 17 37 16.4
comp=Z,39nm,0.8s
IMAR **Indian Mountai** 55.41 27 P P 17 37 15.8 +0.9
IMAR PcP PcP 17 38 08.4 +0.6
INKA **Innaminka** 55.46 178 P P 17 37 15.9 +0.2
A21K **Barrow** 55.48 21 P P 17 37 16.5 +1.2
baz=255
ARK **Arkit** 55.56 303 P P 17 37 18.3 +1.8
ARK pmax pmax
comp=Z,11nm,0.9s
C21K **Knifeblade Rid** 55.58 23 P P 17 37 17.4 +1.3
baz=258,SNR=11
G21K **Allakaket** 55.58 27 P P 17 37 17.4 +1.2
baz=261
BVAR **Borovoye Array** 55.59 317 P P 17 37 17.1 +0.6
comp=Z,43nm,0.6s,baz=89,slow=7.5,SNR=146
BVAR PcP PcP 17 38 08.6 -0.2
comp=Z,3.9nm,0.6s,baz=91,slow=5.4,SNR=1.7
BVAR ScP ScP 17 41 16.5 -2.6
comp=Z,1.9nm,0.7s,baz=108,slow=4.7,SNR=4.6
comp=Z,43nm,0.6s
OOD **Oodnadatta** 55.60 184 P P 17 37 17.0 +0.3
BRVK **Borovoye** 55.66 317 P P 17 37 17.1 +0.3
BRVK IAmb IAmb 17 37 19.1
comp=Z,29nm,0.8s
BRVK **Borovoye** 55.66 317 *ce*P P 17 37 17.3 +0.5
BRVK pmax pmax
comp=Z,32nm,0.8s
F21K **Alatna River** 55.70 26 P P 17 37 18.1 +1.1
baz=261,SNR=8.6
PPLA **Purkeypile** 55.71 31 P P 17 37 18.5 +1.2
baz=265
E21K **Killik River** 55.73 24 IAmb IAmb 17 37 19.3
comp=Z,27nm,0.7s
E21K **Killik River** 55.73 24 P P 17 37 18.2 +1.0
baz=260
B21K **Ikpikpuk River** 55.74 23 P P 17 37 18.5 +1.4
baz=258
CHUM **Lake Minchumin** 55.74 30 P P 17 37 19.3 +2.0
baz=264,SNR=13
H21K **Melozitna River** 55.74 28 IAmb IAmb 17 37 20.1
comp=Z,24nm,0.8s
H21K **Melozitna River** 55.74 28 P P 17 37 19.0 +1.7
baz=262
CAST **Castle Rocks** 55.80 30 P P 17 37 19.1 +1.4
CAST IAmb IAmb 17 37 20.3
comp=Z,41nm,0.7s
CAST **Castle Rocks** 55.80 30 P P 17 37 19.2 +1.4
baz=265,SNR=27
A22K **Sinclair Lake** 55.92 21 P P 17 37 19.8 +1.5
baz=257
SKT **Skwentna** 55.94 32 P P 17 37 19.2 +0.6
SKT **Skwentna** 55.94 32 P P 17 37 19.4 +0.8
baz=266,SNR=6.7
CNPM **China Poot** 55.96 35 IAmb IAmb 17 37 21.9
comp=Z,34nm,0.6s
I21K **Tanana** 56.03 28 IAmb IAmb 17 37 22.2
comp=Z,38nm,1.0s
I21K **Tanana** 56.03 28 P P 17 37 20.9 +1.7
baz=264,SNR=18
NIL **Nilore** 56.10 293 P P 17 37 19.6 -0.7
NIL IAmb IAmb 17 37 22.8
comp=Z,19nm,0.5s
NIL **Nilore** 56.10 293 P P 17 37 19.6 -0.7
NIL pmax pmax
comp=Z,19nm,0.5s
TRKS **Terek-Say** 56.21 303 P P 17 37 23.0 +1.9
TRKS pmax pmax
comp=Z,7.0nm,0.9s
BRSE **Bradley Lake S** 56.22 35 P P 17 37 21.6 +0.9
baz=268
F22K **John River** 56.25 26 P P 17 37 22.2 +1.5
baz=262
NOUC **Port Laguerre** 56.27 150 P P 17 37 23.5 +2.1
D22K **Ayikyak River** 56.27 24 IAmb IAmb 17 37 23.5
comp=Z,37nm,0.6s
D22K **Ayikyak River** 56.27 24 P P 17 37 22.6 +1.7
baz=260
SUA **Susitna One** 56.28 33 P P 17 37 21.4 +0.2
SUA IAmb IAmb 17 37 24.1
comp=Z,33nm,0.7s

SUA Susitna One 56.28 33 P P 17 37 21.6 +0.4
baz=267,SNR=6.2
B22K Teshekpuk Lake 56.28 22 IAmb IAmb 17 37 23.2
comp=Z,24nm,0.9s
B22K Teshekpuk Lake 56.28 22 P P 17 37 22.0 +1.2
baz=259
KTH Kantishna Hill 56.33 30 IAmb IAmb 17 37 24.2
comp=Z,24nm,0.7s
BPAW Bear Paw Mtn. 56.35 30 IAmb IAmb 17 37 23.9
comp=Z,30nm,0.6s
BPAW Bear Paw Mtn. 56.35 30 P P 17 37 22.8 +1.3
baz=265,SNR=18
H22K Ishtalitna Cre 56.36 27 P P 17 37 23.1 +1.6
baz=264
KKAR Karatay Array 56.42 305 P P 17 37 23.1 +0.7
KKAR Karatay Array 56.42 305 P P 17 37 23.1 +0.7
KKAR pmax pmax
comp=Z,11nm,0.9s
G22K Bettles 56.43 26 P P 17 37 23.2 +1.3
baz=263
E22K Anaktuvuk Pass 56.47 25 P P 17 37 23.5 +1.2
E22K IAmb IAmb 17 37 24.4
comp=Z,18nm,0.7s
E22K Anaktuvuk Pass 56.47 25 P P 17 37 23.8 +1.5
baz=262,SNR=22
MLY Manley 56.54 29 IAmb IAmb 17 37 25.3
comp=Z,25nm,0.9s
MLY Manley 56.54 29 P P 17 37 24.2 +1.4
baz=265,SNR=20
CUT Chulitna 56.56 32 IAmb IAmb 17 37 24.4
comp=Z,45nm,0.7s
CUT Chulitna 56.56 32 P P 17 37 23.3 +0.4
baz=267,SNR=7.2
M22K Willow 56.60 33 P P 17 37 23.3 +0.2
baz=268
TRF Thorofare Moun 56.61 30 IAmb IAmb 17 37 26.5
comp=Z,26nm,0.7s
TRF Thorofare Moun 56.61 30 P P 17 37 24.2 +0.8
baz=266,SNR=7.3
O22K Cooper Landing 56.75 34 P P 17 37 24.7 +0.5
O22K Cooper Landing 56.75 34 P P 17 37 24.5 +0.3
baz=269
RC01 Rabbit Creek A 56.76 33 P P 17 37 24.4 +0.1
RC01 IAmb IAmb 17 37 25.6
comp=Z,32nm,0.6s
RC01 PcP PcP 17 38 13.0 -0.1
RC01 Rabbit Creek A 56.76 33 P P 17 37 24.5 +0.2
baz=268,SNR=5.1
SEW Seward 56.88 35 P P 17 37 25.3 +0.2
baz=269
COLD Coldfoot 56.97 26 P P 17 37 27.0 +1.3
baz=264,SNR=6.6
G23K Bananza Creek 56.99 27 IAmb IAmb 17 37 28.6
comp=Z,24nm,0.8s
G23K Bananza Creek 56.99 27 P P 17 37 27.3 +1.4
baz=264
D23K Nanushuk River 57.00 24 P P 17 37 27.5 +1.6
baz=262
PMR Palmer 57.06 33 IAmb IAmb 17 37 27.6
comp=Z,26nm,0.7s
PMR Palmer 57.06 33 P P 17 37 27.0 +0.6
PMR Palmer 57.06 33 P P 17 37 27.1 +0.8
baz=269,SNR=5.6
I23K Minto, Yukon-K 57.13 28 P P 17 37 28.0 +1.3
I23K PcP 17 38 15.6 +1.0
I23K Minto, Yukon-K 57.13 28 P P 17 37 28.1 +1.3
baz=266,SNR=8.6
C23K Itkillik River 57.15 23 P P 17 37 28.2 +1.3
baz=262
GHO Glory Hole Cre 57.16 33 IAmb IAmb 17 37 30.8
comp=Z,29nm,0.6s
NEA2 Nenana 57.22 29 IAmb IAmb 17 37 29.6
comp=Z,39nm,0.7s
NEA2 Nenana 57.22 29 P P 17 37 28.6 +1.2
baz=267,SNR=33
MCK McKinley 57.23 30 P P 17 37 28.4 +0.8
baz=267,SNR=30
RND Reindeer 57.25 31 P P 17 37 27.8 0.0
RND Reindeer 57.25 31 P P 17 37 27.8 0.0
RND pmax pmax
comp=Z,50nm,0.6s
E23K Chandalar 57.28 25 P P 17 37 29.2 +1.3
baz=264
TOLK Toolik Lake Re 57.36 24 P P 17 37 29.6 +1.2
TOLK Toolik Lake Re 57.36 24 P P 17 37 29.6 +1.2
baz=264,SNR=9.2
WAT1 Susitna Watana 57.37 31 P P 17 37 28.9 +0.4
baz=268
KNK Knik Glacier 57.38 33 P P 17 37 28.9 +0.3
baz=269,SNR=13
SML Sawmill 57.45 32 P P 17 37 29.9 +0.8
baz=269,SNR=13
MDM Murphy Dome 57.59 29 P P 17 37 30.7 +0.7
MDM IAmb IAmb 17 37 31.8
comp=Z,16nm,0.6s
D24K Happy Valley 57.69 24 P P 17 37 32.2 +1.6
baz=264
E24K Your Creek 57.71 25 IAmb IAmb 17 37 33.4
comp=Z,29nm,0.7s
E24K Your Creek 57.71 25 P P 17 37 32.5 +1.8
baz=265
M23K Glacier View 57.73 33 P P 17 37 31.4 +0.4
baz=270,SNR=9.0
WAT6 Susitna Watana 57.74 32 P P 17 37 31.7 +0.5
baz=269,SNR=16
COLA College 57.75 29 P P 17 37 31.3 +0.3
COLA IAmb IAmb 17 37 33.2
comp=Z,23nm,0.7s
COLA College 57.75 29 P P 17 37 32.6 +1.6
COLA College 57.75 29 P P 17 37 32.2 +1.2
baz=268
COLA College 57.75 29 P P 17 37 31.3 +0.3
COLA pmax pmax
comp=Z,23nm,0.7s
CCB Clear Creek Bu 57.76 29 P P 17 37 31.2 +0.1
CCB PcP PcP 17 38 16.1 -0.9
H24K Noodor Dome 57.79 28 IAmb IAmb 17 37 33.5
comp=Z,21nm,0.7s
H24K Noodor Dome 57.79 28 P P 17 37 33.0 +1.6
baz=267
C24K Franklin Bluff 57.79 23 P P 17 37 32.8 +1.5
baz=264,SNR=48
MEEK Meekatharra 57.85 202 P P 17 37 32.0 -0.3
F24K Squaw Lake 57.89 26 IAmb IAmb 17 37 34.7
comp=Z,34nm,0.7s
F24K Squaw Lake 57.89 26 P P 17 37 33.9 +1.9
baz=266,SNR=45
P23K Montague Islan 57.90 35 P P 17 37 33.1 +1.0
baz=271
DHY Denali Highway 57.91 31 IAmb IAmb 17 37 34.2
comp=Z,14nm,0.6s
DHY Denali Highway 57.91 31 P P 17 37 33.2 +0.9
baz=269,SNR=11
SCM Sheep Creek Mo 57.92 32 P P 17 37 33.3 +0.9
baz=270,SNR=6.8
POKR Poker Plat Res 57.94 29 P P 17 37 32.7 +0.4
POKR IAmb IAmb 17 37 34.9
comp=Z,28nm,0.7s
POKR Poker Plat Res 57.94 29 P P 17 37 33.1 +0.8
baz=268,SNR=20
G24K Hadweenzic Riv 58.00 27 IAmb IAmb 17 37 35.2
comp=Z,26nm,0.7s
G24K Hadweenzic Riv 58.00 27 P P 17 37 34.6 +1.8
baz=267
GLI Glacier Island 58.04 34 P P 17 37 33.9 +0.8
baz=271,SNR=6.4
HDA Harding Lake 58.13 29 IAmb IAmb 17 37 34.5
comp=Z,27nm,0.7s
HDA Harding Lake 58.13 29 P P 17 37 33.7 +0.1
baz=269,SNR=20
HDA P P 17 37 33.7 +0.1
baz=269,SNR=20
LCRK Leigh Creek 58.15 181 P P 17 37 35.0 +0.8
ILAR Eielson Array 58.16 29 pP 17 39 16.5 +3.2
ILAR Eielson Array 58.16 29 P P 17 37 33.6 -0.3
comp=Z,6.3nm,0.6s,baz=242,slow=5.4,SNR=158
ILAR pP pwP 17 39 15.5 -1.2
comp=Z,1.0nm,0.7s,baz=270,slow=6.2,SNR=2.8
comp=Z,6.3nm,0.6s
MULG Mulgathing 58.19 185 P P 17 37 34.6 +0.2
CHGR Chuyangaron 58.23 300 IAmb IAmb 17 37 37.3
comp=Z,21nm,0.6s
CHGR Chuyangaron 58.23 300 P P 17 37 35.8 +0.9
CHGR pmax pmax
comp=Z,37nm,0.6s
HIN Hinchinbrook I 58.34 34 P P 17 37 35.8 +0.6
M24K Tolsona, Glenn 58.47 32 P P 17 37 37.1 +1.1
baz=271
G25K Bearman Lake 58.55 27 P P 17 37 38.0 +1.6
baz=268
D25K Kavik River 58.57 24 P P 17 37 37.9 +1.3
baz=266
KLU Klutina 58.60 33 P P 17 37 37.0 +0.1
KLU IAmb IAmb 17 37 39.3
comp=Z,27nm,0.7s
KLU Klutina 58.60 33 P P 17 37 37.8 +0.8
baz=272,SNR=6.3
K24K Donnelly Dome 58.63 30 P P 17 37 37.9 +0.7
baz=270,SNR=8.8
EYAK Cordova Ski Ar 58.71 34 P P 17 37 39.0 +1.4
EYAK Cordova Ski Ar 58.71 34 P P 17 37 38.5 +0.9
baz=272
PRP Porcupine Dome 58.75 28 P P 17 37 37.8 -0.2
baz=269,SNR=9.3
F25K Christian Rive 58.75 26 P P 17 37 40.0 +2.1
baz=268
PAX Paxson 58.78 31 P P 17 37 39.3 +1.1
baz=271,SNR=7.3
E25K Arctic Village 58.80 25 IAmb IAmb 17 37 41.1
comp=Z,35nm,0.7s
E25K Arctic Village 58.80 25 P P 17 37 40.0 +1.9
baz=268,SNR=33
J25K Salcha River, 58.81 29 P P 17 37 38.8 +0.5
baz=272
FYU Fort Yukon 58.89 27 IAmb IAmb 17 37 41.1
comp=Z,37nm,1.2s
HARP HAARP 58.94 32 P P 17 37 40.2 +1.1
baz=272,SNR=13
RIDG Independent Ri 59.05 30 P P 17 37 40.3 +0.3
RIDG IAmb IAmb 17 37 41.9
comp=Z,34nm,0.8s
RIDG PcP PcP 17 38 22.8 +0.4
RIDG Independent Ri 59.05 30 P P 17 37 40.4 +0.5
baz=271,SNR=13
C26K Camden Bay 59.12 23 P P 17 37 41.9 +1.7
baz=267
BMAR Burnt Mountain 59.16 26 P P 17 37 41.9 +1.3
BMAR PcP PcP 17 38 24.2 +1.5
N25K Chitina, Valde 59.23 33 IAmb IAmb 17 37 43.9
comp=Z,20nm,0.6s
N25K Chitina, Valde 59.23 33 P P 17 37 42.0 +0.8
baz=273,SNR=8.6
BMRM Bremner River 59.26 33 P P 17 37 42.4 +1.1
baz=273,SNR=18
ARMA Armidale 59.30 168 P P 17 37 42.8 +0.7
ARMA Armidale 59.30 168 P P 17 37 43.1 +1.0
F26K Sheenjek River 59.33 26 P P 17 37 43.8 +2.0
baz=269
SCRK Sand Creek 59.42 30 P P 17 37 43.1 +0.6
baz=272,SNR=28
FORT Forrest 59.44 191 P P 17 37 43.1 +0.3
FORT Forrest 59.44 191 P P 17 37 43.4 +0.5
G26K Porcupine Rive 59.46 26 P P 17 37 44.1 +1.6
baz=270
CMSA Cobar Meteorol 59.55 174 P P 17 37 44.7 +1.1
MENT Mentasta 59.58 31 P P 17 37 45.0 +1.5
J26L Joseph Creek 59.59 29 IAmb IAmb 17 37 44.8
comp=Z,39nm,0.8s
J26L Joseph Creek 59.59 29 P P 17 37 44.0 +0.4
baz=272
STKA Stephens Creek 59.61 178 P P 17 37 44.1 +0.1
STKA Stephens Creek 59.61 178 P P 17 37 44.6 +0.6
STKA Stephens Creek 59.61 178 *eP* P 17 37 44.5 +0.6
STKA Stephens Creek 59.61 178 P P 17 37 43.7 -0.3
comp=Z,14nm,0.7s,baz=344,slow=7.0,SNR=33
comp=Z,14nm,0.7s
GLB Gilnina Butte 59.61 33 IAmb IAmb 17 37 45.8
comp=Z,31nm,1.0s
I26K Coal Creek Min 59.74 28 P P 17 37 45.0 +0.5
baz=272
L26K Log Cabin Wild 59.75 31 P P 17 37 45.6 +1.0
baz=273,SNR=40
M26K Nabesna, AK 59.94 32 IAmb IAmb 17 37 50.7
comp=Z,16nm,0.8s
M26K Nabesna, AK 59.94 32 P P 17 37 46.9 +1.0
baz=274
CRQM Cirque 59.98 34 P P 17 37 47.5 +1.1
MCARA McCarthy VSAT 59.99 33 P P 17 37 47.3 +1.0
baz=274,SNR=6.5
CRQE Cirque 60.01 34 P P 17 37 47.5 +1.1
baz=274
K27K Chicken 60.26 30 P P 17 37 49.3 +1.3
baz=273
E27K Coleen River 60.29 25 IAmb IAmb 17 37 50.7
comp=Z,23nm,0.6s
E27K Coleen River 60.29 25 P P 17 37 49.8 +1.7
baz=271
G27K Doyon Strip 60.31 27 P P 17 37 50.0 +1.7
baz=272
I27K Kandik River 60.38 28 P P 17 37 49.8 +1.1
baz=273
H27K Steamboat Moun 60.38 27 P P 17 37 50.4 +1.6
baz=273
L27K Beaver Creek, 60.44 31 IAmb IAmb 17 37 51.4
comp=Z,18nm,0.8s
L27K Beaver Creek, 60.44 31 P P 17 37 50.4 +1.3
baz=274,SNR=15
M27K Edge Creek, AK 60.47 32 P P 17 37 50.2 +0.7
M27K IAmb IAmb 17 37 51.7
comp=Z,28nm,0.9s
M27K Edge Creek, AK 60.47 32 P P 17 37 50.7 +1.2
baz=274,SNR=9.2
D27M Malcolm River 60.49 24 IAmb IAmb 17 37 52.0
comp=Z,31nm,0.7s
D27M Malcolm River 60.49 24 P P 17 37 50.9 +1.4
baz=271
BBOO Buckleboo 60.57 183 P P 17 37 50.7 +0.3
EGAK Eagle 60.62 29 P P 17 37 50.1 -0.1
EGAK Eagle 60.62 29 P P 17 37 50.5 +0.2
baz=274,SNR=6.9
MESA MESA 60.62 34 P P 17 37 51.5 +0.8
baz=276
GRNC Granite Creek 60.66 34 IAmb IAmb 17 37 52.4
comp=Z,33nm,0.7s
BARN Barnard Glacie 60.68 33 IAmb IAmb 17 37 56.3
comp=Z,19nm,0.8s
CTG Chitna Glacier 60.84 33 P P 17 37 52.9 +0.8
baz=276
SVE Sverdlovsk 60.90 322 *eP* P 17 37 52.5 +0.2
SVE pmax pmax
comp=Z,15nm,0.8s
BVCY Beaver Creek 60.93 32 P P 17 37 53.6 +1.2
baz=275
MORW Morwa 60.96 203 P P 17 37 53.4 +0.4
F28M Old Crow 60.96 26 P P 17 37 54.1 +1.6
baz=273,SNR=48
E28M Babbage River 61.04 24 P P 17 37 54.9 +1.9
baz=273,SNR=67
I28M Miner Creek 61.08 28 IAmb IAmb 17 37 55.3
comp=Z,19nm,0.7s
I28M Miner Creek 61.08 28 P P 17 37 54.7 +1.2
baz=274
HTT Hallett 61.12 180 P P 17 37 54.7 +0.7
YUK3 Moose Creek 61.18 32 P P 17 37 55.5 +1.1
baz=276,SNR=12
D28M Stokes Point 61.28 24 P P 17 37 56.0 +1.4
baz=273,SNR=6.9
DAWY Dawson 61.44 30 P P 17 37 56.3 +0.5
DAWY Dawson 61.44 30 P P 17 37 56.9 +1.1
baz=276,SNR=6.1
PINM Pinnacle 61.48 34 P P 17 37 57.2 +1.1
baz=277
YUK8 Steele Glacier 61.57 33 P P 17 37 58.3 +1.3
baz=277,SNR=8.3
E29M Blow River 61.65 25 IAmb IAmb 17 37 59.3
comp=Z,17nm,0.7s
E29M Blow River 61.65 25 P P 17 37 58.3 +1.3
baz=275,SNR=21
H29M Whitestone 61.66 27 IAmb IAmb 17 38 02.1
comp=Z,12nm,0.8s
H29M Whitestone 61.66 27 P P 17 37 58.7 +1.6
baz=275,SNR=8.2
G29M Pine Creek 61.73 26 P P 17 37 59.3 +1.7
baz=275
I29M Ogilvie Camp, 61.77 28 IAmb IAmb 17 37 59.6
comp=Z,24nm,1.1s
I29M Ogilvie Camp, 61.77 28 P P 17 37 59.1 +1.2
baz=276,SNR=8.0
PNL Peninsula 61.96 35 P P 17 38 00.5 +1.3
PNL Peninsula 61.96 35 P P 17 38 00.5 +1.3
baz=278
M29M Somme Creek 62.04 31 IAmb IAmb 17 38 02.1
comp=Z,24nm,0.7s
M29M Somme Creek 62.04 31 P P 17 38 01.3 +1.5
baz=277
ARU Arti 62.09 322 P P 17 37 59.9 -0.2
ARU IAmb IAmb 17 38 01.4
comp=Z,18nm,0.8s
ARU Arti 62.09 322 *d iP* P 17 37 59.9 -0.2
ARU 17 38 31.8
ARU *PP pwP 17 39 43.8 -2.7
ARU S S 17 45 44.1 -1.4
ARU 17 46 55.7
ARU pmax pmax
comp=Z,16nm,0.7s
ARU Arti 62.09 322 P P 17 38 00.2 +0.1
comp=Z,9.0nm,0.4s,baz=80,slow=1.5,SNR=38
comp=Z,9.0nm,0.4s
YUK4 Talbot Arm 62.10 33 P P 17 38 02.0 +1.7
baz=278,SNR=11
L29M L29M 62.11 31 IAmb IAmb 17 38 03.1
comp=Z,25nm,0.7s
L29M L29M 62.11 31 P P 17 38 01.9 +1.7
baz=277
BLDU Ballidu 62.15 202 P P 17 38 00.9 +0.1
O29M Mount Kennedy 62.28 34 P P 17 38 02.9 +1.5
baz=278
K29M Barlow Dome 62.28 30 IAmb IAmb 17 38 03.4
comp=Z,13nm,0.8s
K29M Barlow Dome 62.28 30 P P 17 38 02.9 +1.5
baz=277,SNR=8.8
YUK6 Outpost Mounta 62.29 33 P P 17 38 03.1 +1.4
baz=278
EPYK Eagle Plains 62.31 27 P P 17 38 02.5 +1.1
baz=277,SNR=41
G30M tAoh Zraii Nji 62.43 26 IAmb IAmb 17 38 03.5
comp=Z,23nm,0.7s
G30M tAoh Zraii Nji 62.43 26 P P 17 38 03.2 +1.0
baz=277,SNR=18
F30M Barrier River 62.52 25 P P 17 38 04.2 +1.5
baz=277
ABKAR Akbulak array 62.58 314 P P 17 38 03.5 +0.1
ABKAR IAmb IAmb 17 38 05.0
comp=Z,11nm,0.6s
ABKAR Akbulak array 62.58 314 P P 17 38 03.0 -0.4
I30M Mount Dempster 62.59 28 IAmb IAmb 17 38 04.9
comp=Z,13nm,0.7s
I30M Mount Dempster 62.59 28 P P 17 38 04.2 +0.8
baz=278
J30M Hart River 62.70 29 P P 17 38 05.2 +1.1
baz=278,SNR=5.7
HYT Haines Junctio 62.72 33 P P 17 38 05.8 +1.5
HYT IAmb IAmb 17 38 06.6
comp=Z,19nm,0.7s
HYT Haines Junctio 62.72 33 P P 17 38 05.7 +1.4
baz=279,SNR=7.3
M30M Minto, Yukon 62.79 31 IAmb IAmb 17 38 08.4
comp=Z,12nm,0.8s
M30M Minto, Yukon 62.79 31 P P 17 38 06.1 +1.5
baz=279,SNR=5.2
P29M Windy Craggy 62.80 35 IAmb IAmb 17 38 07.5
comp=Z,22nm,0.8s
P29M Windy Craggy 62.80 35 P P 17 38 06.2 +1.5
baz=279
N30M Aishikik Lake 62.82 32 P P 17 38 06.5 +1.6
baz=279
MAYO Mayo, Yukon 63.04 30 P P 17 38 08.1 +2.0
baz=279
P30M Million Dollar 63.10 34 P P 17 38 08.5 +1.9
baz=280
G31M Satah River 63.20 26 P P 17 38 07.5 +0.5
baz=279,SNR=17
INK Inuvik 63.27 25 IAmb IAmb 17 38 08.7
comp=Z,17nm,0.6s
INK Inuvik 63.27 25 P P 17 38 07.7 +0.2
baz=279,SNR=19
INK Inuvik 63.27 25 P P 17 38 08.0 +0.5
INK pmax pmax
comp=Z,26nm,0.6s
F31M Tsiigehtchic 63.33 26 IAmb IAmb 17 38 10.0
comp=Z,12nm,0.7s
F31M Tsiigehtchic 63.33 26 P P 17 38 08.2 +0.4
baz=279,SNR=10
O30N Mendenhall 63.41 33 P P 17 38 09.8 +1.2
baz=280
N31M Braeburn, Yuko 63.44 32 IAmb IAmb 17 38 11.0
comp=Z,25nm,0.7s
N31M Braeburn, Yuko 63.44 32 P P 17 38 10.1 +1.3
baz=280,SNR=7.5
CAN Canberra 63.67 171 P P 17 38 11.8 +1.2
S31K Pelican 63.87 36 P P 17 38 12.7 +1.2
baz=282
M31M Drury Creek, Y 63.95 31 IAmb IAmb 17 38 13.8
comp=Z,18nm,0.7s
M31M Drury Creek, Y 63.95 31 P P 17 38 13.2 +1.2
baz=281,SNR=9.6
WHY Whitehorse 64.02 33 IAmb IAmb 17 38 15.1
comp=Z,18nm,0.7s
WHY Whitehorse 64.02 33 P P 17 38 13.9 +1.3
baz=281,SNR=7.3
SKAG Skagway 64.03 34 P P 17 38 13.5 +1.0
baz=282
NWAO Narrogin (SRO) 64.12 201 P P 17 38 13.8 +0.4
NWAO Narrogin (SRO) 64.12 201 P P 17 38 13.8 +0.4
NWAO Narrogin (SRO) 64.12 201 P P 17 38 13.8 +0.4
NWAO pmax pmax
comp=Z,26nm,0.7s
FARO Faro, Yukon 64.43 31 IAmb IAmb 17 38 16.8
comp=Z,15nm,0.9s
FARO Faro, Yukon 64.43 31 P P 17 38 16.3 +1.2
baz=282,SNR=6.1
R32K Eaglecrest 64.69 36 P P 17 38 18.1 +1.3
baz=283
JIS Juneau Island 64.76 36 P P 17 38 19.0 +1.8
N32M Quiet Lake 64.78 32 IAmb IAmb 17 38 19.4
comp=Z,14nm,0.7s
N32M Quiet Lake 64.78 32 P P 17 38 18.5 +1.2
baz=282
P32M Atlin 64.81 34 P P 17 38 18.5 +0.9
baz=283
S32K Killisnoo 64.84 37 P P 17 38 18.7 +1.0
baz=283
P33M Teslin, Yukon 65.11 33 P P 17 38 20.6 +1.1
baz=283
A36M Sachs Harbour 65.31 20 P P 17 38 21.4 +1.0
A36M Sachs Harbour 65.31 20 P P 17 38 21.3 +1.0
baz=284,SNR=28
Q32M Nakina River 65.68 35 P P 17 38 24.1 +0.9
baz=284
R33M Jennings River 66.22 34 P P 17 38 27.8 +1.3
baz=285
C36M Paulatuk 66.39 23 P P 17 38 27.5 +0.3
baz=287,SNR=30
KIRV Kirov 66.45 325 *c iP* P 17 38 27.9 +0.1
S34M Telegraph Cree 66.53 36 IAmb IAmb 17 38 30.6
comp=Z,18nm,0.8s
S34M Telegraph Cree 66.53 36 P P 17 38 29.8 +1.6
baz=286
DLBC Dease Lake 66.95 35 P P 17 38 32.5 +1.5
baz=286
WTLY Watson Lake, Y 67.08 33 IAmb IAmb 17 38 34.1
comp=Z,23nm,0.8s
WTLY Watson Lake, Y 67.08 33 P P 17 38 33.2 +1.5
baz=286,SNR=5.8
T35M Bob Quinn 67.24 36 IAmb IAmb 17 38 35.1
comp=Z,16nm,0.7s
T35M Bob Quinn 67.24 36 P P 17 38 34.4 +1.7
baz=287
PRGR Permogore 67.42 329 *eP* P 17 38 32.5 -1.2
PRGR pmax pmax
comp=Z,26nm,0.7s
WRGLY Wrigley 68.54 29 IAmb IAmb 17 38 42.5
comp=Z,22nm,0.7s
WRGLY Wrigley 68.54 29 P P 17 38 42.2 +1.7
baz=290,SNR=9.1
SPB2 Spitsbergen Ar 69.00 349 IAmb IAmb 17 38 44.5
comp=Z,20nm,0.8s
SPITS Spitsbergen Ar 69.00 349 P P 17 38 43.9 +0.8
comp=Z,12nm,0.7s,baz=102,slow=7.8,SNR=43
comp=Z,12nm,0.7s
KBS Kingsbay 69.21 351 *eP* P 17 38 44.9 +0.6
KBS Kingsbay 69.21 351 *i P* P 17 38 44.7 +0.4
BELG Belogornoye 69.27 319 *c iP* P 17 38 45.0 -0.1
BELG pmax pmax
comp=Z,5.0nm,0.9s
KOTAN Kotaneelee Air 69.33 32 P P 17 38 46.3 +0.9
baz=290
NOR Nord 69.91 356 *i P* P 17 38 47.5 -1.0
NOR IAmb IAmb 17 38 52.9
comp=Z,5.0nm,0.8s
BBB Bella Bella 69.93 41 P P 17 38 49.6 +0.6

comp=Z,13nm,0.8s,baz=294,slow=10,SNR=4.6
comp=Z,13nm,0.8s
VADS Vadso 70.35 340 *e*P **P 17 38 51.2 -0.1**
KLMR Klimovskoe 70.47 329 *e*P **P 17 38 50.9 -1.2**
KLMR AMP 17 38 53.0
comp=Z,32nm,1.8s
KLMR Klimovskoe 70.47 329 *e*P **P 17 38 50.8 -1.3**
KLMR pmax pmax
comp=Z,32nm,1.8s
KEV Kevo 71.24 340 P **P 17 38 56.9 +0.4**
KEV IAmb IAmb 17 38 57.8
comp=Z,20nm,0.7s
KEV Kevo 71.24 340 P **P 17 38 56.9 +0.4**
KEV pmax pmax
comp=Z,20nm,0.7s
HAMF Hammerfest 71.74 342 *e*P **P 17 38 58.9 -0.5**
RES Resolute Bay 71.77 13 P **P 17 39 00.4 +0.9**
RES pmax pmax
comp=Z,52nm,0.8s
ARA0 ARCESS Array S 71.80 340 *e*P **P 17 38 59.9 +0.1**
ARCES ARCESS Array B 71.80 340 IAmb IAmb 17 39 01.3
comp=Z,22nm,0.8s
ARCES ARCESS Array B 71.80 340 P **P 17 39 00.2 +0.4**
comp=Z,19nm,0.7s,baz=64,slow=7.8,SNR=75
comp=Z,19nm,0.7s
YKA Yellowknife Ar 72.56 28 P **P 17 39 04.5 +0.2**
comp=Z,19nm,0.7s,baz=297,slow=6.0,SNR=280
comp=Z,19nm,0.7s
KTK1 Kautokeino 72.77 340 *e*P **P 17 39 05.2 -0.2**
JETT Jettan, Norway 73.28 341 *e*P **P 17 39 08.7 +0.3**
TRO Tromso 73.65 342 *e*P **P 17 39 10.1 -0.3**
OBN Obninsk 74.28 324 *i*P **P 17 39 13.2 -1.0**
OBN *i* 17 39 24.3
OBN pmax pmax
comp=Z,8.0nm,0.5s
DAG Danmarks Havn 74.57 355 P **P 17 39 15.5 0.0**
DAG pmax pmax
comp=Z,12nm,1.5s
DAG Danmarks Havn 74.57 355 *i*P **P 17 39 15.0 -0.5**
DAG IAmb IAmb 17 39 18.8
comp=Z,5.6nm,0.7s
NEEM North Greenlan 74.59 2 *i*P **P 17 39 15.4 -0.6**
NEEM IAmb IAmb 17 39 17.7
comp=Z,18nm,0.7s
GNW Green Mountain 74.85 44 P **P 17 39 18.7 +1.0**
GNW IAmb IAmb 17 39 20.5
comp=Z,19nm,0.9s
BRLDA Berland Lookou 75.08 36 IAmb IAmb 17 39 21.4
comp=Z,25nm,0.6s
ZEI Tsey 75.19 311 *e*P **P 17 39 17.3 -2.6**
ZEI pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 75.46 312 *de*P **P 17 39 21.9 +0.8**
KBZ pmax pmax
comp=Z,6.0nm,0.8s
KBZ Khabaz 75.46 312 P **P 17 39 21.8 +0.7**
comp=Z,7.0nm,0.8s,baz=118,slow=5.3,SNR=20
comp=Z,7.0nm,0.8s
KIV Kislovodsk 75.50 312 *e*P **P 17 39 22.9 +1.4**
KIV pmax pmax
comp=Z,7.0nm,1.0s
D05A Enumclaw 75.53 44 IAmb IAmb 17 39 24.3
comp=Z,22nm,0.7s
GNI Garni 75.70 308[1] *e*P **P 17 39 24.7 +1.9**
GNI pmax pmax
comp=Z,5.0nm,1.0s
LON Longmire 75.83 44 P **P 17 39 23.5 +0.3**
LON Longmire 75.83 44 P **P 17 39 23.5 +0.3**
LON pmax pmax
comp=Z,7.0nm,0.7s
FINES FINESS Array B 75.95 333 P **P 17 39 23.5 0.0**
FINES FINESS Array B 75.95 333 P **P 17 39 23.4 -0.1**
comp=Z,16nm,0.3s,baz=65,slow=5.0,SNR=369
comp=Z,16nm,0.3s
FAUS Fauske 76.12 341 *e*P **P 17 39 24.1 -0.2**
I03D Drain, OR 76.17 48 IAmb IAmb 17 39 27.9
comp=Z,31nm,0.7s
H04D Lebanon 76.21 47 IAmb IAmb 17 39 27.6
comp=Z,22nm,0.9s
LTY Liberty 76.31 44 IAmb IAmb 17 39 27.3
comp=Z,12nm,0.7s
H04A Detroit Lake 76.49 47 IAmb IAmb 17 39 29.2
comp=Z,21nm,0.9s
HOOD Mount Hood Mea 76.55 46 IAmb IAmb 17 39 33.7
comp=Z,29nm,0.8s
I04A Tendick Farm, 76.74 47 P **P 17 39 29.5 +1.2**
I04A IAmb IAmb 17 39 30.4
comp=Z,30nm,0.7s
G05A Wamic 76.80 46 IAmb IAmb 17 39 31.7
comp=Z,29nm,1.1s
DBG Daneborg 77.03 354 *i*P **P 17 39 28.0 -1.2**
DBG IAmb IAmb 17 39 30.4
comp=Z,4.9nm,0.7s
E07A Sunnyside 77.12 44 IAmb IAmb 17 39 36.0
comp=Z,17nm,0.6s
MOR8 Moi Rana 77.17 340 *e*P **P 17 39 28.6 -1.5**
I05D Terrebonne, OR 77.19 47 IAmb IAmb 17 39 32.7
comp=Z,18nm,0.8s
VSU Vasula 77.31 330 *e*P **P 17 39 30.1 -0.9**
MEF Metsahovi 77.32 332 *e*P **P 17 39 29.9 -1.1**
F07A Phinny Hill Vi 77.38 45 IAmb IAmb 17 39 34.1
comp=Z,24nm,0.7s
HAWA Hanford 77.39 44 P **P 17 39 32.8 +1.0**
HAWA IAmb IAmb 17 39 33.8
comp=Z,13nm,0.6s
YBH Yreka Blue Hor 77.45 49 IAmb IAmb 17 39 34.8
comp=Z,15nm,0.7s
YBH Yreka Blue Hor 77.45 49 P **P 17 39 33.2 +0.9**
comp=Z,13nm,0.6s,baz=93,slow=7.6,SNR=47
comp=Z,13nm,0.6s
D08A Wollman Farm, 77.46 43 IAmb IAmb 17 39 34.1
comp=Z,18nm,0.8s
L04D Klamath Falls 77.50 49 IAmb IAmb 17 39 34.8
comp=Z,28nm,0.7s
C09A Chrisman Ranch 77.50 42 IAmb IAmb 17 39 33.9
comp=Z,17nm,0.6s
EDM Edmonton 77.62 36 P **P 17 39 32.8 -0.1**
EDM IAmb IAmb 17 39 34.6
comp=Z,29nm,0.9s
EDM Edmonton 77.62 36 P **P 17 39 32.8 -0.1**
E08A Dider Farm, El 77.64 44 IAmb IAmb 17 39 35.2
comp=Z,15nm,0.6s
RAF Rauma 77.91 334 *e*P **P 17 39 33.4 -0.8**
NEW Newport 77.97 42 P **P 17 39 36.0 +1.2**
baz=299,SNR=10.0
NEW Newport 77.97 42 P **P 17 39 35.6 +0.7**
comp=Z,11nm,0.7s,baz=298,slow=4.9,SNR=26
comp=Z,11nm,0.7s
E09A Wood Farm, Sta 78.19 44 P **P 17 39 36.8 +0.8**
K05A Summer Lake 78.21 48 IAmb IAmb 17 39 39.0
comp=Z,29nm,0.7s
MTSE Matsula 78.43 331 *e*P **P 17 39 37.1 0.0**
I07A Izee 78.48 46 IAmb IAmb 17 39 40.0
comp=Z,13nm,0.6s
MNK Minsk 78.94 326 *i*P **P 17 39 37.7 -2.2**
comp=E,7.0nm,1.4s
MNK *i*P **P 17 39 37.7 -2.2**
comp=N,22nm,1.2s
MNK *i*P **P 17 39 37.7 -2.2**
comp=Z,15nm,0.9s,baz=57
MNK *i*PP **PP 17 42 45.9 -1.2**
MNK *i*PPP PPP 17 44 38.7
MNK *i*S **S 17 48 53.1 -3.6**
MNK *i*SS **SS 17 54 13.8 -1.1**
MNK *i*SSS SSS 17 57 44.7
MNK *i*LRM MLR 18 17 01.5
comp=Z,69nm,12.9s
MNK *i*LRM MLR 18 17 08.0
comp=E,29nm,12.2s
MNK Minsk 78.94 326 *i*P **P 17 39 37.6 -2.2**
MNK *i* 17 42 45.8
MNK *i*PPP PPP 17 44 38.6
MNK *i*S **S 17 48 53.1 -3.6**
MNK *i*SS **SS 17 54 13.8 -1.1**
MNK *i*SSS SSS 17 57 44.7
MNK pmax pmax
comp=E,7.0nm,1.4s
MNK pmax pmax
comp=N,22nm,1.2s
MNK pmax pmax
comp=Z,15nm,0.9s
MNK MLR MLR
comp=Z,69nm,13.0s
MNK MLR MLR
comp=E,29nm,12.0s
NSS Namsos 79.06 339 *e*P **P 17 39 39.3 -1.0**
ISAL Salakas 79.19 328 *e*P **P 17 39 43.3 +2.1**
ORV Oroville 79.25 51 P **P 17 39 41.8 -0.1**
ORV IAmb IAmb 17 39 43.3
comp=Z,29nm,0.6s
ORV Oroville 79.25 51 P **P 17 39 41.8 -0.1**
ORV pmax pmax
comp=Z,29nm,0.6s
NACGM Naroch 79.26 327 *e*P **P 17 39 42.0 +0.5**
comp=E,468nm,0.7s
BMO Blue Mountains 79.50 45 IAmb IAmb 17 39 45.2
comp=Z,14nm,0.7s
SUMG Summit 79.66 359 IAmb IAmb 17 39 45.6
comp=Z,17nm,0.6s
SUMG Summit 79.66 359 *i*P **P 17 39 44.0 +0.1**
SUMG IAmb IAmb 17 39 45.9
comp=Z,16nm,0.7s
SLIT Slitere, Latvi 79.73 331 *e*P **P 17 39 42.5 -1.5**
WVOR Wild Horse Val 79.82 47 IAmb IAmb 17 39 46.7
comp=Z,14nm,0.6s
WVOR Wild Horse Val 79.82 47 P **P 17 39 46.3 +1.3**
WVOR pmax pmax
comp=Z,24nm,0.7s
PLID Pearl Lake 80.19 44 P **P 17 39 46.6 -0.4**
PABE Paberze 80.24 329 *e*P **P 17 39 46.1 -0.5**
UPP Uppsala 80.24 334 *e*P **P 17 39 44.6 -2.0**
AKASG Malin Array Be 80.32 323 P **P 17 39 46.7 -0.5**
comp=Z,1.0nm,0.3s,baz=51,slow=5.1,SNR=21
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 80.32 323 *c i*P **P 17 39 46.6 -0.6**
KIEV Kiev 80.33 323 P **P 17 39 46.5 -0.8**
KIEV Kiev 80.33 323 P **P 17 39 46.9 -0.4**
KIEV pmax pmax
comp=Z,8.0nm,0.7s
TBLU Trondheim 80.50 339 *e*P **P 17 39 46.8 -1.1**
MSO Missoula 80.55 42 P **P 17 39 49.4 +0.7**
baz=301,SNR=6.9
ARPR Arapgir-MALATY 80.60 309 P **P 17 39 49.3 +0.1**
PAHR Pah Rah Range 80.62 50 IAmb IAmb 17 39 51.1
comp=Z,18nm,0.8s
CMB Columbia Colle 80.73 52 IAmb IAmb 17 39 51.6
comp=Z,12nm,0.8s
SCO Scoresbysund 80.86 354 IAmb IAmb 17 39 52.1
comp=Z,8.5nm,0.7s
SCO Scoresbysund 80.86 354 *i*P **P 17 39 49.3 -0.3**
SCO IAmb IAmb 17 39 52.2
comp=Z,7.3nm,0.7s
CHMT Chamberlain Mo 80.91 41 P **P 17 39 51.0 +0.3**
YERR Yerington 81.07 51 IAmb IAmb 17 39 53.5
comp=Z,20nm,0.6s
MFID Camas Ranch 81.13 45 IAmb IAmb 17 39 53.6
comp=Z,20nm,0.7s
WAKR Walker 81.16 51 IAmb IAmb 17 39 54.3
comp=Z,14nm,0.6s
VIKU Vikbolandet 81.49 333 *e*P **P 17 39 51.5 -1.6**
SUW Suwalki 81.49 328 P **P 17 39 52.6 -0.6**
SUW IAmb IAmb 17 39 53.9
comp=Z,27nm,0.7s
SUW Suwalki 81.49 328 *e*P **P 17 39 53.3 +0.1**
SUW Suwalki 81.49 328 P **P 17 39 52.6 -0.6**
SUW pmax pmax
comp=Z,27nm,0.7s
HFS Hagfors 81.53 336 P **P 17 39 52.3 -1.0**
comp=Z,15nm,0.7s,baz=90,slow=4.7,SNR=23
comp=Z,15nm,0.7s
NC405 NORSAR Array S 81.55 337 P **P 17 39 52.3 -1.1**
NC303 NORSAR Array S 81.58 337 IAmb IAmb 17 39 53.9
comp=Z,15nm,0.8s
RYN Ryan 81.73 51 IAmb IAmb 17 39 57.0
comp=Z,14nm,0.6s
NB201 NORSAR Array S 81.74 337 P **P 17 39 53.5 -0.9**
NB201 IAmb IAmb 17 39 54.7
comp=Z,18nm,0.6s
NC204 NORSAR Array S 81.75 338 IAmb IAmb 17 39 55.5
comp=Z,27nm,0.7s
DOMB Dombas 81.76 339 *e*P **P 17 39 53.2 -1.3**
NB2 NORSAR Subarra 81.77 337 P **P 17 39 53.4 -1.2**
comp=Z,11nm,0.7s,baz=47,slow=5.1
NB2 PP **PP 17 43 10.0 +0.2**
comp=Z,2.3nm,0.8s,baz=43,slow=7.9
NB2 NORSAR Subarra 81.77 337 P **P 17 39 53.4 -1.2**
baz=47,slow=5.1
NOA NORSAR Array B 81.77 337 P **P 17 39 53.7 -0.9**
comp=Z,14nm,0.6s,baz=47,slow=4.9,SNR=73
NOA PP **PP 17 43 10.1 +0.2**
comp=Z,1.7nm,0.8s,baz=45,slow=8.3,SNR=6.8
comp=Z,14nm,0.6s
KVN Kaiserville 81.81 50 IAmb IAmb 17 39 57.4
comp=Z,16nm,0.6s
NC602 NORSAR Array S 81.87 337 *e*P **P 17 39 53.5 -1.5**
NORES NORESS Array B 81.87 337 P **P 17 39 57.2 +2.1**
NBO00 NORSAR Array S 81.92 337 IAmb IAmb 17 39 56.2
comp=Z,15nm,0.8s
HLID Hailey 81.94 45 P **P 17 39 57.0 +0.9**
HLID Hailey 81.94 45 P **P 17 39 56.9 +0.9**
baz=301,SNR=22
NVAR Mina Array Bea 81.98 51 P **P 17 39 57.4 +1.1**
comp=Z,9.7nm,0.5s,baz=298,slow=6.0,SNR=72
comp=Z,9.7nm,0.5s
NAO01 NORSAR Array S 82.02 337 IAmb IAmb 17 39 55.7
comp=Z,17nm,0.8s
AKN Aaknes 82.31 339 *e*P **P 17 39 56.0 -1.3**
FFC Flin Flon 82.31 31 P **P 17 39 57.7 +0.3**
FFC Flin Flon 82.31 31 P **P 17 39 57.7 +0.3**
FFC pmax pmax
comp=Z,9.0nm,0.8s
EGMT Eagleton 82.32 39 P **P 17 39 58.4 +0.6**
baz=304,SNR=14
BOZ Bozeman (W) 82.56 42 P **P 17 39 59.9 +0.7**
baz=303,SNR=16
PKM Mcpherson Peak 82.64 54 P **P 17 40 00.6 +0.9**
baz=299
VES Vesl Richgr 82.69 53 P **P 17 40 00.3 +0.6**
baz=299
TIN Tinemaha, Big 82.70 52 P **P 17 40 00.7 +0.8**
baz=300
OSL Oslo 82.73 337 *e*P **P 17 39 58.5 -0.9**
ELK Elko 82.87 48 IAmb IAmb 17 40 02.6
comp=Z,12nm,0.7s
ELK Elko 82.87 48 P **P 17 40 02.1 +1.3**
comp=Z,9.8nm,0.6s,baz=308,slow=5.3,SNR=40
comp=Z,9.8nm,0.6s
MZP Montezuma Peak 82.97 51 P **P 17 40 01.5 0.0**
MZP IAmb IAmb 17 40 03.2
comp=Z,12nm,0.7s
CWC Cottonwood Cre 83.11 52 P **P 17 40 02.6 +0.6**
baz=300
ICESG Greenland Ices 83.17 360 *i*P **P 17 40 00.3 -1.7**
ICESG IAmb IAmb 17 40 03.3
comp=Z,23nm,0.7s
ISA Isabella, Lake 83.22 53 IAmb IAmb 17 40 03.4
comp=Z,10nm,0.7s
ISA Isabella, Lake 83.22 53 P **P 17 40 02.6 +0.1**
baz=300,SNR=7.6
ARVC Arvin 83.22 54 P **P 17 40 02.9 +0.4**
baz=300
YHL Hebgen Lake 83.23 42 IAmb IAmb 17 40 05.2
comp=Z,18nm,0.8s
GRAC Grapevine Rang 83.33 52 P **P 17 40 03.7 +0.7**
baz=300
BR131 Keskin Array S 83.45 312 P **P 17 40 02.8 -0.8**
BR131 Keskin Array S 83.45 312 *d i*P **P 17 40 03.2 -0.5**
BRTR Keskin Array B 83.45 312 P **P 17 40 03.4 -0.3**
comp=Z,2.1nm,0.6s,baz=96,slow=4.3,SNR=17
comp=Z,2.1nm,0.6s
YMR Madison River 83.46 43 IAmb IAmb 17 40 06.5
comp=Z,22nm,0.8s
OSI Osito Audit: C 83.55 54 P **P 17 40 05.1 +1.0**
baz=300
YFT Old Faithful 83.66 43 IAmb IAmb 17 40 08.8
comp=Z,16nm,0.9s
MPMC Manual Prospec 83.71 53 P **P 17 40 06.1 +1.0**
baz=300,SNR=8.0
H17A Grant Village 83.84 43 P **P 17 40 08.0 +2.3**
H17A IAmb IAmb 17 40 09.3
comp=Z,14nm,0.8s
H17A Grant Village 83.84 43 P **P 17 40 07.4 +1.7**
baz=304,SNR=12
R11B Troy Canyon, C 83.86 50 P **P 17 40 06.8 +1.0**
baz=301,SNR=17
LRMC Laurel Mtn Rad 83.87 53 P **P 17 40 06.1 +0.3**
baz=300,SNR=5.2
IMW Indian Meadow 83.90 43 IAmb IAmb 17 40 08.7
comp=Z,10nm,0.8s
YMP Mirror Lake Pl 83.90 42 IAmb IAmb 17 40 08.5
comp=Z,13nm,0.7s
HVU Hansel Valley 83.91 46 IAmb IAmb 17 40 09.0
comp=Z,16nm,0.7s
EDW2 Edwards Air Fo 83.94 54 P **P 17 40 07.0 +0.9**
baz=300,SNR=11
FLWY Flagg Ranch 83.94 43 P **P 17 40 07.6 +1.5**
FLWY IAmb IAmb 17 40 09.3
comp=Z,14nm,0.9s
FURC Furnace Creek, 83.94 52 P **P 17 40 06.8 +0.8**
baz=300,SNR=7.4
DEL Delary 83.99 333 *e*P **P 17 40 04.1 -1.7**
DECC Green Verdugo 84.01 54 P **P 17 40 07.6 +1.2**
baz=300
TPNV Topopah Spring 84.13 51 P **P 17 40 07.5 +0.4**
TPNV Topopah Spring 84.13 51 P **P 17 40 07.7 +0.6**
baz=301,SNR=30
TPNV Topopah Spring 84.13 51 P **P 17 40 07.5 +0.4**
TPNV pmax pmax
comp=Z,25nm,0.7s
RLMT Red Lodge 84.22 41 P **P 17 40 07.5 +0.1**
RLMT Red Lodge 84.22 41 P **P 17 40 08.4 +1.0**
baz=304,SNR=19
GWY Greenwater Val 84.22 52 P **P 17 40 07.8 +0.2**
GWY IAmb IAmb 17 40 09.3
comp=Z,21nm,0.9s
REDW Red Top Meadow 84.25 44 P **P 17 40 08.4 +0.8**
CIS Catalina Islan 84.37 55 P **P 17 40 08.6 +0.4**
baz=300
AHID Auburn Hatcher 84.42 44 IAmb IAmb 17 40 10.7
comp=Z,16nm,1.3s
BFSC Mount Baldy Ra 84.50 54 P **P 17 40 09.7 +0.7**
baz=300
GSC Goldstone, Bar 84.57 53 IAmb IAmb 17 40 11.0
comp=Z,18nm,0.7s
GSC Goldstone, Bar 84.57 53 P **P 17 40 10.2 +0.9**
baz=301,SNR=11
SHOC Shoshone, Teco 84.64 52 P **P 17 40 10.3 +0.8**
baz=301
RRX Edison Barstow 84.65 53 P **P 17 40 10.6 +1.1**
baz=301
PRN Pahroc Range 84.71 50 P **P 17 40 09.9 -0.1**
PRN IAmb IAmb 17 40 12.1
comp=Z,13nm,1.1s
DUG Dugway, Tooele 84.73 47 IAmb IAmb 17 40 12.1
comp=Z,9.7nm,0.7s
DUG Dugway, Tooele 84.73 47 P **P 17 40 10.8 +0.8**
baz=302,SNR=11
DUG Dugway, Tooele 84.73 47 P **P 17 40 11.0 +1.0**
DUG pmax pmax
comp=Z,18nm,1.0s
HWUT Hardware Ranch 84.77 45 IAmb IAmb 17 40 12.5
comp=Z,14nm,0.9s
PSUT Pine Spring 84.93 49 IAmb IAmb 17 40 12.8
comp=Z,7.8nm,0.6s
SFJD Kangerlussuaq 84.99 4 *i*P **P 17 40 09.8 -0.7**
SFJD IAmb IAmb 17 40 12.1
comp=Z,11nm,0.8s
BBRC Big Bear Solar 85.02 54 P **P 17 40 12.4 +0.8**
baz=301
LAO LASA Array 85.05 39 IAmb IAmb 17 40 13.2
comp=Z,14nm,0.8s
LAO LASA Array 85.05 39 P **P 17 40 12.2 +0.9**
baz=306
DGMT Dagmar 85.08 37 IAmb IAmb 17 40 12.4
comp=Z,13nm,0.8s
DGMT Dagmar 85.08 37 P **P 17 40 11.9 +0.5**
baz=308
TUQ Turquoise Moun 85.12 52 P **P 17 40 12.8 +0.8**
baz=301,SNR=14
HEC Hector,Ludlow 85.15 53 P **P 17 40 13.0 +1.0**
baz=301,SNR=7.0
MURC Murrieta 85.16 55 P **P 17 40 12.6 +0.6**
baz=300
BW06 Boulder Array 85.36 44 P **P 17 40 13.8 +0.6**
baz=304
PDAR Pinedale Array 85.36 44 P **P 17 40 13.2 +0.1**
comp=Z,2.1nm,0.7s,baz=232,slow=2.0,SNR=22
comp=Z,2.1nm,0.7s
109C Camp Elliot, M 85.58 55 P **P 17 40 14.9 +0.9**
baz=301
GMRC Granite Mounta 85.65 53 P **P 17 40 15.3 +0.8**
baz=301,SNR=9.5
MMAI Mount Meron Ar 85.66 305 P **P 17 40 14.2 -0.3**
comp=Z,2.6nm,0.8s,baz=58,slow=7.9,SNR=4.9
comp=Z,2.6nm,0.8s
PFO Pinyon Flats O 85.68 54 P **P 17 40 15.5 +0.8**
baz=301,SNR=11
PFO Pinyon Flats O 85.68 54 *ce*P **P 17 40 15.0 +0.3**
PFO pmax pmax
comp=Z,26nm,0.9s
PFO Pinyon Flats O 85.68 54 P **P 17 40 14.9 +0.2**
comp=Z,18nm,0.7s,baz=314,slow=3.8,SNR=25
comp=Z,18nm,0.7s
TPFO Pinon Flats 85.69 54 P **P 17 40 15.7 +0.9**
baz=301,SNR=10.0
DY2G Dye2 85.71 2 *i*P **P 17 40 13.5 -0.8**
DY2G IAmb IAmb 17 40 15.5
comp=Z,13nm,0.7s
PMD Palm Desert 85.72 54 P **P 17 40 14.8 0.0**
PMD IAmb IAmb 17 40 16.3
comp=Z,19nm,0.7s
BELC Belle Mtn. Jos 85.81 54 P **P 17 40 16.0 +0.7**
baz=301,SNR=5.7
MVU Marysvale 86.03 48 IAmb IAmb 17 40 18.8
comp=Z,16nm,0.8s
MONP2 Monument Peak 86.07 55 P **P 17 40 17.3 +0.6**
baz=301
LCMT Little Creek M 86.15 50 P **P 17 40 16.9 0.0**
IRM Iron Mountain 86.33 53 P **P 17 40 18.5 +0.8**
baz=302
BC3 Big Chuckawall 86.38 54 P **P 17 40 19.1 +1.1**
baz=301,SNR=6.2
IKP In-Ko-Pah, Jac 86.42 55 P **P 17 40 19.0 +0.8**
baz=301
KNB Kanab 86.43 50 IAmb IAmb 17 40 21.8
comp=Z,8.4nm,0.7s
SWSC Sam W. Stewart 86.50 54 P **P 17 40 19.6 +1.2**
baz=301
PDMCI Parker Dam,Lak 86.97 53 P **P 17 40 21.9 +1.3**
baz=302
KRLC Kraliky 87.04 327 *e*P **P 17 40 20.3 -0.4**
KRLC Kraliky 87.04 327 *e*P **P 17 40 20.3 -0.4**
VYHS Vyhne 87.06 325 *e*P **P 17 40 21.0 +0.2**
VYHS Vyhne 87.06 325 *e*P **P 17 40 21.0 +0.2**
VYHS pmax pmax
comp=Z,4.0nm,0.9s
DPC Dobruska-Polom 87.08 327 *e*P **P 17 40 20.5 -0.4**
DPC Dobruska-Polom 87.08 327 *e*P **P 17 40 20.5 -0.4**
GLA Glamis 87.14 54 P **P 17 40 22.4 +0.9**
baz=302
K22A Casper 87.26 42 P **P 17 40 21.9 -0.1**
K22A IAmb IAmb 17 40 23.1
comp=Z,9.4nm,0.8s
K22A Casper 87.26 42 P **P 17 40 23.0 +0.9**
baz=306
HMU Henry Mountain 87.31 48 IAmb IAmb 17 40 24.5
comp=Z,7.0nm,0.6s
O20A White River Ci 87.68 45 P **P 17 40 24.5 +0.4**
O20A IAmb IAmb 17 40 25.1
comp=Z,16nm,1.4s
O20A White River Ci 87.68 45 P **P 17 40 24.9 +0.8**
baz=305
PVCC Panska Ves 87.78 328 *e*P **P 17 40 24.3 +0.2**
PVCC Panska Ves 87.78 328 *e*P **P 17 40 24.3 +0.2**
RSSD Black Hills 87.82 40 P **P 17 40 24.9 +0.2**
RSSD IAmb IAmb 17 40 27.1
comp=Z,12nm,0.7s
RSSD Black Hills 87.82 40 P **P 17 40 25.2 +0.5**
baz=308
RSSD Black Hills 87.82 40 P **P 17 40 24.9 +0.2**
RSSD pmax pmax
comp=Z,12nm,0.7s
MDND Maddock 87.86 35 P **P 17 40 25.3 +0.8**
baz=311
MODS Modra-Piesok 87.93 326 *e*P **P 17 40 24.5 -0.4**
MODS Modra-Piesok 87.93 326 *e*P **P 17 40 24.5 -0.4**
Y14A Wickenburg 87.96 52 IAmb IAmb 17 40 27.8
comp=Z,18nm,1.4s
ULM Lac du Bonnet 88.06 32 IAmb IAmb 17 40 25.9
comp=Z,5.5nm,0.8s
ULM Lac du Bonnet 88.06 32 P **P 17 40 25.3 -0.1**
comp=Z,5.0nm,0.7s,baz=296,slow=4.7,SNR=12
comp=Z,5.0nm,0.7s
WUAZ Wupatki 88.22 50 P **P 17 40 28.0 +1.3**
baz=304
N23A Red Feather La 88.65 43 IAmb IAmb 17 40 31.2
comp=Z,15nm,1.1s
N23A Red Feather La 88.65 43 P **P 17 40 29.8 +1.1**
baz=307,SNR=5.4
PHWY Pilot Hill 88.70 43 P **P 17 40 29.6 +0.6**

PHWY					IAmb	IAmb	17 40 30.8		
	comp=Z,6.9nm,0.7s								
ZVC	**Zvikov**	**88.71**	**328**	*e*P		**P**	**17 40 28.0**	**-0.4**
RONA	**Rosalia, Austr**	**88.87**	**325**	*e*PcP		**P**	**17 40 29.8**	**+0.5**
	comp=Z,2.5nm,0.9s								
CONA	**Conrad Observa**	**88.93**	**326**	*e*PcP		**P**	**17 40 29.7**	**+0.1**
	comp=Z,2.6nm,0.7s								
CKRC	**Cesky Krumlov**	**89.08**	**327**	*e*P		**P**	**17 40 29.4**	**-0.8**
CKRC	**Cesky Krumlov**	**89.08**	**327**	*e*P		**P**	**17 40 29.4**	**-0.8**
214A	**Organ Pipe Nat**	**89.16**	**54**	IAmb		IAmb	17 40 33.1		
	comp=Z,8.1nm,0.8s								
214A	**Organ Pipe Nat**	**89.16**	**54**	P		**P**	**17 40 32.2**	**+1.2**
	baz=303								
MVCO	**Mesa Verde**	**89.19**	**48**	P		**P**	**17 40 31.7**	**+0.4**
	baz=305								
KHC	**Kasperske Hory**	**89.21**	**328**	*e*P		**P**	**17 40 29.5**	**-1.3**
KHC	**Kasperske Hory**	**89.21**	**328**	*e*P		**P**	**17 40 29.5**	**-1.3**
GERES	**GERESS Array B**	**89.35**	**327**	P		**P**	**17 40 30.7**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=35,slow=4.9,SNR=7.6								
	comp=Z,1.7nm,0.8s								
AGMN	**Agassiz Nation**	**89.42**	**33**	P		**P**	**17 40 31.8**	**+0.1**
	baz=314								
ISCO	**Idaho Springs**	**89.51**	**44**	P		**P**	**17 40 33.6**	**+0.8**
	baz=307								
W18A	**Petrified Fore**	**89.56**	**50**	P		**P**	**17 40 33.8**	**+0.9**
	baz=304								
S22A	**4UR Ranch, Cre**	**89.96**	**46**	P		**P**	**17 40 35.9**	**+1.0**
	baz=306,SNR=5.6								
Q24A	**Divide**	**90.30**	**45**	P		**P**	**17 40 37.0**	**+0.5**
	baz=307								
TUC	**Tucson**	**90.41**	**53**	P		**P**	**17 40 37.1**	**+0.3**
TUC				IAmb		IAmb	17 40 39.1		
	comp=Z,5.2nm,0.8s								
TUC	**Tucson**	**90.41**	**53**	P		**P**	**17 40 38.1**	**+1.3**
	baz=304								
TUC	**Tucson**	**90.41**	**53**	P		**P**	**17 40 37.1**	**+0.3**
TUC				pmax		pmax			
	comp=Z,5.0nm,0.9s								
SUSD	**Miller**	**90.43**	**38**	P		**P**	**17 40 37.5**	**+0.9**
	baz=311								
SDCO	**Great Sand Dun**	**90.81**	**46**	P		**P**	**17 40 39.6**	**+0.8**
SDCO				IAmb		IAmb	17 40 40.4		
	comp=Z,6.8nm,0.8s								
SDCO	**Great Sand Dun**	**90.81**	**46**	P		**P**	**17 40 39.8**	**+1.0**
	baz=307,SNR=10								
LESA	**Schwarzleotal**	**90.84**	**327**	*i* P		**P**	**17 40 37.7**	**-0.8**
	comp=Z,5.8nm,0.8s								
F33A	**5 Mile Ranch,**	**90.89**	**35**	IAmb		IAmb	17 40 40.0		
	comp=Z,1.1nm,0.9s								
OGNE	**Ogallala**	**90.96**	**42**	P		**P**	**17 40 40.4**	**+1.3**
	baz=309								
EKA	**Eskdalemuir Ar**	**90.96**	**340**	P		**P**	**17 40 38.2**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=38,slow=4.8,SNR=4.5								
EKA				PP		**PP**	**17 44 21.2**	**-1.6**	
	comp=Z,1.8nm,0.7s,baz=38,slow=8.1,SNR=4.9								
	comp=Z,2.8nm,0.8s								
ABTA	**Abfaltersbach**	**91.39**	**327**	*e*P		**P**	**17 40 39.9**	**-1.1**
	comp=Z,5.7nm,0.9s								
ANMO	**Albuquerque**	**91.85**	**49**	P		**P**	**17 40 43.9**	**+0.4**
ANMO				IAmb		IAmb	17 40 45.8		
	comp=Z,8.9nm,0.8s								
ANMO	**Albuquerque**	**91.85**	**49**	P		**P**	**17 40 44.8**	**+1.2**
	baz=306								
ANMO	**Albuquerque**	**91.85**	**49**	⇓ *e*P		**P**	**17 40 45.0**	**+1.4**
ANMO				pmax		pmax			
	comp=Z,11nm,0.8s								
ANMO	**Albuquerque**	**91.85**	**49**	P		**P**	**17 40 45.3**	**+1.7**
	comp=Z,8.2nm,0.8s,baz=25,slow=4.6,SNR=25								
	comp=Z,8.2nm,0.8s								
T25A	**Trinidad**	**91.86**	**46**	IAmb		IAmb	17 40 45.5		
	comp=Z,5.4nm,0.8s								
T25A	**Trinidad**	**91.86**	**46**	P		**P**	**17 40 44.8**	**+1.1**
	baz=308,SNR=5.8								
FETA	**Feichten**	**92.06**	**328**	*e*P		**P**	**17 40 43.1**	**-1.1**
	comp=Z,3.0nm,0.8s								
ECSD	**EROS Data Cent**	**92.16**	**37**	P		**P**	**17 40 45.0**	**+0.4**
	baz=313								
DAVA	**Damuels**	**92.26**	**328**	*i* PcP		**P**	**17 40 44.3**	**-0.8**
	comp=Z,4.6nm,0.9s								
121A	**Cookes Peak, D**	**92.37**	**51**	IAmb		IAmb	17 40 48.5		
	comp=Z,6.6nm,0.8s								
121A	**Cookes Peak, D**	**92.37**	**51**	P		**P**	**17 40 47.0**	**+1.0**
	baz=306,SNR=6.7								
BGNE	**Belgrade**	**92.89**	**39**	P		**P**	**17 40 48.4**	**+0.5**
	baz=312								
SPMN	**Marine on St.**	**93.07**	**34**	P		**P**	**17 40 49.1**	**+0.4**
	baz=316								
MNTX	**Cornudas Mount**	**94.50**	**51**	P		**P**	**17 40 55.8**	**+0.3**
	baz=307								
425A	**Indio Mountain**	**95.32**	**51**	P		**P**	**17 40 59.6**	**+0.3**
KAN05	**Bluff City Nor**	**95.91**	**42**			pwP	17 42 58.4	+2.0	
JFWS	**Jewell Farm**	**96.02**	**34**	P		**P**	**17 41 02.0**	**0.0**
	baz=318								
TXAR	**Lajitas Array**	**97.11**	**52**	P		**P**	**17 41 07.9**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=306,slow=3.1,SNR=18								
TXAR				pP		**pwP**	**17 43 01.7**	**-1.6**	
	comp=Z,0.2nm,0.6s,baz=291,slow=2.8,SNR=2.1								
TXAR				PP		**PP**	**17 45 10.9**	**-0.2**	
	comp=Z,0.4nm,0.8s,baz=292,slow=7.7,SNR=2.7								
	comp=Z,2.7nm,0.7s								
QUOK	**Quay**	**97.23**	**43**			pP	17 42 58.1	-1.4	
L44A	**Lake County Fo**	**97.71**	**33**	P		Pdif	17 41 08.8	-0.8	
	baz=319								
ESDC	**Sonseca Array**	**104.43**	**331**	PP		**PP**	**17 46 01.1**	**-3.7**
	comp=Z,1.4nm,1.1s,baz=20,slow=6.8,SNR=5.3								
TORD	**Torodi Ar. Bea**	**122.00**	**309**	PKP		**PKPdf**	**17 46 25.8**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=25,slow=3.6,SNR=7.7								
TORD				PKKPab		**PKKPbc**	**17 56 27.3**	**+1.7**	
	comp=Z,0.9nm,0.7s,baz=232,slow=2.6,SNR=5.4								
DBIC	**Dimbokro**	**131.11**	**309**	SKPbc		**SKPbc**	**17 49 19.6**	**-2.2**
	comp=Z,3.2nm,0.5s,baz=36,slow=5.1,SNR=6.7								
SNAA	**Sanae**	**131.61**	**195**	SKPbc		**SKPbc**	**17 49 19.2**	**-2.6**
	comp=Z,3.8nm,0.6s,baz=177,slow=4.5,SNR=13								
SDV	**Santo Domingo**	**133.29**	**43**	PKPdf		**PKPdf**	**17 46 47.8**	**-0.7**
CZSB	**Cruzeiro do Su**	**143.69**	**62**	PKPdf		PKPab	17 47 05.3	-0.6	
BOAV	**Boa Vista**	**144.28**	**35**			PKPbc	17 47 06.7	-1.1	
ETMB	**Extrema**	**149.98**	**58**			**PKPbc**	**17 47 21.7**	**-1.4**
SAML	**Samuel**	**151.59**	**52**			**PKPbc**	**17 47 25.6**	**-1.2**
SAML	**Samuel**	**151.59**	**52**	PKIKP		**PKPbc**	**17 47 26.1**	**-0.7**
PLCA	**Paso Flores**	**152.47**	**125**			**PKPbc**	**17 47 28.2**	**+0.1**
PLCA	**Paso Flores**	**152.47**	**125**	PKIKP		**PKPbc**	**17 47 28.2**	**+0.1**
PLCA	**Paso Flores**	**152.47**	**125**	PKPbc		**PKPbc**	**17 47 28.9**	**+0.8**
	comp=Z,9.6nm,0.7s,baz=235,slow=4.0,SNR=34								
PB08	**IPOC Station P**	**152.96**	**79**			**PKPbc**	**17 47 29.6**	**-0.5**
AC05	**El Transito**	**154.05**	**99**			**PKPbc**	**17 47 32.1**	**+0.1**
CFA	**Coronel Fontan**	**155.91**	**105**	PKPab		**PKPab**	**17 47 55.9**	**0.0**
	comp=Z,5.9nm,0.8s,baz=275,slow=7.8,SNR=5.1								
SIV	**San Ignacio**	**157.72**	**62**	PKP		**PKPdf**	**17 47 28.3**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=249,slow=7.3,SNR=4.8								
SIV				PKPab		**PKPab**	**17 48 03.4**	**-0.6**	
	comp=Z,7.6nm,0.7s,baz=259,slow=4.3,SNR=24								
PTLB	**Pontes e Lacer**	**158.87**	**58**	PKPab		**PKPab**	**17 48 07.3**	**-1.6**
CPUP	**Villa Florida**	**165.15**	**87**	PKPab		**PKPab**	**17 48 35.8**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=236,slow=3.6,SNR=6.1								

SJA ***16*** *17:47:23.9±0.8,23°.24S×69°.11W,h94km±3km, ML3.6, MW3.7*

IDC ***16*** *17:47:25.1±2.5,23°.35S×68°.66W,h74km±17km, mb3.5/3, mbtmp3.8/4, Error ellipse: s-maj=41.2km s-min=25.9km az=172.0*

GUC ***16*** *17:47:27.3±0.9,23°.15S×69°.14W,h83km±5km, ML3.7*

ISC 16 17:47:26.2±0.8**,23°.25S**±0°.03×**69°.12W**±0°.04**, h85**km±5km**, n42**,σ1°**30/68, mb3.8**/3**, 6C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB15	**IPOC Station P**	**0.32**	**277**		*e*P	**Pn**	**17 47 38.9**	**-0.6**
PB15					*e*S	**Sn**	**17 47 49.9**	**+0.7**
PB15	**IPOC Station P**	**0.32**	**277**	⇓	*i*P	**Pn**	**17 47 39.5**	**+0.1**
PB15					*i* S	**Sn**	**17 47 49.3**	**+0.1**
LVC	**Limon Verde**	**0.66**	**17**		*e*P	**Pn**	**17 47 42.1**	**-0.2**
LVC					*e*S	**Sn**	**17 47 54.7**	**+0.4**
LVC					*e*S		17 47 55.1	
LVC					IAML		17 47 55.6		
	comp=Z,1μm,0.2s								
LVC	**Limon Verde**	**0.66**	**17**	P		**Pn**	**17 47 42.2**	**-0.1**
	comp=Z,241nm,0.3s,baz=180,slow=7.7,SNR=2415								
LVC				S		**Sn**	**17 47 54.6**	**+0.4**
	comp=Z,1μm,0.3s,baz=114,slow=20,SNR=54								
LVC				LR		LR	17 47 57.3		
	comp=Z,54nm,19.0s,baz=206,slow=42								
LVC	**Limon Verde**	**0.66**	**17**	*e*P		**Pn**	**17 47 41.6**	**-0.8**
LVC				*e*S		**Sn**	**17 47 54.1**	**-0.2**
LVC				IAML			17 47 55.3		
	comp=Z,17μm,0.3s								

PB06	**IPOC Station P**	**0.68**	**322**	*e*P		**Pn**	**17 47 41.5**	**-0.7**	
PB06				*e*P			17 47 42.1		
PB06				*e*S		**Sn**	**17 47 54.7**	**+0.5**	
PB06				IAML			17 47 55.9		
	comp=Z,3μm,0.4s								
PB06	**IPOC Station P**	**0.68**	**322**	⇑ *i*P		**Pn**	**17 47 42.3**	**0.0**	
PB06				*e*S		**Sn**	**17 47 52.9**	**-1.3**	
PB06				IAML			17 47 54.9		
	comp=E,4μm,0.2s								
AF01	**San Pedro de A**	**0.92**	**72**	⇓ *i*P		**Pn**	**17 47 45.8**	**+0.9**	
AF01				*e*S		**Sn**	**17 47 59.4**	**+0.6**	
AF01				IAML			17 48 01.5		
	comp=E,6μm,0.5s								
PB05	**IPOC Station P**	**1.07**	**291**	*e*P		**Pn**	**17 47 45.5**	**-1.0**	
PB05				*e*S		**Sn**	**17 48 04.0**	**+2.4**	
PB05	**IPOC Station P**	**1.07**	**291**	⇑ *i*P		**Pn**	**17 47 46.2**	**-0.3**	
PB05				*i* S		**Sn**	**17 48 01.8**	**+0.1**	
PB04	**IPOC Station P**	**1.31**	**314**	*e*P		**Pn**	**17 47 48.6**	**-0.9**	
PB04				*e*S		**Sn**	**17 48 07.7**	**+0.6**	
PB04				IAML			17 48 10.6		
	comp=Z,990nm,0.2s								
PB04	**IPOC Station P**	**1.31**	**314**	⇑ *i*P		**Pn**	**17 47 49.2**	**-0.3**	
PB04				*i* S		**Sn**	**17 48 06.8**	**-0.3**	
PB04				IAML			17 48 12.0		
	comp=E,1μm,0.3s								
PB09	**IPOC Station P**	**1.45**	**356**	*e*P		**Pn**	**17 47 51.6**	**+0.3**	
PB09				*e*S		**Sn**	**17 48 11.2**	**+1.1**	
PB09				*e*S			17 48 13.0		
PB09				IAML			17 48 13.3		
	comp=Z,607nm,0.4s								
PB09	**IPOC Station P**	**1.45**	**356**	*e*P		**Pn**	**17 47 52.1**	**+0.9**	
PB09				*i* S		**Sn**	**17 48 09.7**	**-0.4**	
PB07	**IPOC Station P**	**1.67**	**335**	*e*P		**Pn**	**17 47 53.5**	**-0.6**	
PB07				*e*S		**Sn**	**17 48 16.8**	**+1.6**	
PB07				IAML			17 48 19.2		
	comp=Z,464nm,0.5s								
PB07	**IPOC Station P**	**1.67**	**335**	⇑ *i*P		**Pn**	**17 47 54.1**	**0.0**	
PB07				*i* S		**Sn**	**17 48 12.8**	**-2.4**	
PB07				IAML			17 48 19.5		
	comp=E,908nm,0.3s								
PB14	**IPOC Station P**	**1.81**	**220**	*e*P		**Pn**	**17 47 55.7**	**-0.3**	
PB14				*e*S		**Sn**	**17 48 18.7**	**+0.2**	
PB14				IAML			17 48 23.2		
	comp=Z,511nm,0.6s								
PB14	**IPOC Station P**	**1.81**	**220**	*e*P		**Pn**	**17 47 55.7**	**-0.3**	
PB14				*i* S		**Sn**	**17 48 17.0**	**-1.5**	
GO02	**Mina Guanaco**	**1.96**	**193**	*e*P		**Pn**	**17 47 57.8**	**-0.1**	
GO02				*e*S		**Sn**	**17 48 24.5**	**+2.4**	
GO02				IAML			17 48 30.2		
	comp=Z,542nm,0.8s								
GO02	**Mina Guanaco**	**1.96**	**193**	*e*P		**Pn**	**17 47 58.5**	**+0.6**	
GO02				*e*S		**Sn**	**17 48 23.3**	**+1.2**	
GO02				IAML			17 48 29.9		
	comp=N,719nm,0.2s								
PB02	**IPOC Station P**	**2.05**	**339**	*e*P		**Pn**	**17 47 58.4**	**-0.6**	
PB02				*e*S		**Sn**	**17 48 26.5**	**+2.6**	
PB02				IAML			17 48 34.1		
	comp=Z,805nm,0.3s								
PB02	**IPOC Station P**	**2.05**	**339**	⇑ *i*P		**Pn**	**17 47 58.9**	**0.0**	
PB02				*i* S		**Sn**	**17 48 23.4**	**-0.5**	
PB02				IAML			17 48 29.2		
	comp=N,600nm,0.3s								
PB01	**IPOC Station P**	**2.22**	**351**	*e*P		**Pn**	**17 48 00.9**	**-0.3**	
PB01				*e*S		**Sn**	**17 48 32.0**	**+4.0**	
PB01				IAML			17 48 32.9		
	comp=Z,344nm,0.2s								
PB01	**IPOC Station P**	**2.22**	**351**	*e*P		**Pn**	**17 48 01.5**	**+0.3**	
PB01				*i* S		**Sn**	**17 48 26.5**	**-1.5**	
PB01				IAML			17 48 31.6		
	comp=E,488nm,0.5s								
PATCX	**Punta Patache**	**2.60**	**338**	*e*P		**Pn**	**17 48 05.4**	**-0.9**	
PATCX				*e*S		Sn	17 48 23.5	-14	
PATCX				IAML			17 49 02.5		
	comp=Z,238nm,0.4s								
PATCX	**Punta Patache**	**2.60**	**338**	⇑ *e*P		**Pn**	**17 48 05.2**	**-1.0**	
TA01	**Diego Aracena**	**2.84**	**340**	*e*P		**Pn**	**17 48 08.2**	**-1.3**	
TA01				*e*S		**Sn**	**17 48 42.0**	**-0.8**	
TA01				IAML			17 49 01.1		
	comp=Z,170nm,0.6s								
HMBC	**Humberstone**	**3.04**	**346**	*e*P		**Pn**	**17 48 11.0**	**-1.3**	
HMBC				*e*S		Sn	17 48 32.0	-16	
HMBC				IAML			17 49 10.7		
	comp=Z,198nm,0.4s								
PB08	**IPOC Station P**	**3.09**	**359**	*e*P		**Pn**	**17 48 12.9**	**-0.3**	
PB08				*e*S		Sn	17 48 40.2	-9.1	
PB08				IAML			17 49 12.2		
	comp=Z,112nm,1.1s								
PB08	**IPOC Station P**	**3.09**	**359**	*e*P		**Pn**	**17 48 13.1**	**-0.1**	
AC01	**Pan de Azucar**	**3.19**	**205**	*e*P		**Pn**	**17 48 13.0**	**-1.1**	
AC01				*e*S		**Sn**	**17 48 49.9**	**-1.2**	
AC01				IAML			17 48 58.5		
	comp=Z,88nm,0.3s								
YJA	**Yavi**	**3.50**	**73**	*e*P		**Pn**	**17 48 16.5**	**-2.3**	
PB11	**IPOC Station P**	**3.50**	**352**	*e*P		**Pn**	**17 48 16.5**	**-2.1**	
PB11				*e*P			17 48 17.5		
PB11				*e*S		Sn	17 48 45.1	-14	
PB11				IAML			17 49 23.8		
	comp=Z,127nm,0.5s								
GO01	**Chusmiza**	**3.56**	**359**	*e*P		**Pn**	**17 48 19.1**	**-0.6**	
GO01				IAML			17 49 26.8		
	comp=Z,72nm,0.3s								
GO03	**Copiap**	**4.44**	**193**	*e*P		**Pn**	**17 48 30.7**	**-0.5**	
GO03				IAML			17 49 47.6		
	comp=Z,71nm,0.3s								
SIV	**San Ignacio**	**10.47**	**48**	P		**Pn**	**17 49 49.9**	**-3.5**	
	comp=Z,2.6nm,0.6s,baz=247,slow=11,SNR=8.0								
SIV				S		Sn	17 51 40.7	-8.3	
	comp=Z,0.5nm,0.4s,baz=150,slow=20,SNR=1.5								
TXAR	**Lajitas Array**	**61.95**	**326**	P		**P**	**17 57 41.1**	**+3.8**	
	comp=Z,0.4nm,0.7s,baz=141,slow=6.8,SNR=5.4								
	comp=Z,0.4nm,0.7s								
TORD	**Torodi Ar. Bea**	**78.13**	**70**	P		**P**	**17 59 15.4**	**-1.1**	
	comp=Z,0.9nm,0.4s,baz=253,slow=5.3,SNR=13								
	comp=Z,0.9nm,0.4s								
YKA	**Yellowknife Ar**	**92.76**	**341**	P		**P**	**18 00 27.8**	**-0.7**	
	comp=Z,0.3nm,0.6s,baz=140,slow=4.2,SNR=5.9								
	comp=Z,0.3nm,0.6s								
ASAR	**Alice Springs**	**128.28**	**207**	PKP		**PKPdf**	**18 06 22.8**	**-0.8**	
	comp=Z,0.2nm,0.6s,baz=130,slow=1.9,SNR=4.2								
WRA	**Warramunga Arr**	**131.35**	**210**	PKP		**PKPdf**	**18 06 29.1**	**-0.3**	
	comp=Z,0.4nm,0.9s,baz=156,slow=1.7,SNR=2.7								
MKAR	**Makanchi Array**	**147.15**	**37**	PKPbc		**PKPdf**	**18 06 58.0**	**+0.8**	
	comp=Z,0.3nm,0.6s,baz=328,slow=5.1,SNR=4.5								

IDC ***16*** *17:56:59.2±1.4,51°.59N×176°.23W,h0km,mb3.9/17, mbtmp4.0/18,ML3.7/1, Error ellipse: s-maj=41.3km s-min=15.3km az=172.0*

AEIC ***16*** *17:57:01.3±1.8,51°.05N±0°.07×176°.12W±0°.07,h40km±6km, Error ellipse: s-maj=10.6km s-min=6.1km az=176.0*

NEIC ***16*** *17:57:02.1±1.6,51°.07N±0°.08×176°.10W±0°.06,h34km±7km, mb4.1/86,ML3.5(AEIC),Error ellipse: s-maj=11.7km s-min=5.1km az=175.0*

ISC 16 17:57:01.9±2.3**,51°.1N**±0°.1×**176°.13W**±0°.04**, h30**km±13km**, n166,**σ0°.94/163**, mb4.1**/36**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSCK	**Great Sitkin C**	**0.89**	**359**			**Pb**	**17 57 18.7**	**-0.1**
GSMY	**Great Sitkin M**	**0.92**	**3**			**Pb**	**17 57 19.3**	**-0.1**
GSMY						**Sb**	**17 57 31.9**	**+0.6**
KIMD	**Kanaga Island**	**0.94**	**313**			**Pn**	**17 57 19.0**	**-0.2**
KIWB	**Kanaga Island**	**0.97**	**319**			**Pn**	**17 57 19.5**	**0.0**
KIWB	**Kanaga Island**	**0.97**	**319**			**Sb**	**17 57 32.9**	**+0.2**
GSTR	**Great Sitkin T**	**0.97**	**2**			**Pb**	**17 57 20.1**	**-0.2**
KIKV	**Kanaga Island**	**1.00**	**320**			**Pn**	**17 57 20.0**	**+0.1**
KIKV						**Sb**	**17 57 34.1**	**+0.6**
TAPA	**Tanaga Point A**	**1.26**	**304**			**Pn**	**17 57 23.6**	**+0.1**
TASE	**Tanaga Southea**	**1.39**	**302**			**Pn**	**17 57 25.5**	**+0.2**
TASE						**Sb**	**17 57 43.8**	**-0.9**
TAFP	**Tanaga Falls P**	**1.40**	**305**			**Pn**	**17 57 25.6**	**+0.2**
TAFP						**Sb**	**17 57 44.1**	**-0.8**
ATKA	**Atka Island**	**1.62**	**47**	Pn		**Pn**	**17 57 28.1**	**-0.2**
ATKA				Sn		**Sn**	**17 57 47.7**	**-0.5**
KOKL	**Mount Kliuchef**	**1.70**	**44**			**Pn**	**17 57 30.2**	**+0.7**
KOFP	**Korovin Flat P**	**1.71**	**47**			**Pn**	**17 57 29.8**	**+0.1**
GAEA	**Gareloi East**	**1.77**	**293**			**Pn**	**17 57 30.9**	**+0.5**
GANE	**Gareloi Northe**	**1.80**	**294**			**Pn**	**17 57 31.5**	**+0.7**
CEPE	**Semis' Perret**	**2.77**	**289**			**Pn**	**17 57 44.4**	**+0.2**
AMKA	**Amchitka**	**2.88**	**277**	Pn		**Pn**	**17 57 43.7**	**-2.1**
CLES	**Cleveland East**	**4.21**	**64**	Pn		**Pn**	**17 58 03.4**	**-0.6**
NIKH	**Nikolski High**	**4.86**	**65**	Pn		**Pn**	**17 58 12.2**	**-0.6**
UNV	**Unalaska Valle**	**6.48**	**61**	Pn		**Pn**	**17 58 36.2**	**+1.1**

AKUT	**Akutan**	**6.99**	**60**	Pn		**Pn**	**17 58 43.5**	**+1.5**	
SDPT	**Sand Point**	**10.29**	**60**	Pn		**Pn**	**17 59 27.9**	**+0.6**	
M14K	**Bethel**	**12.46**	**34**	Pn		**Pn**	**17 59 56.8**	**-0.3**	
L14K	**Kuka Creek**	**12.65**	**31**	Pn		**Pn**	**17 59 59.6**	**+0.1**	
N15K	**Kwethluk River**	**12.78**	**39**	Pn		**Pn**	**18 00 01.2**	**-0.1**	
R17K	**Ugashik Creek**	**13.20**	**53**	Pn		**Pn**	**18 00 06.0**	**-1.1**	
O16K	**Kokwok River B**	**13.27**	**43**	Pn		P	18 00 12.2	-5.2	
K15K	**Wolf Creek Mou**	**13.72**	**30**	Pn		**Pn**	**18 00 17.0**	**+2.7**	
L16K	**Owhat River**	**14.00**	**34**			**Pn**	**18 00 19.3**	**+1.3**	
N17K	**Nushagak Hills**	**14.16**	**41**	Pn		**Pn**	**18 00 20.9**	**+0.7**	
P18K	**Big Mountain,**	**14.46**	**47**	Pn		**Pn**	**18 00 24.3**	**0.0**	
M17K	**Holitna River**	**14.56**	**38**			**Pn**	**18 00 26.3**	**+0.7**	
ANM	**Nome**	**14.61**	**19**			**Pn**	**18 00 28.4**	**+2.1**	
O18K	**Koktuh Hills**	**14.67**	**45**			**Pn**	**18 00 27.6**	**+0.4**	
Q19K	**Cape Douglas,**	**15.02**	**50**			**Pn**	**18 00 31.3**	**-0.5**	
SVW2	**Sparrevohn**	**15.13**	**41**	Pn		**Pn**	**18 00 33.8**	**+0.5**	
SVW2				IAmb		IAmb	18 00 54.7		
	comp=Z,13nm,1.4s								
KDAK	**Kodiak Island**	**15.18**	**55**			**Pn**	**18 00 32.6**	**-1.3**	
KDAK	**Kodiak Island**	**15.18**	**55**	Pn		**Pn**	**18 00 31.2**	**-2.7**	
	comp=Z,0.3nm,0.3s,baz=258,slow=3.6,SNR=13								
KDAK						Sn	**18 03 19.2**	**-1.6**	
	comp=Z,0.2nm,0.3s,baz=127,slow=20,SNR=2.0								
	comp=Z,3.4nm,0.4s								
L18K	**Granite Mounta**	**15.34**	**36**			**Pn**	**18 00 36.2**	**+0.2**	
L18K						IAmb	IAmb	18 00 43.4	
	comp=Z,21nm,1.1s								
N19K	**Bonanza Creek**	**15.45**	**43**			**Pn**	**18 00 36.7**	**-0.8**	
N19K						IAmb	IAmb	18 00 45.6	
	comp=Z,12nm,1.1s								
SYI	**Shuyak Island**	**15.52**	**52**	P		**P**	**18 00 40.5**	**-2.0**	
PET	**Petropavlovsk**	**15.60**	**287**	P		**Pn**	**18 00 39.3**	**-0.1**	
PET						IAmb	IAmb	18 00 46.9	
	comp=Z,20nm,1.1s								
G16K	**Koyuk River**	**15.98**	**21**	P		**P**	**18 00 47.1**	**-0.4**	
G16K						IAmb	IAmb	18 00 55.2	
	comp=Z,16nm,1.2s								
L19K	**White Mountain**	**16.02**	**38**			**P**	**18 00 49.4**	**+1.5**	
L19K						IAmb	IAmb	18 00 51.5	
	comp=Z,13nm,0.9s								
TTA	**Tatalina**	**16.02**	**35**	P		**P**	**18 00 48.6**	**+0.5**	
PEA0B	**Petropavlovsk-**	**16.17**	**287**	P		**P**	**18 00 49.4**	**-0.3**	
PEA0B						IAmb	IAmb	18 00 52.3	
	comp=Z,16nm,0.8s								
PETK	**Petropavlovsk-**	**16.17**	**287**	P		**P**	**18 00 49.6**	**-0.1**	
PETK	**Petropavlovsk-**	**16.17**	**287**	Pn		**P**	**18 00 50.3**	**+0.6**	
	comp=Z,1.3nm,0.3s,baz=96,slow=16,SNR=30								
H17K	**Granite Mounta**	**16.21**	**25**	P		**P**	**18 00 51.9**	**+1.8**	
CNPM	**China Poot**	**16.39**	**49**	P		**Pn**	**18 00 47.7**	**-1.8**	
BRLK	**Bradley Lake**	**16.64**	**49**	P		**Pn**	**18 00 50.0**	**-2.6**	
BRLK				

I28M	**Miner Creek**	**23.38**	**38**	P	**P**	**18 02 06.9**	**-0.8**
I28M				IAmb	IAmb	18 02 15.9	
	comp=Z,13nm,1.4s						
L29M	**L29M**	**23.46**	**45**	P	**P**	**18 02 07.6**	**-1.0**
L29M				IAmb	IAmb	18 02 33.8	
	comp=Z,6.9nm,1.2s						
K29M	**Barlow Dome**	**23.90**	**43**	P	**P**	**18 02 12.5**	**-0.3**
K29M				IAmb	IAmb	18 02 14.2	
	comp=Z,9.9nm,1.4s						
I29M	**Ogilvie Camp,**	**23.99**	**39**	P	**P**	**18 02 13.4**	**-0.2**
F28M	**Old Crow**	**24.23**	**33**	P	**P**	**18 02 15.6**	**-0.2**
F28M				IAmb	IAmb	18 02 26.2	
	comp=Z,6.8nm,1.4s						
H29M	**Whitestone**	**24.25**	**37**	P	**P**	**18 02 14.7**	**-1.2**
H29M				IAmb	IAmb	18 02 33.4	
	comp=Z,6.5nm,1.2s						
G29M	**Pine Creek**	**24.62**	**36**	P	**P**	**18 02 19.3**	**0.0**
G29M				IAmb	IAmb	18 03 03.0	
	comp=Z,9.2nm,1.4s						
I30M	**Mount Dempster**	**24.73**	**40**	P	**P**	**18 02 18.8**	**-1.6**
I30M				IAmb	IAmb	18 02 22.1	
	comp=Z,8.4nm,1.1s						
E29M	**Blow River**	**25.23**	**33**	P	**P**	**18 02 23.9**	**-0.8**
E29M				IAmb	IAmb	18 02 28.2	
	comp=Z,2.7nm,0.8s						
G30M	**tAoh Zraii Nji**	**25.31**	**36**	P	**P**	**18 02 26.0**	**+0.5**
G30M				IAmb	IAmb	18 03 09.8	
	comp=Z,7.6nm,1.3s						
G31M	**Satah River**	**26.03**	**37**	P	**P**	**18 02 31.5**	**-0.4**
INK	**Inuvik**	**26.72**	**34**	P	**P**	**18 02 37.3**	**-0.8**
INK				IAmb	IAmb	18 02 58.6	
	comp=Z,5.0nm,1.2s						
RUBB	**Prince Rupert**	**27.59**	**65**	P	**P**	**18 02 44.5**	**-1.6**
A36M	**Sachs Harbour**	**30.50**	**28**	P	**P**	**18 03 11.3**	**-0.5**
A36M				IAmb	IAmb	18 03 12.8	
	comp=Z,2.8nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**34.07**	**209**	T	T	18 40 16.4	
	baz=18,slow=76						
H11N3	**WAKE ISLAND Hy**	**34.08**	**209**	T	T	18 40 17.1	
	baz=18,slow=76						
H11N1	**WAKE ISLAND Hy**	**34.09**	**209**	T	T	18 40 17.8	
	baz=18,slow=76						
YKA	**Yellowknife Ar**	**34.19**	**47**	P	**P**	**18 03 43.8**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=284,slow=8.7,SNR=4.1						
	comp=Z,0.2nm,0.5s						
USRK	**Ussuriysk Ar.**	**34.99**	**279**	P	**P**	**18 03 51.7**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=66,slow=11,SNR=5.7						
	comp=Z,1.7nm,0.5s						
H11S1	**WAKE ISLAND Hy**	**35.28**	**209**	T	T	18 41 47.2	
	baz=18						
H11S2	**WAKE ISLAND Hy**	**35.30**	**209**	T	T	18 41 50.1	
	baz=18						
H11S3	**WAKE ISLAND Hy**	**35.30**	**209**	T	T	18 41 50.6	
	baz=18						
KSRS	**Korea Array**	**41.33**	**273**	P	**P**	**18 04 45.7**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=54,slow=7.0,SNR=2.9						
	comp=Z,1.4nm,0.7s						
PDAR	**Pinedale Array**	**44.78**	**74**	P	**P**	**18 05 14.3**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=321,slow=3.6,SNR=7.6						
	comp=Z,0.9nm,0.7s						
SONM	**Songino Array**	**48.26**	**298**	P	**P**	**18 05 39.7**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=56,slow=7.5,SNR=7.3						
	comp=Z,0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**55.41**	**315**	P	**P**	**18 06 30.8**	**-2.2**
	comp=Z,0.4nm,0.5s,baz=39,slow=9.3,SNR=1.9						
	comp=Z,0.4nm,0.5s						
TXAR	**Lajitas Array**	**57.02**	**83**	P	**P**	**18 06 46.9**	**+1.9**
	comp=Z,0.4nm,0.9s,baz=310,slow=5.6,SNR=2.6						
	comp=Z,0.4nm,0.9s						
KURK	**Kurchatov**	**60.40**	**315**	P	**P**	**18 07 07.3**	**-0.6**
KURBB	**Kurchatov Arra**	**60.51**	**315**	P	**P**	**18 07 08.4**	**-0.4**
	comp=Z,4.7nm,0.5s,baz=43,slow=6.7,SNR=19						
	comp=Z,4.7nm,0.5s						
MK31	**Makanchi Array**	**61.50**	**310**	P	**P**	**18 07 14.4**	**-1.1**
MKAR	**Makanchi Array**	**61.50**	**310**	P	**P**	**18 07 14.7**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=50,slow=5.8,SNR=17						
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**62.16**	**321**	P	**P**	**18 07 20.4**	**+0.5**
	comp=Z,1.7nm,0.4s,baz=58,slow=6.3,SNR=11						
	comp=Z,1.7nm,0.4s						
BRVK	**Borovoye**	**62.17**	**321**	P	**P**	**18 07 20.4**	**+0.5**
L56A	**Greenwood**	**63.31**	**55**	P	**P**	**18 07 29.3**	**+1.5**
NOA	**NORSAR Array B**	**68.03**	**356**	P	**P**	**18 07 57.5**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=4.4,slow=6.4,SNR=2.0						
	comp=Z,0.3nm,0.5s						
HFS	**Hagfors**	**68.81**	**355**	P	**P**	**18 08 01.2**	**-1.6**
	comp=Z,2.3nm,0.8s,baz=350,slow=3.2,SNR=9.5						
	comp=Z,2.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**72.71**	**278**	P	**P**	**18 08 28.0**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=28,slow=6.2,SNR=5.2						
	comp=Z,0.6nm,0.7s						
TAPN	**Taplejung**	**72.86**	**292**	*eP*	**P**	**18 08 29.4**	**+1.1**
	comp=Z,4.4nm,0.2s						
GUN	**Gumba**	**73.50**	**294**	*eP*	**P**	**18 08 32.9**	**+0.8**
	comp=Z,9.1nm,0.4s						
JIRN	**Jiri**	**73.51**	**294**	*eP*	**P**	**18 08 32.6**	**+0.4**
JIRN	**Jiri**	**73.51**	**294**	*eP*	**P**	**18 08 33.2**	**+1.0**
EKA	**Eskdalemuir Ar**	**73.75**	**4**	P	**P**	**18 08 31.7**	**-1.0**
	comp=Z,3.8nm,1.0s,baz=0.8,slow=5.2,SNR=3.1						
	comp=Z,3.8nm,1.0s						
RAMN	**Ramite**	**73.81**	**293**	*eP*	**P**	**18 08 34.6**	**+0.8**
	comp=Z,13nm,0.6s						
RAMN	**Ramite**	**73.81**	**293**	*eP*	**P**	**18 08 34.7**	**+0.9**
	comp=Z,13nm,0.6s						
PKI	**Pulchoki**	**74.03**	**294**	*eP*	**P**	**18 08 35.5**	**+0.3**
PKI	**Pulchoki**	**74.03**	**294**	*eP*	**P**	**18 08 35.9**	**+0.7**
PKIN	**Phulchoki**	**74.03**	**294**	*eP*	**P**	**18 08 35.3**	**+0.2**
	comp=Z,4.3nm,0.5s						
PKIN	**Phulchoki**	**74.03**	**294**	*eP*	**P**	**18 08 35.6**	**+0.5**
	comp=Z,4.3nm,0.5s						
GKN	**Gorkha**	**74.15**	**295**	*eP*	**P**	**18 08 36.0**	**+0.4**
	comp=Z,6.0nm,0.6s						
GKN	**Gorkha**	**74.15**	**295**	*eP*	**P**	**18 08 36.0**	**+0.4**
	comp=Z,9.1nm,0.8s						
DANN	**Dangsing**	**74.38**	**296**	*eP*	**P**	**18 08 38.2**	**+1.0**
DANN	**Dangsing**	**74.38**	**296**	*eP*	**P**	**18 08 38.0**	**+0.8**
	comp=Z,16nm,0.9s						
PYUN	**Piuthan**	**75.01**	**296**	*eP*	**P**	**18 08 41.5**	**+0.8**
PYUN	**Piuthan**	**75.01**	**296**	*eP*	**P**	**18 08 41.2**	**+0.5**
GEYT	**Alibeck**	**79.39**	**319**	P	**P**	**18 09 05.6**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=67,slow=22,SNR=5.5						
	comp=Z,2.9nm,0.8s						
BRTR	**Keskin Array B**	**85.85**	**337**	P	**P**	**18 09 37.6**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=335,slow=1.6,SNR=6.4						
	comp=Z,0.8nm,0.7s						

IDC 16 18:20:35.7±30.0, **19°60S**×**178°77W, h565**km±276km, **mb2.4/3, mbtmp3.3/3, Error ellipse: s-maj=361.1km s-min=50.0km az=132.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.02**	**261**	P	P	18 27 53.6	-0.5
	0.3nm,0.9s,baz=96,slow=8.5,SNR=2.3						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**44.03**	**256**	P	P	18 27 54.2	+0.1
	0.2nm,0.4s,baz=90,slow=8.4,SNR=8.7						
ASAR				PcP	PcP	18 29 26.7	-0.5
	0.1nm,0.5s,baz=100,slow=3.7,SNR=4.1						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**87.60**	**13**	P	P	18 32 23.7	0.0
	0.1nm,0.3s,baz=214,slow=5.6,SNR=6.2						
	0.1nm,0.3s						

*JMA **16** 18:50:16.6±0.1, 39°.8N±0°.2×141°.9E±0°.4, h58km, MV3.6/40, NORTHERN IWATE PREF*
JMA Felt I J1 at NORTHERN IWATE PREF .
*IDC **16** 18:50:17.7±2.3, 39°.77N×142°.01E, h78km±18km, mb3.5/9, mbtmp3.7/13, MS2.6/1, Error ellipse: s-maj=30.6km s-min=14.7km az=101.0*
ISC 16 18:50:16.3±0.9, **39°.75N**±0°.04×**141°.86E**±0°.07, **h59**km±6km, **n31**, σ0**967/37, mb3.8/9, 14D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.17**	**190**	*i* P	**Pn**	**18 50 25.9**	**+0.4**
MIYJ				S	**Sn**	**18 50 32.2**	**+0.2**
JTH	**Tanohata**	**0.19**	**1**	*i* P	**Pn**	**18 50 25.8**	**+0.3**
JTH				S	**Sn**	**18 50 32.4**	**+0.1**
JKZ	**Kuzumaki**	**0.47**	**301**	⇓*i* P	**Pn**	**18 50 28.2**	**+0.3**
JKZ				⇓S	**Sn**	**18 50 36.3**	**0.0**
JKEN	**Kujiedanarisaw**	**0.47**	**346**	*i* P	**Pn**	**18 50 27.9**	**+0.1**
JKEN				S	**Sn**	**18 50 36.1**	**-0.1**
JOM	**Ohasama**	**0.52**	**238**	⇓*i* P	**Pn**	**18 50 28.5**	**+0.2**
JOM				⇓S	**Sn**	**18 50 37.0**	**0.0**
JANG	**Nango**	**0.68**	**337**	⇓*i* P	**Pn**	**18 50 30.1**	**-0.1**
JANG				⇓S	**Sn**	**18 50 40.1**	**-0.2**
JMK	**Ichinoseki**	**0.93**	**212**	⇓*i* P	**Pn**	**18 50 33.7**	**+0.3**
JMK				⇓S	**Sn**	**18 50 46.6**	**+0.6**
JRG	**Rokugo**	**1.01**	**250**	*i* P	**Pn**	**18 50 34.5**	**+0.2**
JRG				S	**Sn**	**18 50 47.7**	**0.0**
JAH	**Hinai**	**1.04**	**296**	⇓*i* P	**Pn**	**18 50 34.9**	**+0.2**
JAH				⇓S	**Sn**	**18 50 49.0**	**+0.6**
JTM	**Tenmabayashi**	**1.20**	**330**	⇓*i* P	**Pn**	**18 50 37.0**	**0.0**
JTM				⇓S	**Sn**	**18 50 51.9**	**-0.4**
JIO	**Ouri**	**1.35**	**197**	P	**Pn**	**18 50 39.2**	**+0.3**
JIO				S	**Sn**	**18 50 55.8**	**0.0**
JYK	**Kaneyama**	**1.43**	**235**	⇓*i* P	**Pn**	**18 50 40.3**	**+0.3**
JYK				⇓S	**Sn**	**18 50 58.1**	**+0.5**
MJAR	**Matsushiro Arr**	**4.30**	**223**	P	**Pn**	**18 51 21.5**	**+2.3**
	1.4nm,0.5s,baz=32,slow=14,SNR=1						
ASAJ	**Asahikawa**	**4.40**	**7**	P	**Pn**	**18 51 21.9**	**+1.4**
	2.6nm,0.4s,baz=208,slow=15,SNR=1.2						
ASAJ				S	**Sn**	**18 52 11.7**	**+1.2**
	5.6nm,0.5s,baz=217,slow=20,SNR=1.2						
USRK	**Ussuriysk Ar.**	**8.59**	**304**	P	**Pn**	**18 52 19.3**	**+1.5**
	2.1nm,0.7s,baz=122,slow=46,SNR=3.2						
KSRS	**Korea Array**	**11.14**	**263**	P	Pn	18 52 57.8	+5.1
	0.6nm,0.3s,baz=72,slow=14,SNR=2.1						
KSRS				LR	LR	18 56 37.1	
	comp=Z,31nm,20.6s,baz=95,slow=34						
H11N2	**WAKE ISLAND Hy**	**29.34**	**126**	T	T	19 26 55.2	
	baz=318,slow=76,SNR=52						
H11N1	**WAKE ISLAND Hy**	**29.35**	**126**	T	T	19 26 53.1	
	baz=318,slow=76,SNR=80						
H11N3	**WAKE ISLAND Hy**	**29.36**	**126**	T	T	19 26 57.0	
	baz=318,slow=76,SNR=55						
H11S1	**WAKE ISLAND Hy**	**30.13**	**127**	T	T	19 27 58.4	
	baz=319,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**30.14**	**127**	T	T	19 27 54.8	
	baz=319,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**30.15**	**127**	T	T	19 27 55.6	
	baz=319,slow=76,SNR=19						
ZALV	**Zalesovo Beam**	**40.39**	**310**	P	**P**	**18 57 48.2**	**0.0**
	1.7nm,0.5s,baz=96,slow=7.8,SNR=12						
	1.7nm,0.5s						
MKAR	**Makanchi Array**	**43.03**	**300**	P	**P**	**18 58 09.9**	**0.0**
	0.9nm,0.6s,baz=86,slow=12,SNR=8.2						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**44.65**	**306**	P	**P**	**18 58 22.3**	**-0.5**
	1.3nm,0.5s,baz=81,slow=8.5,SNR=15						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**59.79**	**188**	P	**P**	**19 00 14.6**	**-0.7**
	0.3nm,0.8s,baz=9.5,slow=7.1,SNR=1.9						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**63.52**	**188**	P	**P**	**19 00 39.9**	**-0.4**
	0.5nm,1.0s,baz=2.8,slow=6.6,SNR=2.4						
	0.5nm,1.0s						
FINES	**FINESS Array B**	**66.59**	**332**	P	**P**	**19 00 59.1**	**-0.7**
	2.2nm,0.9s,baz=66,slow=4.8,SNR=3.6						
	2.2nm,0.9s						
KBZ	**Khabaz**	**69.41**	**310**	P	**P**	**19 01 17.9**	**0.0**
	1.2nm,0.8s,baz=353,slow=8.1,SNR=1.8						
	1.2nm,0.8s						
HFS	**Hagfors**	**71.77**	**336**	P	**P**	**19 01 31.5**	**-0.4**
	0.4nm,0.3s,baz=46,slow=6.4,SNR=6.1						
	0.4nm,0.3s						
NOA	**NORSAR Array B**	**71.83**	**337**	P	**P**	**19 01 32.0**	**-0.3**
	0.4nm,0.6s,baz=36,slow=4.5,SNR=1.4						
	0.4nm,0.6s						

*IDC **16** 19:02:34.8±1.8, 43°.70N×105°.48W, h0km, mbtmp3.4/3, ML3.5/3, Error ellipse: s-maj=43.0km s-min=8.1km az=149.0*
*NEIC **16** 19:02:36.1±1.0, 43°.81N±0°.05×105°.34W±0°.06, h0km±2km, ML3.2/58, Error ellipse: s-maj=9.5km s-min=7.3km az=328.0*
ISC 16 19:02:35.5±0.9, **43°.80N**±0°.07×**105°.36W**±0°.06, **h0**km, **n40,** σ0**970/41, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.01**	**71**		**Pg**	**19 02 54.9**	**+0.1**
K22A	**Casper**	**1.43**	**217**	Pn	**Pn**	**19 03 01.8**	**-1.1**
K22A				IAML		19 03 24.6	
	comp=E,495nm,0.3s						
PHWY	**Pilot Hill**	**2.50**	**182**	Pn	**Pn**	**19 03 18.2**	**+0.6**
PHWY				IAML		19 03 59.1	
	comp=E,102nm,0.6s						
RWWY	**Rawlins**	**2.51**	**213**	Pn	**Pn**	**19 03 18.5**	**+0.6**
RWWY				IAML		19 03 54.2	
	comp=E,130nm,0.4s						
RWWY				IAML		19 03 57.0	
	comp=E,162nm,0.4s						
N23A	**Red Feather La**	**2.94**	**189**	Pn	**Pn**	**19 03 24.7**	**+1.0**
N23A				IAML		19 04 08.7	
	comp=E,78nm,0.4s						
LAO	**LASA Array**	**2.95**	**348**		**Pn**	**19 03 24.2**	**+0.5**
RLMT	**Red Lodge**	**3.09**	**297**		**Pn**	**19 03 27.0**	**+1.3**
RLMT				IAML		19 04 18.8	
	comp=E,64nm,0.3s						
RLMT				IAML		19 04 19.3	
	comp=E,64nm,0.7s						
BW06	**Boulder Array**	**3.23**	**253**		**Pn**	**19 03 28.5**	**+0.8**
BW06				IAML		19 04 16.9	
	comp=E,68nm,0.4s						
BW06				IAML		19 04 18.3	
	comp=E,54nm,0.3s						
PD31	**Pinedale Array**	**3.23**	**253**		**Pn**	**19 03 28.4**	**+0.7**
PDAR	**Pinedale Array**	**3.23**	**253**		**Pn**	**19 03 28.6**	**+0.8**
PDAR	**Pinedale Array**	**3.23**	**253**	Pn	**Pn**	**19 03 29.1**	**+1.4**
	comp=E,3.7nm,0.3s,baz=81,slow=19,SNR=78						
PDAR				Pg	**Pb**	**19 03 34.1**	**+0.2**
	comp=E,17nm,0.3s,baz=74,slow=21,SNR=62						
PDAR				Lg	Lg	19 04 12.6	
	comp=E,12nm,0.3s,baz=78,slow=34,SNR=4.6						
	comp=E,6.6nm,0.3s						
BRIGG	**Briggsdale**	**3.31**	**166**		**Pn**	**19 03 29.6**	**+0.9**
OGNE	**Ogallala**	**3.77**	**138**		**Pn**	**19 03 35.5**	**+0.5**
SNOW	**Snow King Moun**	**3.93**	**267**		**Pn**	**19 03 36.7**	**-0.6**
SNOW				IAML		19 04 43.5	
	comp=E,32nm,0.6s						
SNOW				IAML		19 05 29.1	
	comp=E,30nm,4.5s						
YPP	**Pitchstone Pla**	**3.95**	**279**		**Pn**	**19 03 38.5**	**+0.8**
ISCO	**Idaho Springs**	**4.00**	**183**		**Pn**	**19 03 38.4**	**0.0**
O20A	**White River Ci**	**4.25**	**211**		**Pn**	**19 03 41.9**	**+0.2**
O20A				IAML		19 05 11.1	
	comp=N,38nm,3.1s						
E28A	**Huff**	**4.31**	**48**	Pn	**Pn**	**19 03 42.2**	**-0.1**
AHID	**Auburn Hatcher**	**4.32**	**258**		**Pn**	**19 03 42.9**	**+0.3**
AHID				IAML		19 04 56.1	
	comp=N,30nm,0.9s						
SUSD	**Miller**	**4.66**	**80**	Pn	**Pn**	**19 03 47.2**	**+0.2**
DGMT	**Dagmar**	**4.74**	**9**		**Pn**	**19 03 48.5**	**+0.3**
BOZ	**Bozeman (W)**	**4.81**	**294**		**Pn**	**19 03 49.6**	**+0.2**
Q24A	**Divide**	**4.84**	**178**	Pn	**Pn**	**19 03 50.1**	**+0.2**
Q24A				IAML		19 04 39.7	
	comp=N,19nm,3.9s						
HWUT	**Hardware Ranch**	**5.07**	**246**		**Pn**	**19 03 52.7**	**-0.2**
HWUT				IAML		19 05 22.7	
	comp=N,16nm,0.8s						
HWUT				IAML		19 05 28.8	
	comp=N,19nm,1.1s						
KSCO	**Kaye Shedlock'**	**5.21**	**156**		**Pn**	**19 03 54.5**	**-0.3**
EGMT	**Eagleton**	**5.22**	**326**		**Pn**	**19 03 55.3**	**+0.5**
MDND	**Maddock**	**5.71**	**43**		**Pn**	**19 04 01.9**	**+0.4**
ELMT	**Elliston**	**5.73**	**301**		**Pn**	**19 04 02.9**	**+0.9**
BGNE	**Belgrade**	**5.83**	**112**	Pn	**Pn**	**19 04 04.6**	**+1.3**
SDCO	**Great Sand Dun**	**6.05**	**181**		**Pn**	**19 04 06.5**	**0.0**
SRU	**San Rafael Swe**	**6.08**	**221**		**Pn**	**19 04 07.1**	**+0.2**
S22A	**4UR Ranch, Cre**	**6.15**	**191**		**Pn**	**19 04 08.6**	**+0.7**
ECSD	**EROS Data Cent**	**6.33**	**88**	Pn	**Pn**	**19 04 10.0**	**-0.1**
CBKS	**Cedar Bluff**	**6.54**	**138**	Pn	**Pn**	**19 04 13.3**	**+0.4**
DUG	**Dugway, Tooele**	**6.62**	**240**		**Pn**	**19 04 14.2**	**+0.1**
T25A	**Trinidad**	**6.70**	**173**		**Pn**	**19 04 15.1**	**-0.2**
F33A	**5 Mile Ranch,**	**6.76**	**69**		**Pn**	**19 04 14.7**	**-1.3**
AGMN	**Agassiz Nation**	**7.39**	**52**	Pn	**Pn**	**19 04 31.7**	**-1.1**
ULM	**Lac du Bonnet**	**9.14**	**42**	Pn	**Pn**	**19 04 47.7**	**-0.8**
	comp=N,1.7nm,0.3s,baz=236,slow=12,SNR=22						
ULM				Lg	Lg	19 07 17.8	
	comp=N,0.3nm,0.3s,baz=144,slow=17,SNR=1.4						
	comp=N,3.0nm,0.3s						
YKA	**Yellowknife Ar**	**19.49**	**347**	P	**P**	**19 07 03.7**	**0.0**
	comp=N,0.1nm,0.3s,baz=160,slow=12,SNR=5.6						
	comp=N,0.2nm,0.6s						

*NOU **16** 19:04:09.1, 36°.88S×179°.79E, h61km, MLv4.2/8, Off E. Coast of N. Island, N.Z.*
*IDC **16** 19:04:10.7±2.3, 36°.58S×178°.98E, h0km, mb3.9/3, mbtmp3.9/4, ML4.2/1, MS3.0/1, Error ellipse: s-maj=60.7km s-min=39.3km az=128.0*
*WEL **16** 19:04:14.7±1.3, 37°.5S±6°×17°.9E±1°.0, h12km, M3.8/31, ML4.1/31, MLv3.8/31, Error ellipse: s-maj=0.0km s-min=0.0km az=74.1, confirmed*
ISC 16 19:04:11.6±1.2, **37°.06S**±0°.07×**179°.31E**±0°.08, **h10**km, **n127,** σ1**937/127, mb3.9/3, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.94**	**238**	P	**Pn**	**19 04 31.9**	**+1.0**
MXZ	**Matakaoa Point**	**0.94**	**238**	P	**Pg**	**19 04 30.0**	**+0.2**
MXZ				S	**Sg**	**19 04 40.7**	**-1.3**
WMGZ	**Waiomatatini S**	**1.04**	**223**	P	**Pn**	**19 04 33.9**	**+1.7**
PKGZ	**Pakihiroa**	**1.28**	**230**	P	**Pn**	**19 04 36.3**	**+0.5**
PUZ	**Puketiti**	**1.31**	**219**	P	**Pn**	**19 04 37.3**	**+1.3**
HAZ	**Te Kaha**	**1.40**	**240**	P	**Pn**	**19 04 36.6**	**-0.5**
TWGZ	**Tauwhareparae**	**1.53**	**223**	P	**Pn**	**19 04 40.8**	**+1.7**
RUGZ	**Raukumara Rang**	**1.58**	**235**	P	**Pn**	**19 04 40.8**	**+1.0**
CNGZ	**Carnagh Statio**	**1.67**	**211**	P	**Pn**	**19 04 43.1**	**+2.2**
TKGZ	**Te Karaka**	**1.80**	**220**	P	**Pn**	**19 04 44.0**	**+1.4**
MWZ	**Matawai**	**1.90**	**227**	P	**Pn**	**19 04 45.6**	**+1.5**
WHRZ	**Whale Island**	**2.02**	**246**	P	**Pn**	**19 04 47.1**	**+1.4**
RIGZ	**Rimuhau**	**2.05**	**216**	P	**Pn**	**19 04 47.2**	**+1.1**
RAGZ	**Rawiri**	**2.07**	**226**	P	**Pn**	**19 04 47.8**	**+1.2**
URZ	**Urewera**	**2.12**	**235**	P	**Pn**	**19 04 48.3**	**+1.3**
URZ	**Urewera**	**2.12**	**235**	Pn	**Pn**	**19 04 48.2**	**+1.2**
	70nm,0.3s,baz=348,slow=4.6,SNR=157						
URZ				Sn	**Sn**	**19 05 13.7**	**+0.3**
	46nm,0.3s,baz=298,slow=21,SNR=16						
	206nm,0.4s						
URZ	**Urewera**	**2.12**	**235**	P	**Pn**	**19 04 48.1**	**+1.2**
PRGZ	**Paritu Road**	**2.17**	**211**	P	**Pn**	**19 04 48.9**	**+1.0**
MARZ	**Manawahe**	**2.29**	**245**	P	**Pn**	**19 04 51.1**	**+1.7**
EDRZ	**Edgecumbe**	**2.29**	**242**	P	**Pn**	**19 04 50.6**	**+1.1**
SNGZ	**Shannon Statio**	**2.32**	**222**	P	**Pn**	**19 04 50.7**	**+0.9**
OPRZ	**Ohinepanea**	**2.33**	**250**	P	**Pn**	**19 04 50.7**	**+0.8**
KNZ	**Kokohu**	**2.34**	**213**	P	**Pn**	**19 04 50.5**	**+0.3**
MHGZ	**Mahia Peninsul**	**2.36**	**207**	P	**Pn**	**19 04 51.4**	**+0.9**
RTZ	**Ruatahuna**	**2.41**	**229**	P	**Pn**	**19 04 52.2**	**+1.1**
MUGZ	**Murupara**	**2.46**	**234**	P	**Pn**	**19 04 52.8**	**+1.0**
MKRZ	**Makatiti**	**2.50**	**244**	P	**Pn**	**19 04 54.0**	**+1.6**
TARZ	**Mount Tarawera**	**2.52**	**241**	P	**Pn**	**19 04 54.3**	**+1.7**
TGRZ	**Tauranga**	**2.52**	**254**	P	**Pn**	**19 04 53.1**	**+0.5**
RAHZ	**Arahi**	**2.55**	**223**	P	**Pn**	**19 04 54.8**	**+1.7**
OMRZ	**Omania**	**2.56**	**245**	P	**Pn**	**19 04 55.3**	**+2.2**
RRRZ	**Republican Roa**	**2.56**	**239**	P	**Pn**	**19 04 54.5**	**+1.4**
WHHZ	**Waihua**	**2.59**	**218**	P	**Pn**	**19 04 54.9**	**+1.3**
KARZ	**Kaharoa**	**2.62**	**248**	P	**Pn**	**19 04 55.0**	**+1.0**
HLRZ	**Highlands Stat**	**2.63**	**242**	P	**Pn**	**19 04 56.4**	**+2.2**
MTHZ	**Maungataniwha**	**2.65**	**227**	P	**Pn**	**19 04 55.4**	**+1.0**
NGRZ	**Ngongotaha**	**2.69**	**246**	P	**Pn**	**19 04 57.6**	**+2.7**
PRRZ	**Plateau Road**	**2.72**	**237**	P	**Pn**	**19 04 56.1**	**+0.8**
HSRZ	**Hossack Road**	**2.73**	**242**	P	**Pn**	**19 04 58.0**	**+2.5**
ALRZ	**Allen Road**	**2.79**	**237**	P	**Pn**	**19 04 57.0**	**+0.8**
KMRZ	**Kaimai**	**2.79**	**253**	P	**Pn**	**19 04 57.5**	**+1.1**
NMHZ	**Naumai**	**2.83**	**223**	P	**Pn**	**19 04 58.3**	**+1.3**
GRRZ	**Galatos Road**	**2.84**	**242**	P	**Pn**	**19 04 58.6**	**+1.5**
ARHZ	**Aropaoanui**	**2.86**	**219**	P	**Pn**	**19 04 58.1**	**+0.9**
MRHZ	**Matea Rd**	**2.89**	**231**	P	**Pn**	**19 04 58.6**	**+0.9**
KUZ	**Kuaotunu**	**2.89**	**275**	P	**Pn**	**19 04 56.2**	**-1.5**
KUZ	**Kuaotunu**	**2.89**	**275**	P	**Pn**	**19 04 56.1**	**-1.6**
BKZ	**Black Stump Fm**	**3.06**	**226**	P	**Pn**	**19 05 01.0**	**+1.0**
BKZ	**Black Stump Fm**	**3.06**	**226**	P	**Pn**	**19 05 01.0**	**+1.0**
TOZ	**Tahuroa Road**	**3.10**	**256**	P	**Pn**	**19 05 00.0**	**-0.6**

FINES	**FINESS Array B**	**150.40**	**334**	PKPbc		**PKPdf**	**19 24 00.4**	**+3.3**
	3.7nm,1.1s,baz=45,slow=2.2,SNR=5.5							

*OSPL **16** 19:12:31.8±3.1, 19°.63N×78°.07W, h23$^{km}_{\pm}$308^{km}, ML3.5*
*SSNC **16** 19:12:33.6±1.6, 19°.56N×77°.84W, h17$^{km}_{\pm}$8^{km}, MD3.7, ML3.6, MW3.5*
*JSN **16** 19:12:34.4±0.4, 19°.53N×77°.79W, h39$^{km}_{\pm}$26^{km}, MD4.6*

ISC 16 19:12:32.4±1.0, 19°.55N±0°.05×77°.81W±0°.07, h21$^{km}_{\pm}$5^{km}, n27, σ1s07/40, 2C-1D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PILO	**Pilon**	**0.52**	**47**	*i* P	**Pb**	**19 12 43.1**	**+0.2**
PILO				*e*S	**Sb**	**19 12 50.9**	**+0.9**
PILO				IAML		19 12 52.2	
	comp=N,16μm,0.3s						
PILO				IAML		19 12 52.2	
	comp=E,17μm,0.3s						
LMGC	**Las Mercedes**	**0.91**	**56**	*i* P	**Pb**	**19 12 49.0**	**-0.5**
MTDJ	**Mount Denham**	**1.35**	**169** ⇑	*i* P	**Pn**	**19 12 56.0**	**-0.2**
MTDJ				*i* S	**Sn**	**19 13 12.2**	**-1.3**
MTDJ	**Mount Denham**	**1.35**	**169**	*i* P	**Pn**	**19 12 55.9**	**-0.2**
MTDJ				*e*S	**Sn**	**19 13 12.6**	**-0.9**
MTDJ				IAML		19 13 13.7	
	comp=Z,810nm,0.2s						
MTDJ	**Mount Denham**	**1.35**	**169**	*i* P	**Pn**	**19 12 55.9**	**-0.2**
MTDJ				*e*S	**Sn**	**19 13 12.0**	**-1.5**
MTDJ				IAML		19 13 13.3	
	comp=Z,1μm,0.3s						
MTDJ				IAML		19 13 13.9	
	comp=Z,2μm,0.2s						
CHIV	**Chivirico**	**1.38**	**72**	*i* P	**Pn**	**19 12 55.6**	**-0.9**
CHIV				*e*S	**Sn**	**19 13 12.4**	**-1.6**
CHIV				IAML		19 13 13.2	
	comp=N,584nm,0.2s						
CHIV				IAML		19 13 13.8	
	comp=E,514nm,0.2s						
STH	**Stony Hill**	**1.75**	**147** ⇑	*i* P	**Pn**	**19 13 01.5**	**-0.1**
GWJ	**Greenwich**	**1.79**	**145**	*i* P	**Pn**	**19 13 02.1**	**-0.2**
HOJ	**Hope**	**1.84**	**147** ⇓	*i* P	**Pn**	**19 13 03.1**	**+0.2**
MARVS	**Santiago de Cu**	**1.85**	**76**	*i* P	**Pn**	**19 13 02.3**	**-0.7**
MARVS				*e*S	**Sn**	**19 13 23.9**	**-1.8**
MARVS				IAML		19 13 25.8	
	comp=N,324nm,0.1s						
MARVS				IAML		19 13 26.4	
	comp=E,435nm,0.1s						
RCC	**Rio Carpintero**	**2.04**	**77**	*i* P	**Pn**	**19 13 05.1**	**-0.5**
RCC				*e*S	**Sn**	**19 13 28.6**	**-1.7**
RCC				IAML		19 13 31.3	
	comp=E,226nm,0.4s						
RCC				IAML		19 13 32.7	
	comp=N,211nm,0.4s						
PINC	**Pinares de May**	**2.11**	**64**	*e*P	**Pn**	**19 13 06.9**	**+0.3**
GTBY	**Guantanamo Bay**	**2.57**	**81**	*i* P	**Pn**	**19 13 13.1**	**+0.2**
GTBY	**Guantanamo Bay**	**2.57**	**81**	*i* P	**Pn**	**19 13 13.2**	**+0.4**
GTBY				*e*S	**Sn**	**19 13 43.1**	**-0.3**
GTBY				IAML		19 13 46.1	
	comp=Z,124nm,0.5s						
GTBY	**Guantanamo Bay**	**2.57**	**81**	*e*P	**Pn**	**19 13 12.7**	**-0.1**
GTBY				*e*S	**Sn**	**19 13 42.8**	**-0.6**
NMDO	**Nuevo Mundo**	**2.84**	**69**	*e*P	**Pn**	**19 13 16.6**	**+0.1**
NMDO				*e*S	**Sn**	**19 13 48.5**	**-1.7**
MOAC	**Moa**	**2.89**	**67**	*e*P	**Pn**	**19 13 17.9**	**+0.5**
MOAC				*e*S	**Sn**	**19 13 51.3**	**-0.2**
GNEO	**Boca de Quibij**	**3.12**	**75**	*e*P	**Pn**	**19 13 19.7**	**-0.8**
GNEO				*e*S	**Sn**	**19 13 54.8**	**-2.4**
MASC	**Masc**	**3.42**	**79**	*i* P	**Pn**	**19 13 24.7**	**+0.1**
MASC	**Masc**	**3.42**	**79**	*e*P	**Pn**	**19 13 24.8**	**+0.2**
MASC				*e*S	**Sn**	**19 14 05.1**	**+0.5**
CAMR	**Camarioca**	**4.82**	**317**	*e*P	**Pn**	**19 13 43.4**	**-0.4**
LOPE2	**Hotel El Peder**	**5.94**	**104**	*i* P	**Pn**	**19 14 01.2**	**+1.9**
SDDR	**Presa de Saban**	**6.18**	**94**	*i* P	**Pn**	**19 14 03.9**	**+1.2**
SDDR				*e*S	**Sn**	**19 15 12.4**	**-0.4**
TXAR	**Lajitas Array**	**25.43**	**297**	P	**P**	**19 17 59.9**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=121,slow=11,SNR=2.3						
	comp=Z,0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**75.96**	**81**				
	comp=Z,0.3nm,0.4s						
WRA	**Warramunga Arr**	**149.77**	**264**	PKP	**PKPab**	**19 32 25.8**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=87,slow=3.3,SNR=1.9						
ASAR	**Alice Springs**	**150.27**	**256**	PKP	**PKiKP**	**19 32 26.0**	**+2.3**
	comp=Z,0.4nm,0.8s,baz=79,slow=2.8,SNR=2.7						

*SJA **16** 19:13:25.2±0.7, 25°.43S×70°.88W, h20$^{km}_{\pm}$3^{km}, ML3.5, MW3.5*
*GUC **16** 19:13:28.3±0.5, 25°.48S×70°.42W, h32$^{km}_{\pm}$5^{km}, ML3.1*

ISC 16 19:13:25.4±2.0, 25°.45S±0°.02×70°.84W±0°.08, h7$^{km}_{\pm}$16^{km}, n19, σ1s28/37, 1C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AC01	**Pan de Azucar**	**0.73**	**163**	*e*P	**Pb**	**19 13 40.4**	**-0.2**
AC01	**Pan de Azucar**	**0.73**	**163** ⇑	*i* P	**Pb**	**19 13 41.1**	**+0.5**
AC01				*e*S	**Sb**	**19 13 50.2**	**-0.6**
AC01				IAML		19 13 53.1	
	comp=E,1μm,0.6s						
PB14	**IPOC Station P**	**0.91**	**26**	*e*P	**Pb**	**19 13 43.4**	**-0.3**
PB14				*e*S	**Sb**	**19 13 56.4**	**+0.2**
PB14				IAML		19 13 58.8	
	comp=Z,764nm,0.2s						
PB14	**IPOC Station P**	**0.91**	**26**	*e*P	**Pb**	**19 13 44.0**	**+0.3**
PB14				*e*S	**Sb**	**19 13 55.7**	**-0.4**
PB14				IAML		19 13 58.0	
	comp=E,734nm,0.3s						
GO02	**Mina Guanaco**	**1.17**	**76**	*e*P	**Pn**	**19 13 48.0**	**-0.5**
GO02				*e*S	**Sn**	**19 14 05.2**	**+0.3**
GO02				IAML		19 14 06.0	
	comp=Z,2μm,0.2s						
GO02	**Mina Guanaco**	**1.17**	**76** ⇓	*i* P	**Pn**	**19 13 48.1**	**-0.5**
GO02				*e*S	**Sb**	**19 14 02.9**	**-0.7**
GO02				IAML		19 14 05.6	
	comp=N,2μm,0.2s						
AC06	**Mina Casimiro**	**1.95**	**167**	*e*P	**Pn**	**19 14 00.2**	**+1.1**
AC06				*e*S	**Sn**	**19 14 23.8**	**-0.1**
AC06				IAML		19 14 28.6	
	comp=E,407nm,0.3s						
GO03	**Copiap**	**2.21**	**166**	*e*P	**Pn**	**19 14 04.0**	**+1.4**
GO03				*e*S	**Sb**	**19 14 31.9**	**-1.5**
GO03				IAML		19 14 37.5	
	comp=Z,245nm,0.5s						
GO03	**Copiap**	**2.21**	**166**	*e*P	**Pn**	**19 14 03.8**	**+1.2**
GO03				*e*S	**Sn**	**19 14 30.4**	**+0.2**
GO03				IAML		19 14 37.0	
	comp=E,286nm,0.3s						
PB15	**IPOC Station P**	**2.56**	**30**	*e*P	**Pn**	**19 14 08.7**	**+1.2**
PB15				*e*S	**Sn**	**19 14 40.6**	**+1.6**
PB15				IAML		19 14 53.9	
	comp=Z,641nm,0.3s						
PB15	**IPOC Station P**	**2.56**	**30**	*e*P	**Pn**	**19 14 08.4**	**+0.9**
PB15				*e*S	**Sn**	**19 14 38.2**	**-0.8**
PB05	**IPOC Station P**	**2.65**	**13**	*e*P	**Pn**	**19 14 08.1**	**-0.6**
PB05				*e*S	**Sb**	**19 14 45.1**	**-0.9**
PB06	**IPOC Station P**	**2.97**	**23**	*e*P	**Pn**	**19 14 13.6**	**+0.5**
PB06				*e*S	**Sb**	**19 14 53.6**	**-1.6**
PB06				*e*S	**Sg**	**19 15 00.6**	**-0.1**
PB06				IAML		19 15 03.7	
	comp=Z,116nm,1.0s						
PB04	**IPOC Station P**	**3.16**	**12**	*e*P	**Pn**	**19 14 14.9**	**-0.9**
PB04				*e*S	**Sb**	**19 15 00.6**	**-0.3**
PB04				IAML		19 15 19.9	
	comp=Z,96nm,0.4s						
AC05	**El Transito**	**3.42**	**172**	*e*P	**Pn**	**19 14 21.1**	**+1.9**
AC05				*e*S	**Sg**	**19 15 15.3**	**+0.2**
AC05				IAML		19 15 16.2	
	comp=Z,73nm,1.1s						
LCO	**Las Campanas**	**3.55**	**178**	*e*P	**Pn**	**19 14 23.0**	**+1.7**
LCO				*e*S	**Sb**	**19 15 07.9**	**-4.4**
LCO				IAML		19 15 23.0	
	comp=Z,349nm,0.6s						
PB07	**IPOC Station P**	**3.81**	**14**	*e*P	**Pn**	**19 14 23.7**	**-0.9**
PB07				*e*S	**Sb**	**19 15 19.1**	**-0.3**
PB07				IAML		19 15 26.8	
	comp=Z,76nm,0.7s						
PB09	**IPOC Station P**	**3.92**	**22**	*e*P	**Pn**	**19 14 26.7**	**+0.4**
PB09				*e*S	**Sb**	**19 15 25.4**	**+2.7**
PB09				IAML		19 15 38.1	
	comp=Z,91nm,0.6s						
PB01	**IPOC Station P**	**4.56**	**16**	*e*P	**Pn**	**19 14 34.4**	**-0.6**
PB01				IAML		19 16 04.8	
	comp=Z,25nm,0.3s						

*THE **16** 19:15:56.6, 41°.02N×24°.77E, h10$^{km}_{\pm}$1^{km}, ML2.2/5, Error ellipse: s-maj=1.4km s-min=0.6km az=75.0*
*BEO **16** 19:15:56.9±0.9, 40°.99N×24°.81E, h2$^{km}_{\pm}$3^{km}, ML2.6/7*
*ATH **16** 19:15:56.8, 41°.01N×24°.76E, h6$^{km}_{\pm}$2^{km}, ML2.2/10, Error ellipse: s-maj=2.0km s-min=0.7km az=173.0*

ISC 16 19:15:56.8±1.0, 41°.01N±0°.03×24°.76E±0°.02, h5$^{km}_{\pm}$9^{km}, n34, σ0s92/62, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAVA	**Kavala**	**0.19**	**267**	P	**Pg**	**19 16 00.5**	**0.0**
KAVA				S	**Sg**	**19 16 03.1**	**+0.1**
	2μm,0.1s						
KAVA	**Kavala**	**0.19**	**267**	P	**Pg**	**19 16 00.5**	**0.0**
KAVA				S	**Sg**	**19 16 03.2**	**+0.2**
KVLA	**Kavala**	**0.29**	**256**	P	**Pg**	**19 16 02.6**	**+0.1**
KVLA				S	**Sg**	**19 16 06.6**	**+0.2**
KVLA				AML	AML	19 16 07.0	
	comp=E,1456μm,0.3s						
KVLA				AML	AML	19 16 07.3	
	comp=N,690μm,0.2s						
THAS	**Thassos island**	**0.40**	**185**	P	**Pg**	**19 16 04.9**	**+0.4**
THAS				S	**Sg**	**19 16 10.9**	**+1.2**
THAS	**Thassos island**	**0.40**	**185**	P	**Pg**	**19 16 04.6**	**+0.1**
THAS				S	**Sg**	**19 16 10.4**	**+0.7**
THAS				AML	AML	19 16 16.1	
	comp=N,693μm,0.3s						
THAS				AML	AML	19 16 16.9	
	comp=E,583μm,0.2s						
RDO	**Rodhopi**	**0.60**	**76**	P	**Pg**	**19 16 07.8**	**-0.5**
RDO				S	**Sg**	**19 16 16.4**	**+0.3**
	comp=E,168nm,0.1s						
RDO	**Rodhopi**	**0.60**	**76**	P	**Pg**	**19 16 07.9**	**-0.5**
RDO				S	**Sg**	**19 16 16.3**	**+0.1**
RDO				AML	AML	19 16 16.9	
	comp=E,387μm,0.2s						
RDO				AML	AML	19 16 17.6	
	comp=N,278μm,0.2s						
KOKK	**Kokkinochori,**	**0.61**	**252**	P	**Pg**	**19 16 08.2**	**-0.3**
KOKK				S	**Sg**	**19 16 16.9**	**+0.5**
	comp=N,160nm,0.3s						
KOKK	**Kokkinochori,**	**0.61**	**252**	P	**Pg**	**19 16 08.2**	**-0.3**
KOKK				S	**Sg**	**19 16 15.8**	**-0.6**
NVR	**Nevrokopi**	**0.76**	**297**	P	**Pg**	**19 16 11.3**	**-0.1**
NVR				S	**Sb**	**19 16 22.3**	**-1.0**
	comp=N,325nm,0.2s						
NVR	**Nevrokopi**	**0.76**	**297**	P	**Pg**	**19 16 11.5**	**0.0**
NVR				S	**Sb**	**19 16 22.3**	**-1.0**
NVR				AML	AML	19 16 26.6	
	comp=E,788μm,0.2s						
NVR				AML	AML	19 16 26.7	
	comp=N,496μm,0.2s						
SMTH	**Samothraki Isl**	**0.79**	**132**	P	**Pg**	**19 16 11.7**	**-0.2**
SMTH				S	**Sb**	**19 16 23.3**	**-0.7**
SMTH	**Samothraki Isl**	**0.79**	**132**	P	**Pg**	**19 16 11.4**	**-0.5**
SMTH				S	**Sb**	**19 16 23.3**	**-0.7**
SMTH				AML	AML	19 16 25.8	
	comp=N,229μm,0.2s						
SMTH				AML	AML	19 16 28.1	
	comp=E,207μm,0.2s						
SRS	**Serrai**	**0.89**	**277**	P	**Pg**	**19 16 13.1**	**-0.8**
SRS				S	**Sb**	**19 16 27.1**	**0.0**
	comp=E,198nm,0.3s						
SRS	**Serrai**	**0.89**	**277**	*e*Pg	**Pg**	**19 16 12.9**	**-1.0**
SRS				*e*Sg	**Sb**	**19 16 27.0**	**0.0**
SRS	**Serrai**	**0.89**	**277**	P	**Pg**	**19 16 13.2**	**-0.7**
SRS				S	**Sg**	**19 16 25.4**	**-0.1**
SRS				AML	AML	19 16 30.2	
	comp=E,352μm,0.1s						
SRS				AML	AML	19 16 30.2	
	comp=N,360μm,0.3s						
OUR	**Ouranopolis**	**0.90**	**222**	P	**Pb**	**19 16 14.5**	**-0.3**
ALN	**Alexandroupoli**	**0.98**	**96**	P	**Pg**	**19 16 14.8**	**-0.7**
ALN				S	**Sg**	**19 16 28.2**	**0.0**
ALN				AML	AML	19 16 31.0	
	comp=N,171μm,0.5s						
ALN				AML	AML	19 16 32.4	
	comp=E,172μm,0.5s						
SOH	**Sokhos**	**1.08**	**261**	P	**Pg**	**19 16 16.8**	**-0.8**
SOH				S	**Sb**	**19 16 32.2**	**-0.3**
SOH	**Sokhos**	**1.08**	**261**	P	**Pg**	**19 16 16.6**	**-0.9**
SOH				S	**Sg**	**19 16 31.1**	**-0.5**
SOH				AML	AML	19 16 33.2	
	comp=E,563μm,0.4s						
SOH				AML	AML	19 16 33.8	
	comp=N,408μm,0.3s						
PLD	**Plovdiv**	**1.14**	**359**	*e*Pg	**Pg**	**19 16 17.1**	**-1.5**
PLD				*e*Sg	**Sg**	**19 16 32.0**	**-1.4**
HORT	**Hortiatis**	**1.33**	**253**	P	**Pn**	**19 16 20.9**	**-1.2**
HORT				S	**Sb**	**19 16 38.7**	**-0.9**
HORT	**Hortiatis**	**1.33**	**253**	P	**Pn**	**19 16 20.7**	**-1.4**
HORT				S	**Sb**	**19 16 38.6**	**-0.9**
HORT				AML	AML	19 16 41.1	
	comp=E,194μm,0.3s						
HORT				AML	AML	19 16 41.2	
	comp=N,76μm,0.3s						
THE	**Thessaloniki**	**1.42**	**255**	P	**Pn**	**19 16 21.9**	**-1.2**
KNT	**Kendrikon**	**1.42**	**277**	P	**Pn**	**19 16 22.5**	**-0.7**
KNT				S	**Sb**	**19 16 40.9**	**-1.2**
KNT				AML	AML	19 16 44.2	
	comp=E,274μm,0.3s						
KNT				AML	AML	19 16 45.2	
	comp=N,226μm,0.3s						
VAY	**Valandovo**	**1.69**	**281**	*i* Pn	**Pn**	**19 16 27.1**	**+0.2**
VAY				*i* Sn	**Sg**	**19 16 51.6**	**+0.7**
VTS	**Vitosha**	**1.97**	**325**	*e*Pn	**Pn**	**19 16 31.2**	**+0.2**
VTS				*e*Sn	**Sb**	**19 16 57.3**	**-1.0**
STIP	**Stip**	**2.06**	**290**	*i* Pn	**Pn**	**19 16 29.7**	**-2.4**
PRVS	**Prvonek**	**2.51**	**308**	*e*Pn	**Pn**	**19 16 38.4**	**+0.1**
PRVS				eLg	Lg	19 17 15.4	
ZAPS	**Zavoj**	**2.76**	**326**	*e*Pn	**Pn**	**19 16 44.0**	**+2.2**
ZAPS	**Zavoj**	**2.76**	**326**	*e*Pg	**Pb**	**19 16 47.6**	**+0.9**
ZAPS				*e*Sn	**Sn**	**19 17 17.9**	**+2.3**
BARS	**Barje**	**2.85**	**310**	*e*Pn	**Pn**	**19 16 43.1**	**+0.2**
BARS				*e*Sn	**Sn**	**19 17 19.6**	**+2.0**
ZAGS	**Zajecar**	**3.37**	**327**	*e*Pn	**Pn**	**19 16 49.9**	**-0.2**
ZAGS	**Zajecar**	**3.37**	**327**	*e*Pg	**Pb**	**19 16 58.7**	**+1.7**
ZAGS				*e*Sn	**Sn**	**19 17 30.0**	**-0.5**

*HEL **16** 19:22:43.3±0.1, 67°.67N×33°.71E, h0^{km}, ML2.4, Explosion*
*IDC **16** 19:22:43.3±0.7, 67°.75N×33°.94E, h0^{km}, mb3.5/5, mbtmp3.6/12, ML2.6/5, MS3.2/1, Error ellipse: s-maj=10.3km s-min=7.4km az=40.0*
*KOLA **16** 19:22:43.1, 67°.61N×33°.83E, h0^{km}, ML2.4, Error ellipse: s-maj=6.7km s-min=1.9km az=150.0, Khibiny, mines Rasvumchorr, Central*
*NAO **16** 19:22:44.1±1.2, 67°.68N×33°.65E, ML3.0*
*BER **16** 19:22:45.9±3.0, 67°.62N×33°.58E, h0^{km}, ML2.6, Suspected explosion*

ISC 16 19:22:42.7±0.6, 67°.66N±0°.03×33°.73E±0°.03, h0^{km}, n59, σ2s15/99, mb3.5/5, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.15**	**234**	P	**Pg**	**19 22 46.2**	**+0.6**
APA				S	**Sg**	**19 22 48.8**	**+1.2**
APA0	**Apatity Array**	**0.29**	**260**	Pg	**Pg**	**19 22 49.0**	**+0.8**
	baz=95,slow=16						
APA0				Lg	Lg	19 22 52.9	
	baz=72,slow=28						
APA0	**Apatity Array**	**0.29**	**260**	P	**Pg**	**19 22 48.5**	**+0.3**
APA0				S	**Sg**	**19 22 52.8**	**+1.0**
APA0	**Apatity Array**	**0.29**	**260**	Pg	**Pg**	**19 22 49.0**	**+0.8**
	baz=95,slow=16						
APA0				Sg	**Sg**	**19 22 52.9**	**+1.0**
	baz=72,slow=28						
LVZ	**Lovozero**	**0.43**	**55**	P	**Pg**	**19 22 50.9**	**0.0**
LVZ				S	**Sg**	**19 22 56.9**	**+0.5**
LVZ	**Lovozero**	**0.43**	**55**	*e*P	**Pg**	**19 22 51.0**	**+0.1**
LVZ				*e*S	**Sg**	**19 22 56.9**	**+0.5**
VRF	**Varrio**	**1.57**	**275**	*e*P	**Pn**	**19 23 11.4**	**-0.4**
VRF				*e*S	**Sg**	**19 23 31.9**	**-1.2**
VRF				MSG		19 23 35.3	
	comp=Z,37nm,0.2s						
TERR	**Teriberka**	**1.63**	**18**	P	**Pn**	**19 23 12.5**	**-0.2**
TERR				S	**Sn**	**19 23 33.7**	**-0.6**
OLKF	**Oulanka, Finla**	**2.17**	**234**	*e*PB	**Pn**	**19 23 21.3**	**+1.3**
OLKF				*e*SG	**Sb**	**19 23 50.3**	**+0.2**
OLKF				MSG		19 23 53.8	
	comp=Z,23nm,0.2s						
KU6	**Riekki**	**2.23**	**225**	*e*P	**Pn**	**19 23 21.6**	**+0.7**
KU6				*e*SG	**Sb**	**19 23 52.7**	**+0.7**
MSF	**Maaselka**	**2.56**	**229**	*e*PB	**Pn**	**19 23 26.8**	**+1.5**
MSF				*e*SG	**Sb**	**19 24 01.8**	**+0.6**
SGF	**Sodankyl**	**2.77**	**269**	*e*P	**Pn**	**19 23 28.3**	**0.0**
SGF				*e*S	**Sn**	**19 24 03.6**	**+1.2**
VADS	**Vadso**	**2.94**	**329**	P	**Pn**	**19 23 31.1**	**+0.5**
VADS				S	**Sn**	**19 24 08.1**	**+1.7**
VADS	**Vadso**	**2.94**	**329**	*e*P	**Pn**	**19 23 31.2**	**+0.7**
VADS				*e*S	**Sn**	**19 24 07.1**	**+0.7**
VADS				IAML		19 24 23.2	
	comp=Z,42nm,0.6s						
RNF	**Rovaniemi**	**3.19**	**254**	*e*P	**Pn**	**19 23 34.4**	**+0.4**
KEV	**Kevo**	**3.23**	**314**	Pn	**Pn**	**19 23 36.0**	**+1.4**
KEV				Sn	**Sn**	**19 24 14.3**	**+0.6**
KEV	**Kevo**	**3.23**	**314**	Pn	**Pn**	**19 23 36.0**	**+1.4**
KEV				Sn	**Sn**	**19 24 14.3**	**+0.6**
KEV	**Kevo**	**3.23**	**314**	*e*P	**Pn**	**19 23 35.5**	**+0.9**
KEV				*e*SG	**Sb**	**19 24 22.3**	**+1.5**
ARA0	**ARCESS Array S**	**3.56**	**306**	Pn	**Pn**	**19 23 39.6**	**+0.6**
	baz=123,slow=16						
ARA0				Pg	**Pb**	**19 23 48.2**	**+1.8**
	baz=112,slow=16						
ARA0				Sn	**Sn**	**19 24 21.3**	**-0.4**
	baz=117,slow=28						
ARA0				Lg	Lg	19 24 33.8	
	baz=112,slow=37						
ARA0	**ARCESS Array S**	**3.56**	**306**	Pn	**Pn**	**19 23 39.6**	**+0.6**
	baz=123,slow=16						
ARA0				Pg	**Pb**	**19 23 48.2**	**+1.8**
	baz=112,slow=16						
ARA0				Sn	**Sn**	**19 24 21.3**	**-0.4**
	baz=117,slow=28						
ARA0				Sg	**Sb**	**19 24 33.8**	**+3.8**
	baz=112,slow=37						
ARA0				IAML		19 24 39.2	
	comp=Z,34nm,0.7s						
ARA0	**ARCESS Array S**	**3.56**	**306**	*e*P	**Pn**	**19 23 39.5**	**+0.4**
ARA0				*e*SG	**Sb**	**19 24 32.8**	**+2.8**
ARCES	**ARCESS Array B**	**3.56**	**306**	P	**Pn**	**19 23 39.3**	**+0.2**
ARCES				S	**Sn**	**19 24 21.8**	**+0.1**
ARCES	**ARCESS Array B**	**3.56**	**306**	Pn	**Pn**	**19 23 39.6**	**+0.5**
	comp=Z,2.6nm,0.3s,baz=120,slow=15,SNR=314						
ARCES				Pg	**Pb**	**19 23 48.2**	**+1.8**
	comp=Z,1.0nm,0.3s,baz=114,slow=15,SNR=5.5						
ARCES				Sn	**Sn**	**19 24 21.2**	**-0.5**
	comp=Z,2.7nm,0.3s,baz=116,slow=26,SNR=23						
ARCES				Lg	Lg	19 24 32.7	
	comp=Z,3.6nm,0.3s,baz=111,slow=33,SNR=6.0						
	comp=Z,5.4nm,0.3s						
HEF	**Hetta**	**3.86**	**286**	Pn	**Pn**	**19 23 43.4**	**+0.2**
HEF				Sn	**Sn**	**19 24 29.3**	**+0.1**
HEF				Lg	Lg	19 24 42.4	
HEF	**Hetta**	**3.86**	**286**	Pn	**Pn**	**19 23 43.4**	**+0.2**
HEF				Sn	**Sn**	**19 24 29.3**	**+0.1**
HEF				Sg	**Sb**	**19 24 42.4**	**+3.7**
HEF	**Hetta**	**3.86**	**286**	*e*P	**Pn**	**19 23 43.2**	**0.0**
OUL	**Oulu**	**4.08**	**234**	Pn	**Pn**	**19 23 47.0**	**+0.8**
OUL				Pg	**Pb**	**19 23 57.3**	**+2.1**
OUL				Lg	Lg	19 24 50.1	
OUL	**Oulu**	**4.08**	**234**	Pn	**Pn**	**19 23 47.0**	**+0.8**
OUL				Pg	**Pb**	**19 23 57.3**	**+2.1**
OUL				Sg	**Sb**	**19 24 50.1**	**+5.2**
KTK1	**Kautokeino**	**4.12**	**294**	Pn	**Pn**	**19 23 46.8**	**0.0**
KTK1				Sn	**Sn**	**19 24 32.8**	**-2.8**
KTK1				Lg	Lg	19 24 50.4	
KTK1	**Kautokeino**	**4.12**	**294**	*e*P	**Pn**	**19 23 46.9**	**+0.1**
KTK1				*e*S	**Sn**	**19 24 32.4**	**-3.2**
KTK1				IAML		19 24 58.1	
	comp=Z,34nm,0.6s						
KTK1	**Kautokeino**	**4.12**	**294**	*e*P	**Pn**	**19 23 46.7**	**-0.1**
HAMF	**Hammerfest**	**4.67**	**314**	Pn	**Pn**	**19 23 54.7**	**+0.3**
HAMF				Sn	**Sn**	**19 24 47.8**	**-1.4**
HAMF	**Hammerfest**	**4.67**	**314**	*e*P	**Pn**	**19 23 54.5**	**+0.2**
HAMF				*e*S	**Sn**	**19 24 46.7**	**-2.5**
HAMF				IAML		19 25 21.0	
	comp=Z,43nm,0.6s						
JETT	**Jettan, Norway**	**5.23**	**297**	Pn	**Pn**	**19 24 02.3**	**+0.2**
JETT				Sn	**Sn**	**19 25 01.8**	**-1.3**
JETT	**Jettan, Norway**	**5.23**	**297**	Pn	**Pn**	**19 24 02.3**	**+0.2**
JETT				Sn	**Sn**	**19 25 01.8**	**-1.3**
JETT				IAML		19 25 04.0	
	comp=Z,16nm,0.4s						
TRO	**Tromso**	**5.75**	**297**	*e*P	**Pn**	**19 24 10.9**	**+1.7**
TRO				*e*S	**Sn**	**19 25 13.0**	**-2.8**
TRO				IAML		19 25 16.6	
	comp=Z,10nm,0.4s						
FIA0	**FINESS Array S**	**7.05**	**211**	Pn	**Pn**	**19 24 27.1**	**+0.1**
	baz=22,slow=14						
FIA0				Sn	**Sn**	**19 25 43.3**	**-4.4**
	baz=37,slow=22						
FIA0				Lg	Lg	19 26 16.9	
	baz=23,slow=37						
FIA0	**FINESS Array S**	**7.05**	**211**	Pn	**Pn**	**19 24 27.1**	**+0.1**
	baz=22,slow=14						
FIA0				Sn	**Sn**	**19 25 43.3**	**-4.4**
	baz=37,slow=22						
FIA0				Sg	**Sb**	**19 26 16.9**	**+6.4**
	baz=23,slow=37						
FINES	**FINESS Array B**	**7.05**	**211**	Pn	**Pn**	**19 24 26.9**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=3.4						
FINES				Sn	**Sn**	**19 25 47.4**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=31,slow=22,SNR=6.5						
FINES				Lg	Lg

*ROM **16** 19:23:26.8±0.1, 46°.469N±0°.004×13°.118E±0°.005, h8km, ML1.7/34, Error ellipse: s-maj=0.5km s-min=0.3km az=207.0*
*VIE **16** 19:23:27.7±0.2, 46°.50N×13°.16E, h4km, 3km, mb2.5/1, ml2.1/7, Error ellipse: s-maj=2.2km s-min=1.7km az=50.0*
11 km ESE of Paluzza
ISC 16 19:23:27.3±0.8, 46°.49N±0°.02×13°.13E±0°.02, h8km±5km, n40, σ0§47/67, 2C-15D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLRO	**Paularo**	**0.07**	**10**	⇓*e*Pg	**Pg**	**19 23 29.4**	**0.0**
PLRO				*e*Sg	**Sg**	**19 23 30.9**	**-0.1**
FUSE	**Fusea**	**0.11**	**232**	⇓*e*Pg	**Pg**	**19 23 29.8**	**-0.1**
FUSE				*e*Sg	**Sg**	**19 23 31.8**	**0.0**
ZOU	**Zoufplan**	**0.13**	**303**	⇓*e*Pg	**Pg**	**19 23 30.6**	**+0.2**
ZOU				*e*Sg	**Sg**	**19 23 32.9**	**+0.4**
ZOU	**Zoufplan**	**0.13**	**303**	⇓P	**Pg**	**19 23 30.6**	**+0.2**
ZOU				S	**Sg**	**19 23 32.9**	**+0.4**
ZOU				AML	AML		
	comp=E,907μm,1.2s						
ZOU				AML	AML		
	comp=E,941μm,1.2s						
ZOU				AML	AML		
	comp=N,624μm,0.3s						
ZOU				AML	AML		
	comp=N,626μm,0.3s						
ZOU				AML	AML		
	comp=E,904μm,1.2s						
BOO	**Bordano**	**0.17**	**187**	⇑*e*Pg	**Pg**	**19 23 30.7**	**-0.2**
BOO				*e*Sg	**Sg**	**19 23 33.4**	**+0.2**
PTCC	**Patocco-Chiusa**	**0.17**	**117**	⇓P	**Pg**	**19 23 30.8**	**-0.2**
PTCC				S	**Sg**	**19 23 34.1**	**+0.7**
PTCC				AML	AML		
	comp=E,425μm,0.5s						
PTCC				AML	AML		
	comp=N,379μm,0.4s						
PTCC				AML	AML		
	comp=N,379μm,1.6s						
CLUD	**Cludinico**	**0.17**	**261**	⇓*e*Pg	**Pg**	**19 23 30.9**	**-0.1**
CLUD				*e*Sg	**Sg**	**19 23 33.8**	**+0.4**
CLUD	**Cludinico**	**0.17**	**261**	P	**Pg**	**19 23 30.9**	**-0.1**
CLUD				S	**Sg**	**19 23 33.6**	**+0.2**
CLUD				AML	AML		
	comp=E,241μm,0.8s						
CLUD				AML	AML		
	comp=N,310μm,0.7s						
CLUD				AML	AML		
	comp=E,253μm,0.8s						
CLUD				AML	AML		
	comp=N,310μm,0.7s						
CLUD				AML	AML		
	comp=E,253μm,1.2s						
CLUD				AML	AML		
	comp=N,346μm,0.7s						
GEPF	**Gemona**	**0.21**	**179**	P	**Pg**	**19 23 31.3**	**-0.3**
GEPF				S	**Sg**	**19 23 34.6**	**+0.2**
GEPF				AML	AML		
	comp=E,136μm,0.6s						
GEPF				AML	AML		
	comp=N,139μm,0.2s						
GEPF				AML	AML		
	comp=E,135μm,0.1s						
VINO	**Villanova**	**0.25**	**155**	⇓*e*Pg	**Pg**	**19 23 32.3**	**-0.1**
VINO				*e*Sg	**Sg**	**19 23 36.2**	**+0.5**
VINO	**Villanova**	**0.25**	**155**	⇓P	**Pg**	**19 23 32.2**	**-0.1**
VINO				S	**Sg**	**19 23 36.2**	**+0.5**
VINO				AML	AML		
	comp=N,311μm,0.1s						
VINO				AML	AML		
	comp=E,488μm,0.2s						
BAD	**Bernadia**	**0.26**	**163**	⇓*e*Pg	**Pg**	**19 23 32.4**	**-0.2**
BAD				*e*Sg	**Sg**	**19 23 36.7**	**+0.6**
MPRI	**Monte Prat**	**0.26**	**202**	*e*Pg	**Pg**	**19 23 32.5**	**0.0**
MPRI				*e*Sg	**Sg**	**19 23 36.9**	**+0.7**
MPRI	**Monte Prat**	**0.26**	**202**	P	**Pg**	**19 23 32.6**	**0.0**
MPRI				S	**Sg**	**19 23 37.0**	**+0.9**
MPRI				AML	AML		
	comp=E,174μm,0.9s						
MPRI				AML	AML		
	comp=N,156μm,0.4s						
MPRI				AML	AML		
	comp=E,174μm,1.1s						
MPRI				AML	AML		
	comp=E,118μm,0.1s						
FVI	**Forni Avoltri**	**0.27**	**295**	⇓P	**Pg**	**19 23 32.6**	**-0.1**
FVI				S	**Sg**	**19 23 36.8**	**+0.5**
FVI				AML	AML		
	comp=N,301μm,0.2s						
FVI				AML	AML		
	comp=E,361μm,1.0s						
BUA	**Buia**	**0.27**	**181**	*e*Pg	**Pg**	**19 23 32.5**	**-0.1**
ACOM	**Acomizza, Ital**	**0.27**	**76**	⇓*e*Pg	**Pg**	**19 23 33.1**	**+0.2**
ACOM				*e*Sg	**Sg**	**19 23 37.4**	**+0.9**
ACOM	**Acomizza, Ital**	**0.27**	**76**	P	**Pg**	**19 23 33.2**	**+0.4**
ACOM				S	**Sb**	**19 23 37.8**	**-1.6**
ACOM				AML	AML		
	comp=N,612μm,0.5s						
ACOM				AML	AML		
	comp=E,806μm,0.2s						
ACOM				AML	AML		
	comp=E,828μm,0.2s						
ACOM				AML	AML		
	comp=N,602μm,0.2s						
LSR	**Lussari**	**0.27**	**92**	⇓*e*Pg	**Pg**	**19 23 32.8**	**-0.1**
LSR				*e*Sg	**Sg**	**19 23 37.4**	**+0.9**
PRED	**Cave del Predi**	**0.30**	**98**	⇓*e*Pg	**Pg**	**19 23 33.2**	**-0.2**
PRED				*e*Sg	**Sg**	**19 23 37.9**	**+0.5**
CSMI	**Casera Mimoias**	**0.33**	**275**	*e*Pg	**Pg**	**19 23 34.0**	**+0.1**
CSMI				*e*Sg	**Sg**	**19 23 39.4**	**+1.0**
STAL	**STALIGIAL**	**0.37**	**232**	P	**Pg**	**19 23 34.2**	**-0.4**
STAL				S	**Sg**	**19 23 39.9**	**+0.5**
STAL				AML	AML		
	comp=E,252μm,1.4s						
STAL				AML	AML		
	comp=E,252μm,0.6s						
STAL				AML	AML		
	comp=N,288μm,0.2s						
STAL				AML	AML		
	comp=E,208μm,0.2s						
MYKA	**Terra Mystica**	**0.38**	**67**	*i* Pg	**Pg**	**19 23 35.0**	**+0.1**
	comp=E,2.0nm,0.1s,SNR=6.9						
MYKA				*e*Sg	**Sg**	**19 23 40.5**	**+0.7**
	comp=E,16nm,0.2s,SNR=17						
COLI	**Coloredo**	**0.39**	**154**	⇑*e*Pg	**Pg**	**19 23 34.9**	**-0.1**
COLI				*e*Sg	**Sg**	**19 23 41.2**	**+1.1**
DRE	**Drenchia**	**0.47**	**131**	⇓*e*Pg	**Pg**	**19 23 36.1**	**-0.4**
MLNI	**Malnisio**	**0.49**	**227**	*e*Pg	**Pg**	**19 23 36.9**	**0.0**
ABTA	**Abfaltersbach**	**0.50**	**302**	*e*Pg	**Pg**	**19 23 37.0**	**0.0**
	comp=E,0.6nm,0.1s						
ABTA				*e*Sg	**Sg**	**19 23 44.0**	**+0.4**
	comp=E,15nm,0.2s						
CIMO	**Cimolais**	**0.51**	**250**	*e*Pg	**Pg**	**19 23 37.1**	**-0.1**
CIMO	**Cimolais**	**0.51**	**250**	P	**Pg**	**19 23 36.9**	**-0.3**
CIMO				S	**Sg**	**19 23 44.0**	**+0.1**
CIMO				AML	AML		
	comp=E,26μm,0.2s						
CIMO				AML	AML		
	comp=N,37μm,0.3s						
CIMO				AML	AML		
	comp=N,37μm,1.7s						
CIMO				AML	AML		
	comp=N,39μm,0.4s						
SABO	**M.te Sabotino**	**0.60**	**147**	*e*Pg	**Pg**	**19 23 38.9**	**-0.1**
SABO	**M.te Sabotino**	**0.60**	**147**	P	**Pg**	**19 23 38.8**	**-0.1**
SABO				S	**Sb**	**19 23 48.4**	**-0.4**
SABO				AML	AML		
	comp=E,466μm,1.5s						
SABO				AML	AML		
	comp=N,388μm,0.7s						
SABO				AML	AML		
	comp=N,114μm,0.7s						
SABO				AML	AML		
	comp=E,102μm,1.5s						
SABO				AML	AML		
	comp=E,102μm,0.5s						
SABO				AML	AML		
	comp=N,114μm,0.7s						
KBA	**Koelnbreinsper**	**0.61**	**14**	*e*Pg	**Pb**	**19 23 40.1**	**-0.3**
	comp=N,2.3nm,0.3s						
KBA				*e*Sg	**Sg**	**19 23 47.8**	**+0.5**
	comp=N,4.5nm,0.1s						
VARN	**Col Varnada, M**	**0.87**	**236**	P	**Pg**	**19 23 44.2**	**+0.2**
VARN				AML	AML		
	comp=E,54μm,1.1s						
VARN				AML	AML		
	comp=N,56μm,1.6s						
TRI	**Trieste**	**0.89**	**150**	⇓P	**Pb**	**19 23 45.2**	**+0.2**
OBKA	**Obir**	**0.98**	**88**	*e*Pg	**Pb**	**19 23 46.3**	**-0.3**
	comp=N,1.2nm,0.3s						
OBKA				*e*Sg	**Sb**	**19 23 59.3**	**-0.4**
	comp=N,7.4nm,0.3s						
BRES	**Bressanone**	**0.99**	**283**	P	**Pg**	**19 23 46.1**	**-0.2**
CTI	**Castel Tesino**	**1.12**	**247**	S	**Sn**	**19 24 06.0**	**+1.0**
CTI				AML	AML		
	comp=N,108μm,1.0s						
CTI				AML	AML		
	comp=E,114μm,0.2s						
SOKA	**Soboth**	**1.33**	**81**	*e*Pg	**Pn**	**19 23 52.1**	**-0.1**
	comp=E,0.6nm,0.2s						
SOKA				*e*Sg	**Sn**	**19 24 10.1**	**0.0**
DOSS	**Dosso del Somm**	**1.48**	**247**	AML	AML		
	comp=N,68μm,1.1s						
DOSS				AML	AML		
	comp=E,59μm,0.3s						
LUSI	**Trento, Gardas**	**1.61**	**252**	AML	AML		
	comp=N,63μm,1.1s						
LUSI				AML	AML		
	comp=N,63μm,0.9s						
LUSI				AML	AML		
	comp=E,43μm,1.1s						

*IDC **16** 19:38:01.5±1.5, 30°.60N×57°.39E, h0km, mb3.7/12, mbtmp3.7/15, ML3.4/3, Error ellipse: s-maj=29.9km s-min=19.2km az=175.0*
*TEH **16** 19:38:02.2, 30°.79N×57°.31E, h8km±34km, ML3.8*
ISC 16 19:38:03.5±0.6, 30°.77N±0°.04×57°.33E±0°.04, h10km, n45, σ1§01/46, mb3.7/12, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.71**	**286**	Pg	**Pg**	**19 38 15.4**	**-1.8**
KHGB	**Koh Gabr**	**0.83**	**242**	Pg	**Pg**	**19 38 17.8**	**-1.7**
TVBK	**TV Kerman**	**0.92**	**212**	Pg	**Pg**	**19 38 20.6**	**-0.7**
CHMN	**Cheshme madani**	**0.92**	**168**	Pg	**Pg**	**19 38 20.3**	**-1.0**
NGRK	**Negar Kerman**	**1.23**	**205**	Pg	**Pb**	**19 38 26.3**	**-0.8**
NGRK				Sg	**Sb**	**19 38 42.7**	**-0.5**
IBAF	**Bafgh**	**1.71**	**299**	Pg	**Pn**	**19 38 34.0**	**+0.4**
KBAM	**BAM**	**1.90**	**149**	Pn	**Pn**	**19 38 36.9**	**+0.8**
BSRN	**Basiran**	**1.95**	**52**	Pn	**Pn**	**19 38 37.0**	**+0.3**
IKOO	**Kooshah**	**2.19**	**41**	Pn	**Pn**	**19 38 40.4**	**+0.2**
TPRV	**Parvadeh(Tabas**	**2.32**	**347**	Pn	**Pn**	**19 38 41.9**	**0.0**
IMEH	**Mehriz**	**2.41**	**286**	Pn	**Pn**	**19 38 43.8**	**+0.6**
NHDN	**Nehbandan**	**2.42**	**74**	Pn	**Pn**	**19 38 44.1**	**+0.8**
ITEG	**Tejag**	**2.44**	**29**	Pn	**Pn**	**19 38 43.7**	**+0.1**
TKDS	**Koohdasht(Taba**	**2.84**	**357**	Pn	**Pn**	**19 38 48.9**	**-0.2**
ICHK	**Chekchek**	**2.89**	**301**	Pn	**Pn**	**19 38 50.7**	**+0.8**
IDAH	**Dahanechah**	**2.92**	**47**	Pn	**Pn**	**19 38 50.5**	**+0.2**
AFRZ	**Afriz**	**3.01**	**28**	Pn	**Pn**	**19 38 51.6**	**+0.1**
TNSJ	**Nastanj**	**3.24**	**349**	Pn	**Pn**	**19 38 54.7**	**+0.2**
ZHDN	**Zahedan**	**3.31**	**113**	Pn	**Pn**	**19 38 56.4**	**+0.8**
ISAD	**Sadrabad**	**3.32**	**291**	Pn	**Pn**	**19 38 56.8**	**+1.1**
GENO	**Geno**	**3.50**	**197**	Pn	**Pn**	**19 38 59.7**	**+1.4**
SHRT	**Shahrakht**	**3.81**	**40**	Pn	**Pn**	**19 39 03.2**	**+0.8**
ANAR	**Anarak**	**3.89**	**309**	Pn	**Pn**	**19 39 04.2**	**+0.7**
IZEF	**Zefreh**	**4.75**	**298**	Pn	**Pn**	**19 39 16.0**	**+0.6**
TBJM	**Torbat-e-JAM**	**5.15**	**29**	Pn	**Pn**	**19 39 21.4**	**+0.6**
IFIR	**Firoozkooh**	**6.19**	**323**	Pn	**Pn**	**19 39 35.5**	**+0.4**
ISFR	**Sfrayin**	**6.29**	**5**	Pn	**Pn**	**19 39 37.3**	**+0.6**
IGLO	**Ghaloghah**	**6.42**	**334**	Pn	**Pn**	**19 39 39.7**	**+1.4**
IDMV	**Damavand**	**6.53**	**319**	Pn	**Pn**	**19 39 40.8**	**+0.9**
GEYT	**Alibeck**	**7.17**	**5**	Pn	**Pn**	**19 39 50.3**	**+1.8**
	0.3nm,0.3s,baz=197,slow=20,SNR=1.8						
GEYT				Lg	Lg	19 41 49.0	
	0.2nm,0.3s,baz=193,slow=31,SNR=1.9						
	1.1nm,0.4s						
WSAR	**Wadi Sarin**	**7.59**	**171**	Pn	**Pn**	**19 39 55.5**	**+1.3**
	1.8nm,0.3s,baz=10,slow=9.6,SNR=15						
AAK	**Ala-Archa**	**18.12**	**44**	Pn	**Pn**	**19 42 13.5**	**-1.9**
	0.1nm,0.3s,baz=229,slow=11,SNR=2.0						
	0.4nm,0.3s						
AKTO	**Aktyubinsk**	**19.65**	**1**	P	**P**	**19 42 32.4**	**+0.1**
	0.3nm,0.3s,baz=183,slow=10,SNR=7.0						
	2.0nm,0.6s						
BRTR	**Keskin Array B**	**21.26**	**301**	P	**P**	**19 42 51.2**	**+1.1**
	0.5nm,0.8s,baz=122,slow=11,SNR=2.8						
	0.5nm,0.8s						
BELG	**Belogornoye**	**22.75**	**345**	P	**P**	**19 43 06.2**	**+0.5**
	3.1nm,0.4s,baz=142,slow=12,SNR=1.9						
	3.1nm,0.4s						
BVAR	**Borovoye Array**	**24.20**	**19**	P	**P**	**19 43 21.2**	**+1.2**
	1.1nm,0.5s,baz=194,slow=7.1,SNR=9.6						
	1.1nm,0.5s						
MKAR	**Makanchi Array**	**25.04**	**43**	P	**P**	**19 43 28.9**	**+1.1**
	1.6nm,0.9s,baz=239,slow=6.9,SNR=5.9						
	1.6nm,0.9s						
KURBB	**Kurchatov Arra**	**25.37**	**33**	P	**P**	**19 43 32.1**	**+1.4**
	0.9nm,0.5s,baz=231,slow=8.9,SNR=9.3						
	0.9nm,0.5s						
ZALV	**Zasovo Beam**	**30.47**	**33**	P	**P**	**19 44 16.8**	**+0.5**
	2.2nm,0.6s,baz=237,slow=9.8,SNR=13						
	2.2nm,0.6s						
FINES	**FINESS Array B**	**36.87**	**335**	P	**P**	**19 45 13.1**	**+1.3**
	1.1nm,0.5s,baz=134,slow=5.5,SNR=12						
	1.1nm,0.5s						
GERES	**GERESS Array B**	**37.46**	**311**	P	**P**	**19 45 18.9**	**+1.8**
	0.5nm,0.8s,baz=108,slow=9.6,SNR=2.0						
	0.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**39.56**	**98**	P	**P**	**19 45 34.1**	**-0.9**
	0.2nm,0.7s,baz=297,slow=8.0,SNR=1.7						
	0.2nm,0.7s						
SONM	**Songino Array**	**40.88**	**51**	P	**P**	**19 45 44.5**	**-1.2**
	0.5nm,0.9s,baz=257,slow=10,SNR=3.7						
	0.5nm,0.9s						
ARCES	**ARCESS Array B**	**42.80**	**344**	P	**P**	**19 46 01.3**	**+0.3**
	1.7nm,0.9s,baz=150,slow=8.4,SNR=5.3						
	1.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**53.96**	**264**	P	**P**	**19 47 27.0**	**-0.8**
	0.7nm,0.7s,baz=51,slow=8.8,SNR=4.7						
	0.7nm,0.7s						

*NEIC **16** 20:00:40.2±1.8, 23°.2S±0°.1×179°.9W±0°.1, h524km±7km, mb4.5/31, Error ellipse: s-maj=19.5km s-min=15.7km az=110.0*
*IDC **16** 20:00:40.8±1.8, 23°.17S×179°.95E, h527km±17km, mb3.5/14, mbtmp4.4/15, Error ellipse: s-maj=18.2km s-min=12.3km az=71.0*
ISC 16 20:00:41.7±0.4, 23°.31S±0°.06×179°.96E±0°.08, h550km, n91, σ1§72/107, mb4.3/30, 3C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**6.22**	**163**	P	**P**	**20 02 21.8**	**-0.3**
GLKZ				S	**S**	**20 03 42.8**	**-1.7**
AFI	**Afiamalu**	**12.19**	**41**	P	**P**	**20 03 19.2**	**-3.2**
DZM	**Mont Dzumac**	**12.54**	**273**	P	**P**	**20 03 25.5**	**-0.5**
KUZ	**Kuaotunu**	**13.88**	**194**	P	**P**	**20 03 42.4**	**+3.0**
WIAZ	**Waiheke Island**	**14.07**	**196**	P	**P**	**20 03 43.2**	**+1.8**
MXZ	**Matakaoa Point**	**14.27**	**185**	P	**P**	**20 03 44.3**	**+0.8**
MXZ	**Matakaoa Point**	**14.27**	**185**	P	**P**	**20 03 44.9**	**+1.5**
MXZ				S	**S**	**20 06 08.8**	**-4.4**
MKAZ	**Moumakai**	**14.35**	**196**	P	**P**	**20 03 45.4**	**+1.1**
HAZ	**Te Kaha**	**14.52**	**187**	P	**P**	**20 03 44.3**	**-1.6**
HAZ				S	**S**	**20 06 14.0**	**-3.8**
WMGZ	**Waiomatatini S**	**14.52**	**185**	P	**P**	**20 03 44.2**	**-1.8**
WMGZ				S	**S**	**20 06 20.9**	**+3.0**
RUGZ	**Raukumara Rang**	**14.73**	**187**	P	**P**	**20 03 48.7**	**+0.4**
PUZ	**Puketiti**	**14.78**	**185**	P	**P**	**20 03 46.6**	**-2.2**
PUZ				S	**S**	**20 06 20.3**	**-2.6**
TOZ	**Tahuroa Road**	**14.87**	**194**	P	**P**	**20 03 51.4**	**+1.8**
TWGZ	**Tauwhareparae**	**14.91**	**186**	P	**P**	**20 03 50.5**	**+0.4**
TWGZ				S	**S**	**20 06 23.4**	**-2.0**
URZ	**Urewera**	**15.10**	**189**	P	**P**	**20 03 51.8**	**-0.1**
	17nm,0.5s,baz=51,slow=4.0,SNR=18						
URZ				S	**S**	**20 06 23.9**	**-4.6**
	10nm,0.8s,baz=294,slow=20,SNR=3.5						
URZ	**Urewera**	**15.10**	**189**	P	**P**	**20 03 51.3**	**-0.7**
MWZ	**Matawai**	**15.12**	**187**	P	**P**	**20 03 52.6**	**+0.4**
MTHZ	**Maungataniwha**	**15.72**	**189**	P	**P**	**20 03 56.7**	**-1.6**
MTHZ				S	**S**	**20 06 34.6**	**-4.6**
RAHZ	**Arahi**	**15.75**	**188**	P	**P**	**20 03 57.5**	**-1.1**
NMHZ	**Naumai**	**15.96**	**189**	P	**P**	**20 04 00.3**	**-0.4**
MCHZ	**McNeill Hill**	**16.32**	**189**	P	**P**	**20 04 02.9**	**-1.2**
KWHZ	**Kaweka Forest**	**16.34**	**190**	P	**P**	**20 04 02.4**	**-1.9**
BHHZ	**Black Hill Sta**	**16.46**	**191**	P	**P**	**20 04 02.6**	**-2.8**
KRHZ	**Kereru**	**16.56**	**190**	P	**P**	**20 04 04.5**	**-1.8**
KAHZ	**Kahuranaki**	**16.64**	**188**	P	**P**	**20 04 06.7**	**-0.2**
PNHZ	**Pukenui**	**16.85**	**190**	P	**P**	**20 04 07.5**	**-1.4**
THZ	**Tophouse**	**19.32**	**196**	P	**P**	**20 04 30.6**	**-0.9**
RPZ	**Rata Peaks**	**21.64**	**198**	P	**P**	**20 04 53.2**	**+0.9**
	6.4nm,0.6s,baz=29,slow=19,SNR=5.1						
	6.4nm,0.6s						
WHZ	**Wether Hill Ro**	**24.55**	**200**	P	**P**	**20 05 19.2**	**+1.0**
EIDS	**Eidsvold**	**26.37**	**260**	P	**P**	**20 05 35.2**	**+0.6**
CAN	**Canberra**	**29.41**	**239**	P	**P**	**20 06 01.6**	**+0.5**
CAN				IAmb	IAmb	20 06 15.7	
	comp=Z,17nm,1.1s						
CTAO	**Charters Tower**	**31.45**	**269**	P	**P**	**20 06 18.9**	**+0.2**
CTAO				IAmb	IAmb	20 06 20.5	
	comp=Z,11nm,0.8s						
TOO	**Toolangi**	**32.74**	**236**	P	**P**	**20 06 29.7**	**+0.2**
TOO				IAmb	IAmb	20 06 53.6	
	comp=Z,20nm,1.4s						
PMG	**Port Moresby**	**34.27**	**288**	P	**P**	**20 06 42.8**	**+0.1**
PMG	**Port Moresby**	**34.27**	**288**	P	**P**	**20 06 43.0**	**+0.3**
	comp=Z,25nm,0.8s,baz=116,slow=4.8,SNR=14						
	comp=Z,25nm,0.8s						
STKA	**Stephens Creek**	**34.91**	**247**	P	**P**	**20 06 48.8**	**+1.0**
STKA	**Stephens Creek**	**34.91**	**247**	P	**P**	**20 06 49.0**	**+1.2**
	comp=Z,0.8nm,0.4s,baz=97,slow=12,SNR=6.2						
STKA				S	**S**	**20 11 38.8**	**-1.7**
	comp=Z,1.9nm,1.0s,baz=25,slow=24,SNR=1.7						
	comp=Z,0.8nm,0.4s						
BBOO	**Buckleboo**	**39.65**	**246**	P	**P**	**20 07 26.6**	**+0.2**
BBOO				IAmb	IAmb	20 07 36.4	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**42.10**	**260**		**P**	**20 07 46.0**	**-0.1**
ASAR	**Alice Springs**	**42.10**	**260**	P	**P**	**20 07 45.5**	**-0.6**
ASAR	**Alice Springs**	**42.10**	**260**	P	**P**	**20 07 46.5**	**+0.3**
	comp=Z,6.5nm,0.9s,baz=92,slow=8.2,SNR=42						
ASAR				ScP	**ScP**	**20 12 30.3**	**+4.0**
	comp=Z,1.3nm,0.8s,baz=111,slow=4.7,SNR=6.6						
ASAR				S	**S**	**20 13 22.9**	**-3.5**
	comp=Z,0.4nm,0.7s,baz=95,slow=17,SNR=3.6						
	comp=Z,6.5nm,0.9s						
WR0	**Warramunga Arr**	**42.23**	**266**	P	**P**	**20 07 46.6**	**-0.6**
WRA	**Warramunga Arr**	**42.42**	**266**	P	**P**	**20 07 47.7**	**-0.9**
WRA	**Warramunga Arr**	**42.42**	**266**	P	**P**	**20 07 48.4**	**-0.2**
	comp=Z,5.6nm,0.7s,baz=90,slow=5.8,SNR=42						
WRA				ScP	**ScP**	**20 12 31.0**	**+3.4**
	comp=Z,0.6nm,0.8s,baz=101,slow=3.6,SNR=3.9						
WRA				S	**S**	**20 13 28.7**	**-2.2**
	comp=Z,0.6nm,0.9s,baz=104,slow=14,SNR=2.9						
	comp=Z,5.6nm,0.7s						
FORT	**Forrest**	**46.49**	**249**	P	**P**	**20 08 18.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**50.84**	**265**	P	**P**	**20 08 53.0**	**+0.7**
SOEI	**Soe**	**54.76**	**274**	P	**P**	**20 09 21.2**	**+0.8**
SOEI				IAmb	IAmb	20 09 23.6	
	comp=Z,42nm,1.4s						
SBA	**Scott Base**	**54.96**	**183**	P	**P**	**20 09 23.6**	**+3.0**
SBA				IAmb	IAmb	20 09 25.3	
	comp=Z,15nm,0.9s						
SBA				PcP	**PcP**	**20 10 16.6**	**+2.6**
VNDA	**Vanda**	**54.96**	**185**	P	**P**	**20 09 22.6**	**+2.0**
VNDA				PcP	**PcP**	**20 10 15.8**	**+1.9**
VNDA	**Vanda**	**54.96**	**185**	P	**P**	**20 09 23.3**	**+2.7**
	comp=Z,1.8nm,0.7s,baz=7.3,slow=6.3,SNR=13						
	comp=Z,1.8nm,0.7s						
MORW	**Morawa**	**57.05**	**250**	P	**P**	**20 09 35.8**	**0.0**
MORW				IAmb	IAmb	20 09 54.4	
	comp=Z,15nm,1.1s						
QSPA	**South Pole Qui**	**66.77**	**180**	P	**P**	**20 10 40.6**	**+2.1**
QSPA				IAmb	IAmb	20 10 41.5	
	comp=Z,17nm,0.8s						
QSPA	**South Pole Qui**	**66.77**	**180**	P	**P**	**20 10 40.7**	**+2.2**
	comp=Z,21nm,0.9s,baz=29,slow=1.4,SNR=46						
	comp=Z,21nm,0.9s						
MJAR	**Matsushiro Arr**	**71.40**	**326**	P	**P**	**20 11 06.7**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=163,slow=4.9,SNR=7.1						
	comp=Z,3.2nm,0.8s						
SSLB	**Suanglung**	**73.99**	**305**	P	**P**	**20 11 21.5**	**-0.2**
YHNB	**Yeheng**	**74.18**	**306**	P	**P**	**20 11 22.9**	**0.0**
ATKA	**Atka Island**	**75.36**	**4**	P	**P**	**20 11 28.6**	**-0.1**
KSRS	**Korea Array**	**77.78**	**320**	P	**P**	**20 11 42.4**	**0.0**
	comp=Z,1.9nm,0.8s,baz=133,slow=6.2,SNR=5.7						
	comp=Z,1.9nm,0.8s						
PEA0B	**Petropavlovsk-**	**78.53**	**347**	P	**P**	**20 11 46.4**	**+0.4**
PEA0B				IAmb	IAmb	20 11 49.9	
	comp=Z,33nm,1.2s						
PETK	**Petropavlovsk-**	**78.53**	**347**	P	**P**	**20 11 46.2**	**+0.2**
PETK	**Petropavlovsk-**	**78.53**	**347**	P	**P**	**20 11 46.8**	**+0.8**
	comp=Z,4.2nm,0.7s,baz=105,slow=10.0,SNR=12						
	comp=Z,4.2nm,0.7s						
MDJ	**Mudanjiang**	**81.76**	**326**	P	**P**	**20 12 04.2**	**+1.2**
MDJ				IAmb	IAmb	20 12 23.6	
	comp=Z,17nm,1.4s						
P18K	**Big Mountain,**	**84.90**	**12**	P	**P**	**20 12 18.0**	**-0.3**
P18K				IAmb	IAmb	20 12 23.1	
	comp=Z,13nm,1.4s						
TROLL	**Troll, Antarti**	**84.91**	**181**	⇑P	**P**	**20 12 19.3**	**+0.7**
	comp=Z,251nm,0.5s						
SNAA	**Sanae**	**85.25**	**179**	P	**P**	**20 12 19.9**	**-0.2**
SNAA				IAmb	IAmb	20 12 42.1	
	comp=Z,11nm,1.3s						
SNAA	**Sanae**	**85.25**	**179**	⇑P	**P**	**20 12 20.2**	**0.0**
	comp=Z,39nm,0.5s						
SNAA	**Sanae**	**85.25**	**179**	P	**P**	**20 12 20.3**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=201,slow=8.6,SNR=7.6						
	comp=Z,3.8nm,0.9s						
O18K	**Koktuh Hills**	**85.33**	**12**	P	**P**	**20 12 20.3**	**-0.1**
O18K				IAmb	IAmb	20 12 21.5	
	comp=Z,8.1nm,0.8s						
**VN

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFA	**Coronel Fontan**	**5.53**	**217**	Pn	**Pn**	**20 16 42.5**	**-1.6**
	4.4nm,0.3s,baz=65,slow=20,SNR=32						
CFA				Sn	**Sn**	**20 17 47.9**	**+1.4**
	15nm,0.3s,baz=334,slow=22,SNR=6.1						
CFA				Lg	Lg	20 18 16.2	
	24nm,0.3s,baz=359,slow=21,SNR=4.5						
CFA				LR	LR	20 19 09.9	
	comp=Z,90nm,19.4s,baz=78,slow=42						
	8.0nm,0.3s						
LVC	**Limon Verde**	**6.16**	**317**	Pn	**Pn**	**20 16 52.8**	**-0.3**
	0.1nm,0.3s,baz=95,slow=18,SNR=1.2						
	1.1nm,0.6s						
CPUP	**Villa Florida**	**6.36**	**84**	Pn	**Pn**	**20 16 56.0**	**+0.5**
	0.8nm,0.3s,baz=264,slow=14,SNR=8.3						
CPUP				Lg	Lg	20 18 43.9	
	4.8nm,0.3s,baz=348,slow=15,SNR=3.8						
CPUP				LR	LR	20 19 40.5	
	comp=Z,71nm,21.8s,baz=219,slow=41						
	1.8nm,0.4s						
SIV	**San Ignacio**	**11.57**	**16**	Pn	**Pn**	**20 18 06.5**	**-0.6**
	baz=108,slow=9.3,SNR=1.9						
SIV				Sn	**Sn**	**20 20 15.0**	**-0.2**
	baz=235,slow=13,SNR=1.3						
SIV				Lg	Lg	20 21 24.2	
	baz=340,slow=20,SNR=1.9						
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**75.57**	**67**	P	**P**	**20 27 05.1**	**-0.6**
	1.4nm,0.7s,baz=248,slow=4.3,SNR=9.1						
	1.4nm,0.7s						
MAW	**Mawson**	**77.67**	**162**	P	**P**	**20 27 17.4**	**+0.6**
	3.4nm,0.3s,baz=144,slow=15,SNR=10						
	3.4nm,0.3s						
PDAR	**Pinedale Array**	**81.11**	**328**	P	**P**	**20 27 36.5**	**+0.4**
	0.3nm,0.5s,baz=123,slow=7.3,SNR=4.0						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**144.98**	**32**	PKP	**PKPab**	**20 34 56.5**	**-0.1**
	0.8nm,0.3s,baz=291,slow=1.2,SNR=7.8						
MKAR	**Makanchi Array**	**147.32**	**44**	PKPbc	**PKPdf**	**20 35 02.1**	**+0.6**
	2.1nm,0.7s,baz=289,slow=3.1,SNR=15						

*BGR **16** 20:21:50.0±0.2, 48°.41N×7°.78E, h10km, ML1.9/13, Error ellipse: s-maj=2.2km s-min=1.1km az=79.0*
*BUG **16** 20:21:50.9±0.6, 48°.47N×7°.85E, h0km, MD2.8/9, ML2.8/10*
*LDG **16** 20:21:50.0±0.0, 48°.40N×7°.78E, h11km, Md2.7/2, Ml2.6/12, Error ellipse: s-maj=0.9km s-min=0.7km az=153.0*
*BNS **16** 20:21:55.0±0.3, 48°.37N×7°.87E, h25km, ML1.9*
*PRU **16** 20:21:56.8, 48°.53N×8°.15E, h1km*
STR 16 20:21:50.4±0.2, 48°.4N±1°.0×±°, h3km±4km, MLv2.3/30, 7C-10D, Error ellipse: s-maj=0.0km s-min=0.0km az=97.2, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFE	**Offenburg-Weie**	**0.15**	**53**	⇓Pg	Pg	20 21 53.9	+0.6
OFFE				Sg	Sg	20 21 56.6	+1.4
OPP	**Oppenau**	**0.28**	**67**	Pg	Pg	20 21 55.9	+0.1
OPP	**Oppenau**	**0.28**	**67**	Sg	Sg	20 21 59.9	+0.4
OPP	**Oppenau**	**0.28**	**67**	⇓Pg	Pg	20 21 56.0	+0.2
OPP				Sg	Sg	20 21 60.0	+0.5
WLS	**Welschbruch**	**0.30**	**276**	Pg	Pg	20 21 56.0	-0.1
WLS				Sg	Sg	20 22 00.2	+0.1
WLS	**Welschbruch**	**0.30**	**276**	⇑Pg	Pg	20 21 56.0	-0.1
WLS				Sg	Sg	20 22 00.2	+0.2
VOGT	**Vogtsburg - To**	**0.32**	**196**	Pg	Pg	20 21 56.7	+0.2
VOGT	**Vogtsburg - To**	**0.32**	**196**	Sg	Sg	20 22 01.1	+0.5
VOGT	**Vogtsburg - To**	**0.32**	**196**	⇑Pg	Pg	20 21 56.8	+0.3
VOGT				Sg	Sg	20 22 01.6	+1.1
CDF	**Champ du Feu**	**0.35**	**275**	*e*Pg	Pg	20 21 56.8	-0.3
CDF				*e*Sg	Sg	20 22 01.3	-0.4
	70nm,0.2s						
BFO	**Black Forest**	**0.36**	**99**	⇓Pg	Pg	20 21 57.5	+0.2
BFO				Sg	Sg	20 22 02.6	+0.6
FREI	**Freiburg, Haup**	**0.38**	**175**	⇑Pg	Pg	20 21 58.0	+0.4
FREI				Sg	Sg	20 22 03.5	+1.0
BREI	**Breisach am Rh**	**0.38**	**202**	Pg	Pg	20 21 58.1	+0.5
BREI				Sg	Sg	20 22 04.1	+1.5
BABA	**Baden-Baden-Ne**	**0.42**	**38**	Pg	Pg	20 21 58.3	-0.3
BABA	**Baden-Baden-Ne**	**0.42**	**38**	Sg	Sg	20 22 03.9	-0.2
BABA	**Baden-Baden-Ne**	**0.42**	**38**	⇑Pg	Pg	20 21 58.3	-0.2
BABA				Sg	Sg	20 22 03.9	-0.2
BABA				SmS		20 22 06.4	
KIZ	**Kirchzarten**	**0.44**	**169**	Pg	Pg	20 21 58.9	+0.1
KIZ	**Kirchzarten**	**0.44**	**169**	Sg	Sg	20 22 04.8	+0.3
KIZ	**Kirchzarten**	**0.44**	**169**	Pg	Pg	20 21 58.9	+0.1
KIZ				Sg	Sg	20 22 04.8	+0.4
ECH	**Echery**	**0.46**	**249**	Pg	Pg	20 21 58.9	-0.3
ECH				Sg	Sg	20 22 05.0	-0.2
ECH	**Echery**	**0.46**	**249**	⇑Pg	Pg	20 21 58.9	-0.3
ECH				Sg	Sg	20 22 05.1	0.0
BREM	**Bremgarten**	**0.49**	**194**	Pg	Pg	20 22 00.2	+0.5
BREM				Sg	Sg	20 22 07.4	+1.3
STAU	**Staufen im Bre**	**0.52**	**185**	Pg	Pg	20 22 00.4	0.0
FELD	**Feldberg im Sc**	**0.53**	**165**	Pg	Pg	20 22 00.5	0.0
FELD	**Feldberg im Sc**	**0.53**	**165**	Sg	Sg	20 22 07.6	+0.3
FELD	**Feldberg im Sc**	**0.53**	**165**	⇓Pg	Pg	20 22 00.7	+0.1
FELD				Sg	Sg	20 22 08.2	+0.8
CIEL	**Dossenheim-sur**	**0.53**	**327**	Pg	Pg	20 22 00.1	-0.5
CIEL				Sg	Sg	20 22 07.4	-0.2
SUBF	**Surbourg**	**0.53**	**4**	Pg	Pg	20 22 00.4	-0.2
SUBF	**Surbourg**	**0.53**	**4**	Sg	Sg	20 22 07.8	+0.3
WALT	**Westhalten**	**0.55**	**220**	Pg	Pg	20 22 00.9	+0.1
WALT				Sg	Sg	20 22 08.8	+0.9
SZBH	**soultz borehol**	**0.55**	**5**	Pg	Pg	20 22 00.7	-0.3
SZBH				Sg	Sg	20 22 08.2	+0.2
A101B	**Rottweil, Deis**	**0.57**	**118**	Pg	Pg	20 22 01.4	+0.1
A101B				Sg	Sg	20 22 09.2	+0.5
BERGE	**Lenzkirch (DE)**	**0.57**	**153**	⇓Pg	Pg	20 22 01.5	+0.1
BERGE				Sg	Sg	20 22 09.1	+0.3
ROTE	**Rottweil**	**0.63**	**111**	⇓Pg	Pg	20 22 02.5	0.0
LEMB	**Lembach**	**0.65**	**358**	Pg	Pg	20 22 02.1	-0.7
LEMB				Sg	Sg	20 22 10.6	-0.7
ENDD	**Endenburg**	**0.67**	**183**	Sg	Sg	20 22 12.2	+0.2
ENDD	**Endenburg**	**0.67**	**183**	Pg	Pg	20 22 03.1	-0.2
ENDD	**Endenburg**	**0.67**	**183**	⇓Pg	Pg	20 22 03.1	-0.2
ENDD				Sg	Sg	20 22 12.1	+0.2
MOF	**Molkenrain**	**0.69**	**220**	Pg	Pg	20 22 03.2	-0.5
MOF				Sg	Sg	20 22 12.5	-0.2
METMA	**Mettma DE**	**0.74**	**155**	⇓P*	Pg	20 22 04.4	-0.1
METMA				S*	Sg	20 22 14.4	+0.3
A100A	**Rottenburg, We**	**0.76**	**84**	Pg	Pg	20 22 04.5	-0.3
A100A				Sg	Sg	20 22 14.7	+0.1
GALG	**Neuhausen (Enz**	**0.77**	**58**	⇑Pn	Pg	20 22 04.2	-0.8
GALG				Sn	Sg	20 22 15.0	0.0
SLE	**Schleitheim**	**0.78**	**143**	Pg	Pg	20 22 04.8	-0.4
SLE	**Schleitheim**	**0.78**	**143**	Sg	Sg	20 22 15.5	+0.2
SLE	**Schleitheim**	**0.78**	**143**	Pn	Pg	20 22 04.9	-0.3
SLE				Sn	Sg	20 22 15.4	+0.1
ROTT	**Steinweiler**	**0.78**	**17**	Pn	Pg	20 22 04.7	-0.7
ROTT				*e*Pg	Pb	20 22 05.4	-1.1
ROTT				*e*Sg	Sg	20 22 15.9	+0.5
ILLF	**Illfurth**	**0.79**	**207**	Pg	Pg	20 22 05.2	-0.3
ILLF				Sg	Sg	20 22 16.5	+0.7
MSS	**Messtetten**	**0.80**	**105**	*e*Sg	Sg	20 22 16.5	+0.3
MSS	**Messtetten**	**0.80**	**105**	Sn	Sg	20 22 16.4	+0.2
HINF	**Hinteralfeld**	**0.85**	**228**	*e*Pg	Pg	20 22 06.0	-0.7
HINF				*e*Sg	Sg	20 22 16.7	-1.0
	33nm,0.2s						
EMING	**Emmingen-Lipti**	**0.86**	**125**	Pn	Pg	20 22 06.2	-0.6
EMING				*e*Pg	Pb	20 22 06.9	-1.0
EMING				Sn	Sg	20 22 17.6	-0.3
EMING				*e*Sg	Sb	20 22 18.4	-1.4
BRET	**Bretten**	**0.86**	**43**	Pn	Pg	20 22 05.7	-1.2
BRET				Pg	Pb	20 22 06.4	-1.6
BRET				Sn	Sg	20 22 17.3	-0.8
TUBL	**Tuebingen-Lenn**	**0.87**	**80**	Sn	Sg	20 22 17.7	-0.5
SULZ	**Cheisacher**	**0.88**	**166**	Pg	Pg	20 22 06.8	-0.6
SULZ	**Cheisacher**	**0.88**	**166**	Pn	Pg	20 22 06.5	-0.8
SULZ				*e*Pg	Pb	20 22 07.3	-1.0
SULZ				Sn	Sg	20 22 17.9	-0.9
SULZ				Sg	Sb	20 22 19.1	-1.4
FREU	**Neufra-Freuden**	**0.91**	**99**	⇓Pn	Pg	20 22 06.7	-1.1
FREU				Pg	Pb	20 22 07.7	-1.1
FREU				Sn	Sg	20 22 18.4	-1.1
FREU				Sg	Sb	20 22 19.9	-1.3
GUT	**Gutenstein**	**0.94**	**109**	Pg	Pg	20 22 08.1	-0.2
GUT	**Gutenstein**	**0.94**	**109**	⇓Pn	Pg	20 22 07.2	-1.0
GUT				Pg	Pb	20 22 08.1	-1.1
GUT				Sg	Sg	20 22 20.6	+0.2
KTD	**Kalmit**	**0.95**	**11**	Pg	Pg	20 22 08.0	-0.6
KTD	**Kalmit**	**0.95**	**11**	Sg	Sg	20 22 20.7	-0.4
A102A	**Sigmaringen, J**	**0.97**	**104**	Pg	Pg	20 22 07.7	-1.2
STU	**Stuttgart**	**1.00**	**67**	Sg	Sg	20 22 22.2	-0.4
RONF	**Ronchamp**	**1.02**	**229**	Pg	Pg	20 22 09.1	-0.9
RONF				Sg	Sg	20 22 22.7	-0.6
BUCH	**Bad Urach**	**1.04**	**86**	Sg	Sg	20 22 23.9	+0.2
HAU	**Haudompre**	**1.04**	**249**	*e*Pg	Pg	20 22 08.0	-2.3
HAU				*e*Sg	Sg	20 22 22.8	-1.0
	47nm,0.3s						
BALST	**Balsthal**	**1.05**	**184**	Pg	Pg	20 22 10.5	-0.1
BALST	**Balsthal**	**1.05**	**184**	Pn	Pg	20 22 08.6	-1.9
BALST				Pg	Pb	20 22 10.2	-1.0
BALST				Sg	Sg	20 22 24.2	0.0
BOURR	**Bourrignon**	**1.06**	**201**	Pg	Pg	20 22 10.1	-0.6
BOURR	**Bourrignon**	**1.06**	**201**	Sg	Sg	20 22 24.7	+0.2
BOURR	**Bourrignon**	**1.06**	**201**	Sg	Sg	20 22 24.8	+0.3
WALHA	**Wallhausen, DE**	**1.09**	**125**	Pg	Pg	20 22 11.2	0.0
WALHA				Sg	Sb	20 22 26.1	-0.4
A109A	**Bad Urach, See**	**1.11**	**86**	Pg	Pg	20 22 11.2	-0.4
A109A				Sg	Sg	20 22 23.4	-2.6
ZWI	**Zwiefalten, Ha**	**1.11**	**96**	Sg	Sg	20 22 25.9	-0.1
ZUR	**Degenried**	**1.15**	**152**	Pg	Pg	20 22 12.3	-0.1
ZUR	**Degenried**	**1.15**	**152**	Sg	Sg	20 22 26.9	-0.2
IMS	**Imsbach**	**1.21**	**3**	Pg	Pg	20 22 12.7	-0.9
IMS				Sg	Sg	20 22 28.6	-0.7
FLIN	**Helmstadt-Barg**	**1.22**	**40**	Pn	Pg	20 22 10.2	-3.6
WILA	**Wila**	**1.23**	**142**	*e*Pg	Pg	20 22 13.9	0.0
WILA				Sg	Sg	20 22 29.9	+0.2
URBA	**Urbach, Forsts**	**1.27**	**68**	⇑Pn	Pg	20 22 11.2	-3.6
URBA				Pg	Pb	20 22 13.5	-1.4
A106B	**Goeppingen, Ma**	**1.33**	**73**	Pn	Pn	20 22 12.1	-3.7
A108A	**Ulm, Ringingen**	**1.36**	**91**	Pg	Pn	20 22 15.7	-0.5
A108A				Sn	Sg	20 22 29.2	-4.7
A108A				Sg	Sb	20 22 33.8	-0.4
CHMF	**Charmoille**	**1.38**	**215**	Pg	Pn	20 22 15.5	-1.0
CHMF				Sn	Sg	20 22 34.4	-0.1
CHMF	**Charmoille**	**1.38**	**215**	Pn	Pn	20 22 12.4	-4.1
CHMF				Pg	Pg	20 22 15.4	-1.3
CHMF				Sg	Sg	20 22 34.1	-0.4
PAGF	**Fort de Pagny**	**1.39**	**278**	*e*Pg	Pn	20 22 14.9	-1.8
PAGF				*e*Sg	Sg	20 22 33.6	-1.4
	11nm,0.2s						
WBA	**Furth**	**1.44**	**27**	Pg	Pn	20 22 16.8	-0.6
RIVT	**Riveris**	**1.49**	**333**	Pg	Pn	20 22 17.5	-0.5
RIVT				*e*Sg	Sb	20 22 36.1	-1.8
ABH	**Alteburg**	**1.50**	**354**	Pn	Pn	20 22 17.4	-0.9
ABH				Pg	Pb	20 22 18.1	-0.9
ABH	**Alteburg**	**1.50**	**354**	Sn	Sn	20 22 36.9	-1.5
ABH	**Alteburg**	**1.50**	**354**	Pg	Pn	20 22 18.0	-0.3
ABH				*e*Sg	Sn	20 22 37.0	-1.4
SIND	**Sindeldorf**	**1.53**	**50**	Sg	Sg	20 22 39.4	-0.2
BOUC	**Bouclans**	**1.54**	**223**	Pn	Pn	20 22 18.2	-0.6
BOUC				Sn	Sn	20 22 39.0	-0.2
A107C	**Memmingen - Ei**	**1.65**	**102**	Pg	Pg	20 22 23.0	+0.4
A107C				Sg	Sg	20 22 43.0	-0.3
WLF	**Walferdange**	**1.68**	**320**	Pg	Pb	20 22 21.3	-0.6
WLF	**Walferdange**	**1.68**	**320**	Pg	Pn	20 22 21.2	+0.6
WLF				*e*Sg	Sn	20 22 42.2	-0.4
BRANT	**Les Verrieres**	**1.70**	**212**	Sn	Sn	20 22 43.5	+0.1
BRANT	**Les Verrieres**	**1.70**	**212**	Pn	Pn	20 22 21.3	+0.3
TORNY	**Torny/Romont**	**1.71**	**200**	Pg	Pb	20 22 22.7	+0.3
TORNY	**Torny/Romont**	**1.71**	**200**	Sn	Sg	20 22 45.1	-0.2
MILB	**Miltenberg**	**1.75**	**34**	Pg	Pb	20 22 22.7	-0.4
MILB				*e*Sg	Sb	20 22 45.2	-0.2
DAVA	**Damuels**	**1.78**	**127**	*e*Pn	Pg	20 22 25.0	+0.5
	0.3nm,0.1s						
DAVA				*i* Sn	Sg	20 22 48.8	+1.2
	1.6nm,0.1s						
NAST	**IGS Nastaetten**	**1.81**	**1**	*e*Sg	Sn	20 22 45.1	-0.9
	18nm,0.3s						
MEZF	**Maizieres J'vi**	**1.83**	**275**	*e*Pg	Pn	20 22 22.8	+0.1
MEZF				*e*Sg	Sb	20 22 47.2	-0.6
	7.1nm,0.3s						
BGG	**Burgeitz**	**1.85**	**351**	*e*Pg	Pb	20 22 24.2	-0.6
BGG				*e*Sg	Sn	20 22 46.3	-0.5
	4.9nm,0.7s						
SFTF	**Sexfontaines**	**1.85**	**265**	*e*Pn	Pn	20 22 19.1	-3.9
SFTF				*e*Sg	Sb	20 22 48.9	+0.5
	9.9nm,0.2s						
TNS	**Taunus Mts**	**1.89**	**13**	*e*Pg	Pb	20 22 25.3	-0.1
TNS				*e*Sg	Sb	20 22 49.6	+0.1
NORI	**Noerdlinger Ri**	**1.91**	**79**	*e*Sg	Sg	20 22 50.9	-0.7
HILG	**Hillesheim**	**2.04**	**339**	*e*Pg	Pb	20 22 27.1	-1.1
CABF	**La Chapelle**	**2.12**	**214**	*e*Pn	Pn	20 22 23.3	-3.5
CABF				*e*Sg	Sb	20 22 56.8	+0.6
	2.3nm,0.2s						
FETA	**Feichten**	**2.41**	**123**	*i* Pn	Pg	20 22 36.3	-0.2
	0.2nm,0.1s						
FETA				*i* Sn	Sg	20 23 08.0	+0.4
	0.1nm,0.1s						
MOTA	**Moosalm**	**2.46**	**114**	*i* Pn	Pg	20 22 36.7	-0.8
	0.6nm,0.1s						
MOTA				*i* Sn	Sg	20 23 08.2	-1.1
	0.8nm,0.1s						
SQTA	**Sankt Quirin**	**2.58**	**116**	*e*Pn	Pb	20 22 36.4	-0.9
	0.9nm,0.2s						
SQTA				*i* Sn	Sg	20 23 11.6	-1.6
	3.5nm,0.3s						
GIVF	**Givet**	**2.60**	**313**	*e*Pg	Pb	20 22 37.6	0.0
GIVF				*e*Sg	Sb	20 23 10.9	+1.0
	2.4nm,0.2s						
GRF	**Grafenberg Arr**	**2.60**	**59**	*e*Pg	Pb	20 22 38.6	+1.0
GRF				*e*Sg	Sb	20 23 11.6	+1.5
WTTA	**Wattenberg**	**2.82**	**112**	*i* Pn	Pb	20 22 41.9	+0.5
	0.1nm,0.1s						
WTTA				*i* Sn	Sg	20 23 20.7	-0.2
	0.6nm,0.2s						
LOR	**Lormes**	**2.88**	**249**	*e*Pg	Pb	20 22 43.8	+1.4
LOR				*e*Sg	Sb	20 23 19.5	+1.5
	7.1nm,0.2s						
SSF	**Saint Saulge**	**3.19**	**247**	*e*Pg	Pb	20 22 48.8	+1.2
SSF				*e*Sg	Sb	20 23 28.7	+1.9
	4.4nm,0.4s						
SMF	**Signal de Mont**	**3.20**	**238**	*e*Pg	Pb	20 22 47.8	0.0
SMF				*e*Sg	Sb	20 23 29.8	+2.7
	4.6nm,0.3s						
ROTZ	**Rotzenmuhle**	**3.21**	**63**	*e*Sg	Sb	20 23 30.4	+2.9
MOX	**Moxa**	**3.36**	**46**	*e*Sg	Sg	20 23 35.3	-3.0
AVF	**Avril sur Loir**	**3.41**	**244**	*e*Pg	Pb	20 22 52.8	+1.5
AVF				*e*Sg	Sb	20 23 35.9	+2.8
	1.8nm,0.2s						
NKC	**Novy Kostel**	**3.56**	**57**	*e*SG	Sb	20 23 40.6	+3.0
BGF	**Bois d'Agland**	**3.82**	**243**	*e*Pg	Pb	20 23 00.5	+2.1
BGF				*e*Sg	Sg	20 23 49.6	-3.5
	7.6nm,0.4s						
KHC	**Kasperske Hory**	**3.90**	**77**	*e*SG	Sg	20 23 52.1	-3.4
IBBS	**Ibbenbueren So**	**3.90**	**360**	Pn	Pn	20 22 49.4	-1.8
TCF	**Toulx Ste Croi**	**4.34**	**243**	*e*Pg	Pb	20 23 10.1	+2.8
TCF				*e*Sg	Sg	20 24 05.7	-4.0
	3.7nm,0.4s						
CKRC	**Cesky Krumlov**	**4.34**	**82**	*e*SG	Sg	20 24 07.1	-2.7

*IDC **16** 20:55:35.8±2.7, 5°.48S×127°.78E, h0km, mb3.5/1, mbtmp3.9/3, ML4.1/2, Error ellipse: s-maj=322.7km s-min=29.1km az=66.0*
ISC 16 20:55:55.3±1.6, 5°.5S±0°.2×129°.3E±0°.4, h200km, n9, σ2°.15/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**7.56**	**166**	P	**Pn**	**20 57 44.8**	**+1.9**
KDU	**Kakadu**	**7.84**	**156**	P	**Pn**	**20 57 48.1**	**+1.5**
WRA	**Warramunga Arr**	**15.21**	**162**	Pn	**Pn**	**20 59 20.0**	**-0.3**
	0.6nm,0.3s,baz=333,slow=13,SNR=33						
WRA				Sn	**S**	**21 02 04.7**	**-4.6**
	0.2nm,0.3s,baz=342,slow=21,SNR=6.6						
	1.4nm,0.5s						
WB1	**Warramunga Ar.**	**15.23**	**162**	P	**Pn**	**20 59 20.0**	**-0.5**
QIS	**Mount Isa**	**18.05**	**147**	P	**P**	**20 59 52.3**	**+0.4**
ASAR	**Alice Springs**	**18.64**	**167**	P	**P**	**20 59 59.1**	**+0.9**
	0.9nm,0.3s,baz=350,slow=12,SNR=68						
	3.8nm,0.5s						
WRKA	**Warakurna**	**19.48**	**183**	P	**P**	**21 00 08.1**	**+0.8**
INKA	**Innaminka**	**24.70**	**155**	P	**P**	**21 00 59.6**	**+1.5**
MKAR	**Makanchi Array**	**66.55**	**327**	P	**P**	**21 06 22.7**	**-1.2**
	0.2nm,0.5s,baz=124,slow=7.6,SNR=6.3						
	0.2nm,0.5s						

*HEL **16** 20:59:44.7±0.2, 67°.78N×20°.10E, h0km, ML1.7, Explosion*
*UPP **16** 20:59:45.0±0.1, 67°.86N×20°.20E, h0km, ML2.5, Confirmed Induced event*
*IDC **16** 20:59:46.6±0.9, 67°.78N×20°.95E, h0km, mbtmp3.2/5, ML1.9/4, Error ellipse: s-maj=15.6km s-min=6.6km az=116.0*
*BER **16** 20:59:48.2±1.9, 67°.86N×20°.40E, h0km, ML2.1, Suspected explosion*
ISC 16 20:59:45.5±0.7, 67°.81N±0°.02×20°.26E±0°.02, h0km, n41, σ1°.23/74, 1C-4D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**12**	⇓P	**Pg**	**20 59 48.2**	**0.0**
KUA				S	**Sg**	**20 59 50.1**	**+0.1**
KOVU	**Salmi**	**0.41**	**355**	⇓P	**Pg**	**20 59 53.0**	**-0.4**
KOVU				S	**Sg**	**20 59 58.4**	**-0.3**
LANU	**Lannavaara**	**0.70**	**70**	⇓P	**Pg**	**20 59 58.6**	**-0.2**
LANU				S	**Sg**	**21 00 08.0**	**+0.2**
LANU	**Lannavaara**	**0.70**	**70**	PG	**Pg**	**20 59 58.8**	**0.0**
LANU				SG	**Sg**	**21 00 08.0**	**+0.2**
DUNU	**Dundret**	**0.71**	**170**	P	**Pg**	**20 59 58.6**	**-0.3**
DUNU				S	**Sg**	**21 00 08.4**	**+0.3**
MASU	**Masugnsbyn**	**0.76**	**117**	⇓P	**Pg**	**20 59 59.8**	**-0.1**
MASU				S	**Sg**	**21 00 10.8**	**+1.1**
SALU	**Saltoluokta**	**0.80**	**238**	P	**Pg**	**21 00 00.1**	**-0.6**
SALU				S	**Sg**	**21 00 11.3**	**+0.2**
KIF	**Kilpisjarvi**	**1.21**	**9**	*e*P	**Pg**	**21 00 07.9**	**-0.7**
KIF				*e*S	**Sb**	**21 00 25.5**	**+0.1**
KIF	**Kilpisjarvi**	**1.21**	**9**	PB	**Pg**	**21 00 08.2**	**-0.5**
	baz=193						
KIF				MSG		21 00 23.9	
	comp=Z,11nm,0.2s						
KIF				SG	**Sb**	**21 00 25.0**	**-0.4**
PAJU	**Pajala**	**1.36**	**124**	P	**Pg**	**21 00 10.5**	**-1.0**
PAJU				S	**Sg**	**21 00 28.8**	**-0.3**
PAJU	**Pajala**	**1.36**	**124**	PG	**Pg**	**21 00 09.9**	**-1.6**
	baz=300						
PAJU				SG	**Sg**	**21 00 28.9**	**-0.1**
HEF	**Hetta**	**1.41**	**63**	*e*P	**Pg**	**21 00 11.3**	**-1.1**
HEF				*e*S	**Sg**	**21 00 30.3**	**-0.3**
HEF	**Hetta**	**1.41**	**63**	PG	**Pg**	**21 00 11.1**	**-1.3**
	baz=251						
HEF				MSG		21 00 29.0	
	comp=Z,4.8nm,0.2s						
HEF				SG	**Sg**	**21 00 30.4**	**-0.3**
ERTU	**Ertsjaerv**	**1.47**	**148**	⇑P	**Pn**	**21 00 12.4**	**-0.8**
ERTU				S	**Sg**	**21 00 32.6**	**-0.1**
ERTU	**Ertsjaerv**	**1.47**	**148**	PN	**Pn**	**21 00 12.1**	**-1.1**
ERTU				SN	**Sb**	**21 00 32.9**	**-0.1**
KLF	**Kolari**	**1.54**	**110**	PG	**Pn**	**21 00 13.4**	**-0.8**
	baz=296						
KLF				MSG		21 00 32.1	
	comp=Z,4.6nm,0.2s						
KLF				SN	**Sn**	**21 00 34.6**	**-0.1**
KTK1	**Kautokeino**	**1.63**	**41**	PG	**Pn**	**21 00 15.0**	**-0.4**
KTK1				SN	**Sg**	**21 00 39.1**	**+1.3**
HARU	**Harads**	**1.68**	**170**	P	**Pn**	**21 00 15.8**	**-0.3**
HARU				S	**Sb**	**21 00 38.9**	**0.0**
JETT	**Jettan, Norway**	**1.75**	**2**	*e*P	**Pn**	**21 00 16.9**	**-0.1**
JETT				*e*S	**Sn**	**21 00 39.4**	**-0.7**
JETT				IAML		21 00 43.8	
	comp=Z,43nm,0.4s						
TRO	**Tromso**	**1.89**	**346**	PG	**Pn**	**21 00 18.9**	**0.0**
TRO				SG	**Sb**	**21 00 44.8**	**0.0**
FAUS	**Fauske**	**1.95**	**259**	*e*P	**Pn**	**21 00 20.6**	**+0.9**
FAUS				*e*S	**Sb**	**21 00 46.9**	**+0.3**
FAUS				IAML		21 00 51.8	
	comp=Z,18nm,0.4s						
KALU	**Kalix**	**2.31**	**147**	PG	**Pn**	**21 00 25.6**	**+0.9**
	baz=328						
KALU				SG	**Sb**	**21 00 55.9**	**-1.1**
TOF	**Tornio**	**2.37**	**136**	PG	**Pn**	**21 00 26.6**	**+1.2**
TOF				MSG		21 00 55.4	
	comp=Z,3.5nm,0.2s						
TOF				SG	**Sb**	**21 00 58.0**	**-0.6**
SGF	**Sodankyl**	**2.43**	**96**	PB	**Pn**	**21 00 27.2**	**+0.9**
SGF				SG	**Sb**	**21 01

YOIG				*e*S		**Sb**	**21 19 49.0**	**-0.3**
TXIG	**Tlaxiaco**	**2.58**	**293**	*e*P		**Pb**	**21 19 25.4**	**-1.3**
TXIG				*e*S		**Sn**	**21 19 56.8**	**+2.7**
PNIG	**Pinotepa**	**2.73**	**274**	*e*P		**Pn**	**21 19 26.0**	**+1.8**
PNIG				*e*S		**Sb**	**21 20 01.3**	**-1.5**
HLIG	**Huajuapan de L**	**2.88**	**304**	*e*P		**Pb**	**21 19 30.9**	**-0.9**
HLIG				*e*S		**Sb**	**21 20 08.6**	**+1.2**
CCIG	**Comitan**	**3.03**	**89**	*e*P		**Pb**	**21 19 32.7**	**-1.5**
CCIG				*e*S		**Sb**	**21 20 08.2**	**-3.2**
PATR	**El Naranjo**	**3.14**	**110**	*e*P		**Pn**	**21 19 31.3**	**+1.3**
PATR				*e*S		**Sn**	**21 20 08.7**	**+0.8**
PAVE	**Pavencul**	**3.17**	**109**	*e*P		**Pn**	**21 19 33.0**	**+2.6**
PAVE				*e*S		**Sn**	**21 20 09.8**	**+1.3**
FTIG	**Fresnillo de T**	**3.19**	**302**	*e*P		**Pb**	**21 19 35.9**	**-1.0**
FTIG				*e*S		**Sb**	**21 20 15.4**	**-0.6**
CHUJ	**Union Juarez**	**3.27**	**110**	*e*P		**Pn**	**21 19 32.6**	**+0.9**
CHUJ				*e*S		**Sn**	**21 20 10.4**	**-0.5**
JAUV	**Jalcomulco**	**3.43**	**335**	*e*P		**Pn**	**21 19 33.3**	**-0.5**
JAUV				*e*S		**Sn**	**21 20 16.8**	**+2.0**
TEIG	**Tepich**	**7.75**	**58**	Pn		**Pn**	**21 20 34.9**	**+1.8**
	23nm,0.3s,baz=207,slow=2.7,SNR=8.4							
TEIG				Sn		**Sn**	**21 22 00.3**	**-0.9**
	26nm,0.3s,baz=223,slow=19,SNR=5.6							
TXAR	**Lajitas Array**	**15.14**	**331**	Pn		**P**	**21 22 19.0**	**-0.6**
	baz=150,slow=13,SNR=2.5							
TXAR				Sn		**Sn**	**21 24 53.5**	**-9.0**
	0.2nm,0.3s,baz=124,slow=24,SNR=5.1							
	0.1nm,0.4s							
LPIG	**La Paz**	**16.12**	**301**	LR	LR	LR	21 28 21.5	
	comp=Z,112nm,20.9s,baz=180,slow=36							
SDV	**Santo Domingo**	**25.13**	**104**	LR	LR	LR	21 33 34.6	
	comp=Z,55nm,22.0s,baz=331,slow=36							
PFO	**Pinyon Flats O**	**25.76**	**316**	LR	LR	LR	21 34 57.2	
	comp=Z,106nm,21.4s,baz=109,slow=38							
ATAH	**Atahualpa**	**28.61**	**143**	LR	LR	LR	21 34 10.7	
	comp=Z,42nm,19.3s,baz=337,slow=32							
ELK	**Elko**	**29.92**	**329**	LR	LR	LR	21 38 32.3	
	comp=Z,44nm,20.2s,baz=92,slow=40							
NVAR	**Mina Array Bea**	**29.96**	**322**	P		**P**	**21 24 50.8**	**+1.7**
	0.5nm,0.5s,baz=123,slow=8.8,SNR=3.9							
	0.5nm,0.5s							
NNA	**Nana**	**33.45**	**146**	LR	LR	LR	21 36 21.3	
	comp=Z,42nm,19.1s,baz=352,slow=32							
YBH	**Yreka Blue Hor**	**34.67**	**323**	LR	LR	LR	21 40 29.5	
	comp=Z,73nm,20.1s,baz=151,slow=38							
YKA	**Yellowknife Ar**	**48.16**	**348**	P		**P**	**21 27 21.9**	**+1.5**
	0.3nm,0.8s,baz=156,slow=7.3,SNR=4.4							
	0.3nm,0.8s							
ILAR	**Eielson Array**	**59.55**	**337**	P		**P**	**21 28 45.5**	**+1.8**
	0.6nm,1.0s,baz=123,slow=7.2,SNR=5.1							
	0.6nm,1.0s							

IDC ***16*** *21:38:19.8±1.2,59.36S×151.10W,h0km,mb3.9/3, mbtmp3.9/3,MS4.4/38, Error ellipse: s-maj=48.6km s-min=38.2km az=4.0*

NEIC ***16*** *21:38:21.9±2.1,59.5S±0.1×151.0W±0.3,h10km±1km, mb4.5/7, Error ellipse: s-maj=26.3km s-min=20.4km az=110.0*

GCMT ***16*** *21:38:24.9±0.2,59.71S±0.01×150.93W±0.03,h15km, MW5.0/97, Moment Tensor Solution. s43,c52; s97,c132; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~1.18±.14; Mθθ4.34±.13; Mϕϕ-3.16±.11; Mrθ-0.51±.40; Mϕ2.43±.11; Mϕr~0.52±.36; Best double couple: M04.52400×10^16 NP1:ϕs29.00000°,δ89.00000°,λ-171.00000°. NP2: ϕs299.00000°,δ81.00000°,λ-1.00000°. Principal axes: T 5.1230, Plg6.0000°, Azm163.0000°; N -1.1980, Plg81.0000°, Azm36.0000°; P -3.9250, Plg7.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 21:38:20.9±0.8,59.3S±0.2×151.0W±0.2,h10km,n82, σ0s95/25,mb4.5/8,MS4.3/38,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**23.14**	**201**	P	**P**	**21 43 26.1**	**-0.7**
SBA				IAmb	IAmb	21 43 36.2	
	comp=Z,24nm,1.5s						
VNDA	**Vanda**	**23.95**	**203**	P	**P**	**21 43 33.3**	**-1.4**
VNDA	**Vanda**	**23.95**	**203**	P	**P**	**21 43 35.5**	**+0.7**
	comp=Z,1.1nm,1.0s,baz=58,slow=12,SNR=2.7						
VNDA				LR	LR	21 50 35.0	
	comp=Z,483nm,18.4s,baz=74,slow=31						
	comp=Z,1.1nm,1.0s						
RPZ	**Rata Peaks**	**27.84**	**287**	LR	LR	21 52 53.3	
	comp=Z,448nm,19.4s,baz=131,slow=31						
URZ	**Urewera**	**29.31**	**302**	LR	LR	21 52 35.8	
	comp=Z,386nm,21.6s,baz=204,slow=29						
QSPA	**South Pole Qui**	**30.80**	**180**	P	**P**	**21 44 37.1**	**+0.6**
QSPA				IAmb	IAmb	21 44 43.7	
	comp=Z,11nm,1.3s						
QSPA	**South Pole Qui**	**30.80**	**180**	LR	LR	21 55 41.7	
	comp=Z,748nm,18.1s,baz=61,slow=34						
RAO	**Raoul Island**	**35.25**	**317**	LR	LR	21 56 07.7	
	comp=Z,422nm,20.7s,baz=140,slow=30						
TBI	**Tubuai**	**35.98**	**2**	*e*S	S	21 51 14.5	+15
	comp=Z,597nm,35.8s						
TBI				*e*LR	LR	21 54 56.5	
	comp=Z,2μm,25.5s						
TBI				*e*LR	LR	21 55 13.8	
	comp=Z,5μm,22.2s						
TBI	**Tubuai**	**35.98**	**2**	*e*T	T	22 23 30.4	
	comp=Z,42nm,0.3s						
PMSA	**Palmer Station**	**38.03**	**136**	LR	LR	21 58 49.8	
	comp=Z,408nm,18.4s,baz=280,slow=32						
RAR	**Rarotonga**	**38.61**	**347**	LR	LR	21 57 02.3	
	comp=Z,718nm,19.8s,baz=135,slow=29						
MEH	**Mehetia**	**41.46**	**4**	*e*T	T	22 30 23.1	
	comp=Z,10.0nm,0.2s						
PPT2	**Papeete2**	**41.70**	**2**	*e*S	S	21 52 35.1	+8.6
	comp=Z,123nm,27.8s						
PPT2				*e*LR	LR	21 57 36.3	
	comp=Z,1μm,27.2s						
PPT2				*e*LR	LR	21 57 56.3	
	comp=Z,933nm,22.2s						
PPT	**Papeete**	**41.72**	**2**	LR	LR	21 58 51.5	
	comp=Z,487nm,20.7s,baz=188,slow=30						
RPN	**Rapa Nui**	**43.04**	**60**	LR	LR	21 59 59.1	
	comp=Z,650nm,21.2s,baz=184,slow=30						
VAH	**Vaihoa**	**44.10**	**5**	*e*T	T	22 33 39.1	
	comp=Z,50nm,0.3s						
SNAA	**Sanae**	**47.40**	**167**	P	**P**	**21 46 55.6**	**+0.9**
SNAA				IAmb	IAmb	21 47 14.1	
	comp=Z,3.7nm,1.1s						
SNAA	**Sanae**	**47.40**	**167**	LR	LR	22 06 17.2	
	comp=Z,333nm,18.0s,baz=187,slow=35						
DZM	**Mont Dzumac**	**47.87**	**302**	*e*LR	LR	22 00 24.4	
	comp=Z,369nm,25.3s						
DZM	**Mont Dzumac**	**47.87**	**302**	LR	LR	22 04 22.9	
	comp=Z,184nm,19.0s,baz=176,slow=33						
MAW	**Mawson**	**50.95**	**196**	LR	LR	22 06 31.0	
	comp=Z,272nm,20.9s,baz=174,slow=33						
TAOE	**Nuku Hiva Isla**	**51.04**	**14**	*e*LR	LR	22 01 58.8	
	comp=Z,559nm,24.7s						
PLCA	**Paso Flores**	**51.46**	**107**	LR	LR	22 03 58.4	
	comp=Z,231nm,19.8s,baz=217,slow=30						
STKA	**Stephens Creek**	**51.79**	**271**	LR	LR	22 06 55.3	
	comp=Z,535nm,18.1s,baz=158,slow=33						
EIDS	**Eidsvold**	**52.27**	**284**	P	**P**	**21 47 33.8**	**+1.6**
EIDS				IAmb	IAmb	21 47 39.1	
	comp=Z,7.8nm,1.1s						
H03S2	**Juan Fernandez**	**52.59**	**95**	T	T	22 44 31.8	
	baz=216,slow=74,SNR=55						
H03S1	**Juan Fernandez**	**52.60**	**95**	T	T	22 44 31.5	
	baz=216,slow=74,SNR=59						
H03S3	**Juan Fernandez**	**52.61**	**95**	T	T	22 44 32.1	
	baz=216,slow=74,SNR=45						
H03N3	**Juan Fernandez**	**52.90**	**94**	T	T	22 44 55.2	
	baz=219,slow=72,SNR=47						
H03N2	**Juan Fernandez**	**52.90**	**94**	T	T	22 44 52.0	
	baz=219,slow=72,SNR=57						
H03N1	**Juan Fernandez**	**52.91**	**94**	T	T	22 44 49.7	
	baz=219,slow=72,SNR=35						
CTA	**Charters Tower**	**59.10**	**283**	LR	LR	22 09 35.7	
	comp=Z,154nm,20.9s,baz=126,slow=32						
CFA	**Coronel Fontan**	**59.79**	**102**	LR	LR	22 09 01.1	
	comp=Z,222nm,18.5s,baz=166,slow=31						
ASAR	**Alice Springs**	**62.40**	**270**	P	**P**	**21 48 43.7**	**-0.1**
ASAR	**Alice Springs**	**62.40**	**270**	P	**P**	**21 48 43.2**	**-0.6**
	comp=Z,3.4nm,0.9s,baz=146,slow=7.0,SNR=23						
ASAR				LR	LR	22 13 34.1	
	comp=Z,496nm,18.1s,baz=159,slow=34						
	comp=Z,3.4nm,0.9s						

AS31	**Alice Springs**	**62.40**	**270**	P	**P**	**21 48 43.7**	**-0.1**
AS31				IAmb	IAmb	21 48 50.1	
	comp=Z,2.4nm,1.2s						
H01W1	**Cape Leeuwin H**	**63.05**	**247**	T	T	22 57 34.6	
	baz=144,slow=76,SNR=6.9						
H01W2	**Cape Leeuwin H**	**63.06**	**247**	T	T	22 57 34.8	
	baz=144,slow=76,SNR=6.6						
H01W3	**Cape Leeuwin H**	**63.07**	**247**	T	T	22 57 33.5	
	baz=144,slow=76,SNR=5.9						
NWAO	**Narrogin (SRO)**	**63.19**	**250**	LR	LR	22 10 07.4	
	comp=Z,405nm,19.1s,baz=169,slow=30						
WRA	**Warramunga Arr**	**65.27**	**272**	P	**P**	**21 49 02.5**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=150,slow=5.4,SNR=10						
	comp=Z,1.3nm,0.8s						
WB0	**Warramunga Arr**	**65.39**	**273**	P	**P**	**21 49 02.6**	**-0.9**
LVC	**Limon Verde**	**66.82**	**95**	LR	LR	22 10 56.8	
	comp=Z,174nm,20.8s,baz=212,slow=29						
PMG	**Port Moresby**	**67.80**	**290**	LR	LR	22 12 58.0	
	comp=Z,142nm,21.9s,baz=146,slow=31						
CPUP	**Villa Florida**	**69.53**	**107**	LR	LR	22 15 47.7	
	comp=Z,178nm,19.2s,baz=212,slow=32						
NNA	**Nana**	**71.68**	**82**	LR	LR	22 13 53.7	
	comp=Z,298nm,18.8s,baz=212,slow=30						
LPAZ	**La Paz**	**72.50**	**92**	P	**P**	**21 49 48.6**	**+0.1**
ATAH	**Atahualpa**	**75.03**	**79**	LR	LR	22 16 58.9	
	comp=Z,458nm,18.2s,baz=227,slow=31						
SIV	**San Ignacio**	**76.35**	**98**	LR	LR	22 17 51.5	
	comp=Z,182nm,21.8s,baz=262,slow=31						
BDFB	**Brasilia**	**83.14**	**109**	LR	LR	22 23 50.4	
	comp=Z,209nm,20.4s,baz=165,slow=33						
KAPI	**Kappang**	**85.36**	**268**	LR	LR	22 26 40.0	
	comp=Z,247nm,20.4s,baz=151,slow=34						
JTS	**Las Juntas de**	**86.98**	**64**	LR	LR	22 21 33.6	
	comp=Z,260nm,18.7s,baz=154,slow=30						
ROSC	**El Rosal**	**87.36**	**76**	LR	LR	22 22 30.0	
	comp=Z,237nm,21.4s,baz=232,slow=30						
SUR	**Sutherland**	**88.37**	**173**	LR	LR	22 28 31.8	
	comp=Z,206nm,18.4s,baz=174,slow=34						
CMIG	**Matias Romero**	**88.70**	**53**	LR	LR	22 23 26.3	
	comp=Z,75nm,19.4s,baz=217,slow=30						
LPIG	**La Paz**	**89.62**	**37**	LR	LR	22 22 60.0	
	comp=Z,102nm,18.1s,baz=196,slow=30						
LEM	**Lembang**	**89.96**	**257**	LR	LR	22 26 11.3	
	comp=Z,121nm,20.2s,baz=194,slow=32						
BOSA	**Boshof**	**92.32**	**177**	LR	LR	22 29 06.5	
	comp=Z,492nm,20.4s,baz=176,slow=33						
SDV	**Santo Domingo**	**92.68**	**77**	LR	LR	22 26 49.1	
	comp=Z,193nm,21.4s,baz=205,slow=31						
DAV	**Davao City (W)**	**92.69**	**279**	LR	LR	22 35 10.8	
	comp=Z,61nm,18.2s,baz=154,slow=37						
LBTB	**Lobatse**	**95.92**	**177**	LR	LR	22 31 04.8	
	comp=Z,516nm,20.7s,baz=174,slow=33						
PCRV	**Puerto La Cruz**	**96.80**	**82**	LR	LR	22 30 42.7	
	comp=Z,353nm,18.0s,slow=32						
PFO	**Pinyon Flats O**	**96.93**	**28**	LR	LR	22 27 36.1	
	comp=Z,144nm,18.4s,baz=228,slow=30						
H10S3	**ASCENSION HYDR**	**103.49**	**135**	T	T	23 48 30.9	
	baz=204,slow=74,SNR=6.8						
H10S2	**ASCENSION HYDR**	**103.50**	**135**	T	T	23 48 30.3	
	baz=16,slow=74,SNR=4.4						
H10N3	**ASCENSION HYDR**	**104.58**	**135**	T	T	23 49 47.2	
	baz=203,slow=75,SNR=7.8						
H10N1	**ASCENSION HYDR**	**104.58**	**135**	T	T	23 49 49.5	
	baz=203,slow=75,SNR=12						
H10N2	**ASCENSION HYDR**	**104.60**	**135**	T	T	23 49 54.4	
	baz=203,slow=75,SNR=10						
ILAR	**Eielson Array**	**123.83**	**2**	PKP	**PKiKP**	**21 57 18.2**	**+0.6**
	comp=Z,0.8nm,1.0s,baz=174,slow=1.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**129.61**	**144**	PKP	**PKPdf**	**21 57 28.6**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=181,slow=5.3,SNR=1.6						
TARG	**Taragay, Kyrgy**	**145.31**	**262**	PKPbc	**PKPdf**	**21 57 58.0**	**-0.5**
MK31	**Makanchi Array**	**146.57**	**272**	PKPdf	**PKPdf**	**21 57 59.1**	**-0.9**
MKAR	**Makanchi Array**	**146.57**	**272**	PKPdf	**PKPbc**	**21 58 01.1**	**-0.4**
MKAR	**Makanchi Array**	**146.57**	**272**	PKPbc	**PKPab**	**21 58 01.6**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=91,slow=6.1,SNR=6.5						
HRA	**Herat**	**146.86**	**236**	PKPdf	**PKPbc**	**21 58 02.0**	**-1.0**
ZAA0	**Zalesovo Array**	**149.65**	**285**	PKPbc	**PKiKP**	**21 58 10.7**	**+0.4**
ZALV	**Zalesovo Beam**	**149.65**	**285**	PKPbc	**PKiKP**	**21 58 10.8**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=104,slow=6.1,SNR=6.3						
KKAR	**Karatay Array**	**149.98**	**256**	PKPbc	**PKiKP**	**21 58 10.7**	**-0.8**
KURBB	**Kurchatov Arra**	**150.92**	**275**	PKPbc	**PKiKP**	**21 58 12.9**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=125,slow=2.0,SNR=3.5						
KURK	**Kurchatov**	**150.93**	**275**		**PKPdf**	**21 58 09.1**	**+2.3**
ESDC	**Sonseca Array**	**151.37**	**119**	PKPbc	**PKiKP**	**21 58 14.0**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=242,slow=1.2,SNR=1.5						

IDC ***16*** *21:40:30.1±1.8,59.55S×151.46W,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=55.5km s-min=49.4km az=38.0*

ISC 16 21:40:30.9±1.9,59.5S±0.3×151.3W±0.4,h10km,n15, σ0s30/6,mb3.7/3,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**23.73**	**203**	P	**P**	**21 45 42.6**	**0.0**
	0.7nm,0.9s,baz=70,slow=9.9,SNR=0.9						
	0.6nm,0.8s						
H03S2	**Juan Fernandez**	**52.74**	**95**	T	T	22 46 43.1	
	baz=216,slow=74,SNR=16						
H03S1	**Juan Fernandez**	**52.75**	**95**	T	T	22 46 44.4	
	baz=216,slow=74,SNR=16						
H03S3	**Juan Fernandez**	**52.76**	**95**	T	T	22 46 42.6	
	baz=216,slow=74,SNR=15						
H03N3	**Juan Fernandez**	**53.05**	**94**	T	T	22 47 06.1	
	baz=219,slow=72,SNR=13						
H03N2	**Juan Fernandez**	**53.05**	**94**	T	T	22 46 58.1	
	baz=219,slow=72,SNR=13						
H03N1	**Juan Fernandez**	**53.06**	**94**	T	T	22 47 00.8	
	baz=219,slow=72,SNR=9.7						
ASAR	**Alice Springs**	**62.23**	**270**	P	**P**	**21 50 52.9**	**+0.2**
	0.9nm,0.8s,baz=152,slow=5.9,SNR=4.5						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**65.11**	**273**	P	**P**	**21 51 11.8**	**+0.1**
	0.4nm,0.8s,baz=147,slow=6.2,SNR=2.3						
	0.4nm,0.8s						
H10N3	**ASCENSION HYDR**	**104.57**	**135**	T	T	23 52 03.0	
	baz=205						
H10N1	**ASCENSION HYDR**	**104.58**	**136**	T	T	23 52 03.3	
	baz=205						
H10N2	**ASCENSION HYDR**	**104.59**	**136**	T	T	23 52 01.8	
	baz=205						
MKAR	**Makanchi Array**	**146.41**	**272**	PKPbc	**PKPbc**	**22 00 10.7**	**-0.4**
	0.7nm,0.7s,baz=145,slow=3.7,SNR=3.6						
KURBB	**Kurchatov Arra**	**150.77**	**275**	PKPbc	**PKiKP**	**22 00 22.8**	**0.0**
	0.4nm,0.7s,baz=115,slow=2.1,SNR=2.6						
ESDC	**Sonseca Array**	**151.43**	**119**	PKPbc	**PKiKP**	**22 00 24.9**	**+0.2**
	0.5nm,0.9s,baz=228,slow=2.2,SNR=2.4						

IDC 16 21:48:32.8±1.7,5.97S×150.09E,h0km,mb3.3/2, mbtmp3.6/4,ML2.5/2,MS3.1/1,Error ellipse: s-maj=96.0km s-min=23.4km az=132.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.54**	**49**	Pn	Pn	21 49 15.2	-0.1
	7.0nm,0.3s,baz=180,slow=20,SNR=1.1						
	70nm,0.4s						
PMG	**Port Moresby**	**4.49**	**220**	Pn	Pn	21 49 43.2	+1.1
	4.0nm,0.3s,baz=7.4,slow=7.6,SNR=5.7						
PMG				Sn	Sn	21 50 34.6	-0.4
	4.9nm,0.3s,baz=106,slow=20,SNR=12						
	8.1nm,0.3s						
CTA	**Charters Tower**	**14.52**	**195**	LR	LR	21 57 03.8	
	comp=Z,76nm,21.1s,baz=107,slow=35						
WRA	**Warramunga Arr**	**20.67**	**226**	P	P	21 53 14.6	0.0
	1.3nm,0.6s,baz=52,slow=11,SNR=11						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**23.50**	**220**	P	P	21 53 44.2	-0.4
	0.6nm,0.8s,baz=56,slow=9.4,SNR=2.7						
	0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**148.06**	**285**	PKPbc	PKPbc	22 08 20.9	-0.6
	0.5nm,0.4s,baz=90,slow=2.6,SNR=6.4						

IDC ***16*** *22:15:16.8±3.3,30.47S×68.99W,h0km,mb3.7/1, mbtmp3.5/2,ML3.4/1,Error ellipse: s-maj=145.6km s-min=51.2km az=4.0*

SJA ***16*** *22:15:31.1±0.7,29.45S×68.64W,h166km±5km,ML3.6, MW3.6*

ISC 16 22:15:33.3±0.9,29.41S±0.03×68.53W±0.06, h130km±10km,n32,σ1s44/46,San Juan Province

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

CO01	**Juntas del Tor**	**1.47**	**247**	*i* P		**Pn**	**22 16 01.9**	**+0.6**
CO01	**Juntas del Tor**	**1.47**	**247**	*e*P		**Pn**	**22 16 02.6**	**+1.3**
CO01				*e*S		**Sn**	**22 16 22.8**	**+0.2**
CO01				IAML			22 16 27.4	
	comp=N,168nm,0.3s							
AC05	**El Transito**	**1.63**	**290**	*i* P		**Pn**	**22 16 03.4**	**+0.4**
RTLL	**Cerro Villicun**	**1.91**	**179**	*i* P		**Pn**	**22 16 06.5**	**+0.3**
RTLL				*i* S		**Sn**	**22 16 32.8**	**+1.4**
LCO	**Las Campanas**	**1.94**	**281**	*i* P		**Pn**	**22 16 06.6**	**-0.2**
LCO				*i* S		**Sn**	**22 16 32.5**	**+0.2**
LCO	**Las Campanas**	**1.94**	**281**	*e*P		**Pn**	**22 16 07.3**	**+0.6**
LCO				*e*S		**Sn**	**22 16 31.6**	**-0.7**
LCO				IAML			22 16 34.1	
	comp=N,5μm,0.4s							
GO04	**Tololo Observa**	**2.11**	**248**	*i* P		**Pn**	**22 16 08.7**	**-0.1**
GO04	**Tololo Observa**	**2.11**	**248**	*e*P		**Pn**	**22 16 09.3**	**+0.5**
GO04				*e*S		**Sn**	**22 16 35.9**	**-0.1**
GO04				IAML			22 16 38.4	
	comp=E,2μm,0.4s							
ZON	**Zonda**	**2.13**	**183**	*i* P		**Pn**	**22 16 08.8**	**-0.1**
ZON				*i* S		**Sn**	**22 16 36.7**	**+0.5**
CFA	**Coronel Fontan**	**2.20**	**173**	*i* P		**Pn**	**22 16 09.5**	**-0.2**
CFA				*i* S		**Sn**	**22 16 38.6**	**+0.9**
CFA				IAML			22 16 41.9	
	comp=Z,268nm,0.5s							
CO03	**El Pedregal**	**2.35**	**232**	*i* P		**Pn**	**22 16 11.6**	**0.0**
CO03				*i* S		**Sn**	**22 16 40.1**	**-1.0**
CO03				IAML			22 16 43.2	
	comp=Z,291nm,0.2s							
CO03	**El Pedregal**	**2.35**	**232**	*e*P		**Pn**	**22 16 12.2**	**+0.6**
CO03				*e*S		**Sn**	**22 16 41.2**	**+0.1**
CO03				IAML			22 16 43.1	
	comp=E,730nm,0.4s							
GO03	**Copiap**	**2.35**	**320**	*i* P		**Pn**	**22 16 11.7**	**0.0**
GO03	**Copiap**	**2.35**	**320**	*e*P		**Pn**	**22 16 12.4**	**+0.7**
GO03				*e*S		**Sn**	**22 16 40.1**	**-1.0**
GO03				IAML			22 16 42.2	
	comp=N,570nm,0.2s							
AC04	**Llanos de Chal**	**2.54**	**298**	*i* P		**Pn**	**22 16 13.7**	**-0.2**
AC04				*i* S		**Sn**	**22 16 44.6**	**-0.5**
AC04				IAML			22 16 54.1	
	comp=Z,130nm,0.3s							
AC04	**Llanos de Chal**	**2.54**	**298**	*e*P		**Pn**	**22 16 14.2**	**+0.3**
AC04				*e*S		**Sn**	**22 16 42.8**	**-2.3**
AC04				IAML			22 16 48.9	
	comp=E,356nm,0.1s							
CO02	**Combarbal**	**2.78**	**229**	*i* P		**Pn**	**22 16 16.4**	**-0.7**
CO02				*i* S		**Sn**	**22 16 49.2**	**-1.8**
CO02				IAML			22 16 52.2	
	comp=Z,243nm,0.3s							
AC01	**Pan de Azucar**	**3.73**	**330**	*i* P		**Pn**	**22 16 29.1**	**-0.4**
AC01				*i* S		**Sn**	**22 17 11.5**	**-1.6**
AC01				IAML			22 17 19.6	
	comp=Z,111nm,0.6s							
GO02	**Mina Guanaco**	**4.34**	**347**	*i* P		**Pn**	**22 16 37.8**	**0.0**
GO02				*i* S		**Sn**	**22 17 26.4**	**-1.5**
MT05	**Renca**	**4.39**	**205**	*i* P		**Pn**	**22 16 36.8**	**-1.5**
MT05				IAML			22 17 32.2	
	comp=Z,51nm,0.3s							
MT03	**Universidad Ad**	**4.40**	**202**	*i* P		**Pn**	**22 16 36.8**	**-1.7**
MT03				IAML			22 17 31.2	
	comp=Z,73nm,0.5s							
MT02	**Curacav**	**4.43**	**210**	*i* P		**Pn**	**22 16 37.3**	**-1.5**
MT02				IAML			22 17 52.1	
	comp=Z,40nm,0.8s							
VA01	**Torpederas**	**4.48**	**216**	*i* P		**Pn**	**22 16 37.1**	**-2.2**
VA01				*i* S		**Sn**	**22 17 26.5**	**-4.2**
VA01				IAML			22 17 26.8	
	comp=Z,41nm,0.2s							
MT01	**Popeta**	**5.01**	**207**	*i* P		**Pn**	**22 16 44.6**	**-1.7**
MT01				IAML			22 18 12.9	
	comp=Z,23nm,1.2s							
PB14	**IPOC Station P**	**5.05**	**340**	*i* P		**Pn**	**22 16 46.9**	**-0.5**
PB14				*i* S		**Sn**	**22 17 42.8**	**-2.3**
PB14				IAML			22 18 01.0	
	comp=Z,51nm,0.6s							
H03N1	**Juan Fernandez**	**9.73**	**243**	T	T	22 25 14.0		
	baz=74,slow=72,SNR=4.4							
H03N3	**Juan Fernandez**	**9.75**	**243**	T	T	22 25 15.1		
	baz=74,slow=72,SNR=7.9							
H03N2	**Juan Fernandez**	**9.75**	**243**	T	T	22 25 12.5		
	baz=74,slow=72,SNR=5.1							
CPUP	**Villa Florida**	**10.38**	**75**	Pn	**Pn**	**22 17 56.1**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=240,slow=12,SNR=1.3							
CPUP				Lg	Lg	22 20 55.5		
	comp=Z,0.3nm,0.3s,baz=169,slow=15,SNR=4.0							
	comp=Z,0.4nm,0.4s							
PDAR	**Pinedale Array**	**81.13**	**331**	P	**P

MT01				IAmb	IAmb	22 45 03.2		
	comp=Z,12nm,1.2s							
CTAO	**Charters Tower**	**59.05**	**283**	P	**P**	**22 44 55.4**	**+0.7**	
CTAO				IAmb	IAmb	22 45 16.1		
	comp=Z,11nm,1.1s							
FORT	**Forrest**	**59.44**	**261**	P	**P**	**22 44 58.0**	**+0.7**	
AS31	**Alice Springs**	**62.30**	**270**	P	**P**	**22 45 16.6**	**-0.3**	
ASAR	**Alice Springs**	**62.30**	**270**	P	**P**	**22 45 16.6**	**-0.3**	
ASAR	**Alice Springs**	**62.30**	**270**	P	**P**	**22 45 17.0**	**+0.1**	
	comp=Z,3.2nm,0.8s,baz=142,slow=6.4,SNR=28							
	comp=Z,3.2nm,0.8s							
H01W1	**Cape Leeuwin H**	**62.88**	**247**	T	T	23 54 06.6		
	baz=144,slow=76,SNR=8.8							
H01W2	**Cape Leeuwin H**	**62.88**	**247**	T	T	23 54 10.6		
	baz=144,slow=76,SNR=8.7							
H01W3	**Cape Leeuwin H**	**62.89**	**247**	T	T	23 54 07.4		
	baz=144,slow=76,SNR=6.5							
WR0	**Warramunga Arr**	**65.06**	**273**	P	**P**	**22 45 35.1**	**0.0**	
WR0				IAmb	IAmb	22 45 45.4		
	comp=Z,11nm,1.4s							
WRA	**Warramunga Arr**	**65.17**	**273**	P	**P**	**22 45 35.9**	**+0.1**	
WRA	**Warramunga Arr**	**65.17**	**273**	P	**P**	**22 45 35.9**	**+0.1**	
	comp=Z,1.7nm,0.7s,baz=154,slow=5.6,SNR=16							
	comp=Z,1.7nm,0.7s							
CZSB	**Cruzeiro do Su**	**77.53**	**84**	P	**P**	**22 46 50.4**	**-0.1**	
H10S2	**ASCENSION HYDR**	**03.41**	**136**	T	T	00 45 06.1		
	baz=204,slow=74,SNR=4.7							
H10S3	**ASCENSION HYDR**	**03.41**	**136**	T	T	00 45 04.4		
	baz=16,slow=74,SNR=6.9							
H10N3	**ASCENSION HYDR**	**04.50**	**135**	T	T	00 46 28.0		
	baz=203,slow=75,SNR=14							
H10N1	**ASCENSION HYDR**	**04.50**	**135**	T	T	00 46 29.2		
	baz=203,slow=75,SNR=18							
H10N2	**ASCENSION HYDR**	**04.52**	**135**	T	T	00 46 28.7		
	baz=203,slow=75,SNR=12							
ILAR	**Eielson Array**	**124.05**	**2**	PKP	**PKPdf**	**22 53 49.9**	**-1.6**	
	comp=Z,0.5nm,0.8s,baz=180,slow=1.8,SNR=5.1							
MK31	**Makanchi Array**	**146.48**	**272**	PKPdf	**PKPdf**	**22 54 34.0**	**+0.5**	
MKAR	**Makanchi Array**	**146.48**	**272**	PKPdf	**PKPbc**	**22 54 34.5**	**-0.5**	
MKAR	**Makanchi Array**	**146.48**	**272**	PKPbc	**PKPbc**	**22 54 35.0**	**0.0**	
	comp=Z,1.8nm,0.7s,baz=100,slow=5.0,SNR=12							
HRA	**Herat**	**146.66**	**236**	PKPdf	**PKPdf**	**22 54 34.6**	**+0.1**	
ARSB	**Arslanbob**	**147.28**	**256**	PKPdf	**PKPdf**	**22 54 35.5**	**+0.3**	
ZALV	**Zalesovo Beam**	**149.61**	**284**	PKPdf	**PKPdf**	**22 54 39.3**	**+0.9**	
KK31	**Karatay Array**	**149.83**	**256**	PKPdf	**PKPdf**	**22 54 39.6**	**+0.4**	
KURBB	**Kurchatov Arra**	**150.84**	**274**	PKPbc	**PKPbc**	**22 54 44.9**	**-1.2**	
	comp=Z,1.5nm,1.0s,baz=126,slow=1.3,SNR=9.7							
ESDC	**Sonseca Array**	**151.36**	**119**	PKPbc	**PKPbc**	**22 54 47.1**	**-0.6**	
	comp=Z,0.9nm,0.8s,baz=238,slow=2.3,SNR=4.0							
BVAR	**Borovoye Array**	**156.36**	**272**	PKPab	**PKPab**	**22 55 16.4**	**-0.3**	
	comp=Z,0.7nm,0.7s,baz=98,slow=6.4,SNR=2.5							

*IDC **16** 22:36:47.7±2.7,59°.36S×151°.01W,h0km,mb3.8/3, mbtmp3.8/3,Error ellipse: s-maj=95.3km s-min=43.8km az=57.0*

ISC 16 22:36:47.7±2.8,**59°.2S**±0°.4×**150°.6W**±0°.6,**h10**km,**n18, σ0s36/6,mb3.9/3,Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**30.94**	**180**	P	**P**	**22 43 04.6**	**0.0**
	1.5nm,0.8s,baz=21,slow=5.1,SNR=1.8						
	1.5nm,0.8s						
H03S2	**Juan Fernandez**	**52.41**	**94**	T	T	23 42 58.1	
	baz=216,slow=74,SNR=16						
H03S1	**Juan Fernandez**	**52.42**	**94**	T	T	23 42 58.1	
	baz=216,slow=74,SNR=17						
H03S3	**Juan Fernandez**	**52.43**	**94**	T	T	23 42 58.1	
	baz=216,slow=74,SNR=29						
H03N3	**Juan Fernandez**	**52.71**	**94**	T	T	23 43 20.7	
	baz=219,slow=72,SNR=27						
H03N2	**Juan Fernandez**	**52.72**	**94**	T	T	23 43 19.8	
	baz=219,slow=72,SNR=35						
H03N1	**Juan Fernandez**	**52.73**	**94**	T	T	23 43 21.6	
	baz=219,slow=72,SNR=18						
ASAR	**Alice Springs**	**62.59**	**269**	P	**P**	**22 47 11.8**	**-0.2**
	1.1nm,0.9s,baz=143,slow=6.5,SNR=4.0						
	1.1nm,0.9s						
H01W1	**Cape Leeuwin H**	**63.29**	**246**	T	T	23 56 07.4	
	baz=144						
H01W2	**Cape Leeuwin H**	**63.30**	**246**	T	T	23 56 06.0	
	baz=144						
H01W3	**Cape Leeuwin H**	**63.31**	**246**	T	T	23 56 05.6	
	baz=144						
WRA	**Warramunga Arr**	**65.45**	**272**	P	**P**	**22 47 31.1**	**+0.4**
	0.6nm,0.9s,baz=154,slow=5.4,SNR=1.6						
	0.6nm,0.9s						
H10N3	**ASCENSION HYDR**	**04.54**	**135**	T	T	00 48 26.4	
	baz=204						
H10N1	**ASCENSION HYDR**	**04.55**	**135**	T	T	00 48 25.0	
	baz=204						
H10N2	**ASCENSION HYDR**	**04.56**	**135**	T	T	00 48 23.8	
	baz=204						
MKAR	**Makanchi Array**	**146.76**	**272**	PKPbc	**PKPab**	**22 56 29.8**	**-0.4**
	0.8nm,0.7s,baz=126,slow=2.8,SNR=2.1						
ZALV	**Zalesovo Beam**	**149.80**	**285**	PKPbc	**PKiKP**	**22 56 37.7**	**+0.2**
	0.2nm,0.3s,baz=111,slow=3.5,SNR=1.4						
KURBB	**Kurchatov Arra**	**151.11**	**275**	PKPbc	**PKPbc**	**22 56 39.8**	**0.0**
	0.7nm,0.9s,baz=108,slow=2.2,SNR=2.9						

*SDD **16** 22:39:07.4±3.2,18°.76N×69°.43W,h95km±14km,MD3.2, ML3.4,MW3.6*

*OSPL **16** 22:39:08.2±2.2,18°.69N×69°.44W,h86km±12km,ML3.2*

ISC 16 22:39:07.1±1.5,**18°.77N**±0°.05×**69°.45W**±0°.03,**h80**km±10km, **n24,σ1s57/43,13C-9D,Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATOM	**Hato Mayor del**	**0.07**	**70**	↓*e*Pg	**Pn**	**22 39 18.5**	**-0.1**
HATOM				↓*e*Sg	**Sn**	**22 39 28.0**	**+0.9**
HATOM				IAML		22 39 28.7	
	comp=N,1μm,0.2s						
MIDR	**Miches**	**0.43**	**60**	↑*e*Pg	**Pn**	**22 39 20.4**	**+0.1**
MIDR				↑*e*Sg	**Sn**	**22 39 31.7**	**+1.6**
MIDR				IAML		22 39 33.3	
	comp=N,1μm,0.2s						
SDD	**Santo Domingo**	**0.54**	**235**	↑*e*Pg	**Pn**	**22 39 20.7**	**-0.5**
SDD				↓*e*Sg	**Sn**	**22 39 31.8**	**+0.1**
SDD				IAML		22 39 32.0	
	comp=N,138nm,0.2s						
SDD	**Santo Domingo**	**0.54**	**235**	*i* P	**Pn**	**22 39 20.7**	**-0.5**
SDD				*e*S	**Sn**	**22 39 31.7**	**+0.1**
SMDR	**Samana, DR**	**0.57**	**25**	↓*e*Pg	**Pn**	**22 39 21.2**	**-0.3**
SMDR				↓*e*Sg	**Sn**	**22 39 33.9**	**+1.7**
SMDR				IAML		22 39 37.0	
	comp=N,943nm,0.6s						
NAG1	**Nagua**	**0.71**	**326**	↑*e*Pg	**Pn**	**22 39 22.5**	**-0.4**
NAG1				↑*e*Sg	**Sn**	**22 39 35.9**	**+1.4**
LOSC1	**San Cristbal**	**0.72**	**240**	*i* P	**Pn**	**22 39 23.1**	**+0.1**
LOSC1				*e*S	**Sn**	**22 39 35.3**	**+0.5**
LOSC1				IAML		22 39 40.2	
	comp=Z,1μm,0.5s						
LONA1	**Toro Cenizo, N**	**0.73**	**327**	*i* P	**Pn**	**22 39 22.8**	**-0.3**
LONA1				*e*S	**Sn**	**22 39 36.6**	**+1.6**
LONA1				IAML		22 39 41.7	
	comp=Z,1μm,3.1s						
SADR	**Isla Saona**	**0.85**	**132**	↑*e*Pg	**Pn**	**22 39 24.9**	**+0.5**
SADR				↑*e*Sg	**Sn**	**22 39 39.0**	**+1.7**
SADR				IAML		22 39 43.9	
	comp=N,311nm,0.3s						
BANI	**BANI**	**0.94**	**247**	*e*Pg	**Pn**	**22 39 25.4**	**-0.1**
BANI				*e*Sg	**Sn**	**22 39 40.5**	**+1.1**
BANI				IAML		22 39 45.2	
	comp=N,986nm,0.1s						
PCDR	**Punta Cana, DR**	**1.04**	**104**	↑*e*Pg	**Pn**	**22 39 26.7**	**+0.1**
PCDR				↓*e*Sg	**Sn**	**22 39 43.2**	**+2.0**
PCDR				IAML		22 39 44.7	
	comp=N,883nm,0.8s						
PCDR	**Punta Cana, DR**	**1.04**	**104**	*i* P	**Pn**	**22 39 26.9**	**+0.3**
PCDR				*e*S	**Sn**	**22 39 42.1**	**+0.9**
PCDR				IAML		22 39 47.1	
	comp=Z,444nm,0.9s						
ABDR	**Alto Bandera**	**1.12**	**273**	↓*e*Pg	**Pn**	**22 39 27.4**	**-0.5**
ABDR				↓*e*Sg	**Sn**	**22 39 43.8**	**+0.2**
ABDR				IAML		22 39 46.7	
	comp=N,878nm,0.2s						
SC01	**Santiago de lo**	**1.38**	**299**	*e*Pg	**Pn**	**22 39 30.8**	**-0.1**
SC01				↑*e*Sg	**Sn**	**22 39 50.7**	**+1.9**
SC01				IAML		22 39 52.7	
	comp=N,518nm,0.3s						
SC01	**Santiago de lo**	**1.38**	**299**	*i* P	**Pn**	**22 39 31.3**	**+0.4**
SC01				*e*S	**Sn**	**22 39 50.7**	**+1.9**
SC01				IAML		22 39 57.4	
	comp=Z,270nm,0.3s						
MADR	**Mao Valverde**	**1.76**	**297**	↑*e*Pg	**Pn**	**22 39 34.6**	**-1.1**
MADR				↓*e*Sg	**Sn**	**22 39 57.0**	**-0.6**
MADR				IAML		22 40 01.9	
	comp=N,1μm,0.3s						
SDDR	**Presa de Saban**	**1.76**	**277**	↑*e*Pg	**Pn**	**22 39 35.8**	**0.0**
SDDR				↑*e*Sg	**Sn**	**22 39 59.5**	**+1.8**
SDDR				IAML		22 40 02.2	
	comp=N,410nm,0.5s						
SDDR	**Presa de Saban**	**1.76**	**277**	*i* P	**Pn**	**22 39 36.1**	**+0.2**
SDDR				*e*S	**Sn**	**22 39 58.3**	**+0.6**
SDDR				IAML		22 40 01.6	
	comp=Z,146nm,0.6s						
AGPR	**Aguadilla, PR**	**2.23**	**97**	*i* P	**Pn**	**22 39 42.2**	**+0.1**
LODA1	**ITESIL, Dajabo**	**2.27**	**290**	*e*S	**Sn**	**22 40 08.6**	**-1.2**
LOPE2	**Hotel El Peder**	**2.30**	**252**	*i* P	**Pn**	**22 39 43.1**	**0.0**
MCDR	**Montecristi**	**2.37**	**299**	*e*Pg	**Pn**	**22 39 42.0**	**-2.0**
MCDR				↑*e*Sg	**Sn**	**22 40 10.4**	**-1.8**
MCDR				IAML		22 40 23.9	
	comp=N,212nm,0.2s						
ANBD	**Bethesda, Anti**	**7.51**	**102**	*e*P	**Pn**	**22 40 50.2**	**-3.7**
ANBD	**Bethesda, Anti**	**7.51**	**102**	*e*S	**Sn**	**22 42 11.2**	**-6.3**

*IDC **16** 22:40:48.5±0.6,59°.45S×151°.03W,h0km,mb4.6/9, mbtmp4.6/9,MS5.2/40,Error ellipse: s-maj=26.1km s-min=17.8km az=18.0*

*NEIC **16** 22:40:50.6,59°.30S×151°.57W,h12km,Moment Tensor Solution. Duration: 3s7 Moment tensor: Scale 10¹⁷Nm; Mrr-0.58; Mθθ2.51; Mϕϕ-1.93; Mrθ0.57; Mθϕ0.83; Mϕr-0.88; Fault plane solution: Mo2.64000×10¹⁷ NP1: ϕs301.69000°,δ77.09000°,λ-24.57000°. NP2:ϕs37.52000°, δ66.09000°,λ-165.86000°. Principal axes: T 2.7141, Plg7.0000°, Azm351.0000°; N -0.1574, Plg62.0000°, Azm96.0000°; P -2.5567, Plg26.0000°, Azm258.0000°;*

*NEIC **16** 22:40:50.5±1.3,59°.6S±0°.1×151°.1W±0°.2,h10km±1km, mb5.2/60,Ms_20 5.5/451,Mwb5.6/11,Mww5.5/15 Error ellipse: s-maj=24.4km s-min=16.5km az=18.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.42; Mθθ2.56; Mϕϕ-2.14; Mrθ-0.29; Mθϕ1.19; Mϕr0.07; Fault plane solution: Mo2.68000×10¹⁷ NP1: ϕs301.59000°,δ89.53000°,λ6.11000°. NP2:ϕs211.54000°, δ83.89000°,λ179.53000°. Principal axes: T 2.8659, Plg5.0000°, Azm167.0000°; N -0.4297, Plg84.0000°, Azm306.0000°; P -2.4361, Plg4.0000°, Azm76.0000°;*

*NEIC **16** 22:40:50.6,59°.70S×151°.17W,h12km*

*NEIC **16** 22:40:50.8,59°.71S×151°.16W,h10km*

*GCMT **16** 22:40:54.5±0.1,59°.58S±0°.01×151°.15W±0°.01,h16km, MW5.6/143,Moment Tensor Solution. s119,c199; s143,c266; Duration: 1s6 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.69±.04; Mθθ3.33±.04; Mϕϕ-2.64±.04; Mrθ-0.90±.12; Mθϕ1.34±.03; Mϕr-0.28±.10; Best double couple: Mo3.37100×10¹⁷ NP1:ϕs212.00000°,δ83.00000°, λ170.00000°. NP2:ϕs304.00000°,δ80.00000°,λ7.00000°. Principal axes: T 3.8120, Plg12.0000°, Azm168.0000°; N -0.8810, Plg78.0000°, Azm359.0000°; P -2.9300, Plg2.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 22:40:50.4±0.3,**59°.54S**±0°.09×**150°.98W**±0°.07,**h10**km, **n406,σ1s11/134,mb5.2/36,MS5.4/260,4D, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTZ	**Chatham Island**	**22.23**	**304**	P	**P**	**22 45 45.5**	**-1.3**
CTZ				IAmb	IAmb	22 45 55.5	
	comp=Z,125nm,1.3s						
SBA	**Scott Base**	**22.95**	**201**	P	**P**	**22 45 52.1**	**-2.1**
VNDA	**Vanda**	**23.76**	**203**	P	**P**	**22 46 00.8**	**-1.6**
VNDA	**Vanda**	**23.76**	**203**	P	**P**	**22 46 03.0**	**+0.7**
	comp=Z,6.9nm,1.0s,baz=68,slow=9.9,SNR=18						
VNDA				LR	LR	22 53 05.3	
	comp=Z,5μm,18.5s,baz=74,slow=31						
	comp=Z,6.9nm,1.0s						
RPZ	**Rata Peaks**	**27.90**	**288**	P	**P**	**22 46 39.5**	**-0.7**
RPZ				IAmb	IAmb	22 46 43.1	
	comp=Z,50nm,1.4s						
RPZ	**Rata Peaks**	**27.90**	**288**	LR	LR	22 55 32.3	
	comp=Z,3μm,19.2s,baz=132,slow=32						
BSWZ	**Blackbirch Sta**	**28.08**	**294**	P	**P**	**22 46 40.8**	**-1.0**
MRZ	**Mangatainoka R**	**28.13**	**297**	P	**P**	**22 46 42.0**	**-0.3**
MRZ				IAmb	IAmb	22 46 45.9	
	comp=Z,105nm,1.8s						
THZ	**Tophouse**	**28.49**	**292**	P	**P**	**22 46 45.2**	**-0.4**
THZ				IAmb	IAmb	22 46 50.4	
	comp=Z,77nm,1.5s						
RTZ	**Ruatahuna**	**29.18**	**302**	P	**P**	**22 46 52.0**	**+0.4**
RTZ				IAmb	IAmb	22 46 55.2	
	comp=Z,36nm,1.3s						
URZ	**Urewera**	**29.42**	**302**	LR	LR	22 56 07.3	
	comp=Z,4μm,20.8s,baz=237,slow=31						
QSPA	**South Pole Qui**	**30.59**	**180**	P	**P**	**22 47 03.4**	**-0.7**
QSPA	**South Pole Qui**	**30.59**	**180**	IAMs_20	IAMs_20	22 56 55.7	
	comp=Z,7μm,21.0s						
QSPA	**South Pole Qui**	**30.59**	**180**	P	**P**	**22 47 05.7**	**+1.6**
	comp=Z,21nm,1.1s,baz=68,slow=2.6,SNR=22						
QSPA				LR	LR	22 57 07.0	
	comp=Z,8μm,21.6s,baz=62,slow=32						
	comp=Z,21nm,1.1s						
SMAI	**San Martin Ant**	**35.09**	**140**	P	**P**	**22 47 43.2**	**+0.1**
SMAI				IAmb	IAmb	22 47 55.4	
	comp=Z,30nm,1.3s						
SMAI				IAMs_20	IAMs_20	22 58 30.6	
	comp=Z,5μm,22.0s						
RAO	**Raoul Island**	**35.39**	**317**	LR	LR	22 58 58.5	
	comp=Z,1μm,21.4s,baz=136,slow=31						
TBI	**Tubuai**	**36.18**	**2**	*e*LR	LR	22 57 22.6	
	comp=Z,54μm,27.8s						
TBI				*e*LR	LR	22 57 24.7	
	comp=Z,12μm,27.0s						
TBI	**Tubuai**	**36.18**	**2**	*e*T	T	23 25 59.7	
	comp=Z,114nm,0.4s						
BELA	**Belgrano 2**	**37.51**	**162**	P	**P**	**22 48 03.7**	**0.0**
PMSA	**Palmer Station**	**37.89**	**136**	LR	LR	23 00 12.4	
	comp=Z,4μm,20.6s,baz=236,slow=31						
RAR	**Rarotonga**	**38.80**	**347**	LR	LR	23 00 31.7	
	comp=Z,4μm,18.7s,baz=192,slow=31						
TAU	**Tasmania Unive**	**40.43**	**266**	IAMs_20	IAMs_20	23 00 52.1	
	comp=Z,6μm,20.0s						
CASY	**Casey**	**40.84**	**218**	IAMs_20	IAMs_20	23 03 10.8	
	comp=Z,4μm,18.0s						
ESPZ	**Base Esperanza**	**41.20**	**137**	IAMs_20	IAMs_20	23 01 51.2	
	comp=Z,5μm,19.0s						
MEH	**Mehetia**	**41.66**	**4**	*e*T	T	23 32 54.8	
	comp=Z,14nm,0.3s						
PAE	**Paea**	**41.84**	**2**	*e*T	T	23 33 05.1	
	comp=Z,4.0nm,0.4s						
PPT2	**Papeete2**	**41.91**	**2**	*e*LR	LR	23 00 05.5	
	comp=Z,10μm,27.2s						
PPT2				*e*LR	LR	23 00 24.8	
	comp=Z,8μm,22.5s						
PPT	**Papeete**	**41.93**	**2**	LR	LR	23 02 09.5	
	comp=Z,4μm,18.2s,baz=187,slow=31						
RPN	**Rapa Nui**	**43.15**	**60**	LR	LR	23 02 29.4	
	comp=Z,4μm,21.2s,baz=210,slow=30						
VAH	**Vaihoa**	**44.30**	**5**	*e*T	T	23 36 12.9	
	comp=Z,182nm,0.3s						
GO08	**Villa O'Higgin**	**44.74**	**112**	P	**P**	**22 49 03.6**	**+0.2**
GO08				IAmb	IAmb	22 49 05.7	
	comp=Z,85nm,1.9s						
CAN	**Canberra**	**45.30**	**275**	IAMs_20	IAMs_20	23 02 46.9	
	comp=Z,3μm,22.0s						
TOO	**Toolangi**	**45.34**	**270**	P	**P**	**22 49 08.8**	**+0.3**
TOO				IAmb	IAmb	22 49 12.9	
	comp=Z,38nm,1.4s						
TOO				IAMs_20	IAMs_20	23 03 12.4	
	comp=Z,3μm,21.0s						
COYC	**Coyhaique**	**47.05**	**110**	P	**P**	**22 49 22.2**	**+0.6**
SNAA	**Sanae**	**47.20**	**167**	P	**P**	**22 49 22.1**	**-0.6**
SNAA				IAMs_20	IAMs_20	23 08 28.9	
	comp=Z,3μm,18.0s						
SNAA	**Sanae**	**47.20**	**167**	↓P	**P**	**22 49 22.1**	**-0.6**
	comp=Z,119nm,0.8s						
SNAA	**Sanae**	**47.20**	**167**	P	**P**	**22 49 21.8**	**-0.9**
	comp=Z,9.9nm,1.1s,baz=204,slow=7.8,SNR=10						
SNAA				LR	LR	23 08 48.6	
	comp=Z,3μm,18.0s,baz=200,slow=36						
	comp=Z,9.9nm,1.1s						
TROLL	**Troll, Antarti**	**47.45**	**169**	↓P	**P**	**22 49 25.8**	**+1.1**
	comp=Z,412nm,1.0s						
ARMA	**Armidale**	**47.88**	**281**	IAMs_20	IAMs_20	23 05 29.9	
	comp=Z,3μm,19.0s						
DZM	**Mont Dzumac**	**47.98**	**302**	*e*LR	LR	23 02 53.9	
	comp=Z,4μm,26.9s						
DZM	**Mont Dzumac**	**47.98**	**302**	LR	LR	23 06 59.6	
	comp=Z,906nm,18.3s,baz=166,slow=33						
AFI	**Afiamalu**	**48.09**	**332**	IAMs_20	IAMs_20	23 06 02.4	
	comp=Z,5μm,20.0s						
ELIB	**Princess Elisa**	**48.73**	**178**	*d*P	**P**	**22 49 34.8**	**+0.2**
	comp=Z,6.4nm,0.0s						
ELIB				*d*S	**S**	**22 56 37.9**	**+1.2**
LL01	**San Ignacio de**	**49.25**	**107**	P	**P**	**22 49 39.2**	**+0.4**
LL01				IAmb	IAmb	22 49 47.6	
	comp=Z,88nm,2.0s						
KOUNC	**Koumac, New Ca**	**50.25**	**301**	IAMs_20	IAMs_20	23 06 47.7	
	comp=Z,3μm,19.0s						
MAW	**Mawson**	**50.75**	**196**	LR	LR	23 09 01.3	
	comp=Z,3μm,21.1s,baz=154,slow=33						
TAOE	**Nuku Hiva Isla**	**51.24**	**14**	*e*LR	LR	23 04 26.6	
	comp=Z,5μm,24.8s						
PLCA	**Paso Flores**	**51.41**	**107**	P	**P**	**22 49 55.5**	**+0.3**
PLCA				IAmb	IAmb	22 49 58.1	
	comp=Z,69nm,1.9s						
PLCA				IAMs_20	IAMs_20	23 06 28.6	
	comp=Z,2μm,18.0s						
PLCA	**Paso Flores**	**51.41**	**107**	P	**P**	**22 49 56.1**	**+0.9**
	comp=Z,6.7nm,1.0s,baz=250,slow=9.0,SNR=4.9						
PLCA				LR	LR	23 06 28.7	
	comp=Z,1μm,19.5s,baz=220,slow=30						
	comp=Z,6.7nm,1.0s						
STKA	**Stephens Creek**	**51.79**	**271**	P	**P**	**22 49 58.1**	**+0.1**
STKA	**Stephens Creek**	**51.79**	**271**	P	**P**	**22 49 58.1**	**+0.1**
	comp=Z,6.2nm,0.8s,baz=146,slow=5.4,SNR=6.8						
STKA				LR	LR	23 08 48.8	
	comp=Z,3μm,18.0s,baz=133,slow=32						
	comp=Z,6.2nm,0.8s						
GO06	**Curarrehue**	**51.84**	**105**	P	**P**	**22 49 59.0**	**+0.5**
EIDS	**Eidsvold**	**52.32**	**284**	P	**P**	**22 50 01.8**	**-0.3**
EIDS				IAmb	IAmb	22 50 03.5	
	comp=Z,63nm,1.6s						
H03S2	**Juan Fernandez**	**52.58**	**94**	T	T	23 47 03.5	
	baz=216,slow=74,SNR=185						
H03S1	**Juan Fernandez**	**52.59**	**94**	T	T	23 47 01.2	
	baz=216,slow=74,SNR=160						
H03S3	**Juan Fernandez**	**52.60**	**94**	T	T	23 46 59.7	
	baz=216,slow=74,SNR=152						
H03N3	**Juan Fernandez**	**52.89**	**94**	T	T	23 47 22.8	
	baz=219,slow=72,SNR=187						
H03N2	**Juan Fernandez**	**52.89**	**94**	T	T	23 47 25.1	
	baz=219,slow=72,SNR=233						
H03N1	**Juan Fernandez**	**52.90**	**94**	T	T	23 47 20.7	
	baz=219,slow=72,SNR=138						
BBOO	**Buckleboo**	**53.86**	**266**	IAMs_20	IAMs_20	23 09 44.6	
	comp=Z,3μm,18.0s						
HOPE	**Hope Point**	**55.02**	**139**	IAMs_20	IAMs_20	23 11 17.3	
	comp=Z,5μm,19.0s						
BO02	**Sierra Bellavi**	**55.93**	**102**	P	**P**	**22 50 28.5**	**+0.1**
MT01	**Popeta**	**56.44**	**101**	P	**P**	**22 50 31.6**	**-0.3**
LMEL	**Las Melosas**	**56.97**	**102**	P	**P**	**22 50 36.1**	**+0.2**
LMEL				IAmb	IAmb	22 50 56.7	
	comp=Z,27nm,1.2s						
MT05	**Renca**	**57.07**	**101**	IAMs_20	IAMs_20	23 10 02.7	
	comp=Z,2μm,18.0s						
TRQA	**Tornquist**	**57.64**	**111**	P	**P**	**22 50 40.8**	**+0.4**
TRQA				IAmb	IAmb	22 50 43.1	
	comp=Z,59nm,1.8s						
CO06	**Fray Jorge**	**58.80**	**98**	IAMs_20	IAMs_20	23 08 43.0	
	comp=Z,2μm,21.0s						
CTA	**Charters Tower**	**59.14**	**283**	LR	LR	23 12 15.1	
	comp=Z,1μm,20.8s,baz=135,slow=32						
CTAO	**Charters Tower**	**59.14**	**283**	P	**P**	**22 50 50.2**	**-0.9**
CO03	**El Pedregal**	**59.15**	**99**	IAMs_20	IAMs_20	23 08 56.9	
	comp=Z,2μm,21.0s						
FORT	**Forrest**	**59.53**	**260**	IAMs_20	IAMs_20	23 09 49.3	
	comp=Z,3μm,21.0s						
CFA	**Coronel Fontan**	**59.76**	**102**	LR	LR	23 11 40.6	
	comp=Z,1μm,18.2s,baz=182,slow=31						
LCO	**Las Campanas**	**60.62**	**98**	IAMs_20	IAMs_20	23 09 46.2	
	comp=Z,2μm,20.0s						
AC05	**El Transito**	**60.98**	**98**	P	**P**	**22 51 04.0**	**+0.2**
AC05				IAmb	IAmb	22 51 15.3	
	comp=Z,28nm,1.2s						
AC05				IAMs_20	IAMs_20	23 09 47.6	
	comp=Z,2μm,22.0s						
HNR	**Honiara**	**62.01**	**302**	P	**P**	**22 51 08.9**	**-1.8**
HNR	**Honiara**	**62.01**	**302**	LR	LR	23 12 54.2	
	comp=Z,3μm,20.5s,baz=151,slow=31						
AC06	**Mina Casimiro**	**62.15**	**97**	IAMs_20	IAMs_20	23 10 27.7	
	comp=Z,2μm,21.0s						
AS31	**Alice Springs**	**62.39**	**270**	P	**P**	**22 51 11.9**	**-1.3**
ASAR	**Alice Springs**	**62.39**	**270**	P	**P**	**22 51 11.8**	**-1.4**
ASAR	**Alice Springs**	**62.39**	**270**	P	**P**	**22 51 12.4**	**-0.8**
	comp=Z,9.4nm,1.0s,baz=146,slow=7.2,SNR=35						
ASAR				LR	LR	23 15 18.8	
	comp=Z,3μm,18.4s,baz=157,slow=33						
	comp=Z,9.4nm,1.0s						
H01W1	**Cape Leeuwin H**	**62.97**	**247**	T	T

comp=Z,19nm,1.0s
PB07 IPOC Station P 67.04 94 P P 22 51 44.4 +0.6
PB01 IPOC Station P 67.81 94 P P 22 51 48.9 +0.3
PB01 IAmb IAmb 22 52 01.3
comp=Z,18nm,1.3s
PMG Port Moresby 67.87 290 P P 22 51 49.1 +0.3
PMG Port Moresby 67.87 290 LR LR 23 16 35.9
comp=Z,930nm,21.8s,baz=151,slow=32
GO01 Chusmiza 69.11 93 P P 22 51 57.7 +0.5
GO01 IAmb IAmb 22 52 00.4
comp=Z,31nm,1.6s
PB12 IPOC Station P 69.42 92 IAMs_20 IAMs_20 23 14 20.9
comp=Z,2µm,21.0s
CPUP Villa Florida 69.48 107 P P 22 51 58.5 -0.2
CPUP IAmb IAmb 22 52 10.0
comp=Z,19nm,1.2s
CPUP Villa Florida 69.48 107 P P 22 51 58.6 -0.1
comp=Z,7.3nm,1.0s,baz=232,slow=5.7,SNR=12
CPUP LR LR 23 18 08.8
comp=Z,918nm,19.5s,baz=209,slow=32
comp=Z,7.3nm,1.0s
AP01 Chacalluta 69.62 92 IAMs_20 IAMs_20 23 14 14.1
comp=Z,2µm,22.0s
PB16 IPOC Station P 70.07 92 IAMs_20 IAMs_20 23 15 03.1
comp=Z,1µm,20.0s
PB18 Visviri 70.71 92 P P 22 52 08.2 +1.2
PB18 IAMs_20 IAMs_20 23 15 03.1
comp=Z,2µm,22.0s
PSAD3 Pilbara Seismi 71.23 259 IAMs_20 IAMs_20 23 18 09.9
comp=Z,2µm,19.0s
PSAB3 Pilbara Seismi 71.23 259 IAMs_20 IAMs_20 23 20 39.0
comp=Z,2µm,19.0s
FITZ Fitzroy Crossi 71.25 266 P P 22 52 08.8 -0.8
PSAA3 Pilbara Seismi 71.25 259 IAMs_20 IAMs_20 23 18 10.4
comp=Z,2µm,20.0s
PSA00 Pilbara Seismi 71.25 259 IAMs_20 IAMs_20 23 18 09.4
comp=Z,2µm,20.0s
PSAA1 Pilbara Seismi 71.26 259 IAMs_20 IAMs_20 23 21 45.6
comp=Z,3µm,19.0s
PSAB2 Pilbara Seismi 71.26 259 IAMs_20 IAMs_20 23 21 54.8
comp=Z,2µm,19.0s
PSAA2 Pilbara Seismi 71.26 259 IAMs_20 IAMs_20 23 21 54.8
comp=Z,2µm,18.0s
PSAC1 Pilbara Seismi 71.31 259 IAMs_20 IAMs_20 23 19 59.7
comp=Z,3µm,19.0s
PSAD1 Pilbara Seismi 71.36 259 IAMs_20 IAMs_20 23 18 04.4
comp=Z,2µm,21.0s
MBWA Marble Bar 71.66 260 IAMs_20 IAMs_20 23 22 22.3
comp=Z,2µm,18.0s
KNRA Kununurra 71.69 270 P P 22 52 11.4 -0.9
KNRA IAmb IAmb 22 52 28.7
comp=Z,39nm,1.2s
KNRA IAMs_20 IAMs_20 23 20 26.4
comp=Z,3µm,20.0s
NNA Nana 71.71 82 IAMs_20 IAMs_20 23 16 01.8
comp=Z,2µm,19.0s
NNA Nana 71.71 82 LR LR 23 16 24.6
comp=Z,2µm,19.3s,baz=210,slow=30
LPAZ La Paz 72.50 92 P P 22 52 18.3 +0.4
MTN Manton Dam 72.89 274 P P 22 52 19.3 -0.2
MTN IAmb IAmb 22 52 22.5
comp=Z,43nm,1.4s
MTN IAMs_20 IAMs_20 23 21 49.4
comp=Z,3µm,19.0s
GIRL Giralia 73.14 254 IAMs_20 IAMs_20 23 18 42.9
comp=Z,2µm,18.0s
PAYG Puerto Ayora 74.97 65 IAMs_20 IAMs_20 23 17 47.9
comp=Z,2µm,20.0s
ATAH Atahualpa 75.08 78 LR LR 23 17 42.1
comp=Z,3µm,20.8s,baz=223,slow=30
SIV San Ignacio 76.33 98 LR LR 23 20 22.1
comp=Z,1µm,21.8s,baz=224,slow=31
MCRA Macar, Loja 76.68 76 P P 22 52 40.7 -0.9
SAUI Saumlaki 76.94 277 P P 22 52 42.0 -0.9
SAUI IAMs_20 IAMs_20 23 22 36.0
comp=Z,2µm,21.0s
CZSB Cruzeiro do Su 77.43 84 P P 22 52 45.9 +0.2
PTLB Pontes e Lacer 77.76 100 P P 22 52 47.0 -0.5
BOSC San Juan Bosco 78.46 76 P P 22 52 51.3 -0.3
COHC Cochancay 78.67 75 P P 22 52 53.1 +0.6
ETMB Extrema 78.95 91 P P 22 52 54.3 +0.1
ETMB IAmb IAmb 22 53 04.6
comp=Z,32nm,1.8s
ETMB IAMs_20 IAMs_20 23 20 18.9
comp=Z,1µm,20.0s
VILB Vilhena 79.34 97 P P 22 52 56.1 -0.2
SLOR San Lorenzo - 80.55 75 P P 22 53 03.3 0.0
MMRI Maumere 80.99 268 IAMs_20 IAMs_20 23 25 53.4
comp=Z,2µm,20.0s
SAML Samuel 81.24 93 P P 22 53 06.2 -0.2
SAML IAmb IAmb 22 53 17.9
comp=Z,34nm,1.6s
OTAV Otavalo 81.41 75 P P 22 53 08.0 +0.1
SWI Sorong 83.06 280 P P 22 53 17.0 +1.0
BDFB Brasilia 83.08 109 P P 22 53 15.9 -0.4
BDFB IAmb IAmb 22 53 25.3
comp=Z,22nm,1.6s
BDFB IAMs_20 IAMs_20 23 26 09.8
comp=Z,1µm,20.0s
BDFB Brasilia 83.08 109 P P 22 53 15.5 -0.8
comp=Z,1.2nm,0.4s,baz=186,slow=7.6,SNR=3.4
BDFB LR LR 23 26 20.8
comp=Z,1µm,20.4s,baz=198,slow=33
comp=Z,1.2nm,0.4s
KAPI Kappang 85.34 268 IAMs_20 IAMs_20 23 28 36.8
comp=Z,1µm,20.0s
KAPI Kappang 85.34 268 LR LR 23 29 19.0
comp=Z,2µm,20.2s,baz=149,slow=34
JTS Las Juntas de 87.08 64 IAMs_20 IAMs_20 23 24 08.9
comp=Z,2µm,18.0s
JTS Las Juntas de 87.08 64 LR LR 23 24 13.0
comp=Z,2µm,18.4s,baz=189,slow=30
HDC Heredia 87.21 65 IAMs_20 IAMs_20 23 23 32.4
comp=Z,3µm,21.0s
ROSC El Rosal 87.42 76 LR LR 23 25 00.7
comp=Z,1µm,21.7s,baz=234,slow=30
MACA Manacapuru-AM 87.45 92 P P 22 53 38.3 +0.4
MACA IAMs_20 IAMs_20 23 25 45.8
comp=Z,940nm,19.0s
COVE Coope Vega, Sa 87.71 64 P P 22 53 40.2 +1.1
TLIG Tlapa 87.80 49 P P 22 53 39.7 +0.1
TLIG IAmb IAmb 22 53 53.6
comp=Z,16nm,1.3s
SUR Sutherland 88.17 173 IAMs_20 IAMs_20 23 28 45.2
comp=Z,3µm,20.0s
SUR Sutherland 88.17 173 LR LR 23 29 12.6
comp=Z,2µm,20.1s,baz=176,slow=33
CMIG Matias Romero 88.83 53 LR LR 23 25 57.2
comp=Z,388nm,18.6s,baz=214,slow=30
UNM Universidad Na 89.18 48 IAMs_20 IAMs_20 23 25 34.0
comp=Z,1µm,20.0s
LEM Lembang 89.91 257 LR LR 23 28 39.9
comp=Z,696nm,20.9s,baz=159,slow=32
BKB Balikpapan 90.01 268 IAMs_20 IAMs_20 23 33 45.6
comp=Z,1µm,20.0s
BOSA Boshof 92.12 177 LR LR 23 30 46.4
comp=Z,5µm,21.5s,baz=179,slow=32
BOAV Boa Vista 92.28 89 P P 22 53 60.0 -0.6
BOAV IAmb IAmb 22 54 12.3
comp=Z,14nm,1.3s
DAV Davao City (W) 92.72 279 LR LR 23 37 21.4
comp=Z,409nm,18.1s,baz=142,slow=37
SDV Santo Domingo 92.73 77 IAMs_20 IAMs_20 23 28 47.0
comp=Z,1µm,20.0s
SDV Santo Domingo 92.73 77 LR LR 23 29 08.8
comp=Z,1µm,21.2s,baz=195,slow=31
TEIG Tepich 94.38 57 LR LR 23 28 22.0
comp=Z,5µm,21.3s,baz=352,slow=30
FOMA Nahampoana Res 94.50 196 IAMs_20 IAMs_20 23 30 04.4
comp=Z,3µm,20.0s
PMBI Palembang 94.68 256 IAMs_20 IAMs_20 23 30 23.3
comp=Z,948nm,21.0s
LBTB Lobatse 95.71 177 LR LR 23 33 15.2
comp=Z,4µm,20.9s,baz=178,slow=33
109C Camp Elliot, M 96.27 28 IAMs_20 IAMs_20 23 29 44.9
comp=Z,2µm,19.0s
HATO Hato, Curacao 96.39 77 IAMs_20 IAMs_20 23 31 48.0
comp=Z,1µm,20.0s
TXAR Lajitas Array 96.77 40 LR LR 23 28 43.2
comp=Z,359nm,21.5s,baz=206,slow=30
PCRV Puerto La Cruz 96.84 82 LR LR 23 33 04.1
comp=Z,2µm,18.5s,slow=32
PFO Pinyon Flats O 97.11 28 IAMs_20 IAMs_20 23 30 20.3
comp=Z,2µm,18.0s
PFO Pinyon Flats O 97.11 28 LR LR 23 30 14.9
comp=Z,1µm,18.0s,baz=212,slow=31
PASC Pasadena Art C 97.24 27 IAMs_20 IAMs_20 23 26 48.6
comp=Z,2µm,20.0s
TUC Tucson 97.37 33 IAMs_20 IAMs_20 23 30 08.0
comp=Z,944nm,20.0s
MTDJ Mount Denham 97.44 67 IAMs_20 IAMs_20 23 31 40.5
comp=Z,840nm,18.0s
VOI Vohitsoka 97.55 197 IAMs_20 IAMs_20 23 32 42.0
comp=Z,3µm,20.0s
EPT El Paso 98.12 37 IAMs_20 IAMs_20 23 31 42.0
comp=Z,1µm,19.0s
HKT Hockley 100.06 46 IAMs_20 IAMs_20 23 34 46.7
comp=Z,951nm,18.0s
MCCM Marconi Confer 100.08 22 IAMs_20 IAMs_20 23 32 20.6
comp=Z,2µm,18.0s
Y22D IRIS PASSCAL I 100.14 36 IAMs_20 IAMs_20 23 30 31.4
comp=Z,969nm,20.0s
WUAZ Wupatki 100.22 32 IAMs_20 IAMs_20 23 30 36.7
comp=Z,1µm,20.0s
ABPO Ambohimpanom 100.32 197 IAMs_20 IAMs_20 23 36 49.5
comp=Z,2µm,18.0s
TPNV Topopah Spring 100.35 28 IAMs_20 IAMs_20 23 29 52.9
comp=Z,1µm,20.0s
CMB Columbia Colle 100.47 24 IAMs_20 IAMs_20 23 31 45.1
comp=Z,1µm,18.0s
TSUM Tsumeb 100.98 169 IAMs_20 IAMs_20 23 35 29.9
comp=Z,1µm,20.0s
ANMO Albuquerque 101.09 36 IAMs_20 IAMs_20 23 31 21.5
comp=Z,995nm,21.0s
ORV Oroville 101.71 23 IAMs_20 IAMs_20 23 30 14.9
comp=Z,911nm,21.0s
R11B Troy Canyon, C 101.84 28 IAMs_20 IAMs_20 23 34 20.4
comp=Z,928nm,20.0s
BIM Bigot 102.33 82 IAMs_20 IAMs_20 23 35 56.3
comp=Z,1µm,19.0s
MPOM Morne Pois Mar 102.38 83 IAMs_20 IAMs_20 23 35 37.4
comp=Z,1µm,20.0s
FDF Fort de France 102.47 82 IAMs_20 IAMs_20 23 36 26.0
comp=Z,1µm,19.0s
AMTX Amarillo 102.52 40 IAMs_20 IAMs_20 23 32 14.5
comp=Z,1µm,20.0s
MVCO Mesa Verde 102.60 34 IAMs_20 IAMs_20 23 31 16.5
comp=Z,947nm,19.0s
SJG San Juan 102.84 76 IAMs_20 IAMs_20 23 35 19.9
comp=Z,811nm,21.0s
H10S2 ASCENSION HYDR 103.35 135 T T 00 51 06.8
baz=204,slow=74,SNR=23
H10S3 ASCENSION HYDR 103.35 135 T T 00 51 06.8
baz=16,slow=74,SNR=28
WMOK Wichita Mounta 103.35 42 IAMs_20 IAMs_20 23 34 57.6
comp=Z,2µm,22.0s
YBH Yreka Blue Hor 103.58 21 IAMs_20 IAMs_20 23 31 17.4
comp=Z,2µm,21.0s
SABA Saba 103.87 79 IAMs_20 IAMs_20 23 36 49.1
comp=Z,1µm,18.0s
SDCO Great Sand Dun 103.97 36 IAMs_20 IAMs_20 23 33 23.8
comp=Z,1µm,20.0s
ELK Elko 104.20 27 IAMs_20 IAMs_20 23 35 08.9
comp=Z,1µm,18.0s
DUG Dugway, Tooele 104.26 29 IAMs_20 IAMs_20 23 32 03.6
comp=Z,1µm,20.0s
SMRT St. Maarten 104.32 79 IAMs_20 IAMs_20 23 40 42.0
comp=Z,1µm,20.0s
HUMO Hull Mountain 104.38 21 IAMs_20 IAMs_20 23 31 47.6
comp=Z,1µm,20.0s
H10N3 ASCENSION HYDR 104.44 135 T T 00 52 24.2
baz=203,slow=75,SNR=43
H10N1 ASCENSION HYDR 104.44 135 T T 00 52 24.8
baz=203,slow=75,SNR=65
H10N2 ASCENSION HYDR 104.46 135 T T 00 52 25.9
baz=203,slow=75,SNR=63
SMCO Snowmass 104.87 34 IAMs_20 IAMs_20 23 32 43.6
comp=Z,866nm,20.0s
OK038 W end of E0370 104.95 41 IAMs_20 IAMs_20 23 35 47.7
comp=Z,938nm,19.0s
WVOR Wild Horse Val 105.06 24 IAMs_20 IAMs_20 23 34 42.6
comp=Z,1µm,19.0s
OK035 E0210 Rd and N 105.17 41 IAMs_20 IAMs_20 23 33 45.5
comp=Z,1µm,21.0s
LHMI Lhok Sumawe 105.58 253 IAMs_20 IAMs_20 23 36 59.6
comp=Z,713nm,20.0s
OK051 E0350 and S346 105.62 43 IAMs_20 IAMs_20 23 38 40.6
comp=Z,1µm,22.0s
ISCO Idaho Springs 105.84 35 IAMs_20 IAMs_20 23 33 41.3
comp=Z,1µm,22.0s
HWUT Hardware Ranch 105.91 30 IAMs_20 IAMs_20 23 32 37.1
comp=Z,994nm,21.0s
COR Corvallis 106.24 20 IAMs_20 IAMs_20 23 31 32.7
comp=Z,1µm,22.0s
MFID Camas Ranch 106.61 26 IAMs_20 IAMs_20 23 33 09.5
comp=Z,879nm,21.0s
CBKS Cedar Bluff 106.74 40 IAMs_20 IAMs_20 23 34 15.2
comp=Z,1µm,21.0s
HLID Hailey 107.07 27 IAMs_20 IAMs_20 23 36 23.7
comp=Z,2µm,18.0s
AHID Auburn Hatcher 107.11 30 IAMs_20 IAMs_20 23 37 03.0
comp=Z,756nm,18.0s
RWWY Rawlins 107.14 33 IAMs_20 IAMs_20 23 32 58.6
comp=Z,988nm,21.0s
BW06 Boulder Array 107.51 31 IAMs_20 IAMs_20 23 33 44.5
comp=Z,1µm,20.0s
BMO Blue Mountains 107.66 24 IAMs_20 IAMs_20 23 36 27.3
comp=Z,896nm,19.0s
LOHW Long Hollow 108.03 30 IAMs_20 IAMs_20 23 43 36.4
comp=Z,709nm,18.0s
PLID Pearl Lake 108.16 25 IAMs_20 IAMs_20 23 44 47.6
comp=Z,946nm,18.0s
IMW Indian Meadow 108.22 29 IAMs_20 IAMs_20 23 38 28.1
comp=Z,813nm,19.0s
FLWY Flagg Ranch 108.45 29 IAMs_20 IAMs_20 23 43 10.4
comp=Z,782nm,18.0s
HAWA Hanford 108.68 22 IAMs_20 IAMs_20 23 34 43.3
comp=Z,2µm,20.0s
NLWA Neilton Lookou 108.86 19 IAMs_20 IAMs_20 23 34 25.1
comp=Z,2µm,20.0s
BOZ Bozeman (W) 109.64 28 IAMs_20 IAMs_20 23 34 42.9
comp=Z,1µm,21.0s
TZTN Tazewell 110.65 53 IAMs_20 IAMs_20 23 30 26.7
comp=Z,802nm,20.0s
QIZ Qiongzhong 110.84 272 Pdif **Pdif 22 55 21.6 -2.1**
QIZ PP **PP 23 00 00.8 -0.2**
QIZ S **Sdif 23 07 43.1 +2.7**
QIZ SS **SS 23 15 37.6 +6.2**
QIZ LR LR
comp=Z,470nm,16.8s
QIZ LR LR
comp=Z,780nm,21.9s
NEW Newport 110.95 23 IAMs_20 IAMs_20 23 35 14.4
comp=Z,1µm,21.0s
ECSD EROS Data Cent 112.19 40 IAMs_20 IAMs_20 23 39 51.4
comp=Z,2µm,20.0s
EGMT Eagleton 112.37 29 IAMs_20 IAMs_20 23 38 44.1
comp=Z,1µm,20.0s
MSEY Mahe Island 112.64 209 IAMs_20 IAMs_20 23 40 54.2
comp=Z,868nm,19.0s
JTM Tenmabayashi 114.50 309 IAMs_20 IAMs_20 23 38 25.8
comp=Z,1µm,22.0s
PALK Pallekele 114.94 239 IAMs_20 IAMs_20 23 36 45.5
comp=Z,987nm,22.0s
CHTO Chiang Mai 116.20 263 IAMs_20 IAMs_20 23 46 37.7
comp=Z,699nm,21.0s
U35K Hyder 116.32 13 IAMs_20 IAMs_20 23 38 10.1
comp=Z,2µm,20.0s
NJ2 Nanjing 117.11 287 *e*PKP **PKiKP 22 59 36.0 +1.1**
S34M Telegraph Cree 118.16 12 IAMs_20 IAMs_20 23 40 51.8
comp=Z,1µm,19.0s
Q32M Nakina River 119.07 11 IAMs_20 IAMs_20 23 39 48.0
comp=Z,2µm,19.0s
YSS Yuzh-Sakhalins 119.11 314 IAMs_20 IAMs_20 00 00 23.0
comp=Z,584nm,19.0s
KMBO Kilima Mbogo 119.16 189 IAMs_20 IAMs_20 23 45 41.9
comp=Z,2µm,20.0s
PET Petropavlovsk 119.31 328 IAMs_20 IAMs_20 23 41 33.6
comp=Z,732nm,20.0s
O19K Port Alsworth 119.43 358 IAMs_20 IAMs_20 23 43 04.0
comp=Z,2µm,20.0s
N15K Kwethluk River 119.59 355 IAMs_20 IAMs_20 23 39 14.0
comp=Z,2µm,21.0s
R33M Jennings River 119.63 12 IAMs_20 IAMs_20 23 42 22.7
comp=Z,1µm,20.0s
N18K Kilae Creek 119.95 357 IAMs_20 IAMs_20 23 42 20.7
comp=Z,2µm,21.0s
N19K Bonanza Creek 120.05 358 IAMs_20 IAMs_20 23 41 17.4
comp=Z,2µm,21.0s
RC01 Rabbit Creek A 120.30 1 IAMs_20 IAMs_20 23 45 59.1
comp=Z,2µm,19.0s
KNK Knik Glacier 120.64 1 IAMs_20 IAMs_20 23 47 17.1
comp=Z,2µm,19.0s
MCARA McCarthy VSAT 120.75 4 IAMs_20 IAMs_20 23 45 20.1
comp=Z,2µm,19.0s
N25K Chitina, Valde 120.92 4 IAMs_20 IAMs_20 23 41 28.5
comp=Z,2µm,21.0s
M22K Willow 120.97 0 IAMs_20 IAMs_20 23 44 59.7
comp=Z,2µm,20.0s
GHO Glory Hole Cre 121.00 1 IAMs_20 IAMs_20 23 45 37.4
comp=Z,2µm,20.0s
L16K Owhat River 121.10 355 IAMs_20 IAMs_20 23 46 41.0
comp=Z,2µm,18.0s
M20K Styx River 121.11 359 IAMs_20 IAMs_20 23 40 39.3
comp=Z,2µm,20.0s
N32M Quiet Lake 121.16 10 IAMs_20 IAMs_20 23 42 08.1
comp=Z,2µm,20.0s
PZH PanZhiHua 121.17 270 PKP **PKiKP 22 59 44.0 +0.8**
L19K White Mountain 121.43 358 IAMs_20 IAMs_20 23 42 48.9
comp=Z,2µm,20.0s
DHY Denali Highway 122.33 2 IAMs_20 IAMs_20 23 44 15.6
comp=Z,2µm,20.0s
MDJ Mudanjiang 122.38 304 IAMs_20 IAMs_20 23 44 45.8
comp=Z,688nm,21.0s
MDJ Mudanjiang 122.38 304 PKP **PKiKP 22 59 47.3 +2.5**
MDJ SKS **SKSdf 23 06 58.3 +2.2**
MDJ SS **SS 23 18 03.9 +2.0**
MDJ LR LR
comp=Z,360nm,19.6s
MDJ LR LR
comp=Z,650nm,21.6s
K20K Telida 122.60 358 IAMs_20 IAMs_20 23 43 27.7
comp=Z,1µm,20.0s
J16K Anvik River 122.72 355 IAMs_20 IAMs_20 23 51 12.9
comp=Z,1µm,19.0s
J19K Poorman 123.27 358 IAMs_20 IAMs_20 23 45 52.3
comp=Z,2µm,20.0s
I17K Unalakleet 123.33 355 IAMs_20 IAMs_20 23 41 18.9
comp=Z,2µm,22.0s
J20K Nowinta River 123.42 358 IAMs_20 IAMs_20 23 44 21.5
comp=Z,1µm,20.0s
HDA Harding Lake 123.67 2 IAMs_20 IAMs_20 23 45 29.2
comp=Z,1µm,19.0s
NEA2 Nenana 123.83 1 IAMs_20 IAMs_20 23 46 38.2
comp=Z,2µm,19.0s
CCB Clear Creek Bu 123.89 2 IAMs_20 IAMs_20 23 47 50.0
comp=Z,1µm,18.0s
J25K Salcha River, 123.91 3 IAMs_20 IAMs_20 23 45 16.5
comp=Z,2µm,19.0s
ILAR Eielson Array 124.03 2 PKPdf 22 59 46.5 -0.7
ILAR Eielson Array 124.03 2 PKP **PKiKP 22 59 48.0 +0.6**
comp=Z,5.7nm,1.1s,baz=221,slow=2.5,SNR=8.1
I20K Naagheden el 124.05 358 IAMs_20 IAMs_20 23 43 31.1
comp=Z,933nm,18.0s
COLA College 124.12 2 IAMs_20 IAMs_20 23 49 08.1
comp=Z,1µm,19.0s
MDM Murphy Dome 124.20 1 IAMs_20 IAMs_20 23 49 18.2
comp=Z,2µm,19.0s
MLY Manley 124.26 0 IAMs_20 IAMs_20 23 42 48.6
comp=Z,2µm,20.0s
POKR Poker Flat Res 124.37 2 IAMs_20 IAMs_20 23 46 17.7
comp=Z,1µm,19.0s
I23K Minto, Yukon-K 124.38 1 IAMs_20 IAMs_20 23 47 14.9
comp=Z,2µm,19.0s
H18K Honhosa River 124.50 356 IAMs_20 IAMs_20 23 47 52.0
comp=Z,2µm,19.0s
BJI Beijing 124.81 291 PKP PKiKP 23 00 02.3 +13
BJI LR LR
comp=N,180nm,16.2s
BJI LR LR
comp=E,89nm,13.7s
BJI LR LR
comp=Z,210nm,18.5s
PRP Porcupine Dome 124.81 3 IAMs_20 IAMs_20 23 45 36.4
comp=Z,1µm,20.0s
YKA Yellowknife Ar 124.87 20 PKP **PKPdf 22 59 48.2 -0.6**
comp=Z,3.2nm,1.2s,baz=207,slow=1.5,SNR=7.6
H21K Melozitna Rive 124.89 359 IAMs_20 IAMs_20 23 45 10.4
comp=Z,2µm,20.0s
G16K Koyuk River 124.91 354 IAMs_20 IAMs_20 23 43 22.8
comp=Z,2µm,22.0s
H24K Noodor Dome 125.09 2 IAMs_20 IAMs_20 23 47 17.6
comp=Z,2µm,20.0s
G18K Tagagawik 125.26 356 IAMs_20 IAMs_20 23 51 17.9
comp=Z,1µm,19.0s
FYU Fort Yukon 125.87 3 IAMs_20 IAMs_20 23 44 25.4
comp=Z,1µm,21.0s
F17K Baldwin Pennin 125.91 355 IAMs_20 IAMs_20 23 47 53.0
comp=Z,2µm,20.0s
G23K Bananza Creek 125.95 0 IAMs_20 IAMs_20 23 46 42.3
comp=Z,1µm,20.0s
G24K Hadweenzic Riv 125.96 2 IAMs_20 IAMs_20 23 50 33.7
comp=Z,1µm,18.0s
F19K Shaleruckik Mo 126.17 357 IAMs_20 IAMs_20 23 48 37.0
comp=Z,2µm,19.0s
F20K Avaraart Lake 126.33 358 IAMs_20 IAMs_20 23 53 25.4
comp=Z,2µm,18.0s
F21K Alatna River 126.47 359 IAMs_20 IAMs_20 23 46 58.1
comp=Z,2µm,20.0s
F24K Squaw Lake 126.78 1 IAMs_20 IAMs_20 23 46 02.3
comp=Z,1µm,20.0s
E18K Tukpahlearik C 126.86 355 IAMs_20 IAMs_20 23 48 24.2
comp=Z,2µm,20.0s
MA2 Magadan 127.18 327 IAMs_20 IAMs_20 23 50 53.7
comp=Z,1µm,19.0s
E24K Your Creek 127.33 1 IAMs_20 IAMs_20 23 46 28.8
comp=Z,2µm,20.0s
E22K Anaktuvuk Pass 127.38 360 IAMs_20 IAMs_20 23 44 58.0
comp=Z,2µm,21.0s
E25K Arctic Village 127.42 3 IAMs_20 IAMs_20 23 48 16.4
comp=Z,1µm,19.0s
HHC Hu-ho-hao-te 127.65 288 *e*PKP **PKPdf 22 59 52.8 -2.2**
HEH HeiHe 127.74 307 PKP **PKPdf 22 59 54.6 -0.1**
HEH LR LR
comp=Z,250nm,17.3s
HEH LR LR
comp=Z,870nm,20.4s
LZH Lanzhou 127.78 278 *e*PKP **PKiKP 22 59 58.1 +2.0**
LZH SS SS 23 19 12.0 +1.7
LZH LR LR
comp=Z,350nm,14.8s
LZH LR LR
comp=Z,640nm,17.5s
TOLK Toolik Lake Re 127.89 1 IAMs_20 IAMs_20 23 43 34.6
comp=Z,2µm,22.0s
C18K Utukok River 128.11 355 IAMs_20 IAMs_20 23 49 06.2
comp=Z,2µm,20.0s
BTO Baotou 128.21 287 *e*PKP **PKPdf 22 59 54.1 -2.0**
BTO PP **PP 23 02 02.0 +1.2**
BTO SS SS 23 19 19.4 +3.9
BTO LR LR
comp=Z,590nm,12.4s
D24K Happy Valley 128.41 1 IAMs_20 IAMs_20 23 47 44.4
comp=Z,2µm,20.0s
D25K Kavik River 128.61 2 IAMs_20 IAMs_20 23 46 20.8
comp=Z,1µm,21.0s
FURI Furi 128.94 192 IAMs_20 IAMs_20 23 52 34.9
comp=Z,2µm,21.0s
B20K Meade River 129.33 357 IAMs_20 IAMs_20 23 52 16.7
comp=Z,2µm,20.0s
HIA Hailar 130.24 301 IAMs_20 IAMs_20 23 49 50.5
comp=Z,720nm,22.0s
BILL Bilibino 131.04 340 IAMs_20 IAMs_20 23 47 02.1
comp=Z,888nm,21.0s
YAK Yakutsk 135.60 319 IAMs_20 IAMs_20 23 53 44.0
comp=Z,556nm,20.0s
TAM Tamanrasset 139.69 145 IAMs_20 IAMs_20 00 07 02.5
comp=Z,749nm,19.0s
UOSS Minazif 140.56 221 IAMs_20 IAMs_20 00 13 57.5
comp=Z,720nm,18.0s
WMQ Urumqi 141.76 273 *e*PKP **PKiKP 23 00 22.9 -1.2**
WMQ LR LR
comp=Z,180nm,17.9s
WMQ LR LR
comp=Z,280nm,27.5s
WMQ LR LR
comp=Z,240nm,24.9s
TIXI Tiksi 142.06 329 PKPdf 23 00 21.1 +0.4
TIXI Tiksi 142.06 329 IAMs_20 IAMs_20 23 53 30.8
comp=Z,694nm,21.0s
EUNU Eureka 144.03 16 PKPbc 23 00 22.9 +0.6
KSH Kashi 144.52 257 PKP **PKPdf 23 00 27.3 +1.0**
KSH LR LR
comp=Z,430nm,19.2s
KSH LR LR
comp=Z,220nm,14.4s
KSH LR LR
comp=Z,510nm,22.0s
SHLS Shalkode 145.48 265 *e*PKP **PKPdf 23 00 27.6 -0.2**
baz=265
PRZ Przheval'sk 145.53 263 IAMs_20 IAMs_20 00 08 17.8
comp=Z,480nm,21.0s

UZB	Uzynbulak	145.69	264	*e*PKP		PKPbc	23 00 28.6	0.0
	baz=264							
ZSN	Zaisan	145.70	275	*e*PKP		PKPab	23 00 28.5	-0.2
	baz=274							
SATY	Saty	145.94	263	*e*PKP		PKPdf	23 00 28.6	0.0
	baz=263							
ZHN	Zhinishke	146.01	264	*e*PKP		PKPdf	23 00 29.1	+0.4
	baz=263							
KPKS	Kokpek	146.09	264	*e*PKP		PKPbc	23 00 29.3	-0.4
	baz=264							
MK31	Makanchi Array	146.57	272	PKPdf		PKPdf	23 00 29.2	-0.2
MKAR	Makanchi Array	146.57	272	PKPdf		PKPdf	23 00 29.1	-0.3
MKAR	Makanchi Array	146.57	272	PKPbc		PKPbc	23 00 30.4	-0.6
	comp=Z,5.4nm,0.7s,baz=137,slow=2.5,SNR=34							
TNSS	Tian-Shan	146.66	262	*e*PKP		PKPdf	23 00 29.8	-0.4
	baz=262							
MDOK	Medeo	146.70	262	*e*PKP		PKPdf	23 00 30.1	+0.2
	baz=262							
MAKZ	Makanchi	146.74	271			PKPdf	23 00 29.4	-0.2
CHGR	Chuyangaron	147.17	249			PKPbc	23 00 32.2	-0.8
CHKK	Chushkaly	147.23	263	*e*PKP		PKPdf	23 00 31.1	+0.5
	baz=263							
TDK	Taldyqorghan	147.32	266	*e*PKP		PKPdf	23 00 31.5	+0.8
	baz=266							
KUU	Kurty	147.59	263	*e*PKP		PKPdf	23 00 31.0	-0.2
	baz=262							
AAK	Ala-Archa	147.60	259	IAMs_20		IAMs_20	00 09 26.1	
	comp=Z,466nm,22.0s							
SGDS	Sogindy	148.13	260	*e*PKP		PKPdf	23 00 32.6	+0.4
	baz=260							
DZA	Taraz	149.37	256	*e*PKP		PKPdf	23 00 34.8	+0.6
	baz=256							
BTLS	Baital	149.56	262	*e*PKP		PKPdf	23 00 34.4	+0.1
	baz=262							
ZAA0	Zalesovo Array	149.70	284			PKPdf	23 00 34.4	+0.2
ZAA0				IAMs_20		IAMs_20	00 11 12.8	
	comp=Z,463nm,21.0s							
ZALV	Zalesovo Beam	149.70	284	PKPdf		PKPdf	23 00 34.4	+0.2
ZALV	Zalesovo Beam	149.70	284	PKPbc		PKPbc	23 00 37.8	-1.2
	comp=Z,0.5nm,0.4s,baz=108,slow=4.7,SNR=2.8							
KKAR	Karatay Array	149.93	256			PKPbc	23 00 39.4	-0.5
CART	Cartagena	150.81	125	IAMs_20		IAMs_20	00 22 55.1	
	comp=Z,648nm,18.0s							
KURBB	Kurchatov Arra	150.94	274	PKPbc		PKPbc	23 00 41.2	-0.8
	comp=Z,4.0nm,1.0s,baz=131,slow=1.5,SNR=18							
KURK	Kurchatov	150.94	275	PKPdf		PKPdf	23 00 37.5	+1.2
KURK	Kurchatov	150.94	275	IAMs_20		IAMs_20	00 19 04.0	
	comp=Z,527nm,22.0s							
ESDC	Sonseca Array	151.28	119			PKPbc	23 00 43.4	+0.1
ESDC	Sonseca Array	151.28	119	PKPbc		PKPbc	23 00 42.4	-0.9
	comp=Z,1.6nm,0.7s,baz=226,slow=1.0,SNR=11							
GHAJ	Ghor Haditha	151.42	192	IAMs_20		IAMs_20	00 04 24.5	
	comp=Z,833nm,21.0s							
GEYT	Alibeck	151.49	234	PKPbc		PKiKP	23 00 44.5	+0.3
	comp=Z,2.7nm,1.0s,baz=215,slow=1.8,SNR=6.9							
GYA0B	ALIBECK ARRAY	151.49	234			PKPdf	23 00 37.8	+0.2
SUMG	Summit	151.56	36			PKPdf	23 00 38.3	+1.1
SUMG	Summit	151.56	36	*i* P		PKPbc	23 00 43.0	-0.4
MMAI	Mount Meron Ar	153.13	192	PKPbc		PKPbc	23 00 47.1	-0.5
	comp=Z,1.3nm,0.7s,baz=211,slow=8.1,SNR=2.6							
BRZS	Berezniki	153.52	268	*e*PKP		PKPdf	23 00 40.6	+0.4
	baz=268							
WDD	Wied Dalam	154.47	152	IAMs_20		IAMs_20	00 10 16.2	
	comp=Z,1μm,21.0s							
CSS	Mathiatis	155.25	188	IAMs_20		IAMs_20	00 10 40.9	
	comp=Z,900nm,20.0s							
IDI	Anoyia	155.58	172	IAMs_20		IAMs_20	00 13 34.4	
	comp=Z,716nm,20.0s							
KARP	Karpathos	155.96	176	IAMs_20		IAMs_20	00 09 27.2	
	comp=Z,1μm,21.0s							
BVAR	Borovoye Array	156.45	272	PKPbc		PKPbc	23 00 59.1	
	comp=Z,1.1nm,0.8s,baz=64,slow=3.4,SNR=5.6							
BRVK	Borovoye	156.53	272	IAMs_20		IAMs_20	00 25 03.3	
	comp=Z,813nm,22.0s							
TIP	Timpagrande	158.18	154	IAMs_20		IAMs_20	00 15 29.3	
	comp=Z,1μm,20.0s							
GNI	Garni	158.21	214	IAMs_20		IAMs_20	00 13 24.5	
	comp=Z,947nm,20.0s							
ISP	Isparta	158.24	183	IAMs_20		IAMs_20	00 16 51.9	
	comp=Z,606nm,20.0s							
ARPR	Arapgir-MALATY	158.69	200	IAMs_20		IAMs_20	00 15 40.1	
	comp=Z,852nm,20.0s							
CUC	Castrocucco	158.73	151	IAMs_20		IAMs_20	00 19 04.1	
	comp=Z,949nm,22.0s							
ABKAR	Akbulak array	159.46	254	PKPab		PKPab	23 01 25.3	-0.6
ABKAR	Akbulak array	159.46	254	PKPab		PKPab	23 01 25.0	-1.0
KBS	Kingsbay	159.79	9	IAMs_20		IAMs_20	00 12 46.9	
	comp=Z,959nm,19.0s							
ANTO	Ankara	160.16	189	IAMs_20		IAMs_20	00 29 36.0	
	comp=Z,487nm,20.0s							
KHC	Kasperske Hory	166.26	133	AMS		AMS	00 20 30.0	
	comp=Z,900nm,19.9s							
CKRC	Cesky Krumlov	166.27	135	AMS		AMS	00 22 30.0	
	comp=Z,700nm,17.0s							
TREC	Trest	167.09	137	AMS		AMS	00 22 10.0	
	comp=Z,1μm,21.0s							
PRU	Pruhonice	167.32	133	AMS		AMS	00 20 30.0	
	comp=Z,900nm,22.5s							
PRA	Prague	167.35	132	AMS		AMS	00 23 20.0	
	comp=Z,900nm,17.6s							
HSKC	Hora Svate Kat	167.39	128	AMS		AMS	00 23 00.0	
	comp=Z,800nm,16.4s							
CLL	Collm	167.75	125	*e*PKPab		PKPab	23 02 05.0	+2.7
CLL				*ex*		x	23 16 06.0	
CLL				*e*SS		SS	23 26 38.0	-1.3
CLL				*e*PSPS			23 28 30.0	
CLL				*ex*		x	23 32 36.0	
CLL				*e*SSSrev			23 38 18.0	
CLL				AMS		AMS	00 22 00.0	
	comp=Z,900nm,20.9s							
PVCC	Panska Ves	167.77	131	AMS		AMS	00 23 20.0	
	comp=Z,1μm,20.9s							
DPC	Dobruska-Polom	168.27	136	AMS		AMS	00 23 20.0	
	comp=Z,700nm,18.3s							
UPC	Upice	168.29	135	AMS		AMS	00 21 10.0	
	comp=Z,600nm,17.3s							
OSTC	Ostas	168.40	135	AMS		AMS	00 21 40.0	
	comp=Z,600nm,18.3s							
OKC	Ostrava-Krasne	168.44	142	AMS		AMS	00 25 20.0	
	comp=Z,700nm,18.3s							
KLMR	Klimovskoe	174.60	289	*e*PKPdf		PKPdf	23 00 56.1	-2.6
KLMR				AMP			23 01 02.8	
	comp=Z,12nm,1.6s							
KLMR				LQ		LQ	00 07 15.7	
KLMR				LQ		LQ	00 07 15.7	
KLMR				LR		LR	00 10 32.8	
KLMR				AMP			00 13 42.3	
	comp=Z,1μm,21.9s							

*UPP **16** 23:00:12.7±0.1, 67.19N×20.67E, h0km, ML2.0, Suspected explosion*
*HEL **16** 23:00:12.8±0.3, 67.18N×20.63E, h0km, ML1.4, Suspected explosion*
*IDC **16** 23:00:14.8±1.1, 67.08N×21.53E, h0km, mbtmp2.9/4, ML1.8/4, Error ellipse: s-maj=29.1km s-min=10.3km az=116.0*

ISC 16 23:00:12.4±0.8, 67°20N±0°02×20°82E±0°03, h0km, n35, σ1°05/51, 2D, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	Dundret	0.13	231	⇓P	Pg	23 00 14.5	-0.3
DUNU				S	Sg	23 00 15.8	-0.7
MASU	Masugnsbyn	0.52	60	⇓P	Pb	23 00 23.9	-0.6
MASU				S	Sb	23 00 31.9	-0.7
KUA	Kurravaara	0.78	346	P	Pg	23 00 27.1	-0.2
ERTU	Ertsjaerv	0.85	140	P	Pg	23 00 28.7	+0.1
ERTU	Ertsjaerv	0.85	140	PG	Pg	23 00 28.6	0.0
PAJU	Pajala	0.91	100	P	Pb	23 00 30.6	-0.5
PAJU	Pajala	0.91	100	PG	Pb	23 00 30.5	-0.6
	baz=285						
PAJU				SB	Sb	23 00 43.9	+0.1
SALU	Saltoluokta	0.92	282	P	Pg	23 00 28.9	-1.1
LANU	Lannavaara	0.96	27	P	Pb	23 00 31.2	-0.7
LANU	Lannavaara	0.96	27	PG	Pb	23 00 31.1	-0.7
	baz=209						
HARU	Harads	1.04	177	P	Pg	23 00 31.7	-0.7
KOVU	Salmi	1.06	346	P	Pg	23 00 32.5	-0.1
KLF	Kolari	1.22	87	PG	Pb	23 00 36.1	-0.3
	baz=268						
KLF				MSG		23 00 52.2	
	comp=Z,1.7nm,0.2s						
KLF				SG	Sn	23 00 53.5	-0.5
HEF	Hetta	1.62	40	*e*P	Pb	23 00 42.9	-0.3
HEF	Hetta	1.62	40	PG	Pb	23 00 42.7	-0.5
HEF				MSG		23 01 03.1	
	comp=Z,2.1nm,0.2s						
HEF				SN	Sg	23 01 04.8	+0.4
KALU	Kalix	1.69	142	P	Pb	23 00 43.7	-0.5
KALU				S	Sg	23 01 07.0	+0.5
KALU	Kalix	1.69	142	PG	Pb	23 00 44.1	-0.2
KALU				SN	Sg	23 01 06.7	+0.2
SJUU	Sjulsmark	1.73	169	P	Pn	23 00 44.0	+0.3
SJUU				S	Sb	23 01 07.5	+0.2
TOF	Tornio	1.79	127	PG	Pb	23 00 45.9	-0.2
TOF				MSG		23 01 07.7	
	comp=Z,2.2nm,0.2s						
TOF				SG	Sg	23 01 10.4	+0.5
KIF	Kilpisjarvi	1.81	360	*e*P	Pb	23 00 46.4	0.0
KIF	Kilpisjarvi	1.81	360	PG	Pg	23 00 46.8	-0.2
KIF				MSG		23 01 08.5	
	comp=Z,5.1nm,0.2s						
KIF				SG	Sg	23 01 11.5	+1.0
KTK1	Kautokeino	2.03	25	PG	Pb	23 00 49.9	-0.3
KTK1				SG	Sg	23 01 17.4	-0.2
RNF	Rovaniemi	2.13	104	PG	Pb	23 00 51.6	-0.3
	baz=291						
RNF				SG	Sg	23 01 20.7	-0.1
SGF	Sodankyl	2.22	81	PG	Pb	23 00 53.0	-0.4
	baz=264						
SGF				SG	Sg	23 01 23.3	-0.5
TRO	Tromso	2.54	345	SG	Sb	23 01 29.0	-1.6
BURU	Burvik	2.64	175	PB	Pn	23 00 57.1	+1.0
ARA0	ARCESS Array S	2.92	34	PB	Pn	23 01 01.5	+1.5
ARA0				SB	Sb	23 01 40.3	-1.0
ARCES	ARCESS Array B	2.92	34	Pn	Pn	23 01 01.3	+1.3
	comp=Z,0.1nm,0.3s,baz=210,slow=14,SNR=9.5						
ARCES				Sn	Sb	23 01 38.9	-2.4
	comp=Z,0.4nm,0.3s,baz=210,slow=22,SNR=9.5						
	comp=Z,8.1nm,1.3s						
OUL	Oulu	2.96	134	PG	Pb	23 01 05.7	-0.3
OUL				SG	Sg	23 01 45.6	-1.8
KEV	Kevo	3.43	39	SN	Sn	23 01 50.9	+2.6
MSF	Maaselka	3.53	108	SG	Sg	23 02 03.5	-2.2
KU6	Riekki	3.80	104	SG	Sg	23 02 14.0	-0.4
FINES	FINESS Array B	6.21	156	Pn	Pn	23 01 45.6	+0.4
	comp=Z,0.1nm,0.3s,baz=346,slow=14,SNR=1.5						
	comp=Z,0.8nm,0.8s						
NOA	NORSAR Array B	7.47	219	Pn	Pn	23 02 06.2	+3.7
	baz=27,slow=7.4,SNR=1.3						
	comp=Z,0.6nm,0.9s						
HFS	Hagfors	7.77	207	Pn	Pn	23 02 05.4	-1.1
	comp=Z,0.1nm,0.3s,baz=16,slow=11,SNR=1.8						
	comp=Z,2.6nm,0.9s						

UPP 16 23:00:24.0±0.1, 67.18N×20.64E, h0km, ML1.6, 1D, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	Dundret	0.07	206	⇓P	Pg	23 00 25.5	+0.2
DUNU				S	Sg	23 00 26.6	+0.5
KUA	Kurravaara	0.79	352	P	Pg	23 00 38.6	-0.4
KUA	Kurravaara	0.79	352	S	Pg	23 00 38.2	-0.8
SALU	Saltoluokta	0.85	284	P	Pg	23 00 40.3	-0.1
ERTU	Ertsjaerv	0.88	135	P	Pg	23 00 40.6	-0.2
ERTU	Ertsjaerv	0.88	135	SG	Pg	23 00 40.4	-0.4

*IDC **16** 23:02:48.5±4.3, 22.03S×69.85E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=129.2km s-min=33.5km az=53.0*

ISC 16 23:02:49.3±4.4, 22°2S±0°5×69°7E±0°7, h10km, n12, σ0°57/6, mb3.9/6, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	Diego Carcia H	14.66	11	T	T	23 21 21.7	
	baz=193,slow=76,SNR=22						
H08S2	Diego Garcia H	14.67	11	T	T	23 21 22.2	
	baz=193,slow=76,SNR=26						
H08S3	Diego Garcia H	14.68	11	T	T	23 21 23.6	
	baz=193,slow=76,SNR=32						
H04N2	CROZET ISLANDS	28.04	207	T	T	23 37 46.6	
	baz=37,slow=75,SNR=95						
H04N1	CROZET ISLANDS	28.05	207	T	T	23 37 48.5	
	baz=37,slow=75,SNR=20						
H04N3	CROZET ISLANDS	28.06	207	T	T	23 37 46.2	
	baz=37,slow=75,SNR=85						
CMAR	Chiang Mai Arr	49.46	38	P	P	23 11 40.0	0.0
	1.2nm,0.3s,baz=217,slow=7.8,SNR=1.7						
	1.2nm,0.3s						
ASAR	Alice Springs	58.69	105	P	P	23 12 47.0	-0.5
	0.2nm,0.6s,baz=263,slow=5.5,SNR=3.4						
	0.2nm,0.6s						
WRA	Warramunga Arr	59.94	101	P	P	23 12 56.7	+0.5
	0.3nm,0.9s,baz=261,slow=6.9,SNR=1.4						
	0.3nm,0.9s						
MKAR	Makanchi Array	69.56	9	P	P	23 13 57.6	-0.6
	1.1nm,0.8s,baz=179,slow=6.1,SNR=6.2						
	1.1nm,0.8s						
KURBB	Kurchatov Arra	72.87	6	P	P	23 14 18.4	+0.2
	0.6nm,0.7s,baz=201,slow=6.4,SNR=4.8						
	0.6nm,0.7s						
ZALV	Zalesovo Beam	76.90	9	P	P	23 14 41.7	+0.3
	1.5nm,0.7s,baz=186,slow=6.7,SNR=6.3						
	1.5nm,0.7s						

*NEIC **16** 23:34:44.6±0.6, 36.71N±0.01×99.38W±0.03, h4km±6km, Error ellipse: s-maj=4.0km s-min=1.5km az=108.0*

TUL 16 23:34:43.6±0.8, 36.71N±0.01×99.39W±0.03, h6km±6km, ML2.7, mb_Lg2.4/16(NEIC), ML2.8/12(NEIC), Error ellipse: s-maj=3.9km s-min=1.5km az=107.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	Winter Ranch,	0.46	136		Pg	23 34 52.7	+0.4
U32A				Sg	Sg	23 34 59.4	+1.1
U32A				IAML		23 34 59.7	
	comp=E,1μm,0.5s						
OK035	E0210 Rd and N	0.55	90		Pg	23 34 54.3	+0.1
OK035				Sg	Sg	23 35 02.1	+0.8
OK035				IAML		23 35 04.7	
	comp=E,462nm,0.3s						
OK038	West end E0370	0.57	114		Pg	23 34 54.9	+0.3
OK038				Sg	Sg	23 35 02.9	+0.8
ELIS	Ellis County	0.64	182	Pg	Pg	23 34 56.4	+0.4
ELIS				Sg	Sb	23 35 05.6	-0.9
ELIS				IAML		23 35 09.3	
	comp=N,441nm,0.3s						
OK032	Salt Plains WL	0.95	84		Pg	23 35 01.6	-0.3
OK032				IAML		23 35 20.2	
	comp=N,308nm,0.1s						
OK032				IAML		23 35 23.6	
	comp=N,283nm,0.1s						
KAN10	Anthony SW Sta	1.12	68	Pg	Pg	23 35 04.5	-0.5
CROK	Carrier	1.15	100	Pg	Pg	23 35 05.1	-0.5
CROK				IAML		23 35 25.8	
	comp=E,262nm,0.2s						
KAN14	Manchester OK	1.17	77	Pg	Pg	23 35 05.5	-0.6
GC02	Grant County #	1.24	83		Pg	23 35 06.7	-0.6
KAN08	Anthony NE Sta	1.25	65	Pg	Pg	23 35 06.9	-0.7
KAN05	Bluff City Nor	1.28	71	Pg	Pn	23 35 07.2	-0.9
KAN06	Argonia West S	1.34	66	Pg	Pn	23 35 08.5	-0.4
KAN17	Caldwell West	1.35	75	Pg	Pn	23 35 08.3	-0.7
KAN01	Argonia South	1.38	71		Pn	23 35 09.1	-0.4
KAN13	South Haven SW	1.56	78		Pn	23 35 12.4	+0.4
SMWD	Samnorwood	1.74	204	Pn	Pb	23 35 15.7	-0.4
SMWD				IAmb_Lg		23 35 39.0	
	comp=Z,14nm,0.8s						
BLOK	Blackwell	1.75	88		Pb	23 35 15.3	-0.8
R32A	Long Quarter,	1.79	17		Pn	23 35 15.8	+0.7
OK048	Pawnee Station	1.99	98		Pn	23 35 18.8	+1.0
WMOK	Wichita Mounta	2.03	166	Pn	Pn	23 35 19.2	+0.8
WMOK				IAmb_Lg		23 35 51.4	
	comp=Z,15nm,0.8s						
CBKS	Cedar Bluff	2.12	353	Pn	Pn	23 35 20.6	+0.9
FNO	Franklin	2.17	131	Pn	Pn	23 35 21.2	+0.9
FNO				IAmb_Lg		23 35 51.6	
	comp=Z,13nm,0.9s						
QUOK	Quay	2.23	103		Pn	23 35 22.0	+0.9
QUOK				IAmb_Lg		23 35 53.0	
	comp=Z,13nm,1.2s						
T35A	Sooner Cattle	2.32	84		Pn	23 35 22.5	+0.1
WTFS	Witchita Falls	3.03	165	Pn	Pn	23 35 32.1	0.0
KSU1	Kansas State U	3.25	42	IAmb_Lg		23 36 25.6	
	comp=Z,13nm,1.0s						
LOOK	Love County	3.26	146	Pn	Pn	23 35 34.3	-0.9
DKNS	Dickens	3.28	203	Pn	Pn	23 35 36.7	+1.0
APMT	Aspermont	3.43	190		Pn	23 35 38.8	+1.2
KSCO	Kaye Shedlock'	3.44	313	IAmb_Lg		23 36 34.6	
	comp=Z,13nm,0.7s						
U38A	Gravette	4.04	92		Pn	23 35 45.8	-0.2
T25A	Trinidad	4.04	278		Pn	23 35 46.7	+0.4
HHAR	Hobbs	4.41	94	Pn	Pn	23 35 51.4	+0.3
OGNE	Ogallala	4.71	335		Pn	23 35 55.7	+0.5
OGNE				IAmb_Lg		23 37 17.9	
	comp=Z,12nm,0.8s						
S39A	Bolivar	4.94	77		Pn	23 35 58.4	-0.1
SDCO	Great Sand Dun	4.98	284		Pn	23 35 58.9	-0.3
SDCO				IAmb_Lg		23 37 27.5	
	comp=Z,8.2nm,1.1s						
ISCO	Idaho Springs	5.79	304	IAmb_Lg		23 37 52.1	
	comp=Z,5.0nm,0.9s						

*IDC **16** 23:48:47.4±1.3, 35.31N×138.79E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=26.3km s-min=13.7km az=77.0*
*JMA **16** 23:48:51.5±0.1, 35.5N±0.2×139.0E±0.3, h22km, MV3.6/20, EASTERN YAMANASHI PREF*
JMA Felt II J1 at EASTERN YAMANASHI PREF .

ISC 16 23:48:50.5±0.9, 35.51N±0.03×139.00E±0.06, h28km±8km, n16, σ0°70/20, mb3.4/3, 4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSGW	Sagamiharawaka	0.19	63	*i* P	Pb	23 48 56.3	-0.1
JSGW				S	Sb	23 49 00.1	-0.3
JOD2	Odawara 2	0.26	164	⇓*i*P	Pb	23 48 57.5	+0.2
JOD2				⇓S	Sb	23 49 01.9	+0.1
JYN	Shimob	0.37	268	*i* P	Pn	23 48 59.5	-0.7
JYN				S	Sn	23 49 05.5	-1.0
JFNN	Fujinakano	0.41	219	*i* P	Pn	23 49 00.2	-0.4
JFNN				S	Sn	23 49 06.7	-0.6
JRY	Ryogami san	0.51	351	⇓*i*P	Pb	23 49 01.3	+0.2
JRY				⇓S	Sb	23 49 08.2	0.0
SHZ3	Shizuoka 3	0.79	236	*i* P	Pn	23 49 06.7	+0.9
SHZ3				S	Sn	23 49 18.6	+1.9
JIZS	Izushimoda	0.80	187	P	Pb	23 49 06.0	+0.2
JIZS				S	Sn	23 49 17.0	+0.1
JIM2	Oshima 3	0.87	156	P	Pb	23 49 06.8	-0.3
JAG	Ashikaga	0.98	22	*i* P	Pn	23 49 08.9	+0.4
MJAR	Matsushiro Arr	1.21	328	Pg	Pb	23 49 12.7	-0.1
	18nm,0.3s,baz=156,slow=16,SNR=396						
MJAR				Lg	Lg	23 49 28.7	
	19nm,0.3s,baz=160,slow=27,SNR=8.0						
H11N2	WAKE ISLAND Hy	29.16	115	T	T	00 25 26.8	
	baz=308,slow=75,SNR=11						
H11N1	WAKE ISLAND Hy	29.17	115	T	T	00 25 25.5	
	baz=308,slow=75,SNR=2.8						
H11N3	WAKE ISLAND Hy	29.18	115	T	T	00 25 27.4	
	baz=308,slow=75,SNR=3.3						
MKAR	Makanchi Array	43.29	303	P	P	23 56 50.3	+0.6
	0.1nm,0.5s,baz=96,slow=7.8,SNR=1.4						
	0.1nm,0.5s						
WRA	Warramunga Arr	55.33	185	P	P	23 58 21.5	-0.3
	0.3nm,0.4s,baz=0.5,slow=7.6,SNR=9.8						
	0.3nm,0.4s						
ASAR	Alice Springs	59.05	185	P	P	23 58 47.4	-0.8
	0.2nm,0.6s,baz=350,slow=6.8,SNR=1.6						
	0.2nm,0.6s						

*IDC **17** 00:26:17.9±1.5, 30.61N×57.36E, h0km, mb3.6/8, mbtmp3.6/9, ML2.8/1, Error ellipse: s-maj=33.7km s-min=24.3km az=169.0*
*TEH **17** 00:26:19.2, 30.76N×57.43E, h8km±23km, ML3.8*

ISC 17 00:26:20.5±0.7, 30.72N±0.04×57.41E±0.04, h15km, n39, σ1°06/40, mb3.5/8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRDN	Zarand Kerman	0.80	288	Pg	Pg	00 26 34.8	-1.2
CHMN	Cheshme madani	0.86	173	Pg	Pg	00 26 36.3	-1.0
KHGB	Koh Gabri	0.88	247	Pg	Pb	00 26 36.5	-1.0
TVBK	TV Kerman	0.92	218	Pg	Pb	00 26 37.9	-0.5
NGRK	Negar Kerman	1.22	209	Pg	Pn	00 26 43.2	-0.2
NGRK				Sg	Sb	00 27 00.8	+1.5
IBAF	Bafgh	1.81	299	Pg	Pn	00 26 52.8	+1.5
KBAM	BAM	1.82	150	Pn	Pn	00 26 52.3	+1.0
BSRN	Basiran	1.92	49	Pn	Pn	00 26 53.1	+0.3
IKOO	Kooshah	2.18	38	Pn	Pn	00 26 57.0	+0.6
NHDN	Nehbandan	2.36	73	Pn	Pn	00 26 59.6	+0.7
TPRV	Parvadeh(Tabas	2.38	345	Pn	Pn	00 27 00.2	+1.0
ITEG	Tejag	2.45	27	Pn	Pn	00 27 00.8	+0.6
IMEH	Mehriz	2.50	286	Pn	Pn	00 27 01.7	+0.9
KHNJ	Kahnooj	2.77	175	Pn	Pn	00 27 05.9	+1.5
TKDS	Koohdasht(Taba	2.90	355	Pn	Pn	00 27 06.7	+0.5
IDAH	Dahaneshah	2.90	45	Pn	Pn	00 27 07.2	+0.8
ICHK	Chekchek	2.98	301	Pn	Pn	00 27 08.6	+1.0
AFRZ	Afriz	3.02	26	Pn	Pn	00 27 08.6	+0.6
ZHDN	Zahedan	3.23	113	Pn	Pn	00 27 12.2	+1.4
TNSJ	Nastanj	3.31	348	Pn	Pn	00 27 12.3	+0.4
ISAD	Sadrabad	3.41	291	Pn	Pn	00 27 15.1	+1.7
SHRT	Shahrakht	3.81	39	Pn	Pn	00 27 19.6	+0.9
ANAR	Anarak	3.98	309	Pn	Pn	00 27 22.1	+0.9
IRAM	Ramesheh	4.44	285	Pn	Pn	00 27 28.6	+1.0
IZEF	Zefreh	4.84	298	Pn	Pn	00 27 33.9	+0.8
KLNJ	Kolanjah	5.01	275	Pn	Pn	00 27 37.7	+2.2
TBJM	Torbat-e-JAM	5.16	28	Pn	Pn	00 27 38.6	+1.3
SBZV	Sabzevar	5.66	2	Pn	Pn	00 27 45.3	+1.1
IPAY

baz=222,slow=72,SNR=36
H03N2 Juan Fernandez 47.29 87 T T 01 27 55.2
baz=222,slow=72,SNR=64
H03N1 Juan Fernandez 47.30 87 T T 01 27 56.0
baz=222,slow=72,SNR=26
SNAA Sanae 48.10 163 P **P** **00 37 17.5 -0.1**
1.8nm,0.6s,baz=261,slow=8.9,SNR=6.3
1.8nm,0.6s
ASAR Alice Springs 68.22 260 P **P** **00 39 39.0 0.0**
1.6nm,1.1s,baz=141,slow=6.4,SNR=7.1
1.6nm,1.1s
WRA Warramunga Arr 71.00 263 P **P** **00 39 56.2 +0.1**
0.8nm,0.8s,baz=148,slow=5.5,SNR=5.8
0.8nm,0.8s
TXAR Lajitas Array 91.50 31 P P 00 41 49.4 +4.7
0.2nm,0.6s,baz=189,slow=5.3,SNR=2.6
0.2nm,0.6s
ILAR Eielson Array 121.66 357 PKP **PKiKP** **00 47 31.9 +1.1**
0.4nm,0.8s,baz=198,slow=2.1,SNR=2.5
ESDC Sonseca Array 146.87 103 PKPbc **PKPab** **00 48 21.2 -0.3**
1.6nm,0.8s,baz=246,slow=2.7,SNR=9.4
MKAR Makanchi Array 152.24 267 PKPbc **PKPbc** **00 48 32.3 -1.0**
1.2nm,0.9s,baz=104,slow=3.9,SNR=5.2
ZALV Zalesovo Beam 154.63 282 PKPbc **PKiKP** **00 48 38.0 -0.1**
0.2nm,0.4s,baz=123,slow=5.3,SNR=1.6

IDC ***17*** *00:29:59.2±4.5, 43.˚34N×145.˚53E, h0km, mb3.9/11, mbtmp3.9/11, Error ellipse: s-maj=124.6km s-min=26.2km az=172.0*
SKHL ***17*** *00:30:02.9±0.4, 43.˚00N×145.˚80E, h52km±2km, mb4.6/3*
NIED ***17*** *00:30:02.8, 42.˚96N×145.˚65E, h44km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.32; $M_{\theta\theta}$-1.59; $M_{\phi\phi}$-1.74; $M_{r\theta}$-0.15; $M_{\theta\phi}$-5.75; $M_{r\phi}$5.48; Fault plane solution: $M_0$8.43000×10^{14} NP1:ϕ_s9.00000°, δ75.00000°, λ49.00000°. NP2:ϕ_s262.00000°, δ43.00000°, λ157.00000°.*
MOS ***17*** *00:30:02.7±1.2, 43.˚04N×145.˚67E, h42km, mb4.2/6 Error ellipse: s-maj=14.0km s-min=8.6km az=97.0*
JMA ***17*** *00:30:02.8±0.1, 43.˚0N±0.˚4×145.˚7E±0.˚5, h44km, MD3.5/40, MV3.5/40, OFF NEMURO PENINSULA*
JMA Felt I J1 at OFF NEMURO PENINSULA .
NEIC ***17*** *00:30:04.4±0.6, 43.˚07N±0.˚09×145.˚7E±0.˚2, h45km±10km, mb4.1/8, Error ellipse: s-maj=16.5km s-min=12.2km az=115.0*

ISC 17 00:30:03.5±0.9, 43.02N±0.˚05×145.˚69E±0.˚04, h41km±7km, n82, σ1ᵗ19/89, mb4.0/18, 3C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.35**	**6**	*e*P		**Pn**		**00 30 12.4**	**0.0**
NEM2				*e*S		**Sn**		**00 30 19.0**	**+0.4**
NEM2	**Nemuro 2**	**0.35**	**6**	A		A		00 30 12.4	
	comp=E,9.0nm,1.1s,comp=N,7.0nm,0.8s								
NMR	**Nemuro--Hokkai**	**0.35**	**5**	*e*P		**Pn**		**00 30 12.4**	**0.0**
NMR				*e*S		**Sn**		**00 30 19.2**	**+0.5**
NMR	**Nemuro--Hokkai**	**0.35**	**5**	⇓*i*PN		**Pn**		**00 30 11.4**	**-1.0**
NMR				*e*S		**Sn**		**00 30 19.1**	**+0.4**
JKHN	**Kushirohamanak**	**0.39**	**280**	*i* P		**Pn**		**00 30 12.2**	**-0.7**
JKHN				*e*S		**Sn**		**00 30 19.0**	**-0.4**
JKHN	**Kushirohamanak**	**0.39**	**280**	A		A		00 30 12.2	
	comp=E,7.0nm,1.0s,comp=N,8.0nm,1.2s								
AKK	**Akkeshi**	**0.62**	**270**	*e*P		**Pn**		**00 30 14.8**	**-1.0**
AKK				AMB		AMB		00 30 15.5	
	comp=N,730nm,0.5s								
AKK				*e*S		**Sn**		**00 30 23.5**	**-1.2**
AKK				A		A		00 30 24.5	
	comp=N,2μm,0.4s								
AKK				A		A		00 30 24.5	
	comp=N,2μm,0.4s								
JAK	**Akkeshi**	**0.73**	**269**	*e*P		**Pn**		**00 30 16.2**	**-1.1**
JAK				*e*S		**Sn**		**00 30 26.4**	**-0.9**
JAK	**Akkeshi**	**0.73**	**269**	A		A		00 30 16.2	
	comp=E,3.0nm,3.0s,comp=N,5.0nm,0.7s								
JNK	**Nakash**	**0.91**	**309**	*e*P		**Pn**		**00 30 19.2**	**-0.6**
JNSB	**Nemuroshibetsu**	**0.91**	**327**	*i* P		**Pn**		**00 30 19.8**	**0.0**
JNSB				*e*S		**Sn**		**00 30 32.4**	**+0.7**
JRA	**Rausu**	**1.01**	**336**	*e*P		**Pn**		**00 30 21.3**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**1.03**	**7**	*e*P		**Pn**		**00 30 21.2**	**-0.2**
YUK				AMB		AMB		00 30 22.6	
	comp=N,500nm,0.3s								
YUK				*i* S		**Sn**		**00 30 34.8**	**+0.3**
YUK				A		A		00 30 37.2	
	comp=N,2μm,0.3s								
YUK				A		A		00 30 37.2	
	comp=N,2μm,0.3s								
YUK	**Yuzh-Kuril'sk**	**1.03**	**7**	*e*PN		**Pn**		**00 30 21.2**	**-0.2**
YUK				*i* S		**Sn**		**00 30 35.2**	**+0.7**
YUK				pmax		pmax			
	comp=Z,822nm,0.2s								
YUK				pmax		pmax			
	comp=N,94nm,0.1s								
YUK				smax		smax			
	comp=E,3μm,0.6s								
YUK				smax		smax			
	comp=N,759nm,0.1s								
RUSJ	**Misakicho**	**1.13**	**344**	⇓*i*PN		**Pn**		**00 30 23.5**	**+0.6**
RUSJ				*e*S		**Sn**		**00 30 39.0**	**+1.8**
SHO	**Shikotan**	**1.19**	**44**	*i* P		**Pn**		**00 30 22.9**	**-0.7**
SHO				AMB		AMB		00 30 25.1	
	comp=N,40nm,0.2s								
SHO				*i* S		**Sn**		**00 30 37.9**	**-0.7**
SHO				A		A		00 30 40.6	
	comp=N,410nm,0.3s								
SHO				A		A		00 30 40.6	
	comp=N,890nm,0.3s								
SHO	**Shikotan**	**1.19**	**44**	⇓*i*PN		**Pn**		**00 30 23.0**	**-0.7**
SHO				*i* S		**Sn**		**00 30 37.4**	**-1.2**
SHO				pmax		pmax			
	comp=Z,31nm,0.1s								
SHO				pmax		pmax			
	comp=E,13nm,0.2s								
SHO				smax		smax			
	comp=E,888nm,0.5s								
SHO				smax		smax			
	comp=N,187nm,0.2s								
JOB	**Onbets**	**1.37**	**266**	*e*P		**Pn**		**00 30 24.9**	**-1.1**
JAR	**Ashorobuto**	**1.43**	**282**	*e*P		**Pn**		**00 30 26.3**	**-0.7**
JTKR	**Abashiri--Toko**	**1.61**	**307**	*e*P		**Pn**		**00 30 29.7**	**+0.3**
ERM	**Erimo**	**2.12**	**243**			**Pn**		**00 30 37.5**	**+1.1**
ERM					Sn	**Sn**		**00 31 04.7**	**+3.2**
ERM	**Erimo**	**2.12**	**243**	*ce*PN		**Pn**		**00 30 37.6**	**+1.1**
JKA	**Kamikawa-asahi**	**2.50**	**297**			**Pn**		**00 30 42.6**	**+1.0**
JKA	**Kamikawa-asahi**	**2.50**	**297**	*e*P		**Pn**		**00 30 42.6**	**+1.0**
ASAJ	**Asahikawa**	**2.50**	**297**	Pn		**Pn**		**00 30 42.5**	**+0.9**
	comp=N,8.2nm,0.3s,baz=125,slow=14,SNR=27								
ASAJ					Sn	**Sn**		**00 31 15.2**	**+4.3**
	comp=N,2.1nm,0.3s,baz=55,slow=26,SNR=1.9								
KUR	**Kuril'sk**	**2.71**	**35**	*e*P		**Pn**		**00 30 47.6**	**+3.1**
KUR				*e*S		**Sn**		**00 31 18.4**	**+2.3**
KUR				A		A		00 31 26.6	
	comp=N,120nm,0.4s								
KUR				A		A		00 31 26.6	
	comp=N,180nm,0.4s								
KUR	**Kuril'sk**	**2.71**	**35**	*e*PN		**Pn**		**00 30 47.6**	**+3.1**
KUR				*e*S		**Sn**		**00 31 18.4**	**+2.3**
KUR				smax		smax			
	comp=E,175nm,0.4s								
KUR				smax		smax			
	comp=N,118nm,0.3s								
JTM	**Tenmabayashi**	**4.11**	**239**	Pn		**Pn**		**00 31 04.0**	**+0.3**
YSS	**Yuzh-Sakhalins**	**4.45**	**333**	*e*P		**Pn**		**00 31 10.3**	**+1.9**
YSS				AMB		AMB		00 31 12.2	
	comp=N,10.0nm,0.6s								
YSS	**Yuzh-Sakhalins**	**4.45**	**333**	*e*PN		**Pn**		**00 31 10.3**	**+1.9**
YSS				pmax		pmax			
	comp=Z,20nm,0.9s								
JMM	**Marumori**	**6.36**	**218**	Pn		**Pn**		**00 31 34.9**	**+0.4**
ULN	**Ulaanbaatar**	**27.34**	**294**	*e*P		**P**		**00 35 44.2**	**-0.3**
ULN	**Ulaanbaatar**	**27.34**	**294**	⇑*e*P		**P**		**00 35 44.2**	**-0.3**
ULN				pmax		pmax			
	comp=Z,6.0nm,2.1s								
SONM	**Songino Array**	**27.78**	**294**	P		**P**		**00 35 48.2**	**-0.3**
SONM	**Songino Array**	**27.78**	**294**	P		**P**		**00 35 48.7**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=85,slow=8.0,SNR=13								
	comp=Z,1.9nm,0.6s								
H11N2	**WAKE ISLAND Hy 29.28 136**			T		T		01 06 52.9	
	baz=328,slow=75,SNR=140								
H11N1	**WAKE ISLAND Hy 29.29 136**			T		T		01 06 53.9	
	baz=328,slow=75,SNR=127								
H11N3	**WAKE ISLAND Hy 29.30 136**			T		T		01 06 56.9	
	baz=328,slow=75,SNR=122								
TIXI	**Tiksi**	**29.87**	**349**	⇑*e*P		**P**		**00 36 05.9**	**-0.7**
H11S1	**WAKE ISLAND Hy 30.21 137**			T		T		01 08 08.1	
	baz=329,slow=76,SNR=189								
H11S3	**WAKE ISLAND Hy 30.22 137**			T		T		01 08 00.1	
	baz=329,slow=76,SNR=179								
H11S2	**WAKE ISLAND Hy 30.23 137**			T		T		01 08 06.1	
	baz=329,slow=76,SNR=112								
G18K	**Tagagawik**	**37.84**	**34**	P		**P**		**00 37 15.7**	**-0.1**
H19K	**Roundabout Mou**	**38.69**	**34**	P		**P**		**00 37 23.1**	**+0.3**
IMAR	**Indian Mountai**	**39.85**	**34**	P		**P**		**00 37 33.2**	**+0.6**
ZALV	**Zalesovo Beam**	**40.59**	**307**	PcP		**PcP**		**00 39 39.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=119,slow=1.8,SNR=1.7								
ILAR	**Eielson Array**	**42.71**	**36**	*e*P		**P**		**00 37 57.7**	**+1.7**
ILAR				pmax		pmax			
	comp=Z,1.0nm,0.9s								
ILAR	**Eielson Array**	**42.71**	**36**	P		**P**		**00 37 57.2**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=281,slow=9.3,SNR=4.5								
	comp=Z,0.4nm,0.8s								
MK31	**Makanchi Array**	**43.98**	**298**	P		**P**		**00 38 06.3**	**-0.3**
MK31				IAmb		IAmb		00 38 24.8	
	comp=Z,5.5nm,1.4s								
MK31	**Makanchi Array**	**43.98**	**298**	P		**P**		**00 38 06.3**	**-0.3**
MK31				pmax		pmax			
	comp=Z,6.0nm,1.4s								
MKAR	**Makanchi Array**	**43.98**	**298**	P		**P**		**00 38 06.1**	**-0.5**
MKAR	**Makanchi Array**	**43.98**	**298**	P		**P**		**00 38 06.5**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=85,slow=9.4,SNR=14								
	comp=Z,1.3nm,0.6s								
KURK	**Kurchatov**	**45.06**	**304**	*e*P		**P**		**00 38 15.2**	**+0.2**
KURK	**Kurchatov**	**45.06**	**304**	P		**P**		**00 38 15.2**	**+0.2**
BCAR	**Beaver Creek A**	**45.13**	**38**	P		**P**		**00 38 15.5**	**-0.1**
KURBB	**Kurchatov Arra**	**45.14**	**304**	P		**P**		**00 38 15.2**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=73,slow=9.0,SNR=7.4								
	comp=Z,1.3nm,0.7s								
F28M	**Old Crow**	**45.31**	**31**	P		**P**		**00 38 17.1**	**+0.2**
F28M				IAmb		IAmb		00 38 39.8	
	comp=Z,3.6nm,1.2s								
ARSB	**Arslanbob**	**52.31**	**295**	P		**P**		**00 39 10.8**	**-0.3**
ARSB	**Arslanbob**	**52.31**	**295**	P		**P**		**00 39 10.8**	**-0.3**
ARSB				pmax		pmax			
	comp=Z,1.0nm,0.9s								
RES	**Resolute Bay**	**55.97**	**16**	P		**P**		**00 39 36.8**	**-0.2**
RES	**Resolute Bay**	**55.97**	**16**	P		**P**		**00 39 36.8**	**-0.2**
ABKAR	**Akbulak array**	**56.69**	**309**	P		**P**		**00 39 42.4**	**-0.2**
ABKAR				IAmb		IAmb		00 39 43.0	
	comp=Z,1.9nm,1.1s								
ABKAR	**Akbulak array**	**56.69**	**309**	P		**P**		**00 39 42.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**63.55**	**201**	P		**P**		**00 40 32.1**	**+2.4**
FITZ				IAmb		IAmb		00 40 49.5	
	comp=Z,3.1nm,1.4s								
FINES	**FINESS Array B**	**65.04**	**333**	P		**P**		**00 40 38.3**	**-0.7**
FINES	**FINESS Array B**	**65.04**	**333**	*e*P		**P**		**00 40 39.1**	**+0.1**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.6s								
FINES	**FINESS Array B**	**65.04**	**333**	P		**P**		**00 40 38.4**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=50,slow=8.7,SNR=6.9								
	comp=Z,1.9nm,0.7s								
KIV	**Kislovodsk**	**69.45**	**311**	*e*P		**P**		**00 41 07.1**	**-0.3**
KIV	**Kislovodsk**	**69.45**	**311**	⇓*e*P		**P**		**00 41 07.1**	**-0.3**
KIV				pmax		pmax			
	comp=Z,3.0nm,1.1s								
KBZ	**Khabaz**	**69.48**	**311**	*e*P		**P**		**00 41 06.8**	**-0.6**
KBZ	**Khabaz**	**69.48**	**311**	*de*P		**P**		**00 41 06.8**	**-0.6**
KBZ				pmax		pmax			
	comp=Z,3.0nm,0.9s								
KBZ	**Khabaz**	**69.48**	**311**	P		**P**		**00 41 07.2**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=37,slow=6.6,SNR=4.6								
	comp=Z,2.5nm,0.9s								
NB2	**NORSAR Subarra**	**69.90**	**338**	P		**P**		**00 41 09.3**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=40,slow=5.9								
NOA	**NORSAR Array B**	**69.90**	**338**	*e*P		**P**		**00 41 09.3**	**-0.5**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
NOA	**NORSAR Array B**	**69.90**	**338**	P		**P**		**00 41 09.1**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=36,slow=6.0,SNR=3.8								
	comp=Z,0.5nm,0.6s								
HFS	**Hagfors**	**69.95**	**337**	P		**P**		**00 41 09.4**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=45,slow=8.6,SNR=6.2								
	comp=Z,2.0nm,0.7s								
PDAR	**Pinedale Array**	**71.19**	**49**	P		**P**		**00 41 19.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=339,slow=4.8,SNR=2.5								
	comp=Z,0.1nm,0.3s								
AKASG	**Malin Array Be**	**71.53**	**323**	*i* P		**P**		**00 41 19.8**	**0.0**
AKASG	**Malin Array Be**	**71.53**	**323**	P		**P**		**00 41 19.2**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=38,slow=6.5,SNR=5.5								
	comp=Z,1.0nm,0.6s								
BRTR	**Keskin Array B**	**77.27**	**313**	P		**P**		**00 41 53.3**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=78,slow=7.5,SNR=2.6								
	comp=Z,0.5nm,0.9s								
CALA	**Caldeira**	**98.62**	**356**	*e*S		**S**		**00 55 01.1**	**-3.2**
CALA				A		A		00 55 01.5	
	comp=Z,40nm,0.1s								
PFCBR	**Castelo Branco**	**98.68**	**356**	*e*S		**S**		**00 55 02.1**	**-2.5**
PFCBR				A		A		00 55 02.5	
	comp=Z,9.4nm,0.2s								

ROM 17 00:35:06.8±0.0, 42.˚781N±0.˚002×13.˚102E±0.˚004, h10km, ML1.9/50, 2D, Error ellipse: s-maj=0.3km s-min=0.1km az=81.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.05**	**9**	⇓P		**Pg**		**00 35 09.2**	**+0.2**
NRCA				S		**Sg**		**00 35 10.5**	**0.0**
NRCA				AML		AML			
	comp=E,5710μm,0.1s								
NRCA				AML		AML			
	comp=N,7205μm,0.1s								
NRCA				AML		AML			
	comp=E,5710μm,0.1s								
NRCA				AML		AML			
	comp=E,5875μm,0.1s								
NRCA				AML		AML			
	comp=N,7725μm,0.1s								
NRCA				AML		AML			
	comp=E,5712μm,0.1s								
NRCA				AML		AML			
	comp=N,7202μm,0.1s								
NRCA				AML		AML			
	comp=N,7726μm,0.1s								
NRCA				AML		AML			
	comp=E,5876μm,0.1s								
MC2	**Monte Cornacci**	**0.15**	**26**	P		Pg		00 35 10.8	+0.5
MC2				S		Sg		00 35 13.5	+0.8
GAVE	**Gavelli**	**0.18**	**240**	AML		AML			
	comp=E,2120μm,1.0s								
GAVE				AML		AML			
	comp=N,786μm,1.0s								
GAVE				AML		AML			
	comp=E,1790μm,0.2s								
GAVE				AML		AML			
	comp=N,2115μm,1.0s								
GAVE				AML		AML			
	comp=E,2120μm,1.0s								
GAVE				AML		AML			
	comp=E,1990μm,0.2s								
GAVE				AML		AML			
	comp=N,1990μm,0.2s								
GAVE				AML		AML			
	comp=E,1786μm,0.2s								
GAVE				AML		AML			
	comp=N,672μm,0.2s								
LNSS	**Leonessa**	**0.18**	**194**	P		Pg		00 35 11.3	+0.6
LNSS				S		Sg		00 35 14.9	+1.4
LNSS				AML		AML			
	comp=E,853μm,1.3s								
LNSS				AML		AML			
	comp=N,1257μm,0.7s								
LNSS				AML		AML			
	comp=E,853μm,0.7s								
LNSS				AML		AML			
	comp=E,843μm,0.1s								
LNSS				AML		AML			
	comp=N,1239μm,0.1s								
FEMA	**Monte Fema**	**0.18**	**348**	P		Pg		00 35 11.8	+1.0
FEMA				S		Sg		00 35 14.5	+0.9
MMO1	**Montemonaco**	**0.20**	**54**	P		Pg		00 35 11.6	+0.5
MMO1				S		Sg		00 35 15.0	+1.0
MTRA	**Matera**	**0.22**	**96**	⇓P		Pg		00 35 11.8	+0.5
MTRA				S		Sg		00 35 15.6	+1.2
MTRA				AML		AML			
	comp=N,1020μm,0.3s								
MTRA				AML		AML			
	comp=E,828μm,1.2s								
MTRA				AML		AML			
	comp=N,986μm,0.3s								
MTRA				AML		AML			
	comp=E,892μm,1.2s								
MTRA				AML		AML			
	comp=N,1020μm,0.3s								
MTRA				AML		AML			
	comp=E,828μm,0.8s								
MTRA				AML		AML			
	comp=E,892μm,0.8s								
MTRA				AML		AML			
	comp=N,986μm,1.7s								
MTRA				AML		AML			
	comp=N,1020μm,1.7s								
MTRA				AML		AML			
	comp=E,763μm,0.2s								
MTRA				AML		AML			
	comp=N,975μm,0.2s								
MTRA				AML		AML			
	comp=E,769μm,0.2s								
MTRA				AML		AML			
	comp=N,1020μm,0.3s								
SMA1	**SAN MARTINO**	**0.23**	**131**	P		Pg		00 35 12.2	+0.6
SMA1				S		Sg		00 35 16.3	+1.5
SMA1				AML		AML			
	comp=N,566μm,0.2s								
SMA1				AML		AML			
	comp=E,622μm,0.6s								
SMA1				AML		AML			
	comp=N,566μm,0.2s								
SMA1				AML		AML			
	comp=E,610μm,0.8s								
CESI	**CESI - Serrava**	**0.27**	**327**	P		Pg		00 35 12.8	+0.5
CESI				S		Sb		00 35 17.3	-1.2
CESI				AML		AML			
	comp=E,256μm,0.5s								
CESI				AML		AML			
	comp=N,456μm,0.4s								
CESI				AML		AML			
	comp=N,428μm,0.2s								
CESI				AML		AML			
	comp=E,207μm,0.2s								
RM33	**Pellescritta (**	**0.28**	**163**	P		Pg		00 35 12.9	+0.4
RM33				S		Sb		00 35 17.9	-1.0
RM33				AML		AML			
	comp=E,379μm,1.4s								
RM33				AML		AML			
	comp=N,286μm,0.1s								
RM33				AML		AML			
	comp=E,280μm,0.2s								
RM33				AML		AML			
	comp=N,330μm,0.5s								
RM33				AML		AML			
	comp=E,379μm,0.6s								
RM33				AML		AML			
	comp=E,280μm,0.2s								
RM33				AML		AML			
	comp=E,280μm,0.2s								
RM33				AML		AML			
	comp=E,279μm,0.2s								
RM33				AML		AML			
	comp=N,286μm,0.1s								
RM33				AML		AML			
	comp=N,284μm,0.1s								
ARRO	**Arrone**	**0.32**	**231**	P		Pg		00 35 13.7	+0.5
ARRO				S		Sb		00 35 18.9	-0.9
ARRO				AML		AML			
	comp=E,244μm,0.5s								
ARRO				AML		AML			
	comp=N,204μm,0.2s								
ARRO				AML		AML			
	comp=E,200μm,0.2s								
ARRO				AML		AML			
	comp=N,204μm,0.2s								
CSP1	**Cessapalombo**	**0.32**	**14**	P		Pg		00 35 13.7	+0.5
CSP1				S		Sb		00 35 18.9	-1.2
CSP1				AML		AML			
	comp=N,106μm,1.6s								
CSP1				AML		AML			
	comp=E,320μm,0.5s								
CSP1				AML		AML			
	comp=N,106μm,0.4s								
CSP1				AML		AML			
	comp=E,296μm,0.2s								
CSP1				AML		AML			
	comp=N,82μm,0.2s								
GUMA	**Gualdo di Mace**	**0.33**	**31**	P		Pg		00 35 14.1	+0.7
GUMA				S		Sb		00 35 19.7	-0.5
GUMA				AML		AML			
	comp=E,700μm,0.4s								
GUMA				AML		AML			
	comp=N,683μm,0.3s								
GUMA				AML		AML			
	comp=E,779μm,0.4s								
GUMA				AML		AML			
	comp=E,700μm,0.4s								
GUMA				AML		AML			
	comp=N,656μm,0.4s								
GUMA				AML		AML			
	comp=N,683μm,0.3s								
CAMP	**Campotosto**	**0.33**	**137**	P		Pg		00 35 14.0	+0.5
CAMP				S		Sb		00 35 19.3	-1.0
CAMP				AML		AML			
	comp=N,82μm,1.4s								
CAMP				AML		AML			
	comp=E,86μm,0.2s								
CAMP				AML		AML			
	comp=N,82μm,0.6s								
CAMP				AML		AML			
	comp=E,86μm,0.2s								
CAMP				AML		AML			
	comp=N,67μm,0.5s								
MF5	**Montefalcone A**	**0.34**	**52**	P		Pb		00 35 14.3	-0.7
MF5				S		Sb		00 35 20.0	-0.3
MF5				AML		AML			
	comp=E,412μm,0.6s								
MF5				AML		AML			
	comp=N,384μm,0.2s								
MF5				AML		AML			
	comp=E,412μm,1.4s								
MF5				AML		AML			
	comp=E,325μm,0.4s								
MF5				AML		AML			
	comp=N,384μm,0.2s								
T1247	**Pizzolo (AQ)**	**0.37**	**157**	P		Pg		00 35 14.6	+0.5
T1247				S		Sb		00 35 20.5	-0.8
PF6	**Pievefavera**	**0.37**	**10**	P		Pg		00 35 14.3	+0.1
PF6				S		Sg		00 35 20.1	+0.9
MOMA	**Monte Martano**	**0.39**	**274**	P		Pg		00 35 15.1	+0.6
MOMA				S		Sb		00 35 21.7	-0.4
MOMA				AML		AML			
	comp=E,324μm,0.3s								
MOMA				AML		AML			
	comp=N,288μm,0.2s								
MOMA				AML		AML			
	comp=E,324μm,1.7s								
MOMA				AML		AML			
	comp=E,347μm,0.3s								
MOMA				AML		AML			
	comp=E,324μm,0.3s								
MOMA				AML		AML			
	comp=N,288μm,0.2s								
TERO	**Teramo**	**0.40**	**113**	P		Pg		00 35 14.9	+0.2
TERO				S		Sb		00 35 21.2	-1.1
TERO				AML		AML			
	comp=N,160μm,0.5s								
TERO				AML		AML			
	comp=E,172μm,0.3s								
TERO				AML		AML			
	comp=N,152μm,0.1s								
TERO				AML		AML			
	comp=E,133μm,0.1s								
TERO				AML		AML			
	comp=N,68μm,0.1s								
ASSB	**Assisi San Ben**	**0.42**	**309**	AML		AML			
	comp=N,128μm,1.3s								
ASSB				AML		AML			
	comp=E,168μm,0.8s								
ASSB				AML		AML			
	comp=N,128μm,0.7s								
ASSB				AML		AML

comp=E,114μm,0.4s
CESX AML AML
MNTP Montappone 0.45 37 P Pb 00 35 16.4 -0.4
OFFI Offida 0.46 70 P Pb 00 35 16.9 -0.1
OFFI AML AML
comp=E,344μm,1.5s
OFFI AML AML
comp=N,386μm,1.6s
OFFI AML AML
comp=N,386μm,0.4s
OFFI AML AML
comp=E,344μm,0.5s
SNTG Esanatoglia 0.49 346 P Pg 00 35 16.5 +0.1
SNTG AML AML
comp=E,56μm,0.1s
SNTG AML AML
comp=N,74μm,0.2s
FIAM Fiamignano 0.51 179 P Pg 00 35 16.9 +0.2
FIAM AML AML
comp=E,68μm,0.2s
ATCC AVT- Casa Cast 0.53 320 P Pg 00 35 17.3 +0.2
ATCC AML AML
comp=E,108μm,0.2s
ATCC AML AML
comp=N,84μm,0.3s
EL6 Elcito 0.55 360 P Pg 00 35 17.6 +0.2
EL6 AML AML
comp=E,117μm,0.2s
CING Cingoli 0.60 7 P Pg 00 35 18.5 0.0
CING AML AML
comp=E,61μm,0.1s
T0110 Collepietro 0.75 138 P Pg 00 35 20.9 -0.3

ROM 17 00:36:00.3±0.3, 42.790N±0.006×13.13E±0.01, h8km±1km, Md1.2/3, 1D, Error ellipse: s-maj=0.9km s-min=0.6km az=51.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.04**	**345**	⇓P	Pg	00 36 02.3	+0.1
NRCA				S	Sg	00 36 03.6	+0.2
NRCA				END			
MMO1	**Montemonaco**	**0.18**	**53**	P	Pg	00 36 04.6	+0.5
MMO1				S	Sg	00 36 08.1	+1.4
MMO1				END			
MTRA	**Matera**	**0.20**	**100**	P	Pg	00 36 04.9	+0.5
MTRA				S	Sg	00 36 08.1	+1.0
MTRA				END			
SMA1	**SAN MARTINO**	**0.22**	**136**	P	Pg	00 36 05.4	+0.6
SMA1				S	Sg	00 36 09.5	+1.7

IDC 17 00:37:20.2±25.0, 20.51S×179.44W, h604km±246km, mb2.7/3, mbtmp3.6/3, Error ellipse: s-maj=302.6km s-min=69.2km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.21**	**257**	P	P	00 44 29.5	-0.3
	0.8nm,0.5s,baz=89,slow=7.7,SNR=15						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**43.27**	**262**	P	P	00 44 30.4	+0.1
	0.2nm,0.3s,baz=96,slow=7.6,SNR=24						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**88.63**	**13**	P	P	00 49 09.7	+0.1
	0.1nm,0.3s,baz=218,slow=5.5,SNR=5.8						
	0.1nm,0.3s						
AKASG	**Malin Array Be**	**142.36**	**330**	PKP	PKPdf	00 55 42.9	-2.0
	0.2nm,0.3s,baz=52,slow=0.4,SNR=6.7						
EKA	**Eskdalemuir Ar**	**145.12**	**4**	PKPbc	PKPbc	00 55 50.5	-0.1
	0.9nm,0.7s,baz=344,slow=2.3,SNR=1.9						

IDC 17 00:41:50.5±1.2, 57.19S×140.70W, h0km, mb4.0/3, mbtmp4.0/3, MS3.9/19, Error ellipse: s-maj=53.3km s-min=32.9km az=26.0
NEIC 17 00:41:50.8±1.3, 56.93S±0.06×140.2W±0.3, h10km±1km, mb4.6/9, Error ellipse: s-maj=25.2km s-min=7.1km az=252.0
ISC 17 00:41:50.6±0.7, 56.9S±0.2×140.2W±0.1, h10km, n57, σ0s70/24, mb4.6/10, MS4.0/19, 2C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**28.43**	**203**	LR	LR	00 56 07.0	
	comp=Z,143nm,18.3s,baz=88,slow=30						
RPZ	**Rata Peaks**	**33.05**	**272**	LR	LR	00 59 37.9	
	comp=Z,188nm,18.5s,baz=129,slow=32						
QSPA	**South Pole Qui**	**33.25**	**180**	P	**P**	**00 48 27.6**	**-0.1**
QSPA				IAmb	IAmb	00 48 30.5	
	comp=Z,12nm,1.2s						
URZ	**Urewera**	**33.58**	**285**	LR	LR	00 58 57.1	
	comp=Z,217nm,20.3s,baz=158,slow=31						
TBI	**Tubuai**	**34.19**	**345**	*e*LR	LR	00 57 31.7	
	comp=Z,3μm,28.8s						
TBI	**Tubuai**	**34.19**	**345**	*e*T	T	01 24 54.8	
	comp=Z,24nm,0.4s						
PMSA	**Palmer Station**	**35.75**	**135**	LR	LR	00 59 32.6	
	comp=Z,162nm,18.1s,baz=284,slow=30						
BELA	**Belgrano 2**	**38.19**	**161**	P	**P**	**00 49 09.4**	**-0.3**
BELA				IAmb	IAmb	00 49 11.5	
	comp=Z,16nm,1.2s						
RAR	**Rarotonga**	**38.45**	**330**	LR	LR	01 02 01.6	
	comp=Z,208nm,19.4s,baz=126,slow=31						
MEH	**Mehetia**	**39.41**	**348**	*e*T	T	01 31 26.7	
	comp=Z,12nm,0.3s						
TVO	**Taravao**	**39.64**	**346**	*e*T	T	01 31 41.3	
	comp=Z,2.4nm,0.3s						
PPT2	**Papeete2**	**39.88**	**346**	*e*LR	LR	01 00 15.5	
	comp=Z,360nm,27.2s						
PPT2				*e*LR	LR	01 00 34.4	
	comp=Z,283nm,22.8s						
PPT	**Papeete**	**39.90**	**346**	LR	LR	01 03 19.3	
	comp=Z,121nm,18.9s,baz=190,slow=32						
VAH	**Vaihoa**	**41.97**	**349**	*e*T	T	01 34 38.7	
	comp=Z,20nm,0.3s						
H03S2	**Juan Fernandez**	**46.95**	**88**	T	T	01 40 60.0	
	baz=219,slow=74,SNR=27						
H03S1	**Juan Fernandez**	**46.95**	**88**	T	T	01 40 58.9	
	baz=219,slow=74,SNR=29						
H03S3	**Juan Fernandez**	**46.96**	**88**	T	T	01 40 51.7	
	baz=219,slow=74,SNR=24						
VNA3	**Neumayer Olymp**	**47.49**	**161**	⇑P	**P**	**00 50 25.8**	**+0.7**
	comp=Z,1.4nm,0.2s						
VNA1	**Neumayer--Stat**	**48.24**	**161**	⇑P	P	00 50 23.3	-7.5
	comp=Z,1.4nm,0.2s						
SNAA	**Sanae**	**48.29**	**163**	P	**P**	**00 50 30.9**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=226,slow=13,SNR=11						
	comp=Z,2.3nm,0.6s						
DZM	**Mont Dzumac**	**51.96**	**289**	*e*LR	LR	01 03 34.0	
	comp=Z,125nm,25.4s						
STKA	**Stephens Creek**	**57.66**	**260**	LR	LR	01 11 34.6	
	comp=Z,115nm,19.7s,baz=33,slow=31						
CTA	**Charters Tower**	**64.42**	**272**	LR	LR	01 16 28.8	
	comp=Z,65nm,20.5s,baz=28,slow=32						
NNA	**Nana**	**65.60**	**74**	LR	LR	01 13 56.1	
	comp=Z,93nm,20.7s,baz=226,slow=29						
LPAZ	**La Paz**	**66.73**	**84**	P	**P**	**00 52 43.1**	**+0.5**
ASAR	**Alice Springs**	**68.29**	**260**	P	**P**	**00 52 51.7**	**0.0**
	comp=Z,1.1nm,0.6s,baz=140,slow=6.1,SNR=13						
	comp=Z,1.1nm,0.6s						
ATAH	**Atahualpa**	**68.89**	**70**	LR	LR	01 16 09.2	
	comp=Z,89nm,19.2s,baz=337,slow=30						
H01W1	**Cape Leeuwin H**	**69.23**	**238**	T	T	02 09 13.2	
	baz=144,slow=75,SNR=8.4						
H01W2	**Cape Leeuwin H**	**69.23**	**238**	T	T	02 09 09.7	
	baz=144,slow=75,SNR=7.1						
H01W3	**Cape Leeuwin H**	**69.24**	**238**	T	T	02 09 10.5	
	baz=144,slow=75,SNR=6.1						
MCRA	**Macar, Loja**	**70.45**	**67**	P	**P**	**00 53 04.6**	**-0.6**
WRA	**Warramunga Arr**	**71.06**	**263**	P	**P**	**00 53 07.9**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=149,slow=5.2,SNR=5.0						
	comp=Z,0.7nm,0.8s						
WB0	**Warramunga Arr**	**71.18**	**263**	P	**P**	**00 53 09.7**	**+0.2**
WB0				IAmb	IAmb	00 53 33.2	
	comp=Z,8.0nm,1.5s						
CZSB	**Cruzeiro do Su**	**71.36**	**75**	P	**P**	**00 53 09.9**	**-0.8**
BOSC	**San Juan Bosco**	**72.23**	**67**	P	**P**	**00 53 14.2**	**-1.9**
VILB	**Vilhena**	**73.81**	**89**	P	**P**	**00 53 25.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**77.26**	**257**	P	**P**	**00 53 44.4**	**-0.6**
FITZ				IAmb	IAmb	00 53 47.9	
	comp=Z,1.9nm,1.0s						
PSA00	**Pilbara Seismi**	**77.43**	**250**	P	**P**	**00 53 45.6**	**-0.3**
PSA00				IAmb	IAmb	00 53 47.7	
	comp=Z,5.8nm,0.9s						
JTS	**Las Juntas de**	**80.84**	**55**	LR	LR	01 21 36.4	
	comp=Z,102nm,21.2s,baz=265,slow=29						
KAPI	**Kappang**	**91.29**	**259**	LR	LR	01 32 00.0	
	comp=Z,64nm,21.4s,baz=154,slow=33						
PFO	**Pinyon Flats O**	**92.39**	**20**	LR	LR	01 26 59.5	
	comp=Z,76nm,19.1s,baz=289,slow=29						
BOSA	**Boshof**	**93.93**	**167**	LR	LR	01 35 14.1	
	comp=Z,76nm,18.1s,baz=184,slow=34						
LEM	**Lembang**	**96.13**	**248**	LR	LR	01 31 44.6	
	comp=Z,54nm,20.9s,baz=256,slow=31						
SJG	**San Juan**	**96.61**	**67**	LR	LR	01 32 51.1	
	comp=Z,42nm,21.4s,baz=162,slow=32						
LBTB	**Lobatse**	**97.53**	**167**	LR	LR	01 35 37.6	
	comp=Z,34nm,18.6s,baz=196,slow=33						
YBH	**Yreka Blue Hor**	**99.37**	**13**	LR	LR	01 32 05.8	
	comp=Z,58nm,18.0s,baz=176,slow=30						
ELK	**Elko**	**99.54**	**19**	LR	LR	01 31 41.7	
	comp=Z,54nm,19.9s,baz=222,slow=30						
ILAR	**Eielson Array**	**121.46**	**357**	PKP	**PKiKP**	**01 00 43.7**	**+1.0**
	comp=Z,0.8nm,1.1s,baz=169,slow=5.2,SNR=4.8						
CMAR	**Chiang Mai Arr**	**122.01**	**254**	PKP	**PKiKP**	**01 00 46.3**	**+1.0**
	comp=Z,1.2nm,0.4s,baz=127,slow=0.9,SNR=2.1						
ESDC	**Sonseca Array**	**146.88**	**102**		**PKPbc**	**01 01 32.7**	**+0.2**
ESDC	**Sonseca Array**	**146.88**	**102**	PKPbc	**PKPab**	**01 01 34.4**	**+0.5**
	comp=Z,1.8nm,1.1s,baz=255,slow=2.6,SNR=5.2						
KBL	**Kabul**	**150.11**	**234**	PKPbc	**PKPbc**	**01 01 41.0**	**-0.2**
MKAR	**Makanchi Array**	**152.29**	**267**	PKPbc	**PKPbc**	**01 01 45.1**	**-0.5**
MKAR	**Makanchi Array**	**152.29**	**267**	PKP	**PKPdf**	**01 01 39.4**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=135,slow=1.7,SNR=2.2						
HRA	**Herat**	**152.79**	**224**	PKPbc	**PKPbc**	**01 01 47.5**	**+0.2**
BVAR	**Borovoye Array**	**162.09**	**270**	PKPab	**PKPab**	**01 02 38.0**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=74,slow=12,SNR=3.6						
AKTO	**Aktyubinsk**	**167.42**	**247**	PKPab	**PKPab**	**01 03 01.1**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=148,slow=1.4,SNR=6.4						

KRSC 17 00:49:18.6±0.7, 55.36N×166.65E, h29km±4km, Ml3.8
IDC 17 00:49:19.3±1.9, 55.27N×166.59E, h0km, mb3.2/2, mbtmp3.3/3, ML3.0/1, Error ellipse: s-maj=128.8km s-min=26.2km az=157.0
ISC 17 00:49:22.7±1.3, 55.43N±0.09×166.50E±0.09, h20km, n22, σ0s82/22, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.38**	**234**	*e*S	**Sb**	**00 49 34.6**	**-1.4**
KBTR	**Krutoberegovo**	**2.22**	**292**	*e*P	**Pn**	**00 49 56.8**	**-1.6**
KBTR				*e*S	**Sn**	**00 50 25.4**	**+0.2**
SMKR	**Semkarok**	**3.05**	**294**	*e*P	**Pn**	**00 50 09.3**	**-0.6**
BDR	**Baidarnaya**	**3.19**	**293**	*e*P	**Pn**	**00 50 12.3**	**+0.7**
TUMD	**Tumrok D**	**3.50**	**269**	*e*P	**Pn**	**00 50 16.1**	**+0.2**
TUMD				*e*S	**Sn**	**00 50 58.3**	**+1.6**
KIRR	**Kirishev**	**3.53**	**281**	*e*P	**Pn**	**00 50 16.9**	**+0.5**
KMNR	**Kamenistaya**	**3.57**	**278**	*e*P	**Pn**	**00 50 17.9**	**+0.9**
KPT	**Kopyto**	**3.59**	**281**	*e*P	**Pn**	**00 50 18.0**	**+0.7**
SRDR	**Sredinnyy**	**3.92**	**286**	*e*P	**Pn**	**00 50 22.4**	**+0.6**
KII	**Karymskiy**	**4.32**	**254**	*e*P	**Pn**	**00 50 27.4**	**+0.1**
SMAR	**Somma**	**5.00**	**247**	*e*P	**Pn**	**00 50 36.9**	**+0.1**
AVH	**Avacha**	**5.03**	**248**	*e*P	**Pn**	**00 50 37.6**	**+0.6**
KRX	**Arik**	**5.04**	**249**	*e*P	**Pn**	**00 50 37.3**	**+0.1**
KOK	**Koryaka**	**5.07**	**248**	*e*P	**Pn**	**00 50 37.9**	**+0.2**
KRMR	**Karymshinskiy**	**5.57**	**246**	*e*S	**Sn**	**00 51 48.6**	**+1.0**
PETK	**Petropavlovsk-**	**5.66**	**249**	Pn	**Pn**	**00 50 45.3**	**-0.3**
	2.1nm,0.3s,baz=70,slow=18,SNR=25						
PETK				Sn	**Sn**	**00 51 48.9**	**-1.1**
	0.5nm,0.3s,baz=82,slow=18,SNR=1.7						
	4.1nm,0.5s						
ASAK	**Asacha**	**5.93**	**243**	*e*P	**Pn**	**00 50 50.0**	**+0.6**
ILAR	**Eielson Array**	**24.47**	**49**	P	**P**	**00 54 39.7**	**-0.2**
	0.6nm,0.9s,baz=257,slow=8.0,SNR=4.9						
	0.6nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**35.64**	**179**	T	T	01 33 22.9	
	baz=0.3,slow=76,SNR=39						
H11N3	**WAKE ISLAND Hy**	**35.65**	**179**	T	T	01 33 32.8	
	baz=0.3,slow=76,SNR=37						
H11N1	**WAKE ISLAND Hy**	**35.66**	**179**	T	T	01 33 32.9	
	baz=0.3,slow=76,SNR=38						
TXAR	**Lajitas Array**	**66.30**	**72**	P	**P**	**01 00 09.8**	**+0.2**
	0.2nm,0.6s,baz=295,slow=4.9,SNR=3.5						
	0.2nm,0.6s						

IDC 17 00:52:16.7±0.9, 6.55S×147.33E, h0km, mb3.9/11, mbtmp4.0/12, ML4.0/1, MS3.4/4, Error ellipse: s-maj=36.2km s-min=17.8km az=88.0
NEIC 17 00:52:19.5±1.5, 6.44S±0.09×147.0E±0.2, h10km±1km, mb4.3/10, Error ellipse: s-maj=35.8km s-min=14.2km az=84.0
ISC 17 00:52:19.2±0.7, 6.47S±0.07×147.1E±0.2, h10km, n31, σ1s15/31, mb4.0/15, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.92**	**178**		**Pn**	**00 53 07.2**	**+1.5**
PMG				Sn	**Sn**	**00 53 41.7**	**+0.8**
PMG	**Port Moresby**	**2.92**	**178**	Pn	**Pn**	**00 53 06.9**	**+1.2**
	17nm,0.3s,baz=352,slow=8.0,SNR=23						
PMG				Sn	**Sn**	**00 53 42.5**	**+1.6**
	22nm,0.3s,baz=32,slow=14,SNR=4.2						
PMG				LR	LR	00 54 32.4	
	comp=Z,694nm,18.8s,baz=332,slow=48						
CTA	**Charters Tower**	**13.56**	**183**	LR	LR	01 00 34.5	
	comp=Z,186nm,19.5s,baz=80,slow=37						
WB0	**Warramunga Arr**	**18.07**	**222**	P	**P**	**00 56 30.5**	**-0.5**
WB0				IAmb	IAmb	00 56 35.3	
	comp=Z,15nm,0.8s						
WRA	**Warramunga Arr**	**18.23**	**222**	P	**Pn**	**00 56 31.6**	**-0.9**
WRA	**Warramunga Arr**	**18.23**	**222**	P	**Pn**	**00 56 31.9**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=46,slow=12,SNR=41						
	comp=Z,8.8nm,0.8s						
EIDS	**Eidsvold**	**19.18**	**169**	P	**P**	**00 56 43.5**	**+0.3**
EIDS				IAmb	IAmb	00 56 53.7	
	comp=Z,13nm,1.2s						
GUMO	**Guam**	**20.05**	**354**	LR	LR	01 04 34.2	
	comp=Z,72nm,18.2s,baz=90,slow=37						
AS31	**Alice Springs**	**21.27**	**215**	P	**P**	**00 57 04.5**	**-1.5**
AS31				IAmb	IAmb	00 57 24.3	
	comp=Z,3.1nm,0.6s						
ASAR	**Alice Springs**	**21.27**	**215**	P	**P**	**00 57 05.1**	**-0.9**
ASAR	**Alice Springs**	**21.27**	**215**	P	**P**	**00 57 04.6**	**-1.5**
	comp=Z,1.3nm,0.6s,baz=53,slow=8.4,SNR=32						
ASAR				LR	LR	01 05 49.2	
	comp=Z,90nm,19.3s,baz=52,slow=38						
	comp=Z,1.3nm,0.6s						
DZM	**Mont Dzumac**	**24.30**	**132**	P	**P**	**00 57 37.0**	**-0.3**
DZM				IAmb	IAmb	00 57 59.7	
	comp=Z,21nm,1.2s						
STKA	**Stephens Creek**	**25.79**	**191**	P	**P**	**00 57 50.5**	**0.0**
STKA	**Stephens Creek**	**25.79**	**191**	P	**P**	**00 57 48.1**	**-2.4**
	comp=Z,3.9nm,0.8s,baz=5.1,slow=7.8,SNR=7.1						
	comp=Z,3.9nm,0.8s						
BBOO	**Buckleboo**	**28.14**	**200**	P	**P**	**00 58 10.5**	**-1.2**
BBOO				IAmb	IAmb	00 58 27.2	
	comp=Z,12nm,1.0s						
KSRS	**Korea Array**	**47.22**	**339**	P	**P**	**01 00 53.3**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=150,slow=7.5,SNR=3.4						
	comp=Z,1.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**53.53**	**298**	P	**P**	**01 01 42.5**	**+1.8**
	comp=Z,1.7nm,0.3s,baz=122,slow=5.4,SNR=9.4						
	comp=Z,1.7nm,0.3s						
SONM	**Songino Array**	**64.85**	**331**	P	**P**	**01 02 59.6**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=151,slow=3.3,SNR=2.9						
	comp=Z,0.3nm,0.3s						
VNDA	**Vanda**	**71.44**	**177**	P	**P**	**01 03 39.5**	**+0.1**
	comp=Z,1.5nm,1.0s,baz=301,slow=6.2,SNR=3.9						
	comp=Z,1.5nm,1.0s						
MKAR	**Makanchi Array**	**77.90**	**321**	P	**P**	**01 04 16.2**	**-1.2**
MKAR	**Makanchi Array**	**77.90**	**321**	P	**P**	**01 04 17.4**	**0.0**
	comp=Z,0.4nm,0.6s,baz=100,slow=8.2,SNR=2.3						
	comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**79.45**	**328**	P	**P**	**01 04 24.2**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=134,slow=13,SNR=2.0						
	comp=Z,0.3nm,0.4s						
QSPA	**South Pole Qui**	**83.50**	**180**	P	**P**	**01 04 46.7**	**-0.5**
QSPA	**South Pole Qui**	**83.50**	**180**	P	**P**	**01 04 46.2**	**-1.0**
	comp=Z,2.8nm,0.7s,baz=335,slow=1.1,SNR=8.7						
	comp=Z,2.8nm,0.7s						
C19K	**Lookout Ridge**	**83.78**	**17**	P	**P**	**01 04 49.1**	**+0.7**
ILAR	**Eielson Array**	**85.88**	**23**	P	**P**	**01 04 56.8**	**-2.3**
	comp=Z,0.7nm,0.8s,baz=245,slow=4.1,SNR=11						
	comp=Z,0.7nm,0.8s						
BVAR	**Borovoye Array**	**87.19**	**324**	P	**P**	**01 05 05.7**	**0.0**
	comp=Z,0.3nm,0.4s,baz=90,slow=4.9,SNR=2.0						
	comp=Z,0.3nm,0.4s						
BMAR	**Burnt Mountain**	**87.81**	**21**	P	**P**	**01 05 08.6**	**+0.2**
K29M	**Barlow Dome**	**89.39**	**25**	P	**P**	**01 05 15.5**	**-0.6**
K29M				IAmb	IAmb	01 05 20.8	
	comp=Z,4.9nm,1.3s						
TORD	**Torodi Ar. Bea**	**145.27**	**284**	PKPbc	**PKPdf**	**01 11 58.5**	**+0.1**
	comp=Z,6.2nm,0.7s,baz=67,slow=4.5,SNR=32						
BDFB	**Brasilia**	**153.43**	**146**	PKPbc	**PKPbc**	**01 12 18.8**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=229,slow=3.3,SNR=2.0						

DJA 17 01:00:48.1±1.9, 3°S±3°×12°2E±°, h23km±18km, M3.9/8, mb4.0/1, MLv3.9/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.82**	**11**	P	Pn	01 01 18.6	+0.5
LUWI				S	Sb	01 01 44.7	+1.5
TTSI	**Tana Toraja**	**2.60**	**265**	P	Pn	01 01 28.0	-0.7
TTSI				S	Sn	01 02 01.7	+2.2
BBSI	**Bau Bau**	**2.63**	**177**	P	Pn	01 01 29.0	-0.3
SPSI	**Sidrap Palu**	**2.86**	**247**	P	Pn	01 01 33.2	+0.8
SPSI				S	Sn	01 02 05.6	-0.6
MRSI	**Marisa**	**3.33**	**352**	P	Pn	01 01 38.4	-0.4
BKSI	**Bulukumba**	**3.36**	**223**	P	Pn	01 01 40.8	+1.6
SANI	**Sanana**	**3.66**	**78**	P	Pn	01 01 43.3	-0.1
BKB	**Balikpapan**	**5.73**	**286**	P	Pn	01 02 08.0	-3.8
EDFI	**Ende, Flores**	**5.91**	**187**	P	Pn	01 02 15.0	+0.5

TIR 17 01:15:09.1, 40.98N×20.11E, h11km±1km, Ml2.7
BEO 17 01:15:10.0±0.5, 40.93N×19.97E, h9km±1km, ML2.4/9
THE 17 01:15:10.4, 40.98N×20.10E, h6km±2km, ML2.5/5, Error ellipse: s-maj=2.4km s-min=1.1km az=337.0
PDG 17 01:15:10.0±0.4, 40.97N×20.07E, h11km±1km, ML2.7/10, Error ellipse: s-maj=0.7km s-min=1.2km az=0.0
SKO 17 01:15:10.4, 40.95N×19.99E, h0km, ML2.3
RHSSO 17 01:15:11.4±0.8, 40.94N×19.79E, h11km±4km, ML2.7/7
ISC 17 01:15:10.1±1.0, 40.97N±0.02×20.05E±0.02, h10km±8km, n74, σ0s93/126, 10C-3D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.40**	**340**	P	**Pg**	**01 15 17.9**	**-0.1**
	baz=334						
TIR				S	**Sg**	**01 15 24.2**	**+0.7**
	baz=334						
TIR				AMP			
	comp=E,1.8nm,0.2s,baz=334						
TIR	**Tirane**	**0.40**	**340**	P	**Pg**	**01 15 18.1**	**0.0**
TIR				S	**Sg**	**01 15 24.7**	**+1.2**
	comp=E,448nm,0.2s						
TIR	**Tirane**	**0.40**	**340**	*e*Pg	**Pg**	**01 15 18.0**	**-0.1**
TIR				*e*Sg	**Sb**	**01 15 25.3**	**-0.3**
OHR	**Ohrid**	**0.58**	**76**	*e*Pg	**Pg**	**01 15 21.5**	**0.0**
OHR				*e*Sg	**Sb**	**01 15 31.2**	**+0.4**
OHR	**Ohrid**	**0.58**	**76**	*i* Pg	**Pg**	**01 15 21.5**	**0.0**
OHR				*i* Sg	**Sb**	**01 15 31.1**	**+0.4**
OHR				*e*Lg	Lg	01 15 31.7	
	comp=E,116nm,0.5s						
OHR				*e*Lg	Lg	01 15 33.9	
	comp=N,113nm,0.7s						
VLO	**Vlora**	**0.66**	**220**	P	**Pg**	**01 15 22.6**	**-0.2**
	baz=223						
VLO				S	**Sb**	**01 15 33.6**	**+0.9**
	baz=223						
VLO	**Vlora**	**0.66**	**220**	P	**Pg**	**01 15 22.7**	**-0.2**
VLO				S	**Sb**	**01 15 34.2**	**+1.5**
	comp=N,1μm,0.4s						
KBN	**Korca**	**0.66**	**121**	P	**Pg**	**01 15 22.4**	**-0.5**
	baz=124						
KBN				S	**Sg**	**01 15 31.2**	**-0.3**
	baz=124						
KBN				AMP			
	comp=E,1.3nm,0.6s,baz=124						
KBN	**Korca**	**0.66**	**121**	P	**Pg**	**01 15 22.3**	**-0.6**
KBN				S	**Sg**	**01 15 31.7**	**+0.2**
	comp=E,308nm,0.6s						
LSK	**Leskovik**	**0.92**	**153**	P	**Pg**	**01 15 26.6**	**-1.3**
	baz=155						
LSK				S	**Sb**	**01 15 40.7**	**+0.2**
	baz=155						
LSK				AMP			
	comp=E,1.1nm,0.5s,baz=155						
LSK	**Leskovik**	**0.92**	**153**	P	**Pg**	**01 15 26.1**	**-1.8**
NEST	**Nestorio**	**0.94**	**126**	P	**Pg**	**01 15 27.4**	**-0.9**
FNA	**Florina**	**1.02**	**100**	P	**Pg**	**01 15 28.8**	**-1.0**
	baz=100						
FNA				S	**Sg**	**01 15 43.0**	**-0.1**
	baz=100						
FNA	**Florina**	**1.02**	**100**	P	**Pg**	**01 15 28.8**	**-1.0**
FNA	**Florina**	**1.02**	**100**	*e*Pg	**Pg**	**01 15 28.8**	**-1.0**
FNA				*e*Sg	**Sn**	**01 15 44.5**	**-0.5**
FNA	**Florina**	**1.02**	**100**	*i* Pg	**Pg**	**01 15 28.8**	**-1.0**
FNA				*i* Sg	**Sn**	**01 15 45.4**	**+0.5**
SRN	**Sarande**	**1.09**	**182**	P	**Pb**	**01 15 31.4**	**+0.3**
	baz=185						
SRN				S	**Sn**	**01 15 47.5**	**+1.0**
	baz=185						
SRN				AMP			
	comp=E,0.9nm,0.6s,baz=185						
SRN	**Sarande**	**1.09**	**182**	P	**Pb**	**01 15 30.9**	**-0.1**
SRN				S	**Sn**	**01 15 47.4**	**+1.0**
	comp=E,198nm,0.5s						
PENT	**Pentalofos**	**1.13**	**133**	P	**Pb**	**01 15 31.1**	**-0.8**
ULC	**Ulcinj**	**1.16**	**329**	*i* Pg	**Pb**	**01 15 32.1**	**-0.3**
ULC	**Ulcinj**	**1.16**	**329**	⇑*i* Pg	**Pb**	**01 15 31.8**	**+0.5**
ULC				*i* Sg	**Sn**	**01 15 49.7**	**+1.3**
KEK	**Kerkira**	**1.27**	**189**	P	**Pn**	**01 15 32.6**	**-1.3**
DRME	**Dracevica, Mon**	**1.38**	**332**	*e*Pg	**Pn**	**01 15 35.6**	**+0.1**
DRME				*e*Sg	**Sn**	**01 15 54.3**	**+0.6**
DRME	**Dracevica, Mon**	**1.38**	**332**	*e*Pg	**Pn**	**01 15 35.4**	**0.0**
DRME				*e*Sg	**Sb**	**01 15 53.5**	**-0.1**
DRME	**Dracevica, Mon**	**1.38**	**332**	⇑*i* Pg	**Pn**	**01 15 35.5**	**+0.1**
DRME	

BRY	**Bratogost**	**2.23 330**	*e*Pn	**Pn**	**01 15 47.8**	**+0.5**
BRY			*e*Sn	**Sn**	**01 16 14.2**	**-0.8**
BRY	**Bratogost**	**2.23 330**	⇑*i*Pn	**Pn**	**01 15 48.8**	**+1.5**
BARS	**Barje**	**2.27 35**	*e*Pn	**Pn**	**01 15 48.7**	**+1.1**
SJES	**Sjenica**	**2.29 359**	*e*Pn	**Pn**	**01 15 49.6**	**+1.6**
SJES			*e*Sn	**Sn**	**01 16 17.1**	**+0.8**
SJES	**Sjenica**	**2.29 359**	⇑*i*Pn	**Pn**	**01 15 50.0**	**+2.0**
SJES			*e*Sn	**Sn**	**01 16 18.0**	**+1.7**
SELS	**Selova**	**2.38 19**	*e*Pn	**Pn**	**01 15 49.6**	**+0.3**
UPM	**Unac-Piva**	**2.39 339**	*e*Pn	**Pn**	**01 15 50.6**	**+1.1**
UPM			*e*Sn	**Sn**	**01 16 18.5**	**-0.4**
UPM	**Unac-Piva**	**2.39 339**	⇑*i*Pn	**Pn**	**01 15 50.3**	**+0.8**
UPM			*i* Sn	**Sb**	**01 16 21.6**	**-1.3**
PLE	**Pljevlja**	**2.41 348**	*e*Pg	**Pn**	**01 15 51.7**	**+2.0**
PLE			*e*Sg	**Sg**	**01 16 26.2**	**-1.4**
PLE	**Pljevlja**	**2.41 348**	⇑*i*Pn	**Pn**	**01 15 50.9**	**+1.2**
PLE			*i* Sn	**Sb**	**01 16 21.8**	**-1.6**
STON	**Ston**	**2.59 318**	*e*Pn	**Pn**	**01 15 50.3**	**-1.7**
STON	**Ston**	**2.59 318**	*e*Pg	**Pb**	**01 15 56.4**	**-0.1**
STON			*e*Sn	**Sn**	**01 16 22.6**	**-0.9**
STON	**Ston**	**2.59 318**	*e*Pn	**Pn**	**01 15 52.3**	**+0.3**
STON			*e*Sn	**Sn**	**01 16 22.5**	**-0.9**
IVAS	**Ivanjica**	**2.61 2**	*e*Pn	**Pn**	**01 15 54.0**	**+1.7**
SRS	**Serrai**	**2.68 86**	*e*Pn	**Pn**	**01 15 54.0**	**+0.7**
SRS	**Serrai**	**2.68 86**	*e*Pg	**Pg**	**01 16 00.3**	**-1.3**
SRS			*e*Sn	**Sn**	**01 16 27.6**	**+1.7**
RUDO	**Rudo**	**2.69 349**	*e*Pn	**Pn**	**01 15 55.0**	**+1.5**
RUDO			*e*Sn	**Sn**	**01 16 26.9**	**+0.8**
GRUS	**Gruza**	**2.96 9**	*e*Pn	**Pn**	**01 15 58.0**	**+0.9**
DIVS	**Divibare**	**3.13 359**	*e*Pn	**Pn**	**01 16 00.2**	**+0.7**
DIVS	**Divibare**	**3.13 359**	*e*Pn	**Pn**	**01 16 00.8**	**+1.3**
DIVS			*e*Sn	**Sn**	**01 16 39.1**	**+2.2**
ZAGS	**Zajecar**	**3.27 29**	*e*Pn	**Pn**	**01 16 01.5**	**+0.1**
A050A	**Klekovaca**	**4.36 325**	*e*Pn	**Pn**	**01 16 15.8**	**-0.7**
A050A			*e*Sn	**Sn**	**01 17 05.0**	**-2.4**
BZS	**Buzias**	**4.78 13**	*e*Pn	**Pn**	**01 16 22.9**	**+0.7**
BZS			*e*Sn	**Sn**	**01 17 15.8**	**-1.8**

VAO ***17*** *01:19:26.7±0.5,20°.11S×69°.06W,h89km,mb4.4*
SJA ***17*** *01:19:26.4±0.7,20°.25S×69°.21W,h106km±3km,ML4.5, MW4.2*
NEIC ***17*** *01:19:27.4±1.9,20°.29S±0°.04×69°.16W±0°.08, h101km±10km,mb4.2/7,Error ellipse: s-maj=11.3km s-min=5.6km az=104.0*
GUC ***17*** *01:19:27.9±0.8,20°.24S×69°.15W,h100km±3km,ML4.5*
IDC ***17*** *01:19:28.9±1.3,20°.38S×68°.74W,h109km±13km,mb3.6/7, mbtmp4.1/10,Error ellipse: s-maj=17.0km s-min=12.9km az=110.0*

ISC 17 01:19:26.7±0.5,**20°.26S**±0°.03×**69°.14W**±0°.05,**h100**km±5km, **n142,σ1§26/177,mb4.1/7,6C-9D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.12 352**			**Pn**	**01 19 42.2**	**+0.9**
PB08	**IPOC Station P**	**0.12 352**		*e*P	**Pn**	**01 19 42.2**	**+0.9**
PB08				*e*S	**Sn**	**01 19 53.1**	**+1.0**
PB08				IAML		01 19 54.8	
	comp=Z,16μm,0.2s						
PB08	**IPOC Station P**	**0.12 352**		⇑*i*P	**Pn**	**01 19 42.2**	**+0.9**
PB08				*i* S	**Sn**	**01 19 52.8**	**+0.8**
PB08				IAML		01 19 54.4	
	comp=E,37μm,0.2s						
PX03	**IPOC Station P**	**0.49 253**		*e*P	**Pn**	**01 19 42.2**	**-0.4**
PX03				*e*S	**Sn**	**01 19 54.1**	**-0.3**
GO01	**Chusmiza**	**0.59 355**			**Pn**	**01 19 44.9**	**+1.0**
GO01	**Chusmiza**	**0.59 355**		*e*P	**Pn**	**01 19 44.9**	**+1.0**
GO01				*e*S	**Sn**	**01 19 58.3**	**+1.8**
GO01				IAML		01 19 59.6	
	comp=Z,10μm,0.2s						
GO01	**Chusmiza**	**0.59 355**		*e*P	**Pn**	**01 19 44.6**	**+0.8**
GO01				*e*S	**Sn**	**01 19 57.6**	**+1.1**
PB11	**IPOC Station P**	**0.69 315**			**Pn**	**01 19 45.1**	**+0.7**
PB11	**IPOC Station P**	**0.69 315**		*e*P	**Pn**	**01 19 45.0**	**+0.7**
PB11				*e*S	**Sn**	**01 19 58.7**	**+1.2**
PB11				IAML		01 20 01.0	
	comp=Z,17μm,0.1s						
PB11	**IPOC Station P**	**0.69 315**		⇓*i*P	**Pn**	**01 19 45.0**	**+0.7**
PB11				*i* S	**Sn**	**01 19 58.3**	**+0.8**
HMBC	**Humberstone**	**0.70 268**		*e*P	**Pn**	**01 19 44.6**	**+0.3**
HMBC				*e*S	**Sn**	**01 19 58.2**	**+0.6**
HMBC				IAML		01 20 00.3	
	comp=Z,11μm,0.2s						
HMBC	**Humberstone**	**0.70 268**		⇑*i*P	**Pn**	**01 19 44.6**	**+0.3**
HMBC				*i* S	**Sn**	**01 19 57.7**	**+0.1**
HMBC				IAML		01 20 00.7	
	comp=E,13μm,0.2s						
PB01	**IPOC Station P**	**0.85 203**			**Pn**	**01 19 46.4**	**+0.7**
PB01	**IPOC Station P**	**0.85 203**		*e*P	**Pn**	**01 19 46.5**	**+0.7**
PB01				*e*S	**Sn**	**01 20 01.3**	**+1.3**
PB01				IAML		01 20 02.4	
	comp=Z,10μm,0.2s						
PB01	**IPOC Station P**	**0.85 203**		⇓*i*P	**Pn**	**01 19 46.6**	**+0.8**
PB01				*i* S	**Sn**	**01 20 00.6**	**+0.6**
PB01				IAML		01 20 02.8	
	comp=E,30μm,0.4s						
TA02	**Huaiquique**	**0.93 269**			**Pn**	**01 19 46.9**	**+0.5**
TA02	**Huaiquique**	**0.93 269**		*e*P	**Pn**	**01 19 46.9**	**+0.5**
TA02				*e*S	**Sn**	**01 20 01.7**	**+0.4**
TA02				IAML		01 20 03.4	
	comp=Z,10μm,0.1s						
TA02	**Huaiquique**	**0.93 269**		⇑*i*P	**Pn**	**01 19 46.9**	**+0.5**
TA02				*i* S	**Sn**	**01 20 01.5**	**+0.2**
TA01	**Diego Aracena**	**1.03 252**			**Pn**	**01 19 47.7**	**+0.2**
TA01	**Diego Aracena**	**1.03 252**		*e*P	**Pn**	**01 19 47.6**	**+0.2**
TA01				*e*S	**Sn**	**01 20 03.6**	**+0.6**
TA01	**Diego Aracena**	**1.03 252**		⇑*i*P	**Pn**	**01 19 47.6**	**+0.2**
TA01				*i* S	**Sn**	**01 20 02.6**	**-0.4**
TA01				IAML		01 20 03.2	
	comp=N,8μm,0.4s						
PATCX	**Punta Patache**	**1.10 239**			**Pn**	**01 19 48.9**	**+0.4**
PATCX	**Punta Patache**	**1.10 239**		*e*P	**Pn**	**01 19 48.8**	**+0.4**
PATCX				*e*S	**Sn**	**01 20 05.0**	**+0.2**
PATCX				IAML		01 20 06.5	
	comp=Z,7μm,0.6s						
PATCX	**Punta Patache**	**1.10 239**		⇓*i*P	**Pn**	**01 19 48.9**	**+0.4**
PATCX				*i* S	**Sn**	**01 20 04.7**	**-0.1**
PATCX				IAML		01 20 06.5	
	comp=N,13μm,0.2s						
PB02	**IPOC Station P**	**1.27 214**			**Pn**	**01 19 51.1**	**+0.6**
PB02	**IPOC Station P**	**1.27 214**		*e*P	**Pn**	**01 19 51.0**	**+0.6**
PB02				*e*S	**Sn**	**01 20 09.4**	**+1.2**
PB02				IAML		01 20 10.0	
	comp=Z,8μm,0.4s						
PB02	**IPOC Station P**	**1.27 214**		*i* P	**Pn**	**01 19 51.0**	**+0.6**
PB02				*i* S	**Sn**	**01 20 09.0**	**+0.7**
PB02				IAML		01 20 11.2	
	comp=E,14μm,0.4s						
PB09	**IPOC Station P**	**1.53 184**			**Pn**	**01 19 54.8**	**+1.2**
PB09	**IPOC Station P**	**1.53 184**		*e*P	**Pn**	**01 19 54.8**	**+1.2**
PB09				*e*S	**Sn**	**01 20 16.7**	**+2.7**
PB09	**IPOC Station P**	**1.53 184**		⇓*i*P	**Pn**	**01 19 54.9**	**+1.2**
PB09				*i* S	**Sn**	**01 20 15.6**	**+1.6**
PB07	**IPOC Station P**	**1.62 205**			**Pn**	**01 19 55.1**	**+0.3**
PB07	**IPOC Station P**	**1.62 205**		*e*P	**Pn**	**01 19 55.1**	**+0.3**
PB07				*e*S	**Sn**	**01 20 17.3**	**+1.4**
PB07				IAML		01 20 22.2	
	comp=Z,4μm,0.4s						
PB07	**IPOC Station P**	**1.62 205**		⇓*i*P	**Pn**	**01 19 55.0**	**+0.3**
PB07				*i* S	**Sn**	**01 20 17.1**	**+1.3**
PB07				IAML		01 20 19.1	
	comp=E,8μm,0.4s						
PX02	**IPOC Station P**	**1.63 322**		⇑*i*P	**Pn**	**01 19 54.5**	**-0.3**
PX02				*i* S	**Sn**	**01 20 15.5**	**-0.5**
PX02				IAML		01 20 17.6	
	comp=N,4μm,0.4s						
PB16	**IPOC Station P**	**1.94 350**			**Pn**	**01 20 01.5**	**+2.3**
PB16	**IPOC Station P**	**1.94 350**		*e*P	**Pn**	**01 20 01.6**	**+2.5**
PB16				*e*S	**Sn**	**01 20 23.1**	**-0.7**
PB16	**IPOC Station P**	**1.94 350**		⇓*i*P	**Pn**	**01 20 01.5**	**+2.3**
PB16				*i* S	**Sn**	**01 20 26.7**	**+2.9**
PB12	**IPOC Station P**	**1.98 325**			**Pn**	**01 19 59.8**	**+0.5**
PB12	**IPOC Station P**	**1.98 325**		*e*P	**Pn**	**01 19 59.7**	**+0.5**
PB12				*e*S	**Sn**	**01 20 24.8**	**+0.8**
PB12				IAML		01 20 31.7	
	comp=Z,2μm,0.5s						
PB12	**IPOC Station P**	**1.98 325**		⇑*i*P	**Pn**	**01 19 59.8**	**+0.5**
PB12				*i* S	**Sn**	**01 20 23.7**	**-0.3**
PB12				IAML		01 20 31.1	
	comp=E,5μm,0.2s						
AP01	**Chacalluta**	**2.19 329**			**Pn**	**01 20 02.7**	**+0.8**
AP01	**Chacalluta**	**2.19 329**		*e*P	**Pn**	**01 20 02.2**	**+0.3**
AP01				*e*S	**Sn**	**01 20 28.4**	**-0.3**
AP01				IAML		01 20 38.0	
	comp=Z,3μm,0.6s						
AP01	**Chacalluta**	**2.19 329**		*e*P	**Pn**	**01 20 02.7**	**+0.8**
AP01				*e*S	**Sn**	**01 20 30.0**	**+1.3**
PB04	**IPOC Station P**	**2.27 204**			**Pn**	**01 20 03.7**	**+0.7**
PB04	**IPOC Station P**	**2.27 204**		*e*P	**Pn**	**01 20 03.0**	**0.0**
PB04				*e*S	**Sn**	**01 20 27.9**	**-2.9**
PB04				IAML		01 20 46.4	
	comp=Z,2μm,0.6s						
PB04	**IPOC Station P**	**2.27 204**		⇓*i*P	**Pn**	**01 20 02.8**	**-0.3**
PB04				IAML		01 20 40.4	
	comp=E,2μm,0.3s						
LVC	**Limon Verde**	**2.35 175**			**Pn**	**01 20 06.0**	**+1.7**
LVC	**Limon Verde**	**2.35 175**		*e*P	**Pn**	**01 20 05.9**	**+1.7**
LVC				*e*P	**Pn**	**01 20 06.0**	**+1.7**
LVC				*e*S	**Sn**	**01 20 35.9**	**+2.9**
LVC	**Limon Verde**	**2.35 175**		P	**Pn**	**01 20 05.4**	**+1.2**
	comp=E,992nm,0.4s,baz=359,slow=9.2,SNR=1232						
LVC				S	**Sn**	**01 20 33.2**	**+0.3**
	comp=E,474nm,0.3s,baz=105,slow=21,SNR=22						
LVC	**Limon Verde**	**2.35 175**		*e*P	**Pn**	**01 20 05.4**	**+1.2**
LVC				*e*S	**Sn**	**01 20 34.8**	**+1.9**
LVC				IAML		01 20 40.5	
	comp=E,7μm,0.5s						
PB06	**IPOC Station P**	**2.47 189**			**Pn**	**01 20 05.8**	**+0.2**
PB06	**IPOC Station P**	**2.47 189**		*e*P	**Pn**	**01 20 06.0**	**+0.3**
PB06				*e*S	Sn	01 20 26.1	-9.4
PB06				IAML		01 20 44.3	
	comp=Z,1μm,0.6s						
PB06	**IPOC Station P**	**2.47 189**		⇓*i*P	**Pn**	**01 20 05.8**	**+0.2**
PB06				*i* S	**Sn**	**01 20 30.9**	**-4.5**
PB06				IAML		01 20 42.5	
	comp=E,2μm,0.4s						
PB05	**IPOC Station P**	**2.77 201**			**Pn**	**01 20 09.3**	**-0.2**
PB15	**IPOC Station P**	**2.95 186**			**Pn**	**01 20 13.5**	**+1.4**
PB15	**IPOC Station P**	**2.95 186**		*e*P	**Pn**	**01 20 12.9**	**+0.9**
PB15				*e*S	Sn	01 20 34.5	-12
PB15				IAML		01 21 07.5	
	comp=Z,2μm,0.4s						
PB15	**IPOC Station P**	**2.95 186**		⇓*i*P	**Pn**	**01 20 12.4**	**+0.3**
LPAZ	**La Paz**	**4.06 14**		Pn	**Pn**	**01 20 30.7**	**+3.3**
GO02	**Mina Guanaco**	**4.90 185**		Pn	**Pn**	**01 20 38.2**	**-0.2**
AC06	**Mina Casimiro**	**7.16 189**			**Pn**	**01 21 09.2**	**+0.5**
GO03	**Copiap**	**7.37 188**		Pn	**Pn**	**01 21 09.1**	**-2.7**
BBSD	**Serra de San D**	**8.64 71**		*e*P	**Pn**	**01 21 27.6**	**-1.3**
SIV	**San Ignacio**	**8.76 62**		P	**Pn**	**01 21 29.3**	**-1.4**
	comp=Z,13nm,0.5s,baz=252,slow=9.9,SNR=85						
SIV				S	**Sn**	**01 23 03.7**	**-4.1**
	comp=Z,3.1nm,0.8s,baz=270,slow=20,SNR=3.6						
BBRB	**Robore, Bolivi**	**9.03 79**		*e*P	**Pn**	**01 21 32.5**	**-1.7**
CO01	**Juntas del Tor**	**9.72 185**		Pn	**Pn**	**01 21 43.6**	**-0.2**
PTLB	**Pontes e Lacer**	**10.65 65**		Pn	**Pn**	**01 21 56.8**	**+0.5**
ETMB	**Extrema**	**10.76 16**		Pn	**Pn**	**01 21 57.8**	**0.0**
MURT	**Porto Murtinho**	**10.86 99**		*e*P	**Pn**	**01 21 57.4**	**-1.8**
ESFA	**Espinillo Form**	**10.89 117**		*e*P	**Pn**	**01 21 59.4**	**-0.1**
NNA	**Nana**	**11.06 317**		P	Pn	01 22 09.9	+7.9
	comp=Z,2.9nm,0.3s,baz=118,slow=12,SNR=2.0						
NNA				S	Sn	01 24 16.1	+12
	comp=Z,3.1nm,0.3s,baz=228,slow=12,SNR=1.8						
VILB	**Vilhena**	**11.23 51**		Pn	**Pn**	**01 22 04.4**	**+0.2**
CFA	**Coronel Fontan**	**11.33 176**		P	**Pn**	**01 22 01.3**	**-4.1**
	comp=Z,2.1nm,0.3s,baz=10.0,slow=15,SNR=22						
CFA				S	Sn	01 23 57.8	-12
	comp=Z,1.6nm,0.3s,baz=358,slow=21,SNR=1.4						
BDQN	**Bodoquena, MS**	**11.62 93**		*e*P	**Pn**	**01 22 07.9**	**-1.5**
ANTJ	**Antonio Joao (**	**12.38 100**		*e*P	**Pn**	**01 22 19.8**	**+0.3**
CPUP	**Villa Florida**	**12.42 121**		Pn	**Pn**	**01 22 19.1**	**-0.9**
CPUP	**Villa Florida**	**12.42 121**		*e*P	**Pn**	**01 22 19.3**	**-0.6**
CPUP	**Villa Florida**	**12.42 121**		P	**Pn**	**01 22 16.6**	**-3.4**
	comp=Z,6.3nm,0.7s,baz=303,slow=12,SNR=24						
AQDB	**Aquidauana**	**12.61 93**		Pn	**Pn**	**01 22 21.0**	**-1.4**
AQDB	**Aquidauana**	**12.61 93**		*e*P	**Pn**	**01 22 21.1**	**-1.4**
SAML	**Samuel**	**12.63 28**		Pn	**Pn**	**01 22 22.4**	**-0.4**
AMBA	**Amambai (Brazi**	**13.43 104**		*e*P	**Pn**	**01 22 34.1**	**+0.9**
RVDE	**Rio Verde (Bra**	**13.43 87**		*e*P	**Pn**	**01 22 31.1**	**-2.2**
SALV	**Santo Antonio**	**13.50 73**		*e*P	**Pn**	**01 22 33.1**	**-1.1**
PP1B	**Ponte de Pedra**	**13.75 81**		*e*P	**Pn**	**01 22 37.4**	**-0.1**
BO01	**Tunca**	**14.19 187**		Pn	**Pn**	**01 22 41.5**	**-1.5**
RPRD	**Ribas do Rio P**	**14.48 94**		*e*P	**Pn**	**01 22 47.9**	**+1.0**
BO02	**Sierra Bellavi**	**14.55 185**		Pn	**Pn**	**01 22 46.1**	**-1.6**
MCR1	**Marechal Candi**	**14.58 109**		*e*P	**Pn**	**01 22 50.0**	**+1.9**
PDRB	**Porto dos Gac**	**14.70 56**		*e*P	**Pn**	**01 22 46.6**	**-3.1**
UNIS	**Unistalda (Bra**	**15.49 127**		*e*P	**P**	**01 23 01.0**	**-0.9**
ML02	**Panimavida**	**15.58 187**		Pn	**Pn**	**01 22 59.3**	**-1.3**
RODS	**Rosario do Sul**	**16.10 131**		*e*P	**P**	**01 23 08.8**	**+0.1**
PTGB	**Pitanga**	**16.39 109**		*e*P	**Pn**	**01 23 11.2**	**+0.3**
PCMB	**Pacaembu**	**16.75 98**		*e*P	**Pn**	**01 23 15.5**	**+0.1**
ALGR	**Alto Alegre (B**	**16.93 123**		*e*P	**P**	**01 23 18.8**	**+0.8**
LDASE	**Londrina, Braz**	**17.02 104**		*e*P	**P**	**01 23 19.4**	**+0.5**
ITAB	**Concordia**	**17.04 117**		*e*P	**P**	**01 23 19.1**	**+0.1**
TEFE	**Tefe**	**17.22 15**		*e*P	**Pn**	**01 23 20.6**	**-0.5**
CPSB	**Cacapava Do Su**	**17.40 129**		*e*P	**Pn**	**01 23 23.2**	**0.0**
ITRB	**Iturama**	**17.66 91**		*e*P	**Pn**	**01 23 27.0**	**+0.5**
PLTB	**Pedras Altas**	**18.04 133**		*e*P	**Pn**	**01 23 31.2**	**+0.4**
FRTB	**Fartura**	**18.43 103**		*e*P	**P**	**01 23 34.9**	**+0.4**
TRQA	**Tornquist**	**18.79 162**		P	**P**	**01 23 37.0**	**-1.2**
CNLB	**Canela**	**18.87 122**		*e*P	**P**	**01 23 39.8**	**+0.5**
SNDB	**Serra Nova Dou**	**19.00 67**		*e*P	**P**	**01 23 40.9**	**+0.2**
BOSC	**San Juan Bosco**	**19.30 331**		P	**Pn**	**01 23 45.5**	**-0.6**
BOSC				IAmb	IAmb	01 23 53.9	
	comp=Z,4.6nm,0.5s						
BB19B	**Bebedouro**	**19.30 96**		*e*P	**P**	**01 23 43.7**	**-0.3**
GO06	**Curarrehue**	**19.37 185**		P	**P**	**01 23 45.1**	**+0.6**
GO06				IAmb	IAmb	01 23 48.3	
	comp=Z,25nm,1.4s						
IPMB	**Ipameri, GO**	**19.90 87**		*e*P	**P**	**01 23 50.0**	**-0.5**
SGCB	**São Gabriel d**	**20.12 6**		*e*P	**P**	**01 23 52.3**	**-0.5**
RCLB	**Rio Claro- Sao**	**20.24 100**		*e*P	**P**	**01 23 53.7**	**-0.4**
SPB	**Sao Paulo**	**20.40 103**		*e*P	**P**	**01 23 55.7**	**-0.1**
PLCA	**Paso Flores**	**20.45 183**		*e*P	Pn	01 23 58.2	-1.0
PLCA	**Paso Flores**	**20.45 183**		P	**P**	**01 23 56.1**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=330,slow=13,SNR=2.7						
	comp=Z,2.0nm,0.7s						
ITTB	**Itaituba**	**20.49 41**		*e*P	**P**	**01 23 56.2**	**-0.6**
BDFB	**Brasilia**	**20.61 81**		P	**P**	**01 23 57.9**	**-0.3**
BDFB				IAmb	IAmb	01 24 01.6	
	comp=Z,6.3nm,0.6s						
BDFB	**Brasilia**	**20.61 81**		P	**P**	**01 23 55.7**	**-2.5**
	comp=Z,4.9nm,0.5s,baz=256,slow=12,SNR=17						
	comp=Z,4.9nm,0.5s						
PET01	**Itanhaem-SP**	**20.62 105**		*e*P	**P**	**01 23 58.8**	**+0.7**
VAO	**Valinhos**	**20.79 102**		*e*P	**P**	**01 23 58.8**	**-1.2**
SLOR	**San Lorenzo -**	**21.46 334**		P	**P**	**01 24 09.0**	**+1.3**
SLOR				IAmb	IAmb	01 24 22.1	
	comp=Z,9.9nm,1.0s						
PMNB	**Patos De Minas**	**21.48 89**		*e*P	**P**	**01 24 06.9**	**-0.6**
PARB	**Paraibuna**	**22.04 102**		*e*P	**P**	**01 24 12.9**	**-0.6**
BSCB	**Bom Sucesso**	**22.81 96**		*e*P	**P**	**01 24 21.1**	**-0.3**
MALB	**Monte Alegre**	**23.36 40**		*e*P	**P**	**01 24 24.4**	**-2.2**
SMTB	**Santa Maria do**	**23.70 65**		*e*P	**P**	**01 24 29.9**	**+0.3**
BOAV	**Boa Vista**	**24.05 22**		P	**P**	**01 24 31.8**	**-0.9**
BOAV				IAmb	IAmb	01 24 34.0	
	comp=Z,11nm,1.1s						
DIAM	**Diamantina, MG**	**24.11 90**		*e*P	**P**	**01 24 33.5**	**+0.1**
SDBA	**SAO DESIDERIO**	**24.51 75**		*e*P	**P**	**01 24 36.8**	**-0.2**
SJMB	**Sao Joao De Ma**	**26.39 91**		*e*P	**P**	**01 24 54.6**	**+0.6**
RIB01	**Linhares ES**	**27.05 93**		*e*P	**P**	**01 25 00.2**	**+0.4**
GUA01	**Guaratinga, BA**	**28.05 87**		*e*P	**P**	**01 25 09.6**	**+0.8**
TXAR	**Lajitas Array**	**59.49 325**		P	**P**	**01 29 22.4**	**+2.8**
	comp=Z,0.2nm,0.8s,baz=134,slow=5.2,SNR=1.6						
	comp=Z,0.2nm,0.8s						
SNAA	**Sanae**	**63.52 161**		P	**P**	**01 29 46.7**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=310,slow=7.4,SNR=5.6						
	comp=Z,1.6nm,0.6s						
DBIC	**Dimbokro**	**68.59 74**		P	**P**	**01 30 19.3**	**-0.1**
	comp=Z,11nm,1.2s,baz=225,slow=3.0,SNR=7.1						
	comp=Z,11nm,1.2s						
TORD	**Torodi Ar. Bea**	**77.14 71**		P	**P**	**01 31 09.3**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=258,slow=5.2,SNR=24						
	comp=Z,0.9nm,0.3s						
YKA	**Yellowknife Ar**	**89.95 341**		P	**P**	**01 32 15.6**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=134,slow=4.5,SNR=9.0						
	comp=Z,0.5nm,0.8s						
WRA	**Warramunga Arr**	**133.91 211**		PKP	**PKiKP**	**01 38 33.9**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=155,slow=1.7,SNR=2.1						
ZALV	**Zalesovo Beam**	**140.92 24**		PKP	**PKiKP**	**01 38 46.3**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=348,slow=5.0,SNR=1.8						
KSH	**Kashi**	**144.47 50**		PKP	**PKPdf**	**01 38 52.0**	**+0.3**
MKAR	**Makanchi Array**	**144.75 35**		PKP	**PKPdf**	**01 38 52.0**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=343,slow=3.2,SNR=5.6						
SONM	**Songino Array**	**152.25 6**		PKPbc	**PKiKP**	**01 39 12.1**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=273,slow=1.5,SNR=4.8						
PZH	**PanZhiHua**	**169.57 52**		PKP	**PKPdf**	**01 39 22.5**	**-0.6**

IDC ***17*** *01:34:52.5±1.7,24°.00S×179°.70W,h463km±17km, mb3.4/10,mbtmp4.2/11,Error ellipse: s-maj=18.0km s-min=17.0km az=132.0*
NEIC ***17*** *01:34:52.8±1.5,24°.06S±0°.09×179°.4W±0°.1,h497km±11km, mb4.2/13,Error ellipse: s-maj=21.5km s-min=10.2km az=117.0*

ISC 17 01:34:53.8±0.5,**24°.08S**±0°.06×**179°.48W**±0°.08,**h500**km, **n69,σ2§20/79,mb4.2/21,2D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.33 165**		P	**P**	**01 36 23.7**	**+0.1**
RIZ				S	**S**	**01 37 37.2**	**+0.1**
RAO	**Raoul Island**	**5.34 165**		P	**P**	**01 36 23.0**	**-0.7**
RAO	**Raoul Island**	**5.34 165**		P	**P**	**01 36 23.2**	**-0.5**
	1μm,0.3s,baz=330,slow=3.4,SNR=21						
RAO				S	**S**	**01 37 32.0**	**-5.2**
	460nm,0.3s,baz=59,slow=22,SNR=2.6						
GLKZ	**Green Lake**	**5.35 165**		P	**P**	**01 36 23.1**	**-0.6**
GLKZ				S	**S**	**01 37 32.5**	**-4.9**
MARNC	**Mare, Loyalty**	**11.80 280**		P	**P**	**01 37 29.4**	**-0.9**
PINNC	**Pines Island,**	**12.10 274**		P	**P**	**01 37 33.5**	**+0.1**
AFI	**Afiamalu**	**12.46 37**		P	**P**	**01 37 34.1**	**-3.3**
OUZ	**Omahuta**	**12.62 207**		P	**P**	**01 37 40.4**	**+1.6**
OUENC	**Ouen Island, N**	**12.68 275**		P	**P**	**01 37 39.9**	**+0.3**
LIFNC	**LIFOU**	**12.71 282**		P	**P**	**01 37 38.8**	**-1.1**
ONTNC	**Ouen Toro**	**13.05 275**		P	**P**	**01 37 42.9**	**-0.7**
DZM	**Mont Dzumac**	**13.11 276**		P	**P**	**01 37 43.9**	**-0.3**
DZM	**Mont Dzumac**	**13.11 276**		P	**P**	**01 37 42.9**	**-1.3**
	28nm,0.8s,baz=64,slow=22,SNR=17						
KUZ	**Kuaotunu**	**13.28 197**		P	**P**	**01 37 46.5**	**+0.8**
WIAZ	**Waiheke Island**	**13.49 199**		P	**P**	**01 37 49.1**	**+1.2**
MXZ	**Matakaoa Point**	**13.57 188**		P	**P**	**01 37 48.9**	**+0.2**
ETAZ	**East Tamaki Re**	**13.70 199**		P	**P**	**01 37 51.2**	**+1.1**
MKAZ	**Moumakai**	**13.77 198**		P	**P**	**01 37 51.4**	**+0.5**
WMGZ	**Waiomatatini S**	**13.81 187**		P	**P**	**01 37 52.5**	**+1.2**
HAZ	**Te Kaha**	**13.83 189**		P	**P**	**01 37 49.7**	**-1.8**
HAZ				S	**S**	**01 40 20.7**	**+2.7**
AWAZ	**Awhitu Peninsu**	**13.89 200**		P	**P**	**01 37 52.8**	**+0.7**
PKGZ	**Pakihiroa**	**13.92 188**		P	**P**	**01 37 50.9**	**-1.6**
RUGZ	**Raukumara Rang**	**14.05 189**		P	**P**	**01 37 52.2**	**-1.7**
TWGZ	**Tauwhareparae**	**14.22 188**		P	**P**	**01 37 53.1**	**-2.

SCB ***17*** *01:56:47.1±1.4,22°.33S×67°.41W,h182km±12km,ML3.3/4, MW3.4, Error ellipse: s-maj=6.0km s-min=4.3km az=0.0*
GUC ***17*** *01:56:48.0±0.7,22°.35S×67°.72W,h220km±10km,ML3.7*
ISC 17 01:56:46.0±2.0,22°.35S±0°.05×67°.43W±0°.06, h197km±16km,n35,σ1§15/53,6C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.40**	**259**		Pg		Pn	**01 57 19.7**	**+0.7**
LVC	**Limon Verde**	**1.40**	**259**		*e*P		Pn	**01 57 19.1**	**+0.1**
PB09	**IPOC Station P**	**1.77**	**288**		Pg		Pn	**01 57 23.6**	**+1.3**
PB09	**IPOC Station P**	**1.77**	**288**	⇑	*i*P		Pn	**01 57 23.6**	**+1.3**
PB09					*i*S		**S**	**01 57 51.9**	**+1.6**
MOCB	**Mochara**	**1.99**	**57**		Pg		Pn	**01 57 25.3**	**+0.5**
MOCB					Sg		**S**	**01 57 52.8**	**-1.9**
MOCB					IAML			01 57 54.1	
	53nm,0.2s								
PB06	**IPOC Station P**	**2.01**	**259**		Pg		Pn	**01 57 25.7**	**+1.0**
PB06	**IPOC Station P**	**2.01**	**259**		*e*P		Pn	**01 57 25.4**	**+0.7**
PB06					*e*S		**S**	**01 57 54.5**	**-0.2**
PB06					IAML			01 57 56.6	
	comp=N,121nm,0.1s								
PB15	**IPOC Station P**	**2.07**	**245**		Pg		Pn	**01 57 26.3**	**+1.0**
PB15					Sg		**S**	**01 57 55.7**	**-0.1**
PB15					IAML			01 58 00.7	
	comp=N,188nm,0.3s								
PB15	**IPOC Station P**	**2.07**	**245**		*e*P		Pn	**01 57 26.1**	**+0.7**
PB15					*e*S		**S**	**01 57 55.8**	**-0.1**
PB01	**IPOC Station P**	**2.31**	**304**		Pg		Pn	**01 57 28.5**	**+0.7**
PB01					Sg		**S**	**01 57 59.8**	**-0.5**
PB01					IAML			01 58 00.7	
	comp=N,105nm,0.2s								
PB01	**IPOC Station P**	**2.31**	**304**		*e*P		Pn	**01 57 28.1**	**+0.3**
PB01					*e*S		**S**	**01 57 59.8**	**-0.5**
PB01					IAML			01 58 01.3	
	comp=E,216nm,0.3s								
PB07	**IPOC Station P**	**2.36**	**285**		Pg		Pn	**01 57 29.4**	**+1.0**
PB07					Sg		**S**	**01 58 00.1**	**-1.3**
PB07					IAML			01 58 02.1	
	comp=E,164nm,0.2s								
PB07	**IPOC Station P**	**2.36**	**285**	⇑	*i*P		Pn	**01 57 29.3**	**+0.8**
PB07					*i*S		**S**	**01 58 00.1**	**-1.3**
PB07					IAML			01 58 02.7	
	comp=E,193nm,0.2s								
PB02	**IPOC Station P**	**2.51**	**294**		Pg		Pn	**01 57 30.6**	**+0.6**
PB02	**IPOC Station P**	**2.51**	**294**	⇑	*i*P		Pn	**01 57 30.7**	**+0.7**
PB02					*i*S		**S**	**01 58 02.9**	**-1.4**
PB02					IAML			01 58 04.2	
	comp=N,269nm,0.1s								
PB04	**IPOC Station P**	**2.52**	**270**		Pg		Pn	**01 57 31.0**	**+0.8**
PB04	**IPOC Station P**	**2.52**	**270**	⇑	*i*P		Pn	**01 57 30.9**	**+0.8**
PB04					*i*S		**S**	**01 58 03.0**	**-1.5**
PB04					IAML			01 58 04.9	
	comp=N,209nm,0.2s								
PB05	**IPOC Station P**	**2.61**	**258**		Pg		Pn	**01 57 31.9**	**+0.7**
PB05	**IPOC Station P**	**2.61**	**258**	⇑	*i*P		Pn	**01 57 31.9**	**+0.7**
PB05					*i*S		**S**	**01 58 04.5**	**-1.8**
PB08	**IPOC Station P**	**2.72**	**323**		Pg		Pn	**01 57 34.4**	**+1.6**
PB08	**IPOC Station P**	**2.72**	**323**	⇓	*i*P		Pn	**01 57 34.6**	**+1.9**
PATCX	**Punta Patache**	**2.96**	**300**		*e*P		Pn	**01 57 36.0**	**+0.9**
PATCX					*e*S		**S**	**01 58 11.6**	**-1.8**
PATCX					IAML			01 58 15.7	
	comp=N,133nm,0.2s								
HMBC	**Humberstone**	**3.08**	**311**		Pg		Pn	**01 57 36.9**	**+0.2**
HMBC	**Humberstone**	**3.08**	**311**		*e*P		Pn	**01 57 36.9**	**+0.2**
HMBC					*e*S		**S**	**01 58 14.2**	**-2.1**
HMBC					IAML			01 58 15.5	
	comp=E,157nm,0.5s								
TA01	**Diego Aracena**	**3.12**	**304**		Pg		Pn	**01 57 37.7**	**+0.7**
TA01	**Diego Aracena**	**3.12**	**304**		*e*S		**S**	**01 58 14.6**	**-2.1**
TA01					IAML			01 58 16.4	
	comp=E,110nm,0.2s								
GO01	**Chusmiza**	**3.14**	**328**		Pg		Pn	**01 57 39.1**	**+1.4**
GO01	**Chusmiza**	**3.14**	**328**	⇓	*e*P		Pn	**01 57 39.0**	**+1.4**
GO01					*e*S		**S**	**01 58 19.1**	**+1.1**
PB11	**IPOC Station P**	**3.31**	**321**		Pg		Pn	**01 57 39.7**	**+0.3**
PB11	**IPOC Station P**	**3.31**	**321**		*e*P		Pn	**01 57 39.8**	**+0.3**
PB11					*i*S		**S**	**01 58 20.0**	**-1.2**
GO02	**Mina Guanaco**	**3.43**	**215**		Pg		Pn	**01 57 41.9**	**+0.9**
GO02	**Mina Guanaco**	**3.43**	**215**	⇑	*i*P		Pn	**01 57 41.9**	**+0.9**
GO02					*i*S		**S**	**01 58 22.9**	**-1.1**
PB16	**IPOC Station P**	**4.44**	**334**		Pg		Pn	**01 57 55.4**	**+1.5**
PB16	**IPOC Station P**	**4.44**	**334**		*e*P		Pn	**01 57 55.2**	**+1.3**
PB16					*e*S		**S**	**01 58 46.1**	**-1.1**
PB12	**IPOC Station P**	**4.60**	**323**		Pg		Pn	**01 57 55.9**	**+0.4**

SOME ***17*** *02:12:55.2,47°.72N×84°.40E,h15km*
NNC ***17*** *02:12:55.9±6.0,47°.32N×84°.86E,h0km,mb3.7,mpv3.9, Error ellipse: s-maj=41.2km s-min=22.4km az=68.0*
ASRS ***17*** *02:12:56.8±0.4,47°.N±3°.×8°.5E±°,h10km,MLh3.2/7,Error ellipse: s-maj=9.2km s-min=2.8km az=138.9,confirmed*
ISC 17 02:12:59.2±0.8,47°.44N±0°.06×84°.71E±0°.05,h17km±7km, n21,σ1§88/39,2C-1D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**0.11**	**86**		*e*P		**Pg**	**02 13 01.4**	**-1.4**
ZSN	125nm,0.1s				*e*S		**Sg**	**02 13 06.3**	**+1.0**
	256nm,0.3s								
ZSN	**Zaisan**	**0.11**	**86**		P		**Pg**	**02 13 01.4**	**-1.4**
ZSN	125nm,0.1s				S		**Sg**	**02 13 06.3**	**+1.0**
	212nm,0.2s								
MK31	**Makanchi Array**	**1.77**	**249**		Pn		**Pn**	**02 13 29.0**	**-0.1**
MK31	7.1nm,0.2s,baz=72,slow=18,SNR=401				⇑Sn		**Sb**	**02 13 53.8**	**+0.7**
	6.9nm,0.2s,baz=77,slow=34,SNR=16								
MKAR	**Makanchi Array**	**1.77**	**249**		Pg		**Pn**	**02 13 29.1**	**0.0**
MKAR					Sg		**Sb**	**02 13 53.9**	**+0.7**
MAKZ	**Makanchi**	**1.97**	**252**		Pg		**Pn**	**02 13 32.1**	**+0.3**
MAKZ					Sg		**Sg**	**02 14 00.3**	**-2.1**
MAKZ	**Makanchi**	**1.97**	**252**		⇑Pn		**Pn**	**02 13 32.3**	**+0.5**
MAKZ	7.3nm,0.3s				⇓Sn		**Sb**	**02 13 59.9**	**+1.1**
	21nm,0.3s								
DGZ	**Jazzator, Alta**	**2.90**	**38**		Pn		**Pn**	**02 13 43.8**	**-0.9**
DGZ					Pg		**Pb**	**02 13 50.9**	**+0.5**
DGZ					Sg		**Sb**	**02 14 26.4**	**+0.7**
CHBI	**Chibit, Altay**	**3.42**	**32**		Pn		**Pn**	**02 13 52.7**	**+1.0**
CHBI					Pg		**Pg**	**02 14 02.2**	**-2.4**
CHBI					Sg		**Sg**	**02 14 45.9**	**-2.9**
AKAR	**Aktash**	**3.46**	**33**		Pn		**Pn**	**02 13 52.9**	**+0.5**
AKAR					Pg		**Pg**	**02 14 02.6**	**-2.9**
AKAR					Sg		**Sg**	**02 14 50.1**	**-0.2**
UKR	**Ust'-Kan**	**3.50**	**1**		Pn		**Pn**	**02 13 53.6**	**+0.8**
UKR					Pg		**Pg**	**02 14 04.9**	**-1.2**
UKR					Sg		**Sg**	**02 14 52.4**	**+0.9**
CUR	**Chagan-Uzun**	**3.59**	**41**		Pn		**Pn**	**02 13 52.7**	**-1.4**
CUR					Pg		**Pb**	**02 14 04.0**	**+1.8**
CUR					Sg		**Sb**	**02 14 48.9**	**+3.4**
ULGR	**Ulagan, Altay**	**3.84**	**33**		Pn		**Pn**	**02 13 56.7**	**-0.8**
ULGR					Pg		**Pg**	**02 14 11.9**	**-0.7**
ULGR					Sg		**Sg**	**02 15 00.7**	**-1.6**
ELDR	**Elanda**	**3.89**	**13**		Pn		**Pn**	**02 13 59.2**	**+1.1**
ELDR					Pg		**Pg**	**02 14 11.2**	**-2.4**
ELDR					Sg		**Sg**	**02 15 05.5**	**+1.7**
KAPS	**Kapalarasan**	**4.29**	**242**		*e*Pg		**Pb**	**02 14 12.7**	**-1.4**
KAPS	1.9nm,0.1s				*e*Lg		Lg	02 15 08.4	
	8.3nm,0.2s								
KAPS	**Kapalarasan**	**4.29**	**242**		Pg		**Pn**	**02 14 07.9**	**+4.3**
KAPS	1.4nm,0.1s				Lg		Lg	02 15 03.7	
	8.4nm,0.3s								
DJR	**Jarkent**	**4.63**	**230**		*e*Pg		**Pb**	**02 14 20.3**	**+0.3**
DJR	1.0nm,0.1s				*e*Lg		Lg	02 15 21.4	
	3.5nm,0.3s								
DJR	**Jarkent**	**4.63**	**230**		Pg		Pn	02 14 02.9	-5.5
DJR	2.0nm,0.1s				Lg		Lg	02 14 54.7	
	2.8nm,0.4s								
KNOS	**Konyrlen**	**4.94**	**233**		Pg		**Pn**	**02 14 10.9**	**-1.8**
KNOS	3.5nm,0.2s				Lg		Lg	02 15 08.8	
	3.0nm,0.3s								
PDGK	**Podgornoye**	**5.51**	**224**		Pg		Pn	02 14 11.4	-9.2
PDGK	1.4nm,0.1s				Lg		Lg	02 15 09.6	
	1.1nm,0.6s								
KPKS	**Kokpek**	**5.81**	**229**		*e*Pg		**Pb**	**02 14 44.5**	**+4.5**
KPKS	1.6nm,0.2s				*e*Lg		Lg	02 16 03.0	
	6.1nm,0.4s								
KPKS	**Kokpek**	**5.81**	**229**		Pg		**Pn**	**02 14 21.6**	**-3.0**
KPKS	10nm,0.1s				Lg		Lg	02 15 27.3	
	6.1nm,0.3s								

IDC ***17*** *02:16:52.9±1.8,8°.26N×104°.46W,h0km,mb3.6/6, mbtmp3.6/6,MS3.7/32,Error ellipse: s-maj=89.9km s-min=23.0km az=66.0*
ISC 17 02:16:55.8±1.9,8°.6N±0°.3×103°.8W±0°.6,h10km,n36, σ1§20/5,mb3.8/5,MS3.8/30,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**12.14**	**45**		LR		LR	02 23 31.1	
	comp=Z,670nm,21.4s,baz=200,slow=31								
JTS	**Las Juntas de**	**18.70**	**83**		LR		LR	02 27 03.6	
	comp=Z,103nm,19.9s,baz=256,slow=32								
TXAR	**Lajitas Array**	**20.65**	**0**		P		Pn	02 21 38.7	+0.6
	1.4nm,0.9s,baz=196,slow=12,SNR=12				LR		LR	02 29 04.3	
TXAR	comp=Z,195nm,19.1s,baz=180,slow=35								
	1.4nm,0.9s								
ANMO	**Albuquerque**	**26.36**	**355**		LR		LR	02 32 03.5	
	comp=Z,224nm,21.3s,baz=271,slow=34								
PFO	**Pinyon Flats O**	**27.50**	**337**		LR		LR	02 31 45.1	
	comp=Z,258nm,18.6s,baz=138,slow=32								
ATAH	**Atahualpa**	**29.77**	**121**		LR		LR	02 31 41.9	
	comp=Z,45nm,21.9s,baz=304,slow=30								
NVAR	**Mina Array Bea**	**32.46**	**339**		LR		LR	02 34 27.6	
	comp=Z,191nm,20.2s,baz=91,slow=32								
TKL	**Tuckaleechee C**	**32.59**	**31**		LR		LR	02 39 04.5	
	comp=Z,71nm,18.1s,baz=211,slow=40								
SDV	**Santo Domingo**	**32.80**	**87**		LR		LR	02 36 05.5	
	comp=Z,60nm,18.8s,baz=254,slow=34								
ELK	**Elko**	**33.60**	**344**		LR		LR	02 35 55.7	
	comp=Z,77nm,18.6s,baz=154,slow=34								
NNA	**Nana**	**33.72**	**127**		LR		LR	02 34 40.9	
	comp=Z,146nm,20.9s,baz=226,slow=31								
PDAR	**Pinedale Array**	**34.42**	**353**		P		**P**	**02 23 44.9**	**+1.1**
	1.3nm,1.0s,baz=167,slow=8.3,SNR=6.0								
PDAR					LR		LR	02 36 03.8	
	comp=Z,64nm,19.2s,baz=147,slow=33								
	1.3nm,1.0s								
SJG	**San Juan**	**37.79**	**72**		LR		LR	02 39 10.7	
	comp=Z,62nm,19.6s,baz=112,slow=35								
NEW	**Newport**	**41.12**	**346**		LR		LR	02 41 11.3	
	comp=Z,138nm,18.1s,baz=103,slow=35								
SADO	**Sadowa**	**41.92**	**26**		LR		LR	02 43 31.2	
	comp=Z,69nm,18.5s,baz=214,slow=38								
LVC	**Limon Verde**	**46.16**	**133**		LR		LR	02 40 03.1	
	comp=Z,155nm,21.8s,baz=302,slow=30								
BBB	**Bella Bella**	**47.80**	**340**		LR		LR	02 42 50.5	
	comp=Z,123nm,19.9s,baz=179,slow=32								
H03N2	**Juan Fernandez**	**48.02**	**152**		T		T	03 17 07.3	
	baz=328,slow=78,SNR=20								
H03N1	**Juan Fernandez**	**48.03**	**152**		T		T	03 17 07.0	
	baz=328,slow=78,SNR=29								
H03N3	**Juan Fernandez**	**48.04**	**152**		T		T	03 17 06.9	
	baz=328,slow=78,SNR=25								
SIV	**San Ignacio**	**48.86**	**120**		P		**P**	**02 25 41.7**	**-0.5**
	0.5nm,0.6s,baz=301,slow=7.3,SNR=3.2								
SIV					LR		LR	02 44 32.1	
	comp=Z,133nm,19.1s,baz=277,slow=34								
	0.5nm,0.6s								
PPT	**Papeete**	**52.13**	**240**		LR		LR	02 42 13.5	
	comp=Z,68nm,20.1s,baz=1.0,slow=30								
CFA	**Coronel Fontan**	**52.49**	**141**		LR		LR	02 43 24.0	
	comp=Z,112nm,20.8s,baz=312,slow=30								
YKA	**Yellowknife Ar**	**54.39**	**354**		P		**P**	**02 26 22.5**	**-0.2**
	0.2nm,0.7s,baz=172,slow=7.0,SNR=1.7								
YKA					LR		LR	02 47 48.2	
	comp=Z,114nm,20.0s,baz=96,slow=34								
	0.2nm,0.7s								
SCHQ	**Schefferville**	**54.70**	**25**		LR		LR	02 51 00.2	
	comp=Z,104nm,18.8s,baz=268,slow=37								
PLCA	**Paso Flores**	**57.86**	**151**		P		**P**	**02 26 48.5**	**+0.6**
	4.2nm,1.1s,baz=332,slow=11,SNR=2.2								
PLCA					LR		LR	02 46 03.8	
	comp=Z,88nm,19.4s,baz=356,slow=30								
	4.2nm,1.1s								
BDFB	**Brasilia**	**60.28**	**113**		LR		LR	02 51 28.1	
	comp=Z,85nm,19.8s,baz=317,slow=34								
KDAK	**Kodiak Island**	**61.68**	**333**		LR		LR	02 48 00.5	
	comp=Z,58nm,18.2s,baz=131,slow=30								
ILAR	**Eielson Array**	**63.67**	**341**		P		**P**	**02 27 26.0**	**-1.0**
	0.7nm,0.9s,baz=128,slow=6.1,SNR=7.3								
	0.7nm,0.9s								
RES	**Resolute Bay**	**66.27**	**3**		LR		LR	02 54 45.1	
	comp=Z,59nm,18.4s,baz=6.0,slow=34								
SFJD	**Kangerlussuaq**	**68.34**	**20**		LR		LR	02 57 08.8	
	comp=Z,86nm,19.0s,baz=195,slow=35								
PMSA	**Palmer Station**	**78.94**	**164**		LR		LR	02 55 03.1	
	comp=Z,78nm,20.6s,baz=282,slow=29								
PETK	**Petropavlovsk-**	**88.26**	**323**		LR		LR	03 01 03.0	
	comp=Z,32nm,21.7s,baz=103,slow=30								
SEY	**Seymchan**	**88.63**	**334**		LR		LR	03 02 38.0	
	comp=Z,37nm,21.5s,baz=80,slow=31								
DZM	**Mont Dzumac**	**92.93**	**248**		LR		LR	03 04 23.7	
	comp=Z,48nm,19.5s,baz=12,slow=31								
NOA	**NORSAR Array B**	**94.26**	**26**		LR		LR	03 13 25.5	
	comp=Z,18nm,18.2s,baz=300,slow=36								

CATAC ***17*** *02:17:02.4±0.6,9°.16N×84°.78W,h7km±4km,ML4.0*
UCR ***17*** *02:17:04.8±1.3,9°.28N×84°.73W,h19km±7km,MW4.4*
ISC 17 02:17:03.4±1.5,9°.23N±0°.05×84°.74W±0°.03,h9km±10km, n41,σ1§06/59,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.44**	**11**		*e*P		**Pg**	**02 17 11.6**	**-0.4**
JACO					*e*S		**Sg**	**02 17 18.4**	**+0.6**
CBL1	**Cabuya**	**0.49**	**316**		*e*P		**Pg**	**02 17 13.1**	**0.0**
CBL1					*e*S		**Sb**	**02 17 21.8**	**+0.3**
LLNJ	**Naranjito**	**0.68**	**69**		*e*P		**Pg**	**02 17 16.9**	**+0.3**
ABE2	**San Pablo**	**0.83**	**55**		*e*P		**Pg**	**02 17 19.0**	**-0.4**
LCR2	**La Lucha 2**	**0.89**	**55**		*e*P		**Pg**	**02 17 19.8**	**-0.8**
LCR2	**La Lucha 2**	**0.89**	**55**		*i*P		**Pg**	**02 17 19.9**	**-0.7**
LCR2					*i*S		**Sn**	**02 17 34.6**	**-0.7**
LCR2					IAML			02 17 54.6	
	comp=Z,3μm,1.0s								
TCS1	**Tacares**	**0.92**	**28**		*i*P		**Pg**	**02 17 20.4**	**-0.7**
TCS1					IAML			02 17 59.4	
	comp=Z,24μm,1.0s								
AMPA	**Desamparados**	**0.94**	**45**		*e*P		**Pg**	**02 17 20.7**	**-0.9**
OCM	**Ochomogo**	**1.02**	**49**		*i*P		**Pb**	**02 17 21.8**	**-1.5**
OCM					*i*S		**Sn**	**02 17 39.8**	**+1.3**
CDM	**Cerro de Muert**	**1.02**	**72**		*i*P		**Pg**	**02 17 22.7**	**-0.4**
CDM					*i*S		**Sn**	**02 17 38.9**	**0.0**
CDM					IAML			02 18 00.8	
	comp=Z,2μm,1.0s								
BUS1	**Rivas**	**1.03**	**72**		*e*P		**Pb**	**02 17 22.6**	**-1.1**
REPA	**Paraso**	**1.05**	**55**		*e*P		**Pg**	**02 17 24.2**	**+0.6**
JTS	**Las Juntas de**	**1.07**	**349**		*e*P		**Pb**	**02 17 22.4**	**-1.8**
VPTE	**Poasito**	**1.08**	**30**		*i*P		**Pb**	**02 17 23.8**	**-0.6**
VPTE					*i*S		**Sn**	**02 17 40.6**	**+0.5**
VPTE					IAML			02 17 47.6	
	comp=Z,4μm,1.0s								
OCHAL	**Ojochal**	**1.09**	**97**		*i*P		**Pb**	**02 17 23.7**	**-0.8**
OCHAL					*i*S		**Sn**	**02 17 44.3**	**+4.2**
OCHAL					IAML			02 18 11.4	
	comp=Z,9.5nm,1.0s								
CPMI	**Catarata Coope**	**1.10**	**19**		*i*P		**Pb**	**02 17 23.6**	**-1.2**
CPMI					*i*S		**Sn**	**02 17 40.4**	**-0.3**
CPMI					IAML			02 18 05.2	
	comp=Z,2μm,1.0s								
DUNO	**Dulce Nombre,**	**1.12**	**319**		*e*P		**Pb**	**02 17 23.1**	**-1.9**
DUNO	**Dulce Nombre,**	**1.12**	**319**		*i*P		**Pb**	**02 17 24.5**	**-0.5**
DUNO					IAML			02 18 10.1	
	comp=Z,2μm,1.0s								
SOCE	**Pocosol**	**1.15**	**6**		*e*P		**Pb**	**02 17 24.5**	**-1.0**
SOCE	**Pocosol**	**1.15**	**6**		*i*P		**Pb**	**02 17 25.1**	**-0.4**
SOCE					*i*S		**Sn**	**02 17 44.3**	**+2.7**
SOCE					IAML			02 18 06.1	
	comp=Z,3μm,1.0s								
HAYA	**Volcan Irazu**	**1.16**	**50**		*i*P		**Pb**	**02 17 25.2**	**-0.7**
HAYA					*i*S		**Sn**	**02 17 42.5**	**+0.2**
VACR	**Volcan Arenal**	**1.24**	**3**		*i*P		**Pn**	**02 17 26.8**	**-0.1**
VACR					*i*S		**Sn**	**02 17 43.4**	**-0.3**
VACR					IAML			02 18 09.6	
	comp=Z,2μm,1.0s								
VERB	**Verbena**	**1.25**	**55**		*e*P		**Pn**	**02 17 26.9**	**-0.3**
ORTG	**Ortega, Santa**	**1.33**	**328**		*e*P		**Pn**	**02 17 26.2**	**-2.0**
ORTG	**Ortega, Santa**	**1.33**	**328**		*i*P		**Pn**	**02 17 27.0**	**-1.2**
ORTG					*i*S		**Sg**	**02 17 47.9**	**+1.7**
ORTG					IAML			02 18 12.5	
	comp=Z,850nm,1.0s								
RIFO	**Rio Frio, Sara**	**1.35**	**37**		*i*P		**Pn**	**02 17 27.8**	**-0.6**
RIFO					*i*S		**Sg**	**02 17 48.4**	**+1.5**
RIFO					IAML			02 18 11.0	
	comp=Z,5μm,1.0s								
ACAL	**Aguas Claras**	**1.42**	**348**		*e*P		**Pn**	**02 17 29.0**	**-0.5**
LCOCO	**El Coco**	**1.45**	**54**		*e*P		**Pb**	**02 17 30.6**	**+0.1**
EDBA	**Buenos Aires**	**1.45**	**93**		*e*P		**Pn**	**02 17 28.8**	**-1.0**
CUI	**Cuipilapa**	**1.48**	**344**		*e*P		**Pn**	**02 17 29.4**	**-0.8**
COLC	**Colonia**	**1.50**	**342**		*e*P		**Pb**	**02 17 31.4**	**0.0**
COVE	**Coope Vega, Sa**	**1.52**	**13**		*e*P		**Pn**	**02 17 29.9**	**-0.8**
COVE	**Coope Vega, Sa**	**1.52**	**13**		*i*P		**Pn**	**02 17 29.9**	**-0.8**
COVE					*i*S		**Sn**	**02 17 50.6**	**0.0**
COVE					IAML			02 18 23.2	
	comp=Z,2μm,1.0s								
VMAR	**Armenia, Volca**	**1.61**	**347**		*e*P		**Pn**	**02 17 32.1**	**0.0**
VMAR					*e*P		**Pn**	**02 17 32.1**	**0.0**
VMAR	**Armenia, Volca**	**1.61**	**347**		*i*P		**Pb**	**02 17 32.8**	**-0.6**
VMAR					*i*S		**Sb**	**02 17 54.7**	**+0.8**
VMAR					IAML			02 18 26.2	
	comp=Z,1μm,1.0s								
POTG	**Potrero Grande**	**1.61**	**96**		*i*P		**Pn**	**02 17 31.8**	**-0.3**
POTG					*i*S		**Sn**	**02 17 52.5**	**-0.6**
POTG					IAML			02 18 16.6	
	comp=Z,1μm,1.0s								
CANAL	**Canalete**	**1.62**	**349**		*e*P		**Pn**	**02 17 32.1**	**0.0**
TRT2	**Tortugero**	**1.65**	**37**		*i*P		**Pn**	**02 17 32.9**	**+0.4**
TRT2					*i*S		**Sb**	**02 17 54.6**	**-0.3**
TRT2					IAML			02 17 56.9	
	comp=Z,1μm,1.0s								
VRLE	**La Escondida,**	**1.67**	**338**		*i*P		**Pg**	**02 17 35.8**	**+0.4**
HZTE	**Horizontes, Gu**	**1.70**	**330**		*e*P		**Pn**	**02 17 33.0**	**-0.2**
HZTE	**Horizontes, Gu**	**1.70**	**330**		*i*P		**Pn**	**02 17 33.6**	**+0.4**
HZTE					IAML			02 18 36.5	
	comp=Z,1μm,1.0s								

IDC ***17*** *02:27:13.4±1.0,6°.64S×155°.35E,h0km,mb3.6/6, mbtmp3.6/6,MS3.5/2,Error ellipse: s-maj=44.9km s-min=25.9km az=118.0*
ISC 17 02:27:19.3±1.0,6°.6S±0°.2×155°.2E±0°.3,h35km,n9,σ0§92/7, mb3.6/6,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.45**	**121**		LR		LR	02 30 40.2	
	comp=Z,981nm,20.8s,baz=5.5,slow=39								
WRA	**Warramunga Arr**	**24.22**	**235**		P		**P**	**02 32 31.8**	**-1.2**
	1.0nm,1.0s,baz=59,slow=9.8,SNR=4.8								
	1.0nm,1.0s								
ASAR	**Alice Springs**	**26.59**	**228**		P		**P**	**02 32 55.1**	**+0.6**
	0.3nm,0.8s,baz=61,slow=9.2,SNR=2.0								
	0.3nm,0.8s								
MA2	**Magadan**	**66.08**	**358**		LR		LR	03 03 53.3	
	comp=Z,20nm,21.7s,baz=150,slow=33								
VNDA	**Vanda**	**70.95**	**178**		P		**P**	**02 38 32.6**	**-0.1**
	1.0nm,0.3s,baz=357,slow=8.9,SNR=21								
	1.0nm,0.3s								
ILAR	**Eielson Array**	**82.94**	**21**		P		**P**	**02 39 39.5**	**-0.8**
	0.4nm,0.9s,baz=236,slow=6.2,SNR=7.1								
	0.4nm,0.9s								
MKAR	**Makanchi Array**	**83.27**	**319**		P		**P**	**02 39 43.1**	**+0.6**
	0.5nm,0.8s,baz=104,slow=6.1,SNR=2.4								
	0.5nm,0.8s								
YKA	**Yellowknife Ar**	**95.90**	**28**		P		**P**	**02 40 42.3**	**+0.1**
	0.2nm,0.7s,baz=267,slow=5.1,SNR=4.1								
	0.2nm,0.7s								
BDFB	**Brasilia**	**148.08**	**134**		PKPbc		**PKPdf**	**02 47 00.0**	**+0.7**
	2.2nm,0.8s,baz=182,slow=4.3,SNR=4.7								

SJA ***17*** *02:28:02.9±0.7,24°.28S×67°.22W,h201km±5km,ML5.2, MW4.6*
IDC ***17*** *02:28:03.9±1.0,24°.18S×66°.96W,h168km±8km,mb4.3/22, mbtmp4.8/28,Error ellipse: s-maj=12.4km s-min=8.7km az

PB05 IPOC Station P 3.10 297 Pn 02 28 54.8 +0.7
PB05 IPOC Station P 3.10 297 *i* P **Pn 02 28 54.5 +0.3**
PB05 *i* S **Sn 02 29 32.4 -0.6**
PB05 IAML 02 29 41.6
comp=Z,2µm,0.4s
PB05 IPOC Station P 3.10 297⇑ *i* P **Pn 02 28 54.9 +0.7**
PB05 *i* S **Sn 02 29 31.6 -1.4**
PB05 IAML 02 29 37.8
comp=E,4µm,0.3s
PB09 IPOC Station P 3.10 322 Pn 02 28 55.5 +1.2
PB09 IPOC Station P 3.10 322 *i* P **Pn 02 28 54.8 +0.6**
PB09 *i* S **Sn 02 29 32.6 -0.6**
PB09 IAML 02 29 34.0
comp=Z,7µm,0.6s
PB09 IPOC Station P 3.10 322⇑ *i* P **Pn 02 28 55.5 +1.2**
PB09 *i* S **Sn 02 29 32.9 -0.3**
PB04 IPOC Station P 3.33 305 Pn 02 28 57.6 +0.6
PB04 IPOC Station P 3.33 305 *i* P **Pn 02 28 57.3 +0.2**
PB04 *i* S **Sn 02 29 37.1 -1.0**
PB04 IAML 02 29 41.0
comp=Z,4µm,0.7s
PB04 IPOC Station P 3.33 305⇑ *i* P **Pn 02 28 57.6 +0.6**
PB04 *i* S **Sn 02 29 36.3 -1.9**
PB07 IPOC Station P 3.54 315 Pn 02 29 00.2 +0.5
PB07 IPOC Station P 3.54 315 *i* P **Pn 02 28 59.8 +0.1**
PB07 *i* S **Sn 02 29 42.0 -0.9**
PB07 IAML 02 29 42.7
comp=Z,4µm,0.5s
PB07 IPOC Station P 3.54 315⇑ *i* P **Pn 02 29 00.0 +0.3**
PB07 *i* S **Sn 02 29 40.5 -2.5**
AC01 Pan de Azucar 3.60 238 Pn 02 29 00.6 +0.4
AC01 Pan de Azucar 3.60 238 *i* P **Pn 02 29 00.3 +0.1**
AC01 *i* S **Sn 02 29 42.6 -1.4**
AC01 IAML 02 29 47.0
comp=Z,3µm,0.3s
PB01 IPOC Station P 3.85 326 Pn 02 29 03.5 0.0
PB01 IPOC Station P 3.85 326⇑ *i* P **Pn 02 29 03.3 -0.2**
PB01 *i* S **Sn 02 29 47.3 -2.8**
PB02 IPOC Station P 3.85 319 Pn 02 29 03.4 -0.2
PB02 IPOC Station P 3.85 319⇑ *i* P **Pn 02 29 03.4 -0.2**
PB02 *e* S **Sn 02 29 46.6 -3.3**
AC06 Mina Casimiro 4.19 222 Pn 02 29 07.7 -0.1
AC06 Mina Casimiro 4.19 222⇑ *i* P **Pn 02 29 07.6 -0.1**
AC06 *i* S **Sn 02 29 54.8 -2.6**
GO03 Copiap 4.29 219 Pn **Pn 02 29 09.1 0.0**
GO03 Copiap 4.29 219 *i* P **Pn 02 29 08.8 -0.3**
GO03 *i* S **Sn 02 29 57.7 -2.1**
GO03 Copiap 4.29 219⇑ *i* P **Pn 02 29 09.0 0.0**
GO03 *i* S **Sn 02 29 57.2 -2.6**
PATCX Punta Patache 4.39 321 Pn 02 29 09.3 -1.1
PATCX Punta Patache 4.39 321 *i* P **Pn 02 29 10.0 -0.4**
PATCX *i* S **Sn 02 29 59.9 -2.3**
PATCX IAML 02 30 13.9
comp=Z,2µm,0.5s
PATCX Punta Patache 4.39 321 *i* P **Pn 02 29 09.2 -1.2**
PATCX *e* S **Sn 02 29 58.9 -3.2**
PB08 IPOC Station P 4.49 336 Pn 02 29 12.3 +0.3
PB08 IPOC Station P 4.49 336⇑ *i* P **Pn 02 29 12.3 +0.3**
PB08 *i* S **Sn 02 30 03.1 -2.0**
TA01 Diego Aracena 4.61 323 Pn **Pn 02 29 11.7 -1.5**
TA01 Diego Aracena 4.61 323 *i* P **Pn 02 29 12.5 -0.6**
TA01 *i* S **Sn 02 30 04.8 -2.3**
TA01 IAML 02 30 15.6
comp=Z,1µm,0.6s
TA01 Diego Aracena 4.61 323⇑ *i* P **Pn 02 29 11.5 -1.6**
TA01 *i* S **Sn 02 29 59.5 -7.6**
HMBC Humberstone 4.69 327 *i* P **Pn 02 29 13.9 -0.5**
HMBC *i* S **Sn 02 30 06.5 -2.7**
HMBC IAML 02 30 08.7
comp=Z,2µm,0.5s
HMBC Humberstone 4.69 327⇑ *i* P **Pn 02 29 12.8 -1.6**
HMBC *i* S **Sn 02 30 04.2 -5.1**
TA02 Huaiquique 4.82 325 Pn 02 29 15.5 -0.4
TA02 Huaiquique 4.82 325 *e* P **Pn 02 29 14.2 -1.7**
GO01 Chusmiza 4.94 338⇑ *i* P **Pn 02 29 17.4 -0.5**
GO01 *i* S **Sn 02 30 13.1 -2.5**
PB11 IPOC Station P 5.04 333⇑ *i* P **Pn 02 29 17.3 -1.6**
PB11 *i* S **Sn 02 30 13.1 -4.2**
AC04 Llanos de Chal 5.24 221 Pn **Pn 02 29 22.3 +1.0**
AC04 Llanos de Chal 5.24 221 *i* P **Pn 02 29 20.5 -0.7**
AC04 *i* S **Sn 02 30 18.5 -3.3**
AC04 IAML 02 30 23.2
comp=Z,938nm,0.6s
AC04 Llanos de Chal 5.24 221 *i* P **Pn 02 29 20.1 -1.2**
AC04 *i* S **Sn 02 30 13.4 -8.4**
AC05 El Transito 5.31 211 Pn **Pn 02 29 23.4 +1.0**
AC05 El Transito 5.31 211 *i* P **Pn 02 29 22.3 -0.1**
AC05 *i* S **Sn 02 30 20.6 -3.2**
AC05 IAML 02 30 30.7
comp=Z,719nm,0.5s
AC05 El Transito 5.31 211⇑ *i* P **Pn 02 29 22.3 -0.1**
AC05 *i* S **Sn 02 30 16.2 -7.5**
LCO Las Campanas 5.66 213 Pn **Pn 02 29 27.5 +0.4**
PB12 IPOC Station P 6.34 332 Pn 02 29 34.4 -1.5
TICA Tres Isletas 6.52 110 *e* P **Pn 02 29 37.1 -0.9**
AP01 Chacalluta 6.56 333 Pn 02 29 37.5 -1.3
VACA Villa Angela C 6.74 121 *e* P **Pn 02 29 40.9 -0.1**
PB18 Visviri 6.98 342 Pn 02 29 44.8 0.0
CFA Coronel Fontan 7.36 187 P **Pn 02 29 48.8 -0.4**
comp=Z,13nm,0.3s,baz=23,slow=20,SNR=73
CFA S **Sn 02 31 07.3 -4.8**
comp=Z,66nm,0.4s,baz=52,slow=18,SNR=12
ZON Zonda 7.36 190 Pn **Pn 02 29 49.7 +0.5**
ESFA Espinillo Form 7.96 97 *e* P **Pn 02 29 55.0 -2.0**
SCCA San Cayetano, 8.38 115 *e* P **Pn 02 30 01.0 -1.6**
BBRB Robore, Bolivi 9.11 51 *e* P **Pn 02 30 07.9 -4.5**
CPUP Villa Florida 9.16 105 Pn **Pn 02 30 10.9 -2.0**
CPUP Villa Florida 9.16 105 *e* P **Pn 02 30 11.5 -1.4**
CPUP Villa Florida 9.16 105 P Pn 02 30 07.9 -5.0
comp=Z,13nm,0.8s,baz=288,slow=12,SNR=28
MURT Porto Murtinho 9.21 75 *e* P **Pn 02 30 10.8 -2.7**
BBSD Serra de San D 9.36 42 *e* P **Pn 02 30 13.1 -2.6**
MT03 Universidad Ad 9.63 197 Pn 02 30 20.2 +1.0
MT13 San Alfonso 9.81 195 Pn 02 30 22.8 +1.2
SIV San Ignacio 10.05 36 P **Pn 02 30 21.6 -3.1**
comp=Z,26nm,0.6s,baz=216,slow=11,SNR=143
SIV S Sn 02 32 01.3 -15
comp=Z,6.5nm,0.6s,baz=220,slow=17,SNR=1.2
BDQN Bodoquena, MS 10.39 71 *e* P **Pn 02 30 26.4 -2.7**
ANTJ Antonio Joao (10.55 80 *e* P **Pn 02 30 28.6 -2.5**
BO01 Tunca 10.64 198 Pn **Pn 02 30 32.8 +0.7**
ITQB Itaqui 10.85 122 Pn **Pn 02 30 34.2 -0.8**
ITQB Itaqui 10.85 122 *e* P **Pn 02 30 33.1 -1.9**
BO02 Sierra Bellavi 10.94 196 Pn 02 30 37.2 +1.1
AMBA Amambai (Brazi 11.27 86 *e* P **Pn 02 30 37.3 -3.3**
AQDB Aquidauana 11.29 73 Pn **Pn 02 30 38.3 -2.4**
AQDB Aquidauana 11.29 73 *e* P **Pn 02 30 37.5 -3.2**
PTLB Pontes e Lacer 11.60 42 Pn **Pn 02 30 42.5 -2.2**
PTLB Pontes e Lacer 11.60 42 *e* P **Pn 02 30 42.3 -2.4**
UNIS Unistalda (Bra 11.85 116 *e* P **Pn 02 30 46.1 -1.7**
MCR1 Marechal Candi 12.00 94 *e* P **Pn 02 30 48.1 -1.8**
RODS Rosario do Sul 12.26 122 *e* P **Pn 02 30 52.0 -1.2**
CRSM Crissiumal (Br 12.27 108 *e* P **Pn 02 30 52.5 -0.8**
RVDE Rio Verde (Bra 12.53 68 *e* P **Pn 02 30 54.7 -2.1**
FRBT Francisco Belt 12.92 100 *e* P **Pn 02 31 00.8 -0.8**
RPRD Ribas do Rio P 13.04 76 *e* P **Pn 02 31 01.1 -2.1**
VILB Vilhena 13.06 32 Pn **Pn 02 31 01.8 -1.7**
VILB Vilhena 13.06 32 *e* P **Pn 02 31 02.0 -1.5**
PP1B Ponte de Pedra 13.28 62 *e* P **Pn 02 31 03.4 -2.8**
ALGR Alto Alegre (B 13.46 113 *e* P **Pn 02 31 07.6 -0.9**
SALV Santo Antonio 13.64 54 *e* P **Pn 02 31 08.3 -2.4**
CPSB Cacapava Do Su 13.66 120 *e* P **Pn 02 31 09.9 -1.0**
H03N1 Juan Fernandez 13.73 226 P **P 02 31 13.6 -0.7**
baz=102,slow=14,SNR=15
H03N2 Juan Fernandez 13.74 226 P **Pn 02 31 13.3 +1.7**
baz=102,slow=14,SNR=9.1
H03N3 Juan Fernandez 13.75 226 P **Pn 02 31 13.3 +1.6**
baz=102,slow=14,SNR=19
PTGB Pitanga 13.79 95 *e* P **Pn 02 31 11.6 -1.0**
ITAB Concordia 13.89 105 Pn **Pn 02 31 12.1 -1.7**
ITAB Concordia 13.89 105 *e* P **Pn 02 31 13.0 -0.8**
PLTB Pedras Altas 14.13 125 Pn **Pn 02 31 15.1 -1.6**
PLTB Pedras Altas 14.13 125 *e* P **Pn 02 31 15.1 -1.6**
ETMB Extrema 14.41 4 *e* P **Pn 02 31 17.6 -2.7**
C2SB Chapadao do Su 14.44 70 *e* P **Pn 02 31 20.3 -0.3**
TRQA Tornquist 14.44 163 Pn **Pn 02 31 19.4 -1.2**
LDASE Londrina, Braz 14.74 90 *e* P **Pn 02 31 22.7 -1.8**
PCMB Pacaembu 14.92 83 *e* P **Pn 02 31 23.7 -2.9**
NNA Nana 15.27 321 Pn 02 31 30.8 -0.1
NNA IAmb IAmb 02 31 35.0
comp=Z,47nm,0.9s
NNA Nana 15.27 321 P **P 02 31 32.2 +0.5**
comp=Z,29nm,0.8s,baz=171,slow=11,SNR=19
NNA S **Sn 02 34 13.4 -8.1**
comp=Z,5.5nm,0.5s,baz=74,slow=2.3,SNR=2.7
CNLB Canela 15.43 113 *e* P **Pn 02 31 31.2 -1.7**
GO06 Curarrehue 15.69 192 Pn 02 31 35.6 -0.3
SAML Samuel 15.71 15 Pn **Pn 02 31 33.8 -2.5**
SAML Samuel 15.71 15 *e* P **Pn 02 31 34.8 -1.5**
PDRB Porto dos Gac 16.04 40 *e* P **Pn 02 31 39.0 -1.4**
FRTB Fartura 16.17 90 *e* P **P 02 31 40.4 -1.3**
ITRB Iturama 16.26 77 *e* P **P 02 31 41.2 -1.5**
PLCA Paso Flores 16.65 189 *e* P **Pn 02 31 48.7 +1.1**
PLCA Paso Flores 16.65 189 P **Pn 02 31 48.3 +0.8**
comp=Z,6.8nm,0.8s,baz=3.0,slow=12,SNR=12
ARAG Araguaiana, MT 16.77 62 *e* P **P 02 31 46.8 -1.6**
CLDB Colider 17.18 41 *e* P **P 02 31 50.9 -2.0**
CZSB Cruzeiro do Su 17.27 341 P **P 02 31 53.0 -0.8**
CZSB Cruzeiro do Su 17.27 341 *e* P **P 02 31 53.1 -0.8**
BB19B Bebedouro 17.52 83 *e* P **P 02 31 54.8 -1.9**
SPB Sao Paulo 18.08 92 P **P 02 32 01.6 -1.0**
SPB IAmb IAmb 02 32 08.3
comp=Z,55nm,0.9s
SPB Sao Paulo 18.08 92 *e* P **P 02 32 02.1 -0.6**
RCLB Rio Claro- Sao 18.16 88 *e* P **P 02 32 02.4 -1.1**
PET01 Itanhaem-SP 18.16 94 *e* P **P 02 32 02.1 -1.5**
LL01 San Ignacio de 18.57 192 P **P 02 32 08.5 +0.8**
VAO Valinhos 18.58 90 *e* P **P 02 32 06.8 -1.4**
IPMB Ipameri, GO 18.78 74 *e* P **P 02 32 09.3 -1.0**
LL02 Futaleuf 19.25 190 P **P 02 32 16.1 +0.9**
SNDB Serra Nova Dou 19.42 54 *e* P **P 02 32 15.4 -1.8**
PARB Paraibuna 19.77 92 *e* P **P 02 32 19.4 -1.5**
BDFB Brasilia 19.95 68 P **P 02 32 21.9 -1.2**
BDFB Brasilia 19.95 68 P **P 02 32 20.9 -2.1**
comp=Z,141nm,0.9s,baz=242,slow=11,SNR=172
ATAH Atahualpa 20.14 326 P **P 02 32 26.4 +1.0**
comp=Z,13nm,0.8s,baz=165,slow=10,SNR=12
comp=Z,13nm,0.8s
TBTG Tabatinga, AM 20.14 352 *e* P **P 02 32 26.0 +1.0**
PMNB Patos De Minas 20.14 78 *e* P **P 02 32 23.3 -1.8**
NPGB Novo Progresso 20.55 35 *e* P **P 02 32 26.1 -3.2**
TEFE Tefe 20.79 7 *e* P **P 02 32 30.5 -1.3**
BSCB Bom Sucesso 20.95 86 *e* P **P 02 32 32.2 -1.4**
MACA Manacapuru-AM 21.91 18 P **P 02 32 40.9 -2.7**
MACA IAmb IAmb 02 32 56.9
comp=Z,45nm,0.6s
MACA Manacapuru-AM 21.91 18 *e* P **P 02 32 42.5 -1.2**
ITTB Itaituba 22.66 31 *e* P **P 02 32 48.3 -2.5**
DIAM Diamantina, MG 22.70 79 *e* P **P 02 32 49.5 -1.7**
DUB01 Friburgo-RJ 22.92 90 *e* P **P 02 32 51.2 -1.9**
MCRA Macar, Loja 23.30 326 P **P 02 32 56.9 +0.3**
MCRA Macar, Loja 23.30 326 *e* P **P 02 32 57.3 +0.7**
JANE Januaria 23.39 71 *e* P **P 02 32 55.9 -1.5**
SGCB SCo Gabriel d 24.01 0 *e* P **P 02 33 01.9 -1.1**
SDBA SAO DESIDERIO 24.19 65 *e* P **P 02 33 03.1 -1.6**
SMTB Santa Maria do 24.20 54 *e* P **P 02 33 03.3 -1.5**
GO08 Villa O'Higgin 24.51 189 P **P 02 33 07.5 +0.3**
PRPB Parauapebas 24.55 46 *e* P **P 02 33 07.2 -0.7**
COHC Cochancay 24.61 330‖ *e* P **P 02 33 11.1 +2.6**
SJMB Sao Joao De Ma 24.81 82 *e* P **P 02 33 08.7 -1.6**
RIB01 Linhares ES 25.35 84 *e* P **P 02 33 13.5 -1.6**
PIAT Ana Tenorio 25.50 334 *e* P **P 02 33 18.9 +2.0**
MALB Monte Alegre 25.56 31 *e* P **P 02 33 14.8 -2.2**
BONI La Bonita 26.54 336 *e* P **P 02 33 28.4 +2.2**
OTAV Otavalo 26.70 334 P **P 02 33 27.2 -0.5**
OTAV **PcP 02 36 47.3 +0.5**
OTAV Otavalo 26.70 334 *e* P **P 02 33 30.1 +2.3**
GUA01 Guaratinga, BA 26.75 79 *e* P **P 02 33 26.0 -1.7**
TULM Tulcn-Chalpat 26.88 336 IAmb IAmb 02 33 40.6
comp=Z,35nm,0.9s
FLOC Florencia 26.98 341⇑ *e* P **P 02 33 30.2 +0.4**
GCUF Volcan Galeras 27.20 337 *e* P **P 02 33 38.5 +6.2**
ABR01 Abrolhos, BA 27.29 82 *e* P **P 02 33 29.4 -3.1**
BOAV Boa Vista 27.29 15 P **P 02 33 31.3 -1.2**
BOAV Boa Vista 27.29 15 *e* P **P 02 33 32.1 -0.4**
BOAV Boa Vista 27.29 15 *e* P **P 02 33 32.1 -0.4**
GARC Garzon, Huila 27.51 342 *e* P **P 02 33 35.0 +0.2**
BBAC Balboa, Cauca 27.90 338 *e* P **P 02 33 39.5 +1.3**
POPC Popayan, Colom 28.20 340 *e* P **P 02 33 42.4 +1.5**
PTGC Puerto Gaitan, 28.71 350 *e* P **P 02 33 47.8 +2.7**
JAMC Jamundi, Valle 28.84 340 *e* P **P 02 33 47.2 +0.7**
VILC Villavicencio, 28.91 347 *e* P **P 02 33 46.9 -0.1**
ORTC Ortega, Tolima 29.09 343‖ *e* P **P 02 33 49.2 +0.7**
YOTC Yotoco, Valle 29.46 341 *e* P **P 02 33 53.1 +1.2**
ROSC El Rosal 29.76 346 P **P 02 33 54.0 -0.8**
ROSC El Rosal 29.76 346 P **P 02 33 55.8 +1.0**
comp=Z,7.7nm,0.5s,baz=214,slow=23,SNR=4.6
comp=Z,7.7nm,0.5s
PLMC San Jos del P 30.32 342 *e* P **P 02 33 59.4 0.0**
GUY2C Guyana, Caldas 30.38 344 *e* P **P 02 34 00.6 +0.2**
SPBC San Pablo de B 30.49 346 *e* P **P 02 33 59.9 -1.1**
CBOC Ciudad Bolivar 31.16 343 *e* P **P 02 34 06.2 -0.7**
BARC Barichara 31.23 348 *e* P **P 02 34 05.6 -2.0**
PTBC PUERTO BERRIO, 31.43 346 *e* P **P 02 34 06.4 -2.8**
ZARC Zaragoza, Cauc 32.45 346 *e* P **P 02 34 15.8 -2.1**
UREC San Jos de Ur 32.85 345 *e* P **P 02 34 18.6 -2.9**
SDV Santo Domingo 33.13 354 P **P 02 34 22.3 -1.8**
SDV Santo Domingo 33.13 354 *e* P **P 02 34 23.0 -1.1**
SDV Santo Domingo 33.13 354 *e* P **P 02 34 22.9 -1.2**
SJCC San Jacinto, C 34.84 346 *e* P **P 02 34 37.0 -1.7**
RCBR Riachuelo 35.21 64 *e* P **P 02 34 41.8 -0.1**
RCBR Riachuelo 35.21 64 P **P 02 34 40.2 -1.7**
comp=Z,18nm,0.9s,baz=234,slow=12,SNR=7.4
comp=Z,18nm,0.9s
RCBR Riachuelo 35.21 64 P **P 02 34 41.5 -0.4**
RIMA Rio Macho 37.54 332 IAmb IAmb 02 35 05.3
comp=Z,27nm,0.8s
SOCE Pocosol 38.42 332 P **P 02 35 10.8 +1.8**
SOCE IAmb IAmb 02 35 14.7
comp=E,78nm,0.7s
JTS Las Juntas de 38.48 331 P **P 02 35 09.9 +0.5**
JTS IAmb IAmb 02 35 13.3
comp=Z,46nm,1.2s
JTS Las Juntas de 38.48 331 P **P 02 35 11.9 +2.4**
ORTG Ortega, Santa 38.77 331 IAmb IAmb 02 35 15.7
comp=Z,58nm,1.1s
FDF Fort de France 39.22 9 P **P 02 35 14.0 -1.5**
MATN Matagalpa 41.26 332 P **P 02 35 32.3 -0.1**
SJG San Juan 42.14 1 P **P 02 35 36.3 -3.0**
SJG IAmb IAmb 02 35 37.9
comp=Z,29nm,0.8s
SJG San Juan 42.14 1 P **P 02 35 37.0 -2.4**
TGUH Tegucigalpa,Un 42.85 331 P **P 02 35 45.9 +0.5**
TGUH Tegucigalpa,Un 42.85 331 *e* P **P 02 35 46.2 +0.9**
MTO3 Monteristo 44.11 328 IAmb IAmb 02 35 58.0
comp=Z,38nm,0.8s
PETF Flores 46.53 329 IAmb IAmb 02 36 16.4
comp=Z,37nm,0.8s
CCIG Comitan 47.09 326 P **P 02 36 17.2 -1.6**
TRIS Tristan da Cun 48.30 119 P **P 02 36 26.5 -1.2**
TRIS Tristan da Cun 48.30 119 P **P 02 36 26.4 -1.3**
TEIG Tepich 48.76 333 P **P 02 36 31.6 +0.2**
TEIG pP **pP 02 37 13.7 +1.5**
SOR Soroa 49.24 341 P **P 02 36 34.1 -0.9**
SOR IAmb IAmb 02 36 36.5
comp=Z,47nm,0.9s
DWPF Disney Wildern 53.86 344 P **P 02 37 09.6 +0.5**
baz=164
DWPF Disney Wildern 53.86 344 P **P 02 37 09.8 +0.7**
DWPF pP **pP 02 37 51.7 +1.0**
DWPF PcP **PcP 02 38 12.1 -0.4**
BELA Belgrano 2 55.80 172 P **P 02 37 22.6 +0.2**
VNA3 Neumayer Olymp 56.95 161⇑ P P 02 37 22.8 -8.0
TIGA Tifton 57.58 343 P **P 02 37 35.7 +0.2**
baz=162
255A Hazlehurst 57.76 345 IAmb IAmb 02 37 38.1
comp=Z,40nm,1.2s
352A Blakely 57.98 342 P **P 02 37 37.5 -0.8**
ZAIG Zacatecas 58.02 321 IAmb IAmb 02 37 42.6
comp=Z,25nm,0.9s
BRAL Brewton 58.31 340 P **P 02 37 41.2 +0.5**
baz=159
NHSC New Hope 58.39 347 P **P 02 37 42.2 +1.1**
baz=166,SNR=16
250A Grady 58.83 341 P **P 02 37 44.0 -0.3**
152A Waverly Hall 59.04 343 IAmb IAmb 02 37 46.4
comp=Z,21nm,0.9s
SNAA Sanae 59.15 161 P **P 02 37 46.9 +0.8**
SNAA IAmb IAmb 02 37 50.6
comp=Z,42nm,1.8s
SNAA Sanae 59.15 161⇑ P P 02 37 47.3 +1.2
SNAA Sanae 59.15 161 P **P 02 37 46.4 +0.3**
comp=Z,5.5nm,0.6s,baz=299,slow=9.1,SNR=22
comp=Z,5.5nm,0.6s
GOGA Godfrey 59.42 344 IAmb IAmb 02 37 49.1
comp=Z,23nm,0.9s
GOGA Godfrey 59.42 344 P **P 02 37 48.2 0.0**
baz=163,SNR=11
Z51A Franklin 59.78 343 IAmb IAmb 02 37 51.6
comp=Z,27nm,1.2s
HODGE Hodges 59.92 346 IAmb IAmb 02 37 53.0
comp=Z,23nm,1.0s
Y52A Lilburn 60.00 344 IAmb IAmb 02 37 53.1
comp=Z,23nm,0.8s
LRAL Lakeview Retre 60.03 341 IAmb IAmb 02 37 53.2
comp=Z,22nm,1.1s
LRAL Lakeview Retre 60.03 341 P **P 02 37 52.3 -0.2**
baz=159,SNR=8.1
W59A Clinton 60.07 349 P **P 02 37 52.4 -0.3**
W59A IAmb IAmb 02 37 54.1
comp=Z,19nm,0.7s
146A Union 60.31 339 IAmb IAmb 02 37 55.6
comp=Z,32nm,0.9s
PAULI Pauline 60.38 346 IAmb IAmb 02 37 55.8
comp=Z,22nm,0.8s
VBMS Vicksburg 60.43 337 P **P 02 37 55.5 +0.4**
baz=155
Z47A Carrollton 60.52 340 IAmb IAmb 02 37 56.4
comp=Z,34nm,1.1s
HKT Hockley 60.52 331 P **P 02 37 56.2 +0.5**
HKT IAmb IAmb 02 37 58.1
comp=Z,24nm,1.1s
HKT Hockley 60.52 331 P **P 02 37 56.7 +1.0**
HKT pP **pP 02 38 38.1 -0.1**
HKT sP **sP 02 38 58.0 +0.1**
KMSC Kings Mountain 60.59 347 IAmb IAmb 02 37 57.7
comp=Z,34nm,0.9s
KMSC Kings Mountain 60.59 347 P **P 02 37 56.7 +0.5**
baz=165,SNR=11
Y49A Blount Mountai 60.63 342 IAmb IAmb 02 37 57.2
comp=Z,23nm,0.9s
V58A Windy Hill, Pi 60.80 349 IAmb IAmb 02 37 58.8
comp=Z,22nm,1.1s
833A Chaparral WMA, 60.80 327 P **P 02 37 58.9 +1.1**
baz=146,SNR=18
BG3 Lake Jocassee 60.80 345 IAmb IAmb 02 37 59.0
comp=Z,19nm,0.8s
TROLL Troll, Antarti 60.87 161⇑ P **P 02 37 59.3 +1.5**
comp=Z,7.8nm,0.2s
EF01 Eagle Ford 01 60.98 329 P **P 02 37 58.8 -0.2**
EF01 IAmb IAmb 02 38 00.5
comp=Z,35nm,1.0s
FPAL Fort Paine 61.05 343 IAmb IAmb 02 38 00.1
comp=Z,24nm,1.0s
W52A Murphy 61.14 344 IAmb IAmb 02 38 01.0
comp=Z,20nm,0.9s
V53A Saluda 61.42 346 IAmb IAmb 02 38 02.9
comp=Z,22nm,0.9s
U56A King 61.57 348 IAmb IAmb 02 38 04.7
comp=Z,40nm,1.1s
NATX Nacogdoches 61.60 333 P **P 02 38 04.6 +1.6**
baz=151,SNR=7.0
TKL Tuckaleechee C 61.64 345 P **P 02 38 02.2 -1.1**
TKL IAmb IAmb 02 38 03.9
comp=Z,29nm,1.0s
TKL Tuckaleechee C 61.64 345 P **P 02 38 02.9 -0.3**
comp=Z,20nm,0.8s,baz=160,slow=8.7,SNR=21
comp=Z,20nm,0.8s
HNDO Hondo 61.74 328 IAmb IAmb 02 38 06.0
comp=Z,30nm,0.8s
V52A Sevierville 61.77 345 IAmb IAmb 02 38 04.8
comp=Z,24nm,0.9s
435B Jarrell 62.01 330 IAmb IAmb 02 38 07.6
comp=Z,19nm,0.9s
435B Jarrell 62.01 330 P **P 02 38 06.7 +0.9**
baz=148
OXF Oxford 62.15 339 P **P 02 38 06.1 -0.6**
baz=157,SNR=7.2
PLAL Pickwick Lake 62.17 341 P **P 02 38 06.1 -0.7**
PLAL IAmb IAmb 02 38 07.2
comp=Z,23nm,0.9s
Z41A Richland Creek 62.20 336 IAmb IAmb 02 38 08.0
comp=Z,28nm,1.0s
DRIO Del Rio 62.31 327 IAmb IAmb 02 38 09.5
comp=Z,23nm,1.1s
BLA Blacksburg 62.41 348 P **P 02 38 09.2 +0.8**
baz=166
TZTN Tazewell 62.43 345 P **P 02 38 08.4 -0.1**
baz=163
V48A Smith Brothers 62.51 342 IAmb IAmb 02 38 09.9
comp=Z,34nm,1.0s
CLTN Cedars of Leba 62.70 343 IAmb IAmb 02 38 11.1
comp=Z,28nm,0.8s
R58B Mineral 62.72 351 P **P 02 38 09.9 -0.4**
R58B IAmb IAmb 02 38 11.9
comp=Z,16nm,1.1s
JCT Junction City 62.78 328 P **P 02 38 11.9 +0.9**
baz=146,SNR=17
U49A Red Boiling Sp 62.95 343 IAmb IAmb 02 38 12.0
comp=Z,12nm,0.8s
WHTX Lake Whitney, 62.98 331 P **P 02 38 13.1 +0.9**
baz=149
HPIG 63.02 321 IAmb IAmb 02 38 15.1
comp=Z,12nm,0.8s
BRDY Brady 63.08 330 P **P 02 38 13.5 +0.6**
BRDY IAmb IAmb 02 38 14.4
comp=Z,21nm,0.8s
WVT Waverly 63.16 341 P **P 02 38 12.7 -0.6**
WVT Waverly 63.16 341 P **P 02 38 13.0 -0.4**
baz=159
WVT Waverly 63.16 341 P **P 02 38 12.6 -0.7**
T50A Nancy 63.19 344 IAmb IAmb 02 38 14.0
comp=Z,18nm,0.8s
FW13 Cleburne 63.28 332 IAmb IAmb 02 38 15.7
comp=Z,24nm,0.8s
R55A Marlinton 63.40 349 IAmb IAmb 02 38 17.6
comp=Z,20nm,0.9s
SAND Sanderson 63.49 326 IAmb IAmb 02 38 18.1
comp=Z,42nm,1.1s
MIAR Mount Ida 63.63 336 P **P 02 38 16.7 +0.3**
MIAR IAmb IAmb 02 38 17.9
comp=Z,28nm,0.9s
MIAR Mount Ida 63.63 336 P **P 02 38 16.8 +0.3**
baz=153,SNR=14
OZNA Ozona 63.79 328 IAmb IAmb 02 38 19.3
comp=Z,19nm,0.9s
R53A Hurricane 63.80 347 IAmb IAmb 02 38 18.5
comp=Z,20nm,0.9s
TXAR Lajitas Array 63.80 325 P **P 02 38 17.8 0.0**
TXAR Lajitas Array 63.80 325 P **P 02 38 18.1 +0.4**
comp=Z,4.9nm,0.8s,baz=151,slow=8.4,SNR=52
comp=Z,4.9nm,0.8s
TX31 Lajitas Ar. Si 63.80 325 IAmb IAmb 02 38 19.4
comp=Z,14nm,0.9s
WHAR Wooly Hollow 63.83 337 IAmb IAmb 02 38 18.4
comp=Z,17nm,1.1s
Q56A Snyder Ridge, 63.98 350 IAmb IAmb 02 38 20.7
comp=Z,21nm,0.9s
PLPT Palo Pinto 64.06 331 IAmb IAmb 02 38 21.0
comp=Z,30nm,0.8s
FW03 Perrin-Whitt E 64.14 331 IAmb IAmb 02 38 21.6
comp=Z,37nm,1.0s
Q54A Coxs Mills 64.21 348 IAmb IAmb 02 38 21.1
comp=Z,19nm,0.8s
R50A Paris 64.27 345 P **P 02 38 20.2 -0.3**
Q52A Bidwell 64.47 347 IAmb IAmb 02 38 22.7
comp=Z,26nm,0.9s
ABTX Abilene, Hawle 64.50 330 P **P 02 38 22.9 +0.7**
baz=147,SNR=11
SGCY Sterling City 64.60 328 IAmb IAmb 02 38 24.4
comp=Z,21nm,0.9s
ALPN Alpine 64.61 325 IAmb IAmb 02 38 24.7
comp=Z,14nm,0.8s
MCWV Mont Chateau 64.69 349 IAmb IAmb 02 38 24.4
comp=Z,18nm,0.7s
MCWV Mont Chateau 64.69 349 P **P 02 38 24.1 +0.9**
baz=167,SNR=5.3
WCI Wyandotte Cave 64.70 343 P **P 02 38 22.7 -0.7**
WCI Wyandotte Cave 64.70 343 P **P 02 38 22.4 -0.9**
baz=161
WCI Wyandotte Cave 64.70 343 P **P 02 38 22.6 -0.8**
Q51A Peebles 64.76 346 IAmb IAmb 02 38 24.8
comp=Z,16nm,0.8s
CGM3 Cape Girardeau 64.79 340 IAmb IAmb 02 38 24.8
comp=Z,49nm,1.5s
USIN University of 64.83 342 IAmb IAmb 02 38 24.2
comp=Z,15nm,0.8s
WTFS Witchita Falls 64.93 331 IAmb IAmb 02 38 26.5
comp=Z,38nm,0.8s
MNHN Monahans 64.94 327 P **P 02 38 25.6 +0.5**
MNHN IAmb IAmb 02 38 27.2
comp=Z,43nm,1.0s

S44A Carbondale 65.03 341 IAmb IAmb 02 38 26.0
comp=Z,29nm,1.1s
SIUC Southern Illin 65.04 341 IAmb IAmb 02 38 27.7
comp=Z,29nm,1.1s
P52A Corning 65.09 347 IAmb IAmb 02 38 26.5
comp=Z,30nm,0.8s
P52A Corning 65.09 347 P **P** **02 38 25.6 -0.3**
baz=165,SNR=9.4
P51A Williamsport 65.13 347 IAmb IAmb 02 38 26.6
comp=Z,30nm,1.1s
SN01 Snyder 1 65.27 329 IAmb IAmb 02 38 28.8
comp=Z,44nm,0.7s
O54A Avella 65.29 349 IAmb IAmb 02 38 28.1
comp=Z,16nm,0.8s
APMT Aspermont 65.30 330 IAmb IAmb 02 38 29.1
comp=Z,42nm,0.8s
HHAR Hobbs 65.31 336 P **P** **02 38 27.2 -0.1**
HHAR IAmb IAmb 02 38 28.6
comp=Z,26nm,0.9s
SSPA Standing Stone 65.34 351 P **P** **02 38 27.8 +0.4**
baz=169
SSPA Standing Stone 65.34 351 P **P** **02 38 27.9 +0.5**
SSPA PcP **PcP** **02 38 59.0 +0.9**
W35A Tecumseh 65.45 334 IAmb IAmb 02 38 29.0
comp=Z,15nm,0.7s
ODSA Odessa 65.46 327 P **P** **02 38 28.8 +0.3**
ODSA IAmb IAmb 02 38 30.0
comp=Z,30nm,0.8s
O52A Adamsville 65.50 348 IAmb IAmb 02 38 29.2
comp=Z,24nm,0.8s
MGMO Mountain Grove 65.50 338 IAmb IAmb 02 38 29.9
comp=Z,35nm,1.1s
O53A New Philadelph 65.50 348 IAmb IAmb 02 38 29.4
comp=Z,19nm,0.8s
O53A New Philadelph 65.50 348 P **P** **02 38 28.5 0.0**
baz=166,SNR=5.5
PECS Pecos 65.52 326 IAmb IAmb 02 38 30.7
comp=Z,14nm,0.8s
P49A Miami Univ. Ec 65.55 345 P **P** **02 38 28.1 -0.7**
baz=162,SNR=7.0
U38A Gravette 65.62 336 IAmb IAmb 02 38 30.5
comp=Z,15nm,0.8s
425A Indio Mountain 65.64 325 P **P** **02 38 30.3 +0.6**
425A IAmb IAmb 02 38 31.9
comp=Z,29nm,0.9s
P48A Milroy 65.65 345 IAmb IAmb 02 38 28.9
comp=Z,15nm,0.6s
TUL3 Leonard 65.68 335 IAmb IAmb 02 38 31.1
comp=Z,40nm,1.1s
TUL3 Leonard 65.68 335 P **P** **02 38 30.1 +0.4**
baz=151,SNR=8.5
POST Post 65.73 329 IAmb IAmb 02 38 33.3
comp=Z,20nm,0.8s
ACSO Alum Creek Sta 65.84 347 IAmb IAmb 02 38 31.8
comp=Z,42nm,1.1s
ACSO Alum Creek Sta 65.84 347 P **P** **02 38 30.4 -0.2**
baz=164,SNR=7.3
WMOK Wichita Mounta 65.90 332 IAmb IAmb 02 38 32.4
comp=Z,47nm,1.8s
QSPA South Pole Qui 65.93 180 P **P** **02 38 31.9 +0.7**
QSPA South Pole Qui 65.93 180 P **P** **02 38 32.6 +1.4**
comp=Z,3.8nm,0.5s,baz=266,slow=13,SNR=16
comp=Z,3.8nm,0.5s
DKNS Dickens 65.95 330 IAmb IAmb 02 38 33.0
comp=Z,28nm,0.9s
CCM Cathedral Cave 65.99 339 P **P** **02 38 31.5 -0.1**
CCM Cathedral Cave 65.99 339 P **P** **02 38 31.6 0.0**
baz=156
CCM Cathedral Cave 65.99 339 P **P** **02 38 31.5 -0.1**
CCM PcP **PcP** **02 39 01.5 +0.7**
Q44A Meyer Farm, Va 66.08 342 IAmb IAmb 02 38 32.2
comp=Z,32nm,1.1s
O49A Covington 66.09 346 IAmb IAmb 02 38 32.6
comp=Z,31nm,0.9s
O48B Farmland 66.34 345 P **P** **02 38 33.3 -0.5**
baz=162,SNR=7.2
M53A Wf Miller and 66.56 349 P **P** **02 38 35.7 +0.5**
baz=166
MNTX Cornudas Mount 66.56 325 P **P** **02 38 35.3 -0.2**
MNTX IAmb IAmb 02 38 36.9
comp=Z,20nm,0.9s
MNTX Cornudas Mount 66.56 325 P **P** **02 38 35.9 +0.4**
baz=142,SNR=29
L61B Northampton 66.58 356 P **P** **02 38 36.5 +1.2**
baz=174
BINY Binghamton 66.64 353 IAmb IAmb 02 38 37.1
comp=Z,34nm,1.1s
BINY Binghamton 66.64 353 P **P** **02 38 36.7 +1.0**
baz=171
T35A Sooner Cattle 66.84 335 IAmb IAmb 02 38 39.3
comp=Z,30nm,1.0s
SMWD Samnorwood 66.85 331 IAmb IAmb 02 38 38.9
comp=Z,68nm,0.9s
P43A Skaggs, Pawnee 66.91 341 IAmb IAmb 02 38 37.8
comp=Z,29nm,0.9s
SFIN Lafayette 66.94 344 P **P** **02 38 36.9 -0.7**
SFIN IAmb IAmb 02 38 37.4
comp=Z,24nm,0.8s
M50A Fremont 66.98 347 IAmb IAmb 02 38 38.5
comp=Z,28nm,0.8s
BLOK Blackwell 66.98 334 IAmb IAmb 02 38 39.7
comp=Z,43nm,1.0s
N47A Urbana 67.06 345 IAmb IAmb 02 38 38.6
comp=Z,37nm,1.0s
MSTX Muleshoe 67.08 328 P **P** **02 38 39.5 +0.7**
baz=145,SNR=24
O44A Mansfield 67.09 342 IAmb IAmb 02 38 38.0
comp=Z,15nm,0.7s
ERPA Erie 67.11 350 P **P** **02 38 39.0 +0.4**
baz=167
WVNY West Valley, N 67.18 351 IAmb IAmb 02 38 40.8
comp=Z,42nm,0.9s
K57A Scipio Center 67.22 353 IAmb IAmb 02 38 40.8
comp=Z,40nm,1.2s
ELIS Ellis County 67.30 332 P **P** **02 38 40.2 +0.2**
ELIS IAmb IAmb 02 38 42.0
comp=Z,30nm,1.0s
AMTX Amarillo 67.31 330 P **P** **02 38 40.7 +0.5**
baz=146
OK038 West end E0370 67.36 333 IAmb IAmb 02 38 43.6
comp=Z,20nm,0.8s
U32A Winter Ranch, 67.39 333 IAmb IAmb 02 38 43.3
comp=Z,20nm,0.7s
OK032 Salt Plains WL 67.42 333 IAmb IAmb 02 38 42.2
comp=Z,21nm,0.7s
P40A Paris 67.59 339 IAmb IAmb 02 38 42.7
comp=Z,32nm,0.8s
KAN06 Argonia West S 67.66 334 IAmb IAmb 02 38 44.0
comp=Z,28nm,0.8s
HDIL Hopedale 67.70 342 IAmb IAmb 02 38 42.6
comp=Z,34nm,0.9s
HDIL Hopedale 67.70 342 P **P** **02 38 41.6 -0.7**
baz=158,SNR=5.5
J59A Piesco 67.74 354 IAmb IAmb 02 38 44.5
comp=Z,22nm,0.9s
KAN12 Harper NE Stat 67.76 334 IAmb IAmb 02 38 44.6
comp=Z,38nm,0.9s
AAM Ann Arbor 67.97 347 P **P** **02 38 44.0 0.0**
baz=164
DBIC Dimbokro 68.06 72 P **P** **02 38 44.5 -0.7**
comp=Z,3.5nm,0.7s,baz=224,slow=3.4,SNR=11
comp=Z,3.5nm,0.7s
L46A Eue Claire 68.28 345 P **P** **02 38 45.1 -0.8**
319A Douglas 68.44 322 IAmb IAmb 02 38 50.4
comp=Z,29nm,0.8s
121A Cookes Peak, D 68.49 324 IAmb IAmb 02 38 51.1
comp=Z,43nm,1.1s
121A Cookes Peak, D 68.49 324 P **P** **02 38 50.1 +2.4**
baz=140,SNR=20
KSU1 Kansas State U 68.79 336 IAmb IAmb 02 38 50.4
comp=Z,21nm,0.8s
KSU1 Kansas State U 68.79 336 P **P** **02 38 49.3 +0.1**
baz=151,SNR=5.9
L44A Lake County Fo 68.84 344 P **P** **02 38 49.3 -0.1**
baz=160
LONY Lake Ozonia 68.89 354 P **P** **02 38 51.0 +1.3**
baz=173
RTBA Rita Blanca 69.08 330 IAmb IAmb 02 38 54.8
comp=Z,25nm,0.8s
J47A Sunmer 69.11 346 IAmb IAmb 02 38 51.8
comp=Z,35nm,1.1s
N38A Joes South For 69.11 339 IAmb IAmb 02 38 51.5
comp=Z,18nm,0.8s
BNM Barren Site 69.14 326 P **P** **02 38 52.4 +0.6**
L42A Oliver, Polo 69.14 342 IAmb IAmb 02 38 51.8
comp=Z,19nm,0.8s
PKME Peaks-Kenny Pk 69.23 358 P **P** **02 38 53.3 +1.6**
baz=178

ANMO Albuquerque 69.67 326 P **P** **02 38 55.6 +0.7**
ANMO IAmb IAmb 02 38 58.0
comp=Z,28nm,0.9s
ANMO Albuquerque 69.67 326 P **P** **02 38 56.9 +2.0**
baz=142
ANMO Albuquerque 69.67 326 P **P** **02 38 56.1 +1.1**
comp=Z,19nm,0.8s,baz=226,slow=6.6,SNR=62
comp=Z,19nm,0.8s
ANMO Albuquerque 69.67 326 P **P** **02 38 56.7 +1.8**
ANMO PcP **PcP** **02 39 18.5 +1.9**
ANMO pP **pP** **02 39 40.3 +1.7**
CBKS Cedar Bluff 69.77 333 P **P** **02 38 56.7 +1.4**
baz=148,SNR=9.7
TUC Tucson 69.98 322 P **P** **02 38 57.9 +1.1**
TUC IAmb IAmb 02 38 59.9
comp=Z,26nm,1.2s
TUC Tucson 69.98 322 P **P** **02 38 58.6 +1.8**
baz=138
TUC Tucson 69.98 322 P **P** **02 38 58.9 +2.1**
N35A Tabor 69.99 337 IAmb IAmb 02 38 57.0
comp=Z,24nm,0.7s
SCIA State Center 70.11 340 IAmb IAmb 02 38 58.4
comp=Z,40nm,1.1s
SCIA State Center 70.11 340 P **P** **02 38 57.5 +0.2**
baz=155
JFWS Jewell Farm 70.15 342 P **P** **02 38 57.6 +0.2**
baz=158,SNR=9.4
T25A Trinidad 70.42 329 IAmb IAmb 02 39 02.4
comp=Z,18nm,0.8s
T25A Trinidad 70.42 329 P **P** **02 39 01.3 +1.7**
baz=144,SNR=19
GLMI Grayling 70.58 347 P **P** **02 38 59.9 -0.1**
GLMI Grayling 70.58 347 P **P** **02 39 00.4 +0.4**
baz=163
K38A Parkersburg 70.64 340 IAmb IAmb 02 39 00.9
comp=Z,21nm,0.9s
214A Organ Pipe Nat 70.89 320 IAmb IAmb 02 39 05.7
comp=Z,28nm,1.3s
214A Organ Pipe Nat 70.89 320 P **P** **02 39 04.0 +1.8**
baz=136
KSCO Kaye Shedlock' 71.15 331 P **P** **02 39 05.5 +1.7**
baz=146,SNR=5.6
I40A Norwalk 71.16 342 IAmb IAmb 02 39 03.8
comp=Z,16nm,0.8s
BGNE Belgrade 71.38 336 P **P** **02 39 05.9 +0.9**
baz=150,SNR=11
SDCO Great Sand Dun 71.43 329 P **P** **02 39 06.7 +1.0**
SDCO IAmb IAmb 02 39 08.6
comp=Z,19nm,0.9s
SDCO Great Sand Dun 71.43 329 P **P** **02 39 07.6 +2.0**
baz=143,SNR=22
W18A Petrified Fore 71.51 324 IAmb IAmb 02 39 09.2
comp=Z,32nm,0.9s
W18A Petrified Fore 71.51 324 P **P** **02 39 08.0 +1.9**
baz=139
X16A Lo Mia Camp, P 71.91 323 IAmb IAmb 02 39 11.9
comp=Z,26nm,1.1s
S22A 4UR Ranch, Cre 72.06 328 P **P** **02 39 10.9 +1.4**
baz=142,SNR=15
I37A Lemond, Waseca 72.08 340 IAmb IAmb 02 39 10.2
comp=Z,38nm,0.8s
Q24A Divide 72.24 330 IAmb IAmb 02 39 13.4
comp=Z,39nm,1.0s
Q24A Divide 72.24 330 P **P** **02 39 12.3 +1.8**
baz=144,SNR=17
MVCO Mesa Verde 72.47 326 IAmb IAmb 02 39 14.8
comp=Z,27nm,0.9s
MVCO Mesa Verde 72.47 326 P **P** **02 39 13.8 +2.0**
baz=141,SNR=23
OGNE Ogallala 72.51 333 IAmb IAmb 02 39 14.2
comp=Z,26nm,0.8s
OGNE Ogallala 72.51 333 P **P** **02 39 13.2 +1.4**
baz=147,SNR=5.6
E43A Lone Tree Farm 72.57 346 IAmb IAmb 02 39 12.9
comp=Z,31nm,0.8s
WUAZ Wupatki 72.69 323 IAmb IAmb 02 39 16.5
comp=Z,31nm,0.9s
WUAZ Wupatki 72.69 323 P **P** **02 39 15.4 +2.4**
baz=138,SNR=17
ECSD EROS Data Cent 72.86 338 IAmb IAmb 02 39 15.1
comp=Z,34nm,1.1s
ECSD EROS Data Cent 72.86 338 P **P** **02 39 14.0 +0.3**
baz=152,SNR=17
SPMN Marine on St. 73.00 341 P **P** **02 39 14.3 -0.1**
SPMN IAmb IAmb 02 39 15.3
comp=Z,31nm,1.0s
SPMN Marine on St. 73.00 341 P **P** **02 39 14.4 -0.1**
baz=156,SNR=11
ISCO Idaho Springs 73.13 330 P **P** **02 39 17.3 +1.6**
baz=144,SNR=20
BLYC Blythe 73.18 320 IAmb IAmb 02 39 19.3
comp=Z,28nm,1.1s
BRIGG Briggsdale 73.18 331 IAmb IAmb 02 39 19.0
comp=Z,44nm,0.9s
PV01 Paonia Valley 73.22 327 P **P** **02 39 17.1 +0.9**
RMX La Rumorosa 73.30 318 IAmb IAmb 02 39 19.7
comp=Z,26nm,1.0s
IKP In-Ko-Pah, Jac 73.35 318 P **P** **02 39 19.1 +2.2**
baz=134
PDMCI Parker Dam,Lak 73.35 321 P **P** **02 39 19.1 +2.3**
baz=136
SWSC Sam W. Stewart 73.37 319 P **P** **02 39 19.4 +2.6**
baz=134
TKX Tecate 73.60 318 P **P** **02 39 19.2 +0.9**
TKX IAmb IAmb 02 39 21.5
comp=Z,20nm,0.7s
BC3 Big Chuckawall 73.66 320 P **P** **02 39 21.0 +2.3**
baz=135,SNR=11
MONP2 Monument Peak 73.71 318 P **P** **02 39 21.2 +2.1**
baz=134
BAR Barrett 73.71 318 IAmb IAmb 02 39 22.1
comp=Z,22nm,0.9s
F36A Milaca 73.79 341 IAmb IAmb 02 39 19.9
comp=Z,25nm,0.8s
IRM Iron Mountain 73.83 320 P **P** **02 39 22.0 +2.4**
baz=135,SNR=10
U15A North Rim 73.86 324 IAmb IAmb 02 39 23.7
comp=Z,25nm,0.9s
E38A The Farm, Brul 73.91 343 P **P** **02 39 20.1 +0.4**
E38A IAmb IAmb 02 39 20.7
comp=Z,24nm,0.9s
N23A Red Feather La 74.16 330 P **P** **02 39 23.4 +1.8**
baz=144,SNR=14
HMU Henry Mountain 74.17 326 IAmb IAmb 02 39 25.3
comp=Z,32nm,1.1s
TPFO Pinon Flats 74.22 319 P **P** **02 39 24.4 +2.4**
baz=134
BELC Belle Mtn. Jos 74.23 319 P **P** **02 39 24.3 +2.3**
baz=134
PFO Pinyon Flats O 74.23 319 P **P** **02 39 24.3 +2.3**
baz=134
PFO Pinyon Flats O 74.23 319 P **P** **02 39 23.9 +1.9**
comp=Z,12nm,0.9s,baz=137,slow=3.6,SNR=9.7
comp=Z,12nm,0.9s
SUSD Miller 74.30 337 IAmb IAmb 02 39 23.5
comp=Z,28nm,0.9s
SUSD Miller 74.30 337 P **P** **02 39 22.6 +0.6**
baz=150
VNDA Vanda 74.40 190 P **P** **02 39 24.0 +1.8**
VNDA Vanda 74.40 190 P **P** **02 39 24.9 +2.6**
comp=Z,2.2nm,0.9s,baz=132,slow=5.6,SNR=5.7
comp=Z,2.2nm,0.9s
GMRC Granite Mounta 74.58 320 P **P** **02 39 26.4 +2.4**
baz=135,SNR=21
O20A White River Ci 74.62 329 IAmb IAmb 02 39 27.3
comp=Z,38nm,0.9s
O20A White River Ci 74.62 329 P **P** **02 39 26.3 +2.0**
baz=142,SNR=25
MURC Murrieta 74.67 318 P **P** **02 39 26.8 +2.3**
baz=134,SNR=5.1
ELS Elsinore Mount 74.84 318 P **P** **02 39 26.5 +1.0**
ELS IAmb IAmb 02 39 28.7
comp=Z,23nm,0.9s
SRU San Rafael Swe 74.95 326 IAmb IAmb 02 39 28.9
comp=Z,29nm,0.8s
HEC Hector,Ludlow 75.00 320 P **P** **02 39 28.9 +2.5**
baz=134
Q16A Castle Valley 75.13 326 IAmb IAmb 02 39 31.1
comp=Z,64nm,1.8s
SZCU Shurtz Canyon 75.15 324 IAmb IAmb 02 39 30.9
comp=Z,42nm,1.7s
CCUT Cedar City 75.27 324 IAmb IAmb 02 39 32.0
comp=Z,38nm,0.9s
P17A Butcher Ranch, 75.33 327 P **P** **02 39 28.9 +0.6**
P17A IAmb IAmb 02 39 31.3
comp=Z,28nm,0.9s
RWWY Rawlins 75.36 330 IAmb IAmb 02 39 30.5
comp=Z,33nm,1.0s

BFSC Mount Baldy Ra 75.38 319 P **P** **02 39 30.6 +1.9**
baz=133
TMUT Trail Mountain 75.44 326 IAmb IAmb 02 39 32.0
comp=Z,60nm,2.0s
RDMU Red Mountain 75.60 328 IAmb IAmb 02 39 32.5
comp=Z,23nm,0.9s
GSC Goldstone, Bar 75.61 320 IAmb IAmb 02 39 33.3
comp=Z,44nm,1.5s
GSC Goldstone, Bar 75.61 320 P **P** **02 39 32.3 +2.5**
baz=134,SNR=7.9
DECC Green Verdugo 75.80 318 P **P** **02 39 33.3 +2.4**
baz=133
K22A Casper 75.83 331 IAmb IAmb 02 39 34.0
comp=Z,28nm,1.1s
K22A Casper 75.83 331 P **P** **02 39 32.9 +1.8**
baz=143,SNR=7.2
RSSD Black Hills 75.97 334 P **P** **02 39 32.5 +0.6**
RSSD Black Hills 75.97 334 P **P** **02 39 34.0 +2.1**
baz=146
EDW2 Edwards Air Fo 76.02 319 P **P** **02 39 34.1 +1.9**
baz=133
PRN Pahroc Range 76.09 323 IAmb IAmb 02 39 36.3
comp=Z,26nm,1.0s
GWY Greenwater Val 76.14 321 IAmb IAmb 02 39 36.0
comp=Z,22nm,0.9s
BSUT Blindstream Ca 76.15 327 IAmb IAmb 02 39 36.4
comp=Z,25nm,0.9s
CCAC Calif City Air 76.22 319 IAmb IAmb 02 39 36.5
comp=Z,55nm,1.4s
PSUT Pine Spring 76.25 324 IAmb IAmb 02 39 36.9
comp=Z,22nm,0.8s
SCZ2 Santa Cruz Isl 76.42 317 P **P** **02 39 36.5 +2.0**
baz=132
TPNV Topopah Spring 76.44 322 P **P** **02 39 35.8 +1.2**
TPNV IAmb IAmb 02 39 38.3
comp=Z,24nm,1.0s
TPNV Topopah Spring 76.44 322 P **P** **02 39 36.9 +2.3**
baz=135,SNR=11
FURC Furnace Creek, 76.45 321 P **P** **02 39 36.9 +2.5**
baz=134
MPMC Manual Prospec 76.53 320 P **P** **02 39 37.0 +1.8**
baz=134,SNR=5.9
AGMN Agassiz Nation 76.68 341 IAmb IAmb 02 39 36.8
comp=Z,22nm,0.9s
AGMN Agassiz Nation 76.68 341 P **P** **02 39 35.9 +0.5**
baz=153,SNR=12
ARVC Arvin 76.69 319 P **P** **02 39 38.0 +2.1**
baz=133
TOA0 Torodi Ar. Sit 76.83 69 P **P** **02 39 36.2 -0.8**
TORD Torodi Ar. Bea 76.83 69 P **P** **02 39 35.5 -1.6**
TORD Torodi Ar. Bea 76.83 69 P **P** **02 39 36.4 -0.7**
comp=Z,7.9nm,0.8s,baz=262,slow=4.9,SNR=35
comp=Z,7.9nm,0.8s
ISA Isabella, Lake 76.84 319 P **P** **02 39 38.0 +1.2**
ISA IAmb IAmb 02 39 40.2
comp=Z,22nm,1.0s
ISA Isabella, Lake 76.84 319 P **P** **02 39 39.2 +2.4**
baz=133,SNR=8.1
DUG Dugway, Tooele 76.93 326 P **P** **02 39 39.6 +2.3**
baz=138,SNR=5.8
R11B Troy Canyon, C 77.06 323 IAmb IAmb 02 39 41.7
comp=Z,29nm,1.3s
R11B Troy Canyon, C 77.06 323 P **P** **02 39 40.6 +2.5**
baz=136,SNR=27
GRAC Grapevine Rang 77.11 321 P **P** **02 39 40.7 +2.4**
baz=134
PKM Mcpherson Peak 77.13 318 P **P** **02 39 40.9 +2.4**
baz=132,SNR=5.2
CWC Cottonwood Cre 77.14 320 P **P** **02 39 40.7 +2.2**
baz=133
Q12A Willow Creek R 77.14 324 IAmb IAmb 02 39 41.7
comp=Z,28nm,0.9s
BW06 Boulder Array 77.29 329 P **P** **02 39 40.5 +1.1**
baz=141,SNR=8.0
PDAR Pinedale Array 77.29 329 P **P** **02 39 40.0 +0.7**
comp=Z,3.9nm,0.8s,baz=134,slow=7.8,SNR=23
comp=Z,3.9nm,0.8s
VES Vestal, Richgr 77.33 319 P **P** **02 39 41.4 +2.0**
baz=133,SNR=7.1
MDND Maddock 77.48 338 P **P** **02 39 41.3 +1.3**
baz=150,SNR=11
SMMC Simmler 77.53 318 P **P** **02 39 42.7 +2.2**
baz=132
TSUM Tsumeb 77.75 106 P **P** **02 39 41.9 -0.5**
AHID Auburn Hatcher 78.01 329 IAmb IAmb 02 39 45.9
comp=Z,36nm,0.9s
MLAC Mammoth, Mammo 78.40 321 P **P** **02 39 47.3 +1.7**
baz=133
LOHW Long Hollow 78.43 329 P **P** **02 39 46.6 +1.1**
ULM Lac du Bonnet 78.43 342 IAmb IAmb 02 39 46.4
comp=Z,22nm,0.8s
ULM Lac du Bonnet 78.43 342 P **P** **02 39 45.4 +0.3**
comp=Z,20nm,0.7s,baz=153,slow=6.1,SNR=37
comp=Z,20nm,0.7s
OMMB Old Mammoth Mi 78.48 320 IAmb IAmb 02 39 49.1
comp=Z,21nm,0.9s
ELK Elko 78.59 325 P **P** **02 39 47.9 +1.4**
comp=Z,12nm,0.9s,baz=132,slow=2.6,SNR=46
comp=Z,12nm,0.9s
MOOW Moose Ponds 78.60 329 IAmb IAmb 02 39 49.3
comp=Z,44nm,1.9s
NVAR Mina Avy Bea 78.64 321 P **P** **02 39 48.5 +1.6**
comp=Z,6.8nm,0.9s,baz=153,slow=6.2,SNR=19
comp=Z,6.8nm,0.9s
SCHQ Schefferville 78.78 0 P **P** **02 39 47.5 +0.5**
comp=Z,5.8nm,0.9s,baz=85,slow=2.7,SNR=5.7
comp=Z,5.8nm,0.9s
IMW Indian Meadow 78.80 329 IAmb IAmb 02 39 50.6
comp=Z,24nm,0.9s
FLWY Flagg Ranch 78.83 330 IAmb IAmb 02 39 51.0
comp=Z,30nm,1.0s
RYN Ryan 78.90 321 P **P** **02 39 49.1 +0.9**
KVN Kaiserville 78.95 322 IAmb IAmb 02 39 51.2
comp=Z,25nm,0.9s
LAO LASA Array 78.96 334 IAmb IAmb 02 39 50.5
comp=Z,32nm,0.9s
LAO LASA Array 78.96 334 P **P** **02 39 49.5 +1.4**
baz=144,SNR=17
RLMT Red Lodge 78.99 331 P **P** **02 39 50.4 +1.8**
baz=141,SNR=12
H17A Grant Village 79.02 330 P **P** **02 39 51.3 +2.5**
baz=140,SNR=5.7
WAKR Walker 79.34 321 P **P** **02 39 51.9 +1.3**
YMR Madison River 79.41 330 IAmb IAmb 02 39 54.4
comp=Z,33nm,0.9s
DGMT Dagmar 79.63 336 P **P** **02 39 53.4 +1.6**
baz=146,SNR=13
YHL Hebgen Lake 79.64 330 IAmb IAmb 02 39 55.6
comp=Z,53nm,1.6s
PNTR Pine Nut 79.83 321 IAmb IAmb 02 39 56.6
comp=Z,34nm,0.9s
GRHM Grahamstown, E 79.89 122 P **P** **02 39 53.7 0.0**
GRHM IAmb IAmb 02 39 55.6
comp=Z,46nm,1.0s
PAHR Pah Rah Range 80.12 322 IAmb IAmb 02 39 58.0
comp=Z,37nm,1.0s
HLID Hailey 80.22 327 IAmb IAmb 02 39 58.6
comp=Z,34nm,0.9s
HLID Hailey 80.22 327 P **P** **02 39 57.6 +2.4**
baz=137,SNR=55
BOZ Bozeman (W) 80.42 330 P **P** **02 39 57.5 +1.3**
baz=140,SNR=11
BOSA Boshof 80.77 117 P **P** **02 39 58.6 0.0**
BOSA IAmb IAmb 02 39 59.7
comp=Z,32nm,1.1s
BOSA Boshof 80.77 117 P **P** **02 39 58.6 0.0**
comp=Z,11nm,0.4s,baz=257,slow=3.4,SNR=74
comp=Z,11nm,0.4s
EGMT Eagleton 81.47 333 IAmb IAmb 02 40 03.6
comp=Z,26nm,0.9s
EGMT Eagleton 81.47 333 P **P** **02 40 02.6 +1.0**
baz=141,SNR=13
WVOR Wild Horse Val 81.59 324 P **P** **02 40 02.9 +0.5**
PLID Pearl Lake 82.11 327 IAmb IAmb 02 40 07.8
comp=Z,30nm,0.8s
J08A Circle Bar Ran 82.14 325 IAmb IAmb 02 40 08.2
comp=Z,32nm,1.0s
MSO Missoula 82.40 330 P **P** **02 40 08.2 +1.6**
baz=138,SNR=6.9
LBTB Lobatse 82.44 114 IAmb IAmb 02 40 08.7
comp=Z,13nm,0.6s
BMO Blue Mountains 82.59 327 P **P** **02 40 08.0 +0.5**
YBH Yreka Blue Hor 83.36 322 P **P** **02 40 11.5 -0.1**
comp=Z,5.2nm,0.9s,baz=115,slow=6.0,SNR=7.1
comp=Z,5.2nm,0.9s
K04D Chiloquin, OR 83.41 323 IAmb IAmb 02 40 14.4
comp=Z,32nm,1.0s
J05D Fort Rock, OR 83.56 324 IAmb IAmb 02 40 15.3

	comp=Z,22nm,1.1s						
PINE	**Pine Mountain**	**83.75**	**324**	IAmb	IAmb	02 40 16.7	
	comp=Z,26nm,0.9s						
FFC	**Flin Flon**	**84.16**	**341**	P	**P**	**02 40 15.1**	**0.0**
I05D	**Terrebonne, OR**	**84.33**	**324**	IAmb	IAmb	02 40 19.2	
	comp=Z,18nm,0.8s						
K02D	**Willamette Mer**	**84.52**	**322**	IAmb	IAmb	02 40 20.3	
	comp=Z,22nm,1.1s						
TAM	**Tamanrasset**	**84.68**	**62**	P	**P**	**02 40 18.9**	**+0.1**
G05A	**Wamic**	**84.92**	**325**	IAmb	IAmb	02 40 22.3	
	comp=Z,19nm,0.9s						
NEW	**Newport**	**84.93**	**329**	P	**P**	**02 40 19.1**	**-0.1**
NEW	**Newport**	**84.93**	**329**	P	**P**	**02 40 20.8**	**+1.5**
	baz=135						
NEW	**Newport**	**84.93**	**329**	P	**P**	**02 40 19.6**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=218,slow=2.5,SNR=9.0						
	comp=Z,3.5nm,0.7s						
I03D	**Drain, OR**	**84.99**	**323**	IAmb	IAmb	02 40 22.7	
	comp=Z,30nm,1.2s						
BUCK	**Buck Mountain**	**85.12**	**323**	IAmb	IAmb	02 40 22.6	
	comp=Z,34nm,0.9s						
C09A	**Chrisman Ranch**	**85.14**	**328**	IAmb	IAmb	02 40 22.6	
	comp=Z,38nm,0.9s						
HOOD	**Mount Hood Mea**	**85.15**	**325**	IAmb	IAmb	02 40 26.2	
	comp=Z,24nm,1.1s						
FCC	**Fort Churchill**	**85.68**	**346**	P	**P**	**02 40 23.4**	**+0.8**
F04A	**Amboy**	**85.95**	**325**	IAmb	IAmb	02 40 26.4	
	comp=Z,23nm,1.0s						
D05A	**Enumclaw**	**86.56**	**326**	IAmb	IAmb	02 40 29.2	
	comp=Z,29nm,1.0s						
ESDC	**Sonseca Array**	**86.72**	**44**	P	**P**	**02 40 28.0**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=264,slow=4.3,SNR=5.1						
	comp=Z,1.1nm,0.8s						
E03A	**Lebam**	**86.96**	**325**	IAmb	IAmb	02 40 33.0	
	comp=Z,34nm,1.1s						
B06A	**Marblemount**	**87.20**	**327**	IAmb	IAmb	02 40 31.7	
	comp=Z,19nm,0.8s						
LSZ	**Lusaka**	**88.60**	**106**	P	**P**	**02 40 38.8**	**+0.9**
LSZ				IAmb	IAmb	02 40 41.2	
	comp=Z,25nm,1.0s						
YKA	**Yellowknife Ar**	**94.32**	**340**	P	**P**	**02 41 03.4**	**+0.3**
	comp=Z,7.2nm,0.9s,baz=132,slow=4.3,SNR=103						
	comp=Z,7.2nm,0.9s						
KOTAN	**Kotaneelee Air**	**95.98**	**335**	P	**P**	**02 41 12.6**	**+1.9**
	baz=130						
T35M	**Bob Quinn**	**96.64**	**331**	P	**P**	**02 41 16.2**	**+2.4**
	baz=125						
DLBC	**Dease Lake**	**97.38**	**332**	P	Pdif	02 41 19.2	+1.9
	baz=125						
WTLY	**Watson Lake, Y**	**97.84**	**334**	P	Pdif	02 41 20.3	+1.1
	baz=126						
R32K	**Eaglecrest**	**99.27**	**330**	P	**Pdif**	**02 41 26.7**	**+1.1**
	baz=121						
P33M	**Teslin, Yukon**	**99.56**	**333**	P	**Pdif**	**02 41 28.5**	**+1.5**
	baz=122						
PINM	**Pinnacle**	**102.74**	**331**	P	**Pdif**	**02 41 42.8**	**+1.8**
	baz=116						
M29M	**Somme Creek**	**103.04**	**333**	P	**Pdif**	**02 41 44.2**	**+1.8**
	baz=117						
YUK8	**Steele Glacier**	**103.06**	**332**	P	**Pdif**	**02 41 44.2**	**+1.5**
	baz=116						
J30M	**Hart River**	**103.20**	**336**	P	**Pdif**	**02 41 44.6**	**+1.5**
	baz=119						
L29M	**L29M**	**103.21**	**334**	P	**Pdif**	**02 41 45.0**	**+2.0**
	baz=118						
K29M	**Barlow Dome**	**103.31**	**335**	P	**Pdif**	**02 41 45.3**	**+1.7**
	baz=118						
I30M	**Mount Dempster**	**103.53**	**336**	P	**Pdif**	**02 41 45.9**	**+1.4**
	baz=118						
F31M	**Tsiigehtchic**	**103.71**	**339**	P	**Pdif**	**02 41 46.6**	**+1.6**
	baz=120						
A36M	**Sachs Harbour**	**103.78**	**344**	P	**Pdif**	**02 41 46.4**	**+1.1**
	baz=127						
DAWY	**Dawson**	**104.15**	**334**	P	**Pdif**	**02 41 48.3**	**+1.1**
	baz=116						
ILAR	**Eielson Array**	**107.42**	**334**	PP	**PP**	**02 46 32.9**	**+1.3**
	comp=Z,1.3nm,1.0s,baz=115,slow=5.1,SNR=6.8						
KBZ	**Khabaz**	**120.59**	**52**	PKP	**PKPdf**	**02 46 35.0**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=0.0,slow=3.0,SNR=3.9						
ASAR	**Alice Springs**	**128.13**	**205**	PKP	**PKPdf**	**02 46 50.5**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=136,slow=1.8,SNR=27						
WRA	**Warramunga Arr**	**131.30**	**207**	PKP	**PKPdf**	**02 46 56.6**	**+0.4**
	comp=Z,1.7nm,0.4s,baz=160,slow=1.8,SNR=50						
WRA				SKPbc	**SKPab**	**02 50 05.5**	**+0.3**
	comp=Z,4.1nm,0.8s,baz=150,slow=3.4,SNR=18						
BVAR	**Borovoye Array**	**137.12**	**37**	PKP	**PKPdf**	**02 47 06.1**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=336,slow=3.3,SNR=6.9						
KURBB	**Kurchatov Arra**	**142.71**	**36**	PKP	**PKPdf**	**02 47 13.7**	**-2.5**
	comp=Z,1.0nm,0.7s,baz=292,slow=2.7,SNR=6.2						
ZAA0	**Zalesovo Array**	**143.72**	**28**	PKPdf	PKPbc	02 47 16.3	+0.4
ZALV	**Zalesovo Beam**	**143.72**	**28**	PKP	PKPbc	02 47 16.2	+0.3
	comp=Z,4.2nm,0.5s,baz=302,slow=4.7,SNR=37						
SOEI	**Soe**	**144.37**	**200**	PKPdf	**PKPdf**	**02 47 20.9**	**+0.5**
KSH	**Kashi**	**145.50**	**55**	PKPbc	**PKPbc**	**02 47 22.3**	**+0.2**
KSH				pPKP	pPKPdf	02 48 11.1	+1.9
MAKZ	**Makanchi**	**146.66**	**40**	PKPbc	**PKPbc**	**02 47 25.6**	**+0.5**
MK31	**Makanchi Array**	**146.85**	**40**	PKPbc	**PKPdf**	**02 47 24.6**	**+1.1**
MKAR	**Makanchi Array**	**146.85**	**40**	PKPbc	**PKPdf**	**02 47 24.0**	**+0.5**
	comp=Z,6.0nm,0.6s,baz=317,slow=1.9,SNR=52						
HYB	**Hyderabad**	**147.33**	**95**	*e*PKiKP	**PKPab**	**02 47 30.6**	**+0.4**
WMQ	**Urumqi**	**151.67**	**40**	*e*P	**PKPdf**	**02 47 31.5**	**+0.1**
HEH	**HeiHe**	**151.69**	**340**	*e*P	**PKPbc**	**02 47 37.5**	**0.0**
HEH				pmax	pmax		
	comp=Z,17nm,0.9s						
HEH				pmax	pmax		
	comp=Z,220nm,5.3s						
USRK	**Ussuriysk Ar.**	**154.68**	**326**	PKPbc	**PKPbc**	**02 47 43.9**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=48,slow=2.8,SNR=4.3						
MJAR	**Matsushiro Arr**	**154.99**	**305**	PKPab	**PKPab**	**02 48 02.9**	**+1.4**
	comp=Z,12nm,0.9s,baz=78,slow=2.5,SNR=15						
MDJ	**Mudanjiang**	**155.52**	**330**	P	**PKPdf**	**02 47 39.3**	**+2.6**
MDJ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,250nm,3.6s						
BNX	**BinXian**	**155.55**	**335**	⇑P	**PKPab**	**02 48 04.3**	**+0.9**
BNX				pmax	pmax		
	comp=Z,13nm,0.9s						
BNX				pmax	pmax		
	comp=Z,250nm,5.0s						
SONM	**Songino Array**	**155.94**	**11**	PKP	**PKPdf**	**02 47 37.2**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=196,slow=2.2,SNR=5.6						
SONM				PKPab	**PKPab**	**02 48 05.2**	**0.0**
	comp=Z,2.1nm,0.7s,baz=323,slow=4.8,SNR=9.8						
KSRS	**Korea Array**	**161.56**	**319**	PKPab	**PKPab**	**02 48 29.9**	**+0.1**
	comp=Z,3.1nm,1.0s,baz=48,slow=3.6,SNR=4.8						
HHC	**Hu-ho-hao-te**	**163.44**	**3**	*e*PKP	**PKPdf**	**02 47 42.0**	**-4.0**
CMAR	**Chiang Mai Arr**	**165.86**	**111**	PKPab	**PKPab**	**02 48 49.5**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=260,slow=5.3,SNR=6.8						
PZH	**PanZhiHua**	**169.76**	**75**	PKP	**PKPdf**	**02 47 51.3**	**0.0**
NJ2	**Nanjing**	**170.59**	**327**	*e*P	**PKPdf**	**02 47 52.9**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,12nm,0.7s						

IDC ***17*** *02:31:40.4±0.6,2˚.65S×122˚.39E, h0km, mb4.1/16, mbtmp4.1/17, ML4.2/1, MS3.6/17, Error ellipse: s-maj=30.6km s-min=13.3km az=58.0*
DJA ***17*** *02:31:43.9±1.9, 3˚S±2˚×12˚2E±˚, h11km±16km, M4.8/19, mb5.0/12, mB5.3/7, MLv4.8/19, Mw(mB)4.7/7*
NEIC ***17*** *02:31:47.5±2.0, 2˚.71S±0˚.06×122˚.39E±0˚.07, h52km±9km, mb4.3/13, Error ellipse: s-maj=10.3km s-min=8.4km az=100.0*

ISC 17 02:31:46.2±0.4, 2˚.81S±0˚.05×122˚.36E±0˚.05, h35km, n86, σ1§47/77, mb4.3/24, MS3.6/16, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.80**	**13**	Pn	**Pn**	**02 32 16.0**	**+1.1**
LUWI	**Luwuk**	**1.80**	**13**	P	**Pn**	**02 32 15.9**	**+1.1**
LUWI				S	**Sn**	**02 32 39.5**	**+3.0**
TTSI	**Tana Toraja**	**2.55**	**265**	P	**Pn**	**02 32 24.0**	**-1.0**
BBSI	**Bau Bau**	**2.67**	**175**	P	**Pn**	**02 32 27.5**	**+0.8**
SPSI	**Sidrap Palu**	**2.83**	**246**	P	**Pn**	**02 32 28.7**	**-0.2**
MRSI	**Marisa**	**3.29**	**353**	P	**Pn**	**02 32 34.7**	**-0.6**
BKSI	**Bulukumba**	**3.35**	**222**	P	**Pn**	**02 32 35.6**	**-0.4**
KAPI	**Kappang**	**3.40**	**230**	Pn	**Pn**	**02 32 37.8**	**+1.0**
KAPI	**Kappang**	**3.40**	**230**	Pn	**Pn**	**02 32 37.0**	**+0.2**
	22nm,0.3s,baz=347,slow=2.2,SNR=28						
KAPI				Sn	**Sn**	**02 33 14.0**	**-1.9**
	20nm,0.3s,baz=21,slow=18,SNR=4.5						
	43nm,0.3s						
GTOI	**Gorontalo**	**3.48**	**11**	P	**Pn**	**02 32 39.0**	**+1.1**
SANI	**Sanana**	**3.70**	**78**	P	**Pn**	**02 32 38.4**	**-2.5**
KMSI	**Cibinong**	**3.73**	**26**	P	**Pn**	**02 32 41.4**	**+0.1**
MPSI	**Mapaga**	**3.98**	**322**	P	**Pn**	**02 32 43.6**	**-1.1**
TOLI2	**Tolitoli**	**4.20**	**338**	Pn	**Pn**	**02 32 47.8**	**0.0**
NLAI	**Namlea**	**4.75**	**95**	P	**Pn**	**02 32 56.9**	**+1.5**
LBMI	**Labuha**	**5.57**	**67**	P	**Pn**	**02 33 06.2**	**-0.5**
	400nm,0.7s,5μm1.3nm						
BKB	**Balikpapan**	**5.67**	**286**	Pn	**Pn**	**02 33 10.2**	**+2.2**
MMRI	**Maumere**	**5.79**	**181**	Pn	**Pn**	**02 33 12.3**	**+2.7**
EDFI	**Ende, Flores**	**5.94**	**186**	P	**Pn**	**02 33 11.2**	**-0.6**
	62nm,0.6s,838nm0.2nm						
TNTI	**Ternate**	**6.14**	**55**	Pn	**Pn**	**02 33 13.6**	**-0.9**
TNTI	**Ternate**	**6.14**	**55**	P	**Pn**	**02 33 14.9**	**+0.4**
	85nm,0.6s,3μm0.5nm						
SOEI	**Soe**	**7.16**	**165**	Pn	**Pn**	**02 33 31.6**	**+3.1**
SOEI	**Soe**	**7.16**	**165**	P	**Pn**	**02 33 30.0**	**+1.5**
	197nm,0.8s,1μm0.6nm						
BNDI	**Bandanaira**	**7.72**	**103**	P	**Pn**	**02 33 35.6**	**-0.5**
	243nm,0.7s,1.0nm						
MYLDM	**Lahad Datu**	**8.82**	**334**	Pn	**Pn**	**02 33 51.5**	**+0.2**
SWI	**Sorong**	**9.10**	**78**	P	**Pn**	**02 33 55.5**	**+0.4**
	59nm,0.6s						
DAV	**Davao City (W)**	**10.33**	**18**	LR	LR	02 39 23.6	
	comp=Z,244nm,18.4s,baz=332,slow=46						
KPJI	**Karang Pucung**	**14.11**	**251**	P	**Pn**	**02 35 06.9**	**+3.3**
	61nm,0.9s						
LEM	**Lembang**	**15.22**	**254**	Pn	**P**	**02 35 23.3**	**-0.1**
	3.7nm,0.3s,baz=8.8,slow=4.9,SNR=5.2						
LEM				LR	LR	02 41 38.8	
	comp=Z,320nm,18.5s,baz=44,slow=39						
FITZ	**Fitzroy Crossi**	**15.53**	**168**	Pn	**Pn**	**02 35 24.1**	**+1.5**
TGY	**Tagaytay City**	**16.86**	**355**	Pn	**P**	**02 35 43.5**	**+2.0**
	42nm,0.3s,baz=198,slow=13,SNR=1.5						
WB0	**Warramunga Arr**	**20.55**	**146**	P	**P**	**02 36 22.8**	**+0.9**
WB0				IAmb	IAmb	02 36 32.4	
	comp=Z,26nm,1.5s						
WRA	**Warramunga Arr**	**20.66**	**146**	P	**P**	**02 36 22.3**	**-0.8**
	comp=Z,2.3nm,0.9s,baz=326,slow=11,SNR=16						
	comp=Z,2.3nm,0.9s						
WR0	**Warramunga Arr**	**20.78**	**146**	P	**P**	**02 36 24.4**	**-0.1**
AS31	**Alice Springs**	**23.55**	**153**	P	**P**	**02 36 52.7**	**-0.9**
ASAR	**Alice Springs**	**23.55**	**153**	P	**P**	**02 36 55.6**	**+2.0**
ASAR	**Alice Springs**	**23.55**	**153**	P	**P**	**02 36 54.1**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=332,slow=9.2,SNR=35						
ASAR				PcP	**PcP**	**02 40 39.0**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=345,slow=2.6,SNR=2.8						
ASAR				LR	LR	02 47 14.6	
	comp=Z,122nm,19.0s,baz=325,slow=40						
	comp=Z,2.3nm,0.8s						
PMG	**Port Moresby**	**25.50**	**106**	P	**P**	**02 37 09.8**	**-1.8**
PMG				IAmb	IAmb	02 37 33.4	
	comp=Z,12nm,0.8s						
PMG	**Port Moresby**	**25.50**	**106**	P	**P**	**02 37 10.6**	**-0.9**
	comp=Z,7.7nm,0.7s,baz=352,slow=7.1,SNR=4.1						
PMG				LR	LR	02 48 46.1	
	comp=Z,43nm,21.5s,baz=219,slow=40						
	comp=Z,7.7nm,0.7s						
CTA	**Charters Tower**	**28.96**	**128**	LR	LR	02 52 19.3	
	comp=Z,129nm,18.1s,baz=268,slow=43						
NWAO	**Narrogin (SRO)**	**30.34**	**189**	LR	LR	02 53 37.9	
	comp=Z,48nm,18.0s,baz=171,slow=43						
CMAR	**Chiang Mai Arr**	**31.28**	**313**	P	**P**	**02 38 02.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**31.28**	**313**	P	**P**	**02 38 03.4**	**+0.3**
	comp=Z,3.6nm,0.7s,baz=138,slow=7.0,SNR=17						
	comp=Z,3.6nm,0.7s						
CHTO	**Chiang Mai**	**31.51**	**314**	P	**P**	**02 38 04.6**	**-0.5**
CHTO				IAmb	IAmb	02 38 06.6	
	comp=Z,7.5nm,0.9s						
STKA	**Stephens Creek**	**34.12**	**150**	P	**P**	**02 38 28.1**	**+0.4**
STKA				IAmb	IAmb	02 38 32.3	
	comp=Z,2.1nm,0.8s						
STKA	**Stephens Creek**	**34.12**	**150**	P	**P**	**02 38 28.9**	**+1.1**
	comp=Z,7.0nm,0.7s,baz=320,slow=9.3,SNR=12						
STKA				LR	LR	02 53 02.1	
	comp=Z,112nm,18.8s,baz=8.2,slow=37						
	comp=Z,7.0nm,0.7s						
PZH	**PanZhiHua**	**35.30**	**327**	P	**P**	**02 38 38.5**	**+0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,5.3s						
JNU	**Nakatsue**	**36.63**	**12**	LR	LR	02 53 41.6	
	comp=Z,80nm,21.1s,baz=148,slow=36						
HNR	**Honiara**	**37.92**	**102**	LR	LR	02 56 22.8	
	comp=Z,514nm,18.6s,baz=318,slow=39						
SHL	**Shillong**	**40.84**	**316**	P	**P**	**02 39 22.8**	**-2.2**
SHL				IAmb	IAmb	02 39 40.0	
	comp=Z,7.4nm,1.0s						
LZH	**Lanzhou**	**42.39**	**338**	*e*P	**P**	**02 39 40.3**	**+2.8**
LZH				pP	pP	02 39 48.5	+1.5
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
PALK	**Pallekele**	**42.76**	**284**	LR	LR	02 59 01.0	
	comp=Z,78nm,18.3s,baz=206,slow=38						
HHC	**Hu-ho-hao-te**	**44.56**	**348**	*e*P	**P**	**02 39 54.4**	**-0.4**
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,190nm,4.0s						
HHC				LR	LR		
	comp=N,360nm,17.3s						
HHC				LR	LR		
	comp=E,320nm,13.1s						
HHC				LR	LR		
	comp=Z,250nm,17.6s						
RAMN	**Ramite**	**45.45**	**313**	*e*P	**P**	**02 40 02.8**	**+0.4**
	comp=Z,15nm,0.8s						
JIRN	**Jiri**	**46.16**	**313**	*e*P	**P**	**02 40 07.6**	**-0.5**
	comp=Z,11nm,0.6s						
GUN	**Gumba**	**46.52**	**314**	*e*P	**P**	**02 40 10.4**	**-0.5**
PKI	**Pulchoki**	**46.67**	**313**	*e*P	**P**	**02 40 11.3**	**-0.8**
KOLN	**Koldanda**	**48.12**	**312**	*e*P	**P**	**02 40 22.6**	**-0.6**
DANN	**Dangsing**	**48.32**	**313**	*e*P	**P**	**02 40 24.1**	**-0.7**
	comp=Z,44nm,0.7s						
PYUN	**Piuthan**	**48.75**	**312**	*e*P	**P**	**02 40 27.3**	**-0.8**
	comp=Z,30nm,0.7s						
SONM	**Songino Array**	**52.34**	**346**	P	**P**	**02 40 53.9**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=171,slow=7.9,SNR=3.5						
	comp=Z,0.5nm,0.6s						
HEH	**HeiHe**	**53.03**	**4**	*e*P	**P**	**02 41 01.6**	**+2.0**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HEH				pmax	pmax		
	comp=Z,220nm,4.5s						
WMQ	**Urumqi**	**55.87**	**330**	*e*P	**P**	**02 41 21.9**	**+1.4**
KSH	**Kashi**	**59.86**	**320**	P	**P**	**02 41 48.4**	**-0.3**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**60.67**	**330**	P	**P**	**02 41 53.0**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=137,slow=7.6,SNR=13						
	comp=Z,2.1nm,0.8s						
AAK	**Ala-Archa**	**62.51**	**322**	P	**P**	**02 42 04.0**	**-2.6**
AAK				IAmb	IAmb	02 42 30.8	
	comp=Z,2.1nm,0.9s						
ZALV	**Zalesovo Beam**	**64.61**	**337**	P	**P**	**02 42 18.4**	**-1.5**
ZALV	**Zalesovo Beam**	**64.61**	**337**	P	**P**	**02 42 17.8**	**-2.1**
	comp=Z,0.3nm,0.4s,baz=180,slow=7.1,SNR=1.6						
	comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**65.08**	**331**	P	**P**	**02 42 21.4**	**-1.7**
	comp=Z,1.1nm,0.8s,baz=140,slow=5.6,SNR=14						
	comp=Z,1.1nm,0.8s						
KURK	**Kurchatov**	**65.09**	**331**	P	**P**	**02 42 21.4**	**-1.8**
BVAR	**Borovoye Array**	**70.56**	**330**	P	**P**	**02 42 55.7**	**-1.9**
	comp=Z,0.9nm,0.8s,baz=128,slow=9.6,SNR=5.7						
	comp=Z,0.9nm,0.8s						
GEYT	**Alibeck**	**71.73**	**311**	P	**P**	**02 43 03.7**	**-1.4**
	comp=Z,1.6nm,0.7s,baz=108,slow=4.7,SNR=3.0						
	comp=Z,1.6nm,0.7s						
TIXI	**Tiksi**	**74.45**	**2**	P	**P**	**02 43 18.6**	**-1.7**
ABKAR	**Akbulak array**	**74.56**	**323**	P	**P**	**02 43 18.9**	**-2.6**
ABKAR				IAmb	IAmb	02 43 42.6	
	comp=Z,4.9nm,1.4s						
VNDA	**Vanda**	**77.57**	**172**	LR	LR	03 18 00.9	
	comp=Z,42nm,19.4s,baz=338,slow=36						
GNI	**Garni**	**82.36**	**311**	LR	LR	03 27 41.4	
	comp=Z,18nm,19.7s,baz=348,slow=41						
KBZ	**Khabaz**	**84.33**	**314**	LR	LR	03 26 30.0	
	comp=Z,21nm,21.8s,baz=5.0,slow=39						
KMBO	**Kilima Mbogo**	**85.06**	**269**	P	**P**	**02 44 17.4**	**-2.0**
	comp=Z,0.8nm,0.6s,baz=101,slow=5.2,SNR=2.4						
	comp=Z,0.8nm,0.6s						
QSPA	**South Pole Qui**	**87.14**	**180**	P	**P**	**02 44 30.2**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=281,slow=1.2,SNR=6.6						
	comp=Z,1.3nm,0.7s						
MMAI	**Mount Meron Ar**	**88.96**	**303**	P	**P**	**02 44 38.9**	**+1.2**
	comp=Z,0.2nm,0.2s,baz=46,slow=10,SNR=4.7						
MMAI				LR	LR	03 29 53.3	
	comp=Z,25nm,19.5s,baz=166,slow=39						
	comp=Z,0.2nm,0.2s						
BRTR	**Keskin Array B**	**90.79**	**310**	P	**P**	**02 44 44.2**	**-2.1**
	comp=Z,0.9nm,0.7s,baz=134,slow=5.1,SNR=7.3						
	comp=Z,0.9nm,0.7s						
LSZ	**Lusaka**	**93.29**	**255**	LR	LR	03 23 49.7	
	comp=Z,22nm,18.6s,baz=278,slow=34						
BOSA	**Boshof**	**94.90**	**241**	LR	LR	03 21 41.4	
	comp=Z,34nm,20.4s,baz=189,slow=32						
ARCES	**ARCESS Array B**	**95.02**	**339**	P	**P**	**02 45 04.7**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=11,slow=0.9,SNR=3.8						
	comp=Z,1.8nm,0.8s						
SUR	**Sutherland**	**98.23**	**237**	LR	LR	03 25 13.5	
	comp=Z,31nm,18.7s,baz=220,slow=33						
CPUP	**Villa Florida**	**151.03**	**181**	PKPab	**PKPab**	**02 51 41.8**	**-1.8**
	comp=Z,1.7nm,0.8s,baz=186,slow=3.9,SNR=3.9						

IDC 17 02:50:47.3±2.4, 6˚.00S×132˚.19E, h0km, mb3.7/3, mbtmp3.5/5, ML3.4/2, MS3.7/3, Error ellipse: s-maj=159.8km s-min=26.3km az=76.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.02**	**172**	Pn	Pn	02 54 06.9	-0.5
	0.2nm,0.3s,baz=356,slow=13,SNR=13						
WRA				Sn	Sn	02 56 43.7	-0.2
	0.1nm,0.3s,baz=349,slow=24,SNR=1.9						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**17.65**	**175**	P	P	02 54 55.6	-0.2
	0.2nm,0.3s,baz=358,slow=13,SNR=10						
	0.3nm,0.6s						
JNU	**Nakatsue**	**38.92**	**358**	LR	LR	03 12 19.4	
	comp=Z,245nm,22.0s,baz=150,slow=33						
JHJ	**Hachijo jima 2**	**39.56**	**10**	LR	LR	03 11 39.4	
	comp=Z,192nm,21.4s,baz=112,slow=32						
KSRS	**Korea Array**	**43.41**	**355**	LR	LR	03 16 30.6	
	comp=Z,31nm,22.0s,baz=170,slow=36						
MKAR	**Makanchi Array**	**68.60**	**326**	P	P	03 01 52.9	+0.7
	0.4nm,0.5s,baz=108,slow=7.8,SNR=5.7						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**71.67**	**333**	P	P	03 02 11.3	+0.5
	0.3nm,0.5s,baz=121,slow=5.6,SNR=1.5						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**72.81**	**328**	P	P	03 02 16.4	-1.2
	0.2nm,0.2s,baz=126,slow=5.0,SNR=4.1						
	0.2nm,0.2s						

IDC 17 03:19:19.9±1.8, 5˚.00S×128˚.15E, h0km, mb3.4/2, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=157.9km s-min=27.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.03**	**158**	Pn	Pn	03 23 06.9	0.0
	0.1nm,0.3s,baz=340,slow=13,SNR=10						
WRA				Sn	Sn	03 25 51.4	-14
	0.2nm,0.3s,baz=326,slow=23,SNR=4.0						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**19.37**	**164**	P	P	03 23 47.5	0.0
	0.2nm,0.3s,baz=350,slow=10,SNR=17						
ASAR				S	Sn	03 27 07.8	-19
	0.8nm,0.8s,baz=354,slow=24,SNR=4.5						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**65.56**	**327**	P	P	03 30 05.9	+0.4
	0.4nm,0.8s,baz=130,slow=6.3,SNR=5.9						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**69.86**	**329**	P	P	03 30 31.9	-0.6
	0.2nm,0.6s,baz=120,slow=5.5,SNR=2.2						
	0.2nm,0.6s						

PRE ***17*** *03:56:55.0±0.8, 26˚.70E, h2km, ML3.1*
IDC ***17*** *03:56:57.3±1.4, 26˚.88S×26˚.67E, h0km, mb3.7/3, mbtmp3.7/9, ML3.7/4, Error ellipse: s-maj=23.8km s-min=12.1km az=98.0*
EAF ***17*** *03:56:59.3±0.5, 26˚.94S×26˚.73E, h1km±4km, MD3.6*
BUL ***17*** *03:56:59.3±0.5, 26˚.93S×26˚.72E, h1km±5km, MD3.8*

ISC 17 03:56:56.8±1.2, 26˚.93S±0˚.02×26˚.72E±0˚.03, h13km±8km, n48, σ1§91/89, mb3.6/3, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.57**	**90**	*e*P	**Pg**	**03 57 07.2**	**-0.8**
PRYS				*e*S	**Sg**	**03 57 14.6**	**

MUSN	**Musina, Limpop**	**5.43**	**32**	*e*P		**Pn**	**03 58 18.6**	**+1.0**
MUSN				*e*S		**Sn**	**03 59 19.6**	**-0.4**
MUSN				IAML			03 59 48.2	
	comp=Z,29nm,0.3s							
MUSN	**Musina, Limpop**	**5.43**	**32**	*i* P		**Pn**	**03 58 20.9**	**+3.4**
MUSN				*i* S		**Sn**	**03 59 19.7**	**-0.4**
BFON	**Badsfontein, M**	**5.53**	**208**	*e*P		**Pn**	**03 58 19.4**	**+0.5**
BFON				*e*S		**Sn**	**03 59 19.7**	**-2.7**
BFON				IAML			03 59 45.3	
	comp=Z,16nm,0.3s							
GRAF	**Camdeboo Natio**	**5.67**	**199**	*e*P		**Pn**	**03 58 21.1**	**+0.2**
GRAF				*e*S		**Sn**	**03 59 23.6**	**-2.3**
GRAF				IAML			03 59 59.4	
	comp=Z,27nm,0.4s							
SOE	**Somerset East**	**5.85**	**190**	*e*P		**Pn**	**03 58 22.8**	**-0.5**
SOE				*e*S		**Sn**	**03 59 27.2**	**-3.1**
SOE				IAML			03 59 34.3	
	comp=Z,10.0nm,0.5s							
BRAK	**Brakfontein**	**5.87**	**214**	*e*P		**Pn**	**03 58 23.4**	**-0.2**
BRAK				*e*S		**Sn**	**03 59 28.5**	**-2.4**
BRAK				IAML			04 00 07.3	
	comp=Z,26nm,0.3s							
ROOI	**Rooidraai Farm**	**6.19**	**206**	*e*P		**Pn**	**03 58 28.3**	**+0.3**
ROOI				*e*S		**Sn**	**03 59 35.7**	**-3.0**
ROOI				IAML			04 00 15.4	
	comp=Z,20nm,0.3s							
GRHM	**Grahamstown, E**	**6.33**	**183**	*e*P		**Pn**	**03 58 30.2**	**+0.3**
GRHM				*e*S		**Sn**	**03 59 39.2**	**-3.0**
GRHM				IAML			04 00 25.7	
	comp=Z,9.7nm,0.5s							
GRAN	**Grantham**	**6.66**	**215**	*e*P		**Pn**	**03 58 35.0**	**+0.6**
GRAN				*e*S		**Sn**	**03 59 47.3**	**-2.8**
GRAN				IAML			04 00 25.4	
	comp=Z,25nm,0.4s							
MATP	**Matopo**	**6.68**	**15**	*i* P		**Pn**	**03 58 37.7**	**+3.0**
MATP	**Matopo**	**6.68**	**15**	Pn		**Pn**	**03 58 35.8**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=195,slow=12,SNR=27							
MATP				Sn		**Sn**	**03 59 50.3**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=132,slow=13,SNR=6.3							
MATP				Lg	Lg		04 00 19.8	
	comp=Z,2.7nm,0.3s,baz=108,slow=20,SNR=8.6							
	comp=Z,1.9nm,0.4s							
MATP	**Matopo**	**6.68**	**15**	*i* P		**Pn**	**03 58 37.7**	**+3.0**
FRAZ	**Fraserburg**	**6.80**	**222**	*e*P		**Pn**	**03 58 36.1**	**-0.3**
FRAZ				*e*S		**Sn**	**03 59 51.1**	**-2.7**
FRAZ				IAML			04 00 29.8	
	comp=Z,19nm,0.6s							
MERW	**Merweville**	**7.29**	**217**	*e*P		**Pn**	**03 58 44.2**	**+1.1**
MERW				*e*S		**Sn**	**04 00 02.2**	**-3.6**
MERW				IAML			04 00 23.1	
	comp=Z,13nm,0.4s							
SUR	**Sutherland**	**7.48**	**222**	*e*P		**Pn**	**03 58 45.8**	**0.0**
SUR				*e*S		**Sn**	**04 00 07.8**	**-2.8**
SUR				IAML			04 01 01.5	
	comp=Z,6.7nm,0.8s							
SUR	**Sutherland**	**7.48**	**222**	Pn		**Pn**	**03 58 48.0**	**+2.3**
	comp=Z,1.2nm,0.3s,baz=43,slow=5.6,SNR=38							
SUR				Sn		**Sn**	**04 00 08.4**	**-2.1**
	comp=Z,1.0nm,0.3s,baz=127,slow=21,SNR=1.6							
SUR				Lg	Lg		04 00 47.5	
	comp=Z,3.6nm,0.3s,baz=327,slow=22,SNR=8.6							
	comp=Z,4.1nm,0.3s							
KOMG	**Komaggas**	**8.62**	**249**	*e*P		**Pn**	**03 59 01.5**	**+0.2**
KOMG				*e*S		**Sn**	**04 00 34.7**	**-3.8**
KOMG				IAML			04 01 28.2	
	comp=Z,16nm,0.6s							
PRTV	**Porterville,We**	**9.00**	**225**	*e*P		**Pn**	**03 59 07.2**	**+0.7**
PRTV				*e*S		**Sn**	**04 00 43.3**	**-4.6**
PRTV				IAML			04 01 38.8	
	comp=Z,18nm,0.5s							
CER	**Ceres**	**9.07**	**223**	*e*P		**Pn**	**03 59 08.3**	**+0.8**
CER				*e*S		**Sn**	**04 00 45.3**	**-4.3**
CER				IAML			04 01 41.0	
	comp=Z,65nm,0.9s							
TSUM	**Tsumeb**	**11.39**	**311**	Pn		**Pn**	**03 59 40.8**	**+1.5**
	comp=Z,0.9nm,0.4s,baz=135,slow=13,SNR=5.6							
TSUM				Sn		**Sn**	**04 01 41.6**	**-5.0**
	comp=Z,0.1nm,0.3s,baz=101,slow=17,SNR=2.5							
TSUM				Lg	Lg		04 02 48.2	
	comp=Z,0.3nm,0.3s,baz=74,slow=21,SNR=2.6							
LSZ	**Lusaka**	**11.68**	**7**	Pn		**Pn**	**03 59 43.2**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=188,slow=14,SNR=5.3							
LSZ				Sn		**Sn**	**04 01 48.1**	**-5.6**
	comp=Z,0.5nm,0.3s,baz=101,slow=21,SNR=2.7							
LSZ				Lg	Lg		04 02 54.7	
	comp=Z,0.4nm,0.3s,baz=284,slow=23,SNR=1.5							
TORD	**Torodi Ar. Bea**	**46.67**	**325**	P		**P**	**04 05 27.5**	**+2.2**
	comp=Z,0.7nm,0.5s,baz=146,slow=6.8,SNR=7.2							
	comp=Z,0.7nm,0.5s							
ESDC	**Sonseca Array**	**72.17**	**336**	P		**P**	**04 08 23.8**	**+2.5**
	comp=Z,0.4nm,0.8s,baz=158,slow=5.8,SNR=4.6							
	comp=Z,0.4nm,0.8s							
ASAR	**Alice Springs**	**93.56**	**119**	P		**P**	**04 10 15.6**	**+2.4**
	comp=Z,0.2nm,0.8s,baz=225,slow=3.8,SNR=1.4							
	comp=Z,0.2nm,0.8s							

TAP 17 04:08:07.5, 22°.84N×120°.92E, h7km, ML3.8, 24C-5D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWG	**Pinlang**	**0.14**	**99**	⇑*i*P		Pg	04 08 11.3	+0.9
	baz=100							
TWG				*i* S		Sg	04 08 13.6	+1.1
	baz=100							
TWGBT	**Beinan**	**0.15**	**100**	⇑*i*P		Pg	04 08 11.3	+0.7
	baz=100							
TWGBT				*i* S		Sg	04 08 13.6	+0.9
	baz=100							
LONT	**Longtian**	**0.20**	**72**	⇑*i*P		Pg	04 08 12.3	+0.7
	baz=72							
LONT				S		Sg	04 08 15.2	+0.8
	baz=72							
TTN	**Taitung**	**0.23**	**113**	⇑P		Pg	04 08 13.7	+1.7
	baz=114							
TTN				S		Sg	04 08 17.6	+2.5
	baz=114							
ECL	**Taimali**	**0.25**	**173**	⇑*i*P		Pg	04 08 12.9	+0.5
	baz=172							
ECL				S		Sg	04 08 16.4	+0.8
	baz=172							
TSMG	**Majia**	**0.29**	**241**	⇑*i*P		Pg	04 08 13.5	+0.4
	baz=242							
TSMG				S		Sg	04 08 17.2	+0.2
	baz=242							
SLGT	**Liugui**	**0.29**	**301**	⇓*i*P		Pg	04 08 14.0	+0.8
	baz=301							
SLGT				*e*S		Sg	04 08 17.9	+0.8
	baz=301							
MASBT	**Mashibuluo**	**0.35**	**229**	⇑*i*P		Pg	04 08 14.8	+0.4
	baz=229							
MASBT				S		Sg	04 08 19.1	+0.2
	baz=229							
STYH	**Taoyuan**	**0.35**	**338**	⇓*e*P		Pg	04 08 15.0	+0.7
	baz=345							
STYH				*e*S		Sg	04 08 20.0	+1.0
	baz=345							
ELDTW	**Lidau**	**0.35**	**15**	⇑*i*P		Pg	04 08 14.8	+0.3
	baz=26							
ELDTW				S		Sg	04 08 19.4	+0.2
	baz=26							
ECS	**Chishang**	**0.37**	**48**	⇑*i*P		Pg	04 08 15.3	+0.5
	baz=36							
ECS				S		Sb	04 08 21.8	-0.7
	baz=36							
EDH	**Donghe**	**0.38**	**70**	⇑*e*P		Pb	04 08 16.0	-0.5
	baz=62							
EDH				S		Sb	04 08 22.3	-0.3
	baz=62							
SGST	**Jiashian**	**0.39**	**307**	⇓*i*P		Pg	04 08 15.2	+0.1
	baz=312							
SGST				S		Sg	04 08 21.1	+0.9
	baz=312							
SCST	**Cishan**	**0.39**	**276**	⇑*i*P		Pb	04 08 16.4	-0.4
	baz=269							
SCST				*e*S		Sb	04 08 22.7	-0.4
	baz=269							
EHD	**Haiduan**	**0.40**	**41**	⇑*i*P		Pg	04 08 15.3	0.0
	baz=34							
SGLT	**Jiouru**	**0.41**	**253**	⇑*i*P		Pb	04 08 16.9	-0.2
	baz=253							
SGLT				*e*S		Sb	04 08 24.2	+0.7
	baz=253							
TWM1	**Shoushan**	**0.46**	**268**	⇑*i*P		Pb	04 08 18.2	+0.3
	baz=267							
TWM1				*e*S		Sb	04 08 25.3	+0.3
	baz=267							
EAST	**Anshuo**	**0.46**	**188**	⇑*i*P		Pg	04 08 17.0	+0.5
	baz=189							
EAST				*e*S		Sg	04 08 23.4	+0.9
	baz=189							
CHKT	**Chengkung**	**0.48**	**58**	⇑*i*P		Pb	04 08 17.8	-0.5
	baz=75							
CHKT				*e*S		Sb	04 08 26.1	+0.5
	baz=75							
TAW	**Tawu**	**0.48**	**183**	⇑*i*P		Pg	04 08 17.4	+0.5
	baz=183							
TAW				S		Sg	04 08 23.7	+0.6
	baz=183							
WTP	**Ta-pu**	**0.49**	**325**	⇓*i*P		Pb	04 08 18.3	-0.2
	baz=327							
WTP				*e*S		Sb	04 08 25.7	-0.2
	baz=327							
FULB	**Fuli**	**0.49**	**44**	⇑*i*P		Pb	04 08 17.8	-0.7
	baz=32							
FULB				S		Sb	04 08 25.7	-0.3
	baz=32							
CHN1	**Nanshi**	**0.49**	**313**	P		Pb	04 08 18.6	0.0
	baz=312							
CHN1				S		Sb	04 08 26.4	+0.3
	baz=312							
TAWH	**Dawu Township**	**0.50**	**183**	⇑*i*P		Pg	04 08 17.6	+0.4
	baz=185							
TAWH				*e*S		Sg	04 08 23.8	0.0
	baz=185							
TPUB	**Ta-pu**	**0.53**	**330**	⇓*i*P		Pb	04 08 19.1	-0.1
	baz=334							
TPUB				S		Sb	04 08 26.7	-0.2
	baz=334							
LDUT	**Ludao**	**0.54**	**108**	*e*P		Pb	04 08 18.9	-0.3
	baz=117							
LDUT				*e*S		Sb	04 08 26.8	-0.3
	baz=117							
SNST	**Tainan City**	**0.54**	**314**	P		Pb	04 08 20.0	+0.7
	baz=316							
SNST				*e*S		Sb	04 08 28.6	+1.3
	baz=316							
SCZT	**Fangliau**	**0.55**	**211**	⇑*i*P		Pg	04 08 18.4	+0.4
	baz=211							
SCZT				*e*S		Sg	04 08 25.5	+0.4
	baz=211							
SNJT	**Kaohsiung City**	**0.55**	**261**	*e*P		Pn	04 08 20.7	-1.0
	baz=261							
SNJT				*e*S		Sn	04 08 30.2	-0.9
	baz=261							
SHHT	**Tainan City**	**0.56**	**289**	*e*P		Pn	04 08 21.8	0.0
	baz=293							
SHHT				*e*S		Sn	04 08 29.9	-1.4
	baz=293							
CHKH	**Chenggong**	**0.56**	**52**	*e*P		Pg	04 08 18.0	-0.2
	baz=68							
CHKH				*e*S		Sb	04 08 28.1	+0.2
	baz=68							
CHN3	**Shinhua**	**0.56**	**294**	*e*P		Pn	04 08 21.4	-0.5
	baz=294							
TWK	**Hsinying**	**0.58**	**317**	⇑*i*P		Pb	04 08 20.6	+0.5
	baz=321							
TWK				*e*S		Sb	04 08 29.5	+1.0
	baz=321							
TWF1	**Yuli**	**0.61**	**34**	⇑*i*P		Pg	04 08 19.3	0.0
	baz=34							
TWF1				*e*S		Sg	04 08 27.3	-0.1
	baz=34							
EYUL	**Yuli**	**0.62**	**36**	⇑P		Pg	04 08 19.5	0.0
	baz=28							
EYUL				*e*S		Sg	04 08 28.5	+0.9
	baz=28							
KAU	**Kaohsiung**	**0.63**	**244**	*e*P		Pn	04 08 22.6	-0.2
	baz=243							
SLIU	**Shizi**	**0.64**	**190**	*i* P		Pg	04 08 20.1	+0.4
	baz=184							
SLIU				*e*S		Sg	04 08 28.9	+0.9
	baz=184							
WSSB	**Gushan**	**0.64**	**252**	*e*P		Pn	04 08 23.1	0.0
	baz=242							
YULB	**Yu-li**	**0.65**	**32**	⇑*i*P		Pg	04 08 19.7	-0.2
	baz=32							
YULB				*e*S		Sg	04 08 29.0	+0.6
	baz=32							
WCKO	**Fanlu**	**0.66**	**334**	*e*P		Pb	04 08 22.2	+0.8
	baz=342							
WCKO				*e*S		Sb	04 08 31.9	+1.1
	baz=342							
ALS	**Alishan**	**0.67**	**351**	P		Pb	04 08 21.5	-0.2
	baz=2.0							
ALS				*i* S		Sb	04 08 31.6	+0.1
	baz=2.0							
SCLT	**Jiali**	**0.74**	**296**	*e*P		Pn	04 08 24.8	+0.3
	baz=296							
SCLT				S		Sn	04 08 36.8	+0.7
	baz=296							
EHY	**Hungye**	**0.76**	**29**	*e*P		Pg	04 08 21.9	-0.1
	baz=29							
EHY				*e*S		Sg	04 08 31.7	-0.2
	baz=29							
ICHU	**Yijhu**	**0.78**	**311**	*e*P		Pb	04 08 24.1	+0.7
	baz=310							
ICHU				*e*S		Sn	04 08 38.4	+1.4
	baz=310							
CHY	**Chiayi**	**0.79**	**325**	*e*P		Pb	04 08 24.4	+0.7
	baz=338							
CHY				*i* S		Sn	04 08 37.2	-0.1
	baz=338							
HGSD	**Ruisui**	**0.80**	**36**	P		Pb	04 08 23.6	-0.1
	baz=27							
HGSD				*e*S		Sb	04 08 35.0	+0.4
	baz=27							
CHN8	**Yiju**	**0.82**	**308**	*e*P		Pn	04 08 25.4	-0.1
	baz=323							
CHN8				*e*S		Sn	04 08 39.4	+1.5
	baz=323							
TSCK	**Chigu Township**	**0.82**	**292**	*e*P		Pn	04 08 25.4	-0.1
	baz=291							
TSCK				*e*S		Sn	04 08 39.2	+1.2
	baz=291							
WHYT	**Xinyi Township**	**0.85**	**356**	*e*P		Pb	04 08 24.4	-0.2
	baz=4.0							
WHYT				*e*S		Sb	04 08 37.0	+0.7
	baz=4.0							
HEN	**Hengchun**	**0.85**	**191**	*e*P		Pb	04 08 24.6	0.0
	baz=200							
WGK	**Gukeng**	**0.90**	**339**	*e*P		Pn	04 08 26.8	+0.2
	baz=338							
WGK				*e*S		Sn	04 08 40.0	+0.1
	baz=338							
TWK1	**Hengchun**	**0.90**	**187**	*e*P		Pn	04 08 26.8	+0.1
	baz=186							
TWKBT	**Hengchun**	**0.90**	**186**	*e*P		Pn	04 08 26.6	-0.1
	baz=186							
WDLH	**Douliu**	**0.91**	**337**	*i* P		Pn	04 08 27.1	+0.3
	baz=336							
WDLH				*e*S		Sn	04 08 41.0	+0.8
	baz=336							
VWDT	**VWDT**	**0.93**	**13**	P		Pg	04 08 25.3	0.0
	baz=15							
VWDT				*e*S		Sb	04 08 38.7	+0.2
	baz=15							
WSL	**Shuilin Townsh**	**0.93**	**317**	*e*P		Pn	04 08 26.6	-0.4
	baz=315							
WSL				*e*S		Sn	04 08 42.0	+1.4
	baz=315							
SSLB	**Suanglung**	**0.94**	**2**	*e*P		Pg	04 08 25.3	-0.3
SSLB				*e*S		Sb	04 08 39.0	+0.1
EGFH	**Guangfu**	**0.94**	**30**	P		Pg	04 08 25.3	-0.4
	baz=38							
EGFH				*e*S		Sb	04 08 38.5	-0.5
	baz=38							
WARBT	**Fenglin Townsh**	**0.97**	**26**	P		Pg	04 08 25.5	-0.6
	baz=31							
WARBT				*e*S		Sg	04 08 38.6	-0.1
	baz=31							
WTK	**Tuku**	**0.97**	**330**	*e*P		Pn	04 08 27.5	-0.1
	baz=328							
WTK				*e*S		Sn	04 08 42.8	+1.2
	baz=328							
WJS	**Zhushan**	**0.99**	**350**	*e*P		Pn	04 08 27.8	0.0
	baz=356							
WJS				*e*S		Sn	04 08 43.0	+0.9
	baz=356							
WSF	**Szhu**	**1.02**	**321**	*e*P		Pn	04 08 28.1	-0.1
	baz=320							
WSF				*e*S		Sn	04 08 43.9	+1.1
	baz=320							
SMLT	**Sun Moon Lake**	**1.03**	**359**	*e*P		Pb	04 08 27.7	-0.1
	baz=7.0							
SMLT				*e*S		Sn	04 08 43.2	-0.2
	baz=7.0							
WNT	**Mingjian**	**1.05**	**348**	*e*P		Pn	04 08 29.1	+0.4
	baz=347							
WNT				*e*S		Sn	04 08 44.6	+1.0
	baz=347							
TYC	**Yuchr**	**1.06**	**357**	*e*P		Pn	04 08 29.3	+0.5
	baz=3.0							
TYC				*i* S		Sn	04 08 44.4	+0.7
	baz=3.0							
ESL	**Shilin**	**1.07**	**26**	*e*P		Pg	04 08 27.7	-0.4
	baz=31							
ESL				*e*S		Sb	04 08 42.9	+0.2
	baz=31							
SHUL	**Shoufeng**	**1.11**	**32**	*e*P		Pb	04 08 29.0	0.0
	baz=31							
OWD	**Renai**	**1.13**	**12**	*e*P		Pg	04 08 28.7	-0.5
	baz=26							
WUSB	**Renai**	**1.16**	**9**	*e*P		Pg	04 08 28.8	-0.9
	baz=8.0							
WUSB				*e*S		Sn	04 08 47.2	+0.8
	baz=8.0							
WRL	**Guolierlin Hig**	**1.16**	**335**	*e*P		Pn	04 08 30.3	0.0
	baz=333							
WRL				*i* S		Sn	04 08 47.1	+0.7
	baz=333							
WCS	**Beigang Elemen**	**1.21**	**360**	*e*P		Pn	04 08 31.5	+0.6
	baz=4.0							
WCS				*e*S		Sn	04 08 48.7	+1.2
	baz=4.0							
CHGB	**Renai**	**1.23**	**11**	*e*P		Pg	04 08 30.6	-0.5
	baz=24							
ETM	**Tongmen**	**1.23**	**25**	*e*P		Pb	04 08 30.4	-0.8
	baz=12							
ETM				*e*S		Sg	04 08 46.9	-0.3
	baz=12							
LXIB	**Xiulin Townshi**	**1.26**	**21**	P		Pg	04 08 31.3	-0.3
	baz=20							
LXIB				*e*S		Sn	04 08 48.7	-0.2
	baz=20							
TCU	**Taichung**	**1.32**	**350**	*e*P		Pg	04 08 33.2	+0.5
	baz=331							
TCU				*e*S		Sn	04 08 53.1	+2.9
	baz=331							
WHF	**Hehuan Shan**	**1.33**	**14**	*e*P		Pn	04 08 32.8	-0.2
	baz=26							
TWD	**Chiawan**	**1.38**	**27**	*e*P		Pb	04 08 33.6	0.0
	baz=34							
TWD				*e*S		Sb	04 08 51.4	0.0
	baz=34							
PHUB	**P'eng-hu**	**1.41**	**299**	*e*P		Pn	04 08 33.4	-0.2
	baz=298							
TDCB	**Techi**	**1.42**	**9**	*e*P		Pb	04 08 34.2	-0.2
	baz=8.0							
TWT	**Tachien**	**1.42**	**9**	*e*P		Pg	04 08 35.0	+0.2
	baz=24							
WHP	**Taichung City**	**1.43**	**1**	P		Pg	04 08 35.7	+0.8
WHP				*e*S		Sg	04 08 55.7	+2.3
FUSS	**Fushou**	**1.43**	**12**	*e*P		Pb	04 08 34.4	-0.2
	baz=11							
PNG	**Penghu**	**1.45**	**300**	*e*P		Pn	04 08 34.1	0.0
	baz=299							
ETLH	**Xiulin Townshi**	**1.45**	**21**	P		Pb	04 08 34.6	-0.3
	baz=20							
ETLH				*e*S		Sg	04 08 54.7	+0.5
	baz=20							
ETL	**Fush Village**	**1.46**	**26**	*e*P		Pb	04 08 35.1	+0.1
	baz=38							
NACB	**Ninganchiao**	**1.46**	**25**	*e*P		Pn	04 08 34.4	+0.1
	baz=37							
TWQ1	**Liyutan**	**1.50**	**355**	*e*P		Pg	04 08 36.8	+0.5
	baz=355							
TWQ1				*e*S		Sg	04 08 58.4	+2.6
	baz=355							
NNSB	**Datong**	**1.63**	**15**	*e*P		Pb	04 08 38.0	-0.1
	baz=27							
NNSB				*e*S		Sg	04 09 00.0	0.0
	baz=27							
NNS	**Nan Shan**	**1.64**	**15**	P		Pg	04 08 38.6	-0.4
	baz=26							
NNS				S		Sg	04 09 00.8	+0.4
	baz=26							
EAHA	**Aohua**	**1.66**	**27**	*e*P		Pb	04 08 38.2	-0.2
	baz=26							
ENA	**Nanau**	**1.75**	**25**	*e*P		Pb	04 08 40.1	+0.2
	baz=25							
LATG	**Datong**	**1.77**	**18**	*i* P		Pg	04 08 40.8	+0.4
	baz=30							
LATG				*e*S		Sg	04 09 04.3	-0.2
	baz=30							
EWUT	**Wuta**	**1.78**	**26**	*e*P		Pb	04 08 40.6	+0.1
	baz=25							
NFF	**Wufeng Townshi**	**1.79**	**6**	*e*P		Pg	04 08 41.5	-0.3
	baz=5.0							
NFF				*e*S		Sg	04 09 05.7	+0.6
	baz=5.0							
NDT	**Datong Townshi**	**1.83**	**17**	*e*P		Pb	04 08 42.0	+0.6
	baz=29							
NDT				*e*S		Sg	04 09 05.5	-0.9
	baz=29							
YHNB	**Yeheng**	**1.86**	**13**	*e*P		Pg	04 08 42.7	-0.5
	baz=13							
YHNB				*e*S		Sb	04 09 05.5	-0.1
	baz=13							
NSK	**Sanguang**	**1.87**	**12**	*e*P		Pg	04 08 42.7	-0.6
	baz=24							
ENTT	**Nioudou**	**1.88**	**18**	*i* P		Pg	04 08 43.0	-0.6
	baz=30							
ENTT				*e*S		Sg	04 09 07.4	-0.6
	baz=30							
ESAO	**Su ao**	**1.92**	**26**	*e*P		Pb	04 08 43.4	+0.6
	baz=25							
NDS	**Dongshan**	**1.93**	**22**	*e*P		Pg	04 08 43.7	-0.7
	baz=35							
TWC	**Suao**	**1.95**	**26**	*e*P		Pb	04 08 43.9	+0.5
	baz=25							
TWE	**Neicheng**	**1.99**	**20**	*e*P		Pb	04 08 44.5	+0.5
	baz=34							
NWLT	**Wulai**	**2.00**	**15**	*e*P		Pg	04 08 45.6	-0.2
	baz=16							
NWLT				S		Sg	04 09 11.2	-0.5
	baz=16							
FUSB	**Fushanzhiwuyua**	**2.00**	**18**	*e*P		Pg	04 08 45.6	-0.3
	baz=29							
FUSB				*e*S		Sg	04 09 10.7	-1.2
	baz=29							
TWA	**Mucha**	**2.21**	**16**	*e*P		Pg	04 08 49.3	-0.6
	baz=33							
TIPB	**Shuangxi**	**2.27**	**21**	*e*P		Pb	04 08 49.0	+0.1
	baz=33							

PGC ***17*** *04:11:08.2±8.7,50.05N×130.07W,h10km,MLSn3.3/26, Mw4.0/26,Mw4.0/26,201km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*

NEIC ***17*** *04:11:08.2,50.05N×130.07W,h2km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr-0.52; Mθθ-0.37; Mθφ 0.12; Mrθ-0.44; Mθθ 0.01; Mφr-1.41; Fault plane solution: M0 1.50000×10¹⁶ NP1:φs 17.00000°, δ84.00000°, λ-85.00000°. NP2:φs157.00000°, δ8.00000°, λ-130.00000°. Principal axes: T 1.5549, Plg39.0000°, Azm103.0000°; N -0.0794, Plg5.0000°, Azm197.0000°; P -1.4755, Plg51.0000°, Azm292.0000°;*

NEIC ***17*** *04:11:10.3±1.8,50.25N±0.04×129.76W±0.05,h10km±1km, mb4.2/135,Mwr4.7(OTT) Error ellipse: s-maj=8.3km s-min=3.3km az=145.0*

IDC ***17*** *04:11:11.0±0.9,50.21N×129.59W,h0km,mb4.1/8, mbtmp4.0/18,ML3.4/10,MS3.5/43,Error ellipse: s-maj=16.6km s-min=8.9km az=65.0*

ISC 17 04:11:10.5±0.5, 50.18N±0.05×129.82W±0.05, h10km, n540, σ1s45/445, mb4.3/24, MS3.5/34, Vancouver Island region

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

WOSB Woss 2.09 89 Pn Pn 04 11 43.7 -1.9
WOSB Woss 2.09 89 Pn Pn 04 11 43.7 -1.9
BBB Bella Bella 2.28 27 Pn Pn 04 11 47.1 -1.0
BBB Bella Bella 2.28 27 Pn Pn 04 11 47.6 -0.5
27nm,0.3s,baz=224,slow=6.0,SNR=145
BBB Sn Sn 04 12 15.6 -0.6
55nm,0.3s,baz=303,slow=23,SNR=15
BBB LR LR 04 12 45.2
comp=Z,386nm,20.7s,baz=182,slow=43
94nm,0.4s
BBB Bella Bella 2.28 27 Pn Pn 04 11 47.0 -1.0
BBB Sn Sn 04 12 15.3 -0.8
HG4B Hotspring 2.29 338 Pn Pn 04 11 44.3 -3.9
HG4B Hotspring 2.29 338 Pn Pn 04 11 44.4 -3.9
HG4B Hotspring 2.29 338 Pn Pn 04 11 44.3 -3.9
NCSB Newcastle Ridg 2.42 83 Pn Pn 04 11 49.2 -1.0
NCRB Newcastle Ridg 2.42 83 Pn Pn 04 11 49.2 -1.0
NCRB Newcastle Ridg 2.42 83 Pn Pn 04 11 49.2 -1.0
BAIB Barry Inlet 2.69 334 Pn Pn 04 11 50.1 -3.7
BAIB Sn Sn 04 12 20.6 -5.8
SPLB Strathcona Par 2.70 94 Pn Pn 04 11 52.5 -1.4
SPLB Strathcona Par 2.70 94 Pn Pn 04 11 52.5 -1.4
BUTB Butedale 3.01 16 Pn Pn 04 11 57.8 -0.5
BUTB Sn Sn 04 12 34.6 +0.2
BUTB Butedale 3.01 16 Pn Pn 04 11 57.8 -0.5
BUTB Sn Sn 04 12 34.6 +0.2
OZB Mount Ozzard 3.07 112 Pn Pn 04 11 57.6 -1.4
OZB Mount Ozzard 3.07 112 Pn Pn 04 11 58.5 -0.5
OZB Mount Ozzard 3.07 112 Pn Pn 04 11 57.6 -1.4
BNKB Banks Island 3.16 359 Pn Pn 04 11 58.2 -2.0
BNKB Sn Sn 04 12 35.8 -2.2
BNKB Banks Island 3.16 359 Pn Pn 04 11 58.2 -2.0
BNKB Sn Sn 04 12 35.8 -2.2
GRIB Gribbell Islan 3.19 7 Pn Pn 04 11 59.3 -1.4
GRIB Sn Sn 04 12 36.7 -2.1
BFSB Bamfield 3.34 112 Pn Pn 04 12 01.8 -0.8
BFSB Bamfield 3.34 112 Pn Pn 04 12 01.8 -0.8
B928 Bamfield 3.34 112 Pn Pn 04 12 01.6 -1.0
B928 Bamfield 3.34 112 Pn Pn 04 12 01.6 -1.0
BNAB Bonilla 3.36 352 Pn Pn 04 12 01.3 -1.7
BNAB Bonilla 3.36 352 Pn Pn 04 12 01.3 -1.7
DIB Dawson Inlet, 3.45 332 Pn Pn 04 12 01.5 -2.7
DIB Dawson Inlet, 3.45 332 Pn Pn 04 12 01.4 -2.8
DIB Dawson Inlet, 3.45 332 Pn Pn 04 12 01.5 -2.7
GRNB Grenville Isla 3.68 359 Pn 04 12 02.3 -5.0
PFB Port Renfrew 3.87 113 Pn Pn 04 12 08.1 -1.9
PFB Port Renfrew 3.87 113 Pn Pn 04 12 08.1 -1.9
SHB Sechelt 3.89 96 Pn Pn 04 12 09.5 -0.8
SHB Sechelt 3.89 96 Pn Pn 04 12 09.5 -0.8
OCP Olym-Cheeka Pk 3.89 117 Pn Pn 04 12 09.0 -1.3
PTRF Port Renfrew 3.89 113 Pn Pn 04 12 09.1 -1.2
NLLB Nanaimo Lost L 3.90 102 Pn Pn 04 12 09.6 -0.8
NLLB Nanaimo Lost L 3.90 102 Pn Pn 04 12 09.6 -0.8
B926 Mesachie Lake 3.95 108 Pn Pn 04 12 10.3 -0.7
B926 Mesachie Lake 3.95 108 Pn Pn 04 12 10.3 -0.7
CLRS Cowichan Lake 3.95 108 Pn Pn 04 12 10.6 -0.5
CLRS Cowichan Lake 3.95 108 Pn Pn 04 12 10.7 -0.4
CLRS Cowichan Lake 3.95 108 Pn Pn 04 12 10.6 -0.5
KITB Kitimat 3.97 10 Pn Pn 04 12 10.7 -0.7
KITB Sn Sn 04 12 58.0 +0.1
KITB Kitimat 3.97 10 Pn Pn 04 12 10.7 -0.7
KITB Sn Sn 04 12 58.0 +0.1
MGMB Mountain Meage 4.13 81 Pn Pn 04 12 14.6 +1.1
RUBB Prince Rupert 4.16 357 Pn Pn 04 12 12.8 -1.1
RUBB Prince Rupert 4.16 357 Pn Pn 04 12 13.3 -0.7
RUBB Prince Rupert 4.16 357 Pn Pn 04 12 12.8 -1.1
SYMB Survey Mountai 4.25 110 Pn Pn 04 12 14.3 -1.0
SYMB Survey Mountai 4.25 110 Pn Pn 04 12 14.3 -1.0
GOBB Galiano Island 4.29 104 Pn Pn 04 12 15.3 -0.4
GOBB Galiano Island 4.29 104 Pn Pn 04 12 15.3 -0.4
BIB Bowen Island 4.29 98 Pn Pn 04 12 14.6 -1.1
BIB Bowen Island 4.29 98 Pn Pn 04 12 14.6 -1.1
OBC Olympics--Boni 4.34 117 Pn Pn 04 12 15.8 -0.7
OBC Olympics--Boni 4.34 117 Pn Pn 04 12 15.8 -0.7
B010 North Saanich 4.43 108 Pn Pn 04 12 16.8 -0.9
B010 North Saanich 4.43 108 Pn Pn 04 12 16.8 -0.9
B011 North Saanich 4.43 108 Pn Pn 04 12 17.4 -0.2
B011 North Saanich 4.43 108 Pn Pn 04 12 17.4 -0.2
STW Striped Peak 4.52 114 Pn Pn 04 12 17.9 -0.9
STW Striped Peak 4.52 114 Pn Pn 04 12 17.9 -0.9
SNB Saturna Island 4.56 105 Pn Pn 04 12 19.9 +0.4
SNB Saturna Island 4.56 105 Pn Pn 04 12 19.9 +0.4
OSD Olympics--Snow 4.67 118 Pn Pn 04 12 20.5 -0.6
OSD Olympics--Snow 4.67 118 Pn Pn 04 12 20.5 -0.6
HNBB Haney 4.78 98 Pn Pn 04 12 22.6 0.0
HNBB Haney 4.78 98 Pn Pn 04 12 22.6 0.0
NLWA Neilton Lookou 4.82 123 Pn 04 12 22.2 -0.9
WISH Wishkah 5.04 125 Pn Pn 04 12 26.3 +0.2
WISH Wishkah 5.04 125 Pn Pn 04 12 26.3 +0.2
V35K Ketchikan 5.27 349 P Pn 04 12 27.4 -1.8
baz=169
GNW Green Mountain 5.30 117 Pn Pn 04 12 29.1 -0.5
GNW Green Mountain 5.30 117 Pn Pn 04 12 30.4 +0.7
MBW Mount Baker 5.35 102 Pn Pn 04 12 30.6 +0.1
MBW Mount Baker 5.35 102 Pn Pn 04 12 30.6 +0.1
FSJB Fort St James 5.46 36 Pn Pn 04 12 32.7 +0.8
FSJB Fort St James 5.46 36 Pn Pn 04 12 32.7 +0.8
HOPB Hope 5.50 95 Pn Pn 04 12 32.2 -0.1
HOPB Hope 5.50 95 Pn Pn 04 12 32.2 -0.1
E03A Lebam 5.53 129 Pn Pn 04 12 31.7 -1.1
JCW Jim Creek 5.54 108 Pn Pn 04 12 32.8 -0.1
JCW Jim Creek 5.54 108 Pn Pn 04 12 32.8 -0.1
B06A Marblemount 5.70 104 Pn 04 12 32.9 -2.1
RPW Rockport 5.70 104 Pn Pn 04 12 35.4 +0.2
RPW Rockport 5.70 104 Pn Pn 04 12 35.4 +0.2
U35K Hyder 5.75 359 Pn 04 12 33.5 -2.2
D05A Enumclaw 5.99 117 Pn Pn 04 12 39.5 +0.5
D05A Enumclaw 5.99 117 Pn Pn 04 12 39.4 +0.4
FMW Mount Fremont 6.31 118 Pn Pn 04 12 44.0 +0.3
FMW Mount Fremont 6.31 118 Pn Pn 04 12 44.0 +0.3
LON Longmire 6.33 120 Pn Pn 04 12 44.6 +0.5
LON Longmire 6.33 120 Pn Pn 04 12 44.6 +0.7
F04A Amboy 6.53 128 Pn 04 12 46.9 +0.4
PNT Penticton 6.67 94 Pn Pn 04 12 47.9 -0.5
PNT Penticton 6.67 94 Pn Pn 04 12 47.9 -0.5
LTY Liberty 6.72 112 Pn 04 12 49.0 -0.2
LTY Liberty 6.72 112 Pn Pn 04 12 49.8 +0.6
T35M Bob Quinn 6.82 358 Pn Pn 04 12 51.0 +0.5
T35M Bob Quinn 6.82 358 Pn Pn 04 12 50.3 -0.2
T35M Bob Quinn 6.82 358 P Pn 04 12 50.0 -0.5
baz=179
T35M Bob Quinn 6.82 358 Pn Pn 04 12 51.0 +0.5
B08A Colville Reser 7.10 101 Pn 04 12 53.7 -0.7
HOOD Mount Hood Mea 7.34 128 Pn 04 12 58.0 +0.3
H04D Lebanon 7.42 137 Pn 04 13 00.0 +1.3
H04A Detroit Lake 7.55 134 Pn Pn 04 13 00.3 -0.2
E07A Sunnyside 7.56 115 Pn 04 13 00.5 -0.2
G05A Wamic 7.57 127 Pn 04 13 01.5 +0.7
SIT Sitka 7.63 337 P Pn 04 13 02.2 +0.7
baz=154
S34M Telegraph Cree 7.79 355 P Pn 04 13 02.3 -1.4
baz=175
S32K Killisnoo 7.83 341 P Pn 04 13 03.1 -1.1
baz=158
HAWA Hanford 7.84 115 Pn 04 13 04.3 -0.1
D08A Wollman Farm, 7.87 109 Pn Pn 04 13 04.2 -0.6
E08A Dider Farm, El 8.06 113 Pn 04 13 06.2 -1.4
DLBC Dease Lake 8.28 359 Pn Pn 04 13 09.2 -1.3
DLBC Dease Lake 8.28 359 P Pn 04 13 09.7 -0.8
baz=180
DLBC Dease Lake 8.28 359 Pn Pn 04 13 11.4 +0.9
0.5nm,0.3s,baz=194,slow=15,SNR=14
DLBC Sn Sn 04 14 44.8 +0.8
0.1nm,0.3s,baz=253,slow=20,SNR=1.2
DLBC LR LR 04 16 11.9
comp=Z,465nm,19.5s,baz=296,slow=36
5.5nm,0.7s
DLBC Dease Lake 8.28 359 P Pn 04 13 11.5 +0.9
NBC5 NorthernBC 5 8.48 27 Sn 04 14 51.5 +2.5
NBC5 NorthernBC 5 8.48 27 S Sn 04 14 51.5 +2.5
NEW Newport 8.53 98 Pn Pn 04 13 12.4 -1.6
NEW Newport 8.53 98 P Pn 04 13 14.0 0.0
baz=287
NEW Newport 8.53 98 Pn Pn 04 13 14.2 +0.2
0.4nm,0.3s,baz=301,slow=13,SNR=11
NEW LR LR 04 16 33.2
comp=Z,803nm,19.0s,baz=290,slow=38
7.5nm,0.8s
E09A Wood Farm, Sta 8.60 111 Pn Pn 04 13 13.8 -1.1
S31K Pelican 8.66 337 P Pn 04 13 16.0 +0.4
baz=153

G08A Pilot Rock 8.80 120 Pn Pn 04 13 18.1 +0.3
R33M Jennings River 9.26 356 Pn 04 13 24.6 +0.6
R33M Jennings River 9.26 356 P Pn 04 13 22.6 -1.4
baz=176
R33M Jennings River 9.26 356 P Pn 04 13 24.6 +0.6
P32M Atlin 9.69 348 P Pn 04 13 28.5 -1.4
baz=166
YBH Yreka Blue Hor 9.79 147 Pn Pn 04 13 32.9 +1.6
0.1nm,0.3s,baz=326,slow=5.5,SNR=5.7
YBH LR LR 04 16 50.2
comp=Z,202nm,20.6s,baz=333,slow=35
2.1nm,0.8s
WTLY Watson Lake, Y 9.97 3 P Pn 04 13 32.5 -1.2
baz=185
BMO Blue Mountains 10.00 117 Pn Pn 04 13 34.5 +0.3
BSMT Bassoo Peak 10.15 97 Pn 04 13 36.1 -0.2
BSMT Bassoo Peak 10.15 97 P Pn 04 13 36.1 -0.2
P33M Teslin, Yukon 10.20 352 P Pn 04 13 36.0 -0.8
baz=170
KOTAN Kotaneelee Air 10.50 16 P Pn 04 13 40.1 -0.7
baz=201
P29M Windy Craggy 10.50 337 P Pn 04 13 40.7 -0.2
baz=152
JTMT Jette 10.50 97 Pn 04 13 38.0 -3.1
JTMT Jette 10.50 97 P Pn 04 13 38.0 -3.1
WHY Whitehorse 10.89 347 Pn Pn 04 13 45.6 -0.7
WHY Whitehorse 10.89 347 P Pn 04 13 46.0 -0.3
baz=164
MSO Missoula 11.05 102 P Pn 04 13 49.1 +0.5
baz=293
HYT Haines Junctio 11.52 341 P Pn 04 13 54.9 0.0
baz=156
N31M Braeburn, Yuko 11.81 346 P Pn 04 13 58.1 -0.7
baz=162
HLID Hailey 12.43 116 Pn Pn 04 14 07.9 +0.3
HLID Hailey 12.43 116 P Pn 04 14 09.5 +1.9
baz=307,SNR=6.0
YUK8 Steele Glacier 12.44 337 P Pn 04 14 05.8 -1.9
baz=150
BOZ Bozeman (W) 13.03 104 Pn 04 14 14.8 -0.9
BOZ Bozeman (W) 13.03 104 P Pn 04 14 16.3 +0.6
baz=296
EGMT Eagleton 13.32 92 P Pn 04 14 21.3 +1.7
baz=286,SNR=7.5
WRGLY Wrigley 13.53 12 Pn 04 14 21.4 -0.8
WRGLY Wrigley 13.53 12 P Pn 04 14 23.8 +1.6
baz=198
YHL Hebgen Lake 13.66 106 Pn 04 14 23.8 -0.6
KVN Kaiserville 13.89 139 Pn Pn 04 14 28.3 +0.9
ELK Elko 13.89 127 Pn Pn 04 14 30.3 +2.8
0.1nm,0.3s,baz=297,slow=11,SNR=3.4
ELK LR LR 04 19 43.9
comp=Z,131nm,21.1s,baz=312,slow=37
0.4nm,0.4s
H17A Grant Village 14.27 107 P Pn 04 14 34.5 +1.8
baz=300
IMW Indian Meadow 14.31 109 Pn Pn 04 14 34.7 +1.4
NVAR Mina Array Bea 14.33 141 Pn Pn 04 14 33.0 -0.5
NVAR Mina Array Bea 14.33 141 Pn P 04 14 36.6 -4.1
0.1nm,0.3s,baz=322,slow=10,SNR=2.4
NVAR LR LR 04 20 02.7
comp=Z,125nm,18.8s,baz=125,slow=37
1.1nm,0.6s
RLMT Red Lodge 14.73 102 P P 04 14 41.1 -4.0
baz=297,SNR=11
DAWY Dawson 14.83 343 P Pn 04 14 39.7 -0.3
baz=156
J30M Hart River 14.84 349 P P 04 14 49.2 +3.1
J30M Hart River 14.84 349 P P 04 14 41.8 -4.3
baz=164
J30M Hart River 14.84 349 P P 04 14 49.2 +3.1
HARP HAARP 14.86 331 P Pn 04 14 41.6 +1.2
baz=139
YKA Yellowknife Ar 14.89 28 Pn Pn 04 14 39.9 -0.9
YKA Yellowknife Ar 14.89 28 Pn Pn 04 14 37.7 -3.1
baz=216,slow=12,SNR=7.0
YKA LR LR 04 19 41.5
comp=Z,37nm,19.7s,baz=9.5,slow=34
1.3nm,1.0s
M23K Glacier View 15.29 326 P Pn 04 14 46.3 +0.2
baz=132
HWUT Hardware Ranch 15.30 117 IAmb IAmb 04 14 55.9
comp=Z,9.8nm,1.1s
KNK Knik Glacier 15.31 324 Pn Pn 04 14 45.8 -0.6
KNK Knik Glacier 15.31 324 P Pn 04 14 46.6 +0.3
baz=130
MZP Montezuma Peak 15.33 140 P 04 14 48.9 -2.9
KDAK Kodiak Island 15.35 308 LR LR 04 18 55.5
comp=Z,343nm,19.4s,baz=152,slow=30
K27K Chiken 15.35 339 P Pn 04 14 47.1 +0.1
baz=150
PAX Paxson 15.39 332 P P 04 14 48.4 -3.8
baz=140
I30M Mount Dempster 15.47 350 P P 04 14 53.1 0.0
I30M Mount Dempster 15.47 350 IAmb IAmb 04 14 58.9
comp=Z,16nm,1.2s
I30M Mount Dempster 15.47 350 P Pn 04 14 48.2 -0.5
baz=165
I30M Mount Dempster 15.47 350 P P 04 14 53.1 0.0
SML Sawmill 15.51 326 P P 04 14 49.8 -3.8
baz=131
DUG Dugway, Tooele 15.57 123 Pn 04 14 49.2 -0.8
DUG IAmb IAmb 04 14 57.0
comp=Z,15nm,1.1s
DUG Dugway, Tooele 15.57 123 P P 04 14 51.7 -2.7
baz=315,SNR=11
R11B Troy Canyon, C 15.58 134 P P 04 14 52.8 -1.7
baz=323
PMR Palmer 15.67 324 P Pn 04 14 51.4 +0.3
baz=129
TCUT Toone Canyon 15.71 118 Pn P 04 14 53.2 -2.8
TCUT IAmb IAmb 04 14 59.7
comp=Z,7.9nm,0.8s
SCRK Sand Creek 15.77 337 P P 04 14 53.0 -3.4
baz=145
BW06 Boulder Array 15.77 110 IAmb IAmb 04 15 00.0
comp=Z,20nm,1.1s
BW06 Boulder Array 15.77 110 P Pn 04 14 52.6 -0.2
baz=304,SNR=17
PD31 Pinedale Array 15.77 110 IAmb IAmb 04 15 00.0
comp=Z,18nm,1.1s
PDAR Pinedale Array 15.77 110 Pn P 04 14 54.5 -2.3
comp=Z,0.2nm,0.3s,baz=310,slow=10,SNR=33
PDAR LR LR 04 21 08.7
comp=Z,150nm,21.9s,baz=308,slow=38
comp=Z,4.7nm,0.8s
RIDG Independent Ri 15.81 335 P Pn 04 14 51.2 -1.6
baz=143
EGAK Eagle 15.81 342 Pn Pn 04 14 50.4 -2.5
EGAK Eagle 15.81 342 P Pn 04 14 52.8 -0.1
baz=153
WAT6 Susitna Watana 15.82 329 P Pn 04 14 53.3 0.0
baz=134
I29M Ogilvie Camp, 15.86 347 IAmb IAmb 04 15 02.7
comp=Z,21nm,1.3s
I29M Ogilvie Camp, 15.86 347 P Pn 04 14 52.8 -0.7
baz=160,SNR=6.9
GRAC Grapevine Rang 15.94 141 IAmb IAmb 04 15 18.0
comp=Z,29nm,1.3s
GRAC Grapevine Rang 15.94 141 P P 04 14 57.1 -1.3
baz=329
LAO LASA Array 16.03 93 Pn Pn 04 14 55.0 -0.8
LAO IAmb IAmb 04 14 58.2
comp=Z,20nm,0.9s
LAO LASA Array 16.03 93 P P 04 14 56.5 -2.8
baz=291,SNR=11
DHY Denali Highway 16.05 330 P P 04 14 57.8 -1.8
baz=136
S11A Rachel 16.08 136 IAmb IAmb 04 15 08.5
comp=Z,31nm,1.1s
J26L Joseph Creek 16.10 338 P Pn 04 14 56.6 -0.1
baz=147
K24K Donnelly Dome 16.11 334 P Pn 04 14 55.9 -0.9
baz=141
M22K Willow 16.14 324 P P 04 14 58.4 -2.0
baz=128
I28M Miner Creek 16.20 345 P P 04 15 02.4 +1.3
I28M Miner Creek 16.20 345 IAmb IAmb 04 15 14.0
comp=Z,19nm,1.4s
I28M Miner Creek 16.20 345 P P 04 14 58.1 -3.0
baz=157
I28M Miner Creek 16.20 345 P P 04 15 02.4 +1.3
SUA Susitna One 16.22 322 P P 04 14 58.7 -2.7
baz=126
PSUT Pine Spring 16.27 130 IAmb IAmb 04 15 06.0
comp=Z,19nm,1.3s
WAT1 Susitna Watana 16.27 328 P P 04 14 59.7 -2.2
baz=133
P19K Oil Pt 16.38 314 P P 04 15 01.5 -1.6
baz=116
TPNV Topopah Spring 16.44 138 IAmb IAmb 04 15 09.9
comp=Z,12nm,1.1s
TPNV Topopah Spring 16.44 138 P P 04 15 04.2 +0.1
baz=327
BSUT Blindstream Ca 16.46 119 IAmb IAmb 04 15 11.8
comp=Z,18nm,1.3s
CHIR Chirikof Islan 16.47 300 P P 04 15 05.7 +1.6
baz=100
PRN Pahroc Range 16.59 135 Pn 04 15 03.5 +0.3
EPYK Eagle Plains 16.62 350 IAmb IAmb 04 15 10.5
comp=Z,22nm,1.2s
EPYK Eagle Plains 16.62 350 P P 04 15 04.8 -1.0
baz=165
I27K Kandik River 16.64 343 P P 04 15 05.4 -0.6
baz=153
J25K Salcha River, 16.64 336 P P 04 15 05.6 -0.4
baz=144
H29M Whitestone 16.68 348 P P 04 15 06.9 +0.6
H29M Whitestone 16.68 348 IAmb IAmb 04 15 11.7
comp=Z,24nm,1.2s
H29M Whitestone 16.68 348 P P 04 15 06.9 +0.6
baz=161
H29M Whitestone 16.68 348 P P 04 15 06.9 +0.6
ISA Isabella, Lake 16.69 146 P P 04 15 06.8 +0.1
baz=333
I26K Coal Creek Min 16.69 340 IAmb IAmb 04 15 12.3
comp=Z,19nm,1.3s
I26K Coal Creek Min 16.69 340 P P 04 15 06.8 +0.3
baz=150
MPMC Manual Prospec 16.70 143 P P 04 15 07.4 +0.4
baz=331
DGMT Dagmar 16.77 86 IAmb IAmb 04 15 07.8
comp=Z,26nm,0.8s
DGMT Dagmar 16.77 86 P P 04 15 07.3 -0.2
baz=285,SNR=7.1
Q18K Katmai Hardscr 16.85 310 P P 04 15 08.9 +0.5
baz=110
HDA Harding Lake 16.91 334 P P 04 15 08.6 -0.4
baz=140
HDA P P 04 15 08.6 -0.4
baz=140
G31M Satah River 16.95 354 IAmb IAmb 04 15 14.7
comp=Z,37nm,1.4s
G31M Satah River 16.95 354 P P 04 15 08.8 -0.5
baz=171,SNR=6.2
MCK McKinley 17.02 330 P P 04 15 09.5 -0.6
baz=135
TMUT Trail Mountain 17.07 122 Pn Pn 04 15 07.7 -1.8
MVU Marysvale 17.12 126 IAmb IAmb 04 15 27.2
comp=Z,36nm,1.3s
Q17K Contact Creek 17.17 308 P P 04 15 12.7 +0.8
baz=108
ILAR Eielson Array 17.17 335 P P 04 15 13.1 +1.2
baz=152,slow=11,SNR=16
comp=Z,1.6nm,0.9s
H27K Steamboat Moun 17.18 344 P P 04 15 12.5 +0.5
baz=154
G29M Pine Creek 17.29 349 P P 04 15 14.4 +2.3
G29M Pine Creek 17.29 349 IAmb IAmb 04 15 21.4
comp=Z,24nm,1.0s
G29M Pine Creek 17.29 349 P P 04 15 14.1 +1.0
baz=163
G29M Pine Creek 17.29 349 P P 04 15 14.4 +2.3
SZCU Shurtz Canyon 17.37 130 IAmb IAmb 04 15 23.6
comp=Z,16nm,1.5s
O18K Koktuh Hills 17.38 314 P P 04 15 14.5 +0.4
baz=113
SBC Santa Barbara 17.38 151 P P 04 15 14.5 +0.2
baz=337
M20K Styx River 17.40 321 P P 04 15 15.7 +1.3
baz=122
PRP Porcupine Dome 17.41 338 Pn Pn 04 15 10.9 -2.5
PRP Porcupine Dome 17.41 338 P P 04 15 14.1 -0.6
baz=145
F31M Tsiigehtchic 17.43 355 P P 04 15 14.5 -0.1
F31M Tsiigehtchic 17.43 355 IAmb IAmb 04 15 34.5
comp=Z,18nm,1.2s
F31M Tsiigehtchic 17.43 355 P P 04 15 15.0 +0.5
baz=172
F31M Tsiigehtchic 17.43 355 P P 04 15 14.5 -0.1
N19K Bonanza Creek 17.45 317 P P 04 15 13.7 -1.3
baz=117
FFC Flin Flon 17.51 64 Pn 04 15 12.8 -1.6
FFC IAmb IAmb 04 15 25.1
comp=Z,18nm,0.9s
FFC Flin Flon 17.51 64 P Pn 04 15 13.5 -0.9
POKR Poker Plat Res 17.59 335 P P 04 15 17.5 +1.0
baz=141
NEA2 Nenana 17.67 332 P P 04 15 16.9 -0.4
baz=136
Q16K King Salmon 17.67 309 P P 04 15 19.2 +1.8
baz=108
K22A Casper 17.69 106 IAmb IAmb 04 15 20.9
comp=Z,16nm,1.1s
K22A Casper 17.69 106 P P 04 15 18.2 +0.3
baz=303,SNR=6.3
P17K Kvichak River 17.73 311 P P 04 15 18.4 +0.5
baz=110
G27K Doyon Strip 17.73 345 P P 04 15 19.3 +1.3
baz=155
RWWY Rawlins 17.82 110 P P 04 15 20.1 +0.7
CAST Castle Rocks 17.88 326 P P 04 15 19.8 +0.1
baz=128
PKCU Pink Cliffs 17.88 129 IAmb IAmb 04 15 24.6
comp=Z,14nm,1.1s
BPAW Bear Paw Mtn. 17.93 329 P 04 15 18.4 -1.8
BPAW IAmb IAmb 04 15 27.9
comp=Z,17nm,1.2s
BPAW Bear Paw Mtn. 17.93 329 P P 04 15 20.9 +0.7
baz=132
L20K Farewell, AK 18.02 322 P P 04 15 23.2 +2.0
baz=123
I23K Minto, Yukon-K 18.15 333 P P 04 15 22.0 -0.6
baz=137
O20A White River Ci 18.17 115 IAmb IAmb 04 15 52.1
comp=Z,14nm,1.1s
O20A White River Ci 18.17 115 P P 04 15 22.6 -0.6
baz=310
F28M Old Crow 18.20 348 P P 04 15 22.9 -0.3
F28M Old Crow 18.20 348 P P 04 15 24.2 +1.0
baz=160
F28M Old Crow 18.20 348 P P 04 15 22.9 -0.3
HEC Hector,Ludlow 18.23 142 P P 04 15 23.8 0.0
baz=331
O17K Koliganek Bris 18.23 312 P P 04 15 24.4 +0.8
baz=110
G26K Porcupine Rive 18.25 342 P P 04 15 26.8 +3.2
baz=151
CHUM Lake Minchumin 18.25 327 P P 04 15 26.6 +2.9
baz=129
L19K White Mountain 18.25 321 P P 04 15 24.6 +0.8
baz=120
H24K Noodor Dome 18.26 336 P P 04 15 26.0 +2.1
baz=141
INK Inuvik 18.28 356 P P 04 15 25.0 +1.1
INK Inuvik 18.28 356 IAmb IAmb 04 15 34.9
comp=Z,10nm,1.2s
INK Inuvik 18.28 356 P P 04 15 25.7 +1.8
baz=173
INK Inuvik 18.28 356 P P 04 15 24.4 +0.5
comp=Z,0.1nm,0.3s,baz=159,slow=13,SNR=9.6
INK LR LR 04 21 51.8
comp=Z,116nm,19.0s,baz=272,slow=35
comp=Z,5.8nm,1.1s
INK Inuvik 18.28 356 P P 04 15 25.0 +1.1
HMU Henry Mountain 18.31 125 IAmb IAmb 04 15 31.6
comp=Z,31nm,1.2s
M18K Stony River 18.33 318 P P 04 15 25.2 +0.6
baz=117
P16K Nushagak River 18.44 309 P Pn 04 15 27.4 +1.5
baz=107
MLY Manley 18.48 331 P Pn 04 15 27.7 +1.3
baz=134,SNR=5.4
RSSD Black Hills 18.50 99 P Pn 04 15 26.2 -0.8
RSSD IAmb IAmb 04 15 36.4
comp=Z,13nm,1.2s
GMRC Granite Mounta 18.54 141 P Pn 04 15 27.6 +0.2
baz=330
N17K Nushagak Hills 18.55 314 P Pn 04 15 27.6 +0.5
baz=112
K20K Telida 18.57 324 P Pn 04 15 27.4 0.0
baz=125
G25K Bearman Lake 18.57 340 P Pn 04 15 29.5 +2.0
baz=146
CHNA Chernabura Isl 18.63 296 P Pn 04 15 30.1 +1.9

baz=93
E29M **Blow River** 18.70 351 IAmb IAmb 04 15 36.6
comp=Z,18nm,1.4s
E29M **Blow River** 18.70 351 P **Pn** **04 15 28.9 0.0**
baz=164
G24K **Hadweenzic Riv** 18.84 338 P **Pn** **04 15 32.6 +1.9**
baz=144
F26K **Sheenjek River** 18.97 343 P **Pn** **04 15 32.9 +0.7**
baz=151
I21K **Tanana** 18.97 331 IAmb IAmb 04 15 43.0
comp=Z,9.1nm,0.9s
I21K **Tanana** 18.97 331 P **Pn** **04 15 34.2 +2.0**
baz=132
E27K **Coleen River** 18.98 346 P **Pn** **04 15 32.6 +0.3**
E27K **Coleen River** 18.98 346 IAmb IAmb 04 15 38.0
comp=Z,7.0nm,1.1s
E27K **Coleen River** 18.98 346 P **Pn** **04 15 33.9 +1.6**
baz=157
E27K **Coleen River** 18.98 346 P **Pn** **04 15 32.6 +0.3**
M17K **Holitna River** 19.00 317 P **Pn** **04 15 34.5 +1.9**
baz=114
L18K **Granite Mounta** 19.03 319 P **Pn** **04 15 34.1 +1.1**
baz=118
N23A **Red Feather La** 19.06 110 P **Pn** **04 15 33.8 +0.1**
baz=307
J20K **Nowinta River** 19.07 326 P **Pn** **04 15 34.5 +1.1**
baz=126
E28M **Babbage River** 19.09 349 IAmb IAmb 04 15 40.0
comp=Z,11nm,1.1s
E28M **Babbage River** 19.09 349 P **Pn** **04 15 34.8 +1.2**
baz=161
TTA **Tatalina** 19.09 322 P **Pn** **04 15 34.8 +1.0**
baz=120
PHWY **Pilot Hill** 19.11 108 IAmb IAmb 04 15 36.7
comp=Z,19nm,1.4s
F25K **Christian Rive** 19.17 341 P **Pn** **04 15 37.6 +2.8**
baz=148
N16K **Nishlik Lake** 19.26 313 P **Pn** **04 15 37.3 +1.4**
baz=110
H22K **Ishtalitna Cre** 19.28 333 P **Pn** **04 15 38.3 +2.3**
baz=135
PV01 **Paradox Valley** 19.35 120 P **Pn** **04 15 36.1 -1.1**
PV01 IAmb IAmb 04 15 39.9
comp=Z,16nm,0.9s
O15K **Ungalikthiuk R** 19.39 309 P **Pn** **04 15 37.9 +0.6**
baz=105
C36M **Paulatuk** 19.43 6 **P** **04 15 32.0 -4.6**
C36M IAmb IAmb 04 15 43.1
comp=Z,18nm,1.4s
C36M **Paulatuk** 19.43 6 P **Pn** **04 15 37.6 -0.1**
baz=192
G23K **Bananza Creek** 19.49 336 P **Pn** **04 15 37.9 -0.7**
baz=139
J19K **Poorman** 19.50 325 P **Pn** **04 15 37.3 -1.3**
J19K IAmb IAmb 04 15 42.8
comp=Z,15nm,1.4s
J19K **Poorman** 19.50 325 P **Pn** **04 15 39.2 +0.6**
baz=124
M16K **Timber Creek** 19.54 315 P **Pn** **04 15 39.5 +0.4**
baz=111
SMCO **Snowmass** 19.54 116 IAmb IAmb 04 15 42.6
comp=Z,13nm,1.0s
H21K **Melozitna River** 19.55 331 IAmb IAmb 04 15 43.8
comp=Z,10nm,1.2s
H21K **Melozitna River** 19.55 331 P **Pn** **04 15 39.1 -0.1**
baz=132
PDMCI **Parker Dam,Lak** 19.59 138 P **Pn** **04 15 40.4 +0.5**
baz=328
F24K **Squaw Lake** 19.60 339 IAmb IAmb 04 15 52.5
comp=Z,14nm,1.3s
F24K **Squaw Lake** 19.60 339 P **Pn** **04 15 40.6 +0.8**
baz=144
E28A **Huff** 19.62 89 IAmb IAmb 04 15 41.7
comp=Z,17nm,0.8s
J18K **Innoko River** 19.64 323 IAmb IAmb 04 15 50.9
comp=Z,12nm,1.0s
J18K **Innoko River** 19.64 323 P **Pn** **04 15 40.2 -0.1**
baz=121
N15K **Kwethluk River** 19.79 312 P **Pn** **04 15 42.2 +0.1**
baz=108
WUAZ **Wupatki** 19.86 131 P **P** **04 15 40.8 -1.0**
WUAZ IAmb IAmb 04 15 55.7
comp=Z,6.6nm,0.9s
WUAZ **Wupatki** 19.86 131 P **Pn** **04 15 42.5 -0.8**
baz=323
D27M **Malcolm River** 19.87 348 P **Pn** **04 15 44.0 +1.0**
baz=159
K17K **Iditarod** 19.92 320 P **P** **04 15 41.2 -0.8**
K17K **Iditarod** 19.92 320 P **Pn** **04 15 42.7 -0.9**
baz=116
COLD **Coldfoot** 19.93 337 P **Pn** **04 15 43.7 0.0**
baz=140
ISCO **Idaho Springs** 19.93 112 IAmb IAmb 04 16 00.3
comp=Z,12nm,1.4s
ISCO **Idaho Springs** 19.93 112 P **Pn** **04 15 43.7 -0.6**
baz=309
L16K **Owhat River** 20.02 316 P **Pn** **04 15 44.1 -0.7**
baz=112
G22K **Bettles** 20.05 335 P Pn 04 15 44.4 -0.7
baz=137
MVCO **Mesa Verde** 20.05 122 P **P** **04 15 43.2 -0.6**
MVCO **Mesa Verde** 20.05 122 P Pn 04 15 44.5 -1.2
baz=317,SNR=10
H20K **Anotleneega Mo** 20.11 329 P Pn 04 15 44.3 -1.6
baz=128
E24K **Your Creek** 20.18 340 P Pn 04 15 46.2 -0.5
baz=144
M15K **Kasigluk River** 20.23 313 P Pn 04 15 46.8 -0.5
baz=108
G21K **Allakaket** 20.34 332 IAmb IAmb 04 15 54.0
comp=Z,7.7nm,0.9s
G21K **Allakaket** 20.34 332 P Pn 04 15 46.9 -1.6
baz=133
E23K **Chandalar** 20.43 339 P Pn 04 15 49.5 -0.2
baz=142
N14K **Kuskokwak Cree** 20.50 311 P Pn 04 15 49.2 -1.2
baz=105
S22A **4UR Ranch, Cre** 20.60 118 IAmb IAmb 04 15 52.1
comp=Z,15nm,1.1s
S22A **4UR Ranch, Cre** 20.60 118 P Pn 04 15 50.4 -1.7
baz=314,SNR=12
F22K **John River** 20.65 335 P Pn 04 15 50.1 -2.2
baz=137
H19K **Roundabout Mou** 20.66 328 IAmb IAmb 04 15 56.9
comp=Z,20nm,1.5s
H19K **Roundabout Mou** 20.66 328 P Pn 04 15 52.1 -0.1
baz=126
X16A **Lo Mia Camp, P** 20.72 133 IAmb IAmb 04 16 16.3
comp=Z,6.7nm,1.0s
Q24A **Divide** 20.75 113 IAmb IAmb 04 16 07.8
comp=Z,15nm,1.4s
Q24A **Divide** 20.75 113 P Pn 04 15 51.7 -2.1
baz=310
D25K **Kavik River** 20.79 343 P Pn 04 15 52.5 -1.3
baz=150
F21K **Alatna River** 20.81 334 P **P** **04 15 50.3 -1.3**
F21K IAmb IAmb 04 15 59.5
comp=Z,5.7nm,0.8s
F21K **Alatna River** 20.81 334 P Pn 04 15 52.0 -2.1
baz=134
M14K **Bethel** 20.84 313 P Pn 04 15 53.5 -0.9
baz=107
TOLK **Toolik Lake Re** 20.88 340 P **P** **04 15 49.6 -2.8**
TOLK IAmb IAmb 04 16 00.8
comp=Z,18nm,1.2s
TOLK **Toolik Lake Re** 20.88 340 P Pn 04 15 53.5 -1.3
baz=143
L15K **Ungalak Mounta** 20.91 315 P Pn 04 15 54.2 -1.0
baz=110
W18A **Petrified Fore** 20.99 128 P **P** **04 15 55.1 +1.1**
baz=322,SNR=8.1
E22K **Anaktuvuk Pass** 21.02 337 P **P** **04 15 53.3 -0.6**
baz=138
C26K **Camden Bay** 21.06 346 P **P** **04 15 56.7 +2.4**
baz=153
J16K **Anvik River** 21.11 320 P **P** **04 15 53.8 -1.1**
J16K IAmb IAmb 04 15 58.3
comp=Z,21nm,1.2s
J16K **Anvik River** 21.11 320 P **P** **04 15 56.9 +2.0**
baz=115
H18K **Honhosa River** 21.12 326 P **P** **04 15 56.7 +1.7**
baz=122
D24K **Happy Valley** 21.13 341 IAmb IAmb 04 16 19.2
comp=Z,12nm,1.3s
D24K **Happy Valley** 21.13 341 P **P** **04 15 56.3 +1.2**
baz=145
K15K **Wolf Creek Mou** 21.13 317 P **P** **04 15 56.8 +1.7**
baz=111
G19K **Purcell Mounta** 21.23 329 IAmb IAmb 04 16 02.2
comp=Z,11nm,1.1s
G19K **Purcell Mounta** 21.23 329 P **P** **04 15 57.9 +1.8**
baz=126
L14K **Kuka Creek** 21.35 314 P **P** **04 15 58.3 +0.9**
baz=107
X18A **Snowflake** 21.35 130 IAmb IAmb 04 15 59.9
comp=Z,13nm,0.8s
F20K **Avaraart Lake** 21.35 332 IAmb IAmb 04 16 05.2
comp=Z,12nm,1.0s
F20K **Avaraart Lake** 21.35 332 P **P** **04 15 59.3 +1.9**
baz=130
SDCO **Great Sand Dun** 21.36 116 IAmb IAmb 04 16 05.6
comp=Z,9.3nm,1.1s
SDCO **Great Sand Dun** 21.36 116 P **P** **04 15 57.6 -0.5**
baz=313,SNR=8.2
D23K **Nanushuk River** 21.38 339 P **P** **04 15 58.5 +0.7**
baz=142
I17K **Unalakleet** 21.40 322 P **P** **04 15 57.7 -0.2**
baz=116
OGNE **Ogallala** 21.43 105 P **P** **04 15 58.5 -0.1**
baz=304,SNR=6.4
C24K **Franklin Bluff** 21.57 342 P **P** **04 16 01.1 +1.3**
baz=146
H17K **Granite Mounta** 21.58 324 P **P** **04 15 59.1 -0.8**
H17K IAmb IAmb 04 16 14.2
comp=Z,22nm,1.4s
H17K **Granite Mounta** 21.58 324 P **P** **04 16 00.4 +0.5**
baz=119
SUSD **Miller** 21.60 93 P **P** **04 16 00.1 -0.2**
baz=296
G18K **Tagagawik** 21.62 327 P **P** **04 16 01.6 +1.2**
baz=123
ULM **Lac du Bonnet** 21.62 77 P **P** **04 15 59.4 -1.0**
ULM **Lac du Bonnet** 21.62 77 P **P** **04 16 00.9 +0.5**
comp=Z,49nm,1.0s,baz=284,slow=10,SNR=34
ULM LR LR 04 25 05.4
comp=Z,124nm,20.6s,baz=270,slow=39
comp=Z,49nm,1.0s
ULM **Lac du Bonnet** 21.62 77 P **P** **04 16 00.9 +0.5**
D22K **Ayikyak River** 21.79 338 P **P** **04 16 03.9 +1.8**
baz=138
F19K **Shaleruckik Mo** 21.86 330 P **P** **04 16 04.2 +1.4**
baz=126
A36M **Sachs Harbour** 21.98 4 P **P** **04 16 02.3 -1.8**
A36M IAmb IAmb 04 16 13.3
comp=Z,11nm,0.9s
A36M **Sachs Harbour** 21.98 4 P **P** **04 16 06.5 +2.4**
baz=188
A36M **Sachs Harbour** 21.98 4 P **P** **04 16 04.7 +0.6**
C23K **Itkillik River** 22.06 341 P **P** **04 16 04.1 -0.9**
C23K IAmb IAmb 04 16 14.8
comp=Z,6.9nm,1.1s
C23K **Itkillik River** 22.06 341 P **P** **04 16 07.5 +2.5**
baz=143
E19K **Redstone River** 22.07 332 P **P** **04 16 03.6 -1.5**
E19K IAmb IAmb 04 16 28.2
comp=Z,14nm,1.2s
E19K **Redstone River** 22.07 332 P **P** **04 16 07.8 +2.7**
baz=129
AGMN **Agassiz Nation** 22.14 82 IAmb IAmb 04 16 13.2
comp=Z,11nm,1.0s
AGMN **Agassiz Nation** 22.14 82 P **P** **04 16 05.9 -0.2**
baz=287
KSCO **Kaye Shedlock'** 22.22 110 P **P** **04 16 08.6 +1.4**
baz=309,SNR=6.3
FCC **Fort Churchill** 22.23 54 P **P** **04 16 04.6 -2.3**
FCC IAmb IAmb 04 16 21.4
comp=Z,15nm,1.1s
FCC **Fort Churchill** 22.23 54 P **P** **04 16 06.8 -0.1**
E20K **Nigu River** 22.27 334 P **P** **04 16 09.3 +1.9**
baz=132
H16K **Elim** 22.33 323 P **P** **04 16 10.1 +2.1**
baz=116
T25A **Trinidad** 22.40 116 P **P** **04 16 10.0 +0.8**
baz=313
C21K **Knifeblade Rid** 22.51 337 P **P** **04 16 12.1 +2.2**
baz=135
D20K **Etivluk River** 22.69 335 P **P** **04 16 12.1 +0.3**
baz=132
TUC **Tucson** 22.77 134 P **P** **04 16 13.6 +0.7**
baz=327
B21K **Ikpikpuk River** 22.80 338 P **P** **04 16 13.0 +0.1**
baz=136
ANMO **Albuquerque** 22.84 123 P **P** **04 16 11.7 -2.1**
ANMO IAmb IAmb 04 16 17.5
comp=Z,6.1nm,1.1s
ANMO **Albuquerque** 22.84 123 P **P** **04 16 14.0 +0.2**
baz=319
ANMO **Albuquerque** 22.84 123 LR LR 04 25 42.3
comp=Z,108nm,20.3s,baz=50,slow=38
D19K **Kuna River** 22.97 333 P **P** **04 16 15.1 +0.3**
baz=129
B22K **Teshekpuk Lake** 23.06 340 P **P** **04 16 16.8 +1.2**
baz=139
E18K **Tukpahlearik C** 23.10 330 P **P** **04 16 17.9 +1.8**
baz=124
E17K **Hotham Inlet** 23.33 328 P **P** **04 16 21.6 +3.2**
baz=121
ECSD **EROS Data Cent** 23.43 93 P **P** **04 16 18.9 -0.7**
ECSD **EROS Data Cent** 23.43 93 P **P** **04 16 21.5 +2.0**
baz=297,SNR=18
BGNE **Belgrade** 23.61 100 P **P** **04 16 20.7 -0.7**
BGNE **Belgrade** 23.61 100 P **P** **04 16 23.2 +1.7**
baz=302
F15K **North Star Dit** 23.70 324 P **P** **04 16 22.0 -0.1**
baz=115
B20K **Meade River** 23.71 337 P **P** **04 16 21.3 -0.7**
baz=133
C19K **Lookout Ridge** 23.77 334 P **P** **04 16 22.5 -0.3**
baz=128
RTBA **Rita Blanca** 23.86 115 IAmb IAmb 04 16 27.4
comp=Z,25nm,1.3s
121A **Cookes Peak, D** 24.03 129 IAmb IAmb 04 16 28.4
comp=Z,9.0nm,1.0s
121A **Cookes Peak, D** 24.03 129 P **P** **04 16 26.3 +0.7**
baz=323
SOLO **Sioux Lookout** 24.04 76 P **P** **04 16 23.5 -2.0**
SOLO **Sioux Lookout** 24.04 76 P **P** **04 16 23.5 -2.0**
CBKS **Cedar Bluff** 24.11 107 P **P** **04 16 27.0 +0.8**
baz=308
RDOG **Red Dog Mine** 24.18 330 P **P** **04 16 28.2 +1.5**
baz=122
F14K **Arctic Creek** 24.26 323 P **P** **04 16 27.5 +0.3**
baz=112
C17K **DeLong Mountai** 24.49 331 P **P** **04 16 29.4 0.0**
baz=122
B18K **Kokolik River** 24.56 333 P **P** **04 16 29.0 -1.1**
baz=126
SPIA **Saint Paul Isl** 24.64 302 P **P** **04 16 32.7 +1.8**
baz=90
PKLO **Pickle Lake** 24.76 72 P **P** **04 16 32.1 +0.2**
PKLO **Pickle Lake** 24.76 72 P **P** **04 16 32.1 +0.2**
EYMN **Ely** 25.03 80 P **P** **04 16 34.3 -0.2**
EYMN **Ely** 25.03 80 IAmb IAmb 04 16 36.0
comp=Z,29nm,0.9s
EYMN **Ely** 25.03 80 P **P** **04 16 35.3 +0.8**
baz=289
EYMN **Ely** 25.03 80 P **P** **04 16 34.3 -0.2**
SPMN **Marine on St.** 25.22 87 P **P** **04 16 36.5 +0.4**
baz=294
AMTX **Amarillo** 25.56 116 P **P** **04 16 39.8 +0.3**
baz=315
MSTX **Muleshoe** 25.59 119 P **P** **04 16 40.4 +0.6**
baz=317
KSU1 **Kansas State U** 25.89 103 P **P** **04 16 43.6 +1.3**
baz=306
MNTX **Cornudas Mount** 25.92 126 P **P** **04 16 43.4 +0.8**
baz=322
T35A **Sooner Cattle** 27.29 106 P **P** **04 16 54.3 -0.7**
WMOK **Wichita Mounta** 27.36 112 IAmb IAmb 04 16 56.7
comp=Z,7.6nm,0.9s
APMT **Aspermont** 27.57 116 IAmb IAmb 04 17 02.5
comp=Z,10nm,1.1s
OK052 **Battle Ridge R** 27.71 108 P **P** **04 16 57.9 -0.9**
JFWS **Jewell Farm** 27.91 90 P **P** **04 17 01.2 +0.8**
baz=299
ABTX **Abilene, Hawle** 28.36 117 P **P** **04 17 06.9 +2.3**
baz=317
TUL3 **Leonard** 28.38 107 P **P** **04 17 03.0 -1.8**
TUL3 **Leonard** 28.38 107 P **P** **04 17 05.6 +0.8**
baz=311
RES **Resolute Bay** 28.54 19 LR LR 04 29 50.8
comp=Z,54nm,19.2s,baz=20,slow=39
TXAR **Lajitas Array** 28.69 127 P **P** **04 17 08.3 +0.7**
TXAR **Lajitas Array** 28.69 127 P **P** **04 17 09.7 +2.0**
comp=Z,1.2nm,0.8s,baz=323,slow=6.3,SNR=15
comp=Z,1.2nm,0.8s
SAND **Sanderson** 29.01 124 P **P** **04 17 10.3 -0.1**
SAND IAmb IAmb 04 17 23.7
comp=Z,9.6nm,1.5s
JCT **Junction City** 29.87 120 P **P** **04 17 19.2 +1.2**
baz=320
GLMI **Grayling** 30.63 82 P **P** **04 17 25.8 +1.2**
baz=296
MIAR **Mount Ida** 30.64 107 P **P** **04 17 25.8 +1.1**
baz=312
435B **Jarrell** 30.90 117 P **P** **04 17 28.7 +1.7**
baz=318
833A **Chaparral WMA,** 31.76 122 P **P** **04 17 35.4 +0.7**
baz=322
O48B **Farmland** 32.55 90 P **P** **04 17 40.4 -1.1**
baz=303
WCI **Wyandotte Cave** 32.95 94 P **P** **04 17 44.0 -1.1**
baz=305
P49A **Miami Univ. Ec** 33.22 91 P **P** **04 17 46.3 -1.1**
baz=304
WVT **Waverly** 33.23 99 P **P** **04 17 46.4 -1.1**
baz=308
OXF **Oxford** 33.26 103 P **P** **04 17 47.8 0.0**
baz=310,SNR=6.7
ACSO **Alum Creek Sta** 33.96 89 P **P** **04 17 52.5 -1.3**
baz=303
SADO **Sadowa** 34.13 79 LR LR 04 30 43.0
comp=Z,141nm,18.5s,baz=318,slow=34
FRB **Frobisher Bay** 34.57 43 LR LR 04 32 38.4
comp=Z,92nm,19.6s,baz=18,slow=37
P52A **Corning** 34.83 89 P **P** **04 18 01.7 +0.3**
baz=304
LRAL **Lakeview Retre** 35.74 102 P **P** **04 18 08.3 -0.9**
baz=311
TKL **Tuckaleechee C** 36.11 96 LR LR 04 32 44.3
comp=Z,115nm,20.5s,baz=320,slow=36
MCWV **Mont Chateau** 36.29 87 P **P** **04 18 14.0 +0.1**
baz=304
152A **Waverly Hall** 37.42 100 P **P** **04 18 22.2 -1.4**
SCHQ **Schefferville** 37.47 58 LR LR 04 32 24.1
comp=Z,114nm,20.9s,baz=360,slow=34
GOGA **Godfrey** 37.73 98 P **P** **04 18 25.2 -1.0**
baz=310
L61B **Northampton** 39.35 79 P **P** **04 18 41.7 +1.9**
baz=302
HRV **Adam Dziewonsk** 40.03 78 P **P** **04 18 46.0 +0.7**
baz=302
DWPF **Disney Wildern** 42.59 103 P **P** **04 19 07.9 +1.4**
baz=315
CMIG **Matias Romero** 43.30 127 LR LR 04 40 13.9
comp=Z,42nm,19.0s,baz=322,slow=40
PETK **Petropavlovsk-** 43.30 303 LR LR 04 35 07.5
comp=Z,54nm,18.5s,baz=71,slow=33
MA2 **Magadan** 43.99 314 LR LR 04 36 08.1
comp=Z,64nm,19.7s,baz=90,slow=34
TEIG **Tepich** 44.35 117 LR LR 04 39 15.6
comp=Z,319nm,21.3s,baz=128,slow=38
SPITS **Spitsbergen Ar** 50.26 9 LR LR 04 42 49.9
comp=Z,43nm,19.1s,baz=277,slow=38
ASAJ **Asahikawa** 56.58 300 LR LR 04 46 24.0
comp=Z,27nm,18.2s,baz=131,slow=37
H11N2 **WAKE ISLAND Hy** 58.04 263 T T 05 23 37.0
baz=42,slow=75
H11N3 **WAKE ISLAND Hy** 58.04 263 T T 05 23 38.1
baz=42,slow=75
H11N1 **WAKE ISLAND Hy** 58.06 263 T T 05 23 39.8
baz=42,slow=75
H11S1 **WAKE ISLAND Hy** 59.06 262 T T 05 24 56.8
baz=26,slow=78
H11S2 **WAKE ISLAND Hy** 59.07 262 T T 05 24 56.6
baz=26,slow=78
H11S3 **WAKE ISLAND Hy** 59.08 262 T T 05 24 59.9
baz=26,slow=78
ARCES **ARCESS Array B** 59.24 10 LR LR 04 47 04.2
comp=Z,20nm,20.7s,baz=312,slow=36
SJG **San Juan** 59.48 98 LR LR 04 49 41.9
comp=Z,24nm,18.1s,baz=71,slow=39
NOA **NORSAR Array B** 64.80 20 LR LR 04 50 05.1
comp=Z,37nm,19.7s,baz=310,slow=36
HFS **Hagfors** 66.15 19 LR LR 04 51 07.8
comp=Z,44nm,21.5s,baz=283,slow=36
FINES **FINESS Array B** 67.06 12 P **P** **04 22 04.7 +1.4**
comp=Z,2.6nm,0.9s,baz=4.6,slow=8.6,SNR=2.6
FINES LR LR 04 50 55.1
comp=Z,46nm,19.7s,baz=358,slow=36
comp=Z,2.6nm,0.9s
KSRS **Korea Array** 69.20 304 P P 04 22 22.0 +4.9
comp=Z,0.8nm,0.5s,baz=54,slow=7.4,SNR=2.5
KSRS LR LR 04 49 48.2
comp=Z,10nm,20.4s,baz=40,slow=33
comp=Z,0.8nm,0.5s
SONM **Songino Array** 71.03 324 LR LR 04 54 47.5
comp=Z,64nm,18.0s,baz=260,slow=37
KIRV **Kirov** 71.60 0 LR LR 04 56 57.4
comp=Z,15nm,21.9s,baz=3.4,slow=38
ZALV **Zalesovo Beam** 72.24 339 P **P** **04 22 38.4 +3.1**
comp=Z,1.1nm,0.7s,baz=12,slow=7.5,SNR=4.4
comp=Z,1.1nm,0.7s
ARU **Arti** 73.53 355 LR LR 04 57 04.4
comp=Z,14nm,20.2s,baz=27,slow=38
BVAR **Borovoye Array** 75.76 348 LR LR 04 59 21.5
comp=Z,21nm,18.2s,baz=18,slow=38
GERES **GERESS Array B** 76.50 24 LR LR 04 58 01.9
comp=Z,23nm,19.0s,baz=286,slow=37
KURBB **Kurchatov Arra** 76.70 342 P **P** **04 23 03.9 +2.5**
comp=Z,0.9nm,0.2s,baz=22,slow=5.9,SNR=5.2
comp=Z,0.9nm,0.2s
VRAC **Vranov** 76.79 22 LR LR 04 56 55.4
comp=Z,22nm,18.7s,baz=312,slow=36
DAVOX **Davos/Dischmat** 77.33 27 LR LR 04 56 36.0
comp=Z,37nm,20.2s,baz=274,slow=35
BELG **Belogornoye** 77.78 2 LR LR 05 02 57.4
comp=Z,19nm,18.5s,baz=123,slow=40
AKASG **Malin Array Be** 77.92 13 P **P** **04 23 08.6 +0.5**
comp=Z,0.6nm,0.5s,baz=341,slow=4.7,SNR=2.9
comp=Z,0.6nm,0.5s
MKAR **Makanchi Array** 79.49 338 P **P** **04 23 18.8 +1.9**
comp=Z,0.7nm,0.8s,baz=5.6,slow=3.4,SNR=4.1
MKAR LR LR 05 00 49.1
comp=Z,37nm,18.7s,baz=62,slow=37
comp=Z,0.7nm,0.8s
AKTO **Aktyubinsk** 79.54 355 LR LR 04 59 14.4
comp=Z,22nm,21.5s,baz=242,slow=36
MLR **Muntele Rosu** 82.41 17 LR LR 04 59 48.4
comp=Z,46nm,20.0s,baz=72,slow=35
HNR **Honiara** 84.85 249 LR LR 04 53 37.0
comp=Z,352nm,19.9s,baz=343,slow=30
DAV **Davao City (W)** 93.85 286 LR LR 04 58 37.2
comp=Z,40nm,21.7s,baz=3.5,slow=30
RCBR **Riachuelo** 96.95 91 LR LR 05 05 14.6
comp=Z,28nm,18.6s,baz=49,slow=34
CMAR **Chiang Mai Arr** 99.28 314 LR LR 05 11 10.2
comp=Z,14nm,18.1s,baz=85,slow=36

IDC 17 04:46:37.9±2.3, 4°.69N×123°.05E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=314.2km s-min=26.7km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.87**	**156**	P	P	04 52 20.8	+0.1
	0.4nm,0.3s,baz=335,slow=9.6,SNR=9.5						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**30.10**	**160**	P	P	04 52 49.3	-0.1
	0.1nm,0.3s,baz=335,slow=7.4,SNR=6.0						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**54.71**	**327**	P	P	04 56 09.0	-0.1
	0.3nm,0.4s,baz=126,slow=7.2,SNR=5.3						
	0.3nm,0.4s						

ISK ***17*** *04:55:18.4, 39°.50N×44°.80E, h3km, ML2.2/9*
AFAD ***17*** *04:55:21.0±0.0, 39°.55N×44°.65E, h7km±2km, ML2.4*
TEH ***17*** *04:55:21.6, 39°.25N×44°.64E, h8km±86km, ML2.5*
ISC 17 04:55:21.0±1.2, 39°.51N±0°.03×44°.70E±0°.03, h4km±10km, n29, σ1°44/46, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAKU	**Maku**	**0.15**	**184**	Pg	**Pg**	**04 55 24.5**	**+0.4**
TASB	**TASBURUN-IGDIR**	**0.59**	**323**	Pg	**Pg**	**04 55 31.7**	**-0.7**
TASB				Sg	**Sb**	**04 55 41.3**	**-1.4**
IGDI	**IGDIR**	**0.60**	**307**	P	**Pg**	**04 55 31.7**	**-0.8**
IGDI				S	**Sg**	**04 55 39.9**	**-0.4**
IGDI				*i* AML	AML	04 55 46.0	
	comp=E,186nm,0.7s						
CLDR	**Caldiran**	**0.71**	**239**	Pg	**Pg**	**04 55 34.3**	**-0.3**

CLDR				Sg	**Sb**	**04 55 45.2**	**-0.9**	
CLDR	**Calidran**	**0.71**	**239**	P	**Pb**	**04 55 34.6**	**-1.4**	
CLDR				S	**Sb**	**04 55 44.8**	**-1.3**	
CLDR				*i* AML	AML	04 55 45.0		
	comp=N,496nm,0.4s							
CLDR				*i* AML	AML	04 55 46.0		
	comp=Z,258nm,0.4s							
CLDR				*i* AML	AML	04 55 47.0		
	comp=E,377nm,0.4s							
DYDN	**Diyadin**	**0.78**	**273**	P	**Pg**	**04 55 35.7**	**-0.3**	
DYDN				S	**Sb**	**04 55 47.7**	**-0.6**	
OZAP	**Van, Ozalp-Mer**	**1.01**	**213**	P	**Pb**	**04 55 40.5**	**-0.6**	
OZAP				S	**Sn**	**04 55 59.4**	**+2.6**	
OZAP				*i* AML	AML	04 56 03.0		
	comp=N,90nm,0.7s							
VMUR	**Van-Muradiye**	**1.02**	**240**	P	**Pn**	**04 55 42.8**	**+0.7**	
VMUR				S	**Sb**	**04 55 53.7**	**-1.3**	
IMRD	**Marand**	**1.11**	**135**	Pg	**Pg**	**04 55 40.8**	**-1.6**	
KOTA	**Agri, Merkez-K**	**1.19**	**285**	P	**Pb**	**04 55 43.3**	**-0.9**	
KOTA				S	**Sn**	**04 56 03.1**	**+1.9**	
AGRB	**Hanur-Agry**	**1.32**	**273**	Pn	**Pg**	**04 55 45.7**	**-0.6**	
AGRB				Sn	**Sn**	**04 56 05.7**	**+1.2**	
AGRB	**Hanur-Agry**	**1.32**	**273**	P	**Pg**	**04 55 46.8**	**+0.5**	
AGRB				S	**Sn**	**04 56 03.6**	**-0.8**	
DIGO	**Kars**	**1.36**	**312**	P	**Pn**	**04 55 46.1**	**-0.9**	
DIGO				S	**Sn**	**04 56 06.7**	**+1.1**	
DIGO				*i* AML	AML	04 56 12.0		
	comp=N,80nm,0.5s							
DIGO				*i* AML	AML	04 56 16.0		
	comp=E,62nm,0.6s							
VANB	**Van**	**1.37**	**229**	Pn	**Pg**	**04 55 46.7**	**-0.5**	
TVAN	**Van**	**1.40**	**226**	P	**Pg**	**04 55 48.5**	**+0.6**	
TVAN				S	**Sn**	**04 56 10.3**	**+3.8**	
ISHB	**Shabestar**	**1.42**	**149**	Pg	**Pn**	**04 55 45.1**	**-2.6**	
DORK	**Agr/Tutak/Do**	**1.49**	**266**	P	**Pg**	**04 55 49.0**	**-0.5**	
DORK				S	**Sg**	**04 56 11.6**	**+2.7**	
KARS	**Kars**	**1.67**	**313**	Pn	**Pn**	**04 55 50.1**	**-1.0**	
ADV	**BITLIS_Adilcev**	**1.69**	**246**	P	**Pg**	**04 55 53.4**	**+0.1**	
ADCV				S	**Sg**	**04 56 15.2**	**0.0**	
ITBZ	**Tabriz**	**1.70**	**138**	Pg	**Pn**	**04 55 49.9**	**-1.7**	
MLAZ	**Malazgirt-MUS**	**1.71**	**258**	Pn	**Pn**	**04 55 50.8**	**-0.8**	
EATA	**Eleskirt**	**1.74**	**282**	P	**Pb**	**04 55 53.0**	**-0.6**	
EATA				S	**Sg**	**04 56 20.0**	**+3.1**	
AKDM	**Akdamar-Van**	**1.78**	**229**	Pn	**Pn**	**04 55 51.1**	**-1.6**	
TRLG	**Trialeti**	**2.08**	**348**	P	**Pb**	**04 55 58.4**	**-0.9**	
TRLG				S	**Sg**	**04 56 27.3**	**-0.5**	
SENK	**Senkaya-Erzuru**	**2.09**	**301**	Pn	**Pn**	**04 55 56.2**	**-0.7**	
VSHL	**Vashlovani**	**2.16**	**37**	P	**Pb**	**04 56 01.3**	**+0.7**	
VSHL				S	**Sg**	**04 56 32.8**	**+2.6**	
IHRS	**Heris**	**2.18**	**122**	Pn	**Pn**	**04 55 59.2**	**+1.0**	
KOPR	**Koprukoy-ERZUR**	**2.25**	**283**	Pn	**Pn**	**04 55 58.8**	**-0.2**	
CHRG	**Chargali**	**2.82**	**3**	P	**Pb**	**04 56 13.1**	**+1.1**	

IDC ***17*** *05:04:39.0±2.1, 9.˚14S×33.˚81E, h0km, mb3.8/2, mbtmp4.2/5, ML4.3/3, MS3.3/8, Error ellipse: s-maj=59.3km s-min=18.3km az=109.0*

ISC 17 05:04:39.5±0.9, 8.98S±0.˚10×33.˚7E±0.˚2, h10km, n16, σ2s15/18, MS3.2/4, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIBK	**Kibwezi**	**7.90**	**34**	*e*P	**Pn**	**05 06 37.6**	**+3.0**
KIBK				*e*S	**Sg**	**05 08 50.1**	**-3.1**
LSZ	**Lusaka**	**8.24**	**220**	Pn	**Pn**	**05 06 39.0**	**-0.4**
	2.0nm,0.3s,baz=41,slow=11,SNR=6.7						
LSZ				Sn	**Sn**	**05 08 10.1**	**-2.6**
	4.3nm,0.3s,baz=147,slow=21,SNR=3.3						
LSZ				Lg	Lg	05 08 52.7	
	3.6nm,0.3s,baz=150,slow=23,SNR=9.0						
LSZ				LR	LR	05 09 57.8	
	comp=Z,198nm,20.8s,baz=354,slow=39						
	9.1nm,0.4s						
KMBO	**Kilima Mbogo**	**8.57**	**25**	*e*P	**Pn**	**05 06 43.0**	**-1.0**
KMBO				*e*S	**Sn**	**05 08 22.7**	**+1.6**
KMBO	**Kilima Mbogo**	**8.57**	**25**	Pn	**Pn**	**05 06 46.0**	**+1.9**
	4.0nm,0.3s,baz=208,slow=16,SNR=6.7						
KMBO				Sn	**Sn**	**05 08 21.8**	**+0.7**
	1.7nm,0.3s,baz=265,slow=12,SNR=5.0						
KMBO				Lg	Lg	05 09 12.7	
	2.2nm,0.3s,baz=91,slow=19,SNR=7.1						
KMBO				LR	LR	05 10 10.7	
	comp=Z,237nm,18.4s,baz=236,slow=38						
	22nm,0.6s						
KMBO	**Kilima Mbogo**	**8.57**	**25**	*e*P	**Pn**	**05 06 43.0**	**-1.0**
KMBO				*e*S	**Sn**	**05 08 22.7**	**+1.6**
KMBO	**Kilima Mbogo**	**8.57**	**25**	*e*P	**Pn**	**05 06 46.2**	**+2.2**
KMBO				*e*S	**Sg**	**05 09 11.2**	**-3.8**
MATP	**Matopo**	**12.43**	**203**	Pn	**Pn**	**05 07 34.9**	**-1.8**
	0.7nm,0.3s,baz=20,slow=14,SNR=20						
MATP				Sn	**Sn**	**05 09 55.5**	**+0.1**
	0.3nm,0.3s,baz=94,slow=18,SNR=2.2						
MATP				Lg	Lg	05 11 08.8	
	0.3nm,0.3s,baz=129,slow=11,SNR=4.4						
	7.1nm,0.7s						
LODK	**Lodwar**	**12.43**	**8**	*e*P	**Pn**	**05 07 36.1**	**-0.7**
LODK				*e*S	Sn	05 10 45.7	+50
LODK	**Lodwar**	**12.43**	**8**	*e*P	**Pn**	**05 07 36.1**	**-0.7**
LODK				*e*S	Sn	05 10 45.7	+50
LBTB	**Lobatse**	**17.71**	**205**	LR	LR	05 15 39.7	
	comp=Z,178nm,19.1s,baz=42,slow=38						
TSUM	**Tsumeb**	**18.61**	**235**	LR	LR	05 16 11.6	
	comp=Z,75nm,18.7s,baz=162,slow=37						
BOSA	**Boshof**	**21.08**	**201**	P	**P**	**05 09 24.8**	**+0.5**
	3.9nm,0.5s,baz=24,slow=10,SNR=20						
BOSA				Lg	Lg	05 15 34.8	
	0.1nm,0.3s,baz=298,slow=7.7,SNR=3.5						
BOSA				LR	LR	05 17 49.8	
	comp=Z,82nm,21.3s,baz=2.0,slow=38						
	3.9nm,0.5s						
SUR	**Sutherland**	**26.16**	**205**	LR	LR	05 20 26.6	
	comp=Z,110nm,19.2s,baz=6.0,slow=36						
EIL	**Elat**	**38.44**	**2**	LR	LR	05 27 04.7	
	comp=Z,21nm,19.3s,baz=78,slow=35						
TORD	**Torodi Ar. Bea**	**38.62**	**304**	P	**P**	**05 12 06.3**	**+2.9**
	0.3nm,0.3s,baz=124,slow=7.2,SNR=3.1						
	0.3nm,0.3s						
WSAR	**Wadi Sarin**	**40.27**	**37**	LR	LR	05 28 13.9	
	comp=Z,36nm,19.2s,baz=234,slow=35						

IDC ***17*** *05:20:34.9±0.6, 45.˚47N×151.˚68E, h0km, mb4.3/26, mbtmp4.3/31, ML4.4/4, MS3.9/28, Error ellipse: s-maj=15.6km s-min=13.2km az=145.0*

BJI ***17*** *05:20:35.0, 45.˚47N×151.˚82E, h15km, mb4.9/60, mB5.0/31, Ms4.4/32, Ms7.4.2/32*

SKHL ***17*** *05:20:36.5±0.3, 45.˚10N×152.˚20E, h40km±3km, mb5.1/9, Ms4.3/2, msh4.3/2*

JMA ***17*** *05:20:38.8±0.9, 46˚N±5.˚×15˚2E±˚, h30km, MV5.0/13, KURILE ISLANDS REGION*

NIED ***17*** *05:20:38.8, 45.˚73N×151.˚57E, h30km, MW4.5, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr4.78; Mθθ-0.05; Mφφ-4.73; Mrθ-5.13; Mθφ-0.34; Mφr-0.94; Fault plane solution: M₀6.58000×10¹⁵ NP1: φs221.00000°, δ65.00000°, λ121.00000°. NP2: φs346.00000°, δ39.00000°, λ42.00000°.*

NEIC ***17*** *05:20:38.1±1.6, 45.˚38N±0.˚09×151.˚7E±0.˚1, h23km±5km, mb4.8/97 Error ellipse: s-maj=18.5km s-min=7.8km az=131.0*

MOS ***17*** *05:20:38.2±1.0, 45.˚40N×151.˚74E, h43km, mb5.1/49, MS3.8/8, Error ellipse: s-maj=6.4km s-min=4.6km az=107.2*

BGR ***17*** *05:20:42.4, 45.˚87N×152.˚76E, h33km, mb4.9, Ms4.1*

ISC 17 05:20:36.8±0.6, 45.29N±0.˚05×151.82E±0.˚04, h17km±3km, h16km:pP-P, n461, σ1s44/459, mb4.8/152, MS4.1/34, 61C-25D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.79**	**270**	*e*P	**Pn**	**05 21 22.7**	**+2.1**
KUR				AMB	AMB	05 21 31.2	
	380nm,0.4s						
KUR				*e*S	**Sb**	**05 21 58.0**	**-2.1**
KUR				A	A	05 22 07.4	
	550nm,0.5s						
KUR				A	A	05 22 07.4	
	2µm,0.5s						
KUR	**Kuril'sk**	**2.79**	**270**	*e*PN	**Pn**	**05 21 22.7**	**+2.1**
KUR				*e*S	**Sb**	**05 21 57.9**	**-2.1**
KUR				pmax	pmax		
	comp=Z,375nm,0.4s						
KUR				smax	smax		
	comp=N,550nm,0.5s						
KUR				smax	smax		
	comp=E,2µm,0.5s						
SHO	**Shikotan**	**3.84**	**250**	*e*P	**Pn**	**05 21 36.7**	**+1.7**
SHO				AMB	AMB	05 21 40.8	
	comp=E,150nm,0.4s						
SHO				*e*S	**Sn**	**05 22 20.8**	**+1.1**
SHO				A	A	05 22 31.9	
	comp=E,500nm,0.5s						
SHO				A	A	05 22 31.9	
	comp=E,310nm,0.5s						
SHO	**Shikotan**	**3.84**	**250**	*e*PN	**Pn**	**05 21 36.6**	**+1.6**
SHO				*e*S	**Sn**	**05 22 23.1**	**+3.4**
SHO				pmax	pmax		
	comp=E,80nm,0.4s						
SHO				pmax	pmax		
	comp=Z,135nm,0.4s						
SHO				smax	smax		
	comp=N,466nm,0.6s						
SHO				smax	smax		
	comp=E,218nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.43**	**256**	*e*P	**Pn**	**05 21 45.0**	**+1.8**
YUK				AMB	AMB	05 21 45.0	
	comp=E,130nm,0.2s						
YUK				*e*S	**Sn**	**05 22 36.0**	**+1.6**
YUK				A	A	05 22 42.9	
	comp=E,380nm,0.4s						
YUK				A	A	05 22 42.9	
	comp=E,250nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.43**	**256**	*e*PN	**Pn**	**05 21 44.4**	**+1.2**
YUK				*e*S	**Sn**	**05 22 38.0**	**+3.6**
YUK				pmax	pmax		
	comp=N,35nm,0.2s						
YUK				pmax	pmax		
	comp=Z,134nm,0.2s						
YUK				smax	smax		
	comp=E,251nm,0.3s						
YUK				smax	smax		
	comp=N,375nm,0.4s						
NEM2	**Nemuro 2**	**4.76**	**248**	*e*P	**Pn**	**05 21 48.0**	**+0.2**
NEM2				*e*S	**Sn**	**05 22 39.6**	**-3.0**
NMR	**Nemuro--Hokkai**	**4.77**	**248**	*i* P	**Pn**	**05 21 48.0**	**+0.1**
NMR				*e*S	**Sn**	**05 22 41.8**	**-1.0**
NMR	**Nemuro--Hokkai**	**4.77**	**248**	*i*PN	**Pn**	**05 21 47.8**	**-0.1**
RUSJ	**Misakicho**	**4.83**	**258**	*e*PN	**Pn**	**05 21 52.0**	**+3.3**
RUSJ				*e*S	**Sn**	**05 22 47.4**	**+3.1**
JRA	**Rausu**	**4.97**	**257**	*e*P	**Pn**	**05 21 52.4**	**+1.9**
JNK	**Nakash**	**5.36**	**254**	*e*P	**Pn**	**05 21 57.6**	**+1.6**
AKK	**Akkeshi**	**5.51**	**248**	*e*P	**Pn**	**05 21 57.8**	**-0.2**
JAK	**Akkeshi**	**5.61**	**248**	*e*P	**Pn**	**05 21 59.6**	**+0.2**
JTKR	**Abashiri--Toko**	**5.80**	**260**	*e*P	**Pn**	**05 22 04.5**	**+2.5**
JAR	**Ashorobuto**	**6.11**	**254**	*e*P	**Pn**	**05 22 08.3**	**+2.0**
SKR	**Severo-Kuril's**	**6.12**	**27**	*e*P	**Pn**	**05 22 07.5**	**+1.2**
SKR				AMB	AMB	05 22 10.1	
	comp=N,130nm,0.6s						
SKR				*e*S	**Sn**	**05 23 14.6**	**-1.2**
SKR				A	A	05 23 19.0	
	comp=N,210nm,1.0s						
SKR				A	A	05 23 19.0	
	comp=N,230nm,1.0s						
SKR				AMS	AMS	05 24 37.7	
	comp=N,3µm,16.0s						
SKR				AMS	AMS	05 24 37.7	
	comp=N,3µm,16.0s						
SKR				AMS	AMS	05 24 37.7	
	comp=N,2µm,16.0s						
SKR	**Severo-Kuril's**	**6.12**	**27**	*e*PN	**Pn**	**05 22 07.5**	**+1.2**
SKR				pmax	pmax		
	comp=Z,187nm,0.6s						
SKR				MLR	MLR		
	comp=Z,2µm,16.0s						
SKR				MLR	MLR		
	comp=N,3µm,11.0s						
SKR				MLR	MLR		
	comp=E,3µm,12.0s						
JOB	**Onbets**	**6.22**	**250**	*e*P	**Pn**	**05 22 08.7**	**+0.8**
YSS	**Yuzh-Sakhalins**	**6.51**	**288**		**Pn**	**05 22 09.3**	**-2.5**
YSS	**Yuzh-Sakhalins**	**6.51**	**288**	*e*P	**Pn**	**05 22 14.6**	**+2.8**
YSS				AMB	AMB	05 22 22.0	
	comp=E,50nm,0.4s						
YSS				*e*S	**Sn**	**05 23 29.4**	**+3.7**
YSS				A	A	05 23 35.6	
	comp=E,30nm,0.7s						
YSS				A	A	05 23 35.6	
	comp=E,20nm,0.7s						
YSS				AMS	AMS	05 24 45.0	
	comp=E,400nm,18.0s						
YSS				AMS	AMS	05 24 45.0	
	comp=E,800nm,18.0s						
YSS				AMS	AMS	05 24 45.0	
	comp=E,2µm,18.0s						
YSS	**Yuzh-Sakhalins**	**6.51**	**288**	*e*PN	**Pn**	**05 22 14.6**	**+2.8**
YSS				*e*S	**Sn**	**05 23 29.4**	**+3.7**
YSS				pmax	pmax		
	comp=Z,50nm,0.4s						
YSS				smax	smax		
	comp=E,40nm,0.8s						
YSS				MLR	MLR		
	comp=E,800nm,15.0s						
JCH	**Churui**	**6.66**	**249**	*e*P	**Pn**	**05 22 14.4**	**+0.6**
JKA	**Kamikawa-asahi**	**6.67**	**263**	Pn	**Pn**	**05 22 13.6**	**-0.4**
ASAJ	**Asahikawa**	**6.67**	**263**	PN	**Pn**	**05 22 13.6**	**-0.4**
ASAJ	**Asahikawa**	**6.67**	**263**	Pn	**Pn**	**05 22 16.9**	**+2.8**
	comp=E,7.6nm,0.3s,baz=75,slow=17,SNR=19						
ASAJ				Sn	**Sn**	**05 23 32.9**	**+3.2**
	baz=178,slow=32						
ASAJ				LR	LR	05 25 14.5	
	comp=E,994nm,18.3s,baz=72,slow=42						
PAU	**Pauzhetka**	**7.01**	**26**	*e*P	**Pn**	**05 22 19.3**	**+0.6**
PAU				AMB	AMB	05 22 22.2	
	comp=E,20nm,0.4s						
PAU				*e*S	**Sn**	**05 23 36.3**	**-1.7**
PAU				A	A	05 23 45.2	
	comp=E,60nm,0.5s						
PAU				A	A	05 23 45.2	
	comp=E,50nm,0.5s						
ERM	**Erimo**	**7.08**	**245**	Pn	**Pn**	**05 22 18.4**	**-1.2**
ERM	**Erimo**	**7.08**	**245**	*ce*PN	**Pn**	**05 22 22.1**	**+2.5**
JNBK	**Urakawa-nobuka**	**7.22**	**249**	*e*P	**Pn**	**05 22 21.5**	**+0.1**
UGL	**Uglegorsk**	**7.64**	**303**	*e*P	Pn	05 22 32.2	+4.9
UGL				AMB	AMB	05 22 33.4	
	comp=E,60nm,0.7s						
UGL				*e*S	**Sn**	**05 23 58.4**	**+4.9**
UGL				A	A	05 24 10.4	
	comp=E,60nm,0.5s						
UGL				A	A	05 24 10.4	
	comp=E,40nm,0.5s						
TYV	**Tymovskoe**	**8.28**	**316**	*e*P	Pn	05 22 39.1	+3.0
TYV				AMB	AMB	05 22 39.8	
	comp=E,30nm,0.8s						
TYV				AMB	AMB	05 22 40.3	
	comp=E,100nm,4.0s						
TYV				*e*S	**Sn**	**05 24 12.4**	**+3.2**
TYV				A	A	05 24 15.8	
	comp=E,10.0nm,0.6s						
TYV				A	A	05 24 15.8	
	comp=E,10.0nm,0.6s						
TYV				A	A	05 24 17.6	
	comp=E,300nm,5.0s						
TYV				A	A	05 24 17.6	
	comp=E,400nm,5.0s						
TYV				AMS	AMS	05 25 57.8	
	comp=E,1µm,15.0s						
TYV	**Tymovskoe**	**8.28**	**316**	*e*PN	Pn	05 22 39.0	+2.9
TYV				*e*S	**Sn**	**05 24 12.3**	**+3.1**
TYV				pmax	pmax		
	comp=Z,34nm,0.8s						
TYV				pmax	pmax		
	comp=Z,100nm,4.0s						
TYV				smax	smax		
	comp=N,18nm,1.0s						
TYV				smax	smax		
	comp=E,22nm,1.0s						
TYV				smax	smax		
	comp=N,300nm,4.8s						
TYV				smax	smax		
	comp=E,400nm,4.8s						
TYV				MLR	MLR		
	comp=Z,1µm,15.0s						
PEA0B	**Petropavlovsk-**	**8.71**	**24**	Pn	**Pn**	**05 22 41.5**	**-0.5**
PEA0B	**Petropavlovsk-**	**8.71**	**24**	*e*PN	**Pn**	**05 22 43.3**	**+1.3**
PETK	**Petropavlovsk-**	**8.71**	**24**	Pn	**Pn**	**05 22 41.6**	**-0.4**
PETK	**Petropavlovsk-**	**8.71**	**24**	PN	**Pn**	**05 22 41.6**	**-0.4**
PETK	**Petropavlovsk-**	**8.71**	**24**	Pn	**Pn**	**05 22 41.2**	**-0.8**
	comp=Z,3.9nm,0.5s,baz=177,slow=10,SNR=9.6						
JANG	**Nango**	**9.02**	**241**	*e*P	**Pn**	**05 22 44.7**	**-1.6**
JANG				*e*S	Sn	05 24 18.7	-8.7
JTM	**Tenmabayashi**	**9.07**	**244**	Pn	**Pn**	**05 22 46.8**	**0.0**
OKH	**Okha**	**10.08**	**328**	*e*P	Pn	05 23 04.0	+3.3
OKH				AMB	AMB	05 23 08.4	
	comp=Z,50nm,0.6s						
NKL	**Nikolayevsk**	**10.71**	**321**	*e*P	**Pn**	**05 23 11.4**	**+2.2**
NKL				AMB	AMB	05 23 15.5	
	comp=Z,10.0nm,0.8s						
JMM	**Marumori**	**11.09**	**232**	Pn	**Pn**	**05 23 12.5**	**-2.1**
GRNR	**Gornyy**	**11.66**	**304**	*e*P	**Pn**	**05 23 24.5**	**+2.1**
GRNR	**Gornyy**	**11.66**	**304**	*i*PN	**Pn**	**05 23 24.5**	**+2.1**
GRNR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GRNR				MLR	MLR		
	comp=N,390nm,15.0s						
GRNR				MLR	MLR		
	comp=E,360nm,15.0s						
GRNR				MLR	MLR		
	comp=Z,590nm,15.0s						
MAJO	**Matsushiro**	**13.49**	**234**	Pn	Pn	05 23 41.8	-5.5
MAJO	**Matsushiro**	**13.49**	**234**	*e*P	**Pn**	**05 23 49.8**	**+2.5**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MJAR	**Matsushiro Arr**	**13.49**	**234**	Pn	Pn	05 23 43.4	-4.0
	comp=Z,0.1nm,0.3s,baz=233,slow=18,SNR=7.4						
MJB9	**Matsu-Tunnel**	**13.49**	**234**	Pn	Pn	05 23 42.4	-5.0
USA0B	**Ussuriysk Arra**	**14.14**	**273**		**Pn**	**05 23 54.6**	**-1.5**
USA0B	**Ussuriysk Arra**	**14.14**	**273**	*e*P	**Pn**	**05 23 56.7**	**+0.6**
USRK	**Ussuriysk Ar.**	**14.14**	**273**		**Pn**	**05 23 54.4**	**-1.8**
USRK	**Ussuriysk Ar.**	**14.14**	**273**	Pn	**Pn**	**05 23 56.3**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=89,slow=12,SNR=14						
USRK				LR	LR	05 29 35.2	
	comp=Z,470nm,18.2s,baz=63,slow=38						
	comp=Z,8.7nm,0.5s						
KLR	**Kul'dur**	**14.18**	**293**	*e*P	**Pn**	**05 23 59.1**	**+2.4**
KLR	**Kul'dur**	**14.18**	**293**	*e*P	**Pn**	**05 23 59.1**	**+2.4**
KLR				pmax	pmax		
	comp=Z,14nm,2.5s						
KLR	**Kul'dur**	**14.18**	**293**	Pn	**Pn**	**05 23 59.0**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=93,slow=16,SNR=6.7						
KLR				LR	LR	05 29 50.3	
	comp=Z,624nm,18.5s,baz=93,slow=40						
MA2	**Magadan**	**14.32**	**358**	Pn	**Pn**	**05 23 56.9**	**-1.7**
MA2	**Magadan**	**14.32**	**358**	*e*P	**Pn**	**05 23 59.4**	**+0.8**
MA2	**Magadan**	**14.32**	**358**	*e*P	**Pn**	**05 23 59.4**	**+0.8**
MA2				pmax	pmax		
	comp=Z,61nm,2.1s						
MA2	**Magadan**	**14.32**	**358**	Pn	**Pn**	**05 23 59.6**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=161,slow=20,SNR=2.0						
MA2				LR	LR	05 29 48.5	
	comp=Z,200nm,18.4s,baz=216,slow=39						
	comp=Z,14nm,1.0s						
JSG	**Sagara**	**14.87**	**229**	Pn	**Pn**	**05 24 04.9**	**-1.3**
MDJ	**Mudanjiang**	**15.74**	**275**	Pn	**Pn**	**05 24 16.2**	**-1.5**
MDJ				IAmb	IAmb	05 24 22.5	
	comp=Z,46nm,1.0s						
MDJ	**Mudanjiang**	**15.74**	**275**	P	**Pn**	**05 24 17.8**	**+0.1**
MDJ				pP	P	05 24 22.0	+0.5
MDJ				S	**Sn**	**05 27 11.3**	**-0.4**
MDJ				sS	S	05 27 18.0	-8.4
MDJ				SS	**SnSn**	**05 27 25.6**	**+1.3**
MDJ				PcP	**PcP**	**05 29 17.4**	**+0.4**
MDJ				ScP	**ScP**	**05 32 48.6**	**-1.8**
MDJ				PcS	**PcS**	**05 32 53.3**	**+0.9**
MDJ				ScS	**ScS**	**05 36 29.8**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,17nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,220nm,3.6s						
MDJ				LR	LR		
	comp=Z,440nm,13.1s						
MDJ				LR	LR		
	comp=Z,690nm,15.5s						
MDJ				LR	LR		
	comp=Z,820nm,15.1s						
BNX	**BinXian**	**17.10**	**280**	P	**Pn**	**05 24 33.3**	**-1.6**
BNX				pmax	pmax		
	comp=Z,210nm,4.5s						
HEH	**HeiHe**	**17.11**	**296**	*e*P	**P**	**05 24 35.6**	**-1.0**
HEH				pmax	pmax		
	comp=Z,31nm,0.9s						
HEH				pmax	pmax		
	comp=Z,280nm,4.7s						
HEH				LR	LR		
	comp=Z,180nm,13.7s						
HEH				LR	LR		
	comp=Z,620nm,13.2s						
HEH				LR	LR		
	comp=Z,820nm,14.8s						
SEY	**Seymchan**	**17.68**	**1**	P	**Pn**	**05 24 40.8**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=151,slow=8.5,SNR=6.4						
SEY				LR	LR	05 31 55.8	
	comp=Z,191nm,18.9s,baz=177,slow=39						
	comp=Z,3.9nm,0.7s						
ZEA	**Zeya**	**17.98**	**307**	*e*P	**P**	**05 24 45.9**	**-0.3**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZEA				MLR	MLR		
	comp=E,300nm,16.0s						
ZEA				MLR	MLR		
	comp=Z,300nm,15.0s						
CN2	**Changchun**	**18.83**	**275**	*e*P	**P**	**05 24 54.8**	**-0.8**
CN2				*e*S	**Sn**	**05 28 21.5**	**-4.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,500nm,11.0s						
CN2				LR	LR		
	comp=Z,500nm,11.0s						
CN2				LR	LR		
	comp=Z,400nm,10.0s						
KSRS	**Korea Array**	**19.52**	**255**	P	**Pn**	**05 25 04.4**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=60,slow=11,SNR=14						
KSRS				LR	LR	05 32 48.9	
	comp=Z,174nm,18.6s,baz=55,slow=38						
	comp=Z,4.9nm,0.7s						
KSAR	**Wonju Array Be**	**19.55**	**255**	P	**P**	**05 25 02.3**	**-1.2**
KSAR	**Wonju Array Be**	**19.55**	**255**	P	**P**	**05 25 02.3**	**-1.2**
JNU	**Nakatsue**	**20.20**	**240**	P	**P**	**05 25 05.7**	**-5.1**
JNU	**Nakatsue**	**20.20**	**240**	P	Pn	05 25 13.5	+0.8
	comp=Z,15nm,0.8s,baz=127,slow=3.9,SNR=7.2						
JNU				LR	LR	05 34 42.9	
	comp=Z,207nm,18.2s,baz=36,slow=42						
YAK	**Yakutsk**	**21.10**	**330**	*e*P	**P**	**05 25 18.6**	**-1.6**
YAK				*e*PPP	PPP	05 25 45.8	
YAK				*e*S	**S**	**05 29 13.3**	**-0.8**
YAK				*e**SS	**pS**	**05 29 22.5**	**0.0**
YAK				*e*SS	**SnSn**	**05 29 34.6**	**-1.0**
YAK				*e*SSS	SSS	05 29 49.6	
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	com

BJI LR LR
comp=N,170nm,15.3s
BJT Baijiatuau 26.60 271 P **P** **05 26 12.7 -1.4**
BJT IAmb IAmb 05 26 17.7
comp=Z,17nm,0.9s
BJT Baijiatuau 26.60 271 P **P** **05 26 12.7 -1.4**
BJT pmax pmax
comp=Z,17nm,0.9s
TIA Tai'an 27.62 263 P **P** **05 26 28.8 +5.4**
TIA pmax pmax
comp=Z,14nm,0.8s
H11N2 WAKE ISLAND Hy 28.39 149 T T 05 57 25.2
baz=338,slow=75,SNR=116
H11N1 WAKE ISLAND Hy 28.40 149 T T 05 57 20.1
baz=338,slow=75,SNR=89
H11N3 WAKE ISLAND Hy 28.41 149 T T 05 57 37.6
baz=338,slow=75,SNR=54
TIXI Tiksi 28.63 345 LR LR 05 38 15.6
comp=Z,7.6nm,18.7s,baz=172,slow=37
NJ2 Nanjing 28.72 254 *e*P **P** **05 26 33.8 +0.7**
NJ2 pP **sP** **05 26 38.4 +0.4**
NJ2 sP **pwP** **05 26 42.6 -0.9**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,430nm,3.5s
HNS HongShan 28.75 267 ⇓P **P** **05 26 34.1 +0.7**
HNS pmax pmax
comp=Z,11nm,0.7s
H11S1 WAKE ISLAND Hy 29.44 150 T T 05 59 43.1
baz=337,slow=74
H11S3 WAKE ISLAND Hy 29.45 150 T T 05 59 31.9
baz=337,slow=74
H11S2 WAKE ISLAND Hy 29.46 150 T T 05 58 39.2
baz=337
HHC Hu-ho-hao-te 29.52 276 *e*P **P** **05 26 41.6 +1.3**
HHC pP sP 05 26 45.0 -0.2
HHC *e*S **S** **05 31 39.1 +4.9**
HHC SS **SnSn** **05 33 01.8 -0.1**
HHC pmax pmax
comp=Z,38nm,1.0s
HHC pmax pmax
comp=Z,500nm,4.9s
HHC LR LR
comp=Z,350nm,11.4s
HHC LR LR
comp=Z,720nm,14.3s
HHC LR LR
comp=Z,890nm,15.5s
ULN Ulaanbaatar 30.55 291 P **P** **05 26 48.4 -1.1**
ULN Ulaanbaatar 30.55 291 *e*P **P** **05 26 50.5 +1.1**
ULN Ulaanbaatar 30.55 291 *de*P **P** **05 26 50.5 +1.1**
ULN pmax pmax
comp=Z,7.0nm,1.0s
BTO Baotou 30.70 276 *e*P **P** **05 26 51.8 +1.1**
BTO pP **pwP** **05 26 56.4 -5.0**
BTO sP **sP** **05 26 59.4 +3.8**
BTO PP **PP** **05 27 54.3 -5.6**
BTO S **S** **05 31 56.0 +3.3**
BTO pmax pmax
comp=Z,21nm,0.5s
BTO pmax pmax
comp=Z,260nm,5.1s
BTO LR LR
comp=Z,480nm,11.0s
BTO LR LR
comp=Z,790nm,18.0s
BTO LR LR
comp=Z,900nm,14.0s
SONM Songino Array 30.99 291 P **P** **05 26 52.3 -1.0**
SONM Songino Array 30.99 291 P **P** **05 26 52.5 -0.7**
comp=Z,4.1nm,0.8s,baz=78,slow=8.1,SNR=22
SONM LR LR 05 40 34.1
comp=Z,344nm,18.1s,baz=58,slow=39
comp=Z,4.1nm,0.8s
LYN LuoYang 31.74 264 ⇑P **P** **05 27 01.0 +1.2**
LYN pP pwP 05 27 05.9 -4.5
LYN sP sP 05 27 07.8 +3.1
LYN PP **PnPn** **05 28 04.5 +0.6**
LYN S **S** **05 32 15.4 +6.5**
LYN pmax pmax
comp=Z,18nm,0.5s
LYN pmax pmax
comp=Z,300nm,6.5s
LYN LR LR
comp=Z,400nm,5.5s
LYN LR LR
comp=Z,440nm,6.1s
LYN LR LR
comp=Z,400nm,4.9s
G18K Tagagawik 33.49 34 P **P** **05 27 14.8 0.0**
TTA Tatalina 34.11 40 P **P** **05 27 20.4 0.0**
TTA Tatalina 34.11 40 P **P** **05 27 20.4 0.0**
TTA pmax pmax
comp=Z,9.0nm,1.4s
H19K Roundabout Mou 34.30 35 P **P** **05 27 23.1 +1.3**
H19K IAmb IAmb 05 27 34.2
comp=Z,7.1nm,0.9s
XAN Xi'an 34.50 266 ⇑P **P** **05 27 24.5 +0.5**
XAN pmax pmax
comp=Z,15nm,1.0s
IMAR Indian Mountai 35.48 35 P **P** **05 27 32.2 +0.2**
KDAK Kodiak Island 35.73 49 P **P** **05 27 35.0 +0.8**
KDAK Kodiak Island 35.73 49 P **P** **05 27 35.0 +0.8**
KDAK pmax pmax
comp=Z,47nm,1.5s
E21K Killik River 35.83 31 P **P** **05 27 34.7 -0.4**
PPLA Purkeypile 35.85 40 P **P** **05 27 36.7 +1.2**
PPLA IAmb IAmb 05 27 45.2
comp=Z,17nm,1.5s
B21K Ikpikpuk River 35.88 29 IAmb IAmb 05 27 39.7
comp=Z,12nm,0.7s
CAST Castle Rocks 35.93 40 P **P** **05 27 36.0 0.0**
CNPM China Poot 36.33 46 P **P** **05 27 36.8 -2.6**
CNPM IAmb IAmb 05 27 55.1
comp=Z,17nm,1.2s
D22K Ayikyak River 36.38 30 P **P** **05 27 39.9 +0.2**
BPAW Bear Paw Mtn. 36.45 38 P **P** **05 27 40.6 +0.2**
KTH Kantishna Hill 36.46 39 P **P** **05 27 40.7 +0.2**
KTH IAmb IAmb 05 27 50.5
comp=Z,14nm,1.3s
E22K Anaktuvuk Pass 36.56 32 P **P** **05 27 42.1 +0.7**
LZH Lanzhou 37.04 273 ⇑*i*P **P** **05 27 47.6 +1.7**
LZH pP pwP 05 27 54.1 -2.5
LZH pmax pmax
comp=Z,56nm,1.0s
C23K Itkillik River 37.28 29 P **P** **05 27 48.3 +0.9**
NEA2 Nenana 37.31 38 P **P** **05 27 48.6 +0.9**
SML Sawmill 37.65 42 P **P** **05 27 51.6 +0.9**
SML IAmb IAmb 05 28 04.6
comp=Z,9.5nm,0.8s
SML Sawmill 37.65 42 P **P** **05 27 51.6 +0.9**
SML pmax pmax
comp=Z,9.0nm,0.8s
MDM Murphy Dome 37.68 37 P **P** **05 27 51.7 +0.9**
MDM IAmb IAmb 05 28 18.0
comp=Z,14nm,1.5s
COLA College 37.84 37 P **P** **05 27 52.9 +0.8**
COLA IAmb IAmb 05 27 58.2
comp=Z,13nm,1.2s
COLA College 37.84 37 P **P** **05 27 52.9 +0.8**
COLA pmax pmax
comp=Z,13nm,1.2s
POKR Poker Plat Res 38.02 37 P **P** **05 27 54.5 +0.8**
POKR IAmb IAmb 05 28 03.8
comp=Z,8.1nm,0.9s
ILAR Eielson Array 38.25 37 P **P** **05 27 55.4 -0.2**
comp=Z,1.1nm,0.9s,baz=273,slow=9.0,SNR=13
comp=Z,1.1nm,0.9s
GTA Gaotai 38.32 280 ⇑P **P** **05 27 57.9 +1.2**
GTA pP pwP 05 28 04.8 -2.6
GTA sP sP 05 28 09.8 +8.2
GTA pmax pmax
comp=Z,33nm,0.9s
GTA LR LR
comp=Z,130nm,17.4s
GTA LR LR
comp=Z,290nm,17.8s
GTA LR LR
comp=Z,210nm,17.1s
D25K Kavik River 38.68 30 P **P** **05 27 59.6 +0.3**
CD2 Chengdu 39.87 266 P **P** **05 28 10.3 +0.7**
CD2 pmax pmax
comp=Z,30nm,0.7s
DGZ Jazzator, Alta 42.53 300 ⇑*e*P **P** **05 28 31.4 0.0**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 42.74 307 P **P** **05 28 31.9 -1.0**
ZALV Zalesovo Beam 42.74 307 *i*P **P** **05 28 32.0 -0.8**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 42.74 307 P **P** **05 28 30.4 -2.4**
comp=Z,0.9nm,0.4s,baz=76,slow=6.3,SNR=5.9
ZALV PcP **PcP** **05 30 24.5 +0.4**
comp=Z,3.1nm,0.8s,baz=63,slow=2.6,SNR=11
ZALV LR LR 05 47 19.2
comp=Z,261nm,19.6s,baz=62,slow=38
comp=Z,0.9nm,0.4s
GOMU GeErMu 43.33 279 P **P** **05 28 39.3 +1.0**
GOMU SS SS 05 38 10.4 -8.3
GOMU pmax pmax
comp=Z,27nm,0.9s
GOMU LR LR
comp=Z,220nm,17.0s
GOMU LR LR
comp=Z,230nm,16.4s
GOMU LR LR
comp=Z,290nm,17.0s
INK Inuvik 43.36 31 P **P** **05 28 38.6 +1.0**
INK Inuvik 43.36 31 P **P** **05 28 38.6 +1.0**
INK pmax pmax
comp=Z,6.0nm,1.0s
PZH PanZhiHua 43.92 262 P **P** **05 28 43.4 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,280nm,5.4s
WHY Whitehorse 44.24 43 P **P** **05 28 45.5 +0.5**
WMQ Urumqi 44.62 292 *e*P **P** **05 28 50.4 +2.2**
WMQ pP pwP 05 28 55.4 -3.6
WMQ sP sP 05 28 58.8 +6.0
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ LR LR
comp=Z,360nm,16.1s
WMQ LR LR
comp=Z,280nm,19.7s
WMQ LR LR
comp=Z,140nm,18.9s
A36M Sachs Harbour 45.56 26 P **P** **05 28 56.1 +1.0**
A36M IAmb IAmb 05 28 57.8
comp=Z,9.6nm,0.8s
C36M Paulatuk 46.53 29 P **P** **05 29 03.7 +0.9**
C36M IAmb IAmb 05 29 04.3
comp=Z,7.9nm,0.8s
MK31 Makanchi Array 46.82 298 P **P** **05 29 04.3 -1.1**
MK31 Makanchi Array 46.82 298 ⇑*e*P **P** **05 29 04.5 -1.0**
MKAR Makanchi Array 46.82 298 *e*P **P** **05 29 05.9 +0.4**
MKAR Makanchi Array 46.82 298 *i*P **P** **05 29 05.9 +0.4**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 46.82 298 P **P** **05 29 04.4 -1.1**
comp=Z,3.1nm,0.8s,baz=66,slow=6.6,SNR=16
MKAR PcP **PcP** **05 30 38.5 +0.1**
comp=Z,2.0nm,0.7s,baz=59,slow=5.0,SNR=5.6
comp=Z,3.1nm,0.8s
MAKZ Makanchi 47.01 298 P **P** **05 29 06.5 -0.5**
MAKZ Makanchi 47.01 298 P **P** **05 29 06.5 -0.5**
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 47.43 304 P **P** **05 29 08.5 -1.6**
KURK IAmb IAmb 05 29 10.2
comp=Z,5.7nm,0.6s
KURK Kurchatov 47.43 304 ⇑*e*P **P** **05 29 08.8 -1.3**
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURBB Kurchatov Arra 47.52 304 P **P** **05 29 09.7 -1.1**
comp=Z,3.3nm,0.5s,baz=73,slow=8.4,SNR=52
KURBB PcP **PcP** **05 30 41.1 +0.5**
comp=Z,0.5nm,0.8s,baz=66,slow=3.6,SNR=4.0
comp=Z,3.3nm,0.5s
EUNU Eureka 50.73 11 P **P** **05 29 35.6 +0.5**
EUNU IAmb IAmb 05 29 36.8
comp=Z,7.2nm,0.8s
BVAR Borovoye Array 51.09 310 P **P** **05 29 37.1 -1.0**
comp=Z,2.6nm,0.7s,baz=38,slow=8.1,SNR=14
BVAR PcP **PcP** **05 30 53.6 0.0**
comp=Z,1.6nm,0.5s,baz=67,slow=3.1,SNR=6.1
BVAR LR LR 05 52 57.4
comp=Z,221nm,18.9s,baz=59,slow=38
comp=Z,2.6nm,0.7s
BRVK Borovoye 51.13 310 P **P** **05 29 37.8 -0.7**
BRVK Borovoye 51.13 310 ⇑*e*P **P** **05 29 37.2 -1.2**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
CMAR Chiang Mai Arr 51.15 256 *i*P **P** **05 29 40.7 +1.7**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 51.15 256 P **P** **05 29 39.8 +0.8**
comp=Z,2.4nm,0.8s,baz=38,slow=7.4,SNR=10
comp=Z,2.4nm,0.8s
SHL Shillong 51.43 269 P **P** **05 29 40.9 -0.3**
SHL Shillong 51.43 269 P **P** **05 29 40.9 -0.3**
SHL pmax pmax
comp=Z,28nm,0.8s
RES Resolute Bay 52.50 18 P **P** **05 29 48.1 -0.2**
RES Resolute Bay 52.50 18 P **P** **05 29 48.1 -0.2**
RES pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 52.63 36 P **P** **05 29 49.6 +0.1**
YKA Yellowknife Ar 52.63 36 P **P** **05 29 50.1 +0.7**
comp=Z,2.0nm,0.8s,baz=294,slow=7.0,SNR=20
comp=Z,2.0nm,0.8s
ULHL Ulahol 52.77 295 P **P** **05 29 52.1 +1.1**
SNR=6.1
TKM2 Tokmak 2 52.83 296 P **P** **05 29 52.3 +0.8**
SNR=6.8
USP Ospenovka 53.35 297 P **P** **05 29 55.9 +0.8**
SNR=24
KBK Karagaybulak 53.38 296 P **P** **05 29 56.3 +0.8**
SNR=11
KZA Kyzart 53.49 296 P **P** **05 29 58.0 +1.4**
SNR=14
AAK Ala-Archa 53.67 297 P **P** **05 29 58.3 +0.6**
SNR=15
AAK Ala-Archa 53.67 297 P **P** **05 29 57.6 0.0**
AAK IAmb IAmb 05 29 59.5
comp=Z,14nm,0.8s
AAK Ala-Archa 53.67 297 *e*P **P** **05 29 58.0 +0.4**
AAK Ala-Archa 53.67 297 ⇑*e*P **P** **05 29 58.0 +0.4**
AAK pmax pmax
comp=Z,14nm,0.7s
AAK Ala-Archa 53.67 297 LR LR 05 54 07.9
comp=Z,169nm,19.2s,baz=50,slow=38
KBS Kingsbay 53.80 351 P **P** **05 29 57.9 +0.1**
KBS Kingsbay 53.80 351 *de*P **P** **05 29 57.5 -0.3**
KBS pmax pmax
comp=Z,17nm,1.3s
KBS Kingsbay 53.80 351 *i*P **P** **05 29 56.7 -1.1**
SPB1 Spitsbergen Ar 53.88 350 P **P** **05 29 57.3 -1.2**
SPITS Spitsbergen Ar 53.88 350 P **P** **05 29 57.1 -1.4**
comp=Z,2.9nm,0.7s,baz=71,slow=12,SNR=7.8
comp=Z,2.9nm,0.7s
EKS2 Erkin-Say 54.11 297 P **P** **05 30 01.6 +0.8**
SNR=20
JIRN Jiri 54.16 275 *e*P **P** **05 30 02.5 +0.9**
GUN Gumba 54.23 275 *e*P **P** **05 30 02.5 +0.4**
SVE Sverdlovsk 54.29 317 *e*P **P** **05 30 00.7 -1.0**
SVE pmax pmax
comp=Z,6.0nm,0.8s
RAMN Ramite 54.31 274 *e*P **P** **05 30 03.6 +1.1**
KSH Kashi 54.38 293 P **P** **05 30 07.4 +4.7**
KSH pmax pmax
comp=Z,11nm,0.9s
KSH LR LR
comp=Z,230nm,16.8s
KSH LR LR
comp=Z,180nm,11.0s
KSH LR LR
comp=Z,260nm,16.5s
AML Almayashu 54.44 297 P **P** **05 30 04.7 +1.1**
SNR=10
PKI Pulchoki 54.77 275 *e*P **P** **05 30 06.6 +0.6**
PKIN Phulchoki 54.77 275 *e*P **P** **05 30 06.5 +0.6**
DMN Daman 54.96 275 *e*P **P** **05 30 08.2 +0.9**
HNR Honiara 54.96 170 LR LR 05 57 10.7
comp=Z,647nm,18.0s,baz=346,slow=40
GKN Gorkha 55.05 276 *e*P **P** **05 30 09.1 +1.3**
DANN Dangsing 55.45 277 *e*P **P** **05 30 12.1 +1.2**
ARU Arti 55.48 318 P **P** **05 30 08.5 -1.8**
ARU IAmb IAmb 05 30 11.0
comp=Z,5.1nm,0.8s
ARU Arti 55.48 318 *c i*P **P** **05 30 08.2 -2.1**
ARU 05 31 04.7
ARU 05 32 12.5
ARU S **S** **05 37 52.9 -1.4**
ARU SS **SS** **05 41 30.5 -7.9**
ARU pmax pmax
comp=Z,6.0nm,0.9s
ARU MLR MLR
comp=Z,201nm,17.0s
ARU Arti 55.48 318 P **P** **05 30 08.4 -1.9**
comp=Z,2.5nm,0.4s,baz=39,slow=0.8,SNR=6.7
ARU LR LR 05 55 27.1
comp=Z,87nm,19.5s,baz=57,slow=38
comp=Z,2.5nm,0.4s
KK31 Karatay Array 55.91 299 P **P** **05 30 13.5 -0.2**
KK31 IAmb IAmb 05 30 14.6
comp=Z,13nm,0.8s
KK31 Karatay Array 55.91 299 P **P** **05 30 13.5 -0.2**
KK31 pmax pmax
comp=Z,13nm,0.8s
KKAR Karatay Array 55.91 299 P **P** **05 30 13.5 -0.2**
KKAR IAmb IAmb 05 30 14.6
comp=Z,13nm,0.8s
KKAR Karatay Array 55.91 299 P **P** **05 30 13.5 -0.2**
KKAR pmax pmax
comp=Z,13nm,0.8s
KOLN Koldanda 55.92 277 *e*P **P** **05 30 15.1 +1.0**
comp=Z,50nm,1.0s
PYUN Piuthan 56.14 277 *e*P **P** **05 30 16.7 +1.0**
comp=Z,84nm,0.9s
NEEM North Greenlan 56.71 6 *i*P **P** **05 30 17.3 -1.9**
NEEM IAmb IAmb 05 30 20.1
comp=Z,9.2nm,0.8s
BTK Batken 57.40 296 P **P** **05 30 24.7 +0.4**
BTK Batken 57.40 296 P **P** **05 30 24.7 +0.4**
BTK pmax pmax
comp=Z,24nm,0.9s
DAG Danmarks Havn 58.06 357 P **P** **05 30 27.6 -0.7**
DAG pmax pmax
comp=Z,13nm,1.4s
DAG Danmarks Havn 58.06 357 *i*P **P** **05 30 27.0 -1.3**
DAG IAmb IAmb 05 30 28.7
comp=Z,5.0nm,0.8s
KIRV Kirov 58.40 323 LR LR 05 57 54.0
comp=Z,142nm,18.5s,baz=51,slow=38
KEV Kevo 58.41 340 P **P** **05 30 30.2 -0.7**
KEV Kevo 58.41 340 P **P** **05 30 30.2 -0.7**
KEV pmax pmax
comp=Z,43nm,1.4s
ABKAR Akbulak array 58.67 310 P **P** **05 30 32.4 -0.6**
ARA0 ARCESS Array S 58.93 341 *e*P **P** **05 30 34.1 -0.4**
ARCES ARCESS Array B 58.93 341 P **P** **05 30 33.9 -0.6**
ARCES IAmb IAmb 05 30 55.2
comp=Z,19nm,1.4s
ARCES ARCESS Array B 58.93 341 P **P** **05 30 33.9 -0.6**
comp=Z,2.1nm,0.5s,baz=54,slow=6.8,SNR=16
ARCES LR LR 05 59 20.1
comp=Z,57nm,18.1s,baz=297,slow=40
comp=Z,2.1nm,0.5s
AKTO Aktyubinsk 59.02 312 LR LR 05 58 20.7
comp=Z,396nm,18.1s,baz=66,slow=38
CHGR Chuyangaron 59.25 295 P **P** **05 30 37.7 +0.4**
CHGR Chuyangaron 59.25 295 P **P** **05 30 37.7 +0.4**
CHGR pmax pmax
comp=Z,83nm,0.9s
K04D Chiloquin, OR 59.31 59 P **P** **05 30 37.8 +0.1**
K04D IAmb IAmb 05 30 45.3
comp=Z,6.2nm,0.7s
NIL Nilore 59.51 288 P **P** **05 30 38.8 -0.3**
NIL Nilore 59.51 288 P **P** **05 30 38.8 -0.3**
NIL pmax pmax
comp=Z,30nm,1.1s
KTK1 Kautokeino 59.85 341 *e*P **P** **05 30 39.8 -1.1**
JETT Jettan, Norway 60.06 342 *e*P **P** **05 30 41.9 -0.4**
TRO Tromso 60.31 343 *e*P **P** **05 30 43.0 -0.9**
KLMR Klimovskoe 60.88 329 *e*P **P** **05 30 45.9 -2.1**
KLMR AMP 05 30 47.8
comp=Z,15nm,1.4s
KLMR Klimovskoe 60.88 329 *e*P **P** **05 30 45.8 -2.2**
KLMR pmax pmax
comp=Z,15nm,1.4s
PLID Pearl Lake 61.26 54 P **P** **05 30 51.8 +0.7**
PLID IAmb IAmb 05 31 05.5
comp=Z,4.0nm,0.8s
OVMT Ovando 61.75 51 P **P** **05 30 54.7 +0.4**
KBL Kabul 61.76 292 P **P** **05 30 53.9 -0.8**
KBL Kabul 61.76 292 P **P** **05 30 53.9 -0.8**
KBL pmax pmax
comp=Z,14nm,0.8s
SUMG Summit 62.21 3 P **P** **05 30 57.5 +0.2**
SUMG Summit 62.21 3 P **P** **05 30 57.5 +0.2**
SUMG pmax pmax
comp=Z,33nm,1.0s
SUMG Summit 62.21 3 *i*P **P** **05 30 57.0 -0.3**
SUMG IAmb IAmb 05 30 59.5
comp=Z,17nm,0.7s
FAUS Fauske 62.93 343 *e*P **P** **05 31 00.2 -1.4**
FCC Fort Churchill 62.98 32 P **P** **05 31 01.9 -0.2**
FCC IAmb IAmb 05 31 18.2
comp=Z,5.2nm,1.1s
FCC Fort Churchill 62.98 32 P **P** **05 31 01.9 -0.2**
FCC pmax pmax
comp=Z,5.0nm,1.1s
NVAR Mina Array Bea 63.92 61 P **P** **05 31 09.9 +0.9**
comp=Z,0.6nm,0.4s,baz=288,slow=8.3,SNR=3.7
comp=Z,0.6nm,0.4s
MOR8 Moi Rana 64.14 342 *e*P **P** **05 31 07.4 -2.2**
FIA1 FINESS Array S 64.97 335 P **P** **05 31 14.1 -1.1**
FINES FINESS Array B 64.97 335 P **P** **05 31 14.1 -1.1**
FINES FINESS Array B 64.97 335 *i*P **P** **05 31 13.6 -1.6**
FINES pmax pmax
comp=Z,15nm,0.7s
FINES FINESS Array B 64.97 335 P **P** **05 31 13.7 -1.5**
comp=Z,14nm,0.7s,baz=34,slow=7.4,SNR=109
comp=Z,14nm,0.7s
ICESG Greenland Ices 65.62 4 *i*P **P** **05 31 20.1 +0.4**
ICESG IAmb IAmb 05 31 22.9
comp=Z,14nm,0.9s
PDAR Pinedale Array 66.34 53 P **P** **05 31 24.9 +0.2**
PDAR Pinedale Array 66.34 53 P **P** **05 31 25.1 +0.5**
comp=Z,1.0nm,0.8s,baz=306,slow=1.2,SNR=9.1
comp=Z,1.0nm,0.8s
MEF Metsahovi 66.44 334 *e*P **P** **05 31 23.8 -0.9**
GEYT Alibeck 66.57 301 P **P** **05 31 26.3 +0.3**
comp=Z,13nm,0.8s,baz=20,slow=2.2,SNR=14
comp=Z,13nm,0.8s
GYA0 ALIBECK ARRAY 66.57 301 P **P** **05 31 25.0 -1.0**
GYA0 pmax pmax
comp=Z,14nm,0.8s
GYA0B ALIBECK ARRAY 66.57 301 P **P** **05 31 26.0 0.0**
GYA0B IAmb IAmb 05 31 28.2
comp=Z,14nm,0.8s
WRA Warramunga Arr 66.84 198 P **P** **05 31 28.2 +0.5**
comp=Z,1.1nm,0.8s,baz=14,slow=6.8,SNR=5.8
comp=Z,1.1nm,0.8s
VSU Vasula 67.08 332 *e*P **P** **05 31 28.6 -0.2**
MTSE Matsula 67.82 334 *e*P **P** **05 31 32.9 -0.6**
LCMT Little Creek M 67.92 59 IAmb IAmb 05 31 50.3
comp=Z,3.8nm,0.9s
SRU San Rafael Swe 68.17 56 IAmb IAmb 05 31 51.8
comp=Z,4.9nm,0.9s
DZM Mont Dzumac 68.35 165 *e*LR LR 05 52 28.4
comp=Z,80nm,20.9s
UPP Uppsala 68.70 337 *e*P **P** **05 31 38.5 -0.5**
DOMB Dombas 68.90 342 *e*P **P** **05 31 39.5 -0.7**
NC204 NORSAR Array S 69.20 341 P **P** **05 31 41.7 -0.5**
NC204 IAmb IAmb 05 31 42.7
comp=Z,17nm,1.1s
NB2 NORSAR Subarra 69.31 341 P **P** **05 31 41.8 -1.0**
comp=Z,4.0nm,0.7s,baz=28,slow=6.5
NB2 NORSAR Subarra 69.31 341 P **P** **05 31 41.8 -1.0**
baz=28,slow=6.5
NB2 NORSAR Subarra 69.31 341 P **P** **05 31 40.2 -2.6**
NB2 pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 69.31 341 P **P** **05 31 42.2 -0.5**
comp=Z,7.3nm,0.8s,baz=29,slow=6.3,SNR=30
NOA LR LR 06 04 21.5
comp=Z,34nm,21.1s,baz=290,slow=38
comp=Z,7.3nm,0.8s
MAK Makhachkala 69.33 311 *e*P **P** **05 31 41.1 -2.1**
MAK *e*S **S** **05 40 46.7 -2.3**
MAK MLR MLR
comp=Z,129nm,16.0s
HFS Hagfors 69.50 339 P **P** **05 31 43.0 -0.9**

comp=Z,18nm,0.8s,baz=38,slow=5.6,SNR=36
HFS LR LR 06 04 48.2
comp=Z,81nm,21.1s,baz=47,slow=38
comp=Z,18nm,0.8s
NC602 NORSAR Array S 69.50 340 *e*P **P 05 31 42.6 -1.3**
NORES NORESS Array B 69.50 340 P **P 05 31 43.2 -0.7**
NACGM Naroch 69.86 330 *e*P **P 05 31 45.0 -1.2**
comp=E,2µm,0.8s
VSVD Vaisvydziai 69.99 332 *e*P **P 05 31 46.5 -0.4**
VIKU Vikbolandet 70.11 337 *e*P **P 05 31 47.0 -0.6**
PABE Paberze 70.36 332 P **P 05 31 48.8 -0.5**
PABE Paberze 70.36 332 *e*P **P 05 31 48.9 -0.3**
ASAR Alice Springs 70.54 197 P **P 05 31 52.5 +1.8**
comp=E,0.9nm,0.7s,baz=10,slow=5.1,SNR=10
comp=E,0.9nm,0.7s
KIV Kislovodsk 71.16 314 ⇑P **P 05 31 54.9 +0.3**
KIV Kislovodsk 71.16 314 P **P 05 31 54.7 +0.2**
KIV Kislovodsk 71.16 314 *e*P **P 05 31 55.1 +0.6**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV MLR MLR
comp=Z,121nm,18.0s
KBZ Khabaz 71.22 314 *e*P **P 05 31 55.5 +0.8**
KBZ Khabaz 71.22 314 *ce*P **P 05 31 55.5 +0.8**
KBZ pmax pmax
comp=Z,26nm,0.9s
KBZ Khabaz 71.22 314 P **P 05 31 55.0 +0.4**
comp=Z,24nm,0.8s,baz=50,slow=3.3,SNR=44
KBZ LR LR 06 07 17.8
comp=Z,206nm,18.5s,baz=41,slow=40
ZEI Tsey 71.36 312 *e*P **P 05 31 55.7 -0.2**
ZEI pmax pmax
comp=Z,11nm,0.8s
SUW Suwalki 71.84 331 *e*P **P 05 31 57.9 -0.4**
AKASG Malin Array Be 72.25 326 P **P 05 32 00.4 -0.4**
comp=Z,6.4nm,0.6s,baz=34,slow=6.2,SNR=27
AKASG LR LR 06 06 22.6
comp=Z,89nm,18.8s,baz=31,slow=38
comp=Z,6.4nm,0.6s
AKBB Malin Array Si 72.25 326 IAmb IAmb 05 32 01.0
comp=Z,11nm,0.8s
AKBB Malin Array Si 72.25 326 *ce*P **P 05 31 59.9 -0.9**
KIEV Kiev 72.26 326 ⇑P **P 05 32 00.3 -0.5**
KIEV Kiev 72.26 326 P **P 05 32 00.1 -0.8**
KIEV IAmb IAmb 05 32 01.0
comp=Z,10nm,0.8s
KIEV Kiev 72.26 326 ⇑P **P 05 32 00.3 -0.5**
GNI Garni 72.78 310 *ce*P **P 05 32 06.2 +1.9**
GNI pmax pmax
comp=Z,9.0nm,0.7s
GNI Garni 72.78 310 LR LR 06 07 34.3
comp=Z,103nm,18.3s,baz=43,slow=39
BCA Borcka 73.51 313 ⇑P **P 05 32 08.9 +0.5**
SORM Soroca 74.62 325 ⇑P **P 05 32 14.4 -0.4**
SORM Soroca 74.62 325 ⇑P **P 05 32 14.4 -0.4**
LVV L'vov 74.96 328 *e*P **P 05 32 16.5 -0.2**
PURM Purcari 75.25 323 ⇑P **P 05 32 18.4 0.0**
GURO Guroymak-BITLI 75.39 310 IAmb IAmb 05 32 22.8
comp=Z,9.1nm,1.0s
MILM Milestii Mici 75.39 324 ⇑P **P 05 32 19.0 -0.2**
MILM Milestii Mici 75.39 324 ⇑P **P 05 32 19.0 -0.2**
KWP Kalwaria Pacla 75.60 329 *e*P **P 05 32 20.9 +0.4**
VASR Vaslui 76.04 324 ⇑P **P 05 32 23.5 +0.5**
OJC Ojcow 76.15 331 *e*P **P 05 32 23.7 +0.1**
OJC Ojcow 76.15 331 IAmb IAmb 05 32 24.8
comp=Z,14nm,0.8s
BUR08 Bucovina Ar. S 76.28 326 P **P 05 32 24.4 -0.1**
BUR08 IAmb IAmb 05 32 25.6
comp=Z,12nm,0.8s
BURAR Bucovina Array 76.30 326 ⇑P **P 05 32 24.6 0.0**
BURAR Bucovina Array 76.30 326 ⇑P **P 05 32 24.6 0.0**
GIRR Girov 76.32 325 P **P 05 32 25.2 +0.6**
KOLS Kolonicke sedl 76.34 328 *e*P **P 05 32 25.5 +0.8**
KOLS Kolonicke sedl 76.34 328 *e*P **P 05 32 25.5 +0.8**
KOLS pmax pmax
comp=Z,14nm,0.8s
TESR Tescani 76.61 325 ⇑P **P 05 32 26.4 +0.2**
NIE Niedzica 76.65 330 *e*P **P 05 32 27.0 +0.5**
GHRR 76.66 324 ⇑P **P 05 32 26.8 +0.3**
CRVS Cervenica-Dubn 76.66 329 *e*P **P 05 32 27.0 +0.5**
CRVS Cervenica-Dubn 76.66 329 *e*P **P 05 32 27.0 +0.5**
CRVS pmax pmax
comp=Z,42nm,1.9s
TLCR 76.77 322 ⇑P **P 05 32 27.8 +0.7**
TLCR 76.77 322 ⇑P **P 05 32 27.8 +0.7**
KSP Ksiaz 76.79 333 *e*P **P 05 32 27.3 +0.1**
ARPR Arapgir-MALATY 76.94 313 IAmb IAmb 05 32 31.0
comp=Z,16nm,1.2s
CFR Carcaliu 77.06 323 ⇑P **P 05 32 28.8 +0.1**
CFR Carcaliu 77.06 323 ⇑P **P 05 32 28.8 +0.1**
OSTC Ostas 77.06 333 *e*P **P 05 32 28.7 -0.1**
OSTC Ostas 77.06 333 *e*P **P 05 32 28.7 -0.1**
CHVC Chvalec 77.09 333 *e*P **P 05 32 28.1 -0.8**
CHVC Chvalec 77.09 333 *e*P **P 05 32 28.1 -0.8**
VRI Vrincioaia 77.10 324 ⇑P **P 05 32 29.5 +0.4**
VRI Vrincioaia 77.10 324 ⇑P **P 05 32 29.5 +0.4**
PLOR Plostina 77.15 324 ⇑P **P 05 32 29.4 +0.1**
PLOR Plostina 77.15 324 ⇑P **P 05 32 29.4 +0.1**
LANS Liptovska Anna 77.17 330 *e*P **P 05 32 30.6 +1.2**
LANS Liptovska Anna 77.17 330 *e*P **P 05 32 30.6 +1.2**
LANS pmax pmax
comp=Z,10.0nm,0.9s
UPC Upice 77.17 333 *e*P **P 05 32 29.7 +0.4**
UPC Upice 77.17 333 *e*P **P 05 32 29.7 +0.4**
TPGR Topolog 77.20 322 ⇑P **P 05 32 29.7 +0.1**
DPC Dobruska-Polom 77.21 333 *e*P **P 05 32 30.0 +0.4**
DPC Dobruska-Polom 77.21 333 *e*P **P 05 32 30.0 +0.4**
TURR Turia 77.24 325 ⇑P **P 05 32 30.5 +0.7**
KRLC Kraliky 77.30 332 *e*P **P 05 32 30.0 -0.1**
KRLC Kraliky 77.30 332 *e*P **P 05 32 30.0 -0.1**
MORC Moravsky Berou 77.30 332 ⇓P **P 05 32 30.1 0.0**
MORC Moravsky Berou 77.30 332 IAmb IAmb 05 32 31.6
comp=Z,17nm,1.1s
MORC Moravsky Berou 77.30 332 *e*P **P 05 32 30.4 +0.3**
MORC Moravsky Berou 77.30 332 ⇓P **P 05 32 30.1 0.0**
OZUR 77.30 325 ⇑P **P 05 32 31.1 +0.9**
COVR Voineasa-Covas 77.33 324 ⇑P **P 05 32 31.5 +1.1**
STKA Stephens Creek 77.37 189 LR LR 06 10 32.2
comp=Z,21nm,18.9s,baz=26,slow=39
KECS Kecovo 77.37 329 *e*P **P 05 32 31.4 +1.0**
KECS Kecovo 77.37 329 *e*P **P 05 32 31.5 +1.0**
CLL Collm 77.41 335 IAmb IAmb 05 32 31.9
comp=Z,16nm,1.1s
CLL Collm 77.41 335 *i* P **P 05 32 30.1 -0.5**
comp=Z,11nm,0.8s
CLL *e*PcP **PcP 05 32 41.0 -0.1**
CLL Collm 77.41 335 *i* P **P 05 32 30.1 -0.5**
CLL pmax pmax
comp=Z,11nm,0.8s
BRG Berggiesshubel 77.51 334 *e*P P 05 32 17.5 -14
BRG Amp 05 32 19.5
comp=Z,2.8nm,0.7s
EKA Eskdalemuir Ar 77.53 346 P **P 05 32 31.7 +0.5**
comp=Z,3.5nm,0.8s,baz=17,slow=4.8,SNR=7.6
comp=Z,3.5nm,0.8s
MAUC Maruska 77.55 331 *e*P **P 05 32 31.5 0.0**
DOPR Dopca 77.57 325 ⇑P **P 05 32 32.5 +0.8**
CBBR Cluj-Babes-Bol 77.64 326 ⇑P **P 05 32 30.7 -1.3**
CJR Cluj-Napoca 77.67 326 ⇑P **P 05 32 33.0 +0.8**
MLR Muntele Rosu 77.73 324 ⇑P **P 05 32 33.6 +0.9**
MLR Muntele Rosu 77.73 324 IAmb IAmb 05 32 35.3
comp=Z,9.3nm,0.8s
MLR Muntele Rosu 77.73 324 ⇑P **P 05 32 33.6 +0.9**
MLR Muntele Rosu 77.73 324 LR LR 06 09 11.2
comp=Z,54nm,19.6s,baz=8.5,slow=38
MARR Marisel-Cluj 77.89 327 ⇑P **P 05 32 32.4 -1.2**
VYHS Vyhne 77.95 330 *e*P **P 05 32 34.3 +0.6**
VYHS Vyhne 77.95 330 *e*P **P 05 32 34.3 +0.6**
VYHS pmax pmax
comp=Z,9.0nm,1.0s
VRAC Vranov 78.02 332 ⇓P **P 05 32 34.7 +0.6**
VRAC Vranov 78.02 332 *e*P **P 05 32 34.5 +0.4**
VRAC Vranov 78.02 332 ⇓P **P 05 32 34.7 +0.6**
VRAC Vranov 78.02 332 LR LR 06 11 21.7
comp=Z,66nm,19.0s,baz=20,slow=39
JAVC Velka Javorina 78.04 331 *e*P **P 05 32 35.7 +1.4**
PSZ Piszkesteto 78.06 329 ⇑P **P 05 32 35.0 +0.6**
PSZ Piszkesteto 78.06 329 IAmb IAmb 05 32 36.1
comp=Z,9.0nm,1.2s
PSZ Piszkesteto 78.06 329 ⇑P **P 05 32 35.0 +0.6**
PRU Pruhonice 78.09 333 *e*P **P 05 32 34.2 -0.3**
PRU Pruhonice 78.09 333 *e*P **P 05 32 34.2 -0.3**
VOIR 78.14 325 ⇓P **P 05 32 35.6 +0.7**
VOIR 78.14 325 ⇓P **P 05 32 35.6 +0.7**
KRUC Moravsky 78.30 332 *e*P **P 05 32 35.8 +0.2**
MTUR Matau 78.31 325 ⇑P **P 05 32 34.3 -1.5**
MTUR Matau 78.31 325 ⇑P **P 05 32 34.3 -1.5**
ARR Arges 78.36 325 ⇓P **P 05 32 37.3 +1.1**
SMOL Smolenice 78.42 331 *e*P **P 05 32 37.2 +0.9**
MODS Modra-Piesok 78.59 331 *e*P **P 05 32 38.5 +1.2**
MODS Modra-Piesok 78.59 331 *e*P **P 05 32 38.5 +1.2**
MODS pmax pmax
comp=Z,44nm,1.6s
ZVC Zvikov 78.68 333 *e*P **P 05 32 42.1 +4.3**
SRO Srobarova 78.71 330 *e*P **P 05 32 38.9 +1.0**
SRO Srobarova 78.71 330 *e*P **P 05 32 38.9 +1.0**
SRO pmax pmax
comp=Z,30nm,1.7s
SIRR Siria 78.79 327 ⇑P **P 05 32 38.4 0.0**
BR131 Keskin Array S 78.82 316 P **P 05 32 38.3 -0.6**
BR131 Keskin Array S 78.82 316 *de*P **P 05 32 39.6 +0.7**
BRTR Keskin Array B 78.82 316 P **P 05 32 37.8 -1.1**
BRTR Keskin Array B 78.82 316 P **P 05 32 39.6 +0.7**
comp=Z,2.8nm,0.8s,baz=96,slow=4.6,SNR=17
comp=Z,2.8nm,0.8s
TXAR Lajitas Array 79.00 59 P **P 05 32 41.0 +1.0**
comp=Z,1.3nm,0.8s,baz=242,slow=2.7,SNR=4.9
comp=Z,1.3nm,0.8s
SURR Surduc 79.04 327 ⇑P **P 05 32 39.7 -0.1**
GZR Gura Zlata 79.08 326 ⇑P **P 05 32 39.6 -0.5**
GZR Gura Zlata 79.08 326 ⇑P **P 05 32 39.6 -0.5**
KHC Kasperske Hory 79.15 334 IAmb IAmb 05 32 41.8
comp=Z,4.6nm,0.7s
KHC Kasperske Hory 79.15 334 *e*P **P 05 32 40.7 +0.3**
KHC Kasperske Hory 79.15 334 *e*P **P 05 32 40.7 +0.3**
CKRC Cesky Krumlov 79.19 333 *e*P **P 05 32 40.3 -0.3**
CKRC Cesky Krumlov 79.19 333 *e*P **P 05 32 40.3 -0.3**
BZS Buzias 79.35 327 ⇑P **P 05 32 41.1 -0.4**
BZS Buzias 79.35 327 ⇑P **P 05 32 41.1 -0.4**
GERES GERESS Array B 79.36 333 P **P 05 32 41.7 +0.1**
comp=Z,1.5nm,0.6s,baz=14,slow=6.3,SNR=6.4
GERES LR LR 06 13 21.6
comp=Z,36nm,18.3s,baz=46,slow=40
comp=Z,1.5nm,0.6s
GRF Grafenberg Arr 79.37 335 *e*P **P 05 32 42.2 +0.6**
comp=Z,23nm,1.8s,baz=24,slow=4.7
GRF *e*L L 06 10 31.7
comp=Z,83nm,19.0s
CONA Conrad Observa 79.45 332 *e*P **P 05 32 42.6 +0.5**
comp=Z,5.1nm,0.8s
RONA Rosalia, Austr 79.51 331 *e*P **P 05 32 43.4 +1.0**
comp=Z,7.2nm,0.7s,SNR=6.3
BTNL Ternell 79.97 339 *d*P **P 05 32 45.7 +0.9**
MEM Membach 79.98 339 *d*P **P 05 32 45.5 +0.7**
PLVB Pleven 79.99 324 ⇓P **P 05 32 45.3 +0.3**
MDVR Moldovita 80.01 326 ⇓P **P 05 32 44.5 -0.6**
MOA Molln 80.05 333 *e*P **P 05 32 46.1 +0.8**
comp=Z,3.5nm,0.7s
BSTI Sart Tilman 80.12 339 *d*P **P 05 32 46.8 +1.3**
ARSA Arzberg 80.16 331 *e*P **P 05 32 45.8 -0.1**
comp=Z,1.3nm,0.6s
BCLA Clavier 80.34 339 *d*P **P 05 32 47.0 +0.3**
BGES Gesves 80.42 339 *d*P **P 05 32 46.5 -0.7**
FRGS Fruska Gora 80.42 328 ⇑P **P 05 32 46.5 -0.8**
BMRD Maredsous 80.58 339 *d*P **P 05 32 46.7 -1.3**
DOU Dourbes 80.81 339 *d*P **P 05 32 47.7 -1.6**
SOKA Soboth 80.82 331 *e*P **P 05 32 50.0 +0.5**
comp=Z,4.0nm,0.7s,SNR=6.3
LESA Schwarzleotal 80.94 333 *e*P **P 05 32 50.6 +0.5**
comp=Z,6.0nm,0.8s
KBA Koelnbreinsper 81.03 333 *ep*P **P 05 32 52.1 +1.4**
comp=Z,13nm,0.9s
OBKA Obir 81.13 332 *e*P **P 05 32 51.3 +0.1**
comp=Z,7.3nm,1.0s
TAOE Nuku Hiva Isla 81.22 112 *e*LR LR 05 58 11.1
comp=Z,89nm,23.2s
DIVS Divibare 81.25 327 IAmb IAmb 05 32 53.6
comp=Z,12nm,0.9s
MYKA Terra Mystica 81.33 332 *e*P **P 05 32 51.7 -0.5**
comp=Z,6.5nm,1.0s
WATA Walderalm 81.36 334 *e*P **P 05 32 52.8 +0.4**
comp=Z,8.4nm,0.7s,SNR=11
WTTA Wattenberg 81.41 334 *e*P **P 05 32 53.1 +0.4**
comp=Z,8.2nm,0.6s,SNR=11
BFO Black Forest 81.43 336 P **P 05 32 52.9 +0.2**
BFO IAmb IAmb 05 32 54.9
comp=Z,6.7nm,0.9s
BFO Black Forest 81.43 336 P **P 05 32 52.9 +0.2**
BFO pmax pmax
comp=Z,7.0nm,0.9s
RDO Rodhopi 81.44 322 IAmb IAmb 05 32 55.3
comp=Z,14nm,0.9s
RETA Reutte 81.48 334 *i* P **P 05 32 53.2 +0.3**
comp=Z,2.7nm,0.7s
MOTA Moosalm 81.50 334 *i* P **P 05 32 53.4 +0.2**
comp=Z,7.4nm,0.8s
PRED Cave del Predi 81.52 332 IAmb IAmb 05 32 54.8
comp=Z,7.5nm,0.8s
SQTA Sankt Quirin 81.58 334 *e*P **P 05 32 54.0 +0.5**
comp=Z,6.5nm,0.7s,SNR=5.5
CDF Champ du Feu 81.65 337 *e*P **P 05 32 53.8 -0.1**
CDF pmax pmax
comp=Z,7.0nm,0.9s
ECH Echery 81.86 337 IAmb IAmb 05 32 57.0
comp=Z,7.0nm,0.8s
FETA Feichten 81.90 334 *e*P **P 05 32 56.0 +0.7**
comp=Z,7.1nm,1.1s,SNR=6.3
DAVA Damuels 81.92 335 *e*P **P 05 32 55.9 +0.4**
comp=Z,6.7nm,0.8s
PPT Papeete 82.05 125 LR LR 06 05 16.4
comp=Z,22nm,18.4s,baz=208,slow=33
PPT2 Papeete2 82.07 125 *e*LR LR 05 58 34.7
comp=Z,72nm,23.0s
PPT2 *e*LR LR 05 58 47.7
comp=Z,131nm,24.8s
HAU Haudompre 82.28 337 *e*P **P 05 32 57.6 +0.5**
HAU pmax pmax
comp=Z,6.0nm,0.9s
HINF Hinteralfeld 82.31 337 *e*P **P 05 32 57.6 +0.3**
HINF pmax pmax
comp=Z,4.0nm,0.8s
T47A Sharon Grove 82.38 44 IAmb IAmb 05 33 15.4
comp=Z,18nm,1.1s
FUORN Ofenpass-Fuorn 82.41 334 P **P 05 32 58.3 +0.2**
CSS Mathiatis 82.67 313 IAmb IAmb 05 33 01.4
comp=Z,9.0nm,0.8s
TUE Stuetta 82.81 335 P **P 05 33 00.0 -0.1**
TUE IAmb IAmb 05 33 02.3
comp=Z,6.6nm,0.8s
MMAI Mount Meron Ar 83.09 311 P **P 05 33 02.6 +0.9**
comp=Z,2.4nm,0.4s,baz=37,slow=7.4,SNR=11
MMAI LR LR 06 14 51.8
comp=Z,113nm,19.2s,baz=354,slow=39
comp=Z,2.4nm,0.4s
LDF La Druitiere 83.33 342 *e*P **P 05 33 02.0 -0.5**
LDF pmax pmax
comp=Z,53nm,1.7s
FNA Florina 83.50 324 IAmb IAmb 05 33 05.3
comp=Z,4.5nm,0.8s
SENIN Lac Senin/Sane 83.51 336 P **P 05 33 02.6 -1.2**
LOR Lormes 83.61 339 *e*P **P 05 33 04.1 +0.1**
LOR pmax pmax
comp=Z,13nm,0.9s
GRR Gorron 83.68 342 *e*P **P 05 33 05.1 +0.8**
GRR pmax pmax
comp=Z,99nm,1.9s
SSF Saint Saulge 83.90 339 *e*P **P 05 33 05.6 +0.1**
SSF pmax pmax
comp=Z,11nm,0.9s
SGMF Saint Gilles 84.17 343 *e*P **P 05 33 07.7 +0.9**
SGMF pmax pmax
comp=Z,91nm,1.7s
AVF Avril sur Loir 84.19 339 *e*P **P 05 33 06.4 -0.5**
AVF pmax pmax
comp=Z,10.0nm,1.0s
SMF Signal de Mont 84.20 338 *e*P **P 05 33 07.3 +0.3**
SMF pmax pmax
comp=Z,19nm,0.9s
LPL La Plagne 84.45 336 *e*P **P 05 33 09.1 +0.5**
LPL pmax pmax
comp=Z,11nm,1.0s
LPG La Plagne 84.46 336 *e*P **P 05 33 09.3 +0.6**
LPG pmax pmax
comp=Z,15nm,1.0s
TCF Toulx Ste Croi 84.94 339 *e*P **P 05 33 11.4 +0.6**
TCF pmax pmax
comp=Z,6.0nm,0.8s
MFF Saint Martin d 85.21 341 *e*P **P 05 33 13.0 +0.9**
MFF pmax pmax
comp=Z,16nm,1.0s
ORIF Oris-en-Ratbe 85.24 336 *e*P **P 05 33 13.0 +0.6**
ORIF pmax pmax
comp=Z,9.0nm,0.9s
SSB Saint Sauveur 85.28 337 IAmb IAmb 05 33 15.5
comp=Z,7.5nm,0.8s
EIL Elat 85.91 309 LR LR 06 17 24.8
comp=Z,33nm,18.1s,baz=59,slow=40
CAF Calviac 86.25 339 *e*P **P 05 33 19.6 +2.2**
CAF pmax pmax
comp=Z,8.0nm,0.8s
ETSF Etsaut 88.80 340 *e*P **P 05 33 31.7 +2.0**
ETSF pmax pmax
comp=Z,3.0nm,0.7s
ESDC Sonseca Array 92.66 342 P **P 05 33 46.9 -0.8**
comp=Z,0.6nm,0.8s,baz=9.5,slow=5.4,SNR=3.1
comp=Z,0.6nm,0.8s
ELIB Princess Elisa 144.09 205 *d*PKP **PKPab 05 40 08.7 +0.8**
PLCA Paso Flores 148.95 97 PKPbc **PKPbc 05 40 25.0 +1.6**
comp=Z,2.1nm,0.9s,baz=254,slow=4.9,SNR=3.0
SNAA Sanae 150.90 196 PKPbc **PKPbc 05 40 26.8 -0.4**
comp=Z,4.8nm,1.1s,baz=276,slow=6.0,SNR=3.2

NEIC 17 05:27:15.5±1.6, 31°04N±0°01×103°36W±0°02, h1 km±2km, mb_Lg3.0/39, ML2.9/68, Error ellipse: s-maj=2.2km s-min=1.9km az=137.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.55**	**307**			Pg	05 27 26.8	+0.8
PECS					Sg	Sg	05 27 34.6	+1.6
PECS					IAML		05 27 38.4	
	712nm,0.6s							
PECS					IAML		05 27 38.5	
	660nm,0.6s							
MNHN	**Monahans**	**0.59**	**60**			Pg	05 27 26.8	-0.1
MNHN					Sg	Sg	05 27 35.0	+0.5
MNHN					IAML		05 27 42.0	
	468nm,0.5s							
MNHN					IAML		05 27 44.4	
	493nm,0.6s							
ALPN	**Alpine**	**0.70**	**200**			Pg	05 27 29.9	-0.8
ALPN						Sg	05 27 39.9	-1.0
ALPN					IAML		05 27 45.8	
	343nm,0.2s							
ALPN					IAML		05 27 52.4	
	311nm,0.3s							
ODSA	**Odessa**	**1.28**	**32**			Pg	05 27 39.0	-1.0
ODSA						Sg	05 27 57.0	+0.3
ODSA					IAML		05 28 02.3	
	437nm,0.6s							
ODSA					IAML		05 28 02.6	
	307nm,0.3s							
425A	**Indio Mountain**	**1.42**	**260**			Pg	05 27 42.7	0.0
425A					IAML		05 28 08.0	
	190nm,0.6s							
SAND	**Sanderson**	**1.52**	**135**			Pg	05 27 44.5	0.0
SAND					IAML		05 28 11.1	
	204nm,0.5s							
SAND					IAML		05 28 11.3	
	216nm,0.4s							
TX31	**Lajitas Ar. Si**	**1.72**	**189**			Pg	05 27 48.1	+0.2
TXAR	**Lajitas Array**	**1.72**	**189**				05 27 47.9	0.0
OZNA	**Ozona**	**1.92**	**93**			Pb	05 27 50.6	-0.7
OZNA					IAML		05 28 18.4	
	125nm,0.5s							
OZNA					IAmb_Lg		05 28 20.4	
	comp=Z,37nm,0.8s							
OZNA					IAML		05 28 28.4	
	comp=Z,190nm,0.6s							
SGCY	**Sterling City**	**2.10**	**65**			Pn	05 27 52.8	+1.0
SGCY					IAmb_Lg		05 28 23.0	
	comp=Z,64nm,0.9s							
SGCY					IAML		05 28 27.2	
	comp=Z,194nm,1.0s							
SGCY					IAML		05 28 28.9	
	comp=Z,202nm,0.8s							
POST	**Post**	**2.56**	**37**			Pn	05 27 58.7	+0.5
POST					IAML		05 28 39.6	
	comp=Z,120nm,0.6s							
POST					IAmb_Lg		05 28 40.8	
	comp=Z,45nm,0.7s							
POST					IAML		05 28 41.3	
	comp=Z,196nm,0.6s							
SN01	**Snyder 1**	**2.78**	**48**			Pn	05 28 00.5	-0.6
SN01					IAmb_Lg		05 28 43.1	
	comp=Z,53nm,0.9s							
SN01					IAML		05 28 43.3	
	comp=Z,177nm,0.3s							
SN01					IAML		05 28 46.9	
	comp=Z,198nm,0.4s							
SN05	**Snyder 5**	**2.79**	**48**		IAmb_Lg		05 28 45.0	
	comp=Z,52nm,0.7s							
DRIO	**Del Rio**	**2.87**	**124**			Pn	05 28 02.4	+0.1
DRIO					IAmb_Lg		05 28 47.2	
	comp=Z,84nm,0.8s							
DRIO					IAML		05 28 56.2	
	comp=Z,125nm,0.4s							
DRIO					IAML		05 28 57.3	
	comp=Z,170nm,0.4s							
MSTX	**Muleshoe**	**2.96**	**9**			Pn	05 28 04.5	+0.7
JCT	**Junction City**	**3.11**	**99**			Pn	05 28 07.2	+1.5
JCT					IAmb_Lg		05 29 01.8	
	comp=Z,64nm,0.8s							
DKNS	**Dickens**	**3.33**	**38**			Pn	05 28 09.4	+0.6
DKNS					IAmb_Lg		05 29 06.0	
	comp=Z,63nm,0.7s							
DKNS					IAML		05 29 10.3	
	comp=Z,170nm,0.6s							
DKNS					IAML		05 29 18.1	
	comp=Z,110nm,0.7s							
ABTX	**Abilene, Hawle**	**3.54**	**62**			Pn	05 28 12.3	+0.7
APMT	**Aspermont**	**3.57**	**49**		Pn	Pn	05 28 12.5	+0.6
APMT					IAML		05 29 14.9	
	comp=Z,108nm,0.6s							
APMT					IAmb_Lg		05 29 16.3	
	comp=Z,53nm,0.9s							
APMT					IAML		05 29 16.9	
	comp=Z,174nm,0.7s							
BRDY	**Brady**	**3.75**	**85**		Pn	Pn	05 28 15.6	+1.2
BRDY					IAML		05 29 18.7	
	comp=Z,94nm,0.8s							
BRDY					IAmb_Lg		05 29 22.1	
	comp=Z,66nm,0.8s							
BRDY					IAML		05 29 23.1	
	comp=Z,52nm,0.7s							
HNDO	**Hondo**	**3.83**	**112**			Pn	05 28 17.4	+1.7
HNDO					IAML		05 29 24.1	
	comp=Z,89nm,0.8s							
HNDO					IAmb_Lg		05 29 24.2	
	comp=Z,73nm,1.1s							
HNDO					IAML		05 29 26.8	
	comp=Z,68nm,0.6s							
121A	**Cookes Peak, D**	**4.05**	**293**			Pn	05 28 20.3	+1.5
AMTX	**Amarillo**	**4.08**	**20**			Pn	05 28 19.4	+0.3
AMTX					IAmb_Lg		05 29 32.2	
	comp=Z,39nm,0.8s							
833A	**Chaparral WMA,**	**4.38**	**127**			Pn	05 28 25.2	+2.0
HPIG		**4.56**	**207**			Pn	05 28 26.4	+0.6
HPIG					IAML		05 29 24.3	
	comp=N,12nm,0.3s							
PLPT	**Palo Pinto**	**4.64**	**66**			Pn	05 28 27.0	+0.3
PLPT					IAML		05 29 51.2	
	comp=N,76nm,0.7s							
PLPT					IAML		05 29 52.9	
	comp=N,53nm,0.8s							
PLPT					IAmb_Lg		05 29 54.9	
	comp=Z,30nm,0.8s							
ANMO	**Albuquerque**	**4.69**	**327**		IAmb_Lg		05 29 43.4	
	comp=Z,10nm,0.8s							
EF01	**Eagle Ford 01**	**4.72**	**113**		IAmb_Lg		05 29 56.8	
	comp=Z,71nm,1.2s							
SMWD	**Samnorwood**	**4.82**	**32**			Pn	05 28 30.0	+0.8
SMWD					IAmb_Lg		05 29 49.1	
	comp=Z,22nm,0.7s							
SMWD					IAML		05 30 02.1	
	comp=Z,68nm,0.8s							
SMWD					IAML		05 30 03.6	
	comp=Z,75nm,0.8s							
FW03	**Perrin-Whitt E**	**4.92**	**65**		IAmb_Lg		05 29 59.5	
	comp=Z,36nm,0.8s							
WTFS	**Witchita Falls**	**4.95**	**55**			Pn	05 28 31.3	+0.3
WTFS					IAML		05 29 59.5	
	comp=Z,83nm,0.6s							

WTFS IAmb_Lg 05 30 00.9
comp=Z,12nm,0.8s
WTFS IAML 05 30 01.5
comp=Z,51nm,0.4s
435B Jarrell 4.97 91 Pn 05 28 33.7 +2.5
435B IAmb_Lg 05 30 04.6
comp=Z,42nm,0.7s
FW07 Weatherford 5.02 69 Pn 05 28 32.6 +0.7
FW07 IAmb_Lg 05 29 58.3
comp=Z,20nm,0.7s
FW07 IAML 05 29 58.7
comp=Z,98nm,0.7s
FW07 IAML 05 30 04.8
comp=Z,93nm,0.6s
WHTX Lake Whitney, 5.13 78 IAmb_Lg 05 30 08.9
comp=Z,18nm,1.1s
FW06 Azle 5.29 67 Pn 05 28 35.2 -0.4
FW06 IAML 05 30 10.2
comp=Z,93nm,0.8s
FW06 IAML 05 30 11.7
comp=Z,65nm,0.7s
FW06 IAmb_Lg 05 30 15.0
comp=Z,28nm,1.1s
WMOK Wichita Mounta 5.33 45 Pn Pn 05 28 35.8 -0.5
Z35A Perchaven, San 5.66 65 IAmb_Lg 05 30 27.2
comp=Z,39nm,1.0s
TREL Terrell 6.41 73 Pn Pn 05 28 50.2 -0.8
FNO Franklin 6.53 48 Pn Pn 05 28 52.0 -0.7
T35A Sooner Cattle 8.16 42 Pn 05 29 13.7 -1.4
T35A IAmb_Lg 05 31 47.2
comp=Z,15nm,1.1s

IDC ***17*** *05:48:27.0±2.1,7.62S×119.91E,h0km,mb3.7/2, mbtmp3.7/4,ML3.7/2,Error ellipse: s-maj=84.4km s-min=21.3km az=66.0*
DJA ***17*** *05:48:28.7±0.3,8.3S×12.0E±.,h10km,M4.0/11,mb4.1/1, mB5.1/1,MLv3.9/11,Mw(mB)4.5/1*
ISC 17 05:48:28.4±1.1,7.67S±0.05×119.87E±0.06,h10km,n13, σ0§86/14,Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDFI	**Ende, Flores**	**2.10**	**121**	P	**Pn**	**05 49 04.0**	**+0.2**
BKSI	**Bulukumba**	**2.35**	**6**	P	**Pn**	**05 49 07.0**	**0.0**
PLAI	**Plampang**	**2.37**	**241**	P	**Pn**	**05 49 08.0**	**+0.6**
MMRI	**Maumere**	**2.54**	**112**	P	**Pn**	**05 49 10.0**	**+0.3**
BASI	**Baing, Sumba**	**2.63**	**165**	P	**Pn**	**05 49 11.0**	**0.0**
KAPI	**Kappang**	**2.64**	**358**	Pn	**Pn**	**05 49 11.1**	**0.0**
	21nm,0.3s,baz=188,slow=4.8,SNR=144						
KAPI				Sn	**Sn**	**05 49 41.6**	**-1.6**
	17nm,0.3s,baz=7.2,slow=1.8,SNR=6.4						
	66nm,0.2s						
TWSI	**Taliwang, Sumb**	**3.14**	**250**	P	**Pn**	**05 49 18.2**	**+0.2**
TTSI	**Tana Toraja**	**4.59**	**359**	P	**Pn**	**05 49 39.9**	**+1.9**
SOEI	**Soe**	**4.82**	**116**	P	**Pn**	**05 49 42.2**	**+1.0**
JAGI	**Jajag, Banyuwa**	**5.71**	**262**	P	**Pn**	**05 49 53.6**	**+0.2**
WRA	**Warramunga Arr**	**18.59**	**132**	P	**P**	**05 52 45.4**	**-0.5**
	0.2nm,0.3s,baz=307,slow=12,SNR=14						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**20.84**	**141**	P	**P**	**05 53 10.9**	**+0.4**
	2.7nm,0.8s,baz=317,slow=9.3,SNR=20						
	2.7nm,0.8s						
MKAR	**Makanchi Array**	**63.68**	**332**	P	**P**	**05 59 00.0**	**0.0**
	0.4nm,0.4s,baz=141,slow=7.4,SNR=1.7						
	0.4nm,0.4s						

IDC ***17*** *06:20:38.2±0.6,27.59N×94.25E,h0km,mb4.1/20, mbtmp4.1/21,ML4.0/1,MS3.3/7,Error ellipse: s-maj=23.5km s-min=13.0km az=51.0*
BJI ***17*** *06:20:40.6,27.62N×94.25E,h30km,mb4.3/33,mB4.7/12, ML3.7/7,Ms3.9/8,Ms7 3.7/9*
NEIC ***17*** *06:20:41.8±1.3,27.64N±0.06×94.26E±0.08,h16km±4km, mb4.6/40,Error ellipse: s-maj=12.3km s-min=3.7km az=52.0*
NDI ***17*** *06:20:41.2±3.2,27.57N×94.30E,h10km,ML4.1, mb4.6(NEIC)*
ISC 17 06:20:41.5±0.6,27.60N±0.04×94.25E±0.03,h19km±2km, n114,σ1§43/131,mb4.4/47,MS3.3/6,1C-2D,Northeastern India

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIRO	**ZIRO**	**0.36**	**258**	*e*P	**Pg**	**06 20 47.7**	**-1.6**
DIBR	**DIBRUGARH**	**0.60**	**103**	*e*P	**Pg**	**06 20 52.2**	**-1.3**
DIBR				*e*S	**Sg**	**06 21 01.1**	**-0.5**
DIBR				IAML		06 21 02.3	
	comp=E,3μm,0.2s						
ITAN	**ITANAGAR**	**0.65**	**226**	*e*P	**Pb**	**06 20 53.4**	**-0.8**
ITAN				*e*S	**Sg**	**06 21 02.9**	**-0.4**
JORH	**JORHAT**	**0.86**	**180**	*e*P	**Pb**	**06 20 56.8**	**-1.0**
JORH				IAML		06 21 15.0	
	comp=E,19μm,0.3s						
MOKO	**MOKOCHONG**	**1.30**	**169**	*e*P	**Pn**	**06 21 04.8**	**0.0**
MOKO				*e*S	**Sn**	**06 21 22.3**	**+0.5**
MOKO				IAML		06 21 26.2	
	comp=E,9μm,0.4s						
KOHI	**KOHIMA**	**1.88**	**184**	*e*P	**Pn**	**06 21 13.6**	**+0.8**
KOHI				*e*S	**Sb**	**06 21 38.9**	**+0.4**
KOHI				IAML		06 21 41.8	
	comp=N,4μm,0.7s						
KOHI				IAML		06 21 42.4	
	comp=E,3μm,0.5s						
TAWA	**Tawang**	**2.11**	**270**	*e*P	**Pb**	**06 21 20.1**	**+0.6**
TAWA				*e*S	**Sb**	**06 21 46.9**	**+1.5**
TAWA				IAML		06 21 51.0	
	comp=E,3μm,0.6s						
GUWA	**GUWAHATI**	**2.68**	**239**	*e*P	**Pn**	**06 21 22.2**	**-1.4**
GUWA				*e*S	**Sn**	**06 21 56.7**	**+1.1**
GUWA				IAML		06 22 06.1	
	comp=N,442nm,0.5s						
IMP	**Imphal**	**2.77**	**186**	*e*P	**Pn**	**06 21 25.2**	**+0.2**
SHL	**Shillong**	**2.93**	**227**		**Pn**	**06 21 27.3**	**0.0**
SHL				Sn	**Sn**	**06 22 02.8**	**+0.7**
SHL	**Shillong**	**2.93**	**227**	*e*P	**Pn**	**06 21 26.8**	**-0.5**
SHL				*e*S	**Sn**	**06 22 02.6**	**+0.5**
SHL				IAML		06 22 04.7	
	comp=N,510nm,0.6s						
LSA	**Lhasa**	**3.43**	**308**		**Pn**	**06 21 35.3**	**+0.9**
TNCH	**TengChong**	**4.61**	**123**	Pn	**Pn**	**06 21 50.5**	**+0.1**
TNCH				Sn	**Sn**	**06 22 45.0**	**+1.4**
TNCH				Sg	**Sg**	**06 23 08.0**	**-1.7**
TNCH				smax	smax		
	comp=N,150nm,0.6s						
TNCH				smax	smax		
	comp=N,270nm,0.7s						
GTK	**Tadong**	**5.03**	**268**	*e*P	**Pn**	**06 21 56.8**	**+0.8**
GTK				*e*S	**Sn**	**06 22 54.0**	**+0.3**
GTK				IAML		06 23 25.8	
	comp=E,257nm,0.7s						
SAIH	**SAIHA**	**5.22**	**193**	*e*P	**Pn**	**06 22 01.0**	**+2.3**
SAIH				*e*P	**Pn**	**06 22 01.9**	**+3.2**
TAPN	**Taplejung**	**5.81**	**269**	*e*Pn	**Pn**	**06 22 07.4**	**+0.4**
MND	**Mandalay**	**5.82**	**163**		**Pn**	**06 22 06.5**	**-0.3**
SHBG	**Sahibganj**	**6.36**	**250**	*e*P	**Pn**	**06 22 14.7**	**+0.5**
SHBG				*e*S	**Sn**	**06 23 24.2**	**-2.1**
PZH	**PanZhiHua**	**6.77**	**98**	Pn	**Pn**	**06 22 20.3**	**+0.3**
PZH				Sn	**Sn**	**06 23 36.3**	**-0.4**
PZH				Sg	**Sg**	**06 24 19.3**	**+0.4**
PZH				smax	smax		
	comp=E,20nm,1.4s						
PZH				smax	smax		
	comp=E,20nm,1.0s						
PZH				LR	LR		
	comp=E,500nm,7.8s						
PZH				LR	LR		
	comp=E,320nm,7.6s						
PZH				LR	LR		
	comp=E,300nm,6.8s						
RAMN	**Ramite**	**6.84**	**266**	*e*Pn	**Pn**	**06 22 21.9**	**+0.9**
JIRN	**Jiri**	**7.15**	**272**	*e*Pn	**Pn**	**06 22 25.9**	**+0.5**
GUN	**Gumba**	**7.42**	**274**	*e*Pn	**Pn**	**06 22 29.4**	**+0.3**
GUN				*e*Sn	**Sn**	**06 23 51.6**	**-1.4**
PKI	**Pulchoki**	**7.84**	**272**	*e*Pn	**Pn**	**06 22 35.3**	**+0.4**
PKIN	**Phulchoki**	**7.85**	**272**	*e*Pn	**Pn**	**06 22 35.0**	**0.0**
PKIN				*e*Sn	**Sn**	**06 24 02.2**	**-1.4**
	comp=E,40nm,0.4s						
KKN	**Kakani**	**7.95**	**273**	*e*Pn	**Pn**	**06 22 35.9**	**-0.4**
DMN	**Daman**	**8.11**	**272**	*e*Sn	**Sn**	**06 24 08.1**	**-1.8**
	comp=E,72nm,0.7s						
GKN	**Gorkha**	**8.52**	**275**	*e*Pn	**Pn**	**06 22 44.5**	**+0.4**
GKN				*e*Sn	**Sn**	**06 24 16.0**	**-3.8**
	comp=E,110nm,0.7s						
GOMU	**GeErMu**	**8.58**	**3**	P	**Pn**	**06 22 45.4**	**+0.3**
GOMU				pmax	pmax		
	comp=E,5.0nm,0.9s						
GOMU				LR	LR		
	comp=E,450nm,7.0s						
GOMU				LR	LR		
	comp=E,87nm,6.3s						
GOMU				LR	LR		
	comp=E,380nm,7.1s						
DANN	**Dangsing**	**9.30**	**277**	*e*Pn	**Pn**	**06 22 54.1**	**-0.8**
DANN				*e*Sn	**Sn**	**06 24 34.5**	**-4.7**
	comp=E,64nm,0.6s						
KOLN	**Koldanda**	**9.44**	**273**	*e*Pn	**Pn**	**06 22 55.9**	**-0.8**
PYUN	**Piuthan**	**9.98**	**275**	*e*Pn	**Pn**	**06 23 02.1**	**-2.0**
PYUN				*e*Sn	**Sn**	**06 24 51.3**	**-4.4**
	comp=E,78nm,0.8s						
CMAR	**Chiang Mai Arr**	**10.08**	**154**	Pn	**Pn**	**06 23 05.9**	**+0.6**
	comp=E,0.4nm,0.3s,baz=324,slow=12,SNR=1.5						
CMAR				LR	LR	06 27 43.5	
	comp=E,90nm,19.1s,baz=320,slow=42						
	comp=E,1.0nm,0.3s						
LZH	**Lanzhou**	**11.74**	**42**	*e*P	**Pn**	**06 23 29.1**	**+0.9**
LZH				pP		06 23 34.3	
LZH				pmax	pmax		
	comp=E,12nm,1.2s						
LZH				LR	LR		
	comp=E,490nm,10.2s						
LZH				LR	LR		
	comp=E,540nm,8.0s						
LZH				LR	LR		
	comp=E,380nm,10.0s						
XAN	**Xi'an**	**14.14**	**59**	P	**P**	**06 24 07.9**	**-0.4**
XAN				pmax	pmax		
	comp=E,12nm,0.7s						
PBA	**Port Blair**	**15.93**	**185**	Pn	**Pn**	**06 24 25.5**	**+0.8**
WMQ	**Urumqi**	**17.02**	**344**	*e*P	**P**	**06 24 40.6**	**+0.3**
WMQ				sP	sP	06 24 49.9	+1.7
WMQ				pmax	pmax		
	comp=E,26nm,0.9s						
LYN	**LuoYang**	**17.06**	**62**	⇓P	**P**	**06 24 40.8**	**+0.1**
LYN				pP	sP	06 24 48.6	-0.7
LYN				sP	pP	06 24 53.3	+7.1
LYN				S	**Sn**	**06 27 52.6**	**+4.3**
LYN				pmax	pmax		
	comp=E,16nm,0.8s						
LYN				pmax	pmax		
	comp=E,310nm,5.5s						
HYB	**Hyderabad**	**17.68**	**238**	*e*P	**P**	**06 24 48.4**	**+0.8**
HYB				*i* S	**Sn**	**06 28 05.5**	**+2.2**
BTO	**Baotou**	**18.37**	**41**	*e*P	**P**	**06 24 53.9**	**-1.3**
BTO				pP	**pP**	**06 25 01.6**	**+0.9**
BTO				sP	**sP**	**06 25 05.4**	**+2.2**
BTO				PP	**PnPn**	**06 25 09.1**	**+2.3**
BTO				S	**Sn**	**06 28 16.0**	**-4.0**
BTO				SS	**SnSn**	**06 28 38.8**	**+5.0**
BTO				pmax	pmax		
	comp=E,17nm,0.6s						
BTO				pmax	pmax		
	comp=Z,340nm,5.1s						
BTO				LR	LR		
	comp=Z,430nm,8.5s						
BTO				LR	LR		
	comp=Z,450nm,4.7s						
BTO				LR	LR		
	comp=Z,260nm,5.0s						
NIL	**Nilore**	**19.03**	**294**	P	**Pn**	**06 25 03.3**	**0.0**
HHC	**Hu-ho-hao-te**	**19.44**	**43**	*e*P	**Pn**	**06 25 08.3**	**+0.2**
HHC				pmax	pmax		
	comp=E,18nm,1.1s						
HHC				pmax	pmax		
	comp=Z,240nm,4.9s						
HHC				LR	LR		
	comp=Z,350nm,9.1s						
HHC				LR	LR		
	comp=Z,410nm,9.8s						
HHC				LR	LR		
	comp=Z,360nm,9.4s						
HNS	**HongShan**	**19.79**	**55**	⇑P	**Pn**	**06 25 11.6**	**-0.7**
HNS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MK31	**Makanchi Array**	**21.34**	**337**	P	**P**	**06 25 27.7**	**+0.2**
MKAR	**Makanchi Array**	**21.34**	**337**	P	**P**	**06 25 27.1**	**-0.4**
MKAR	**Makanchi Array**	**21.34**	**337**	P	**P**	**06 25 27.3**	**-0.2**
	comp=Z,6.1nm,0.6s,baz=144,slow=13,SNR=49						
	comp=Z,6.1nm,0.6s						
MAKZ	**Makanchi**	**21.47**	**336**	P	**P**	**06 25 29.1**	**+0.3**
NJ2	**Nanjing**	**21.79**	**72**	*e*P	**P**	**06 25 30.1**	**-2.2**
NJ2				pP	**pP**	**06 25 36.6**	**-1.2**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
AAK	**Ala-Archa**	**21.97**	**318**	LR	LR	06 36 04.8	
	comp=Z,47nm,20.5s,baz=108,slow=42						
BJI	**Beijing**	**21.97**	**50**	P	**P**	**06 25 29.6**	**-4.6**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SONM	**Songino Array**	**22.31**	**22**	P	**P**	**06 25 38.3**	**+0.3**
SONM	**Songino Array**	**22.31**	**22**	P	**P**	**06 25 37.2**	**-0.7**
	comp=Z,3.4nm,0.7s,baz=205,slow=13,SNR=18						
	comp=Z,3.4nm,0.7s						
ULN	**Ulaanbaatar**	**22.56**	**23**	P	**P**	**06 25 39.8**	**-0.8**
KBL	**Kabul**	**22.63**	**294**	P	**P**	**06 25 41.9**	**+0.2**
KBL				IAmb	IAmb	06 25 45.5	
	comp=Z,27nm,1.4s						
BTK	**Batken**	**23.01**	**309**	P	**P**	**06 25 45.9**	**+0.5**
BTK				IAmb	IAmb	06 25 57.2	
	comp=Z,14nm,0.7s						
XLT	**XiLinHaoTe**	**23.94**	**41**	*e*P	**P**	**06 25 55.0**	**+0.5**
XLT				pmax	pmax		
	comp=Z,15nm,1.1s						
XLT				pmax	pmax		
	comp=Z,74nm,3.6s						
PALK	**Pallekele**	**23.95**	**215**	P	**P**	**06 25 55.3**	**+0.5**
PALK				IAmb	IAmb	06 25 57.1	
	comp=Z,40nm,1.4s						
PALK	**Pallekele**	**23.95**	**215**	LR	LR	06 37 45.0	
	comp=Z,43nm,18.7s,baz=150,slow=43						
KURBB	**Kurchatov Arra**	**25.91**	**337**	P	**P**	**06 26 12.7**	**+0.4**
	comp=Z,5.0nm,0.7s,baz=149,slow=9.9,SNR=32						
KURBB				PcP	**PcP**	**06 29 40.7**	**0.0**
	comp=Z,0.8nm,0.5s,baz=150,slow=1.4,SNR=5.4						
	comp=Z,5.0nm,0.7s						
KURK	**Kurchatov**	**25.96**	**337**	P	**P**	**06 26 13.5**	**+0.8**
KURK				IAmb	IAmb	06 26 15.5	
	comp=Z,9.6nm,0.9s						
GSI	**Gunungsitoli**	**26.34**	**172**	P	**P**	**06 26 16.7**	**+0.2**
ZAA0	**Zalesovo Array**	**27.22**	**348**	P	**P**	**06 26 23.9**	**-0.1**
ZALV	**Zalesovo Beam**	**27.22**	**348**	P	**P**	**06 26 24.3**	**+0.3**
ZALV	**Zalesovo Beam**	**27.22**	**348**	P	**P**	**06 26 24.0**	**0.0**
	comp=Z,2.2nm,0.9s,baz=169,slow=12,SNR=5.5						
	comp=Z,2.2nm,0.9s						
BVAR	**Borovoye Array**	**30.95**	**332**	P	**P**	**06 26 57.8**	**+0.6**
	comp=Z,3.9nm,0.7s,baz=134,slow=10,SNR=15						
BVAR				LR	LR	06 41 10.4	
	comp=Z,54nm,19.5s,baz=131,slow=40						
	comp=Z,3.9nm,0.7s						
BRVK	**Borovoye**	**31.02**	**332**	P	**P**	**06 26 58.0**	**+0.2**
BNX	**BinXian**	**31.86**	**47**	⇓P	**P**	**06 27 06.3**	**+1.0**
BNX				pmax	pmax		
	comp=Z,12nm,0.8s						
MDJ	**Mudanjiang**	**32.90**	**50**	P	**P**	**06 27 14.9**	**+0.5**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,180nm,4.7s						
ABKAR	**Akbulak array**	**34.05**	**319**	P	**P**	**06 27 24.4**	**0.0**
USRK	**Ussuriysk Ar.**	**34.41**	**51**	P	**P**	**06 27 27.9**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=251,slow=8.8,SNR=2.0						
	comp=Z,1.1nm,0.5s						
MJAR	**Matsushiro Arr**	**38.03**	**65**	P	**P**	**06 27 57.4**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=275,slow=9.2,SNR=3.8						
	comp=Z,1.5nm,0.6s						
ARU	**Arti**	**38.40**	**329**	P	**P**	**06 28 02.0**	**+0.5**
ARU				IAmb	IAmb	06 28 02.7	
	comp=Z,6.1nm,0.8s						
ARU	**Arti**	**38.40**	**329**	LR	LR	06 45 36.7	
	comp=Z,57nm,20.9s,baz=112,slow=39						
ONI	**Oni**	**43.53**	**304**	P	**P**	**06 28 44.9**	**+0.9**
ONI				IAmb	IAmb	06 28 47.2	
	comp=Z,6.5nm,0.9s						
BRTR	**Keskin Array B**	**51.00**	**300**	P	**P**	**06 29 42.1**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=118,slow=8.5,SNR=6.3						
	comp=Z,0.8nm,0.6s						
AKASG	**Malin Array Be**	**53.56**	**314**	P	**P**	**06 29 59.9**	**-1.1**
	comp=Z,3.3nm,0.7s,baz=78,slow=6.6,SNR=16						
	comp=Z,3.3nm,0.7s						
AKBB	**Malin Array Si**	**53.56**	**314**	IAmb	IAmb	06 30 01.3	
	comp=Z,9.2nm,0.9s						
KIEV	**Kiev**	**53.57**	**314**	P	**P**	**06 30 00.1**	**-1.0**
KIEV				IAmb	IAmb	06 30 01.3	
	comp=Z,8.9nm,1.0s						
FINES	**FINESS Array B**	**55.75**	**327**	P	**P**	**06 30 16.7**	**0.0**
	comp=Z,1.6nm,0.8s,baz=88,slow=9.9,SNR=6.0						
	comp=Z,1.6nm,0.8s						
MLR	**Muntele Rosu**	**56.05**	**308**	IAmb	IAmb	06 30 28.8	
	comp=Z,9.1nm,0.8s						
PABE	**Paberze**	**56.67**	**320**	P	**P**	**06 30 23.2**	**-0.1**
WB0	**Warramunga Arr**	**61.06**	**136**	P	**P**	**06 30 54.0**	**-0.4**
WRAB	**Tennant Creek**	**61.16**	**136**	P	**P**	**06 30 53.8**	**-1.2**
WRA	**Warramunga Arr**	**61.16**	**136**	P	**P**	**06 30 54.0**	**-1.0**
WRA	**Warramunga Arr**	**61.16**	**136**	P	**P**	**06 30 54.5**	**-0.5**
	comp=Z,8.6nm,0.7s,baz=326,slow=7.4,SNR=83						
	comp=Z,8.6nm,0.7s						
WB2	**Warramunga Arr**	**61.16**	**136**	P	**P**	**06 30 54.8**	**-0.3**
WR0	**Warramunga Arr**	**61.29**	**136**	P	**P**	**06 30 55.6**	**-0.3**
HFS	**Hagfors**	**61.84**	**326**	P	**P**	**06 30 58.6**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=134,slow=8.3,SNR=2.1						
	comp=Z,1.4nm,0.6s						
CONA	**Conrad Observa**	**62.53**	**312**	*i* P	**P**	**06 31 06.7**	**+2.6**
	comp=Z,3.1nm,0.8s						
NOA	**NORSAR Array B**	**62.93**	**327**	P	**P**	**06 31 05.5**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=82,slow=6.8,SNR=3.3						
	comp=Z,1.0nm,0.9s						
NC204	**NORSAR Array S**	**63.11**	**327**	P	**P**	**06 31 07.2**	**-0.5**
NC204				IAmb	IAmb	06 31 23.4	
	comp=Z,9.3nm,1.1s						
MOA	**Molln**	**63.60**	**312**	*i* P	**P**	**06 31 13.3**	**+2.2**
	comp=Z,1.1nm,0.5s						
ASAR	**Alice Springs**	**63.74**	**139**	P	**P**	**06 31 12.2**	**-0.1**
ASAR	**Alice Springs**	**63.74**	**139**	P	**P**	**06 31 11.7**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=323,slow=6.7,SNR=55						
ASAR				LR	LR	07 04 00.9	
	comp=Z,38nm,18.6s,baz=353,slow=41						
	comp=Z,3.1nm,0.6s						
GERES	**GERESS Array B**	**63.75**	**313**	P	**P**	**06 31 12.6**	**+0.5**
GERES	**GERESS Array B**	**63.75**	**313**	P	**P**	**06 31 12.4**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=72,slow=6.3,SNR=6.8						
	comp=Z,1.8nm,0.8s						
RETA	**Reutte**	**65.98**	**312**	*e*P	**P**	**06 31 29.5**	**+2.7**
	comp=Z,0.3nm,0.2s						
EKA	**Eskdalemuir Ar**	**71.77**	**323**	P	**P**	**06 32 02.0**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=64,slow=4.9,SNR=2.3						
	comp=Z,0.9nm,0.6s						
E21K	**Killik River**	**72.15**	**21**	IAmb	IAmb	06 32 10.0	
	comp=Z,7.9nm,1.2s						
D22K	**Ayikyak River**	**72.33**	**20**	IAmb	IAmb	06 32 07.7	
	comp=Z,4.8nm,0.9s						
E22K	**Anaktuvuk Pass**	**72.99**	**21**	P	**P**	**06 32 10.5**	**+0.9**
D25K	**Kavik River**	**73.96**	**19**	IAmb	IAmb	06 32 17.3	
	comp=Z,4.1nm,0.8s						
E24K	**Your Creek**	**74.07**	**20**	IAmb	IAmb	06 32 17.5	
	comp=Z,3.6nm,0.7s						
STKA	**Stephens Creek**	**74.38**	**139**	P	**P**	**06 32 18.4**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=315,slow=16,SNR=2.9						
	comp=Z,2.1nm,0.7s						
BMAR	**Burnt Mountain**	**75.65**	**20**	P	**P**	**06 32 27.1**	**+2.0**
E28M	**Babbage River**	**76.33**	**18**	IAmb	IAmb	06 32 30.4	
	comp=Z,4.5nm,0.8s						
ILAR	**Eielson Array**	**76.54**	**23**	P	**P**	**06 32 30.1**	**0.0**
	comp=Z,1.0nm,1.0s,baz=319,slow=4.5,SNR=9.1						
	comp=Z,1.0nm,1.0s						
A36M	**Sachs Harbour**	**77.00**	**12**	P	**P**	**06 32 33.4**	**+0.9**
INK	**Inuvik**	**78.10**	**16**	P	**P**	**06 32 38.9**	**+0.1**
INK				IAmb	IAmb	06 32 53.1	
	comp=Z,13nm,1.4s						
G30M	**tAoh Zraii Nji**	**78.37**	**18**	IAmb	IAmb	06 32 41.7	
	comp=Z,8.1nm,1.0s						
G31M	**Satah River**	**78.94**	**18**	P	**P**	**06 32 43.8**	**+0.4**
G31M				IAmb	IAmb	06 32 44.5	
	comp=Z,5.0nm,0.8s						
C36M	**Paulatuk**	**79.40**	**13**	IAmb	IAmb	06 32 46.9	
	comp=Z,8.7nm,1.0s						
TORD	**Torodi Ar. Bea**	**86.23**	**283**	P	**P**	**06 33 21.3**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=48,slow=5.8,SNR=6.1						
	comp=Z,1.3nm,0.8s						
YKA	**Yellowknife Ar**	**87.29**	**13**	P	**P**	**06 33 26.1**	**-0.6**
	comp=Z,1.1nm,0.9s,baz=329,slow=4.5,SNR=11						
YKA				LR	LR	07 19 31.1	
	comp=Z,48nm,18.2s,baz=322,slow=40						
	comp=Z,1.1nm,0.9s						
TXAR	**Lajitas Array**	**120.84**	**18**	PKP	**PKiKP**	**06 39 33.6**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=40,slow=1.5,SNR=3.2						

KRNET ***17*** *06:23:18.9±0.1,39.45N×73.69E,h13km,mb3.3*
NNC ***17*** *06:23:23.8±1.7,39.50N×73.72E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=12.6km s-min=8.8km az=177.0*
SOME ***17*** *06:23:27.5,39.68N×73.70E,h15km*
ISC 17 06:23:20.9±1.2,39.49N±0.05×73.66E±0.03,h10km,n62, σ2§20/83,30C-28D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.53**	**347**	⇑*e*P	**Pg**	**06 23 30.4**	**-1.0**
	baz=45						
SFK				⇑*e*S	**Sg**	**06 23 38.8**	**+0.3**
	baz=45						
OHH	**Osh**	**1.23**	**327**	⇑*e*P	**Pn**	**06 23 43.2**	**-1.1**
	baz=27						
OHH				⇑*e*S	**Sn**	**06 24 01.1**	**0.0**
	baz=27						
DRK	**Karamyk**	**1.44**	**270**	⇓*e*P	**Pb**	**06 23 46.5**	**-1.6**
	baz=72						
DRK				⇓*e*S	**Sg**	**06 24 07.1**	**-0.3**
	baz=72						
ARSB	**Arslanbob**	**1.90**	**344**	⇓*e*P	**Pb**	**06 23 55.2**	**-0.6**
	baz=44						
ARSB				⇓*e*S	**Sg**	**06 24 21.7**	**-0.4**
	baz=44						
BTK	**Batken**	**2.26**	**285**	⇑*e*P	**Pb**	**06 24 00.0**	**-2.0**
	baz=86						
BTK				⇑*e*S	**Sb**	**06 24 30.1**	**0.0**
	baz=86						
ARLS	**Aral**	**2.42**	**12**	⇑*e*P	**Pb**	**06 24 02.3**	**-2.4**
	baz=11						
ARLS				⇑*e*S	**Sb**	**06 24 33.9**	**-0.7**
	baz=11						
AML	**Almayashu**	**2.64**	**0**	P	**Pb**	**06 24 08.0**	**-0.5**
	SNR=22						
AML	**Almayashu**	**2.64**	**0**	⇓*e*P	**Pn**	**06 24 05.7**	**+1.8**
	baz=60						
AML				⇓*e*S	**Sb**	**06 24 39.8**	**-1.3**
	baz=60						
AML	**Almayashu**	**2.64**	**0**	⇑Pn	**Pb**	**06 24 07.4**	**-1.1**
	0.4nm,0.3s						
AML				Sn	**Sg**	**06 24 43.8**	**-1.9**
	6.8nm,0.6s						
ARK

	10nm,0.3s								
MRKS				*e*Lg		Lg	06 25 04.3		
	33nm,0.3s								
MRKS	**Merke**	**3.27**	**354**		Pg	**Pg**	**06 24 23.8**	**+0.3**	
	10nm,0.3s								
MRKS					Lg	Lg	06 25 04.3		
	33nm,0.3s								
KBK	**Karagaybulak**	**3.31**	**17**	⇑	*e*P	**Pn**	**06 24 14.6**	**+1.7**	
	baz=16								
KBK				⇑	*e*S	**Sn**	**06 24 55.4**	**+3.0**	
	baz=16								
ULHL	**Ulahol**	**3.37**	**35**	⇑	*e*P	**Pn**	**06 24 15.4**	**+1.5**	
	baz=34								
ULHL				⇑	*e*S	**Sn**	**06 24 56.7**	**+2.6**	
	baz=34								
FRU1	**Bishkek**	**3.39**	**12**	⇓	*e*P	**Pn**	**06 24 16.1**	**+2.1**	
	baz=12								
FRU1				⇓	*e*S	**Sn**	**06 24 57.9**	**+3.5**	
	baz=12								
BOOM	**Boomskoye usch**	**3.45**	**29**	⇑	*e*P	**Pn**	**06 24 16.6**	**+1.6**	
	baz=29								
BOOM				⇑	*e*S	**Sn**	**06 24 58.9**	**+2.9**	
	baz=29								
CHMS	**Chumysh**	**3.60**	**13**		P	**Pb**	**06 24 21.3**	**-3.4**	
	SNR=5.6								
CHMS	**Chumysh**	**3.60**	**13**	⇓	*e*P	**Pn**	**06 24 18.6**	**+1.8**	
	baz=12								
CHMS				⇓	*e*S	**Sn**	**06 25 02.2**	**+2.9**	
	baz=12								
CHMS	**Chumysh**	**3.60**	**13**	⇓	Pn	**Pn**	**06 24 20.2**	**+3.4**	
	4.0nm,0.5s								
CHMS				⇓	Lg	Lg	06 25 16.8		
	20nm,0.7s								
CHGR	**Chuyangaron**	**3.60**	**258**	⇓	*e*P	**Pn**	**06 24 18.4**	**+1.5**	
	baz=59								
CHGR				⇓	*e*S	**Sn**	**06 25 01.8**	**+2.2**	
	baz=59								
TKM2	**Tokmak 2**	**3.72**	**22**	⇓	*e*P	**Pn**	**06 24 20.4**	**+1.7**	
	baz=22								
TKM2				⇓	*e*S	**Sn**	**06 25 05.3**	**+2.6**	
	baz=22								
TKM2	**Tokmak 2**	**3.72**	**22**	⇑	Pn	**Pn**	**06 24 21.6**	**+2.9**	
	3.6nm,0.5s								
TKM2				⇑	Lg	Lg	06 25 19.4		
	18nm,0.7s								
USP	**Ospenovka**	**3.82**	**9**	⇓	*e*P	**Pn**	**06 24 21.8**	**+1.9**	
	baz=9.0								
USP				⇓	*e*S	**Sn**	**06 25 07.7**	**+2.8**	
	baz=9.0								
KST	**Kastek**	**3.95**	**25**	*e*Pg		**Pn**	**06 24 24.6**	**+2.9**	
	7.0nm,0.2s								
KST				*e*Lg		Lg	06 25 14.8		
	9.6nm,0.5s								
KST	**Kastek**	**3.95**	**25**	*e*Pg		**Pg**	**06 24 36.4**	**-0.2**	
	5.0nm,0.3s								
KST				*e*Lg		Lg	06 25 25.9		
	21nm,0.4s								
KST	**Kastek**	**3.95**	**25**	Pg		**Pg**	**06 24 36.4**	**-0.2**	
	5.0nm,0.3s								
KST				Lg		Lg	06 25 25.9		
	21nm,0.4s								
DGS	**Degeres**	**4.07**	**22**	*e*Pg		Pb	06 24 27.7	-5.0	
	12nm,0.4s								
DGS				*e*Lg		Lg	06 25 20.3		
	18nm,0.5s								
DGS	**Degeres**	**4.07**	**22**	*e*Pg		**Pg**	**06 24 39.0**	**+0.2**	
	5.5nm,0.5s								
DGS				*e*Lg		Lg	06 25 30.5		
	18nm,0.3s								
DGS	**Degeres**	**4.07**	**22**	Pg		**Pg**	**06 24 39.0**	**+0.2**	
	5.5nm,0.5s								
DGS				Lg		Lg	06 25 30.5		
	18nm,0.3s								
MTBS	**Maitube**	**4.19**	**29**	*e*Pg		Pb	06 24 29.6	-5.2	
	7.8nm,0.3s								
MTBS				*e*Lg		Lg	06 25 23.3		
	17nm,0.4s								
MTBS	**Maitube**	**4.19**	**29**	*e*Pg		**Pg**	**06 24 40.8**	**-0.4**	
	9.5nm,0.4s								
MTBS				*e*Lg		Lg	06 25 33.7		
	17nm,0.3s								
MTBS	**Maitube**	**4.19**	**29**	Pg		**Pg**	**06 24 40.8**	**-0.4**	
	9.5nm,0.4s								
MTBS				Lg		Lg	06 25 33.7		
	17nm,0.3s								
KK31	**Karatay Array**	**4.32**	**328**	⇑	Pn	**Pn**	**06 24 30.4**	**+3.7**	
	0.3nm,0.3s,baz=140,slow=13,SNR=14								
KK31				⇑	Pg	**Pg**	**06 24 42.0**	**-1.6**	
	1.3nm,0.6s,baz=129,slow=13,SNR=4.8								
KK31				⇓	Sn	**Sn**	**06 25 22.2**	**+5.1**	
	1.7nm,0.4s,baz=27,slow=34,SNR=4.0								
KK31				⇓	Lg	Lg	06 25 40.6		
	3.9nm,0.5s,baz=139,slow=28,SNR=5.2								
KKAR	**Karatay Array**	**4.32**	**328**	⇑	*e*P	**Pn**	**06 24 28.7**	**+2.0**	
	baz=28								
KKAR				⇑	*e*S	**Sn**	**06 25 19.8**	**+2.7**	
	baz=28								
TNSS	**Tian-Shan**	**4.32**	**34**	*e*Pg		**Pn**	**06 24 30.8**	**+3.8**	
	3.1nm,0.2s								
TNSS				*e*Lg		Lg	06 25 25.5		
	5.0nm,0.3s								
TNSS	**Tian-Shan**	**4.32**	**34**	*e*Pg		**Pg**	**06 24 43.5**	**-0.2**	
	5.4nm,0.4s								
TNSS				*e*Lg		Lg	06 25 38.1		
	5.0nm,0.3s								
TNSS	**Tian-Shan**	**4.32**	**34**	Pg		**Pg**	**06 24 43.5**	**-0.2**	
	5.4nm,0.4s								
TNSS				Lg		Lg	06 25 38.1		
	5.0nm,0.3s								
KRBS	**Karabastau**	**4.46**	**19**	*e*Pg		**Pb**	**06 24 35.2**	**-4.2**	
	3.2nm,0.3s								
KRBS				*e*Lg		Lg	06 25 32.8		
	15nm,0.4s								
KRBS	**Karabastau**	**4.46**	**19**	*e*Pg		**Pg**	**06 24 45.1**	**-1.3**	
	3.9nm,0.3s								
KRBS				*e*Lg		Lg	06 25 40.9		
	15nm,0.4s								
KRBS	**Karabastau**	**4.46**	**19**	Pg		**Pg**	**06 24 45.1**	**-1.3**	
	3.9nm,0.3s								
MDOK	**Medeo**	**4.46**	**34**	*e*Pg		Pn	06 24 33.2	+4.3	
	3.4nm,0.1s								
MDOK				*e*Lg		Lg	06 25 29.5		
	12nm,0.6s								
MDOK	**Medeo**	**4.46**	**34**	⇓	Pn	**Pn**	**06 24 32.7**	**+3.9**	
	1.0nm,0.3s								
MDOK					Pg	**Pg**	**06 24 45.1**	**-1.3**	
	6.1nm,0.8s								
MDOK				⇓	Sn	**Sn**	**06 25 24.9**	**+4.0**	
	13nm,0.9s								
MDOK				⇑	Lg	Lg	06 25 43.3		
	14nm,0.7s								
KOTS	**Kotyrbulak**	**4.55**	**34**	*e*Pg		Pb	06 24 35.1	-5.9	
	5.3nm,0.4s								
KOTS				*e*Lg		Lg	06 25 32.7		
	19nm,0.5s								
KOTS	**Kotyrbulak**	**4.55**	**34**	*e*Pg		**Pg**	**06 24 47.2**	**-0.8**	
	5.3nm,0.3s								
KOTS				*e*Lg		Lg	06 25 44.7		
	46nm,0.5s								
KOTS	**Kotyrbulak**	**4.55**	**34**	Pg		**Pg**	**06 24 47.3**	**-0.8**	
	5.3nm,0.3s								
KOTS				Lg		Lg	06 25 44.7		
	46nm,0.5s								
KTBS	**Karatobe**	**4.78**	**27**	*e*Pg		**Pg**	**06 24 50.9**	**-1.6**	
	3.7nm,0.4s								
KTBS				*e*Lg		Lg	06 25 51.1		
	16nm,0.3s								
KTBS	**Karatobe**	**4.78**	**27**	Pg		**Pg**	**06 24 50.9**	**-1.6**	
	3.7nm,0.3s								
KTBS				Lg		Lg	06 25 51.1		
	16nm,0.3s								
SATY	**Saty**	**5.04**	**44**	*e*Pg		Pn	06 24 41.6	+4.8	
	4.3nm,0.4s								
SATY				*e*Lg		Lg	06 25 44.2		
	12nm,0.5s								
ARXS	**Arharly**	**5.65**	**32**	*e*Pg		**Pb**	**06 24 56.4**	**-3.2**	
	3.2nm,0.6s								
ARXS				*e*Lg		Lg	06 26 09.5		
	7.8nm,0.5s								
ARXS	**Arharly**	**5.65**	**32**	Pg		**Pg**	**06 24 56.4**	**-3.2**	
	3.2nm,0.6s								
ARXS				Lg		Lg	06 26 09.5		
	7.8nm,0.5s								
PDGK	**Podgornoye**	**5.82**	**47**	⇑	Pg	**Pg**	**06 25 09.9**	**-2.5**	
	13nm,1.4s								
PDGK				⇑	Lg	Lg	06 26 26.4		
	9.1nm,1.0s								
KNOS	**Konyrlen**	**6.37**	**38**		Lg	Lg	06 26 31.8		
	3.6nm,0.5s								

NEIC ***17*** *06:25:19.1±1.5,2°.92S±0°.05×78°.78W±0°.04,h108km±5km, mb4.0/4,Error ellipse: s-maj=8.0km s-min=5.0km az=210.0*

IGQ ***17*** *06:25:22±0.5,3°S±3°×7°9W±°,h70km*

ISC 17 06:25:18.6±0.7,2°.98S±0°.05×78°.83W±0°.05,h105km±6km, n82,σ1�global89/86,1C,Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ACUE	**Ecuador-Cuenca**	**0.15**	**299**	P		**Pn**	**06 25 34.0**	**+0.4**
ACUE				S		**Sn**	**06 25 45.0**	**+0.1**
AZOG	**Ecuador-Azogue**	**0.23**	**355**	P		**Pn**	**06 25 34.0**	**+0.1**
BOSC	**San Juan Bosco**	**0.37**	**117**	Pn		**Pn**	**06 25 35.1**	**+0.8**
BOSC				Sn		**Sn**	**06 25 46.5**	**+0.4**
BOSC	**San Juan Bosco**	**0.37**	**117**	P		**Pn**	**06 25 35.0**	**+0.7**
BOSC				S		**Sn**	**06 25 46.0**	**0.0**
COHC	**Cochancay**	**0.67**	**320**			**Pn**	**06 25 36.9**	**+0.8**
COHC				Sn		**Sn**	**06 25 48.9**	**-0.5**
ACH2	**Ecuador-Machal**	**1.02**	**254**	P		**Pn**	**06 25 40.0**	**+0.4**
ACH2				S		**Sn**	**06 25 55.0**	**-0.4**
ACH1	**Ecuador-Univer**	**1.12**	**254**	P		**Pn**	**06 25 41.0**	**+0.3**
AMIL	**Milagro (Trans**	**1.14**	**318**	P		**Pn**	**06 25 40.0**	**-0.9**
ISPG	**Isla Puna-Puer**	**1.34**	**271**	P		**Pn**	**06 25 45.0**	**+1.7**
GYE3	**Ecuador-Guayaq**	**1.35**	**307**	P		**Pn**	**06 25 43.0**	**-0.3**
ARNL	**Arenillas**	**1.36**	**246**			**Pn**	**06 25 45.0**	**+1.5**
ARNL				Sn		**Sn**	**06 26 04.3**	**+2.1**
ARNL	**Arenillas**	**1.36**	**246**	P		**Pn**	**06 25 44.0**	**+0.6**
AGUAY	**Guayaquil**	**1.45**	**309**	P		**Pn**	**06 25 44.0**	**-0.6**
TAIS	**Taisha**	**1.45**	**66**	P		**Pn**	**06 25 45.0**	**+0.4**
CHSH	**Refugio Sur-Vo**	**1.48**	**358**			**Pn**	**06 25 47.2**	**+1.7**
CHSH	**Refugio Sur-Vo**	**1.48**	**358**	P		**Pn**	**06 25 46.0**	**+0.5**
IGUA	**Igualata**	**1.50**	**7**	P		**Pn**	**06 25 47.0**	**+1.3**
BMAS	**Trigal station**	**1.51**	**13**	P		**Pn**	**06 25 46.0**	**+0.4**
BBIL	**Ulba Tungurahu**	**1.56**	**13**	P		**Pn**	**06 25 47.0**	**+0.8**
RETU	**Refugio**	**1.57**	**14**	P		**Pn**	**06 25 48.0**	**+1.5**
BULB	**Ulba Tungurahu**	**1.59**	**15**	P		**Pn**	**06 25 48.0**	**+1.4**
BRUN	**Tungurahua Vol**	**1.60**	**14**	P		**Pn**	**06 25 48.0**	**+1.2**
PUYO	**Puyo, Santa Ro**	**1.68**	**28**	P		**Pn**	**06 25 48.0**	**+0.5**
AMCR	**Ecuador-Macara**	**1.78**	**219**	P		**Pn**	**06 25 50.0**	**+1.4**
MCRA	**Macar, Loja**	**1.78**	**219**	Pn		**Pn**	**06 25 50.7**	**+2.0**
MCRA	**Macar, Loja**	**1.78**	**219**	P		**Pn**	**06 25 50.0**	**+1.4**
MCRA	**Macar, Loja**	**1.78**	**219**	*e*P		**Pn**	**06 25 50.7**	**+2.0**
ZUMB	**Zumba**	**1.90**	**190**	P		**Pn**	**06 25 53.0**	**+2.8**
AQUE	**Quevedo**	**2.03**	**341**	P		**Pn**	**06 25 52.0**	**+0.2**
PIAT	**Ana Tenorio**	**2.05**	**16**	P		**Pn**	**06 25 53.0**	**+0.6**
PIAT	**Ana Tenorio**	**2.05**	**16**	*e*P		**Pn**	**06 25 53.7**	**+1.2**
BMOR	**Cotopaxi Volca**	**2.27**	**9**	P		**Pn**	**06 25 57.0**	**+1.6**
SALI	**Salinas**	**2.30**	**290**			**Pn**	**06 25 57.4**	**+2.1**
SALI	**Salinas**	**2.30**	**290**	P		**Pn**	**06 25 56.0**	**+0.7**
CAMI	**Rancho Maria**	**2.31**	**8**	P		**Pn**	**06 25 58.0**	**+2.1**
BTAM	**Cotopaxi Volca**	**2.33**	**11**	P		**Pn**	**06 25 58.0**	**+1.8**
VC1	**Cotopaxi 1**	**2.36**	**10**	P		**Pn**	**06 25 59.0**	**+2.4**
PITA	**Cotopaxi Volc**	**2.44**	**9**	P		**Pn**	**06 25 59.0**	**+1.4**
ANTI	**Antisana**	**2.60**	**15**	P		**Pn**	**06 26 01.0**	**+1.2**
PINO	**Pino**	**2.81**	**4**	P		**Pn**	**06 26 06.0**	**+3.4**
ISPT	**Isla de la Pla**	**2.82**	**307**	P		**Pn**	**06 26 03.0**	**+0.9**
YANA	**Yana**	**2.86**	**5**	P		**Pn**	**06 26 07.0**	**+3.9**
PULU	**Pululahua**	**3.00**	**6**			**Pn**	**06 26 05.2**	**+0.3**
MAG1	**Magdalena**	**3.04**	**342**	P		**Pn**	**06 26 05.0**	**-0.1**
CAYR	**Refugio Cayamb**	**3.09**	**15**	P		**Pn**	**06 26 10.0**	**+3.7**
ANGU	**Angureal**	**3.12**	**15**	P		**Pn**	**06 26 10.0**	**+3.3**
CAYA	**Cayambe**	**3.15**	**15**	P		**Pn**	**06 26 11.0**	**+4.0**
OTAV	**Otavalo**	**3.22**	**7**	Pn		**Pn**	**06 26 08.0**	**+0.1**
OTAV	**Otavalo**	**3.22**	**7**	*e*P		**Pn**	**06 26 11.2**	**+3.3**
PAC1	**Pacto, Paraso**	**3.23**	**1**	P		**Pn**	**06 26 10.0**	**+2.3**
PAC1	**Pacto, Paraso**	**3.23**	**1**	*e*P		**Pn**	**06 26 10.7**	**+3.0**
CUSE	**Cuicocha Este**	**3.29**	**7**	P		**Pn**	**06 26 13.0**	**+4.2**
CUSE	**Cuicocha Este**	**3.29**	**7**	*e*P		Pn	06 26 16.3	+7.5
CUIC	**Cuicocha-Domo**	**3.30**	**8**	P		**Pn**	**06 26 12.0**	**+3.1**
IMBA	**Imbabura, San**	**3.30**	**11**			**Pn**	**06 26 08.7**	**-0.2**
CASC	**Dorado de Casc**	**3.44**	**26**	P		**Pn**	**06 26 11.0**	**+0.5**
URCU	**Urcuqui**	**3.45**	**10**	P		**Pn**	**06 26 14.0**	**+3.1**
BONI	**La Bonita**	**3.65**	**21**	*e*P		**Pn**	**06 26 15.6**	**+2.1**
TULM	**Tulcn-Chalpat**	**3.82**	**16**			**Pn**	**06 26 15.0**	**-0.9**
TULM	**Tulcn-Chalpat**	**3.82**	**16**	*e*P		**Pn**	**06 26 19.1**	**+3.2**
ECEN	**Cerro Negro**	**3.88**	**13**	P		**Pn**	**06 26 20.0**	**+3.2**
PTGL	**Punta Galera**	**3.93**	**342**	P		**Pn**	**06 26 20.0**	**+3.0**
GCUF	**Volcan Galeras**	**4.43**	**20**	*e*P		**Pn**	**06 26 28.8**	**+4.6**
TUMC	**Tumaco**	**4.78**	**1**	Pn		**Pn**	**06 26 26.6**	**-1.8**
CRUZ	**La Cruz**	**4.89**	**23**	*e*P		**Pn**	**06 26 36.2**	**+5.9**
PTLC	**Puerto Leguiza**	**5.10**	**52**	⇑	*e*P	**Pn**	**06 26 29.2**	**-3.6**
BBAC	**Balboa, Cauca**	**5.22**	**18**	*e*P		**Pn**	**06 26 35.5**	**+1.0**
FLOC	**Florencia**	**5.54**	**35**	*e*P		**Pn**	**06 26 38.4**	**-0.3**
GARC	**Garzon, Huila**	**6.12**	**33**	*e*P		**Pn**	**06 26 46.1**	**-0.7**
CZSB	**Cruzeiro do Su**	**7.71**	**128**	Pn		**Pn**	**06 27 08.7**	**+0.6**
CZSB	**Cruzeiro do Su**	**7.71**	**128**	*e*P		**Pn**	**06 27 09.3**	**+1.2**
TBTG	**Tabatinga, AM**	**8.98**	**98**			**Pn**	**06 27 23.8**	**-1.6**
TBTG	**Tabatinga, AM**	**8.98**	**98**	*e*P		**Pn**	**06 27 23.4**	**-2.1**
NNA	**Nana**	**9.16**	**168**	Pn		**Pn**	**06 27 28.8**	**+0.9**
ETMB	**Extrema**	**14.25**	**119**	Pn		**Pn**	**06 28 34.2**	**-1.5**
SDV	**Santo Domingo**	**14.34**	**35**			**P**	**06 28 39.5**	**-1.5**
BAUV	**El Baul**	**16.00**	**42**			**Pn**	**06 28 58.2**	**+0.5**
BAUV				IAmb		IAmb	06 29 01.7	
	comp=Z,16nm,1.3s							
LPAZ	**La Paz**	**16.90**	**142**			**Pn**	**06 29 08.3**	**-1.1**
MACA	**Manacapuru-AM**	**18.12**	**91**	P		**P**	**06 29 22.8**	**+0.2**
VILB	**Vilhena**	**20.92**	**119**	P		**P**	**06 29 52.5**	**-0.5**
VILB				IAmb		IAmb	06 30 03.3	
	comp=Z,6.6nm,0.9s							
QSPA	**South Pole Qui**	**87.09**	**180**	P		**P**	**06 37 52.4**	**-0.1**
QSPA				IAmb		IAmb	06 38 10.6	
	comp=Z,2.1nm,1.2s							
PZH	**PanZhiHua**	**156.61**	**359**	PKP		**PKPdf**	**06 45 02.8**	**+0.4**

CATAC ***17*** *06:35:10.3±1.0,6°.54N×78°.90W,h40km,MB5.7,mb5.7, ML5.8*

IDC ***17*** *06:35:26.6±0.6,7°.41N×80°.31W,h0km,mb4.4/18, mbtmp4.4/26,ML3.9/7,MS3.9/39,Error ellipse: s-maj=19.6km s-min=11.5km az=56.0*

UPA ***17*** *06:35:27.7±1.9,7°.43N×80°.34W,h2km±4km,MW5.1,Fault plane solution: NP1:φs101.00000°,δ38.00000°, λ-70.00000°.*

NEIC ***17*** *06:35:28.2±1.7,7°.34N±0°.06×80°.18W±0°.07,h10km±1km, mb4.7/147,Mwr4.8/18,Error ellipse: s-maj=13.6km s-min=8.8km az=235.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr0.39; Mθθ1.27; Mφφ-1.66; Mrθ0.50; Mrφ1.12; Mθφ0.23; Fault plane solution: M₀1.95000×10¹⁶ NP1:φs24.48000°,δ76.82000°, λ164.17000°. NP2:φs118.18000°,δ74.59000°,λ13.68000°. Principal axes: T 1.8530, Plg20.0000°, Azm341.0000°; N 0.1832, Plg70.0000°, Azm166.0000°; P -2.0362, Plg2.0000°, Azm72.0000°;*

NEIC ***17*** *06:35:28.2, 7°.34N×80°.17W,h10km*

GCMT ***17*** *06:35:31.2±0.3, 7°.43N±0°.01×80°.19W±0°.02, h22km±1km, MW4.9/92,Moment Tensor Solution. s22,c27; s92,c129; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.12±.11; Mθθ1.66±.10; Mφφ-1.54±.10; Mrθ-0.40±.13; Mθφ2.01±.07; Mφr0.90±.14; Best double couple: M₀2.74700×10¹⁶ NP1:φs201.00000°,δ77.00000°,λ-165.00000°. NP2: φs108.00000°,δ76.00000°,λ-14.00000°. Principal axes: T 2.6300, Plg1.0000°, Azm334.0000°; N 0.2300, Plg70.0000°, Azm242.0000°; P -2.8640, Plg20.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 06:35:28.0±0.8,7°.42N±0°.03×80°.28W±0°.02,h10km±4km, n631,σ1≥49/582,mb4.7/104,MS4.0/35,22C-22D,Panama

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ACHO3	**Achotines, Los**	**0.11**	**94**	⇓	*i*P	**Pg**	**06 35 30.8**	**+0.1**
ACHO3					*e*S	**Sg**	**06 35 33.9**	**+1.2**
AZU	**Azuero**	**0.37**	**2**	⇑	*i*P	**Pb**	**06 35 36.1**	**-0.5**
AZU					*i*S	**Sb**	**06 35 42.8**	**+0.4**
AZU	**Azuero**	**0.37**	**2**		*e*P	**Pb**	**06 35 36.1**	**-0.5**
PESE3	**Pese, Herrera**	**0.58**	**326**	⇑	*i*P	**Pg**	**06 35 39.1**	**-0.2**
PESE3					*e*S	**Sb**	**06 35 47.9**	**-0.7**
MARI3	**Mariato, Verag**	**0.73**	**288**	⇑	*i*P	**Pg**	**06 35 40.6**	**-1.6**
MARI3					*e*S	**Sb**	**06 35 52.6**	**-0.4**
CRIS3	**El Cristo, Coc**	**0.89**	**338**	⇑	*i*P	**Pg**	**06 35 44.5**	**-0.7**
CRIS3					*i*S	**Sb**	**06 35 57.9**	**+0.5**
STIA3	**Santiago, Vera**	**0.96**	**315**	⇑	*i*P	**Pg**	**06 35 45.0**	**-1.4**
STIA3					*e*S	**Sn**	**06 36 00.4**	**-0.8**
GMAL	**Guarumal, Vera**	**1.00**	**290**	⇑	*e*P	**Pg**	**06 35 45.6**	**-1.7**
GMAL					*e*S	**Sg**	**06 36 00.4**	**+0.1**
GMAL	**Guarumal, Vera**	**1.00**	**290**		*e*P	**Pg**	**06 35 45.6**	**-1.7**
RSUS3	**Rio de Jesus,**	**1.03**	**303**	⇑	*i*P	**Pg**	**06 35 47.0**	**-0.9**
RSUS3					*e*S	**Sn**	**06 36 02.3**	**-0.7**
CALO3	**Calobre, Verag**	**1.05**	**328**	⇑	*i*P	**Pg**	**06 35 47.0**	**-1.1**
CALO3					*e*S	**Sb**	**06 36 02.0**	**-0.1**
PNME	**Penonome**	**1.06**	**358**	⇑	*i*P	**Pg**	**06 35 47.5**	**-0.8**
PNME					*i*S	**Sn**	**06 36 03.0**	**-0.6**
PNME	**Penonome**	**1.06**	**358**	⇑	*e*P	**Pg**	**06 35 47.5**	**-0.8**
SFRA3	**San Francisco,**	**1.07**	**320**	⇑	*i*P	**Pg**	**06 35 47.0**	**-1.5**
SFRA3					*e*S	**Sg**	**06 36 01.7**	**-0.7**
TABO3	**Taboga, Panama**	**1.54**	**28**	⇓	*e*P	**Pn**	**06 35 55.4**	**-0.2**
TABO3					*e*S	**Sg**	**06 36 17.1**	**-0.6**
CHOR3	**La Chorrera**	**1.55**	**19**	⇑	*i*P	**Pn**	**06 35 55.8**	**+0.1**
CHOR3					*e*S	**Sg**	**06 36 17.9**	**-0.2**
NANC3	**Nancito, Chiri**	**1.65**	**300**	⇑	*e*P	**Pn**	**06 35 55.7**	**-1.3**
NANC3					*e*S	**Sb**	**06 36 19.1**	**-0.3**
ARRA3	**Arraijan, Pana**	**1.66**	**22**	⇓	*e*P	**Pn**	**06 35 57.4**	**+0.3**
ARRA3					*e*S	**Sb**	**06 36 19.6**	**+0.2**
UPA	**Univ. de Panam**	**1.72**	**26**	⇑	*e*P	**Pn**	**06 35 58.3**	**+0.4**
UPA					*e*S	**Sg**	**06 36 22.5**	**-0.8**
UPA	**Univ. de Panam**	**1.72**	**26**	⇑	*e*P	**Pn**	**06 35 58.3**	**+0.4**
BCIP	**Isla Barro Col**	**1.79**	**14**		Pn	**Pn**	**06 35 59.5**	**+0.6**
BCIP	**Isla Barro Col**	**1.79**	**14**	⇑	*i*P	**Pn**	**06 35 59.7**	**+0.8**
BCIP					*e*S	**Sb**	**06 36 23.0**	**-0.4**
BCIP	**Isla Barro Col**	**1.79**	**14**		*e*P	**Pn**	**06 35 59.7**	**+0.8**
BCIP	**Isla Barro Col**	**1.79**	**14**		*i*P	**Pn**	**06 35 59.7**	**+0.8**
BCIP					*i*S	**Sg**	**06 36 25.0**	**-0.6**
CHPO	**Chepo, Panama**	**2.09**	**34**	⇑	*e*P	**Pn**	**06 36 03.9**	**+0.9**
CHPO					*e*S	**Sb**	**06 36 32.7**	**+0.8**
CNTA3	**Canitas, Panam**	**2.26**	**38**		*e*P	**Pn**	**06 36 06.3**	**+1.0**
CNTA3					*i*S	**Sb**	**06 36 36.1**	**-0.8**
PEDE3	**Pedregal, Chir**	**2.32**	**294**	⇓	*e*P	**Pn**	**06 36 07.7**	**+1.3**
PEDE3					*e*S	**Sb**	**06 36 40.1**	**+1.4**
LOCO3	**Loma Colorada,**	**2.33**	**295**	⇓	*e*P	**Pn**	**06 36 07.3**	**+0.9**
DVD	**David**	**2.37**	**295**	⇓	*e*P	**Pn**	**06 36 08.0**	**+1.1**
DVD					*e*S	**Sb**	**06 36 39.9**	**-0.2**
CHGR2	**Aguacate**	**2.38**	**309**	⇓	*e*P	**Pn**	**06 36 08.2**	**+1.2**
CHGR2					*e*S	**Sb**	**06 36 41.0**	**+0.6**
TOTI	**Torti**	**2.46**	**52**	⇓	*i*P	**Pn**	**06 36 08.7**	**+0.5**
TOTI					*e*S	**Sb**	**06 36 40.7**	**-2.0**
PTAC	**Punta Ardita,**	**2.47**	**96**		*i*P	**Pn**	**06 36 05.5**	**-2.8**
PTAC	**Punta Ardita,**	**2.47**	**96**		*e*P	**Pn**	**06 36 05.3**	**-3.0**
UPD2	**Meteti**	**2.51**	**63**	⇓	*i*P	**Pn**	**06 36 09.5**	**+0.7**
UPD2					*e*S	**Sb**	**06 36 44.6**	**+0.5**
UPD2	**Meteti**	**2.51**	**63**	⇓	*e*P	**Pn**	**06 36 09.5**	**+0.7**
PTAR3	**Potrerillos Ar**	**2.53**	**300**	⇓	*i*P	**Pn**	**06 36 10.5**	**+1.3**
LNBQ3	**Los Naranjos,**	**2.53**	**303**	⇓	*e*P	**Pn**	**06 36 09.9**	**+0.6**
LNBQ3					*i*S	**Sb**	**06 36 46.0**	**+1.1**
BCO2	**Palmira**	**2.57**	**300**	⇓	*e*P	**Pn**	**06 36 10.0**	**+1.1**
BCO2					*e*S	**Sb**	**06 36 48.0**	**+2.0**
LIMO3	**Limones**	**2.65**	**285**	⇑	*e*P	**Pn**	**06 36 10.1**	**-0.5**
LIMO3					*e*S	**Sb**	**06 36 48.3**	**+0.3**
PTPM	**Petroterminale**	**2.69**	**287**	⇑	*e*P	**Pn**	**06 36 11.2**	**-0.1**
BC3P	**Paso Ancho**	**2.69**	**301**	⇓	*e*P	**Pn**	**06 36

JTS eS Sb 06 38 09.6 +1.6
JTS Las Juntas de 5.42 302 eP Pn 06 36 52.7 +3.8
JTS Las Juntas de 5.42 302 Pn Pn 06 36 51.5 +2.6
comp=Z,8.2nm,0.3s,baz=98,slow=11,SNR=24
JTS Sn Sn 06 37 53.6 +2.2
baz=317,slow=19
JTS LR LR 06 39 11.2
comp=Z,869nm,18.6s,baz=118,slow=42
JAMC Jamundi, Valle 5.51 139 eP Pn 06 36 46.7 -3.7
SJCC San Jacinto, C 5.61 64 i P Pn 06 36 54.5 +2.9
SJCC eS Sn 06 37 54.7 -1.6
SJCC San Jacinto, C 5.61 64 eP Pn 06 36 52.2 +0.6
ANIL Santa Ana 5.66 121 eP Pn 06 36 52.2 -0.3
BLUN Bluefields 5.71 323 i P Pn 06 36 53.0 +0.2
BLUN IVmB_BB 06 37 07.9
comp=Z,3µm,1.0s
BLUN IAML 06 37 08.7
comp=Z,340nm,1.0s
BLUN IAmb IAmb 06 37 08.8
comp=Z,280nm,0.9s
DUNO Dulce Nombre, 5.79 298 Pn Pn 06 36 54.8 +0.9
VMAR Armenia, Volca 5.84 306 i P Pn 06 36 58.5 +3.8
PTBC PUERTO BERRIO, 5.85 98 eP Pn 06 36 54.4 -0.4
ORTG Ortega, Santa 5.89 300 Pn 06 36 57.8 +2.4
ORTG Ortega, Santa 5.89 300 i P Pn 06 36 57.4 +2.0
ORTG IAmb IAmb 06 37 22.5
comp=Z,130nm,1.0s
ORTG IVmB_BB 06 37 46.0
comp=Z,6µm,1.0s
ORTG IAML 06 38 53.6
comp=Z,420nm,1.0s
PRVC Isla de Provid 6.01 350 Pn Pn 06 36 57.0 0.0
PRVC Isla de Provid 6.01 350 eP Pn 06 36 58.3 +1.3
POPC Popayan, Colom 6.04 143 eP Pn 06 36 54.5 -3.0
ORTC Ortega, Tolima 6.11 125 eP Pn 06 36 57.8 -0.5
BBAC Balboa, Cauca 6.16 150 eP Pn 06 36 55.3 -4.0
ESPN Las Esperanzas 6.18 320 Pn 06 37 01.1 +1.9
HZTE Horizontes, Gu 6.18 302 Pn Pn 06 37 01.5 +2.1
HZTE Horizontes, Gu 6.18 302 i P Pn 06 37 05.8 +6.4
SPBC San Pablo de B 6.42 106 eP Pn 06 37 03.1 +0.5
ARGC Ariguani, Magd 6.44 68 eP Pn 06 37 04.3 +1.4
ROSC El Rosal 6.46 113 Pn Pn 06 37 02.5 -1.1
ROSC El Rosal 6.46 113 eP Pn 06 37 05.9 +2.3
ROSC El Rosal 6.46 113 Pn Pn 06 37 04.2 +0.7
comp=Z,32nm,0.7s,baz=329,slow=15,SNR=27
ROSC Sn Sn 06 38 19.1 +1.6
comp=Z,3.5nm,0.3s,baz=37,slow=22,SNR=3.6
ROSC LR LR 06 39 27.8
comp=Z,1µm,18.5s,baz=332,slow=37
PRAC Prado 6.51 124 eP Pn 06 37 03.0 -1.0
ACON Acoyapa 6.61 314 Pn 06 37 07.0 +1.9
ACON Acoyapa 6.61 314 eP Pn 06 37 06.5 +1.4
ACON Acoyapa 6.61 314 i P Pn 06 37 11.0 +5.8
CONN Concepcion 6.69 308 i P Pn 06 37 10.0 +3.7
CRUC La Cruz 6.70 150 eP Pn 06 37 04.2 -2.6
BETC Betania 6.74 134 eP Pn 06 37 07.2 +0.1
CVER Cruz Verde, Cu 6.82 115 eP Pn 06 37 10.6 +2.1
GCUF Volcan Galeras 6.82 154 eP Pn 06 37 08.2 -0.3
CMBC Cumbal 6.89 159 eP Pn 06 37 10.0 +0.5
LL5C La Loma 5 El P 6.89 70 eP Pn 06 37 11.0 +2.0
OCAC Ocana 6.95 83 eP Pn 06 37 10.6 +0.6
GARC Garzon, Huila 7.06 137 eP Pn 06 37 10.9 -0.7
BARC Barichara 7.10 96 eP Pn 06 37 13.0 +0.8
TULM Tulcn-Chalpat 7.11 159 Pn 06 37 11.6 -1.0
PAC1 Pacto, Paraso 7.26 168 eP Pn 06 37 13.4 -0.9
VILC Villavicencio, 7.33 116 eP Pn 06 37 17.7 +2.4
OTAV Otavalo 7.37 166 Pn Pn 06 37 13.8 -2.2
OTAV Otavalo 7.37 166 eP Pn 06 37 13.6 -2.5
OTAV Otavalo 7.37 166 eP Pn 06 37 14.5 -1.6
IMBA Imbabura, San 7.40 164 Pn 06 37 15.4 -1.1
FLOC Florencia 7.41 141 eP Pn 06 37 14.9 -1.4
PAMC Pamplona, Colo 7.52 90 eP Pn 06 37 19.3 +1.1
PULU Pululahua 7.56 166 Pn 06 37 16.9 -1.8
CRJC Cerrejon, Guaj 8.13 63 eP Pn 06 37 26.9 +0.6
LIMN Finca el Limon 8.20 314 i P Pn 06 37 26.6 -0.6
MACC Macarena, Meta 8.28 129 eP Pg 06 38 08.8 +2.2
TAMC Tame, Arauca 8.49 96 eP Pn 06 37 31.6 +0.5
PTGC Puerto Gaitan, 8.72 111 eP Pn 06 37 33.9 -0.3
PTLC Puerto Leguiza 9.05 143 eP Pn 06 37 41.3 +2.6
YUSH Yuscaran 9.14 316 i P Pn 06 37 41.7 +1.5
URIC Uribia, Colomb 9.21 62 eP Pn 06 37 41.6 +0.6
TGUH Tegucigalpa,Un 9.52 314 Pn 06 37 46.9 +1.6
TGUH Tegucigalpa,Un 9.52 314 eP Pn 06 37 50.8 +5.5
SDV Santo Domingo 9.66 81 Pn Pn 06 37 47.4 +0.1
SDV Santo Domingo 9.66 81 eP Pn 06 37 47.7 +0.3
SDV Santo Domingo 9.66 81 eP Pn 06 37 48.3 +0.9
SDV Santo Domingo 9.66 81 Pn Pn 06 37 47.9 +0.6
comp=Z,8.3nm,0.3s,baz=270,slow=13,SNR=69
SDV Sn Sn 06 39 33.2 -2.9
baz=68,slow=14
SDV LR LR 06 42 28.0
comp=Z,786nm,19.2s,baz=241,slow=44
comp=Z,33nm,0.4s
COHC Cochancay 9.88 174 Pn 06 37 48.0 -2.1
COMHN El Horno 9.98 315 i P Pn 06 37 53.7 +2.0
SCLA Alcaldia de Sa 10.38 308 i P Pn 06 38 04.9 +7.8
BOSC San Juan Bosco 10.65 170 Pn 06 37 58.1 -2.8
SNET Serv Nac Est T 10.77 306 Pn Pn 06 38 03.8 +1.3
ARNL Arenillas 10.90 179 Pn Pn 06 38 02.4 -1.7
MTDJ Mount Denham 11.07 14 Pn Pn 06 38 07.6 +1.1
MTO3 Montecristo 11.29 309 Pn 06 38 11.4 +1.8
MCRA Macar, Loja 11.72 178 Pn Pn 06 38 13.8 -1.6
BAUV El Baul 12.21 82 Pn 06 38 19.6 -2.5
PAPH Port-au-Prince 13.49 34 Pn 06 38 38.3 -1.3
SDDR Presa de Saban 14.44 36 Pn Pn 06 38 54.3 +1.7
SDDR Presa de Saban 14.44 36 eP P 06 38 56.5 -3.0
CCIG Comitan 14.55 308 Pn 06 38 55.5 +1.2
ATAH Atahualpa 14.58 173 Pn Pn 06 38 54.9 0.0
comp=Z,0.3nm,0.3s,baz=4.8,slow=13,SNR=4.6
ATAH LR LR 06 43 50.3
comp=Z,866nm,21.9s,baz=348,slow=35
comp=Z,5.8nm,0.8s
TEIG Tepich 14.90 329 Pn Pn 06 39 00.4 +1.6
comp=Z,2.7nm,0.3s,baz=225,slow=4.3,SNR=1.2
TEIG LR LR 06 45 41.8
comp=Z,9µm,18.4s,baz=325,slow=41
comp=Z,27nm,0.7s
SGCB SÌo Gabriel d 15.19 119 eP Pn 06 39 03.5 +0.7
TBTG Tabatinga, AM 15.50 138 Pn 06 39 03.9 -2.8
TBTG Tabatinga, AM 15.50 138 eP P 06 39 11.3 +0.1
PCRV Puerto La Cruz 15.70 79 Pn Pn 06 39 08.5 -1.0
comp=Z,1.3nm,0.3s,baz=240,slow=6.0,SNR=8.0
PCRV LR LR 06 46 36.9
comp=Z,1µm,19.8s,slow=42
comp=Z,35nm,1.1s
CZSB Cruzeiro do Su 16.84 153 Pn 06 39 20.8 -3.2
CZSB IAmb IAmb 06 39 31.4
comp=Z,40nm,0.8s
CZSB Cruzeiro do Su 16.84 153 eP Pn 06 39 21.5 -2.5
CMIG Matias Romero 17.19 305 P P 06 39 29.6 -0.4
comp=Z,0.1nm,0.3s,baz=92,slow=8.5,SNR=6.2
comp=Z,6.9nm,1.0s
SJG San Juan 17.39 51 P Pn 06 39 29.7 -1.1
comp=Z,0.6nm,0.3s,baz=247,slow=2.0,SNR=2.5
comp=Z,8.4nm,0.8s
TEFE Tefe 19.02 124 eP Pn 06 39 51.1 +0.2
NNA Nana 19.58 170 P P 06 39 56.3 -0.1
comp=Z,0.2nm,0.3s,baz=2.5,slow=13,SNR=3.9
NNA LR LR 06 47 11.3
comp=Z,356nm,19.1s,baz=335,slow=36
comp=Z,7.5nm,0.8s
BOAV Boa Vista 20.31 103 P P 06 40 02.6 -1.7
BOAV Boa Vista 20.31 103 eP P 06 40 03.8 -0.5
TLIG Tlapa 20.48 301 P Pn 06 40 07.8 -0.6
TLIG IAmb IAmb 06 40 17.9
comp=Z,49nm,1.2s
DWPF Disney Wildern 20.61 357 P Pn 06 40 08.5 -1.1
baz=176
ETMB Extrema 22.13 141 P P 06 40 22.1 -1.8
ETMB Extrema 22.13 141 eP P 06 40 23.7 -0.2
MACA Manacapuru-AM 22.21 118 P P 06 40 22.7 -2.1
MACA IAmb IAmb 06 40 33.9
comp=Z,49nm,1.1s
MACA Manacapuru-AM 22.21 118 eP P 06 40 23.4 -1.3
SAML Samuel 23.56 133 P P 06 40 36.6 -2.2
SAML IAmb IAmb 06 40 44.9
comp=Z,34nm,1.1s
TIGA Tifton 24.09 353 P P 06 40 45.1 +1.4
baz=172
250A Grady 25.06 348 P P 06 40 53.1 +0.5
250A IAmb IAmb 06 40 59.0
comp=Z,40nm,1.2s
152A Waverly Hall 25.46 351 IAmb IAmb 06 41 01.4
comp=Z,24nm,1.1s

NHSC New Hope 25.56 0 P P 06 40 57.5 +0.4
NHSC New Hope 25.56 0 P P 06 40 58.1 +1.0
baz=180
GOGA Godfrey 26.03 354 P P 06 41 02.1 +0.7
GOGA IAmb IAmb 06 41 08.7
comp=Z,15nm,0.9s
GOGA Godfrey 26.03 354 P P 06 41 02.1 +0.7
baz=173
LRAL Lakeview Retre 26.24 347 IAmb IAmb 06 41 27.4
comp=Z,18nm,1.1s
LRAL Lakeview Retre 26.24 347 P P 06 41 04.2 +0.9
baz=165
LPAZ La Paz 26.45 153 P P 06 41 04.3 -1.7
Y52A Lilburn 26.54 353 IAmb IAmb 06 41 16.1
comp=Z,18nm,0.9s
Z47A Carrollton 26.65 345 IAmb IAmb 06 41 31.5
comp=Z,16nm,0.8s
HODGE Hodges 26.74 356 IAmb IAmb 06 41 13.7
comp=Z,20nm,0.9s
JSC Jenkinsville 26.75 358 IAmb IAmb 06 41 13.7
comp=Z,22nm,1.0s
Y49A Blount Mountai 26.91 349 IAmb IAmb 06 41 35.3
comp=Z,31nm,1.2s
BIRD Birdtown, Kers 27.09 360 IAmb IAmb 06 41 13.9
comp=Z,25nm,1.4s
ITTB Itaituba 27.15 115 eP P 06 41 10.8 -0.9
PAULI Pauline 27.30 357 IAmb IAmb 06 41 18.5
comp=Z,14nm,0.9s
FPAL Fort Paine 27.43 350 IAmb IAmb 06 41 19.9
comp=Z,12nm,1.1s
BG3 Lake Jocassee 27.55 355 IAmb IAmb 06 41 21.1
comp=Z,11nm,0.9s
KMSC Kings Mountain 27.61 358 P P 06 41 16.7 +1.2
baz=178
NATX Nacogdoches 27.68 333 P P 06 41 17.4 +1.2
baz=148
PB16 IPOC Station P 27.71 158 IAmb IAmb 06 41 28.3
comp=Z,23nm,1.3s
CPCT Cooper Cave 28.16 353 IAmb IAmb 06 41 27.4
comp=Z,13nm,1.0s
TKL Tuckaleechee C 28.28 354 LR LR 06 53 50.7
comp=Z,229nm,18.2s,baz=176,slow=39
435B Jarrell 28.33 327 P P 06 41 22.0 -0.1
baz=142
VILB Vilhena 28.42 135 IAmb IAmb 06 41 29.7
comp=Z,15nm,0.9s
VILB Vilhena 28.42 135 eP P 06 41 22.1 -1.0
NPGB Novo Progresso 28.71 119 eP P 06 41 24.4 -1.3
V48A Smith Brothers 28.82 349 IAmb IAmb 06 41 32.5
comp=Z,9.6nm,0.9s
TZTN Tazewell 29.14 355 P P 06 41 28.6 -0.6
baz=173
WHTX Lake Whitney, 29.22 329 P P 06 41 29.4 -0.5
baz=143
JCT Junction City 29.34 324 P P 06 41 29.9 -1.2
baz=138
WVT Waverly 29.40 347 P P 06 41 30.6 -0.9
baz=164
MIAR Mount Ida 29.64 337 P P 06 41 33.0 -0.7
baz=152
BLA Blacksburg 29.65 360 P P 06 41 33.8 0.0
baz=180
T50A Nancy 29.75 353 IAmb IAmb 06 41 40.5
comp=Z,9.7nm,1.0s
SIV San Ignacio 30.05 141 P P 06 41 36.1 -1.4
comp=Z,5.2nm,0.7s,baz=318,slow=11,SNR=13
SIV LR LR 06 53 52.7
comp=Z,430nm,18.8s,baz=302,slow=37
comp=Z,5.2nm,0.7s
T47A Sharon Grove 30.08 349 IAmb IAmb 06 41 42.1
comp=Z,11nm,1.1s
PDRB Porto dos Gac 30.11 129 eP P 06 41 36.9 -1.1
LCAR Lake Charles 30.20 342 IAmb IAmb 06 41 39.0
comp=Z,10.0nm,1.0s
S51A Beattyville 30.23 355 IAmb IAmb 06 41 44.0
comp=Z,23nm,1.1s
R53A Hurricane 30.81 357 IAmb IAmb 06 41 50.7
comp=Z,15nm,0.9s
ABTX Abilene, Hawle 30.86 327 P P 06 41 43.3 -1.3
baz=140
PTLB Pontes e Lacer 30.91 137 P P 06 41 42.6 -2.5
PTLB Pontes e Lacer 30.91 137 eP P 06 41 43.7 -1.4
TXAR Lajitas Array 30.98 318 P P 06 41 45.0 -0.7
comp=Z,0.6nm,0.7s,baz=125,slow=7.8,SNR=7.1
TXAR PcP PcP 06 44 42.0 0.0
comp=Z,0.3nm,0.6s,baz=137,slow=6.3,SNR=5.7
TXAR LR LR 06 55 22.4
comp=Z,72nm,19.7s,baz=142,slow=39
comp=Z,0.6nm,0.7s
R49A Shelbyville 31.05 353 IAmb IAmb 06 41 47.2
comp=Z,12nm,1.1s
WCI Wyandotte Cave 31.15 351 P P 06 41 46.9 -0.1
WCI IAmb IAmb 06 41 47.2
comp=Z,14nm,1.1s
WCI Wyandotte Cave 31.15 351 P P 06 41 46.7 -0.2
baz=168
TUL3 Leonard 31.71 336 P P 06 41 50.8 -1.2
baz=150
LVC Limon Verde 31.86 160 P P 06 41 54.3 +0.5
comp=Z,2.7nm,0.7s,baz=329,slow=5.9,SNR=1.9
LVC LR LR 06 55 57.1
comp=Z,293nm,18.9s,baz=324,slow=39
comp=Z,2.7nm,0.7s
OLIL Olney 31.96 348 IAmb IAmb 06 42 18.8
comp=Z,19nm,1.1s
CCM Cathedral Cave 32.07 344 P P 06 41 54.6 -0.5
CCM IAmb IAmb 06 42 01.0
comp=Z,12nm,0.8s
CCM Cathedral Cave 32.07 344 P P 06 41 54.8 -0.3
baz=159
MCWV Mont Chateau 32.10 1 P P 06 41 55.0 -0.3
baz=181
BLO Bloomington 32.11 351 IAmb IAmb 06 41 59.7
comp=Z,17nm,1.0s
P52A Corning 32.12 357 P P 06 41 55.5 +0.1
baz=176,SNR=7.9
P49A Miami Univ. Ec 32.22 354 IAmb IAmb 06 42 04.0
comp=Z,10nm,1.1s
P49A Miami Univ. Ec 32.22 354 P P 06 41 56.7 +0.3
baz=172
P48A Milroy 32.23 353 IAmb IAmb 06 42 01.7
comp=Z,17nm,1.1s
BBRB Robore, Bolivi 32.57 142 eP P 06 42 00.6 +1.0
O53A New Philadelph 32.70 359 P P 06 42 00.9 +0.4
baz=178,SNR=7.3
ACSO Alum Creek Sta 32.76 356 P P 06 42 00.9 -0.1
baz=175
O48B Farmland 32.98 353 IAmb IAmb 06 42 26.1
comp=Z,10nm,0.8s
O48B Farmland 32.98 353 P P 06 42 02.7 -0.4
baz=171
SMWD Samorwood 33.09 329 IAmb IAmb 06 42 06.6
comp=Z,5.8nm,0.9s
SFIN Lafayette 33.38 351 P P 06 42 06.0 -0.4
baz=168
TMAB Tom-Au,PA,Br 33.56 106 eP P 06 42 08.6 +0.2
MSTX Muleshoe 33.60 325 P P 06 42 07.6 -1.1
baz=137
SALV Santo Antonio 33.62 134 eP P 06 42 09.3 +0.5
MNTX Cornudas Mount 33.63 319 P P 06 42 08.1 -0.8
baz=131,SNR=6.0
AMTX Amarillo 33.68 327 P P 06 42 07.7 -1.6
baz=139
M53A WI Miller and 33.88 359 P P 06 42 09.7 -1.1
baz=179
PAL Palisades 33.92 9 P P 06 42 09.7 -1.5
baz=191
HDIL Hopedale 33.96 348 P P 06 42 11.0 -0.6
baz=164
ALLY Alegheny Colle 34.09 0 P P 06 42 12.9 +0.2
ERPA Erie 34.55 0 P P 06 42 16.4 -0.3
baz=180
KSU1 Kansas State U 34.80 337 IAmb IAmb 06 42 18.6
comp=Z,13nm,1.0s
KSU1 Kansas State U 34.80 337 P P 06 42 17.6 -1.2
baz=151
N38A Joes South For 35.18 343 IAmb IAmb 06 42 21.7
comp=Z,24nm,1.1s
PP1B Ponte de Pedra 35.33 135 eP P 06 42 24.7 +1.0
RTBA Rita Blanca 35.41 328 IAmb IAmb 06 42 34.5
comp=Z,7.8nm,1.1s
121A Cookes Peak, D 35.73 318 P P 06 42 27.1 -0.2
baz=128
HRV Adam Dziewonsk 35.78 11 P P 06 42 28.2 +0.9
baz=195
J56A Wolcott 35.84 4 P P 06 42 27.3 -0.4
CBKS Cedar Bluff 35.84 334 P P 06 42 27.9 0.0
baz=146

Y22D IRIS PASSCAL I 36.16 321 P P 06 42 30.4 -0.4
baz=131
SCIA State Center 36.20 344 P P 06 42 30.4 -0.5
baz=158
RVDE Rio Verde (Bra 36.26 137 eP P 06 42 32.7 +1.0
JFWS Jewell Farm 36.42 348 P P 06 42 32.2 -0.6
baz=163
ANMO Albuquerque 36.45 322 P P 06 42 33.9 +0.5
ANMO Albuquerque 36.45 322 P P 06 42 33.3 -0.1
baz=133
ANMO Albuquerque 36.45 322 LR LR 07 00 27.3
comp=Z,141nm,20.2s,baz=224,slow=41
AQDB Aquidauana 36.78 139 P P 06 42 33.9 -2.2
AQDB IAmb IAmb 06 42 37.6
comp=Z,10nm,0.8s
T25A Trinidad 36.83 327 P P 06 42 36.7 +0.1
baz=138,SNR=5.9
SADO Sadowa 37.22 1 LR LR 06 58 43.7
comp=Z,250nm,19.3s,baz=194,slow=38
KSCO Kaye Shedlock' 37.34 331 P P 06 42 40.6 -0.2
baz=142
ROSB Rosrio 37.51 105 eP P 06 42 41.8 -0.6
TUC Tucson 37.64 315 P P 06 42 43.0 -0.4
baz=125
SDCO Great Sand Dun 37.86 327 P P 06 42 45.7 +0.2
baz=137,SNR=8.2
RPRD Ribas do Rio P 38.11 137 eP P 06 42 48.6 +1.3
Q24A Divide 38.57 328 P P 06 42 51.1 -0.4
baz=138
OGNE Ogallala 38.60 333 IAmb IAmb 06 42 52.0
comp=Z,16nm,0.9s
OGNE Ogallala 38.60 333 P P 06 42 51.4 0.0
baz=144,SNR=5.5
S22A 4UR Ranch, Cre 38.60 325 P P 06 42 52.2 +0.5
baz=135,SNR=5.5
W18A Petrified Fore 38.61 320 P P 06 42 51.5 -0.2
baz=129
TICA Tres Isletas 38.77 151 eP P 06 42 53.8 +1.1
ECSD EROS Data Cent 38.90 341 P P 06 42 51.5 -2.2
baz=154
AMBA Amambai (Brazi 39.02 141 eP P 06 42 55.5 +0.5
K30B Basset 39.03 337 IAmb IAmb 06 42 54.8
comp=Z,30nm,1.1s
SPMN Marine on St. 39.20 346 P P 06 42 54.3 -1.9
baz=160
MVCO Mesa Verde 39.20 323 P P 06 42 55.2 -1.4
baz=132
BDFB Brasilia 39.33 126 P P 06 42 56.4 -1.4
BDFB Brasilia 39.33 126 P P 06 42 57.1 -0.7
comp=Z,6.5nm,0.8s,baz=283,slow=9.8,SNR=7.6
BDFB LR LR 06 59 47.7
comp=Z,612nm,18.3s,baz=308,slow=37
comp=Z,6.5nm,0.8s
ISCO Idaho Springs 39.43 329 P P 06 42 57.6 -1.0
baz=138
WUAZ Wupatki 39.91 319 P P 06 43 02.0 -0.6
baz=127
ITRB Iturama 39.93 133 eP P 06 43 04.0 +1.3
CPUP Villa Florida 40.28 147 LR LR 07 02 54.4
comp=Z,179nm,18.4s,baz=328,slow=41
SUSD Miller 40.31 339 P P 06 43 04.5 -1.0
baz=151
N23A Red Feather La 40.41 330 P P 06 43 05.7 -1.0
baz=139
CFA Coronel Fontan 40.48 164 P P 06 43 08.7 +1.6
comp=Z,3.0nm,0.8s,baz=326,slow=11,SNR=4.8
comp=Z,3.0nm,0.8s
PCMB Pacaembu 40.53 136 eP P 06 43 08.3 +0.7
HMU Henry Mountain 41.02 322 IAmb IAmb 06 43 13.0
comp=Z,15nm,1.3s
O20A White River Ci 41.06 327 P P 06 43 11.7 -0.3
baz=135
IRM Iron Mountain 41.71 315 P P 06 43 16.6 -0.7
baz=122
KNB Kanab 41.74 320 P P 06 43 17.9 +0.3
K22A Casper 42.02 331 P P 06 43 19.4 -0.4
baz=139
RSSD Black Hills 42.03 334 P P 06 43 20.4 +0.5
RSSD Black Hills 42.03 334 P P 06 43 19.7 -0.2
baz=143
BB19B Bebedouro 42.12 133 eP P 06 43 21.8 +1.1
PMNB Patos De Minas 42.19 128 eP P 06 43 23.0 +1.6
PFO Pinyon Flats O 42.37 313 P P 06 43 22.6 -0.2
baz=120
PFO Pinyon Flats O 42.37 313 LR LR 07 03 34.6
comp=Z,151nm,18.6s,baz=120,slow=40
GMRC Granite Mounta 42.40 315 P P 06 43 23.1 +0.1
baz=122
E28A Huff 42.77 339 IAmb IAmb 06 43 28.4
comp=Z,30nm,1.2s
AGMN Agassiz Nation 42.83 345 P P 06 43 25.1 -0.9
baz=157
HEC Hector,Ludlow 42.90 315 P P 06 43 26.9 -0.1
baz=121
SHPR Sheep Range 42.98 317 P P 06 43 28.1 +0.3
CTU Camp Tracy 43.40 325 P P 06 43 30.6 -0.5
GSC Goldstone, Bar 43.47 315 P P 06 43 31.3 -0.3
baz=121
TCUT Toone Canyon 43.49 325 P P 06 43 32.2 +0.4
TCUT IAmb IAmb 06 43 46.2
comp=Z,18nm,1.2s
MDND Maddock 43.51 341 P P 06 43 30.8 -0.8
baz=152
BFSC Mount Baldy Ra 43.55 313 P P 06 43 31.9 -0.4
baz=119
BW06 Boulder Array 43.63 329 P P 06 43 32.7 -0.2
baz=135,SNR=6.3
PDAR Pinedale Array 43.63 329 P P 06 43 33.0 +0.1
comp=Z,2.9nm,0.9s,baz=127,slow=11,SNR=19
PDAR PcP PcP 06 45 19.2 -1.1
comp=Z,0.9nm,1.0s,baz=111,slow=4.9,SNR=2.1
PDAR LR LR 07 04 16.8
comp=Z,150nm,20.7s,baz=124,slow=40
comp=Z,2.9nm,0.9s
UNIS Unistalda (Bra 43.66 147 eP P 06 43 33.8 +0.8
RCLB Rio Claro- Sao 43.69 134 eP P 06 43 34.7 +1.2
DUG Dugway, Tooele 43.70 323 P P 06 43 34.0 +0.5
baz=130
CIS Catalina Islan 43.71 312 P P 06 43 34.0 +0.6
baz=118
TPNV Topopah Spring 43.96 317 P P 06 43 36.2 +0.6
baz=123
EDW2 Edwards Air Fo 44.10 314 P P 06 43 36.8 +0.1
baz=120
CCAC Calif City Air 44.25 314 IAmb IAmb 06 43 39.8
comp=Z,19nm,0.9s
R11B Troy Canyon, C 44.30 319 P P 06 43 38.7 +0.4
baz=125
MPMC Manual Prospec 44.34 315 P P 06 43 38.6 -0.1
baz=121
RPN Rapa Nui 44.40 218 LR LR 06 57 48.7
comp=Z,98nm,18.3s,baz=40,slow=30
VAO Valinhos 44.46 134 eP P 06 43 40.3 +0.7
SPB Sao Paulo 44.50 135 eP P 06 43 40.9 +1.0
RODS Rosario do Sul 44.61 149 eP P 06 43 41.6 +0.9
ULM Lac du Bonnet 44.63 346 IAmb IAmb 06 43 39.2
comp=Z,7.7nm,0.7s
ULM Lac du Bonnet 44.63 346 P P 06 43 38.1 -2.5
comp=Z,6.9nm,0.7s,baz=154,slow=9.9,SNR=15
ULM LR LR 07 04 21.3
comp=Z,151nm,18.1s,baz=148,slow=39
GRAC Grapevine Rang 44.74 317 P P 06 43 42.6 +0.9
baz=122
LOHW Long Hollow 44.77 329 IAmb IAmb 06 43 43.1
comp=Z,11nm,1.4s
ARVC Arvin 44.82 314 P P 06 43 42.7 +0.4
baz=119
ISA Isabella, Lake 44.83 314 P P 06 43 42.5 0.0
baz=120
MOOW Moose Ponds 44.93 329 P P 06 43 42.7 -0.7
CWC Cottonwood Cre 44.94 316 P P 06 43 43.3 -0.2
baz=121
LAO LASA Array 45.01 335 P P 06 43 43.6 -0.1
baz=142
RLMT Red Lodge 45.19 331 IAmb IAmb 06 43 45.2
comp=Z,6.6nm,0.9s
RLMT Red Lodge 45.19 331 P P 06 43 45.0 -0.3
baz=137,SNR=5.5
H17A Grant Village 45.30 329 P P 06 43 45.5 -0.9
baz=135
VES Vestal, Richgr 45.35 314 P P 06 43 46.7 +0.2
baz=119
ELK Elko 45.49 322 LR LR 07 06 24.9
comp=Z,176nm,19.1s,baz=138,slow=41
CPSB Cacapava Do Su 45.59 147 eP P 06 43 48.9 +0.5
DGMT Dagmar 45.64 338 P P 06 43 48.2 -0.4
baz=146

YHL Hebgen Lake 45.93 329 IAmb IAmb 06 43 53.0
comp=Z,13nm,1.3s
NV11 Mina Array Sit 46.03 318 IAmb IAmb 06 43 53.7
comp=Z,9.6nm,1.2s
NVAR Mina Array Bea 46.13 318 P **P** **06 43 53.5 +0.6**
comp=Z,1.7nm,0.5s,baz=134,slow=6.4,SNR=10
NVAR PcP **PcP** **06 45 29.5 +0.5**
comp=Z,1.0nm,0.7s,baz=128,slow=3.8,SNR=2.1
NVAR LR LR 07 04 44.1
comp=Z,169nm,21.1s,baz=129,slow=38
comp=Z,1.7nm,0.5s
RCBR Riachuelo 46.19 105 LR LR 07 05 54.8
comp=Z,140nm,18.7s,baz=352,slow=40
SJMB Sao Joao De Ma 46.48 124 *e*P **P** **06 43 55.5 -0.1**
BMN Battle Mountai 46.53 321 IAmb IAmb 06 43 57.1
comp=Z,15nm,1.1s
BOZ Bozeman (W) 46.68 330 IAmb IAmb 06 43 57.8
comp=Z,5.3nm,0.9s
BOZ Bozeman (W) 46.68 330 P **P** **06 43 55.9 -1.2**
baz=135,SNR=6.0
HLID Hailey 46.77 326 P **P** **06 43 57.2 -0.6**
baz=130
WAKR Walker 46.92 317 IAmb IAmb 06 44 01.0
comp=Z,10nm,1.1s
YERR Yerington 47.04 318 IAmb IAmb 06 44 01.4
comp=Z,13nm,1.1s
EGMT Eagleton 47.57 333 P **P** **06 44 03.0 -0.8**
baz=139
ALF01 Guarapari-ES 47.83 126 *e*P **P** **06 44 07.3 +1.1**
SCHQ Schefferville 48.49 10 P **P** **06 44 11.1 +0.3**
SCHQ Schefferville 48.49 10 P **P** **06 44 11.7 +0.9**
comp=Z,13nm,0.9s,baz=215,slow=6.7,SNR=9.3
comp=Z,13nm,0.9s
WVOR Wild Horse Val 48.55 322 P **P** **06 44 11.1 -0.4**
MSO Missoula 48.69 330 P **P** **06 44 12.1 -0.5**
baz=133
PLCA Paso Flores 48.75 170 P **P** **06 44 13.7 +0.7**
comp=Z,2.5nm,0.9s,baz=13,slow=7.1,SNR=6.2
PLCA LR LR 07 03 07.0
comp=Z,52nm,18.6s,baz=1.5,slow=34
comp=Z,2.5nm,0.9s
ORV Oroville 48.84 317 P **P** **06 44 14.2 +0.5**
ORV IAmb IAmb 06 44 16.0
comp=Z,18nm,1.4s
J08A Circle Bar Ran 48.98 323 IAmb IAmb 06 44 25.9
comp=Z,7.3nm,1.3s
YBH Yreka Blue Hor 50.73 319 LR LR 07 09 09.4
comp=Z,135nm,20.0s,baz=146,slow=40
NEW Newport 51.26 329 P **P** **06 44 31.3 -0.7**
baz=130
NEW Newport 51.26 329 LR LR 07 09 01.5
comp=Z,110nm,18.7s,baz=132,slow=39
G05A Wamic 51.73 324 IAmb IAmb 06 44 55.3
comp=Z,21nm,1.1s
FRB Frobisher Bay 56.85 6 LR LR 07 11 53.0
comp=Z,158nm,18.7s,baz=222,slow=38
BBB Bella Bella 59.27 328 LR LR 07 14 15.7
comp=Z,87nm,19.9s,baz=153,slow=39
YKA Yellowknife Ar 60.40 342 P **P** **06 45 35.8 -1.4**
comp=Z,5.2nm,0.8s,baz=136,slow=6.8,SNR=82
comp=Z,5.2nm,0.8s
FLDN Fort Liard 61.84 337 P **P** **06 45 46.8 -0.3**
baz=130
DY2G Dye2 63.42 15 *e*P **P** **06 45 56.2 -1.5**
DY2G IAmb IAmb 06 46 02.3
comp=Z,29nm,1.2s
CRAG Craig 63.47 330 P **P** **06 45 58.7 +0.7**
baz=118
DLBC Dease Lake 63.50 333 P **P** **06 45 59.4 +1.1**
baz=122
S34M Telegraph Cree 63.72 333 P **P** **06 46 00.8 +1.2**
baz=121
WTLY Watson Lake, Y 63.89 335 P **P** **06 46 00.6 -0.2**
baz=124
R33M Jennings River 64.42 334 P **P** **06 46 04.4 0.0**
baz=122
R31K City Hall, Gus 66.10 332 P **P** **06 46 14.7 -0.4**
baz=117
S31K Pelican 66.14 331 P **P** **06 46 14.4 -0.9**
baz=116
N32M Quiet Lake 66.23 335 P **P** **06 46 15.7 -0.3**
baz=120
SKAG Skagway 66.39 333 P **P** **06 46 16.7 -0.2**
baz=116
ICESG Greenland Ices 67.05 15 *e*P **P** **06 46 22.5 +1.1**
ICESG IAmb IAmb 06 46 26.1
comp=Z,39nm,1.2s
M31M Drury Creek, Y 67.30 336 P **P** **06 46 22.3 -0.5**
baz=119
O30N Mendenhall 67.33 334 P **P** **06 46 21.4 -1.7**
baz=117
RES Resolute Bay 67.74 356 LR LR 07 17 06.3
comp=Z,148nm,18.3s,baz=193,slow=37
C36M Paulatuk 68.04 345 P **P** **06 46 26.0 -1.2**
baz=132
M30M Minto, Yukon 68.46 335 P **P** **06 46 29.0 -1.1**
baz=117
YUK4 Talbot Arm 68.70 334 P **P** **06 46 31.6 -0.2**
baz=115
M29M Somme Creek 69.10 335 P **P** **06 46 34.2 0.0**
baz=116
J30M Hart River 69.22 337 P **P** **06 46 35.6 +0.7**
baz=118
L29M L29M 69.25 336 P **P** **06 46 35.3 +0.3**
baz=116
K29M Barlow Dome 69.33 337 IAmb IAmb 06 46 36.5
comp=Z,4.9nm,1.0s
K29M Barlow Dome 69.33 337 P **P** **06 46 36.1 +0.5**
baz=117
I30M Mount Dempster 69.54 338 IAmb IAmb 06 46 41.2
comp=Z,5.0nm,0.8s
I30M Mount Dempster 69.54 338 P **P** **06 46 37.6 +0.7**
baz=118
G31M Satah River 69.65 340 P **P** **06 46 37.5 +0.3**
baz=121
YUK3 Moose Creek 69.67 334 P **P** **06 46 37.7 -0.2**
baz=113
F31M Tsiigehtchic 69.74 341 P **P** **06 46 37.9 0.0**
baz=122
SUMG Summit 69.82 12 P **P** **06 46 37.9 -0.9**
SUMG Summit 69.82 12 *i* P **P** **06 46 38.0 -0.8**
SUMG IAmb IAmb 06 46 44.1
comp=Z,20nm,1.0s
A36M Sachs Harbour 70.11 346 P **P** **06 46 39.2 -0.8**
baz=132
INK Inuvik 70.14 342 IAmb IAmb 06 46 51.6
comp=Z,11nm,1.1s
INK Inuvik 70.14 342 P **P** **06 46 39.7 -0.5**
baz=122
INK Inuvik 70.14 342 LR LR 07 20 45.3
comp=Z,140nm,18.4s,baz=172,slow=39
DAWY Dawson 70.17 336 P **P** **06 46 39.5 -1.2**
baz=115
EPYK Eagle Plains 70.22 339 P **P** **06 46 40.6 -0.3**
baz=118
G30M tAoh Zraii Nji 70.34 340 P **P** **06 46 40.9 -0.8**
baz=119
BORG Borgarnes 70.41 23 LR LR 07 12 56.4
comp=Z,48nm,21.9s,baz=242,slow=32
F30M Barrier River 70.50 340 P **P** **06 46 42.3 -0.3**
baz=120
M27K Edge Creek, AK 70.52 334 P **P** **06 46 42.6 -0.3**
baz=112
H29M Whitestone 70.74 339 P **P** **06 46 44.0 -0.1**
baz=117
BCAR Beaver Creek A 70.75 335 P **P** **06 46 44.7 +0.5**
L27K Beaver Creek, 70.76 335 P **P** **06 46 45.3 +1.0**
L27K Beaver Creek, 70.76 335 P **P** **06 46 44.8 +0.5**
baz=112
G29M Pine Creek 70.93 339 P **P** **06 46 44.5 -0.8**
baz=117
I28M Miner Creek 70.98 338 P **P** **06 46 45.0 -0.7**
baz=115
EGAK Eagle 71.17 337 P **P** **06 46 45.9 -0.8**
baz=114
BMRM Bremner River 71.24 332 P **P** **06 46 46.1 -1.2**
baz=109
L26K Log Cabin Wild 71.39 335 P **P** **06 46 47.6 -0.5**
baz=111
E29M Blow River 71.58 341 IAmb IAmb 06 46 49.9
comp=Z,9.2nm,1.4s
E29M Blow River 71.58 341 P **P** **06 46 48.4 -0.7**
baz=118
EYAK Cordova Ski Ar 71.64 332 P **P** **06 46 48.5 -1.1**
baz=108
NEEM North Greenlan 71.67 6 *e*P **P** **06 46 48.3 -1.5**
NEEM IAmb IAmb 06 46 54.8
comp=Z,21nm,1.0s

I27K Kandik River 71.68 337 P **P** **06 46 49.6 -0.2**
baz=114
F28M Old Crow 71.89 340 P **P** **06 46 51.1 +0.1**
baz=116
H27K Steamboat Moun 71.90 338 P **P** **06 46 51.2 +0.1**
baz=114
HARP HAARP 71.96 334 P **P** **06 46 51.0 -0.5**
baz=109
SCRK Sand Creek 72.00 335 P **P** **06 46 51.3 -0.5**
baz=111
KLU Klutina 72.01 333 P **P** **06 46 51.2 -0.8**
baz=108
J26L Joseph Creek 72.02 336 P **P** **06 46 50.8 -1.2**
baz=111
I26K Coal Creek Min 72.16 337 P **P** **06 46 51.6 -1.0**
baz=112
G27K Doyon Strip 72.18 339 P **P** **06 46 51.7 -1.1**
baz=114
E28M Babbage River 72.22 341 IAmb IAmb 06 47 03.7
comp=Z,3.9nm,0.8s
E28M Babbage River 72.22 341 P **P** **06 46 51.9 -1.0**
baz=116
P23K Montague Islan 72.26 331 P **P** **06 46 52.0 -1.3**
baz=106
RIDG Independent Ri 72.28 335 IAmb IAmb 06 46 58.3
comp=Z,8.0nm,0.8s
RIDG Independent Ri 72.28 335 P **P** **06 46 52.1 -1.4**
baz=110
D28M Stokes Point 72.29 341 P **P** **06 46 52.3 -0.9**
baz=117
K24K Donnelly Dome 72.69 335 P **P** **06 46 55.0 -0.9**
baz=109
E27K Coleen River 72.72 340 P **P** **06 46 55.3 -0.7**
baz=114
SCM Sheep Creek Mo 72.75 333 P **P** **06 46 55.8 -0.5**
baz=107
PPT Papeete 72.78 249 LR LR 07 10 06.4
comp=Z,123nm,20.9s,baz=93,slow=29
PPT2 Papeete2 72.79 249 *e*LR LR 07 09 13.1
comp=Z,177nm,26.5s
PPT2 *e*LR LR 07 09 16.9
comp=Z,162nm,27.5s
J25K Salcha River, 72.79 336 IAmb IAmb 06 47 01.9
comp=Z,5.0nm,0.8s
J25K Salcha River, 72.79 336 P **P** **06 46 55.8 -0.7**
baz=110
M23K Glacier View 72.92 333 P **P** **06 46 55.9 -1.4**
baz=107
D27M Malcolm River 72.96 341 P **P** **06 46 56.1 -1.3**
baz=115
G26K Porcupine Rive 73.01 338 P **P** **06 46 56.8 -0.8**
baz=112
DHY Denali Highway 73.14 334 P **P** **06 46 57.6 -1.1**
baz=107
WAT6 Susitna Watana 73.16 333 P **P** **06 46 57.5 -1.3**
baz=107
HDA Harding Lake 73.37 335 IAmb IAmb 06 47 05.2
comp=Z,7.3nm,0.7s
HDA Harding Lake 73.37 335 P **P** **06 46 59.2 -0.7**
baz=108
HDA P **P** **06 46 59.2 -0.7**
baz=108
F26K Sheenjek River 73.42 339 P **P** **06 47 00.0 -0.1**
baz=112
IL31 73.46 336 IAmb IAmb 06 47 00.3
comp=Z,11nm,1.4s
ILAR Eielson Array 73.46 336 P **P** **06 47 00.1 -0.2**
comp=Z,1.7nm,0.8s,baz=103,slow=4.2,SNR=16
ILAR LR LR 07 22 16.0
comp=Z,101nm,20.1s,baz=113,slow=38
comp=Z,1.7nm,0.8s
WAT1 Susitna Watana 73.58 334 P **P** **06 47 00.6 -0.6**
baz=106
RC01 Rabbit Creek A 73.66 332 P **P** **06 47 00.9 -0.7**
baz=105
G25K Bearman Lake 73.80 338 P **P** **06 47 01.7 -0.6**
baz=110
RND Reindeer 73.88 334 P **P** **06 47 03.4 +0.5**
RND IAmb IAmb 06 47 04.0
comp=Z,13nm,1.0s
F25K Christian Rive 73.92 339 P **P** **06 47 02.1 -0.9**
baz=110
MCK McKinley 74.00 334 P **P** **06 47 03.3 -0.3**
baz=106
M22K Willow 74.01 332 P **P** **06 47 03.4 -0.2**
baz=104
E25K Arctic Village 74.07 339 P **P** **06 47 03.7 -0.2**
baz=110
TBI Tubuai 74.13 243 *e*LR LR 07 09 59.0
comp=Z,1um,28.5s
H24K Nod Dome 74.18 337 P **P** **06 47 04.8 +0.2**
baz=108
SUA Susitna One 74.23 332 P **P** **06 47 04.8 -0.3**
baz=104
G24K Hadweenzic Riv 74.30 338 P **P** **06 47 05.5 +0.2**
baz=108
NEA2 Nenana 74.30 335 IAmb IAmb 06 47 25.2
comp=Z,7.1nm,1.3s
NEA2 Nenana 74.30 335 P **P** **06 47 05.1 -0.2**
baz=106
C26K Camden Bay 74.50 341 P **P** **06 47 06.0 -0.3**
baz=112
TRF Thorofare Moun 74.51 334 P **P** **06 47 06.1 -0.7**
baz=105
I23K Minto, Yukon-K 74.58 336 P **P** **06 47 07.0 +0.2**
baz=106
OHAK Old Harbor 74.61 327 P **P** **06 47 07.4 +0.3**
baz=100
F24K Squaw Lake 74.70 338 P **P** **06 47 07.2 -0.5**
baz=108
SKT Skwentna 74.71 332 P **P** **06 47 07.2 -0.5**
baz=103
D25K Kavik River 74.77 340 IAmb IAmb 06 47 19.5
comp=Z,9.2nm,0.9s
D25K Kavik River 74.77 340 P **P** **06 47 07.7 -0.2**
baz=110
ESDC Sonseca Array 74.78 51 P **P** **06 47 07.1 -1.5**
ESDC IAmb IAmb 06 47 14.4
comp=Z,6.0nm,0.9s
ESDC Sonseca Array 74.78 51 P **P** **06 47 09.5 +0.9**
comp=Z,7.1nm,0.8s,baz=271,slow=5.8,SNR=31
ESDC LR LR 07 15 19.2
comp=Z,64nm,19.7s,baz=271,slow=32
comp=Z,7.1nm,0.8s
BPAW Bear Paw Mtn. 74.98 335 IAmb IAmb 06 47 18.5
comp=Z,12nm,1.3s
BPAW Bear Paw Mtn. 74.98 335 P **P** **06 47 09.2 -0.1**
baz=104
P19K Oil Pt 75.03 330 P **P** **06 47 08.9 -0.8**
baz=101
MLY Manley 75.11 336 P **P** **06 47 10.0 0.0**
MLY IAmb IAmb 06 47 15.0
comp=Z,5.1nm,0.8s
MLY Manley 75.11 336 P **P** **06 47 09.7 -0.3**
baz=105
PPLA Purkeypile 75.22 333 P **P** **06 47 11.0 +0.2**
baz=103
G23K Bananza Creek 75.27 337 P **P** **06 47 11.3 +0.4**
baz=106
CAST Castle Rocks 75.29 334 P **P** **06 47 10.5 -0.5**
baz=103
M20K Styx River 75.43 332 P **P** **06 47 11.6 -0.4**
baz=102
COLD Coldfoot 75.48 338 P **P** **06 47 12.0 0.0**
baz=106
CHUM Lake Minchumin 75.49 334 P **P** **06 47 11.9 -0.2**
E23K Chandalar 75.50 339 P **P** **06 47 11.9 -0.3**
baz=106
D24K Happy Valley 75.54 340 P **P** **06 47 12.2 -0.2**
baz=108
H22K Ishtalitna Cre 75.58 336 P **P** **06 47 12.4 -0.3**
baz=104
TOLK Toolik Lake Re 75.65 339 P **P** **06 47 12.3 -0.7**
baz=107
I21K Tanana 75.65 336 P **P** **06 47 12.6 -0.5**
baz=104
C24K Franklin Bluff 75.67 340 P **P** **06 47 12.9 -0.2**
baz=108
N19K Bonanza Creek 75.86 331 P **P** **06 47 14.0 -0.5**
baz=100
G22K Bettles 75.89 337 P **P** **06 47 13.5 -0.9**
baz=104
L20K Farewell, AK 75.89 333 P **P** **06 47 13.5 -1.0**
baz=101
O18K Koktuh Hills 76.06 330 P **P** **06 47 13.5 -2.0**
baz=99
H21K Melozitna Rive 76.10 336 P **P** **06 47 14.2 -1.4**
baz=103
D23K Nanushuk River 76.12 339 P **P** **06 47 14.6 -1.1**
baz=106
F22K John River 76.29 338 P **P** **06 47 15.7 -1.0**
baz=104
E22K Anaktuvuk Pass 76.31 339 P **P** **06 47 15.9 -1.0**
baz=104
R17K Ugashik Creek 76.33 328 P **P** **06 47 16.5 -0.6**
baz=98
C23K Itkillik River 76.34 340 P **P** **06 47 16.7 -0.2**
baz=106
J20K Nowinta River 76.34 334 P **P** **06 47 16.8 -0.3**
baz=101
DAG Danmarks Havn 76.50 12 *e*P **P** **06 47 16.8 -0.9**
DAG IAmb IAmb 06 47 22.1
comp=Z,6.4nm,1.1s
N18K Kilae Creek 76.52 331 P **P** **06 47 17.8 -0.4**
baz=99
G21K Allakaket 76.57 337 P **P** **06 47 18.2 -0.1**
baz=102
EKA Eskdalemuir Ar 76.61 35 P **P** **06 47 20.3 +1.6**
comp=Z,6.8nm,0.9s,baz=264,slow=6.9,SNR=7.8
comp=Z,6.8nm,0.9s
M18K Stony River 76.62 331 P **P** **06 47 18.0 -0.7**
baz=99
F21K Alatna River 76.71 337 IAmb IAmb 06 47 31.2
comp=Z,8.9nm,1.1s
F21K Alatna River 76.71 337 P **P** **06 47 19.6 +0.5**
baz=103
D22K Ayikyak River 76.80 339 P **P** **06 47 20.9 +1.3**
baz=104
H20K Anotleneega Mo 76.91 336 P **P** **06 47 20.7 +0.5**
baz=101
J19K Poorman 76.95 334 P **P** **06 47 20.0 -0.4**
baz=100
O17K Koliganek Bris 76.99 330 P **P** **06 47 20.6 -0.1**
baz=98
N17K Nushagak Hills 77.13 330 P **P** **06 47 20.7 -0.8**
baz=98
L18K Granite Mounta 77.14 332 P **P** **06 47 20.9 -0.7**
baz=99
E21K Killik River 77.16 339 P **P** **06 47 21.5 -0.1**
baz=102
J18K Innoko River 77.34 333 P **P** **06 47 22.6 -0.1**
baz=99
M17K Holitna River 77.37 331 P **P** **06 47 22.5 -0.4**
baz=98
B22K Teshekpuk Lake 77.40 341 P **P** **06 47 22.6 -0.2**
baz=103
F20K Avaraart Lake 77.54 337 P **P** **06 47 23.3 -0.4**
baz=100
H19K Roundabout Mou 77.56 336 P **P** **06 47 23.2 -0.6**
baz=100
B21K Ikpikpuk River 77.64 340 P **P** **06 47 24.3 +0.1**
baz=102
L17K Donlin 77.87 332 P **P** **06 47 25.6 0.0**
baz=97
N16K Nishlik Lake 77.90 330 P **P** **06 47 25.8 -0.1**
baz=96
S14K Fog Glacier 77.91 326 P **P** **06 47 26.0 -0.2**
baz=95
G19K Purcell Mounta 77.92 336 P **P** **06 47 26.4 +0.6**
baz=99
E20K Nigu River 77.93 338 P **P** **06 47 26.3 +0.3**
baz=100
K17K Iditarod 77.95 333 P **P** **06 47 24.4 -1.6**
baz=97
A22K Sinclair Lake 78.05 341 P **P** **06 47 24.8 -1.6**
baz=102
D20K Etivluk River 78.17 339 P **P** **06 47 26.4 -0.8**
baz=100
E19K Redstone River 78.18 337 P **P** **06 47 25.7 -1.6**
baz=99
H18K Honhosa River 78.30 335 P **P** **06 47 28.7 +0.8**
baz=98
F19K Shaleruckik Mo 78.30 337 P **P** **06 47 27.5 -0.4**
baz=98
O15K Ungalikthiuk R 78.30 329 P **P** **06 47 28.8 +0.7**
baz=95
L16K Owhat River 78.38 331 P **P** **06 47 28.9 +0.4**
baz=96
G18K Tagagawik 78.52 336 P **P** **06 47 29.6 +0.4**
baz=98
B20K Meade River 78.58 340 P **P** **06 47 30.1 +0.6**
baz=100
D19K Kuna River 78.67 338 P **P** **06 47 29.9 -0.2**
baz=99
M15K Kasigluk River 78.87 330 P **P** **06 47 31.4 +0.3**
baz=95
J16K Anvik River 79.06 333 P **P** **06 47 32.7 +0.5**
baz=95
I17K Unalakleet 79.15 334 P **P** **06 47 33.6 +1.0**
baz=95
G17K Kiwalik Mounta 79.29 335 P **P** **06 47 34.3 +0.9**
baz=96
C19K Lookout Ridge 79.29 339 IAmb IAmb 06 47 40.8
comp=Z,12nm,1.1s
C19K Lookout Ridge 79.29 339 P **P** **06 47 34.2 +0.7**
baz=97
N14K Kuskokwak Cree 79.31 330 P **P** **06 47 34.1 +0.5**
baz=94
E18K Tukpahlearik C 79.47 337 P **P** **06 47 34.4 +0.1**
baz=96
F17K Baldwin Pennin 79.62 336 P **P** **06 47 36.0 +0.8**
baz=95
C18K Utukok River 79.82 338 P **P** **06 47 37.5 +1.1**
baz=96
H16K Elim 79.89 334 P **P** **06 47 38.3 +1.6**
baz=94
E17K Hotham Inlet 79.91 337 P **P** **06 47 38.4 +1.6**
baz=95
B18K Kokolik River 80.10 339 P **P** **06 47 38.5 +0.8**
baz=95
J14K Nanvaranak Lak 80.36 332 P **P** **06 47 40.4 +1.1**
baz=92
C17K DeLong Mountai 80.53 338 P **P** **06 47 41.0 +0.9**
baz=94
TORD Torodi Ar. Bea 80.57 78 P **P** **06 47 41.2 -0.2**
comp=Z,1.2nm,0.7s,baz=312,slow=4.2,SNR=3.7
TORD LR LR 07 22 18.7
comp=Z,47nm,20.0s,baz=290,slow=35
comp=Z,1.2nm,0.7s
G15K Niukluk 80.68 335 P **P** **06 47 41.7 +0.8**
baz=92
F15K North Star Dit 80.96 335 P **P** **06 47 44.1 +1.7**
baz=92
ANM Nome 81.23 334 P **P** **06 47 45.0 +1.1**
baz=91
C16K Lisburne Hills 81.32 338 P **P** **06 47 45.4 +1.1**
baz=92
M11K Mekoryuk 81.58 330 P **P** **06 47 47.3 +1.5**
baz=90
F14K Arctic Creek 81.65 335 P **P** **06 47 47.7 +1.5**
baz=90
TNA Tin City 82.32 335 P **P** **06 47 50.7 +1.1**
baz=89
RAR Rarotonga 82.95 248 LR LR 07 15 15.4
comp=Z,107nm,18.6s,baz=172,slow=29
SPIA Saint Paul Isl 83.80 327 P **P** **06 47 58.7 +1.3**
baz=86
NB2 NORSAR Subarra 84.29 29 P **P** **06 48 03.1 +3.2**
comp=Z,6.5nm,1.1s,baz=276,slow=5.1
NOA NORSAR Array B 84.29 29 P **P** **06 48 01.6 +1.7**
comp=Z,3.4nm,0.9s,baz=276,slow=4.9,SNR=6.8
comp=Z,3.4nm,0.9s
DAVA Damuels 84.72 43 *e*pP P 06 48 07.5 +5.0
comp=Z,4.3nm,0.5s
DAVOX Davos/Dischmat 84.76 44 LR LR 07 23 53.8
comp=Z,27nm,18.1s,baz=260,slow=34
RETA Reutte 85.30 43 *e*pP **P** **06 48 10.0 +4.7**
comp=Z,0.8nm,0.4s
FETA Feichten 85.32 43 *e*pP **P** **06 48 10.2 +4.6**
comp=Z,3.3nm,0.8s
KEST Kesra 85.42 55 P **P** **06 48 06.5 +0.2**
comp=Z,3.0nm,0.9s,baz=278,slow=12,SNR=1.2
comp=Z,3.0nm,0.9s
HFS Hagfors 85.60 30 P **P** **06 48 06.9 +0.4**
comp=Z,2.7nm,0.7s,baz=299,slow=5.9,SNR=3.9
comp=Z,2.7nm,0.7s
SQTA Sankt Quirin 85.62 43 *e*pP **P** **06 48 11.6 +4.6**
comp=Z,0.6nm,0.2s
WTTA Wattenberg 85.91 43 *e*pP **P** **06 48 13.0 +4.5**
comp=Z,2.2nm,0.7s
CLL Collm 86.32 39 *e*P **P** **06 48 12.0 +1.8**
comp=Z,8.0nm,1.0s
CLL AMS AMS 07 23 00.0
comp=Z,100nm,21.4s
ABTA Abfaltersbach 86.57 43 *e*pP **P** **06 48 16.2 +4.5**
comp=Z,7.0nm,0.9s

LESA	Schwarzleotal	86.59	43	*ep*P		P	06 48 16.3	+4.5	
	comp=Z,7.2nm,0.9s								
KHC	Kasperske Hory	86.97	41	*eP*		P	06 48 17.1	+3.6	
GERES	GERESS Array B	87.09	41	P		P	06 48 17.4	+3.2	
	comp=Z,2.4nm,0.8s,baz=265,slow=3.5,SNR=9.6								
ZVC	Zvikov	87.32	41	*eP*		P	06 48 14.7	-0.5	
PRU	Pruhonice	87.47	40	*eP*		P	06 48 22.3	+6.4	
CKRC	Cesky Krumlov	87.49	41	*eP*		P	06 48 20.1	+4.1	
OSTC	Ostas	88.44	39	*eP*		P	06 48 25.2	+4.7	
DPC	Dobruska-Polom	88.54	40	*eP*		P	06 48 24.5	+3.4	
ARCES	ARCESS Array B	88.56	20	P		P	06 48 22.9	+2.2	
	comp=Z,1.7nm,0.8s,baz=283,slow=1.6,SNR=1.5								
	comp=Z,1.7nm,0.8s								
CONA	Conrad Observa	88.65	42	*i* pP		P	06 48 26.2	+4.6	
	comp=Z,2.4nm,0.8s								
KRUC	Moravsky	88.81	41	*eP*		P	06 48 25.2	+2.9	
VRAC	Vranov	88.89	41	*eP*		P	06 48 25.4	+2.7	
VRAC	Vranov	88.89	41	LR		LR	07 22 31.3		
	comp=Z,69nm,20.4s,baz=278,slow=32								
RONA	Rosalia, Austr	88.98	42	*i* pP		P	06 48 27.7	+4.6	
	comp=Z,0.4nm,0.2s								
VAE	Valgurnera	89.25	52	LR		LR	07 23 29.3		
	comp=Z,82nm,20.4s,baz=324,slow=32								
MORC	Moravsky Berou	89.42	40	*eP*		P	06 48 27.8	+2.6	
MAUC	Maruska	89.68	40	*eP*		P	06 48 30.4	+4.0	
IDI	Anoyia	97.97	53	LR		LR	07 27 17.5		
	comp=Z,16nm,21.4s,baz=272,slow=32								
TSUM	Tsumeb	99.80	108	LR		LR	07 31 50.8		
	comp=Z,67nm,19.8s,baz=330,slow=34								
DZM	Mont Dzumac	114.29	249	*e*LR		LR	07 28 37.1		
	comp=Z,61nm,30.4s								
MDJ	Mudanjiang	121.62	335	P		PKPdf	06 54 22.3	0.0	
MDJ				pmax		pmax			
	comp=Z,15nm,1.4s								
MDJ				pmax		pmax			
	comp=Z,360nm,4.0s								
MKAR	Makanchi Array	123.84	14	PKP		PKiKP	06 54 26.7	-0.1	
	comp=Z,0.6nm,0.8s,baz=33,slow=4.0,SNR=2.6								
WMQ	Urumqi	127.85	11	*eP*		PKPdf	06 54 34.4	+0.1	
HHC	Hu-ho-hao-te	130.74	348	*eP*		PKPdf	06 54 35.4	-4.6	
HHC				sP		sPKPdf	06 54 45.0	+0.2	
HHC				LR		LR			
	comp=N,370nm,13.9s								
HHC				LR		LR			
	comp=E,200nm,15.3s								
HHC				LR		LR			
	comp=Z,330nm,13.4s								
NJ2	Nanjing	136.71	336	*eP*		PKPdf	06 54 50.4	-0.9	
NJ2				pP		pPKPdf	06 54 54.4	-0.5	
NJ2				pmax		pmax			
	comp=Z,9.0nm,0.5s								
ASAR	Alice Springs	143.46	240	PKhKP		PKPpre	06 54 59.2		
	comp=Z,27nm,0.7s,baz=110,slow=2.9,SNR=16								
WRA	Warramunga Arr	144.22	246	PKP		PKPab	06 55 02.5	-0.4	
	comp=Z,11nm,0.8s,baz=103,slow=3.3,SNR=38								
PZH	PanZhiHua	146.22	357	PKPbc		PKPdf	06 55 07.3	-1.3	
H01W1	Cape Leeuwin H	149.60	204	T		T	09 43 09.1		
	baz=149,slow=76,SNR=8.7								
H01W2	Cape Leeuwin H	149.61	204	T		T	09 43 06.5		
	baz=149,slow=76,SNR=9.4								
H01W3	Cape Leeuwin H	149.62	204	T		T	09 43 10.9		
	baz=149,slow=76,SNR=6.9								
CMAR	Chiang Mai Arr	154.27	2	PKPbc		PKiKP	06 55 31.5	+2.1	
	comp=Z,3.0nm,0.3s,baz=328,slow=3.2,SNR=5.5								

CATAC ***17*** *06:53:28.8±1.3, 7.˚25N×79.˚87W, h15km±20km, mb4.7, ML4.8*
IDC ***17*** *06:53:31.4±1.0, 7.˚43N×80.˚53W, h0km, mb3.9/12, mbtmp3.9/14, ML2.6/2, MS3.6/9, Error ellipse: s-maj=33.5km s-min=15.9km az=38.0*
NEIC ***17*** *06:53:31.3±1.4, 7.˚31N±0.˚07×80.˚18W±0.˚07, h10km±1km, mb4.5/15, Error ellipse: s-maj=13.6km s-min=9.3km az=233.0*
UPA ***17*** *06:53:31.8±2.6, 7.˚45N×80.˚33W, h0km±6km, MW4.5*
ISC 17 06:53:30.9±1.0, 7.˚32N±0.˚04×80.˚25W±0.˚02, h7km±6km, n159, σ1ş78/181, mb4.3/19, MS3.4/5, 16C-17D, Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACHO3	Achotines, Los	0.12	40	⇓	*i*P		Pg	06 53 34.5	+0.9
ACHO3					*i* S		Sg	06 53 38.2	+2.9
AZU	Azuero	0.47	357	⇑	*i*P		Pg	06 53 40.0	0.0
	baz=187,slow=12								
AZU					*i* S		Sg	06 53 47.1	+1.0
AZU	Azuero	0.47	357		*e*P		Pg	06 53 39.9	-0.1
PESE3	Pese, Herrera	0.68	329	⇑	*i*P		Pg	06 53 43.2	-0.9
PESE3					*i* S		Sg	06 53 50.5	-2.5
MARI3	Mariato, Verag	0.80	294	⇑	*i*P		Pg	06 53 44.7	-1.6
MARI3					*e*S		Sg	06 53 56.2	-0.5
CRIS3	El Cristo, Coc	0.99	339	⇑	*i*P		Pg	06 53 48.5	-1.5
CRIS3					*i* S		Sg	06 54 01.9	-1.0
STIA3	Santiago, Vera	1.05	317	⇑	*i*P		Pb	06 53 49.1	-2.3
STIA3					*e*S		Sg	06 54 03.1	-1.6
GMAL	Guarumal, Vera	1.07	294	⇑	*i*P		Pb	06 53 49.7	-2.0
GMAL					*e*S		Sb	06 54 05.3	-0.5
GMAL	Guarumal, Vera	1.07	294		*e*P		Pb	06 53 49.7	-2.0
RSUS3	Rio de Jesus,	1.11	306	⇑	*i*P		Pb	06 53 50.0	-2.5
RSUS3					*e*S		Sb	06 54 03.7	-3.4
CALO3	Calobre, Verag	1.15	330	⇑	*i*P		Pb	06 53 51.7	-2.1
CALO3					*e*S		Sb	06 54 05.9	-2.4
PNME	Penonome	1.16	356	⇑	*i*P		Pb	06 53 51.4	-1.8
PNME					*i* S		Sb	06 54 06.7	-1.8
PNME					*e*S		Sg	06 54 07.2	-1.1
PNME	Penonome	1.16	356		*e*P		Pb	06 53 51.4	-1.8
SFRA3	San Francisco,	1.17	322	⇑	*i*P		Pn	06 53 51.0	-2.6
SFRA3					*e*S		Sb	06 54 05.6	-3.1
TABO3	Taboga, Panama	1.62	25	⇓	*e*P		Pn	06 53 59.3	-0.6
TABO3					*e*S		Sn	06 54 20.6	-0.4
CHOR3	La Chorrera	1.64	17	⇑	*i*P		Pn	06 53 59.7	-0.5
CHOR3					*e*S		Sb	06 54 22.1	-0.3
NANC3	Nancito, Chiri	1.73	302	⇓	*i*P		Pn	06 54 00.1	-1.3
NANC3					*i* S		Sn	06 54 23.2	-0.4
ARRA3	Arraijan, Pana	1.74	20		*i*P		Pn	06 54 01.7	+0.2
ARRA3					*i* S		Sn	06 54 24.1	+0.2
UPA	Univ. de Panam	1.80	23	⇑	*i*P		Pn	06 54 02.1	-0.1
UPA	Univ. de Panam	1.80	23		*e*P		Pn	06 54 02.1	-0.1
BCIP	Isla Barro Col	1.88	13				Pn	06 54 03.5	+0.1
BCIP	Isla Barro Col	1.88	13	⇑	*i*P		Pn	06 54 03.7	+0.2
BCIP					*e*S		Sb	06 54 29.0	-0.2
BCIP	Isla Barro Col	1.88	13	⇑	*e*P		Pn	06 54 03.6	+0.1
CHPO	Chepo, Panama	2.15	31	⇓	*e*P		Pn	06 54 07.7	+0.4
CHPO					*e*S		Sb	06 54 36.3	-0.9
CNTA3	Canitas, Panam	2.32	35	⇓	*e*P		Pn	06 54 10.8	+1.3
PEDE3	Pedregal, Chir	2.39	296		*e*P		Pn	06 54 11.1	+0.6
PEDE3					*e*S		Sn	06 54 42.1	+2.0
LOCO3	Loma Colorada,	2.40	297	⇓	*i*P		Pn	06 54 11.4	+0.8
LOCO3					*i* S		Sb	06 54 45.3	+1.0
PTAC	Punta Ardita,	2.43	94		*e*P		Pn	06 54 09.3	-1.8
PTAC	Punta Ardita,	2.43	94		*e*P		Pn	06 54 09.2	-1.8
DVD	David	2.44	297	⇓	*e*P		Pn	06 54 12.0	+0.9
DVD					*e*S		Sn	06 54 41.6	+0.3
CHGR2	Aguacate	2.47	311	⇓	*e*P		Pn	06 54 11.6	0.0
CHGR2					*e*S		Sn	06 54 45.0	+3.0
TOTI	Torti	2.50	50	⇓	*e*P		Pn	06 54 12.5	+0.5
TOTI					*e*S		Sb	06 54 44.8	-2.4
UPD2	Meteti	2.53	61	⇓	*i*P		Pn	06 54 13.3	+0.9
UPD2					*e*S		Sb	06 54 46.8	-1.2
UPD2	Meteti	2.53	61		*e*P		Pn	06 54 13.4	+1.1
PTAR3	Potrerillos Ar	2.61	302	⇑	*e*P		Pn	06 54 14.8	+1.2
LNBQ3	Los Naranjos,	2.61	304	⇓	*e*P		Pn	06 54 13.9	+0.3
LNBQ3					*e*S		Sn	06 54 47.7	+2.0
BCO2	Palmira	2.65	302	⇓	*e*P		Pn	06 54 15.1	+0.9
LIMO3	Limones	2.70	287		*e*P		Pn	06 54 16.4	+1.7
PTPM	Petroterminale	2.75	289		*e*P		Pn	06 54 14.1	-1.2
BC3P	Paso Ancho	2.77	303	⇓	*e*P		Pn	06 54 17.1	+1.3
BRU2	Volcan	2.82	301	Pn			Pn	06 54 17.2	+0.7
BRU2	Volcan	2.82	301	⇓	*e*P		Pn	06 54 18.0	+1.5
BRU2	Volcan	2.82	301		*i* P		Pn	06 54 18.1	+1.5
BRU2					*i* S		Sn	06 54 55.1	+4.2
BRU2				IAML				06 55 16.7	
	comp=Z,3μm,1.0s								
CDITO	Canoas	2.88	296				Pn	06 54 18.3	+1.1
CDITO	Canoas	2.88	296		*i* P		Pn	06 54 18.5	+1.3
CDITO					*i* S		Sb	06 54 57.7	-0.3
CTCR	Cotoan	2.93	302		*i* P		Pn	06 54 19.6	+1.5
CTCR					*i* S		Sb	06 55 01.3	+1.5
CTCR				IAML				06 55 09.0	
	comp=Z,7μm,1.0s								
MLIR3	Monte Lirio, C	2.94	300	⇓	*e*P		Pn	06 54 20.1	+2.0
SOLC	Bahia Solano	3.03	111		*e*P		Pn	06 54 16.9	-2.3
CNI2	El Empalme, Bo	3.03	314	⇓	*e*P		Pn	06 54 20.7	+1.4
CAPC	Capurgana	3.16	65		*e*P		Pn	06 54 21.5	+0.5
PIRO	Carate, Puerto	3.24	290		*i* P		Pb	06 54 27.2	-1.5
PIRO					*i* S		Sb	06 55 07.9	-0.5
POTG	Potrero Grande	3.32	301		*i* P		Pn	06 54 25.1	+1.8
POTG				IAML				06 55 27.1	
	comp=Z,1μm,1.0s								
RIOS	Rincon, Osa	3.51	293		*i* P		Pb	06 54 33.3	0.0
APAC	Apartado, Choc	3.69	81		*e*P		Pn	06 54 30.8	+2.5
OCHAL	Ojochal	3.79	298		*i* P		Pn	06 54 32.5	+2.7
OCHAL				IAML				06 55 36.2	
	comp=Z,3.6nm,1.0s								
DBBC	Dabeiba	4.02	94		*e*P		Pn	06 54 33.4	+0.4
CDM	Cerro de Muert	4.12	303		*i* P		Pn	06 54 38.1	+3.4
RIMA	Rio Macho	4.32	304				Pn	06 54 38.4	+1.2
LCR2	La Lucha 2	4.42	303				Pn	06 54 39.8	+1.2
LCR2	La Lucha 2	4.42	303		*i* P		Pn	06 54 40.8	+2.2
LCR2				IAML				06 55 57.2	
	comp=Z,460nm,1.0s								
CBOC	Ciudad Bolivar	4.46	109		*e*P		Pn	06 54 37.9	-1.2
PLMC	San Jos del P	4.62	121		*e*P		Pn	06 54 38.8	-2.4
HDC3	Heredia 3	4.65	305		*i* P		Pn	06 54 45.2	+3.5
HDC3					*i* S		Sb	06 55 56.9	+7.6
HDC	Heredia	4.65	305				Pn	06 54 42.7	+0.9
HDC	Heredia	4.65	305	⇑	*i*P		Pn	06 54 44.3	+2.6
HDC					*e*S		Sb	06 55 49.3	0.0
UREC	San Jos de Ur	4.70	84	⇓	*i*P		Pn	06 54 43.4	+1.2
UREC	San Jos de Ur	4.70	84		*e*P		Pn	06 54 43.4	+1.2
JACO	JACO, Garabito	4.94	298				Pn	06 54 46.3	+0.8
JACO	JACO, Garabito	4.94	298		*i* P		Pn	06 54 50.9	+5.3
JACO					*i* S		Sb	06 56 01.6	+4.2
YOTC	Yotoco, Valle	5.11	130		*e*P		Pn	06 54 45.8	-2.2
SOCE	Pocosol	5.28	306	Pn			Pn	06 54 51.3	+1.0
GUY2C	Guyana, Caldas	5.29	113		*e*P		Pn	06 54 50.7	-0.1
COVE	Coope Vega, Sa	5.31	310				Pn	06 54 51.5	+0.8
ZARC	Zaragoza, Cauc	5.35	88		*e*P		Pn	06 54 52.3	+1.0
ARE1	Arenal 1	5.40	306	Pn			Pn	06 54 52.5	+0.6
JAMC	Jamundi, Valle	5.42	139		*e*P		Pn	06 54 50.5	-1.8
JTS	Las Juntas de	5.50	303				Pn	06 54 53.3	0.0
JTS	Las Juntas de	5.50	303		*e*P		Pn	06 54 58.2	+4.9
JTS	Las Juntas de	5.50	303		*e*P		Pn	06 54 58.1	+4.8
JTS	Las Juntas de	5.50	303	Pn			Pn	06 54 50.4	-2.9
	comp=Z,0.3nm,0.3s,baz=294,slow=19,SNR=2.6								
JTS				Sn			Sn	06 55 43.4	-13
	comp=Z,1.8nm,0.3s,baz=255,slow=11,SNR=1.8								
JTS				Lg			Lg	06 56 19.9	
	comp=Z,0.5nm,0.3s,baz=268,slow=18,SNR=2.4								
	comp=Z,6.0nm,0.8s								
BLUN	Bluefields	5.81	324		*i* P		Pn	06 54 58.4	+0.9
BLUN				IAmb			IAmb	06 55 12.1	
	comp=Z,92nm,0.8s								
BLUN				IAML				06 56 05.9	
	comp=Z,140nm,1.0s								
PTBC	PUERTO BERRIO,	5.81	97		*e*P		Pn	06 55 00.4	+2.9
DUNO	Dulce Nombre,	5.86	298				Pn	06 54 55.9	-2.4
POPC	Popayan, Colom	5.94	143		*e*P		Pn	06 54 58.2	-1.3
ORTG	Ortega, Santa	5.97	301				Pn	06 54 59.7	-0.1
ORTG	Ortega, Santa	5.97	301		*i* P		Pn	06 55 01.8	+2.1
ORTG				IAmb			IAmb	06 55 20.2	
	comp=Z,34nm,0.7s								
ORTG					*i* S		Sb	06 56 23.7	-3.3
ORTG				IAML				06 56 59.7	
	comp=Z,85nm,1.0s								
ORTC	Ortega, Tolima	6.03	124		*e*P		Pn	06 55 01.1	+0.5
PRVC	Isla de Provid	6.12	350	Pn			Pn	06 55 01.4	-0.3
HZTE	Horizontes, Gu	6.26	303	Pn			Pn	06 54 49.4	+1.2
ESPN	Las Esperanzas	6.27	321				Pn	06 55 03.1	-0.8
ROSC	El Rosal	6.39	112				Pn	06 55 04.7	-1.3
ROSC	El Rosal	6.39	112	Pn			Pn	06 55 10.4	+4.5
	comp=Z,2.1nm,0.3s,baz=286,slow=19,SNR=12								
ROSC				Sn			Sb	06 56 27.8	-12
	comp=Z,1.3nm,0.3s,baz=337,slow=21,SNR=1.3								
	comp=Z,10nm,0.5s								
PRAC	Prado	6.43	124	Pn			Pn	06 55 06.2	+0.1
PRAC	Prado	6.43	124		*e*P		Pn	06 55 06.8	+0.7
CRUC	La Cruz	6.59	150		*e*P		Pn	06 55 07.7	-0.9
BETC	Betania	6.65	134		*e*P		Pn	06 55 10.8	+1.7
ACON	Acoyapa	6.70	314				Pn	06 55 10.6	+0.9
ACON	Acoyapa	6.70	314		*e*P		Pn	06 55 10.1	+0.3
OCAC	Ocana	6.93	82		*e*P		Pn	06 55 14.4	+1.3
GARC	Garzon, Huila	6.96	137		*e*P		Pn	06 55 14.7	+1.0
TULM	Tulcn-Chalpat	7.01	159				Pn	06 55 14.1	-0.3
BARC	Barichara	7.06	95		*e*P		Pn	06 55 16.4	+1.5
OTAV	Otavalo	7.26	166	Pn			Pn	06 55 17.3	-0.6
OTAV	Otavalo	7.26	166		*e*P		Pn	06 55 16.1	-1.8
VILC	Villavicencio,	7.26	116		*e*P		Pn	06 55 21.1	+3.4
IMBA	Imbabura, San	7.29	164				Pn	06 55 16.9	-1.4
FLOC	Florencia	7.32	141		*e*P		Pn	06 55 18.6	+0.4
PULU	Pululahua	7.46	166				Pn	06 55 18.6	-1.9
PAMC	Pamplona, Colo	7.49	89		*e*P		Pn	06 55 23.3	+2.2
CRJC	Cerrejon, Guaj	8.15	63		*e*P		Pn	06 55 30.6	+0.8
CRIN	San Cristobal	8.56	309				Pn	06 55 35.8	+0.4
CHSH	Refugio Sur-Vo	8.87	171				Pn	06 55 39.8	-0.3
TGUH	Tegucigalpa,Un	9.61	315	Pn			Pn	06 55 50.4	+0.6
SDV	Santo Domingo	9.65	80	Pn			Pn	06 55 49.7	-0.8
SDV	Santo Domingo	9.65	80		*e*P		Pn	06 55 52.1	+1.6
SDV	Santo Domingo	9.65	80	Pn			Pn	06 55 51.5	+1.1
	comp=Z,2.5nm,0.3s,baz=270,slow=7.1,SNR=12								
SDV				Sn			Sn	06 57 34.5	-4.8
	comp=Z,1.5nm,0.3s,baz=279,slow=23,SNR=2.0								
SDV				LR			LR	06 59 58.7	
	comp=Z,228nm,19.2s,baz=254,slow=39								
BOSC	San Juan Bosco	10.55	170				Pn	06 56 01.3	-1.4
ARNL	Arenillas	10.80	179	Pn			Pn	06 56 04.9	-1.1
MCRA	Macar, Loja	11.62	179	Pn			Pn	06 56 16.1	-1.2
BAUV	El Baul	12.20	82	Pn			Pn	06 56 23.3	-1.9
ATAH	Atahualpa	14.48	173	LR			LR	07 02 02.7	
	comp=Z,120nm,19.0s,baz=0.6,slow=35								
SDDR	Presa de Saban	14.50	36	Pn			Pn	06 56 55.2	-1.5
TEIG	Tepich	15.00	330	LR			LR	07 03 28.0	
	comp=Z,2μm,18.6s,baz=358,slow=40								
TBTG	Tabatinga, AM	15.40	138				Pn	06 57 04.4	-4.4
TBTG				IAmb			IAmb	06 57 15.9	
	comp=Z,31nm,1.0s								
PCRV	Puerto La Cruz	15.69	78	LR			LR	07 05 11.1	
	comp=Z,159nm,19.0s,slow=44								
CZSB	Cruzeiro do Su	16.74	153	Pn			Pn	06 57 24.6	-1.4
EMPR	Esperanza - Ma	17.36	49	P			Pn	06 57 31.9	-1.8
ETMB	Extrema	22.03	140	P			P	06 58 25.4	-0.8
ETMB				IAmb			IAmb	06 58 28.9	
	comp=Z,11nm,0.8s								
MACA	Manacapuru-AM	22.13	117	P			P	06 58 25.3	-2.0
MACA				IAmb			IAmb	06 58 37.9	
	comp=Z,12nm,0.8s								
SAML	Samuel	23.46	133	P			P	06 58 40.1	-1.2
346A	Big Creek Wild	25.45	341	P			P	06 58 59.3	-0.2
346A				IAmb			IAmb	06 59 16.6	
	comp=Z,12nm,0.8s								
GOGA	Godfrey	26.13	354	P			P	06 59 05.4	-0.2
GOGA				IAmb			IAmb	06 59 10.4	
	comp=Z,7.9nm,1.0s								
JSC	Jenkinsville	26.85	358	P			P	06 59 11.2	-0.9
TKL	Tuckaleechee C	28.39	354	LR			LR	07 11 55.1	
	comp=Z,132nm,18.6s,baz=196,slow=39								
SIV	San Ignacio	29.95	141	LR			LR	07 11 34.0	
	comp=Z,78nm,19.2s,baz=49,slow=36								
TXAR	Lajitas Array	31.07	318	P			P	06 59 49.8	-0.2
	comp=Z,0.2nm,0.7s,baz=113,slow=6.9,SNR=1.6								
	comp=Z,0.2nm,0.7s								
LVC	Limon Verde	31.75	160	LR			LR	07 13 03.7	
	comp=Z,74nm,22.0s,baz=338,slow=37								
N41A	Harden Midland	34.57	346	P			P	07 00 17.8	-2.4
ANMO	Albuquerque	36.55	322	LR			LR	07 17 55.5	
	comp=Z,29nm,19.6s,baz=209,slow=40								
PDAR	Pinedale Array	43.73	329	P			P	07 01 36.8	-0.3
	comp=Z,0.3nm,0.6s,baz=131,slow=11,SNR=4.3								
	comp=Z,0.3nm,0.6s								
Q12A	Willow Creek R	44.32	321	P			P	07 01 42.2	+0.4
Q12A				IAmb			IAmb	07 01 48.1	
	comp=Z,10nm,0.5s								
ULM	Lac du Bonnet	44.74	346	P			P	07 01 45.2	+0.5
	comp=Z,2.0nm,0.6s,baz=155,slow=7.2,SNR=5.7								
	comp=Z,2.0nm,0.6s								
NVAR	Mina Array Bea	46.22	318	P			P	07 01 57.9	+0.8
	comp=Z,0.4nm,0.5s,baz=142,slow=7.5,SNR=1.8								
	comp=Z,0.4nm,0.5s								
SCHQ	Schefferville	48.59	10	P			P	07 02 16.9	+1.9
	comp=Z,6.0nm,0.8s,baz=172,slow=11,SNR=4.3								
	comp=Z,6.0nm,0.8s								
PLCA	Paso Flores	48.64	170	P			P	07 02 19.4	+3.9
	comp=Z,1.6nm,0.9s,baz=222,slow=14,SNR=3.3								
	comp=Z,1.6nm,0.9s								
EDM	Edmonton	53.07	336	P			P	07 02 47.6	-1.1
EDM				IAmb			IAmb	07 02 51.5	
	comp=Z,5.9nm,0.8s								
YKA	Yellowknife Ar	60.51	342	P			P	07 03 40.0	-1.4
	comp=Z,1.3nm,0.6s,baz=138,slow=6.4,SNR=26								
	comp=Z,1.3nm,0.6s								
RES	Resolute Bay	67.85	356	P			P	07 04 30.9	+1.6
	comp=Z,2.3nm,1.1s,baz=208,slow=12,SNR=3.5								
RES				LR			LR	07 34 07.8	
	comp=Z,84nm,18.2s,baz=282,slow=36								
	comp=Z,2.3nm,1.1s								
SUMG	Summit	69.91	12	P			P	07 04 42.4	-0.4
SUMG				IAmb			IAmb	07 04 50.4	
	comp=Z,2.3nm,0.6s								
SUMG	Summit	69.91	12	*i* P			P	07 04 43.0	+0.2
A36M	Sachs Harbour	70.21	346	P			P	07 04 42.5	-1.6
INK	Inuvik	70.24	342	P			P	07 04 44.6	+0.3
INK				IAmb			IAmb	07 04 55.6	
	comp=Z,3.4nm,1.1s								
INK	Inuvik	70.24	342	P			P	07 04 44.2	-0.1
	comp=Z,2.5nm,0.9s,baz=179,slow=2.2,SNR=7.0								
	comp=Z,2.5nm,0.9s								
ILAR	Eielson Array	73.56	336	P			P	07 05 04.0	-0.4
	comp=Z,0.5nm,0.8s,baz=121,slow=3.4,SNR=9.0								
	comp=Z,0.5nm,0.8s								
ESDC	Sonseca Array	74.81	51	P			P	07 05 16.2	+3.9
	comp=Z,1.3nm,0.8s,baz=272,slow=5.5,SNR=8.6								
	comp=Z,1.3nm,0.8s								
TORD	Torodi Ar. Bea	80.56	78	P			P	07 05 47.9	+3.2
	comp=Z,0.6nm,0.8s,baz=254,slow=8.4,SNR=1.4								
	comp=Z,0.6nm,0.8s								
ASAR	Alice Springs	143.43	240	PKP			PKPdf	07 13 06.7	-0.5
	comp=Z,0.4nm,0.8s,baz=101,slow=2.5,SNR=4.4								
WRA	Warramunga Arr	144.21	246	PKP			PKPbc	07 13 07.1	+0.4
	comp=Z,1.6nm,0.8s,baz=103,slow=3.3,SNR=11								
PZH	PanZhiHua	146.32	357	PKPbc			PKPdf	07 13 09.8	-2.4

JMA 17 06:59:59.1±0.3, 26.˚N±2.˚×14.˚1E±.˚, h125km, MV4.1/14, IOTO ISLANDS REGION, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	1.56	56		*e*P		Pn	07 00 27.7	+0.2
JHH2						S	Sn	07 00 49.9	+0.7
CBIJ	Chichi jima	1.85	44		*e*P		Pn	07 00 31.6	+0.5
CBIJ						S	Sn	07 00 55.9	+0.4
BSO3	Boso 3	9.00	359		*e*P		Pn	07 02 03.4	-2.4
BSO4	Boso 4	9.19	358		*e*P		Pn	07 02 07.6	-0.9
JHO	Hitachi	10.80	359		*e*P		Pn	07 02 26.2	-4.0

SOME ***17*** *07:00:32.1, 42.˚05N×81.˚08E, h25km*
*N

az=146.0

ISC 17 07:01:28.0±1.8, 17.1S±0.7×179.0W±0.4, h533km, n6, σ0.51/8, mb3.0/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.23**	**259**	P	**P**	**07 08 50.1**	**-0.1**
	0.2nm,0.4s,baz=95,slow=7.8,SNR=5.9						
WRA				PcP	**PcP**	**07 10 22.5**	**-0.8**
	0.5nm,0.6s,baz=95,slow=3.1,SNR=2.9						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**44.47**	**253**	P	**P**	**07 08 52.5**	**+0.4**
	3.9nm,0.6s,baz=88,slow=8.1,SNR=82						
ASAR				PcP	**PcP**	**07 10 23.8**	**-0.4**
	0.5nm,0.6s,baz=106,slow=4.1,SNR=5.3						
	3.9nm,0.6s						
ILAR	**Eielson Array**	**85.21**	**13**	P	**P**	**07 13 07.6**	**-0.1**
	0.3nm,0.9s,baz=212,slow=8.5,SNR=4.4						
	0.3nm,0.9s						
TXAR	**Lajitas Array**	**86.04**	**58**	P	**P**	**07 13 12.7**	**0.0**
	0.2nm,0.7s,baz=224,slow=7.4,SNR=2.0						
	0.2nm,0.7s						
BRTR	**Keskin Array B**	**143.79**	**315**	PKP	**PKPdf**	**07 20 03.4**	**+0.4**
	1.1nm,0.8s,baz=126,slow=3.5,SNR=6.4						
GERES	**GERESS Array B**	**146.66**	**345**	PKPbc	**PKPbc**	**07 20 10.5**	**+0.4**
	0.7nm,0.6s,baz=5.7,slow=4.9,SNR=3.7						

IDC 17 07:22:48.9±452.0, 45.71N×64.37E, h0km, Error ellipse: s-maj=218.2km s-min=118.9km az=159.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.33**	**320**	I	I	07 58 15.0	
	baz=133,slow=328,SNR=44						
I46RU	**ZALESOVO INFRA**	**15.51**	**51**	I	I	09 00 01.1	
	0.2nm,1.3s,baz=244,slow=313,SNR=3.1						
I45RU	**USSURIYSK INFR**	**46.55**	**66**	I	I	12 07 30.0	
	baz=288,slow=333,SNR=1.0						
I18DK	**QAANAAQ INFRAS**	**53.79**	**349**	I	I	13 14 50.0	
	baz=29,slow=342,SNR=1.6						
I53US	**FAIRBANKS INFR**	**66.91**	**14**	I	I	14 35 50.0	
	baz=339,slow=333,SNR=1.3						

NEIC 17 07:26:51.5±0.4, 36.71N±0.02×99.37W±0.03, h5km±1km, Error ellipse: s-maj=4.9km s-min=2.9km az=314.0

TUL 17 07:26:51.3±0.4, 36.71N±0.02×99.39W±0.03, h5km±5km, ML2.6, mb_Lg2.2/6(NEIC), ML2.5/12(NEIC), Error ellipse: s-maj=4.3km s-min=2.1km az=113.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.45**	**136**		Pg	07 27 00.5	+0.4
U32A				Sg	Sg	07 27 07.1	+1.2
U32A				IAML		07 27 07.4	
	comp=E,404nm,0.5s						
OK035	**E0210 Rd and N**	**0.55**	**90**	Pg	Pg	07 27 02.0	+0.2
OK035				Sg	Sg	07 27 09.8	+0.8
OK035				IAML		07 27 12.4	
	comp=E,226nm,0.3s						
OK038	**West end E0370**	**0.57**	**113**		Pg	07 27 02.6	+0.3
OK038				Sg	Sg	07 27 10.6	+0.9
ELIS	**Ellis County**	**0.64**	**182**		Pg	07 27 04.0	+0.5
ELIS				Sg	Sb	07 27 13.3	-1.0
ELIS				IAML		07 27 17.0	
	comp=N,205nm,0.3s						
OK032	**Salt Plains WL**	**0.95**	**84**	Pg	Pg	07 27 09.2	-0.5
OK032				IAML		07 27 28.3	
	comp=N,131nm,0.2s						
OK032				IAML		07 27 33.2	
	comp=N,167nm,0.2s						
KAN10	**Anthony SW Sta**	**1.12**	**68**	Pg	Pg	07 27 11.9	-0.9
CROK	**Carrier**	**1.15**	**100**	Pg	Pg	07 27 12.9	-0.5
CROK				IAML		07 27 33.5	
	comp=E,128nm,0.3s						
KAN14	**Manchester OK**	**1.17**	**77**	Pg	Pg	07 27 13.3	-0.5
GC02	**Grant County #**	**1.24**	**83**		Pg	07 27 14.4	-0.7
KAN08	**Anthony NE Sta**	**1.25**	**65**	Pg	Pg	07 27 14.6	-0.7
KAN12	**Harper NE Stat**	**1.26**	**62**	Pg	Pg	07 27 14.8	-0.7
KAN05	**Bluff City Nor**	**1.28**	**71**	Pg	Pg	07 27 15.1	-0.8
KAN06	**Argonia West S**	**1.34**	**66**		Pn	07 27 16.1	-0.7
KAN17	**Caldwell West**	**1.35**	**75**		Pn	07 27 16.3	-0.5
KAN01	**Argonia South**	**1.38**	**71**		Pn	07 27 17.1	-0.3
KAN09	**Caldwell North**	**1.48**	**73**		Pn	07 27 18.7	0.0
KS21	**Milan North St**	**1.50**	**67**		Pn	07 27 18.7	-0.3
KAN13	**South Haven SW**	**1.57**	**78**		Pn	07 27 20.0	+0.1
SMWD	**Samnorwood**	**1.74**	**204**		Pb	07 27 23.4	-0.5
BLOK	**Blackwell**	**1.75**	**88**		Pn	07 27 23.0	+0.6
K32A	**Long Quarter,**	**1.80**	**17**		Pn	07 27 23.9	+0.8
OK029	**Liberty Lake**	**1.81**	**120**	Pn	Pn	07 27 22.6	-0.6
OK048	**Pawnee Station**	**1.99**	**98**	Pn	Pn	07 27 26.4	+0.7
WMOK	**Wichita Mounta**	**2.03**	**166**		Pn	07 27 27.1	+0.9
CBKS	**Cedar Bluff**	**2.12**	**353**		Pb	07 27 28.9	-1.4
CBKS				IAmb_Lg		07 27 58.3	
	comp=Z,4.0nm,0.8s						
OK052	**Battle Ridge R**	**2.21**	**108**	IAmb_Lg		07 28 02.1	
	comp=Z,10nm,1.0s						
T35A	**Sooner Cattle**	**2.32**	**84**	Pn	Pn	07 27 29.2	-1.1
AMTX	**Amarillo**	**2.60**	**226**	IAmb_Lg		07 28 18.1	
	comp=Z,9.4nm,0.7s						
U38A	**Gravette**	**4.04**	**92**	Pn	Pn	07 27 54.6	+0.7
T25A	**Trinidad**	**4.04**	**278**	IAmb_Lg		07 29 03.8	
	comp=Z,6.8nm,0.7s						
OGNE	**Ogallala**	**4.71**	**335**		Pn	07 28 04.2	+1.1
BRDY	**Brady**	**5.42**	**176**	IAmb_Lg		07 29 48.6	
	comp=Z,1.4nm,0.8s						

IDC 17 07:37:38.4±1.9, 0.03S×123.66E, h104km±17km, mb3.9/19, mbtmp4.3/20, MS2.7/3, Error ellipse: s-maj=19.8km s-min=10.7km az=81.0

NEIC 17 07:37:39.0±1.0, 0.12S±0.08×123.79E±0.06, h108km±6km, mb4.1/16, Error ellipse: s-maj=11.2km s-min=9.1km az=189.0

DJA 17 07:37:39.4±0.2, 0°S±3°×12°E±°, h65km±9km, M4.7/19, mb4.8/8, mB5.0/2, MLv4.7/19, Mw(mB)4.2/2

ISC 17 07:37:38.6±0.4, 0.08S±0.05×123.86E±0.06, h110km, n62, σ1.27/71, mb4.2/25, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.66**	**11**	P	**Pn**	**07 37 56.0**	**-0.7**
KMSI				S	**Sn**	**07 38 09.2**	**-1.0**
LUWI	**Luwuk**	**1.44**	**229**	Pn	**Pn**	**07 38 04.0**	**-0.8**
LUWI	**Luwuk**	**1.44**	**229**	P	**Pn**	**07 38 02.9**	**-1.9**
MRSI	**Marisa**	**1.99**	**286**	P	**Pn**	**07 38 08.7**	**-2.8**
SANI	**Sanana**	**2.89**	**133**	P	**Pn**	**07 38 20.9**	**-2.3**
SANI				S	**Sn**	**07 38 52.5**	**-5.0**
TOLI2	**Tolitoli**	**3.29**	**291**	Pn	**Pn**	**07 38 28.3**	**-0.2**
TNTI	**Ternate**	**3.61**	**76**		**Pn**	**07 38 33.9**	**+1.2**
TNTI	**Ternate**	**3.61**	**76**	P	**Pn**	**07 38 32.7**	**-0.1**
LBMI	**Labuha**	**3.69**	**99**	P	**Pn**	**07 38 34.6**	**+0.8**
MPSI	**Mapaga**	**3.98**	**276**	P	**Pn**	**07 38 39.5**	**+1.8**
SGSI	**Sangihe**	**4.10**	**24**	P	**Pn**	**07 38 39.1**	**-0.2**
NLAI	**Namlea**	**4.51**	**134**	P	**Pn**	**07 38 44.8**	**0.0**
TTSI	**Tana Toraja**	**5.00**	**234**	P	**Pn**	**07 38 51.0**	**-0.4**
SPSI	**Sidrap Palu**	**5.62**	**227**	P	**Pn**	**07 38 59.8**	**0.0**
	223nm,0.5s,4μm0.8nm						
KAPI	**Kappang**	**6.39**	**220**		**Pn**	**07 39 09.7**	**-0.6**
KAPI	**Kappang**	**6.39**	**220**	P	**Pn**	**07 39 10.7**	**+0.5**
	60nm,0.5s,baz=84,slow=1.5,SNR=42						
KAPI				S	**Sn**	**07 40 20.1**	**-1.8**
	39nm,0.5s,baz=71,slow=23,SNR=6.5						
KAPI				LR	LR	07 41 59.5	
	comp=Z,110nm,18.3s,baz=26,slow=41						
BKSI	**Bulukumba**	**6.40**	**216**	P	**Pn**	**07 39 11.0**	**+0.5**
	46nm,0.9s,0.2nm						
DAV	**Davao City (W)**	**7.31**	**14**	LR	LR	07 42 41.8	
	comp=Z,53nm,18.2s,baz=184,slow=42						
MYLDM	**Lahad Datu**	**7.48**	**314**	Pn	**Pn**	**07 39 23.6**	**-1.4**
EDFI	**Ende, Flores**	**8.88**	**194**	P	**Pn**	**07 39 45.6**	**+1.5**
	6.6nm,0.9s						
KKM	**Kota Kinabalu**	**9.76**	**309**	Pn	**Pn**	**07 39 56.0**	**-0.1**
KNRA	**Kununurra**	**16.24**	**163**		**Pn**	**07 41 21.1**	**+0.7**
KNRA				IAmb	IAmb	07 41 32.1	
	comp=Z,8.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**17.99**	**174**	P	**P**	**07 41 39.7**	**-1.1**
XMIS	**Christmas Isla**	**20.84**	**240**	P	**P**	**07 42 10.7**	**-1.1**
MBWA	**Marble Bar**	**21.33**	**191**	P	**P**	**07 42 15.6**	**-1.4**
MBWA				IAmb	IAmb	07 42 37.1	
	comp=Z,16nm,1.1s						
PSA00	**Pilbara Seismi**	**21.72**	**190**	P	**P**	**07 42 20.1**	**-0.9**
PSA00				IAmb	IAmb	07 42 39.0	
	comp=Z,15nm,1.1s						
WB0	**Warramunga Arr**	**22.12**	**153**	P	**P**	**07 42 25.3**	**0.0**
WB0				IAmb	IAmb	07 42 34.6	
	comp=Z,5.4nm,0.9s						
WRA	**Warramunga Arr**	**22.25**	**153**	P	**P**	**07 42 26.1**	**-0.5**
WRA	**Warramunga Arr**	**22.25**	**153**	P	**P**	**07 42 26.9**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=337,slow=9.9,SNR=22						
WRA				PcP	**PcP**	**07 46 20.0**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=322,slow=2.3,SNR=1.7						
WRA				S	**S**	**07 46 24.3**	**0.0**
	comp=Z,1.0nm,0.8s,baz=334,slow=16,SNR=5.0						
WRA				ScP	**ScP**	**07 49 48.4**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=326,slow=2.6,SNR=2.6						
	comp=Z,0.9nm,0.5s						
WB2	**Warramunga Arr**	**22.25**	**153**	P	**P**	**07 42 26.8**	**0.0**
WB2				IAmb	IAmb	07 42 30.2	
	comp=Z,4.5nm,0.9s						
WR0	**Warramunga Arr**	**22.36**	**153**	P	**P**	**07 42 27.5**	**-0.2**
WR0				IAmb	IAmb	07 42 39.2	
	comp=Z,7.9nm,1.1s						
TPUB	**Ta-pu**	**23.45**	**353**	P	**P**	**07 42 38.7**	**+0.4**
ASAR	**Alice Springs**	**25.39**	**158**	P	**P**	**07 42 56.2**	**+0.2**
ASAR	**Alice Springs**	**25.39**	**158**	P	**P**	**07 42 57.6**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=348,slow=16,SNR=12						
ASAR				PcP	**PcP**	**07 46 26.9**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=349,slow=2.2,SNR=9.3						
ASAR				ScP	**ScP**	**07 49 57.9**	**+2.8**
	comp=Z,0.7nm,0.8s,baz=346,slow=2.4,SNR=6.8						
	comp=Z,0.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.64**	**308**	P	**P**	**07 43 42.1**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=125,slow=7.8,SNR=1.5						
CMAR				LR	LR	07 59 16.8	
	comp=Z,5.8nm,18.5s,baz=80,slow=43						
	comp=Z,0.8nm,0.3s						
STKA	**Stephens Creek**	**35.80**	**154**	P	**P**	**07 44 29.2**	**+1.7**
	comp=Z,1.9nm,0.5s,baz=328,slow=11,SNR=6.9						
	comp=Z,1.9nm,0.5s						
KSRS	**Korea Array**	**37.54**	**5**	P	**P**	**07 44 43.0**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=183,slow=9.6,SNR=4.1						
	comp=Z,0.7nm,0.5s						
MJAR	**Matsushiro Arr**	**38.80**	**19**	P	**P**	**07 44 52.6**	**-0.1**
	comp=Z,4.6nm,0.7s,baz=188,slow=9.1,SNR=18						
	comp=Z,4.6nm,0.7s						
USRK	**Ussuriysk Ar.**	**44.68**	**8**	P	**P**	**07 45 41.3**	**+0.8**
	comp=Z,5.9nm,0.5s,baz=195,slow=6.6,SNR=14						
	comp=Z,5.9nm,0.5s						
SONM	**Songino Array**	**50.09**	**345**	P	**P**	**07 46 22.7**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=156,slow=7.8,SNR=5.2						
	comp=Z,1.5nm,0.6s						
MK31	**Makanchi Array**	**59.13**	**328**	P	**P**	**07 47 28.2**	**+0.5**
MK31				IAmb	IAmb	07 47 29.9	
	comp=Z,4.1nm,0.6s						
MKAR	**Makanchi Array**	**59.13**	**328**	P	**P**	**07 47 27.6**	**-0.1**
MKAR	**Makanchi Array**	**59.13**	**328**	P	**P**	**07 47 27.4**	**-0.3**
	comp=Z,5.8nm,0.6s,baz=124,slow=7.7,SNR=54						
MKAR				PcP	**PcP**	**07 48 14.9**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=168,slow=3.1,SNR=8.3						
	comp=Z,5.8nm,0.6s						
MAKZ	**Makanchi**	**59.31**	**328**	P	**P**	**07 47 28.5**	**-0.4**
PETK	**Petropavlovsk-**	**60.03**	**23**	P	**P**	**07 47 34.9**	**+1.2**
	comp=Z,5.9nm,0.8s,baz=206,slow=2.6,SNR=7.1						
	comp=Z,5.9nm,0.8s						
ZALV	**Zalesovo Beam**	**62.74**	**335**	P	**P**	**07 47 51.7**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=142,slow=12,SNR=2.6						
	comp=Z,0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**63.47**	**330**	P	**P**	**07 47 56.0**	**-0.8**
	comp=Z,4.0nm,0.6s,baz=132,slow=6.5,SNR=59						
KURBB				PcP	**PcP**	**07 48 31.5**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=121,slow=4.1,SNR=5.1						
	comp=Z,4.0nm,0.6s						
KURK	**Kurchatov**	**63.48**	**330**	P	**P**	**07 47 56.5**	**-0.4**
KK31	**Karatay Array**	**64.13**	**319**	P	**P**	**07 48 01.9**	**+0.5**
KK31				IAmb	IAmb	07 48 11.8	
	comp=Z,0.5nm,0.5s						
KKAR	**Karatay Array**	**64.13**	**319**	P	**P**	**07 48 01.3**	**-0.1**
BVAR	**Borovoye Array**	**69.00**	**329**	P	**P**	**07 48 31.3**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=139,slow=7.0,SNR=5.5						
	comp=Z,0.5nm,0.3s						
VNDA	**Vanda**	**80.05**	**172**	P	**P**	**07 49 35.5**	**-0.1**
ILAR	**Eielson Array**	**89.75**	**25**	P	**P**	**07 50 25.4**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=265,slow=4.4,SNR=4.5						
	comp=Z,0.3nm,0.8s						
QSPA	**South Pole Qui**	**89.85**	**180**	P	**P**	**07 50 26.8**	**+1.9**
QSPA	**South Pole Qui**	**89.85**	**180**	P	**P**	**07 50 26.4**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=104,slow=7.0,SNR=1.2						
	comp=Z,0.4nm,0.4s						
ARCES	**ARCESS Array B**	**93.00**	**340**	P	**P**	**07 50 37.4**	**-1.9**
	comp=Z,2.0nm,0.9s,baz=88,slow=4.8,SNR=6.0						
	comp=Z,2.0nm,0.9s						
SPITS	**Spitsbergen Ar**	**93.63**	**349**	P	**P**	**07 50 41.8**	**-0.3**
	comp=Z,4.6nm,0.8s,baz=98,slow=10,SNR=7.5						
	comp=Z,4.6nm,0.8s						
FINES	**FINESS Array B**	**93.80**	**332**	P	**P**	**07 50 41.5**	**-1.6**
	comp=Z,1.6nm,0.9s,baz=116,slow=4.4,SNR=6.9						
	comp=Z,1.6nm,0.9s						
HFS	**Hagfors**	**100.00**	**332**	P	**Pdif**	**07 51 09.0**	**-2.2**
	comp=Z,1.0nm,0.7s,baz=80,slow=9.5,SNR=5.2						
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**116.09**	**41**	PKP	**PKPdf**	**07 56 09.1**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=336,slow=2.0,SNR=2.1						
TORD	**Torodi Ar. Bea**	**121.25**	**285**	PKP	**PKPdf**	**07 56 19.1**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=46,slow=3.8,SNR=4.7						
TXAR	**Lajitas Array**	**126.18**	**53**	PKP	**PKPdf**	**07 56 29.8**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=79,slow=1.9,SNR=3.1						

IDC 17 07:46:20.3±0.8, 6.78N×72.96W, h160km±11km, mb2.6/1, mbtmp3.4/3, Error ellipse: s-maj=47.8km s-min=7.8km az=132.0

RSNC 17 07:46:21.3±1.5, 6.85N×73.15W, h144km±6km, ML3.0, Mw3.4

ISC 17 07:46:19.5±0.9, 6.84N±0.03×73.10W±0.04, h155km±7km, n37, σ1.73/71, 4C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**198**	↓*i*P	**Pn**	**07 46 40.9**	**0.0**
BARC				*e*S	**Sn**	**07 46 56.0**	**-1.1**
BARC				*i*		07 46 57.1	
	comp=Z,354nm,0.4s						
PAMC	**Pamplona, Colo**	**0.63**	**39**	↓*i*P	**Pn**	**07 46 43.7**	**+1.0**
PAMC				*e*S	**Sn**	**07 47 00.4**	**0.0**
PAMC				*i*		07 47 02.8	
	comp=Z,455nm,0.5s						
TAMC	**Tame, Arauca**	**1.36**	**107**	↓*i*P	**Pn**	**07 46 49.2**	**+1.1**
TAMC				*e*S	**Sn**	**07 47 10.7**	**+0.7**
TAMC				*i*		07 47 12.0	
	comp=Z,44nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	*e*P	**Pn**	**07 46 47.5**	**-0.7**
PTBC				*e*S	**Sn**	**07 47 07.9**	**-2.3**
PTBC				*i*		07 47 11.6	
	comp=Z,96nm,0.5s						
OCAC	**Ocana**	**1.40**	**351**	↑*e*P	**Pn**	**07 46 49.1**	**+0.5**
OCAC				*e*S	**Sn**	**07 47 10.9**	**-0.2**
SPBC	**San Pablo de B**	**1.53**	**219**	*e*P	**Pn**	**07 46 49.8**	**0.0**
SPBC				*e*S	**Sn**	**07 47 11.3**	**-1.9**
SPBC				*i*		07 47 14.3	
	comp=Z,181nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	*e*P	**Pn**	**07 46 53.9**	**+0.5**
ZARC				*e*S	**Sn**	**07 47 19.5**	**+0.1**
ZARC				*i*		07 47 25.9	
	comp=Z,109nm,0.3s						
ROSC	**El Rosal**	**2.33**	**211**	↑*e*P	**Pn**	**07 47 00.8**	**+1.6**
ROSC				*e*S	**Sn**	**07 47 29.5**	**-0.3**
ROSC				*i*		07 47 40.4	
	comp=Z,79nm,0.5s						
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**07 47 00.9**	**+1.6**
	comp=Z,66nm,0.3s,baz=104,slow=15,SNR=74						
ROSC				S	**Sn**	**07 47 32.1**	**+2.3**
	comp=Z,92nm,0.4s,baz=123,slow=18,SNR=9.7						
CVER	**Cruz Verde, Cu**	**2.50**	**203**	↑*e*P	**Pn**	**07 47 02.4**	**+1.0**
CVER				*e*S	**Sn**	**07 47 33.5**	**-0.2**
CVER				*i*		07 47 43.5	
	comp=Z,50nm,0.6s						
UREC	**San Jos de Ur**	**2.58**	**291**	*e*P	**Pn**	**07 47 01.0**	**-0.8**
UREC				*e*S	**Sn**	**07 47 32.8**	**-1.7**
UREC				*i*		07 47 46.0	
	comp=Z,48nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.77**	**235**	*e*P	**Pn**	**07 47 05.5**	**+0.9**
GUY2C				*e*S	**Sn**	**07 47 40.5**	**+1.0**
GUY2C				*i*		07 47 47.5	
	comp=Z,64nm,0.4s						
VILC	**Villavicencio,**	**2.78**	**192**	*e*P	**Pn**	**07 47 04.4**	**0.0**
VILC				*e*S	**Sn**	**07 47 38.8**	**-0.4**
VILC				*i*		07 47 47.4	
	comp=Z,65nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.80**	**160**	↑*e*P	**Pn**	**07 47 04.1**	**-0.5**
PTGC				*e*S	**Sn**	**07 47 37.0**	**-2.4**
PTGC				*i*		07 47 39.7	
	comp=Z,102nm,0.3s						
NIZA	**Niza - Manizal**	**2.95**	**233**	*e*P	**Pn**	**07 47 09.7**	**+3.0**
NIZA				*e*S	**Sn**	**07 47 47.1**	**+3.9**
CBOC	**Ciudad Bolivar**	**3.05**	**252**	*e*P	**Pn**	**07 47 09.1**	**+1.2**
CBOC				*e*S	**Sn**	**07 47 44.7**	**-0.6**
CBOC				*i*		07 48 00.1	
	comp=Z,28nm,0.8s						
DBBC	**Dabeiba**	**3.09**	**273**	*e*P	**Pn**	**07 47 09.7**	**+1.4**
DBBC				*e*S	**Sn**	**07 47 44.5**	**-1.6**
DBBC				*i*		07 47 49.7	
	comp=Z,34nm,0.4s						
SDV	**Santo Domingo**	**3.18**	**50**	*e*P	**Pn**	**07 47 10.6**	**+1.2**
SDV				*e*S	**Sn**	**07 47 48.0**	**-0.1**
SDV				*i*		07 47 52.6	
	comp=Z,53nm,0.7s						
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**07 47 10.7**	**+1.2**
	comp=Z,15nm,0.2s,baz=239,slow=5.9,SNR=64						
SDV				S	**Sn**	**07 47 48.1**	**-0.1**
	comp=Z,67nm,0.6s,baz=248,slow=23,SNR=45						
ARGC	**Ariguani, Magd**	**3.20**	**339**	*e*P	**Pn**	**07 47 11.7**	**+2.1**
ARGC				*e*S	**Sn**	**07 47 50.3**	**+1.7**
ARGC				*i*		07 47 57.6	
	comp=Z,21nm,0.3s						
PRAC	**Prado**	**3.58**	**210**	*e*P	**Pn**	**07 47 14.5**	**-0.1**
PRAC				*e*S	**Sn**	**07 47 57.6**	**+0.3**
PRAC				*i*		07 48 02.9	
	comp=Z,38nm,0.6s						
APAC	**Apartado, Choc**	**3.61**	**287**	*e*P	**Pn**	**07 47 15.4**	**+0.6**
APAC				*e*S	**Sn**	**07 47 58.3**	**+0.6**
APAC				*i*		07 48 02.1	
	comp=Z,24nm,0.4s						
ORTC	**Ortega, Tolima**	**3.62**	**216**	*e*P	**Pn**	**07 47 15.9**	**+1.0**
ORTC				*e*S	**Sn**	**07 47 59.0**	**+1.0**
ORTC				*i*		07 48 04.0	
	comp=Z,36nm,0.5s						
SJCC	**San Jacinto, C**	**3.67**	**326**	*e*P	**Pn**	**07 47 15.3**	**-0.3**
SJCC				*e*S	**Sn**	**07 47 57.0**	**-2.3**
SJCC				*i*		07 48 00.6	
	comp=Z,39nm,0.5s						
PLMC	**San Jos del P**	**3.71**	**239**	↓*e*P	**Pn**	**07 47 17.0**	**+0.8**
PLMC				*e*S	**Sn**	**07 47 59.7**	**-0.5**
PLMC				*i*		07 48 05.8	
	comp=Z,39nm,0.3s						
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	*e*P	**Pn**	**07 47 21.5**	**-0.5**
CRJC				*e*S	**Sn**	**07 48 07.3**	**-3.4**
CRJC				*i*		07 48 13.5	
	comp=Z,23nm,0.6s						
YOTC	**Yotoco, Valle**	**4.30**	**229**	*e*P	**Pn**	**07 47 24.2**	**+0.2**
YOTC				*e*S	**Sn**	**07 48 11.0**	**-3.2**
YOTC				*i*		07 48 21.4	
	comp=Z,5.7nm,0.4s						
SMRC	**Santa Marta, M**	**4.43**	**346**	*e*P	**Pn**	**07 47 25.8**	**+0.3**
SMRC				*e*S	**Sn**	**07 48 14.2**	**-2.9**
JAMC	**Jamundi, Valle**	**5.07**	**225**	*e*P	**Pn**	**07 47 34.3**	**+0.2**
JAMC				*e*S	**Sn**	**07 48 31.3**	**-1.0**
JAMC				*i*		07 48 40.8	
	comp=Z,3.6nm,0.3s						
GARC	**Garzon, Huila**	**5.21**	**207**	*e*P	**Pn**	**07 47 35.3**	**-0.7**
GARC				*e*S	**Sn**	**07 48 30.4**	**-5.3**
POPC	**Popayan, Colom**	**5.57**	**220**	*e*P	**Pn**	**07 47 41.2**	**+0.5**
POPC				*e*S	**Sn**	**07 48 44.4**	**+0.2**
POPC				*i*		07 48 47.8	
	comp=Z,2.5nm,0.4s						
FLOC	**Florencia**	**5.81**	**206**	*e*P	**Pn**	**07 47 43.7**	**-0.1**
FLOC				*e*S	**Sn**	**07 48 43.4**	**-6.5**
FLOC				*i*		07 48 54.8	
	comp=Z,2.9nm,0.6s						
BBAC	**Balboa, Cauca**	**6.33**	**221**	*e*P	**Pn**	**07 47 52.2**	**+1.4**
BBAC				*e*S	**Sn**	**07 49 01.3**	**-1.1**
BBAC				*i*		07 49 07.2	
	comp=Z,2.8nm,0.5s						
GCUF	**Volcan Galeras**	**7.00**	**217**	*e*P	**Pn**	**07 48 02.1**	**+2.0**
GCUF				*e*S	**Sn**	**07 49 17.9**	**-1.1**
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**07 53 11.4**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=125,slow=12,SNR=2.0						
	comp=Z,0.2nm,0.6s						
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc	**PKiKP**	**08 05 50.3**	**-1.3**
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc	**PKiKP**	**08 05 53.5**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=104,slow=3.5,SNR=6.5						

NEIC 17 07:55:26.4±0.3, 36.219N±0.008×97.048W±0.008, h5km±1km, Error ellipse: s-maj=1.9km s-min=1.3km az=273.0

**TUL

R40A	**Maddies Statio**	**4.33**	**60**	Pn	Pn	07 56 32.9	-0.1
R40A				lAmb_Lg		07 57 42.7	

comp=Z,11nm,1.0s

PRU ***17*** *08:04:23.2, 50.17N × 19.10E, h0km*
IDC ***17*** *08:04:24.7 ± 1.1, 50.01N × 19.10E, h0km, mbtmp3.3/6, ML3.0/6, Error ellipse: s-maj=21.8km s-min=7.9km az=148.0*
VIE ***17*** *08:04:24.1 ± 0.2, 50.18N × 19.03E, h0km, mb2.5/3, ml2.3/4, Error ellipse: s-maj=4.8km s-min=1.8km az=175.0 8 km SSE of Katowice Suspected Mining induced.*
IPEC ***17*** *08:04:24.1 ± 0.2, 50.17N × 19.02E, h1km, ML2.3/3, Error ellipse: s-maj=2.5km s-min=1.0km az=167.0*

ISC 17 08:04:23.3 ± 0.7, 50.21N ± 0.03 × 19.03E ± 0.02, h0km, n54, σ 0s 80/87, 6C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.49**	**89**	*e*Pg	**Pb**	**08 04 34.4**	**-0.5**
OJC				*e*Sg	**Sg**	**08 04 41.1**	**+1.9**
OKC	**Ostrava-Krasne**	**0.68**	**237**	*e*PG	**Pg**	**08 04 36.2**	**-0.2**
OKC				*e*SG	**Sg**	**08 04 45.6**	**+0.3**
	comp=Z,86nm,1.0s						
MORC	**Moravsky Berou**	**1.06**	**246**	⇓P	**Pg**	**08 04 44.0**	**+0.5**
MORC				⇑S	**Sn**	**08 05 00.4**	**-0.5**
MORC	**Moravsky Berou**	**1.06**	**246**	*e*PG	**Pg**	**08 04 43.9**	**+0.4**
MORC				*e*SG	**Sg**	**08 04 57.6**	**+0.4**
MORC	**Moravsky Berou**	**1.06**	**246**	*e*Pg	**Pg**	**08 04 44.1**	**+0.5**
	baz=67						
MORC				*e*Sg	**Sg**	**08 04 56.7**	**-0.5**
	53nm,0.4s,baz=67						
LANS	**Liptovska Anna**	**1.10**	**165**	*e*PG	**Pb**	**08 04 45.4**	**+0.1**
LANS				*e*SG	**Sb**	**08 05 00.6**	**+0.4**
LANS				*e*LG	Lg	08 05 06.6	
NIE	**Niedzica**	**1.14**	**134**	*e*Pb	**Pg**	**08 04 45.7**	**+0.5**
NIE				Pg	**Pb**	**08 04 46.5**	**+0.6**
NIE				*e*Sg	**Sn**	**08 05 03.9**	**+0.9**
MAUC	**Maruska**	**1.15**	**223**	*e*SG	**Sg**	**08 05 00.0**	**-0.3**
	comp=Z,123nm,0.9s						
KRLC	**Kraliky**	**1.45**	**265**	*e*PG	**Pn**	**08 04 50.5**	**-0.4**
KRLC				*e*SG	**Sg**	**08 05 10.6**	**+0.6**
	comp=Z,38nm,0.5s						
JAVC	**Velka Javorina**	**1.62**	**214**	*e*PG	**Pn**	**08 04 53.9**	**+0.7**
JAVC	**Velka Javorina**	**1.62**	**214**	*e*Pn	**Pn**	**08 04 53.5**	**+0.3**
	baz=33						
STHS	**Stebnicka Huta**	**1.64**	**118**	*e*PN	**Pn**	**08 04 53.0**	**-0.4**
STHS				eLG	Lg	08 05 23.3	
VYHS	**Vyhne**	**1.73**	**184**	*e*PN	**Pn**	**08 04 54.4**	**-0.2**
VYHS				eSN	**Sn**	**08 05 18.1**	**+0.7**
DPC	**Dobruska-Polom**	**1.74**	**276**	*e*PG	**Pn**	**08 04 55.2**	**+0.3**
DPC				*e*SG	**Sg**	**08 05 19.7**	**+0.4**
	comp=Z,54nm,0.6s						
VRAC	**Vranov**	**1.82**	**241**	⇑P	**Pn**	**08 04 57.1**	**+1.2**
VRAC				⇑S	**Sg**	**08 05 21.9**	**0.0**
VRAC	**Vranov**	**1.82**	**241**	*e*PG	**Pn**	**08 04 56.9**	**+1.0**
VRAC				*e*SG	**Sn**	**08 05 19.9**	**+0.2**
VRAC	**Vranov**	**1.82**	**241**	Pg	**Pn**	**08 04 57.1**	**+1.2**
	8.6nm,0.3s,baz=58,slow=13,SNR=48						
VRAC				Lg	Lg	08 05 21.0	
	5.8nm,0.3s,baz=79,slow=18,SNR=16						
VRAC	**Vranov**	**1.82**	**241**	*e*Pn	**Pn**	**08 04 56.3**	**+0.4**
	baz=60						
VRAC				*e*Sg	**Sn**	**08 05 20.3**	**+0.6**
	26nm,0.6s,baz=60						
OSTC	**Ostas**	**1.83**	**282**	*e*PG	**Pn**	**08 04 56.7**	**+0.6**
OSTC				*e*SG	**Sg**	**08 05 23.1**	**+0.9**
	comp=Z,22nm,0.8s						
KSP	**Ksiaz**	**1.86**	**291**	*e*Pn	**Pn**	**08 04 56.9**	**+0.5**
KSP				*e*Pg	**Pg**	**08 04 59.4**	**+0.5**
KSP				*e*Sg	**Sg**	**08 05 24.4**	**+1.4**
CHVC	**Chvalec**	**1.94**	**282**	*e*PG	**Pn**	**08 04 58.1**	**+0.5**
CHVC				*e*SG	**Sg**	**08 05 26.5**	**+0.8**
	comp=Z,30nm,1.1s						
UPC	**Upice**	**1.96**	**280**	*e*PG	**Pb**	**08 04 59.9**	**+0.1**
UPC				*e*SG	**Sg**	**08 05 27.1**	**+1.0**
	comp=Z,17nm,0.5s						
KECS	**Kecovo**	**1.98**	**151**	*e*PN	**Pn**	**08 04 57.8**	**-0.2**
KECS				eLG	Lg	08 05 30.5	
CRVS	**Cervenica-Dubn**	**2.06**	**129**	*e*PN	**Pn**	**08 05 00.3**	**+1.2**
KRUC	**Moravsky**	**2.07**	**237**	*e*PG	**Pb**	**08 05 01.0**	**-0.7**
KRUC				*e*SG	**Sb**	**08 05 27.6**	**-0.3**
KRUC	**Moravsky**	**2.07**	**237**	*e*Pn	**Pn**	**08 04 59.5**	**+0.2**
	baz=56						
KRUC				*e*Sg	**Sb**	**08 05 27.7**	**-0.2**
	12nm,0.5s,baz=56						
MODS	**Modra-Piesok**	**2.17**	**213**	*e*PN	**Pn**	**08 05 01.3**	**+0.6**
PSZ	**Piszkesteto**	**2.37**	**166**	⇑P	**Pn**	**08 05 03.8**	**+0.3**
KOLS	**Kolonicke sedl**	**2.47**	**120**	*e*PN	**Pn**	**08 05 04.9**	**+0.1**
TREC	**Trest**	**2.48**	**250**	*e*SG	**Sg**	**08 05 42.3**	**-0.5**
	comp=Z,18nm,0.8s						
GOPC	**GO Pecny, Ondr**	**2.75**	**265**	*e*PN	**Pn**	**08 05 08.3**	**-0.4**
GOPC				*e*SG	**Sg**	**08 05 51.2**	**-0.5**
	comp=Z,15nm,0.9s						
PVCC	**Panska Ves**	**2.88**	**278**	*e*PN	**Pn**	**08 05 10.7**	**+0.3**
PVCC				*e*SG	**Sg**	**08 05 56.8**	**+1.2**
	comp=Z,23nm,0.7s						
PRU	**Pruhonice**	**2.90**	**267**	*e*PN	**Pn**	**08 05 10.8**	**+0.1**
PRU				*e*PG	**Pb**	**08 05 15.5**	**-0.4**
PRU				*e*SG	**Sg**	**08 05 55.7**	**-0.7**
	comp=Z,8.0nm,0.7s						
PRA	**Prague**	**2.96**	**269**	*e*SG	**Sg**	**08 05 57.9**	**-0.5**
	comp=Z,7.4nm,0.5s						
CONA	**Conrad Observa**	**3.10**	**224**	*e*Pn	**Pn**	**08 05 13.2**	**-0.3**
	0.7nm,0.3s						
RONA	**Rosalia, Austr**	**3.10**	**217**	*e*Pn	**Pn**	**08 05 14.0**	**+0.5**
	1.8nm,0.3s						
RICC	**Richard**	**3.17**	**278**	*e*SG	**Sg**	**08 06 06.4**	**+1.1**
	comp=Z,11nm,0.4s						
ZVC	**Zvikov**	**3.23**	**258**	*e*PN	**Pn**	**08 05 15.8**	**+0.6**
ZVC				*e*PG	**Pb**	**08 05 22.0**	**+0.5**
ZVC				*e*SG	**Sg**	**08 06 06.4**	**-0.6**
	comp=Z,14nm,1.1s						
CKRC	**Cesky Krumlov**	**3.38**	**247**	*e*PN	**Pn**	**08 05 17.5**	**+0.2**
CKRC				*e*PG	**Pb**	**08 05 24.1**	**0.0**
CKRC				*e*SG	**Sg**	**08 06 11.2**	**-0.6**
HSKC	**Hora Svate Kat**	**3.60**	**278**	*e*SG	**Sg**	**08 06 19.5**	**+0.5**
	comp=Z,9.4nm,0.8s						
KHC	**Kasperske Hory**	**3.70**	**255**	*e*PN	**Pn**	**08 05 21.5**	**-0.3**
KHC				*e*PG	**Pb**	**08 05 30.4**	**+0.8**
KHC				*e*SG	**Sg**	**08 06 22.5**	**+0.2**
	comp=Z,8.8nm,0.6s						
GERES	**GERESS Array B**	**3.73**	**250**	Pn	**Pn**	**08 05 23.1**	**+0.8**
	0.5nm,0.3s,baz=72,slow=14,SNR=7.6						
GERES				Pg	**Pb**	**08 05 32.9**	**+2.8**
	0.8nm,0.3s,baz=64,slow=17,SNR=11						
GERES				Lg	Lg	08 06 18.3	
	1.0nm,0.3s,baz=66,slow=26,SNR=5.1						
	0.9nm,0.4s						
ARSA	**Arzberg**	**3.77**	**219**	*e*Pn	**Pn**	**08 05 22.3**	**-0.3**
	0.7nm,0.3s						
MOA	**Molln**	**3.93**	**235**	*e*Pn	**Pn**	**08 05 25.0**	**+0.1**
	0.4nm,0.3s						
CLL	**Collm**	**3.98**	**288**	*e*Pg	**Pg**	**08 05 40.0**	**+0.4**
CLL				*ex*	x	08 06 20.0	
CLL				*e*Sg	**Sg**	**08 06 33.0**	**+1.9**
	comp=Z,13nm,1.1s						
NKC	**Novy Kostel**	**4.23**	**273**	*e*SG	**Sg**	**08 06 39.5**	**+0.4**
	comp=Z,10nm,0.8s						
BURAR	**Bucovina Array**	**4.84**	**120**	⇑P	**Pn**	**08 05 37.7**	**+0.2**
BZS	**Buzias**	**4.92**	**158**	⇑P	**Pn**	**08 05 39.2**	**+0.7**
GZR	**Gura Zlata**	**5.44**	**151**	⇓P	**Pn**	**08 05 47.1**	**+1.4**
AKASG	**Malin Array Be**	**6.53**	**82**	Pn	**Pn**	**08 05 59.6**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=271,slow=15,SNR=2.1						
AKASG				Lg	Lg	08 07 48.3	
	comp=Z,0.4nm,0.3s,baz=351,slow=3.4,SNR=1.0						
	comp=Z,0.2nm,0.4s						
DAVOX	**Davos/Dischmat**	**6.98**	**244**	Pn	**Pn**	**08 06 08.6**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=130,slow=15,SNR=2.6						
DAVOX				Lg	Lg	08 08 05.4	
	comp=Z,0.2nm,0.3s,baz=345,slow=17,SNR=2.1						
	comp=Z,1.1nm,0.4s						
HFS	**Hagfors**	**10.39**	**345**	Pn	**Pn**	**08 06 52.0**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=178,slow=40,SNR=1.9						
	comp=Z,0.8nm,0.7s						
FINES	**FINESS Array B**	**11.92**	**17**	Pn	**Pn**	**08 07 12.3**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=195,slow=13,SNR=15						
	comp=Z,2.7nm,0.7s						
ARCES	**ARCESS Array B**	**19.63**	**7**	Pn	**P**	**08 08 52.1**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=186,slow=11,SNR=4.7						
	comp=Z,2.0nm,0.8s						

MOS ***17*** *08:05:51.7 ± 0.8, 27.68N × 139.81E, h485km, mb4.7/43,*

Error ellipse: s-maj=10.8km s-min=4.9km az=108.6
IDC ***17*** *08:05:53.5 ± 0.6, 27.68N × 139.82E, h494km ± 6km, mb3.8/31, mbtmp4.7/38, Error ellipse: s-maj=10.4km s-min=6.3km az=87.0*
NIED ***17*** *08:05:54.0, 27.95N × 140.20E, h473km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr=0.80; Mθθ=0.50; Mφφ=0.30; Mrθ=-0.05; Mrφ=-0.41; Mθφ=-1.00; Fault plane solution: M0=1.26000 × 10^16 NP1: φs=344.00000°, δ=71.00000°, λ=-67.00000°. NP2: φs=111.00000°, δ=29.00000°, λ=-139.00000°.*
NEIC ***17*** *08:05:53.2 ± 1.1, 27.72N ± 0.05 × 139.86E ± 0.10, h481km ± 6km, mb4.3/134 Error ellipse: s-maj=13.8km s-min=4.2km az=63.0*
JMA ***17*** *08:05:54.0 ± 0.3, 28.1N × 141.4E, h473km ± 4km, MD5.6/32, MV4.8/32, W OFF OGASAWARA*
JMA Felt I J1 at W OFF OGASAWARA .

ISC 17 08:05:53.1 ± 0.4, 27.71N ± 0.04 × 139.92E ± 0.05, h489km ± 4km, n541, σ 1s 18/554, mb4.3/126, 21C-1D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.10**	**106**	P	**P**	**08 06 56.7**	**-1.0**
CBIJ				S	**S**	**08 07 46.1**	**-4.1**
CBIJ	**Chichi jima**	**2.10**	**106**	A	A	08 06 56.7	
	comp=E,21nm,1.4s,comp=N,11nm,0.4s						
JCJ	**Chichijima**	**2.10**	**106**	P	**P**	**08 06 56.8**	**-0.9**
JCJ	**Chichijima**	**2.10**	**106**	P	P	08 06 52.9	-4.9
	comp=N,862nm,0.5s,baz=27,slow=8.2,SNR=164						
JCJ				S	**S**	**08 07 42.0**	**-8.2**
	comp=N,6μm,0.5s,baz=285,slow=22,SNR=27						
JHH2	**Haha-jima-NKT2**	**2.28**	**118**	P	**P**	**08 06 57.9**	**-0.8**
JHH2				S	**S**	**08 07 49.3**	**-2.6**
JHH2	**Haha-jima-NKT2**	**2.28**	**118**	A	A	08 06 57.9	
	comp=E,42nm,0.5s,comp=N,49nm,0.5s						
JHJ2	**Mitsune**	**5.39**	**359**	P	**P**	**08 07 22.4**	**-0.6**
JHJ2				S	**S**	**08 08 34.6**	**-1.8**
JHJ2	**Mitsune**	**5.39**	**359**	P	**P**	**08 07 22.7**	**-0.2**
JHJ2				*e*S	**S**	**08 08 31.6**	**-4.7**
JHJ	**Hachijo jima 2**	**5.40**	**359**	P	**P**	**08 07 22.1**	**-0.9**
	comp=N,105nm,0.3s,baz=87,slow=22,SNR=14						
JHJ				S	**S**	**08 08 32.0**	**-4.6**
	comp=N,258nm,0.4s,baz=54,slow=23,SNR=7.3						
TTO1	**TONANKAI O.B.S**	**6.48**	**336**	*e*P	**P**	**08 07 36.2**	**+2.9**
BSO1	**Boso 1**	**6.98**	**7**	P	**P**	**08 07 38.0**	**0.0**
BSO1				S	**S**	**08 09 01.6**	**-2.6**
JTNC	**Tanabenakahech**	**7.13**	**330**	P	**P**	**08 07 42.1**	**+2.0**
JTNC				*e*S	**S**	**08 09 09.4**	**+1.5**
JIE	**Ise**	**7.21**	**338**	P	**P**	**08 07 42.3**	**+1.4**
JIE				*e*S	**S**	**08 09 10.1**	**+0.7**
JOD2	**Odawara 2**	**7.57**	**355**	P	**P**	**08 07 44.0**	**-0.6**
JOD2				*e*S	**S**	**08 09 11.9**	**-4.2**
JMN	**Monobe**	**7.94**	**321**		**P**	**08 07 47.9**	**-0.6**
JMZ	**Minamidaito 2**	**8.00**	**258**	P	**P**	**08 07 48.3**	**-0.9**
JMZ	**Minamidaito 2**	**8.00**	**258**	*e*S	**S**	**08 09 27.7**	**+3.3**
JTO	**Tosashimizu**	**8.01**	**312**	P	**P**	**08 07 51.0**	**+1.7**
JRY	**Ryogami san**	**8.33**	**354**	P	**P**	**08 07 51.5**	**-1.1**
JRY				*e*S	**S**	**08 09 25.1**	**-5.6**
MJAR	**Matsushiro Arr**	**8.93**	**351**	P	**P**	**08 07 57.4**	**-1.4**
	comp=N,18nm,0.4s,baz=177,slow=12,SNR=70						
MJAR				S	**S**	**08 09 36.9**	**-5.3**
	comp=N,12nm,0.8s,baz=148,slow=8.2,SNR=4.4						
MAJO	**Matsushiro**	**8.93**	**351**	P	**P**	**08 07 57.9**	**-0.9**
MAJO	**Matsushiro**	**8.93**	**351**	*i* P	**P**	**08 07 57.5**	**-1.4**
MJB9	**Matsu-Tunnel**	**8.93**	**351**	P	**P**	**08 07 57.8**	**-1.1**
JHS	**Saijyo**	**9.31**	**323**	P	**P**	**08 08 05.0**	**+2.1**
JNU	**Nakatsue**	**9.49**	**307**	P	**P**	**08 08 04.5**	**-0.3**
JNU	**Nakatsue**	**9.49**	**307**	P	**P**	**08 08 05.8**	**+0.9**
	comp=N,43nm,0.9s,baz=108,slow=5.1,SNR=14						
JAMN	**Amamishikomi**	**9.51**	**276**	*e*P	**P**	**08 08 07.2**	**+2.1**
JSJ	**Shimokoshiki**	**9.71**	**296**	*e*P	**P**	**08 08 08.6**	**+1.3**
JMM	**Marumori**	**10.16**	**4**	P	**P**	**08 08 12.0**	**+0.1**
JOW	**Kunigami**	**10.40**	**268**	P	**P**	**08 08 14.2**	**-0.5**
JOW	**Kunigami**	**10.40**	**268**	P	**P**	**08 08 16.3**	**+1.7**
JOW	**Kunigami**	**10.40**	**268**	P	**P**	**08 08 15.7**	**+1.1**
	comp=N,198nm,0.6s,baz=102,slow=9.6,SNR=25						
JMK	**Ichinoseki**	**11.27**	**5**	P	**P**	**08 08 24.0**	**+0.4**
JMK				*e*S	**S**	**08 10 23.1**	**-4.6**
JKE	**Kume jima 2**	**11.79**	**266**	*e*P	**P**	**08 08 31.2**	**+1.7**
JTM	**Tenmabayashi**	**13.08**	**4**		**P**	**08 08 43.5**	**+0.5**
JOT	**Ohata**	**13.67**	**4**	P	**P**	**08 08 49.7**	**+0.4**
KSRS	**Korea Array**	**14.01**	**317**	P	**P**	**08 08 53.0**	**+0.1**
KSRS	**Korea Array**	**14.01**	**317**	P	**P**	**08 08 53.0**	**+0.1**
	comp=N,3.0nm,0.4s,baz=126,slow=11,SNR=20						
KSAR	**Wonju Array Be**	**14.03**	**317**	P	**P**	**08 08 51.8**	**-1.3**
KSAR	**Wonju Array Be**	**14.03**	**317**	P	**P**	**08 08 51.8**	**-1.3**
KS19	**Wonju Array Si**	**14.08**	**317**	P	**P**	**08 08 52.6**	**-1.0**
JOSM	**Okushiri--Mats**	**14.35**	**359**	P	**P**	**08 08 56.4**	**0.0**
ERM	**Erimo**	**14.52**	**10**	P	**P**	**08 08 58.1**	**0.0**
ERM	**Erimo**	**14.52**	**10**	*i* P	**P**	**08 08 58.5**	**+0.3**
GUMO	**Guam**	**14.79**	**161**	P	**P**	**08 09 00.6**	**-0.8**
GUMO	**Guam**	**14.79**	**161**	P	**P**	**08 09 00.6**	**-0.8**
INCN	**Inchon**	**14.83**	**314**	P	**P**	**08 09 01.3**	**-0.3**
INCN	**Inchon**	**14.83**	**314**	P	**P**	**08 09 01.3**	**-0.3**
JCH	**Churui**	**15.13**	**10**	P	**P**	**08 09 05.0**	**+0.3**
JHR	**Hokuryu**	**16.07**	**5**	P	**P**	**08 09 15.0**	**+0.6**
MSHR	**Mys Shultsa**	**16.46**	**337**	*i* P	**P**	**08 09 18.3**	**-0.3**
JKA	**Kamikawa-asahi**	**16.52**	**7**	P	**P**	**08 09 19.2**	**0.0**
ASAJ	**Asahikawa**	**16.52**	**7**	P	**P**	**08 09 19.5**	**+0.3**
	comp=N,20nm,0.5s,baz=222,slow=10,SNR=18						
JTKR	**Abashiri--Toko**	**16.55**	**10**	P	**P**	**08 09 19.9**	**+0.5**
NACB	**Ninganchiao**	**16.85**	**262**	P	**P**	**08 09 21.7**	**-1.3**
YHNB	**Yeheng**	**16.92**	**264**	P	**P**	**08 09 23.1**	**-0.7**
SSLB	**Suanglung**	**17.52**	**261**	P	**P**	**08 09 29.8**	**+0.2**
USA0B	**Ussuriysk Arra**	**17.65**	**341**	P	**P**	**08 09 30.9**	**+0.3**
USA0B	**Ussuriysk Arra**	**17.65**	**341**	*i* P	**P**	**08 09 30.0**	**-0.5**
USRK	**Ussuriysk Ar.**	**17.65**	**341**	P	**P**	**08 09 30.9**	**+0.3**
USRK	**Ussuriysk Ar.**	**17.65**	**341**	P	**P**	**08 09 30.7**	**+0.2**
	comp=N,57nm,0.7s,baz=163,slow=9.4,SNR=87						
MDJ	**Mudanjiang**	**18.79**	**337**	P	**P**	**08 09 41.1**	**-0.1**
MDJ	**Mudanjiang**	**18.79**	**337**	P	**P**	**08 09 42.3**	**+1.2**
MDJ				sP	sP	08 11 43.3	-2.8
MDJ				S	**S**	**08 12 48.9**	**+1.9**
MDJ				PcP	**PcP**	**08 13 43.8**	**+0.6**
MDJ				ScP	**ScP**	**08 16 33.4**	**+1.1**
MDJ				PcS	**PcS**	**08 17 21.8**	**+1.6**
MDJ	**Mudanjiang**	**18.79**	**337**	ScS	ScS	08 20 15.1	+1.1
MDJ				pmax	pmax		
	comp=Z,27nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,250nm,4.7s						
YSS	**Yuzh-Sakhalins**	**19.34**	**6**	P	**P**	**08 09 46.1**	**+0.1**
YSS	**Yuzh-Sakhalins**	**19.34**	**6**	*e*P	**P**	**08 09 47.0**	**+0.9**
YSS				*e*S	**S**	**08 12 57.1**	**+1.3**
YSS				pmax	pmax		
	comp=Z,50nm,1.2s						
YSS				pmax	pmax		
	comp=Z,200nm,2.6s						
BNX	**BinXian**	**20.56**	**334**	⇑P	**P**	**08 09 57.8**	**+0.6**
BNX				pmax	pmax		
	comp=Z,94nm,0.6s						
BNX				pmax	pmax		
	comp=Z,150nm,4.4s						
KLR	**Kul'dur**	**22.39**	**346**	*c*eP	**P**	**08 10 14.2**	**+0.4**
KLR				pmax	pmax		
	comp=Z,20nm,1.4s						
KLR	**Kul'dur**	**22.39**	**346**	P	**P**	**08 10 14.1**	**+0.4**
	comp=Z,11nm,0.5s,baz=169,slow=8.5,SNR=38						
KLR				ScP	**ScP**	**08 16 40.7**	**-0.3**
	comp=Z,3.9nm,0.8s,baz=287,slow=2.2,SNR=8.5						
	comp=Z,11nm,0.5s						
WHN	**Wuhan**	**22.50**	**283**	P	**P**	**08 10 15.4**	**+0.4**
BJT	**Baijiatuan**	**23.15**	**308**	P	**P**	**08 10 20.2**	**-0.5**
BJT				lAmb	lAmb	08 10 20.7	
	comp=Z,8.3nm,1.0s						
BJT	**Baijiatuan**	**23.15**	**308**	P	**P**	**08 10 20.2**	**-0.5**
BJT				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TYV	**Tymovskoe**	**23.22**	**4**	*e*P	**P**	**08 10 21.6**	**+0.5**
TYV				pmax	pmax		
	comp=Z,12nm,0.6s						
TYV				pmax	pmax		
	comp=Z,200nm,6.6s						
HNS	**HongShan**	**23.29**	**301**	⇑P	**P**	**08 10 21.8**	**-0.1**
HNS				pmax	pmax		
	comp=Z,11nm,0.8s						
LYN	**LuoYang**	**24.42**	**293**	⇑P	**P**	**08 10 32.0**	**-0.1**
LYN				sP	sP	08 12 45.8	-2.0
LYN				pmax	pmax		
	comp=Z,18nm,1.2s						
LYN				pmax	pmax		
	comp=Z,290nm,6.5s						
XLT	**XiLinHaoTe**	**25.07**	**316**	*e*P	**P**	**08 10 38.4**	**+0.6**
XLT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,120nm,4.5s						
HIA	**Hailar**	**26.54**	**330**	P	**P**	**08 10 50.7**	**0.0**
HIA	**Hailar**	**26.54**	**330**	P	**P**	**08 10 50.7**	**0.0**
HIA				pmax	pmax		
	comp=Z,26nm,1.1s						
ENH	**Enshi**	**26.70**	**283**	P	**P**	**08 10 51.6**	**-0.8**
ZEA	**Zeya**	**27.63**	**344**	*e*P	**P**	**08 11 00.4**	**+0.3**
ZEA				pmax	pmax		
	comp=E,20nm,0.5s						
ZEA				pmax	pmax		
	comp=N,30nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,50nm,1.0s						
PEA0B	**Petropavlovsk-**	**28.60**	**23**	P	**P**	**08 11 09.0**	**+0.4**
PEA0B	**Petropavlovsk-**	**28.60**	**23**	P	**P**	**08 11 09.0**	**+0.4**
PEA0B				pmax	pmax		
	comp=Z,28nm,1.3s						
PETK	**Petropavlovsk-**	**28.60**	**23**	P	**P**	**08 11 09.4**	**+0.8**
PETK	**Petropavlovsk-**	**28.60**	**23**	P	**P**	**08 11 09.4**	**+0.8**
PETK	**Petropavlovsk-**	**28.60**	**23**	P	**P**	**08 11 08.7**	**0.0**
	comp=Z,2.8nm,0.5s,baz=206,slow=5.2,SNR=13						
	comp=Z,2.8nm,0.5s						
PET	**Petropavlovsk**	**28.86**	**24**	P	**P**	**08 11 11.0**	**+0.1**
LZH	**Lanzhou**	**31.61**	**294**	*e*P	**P**	**08 11 32.0**	**-3.1**
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
ULN	**Ulaanbaatar**	**32.50**	**317**	P	**P**	**08 11 42.6**	**0.0**
ULN				lAmb	lAmb	08 11 43.9	
	comp=Z,22nm,1.1s						
ULN	**Ulaanbaatar**	**32.50**	**317**	*c*eP	**P**	**08 11 42.4**	**-0.2**
ULN				pmax	pmax		
	comp=Z,23nm,1.1s						
MA2	**Magadan**	**32.72**	**10**	P	**P**	**08 11 44.1**	**0.0**
	comp=Z,16nm,0.7s,baz=168,slow=4.6,SNR=6.1						
	comp=Z,16nm,0.7s						
SONM	**Songino Array**	**32.88**	**317**	P	**P**	**08 11 45.6**	**-0.3**
SONM				lAmb	lAmb	08 11 47.0	
	comp=Z,11nm,1.2s						
SONM	**Songino Array**	**32.88**	**317**	P	**P**	**08 11 45.6**	**-0.3**
SONM				pmax	pmax		
	comp=Z,11nm,1.2s						
SONM	**Songino Array**	**32.88**	**317**	P	**P**	**08 11 46.0**	**+0.2**
	comp=Z,3.3nm,0.5s,baz=126,slow=8.7,SNR=19						
SONM				ScP	**ScP**	**08 17 13.8**	**+0.1**
	comp=Z,3.1nm,0.6s,baz=151,slow=3.9,SNR=11						
	comp=Z,3.3nm,0.5s						
DLV	**T Lat**	**33.34**	**248**	P	**P**	**08 11 48.9**	**-1.3**
PZH	**PanZhiHua**	**33.92**	**277**	P	**P**	**08 11 55.1**	**+0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,180nm,5.6s						
YAK	**Yakutsk**	**34.99**	**352**	P	**P**	**08 12 02.8**	**-0.4**
YAK	**Yakutsk**	**34.99**	**352**	*c*eP	**P**	**08 12 02.4**	**-0.8**
YAK				pmax	pmax		
	comp=Z,30nm,0.7s						
YAK	**Yakutsk**	**34.99**	**352**	P	**P**	**08 12 02.2**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=148,slow=4.5,SNR=11						
GTA	**Gaotai**	**35.13**	**300**	⇑P	**P**	**08 12 05.1**	**+0.2**
GTA				ScP	**ScP**	**08 17 23.1**	**+1.2**
GTA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BOD	**Bodaibo**	**35.17**	**336**	*e*P	**P**	**08 12 04.9**	**+0.2**
BOD				pmax	pmax		
	comp=Z,17nm,1.0s						
ZAK	**Zakamensk**	**35.83**	**319**	*e*P	**P**	**08 12 09.8**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,12nm,1.2s						
SEY	**Seymchan**	**36.17**	**10**	*c*eP	**P**	**08 12 13.5**	**+0.5**
SEY				pmax	pmax		
	comp=Z,22nm,1.1s						
SEY	**Seymchan**	**36.17**	**10**	P	**P**	**08 12 13.8**	**+0.8**
	comp=Z,7.8nm,0.5s,baz=195,slow=8.2,SNR=28						
	comp=Z,7.8nm,0.5s						
CHTO	**Chiang Mai**	**38.53**	**266**	P	**P**	**08 12 32.1**	**-1.0**
CHTO				lAmb	lAmb	08 12 33.4	
	comp=Z,7.3nm,0.9s			

ZALV Zalesovo Beam 47.71 319 P **P** **08 13 44.2 -0.2**
ZALV Zalesovo Beam 47.71 319 *i* P **P** **08 13 44.0 -0.4**
ZALV pmax pmax
comp=Z,8.0nm,0.4s
ZALV Zalesovo Beam 47.71 319 P **P** **08 13 44.0 -0.4**
comp=Z,8.4nm,0.4s,baz=104,slow=7.9,SNR=40
ZALV PcP **PcP** **08 15 03.9 -0.5**
comp=Z,2.2nm,0.7s,baz=142,slow=5.1,SNR=5.1
ZALV ScP **ScP** **08 18 10.4 -1.2**
comp=Z,4.3nm,0.8s,baz=108,slow=4.8,SNR=15
comp=Z,8.4nm,0.4s
CTAO Charters Tower 47.91 172 P **P** **08 13 47.0 +0.7**
CTAO IAmb IAmb 08 13 47.6
comp=Z,15nm,1.0s
CTAO Charters Tower 47.91 172 P **P** **08 13 47.0 +0.7**
CTAO pmax pmax
comp=Z,15nm,1.0s
PKI Pulchoki 47.94 283 *e*P **P** **08 13 47.0 0.0**
comp=Z,6.4nm,0.2s
KKN Kakani 48.00 284 *e*P **P** **08 13 47.6 +0.3**
DMN Daman 48.20 283 *e*P **P** **08 13 49.2 +0.4**
GSI Gunungsitoli 48.27 244 P **P** **08 13 48.8 -0.4**
GKN Gorkha 48.51 284 *e*P **P** **08 13 51.6 +0.6**
MK31 Makanchi Array 48.53 309 P **P** **08 13 51.0 +0.3**
MK31 IAmb IAmb 08 13 52.6
comp=Z,18nm,1.2s
MK31 Makanchi Array 48.53 309 *ce*P **P** **08 13 50.1 -0.7**
MKAR Makanchi Array 48.53 309 P **P** **08 13 50.9 +0.1**
MKAR Makanchi Array 48.53 309 P **P** **08 13 50.9 +0.1**
MKAR Makanchi Array 48.53 309 P **P** **08 13 50.7 -0.1**
comp=Z,3.1nm,0.3s,baz=88,slow=10.0,SNR=79
MKAR ScP **ScP** **08 18 14.8 -0.5**
comp=Z,4.0nm,0.7s,baz=80,slow=4.5,SNR=16
comp=Z,3.1nm,0.3s
MAKZ Makanchi 48.75 309 P **P** **08 13 52.2 -0.2**
MAKZ IAmb IAmb 08 13 54.4
comp=Z,23nm,1.1s
MAKZ Makanchi 48.75 309 P **P** **08 13 52.2 -0.2**
MAKZ pmax pmax
comp=Z,23nm,1.1s
DANN Dangsing 49.18 285 *e*P **P** **08 13 56.8 +0.6**
comp=Z,15nm,0.2s
KOLN Koldanda 49.45 284 *e*P **P** **08 13 58.5 +0.4**
K13K Kusilvak Mount 49.80 31 P **P** **08 14 00.1 +0.3**
baz=253
PYUN Piuthan 49.90 285 *e*P **P** **08 14 01.7 +0.3**
comp=Z,22nm,0.2s
F14K Arctic Creek 50.27 26 P **P** **08 14 03.8 +0.5**
baz=248
ANM Nome 50.33 27 P **P** **08 14 05.4 +1.7**
ANM IAmb IAmb 08 14 16.0
comp=Z,13nm,1.2s
ANM Nome 50.33 27 P **P** **08 14 05.4 +1.7**
ANM pmax pmax
comp=Z,13nm,1.2s
J14K Nanvaranak Lak 50.53 30 P **P** **08 14 06.3 +1.2**
baz=253
L14K Kuka Creek 50.54 32 P **P** **08 14 06.3 +1.1**
L14K IAmb IAmb 08 14 16.2
comp=Z,20nm,1.4s
L14K Kuka Creek 50.54 32 P **P** **08 14 06.4 +1.1**
baz=255
M14K Bethel 50.74 33 P **P** **08 14 07.4 +0.7**
baz=256
F15K North Star Dit 51.01 26 P **P** **08 14 09.4 +0.7**
baz=250
G15K Niukluk 51.01 27 P **P** **08 14 09.3 +0.6**
baz=251
KURK Kurchatov 51.12 314 P **P** **08 14 09.8 +0.1**
KURK Kurchatov 51.12 314 *ce*P **P** **08 14 08.4 -1.3**
KURK pmax pmax
comp=Z,83nm,1.7s
S14K Fog Glacier 51.16 39 P **P** **08 14 10.9 +0.9**
baz=262
KURBB Kurchatov Arra 51.17 314 P **P** **08 14 09.8 -0.3**
comp=Z,21nm,0.4s,baz=91,slow=7.8,SNR=346
KURBB S **S** **08 20 47.4 -3.6**
comp=Z,0.4nm,0.6s,baz=90,slow=32,SNR=5.2
comp=Z,21nm,0.4s
K15K Wolf Creek Mou 51.31 31 P **P** **08 14 11.4 +0.5**
baz=256
AS31 Alice Springs 51.40 187 P **P** **08 14 12.3 +0.2**
ASAR Alice Springs 51.40 187 P **P** **08 14 11.9 -0.2**
ASAR Alice Springs 51.40 187 P **P** **08 14 11.9 -0.2**
ASAR Alice Springs 51.40 187 P **P** **08 14 11.8 -0.4**
comp=Z,3.1nm,0.4s,baz=8.4,slow=6.5,SNR=88
ASAR PcP **PcP** **08 15 19.5 +1.1**
comp=Z,3.3nm,0.8s,baz=11,slow=3.8,SNR=12
ASAR S **S** **08 20 51.8 -3.0**
comp=Z,1.4nm,0.9s,baz=22,slow=14,SNR=7.0
comp=Z,3.1nm,0.4s
O15K Ungalikthiuk R 51.47 35 P **P** **08 14 12.7 +0.7**
baz=260
N15K Kwethluk River 51.52 34 P **P** **08 14 13.5 +1.0**
N15K Kwethluk River 51.52 34 P **P** **08 14 12.8 +0.3**
baz=259
C16K Lisburne Hills 51.70 23 P **P** **08 14 14.0 +0.5**
baz=247
CHGN Chignik 51.79 39 P **P** **08 14 15.0 +0.5**
baz=263
G16K Koyuk River 51.81 27 P **P** **08 14 15.2 +0.7**
baz=253
J16K Anvik River 51.97 30 P **P** **08 14 16.5 +0.8**
baz=256
I17K Unalakleet 52.08 29 P **P** **08 14 17.8 +1.4**
baz=255
L16K Owhat River 52.12 32 P **P** **08 14 17.7 +0.9**
baz=258
N16K Nishlik Lake 52.22 33 P **P** **08 14 18.5 +1.0**
baz=260
M16K Timber Creek 52.23 33 P **P** **08 14 18.4 +0.8**
baz=259
D17K Noatak River 52.28 24 P **P** **08 14 18.7 +0.9**
baz=250
P16K Nushagak River 52.38 35 P **P** **08 14 19.2 +0.6**
baz=262
O16K Kokwok River B 52.41 35 P **P** **08 14 19.5 +0.6**
baz=261
RDOG Red Dog Mine 52.46 23 P **P** **08 14 19.7 +0.5**
baz=250
C17K DeLong Mountai 52.52 23 P **P** **08 14 20.7 +1.1**
baz=249
G17K Kiwalik Mounta 52.53 27 P **P** **08 14 20.6 +0.9**
baz=254
F17K Baldwin Pennin 52.56 26 IAmb IAmb 08 14 21.9
comp=Z,12nm,0.7s
F17K Baldwin Pennin 52.56 26 P **P** **08 14 20.8 +1.0**
baz=253,SNR=7.6
H17K Granite Mounta 52.68 28 P **P** **08 14 21.5 +0.8**
baz=255
L17K Donlin 52.76 31 P **P** **08 14 22.1 +0.8**
baz=259
K17K Iditarod 52.87 31 P **P** **08 14 22.9 +0.8**
baz=259
O17K Koliganek Bris 52.94 34 P **P** **08 14 23.1 +0.4**
baz=262
N17K Nushagak Hills 53.00 33 P **P** **08 14 23.8 +0.6**
baz=261
ULHL Ulahol 53.01 304 P **P** **08 14 24.6 +0.8**
SNR=6.2
Q16K King Salmon 53.02 36 P **P** **08 14 23.6 +0.4**
baz=263
M17K Holitna River 53.02 32 P **P** **08 14 24.0 +0.8**
baz=260
R17K Ugashik Creek 53.04 37 P **P** **08 14 24.3 +0.8**
baz=264
E18K Tukpahlearik C 53.09 25 P **P** **08 14 24.4 +0.7**
baz=253
P17K Kvichak River 53.19 35 P **P** **08 14 25.5 +1.1**
baz=263
BOOM Boomskoye usch 53.20 304 P **P** **08 14 25.6 +0.5**
BOOM IAmb IAmb 08 14 27.5
comp=Z,7.4nm,0.6s
BOOM Boomskoye usch 53.20 304 P **P** **08 14 25.6 +0.5**
BOOM pmax pmax
comp=Z,7.0nm,0.6s
C18K Utukok River 53.26 23 P **P** **08 14 25.8 +0.8**
baz=251
B18K Kokolik River 53.29 22 P **P** **08 14 26.0 +0.9**
baz=250
H18K Honhosa River 53.37 28 P **P** **08 14 26.2 +0.5**
baz=257
G18K Tagagawik 53.43 27 P **P** **08 14 26.7 +0.6**
baz=256
L18K Granite Mounta 53.51 31 P **P** **08 14 27.6 +0.8**
baz=260
KSH Kashi 53.53 300 P **P** **08 14 30.9 +3.4**
KSH pmax pmax
comp=Z,11nm,0.5s
N18K Kilae Creek 53.66 33 P **P** **08 14 28.8 +1.0**
baz=262
J18K Innoko River 53.72 30 P **P** **08 14 28.9 +0.6**
baz=260
KZA Kyzart 53.76 303 P **P** **08 14 32.2 +2.9**
SNR=7.0
EIDS Eidsvold 53.85 167 P **P** **08 14 30.4 +0.8**
EIDS IAmb IAmb 08 14 30.9
comp=Z,9.7nm,0.8s
SVW2 Sparrevohn 53.87 33 P **P** **08 14 30.5 +1.2**
SVW2 IAmb IAmb 08 14 41.8
comp=Z,14nm,1.3s
Q18K Katmai Hardscr 53.87 36 P **P** **08 14 29.7 +0.2**
baz=265
O18K Koktuh Hills 53.89 34 P **P** **08 14 31.4 +1.9**
O18K IAmb IAmb 08 14 31.8
comp=Z,9.4nm,0.6s
O18K Koktuh Hills 53.89 34 P **P** **08 14 30.1 +0.6**
baz=264
GCSA Galena City Sc 53.90 28 P **P** **08 14 29.8 +0.4**
baz=258
TTA Tatalina 53.94 31 P **P** **08 14 30.7 +0.8**
TTA Tatalina 53.94 31 P **P** **08 14 30.7 +0.8**
TTA pmax pmax
comp=Z,7.0nm,1.4s
C19K Lookout Ridge 53.96 23 IAmb IAmb 08 14 31.6
comp=Z,7.4nm,0.5s
C19K Lookout Ridge 53.96 23 P **P** **08 14 30.7 +0.9**
baz=253,SNR=6.1
F19K Shaleruckik Mo 54.00 26 P **P** **08 14 30.6 +0.5**
baz=256
CHMS Chumysh 54.02 305 P **P** **08 14 31.6 +0.8**
SNR=5.2
R18K Karluk 54.07 37 P **P** **08 14 31.3 +0.5**
baz=266
G19K Purcell Mounta 54.11 27 P **P** **08 14 31.7 +0.8**
baz=257
USP Ospenovka 54.18 305 P **P** **08 14 28.3 -3.6**
SNR=6.6
H19K Roundabout Mou 54.23 27 P **P** **08 14 33.0 +1.2**
H19K IAmb IAmb 08 14 33.6
comp=Z,9.1nm,0.6s
H19K Roundabout Mou 54.23 27 P **P** **08 14 33.0 +1.2**
baz=258,SNR=10.0
AAK Ala-Archa 54.25 304 P **P** **08 14 32.7 +0.2**
AAK Ala-Archa 54.25 304 *ce*P **P** **08 14 32.1 -0.5**
AAK pmax pmax
comp=Z,11nm,1.7s
UCH Uchtor 54.28 304 P **P** **08 14 34.3 +1.1**
SNR=10
J19K Poorman 54.29 29 P **P** **08 14 33.0 +0.8**
baz=260
D19K Kuna River 54.30 24 IAmb IAmb 08 14 40.2
comp=Z,16nm,1.5s
D19K Kuna River 54.30 24 P **P** **08 14 32.7 +0.4**
baz=255
E19K Redstone River 54.36 25 IAmb IAmb 08 14 35.6
comp=Z,8.8nm,0.6s
E19K Redstone River 54.36 25 P **P** **08 14 34.2 +1.5**
baz=256
L19K White Mountain 54.36 32 P **P** **08 14 33.6 +0.8**
baz=262
N19K Bonanza Creek 54.36 33 P **P** **08 14 33.6 +0.7**
baz=264
EKS2 Erkin-Say 54.77 304 P **P** **08 14 36.6 +0.4**
SNR=5.5
F20K Avaraart Lake 54.84 26 IAmb IAmb 08 14 37.6
comp=Z,5.4nm,0.5s
F20K Avaraart Lake 54.84 26 P **P** **08 14 37.3 +1.3**
baz=258
L20K Farewell, AK 54.85 31 P **P** **08 14 37.2 +1.0**
baz=263
H20K Anotleneega Mo 54.87 28 P **P** **08 14 37.1 +0.8**
baz=260
K20K Telida 54.88 30 P **P** **08 14 37.8 +1.4**
baz=262
D20K Etivluk River 54.89 24 P **P** **08 14 37.3 +0.9**
baz=256
AML Almayashu 54.90 304 P **P** **08 14 38.3 +0.9**
SNR=12
I20K Naaghedeneel 54.92 28 P **P** **08 14 37.5 +0.9**
baz=261
E20K Nigu River 54.93 24 P **P** **08 14 38.0 +1.2**
baz=257
J20K Nowinta River 54.96 29 P **P** **08 14 37.9 +1.0**
baz=261
B20K Meade River 55.03 22 IAmb IAmb 08 14 41.0
comp=Z,27nm,1.4s
B20K Meade River 55.03 22 P **P** **08 14 38.5 +1.1**
baz=254
M20K Styx River 55.13 32 P **P** **08 14 39.4 +1.1**
baz=264
O20K Slope Mountain 55.21 34 P **P** **08 14 39.1 +0.3**
baz=266
C21K Knifeblade Rid 55.63 23 P **P** **08 14 42.1 +0.6**
baz=257
PPLA Purkeypile 55.67 31 P **P** **08 14 42.6 +0.5**
baz=264
F21K Alatna River 55.73 26 P **P** **08 14 43.0 +0.7**
baz=260
H21K Melozitna Rive 55.75 28 P **P** **08 14 43.5 +1.1**
baz=262
CAST Castle Rocks 55.77 30 P **P** **08 14 43.6 +1.0**
baz=264
E21K Killik River 55.77 24 P **P** **08 14 43.6 +1.0**
baz=259,SNR=9.4
B21K Ikpikpuk River 55.80 23 P **P** **08 14 43.3 +0.7**
baz=257
SKT Skwentna 55.89 32 P **P** **08 14 43.7 +0.2**
baz=265
A22K Sinclair Lake 56.00 21 P **P** **08 14 45.2 +1.1**
baz=256
I21K Tanana 56.02 28 P **P** **08 14 45.9 +1.6**
I21K Tanana 56.02 28 P **P** **08 14 45.6 +1.3**
baz=263
BRSE Bradley Lake S 56.14 35 P **P** **08 14 46.1 +0.9**
baz=268
SUA Susitna One 56.22 33 P **P** **08 14 46.2 +0.2**
baz=266
BVAR Borovoye Array 56.23 317 P **P** **08 14 45.9 -0.1**
comp=Z,39nm,0.4s,baz=89,slow=6.9,SNR=268
BVAR ScP **ScP** **08 18 47.6 -1.1**
comp=Z,2.7nm,0.7s,baz=95,slow=4.6,SNR=6.5
F22K John River 56.27 25 P **P** **08 14 47.5 +1.5**
baz=261
BRVK Borovoye 56.29 317 P **P** **08 14 46.4 0.0**
BRVK Borovoye 56.29 317 *ce*P **P** **08 14 45.9 -0.5**
BRVK pmax pmax
comp=Z,46nm,1.3s
D22K Ayikyak River 56.32 24 IAmb IAmb 08 14 48.6
comp=Z,7.1nm,0.7s
D22K Ayikyak River 56.32 24 P **P** **08 14 47.6 +1.3**
baz=260
BPAW Bear Paw Mtn. 56.33 30 P **P** **08 14 47.1 +0.6**
baz=264
B22K Teshekpuk Lake 56.35 22 P **P** **08 14 47.4 +0.9**
baz=258
H22K Ishtalitna Cre 56.36 27 P **P** **08 14 47.9 +1.2**
baz=263
G22K Bettles 56.45 26 P **P** **08 14 48.3 +1.1**
baz=262
E22K Anaktuvuk Pass 56.51 25 IAmb IAmb 08 14 49.5
comp=Z,7.6nm,0.6s
E22K Anaktuvuk Pass 56.51 25 P **P** **08 14 48.5 +0.8**
baz=261,SNR=7.8
CUT Chulitna 56.51 32 P **P** **08 14 48.8 +1.0**
baz=266
MLY Manley 56.53 28 P **P** **08 14 49.0 +1.1**
MLY Manley 56.53 28 P **P** **08 14 49.0 +1.1**
baz=264,SNR=6.7
M22K Willow 56.54 32 P **P** **08 14 48.2 +0.3**
baz=267
TRF Thorofare Moun 56.58 30 P **P** **08 14 48.7 +0.3**
baz=266
O22K Cooper Landing 56.67 34 P **P** **08 14 49.2 +0.3**
O22K Cooper Landing 56.67 34 P **P** **08 14 49.3 +0.3**
baz=268
RC01 Rabbit Creek A 56.69 33 P **P** **08 14 49.3 +0.2**
baz=268
NIL Nilore 56.77 294 P **P** **08 14 49.1 -1.0**
NIL Nilore 56.77 294 P **P** **08 14 49.1 -1.0**
NIL pmax pmax
comp=Z,59nm,1.5s
SEW Seward 56.80 34 P **P** **08 14 50.0 +0.3**
baz=268
COLD Coldfoot 56.99 26 P **P** **08 14 51.9 +0.9**
baz=263,SNR=7.6
G23K Bananza Creek 57.00 26 P **P** **08 14 52.5 +1.4**
baz=264
PMR Palmer 57.00 33 P **P** **08 14 50.8 -0.3**
baz=268
D23K Nanushuk River 57.05 24 P **P** **08 14 52.7 +1.3**
baz=262,SNR=8.8
KK31 Karatay Array 57.09 305 P **P** **08 14 52.5 +0.3**
KK31 Karatay Array 57.09 305 P **P** **08 14 52.5 +0.3**
KK31 pmax pmax
comp=Z,34nm,1.3s
KKAR Karatay Array 57.09 305 P **P** **08 14 52.5 +0.3**
KKAR Karatay Array 57.09 305 P **P** **08 14 52.5 +0.3**
KKAR pmax pmax
comp=Z,34nm,1.3s
I23K Minto, Yukon-K 57.12 28 P **P** **08 14 52.7 +0.8**
baz=265
NEA2 Nenana 57.20 29 P **P** **08 14 52.8 +0.3**
baz=266
MCK McKinley 57.20 30 P **P** **08 14 53.0 +0.4**
baz=267
C23K Itkillik River 57.20 23 IAmb IAmb 08 14 54.8
comp=Z,16nm,1.1s
C23K Itkillik River 57.20 23 P **P** **08 14 53.0 +0.6**
baz=261
E23K Chandalar 57.31 25 P **P** **08 14 54.4 +1.1**
baz=263
KNK Knik Glacier 57.32 33 P **P** **08 14 53.8 +0.4**
KNK IAmb IAmb 08 14 54.4
comp=Z,14nm,0.6s
KNK Knik Glacier 57.32 33 P **P** **08 14 53.3 0.0**
baz=268
WAT1 Susitna Watana 57.33 31 P **P** **08 14 53.9 +0.5**
baz=268
SML Sawmill 57.39 32 P **P** **08 14 53.9 0.0**
baz=268
TOLK Toolik Lake Re 57.40 24 P **P** **08 14 54.4 +0.5**
baz=263
MDM Murphy Dome 57.58 29 P **P** **08 14 56.0 +0.8**
M23K Glacier View 57.68 32 P **P** **08 14 56.2 +0.4**
baz=269
WAT6 Susitna Watana 57.69 31 P **P** **08 14 55.8 -0.3**
baz=268
D24K Happy Valley 57.73 24 P **P** **08 14 57.3 +1.3**
baz=263
E24K Your Creek 57.74 25 IAmb IAmb 08 14 58.2
comp=Z,8.1nm,0.6s
E24K Your Creek 57.74 25 P **P** **08 14 57.6 +1.4**
baz=264,SNR=11
COLA College 57.74 29 P **P** **08 14 56.7 +0.6**
baz=267
H24K Noodor Dome 57.79 28 P **P** **08 14 57.4 +0.9**
baz=266
C24K Franklin Bluff 57.85 23 P **P** **08 14 58.0 +1.2**
baz=263,SNR=9.8
SCM Sheep Creek Mo 57.87 32 P **P** **08 14 57.5 +0.3**
baz=269
DHY Denali Highway 57.87 31 P **P** **08 14 57.8 +0.5**
baz=268
F24K Squaw Lake 57.91 26 IAmb IAmb 08 14 59.7
comp=Z,13nm,0.6s
F24K Squaw Lake 57.91 26 P **P** **08 14 58.5 +1.2**
baz=265
POKR Poker Plat Res 57.93 28 P **P** **08 14 58.5 +1.0**
baz=267
G24K Hadweenzic Riv 58.01 27 P **P** **08 14 59.2 +1.2**
baz=266
HDA Harding Lake 58.11 29 P **P** **08 14 58.2 -0.4**
baz=268
HDA P **P** **08 14 58.2 -0.4**
baz=268
ILAR Eielson Array 58.15 29 P **P** **08 14 58.4 -0.6**
comp=Z,1.1nm,0.6s,baz=243,slow=6.2,SNR=34
ILAR pP **pP** **08 16 38.2 +2.5**
comp=Z,0.8nm,0.8s,baz=260,slow=5.4,SNR=4.4
comp=Z,1.1nm,0.6s
M24K Tolsona, Glenn 58.42 32 P **P** **08 15 02.6 +1.8**
baz=270
KLU Klutina 58.54 33 P **P** **08 15 02.3 +0.6**
baz=271
G25K Bearman Lake 58.56 27 P **P** **08 15 03.1 +1.5**
baz=267
K24K Donnelly Dome 58.61 30 P **P** **08 15 02.6 +0.5**
baz=269
D25K Kavik River 58.62 24 IAmb IAmb 08 15 04.2
comp=Z,11nm,0.6s
D25K Kavik River 58.62 24 P **P** **08 15 03.5 +1.4**
baz=266
PAX Paxson 58.74 31 P **P** **08 15 03.5 +0.4**
baz=270
PRP Porcupine Dome 58.75 28 P **P** **08 15 04.2 +1.0**
baz=269
F25K Christian Rive 58.78 26 P **P** **08 15 04.3 +1.1**
baz=267
J25K Salcha River, 58.80 29 P **P** **08 15 03.2 -0.2**
baz=269
E25K Arctic Village 58.83 25 IAmb IAmb 08 15 05.8
comp=Z,9.2nm,0.6s
E25K Arctic Village 58.83 25 P **P** **08 15 05.2 +1.7**
baz=267,SNR=13
HARP HAARP 58.89 32 P **P** **08 15 04.9 +0.9**
baz=271
RIDG Independent Ri 59.02 30 P **P** **08 15 05.2 +0.2**
baz=270
N25K Chitina, Valde 59.17 33 P **P** **08 15 06.4 +0.4**
baz=272
C26K Camden Bay 59.17 23 P **P** **08 15 07.2 +1.5**
baz=266
BMRM Bremner River 59.19 33 P **P** **08 15 06.3 +0.2**
baz=272
STKA Stephens Creek 59.27 178 P **P** **08 15 07.2 +0.3**
STKA Stephens Creek 59.27 178 P **P** **08 15 07.2 +0.3**
STKA pmax pmax
comp=Z,5.0nm,1.5s
STKA Stephens Creek 59.27 178 P **P** **08 15 07.1 +0.1**
comp=Z,7.8nm,0.7s,baz=357,slow=6.6,SNR=14
comp=Z,7.8nm,0.7s
F26K Sheenjek River 59.35 25 P **P** **08 15 08.3 +1.2**
baz=269
SCRK Sand Creek 59.40 30 IAmb IAmb 08 15 08.4
comp=Z,6.3nm,0.6s
SCRK Sand Creek 59.40 30 P **P** **08 15 07.9 +0.4**
baz=271,SNR=6.6
G26K Porcupine Rive 59.48 26 P **P** **08 15 08.8 +1.0**
baz=269
J26L Joseph Creek 59.58 29 P **P** **08 15 08.8 +0.1**
baz=271
L26K Log Cabin Wild 59.71 31 P **P** **08 15 09.9 +0.4**
baz=272
KBL Kabul 59.95 296 P **P** **08 15 11.8 -0.1**
KBL IAmb IAmb 08 15 12.9
comp=Z,15nm,1.1s
KBL Kabul 59.95 296 P **P** **08 15 11.8 -0.1**
KBL pmax pmax
comp=Z,15nm,1.1s
K27K Chicken 60.24 30 P **P** **08 15 13.8 +0.8**
baz=273
G27K Doyon Strip 60.32 27 P **P** **08 15 14.4 +0.9**
baz=271
E27K Coleen River 60.32 25 P **P** **08 15 14.3 +0.8**
baz=271
I27K Kandik River 60.37 28 P **P** **08 15 14.4 +0.5**
baz=272
H27K Steamboat Moun 60.39 27 P **P** **08 15 15.2 +1.2**
baz=272,SNR=9.1
L27K Beaver Creek, 60.40 31 P **P** **08 15 14.8 +0.7**
baz=273
M27K Edge Creek, AK 60.42 32 P **P** **08 15 14.7 +0.3**
baz=274
D27M Malcolm River 60.54 24 P **P** **08 15 16.1 +1.1**
baz=271
EGAK Eagle 60.60 29 P **P** **08 15 15.6 +0.3**
EGAK Eagle 60.60 29 P **P** **08 15 15.5 +0.1**
baz=273
F28M Old Crow 60.99 26 P **P** **08 15 19.4 +1.5**
F28M IAmb IAmb 08 15 20.2
comp=Z,8.1nm,0.6s
F28M Old Crow 60.99 26 P **P** **08 15 18.9 +1.0**
baz=272,SNR=9.7
E28M Babbage River 61.07 24 P **P** **08 15 20.3 +1.9**
baz=272
I28M Miner Creek 61.08 28 P **P** **08 15 19.4 +0.8**
baz=274
D28M Stokes Point 61.33 24 P **P** **08 15 20.9 +0.9**
baz=273
DAWY Dawson 61.41 30 P **P** **08 15 21.6 +0.8**
DAWY Dawson 61.41 30 P **P** **08 15 21.5 +0.6**
baz=275

SVE	**Sverdlovsk**		**61.51**	**322**	*e*P		**P**		**08 15 21.4**	**-0.1**
SVE	comp=Z,156nm,1.1s				pmax		pmax			
H29M	**Whitestone**		**61.67**	**27**	P		**P**		**08 15 23.1**	**+0.7**
	baz=275									
E29M	**Blow River**		**61.69**	**25**	P		**P**		**08 15 23.2**	**+0.8**
	baz=274									
G29M	**Pine Creek**		**61.75**	**26**	P		**P**		**08 15 24.3**	**+1.4**
	baz=275									
I29M	**Ogilvie Camp,**		**61.77**	**28**	P		**P**		**08 15 23.6**	**+0.5**
	baz=275									
M29M	**Somme Creek**		**61.99**	**31**	P		**P**		**08 15 25.3**	**+0.6**
	baz=277									
L29M	**L29M**		**62.07**	**31**	P		**P**		**08 15 26.4**	**+1.3**
	baz=277									
K29M	**Barlow Dome**		**62.26**	**30**	P		**P**		**08 15 27.4**	**+0.9**
	baz=277									
EPYK	**Eagle Plains**		**62.32**	**27**	P		**P**		**08 15 27.8**	**+1.2**
	baz=276,SNR=12									
G30M	**tAoh Zraii Nji**		**62.45**	**26**	IAmb		IAmb		08 15 28.7	
G30M	**tAoh Zraii Nji**		**62.45**	**26**	P		**P**		**08 15 28.1**	**+0.5**
	baz=276,SNR=5.9									
F30M	**Barrier River**		**62.55**	**25**	P		**P**		**08 15 29.3**	**+1.2**
	baz=276									
I30M	**Mount Dempster**		**62.59**	**28**	IAmb		IAmb		08 15 31.3	
	comp=Z,4.7nm,0.7s									
I30M	**Mount Dempster**		**62.59**	**28**	P		**P**		**08 15 29.5**	**+1.0**
	baz=277									
J30M	**Hart River**		**62.69**	**29**	P		**P**		**08 15 30.2**	**+1.0**
	baz=277									
ARU	**Arti**		**62.70**	**322**	P		**P**		**08 15 28.9**	**-0.4**
ARU	**Arti**		**62.70**	**322**	*d i*P		**P**		**08 15 29.0**	**-0.3**
ARU					S		**S**		**08 23 19.6**	**+0.5**
ARU					SS		**SS**		**08 27 31.6**	**-2.8**
ARU					pmax		pmax			
	comp=Z,31nm,1.1s									
M30M	**Minto, Yukon**		**62.75**	**31**	P		**P**		**08 15 30.0**	**+0.4**
	baz=278									
P30M	**Million Dollar**		**63.03**	**34**	P		**P**		**08 15 32.0**	**+0.6**
	baz=279									
G31M	**Satah River**		**63.22**	**26**	P		**P**		**08 15 32.7**	**+0.3**
	baz=278									
ABKAR	**Akbulak array**		**63.22**	**314**	P		**P**		**08 15 32.4**	**-0.4**
INK	**Inuvik**		**63.31**	**25**	P		**P**		**08 15 33.0**	**0.0**
INK	**Inuvik**		**63.31**	**25**	P		**P**		**08 15 33.3**	**+0.3**
	baz=278									
INK	**Inuvik**		**63.31**	**25**	P		**P**		**08 15 33.0**	**0.0**
F31M	**Tsiigehtchic**		**63.35**	**26**	P		**P**		**08 15 32.9**	**-0.3**
	baz=278									
M31M	**Drury Creek, Y**		**63.91**	**31**	P		**P**		**08 15 37.8**	**+0.8**
	baz=280									
SKAG	**Skagway**		**63.96**	**34**	P		**P**		**08 15 38.0**	**+0.7**
	baz=281									
NWAO	**Narrogin (SRO)**		**64.04**	**201**	P		**P**		**08 15 38.1**	**0.0**
	comp=Z,14nm,0.7s,baz=18,slow=5.9,SNR=6.7									
	comp=Z,14nm,0.7s									
FARO	**Faro, Yukon**		**64.39**	**31**	P		**P**		**08 15 40.6**	**+0.6**
	baz=281									
SIT	**Sitka**		**64.43**	**37**	P		**P**		**08 15 40.7**	**+0.4**
	baz=282									
R32K	**Eaglecrest**		**64.60**	**36**	P		**P**		**08 15 42.0**	**+0.6**
	baz=282									
TOO	**Toolangi**		**65.14**	**175**	P		**P**		**08 15 45.6**	**+0.5**
TOO					IAmb		IAmb		08 15 46.8	
	comp=Z,9.9nm,0.8s									
TOO	**Toolangi**		**65.14**	**175**	P		**P**		**08 15 45.6**	**+0.5**
TOO					pmax		pmax			
	comp=Z,10.0nm,0.8s									
A36M	**Sachs Harbour**		**65.40**	**20**	P		**P**		**08 15 46.9**	**+0.7**
A36M	**Sachs Harbour**		**65.40**	**20**	P		**P**		**08 15 47.4**	**+1.2**
	baz=284									
C36M	**Paulatuk**		**66.45**	**23**	P		**P**		**08 15 53.0**	**+0.2**
C36M					IAmb		IAmb		08 15 53.4	
	comp=Z,6.2nm,0.6s									
C36M	**Paulatuk**		**66.45**	**23**	P		**P**		**08 15 52.7**	**-0.2**
	baz=286									
DLBC	**Dease Lake**		**66.86**	**35**	P		**P**		**08 15 57.2**	**+1.5**
DLBC					IAmb		IAmb		08 16 09.9	
	comp=Z,6.9nm,1.2s									
DLBC	**Dease Lake**		**66.86**	**35**	P		**P**		**08 15 56.3**	**+0.7**
	baz=286									
WTLY	**Watson Lake, Y**		**67.02**	**33**	P		**P**		**08 15 57.4**	**+0.8**
	baz=286									
KIRV	**Kirov**		**67.05**	**325**	*ce*P		**P**		**08 15 56.8**	**+0.1**
KIRV	**Kirov**		**67.05**	**325**	P		**P**		**08 15 55.8**	**-0.9**
	comp=Z,12nm,0.4s,baz=89,slow=5.5,SNR=7.1									
	comp=Z,12nm,0.4s									
GEYT	**Alibeck**		**67.47**	**302**	P		**P**		**08 15 59.9**	**+0.1**
GEYT					IAmb		IAmb		08 16 01.4	
	comp=Z,6.7nm,1.1s									
GEYT	**Alibeck**		**67.47**	**302**	P		**P**		**08 15 59.9**	**+0.1**
GEYT					pmax		pmax			
	comp=Z,7.0nm,1.1s									
GEYT	**Alibeck**		**67.47**	**302**	P		**P**		**08 16 00.0**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=68,slow=8.7,SNR=5.5									
	comp=Z,1.1nm,0.3s									
WRGLY	**Wrigley**		**68.53**	**29**	P		**P**		**08 16 06.5**	**+0.9**
	baz=289									
SPITS	**Spitsbergen Ar**		**69.42**	**349**	P		**P**		**08 16 11.4**	**+0.5**
	comp=Z,3.3nm,0.5s,baz=99,slow=7.7,SNR=30									
	comp=Z,3.3nm,0.5s									
KAAM	**Kaadhehdhoo**		**69.42**	**259**	P		**P**		**08 16 11.4**	**-0.6**
KAAM					IAmb		IAmb		08 16 27.7	
	comp=Z,12nm,1.0s									
BELG	**Belogornoye**		**69.89**	**319**	*i* P		**P**		**08 16 14.0**	**-0.1**
BELG					pmax		pmax			
	comp=Z,6.0nm,1.3s									
BELG	**Belogornoye**		**69.89**	**319**	P		**P**		**08 16 13.8**	**-0.3**
	comp=Z,8.4nm,0.5s,baz=50,slow=4.9,SNR=7.5									
	comp=Z,8.4nm,0.5s									
KLMR	**Klimovskoe**		**71.04**	**329**	*e*P		**P**		**08 16 16.4**	**-4.3**
KLMR					AMP				08 16 21.4	
	comp=Z,28nm,1.7s									
KLMR	**Klimovskoe**		**71.04**	**329**	*e*P		**P**		**08 16 16.3**	**-4.4**
KLMR					pmax		pmax			
	comp=Z,28nm,1.7s									
ARCES	**ARCESS Array B**		**72.30**	**340**	P		**P**		**08 16 28.4**	**+0.4**
ARCES					IAmb		IAmb		08 16 29.2	
	comp=Z,18nm,1.1s									
ARCES	**ARCESS Array B**		**72.30**	**340**	P		**P**		**08 16 28.4**	**+0.4**
	comp=Z,4.8nm,0.5s,baz=76,slow=8.8,SNR=47									
	comp=Z,4.8nm,0.5s									
YKA	**Yellowknife Ar**		**72.56**	**28**	P		**P**		**08 16 29.4**	**-0.2**
YKA	**Yellowknife Ar**		**72.56**	**28**	P		**P**		**08 16 29.7**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=298,slow=6.2,SNR=52									
	comp=Z,3.0nm,0.6s									
RTZ	**Ruatahuna**		**74.53**	**151**	P		**P**		**08 16 41.0**	**-0.2**
OBN	**Obninsk**		**74.88**	**325**[1]	*e*P		**P**		**08 16 42.4**	**-0.5**
OBN									08 16 58.0	
OBN					*SP		**sP**		**08 19 22.0**	**+5.2**
OBN					SS		SS		08 30 44.0	+4.0
OBN					pmax		pmax			
	comp=Z,43nm,2.5s									
OBN					MLR		MLR			
	comp=Z,29nm,13.0s									
KBZ	**Khabaz**		**76.11**	**312**	P		**P**		**08 16 50.1**	**+0.1**
	comp=Z,8.8nm,1.1s,baz=162,slow=4.1,SNR=7.7									
	comp=Z,8.8nm,1.1s									
KIV	**Kislovodsk**		**76.16**	**312**	*e*P		**P**		**08 16 50.7**	**+0.3**
KIV					pmax		pmax			
	comp=Z,7.0nm,1.1s									
ONI	**Oni**		**76.22**	**311**	P		**P**		**08 16 50.9**	**+0.1**
ONI					IAmb		IAmb		08 16 52.8	
	comp=Z,14nm,1.3s									
ONI	**Oni**		**76.22**	**311**	P		**P**		**08 16 50.9**	**+0.1**
ONI					pmax		pmax			
	comp=Z,14nm,1.3s									
GNI	**Garni**		**76.37**	**308**	*ce*P		**P**		**08 16 51.9**	**+0.1**
GNI					pmax		pmax			
	comp=Z,14nm,1.5s									
GNI	**Garni**		**76.37**	**308**	P		**P**		**08 16 51.7**	**-0.1**
	comp=Z,3.5nm,0.6s,baz=289,slow=4.6,SNR=3.2									
	comp=Z,3.5nm,0.6s									
FINES	**FINESS Array B**		**76.50**	**333**	P		**P**		**08 16 51.3**	**-0.5**
	comp=Z,13nm,0.4s,baz=67,slow=5.0,SNR=252									
	comp=Z,13nm,0.4s									
PINE	**Pine Mountain**		**77.47**	**47**	P		**P**		**08 16 58.9**	**+1.1**
PINE					IAmb		IAmb		08 17 00.6	
	comp=Z,9.8nm,0.8s									
J05D	**Fort Rock, OR**		**77.50**	**48**	P		**P**		**08 16 58.2**	**+0.3**
J05D					IAmb		IAmb		08 17 00.5	
	comp=Z,8.5nm,1.0s									
NEW	**Newport**		**77.80**	**42**	P		**P**		**08 17 00.3**	**+1.0**
	baz=298									
J08A	**Circle Bar Ran**		**79.26**	**47**	IAmb		IAmb		08 17 09.7	
	comp=Z,6.2nm,0.8s									

SUMG	**Summit**		**79.98**	**360**	*i* P		**P**		**08 17 10.0**	**-0.9**
AKASG	**Malin Array Be**		**80.93**	**323**	IAmb		IAmb		08 17 16.3	
	comp=Z,12nm,1.3s									
AKASG	**Malin Array Be**		**80.93**	**323**	P		**P**		**08 17 14.7**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=46,slow=5.2,SNR=19									
	comp=Z,0.9nm,0.3s									
AKBB	**Malin Array Si**		**80.93**	**323**	IAmb		IAmb		08 17 16.1	
	comp=Z,11nm,1.2s									
AKBB	**Malin Array Si**		**80.93**	**323**	*ce*P		**P**		**08 17 15.1**	**-0.6**
AKBB					pmax		pmax			
	comp=Z,19nm,1.2s									
MFID	**Camas Ranch**		**80.93**	**46**	IAmb		IAmb		08 17 18.3	
	comp=Z,6.1nm,0.8s									
KIEV	**Kiev**		**80.94**	**323**	P		**P**		**08 17 15.4**	**-0.4**
KIEV					IAmb		IAmb		08 17 16.1	
	comp=Z,17nm,1.2s									
KIEV	**Kiev**		**80.94**	**323**	P		**P**		**08 17 15.4**	**-0.4**
KIEV					pmax		pmax			
	comp=Z,17nm,1.2s									
NVAR	**Mina Array Bea**		**81.71**	**51**	P		**P**		**08 17 21.5**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=296,slow=6.0,SNR=9.6									
	comp=Z,1.8nm,0.6s									
HLID	**Hailey**		**81.75**	**45**	P		**P**		**08 17 21.4**	**+1.0**
HLID	**Hailey**		**81.75**	**45**	P		**P**		**08 17 21.1**	**+0.7**
	baz=300,SNR=5.2									
HFS	**Hagfors**		**82.06**	**336**	P		**P**		**08 17 20.3**	**-1.1**
	comp=Z,2.8nm,0.4s,baz=103,slow=3.1,SNR=38									
	comp=Z,2.8nm,0.4s									
NC405	**NORSAR Array S**		**82.06**	**337**	P		**P**		**08 17 20.8**	**-0.6**
NC405					IAmb		IAmb		08 17 21.4	
	comp=Z,11nm,0.8s									
NC303	**NORSAR Array S**		**82.10**	**338**	P		**P**		**08 17 21.3**	**-0.2**
NC303					IAmb		IAmb		08 17 43.8	
	comp=Z,17nm,1.2s									
EGMT	**Eagleton**		**82.18**	**39**	P		**P**		**08 17 23.9**	**+1.5**
EGMT					IAmb		IAmb		08 17 24.3	
	comp=Z,4.8nm,0.7s									
EGMT	**Eagleton**		**82.18**	**39**	P		**P**		**08 17 22.8**	**+0.4**
	baz=303									
NB201	**NORSAR Array S**		**82.25**	**337**	P		**P**		**08 17 21.7**	**-0.7**
NC204	**NORSAR Array S**		**82.27**	**338**	P		**P**		**08 17 21.9**	**-0.6**
NC204					IAmb		IAmb		08 17 22.7	
	comp=Z,12nm,0.9s									
NB2	**NORSAR Subarra**		**82.29**	**337**	P		**P**		**08 17 21.2**	**-1.4**
	comp=Z,3.0nm,0.5s,baz=44,slow=5.1									
NB2	**NORSAR Subarra**		**82.29**	**337**	P		**P**		**08 17 20.9**	**-1.7**
NOA	**NORSAR Array B**		**82.29**	**337**	P		**P**		**08 17 21.8**	**-0.7**
	comp=Z,4.9nm,0.7s,baz=46,slow=5.0,SNR=19									
	comp=Z,4.9nm,0.7s									
NORES	**NORESS Array B**		**82.39**	**337**	P		**P**		**08 17 22.2**	**-0.9**
BOZ	**Bozeman (W)**		**82.40**	**42**	P		**P**		**08 17 24.2**	**+0.6**
	baz=302									
VES	**Vestal, Richgr**		**82.40**	**54**	P		**P**		**08 17 23.3**	**-0.3**
	baz=299									
CWC	**Cottonwood Cre**		**82.83**	**53**	P		**P**		**08 17 25.4**	**-0.6**
	baz=299									
SCZ2	**Santa Cruz Isl**		**82.89**	**55**	P		**P**		**08 17 24.6**	**-1.5**
	baz=299									
ISA	**Isabella, Lake**		**82.92**	**53**	P		**P**		**08 17 26.4**	**0.0**
	baz=299									
ARVC	**Arvin**		**82.93**	**54**	P		**P**		**08 17 26.9**	**+0.6**
	baz=299									
GRAC	**Grapevine Rang**		**83.06**	**52**	P		**P**		**08 17 27.0**	**0.0**
	baz=300									
MPMC	**Manual Prospec**		**83.43**	**53**	P		**P**		**08 17 29.3**	**+0.2**
	baz=300									
R11B	**Troy Canyon, C**		**83.61**	**50**	P		**P**		**08 17 31.1**	**+1.2**
	baz=300,SNR=7.0									
KMPD	**K-Podol'skiy**		**83.61**	**322**	P		**P**		**08 17 29.0**	**-0.4**
EDW2	**Edwards Air Fo**		**83.65**	**54**	P		**P**		**08 17 31.1**	**+1.2**
	baz=299									
H17A	**Grant Village**		**83.67**	**43**	P		**P**		**08 17 31.8**	**+1.6**
	baz=303									
HVU	**Hansel Valley**		**83.70**	**46**	IAmb		IAmb		08 17 32.6	
	comp=Z,4.2nm,0.7s									
IMW	**Indian Meadow**		**83.72**	**43**	IAmb		IAmb		08 17 33.3	
	comp=Z,4.4nm,0.8s									
TPNV	**Topopah Spring**		**83.86**	**51**	IAmb		IAmb		08 17 33.4	
	comp=Z,5.7nm,0.9s									
TPNV	**Topopah Spring**		**83.86**	**51**	P		**P**		**08 17 32.1**	**+1.0**
	baz=300									
TPAW	**Teton Pass**		**83.93**	**44**	IAmb		IAmb		08 17 34.2	
	comp=Z,3.2nm,0.7s									
RLMT	**Red Lodge**		**84.05**	**42**	P		**P**		**08 17 33.6**	**+1.6**
	baz=304									
BRTR	**Knik Array B**		**84.10**	**312**	P		**P**		**08 17 31.7**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=76,slow=5.2,SNR=4.5									
BRTR					pP		**pwP**		**08 19 21.4**	**-2.6**
	comp=Z,1.5nm,0.9s,baz=98,slow=2.6,SNR=3.4									
	comp=Z,1.1nm,0.9s									
BFSC	**Mount Baldy Ra**		**84.20**	**54**	P		**P**		**08 17 33.3**	**+0.5**
	baz=300									
RRX	**Edison Barstow**		**84.36**	**54**	P		**P**		**08 17 35.6**	**+2.1**
	baz=300									
DUG	**Duway, Tooele**		**84.51**	**47**	P		**P**		**08 17 34.8**	**+0.6**
	baz=302									
HWUT	**Hardware Ranch**		**84.56**	**46**	IAmb		IAmb		08 17 36.9	
	comp=Z,8.8nm,1.1s									
MURC	**Murrieta**		**84.85**	**55**	P		**P**		**08 17 36.0**	**+0.1**
	baz=300									
HEC	**Hector,Ludlow**		**84.86**	**53**	P		**P**		**08 17 36.4**	**+0.4**
	baz=300									
LAO	**LASA Array**		**84.92**	**39**	P		**P**		**08 17 36.4**	**+0.4**
	baz=306									
DGMT	**Dagmar**		**84.97**	**37**	P		**P**		**08 17 36.8**	**+0.6**
	baz=307									
BW06	**Boulder Array**		**85.18**	**44**	P		**P**		**08 17 37.5**	**-0.1**
	baz=304									
PDAR	**Pinedale Array**		**85.18**	**44**	P		**P**		**08 17 38.0**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=283,slow=2.2,SNR=8.3									
	comp=Z,0.7nm,0.7s									
GMRC	**Granite Mounta**		**85.36**	**53**	P		**P**		**08 17 39.8**	**+1.3**
	baz=301									
PFO	**Pinyon Flats O**		**85.38**	**54**	P		**P**		**08 17 38.9**	**+0.3**
	baz=300									
TPFO	**Pinon Flats**		**85.39**	**54**	P		**P**		**08 17 39.5**	**+0.8**
	baz=300									
IRM	**Iron Mountain**		**86.04**	**53**	P		**P**		**08 17 42.8**	**+1.2**
	baz=301									
BC3	**Big Chuckawall**		**86.08**	**54**	P		**P**		**08 17 42.6**	**+0.6**
	baz=301									
IKP	**In-Ko-Pah, Jac**		**86.12**	**55**	P		**P**		**08 17 42.8**	**+0.7**
	baz=301									
SWSC	**Sam W. Stewart**		**86.19**	**55**	P		**P**		**08 17 42.9**	**+0.6**
	baz=301									
O20A	**White River Ci**		**87.47**	**45**	P		**P**		**08 17 49.2**	**+0.7**
	baz=305									
VYHS	**Vyhne**		**87.66**	**325**	*e*P		**P**		**08 17 48.8**	**-0.2**
VYHS	**Vyhne**		**87.66**	**325**	*e*P		**P**		**08 17 48.8**	**-0.2**
VYHS					pmax		pmax			
	comp=Z,7.0nm,1.2s									
RSSD	**Black Hills**		**87.68**	**40**	P		**P**		**08 17 50.0**	**+0.6**
	baz=307									
WUAZ	**Wupatki**		**87.97**	**51**	P		**P**		**08 17 51.5**	**+0.7**
	baz=303									
SMOL	**Smolenice**		**88.35**	**326**	*e*P		**P**		**08 17 52.4**	**+0.2**
N23A	**Red Feather La**		**88.47**	**44**	P		**P**		**08 17 53.7**	**+0.5**
	baz=306									
MODS	**Modra-Piesok**		**88.52**	**326**	*e*P		**P**		**08 17 54.2**	**+1.2**
MODS	**Modra-Piesok**		**88.52**	**326**	*e*P		**P**		**08 17 54.2**	**+1.2**
ISCO	**Idaho Springs**		**89.31**	**45**	P		**P**		**08 17 57.2**	**0.0**
	baz=306									
S22A	**4UR Ranch, Cre**		**89.74**	**47**	P		**P**		**08 17 59.0**	**-0.2**
	baz=306									
KHC	**Kasperske Hory**		**89.79**	**328**	*ce*P		**P**		**08 17 58.2**	**-0.7**
KHC					pmax		pmax			
	comp=Z,15nm,1.3s									
GERES	**GERESS Array B**		**89.93**	**328**	P		**P**		**08 17 58.5**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=69,slow=7.3,SNR=5.2									
	comp=Z,0.5nm,0.5s									
SDCO	**Great Sand Dun**		**90.60**	**46**	P		**P**		**08 18 03.9**	**+0.7**
	baz=306									
ANMO	**Albuquerque**		**91.61**	**49**	P		**P**		**08 18 09.5**	**+1.7**
ANMO					IAmb		IAmb		08 18 10.2	
	comp=Z,3.2nm,0.8s									
ANMO	**Albuquerque**		**91.61**	**49**	P		**P**		**08 18 08.9**	**+1.0**
	baz=306									
ANMO	**Albuquerque**		**91.61**	**49**	*ce*P		**P**		**08 18 09.5**	**+1.7**
ANMO					pmax		pmax			
	comp=Z,3.0nm,0.8s									
T25A	**Trinidad**		**91.66**	**46**	P		**P**		**08 18 08.2**	**+0.1**
	baz=307									
Y22D	**IRIS PASSCAL I**		**91.81**	**50**	P		**P**		**08 18 08.8**	**+0.1**
	baz=306									
ECSD	**EROS Data Cent**		**92.05**	**37**	P		**P**		**08 18 09.7**	**+0.2**
	baz=312									
121A	**Cookes Peak, D**		**92.10**	**51**	P		**P**		**08 18 10.7**	**+0.6**
	baz=305									

AMTX	**Amarillo**		**94.78**	**47**	P		**P**		**08 18 22.7**	**+0.5**
	baz=309									
TXAR	**Lajitas Array**		**96.83**	**52**	P		**P**		**08 18 32.8**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=312,slow=3.1,SNR=13									
	comp=Z,0.9nm,0.7s									
QSPA	**South Pole Qui**		**117.48**	**180**	PKP		**PKPdf**		**08 23 41.4**	**-0.6**
	comp=Z,2.2nm,0.5s,baz=280,slow=0.9,SNR=25									
LBTB	**Lobatse**		**121.72**	**256**	PKP		**PKiKP**		**08 23 51.9**	**+0.1**
	comp=Z,3.4nm,0.7s,baz=170,slow=3.8,SNR=6.1									
TORD	**Torodi Ar. Bea**		**122.65**	**310**	PKP		**PKPdf**		**08 23 52.4**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=15,slow=3.1,SNR=4.3									
SOE	**Somerset East**		**123.85**	**248**			**PKiKP**		**08 23 56.0**	**+0.3**
SNAA	**Sanae**		**131.46**	**195**	PKP		**PKPdf**		**08 24 08.0**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=194,slow=8.3,SNR=2.2									
CZSB	**Cruzeiro do Su**		**143.31**	**63**			PKPab		08 24 29.6	-0.3
ETMB	**Extrema**		**149.64**	**59**			**PKPbc**		**08 24 47.5**	**-0.3**
ETMB					PKPab		**PKPab**		**08 24 53.9**	**-1.0**
PB16	**IPOC Station P**		**151.42**	**77**			**PKiKP**		**08 24 53.7**	**+0.9**
LPAZ	**La Paz**		**151.69**	**72**			**PKiKP**		**08 24 53.8**	**+0.3**
LPAZ	**La Paz**		**151.69**	**72**	PKIKP		**PKiKP**		**08 24 53.8**	**+0.3**
PLCA	**Paso Flores**		**151.81**	**125**	PKIKP		**PKiKP**		**08 24 53.0**	**+0.6**
PLCA	**Paso Flores**		**151.81**	**125**	PKPbc		**PKiKP**		**08 24 53.0**	**+0.6**
	comp=Z,5.0nm,0.6s,baz=248,slow=2.5,SNR=23									
PB11	**IPOC Station P**		**151.85**	**80**			**PKiKP**		**08 24 53.6**	**+0.4**
PB11					PKPab		**PKPab**		**08 25 06.0**	**+1.7**
GO01	**Chusmiza**		**152.22**	**80**			**PKiKP**		**08 24 55.3**	**+1.0**
PB08	**IPOC Station P**		**152.43**	**81**			**PKiKP**		**08 24 55.5**	**+0.9**
PB01	**IPOC Station P**		**152.45**	**83**			**PKiKP**		**08 24 54.8**	**+0.5**
BO02	**Sierra Bellavi**		**152.89**	**113**			**PKiKP**		**08 24 55.6**	**+0.8**

UPA 17 08:08:18.7±1.5, 7.36N×80.36W, h0km±5km, MW4.0, 2C-5D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACHO3	**Achotines, Los**	**0.20**	**75**	*i* P	Pg	08 08 23.0	+0.5
ACHO3				*i* S	Sg	08 08 25.9	+0.9
AZU	**Azuero**	**0.43**	**12**	*i* P	Pb	08 08 28.3	-0.9
AZU				*i* S	Sb	08 08 35.1	-1.2
PESE3	**Pese, Herrera**	**0.59**	**335**	*i* P	Pb	08 08 31.4	-0.6
PESE3				*i* S	Sb	08 08 41.2	+0.2
MARI3	**Mariato, Verag**	**0.68**	**295**	*i* P	Pb	08 08 33.0	-0.5
MARI3				*i* S	Sb	08 08 44.1	+0.6
CRIS3	**El Cristo, Coc**	**0.92**	**344**	*i* P	Pg	08 08 36.8	+0.5
CRIS3				*e*S	Sb	08 08 50.0	-0.3
STIA3	**Santiago, Vera**	**0.95**	**320**	*i* P	Pg	08 08 37.4	+0.5
STIA3				*i* S	Sn	08 08 54.6	+1.0
GMAL	**Guarumal, Vera**	**0.95**	**295**	*i* P	Pb	08 08 38.1	0.0
GMAL				*i* S	Sn	08 08 52.5	-1.1
RSUS3	**Rio de Jesus,**	**1.00**	**308**	*i* P	Pg	08 08 38.4	+0.5
RSUS3				*i* S	Sb	08 08 53.4	+0.7
CALO3	**Calobre, Verag**	**1.06**	**334**	*i* P	Pg	08 08 39.5	+0.4
SFRA3	**San Francisco,**	**1.07**	**326**	*i* P	Pg	08 08 39.2	+0.1
SFRA3				*i* S	Sn	08 08 56.7	+0.2
PNME	**Penonome**	**1.11**	**2**	*i* P	Pg	08 08 39.7	-0.5
PNME				*e*S	Sg	08 08 54.2	-0.4
NANC3	**Nancito, Chiri**	**1.61**	**303**	*e*P	Pn	08 08 48.2	-0.3
CHOR3	**La Chorrera**	**1.64**	**21**	*e*P	Pn	08 08 49.3	+0.5
CHOR3				*e*S	Sn	08 09 10.7	+0.2
UPA	**Univ. de Panam**	**1.80**	**27**	*i* P	Pn	08 08 51.4	+0.3
UPA				*i* S	Sn	08 09 14.7	0

KNRA **Kununurra** 23.35 175 P **P** 08 20 30.7 0.0
NJ2 **Nanjing** 25.26 344 *e*P **P** 08 20 49.8 +1.9
NJ2 pP **pP** 08 21 05.1 +0.6
NJ2 sP **sP** 08 21 14.3 +1.6
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
NJ2 pmax pmax
comp=Z,290nm,3.8s
JNU Nakatsue 25.57 8 LR LR 08 31 09.3
comp=Z,42nm,20.5s,baz=187,slow=37
FITZ Fitzroy Crossi 25.68 182 P **P** 08 20 51.9 +0.1
baz=26,SNR=10
FITZ Fitzroy Crossi 25.68 182 P **P** 08 20 51.0 -0.8
SLVN Son La 25.78 304 P **P** 08 20 51.6 -1.2
SLVN IAmb IAmb 08 20 56.5
comp=Z,19nm,0.8s
PMG Port Moresby 26.60 129 P **P** 08 21 00.4 +0.2
PMG Port Moresby 26.60 129 P **P** 08 21 00.1 -0.1
comp=Z,8.0nm,0.6s,baz=346,slow=7.2,SNR=4.3
PMG LR LR 08 32 12.4
comp=Z,114nm,20.4s,baz=292,slow=38
comp=Z,8.0nm,0.6s
JMN Monobe 26.73 14 P **P** 08 21 01.6 +0.4
CRAI Chiangrai 28.30 299 P **P** 08 21 15.5 +0.1
CRAI IAmb IAmb 08 21 21.5
comp=Z,12nm,1.0s
WB0 Warramunga Arr 28.37 164 P **P** 08 21 15.3 -0.7
WB0 IAmb IAmb 08 21 20.7
comp=Z,12nm,0.6s
WRA Warramunga Arr 28.52 165 P **P** 08 21 16.4 -0.9
WRA Warramunga Arr 28.52 165 P **P** 08 21 16.4 -0.9
comp=Z,6.5nm,0.8s,baz=348,slow=9.5,SNR=4.5
WRA PcP **PcP** 08 24 28.1 +0.5
comp=Z,2.8nm,0.5s,baz=333,slow=2.6,SNR=7.8
WRA S **S** 08 25 57.6 -2.7
comp=Z,2.5nm,0.9s,baz=345,slow=15,SNR=7.4
comp=Z,6.5nm,0.8s
WB2 Warramunga Arr 28.53 165 P **P** 08 21 16.5 -0.8
WR0 Warramunga Arr 28.59 164 P **P** 08 21 17.3 -0.7
WR0 IAmb IAmb 08 21 21.0
comp=Z,8.0nm,0.6s
CMAR Chiang Mai Arr 28.96 294 P **P** 08 21 20.6 -0.7
CMAR Chiang Mai Arr 28.96 294 P **P** 08 21 21.3 0.0
comp=Z,1.2nm,0.3s,baz=104,slow=9.4,SNR=2.0
CMAR LR LR 08 34 07.4
comp=Z,100nm,18.2s,baz=105,slow=39
comp=Z,1.2nm,0.3s
MBWA Marble Bar 29.50 193 P **P** 08 21 26.2 +0.2
MBWA IAmb IAmb 08 21 39.9
comp=Z,14nm,1.2s
KSRS Korea Array 29.61 2 P **P** 08 21 26.4 -0.3
comp=Z,2.5nm,0.9s,baz=179,slow=10.0,SNR=6.1
KSRS LR LR 08 36 06.9
comp=Z,94nm,18.1s,baz=195,slow=42
comp=Z,2.5nm,0.9s
LYN LuoYang 29.71 336 ⇓P **P** 08 21 29.4 +1.7
LYN pP pP 08 21 44.5 -0.1
LYN sP sP 08 21 58.8 +5.8
LYN PP **PnPn** 08 22 26.5 +0.4
LYN pmax pmax
comp=Z,12nm,0.7s
LYN pmax pmax
comp=Z,630nm,6.1s
LYN LR LR
comp=N,630nm,4.9s
LYN LR LR
comp=E,330nm,5.7s
LYN LR LR
comp=Z,360nm,5.5s
PSA00 Pilbara Seismi 29.87 193 P **P** 08 21 29.2 0.0
PSA00 Pilbara Seismi 29.87 193 P **P** 08 21 29.8 +0.6
PZH PanZhiHua 30.14 311 P **P** 08 21 33.4 +1.6
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,330nm,6.2s
MJAR Matsushiro Arr 30.56 19 P **P** 08 21 34.7 -0.5
comp=Z,1.8nm,0.7s,baz=199,slow=9.1,SNR=4.7
MJAR LR LR 08 32 56.8
comp=Z,99nm,20.5s,baz=192,slow=34
comp=Z,1.8nm,0.7s
QIS Mount Isa 30.86 156 P **P** 08 21 38.1 +0.1
baz=31,SNR=107
QIS Mount Isa 30.86 156 P **P** 08 21 38.4 +0.3
XAN Xi'an 30.87 330 P **P** 08 21 36.4 -1.6
XAN pmax pmax
comp=Z,9.0nm,0.4s
MTSU Mount Surprise 31.06 146 P **P** 08 21 40.5 +0.7
baz=31,SNR=26
HNS HongShan 31.46 342 ⇓P **P** 08 21 40.8 -2.3
HNS pmax pmax
comp=Z,7.0nm,0.9s
AS31 Alice Springs 32.00 167 P **P** 08 21 47.8 -0.2
ASAR Alice Springs 32.00 167 P **P** 08 21 47.7 -0.3
ASAR Alice Springs 32.00 167 P **P** 08 21 47.6 -0.4
comp=Z,4.5nm,0.4s,baz=343,slow=7.6,SNR=88
ASAR PcP **PcP** 08 24 37.0 +0.4
comp=Z,5.7nm,0.5s,baz=348,slow=2.4,SNR=19
ASAR S **S** 08 26 51.9 -2.8
comp=Z,0.7nm,0.7s,baz=350,slow=16,SNR=3.3
ASAR ScP **ScP** 08 28 12.9 -1.2
comp=Z,0.8nm,0.6s,baz=340,slow=3.4,SNR=4.2
comp=Z,4.5nm,0.4s
WRKA Warakurna 32.61 177 P **P** 08 21 53.6 +0.3
baz=33,SNR=26
WRKA Warakurna 32.61 177 P **P** 08 21 53.5 +0.2
JMM Marumori 32.63 21 P **P** 08 21 53.7 +0.3
CTA Charters Tower 33.71 145 P **P** 08 22 03.9 +0.9
comp=Z,5.9nm,0.6s,baz=326,slow=11,SNR=11
CTA LR LR 08 37 28.4
comp=Z,90nm,18.7s,baz=272,slow=39
comp=Z,5.9nm,0.6s
CTAO Charters Tower 33.71 145 P **P** 08 22 04.2 +1.2
CTAO IAmb IAmb 08 22 04.4
comp=Z,5.3nm,0.7s
MEEK Meekatharra 35.04 193 P **P** 08 22 15.0 +0.5
baz=35,SNR=13
MEEK Meekatharra 35.04 193 P **P** 08 22 14.9 +0.5
LZH Lanzhou 35.08 327 *e*P **P** 08 22 16.1 +1.3
LZH pP pP 08 22 30.6 -1.4
LZH sP sP 08 22 42.6 +2.3
LZH pmax pmax
comp=Z,20nm,1.1s
LZH LR LR
comp=N,310nm,18.2s
LZH LR LR
comp=E,350nm,20.3s
LZH LR LR
comp=Z,490nm,22.0s
HHC Hu-ho-hao-te 35.61 340 *e*P **P** 08 22 21.3 +2.0
HHC pP pP 08 22 38.3 +1.8
HHC SS SS 08 30 18.4 -10
HHC pmax pmax
comp=Z,21nm,1.1s
HHC pmax pmax
comp=Z,260nm,5.6s
HHC LR LR
comp=N,370nm,11.0s
HHC LR LR
comp=E,330nm,12.2s
HHC LR LR
comp=Z,350nm,11.1s
BTO Baotou 35.94 338 *e*P **P** 08 22 25.3 +3.2
BTO pP **sP** 08 22 43.5 -4.1
BTO sP pP 08 22 52.8 +14
BTO PP **PP** 08 23 50.6 +5.6
BTO S **S** 08 28 01.0 +5.5
BTO SS **SnSn** 08 30 23.3 -2.6
BTO pmax pmax
comp=Z,7.0nm,0.6s
BTO pmax pmax
comp=Z,310nm,5.0s
BTO LR LR
comp=N,360nm,4.3s
BTO LR LR
comp=E,280nm,4.3s
BTO LR LR
comp=Z,440nm,12.2s
OOD Oodnadatta 36.38 166 P **P** 08 22 26.0 +0.2
USA0B Ussuriysk Arra 36.63 6 P **P** 08 22 27.5 -0.3
USA0B IAmb IAmb 08 22 28.6
comp=Z,14nm,0.8s
USRK Ussuriysk Ar. 36.63 6 P **P** 08 22 28.1 +0.3
USRK Ussuriysk Ar. 36.63 6 P **P** 08 22 27.8 +0.1
comp=Z,12nm,0.7s,baz=188,slow=7.8,SNR=18
USRK LR LR 08 38 30.0
comp=Z,37nm,19.7s,baz=205,slow=38
comp=Z,12nm,0.7s
MDJ Mudanjiang 36.84 4 P **P** 08 22 29.3 -0.3
MDJ Mudanjiang 36.84 4 P **P** 08 22 30.1 +0.6
MDJ pP pP 08 22 46.8 +0.2
MDJ sP sP 08 22 56.3 +1.4
MDJ PP **PP** 08 23 55.4 +0.7
MDJ PcP **PcP** 08 24 45.5 -4.6
MDJ S **S** 08 28 10.3 +1.5
MDJ SS **SnSn** 08 30 42.8 -4.4
MDJ Mudanjiang 36.84 4 ScS ScS 08 32 39.5 +1.6
MDJ pmax pmax
comp=Z,24nm,1.2s
MDJ pmax pmax
comp=Z,200nm,5.7s
HNR Honiara 37.30 117 LR LR 08 36 24.8
comp=Z,433nm,18.7s,baz=328,slow=34
MORW Morawa 37.98 195 P **P** 08 22 39.9 +0.5
baz=38,SNR=6.8
QLP Quilpie 38.14 154 P **P** 08 22 40.3 -0.4
baz=38,SNR=7.4
FORT Forrest 38.31 178 P **P** 08 22 42.6 +0.5
baz=38,SNR=6.9
FORT Forrest 38.31 178 P **P** 08 22 42.4 +0.3
FORT Forrest 38.31 178 P **P** 08 22 42.7 +0.5
MULG Mulgathing 38.46 170 P **P** 08 22 43.9 +0.5
ASAJ Asahikawa 38.83 18 P **P** 08 22 47.8 +1.4
comp=Z,7.8nm,0.6s,baz=247,slow=12,SNR=6.0
comp=Z,7.8nm,0.6s
KMBL Kambalda 39.14 186 P **P** 08 22 49.7 +0.7
baz=39,SNR=17
KMBL Kambalda 39.14 186 P **P** 08 22 49.9 +0.8
BLDU Ballidu 39.30 194 P **P** 08 22 51.2 +0.8
baz=39,SNR=20
BLDU Ballidu 39.30 194 P **P** 08 22 51.1 +0.8
LCRK Leigh Creek 39.55 164 P **P** 08 22 52.8 +0.3
GTA Gaotai 39.68 327 *e*P **P** 08 22 54.5 +0.8
GTA pP pP 08 23 13.1 +2.0
GTA pmax pmax
comp=Z,4.0nm,1.3s
KLBR Kellerberrin 40.01 192 P **P** 08 22 57.1 +0.8
baz=40,SNR=17
H11S3 WAKE ISLAND Hy 40.35 71 T T 09 06 25.0
baz=266,slow=73,SNR=36
H11S1 WAKE ISLAND Hy 40.37 71 T T 09 06 16.5
baz=266,slow=73,SNR=19
H11S2 WAKE ISLAND Hy 40.37 71 T T 09 06 15.6
baz=266,slow=73,SNR=24
EIDS Eidsvold 40.60 145 P **P** 08 23 01.0 -0.2
baz=41,SNR=3.7
EIDS Eidsvold 40.60 145 P **P** 08 23 01.0 -0.2
EIDS IAmb IAmb 08 23 01.9
comp=Z,14nm,1.0s
MUN Mundaring 40.72 194 P **P** 08 23 03.3 +1.2
baz=41,SNR=6.3
MUN Mundaring 40.72 194 P **P** 08 23 03.4 +1.2
H11N1 WAKE ISLAND Hy 40.77 69 T T 09 06 49.0
baz=265,slow=75,SNR=33
H11N2 WAKE ISLAND Hy 40.77 69 T T 09 06 48.9
baz=265,slow=75,SNR=18
H11N3 WAKE ISLAND Hy 40.78 69 T T 09 06 49.9
baz=265,slow=75,SNR=33
BBOO Buckleboo 41.30 168 P **P** 08 23 07.3 +0.4
baz=41,SNR=107
BBOO Buckleboo 41.30 168 P **P** 08 23 07.5 +0.6
BBOO Buckleboo 41.30 168 P **P** 08 23 07.3 +0.4
NWAO Narrogin (SRO) 41.41 192 P **P** 08 23 09.1 +1.3
baz=42,SNR=8.8
NWAO P **P** 08 23 09.1 +1.3
baz=42,SNR=8.8
NWAO Narrogin (SRO) 41.41 192 P **P** 08 23 08.8 +1.0
KLR Kul'dur 41.59 5 P **P** 08 23 08.3 -0.8
comp=Z,3.4nm,0.6s,baz=198,slow=3.8,SNR=13
comp=Z,3.4nm,0.6s
STKA Stephens Creek 41.90 161 P **P** 08 23 12.1 +0.3
baz=42,SNR=25
STKA Stephens Creek 41.90 161 P **P** 08 23 12.1 +0.3
STKA Stephens Creek 41.90 161 P **P** 08 23 12.1 +0.3
comp=Z,19nm,0.6s,baz=336,slow=8.4,SNR=48
STKA LR LR 08 43 22.2
comp=Z,56nm,19.5s,baz=16,slow=40
comp=Z,19nm,0.6s
HTT Hallett 42.56 165 P **P** 08 23 17.8 +0.5
baz=43,SNR=4.6
HTT Hallett 42.56 165 P **P** 08 23 18.1 +0.8
CMSA Cobar Meteorol 43.09 156 P **P** 08 23 22.0 +0.6
baz=43,SNR=7.5
SONM Songino Array 43.52 340 P **P** 08 23 23.9 -1.0
comp=Z,0.4nm,0.4s,baz=153,slow=9.7,SNR=2.8
SONM LR LR 08 43 56.2
comp=Z,110nm,18.3s,baz=175,slow=39
ARMA Armidale 44.88 149 P **P** 08 23 36.7 +0.7
baz=45,SNR=6.2
ARMA Armidale 44.88 149 P **P** 08 23 37.0 +1.0
ARMA IAmb IAmb 08 23 37.7
comp=Z,20nm,1.1s
PALK Pallekele 45.53 273 LR LR 08 44 55.6
comp=Z,44nm,18.8s,baz=190,slow=39
ARPS Mount Arapiles 46.50 163 P **P** 08 23 49.4 +0.8
baz=47,SNR=7.7
CAN Canberra 47.73 155 P **P** 08 23 59.7 +1.5
CNB Canberra Magne 47.88 155 P **P** 08 24 00.8 +1.4
baz=48,SNR=5.6
TOO Toolangi 48.39 160 P **P** 08 24 04.4 +1.1
baz=48,SNR=5.3
TOO Toolangi 48.39 160 P **P** 08 24 04.3 +1.1
TOO IAmb IAmb 08 24 05.6
comp=Z,20nm,1.1s
DZM Mont Dzumac 48.98 128 P **P** 08 24 09.0 +0.8
DZM Mont Dzumac 48.98 128 *e*LR LR 08 38 04.2
comp=Z,182nm,23.9s
DZM Mont Dzumac 48.98 128 P **P** 08 24 09.2 +1.0
comp=Z,6.7nm,0.5s,baz=242,slow=12,SNR=11
DZM LR LR 08 44 41.4
comp=Z,34nm,18.3s,baz=22,slow=36
comp=Z,6.7nm,0.5s
WMQ Urumqi 49.45 323 *e*P **P** 08 24 10.8 -0.6
WMQ sP sP 08 24 38.3 +0.9
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ LR LR
comp=N,160nm,24.9s
WMQ LR LR
comp=E,260nm,18.1s
WMQ LR LR
comp=Z,180nm,21.1s
PETK Petropavlovsk- 51.80 23 P **P** 08 24 29.6 +0.8
PETK Petropavlovsk- 51.80 23 P **P** 08 24 29.3 +0.5
comp=Z,2.8nm,0.7s,baz=226,slow=5.4,SNR=5.6
comp=Z,2.8nm,0.7s
MK31 Makanchi Array 54.27 324 P **P** 08 24 47.0 -0.1
MKAR Makanchi Array 54.27 324 P **P** 08 24 46.9 -0.3
MKAR Makanchi Array 54.27 324 P **P** 08 24 46.5 -0.6
comp=Z,24nm,0.7s,baz=126,slow=6.5,SNR=118
MKAR ScP **ScP** 08 29 41.3 -1.4
comp=Z,0.8nm,0.8s,baz=112,slow=5.5,SNR=3.6
MKAR LR LR 08 49 49.8
comp=Z,62nm,18.7s,baz=131,slow=38
comp=Z,24nm,0.7s
MAKZ Makanchi 54.46 324 P **P** 08 24 47.7 -0.8
MA2 Magadan 54.88 15 LR LR 08 48 45.2
comp=Z,25nm,20.0s,baz=114,slow=36
KSH Kashi 55.21 313 P **P** 08 24 57.0 +2.8
NIL Nilore 55.48 306 P **P** 08 24 55.0 -1.1
ZAA0 Zalesovo Array 57.02 332 P **P** 08 25 05.2 -1.5
ZAA0 IAmb IAmb 08 25 08.0
comp=Z,6.1nm,0.9s
ZALV Zalesovo Beam 57.02 332 P **P** 08 25 05.2 -1.5
ZALV Zalesovo Beam 57.02 332 P **P** 08 25 05.0 -1.7
comp=Z,3.5nm,0.4s,baz=122,slow=6.4,SNR=19
ZALV LR LR 08 51 26.1
comp=Z,84nm,18.2s,baz=89,slow=38
comp=Z,3.5nm,0.4s
AAK Ala-Archa 57.39 316 LR LR 08 51 54.3
comp=Z,139nm,20.8s,baz=100,slow=38
SEY Seymchan 58.19 14 LR LR 08 52 08.4
comp=Z,16nm,18.1s,baz=314,slow=38
KURK Kurchatov 58.36 326 P **P** 08 25 14.9 -1.2
KURBB Kurchatov Arra 58.37 326 P **P** 08 25 15.7 -0.5
comp=Z,5.9nm,0.7s,baz=126,slow=6.1,SNR=46
KURBB LR LR 08 52 02.7
comp=Z,48nm,19.9s,baz=165,slow=38
comp=Z,5.9nm,0.7s
BTK Batken 59.14 312 P **P** 08 25 21.5 -0.4
BTK IAmb IAmb 08 25 35.8
comp=Z,8.5nm,1.1s
KK31 Karatay Array 60.30 316 P **P** 08 25 29.4 -0.3
KK31 IAmb IAmb 08 25 31.3
comp=Z,5.3nm,0.8s
KKAR Karatay Array 60.30 316 P **P** 08 25 29.4 -0.3
KKAR IAmb IAmb 08 25 31.3
comp=Z,5.3nm,0.8s
KKAR Karatay Array 60.30 316 P **P** 08 25 29.3 -0.4
TIXI Tiksi 63.87 1 P **P** 08 25 52.9 -0.1
TIXI IAmb IAmb 08 26 04.7
comp=Z,12nm,1.4s
BVAR Borovoye Array 63.96 326 P **P** 08 25 53.4 -0.6
comp=Z,3.4nm,0.5s,baz=114,slow=7.4,SNR=18
BVAR LR LR 08 55 47.1
comp=Z,93nm,20.1s,baz=126,slow=38
comp=Z,3.4nm,0.5s
BRVK Borovoye 64.03 326 P **P** 08 25 54.8 +0.3
BRVK IAmb IAmb 08 25 55.9
comp=Z,6.7nm,0.8s
RPZ Rata Peaks 65.08 146 P **P** 08 26 02.0 +0.6
RPZ Rata Peaks 65.08 146 P **P** 08 26 01.7 +0.3
comp=Z,16nm,0.8s,baz=181,slow=2.0,SNR=5.7
RPZ LR LR 08 56 48.7
comp=Z,38nm,18.4s,baz=282,slow=38
comp=Z,16nm,0.8s
WSAR Wadi Sarin 66.81 292 LR LR 08 55 25.9
comp=Z,18nm,22.0s,baz=58,slow=36
GEYT Alibeck 68.36 308 P **P** 08 26 22.1 -0.4
comp=Z,1.2nm,0.3s,baz=94,slow=10,SNR=4.1
comp=Z,1.2nm,0.3s
ABKAR Akbulak array 69.03 320 P **P** 08 26 26.1 -0.3
ABKAR IAmb IAmb 08 26 27.5
comp=Z,6.1nm,0.8s
AKTO Aktyubinsk 70.51 321 LR LR 08 59 37.8
comp=Z,158nm,21.1s,baz=313,slow=38
ARU Arti 71.54 327 P **P** 08 26 40.9 -0.6
ARU Arti 71.54 327 LR LR 08 58 51.8
comp=Z,51nm,20.9s,baz=96,slow=36
E18K Tukpahlearik C 76.31 22 P **P** 08 27 09.9 +0.6
E18K IAmb IAmb 08 27 11.0
comp=Z,6.0nm,0.7s
KIRV Kirov 76.79 328 LR LR 09 03 39.0
comp=Z,49nm,18.2s,baz=86,slow=38
C19K Lookout Ridge 77.05 21 IAmb IAmb 08 27 15.5
comp=Z,7.4nm,0.8s
BELG Belogornoye 77.22 322 LR LR 09 03 13.8
comp=Z,44nm,19.8s,baz=256,slow=37
D19K Kuna River 77.45 21 IAmb IAmb 08 27 17.1
comp=Z,5.5nm,0.7s
RAR Rarotonga 77.69 114 LR LR 08 58 44.8
comp=Z,48nm,18.4s,baz=190,slow=33
KDAK Kodiak Island 78.59 33 LR LR 08 56 01.0
comp=Z,66nm,21.1s,baz=244,slow=31
B21K Ikpikpuk River 78.88 20 IAmb IAmb 08 27 25.2
comp=Z,8.0nm,0.7s
GNI Garni 78.88 309 LR LR 09 08 12.4
comp=Z,44nm,19.1s,baz=77,slow=40
B22K Teshekpuk Lake 79.38 20 IAmb IAmb 08 27 31.8
comp=Z,9.4nm,0.8s
SUA Susitna One 79.73 29 IAmb IAmb 08 27 30.0
comp=Z,11nm,1.0s
KBZ Khabaz 80.19 313 LR LR 09 07 14.3
comp=Z,36nm,21.2s,baz=77,slow=39
C23K Itkillik River 80.29 20 P **P** 08 27 31.8 +0.7
C23K IAmb IAmb 08 27 32.6
comp=Z,4.9nm,0.6s
I23K Minto, Yukon-K 80.51 25 IAmb IAmb 08 27 36.1
comp=Z,5.5nm,0.7s
TOLK Toolik Lake Re 80.58 22 IAmb IAmb 08 27 34.2
comp=Z,8.4nm,1.1s
D24K Happy Valley 80.88 21 IAmb IAmb 08 27 38.5
comp=Z,5.2nm,0.8s
GURO Guroymak-BITLI 81.03 308 IAmb IAmb 08 27 49.6
comp=Z,15nm,1.5s
ILAR Eielson Array 81.56 26 P **P** 08 27 37.1 -0.9
comp=Z,1.3nm,0.6s,baz=251,slow=4.7,SNR=34
comp=Z,1.3nm,0.6s
KLMR Klimovskoe 81.90 330 *e*P **P** 08 27 38.7 -1.2
KLMR AMP 08 27 41.5
comp=Z,12nm,0.9s
RIDG Independent Ri 82.47 27 IAmb IAmb 08 27 44.2
comp=Z,7.7nm,0.8s
I26K Coal Creek Min 83.12 25 IAmb IAmb 08 27 48.7
comp=Z,5.5nm,0.8s
F28M Old Crow 84.24 23 IAmb IAmb 08 27 53.6
comp=Z,8.5nm,0.8s
E28M Babbage River 84.26 22 IAmb IAmb 08 27 53.7
comp=Z,6.5nm,1.1s
PPT Papeete 86.43 108 LR LR 09 04 44.6
comp=Z,65nm,18.2s,baz=276,slow=34
PPT2 Papeete2 86.43 108 *e*LR LR 08 55 25.7
comp=Z,91nm,22.0s
PPT2 *e*LR LR 08 55 35.1
comp=Z,110nm,23.0s
ARCES ARCESS Array B 86.69 340 P **P** 08 28 02.9 -1.1
comp=Z,1.7nm,0.8s,baz=75,slow=6.4,SNR=7.6
ARCES LR LR 09 10 06.9
comp=Z,31nm,20.0s,baz=56,slow=38
comp=Z,1.7nm,0.8s
MMAI Mount Meron Ar 86.88 303 P **P** 08 28 05.9 +0.1
comp=Z,0.7nm,0.3s,baz=36,slow=7.5,SNR=2.1
MMAI LR LR 09 11 14.5
comp=Z,26nm,21.8s,baz=61,slow=38
comp=Z,0.7nm,0.3s
VNDA Vanda 87.38 173 P **P** 08 28 07.4 +0.3
VNDA IAmb IAmb 08 28 08.9
comp=Z,5.7nm,1.0s
VNDA Vanda 87.38 173 P **P** 08 28 07.6 +0.5
comp=Z,2.4nm,0.4s,baz=321,slow=6.3,SNR=27
VNDA LR LR 09 07 07.1
comp=Z,31nm,18.7s,baz=324,slow=36
comp=Z,2.4nm,0.4s
M31M Drury Creek, Y 87.39 28 P **P** 08 28 08.2 +0.6
BRTR Keskin Array B 87.42 310 P **P** 08 28 08.2 -0.1
comp=Z,0.9nm,0.5s,baz=120,slow=5.0,SNR=5.0
comp=Z,0.9nm,0.5s
WHY Whitehorse 87.46 29 P **P** 08 28 08.4 +0.4
WHY IAmb IAmb 08 28 09.9
comp=Z,4.4nm,0.8s
TBI Tubuai 87.47 114 *e*LR LR 08 56 18.3
comp=Z,664nm,31.8s
EIL Elat 87.69 299 LR LR 09 13 07.5
comp=Z,28nm,18.1s,baz=61,slow=40
FARO Faro, Yukon 87.86 27 IAmb IAmb 08 28 11.8
comp=Z,5.7nm,0.8s
A36M Sachs Harbour 88.22 17 IAmb IAmb 08 28 14.1
comp=Z,5.7nm,1.1s
FINES FINESS Array B 88.29 332 P **P** 08 28 11.9 +0.1
comp=Z,4.0nm,0.7s,baz=83,slow=3.8,SNR=26
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 88.75 321 P **P** 08 28 14.2 0.0
comp=Z,0.5nm,0.4s,baz=67,slow=4.8,SNR=6.1
AKASG LR LR 09 09 28.2
comp=Z,44nm,18.9s,baz=34,slow=36
comp=Z,0.5nm,0.4s
C36M Paulatuk 89.50 20 IAmb IAmb 08 28 17.7
comp=Z,4.0nm,0.7s
KMBO Kilima Mbogo 89.54 269 LR LR 09 09 14.7
comp=Z,19nm,18.4s,baz=85,slow=36
MLR Muntele Rosu 91.97 316 LR LR 09 14 19.6
comp=Z,106nm,19.9s,baz=80,slow=38
TAOE Nuku Hiva Isla 94.32 98 *e*LR LR 08 59 19.5
comp=Z,127nm,30.3s
HFS Hagfors 94.46 332 P **P** 08 28 39.9 -0.5
comp=Z,0.9nm,0.5s,baz=79,slow=7.7,SNR=8.1
HFS LR LR 09 14 55.6
comp=Z,72nm,18.2s,baz=68,slow=38
comp=Z,0.9nm,0.5s
IDI Anoyia 95.06 306 LR LR 09 15 25.0
comp=Z,13nm,21.9s,baz=258,slow=38
NOA NORSAR Array B 95.19 334 P **P** 08 28 42.5 -1.3
comp=Z,0.8nm,0.8s,baz=83,slow=5.0,SNR=1.3
NOA LR LR 09 15 57.3
comp=Z,38nm,19.5s,baz=60,slow=38
comp=Z,0.8nm,0.8s
YKA Yellowknife Ar 95.91 24 P **P** 08 28 47.0 -0.1
comp=Z,1.4nm,0.7s,baz=299,slow=4.9,SNR=24
comp=Z,1.4nm,0.7s
JMIC Jan Mayen 95.97 347 LR LR 09 17 05.7
comp=Z,30nm,20.5s,baz=276,slow=38
VRAC Vranov 96.97 322 LR LR 09 14 59.3
comp=Z,43nm,18.1s,baz=18,slow=37
QSPA South Pole Qui 97.61 180 P Pdif 08 28 54.6 -0.1
comp=Z,1.9nm,0.9s,baz=338,slow=2.1,SNR=5.7
comp=Z,1.9nm,0.9s
GERES GERESS Array B 98.91 322 P Pdif 08 29 00.9 -0.1
comp=Z,0.6nm,0.6s,baz=32,slow=7.8,SNR=4.5
GERES LR LR 09 18 12.9
comp=Z,32nm,19.6s,baz=315,slow=38
comp=Z,0.6nm,0.6s
TXAR Lajitas Array 119.18 50 PKP **PKiKP** 08 34 10.6 +0.5

comp=Z,0.5nm,0.6s,baz=358,slow=3.1,SNR=13
TORD Torodi Ar. Bea 121.52 290 PKP **PKPdf 08 34 14.1 -0.6**
comp=Z,0.6nm,0.6s,baz=55,slow=3.5,SNR=3.7
PLCA Paso Flores 143.74 158 PKP **PKPdf 08 34 54.6 -1.1**
comp=Z,1.9nm,0.8s,baz=274,slow=2.7,SNR=5.9

WEL ***17*** *08:23:08.9±0.7, 31°S±7°×17°9W±1°7, h376km±11km, M4.1/10, mB4.4/10, MLv5.0/2, Mw(mB)3.5/10, Error ellipse: s-maj=0.0km s-min=0.0km az=111.0, confirmed*
IDC ***17*** *08:23:13.3±5.0, 31°.71S×179°.76E, h508km±58km, mb3.0/3, mbtmp4.2/4, Error ellipse: s-maj=72.2km s-min=32.7km az=18.0*
ISC 17 08:23:05.0±0.9, 31°.00S±0°.08×180°.0E±0°.1, h400km, n32, σ2s12/55, mb3.5/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.52**	**47**	P	**P**	**Pn**	**08 24 03.7**	**-0.8**
GLKZ				S	**S**		08 24 52.5	-0.1
OUZ	**Omahuta**	**6.81**	**230**	P	P		08 24 51.1	+4.1
WCZ	**Waipu Caves**	**6.81**	**222**	P	P		08 24 51.3	+4.3
URZ	**Urewera**	**7.62**	**197**	P	**P**		**08 24 59.1**	**+3.2**
	46nm,0.4s,baz=68,slow=1.8,SNR=74							
URZ				S	**S**		**08 26 24.0**	**-1.9**
	62nm,0.8s,baz=163,slow=22,SNR=16							
PRRZ	**Plateau Road**	**8.04**	**200**	P	**P**		**08 25 03.4**	**+2.6**
PRRZ				S	**S**		**08 26 38.1**	**+3.2**
SNGZ	**Shannon Static**	**8.06**	**195**	P	**P**		**08 25 04.7**	**+3.8**
SNGZ				S	**S**		**08 26 35.0**	**-0.3**
MTHZ	**Maungataniwha**	**8.25**	**197**	P	**P**		**08 25 04.9**	**+1.9**
MTHZ				S	**S**		**08 26 40.2**	**+1.0**
RAHZ	**Arahi**	**8.25**	**196**	P	**P**		**08 25 05.0**	**+2.0**
RAHZ				S	**S**		**08 26 38.4**	**-0.8**
WHHZ	**Waihua**	**8.37**	**195**	P	**P**		**08 25 07.9**	**+3.6**
WHHZ				S	**S**		**08 26 39.6**	**-2.1**
NMHZ	**Naumai**	**8.49**	**197**	P	**P**		**08 25 07.9**	**+2.1**
NMHZ				S	**S**		**08 26 43.7**	**-0.6**
ARHZ	**Aropaoanui**	**8.60**	**196**	P	**P**		**08 25 08.9**	**+2.0**
ARHZ				S	**S**		**08 26 45.0**	**-1.6**
BKZ	**Black Stump Fm**	**8.63**	**198**	P	**P**		**08 25 07.8**	**+0.5**
ETVZ	**East Tongariro**	**8.84**	**202**	P	**P**		**08 25 11.0**	**+1.3**
ETVZ				S	**S**		**08 26 51.3**	**-0.6**
MCHZ	**McNeill Hill**	**8.84**	**197**	P	**P**		**08 25 11.3**	**+1.7**
MCHZ				S	**S**		**08 26 51.8**	**+0.1**
KWHZ	**Kaweka Forest**	**8.89**	**198**	P	**P**		**08 25 10.8**	**+0.6**
KWHZ				S	**S**		**08 26 51.7**	**-1.3**
WNVZ	**Wahianoa**	**9.05**	**202**	P	**P**		**08 25 12.8**	**+0.8**
WNVZ				S	**S**		**08 26 55.9**	**-0.5**
BHHZ	**Black Hill Sta**	**9.05**	**200**	P	**Pn**		**08 25 10.9**	**-1.1**
BHHZ				S	**S**		**08 26 53.1**	**-3.2**
MOVZ	**Moawhango**	**9.07**	**201**	P	**P**		**08 25 13.6**	**+1.4**
MOVZ				S	**S**		**08 26 52.8**	**-4.0**
KRHZ	**Kereru**	**9.11**	**198**	P	**Pn**		**08 25 13.1**	**+0.5**
KRHZ				S	**S**		**08 26 54.5**	**-3.0**
KAHZ	**Kahuranaki**	**9.13**	**195**	P	**Pn**		**08 25 14.0**	**+1.1**
KAHZ				S	**S**		**08 27 00.2**	**+2.2**
PXZ	**Pawanui**	**9.36**	**195**	P	**Pn**		**08 25 16.9**	**+1.4**
PXZ				S	**S**		**08 27 00.5**	**-2.1**
PNHZ	**Pukenui**	**9.41**	**198**	P	**Pn**		**08 25 16.8**	**+0.6**
PNHZ				S	**S**		**08 26 58.7**	**-5.0**
WPHZ	**Waipukurau**	**9.49**	**197**	P	**Pn**		**08 25 17.5**	**+0.5**
WPHZ				S	**S**		**08 27 03.4**	**-2.0**
TSZ	**Takapari Road**	**9.61**	**199**	P	**S**		**08 27 05.4**	**-2.5**
PRHZ	**Porangahau**	**9.64**	**195**	P	**P**		**08 25 17.6**	**-0.9**
PRHZ				S	**S**		**08 27 06.8**	**-1.5**
DVHZ	**Dannevirke**	**9.78**	**197**	P	**Pn**		**08 25 21.1**	**+0.7**
DVHZ				S	**S**		**08 27 05.8**	**-5.5**
ANWZ	**Angora Road**	**9.86**	**196**	P	**Pn**		**08 25 22.7**	**+1.5**
ANWZ				S	**S**		**08 27 10.8**	**-2.0**
BFZ	**Birch Farm**	**10.12**	**196**	P	**Pn**		**08 25 24.7**	**+0.3**
BFZ				S	**S**		**08 27 15.3**	**-3.0**
CTA	**Charters Tower**	**32.19**	**282**	P	**P**		**08 28 59.2**	**+1.3**
	5.3nm,1.0s,baz=102,slow=10,SNR=6.5							
	5.3nm,1.0s							
ASAR	**Alice Springs**	**41.34**	**269**	P	**P**		**08 30 13.2**	**-0.8**
	0.4nm,0.5s,baz=104,slow=7.1,SNR=7.9							
ASAR				PcP	**PP**		**08 32 00.1**	**+0.4**
	0.3nm,0.7s,baz=114,slow=4.1,SNR=2.4							
	0.4nm,0.5s							
WRA	**Warramunga Arr**	**42.38**	**274**	P	**P**		**08 30 21.4**	**-1.0**
	0.8nm,0.3s,baz=111,slow=8.1,SNR=30							
	0.8nm,0.3s							
FINES	**FINESS Array B**	**145.08**	**338**	PKPbc		**PKPdf**	**08 41 53.4**	**-1.3**
	1.3nm,0.6s,baz=48,slow=4.6,SNR=14							

NEIC ***17*** *08:34:30.6±1.8, 17°.9S±0°.1×178°.3W±0°.1, h418km±10km, mb4.1/17, Error ellipse: s-maj=19.8km s-min=17.2km az=160.0*
IDC ***17*** *08:34:39.4±7.9, 17°.91S×178°.48W, h525km±93km, mb3.0/8, mbtmp3.9/8, Error ellipse: s-maj=31.9km s-min=26.3km az=21.0*
ISC 17 08:34:28.6±0.6, 17°.8S±0°.1×178°.41W±0°.09, h400km, n30, σ0s88/30, mb3.9/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.46**	**60**	P	**P**	**Pn**	**08 36 18.5**	**+0.8**
NIUE	**Niue**	**8.15**	**100**	P	**Pn**	**Pn**	**08 36 25.7**	**+0.4**
ONTNC	**Ouen Toro**	**14.91**	**250**	P	**P**		**08 37 39.5**	**-0.7**
URZ	**Urewera**	**20.76**	**190**	P	**P**		**08 38 41.1**	**+1.2**
	3.2nm,0.5s,baz=18,slow=6.4,SNR=2.5							
	3.2nm,0.5s							
MRZ	**Mangatainoka R**	**23.36**	**192**	P	**P**		**08 39 04.1**	**+0.6**
ARMA	**Armidale**	**30.00**	**240**	P	**P**		**08 40 03.1**	**+0.6**
ARMA					IAmb	IAmb	08 40 25.7	
	comp=Z,11nm,1.2s							
CAN	**Canberra**	**33.77**	**232**	P	**P**		**08 40 35.4**	**+0.5**
CAN					IAmb	IAmb	08 40 48.2	
	comp=Z,21nm,1.5s							
PMG	**Port Moresby**	**34.44**	**279**	P	**P**		**08 40 40.3**	**-0.5**
PMG					IAmb	IAmb	08 40 50.3	
	comp=Z,5.7nm,0.8s							
TOO	**Toolangi**	**37.24**	**231**	P	**P**		**08 41 03.2**	**-0.8**
TOO					IAmb	IAmb	08 41 45.4	
	comp=Z,19nm,1.4s							
BBOO	**Buckleboo**	**43.46**	**241**	P	**P**		**08 41 55.0**	**+0.7**
WR0	**Warramunga Arr**	**44.46**	**259**	P	**P**		**08 42 02.9**	**+0.5**
WR0					IAmb	IAmb	08 42 22.7	
	comp=Z,13nm,1.4s							
WB0	**Warramunga Arr**	**44.62**	**260**	P	**P**		**08 42 04.1**	**+0.5**
WB0					IAmb	IAmb	08 42 35.0	
	comp=Z,7.9nm,1.4s							
WRA	**Warramunga Arr**	**44.65**	**259**	P	**P**		**08 42 05.1**	**+1.1**
WRA	**Warramunga Arr**	**44.65**	**259**	P	**P**		**08 42 04.7**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=90,slow=6.8,SNR=8.8							
	comp=Z,0.3nm,0.6s							
AS31	**Alice Springs**	**44.82**	**254**	P	**P**		**08 42 06.6**	**+1.4**
ASAR	**Alice Springs**	**44.82**	**254**	P	**P**		**08 42 06.2**	**+0.9**
ASAR	**Alice Springs**	**44.82**	**254**	P	**P**		**08 42 06.4**	**+1.2**
	comp=Z,2.8nm,0.5s,baz=88,slow=8.3,SNR=55							
	comp=Z,2.8nm,0.5s							
VNDA	**Vanda**	**60.55**	**185**	P	**P**		**08 43 58.5**	**+0.6**
QSPA	**South Pole Qui**	**72.25**	**180**	P	**P**		**08 45 11.6**	**+0.1**
QSPA	**South Pole Qui**	**72.25**	**180**	P	**P**		**08 45 10.9**	**-0.6**
	comp=Z,1.5nm,1.0s,baz=8.5,slow=4.1,SNR=5.6							
	comp=Z,1.5nm,1.0s							
NVAR	**Mina Array Bea**	**79.35**	**44**	P	**P**		**08 45 52.4**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=223,slow=7.5,SNR=4.0							
	comp=Z,0.6nm,0.6s							
O18K	**Koktuh Hills**	**79.65**	**12**	P	**P**		**08 45 52.3**	**-0.2**
K05A	**Summer Lake**	**80.12**	**39**	P	**P**		**08 45 56.7**	**+1.1**
K05A					IAmb	IAmb	08 46 03.6	
	comp=Z,3.6nm,1.1s							
BELA	**Belgrano 2**	**82.27**	**173**	P	**P**		**08 46 04.9**	**-1.2**
BELA					IAmb	IAmb	08 46 46.1	
	comp=Z,6.7nm,1.2s							
PMSA	**Palmer Station**	**83.91**	**157**	P	**P**		**08 46 13.4**	**-1.1**
MAW	**Mawson**	**83.96**	**200**	P	**P**		**08 46 14.5**	**-0.2**
MAW					IAmb	IAmb	08 46 58.1	
	comp=Z,6.1nm,1.4s							
ILAR	**Eielson Array**	**85.78**	**13**	P	**P**		**08 46 21.9**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=227,slow=5.0,SNR=9.3							
	comp=Z,0.2nm,0.4s							
TXAR	**Lajitas Array**	**85.94**	**58**	P	**P**		**08 46 25.8**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=217,slow=6.2,SNR=8.2							
	comp=Z,0.5nm,0.7s							
PDAR	**Pinedale Array**	**87.27**	**43**	P	**P**		**08 46 30.8**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=214,slow=4.3,SNR=4.9							
	comp=Z,0.4nm,0.6s							
GERES	**GERESS Array B**	**147.51**	**345**	PKPbc		**PKPdf**	**08 53 22.7**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=67,slow=2.6,SNR=2.8							

CNRM ***17*** *08:46:39.7, 36°.42N×3°.02W, h28km, ml2.9*
SFS ***17*** *08:46:39.3, 36°.50N×3°.09W, h5km, ML3.4/18, ML3.5/17, MLv3.4/18*
INMG ***17*** *08:46:40.3±1.6, 36°.44N×3°.16W, h10km, ML2.9, Error ellipse: s-maj=3.4km s-min=2.1km az=71.0*
MDD ***17*** *08:46:40.2±0.3, 36°.48N×3°.14W, h12km, mb_Lg3.5/30, Error ellipse: s-maj=2.3km s-min=1.9km az=132.0*
IGIL ***17*** *08:46:40.5, 36°.48N×3°.17W, h5km, ML2.2*
LDG ***17*** *08:46:41.1±0.3, 36°.50N×3°.16W, hMl3.7/3, Error ellipse: s-maj=6.3km s-min=5.0km az=89.0*
ISC 17 08:46:38.8±0.9, 36°.46N±0°.02×3°.12W±0°.02, h17km±7km, n94, σ1s80/192, 2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EBER	**Berja**	**0.47**	**23**	Pg	**Pg**		**08 46 47.6**	**-0.9**
EBER				Sg	**Sg**		**08 46 53.6**	**-1.4**
EBER				*i* Vmb_Lg			08 46 58.6	
EBER	**Berja**	**0.47**	**23**	Pg	**Pg**		**08 46 47.6**	**-0.9**
EALB	**Alboran**	**0.53**	**172**	ǁPg	**Pg**		**08 46 49.8**	**+0.5**
EALB				Sg	**Sg**		**08 46 57.4**	**+1.0**
EALB				*i* Vmb_Lg			08 46 58.0	
ELGU	**Los Guajares,**	**0.57**	**315**	ǁPg	**Pg**		**08 46 50.1**	**-0.1**
ELGU				Sg	**Sg**		**08 46 57.5**	**-0.5**
ELGU	**Los Guajares,**	**0.57**	**315**	Sg	**Sg**		**08 46 57.7**	**-0.2**
ELGU				Pg	**Pg**		**08 46 49.9**	**-0.3**
EQUE	**Quentar**	**0.79**	**341**	Pg	**Pb**		**08 46 53.8**	**-0.2**
EQUE				Sg	**Sb**		**08 47 03.8**	**-0.7**
EQUE				*i* Vmb_Lg			08 47 05.4	
EQTA	**Presa de Quent**	**0.79**	**341**	Sg	**Sb**		**08 47 03.9**	**-0.7**
EQTA				Pg	**Pb**		**08 46 53.7**	**-0.4**
ENIJ	**Nijar**	**0.90**	**55**	Pg	**Pb**		**08 46 54.7**	**-1.2**
ENIJ				Sg	**Sb**		**08 47 05.5**	**-2.0**
ENIJ				*i* Vmb_Lg			08 47 08.3	
ENIJ	**Nijar**	**0.90**	**55**	Sg	**Sb**		**08 47 06.1**	**-1.4**
ENIJ				Pg	**Pb**		**08 46 54.7**	**-1.2**
EGOR	**Sierra Gorda,**	**1.02**	**310**	Pg	**Pb**		**08 46 57.1**	**-1.0**
EGOR				Sg	**Sb**		**08 47 11.3**	**-0.1**
EGOR				*i* Vmb_Lg			08 47 15.6	
EGOR	**Sierra Gorda,**	**1.02**	**310**	Pg	**Pb**		**08 46 58.2**	**0.0**
EMAL	**Malaga-Limoner**	**1.09**	**286**	Pg	**Pb**		**08 46 57.5**	**-1.7**
EMEL	**Melilla**	**1.17**	**173**	Pg	**Pb**		**08 47 01.5**	**+1.0**
EMEL				Sg	**Sg**		**08 47 17.3**	**+0.7**
EMEL				*i* Vmb_Lg			08 47 18.9	
GOG	**Mont Gurugu**	**1.24**	**175**	P	**Pn**		**08 47 00.5**	**-0.9**
GOG				S	**Sb**		**08 47 15.8**	**-1.8**
EMIJ	**Mijas**	**1.33**	**275**	Pn	**Pn**		**08 47 00.8**	**-1.9**
EMIJ				Sn	**Sn**		**08 47 16.8**	**-3.2**
EMIJ				*i* Vmb_Lg			08 47 22.6	
EMIJ	**Mijas**	**1.33**	**275**	Pn	**Pn**		**08 47 00.8**	**-1.9**
EQES	**Quesada**	**1.34**	**2**	Pg	**Pb**		**08 47 04.4**	**+0.9**
EQES				Sg	**Sg**		**08 47 22.2**	**0.0**
EQES				*i* Vmb_Lg			08 47 31.2	
CHAS	**Isla Isabel II**	**1.39**	**156**	Pn	**Pn**		**08 47 04.5**	**+1.1**
PALE	**Palemas**	**1.41**	**208**	P	**Pn**		**08 47 04.3**	**+0.6**
PALE				S	**Sn**		**08 47 21.0**	**-0.8**
PVLZ	**Peæn de**	**1.60**	**217**	Sn	**Sb**		**08 47 29.3**	**+1.5**
PVLZ				Pn	**Pb**		**08 47 07.7**	**-0.2**
TLOR	**Lorca, Murcia**	**1.66**	**43**	Pn	**Pn**		**08 47 07.0**	**0.0**
TAF	**Taforalt**	**1.74**	**160**	P	**Pn**		**08 47 08.0**	**-0.4**
TAF				S	**Sn**		**08 47 28.6**	**-1.5**
CEU	**Ceuta**	**1.91**	**254**	Pn	**Pn**		**08 47 11.8**	**+1.4**
SMIR	**Smir Dam**	**1.99**	**248**	P	**Pn**		**08 47 12.5**	**+0.9**
SMIR				S	**Sb**		**08 47 39.3**	**+0.3**
CART	**Cartagena**	**2.04**	**56**	P	**Pn**		**08 47 11.0**	**-1.3**
CART				S	**Sn**		**08 47 36.3**	**-0.9**
CART	**Cartagena**	**2.04**	**56**	Pn	**Pn**		**08 47 10.2**	**-2.0**
AKLM	**AKL**	**2.04**	**197**	P	**Pn**		**08 47 10.4**	**-2.0**
AKLM				S	**Sn**		**08 47 36.6**	**-0.9**
EMUR	**La Murta**	**2.04**	**47**	Pn	**Pn**		**08 47 11.9**	**-0.5**
EMUR				Sn	**Sn**		**08 47 39.2**	**+1.7**
EMUR				*i* Vmb_Lg			08 47 41.1	
EMUR	**La Murta**	**2.04**	**47**	Pn	**Pn**		**08 47 12.1**	**-0.3**
EADA	**Adamuz**	**2.06**	**326**	Pn	**Pn**		**08 47 13.9**	**+1.3**
EADA				Pg	**Pb**		**08 47 16.1**	**+0.4**
EADA				Sg	**Sb**		**08 47 43.0**	**+1.9**
EADA				*i* Vmb_Lg			08 47 46.9	
EADA	**Adamuz**	**2.06**	**326**	Pn	**Pn**		**08 47 14.5**	**+1.8**
JBK	**JBK**	**2.17**	**168**	P	**Pn**		**08 47 14.1**	**-0.2**
JBK				S	**Sn**		**08 47 39.8**	**-1.1**
ESPR	**Espera**	**2.23**	**281**	Pn	**Pb**		**08 47 17.7**	**-1.0**
ESPR				Sn	**Sb**		**08 47 45.0**	**-1.0**
ESPR				*i* Vmb_Lg			08 47 57.3	
ESPR	**Espera**	**2.23**	**281**	Pn	**Pn**		**08 47 16.5**	**+1.5**
CHEFC	**Chefchaouen**	**2.25**	**234**	P	**Pn**		**08 47 15.9**	**+0.5**
CHEFC				S	**Sn**		**08 47 42.8**	**0.0**
PSIM	**Granatula de C**	**2.41**	**348**	Pn	**Pn**		**08 47 18.0**	**+0.6**
PSIM				Pg	**Pb**		**08 47 22.2**	**+0.5**
PSIM				Sn	**Sn**		**08 47 45.5**	**-1.1**
PSIM				Sg	**Sb**		**08 47 52.9**	**+1.8**
ECAB	**El Cabril**	**2.44**	**312**	Pn	**Pn**		**08 47 19.0**	**+1.2**
ECAB				Pg	**Pb**		**08 47 22.6**	**+0.4**
ECAB				Sn	**Sn**		**08 47 46.9**	**-0.4**
ECAB				Sg	**Sb**		**08 47 52.5**	**+0.5**
ECAB				*i* Vmb_Lg			08 48 00.7	
ECAB	**El Cabril**	**2.44**	**312**	Pn	**Pn**		**08 47 19.0**	**+1.2**
ETOB	**Tobarra**	**2.51**	**29**	Pn	**Pn**		**08 47 20.2**	**+1.3**
ETOB				Pg	**Pb**		**08 47 24.1**	**+0.6**
ETOB				Sn	**Sn**		**08 47 50.6**	**+1.3**
ETOB				Sg	**Sb**		**08 47 56.6**	**+2.4**
ETOB				*i* Vmb_Lg			08 48 04.7	
ETOB	**Tobarra**	**2.51**	**29**	Pn	**Pn**		**08 47 20.3**	**+1.4**
LCRM	**LCR**	**3.11**	**208**	P	**Pn**		**08 47 28.5**	**+1.2**
LCRM				S	**Sn**		**08 48 08.1**	**+3.9**
EMIN	**Mina Concepcio**	**3.12**	**296**	Pn	**Pn**		**08 47 27.7**	**+0.5**
EMIN				Sn	**Sn**		**08 48 04.4**	**+0.3**
EMIN	**Mina Concepcio**	**3.12**	**296**	Pn	**Pn**		**08 47 28.0**	**+0.7**
EVIV	**Cofrentes, Val**	**3.22**	**29**	Pn	**Pn**		**08 47 29.1**	**+0.4**
EVIV				Pg	**Pb**		**08 47 36.4**	**+0.9**
EVIV				Sn	**Sn**		**08 48 07.6**	**+1.1**
EVIV				*i* Vmb_Lg			08 48 35.8	
PAB	**San Pablo**	**3.23**	**343**	Pn	**Pn**		**08 47 30.6**	**+1.8**
PAB				Pg	**Pb**		**08 47 36.2**	**+0.5**
PAB				Sn	**Sn**		**08 48 07.3**	**+0.4**
PAB				Sg	**Sb**		**08 48 18.1**	**+3.3**
PAB				*i* Vmb_Lg			08 48 33.9	
ESDC	**Sonseca Array**	**3.28**	**349**	Pn	**Pn**		**08 47 31.3**	**+1.9**
ESDC				Pg	**Pb**		**08 47 38.0**	**+1.5**
ESDC				Sn	**Sn**		**08 48 09.0**	**+1.0**
ESDC				Sg	**Sb**		**08 48 19.7**	**+3.6**
ESDC				*i* Vmb_Lg			08 48 33.2	
PBAR	**Barrancos**	**3.56**	**300**	*e*Pn	**Pn**		**08 47 34.7**	**+1.5**
PBAR				*e*Sn	**Sn**		**08 48 15.0**	**+0.1**
PBAR				*e*Sg	**Sg**		**08 48 33.4**	**+0.3**
PBAR				A	A		08 48 36.1	
	12nm,0.4s							
PBAR	**Barrancos**	**3.56**	**300**	Pn	**Pn**		**08 47 33.6**	**+0.3**
EGRO	**El Granado**	**3.65**	**288**	Pn	**Pn**		**08 47 35.1**	**+0.6**
EGRO				Pg	**Pb**		**08 47 43.6**	**+0.8**
EGRO				Sn	**Sn**		**08 48 15.4**	**-1.8**
EGRO	**El Granado**	**3.65**	**288**	Pn	**Pn**		**08 47 35.5**	**+1.1**
PVAQ	**Vaqueiros**	**3.80**	**286**	*e*Pn	**Pn**		**08 47 37.4**	**+0.9**
PVAQ				*e*Sn	**Sn**		**08 48 19.8**	**-1.0**
PVAQ	**Vaqueiros**	**3.80**	**286**	P	**Pn**		**08 47 37.1**	**+0.6**
MD31	**MD31**	**3.83**	**201**	P	**Pn**		**08 47 37.5**	**+0.5**
MD31				S	**Sn**		**08 48 22.0**	**+0.3**
MDT	**Midelt**	**3.84**	**199**	P	**Pn**		**08 47 37.3**	**+0.1**
MDT				S	**Sn**		**08 48 22.4**	**+0.5**
EBAD	**Badajoz**	**3.84**	**308**	Pn	**Pn**		**08 47 37.6**	**+0.4**
EBAD				Sn	**Sn**		**08 48 20.5**	**-1.5**
EBAD				*i* Vmb_Lg			08 48 52.0	
EBAD	**Badajoz**	**3.84**	**308**	Pn	**Pn**		**08 47 37.7**	**-0.1**
PBDV	**Barranco-do-Ve**	**3.93**	**283**	*e*Pn	**Pn**		**08 47 39.7**	**+1.3**
PBDV				*e*Sn	**Sn**		**08 48 23.7**	**-0.5**
PBDV				A	A		08 48 27.2	
	11nm,0.4s							
PBEJ	**Beja**	**4.09**	**294**	*e*Pn	**Pn**		**08 47 42.0**	**+1.4**
PBEJ				*e*Sn	**Sn**		**08 48 26.9**	**-1.2**
PBEJ				A	A		08 48 56.0	
	6.8nm,0.7s							
PCVE	**Castro Verde**	**4.10**	**288**	*e*Pn	**Pn**		**08 47 42.0**	**+1.3**
PCVE				*e*Sn	**Sn**		**08 48 27.6**	**-0.7**
PCVE				A	A		08 48 30.2	
	9.2nm,0.5s							
PCVE	**Castro Verde**	**4.10**	**288**	Pn	**Pn**		**08 47 41.5**	**+0.8**
ZHG	**ZHG**	**4.17**	**225**	P	**Pn**		**08 47 43.5**	**+1.7**
GUD	**Guadarrama**	**4.25**	**349**	Pn	**Pn**		**08 47 44.2**	**+1.3**
GUD				Pg	**Pg**		**08 47 58.9**	**-1.4**
GUD				Sg	**Sb**		**08 48 50.1**	**+5.8**
GUD				*i* Vmb_Lg			08 49 03.9	
PESTR	**Estremoz**	**4.28**	**305**	*e*Pn	**Pn**		**08 47 44.2**	**+1.0**
PESTR				*e*Sn	**Sn**		**08 48 31.8**	**-0.9**
PESTR				*e*Sg	**Sg**		**08 48 57.0**	**+0.7**
PESTR				A	A		08 49 08.1	
	16nm,0.5s							
PESTR	**Estremoz**	**4.28**	**305**	P	**Pn**		**08 47 44.1**	**+1.0**
EPLA	**Plasencia**	**4.28**	**328**	Pn	**Pn**		**08 47 44.1**	**+0.8**
EPLA				Pg	**Pb**		**08 47 54.5**	**+0.8**
EPLA				Sn	**Sn**		**08 48 27.3**	**-5.6**
EPLA				Sg	**Sb**		**08 48 47.4**	**+2.3**
EPLA				*i* Vmb_Lg			08 49 04.0	
MESJ	**Messejana**	**4.30**	**290**	*e*Pn	**Pn**		**08 47 44.5**	**+1.1**
MESJ				*e*Sn	**Sn**		**08 48 32.9**	**-0.2**
MESJ				A	A		08 48 35.2	
	12nm,1.0s							
MESJ	**Messejana**	**4.30**	**290**	*e*P	**Pn**		**08 47 44.2**	**+0.8**
MESJ				*e*S	**Sn**		**08 48 30.6**	**-2.6**
MESJ				IAML			08 48 33.6	
	comp=E,4.3nm,0.4s							
EVO	**Evora**	**4.40**	**299**	*e*Pn	**Pn**		**08 47 46.1**	**+1.3**
EVO				*e*Sn	**Sn**		**08 48 35.4**	**-0.3**
EVO				*e*Sg	**Sg**		**08 48 58.6**	**-1.6**
EVO				A	A		08 49 04.1	
	comp=E,16nm,0.6s							
ETOR	**Torete**	**4.43**	**11**	Pn	**Pn**		**08 47 46.2**	**+0.9**
ETOR				Pg	**Pb**		**08 47 58.9**	**+2.7**
ETOR				Sg	**Sb**		**08 48 55.7**	**+6.4**
ETOR				*i* Vmb_Lg			08 49 07.7	
PMRV	**Marv??o**	**4.49**	**313**	*e*Pn	**Pn**		**08 47 47.5**	**+1.5**
PMRV				*e*Sn	**Sn**		**08 48 38.0**	**+0.1**
PMRV				*e*Sg	**Sg**		**08 48 59.9**	**-3.0**
PMRV				A	A		08 49 04.1	
	comp=E,18nm,0.6s							
MORF	**Marmelete**	**4.51**	**282**	*e*Sn	**Sn**		**08 48 39.6**	**+1.1**
MORF				A	A		08 48 51.2	
	comp=E,6.4nm,0.3s							
PTEO	**Sao Teotonio**	**4.61**	**285**	*e*Pn	**Pn**		**08 47 49.4**	**+1.7**
PTEO				*e*Sn	**Sn**		**08 48 40.8**	**0.0**
PTEO				A	A		08 48 44.9	
	comp=E,14nm,0.5s							
PNCL	**Nicolau / Gran**	**4.62**	**293**	*e*Pn	**Pn**		**08 47 49.0**	**+1.3**
PNCL				*e*Sn	**Sn**		**08 48 40.4**	**-0.5**
PNCL				A	A		08 48 50.5	
	comp=E,4.7nm,0.9s							
PNCL	**Nicolau / Gran**	**4.62**	**293**	Pn	**Pn**		**08 47 48.4**	**+0.7**
PFVI	**Vila Bisbo**	**4.63**	**280**	*e*Pn	**Pn**		**08 47 49.6**	**+1.7**
PFVI				*e*Sn	**Sn**		**08 48 39.8**	**-1.4**
PFVI	**Vila Bisbo**	**4.63**	**280**	P	**Pn**		**08 47 48.7**	**+0.8**
PMTG	**Montargil**	**4.81**	**304**	*e*Pn	**Pn**		**08 47 52.1**	**+1.7**
PMTG				*e*Sn	**Sn**		**08 48 44.6**	**-1.1**
PMTG				A	A		08 48 45.3	
	comp=E,8.1nm,0.8s							
PMTG				*e*Sg	**Sg**		**08 49 13.1**	**0.0**
PCBR	**Castelo Branco**	**4.81**	**316**	*e*Pn	**Pn**		**08 47 52.2**	**+1.8**
PCBR				*e*Sn	**Sn**		**08 48 43.5**	**-2.3**
MTE	**Manteigas**	**5.25**	**320**	*e*Pn	**Pn**		**08 47 59.5**	**+3.0**
MTE				*e*Sg	**Sg**		**08 49 26.1**	**-1.0**
MTE				A	A		08 49 31.3	
	comp=E,22nm,0.4s							
PSBE	**So Bento**	**5.42**	**306**	*e*Pn	**Pn**		**08 48 00.5**	**+1.7**
PSBE				*e*Sn	**Sn**		**08 48 59.6**	**-1.2**
PSBE				*e*Sg	**Sg**		**08 49 34.9**	**+2.2**
PSBE				A	A		08 49 46.2	
	comp=E,17nm,0.

IGQ 17 09:05:17±1.1, 1°N±4″×8°0W±″, h12km
NEIC 17 09:05:26.2±2.6, 0°.29N±0°.07×79°.77W±0°.08, h49km±13km, mb4.1/6, Error ellipse: s-maj=15.2km s-min=2.9km az=128.0

ISC 17 09:05:15.1±1.7, 0°.70N±0°.04×80°.32W±0°.06, h10km±10km, n96, σ1§73/103, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PTGL	**Punta Galera**	**0.30**	**74**	P		**Pb**	**09 05 22.0**	**-0.5**
PTGL				S		**Sb**	**09 05 27.0**	**-0.5**
AMA1	**Acelerografo,**	**0.64**	**68**	P		**Pb**	**09 05 29.0**	**+0.7**
AMA1				S		**Sn**	**09 05 40.0**	**-0.4**
AV21	**Acelerografo,**	**0.77**	**93**	P		**Pg**	**09 05 30.0**	**0.0**
AV21				S		**Sb**	**09 05 42.0**	**+0.9**
AV18	**Acelerografo,**	**0.92**	**115**	P		**Pg**	**09 05 33.0**	**+0.1**
AV18				S		**Sn**	**09 05 52.0**	**+4.6**
MAG1	**Magdalena**	**0.94**	**145**	P		**Pg**	**09 05 33.0**	**-0.2**
APR2	**Miler**	**1.48**	**115**	P		**Pn**	**09 05 41.0**	**-0.9**
APR2				S		**Sn**	**09 06 00.0**	**-1.4**
PAC1	**Pacto, Paraso**	**1.58**	**106**	P		**Pn**	**09 05 42.0**	**-1.4**
PAC1	**Pacto, Paraso**	**1.58**	**106**	*eP*		**Pn**	**09 05 42.6**	**-0.7**
PAC1				*eS*		**Sb**	**09 06 05.0**	**+0.3**
PAC1				*i*			09 06 08.1	
	comp=Z,3μm,0.3s							
APR1	**Acelerografo,**	**1.86**	**114**	P		**Pn**	**09 05 47.0**	**-0.3**
HPAL	**Hacienda Las P**	**1.90**	**119**	P		**Pn**	**09 05 47.0**	**-0.8**
PINO	**Pino**	**1.91**	**116**	P		**Pn**	**09 05 48.0**	**-0.2**
OTAV	**Otavalo**	**1.92**	**104**			**Pn**	**09 05 48.4**	**+0.1**
OTAV	**Otavalo**	**1.92**	**104**	*eP*		**Pn**	**09 05 48.4**	**+0.1**
OTAV				*eS*		**Sn**	**09 06 12.6**	**-0.1**
YANA	**Yana**	**1.93**	**115**	P		**Pn**	**09 05 48.0**	**-0.3**
PULU	**Pululahua**	**1.94**	**110**			**Pn**	**09 05 48.9**	**+0.5**
PULU	**Pululahua**	**1.94**	**110**	P		**Pn**	**09 05 48.0**	**-0.4**
TUMC	**Tumaco**	**1.94**	**55**			**Pn**	**09 05 45.4**	**-2.7**
TUMC	**Tumaco**	**1.94**	**55**	*eP*		**Pb**	**09 05 50.0**	**-0.6**
CUSE	**Cuicocha Este**	**1.96**	**102**	P		**Pn**	**09 05 49.0**	**+0.3**
CUSE	**Cuicocha Este**	**1.96**	**102**	*eP*		**Pn**	**09 05 49.1**	**+0.3**
CUSE				*eS*		**Sb**	**09 06 15.4**	**-0.3**
CUSE				*i*			09 06 17.4	
	comp=Z,4μm,0.3s							
LITE1	**Lita**	**1.96**	**87**	P		**Pn**	**09 05 47.0**	**-1.5**
CUIC	**Cuicocha-Domo**	**1.99**	**101**	P		**Pn**	**09 05 49.0**	**-0.2**
CUSW	**Cuicocha Oeste**	**2.01**	**102**	P		**Pn**	**09 05 50.0**	**+0.6**
COTA	**Cotacachi**	**2.01**	**100**	P		**Pn**	**09 05 50.0**	**+0.4**
URCU	**Urcuqui**	**2.08**	**97**	P		**Pn**	**09 05 50.0**	**-0.4**
IMBA	**Imbabura, San**	**2.16**	**101**			**Pb**	**09 05 53.5**	**-1.0**
IMBA	**Imbabura, San**	**2.16**	**101**	P		**Pn**	**09 05 53.0**	**+1.5**
TOMA	**Boca Toma-Volc**	**2.23**	**122**	P		**Pn**	**09 05 53.0**	**+0.6**
CHMA	**Chilma**	**2.26**	**86**	P		**Pn**	**09 05 52.0**	**-0.8**
PITA	**Cotopaxi Volc**	**2.26**	**124**	P		**Pn**	**09 05 54.0**	**+1.1**
CAMI	**Rancho Maria**	**2.27**	**127**	P		**Pn**	**09 05 54.0**	**+0.9**
LNGL	**El Angel-Carch**	**2.31**	**89**	P		**Pn**	**09 05 53.0**	**-0.7**
BREF	**Cotopaxi Volca**	**2.32**	**126**	P		**Pn**	**09 05 55.0**	**+1.1**
BVC2	**Cotopaxi Volca**	**2.33**	**125**	P		**Pn**	**09 05 55.0**	**+1.0**
BMOR	**Cotopaxi Volca**	**2.34**	**127**	P		**Pn**	**09 05 55.0**	**+0.9**
ECEN	**Cerro Negro**	**2.35**	**87**	P		**Pn**	**09 05 54.0**	**-0.2**
BTAM	**Cotopaxi Volca**	**2.36**	**125**	P		**Pn**	**09 05 56.0**	**+1.7**
CHL1	**Volc¡n Chiles**	**2.37**	**88**	P		**Pn**	**09 05 54.0**	**-0.6**
TAMB	**Tambo**	**2.39**	**125**	P		**Pn**	**09 05 56.0**	**+1.2**
ANGU	**Angureal**	**2.40**	**106**	P		**Pn**	**09 05 57.0**	**+2.0**
CHL2	**Volc¡n Chiles**	**2.40**	**88**	P		**Pn**	**09 05 55.0**	**+0.1**
CAYR	**Refugio Cayamb**	**2.41**	**106**	P		**Pb**	**09 05 58.0**	**-0.9**
CAYA	**Cayambe**	**2.41**	**105**	P		**Pn**	**09 05 57.0**	**+2.0**
ANTI	**Antisana**	**2.44**	**118**	P		**Pn**	**09 05 57.0**	**+1.5**
CMBC	**Cumbal**	**2.50**	**84**	P		**Pn**	**09 05 56.0**	**-0.3**
CMBC	**Cumbal**	**2.50**	**84**	*eP*		**Pn**	**09 05 56.9**	**+0.7**
CMBC				*eS*		**Sn**	**09 06 27.3**	**+0.2**
CMBC				*i*			09 06 40.0	
	comp=Z,7μm,0.6s							
TULM	**Tulcn-Chalpat**	**2.53**	**90**	Pn		**Pn**	**09 05 58.5**	**+1.9**
TULM	**Tulcn-Chalpat**	**2.53**	**90**	*eP*		**Pb**	**09 05 59.6**	**-1.3**
TULM				*eS*		**Sg**	**09 06 38.4**	**+1.9**
CHSH	**Refugio Sur-Vo**	**2.62**	**146**			**Pn**	**09 05 59.4**	**+1.4**
PIAT	**Ana Tenorio**	**2.66**	**129**	P		**Pn**	**09 06 00.0**	**+1.7**
PIAT	**Ana Tenorio**	**2.66**	**129**	*eP*		**Pn**	**09 05 57.0**	**-1.3**
BONI	**La Bonita**	**2.80**	**95**	P		**Pn**	**09 06 02.0**	**+1.8**
BONI	**La Bonita**	**2.80**	**95**	*eP*		**Pn**	**09 06 02.5**	**+2.3**
BONI				*eS*		**Sn**	**09 06 36.8**	**+2.7**
BONI				*i*			09 06 44.6	
	comp=Z,172nm,0.4s							
BBIL	**Ulba Tungurahu**	**2.81**	**139**	P		**Pn**	**09 06 02.0**	**+1.6**
BRUN	**Tungurahua Vol**	**2.83**	**138**	P		**Pn**	**09 06 03.0**	**+2.4**
RETU	**Refugio**	**2.84**	**139**	P		**Pb**	**09 06 04.0**	**-2.2**
BULB	**Ulba Tungurahu**	**2.85**	**138**	P		**Pn**	**09 06 03.0**	**+2.0**
BMAS	**Trigal station**	**2.86**	**140**	P		**Pn**	**09 06 03.0**	**+1.9**
SALI	**Salinas**	**2.94**	**193**	Pn		**Pb**	**09 06 07.3**	**-0.3**
GCUF	**Volcan Galeras**	**3.02**	**80**	*eP*		**Pn**	**09 06 04.3**	**+0.9**
GR1C	**Gorgona, Isla**	**3.14**	**43**	*eP*		**Pn**	**09 06 06.2**	**+1.6**
COHC	**Cochancay**	**3.32**	**161**			**Pn**	**09 06 07.4**	**+0.3**
COHC	**Cochancay**	**3.32**	**161**	*eP*		**Pn**	**09 06 07.2**	**+0.1**
BBAC	**Balboa, Cauca**	**3.34**	**67**	P		**Pn**	**09 06 07.0**	**-0.6**
BBAC	**Balboa, Cauca**	**3.34**	**67**	*eP*		**Pn**	**09 06 07.3**	**-0.2**
CRUC	**La Cruz**	**3.47**	**76**	*eP*		**Pn**	**09 06 11.4**	**+1.8**
POPC	**Popayan, Colom**	**4.07**	**63**	*eP*		**Pn**	**09 06 18.7**	**+1.0**
ARNL	**Arenillas**	**4.23**	**177**			**Pn**	**09 06 22.4**	**+2.8**
ARNL	**Arenillas**	**4.23**	**177**	P		**Pn**	**09 06 22.0**	**+2.4**
BOSC	**San Juan Bosco**	**4.24**	**155**	Pn		**Pn**	**09 06 24.5**	**+4.6**
JAMC	**Jamundi, Valle**	**4.42**	**55**	*eP*		**Pn**	**09 06 23.7**	**+1.3**
FLOC	**Florencia**	**4.75**	**79**	*eP*		**Pn**	**09 06 27.0**	**+0.3**
GARC	**Garzon, Huila**	**5.04**	**73**	*eP*		**Pn**	**09 06 31.5**	**+0.4**
MCRA	**Macar, Loja**	**5.05**	**176**			**Pn**	**09 06 32.9**	**+2.0**
MCRA	**Macar, Loja**	**5.05**	**176**	*eP*		Pn	09 06 37.1	+6.2
YOTC	**Yotoco, Valle**	**5.14**	**51**	*eP*		**Pn**	**09 06 33.1**	**+0.9**
PTLC	**Puerto Leguiza**	**5.54**	**95**	*eP*		**Pn**	**09 06 35.5**	**-2.2**
PLMC	**San Jos del P**	**5.80**	**44**	*eP*		Pb	09 06 50.5	-6.0
ORTC	**Ortega, Tolima**	**5.99**	**58**	*eP*		**Pn**	**09 06 45.0**	**+1.4**
ANIL	**Santa Ana**	**6.19**	**52**	*eP*		**Pn**	**09 06 47.2**	**+0.4**
PRAC	**Prado**	**6.20**	**61**	*eP*		**Pn**	**09 06 48.1**	**+1.4**
GUY2C	**Guyana, Caldas**	**6.68**	**48**	*eP*		Pn	09 06 60.0	+6.2
CBOC	**Ciudad Bolivar**	**6.69**	**40**	*eP*		**Pn**	**09 06 58.1**	**+4.5**
ROSC	**El Rosal**	**7.26**	**55**	Pn		**Pn**	**09 07 06.4**	**+4.7**
CVER	**Cruz Verde, Cu**	**7.30**	**59**	*eP*		**Pn**	**09 07 05.7**	**+3.5**
VILC	**Villavicencio,**	**7.43**	**63**	*eP*		**Pn**	**09 07 08.4**	**+4.6**
CZSB	**Cruzeiro do Su**	**11.30**	**138**	Pn		**Pn**	**09 07 52.6**	**-4.2**
CZSB	**Cruzeiro do Su**	**11.30**	**138**	*eP*		**Pn**	**09 07 53.0**	**-3.8**
TBTG	**Tabatinga, AM**	**11.48**	**115**			**Pn**	**09 07 56.0**	**-3.2**
BAUV	**El Baul**	**14.71**	**56**	P		**P**	**09 08 49.9**	**+0.3**
ETMB	**Extrema**	**17.50**	**127**			**Pn**	**09 09 19.1**	**-0.2**
SAML	**Samuel**	**19.58**	**120**	P		**P**	**09 09 43.4**	**-0.1**
SAML					IAmb	IAmb	09 09 48.6	
	comp=Z,2.8nm,0.8s							
MACA	**Manacapuru-AM**	**20.00**	**101**	P		**P**	**09 09 47.7**	**-0.3**
MACA					IAmb	IAmb	09 09 48.5	
	comp=Z,8.5nm,0.7s							
PTLB	**Pontes e Lacer**	**26.37**	**128**	P		**P**	**09 10 52.0**	**+0.2**
PTLB					IAmb	IAmb	09 11 33.5	
	comp=Z,6.5nm,1.3s							
LR05	**Currie**	**41.44**	**170**	P		**P**	**09 13 01.2**	**-0.7**
K57A	**Scipio Center**	**41.98**	**4**	P		P	09 13 16.5	+10
K57A					IAmb	IAmb	09 13 55.2	
	comp=Z,9.2nm,1.0s							

SJA 17 09:09:08.6±0.7, 23°.11S×66°.32W, h252km±6km, ML4.2, MW3.9
IDC 17 09:09:09.2±0.9, 23°.07S×66°.21W, h222km±8km, mb3.5/12, mbtmp4.0/18, Error ellipse: s-maj=14.4km s-min=11.5km az=34.0
NEIC 17 09:09:09.9±2.0, 23°.19S±0°.08×66°.25W±0°.07, h235km±7km, mb4.3/33, Error ellipse: s-maj=11.2km s-min=9.3km az=164.0
VAO 17 09:09:10.8±0.3, 22°.76S×66°.30W, h230km, mb4.0
GUC 17 09:09:10.4±0.6, 23°.16S×66°.61W, h268km±13km, ML4.2

ISC 17 09:09:09.9±0.6, 23°.10S±0°.04×66°.31W±0°.05, h237km±6km, n152, σ1§66/191, mb4.2/26, 17C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YJA	**Yavi**	**1.18**	**39**	*eP*		**Pn**	**09 09 46.6**	**+1.3**
YJA				*eS*		**S**	**09 10 13.7**	**+0.8**
AZAP	**Zapla**	**1.60**	**135**	*eP*		**Pn**	**09 09 48.0**	**0.0**
AF01	**San Pedro de A**	**1.72**	**275**			**Pn**	**09 09 50.4**	**+1.2**
SLA	**San Lorenzo**	**1.78**	**155**	*eP*		**Pn**	**09 09 50.1**	**+0.7**
ASTB	**Santa Barbara**	**1.91**	**117**	*eP*		**Pn**	**09 09 50.8**	**+0.2**
ALOL	**LOMAS DE OLMED**	**2.26**	**109**	*eP*		**Pn**	**09 09 54.6**	**+0.8**
LVC	**Limon Verde**	**2.44**	**281**	*eP*		**Pn**	**09 09 56.5**	**+0.4**
LVC				*eS*		**S**	**09 10 38.8**	**+6.6**
LVC	**Limon Verde**	**2.44**	**281**	*eP*		**Pn**	**09 09 56.2**	**+0.1**
LVC				*eS*		**S**	**09 10 31.8**	**-0.4**
LVC	**Limon Verde**	**2.44**	**281**	P		**Pn**	**09 09 56.5**	**+0.4**
	176nm,0.4s,baz=92,slow=6.3,SNR=480							
LVC				S		**S**	**09 10 31.4**	**-0.8**
	40nm,0.4s,baz=307,slow=21,SNR=11							
LVC	**Limon Verde**	**2.44**	**281**	*iP*		**Pn**	**09 09 56.4**	**+0.4**
LVC				*i* S		**S**	**09 10 31.1**	**-1.2**
LVC					IAML		09 10 33.8	
	391nm,0.4s							
PB15	**IPOC Station P**	**2.91**	**267**			**Pn**	**09 10 00.9**	**+0.1**
PB15	**IPOC Station P**	**2.91**	**267**	*eP*		**Pn**	**09 10 01.0**	**+0.3**
PB15				*eS*		**S**	**09 10 41.4**	**+0.6**
PB15					IAML		09 10 47.3	
	comp=Z,1μm,0.2s							
PB15	**IPOC Station P**	**2.91**	**267**	*iP*		**Pn**	**09 10 00.9**	**+0.1**
PB15				*i* S		**S**	**09 10 39.5**	**-1.3**
PB09	**IPOC Station P**	**3.00**	**295**			**Pn**	**09 10 02.6**	**+0.8**
PB09	**IPOC Station P**	**3.00**	**295**	*eP*		**Pn**	**09 10 02.7**	**+0.9**
PB09	**IPOC Station P**	**3.00**	**295**	*iP*		**Pn**	**09 10 02.8**	**+0.9**
PB09				*i* S		**S**	**09 10 42.8**	**+0.1**
PB06	**IPOC Station P**	**3.03**	**277**	*eP*		**Pn**	**09 10 02.2**	**+0.1**
PB06				*eS*		**S**	**09 10 46.0**	**+2.9**
PB06					IAML		09 10 46.9	
	comp=Z,212nm,0.4s							
PB06	**IPOC Station P**	**3.03**	**277**	*eP*		**Pn**	**09 10 02.2**	**+0.1**
PB06				*i* S		**S**	**09 10 41.7**	**-1.4**
PB06					IAML		09 10 45.3	
	comp=N,326nm,0.5s							
PB07	**IPOC Station P**	**3.58**	**292**	*eP*		**Pn**	**09 10 08.4**	**+0.1**
PB07				*eS*		**S**	**09 10 52.2**	**-2.2**
PB07					IAML		09 10 55.1	
	comp=Z,268nm,0.2s							
PB07	**IPOC Station P**	**3.58**	**292**	*iP*		**Pn**	**09 10 08.4**	**+0.1**
PB07				*i* S		**S**	**09 10 51.5**	**-3.0**
PB01	**IPOC Station P**	**3.58**	**304**			**Pn**	**09 10 08.6**	**+0.2**
PB01	**IPOC Station P**	**3.58**	**304**	*eP*		**Pn**	**09 10 08.5**	**+0.2**
PB01				*eS*		**S**	**09 10 53.2**	**-1.3**
PB01					IAML		09 10 55.5	
	comp=Z,316nm,0.2s							
PB01	**IPOC Station P**	**3.58**	**304**	*iP*		**Pn**	**09 10 08.5**	**+0.2**
PB01				*i* S		**S**	**09 10 52.7**	**-1.8**
PB04	**IPOC Station P**	**3.62**	**281**			**Pn**	**09 10 08.8**	**-0.1**
PB04	**IPOC Station P**	**3.62**	**281**	*eP*		**Pn**	**09 10 08.7**	**-0.1**
PB04				*eS*		**S**	**09 10 53.8**	**-1.6**
PB04					IAML		09 10 56.7	
	comp=Z,233nm,0.3s							
PB04	**IPOC Station P**	**3.62**	**281**	*iP*		**Pn**	**09 10 08.7**	**-0.1**
PB04				*i* S		**S**	**09 10 52.5**	**-2.9**
GO02	**Mina Guanaco**	**3.63**	**235**			**Pn**	**09 10 08.8**	**-0.3**
GO02	**Mina Guanaco**	**3.63**	**235**	*eP*		**Pn**	**09 10 08.9**	**-0.2**
GO02				*eS*		**S**	**09 10 54.4**	**-1.3**
GO02	**Mina Guanaco**	**3.63**	**235**	*iP*		**Pn**	**09 10 08.9**	**-0.2**
GO02				*i* S		**S**	**09 10 53.6**	**-2.1**
PB02	**IPOC Station P**	**3.76**	**297**	*eP*		**Pn**	**09 10 10.3**	**-0.2**
PB02				*eS*		**S**	**09 10 55.8**	**-2.5**
PB02					IAML		09 11 05.9	
	comp=Z,512nm,0.2s							
PB02	**IPOC Station P**	**3.76**	**297**	*iP*		**Pn**	**09 10 10.2**	**-0.2**
PB02				*i* S		**S**	**09 10 55.2**	**-3.1**
PB08	**IPOC Station P**	**3.96**	**318**	*eP*		**Pn**	**09 10 14.2**	**+1.2**
PB08				*eS*		**S**	**09 11 03.3**	**+0.4**
PB08					IAML		09 11 05.2	
	comp=Z,139nm,0.3s							
PB08	**IPOC Station P**	**3.96**	**318**	*iP*		**Pn**	**09 10 14.3**	**+1.2**
PB08				*i* S		**S**	**09 11 02.3**	**-0.6**
PB14	**IPOC Station P**	**4.04**	**247**	*eP*		**Pn**	**09 10 13.3**	**-0.6**
PB14				*eS*		**S**	**09 11 01.6**	**-2.9**
PB14					IAML		09 11 05.2	
	comp=Z,180nm,0.5s							
PB14	**IPOC Station P**	**4.04**	**247**	*iP*		**Pn**	**09 10 13.3**	**-0.6**
PB14				*i* S		**S**	**09 11 00.8**	**-3.7**
PATCX	**Punta Patache**	**4.22**	**302**			**Pn**	**09 10 15.5**	**-0.5**
PATCX	**Punta Patache**	**4.22**	**302**	*eP*		**Pn**	**09 10 15.4**	**-0.5**
PATCX				*eS*		**S**	**09 11 06.8**	**-1.4**
PATCX	**Punta Patache**	**4.22**	**302**	*eP*		**Pn**	**09 10 15.2**	**-0.7**
PATCX				*i* S		**S**	**09 11 04.4**	**-3.7**
GO01	**Chusmiza**	**4.34**	**321**	*eP*		**Pn**	**09 10 17.2**	**-0.6**
GO01				*eS*		**S**	**09 11 12.0**	**+0.6**
GO01	**Chusmiza**	**4.34**	**321**	*iP*		**Pn**	**09 10 18.4**	**+0.6**
GO01				*i* S		**S**	**09 11 10.9**	**-0.5**
HMBC	**Humberstone**	**4.35**	**310**	*eP*		**Pn**	**09 10 17.0**	**-0.5**
HMBC				*eS*		**S**	**09 11 08.4**	**-2.6**
HMBC	**Humberstone**	**4.35**	**310**	*iP*		**Pn**	**09 10 16.6**	**-0.9**
HMBC				*i* S		**S**	**09 11 07.4**	**-3.7**
TA01	**Diego Aracena**	**4.39**	**304**			**Pn**	**09 10 17.0**	**-0.8**
TA01	**Diego Aracena**	**4.39**	**304**	*eP*		**Pn**	**09 10 17.1**	**-0.7**
TA01				*eS*		**S**	**09 11 08.5**	**-3.2**
TA01					IAML		09 11 11.2	
	comp=Z,148nm,0.4s							
TA01	**Diego Aracena**	**4.39**	**304**	*iP*		**Pn**	**09 10 16.8**	**-1.0**
TA01				*i* S		**S**	**09 11 07.8**	**-3.8**
TA02	**Huaiquique**	**4.53**	**308**			**Pn**	**09 10 18.4**	**-1.2**
TA02	**Huaiquique**	**4.53**	**308**	*eP*		**Pn**	**09 10 18.9**	**-0.6**
TA02					IAML		09 11 18.3	
	comp=Z,249nm,0.1s							
TA02	**Huaiquique**	**4.53**	**308**	*i P*		**Pn**	**09 10 18.4**	**-1.2**
PB11	**IPOC Station P**	**4.55**	**316**	*eP*		**Pn**	**09 10 19.4**	**-0.6**
PB11				*eS*		**S**	**09 11 12.7**	**-2.8**
PB11					IAML		09 11 14.6	
	comp=Z,289nm,0.2s							
PB11	**IPOC Station P**	**4.55**	**316**	*iP*		**Pn**	**09 10 19.4**	**-0.6**
PB11				*i* S		**S**	**09 11 12.1**	**-3.5**
AC01	**Pan de Azucar**	**4.94**	**231**			**Pn**	**09 10 22.8**	**-1.7**
AC01	**Pan de Azucar**	**4.94**	**231**	*eP*		**Pn**	**09 10 23.2**	**-1.3**
AC01				*eS*		**S**	**09 11 19.3**	**-4.6**
AC01					IAML		09 11 21.3	
	comp=Z,72nm,0.4s							
AC01	**Pan de Azucar**	**4.94**	**231**	*iP*		**Pn**	**09 10 22.8**	**-1.7**
AC01				*eS*		**S**	**09 11 12.7**	**-5.1**
AC06	**Mina Casimiro**	**5.60**	**220**			**Pn**	**09 10 31.0**	**-1.7**
PB16	**IPOC Station P**	**5.60**	**327**	*eP*		**Pn**	**09 10 33.8**	**+0.3**
PB16				*eS*		**S**	**09 11 37.0**	**-2.7**
GO03	**Copiap**	**5.71**	**218**			**Pn**	**09 10 32.2**	**-2.0**
PB12	**IPOC Station P**	**5.83**	**319**	*iP*		**Pn**	**09 10 33.7**	**-2.1**
PB12				*i* S		**S**	**09 11 38.4**	**-5.8**
AC04	**Llanos de Chal**	**6.65**	**219**			**Pn**	**09 10 43.6**	**-2.4**
LPAZ	**La Paz**	**6.99**	**346**			**Pn**	**09 10 51.9**	**+0.9**
LCO	**Las Campanas**	**7.08**	**213**	Pn		**Pn**	**09 10 50.1**	**-1.6**
BBRB	**Robore, Bolivi**	**7.75**	**53**	*eP*		**Pn**	**09 10 58.0**	**-2.0**
GO04	**Tololo Observa**	**8.11**	**209**	Pn		**Pn**	**09 11 02.6**	**-2.1**
MURT	**Porto Murtinho**	**8.18**	**82**	*eP*		**Pn**	**09 11 05.0**	**-0.5**
SCCA	**San Cayetano,**	**8.25**	**124**	*eP*		**Pn**	**09 11 10.2**	**+4.0**
SIV	**San Ignacio**	**8.63**	**36**	P		**Pn**	**09 11 10.7**	**-0.6**
	comp=Z,3.4nm,0.4s,baz=245,slow=7.8,SNR=29							
SIV				S		**S**	**09 12 42.1**	**-6.9**
	comp=Z,2.1nm,0.7s,baz=231,slow=13,SNR=3.1							
CFA	**Coronel Fontan**	**8.64**	**191**	P		**Pn**	**09 11 09.6**	**-1.8**
	comp=Z,1.3nm,0.4s,baz=49,slow=22,SNR=11							
CFA				S		S	09 12 37.7	-11
	comp=Z,2.6nm,0.3s,baz=286,slow=24,SNR=2.1							
CPUP	**Villa Florida**	**8.78**	**113**	P		**Pn**	**09 11 11.1**	**-2.0**
	comp=Z,2.2nm,0.8s,baz=286,slow=12,SNR=5.2							
ANTJ	**Antonio Joao (**	**9.59**	**85**	*eP*		**Pn**	**09 11 23.5**	**0.0**
AQDB	**Aquidauana**	**10.20**	**77**	*eP*		**Pn**	**09 11 33.4**	**+2.1**
CRSM	**Crissiumal (Br**	**11.93**	**114**	*eP*		**P**	**09 11 57.4**	**+1.0**
RPRD	**Ribas do Rio P**	**12.01**	**80**	*eP*		**Pn**	**09 11 54.1**	**+0.2**
SALV	**Santo Antonio**	**12.31**	**56**	*eP*		**Pn**	**09 11 57.0**	**-0.7**
FRBT	**Francisco Belt**	**12.40**	**106**	*eP*		**P**	**09 12 02.7**	**+1.0**
PTGB	**Pitanga**	**13.13**	**100**	*eP*		**Pn**	**09 12 08.7**	**+0.7**
ETMB	**Extrema**	**13.21**	**0**	*eP*		**Pn**	**09 12 06.6**	**-2.2**
ALGR	**Alto Alegre (B**	**13.23**	**118**	*eP*		**P**	**09 12 11.9**	**+1.0**
C2SB	**Chapadao do Su**	**13.31**	**74**	*eP*		**P**	**09 12 11.2**	**-0.5**
ITAB	**Concordia**	**13.48**	**111**			**Pn**	**09 12 12.7**	**+0.5**
ITAB	**Concordia**	**13.48**	**111**	*eP*		**P**	**09 12 14.8**	**+1.1**
LDASE	**Londrina, Braz**	**13.97**	**94**	*eP*		**Pn**	**09 12 18.4**	**+0.2**
PLTB	**Pedras Altas**	**14.20**	**130**			**Pn**	**09 12 19.3**	**-1.5**
ITRB	**Iturama**	**15.24**	**80**	*eP*		**Pn**	**09 12 34.6**	**+1.1**
TRQA	**Tornquist**	**15.37**	**167**	P		**P**	**09 12 33.5**	**-0.9**
TRQA					IAmb	IAmb	09 13 05.1	
	comp=Z,27nm,1.5s							
FRTB	**Fartura**	**15.40**	**94**	*eP*		**Pn**	**09 12 36.1**	**+0.6**
BB19B	**Bebedouro**	**16.61**	**86**	*eP*		**Pn**	**09 12 49.1**	**-0.7**
GO06	**Curarrehue**	**17.01**	**194**	P		**P**	**09 12 52.6**	**+0.1**
GO06					IAmb	IAmb	09 13 00.4	
	comp=Z,8.6nm,0.9s							
RCLB	**Rio Claro- Sao**	**17.34**	**91**	*eP*		**Pn**	**09 12 57.6**	**-0.8**
SPB	**Sao Paulo**	**17.35**	**95**	*eP*		**P**	**09 12 57.2**	**+0.9**
IPMB	**Ipameri, GO**	**17.70**	**77**	*eP*		**P**	**09 13 00.7**	**+0.6**
VAO	**Valinhos**	**17.81**	**93**	*eP*		**P**	**09 13 01.3**	**0.0**
PLCA	**Paso Flores**	**17.94**	**191**	P		**P**	**09 13 02.8**	**+0.2**
PLCA	**Paso Flores**	**17.94**	**191**	*eP*		**P**	**09 13 03.4**	**+0.8**
	comp=Z,2.6nm,0.7s,baz=5.0,slow=8.9,SNR=14							
SNDB	**Serra Nova Dou**	**18.08**	**55**	*eP*		**P**	**09 13 04.7**	**+0.4**
BDFB	**Brasilia**	**18.78**	**70**	P		**P**	**09 13 12.6**	**+0.6**
BDFB	**Brasilia**	**18.78**	**70**	P		**P**	**09 13 12.5**	**+0.6**
	comp=Z,6.0nm,0.4s,baz=242,slow=11,SNR=17							
PARB	**Paraibuna**	**19.02**	**95**	*eP*		**P**	**09 13 15.5**	**+1.1**
PMNB	**Patos De Minas**	**19.12**	**80**	*eP*		**P**	**09 13 15.8**	**+0.3**
ITTB	**Itaituba**	**21.25**	**30**	*eP*		**P**	**09 13 36.1**	**-1.9**
DIAM	**Diamantina, MG**	**21.70**	**81**	*eP*		**P**	**09 13 42.4**	**-0.1**
JANB	**Januaria**	**22.26**	**73**	*eP*		**P**	**09 13 47.0**	**-0.5**
MCRA	**Macar, Loja**	**22.82**	**323**	P		**P**	**09 13 55.0**	**+2.4**
SDBA	**SAO DESIDERIO**	**22.96**	**66**	*eP*		**P**	**09 13 53.4**	**-0.6**
BOSC	**San Juan Bosco**	**23.07**	**327**	P		**P**	**09 13 56.8**	**+1.8**
PRPB	**Parauapebas**	**23.15**	**46**	*eP*		**P**	**09 13 54.2**	**-1.4**
SJMB	**Sao Joao De Ma**	**23.87**	**84**	*eP*		**P**	**09 14 01.8**	**-0.3**
MALB	**Monte Alegre**	**24.14**	**31**	*eP*		**P**	**09 14 03.9**	**-0.7**
RIB01	**Linhares ES**	**24.44**	**86**	*eP*		**P**	**09 14 07.0**	**-0.2**
SDV	**Santo Domingo**	**32.07**	**352**	P		**P**	**09 15 14.6**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=340,slow=15,SNR=2.2							
	comp=Z,1.2nm,0.3s							
BELA	**Belgrano 2**	**56.84**	**172**	P		**P**	**09 18 30.3**	**+1.0**
BELA					IAmb	IAmb	09 18 54.7	
	comp=Z,11nm,1.4s							
LRAL	**Lakeview Retre**	**59.21**	**340**	P		**P**	**09 18 46.5**	**+0.3**
LRAL					IAmb	IAmb	09 18 47.4	
	comp=Z,7.8nm,1.2s							
W57A	**Gilead**	**59.37**	**347**	P		**P**

NNC ***17*** *09:36:26.6±0.9, 41°.75N×79°.02E, h0km, mb3.6, mpv3.5,*
Error ellipse: s-maj=6.0km s-min=3.4km az=158.0
KRNET ***17*** *09:36:26.3±0.1, 41°.74N×79°.02E, h17km, mb3.3*
ISC 17 09:36:27.6±1.7, 41°.78N±0°.06×78°.97E±0°.04, h2km±12km,
n53, σ1s 14/81, 17C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.82**	**329**	⇑*i*P	**Pg**		**09 36 43.2**	**-0.1**
PRZ	baz=29			⇑*i*S	**Sb**		**09 36 55.7**	**-0.5**
TARG	**Taragay, Kyrgy**	**0.87**	**267**	⇑*i*P	**Pg**		**09 36 43.5**	**-0.9**
TARG	baz=70			⇑*i*S	**Sg**		**09 36 56.4**	**+0.7**
SATY	**Saty**	**1.34**	**342**	*e*P	**Pb**		**09 36 52.9**	**-0.7**
SATY	32nm,0.2s			*e*S	**Sg**		**09 37 12.2**	**+1.5**
SATY	**Saty**	**1.34**	**342**	P	**Pb**		**09 36 52.9**	**-0.7**
SATY	32nm,0.2s			S	**Sg**		**09 37 12.2**	**+1.5**
UZB	**Uzynbulak**	**1.36**	**2**	*e*P	**Pn**		**09 36 52.5**	**-1.3**
UZB	baz=0.0			*e*S	**Sg**		**09 37 11.7**	**+0.3**
UZB	**Uzynbulak**	**1.36**	**2**	*e*P	**Pn**		**09 36 52.5**	**-1.3**
UZB	33nm,0.2s			*e*S	**Sg**		**09 37 11.7**	**+0.3**
UZB	**Uzynbulak**	**1.36**	**2**	P	**Pn**		**09 36 52.5**	**-1.3**
UZB	33nm,0.2s			S	**Sg**		**09 37 11.7**	**+0.3**
ANVS	**Anan'yevo**	**1.39**	**316**	⇓*i*P	**Pb**		**09 36 53.6**	**-0.8**
ANVS	baz=17			⇓*i*S	**Sg**		**09 37 13.5**	**+1.2**
SHLS	**Shalkode**	**1.42**	**15**	*e*P	**Pg**		**09 36 55.2**	**+0.4**
SHLS	baz=24			*e*S	**Sg**		**09 37 16.3**	**+3.1**
SHLS	**Shalkode**	**1.42**	**15**	*e*P	**Pg**		**09 36 55.2**	**+0.4**
SHLS	96nm,0.1s			*e*S	**Sg**		**09 37 16.3**	**+3.1**
SHLS	**Shalkode**	**1.42**	**15**	P	**Pg**		**09 36 55.2**	**+0.4**
SHLS	96nm,0.1s			S	**Sg**		**09 37 16.3**	**+3.1**
ZHN	**Zhinishke**	**1.44**	**344**	*e*P	**Pb**		**09 36 54.5**	**-0.7**
ZHN	40nm,0.2s			*e*S	**Sg**		**09 37 15.0**	**+1.1**
ZHN	**Zhinishke**	**1.44**	**344**	P	**Pb**		**09 36 54.5**	**-0.7**
ZHN	40nm,0.2s			S	**Sg**		**09 37 15.0**	**+1.1**
PDGK	**Podgornoye**	**1.59**	**14**	P	**Pn**		**09 36 56.1**	**-0.8**
PDGK	9.9nm,0.0s			S	**Sb**		**09 37 17.6**	**-0.8**
PDGK	**Podgornoye**	**1.59**	**14**	⇑P	**Pn**		**09 36 55.9**	**-1.0**
PDGK	8.0nm,0.4s			⇑S	**Sg**		**09 37 18.2**	**-0.5**
KPKS	**Kokpek**	**1.69**	**353**	*e*P	**Pb**		**09 36 58.0**	**-1.5**
KPKS	baz=52			*e*S	**Sg**		**09 37 21.4**	**-0.6**
KPKS	**Kokpek**	**1.69**	**353**	*e*P	**Pb**		**09 36 58.0**	**-1.5**
KPKS	84nm,0.1s			*e*S	**Sg**		**09 37 21.4**	**-0.6**
KURS	**Kuram**	**1.80**	**341**	*e*P	**Pb**		**09 37 00.6**	**-0.7**
KURS	baz=41			*e*S	**Sg**		**09 37 25.4**	**-0.1**
KURS	**Kuram**	**1.80**	**341**	*e*P	**Pb**		**09 37 00.6**	**-0.7**
KURS	21nm,0.3s			*e*S	**Sg**		**09 37 25.4**	**-0.1**
KTMS	**Ketmen**	**1.95**	**31**	*e*P	**Pb**		**09 37 02.9**	**-1.0**
KTMS	baz=30			*e*S	**Sg**		**09 37 29.2**	**-1.0**
KTMS	**Ketmen**	**1.95**	**31**	*e*Pg	**Pb**		**09 37 02.9**	**-1.0**
KTMS	11nm,0.2s			*e*Lg	Lg		09 37 29.2	
TNSS	**Tian-Shan**	**1.95**	**311**	*e*P	**Pb**		**09 37 02.9**	**-1.2**
TNSS	baz=11			*e*S	**Sb**		**09 37 29.5**	**+0.4**
TNSS	**Tian-Shan**	**1.95**	**311**	*e*Pg	**Pb**		**09 37 02.9**	**-1.2**
TNSS	31nm,0.2s			*e*Lg	Lg		09 37 29.5	
TNSS	**Tian-Shan**	**1.95**	**311**	Pg	**Pb**		**09 37 02.9**	**-1.2**
TNSS	31nm,0.2s			Lg	Lg		09 37 29.5	
MDOK	**Medeo**	**1.98**	**315**	*e*P	**Pb**		**09 37 03.3**	**-1.2**
MDOK	baz=15			*e*S	**Sb**		**09 37 30.0**	**+0.4**
MDOK	**Medeo**	**1.98**	**315**	*e*Pg	**Pb**		**09 37 03.3**	**-1.2**
MDOK	11nm,0.5s			*e*Lg	Lg		09 37 30.0	
MDOK	**Medeo**	**1.98**	**315**	⇑Pn	**Pb**		**09 37 03.0**	**-1.4**
MDOK	18nm,0.9s			Pg	**Pb**		**09 37 03.3**	**-1.2**
MDOK	11nm,0.5s			Lg	Lg		09 37 30.0	
MDOK	79nm,0.4s			⇓Sn	**Sg**		**09 37 30.8**	**-0.5**
KOTS	**Kotyrbulak**	**2.00**	**317**	*e*P	**Pb**		**09 37 03.8**	**-0.9**
KOTS	baz=17			*e*S	**Sg**		**09 37 31.0**	**-0.8**
KOTS	**Kotyrbulak**	**2.00**	**317**	*e*Pg	**Pb**		**09 37 03.8**	**-0.9**
KOTS	17nm,0.3s			*e*Lg	Lg		09 37 31.0	
KOTS	**Kotyrbulak**	**2.00**	**317**	Pg	**Pb**		**09 37 03.8**	**-0.9**
KOTS	17nm,0.3s			Lg	Lg		09 37 31.0	
ULHL	**Ulahol**	**2.09**	**284**	⇓*i*P	**Pb**		**09 37 04.4**	**-1.9**
ULHL	baz=85			⇓*i*S	**Sb**		**09 37 32.9**	**+0.2**
MTBS	**Maitube**	**2.31**	**306**	*e*Pg	**Pb**		**09 37 08.6**	**-1.4**
MTBS	10.0nm,0.1s			*e*Lg	Lg		09 37 39.2	
MTBS	**Maitube**	**2.31**	**306**	Pg	**Pb**		**09 37 08.6**	**-1.4**
MTBS	10.0nm,0.1s			Lg	Lg		09 37 39.2	
BOOM	**Boomskoye usch**	**2.36**	**288**	⇓*i*P	**Pn**		**09 37 08.3**	**+0.8**
BOOM	baz=89			⇓*i*S	**Sb**		**09 37 39.4**	**-1.2**
CHKK	**Chushkaly**	**2.53**	**325**	*e*Pg	**Pb**		**09 37 13.5**	**-0.2**
CHKK	14nm,0.3s			*e*Lg	Lg		09 37 47.4	
KST	**Kastek**	**2.56**	**300**	*e*Pg	**Pb**		**09 37 14.0**	**-0.3**
KST	6.8nm,0.3s			*e*Lg	Lg		09 37 48.3	
KTBS	**Karatobe**	**2.56**	**320**	*e*Pg	**Pb**		**09 37 14.0**	**-0.2**
KTBS	4.3nm,0.3s			*e*Lg	Lg		09 37 48.7	
KTBS	**Karatobe**	**2.56**	**320**	Pg	**Pb**		**09 37 14.0**	**-0.2**
KTBS	4.3nm,0.3s			Lg	Lg		09 37 48.7	
ARXS	**Arharly**	**2.57**	**341**	*e*Pg	**Pb**		**09 37 14.1**	**-0.4**
ARXS	4.3nm,0.2s			*e*Lg	Lg		09 37 48.6	

CUIC	**Cuicocha-Domo**	**1.82**	**101**	P		**Pn**	**09 16 58.0**	**+0.3**
CUSW	**Cuicocha Oeste**	**1.83**	**101**	P		**Pb**	**09 16 59.0**	**-0.9**
COTA	**Cotacachi**	**1.84**	**100**	P		**Pn**	**09 16 59.0**	**+1.0**
TUMC	**Tumaco**	**1.84**	**51**	Pn		**Pn**	**09 16 57.1**	**-0.6**
TUMC				Sn		**Sb**	**09 17 22.1**	**-0.8**
TUMC	**Tumaco**	**1.84**	**51**	*e*P		**Pn**	**09 16 57.4**	**-0.3**
URCU	**Urcuqui**	**1.91**	**96**	P		**Pn**	**09 16 59.0**	**+0.1**
ACOT	**Cotacachi (Cas**	**1.91**	**100**	P		**Pb**	**09 17 01.0**	**-0.1**
IMBA	**Imbabura, San**	**1.98**	**101**			**Pb**	**09 17 02.2**	**-0.3**
IMBA	**Imbabura, San**	**1.98**	**101**	P		**Pb**	**09 17 02.0**	**-0.5**
PAST	**Pastocalle**	**2.01**	**131**	P		**Pn**	**09 17 01.0**	**+0.6**
TOMA	**Boca Toma-Volc**	**2.06**	**123**	P		**Pn**	**09 17 02.0**	**+1.0**
AIB2	**Ibarra (Univer**	**2.07**	**98**	P		**Pn**	**09 17 02.0**	**+1.0**
PITA	**Cotopaxi Volc**	**2.09**	**125**	P		**Pn**	**09 17 03.0**	**+1.5**
CHMA	**Chilma**	**2.10**	**84**	P		**Pn**	**09 17 01.0**	**-0.4**
CAMI	**Rancho Maria**	**2.10**	**129**	P		**Pn**	**09 17 03.0**	**+1.3**
LNGL	**El Angel-Carch**	**2.15**	**87**	P		**Pn**	**09 17 02.0**	**-0.3**
BREF	**Cotopaxi Volca**	**2.15**	**127**	P		**Pn**	**09 17 03.0**	**+0.5**
VC1	**Cotopaxi 1**	**2.16**	**126**	P		**Pn**	**09 17 04.0**	**+1.4**
BVC2	**Cotopaxi Volca**	**2.17**	**127**	P		**Pn**	**09 17 04.0**	**+1.4**
BMOR	**Cotopaxi Volca**	**2.17**	**129**	P		**Pn**	**09 17 04.0**	**+1.3**
ECEN	**Cerro Negro**	**2.19**	**85**	P		**Pn**	**09 17 03.0**	**+0.1**
BTAM	**Cotopaxi Volca**	**2.19**	**127**	P		**Pb**	**09 17 05.0**	**-1.1**
CHL1	**Volc¡n Chiles**	**2.21**	**86**	P		**Pn**	**09 17 03.0**	**-0.2**
ANGU	**Angureal**	**2.22**	**105**	P		**Pb**	**09 17 06.0**	**-0.7**
TAMB	**Tambo**	**2.22**	**127**	P		**Pn**	**09 17 05.0**	**+1.6**
CAYR	**Refugio Cayamb**	**2.23**	**106**	P		**Pb**	**09 17 06.0**	**-0.9**
CAYA	**Cayambe**	**2.23**	**105**	P		**Pb**	**09 17 06.0**	**-0.8**
CHL2	**Volc¡n Chiles**	**2.24**	**86**	P		**Pn**	**09 17 04.0**	**+0.5**
ANTI	**Antisana**	**2.27**	**119**	P		**Pb**	**09 17 06.0**	**-1.4**
CMBC	**Cumbal**	**2.34**	**83**	P		**Pn**	**09 17 05.0**	**+0.1**
CMBC	**Cumbal**	**2.34**	**83**	*e*P		**Pn**	**09 17 05.6**	**+0.7**
TULM	**Tulcn-Chalpat**	**2.36**	**88**			**Pn**	**09 17 07.1**	**+1.9**
TULM	**Tulcn-Chalpat**	**2.36**	**88**	P		**Pn**	**09 17 07.0**	**+1.8**
TULM	**Tulcn-Chalpat**	**2.36**	**88**	*e*P		**Pb**	**09 17 07.8**	**-1.3**
CHSH	**Refugio Sur-Vo**	**2.48**	**149**			**Pn**	**09 17 08.1**	**+1.2**
PIAT	**Ana Tenorio**	**2.49**	**131**	*e*P		**Pb**	**09 17 09.4**	**-1.8**
BONI	**La Bonita**	**2.63**	**94**	P		**Pn**	**09 17 11.0**	**+2.3**
BONI	**La Bonita**	**2.63**	**94**	*i*P		**Pb**	**09 17 11.8**	**-1.6**
BBIL	**Ulba Tungurahu**	**2.66**	**141**	P		**Pb**	**09 17 12.0**	**-2.1**
BRUN	**Tungurahua Vol**	**2.68**	**140**	P		**Pn**	**09 17 12.0**	**+2.6**
RETU	**Refugio**	**2.69**	**141**	P		**Pn**	**09 17 12.0**	**+2.2**
BULB	**Ulba Tungurahu**	**2.70**	**140**	P		**Pn**	**09 17 12.0**	**+2.2**
BMAS	**Trigal station**	**2.71**	**142**	P		**Pn**	**09 17 12.0**	**+2.1**
CASC	**Dorado de Casc**	**2.85**	**100**	P		**Pb**	**09 17 15.0**	**-2.2**
GCUF	**Volcan Galeras**	**2.86**	**78**	*e*P		**Pn**	**09 17 13.4**	**+1.2**
SALI	**Salinas**	**2.93**	**197**	Pn		**Pn**	**09 17 14.9**	**+2.2**
GR1C	**Gorgona, Isla**	**3.07**	**40**	*e*P		**Pn**	**09 17 14.0**	**-0.5**
BBAC	**Balboa, Cauca**	**3.21**	**65**	P		**Pn**	**09 17 16.0**	**-0.6**
BBAC	**Balboa, Cauca**	**3.21**	**65**	*e*P		**Pn**	**09 17 16.5**	**-0.1**
COHC	**Cochancay**	**3.22**	**164**			**Pn**	**09 17 15.8**	**-0.7**
COHC	**Cochancay**	**3.22**	**164**	P		**Pn**	**09 17 16.0**	**-0.6**
COHC	**Cochancay**	**3.22**	**164**	*e*P		**Pn**	**09 17 19.4**	**+2.9**
CRUC	**La Cruz**	**3.33**	**74**	*e*P		**Pn**	**09 17 19.8**	**+1.4**
POPC	**Popayan, Colom**	**3.95**	**61**	*e*P		**Pn**	**09 17 26.9**	**0.0**
BOSC	**San Juan Bosco**	**4.12**	**156**	Pn		**Pn**	**09 17 31.9**	**+2.8**
BOSC	**San Juan Bosco**	**4.12**	**156**	P		**Pn**	**09 17 33.0**	**+3.9**
ARNL	**Arenillas**	**4.17**	**179**	Pn		**Pn**	**09 17 33.9**	**+4.3**
ARNL	**Arenillas**	**4.17**	**179**	P		**Pb**	09 17 35.0	-4.5
JAMC	**Jamundi, Valle**	**4.31**	**54**	*e*P		**Pn**	**09 17 32.6**	**+0.8**
MALC	**Bahia Malaga**	**4.37**	**40**	*e*P		**Pn**	**09 17 30.8**	**-1.6**
FLOC	**Florencia**	**4.59**	**78**	*e*P		**Pn**	**09 17 35.5**	**-0.1**
GARC	**Garzon, Huila**	**4.90**	**72**	*e*P		**Pn**	**09 17 42.0**	**+2.1**
MCRA	**Macar, Loja**	**4.98**	**178**	Pn		**Pn**	**09 17 44.9**	**+4.0**
MCRA	**Macar, Loja**	**4.98**	**178**	*e*P		**Pn**	**09 17 44.5**	**+3.5**
YOTC	**Yotoco, Valle**	**5.04**	**49**	*e*P		**Pn**	**09 17 42.4**	**+0.5**
BETC	**Betania**	**5.12**	**67**	*e*P		**Pn**	09 17 30.2	-13
PTLC	**Puerto Leguiza**	**5.37**	**95**	*e*P		**Pn**	**09 17 48.4**	**+2.1**
PLMC	**San Jos del P**	**5.73**	**42**	*e*P		**Pn**	**09 17 55.0**	**+3.7**
ORTC	**Ortega, Tolima**	**5.88**	**56**	*e*P		**Pn**	**09 17 54.8**	**+1.6**
PRAC	**Prado**	**6.08**	**60**	*e*P		**Pn**	**09 17 57.1**	**+1.1**
GUY2C	**Guyana, Caldas**	**6.60**	**46**	*e*P		**Pn**	**09 18 07.0**	**+3.5**
CBOC	**Ciudad Bolivar**	**6.63**	**38**	*e*P		**Pb**	09 18 14.9	-6.7
ROSC	**El Rosal**	**7.16**	**54**	Pn		**Pn**	**09 18 15.1**	**+3.9**
ROSC	**El Rosal**	**7.16**	**54**	*e*P		**Pn**	09 18 16.2	+5.1
ROSC	**El Rosal**	**7.16**	**54**	P		**Pn**	**09 18 13.9**	**+2.8**
ROSC	3.3nm,0.3s,baz=201,slow=7.5,SNR=13			S		Sb	09 19 44.2	-12
	29nm,0.7s,baz=331,slow=22,SNR=1.3							
	21nm,0.6s							
CVER	**Cruz Verde, Cu**	**7.19**	**57**	*e*P		**Pn**	**09 18 14.2**	**+2.6**
VILC	**Villavicencio,**	**7.31**	**62**	*e*P		**Pn**	**09 18 15.8**	**+2.8**
DBBC	**Dabeiba**	**7.45**	**32**	*e*P		**Pn**	**09 18 17.8**	**+2.9**
SPBC	**San Pablo de B**	**7.84**	**51**	*e*P		**Pn**	**09 18 21.2**	**+0.9**
ATAH	**Atahualpa**	**7.92**	**167**	P		**Pn**	**09 18 24.6**	**+3.0**
ATAH	0.6nm,0.3s,baz=358,slow=9.4,SNR=6.0			S		Sn	09 20 03.5	+12
	46nm,1.0s,baz=189,slow=13,SNR=4.4							
ATAH				LR		LR	09 22 14.9	
	comp=Z,753nm,20.9s,baz=346,slow=43							
	8.7nm,0.7s							
APAC	**Apartado, Choc**	**8.04**	**26**	*e*P		**Pn**	**09 18 23.5**	**+0.6**
UPD2	**Meteti**	**8.13**	**15**	*e*P		**Pn**	**09 18 27.6**	**+3.4**
PTBC	**PUERTO BERRIO,**	**8.16**	**44**	*e*P		Pn	09 18 29.4	+4.9
UREC	**San Jos de Ur**	**8.43**	**33**	*e*P		**Pn**	**09 18 31.1**	**+2.9**
ZARC	**Zaragoza, Cauc**	**8.61**	**38**	*e*P		**Pn**	**09 18 32.2**	**+1.5**
PTGC	**Puerto Gaitan,**	**8.75**	**66**	*e*P		Pn	09 18 37.9	+5.2
BARC	**Barichara**	**9.12**	**49**	*e*P		**Pn**	**09 18 42.5**	**+4.5**
RIMA	**Rio Macho**	**9.79**	**338**			**Pn**	**09 18 46.3**	**-0.8**
LCR2	**La Lucha 2**	**9.82**	**337**			**Pn**	**09 18 46.3**	**-1.2**
HDC	**Heredia**	**10.10**	**337**			**Pn**	**09 18 53.4**	**+2.1**
JTS	**Las Juntas de**	**10.71**	**334**	*e*P		**Pn**	**09 19 01.0**	**+1.5**
JTS	**Las Juntas de**	**10.71**	**334**	P		**Pn**	**09 19 03.1**	**+3.6**
JTS	0.3nm,0.3s,baz=196,slow=12,SNR=3.0			LR		LR	09 22 25.6	
	comp=Z,448nm,18.5s,baz=153,slow=33							
	4.6nm,0.6s							
CZSB	**Cruzeiro do Su**	**11.15**	**138**	Pn		**Pn**	**09 19 06.0**	**+0.4**
CZSB	**Cruzeiro do Su**	**11.15**	**138**	*e*P		**Pn**	**09 19 06.8**	**+1.2**
TBTG	**Tabatinga, AM**	**11.30**	**115**			**Pn**	**09 19 07.1**	**-0.6**
TBTG	**Tabatinga, AM**	**11.30**	**115**	*e*P		**Pn**	**09 19 08.6**	**+0.9**
SDV	**Santo Domingo**	**12.52**	**49**	*e*P		**Pn**	**09 19 26.5**	**+1.9**
SDV	**Santo Domingo**	**12.52**	**49**	P		**Pn**	**09 19 26.6**	**+2.0**
SDV	0.8nm,0.3s,baz=229,slow=14,SNR=5.7			LR		LR	09 24 45.6	
	comp=Z,211nm,21.8s,baz=208,slow=40							
	4.7nm,0.7s							
NNA	**Nana**	**12.97**	**165**	Pn		**Pn**	**09 19 32.9**	**+2.3**
NNA	**Nana**	**12.97**	**165**	*e*P		**Pn**	**09 19 33.9**	**+3.4**
NNA	**Nana**	**12.97**	**165**	P		**Pn**	**09 19 32.7**	**+2.2**
NNA	1.8nm,0.3s,baz=340,slow=11,SNR=8.3			S		**Sn**	**09 22 01.3**	**+6.4**
	6.0nm,0.5s,baz=207,slow=17,SNR=2.6							
NNA				LR		LR	09 24 44.5	
	comp=Z,207nm,18.2s,baz=338,slow=38							
	9.2nm,0.5s							
BAUV	**El Baul**	**14.61**	**55**	Pn		**Pn**	**09 19 50.1**	**-2.7**
TGUH	**Tegucigalpa,Un**	**15.08**	**332**	Pn		**Pn**	**09 19 56.5**	**-2.9**
MTO3	**Montecristo**	**16.42**	**327**			**Pn**	**09 20 13.4**	**-3.5**
ETMB	**Extrema**	**17.33**	**127**	Pn		**Pn**	**09 20 24.3**	**-3.9**
PCRV	**Puerto La Cruz**	**18.10**	**58**	P		**P**	**09 20 39.3**	**+1.2**
PCRV	1.3nm,0.3s,baz=256,slow=11,SNR=1.9			LR		LR	09 28 23.9	
	comp=Z,265nm,21.6s,slow=40							
	6.7nm,0.5s							
SAML	**Samuel**	**19.40**	**120**	P		**P**	**09 20 51.9**	**-0.5**
SAML				IAmb		IAmb	09 20 57.3	
	comp=Z,20nm,0.8s							
BOAV	**Boa Vista**	**19.70**	**85**	P		**P**	**09 20 54.1**	**-1.5**
BOAV	**Boa Vista**	**19.70**	**85**	*e*P		**P**	**09 20 53.5**	**-2.1**
MACA	**Manacapuru-AM**	**19.82**	**101**	P		**P**	**09 20 55.9**	**-1.1**
LPAZ	**La Paz**	**20.59**	**145**	P		**P**	**09 21 07.0**	**+1.1**
PB18	**Visviri**	**20.95**	**150**	P		**P**	**09 21 06.8**	**-2.9**
PB18				IAmb		IAmb	09 21 24.4	
	comp=Z,37nm,1.0s							
TEIG	**Tepich**	**21.02**	**338**	P		**P**	**09 21 10.7**	**+0.8**
	comp=Z,70nm,0.9s,baz=248,slow=16,SNR=2.4							
TEIG				LR		LR	09 28 37.0	
	comp=Z,1μm,18.9s,baz=315,slow=34							
	comp=Z,70nm,0.9s							
PB12	**IPOC Station P**	**21.43**	**154**	P		**P**	**09 21 13.8**	**-0.7**
PB12				IAmb		IAmb	09 21 25.5	
	comp=Z,33nm,1.1s							
PB16	**IPOC Station P**	**21.57**	**152**	P		**P**	**09 21 17.4**	**+1.0**
PB16				IAmb		IAmb	09 21 25.7	
	comp=Z,32nm,0.9s							
CMIG	**Matias Romero**	**21.85**	**319**	LR		LR	09 28 14.5	
	comp=Z,119nm,18.9s,baz=154,slow=32							
SJG	**San Juan**	**22.15**	**38**	P		**P**	**09 21 23.5**	**+1.5**
	comp=Z,11nm,0.7s,baz=266,slow=16,SNR=2.7							
SJG				LR		LR	09 31 32.9	
	comp=Z,136nm,20.7s,baz=215,slow=41							
	comp=Z,11nm,0.7s							

GO01	**Chusmiza**	**22.87**	**153**	P		**P**	**09 21 31.4**	**+1.2**
GO01				IAmb		IAmb	09 21 43.6	
	comp=Z,19nm,0.8s							
TA02	**Huaiquique**	**22.99**	**155**	P		**P**	**09 21 32.2**	**+1.4**
TA01	**Diego Aracena**	**23.23**	**156**	P		**P**	**09 21 34.2**	**+0.8**
VILB	**Vilhena**	**23.96**	**125**	P		**P**	**09 21 41.4**	**+0.8**
SIV	**San Ignacio**	**25.06**	**132**	LR		LR	09 33 25.9	
	comp=Z,302nm,19.5s,baz=315,slow=40							
LVC	**Limon Verde**	**25.58**	**155**	P		**P**	**09 21 54.8**	**-0.8**
LVC				IAmb		IAmb	09 22 00.2	
	comp=Z,16nm,1.1s							
LVC	**Limon Verde**	**25.58**	**155**	LR		LR	09 34 04.7	
	comp=Z,206nm,20.2s,baz=315,slow=41							
PTLB	**Pontes e Lacer**	**26.21**	**128**	P		**P**	**09 22 01.7**	**+0.6**
PTLB				IAmb		IAmb	09 22 02.6	
	comp=Z,17nm,0.9s							
AQDB	**Aquidauana**	**31.84**	**133**	P		**P**	**09 22 50.5**	**-0.6**
Y45A	**Yeager Farm, C**	**34.20**	**346**	P		**P**	**09 23 12.0**	**+0.3**
CPUP	**Villa Florida**	**34.69**	**142**	P		**P**	**09 23 15.8**	**-0.3**
	comp=Z,3.8nm,0.8s,baz=322,slow=9.4,SNR=7.7							
CPUP				LR		LR	09 40 44.3	
	comp=Z,241nm,18.9s,baz=322,slow=42							
	comp=Z,3.8nm,0.8s							
CPCT	**Cooper Cave**	**34.87**	**354**	P		**P**	**09 23 16.9**	**-0.5**
CPCT				IAmb		IAmb	09 23 18.8	
	comp=Z,7.8nm,0.9s							
TKL	**Tuckaleechee C**	**35.00**	**355**	LR		LR	09 36 52.6	
	comp=Z,108nm,20.0s,baz=170,slow=35							
V48A	**Smith Brothers**	**35.47**	**351**	P		**P**	**09 23 22.2**	**-0.3**
V48A				IAmb		IAmb	09 23 22.5	
	comp=Z,7.6nm,0.9s							
BDFB	**Brasilia**	**35.63**	**118**	P		**P**	**09 23 24.1**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=306,slow=14,SNR=4.8							
BDFB				LR		LR	09 39 45.4	
	comp=Z,61nm,21.6s,baz=318,slow=39							
	comp=Z,3.8nm,0.7s							
TXAR	**Lajitas Array**	**36.29**	**324**	P		**P**	**09 23 32.7**	**+2.9**
	comp=Z,0.5nm,0.9s,baz=139,slow=8.4,SNR=2.3							
TXAR				PcP		**PcP**	**09 25 55.4**	**+0.5**
	comp=Z,0.8nm,1.0s,baz=145,slow=4.9,SNR=4.2							
425A	**Indio Mountain**	**38.13**	**324**	P		**P**	**09 23 45.9**	**+0.4**
425A				IAmb		IAmb	09 24 06.7	
	comp=Z,9.9nm,1.4s							
ITAB	**Concordia**	**38.66**	**138**	P		**P**	**09 23 48.9**	**-1.0**
S39A	**Bolivar**	**38.81**	**343**	P		**P**	**09 23 49.7**	**-1.3**
SMWD	**Samnorwood**	**39.07**	**333**	P		**P**	**09 23 54.6**	**+1.3**
SMWD				IAmb		IAmb	09 24 09.8	
	comp=Z,12nm,1.2s							
RPN	**Rapa Nui**	**39.38**	**223**	LR		LR	09 36 17.9	
	comp=Z,56nm,19.1s,baz=358,slow=30							
CBKS	**Cedar Bluff**	**42.02**	**337**	P		**P**	**09 24 18.1**	**+0.5**
CBKS				IAmb		IAmb	09 24 20.1	
	comp=Z,13nm,0.9s							
ANMO	**Albuquerque**	**42.03**	**327**	P		**P**	**09 24 20.0**	**+2.0**
ANMO	**Albuquerque**	**42.03**	**327**	P		**P**	**09 24 19.7**	**+1.7**
	comp=Z,2.9nm,0.7s,baz=220,slow=9.3,SNR=11							
ANMO				LR		LR	09 41 46.2	
	comp=Z,38nm,21.3s,baz=224,slow=36							
	comp=Z,2.9nm,0.7s							
PLCA	**Paso Flores**	**42.10**	**169**	P		**P**	**09 24 18.8**	**+0.6**
PLCA				IAmb		IAmb	09 24 20.1	
	comp=Z,13nm,0.9s							
PLCA	**Paso Flores**	**42.10**	**169**	P		**P**	**09 24 19.4**	**+1.2**
	comp=Z,7.9nm,0.8s,baz=352,slow=9.2,SNR=16							
	comp=Z,7.9nm,0.8s							
SDCO	**Great Sand Dun**	**43.69**	**331**	P		**P**	**09 24 31.9**	**+0.5**
X16A	**Lo Mia Camp, P**	**44.55**	**322**	P		**P**	**09 24 40.2**	**+1.9**
RCBR	**Riachuelo**	**44.64**	**99**	LR		LR	09 43 27.3	
	comp=Z,57nm,20.4s,baz=259,slow=36							
WUAZ	**Wupatki**	**45.25**	**323**	P		**P**	**09 24 45.2**	**+1.3**
WUAZ				IAmb		IAmb	09 24 56.5	
	comp=Z,6.3nm,1.0s							
K30B	**Basset**	**45.34**	**340**	P		**P**	**09 24 44.9**	**+0.6**
PFO	**Pinyon Flats O**	**47.27**	**318**	LR		LR	09 42 08.4	
	comp=Z,44nm,21.8s,baz=138,slow=32							
SRU	**San Rafael Swe**	**47.30**	**328**	P		**P**	**09 25 01.2**	**+1.3**
SRU				IAmb		IAmb	09 25 08.1	
	comp=Z,5.2nm,1.2s							
BSUT	**Blindstream Ca**	**48.46**	**329**	P		**P**	**09 25 10.7**	**+1.5**
BSUT				IAmb		IAmb	09 25 13.9	
	comp=Z,8.5nm,1.2s							
PDAR	**Pinedale Array**	**49.53**	**332**	P		**P**	**09 25 17.4**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=124,slow=7.9,SNR=4.7							
PDAR				LR		LR	09 47 12.0	
	comp=Z,59nm,21.2s,baz=129,slow=37							
	comp=Z,0.4nm,0.7s							
ELK	**Elko**	**51.03**	**326**	P		**P**	**09 25 28.6**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=85,slow=12,SNR=1.8							
ELK				LR		LR	09 45 57.2	
	comp=Z,39nm,21.3s,baz=121,slow=35							
	comp=Z,0.5nm,0.7s

	34nm,0.2s								
DJR	**Jarkent**	**2.62**	**13**	*e*Pg		**Pb**	**09 37 14.5**	**-0.8**
	6.6nm,0.2s								
DJR				*e*Lg		Lg	09 37 49.2		
	60nm,0.0s								
DJR	**Jarkent**	**2.62**	**13**	Pg		**Pb**	**09 37 14.5**	**-0.8**
	6.6nm,0.2s								
DJR				Lg		Lg	09 37 49.2		
	60nm,0.0s								
TKM2	**Tokmak 2**	**2.75**	**296**	⇓*i*P		**Pn**	**09 37 13.8**	**+0.9**
	baz=96								
TKM2				⇓*i*S		**Sb**	**09 37 48.8**	**-2.9**
	baz=96								
TKM2	**Tokmak 2**	**2.75**	**296**	⇑Pg		**Pb**	**09 37 17.3**	**-0.2**
	2.8nm,0.5s								
TKM2				⇑Lg		Lg	09 37 55.8		
	19nm,0.5s								
DGS	**Degeres**	**2.78**	**303**	*e*Pg		**Pb**	**09 37 17.5**	**-0.5**
	3.0nm,0.2s								
DGS				*e*Lg		Lg	09 37 54.4		
	30nm,0.3s								
KZA	**Kyzart**	**2.79**	**277**	⇑*i*P		**Pn**	**09 37 14.1**	**+0.4**
	baz=78								
KZA				⇑*i*S		**Sn**	**09 37 49.7**	**+1.6**
	baz=78								
KRBS	**Karabastau**	**3.09**	**309**	*e*Pg		**Pb**	**09 37 22.9**	**-0.4**
	3.0nm,0.8s								
KRBS				*e*Lg		Lg	09 38 03.7		
	26nm,0.5s								
KRBS	**Karabastau**	**3.09**	**309**	Pg		**Pb**	**09 37 22.9**	**-0.4**
	3.0nm,0.8s								
KRBS				Lg		Lg	09 38 03.7		
	26nm,0.5s								
ARLS	**Aral**	**3.48**	**273**	⇑*e*P		**Pn**	**09 37 23.7**	**+0.9**
	baz=73								
ARLS				⇑*e*S		**Sn**	**09 38 05.9**	**+1.3**
	baz=73								
KAPS	**Kapalarasan**	**3.51**	**4**	*e*Pg		**Pb**	**09 37 31.0**	**+0.5**
	2.0nm,0.1s								
KAPS				*e*Lg		Lg	09 38 17.4		
	20nm,0.2s								
AML	**Almayashu**	**3.95**	**277**	⇓Pg		**Pb**	**09 37 38.4**	**+0.2**
	0.4nm,0.6s								
AML				⇑Lg		Lg	09 38 34.8		
	0.4nm,0.6s								
MAKZ	**Makanchi**	**5.47**	**22**	⇑Lg		Lg	09 39 19.8		
	2.9nm,0.8s								
MK31	**Makanchi Array**	**5.55**	**24**	⇑Pn		**Pn**	**09 37 51.5**	**+0.4**
	0.5nm,0.5s,baz=200,slow=14,SNR=8.0								
MK31				⇓Lg		Lg	09 39 24.0		
	3.0nm,0.7s,baz=333,slow=12,SNR=4.6								
KK31	**Karatay Array**	**6.40**	**285**	⇑Lg		Lg	09 39 53.4		
	0.8nm,0.4s,baz=86,slow=27,SNR=4.2								

CATAC ***i*** *09:50:04.0±1.5,6°.93N×78°.51W, h5km, MB5.0, mb4.5, ML4.6*
UPA ***i*** *09:50:24.7±1.7,7°.40N×80°.35W, h1km±8km, ML4.0, MW4.0*
ISC 17 09:50:23.3±1.2,7°.29N±0°.04×80°.32W±0°.02, h12km±8km, n47,σ1°.62/70,1C,Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACHO3	**Achotines, Los**	**0.19**	**49**	*e*P	**Pg**	**09 50 28.1**	**+0.6**
ACHO3				AMP		09 50 28.5	
	comp=Z,119μm,0.2s						
AZU	**Azuero**	**0.50**	**5**	*e*P	**Pg**	**09 50 33.5**	**+0.3**
AZU				*e*S	**Sg**	**09 50 40.5**	**+0.7**
AZU	**Azuero**	**0.50**	**5**	⇑*i*P	**Pg**	**09 50 33.5**	**+0.3**
AZU				*e*S	**Sg**	**09 50 40.4**	**+0.6**
PESE3	**Pese, Herrera**	**0.68**	**334**	*e*P	**Pg**	**09 50 36.7**	**+0.1**
PESE3				AMP		09 50 37.3	
	comp=Z,7μm,0.1s						
PESE3				*e*S	**Sg**	**09 50 45.9**	**+0.4**
MARI3	**Mariato, Verag**	**0.76**	**298**	*e*P	**Pb**	**09 50 38.3**	**-0.2**
MARI3				AMP		09 50 39.2	
	comp=Z,5μm,0.1s						
MARI3				*e*S	**Sg**	**09 50 49.1**	**+1.1**
CRIS3	**El Cristo, Coc**	**1.00**	**343**	*e*P	**Pb**	**09 50 42.1**	**-0.6**
CRIS3				*e*S	**Sb**	**09 50 55.5**	**-0.3**
GMAL	**Guarumal, Vera**	**1.02**	**297**	*e*P	**Pn**	**09 50 43.3**	**-0.2**
GMAL				*e*S	**Sn**	**09 51 00.6**	**+2.8**
STIA3	**Santiago, Vera**	**1.03**	**321**	*e*P	**Pb**	**09 50 42.8**	**-0.4**
STIA3				AMP		09 50 44.8	
	comp=Z,2μm,0.3s						
STIA3				*e*S	**Sn**	**09 51 00.6**	**+2.5**
RSUS3	**Rio de Jesus,**	**1.08**	**310**	*e*P	**Pb**	**09 50 43.8**	**-0.2**
RSUS3				AMP		09 50 44.1	
	comp=Z,2μm,0.2s						
RSUS3				*e*S	**Sn**	**09 50 58.8**	**-0.4**
SFRA3	**San Francisco,**	**1.15**	**326**	*e*P	**Pn**	**09 50 44.7**	**-0.6**
SFRA3				AMP		09 50 46.5	
	comp=Z,7μm,0.1s						
SFRA3				*e*S	**Sn**	**09 51 00.7**	**-0.3**
PNME	**Penonome**	**1.19**	**360**	*e*P	**Pn**	**09 50 45.2**	**-0.5**
PNME				*e*S	**Sb**	**09 51 00.5**	**-0.7**
PNME	**Penonome**	**1.19**	**360**	*e*P	**Pn**	**09 50 45.0**	**-0.8**
CHOR3	**La Chorrera**	**1.69**	**19**	*e*P	**Pb**	**09 50 53.8**	**-0.6**
CHOR3				*e*S	**Sb**	**09 51 15.5**	**-0.1**
NANC3	**Nancito, Chiri**	**1.69**	**304**	*e*P	**Pb**	**09 50 54.0**	**-0.3**
NANC3				AMP		09 50 55.2	
NANC3				*e*S	**Sg**	**09 51 17.1**	**-0.7**
UPA	**Univ. de Panam**	**1.85**	**25**	*e*P	**Pb**	**09 50 56.3**	**-0.8**
UPA				*e*S	**Sb**	**09 51 19.7**	**-0.5**
UPA	**Univ. de Panam**	**1.85**	**25**	*e*P	**Pb**	**09 50 56.0**	**-1.1**
BCIP	**Isla Barro Col**	**1.92**	**14**	*i* P	**Pb**	**09 50 57.5**	**-0.8**
BCIP				*e*S	**Sb**	**09 51 22.3**	**0.0**
BCIP	**Isla Barro Col**	**1.92**	**14**	*e*P	**Pb**	**09 50 57.0**	**-1.4**
PEDE3	**Pedregal, Chir**	**2.35**	**298**	*e*P	**Pb**	**09 51 06.1**	**+0.5**
PEDE3				AMP		09 51 07.7	
	comp=Z,669nm,0.3s						
PEDE3				*e*S	**Sb**	**09 51 35.8**	**+1.1**
DVD	**David**	**2.40**	**298**	*e*P	**Pb**	**09 51 05.7**	**-0.8**
CHGR2	**Aguacate**	**2.44**	**312**	*e*P	**Pb**	**09 51 06.7**	**-0.4**
CHGR2				*e*S	**Sb**	**09 51 39.0**	**+1.7**
PTAC	**Punta Ardita,**	**2.49**	**93**	*e*P	**Pn**	**09 51 03.0**	**-0.7**
TOTI	**Torti**	**2.57**	**51**	*e*P	**Pb**	**09 51 07.5**	**-1.9**
TOTI				*e*S	**Sb**	**09 51 41.4**	**+0.4**
LNBQ3	**Los Naranjos,**	**2.58**	**305**	*e*P	**Pn**	**09 51 04.5**	**-0.5**
UPD2	**Meteti**	**2.60**	**61**	*e*P	**Pb**	**09 51 07.7**	**-2.2**
UPD2				*e*S	**Sb**	**09 51 39.5**	**-2.3**
UPD2	**Meteti**	**2.60**	**61**	*e*P	**Pb**	**09 51 07.6**	**-2.2**
BCO2	**Palmira**	**2.61**	**303**	*e*P	**Pb**	**09 51 09.0**	**-1.1**
BRU2	**Volcan**	**2.79**	**303**	*e*P	**Pb**	**09 51 12.4**	**-0.8**
BRU2	**Volcan**	**2.79**	**303**	*i* P	**Pb**	**09 51 11.9**	**-1.3**
BRU2				*i* S	**Sb**	**09 51 48.8**	**+1.5**
BRU2				IAML		09 52 05.4	
	comp=Z,580nm,1.0s						
CDITO	**Canoas**	**2.83**	**297**	*e*P	**Pb**	**09 51 12.3**	**-1.7**
CDITO	**Canoas**	**2.83**	**297**	*i* P	**Pb**	**09 51 12.2**	**-1.7**
CDITO				*i* P	**Sg**	**09 51 53.1**	**-1.4**
SOLC	**Bahia Solano**	**3.08**	**110**	*e*P	**Pn**	**09 51 10.6**	**-1.2**
POTG	**Potrero Grande**	**3.28**	**302**	*i* P	**Pb**	**09 51 19.1**	**-2.5**
POTG				IAmb	IAmb	09 51 27.5	
	comp=Z,190nm,0.5s						
POTG				IVmB_BB		09 52 14.6	
	comp=Z,3μm,1.0s						
POTG				IAML		09 52 19.7	
	comp=Z,300nm,1.0s						
OCHAL	**Ojochal**	**3.75**	**299**	*i* P	**Pb**	**09 51 28.5**	**-1.1**
OCHAL				IAmb	IAmb	09 51 36.6	
	comp=Z,0.5nm,0.6s						
OCHAL				IAML		09 51 43.2	
	comp=Z,1.0nm,1.0s						
APAC	**Apartado, Choc**	**3.75**	**80**	*e*P	**Pn**	**09 51 24.8**	**+3.7**
APAC				*e*S	**Sn**	**09 52 07.5**	**+2.2**
CDM	**Cerro de Muert**	**4.08**	**304**	*i* P	**Pb**	**09 51 31.7**	**-3.8**
CDM				IAmb	IAmb	09 51 43.0	
	comp=Z,71nm,0.9s						
CDM				*i* S	**Sg**	**09 52 34.5**	**-0.2**
CDM				IAML		09 52 38.1	
	comp=Z,130nm,1.0s						
DBBC	**Dabeiba**	**4.08**	**94**	*e*P	**Pn**	**09 51 27.1**	**+1.4**
RIMA	**Rio Macho**	**4.28**	**305**	*i* P	Pb	09 51 33.7	-5.1
RIMA				IAmb	IAmb	09 51 46.1	
	comp=Z,41nm,0.9s						
RIMA				*i* S	**Sg**	**09 52 37.9**	**-3.2**
RIMA				IAML		09 52 40.4	
	comp=Z,160nm,1.0s						
LCR2	**La Lucha 2**	**4.39**	**304**	*i* P	Pn	09 51 34.9	+4.9
LCR2				IVmB_BB		09 51 47.6	
	comp=Z,780nm,1.0s						
LCR2				IAmb	IAmb	09 51 48.5	
	comp=Z,54nm,0.9s						
LCR2				*i* S	**Sg**	**09 52 46.5**	**+2.2**
LCR2				IAML		09 52 50.1	
	comp=Z,130nm,1.0s						
CBOC	**Ciudad Bolivar**	**4.51**	**108**	*e*P	**Pn**	**09 51 32.1**	**+0.5**
PLMC	**San Jos del P**	**4.66**	**120**	*e*P	**Pn**	**09 51 33.6**	**0.0**
PLMC				*e*S	**Sn**	**09 52 25.5**	**-2.2**
UREC	**San Jos de Ur**	**4.77**	**84**	*e*P	**Pn**	**09 51 37.1**	**+2.1**
UREC	**San Jos de Ur**	**4.77**	**84**	*e*P	**Pn**	**09 51 37.5**	**+2.4**
JACO	**JACO, Garabito**	**4.90**	**299**	*i* P	**Pb**	**09 51 45.0**	**-4.1**
GUY2C	**Guyana, Caldas**	**5.33**	**112**	*e*P	**Pn**	**09 51 46.0**	**+2.7**
ZARC	**Zaragoza, Cauc**	**5.42**	**88**	*e*P	**Pn**	**09 51 46.2**	**+2.2**
ORTC	**Ortega, Tolima**	**6.06**	**123**	*e*P	**Pn**	**09 51 55.5**	**+2.6**

CATAC ***i*** *09:55:41.4±0.5,9°.39N×84°.62W, h4km±3km, ML3.2*
UCR ***i*** *09:55:42.8±1.0,9°.45N×84°.62W, h13km±9km, MW3.7*
ISC 17 09:55:41.8±1.1,9°.41N±0°.04×84°.62W±0°.02, h17km±7km, n77,σ0°.53/99,1C-2D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.25**	**351**	*e*P	**Pg**	**09 55 47.5**	**+0.1**
JACO				*e*S	**Sg**	**09 55 51.5**	**+0.3**
JACO	**JACO, Garabito**	**0.25**	**351**	*i* P	**Pg**	**09 55 47.5**	**+0.1**
JACO				*i* S	**Sg**	**09 55 51.6**	**+0.3**
JACO				IAML		09 55 52.8	
	comp=Z,2μm,1.0s						
SVQ2	**Quepos**	**0.45**	**88**	*e*P	**Pb**	**09 55 51.5**	**+0.2**
SVQ2				*e*S	**Sb**	**09 55 57.9**	**+0.2**
CBL1	**Cabuya**	**0.50**	**290**	*e*P	**Pb**	**09 55 52.5**	**+0.3**
LLNJ	**Naranjito**	**0.51**	**83**	*e*P	**Pb**	**09 55 52.6**	**+0.2**
LLNJ				*e*S	**Sb**	**09 56 00.6**	**+1.0**
TRB2	**Turrubares**	**0.53**	**19**	*e*P	**Pg**	**09 55 52.1**	**-0.2**
TRB2				*e*S	**Sg**	**09 55 59.2**	**-0.2**
ARZA	**Esparza**	**0.58**	**355**	*e*P	**Pb**	**09 55 54.0**	**+0.4**
ACOS	**Acosta**	**0.59**	**50**	*e*P	**Pg**	**09 55 53.4**	**-0.1**
ABE2	**San Pablo**	**0.63**	**62**	*e*P	**Pg**	**09 55 54.2**	**-0.1**
RAZU	**San Marcos de**	**0.64**	**67**	*e*P	**Pg**	**09 55 54.4**	**0.0**
SRA1	**San Ramn**	**0.68**	**11**	*e*P	**Pg**	**09 55 55.0**	**-0.2**
LCR2	**La Lucha 2**	**0.69**	**62**	*e*P	**Pg**	**09 55 54.3**	**-1.1**
LCR2	**La Lucha 2**	**0.69**	**62**	*i* P	**Pg**	**09 55 54.8**	**-0.6**
LCR2				*i* S	**Sg**	**09 56 04.3**	**-0.2**
LCR2				IAML		09 56 04.5	
	comp=Z,1μm,1.0s						
TCS1	**Tacares**	**0.70**	**27**	*i* P	**Pb**	**09 55 56.0**	**+0.3**
TCS1				IAML		09 56 11.1	
	comp=Z,4μm,1.0s						
BELE	**Belen**	**0.70**	**37**	*e*P	**Pb**	**09 55 56.0**	**+0.3**
AMPA	**Desamparados**	**0.73**	**49**	*e*P	**Pg**	**09 55 55.5**	**-0.6**
HDC3	**Heredia 3**	**0.77**	**40**	*i* P	**Pb**	**09 55 57.2**	**+0.3**
HDC3				*i* S	**Sg**	**09 56 07.0**	**-0.1**
HDC3				IAML		09 56 12.9	
	comp=Z,640nm,1.0s						
RIMA	**Rio Macho**	**0.82**	**65**	*e*P	**Pb**	**09 55 57.2**	**-0.6**
RIMA	**Rio Macho**	**0.82**	**65**	*i* P	**Pb**	**09 55 57.2**	**-0.6**
RIMA				*i* S	**Sb**	**09 56 08.3**	**-0.4**
RIMA				IAML		09 56 08.4	
	comp=Z,540nm,1.0s						
REPA	**Paraso**	**0.84**	**61**	*e*P	**Pg**	**09 55 58.6**	**+0.3**
NYURE	**Nandayure**	**0.85**	**313**	*e*P	**Pb**	**09 55 58.2**	**-0.1**
CDM	**Cerro de Muert**	**0.85**	**81**	*e*P	**Pb**	**09 55 58.2**	**-0.3**
VPTE	**Poasito**	**0.86**	**29**	*i* P	**Pb**	**09 55 58.2**	**-0.3**
VPTE				*i* S	**Sb**	**09 56 07.8**	**-2.1**
VPTE				IAML		09 56 12.2	
	comp=Z,660nm,1.0s						
BUS1	**Rivas**	**0.87**	**81**	*e*P	**Pb**	**09 55 58.4**	**-0.4**
JUNT	**Juntas**	**0.93**	**339**	*e*P	**Pb**	**09 55 59.7**	**+0.2**
JTS	**Las Juntas de**	**0.93**	**339**	*e*P	**Pb**	**09 55 58.7**	**-0.9**
PCAYA	**Pacayas**	**0.94**	**58**	*e*P	**Pb**	**09 55 59.9**	**+0.1**
HAYA	**Volcan Irazu**	**0.95**	**54**	*i* P	**Sg**	**09 56 13.9**	**+1.0**
SOCE	**Pocosol**	**0.96**	**360**	*e*P	**Pb**	**09 56 00.2**	**0.0**
SOCE	**Pocosol**	**0.96**	**360**	*i* P	**Pb**	**09 56 00.2**	**0.0**
SOCE				*i* S	**Sg**	**09 56 13.6**	**+0.4**
SOCE				IAML		09 56 17.5	
	comp=Z,580nm,1.0s						
INDI	**Punta indio, G**	**0.98**	**297**	*e*P	**Pb**	**09 56 00.3**	**-0.2**
INDI	**Punta indio, G**	**0.98**	**297**	*i* P	**Pb**	**09 56 00.1**	**-0.3**
INDI				IAML		09 56 21.7	
	comp=Z,250nm,1.0s						
VINA	**Juan Vinas**	**0.98**	**61**	*e*P	**Pb**	**09 56 00.3**	**-0.2**
CMARA	**Lajas Hojancha**	**1.00**	**307**	*e*P	**Pb**	**09 56 00.2**	**-0.5**
OCHAL	**Ojochal**	**1.01**	**108**	*i* P	**Pb**	**09 56 00.4**	**-0.5**
OCHAL				IAML		09 56 21.1	
	comp=Z,4.4nm,1.0s						
CASO	**Castillo**	**1.02**	**354**	⇓*i*P	**Pb**	**09 56 00.9**	**-0.3**
CASO				*e*S	**Sb**	**09 56 14.5**	**+0.2**
CVTV	**Tajo**	**1.04**	**55**	*e*P	**Pb**	**09 56 01.5**	**-0.1**
VTCV	**VTCV, Calle Va**	**1.04**	**57**	*e*P	**Pb**	**09 56 01.4**	**-0.2**
FORC	**Fortuna**	**1.05**	**357**	⇑*e*P	**Pb**	**09 56 01.4**	**-0.1**
FORC				*e*S	**Sg**	**09 56 16.0**	**+0.1**
VACR	**Volcan Arenal**	**1.05**	**357**	*i* P	**Pb**	**09 56 01.7**	**0.0**
VACR				*i* S	**Sn**	**09 56 16.8**	**+0.5**
VACR				IAML		09 56 30.6	
	comp=Z,390nm,1.0s						
CEDE	**Laguna Cedeo**	**1.07**	**355**	*e*P	**Pb**	**09 56 02.0**	**0.0**
NICO	**Nicoya**	**1.09**	**311**	*e*P	**Pg**	**09 56 03.1**	**+0.2**
DUNO	**Dulce Nombre,**	**1.09**	**308**	*i* P	**Pb**	**09 56 01.2**	**-1.1**
DUNO				IAML		09 56 20.5	
	comp=Z,250nm,1.0s						
TABAC	**Tabacon**	**1.09**	**352**	*e*P	**Pb**	**09 56 02.0**	**-0.3**
TABAC				*e*S	**Sg**	**09 56 17.1**	**-0.1**
RVSTA	**Santa Teresita**	**1.11**	**60**	*e*P	**Pb**	**09 56 02.4**	**-0.2**
RIFO	**Rio Frio, Sara**	**1.13**	**37**	*e*P	**Pn**	**09 56 02.7**	**-0.2**
RIFO	**Rio Frio, Sara**	**1.13**	**37**	*i* P	**Pn**	**09 56 02.8**	**-0.1**
RIFO				*i* S	**Sn**	**09 56 18.2**	**+0.1**
RIFO				IAML		09 56 20.8	
	comp=Z,660nm,1.0s						
JUD3	**Juan Diaz 3**	**1.18**	**310**	*e*P	**Pn**	**09 56 03.3**	**-0.3**
COTE	**Lago Cote**	**1.19**	**346**	*e*P	**Pn**	**09 56 03.9**	**0.0**
EDPN	**Palmar Norte**	**1.23**	**111**	*e*P	**Pn**	**09 56 04.7**	**+0.4**
LCOCO	**El Coco**	**1.24**	**57**	*e*P	**Pn**	**09 56 04.9**	**+0.4**
ORTG	**Ortega, Santa**	**1.26**	**319**	*e*P	**Pn**	**09 56 04.5**	**-0.3**
ORTG	**Ortega, Santa**	**1.26**	**319**	*i* P	**Pn**	**09 56 04.4**	**-0.3**
ORTG				*i* S	**Sg**	**09 56 22.1**	**-0.4**
ORTG				IAML		09 56 32.5	
	comp=Z,260nm,1.0s						
ACAL	**Aguas Claras**	**1.28**	**341**	⇓*i*P	**Pn**	**09 56 05.0**	**-0.1**
ACAL				*e*S	**Sb**	**09 56 21.7**	**-0.2**
MOTZ	**Rio Naranjo**	**1.34**	**341**	*e*P	**Pn**	**09 56 06.2**	**+0.3**
MOTZ				*e*S	**Sb**	**09 56 23.8**	**+0.2**
PTEN	**Parque Tenorio**	**1.34**	**344**	*e*P	**Pn**	**09 56 05.9**	**-0.1**
EDBA	**Buenos Aires**	**1.35**	**101**	*e*P	**Pb**	**09 56 07.2**	**+0.5**
CUI	**Cuipilapa**	**1.35**	**337**	*e*P	**Pn**	**09 56 06.1**	**+0.1**
COLC	**Colonia**	**1.37**	**335**	*e*P	**Pn**	**09 56 06.2**	**-0.1**
HORNC	**Hornillas**	**1.40**	**337**	*e*P	**Pn**	**09 56 07.3**	**+0.5**
TRT2	**Tortugero**	**1.43**	**37**	*i* P	**Pn**	**09 56 07.6**	**+0.5**
TRT2				IAML		09 56 28.7	
	comp=Z,310nm,1.0s						
MESS	**Mesas**	**1.44**	**337**	*e*P	**Pn**	**09 56 07.4**	**+0.2**
MESS				*e*S	**Sb**	**09 56 26.3**	**0.0**
VERA	**Finca Concepci**	**1.45**	**350**	*e*P	**Pb**	**09 56 08.1**	**-0.4**
CLARA	**Aguas Claras**	**1.47**	**338**	*e*P	**Pn**	**09 56 07.6**	**0.0**
VMAR	**Armenia, Volca**	**1.47**	**341**	*e*P	**Pn**	**09 56 08.4**	**+0.7**
VMAR	**Armenia, Volca**	**1.47**	**341**	*i* P	**Pg**	**09 56 10.8**	**+0.6**
VMAR				*i* S	**Sb**	**09 56 28.0**	**+0.6**
CANAL	**Canalete**	**1.48**	**343**	*e*P	**Pn**	**09 56 08.1**	**+0.4**
GP77	**Hacienda Santa**	**1.51**	**333**	*e*P	**Pb**	**09 56 09.5**	**0.0**
GPS2	**Hotel Rincn d**	**1.52**	**332**	*e*P	**Pb**	**09 56 09.6**	**+0.1**
POTG	**Potrero Grande**	**1.52**	**104**	*i* P	**Pb**	**09 56 09.6**	**-0.1**
POTG				*i* S	**Sg**	**09 56 31.1**	**+0.1**
POTG				IAML		09 56 34.9	
	comp=Z,570nm,1.0s						
GPS3	**Bodega del ICE**	**1.52**	**331**	*e*P	**Pb**	**09 56 10.1**	**+0.4**
LAPC	**Finca la Perla**	**1.57**	**329**	*e*P	**Pn**	**09 56 09.5**	**+0.5**
BUEV	**Buena Vista**	**1.58**	**331**	*e*P	**Pb**	**09 56 10.5**	**-0.2**
GBS3	**Finca Las Img**	**1.59**	**329**	*e*P	**Pn**	**09 56 09.2**	**-0.1**
HZTE	**Horizontes, Gu**	**1.61**	**323**	*i* P	**Pb**	**09 56 11.5**	**+0.3**
HZTE				*i* S	**Sg**	**09 56 33.5**	**-0.4**
HZTE				IAML		09 56 50.8	
	comp=Z,210nm,1.0s						
AERN	**Aeropuerto Man**	**3.11**	**331**	*i* P	**Pb**	**09 56 34.6**	**-2.2**
HUEH	**Huehuetenango**	**8.93**	**312**	*i* P	**Pn**	**09 57 52.3**	**+2.0**

NEIC ***i*** *10:11:16.8±1.1,20°.7S±0°.1×178°.8W±0°.1, h609km±9km, mb4.4/33, Error ellipse: s-maj=21.5km s-min=18.7km az=132.0*
IDC ***i*** *10:11:18.3±1.7,20°.81S×178°.76W, h634km±21km, mb3.4/15, mbtmp4.4/17, Error ellipse: s-maj=19.0km s-min=10.6km az=157.0*

ISC 17 10:11:15.7±0.5,20°.72S±0°.08×178°.80W±0°.09, h600km, n113,σ1°.15/115, mb4.3/27, 8C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.53**	**175**	P	**P**	**10 13 22.2**	**+2.2**
RAO	**Raoul Island**	**8.53**	**175**	P	**P**	**10 13 22.9**	**+2.9**
	283nm,0.4s,baz=288,slow=23,SNR=4.3						
MARNC	**Mare, Loyalty**	**12.32**	**264**	P	**P**	**10 13 58.2**	**+0.6**
PINNC	**Pines Island,**	**12.93**	**259**	P	**P**	**10 14 04.2**	**+0.5**
LIFNC	**LIFOU**	**13.06**	**267**	P	**P**	**10 14 04.4**	**-0.7**
DZM	**Mont Dzumac**	**13.81**	**262**	P	**P**	**10 14 12.4**	**-0.4**
DZM	**Mont Dzumac**	**13.81**	**262**	P	**P**	**10 14 13.7**	**+0.9**
	4.1nm,0.4s,baz=287,slow=21,SNR=8.9						
URZ	**Urewera**	**17.84**	**191**	P	**P**	**10 14 48.6**	**-1.0**
URZ	4.7nm,0.4s,baz=63,slow=1.8,SNR=16			S	**S**	**10 17 37.4**	**-5.9**
	1.7nm,0.6s,baz=145,slow=21,SNR=0.9						
RTZ	**Ruatahuna**	**18.20**	**191**	P	**P**	**10 14 51.7**	**-1.3**
RTZ				IAmb	IAmb	10 15 25.5	
	comp=Z,18nm,1.2s						
MRZ	**Mangatainoka R**	**20.45**	**192**	P	**P**	**10 15 13.2**	**0.0**
MRZ				IAmb	IAmb	10 15 35.7	
	comp=Z,17nm,1.1s						
TKNZ	**Takaka Hill**	**21.43**	**197**	P	**P**	**10 15 21.2**	**-0.9**
THZ	**Tophouse**	**22.12**	**197**	P	**P**	**10 15 27.4**	**-0.9**
DSZ	**Dennistoun Nort**	**22.42**	**199**	P	**P**	**10 15 30.4**	**-0.5**
WKZ	**Wanaka**	**26.07**	**200**	P	**P**	**10 16 01.8**	**-1.3**
WHZ	**Wether Hill Ro**	**27.36**	**200**	P	**P**	**10 16 15.4**	**+1.1**
EIDS	**Eidsvold**	**28.07**	**255**	P	**P**	**10 16 20.9**	**+0.1**
EIDS				IAmb	IAmb	10 16 46.9	
	comp=Z,24nm,1.4s						
ARMA	**Armidale**	**28.30**	**244**	P	**P**	**10 16 23.8**	**+0.9**
ARMA				IAmb	IAmb	10 16 57.7	
	comp=Z,15nm,1.4s						
CTA	**Charters Tower**	**32.72**	**265**	P	**P**	**10 17 01.7**	**+1.0**
	comp=Z,4.8nm,0.5s,baz=100,slow=13,SNR=3.4						
	comp=Z,4.8nm,0.5s						
CTAO	**Charters Tower**	**32.72**	**265**	P	**P**	**10 17 01.4**	**+0.7**
CTAO				IAmb	IAmb	10 17 03.1	
	comp=Z,19nm,1.2s						
TOO	**Toolangi**	**35.16**	**234**	P	**P**	**10 17 21.6**	**+0.7**
STKA	**Stephens Creek**	**37.02**	**244**	P	**P**	**10 17 36.9**	**+0.8**
STKA	**Stephens Creek**	**37.02**	**244**	P	**P**	**10 17 37.5**	**+1.4**
	comp=Z,2.0nm,0.5s,baz=84,slow=11,SNR=6.3						
	comp=Z,2.0nm,0.5s						
BBOO	**Buckleboo**	**41.78**	**244**	P	**P**	**10 18 14.4**	**+0.2**
BBOO				IAmb	IAmb	10 18 34.6	
	comp=Z,34nm,1.5s						
WR0	**Warramunga Arr**	**43.64**	**262**	P	**P**	**10 18 29.4**	**+0.6**
WR0				IAmb	IAmb	10 18 31.8	
	comp=Z,17nm,1.4s						
AS31	**Alice Springs**	**43.74**	**257**	P	**P**	**10 18 30.5**	**+0.9**
ASAR	**Alice Springs**	**43.74**	**257**	P	**P**	**10 18 29.9**	**+0.3**
ASAR	**Alice Springs**	**43.74**	**257**	P	**P**	**10 18 30.5**	**+0.9**
	comp=Z,9.4nm,0.7s,baz=92,slow=7.5,SNR=211						
ASAR				PcP	**PcP**	**10 20 03.3**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=102,slow=3.6,SNR=12						
ASAR				S	**S**	**10 24 17.1**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=94,slow=15,SNR=9.5						
	comp=Z,9.4nm,0.7s						
WB0	**Warramunga Arr**	**43.81**	**263**	P	**P**	**10 18 30.5**	**+0.3**
WB0				IAmb	IAmb	10 18 31.1	
	comp=Z,7.3nm,0.6s						
WB2	**Warramunga Arr**	**43.82**	**262**	P	**P**	**10 18 30.2**	**-0.1**
WB2				IAmb	IAmb	10 18 31.3	
	comp=Z,8.3nm,1.0s						
WRAB	**Tennant Creek**	**43.82**	**262**	P	**P**	**10 18 30.5**	**+0.3**
W

BUR08	**Bucovina Ar. S**	**146.86**	**330**			**PKPbc**	**10 29 52.2**	**+0.5**
BURAR	**Bucovina Array**	**146.88**	**330**	⇑P		**PKPbc**	**10 29 52.0**	**+0.3**
MMAI	**Mount Meron Ar**	**147.27**	**299**	PKPbc		**PKPbc**	**10 29 53.2**	**0.0**
	comp=Z,5.6nm,0.5s,baz=69,slow=4.6,SNR=13							
VRI	**Vrincioaia**	**147.34**	**326**	⇓P		**PKPdf**	**10 29 52.3**	**+2.8**
OSTC	**Ostas**	**147.95**	**342**	*e*PKP		**PKPbc**	**10 29 54.6**	**+0.3**
OSTC				*ex*	x		10 29 59.8	
DOPR	**Dopca**	**147.95**	**327**	⇑P		**PKPbc**	**10 29 55.3**	**+0.9**
MLR	**Muntele Rosu**	**147.99**	**326**	⇑P		**PKPbc**	**10 29 54.5**	**-0.2**
UPC	**Upice**	**148.05**	**342**	*e*PKP		**PKPbc**	**10 29 54.2**	**-0.3**
UPC				*ex*	x		10 29 59.9	
CLL	**Collm**	**148.10**	**346**	*i* PKPbc		**PKPbc**	**10 29 54.6**	**0.0**
	comp=Z,12nm,0.9s							
DPC	**Dobruska-Polom**	**148.10**	**342**	*e*PKP		**PKPbc**	**10 29 55.0**	**+0.3**
DPC				*ex*	x		10 29 59.1	
MORC	**Moravsky Berou**	**148.23**	**340**	⇑P		**PKPbc**	**10 29 55.5**	**+0.4**
MORC	**Moravsky Berou**	**148.23**	**340**	*e*PKP		**PKPbc**	**10 29 55.4**	**+0.4**
MAUC	**Maruska**	**148.49**	**339**	*e*PKP		**PKPbc**	**10 29 55.6**	**-0.1**
VOIR		**148.49**	**327**	⇓P		**PKPbc**	**10 29 56.2**	**+0.3**
MARR	**Marisel-Cluj**	**148.54**	**330**	⇑P		**PKPdf**	**10 29 54.8**	**+3.3**
ARR	**Arges**	**148.75**	**327**	⇑P		**PKPbc**	**10 29 57.4**	**+0.8**
PRU	**Pruhonice**	**148.93**	**343**	*e*PKP		**PKPbc**	**10 29 56.4**	**-0.3**
VRAC	**Vranov**	**148.94**	**340**	*e*PKP		**PKPbc**	**10 29 56.8**	**0.0**
VRAC				*e*			10 30 03.5	
JAVC	**Velka Javorina**	**148.98**	**339**	*e*PKP		**PKPbc**	**10 29 58.3**	**+1.4**
KRUC	**Moravsky**	**149.22**	**340**	*e*PKP		**PKPbc**	**10 29 57.6**	**+0.2**
NKC	**Novy Kostel**	**149.23**	**346**	*e*PKP		**PKPbc**	**10 29 57.6**	**+0.2**
SIRR	**Siria**	**149.51**	**331**	⇑P		**PKPbc**	**10 29 58.5**	**+0.3**
ZVC	**Zvikov**	**149.53**	**343**	*e*PKP		**PKPbc**	**10 29 57.5**	**-0.6**
ZVC				*ex*	x		10 30 05.8	
GZR	**Gura Zlata**	**149.65**	**329**	⇓P		**PKPbc**	**10 29 58.2**	**-0.5**
SURR	**Surduc**	**149.69**	**330**	⇓P		**PKPbc**	**10 29 58.5**	**-0.1**
KHC	**Kasperske Hory**	**149.97**	**344**	*e*PKP		**PKPbc**	**10 29 58.5**	**-0.8**
KHC				*ex*	x		10 30 05.0	
BZS	**Buzias**	**150.03**	**331**	⇓P		**PKPbc**	**10 29 58.9**	**-0.6**
CKRC	**Cesky Krumlov**	**150.06**	**343**	*e*PKP		**PKPbc**	**10 29 59.6**	**+0.2**
HERR	**Herculane**	**150.20**	**329**	⇑P		**PKPbc**	**10 29 59.4**	**-0.5**
GERES	**GERESS Array B**	**150.20**	**343**	PKPbc		**PKPbc**	**10 29 58.6**	**-1.3**
	comp=Z,2.5nm,0.7s,baz=20,slow=4.3,SNR=7.7							
CONA	**Conrad Observa**	**150.38**	**340**	*i* PKP		**PKPbc**	**10 30 00.3**	**0.0**
	comp=Z,2.9nm,0.6s							
RONA	**Rosalia, Austr**	**150.44**	**339**	*i* PKP		**PKPbc**	**10 30 00.6**	**+0.2**
	comp=Z,4.1nm,0.4s							
LESA	**Schwarzleotal**	**151.78**	**343**	*i* PKP		**PKPbc**	**10 30 03.1**	**-0.4**
	comp=Z,1.8nm,0.5s							
RETA	**Reutte**	**152.19**	**346**	*i* PKP		**PKPbc**	**10 30 04.1**	**-0.2**
	comp=Z,1.0nm,0.4s							
WTTA	**Wattenberg**	**152.19**	**345**	*i* PKP		**PKPbc**	**10 30 04.1**	**-0.4**
	comp=Z,3.1nm,0.4s							
SQTA	**Sankt Quirin**	**152.34**	**345**	*i* PKP		**PKPbc**	**10 30 05.0**	**+0.2**
	comp=Z,0.7nm,0.2s							
ABTA	**Abfaltersbach**	**152.44**	**343**	*e*PKP		**PKPbc**	**10 30 04.0**	**-1.0**
	comp=Z,2.3nm,0.5s							
FETA	**Feichten**	**152.64**	**346**	*e*PKP		**PKPbc**	**10 30 05.3**	**-0.2**
	comp=Z,1.1nm,0.5s							
ESDC	**Sonseca Array**	**160.59**	**12**	PKPab		**PKPab**	**10 30 52.6**	**-1.0**
	comp=Z,1.6nm,1.0s,baz=337,slow=5.0,SNR=5.5							

*ISK **17** 10:32:12.8, 40°.54N×34°.88E, h6km, ML3.0/22*
*AFAD **17** 10:32:13.1±0.0, 40°.45N×34°.87E, h13km±1km, ML2.5*
ISC 17 10:32:13.1±0.9**, 40°.49N**±0°.02×**34°.88E**±0°.02**, h14**km±7km**, n37**, σ1°.01/54, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CTAK	**Corum_Osmancik**	**0.17**	**337**	P		**Pg**	**10 32 17.9**	**+0.4**
CTAK				S		**Sg**	**10 32 21.0**	**+0.6**
CTAK				*i* AML		AML	10 32 22.0	
	comp=N,3μm,0.2s							
CTAK				*i* AML		AML	10 32 22.0	
	comp=E,2μm,0.4s							
COAL	**Corum-Alaca**	**0.24**	**161**	P		**Pg**	**10 32 18.5**	**0.0**
COAL				S		**Sg**	**10 32 21.7**	**-0.4**
COAL				*i* AML		AML	10 32 22.0	
	comp=N,1μm,0.3s							
COAL				*i* AML		AML	10 32 22.0	
	comp=E,2μm,0.3s							
CORM	**Corum**	**0.36**	**212**	Pg		**Pb**	**10 32 21.3**	**-0.1**
CORM				Sg		**Sb**	**10 32 27.6**	**+0.6**
CKRK	**Yozgat, Cekere**	**0.63**	**131**	P		**Pg**	**10 32 24.6**	**-0.9**
CKRK				S		**Sg**	**10 32 31.9**	**-1.8**
CKRK				*i* AML		AML	10 32 33.0	
	comp=E,346nm,0.5s							
CKRK				*i* AML		AML	10 32 35.0	
	comp=N,361nm,0.3s							
YARM	**Yarimca-Ladik(**	**0.84**	**58**	Pg		**Pg**	**10 32 28.9**	**-0.5**
YARM				Sg		**Sb**	**10 32 40.9**	**+0.2**
DELI	**KIRIKKALE**	**0.88**	**237**	P		**Pb**	**10 32 30.0**	**-0.2**
DELI				S		**Sb**	**10 32 41.8**	**-0.2**
DELI				*i* AML		AML	10 32 43.0	
	comp=E,115nm,0.4s							
DELI				*i* AML		AML	10 32 47.0	
	comp=N,122nm,0.4s							
KIZO	**Buyukkizoglu-L**	**0.90**	**62**	Pg		**Pg**	**10 32 29.9**	**-0.7**
KIZO				Sg		**Sb**	**10 32 43.0**	**+0.6**
YOZ	**Yozgat**	**0.91**	**158**	Pg		**Pb**	**10 32 30.8**	**+0.1**
CDAG	**Cicekdag**	**0.95**	**205**	P		**Pb**	**10 32 31.2**	**-0.2**
CDAG				S		**Sb**	**10 32 44.1**	**+0.4**
CDAG				*i* AML		AML	10 32 46.0	
	comp=N,416nm,0.5s							
CDAG				*i* AML		AML	10 32 46.0	
	comp=E,394nm,0.4s							
HACI	**Hacifakili, Ak**	**1.02**	**140**	P		**Pb**	**10 32 32.5**	**0.0**
HACI				S		**Sb**	**10 32 46.2**	**+0.3**
HACI				*i* AML		AML	10 32 51.0	
	comp=E,71nm,0.3s							
HACI				*i* AML		AML	10 32 52.0	
	comp=N,73nm,0.4s							
KVT	**Kavak**	**1.06**	**56**	Pg		**Pg**	**10 32 32.9**	**-0.8**
ELDT	**Eldivan**	**1.11**	**271**	P		**Pg**	**10 32 33.8**	**-0.8**
ELDT				S		**Sb**	**10 32 49.0**	**+0.4**
ELDT				*i* AML		AML	10 32 50.0	
	comp=N,136nm,0.6s							
ELDT				*i* AML		AML	10 32 51.0	
	comp=E,126nm,0.6s							
SIRC	**Yozgat**	**1.17**	**170**	P		**Pg**	**10 32 35.0**	**-0.6**
SIRC				S		**Sb**	**10 32 50.8**	**+0.7**
SIRC				*i* AML		AML	10 32 54.0	
	comp=N,180nm,0.5s							
SIRC				*i* AML		AML	10 32 54.0	
	comp=E,159nm,0.5s							
AKPI	**Kirsehir/Akpin**	**1.19**	**215**	P		**Pb**	**10 32 35.0**	**-0.5**
AKPI				S		**Sg**	**10 32 50.3**	**-1.4**
AKPI				*i* AML		AML	10 32 55.0	
	comp=N,95nm,0.3s							
AKPI				*i* AML		AML	10 32 55.0	
	comp=E,77nm,0.2s							
DIKM	**Dikmen**	**1.20**	**14**	Pn		**Pb**	**10 32 35.2**	**-0.4**
KMON	**Kastamonu**	**1.22**	**317**	Pn		**Pn**	**10 32 35.7**	**-0.1**
KOZK	**Kozakli-Nevseh**	**1.27**	**180**	Pn		**Pg**	**10 32 38.5**	**+0.8**
TOKT	**Tokat**	**1.28**	**97**	Pn		**Pg**	**10 32 37.6**	**-0.2**
MCUR	**KIREHR**	**1.35**	**192**	P		**Pn**	**10 32 36.8**	**-0.8**
MCUR				S		**Sb**	**10 32 55.9**	**+0.5**
MCUR				*i* AML		AML	10 33 00.0	
	comp=E,50nm,0.3s							
MCUR				*i* AML		AML	10 33 01.0	
	comp=N,71nm,0.3s							
KAMT	**Kaman**	**1.43**	**219**	Pn		**Pb**	**10 32 39.5**	**-0.1**
KIRS	**Kirsehir-Merke**	**1.54**	**209**	P		**Pb**	**10 32 41.2**	**-0.2**
KIRS				S		**Sg**	**10 33 01.9**	**-0.9**
KIRS				*i* AML		AML	10 33 03.0	
	comp=N,31nm,0.3s							
KIRS				*i* AML		AML	10 33 04.0	
	comp=E,38nm,0.3s							
BBAL	**Bala**	**1.65**	**236**	P		**Pb**	**10 32 43.4**	**+0.1**
BBAL				S		**Sg**	**10 33 05.8**	**-0.3**
BBAL				*i* AML		AML	10 33 09.0	
	comp=E,70nm,0.5s							
BBAL				*i* AML		AML	10 33 10.0	
	comp=N,61nm,0.7s							
AVNS	**Nevsehir-Avano**	**1.68**	**181**	P		**Pg**	**10 32 44.4**	**-0.9**
AVNS				S		**Sg**	**10 33 06.5**	**-0.6**
AVNS				*i* AML		AML	10 33 12.0	
	comp=E,272nm,0.7s							
AVNS				*i* AML		AML	10 33 14.0	
	comp=N,213nm,0.6s							
SVSK	**Karacayir**	**1.72**	**109**	Pn		**Pb**	**10 32 44.4**	**0.0**
AFSR	**Afar-Bala (An**	**1.74**	**234**	Pn		**Pb**	**10 32 44.8**	**0.0**
YAYX	**Yaylak**	**1.75**	**208**	Pn		**Pb**	**10 32 44.9**	**-0.2**
BNN	**Bunyan**	**1.79**	**155**	Pn		**Pb**	**10 32 45.4**	**-0.4**
SERE	**Sereflikochisa**	**1.84**	**214**	Pn		**Pb**	**10 32 46.5**	**-0.1**
RSDY	**Resadiye-TOKAT**	**1.87**	**92**	Pn		**Pb**	**10 32 46.3**	**-0.7**
KKUL	**Konya-Kulu**	**2.00**	**230**	P		**Pb**	**10 32 48.1**	**-1.3**
KKUL				S		**Sg**	**10 33 15.8**	**-1.7**
KKUL				*i* AML		AML	10 33 24.0	
	comp=N,42nm,0.4s							
KKUL				*i* AML		AML	10 33 26.0	
	comp=E,54nm,0.5s							
KULU	**Kulu**	**2.04**	**226**	Pn		**Pb**	**10 32 49.4**	**-0.7**
GULA	**Gulagac**	**2.20**	**193**	Pn		**Pb**	**10 32 51.7**	**-1.0**
SARI	**SarD1z-Kayseri**	**2.39**	**150**	Pn		**Pb**	**10 32 54.4**	**-1.7**
SULT	**Sultanhani-AKS**	**2.52**	**205**	Pn		**Pb**	**10 32 56.1**	**-2.0**
CMRD	**Camardi-Nigde**	**2.82**	**178**	Pn		**Pn**	**10 33 00.5**	**+2.6**
YESY	**Yesilyurt**	**2.84**	**199**	Pn		**Pn**	**10 33 00.8**	**+2.7**
KOZT	**Kozan**	**3.09**	**166**	Pn		**Pn**	**10 33 04.4**	**+2.9**

*NEIC **17** 10:54:01.5±2.4, 11°.36S×0°.07×118°.69E±0°.08, h25km±8km, mb4.3/12, Error ellipse: s-maj=15.1km s-min=2.4km az=225.0*
*IDC **17** 10:54:07.4±3.8, 11°.09S×119°.27E, h72km±37km, mb3.6/6, mbtmp3.9/9, ML3.8/3, MS3.0/1, Error ellipse: s-maj=53.8km s-min=14.8km az=76.0*
ISC 17 10:53:59.5±0.6**, 11°.30S**±0°.06×**118°.85E**±0°.09**, h10**km**, n42, σ2s47/42, mb4.1/8, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**5.42**	**301**	Pn		Pn	10 55 17.6	-2.8
SOEI	**Soe**	**5.55**	**74**	Pn		**Pn**	**10 55 24.6**	**+2.2**
KAPI	**Kappang**	**6.31**	**8**	P		**Pn**	**10 55 35.0**	**+2.2**
	2.7nm,0.3s,baz=218,slow=13,SNR=2.2							
KAPI				S		**Sn**	**10 56 42.5**	**-2.5**
	11nm,0.4s,baz=134,slow=22,SNR=6.0							
	7.0nm,0.3s							
UGM	**Wanagama**	**8.87**	**292**	Pn		**Pn**	**10 56 06.4**	**-1.5**
FITZ	**Fitzroy Crossi**	**9.42**	**137**	P		**Pn**	**10 56 15.9**	**+0.5**
	baz=8.3,SNR=3.6							
FITZ				S		**Sn**	**10 57 54.7**	**-6.9**
	baz=8.3							
FITZ	**Fitzroy Crossi**	**9.42**	**137**	Pn		**Pn**	**10 56 15.5**	**+0.1**
MBWA	**Marble Bar**	**9.84**	**175**	Pn		**Pn**	**10 56 19.3**	**-1.8**
PSA00	**Pilbara Seismi**	**10.26**	**175**	Pn		**Pn**	**10 56 25.4**	**-1.5**
KNRA	**Kununurra**	**10.58**	**115**	Pn		**Pn**	**10 56 31.9**	**+0.6**
GIRL	**Giralia**	**12.11**	**201**	P		**Pn**	**10 56 50.6**	**-1.6**
	baz=10,SNR=7.0							
GIRL				S		Sn	10 58 53.1	-14
	baz=10							
GIRL	**Giralia**	**12.11**	**201**	Pn		**Pn**	**10 56 51.2**	**-1.0**
MTN	**Manton Dam**	**12.11**	**99**	Pn		**Pn**	**10 56 54.8**	**+2.4**
MEEK	**Meekatharra**	**15.26**	**181**	P		**Pn**	**10 57 32.2**	**-3.0**
	baz=14,SNR=15							
MEEK				S		Sn	11 00 03.0	-21
	baz=14							
WRKA	**Warakurna**	**16.33**	**148**	P		**Pn**	**10 57 47.2**	**-2.0**
	baz=15,SNR=5.7							
WRKA				S		Sn	11 00 34.0	-17
	baz=15							
WB0	**Warramunga Arr**	**17.17**	**121**	Pn		**Pn**	**10 57 58.2**	**-1.6**
WRA	**Warramunga Arr**	**17.20**	**122**	P		**Pn**	**10 57 58.5**	**-1.7**
	0.3nm,0.3s,baz=294,slow=13,SNR=14							
WRA				S		Sn	11 00 59.5	-12
	2.0nm,0.7s,baz=291,slow=24,SNR=5.7							
	0.4nm,0.4s							
WRAB	**Tennant Creek**	**17.21**	**122**	Pn		**Pn**	**10 57 59.4**	**-0.9**
WB2	**Warramunga Arr**	**17.21**	**122**	Pn		**Pn**	**10 57 59.1**	**-1.2**
WB2				IAmb		IAmb	10 58 17.0	
	comp=Z,19nm,1.4s							
WR0	**Warramunga Arr**	**17.38**	**122**	Pn		**Pn**	**10 58 00.5**	**-1.9**
WR0				IAmb		IAmb	10 58 39.1	
	comp=Z,11nm,1.4s							
MORW	**Morawa**	**17.87**	**188**	P		**Pn**	**10 58 07.2**	**-1.2**
	baz=16,SNR=6.0							
MORW				S		Sn	11 01 03.1	-25
	baz=16							
MORW	**Morawa**	**17.87**	**188**	P		**Pn**	**10 58 06.3**	**-2.0**
MORW				IAmb		IAmb	10 58 25.8	
	comp=Z,61nm,1.4s							
AS31	**Alice Springs**	**18.88**	**133**	P		**P**	**10 58 21.8**	**+1.5**
ASAR	**Alice Springs**	**18.88**	**133**	P		**Pn**	**10 58 22.4**	**+1.6**
ASAR	**Alice Springs**	**18.88**	**133**	P		**P**	**10 58 21.8**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=306,slow=11,SNR=34							
ASAR				S		Sn	11 01 38.9	-13
	comp=Z,0.8nm,0.6s,baz=298,slow=21,SNR=4.1							
ASAR				LR		LR	11 05 19.9	
	comp=Z,45nm,18.0s,baz=314,slow=36							
	comp=Z,2.5nm,0.7s							
BLDU	**Ballidu**	**19.32**	**186**	P		**P**	**10 58 26.1**	**+1.1**
	baz=18							
BLDU				S		Sn	11 01 38.0	-25
	baz=18							
KMBL	**Kambalda**	**20.16**	**172**	P		**P**	**10 58 36.0**	**+1.9**
	baz=19							
KMBL				S		S	11 02 00.3	-20
	baz=19							
MUN	**Mundaring**	**20.72**	**186**	P		Pn	10 58 43.9	+1.4
	baz=19							
MUN				S		S	11 02 10.5	-21
	baz=19							
FORT	**Forrest**	**21.18**	**158**	P		**P**	**10 58 47.9**	**+2.8**
	baz=20							
FORT				S		S	11 02 28.7	-12
	baz=20							
FORT	**Forrest**	**21.18**	**158**	P		**P**	**10 58 46.3**	**+1.1**
NWAO	**Narrogin (SRO)**	**21.57**	**184**	P		**P**	**10 58 54.6**	**+5.3**
	baz=20,SNR=5.8							
NWAO				P		**P**	**10 58 54.6**	**+5.3**
	baz=20,SNR=5.8							
NWAO				S		S	11 02 28.5	-20
	baz=20							
NWAO				S		S	11 02 28.5	-20
	baz=20							
NWAO	**Narrogin (SRO)**	**21.57**	**184**	P		**P**	**10 58 54.3**	**+4.9**
NWAO	**Narrogin (SRO)**	**21.57**	**184**	P		**P**	**10 58 54.0**	**+4.6**
	comp=Z,14nm,0.8s,baz=1.1,slow=13,SNR=7.3							
	comp=Z,14nm,0.8s							
CASY	**Casey**	**55.20**	**184**	P		**P**	**11 03 32.4**	**+0.1**
CASY				IAmb		IAmb	11 03 51.5	
	comp=Z,19nm,1.4s							
SONM	**Songino Array**	**59.91**	**350**	P		**P**	**11 04 05.7**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=169,slow=8.8,SNR=2.3							
	comp=Z,0.4nm,0.5s							
MK31	**Makanchi Array**	**66.43**	**333**	P		**P**	**11 04 47.2**	**-1.8**
MK31				IAmb		IAmb	11 05 18.5	
	comp=Z,2.7nm,1.1s							
MKAR	**Makanchi Array**	**66.43**	**333**	P		**P**	**11 04 48.0**	**-1.0**
MKAR	**Makanchi Array**	**66.43**	**333**	P		**P**	**11 04 49.0**	**0.0**
	comp=Z,0.8nm,0.5s,baz=155,slow=7.3,SNR=10							
	comp=Z,0.8nm,0.5s							
NIUE	**Niue**	**68.79**	**106**	P		P	11 05 00.2	-4.3
KURBB	**Kurchatov Arra**	**70.96**	**334**	P		**P**	**11 05 17.1**	**0.0**
	comp=Z,0.2nm,0.2s,baz=152,slow=5.4,SNR=2.0							
	comp=Z,0.2nm,0.2s							
ZALV	**Zalesovo Beam**	**71.13**	**340**	P		**P**	**11 05 17.2**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=145,slow=5.3,SNR=2.2							
	comp=Z,0.5nm,0.3s							
QSPA	**South Pole Qui**	**78.70**	**180**	P		**P**	**11 06 01.5**	**-0.5**
QSPA				IAmb		IAmb	11 06 07.2	
	comp=Z,4.8nm,1.4s							
QSPA	**South Pole Qui**	**78.70**	**180**	P		**P**	**11 06 02.7**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=339,slow=1.6,SNR=1.8							
	comp=Z,0.7nm,0.8s							

WEL 17 10:55:11.2±0.4**, 42°S**±3°×**17°4E**±°**, h11**km±3km**, M3.8**/115**, ML3.9**/19**, MLv3.8**/115**, Error ellipse: s-maj=0.0km s-min=0.0km az=146.7, confirmed, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SDNS	**Seddon**	**0.09**	**253**	P		Pg	10 55 14.9	+1.2
CMWZ	**Cape Campbell**	**0.11**	**192**	P		Pb	10 55 14.9	-0.5
CMWZ				S		Sg	10 55 18.3	+2.1
SEDS	**Seddon Fire St**	**0.13**	**255**	P		Pb	10 55 15.4	-0.3
SEDS				S		Sg	10 55 18.4	+1.9
WDFS	**Ward Fire Stat**	**0.20**	**203**	P		Pb	10 55 16.3	-0.6
BSWZ	**Blackbirch Sta**	**0.29**	**255**	P		Pb	10 55 17.7	-0.7
BSWZ				S		Sb	10 55 22.4	-0.8
TUWZ	**Tuamarina**	**0.31**	**313**	P		Pb	10 55 18.3	-0.4
TUWZ				S		Sb	10 55 23.5	-0.3
TCW	**Tory Channel**	**0.43**	**3**	P		Pb	10 55 20.2	-0.5
BHW	**Baring Head**	**0.52**	**64**	P		Pb	10 55 22.1	-0.3
WEL	**Wellington**	**0.53**	**48**	P		Pb	10 55 22.2	-0.3
WEL				S		Sb	10 55 30.0	-0.1
PLWZ	**Palliser**	**0.76**	**85**	P		Pb	10 55 26.8	+0.3
NNZ	**Nelson**	**0.78**	**303**	P		Pg	10 55 26.4	+0.2
MSWZ	**Moikau Station**	**0.79**	**74**	MLv				
CAW	**Cannon Point**	**0.81**	**50**	P		Pg	10 55 27.0	+0.1
DUWZ	**D'Urville Isla**	**0.87**	**344**	P		Pg	10 55 28.0	0.0
DUWZ				S		Sb	10 55 40.7	+0.7
PAWZ	**Paruwai Farm**	**0.92**	**74**	P		Pb	10 55 29.3	0.0
KIW	**Kapiti Island**	**0.93**	**33**	P		Pg	10 55 28.9	-0.1
KHZ	**Kahutara**	**0.94**	**214**	P		Pb	10 55 29.6	+0.1
KHZ				S		Sn	10 55 43.9	+0.3
THZ	**Tophouse**	**1.01**	**263**	P		Pg	10 55 30.5	-0.2
MTW	**Mount Morrison**	**1.06**	**63**	P		Pb	10 55 31.2	-0.4
OGWZ	**Otaki Gorge**	**1.08**	**41**	P		Pb	10 55 31.5	-0.3
TRWZ	**Traveller**	**1.11**	**78**	P		Pb	10 55 31.5	-0.9
TKNZ	**Takaka Hill**	**1.14**	**302**	P		Pb	10 55 32.9	0.0
MRNZ	**Matariki Terra**	**1.14**	**282**	P		Pn	10 55 33.1	0.0
HOWZ	**Holdsworth Sta**	**1.21**	**53**	P		Pn	10 55 33.5	-0.6
TMWZ	**Te Maipa**	**1.35**	**67**	P		Pn	10 55 34.8	-1.1
MRZ	**Mangatainoka R**	**1.40**	**46**	P		Pn	10 55 36.3	-0.4
TIWZ	**Tintock**	**1.51**	**56**	P		Pg	10 55 40.4	+0.3
QRZ	**Quartz Range**	**1.53**	**302**	P		Pb	10 55 39.3	-0.2
GVZ	**Greta Valley S**	**1.60**	**214**	P		Pn	10 55 38.4	-1.1
CPWZ	**Castlepoint**	**1.65**	**64**	P		Pg	10 55 45.1	+2.4
OHWZ	**Ohakea**	**1.65**	**30**	P		Pb	10 55 42.0	+0.5
PRWZ	**Pori Road**	**1.69**	**51**	P		Pn	10 55 40.0	-0.7
POWZ	**Post Office Ro**	**1.70**	**43**	P		Pn	10 55 40.7	-0.1
BFZ	**Birch Farm**	**1.79**	**58**	P		Pn	10 55 40.4	-1.6
DSZ	**Denniston Nort**	**1.83**	**266**	P		Pn	10 55 43.5	+0.9
LTZ	**Lake Taylor**	**1.86**	**231**	P		Pn	10 55 42.3	-0.7
AMCZ	**Amberley**	**1.94**	**217**	P		Pn	10 55 42.6	-1.4
WAZ	**Wanganui**	**1.96**	**17**	P		Pb	10 55 47.5	+0.5
DVHZ	**Dannevirke**	**1.98**	**48**	P		Pn	10 55 43.4	-1.2
TSZ	**Takapari Road**	**2.05**	**40**	P		Pn	10 55 45.0	-0.6
ANWZ	**Angora Road**	**2.06**	**56**	P		Pn	10 55 44.4	-1.3
LREZ	**Lake Rotokare**	**2.18**	**3**	P		Pb	10 55 50.2	-0.4
NMEZ	**Namu Road**	**2.24**	**353**	P		Pb	10 55 52.0	+0.9
PRHZ	**Porangahau**	**2.27**	**54**	P		Pn	10 55 47.8	-0.8
PNHZ	**Pukenui**	**2.27**	**41**	P		Pn	10 55 48.0	-0.8
WPHZ	**Waipukurau**	**2.29**	**47**	P		Pn	10 55 48.0	-0.9
PREZ	**Palmer Road**	**2.29**	**358**	P		Pb	10 55 52.5	-0.1
OXZ	**Oxford**	**2.35**	**223**	P		Pn	10 55 47.6	-2.0
INZ	**Inchbonnie**	**2.35**	**242**	P		Pn	10 55 49.5	-0.2
KHEZ	**Kahui Hut**	**2.35**	**356**	P		Pb	10 55 52.8	-0.8
NEZ	**North Egmont**	**2.37**	**357**	P		Pb	10 55 53.2	-0.7
MQZ	**McQueen's Vall**	**2.38**	**209**	P		Pn	10 55 47.3	-2.7
NBEZ	**Newall Road No**	**2.39**	**353**	P		Pb	10 55 52.7	-1.4
MTVZ	**Mangateitei**	**2.44**	**23**	P		Pb	10 55 55.7	+0.6
AKCZ	**Akaroa Harbour**	**2.44**	**203**	P		Pn	10 55 48.7	-2.2
DREZ	**Durham Road**	**2.45**	**359**	P		Pb	10 55 54.2	-1.0
PKE	**Pukeiti**	**2.45**	**355**	P		Pb	10 55 54.2	-1.1
PKVZ	**Pokaka**	**2.49**	**20**	P		Pb	10 55 55.2	-0.8
MOVZ	**Moawhango**	**2.51**	**28**	P		Pb	10 55 56.1	-0.2
WNVZ	**Wahianoa**	**2.53**	**25**	P		Pb	10 55 54.9	-1.8
TRVZ	**Turoa**	**2.54**	**23**	P		Pb	10 55 57.1	+0.2
VRZ	**Vera Road**	**2.54**	**9**	P		Pb	10 55 54.6	-2.2
PXZ	**Pawanui**	**2.55**	**52**	P		Pb	10 55 56.6	-0.4
BHHZ	**Black Hill Sta**	**2.56**	**33**	P		Pn	10 55 53.5	+0.9
MHEZ	**Mangahewa**	**2.56**	**1**	P		Pb	10 55 56.1	-1.0
KRHZ	**Kereru**	**2.57**	**40**	P		Pn	10 55 51.6	-1.1
WHVZ	**Whangaehu Hut**	**2.57**	**24**	P		Pb	10 55 57.4	0.0
MAVZ	**Matarangi**	**2.57**	**23**	P		Pb	10 55 57.1	-0.4

CATAC ***17*** *11:03:08.3±4.6, 15°.38N×92°.84W, h75km±20km, ML3.8*
ISC 17 11:02:38.9±1.4, **14°.97N**±0°.04×**94°.45W**±0°.02, **h2**km±11km, **n43**, σ**182**/67, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.37**	**22**	*eP*		**Pb**	**11 03 07.6**	**+2.2**
CARR				*eS*		**Sg**	**11 03 20.9**	**-2.1**
PCIG		**1.39**	**58**	*eP*		**Pg**	**11 03 07.6**	**+1.9**
PCIG				*i* S		**Sg**	**11 03 23.5**	**-0.2**
NILT	**Santiago Nilte**	**1.59**	**354**	*eP*		**Pg**	**11 03 11.2**	**+1.7**
NILT				*eS*		**Sn**	**11 03 29.2**	**-0.2**
HUIG	**Huatulco**	**1.79**	**297**	*eP*		**Pg**	**11 03 15.5**	**+2.3**
HUIG				*eS*		**Sb**	**11 03 34.9**	**-0.4**
PATR	**El Naranjo**	**2.14**	**86**	*eP*		**Pb**	**11 03 18.5**	**-0.2**
PATR				*eS*		**Sn**	**11 03 42.2**	**-1.2**
CMIG	**Matias Romero**	**2.15**	**349**	*i* P		**Pg**	**11 03 19.8**	**-0.4**
CMIG				*eS*		**Sn**	**11 03 43.9**	**+0.8**
TGIG		**2.20**	**35**	*eP*		**Pg**	**11 03 20.4**	**-0.8**
TGIG				*eS*		**Sn**	**11 03 45.0**	**+0.4**
PAVE	**Pavencul**	**2.21**	**84**	*eP*		**Pb**	**11 03 19.8**	**+0.1**
PAVE				*i* S		**Sn**	**11 03 44.2**	**-0.7**
TGBT	**Tuxtla Gutierr**	**2.22**	**36**	*eP*		**Pb**	**11 03 20.1**	**+0.2**
TGBT				*eS*		**Sn**	**11 03 45.3**	**+0.4**
CHUJ	**Union Juarez**	**2.26**	**87**	*eP*		**Pb**	**11 03 20.4**	**-0.4**
CHUJ				*eS*		**Sn**	**11 03 45.3**	**-1.1**
SMCA	**Catarina**	**2.30**	**93**	*i* P		**Pb**	**11 03 21.1**	**-0.1**
SMCA				*i* S		**Sn**	**11 03 46.4**	**-0.5**
UXUV	**UXUV**	**2.35**	**7**	*eP*		**Pg**	**11 03 23.4**	**-0.6**
UXUV				*eS*		**Sb**	**11 03 50.1**	**-1.5**
SMSP	**San Marcos**	**2.58**	**90**	*eP*		**Pb**	**11 03 26.0**	**-0.1**
SMSP				*eS*		**Sn**	**11 03 53.1**	**-1.1**
SMSP	**San Marcos**	**2.58**	**90**	*i* P		**Pg**	**11 03 27.7**	**-0.7**
SMSP				IAML			11 04 04.2	
	comp=Z,2μm,1.0s							
CCIG	**Comitan**	**2.58**	**59**	*eP*		**Pb**	**11 03 26.5**	**+0.4**
CCIG				*eS*		**Sn**	**11 03 54.1**	**0.0**
RTAL	**Retalhuleu**	**2.70**	**99**	*eP*		**Pb**	**11 03 26.5**	**-1.6**
RTAL				*eS*		**Sn**	**11 03 56.1**	**-0.7**
HUEH	**Huehuetenango**	**2.87**	**83**	*eP*		**Pb**	**11 03 30.6**	**-0.4**
HUEH				*eS*		**Sn**	**11 04 02.6**	**+1.4**
HUEH	**Huehuetenango**	**2.87**	**83**	*i* P		**Pb**	**11 03 31.3**	**+0.3**
HUEH				IAML			11 03 31.7	
	comp=Z,2μm,1.0s							
SOKI	**Kika Raxquin**	**2.95**	**93**	*i* P		**Pb**	**11 03 32.8**	**+0.3**
SOKI				IAML			11 04 30.7	
	comp=Z,280nm,1.0s							
NEUV	**Arroyo Zacate**	**3.02**	**335**	*eP*		**Pb**	**11 03 32.4**	**-1.1**
NEUV				*i* S		**Sb**	**11 04 07.4**	**-3.5**
VHO	**Vista Hermosa**	**3.03**	**314**	*eP*		**Pb**	**11 03 34.3**	**+0.5**
VHO				*i* S		**Sb**	**11 04 08.5**	**-2.9**
QUIS	**Sacapulas**	**3.26**	**84**	*i* P		**Pb**	**11 03 36.6**	**-1.0**
QUIS				IAML			11 03 38.4	
	comp=Z,660nm,1.0s							
QUIS				*i* S		**Sb**	**11 04 15.5**	**-2.4**
YOIG	**Yosondua**	**3.52**	**303**	*eP*		**Pb**	**11 03 42.3**	**+0.1**
YOIG				*eS*		**Sn**	**11 04 19.6**	**+2.1**
PMUV	**Sontecomapan**	**3.61**	**350**	*eP*		**Pn**	**11 03 37.0**	**+0.9**
PNIG	**Pinotepa**	**3.81**	**292**	*eP*		**Pb**	**11 03 44.9**	**-2.2**
PNIG				*eS*		**Sn**	**11 04 23.5**	**-0.8**
TXIG	**Tlaxiaco**	**3.91**	**306**	*eP*		**Pb**	**11 03 47.9**	**-1.0**
TXIG				*eS*		**Sn**	**11 04 25.6**	**-1.6**
HLIG	**Huajuapan de L**	**4.29**	**312**	*eP*		**Pb**	**11 03 53.6**	**-1.7**
HLIG				*eS*		**Sn**	**11 04 35.8**	**-0.7**
FTIG	**Fresnillo de T**	**4.58**	**310**	*eP*		**Pb**	**11 03 57.1**	**-3.2**
FTIG				*eS*		**Sn**	**11 04 42.9**	**-0.6**
MGIG	**Malinaltepec**	**4.61**	**300**	*eP*		**Pb**	**11 03 57.6**	**-3.1**
MGIG				*eS*		**Sn**	**11 04 45.9**	**+1.7**
NUBE	**Las Nubes**	**4.65**	**103**	*i* P		**Pb**	**11 03 57.3**	**-4.0**
NUBE				IAML			11 04 01.2	
	comp=Z,94nm,1.0s							
TLIG	**Tlapa**	**4.72**	**304**	*eP*		**Pb**	**11 04 00.1**	**-2.4**
TLIG				*eS*		**Sn**	**11 04 47.4**	**+0.6**
PETF	**Flores**	**4.81**	**66**	*eP*		Pn	11 03 56.8	+4.3
PETF				*i* S		**Sn**	**11 04 45.7**	**-3.2**
PETF	**Flores**	**4.81**	**66**	*i* P		Pn	11 03 56.8	+4.3
PETF				IAML			11 05 20.8	
	comp=Z,200nm,1.0s							
JAUV	**Jalcomulco**	**4.92**	**333**	*eP*		**Pn**	**11 03 57.0**	**+3.0**
JAUV				*i* S		**Sn**	**11 04 52.0**	**+0.5**
SCIG	**Sabancuy**	**5.05**	**38**	*eP*		**Pn**	**11 03 59.7**	**+3.9**
SCIG				*eS*		**Sn**	**11 04 51.6**	**-3.2**
PMON	**Piamonte**	**5.13**	**103**	*i* P		**Pb**	**11 04 05.5**	**-4.1**
PMON				IAML			11 05 21.5	
	comp=Z,79nm,1.0s							
DAIG	**Los Arroyos**	**5.40**	**293**	*eP*		Pb	11 04 07.6	-6.6
DAIG				*eS*		**Sn**	**11 05 02.2**	**-1.3**
SARH	**Santa Rosa de**	**5.50**	**91**	*i* P		Pn	11 04 06.6	+4.5
MEIG	**Mezcala**	**5.76**	**301**	*eP*		Pb	11 04 14.3	-6.1
YAIG	**Yautepec**	**5.87**	**312**	*eP*		Pb	11 04 16.1	-6.2
YAIG				*eS*		**Sn**	**11 05 14.3**	**-1.0**
CAIG	**El Cayaco**	**5.96**	**291**	*eP*		Pb	11 04 15.5	-8.2
CAIG				*eS*		**Sn**	**11 05 14.5**	**-2.8**
NISHN	**Nisperales Com**	**6.38**	**82**	*i* P		**Pn**	**11 04 17.0**	**+2.8**
ARIG	**Puente Sto Nin**	**6.54**	**301**	*eP*		Pb	11 04 25.3	-8.3

SKHL ***17*** *11:29:23.9±0.1, 43°.10N×145°.70E, h66km±3km, mb5.4/2*
MOS ***17*** *11:29:23.4±0.8, 43°.12N×145°.64E, h61km, mb4.6/16, Error ellipse: s-maj=9.6km s-min=6.4km az=101.1*
NIED ***17*** *11:29:24.2, 43°.10N×145°.60E, h49km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.47; Mθθ-0.44; Mφφ-1.03; Mrθ0.66; Mrφ-0.71; Mθφ1.02; Fault plane solution: M₀1.92000×10¹⁵ NP1:φs33.00000°, δ65.00000°, λ90.00000°. NP2:φs214.00000°, δ25.00000°, λ91.00000°.*
JMA ***17*** *11:29:24.2±0.1, 43°.1N±0°.5×145°.6E±0°.6, h49km, MD4.1/40, MV4.4/40, OFF NEMURO PENINSULA*
JMA Felt III J1 at OFF NEMURO PENINSULA .
NEIC ***17*** *11:29:25.5±1.2, 43°.13N±0°.08×145°.6E±0°.1, h56km±11km, mb4.4/66, Error ellipse: s-maj=15.7km s-min=11.1km az=115.0*
IDC ***17*** *11:29:27.3±2.0, 43°.18N×145°.61E, h75km±15km, mb3.8/25, mbtmp4.1/30, MS3.0/7, Error ellipse: s-maj=16.1km s-min=12.3km az=159.0*
ISC 17 11:29:24.6±0.6, **43°.08N**±0°.05×**145°.69E**±0°.04, **h54**km±4km, **n205**, σ**19**/214, **mb4.3**/71, **7C-16D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.29**	**8**	*i* P		**Pn**	**11 29 32.9**	**-1.0**
NEM2				*eS*		**Sn**	**11 29 39.0**	**-1.7**
NEM2	**Nemuro 2**	**0.29**	**8**	A		A	11 29 32.9	
	comp=E,37nm,0.8s,comp=N,46nm,1.2s							
NMR	**Nemuro--Hokkai**	**0.29**	**6**	*i* P		**Pn**	**11 29 33.0**	**-1.0**
NMR	**Nemuro--Hokkai**	**0.29**	**6**	⇑*i* PN		**Pn**	**11 29 32.9**	**-1.0**
JKHN	**Kushirohamanak**	**0.39**	**271**	⇓*i* P		**Pn**	**11 29 33.6**	**-1.2**
JKHN	**Kushirohamanak**	**0.39**	**271**	A		A	11 29 33.6	
	comp=E,80nm,1.3s,comp=N,72nm,1.1s							
AKK	**Akkeshi**	**0.62**	**265**	*eP*		**Pn**	**11 29 36.1**	**-1.4**
JAK	**Akkeshi**	**0.73**	**264**	⇓*i* P		**Pn**	**11 29 37.3**	**-1.5**
JAK				⇓*eS*		**Sn**	**11 29 46.4**	**-2.8**
JAK	**Akkeshi**	**0.73**	**264**	A		A	11 29 37.3	
	comp=E,14nm,0.3s,comp=N,11nm,0.4s							
JNSB	**Nemuroshibetsu**	**0.86**	**325**	⇓*i* P		**Pn**	**11 29 39.2**	**-1.3**
JNSB				⇓*eS*		**Sn**	**11 29 50.5**	**-1.7**
JNSB	**Nemuroshibetsu**	**0.86**	**325**	A		A	11 29 39.2	
	comp=E,17nm,1.1s,comp=N,16nm,1.4s							
JNK	**Nakash**	**0.87**	**306**	⇓*i* P		**Pn**	**11 29 39.1**	**-1.6**
JNK				⇓*eS*		**Sn**	**11 29 49.5**	**-3.0**
JNK	**Nakash**	**0.87**	**306**	A		A	11 29 39.1	
	comp=E,10.0nm,0.3s,comp=N,16nm,0.4s							
JRA	**Rausu**	**0.95**	**335**	⇓*i* P		**Pn**	**11 29 40.6**	**-1.1**
JRA				⇓*eS*		**Sn**	**11 29 52.7**	**-1.7**
JRA	**Rausu**	**0.95**	**335**	A		A	11 29 40.6	
	comp=E,13nm,0.7s,comp=N,13nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**0.97**	**7**	*i* P		**Pn**	**11 29 40.8**	**-1.1**
YUK				AMB		AMB	11 29 42.1	
	comp=N,2μm,0.2s							
YUK				*i* S		**Sn**	**11 29 53.1**	**-1.6**
YUK				A		A	11 29 58.8	
	comp=N,14μm,0.5s							
YUK				A		A	11 29 58.8	
	comp=N,13μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**0.97**	**7**	*d i*PN		**Pn**	**11 29 40.8**	**-1.1**
YUK				*i* S		**Sn**	**11 29 52.3**	**-2.4**
YUK				pmax		pmax		
	comp=Z,3μm,0.2s							
YUK				pmax		pmax		
	comp=N,477nm,0.1s							
YUK				pmax		pmax		
	comp=E,367nm,0.1s							
YUK				smax		smax		
	comp=N,10μm,0.1s							
YUK				smax		smax		
	comp=E,16μm,0.3s							
RUSJ	**Misakicho**	**1.08**	**343**	⇓*i* PN		**Pn**	**11 29 42.9**	**-0.5**
RUSJ				*i* S		**Sn**	**11 29 56.9**	**-0.4**
SHO	**Shikotan**	**1.15**	**46**	*i* P		**Pn**	**11 29 43.4**	**-0.9**
SHO				AMB		AMB	11 29 43.6	
	comp=E,430nm,0.2s							
SHO				*i* S		**Sn**	**11 29 57.3**	**-1.7**
SHO				A		A	11 29 59.4	
	comp=E,3μm,0.2s							
SHO				A		A	11 29 59.4	
	comp=E,8μm,0.2s							
SHO	**Shikotan**	**1.15**	**46**	⇑*i* PN		**Pn**	**11 29 43.4**	**-0.9**
SHO				*i* S		**Sn**	**11 29 57.0**	**-2.0**
SHO				pmax		pmax		
	comp=N,95nm,0.2s							
SHO				pmax		pmax		
	comp=E,145nm,0.2s							
SHO				pmax		pmax		
	comp=Z,430nm,0.2s							
SHO				smax		smax		
	comp=N,6μm,0.2s							
SHO				smax		smax		
	comp=E,9μm,0.2s							
JOB	**Onbets**	**1.37**	**263**	⇓*i* P		**Pn**	**11 29 46.0**	**-1.4**
JOB				⇓*eS*		**Sn**	**11 30 02.4**	**-2.0**
JOB	**Onbets**	**1.37**	**263**	A		A	11 29 46.0	
	comp=E,3.0nm,0.9s,comp=N,3.0nm,1.3s							
JAR	**Ashorobuto**	**1.42**	**280**	⇓P		**Pn**	**11 29 46.8**	**-1.2**
JAR				⇓*eS*		**Sn**	**11 30 03.8**	**-1.8**
JAR	**Ashorobuto**	**1.42**	**280**	A		A	11 29 46.8	
	comp=E,6.0nm,0.3s,comp=N,9.0nm,1.5s							
JTKR	**Abashiri--Toko**	**1.57**	**305**	⇓*i* P		**Pn**	**11 29 49.6**	**-0.5**
JCH	**Churui**	**1.77**	**256**	A		A	11 29 52.3	
	comp=E,2.0nm,0.9s,comp=N,4.0nm,0.9s							
ERM	**Erimo**	**2.15**	**241**	Pn		**Pn**	**11 29 59.4**	**+1.4**
ERM	**Erimo**	**2.15**	**241**	*i* PN		**Pn**	**11 29 58.8**	**+0.8**
JNBK	**Urakawa-nobuka**	**2.31**	**251**	A		A	11 29 60.0	
	comp=E,5.0nm,0.5s,comp=N,3.0nm,0.6s							
JKA	**Kamikawa-asahi**	**2.47**	**296**	Pn		**Pn**	**11 30 02.0**	**-0.3**
ASAJ	**Asahikawa**	**2.48**	**296**	P		**Pn**	**11 30 02.9**	**+0.5**
	comp=N,321nm,0.5s,baz=112,slow=11,SNR=389							
ASAJ				S		**Sn**	**11 30 33.5**	**+2.1**
	comp=N,182nm,0.6s,baz=29,slow=32,SNR=6.3							
ASAJ				LR		LR	11 31 16.9	
	comp=N,411nm,20.1s,baz=88,slow=46							
KUR	**Kuril'sk**	**2.67**	**35**	*eP*		**Pn**	**11 30 05.8**	**+0.8**
KUR				AMB		AMB	11 30 14.5	
	comp=N,230nm,0.8s							
KUR				*eS*		**Sn**	**11 30 35.7**	**-0.4**
KUR				A		A	11 30 44.4	
	comp=N,760nm,0.4s							
KUR				A		A	11 30 44.4	
	comp=N,560nm,0.4s							
KUR	**Kuril'sk**	**2.67**	**35**	*e*PN		**Pn**	**11 30 05.8**	**+0.8**
KUR				*eS*		**Sn**	**11 30 35.7**	**-0.4**
KUR				pmax		pmax		
	comp=Z,234nm,0.9s							
KUR				smax		smax		
	comp=N,763nm,0.5s							
KUR				smax		smax		
	comp=E,560nm,0.2s							
JTM	**Tenmabayashi**	**4.14**	**238**	Pn		**Pn**	**11 30 24.9**	**-0.2**
YSS	**Yuzh-Sakhalins**	**4.40**	**333**	Pn		**Pn**	**11 30 28.5**	**-0.2**
YSS	**Yuzh-Sakhalins**	**4.40**	**333**	*eP*		**Pn**	**11 30 29.0**	**+0.2**
YSS				AMB		AMB	11 30 30.7	
	comp=E,20nm,0.5s							
YSS				*eS*		**Sn**	**11 31 17.9**	**-0.8**
YSS				A		A	11 31 24.0	
	comp=E,20nm,0.5s							
YSS				A		A	11 31 24.0	
	comp=E,10.0nm,0.5s							
YSS				AMS		AMS	11 32 18.0	
	comp=E,500nm,14.0s							
YSS	**Yuzh-Sakhalins**	**4.40**	**333**	*eP*N		**Pn**	**11 30 29.0**	**+0.2**
YSS				*eS*		**Sn**	**11 31 17.9**	**-0.8**
YSS				pmax		pmax		
	comp=Z,30nm,1.2s							
YSS				smax		smax		
	comp=N,30nm,1.2s							
YSS				MLR		MLR		
	comp=Z,500nm,14.0s							
JMM	**Marumori**	**6.40**	**217**	Pn		**Pn**	**11 30 55.4**	**-0.9**
UGL	**Uglegorsk**	**6.51**	**338**	*eP*		**Pn**	**11 30 57.1**	**-0.5**
UGL				AMB		AMB	11 30 58.2	
	comp=Z,30nm,0.5s							
TYV	**Tymovskoe**	**8.06**	**346**	*eP*		**Pn**	**11 31 19.9**	**+1.0**
TYV				AMB		AMB	11 31 22.6	
	comp=Z,10.0nm,0.7s							
TYV				AMB		AMB	11 31 24.2	
	comp=Z,300nm,3.0s							
TYV				*eS*		**Sn**	**11 32 47.1**	**-1.4**
TYV				A		A	11 32 50.4	
	comp=Z,400nm,5.0s							
TYV				A		A	11 32 50.4	
	comp=Z,400nm,5.0s							
TYV				A		A	11 32 55.6	
	comp=Z,10.0nm,0.9s							
TYV	**Tymovskoe**	**8.06**	**346**	*e*PN		**Pn**	**11 31 21.2**	**+2.3**
TYV				pmax		pmax		
	comp=Z,16nm,1.2s							
TYV				pmax		pmax		
	comp=Z,300nm,3.2s							
MJAR	**Matsushiro Arr**	**8.70**	**224**	P		**Pn**	**11 31 27.1**	**-0.7**
	comp=Z,2.6nm,0.5s,baz=27,slow=15,SNR=10							
MJAR				LR		LR	11 34 37.5	
	comp=Z,58nm,19.1s,baz=60,slow=36							
USRK	**Ussuriysk Ar.**	**10.00**	**281**	P		**Pn**	**11 31 46.4**	**+1.0**
	comp=Z,2.6nm,0.7s,baz=101,slow=12,SNR=2.4							
USRK				LR		LR	11 35 28.3	
	comp=Z,93nm,20.7s,baz=79,slow=36							
NKL	**Nikolayevsk**	**10.62**	**343**	*eP*		**Pn**	**11 31 54.4**	**+0.6**
NKL				AMB		AMB	11 31 55.0	
	comp=Z,10.0nm,0.5s							
KLR	**Kul'dur**	**11.45**	**307**	*eP*		**Pn**	**11 32 05.7**	**+0.4**
KLR	**Kul'dur**	**11.45**	**307**	*i* PN		**Pn**	**11 32 06.6**	**+1.3**
KLR	**Kul'dur**	**11.45**	**307**	P		**Pn**	**11 32 07.8**	**+2.5**
	comp=Z,4.0nm,1.0s,baz=108,slow=17,SNR=8.3							
KLR				LR		LR	11 37 01.9	
	comp=Z,63nm,18.9s,baz=124,slow=40							
PETK	**Petropavlovsk-**	**12.83**	**34**	Pn		**Pn**	**11 32 22.5**	**-1.5**
PETK	**Petropavlovsk-**	**12.83**	**34**	P		**Pn**	**11 32 25.4**	**+1.3**
	comp=Z,7.2nm,1.1s,baz=230,slow=12,SNR=2.0							
HEH	**HeiHe**	**14.43**	**306**	*eP*		**Pn**	**11 32 45.4**	**-0.3**
HEH				pmax		pmax		
	comp=Z,6.0nm,0.7s							
HEH				pmax		pmax		
	comp=Z,260nm,4.9s							
KSRS	**Korea Array**	**14.67**	**253**	P		**P**	**11 32 52.1**	**-1.8**
	comp=Z,1.3nm,0.5s,baz=62,slow=14,SNR=4.9							
KSRS				LR		LR	11 37 43.9	
	comp=Z,55nm,19.6s,baz=65,slow=34							
ZEA	**Zeya**	**16.18**	**318**	*eP*		**Pn**	**11 33 04.6**	**-3.6**
ZEA	**Zeya**	**16.18**	**318**	*i* P		**Pn**	**11 33 04.6**	**-3.6**
MA2	**Magadan**	**16.82**	**9**	LR		LR	11 39 34.1	
	comp=Z,34nm,20.0s,baz=121,slow=36							
SEY	**Seymchan**	**20.27**	**9**	P		**P**	**11 33 55.5**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=196,slow=11,SNR=5.4							
	comp=Z,1.1nm,0.4s							
YAK	**Yakutsk**	**21.22**	**339**	*eP*		**P**	**11 34 11.3**	**+5.8**
YAK				pmax		pmax		
	comp=Z,9.0nm,0.9s							
YAK				pmax		pmax		
	comp=N,5.0nm,1.5s							
YAK				pmax		pmax		
	comp=E,3.0nm,1.4s							
TIA	**Tai'an**	**22.97**	**262**	P		**P**	**11 34 23.0**	**-1.4**
TIA				pmax		pmax		
	comp=Z,21nm,0.9s							
HNS	**HongShan**	**24.24**	**267**	*eP*		**P**	**11 34 35.5**	**-0.8**
BTO	**Baotou**	**26.57**	**277**	*eP*		**P**	**11 34 58.1**	**+0.6**
BTO				pP		**pP**	**11 35 12.6**	**+1.6**
BTO				sP		**sP**	**11 35 19.6**	**+2.2**
BTO				PP		**PnPn**	**11 35 42.3**	**+2.2**
BTO				S		**S**	**11 39 29.4**	**+1.1**
BTO				SS		**SnSn**	**11 40 40.8**	**+6.3**
BTO				pmax		pmax		
	comp=Z,20nm,0.6s							
BTO				pmax		pmax		
	comp=Z,420nm,5.0s							
BTO				LR		LR		
	comp=N,170nm,5.5s							
BTO				LR		LR		
	comp=E,280nm,5.3s							
BTO				LR		LR		
	comp=Z,190nm,6.3s							
SONM	**Songino Array**	**27.76**	**294**	P		**P**	**11 35 07.8**	**-0.3**
SONM	**Songino Array**	**27.76**	**294**	P		**P**	**11 35 08.4**	**+0.2**
	comp=Z,2.6nm,0.6s,baz=86,slow=7.8,SNR=12							
	comp=Z,2.6nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**29.32**	**136**	T		T	12 06 05.5	
	baz=328,slow=75,SNR=1532							
H11N1	**WAKE ISLAND Hy**	**29.34**	**136**	T		T	12 06 12.0	
	baz=328,slow=75,SNR=2769							
H11N3	**WAKE ISLAND Hy**	**29.34**	**136**	T		T	12 06 16.3	
	baz=328,slow=75,SNR=1443							
H11S1	**WAKE ISLAND Hy**	**30.26**	**138**	T		T	12 07 17.6	
	baz=329,slow=76,SNR=6607							
H11S3	**WAKE ISLAND Hy**	**30.26**	**138**	T		T	12 07 16.0	
	baz=329,slow=76,SNR=2875							
H11S2	**WAKE ISLAND Hy**	**30.27**	**138**	T		T	12 07 17.1	
	baz=329,slow=76,SNR=3639							
K13K	**Kusilvak Mount**	**34.52**	**40**	P		**P**	**11 36 08.0**	**+0.7**
F17K	**Baldwin Pennin**	**36.86**	**32**	P		**P**	**11 36 27.7**	**+0.5**
F17K				IAmb		IAmb	11 36 58.4	
	comp=Z,11nm,1.4s							
L16K	**Owhat River**	**36.93**	**40**	P		**P**	**11 36 28.7**	**+0.7**
C18K	**Utukok River**	**37.41**	**29**	P		**P**	**11 36 31.5**	**-0.5**
G18K	**Tagagawik**	**37.79**	**34**	P		**P**	**11 36 35.8**	**+0.6**
G18K				IAmb		IAmb	11 36 37.1	
	comp=Z,4.7nm,0.8s							
H18K	**Honhosa River**	**37.80**	**35**	P		**P**	**11 36 35.9**	**+0.6**
J19K	**Poorman**	**38.86**	**37**	P		**P**	**11 36 44.9**	**+0.7**
J19K				IAmb		IAmb	11 36 45.9	
	comp=Z,3.2nm,0.8s							
F20K	**Avaraart Lake**	**39.12**	**32**	P		**P**	**11 36 46.8**	**+0.5**
F20K				IAmb		IAmb	11 37 00.7	
	comp=Z,6.7nm,1.4s							
GOMU	**GeErMu**	**39.27**	**278**	P		**P**	**11 36 48.3**	**-0.1**
GOMU				pmax		pmax		
	comp=Z,8.0nm,0.9s							
J20K	**Nowinta River**	**39.52**	**37**	P		**P**	**11 36 50.8**	**+1.1**
J20K				IAmb		IAmb	11 37 08.6	
	comp=Z,6.8nm,1.2s							
IMAR	**Indian Mountai**	**39.80**	**34**	P		**P**	**11 36 52.9**	**+0.9**
DGZ	**Jazzator, Alta**	**39.84**	**300**	*i* P		**P**	**11 36 51.5**	**-1.2**
B21K	**Ikpikpuk River**	**39.92**	**28**			**P**	**11 36 53.1**	**+0.2**
B21K				IAmb		IAmb	11 36 55.1	
	comp=Z,5.0nm,0.8s							
E21K	**Killik River**	**39.97**	**30**			**P**	**11 36 53.4**	**-0.1**
E21K				IAmb		IAmb	11 36 59.4	
	comp=Z,7.0nm,1.5s							
H21K	**Melozitna Rive**	**40.16**	**34**	P		**P**	**11 36 55.5**	**+0.4**
H21K				IAmb		IAmb	11 36 56.6	
	comp=Z,4.1nm,0.9s							
CAST	**Castle Rocks**	**40.41**	**38**	P		**P**	**11 36 58.0**	**+0.9**
CAST				IAmb		IAmb	11 37 24.1	
	comp=Z,7.8nm,1.5s							
I21K	**Tanana**	**40.49**	**35**	P		**P**	**11 36 58.1**	**+0.5**
I21K				IAmb		IAmb	11 37 02.3	
	comp=Z,5.6nm,1.2s							
KDAK	**Kodiak Island**	**40.49**	**47**	P		**P**	**11 36 57.9**	**+0.1**
KDAK	**Kodiak Island**	**40.49**	**47**	P		**P**	**11 36 57.9**	**+0.1**
KDAK				pmax		pmax		
	comp=Z,61nm,1.5s							
ZALV	**Zalesovo Beam**	**40.56**	**307**	P		**P**	**11 36 58.3**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=57,slow=5.3,SNR=2.3							
ZALV				PcP		**PcP**	**11 38 59.9**	**+0.2**
	comp=Z,3.1nm,0.5s,baz=81,slow=2.2,SNR=12							
	comp=Z,0.6nm,0.3s							
E22K	**Anaktuvuk Pass**	**40.74**	**31**	P		**P**	**11 36 59.5**	**-0.3**
BPAW	**Bear Paw Mtn.**	**40.90**	**37**	P		**P**	**11 37 01.1**	**0.0**
BPAW				IAmb		IAmb	11 37 26.6	
	comp=Z,7.5nm,1.4s							
KTH	**Kantishna Hill**	**40.94**	**38**	P		**P**	**11 37 02.1**	**+0.6**
KTH				IAmb		IAmb	11 37 20.7	
	comp=Z,5.5nm,1.0s							
MLY	**Manley**	**41.01**	**35**	P		**P**	**11 37 02.6**	**+0.6**
C23K	**Itkillik River**	**41.33**	**28**	P		**P**	**11 37 04.6**	**0.0**
G23K	**Bananza Creek**	**41.34**	**33**	P		**P**	**11 37 04.7**	**0.0**
I23K	**Minto, Yukon-K**	**41.59**	**35**	P		**P**	**11 37 07.7**	**+0.9**
I23K				IAmb		IAmb	11 37 44.3	
	comp=Z,7.8nm,1.4s							
TOLK	**Toolik Lake Re**	**41.60**	**30**	P		**P**	**11 37 07.2**	**+0.4**
NEA2	**Nenana**	**41.73**	**36**	P		**P**	**11 37 08.3**	**+0.5**
NEA2				IAmb		IAmb	11 37 09.4	
	comp=Z,12nm,1.3s							
GHO	**Glory Hole Cre**	**41.95**	**40**	P		**P**	**11 37 10.2**	**+0.4**
E24K	**Your Creek**	**41.98**	**31**	P		**P**	**11 37 10.5**	**+0.6**
F24K	**Squaw Lake**	**42.19**	**32**

G29M	**Pine Creek**	**46.06**	**32**	P	**P**	**11 37 43.8**	**+1.1**
G29M				IAmb	IAmb	11 37 45.2	
	comp=Z,6.5nm,1.1s						
CMAR	**Chiang Mai Arr**	**46.31**	**253**	P	**P**	**11 37 45.9**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=48,slow=7.2,SNR=5.8						
	comp=Z,0.9nm,0.4s						
EPYK	**Eagle Plains**	**46.67**	**33**	P	**P**	**11 37 48.3**	**+0.9**
M29M	**Somme Creek**	**46.70**	**38**	P	**P**	**11 37 48.6**	**+0.8**
G30M	**tAoh Zraii Nji**	**46.75**	**32**	P	**P**	**11 37 48.5**	**+0.5**
G30M				IAmb	IAmb	11 37 49.5	
	comp=Z,4.7nm,0.7s						
I30M	**Mount Dempster**	**47.02**	**34**	P	**P**	**11 37 51.3**	**+1.0**
J30M	**Hart River**	**47.18**	**35**	P	**P**	**11 37 52.7**	**+1.2**
J30M				IAmb	IAmb	11 37 56.6	
	comp=Z,6.6nm,1.4s						
G31M	**Satah River**	**47.52**	**32**	P	**P**	**11 37 54.9**	**+1.0**
INK	**Inuvik**	**47.52**	**30**	P	**P**	**11 37 54.0**	**+0.1**
INK				IAmb	IAmb	11 37 55.6	
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**47.52**	**30**	P	**P**	**11 37 54.0**	**+0.1**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HYT	**Haines Junctio**	**47.53**	**40**	P	**P**	**11 37 56.2**	**+1.9**
FARO	**Faro, Yukon**	**49.07**	**38**	P	**P**	**11 38 07.3**	**+1.3**
FARO				IAmb	IAmb	11 38 10.9	
	comp=Z,5.8nm,1.2s						
BVAR	**Borovoye Array**	**49.11**	**309**	P	**P**	**11 38 05.9**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=74,slow=8.3,SNR=7.6						
BVAR				PcP	**PcP**	**11 39 29.1**	**0.0**
	comp=Z,1.0nm,0.5s,baz=67,slow=3.2,SNR=4.4						
	comp=Z,0.8nm,0.4s						
BRVK	**Borovoye**	**49.15**	**309**	*eP*	**P**	**11 38 05.2**	**-1.5**
BRVK	**Borovoye**	**49.15**	**309**	*i* P	**P**	**11 38 05.2**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,8.0nm,2.5s						
BOOM	**Boomskoye usch**	**49.79**	**295**	P	**P**	**11 38 11.6**	**-0.4**
BOOM	**Boomskoye usch**	**49.79**	**295**	P	**P**	**11 38 11.6**	**-0.4**
BOOM				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GUN	**Gumba**	**49.99**	**273**	*eP*	**P**	**11 38 13.4**	**-0.4**
RAMN	**Ramite**	**50.00**	**271**	*eP*	**P**	**11 38 13.7**	**-0.1**
C36M	**Paulatuk**	**50.57**	**27**	P	**P**	**11 38 16.9**	**-0.3**
AAK	**Ala-Archa**	**50.69**	**295**	*eP*	**P**	**11 38 17.8**	**-0.9**
AAK	**Ala-Archa**	**50.69**	**295**	*i* P	**P**	**11 38 17.8**	**-0.9**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.9s						
DANN	**Dangsing**	**51.29**	**275**	*eP*	**P**	**11 38 23.7**	**+0.1**
PYUN	**Piuthan**	**51.99**	**275**	*eP*	**P**	**11 38 28.3**	**-0.4**
	comp=Z,8.9nm,0.5s						
ARSB	**Arslanbob**	**52.29**	**295**	P	**P**	**11 38 30.6**	**-0.1**
ARSB				IAmb	IAmb	11 38 32.2	
	comp=Z,3.6nm,1.3s						
ARSB	**Arslanbob**	**52.29**	**295**	P	**P**	**11 38 30.6**	**-0.1**
ARSB				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KKAR	**Karatay Array**	**53.08**	**298**	P	**P**	**11 38 35.4**	**-1.0**
KKAR	**Karatay Array**	**53.08**	**298**	P	**P**	**11 38 35.4**	**-1.0**
EUNU	**Eureka**	**53.71**	**10**	P	**P**	**11 38 39.4**	**-1.1**
RES	**Resolute Bay**	**55.91**	**16**	P	**P**	**11 38 56.0**	**-0.3**
RES	**Resolute Bay**	**55.91**	**16**	P	**P**	**11 38 56.0**	**-0.3**
RES				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ABKAR	**Akbulak array**	**56.65**	**309**	P	**P**	**11 39 01.2**	**-0.8**
YKA	**Yellowknife Ar**	**56.95**	**33**	P	**P**	**11 39 04.3**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=299,slow=7.0,SNR=12						
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**63.57**	**192**	P	**P**	**11 39 49.3**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=8.4,slow=6.6,SNR=5.2						
	comp=Z,0.5nm,0.8s						
GEYT	**Alibeck**	**63.83**	**298**	P	**P**	**11 39 51.0**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=81,slow=8.9,SNR=1.9						
	comp=Z,1.1nm,0.3s						
SUMG	**Summit**	**64.61**	**1**	*i* P	**P**	**11 39 55.0**	**-1.3**
FINES	**FINESS Array B**	**64.98**	**333**	*i* P	**P**	**11 39 57.5**	**-0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**64.98**	**333**	P	**P**	**11 39 57.2**	**-1.2**
	comp=Z,1.8nm,0.5s,baz=47,slow=7.8,SNR=27						
	comp=Z,1.8nm,0.5s						
OBN	**Obninsk**	**65.22**	**323**	*eP*	**P**	**11 39 58.5**	**-1.5**
OBN	**Obninsk**	**65.22**	**323**	*eP*	**P**	**11 39 58.9**	**-1.1**
OBN				*e**PP	**pP**	**11 40 15.2**	**+0.4**
OBN				*e**SP	**sP**	**11 40 21.3**	**+0.5**
OBN				*e*		11 40 29.3	
OBN				*i* S	**S**	**11 48 43.4**	**+4.5**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,39nm,15.0s						
ASAR	**Alice Springs**	**67.29**	**192**	P	**P**	**11 40 14.5**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=9.0,slow=5.6,SNR=9.9						
	comp=Z,0.6nm,0.6s						
NVAR	**Mina Array Bea**	**68.84**	**57**	P	**P**	**11 40 24.6**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=286,slow=7.6,SNR=4.8						
	comp=Z,1.0nm,0.7s						
KIV	**Kislovodsk**	**69.41**	**311**	*eP*	**P**	**11 40 26.0**	**-0.9**
KIV	**Kislovodsk**	**69.41**	**311**	*eP*	**P**	**11 40 26.0**	**-0.9**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KBZ	**Khabaz**	**69.44**	**311**	*eP*	**P**	**11 40 27.1**	**+0.2**
KBZ	**Khabaz**	**69.44**	**311**	*ce*P	**P**	**11 40 27.1**	**+0.2**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KBZ	**Khabaz**	**69.44**	**311**	P	**P**	**11 40 26.9**	**+0.1**
	comp=Z,4.7nm,0.8s,baz=53,slow=6.4,SNR=9.5						
	comp=Z,4.7nm,0.8s						
NB2	**NORSAR Subarra**	**69.84**	**338**	P	**P**	**11 40 28.5**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=33,slow=6.5						
NB2	**NORSAR Subarra**	**69.84**	**338**	P	**P**	**11 40 28.2**	**-0.9**
NOA	**NORSAR Array B**	**69.84**	**338**	P	**P**	**11 40 28.5**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=34,slow=6.3,SNR=12						
	comp=Z,3.0nm,0.7s						
HFS	**Hagfors**	**69.89**	**337**	P	**P**	**11 40 28.6**	**-0.8**
	comp=Z,4.1nm,0.6s,baz=49,slow=6.8,SNR=15						
	comp=Z,4.1nm,0.6s						
NORES	**NORESS Array B**	**70.00**	**338**	P	**P**	**11 40 32.1**	**+2.0**
FRB	**Frobisher Bay**	**70.12**	**15**	P	**P**	**11 40 30.1**	**-0.6**
	comp=Z,1.8nm,0.4s,baz=330,slow=5.9,SNR=5.1						
	comp=Z,1.8nm,0.4s						
PDAR	**Pinedale Array**	**71.16**	**49**	P	**P**	**11 40 38.2**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=220,slow=0.5,SNR=9.2						
	comp=Z,0.5nm,0.5s						
AKASG	**Malin Array Be**	**71.48**	**323**	*i* P	**P**	**11 40 38.2**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**71.48**	**323**	P	**P**	**11 40 38.5**	**-0.8**
	comp=Z,1.9nm,0.5s,baz=40,slow=6.0,SNR=16						
	comp=Z,1.9nm,0.5s						
AKBB	**Malin Array Si**	**71.48**	**323**	*ce*P	**P**	**11 40 37.5**	**-1.7**
AKBB				pmax	pmax		
	comp=Z,17nm,2.0s						
BRTR	**Keskin Array B**	**77.23**	**313**	P	**P**	**11 41 12.8**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=42,slow=3.8,SNR=4.0						
	comp=Z,0.7nm,0.6s						
CLL	**Collm**	**77.41**	**332**	*eP*	**P**	**11 41 13.0**	**-0.6**
CLL	**Collm**	**77.41**	**332**	*eP*	**P**	**11 41 13.0**	**-0.6**
VYHS	**Vyhne**	**77.54**	**327**	*eP*	**P**	**11 41 15.2**	**+0.8**
VYHS	**Vyhne**	**77.54**	**327**	*eP*	**P**	**11 41 15.2**	**+0.8**
EKA	**Eskdalemuir Ar**	**78.45**	**342**	P	**P**	**11 41 19.2**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=26,slow=5.2,SNR=13						
	comp=Z,1.6nm,0.5s						
MMAI	**Mount Meron Ar**	**81.05**	**307**	P	**P**	**11 41 34.5**	**+0.6**
	comp=Z,2.0nm,0.4s,baz=43,slow=10,SNR=5.5						
	comp=Z,2.0nm,0.4s						
SADO	**Sadowa**	**83.83**	**30**	LR	LR	12 22 42.7	
	comp=Z,36nm,21.3s,baz=78,slow=38						
TXAR	**Lajitas Array**	**83.91**	**55**	P	**P**	**11 41 49.9**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=297,slow=3.4,SNR=12						
	comp=Z,0.8nm,0.7s						
TKL	**Tuckaleechee C**	**89.59**	**38**	P	**P**	**11 42 16.1**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=219,slow=3.1,SNR=5.5						
	comp=Z,1.8nm,0.6s						
QSPA	**South Pole Qui**	**132.81**	**180**	PKP	**PKiKP**	**11 48 33.3**	**-0.2**
	comp=Z,2.0nm,1.0s,baz=222,slow=1.4,SNR=3.0						
H03N2	**Juan Fernandez**	**144.03**	**90**	T	T	14 29 45.6	
	baz=302,slow=77,SNR=8.9						
H03N3	**Juan Fernandez**	**144.04**	**90**	T	T	14 29 44.5	
	baz=302,slow=77,SNR=9.2						
H03N1	**Juan Fernandez**	**144.05**	**90**	T	T	14 29 47.8	
	baz=302,slow=77,SNR=12						

*MOS **17** 11:33:45.8±1.1, 43.06N×146.20E, h78km, mb4.2/1, Error ellipse: s-maj=25.3km s-min=14.2km az=105.0*
*SKHL **17** 11:33:49.2±0.4, 43.30N×146.20E, h87km±3km, mb4.8/3, msh5.6/3*

*JMA **17** 11:33:49.2±0.2, 43.3ˊN±0.6ˊ×14.6ˊE±ˊ, h88km±1km, MV3.0/37, OFF NEMURO PENINSULA*
*IDC **17** 11:33:55.7±3.7, 44.5ˊ56N×145.6ˊ64E, h90km±36km, mb3.3/6, mbtmp3.6/7, MS3.9/4, Error ellipse: s-maj=93.8km s-min=28.8km az=168.0*

ISC 17 11:33:48.4±1.0, 43.2ˊ8N±0.0ˊ07×146.1ˊ3E±0.0ˊ05, h90km±6km, n34, σ0§77/50, mb3.5/6, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.29**	**288**	*i* P			**Pn**	**11 34 02.2**	**+0.6**
NEM2				*e*S			**Sn**	**11 34 11.7**	**+0.1**
NMR	**Nemuro--Hokkai**	**0.30**	**288**	*i* P			**Pn**	**11 34 02.2**	**+0.5**
NMR				*i* S			**Sn**	**11 34 11.6**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.30**	**288**	⇑*i* PN			**Pn**	**11 34 02.2**	**+0.5**
NMR				*i* S			**Sn**	**11 34 11.5**	**-0.1**
JKHN	**Kushirohamanak**	**0.73**	**255**	P			**Pn**	**11 34 05.8**	**+0.7**
JKHN				*e*S			**Sn**	**11 34 18.0**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**0.78**	**346**	*i* P			**Pn**	**11 34 05.6**	**0.0**
YUK				AMB		AMB		11 34 06.8	
	630nm,0.4s								
YUK				*i* S			**Sn**	**11 34 17.9**	**-0.6**
YUK				A		A		11 34 20.7	
	1μm,0.2s								
YUK				A		A		11 34 20.7	
	770nm,0.2s								
YUK	**Yuzh-Kuril'sk**	**0.78**	**346**	*d* PN			**Pn**	**11 34 05.6**	**0.0**
YUK				*i* S			**Sn**	**11 34 17.5**	**-1.0**
YUK				pmax		pmax			
	comp=Z,1μm,0.2s								
YUK				pmax		pmax			
	comp=N,96nm,0.1s								
YUK				pmax		pmax			
	comp=E,100nm,0.1s								
YUK				smax		smax			
	comp=N,2μm,0.2s								
YUK				smax		smax			
	comp=E,872nm,0.1s								
SHO	**Shikotan**	**0.78**	**41**	*i* P			**Pn**	**11 34 06.0**	**+0.3**
SHO				AMB		AMB		11 34 06.3	
	comp=E,200nm,0.2s								
SHO				*i* S			**Sn**	**11 34 18.2**	**-0.4**
SHO				A		A		11 34 19.2	
	comp=E,2μm,0.3s								
SHO				A		A		11 34 19.2	
	comp=E,840nm,0.3s								
SHO	**Shikotan**	**0.78**	**41**	⇓*i* PN			**Pn**	**11 34 05.9**	**+0.3**
SHO				*i* S			**Sn**	**11 34 18.1**	**-0.5**
SHO				pmax		pmax			
	comp=Z,203nm,0.1s								
SHO				pmax		pmax			
	comp=N,32nm,0.2s								
SHO				smax		smax			
	comp=N,2μm,0.2s								
SHO				smax		smax			
	comp=E,590nm,0.2s								
JNSB	**Nemuroshibetsu**	**0.96**	**302**	*e*P			**Pn**	**11 34 07.9**	**+0.4**
JNSB				*e*S			**Sn**	**11 34 22.0**	**+0.2**
AKK	**Akkeshi**	**0.97**	**255**	*e*P			**Pn**	**11 34 07.9**	**+0.2**
JRA	**Rausu**	**0.98**	**313**	P			**Pn**	**11 34 08.3**	**+0.5**
JRA				*e*S			**Sn**	**11 34 22.6**	**+0.3**
RUSJ	**Misakicho**	**1.04**	**323**	⇓*i* PN			**Pn**	**11 34 09.2**	**+0.7**
RUSJ				*i* S			**Sn**	**11 34 24.5**	**+0.9**
JNK	**Nakash**	**1.07**	**287**	P			**Pn**	**11 34 08.8**	**0.0**
JNK				*e*S			**Sn**	**11 34 23.4**	**-0.8**
JAK	**Akkeshi**	**1.08**	**256**	P			**Pn**	**11 34 09.2**	**+0.3**
JAK				*e*S			**Sn**	**11 34 24.2**	**-0.2**
JOB	**Onbets**	**1.72**	**258**	*e*P			**Pn**	**11 34 17.6**	**+0.7**
JOB				*e*S			**Sn**	**11 34 38.4**	**-0.1**
JAR	**Ashorobuto**	**1.72**	**271**	*e*S			**Sn**	**11 34 38.9**	**+0.3**
JTKR	**Abashiri--Toko**	**1.75**	**294**	P			**Pn**	**11 34 17.9**	**+0.7**
JTKR				*e*S			**Sn**	**11 34 39.8**	**+0.5**
JCH	**Churui**	**2.13**	**253**	*e*P			**Pn**	**11 34 22.7**	**+0.4**
JCH				*e*S			**Sn**	**11 34 47.7**	**-0.5**
JMP	**Maruseppu**	**2.14**	**291**	*e*P			**Pn**	**11 34 23.1**	**+0.8**
JMP				*e*S			**Sn**	**11 34 49.0**	**+0.7**
KUR	**Kuril'sk**	**2.32**	**32**	*e*P			**Pn**	**11 34 25.8**	**+1.1**
KUR				AMB		AMB		11 34 26.8	
	comp=E,50nm,0.2s								
KUR				*e*S			**Sn**	**11 34 52.7**	**+0.1**
KUR				A		A		11 34 54.0	
	comp=E,140nm,0.2s								
KUR				A		A		11 34 54.0	
	comp=E,50nm,0.2s								
KUR	**Kuril'sk**	**2.32**	**32**	*e*PN			**Pn**	**11 34 25.8**	**+1.1**
KUR				*e*S			**Sn**	**11 34 52.6**	**0.0**
KUR				pmax		pmax			
	comp=Z,46nm,0.2s								
KUR				smax		smax			
	comp=N,140nm,0.2s								
KUR				smax		smax			
	comp=E,51nm,0.3s								
JKA	**Kamikawa-asahi**	**2.69**	**289**	*e*P			**Pn**	**11 34 31.1**	**+1.4**
ASAJ	**Asahikawa**	**2.69**	**289**	P			**Pn**	**11 34 31.1**	**+1.4**
	comp=E,4.5nm,0.3s,baz=78,slow=19,SNR=1.9								
ASAJ				S			**Sn**	**11 34 58.4**	**-3.1**
	comp=E,13nm,0.7s,baz=132,slow=16,SNR=2.5								
SONM	**Songino Array**	**27.97**	**293**	P			**P**	**11 39 30.8**	**+0.4**
	comp=E,0.8nm,0.5s,baz=81,slow=8.9,SNR=2.9								
	comp=E,0.8nm,0.5s								
KDAK	**Kodiak Island**	**40.12**	**47**	LR		LR	LR	11 58 37.5	
	comp=E,296nm,19.3s,baz=276,slow=38								
ILAR	**Eielson Array**	**42.31**	**36**	P			**P**	**11 41 33.2**	**+0.4**
	comp=E,0.3nm,0.7s,baz=276,slow=9.2,SNR=4.5								
	comp=E,0.3nm,0.7s								
MKAR	**Makanchi Array**	**44.14**	**298**	P			**P**	**11 41 47.6**	**-0.2**
	comp=E,0.5nm,0.6s,baz=84,slow=10.0,SNR=5.8								
	comp=E,0.5nm,0.6s								
KURK	**Kurchatov**	**45.18**	**304**	P			**P**	**11 41 55.8**	**-0.1**
KURBB	**Kurchatov Arra**	**45.26**	**304**	P			**P**	**11 41 55.8**	**-0.8**
	comp=E,0.3nm,0.3s,baz=71,slow=8.1,SNR=2.5								
	comp=E,0.3nm,0.3s								
INK	**Inuvik**	**47.19**	**30**	LR		LR	LR	12 04 36.9	
	comp=E,90nm,18.2s,baz=197,slow=40								
DLBC	**Dease Lake**	**51.53**	**42**	LR		LR	LR	12 04 46.2	
	comp=E,119nm,20.6s,baz=310,slow=36								
YKA	**Yellowknife Ar**	**56.61**	**33**	LR		LR	LR	12 10 32.5	
	comp=E,98nm,18.3s,baz=299,slow=39								
FINES	**FINESS Array B**	**64.95**	**333**	P			**P**	**11 44 17.2**	**-0.8**
	comp=E,0.8nm,0.5s,baz=44,slow=8.5,SNR=9.0								
	comp=E,0.8nm,0.5s								
NOA	**NORSAR Array B**	**69.77**	**338**	P			**P**	**11 44 47.6**	**-0.9**
	comp=E,0.3nm,0.5s,baz=32,slow=6.7,SNR=3.8								
	comp=E,0.3nm,0.5s								

*NEIC **17** 11:35:00.8±1.7, 19.0ˊS±0.1ˊ×169.6ˊE±0.1ˊ, h251km±7km, mb4.5/38, Error ellipse: s-maj=15.8km s-min=14.9km az=73.0*
*IDC **17** 11:35:02.7±1.6, 19.0ˊ7S×169.7ˊ46E, h265km±13km, mb3.9/13, mbtmp4.5/14, Error ellipse: s-maj=16.8km s-min=12.9km az=76.0*

ISC 17 11:35:00.3±0.6, 18.9ˊ7S±0.1ˊ07×169.6ˊ0E±0.0ˊ09, h246km, n66, σ1§14/69, mb4.5/27, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.85**	**231**				**Pn**	**11 35 50.8**	**-0.1**
MARNC	**Mare, Loyalty**	**2.90**	**210**	Pn			**Pn**	**11 35 52.0**	**+0.6**
PINNC	**Pines Island,**	**4.14**	**209**				**Pn**	**11 36 06.6**	**+1.0**
DZM	**Mont Dzumac**	**4.27**	**223**				**Pn**	**11 36 07.8**	**+0.7**
DZM	**Mont Dzumac**	**4.27**	**223**	P			**Pn**	**11 36 08.7**	**+1.5**
	64nm,0.8s,baz=53,slow=14,SNR=48								
DZM				S			**S**	**11 37 02.3**	**+1.9**
	30nm,0.5s,baz=64,slow=21,SNR=1.4								
OUENC	**Ouen Island, N**	**4.29**	**216**				**Pn**	**11 36 08.2**	**+0.8**
ONTNC	**Ouen Toro**	**4.44**	**221**				**Pn**	**11 36 09.8**	**+0.7**
KOUNC	**Koumac, New Ca**	**5.24**	**252**	Pn			**Pn**	**11 36 20.8**	**+1.9**
HNR	**Honiara**	**13.31**	**314**				**P**	**11 38 01.5**	**-0.3**
HNR	**Honiara**	**13.31**	**314**	P			**P**	**11 38 01.9**	**+0.1**
	1μm,0.6s,baz=88,slow=0.9,SNR=7.5								
EIDS	**Eidsvold**	**18.28**	**246**	P			**P**	**11 38 56.6**	**+0.4**
EIDS				IAmb		IAmb	IAmb	11 39 00.0	
	comp=Z,25nm,1.5s								
TOZ	**Tahuroa Road**	**19.39**	**166**	P			**P**	**11 39 09.0**	**+1.0**
TOZ				IAmb		IAmb	IAmb	11 39 48.0	
	comp=Z,20nm,1.4s								
ARMA	**Armidale**	**19.88**	**232**	P			**P**	**11 39 14.9**	**+1.5**
URZ	**Urewera**	**20.30**	**163**	P			**P**	**11 39 18.4**	**+0.7**
	comp=Z,5.9nm,0.5s,baz=45,slow=4.1,SNR=8.1								
	comp=Z,5.9nm,0.5s								
RTZ	**Ruatahuna**	**20.60**	**163**	P			**P**	**11 39 21.6**	**+0.6**
RTZ				IAmb		IAmb	IAmb	11 39 23.6	
	comp=Z,21nm,1.0s								

BKZ	**Black Stump Fm**	**20.99**	**165**	P	**P**	**11 39 25.3**	**+0.2**
BKZ				IAmb	IAmb	11 40 01.9	
	comp=Z,16nm,1.2s						
QRZ	**Quartz Range**	**21.93**	**174**	P	**P**	**11 39 35.3**	**+1.5**
CTAO	**Charters Tower**	**22.03**	**263**	P	**P**	**11 39 35.3**	**+0.3**
CTAO				IAmb	IAmb	11 40 03.0	
	comp=Z,18nm,1.4s						
MRZ	**Mangatainoka R**	**22.22**	**168**	P	**P**	**11 39 37.1**	**+0.6**
MRZ				IAmb	IAmb	11 39 37.8	
	comp=Z,21nm,1.0s						
BFZ	**Birch Farm**	**22.38**	**167**	P	**P**	**11 39 37.9**	**-0.1**
NNZ	**Nelson**	**22.41**	**172**	P	**P**	**11 39 39.5**	**+1.3**
TCW	**Tory Channel**	**22.53**	**171**	P	**P**	**11 39 40.4**	**+1.1**
TUWZ	**Tuamarina**	**22.69**	**172**	P	**P**	**11 39 40.9**	**+0.1**
THZ	**Tophouse**	**22.89**	**174**	P	**P**	**11 39 42.8**	**+0.1**
THZ				IAmb	IAmb	11 39 52.4	
	comp=Z,15nm,0.9s						
PLWZ	**Palliser**	**23.04**	**169**	P	**P**	**11 39 43.2**	**-0.8**
PMG	**Port Moresby**	**23.71**	**291**	P	**P**	**11 39 50.4**	**0.0**
PMG				IAmb	IAmb	11 39 52.2	
	comp=Z,12nm,0.8s						
LTZ	**Lake Taylor**	**23.84**	**175**	P	**P**	**11 39 51.4**	**+0.1**
TOO	**Toolangi**	**28.05**	**224**	P	**P**	**11 40 28.8**	**-0.2**
TOO				IAmb	IAmb	11 41 12.5	
	comp=Z,23nm,1.4s						
STKA	**Stephens Creek**	**28.27**	**237**	P	**P**	**11 40 31.6**	**+0.6**
STKA	**Stephens Creek**	**28.27**	**237**	P	**P**	**11 40 31.2**	**+0.2**
	comp=Z,8.7nm,0.6s,baz=66,slow=8.6,SNR=19						
	comp=Z,8.7nm,0.6s						
BBOO	**Buckleboo**	**33.01**	**239**	P	**P**	**11 41 11.9**	**-0.7**
BBOO				IAmb	IAmb	11 41 42.0	
	comp=Z,14nm,1.1s						
WR0	**Warramunga Arr**	**33.03**	**262**	P	**P**	**11 41 11.6**	**-1.3**
WR0				IAmb	IAmb	11 41 12.3	
	comp=Z,6.0nm,0.5s						
WB0	**Warramunga Arr**	**33.19**	**263**	P	**P**	**11 41 12.9**	**-1.4**
WB0				IAmb	IAmb	11 41 13.7	
	comp=Z,9.1nm,0.6s						
WB2	**Warramunga Arr**	**33.21**	**262**	P	**P**	**11 41 13.0**	**-1.5**
WRAB	**Tennant Creek**	**33.21**	**262**	P	**P**	**11 41 13.4**	**-1.1**
WRAB				IAmb	IAmb	11 41 13.8	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**33.22**	**262**	P	**P**	**11 41 12.8**	**-1.7**
WRA	**Warramunga Arr**	**33.22**	**262**	P	**P**	**11 41 13.3**	**-1.2**
	comp=Z,4.3nm,0.5s,baz=82,slow=6.0,SNR=146						
WRA				ScP	**ScP**	**11 47 10.1**	**-1.8**
	comp=Z,0.7nm,1.0s,baz=88,slow=3.6,SNR=5.5						
	comp=Z,4.3nm,0.5s						
AS31	**Alice Springs**	**33.52**	**256**	P	**P**	**11 41 16.5**	**-0.6**
ASAR	**Alice Springs**	**33.52**	**256**	P	**P**	**11 41 16.3**	**-0.8**
ASAR	**Alice Springs**	**33.52**	**256**	P	**P**	**11 41 16.4**	**-0.7**
	comp=Z,31nm,0.5s,baz=81,slow=8.9,SNR=779						
ASAR				ScP	**ScP**	**11 47 11.5**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=105,slow=3.0,SNR=4.5						
	comp=Z,31nm,0.5s						
MTN	**Manton Dam**	**37.43**	**274**	P	**P**	**11 41 49.3**	**-1.1**
MTN				IAmb	IAmb	11 41 50.5	
	comp=Z,9.8nm,0.6s						
KNRA	**Kununurra**	**39.06**	**268**	P	**P**	**11 42 03.3**	**-0.6**
KNRA				IAmb	IAmb	11 42 03.8	
	comp=Z,9.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**41.60**	**264**	P	**P**	**11 42 24.9**	**+0.2**
PSA00	**Pilbara Seismi**	**46.59**	**258**	P	**P**	**11 43 03.0**	**-1.1**
MBWA	**Marble Bar**	**46.74**	**258**	P	**P**	**11 43 04.6**	**-0.7**
MORW	**Morawa**	**49.58**	**248**	P	**P**	**11 43 25.6**	**-1.3**
MORW				IAmb	IAmb	11 44 04.8	
	comp=Z,26nm,1.2s						
VNDA	**Vanda**	**58.71**	**182**	P	**P**	**11 44 31.8**	**0.0**
VNDA	**Vanda**	**58.71**	**182**	P	**P**	**11 44 31.4**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=348,slow=8.3,SNR=6.6						
	comp=Z,1.6nm,0.9s						
SBA	**Scott Base**	**58.94**	**181**	P	**P**	**11 44 34.0**	**+0.7**
MJAR	**Matsushiro Arr**	**62.67**	**332**	P	**P**	**11 44 58.5**	**-0.6**
	comp=Z,3.4nm,1.0s,baz=167,slow=7.7,SNR=5.4						
	comp=Z,3.4nm,1.0s						
**

KLY eS Sn 11 43 58.8 -0.9
KLY Klyuchi 3.89 291 PN Pn 11 43 13.3 -1.3
KLY S Sn 11 43 58.8 -0.9
TUMD Tumrok D 3.89 274 eP Pn 11 43 14.8 +0.1
TUMD eS Sn 11 44 02.0 +2.2
BZMR Bezymyannaya 3.89 285 eP Pn 11 43 15.3 +0.4
BZMR Bezymyannaya 3.89 285 PN Pn 11 43 15.3 +0.4
BZWR Bezymyannyi-We 3.89 286 eP Pn 11 43 15.7 +0.8
BZWR Bezymyannyi-We 3.89 286 PN Pn 11 43 15.7 +0.8
KIRR Kirishev 3.98 285 eP Pn 11 43 16.7 +0.7
KIRR Kirishev 3.98 285 PN Pn 11 43 16.7 +0.7
KMNR Kamenistaya 4.01 282 eP Pn 11 43 17.7 +1.3
KMNR Kamenistaya 4.01 282 PN Pn 11 43 17.7 +1.3
TUMR Tumrok 4.03 276 PN Pn 11 43 14.8 -1.9
TUMR S Sn 11 44 02.0 -1.4
KPT Kopyto 4.04 285 eP Pn 11 43 17.5 +0.6
KPT Kopyto 4.04 285 PN Pn 11 43 17.5 +0.6
KOZ Kozyrevsk 4.25 286 eP Pn 11 43 21.4 +1.7
KOZ Kozyrevsk 4.25 286 PN Pn 11 43 21.4 +1.7
SRDR Sredinnyy 4.39 289 eP Pn 11 43 22.6 +1.0
SRDR Sredinnyy 4.39 289 PN Pn 11 43 22.6 +1.0
KII Karymskiy 4.62 260 eP Pn 11 43 25.4 +0.6
KII Karymskiy 4.62 260 PN Pn 11 43 25.4 +0.6
SPN Mys Shipunski 4.66 248 eP Pn 11 43 23.8 -1.4
SPN Mys Shipunski 4.66 248 PN Pn 11 43 23.8 -1.4
OSSR Ossora 4.73 333 eP Pn 11 43 24.2 -2.0
OSSR Ossora 4.73 333 PN Pn 11 43 24.2 -2.0
SHEM Shemya Is, Ala 4.73 117 Pn Pn 11 43 25.0 -1.2
112nm,0.3s,baz=42,slow=2.8,SNR=34
SHEM Sn Sn 11 44 16.9 -3.6
86nm,0.3s,baz=159,slow=22,SNR=16
ESO Esso 4.89 283 eP Pn 11 43 30.3 +1.9
ESO Esso 4.89 283 PN Pn 11 43 30.3 +1.9
NLC Nalytchevo 4.99 251 eP Pn 11 43 30.2 +0.4
NLC Nalytchevo 4.99 251 PN Pn 11 43 30.2 +0.4
SMAR Somma 5.25 253 eP Pn 11 43 34.2 +0.7
SMAR Somma 5.25 253 PN Pn 11 43 34.2 +0.7
UGLR Uglovaya 5.25 252 eP Pn 11 43 33.8 +0.2
UGLR Uglovaya 5.25 252 PN Pn 11 43 33.8 +0.2
AVH Avacha 5.28 253 eP Pn 11 43 34.8 +1.0
AVH Avacha 5.28 253 PN Pn 11 43 34.8 +1.0
KRX Arik 5.29 254 eP Pn 11 43 34.3 +0.2
KRX Arik 5.29 254 PN Pn 11 43 34.3 +0.2
KOK Koryaka 5.33 254 eP Pn 11 43 34.9 +0.4
KOK Koryaka 5.33 254 PN Pn 11 43 34.9 +0.4
DALK Dalny 5.37 251 eP Pn 11 43 34.5 -0.5
DALK Dalny 5.37 251 PN Pn 11 43 34.5 -0.5
PET Petropavlovsk 5.43 251 eP Pn 11 43 35.8 0.0
PET Petropavlovsk 5.43 251 eP Pn 11 43 36.6 +0.8
PET Petropavlovsk 5.43 251 ePN Pn 11 43 35.9 +0.1
PET pmax pmax
comp=Z,139nm,0.6s
PET MLR MLR
comp=Z,800nm,14.0s
PEA0B Petropavlovsk- 5.92 254 Pn Pn 11 43 44.0 +1.5
PEA0B Petropavlovsk- 5.92 254 *ce*PN Pn 11 43 43.3 +0.8
PETK Petropavlovsk- 5.92 254 Pn Pn 11 43 44.4 +1.9
PETK Petropavlovsk- 5.92 254 Pn Pn 11 43 43.0 +0.5
comp=Z,5.0nm,0.3s,baz=344,slow=8.4,SNR=68
PETK Sn Sn 11 44 52.0 +2.3
comp=Z,5.7nm,0.3s,baz=85,slow=20,SNR=1.4
comp=Z,22nm,0.6s
GRL Gorelyy 5.96 248 eP Pn 11 43 43.9 +0.7
GRL Gorelyy 5.96 248 PN Pn 11 43 43.9 +0.7
ASAK Asacha 6.13 248 eP Pn 11 43 46.1 +0.6
ASAK Asacha 6.13 248 PN Pn 11 43 46.1 +0.6
SKR Severo-Kuril's 8.01 241 ePN Pn 11 44 10.2 -1.0
SKR pmax pmax
comp=Z,98nm,0.8s
KIWB Kanaga Island 9.89 103 Pn Pn 11 44 34.6 -2.4
MA2 Magadan 9.93 304 LR LR 11 48 23.6
comp=Z,276nm,20.5s,baz=106,slow=37
SEY Seymchan 10.92 322 Pn Pn 11 44 50.5 -0.6
comp=Z,0.1nm,0.3s,baz=83,slow=16,SNR=1.0
SEY LR LR 11 49 16.9
comp=Z,338nm,18.2s,baz=151,slow=39
comp=Z,0.5nm,0.3s
ATKA Atka Island 11.43 97 Pn Pn 11 44 55.8 -2.2
SPIA Saint Paul Isl 12.75 71 P Pn 11 45 17.9 +1.8
baz=270
BILL Bilibino 13.00 358 Pn Pn 11 45 20.3 +0.9
GAMB Gambell 13.76 42 P Pn 11 45 31.3 +1.5
baz=240
OKH Okha 14.21 274 *de*P Pn 11 45 31.5 -4.5
OKH *e*S Sn 11 48 05.5 -7.4
OKH MLR MLR
comp=Z,200nm,15.0s
OKH MLR MLR
comp=E,600nm,14.0s
NIKH Nikolski High 14.23 89 P Pn 11 45 38.1 +1.8
baz=288,SNR=10.0
M11K Mekoryuk 15.11 59 P Pn 11 45 49.3 +1.2
baz=261
UNV Unalaska Valle 15.33 84 P Pn 11 45 53.1 +2.1
baz=285
TNA Tin City 16.05 39 P Pn 11 46 01.7 +1.4
baz=241
K13K Kusilvak Mount 16.13 53 P Pn 11 46 03.0 +1.6
baz=258
M13K Dall Lake 16.52 59 P Pn 11 46 07.4 +1.1
baz=264
ANM Nome 16.60 44 P Pn 11 46 08.4 +1.1
baz=248
F14K Arctic Creek 16.61 41 P Pn 11 46 08.7 +1.3
baz=244
J14K Nanvaranak Lak 16.82 51 P Pn 11 46 11.3 +1.3
baz=256
FALS False Pass 16.83 79 P Pn 11 46 11.5 +1.2
baz=283
L14K Kuka Creek 16.95 56 P P 11 46 14.3 +0.7
L14K Kuka Creek 16.95 56 P Pn 11 46 13.5 +1.7
baz=262
M14K Bethel 17.23 58 P 11 46 18.1 +1.4
M14K IAmb IAmb 11 46 22.7
comp=Z,43nm,1.1s
M14K Bethel 17.23 58 P P 11 46 17.6 +0.9
baz=264
G15K Niukluk 17.29 44 P Pn 11 46 16.3 +0.3
baz=249
N14K Kuskokwak Cree 17.31 61 P Pn 11 46 17.3 +1.0
baz=267
YSS Yuzh-Sakhalins 17.31 252 eP Pn 11 46 15.2 -1.2
YSS pmax pmax
comp=Z,20nm,1.0s
F15K North Star Dit 17.34 41 P Pn 11 46 17.6 +1.0
baz=246
L15K Ungalak Mounta 17.57 55 P Pn 11 46 20.5 +1.1
baz=262
K15K Wolf Creek Mou 17.64 53 P P 11 46 22.8 +1.5
K15K Wolf Creek Mou 17.64 53 P Pn 11 46 21.4 +1.0
baz=260
M15K Kasigluk River 17.85 59 P Pn 11 46 24.0 +1.0
baz=266
H16K Elim 17.90 45 P Pn 11 46 24.8 +1.2
baz=252
G16K Koyuk River 18.10 43 P Pn 11 46 27.3 +1.4
baz=250
N15K Kwethluk River 18.12 60 P P 11 46 27.8 +1.2
baz=268
J16K Anvik River 18.25 50 P P 11 46 29.3 +1.4
baz=258
O15K Ungalikthiuk R 18.25 64 P Pn 11 46 29.0 +1.1
baz=271
C16K Lisburne Hills 18.32 33 P Pn 11 46 31.4 +2.8
C16K Lisburne Hills 18.32 33 P Pn 11 46 30.2 +1.6
baz=238
I17K Unalakleet 18.34 48 P Pn 11 46 30.3 +1.4
baz=256
SDPT Sand Point 18.37 76 P P 11 46 28.9 -0.4
baz=282
L16K Owhat River 18.53 56 P 11 46 32.3 +1.3
L16K IAmb IAmb 11 46 37.5
comp=Z,23nm,0.6s
L16K Owhat River 18.53 56 P P 11 46 32.0 +1.0
baz=264,SNR=9.2
S14K Fog Glacier 18.70 73 P P 11 46 34.3 +1.3
baz=280
M16K Timber Creek 18.72 58 P P 11 46 33.5 +0.4
baz=267
D17K Noatak River 18.77 36 P Pn 11 46 35.6 +1.4
baz=242
N16K Nishlik Lake 18.79 59 P Pn 11 46 36.1 +1.7
baz=268
G17K Kiwalik Mounta 18.81 44 P P 11 46 34.4 +0.4
baz=252
F17K Baldwin Pennin 18.90 41 P P 11 46 36.5 +1.5
baz=248
E17K Hotham Inlet 18.94 38 P Pn 11 46 37.7 +1.5
baz=246
H17K Granite Mounta 18.94 45 P P 11 46 36.4 +0.8
H17K Granite Mounta 18.94 45 P P 11 46 36.2 +0.7
baz=254
GRNR Gornyy 18.95 270 ⇓*i*P Pn 11 46 38.4 +2.0
GRNR pmax pmax
comp=Z,9.0nm,1.0s
GRNR MLR MLR
comp=E,270nm,15.0s
GRNR MLR MLR
comp=N,220nm,16.0s
GRNR MLR MLR
comp=Z,240nm,15.0s
RDOG Red Dog Mine 19.00 35 P P 11 46 35.1 -1.0
baz=242
C17K DeLong Mountai 19.12 34 P P 11 46 38.6 +1.1
baz=240
L17K Donlin 19.12 54 P Pn 11 46 39.8 +1.4
baz=264
O16K Kokwok River B 19.13 62 P P 11 46 38.6 +1.0
baz=272
K17K Iditarod 19.19 53 P P 11 46 39.5 +1.2
K17K IAmb IAmb 11 46 42.5
comp=Z,42nm,1.4s
K17K Iditarod 19.19 53 P Pn 11 46 40.9 +1.7
baz=262
P16K Nushagak River 19.21 64 P Pn 11 46 41.7 +2.3
baz=273
JKA Kamikawa-asahi 19.23 245 P P 11 46 37.3 -1.6
ASAJ Asahikawa 19.23 245 P P 11 46 37.3 -1.6
ASAJ pmax pmax
comp=Z,75nm,1.3s
ASAJ Asahikawa 19.23 245 P P 11 46 39.7 +0.8
comp=Z,0.3nm,0.3s,baz=165,slow=8.4,SNR=3.3
ASAJ LR LR 11 53 24.6
comp=Z,224nm,20.5s,baz=39,slow=35
comp=Z,24nm,1.0s
M17K Holitna River 19.47 57 P P 11 46 43.2 +1.8
M17K IAmb IAmb 11 46 48.2
comp=Z,27nm,0.9s
M17K Holitna River 19.47 57 P Pn 11 46 44.6 +1.9
baz=267
E18K Tukpahlearik C 19.51 38 P Pn 11 46 44.9 +1.8
baz=247
R16K Pilot Point 19.57 68 P Pn 11 46 46.2 +2.4
baz=278
N17K Nushagak Hills 19.57 59 P Pn 11 46 45.1 +1.3
baz=270
O17K Koliganek Bris 19.63 62 P Pn 11 46 45.9 +1.4
baz=272
H18K Honhosa River 19.63 45 P Pn 11 46 45.2 +0.7
H18K Honhosa River 19.63 45 P Pn 11 46 46.7 +2.2
baz=256
G18K Tagagawik 19.71 43 P P 11 46 45.7 +1.8
G18K Tagagawik 19.71 43 P Pn 11 46 47.6 +2.1
baz=253
C18K Utukok River 19.84 34 P P 11 46 47.0 +1.6
C18K Utukok River 19.84 34 P Pn 11 46 48.9 +1.9
baz=243
L18K Granite Mounta 19.88 54 P Pn 11 46 49.0 +1.5
baz=265
Q16K King Salmon 19.93 65 P Pn 11 46 48.9 +0.9
baz=275
B18K Kokolik River 19.99 32 P P 11 46 48.9 +1.9
baz=240
P17K Kvichak River 19.99 63 P P 11 46 49.0 +2.0
baz=274
J18K Innoko River 20.01 51 P P 11 46 47.9 +0.7
J18K Innoko River 20.01 51 P P 11 46 47.5 +0.3
baz=262,SNR=7.6
GCSA Galena City Sc 20.15 47 P P 11 46 49.9 +1.2
baz=258
R17K Ugashik Creek 20.19 68 P P 11 46 50.9 +1.7
R17K Ugashik Creek 20.19 68 P P 11 46 49.9 +0.7
baz=278
N18K Kilae Creek 20.21 59 P P 11 46 49.9 +0.5
N18K IAmb IAmb 11 47 06.1
comp=Z,18nm,0.9s
N18K Kilae Creek 20.21 59 P P 11 46 50.0 +0.6
baz=270
M18K Stony River 20.25 57 P P 11 46 50.5 +0.6
baz=268
TTA Tatalina 20.26 52 P P 11 46 49.8 -0.2
TTA Tatalina 20.26 52 P P 11 46 50.2 +0.3
baz=264
TTA Tatalina 20.26 52 P P 11 46 49.8 -0.2
TTA pmax pmax
comp=Z,15nm,1.0s
F19K Shaleruckik Mo 20.34 41 P P 11 46 52.1 +1.4
baz=252
Q17K Contact Creek 20.37 66 P P 11 46 51.8 +0.6
baz=277
G19K Purcell Mounta 20.40 43 P P 11 46 52.5 +1.1
G19K Purcell Mounta 20.40 43 P P 11 46 52.8 +1.3
baz=254
H19K Roundabout Mou 20.50 45 P P 11 46 53.8 +1.4
H19K IAmb IAmb 11 47 06.5
comp=Z,34nm,1.3s
H19K Roundabout Mou 20.50 45 P P 11 46 54.6 +2.1
baz=257
YAK Yakutsk 20.50 305 P P 11 46 50.9 -1.6
YAK IAmb IAmb 11 47 00.7
comp=Z,28nm,0.9s
YAK Yakutsk 20.50 305 *c*/P P 11 46 51.8 -0.7
YAK *e* 11 47 09.3
YAK eS S 11 50 39.9 -0.9
YAK eSS SnSn 11 51 02.0 +2.6
YAK *e* 11 58 19.5
YAK pmax pmax
comp=Z,21nm,1.0s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK pmax pmax
comp=Z,27nm,1.0s
YAK pmax pmax
comp=N,88nm,3.3s
YAK pmax pmax
comp=E,78nm,2.7s
YAK smax smax
comp=E,187nm,5.6s
YAK smax smax
comp=N,120nm,4.0s
YAK MLR MLR
comp=Z,200nm,16.0s
YAK MLR MLR
comp=N,65nm,11.0s
YAK MLR MLR
comp=E,98nm,25.0s
YAK Yakutsk 20.50 305 P P 11 46 52.1 -0.4
comp=E,1.1nm,0.8s,baz=283,slow=3.2,SNR=6.0
YAK LR LR 11 54 53.4
comp=E,7.0nm,19.6s,baz=101,slow=37
J19K Poorman 20.56 49 P P 11 46 54.2 +1.0
J19K IAmb IAmb 11 47 25.2
comp=Z,24nm,1.2s
J19K Poorman 20.56 49 P P 11 46 53.8 +0.6
baz=262
C19K Lookout Ridge 20.57 34 P P 11 46 54.8 +1.5
C19K IAmb IAmb 11 47 03.7
comp=Z,21nm,0.7s
C19K Lookout Ridge 20.57 34 P P 11 46 55.3 +2.0
baz=244
O18K Kokuh Hills 20.58 61 P P 11 46 54.0 +0.6
baz=273
P18K Big Mountain, 20.60 63 P P 11 46 54.5 +0.8
baz=274
A19K Wainwright 20.64 31 P P 11 46 55.1 +1.1
baz=239
E19K Redstone River 20.74 39 P Pn 11 46 58.2 +0.7
baz=251
L19K White Mountain 20.74 55 P P 11 46 56.2 +1.1
baz=267
Q18K Katmai Hardscr 20.78 65 P P 11 46 56.0 +0.3
baz=276
D19K Kuna River 20.80 36 P Pn 11 46 59.1 +0.8
baz=247
N19K Bonanza Creek 20.90 58 P P 11 46 57.6 +0.6
N19K IAmb IAmb 11 47 17.1
comp=Z,23nm,1.0s
N19K Bonanza Creek 20.90 58 P P 11 46 57.7 +0.8
baz=271
O19K Port Alsworth 21.00 60 P P 11 46 59.1 +1.2
baz=273
H20K Anotleneega Mo 21.13 45 P P 11 47 00.4 +1.1
baz=259
F20K Avaraart Lake 21.17 41 P P 11 47 01.4 +1.7
baz=254
I20K Naaghedeneel 21.18 47 P P 11 47 01.2 +1.4
baz=261
K20K Telida 21.18 51 P P 11 47 01.0 +1.2
K20K Telida 21.18 51 P P 11 47 01.2 +1.3
baz=265
L20K Farewell, AK 21.21 54 P P 11 47 02.8 +2.6
baz=267
J20K Nowinta River 21.23 49 P P 11 47 01.2 +0.8
baz=263
E20K Nigu River 21.38 38 P P 11 47 04.2 +2.1
baz=250,SNR=20
D20K Ettivluk River 21.39 36 P P 11 47 03.7 +1.5
baz=249
M20K Styx River 21.54 55 P P 11 47 04.9 +1.0
baz=270
IMAR Indian Mountai 21.69 44 P P 11 47 07.9 +2.6
B20K Meade River 21.73 33 P P 11 47 07.2 +1.6
baz=245
RSO Redoubt South 21.77 59 P P 11 47 07.5 +1.1
G21K Allakaket 21.89 43 P P 11 47 10.3 +2.9
G21K Allakaket 21.89 43 P P 11 47 08.6 +1.2
baz=258,SNR=8.5
OHAK Old Harbor 21.91 68 P P 11 47 08.1 +0.4
baz=281
N20K Mount Spurr 22.00 57 P P 11 47 08.9 +0.2
baz=272
CHUM Lake Minchumin 22.00 50 P P 11 47 10.0 +1.3
baz=265
PPLA Purkeypile 22.00 53 P P 11 47 08.9 +0.1
baz=268
H21K Melozitna Rive 22.01 45 P P 11 47 10.5 +1.7
H21K Melozitna Rive 22.01 45 P P 11 47 09.8 +1.0
baz=260
F21K Alatna River 22.06 41 P P 11 47 11.1 +1.7
baz=256
CAST Castle Rocks 22.07 51 P P 11 47 11.7 +2.2
CAST Castle Rocks 22.07 51 P P 11 47 11.2 +1.8
baz=267
C21K Knifeblade Rid 22.17 36 P P 11 47 12.9 +2.5
baz=250
KDAK Kodiak Island 22.18 66 P P 11 47 10.6 0.0
KDAK Kodiak Island 22.18 66 P P 11 47 11.7 +1.1
baz=280
KDAK Kodiak Island 22.18 66 P P 11 47 10.5 -0.2
comp=Z,9.1nm,0.6s,baz=278,slow=7.0,SNR=23
comp=Z,9.1nm,0.6s
E21K Killik River 22.22 38 P P 11 47 12.4 +1.5
baz=252
I21K Tanana 22.28 47 P P 11 47 12.7 +1.0
baz=262
SKT Skwentna 22.30 55 P P 11 47 12.9 +1.0
SKT IAmb IAmb 11 47 48.7
comp=Z,16nm,1.1s
SKT Skwentna 22.30 55 P P 11 47 12.4 +0.5
baz=271
KLR Kul'dur 22.33 270 *i*P P 11 47 11.7 -0.6
KLR pmax pmax
comp=Z,11nm,0.9s
KLR Kul'dur 22.33 270 P P 11 47 12.9 +0.6
comp=Z,8.6nm,0.9s,baz=53,slow=10,SNR=20
KLR LR LR 11 56 57.6
comp=Z,254nm,18.5s,baz=66,slow=40
comp=Z,8.6nm,0.9s
B21K Ikpikpuk River 22.39 35 P P 11 47 13.8 +1.0
baz=249
BPAW Bear Paw Mtn. 22.60 50 P P 11 47 15.8 +0.6
BPAW IAmb IAmb 11 47 23.7
comp=Z,15nm,1.1s
BPAW Bear Paw Mtn. 22.60 50 P P 11 47 16.1 +1.0
baz=266
CNPM China Poot 22.61 62 P P 11 47 15.3 0.0
F22K John River 22.62 41 P P 11 47 16.7 +1.4
baz=257
H22K Ishtalitna Cre 22.63 45 P P 11 47 14.1 -1.3
baz=262
SUA Susitna One 22.69 57 P P 11 47 15.2 -1.0
baz=273
G22K Bettles 22.75 42 P P 11 47 17.6 +1.0
baz=259
MLY Manley 22.79 47 P P 11 47 18.1 +1.0
MLY IAmb IAmb 11 47 22.4
comp=Z,19nm,1.4s
MLY Manley 22.79 47 P P 11 47 18.3 +1.2
baz=264,SNR=6.4
D22K Ayikyak River 22.80 37 P P 11 47 18.1 +0.9
D22K IAmb IAmb 11 47 28.3
comp=Z,20nm,1.2s
D22K Ayikyak River 22.80 37 P P 11 47 18.1 +0.9
baz=253
A22K Sinclair Lake 22.81 31 P P 11 47 15.9 -1.3
baz=245
BRSE Bradley Lake S 22.84 61 P P 11 47 16.4 -1.3
baz=277
TRF Thorofare Moun 22.88 51 P P 11 47 17.5 -0.7
baz=268
E22K Anaktuvuk Pass 22.91 39 P P 11 47 19.1 +0.8
E22K Anaktuvuk Pass 22.91 39 P P 11 47 18.4 +0.1
baz=256
M22K Willow 22.98 56 P P 11 47 18.2 -0.8
baz=272
B22K Teshekpuk Lake 23.03 33 P P 11 47 20.5 +1.0
baz=249
ZEA Zeya 23.05 283 *e*P P 11 47 20.9 +1.0
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=N,200nm,12.0s
ZEA MLR MLR
comp=Z,200nm,15.0s
RC01 Rabbit Creek A 23.20 57 P P 11 47 20.5 -0.8
baz=274
TIXI Tiksi 23.22 330 P P 11 47 20.3 -1.0
TIXI IAmb IAmb 11 47 22.0
comp=Z,10nm,0.8s
TIXI Tiksi 23.22 330 *i*P P 11 47 20.9 -0.5
TIXI Tiksi 23.22 330 LR LR 11 56 24.2
comp=Z,5.8nm,20.4s,baz=172,slow=37
O22K Cooper Landing 23.26 59 P P 11 47 22.6 +0.6
baz=276
BWN Browne 23.27 50 P P 11 47 22.8 +0.7
G23K Bananza Creek 23.30 43 P P 11 47 23.1 +0.8
baz=261
COLD Coldfoot 23.31 42 P P 11 47 22.2 -0.2
baz=260
I23K Minto, Yukon-K 23.38 47 P P 11 47 22.1 -1.0
I23K IAmb IAmb 11 47 33.3
comp=Z,25nm,1.5s
I23K Minto, Yukon-K 23.38 47 P P 11 47 23.0 -0.1
baz=265
SEW Seward 23.44 60 P P 11 47 24.4 +0.8
baz=277
PMR Palmer 23.45 56 P P 11 47 24.0 +0.2
baz=274
NEA2 Nenana 23.46 49 P P 11 47 24.0 +0.1
NEA2 Nenana 23.46 49 P P 11 47 24.4 +0.4
baz=267
MCK McKinley 23.49 51 P P 11 47 24.2 -0.1
baz=269
D23K Nanushuk River 23.52 37 P P 11 47 25.9 +1.5
baz=255
WAT1 Susitna Watana 23.67 53 P P 11 47 25.3 -0.7
baz=271
E23K Chandalar 23.69 40 P P 11 47 26.5 +0.3
baz=258
C23K Itkillik River 23.78 35 P P 11 47 27.5 +0.6
C23K IAmb IAmb 11 47 36.4
comp=Z,10.0nm,0.8s
C23K Itkillik River 23.78 35 P P 11 47 28.3 +1.4
baz=253
KNK Knik Glacier 23.79 56 P P 11 47 26.4 -0.7
baz=275
SML Sawmill 23.82 56 P P 11 47 27.0 -0.5
baz=274
TOLK Toolik Lake Re 23.83 38 P P 11 47 28.5 +1.0
TOLK IAmb IAmb 11 47 37.2
comp=Z,14nm,0.9s
TOLK Toolik Lake Re 23.83 38 P P 11 47 28.2 +0.8
baz=257,SNR=7.1
MDM Murphy Dome 23.84 48 P P 11 47 27.8 +0.1
COLA College 24.00 48 P P 11 47 28.7 -0.3
COLA IAmb IAmb 11 47 58.4
comp=Z,11nm,0.8s

COLA College 24.00 48 P **P** 11 47 28.7 -0.3
baz=287
COLA College 24.00 48 P **P** 11 47 28.7 -0.3
COLA pmax pmax
comp=Z,11nm,0.8s
CCB Clear Creek Bu 24.01 48 P **P** 11 47 28.6 -0.5
CCB IAmb IAmb 11 47 31.1
comp=Z,20nm,1.1s
H24K Noodor Dome 24.05 46 P **P** 11 47 30.3 +0.7
baz=265
WAT6 Susitna Watana 24.05 54 P **P** 11 47 29.0 -0.8
baz=273
M23K Glacier View 24.11 55 P **P** 11 47 30.6 +0.5
baz=274
E24K Your Creek 24.11 40 P **P** 11 47 30.9 +0.7
E24K Your Creek 24.11 40 P **P** 11 47 30.8 +0.7
baz=260
POKR Poker Plat Res 24.19 47 P **P** 11 47 31.5 +0.7
baz=267
DHY Denali Highway 24.20 52 P **P** 11 47 30.3 -0.8
DHY Denali Highway 24.20 52 P **P** 11 47 30.6 -0.5
baz=272
D24K Happy Valley 24.21 37 P **P** 11 47 30.7 -0.3
baz=257
F24K Squaw Lake 24.24 41 P **P** 11 47 30.6 -0.8
F24K Squaw Lake 24.24 41 P **P** 11 47 31.0 -0.4
baz=261
SCM Sheep Creek Mo 24.29 55 P **P** 11 47 31.5 -0.4
SCM Sheep Creek Mo 24.29 55 P **P** 11 47 30.8 -1.1
baz=275
SCM Sheep Creek Mo 24.29 55 P **P** 11 47 31.5 -0.4
SCM pmax pmax
comp=Z,27nm,1.0s
G24K Hadweenzic Riv 24.30 43 P **P** 11 47 31.5 -0.3
baz=264
HEH HeiHe 24.34 275 *e*P **P** 11 47 31.4 -0.9
HEH pmax pmax
comp=Z,9.0nm,1.2s
HEH pmax pmax
comp=Z,260nm,4.8s
HEH LR LR
comp=N,790nm,13.7s
HEH LR LR
comp=E,410nm,15.3s
HEH LR LR
comp=Z,520nm,11.4s
HDA Harding Lake 24.38 49 P **P** 11 47 30.5 -2.0
HDA IAmb IAmb 11 47 41.6
comp=Z,9.9nm,0.8s
HDA Harding Lake 24.38 49 P **P** 11 47 32.2 -0.3
baz=269,SNR=5.8
HDA P **P** 11 47 32.2 -0.3
baz=269,SNR=5.8
C24K Franklin Bluff 24.39 36 P **P** 11 47 32.3 -0.3
baz=256
IL31 24.41 48 P **P** 11 47 31.6 -1.1
IL31 IAmb IAmb 11 47 33.9
comp=Z,14nm,0.8s
ILAR Eielson Array 24.41 48 P **P** 11 47 32.1 -0.7
comp=Z,14nm,1.0s,baz=252,slow=6.8,SNR=55
comp=Z,14nm,1.0s
P23K Montague Islan 24.47 60 P **P** 11 47 30.6 -2.8
baz=279
GLI Glacier Island 24.50 58 P **P** 11 47 31.8 -2.0
baz=277
M24K Tolsona, Glenn 24.81 55 P **P** 11 47 36.4 -0.2
M24K Tolsona, Glenn 24.81 55 P **P** 11 47 35.6 -1.0
baz=275
FID Port Fidalgo 24.82 58 P **P** 11 47 36.2 -0.4
G25K Bearman Lake 24.85 43 P **P** 11 47 34.7 -2.0
baz=265
K24K Donnelly Dome 24.89 51 P **P** 11 47 35.7 -1.6
baz=272
USRK Ussuriysk Ar. 24.98 259 P **P** 11 47 38.6 +0.4
comp=Z,2.8nm,0.8s,baz=47,slow=8.5,SNR=3.3
USRK LR LR 11 57 15.5
comp=Z,225nm,21.5s,baz=61,slow=36
comp=Z,2.8nm,0.8s
KLU Klutina 24.99 56 P **P** 11 47 38.8 +0.6
KLU IAmb IAmb 11 47 39.7
comp=Z,21nm,1.1s
KLU Klutina 24.99 56 P **P** 11 47 37.1 -1.1
baz=276
PRP Porcupine Dome 25.01 46 P **P** 11 47 37.5 -0.9
PRP IAmb IAmb 11 47 49.1
comp=Z,14nm,1.0s
PRP Porcupine Dome 25.01 46 P **P** 11 47 37.7 -0.7
baz=268
J25K Salcha River, 25.06 49 P **P** 11 47 37.8 -1.0
J25K IAmb IAmb 11 47 45.8
comp=Z,14nm,1.4s
J25K Salcha River, 25.06 49 P **P** 11 47 37.4 -1.4
baz=270
PAX Paxson 25.07 52 P **P** 11 47 38.3 -0.6
baz=274
D25K Kavik River 25.10 37 P **P** 11 47 39.3 +0.2
D25K IAmb IAmb 11 47 49.5
comp=Z,14nm,0.9s
D25K Kavik River 25.10 37 P **P** 11 47 39.0 -0.1
baz=259
F25K Christian Rive 25.11 42 P **P** 11 47 39.1 -0.1
baz=264
FYU Fort Yukon 25.18 44 P **P** 11 47 40.0 +0.3
FYU IAmb IAmb 11 48 16.1
comp=Z,22nm,1.1s
E25K Arctic Village 25.20 40 P **P** 11 47 40.5 +0.6
E25K Arctic Village 25.20 40 P **P** 11 47 39.7 -0.3
baz=262
EYAK Cordova Ski Ar 25.20 58 P **P** 11 47 39.8 -0.2
baz=279
HARP HAARP 25.26 54 P **P** 11 47 40.3 -0.3
baz=275
RIDG Independent Ri 25.31 51 P **P** 11 47 40.2 -0.9
baz=273
BMAR Burnt Mountain 25.50 42 P **P** 11 47 43.3 +0.6
N25K Chitina, Valde 25.61 56 P **P** 11 47 44.1 +0.2
N25K IAmb IAmb 11 48 01.2
comp=Z,20nm,1.2s
N25K Chitina, Valde 25.61 56 P **P** 11 47 43.2 -0.6
baz=277
SCRK Sand Creek 25.68 50 P **P** 11 47 43.4 -1.1
SCRK IAmb IAmb 11 47 44.1
comp=Z,10nm,1.0s
SCRK Sand Creek 25.68 50 P **P** 11 47 43.5 -1.0
baz=273,SNR=6.3
F26K Sheenjek River 25.69 41 P **P** 11 47 44.3 -0.1
baz=265
BMRM Bremner River 25.70 57 P **P** 11 47 42.8 -1.7
baz=279
C26K Camden Bay 25.71 36 P **P** 11 47 45.3 +0.7
baz=260
G26K Porcupine Rive 25.77 43 P **P** 11 47 44.1 -1.0
baz=267
J26L Joseph Creek 25.84 49 P **P** 11 47 44.6 -1.3
J26L Joseph Creek 25.84 49 P **P** 11 47 45.4 -0.5
baz=272
HMT Hamilton 25.97 58 P **P** 11 47 46.3 -0.7
I26K Coal Creek Min 26.00 47 P **P** 11 47 47.1 -0.1
baz=271
L26K Log Cabin Wild 26.03 52 P **P** 11 47 49.0 +1.4
L26K Log Cabin Wild 26.03 52 P **P** 11 47 47.5 -0.1
baz=275
MDJ Mudanjiang 26.09 262 P **P** 11 47 50.1 +1.9
MDJ pP sP 11 47 58.8 +3.8
MDJ sP pP 11 48 02.6 +8.7
MDJ PP **PnPn** **11 48 27.4 +1.0**
MDJ PcP **PcP** **11 51 19.1 +3.8**
MDJ S **S** **11 52 18.3 0.0**
MDJ sS sS 11 52 32.6 +6.2
MDJ SS **SnSn** **11 53 15.3 -1.2**
MDJ ScP **ScP** **11 54 55.8 +2.2**
MDJ PcS **PcS** **11 55 00.3 +4.2**
MDJ Mudanjiang 26.09 262 ScS ScS 11 58 45.8 +2.5
MDJ pmax pmax
comp=Z,10.0nm,1.0s
MDJ pmax pmax
comp=Z,380nm,4.4s
MDJ LR LR
comp=N,420nm,12.2s
MDJ LR LR
comp=E,480nm,14.0s
MDJ LR LR
comp=Z,460nm,13.7s
M26K Nabesna, AK 26.26 54 P **P** 11 47 48.5 -1.2
baz=277
CRQM Cirque 26.44 57 P **P** 11 47 51.2 -0.3
CRQE Cirque 26.46 57 P **P** 11 47 51.6 0.0
baz=280
BGLC Bering Glacier 26.48 59 P **P** 11 47 51.1 -0.5
baz=281
K27K Chicken 26.52 50 P **P** 11 47 50.8 -1.1
K27K IAmb IAmb 11 47 55.2
comp=Z,17nm,1.1s
K27K Chicken 26.52 50 P **P** 11 47 51.8 -0.1
baz=274
G27K Doyon Strip 26.61 44 P **P** 11 47 53.1 +0.4
baz=269
I27K Kandik River 26.63 46 P **P** 11 47 53.1 +0.1
baz=272
H27K Steamboat Moun 26.66 45 P **P** 11 47 54.1 +0.8
baz=270
BNX BinXian 26.68 266 ⇓P **P** 11 47 54.6 +1.1
BNX pmax pmax
comp=Z,16nm,0.9s
BNX pmax pmax
comp=Z,220nm,4.6s
E27K Coleen River 26.69 40 P **P** 11 47 53.8 +0.4
baz=266
L27K Beaver Creek, 26.72 52 P **P** 11 47 54.3 +0.5
L27K IAmb IAmb 11 47 55.1
comp=Z,21nm,1.0s
L27K Beaver Creek, 26.72 52 P **P** 11 47 54.4 +0.6
baz=276,SNR=15
BCAR Beaver Creek A 26.74 52 P **P** 11 47 54.4 +0.4
M27K Edge Creek, AK 26.79 53 P **P** 11 47 54.1 -0.4
M27K IAmb IAmb 11 48 25.3
comp=Z,10nm,1.0s
M27K Edge Creek, AK 26.79 53 P **P** 11 47 54.7 +0.2
baz=278
EGAK Eagle 26.86 48 P **P** 11 47 54.1 -0.9
EGAK IAmb IAmb 11 48 03.3
comp=Z,7.7nm,0.8s
EGAK Eagle 26.86 48 P **P** 11 47 54.2 -0.8
baz=274,SNR=5.9
D27M Malcolm River 27.00 38 P **P** 11 47 57.2 +0.9
D27M Malcolm River 27.00 38 P **P** 11 47 55.0 -1.2
baz=265
MJB9 Matsu-Tunnel 27.11 239 P **P** 11 47 58.7 +1.2
MAJO Matsushiro 27.11 239 P **P** 11 47 57.9 +0.4
MAJO Matsushiro 27.11 239 *i* P **P** 11 47 57.3 -0.2
MAJO pmax pmax
comp=Z,33nm,1.0s
MJAR Matsushiro Arr 27.11 239 P **P** 11 47 58.5 +1.0
comp=Z,4.8nm,0.8s,baz=30,slow=8.4,SNR=12
MJAR LR LR 11 59 21.3
comp=Z,66nm,19.3s,baz=40,slow=38
comp=Z,4.8nm,0.8s
MESA MESA 27.13 58 P **P** 11 47 57.1 -0.6
baz=282
BVCY Beaver Creek 27.25 53 P **P** 11 47 57.6 -0.9
baz=278
CTG Chitna Glacier 27.27 56 P **P** 11 47 57.8 -1.0
baz=281
F28M Old Crow 27.32 42 P **P** 11 47 57.9 -1.2
F28M Old Crow 27.32 42 P **P** 11 47 59.4 +0.3
baz=269
I28M Miner Creek 27.34 47 P **P** 11 47 59.7 +0.3
baz=273
E28M Babbage River 27.47 40 P **P** 11 47 59.4 -1.0
baz=268
YUK3 Moose Creek 27.54 55 P **P** 11 47 59.6 -1.8
baz=280
DAWY Dawson 27.69 49 P **P** 11 48 01.3 -1.2
DAWY IAmb IAmb 11 48 27.1
comp=Z,12nm,1.1s
DAWY Dawson 27.69 49 P **P** 11 48 01.2 -1.3
baz=276
D28M Stokes Point 27.79 38 P **P** 11 48 02.7 -0.6
baz=267
H29M Whitestone 27.94 45 P **P** 11 48 04.0 -0.7
baz=273
PINM Pinnacle 27.97 58 P **P** 11 48 04.9 -0.2
baz=283
G29M Pine Creek 28.04 43 P **P** 11 48 05.8 +0.2
G29M IAmb IAmb 11 48 42.0
comp=Z,23nm,1.4s
G29M Pine Creek 28.04 43 P **P** 11 48 04.4 -1.2
baz=272
E29M Blow River 28.07 40 P **P** 11 48 04.7 -1.1
E29M Blow River 28.07 40 P **P** 11 48 05.6 -0.2
baz=270
M29M Somme Creek 28.34 53 P **P** 11 48 09.2 +0.8
M29M Somme Creek 28.34 53 P **P** 11 48 07.4 -1.0
baz=280
L29M L29M 28.38 51 P **P** 11 48 09.5 +0.8
L29M L29M 28.38 51 P **P** 11 48 08.4 -0.3
baz=279
YUK4 Talbot Arm 28.47 55 P **P** 11 48 07.8 -1.9
baz=282
PNL Peninsula 28.50 59 P **P** 11 48 09.0 -0.7
baz=285
K29M Barlow Dome 28.54 50 P **P** 11 48 09.3 -0.8
baz=278
EPYK Eagle Plains 28.59 44 P **P** 11 48 09.9 -0.6
EPYK IAmb IAmb 11 48 38.8
comp=Z,19nm,1.3s
EPYK Eagle Plains 28.59 44 P **P** 11 48 10.0 -0.6
baz=274
G30M tAoh Zraii Nji 28.75 43 P **P** 11 48 11.2 -0.7
baz=274
I30M Mount Dempster 28.85 47 P **P** 11 48 12.5 -0.4
baz=277
F30M Barrier River 28.88 42 P **P** 11 48 13.3 +0.3
baz=273
J30M Hart River 28.95 48 P **P** 11 48 12.6 -1.2
baz=278
M30M Minto, Yukon 29.08 52 P **P** 11 48 14.3 -0.6
M30M Minto, Yukon 29.08 52 P **P** 11 48 14.6 -0.2
baz=281
HYT Haines Junctio 29.13 56 P **P** 11 48 15.6 +0.1
HYT IAmb IAmb 11 48 16.8
comp=Z,16nm,1.2s
HYT Haines Junctio 29.13 56 P **P** 11 48 15.1 -0.4
baz=284
N30M Aishikik Lake 29.18 55 P **P** 11 48 15.8 0.0
baz=283
G31M Satah River 29.52 43 P **P** 11 48 18.5 -0.2
baz=275
P30M Million Dollar 29.57 57 P **P** 11 48 19.0 -0.2
baz=285
F31M Tsiigehtchic 29.68 42 P **P** 11 48 19.8 -0.2
baz=275
INK Inuvik 29.69 40 P **P** 11 48 20.3 +0.2
INK Inuvik 29.69 40 P **P** 11 48 20.0 -0.2
baz=274
INK Inuvik 29.69 40 P **P** 11 48 20.3 +0.2
INK pmax pmax
comp=Z,5.0nm,1.1s
N31M Braeburn, Yuko 29.78 54 P **P** 11 48 18.3 -2.8
baz=284
O30N Mendenhall 29.81 56 P **P** 11 48 18.6 -2.8
baz=285
M31M Drury Creek, Y 30.25 52 P **P** 11 48 25.8 +0.5
M31M IAmb IAmb 11 48 27.1
comp=Z,15nm,1.1s
M31M Drury Creek, Y 30.25 52 P **P** 11 48 24.5 -0.7
baz=284,SNR=5.2
R31K City Hall, Gus 30.67 60 P **P** 11 48 29.5 +0.6
baz=289
FARO Faro, Yukon 30.72 52 P **P** 11 48 29.3 -0.1
baz=284
P32M Atlin 31.29 57 P **P** 11 48 34.6 +0.2
baz=288
R32K Eaglecrest 31.32 60 P **P** 11 48 34.1 -0.5
baz=290
SIT Sitka 31.34 62 P **P** 11 48 36.2 +1.3
baz=291
P33M Teslin, Yukon 31.52 56 P **P** 11 48 36.6 +0.1
P33M IAmb IAmb 11 48 39.7
comp=Z,15nm,1.1s
P33M Teslin, Yukon 31.52 56 P **P** 11 48 36.4 -0.1
baz=288
S32K Killisnoo 31.57 61 P **P** 11 48 37.4 +0.6
baz=291
KSRS Korea Array 31.81 253 P **P** 11 48 40.1 +1.0
comp=Z,2.3nm,0.9s,baz=54,slow=9.6,SNR=2.8
KSRS LR LR 12 00 53.6
comp=Z,88nm,19.7s,baz=15,slow=35
comp=Z,2.3nm,0.9s
Q32M Nakina River 32.20 58 P **P** 11 48 42.8 +0.2
baz=290
A36M Sachs Harbour 32.24 33 P **P** 11 48 43.8 +1.2
A36M IAmb IAmb 11 48 54.0
comp=Z,6.7nm,0.9s
A36M Sachs Harbour 32.24 33 P **P** 11 48 44.0 +1.5
baz=275
R33M Jennings River 32.68 57 P **P** 11 48 47.0 +0.3
baz=290
U33K Whale Pass 32.83 63 P **P** 11 48 47.6 -0.3
baz=294
C36M Paulatuk 32.98 37 P **P** 11 48 49.0 +0.1
C36M IAmb IAmb 11 49 14.8
comp=Z,10nm,1.1s
C36M Paulatuk 32.98 37 P **P** 11 48 49.4 +0.4
baz=280
CRAG Craig 33.10 64 P **P** 11 48 50.7 +0.5
baz=295
WRAK Wrangell Islan 33.11 62 P **P** 11 48 50.3 0.0
baz=294
S34M Telegraph Cree 33.13 59 P **P** 11 48 49.7 -0.8
baz=292
WTLY Watson Lake, Y 33.46 55 P **P** 11 48 54.0 +0.6
baz=290
DLBC Dease Lake 33.48 58 P **P** 11 48 55.2 +1.6
baz=292
DLBC Dease Lake 33.48 58 P **P** 11 48 54.1 +0.5
comp=Z,5.8nm,0.9s,baz=284,slow=7.5,SNR=9.4
comp=Z,5.8nm,0.9s
JNU Nakatsue 33.51 244 LR LR 12 02 56.2
comp=Z,409nm,20.5s,baz=168,slow=37
V35K Ketchikan 33.94 64 P **P** 11 48 57.4 -0.1
baz=296
T35M Bob Quinn 33.94 61 P **P** 11 48 58.7 +1.1
baz=294
U35K Hyder 34.50 62 P **P** 11 49 04.8 +2.5
baz=296
WRGLY Wrigley 34.79 48 P **P** 11 49 05.9 +1.1
baz=289
H11N2 WAKE ISLAND Hy 35.30 180 T T 12 26 10.6
baz=0.8,slow=76,SNR=1234
H11N3 WAKE ISLAND Hy 35.31 180 T T 12 26 14.8
baz=0.8,slow=76,SNR=1339
H11N1 WAKE ISLAND Hy 35.32 180 T T 12 26 04.2
baz=0.8,slow=76,SNR=954
H11S1 WAKE ISLAND Hy 36.52 181 T T 12 27 43.6
baz=0.2,slow=76,SNR=409
H11S3 WAKE ISLAND Hy 36.53 181 T T 12 27 45.6
baz=0.2,slow=76,SNR=56
H11S2 WAKE ISLAND Hy 36.54 181 T T 12 27 44.5
baz=0.2,slow=76,SNR=240
ULN Ulaanbaatar 37.08 284 *i* P **P** 11 49 24.3 -0.5
ULN pmax pmax
comp=Z,10.0nm,1.6s
BBB Bella Bella 37.26 67 LR LR 12 03 07.5
comp=Z,125nm,21.4s,baz=322,slow=34
SONM Songino Array 37.46 285 P **P** 11 49 28.4 +0.3
comp=Z,1.7nm,0.7s,baz=59,slow=8.5,SNR=6.8
SONM LR LR 12 06 17.9
comp=Z,195nm,18.4s,baz=150,slow=39
comp=Z,1.7nm,0.7s
HHC Hu-ho-hao-te 38.79 272 *e*P **P** 11 49 39.3 0.0
HHC pmax pmax
comp=Z,29nm,1.0s
HHC pmax pmax
comp=Z,320nm,5.6s
HHC LR LR
comp=N,860nm,15.9s
HHC LR LR
comp=E,570nm,11.8s
HHC LR LR
comp=Z,650nm,15.7s
YKA Yellowknife Ar 38.81 46 P **P** 11 49 38.8 -0.3
comp=Z,2.4nm,0.8s,baz=235,slow=7.9,SNR=46
comp=Z,2.4nm,0.8s
EUNU Eureka 38.96 15 P **P** 11 49 40.7 +0.4
EUNU IAmb IAmb 11 49 42.2
comp=Z,10nm,1.2s
HNS HongShan 39.30 266 *e*P P 11 49 50.9 +7.5
HILA High Level 39.59 53 P **P** 11 49 46.0 +0.4
BTO Baotou 39.83 273 *e*P **P** 11 49 45.5 -2.5
BTO pP **pP** **11 49 55.0 +1.3**
BTO sP **sP** **11 49 59.1 +4.3**
BTO PP **PP** **11 51 20.6 +1.2**
BTO S **S** **11 55 47.6 -3.8**
BTO SS **SS** **11 58 34.0 -13**
BTO pmax pmax
comp=Z,16nm,0.5s
BTO pmax pmax
comp=Z,300nm,3.8s
BTO LR LR
comp=N,840nm,13.6s
BTO LR LR
comp=E,1μm,15.2s
BTO LR LR
comp=Z,360nm,7.9s
RES Resolute Bay 39.85 24 LR LR 12 07 43.5
comp=Z,82nm,20.6s,baz=11,slow=38
JOW Kunigami 39.90 241 LR LR 12 06 14.2
comp=Z,111nm,21.8s,baz=94,slow=36
NJ2 Nanjing 40.82 256 *e*P **P** **11 49 57.3 +1.2**
NJ2 pP **sP** **11 50 04.1 +1.1**
NJ2 sP **pP** **11 50 06.8 +4.8**
NJ2 pmax pmax
comp=Z,15nm,0.6s
NJ2 pmax pmax
comp=Z,360nm,4.3s
BRLDA Berland Lookou 41.72 59 P **P** **11 50 03.6 +0.2**
LYN LuoYang 42.60 264 ⇓P P 11 50 06.5 -4.1
LYN pP pP 11 50 16.4 -0.1
LYN sP sP 11 50 20.3 +2.8
LYN PP **PP** **11 51 48.0 -1.3**
LYN S **S** **11 56 29.8 -2.5**
LYN sS sS 11 56 55.6 +15
LYN pmax pmax
comp=Z,24nm,0.3s
LYN pmax pmax
comp=Z,230nm,4.7s
LYN LR LR
comp=N,550nm,9.8s
LYN LR LR
comp=E,400nm,5.9s
LYN LR LR
comp=Z,420nm,5.7s
EDM Edmonton 44.20 58 P **P** **11 50 23.4 0.0**
EDM Edmonton 44.20 58 P **P** **11 50 23.4 0.0**
EDM pmax pmax
comp=Z,28nm,1.2s
GUMO Guam 44.91 212 LR LR 12 04 42.9
comp=Z,48nm,20.3s,baz=118,slow=30
XAN Xi'an 45.00 267 ⇑P P 11 50 35.6 +5.6
XAN pmax pmax
comp=Z,9.0nm,1.4s
ZALV Zalesovo Beam 45.15 304 P **P** **11 50 31.5 +0.6**
comp=Z,1.0nm,0.7s,baz=54,slow=7.5,SNR=4.1
ZALV LR LR 12 10 03.5
comp=Z,58nm,18.5s,baz=50,slow=37
comp=Z,1.0nm,0.7s
NEW Newport 45.28 66 P **P** **11 50 31.4 -0.7**
baz=308
NEW Newport 45.28 66 P **P** **11 50 32.2 +0.1**
comp=Z,2.4nm,0.7s,baz=330,slow=7.2,SNR=7.7
NEW LR LR 12 07 37.3
comp=Z,142nm,20.6s,baz=306,slow=34
comp=Z,2.4nm,0.7s
NEEM North Greenlan 45.60 11 *i* P **P** **11 50 31.5 -3.1**
NEEM IAmb IAmb 11 50 36.1
comp=Z,8.2nm,0.9s
SPITS Spitsbergen Ar 45.80 352 P **P** **11 50 35.6 -0.2**
comp=Z,20nm,0.9s,baz=46,slow=7.5,SNR=11
comp=Z,20nm,0.9s
SPB2 Spitsbergen Ar 45.80 352 P **P** **11 50 35.4 -0.4**
E09A Wood Farm, Sta 45.84 68 P **P** **11 50 36.2 -0.3**
E09A IAmb IAmb 11 50 37.4
comp=Z,12nm,1.2s
J05D Fort Rock, OR 46.25 74 P **P** **11 50 40.1 +0.2**
J05D IAmb IAmb 11 50 41.2
comp=Z,7.5nm,1.0s
L04D Klamath Falls 46.36 75 P **P** **11 50 41.1 +0.3**
YBH Yreka Blue Hor 46.45 76 LR LR 12 08 41.9
comp=Z,86nm,18.2s,baz=338,slow=34
LZH Lanzhou 46.46 273 *e*P **P** **11 50 42.6 +0.9**
LZH pP sP 11 50 53.0 +4.1
LZH pmax pmax
comp=Z,12nm,1.2s
LZH LR LR
comp=N,510nm,18.4s
LZH LR LR
comp=E,560nm,16.0s
LZH LR LR
comp=Z,370nm,15.4s

GTA Gaotai 46.46 279 *e*P P 11 50 46.5 +4.9
GTA pP sP 11 50 53.3 +3.5
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA LR LR
comp=N,270nm,19.3s
GTA LR LR
comp=E,220nm,18.2s
GTA LR LR
comp=Z,300nm,19.6s
DGZ Jazzator, Alta 46.47 298 *i* P **P 11 50 40.6 -0.9**
DGZ pmax pmax
comp=Z,4.0nm,0.7s
MSO Missoula 47.86 65 P **P 11 50 52.1 -0.3**
baz=310
PLID Pearl Lake 47.91 68 P **P 11 50 52.1 -0.8**
PLID IAmb IAmb 11 51 01.2
comp=Z,7.2nm,1.4s
DAG Danmarks Havn 48.35 2 *i* P **P 11 50 54.0 -1.6**
DAG IAmb IAmb 11 50 56.4
comp=Z,5.4nm,0.8s
LYMT Lyon Mountain 48.63 64 P **P 11 50 58.4 0.0**
EGMT Eagleton 49.23 62 P **P 11 51 02.8 -0.1**
baz=311
FCC Fort Churchill 49.25 43 P **P 11 51 03.1 +0.4**
FCC Fort Churchill 49.25 43 P **P 11 51 03.1 +0.4**
FCC pmax pmax
comp=Z,8.0nm,0.7s
PAHR Pah Rah Range 49.68 76 P **P 11 51 06.6 +0.1**
PAHR IAmb IAmb 11 51 19.1
comp=Z,9.0nm,1.3s
HLID Hailey 49.77 69 P **P 11 51 06.7 -0.5**
HLID Hailey 49.77 69 P **P 11 51 06.6 -0.6**
baz=312
BOZ Bozeman (W) 49.88 65 P **P 11 51 07.3 -0.6**
baz=312
PNTR Pine Nut 49.99 77 P **P 11 51 09.2 +0.2**
KURK Kurchatov 50.14 304 P **P 11 51 09.3 -0.4**
KURK Kurchatov 50.14 304 *ce*P **P 11 51 07.9 -1.8**
KURK pmax pmax
comp=Z,8.0nm,0.8s
WMQ Urumqi 50.16 292 *e*P **P 11 51 12.3 +2.3**
WMQ LR LR
comp=N,780nm,18.1s
WMQ LR LR
comp=E,420nm,19.9s
WMQ LR LR
comp=Z,120nm,19.9s
KURBB Kurchatov Arra 50.25 304 P **P 11 51 10.1 -0.3**
comp=Z,4.7nm,0.7s,baz=54,slow=7.8,SNR=46
KURBB LR LR 12 12 20.7
comp=Z,39nm,19.4s,baz=156,slow=36
comp=Z,4.7nm,0.7s
WAKR Walker 50.49 77 P **P 11 51 13.2 +0.4**
WAKR IAmb IAmb 11 51 24.1
comp=Z,4.0nm,0.7s
YMR Madison River 50.85 66 P **P 11 51 15.3 -0.1**
YMR IAmb IAmb 11 51 16.8
comp=Z,5.4nm,0.9s
KVN Kaiserville 50.85 76 P **P 11 51 15.3 -0.2**
KVN IAmb IAmb 11 51 17.0
comp=Z,6.4nm,1.1s
KVN Kaiserville 50.85 76 P **P 11 51 15.3 -0.2**
KVN pmax pmax
comp=Z,6.0nm,1.1s
MK31 Makanchi Array 50.97 298 P **P 11 51 15.0 -1.0**
MK31 Makanchi Array 50.97 298 *i* P **P 11 51 14.3 -1.7**
MKAR Makanchi Array 50.97 298 P **P 11 51 14.3 -1.7**
MKAR Makanchi Array 50.97 298 *i* P **P 11 51 14.8 -1.2**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 50.97 298 P **P 11 51 15.0 -1.0**
comp=Z,1.9nm,0.7s,baz=51,slow=7.4,SNR=13
MKAR LR LR 12 13 41.9
comp=Z,109nm,19.3s,baz=42,slow=37
comp=Z,1.9nm,0.7s
NVAR Mina Array Bea 51.17 76 P **P 11 51 18.2 +0.3**
comp=Z,2.5nm,0.9s,baz=305,slow=8.4,SNR=7.7
NVAR LR LR 12 11 38.2
comp=Z,99nm,18.3s,baz=311,slow=34
comp=Z,2.5nm,0.9s
H17A Grant Village 51.24 66 P **P 11 51 18.4 0.0**
baz=313
ELK Elko 51.26 72 P **P 11 51 18.3 -0.2**
ELK Elko 51.26 72 P **P 11 51 18.3 -0.2**
ELK pmax pmax
comp=Z,2.0nm,0.9s
ELK Elko 51.26 72 P **P 11 51 18.9 +0.4**
comp=Z,0.9nm,0.6s,baz=280,slow=4.9,SNR=5.1
ELK LR LR 12 12 17.1
comp=Z,55nm,20.9s,baz=316,slow=35
comp=Z,0.9nm,0.6s
SUMG Summit 51.39 10 *i* P **P 11 51 18.0 -1.2**
SUMG IAmb IAmb 11 51 21.6
comp=Z,3.9nm,0.9s
FLWY Flagg Ranch 51.39 66 P **P 11 51 20.0 +0.5**
FLWY IAmb IAmb 11 51 24.0
comp=Z,9.5nm,1.1s
IMW Indian Meadow 51.39 66 P **P 11 51 19.4 -0.2**
IMW IAmb IAmb 11 51 22.7
comp=Z,4.2nm,0.9s
RLMT Red Lodge 51.43 64 P **P 11 51 19.9 +0.2**
RLMT Red Lodge 51.43 64 P **P 11 51 18.9 -0.8**
baz=313,SNR=5.8
MOOW Moose Ponds 51.60 66 P **P 11 51 20.5 -0.5**
DGMT Dagmar 51.69 58 P **P 11 51 23.6 +2.2**
baz=313
LOHW Long Hollow 51.76 66 P **P 11 51 21.7 -0.5**
LOHW IAmb IAmb 11 51 23.4
comp=Z,4.5nm,0.9s
HVU Hansel Valley 51.87 69 P **P 11 51 22.5 -0.5**
HVU Hansel Valley 51.87 69 P **P 11 51 22.5 -0.5**
HVU pmax pmax
comp=Z,3.0nm,0.8s
LAO LASA Array 51.91 61 P **P 11 51 23.3 +0.2**
baz=313
TPH Tonopah 52.03 76 P **P 11 51 23.8 -0.4**
TPH Tonopah 52.03 76 P **P 11 51 23.8 -0.4**
TPH pmax pmax
comp=Z,67nm,1.5s
BVAR Borovoye Array 52.33 311 P **P 11 51 25.7 -0.4**
comp=Z,4.8nm,0.7s,baz=51,slow=7.8,SNR=23
BVAR LR LR 12 14 60.0
comp=Z,140nm,18.9s,baz=48,slow=38
comp=Z,4.8nm,0.7s
BRVK Borovoye 52.35 311 P **P 11 51 26.1 -0.1**
BRVK Borovoye 52.35 311 *i* P **P 11 51 24.9 -1.3**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
VES Vestal, Richgr 52.57 79 P **P 11 51 27.7 -0.4**
baz=316
ARCES ARCESS Array B 52.60 344 LR LR 12 18 24.4
comp=Z,45nm,18.0s,baz=336,slow=41
HWUT Hardware Ranch 52.65 69 P **P 11 51 27.8 -1.0**
CWC Cottonwood Cre 52.71 78 P **P 11 51 29.2 -0.1**
baz=316
R11B Troy Canyon, C 52.74 74 P **P 11 51 29.1 -0.5**
baz=315
PKM Mcpherson Peak 52.85 81 P **P 11 51 27.8 -2.5**
baz=316
BW06 Boulder Array 52.90 66 P **P 11 51 29.9 -0.8**
BW06 IAmb IAmb 11 51 32.0
comp=Z,4.0nm,0.9s
BW06 Boulder Array 52.90 66 P **P 11 51 29.1 -1.7**
baz=314,SNR=5.6
PD31 Pinedale Array 52.90 66 P **P 11 51 30.3 -0.4**
PDAR Pinedale Array 52.90 66 P **P 11 51 31.2 +0.5**
PDAR Pinedale Array 52.90 66 P **P 11 51 30.9 +0.1**
comp=Z,4.1nm,0.9s,baz=321,slow=3.5,SNR=23
comp=Z,4.1nm,0.9s
DUG Dugway, Tooele 52.96 71 P **P 11 51 30.3 -0.8**
baz=315
SPR3 Spring Creek 3 52.98 73 P **P 11 51 31.1 -0.3**
SPR3 IAmb IAmb 11 51 45.2
comp=Z,3.8nm,0.8s
ISA Isabella, Lake 53.05 79 P **P 11 51 31.2 -0.5**
baz=316
SBC Santa Barbara 53.23 81 P **P 11 51 30.3 -2.6**
baz=317
ARVC Arvin 53.23 80 P **P 11 51 30.9 -2.0**
baz=316
MPMC Manual Prospec 53.32 78 P **P 11 51 33.1 -0.7**
baz=316
TPNV Topopah Spring 53.37 76 P **P 11 51 34.1 -0.1**
TPNV Topopah Spring 53.37 76 P **P 11 51 34.5 +0.3**
baz=316

TPNV Topopah Spring 53.37 76 P **P 11 51 34.1 -0.1**
TPNV pmax pmax
comp=Z,8.0nm,0.8s
PSUT Pine Spring 53.57 73 P **P 11 51 35.3 -0.4**
PSUT IAmb IAmb 11 51 49.0
comp=Z,7.0nm,1.3s
GWY Greenwater Val 53.69 77 P **P 11 51 36.7 +0.3**
GWY IAmb IAmb 11 51 49.4
comp=Z,6.0nm,0.8s
EDW2 Edwards Air Fo 53.88 79 P **P 11 51 38.8 +1.0**
baz=317
FRB Frobisher Bay 53.92 27 P **P 11 51 37.1 -0.5**
comp=Z,7.4nm,0.7s,baz=319,slow=6.8,SNR=8.7
FRB LR LR 12 18 11.7
comp=Z,95nm,18.3s,baz=16,slow=40
comp=Z,7.4nm,0.7s
JMIC Jan Mayen 54.18 358 LR LR 12 13 55.5
comp=Z,26nm,18.6s,baz=356,slow=35
SNCC San Nicolas Is 54.20 82 P **P 11 51 39.4 -0.7**
baz=317
GSC Goldstone, Bar 54.25 78 P **P 11 51 40.3 -0.2**
GSC IAmb IAmb 11 51 54.2
comp=Z,8.6nm,1.0s
GSC Goldstone, Bar 54.25 78 P **P 11 51 41.0 +0.5**
baz=317
GSC Goldstone, Bar 54.25 78 P **P 11 51 40.3 -0.2**
GSC pmax pmax
comp=Z,9.0nm,1.0s
MDND Maddock 54.34 56 P **P 11 51 41.1 +0.1**
baz=315
ULM Lac du Bonnet 54.36 52 LR LR 12 15 05.8
comp=Z,92nm,18.8s,baz=306,slow=36
RDMU Red Mountain 54.44 68 P **P 11 51 42.3 +0.2**
RDMU IAmb IAmb 11 51 45.1
comp=Z,7.9nm,1.0s
BFSC Mount Baldy Ra 54.54 79 P **P 11 51 44.0 +1.3**
baz=317
K22A Casper 54.57 65 P **P 11 51 43.2 +0.3**
baz=315
ARU Arti 54.66 320 *c i* P **P 11 51 41.3 -1.8**
ARU 11 52 48.3
ARU S **S 11 59 19.1 -2.5**
ARU SS **SS 12 02 59.4 -4.3**
ARU pmax pmax
comp=Z,8.0nm,1.3s
ARU Arti 54.66 320 LR LR 12 17 30.2
comp=Z,106nm,18.0s,baz=44,slow=39
CIS Catalina Islan 54.72 81 P **P 11 51 44.8 +0.9**
baz=317
PZH PanZhiHua 54.73 267 P **P 11 51 45.0 +0.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,160nm,5.0s
Q16A Castle Valley 54.76 71 P **P 11 51 44.4 +0.1**
Q16A IAmb IAmb 11 52 01.9
comp=Z,4.7nm,0.9s
RSSD Black Hills 54.80 62 P **P 11 51 45.0 +0.4**
RSSD IAmb IAmb 11 51 57.0
comp=Z,4.3nm,0.6s
RSSD Black Hills 54.80 62 P **P 11 51 44.3 -0.3**
baz=315
RSSD Black Hills 54.80 62 P **P 11 51 45.0 +0.4**
RSSD pmax pmax
comp=Z,4.0nm,0.6s
HEC Hector,Ludlow 54.85 78 P **P 11 51 45.1 +0.2**
baz=317
SRU San Rafael Swe 54.97 70 P **P 11 51 46.6 +0.7**
SRU San Rafael Swe 54.97 70 P **P 11 51 46.6 +0.7**
SRU pmax pmax
comp=Z,16nm,1.2s
SFJD Kangerlussuaq 54.98 17 LR LR 12 16 30.6
comp=Z,57nm,20.0s,baz=342,slow=38
KNB Kanab 55.23 74 P **P 11 51 48.0 +0.3**
KNB IAmb IAmb 11 51 59.9
comp=Z,8.7nm,1.1s
KNB Kanab 55.23 74 P **P 11 51 48.0 +0.3**
KNB pmax pmax
comp=Z,9.0nm,1.1s
GMRC Granite Mounta 55.27 78 P **P 11 51 48.4 +0.4**
baz=317
O20A White River Ci 55.46 68 P **P 11 51 49.4 0.0**
O20A White River Ci 55.46 68 P **P 11 51 50.5 +1.1**
baz=316
PFO Pinyon Flats O 55.67 79 LR LR 12 12 19.0
comp=Z,99nm,19.8s,baz=258,slow=32
HMU Henry Mountain 55.70 71 P **P 11 52 0.0 +0.8**
AGMN Agassiz Nation 55.77 53 P **P 11 51 51.8 +0.6**
baz=316
IRM Iron Mountain 56.02 78 P **P 11 51 54.0 +0.8**
baz=317
N23A Red Feather La 56.13 66 P **P 11 51 53.4 -0.8**
N23A IAmb IAmb 11 52 10.6
comp=Z,6.8nm,0.9s
KIRV Kirov 56.16 326 *i* P **P 11 51 52.4 -1.4**
KIRV Kirov 56.16 326 LR LR 12 17 20.3
comp=Z,84nm,19.2s,baz=41,slow=38
BC3 Big Chuckawall 56.21 78 P **P 11 51 55.9 +1.2**
baz=318
PDMCI Parker Dam,Lak 56.47 77 P **P 11 51 58.0 +1.6**
baz=317
SMCO Snowmass 56.83 68 P **P 11 51 59.5 +0.1**
SMCO IAmb IAmb 11 52 17.7
comp=Z,4.2nm,0.8s
ISCO Idaho Springs 57.10 66 P **P 11 52 01.6 +0.4**
ISCO IAmb IAmb 11 52 03.0
comp=Z,5.4nm,1.0s
ISCO Idaho Springs 57.10 66 P **P 11 52 02.8 +1.6**
baz=317,SNR=5.4
ISCO Idaho Springs 57.10 66 P **P 11 52 01.6 +0.4**
ISCO pmax pmax
comp=Z,5.0nm,1.0s
WUAZ Wupatki 57.12 74 P **P 11 52 03.3 +2.1**
baz=318
KLMR Klimovskoe 57.21 333 *e*P **P 11 51 59.8 -1.4**
KLMR AMP 11 52 02.1
comp=Z,23nm,1.4s
KLMR LR LR 12 16 46.1
KLMR LRM MLR 12 19 35.7
KLMR AMP 12 19 38.2
comp=Z,293nm,19.6s
KLMR Klimovskoe 57.21 333 *e*P **P 11 51 59.8 -1.4**
KLMR pmax pmax
comp=Z,23nm,1.4s
KLMR MLR MLR
comp=Z,293nm,20.0s
MVCO Mesa Verde 57.45 70 P **P 11 52 04.3 +0.7**
baz=317
AAK Ala-Archa 57.83 299 P **P 11 52 06.1 0.0**
AAK IAmb IAmb 11 52 30.6
comp=Z,6.9nm,1.1s
AAK Ala-Archa 57.83 299 *i* P **P 11 52 04.1 -2.0**
AAK pmax pmax
comp=Z,6.0nm,1.1s
AAK Ala-Archa 57.83 299 LR LR 12 16 39.2
comp=Z,88nm,20.1s,baz=42,slow=36
Q24A Divide 57.95 67 P **P 11 52 08.5 +1.2**
baz=317
S22A 4UR Ranch, Cre 57.95 69 P **P 11 52 07.9 +0.7**
S22A IAmb IAmb 11 52 30.2
comp=Z,6.4nm,1.1s
S22A 4UR Ranch, Cre 57.95 69 P **P 11 52 07.8 +0.5**
baz=318
EYMN Ely 58.01 51 P **P 11 52 06.0 -1.1**
EYMN Ely 58.01 51 P **P 11 52 08.7 +1.6**
baz=318
W18A Petrified Fore 58.31 73 P **P 11 52 10.7 +1.0**
baz=318
SDCO Great Sand Dun 58.67 68 P **P 11 52 13.0 +0.8**
baz=318
ECSD EROS Data Cent 58.77 57 P **P 11 52 12.9 +0.4**
baz=318
214A Organ Pipe Nat 58.96 78 P **P 11 52 14.8 +0.8**
baz=319
KSCO Kaye Shedlock' 59.24 65 P **P 11 52 17.2 +1.2**
baz=318
AKTO Aktyubinsk 59.44 315 LR LR 12 20 39.3
comp=Z,99nm,18.9s,baz=43,slow=39
KK31 Karatay Array 59.45 302 P **P 11 52 16.7 -0.5**
KK31 IAmb IAmb 11 52 44.8
comp=Z,4.0nm,1.1s
KK31 Karatay Array 59.45 302 P **P 11 52 16.7 -0.5**
KK31 pmax pmax
comp=Z,4.0nm,1.1s
KKAR Karatay Array 59.45 302 P **P 11 52 16.7 -0.5**
KKAR IAmb IAmb 11 52 44.8
comp=Z,4.0nm,1.1s
KKAR Karatay Array 59.45 302 P **P 11 52 16.2 -1.0**
KKAR Karatay Array 59.45 302 P **P 11 52 16.2 -1.0**
SPMN Marine on St. 59.46 54 P **P 11 52 17.4 +0.2**
baz=319
ABKAR Akbulak array 59.56 313 P **P 11 52 17.3 -0.5**
ABKAR IAmb IAmb 11 52 27.1
comp=Z,8.0nm,1.5s
T25A Trinidad 59.70 68 P **P 11 52 19.4 +0.1**
baz=318
BGNE Belgrade 59.74 60 P **P 11 52 19.7 +0.5**
baz=318
FINES FINESS Array B 59.82 340 P **P 11 52 18.8 -0.6**
FINES FINESS Array B 59.82 340 P **P 11 52 18.8 -0.6**
FINES FINESS Array B 59.82 340 P **P 11 52 19.1 -0.4**
comp=Z,3.9nm,0.8s,baz=38,slow=9.6,SNR=9.9
FINES LR LR 12 20 47.1
comp=Z,48nm,21.5s,baz=19,slow=39
comp=Z,3.9nm,0.8s
I37A Lemond, Waseca 60.09 55 P **P 11 52 21.0 -0.6**
ANMO Albuquerque 60.23 71 P **P 11 52 23.9 +1.0**
baz=319
ANMO Albuquerque 60.23 71 *i* P **P 11 52 22.8 -0.1**
ANMO pmax pmax
comp=Z,22nm,3.6s
ANMO Albuquerque 60.23 71 P **P 11 52 23.3 +0.4**
comp=Z,1.8nm,0.9s,baz=349,slow=5.2,SNR=3.3
ANMO LR LR 12 18 25.2
comp=Z,43nm,18.5s,baz=54,slow=36
comp=Z,1.8nm,0.9s
BORG Borgarnes 60.31 4 LR LR 12 18 44.1
comp=Z,47nm,18.8s,baz=358,slow=36
Y22D IRIS PASSCAL I 60.64 72 P **P 11 52 26.7 +1.1**
baz=319
CBKS Cedar Bluff 60.89 63 P **P 11 52 28.2 +1.0**
baz=319
121A Cookes Peak, D 61.32 74 P **P 11 52 31.2 +0.9**
baz=319
SCIA State Center 61.78 57 P **P 11 52 33.6 +0.5**
baz=320
KSU1 Kansas State U 62.26 61 P **P 11 52 37.1 +0.8**
baz=320
CMAR Chiang Mai Arr 62.62 263 P **P 11 52 39.1 +0.1**
comp=Z,4.7nm,0.3s,baz=15,slow=7.5,SNR=2.2
comp=Z,4.7nm,0.3s
NB2 NORSAR Subarra 62.66 347 P **P 11 52 38.3 -0.4**
comp=Z,1.6nm,0.7s,baz=16,slow=6.9
NOA NORSAR Array B 62.66 347 P **P 11 52 38.3 -0.4**
comp=Z,2.7nm,0.7s,baz=17,slow=6.7,SNR=11
NOA LR LR 12 21 31.1
comp=Z,23nm,20.6s,baz=355,slow=38
comp=Z,2.7nm,0.7s
AMTX Amarillo 62.85 67 P **P 11 52 39.7 -0.7**
baz=320
MSTX Muleshoe 62.96 69 P **P 11 52 41.6 +0.3**
baz=320
HFS Hagfors 63.20 345 P **P 11 52 41.7 -0.6**
comp=Z,1.6nm,0.6s,baz=330,slow=5.0,SNR=2.3
HFS LR LR 12 21 29.1
comp=Z,49nm,19.2s,baz=12,slow=37
comp=Z,1.6nm,0.6s
MNTX Cornudas Mount 63.28 72 P **P 11 52 43.5 +0.3**
baz=320
GLMI Grayling 63.45 49 P **P 11 52 43.3 -0.9**
baz=322
WMOK Wichita Mounta 64.49 66 P **P 11 52 50.3 -0.9**
WMOK IAmb IAmb 11 53 08.0
comp=Z,5.1nm,0.9s
WMOK Wichita Mounta 64.49 66 P **P 11 52 51.0 -0.1**
baz=321,SNR=5.9
WMOK Wichita Mounta 64.49 66 P **P 11 52 50.3 -0.9**
WMOK pmax pmax
comp=Z,5.0nm,1.0s
HNR Honiara 64.56 188 LR LR 12 21 22.6
comp=Z,502nm,18.2s,baz=24,slow=36
HDIL Hopedale 64.69 55 P **P 11 52 52.9 +0.5**
HDIL Hopedale 64.69 55 P **P 11 52 51.1 -1.3**
baz=322
MNHN Monahans 64.98 71 P **P 11 52 53.5 -1.0**
MNHN IAmb IAmb 11 53 07.1
comp=Z,5.1nm,0.7s
ABTX Abilene, Hawle 65.67 68 P **P 11 52 59.6 +0.7**
baz=321
CCM Cathedral Cave 65.72 58 P **P 11 52 58.1 -1.0**
baz=322
SFIN Lafayette 65.86 54 P **P 11 52 59.1 -0.8**
baz=323
TX31 Lajitas Ar. Si 66.04 73 P **P 11 53 01.2 -0.2**
TXAR Lajitas Array 66.04 73 P **P 11 53 01.5 +0.1**
TXAR Lajitas Array 66.04 73 P **P 11 53 01.5 +0.1**
TXAR Lajitas Array 66.04 73 P **P 11 53 01.9 +0.5**
comp=Z,3.0nm,0.6s,baz=300,slow=4.9,SNR=23
comp=Z,3.0nm,0.6s
LPIG La Paz 66.38 81 LR LR 12 17 30.4
comp=Z,37nm,20.8s,baz=278,slow=32
SAND Sanderson 66.40 71 P **P 11 53 03.0 -0.6**
SAND IAmb IAmb 11 53 17.4
comp=Z,4.6nm,1.1s
O48B Farmland 66.85 52 P **P 11 53 06.2 -0.1**
baz=324
FCAR Ozark Folk Cen 66.99 60 P **P 11 53 05.6 -1.7**
FCAR IAmb IAmb 11 53 36.2
comp=Z,6.0nm,0.9s
JCT Junction City 67.25 69 P **P 11 53 09.3 +0.2**
baz=322
WHTX Lake Whitney, 67.31 66 P **P 11 53 09.6 +0.2**
baz=322
MIAR Mount Ida 67.32 62 P **P 11 53 09.0 -0.4**
baz=322
LONY Lake Ozonia 67.76 43 P **P 11 53 11.0 -1.0**
baz=327
M53A WI Miller and 67.88 49 P **P 11 53 12.7 -0.1**
baz=325
WCI Wyandotte Cave 67.95 55 P **P 11 53 12.2 -1.1**
baz=324
435B Jarrell 68.19 67 P **P 11 53 13.4 -1.5**
baz=322
P52A Corning 68.72 51 P **P 11 53 17.0 -1.1**
baz=325
AKASG Malin Array Be 68.90 333 *i* P **P 11 53 20.2 +1.2**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 68.90 333 P **P 11 53 18.8 -0.2**
comp=Z,1.1nm,0.6s,baz=26,slow=6.3,SNR=4.9
AKASG LR LR 12 27 16.5
comp=Z,53nm,18.2s,baz=32,slow=39
comp=Z,1.1nm,0.6s
WVT Waverly 68.91 57 P **P 11 53 19.1 -0.2**
baz=324
GEYT Alibeck 69.36 307 P **P 11 53 22.4 +0.3**
comp=Z,0.6nm,0.3s,baz=49,slow=4.6,SNR=1.6
GEYT LR LR 12 26 55.9
comp=Z,131nm,18.3s,baz=58,slow=39
comp=Z,0.6nm,0.3s
EKA Eskdalemuir Ar 69.65 354 P **P 11 53 23.6 0.0**
comp=Z,3.8nm,0.8s,baz=354,slow=6.1,SNR=3.9
comp=Z,3.8nm,0.8s
MCWV Mont Chateau 69.71 49 P **P 11 53 22.9 -1.4**
baz=326
SSPA Standing Stone 69.74 47 P **P 11 53 23.3 -1.1**
baz=326
L61B Northampton 70.33 43 P **P 11 53 27.6 -0.4**
baz=328
KIV Kislovodsk 70.68 321 *e*P **P 11 53 29.3 -0.9**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,34nm,17.0s
HRV Adam Dziewonsk 70.72 42 P **P 11 53 28.3 -2.0**
baz=329
KBZ Khabaz 70.80 321 *i* P **P 11 53 29.5 -1.3**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 70.80 321 P **P 11 53 31.1 +0.4**
comp=Z,1.6nm,0.9s,baz=27,slow=4.5,SNR=1.8
KBZ LR LR 12 29 49.3
comp=Z,48nm,18.4s,baz=40,slow=40
comp=Z,1.6nm,0.9s
KWP Kalwaria Pacla 71.49 337 P **P 11 53 34.7 -0.2**
KWP Kalwaria Pacla 71.49 337 P **P 11 53 34.7 -0.2**
KWP pmax pmax
comp=Z,21nm,1.2s
LRAL Lakeview Retre 71.81 58 P **P 11 53 35.9 -1.2**
baz=324
CLL Collm 71.81 343 *e*P **P 11 53 37.0 +0.2**
CLL Collm 71.81 343 *e*P **P 11 53 37.0 +0.2**
LANS Liptovska Anna 72.66 338 *e*P **P 11 53 44.3 +2.3**
LANS Liptovska Anna 72.66 338 *e*P **P 11 53 44.3 +2.3**

KMSC	**Kings Mountain** baz=326	**72.77**	**53**	P		**P**		**11 53 42.1**	**-0.7**
VRAC	**Vranov** comp=Z,48nm,18.6s,baz=36,slow=40	**73.09**	**340**	LR		LR		12 30 25.4	
GNI	**Garni** comp=Z,67nm,18.2s,baz=28,slow=40	**73.19**	**317**	LR		LR		12 31 30.3	
BRAL	**Brewton** baz=325	**73.30**	**59**	P		**P**		**11 53 44.3**	**-1.7**
VYHS	**Vyhne**	**73.41**	**339**	*e*P		**P**		**11 53 47.6**	**+1.2**
VYHS	**Vyhne**	**73.41**	**339**	*e*P		**P**		**11 53 47.6**	**+1.2**
KHC	**Kasperske Hory**	**73.81**	**342**	*e*pP		pP		11 54 01.9	+7.0
KHC	**Kasperske Hory** comp=Z,17nm,2.1s	**73.81**	**342**	*i* P	pmax	**P**	pmax	**11 53 47.6**	**-1.2**
CKRC	**Cesky Krumlov**	**73.98**	**342**	*e*pP		pP		11 54 04.8	+8.9
GERES	**GERESS Array B** comp=Z,0.7nm,0.7s,baz=357,slow=5.6,SNR=3.6	**74.07**	**342**	P		**P**		**11 53 50.8**	**+0.4**
GERES	comp=Z,42nm,19.7s,baz=54,slow=39 comp=Z,0.7nm,0.7s				LR		LR	12 30 17.5	
CONA	**Conrad Observa** comp=Z,0.8nm,0.5s	**74.55**	**340**	*i* P		**P**		**11 53 54.4**	**+1.3**
MLR	**Muntele Rosu** comp=Z,63nm,18.7s,baz=70,slow=37	**74.55**	**333**	LR		LR		12 27 48.9	
ARSA	**Arzberg** comp=Z,1.2nm,0.6s	**75.27**	**340**	*i* P		**P**		**11 53 57.8**	**+0.6**
SOKA	**Soboth** comp=Z,0.5nm,0.4s	**75.91**	**341**	*i* P		**P**		**11 54 00.7**	**-0.3**
WTTA	**Wattenberg** comp=Z,2.3nm,0.7s	**75.95**	**343**	*i* P		**P**		**11 54 02.3**	**+1.0**
MOTA	**Moosalm** comp=Z,0.7nm,0.4s	**75.96**	**343**	*i* P		**P**		**11 54 01.8**	**+0.4**
OBKA	**Obir** comp=Z,1.7nm,0.5s	**76.16**	**341**	*e*P		**P**		**11 54 02.7**	**+0.2**
ABTA	**Abfaltersbach** comp=Z,2.0nm,0.7s	**76.30**	**342**	*e*P		**P**		**11 54 04.8**	**+1.5**
FETA	**Feichten** comp=Z,0.8nm,0.4s	**76.33**	**344**	*e*P		**P**		**11 54 04.1**	**+0.6**
DAVOX	**Davos/Dischmat** comp=Z,38nm,21.7s,baz=82,slow=36	**76.70**	**344**	LR		LR		12 28 50.8	
BRTR	**Keskin Array B** comp=Z,1.0nm,0.6s	**77.55**	**325**	*i* P		**P**		**11 54 11.0**	**+0.5**
BRTR	comp=Z,0.9nm,0.8s,baz=75,slow=4.2,SNR=4.5				pmax		pmax		
BRTR	**Keskin Array B** comp=Z,26nm,18.2s,baz=68,slow=38 comp=Z,0.9nm,0.8s	**77.55**	**325**	P	LR	**P**	LR	**11 54 10.6**	**+0.1**
DWPF	**Disney Wildern** baz=327	**78.56**	**57**	P		**P**		**11 54 13.9**	**-2.2**
WRA	**Warramunga Arr** comp=Z,1.2nm,0.8s,baz=24,slow=6.2,SNR=3.8 comp=Z,1.2nm,0.8s	**79.81**	**211**	P		**P**		**11 54 22.7**	**0.0**
RAR	**Rarotonga** comp=Z,45nm,20.8s,baz=166,slow=30	**81.07**	**149**	LR		LR		12 23 26.6	
PPT	**Papeete** comp=Z,43nm,21.9s,baz=335,slow=30	**81.15**	**139**	LR		LR		12 23 22.9	
TEIG	**Tepich** comp=Z,270nm,18.0s,baz=186,slow=39	**81.63**	**67**	LR		LR		12 34 50.7	
PALK	**Pallekele** comp=Z,37nm,21.8s,baz=181,slow=38	**82.07**	**271**	LR		LR		12 34 15.6	
MMAI	**Mount Meron Ar** comp=Z,37nm,19.0s,baz=11,slow=39	**82.99**	**321**	LR		LR		12 36 29.1	
ASAR	**Alice Springs** comp=Z,1.1nm,0.8s,baz=17,slow=5.2,SNR=4.1 comp=Z,1.1nm,0.8s	**83.45**	**210**	P		**P**		**11 54 42.3**	**+0.3**
IDI	**Anoyia** comp=Z,21nm,18.0s,baz=46,slow=40	**84.34**	**330**	LR		LR		12 38 52.2	
ESDC	**Sonseca Array** comp=Z,1.9nm,0.8s,baz=353,slow=4.4,SNR=10.0 comp=Z,1.9nm,0.8s	**85.30**	**353**	P		**P**		**11 54 51.5**	**0.0**
EIL	**Elat** comp=Z,47nm,18.9s,baz=63,slow=40	**86.17**	**320**	LR		LR		12 39 54.4	
KEST	**Kesra** comp=Z,50nm,18.0s,baz=278,slow=40	**87.56**	**342**	LR		LR		12 40 14.0	
JTS	**Las Juntas de** comp=Z,25nm,18.3s,baz=1.0,slow=38	**91.63**	**70**	LR		LR		12 40 43.7	
SJG	**San Juan** comp=Z,30nm,22.0s,baz=166,slow=36	**94.23**	**50**	LR		LR		12 38 12.3	
RPZ	**Rata Peaks** comp=Z,58nm,21.5s,baz=5.5,slow=29	**98.49**	**177**	LR		LR		12 30 11.7	
QSPA	**South Pole Qui** comp=Z,1.4nm,0.5s,baz=315,slow=0.7,SNR=11	**144.84**	**180**	PKP		**PKPab**		**12 01 48.1**	**-1.1**

*IDC **17** 11:45:35.4±2.4, 18°.21N×145°.66E, h146km±24km, mb3.6/15, mbtmp4.1/16, Error ellipse: s-maj=23.9km s-min=14.6km az=112.0*
*NEIC **17** 11:45:35.7±1.0, 18°.0N±0°.1×146°.2E±0°.3, h140km±9km, mb4.6/75, Error ellipse: s-maj=37.4km s-min=14.2km az=109.0*
ISC 17 11:45:34.0±0.6, 18°.17N±0°.07×145°.8E±0°.2, h135km, n98, σ1°08/99, mb4.5/53, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.65**	**192**	Pn	**Pn**	**11 46 43.3**	**+0.8**
GUMO	**Guam** 48nm,0.3s,baz=42,slow=5.7,SNR=8.9	**4.65**	**192**	P	**Pn**	**11 46 44.7**	**+2.2**
GUMO	43nm,0.4s,baz=20,slow=23,SNR=1.7			S	**Sn**	**11 47 38.5**	**+2.7**
PATS	**Pohnpei**	**16.57**	**131**	P	**Pn**	**11 49 16.1**	**-2.5**
MTN	**Manton Dam**	**34.06**	**206**	P	**P**	**11 52 06.2**	**+0.6**
MTN	comp=Z,14nm,1.5s			IAmb	IAmb	11 52 42.5	
PETK	**Petropavlovsk-** comp=Z,7.6nm,1.1s,baz=196,slow=9.8,SNR=2.0 comp=Z,7.6nm,1.1s	**36.08**	**12**	P	**P**	**11 52 22.5**	**0.0**
WB0	**Warramunga Arr**	**39.34**	**197**	P	**P**	**11 52 50.9**	**+0.7**
WR0	**Warramunga Arr**	**39.48**	**197**	P	**P**	**11 52 52.9**	**+1.5**
WRAB	**Tennant Creek**	**39.51**	**197**	P	**P**	**11 52 52.9**	**+1.3**
WRAB	comp=Z,10nm,1.4s			IAmb	IAmb	11 53 28.1	
WB2	**Warramunga Arr**	**39.52**	**197**	P	**P**	**11 52 52.4**	**+0.7**
WRA	**Warramunga Arr**	**39.52**	**197**	P	**P**	**11 52 52.9**	**+1.1**
WRA	**Warramunga Arr** comp=Z,0.8nm,0.4s,baz=26,slow=8.6,SNR=28 comp=Z,0.8nm,0.4s	**39.52**	**197**	P	**P**	**11 52 51.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**41.15**	**210**	P	**P**	**11 53 06.4**	**+1.2**
AS31	**Alice Springs**	**43.18**	**196**	P	**P**	**11 53 22.2**	**+0.6**
ASAR	**Alice Springs**	**43.18**	**196**	P	**P**	**11 53 23.1**	**+1.4**
ASAR	**Alice Springs** comp=Z,0.3nm,0.4s,baz=16,slow=6.6,SNR=18 comp=Z,0.3nm,0.4s	**43.18**	**196**	P	**P**	**11 53 21.6**	**-0.1**
STKA	**Stephens Creek**	**49.92**	**185**	P	**P**	**11 54 11.8**	**-2.2**
FORT	**Forrest**	**51.58**	**200**	P	**P**	**11 54 22.6**	**-3.8**
MORW	**Morawa**	**55.08**	**212**	P	**P**	**11 54 51.4**	**-0.6**
M13K	**Dall Lake**	**55.45**	**28**	P	**P**	**11 54 55.6**	**+1.4**
K13K	**Kusilvak Mount**	**55.59**	**26**	P	**P**	**11 54 56.6**	**+1.3**
K13K	comp=Z,15nm,1.2s			IAmb	IAmb	11 54 58.2	
L14K	**Kuka Creek**	**56.15**	**27**	P	**P**	**11 54 59.9**	**+0.6**
L14K	comp=Z,15nm,1.2s			IAmb	IAmb	11 55 07.6	
M14K	**Bethel**	**56.21**	**28**	P	**P**	**11 54 58.9**	**-0.7**
N15K	**Kwethluk River**	**56.81**	**29**	P	**P**	**11 55 04.9**	**+0.8**
O16K	**Kokwok River B**	**57.53**	**30**	P	**P**	**11 55 09.8**	**+0.8**
O16K	comp=Z,14nm,1.2s			IAmb	IAmb	11 55 39.8	
M16K	**Timber Creek**	**57.66**	**28**	P	**P**	**11 55 10.2**	**+0.2**
L16K	**Owhat River**	**57.70**	**27**	P	**P**	**11 55 11.2**	**+1.0**
J16K	**Anvik River**	**57.88**	**25**	P	**P**	**11 55 12.3**	**+0.9**
J16K	comp=Z,16nm,1.5s			IAmb	IAmb	11 55 43.2	
M17K	**Holitna River**	**58.49**	**28**	P	**P**	**11 55 16.8**	**+1.1**
K17K	**Iditarod**	**58.60**	**27**	P	**P**	**11 55 17.4**	**+1.0**
K17K	comp=Z,14nm,0.9s			IAmb	IAmb	11 55 19.2	
H17K	**Granite Mounta**	**58.87**	**24**	P	**P**	**11 55 19.0**	**+0.7**
H17K	comp=Z,5.6nm,0.9s			IAmb	IAmb	11 55 21.2	
MKAR	**Makanchi Array** comp=Z,0.2nm,0.5s,baz=87,slow=7.8,SNR=1.7 comp=Z,0.2nm,0.5s	**58.93**	**314**	P	**P**	**11 55 18.7**	**-0.4**
N18K	**Kilae Creek**	**58.94**	**29**	P	**P**	**11 55 20.3**	**+1.4**
O18K	**Koktuh Hills**	**59.00**	**30**	P	**P**	**11 55 20.2**	**+0.9**
F17K	**Baldwin Pennin**	**59.05**	**22**	P	**P**	**11 55 20.8**	**+1.3**
F17K	comp=Z,6.8nm,0.7s			IAmb	IAmb	11 55 21.7	
L18K	**Granite Mounta**	**59.11**	**27**	P	**P**	**11 55 21.2**	**+1.1**
L18K	comp=Z,12nm,1.4s			IAmb	IAmb	11 55 39.0	
SVW2	**Sparrevohn**	**59.22**	**29**	P	**P**	**11 55 21.7**	**+0.9**
SVW2	comp=Z,11nm,1.3s			IAmb	IAmb	11 56 00.6	
H18K	**Honhosa River**	**59.55**	**24**	P	**P**	**11 55 23.7**	**+0.7**
H18K	comp=Z,3.5nm,0.7s			IAmb	IAmb	11 55 24.5	
N19K	**Bonanza Creek**	**59.64**	**29**	P	**P**	**11 55 25.1**	**+1.3**
N19K	comp=Z,7.5nm,0.8s			IAmb	IAmb	11 55 26.6	
TTA	**Tatalina**	**59.66**	**27**	P	**P**	**11 55 24.5**	**+0.7**
TTA	comp=Z,7.8nm,1.4s			IAmb	IAmb	11 55 41.6	
KDAK	**Kodiak Island** comp=Z,13nm,0.9s,baz=256,slow=4.5,SNR=9.9 comp=Z,13nm,0.9s	**59.73**	**33**	P	**P**	**11 55 25.0**	**+0.7**
E18K	**Tukpahlearik C**	**59.74**	**21**	P	**P**	**11 55 24.9**	**+0.7**
E18K	comp=Z,11nm,1.4s			IAmb	IAmb	11 55 46.2	
SYI	**Shuyak Island**	**60.03**	**32**	P	**P**	**11 55 26.1**	**-0.2**
C18K	**Utukok River**	**60.13**	**20**	P	**P**	**11 55 27.4**	**+0.5**
C18K	comp=Z,5.8nm,1.2s			IAmb	IAmb	11 55 58.9	
H19K	**Roundabout Mou**	**60.44**	**24**	P	**P**	**11 55 30.0**	**+1.0**
H19K	comp=Z,3.1nm,0.7s			IAmb	IAmb	11 55 31.6	
K20K	**Telida**	**60.63**	**27**	P	**P**	**11 55 31.4**	**+0.9**
K20K	comp=Z,10nm,1.4s			IAmb	IAmb	11 55 34.1	
C19K	**Lookout Ridge**	**60.86**	**20**	P	**P**	**11 55 32.6**	**+0.7**
C19K	comp=Z,5.3nm,0.9s			IAmb	IAmb	11 55 33.8	
J20K	**Nowinta River**	**60.87**	**26**	P	**P**	**11 55 33.5**	**+1.5**
SKT	**Skwentna**	**61.34**	**29**	P	**P**	**11 55 35.1**	**-0.1**
SKT	comp=Z,18nm,1.4s			IAmb	IAmb	11 56 12.8	
CAST	**Castle Rocks**	**61.51**	**27**	P	**P**	**11 55 36.5**	**+0.3**
CAST	comp=Z,8.1nm,0.7s			IAmb	IAmb	11 55 38.1	
SUA	**Susitna One**	**61.56**	**29**	P	**P**	**11 55 37.0**	**+0.2**
SUA	comp=Z,18nm,1.2s			IAmb	IAmb	11 56 21.0	
IMAR	**Indian Mountai**	**61.65**	**24**	P	**P**	**11 55 38.3**	**+1.1**
KURBB	**Kurchatov Arra** comp=Z,0.8nm,0.6s,baz=92,slow=7.1,SNR=6.1 comp=Z,0.8nm,0.6s	**61.80**	**318**	P	**P**	**11 55 37.5**	**-1.0**
H21K	**Melozitna River**	**61.90**	**24**	P	**P**	**11 55 39.8**	**+0.9**
I21K	**Tanana**	**62.08**	**25**	P	**P**	**11 55 41.1**	**+1.1**
I21K	comp=Z,6.4nm,0.8s			IAmb	IAmb	11 55 42.2	
BPAW	**Bear Paw Mtn.**	**62.17**	**26**	P	**P**	**11 55 42.0**	**+1.2**
BPAW	comp=Z,8.0nm,1.0s			IAmb	IAmb	11 55 42.6	
TRF	**Thorofare Moun**	**62.29**	**27**	P	**P**	**11 55 41.8**	**0.0**
TRF	comp=Z,5.6nm,0.8s			IAmb	IAmb	11 55 43.1	
MLY	**Manley**	**62.54**	**25**	P	**P**	**11 55 44.3**	**+1.1**
MLY	comp=Z,4.1nm,0.6s			IAmb	IAmb	11 55 44.9	
SML	**Sawmill**	**62.77**	**29**	P	**P**	**11 55 45.6**	**+0.8**
D22K	**Ayikyak River**	**63.04**	**21**	P	**P**	**11 55 47.5**	**+1.1**
D22K	comp=Z,4.0nm,0.7s			IAmb	IAmb	11 55 48.6	
E22K	**Anaktuvuk Pass**	**63.09**	**22**	P	**P**	**11 55 47.3**	**+0.5**
I23K	**Minto, Yukon-K**	**63.13**	**25**	P	**P**	**11 55 47.2**	**+0.2**
I23K	comp=Z,4.0nm,0.6s			IAmb	IAmb	11 55 49.1	
MDM	**Murphy Dome**	**63.55**	**26**	P	**P**	**11 55 51.0**	**+1.2**
MDM	comp=Z,3.4nm,0.7s			IAmb	IAmb	11 55 51.6	
KLU	**Klutina**	**63.83**	**30**	P	**P**	**11 55 52.4**	**+0.6**
KLU	comp=Z,10nm,1.0s			IAmb	IAmb	11 56 32.5	
H24K	**Noodor Dome**	**63.91**	**25**	P	**P**	**11 55 53.2**	**+1.0**
TOLK	**Toolik Lake Re**	**64.03**	**22**	P	**P**	**11 55 54.2**	**+1.2**
TOLK	comp=Z,3.7nm,0.8s			IAmb	IAmb	11 55 55.1	
C23K	**Itkillik River**	**64.05**	**20**	P	**P**	**11 55 54.0**	**+0.9**
ILAR	**Eielson Array**	**64.06**	**26**	P	**P**	**11 55 52.2**	**-1.0**
ILAR	**Eielson Array** comp=Z,2.1nm,0.8s,baz=250,slow=6.2,SNR=26 comp=Z,2.1nm,0.8s	**64.06**	**26**	P	**P**	**11 55 52.5**	**-0.7**
E24K	**Your Creek**	**64.26**	**22**	P	**P**	**11 55 55.4**	**+0.9**
D24K	**Happy Valley**	**64.44**	**21**	P	**P**	**11 55 55.8**	**+0.2**
D24K	comp=Z,6.6nm,0.7s			IAmb	IAmb	11 55 57.9	
J25K	**Salcha River,**	**64.66**	**26**	P	**P**	**11 55 56.5**	**-0.7**
VRDI	**Verde Repeater**	**64.96**	**30**	P	**P**	**11 55 59.3**	**0.0**
MCARA	**McCarthy VSAT**	**65.19**	**30**	P	**P**	**11 56 01.0**	**+0.5**
D25K	**Kavik River**	**65.33**	**21**	P	**P**	**11 56 02.2**	**+0.8**
ISLE	**Juniper Island**	**65.42**	**31**	P	**P**	**11 56 02.9**	**+0.6**
BMAR	**Burnt Mountain**	**65.55**	**23**	P	**P**	**11 56 04.1**	**+1.3**
GRNC	**Granite Creek**	**65.72**	**31**	P	**P**	**11 56 04.8**	**+0.6**
M27K	**Edge Creek, AK**	**65.85**	**29**	P	**P**	**11 56 06.0**	**+1.0**
M27K	comp=Z,8.1nm,1.4s			IAmb	IAmb	11 56 28.2	
L27K	**Beaver Creek,**	**65.96**	**28**	P	**P**	**11 56 06.1**	**+0.5**
BCAR	**Beaver Creek A**	**65.98**	**28**	P	**P**	**11 56 06.4**	**+0.7**
TABL	**Table Mountain**	**65.99**	**31**	P	**P**	**11 56 06.8**	**+0.7**
EGAK	**Eagle**	**66.48**	**27**	P	**P**	**11 56 09.6**	**+0.9**
EGAK	comp=Z,9.7nm,1.5s			IAmb	IAmb	11 56 11.5	
BVAR	**Borovoye Array** comp=Z,0.7nm,0.5s,baz=79,slow=6.1,SNR=4.6 comp=Z,0.7nm,0.5s	**66.97**	**321**	P	**P**	**11 56 11.3**	**-0.7**
DAWY	**Dawson**	**67.16**	**27**	P	**P**	**11 56 14.1**	**+1.0**
M29M	**Somme Creek**	**67.44**	**29**	P	**P**	**11 56 15.6**	**+0.6**
L29M	**L29M**	**67.64**	**28**	P	**P**	**11 56 16.7**	**+0.5**
L29M	comp=Z,5.1nm,0.8s			IAmb	IAmb	11 56 18.7	
HYT	**Haines Junctio**	**67.81**	**31**	P	**P**	**11 56 19.1**	**+1.7**
HYT	comp=Z,9.0nm,1.0s			IAmb	IAmb	11 56 20.5	
N31M	**Braeburn, Yuko**	**68.67**	**30**	P	**P**	**11 56 24.0**	**+1.4**
N31M	comp=Z,21nm,1.1s			IAmb	IAmb	11 56 25.0	
M31M	**Drury Creek, Y**	**69.33**	**30**	P	**P**	**11 56 27.1**	**+0.4**
M31M	comp=Z,9.5nm,1.4s			IAmb	IAmb	11 56 27.6	
DLBC	**Dease Lake**	**71.66**	**33**	P	**P**	**11 56 41.4**	**+0.5**
DLBC	comp=Z,16nm,1.4s			IAmb	IAmb	11 57 01.8	
DLBC	**Dease Lake** comp=Z,3.8nm,0.9s,baz=259,slow=7.2,SNR=5.5 comp=Z,3.8nm,0.9s	**71.66**	**33**	P	**P**	**11 56 42.5**	**+1.6**
YKA	**Yellowknife Ar** comp=Z,0.9nm,0.7s,baz=288,slow=5.7,SNR=16 comp=Z,0.9nm,0.7s	**78.39**	**28**	P	**P**	**11 57 19.6**	**+0.3**
NEW	**Newport** comp=Z,1.1nm,0.5s,baz=268,slow=7.0,SNR=5.5 comp=Z,1.1nm,0.5s	**81.21**	**42**	P	**P**	**11 57 35.5**	**+0.5**
NVAR	**Mina Array Bea** comp=Z,0.9nm,0.5s,baz=269,slow=6.0,SNR=5.5 comp=Z,0.9nm,0.5s	**83.36**	**52**	P	**P**	**11 57 47.6**	**+1.0**
ELK	**Elko** comp=Z,1.5nm,0.8s,baz=311,slow=6.7,SNR=6.4 comp=Z,1.5nm,0.8s	**84.87**	**49**	P	**P**	**11 57 55.2**	**+1.0**
FINES	**FINESS Array B** comp=Z,1.4nm,0.7s,baz=64,slow=6.5,SNR=4.1 comp=Z,1.4nm,0.7s	**87.42**	**335**	P	**P**	**11 58 05.7**	**-0.2**
PDAR	**Pinedale Array** comp=Z,0.2nm,0.5s,baz=259,slow=4.4,SNR=3.9 comp=Z,0.2nm,0.5s	**88.10**	**45**	P	**P**	**11 58 10.5**	**+0.7**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.8s,baz=40,slow=2.5,SNR=3.6	**132.89**	**309**	PKP	**PKPdf**	**12 04 34.9**	**+0.7**

*NNC **17** 11:51:28.7±0.7, 41°.86N×79°.57E, h0km, mb2.8, mpv2.9, Error ellipse: s-maj=5.1km s-min=3.6km az=130.0*
*SOME **17** 11:51:28.1, 41°.82N×79°.58E, h15km*
ISC 17 11:51:26.6±3.2, 41°.78N±0°.08×79°.60E±0°.10, h3km±18km, n21, σ0°58/31, 2C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 5.0nm,0.2s	**1.38**	**356**	*e*P	**Pn**	**11 51 53.3**	**+0.3**
SHLS	8.8nm,0.0s			*e*S	**Sn**	**11 52 11.3**	**-0.5**
SHLS	**Shalkode** 5.0nm,0.2s	**1.38**	**356**	P	**Pn**	**11 51 53.3**	**+0.3**
SHLS	8.8nm,0.0s			S	**Sn**	**11 52 11.3**	**-0.5**
UZB	**Uzynbulak** 3.4nm,0.3s	**1.43**	**343**	*e*P	**Pn**	**11 51 53.8**	**+0.1**
UZB	3.8nm,0.1s			*e*S	**Sg**	**11 52 12.3**	**-0.3**
UZB	**Uzynbulak** 3.4nm,0.3s	**1.43**	**343**	P	**Pn**	**11 51 53.8**	**+0.1**
UZB	3.8nm,0.1s			S	**Sg**	**11 52 12.3**	**-0.3**
PDGK	**Podgornoye** 0.5nm,0.2s	**1.55**	**357**	P	**Pn**	**11 51 55.8**	**+0.5**
PDGK	5.5nm,0.1s			S	**Sb**	**11 52 15.9**	**-0.3**
PDGK	**Podgornoye** 2.9nm,1.1s	**1.55**	**357**	⇓P	**Pn**	**11 51 55.8**	**+0.5**
PDGK	6.2nm,0.5s			⇑S	**Sb**	**11 52 15.8**	**-0.4**
SATY	**Saty** 2.1nm,0.2s	**1.55**	**326**	*e*P	**Pb**	**11 51 56.2**	**0.0**
SATY	8.9nm,0.1s			*e*S	**Sg**	**11 52 16.3**	**-0.2**
SATY	**Saty** 2.1nm,0.2s	**1.55**	**326**	P	**Pb**	**11 51 56.2**	**0.0**
SATY	8.9nm,0.1s			S	**Sg**	**11 52 16.3**	**-0.2**
KPKS	**Kokpek** 2.1nm,0.1s	**1.81**	**338**	*e*P	**Pb**	**11 52 00.6**	**+0.1**
KPKS	9.2nm,0.3s			*e*S	**Sg**	**11 52 24.1**	**-0.8**
KPKS	**Kokpek** 2.1nm,0.1s	**1.81**	**338**	P	**Pb**	**11 52 00.6**	**+0.1**
KPKS	9.2nm,0.3s			S	**Sg**	**11 52 24.1**	**-0.8**
TNSS	**Tian-Shan** 1.0nm,0.1s	**2.33**	**303**	*e*Pg	**Pb**	**11 52 10.0**	**+0.4**
TNSS	2.1nm,0.2s			*e*Lg	Lg	11 52 40.0	
KOTS	**Kotyrbulak** 1.9nm,0.0s	**2.34**	**309**	*e*Pg	**Pb**	**11 52 10.3**	**+0.7**
KOTS	5.6nm,0.3s			*e*Lg	Lg	11 52 40.6	
KOTS	**Kotyrbulak** 1.9nm,0.0s	**2.34**	**309**	Pg	**Pb**	**11 52 10.3**	**+0.7**
KOTS	5.6nm,0.3s			Lg	Lg	11 52 40.7	
BLB	**Baldybastay** 1.8nm,0.2s	**2.46**	**341**	Pg	**Pb**	**11 52 11.9**	**+0.4**
BLB	7.5nm,0.3s			Lg	Lg	11 52 43.5	
DJR	**Jarkent** 0.6nm,0.2s	**2.55**	**3**	*e*Pg	**Pb**	**11 52 13.9**	**+0.8**
DJR	4.9nm,0.4s			*e*Lg	Lg	11 52 46.9	
DJR	**Jarkent** 0.6nm,0.2s	**2.55**	**3**	Pg	**Pb**	**11 52 13.9**	**+0.8**
DJR	4.9nm,0.4s			Lg	Lg	11 52 46.9	
KNOS	**Konyrlen** 2.4nm,0.5s	**2.59**	**353**	Pg	**Pb**	**11 52 14.4**	**+0.5**
KNOS	2.9nm,0.3s			Lg	Lg	11 52 47.7	
KST	**Kastek** 1.1nm,0.2s	**2.97**	**296**	*e*Pg	**Pb**	**11 52 21.5**	**+1.1**
KST	4.9nm,0.0s			*e*Lg	Lg	11 52 59.8	
KST	**Kastek** 1.1nm,0.2s	**2.97**	**296**	Pg	**Pb**	**11 52 21.5**	**+1.1**
KST	4.9nm,0.0s			Lg	Lg	11 52 59.8	
TKM2	**Tokmak 2** 1.5nm,0.8s	**3.18**	**292**	⇑Pn	**Pn**	**11 52 18.4**	**+0.6**
TKM2	2.8nm,0.7s			⇓Lg	Lg	11 53 07.8	
KSH	**Kashi**	**3.57**	**232**	P	**Pn**	**11 52 22.3**	**-0.8**
KSH	comp=N,250nm,17.9s			sP	Pb	11 52 34.3	+3.8
KSH				LR	LR		
KSH	comp=E,320nm,14.4s			LR	LR		

*NEIC **17** 11:55:49.6±0.5, 36°.81N±0°.01×97°.61W±0°.01, h5km±1km, Error ellipse: s-maj=1.5km s-min=1.4km az=170.0*
TUL 17 11:55:50±0.6, 36°.82N±0°.01×97°.61W±0°.01, h6km±5km, ML2.6, mb_Lg2.1/9(NEIC), ML2.6/41(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=179.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.20**	**280**	Pg	Pg	**11 55 54.2**	**+0.2**
GC02				Sg	Sg	11 55 57.2	+0.5
KAN13	**South Haven SW**	**0.22**	**29**		Pg	11 55 55.0	+0.6
KAN13				Sg	Sg	11 55 58.1	+0.7
KAN13	comp=N,905nm,0.3s			IAML		11 55 58.7	
KAN17	**Caldwell West**	**0.26**	**332**		Pg	11 55 55.6	+0.5
KAN17				Sg	Sg	11 55 59.2	+0.8
KAN17	comp=N,1μm,0.3s			IAML		11 55 59.5	
KAN14	**Manchester OK**	**0.31**	**296**	Pg	Pg	11 55 56.4	+0.3
KAN14	comp=E,671nm,0.1s			IAML		11 56 01.0	
KAN14	comp=N,568nm,0.1s			IAML		11 56 01.0	
KAN09	**Caldwell North**	**0.32**	**359**		Pg	11 55 56.6	+0.4
KAN09	comp=N,912nm,0.3s			IAML		11 56 01.8	
BLOK	**Blackwell**	**0.32**	**100**		Pg	11 55 56.6	+0.2
KAN01	**Argonia South**	**0.35**	**341**		Pg	11 55 57.1	+0.2
KAN01	comp=E,878nm,0.2s			IAML		11 56 02.6	
KAN05	**Bluff City Nor**	**0.36**	**324**		Pg	11 55 57.1	+0.1
KAN05	comp=E,853nm,0.2s			IAML		11 56 04.2	
KAN05	comp=N,724nm,0.2s			IAML		11 56 05.3	
CROK	**Carrier**	**0.43**	**224**	Pg	Pg	11 55 58.6	+0.3
KS21	**Milan North St** comp=N,327nm,0.2s	**0.47**	**355**	IAML		11 56 06.3	
KS21	**Milan North St**	**0.47**	**355**	Pg	Pg	11 55 59.3	+0.3
OK032	**Salt Plains WL**	**0.48**	**268**	Pg	Pg	11 55 59.3	+0.1
OK032	comp=N,465nm,0.1s			IAML		11 56 06.2	
OK032	comp=N,313nm,0.2s			IAML		11 56 06.8	
KAN10	**Anthony SW Sta**	**0.49**	**308**	Pg	Pg	11 55 59.8	+0.3
KAN10	comp=N,544nm,0.1s			IAML		11 56 06.9	
KAN10	comp=E,438nm,0.1s			IAML		11 56 07.2	
KAN12	**Harper NE Stat**	**0.57**	**327**		Pg	11 56 00.5	-0.5
OK048	**Pawnee Station**	**0.67**	**127**	Pg	Pg	11 56 02.4	-0.5
OK051	**E0350 and S346**	**0.70**	**116**		Pg	11 56 02.9	-0.5
OK051	comp=E,214nm,0.1s			IAML		11 56 19.4	
OK051	comp=E,219nm,0.2s			IAML		11 56 19.6	
T35A	**Sooner Cattle**	**0.89**	**83**	Pg	Pg	11 56 06.5	-0.5
OK038	**West end E0370**	**0.97**	**250**		Pg	11 56 08.3	-0.3
QUOK	**Quay**	**0.97**	**131**	Pg	Pg	11 56 08.0	-0.7
QUOK	comp=N,188nm,0.2s			IAML		11 56 27.0	
OK052	**Battle Ridge R**	**1.05**	**141**		Pg	11 56 09.9	-0.3
OK052	comp=N,162nm,0.1s			IAML		11 56 25.0	
OK052	comp=N,156nm,0.2s			IAML		11 56 25.6	
ADOK	**Arcadia Dam**	**1.18**	**170**	Pg	Pg	11 56 11.5	-1.1
DEOK	**Depew**	**1.33**	**137**		Pn	11 56 14.1	-1.0
DEOK	comp=N,128nm,0.5s			IAML		11 56 38.0	
OKCSW	**OKLAHOMA CITY**	**1.42**	**174**		Pn	11 56 15.6	-0.8
OKCSW	comp=Z,19nm,0.7s			IAmb_Lg		11 56 35.1	
FNO	**Franklin**	**1.57**	**174**		Pn	11 56 17.4	-1.0
TUL3	**Leonard**	**1.73**	**121**	Pn	Pn	11 56 20.5	-0.1
TUL3	comp=Z,9.9nm,0.8s			IAmb_Lg		11 56 46.3	
W35A	**Tecumseh**	**1.77**	**160**		Pn	11 56 21.5	+0.3
R32A	**Long Quarter,**	**1.82**	**332**	Pn	Pn	11 56 21.2	-0.8
RLO	**Rose Lookout**	**2.19**	**107**	Pn	Pn	11 56 27.4	+0.5
WMOK	**Wichita Mounta**	**2.28**	**205**	Pn	Pn	11 56 29.0	+0.7
KSU1	**Kansas State U**	**2.41**	**19**	Pn	Pn	11 56 29.1	-1.0
U38A	**Gravette** comp=Z,7.0nm,0.8s	**2.62**	**97**	IAmb_Lg		11 57 12.3	
HHA

WRA	**Warramunga Arr**	**14.09 164**	Pn	Pn	12 03 39.7	-0.1
	0.7nm,0.3s,baz=347,slow=13,SNR=30					
WRA			Sn	Sn	12 06 04.5	-13
	0.9nm,0.3s,baz=331,slow=22,SNR=10.0					
	0.5nm,0.3s					
ASAR	**Alice Springs**	**17.58 169**	P	Pn	12 04 25.4	+0.1
	0.2nm,0.3s,baz=343,slow=9.7,SNR=14					
ASAR			S	Sn	12 07 25.4	-16
	0.3nm,0.3s,baz=344,slow=24,SNR=7.5					
	0.6nm,0.5s					
MKAR	**Makanchi Array**	**67.79 327**	P	P	12 11 18.5	0.0
	0.2nm,0.4s,baz=123,slow=7.4,SNR=1.9					
	0.2nm,0.4s					

TAP ***17*** *12:08:39.2,24˚.09N×122˚.28E,h25km,ML3.1,C*
JMA ***17*** *12:08:39.2±0.1,24˚.0N±0˚.8×122˚.3E±0˚.3,h28km±2km, MV2.4/14,TAIWAN REGION*
ISC 17 12:08:39.0±0.9,24˚.04N±0˚.02×122˚.27E±0˚.02,h26km±6km, n98,σ0§67/154,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.09**	**29**	*i*	P		**Pb**	**12 08 43.2**	**-0.1**
	baz=48								
EOS4				*i*	S		**Sb**	**12 08 46.2**	**+0.2**
	baz=48								
EOS3	**EOS3**	**0.25**	**10**	*i*	P		**Pb**	**12 08 44.9**	**-0.3**
	baz=346								
EOS3				*i*	S		**Sb**	**12 08 49.5**	**0.0**
	baz=346								
EOS2	**EOS2**	**0.38**	**355**	*i*	P		**Pb**	**12 08 47.0**	**-0.2**
	baz=336								
EOS2				*i*	S		**Sb**	**12 08 52.8**	**0.0**
	baz=336								
EAHA	**Aohua**	**0.56**	**301**	*e*	P		**Pn**	**12 08 51.0**	**-0.3**
	baz=305								
EAHA					*e*S		**Sn**	**12 08 59.8**	**-0.1**
	baz=305								
ETL	**Fush Village**	**0.60**	**282**		P		**Pb**	**12 08 50.6**	**-0.4**
	baz=261								
ETL					*e*S		**Sn**	**12 09 00.5**	**-0.3**
	baz=261								
EWUT	**Wuta**	**0.60**	**312**		P		**Pb**	**12 08 50.0**	**-0.9**
	baz=314								
EWUT					*e*S		**Sb**	**12 08 59.0**	**-0.1**
	baz=314								
HWA	**Hwalien**	**0.61**	**264**	*e*	S		**Sn**	**12 09 01.7**	**+0.7**
	baz=245								
TWD	**Chiawan**	**0.61**	**274**	*e*	P		**Pn**	**12 08 51.8**	**-0.3**
	baz=255								
TWD					S		**Sn**	**12 09 00.5**	**-0.7**
	baz=255								
ENA	**Nanau**	**0.62**	**309**		P		**Pb**	**12 08 50.5**	**-0.7**
	baz=312								
ENA					*e*S		**Sb**	**12 08 59.6**	**+0.1**
	baz=312								
NACB	**Ninganchiao**	**0.63**	**282**		P		**Pb**	**12 08 51.5**	**+0.1**
	baz=263								
NACB					S		**Sn**	**12 09 00.9**	**-0.6**
	baz=263								
ESAO	**Su ao**	**0.66**	**324**	*e*	P		**Pb**	**12 08 50.7**	**-1.2**
	baz=326								
ESAO					*e*S		**Sb**	**12 08 58.9**	**-1.8**
	baz=326								
TWC	**Suao**	**0.68**	**326**		P		**Pb**	**12 08 51.1**	**-1.2**
	baz=322								
TWC					*e*S		**Sb**	**12 09 00.7**	**-0.7**
	baz=322								
SHUL	**Shoufeng**	**0.69**	**249**		P		**Pn**	**12 08 52.9**	**-0.2**
	baz=246								
SHUL					S		**Sn**	**12 09 03.3**	**+0.3**
	baz=246								
ETM	**Tongmen**	**0.71**	**264**		P		**Pb**	**12 08 52.6**	**-0.2**
	baz=249								
ETM					S		**Sn**	**12 09 03.1**	**-0.5**
	baz=249								
ETLH	**Xiulin Townshi**	**0.74**	**283**		P		**Pb**	**12 08 53.2**	**-0.1**
	baz=266								
ETLH					S		**Sn**	**12 09 03.8**	**-0.5**
	baz=266								
JYNG	**Yonagunijimaku**	**0.74**	**56**	*e*	P		**Pb**	**12 08 53.3**	**0.0**
NDS	**Dongshan**	**0.78**	**320**	*e*	P		**Pb**	**12 08 53.2**	**-0.7**
	baz=319								
NDS					S		**Sb**	**12 09 04.4**	**+0.3**
	baz=319								
LXIB	**Xiulin Townshi**	**0.78**	**269**		P		**Pb**	**12 08 54.0**	**-0.1**
	baz=255								
LXIB					S		**Sb**	**12 09 04.7**	**+0.4**
	baz=255								
ESL	**Shilin**	**0.80**	**254**		P		**Pb**	**12 08 53.7**	**-0.5**
	baz=242								
ESL					*e*S		**Sn**	**12 09 05.5**	**-0.1**
	baz=242								
YOJ	**Yonaguni jima**	**0.80**	**58**	*e*	P		**Pn**	**12 08 54.5**	**-0.1**
YOJ					*e*S		**Sb**	**12 09 04.8**	**+0.2**
YOJ	**Yonaguni jima**	**0.80**	**58**	*e*	P		**Pn**	**12 08 54.9**	**+0.3**
	baz=60								
YOJ					*e*S		**Sn**	**12 09 05.4**	**-0.3**
	baz=60								
LATG	**Datong**	**0.84**	**306**		P		**Pb**	**12 08 54.7**	**-0.3**
	baz=307								
LATG					S		**Sn**	**12 09 07.1**	**+0.3**
	baz=307								
EGFH	**Guangfu**	**0.85**	**245**		S		**Sn**	**12 09 08.1**	**+1.1**
	baz=231								
ILA	**Ilan**	**0.86**	**327**	*e*	S		**Sn**	**12 09 08.7**	**+1.3**
	baz=323								
WARBT	**Fenglin Townsh**	**0.87**	**249**		P		**Pb**	**12 08 54.9**	**-0.6**
WARBT	baz=237								
					*e*S		**Sb**	**12 09 06.1**	**-0.6**
	baz=237								
TWE	**Neicheng**	**0.87**	**321**	*e*	P		**Pb**	**12 08 55.1**	**-0.4**
	baz=325								
TWE					*e*S		**Sn**	**12 09 07.6**	**+0.1**
	baz=325								
ENTT	**Nioudou**	**0.88**	**313**		P		**Pb**	**12 08 55.4**	**-0.2**
	baz=320								
ENTT					S		**Sb**	**12 09 06.8**	**-0.1**
	baz=320								
NDT	**Datong Townshi**	**0.89**	**309**		P		**Pb**	**12 08 55.8**	**0.0**
	baz=316								
NDT					S		**Sb**	**12 09 06.7**	**-0.6**
	baz=316								
NNSB	**Datong**	**0.90**	**296**		P		**Pb**	**12 08 55.8**	**-0.2**
	baz=292								
NNSB					S		**Sn**	**12 09 08.1**	**-0.2**
	baz=292								
NNS	**Nan Shan**	**0.91**	**296**		P		**Pb**	**12 08 56.2**	**0.0**
	baz=292								
NNS					*e*S		**Sb**	**12 09 08.1**	**+0.1**
	baz=292								
WHF	**Hehuan Shan**	**0.92**	**277**		P		**Pb**	**12 08 56.5**	**-0.1**
	baz=262								
WHF					*e*S		**Sb**	**12 09 08.9**	**+0.2**
	baz=262								
HGSD	**Ruisui**	**0.95**	**235**	*e*	P		**Pn**	**12 08 56.5**	**-0.2**
	baz=233								
HGSD					*e*S		**Sb**	**12 09 09.2**	**+0.3**
	baz=233								
FUSB	**Fushanzhiwuyua**	**0.95**	**319**		P		**Pn**	**12 08 56.7**	**-0.1**
	baz=315								
FUSB					*e*S		**Sb**	**12 09 09.2**	**+0.2**
	baz=315								
FUSS	**Fushou**	**0.96**	**283**	*e*	P		**Pn**	**12 08 57.0**	**-0.1**
	baz=279								
FUSS					*e*S		**Sn**	**12 09 10.3**	**+0.3**
	baz=279								
TWB1	**Santiao Chiao**	**1.00**	**345**	*e*	S		**Sb**	**12 09 09.0**	**-1.4**
	baz=330								
CHGB	**Renai**	**1.00**	**271**		P		**Pn**	**12 08 57.5**	**0.0**
	baz=256								
CHGB					*e*S		**Sn**	**12 09 11.1**	**+0.1**
	baz=256								
OWD	**Renai**	**1.00**	**265**		P		**Pn**	**12 08 57.6**	**0.0**
	baz=263								
OWD					S		**Sb**	**12 09 10.9**	**+0.2**
	baz=263								
TIPB	**Shuangxi**	**1.01**	**337**		P		**Pn**	**12 08 57.5**	**-0.1**
	baz=333								
TIPB					*e*S		**Sb**	**12 09 09.8**	**-1.1**
	baz=333								
NWLT	**Wulai**	**1.01**	**317**		P		**Pb**	**12 08 57.8**	**-0.1**
	baz=321								
NWLT					S		**Sn**	**12 09 11.1**	**+0.1**
	baz=321								
EHY	**Hungye**	**1.02**	**239**	*e*	P		**Pn**	**12 08 57.5**	**-0.1**
	baz=229								
EHY					*e*S		**Sn**	**12 09 11.7**	**+0.6**
	baz=229								
TWT	**Tachien**	**1.02**	**282**		S		**Sn**	**12 09 11.7**	**+0.3**
	baz=268								
YHNB	**Yeheng**	**1.03**	**308**	*e*	P		**Pn**	**12 08 57.9**	**0.0**
	baz=292								
YHNB					*e*S		**Sb**	**12 09 10.7**	**-0.6**
	baz=292								
TDCB	**Techi**	**1.04**	**282**	*e*	P		**Pn**	**12 08 57.9**	**-0.1**
	baz=268								
TDCB					*e*S		**Sb**	**12 09 11.6**	**0.0**
	baz=268								
NSK	**Sanguang**	**1.04**	**308**	*e*	P		**Pn**	**12 08 57.9**	**-0.1**
	baz=292								
NSK					*e*S		**Sb**	**12 09 10.6**	**-1.2**
	baz=292								
WUSB	**Renai**	**1.05**	**268**		P		**Pn**	**12 08 58.2**	**0.0**
	baz=265								
WUSB					*e*S		**Sn**	**12 09 12.9**	**+0.8**
	baz=265								
VWDT	**VWDT**	**1.07**	**255**		P		**Pn**	**12 08 58.6**	**+0.3**
	baz=241								
VWDT					*e*S		**Sn**	**12 09 12.5**	**+0.1**
	baz=241								
YULB	**Yu-li**	**1.10**	**234**	*e*	P		**Pn**	**12 08 58.3**	**-0.5**
	baz=222								
YULB					*e*S		**Sn**	**12 09 13.1**	**-0.1**
	baz=222								
EYUL	**Yuli**	**1.11**	**232**		P		**Pn**	**12 08 59.1**	**+0.2**
	baz=219								
EYUL					*e*S		**Sb**	**12 09 14.2**	**+0.6**
	baz=219								
SXI1	**Grass Mountain**	**1.11**	**341**	*e*	P		**Pn**	**12 08 58.5**	**-0.5**
	baz=338								
SXI1					*e*S		**Sn**	**12 09 13.3**	**-0.2**
	baz=338								
NWF	**Wu-fen Shan**	**1.12**	**337**	*e*	S		**Sb**	**12 09 14.0**	**+0.1**
	baz=333								
WFSB	**Wu-fen Shan**	**1.12**	**337**	*e*	S		**Sn**	**12 09 13.4**	**-0.2**
	baz=333								
TWF1	**Yuli**	**1.12**	**233**	*e*	P		**Pn**	**12 08 58.9**	**-0.2**
	baz=221								
TWF1					*e*S		**Sb**	**12 09 14.1**	**+0.2**
	baz=221								
NHDH	**Xindian Distri**	**1.14**	**324**	*e*	P		**Pn**	**12 08 59.6**	**+0.2**
	baz=320								
NHDH					*e*S		**Sb**	**12 09 14.8**	**+0.3**
	baz=320								
NFF	**Wufeng Townshi**	**1.20**	**300**	*e*	P		**Pb**	**12 09 01.1**	**-0.1**
	baz=296								
FULB	**Fuli**	**1.22**	**227**	*e*	P		**Pn**	**12 09 00.1**	**-0.4**
	baz=214								
FULB					*e*S		**Sn**	**12 09 15.7**	**-0.5**
	baz=214								
SSLB	**Suanglung**	**1.23**	**258**	*e*	P		**Pn**	**12 09 00.9**	**+0.3**
	baz=245								
WHP	**Taichung City**	**1.23**	**281**		P		**Pb**	**12 09 02.2**	**+0.5**
	baz=267								
WHP					*e*S		**Sb**	**12 09 19.7**	**+2.6**
	baz=267								
WCS	**Beigang Elemen**	**1.24**	**271**	*e*	P		**Pn**	**12 09 01.3**	**+0.6**
	baz=268								
SMLT	**Sun Moon Lake**	**1.26**	**263**	*e*	P		**Pn**	**12 09 01.7**	**+0.6**
	baz=261								
YM01	**YM01**	**1.27**	**330**	*e*	P		**Pb**	**12 09 02.9**	**+0.6**
	baz=326								
YM01					*e*S		**Sb**	**12 09 18.1**	**-0.1**
	baz=326								
LIOB	**Emei**	**1.29**	**298**		P		**Pb**	**12 09 03.0**	**+0.3**
	baz=295								
NSTT	**Nanjuang**	**1.30**	**297**		P		**Pb**	**12 09 02.8**	**+0.1**
	baz=294								
NSTT					*e*S		**Sb**	**12 09 19.1**	**+0.2**
	baz=294								
TYC	**Yuchr**	**1.30**	**264**	*e*	P		**Pn**	**12 09 02.2**	**+0.7**
	baz=262								
YM08	**YM08**	**1.30**	**332**	*e*	P		**Pb**	**12 09 03.6**	**+0.8**
	baz=343								
TWS1	**Kuangyinshan**	**1.31**	**324**	*e*	P		**Pb**	**12 09 02.4**	**-0.5**
	baz=331								
TWS1					*e*S		**Sb**	**12 09 19.7**	**+0.4**
	baz=331								
EHD	**Haiduan**	**1.32**	**228**	*e*	P		**Pn**	**12 09 01.8**	**0.0**
	baz=215								
ANP	**Anpu**	**1.33**	**329**	*e*	P		**Pb**	**12 09 02.8**	**-0.5**
	baz=326								
WHYT	**Xinyi Township**	**1.34**	**256**	*e*	P		**Pb**	**12 09 03.9**	**+0.4**
	baz=245								
ECS	**Chishang**	**1.34**	**226**	*e*	P		**Pn**	**12 09 01.8**	**-0.3**
	baz=214								
IRIF	**Iriomote-Funau**	**1.37**	**77**	*e*	P		**Pn**	**12 09 02.6**	**+0.2**
IRIF					*e*S		**Sb**	**12 09 21.0**	**0.0**
EDH	**Donghe**	**1.38**	**220**	*e*	P		**Pn**	**12 09 00.9**	**-1.8**
	baz=210								
EDH					*e*S		**Sn**	**12 09 17.9**	**-2.2**
	baz=210								
HATJ	**Hateruma jima**	**1.41**	**89**		P		**Pn**	**12 09 03.6**	**+0.6**
HATJ					*e*S		**Sb**	**12 09 22.5**	**+0.4**
WJS	**Zhushan**	**1.43**	**262**	*e*	P		**Pb**	**12 09 04.7**	**-0.2**
	baz=260								
ELDTW	**Lidau**	**1.43**	**234**	*e*	P		**Pn**	**12 09 03.2**	**-0.1**
	baz=233								
NSY	**Sanyi**	**1.43**	**286**	*e*	P		**Pn**	**12 09 03.9**	**+0.6**
	baz=271								
ALS	**Alishan**	**1.44**	**249**	*e*	P		**Pb**	**12 09 04.8**	**-0.5**
	baz=247								
CHN5	**Tsauling**	**1.52**	**254**	*e*	P		**Pb**	**12 09 06.4**	**-0.2**
	baz=241								
LONT	**Longtian**	**1.54**	**223**	*e*	P		**Pn**	**12 09 04.7**	**-0.1**
	baz=223								
JKRS	**Kuro-shima**	**1.60**	**83**		P		**Pb**	**12 09 06.9**	**-1.0**
JKRS					*e*S		**Sb**	**12 09 28.4**	**+0.7**
STYH	**Taoyuan**	**1.62**	**238**	*e*	P		**Pn**	**12 09 06.7**	**+0.9**
	baz=225								
TWGBT	**Beinan**	**1.63**	**222**	*e*	P		**Pn**	**12 09 05.7**	**-0.4**
	baz=222								
WCKO	**Fanlu**	**1.64**	**249**	*e*	P		**Pb**	**12 09 08.8**	**+0.3**
	baz=248								
TPUB	**Ta-pu**	**1.67**	**244**	*e*	P		**Pb**	**12 09 08.4**	**-0.7**
	baz=243								
WTP	**Ta-pu**	**1.71**	**243**	*e*	P		**Pb**	**12 09 08.8**	**-0.9**
	baz=242								
JIJ	**Ishigaki jima**	**1.74**	**79**	*e*	P		**Pn**	**12 09 08.1**	**+0.6**
JIJ					*e*S		**Sn**	**12 09 29.9**	**+0.9**
CHN1	**Nanshi**	**1.81**	**242**	*e*	P		**Pb**	**12 09 11.1**	**-0.4**
	baz=241								
SGST	**Jiashian**	**1.82**	**239**	*e*	P		**Pn**	**12 09 10.0**	**+1.4**
	baz=227								
SLGT	**Liugui**	**1.82**	**235**	*e*	P		**Pb**	**12 09 10.8**	**-0.8**
	baz=224								
JISG	**Ishigakijimahi**	**1.94**	**73**		P		**Pn**	**12 09 10.8**	**+0.5**
JISG					*e*S		**Sn**	**12 09 34.1**	**+0.2**
SCST	**Cishan**	**1.99**	**235**	*e*	P		**Pn**	**12 09 12.5**	**+1.5**
	baz=225								
TSMG	**Majia**	**2.00**	**229**	*e*	P		**Pb**	**12 09 13.6**	**-1.0**
	baz=219								
SHHT	**Tainan City**	**2.03**	**240**	*e*	P		**Pb**	**12 09 14.7**	**-0.6**
	baz=240								
MASBT	**Mashibuluo**	**2.07**	**227**	*e*	P		**Pn**	**12 09 13.3**	**+1.2**
	baz=217								
EAST	**Anshuo**	**2.10**	**219**	*e*	P		**Pn**	**12 09 14.1**	**+1.5**
	baz=219								
LYUB	**Lan-yu**	**2.12**	**197**	*e*	P		**Pn**	**12 09 11.2**	**-1.6**
	baz=199								
TSCK	**Chigu Township**	**2.19**	**247**	*e*	P		**Pn**	**12 09 15.7**	**+2.0**
	baz=246								
SLIU	**Shizi**	**2.26**	**217**	*e*	P		**Pn**	**12 09 15.1**	**+0.3**
	baz=217								
PHUB	**P'eng-hu**	**2.52**	**259**	*e*	P		**Pn**	**12 09 19.2**	**+0.9**
	baz=258								

IDC ***17*** *12:12:51.1±0.6,1˚.90S×100˚.38E,h0km,mb4.4/22, mbtmp4.4/22,MS3.5/20,Error ellipse: s-maj=25.8km s-min=13.2km az=54.0*
DJA ***17*** *12:12:56.4±0.8,2˚S±8˚×10˚0E±˚,h10km,M4.7/4,MLv4.7/4*
NEIC ***17*** *12:12:58.0±2.8,1˚.86S±0˚.07×100˚.36E±0˚.08,h47km±6km, mb4.6/28,Error ellipse: s-maj=13.5km s-min=7.6km az=47.0*
ISC 17 12:12:58.1±0.8,1˚.94S±0˚.06×100˚.32E±0˚.07,h52km±6km, n115,σ1§21/104,mb4.6/41,MS3.5/19,1D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**2.36**	**18**				**Pn**	**12 13 34.2**	**-0.3**
BKNI	**Bangkinang**	**2.36**	**18**	P			**Pn**	**12 13 34.1**	**-0.3**

JMBI	**JAMBI**	**3.33**	**85**	P		**Pn**	**12 13 49.0**	**+1.2**
MNAI	**Manna**	**3.56**	**132**			**Pn**	**12 13 53.3**	**+2.4**
MNAI	**Manna**	**3.56**	**132**	P		**Pn**	**12 13 52.6**	**+1.7**
GSI	**Gunungsitoli**	**4.23**	**320**	Pn		**Pn**	**12 14 00.1**	**0.0**
GSI	**Gunungsitoli**	**4.23**	**320**	P		**Pn**	**12 14 00.1**	**0.0**
PMBI	**Palembang**	**4.55**	**103**	Pn		**Pn**	**12 14 03.4**	**-1.1**
RPSI	**Rantau Prapat**	**4.81**	**343**			**Pn**	**12 14 07.8**	**-0.3**
MYKOM	**Kota Tinggi**	**5.12**	**44**	Pn		**Pn**	**12 14 12.3**	**0.0**
LEM	**Lembang**	**8.74**	**124**	LR		LR	12 18 30.3	
	comp=Z,148nm,21.4s,baz=231,slow=39							
XMIS	**Christmas Isla**	**10.00**	**148**			**Pn**	**12 15 17.6**	**-1.6**
UGM	**Wanagama**	**11.77**	**121**	Pn		**Pn**	**12 15 41.4**	**-2.0**
KAPI	**Kappang**	**19.63**	**99**	LR		LR	12 25 43.1	
	comp=Z,92nm,19.6s,baz=273,slow=39							
CM31	**Chiang Mai Arr**	**20.32**	**356**	P		**P**	**12 17 28.7**	**-1.3**
CMAR	**Chiang Mai Arr**	**20.32**	**356**	P		**P**	**12 17 28.3**	**-1.7**
CMAR	**Chiang Mai Arr**	**20.32**	**356**	P		**P**	**12 17 28.7**	**-1.3**
	4.0nm,0.8s,baz=186,slow=10.0,SNR=28							
	4.0nm,0.8s							
PALK	**Pallekele**	**21.61**	**295**	LR		LR	12 25 34.6	
	comp=Z,52nm,20.0s,baz=188,slow=35							
CRAI	**Chiangrai**	**22.03**	**0**	P		**P**	**12 17 44.9**	**-3.5**
PSA00	**Pilbara Seismi**	**27.24**	**137**	P		**P**	**12 18 36.1**	**-1.5**
PSA00				IAmb		IAmb	12 18 52.4	
	comp=Z,15nm,1.4s							
H08S2	**Diego Garcia H**	**28.29**	**257**	T		T	12 47 43.9	
	baz=81,slow=76,SNR=26							
H08S3	**Diego Garcia H**	**28.30**	**258**	T		T	12 47 47.9	
	baz=81,slow=76,SNR=79							
H08S1	**Diego Carcia H**	**28.31**	**258**	T		T	12 47 48.3	
	baz=81,slow=76,SNR=4.8							
PZH	**PanZhiHua**	**28.31**	**3**	P		**P**	**12 18 49.3**	**+2.1**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,210nm,5.2s							
SHL	**Shillong**	**28.54**	**344**	P		**P**	**12 18 47.0**	**-2.3**
SHL				IAmb		IAmb	12 18 49.3	
	comp=Z,12nm,1.1s							
RAMN	**Ramite**	**31.62**	**336**	*e*P		**P**	**12 19 17.7**	**+1.1**
JIRN	**Jiri**	**32.42**	**336**	*e*P		**P**	**12 19 24.0**	**+0.3**
GUN	**Gumba**	**32.77**	**336**	*e*P		**P**	**12 19 27.1**	**+0.3**
DANN	**Dangsing**	**34.06**	**333**	*e*P		**P**	**12 19 38.0**	**+0.1**
	comp=Z,31nm,0.9s							
PYUN	**Piuthan**	**34.20**	**332**	*e*P		**P**	**12 19 40.4**	**+1.3**
NWAO	**Narrogin (SRO)**	**34.67**	**155**	LR		LR	12 32 25.6	
	comp=Z,85nm,21.1s,baz=75,slow=34							
XAN	**Xi'an**	**36.69**	**12**	⇓P		**P**	**12 19 58.5**	**-1.7**
XAN				pP		pP	12 20 04.1	-9.4
XAN				pmax		pmax		
	comp=Z,15nm,0.6s							
WB0	**Warramunga Arr**	**37.72**	**120**	P		**P**	**12 20 07.4**	**-1.8**
WB0				IAmb		IAmb	12 20 08.5	
	comp=Z,4.9nm,0.6s							
WRA	**Warramunga Arr**	**37.75**	**121**	P		**P**	**12 20 07.6**	**-1.7**
WRA	**Warramunga Arr**	**37.75**	**121**	P		**P**	**12 20 08.0**	**-1.3**
	comp=Z,1.9nm,0.4s,baz=302,slow=9.6,SNR=61							
WRA				PcP		**PcP**	**12 22 25.7**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=316,slow=2.2,SNR=4.9							
	comp=Z,1.9nm,0.4s							
WRAB	**Tennant Creek**	**37.75**	**121**	P		**P**	**12 20 08.2**	**-1.2**
WRAB				IAmb		IAmb	12 20 09.4	
	comp=Z,6.3nm,0.8s							
WB2	**Warramunga Arr**	**37.76**	**121**	P		**P**	**12 20 07.5**	**-2.0**
WB2				IAmb		IAmb	12 20 09.4	
	comp=Z,6.0nm,0.9s							
WR0	**Warramunga Arr**	**37.93**	**121**	P		**P**	**12 20 08.9**	**-1.9**
WR0				IAmb		IAmb	12 20 10.6	
	comp=Z,6.6nm,0.6s							
LZH	**Lanzhou**	**37.98**	**5**	*e*P		**P**	**12 20 13.5**	**+2.3**
LZH				pP		pwP	12 20 25.5	+0.9
LZH				pmax		pmax		
	comp=Z,11nm,1.1s							
NJ2	**Nanjing**	**38.10**	**26**	*e*P		**P**	**12 20 12.9**	**+0.8**
NJ2				pP		**pP**	**12 20 26.1**	**+0.6**
NJ2				sP		**sP**	**12 20 31.8**	**+0.2**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
NJ2				pmax		pmax		
	comp=Z,560nm,4.3s							
AS31	**Alice Springs**	**39.03**	**126**	P		**P**	**12 20 19.8**	**-0.3**
ASAR	**Alice Springs**	**39.03**	**126**	P		**P**	**12 20 19.8**	**-0.3**
ASAR				PcP		**PcP**	**12 22 29.9**	**+0.4**
ASAR	**Alice Springs**	**39.03**	**126**	P		**P**	**12 20 19.5**	**-0.6**
	comp=Z,9.0nm,0.8s,baz=301,slow=7.8,SNR=128							
ASAR				PcP		**PcP**	**12 22 29.8**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=301,slow=3.1,SNR=7.3							
	comp=Z,9.0nm,0.8s							
NIL	**Nilore**	**43.63**	**327**	P		**P**	**12 20 56.3**	**-1.3**
NIL				IAmb		IAmb	12 20 58.4	
	comp=Z,16nm,0.8s							
HHC	**Hu-ho-hao-te**	**43.80**	**12**	*e*P		**P**	**12 20 59.8**	**+0.8**
HHC				*e*S		**S**	**12 27 28.3**	**+2.0**
HHC				pmax		pmax		
	comp=Z,22nm,1.0s							
HHC				pmax		pmax		
	comp=Z,300nm,5.1s							
GUMO	**Guam**	**46.79**	**69**	LR		LR	12 40 58.8	
	comp=Z,23nm,21.3s,baz=121,slow=36							
KSRS	**Korea Array**	**46.81**	**30**	P		**P**	**12 21 23.4**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=224,slow=9.2,SNR=2.1							
KSRS				LR		LR	12 41 17.9	
	comp=Z,26nm,20.3s,baz=175,slow=36							
	comp=Z,1.2nm,0.8s							
WMQ	**Urumqi**	**46.94**	**347**	*e*P		**P**	**12 21 24.8**	**+1.0**
WMQ				pmax		pmax		
	comp=Z,26nm,1.3s							
TARG	**Taragay, Kyrgy**	**48.03**	**337**	P		**P**	**12 21 33.0**	**+0.4**
TARG				IAmb		IAmb	12 21 34.8	
	comp=Z,9.0nm,0.8s							
CTA	**Charters Tower**	**48.33**	**115**	LR		LR	12 42 42.9	
	comp=Z,41nm,18.7s,baz=265,slow=37							
PRZ	**Przheval'sk**	**48.45**	**338**	P		**P**	**12 21 36.5**	**+0.8**
STKA	**Stephens Creek**	**48.95**	**132**	P		**P**	**12 21 39.8**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=343,slow=16,SNR=4.8							
STKA				LR	

comp=Z,55nm,19.6s,baz=170,slow=38
comp=Z,6.2nm,0.6s
KURBB Kurchatov Arra 55.58 343 P **P** **12 22 28.1 -0.2**
comp=Z,3.5nm,0.4s,baz=164,slow=7.1,SNR=13
KURBB LR LR 12 48 17.5
comp=Z,35nm,19.6s,baz=176,slow=38
comp=Z,3.5nm,0.4s
GEYT Alibeck 55.61 320 P **P** **12 22 28.4 -0.4**
GEYT IAmb IAmb 12 22 29.8
comp=Z,7.9nm,1.1s
GEYT Alibeck 55.61 320 P **P** **12 22 29.1 +0.3**
comp=Z,3.4nm,0.8s,baz=142,slow=7.5,SNR=7.3
comp=Z,3.4nm,0.8s
GYA0B ALIBECK ARRAY 55.61 320 P **P** **12 22 28.6 -0.2**
GYA0B IAmb IAmb 12 22 29.8
comp=Z,8.2nm,1.1s
KURK Kurchatov 55.64 343 P **P** **12 22 27.6 -1.1**
ZAA0 Zalesovo Array 57.17 349 P **P** **12 22 38.7 -0.8**
ZALV Zalesovo Beam 57.17 349 P **P** **12 22 39.1 -0.4**
ZALV Zalesovo Beam 57.17 349 P **P** **12 22 39.0 -0.6**
comp=Z,8.0nm,0.4s,baz=164,slow=6.0,SNR=84
comp=Z,8.0nm,0.4s
KLR Kul'dur 57.75 24 P **P** **12 22 43.4 -0.3**
comp=Z,1.7nm,0.6s,baz=226,slow=8.0,SNR=6.5
comp=Z,1.7nm,0.6s
ASAJ Asahikawa 59.38 34 LR LR 12 49 53.4
comp=Z,56nm,18.6s,baz=210,slow=38
BVAR Borovoye Array 60.24 340 P **P** **12 23 00.4 -0.5**
comp=Z,3.1nm,0.6s,baz=144,slow=8.2,SNR=22
comp=Z,3.1nm,0.6s
H04N2 CROZET ISLANDS 61.03 217 T T 13 28 51.1
baz=58,slow=75,SNR=283
H04N1 CROZET ISLANDS 61.05 217 T T 13 28 57.0
baz=58,slow=75,SNR=259
H04N3 CROZET ISLANDS 61.05 217 T T 13 28 55.7
baz=58,slow=75,SNR=241
H04S1 CROZET ISLANDS 61.32 216 T T 13 29 03.9
baz=57,slow=75,SNR=16
H04S3 CROZET ISLANDS 61.33 216 T T 13 29 01.0
baz=57,slow=75,SNR=20
H04S2 CROZET ISLANDS 61.34 216 T T 13 29 02.2
baz=57,slow=75,SNR=13
ABKAR Akbulak array 61.74 331 P **P** **12 23 10.4 -0.8**
ABKAR Akbulak array 61.74 331 P **P** **12 23 10.4 -0.8**
KMBO Kilima Mbogo 63.05 270 LR LR 12 44 46.1
comp=Z,44nm,21.9s,baz=89,slow=30
ARU Arti 67.28 336 P **P** **12 23 46.3 -0.9**
ARU IAmb IAmb 12 23 47.4
comp=Z,10nm,1.3s
KBZ Khabaz 68.47 319 P **P** **12 23 56.0 +1.0**
comp=Z,4.4nm,0.7s,baz=136,slow=4.6,SNR=9.7
comp=Z,4.4nm,0.7s
MMAI Mount Meron Ar 70.26 306 P **P** **12 24 08.0 +1.7**
comp=Z,1.9nm,0.5s,baz=70,slow=9.8,SNR=4.3
comp=Z,1.9nm,0.5s
BRTR Keskin Array B 73.52 312 P **P** **12 24 25.7 -0.1**
comp=Z,1.5nm,0.6s,baz=126,slow=7.9,SNR=9.4
comp=Z,1.5nm,0.6s
LBTB Lobatse 75.34 245 LR LR 12 53 20.4
comp=Z,42nm,18.5s,baz=59,slow=32
TIXI Tiksi 75.75 9 P **P** **12 24 35.7 -2.2**
BOSA Boshof 75.97 241 LR LR 12 54 20.1
comp=Z,60nm,18.0s,baz=20,slow=33
URZ Urewera 78.43 129 LR LR 13 02 34.3
comp=Z,20nm,18.0s,baz=198,slow=38
SUR Sutherland 80.10 238 LR LR 12 54 08.1
comp=Z,66nm,21.3s,baz=84,slow=31
BURAR Bucovina Array 81.43 319 P **P** **12 25 10.1 +0.3**
BUR08 Bucovina Ar. S 81.44 319 P **P** **12 25 09.4 -0.5**
BUR08 IAmb IAmb 12 25 41.8
comp=Z,12nm,1.5s
VNDA Vanda 82.16 169 P **P** **12 25 11.9 -1.0**
TSUM Tsumeb 82.51 251 LR LR 12 59 01.2
comp=Z,46nm,18.4s,baz=338,slow=34
KOLS Kolonicke sedl 83.61 320 *eP* **P** **12 25 22.6 +1.6**
FINES FINESS Array B 84.21 332 P **P** **12 25 24.1 +0.3**
comp=Z,1.7nm,0.5s,baz=122,slow=5.8,SNR=20
comp=Z,1.7nm,0.5s
ARCES ARCESS Array B 86.53 340 P **P** **12 25 35.4 +0.2**
comp=Z,0.6nm,0.3s,baz=100,slow=4.6,SNR=15
comp=Z,0.6nm,0.3s
QSPA South Pole Qui 88.02 180 P **P** **12 25 43.9 +1.2**
QSPA IAmb IAmb 12 25 54.1
comp=Z,3.8nm,1.4s
QSPA South Pole Qui 88.02 180 P **P** **12 25 44.1 +1.4**
comp=Z,0.6nm,0.7s,baz=33,slow=1.3,SNR=6.0
comp=Z,0.6nm,0.7s
GERES GERESS Array B 89.22 319 P **P** **12 25 49.4 +0.8**
comp=Z,0.6nm,0.6s,baz=79,slow=6.9,SNR=4.9
comp=Z,0.6nm,0.6s
HFS Hagfors 89.98 330 P **P** **12 25 51.8 0.0**
comp=Z,3.1nm,0.9s,baz=90,slow=13,SNR=8.8
comp=Z,3.1nm,0.9s
SPITS Spitsbergen Ar 90.64 348 P **P** **12 25 54.0 -0.5**
comp=Z,34nm,1.3s,baz=122,slow=7.9,SNR=7.3
SPITS LR LR 13 11 50.9
comp=Z,21nm,18.8s,baz=24,slow=39
NOA NORSAR Array B 91.25 331 P **P** **12 25 57.7 0.0**
comp=Z,0.7nm,0.7s,baz=114,slow=4.0,SNR=2.1
comp=Z,0.7nm,0.7s
SNAA Sanae 92.30 198 P **P** **12 26 02.2 -0.3**
JMIC Jan Mayen 97.90 342 LR LR 13 16 47.3
comp=Z,16nm,18.4s,baz=213,slow=39
TXAR Lajitas Array 144.46 38 PKP PKPbc 12 32 28.5 +0.4
comp=Z,6.0nm,0.8s,baz=276,slow=1.0,SNR=58
CPUP Villa Florida 144.56 216 PKP **PKPdf** **12 32 30.0 +0.3**
comp=Z,2.9nm,0.6s,baz=108,slow=2.2,SNR=6.4
OZNA Ozona 144.75 33 PKPdf **PKPab** **12 32 28.9 0.0**
MIAR Mount Ida 145.07 20 **PKPbc** **12 32 28.6 -1.1**
V48A Smith Brothers 145.72 10 **PKPdf** **12 32 30.8 -0.7**
JCT Junction City 145.80 32 PKPdf **PKPdf** **12 32 30.5 -1.3**

IDC 17 12:16:33.4±5.0, 21°54S×169°56E, h0km, mb3.7/3, mbtmp3.6/4, ML3.2/1, MS3.3/5, Error ellipse: s-maj=225.0km s-min=32.3km az=156.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.95**	**259**	Pn	Pn	12 17 21.6	0.0
	3.3nm,0.3s,baz=124,slow=14,SNR=23						
DZM				Sn	Sn	12 17 58.8	+1.0
	23nm,0.3s,baz=321,slow=23,SNR=7.0						
DZM				LR	LR	12 18 20.5	
	comp=Z,395nm,21.2s,baz=88,slow=36						
	17nm,0.6s						
CTA	**Charters Tower**	**21.83**	**270**	LR	LR	12 29 14.2	
	comp=Z,64nm,18.6s,baz=83,slow=35						
ASAR	**Alice Springs**	**32.94**	**259**	P	P	12 23 10.0	+0.1
	1.4nm,0.8s,baz=84,slow=9.4,SNR=9.2						
	1.4nm,0.8s						
WRA	**Warramunga Arr**	**32.94**	**266**	P	P	12 23 09.5	-0.4
	0.4nm,0.7s,baz=101,slow=7.3,SNR=2.5						
	0.4nm,0.7s						
QSPA	**South Pole Qui**	**68.53**	**180**	LR	LR	12 54 51.4	
	comp=Z,49nm,18.2s,baz=350,slow=34						
CMAR	**Chiang Mai Arr**	**79.72**	**294**	LR	LR	13 05 33.5	
	comp=Z,14nm,18.7s,baz=80,slow=37						
ILAR	**Eielson Array**	**92.32**	**17**	P	P	12 29 45.1	0.0
	0.5nm,1.0s,baz=229,slow=6.6,SNR=2.5						
	0.5nm,1.0s						
TXAR	**Lajitas Array**	**97.59**	**62**	LR	LR	13 10 59.6	
	comp=Z,13nm,18.1s,baz=58,slow=34						

ROM 17 12:56:23.0±0.0, 41°.746N±0°.002×14°.256E±0°.004, h11km, ML2.4/36, 11C, Error ellipse: s-maj=0.3km s-min=0.2km az=62.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIDA	**Miranda**	**0.10**	**181**	↑P	Pg	12 56 26.4	+0.6
MIDA				S	Sg	12 56 28.5	+0.6
MIDA				AML	AML		
	comp=N,11250μm,0.5s						
MIDA				AML	AML		
	comp=E,12350μm,0.4s						
MIDA				AML	AML		
	comp=N,12400μm,0.5s						
MIDA				AML	AML		
	comp=E,11500μm,0.4s						
TRIV	**Trivento**	**0.22**	**84**	↑P	Pg	12 56 28.3	+0.6
TRIV				S	Sg	12 56 32.1	+1.3
TRIV				AML	AML		
	comp=E,825μm,1.1s						
TRIV				AML	AML		
	comp=N,652μm,1.4s						
TRIV				AML	AML		
	comp=E,850μm,1.1s						
TRIV				AML	AML		
	comp=E,826μm,1.1s						
TRIV				AML	AML		
	comp=N,696μm,1.4s						
TRIV				AML	AML		
	comp=E,850μm,0.9s						
TRIV				AML	AML		
	comp=N,652μm,1.4s						
TRIV				AML	AML		
	comp=E,826μm,0.9s						
CERA	**Filignano**	**0.23**	**230**	↑P	Pg	12 56 28.3	+0.4
CERA				S	Sg	12 56 32.1	+1.0
CERA				AML	AML		
	comp=N,1160μm,0.7s						
CERA				AML	AML		
	comp=N,1205μm,0.3s						
CERA				AML	AML		
	comp=E,1730μm,0.3s						
CERA				AML	AML		
	comp=E,1690μm,0.3s						
LPEL	**Lama dei Pelig**	**0.31**	**350**	↑P	Pg	12 56 29.5	+0.3
LPEL				S	Sg	12 56 34.1	+0.7
LPEL				AML	AML		
	comp=N,1925μm,0.3s						
LPEL				AML	AML		
	comp=E,1975μm,0.3s						
LPEL				AML	AML		
	comp=E,1975μm,1.7s						
BSSO	**Busso**	**0.32**	**128**	↑P	Pg	12 56 30.1	+0.6
BSSO				S	Sb	12 56 35.0	-1.0
BSSO				AML	AML		
	comp=N,920μm,1.5s						
BSSO				AML	AML		
	comp=N,340μm,1.4s						
BSSO				AML	AML		
	comp=E,320μm,0.5s						
BSSO				AML	AML		
	comp=E,748μm,0.5s						
BSSO				AML	AML		
	comp=N,920μm,0.5s						
BSSO				AML	AML		
	comp=N,340μm,0.6s						
VAGA	**Valle Agricola**	**0.33**	**183**	↑P	Pg	12 56 29.8	+0.2
VAGA				S	Sg	12 56 35.1	+1.0
VAGA				AML	AML		
	comp=N,1225μm,0.9s						
VAGA				AML	AML		
	comp=E,724μm,0.4s						
VAGA				AML	AML		
	comp=N,1230μm,0.9s						
VAGA				AML	AML		
	comp=N,1255μm,0.9s						
VAGA				AML	AML		
	comp=N,1255μm,1.1s						
VAGA				AML	AML		
	comp=N,1230μm,1.1s						
VAGA				AML	AML		
	comp=E,745μm,0.4s						
SGG	**Gregorio Mates**	**0.37**	**166**	↑P	Pg	12 56 30.4	0.0
SGG				AML	AML		
	comp=E,2.5nm,0.6s						
SGG				AML	AML		
	comp=N,706μm,0.5s						
SGG				AML	AML		
	comp=E,802μm,0.5s						
SGG				AML	AML		
	comp=N,2.5nm,0.5s						
INTR	**Introdacqua**	**0.37**	**315**	↑P	Pg	12 56 30.7	+0.3
INTR				S	Sb	12 56 36.9	-0.7
INTR				AML	AML		
	comp=E,1μm,0.5s						
INTR				AML	AML		
	comp=N,2μm,0.4s						
INTR				AML	AML		
	comp=E,1μm,0.5s						
INTR				AML	AML		
	comp=N,2μm,0.4s						
INTR				AML	AML		
	comp=E,1018μm,0.5s						
INTR				AML	AML		
	comp=E,1018μm,1.5s						
INTR				AML	AML		
	comp=N,2700μm,0.4s						
INTR				AML	AML		
	comp=E,1μm,1.5s						
POFI	**Posta Fibreno**	**0.41**	**266**	↑P	Pg	12 56 31.3	+0.3
POFI				S	Sb	12 56 37.8	-0.7
POFI				AML	AML		
	comp=E,457μm,1.5s						
POFI				AML	AML		
	comp=E,477μm,1.5s						
POFI				AML	AML		
	comp=N,500μm,1.3s						
POFI				AML	AML		
	comp=N,494μm,1.3s						
POFI				AML	AML		
	comp=E,477μm,0.5s						
POFI				AML	AML		
	comp=E,457μm,0.5s						
MCI	**Monte Cassino**	**0.42**	**232**	↑P	Pg	12 56 31.6	+0.3
MCI				S	Sb	12 56 37.9	-0.9
SACR	**S. Croce Del S**	**0.48**	**136**	P	Pb	12 56 33.1	-0.5
CIGN	**Sant'Elia a Pi**	**0.49**	**100**	P	Pg	12 56 32.6	-0.1
LRP	**Arpino**	**0.51**	**259**	P	Pg	12 56 33.0	0.0
LRP				S	Sb	12 56 40.9	-0.5
GATE	**Gambatesa**	**0.54**	**115**	P	Pg	12 56 34.0	+0.4
PIGN	**Pignataro Magg**	**0.55**	**186**	P	Pg	12 56 33.7	0.0
T0110	**Collepietro**	**0.60**	**324**	↑P	Pg	12 56 34.4	-0.2
T0110				S	Sb	12 56 43.4	-0.6
T0110				AML	AML		
	comp=E,986μm,0.5s						
T0110				AML	AML		
	comp=N,594μm,0.9s						
MODR	**Mondragone**	**0.66**	**206**	AML	AML		
	comp=E,195μm,0.4s						
MODR				AML	AML		
	comp=E,195μm,1.6s						
MODR				AML	AML		
	comp=N,360μm,0.6s						
MODR				AML	AML		
	comp=N,360μm,1.4s						
PTQR	**Pietraquaria**	**0.70**	**294**	P	Pg	12 56 36.0	-0.5
PTQR				S	Sg	12 56 46.0	+0.4
FAGN	**Fagnano**	**0.72**	**316**	P	Pg	12 56 36.6	-0.3
FAGN				S	Sg	12 56 46.7	+0.3
FAGN				AML	AML		
	comp=N,671μm,0.3s						
FAGN				AML	AML		
	comp=N,671μm,1.7s						
FAGN				AML	AML		
	comp=E,1115μm,0.4s						
PAOL	**Paolisi**	**0.75**	**162**	P	Pg	12 56 37.3	-0.2

ROM 17 12:57:16.1±0.1, 41°.749N±0°.003×14°.254E±0°.004, h11km, ML2.6/57, 11C-2D, Error ellipse: s-maj=0.3km s-min=0.2km az=43.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIDA	**Miranda**	**0.11**	**180**	↑P	Pb	12 57 19.7	-0.6
MIDA				S	Sg	12 57 21.7	+0.7
MIDA				AML	AML		
	comp=E,29750μm,0.4s						
MIDA				AML	AML		
	comp=E,28150μm,0.4s						
MIDA				AML	AML		
	comp=N,23200μm,0.5s						
MIDA				AML	AML		
	comp=N,24450μm,0.5s						
MIDA				AML	AML		
	comp=E,27586μm,0.2s						
MIDA				AML	AML		
	comp=N,22719μm,0.3s						
MIDA				AML	AML		
	comp=E,28949μm,0.2s						
MIDA				AML	AML		
	comp=N,24147μm,0.3s						
TRIV	**Trivento**	**0.22**	**85**	↑P	Pb	12 57 21.6	-0.6
TRIV				S	Sg	12 57 25.6	+1.6
TRIV				AML	AML		
	comp=E,1620μm,0.9s						
TRIV				AML	AML		
	comp=N,1470μm,1.1s						
TRIV				AML	AML		
	comp=N,1540μm,1.1s						
TRIV				AML	AML		
	comp=E,1690μm,0.9s						
TRIV				AML	AML		
	comp=E,1534μm,0.4s						
TRIV				AML	AML		
	comp=N,1437μm,1.4s						
TRIV				AML	AML		
	comp=N,1490μm,1.4s						
TRIV				AML	AML		
	comp=E,1509μm,0.4s						
CERA	**Filignano**	**0.23**	**229**	↑P	Pg	12 57 21.5	+0.5
CERA				S	Sg	12 57 25.4	+1.1
CERA				AML	AML		
	comp=N,2145μm,0.7s						
CERA				AML	AML		
	comp=E,2745μm,0.3s						
CERA				AML	AML		
	comp=E,2685μm,0.3s						
CERA				AML	AML		
	comp=N,2150μm,0.7s						
CERA				AML	AML		
	comp=N,2200μm,0.7s						
CERA				AML	AML		
	comp=N,2262μm,1.9s						
CERA				AML	AML		
	comp=E,2744μm,0.3s						
CERA				AML	AML		
	comp=N,2192μm,1.9s						
CERA				AML	AML		
	comp=E,2689μm,0.3s						
CERA				AML	AML		
	comp=N,2262μm,0.1s						
CERA				AML	AML		
	comp=N,2192μm,0.1s						
CERA				AML	AML		
	comp=E,2744μm,1.7s						
CERA				AML	AML		
	comp=E,2689μm,1.7s						
LPEL	**Lama dei Pelig**	**0.30**	**350**	↑P	Pg	12 57 22.6	+0.4
LPEL				S	Sb	12 57 27.8	-0.8
LPEL				AML	AML		
	comp=N,5145μm,0.2s						
LPEL				AML	AML		
	comp=E,3715μm,0.3s						
LPEL				AML	AML		
	comp=N,5144μm,0.2s						
LPEL				AML	AML		
	comp=N,5144μm,1.8s						
LPEL				AML	AML		
	comp=E,3714μm,0.3s						
BSSO	**Busso**	**0.33**	**128**	↑P	Pg	12 57 23.3	+0.6
BSSO				S	Sg	12 57 28.1	+1.0
BSSO				AML	AML		
	comp=E,2110μm,0.5s						
BSSO				AML	AML		
	comp=N,2255μm,1.4s						
BSSO				AML	AML		
	comp=E,896μm,0.5s						
BSSO				AML	AML		
	comp=N,904μm,0.4s						
BSSO				AML	AML		
	comp=N,902μm,0.4s						
BSSO				AML	AML		
	comp=E,897μm,0.5s						
BSSO				AML	AML		
	comp=E,2109μm,0.5s						
BSSO				AML	AML		
	comp=E,897μm,1.5s						
BSSO				AML	AML		
	comp=E,2109μm,1.5s						
BSSO				AML	AML		
	comp=N,2208μm,0.4s						
VAGA	**Valle Agricola**	**0.33**	**182**	↑P	Pg	12 57 23.0	+0.2
VAGA				S	Sb	12 57 28.5	-1.0
VAGA				AML	AML		
	comp=E,1560μm,0.4s						
VAGA				AML	AML		
	comp=N,2805μm,0.9s						
VAGA				AML	AML		
	comp=E,1620μm,0.5s						
VAGA				AML	AML		
	comp=E,1535μm,0.3s						
VAGA				AML	AML		
	comp=E,1605μm,0.3s						
VAGA				AML	AML		
	comp=N,2895μm,0.9s						
VAGA				AML	AML		
	comp=E,1283μm,2.1s						
VAGA				AML	AML		
	comp=N,1741μm,0.2s						
VAGA				AML	AML		
	comp=N,2186μm,1.7s						
VAGA				AML	AML		
	comp=E,1142μm,0.7s						
VAGA				AML	AML		
	comp=E,1283μm,0.1s						
INTR	**Introdacqua**	**0.37**	**315**	↑P	Pg	12 57 23.9	+0.4
INTR				S	Sb	12 57 29.8	-0.8
INTR				AML	AML		
	comp=E,2μm,0.5s						
INTR				AML	AML		
	comp=N,3μm,0.4s						
INTR				AML	AML		
	comp=E,1710μm,0.5s						
INTR				AML	AML		
	comp=E,2μm,0.5s						
INTR				AML	AML		
	comp=N,3μm,0.4s						
INTR				AML	AML		
	comp=N,4595μm,0.7s						
INTR				AML	AML		
	comp=E,1710μm,0.5s						
INTR				AML	AML		
	comp=N,3μm,0.4s						
INTR				AML	AML		
	comp=N,4525μm,0.4s						
INTR				AML	AML		
	comp=E,2μm,0.5s						
INTR				AML	AML		
	comp=N,3μm,1.6s						
INTR				AML	AML		
	comp=N,4525μm,1.6s						
INTR				AML	AML		
	comp=E,1710μm,1.5s						
INTR				AML	AML		
	comp=E,2μm,1.5s						
SGG	**Gregorio Mates**	**0.37**	**165**	↑P	Pg	12 57 23.6	0.0
SGG				S	Sb	12 57 29.6	-1.0
SGG				AML	AML		
	comp=E,5.0nm,0.6s						
SGG				AML	AML		
	comp=N,5.5nm,1.0s						
SGG				AML	AML		
	comp=E,1715μm,0.6s						
SGG				AML	AML		
	comp=N,1675μm,1.0s						
SGG				AML	AML		
	comp=E,3.5nm,0.3s						
SGG				AML	AML		
	comp=E,1066μm,0.3s						
SGG				AML	AML		
	comp=N,3.5nm,0.9s						
SGG				AML	AML		
	comp=N,985μm,0.9s						
POFI	**Posta Fibreno**	**0.41**	**266**	↓P	Pg	12 57 24.5	+0.3
POFI				S	Sb	12 57 30.8	-0.8
POFI				AML	AML		
	comp=E,702μm,1.5s						
POFI				AML	AML		
	comp=N,650μm,0.7s						
POFI				AML	AML		
	comp=E,676μm,0.6s						
POFI				AML	AML		
	comp=N,53933μm,17.3s						
POFI				AML	AML		
	comp=E,665μm,0.6s						
POFI				AML	AML		
	comp=N,635μm,0.5s						
POFI				AML	AML		
	comp=N,53933μm,0.7s						
MCI	**Monte Cassino**	**0.42**	**231**	↑P	Pg	12 57 24.7	+0.3
MCI				S	Sb	12 57 31.4	-0.6
SACR	**S. Croce Del S**	**0.49**	**136**	P	Pg	12 57 26.1	+0.4
SACR				S	Sb	12 57 33.4	-0.6
CIGN	**Sant'Elia a Pi**	**0.50**	**101**	↑P	Pg	12 57 26.0	+0.2
CIGN				S	Sg	12 57 33.1	+0.7

LRP	**Arpino**	**0.51 259**	⇓P		Pg		12 57 26.2	+0.2
LRP			S		Sb		12 57 34.2	-0.4
LRP			AML		AML			
	comp=N,1735μm,0.3s							
LRP			AML		AML			
	comp=E,722μm,0.4s							
LRP			AML		AML			
	comp=N,1740μm,0.3s							
LRP			AML		AML			
	comp=E,722μm,0.4s							
LRP			AML		AML			
	comp=N,1739μm,0.3s							
GATE	**Gambatesa**	**0.55 115**	P		Pb		12 57 27.4	-0.3
GATE			S		Sb		12 57 34.8	-0.8
GATE			AML		AML			
	comp=E,329μm,1.5s							
GATE			AML		AML			
	comp=E,326μm,1.4s							
GATE			AML		AML			
	comp=N,310μm,1.3s							
GATE			AML		AML			
	comp=E,449μm,0.6s							
GATE			AML		AML			
	comp=E,414μm,0.6s							
GATE			AML		AML			
	comp=N,318μm,0.4s							
GATE			AML		AML			
	comp=N,359μm,0.4s							
PIGN	**Pignataro Magg**	**0.55 186**	P		Pg		12 57 26.9	0.0
PIGN			AML		AML			
	comp=E,358μm,1.5s							
PIGN			AML		AML			
	comp=N,646μm,1.1s							
PIGN			AML		AML			
	comp=E,288μm,0.3s							
PIGN			AML		AML			
	comp=N,645μm,1.1s							
PIGN			AML		AML			
	comp=N,545μm,1.1s							
PIGN			AML		AML			
	comp=N,607μm,0.5s							
PIGN			AML		AML			
	comp=N,614μm,0.5s							
PIGN			AML		AML			
	comp=N,614μm,1.5s							
PIGN			AML		AML			
	comp=N,607μm,1.5s							
PIGN			AML		AML			
	comp=E,384μm,0.3s							
PIGN			AML		AML			
	comp=E,380μm,0.4s							
T0110	**Collepietro**	**0.59 324**	⇑P		Pg		12 57 27.6	-0.1
T0110			S		Sb		12 57 36.5	-0.5
T0110			AML		AML			
	comp=E,1820μm,0.5s							
T0110			AML		AML			
	comp=N,1220μm,1.5s							
T0110			AML		AML			
	comp=E,1824μm,0.5s							
T0110			AML		AML			
	comp=N,1197μm,0.3s							
MELA	**Melanico ??? S**	**0.66 93**	P		Pg		12 57 28.1	-0.8
MELA			S		Sg		12 57 37.8	+0.4
MODR	**Mondragone**	**0.67 205**	P		Pb		12 57 29.6	-0.2
MODR			AML		AML			
	comp=E,399μm,0.7s							
MODR			AML		AML			
	comp=N,590μm,0.5s							
MODR			AML		AML			
	comp=N,589μm,0.5s							
MODR			AML		AML			
	comp=E,399μm,0.7s							
PTQR	**Pietraquaria**	**0.69 293**	P		Pg		12 57 29.2	-0.3
PTQR			S		Sg		12 57 38.9	+0.2
PTQR			AML		AML			
	comp=N,206μm,1.3s							
PTQR			AML		AML			
	comp=E,194μm,1.6s							
PTQR			AML		AML			
	comp=N,191μm,0.4s							
PTQR			AML		AML			
	comp=E,189μm,0.3s							
VCEL	**Villa Celiera**	**0.71 335**	P		Pg		12 57 29.3	-0.7
FAGN	**Fagnano**	**0.72 316**	P		Pg		12 57 29.7	-0.4
FAGN			S		Sg		12 57 40.0	+0.6
FAGN			AML		AML			
	comp=E,2290μm,0.5s							
FAGN			AML		AML			
	comp=N,1405μm,0.3s							
FAGN			AML		AML			
	comp=N,1406μm,0.3s							
FAGN			AML		AML			
	comp=N,1406μm,1.7s							
FAGN			AML		AML			
	comp=E,2289μm,0.5s							
PAOL	**Paolisi**	**0.76 162**	P		Pg		12 57 30.1	-0.6
PAOL			AML		AML			
	comp=E,483μm,0.4s							
PAOL			AML		AML			
	comp=N,515μm,0.3s							
PAOL			AML		AML			
	comp=E,456μm,0.3s							
PAOL			AML		AML			
	comp=N,443μm,0.3s							
PAOL			AML		AML			
	comp=E,456μm,1.7s							
GIUL	**Giuliano Di Ro**	**0.77 256**	P		Pg		12 57 30.7	-0.3
GIUL			AML		AML			
	comp=N,165μm,0.9s							
GIUL			AML		AML			
	comp=E,218μm,0.7s							
GIUL			AML		AML			
	comp=N,164μm,0.4s							
GIUL			AML		AML			
	comp=E,218μm,0.7s							
CERT	**Cerreto**	**0.97 282**	P		Pg		12 57 33.9	-1.0
CAMP	**Campotosto**	**1.01 322**	P		Pg		12 57 34.8	-0.7
CAFE	**Carife**	**1.03 134**	AML		AML			
CAFE	comp=N,432μm,1.3s		AML		AML			
	comp=E,599μm,0.4s							

IDC 17 12:58:50.8±1.3, 1°.12N×132°.90E, h0km, mb3.8/4, mbtmp3.8/4, MS3.3/5, Error ellipse: s-maj=70.3km s-min=24.7km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**14.48**	**245**	LR	LR	13 08 08.0	
	comp=Z,76nm,18.9s,baz=66,slow=38						
WRA	**Warramunga Arr**	**20.98**	**176**	P	P	13 03 35.8	0.0
	2.9nm,0.6s,baz=355,slow=11,SNR=34						
	2.9nm,0.6s						
ASAR	**Alice Springs**	**24.65**	**178**	P	P	13 04 13.4	0.0
	7.0nm,0.9s,baz=355,slow=11,SNR=41						
	7.0nm,0.9s						
CTA	**Charters Tower**	**24.81**	**149**	LR	LR	13 14 57.6	
	comp=Z,49nm,20.5s,baz=208,slow=39						
STKA	**Stephens Creek**	**33.83**	**167**	LR	LR	13 20 29.9	
	comp=Z,46nm,18.9s,baz=18,slow=38						
H11N1	**WAKE ISLAND Hy**	**38.05**	**59**	T	T	13 46 42.1	
	baz=245,slow=75,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**38.06**	**59**	T	T	13 46 42.2	
	baz=245,slow=75,SNR=5.0						
H11N3	**WAKE ISLAND Hy**	**38.07**	**59**	T	T	13 46 41.2	
	baz=245,slow=75,SNR=5.9						
MKAR	**Makanchi Array**	**63.26**	**324**	P	P	13 09 21.4	+0.1
	0.3nm,0.7s,baz=120,slow=8.5,SNR=4.6						
	0.3nm,0.7s						
VNDA	**Vanda**	**80.13**	**174**	LR	LR	13 45 00.5	
	comp=Z,27nm,18.7s,baz=216,slow=35						
ILAR	**Eielson Array**	**84.82**	**25**	P	P	13 11 26.8	-0.1
	0.4nm,0.8s,baz=262,slow=4.9,SNR=4.7						
	0.4nm,0.8s						
YBH	**Yreka Blue Hor**	**99.97**	**47**	LR	LR	13 50 55.0	
	comp=Z,17nm,19.4s,baz=58,slow=31						

IDC 17 13:07:15.2±2.8, 6°.91S×128°.10E, h0km, mb3.7/1, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=315.8km s-min=32.5km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.30**	**156**	Pn	Pn	13 10 39.5	+0.3
	0.1nm,0.3s,baz=334,slow=12,SNR=8.8						
WRA				Sn	Sn	13 13 04.2	-14
	0.1nm,0.3s,baz=332,slow=24,SNR=7.2						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**17.57**	**162**	P	Pn	13 11 21.6	-0.2
	0.1nm,0.3s,baz=343,slow=9.3,SNR=12						
ASAR				S	Sn	13 14 32.6	-5.5
	0.1nm,0.6s,baz=356,slow=23,SNR=1.1						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**67.13**	**328**	P	P	13 18 10.9	0.0
	0.6nm,0.8s,baz=114,slow=6.0,SNR=3.7						
	0.6nm,0.8s						

IDC ***17*** *13:08:27.1±3.1, 48°.68N×77°.49E, h0km, mbtmp2.6/2, ML2.0/2, Error ellipse: s-maj=39.4km s-min=12.3km az=77.0*

NNC ***17*** *13:08:28.3±1.4, 48°.62N×77°.80E, h0km, mb3.2, mpv2.7, Error ellipse: s-maj=15.3km s-min=8.5km az=73.0, Suspected Mining explosion.*

ISC 17 13:08:27.8±4.3, 48°.6N±0°.1×77°.5E±0°.3, h0km, n9, σ0s71/8, 5C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.09**	**18**	Pg	**Pn**	**13 09 04.3**	**+0.3**
	0.4nm,0.3s,baz=201,slow=16,SNR=47						
KURBB				Lg	Lg	13 09 32.2	
	0.3nm,0.3s,baz=201,slow=29,SNR=12						
KURBB	**Kurchatov Arra**	**2.09**	**18**	⇑Pn	**Pn**	**13 09 03.7**	**-0.3**
	4.6nm,0.5s,baz=192,slow=13						
KURBB				⇑Sn	**Sb**	**13 09 31.9**	**-1.1**
	12nm,0.6s						
KURK	**Kurchatov**	**2.19**	**19**	⇑Pn	**Pn**	**13 09 05.5**	**0.0**
	1.7nm,0.4s						
KURK				⇓Sn	**Sn**	**13 09 33.9**	**+0.6**
	11nm,1.0s						
OTUK	**Ortayu**	**3.47**	**265**	⇓Lg	Lg	13 10 23.2	
	7.3nm,1.1s						
MAKZ	**Makanchi**	**3.52**	**120**	⇑Lg	Lg	13 10 14.1	
	3.5nm,1.0s						
MK31	**Makanchi Array**	**3.71**	**118**	Pn	**Pn**	**13 09 26.0**	**-0.4**
	0.2nm,0.1s,baz=238,slow=18,SNR=19						
MK31				⇑Lg	Lg	13 10 18.2	
	1.3nm,0.5s,baz=314,slow=27,SNR=3.3						
MKAR	**Makanchi Array**	**3.71**	**118**	Pn	**Pn**	**13 09 26.8**	**+0.4**
	0.2nm,0.3s,baz=301,slow=13,SNR=11						
MKAR				Lg	Lg	13 10 17.7	
	0.4nm,0.3s,baz=305,slow=29,SNR=7.5						
	0.6nm,0.5s						
I46RU	**ZALESOVO INFRA**	**7.01**	**38**	I	I	13 51 00.0	
	baz=218,slow=334,SNR=2.0						
ZALV	**Zalesovo Beam**	**7.01**	**38**	Pn	**Pn**	**13 10 12.3**	**+0.7**
	0.1nm,0.3s,baz=228,slow=14,SNR=2.4						
	0.5nm,0.5s						

DJA 17 13:27:11.0±0.3, 0°.5S±4°×12°.3E±°, h45km±21km, M3.5/10, MLv3.5/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.69**	**197**	P	Pn	13 27 25.5	+1.1
MRSI	**Marisa**	**1.34**	**310**	P	Pn	13 27 32.7	-0.5
KMSI	**Cibinong**	**1.39**	**47**	P	Pn	13 27 33.7	-0.2
MPSI	**Mapaga**	**3.15**	**283**	P	Pn	13 27 58.9	+0.7
SANI	**Sanana**	**3.44**	**119**	P	Pn	13 28 01.6	-0.6
TTSI	**Tana Toraja**	**4.11**	**230**	P	Pn	13 28 11.0	-0.4
TNTI	**Ternate**	**4.54**	**75**	P	Pn	13 28 17.7	+0.4
SGSI	**Sangihe**	**4.78**	**32**	P	Pn	13 28 20.4	-0.2
SPSI	**Sidrap Palu**	**4.79**	**222**	P	Pn	13 28 20.7	+0.1

IDC ***17*** *14:06:54.2±0.6, 57°.69S×25°.27W, h0km, mb4.3/9, mbtmp4.3/11, ML4.5/2, MS3.6/20, Error ellipse: s-maj=22.1km s-min=17.8km az=88.0*

NEIC ***17*** *14:06:59.2±1.0, 57°.9S±0°.1×25°.43W±0°.09, h35km±1km, mb4.9/29, Error ellipse: s-maj=20.9km s-min=8.1km az=176.0*

ISC 17 14:06:59.8±0.4, 57°.69S±0°.07×25°.43W±0°.08, h35km, n101, σ1s13/96, mb4.9/22, MS3.6/18, 2C-5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.08**	**294**	Pn	**Pn**	**14 08 41.1**	**+0.4**
ORCD	**Orcadas**	**10.35**	**245**	Pn	Pn	14 09 18.6	-6.8
VNA1	**Neumayer--Stat**	**14.91**	**158**	⇓P	**Pn**	**14 10 26.0**	**-1.5**
	comp=Z,19nm,0.4s						
VNA3	**Neumayer Olymp**	**15.12**	**160**	⇓P	**Pn**	**14 10 28.5**	**-1.9**
	comp=Z,8.7nm,0.4s						
VNA2	**Neumayer--Watz**	**15.30**	**157**	⇓P	**Pn**	**14 10 30.6**	**-2.1**
	comp=Z,16nm,0.5s,baz=321,slow=15						
SNAA	**Sanae**	**16.84**	**155**	P	**Pn**	**14 10 51.3**	**-1.2**
SNAA	**Sanae**	**16.84**	**155**	⇓P	**Pn**	**14 10 51.8**	**-0.7**
	comp=Z,418nm,0.5s						
SNAA	**Sanae**	**16.84**	**155**	Pn	**Pn**	**14 10 51.9**	**-0.7**
	comp=Z,3.1nm,0.3s,baz=320,slow=14,SNR=46						
SNAA				Sn	Sn	14 13 44.4	-14
	comp=Z,0.1nm,0.3s,baz=341,slow=18,SNR=1.5						
SNAA				LR	LR	14 16 07.1	
	comp=Z,180nm,21.8s,baz=7.0,slow=33						
	comp=Z,11nm,0.4s						
TROLL	**Troll, Antarti**	**18.34**	**152**	⇓P	**P**	**14 11 11.2**	**+0.3**
	comp=Z,554nm,0.8s						
PMSA	**Palmer Station**	**19.61**	**233**	P	**P**	**14 11 22.6**	**-2.1**
PMSA	**Palmer Station**	**19.61**	**233**	P	**P**	**14 11 24.6**	**0.0**
	comp=Z,0.9nm,0.3s,baz=209,slow=19,SNR=6.0						
PMSA				LR	LR	14 18 06.3	
	comp=Z,87nm,19.1s,baz=98,slow=34						
	comp=Z,17nm,0.9s						
EFI	**East Falkland**	**19.66**	**274**	Pn	**P**	**14 11 26.3**	**+1.0**
EFI				IAmb	IAmb	14 11 31.9	
	comp=Z,81nm,1.3s						
BELA	**Belgrano 2**	**20.52**	**186**		**P**	**14 11 31.4**	**-3.0**
H09N1	**TRISTAN DA CUN**	**22.39**	**28**	T	T	14 33 08.6	
	SNR=24						
TRQA	**Tornquist**	**30.86**	**294**	P	**P**	**14 13 12.6**	**+0.1**
TRQA				IAmb	IAmb	14 14 14.2	
	comp=Z,37nm,1.6s						
PLTB	**Pedras Altas**	**32.31**	**311**	P	**P**	**14 13 25.6**	**+0.4**
QSPA	**South Pole Qui**	**32.55**	**180**	P	**P**	**14 13 26.7**	**-0.5**
	comp=Z,3.3nm,1.0s,baz=204,slow=2.3,SNR=14						
QSPA				LR	LR	14 26 24.9	
	comp=Z,137nm,19.4s,baz=212,slow=36						
	comp=Z,3.3nm,1.0s						
QSPA	**South Pole Qui**	**32.55**	**180**	P	**P**	**14 13 27.5**	**+0.3**
PLCA	**Paso Flores**	**33.25**	**281**	P	**P**	**14 13 33.3**	**-0.1**
PLCA				IAmb	IAmb	14 14 14.0	
	comp=Z,30nm,1.9s						
PLCA	**Paso Flores**	**33.25**	**281**	P	**P**	**14 13 33.5**	**0.0**
	comp=Z,2.0nm,0.8s,baz=140,slow=10,SNR=4.2						
PLCA				LR	LR	14 27 17.1	
	comp=Z,58nm,19.1s,baz=146,slow=37						
	comp=Z,2.0nm,0.8s						
PLCA	**Paso Flores**	**33.25**	**281**	P	**P**	**14 13 33.7**	**+0.3**
PLCA				pP	**pP**	**14 13 44.5**	**+1.9**
ITQB	**Itaqui**	**35.38**	**309**	P	**P**	**14 13 52.1**	**+0.2**
ITAB	**Concordia**	**35.79**	**317**	P	**P**	**14 13 55.9**	**+0.5**
MAW	**Mawson**	**38.26**	**142**	LR	LR	14 28 06.7	
	comp=Z,129nm,19.4s,baz=265,slow=33						
CPUP	**Villa Florida**	**38.62**	**311**	P	**P**	**14 14 19.5**	**+0.1**
CPUP	**Villa Florida**	**38.62**	**311**	P	**P**	**14 14 19.4**	**0.0**
	comp=Z,1.2nm,0.4s,baz=150,slow=7.8,SNR=5.6						
CPUP				LR	LR	14 29 07.9	
	comp=Z,61nm,19.6s,baz=211,slow=34						
	comp=Z,1.2nm,0.4s						
CPUP	**Villa Florida**	**38.62**	**311**	P	**P**	**14 14 19.9**	**+0.5**
SUR	**Sutherland**	**40.19**	**71**	LR	LR	14 27 08.6	
	comp=Z,79nm,20.8s,baz=175,slow=30						
AC05	**El Transito**	**42.37**	**293**	P	**P**	**14 14 50.1**	**-0.5**
AC05				IAmb	IAmb	14 16 25.1	
	comp=Z,58nm,1.9s						
AQDB	**Aquidauana**	**43.26**	**316**	P	**P**	**14 14 57.8**	**+0.1**
VNDA	**Vanda**	**44.97**	**182**	P	**P**	**14 15 11.7**	**+1.0**
VNDA	comp=Z,1.7nm,0.8s,baz=194,slow=4.7,SNR=6.1			LR	LR	14 32 26.6	
	comp=Z,75nm,20.2s,baz=187,slow=34						
	comp=Z,1.7nm,0.8s						
VNDA	**Vanda**	**44.97**	**182**	P	**P**	**14 15 11.5**	**+0.8**
VNDA				pP	**pP**	**14 15 22.1**	**+2.1**
VNDA				sP	**pwP**	**14 15 26.5**	**+1.9**
BDFB	**Brasilia**	**45.27**	**329**	P	**P**	**14 15 13.4**	**-0.5**
BDFB				IAmb	IAmb	14 16 19.5	
	comp=Z,19nm,1.6s						
BDFB	**Brasilia**	**45.27**	**329**	P	**P**	**14 15 13.4**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=154,slow=10.0,SNR=5.6						
BDFB				LR	LR	14 33 43.8	
	comp=Z,91nm,18.9s,baz=137,slow=36						
	comp=Z,2.9nm,0.6s						
BOSA	**Boshof**	**45.49**	**73**	P	**P**	**14 15 14.8**	**-0.8**
BOSA				IAmb	IAmb	14 16 14.1	
	comp=Z,47nm,1.8s						
BOSA	**Boshof**	**45.49**	**73**	P	**P**	**14 15 14.0**	**-1.6**
	comp=Z,4.1nm,0.9s,baz=215,slow=8.3,SNR=5.7						
BOSA				LR	LR	14 30 00.6	
	comp=Z,49nm,20.9s,baz=181,slow=30						
	comp=Z,4.1nm,0.9s						
BOSA	**Boshof**	**45.49**	**73**	P	**P**	**14 15 14.7**	**-0.8**
BOSA				pP	**pP**	**14 15 25.0**	**+0.3**
BOSA				sP	**sP**	**14 15 29.0**	**+0.7**
CCD	**Concordia, Ant**	**45.88**	**169**	P	**P**	**14 15 19.7**	**+1.2**
CCD				pP	**pP**	**14 15 30.1**	**+2.4**
LVC	**Limon Verde**	**46.96**	**300**	LR	LR	14 36 25.7	
	comp=Z,45nm,19.8s,baz=181,slow=38						
LBTB	**Lobatse**	**48.61**	**70**	P	**P**	**14 15 39.4**	**-0.5**
LBTB				IAmb	IAmb	14 17 29.1	
	comp=Z,40nm,1.8s						
LBTB	**Lobatse**	**48.61**	**70**	LR	LR	14 32 22.5	
	comp=Z,67nm,19.3s,baz=176,slow=32						
PTLB	**Pontes e Lacer**	**49.15**	**315**	P	**P**	**14 15 44.3**	**+0.4**
PTLB				IAmb	IAmb	14 15 45.3	
	comp=Z,7.5nm,0.8s						
TSUM	**Tsumeb**	**49.69**	**58**	LR	LR	14 32 42.8	
	comp=Z,44nm,20.0s,baz=320,slow=31						
PB16	**IPOC Station P**	**50.93**	**302**	P	**P**	**14 15 56.6**	**-1.6**
PB16				IAmb	IAmb	14 17 31.7	
	comp=Z,20nm,2.0s						
VILB	**Vilhena**	**51.83**	**315**	P	**P**	**14 16 04.8**	**+0.5**
VILB				IAmb	IAmb	14 16 05.4	
	comp=Z,19nm,0.8s						
LPAZ	**La Paz**	**52.11**	**304**	P	**P**	**14 16 07.0**	**-0.1**
SAML	**Samuel**	**56.64**	**314**	P	**P**	**14 16 39.1**	**-0.1**
SAML				IAmb	IAmb	14 16 40.4	
	comp=Z,10nm,0.7s						
SAML	**Samuel**	**56.64**	**314**	P	**P**	**14 16 39.6**	**+0.3**
ETMB	**Extrema**	**57.07**	**310**	P	**P**	**14 16 41.6**	**-0.7**
NNA	**Nana**	**59.88**	**298**	LR	LR	14 41 33.4	
	comp=Z,43nm,21.8s,baz=168,slow=35						
MACA	**Manacapuru-AM**	**61.05**	**319**	P	**P**	**14 17 09.2**	**-0.6**
LIC	**Lamto**	**65.82**	**22**	⇑*e*PKP2	**P**	**14 17 42.3**	**+1.0**
	comp=Z,14nm,0.6s						
KIC	**Kosan Boka**	**66.01**	**23**	*e*PKP2	**P**	**14 17 42.7**	**+0.1**
	comp=Z,13nm,0.8s						
BOAV	**Boa Vista**	**66.17**	**321**	P	**P**	**14 17 43.6**	**0.0**
BOAV				IAmb	IAmb	14 17 44.5	
	comp=Z,16nm,0.8s						
TIC	**Toumodi**	**66.23**	**22**	*e*PKP2	**P**	**14 17 44.0**	**0.0**
	comp=Z,9.3nm,0.7s						
DBIC	**Dimbokro**	**66.29**	**22**	P	**P**	**14 17 44.5**	**+0.1**
DBIC	**Dimbokro**	**66.29**	**22**	P	**P**	**14 17 44.3**	**0.0**
	comp=Z,4.3nm,0.8s,baz=166,slow=8.5,SNR=5.8						
DBIC				LR	LR	14 40 03.7	
	comp=Z,40nm,18.6s,baz=158,slow=30						
	comp=Z,4.3nm,0.8s						
DBIC	**Dimbokro**	**66.29**	**22**	P	**P**	**14 17 44.4**	**+0.1**
COHC	**Cochancay**	**69.34**	**300**	P	**P**	**14 18 03.8**	**+0.2**
SALI	**Salinas**	**70.40**	**299**	P	**P**	**14 18 09.0**	**-1.1**
OTAV	**Otavalo**	**71.36**	**303**	P	**P**	**14 18 17.5**	**+1.0**
OTAV				pP	**pP**	**14 18 28.6**	**+2.4**
ROSC	**El Rosal**	**73.67**	**309**	LR	LR	14 52 20.9	
	comp=Z,45nm,19.7s,baz=168,slow=37						
TOA0	**Torodi Ar. Sit**	**74.04**	**28**	P	**P**	**14 18 31.9**	**+0.2**
TOA0				IAmb	IAmb	14 18 33.2	
	comp=Z,11nm,0.7s						
TORD	**Torodi Ar. Bea**	**74.04**	**28**	P	**P**	**14 18 31.9**	**+0.2**
TORD				IAmb	IAmb	14 18 33.2	
	comp=Z,7.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**74.04**	**28**	P	**P**	**14 18 32.5**	**+0.8**
	comp=Z,9.3nm,0.6s,baz=201,slow=6.2,SNR=55						
	comp=Z,9.3nm,0.6s						
PCRV	**Puerto La Cruz**	**74.83**	**320**	LR	LR	14 52 56.8	
	comp=Z,30nm,20.0s,slow=37						
SDV	**Santo Domingo**	**75.85**	**314**	P	**P**	**14 18 42.8**	**+0.3**
SDV				IAmb	IAmb	14 18 43.1	
	comp=Z,20nm,1.6s						
SDV	**Santo Domingo**	**75.85**	**314**	LR	LR	14 51 45.9	
	comp=Z,49nm,21.8s,baz=154,slow=36						
SJG	**San Juan**	**82.73**	**321**	LR	LR	14 58 56.4	
	comp=Z,24nm,18.9s,baz=168,slow=38						
MTDJ	**Mount Denham**	**87.06**	**311**	P	**P**	**14 19 40.2**	**-1.3**
H08S3	**Diego Garcia H**	**87.83**	**101**	T	T	15 58 57.6	
	SNR=5.0						
RAO	**Raoul Island**	**90.35**	**204**	LR	LR	14 56 12.9	
	comp=Z,248nm,19.4s,baz=109,slow=33						
ASAR	**Alice Springs**	**97.12**	**161**	P	**P**	**14 20 26.7**	**-1.6**
	comp=Z,0.2nm,0.7s,baz=191,slow=2.9,SNR=6.5						
	comp=Z,0.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**123.59**	**110**	PKP	**PKPdf**	**14 25 52.5**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=231,slow=4.0,SNR=5.0						
FINES	**FINESS Array B**	**125.39**	**27**	PKP	**PKPdf**	**14 25 54.4**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=176,slow=5.7,SNR=5.5						
PZH	**PanZhiHua**	**131.70**	**107**	PKP	**PKPdf**	**14 26 08.6**	**0.0**
ARCES	**ARCESS Array B**	**132.12**	**22**	PKP	**PKPdf**	**14 26 07.5**	**-0.4**
	comp=Z,3.9nm,1.1s,baz=308,slow=6.0,SNR=3.5						
BVAR	**Borovoye Array**	**134.84**	**58**	PKP	**PKPdf**	**14 26 13.2**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=245,slow=3.1,SNR=3.9						
YKA	**Yellowknife Ar**	**138.03**	**316**	PKP	**PKPdf**	**14 26 18.9**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=129,slow=2.0,SNR=12						
YKA				PP	**PP**	**14 29 03.2**	**-5.5**
	comp=Z,0.2nm,0.8s,baz=120,slow=4.9,SNR=3.6						
YKA				SKPbc	**SKPbc**	**14 29 50.1**	**0.0**
	comp=Z,0.1nm,0.6s,baz=113,slow=1.6,SNR=3.8						
JOW	**Kunigami**	**143.99**	**138**	SKPbc	**SKPbc**	**14 30 07.1**	**+0.3**
	comp=Z,67nm,0.7s,baz=153,slow=9.1,SNR=8.3						
A36M	**Sachs Harbour**	**146.12**	**327**	PKPdf	**PKPdf**	**14 26 33.5**	**+0.3**
M30M	**Minto, Yukon**	**146.96**	**308**		**PKPdf**	**14 26 36.9**	**+1.8**
HNS	**HongShan**	**146.98**	**111**	⇑PKPbc	**PKPbc**	**14 26 38.5**	**+0.7**
F31M	**Tsiigehtchic**	**147.49**	**317**		**PKPbc**	**14 26 38.4**	**0.0**
INK	**Inuvik**	**147.68**	**319**		**PKPbc**	**14 26 39.0**	**+0.2**
G30M	**tAoh Zraii Nji**	**148.27**	**316**		**PKPbc**	**14 26 40.6**	**+0.1**
EPYK	**Eagle Plains**	**148.27**	**314**		**PKPbc**	**14 26 40.5**	**0.0**
VRDI	**Verde Repeater**	**149.35**	**303**		**PKPbc**	**14 26 43.4**	**-0.2**
F28M	**Old Crow**	**149.81**	**316**		**PKPbc**	**14 26 44.0**	**-0.3**
SONM	**Songino Array**	**149.84**	**88**	PKPbc	**PKPdf**	**14 26 43.4**	**+3.1**
	comp=Z,2.8nm,0.7s,baz=234,slow=2.8,SNR=8.0						
L26K	**Log Cabin Wild**	**149.93**	**306**		**PKPbc**	**14 26 45.0**	**+0.3**
SCRK	**Sand Creek**	**150.49**	**308**		**PKPbc**	**14 26 46.4**	**+0.2**
E27K	**Coleen River**	**150.57**	**317**		**PKPbc**	**14 26 46.2**	**+0.1**
RIDG	**Independent Ri**	**150.79**	**307**		**PKPbc**	**14 26 47.1**	**+0.3**
PRP	**Porcupine Dome**	**151.53**	**311**		**PKPbc**	**14 26 48.5**	**-0.1**
IL31		**151.92**	**309**		**PKPbc**	**14 26 48.8**	**-0.4**
ILAR	**Eielson Array**	**151.92**	**309**		**PKPbc**	**14 26 49.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LAPR	**La Primavera**	**1.75**	**96**	*e*P	**Pn**	**14 16 50.3**	**-0.2**
SJX	**San Joaquin**	**1.75**	**308**	IAML		14 17 23.5	
	comp=Z,24nm,0.3s						
TJIG	**Tijuana**	**2.64**	**311**	*e*P	**Pb**	**14 17 08.5**	**+1.1**
TJIG				*e*S	**Sg**	**14 17 41.9**	**-2.8**

*MOS **17** 14:25:15.6±1.1, 10°.04N×140°.24E, h10km, mb5.1/29, MS4.6/6, Error ellipse: s-maj=10.8km s-min=6.1km az=102.5*

*BJI **17** 14:25:15.0, 9°.85N×140°.75E, h22km, mb4.7/68, mB5.3/33, Ms4.8/53, Ms7 4.6/54*

*IDC **17** 14:25:16.4±0.6, 10°.02N×140°.23E, h0km, mb4.7/23, mbtmp4.7/24, ML5.3/2, MS4.2/48, Error ellipse: s-maj=19.3km s-min=12.4km az=88.0*

*NEIC **17** 14:25:18.3, 10°.17N×140°.35E, h22km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.37; $M_{\theta\theta}$5.51; $M_{\phi\phi}$-4.14; $M_{r\theta}$-0.23; $M_{\theta\phi}$0.31; $M_{\phi r}$1.91; Fault plane solution: $M_0$5.33000×10^{16} NP1: ϕ_s129.79000°, δ72.31000°, λ-20.89000°. NP2: ϕ_s226.41000°, δ70.14000°, λ-161.15000°. Principal axes: T 5.5270, Plg1.0000°, Azm178.0000°; N -0.3937, Plg63.0000°, Azm271.0000°; P -5.1333, Plg27.0000°, Azm88.0000°;*

*NEIC **17** 14:25:18.3±2.1, 10°.07N±0°.10×140°.4E±0°.1, h10km±1km, mb5.3/201, Mww5.1/15 Error ellipse: s-maj=19.1km s-min=15.8km az=287.0*

*NEIC **17** 14:25:18.3, 10°.07N×140°.35E, h22km*

*GCMT **17** 14:25:21.3±0.2, 10°.02N±0°.01×140°.14E±0°.01, h15km±1km, MW5.1/106, Moment Tensor Solution. s55,c75; s106,c174; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.94±.12; $M_{\theta\theta}$5.12±.12; $M_{\phi\phi}$-4.18±.10; $M_{r\theta}$1.04±.20; $M_{\theta\phi}$0.56±.09; $M_{\phi r}$-1.54±.26; Best double couple: $M_0$5.09200×10^{16} NP1: ϕ_s309.00000°, δ81.00000°, λ-23.00000°. NP2: ϕ_s43.00000°, δ68.00000°, λ-170.00000°. Principal axes: T 5.3040, Plg9.0000°, Azm358.0000°; N -0.4280, Plg66.0000°, Azm108.0000°; P -4.8800, Plg23.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **17** 14:25:22.0±0.8, 10°N±3°×14°0E±°, h38km±8km, M5.2/33, mb5.2/33, mB5.6/18, MLv5.8/1, Mw(mB)5.1/18, MwMwp5.0/1, Mwp5.3/1*

ISC 17 14:25:18.7±0.5, **10°.02N**±0°.04×**140°.32E**±0°.05, **h16**km±2km, **h16**km**:pP-P, n582,** σ**1s60**/508, **mb5.2**/177, **MS4.4**/76, **19C-4D, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.70**	**51**	Pn	**Pn**	**14 26 43.3**	**+0.6**
GUMO	**Guam**	**5.70**	**51**	Pn	**Pn**	**14 26 44.4**	**+1.7**
	142nm,0.3s,baz=201,slow=9.2,SNR=89						
GUMO				Sn	**Sn**	**14 27 46.2**	**-1.6**
	22nm,0.3s,baz=180,slow=20,SNR=1.5						
GUMO				LR	LR	14 29 28.6	
	comp=Z,964nm,18.4s,baz=225,slow=44						
GENI	**Genyem**	**12.53**	**181**	P	**Pn**	**14 28 17.1**	**+0.6**
	185nm,0.8s,4µm3µm						
DAV	**Davao City (W)**	**14.87**	**260**	P	**P**	**14 28 53.1**	**-1.0**
DAV	**Davao City (W)**	**14.87**	**260**	Pn	**Pn**	**14 28 50.2**	**+1.8**
	baz=102,slow=3.8						
TNTI	**Ternate**	**15.82**	**235**	P	**Pn**	**14 29 02.8**	**+1.8**
	48nm,1.5s,1µm						
JCJ	**Chichijima**	**17.08**	**6**	Pn	**Pn**	**14 29 16.0**	**-0.9**
JCJ	**Chichijima**	**17.08**	**6**	P	**Pn**	**14 29 15.8**	**-1.1**
	7.1nm,0.3s,baz=178,slow=10,SNR=5.4						
JCJ				LR	LR	14 35 20.3	
	comp=Z,298nm,18.4s,baz=166,slow=35						
	208nm,0.9s						
KMSI	**Cibinong**	**18.76**	**241**	P	**P**	**14 29 37.6**	**+0.3**
	176nm,1.0s,3µm						
TGY	**Tagaytay City**	**19.38**	**284**	LR	LR	14 36 25.9	
	comp=Z,3µm,21.1s,baz=108,slow=35						
SAUI	**Saumlaki**	**20.01**	**207**	P	**P**	**14 29 52.5**	**+1.5**
	118nm,0.9s,5µm						
JOW	**Kunigami**	**20.22**	**327**	P	Pn	14 29 54.1	-1.1
JOW	**Kunigami**	**20.22**	**327**	P	**P**	**14 29 52.0**	**-1.2**
	64nm,0.8s,baz=126,slow=15,SNR=5.7						
	64nm,0.8s						
PMG	**Port Moresby**	**20.47**	**160**	P	**P**	**14 29 56.2**	**+0.3**
PMG	**Port Moresby**	**20.47**	**160**	*ce*P	**P**	**14 29 55.6**	**-0.3**
PMG				pmax	pmax		
	comp=Z,84nm,2.5s						
PMG	**Port Moresby**	**20.47**	**160**	P	**P**	**14 29 56.1**	**+0.3**
	comp=Z,20nm,1.0s,baz=325,slow=12,SNR=6.0						
PMG				LR	LR	14 37 07.6	
	comp=Z,817nm,20.1s,baz=340,slow=35						
	comp=Z,20nm,1.0s						
MRSI	**Marisa**	**20.59**	**244**	P	**P**	**14 29 57.8**	**+0.5**
	comp=Z,396nm,1.5s,comp=Z,5µm						
LUWI	**Luwuk**	**20.63**	**239**	P	**P**	**14 29 58.0**	**+0.3**
LUWI	**Luwuk**	**20.63**	**239**	P	**P**	**14 29 57.8**	**+0.1**
	comp=Z,478nm,1.3s,comp=Z,14µm						
TOLI2	**Tolitoli**	**21.34**	**247**	P	**P**	**14 30 05.7**	**+0.3**
MYLDM	**Lahad Datu**	**22.15**	**259**	P	**P**	**14 30 15.8**	**+1.8**
MPSI	**Mapaga**	**22.47**	**246**	P	**P**	**14 30 16.9**	**-0.7**
	comp=Z,72nm,1.3s,comp=Z,1µm						
SSLB	**Suanglung**	**22.99**	**309**	P	**P**	**14 30 23.8**	**+0.8**
SSLB				IAmb	IAmb	14 30 44.2	
	comp=Z,66nm,1.0s						
JHJ	**Hachijo jima 2**	**22.99**	**359**	LR	LR	14 37 22.4	
	comp=Z,592nm,20.4s,baz=132,slow=32						
YHNB	**Yeheng**	**23.17**	**311**	P	**P**	**14 30 25.4**	**+0.5**
KKM	**Kota Kinabalu**	**24.18**	**262**	P	**P**	**14 30 34.4**	**-0.4**
TTSI	**Tana Toraja**	**24.19**	**239**	P	**P**	**14 30 34.9**	**+0.2**
	comp=Z,200nm,1.5s,comp=Z,2µm						
JMN	**Monobe**	**24.32**	**347**	P	**P**	**14 30 35.4**	**-0.4**
MTN	**Manton Dam**	**24.48**	**202**	P	**P**	**14 30 36.6**	**-0.7**
JNU	**Nakatsue**	**24.58**	**341**	P	**P**	**14 30 37.3**	**-0.9**
JNU				IAmb	IAmb	14 30 54.1	
	comp=Z,90nm,1.3s						
SPSI	**Sidrap Palu**	**24.74**	**237**	P	**P**	**14 30 38.5**	**-1.2**
	comp=Z,91nm,1.1s,comp=Z,1µm						
BKSI	**Bulukumba**	**25.24**	**234**	P	**P**	**14 30 43.8**	**-0.4**
	comp=Z,46nm,1.3s,comp=Z,691nm						
SOEI	**Soe**	**25.32**	**220**	P	**P**	**14 30 43.5**	**-1.6**
SOEI				IAmb	IAmb	14 31 01.9	
	comp=Z,56nm,0.9s						
SOEI	**Soe**	**25.32**	**220**	P	**P**	**14 30 45.3**	**+0.2**
	comp=Z,77nm,1.0s						
KAPI	**Kappang**	**25.35**	**235**	P	**P**	**14 30 44.5**	**-0.7**
KAPI				IAmb	IAmb	14 30 56.4	
	comp=Z,86nm,1.2s						
KAPI	**Kappang**	**25.35**	**235**	P	**P**	**14 30 44.6**	**-0.7**
KAPI				pmax	pmax		
	comp=Z,86nm,1.2s						
KAPI	**Kappang**	**25.35**	**235**	P	**P**	**14 30 43.4**	**-1.9**
	comp=Z,22nm,0.9s,baz=146,slow=1.1,SNR=6.3						
	comp=Z,22nm,0.9s						
MMRI	**Maumere**	**25.84**	**225**	P	**P**	**14 30 51.7**	**+2.0**
	comp=Z,94nm,0.9s,comp=Z,1µm						
MJAR	**Matsushiro Arr**	**26.47**	**356**	P	**P**	**14 30 52.3**	**-2.9**
	comp=Z,3.4nm,0.7s,baz=182,slow=10,SNR=14						
MAJO	**Matsushiro**	**26.47**	**356**	P	**P**	**14 30 52.2**	**-3.0**
MAJO	**Matsushiro**	**26.47**	**356**	*i* P	**P**	**14 30 52.7**	**-2.5**
MAJO				pmax	pmax		
	comp=Z,53nm,2.0s						
MJB9	**Matsu-Tunnel**	**26.48**	**356**	P	**P**	**14 30 53.4**	**-1.9**
H11S3	**WAKE ISLAND Hy**	**26.88**	**69**	T	T	14 59 07.4	
	baz=255,slow=75,SNR=8283						
H11S1	**WAKE ISLAND Hy**	**26.90**	**69**	T	T	14 59 07.2	
	baz=255,slow=75,SNR=2667						
H11S2	**WAKE ISLAND Hy**	**26.90**	**69**	T	T	14 59 08.6	
	baz=255,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.39**	**66**	T	T	14 59 45.7	
	baz=253,slow=75,SNR=1338						
H11N2	**WAKE ISLAND Hy**	**27.41**	**66**	T	T	14 59 45.4	
	baz=253,slow=75,SNR=579						
H11N3	**WAKE ISLAND Hy**	**27.41**	**66**	T	T	14 59 46.5	
	baz=253,slow=75,SNR=1554						
HNR	**Honiara**	**27.48**	**134**	LR	LR	14 41 22.4	
	comp=Z,6µm,18.8s,baz=304,slow=35						
KNRA	**Kununurra**	**27.98**	**204**	P	**P**	**14 31 08.9**	**0.0**
KNRA				IAmb	IAmb	14 31 10.2	
	comp=Z,40nm,1.1s						
KSRS	**Korea Array**	**29.51**	**340**	P	**P**	**14 31 21.9**	**-0.4**
	comp=Z,8.8nm,0.8s,baz=161,slow=9.3,SNR=21						
KSRS				PcP	**PcP**	**14 34 27.4**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=172,slow=1.0,SNR=2.2						
KSRS				LR	LR	14 41 14.3	
	comp=Z,451nm,21.9s,baz=160,slow=32						
	comp=Z,8.8nm,0.8s						
NJ2	**Nanjing**	**29.58**	**321**	*e*P	**P**	**14 31 23.0**	**0.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,330nm,4.0s						
NJ2				LR	LR		
	comp=Z,980nm,16.1s						
NJ2				LR	LR		
	comp=Z,1µm,18.9s						
NJ2				LR	LR		
	comp=Z,720nm,19.0s						
WB0	**Warramunga Arr**	**30.17**	**191**	IAmb	IAmb	14 31 41.7	
	comp=Z,57nm,1.5s						
WRAB	**Tennant Creek**	**30.34**	**191**	P	**P**	**14 31 29.2**	**-0.7**
WRAB				IAmb	IAmb	14 31 54.6	
	comp=Z,72nm,1.9s						
WRAB	**Tennant Creek**	**30.34**	**191**	P	**P**	**14 31 29.2**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,72nm,1.9s						
WRA	**Warramunga Arr**	**30.35**	**191**	P	**P**	**14 31 29.6**	**-0.4**
	comp=Z,7.4nm,0.9s,baz=10,slow=9.4,SNR=24						
WRA				PcP	**PcP**	**14 34 30.8**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=62,slow=3.3,SNR=1.8						
	comp=Z,7.4nm,0.9s						
QIZ	**Qiongzhong**	**30.78**	**290**	P	**P**	**14 31 33.6**	**-0.3**
QIZ				S	**S**	**14 36 41.1**	**+4.2**
QIZ				pmax	pmax		
	comp=Z,35nm,2.6s						
QIZ				LR	LR		
	comp=Z,820nm,19.8s						
QIZ				LR	LR		
	comp=Z,1µm,19.0s						
QIZ				LR	LR		
	comp=Z,2µm,18.7s						
WHN	**Wuhan**	**31.64**	**314**	P	**P**	**14 31 42.5**	**+1.3**
WHN				LR	LR		
	comp=Z,1µm,26.7s						
MSHR	**Mys Shultsa**	**33.41**	**348**	*ce*P	**P**	**14 31 54.7**	**-1.9**
MSHR				pmax	pmax		
	comp=Z,20nm,2.5s						
TIA	**Tai'an**	**33.50**	**325**	P	P	14 32 05.8	+8.3
TIA				S	S	14 37 28.8	+10
TIA				pmax	pmax		
	comp=Z,11nm,0.9s						
TIA				pmax	pmax		
	comp=Z,180nm,7.3s						
TIA				LR	LR		
	comp=N,610nm,15.8s						
TIA				LR	LR		
	comp=E,820nm,14.4s						
TIA				LR	LR		
	comp=Z,320nm,13.7s						
ASAR	**Alice Springs**	**34.06**	**191**	P	**P**	**14 32 02.4**	**-0.2**
ASAR	**Alice Springs**	**34.06**	**191**	P	**P**	**14 32 02.5**	**-0.1**
	comp=Z,5.0nm,0.8s,baz=21,slow=11,SNR=29						
ASAR				PcP	**PcP**	**14 34 40.6**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=16,slow=2.3,SNR=2.4						
ASAR				LR	LR	14 45 17.4	
	comp=Z,828nm,21.5s,baz=11,slow=35						
	comp=Z,5.0nm,0.8s						
USA0B	**Ussuriysk Arra**	**34.81**	**349**	*e*P	**P**	**14 32 08.1**	**-0.6**
USRK	**Ussuriysk Ar.**	**34.81**	**349**	P	**P**	**14 32 08.8**	**0.0**
	comp=Z,14nm,0.8s,baz=173,slow=9.4,SNR=23						
USRK				LR	LR	14 44 17.3	
	comp=Z,358nm,21.9s,baz=169,slow=33						
	comp=Z,14nm,0.8s						
SNY	**Shenyang**	**34.94**	**338**	P	**P**	**14 32 11.3**	**+1.4**
SNY				S	**S**	**14 37 43.8**	**+3.0**
SNY				pmax	pmax		
	comp=Z,18nm,0.8s						
SNY				pmax	pmax		
	comp=Z,260nm,3.5s						
SNY				LR	LR		
	comp=Z,470nm,18.8s						
SNY				LR	LR		
	comp=Z,680nm,22.2s						
SNY				LR	LR		
	comp=Z,500nm,34.9s						
LYN	**LuoYang**	**35.27**	**318**	⇓P	**P**	**14 32 13.8**	**+0.9**
LYN				pP	pwP	14 32 18.5	-0.9
LYN				PP	**PnPn**	**14 33 30.5**	**-0.6**
LYN				S	**S**	**14 37 48.6**	**+2.3**
LYN				SS	**SS**	**14 40 12.8**	**-7.0**
LYN				pmax	pmax		
	comp=Z,29nm,0.6s						
LYN				pmax	pmax		
	comp=Z,330nm,4.9s						
LYN				LR	LR		
	comp=Z,950nm,21.6s						
LYN				LR	LR		
	comp=Z,1µm,17.5s						
LYN				LR	LR		
	comp=Z,2µm,18.6s						
MDJ	**Mudanjiang**	**35.69**	**347**	P	**P**	**14 32 17.8**	**+1.4**
MDJ				pP	pwP	14 32 20.9	+0.1
MDJ				PP	**PnPn**	**14 33 34.4**	**-1.8**
MDJ				PcP	**PcP**	**14 34 45.8**	**+1.3**
MDJ				S	**S**	**14 37 55.3**	**+2.9**
MDJ				PcS	**PcS**	**14 38 34.3**	**+2.7**
MDJ				SS	**SnSn**	**14 40 17.8**	**+3.4**
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,160nm,3.5s						
MDJ				LR	LR		
	comp=Z,370nm,14.5s						
MDJ				LR	LR		
	comp=Z,510nm,17.7s						
MDJ				LR	LR		
	comp=Z,710nm,17.8s						
KPJI	**Karang Pucung**	**35.70**	**242**	P	**P**	**14 32 16.5**	**-0.3**
	comp=Z,54nm,1.1s						
HNS	**HongShan**	**35.72**	**324**	⇑P	**P**	**14 32 16.6**	**-0.1**
HNS				*e*S	**S**	**14 37 50.9**	**-2.1**
HNS				pmax	pmax		
	comp=Z,15nm,1.2s						
HNS				LR	LR		
	comp=Z,670nm,20.7s						
HNS				LR	LR		
	comp=Z,1µm,19.9s						
HNS				LR	LR		
	comp=Z,560nm,16.7s						
GYA	**Guiyang**	**35.75**	**302**	P	**P**	**14 32 19.0**	**+1.7**
GYA				pmax	pmax		
	comp=Z,18nm,1.2s						
CN2	**Changchun**	**36.05**	**342**	*e*P	**P**	**14 32 18.8**	**-0.6**
CN2				*e*S	**S**	**14 37 54.6**	**-3.3**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,300nm,13.0s						
CN2				LR	LR		
	comp=Z,400nm,13.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
LEM	**Lembang**	**36.62**	**244**	P	**P**	**14 32 24.1**	**-0.7**
	comp=Z,73nm,1.1s						
LEM	**Lembang**	**36.62**	**244**	P	**P**	**14 32 24.5**	**-0.3**
LEM				pmax	pmax		
	comp=Z,73nm,1.1s						
LEM	**Lembang**	**36.62**	**244**	LR	LR	14 48 28.7	
	comp=Z,302nm,20.5s,baz=54,slow=38						
BJI	**Beijing**	**36.79**	**328**	P	**P**	**14 32 25.9**	**+0.1**
BJI				S	**S**	**14 38 11.1**	**+1.7**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BJI				LR	LR		
	comp=Z,300nm,17.8s						
BJI				LR	LR		
	comp=Z,270nm,16.9s						
BJI				LR	LR		
	comp=Z,250nm,17.8s						
YSS	**Yuzh-Sakhalins**	**36.87**	**3**	*e*P	**P**	**14 32 25.3**	**-1.0**
YSS				*e*		14 33 47.9	
YSS				*e*S	**S**	**14 38 09.5**	**-0.8**
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
YSS				MLR	MLR		
	comp=Z,700nm,16.0s						
CBJI	**Citeko**	**37.12**	**245**	P	**P**	**14 32 27.7**	**-1.2**
	comp=Z,103nm,1.1s,comp=Z,5µm						
DBJI	**Dramaga**	**37.27**	**245**	P	**P**	**14 32 28.7**	**-1.5**
	comp=Z,74nm,1.3s						
BNX	**BinXian**	**37.27**	**345**	⇑P	**P**	**14 32 29.8**	**0.0**
BNX				S	**S**	**14 38 18.0**	**+1.4**
BNX				sS	**sS**	**14 38 25.5**	**+1.7**
BNX				pmax	pmax		
	comp=Z,83nm,1.1s						
BNX				pmax	pmax		
	comp=Z,270nm,3.9s						
BNX				LR	LR		
	comp=Z,440nm,16.6s						
BNX				LR	LR		
	comp=Z,430nm,15.5s						
BNX				LR	LR		
	comp=Z,510nm,17.1s						
XAN	**Xi'an**	**37.39**	**315**	⇑P	**P**	**14 32 29.9**	**-1.2**
XAN				S	**S**	**14 38 17.3**	**-1.6**
XAN				pmax	pmax		
	comp=Z,12nm,1.0s						
XAN				pmax	pmax		
	comp=Z,400nm,4.2s						
XAN				LR	LR		
	comp=Z,1µm,16.7s						
XAN				LR	LR		
	comp=Z,850nm,18.8s						
XAN				LR	LR		
	comp=Z,1µm,17.2s						
KMI	**Kunming**	**38.68**	**298**	⇓P	**P**	**14 32 44.0**	**+1.7**
KMI				S	**S**	**14 38 40.1**	**+1.1**
KMI				pmax	pmax		
	comp=Z,12nm,1.0s						
KMI				LR	LR		
	comp=Z,480nm,15.8s						
KMI				LR	LR		
	comp=Z,790nm,15.4s						
KMI				LR	LR		
	comp=Z,910nm,19.3s						
KLR	**Kul'dur**	**39.73**	**351**	*ce*P	**P**	**14 32 50.5**	**0.0**
KLR				pmax	pmax		
	comp=Z,140nm,1.3s						
KLR	**Kul'dur**	**39.73**	**351**	LR	LR	14 48 59.6	
	comp=Z,112nm,19.4s,baz=165,slow=36						
XLT	**XiLinHaoTe**	**39.76**	**332**	*e*P	**P**	**14 32 50.9**	**0.0**
XLT				pP	pwP	14 32 56.3	-1.1
XLT				S	**S**	**14 38 59.6**	**+5.2**
XLT				pmax	pmax		
	comp=Z,41nm,1.1s						
XLT				pmax	pmax		
	comp=Z,190nm,3.9s						
XLT				LR	LR		
	comp=Z,450nm,20.3s						
XLT				LR	LR		
	comp=Z,480nm,22.9s						
CRAI	**Chiangrai**	**39.78**	**290**	P	**P**	**14 32 51.3**	**0.0**
CD2	**Chengdu**	**39.79**	**307**	P	**P**	**14 32 53.8**	**+2.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CD2				LR	LR		
	comp=Z,380nm,11.9s						
CD2				LR	LR		
	comp=Z,300nm,13.6s						
CD2				LR	LR		
	comp=Z,850nm,15.3s						
HHC	**Hu-ho-hao-te**	**39.85**	**325**	*e*P	**P**	**14 32 52.4**	**+0.7**
HHC				pP	pwP	14 32 57.3	-0.9
HHC				sP	sP	14 33 00.9	+3.0
HHC				PP	**PP**	**14 34 24.3**	**+0.9**
HHC				*e*S	**S**	**14 38 58.0**	**+2.1**
HHC				sS	sS	14 39 09.1	+6.0
HHC				*e*SS	**SS**	**14 41 50.4**	**-2.0**
HHC				pmax	pmax		
	comp=Z,20nm,1.2s						
HHC				pmax	pmax		
	comp=Z,250nm,3.7s						
HHC				LR	LR		
	comp=Z,740nm,14.5s						
HHC				LR	LR		
	comp=Z,570nm,17.3s						
HHC				LR	LR		
	comp=Z,970nm,14.0s						
PZH	**PanZhiHua**	**39.94**	**299**	P	**P**	**14 32 53.5**	**+0.8**
PZH				S	**S**	**14 38 59.4**	**+1.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,150nm,5.4s						
PZH				LR	LR		
	comp=Z,370nm,15.9s						
PZH				LR	LR		
	comp=Z,760nm,16.3s						
PZH				LR	LR		
	comp=Z,650nm,16.9s						
BTO	**Baotou**	**40.57**	**324**	*e*P	**P**	**14 32 59.5**	**+1.8**
BTO				pP	**pwP**	**14 33 04.0**	**-0.2**
BTO				sP	**sP**	**14 33 06.6**	**+2.7**
BTO				PP	**PnPn**	**14 34 36.0**	**+0.8**
BTO				S	**S**	**14 39 11.6**	**+4.9**
BTO				SS	**SS**	**14 42 07.9**	**+1.1**
BTO				pmax	pmax		
	comp=Z,39nm,0.9s						
BTO				pmax	pmax		
	comp=Z,220nm,3.6s						
BTO				LR	LR		
	comp=Z,880nm,15.9s						
BTO				LR	LR		
	comp=Z,610nm,13.4s						
BTO				LR	LR		
	comp=Z,800nm,18.4s						
GRNR	**Gornyy**	**40.75**	**356**	⇑*i*P	**P**	**14 32 59.0**	**+0.1**
GRNR				pmax	pmax		
	comp=N,7.0nm,1.1s						
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TYV	**Tymovskoe**	**40.77**	**2**	*e*P	**P**	**14 32 59.4**	**+0.4**
TYV				*e*S	**S**	**14 39 14.7**	**+5.7**
TYV				pmax	pmax		
	comp=Z,28nm,0.9s						
TYV				pmax	pmax		
	comp=Z,300nm,4.2s						
TYV				smax	smax		
	comp=N,300nm,4.5s						
TYV				smax	smax		
	comp=E,600nm,4.5s						
CM31	**Chiang Mai Arr**	**40.89**	**287**	IAmb	IAmb	14 33 02.9	
	comp=Z,56nm,0.9s						
CMAR	**Chiang Mai Arr**	**40.89**	**287**	P	**P**	**14 33 00.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**40.89**	**287**	P	**P**	**14 33 01.8**	**+1.3**
	comp=Z,26nm,0.8s,baz=92,slow=6.8,SNR=152						
CMAR				LR	LR	14 48 15.2	
	comp=Z,318nm,21.1s,baz=115,slow=34						
	comp=Z,26nm,0.8s						
DZM	**Mont Dzumac**	**40.91**	**141**	*e*S	**S**	**14 39 11.6**	**-0.5**
	comp=Z,140nm,28.7s						
DZM				*e*SS	**SS**	**14 42 18.7**	**+4.6**
	comp=Z,286nm,25.2s						
DZM				*e*LR	LR	14 44 08.0	
	comp=Z,848nm,24.0s						
DZM	**Mont Dzumac**	**40.91**	**141**	LR	LR	14 47 23.5	
	comp=Z,330nm,20.7s,baz=324,slow=32						
CHTO	**Chiang Mai**	**40.93**	**287**	P	**P**	**14 33 00.9**	**+0.1**
CHTO	**Chiang Mai**	**40.93**	**287**	P	**P**	**14 33 00.9**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,21nm,1.0s						
HEH	**HeiHe**	**41.51**	**348**	*e*P	**P**	**14 33 05.0**	**-0.1**
HEH				pP	**sP**	**14 33 08.1**	**-3.2**
HEH				S	**S**	**14 39 23.5**	**+3.4**
HEH				pmax	pmax		
	comp=Z,81nm,0.9s						
HEH				pmax	pmax		
	comp=Z,310nm,5.2s						
HEH				LR	LR		
	comp=Z,370nm,16.0s						
HEH				LR	LR		
	comp=Z,300nm,16.3s						
HEH				LR	LR		
	comp=Z,430nm,16.5s						
STKA	**Stephens Creek**	**41.68**	**178**	*i* P	**P**	**14 33 05.8**	**-0.9**
STKA	**Stephens Creek**	**41.68**	**178**	P	**P**	**14 33 07.2**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=350,slow=10,SNR=3.2						
STKA				LR	LR	14 51 05.3	
	comp=Z,211nm,18.3s,baz=6.2,slow=37						
	comp=Z,2.9nm,0.8s						
LZH	**Lanzhou**	**42.02**	**314**	*e*P	**P**	**14 33 11.5**	**+1.8**
LZH				sP	pwP	14 33 18.0	+1.7
LZH				S	**S**	**14 39 27.8**	**-0.6**
LZH				sS	sS	14 39 39.6	+3.9
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
LZH				LR	LR		

comp=Z,660nm,19.6s
LZH LR LR
comp=Z,680nm,19.6s
LZH LR LR
comp=Z,970nm,16.1s
GSI Gunungsitoli 43.36 261 P P 14 33 18.0 -2.7
GSI IAmb IAmb 14 33 19.2
comp=Z,71nm,1.3s
MND Mandalay 43.97 291 P P 14 33 25.8 +0.2
MND IAmb IAmb 14 33 27.2
comp=Z,36nm,1.2s
ZEA Zeya 44.84 349 eP P 14 33 32.3 +0.3
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=Z,30nm,1.2s
PETK Petropavlovsk- 45.20 15 P P 14 33 35.1 +0.2
comp=Z,16nm,0.9s,baz=187,slow=10,SNR=9.5
PETK LR LR 14 50 18.3
comp=Z,170nm,21.6s,baz=198,slow=33
comp=Z,16nm,0.9s
PET Petropavlovsk 45.37 15 eP P 14 33 36.7 +0.5
PET eS **S 14 40 13.3 -3.2**
GTA Gaotai 46.41 316 eP P 14 33 45.6 +0.8
GTA pP pwP 14 33 52.8 +1.4
GTA PP **PP 14 35 34.4 +0.5**
GTA pmax pmax
comp=Z,7.0nm,1.3s
GTA LR LR
comp=Z,280nm,20.0s
GTA LR LR
comp=Z,380nm,20.0s
GTA LR LR
comp=Z,460nm,20.0s
ULN Ulaanbaatar 46.97 330 P P 14 33 49.0 -0.1
ULN Ulaanbaatar 46.97 330 ceP P 14 33 46.8 -2.4
ULN pmax pmax
comp=Z,19nm,1.7s
SONM Songino Array 47.28 329 P P 14 33 51.2 -0.3
SONM Songino Array 47.28 329 P P 14 33 52.1 +0.5
comp=Z,6.3nm,1.0s,baz=140,slow=8.7,SNR=16
SONM LR LR 14 52 47.4
comp=Z,259nm,22.0s,baz=134,slow=35
comp=Z,6.3nm,1.0s
GOMU GeErMu 48.70 310 P P 14 34 05.0 +2.0
GOMU S **S 14 40 57.3 -8.0**
GOMU SS **SS 14 44 31.4 -4.3**
GOMU pmax pmax
comp=Z,7.0nm,1.0s
GOMU LR LR
comp=Z,230nm,19.0s
GOMU LR LR
comp=Z,340nm,20.1s
GOMU LR LR
comp=Z,740nm,20.2s
MA2 Magadan 50.08 7 ceP P 14 34 09.8 -2.9
MA2 pmax pmax
comp=Z,88nm,2.5s
MA2 Magadan 50.08 7 LR LR 14 53 43.6
comp=Z,118nm,22.0s,baz=197,slow=34
ZAK Zakamensk 50.49 330 eP P 14 34 14.9 -1.2
ZAK pmax pmax
comp=Z,9.0nm,1.3s
SHEM Shemya Is, Ala 50.57 26 LR LR 14 51 37.6
comp=Z,155nm,21.0s,baz=262,slow=31
BOD Bodaibo 51.79 342 eP P 14 34 25.7 +0.1
BOD pmax pmax
comp=Z,18nm,1.9s
MOY Mondy 52.42 330 eP P 14 34 40.4 +10
YAK Yakutsk 52.49 354 P **P 14 34 30.1 -0.6**
YAK Yakutsk 52.49 354 ciP P 14 34 30.2 -0.5
YAK e*PP **sP 14 34 34.3 -2.7**
YAK e 14 35 40.8
YAK e 14 36 30.3
YAK ePPP PPP 14 37 40.6
YAK eS **S 14 41 57.2 +0.8**
YAK e*SS sS 14 42 09.1 +5.3
YAK eSS **SS 14 45 35.7 +1.2**
YAK pmax pmax
comp=Z,101nm,0.9s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=N,32nm,1.2s
YAK pmax pmax
comp=Z,226nm,4.5s
YAK pmax pmax
comp=N,113nm,4.3s
YAK pmax pmax
comp=E,117nm,4.3s
YAK smax smax
comp=E,143nm,4.6s
YAK smax smax
comp=N,160nm,5.1s
YAK Yakutsk 52.49 354 LR LR 14 56 28.4
comp=N,5.3nm,18.9s,baz=145,slow=36
ODAN Odare 52.55 296 eP P 14 34 31.6 -0.5
RAMN Ramite 53.26 296 eP P 14 34 37.8 +0.5
comp=N,91nm,1.2s
SEY Seymchan 53.53 7 ceP P 14 34 39.0 +0.6
SEY pmax pmax
comp=Z,67nm,1.3s
SEY Seymchan 53.53 7 LR LR 14 55 51.2
comp=Z,190nm,21.6s,baz=194,slow=34
JIRN Jiri 53.72 297 eP P 14 34 41.1 +0.3
comp=Z,50nm,0.8s
GUN Gumba 54.02 297 eP P 14 34 43.1 0.0
comp=Z,105nm,0.9s
PKI Pulchoki 54.39 297 eP P 14 34 45.5 -0.2
comp=Z,93nm,1.3s
PKIN Phulchoki 54.40 297 eP P 14 34 45.7 0.0
comp=Z,62nm,1.1s
DMN Daman 54.66 297 eP P 14 34 48.2 +0.6
GKN Gorkha 55.12 297 eP P 14 34 50.9 +0.1
DANN Dangsing 55.94 297 eP P 14 34 56.7 -0.1
comp=Z,60nm,1.0s
KOLN Koldanda 56.01 297 eP P 14 34 57.4 +0.2
WMQ Urumqi 56.49 316 eP P 14 35 01.0 +0.8
WMQ sP pwP 14 35 08.9 +2.0
WMQ pmax pmax
comp=Z,21nm,1.1s
WMQ LR LR
comp=Z,720nm,14.3s
WMQ LR LR
comp=Z,440nm,14.3s
WMQ LR LR
comp=Z,390nm,22.9s
PYUN Piuthan 56.58 297 eP P 14 35 01.6 +0.3
comp=Z,85nm,1.0s
DGZ Jazzator, Alta 58.84 323 *i* P **P 14 35 15.8 -1.0**
DGZ pmax pmax
comp=Z,19nm,1.0s
NIKH Nikolski High 59.07 33 P **P 14 35 18.5 +0.3**
baz=243
HYB Hyderabad 60.24 284 eP P 14 35 27.2 +0.4
SPIA Saint Paul Isl 60.41 28 P **P 14 35 27.0 -0.2**
baz=239
BILL Bilibino 60.44 11 P **P 14 35 26.4 -0.9**
BILL IAmb IAmb 14 35 28.8
comp=Z,34nm,1.2s
BILL Bilibino 60.44 11⇑ eP P 14 35 27.2 -0.1
UNV Unalaska Valle 60.72 33 P **P 14 35 29.2 -0.2**
baz=245
MK31 Makanchi Array 61.05 318 P **P 14 35 30.9 -1.0**
MK31 Makanchi Array 61.05 318 ceP P 14 35 31.9 0.0
MKAR Makanchi Array 61.05 318 P **P 14 35 32.6 +0.7**
comp=Z,5.4nm,0.8s,baz=99,slow=8.6,SNR=31
MKAR LR LR 15 02 00.2
comp=Z,343nm,21.6s,baz=112,slow=36
comp=Z,5.4nm,0.8s
MAKZ Makanchi 61.27 318 P **P 14 35 32.3 -1.0**
MAKZ IAmb IAmb 14 35 44.6
comp=Z,19nm,1.1s
MAKZ Makanchi 61.27 318 P **P 14 35 32.3 -1.0**
MAKZ pmax pmax
comp=Z,19nm,1.1s
TIXI Tiksi 61.98 356 P **P 14 35 36.7 -0.9**
TIXI IAmb IAmb 14 36 00.1
comp=Z,11nm,0.8s
TIXI Tiksi 61.98 356 ceP P 14 35 36.9 -0.7
ZAA0 Zalesovo Array 62.02 327 P **P 14 35 37.4 -0.8**
ZALV Zalesovo Beam 62.02 327 P **P 14 35 37.8 -0.4**
comp=Z,4.6nm,0.7s,baz=105,slow=7.1,SNR=22
comp=Z,4.6nm,0.7s
PRZ Przheval'sk 62.66 313 IAmb IAmb 14 35 56.1
comp=Z,20nm,0.9s

FALS False Pass 62.79 33 P **P 14 35 42.6 -0.7**
baz=247
GAMB Gambell 63.40 22 P **P 14 35 47.1 -0.1**
baz=235
M11K Mekoryuk 63.82 26 P **P 14 35 49.7 -0.3**
baz=242
KSH Kashi 63.93 309 P **P 14 35 54.4 +3.0**
KSH sP pwP 14 36 02.9 +4.8
KSH pmax pmax
comp=Z,6.0nm,0.9s
KSH LR LR
comp=Z,85nm,12.2s
KSH LR LR
comp=Z,480nm,15.3s
KSH LR LR
comp=Z,570nm,19.2s
KURK Kurchatov 64.51 322 P **P 14 35 54.4 -0.4**
KURK IAmb IAmb 14 36 05.5
comp=Z,19nm,0.8s
KURK Kurchatov 64.51 322 ceP P 14 35 54.2 -0.6
KURK pmax pmax
comp=Z,31nm,1.3s
SDPT Sand Point 64.54 33 P **P 14 35 55.4 +0.5**
baz=250
KURBB Kurchatov Arra 64.54 322 P **P 14 35 54.7 -0.3**
comp=Z,9.0nm,0.8s,baz=106,slow=6.7,SNR=48
comp=Z,9.0nm,0.8s
CHNA Chernabura Isl 64.84 34 P **P 14 35 56.1 -0.7**
baz=251
M13K Dall Lake 65.10 27 P **P 14 35 58.1 -0.3**
baz=245
K13K Kusilvak Mount 65.21 25 P **P 14 36 00.3 +1.2**
baz=243
NIL Nilore 65.45 302 P **P 14 36 01.5 +0.2**
NIL Nilore 65.45 302 P **P 14 36 01.5 +0.2**
NIL pmax pmax
comp=Z,42nm,1.0s
AAK Ala-Archa 65.52 312 P **P 14 36 01.3 -0.5**
AAK Ala-Archa 65.52 312 ceP P 14 36 00.4 -1.4
AAK pmax pmax
comp=Z,4.0nm,1.7s
N14K Kuskokwak Cree 65.65 28 P **P 14 36 02.6 +0.6**
baz=246
TNA Tin City 65.74 21 P **P 14 36 03.0 +0.5**
baz=238
M14K Bethel 65.86 27 P **P 14 36 04.0 +0.7**
baz=246
J14K Nanvaranak Lak 66.04 25 P **P 14 36 04.4 0.0**
baz=244
ANM Nome 66.17 23 P **P 14 36 06.2 +1.0**
baz=241
O15K Ungalikthiuk R 66.24 29 P **P 14 36 06.7 +0.8**
baz=248
F14K Arctic Creek 66.27 21 P **P 14 36 06.4 +0.5**
baz=240
M15K Kasigluk River 66.42 27 P **P 14 36 07.5 +0.5**
baz=247
L15K Ungalak Mounta 66.45 26 P **P 14 36 07.7 +0.6**
baz=246
N15K Kwethluk River 66.49 28 P **P 14 36 08.5 +1.1**
baz=248
RAR Rarotonga 66.51 118 LR LR 14 58 50.1
comp=Z,123nm,21.1s,baz=322,slow=30
K15K Wolf Creek Mou 66.69 26 P **P 14 36 09.2 +0.6**
baz=246
R16K Pilot Point 66.80 31 P **P 14 36 08.6 -0.8**
baz=251
G15K Niukluk 66.88 22 P **P 14 36 10.1 +0.3**
baz=242
F15K North Star Dit 66.99 22 P **P 14 36 11.0 +0.5**
baz=241
P16K Nushagak River 67.08 30 P **P 14 36 11.0 -0.2**
baz=250
O16K Kokwok River B 67.22 29 P **P 14 36 12.2 +0.1**
baz=250
CHIR Chirikof Islan 67.30 33 P **P 14 36 12.5 -0.2**
baz=254
M16K Timber Creek 67.32 27 P **P 14 36 13.0 +0.3**
baz=249
L16K Owhat River 67.35 27 P **P 14 36 12.2 -0.6**
baz=248
H16K Elim 67.40 23 P **P 14 36 13.3 +0.2**
baz=244
R17K Ugashik Creek 67.43 31 P **P 14 36 13.9 +0.4**
baz=252
J16K Anvik River 67.48 25 IAmb IAmb 14 36 29.9
comp=Z,24nm,1.4s
J16K Anvik River 67.48 25 P **P 14 36 14.3 +0.6**
baz=246
Q16K King Salmon 67.62 30 P **P 14 36 14.7 +0.1**
baz=252
G16K Koyuk River 67.69 22 P **P 14 36 14.9 0.0**
baz=244
I17K Unalakleet 67.69 24 P **P 14 36 15.7 +0.7**
baz=246,SNR=6.8
O17K Koliganek Bris 67.76 29 P **P 14 36 16.0 +0.6**
baz=251
Q17K Contact Creek 67.88 31 P **P 14 36 16.4 0.0**
baz=252
P17K Kvichak River 67.89 30 P **P 14 36 16.8 +0.5**
baz=252
BTK Batken 67.94 309 IAmb IAmb 14 36 29.6
comp=Z,29nm,1.3s
N17K Nushagak Hills 67.96 28 P **P 14 36 17.4 +0.6**
baz=250
C16K Lisburne Hills 68.02 19 IAmb IAmb 14 36 19.0
comp=Z,19nm,0.8s
C16K Lisburne Hills 68.02 19 P **P 14 36 18.1 +1.1**
baz=240,SNR=8.5
L17K Donlin 68.02 26 P **P 14 36 17.7 +0.6**
baz=249
M17K Holitna River 68.15 27 P **P 14 36 19.5 +1.6**
baz=250
K17K Iditarod 68.23 26 IAmb IAmb 14 36 35.3
comp=Z,30nm,1.1s
K17K Iditarod 68.23 26 P **P 14 36 19.6 +1.2**
baz=249,SNR=6.0
SII Sitkinak Islan 68.28 33 P **P 14 36 19.7 +0.9**
baz=255
R18K Karluk 68.41 32 P **P 14 36 20.6 +1.0**
baz=254
H17K Granite Mounta 68.43 23 IAmb IAmb 14 36 22.0
comp=Z,14nm,0.8s
H17K Granite Mounta 68.43 23 P **P 14 36 21.0 +1.4**
baz=246
Q18K Katmai Hardscr 68.43 31 P **P 14 36 19.6 -0.3**
baz=253
KK31 Karatay Array 68.48 312 IAmb IAmb 14 36 32.7
comp=Z,18nm,1.2s
KKAR Karatay Array 68.48 312 IAmb IAmb 14 36 32.7
comp=Z,18nm,1.2s
D17K Noatak River 68.49 20 P **P 14 36 21.4 +1.5**
baz=242
P18K Big Mountain, 68.54 30 P **P 14 36 21.7 +1.2**
baz=253
F17K Baldwin Pennin 68.56 22 P **P 14 36 21.6 +1.2**
baz=244
N18K Kilae Creek 68.62 28 P **P 14 36 21.7 +0.8**
baz=252
E17K Hotham Inlet 68.64 21 P **P 14 36 22.3 +1.4**
baz=244,SNR=18
O18K Koktuh Hills 68.69 29 P **P 14 36 21.9 +0.5**
baz=252
RDOG Red Dog Mine 68.71 20 P **P 14 36 22.7 +1.3**
baz=242,SNR=8.4
L18K Granite Mounta 68.76 27 P **P 14 36 22.8 +1.1**
baz=250
C17K DeLong Mountai 68.82 19 P **P 14 36 23.2 +1.2**
baz=242
M18K Stony River 68.91 27 P **P 14 36 23.4 +0.7**
baz=251
OHAK Old Harbor 68.92 32 P **P 14 36 22.8 0.0**
baz=255
KBL Kabul 68.98 303 P **P 14 36 23.7 -0.3**
KBL Kabul 68.98 303 P **P 14 36 23.7 -0.3**
KBL pmax pmax
comp=Z,7.0nm,0.8s
H18K Honhosa River 69.12 23 IAmb IAmb 14 36 25.9
comp=Z,17nm,0.9s
H18K Honhosa River 69.12 23 P **P 14 36 24.8 +0.9**
baz=248,SNR=5.8
J18K Innoko River 69.17 25 P **P 14 36 24.9 +0.6**
baz=250
Q19K Cape Douglas, 69.19 30 P **P 14 36 24.9 +0.4**
baz=254
E18K Tukpahlearik C 69.21 21 P **P 14 36 26.1 +1.6**
baz=245,SNR=27
O19K Port Alsworth 69.21 29 P **P 14 36 25.2 +0.7**
baz=253
TTA Tatalina 69.29 26 P **P 14 36 25.5 +0.4**
baz=251
G18K Tagagawik 69.30 23 IAmb IAmb 14 36 27.1
comp=Z,26nm,0.9s
G18K Tagagawik 69.30 23 P **P 14 36 25.6 +0.6**
baz=247
N19K Bonanza Creek 69.32 28 IAmb IAmb 14 36 27.2
comp=Z,16nm,0.9s
N19K Bonanza Creek 69.32 28 P **P 14 36 26.0 +0.6**
baz=253
KDAK Kodiak Island 69.43 32 P **P 14 36 26.8 +0.8**
baz=256
KDAK Kodiak Island 69.43 32 LR LR 15 06 13.7
comp=Z,112nm,19.5s,baz=264,slow=35
C18K Utukok River 69.55 19 P **P 14 36 27.8 +1.2**
baz=244
GCSA Galena City Sc 69.56 24 P **P 14 36 27.9 +1.3**
baz=249,SNR=9.7
L19K White Mountain 69.56 27 IAmb IAmb 14 36 29.0
comp=Z,17nm,1.0s
L19K White Mountain 69.56 27 P **P 14 36 27.5 +0.7**
baz=252
P19K Oil Pt 69.59 30 P **P 14 36 27.8 +0.8**
baz=254
B18K Kokolik River 69.68 19 P **P 14 36 28.3 +1.0**
baz=243
Q20K Shuyak Island 69.74 31 P **P 14 36 28.0 +0.2**
baz=256
J19K Poorman 69.81 25 IAmb IAmb 14 36 30.5
comp=Z,16nm,0.8s
J19K Poorman 69.81 25 P **P 14 36 28.8 +0.6**
baz=251
G19K Purcell Mounta 69.98 23 P **P 14 36 30.4 +1.1**
baz=248
F19K Shaleruckik Mo 69.99 22 P **P 14 36 29.6 +0.4**
baz=248
O20K Slope Mountain 70.00 29 P **P 14 36 30.0 +0.4**
baz=255
BVAR Borovoye Array 70.00 323 P **P 14 36 29.8 +0.2**
comp=Z,12nm,0.7s,baz=105,slow=7.5,SNR=45
BVAR LR LR 15 09 36.0
comp=Z,102nm,18.9s,baz=96,slow=38
comp=Z,12nm,0.7s
H19K Roundabout Mou 70.00 23 P **P 14 36 31.0 +1.7**
baz=249
BRVK Borovoye 70.07 323 P **P 14 36 29.8 -0.3**
BRVK IAmb IAmb 14 36 44.5
comp=Z,21nm,1.0s
BRVK Borovoye 70.07 323 ceP P 14 36 28.8 -1.2
BRVK pmax pmax
comp=Z,11nm,0.6s
L20K Farewell, AK 70.09 27 P **P 14 36 30.7 +0.7**
baz=253
M20K Styx River 70.25 28 IAmb IAmb 14 36 43.3
comp=Z,24nm,1.0s
M20K Styx River 70.25 28 P **P 14 36 32.2 +1.1**
baz=254
K20K Telida 70.27 26 P **P 14 36 32.3 +1.3**
baz=252
C19K Lookout Ridge 70.27 19 P **P 14 36 32.7 +1.6**
baz=245
A19K Wainwright 70.29 18 P **P 14 36 32.8 +1.8**
baz=243
E19K Redstone River 70.42 21 P **P 14 36 33.4 +1.5**
baz=248,SNR=34
J20K Nowinta River 70.48 25 IAmb IAmb 14 36 34.6
comp=Z,18nm,0.8s
J20K Nowinta River 70.48 25 P **P 14 36 33.9 +1.6**
baz=252
D19K Kuna River 70.51 20 P **P 14 36 33.6 +1.1**
baz=247
I20K Naaghedeneel 70.54 24 P **P 14 36 34.0 +1.4**
baz=252
H20K Anotleneega Mo 70.61 24 P **P 14 36 34.7 +1.6**
baz=251
F20K Avaraart Lake 70.82 22 IAmb IAmb 14 36 37.0
comp=Z,21nm,0.9s
F20K Avaraart Lake 70.82 22 P **P 14 36 36.0 +1.7**
baz=250
BRSE Bradley Lake S 70.83 30 P **P 14 36 34.8 +0.2**
baz=257
CAPN Captain Cook N 70.88 29 P **P 14 36 35.3 +0.5**
baz=256
PPLA Purkeypile 70.95 27 P **P 14 36 35.5 +0.1**
baz=254
SKT Skwentna 71.00 28 IAmb IAmb 14 37 05.5
comp=Z,27nm,1.4s
SKT Skwentna 71.00 28 P **P 14 36 35.8 +0.2**
baz=255
E20K Nigu River 71.08 21 P **P 14 36 37.3 +1.3**
baz=249
D20K Etivluk River 71.11 20 P **P 14 36 37.5 +1.4**
baz=248
CAST Castle Rocks 71.14 26 IAmb IAmb 14 36 38.4
comp=Z,27nm,0.9s
CAST Castle Rocks 71.14 26 P **P 14 36 37.4 +1.0**
baz=254,SNR=19
CHUM Lake Minchumin 71.17 26 P **P 14 36 37.8 +1.3**
baz=254,SNR=6.5
SUA Susitna One 71.24 28 P **P 14 36 37.2 0.0**
baz=256
B20K Meade River 71.42 19 P **P 14 36 38.9 +1.0**
baz=247
G21K Allakaket 71.47 23 IAmb IAmb 14 36 50.4
comp=Z,27nm,1.1s
G21K Allakaket 71.47 23 P **P 14 36 39.8 +1.5**
baz=252
H21K Melozitna Rive 71.48 24 IAmb IAmb 14 36 50.6
comp=Z,26nm,0.9s
H21K Melozitna Rive 71.48 24 P **P 14 36 39.9 +1.5**
baz=253
O22K Cooper Landing 71.50 29 P **P 14 36 39.3 +0.7**
baz=257
SEW Seward 71.55 30 P **P 14 36 39.0 +0.2**
baz=258
M22K Willow 71.60 28 P **P 14 36 39.1 0.0**
baz=257
RC01 Rabbit Creek A 71.63 29 P **P 14 36 39.5 +0.2**
baz=257
I21K Tanana 71.67 24 P **P 14 36 40.6 +1.1**
baz=254
CUT Chulitna 71.68 27 P **P 14 36 39.7 0.0**
baz=256
F21K Alatna River 71.70 22 IAmb IAmb 14 36 51.6
comp=Z,20nm,0.9s
F21K Alatna River 71.70 22 P **P 14 36 40.5 +0.8**
baz=252
BPAW Bear Paw Mtn. 71.79 26 IAmb IAmb 14 36 42.3
comp=Z,27nm,0.9s
BPAW Bear Paw Mtn. 71.79 26 P **P 14 36 41.0 +0.6**
baz=255,SNR=17
C21K Knifeblade Rid 71.88 20 P **P 14 36 41.8 +1.0**
baz=250
E21K Killik River 71.92 21 P **P 14 36 41.8 +0.8**
baz=251
TRF Thorofare Moun 71.93 26 IAmb IAmb 14 36 55.6
comp=Z,31nm,1.0s
TRF Thorofare Moun 71.93 26 P **P 14 36 41.6 +0.3**
baz=256,SNR=6.9
PMR Palmer 72.02 28 P **P 14 36 41.6 -0.1**
PMR IAmb IAmb 14 36 42.6
comp=Z,16nm,0.9s
PMR Palmer 72.02 28 P **P 14 36 42.1 +0.4**
baz=258,SNR=5.7
PMR Palmer 72.02 28 P **P 14 36 41.6 -0.1**
PMR pmax pmax
comp=Z,16nm,0.9s
A21K Barrow 72.10 18 P **P 14 36 42.7 +0.7**
baz=247
B21K Ikpikpuk River 72.10 20 IAmb IAmb 14 36 44.3
comp=Z,28nm,1.0s
B21K Ikpikpuk River 72.10 20 P **P 14 36 43.2 +1.2**
baz=250
H22K Ishtalitna Cre 72.11 24 P **P 14 36 43.5 +1.3**
baz=254
MLY Manley 72.14 25 P **P 14 36 43.6 +1.3**
baz=255,SNR=24
F22K John River 72.27 22 P **P 14 36 45.0 +1.9**
baz=253
KNK Knik Glacier 72.30 29 P **P 14 36 44.0 +0.6**
baz=258,SNR=5.5
G22K Bettles 72.35 23 P **P 14 36 44.8 +1.2**
baz=254,SNR=16
SML Sawmill 72.44 28 P **P 14 36 45.2 +0.9**
baz=258,SNR=5.3
A22K Sinclair Lake 72.47 18 P **P 14 36 45.3 +1.1**
baz=249

D22K	**Ayikyak River** comp=Z,28nm,0.8s	**72.51**	**20**	IAmb	IAmb	14 36 47.2
D22K	**Ayikyak River** baz=252	**72.51**	**20**	P	**P**	**14 36 45.9 +1.4**
RND	**Reindeer** comp=Z,32nm,1.0s	**72.55**	**26**	IAmb	IAmb	14 36 56.3
WAT1	**Susitna Watana** baz=258	**72.55**	**27**	P	**P**	**14 36 45.4 +0.5**
MCK	**McKinley** baz=257,SNR=13	**72.58**	**26**	P	**P**	**14 36 45.7 +0.6**
E22K	**Anaktuvuk Pass** baz=253,SNR=29	**72.59**	**21**	P	**P**	**14 36 46.6 +1.6**
M23K	**Glacier View** baz=259	**72.72**	**28**	P	**P**	**14 36 46.1 +0.2**
NEA2	**Nenana** baz=257,SNR=8.5	**72.72**	**25**	P	**P**	**14 36 47.4 +1.6**
B22K	**Teshekpuk Lake** comp=Z,39nm,0.9s	**72.73**	**19**	IAmb	IAmb	14 36 47.8
B22K	**Teshekpuk Lake** baz=251	**72.73**	**19**	P	**P**	**14 36 46.9 +1.2**
I23K	**Minto, Yukon-K** comp=Z,31nm,0.9s	**72.73**	**25**	IAmb	IAmb	14 36 57.9
I23K	**Minto, Yukon-K** baz=256,SNR=17	**72.73**	**25**	P	**P**	**14 36 47.0 +1.2**
GLI	**Glacier Island** baz=260	**72.84**	**29**	P	**P**	**14 36 46.7 +0.1**
G23K	**Bananza Creek** baz=255	**72.86**	**23**	P	**P**	**14 36 48.4 +1.8**
WAT6	**Susitna Watana** baz=258,SNR=14	**72.87**	**27**	P	**P**	**14 36 47.4 +0.4**
SCM	**Sheep Creek Mo** baz=259,SNR=7.1	**72.91**	**28**	P	**P**	**14 36 48.5 +1.4**
COLD	**Coldfoot** baz=255,SNR=45	**72.92**	**22**	P	**P**	**14 36 48.7 +1.7**
WRH	**Wood River Hil** comp=Z,17nm,0.8s	**73.11**	**25**	IAmb	IAmb	14 36 58.9
DHY	**Denali Highway** comp=Z,20nm,1.2s	**73.13**	**27**	IAmb	IAmb	14 36 50.3
DHY	**Denali Highway** baz=259	**73.13**	**27**	P	**P**	**14 36 49.7 +1.3**
MDM	**Murphy Dome** comp=Z,14nm,0.8s	**73.16**	**25**	IAmb	IAmb	14 36 51.0
D23K	**Nanushuk River** baz=254,SNR=20	**73.22**	**21**	P	**P**	**14 36 50.6 +1.8**
CCB	**Clear Creek Bu** comp=Z,31nm,1.1s	**73.27**	**25**	IAmb	IAmb	14 36 59.8
COLA	**College** baz=258	**73.30**	**25**	P	**P**	**14 36 49.7 +0.5**
E23K	**Chandalar** baz=255	**73.36**	**22**	P	**P**	**14 36 51.6 +2.0**
EYAK	**Cordova Ski Ar** baz=261	**73.44**	**30**	P	**P**	**14 36 51.4 +1.3**
C23K	**Itkillik River** comp=Z,30nm,0.8s	**73.49**	**20**	IAmb	IAmb	14 36 52.6
C23K	**Itkillik River** baz=254	**73.49**	**20**	P	**P**	**14 36 51.6 +1.4**
H24K	**Noodor Dome** comp=Z,40nm,1.1s	**73.49**	**24**	IAmb	IAmb	14 36 52.9
H24K	**Noodor Dome** baz=257	**73.49**	**24**	P	**P**	**14 36 51.6 +1.2**
M24K	**Tolsona, Glenn** baz=260	**73.50**	**28**	P	**P**	**14 36 51.5 +1.0**
KLU	**Klutina** comp=Z,38nm,1.1s	**73.51**	**29**	IAmb	IAmb	14 37 02.5
KLU	**Klutina** baz=260,SNR=7.0	**73.51**	**29**	P	**P**	**14 36 51.6 +0.9**
POKR	**Poker Plat Res** baz=258	**73.52**	**25**	P	**P**	**14 36 51.5 +1.0**
TOLK	**Toolik Lake Re** comp=Z,24nm,0.8s	**73.52**	**21**	IAmb	IAmb	14 36 53.1
TOLK	**Toolik Lake Re** baz=255,SNR=22	**73.52**	**21**	P	**P**	**14 36 52.2 +1.7**
HDA	**Harding Lake** comp=Z,17nm,0.9s	**73.58**	**26**	IAmb	IAmb	14 36 52.7
HDA	**Harding Lake** baz=259,SNR=9.3	**73.58**	**26**	P	**P**	**14 36 51.2 +0.3**
HDA	baz=259,SNR=9.3			P	**P**	**14 36 51.2 +0.3**
IL31	comp=Z,15nm,0.8s	**73.68**	**25**	IAmb	IAmb	14 36 51.9
ILAR	**Eielson Array** comp=Z,11nm,0.8s,baz=249,slow=6.0,SNR=179	**73.68**	**25**	P	**P**	**14 36 51.1 -0.4**
ILAR	comp=Z,66nm,20.7s,baz=240,slow=34			LR	LR	15 07 39.3
E24K	comp=Z,11nm,0.8s **Your Creek** baz=256	**73.77**	**22**	P	**P**	**14 36 53.8 +1.7**
G24K	**Hadweenzic Riv** comp=Z,36nm,1.1s	**73.84**	**23**	IAmb	IAmb	14 36 55.0
G24K	**Hadweenzic Riv** baz=258	**73.84**	**23**	P	**P**	**14 36 54.1 +1.7**
F24K	**Squaw Lake** comp=Z,19nm,0.9s	**73.86**	**22**	IAmb	IAmb	14 36 55.4
F24K	**Squaw Lake** baz=257	**73.86**	**22**	P	**P**	**14 36 54.1 +1.6**
D24K	**Happy Valley** baz=256	**73.92**	**21**	P	**P**	**14 36 54.2 +1.4**
PAX	**Paxson** baz=260,SNR=10	**73.97**	**27**	P	**P**	**14 36 54.3 +1.0**
K24K	**Donnelly Dome** baz=260,SNR=13	**73.97**	**26**	P	**P**	**14 36 54.2 +1.0**
HARP	**HAARP** baz=261,SNR=7.6	**74.02**	**28**	P	**P**	**14 36 54.8 +1.2**
BMRM	**Bremner River** baz=262,SNR=6.0	**74.06**	**29**	P	**P**	**14 36 55.5 +1.6**
C24K	**Franklin Bluff** baz=256	**74.10**	**20**	P	**P**	**14 36 55.2 +1.4**
N25K	**Chitina, Valde** baz=262	**74.16**	**29**	P	**P**	**14 36 55.5 +1.1**
J25K	**Salcha River,** baz=260	**74.29**	**26**	P	**P**	**14 36 55.3 +0.2**
RIDG	**Independent Ri** baz=261,SNR=12	**74.37**	**26**	P	**P**	**14 36 56.4 +0.8**
PRP	**Porcupine Dome** baz=260,SNR=6.0	**74.38**	**25**	P	**P**	**14 36 55.1 -0.7**
G25K	**Bearman Lake** baz=259,SNR=10.0	**74.39**	**23**	P	**P**	**14 36 57.3 +1.7**
PPT	**Papeete** comp=Z,255nm,19.8s,baz=263,slow=30	**74.47**	**111**	LR	LR	15 01 53.7
PPT2	**Papeete2** comp=Z,82nm,25.8s	**74.47**	**111**	*e*S	**SKiKP**	**14 46 25.6 +2.2**
PPT2	comp=Z,122nm,22.8s			*e*SS	**SS**	**14 51 11.2 -7.7**
PPT2	comp=Z,545nm,23.5s			*e*LQ	LQ	14 56 42.8
PPT2	comp=Z,527nm,23.2s			*e*LR	LR	14 59 30.0
PPT2	comp=Z,392nm,24.2s			*e*LR	LR	14 59 39.3
GLB	**Gilahina Butte** comp=Z,35nm,1.0s	**74.51**	**29**	IAmb	IAmb	14 36 58.5
BGLC	**Bering Glacier** baz=263	**74.60**	**30**	P	**P**	**14 36 57.3 +0.5**
F25K	**Christian Rive** baz=259	**74.72**	**22**	P	**P**	**14 36 59.1 +1.5**
MENT	**Mentasta** comp=Z,22nm,0.9s	**74.75**	**27**	IAmb	IAmb	14 37 09.7
CRQE	**Cirque** baz=263	**74.77**	**30**	P	**P**	**14 36 59.5 +1.5**
SCRK	**Sand Creek**	**74.78**	**26**	P	**P**	**14 36 58.1 +0.1**
SCRK	**Sand Creek** baz=262,SNR=8.1	**74.78**	**26**	P	**P**	**14 36 59.1 +1.0**
D25K	**Kavik River** baz=258	**74.81**	**21**	P	**P**	**14 36 59.5 +1.5**
E25K	**Arctic Village** comp=Z,37nm,1.1s	**74.85**	**22**	IAmb	IAmb	14 37 11.0
E25K	**Arctic Village** baz=259,SNR=20	**74.85**	**22**	P	**P**	**14 37 00.1 +1.8**
MCARA	**McCarthy VSAT** comp=Z,39nm,1.0s	**74.88**	**29**	IAmb	IAmb	14 37 11.1
MCARA	**McCarthy VSAT** baz=263,SNR=5.1	**74.88**	**29**	P	**P**	**14 36 59.7 +1.2**
L26K	**Log Cabin Wild** comp=Z,24nm,0.8s	**74.93**	**27**	IAmb	IAmb	14 37 01.0
L26K	**Log Cabin Wild** baz=262,SNR=16	**74.93**	**27**	P	**P**	**14 37 00.3 +1.4**
M26K	**Nabesna, AK** baz=263	**75.01**	**28**	P	**P**	**14 37 00.7 +1.3**
J26L	**Joseph Creek** comp=Z,19nm,0.9s	**75.04**	**26**	IAmb	IAmb	14 37 11.0
J26L	**Joseph Creek** baz=262	**75.04**	**26**	P	**P**	**14 37 00.4 +0.8**
MESA	**MESA** baz=264	**75.27**	**30**	P	**P**	**14 37 02.1 +1.1**
F26K	**Sheenjek River** baz=260	**75.30**	**22**	P	**P**	**14 37 02.6 +1.7**
G26K	**Porcupine Rive** baz=261	**75.32**	**23**	P	**P**	**14 37 02.7 +1.8**
I26K	**Coal Creek Min** baz=262	**75.33**	**25**	P	**P**	**14 37 01.5 +0.5**
GRNC	**Granite Creek** comp=Z,33nm,0.9s	**75.42**	**30**	IAmb	IAmb	14 37 04.2
C26K	**Camden Bay** baz=259	**75.43**	**20**	P	**P**	**14 37 03.4 +1.9**
M27K	**Edge Creek, AK** comp=Z,29nm,0.9s	**75.53**	**28**	IAmb	IAmb	14 37 04.8
M27K	**Edge Creek, AK** baz=264	**75.53**	**28**	P	**P**	**14 37 03.6 +1.2**
K27K	**Chicken** baz=263	**75.62**	**26**	P	**P**	**14 37 04.5 +1.7**
L27K	**Beaver Creek,** baz=264	**75.62**	**27**	P	**P**	**14 37 04.0 +1.1**
CTG	**Chitna Glacier** baz=265,SNR=5.4	**75.64**	**30**	P	**P**	**14 37 04.8 +1.7**
LOGN	**Logan Glacier** comp=Z,19nm,0.8s	**75.79**	**30**	IAmb	IAmb	14 37 06.5
BVCY	**Beaver Creek** baz=265	**76.00**	**28**	P	**P**	**14 37 06.4 +1.3**
I27K	**Kandik River** baz=263	**76.00**	**25**	P	**P**	**14 37 05.9 +0.9**
SVE	**Sverdlovsk**	**76.03**	**326**	*e*P	**P**	**14 37 05.4 +0.2**
EGAK	**Eagle** baz=264,SNR=7.1	**76.10**	**26**	P	**P**	**14 37 06.8 +1.3**
PINM	**Pinnacle** baz=266	**76.11**	**30**	P	**P**	**14 37 06.3 +0.6**
H27K	**Steamboat Moun** baz=263	**76.11**	**24**	P	**P**	**14 37 07.8 +2.2**
G27K	**Doyon Strip** baz=263	**76.13**	**24**	P	**P**	**14 37 06.6 +0.9**
YUK3	**Moose Creek** baz=265,SNR=14	**76.14**	**29**	P	**P**	**14 37 07.5 +1.5**
TBI	**Tubuai** comp=Z,1μm,23.0s	**76.22**	**117**	*e*LR	LR	15 00 32.2
TBI	comp=Z,1μm,25.2s			*e*LR	LR	15 00 34.5
E27K	**Coleen River** comp=Z,21nm,1.1s	**76.33**	**22**	IAmb	IAmb	14 37 09.4
E27K	**Coleen River** baz=263,SNR=17	**76.33**	**22**	P	**P**	**14 37 08.4 +1.6**
YUK8	**Steele Glacier** baz=266,SNR=6.5	**76.43**	**29**	P	**P**	**14 37 09.2 +1.4**
I28M	**Miner Creek** comp=Z,24nm,0.8s	**76.69**	**25**	IAmb	IAmb	14 37 11.3
I28M	**Miner Creek** baz=265	**76.69**	**25**	P	**P**	**14 37 10.2 +1.3**
D27M	**Malcolm River** comp=Z,17nm,0.9s	**76.69**	**21**	IAmb	IAmb	14 37 11.4
D27M	**Malcolm River** baz=263	**76.69**	**21**	P	**P**	**14 37 10.3 +1.4**
DAWY	**Dawson** comp=Z,30nm,0.9s	**76.80**	**26**	IAmb	IAmb	14 37 12.0
DAWY	**Dawson** baz=266,SNR=22	**76.80**	**26**	P	**P**	**14 37 11.1 +1.6**
F28M	**Old Crow** comp=Z,24nm,0.9s	**76.91**	**23**	IAmb	IAmb	14 37 12.7
F28M	**Old Crow** baz=264,SNR=17	**76.91**	**23**	P	**P**	**14 37 11.8 +1.7**
O29M	**Mount Kennedy** comp=Z,32nm,0.9s	**76.95**	**30**	IAmb	IAmb	14 37 15.8
O29M	**Mount Kennedy** baz=267	**76.95**	**30**	P	**P**	**14 37 12.1 +1.6**
YUK4	**Talbot Arm** baz=267,SNR=11	**76.97**	**29**	P	**P**	**14 37 13.0 +2.2**
YUK6	**Outpost Mounta** baz=267	**77.09**	**30**	P	**P**	**14 37 13.0 +1.5**
M29M	**Somme Creek** comp=Z,33nm,1.0s	**77.12**	**28**	IAmb	IAmb	14 37 14.3
M29M	**Somme Creek** baz=267	**77.12**	**28**	P	**P**	**14 37 13.4 +2.0**
E28M	**Babbage River** comp=Z,32nm,1.2s	**77.14**	**22**	IAmb	IAmb	14 37 13.9
E28M	**Babbage River** baz=264	**77.14**	**22**	P	**P**	**14 37 13.3 +2.0**
ARU	**Arti**	**77.16**	**326**	*d* i P	**P**	**14 37 08.8 -2.8**
ARU				S	**S**	**14 47 00.3 +0.1**
ARU				SS	**SS**	**14 51 55.4 -2.2**
ARU	comp=Z,5.0nm,0.9s			pmax	pmax	
ARU	comp=Z,407nm,19.0s			MLR	MLR	
ARU	**Arti** comp=Z,424nm,21.7s,baz=88,slow=36	**77.16**	**326**	LR	LR	15 11 57.2
L29M	**L29M** baz=267	**77.31**	**27**	P	**P**	**14 37 14.5 +2.1**
P29M	**Windy Craggy** baz=268	**77.35**	**31**	P	**P**	**14 37 14.2 +1.5**
H29M	**Whitestone** comp=Z,51nm,1.5s	**77.39**	**24**	IAmb	IAmb	14 37 36.6
H29M	**Whitestone** baz=266	**77.39**	**24**	P	**P**	**14 37 14.0 +1.3**
AKTO	**Aktubinsk** comp=Z,212nm,18.1s,baz=74,slow=39	**77.45**	**320**	LR	LR	15 15 28.5
D28M	**Stokes Point** baz=265	**77.49**	**21**	P	**P**	**14 37 14.2 +1.1**
HYT	**Haines Junctio** baz=268,SNR=10	**77.50**	**30**	P	**P**	**14 37 15.1 +1.5**
G29M	**Pine Creek** comp=Z,33nm,1.0s	**77.57**	**24**	IAmb	IAmb	14 37 38.1
G29M	**Pine Creek** baz=266	**77.57**	**24**	P	**P**	**14 37 15.4 +1.6**
K29M	**Barlow Dome** comp=Z,23nm,0.8s	**77.61**	**27**	IAmb	IAmb	14 37 16.9
K29M	**Barlow Dome** baz=267	**77.61**	**27**	P	**P**	**14 37 15.7 +1.5**
E29M	**Blow River** baz=266	**77.72**	**22**	P	**P**	**14 37 15.8 +1.2**
N30M	**Aishikik Lake** comp=Z,29nm,1.1s	**77.72**	**29**	IAmb	IAmb	14 37 17.6
N30M	**Aishikik Lake** baz=268	**77.72**	**29**	P	**P**	**14 37 16.3 +1.5**
P30M	**Million Dollar** baz=269	**77.75**	**31**	P	**P**	**14 37 16.5 +1.5**
GEYT	**Alibeck** comp=Z,24nm,1.2s	**77.79**	**307**	IAmb	IAmb	14 37 43.4
GEYT	**Alibeck** comp=Z,4.1nm,0.8s,baz=170,slow=4.5,SNR=7.5	**77.79**	**307**	P	**P**	**14 37 16.5 +0.9**
M30M	comp=Z,4.1nm,0.8s **Minto, Yukon** comp=Z,22nm,1.0s	**77.90**	**28**	IAmb	IAmb	14 37 18.4
M30M	**Minto, Yukon** baz=268,SNR=9.9	**77.90**	**28**	P	**P**	**14 37 17.4 +1.7**
EPYK	**Eagle Plains** baz=268,SNR=6.6	**78.06**	**24**	P	**P**	**14 37 18.0 +1.5**
S31K	**Pelican** baz=270	**78.10**	**33**	P	**P**	**14 37 17.4 +0.6**
I30M	**Mount Dempster** comp=Z,19nm,1.1s	**78.16**	**25**	IAmb	IAmb	14 37 19.4
I30M	**Mount Dempster** baz=268	**78.16**	**25**	P	**P**	**14 37 18.4 +1.2**
J30M	**Hart River** baz=268	**78.16**	**26**	P	**P**	**14 37 19.2 +2.0**
O30N	**Mendenhall** comp=Z,52nm,1.8s	**78.20**	**30**	IAmb	IAmb	14 37 41.4
O30N	**Mendenhall** baz=269	**78.20**	**30**	P	**P**	**14 37 18.5 +1.1**
G30M	**tAoh Zraii Nji** baz=268	**78.28**	**24**	P	**P**	**14 37 18.6 +0.9**
MAYO	**Mayo, Yukon** baz=269,SNR=9.0	**78.33**	**27**	P	**P**	**14 37 19.9 +1.9**
N31M	**Braeburn, Yuko** comp=Z,27nm,1.0s	**78.35**	**29**	IAmb	IAmb	14 37 21.1
N31M	**Braeburn, Yuko** baz=270	**78.35**	**29**	P	**P**	**14 37 19.6 +1.3**
F30M	**Barrier River** baz=268	**78.47**	**23**	P	**P**	**14 37 20.2 +1.4**
SKAG	**Skagway** baz=270	**78.57**	**31**	P	**P**	**14 37 20.8 +1.4**
WHY	**Whitehorse** comp=Z,27nm,0.9s	**78.79**	**30**	IAmb	IAmb	14 37 23.6
WHY	**Whitehorse** baz=270,SNR=9.6	**78.79**	**30**	P	**P**	**14 37 22.3 +1.5**
R32K	**Eaglecrest** baz=271	**79.01**	**32**	P	**P**	**14 37 23.4 +1.5**
M31M	**Drury Creek, Y** baz=271,SNR=7.8	**79.01**	**28**	P	**P**	**14 37 22.8 +1.0**
G31M	**Satah River** comp=Z,26nm,0.8s	**79.05**	**24**	IAmb	IAmb	14 37 23.6
G31M	**Satah River** baz=270,SNR=16	**79.05**	**24**	P	**P**	**14 37 22.7 +0.8**
F31M	**Tsiigehtchic** comp=Z,65nm,2.0s	**79.26**	**23**	IAmb	IAmb	14 37 24.3
F31M	**Tsiigehtchic** baz=270	**79.26**	**23**	P	**P**	**14 37 23.3 +0.3**
INK	**Inuvik** baz=270	**79.34**	**22**	P	**P**	**14 37 23.9 +0.5**
P32M	**Atlin**	**79.39**	**31**	P	**P**	**14 37 25.2 +1.2**
FARO	**Faro, Yukon** baz=272,SNR=6.7	**79.50**	**28**	P	**P**	**14 37 26.0 +1.5**
N32M	**Quiet Lake** comp=Z,32nm,0.9s	**79.66**	**29**	IAmb	IAmb	14 37 27.9
N32M	**Quiet Lake** baz=272,SNR=6.6	**79.66**	**29**	P	**P**	**14 37 26.8 +1.4**
P33M	**Teslin, Yukon** baz=272	**79.82**	**30**	P	**P**	**14 37 27.5 +1.1**
U33K	**Whale Pass** baz=273	**79.85**	**35**	P	**P**	**14 37 27.6 +1.2**
CRAG	**Craig** baz=273	**79.88**	**35**	P	**P**	**14 37 28.9 +2.3**
Q32M	**Nakina River** baz=273	**80.16**	**32**	P	**P**	**14 37 30.1 +1.7**
WRAK	**Wrangell Islan** baz=273	**80.26**	**34**	P	**P**	**14 37 31.1 +2.5**
V35K	**Ketchikan** baz=274	**80.75**	**35**	P	**P**	**14 37 33.8 +2.5**
R33M	**Jennings River** baz=274	**80.80**	**31**	P	**P**	**14 37 33.3 +1.6**
S34M	**Telegraph Cree** comp=Z,33nm,1.1s	**80.82**	**33**	IAmb	IAmb	14 37 34.5
S34M	**Telegraph Cree** baz=274,SNR=5.1	**80.82**	**33**	P	**P**	**14 37 33.1 +1.4**
TAOE	**Nuku Hiva Isla** comp=Z,244nm,22.6s	**81.35**	**101**	*e*LR	LR	15 02 23.8
DLBC	**Dease Lake** baz=275,SNR=5.5	**81.36**	**32**	P	**P**	**14 37 36.5 +1.8**
DLBC	**Dease Lake** comp=Z,86nm,20.3s,baz=315,slow=32	**81.36**	**32**	LR	LR	15 08 55.6
T35M	**Bob Quinn** baz=275	**81.37**	**34**	P	**P**	**14 37 35.5 +0.9**
WTLY	**Watson Lake, Y** comp=Z,29nm,0.9s	**81.84**	**30**	IAmb	IAmb	14 37 39.8
WTLY	**Watson Lake, Y** baz=276,SNR=14	**81.84**	**30**	P	**P**	**14 37 38.8 +1.7**
A36M	**Sachs Harbour** comp=Z,15nm,0.8s	**81.92**	**18**	IAmb	IAmb	14 37 38.7
A36M	**Sachs Harbour** baz=277	**81.92**	**18**	P	**P**	**14 37 37.9 +0.7**
KIRV	**Kirov**	**82.00**	**328**	*c e* P	**P**	**14 37 37.7 -0.2**
KIRV	**Kirov** comp=Z,134nm,18.2s,baz=83,slow=40	**82.00**	**328**	LR	LR	15 19 19.0
C36M	**Paulatuk** baz=279	**82.68**	**21**	P	**P**	**14 37 41.6 +0.4**
BBB	**Bella Bella** comp=Z,280nm,21.9s,baz=268,slow=30	**83.13**	**38**	LR	LR	15 07 11.7
BELG	**Belogornoye**	**83.78**	**322**	*i* P	**P**	**14 37 46.0 -1.2**
BELG	comp=Z,6.0nm,1.0s			pmax	pmax	
BELG	**Belogornoye** comp=Z,152nm,21.8s,baz=105,slow=36	**83.78**	**322**	LR	LR	15 15 03.8
WRGLY	**Wrigley** baz=280	**83.93**	**27**	P	**P**	**14 37 48.3 +0.5**
KOTAN	**Kotaneelee Air** baz=280	**84.19**	**30**	P	**P**	**14 37 50.1 +0.9**
MAK	**Makhachkala**	**85.30**	**313**	*e* P	P	14 37 49.6 -5.5
MAK				*e*		14 41 08.0
MAK				*e*S	**SKSac**	**14 48 11.1 -8.7**
MAK	comp=Z,139nm,14.0s			MLR	MLR	
KLMR	**Klimovskoe**	**86.54**	**331**	*e*P	**P**	**14 37 58.6 -2.3**
KLMR	comp=Z,25nm,1.8s			AMP		14 38 10.7
KLMR				LQ	LQ	15 10 20.6
KLMR				LQ	LQ	15 10 20.6
KLMR				LR	LR	15 14 32.0
KLMR	comp=Z,314nm,14.6s			AMP		15 19 29.2
KLMR	**Klimovskoe**	**86.54**	**331**	*e*P	**P**	**14 37 58.5 -2.3**
KLMR	comp=Z,25nm,1.8s			pmax	pmax	
KLMR	comp=Z,314nm,15.0s			MLR	MLR	
SPITS	**Spitsbergen Ar** comp=Z,87nm,21.9s,baz=12,slow=35	**86.80**	**350**	LR	LR	15 15 22.7
APA	**Apatity**	**87.15**	**338**	*j i* P	P	14 37 56.8 -7.0
APA	comp=Z,8.0nm,1.1s			pmax	pmax	
GNI	**Garni**	**87.84**	**310**	*i* P	**P**	**14 38 08.3 +0.4**
GNI	comp=Z,18nm,1.8s			pmax	pmax	
GNI	**Garni** comp=Z,123nm,21.4s,baz=85,slow=37	**87.84**	**310**	LR	LR	15 19 59.9
ZEI	**Tsey**	**87.94**	**313**	*e*P	**P**	**14 38 10.3 +1.9**
ZEI	comp=Z,10.0nm,1.0s			pmax	pmax	
YKA	**Yellowknife Ar** comp=Z,10nm,0.9s,baz=291,slow=5.3,SNR=83	**88.04**	**27**	P	**P**	**14 38 09.2 +1.1**
YKA	comp=Z,116nm,21.8s,baz=296,slow=34			LR	LR	15 14 38.1
HUMO	comp=Z,10nm,0.9s **Hull Mountain** comp=Z,20nm,1.6s	**88.20**	**47**	IAmb	IAmb	14 38 54.7
VNDA	**Vanda** comp=Z,88nm,21.2s,baz=338,slow=34	**88.25**	**175**	LR	LR	15 15 10.0
KBZ	**Khabaz** comp=Z,208nm,20.0s,baz=63,slow=38	**88.46**	**314**	LR	LR	15 21 25.6
YBH	**Yreka Blue Hor** comp=Z,218nm,20.5s,baz=277,slow=31	**88.56**	**48**	LR	LR	15 11 15.9
KIV	**Kislovodsk**	**88.56**	**314**	*e*P	**P**	**14 38 07.8 -3.3**
KIV	comp=Z,6.0nm,1.1s			pmax	pmax	
MOS	**Moscow**	**88.84**	**327**	*e*P	P	14 38 22.4 +10
RES	**Resolute Bay** comp=Z,42nm,21.9s,baz=358,slow=35	**89.01**	**13**	LR	LR	15 17 12.6
ARCES	**ARCESS Array B** comp=Z,3.4nm,0.9s,baz=60,slow=5.8,SNR=5.1	**89.06**	**341**	P	**P**	**14 38 11.1 -1.7**
ARCES	comp=Z,266nm,21.6s,baz=72,slow=37			LR	LR	15 20 23.1
J05D	comp=Z,3.4nm,0.9s **Fort Rock, OR**	**89.29**	**46**	P	**P**	**14 38 15.6 +1.0**
J05D	comp=Z,13nm,1.0s			IAmb	IAmb	14 38 39.0
OBN	**Obninsk**	**89.60**	**326**	*i* P	**P**	**14 38 13.8 -1.8**
OBN				*i*		14 38 17.6
OBN				*e*S	**SKSac**	**14 48 45.8 +0.4**
OBN				*e*PS	**PS**	**14 50 18.8 +5.8**
OBN				*e*SS	**SS**	**14 55 06.1 +4.6**
OBN	comp=Z,21nm,1.2s			pmax	pmax	
OBN	comp=Z,350nm,22.0s			MLR	MLR	
OBN	**Obninsk** comp=Z,316nm,21.8s,baz=34,slow=36	**89.60**	**326**	LR	LR	15 19 02.0
K05A	**Summer Lake** comp=Z,19nm,1.1s	**89.66**	**47**	IAmb	IAmb	14 38 55.3
ORV	**Oroville**	**89.93**	**50**	P	**P**	**14 38 17.2 -0.3**
ORV	comp=Z,31nm,1.8s			IAmb	IAmb	14 38 43.7
ORV	**Oroville**	**89.93**	**50**	P	**P**	**14 38 17.3 -0.3**
ORV	comp=Z,31nm,1.8s			pmax	pmax	
SOC	**Sochi**	**90.74**	**314**	*e*P	**P**	**14 38 18.2 -3.0**
SOC				*e*		14 41 53.8
SOC				*e*PPP	PPP	14 43 51.0
SOC				*e*S	**SKSac**	**14 48 49.7 -2.9**
SOC				*e*SS	**SS**	**14 55 21.1 +2.3**
SOC				*e*SSS	SSS	14 58 58.5
NEW	**Newport** baz=286	**90.83**	**41**	P	**P**	**14 38 22.7 +1.1**
NEW	**Newport** comp=Z,251nm,21.9s,baz=288,slow=31	**90.83**	**41**	LR	LR	15 11 43.7
WVOR	**Wild Horse Val** comp=Z,21nm,1.6s	**91.35**	**47**	IAmb	IAmb	14 38 56.7
MLAC	**Mammoth, Mammo** baz=285	**92.41**	**51**	P	**P**	**14 38 30.1 +0.7**
FINES	**FINESS Array B**	**92.45**	**334**	*i* P	**P**	**14 38 26.3 -2.4**
FINES	comp=Z,4.0nm,1.0s			pmax	pmax	
FINES	**FINESS Array B** comp=Z,4.4nm,1.0s,baz=79,slow=4.1,SNR=5.2	**92.45**	**334**	P	**P**	**14 38 27.1 -1.7**
FINES	comp=Z,66nm,18.6s,baz=68,slow=38			LR	LR	15 23 35.4
SBC	comp=Z,4.4nm,1.0s **Santa Barbara** baz=284	**92.50**	**55**	P	**P**	**14 38 31.1 +1.6**
KVN	**Kaiserville** comp=Z,14nm,1.3s	**92.61**	**50**	IAmb	IAmb	14 38 54.6
NVAR	**Mina Array Bea** comp=Z,2.9nm,0.8s,baz=259,slow=5.6,SNR=10	**92.62**	**50**	P	**P**	**14 38 31.9 +1.5**
SNCC	comp=Z,2.9nm,0.8s **San Nicolas Is** baz=284	**92.94**	**56**	P	**P**	**14 38 32.7 +1.0**
MFID	**Camas Ranch** comp=Z,11nm,1.1s	**93.07**	**45**	IAmb	IAmb	14 38 56.7

ISA	**Isabella, Lake**	**93.19**	**53**	P	**P**	**14 38 32.8**	**0.0**	
	baz=285							
CWC	**Cottonwood Cre**	**93.30**	**52**	P	**P**	**14 38 33.6**	**+0.2**	
	baz=285							
MSO	**Missoula**	**93.31**	**41**	P	**P**	**14 38 33.3**	**0.0**	
	baz=288							
MPMC	**Manual Prospec**	**93.86**	**53**	P	**P**	**14 38 36.4**	**+0.3**	
	baz=285							
HLID	**Hailey**	**94.00**	**45**	P	**P**	**14 38 37.4**	**+0.8**	
	baz=288							
ELK	**Elko**	**94.26**	**48**	P	**P**	**14 38 37.6**	**-0.3**	
ELK	**Elko**	**94.26**	**48**	P	**P**	**14 38 37.6**	**-0.3**	
ELK				pmax	pmax			
	comp=Z,15nm,1.9s							
ELK	**Elko**	**94.26**	**48**	LR	LR	15 14 51.7		
	comp=Z,253nm,20.4s,baz=288,slow=32							
MAW	**Mawson**	**94.45**	**202**	LR	LR	15 18 26.6		
	comp=Z,115nm,20.1s,baz=88,slow=34							
MNK	**Minsk**	**94.52**	**327**	*i* P	**P**	**14 38 35.4**	**-3.0**	
	comp=E,4.0nm,0.8s							
MNK				*i* P	**P**	**14 38 35.4**	**-3.0**	
	comp=N,10.0nm,0.9s							
MNK				*i* P	**P**	**14 38 35.4**	**-3.0**	
	comp=Z,5.0nm,0.8s,baz=66							
MNK				*i* PP	**PP**	**14 42 22.9**	**-2.8**	
MNK				*i* PPP	PPP	14 44 24.1		
MNK				*i* S	**SKSac**	**14 49 10.5**	**-2.7**	
MNK				*i* SS	SS	14 56 38.4	+26	
MNK				*i* SSS	SSS	14 59 51.8		
MNK				*i* LQ	LQ	15 12 10.4		
MNK				*i* LR	LR	15 17 45.6		
MNK				*i* LRM	MLR	15 22 53.6		
	comp=Z,280nm,21.2s							
MNK				*i* LRM	MLR	15 23 47.8		
	comp=E,138nm,19.2s							
MNK				*i* LRM	MLR	15 23 54.2		
	comp=N,223nm,18.2s							
MNK	**Minsk**	**94.52**	**327**	*i* P	**P**	**14 38 35.4**	**-3.0**	
MNK				*i*		14 42 22.9		
MNK				*i* PPP	PPP	14 44 24.1		
MNK				*i* S	**SKSac**	**14 49 10.4**	**-2.7**	
MNK				*i* SSS	SSS	14 59 51.7		
MNK				pmax	pmax			
	comp=N,10.0nm,0.9s							
MNK				pmax	pmax			
	comp=E,4.0nm,0.8s							
MNK				pmax	pmax			
	comp=Z,5.0nm,0.8s							
MNK				MLR	MLR			
	comp=Z,280nm,21.0s							
MNK				MLR	MLR			
	comp=E,138nm,19.0s							
MNK				MLR	MLR			
	comp=N,223nm,18.0s							
TPNV	**Topopah Spring**	**94.58**	**51**	P	**P**	**14 38 40.1**	**+0.8**	
	baz=286							
R11B	**Troy Canyon, C**	**94.69**	**50**	P	**P**	**14 38 40.4**	**+0.6**	
	baz=287							
NACGM	**Naroch**	**94.93**	**328**	*e*P	**P**	**14 38 42.2**	**+1.9**	
HEC	**Hector,Ludlow**	**95.09**	**53**	P	**P**	**14 38 43.0**	**+1.4**	
	baz=286							
BOZ	**Bozeman (W)**	**95.23**	**42**	IAmb	IAmb	14 38 59.8		
	comp=Z,12nm,1.5s							
BOZ	**Bozeman (W)**	**95.23**	**42**	P	**P**	**14 38 42.7**	**+0.6**	
	baz=290							
PFO	**Pinyon Flats O**	**95.32**	**55**	P	**P**	**14 38 40.6**	**-2.2**	
	baz=286							
PFO	**Pinyon Flats O**	**95.32**	**55**	LR	LR	15 14 18.0		
	comp=Z,112nm,21.4s,baz=256,slow=31							
YHL	**Hebgen Lake**	**95.78**	**43**	IAmb	IAmb	14 39 10.6		
	comp=Z,11nm,0.9s							
YMR	**Madison River**	**95.99**	**43**	IAmb	IAmb	14 39 04.0		
	comp=Z,8.6nm,0.8s							
DUG	**Dugway, Tooele**	**96.19**	**48**	P	**P**	**14 38 46.6**	**0.0**	
	baz=289							
BRTR	**Keskin Array B**	**96.20**	**312**	P	**P**	**14 38 44.7**	**-1.9**	
	comp=Z,0.4nm,0.6s,baz=57,slow=11,SNR=2.7							
	comp=Z,0.4nm,0.6s							
H17A	**Grant Village**	**96.35**	**43**	P	**P**	**14 38 48.8**	**+1.4**	
	baz=291							
JMIC	**Jan Mayen**	**96.48**	**350**	LR	LR	15 21 04.0		
	comp=Z,26nm,21.9s,baz=31,slow=35							
RLMT	**Red Lodge**	**96.96**	**42**	P	**P**	**14 38 50.4**	**+0.3**	
	baz=292							
PDMCI	**Parker Dam,Lak**	**96.98**	**53**	P	**P**	**14 38 50.7**	**+0.6**	
	baz=287							
PDAR	**Pinedale Array**	**97.62**	**44**	P	Pdif	14 38 54.8	+1.6	
	comp=Z,0.3nm,0.7s,baz=236,slow=1.1,SNR=4.3							
PDAR				PP	**PP**	**14 42 53.4**	**+3.0**	
	comp=Z,0.7nm,1.0s,baz=300,slow=2.9,SNR=4.8							
	comp=Z,0.3nm,0.7s							
HFS	**Hagfors**	**98.30**	**336**	LR	LR	15 25 37.4		
	comp=Z,124nm,20.5s,baz=56,slow=37							
DGMT	**Dagmar**	**98.80**	**37**	P	**P**	**14 38 58.5**	**+0.5**	
	baz=296							
MLR	**Muntele Rosu**	**99.38**	**320**	LR	LR	15 29 47.0		
	comp=Z,84nm,18.2s,baz=76,slow=39							
QSPA	**South Pole Qui**	**99.88**	**180**	LR	LR	15 23 04.7		
	comp=Z,164nm,20.4s,baz=4.0,slow=35							
S22A	**4UR Ranch, Cre**	**101.41**	**48**	P	**Pdif**	**14 39 10.1**	**-0.2**	
	baz=292							
CLL	**Collm**	**103.90**	**329**	*e*PP	**PKiKP**	**14 43 40.0**	**+1.8**	
CLL				*e*PPS	PPS	14 53 48.0		
CLL				*e*SS	SS	14 58 24.0	+0.6	
CLL				*ex*	x	15 08 32.0		
CLL				AMS	AMS	15 20 00.0		
	comp=N,500nm,21.3s							
CLL				AMS	AMS	15 20 00.0		
	comp=E,300nm,21.5s							
CLL				AMS	AMS	15 28 00.0		
	comp=Z,200nm,21.5s							
CLL				AMS	AMS	15 55 00.0		
	comp=Z,100nm,21.2s							
TORD	**Torodi Ar. Bea**	**132.91**	**298**	PKP	**PKPdf**	**14 44 34.2**	**-0.2**	
	comp=Z,0.8nm,0.7s,baz=21,slow=4.1,SNR=2.5							
PLCA	**Paso Flores**	**139.01**	**144**	PKP	**PKPdf**	**14 44 44.7**	**-0.4**	
	comp=Z,1.4nm,0.8s,baz=306,slow=5.8,SNR=3.2							
GUY2C	**Guyana, Caldas**	**141.36**	**68**	*e*P	**PKPdf**	**14 44 47.5**	**-3.2**	
DBIC	**Dimbokro**	**141.55**	**294**	PKP	**PKPdf**	**14 44 49.4**	**-0.9**	
	comp=Z,3.1nm,0.8s,baz=114,slow=5.3,SNR=3.5							
ROSC	**El Rosal**	**142.47**	**68**	PKP	**PKPdf**	**14 44 53.2**	**+0.7**	
	comp=Z,4.4nm,0.4s,baz=288,slow=20,SNR=1.7							
BARC	**Barichara**	**142.78**	**65**	*e*P	**PKPdf**	**14 44 51.8**	**-1.1**	
VILC	**Villavicencio,**	**143.33**	**69**	*e*P	PKPbc	14 44 51.9	+1.1	
TRIS	**Tristan da Cun**	**143.46**	**218**		**PKPdf**	**14 44 53.4**	**+0.4**	
SDV	**Santo Domingo**	**143.92**	**60**	PKPdf	PKPbc	14 44 53.5	+1.0	
TAMC	**Tame, Arauca**	**144.08**	**64**	*e*P	**PKPdf**	**14 44 57.5**	**+2.6**	
CO03	**El Pedregal**	**144.52**	**130**	PKPdf	**PKPab**	**14 44 54.6**	**+1.0**	
BAUV	**El Baul**	**146.06**	**57**	PKPbc	**PKPdf**	**14 44 58.2**	**0.0**	
PB14	**IPOC Station P**	**147.38**	**120**	PKPab	**PKPbc**	**14 45 03.8**	**+0.8**	
PB16	**IPOC Station P**	**149.96**	**109**	PKPab	**PKPbc**	**14 45 11.6**	**+1.5**	

BJI **17** *14:32:09.8,9˝.81N×126˚.17E,h60km,mb4.9/64,mB5.2/29, Ms4.7/30,Ms7 4.5/30*

IDC **17** *14:32:12.8±1.8,10˚.40N×126˚.08E,h42km±16km,mb4.5/30, mbtmp4.7/32,ML4.4/2,MS4.1/8,Error ellipse: s-maj=17.3km s-min=8.9km az=80.0*

MOS **17** *14:32:14.1±1.0,10˚.47N×125˚.93E,h55km,mb5.0/51,Error ellipse: s-maj=9.0km s-min=4.5km az=113.0*

NEIC **17** *14:32:15.4±2.1,10˚.39N±0˚.05×125˚.96E±0˚.09,h55km±5km, mb5.1/170,Error ellipse: s-maj=12.8km s-min=7.8km az=89.0*

DJA **17** *14:32:17.3±2.7,10˚N±21˚×12˚6E±1˚4,h131km±11km, M5.4/12,mb4.9/12,mB5.5/4,MLv5.7/3,Mw(mB)5.0/4, MwMwp5.1/2,Mwp5.4/2*

ISC 17 14:32:15.4±0.4,10˚.35N±0˚.04×125˚.99E±0˚.06,h63km±3km, h63km:pP-P,n656,σ1§19/616,mb5.0/168,20C-5D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.29**	**187**	⇑*i*P	**Pn**	**14 33 05.0**	**+0.5**
DAV	**Davao City (W)**	**3.29**	**187**	Pn	**Pn**	**14 33 04.2**	**-0.3**
DAV	**Davao City (W)**	**3.29**	**187**	P	**Pn**	**14 33 04.4**	**-0.1**
	197nm,0.3s,baz=279,slow=5.3,SNR=8.4						
DAV				S	**Sn**	**14 33 41.8**	**-0.6**
	1μm,0.6s,baz=170,slow=20,SNR=5.2						
	540nm,0.4s						
TGY	**Tagaytay City**	**6.18**	**308**	P	**Pn**	**14 33 45.6**	**+1.4**
	153nm,0.4s,baz=60,slow=20,SNR=3.6						
SGSI	**Sangihe**	**6.64**	**184**	P	**Pn**	**14 33 49.5**	**-0.9**
	486nm,0.7s,6μm4.3nm						
MYLDM	**Lahad Datu**	**9.02**	**236**	Pn	**Pn**	**14 34 22.4**	**-0.6**
TNTI	**Ternate**	**9.62**	**172**	Pn	**Pn**	**14 34 31.6**	**+0.5**
TNTI	**Ternate**	**9.62**	**172**	P	**Pn**	**14 34 29.8**	**-1.3**
	63nm,0.8s						
KMSI	**Cibinong**	**9.92**	**192**	P	**Pn**	**14 34 35.9**	**+0.7**
	203nm,0.9s,3μm5μm						
KKM	**Kota Kinabalu**	**10.57**	**247**	Pn	**Pn**	**14 34 43.3**	**-1.0**
MRSI	**Marisa**	**10.60**	**203**	P	**Pn**	**14 34 45.7**	**+1.1**
	50nm,1.0s						
LUWI	**Luwuk**	**11.76**	**196**	Pn	**Pn**	**14 35 01.6**	**+1.1**
SANI	**Sanana**	**12.32**	**180**	P	**Pn**	**14 35 04.3**	**-3.8**
	68nm,0.9s						
TTSI	**Tana Toraja**	**14.66**	**205**	P	**Pn**	**14 35 37.6**	**-1.8**
	41nm,0.8s						
SPSI	**Sidrap Palu**	**15.51**	**204**	P	**Pn**	**14 35 48.3**	**-2.1**
	52nm,1.0s						
SBUM	**Sibu**	**15.76**	**241**	P	**P**	**14 35 57.4**	**+1.0**
KAPI	**Kappang**	**16.48**	**202**		**Pn**	**14 36 04.1**	**+1.4**
KAPI	**Kappang**	**16.48**	**202**	P	**Pn**	**14 36 04.1**	**+1.4**
KAPI				pmax	pmax		
	comp=Z,28nm,1.0s						
KAPI	**Kappang**	**16.48**	**202**	P	**Pn**	**14 36 02.6**	**0.0**
	comp=Z,0.3nm,0.3s,baz=243,slow=13,SNR=2.1						
	comp=Z,8.9nm,0.8s						
BKSI	**Bulukumba**	**16.63**	**201**	P	**Pn**	**14 36 02.2**	**-2.3**
GUMO	**Guam**	**18.75**	**78**	LR	LR	14 42 49.9	
	comp=Z,598nm,20.9s,baz=230,slow=34						
SAUI	**Saumlaki**	**18.97**	**164**	P	**P**	**14 36 30.3**	**-1.5**
SAUI				IAmb	IAmb	14 36 34.0	
	comp=Z,90nm,0.6s						
SOEI	**Soe**	**20.05**	**185**	P	**P**	**14 36 44.9**	**+1.2**
GULI	**GuiLin**	**20.98**	**317**	P	Pn	14 37 01.0	+4.2
NJ2	**Nanjing**	**22.58**	**344**	⇑*i*P	**P**	**14 37 11.3**	**+0.7**
NJ2				pP	**pP**	**14 37 22.8**	**-1.4**
NJ2				sP	**sP**	**14 37 26.5**	**-5.6**
NJ2				pmax	pmax		
	comp=Z,66nm,1.2s						
NJ2				pmax	pmax		
	comp=Z,430nm,3.8s						
JCJ	**Chichijima**	**22.60**	**40**	LR	LR	14 43 48.4	
	comp=Z,368nm,21.1s,baz=270,slow=31						
WHN	**Wuhan**	**22.82**	**333**	⇑*i*P	P	14 37 23.3	+10
WHN				pmax	pmax		
	comp=Z,110nm,1.5s						
JNU	**Nakatsue**	**23.10**	**11**	P	**P**	**14 37 15.6**	**-0.5**
JNU				IAmb	IAmb	14 37 17.2	
	comp=Z,61nm,1.1s						
MTN	**Manton Dam**	**23.61**	**167**	P	**P**	**14 37 18.5**	**-2.3**
MTN				IAmb	IAmb	14 37 46.6	
	comp=Z,63nm,1.1s						
LEM	**Lembang**	**25.02**	**228**	P	**P**	**14 37 35.6**	**+1.7**
LEM				pmax	pmax		
	comp=Z,65nm,1.0s						
TJN	**Taejon**	**25.94**	**3**	*i* P	**P**	**14 37 42.1**	**+0.3**
JHJ	**Hachijo jima 2**	**25.97**	**27**	LR	LR	14 47 47.6	
	comp=Z,242nm,20.3s,baz=63,slow=36						
KNRA	**Kununurra**	**26.01**	**174**	P	**P**	**14 37 41.8**	**-0.9**
KNRA				IAmb	IAmb	14 37 57.9	
	comp=Z,54nm,0.7s						
CRAI	**Chiangrai**	**26.55**	**295**	P	**P**	**14 37 47.3**	**-0.3**
CRAI				IAmb	IAmb	14 37 50.9	
	comp=Z,59nm,1.8s						
KSAR	**Wonju Array Be**	**27.02**	**3**	P	**P**	**14 37 52.0**	**+0.4**
KSAR	**Wonju Array Be**	**27.02**	**3**	P	**P**	**14 37 52.0**	**+0.4**
KSRS	**Korea Array**	**27.04**	**3**	P	**P**	**14 37 51.7**	**0.0**
	comp=Z,12nm,1.0s,baz=179,slow=11,SNR=22						
KSRS				PcP	**PcP**	**14 41 11.3**	**-0.4**
	comp=Z,3.6nm,1.1s,baz=194,slow=4.6,SNR=5.0						
	comp=Z,12nm,1.0s						
LYN	**LuoYang**	**27.07**	**335**	⇑P	**P**	**14 37 52.8**	**+0.7**
LYN				pP	pP	14 38 06.6	-0.7
LYN				sP	sP	14 38 15.0	+0.2
LYN				PP	**PnPn**	**14 38 42.4**	**+4.4**
LYN				pmax	pmax		
	comp=Z,24nm,0.8s						
LYN				pmax	pmax		
	comp=Z,310nm,5.1s						
CMAR	**Chiang Mai Arr**	**27.38**	**290**	P	**P**	**14 37 55.4**	**+0.4**
CMAR					**PcP**	**14 41 12.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**27.38**	**290**	*i* P	**P**	**14 37 56.2**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.38**	**290**	P	**P**	**14 37 56.0**	**+0.9**
	comp=Z,9.8nm,0.8s,baz=104,slow=6.9,SNR=35						
CMAR				PcP	**PcP**	**14 41 13.7**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=354,slow=0.4,SNR=6.8						
CMAR				ScP	**ScP**	**14 44 50.1**	**+1.9**
	comp=Z,1.2nm,0.8s,baz=52,slow=1.7,SNR=6.4						
CMAR				P3KPbc		15 10 25.2	
	comp=Z,0.6nm,0.5s,baz=176,slow=4.3,SNR=4.3						
	comp=Z,9.8nm,0.8s						
CHTO	**Chiang Mai**	**27.46**	**291**	P	**P**	**14 37 55.5**	**-0.3**
CHTO	**Chiang Mai**	**27.46**	**291**	P	**P**	**14 37 55.5**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,11nm,1.0s						
PZH	**PanZhiHua**	**27.97**	**308**	P	**P**	**14 38 01.4**	**+1.0**
PZH				S	**S**	**14 42 41.4**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,160nm,5.6s						
PZH				LR	LR		
	comp=Z,330nm,13.9s						
PZH				LR	LR		
	comp=Z,760nm,14.5s						
PZH				LR	LR		
	comp=Z,650nm,17.3s						
XAN	**Xi'an**	**28.29**	**329**	⇓P	**P**	**14 38 02.3**	**-0.8**
XAN				S	**S**	**14 42 47.0**	**+2.0**
XAN				pmax	pmax		
	comp=Z,18nm,0.8s						
XAN				pmax	pmax		
	comp=Z,350nm,4.9s						
XAN				LR	LR		
	comp=Z,1μm,16.7s						
XAN				LR	LR		
	comp=Z,860nm,18.5s						
XAN				LR	LR		
	comp=Z,1μm,17.2s						
MAJO	**Matsushiro**	**28.32**	**21**	*i* P	**P**	**14 38 01.7**	**-1.6**
MJAR	**Matsushiro Arr**	**28.32**	**21**	P	**P**	**14 38 00.8**	**-2.6**
	comp=Z,3.6nm,0.9s,baz=197,slow=8.9,SNR=7.2						
MJAR				PcP	**PcP**	**14 41 15.7**	**+0.7**
	comp=Z,6.7nm,1.0s,baz=163,slow=3.7,SNR=8.7						
	comp=Z,3.6nm,0.9s						
HNS	**HongShan**	**28.78**	**341**	⇓P	**P**	**14 38 07.5**	**+0.2**
HNS				pP	**pP**	**14 38 20.1**	**-2.5**
HNS				*e*S	**S**	**14 42 50.8**	**-1.7**
HNS				pmax	pmax		
	comp=Z,20nm,1.2s						
HNS				LR	LR		
	comp=Z,260nm,15.9s						
HNS				LR	LR		
	comp=Z,720nm,20.7s						
HNS				LR	LR		
	comp=Z,460nm,18.6s						
PMG	**Port Moresby**	**28.80**	**132**	P	**P**	**14 38 10.1**	**+2.4**
PMG	**Port Moresby**	**28.80**	**132**	*ce*P	**P**	**14 38 10.6**	**+2.9**
PMG				pmax	pmax		
	comp=Z,17nm,1.3s						
PMG	**Port Moresby**	**28.80**	**132**	P	**P**	**14 38 07.1**	**-0.6**
	comp=Z,18nm,0.8s,baz=355,slow=15,SNR=3.1						
	comp=Z,18nm,0.8s						
CD2	**Chengdu**	**29.06**	**318**	P	**P**	**14 38 11.6**	**+1.6**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
BJT	**Baijiatuan**	**30.80**	**345**	P	**P**	**14 38 26.0**	**+0.8**
BJT				pmax	pmax		
	comp=Z,20nm,2.0s						
BJI	**Beijing**	**30.82**	**345**	P	**P**	**14 38 25.8**	**+0.5**
BJI				pP	**pP**	**14 38 36.8**	**-3.9**
BJI				PcP	**PcP**	**14 41 22.6**	**+1.4**
BJI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
WB0	**Warramunga Arr**	**31.05**	**165**	P	**P**	**14 38 25.4**	**-2.3**
WRA	**Warramunga Arr**	**31.21**	**165**	P	**P**	**14 38 26.7**	**-2.2**
	comp=Z,3.9nm,0.6s,baz=343,slow=9.1,SNR=33						
WRA				PcP	**PcP**	**14 41 22.3**	**-0.3**
	comp=Z,3.3nm,0.6s,baz=344,slow=3.0,SNR=7.2						
WRA				S	S	14 43 23.6	-7.3
	comp=Z,2.9nm,0.8s,baz=342,slow=14,SNR=7.8						
	comp=Z,3.9nm,0.6s						
MSHR	**Mys Shultsa**	**32.42**	**7**	*i* P	**P**	**14 38 39.7**	**+0.4**
LZH	**Lanzhou**	**32.55**	**325**	⇑P	**P**	**14 38 41.8**	**+1.0**
LZH				sP	sP	14 38 59.4	-4.2
LZH				pmax	pmax		
	comp=Z,25nm,1.1s						
LZH				LR	LR		
	comp=Z,640nm,18.6s						
LZH				LR	LR		
	comp=Z,690nm,18.9s						
LZH				LR	LR		
	comp=Z,970nm,17.2s						
HHC	**Hu-ho-hao-te**	**32.94**	**340**	*e*P	**P**	**14 38 46.8**	**+2.7**
HHC				pP	pP	14 38 59.6	+0.1
HHC				pmax	pmax		
	comp=Z,30nm,1.2s						
HHC				pmax	pmax		
	comp=Z,280nm,4.9s						
HHC				LR	LR		
	comp=Z,970nm,14.7s						
HHC				LR	LR		
	comp=Z,260nm,12.6s						
HHC				LR	LR		
	comp=Z,1μm,15.1s						
BTO	**Baotou**	**33.28**	**338**	*e*P	**P**	**14 38 51.8**	**+4.8**
BTO				pP	**pP**	**14 39 07.0**	**+4.5**
BTO				sP	**sP**	**14 39 14.0**	**+4.2**
BTO				S	S	14 44 12.9	+10
BTO				pmax	pmax		
	comp=Z,19nm,0.8s						
BTO				pmax	pmax		
	comp=Z,250nm,5.5s						
BTO				LR	LR		
	comp=Z,500nm,10.7s						
BTO				LR	LR		
	comp=Z,550nm,11.0s						
BTO				LR	LR		
	comp=Z,590nm,12.0s						
CN2	**Changchun**	**33.33**	**359**	*e*P	**P**	**14 38 47.1**	**-0.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**34.12**	**8**	P	**P**	**14 38 53.7**	**-0.5**
USRK	**Ussuriysk Ar.**	**34.12**	**8**	P	**P**	**14 38 53.7**	**-0.5**
USRK	**Ussuriysk Ar.**	**34.12**	**8**	P	**P**	**14 38 52.5**	**-1.7**
	comp=Z,13nm,0.9s,baz=192,slow=7.3,SNR=14						
USRK				PcP	**PcP**	**14 41 28.7**	**-1.6**
	comp=Z,3.1nm,0.6s,baz=189,slow=1.8,SNR=5.4						
	comp=Z,13nm,0.9s						
USA0B	**Ussuriysk Arra**	**34.12**	**8**	IAmb	IAmb	14 38 55.7	
	comp=Z,21nm,1.1s						
USA0B	**Ussuriysk Arra**	**34.12**	**8**	*i* P	**P**	**14 38 52.4**	**-1.7**
MDJ	**Mudanjiang**	**34.28**	**5**	IAmb	IAmb	14 38 57.4	
	comp=Z,33nm,1.2s						
MDJ	**Mudanjiang**	**34.28**	**5**	P	**P**	**14 38 56.8**	**+1.3**
MDJ				pP	pP	14 39 09.1	-1.4
MDJ				sP	sP	14 39 15.8	-1.9
MDJ				PP	**PnPn**	**14 40 11.8**	**+0.1**
MDJ				PcP	**PcP**	**14 41 32.8**	**+2.1**
MDJ				S	S	**14 44 20.4**	**+2.2**
MDJ				sS	sS	14 44 42.6	-1.9
MDJ				PcS	**PcS**	**14 45 18.8**	**+1.9**
MDJ				SS	**SnSn**	**14 46 32.9**	**0.0**
MDJ				pmax	pmax		
	comp=Z,27nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,170nm,3.7s						
MDJ				LR	LR		
	comp=Z,390nm,15.1s						
MDJ				LR	LR		
	comp=Z,350nm,14.3s						
MDJ				LR	LR		
	comp=Z,440nm,13.9s						
MDJ	**Mudanjiang**	**34.28**	**5**	P	**P**	**14 38 56.6**	**+1.1**
MDJ				PcP	**PcP**	**14 41 32.6**	**+1.9**
XLT	**XiLinHaoTe**	**34.51**	**347**	*e*P	**P**	**14 38 57.8**	**+0.2**
XLT				pmax	pmax		
	comp=Z,26nm,0.8s						
XLT				pmax	pmax		
	comp=Z,150nm,4.0s						
ASAR	**Alice Springs**	**34.69**	**167**	P	**P**	**14 38 57.9**	**-1.4**
	comp=Z,3.2nm,0.5s,baz=352,slow=7.1,SNR=94						
ASAR				PcP	**PcP**	**14 41 31.9**	**-0.4**
	comp=Z,4.4nm,0.6s,baz=342,slow=2.6,SNR=9.3						
ASAR				S	**S**	**14 44 21.1**	**-3.8**
	comp=Z,2.4nm,0.9s,baz=356,slow=23,SNR=7.3						
	comp=Z,3.2nm,0.5s						
ERM	**Erimo**	**34.95**	**23**	*i* P	**P**	**14 39 01.9**	**+0.5**
BNX	**BinXian**	**35.28**	**2**	⇑P	**P**	**14 39 04.1**	**0.0**
BNX				pmax	pmax		
	comp=Z,14nm,0.9s						
BNX				pmax	pmax		
	comp=Z,200nm,4.9s						
SHL	**Shillong**	**35.66**	**300**	IAmb	IAmb	14 39 20.7	
	comp=Z,21nm,0.9s						
SHL	**Shillong**	**35.66**	**300**	P	**P**	**14 39 06.0**	**-1.9**
SHL				pmax	pmax		
	comp=Z,23nm,0.9s						
CTAO	**Charters Tower**	**36.24**	**147**	P	**P**	**14 39 12.4**	**-0.2**
CTAO				pP	**pP**	**14 39 28.2**	**+0.7**
CTAO				sP	**sP**	**14 39 34.6**	**+0.1**
GTA	**Gaotai**	**37.16**	**326**	⇓P	**P**	**14 39 20.6**	**+0.2**
GTA				PcP	**PcP**	**14 41 40.6**	**+1.1**
GTA				S	**S**	**14 45 05.3**	**+2.7**
GTA				pmax	pmax		
	comp=Z,24nm,1.1s						
GTA				LR	LR		
	comp=Z,400nm,17.8s						
GTA				LR	LR		
	comp=Z,380nm,18.9s						
GTA				LR	LR		
	comp=Z,690nm,17.4s						
GOMU	**GeErMu**	**38.19**	**317**	P	**P**	**14 39 30.0**	**+0.5**
GOMU				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KLR	**Kul'dur**	**39.05**	**6**	*ce*P	**P**	**14 39 35.3**	**-0.7**
KLR				pmax	pmax		
	comp=Z,21nm,2.5s						
HNR	**Honiara**	**39.09**	**119**	LR	LR	14 52 49.4	
	comp=Z,3μm,21.6s,baz=302,slow=32						
HIA	**Hailar**	**39.14**	**354**	*i* P	**P**	**14 39 35.9**	**-0.9**
HIA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
YSS	**Yuzh-Sakhalins**	**39.16**	**18**	*e*P	**P**	**14 39 33.1**	**-3.8**
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
HEH	**HeiHe**	**39.80**	**1**	*e*P	**P**	**14 39 41.5**	**-0.7**
HEH				pmax	pmax		
	comp=Z,14nm,1.1s						
HEH				pmax	pmax		
	comp=Z,200nm,4.7s						
ODAN	**Odare**	**39.90**	**300**	*e*P	**P**	**14 39 43.1**	**-0.6**
	comp=Z,41nm,0.9s						
ODAN	**Odare**	**39.90**	**300**	*e*P	**P**	**14 39 43.8**	**+0.1**
	comp=Z,70nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**40.49**	**72**	T	T	15 23 07.5	
	baz=265,slow=74,SNR=231						
H11N2	**WAKE ISLAND Hy**	**40.50**	**72**	T	T	15 23 01.1	
	baz

NWAO pmax pmax
comp=Z,79nm,0.9s
NWAO Narrogin (SRO) 43.84 191 P **P** **14 40 16.0 +0.6**
NWAO sP **sP** **14 40 38.0 -0.6**
BBOO Buckleboo 43.98 168 P **P** **14 40 16.2 -0.4**
BBOO IAmb IAmb 14 40 17.6
comp=Z,29nm,0.7s
PYUN Piuthan 43.99 300 *e*P **P** **14 40 16.2 -0.9**
comp=Z,26nm,0.8s
ZAK Zakamensk 44.09 339 *e*P **P** **14 40 15.4 -2.0**
ZAK pmax pmax
comp=Z,9.0nm,1.4s
STKA Stephens Creek 44.57 161 P **P** **14 40 20.7 -0.6**
STKA Stephens Creek 44.57 161 P **P** **14 40 20.7 -0.6**
STKA pmax pmax
comp=Z,8.0nm,1.5s
STKA Stephens Creek 44.57 161 P **P** **14 40 20.5 -0.8**
comp=Z,7.5nm,0.8s,baz=332,slow=8.2,SNR=29
comp=Z,7.5nm,0.8s
MOY Mondy 45.97 339 *e*P **P** **14 40 32.8 +0.5**
MOY pmax pmax
comp=Z,32nm,1.8s
HYB Hyderabad 46.48 284 *e*P **P** **14 40 37.8 +1.0**
WMQ Urumqi 46.99 322 *e*P **P** **14 40 41.3 +1.0**
WMQ pmax pmax
comp=Z,19nm,1.3s
WMQ LR LR
comp=Z,690nm,13.9s
WMQ LR LR
comp=Z,420nm,13.9s
WMQ LR LR
comp=Z,400nm,22.1s
BOD Bodaibo 48.25 351 *e*P **P** **14 40 50.4 +0.6**
BOD pmax pmax
comp=Z,22nm,1.7s
PETK Petropavlovsk- 49.68 25 P **P** **14 40 59.8 -1.0**
comp=Z,9.6nm,0.8s,baz=160,slow=1.7,SNR=8.6
PETK PcP **PcP** **14 42 20.7 -0.5**
comp=Z,8.4nm,0.8s,baz=223,slow=6.1,SNR=4.4
PETK LR LR 15 04 28.0
comp=Z,123nm,18.2s,baz=206,slow=39
comp=Z,9.6nm,0.8s
CAN Canberra 50.37 155 P **P** **14 41 07.1 +0.8**
CAN Canberra 50.37 155 P **P** **14 41 07.1 +0.8**
CAN pmax pmax
comp=Z,61nm,1.6s
CAN Canberra 50.37 155 P **P** **14 41 07.1 +0.8**
CAN pP **pP** **14 41 22.1 -0.2**
DGZ Jazzator, Alta 50.55 328 *i* P **P** **14 41 07.6 -0.1**
DGZ pmax pmax
comp=Z,6.0nm,0.9s
ZSN Zaisan 50.64 325 *e*P **P** **14 41 08.0 -0.3**
baz=325
ZSN Zaisan 50.64 325 *e*P **P** **14 41 07.9 -0.3**
TOO Toolangi 51.06 160 P **P** **14 41 12.1 +0.7**
TOO IAmb IAmb 14 41 15.3
comp=Z,29nm,1.4s
TOO Toolangi 51.06 160 P **P** **14 41 12.1 +0.7**
TOO pmax pmax
comp=Z,29nm,1.4s
DZM Mont Dzumac 51.12 129 *e*LR LR 14 55 58.3
comp=Z,185nm,23.6s
DZM Mont Dzumac 51.12 129 P **P** **14 41 13.5 +1.3**
YAK Yakutsk 51.66 2 P **P** **14 41 15.0 -0.5**
YAK Yakutsk 51.66 2*ce*P **P** **14 41 15.0 -0.5**
YAK pmax pmax
comp=Z,42nm,1.1s
YAK Yakutsk 51.66 2 P **P** **14 41 15.5 -0.1**
MK31 Makanchi Array 51.79 323 IAmb IAmb 14 41 17.9
comp=Z,15nm,0.9s
MK31 Makanchi Array 51.79 323*ce*P **P** **14 41 16.3 -0.6**
MKAR Makanchi Array 51.79 323 P **P** **14 41 16.6 -0.3**
MKAR Makanchi Array 51.79 323 P **P** **14 41 17.0 +0.1**
comp=Z,12nm,0.8s,baz=121,slow=8.3,SNR=64
MKAR PcP **PcP** **14 42 29.5 +0.2**
comp=Z,7.5nm,0.8s,baz=102,slow=5.1,SNR=5.2
comp=Z,12nm,0.8s
SHLS Shalkode 51.90 318 *e*P **P** **14 41 15.8 -2.1**
baz=318
SHLS Shalkode 51.90 318 *e*P **P** **14 41 15.7 -2.1**
MAKZ Makanchi 51.99 323 P **P** **14 41 17.6 -0.7**
MAKZ IAmb IAmb 14 41 19.4
comp=Z,12nm,0.8s
MAKZ Makanchi 51.99 323 P **P** **14 41 17.6 -0.7**
MAKZ pmax pmax
comp=Z,12nm,0.8s
MAKZ Makanchi 51.99 323 P **P** **14 41 18.2 -0.1**
MAKZ PcP **PcP** **14 42 29.7 -0.3**
UZB Uzynbulak 52.18 317 *e*P **P** **14 41 19.9 -0.1**
comp=Z,4.0nm,0.5s,baz=317
UZB Uzynbulak 52.18 317 *e*P **P** **14 41 19.9 -0.1**
UZB pmax pmax
comp=Z,4.0nm,0.5s
KPKS Kokpek 52.54 318 *e*P **P** **14 41 22.4 -0.2**
baz=318
KPKS Kokpek 52.54 318 *e*P **P** **14 41 22.4 -0.2**
SATY Saty 52.56 317 *e*P **P** **14 41 22.8 0.0**
comp=Z,5.2nm,0.9s,baz=317
SATY Saty 52.56 317 *e*P **P** **14 41 22.8 0.0**
SATY pmax pmax
comp=Z,5.0nm,0.9s
KSH Kashi 52.97 312 P **P** **14 41 27.1 +1.2**
KSH pP pP 14 41 39.6 -2.6
KSH LR LR
comp=Z,140nm,14.4s
KSH LR LR
comp=Z,480nm,15.9s
KSH LR LR
comp=Z,550nm,15.8s
TDK Taldyqorghan 53.37 319 *e*P **P** **14 41 28.6 +0.1**
comp=Z,6.2nm,0.6s,baz=319
TDK Taldyqorghan 53.37 319 *e*P **P** **14 41 28.6 +0.1**
TDK pmax pmax
comp=Z,6.0nm,0.6s
NIL Nilore 53.45 304 P **P** **14 41 26.8 -2.6**
NIL IAmb IAmb 14 41 58.9
comp=Z,14nm,0.8s
NIL Nilore 53.45 304 P **P** **14 41 26.8 -2.6**
NIL pmax pmax
comp=Z,14nm,0.9s
NIL Nilore 53.45 304 P **P** **14 41 28.9 -0.5**
MDOK Medeo 53.52 317 *e*P **P** **14 41 29.9 +0.1**
baz=317
MDOK Medeo 53.52 317 *e*P **P** **14 41 29.9 +0.1**
TNSS Tian-Shan 53.53 316 *e*P **P** **14 41 30.4 +0.1**
baz=316
TNSS Tian-Shan 53.53 316 *e*P **P** **14 41 30.4 +0.1**
CHKK Chushkaly 53.82 317 *e*P **P** **14 41 31.3 -0.6**
baz=317
CHKK Chushkaly 53.82 317 *e*P **P** **14 41 31.3 -0.6**
KUU Kurty 54.27 317 *e*P **P** **14 41 35.1 -0.1**
baz=317
KUU Kurty 54.27 317 *e*P **P** **14 41 35.0 -0.1**
KZA Kyzart 54.35 315 P **P** **14 41 36.8 +0.6**
SNR=6.3
ZALV Zalesovo Beam 54.42 331 *i* P **P** **14 41 35.4 -0.6**
ZALV pmax pmax
comp=Z,3.0nm,0.3s
ZALV Zalesovo Beam 54.42 331 P **P** **14 41 35.1 -1.0**
comp=Z,2.7nm,0.3s,baz=118,slow=6.7,SNR=24
comp=Z,2.7nm,0.3s
SEM Semipalatinsk 54.79 326 *e*P **P** **14 41 38.8 -0.2**
baz=326
SEM Semipalatinsk 54.79 326 *e*P **P** **14 41 38.8 -0.2**
UCH Uchtor 54.92 315 P **P** **14 41 41.1 +0.6**
SNR=14
AAK Ala-Archa 55.07 315 P **P** **14 41 41.2 0.0**
AAK Ala-Archa 55.07 315 *i* P **P** **14 41 40.9 -0.3**
AAK pmax pmax
comp=Z,6.0nm,1.3s
AAK Ala-Archa 55.07 315 LR LR 15 06 46.9
comp=Z,510nm,22.0s,baz=92,slow=38
AAK Ala-Archa 55.07 315 P **P** **14 41 43.5 +2.3**
AAK sP **sP** **14 42 07.1 +2.4**
AAK PcP **PcP** **14 42 42.2 +0.2**
SGDS Sogindy 55.26 316 *e*P **P** **14 41 41.3 -1.2**
baz=316
SGDS Sogindy 55.26 316 *e*P **P** **14 41 41.2 -1.2**
USP Ospenovka 55.28 316 P **P** **14 41 42.4 -0.2**
SNR=6.7
AML Almayashu 55.46 314 P **P** **14 41 44.6 +0.3**
SNR=9.9
EKS2 Erkin-Say 55.58 315 P **P** **14 41 44.6 -0.2**
SNR=8.2
SEY Seymchan 55.81 14 *i* P **P** **14 41 46.7 +0.8**
SEY pmax pmax
comp=Z,20nm,1.8s
KURK Kurchatov 55.84 326 P **P** **14 41 45.8 -0.5**
KURK IAmb IAmb 14 41 47.1
comp=Z,23nm,0.8s
KURK Kurchatov 55.84 326 P **P** **14 41 46.0 -0.3**
KURK Kurchatov 55.84 326 P **P** **14 41 46.2 -0.1**
KURK pP **pP** **14 42 02.8 0.0**
KURBB Kurchatov Arra 55.85 325 P **P** **14 41 46.0 -0.4**
comp=Z,10nm,0.6s,baz=128,slow=6.9,SNR=78
comp=Z,10nm,0.6s
BTLS Baital 56.22 318 *e*P **P** **14 41 48.7 -0.5**
baz=318
BTLS Baital 56.22 318 *e*P **P** **14 41 48.6 -0.5**
KBL Kabul 57.05 304 P **P** **14 41 54.5 -1.0**
KBL Kabul 57.05 304 P **P** **14 41 54.5 -1.0**
KBL pmax pmax
comp=Z,7.0nm,0.9s
TRKS Terek-Say 57.09 313 P **P** **14 41 55.3 -0.3**
TRKS pmax pmax
comp=Z,11nm,1.0s
CHGR Chuyangaron 57.82 309 IAmb IAmb 14 42 53.6
comp=Z,14nm,0.7s
KK31 Karatay Array 57.99 315 P **P** **14 42 00.9 -0.8**
KK31 IAmb IAmb 14 42 02.2
comp=Z,10nm,1.0s
KK31 Karatay Array 57.99 315 P **P** **14 42 01.0 -0.8**
KK31 pmax pmax
comp=Z,11nm,1.0s
KKAR Karatay Array 57.99 315 P **P** **14 42 00.6 -1.2**
KKAR Karatay Array 57.99 315 P **P** **14 42 00.6 -1.2**
BRZS Berezniki 58.94 323 *e*P **P** **14 42 07.8 -0.4**
comp=Z,5.1nm,0.8s,baz=323
BRZS Berezniki 58.94 323 *e*P **P** **14 42 07.8 -0.4**
BRZS pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 61.27 1 P **P** **14 42 23.1 -0.6**
TIXI Tiksi 61.27 1*ce*P **P** **14 42 22.5 -1.2**
TIXI Tiksi 61.27 1 P **P** **14 42 23.5 -0.2**
TIXI PcP **PcP** **14 43 05.0 -0.6**
BVAR Borovoye Array 61.44 325 P **P** **14 42 24.8 -0.4**
comp=Z,6.3nm,0.7s,baz=132,slow=6.8,SNR=25
comp=Z,6.3nm,0.7s
BRVK Borovoye 61.51 325 P **P** **14 42 25.1 -0.6**
BRVK IAmb IAmb 14 42 26.3
comp=Z,12nm,0.8s
BRVK Borovoye 61.51 325*ce*P **P** **14 42 25.3 -0.4**
BRVK pmax pmax
comp=Z,20nm,1.3s
BRVK Borovoye 61.51 325 P **P** **14 42 25.3 -0.4**
BILL Bilibino 63.40 16 P **P** **14 42 38.2 +0.2**
BILL IAmb IAmb 14 42 39.6
comp=Z,16nm,1.1s
BILL Bilibino 63.40 16*i* P **P** **14 42 37.5 -0.5**
BILL Bilibino 63.40 16 P **P** **14 42 38.4 +0.4**
GEYT Alibeck 66.27 307 P **P** **14 42 56.9 -0.4**
GEYT Alibeck 66.27 307 P **P** **14 42 57.3 0.0**
comp=Z,4.1nm,0.8s,baz=146,slow=6.3,SNR=7.3
comp=Z,4.1nm,0.8s
TOZ Tahuroa Road 66.57 139 P **P** **14 42 60.0 +0.9**
ABKAR Akbulak array 66.63 319 P **P** **14 42 57.9 -1.4**
ABKAR Akbulak array 66.63 319 IAmb IAmb 14 42 59.6
comp=Z,6.1nm,0.8s
SVE Sverdlovsk 67.99 327 *e*P **P** **14 43 07.4 -0.4**
SVE pmax pmax
comp=Z,18nm,1.0s
RTZ Ruatahuna 68.03 139 P **P** **14 43 08.4 +0.1**
GAMB Gambell 68.71 25 P **P** **14 43 12.8 +0.7**
baz=249
ARU Arti 69.00 327 P **P** **14 43 12.8 -1.3**
ARU IAmb IAmb 14 43 13.9
comp=Z,15nm,0.6s
ARU Arti 69.00 327*d i* P **P** **14 43 12.7 -1.4**
ARU S **S** **14 52 12.7 -1.4**
ARU SS **SS** **14 56 35.9 -4.7**
ARU pmax pmax
comp=Z,13nm,0.6s
ARU Arti 69.00 327 P **P** **14 43 13.1 -1.0**
TNA Tin City 70.84 24 P **P** **14 43 25.1 0.0**
baz=252
K13K Kusilvak Mount 71.25 28 P **P** **14 43 28.3 +0.5**
baz=256
F14K Arctic Creek 71.45 24 P **P** **14 43 29.3 +0.4**
baz=254
M13K Dall Lake 71.54 30 P **P** **14 43 30.0 +0.5**
baz=258
ANM Nome 71.59 25 IAmb IAmb 14 43 31.4
comp=Z,17nm,1.1s
ANM Nome 71.59 25 P **P** **14 43 30.3 +0.5**
baz=255
MSEY Mahe Island 71.77 262 P **P** **14 43 32.2 +0.4**
J14K Nanvaranak Lak 71.94 27 P **P** **14 43 32.1 +0.3**
baz=257
L14K Kuka Creek 72.05 29 P **P** **14 43 33.3 +0.8**
baz=258
F15K North Star Dit 72.18 24 IAmb IAmb 14 43 35.6
comp=Z,29nm,1.1s
F15K North Star Dit 72.18 24 P **P** **14 43 33.7 +0.4**
baz=255
G15K Niukluk 72.25 25 P **P** **14 43 34.1 +0.4**
baz=256
N14K Kuskokwak Cree 72.26 30 P **P** **14 43 34.6 +0.8**
baz=260
M14K Bethel 72.28 29 P **P** **14 43 34.9 +1.1**
baz=259
O14K Tigyukauivet M 72.36 31 P **P** **14 43 35.2 +0.8**
baz=260
C16K Lisburne Hills 72.61 21 P **P** **14 43 36.4 +0.7**
baz=254
CHNA Chernabura Isl 72.63 36 P **P** **14 43 37.1 +1.0**
baz=263
L15K Ungalak Mounta 72.67 28 P **P** **14 43 37.2 +0.9**
baz=260
K15K Wolf Creek Mou 72.77 28 P **P** **14 43 37.4 +0.6**
baz=259
M15K Kasigluk River 72.88 30 P **P** **14 43 37.8 +0.3**
baz=260
H16K Elim 72.92 25 P **P** **14 43 38.0 +0.3**
baz=258
G16K Koyuk River 73.03 25 P **P** **14 43 39.0 +0.6**
baz=258
O15K Ungalikthiuk R 73.08 31 P **P** **14 43 39.0 +0.3**
baz=262
N15K Kwethluk River 73.09 30 IAmb IAmb 14 43 41.5
comp=Z,33nm,1.1s
N15K Kwethluk River 73.09 30 P **P** **14 43 39.6 +0.8**
baz=261
D17K Noatak River 73.28 22 P **P** **14 43 40.8 +1.1**
baz=256
J16K Anvik River 73.37 27 P **P** **14 43 41.0 +0.7**
baz=260
RDOG Red Dog Mine 73.43 22 P **P** **14 43 41.8 +1.2**
baz=256
C17K DeLong Mountai 73.43 21 P **P** **14 43 41.3 +0.6**
baz=256,SNR=7.9
I17K Unalakleet 73.44 26 IAmb IAmb 14 43 43.3
comp=Z,15nm,0.9s
I17K Unalakleet 73.44 26 P **P** **14 43 41.7 +0.9**
baz=260
CHGN Chignik 73.46 34 P **P** **14 43 41.4 +0.4**
baz=264
E17K Hotham Inlet 73.61 23 P **P** **14 43 42.2 +0.5**
baz=258
L16K Owhat River 73.62 29 IAmb IAmb 14 43 43.6
comp=Z,16nm,0.9s
L16K Owhat River 73.62 29 P **P** **14 43 42.5 +0.7**
baz=261
F17K Baldwin Pennin 73.70 24 P **P** **14 43 43.2 +1.0**
baz=258
G17K Kiwalik Mounta 73.75 25 P **P** **14 43 43.1 +0.5**
baz=259
M16K Tiner Creek 73.77 29 P **P** **14 43 43.7 +1.0**
baz=262
N16K Nishlik Lake 73.78 30 P **P** **14 43 43.6 +0.7**
baz=262
H17K Granite Mounta 73.96 25 IAmb IAmb 14 43 46.1
comp=Z,26nm,1.0s
H17K Granite Mounta 73.96 25 P **P** **14 43 44.5 +0.7**
baz=260,SNR=12
O16K Kokwok River B 74.01 31 P **P** **14 43 44.7 +0.5**
baz=263
B18K Kokolik River 74.13 21 P **P** **14 43 45.5 +0.9**
baz=257,SNR=13
E18K Tukpahlearik C 74.15 23 P **P** **14 43 45.8 +0.9**
baz=259
C18K Utukok River 74.18 21 P **P** **14 43 45.9 +0.8**
baz=258
KIRV Kirov 74.23 328 *i* P **P** **14 43 44.8 -0.6**
L17K Donlin 74.24 28 P **P** **14 43 46.4 +1.0**
baz=262
K17K Iditarod 74.31 28 P **P** **14 43 47.0 +1.1**
baz=262
O17K Koliganek Bris 74.53 31 P **P** **14 43 48.7 +1.5**
baz=264
M17K Holitna River 74.55 29 P **P** **14 43 48.1 +0.8**
baz=263
A19K Wainwright 74.56 20 P **P** **14 43 48.2 +1.0**
baz=257
N17K Nushagak Hills 74.57 30 P **P** **14 43 48.4 +1.0**
baz=264
G18K Tagagawik 74.64 24 IAmb IAmb 14 43 49.5
comp=Z,15nm,0.9s
G18K Tagagawik 74.64 24 P **P** **14 43 48.5 +0.8**
baz=261
H18K Honhosa River 74.64 25 P **P** **14 43 48.9 +1.1**
baz=261
Q16K King Salmon 74.65 32 P **P** **14 43 49.3 +1.4**
baz=265
R17K Ugashik Creek 74.70 33 P **P** **14 43 49.1 +0.9**
baz=265
P17K Kvichak River 74.81 31 P **P** **14 43 49.5 +0.8**
baz=265,SNR=6.2
C19K Lookout Ridge 74.84 21 P **P** **14 43 50.0 +1.1**
baz=259,SNR=24
L18K Granite Mounta 75.00 28 IAmb IAmb 14 43 51.9
comp=Z,20nm,1.0s
L18K Granite Mounta 75.00 28 P **P** **14 43 50.9 +1.1**
baz=264
Q17K Contact Creek 75.02 32 P **P** **14 43 50.1 -0.1**
baz=265,SNR=6.3
J18K Innoko River 75.13 27 IAmb IAmb 14 44 25.0
comp=Z,29nm,1.7s
J18K Innoko River 75.13 27 P **P** **14 43 51.5 +0.9**
baz=263,SNR=5.2
F19K Shaleruckik Mo 75.13 23 P **P** **14 43 51.2 +0.7**
baz=261
GCSA Galena City Sc 75.21 26 P **P** **14 43 52.3 +1.3**
baz=263
N18K Kilae Creek 75.22 30 IAmb IAmb 14 43 53.7
comp=Z,21nm,1.0s
N18K Kilae Creek 75.22 30 P **P** **14 43 52.0 +0.8**
baz=265
D19K Kuna River 75.26 22 IAmb IAmb 14 43 53.6
comp=Z,32nm,0.9s
D19K Kuna River 75.26 22 P **P** **14 43 52.3 +1.0**
baz=261
G19K Purcell Mounta 75.31 24 IAmb IAmb 14 43 53.6
comp=Z,15nm,0.8s
G19K Purcell Mounta 75.31 24 P **P** **14 43 52.4 +0.8**
baz=262
M18K Stony River 75.33 29 P **P** **14 43 53.2 +1.4**
baz=265
TTA Tatalina 75.38 28 P **P** **14 43 53.4 +1.2**
baz=264
E19K Redstone River 75.43 23 P **P** **14 43 53.3 +1.0**
baz=262
P18K Big Mountain, 75.44 31 P **P** **14 43 53.5 +1.0**
baz=266
H19K Roundabout Mou 75.49 25 P **P** **14 43 53.4 +0.8**
baz=263
O18K Koktuh Hills 75.49 31 P **P** **14 43 54.0 +1.2**
baz=266,SNR=13
Q18K Katmai Hardscr 75.50 32 P **P** **14 43 53.1 +0.1**
baz=266
J19K Poorman 75.67 26 P **P** **14 43 54.4 +0.7**
baz=264
B20K Meade River 75.84 20 P **P** **14 43 55.9 +1.4**
baz=261
D20K Etivluk River 75.84 22 P **P** **14 43 55.6 +1.0**
baz=262
L19K White Mountain 75.85 28 P **P** **14 43 55.8 +1.0**
L19K IAmb IAmb 14 43 57.1
comp=Z,18nm,0.9s
L19K White Mountain 75.85 28 P **P** **14 43 55.6 +0.8**
baz=265
N19K Bonanza Creek 75.92 30 P **P** **14 43 56.1 +0.8**
baz=266,SNR=6.6
E20K Nigu River 75.94 22 P **P** **14 43 56.5 +1.3**
baz=263,SNR=18
O19K Port Alsworth 75.96 30 IAmb IAmb 14 43 57.3
comp=Z,28nm,0.9s
O19K Port Alsworth 75.96 30 P **P** **14 43 56.3 +0.9**
baz=266,SNR=5.1
F20K Avaraart Lake 75.96 23 IAmb IAmb 14 43 57.6
comp=Z,21nm,0.9s
F20K Avaraart Lake 75.96 23 P **P** **14 43 56.3 +1.0**
baz=263,SNR=20
H20K Anotleneega Mo 76.13 25 P **P** **14 43 57.4 +1.0**
baz=264,SNR=18
A21K Barrow 76.22 19 P **P** **14 43 57.4 +0.8**
baz=261
Q19K Cape Douglas, 76.23 32 P **P** **14 43 56.7 -0.3**
baz=267
I20K Naaghedeneel 76.24 26 P **P** **14 43 57.4 +0.6**
baz=265,SNR=6.2
K20K Telida 76.30 27 IAmb IAmb 14 43 59.9
comp=Z,16nm,1.1s
K20K Telida 76.30 27 P **P** **14 43 58.4 +1.0**
baz=266
L20K Farewell, AK 76.32 28 P **P** **14 43 58.8 +1.4**
baz=266
J20K Nowinta River 76.33 26 IAmb IAmb 14 43 59.4
comp=Z,32nm,1.2s
J20K Nowinta River 76.33 26 P **P** **14 43 58.3 +0.9**
baz=266,SNR=10
OHAK Old Harbor 76.34 34 P **P** **14 43 58.3 +0.7**
baz=268
C21K Knifeblade Rid 76.55 21 P **P** **14 43 59.5 +0.9**
baz=264,SNR=6.6
M20K Styx River 76.64 29 IAmb IAmb 14 44 01.7
comp=Z,12nm,0.9s
M20K Styx River 76.64 29 P **P** **14 44 00.0 +0.7**
baz=267
B21K Ikpikpuk River 76.67 21 P **P** **14 44 00.3 +1.1**
baz=264
A22K Sinclair Lake 76.70 19 P **P** **14 44 00.4 +1.0**
baz=263,SNR=9.1
GNI Garni 76.73 309*ce*P **P** **14 44 00.9 +0.5**
GNI pmax pmax
comp=Z,11nm,1.1s
KDAK Kodiak Island 76.74 33 P **P** **14 44 00.3 +0.5**
KDAK IAmb IAmb 14 44 01.1
comp=Z,28nm,0.9s
KDAK Kodiak Island 76.74 33 P **P** **14 44 00.7 +0.8**
baz=268
KDAK Kodiak Island 76.74 33 P **P** **14 44 00.4 +0.5**
KDAK pmax pmax
comp=Z,28nm,1.0s
E21K Killik River 76.77 22 P **P** **14 44 00.7 +0.7**
baz=265
G21K Allakaket 76.78 24 P **P** **14 44 00.6 +0.6**
baz=266,SNR=19
F21K Alatna River 76.85 23 P **P** **14 44 01.2 +0.8**
baz=265,SNR=5.3
Q20K Shuyak Island 76.87 32 P **P** **14 44 01.4 +0.8**
baz=268
H21K Melozitna Rive 77.01 25 IAmb IAmb 14 44 03.6
comp=Z,18nm,0.9s
H21K Melozitna Rive 77.01 25 P **P** **14 44 02.2 +0.9**
baz=266,SNR=15
CHUM Lake Minchumin 77.12 27 P **P** **14 44 02.8 +1.0**
baz=267
PPLA Purkeypile 77.13 28 P **P** **14 44 03.1 +1.0**
baz=268
B22K Teshekpuk Lake 77.15 20 P **P** **14 44 03.0 +1.1**
baz=265,SNR=17
CAST Castle Rocks 77.20 27 IAmb IAmb 14 44 04.3
comp=Z,22nm,0.9s
CAST Castle Rocks 77.20 27 P **P** **14 44 03.3 +0.9**
baz=268,SNR=12
ZEI Tsey 77.26 312 *e*P **P** **14 44 02.0 -1.4**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
CASY Casey 77.27 186 P **P** **14 44 02.0 -0.5**
CASY IAmb IAmb 14 44 04.1
comp=Z,24nm,1.1s
D22K Ayikyak River 77.28 22 P **P** **14 44 03.7 +1.0**
baz=266,SNR=8.9
I21K Tanana 77.32 25 P **P** **14 44 04.2 +1.2**
baz=267
F22K John River 77.38 23 P **P** **14 44 04.4 +1.1**
baz=266
SKT Skwentna 77.40 29 P **P** **14 44 04.3 +0.8**
baz=268
E22K Anaktuvuk Pass 77.55 22 IAmb IAmb 14 44 06.8
comp=Z,34nm,1.2s

E22K **Anaktuvuk Pass** 77.55 22 P P 14 44 05.6 +1.3
baz=267,SNR=17
ONI **Oni** 77.59 311 P P 14 44 05.3 +0.2
ONI **Oni** 77.59 311 P P 14 44 05.3 +0.2
ONI pmax pmax
comp=Z,14nm,1.4s
G22K **Bettles** 77.60 24 P P 14 44 05.5 +1.0
baz=267,SNR=14
H22K **Ishtalitna Cre** 77.61 25 P P 14 44 05.6 +0.9
baz=268
BPAW **Bear Paw Mtn.** 77.71 26 P P 14 44 06.0 +0.8
baz=268,SNR=16
BRSE **Bradley Lake S** 77.74 31 P P 14 44 05.7 +0.2
baz=270
SUA **Susitna One** 77.76 29 IAmb IAmb 14 44 06.5
comp=Z,26nm,1.0s
SUA **Susitna One** 77.76 29 P P 14 44 05.7 +0.1
baz=269
MLY **Manley** 77.84 26 IAmb IAmb 14 44 08.0
comp=Z,18nm,0.8s
MLY **Manley** 77.84 26 P P 14 44 07.1 +1.1
baz=268,SNR=23
KBZ **Khabaz** 77.95 313 *c*eP P 14 44 06.2 -0.7
KBZ pmax pmax
comp=Z,6.0nm,1.0s
KBZ **Khabaz** 77.95 313 P P 14 44 05.5 -1.3
comp=Z,3.4nm,0.9s,baz=212,slow=0.8,SNR=5.8
comp=Z,3.4nm,0.9s
CUT **Chulitna** 78.00 28 P P 14 44 06.6 -0.2
baz=269
TRF **Thorofare Moun** 78.00 27 IAmb IAmb 14 44 08.3
comp=Z,10nm,0.8s
TRF **Thorofare Moun** 78.00 27 P P 14 44 07.5 +0.5
baz=269
D23K **Nanushuk River** 78.01 22 P P 14 44 07.8 +1.0
baz=268
M22K **Willow** 78.06 29 P P 14 44 08.0 +0.8
baz=270
C23K **Itkillik River** 78.07 21 P P 14 44 07.9 +0.8
baz=267,SNR=19
KIV **Kislovodsk** 78.09 313 *e*P P 14 44 08.0 +0.2
KIV pmax pmax
comp=Z,6.0nm,0.8s
KIV MLR MLR
comp=Z,93nm,18.0s
COLD **Coldfoot** 78.13 23 P P 14 44 08.3 +0.8
baz=268,SNR=20
G23K **Bananza Creek** 78.18 24 IAmb IAmb 14 44 10.5
comp=Z,34nm,1.3s
G23K **Bananza Creek** 78.18 24 P P 14 44 08.7 +0.9
baz=269
RC01 **Rabbit Creek A** 78.25 30 P P 14 44 10.4 +2.1
baz=270
O22K **Cooper Landing** 78.25 30 P P 14 44 10.1 +1.8
baz=270
E23K **Chandalar** 78.37 22 P P 14 44 09.8 +0.8
baz=269
TOLK **Toolik Lake Re** 78.40 22 P P 14 44 09.6 +0.6
baz=269,SNR=12
VRH **Novokhopyorsk** 78.42 320 *e*P P 14 44 06.0 -3.4
VRH pmax pmax
comp=Z,10.0nm,0.4s
I23K **Minto, Yukon-K** 78.43 25 IAmb IAmb 14 44 12.1
comp=Z,13nm,0.7s
I23K **Minto, Yukon-K** 78.43 25 P P 14 44 09.4 +0.3
baz=270,SNR=13
PMR **Palmer** 78.53 29 IAmb IAmb 14 44 10.8
comp=Z,22nm,1.1s
PMR **Palmer** 78.53 29 P P 14 44 09.7 -0.1
baz=270
NEA2 **Nenana** 78.55 26 IAmb IAmb 14 44 11.6
comp=Z,18nm,0.8s
NEA2 **Nenana** 78.55 26 P P 14 44 10.0 +0.1
baz=270,SNR=12
MCK **McKinley** 78.61 27 P P 14 44 10.4 +0.2
baz=270,SNR=14
RND **Reindeer** 78.65 27 IAmb IAmb 14 44 11.4
comp=Z,26nm,1.2s
D24K **Happy Valley** 78.68 21 P P 14 44 11.1 +0.6
baz=269
C24K **Franklin Bluff** 78.73 21 P P 14 44 11.5 +0.8
baz=269
WAT1 **Susitna Watana** 78.79 28 P P 14 44 11.0 -0.3
baz=271
E24K **Your Creek** 78.80 22 IAmb IAmb 14 44 13.7
comp=Z,21nm,1.1s
E24K **Your Creek** 78.80 22 P P 14 44 11.8 +0.6
baz=270
KNK **Knik Glacier** 78.86 29 P P 14 44 11.7 0.0
baz=271
SML **Sawmill** 78.91 29 IAmb IAmb 14 44 13.5
comp=Z,29nm,1.1s
SML **Sawmill** 78.91 29 P P 14 44 12.0 0.0
baz=271
F24K **Squaw Lake** 79.03 23 IAmb IAmb 14 44 15.0
comp=Z,19nm,0.8s
F24K **Squaw Lake** 79.03 23 P P 14 44 13.2 +0.8
baz=270,SNR=20
H24K **Noodor Dome** 79.05 25 IAmb IAmb 14 44 14.8
comp=Z,13nm,0.9s
H24K **Noodor Dome** 79.05 25 P P 14 44 13.0 +0.4
baz=271
COLA **College** 79.07 26 P P 14 44 12.0 -0.6
COLA **College** 79.07 26 P P 14 44 13.1 +0.5
baz=271
COLA **College** 79.07 26 P P 14 44 12.0 -0.6
COLA pmax pmax
comp=Z,10.0nm,0.9s
WAT6 **Susitna Watana** 79.17 28 P P 14 44 13.6 +0.1
baz=272,SNR=12
G24K **Hadweenzic Riv** 79.20 24 IAmb IAmb 14 44 15.9
comp=Z,22nm,1.0s
G24K **Hadweenzic Riv** 79.20 24 P P 14 44 13.7 +0.3
baz=271
M23K **Glacier View** 79.20 29 P P 14 44 14.2 +0.7
baz=272
POKR **Poker Plat Res** 79.25 25 P P 14 44 14.5 +0.9
baz=271
KLMR **Klimovskoe** 79.32 330 *e*P P 14 44 11.8 -2.3
KLMR AMP 14 44 14.3
comp=Z,24nm,1.2s
KLMR **Klimovskoe** 79.32 330 *e*P P 14 44 11.7 -2.3
KLMR pmax pmax
comp=Z,24nm,1.2s
DHY **Denali Highway** 79.33 28 P P 14 44 14.6 +0.3
baz=272
SCM **Sheep Creek Mo** 79.39 29 P P 14 44 15.8 +1.2
baz=272,SNR=6.0
HDA **Harding Lake** 79.47 26 IAmb IAmb 14 44 14.8
comp=Z,11nm,0.8s
HDA **Harding Lake** 79.47 26 P P 14 44 14.4 -0.5
baz=272,SNR=11
HDA P P 14 44 14.4 -0.5
baz=272,SNR=11
ILAR **Eielson Array** 79.49 26 P P 14 44 14.0 -1.0
ILAR **Eielson Array** 79.49 26 P P 14 44 13.9 -1.0
comp=Z,4.4nm,0.7s,baz=240,slow=4.8,SNR=66
comp=Z,4.4nm,0.7s
GLI **Glacier Island** 79.54 30 P P 14 44 15.6 +0.3
baz=272
D25K **Kavik River** 79.55 21 P P 14 44 16.1 +0.8
baz=272
G25K **Bearman Lake** 79.74 24 P P 14 44 16.9 +0.6
baz=272
F25K **Christian Rive** 79.89 23 P P 14 44 17.9 +0.7
baz=272
E25K **Arctic Village** 79.89 22 IAmb IAmb 14 44 19.9
comp=Z,32nm,1.3s
E25K **Arctic Village** 79.89 22 P P 14 44 17.8 +0.6
baz=272,SNR=13
M24K **Tolsona, Glenn** 79.92 29 P P 14 44 17.9 +0.4
baz=273
VORD **Divnogorie** 79.97 320 *e*P P 14 44 15.2 -2.6
VORD pmax pmax
comp=Z,8.0nm,0.8s
VORR **Voronezh** 79.97 321 *e*P P 14 44 15.2 -2.6
VORR pmax pmax
comp=Z,40nm,0.4s
K24K **Donnelly Dome** 80.01 27 P P 14 44 18.4 +0.5
baz=273,SNR=6.1
VSR **Storozhevoye** 80.03 320 *e*P P 14 44 14.1 -4.0
VSR pmax pmax
comp=Z,10.0nm,0.8s
PRP **Porcupine Dome** 80.03 25 P P 14 44 17.9 -0.2
baz=273
C26K **Camden Bay** 80.04 21 P P 14 44 19.0 +1.2
baz=273,SNR=13
KLU **Klutina** 80.07 29 P P 14 44 18.9 +0.6
baz=273
LPSR **Galich'ya Gora** 80.08 322 *e*P P 14 44 15.7 -2.7
LPSR pmax pmax
comp=Z,10.0nm,0.8s
FYU **Fort Yukon** 80.09 24 IAmb IAmb 14 44 38.9
comp=Z,58nm,1.7s
J25K **Salcha River,** 80.15 26 P P 14 44 18.3 -0.4
baz=273
PAX **Paxson** 80.20 28 P P 14 44 19.1 +0.2
baz=274
HARP **HAARP** 80.38 28 P P 14 44 20.8 +0.9
baz=274
RIDG **Independent Ri** 80.43 27 IAmb IAmb 14 44 21.4
comp=Z,28nm,1.0s
RIDG **Independent Ri** 80.43 27 P P 14 44 20.5 +0.4
baz=274,SNR=9.5
F26K **Sheenjek River** 80.45 23 P P 14 44 21.4 +1.2
baz=274
G26K **Porcupine Rive** 80.64 24 P P 14 44 21.8 +0.7
baz=274
N25K **Chitina, Valde** 80.70 29 P P 14 44 22.3 +0.6
baz=274
BMRM **Bremner River** 80.75 30 P P 14 44 22.4 +0.5
baz=275
SCRK **Sand Creek** 80.79 27 P P 14 44 22.3 +0.1
baz=275,SNR=6.1
J26L **Joseph Creek** 80.93 26 P P 14 44 23.7 +0.8
baz=275
I26K **Coal Creek Min** 81.03 25 P P 14 44 23.6 +0.3
baz=275
GLB **Gilahina Butte** 81.09 29 IAmb IAmb 14 44 29.2
comp=Z,44nm,1.6s
L26K **Log Cabin Wild** 81.16 27 IAmb IAmb 14 44 42.6
comp=Z,37nm,1.9s
L26K **Log Cabin Wild** 81.16 27 P P 14 44 25.0 +1.0
baz=275
OBN **Obninsk** 81.26 324 *e*P P 14 44 24.1 -0.5
OBN *i* PPS PPS 14 55 45.1
OBN pmax pmax
comp=Z,36nm,1.6s
OBN MLR MLR
comp=Z,174nm,18.0s
E27K **Coleen River** 81.37 22 P P 14 44 25.8 +0.7
baz=276
M26K **Nabesna, AK** 81.38 28 P P 14 44 25.6 +0.4
baz=276
D27M **Malcolm River** 81.48 21 IAmb IAmb 14 44 28.2
comp=Z,26nm,1.1s
D27M **Malcolm River** 81.48 21 P P 14 44 26.2 +0.6
baz=277,SNR=11
G27K **Doyon Strip** 81.49 24 P P 14 44 26.5 +0.8
baz=276
CRQE **Cirque** 81.50 30 P P 14 44 26.6 +0.6
baz=276
H27K **Steamboat Moun** 81.61 24 P P 14 44 27.1 +0.8
baz=276
K27K **Chicken** 81.62 26 P P 14 44 27.4 +0.9
baz=276
I27K **Kandik River** 81.64 25 P P 14 44 27.5 +0.9
baz=276
L27K **Beaver Creek,** 81.84 27 IAmb IAmb 14 44 31.0
comp=Z,31nm,1.6s
L27K **Beaver Creek,** 81.84 27 P P 14 44 28.5 +0.9
baz=276
M27K **Edge Creek, AK** 81.90 28 P P 14 44 29.1 +1.0
baz=277
EGAK **Eagle** 81.93 26 IAmb IAmb 14 44 45.4
comp=Z,52nm,1.9s
EGAK **Eagle** 81.93 26 P P 14 44 28.5 +0.5
baz=277
E28M **Babbage River** 82.07 22 IAmb IAmb 14 44 31.2
comp=Z,26nm,1.2s
E28M **Babbage River** 82.07 22 P P 14 44 29.6 +0.8
baz=278
F28M **Old Crow** 82.08 23 IAmb IAmb 14 44 31.1
comp=Z,19nm,0.9s
F28M **Old Crow** 82.08 23 P P 14 44 29.6 +0.8
baz=278,SNR=15
MESA **MESA** 82.13 30 P P 14 44 29.9 +0.5
baz=277
D28M **Stokes Point** 82.25 21 P P 14 44 30.5 +0.9
baz=279
CTG **Chitina Glacier** 82.33 29 P P 14 44 31.1 +0.7
baz=277,SNR=7.6
I28M **Miner Creek** 82.36 25 IAmb IAmb 14 44 33.0
comp=Z,26nm,0.8s
I28M **Miner Creek** 82.36 25 P P 14 44 31.2 +0.8
baz=278
BVCY **Beaver Creek** 82.37 28 P P 14 44 31.6 +1.2
baz=278
LOGN **Logan Glacier** 82.51 30 IAmb IAmb 14 44 34.4
comp=Z,23nm,1.0s
YUK3 **Moose Creek** 82.64 29 P P 14 44 32.7 +0.6
baz=278
E29M **Blow River** 82.70 22 P P 14 44 33.5 +1.5
baz=280
DAWY **Dawson** 82.79 26 P P 14 44 33.8 +1.2
baz=279,SNR=6.0
H29M **Whitestone** 82.88 24 IAmb IAmb 14 44 34.6
comp=Z,12nm,0.8s
H29M **Whitestone** 82.88 24 P P 14 44 34.0 +1.0
baz=279
G29M **Pine Creek** 82.90 23 IAmb IAmb 14 44 35.4
comp=Z,21nm,0.8s
G29M **Pine Creek** 82.90 23 P P 14 44 34.2 +1.1
baz=280
PINM **Pinnacle** 82.98 30 P P 14 44 34.7 +1.0
baz=278
YUK8 **Steele Glacier** 83.04 29 P P 14 44 35.0 +0.8
baz=279
I29M **Ogilvie Camp,** 83.05 25 P P 14 44 35.1 +1.2
baz=280
M29M **Somme Creek** 83.47 28 IAmb IAmb 14 44 40.1
comp=Z,10.0nm,0.8s
M29M **Somme Creek** 83.47 28 P P 14 44 37.1 +0.9
baz=280,SNR=5.9
PNL **Peninsula** 83.47 31 P P 14 44 37.6 +1.5
baz=279
L29M **L29M** 83.50 27 P P 14 44 37.2 +0.9
baz=280
EPYK **Eagle Plains** 83.51 24 P P 14 44 36.9 +0.6
baz=281,SNR=5.3
YUK4 **Talbot Arm** 83.56 29 P P 14 44 37.0 +0.2
baz=280
G30M **tAoh Zraii Nji** 83.59 23 P P 14 44 37.1 +0.5
baz=281
F30M **Barrier River** 83.63 22 P P 14 44 37.8 +1.0
baz=282
K29M **Barlow Dome** 83.64 26 IAmb IAmb 14 44 39.8
comp=Z,39nm,1.4s
K29M **Barlow Dome** 83.64 26 P P 14 44 37.7 +0.6
baz=280
YUK6 **Outpost Mounta** 83.77 29 P P 14 44 38.1 +0.2
baz=280
O29M **Mount Kennedy** 83.78 30 P P 14 44 38.7 +0.9
baz=280
I30M **Mount Dempster** 83.87 25 IAmb IAmb 14 44 40.3
comp=Z,17nm,1.1s
I30M **Mount Dempster** 83.87 25 P P 14 44 39.3 +1.1
baz=281,SNR=9.9
SPITS **Spitsbergen Ar** 83.88 349 P P 14 44 37.7 -0.2
comp=Z,22nm,0.9s,baz=96,slow=8.5,SNR=23
comp=Z,22nm,0.9s
J30M **Hart River** 84.02 25 IAmb IAmb 14 44 41.6
comp=Z,35nm,1.6s
J30M **Hart River** 84.02 25 P P 14 44 40.5 +1.5
baz=281
ARCES **ARCESS Array B** 84.02 340 P P 14 44 38.7 0.0
comp=Z,4.2nm,0.8s,baz=76,slow=6.6,SNR=20
comp=Z,4.2nm,0.8s
M30M **Minto, Yukon** 84.20 27 P P 14 44 41.4 +1.6
baz=281,SNR=11
HYT **Haines Junctio** 84.20 29 IAmb IAmb 14 44 42.8
comp=Z,19nm,1.0s
HYT **Haines Junctio** 84.20 29 P P 14 44 41.5 +1.5
baz=281,SNR=6.2
N30M **Aishikik Lake** 84.28 29 P P 14 44 42.0 +1.7
baz=281
INK **Inuvik** 84.31 22 IAmb IAmb 14 44 42.1
comp=Z,22nm,1.2s
INK **Inuvik** 84.31 22 P P 14 44 40.9 +0.7
baz=284,SNR=12
INK **Inuvik** 84.31 22 P P 14 44 40.8 +0.6
INK pmax pmax
comp=Z,21nm,1.5s
P29M **Windy Craggy** 84.31 31 P P 14 44 41.7 +1.2
baz=281
G31M **Satah River** 84.35 23 IAmb IAmb 14 44 42.1
comp=Z,37nm,1.5s
G31M **Satah River** 84.35 23 P P 14 44 41.2 +0.8
baz=283,SNR=7.3
KBS **Kingsbay** 84.39 350 *i* P P 14 44 36.6 -3.9
MAYO **Mayo, Yukon** 84.40 26 P P 14 44 42.2 +1.4
baz=282,SNR=8.8
F31M **Tsiigehtchic** 84.43 22 IAmb IAmb 14 44 42.5
comp=Z,26nm,1.4s
F31M **Tsiigehtchic** 84.43 22 P P 14 44 41.1 +0.3
baz=283,SNR=9.0
P30M **Million Dollar** 84.60 30 P P 14 44 43.2 +1.3
baz=281
N31M **Braeburn, Yuko** 84.89 28 P P 14 44 44.8 +1.5
baz=282,SNR=8.6
O30N **Mendenhall** 84.89 29 IAmb IAmb 14 44 46.0
comp=Z,20nm,1.1s
O30N **Mendenhall** 84.89 29 P P 14 44 44.9 +1.5
baz=282,SNR=5.7
MMAI **Mount Meron Ar** 84.93 302 P P 14 44 45.7 +1.5
comp=Z,1.9nm,0.5s,baz=69,slow=4.8,SNR=3.1
comp=Z,1.9nm,0.5s
BRTR **Keskin Array B** 85.26 309 P P 14 44 44.9 -1.0
comp=Z,2.6nm,0.7s,baz=106,slow=3.9,SNR=17
comp=Z,2.6nm,0.7s
M31M **Drury Creek, Y** 85.38 28 IAmb IAmb 14 44 48.0
comp=Z,16nm,1.1s
M31M **Drury Creek, Y** 85.38 28 P P 14 44 46.5 +0.8
baz=283,SNR=6.5
S31K **Pelican** 85.41 32 P P 14 44 46.7 +0.8
baz=282
WHY **Whitehorse** 85.50 29 P P 14 44 47.9 +1.4
baz=283,SNR=8.9
SKAG **Skagway** 85.55 30 P P 14 44 47.6 +1.1
baz=283
R31K **City Hall, Gus** 85.57 31 P P 14 44 48.0 +1.3
baz=282
FINES **FINESS Array B** 85.69 332 *i* P P 14 44 46.7 -0.5
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES **FINESS Array B** 85.69 332 P P 14 44 46.6 -0.6
comp=Z,5.2nm,0.8s,baz=71,slow=4.8,SNR=20
comp=Z,5.2nm,0.8s
FARO **Faro, Yukon** 85.84 27 P P 14 44 49.1 +1.0
baz=284,SNR=21
A36M **Sachs Harbour** 85.92 17 P P 14 44 49.0 +0.8
baz=291
N32M **Quiet Lake** 86.24 29 P P 14 44 51.3 +1.3
baz=285,SNR=12
P32M **Atlin** 86.32 30 P P 14 44 50.8 +0.4
baz=284
AKASG **Malin Array Be** 86.32 321 IAmb IAmb 14 44 50.9
comp=Z,11nm,1.2s
AKASG **Malin Array Be** 86.32 321 *i* P P 14 44 49.5 -1.1
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG **Malin Array Be** 86.32 321 P P 14 44 49.2 -1.4
comp=Z,4.0nm,0.7s,baz=63,slow=4.7,SNR=15
comp=Z,4.0nm,0.7s
AKBB **Malin Array Si** 86.32 321 IAmb IAmb 14 44 51.1
comp=Z,13nm,1.0s
AKBB **Malin Array Si** 86.32 321 *i* P P 14 44 49.2 -1.4
AKBB pmax pmax
comp=Z,16nm,1.1s
KIEV **Kiev** 86.33 321 P P 14 44 49.4 -1.2
KIEV IAmb IAmb 14 44 51.1
comp=Z,13nm,1.1s
KIEV **Kiev** 86.33 321 P P 14 44 49.4 -1.2
KIEV pmax pmax
comp=Z,13nm,1.1s
S32K **Killisnoo** 86.38 32 P P 14 44 51.6 +0.9
baz=284
P33M **Teslin, Yukon** 86.60 29 P P 14 44 52.8 +0.9
baz=285
Q32M **Nakina River** 87.20 31 P P 14 44 55.7 +0.7
baz=285
C36M **Paulatuk** 87.26 20 IAmb IAmb 14 44 56.2
comp=Z,13nm,0.7s
T33K **Petersburg** 87.40 33 P P 14 44 56.5 +0.8
baz=285
CRAG **Craig** 87.66 34 P P 14 44 58.0 +1.1
baz=285
R33M **Jennings River** 87.72 30 P P 14 44 58.1 +0.7
baz=286
PPT2 **Papeete2** 87.86 108 *e*LR LR 15 12 57.5
PPT2 *e*LR LR 15 13 00.4
comp=Z,184nm,22.0s
comp=Z,196nm,21.8s
S34M **Telegraph Cree** 88.06 31 P P 14 44 59.7 +0.8
baz=286
V35K **Ketchikan** 88.52 34 P P 14 45 02.6 +1.5
baz=286
KMPD **K-Podol'skiy** 88.55 319 P P 14 45 00.0 -1.3
WTLY **Watson Lake, Y** 88.56 29 P P 14 45 02.0 +0.8
baz=288
KMBO **Kilima Mbogo** 88.95 269 P P 14 45 04.0 -0.2
KMBO **Kilima Mbogo** 88.95 269 *i* P P 14 45 05.0 +0.7
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO **Kilima Mbogo** 88.95 269 P P 14 45 04.1 -0.2
comp=Z,0.8nm,0.4s,baz=53,slow=10,SNR=5.5
KMBO LR LR 15 25 20.7
comp=Z,85nm,18.1s,baz=89,slow=36
comp=Z,0.8nm,0.4s
TBI **Tubuai** 89.11 114 *e*LR LR 15 13 24.3
comp=Z,842nm,24.0s
MAW **Mawson** 89.68 200 P P 14 45 06.3 +0.2
MAW **Mawson** 89.68 200 P P 14 45 06.3 +0.2
comp=Z,11nm,0.6s,baz=50,slow=4.2,SNR=13
comp=Z,11nm,0.6s
WRGLY **Wrigley** 89.84 25 P P 14 45 07.8 +0.7
baz=283
VNDA **Vanda** 90.05 173 P P 14 45 07.7 +0.1
VNDA IAmb IAmb 14 45 08.9
comp=Z,5.4nm,0.8s
VNDA **Vanda** 90.05 173 P P 14 45 07.8 +0.2
comp=Z,6.4nm,0.9s,baz=316,slow=6.1,SNR=19
comp=Z,6.4nm,0.9s
DAG **Danmarks Havn** 90.63 352 P P 14 45 10.2 -0.3
DAG pmax pmax
comp=Z,23nm,1.7s
DAG **Danmarks Havn** 90.63 352 *i* P P 14 45 08.0 -2.6
DAG IAmb IAmb 14 45 11.4
comp=Z,6.5nm,0.7s
RES **Resolute Bay** 91.46 10 P P 14 45 15.3 +0.9
RES pmax pmax
comp=Z,18nm,2.5s
CRVS **Cervenica-Dubn** 91.64 320 *e*P P 14 45 16.3 +0.5
CRVS **Cervenica-Dubn** 91.64 320 *e*P P 14 45 16.3 +0.5
HFS **Hagfors** 91.85 332 P P 14 45 15.1 -1.4
comp=Z,2.9nm,0.8s,baz=80,slow=8.1,SNR=10
comp=Z,2.9nm,0.8s
NEEM **North Greenlan** 92.33 359 *i* P P 14 45 16.9 -1.9
NEEM IAmb IAmb 14 45 21.0
comp=Z,31nm,0.8s
NB2 **NORSAR Subarra** 92.56 334 P P 14 45 18.5 -1.4
comp=Z,5.3nm,1.0s,baz=65,slow=4.6
NB2 **NORSAR Subarra** 92.56 334 P P 14 45 18.5 -1.4
baz=65,slow=4.6
NOA **NORSAR Array B** 92.56 334 P P 14 45 18.4 -1.4
comp=Z,1.3nm,0.7s,baz=63,slow=4.7,SNR=6.3
NOA LR LR 15 30 53.2
comp=Z,134nm,18.6s,baz=55,slow=38
comp=Z,1.3nm,0.7s
DBG **Daneborg** 92.91 351 *i* P P 14 45 18.9 -2.2
DBG IAmb IAmb 14 45 22.4
comp=Z,8.1nm,0.9s
IDI **Anoyia** 92.99 306 LR LR 15 34 08.4
comp=Z,62nm,19.8s,baz=68,slow=40
VYHS **Vyhne** 93.42 320 *e*P P 14 45 29.9 +5.9
VYHS **Vyhne** 93.42 320 *e*P P 14 45 29.9 +5.9
MORC **Moravsky Berou** 93.78 322 *e*P P 14 45 28.1 +2.4
YKA **Yellowknife Ar** 93.80 24 *i* P P 14 45 26.2 +0.8
YKA pmax pmax
comp=Z,6.0nm,0.8s
YKA **Yellowknife Ar** 93.80 24 P P 14 45 25.9 +0.5
comp=Z,5.3nm,0.8s,baz=300,slow=4.9,SNR=64
YKA PKKPbc **PKKPdf** 15 02 27.8 -1.5
comp=Z,0.3nm,0.7s,baz=130,slow=2.1,SNR=6.6
comp=Z,5.3nm,0.8s
JAVC **Velka Javorina** 94.02 321 *e*P P 14 45 27.6 +0.7
VRAC **Vranov** 94.52 322 *e*P P 14 45 29.2 +0.1
KRUC **Moravsky** 94.73 322 *e*P P 14 45 29.8 -0.2
TAOE **Nuku Hiva Isla** 95.33 98 *e*LR LR 15 16 27.4
comp=Z,225nm,22.3s
SSRD **Sdr. Stenderup** 95.85 329 *i* P P 14 45 38.8 +3.9
SSRD IAmb IAmb 14 45 41.7
comp=Z,61nm,0.4s
ZVC **Zvikov** 95.92 322 *e*P P 14 45 41.3 +5.8

CKRC	**Cesky Krumlov**	**96.10**	**322**	*e*P		**P**	**14 45 36.3**	**0.0**
CKRC	**Cesky Krumlov**	**96.10**	**322**	*e*P		**P**	**14 45 36.3**	**0.0**
KHC	**Kasperske Hory**	**96.42**	**322**	*e*P		P	14 45 44.7	+6.9
KHC	**Kasperske Hory**	**96.42**	**322**	*e*P		P	14 45 44.7	+6.9
GERES	**GERESS Array B**	**96.46**	**322**	P		**P**	**14 45 37.8**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=39,slow=6.3,SNR=2.4							
	comp=Z,0.8nm,0.6s							
SUMG	**Summit**	**96.62**	**355**	*i* P		**P**	**14 45 36.9**	**-1.8**
SUMG				IAmb		IAmb	14 45 41.9	
	comp=Z,5.5nm,1.1s							
NEW	**Newport**	**99.47**	**37**	P		**Pdif**	**14 45 51.8**	**+0.3**
	baz=297							
QSPA	**South Pole Qui**	**100.22**	**180**	P		**Pdif**	**14 45 55.1**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=288,slow=0.4,SNR=5.1							
QSPA				PKKPbc		**PKKPbc**	**15 02 11.6**	**-3.5**
	comp=Z,0.7nm,0.8s,baz=253,slow=0.3,SNR=8.5							
SMMC	**Simmler**	**102.99**	**50**	P		**Pdif**	**14 46 07.8**	**+0.3**
	baz=293							
DY2G	**Dye2**	**103.17**	**357**	*i* P		**Pdif**	**14 46 07.8**	**0.0**
DY2G				IAmb		IAmb	14 46 09.2	
	comp=Z,5.3nm,0.8s							
HLID	**Hailey**	**103.34**	**41**	P		**Pdif**	**14 46 08.9**	**-0.1**
	baz=299							
BOZ	**Bozeman (W)**	**104.06**	**38**	P		**Pdif**	**14 46 11.9**	**-0.2**
	baz=301							
TPNV	**Topopah Spring**	**105.09**	**47**	P		**Pdif**	**14 46 16.3**	**-0.6**
	baz=296							
HEC	**Hector,Ludlow**	**105.93**	**49**	P		**PKiKP**	**14 50 33.5**	**+0.7**
	baz=295							
DUG	**Dugway, Tooele**	**106.00**	**43**	P		**PKiKP**	**14 50 33.3**	**+0.5**
	baz=299							
PDAR	**Pinedale Array**	**106.81**	**39**	PP		**PP**	**14 50 44.6**	**-5.7**
	comp=Z,0.1nm,0.4s,baz=298,slow=6.2,SNR=4.0							
KSU1	**Kansas State U**	**116.84**	**36**	P		**PKPdf**	**14 50 53.8**	**+0.5**
	baz=312							
JFWS	**Jewell Farm**	**117.51**	**29**	P		**PKPdf**	**14 50 54.6**	**+0.2**
	baz=319							
TXAR	**Lajitas Array**	**117.98**	**49**	PKP		**PKPdf**	**14 50 56.5**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=278,slow=1.0,SNR=16							
WMOK	**Wichita Mounta**	**118.30**	**41**	PKIKP		**PKiKP**	**14 50 59.0**	**+2.7**
TUL3	**Leonard**	**119.43**	**38**	P		**PKPdf**	**14 50 59.1**	**+0.7**
	baz=311							
S39A	**Bolivar**	**119.69**	**35**	PKPdf		**PKPdf**	**14 50 58.3**	**-0.5**
U38A	**Gravette**	**119.93**	**37**			**PKPdf**	**14 50 59.1**	**-0.2**
TOA0	**Torodi Ar. Sit**	**119.98**	**292**	PKPdf		**PKPdf**	**14 50 59.1**	**-0.8**
TORD	**Torodi Ar. Bea**	**119.98**	**292**	PKPdf		**PKPdf**	**14 50 58.8**	**-1.1**
TORD	**Torodi Ar. Bea**	**119.98**	**292**	PKP		**PKPdf**	**14 50 59.2**	**-0.7**
	comp=Z,3.6nm,0.8s,baz=52,slow=3.0,SNR=18							
JCT	**Junction City**	**120.14**	**46**	PKPdf		**PKPdf**	**14 51 00.0**	**+0.1**
JCT	**Junction City**	**120.14**	**46**	P		**PKPdf**	**14 51 00.2**	**+0.3**
	baz=306							
JCT	**Junction City**	**120.14**	**46**	PKIKP		**PKPdf**	**14 51 00.0**	**+0.1**
DRIO	**Del Rio**	**120.16**	**47**	PKPdf		**PKPdf**	**14 51 00.5**	**+0.6**
BRDY	**Brady**	**120.23**	**44**	PKPdf		**PKPdf**	**14 51 00.1**	**+0.1**
CCM	**Cathedral Cave**	**120.59**	**34**	P		**PKPdf**	**14 51 01.2**	**+0.8**
	baz=316							
WHTX	**Lake Whitney,**	**120.86**	**43**	P		**PKPdf**	**14 51 01.9**	**+0.7**
	baz=308							
833A	**Chaparral WMA,**	**121.67**	**48**	P		**PKPdf**	**14 51 03.1**	**+0.3**
	baz=305							
MIAR	**Mount Ida**	**121.69**	**38**	P		**PKPdf**	**14 51 03.4**	**+0.7**
	baz=313							
O48B	**Farmland**	**121.97**	**28**	P		**PKPdf**	**14 51 03.5**	**+0.4**
	baz=323							
LCAR	**Lake Charles**	**122.06**	**35**	PKPdf		**PKPdf**	**14 51 03.5**	**+0.1**
ERPA	**Erie**	**122.60**	**23**	P		**PKPdf**	**14 51 04.5**	**+0.3**
	baz=329							
P49A	**Miami Univ. Ec**	**122.75**	**28**	P		**PKPdf**	**14 51 04.8**	**+0.1**
	baz=324							
M53A	**WI Miller and**	**122.92**	**24**	P		**PKPdf**	**14 51 05.0**	**+0.2**
	baz=328							
PKME	**Peaks-Kenny Pk**	**122.95**	**13**	P		**PKPdf**	**14 51 05.0**	**+0.2**
	baz=342							
ACSO	**Alum Creek Sta**	**122.97**	**26**	P		**PKPdf**	**14 51 05.5**	**+0.5**
	baz=326							
WCI	**Wyandotte Cave**	**123.03**	**30**	P		**PKPdf**	**14 51 06.0**	**+0.8**
	baz=321							
O53A	**New Philadelph**	**123.70**	**25**	P		**PKPdf**	**14 51 07.0**	**+0.6**
	baz=327							
P52A	**Corning**	**123.83**	**26**	P		**PKPdf**	**14 51 07.2**	**+0.6**
	baz=326							
WVT	**Waverly**	**123.85**	**33**			**PKPdf**	**14 51 06.7**	**-0.1**
WVT	**Waverly**	**123.85**	**33**	P		**PKPdf**	**14 51 07.2**	**+0.4**
	baz=319							
WVT	**Waverly**	**123.85**	**33**	PKIKP		**PKPdf**	**14 51 06.7**	**-0.1**
BINY	**Binghamton**	**123.95**	**20**	P		**PKPdf**	**14 51 07.2**	**+0.3**
	baz=334							
OXF	**Oxford**	**124.17**	**35**	P		**PKPdf**	**14 51 08.2**	**+0.8**
	baz=317							
SSPA	**Standing Stone**	**124.67**	**22**	P		**PKPdf**	**14 51 09.2**	**+0.9**
	baz=331							
L61B	**Northampton**	**124.74**	**17**	P		**PKPdf**	**14 51 08.9**	**+0.6**
	baz=338							
MCWV	**Mont Chateau**	**124.76**	**24**	P		**PKPdf**	**14 51 08.9**	**+0.4**
	baz=329							
PAL	**Palisades**	**125.70**	**18**	P		**PKPdf**	**14 51 10.9**	**+0.7**
	baz=336							
TZTN	**Tazewell**	**125.70**	**29**	P		**PKPdf**	**14 51 10.7**	**+0.3**
	baz=324							
BLA	**Blacksburg**	**126.59**	**26**	P		**PKPdf**	**14 51 12.5**	**+0.4**
	baz=327							
LRAL	**Lakeview Retre**	**126.61**	**35**	P		**PKPdf**	**14 51 12.8**	**+0.7**
	baz=318							
KMSC	**Kings Mountain**	**127.89**	**28**	P		**PKPdf**	**14 51 15.2**	**+0.6**
	baz=325							
BRAL	**Brewton**	**127.96**	**36**	P		**PKPdf**	**14 51 15.0**	**+0.2**
	baz=317							
KIC	**Kosan Boka**	**128.20**	**287**	⇑*e*PKIKP		**PKPdf**	**14 51 16.0**	**+0.3**
	comp=Z,20nm,0.9s							
DBIC	**Dimbokro**	**128.21**	**287**	PKP		**PKPdf**	**14 51 16.1**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=262,slow=3.1,SNR=5.1							
GOGA	**Godfrey**	**128.23**	**32**	P		**PKPdf**	**14 51 15.4**	**+0.2**
	baz=322							
TIC	**Toumodi**	**128.37**	**287**	⇑*e*PKIKP		**PKPdf**	**14 51 16.2**	**+0.1**
	comp=Z,9.6nm,0.9s							
LIC	**Lamto**	**128.51**	**287**	⇑*e*PKIKP		**PKPdf**	**14 51 16.4**	**+0.1**
	comp=Z,29nm,0.8s							
TIGA	**Tifton**	**129.70**	**33**	P		**PKPdf**	**14 51 18.8**	**+0.7**
	baz=321							
DWPF	**Disney Wildern**	**133.46**	**34**	P		**PKPdf**	**14 51 25.8**	**+0.5**
	baz=322							
PLCA	**Paso Flores**	**146.39**	**157**	PKPbc		**PKPbc**	**14 51 50.3**	**+0.6**
PLCA	**Paso Flores**	**146.39**	**157**	PKP2		**PKPbc**	**14 51 50.3**	**+0.6**
PLCA	**Paso Flores**	**146.39**	**157**	PKPbc		**PKPbc**	**14 51 50.6**	**+0.9**
	comp=Z,13nm,0.9s,baz=221,slow=2.8,SNR=28							
GO06	**Curarrehue**	**147.00**	**155**			**PKPdf**	**14 51 51.5**	**+2.0**
SJCC	**San Jacinto, C**	**150.88**	**47**	*e*P		**PKPbc**	**14 52 02.1**	**0.0**
APAC	**Apartado, Choc**	**151.13**	**52**	*e*P		**PKiKP**	**14 52 04.8**	**+1.7**
BO02	**Sierra Bellavi**	**151.26**	**150**			**PKPbc**	**14 52 02.8**	**+0.3**
UREC	**San Jos de Ur**	**152.03**	**51**	*e*P		**PKPbc**	**14 52 04.8**	**+0.1**
ZARC	**Zaragoza, Cauc**	**152.71**	**50**	*e*P		**PKPdf**	**14 52 00.5**	**+1.5**
OCAC	**Ocana**	**153.34**	**47**	*e*P		**PKPbc**	**14 52 08.5**	**+0.8**
OTAV	**Otavalo**	**153.51**	**68**	PKIKP		**PKPdf**	**14 51 59.4**	**-1.4**
YOTC	**Yotoco, Valle**	**153.59**	**58**	*e*P		**PKPdf**	**14 52 02.4**	**+1.9**
MCRA	**Macar, Loja**	**153.61**	**79**			**PKPbc**	**14 52 08.1**	**-0.2**
MCRA	**Macar, Loja**	**153.61**	**79**	*e*P		**PKPbc**	**14 52 06.3**	**-1.9**
GUY2C	**Guyana, Caldas**	**153.70**	**55**	*e*P		**PKPdf**	**14 52 02.6**	**+1.4**
BBAC	**Balboa, Cauca**	**153.81**	**63**	*e*P		**PKPbc**	**14 52 08.7**	**-0.2**
POPC	**Popayan, Colom**	**154.06**	**62**	*e*P		**PKPdf**	**14 52 02.2**	**+0.9**
BONI	**La Bonita**	**154.26**	**67**	*e*P		**PKiKP**	**14 52 11.2**	**+1.3**
BARC	**Barichara**	**154.55**	**49**	*e*P		**PKPdf**	**14 52 02.4**	**+0.4**
SDV	**Santo Domingo**	**154.72**	**41**	*e*P		**PKPdf**	**14 52 02.6**	**+0.4**
SAML	**Samuel**	**170.85**	**82**	PKIKP		**PKPdf**	**14 52 18.5**	**+1.0**

*NORS **17** 14:33:47.5, 42°.53N×44°.37E, h1km, MPVA3.4*
*TIF **17** 14:33:48.4, 42°.51N×44°.48E, h4km*
ISC 17 14:33:48.3±0.9, 42°.53N±0°.03×44°.50E±0°.03, h7km±6km, n21, σ1§20/39, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUDG	**Gudauri**	**0.06**	**193**	P		**Pg**		**14 33 50.1**	**-0.1**
GUDG				S		**Sg**		**14 33 50.9**	**-0.8**
GUDG	**Gudauri**	**0.06**	**193**	*i* Pg		**Pg**		**14 33 50.1**	**-0.1**
GUDG				*e*Sg		**Sg**		**14 33 53.5**	**+1.9**
MTEO	**Meteo**	**0.16**	**10**	P		**Pg**		**14 33 52.1**	**+0.4**
MTEO				S		**Sg**		**14 33 55.3**	**+1.1**
LACR	**Lac**	**0.34**	**334**	*i* Pg		**Pb**		**14 33 56.1**	**-0.6**
LACR				*e*Sg		**Sb**		**14 34 01.7**	**-0.6**
CHRG	**Chargali**	**0.37**	**122**	P		**Pg**		**14 33 56.0**	**+0.3**
CHRG				S		**Sb**		**14 34 01.8**	**-1.6**
ZEI	**Tsey**	**0.51**	**301**	*i* Pg		**Pg**		**14 33 59.0**	**+0.8**
ZEI				*e*Sg		**Sb**		**14 34 07.0**	**-0.5**
VLKR	**Vladikavkaz**	**0.54**	**14**	*e*Pg		**Pn**		**14 34 01.8**	**-0.6**
VLKR				*e*Pg		**Pn**		**14 34 01.9**	**-0.6**
VLKR				*e*Sg		**Sn**		**14 34 10.8**	**-1.0**
VLKR				*i* Sg		**Sn**		**14 34 10.8**	**-1.0**
KORR	**Kora**	**0.64**	**331**	*e*Pg		**Pn**		**14 34 02.4**	**-1.5**
KORR				*e*Sg		**Sn**		**14 34 13.3**	**-1.1**
ALIG	**Mtskhetisjvari**	**0.76**	**236**	P		**Pg**		**14 34 03.7**	**+0.9**
DIGR	**Digorskoe uzhe**	**0.77**	**299**	*i* Pg		**Pg**		**14 34 03.5**	**+0.3**
DIGR				*e*Sg		**Sb**		**14 34 14.5**	**-0.4**
ONI	**Oni**	**0.77**	**275**	P		**Pg**		**14 34 03.6**	**+0.4**
ONI				S		**Sg**		**14 34 14.4**	**+1.2**
ONI	**Oni**	**0.77**	**275**	*i* Pg		**Pg**		**14 34 03.8**	**+0.6**
ONI				*e*Sg		**Sb**		**14 34 14.7**	**-0.2**
TRLG	**Trialeti**	**1.03**	**197**	P		**Pg**		**14 34 08.9**	**+0.9**
TKB	**Tkibuli**	**1.13**	**262**	P		**Pg**		**14 34 11.0**	**+1.2**
DMNI	**Dmanisi**	**1.22**	**191**	P		**Pb**		**14 34 11.5**	**-0.2**
ABS	**Abastumani**	**1.47**	**239**	P		**Pb**		**14 34 16.2**	**+0.2**
LGD	**Lagodekhi**	**1.47**	**117**	P		**Pg**		**14 34 17.5**	**+1.1**
LGD				S		**Sg**		**14 34 38.3**	**+2.8**
NEUR	**Neytrino**	**1.51**	**300**	*e*Pg		**Pg**		**14 34 17.1**	**-0.1**
NEUR				*e*Sg		**Sg**		**14 34 37.4**	**+0.6**
KBTC	**Kuba-Taba**	**1.52**	**329**	*e*Pg		**Pg**		**14 34 18.4**	**+1.1**
KBTC				*e*Sg		**Sg**		**14 34 40.6**	**+3.6**
SHA1	**Shidzhatmaz**	**1.81**	**313**	*e*Pg		**Pg**		**14 34 23.6**	**+0.5**
SHA1				*e*Sg		**Sg**		**14 34 48.1**	**+1.6**
VSHL	**Vashlovani**	**1.92**	**132**	P		**Pg**		**14 34 25.6**	**+0.5**
VSHL				S		**Sg**		**14 34 51.9**	**+1.9**

*SDD **17** 14:53:16.7±2.5, 19°.70N×70°.71W, h20km±12km, MD3.4, ML2.9, MW4.5*
*OSPL **17** 14:53:18.8±1.8, 19°.56N×70°.76W, h0km±8km, ML2.9*
ISC 17 14:53:17.0±1.4, 19°.64N±0°.03×70.72W±0°.03, h18km±4km, n19, σ1§22/28, 17C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SODR	**Sosua Marina B**	**0.18**	**49**	⇑*e*Pg		**Pb**		**14 53 19.8**	**-1.6**
SODR				⇑*e*Sg		**Sb**		**14 53 24.5**	**+0.4**
SODR				IAML				14 53 24.9	
	comp=N,3μm,0.5s								
SODR				IAML				14 53 26.2	
	comp=E,3μm,0.4s								
SC01	**Santiago de lo**	**0.21**	**182**	⇓*e*Pg		**Pb**		**14 53 21.6**	**-0.4**
SC01				⇑*e*Sg		**Sg**		**14 53 26.5**	**+0.9**
SC01				IAML				14 53 35.2	
	comp=N,925nm,0.4s								
SC01	**Santiago de lo**	**0.21**	**182**	*i* P		**Pb**		**14 53 21.6**	**-0.4**
SC01				IAML				14 53 35.2	
	comp=Z,616nm,1.0s								
ABDR	**Alto Bandera**	**0.82**	**174**	⇑*e*Pg		**Pb**		**14 53 31.4**	**-1.6**
ABDR				⇑*e*Sg		**Sb**		**14 53 44.0**	**+0.1**
ABDR				IAML				14 53 47.4	
	comp=N,296nm,0.2s								
SDDR	**Presa de Saban**	**0.84**	**220**	⇑*e*Pg		**Pb**		**14 53 31.6**	**-1.6**
SDDR				⇑*e*Sg		**Sg**		**14 53 44.8**	**+0.1**
SDDR				IAML				14 53 45.4	
	comp=N,245nm,0.3s								
SDDR				IAML				14 53 49.5	
	comp=E,180nm,0.3s								
SDDR	**Presa de Saban**	**0.84**	**220**	*i* P		**Pb**		**14 53 31.4**	**-1.8**
SDDR				*e*S		**Sb**		**14 53 41.5**	**-2.7**
SDDR				IAML				14 53 49.1	
	comp=Z,138nm,0.6s								
MCDR	**Montecristi**	**0.92**	**286**	⇑*e*Pg		**Pb**		**14 53 33.4**	**-1.0**
MCDR				IAML				14 53 51.0	
	comp=Z,220nm,0.2s								
MCDR				IAML				14 53 57.0	
	comp=N,303nm,0.7s								
LODA1	**ITESIL, Dajabo**	**0.93**	**265**	⇑*e*Sg		**Sg**		**14 53 47.2**	**-0.3**
LODA1				IAML				14 53 47.2	
	comp=N,2μm,0.3s								
LODA1				IAML				14 53 48.5	
	comp=E,2μm,0.3s								
LODA1				IAML				14 53 53.9	
	comp=N,2μm,1.3s								
LODA1	**ITESIL, Dajabo**	**0.93**	**265**	*e*S		**Sb**		**14 53 47.0**	**+0.3**
LODA1				IAML				14 53 50.6	
	comp=Z,572nm,0.9s								
DR08	**Loma La Naviza**	**0.94**	**135**	⇓*e*Pg		**Pb**		**14 53 33.2**	**-1.6**
DR08				⇑*e*Sg		**Sg**		**14 53 48.0**	**+0.3**
DR08				IAML				14 53 53.8	
	comp=N,856nm,0.1s								
BANI	**BANI**	**1.28**	**164**	⇑*e*Pg		**Pn**		**14 53 39.7**	**-0.5**
BANI				⇑*e*Sg		**Sg**		**14 53 58.7**	**0.0**
BANI				IAML				14 54 00.3	
	comp=E,263nm,0.4s								
BANI				IAML				14 54 05.3	
	comp=N,236nm,0.3s								
HATOM	**Hato Mayor del**	**1.52**	**123**	⇑*e*Pg		**Pn**		**14 53 42.2**	**-1.2**
HATOM				⇑*e*Sg		**Sb**		**14 54 04.4**	**+0.7**
HATOM				IAML				14 54 04.5	
	comp=Z,127nm,0.5s								
HATOM				IAML				14 54 06.0	
	comp=N,124nm,0.2s								
JIDR	**Jimani**	**1.56**	**223**	⇑*e*Pg		**Pn**		**14 53 44.5**	**+0.6**
JIDR				IAML				14 54 07.4	
	comp=Z,143nm,0.9s								
JIDR				IAML				14 54 08.2	
	comp=N,228nm,0.8s								
LOBA2	**Hotel Casa Bon**	**1.59**	**193**	⇑*e*Pg		**Pn**		**14 53 44.8**	**+0.5**
LOBA2				IAML				14 54 12.5	
	comp=N,17nm,3.2s								
LOBA2				IAML				14 54 15.8	
	comp=E,11nm,0.6s								
LOPE2	**Hotel El Peder**	**1.87**	**211**	⇑*e*Pg		**Pb**		**14 53 51.1**	**+0.4**
LOPE2				IAML				14 54 17.6	
	comp=N,48nm,0.7s								
LOPE2				IAML				14 54 17.8	
	comp=E,45nm,0.5s								
LOPE2	**Hotel El Peder**	**1.87**	**211**	*i* P		**Pb**		**14 53 50.1**	**-0.6**
LOPE2				*e*S		**Sn**		**14 54 12.2**	**+0.9**
LOPE2				IAML				14 54 33.5	
	comp=Z,71nm,1.7s								
PCDR	**Punta Cana, DR**	**2.48**	**116**	*i* P		**Pn**		**14 53 58.2**	**+1.8**
PCDR				IAML				14 54 36.1	
	comp=Z,124nm,2.2s								
MASC	**Masc**	**3.35**	**280**	*i* P		**Pn**		**14 54 10.0**	**+1.5**
MASC				IAML				14 55 11.2	
	comp=Z,41nm,2.0s								
CRPR	**Cabo Rojo, PR**	**3.78**	**115**	*i* P		**Pn**		**14 54 16.1**	**+1.6**
CRPR				IAML				14 55 01.3	
	comp=Z,51nm,1.9s								

*IDC **17** 14:57:23.9±1.3, 52°.72S×160°.06E, h0km, mb3.8/4, mbtmp3.9/6, ML3.5/2, MS3.7/9, Error ellipse: s-maj=38.7km s-min=22.3km az=80.0*
*NEIC **17** 14:57:25.6±2.5, 52°.91S±0°.06×159°.6E±0°.3, h10km±1km, mb4.4/11, Error ellipse: s-maj=30.6km s-min=4.4km az=71.0*
ISC 17 14:57:24.5±0.6, 52°.72S±0°.08×160°.1E±0°.1, h10km, n47, σ1§66/26, mb3.9/6, MS3.6/7, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**1.91**	**201**	Pn		**Pn**		**14 57 56.0**	**-1.1**
PYZ	**Puysegur Point**	**7.83**	**36**	Pn		**Pn**		**14 59 17.9**	**-0.5**
WHZ	**Wether Hill Ro**	**8.53**	**40**			**Pn**		**14 59 25.8**	**-2.3**
MLZ	**Mavora Lakes**	**9.04**	**39**	Pn		**Pn**		**14 59 34.1**	**-0.9**
WKZ	**Wanaka**	**9.84**	**40**	Pn		**Pn**		**14 59 45.5**	**-0.4**
ODZ	**Otahua Downs**	**10.34**	**46**	Pn		**Pn**		**14 59 50.5**	**-2.3**
RPZ	**Rata Peaks**	**11.58**	**43**	Pn		**Pn**		**15 00 09.2**	**-0.6**
RPZ	0.4nm,0.3s,baz=238,slow=3.1,SNR=1.8			Sn		Sn		15 02 08.1	-11
	0.7nm,0.3s,baz=191,slow=22,SNR=1.7								
RPZ				LR		LR		15 03 28.0	
	comp=Z,351nm,20.2s,baz=73,slow=31								
	8.8nm,0.7s								
MQZ	**McQueen's Vall**	**12.28**	**48**	Pn		**Pn**		**15 00 16.7**	**-2.6**
LTZ	**Lake Taylor**	**12.86**	**44**	Pn		**Pn**		**15 00 25.1**	**-2.1**
TAU	**Tasmania Unive**	**13.03**	**314**	Pn		**Pn**		**15 00 29.3**	**-0.3**
KHZ	**Kahutara**	**13.70**	**47**	Pn		**Pn**		**15 00 38.6**	**-0.1**
BFZ	**Birch Farm**	**16.31**	**49**	Pn		**Pn**		**15 01 12.7**	**-0.7**
BFZ				IAmb		IAmb		15 01 34.2	
	comp=Z,35nm,1.1s								
TOZ	**Tahuroa Road**	**18.44**	**42**			**P**		**15 01 39.4**	**-0.6**
URZ	**Urewera**	**18.67**	**46**	Pn		**Pn**		**15 01 45.2**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=149,slow=11,SNR=3.1								
URZ				LR		LR		15 08 52.6	
	comp=Z,616nm,18.1s,baz=316,slow=37								
	comp=Z,5.0nm,0.9s								
STKA	**Stephens Creek**	**24.80**	**320**	LR		LR		15 10 31.5	
	comp=Z,182nm,18.3s,baz=189,slow=32								

VNDA	**Vanda**	**24.91**	**179**	P		**P**		**15 02 47.4**	**+0.2**
	comp=Z,2.0nm,1.0s,baz=358,slow=8.6,SNR=4.0								
	comp=Z,2.0nm,1.0s								
SBA	**Scott Base**	**25.35**	**177**	P		**P**		**15 02 49.5**	**-1.5**
CASY	**Casey**	**27.70**	**222**	P		**P**		**15 03 08.7**	**-3.7**
CASY				IAmb		IAmb		15 03 09.6	
	comp=Z,21nm,1.4s								
DZM	**Mont Dzumac**	**30.98**	**11**	LR		LR		15 13 07.5	
	comp=Z,71nm,18.9s,baz=224,slow=30								
CTA	**Charters Tower**	**34.30**	**336**	LR		LR		15 15 43.8	
	comp=Z,78nm,19.4s,baz=110,slow=32								
ASAR	**Alice Springs**	**35.20**	**315**	P		**P**		**15 04 20.0**	**+1.2**
	comp=Z,0.9nm,0.9s,baz=159,slow=8.8,SNR=4.4								
ASAR				LR		LR		15 17 34.3	
	comp=Z,106nm,18.5s,baz=146,slow=34								
	comp=Z,0.9nm,0.9s								
H01W1	**Cape Leeuwin H**	**36.91**	**280**	T		T		15 43 41.8	
	baz=133,slow=76,SNR=714								
H01W2	**Cape Leeuwin H**	**36.92**	**280**	T		T		15 43 42.0	
	baz=133,slow=76,SNR=138								
H01W3	**Cape Leeuwin H**	**36.93**	**280**	T		T		15 43 41.3	
	baz=133,slow=76,SNR=173								
QSPA	**South Pole Qui**	**37.39**	**180**	P		**P**		**15 04 39.9**	**+2.6**
QSPA				IAmb		IAmb		15 05 02.9	
	comp=Z,7.4nm,1.3s								
QSPA	**South Pole Qui**	**37.39**	**180**	P		**P**		**15 04 38.8**	**+1.6**
	comp=Z,2.2nm,0.9s,baz=326,slow=2.4,SNR=6.7								
	comp=Z,2.2nm,0.9s								
WR0	**Warramunga Arr**	**38.24**	**319**	P		**P**		**15 04 44.1**	**-0.5**
WRA	**Warramunga Arr**	**38.34**	**319**	P		**P**		**15 04 45.5**	**0.0**
	comp=Z,0.8nm,0.9s,baz=152,slow=8.4,SNR=5.0								
	comp=Z,0.8nm,0.9s								
WRAB	**Tennant Creek**	**38.34**	**319**	P		**P**		**15 04 45.8**	**+0.2**
WRAB				IAmb		IAmb		15 04 55.4	
	comp=Z,5.5nm,1.1s								
PMG	**Port Moresby**	**44.46**	**342**	LR		LR		15 21 13.3	
	comp=Z,7.2nm,21.5s,baz=186,slow=32								
KAPI	**Kappang**	**57.95**	**310**	LR		LR		15 33 24.2	
	comp=Z,7.2nm,18.2s,baz=74,slow=37								
PATS	**Pohnpei**	**59.35**	**358**	P		**P**		**15 07 28.4**	**+1.7**
LEM	**Lembang**	**62.52**	**297**	LR		LR		15 33 38.8	
	comp=Z,46nm,18.6s,baz=170,slow=35								
H04S2	**CROZET ISLANDS**	**63.46**	**227**	T		T		16 17 52.7	
	baz=139,slow=75,SNR=26								
H04S1	**CROZET ISLANDS**	**63.47**	**227**	T		T		16 17 48.9	
	baz=139,slow=75,SNR=27								
H04S3	**CROZET ISLANDS**	**63.48**	**227**	T		T		16 17 48.2	
	baz=139,slow=75,SNR=22								
HOPE	**Hope Point**	**72.47**	**170**	P		**P**		**15 08 51.9**	**+1.2**
H03S2	**Juan Fernandez**	**79.66**	**133**	T		T		16 37 50.8	
	baz=210,slow=74,SNR=139								
H03S1	**Juan Fernandez**	**79.66**	**134**	T		T		16 37 52.1	
	baz=210,slow=74,SNR=131								
H03S3	**Juan Fernandez**	**79.67**	**133**	T		T		16 37 57.5	
	baz=210,slow=74,SNR=553								
H03N3	**Juan Fernandez**	**79.98**	**133**	T		T		16 38 16.3	
	baz=218,slow=76,SNR=492								
H03N2	**Juan Fernandez**	**79.99**	**133**	T		T		16 38 09.6	
	baz=218,slow=76,SNR=92								
H03N1	**Juan Fernandez**	**80.00**	**133**	T		T		16 38 10.7	
	baz=218,slow=76,SNR=75								
TRQA	**Tornquist**	**82.47**	**148**

SJCC				*e*S		**Sn**	15 51 14.9 -1.9
SJCC				*i*			15 51 30.6
	comp=Z,45nm,0.7s						
PRAC	**Prado**	**3.49**	**206**	*e*P		**Pn**	**15 50 35.5 -0.4**
PRAC				*e*S		**Sn**	**15 51 17.4 +0.5**
PRAC				*i*			15 51 26.9
	comp=Z,110nm,0.3s						
ORTC	**Ortega, Tolima**	**3.50**	**212**	*e*P		**Pn**	**15 50 36.2 +0.1**
ORTC				*e*S		**Sn**	**15 51 18.1 +1.0**
ORTC				*i*			15 51 23.0
	comp=Z,37nm,0.3s						
PLMC	**San Jos del P**	**3.50**	**236**	*e*P		**Pn**	**15 50 36.6 +0.5**
PLMC				*i*			15 51 20.2
	comp=Z,38nm,0.4s						
CRJC	**Cerrejon, Guaj**	**4.14**	**7**	*e*P		**Pn**	**15 50 44.6 +0.1**
CRJC				*e*S		**Sn**	**15 51 32.7 +0.4**
CRJC				*i*			15 51 44.4
	comp=Z,61nm,0.2s						
PTAC	**Punta Ardita,**	**4.42**	**274**	*e*P		**Pn**	**15 50 49.7 +1.6**
TXAR	**Lajitas Array**	**36.24**	**312**	P		**P**	**15 56 33.2 -1.3**
	comp=Z,0.1nm,0.5s,baz=116,slow=10,SNR=2.2						
	comp=Z,0.1nm,0.5s						
YKA	**Yellowknife Ar**	**63.12**	**340**	P		**P**	**15 59 55.9 -1.4**
	comp=Z,0.2nm,0.6s,baz=130,slow=6.5,SNR=6.0						
	comp=Z,0.2nm,0.6s						
ASAR	**Alice Springs**	**148.95**	**235**	PKPbc		**PKPdf**	**16 09 14.7 +1.5**
	comp=Z,0.2nm,0.6s,baz=112,slow=3.6,SNR=2.0						
WRA	**Warramunga Arr**	**150.15**	**242**	PKPbc		**PKPdf**	**16 09 17.0 +1.8**
	comp=Z,0.2nm,0.4s,baz=106,slow=2.9,SNR=5.4						

JMA ***17*** *15:49:55.6±0.1,24.8N±0.2×121.9E±0.2,h78km,MV2.4/13, TAIWAN REGION*
TAP ***17*** *15:49:55.7,24.77N×121.84E,h78km,ML3.5,B*
ISC 17 15:49:55.9±1.3,24.81N±0.03×121.84E±0.02,h80km±5km, n140,σ0.47/230,26C-2D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.05**	**347**	*e*P			**Pn**	**15 50 07.9**	**+0.6**
	baz=8.0								
EGS		**0.09**	**64**	*e*P			**Pn**	**15 50 06.9**	**-0.4**
	baz=53								
EGS				S			**Sn**	**15 50 15.9**	**+0.2**
	baz=53								
ILA	**Ilan**	**0.10**	**245**	*e*P			**Pn**	**15 50 07.6**	**+0.3**
	baz=267								
ILA				S			**Sn**	**15 50 16.5**	**+0.8**
	baz=267								
TIPB	**Shuangxi**	**0.17**	**355**	⇑*i*P			**Pn**	**15 50 07.5**	**-0.1**
TIPB				S			**Sn**	**15 50 15.8**	**-0.3**
TWE	**Neicheng**	**0.18**	**242**	⇑*i*P			**Pn**	**15 50 07.7**	**+0.2**
	baz=250								
TWE				S			**Sn**	**15 50 16.3**	**+0.1**
	baz=250								
TWC	**Suao**	**0.20**	**178**	⇑*i*P			**Pn**	**15 50 07.7**	**+0.1**
	baz=171								
TWC				S			**Sn**	**15 50 16.5**	**+0.2**
	baz=171								
NDS	**Dongshan**	**0.21**	**214**	⇑P			**Pn**	**15 50 08.0**	**+0.3**
	baz=218								
NDS				S			**Sn**	**15 50 17.0**	**+0.7**
	baz=218								
FUSB	**Fushanzhiwuyua**	**0.24**	**259**	⇑*i*P			**Pn**	**15 50 07.9**	**0.0**
	baz=282								
FUSB				S			**Sn**	**15 50 16.6**	**-0.2**
	baz=282								
TWB1	**Santiao Chiao**	**0.24**	**33**	⇓P			**Pn**	**15 50 07.7**	**-0.1**
	baz=37								
TWB1				S			**Sn**	**15 50 16.2**	**-0.5**
	baz=37								
NWF	**Wu-fen Shan**	**0.27**	**348**	P			**Pn**	**15 50 08.0**	**-0.1**
	baz=359								
NWF				S			**Sn**	**15 50 16.6**	**-0.5**
	baz=359								
WFSB	**Wu-fen Shan**	**0.27**	**348**	⇑*i*P			**Pn**	**15 50 08.1**	**+0.1**
	baz=359								
WFSB				S			**Sn**	**15 50 16.6**	**-0.3**
	baz=359								
SXI1	**Grass Mountain**	**0.29**	**6**	P			**Pn**	**15 50 08.0**	**-0.2**
	baz=9.0								
SXI1				*e*S			**Sn**	**15 50 16.6**	**-0.7**
	baz=9.0								
TWA	**Mucha**	**0.29**	**307**	⇑*i*P			**Pn**	**15 50 08.2**	**0.0**
	baz=318								
TWA				S			**Sn**	**15 50 17.3**	**+0.1**
	baz=318								
ENTT	**Nioudou**	**0.30**	**237**	⇑*i*P			**Pn**	**15 50 08.4**	**+0.2**
	baz=252								
ENTT				*e*S			**Sn**	**15 50 17.3**	**+0.1**
	baz=252								
NWLT	**Wulai**	**0.31**	**265**	⇑*i*P			**Pn**	**15 50 08.0**	**-0.2**
	baz=280								
NWLT				*i* S			**Sn**	**15 50 17.0**	**-0.4**
	baz=280								
NHDH	**Xindian Distri**	**0.33**	**299**	⇑*i*P			**Pn**	**15 50 08.4**	**+0.1**
	baz=298								
NHDH				S			**Sn**	**15 50 17.4**	**-0.1**
	baz=298								
NHY	**Taipei**	**0.34**	**313**	P			**Pn**	**15 50 08.3**	**-0.1**
	baz=326								
NHY				S			**Sn**	**15 50 18.1**	**+0.5**
	baz=326								
TNOU	**National Taiwa**	**0.35**	**350**	*e*P			**Pn**	**15 50 08.4**	**0.0**
	baz=359								
TNOU				*e*S			**Sn**	**15 50 17.3**	**-0.4**
	baz=359								
NDT	**Datong Townshi**	**0.36**	**236**	⇑*i*P			**Pn**	**15 50 08.7**	**+0.2**
	baz=250								
NDT				*e*S			**Sn**	**15 50 17.9**	**0.0**
	baz=250								
TATO	**Taipei**	**0.36**	**298**	⇑*i*P			**Pn**	**15 50 08.5**	**0.0**
	baz=300								
TATO				*i* S			**Sn**	**15 50 17.6**	**-0.3**
	baz=300								
EWUT	**Wuta**	**0.36**	**189**	⇑P			**Pn**	**15 50 08.7**	**+0.1**
	baz=188								
EWUT				*e*S			**Sn**	**15 50 18.6**	**+0.8**
	baz=188								
TAP	**Taipei**	**0.38**	**307**	⇑*i*P			**Pn**	**15 50 08.8**	**+0.1**
	baz=320								
TAP				*i* S			**Sn**	**15 50 18.3**	**+0.2**
	baz=320								
ENA	**Nanau**	**0.39**	**194**	⇑*i*P			**Pn**	**15 50 08.8**	**+0.1**
	baz=196								
ENA				S			**Sn**	**15 50 19.0**	**+0.8**
	baz=196								
LATG	**Datong**	**0.39**	**227**	⇑*i*P			**Pn**	**15 50 09.1**	**+0.2**
	baz=239								
LATG				*i* S			**Sn**	**15 50 18.6**	**+0.1**
	baz=239								
BACT	**New Taipei Cit**	**0.41**	**298**	P			**Pn**	**15 50 09.1**	**+0.2**
	baz=299								
BACT				*e*S			**Sn**	**15 50 18.8**	**+0.3**
	baz=299								
YM01	**YM01**	**0.42**	**324**	⇑*i*P			**Pn**	**15 50 09.1**	**+0.1**
	baz=334								
YM01				*i* S			**Sn**	**15 50 18.7**	**0.0**
	baz=334								
YM08	**YM08**	**0.44**	**329**	P			**Pn**	**15 50 09.1**	**-0.1**
	baz=336								
YM08				S			**Sn**	**15 50 18.5**	**-0.5**
	baz=336								
YHNB	**Yeheng**	**0.45**	**252**	⇑*i*P			**Pn**	**15 50 09.1**	**-0.2**
	baz=257								
YHNB				*i* S			**Sn**	**15 50 18.5**	**-0.6**
	baz=257								
NSK	**Sanguang**	**0.46**	**254**	⇑*i*P			**Pn**	**15 50 09.1**	**-0.3**
	baz=258								
NSK				*i* S			**Sn**	**15 50 18.5**	**-0.8**
	baz=258								
ANP	**Anpu**	**0.48**	**322**	*e*P			**Pn**	**15 50 09.3**	**-0.3**
	baz=327								
ANP				*e*S			**Sn**	**15 50 19.5**	**-0.1**
	baz=327								
TWS1	**Kuangyinshan**	**0.48**	**307**	⇑*i*P			**Pn**	**15 50 09.8**	**+0.3**
	baz=301								
TWS1				S			**Sn**	**15 50 20.3**	**+0.8**
	baz=301								
NTST	**Danshui**	**0.51**	**315**	P			**Pn**	**15 50 09.9**	**+0.3**
	baz=324								
NTST				*e*S			**Sn**	**15 50 20.8**	**+1.0**
	baz=324								
TWY	**Chenhua**	**0.52**	**335**	*e*P			**Pn**	**15 50 09.5**	**-0.3**
	baz=339								
TWY				*e*S			**Sn**	**15 50 20.1**	**+0.1**
	baz=339								
EOS2	**EOS2**	**0.52**	**137**	*e*P			**Pn**	**15 50 10.0**	**+0.3**
	baz=132								
NTY	**Taoyuan**	**0.53**	**291**	*e*P			**Pn**	**15 50 10.1**	**+0.2**
	baz=305								
NTY				*e*S			**Sn**	**15 50 20.7**	**+0.4**
	baz=305								
NSM	**Shimen**	**0.53**	**334**	*e*P			**Pn**	**15 50 10.0**	**+0.1**
	baz=338								
NSM				*e*S			**Sn**	**15 50 21.4**	**+1.1**
	baz=338								
NNS	**Nan Shan**	**0.56**	**230**	⇑*i*P			**Pn**	**15 50 10.3**	**0.0**
	baz=236								
NNS				*e*S			**Sn**	**15 50 20.8**	**-0.2**
	baz=236								
NNSB	**Datong**	**0.56**	**228**	⇑*i*P			**Pn**	**15 50 10.3**	**-0.1**
	baz=235								
NNSB				S			**Sn**	**15 50 20.6**	**-0.4**
	baz=235								
NNSH	**Datong**	**0.56**	**228**	P			**Pn**	**15 50 10.4**	**0.0**
	baz=233								
NNSH				S			**Sn**	**15 50 20.6**	**-0.3**
	baz=233								
NCU	**National Centr**	**0.62**	**286**	*e*P			**Pn**	**15 50 11.0**	**+0.3**
	baz=281								
NCU				*e*S			**Sn**	**15 50 22.3**	**+0.6**
	baz=281								
NCUH	**Zhongli**	**0.62**	**285**	P			**Pn**	**15 50 10.9**	**+0.2**
	baz=281								
NCUH				*e*S			**Sn**	**15 50 21.9**	**+0.2**
	baz=281								
NACB	**Ninganchiao**	**0.67**	**200**	*e*P			**Pn**	**15 50 10.6**	**-0.6**
	baz=208								
NACB				*e*S			**Sn**	**15 50 21.6**	**-1.0**
	baz=208								
EOS3	**EOS3**	**0.67**	**140**	*e*P			**Pn**	**15 50 11.4**	**+0.3**
	baz=134								
ETL	**Fush Village**	**0.67**	**197**	*e*P			**Pn**	**15 50 10.5**	**-0.9**
	baz=207								
ETLH	**Xiulin Townshi**	**0.68**	**209**	*e*P			**Pn**	**15 50 11.2**	**-0.2**
	baz=203								
NFF	**Wufeng Townshi**	**0.68**	**255**	*e*P			**Pn**	**15 50 11.1**	**-0.3**
	baz=265								
NFF				*e*S			**Sn**	**15 50 21.9**	**-1.0**
	baz=265								
NJD	**Zhudong**	**0.69**	**264**	*e*P			**Pn**	**15 50 10.5**	**-0.9**
	baz=267								
NJD				S			**Sn**	**15 50 22.5**	**-0.5**
	baz=267								
NHW	**Xinwu Township**	**0.75**	**286**	P			**Pn**	**15 50 12.2**	**+0.2**
	baz=288								
NHW				*e*S			**Sn**	**15 50 24.4**	**+0.3**
	baz=288								
HSN1	**Hsinchu**	**0.75**	**268**	P			**Pn**	**15 50 12.1**	**+0.1**
	baz=270								
HSN1				S			**Sn**	**15 50 24.2**	**+0.2**
	baz=270								
TWD	**Chiawan**	**0.76**	**197**	*e*P			**Pn**	**15 50 11.4**	**-0.7**
	baz=205								
TWD				*e*S			**Sn**	**15 50 23.3**	**-0.9**
	baz=205								
LIOB	**Emei**	**0.77**	**258**	⇑P			**Pn**	**15 50 12.2**	**-0.1**
	baz=260								
LIOB				*e*S			**Sn**	**15 50 24.2**	**-0.2**
	baz=260								
FUSS	**Fushou**	**0.78**	**225**	*e*P			**Pn**	**15 50 12.9**	**+0.2**
	baz=225								
FUSS				*e*S			**Sn**	**15 50 24.9**	**-0.2**
	baz=225								
SBCB	**Hsinchu**	**0.78**	**269**	P			**Pn**	**15 50 12.6**	**+0.2**
	baz=271								
SBCB				*e*S			**Sn**	**15 50 24.5**	**-0.2**
	baz=271								
NSTT	**Nanjuang**	**0.79**	**257**	⇑*i*P			**Pn**	**15 50 12.3**	**-0.2**
	baz=259								
NSTT				*i* S			**Sn**	**15 50 24.4**	**-0.3**
	baz=259								
HSN	**Hsinchu**	**0.79**	**270**	P			**Pn**	**15 50 12.3**	**-0.3**
	baz=274								
HSN				S			**Sn**	**15 50 24.4**	**-0.5**
	baz=274								
EOS4	**EOS4**	**0.81**	**147**	*e*P			**Pn**	**15 50 12.6**	**+0.2**
	baz=137								
TWT	**Tachien**	**0.82**	**228**	P			**Pn**	**15 50 13.8**	**+0.7**
	baz=228								
TWT				*e*S			**Sn**	**15 50 25.9**	**+0.2**
	baz=228								
TDCB	**Techi**	**0.83**	**229**	P			**Pn**	**15 50 13.8**	**+0.6**
	baz=229								
TDCB				S			**Sn**	**15 50 25.7**	**-0.2**
	baz=229								
WHF	**Hehuan Shan**	**0.84**	**219**	*e*P			**Pn**	**15 50 13.6**	**0.0**
	baz=213								
PCYT	**Pengchaiyu**	**0.85**	**14**	*e*P			**Pn**	**15 50 13.4**	**+0.2**
	baz=9.0								
HWA	**Hwalien**	**0.85**	**195**	*e*P			**Pn**	**15 50 12.8**	**-0.4**
	baz=204								
LXIB	**Xiulin Townshi**	**0.87**	**207**	*e*P			**Pn**	**15 50 12.8**	**-0.8**
	baz=206								
LXIB				*e*S			**Sn**	**15 50 26.5**	**-0.3**
	baz=206								
NJN	**Zhunan**	**0.89**	**262**	*e*P			**Pn**	**15 50 14.2**	**+0.6**
	baz=259								
NJN				*e*S			**Sn**	**15 50 26.9**	**+0.1**
	baz=259								
ETM	**Tongmen**	**0.90**	**201**	*e*P			**Pn**	**15 50 12.7**	**-1.0**
	baz=201								
CHGB	**Renai**	**0.96**	**220**	⇓P			**Pn**	**15 50 15.1**	**+0.3**
	baz=212								
CHGB				S			**Sn**	**15 50 28.4**	**-0.3**
	baz=212								
WHP	**Taichung City**	**0.97**	**237**	*e*P			**Pn**	**15 50 14.9**	**+0.2**
	baz=246								
WHP				*e*S			**Sn**	**15 50 28.4**	**-0.3**
	baz=246								
OWD	**Renai**	**1.04**	**216**	*e*P			**Pn**	**15 50 15.8**	**+0.2**
	baz=209								
WUSB	**Renai**	**1.04**	**219**	*e*P			**Pn**	**15 50 15.9**	**+0.3**
	baz=212								
WUSB				S			**Sn**	**15 50 30.0**	**-0.3**
	baz=212								
ESL	**Shilin**	**1.06**	**201**	⇑*e*P			**Pn**	**15 50 14.2**	**-1.4**
	baz=200								
NSY	**Sanyi**	**1.06**	**249**	P			**Pn**	**15 50 15.9**	**+0.3**
	baz=258								
NSY				*i* S			**Sn**	**15 50 30.7**	**+0.3**
	baz=258								
TWQ1	**Liyutan**	**1.07**	**245**	*e*P			**Pn**	**15 50 16.0**	**+0.2**
	baz=245								
TWQ1				S			**Sn**	**15 50 30.3**	**-0.5**
	baz=245								
YOJ	**Yonaguni jima**	**1.12**	**108**	P			**Pn**	**15 50 15.9**	**-0.5**
YOJ				S			**Sn**	**15 50 31.2**	**-0.5**
YOJ	**Yonaguni jima**	**1.12**	**108**	*e*P			**Pn**	**15 50 15.9**	**-0.5**
	baz=100								
WCS	**Beigang Elemen**	**1.13**	**229**	*e*P			**Pn**	**15 50 16.7**	**+0.2**
	baz=237								
WCS				*e*S			**Sn**	**15 50 32.2**	**+0.3**
	baz=237								
WPL	**Puli Township**	**1.13**	**226**	*e*P			**Pn**	**15 50 17.0**	**+0.5**
	baz=236								
DPDB	**Guoxing**	**1.14**	**228**	*e*P			**Pn**	**15 50 16.9**	**+0.2**
	baz=238								
WARBT	**Fenglin Townsh**	**1.16**	**201**	*e*P			**Pn**	**15 50 15.3**	**-1.6**
	baz=196								
WDJ	**Dajia District**	**1.19**	**248**	*e*P			**Pn**	**15 50 17.8**	**+0.5**
	baz=248								
WDJ				S			**Sn**	**15 50 33.4**	**+0.2**
	baz=248								
EGFH	**Guangfu**	**1.19**	**199**	*e*P			**Pn**	**15 50 17.3**	**-0.1**
	baz=198								
VWDT	**VWDT**	**1.23**	**212**	⇑P			**Pn**	**15 50 18.0**	**+0.2**
	baz=204								
VWDT				*e*S			**Sn**	**15 50 34.3**	**+0.3**
	baz=204								
TCU	**Taichung**	**1.25**	**239**	*e*P			**Pn**	**15 50 18.0**	**0.0**
	baz=238								
TCU				*e*S			**Sn**	**15 50 34.7**	**+0.1**
	baz=238								
SMLT	**Sun Moon Lake**	**1.26**	**223**	*e*P			**Pn**	**15 50 18.4**	**+0.2**
	baz=231								
SMLT				*e*S			**Sn**	**15 50 35.8**	**+0.9**
	baz=231								
TYC	**Yuchr**	**1.27**	**225**	*e*P			**Pn**	**15 50 18.3**	**+0.1**
	baz=224								
TYC				*e*S			**Sn**	**15 50 35.0**	**-0.1**
	baz=224								
WWF	**Wufeng**	**1.29**	**234**	*e*P			**Pn**	**15 50 18.6**	**0.0**
	baz=233								
WWF				*e*S			**Sn**	**15 50 35.3**	**-0.2**
	baz=233								
SSLB	**Suanglung**	**1.30**	**219**	P			**Pn**	**15 50 18.9**	**+0.2**
	baz=228								
SSLB				*e*S			**Sn**	**15 50 35.5**	**-0.2**
	baz=228								
HGSD	**Ruisui**	**1.36**	**196**	*e*P			**Pn**	**15 50 19.4**	**-0.1**
	baz=202								
HGSD				*e*S			**Sn**	**15 50 37.4**	**+0.3**
	baz=202								
WCHH	**Zhanghua**	**1.38**	**239**	*e*P			**Pn**	**15 50 19.4**	**-0.2**
	baz=248								
EHY	**Hungye**	**1.38**	**200**	*e*P			**Pn**	**15 50 18.8**	**-0.9**
	baz=193								
WNT1	**Nantou City**	**1.39**	**230**	*e*P			**Pn**	**15 50 19.6**	**-0.1**
	baz=230								
WNT	**Mingjian**	**1.40**	**229**	P			**Pn**	**15 50 20.2**	**+0.2**
	baz=238								
WNT				S			**Sn**	**15 50 38.0**	**-0.1**
	baz=238								
WJS	**Zhushan**	**1.41**	**226**	*e*P			**Pn**	**15 50 19.9**	**-0.2**
	baz=235								
WJS				*e*S			**Sn**	**15 50 38.4**	**+0.1**
	baz=235								
WYL	**Yuanlin Townsh**	**1.43**	**234**	*e*P			**Pn**	**15 50 20.4**	**+0.1**
	baz=243								
WYL				*e*S			**Sn**	**15 50 38.2**	**-0.4**
	baz=243								
WHYT	**Xinyi Township**	**1.43**	**219**	*e*P			**Pn**	**15 50 20.6**	**+0.3**
	baz=227								
WHYT				*e*S			**Sn**	**15 50 39.4**	**+0.7**
	baz=227								
YULB	**Yu-li**	**1.49**	**200**	*e*P			**Pn**	**15 50 20.3**	**-0.8**
	baz=199								
TWF1	**Yuli**	**1.53**	**199**	*e*P			**Pn**	**15 50 20.8**	**-0.8**
	baz=198								
ALS	**Alishan**	**1.60**	**217**	*e*P			**Pn**	**15 50 23.3**	**+0.5**
	baz=224								
ALS				S			**Sn**	**15 50 43.8**	**+0.7**
	baz=224								
CHN5	**Tsauling**	**1.61**	**222**	*e*P			**Pn**	**15 50 22.8**	**+0.1**
	baz=220								
CHN5				*e*S			**Sn**	**15 50 43.4**	**+0.5**
	baz=220								
WRL	**Guolierlin Hig**	**1.61**	**236**	*e*P			**Pn**	**15 50 22.1**	**-0.5**
	baz=235								
WRL				*e*S			**Sn**	**15 50 42.4**	**-0.5**
	baz=235								
WGK	**Gukeng**	**1.61**	**227**	*e*P			**Pn**	**15 50 23.0**	**+0.3**
	baz=235								
WGK				*e*S			**Sn**	**15 50 43.5**	**+0.5**
	baz=235								
WDLH	**Douliu**	**1.63**	**227**	*e*P			**Pn**	**15 50 23.0**	**+0.1**
	baz=235								
WDLH				*e*S			**Sn**	**15 50 44.1**	**+0.8**
	baz=235								
RLNB	**Erlin**	**1.63**	**236**	P			**Pn**	**15 50 22.7**	**-0.2**
	baz=235								
RLNB				*e*S			**Sn**	**15 50 43.2**	**-0.1**
	baz=235								
FULB	**Fuli**	**1.68**	**198**	*e*P			**Pn**	**15 50 23.3**	**-0.2**
	baz=201								
WTK	**Tuku**	**1.73**	**230**	*e*P			**Pn**	**15 50 24.0**	**-0.2**
	baz=229								
WTK				*e*S			**Sn**	**15 50 46.1**	**+0.3**
	baz=229								
EHD	**Haiduan**	**1.75**	**200**	*e*P			**Pn**	**15 50 23.8**	**-0.7**
	baz=194								
WCKO	**Fanlu**	**1.77**	**220**	*e*P			**Pn**	**15 50 25.1**	**+0.3**
	baz=225								
WCKO				*e*S			**Sn**	**15 50 47.0**	**+0.4**
	baz=225								
ELDTW	**Lidau**	**1.78**	**205**	*e*P			**Pn**	**15 50 25.2**	**+0.2**
	baz=199								
IRIF	**Iriomote-Funau**	**1.78**	**105**	P			**Pn**	**15 50 24.7**	**-0.2**
IRIF				S			**Sn**	**15 50 46.6**	**-0.3**
CHY	**Chiayi**	**1.84**	**225**	*e*P			**Pn**	**15 50 26.0**	**+0.4**
	baz=233								
CHY				*e*S			**Sn**	**15 50 47.9**	**-0.3**
	baz=233								
CHN4	**Tsaushan**	**1.84**	**219**	*e*P			**Pn**	**15 50 26.2**	**+0.5**
	baz=216								
CHN4				*e*S			**Sn**	**15 50 48.8**	**+0.4**
	baz=216								
TPUB	**Ta-pu**	**1.86**	**217**	P			**Pn**	**15 50 26.3**	**+0.2**
	baz=216								
WSF	**Szhu**	**1.88**	**232**	*e*P			**Pn**	**15 50 26.4**	**+0.2**
	baz=232								
STYH	**Taoyuan**	**1.90**	**211**	*e*P			**Pn**	**15 50 27.0**	**+0.5**
	baz=210								
STYT	**Tauyuan**	**1.91**	**211**	*e*P			**Pn**	**15 50 27.4**	**+0.6**
	baz=210								
WTP	**Ta-pu**	**1.92**	**216**	*e*P			**Pn**	**15 50 26.7**	**0.0**
	baz=225								
HATJ	**Hateruma jima**	**1.94**	**112**	S			**Sn**	**15 50 50.7**	**+0.1**
WSL	**Shuilin Townsh**	**1.95**	**229**	*e*P			**Pn**	**15 50 27.0**	**-0.2**
	baz=229								
TWK	**Hsinying**	**1.97**	**219**	*e*P			**Pn**	**15 50 27.8**	**+0.3**
	baz=218								
LONT	**Longtian**	**2.00**	**199**	*e*P			**Pn**	**15 50 28.0**	**+0.2**
	baz=190								
SNST	**Tainan City**	**2.00**	**218**	*e*P			**Pn**	**15 50 27.2**	**-0.6**
	baz=216								
SNST				*e*S			**Sn**	**15 50 52.4**	**+0.3**
	baz=216								
CHN1	**Nanshi**	**2.01**	**217**	*e*P			**Pn**	**15 50 28.0**	**0.0**
	baz=227								
ICHU	**Yijhu**	**2.03**	**225**	*e*P			**Pn**	**15 50 28.2**	**+0.1**
	baz=224								
JKRS	**Kuro-shima**	**2.05**	**106**	P			**Pn**	**15 50 28.8**	**+0.3**
JKRS				S			**Sn**	**15 50 53.2**	**-0.1**
SGST	**Jiashian**	**2.07**	**214**	*e*P			**Pn**	**15 50 27.9**	**-0.8**
	baz=223								
CHN8	**Yiju**	**2.08**	**226**	*e*P			**Pn**	**15 50 28.8**	**-0.1**
	baz=234								
CHN8				*e*S			**Sn**	**15 50 54.1**	**0.0**
	baz=234								
TWG	**Pinlang**	**2.10**	**200**	*e*P			**Pn**	**15 50 29.3**	**+0.1**
	baz=190								
TWGBT	**Beinan**	**2.10**	**200**	*e*P			**Pn**	**15 50 29.9**	**+0.8**
	baz=191								
SLGT	**Liugui**	**2.11**	**211**	*e*P			**Pn**	**15 50 30.2**	**+0.9**
	baz=211								
JIJ	**Ishigaki jima**	**2.14**	**101**	P			**Pn**	**15 50 29.8**	**+0.1**
JIJ				S			**Sn**	**15 50 55.4**	**0.0**
MATB	**Ma-tsu**	**2.18**	**308**	*e*P			**Pn**	**15 50 29.8**	**-0.4**
	baz=307								
VWUC	**VWUC**	**2.18**	**275**	*e*P			**Pn**	**15 50 29.6**	**-0.6**
	baz=275								
JISG	**Ishigakijimahi**	**2.26**	**95**	*e*P			**Pn**	**15 50 31.5**	**+0.3**
JISG				*e*S			**Sn**	**15 50 58.2**	**0.0**
ECL	**Taimali**	**2.34**	**200**	*e*P			**Pn**	**15 50 32.9**	**+0.5**
	baz=192								
TSMG	**Majia**	**2.36**	**208**	*e*P			**Pn**	**15 50 33.9**	**+1.2**
	ba

SGSI	**Sangihe**	**3.08**	**298**	P	**Pn**	**15 54 06.8**	**-2.4**
KMSI	**Cibinong**	**4.59**	**249**	P	**Pn**	**15 54 30.1**	**+0.2**
SANI	**Sanana**	**4.83**	**208**	P	**Pn**	**15 54 33.5**	**+0.2**
	61nm,0.8s,873nm0.4nm						
LUWI	**Luwuk**	**6.38**	**239**	Pn	**Pn**	**15 54 54.8**	**+0.2**
LUWI	**Luwuk**	**6.38**	**239**	P	**Pn**	**15 54 54.6**	**0.0**
	98nm,0.6s,1.2nm						
MRSI	**Marisa**	**6.55**	**255**	P	**Pn**	**15 54 56.7**	**-0.3**
	116nm,0.5s,2µm0.5nm						
TOLI2	**Tolitoli**	**7.56**	**262**		**Pn**	**15 55 09.2**	**-1.6**
TTSI	**Tana Toraja**	**9.94**	**238**	P	**Pn**	**15 55 42.2**	**-1.2**
	43nm,0.8s						
MYLDM	**Lahad Datu**	**10.17**	**287**	Pn	**Pn**	**15 55 46.2**	**-0.4**
SPSI	**Sidrap Palu**	**10.49**	**234**	P	**Pn**	**15 55 50.2**	**-0.8**
	36nm,0.9s						
SAUI	**Saumlaki**	**10.60**	**163**	Pn	**Pn**	**15 55 54.3**	**+1.8**
SAUI	**Saumlaki**	**10.60**	**163**	P	**Pn**	**15 55 52.3**	**-0.2**
	78nm,1.3s,4µm						
BKSI	**Bulukumba**	**11.07**	**227**	P	**Pn**	**15 55 59.7**	**+0.8**
	36nm,0.6s						
KAPI	**Kappang**	**11.14**	**230**	Pn	**Pn**	**15 56 00.5**	**+0.6**
KAPI	**Kappang**	**11.14**	**230**	LR	LR	16 01 15.3	
	comp=Z,112nm,19.2s,baz=70,slow=42						
SOEI	**Soe**	**12.56**	**198**	Pn	**Pn**	**15 56 18.9**	**-0.6**
KKM	**Kota Kinabalu**	**12.59**	**288**	Pn	**Pn**	**15 56 20.3**	**+0.5**
GENI	**Genyem**	**12.84**	**112**	P	**Pn**	**15 56 21.4**	**-1.7**
MTN	**Manton Dam**	**15.25**	**169**	Pn	**Pn**	**15 56 56.6**	**+0.7**
JAGI	**Jajag, Banyuwa**	**17.64**	**233**	Pn	**Pn**	**15 57 25.0**	**-1.2**
JAGI				IAmb	IAmb	15 57 37.9	
	comp=Z,37nm,0.9s						
KNRA	**Kununurra**	**17.81**	**178**		**P**	**15 57 28.5**	**-0.2**
KSM	**Kuching**	**17.96**	**268**		**P**	**15 57 30.6**	**+0.2**
KSM				IAmb	IAmb	15 57 36.1	
	comp=Z,54nm,1.2s						
GUMO	**Guam**	**19.92**	**55**	LR	LR	16 04 21.2	
	comp=Z,186nm,21.5s,baz=254,slow=33						
UGM	**Wanagama**	**20.36**	**240**	P	**P**	**15 57 56.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**20.37**	**187**	P	**P**	**15 57 57.8**	**+1.0**
YULB	**Yu-li**	**22.08**	**343**	P	**P**	**15 58 13.1**	**-2.1**
YULB				IAmb	IAmb	15 58 36.5	
	comp=Z,53nm,1.2s						
PMG	**Port Moresby**	**22.10**	**122**	LR	LR	16 08 39.0	
	comp=Z,76nm,19.4s,baz=268,slow=41						
TPUB	**Ta-pu**	**22.20**	**341**	P	**P**	**15 58 13.9**	**-2.7**
WB0	**Warramunga Arr**	**22.68**	**165**	P	**P**	**15 58 21.9**	**+0.2**
WB0				IAmb	IAmb	15 58 28.7	
	comp=Z,18nm,0.7s						
WRAB	**Tennant Creek**	**22.83**	**165**	P	**P**	**15 58 22.9**	**-0.3**
WRAB				IAmb	IAmb	15 58 36.1	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**22.84**	**165**	P	**P**	**15 58 22.6**	**-0.7**
WRA	**Warramunga Arr**	**22.84**	**165**	P	**P**	**15 58 23.6**	**+0.4**
	comp=Z,10nm,0.9s,baz=342,slow=9.3,SNR=38						
	comp=Z,10nm,0.9s						
WB2	**Warramunga Arr**	**22.84**	**165**	P	**P**	**15 58 23.1**	**-0.3**
WB2				IAmb	IAmb	15 58 42.8	
	comp=Z,26nm,1.1s						
WR0	**Warramunga Arr**	**22.91**	**165**	P	**P**	**15 58 24.0**	**0.0**
YHNB	**Yeheng**	**23.27**	**344**	P	**P**	**15 58 28.9**	**+1.3**
MBWA	**Marble Bar**	**24.71**	**199**	P	**P**	**15 58 41.0**	**-0.1**
MBWA				IAmb	IAmb	15 58 47.6	
	comp=Z,44nm,1.4s						
PSA00	**Pilbara Seismi**	**25.06**	**199**	P	**P**	**15 58 43.9**	**-0.4**
PSA00				IAmb	IAmb	15 58 54.6	
	comp=Z,19nm,1.1s						
XMIS	**Christmas Isla**	**25.81**	**240**	P	**P**	**15 58 51.6**	**+0.4**
AS31	**Alice Springs**	**26.33**	**168**	P	**P**	**15 58 55.9**	**0.0**
ASAR	**Alice Springs**	**26.33**	**168**	P	**P**	**15 58 55.6**	**-0.2**
ASAR	**Alice Springs**	**26.33**	**168**	P	**P**	**15 58 56.5**	**+0.6**
	comp=Z,3.4nm,0.8s,baz=349,slow=7.9,SNR=21						
ASAR				PcP	**PcP**	**16 02 20.2**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=354,slow=1.9,SNR=2.3						
ASAR				ScP	**ScP**	**16 05 58.8**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=325,slow=2.1,SNR=4.1						
ASAR				LR	LR	16 10 20.3	
	comp=Z,174nm,20.7s,baz=345,slow=39						
	comp=Z,3.4nm,0.8s						
CTA	**Charters Tower**	**28.36**	**142**	LR	LR	16 12 16.2	
	comp=Z,173nm,19.8s,baz=298,slow=40						
JNU	**Nakatsue**	**30.82**	**4**	LR	LR	16 10 57.9	
	comp=Z,116nm,20.9s,baz=182,slow=34						
NJ2	**Nanjing**	**30.95**	**344**	*e*P	**P**	**15 59 38.3**	**+1.5**
NJ2				pP	**pP**	**15 59 46.8**	**-0.1**
NJ2				sP	**sP**	**15 59 50.6**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,310nm,3.7s						
CMAR	**Chiang Mai Arr**	**32.94**	**301**	P	**P**	**15 59 56.4**	**+1.8**
CMAR	**Chiang Mai Arr**	**32.94**	**301**	P	**P**	**15 59 53.8**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=119,slow=7.4,SNR=3.9						
CMAR				LR	LR	16 14 42.3	
	comp=Z,39nm,18.2s,baz=120,slow=39						
	comp=Z,1.0nm,0.8s						
CHTO	**Chiang Mai**	**33.10**	**302**	P	**P**	**15 59 55.7**	**-0.2**
MORW	**Morawa**	**33.26**	**200**	P	**P**	**15 59 56.9**	**-0.2**
HNR	**Honiara**	**33.63**	**111**	LR	LR	16 15 18.4	
	comp=Z,813nm,18.2s,baz=313,slow=39						
KSRS	**Korea Array**	**35.05**	**360**	P	**P**	**16 00 11.1**	**-1.5**
	comp=Z,1.5nm,0.6s,baz=176,slow=10,SNR=9.0						
KSRS				LR	LR	16 12 53.9	
	comp=Z,48nm,21.5s,baz=175,slow=34						
	comp=Z,1.5nm,0.6s						
PZH	**PanZhiHua**	**35.07**	**316**	P	**P**	**16 00 14.0**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,60nm,4.5s						
MJAR	**Matsushiro Arr**	**35.35**	**14**	P	**P**	**16 00 12.1**	**-3.1**
	comp=Z,1.6nm,0.7s,baz=190,slow=9.3,SNR=5.6						
	comp=Z,1.6nm,0.7s						
BBOO	**Buckleboo**	**35.63**	**169**	P	**P**	**16 00 18.2**	**+0.6**
STKA	**Stephens Creek**	**36.22**	**161**	P	**P**	**16 00 23.7**	**+1.0**
STKA	**Stephens Creek**	**36.22**	**161**	P	**P**	**16 00 23.5**	**+0.8**
	comp=Z,6.4nm,0.7s,baz=336,slow=9.2,SNR=20						
STKA				LR	LR	16 17 03.7	
	comp=Z,126nm,19.0s,baz=6.7,slow=39						
	comp=Z,6.4nm,0.7s						
NWAO	**Narrogin (SRO)**	**36.50**	**196**	P	**P**	**16 00 26.7**	**+1.7**
BJI	**Beijing**	**39.19**	**345**	P	**P**	**16 00 47.0**	**-0.7**
BJI				pP	**pP**	**16 00 56.8**	**-1.2**
BJI				sP	**sP**	**16 01 00.9**	**-1.3**
BJI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ARMA	**Armidale**	**39.39**	**147**	P	**P**	**16 00 51.2**	**+1.6**
ARMA				IAmb	IAmb	16 01 02.6	
	comp=Z,21nm,1.5s						
LZH	**Lanzhou**	**40.56**	**329**	*e*P	**P**	**16 01 00.0**	**+0.6**
LZH				sP	sP	16 01 12.8	-1.0
LZH				pmax	pmax		
	comp=Z,13nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**40.97**	**64**	T	T	16 44 37.0	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**40.98**	**64**	T	T	16 44 35.3	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**40.98**	**64**	T	T	16 44 36.5	
	baz=253						
HHC	**Hu-ho-hao-te**	**41.29**	**341**	*e*P	**P**	**16 01 05.8**	**+0.5**
HHC				pmax	pmax		
	comp=Z,17nm,1.1s						
HHC				pmax	pmax		
	comp=Z,140nm,3.9s						
HHC				LR	LR		
	comp=N,260nm,12.9s						
HHC				LR	LR		
	comp=E,360nm,9.6s						
HHC				LR	LR		
	comp=Z,180nm,10.8s						
H11N1	**WAKE ISLAND Hy**	**41.55**	**62**	T	T	16 45 24.2	
	baz=250,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hy**	**41.56**	**62**	T	T	16 45 23.8	
	baz=250						
H11N3	**WAKE ISLAND Hy**	**41.56**	**62**	T	T	16 45 24.1	
	baz=250,slow=75,SNR=10						
BTO	**Baotou**	**41.61**	**339**	*e*P	**P**	**16 01 10.3**	**+2.5**
BTO				pP	**sP**	**16 01 22.3**	**0.0**
BTO				sP	pP	16 01 28.0	+10
BTO				PP	**PnPn**	**16 02 50.4**	**+1.0**
BTO				S	**S**	**16 07 26.9**	**+5.0**
BTO				SS	**SS**	**16 10 28.6**	**+0.7**
BTO				pmax	pmax		
	comp=Z,19nm,0.6s						
BTO				pmax	pmax		
	comp=Z,240nm,4.0s						
BTO				LR	LR		
	comp=N,240nm,12.4s						
BTO				LR	LR		
	comp=E,300nm,11.8s						
BTO				LR	LR		
	comp=Z,200nm,7.5s						
USA0B	**Ussuriysk Arra**	**41.91**	**4**	P	**P**	**16 01 09.6**	**-0.6**
USA0B				IAmb	IAmb	16 01 31.1	
	comp=Z,7.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**41.91**	**4**	P	**P**	**16 01 09.7**	**-0.5**
USRK	**Ussuriysk Ar.**	**41.91**	**4**	P	**P**	**16 01 09.3**	**-0.9**
	comp=Z,4.8nm,0.7s,baz=169,slow=5.1,SNR=6.9						
	comp=Z,4.8nm,0.7s						
SHL	**Shillong**	**41.98**	**307**	P	**P**	**16 01 10.2**	**-1.1**
SHL				IAmb	IAmb	16 01 19.9	
	comp=Z,12nm,0.6s						
MDJ	**Mudanjiang**	**42.22**	**1**	P	**P**	**16 01 13.8**	**+1.2**
MDJ				pP	pP	16 01 22.6	-0.4
MDJ				sP	sP	16 01 27.0	-0.2
MDJ				PP	**PP**	**16 02 53.1**	**+2.2**
MDJ				PcP	**PcP**	**16 03 05.5**	**-0.8**
MDJ				ScP	**ScP**	**16 06 53.8**	**-0.6**
MDJ				PcS	**PcS**	**16 06 58.6**	**+0.6**
MDJ				S	**S**	**16 07 35.4**	**+4.8**
MDJ				sS	sS	16 07 51.8	+4.2
MDJ				SS	**SnSn**	**16 10 49.1**	**-4.1**
MDJ				ScS	**ScS**	**16 11 12.6**	**+0.5**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,310nm,3.6s						
TOO	**Toolangi**	**42.71**	**160**	P	**P**	**16 01 18.9**	**+2.1**
TOO				IAmb	IAmb	16 01 24.3	
	comp=Z,26nm,1.5s						
ASAJ	**Asahikawa**	**43.60**	**15**	LR	LR	16 19 04.9	
	comp=Z,79nm,21.2s,baz=166,slow=36						
JKA	**Kamikawa-asahi**	**43.60**	**15**	P	**P**	**16 01 25.0**	**+1.2**
DZM	**Mont Dzumac**	**44.43**	**125**	LR	LR	16 19 08.4	
	comp=Z,70nm,19.0s,baz=270,slow=35						
ONTNC	**Ouen Toro**	**44.55**	**125**	P	**P**	**16 01 33.5**	**+1.7**
GTA	**Gaotai**	**45.15**	**329**	*e*P	**P**	**16 01 37.0**	**+0.5**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GOMU	**GeErMu**	**45.79**	**322**	P	P	16 01 47.9	+6.0
ODAN	**Odare**	**46.17**	**306**	*e*P	**P**	**16 01 45.8**	**+0.9**
RAMN	**Ramite**	**46.85**	**306**	*e*P	**P**	**16 01 52.5**	**+2.2**
	comp=Z,34nm,0.8s						
JIRN	**Jiri**	**47.48**	**306**	*e*P	**P**	**16 01 54.4**	**-0.9**
GUN	**Gumba**	**47.83**	**306**	*e*P	**P**	**16 01 55.5**	**-2.5**
ULN	**Ulaanbaatar**	**49.01**	**341**	P	**P**	**16 02 05.6**	**-0.9**
ULN				IAmb	IAmb	16 02 15.0	
	comp=Z,4.7nm,0.9s						
SONM	**Songino Array**	**49.20**	**341**	P	**P**	**16 02 07.3**	**-0.5**
SONM	**Songino Array**	**49.20**	**341**	P	**P**	**16 02 07.0**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=156,slow=7.6,SNR=3.9						
	comp=Z,2.5nm,0.8s						
KOLN	**Koldanda**	**49.62**	**305**	*e*P	**P**	**16 02 12.3**	**+0.7**
KOLN	**Koldanda**	**49.62**	**305**	*e*P	**P**	**16 02 12.7**	**+1.1**
DANN	**Dangsing**	**49.72**	**306**	*e*P	**P**	**16 02 11.5**	**-0.9**
PYUN	**Piuthan**	**50.25**	**305**	*e*P	**P**	**16 02 17.5**	**+1.1**
WMQ	**Urumqi**	**54.81**	**325**	*e*P	**P**	**16 02 49.6**	**-0.1**
WMQ				pP	pP	16 02 59.8	-0.5
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
PETK	**Petropavlovsk-**	**56.25**	**21**	P	**P**	**16 02 59.4**	**-0.4**
	comp=Z,5.4nm,0.9s,baz=205,slow=4.8,SNR=2.8						
	comp=Z,5.4nm,0.9s						
MK31	**Makanchi Array**	**59.64**	**325**	P	**P**	**16 03 23.1**	**-0.7**
MK31				IAmb	IAmb	16 03 30.0	
	comp=Z,8.6nm,1.2s						
MKAR	**Makanchi Array**	**59.64**	**325**	P	**P**	**16 03 22.8**	**-0.9**
MKAR	**Makanchi Array**	**59.64**	**325**	P	**P**	**16 03 23.3**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=118,slow=8.3,SNR=17						
MKAR				LR	LR	16 29 18.5	
	comp=Z,24nm,19.8s,baz=109,slow=36						
	comp=Z,1.6nm,0.5s						
RPZ	**Rata Peaks**	**59.67**	**145**	LR	LR	16 29 51.3	
	comp=Z,87nm,18.3s,baz=282,slow=37						
MA2	**Magadan**	**59.79**	**13**	P	**P**	**16 03 25.5**	**+1.1**
MAKZ	**Makanchi**	**59.83**	**325**	P	**P**	**16 03 24.9**	**-0.1**
MAKZ				IAmb	IAmb	16 03 31.7	
	comp=Z,6.3nm,0.8s						
TARG	**Taragay, Kyrgy**	**59.87**	**318**	P	**P**	**16 03 24.7**	**-1.2**
TARG				IAmb	IAmb	16 03 37.1	
	comp=Z,5.6nm,0.9s						
KSH	**Kashi**	**60.17**	**315**	P	**P**	**16 03 28.8**	**+1.1**
URZ	**Urewera**	**60.42**	**137**	LR	LR	16 30 26.9	
	comp=Z,76nm,18.2s,baz=115,slow=37						
AAK	**Ala-Archa**	**62.48**	**318**	LR	LR	16 33 09.7	
	comp=Z,57nm,21.1s,baz=102,slow=38						
ZALV	**Zalesovo Beam**	**62.60**	**333**	P	**P**	**16 03 42.7**	**-0.9**
ZALV	**Zalesovo Beam**	**62.60**	**333**	P	**P**	**16 03 41.9**	**-1.8**
	comp=Z,1.9nm,0.7s,baz=114,slow=6.6,SNR=3.4						
ZALV				LR	LR	16 31 50.9	
	comp=Z,40nm,21.3s,baz=86,slow=37						
	comp=Z,1.9nm,0.7s						
KURBB	**Kurchatov Arra**	**63.81**	**327**	P	**P**	**16 03 50.8**	**-0.9**
	comp=Z,2.9nm,0.5s,baz=127,slow=6.1,SNR=9.5						
	comp=Z,2.9nm,0.5s						
KURK	**Kurchatov**	**63.81**	**327**	P	**P**	**16 03 51.1**	**-0.6**
KURK				IAmb	IAmb	16 04 10.2	
	comp=Z,7.9nm,0.7s						
KK31	**Karatay Array**	**65.36**	**317**	P	**P**	**16 04 01.2**	**-0.8**
KK31				IAmb	IAmb	16 04 08.8	
	comp=Z,5.2nm,0.9s						
KKAR	**Karatay Array**	**65.36**	**317**	P	**P**	**16 04 01.2**	**-0.8**
TIXI	**Tiksi**	**69.31**	**0**	P	**P**	**16 04 25.0**	**-1.4**
TIXI				IAmb	IAmb	16 04 42.8	
	comp=Z,5.1nm,1.1s						
BVAR	**Borovoye Array**	**69.39**	**327**	P	**P**	**16 04 26.4**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=149,slow=6.2,SNR=4.2						
	comp=Z,2.0nm,0.7s						
CASY	**Casey**	**69.54**	**188**	P	P	16 04 22.4	-5.5
GEYT	**Alibeck**	**73.01**	**309**	P	**P**	**16 04 49.2**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=151,slow=3.3,SNR=2.1						
	comp=Z,0.5nm,0.4s						
ABKAR	**Akbulak array**	**74.26**	**321**	P	**P**	**16 04 55.4**	**-1.2**
AKTO	**Aktyubinsk**	**75.77**	**322**	LR	LR	16 41 36.7	
	comp=Z,2.9nm,18.2s,baz=17,slow=38						
C19K	**Lookout Ridge**	**81.60**	**20**	P	**P**	**16 05 37.6**	**+0.5**
C19K				IAmb	IAmb	16 05 39.5	
	comp=Z,15nm,1.5s						
VNDA	**Vanda**	**81.77**	**173**	P	**P**	**16 05 36.5**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=324,slow=14,SNR=2.8						
	comp=Z,0.5nm,0.6s						
KIRV	**Kirov**	**82.28**	**329**	LR	LR	16 44 58.5	
	comp=Z,40nm,19.8s,baz=89,slow=38						
KDAK	**Kodiak Island**	**82.33**	**32**	LR	LR	16 38 23.2	
	comp=Z,47nm,21.3s,baz=264,slow=33						
MAW	**Mawson**	**82.90**	**201**	P	**P**	**16 05 42.2**	**-1.6**
	comp=Z,5.5nm,0.8s,baz=9.5,slow=18,SNR=4.7						
	comp=Z,5.5nm,0.8s						
GNI	**Garni**	**83.60**	**310**	LR	LR	16 47 60.0	
	comp=Z,20nm,21.8s,baz=75,slow=39						
BRTR	**Keskin Array B**	**92.14**	**310**	P	**P**	**16 06 28.8**	**-0.6**
	comp=Z,1.6nm,1.2s,baz=43,slow=2.8,SNR=2.5						
	comp=Z,1.6nm,1.2s						
QSPA	**South Pole Qui**	**92.16**	**180**	P	**P**	**16 06 28.6**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=335,slow=11,SNR=2.0						
	comp=Z,0.6nm,0.7s						
SPITS	**Spitsbergen Ar**	**92.23**	**349**	LR	LR	16 52 11.2	
	comp=Z,29nm,21.9s,baz=353,slow=38						
ARCES	**ARCESS Array B**	**92.36**	**340**	LR	LR	16 55 48.9	
	comp=Z,12nm,19.9s,baz=218,slow=41						
MLR	**Muntele Rosu**	**97.03**	**316**	LR	LR	16 57 25.1	
	comp=Z,27nm,18.3s,baz=58,slow=40						
IDI	**Anoyia**	**99.60**	**306**	LR	LR	16 59 35.5	
	comp=Z,12nm,18.7s,baz=10,slow=40						
HFS	**Hagfors**	**100.04**	**332**	LR	LR	16 56 00.7	
	comp=Z,42nm,19.1s,baz=72,slow=38						

*IDC **17** 15:58:37.0±1.4, 29°.89N×70°.41E, h0km, mb3.6/7, mbtmp3.6/9, ML3.3/2, Error ellipse: s-maj=41.5km s-min=23.3km az=62.0*

ISC 17 15:58:42.5±1.4, 30°.0N±0°.2×70°.5E±0°.2, h35km, n9, σ0°80/9, mb3.5/7, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**13.01**	**13**	Pn	**Pn**	**16 01 44.2**	**-0.7**
	0.3nm,0.3s,baz=193,slow=7.5,SNR=6.5						
	1.3nm,0.5s						
MKAR	**Makanchi Array**	**19.10**	**25**	P	**P**	**16 03 02.5**	**+0.3**
	baz=207,slow=9.2,SNR=2.8						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**21.46**	**14**	P	**P**	**16 03 27.7**	**0.0**
	0.4nm,0.3s,baz=208,slow=10,SNR=2.0						
BVAR	**Borovoye Array**	**23.00**	**360**	P	**P**	**16 03 45.7**	**+1.6**
	1.9nm,0.8s,baz=183,slow=8.9,SNR=8.3						
	1.9nm,0.8s						
AKASG	**Malin Array Be**	**37.00**	**316**	P	**P**	**16 05 48.0**	**-0.5**
	0.3nm,0.4s,baz=98,slow=7.0,SNR=5.1						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**42.77**	**330**	P	**P**	**16 06 36.6**	**+0.3**
	0.9nm,0.7s,baz=108,slow=12,SNR=1.7						
	0.9nm,0.7s						
ARCES	**ARCESS Array B**	**47.03**	**340**	P	**P**	**16 07 09.9**	**-0.2**
	2.5nm,0.8s,baz=129,slow=9.6,SNR=4.2						
	2.5nm,0.8s						
WRA	**Warramunga Arr**	**78.99**	**121**	P	**P**	**16 10 42.8**	**-0.3**
	0.3nm,0.8s,baz=322,slow=4.9,SNR=1.6						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**80.95**	**124**	P	**P**	**16 10 53.9**	**+0.3**
	0.6nm,1.1s,baz=308,slow=5.8,SNR=4.1						
	0.6nm,1.1s						

*THE **17** 15:59:05.7, 41°.50N×19°.66E, h24km±1km, ML2.7/3, Error ellipse: s-maj=2.9km s-min=1.4km az=315.0*
*TIR **17** 15:59:06.6, 41°.25N×19°.86E, h26km, Md3.4, Ml2.8*
*ATH **17** 15:59:06.0, 41°.37N×19°.78E, h10km±4km, ML2.4/6, Error ellipse: s-maj=5.4km s-min=1.4km az=328.0*
*RHSSO **17** 15:59:07.2±0.8, 41°.34N×20°.00E, h13km±3km, ML2.7/8*
*PDG **17** 15:59:08.9±0.1, 41°.41N×19°.93E, h9km, ML2.8/9, Error ellipse: s-maj=0.1km s-min=0.1km az=0.0*
*BEO **17** 15:59:08.0±0.4, 41°.27N×19°.87E, h18km±1km, ML2.5/9*
*SKO **17** 15:59:08.1, 41°.32N×19°.89E, h25km, ML2.5*

ISC 17 15:59:07.4±0.9, 41°.27N±0°.01×19°.85E±0°.02, h23km±4km, n115, σ1s50/205, 23C-15D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.08**	**7**	⇑P	**Pb**	**15 59 11.4**	**-0.3**
TIR				⇑S	**Sb**	**15 59 14.1**	**-0.4**
TIR	**Tirane**	**0.08**	**7**	P	**Pb**	**15 59 11.3**	**-0.4**
	baz=2.0						
TIR				S	**Sb**	**15 59 15.2**	**+0.7**
	baz=2.0						
TIR				AMP			
	comp=N,8.4nm,0.1s,baz=2.0						
TIR	**Tirane**	**0.08**	**7**	P	**Pb**	**15 59 11.4**	**-0.3**
TIR				S	**Sb**	**15 59 15.5**	**+0.9**
	comp=N,3µm,0.2s						
TIR	**Tirane**	**0.08**	**7**	*e*Pg	**Pb**	**15 59 11.3**	**-0.4**
TIR				*e*Sg	**Sb**	**15 59 15.3**	**+0.7**
OHR	**Ohrid**	**0.73**	**102**	*e*Pg	**Pn**	**15 59 21.6**	**-0.8**
OHR				*e*Sg	**Sn**	**15 59 33.0**	**+0.1**
OHR	**Ohrid**	**0.73**	**102**	⇑*i*Pg	**Pn**	**15 59 21.6**	**-0.8**
OHR				*i* Sg	**Sn**	**15 59 33.2**	**+0.3**
ULC	**Ulcinj**	**0.83**	**327**	*i* Pg	**Pn**	**15 59 23.2**	**-0.5**
ULC	**Ulcinj**	**0.83**	**327**	⇑*i*Pg	**Pn**	**15 59 23.1**	**-0.7**
ULC				*i* Sg	**Sn**	**15 59 34.9**	**-0.4**
KBN	**Korca**	**0.96**	**132**	P	**Pb**	**15 59 25.4**	**0.0**
	baz=131						
KBN				S	**Sn**	**15 59 38.5**	**0.0**
	baz=131						
KBN				AMP			
	comp=N,1.0nm,0.6s,baz=131						
DRME	**Dracevica, Mon**	**1.04**	**332**	*e*Pg	**Pb**	**15 59 26.8**	**-0.1**
DRME				*e*Sg	**Sb**	**15 59 42.4**	**+2.3**
DRME	**Dracevica, Mon**	**1.04**	**332**	*e*Pg	**Pn**	**15 59 25.9**	**-0.8**
DRME				*e*Sg	**Sb**	**15 59 40.4**	**+0.3**
DRME	**Dracevica, Mon**	**1.04**	**332**	⇓*i*Pg	**Pb**	**15 59 26.7**	**-0.1**
DRME				*i* Sg	**Sb**	**15 59 41.8**	**+1.7**
BCI	**Bajram Curri**	**1.11**	**8**	P	**Pb**	**15 59 28.3**	**+0.3**
	baz=7.0						
BCI				S	**Sb**	**15 59 44.5**	**+2.4**
	baz=7.0						
BCI				AMP			
	comp=E,1.5nm,0.5s,baz=7.0						
PDG	**Podgorica**	**1.24**	**339**	⇓P	**Pb**	**15 59 30.6**	**+0.4**
PDG				⇑S	**Sb**	**15 59 46.6**	**+0.8**
PDG	**Podgorica**	**1.24**	**339**	*e*Pg	**Pb**	**15 59 30.0**	**-0.2**
PDG				*e*Sg	**Sb**	**15 59 47.4**	**+1.6**
PDG	**Podgorica**	**1.24**	**339**	*e*Pg	**Pb**	**15 59 29.2**	**-1.0**
PDG				*e*Sg	**Sb**	**15 59 45.8**	**0.0**
PDG	**Podgorica**	**1.24**	**339**	⇓*i*Pg	**Pb**	**15 59 30.1**	**-0.2**
PDG				*i* Sg	**Sb**	**15 59 48.0**	**+2.2**
NEST	**Nestorio**	**1.25**	**133**	P	**Pb**	**15 59 30.6**	**+0.3**
NEST				S	**Sb**	**15 59 50.5**	**+4.5**
	comp=E,105nm,0.5s						
NEST	**Nestorio**	**1.25**	**133**	P	**Pb**	**15 59 30.8**	**+0.5**
NEST				S	**Sb**	**15 59 48.3**	**+2.3**
NEST				AML	AML	15 59 51.6	
	comp=E,242µm,0.5s						
NEST				AML	AML	15 59 51.9	
	comp=N,224µm,0.4s						
FNA	**Florina**	**1.25**	**112**	P	**Pb**	**15 59 30.2**	**-0.2**
	baz=111						
FNA				S	**Sb**	**15 59 47.8**	**+

KPRO	**Kipourio**	**1.75**	**138**	P	**Pb**	**15 59 38.5**	**-0.3**
KPRO	**Kipourio**	**1.75**	**138**	P	**Pb**	**15 59 38.0**	**-0.8**
KPRO				S	**Sb**	**15 59 59.2**	**-1.1**
IGT	**Igoumenitsa**	**1.77**	**168**	P	**Pb**	**15 59 37.6**	**-1.6**
	baz=168						
IGT				S	**Sb**	**16 00 02.6**	**+1.6**
	baz=168						
IGT	**Igoumenitsa**	**1.77**	**168**	P	**Pb**	**15 59 37.6**	**-1.6**
IGT	**Igoumenitsa**	**1.77**	**168**	*e*Pn	**Pb**	**15 59 37.8**	**-1.5**
IGT				*i* Sn	**Sb**	**16 00 04.3**	**+3.3**
IGT	**Igoumenitsa**	**1.77**	**168**	P	**Pb**	**15 59 37.4**	**-1.8**
IGT				S	**Sb**	**16 00 00.9**	**-0.1**
IGT				AML	AML	16 00 10.7	
	comp=N,86μm,0.6s						
IGT				AML	AML	16 00 13.4	
	comp=E,129μm,0.6s						
TREB	**Trebinje**	**1.83**	**323**	*e*Pn	**Pb**	**15 59 40.2**	**0.0**
TREB				*e*Sn	**Sb**	**16 00 02.3**	**-0.4**
TREB	**Trebinje**	**1.83**	**323**	*e*Pn	**Pn**	**15 59 37.7**	**+0.2**
TREB				*e*Sn	**Sb**	**16 00 01.4**	**-1.3**
DBRK	**Dubrovnik**	**1.89**	**318**	*e*Pn	**Pn**	**15 59 38.9**	**+0.6**
DBRK				Sn	**Sn**	**16 00 02.0**	**+0.6**
BRY	**Bratogost**	**1.90**	**330**	*e*Pn	**Pn**	**15 59 39.3**	**+0.7**
BRY				*e*Sn	**Sb**	**16 00 03.0**	**-1.9**
BRY	**Bratogost**	**1.90**	**330**	⇑*i*Pn	**Pb**	**15 59 41.5**	**0.0**
BRY				*i* Sn	**Sb**	**16 00 07.0**	**+2.1**
GRG	**Griva**	**1.95**	**98**	P	**Pn**	**15 59 39.4**	**+0.2**
GRG	**Griva**	**1.95**	**98**	⇑*i*Pn	**Pn**	**15 59 39.6**	**+0.5**
GRG				*i* Sn	**Sb**	**16 00 05.5**	**-0.7**
GRG	**Griva**	**1.95**	**98**	P	**Pn**	**15 59 39.7**	**+0.5**
GRG				S	**Sb**	**16 00 04.4**	**-1.8**
GRG				AML	AML	16 00 07.2	
	comp=N,148μm,0.6s						
GRG				AML	AML	16 00 08.3	
	comp=E,182μm,0.5s						
SJES	**Sjenica**	**1.99**	**3**	*e*Pn	**Pb**	**15 59 42.1**	**-1.0**
SJES				*e*Sn	**Sb**	**16 00 05.7**	**-1.8**
SJES	**Sjenica**	**1.99**	**3**	*e*Pn	**Pn**	**15 59 40.1**	**+0.3**
SJES				*e*Sn	**Sn**	**16 00 02.8**	**-1.3**
VAY	**Valandovo**	**2.05**	**88**	*i* Pn	**Pb**	**15 59 43.8**	**-0.1**
VAY				*i* Sn	**Sb**	**16 00 06.6**	**-2.3**
VAY				*e*Lg	Lg	16 00 07.8	
	comp=E,18nm,0.6s						
PRVS	**Prvonek**	**2.07**	**53**	*e*Pn	**Pn**	**15 59 40.9**	**+0.1**
PLE	**Pljevlja**	**2.09**	**351**	*e*Pn	**Pb**	**15 59 43.2**	**-1.5**
PLE				*e*Sn	**Sn**	**16 00 07.8**	**+1.3**
PLE	**Pljevlja**	**2.09**	**351**	⇓*i*Pn	**Pb**	**15 59 43.5**	**-1.2**
PLE				*i* Sn	**Sb**	**16 00 10.5**	**+0.2**
BARS	**Barje**	**2.13**	**43**	*e*Pn	**Pb**	**15 59 44.4**	**-0.9**
BARS	**Barje**	**2.13**	**43**	*i* Pn	**Pb**	**15 59 45.2**	**-0.1**
BARS				*i* Sn	**Sb**	**16 00 10.1**	**-1.2**
SELS	**Selova**	**2.17**	**25**	*e*Pn	**Pn**	**15 59 42.4**	**+0.3**
SELS				*e*Sn	**Sb**	**16 00 11.0**	**-1.4**
STON	**Ston**	**2.27**	**316**	*e*Pn	**Pn**	**15 59 42.9**	**-0.5**
STON				Sn	**Sn**	**16 00 09.2**	**-1.4**
STON	**Ston**	**2.27**	**316**	*e*Pn	**Pn**	**15 59 44.4**	**+1.0**
STON				*e*Sn	**Sn**	**16 00 11.1**	**+0.5**
STON	**Ston**	**2.27**	**316**	*e*Pn	**Pb**	**15 59 44.9**	**-2.7**
STON				*e*Sn	**Sb**	**16 00 13.0**	**-2.2**
KNT	**Kendrikon**	**2.30**	**92**	P	**Pn**	**15 59 44.4**	**+0.5**
KNT	**Kendrikon**	**2.30**	**92**	*i* Pn	**Pn**	**15 59 44.3**	**+0.3**
KNT				*i* Sn	**Sb**	**16 00 13.8**	**-2.4**
KNT	**Kendrikon**	**2.30**	**92**	P	**Pn**	**15 59 44.0**	**0.0**
KNT				AML	AML	16 00 25.5	
	comp=E,37μm,0.9s						
KNT				AML	AML	16 00 30.6	
	comp=N,34μm,0.5s						
IVAS	**Ivanjica**	**2.32**	**5**	*e*Pn	**Pb**	**15 59 46.1**	**-2.5**
IVAS				*e*Sn	**Sb**	**16 00 14.0**	**-2.8**
THL	**Klokotos Trika**	**2.37**	**135**	P	**Pn**	**15 59 45.7**	**+0.8**
THL				S	**Sb**	**16 00 15.5**	**-2.7**
RUDO	**Rudo**	**2.38**	**352**	*e*Pn	**Pn**	**15 59 46.1**	**+1.1**
RUDO				*e*Sn	**Sn**	**16 00 13.8**	**+0.4**
TYRN	**Tyrnavos**	**2.39**	**130**	P	**Pb**	**15 59 46.8**	**-2.9**
THE	**Thessaloniki**	**2.44**	**104**	*i* Pn	**Pn**	**15 59 46.6**	**+0.8**
THE				*i* Sn	**Sn**	**16 00 16.2**	**+1.2**
MATE	**Matera**	**2.46**	**256**	⇓P	**Pb**	**15 59 50.7**	**-0.3**
MATE				⇑S	**Sb**	**16 00 24.2**	**+3.4**
KKB	**Krupnik**	**2.52**	**76**	*i* Pn	**Pn**	**15 59 47.6**	**+0.5**
HORT	**Hortiatis**	**2.55**	**104**	P	**Pn**	**15 59 47.8**	**+0.4**
HORT				S	**Sn**	**16 00 17.9**	**+0.1**
LKD2	**Lefkada island**	**2.55**	**166**	P	**Pn**	**15 59 47.1**	**-0.3**
	baz=165						
LKD2	**Lefkada island**	**2.55**	**166**	*e*Pn	**Pn**	**15 59 47.6**	**+0.2**
GRUS	**Gruza**	**2.70**	**13**	*e*Pn	**Pn**	**15 59 51.2**	**+1.8**
GRUS				*e*Sn	**Sn**	**16 00 23.2**	**+1.9**
SRS	**Serrai**	**2.83**	**92**	*e*Pn	**Pn**	**15 59 51.1**	**-0.1**
SRS				*e*Sn	**Sn**	**16 00 24.9**	**+0.4**
SRS	**Serrai**	**2.83**	**92**	P	**Pn**	**15 59 51.2**	**+0.1**
DIVS	**Divibare**	**2.83**	**2**	*e*Pn	**Pn**	**15 59 52.3**	**+1.0**
DIVS				*e*Sn	**Sn**	**16 00 25.1**	**+0.4**
DIVS	**Divibare**	**2.83**	**2**	*e*Pn	**Pn**	**15 59 50.7**	**-0.6**
DIVS				*e*Sn	**Sn**	**16 00 24.0**	**-0.7**
VTS	**Vitosha**	**2.86**	**61**	*e*Pn	**Pn**	**15 59 52.2**	**+0.4**
VTS				*e*Sn	**Sn**	**16 00 25.7**	**+0.1**
AGG	**Agios Georgios**	**2.94**	**139**	P	**Pn**	**15 59 54.3**	**+1.6**
AGG				S	**Sb**	**16 00 29.6**	**-5.1**
TRUS	**Trudelj**	**2.98**	**8**	*e*Pn	**Pn**	**15 59 54.3**	**+1.0**
TRUS				*e*Sn	**Sn**	**16 00 29.4**	**+1.1**
NVR	**Nevrokopi**	**3.02**	**87**	P	**Pn**	**15 59 55.2**	**+1.4**
NVR				S	**Sn**	**16 00 29.0**	**-0.4**
ZAGS	**Zajecar**	**3.09**	**34**	*e*Pn	**Pn**	**15 59 55.2**	**+0.4**
ANX	**Ano Chora**	**3.11**	**149**	P	**Pn**	**15 59 56.7**	**+1.6**
BLKB	**Belogradchik**	**3.15**	**41**	⇑P	**Pn**	**15 59 56.8**	**+1.2**
BLKB				⇓S	**Sn**	**16 00 33.5**	**+1.1**
TEKS	**Tekeris**	**3.29**	**356**	*e*Pn	**Pn**	**15 59 57.4**	**-0.1**
TEKS				*e*Sn	**Sn**	**16 00 35.2**	**-0.7**
CUC	**Castrocucco**	**3.33**	**249**	P	**Pn**	**15 59 57.9**	**-0.1**
MDVR	**Moldovita**	**3.77**	**21**	⇓P	**Pn**	**16 00 05.1**	**+0.9**
MDVR				⇓S	**Sn**	**16 00 48.3**	**+0.5**
FRGS	**Fruska Gora**	**3.89**	**360**	⇑P	**Pn**	**16 00 06.4**	**+0.6**
FRGS				⇓S	**Sn**	**16 00 52.1**	**+1.4**
FRGS	**Fruska Gora**	**3.89**	**360**	*e*Pn	**Pn**	**16 00 06.1**	**+0.3**
FRGS				*e*Sn	**Sn**	**16 00 50.0**	**-0.7**
FRGS	**Fruska Gora**	**3.89**	**360**	*e*Pn	**Pn**	**16 00 05.8**	**0.0**
FRGS				*e*Sn	**Sn**	**16 00 49.8**	**-0.9**
ZIRJ	**Zirje**	**3.92**	**309**	Sn	**Sn**	**16 00 52.2**	**+0.7**
MORI	**Morici**	**4.01**	**312**	Sn	**Sn**	**16 00 53.8**	**+0.1**
A050A	**Klekovaca**	**4.03**	**324**	*e*Pn	**Pn**	**16 00 08.2**	**+0.4**
A050A				*e*Sn	**Sn**	**16 00 54.9**	**+1.5**
HERR	**Herculane**	**4.07**	**27**	⇑P	**Pn**	**16 00 09.0**	**+0.7**
HERR				⇓S	**Sn**	**16 00 55.3**	**+0.1**
BZS	**Buzias**	**4.53**	**16**	⇑P	**Pn**	**16 00 15.4**	**+0.8**
BZS				⇑S	**Sn**	**16 01 06.0**	**-0.6**
GZR	**Gura Zlata**	**4.64**	**26**	⇓P	**Pn**	**16 00 17.0**	**+0.8**
GZR				⇑S	**Sn**	**16 01 10.3**	**+1.0**
VIRC	**Vir**	**4.65**	**312**	Sn	**Sn**	**16 01 05.0**	**-4.4**
SURR	**Surduc**	**4.78**	**19**	⇑P	**Pn**	**16 00 18.2**	**+0.2**
SURR				⇑S	**Sn**	**16 01 11.6**	**-1.0**
SIRR	**Siria**	**5.17**	**14**	⇑P	**Pn**	**16 00 23.7**	**+0.4**
SIRR				⇑S	**Sn**	**16 01 22.1**	**-0.2**
ARR	**Arges**	**5.38**	**39**	⇓P	**Pn**	**16 00 27.6**	**+1.2**
PTJ	**Puntijarka**	**5.43**	**330**	Sg	**Sb**	**16 01 51.0**	**+4.8**
VOIR		**5.63**	**41**	⇑P	**Pn**	**16 00 30.9**	**+1.1**
VOIR				⇑S	**Sn**	**16 01 35.1**	**+1.4**
VYHS	**Vyhne**	**7.26**	**355**	*e*SN	**Sn**	**16 02 06.2**	**-7.6**

IDC ***17*** *15:59:57.6±1.8, 10°.36N×139°.66E, h0km, mb3.3/3, mbtmp3.6/4, ML4.4/1, MS2.6/1, Error ellipse: s-maj=90.4km s-min=25.8km az=115.0*

NEIC ***17*** *16:00:06.4±1.1, 11°.1N±0°.3×139°.9E±0°.3, h10km±2km, mb4.4/8, Error ellipse: s-maj=71.3km s-min=8.7km az=131.0*

ISC 17 15:59:58.9±1.0, 10°.4N±0°.2×139°.8E±0°.2, h10km, n24, σ3°34/16, mb4.4/8, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.88**	**57**	Pn	**Pn**	**16 01 28.1**	**+1.9**
GUMO	**Guam**	**5.88**	**57**	Pn	**Pn**	**16 01 27.5**	**+1.3**
	10nm,0.3s,baz=180,slow=20,SNR=12						
GUMO				Sn	**Sn**	**16 02 28.7**	**-5.1**
	7.4nm,0.3s,baz=197,slow=19,SNR=1.0						
	32nm,0.4s						
H11S3	**WAKE ISLAND Hy 27.23**	**70**		T	T	16 33 55.6	
	baz=255,slow=75,SNR=235						
H11S1	**WAKE ISLAND Hy 27.25**	**70**		T	T	16 33 51.6	
	baz=255,slow=75,SNR=118						
H11S2	**WAKE ISLAND Hy 27.25**	**70**		T	T	16 33 53.4	
	baz=255,slow=75,SNR=201						
H11N1	**WAKE ISLAND Hy 27.72**	**67**		T	T	16 34 30.5	
	baz=253,slow=75,SNR=72						
H11N2	**WAKE ISLAND Hy 27.73**	**67**		T	T	16 34 31.0	
	baz=253,slow=75,SNR=51						
H11N3	**WAKE ISLAND Hy 27.74**	**67**		T	T	16 34 29.2	
	baz=253,slow=75,SNR=41						
WRA	**Warramunga Arr**	**30.66**	**190**	P	**P**	**16 06 13.0**	**-0.9**
	0.3nm,0.9s,baz=11,slow=10,SNR=1.3						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**34.38**	**190**	P	**P**	**16 06 45.9**	**-0.5**
	0.2nm,0.7s,baz=8.5,slow=9.3,SNR=1.4						
	0.2nm,0.7s						
MA2	**Magadan**	**49.73**	**7**	LR	LR	16 33 12.0	
	comp=Z,5.2nm,18.1s,baz=244,slow=40						
KK31	**Karatay Array**	**67.81**	**312**	P	**P**	**16 10 53.8**	**-3.6**
KK31				IAmb	IAmb	16 11 02.8	
	comp=Z,1.6nm,0.5s						
KKAR	**Karatay Array**	**67.81**	**312**	P	**P**	**16 10 53.9**	**-3.4**
D19K	**Kuna River**	**70.30**	**20**	P	**P**	**16 11 16.3**	**+3.9**
D19K				IAmb	IAmb	16 11 34.3	
	comp=Z,4.6nm,1.4s						
IMAR	**Indian Mountai**	**71.04**	**23**	P	**P**	**16 11 20.3**	**+3.5**
IL31		**73.53**	**25**	P	**P**	**16 11 33.0**	**+1.3**
IL31				IAmb	IAmb	16 11 33.7	
	comp=Z,5.0nm,1.4s						
ILAR	**Eielson Array**	**73.53**	**25**	P	**P**	**16 11 33.5**	**+1.8**
ILAR	**Eielson Array**	**73.53**	**25**	P	**P**	**16 11 32.9**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=246,slow=5.6,SNR=6.0						
	comp=Z,0.5nm,0.7s						
BMAR	**Burnt Mountain**	**74.92**	**23**	P	P	16 11 44.4	+4.5
I28M	**Miner Creek**	**76.53**	**25**	P	**P**	**16 11 52.9**	**+3.7**
I28M				IAmb	IAmb	16 12 33.3	
	comp=Z,5.7nm,1.5s						
DAWY	**Dawson**	**76.67**	**26**	P	**P**	**16 11 53.6**	**+3.7**
DAWY				IAmb	IAmb	16 12 37.3	
	comp=Z,5.0nm,1.4s						
F28M	**Old Crow**	**76.73**	**23**	P	**P**	**16 11 54.3**	**+4.1**
L29M		**77.18**	**28**	P	P	16 11 57.1	+4.3
G31M	**Satah River**	**78.88**	**24**	P	**P**	**16 12 05.6**	**+3.4**

NEIC ***17*** *17:29:24.4±0.4, 19°.23N±0°.03×155°.49W±0°.02, h37km±4km, Error ellipse: s-maj=4.0km s-min=2.9km az=152.0*

HVO 17 17:29:25.4±0.6, 19°.20N±0°.03×155°.46W±0°.03, h36km±4km, ML1.8/6, ML2.4/40(NEIC), Error ellipse: s-maj=5.5km s-min=2.7km az=139.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.07**	**58**		Pn	17 29 30.9	-0.5
HPO	**Honuapo**	**0.14**	**219**		Pn	17 29 31.2	-4.1
HPO					Sn	17 29 35.4	-9.1
KHU	**Kahuku**	**0.15**	**287**		Pn	17 29 31.2	-3.9
KHU					Sn	17 29 35.6	-8.8
KHU	**Kahuku**	**0.15**	**287**	IAML		17 29 35.7	
	comp=E,848nm,0.4s						
KHU				IAML		17 29 35.9	
	comp=N,458nm,0.1s						
AIN	**Ainahou**	**0.17**	**0**		Pn	17 29 31.5	-3.2
AIN					Sn	17 29 36.0	-7.3
AIN	**Ainahou**	**0.17**	**0**	IAML		17 29 36.4	
	comp=E,434nm,0.3s						
AIN				IAML		17 29 36.5	
	comp=N,585nm,0.2s						
HLP	**Hilina Pali**	**0.17**	**57**		Pn	17 29 31.4	-3.1
HLP					Sn	17 29 36.0	-7.2
HLP	**Hilina Pali**	**0.17**	**57**	IAML		17 29 37.3	
	comp=N,246nm,1.1s						
HLP				IAML		17 29 42.0	
	comp=E,284nm,1.4s						
SDHHI	**Sand Hill**	**0.24**	**40**		Pn	17 29 31.9	-1.8
SDHHI	**Sand Hill**	**0.24**	**40**	IAML		17 29 39.5	
	comp=E,706nm,1.5s						
SDHHI				IAML		17 29 41.3	
	comp=N,906nm,0.7s						
WRMHI	**West Rim**	**0.25**	**36**		Pn	17 29 31.9	-1.7
WRMHI	**West Rim**	**0.25**	**36**	IAML		17 29 39.7	
	comp=N,993nm,1.3s						
WRMHI				IAML		17 29 43.2	
	comp=E,927nm,0.9s						
RIM	**Rim**	**0.26**	**42**		Pn	17 29 31.9	-1.7
RIM	**Rim**	**0.26**	**42**	IAML		17 29 43.4	
	comp=E,521nm,1.4s						
RIM				IAML		17 29 45.9	
	comp=N,347nm,0.9s						
KKO	**Keanakako`i**	**0.27**	**43**		Pn	17 29 32.1	-1.5
KKO	**Keanakako`i**	**0.27**	**43**	IAML		17 29 39.7	
	comp=N,841nm,1.2s						
KKO				IAML		17 29 47.0	
	comp=E,318nm,0.7s						
UWE	**Uwekahuna**	**0.27**	**36**		Pn	17 29 32.1	-1.5
OBL	**Observatory Le**	**0.27**	**38**		Pn	17 29 32.0	-1.6
UWB	**Uwekahuna B**	**0.28**	**38**		Pn	17 29 32.0	-1.6
UWB	**Uwekahuna B**	**0.28**	**38**	IAML		17 29 41.0	
	comp=E,236nm,1.4s						
UWB				IAML		17 29 45.5	
	comp=N,256nm,1.3s						
BYL	**Byron's Ledge**	**0.28**	**42**		Pn	17 29 32.1	-1.4
BYL	**Byron's Ledge**	**0.28**	**42**	IAML		17 29 40.0	
	comp=N,524nm,1.3s						
BYL				IAML		17 29 46.1	
	comp=E,433nm,1.0s						
PUH	**Pauahi**	**0.29**	**53**		Sn	17 29 37.1	-3.2
PUH	**Pauahi**	**0.29**	**53**		Pn	17 29 32.2	-1.4
PUH				IAML		17 29 41.8	
	comp=N,252nm,1.4s						
PUH	**Pauahi**	**0.29**	**53**	IAML		17 29 36.8	
	comp=E,169nm,1.4s						
SBLHI	**Steaming Bluff**	**0.29**	**39**		Pn	17 29 32.1	-1.5
SBLHI					Sn	17 29 37.0	-3.3
SBLHI	**Steaming Bluff**	**0.29**	**39**	IAML		17 29 42.9	
	comp=E,456nm,1.1s						
SBLHI				IAML		17 29 42.9	
	comp=N,487nm,1.3s						
HATHI	**Halema'uma'u T**	**0.29**	**40**		Pn	17 29 32.1	-1.4
MLH	**Mauna Loa**	**0.30**	**13**		Pn	17 29 32.5	-1.2
MLH					Sn	17 29 37.9	-2.7
MWH	**Moku'aweowe**	**0.31**	**335**		Pn	17 29 32.5	-1.6
MWH					Sn	17 29 38.1	-3.1
MWH	**Moku'aweowe**	**0.31**	**335**	IAML		17 29 39.2	
	comp=N,148nm,0.8s						
MWH				IAML		17 29 42.3	
	comp=E,190nm,1.4s						
RSD	**Rainshed**	**0.31**	**33**		Pn	17 29 32.4	-1.4
RSD					Sn	17 29 37.5	-2.9
KNHH	**Kane Nui o Ham**	**0.33**	**57**		Pn	17 29 32.6	-1.1
MLOA	**Mauna Loa Obse**	**0.35**	**342**		Pn	17 29 33.0	-1.3
MLOA					Sn	17 29 38.4	-2.9
MLOA	**Mauna Loa Obse**	**0.35**	**342**	IAML		17 29 38.5	
	comp=E,138nm,0.2s						
MLOA				IAML		17 29 39.0	
	comp=N,167nm,1.2s						
STCH	**Steam Cracks**	**0.36**	**60**		Sn	17 29 38.7	-1.9
STCH	**Steam Cracks**	**0.36**	**60**		Pn	17 29 33.0	-1.1
STCH				IAML		17 29 49.2	
	comp=N,354nm,1.1s						
STCH	**Steam Cracks**	**0.36**	**60**	IAML		17 29 38.3	
	comp=E,331nm,1.4s						
JCUZ	**Jacuzzi**	**0.38**	**62**	IAML		17 29 40.2	
	comp=N,294nm,1.5s						
JCUZ				IAML		17 29 52.8	
	comp=E,391nm,0.8s						
HMH	**Humu'ula Sheep**	**0.40**	**357**		Pn	17 29 33.8	-0.9
HMH					Sn	17 29 40.2	-1.5
HMH	**Humu'ula Sheep**	**0.40**	**357**	IAML		17 29 40.6	
	comp=E,91nm,1.3s						
HMH				IAML		17 29 41.7	
	comp=N,46nm,0.1s						
JOKA	**Jonika Flow**	**0.49**	**62**		Pn	17 29 34.4	-1.4
JOKA					Sn	17 29 41.0	-2.1
KHLU	**Kahalu`u**	**0.56**	**314**		Pn	17 29 35.2	-1.9
KHLU					Sn	17 29 42.3	-2.9
KHLU	**Kahalu`u**	**0.56**	**314**	IAML		17 29 42.7	
	comp=N,180nm,0.8s						
KHLU				IAML		17 29 44.1	
	comp=E,149nm,1.5s						

IDC 17 17:34:53.7±3.5, 8°.31N×126°.75E, h0km, mb3.2/3, mbtmp3.2/3, MS3.2/1, Error ellipse: s-maj=269.7km s-min=30.5km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.05**	**165**	P	P	17 40 55.9	0.0
	0.2nm,0.9s,baz=348,slow=10,SNR=2.5						
	0.2nm,0.9s						
ASAR	**Alice Springs**	**32.54**	**168**	P	P	17 41 26.6	-0.1
	0.4nm,0.9s,baz=340,slow=7.4,SNR=5.0						
	0.4nm,0.9s						
SONM	**Songino Array**	**43.01**	**340**	LR	LR	18 02 15.4	
	comp=Z,28nm,18.2s,baz=170,slow=38						
MKAR	**Makanchi Array**	**53.87**	**323**	P	P	17 44 18.7	-0.1
	0.1nm,0.5s,baz=126,slow=7.4,SNR=1.6						
	0.1nm,0.5s						

IDC ***17*** *18:22:37.7±3.8, 28°.49S×69°.58W, h79km±31km, mb3.6/5, mbtmp3.9/7, Error ellipse: s-maj=35.6km s-min=21.9km az=72.0*

NEIC ***17*** *18:22:38.6±2.2, 28°.48S±0°.04×69°.8W±0°.1, h139km±5km, mb4.3/7, Error ellipse: s-maj=13.5km s-min=6.1km az=85.0*

SJA ***17*** *18:22:39.0±0.9, 28°.52S×69°.66W, h110km±6km, ML4.1, MW4.0*

GUC ***17*** *18:22:40.2±0.7, 28°.52S×69°.64W, h110km±4km, ML3.8*

ISC 17 18:22:38.4±0.7, 28°.51S±0°.03×69°.58W±0°.06, h109km±7km, n94, σ1°59/114, mb4.2/7, 7C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC05	**El Transito**	**0.69**	**242**		Pn	**18 22 57.8**	**+1.1**
AC05				Sn	Sn	**18 23 11.2**	**+0.7**
AC05	**El Transito**	**0.69**	**242**	*e*P	Pn	**18 22 57.8**	**+1.1**
AC05				*e*S	Sn	**18 23 10.9**	**+0.4**
AC05				IAML		18 23 11.7	
	comp=Z,2μm,0.2s						
AC05	**El Transito**	**0.69**	**242**	⇑*i*P	Pn	**18 22 57.8**	**+1.1**
AC05				*i* S	Sn	**18 23 10.7**	**+0.2**
AC05				IAML		18 23 11.8	
	comp=N,7μm,0.1s						
GO03	**Copiap**	**1.08**	**327**	Pn	Pn	**18 23 01.9**	**+1.5**
GO03				Sn	Sn	**18 23 18.7**	**+1.7**
GO03	**Copiap**	**1.08**	**327**	*i* P	Pn	**18 23 01.3**	**+0.9**
GO03				*i* S	Sn	**18 23 18.3**	**+1.3**
GO03	**Copiap**	**1.08**	**327**	⇓*i*P	Pn	**18 23 01.8**	**+1.5**
GO03				*i* S	Sn	**18 23 18.0**	**+1.0**
GO03				IAML		18 23 21.6	
	comp=N,2μm,0.3s						
LCO	**Las Campanas**	**1.11**	**243**	Pn	Pn	**18 23 02.1**	**+1.2**
LCO	**Las Campanas**	**1.11**	**243**	*i* P	Pn	**18 23 02.1**	**+1.2**
LCO				*i* S	Sn	**18 23 18.7**	**+0.8**
LCO	**Las Campanas**	**1.11**	**243**	⇑*i*P	Pn	**18 23 02.1**	**+1.2**
LCO				*e*S	Sn	**18 23 18.6**	**+0.7**
AC06	**Mina Casimiro**	**1.34**	**329**		Pn	**18 23 04.8**	**+1.6**
AC06	**Mina Casimiro**	**1.34**	**329**	⇓*i*P	Pn	**18 23 04.6**	**+1.4**
AC06				*i* S	Sn	**18 23 22.8**	**+0.7**
AC06				IAML		18 23 27.6	
	comp=E,659nm,0.2s						
AC04	**Llanos de Chal**	**1.35**	**283**		Pn	**18 23 04.5**	**+1.1**
AC04				Sn	Sn	**18 23 22.9**	**+0.6**
AC04	**Llanos de Chal**	**1.35**	**283**	*e*P	Pn	**18 23 04.5**	**+1.1**
AC04				*e*S	Sn	**18 23 22.7**	**+0.4**
AC04	**Llanos de Chal**	**1.35**	**283**	⇑*i*P	Pn	**18 23 04.5**	**+1.1**
AC04				*i* S	Sn	**18 23 22.5**	**+0.2**
AC04				IAML		18 23 24.2	
	comp=E,2μm,0.2s						
CO01	**Juntas del Tor**	**1.53**	**197**		Pn	**18 23 08.0**	**+2.3**
CO01	**Juntas del Tor**	**1.53**	**197**	*e*P	Pn	**18 23 07.9**	**+2.1**
CO01				*e*S	Sn	**18 23 27.7**	**+1.2**
CO01	**Juntas del Tor**	**1.53**	**197**	⇑*i*P	Pn	**18 23 08.0**	**+2.3**
CO01				*i* S	Sn	**18 23 28.4**	**+1.9**
CO01				IAML		18 23 32.8	
	comp=E,978nm,0.3s						
CO01				IAML		18 23 33.0	
	comp=N,576nm,0.2s						
GO04	**Tololo Observa**	**1.97**	**212**		Pn	**18 23 12.0**	**+0.8**
GO04	**Tololo Observa**	**1.97**	**212**	*i* P	Pn	**18 23 12.3**	**+1.1**
GO04				⇓*i*S	Sn	**18 23 36.6**	**+0.5**
GO04	**Tololo Observa**	**1.97**	**212**	⇑*i*P	Pn	**18 23 12.3**	**+1.1**
GO04				*i* S	Sn	**18 23 36.7**	**+0.5**
CO05	**La Serena**	**2.02**	**226**		Pn	**18 23 12.1**	**+0.6**
CO05	**La Serena**	**2.02**	**226**	*e*P	Pn	**18 23 12.2**	**+0.6**
CO05				*i* S	Sn	**18 23 36.4**	**-0.5**
CO05				IAML		18 23 43.4	
	comp=N,2μm,0.5s						
CO03	**El Pedregal**	**2.52**	**202**	Pn	Pn	**18 23 19.6**	**+1.5**
CO03	**El Pedregal**	**2.52**	**202**	*i* P	Pn	**18 23 19.4**	**+1.4**
CO03				IAML		18 23 55.7	
	comp=Z,494nm,0.2s						
CO03	**El Pedregal**	**2.52**	**202**	⇑*i*P	Pn	**18 23 19.5**	**+1.4**
CO03				*i* S	Sn	**18 23 49.5**	**+1.0**
AC01	**Pan de Azucar**	**2.52**	**339**		Pn	**18 23 20.2**	**+2.2**
AC01	**Pan de Azucar**	**2.52**	**339**	*e*P	Pn	**18 23 19.8**	**+1.7**
AC01	**Pan de Azucar**	**2.52**	**339**	*e*P	Pn	**18 23 20

BDFB	**Brasilia**	**23.68 62**	P	**P**	**18 27 40.8**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=194,slow=4.2,SNR=3.7					
	comp=Z,3.6nm,0.8s					
HOPE	**Hope Point**	**35.22 146**	P	**P**	**18 29 20.0**	**-2.0**
ESPN	**Las Esperanzas**	**42.90 339**	P	P	18 30 20.4	-5.9
ESPN			IAmb	IAmb	18 30 36.2	
	comp=Z,22nm,1.3s					
SNAA	**Sanae**	**55.92 159**	P	**P**	**18 32 03.0**	**-1.7**
SNAA			IAmb	IAmb	18 32 21.7	
	comp=Z,6.6nm,1.2s					
SNAA	**Sanae**	**55.92 159**	P	**P**	**18 32 07.2**	**+2.5**
	comp=Z,1.2nm,0.7s,baz=7.0,slow=18,SNR=1.5					
	comp=Z,1.2nm,0.7s					
QSPA	**South Pole Qui**	**61.71 180**	P	P	18 32 39.2	-5.7
QSPA			IAmb	IAmb	18 32 50.6	
	comp=Z,8.5nm,1.4s					
TXAR	**Lajitas Array**	**66.11 328**	P	**P**	**18 33 14.8**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=152,slow=7.8,SNR=1.7					
	comp=Z,0.1nm,0.3s					
MAW	**Mawson**	**77.82 163**	P	**P**	**18 34 26.5**	**+3.1**
	comp=Z,2.5nm,0.6s,baz=246,slow=20,SNR=1.8					
	comp=Z,2.5nm,0.6s					
TORD	**Torodi Ar. Bea**	**80.33 69**	P	**P**	**18 34 34.0**	**-4.0**
TORD			IAmb	IAmb	18 34 44.6	
	comp=Z,2.1nm,1.1s					
TORD	**Torodi Ar. Bea**	**80.33 69**	P	**P**	**18 34 40.9**	**+2.9**
	comp=Z,0.9nm,0.6s,baz=278,slow=4.0,SNR=5.9					
	comp=Z,0.9nm,0.6s					
ASAR	**Alice Springs**	**123.41 206**	PKP	**PKiKP**	**18 41 25.9**	**+2.2**
	comp=Z,0.3nm,0.5s,baz=129,slow=1.8,SNR=8.6					
WRA	**Warramunga Arr**	**126.58 208**	PKP	**PKiKP**	**18 41 32.3**	**+2.3**
	comp=Z,0.7nm,0.5s,baz=162,slow=1.7,SNR=12					
KURBB	**Kurchatov Arra**	**147.35 39**	PKPbc	**PKPab**	**18 42 12.2**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=303,slow=3.4,SNR=10					
ZALV	**Zalesovo Beam**	**148.44 29**	PKPbc	**PKiKP**	**18 42 14.4**	**+1.1**
	comp=Z,1.2nm,0.3s,baz=298,slow=3.8,SNR=7.6					
MKAR	**Makanchi Array**	**151.43 43**	PKPbc	**PKiKP**	**18 42 22.7**	**+2.9**
	comp=Z,1.2nm,0.6s,baz=289,slow=2.2,SNR=9.8					

NIED ***17*** *18:55:42.0, 38.33N× 142.11E, h35km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.48; $M_{\theta\theta}$6.01; $M_{\phi\phi}$-3.53; $M_{r\theta}$0.34; $M_{r\phi}$ 1.80; $M_{\theta\phi}$2.53; Fault plane solution: M_o6.06000×10^{14} NP1: ϕ_s221.00000°, δ69.00000°, λ-148.00000°. NP2: ϕ_s119.00000°, δ60.00000°, λ-25.00000°.*

JMA ***17*** *18:55:42.0±0.1, 38.3N±0.4× 142.1E±0.8, h35km±1km, MD4.0/40, MV4.1/40, E OFF MIYAGI PREF*

JMA Felt I J1 at E OFF MIYAGI PREF .

IDC ***17*** *18:55:43.4±2.6, 38.32N× 142.27E, h42km±25km, mb3.5/7, mbtmp3.8/11, ML3.3/4, MS3.1/1, Error ellipse: s-maj=28.6km s-min=24.7km az=153.0*

ISC 17 18:55:37.2±2.3, 38.28N±0.04× 142.23E±0.06, h2km±14km, n36, σ1°52/39, mb3.6/7, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobo**	**0.60 273**		⇓*iP*			**Pn**	**18 55 52.5**	**-0.2**
JIKH				⇓S			**Sb**	**18 55 59.6**	**+0.3**
JIKH	**Ishinomakibobo**	**0.60 273**		A			A	18 55 52.5	
	comp=E,7.0nm,0.2s,comp=N,17nm,0.2s								
JIO	**Ouri**	**0.71 284**		⇓*iP*			**Pn**	**18 55 54.2**	**-0.1**
JIO				⇓S			**Sb**	**18 56 02.6**	**0.0**
JIO	**Ouri**	**0.71 284**		A			A	18 55 54.2	
	comp=E,7.0nm,0.3s,comp=N,11nm,0.3s								
JKMT	**Kesennumamotoy**	**0.79 312**		*i*P			**Pn**	**18 55 55.5**	**+0.1**
JKMT				S			**Sb**	**18 56 04.9**	**0.0**
OFUJ	**Ofunato**	**0.91 331**		P			**Pn**	**18 55 57.1**	**+0.1**
OFUJ				S			**Sb**	**18 56 07.8**	**-0.4**
JMK	**Ichinoseki**	**1.04 310**		*i*P			**Pn**	**18 55 59.0**	**+0.3**
JMK				S			**Sb**	**18 56 11.1**	**-0.8**
JOFO	**Osakifurukawao**	**1.08 288**		A			A	18 55 59.6	
	comp=E,11nm,0.5s,comp=N,18nm,0.6s								
JMM	**Marumori**	**1.21 250**		⇓*iP*			**Pb**	**18 56 01.2**	**+0.5**
JMM				⇓S			**Sg**	**18 56 14.7**	**-1.2**
JOU	**Okura**	**1.23 274**		⇓*iP*			**Pn**	**18 56 02.2**	**+0.8**
JOU				⇓S			**Sg**	**18 56 16.9**	**+0.1**
JOU	**Okura**	**1.23 274**		A			A	18 56 02.2	
	comp=E,11nm,0.4s,comp=N,13nm,0.5s								
JOM	**Ohasama**	**1.40 329**		P			**Pb**	**18 56 04.5**	**+0.6**
JOM				S			**Sg**	**18 56 20.9**	**-1.1**
JOM	**Ohasama**	**1.40 329**		A			A	18 56 04.5	
	comp=E,4.0nm,0.2s,comp=N,3.0nm,0.2s								
JFK	**Kawauchi**	**1.41 230**		*i*P			**Pn**	**18 56 04.0**	**+0.1**
JFK				S			**Sg**	**18 56 19.9**	**-2.6**
JYK	**Kaneyama**	**1.60 294**		*i*P			**Pb**	**18 56 07.5**	**+0.1**
JYK				*eS*			**Sn**	**18 56 25.8**	**-1.9**
JOTO	**OTAMA OYAMA**	**1.67 245**		*i*P			**Pn**	**18 56 08.5**	**+1.1**
JOTO				S			**Sn**	**18 56 28.4**	**-1.0**
JRG	**Rokugo**	**1.67 312**		P			**Pb**	**18 56 08.6**	**0.0**
JRG				S			**Sn**	**18 56 29.4**	**-0.1**
JYS	**Shirataka**	**1.71 269**		P			**Pb**	**18 56 09.2**	**-0.1**
JYS				S			**Sn**	**18 56 29.7**	**-0.6**
MJAR	**Matsushiro Arr**	**3.64 243**		P			**Pn**	**18 56 39.0**	**+4.4**
	comp=N,0.3nm,0.3s,baz=97,slow=16,SNR=15								
	comp=N,3.3nm,0.5s								
JHJ	**Hachijo jima 2**	**5.52 202**		P			**Pn**	**18 57 02.7**	**+2.3**
	comp=N,14nm,0.3s,baz=56,slow=14,SNR=2.0								
JHJ				S			**Sn**	**18 58 00.3**	**-4.2**
	comp=N,86nm,0.8s,baz=48,slow=22,SNR=1.5								
	comp=N,88nm,0.5s								
ASAJ	**Asahikawa**	**5.83 3**		P			**Pn**	**18 57 05.9**	**+1.2**
	comp=N,1.2nm,0.3s,baz=211,slow=16,SNR=7.0								
ASAJ				S			**Sn**	**18 58 09.4**	**-2.8**
	comp=N,3.9nm,0.4s,baz=103,slow=30,SNR=1.4								
	comp=N,3.4nm,0.4s								
USRK	**Ussuriysk Ar.**	**9.71 311**		P			**Pn**	**18 58 00.1**	**+2.2**
	comp=N,0.2nm,0.3s,baz=146,slow=13,SNR=2.2								
	comp=N,1.7nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**28.27 124**		T			T	19 31 47.0	
	baz=316,slow=76,SNR=194								
H11N1	**WAKE ISLAND Hy**	**28.27 124**		T			T	19 31 47.6	
	baz=316,slow=76,SNR=183								
H11N3	**WAKE ISLAND Hy**	**28.28 124**		T			T	19 31 46.5	
	baz=316,slow=76,SNR=96								
H11S1	**WAKE ISLAND Hy**	**29.03 126**		T			T	19 32 45.5	
	baz=318,slow=76,SNR=44								
H11S3	**WAKE ISLAND Hy**	**29.03 126**		T			T	19 32 45.1	
	baz=318,slow=76,SNR=39								
H11S2	**WAKE ISLAND Hy**	**29.05 126**		T			T	19 32 47.3	
	baz=318,slow=76,SNR=34								
ZALV	**Zalesovo Beam**	**41.56 311**		P			**P**	**19 03 26.4**	**+0.4**
	comp=N,0.6nm,0.4s,baz=71,slow=9.7,SNR=3.8								
	comp=N,0.6nm,0.4s								
MKAR	**Makanchi Array**	**44.02 301**		P			**P**	**19 03 46.9**	**+0.8**
	comp=N,0.4nm,0.7s,baz=62,slow=8.4,SNR=4.5								
	comp=N,0.4nm,0.7s								
KURBB	**Kurchatov Arra**	**45.76 307**		P			**P**	**19 03 59.6**	**-0.3**
	comp=N,1.2nm,0.2s,baz=82,slow=8.3,SNR=6.5								
	comp=N,1.2nm,0.2s								
ILAR	**Eielson Array**	**48.09 33**		P			**P**	**19 04 18.8**	**+0.9**
	comp=N,0.4nm,0.7s,baz=281,slow=6.6,SNR=5.4								
	comp=N,0.4nm,0.7s								
LEM	**Lembang**	**55.23 223**		LR			LR	19 31 03.7	
	comp=N,17nm,19.0s,baz=342,slow=38								
FINES	**FINESS Array B**	**68.01 332**		P			**P**	**19 06 38.2**	**+0.7**
	comp=N,2.3nm,1.0s,baz=2.1,slow=11,SNR=2.0								
	comp=N,2.3nm,1.0s								
PDAR	**Pinedale Array**	**76.33 46**		P			**P**	**19 07 29.1**	**+1.1**
	comp=N,0.3nm,0.5s,baz=207,slow=1.7,SNR=3.6								
	comp=N,0.3nm,0.5s								
TXAR	**Lajitas Array**	**88.85 53**		P			**P**	**19 08 31.5**	**-1.7**
	comp=N,0.3nm,0.5s,baz=293,slow=4.7,SNR=5.9								
	comp=N,0.3nm,0.5s								

BJI ***17*** *18:57:57.3, 5.78S× 154.90E, h165km, mb4.9/67, mB5.1/35*

NEIC ***17*** *18:57:58.7±1.6, 5.90S±0.09× 154.73E±0.08, h156km±5km, mb5.0/253, Mww4.9/14, Error ellipse: s-maj=13.7km s-min=9.8km az=216.0*

DJA ***17*** *18:57:58.8±0.5, 6.3S±4.4× 155.5E±1.3°, h166km±6km, M4.7/13, mB5.1/7, mb5.0/13, MLv4.9/2, Mw(mB)4.5/7*

NEIC ***17*** *18:57:58.4, 5.89S× 154.73E, h160km*

NEIC ***17*** *18:57:58.4, 5.89S× 154.83E, h160km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^{16}Nm; M_{rr}2.60; $M_{\theta\theta}$-2.34; $M_{\phi\phi}$-0.26; $M_{r\theta}$0.12; $M_{r\phi}$ 1.64; $M_{\theta\phi}$-0.68; Fault plane solution: M_o3.02000×10^{16} NP1: ϕ_s132.19000°, δ50.88000°, λ108.27000°. NP2: ϕ_s284.56000°, δ42.55000°, λ68.92000°. Principal axes: T 2.7662, Plg75.0000°, Azm103.0000°; N 0.5069, Plg14.0000°, Azm300.0000°; P -3.2730, Plg4.0000°, Azm209.0000°;*

MOS ***17*** *18:57:59.0±0.9, 5.88S× 154.67E, h174km, mb5.0/39 Error ellipse: s-maj=7.8km s-min=6.0km az=101.9*

GCMT ***17*** *18:57:59.7±0.3, 5.96S±0.02× 154.64E±0.03, h158km±3km, MW4.9/93, Moment Tensor Solution. s19,c23; s93,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.82±.09; $M_{\theta\theta}$-2.46±.12; $M_{\phi\phi}$-0.35±.12; $M_{r\theta}$0.32±.11; $M_{r\phi}$1.63±.14; $M_{\theta\phi}$-0.20±.10; Best double couple: M_o3.10800×10^{16} NP1: ϕ_s119.00000°, δ49.00000°, λ91.00000°. NP2: ϕ_s298.00000°, δ41.00000°, λ89.00000°. Principal axes: T 2.8440, Plg86.0000°, Azm39.0000°; N 0.5310, Plg1.0000°, Azm299.0000°; P -3.3720, Plg4.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***17*** *18:58:00.6±1.5, 5.92S× 154.69E, h177km±13km, mb4.7/25, mbtmp5.2/30, MS3.6/10 Error ellipse: s-maj=12.3km s-min=8.6km az=85.0*

ISC 17 18:57:59.3±0.3, 5.94S±0.04× 154.68E±0.05, h168km±2km, h169km; pP-P, n887, σ1°05/910, mb5.0/193, 26C-4D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.05 305**					**Pn**	**18 58 46.5**	**-1.7**
KRVT	**Keravat (AS076**	**3.10 301**		P			**Pn**	**18 58 48.8**	**0.0**
	1µm,0.6s,baz=165,slow=2.7,SNR=50								
KRVT				S			**Sn**	**18 59 24.9**	**-2.4**
	1µm,0.5s,baz=136,slow=22,SNR=9.5								
I40PG	**Keravat**	**3.12 301**		I			I	19 24 10.0	
	baz=126,slow=315,SNR=1.0								
HNR	**Honiara**	**6.26 124**		Pn			**Pn**	**18 59 26.1**	**-3.7**
HNR	**Honiara**	**6.26 124**		P			**Pn**	**18 59 30.8**	**+1.1**
	1µm,0.7s,baz=7.0,slow=4.0,SNR=4.5								
PMG	**Port Moresby**	**8.21 245**		Pn			**Pn**	**18 59 58.0**	**+2.4**
PMG	**Port Moresby**	**8.21 245**		*ce*P			**Pn**	**18 59 57.3**	**+1.7**
PMG					pmax		pmax		
	comp=Z,290nm,1.3s								
PMG	**Port Moresby**	**8.21 245**		P			**Pn**	**18 59 58.0**	**+2.4**
	comp=Z,116nm,0.8s,baz=37,slow=8.5,SNR=28								
PMG				S			**Sn**	**19 01 25.4**	**-2.0**
	comp=Z,44nm,0.7s,baz=80,slow=18,SNR=0.7								
PMG				LR			LR	19 03 42.6	
	comp=Z,256nm,18.6s,baz=42,slow=42								
PATS	**Pohnpei**	**13.20 16**		P			**Pn**	**19 01 01.4**	**+0.9**
	baz=13								
JAY	**Jayapura**	**14.35 283**		P			**Pn**	**19 01 15.2**	**+0.2**
	comp=Z,43nm,0.9s								
MMPI	**Merauke**	**14.41 259**		P			**Pn**	**19 01 16.2**	**+0.5**
	comp=Z,151nm,0.9s,comp=Z,4µm								
MTSU	**Mount Surprise**	**15.79 219**		P			**P**	**19 01 35.8**	**+2.6**
	baz=13,SNR=63								
CTA	**Charters Tower**	**16.28 209**		P			**Pn**	**19 01 40.3**	**+1.7**
	comp=Z,60nm,0.8s,baz=33,slow=13,SNR=38								
CTAO	**Charters Tower**	**16.28 209**		P			**Pn**	**19 01 41.1**	**+2.5**
CTAO	**Charters Tower**	**16.28 209**		P			**Pn**	**19 01 41.1**	**+2.5**
KOUNC	**Koumac, New Ca**	**17.26 148**		P			**Pn**	**19 01 50.6**	**+0.2**
LIFNC	**LIFOU**	**19.13 142**		P			**P**	**19 02 07.8**	**-1.9**
EIDS	**Eidsvold**	**19.63 190**		P			**Pn**	**19 02 16.8**	**-1.5**
	baz=20,SNR=8.7								
EIDS	**Eidsvold**	**19.63 190**		P			**P**	**19 02 16.0**	**+1.0**
DZM	**Mont Dzumac**	**19.66 146**		P			**P**	**19 02 12.9**	**-2.6**
DZM	**Mont Dzumac**	**19.66 146**		P			**P**	**19 02 16.0**	**+0.5**
	comp=Z,164nm,0.5s,baz=287,slow=8.5,SNR=225								
ONTNC	**Ouen Toro**	**19.85 146**		P			**P**	**19 02 17.3**	**-0.2**
MARNC	**Mare, Loyalty**	**20.14 141**		P			**P**	**19 02 18.4**	**-2.2**
OUENC	**Ouen Island, N**	**20.16 146**		P			**P**	**19 02 20.4**	**-0.3**
QIS	**Mount Isa**	**20.62 224**		P			**P**	**19 02 27.1**	**+1.3**
	baz=21,SNR=23								
PINNC	**Pines Island,**	**20.65 145**		P			**P**	**19 02 25.8**	**-0.2**
QLP	**Quilpie**	**22.82 205**		P			**P**	**19 02 49.1**	**+1.2**
	baz=23,SNR=13								
KDU	**Kakadu**	**22.91 251**		P			**P**	**19 02 49.1**	**+0.3**
	baz=23,SNR=23								
SAUI	**Saumlaki**	**23.30 264**		P			**P**	**19 02 51.2**	**-1.3**
SWI	**Sorong**	**23.91 281**		P			**P**	**19 02 59.0**	**+1.0**
	comp=Z,93nm,0.6s,comp=Z,1µm								
SWI	**Sorong**	**23.91 281**		P			**P**	**19 02 59.4**	**+1.4**
SWI					pmax		pmax		
	comp=Z,91nm,0.6s								
WR0	**Warramunga Arr**	**24.03 233**		P			**P**	**19 02 59.5**	**+0.4**
WR0					IAmb		IAmb	19 03 01.1	
	comp=Z,62nm,1.1s								
WB0	**Warramunga Arr**	**24.05 233**		P			**P**	**19 02 59.0**	**-0.1**
WB0					IAmb		IAmb	19 03 00.6	
	comp=Z,24nm,0.6s								
WB2	**Warramunga Arr**	**24.17 233**		P			**P**	**19 03 01.2**	**+0.9**
WB2					IAmb		IAmb	19 03 02.2	
	comp=Z,32nm,0.5s								
WRA	**Warramunga Arr**	**24.18 233**		P			**P**	**19 03 00.3**	**-0.1**
WRA	**Warramunga Arr**	**24.18 233**		*i*P			**P**	**19 02 58.9**	**-1.5**
WRA					pmax		pmax		
	comp=Z,27nm,0.5s								
WRA	**Warramunga Arr**	**24.18 233**		P			**P**	**19 03 01.5**	**+1.1**
	comp=Z,26nm,0.5s,baz=59,slow=9.5,SNR=319								
WRA					PcP		**PcP**	**19 06 37.3**	**+0.5**
	comp=Z,6.2nm,0.5s,baz=57,slow=2.5,SNR=9.9								
WRA					S		**S**	**19 07 03.8**	**-2.7**
	comp=Z,8.1nm,0.8s,baz=57,slow=16,SNR=6.9								
WRA					PKiKP		**PKiKP**	**19 14 17.5**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=317,slow=1.3,SNR=5.0								
	comp=Z,26nm,0.5s								
MTN	**Manton Dam**	**24.21 252**		P			**P**	**19 03 01.8**	**+1.1**
	baz=24,SNR=19								
MTN	**Manton Dam**	**24.21 252**		P			**P**	**19 03 01.3**	**+0.6**
MTN					IAmb		IAmb	19 03 03.0	
	comp=Z,32nm,0.7s								
ARMA	**Armidale**	**24.52 186**		P			**P**	**19 03 04.9**	**+1.4**
	baz=25,SNR=42								
ARMA	**Armidale**	**24.52 186**		P			**P**	**19 03 03.1**	**-0.3**
ARMA					IAmb		IAmb	19 03 05.7	
	comp=Z,33nm,0.6s								
AS31	**Alice Springs**	**26.65 226**		P			**P**	**19 03 22.1**	**-0.6**
ASAR	**Alice Springs**	**26.66 226**		P			**P**	**19 03 22.5**	**-0.2**
ASAR	**Alice Springs**	**26.66 226**		P			**P**	**19 03 23.1**	**+0.4**
	comp=Z,9.8nm,0.6s,baz=56,slow=9.4,SNR=280								
ASAR					PcP		**PcP**	**19 06 42.6**	**+0.3**
	comp=Z,12nm,0.6s,baz=59,slow=2.5,SNR=16								
ASAR					S		**S**	**19 07 43.7**	**-1.9**
	comp=Z,4.5nm,0.9s,baz=40,slow=18,SNR=6.7								
ASAR					P3KPbc			19 36 01.4	
	comp=Z,0.6nm,0.7s,baz=227,slow=4.0,SNR=9.1								
	comp=Z,9.8nm,0.6s								
CMSA	**Cobar Meteorol**	**26.82 197**		P			**P**	**19 03 24.9**	**+0.8**
	baz=27,SNR=9.4								
KNRA	**Kununurra**	**27.20 247**		P			**P**	**19 03 26.9**	**-0.8**
	baz=27,SNR=4.7								
KNRA	**Kununurra**	**27.20 247**		P			**P**	**19 03 28.1**	**+0.4**
KNRA					IAmb		IAmb	19 04 24.7	
	comp=Z,57nm,1.3s								
MGCD	**Mangrove Creek**	**27.34 187**		P			**P**	**19 03 30.3**	**+1.6**
	baz=28,SNR=9.5								
TNTI	**Ternate**	**28.08 283**		P			**P**	**19 03 36.3**	**+0.8**
STKA	**Stephens Creek**	**28.56 204**		P			**P**	**19 03 40.0**	**+0.4**
	baz=29,SNR=7.4								
STKA	**Stephens Creek**	**28.56 204**		P			**P**	**19 03 39.2**	**-0.3**
STKA	**Stephens Creek**	**28.56 204**		*i*P			**P**	**19 03 40.0**	**+0.4**
STKA	**Stephens Creek**	**28.56 204**		P			**P**	**19 03 39.8**	**+0.3**
	comp=Z,6.0nm,0.6s,baz=12,slow=10,SNR=10								
STKA					PcP		**PcP**	**19 06 46.9**	**+0.1**
	comp=Z,6.3nm,0.8s,baz=105,slow=1.5,SNR=4.5								
STKA					LR		LR	19 13 23.1	
	comp=Z,67nm,21.8s,baz=343,slow=32								
	comp=Z,6.0nm,0.6s								
CNB	**Canberra Magne**	**29.64 189**		P			**P**	**19 03 47.7**	**-1.4**
	baz=30,SNR=4.9								
CAN	**Canberra**	**29.71 189**		P			**P**	**19 03 50.0**	**+0.3**
CAN					IAmb		IAmb	19 04 50.4	
	comp=Z,88nm,1.9s								
CAN	**Canberra**	**29.71 189**		P			**P**	**19 03 50.0**	**+0.3**
CAN					pmax		pmax		
	comp=Z,88nm,1.9s								
SOEI	**Soe**	**30.36 261**		P			**P**	**19 03 53.6**	**-2.2**
SOEI					IAmb		IAmb	19 04 36.9	
	comp=Z,32nm,0.9s								
FITZ	**Fitzroy Crossi**	**30.81 244**		P			**P**	**19 03 59.5**	**0.0**
	baz=31,SNR=23								
HTT	**Hallett**	**31.03 206**		P			**P**	**19 04 01.7**	**+0.4**
	baz=31,SNR=31								
MILA	**Mila**	**31.38 189**		P			**P**	**19 04 05.9**	**+1.5**
	baz=32,SNR=4.7								
WRKA	**Warakurna**	**31.62 230**		P			**P**	**19 04 06.6**	**-0.1**
	baz=32,SNR=15								
BBOO	**Buckleboo**	**31.87 211**		P			**P**	**19 04 08.9**	**+0.2**
	baz=32,SNR=17								
BBOO	**Buckleboo**	**31.87 211**		P			**P**	**19 04 08.7**	**0.0**
LUWI	**Luwuk**	**32.21 277**		P			**P**	**19 04 12.0**	**+0.1**
MMRI	**Maumere**	**32.29 263**		P			**P**	**19 04 12.6**	**0.0**
TOO	**Toolangi**	**32.58 194**		P			**P**	**19 04 16.1**	**+1.2**
	baz=33,SNR=6.4								
TOO	**Toolangi**	**32.58 194**		P			**P**	**19 04 14.8**	**-0.1**
TOO					IAmb		IAmb	19 05 29.3	
	comp=Z,39nm,1.6s								
TOO	**Toolangi**	**32.58 194**		P			**P**	**19 04 14.8**	**-0.1**
TOO					pmax		pmax		
	comp=Z,39nm,1.6s								
ARPS	**Mount Arapiles**	**32.86 199**		P			**P**	**19 04 18.3**	**+1.1**
	baz=33,SNR=7.6								
AFI	**Afiamalu**	**33.94 106**		P			**P**	**19 04 27.6**	**+0.7**
KAPI	**Kappang**	**34.78 270**		P			**P**	**19 04 33.1**	**-1.1**
KAPI					IAmb		IAmb	19 04 36.4	
	comp=Z,17nm,0.7s								
KAPI	**Kappang**	**34.78 270**		P			**P**	**19 04 33.1**	**-1.1**
KAPI					pmax		pmax		
	comp=Z,17nm,0.7s								
FORT	**Forrest**	**35.15 222**		P			**P**	**19 04 37.2**	**+0.1**
	baz=35,SNR=12								
FORT	**Forrest**	**35.15 222**		P			**P**	**19 04 37.4**	**+0.3**
TOZ	**Tahuroa Road**	**36.89 152**		P			**P**	**19 04 52.2**	**+0.5**
MOO	**Moorlands**	**36.95 189**		P			**P**	**19 04 53.9**	**+1.6**
	baz=37,SNR=4.4								
MBWA	**Marble Bar**	**37.07 243**		P			**P**	**19 04 53.4**	**-0.3**
MBWA					IAmb		IAmb	19 04 58.8	
	comp=Z,19nm,0.7s								
MBWA	**Marble Bar**	**37.07 243**		P			**P**	**19 04 53.3**	**-0.3**
MBWA					pP		**pP**	**19 05 29.5**	**+1.8**
MBWA					PcP		**PcP**	**19 07 10.7**	**0.0**
PSA00	**Pilbara Seismi**	**37.11 242**		P			**P**	**19 04 53.2**	**-0.7**
TAU	**Tasmania Unive**	**37.39 189**		P			**P**	**19 04 57.7**	**+1.8**
TAU					pP		**pP**	**19 05 33.1**	**+3.3**
TAU					PcP		**PcP**	**19 07 11.5**	**+0.3**
MYLDM	**Lahad Datu**	**37.78 286**		P			**P**	**19 04 58.9**	**-0.7**
MYLDM					IAmb		IAmb	19 05 02.9	
	comp=Z,48nm,1.1s								
MXZ	**Matakaoa Point**	**38.13 149**		P			**P**	**19 05 02.7**	**+0.5**
QRZ	**Quartz Range**	**38.24 158**		P			**P**	**19 05 03.2**	**+0.1**
RTZ	**Ruatahuna**	**38.29 151**		P			**P**	**19 05 04.1**	**+0.4**
BKZ	**Black Stump Fm**	**38.50 152**		P			**P**	**19 05 05.4**	**+0.1**
TKNZ	**Takaka Hill**	**38.58 158**		P			**P**	**19 05 07.3**	**+1.4**
DSZ	**Denniston Nort**	**38.78 159**		P			**P**	**19 05 08.4**	**+0.8**
MRNZ	**Matariki Terra**	**38.82 158**		P			**P**	**19 05 09.2**	**+1.3**
THZ	**Tophouse**	**39.19 158**		P			**P**	**19 05 11.1**	**+0.1**
TUWZ	**Tuamarina**	**39.30 157**		P			**P**	**19 05 12.2**	**+0.3**
MRZ	**Mangatainoka R**	**39.32 155**		P			**P**	**19 05 11.9**	**-0.2**
SNZO	**South Karori**	**39.50 156**		P			**P**	**19 05 13.6**	**+0.1**
SNZO	**South Karori**	**39.50 156**		P			**P**	**19 05 14.5**	**+1.0**
BSWZ	**Blackbirch Sta**	**39.52 157**		P			**P**	**19 05 13.3**	**-0.4**
BFZ	**Birch Farm**	**39.62 154**		P			**P**	**19 05 14.5**	**0.0**
KMBL	**Kambalda**	**39.79 226**		P			**P**	**19 05 16.5**	**+0.4**
	baz=40,SNR=13								
PLWZ	**Palliser**	**39.94 156**		P			**P**	**19 05 17.1**	**-0.2**
MEEK	**Meekatharra**	**40.05 235**		P			**P**	**19 05 18.6**	**+0.2**
	baz=40,SNR=26								
JAGI	**Jajag, Banyuwa**	**40.28 264**		IAmb			IAmb	19 05 19.6	
	comp=Z,34nm,0.6s								
LBZ	**Lake Benmore**	**40.63 163**		IAmb			IAmb	19 05 24.4	
	comp=Z,42nm,0.9s								
MLZ	**Mavora Lakes**	**40.98 166**		IAmb			IAmb	19 05 27.2	
	comp=Z,57nm,1.0s								
WHZ	**W

LYN pP pwP 19 08 05.9 -0.5
LYN sP sP 19 08 28.1 +7.0
LYN PP **PP** **19 09 35.8 +2.8**
LYN pmax pmax
comp=Z,25nm,1.0s
LYN pmax pmax
comp=Z,300nm,7.6s
BNX BinXian 56.92 337 ⇓P **P** **19 07 27.3 +0.5**
BNX pmax pmax
comp=Z,26nm,1.1s
BNX pmax pmax
comp=Z,150nm,6.6s
HNS HongShan 56.98 322 ⇑P **P** **19 07 28.1 +0.7**
HNS pP **pP** **19 08 03.6 -1.8**
HNS pmax pmax
comp=Z,15nm,0.8s
GSI Gunungsitoli 57.47 275 P **P** **19 07 29.8 -1.6**
GSI IAmb IAmb 19 07 31.2
comp=Z,22nm,0.9s
TYV Tymovskoe 57.52 351 *e*P **P** **19 07 31.9 +1.0**
TYV pmax pmax
comp=Z,20nm,0.9s
TYV pmax pmax
comp=Z,400nm,3.6s
BJT Baijiatuau 57.87 326 P **P** **19 07 33.9 +0.3**
BJI Beijing 57.88 326 P **P** **19 07 33.6 0.0**
BJI pmax pmax
comp=Z,4.0nm,0.7s
KLR Kul'dur 58.47 343 *c*eP **P** **19 07 37.5 -0.1**
KLR *i* *PP **pP** **19 08 16.2 -0.3**
KLR pmax pmax
comp=Z,13nm,0.9s
KLR Kul'dur 58.47 343 P **P** **19 07 38.5 +0.9**
comp=Z,7.1nm,0.7s,baz=149,slow=4.1,SNR=26
comp=Z,7.1nm,0.7s
XAN Xi'an 58.74 316 ⇑P **P** **19 07 39.9 +0.1**
XAN pP pP 19 08 15.1 -3.0
XAN sP sP 19 08 32.9 -3.3
XAN pmax pmax
comp=Z,46nm,0.6s
XAN pmax pmax
comp=Z,310nm,5.3s
XAN Xi'an 58.74 316 P **P** **19 07 40.1 +0.3**
XAN pP **pP** **19 08 16.1 -2.0**
PET Petropavlovsk 58.83 3 P **P** **19 07 39.9 -0.1**
PET Petropavlovsk 58.83 3 *e*P **P** **19 07 40.7 +0.7**
PET *e**PP **PcP** **19 08 24.2 -3.4**
PET *e*S **S** **19 15 32.6 +0.5**
PET pmax pmax
comp=Z,36nm,0.7s
PET MLR MLR
comp=Z,100nm,18.0s
PEA0B Petropavlovsk- 58.88 2 P **P** **19 07 41.6 +1.3**
PEA0B Petropavlovsk- 58.88 2 P **P** **19 07 41.6 +1.3**
PEA0B pmax pmax
comp=Z,256nm,1.9s
PETK Petropavlovsk- 58.88 2 P **P** **19 07 40.6 +0.3**
PETK Petropavlovsk- 58.88 2 P **P** **19 07 40.9 +0.6**
comp=Z,15nm,0.6s,baz=163,slow=6.6,SNR=48
comp=Z,15nm,0.6s
KMI Kunming 59.17 304 ⇓P **P** **19 07 45.3 +2.1**
KMI pmax pmax
comp=Z,24nm,0.9s
CRAI Chiangrai 59.36 298 P **P** **19 07 45.6 +1.3**
CM31 Chiang Mai Arr 60.05 295 P **P** **19 07 50.6 +1.5**
CMAR Chiang Mai Arr 60.05 295 P **P** **19 07 50.6 +1.5**
CMAR Chiang Mai Arr 60.05 295 *i* P **P** **19 07 50.7 +1.6**
CMAR pmax pmax
comp=Z,27nm,0.8s
CMAR Chiang Mai Arr 60.05 295 P **P** **19 07 50.9 +1.8**
comp=Z,25nm,0.8s,baz=118,slow=5.3,SNR=154
CMAR PKP2bc **P'P'df** **19 37 15.0 +1.5**
comp=Z,0.3nm,0.3s,baz=261,slow=2.8,SNR=4.6
comp=Z,25nm,0.8s
CHTO Chiang Mai 60.17 296 P **P** **19 07 50.9 +1.1**
CHTO Chiang Mai 60.17 296 P **P** **19 07 50.9 +1.1**
CHTO pmax pmax
comp=Z,51nm,1.3s
CHTO Chiang Mai 60.17 296 P **P** **19 07 51.0 +1.1**
CHTO pP **pP** **19 08 29.0 +0.5**
CHTO PcP **PcP** **19 08 34.5 +0.7**
CHTO sP **sP** **19 08 46.4 -0.3**
PZH PanZhiHua 60.56 305 P **P** **19 07 53.0 +0.5**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,270nm,5.8s
XLT XiLinHaoTe 60.60 329 ⇑P **P** **19 07 52.8 +0.4**
XLT pP PcP 19 08 35.4 +0.3
XLT pmax pmax
comp=Z,48nm,0.7s
XLT pmax pmax
comp=Z,280nm,5.0s
HEH HeiHe 60.74 340 *e*P **P** **19 07 53.1 0.0**
HEH pmax pmax
comp=Z,8.0nm,0.6s
HHC Hu-ho-hao-te 61.06 324 *e*P **P** **19 07 56.3 +0.7**
HHC pmax pmax
comp=Z,44nm,1.2s
HHC pmax pmax
comp=Z,350nm,4.3s
BTO Baotou 61.83 323 *e*P **P** **19 08 03.0 +2.2**
BTO pP **pwP** **19 08 43.8 +1.0**
BTO S **S** **19 16 12.6 +1.6**
BTO SS **SS** **19 20 19.9 +3.6**
BTO pmax pmax
comp=Z,19nm,0.8s
BTO pmax pmax
comp=Z,180nm,4.0s
BTO LR LR
comp=Z,290nm,6.3s
BTO LR LR
comp=Z,380nm,5.1s
BTO LR LR
comp=Z,420nm,4.6s
TNCH TengChong 62.66 302 P **P** **19 08 07.6 +0.9**
TNCH pmax pmax
comp=Z,19nm,0.9s
TNCH pmax pmax
comp=Z,160nm,4.4s
HIA Hailar 62.84 335 P **P** **19 08 08.3 +1.1**
LZH Lanzhou 63.35 315 *e*P **P** **19 08 12.3 +1.3**
LZH pP PcP 19 08 48.0 +1.5
LZH sP sP 19 09 06.4 -1.7
LZH pmax pmax
comp=Z,34nm,1.2s
ATKA Atka Island 63.70 21 P **P** **19 08 12.8 +0.1**
ZEA Zeya 63.78 342 *e*P **P** **19 08 14.1 +0.9**
ZEA *e* 19 08 48.3
ZEA pmax pmax
comp=Z,20nm,1.5s
MA2 Magadan 65.38 358 P **P** **19 08 23.7 +0.2**
MA2 Magadan 65.38 358 *i* P **P** **19 08 23.8 +0.3**
MA2 pmax pmax
comp=Z,24nm,0.7s
MA2 Magadan 65.38 358 P **P** **19 08 23.9 +0.4**
NIKH Nikolski High 66.30 23 P **P** **19 08 30.1 +0.6**
baz=220
CASY Casey 67.50 198 P **P** **19 08 36.1 -0.8**
CASY Casey 67.50 198 P **P** **19 08 37.3 +0.5**
CASY PcP **PcP** **19 09 02.6 -0.3**
GTA Gaotai 67.76 317 ⇑P **P** **19 08 40.6 +1.4**
GTA pP pP 19 09 17.3 -1.4
GTA pmax pmax
comp=Z,20nm,1.1s
UNV Unalaska Valle 67.88 24 P **P** **19 08 39.5 0.0**
baz=222
ULN Ulaanbaatar 67.95 328 P **P** **19 08 40.0 -0.3**
ULN IAmb IAmb 19 08 42.5
comp=Z,17nm,0.9s
ULN Ulaanbaatar 67.95 328 *ce*P **P** **19 08 41.2 +1.0**
ULN pmax pmax
comp=Z,20nm,1.0s
ULN Ulaanbaatar 67.95 328 P **P** **19 08 41.7 +1.5**
ULN PcP **PcP** **19 09 05.9 +0.6**
SONM Songino Array 68.29 327 P **P** **19 08 43.5 +1.2**
SONM IAmb IAmb 19 08 44.4
comp=Z,34nm,1.2s
SONM Songino Array 68.29 327 P **P** **19 08 43.5 +1.2**
SONM pmax pmax
comp=Z,34nm,1.2s
SONM Songino Array 68.29 327 P **P** **19 08 43.4 +1.2**
comp=Z,12nm,0.5s,baz=144,slow=5.3,SNR=59
comp=Z,12nm,0.5s
AKUT Akutan 68.39 24 P **P** **19 08 42.5 -0.1**

SHL Shillong 68.50 300 P **P** **19 08 44.6 +0.5**
SHL IAmb IAmb 19 08 45.5
comp=Z,28nm,0.9s
SHL Shillong 68.50 300 P **P** **19 08 44.6 +0.5**
SHL pmax pmax
comp=Z,28nm,0.9s
SEY Seymchan 68.70 359 *ce*P **P** **19 08 44.2 -0.1**
SEY pmax pmax
comp=Z,10.0nm,0.9s
SPIA Saint Paul Isl 69.07 20 P **P** **19 08 46.9 +0.2**
baz=218
GOMU GeErMu 69.91 312 P **P** **19 08 53.9 +1.0**
LSA Lhasa 70.42 304 P **P** **19 08 56.5 +0.3**
LSA Lhasa 70.42 304 P **P** **19 08 56.5 +0.3**
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA Lhasa 70.42 304 P **P** **19 08 57.5 +1.3**
LSA PcP **PcP** **19 09 17.4 +0.8**
YAK Yakutsk 70.47 348 P **P** **19 08 54.6 -0.5**
YAK IAmb IAmb 19 08 57.7
comp=Z,34nm,0.8s
YAK Yakutsk 70.47 348 *c* *i*P **P** **19 08 54.0 -1.1**
YAK *e* 19 09 13.9
YAK *e**PP **pP** **19 09 35.5 0.0**
YAK *e* 19 11 30.7
YAK *e*PPP PPP 19 13 18.1
YAK *e*S **S** **19 17 51.0 -3.2**
YAK *e* 19 18 28.7
YAK pmax pmax
comp=Z,50nm,1.5s
YAK pmax pmax
comp=E,6.0nm,1.7s
YAK pmax pmax
comp=N,9.0nm,1.5s
YAK pmax pmax
comp=Z,117nm,3.5s
YAK pmax pmax
comp=N,75nm,4.3s
YAK pmax pmax
comp=E,152nm,4.8s
YAK smax smax
comp=E,194nm,5.4s
YAK smax smax
comp=N,158nm,4.5s
YAK Yakutsk 70.47 348 P **P** **19 08 55.9 +0.8**
CCD Concordia, Ant 71.40 188 ⇑P **P** **19 09 02.1 +0.9**
CCD pP **pP** **19 09 41.0 +1.3**
SDPT Sand Point 71.43 25 P **P** **19 09 01.1 0.0**
baz=228
ZAK Zakamensk 71.44 328 *e*P **P** **19 09 01.7 +0.3**
ZAK pmax pmax
comp=Z,30nm,0.9s
BOD Bodaibo 71.53 338 *e*P **P** **19 09 01.8 +0.2**
BOD pmax pmax
comp=Z,10.0nm,1.5s
VNDA Vanda 71.64 178 P **P** **19 09 02.6 +0.5**
VNDA IAmb IAmb 19 09 04.0
comp=Z,24nm,1.1s
VNDA Vanda 71.64 178 P **P** **19 09 03.0 +0.9**
VNDA Vanda 71.64 178 P **P** **19 09 03.0 +0.9**
comp=Z,12nm,0.9s,baz=331,slow=6.0,SNR=38
comp=Z,12nm,0.9s
VNDA Vanda 71.64 178 P **P** **19 09 02.2 +0.2**
VNDA pP **pP** **19 09 41.0 -0.6**
SBA Scott Base 72.15 177 P **P** **19 09 06.7 +1.6**
SBA IAmb IAmb 19 09 08.1
comp=Z,71nm,1.4s
SBA Scott Base 72.15 177 P **P** **19 09 06.7 +1.6**
SBA pmax pmax
comp=Z,71nm,1.4s
S14K Fog Glacier 72.44 25 P **P** **19 09 08.0 +0.7**
baz=228
TAPN Taplejung 72.60 301 *e*P **P** **19 09 09.5 +0.4**
ODAN Odare 72.73 300 *e*P **P** **19 09 10.1 +0.3**
comp=Z,63nm,0.6s
ODAN Odare 72.73 300 *e*P **P** **19 09 10.3 +0.5**
comp=Z,41nm,0.6s
MOY Mondy 73.36 328 *e*P **P** **19 09 13.4 +0.6**
MOY pmax pmax
comp=Z,23nm,2.0s
RAMN Ramite 73.44 300 *e*P **P** **19 09 14.4 +0.4**
O14K Tigyukauivet M 73.79 22 P **P** **19 09 15.9 +0.9**
O14K Tigyukauivet M 73.79 22 P **P** **19 09 15.9 +0.9**
baz=226
CHIR Chirikof Islan 73.84 27 P **P** **19 09 15.9 +0.6**
baz=232
M13K Dall Lake 73.87 20 P **P** **19 09 15.3 -0.1**
M13K Dall Lake 73.87 20 P **P** **19 09 16.1 +0.7**
baz=224
JIRN Jiri 73.98 301 *e*P **P** **19 09 17.7 +0.4**
R16K Pilot Point 74.11 24 P **P** **19 09 17.4 +0.5**
baz=230
N14K Kuskokwak Cree 74.11 21 P **P** **19 09 17.0 +0.2**
baz=225
BILL Bilibino 74.26 5 P **P** **19 09 17.7 +0.2**
BILL IAmb IAmb 19 09 19.6
comp=Z,35nm,0.9s
BILL Bilibino 74.26 5 ⇑*e*P **P** **19 09 18.6 +1.1**
O15K Ungalikthiuk R 74.28 22 P **P** **19 09 17.5 -0.4**
baz=227
GUN Gumba 74.31 301 *e*P **P** **19 09 19.7 +0.6**
M14K Bethel 74.59 20 P **P** **19 09 18.9 -0.7**
M14K IAmb IAmb 19 09 22.0
comp=Z,36nm,0.8s
M14K Bethel 74.59 20 P **P** **19 09 19.2 -0.4**
baz=225,SNR=5.1
PKI Pulchoki 74.62 301 *e*P **P** **19 09 21.0 +0.1**
PKIN Phulchoki 74.64 301 *e*P **P** **19 09 21.1 +0.2**
R17K Ugashik Creek 74.64 25 P **P** **19 09 18.6 -1.3**
R17K IAmb IAmb 19 09 21.6
comp=Z,37nm,0.8s
R17K Ugashik Creek 74.64 25 P **P** **19 09 20.7 +0.7**
baz=231
L14K Kuka Creek 74.77 20 P **P** **19 09 17.8 -2.7**
L14K IAmb IAmb 19 09 23.1
comp=Z,34nm,0.8s
L14K Kuka Creek 74.77 20 P **P** **19 09 20.7 +0.1**
baz=224
KKN Kakani 74.79 301 *e*P **P** **19 09 21.3 -0.5**
comp=Z,52nm,0.7s
N15K Kwethluk River 74.86 22 P **P** **19 09 21.5 +0.3**
N15K IAmb IAmb 19 09 23.7
comp=Z,40nm,0.9s
N15K Kwethluk River 74.86 22 P **P** **19 09 21.5 +0.3**
baz=227
P16K Nushagak River 74.89 23 P **P** **19 09 22.1 +0.7**
baz=229
DMN Daman 74.89 301 *e*P **P** **19 09 23.0 +0.6**
comp=Z,53nm,0.6s
SII Sitkinak Islan 74.93 27 P **P** **19 09 22.7 +1.1**
baz=233
PALK Pallekele 74.97 279 P **P** **19 09 22.8 0.0**
PALK IAmb IAmb 19 09 24.3
comp=Z,30nm,0.7s
PALK Pallekele 74.97 279 *i* P **P** **19 09 23.3 +0.5**
PALK pmax pmax
comp=Z,36nm,0.9s
M15K Kasigluk River 75.00 21 P **P** **19 09 23.1 +1.1**
baz=226
O16K Kokwok River B 75.22 23 P **P** **19 09 22.2 -1.0**
O16K IAmb IAmb 19 10 23.8
comp=Z,30nm,1.3s
O16K Kokwok River B 75.22 23 P **P** **19 09 23.8 +0.6**
baz=229
Q17K Contact Creek 75.24 25 P **P** **19 09 24.0 +0.5**
baz=231
GKN Gorkha 75.39 301 *e*P **P** **19 09 25.3 +0.2**
comp=Z,62nm,0.9s
L15K Ungalak Mounta 75.41 20 P **P** **19 09 25.1 +0.8**
baz=225
R18K Karluk 75.42 26 P **P** **19 09 24.6 +0.3**
baz=233
J14K Nanvaranak Lak 75.50 18 IAmb IAmb 19 09 27.7
comp=Z,46nm,0.9s
J14K Nanvaranak Lak 75.50 18 P **P** **19 09 25.4 +0.7**
baz=223,SNR=8.5
N16K Nishlik Lake 75.55 22 P **P** **19 09 25.4 +0.3**
baz=228
P17K Kvichak River 75.61 24 P **P** **19 09 25.5 +0.1**
baz=231
OHAK Old Harbor 75.72 26 P **P** **19 09 24.9 -1.1**
OHAK Old Harbor 75.72 26 P **P** **19 09 27.0 +0.9**
baz=234
O17K Koliganek Bris 75.72 23 P **P** **19 09 26.5 +0.5**
baz=230
K15K Wolf Creek Mou 75.83 19 IAmb IAmb 19 09 28.9
comp=Z,33nm,0.7s
K15K Wolf Creek Mou 75.83 19 P **P** **19 09 27.8 +1.2**
baz=225,SNR=8.1
Q18K Katmai Hardscr 75.84 25 P **P** **19 09 27.2 +0.2**
baz=232
M16K Timber Creek 75.85 21 IAmb IAmb 19 09 29.5
comp=Z,49nm,0.9s
M16K Timber Creek 75.85 21 P **P** **19 09 27.8 +1.0**
baz=228
L16K Owhat River 76.13 21 P **P** **19 09 29.2 +0.9**
L16K IAmb IAmb 19 09 30.5
comp=Z,20nm,0.7s
L16K Owhat River 76.13 21 P **P** **19 09 29.4 +1.1**
baz=227,SNR=5.7
N17K Nushagak Hills 76.17 22 P **P** **19 09 29.8 +1.2**
N17K IAmb IAmb 19 09 32.1
comp=Z,51nm,1.6s
N17K Nushagak Hills 76.17 22 P **P** **19 09 29.2 +0.5**
baz=230
P18K Big Mountain, 76.22 24 P **P** **19 09 29.5 +0.5**
baz=232
KOLN Koldanda 76.22 300 *e*P **P** **19 09 29.1 -0.8**
DANN Dangsing 76.23 301 *e*P **P** **19 09 29.9 -0.2**
comp=Z,48nm,0.6s
ANM Nome 76.31 17 P **P** **19 09 29.3 0.0**
ANM IAmb IAmb 19 09 31.4
comp=Z,19nm,0.7s
ANM Nome 76.31 17 P **P** **19 09 30.5 +1.1**
baz=221,SNR=6.1
ANM Nome 76.31 17 P **P** **19 09 29.3 0.0**
ANM pmax pmax
comp=Z,19nm,0.7s
KDAK Kodiak Island 76.36 26 P **P** **19 09 31.0 +1.3**
baz=234
TNA Tin City 76.39 15 P **P** **19 09 31.4 +1.7**
baz=218
O18K Koktuh Hills 76.51 23 P **P** **19 09 30.2 -0.3**
O18K IAmb IAmb 19 10 41.9
comp=Z,84nm,1.6s
Q19K Cape Douglas, 76.58 25 P **P** **19 09 30.5 -0.5**
Q19K Cape Douglas, 76.58 25 P **P** **19 09 31.5 +0.5**
baz=233
M17K Holitna River 76.65 22 P **P** **19 09 32.2 +0.9**
M17K IAmb IAmb 19 09 37.6
comp=Z,25nm,0.9s
M17K Holitna River 76.65 22 P **P** **19 09 32.5 +1.2**
baz=229
F14K Arctic Creek 76.74 16 P **P** **19 09 32.6 +0.9**
baz=220
N18K Kilae Creek 76.76 23 P **P** **19 09 32.8 +0.8**
N18K IAmb IAmb 19 09 34.8
comp=Z,37nm,0.9s
N18K Kilae Creek 76.76 23 P **P** **19 09 32.9 +0.9**
baz=231
L17K Donlin 76.83 21 P **P** **19 09 33.4 +1.1**
baz=228
PYUN Piuthan 76.83 301 *e*P **P** **19 09 32.9 -0.4**
comp=Z,46nm,0.7s
J16K Anvik River 76.83 19 P **P** **19 09 32.6 +0.3**
J16K Anvik River 76.83 19 P **P** **19 09 33.1 +0.8**
baz=226
G15K Niukluk 77.01 17 P **P** **19 09 34.1 +0.8**
baz=222
O19K Port Alsworth 77.07 23 P **P** **19 09 33.4 -0.3**
baz=232
SVW2 Sparrevohn 77.14 22 P **P** **19 09 35.7 +1.6**
SVW2 IAmb IAmb 19 09 36.4
comp=Z,20nm,0.9s
P19K Oil Pt 77.18 24 P **P** **19 09 34.8 +0.5**
P19K Oil Pt 77.18 24 P **P** **19 09 34.7 +0.4**
baz=234
K17K Iditarod 77.21 20 P **P** **19 09 32.8 -1.6**
K17K IAmb IAmb 19 09 37.1
comp=Z,31nm,1.0s
K17K Iditarod 77.21 20 P **P** **19 09 34.9 +0.5**
baz=228
I17K Unalakleet 77.22 19 P **P** **19 09 33.4 -1.0**
I17K IAmb IAmb 19 09 37.5
comp=Z,26nm,0.9s
I17K Unalakleet 77.22 19 P **P** **19 09 35.4 +1.0**
baz=226,SNR=7.2
H16K Elim 77.28 18 P **P** **19 09 35.8 +1.0**
baz=224,SNR=5.8
M18K Stony River 77.30 22 P **P** **19 09 35.8 +0.9**
baz=231
F15K North Star Dit 77.38 16 P **P** **19 09 36.2 +0.9**
F15K IAmb IAmb 19 09 37.8
comp=Z,32nm,1.2s
F15K North Star Dit 77.38 16 P **P** **19 09 36.5 +1.2**
baz=222
N19K Bonanza Creek 77.39 23 P **P** **19 09 36.4 +0.8**
N19K Bonanza Creek 77.39 23 P **P** **19 09 36.3 +0.8**
baz=232
ILSW Iliamna Southw 77.42 24 P **P** **19 09 35.5 -0.2**
ILSW IAmb IAmb 19 09 37.4
comp=Z,32nm,1.3s
L18K Granite Mounta 77.45 21 P **P** **19 09 36.2 +0.4**
L18K IAmb IAmb 19 09 38.7
comp=Z,34nm,1.0s
L18K Granite Mounta 77.45 21 P **P** **19 09 37.0 +1.2**
baz=230
O20K Slope Mountain 77.69 24 P **P** **19 09 37.8 +0.7**
baz=234
G16K Koyuk River 77.79 17 P **P** **19 09 38.0 +0.5**
G16K IAmb IAmb 19 09 40.1
comp=Z,32nm,0.9s
G16K Koyuk River 77.79 17 P **P** **19 09 38.4 +0.9**
baz=224
HOM Homer 77.84 25 P **P** **19 09 38.6 +0.7**
baz=235
WMQ Urumqi 77.85 317 *e*P **P** **19 09 39.1 +0.7**
WMQ pP pP 19 10 17.6 -1.5
WMQ pmax pmax
comp=Z,12nm,1.1s
CNPM China Poot 77.94 25 P **P** **19 09 39.6 +1.0**
L19K White Mountain 78.09 22 P **P** **19 09 39.9 +0.5**
L19K IAmb IAmb 19 09 41.9
comp=Z,34nm,0.8s
L19K White Mountain 78.09 22 P **P** **19 09 40.7 +1.3**
baz=232
TTA Tatalina 78.15 21 P **P** **19 09 40.8 +1.1**
TTA Tatalina 78.15 21 P **P** **19 09 40.8 +1.1**
baz=230,SNR=9.4
TTA Tatalina 78.15 21 P **P** **19 09 40.8 +1.1**
TTA pmax pmax
comp=Z,14nm,0.8s
H17K Granite Mounta 78.20 18 IAmb IAmb 19 09 42.4
comp=Z,25nm,1.1s
H17K Granite Mounta 78.20 18 P **P** **19 09 40.7 +0.8**
baz=226,SNR=9.5
BRLK Bradley Lake 78.22 25 P **P** **19 09 39.4 -0.7**
J18K Innoko River 78.25 20 P **P** **19 09 40.0 -0.1**
J18K IAmb IAmb 19 09 42.3
comp=Z,18nm,0.9s
J18K Innoko River 78.25 20 P **P** **19 09 40.9 +0.7**
baz=230
BRSE Bradley Lake S 78.27 25 P **P** **19 09 40.7 +0.4**
baz=236
G17K Kiwalik Mounta 78.37 17 P **P** **19 09 41.8 +1.1**
baz=226,SNR=9.9
M20K Styx River 78.56 22 P **P** **19 09 42.5 +0.5**
M20K Styx River 78.56 22 P **P** **19 09 42.9 +0.9**
baz=233
HYB Hyderabad 78.63 289 *e*P **P** **19 09 43.3 +0.1**
L20K Farewell, AK 78.64 22 P **P** **19 09 43.4 +1.0**
baz=232
H18K Honhosa River 78.83 18 P **P** **19 09 43.2 -0.1**
H18K Honhosa River 78.83 18 P **P** **19 09 44.0 +0.7**
baz=228
F17K Baldwin Pennin 78.86 17 P **P** **19 09 44.8 +1.4**
F17K IAmb IAmb 19 09 46.0
comp=Z,20nm,0.9s
F17K Baldwin Pennin 78.86 17 P **P** **19 09 44.5 +1.1**
baz=225
J19K Poorman 78.97 20 P **P** **19 09 44.9 +0.9**
baz=230,SNR=6.0
SEW Seward 79.01 25 P **P** **19 09 45.1 +0.8**
baz=237
GCSA Galena City Sc 79.03 19 P **P** **19 09 45.7 +1.4**
baz=229,SNR=6.4
O22K Cooper Landing 79.10 25 P **P** **19 09 45.4 +0.6**
baz=237
K20K Telida 79.11 21 P **P** **19 09 46.1 +1.3**
K20K Telida 79.11 21 P **P** **19 09 45.7 +0.9**
baz=232
C16K Lisburne Hills 79.14 14 P **P** **19 09 43.5 -1.4**
C16K IAmb IAmb 19 09 47.1

comp=Z,37nm,1.5s
C16K Lisburne Hills 79.14 14 P P 19 09 45.6 +0.8
baz=220
E17K Hotham Inlet 79.16 16 P P 19 09 45.9 +0.9
baz=224,SNR=19
SKT Skwentna 79.23 23 P P 19 09 45.4 -0.2
baz=235
SUA Susitna One 79.24 23 P P 19 09 45.8 +0.1
SUA Susitna One 79.24 23 P P 19 09 45.7 0.0
baz=236
G18K Tagagawik 79.24 18 P P 19 09 46.2 +0.7
G18K IAmb IAmb 19 09 47.7
comp=Z,34nm,1.4s
G18K Tagagawik 79.24 18 P P 19 09 46.3 +0.7
baz=227
TIXI Tiksi 79.27 352 P P 19 09 46.0 +0.5
TIXI Tiksi 79.27 352 *ce*P P 19 09 46.3 +0.8
RC01 Rabbit Creek A 79.43 24 P P 19 09 47.0 +0.3
RC01 IAmb IAmb 19 09 48.2
comp=Z,23nm,0.9s
RC01 Rabbit Creek A 79.43 24 P P 19 09 46.8 +0.2
baz=236
PPLA Purkeypile 79.51 22 P P 19 09 47.2 -0.1
baz=234
RDOG Red Dog Mine 79.58 15 P P 19 09 48.3 +1.0
RDOG IAmb IAmb 19 09 49.7
comp=Z,23nm,0.7s
RDOG Red Dog Mine 79.58 15 P P 19 09 48.2 +0.8
baz=223,SNR=7.6
J20K Nowinta River 79.59 20 P P 19 09 48.2 +0.8
J20K IAmb IAmb 19 09 49.9
comp=Z,21nm,0.9s
J20K Nowinta River 79.59 20 P P 19 09 48.1 +0.7
baz=232
H19K Roundabout Mou 79.68 19 P P 19 09 48.2 +0.3
H19K IAmb IAmb 19 09 50.2
comp=Z,31nm,1.0s
H19K Roundabout Mou 79.68 19 P P 19 09 49.0 +1.2
baz=230
E18K Tukpahlearik C 79.74 16 P P 19 09 49.0 +0.8
E18K Tukpahlearik C 79.74 16 P P 19 09 48.9 +0.7
baz=225
P23K Montague Islan 79.82 26 P P 19 09 49.9 +1.1
baz=239
C17K DeLong Mountai 79.82 15 P P 19 09 49.9 +1.3
baz=223,SNR=6.4
I20K Naaghedeneel 79.86 20 P P 19 09 49.7 +0.9
baz=232
CAST Castle Rocks 79.86 21 P P 19 09 48.8 -0.1
CAST Castle Rocks 79.86 21 P P 19 09 49.1 +0.2
baz=234,SNR=8.5
G19K Purcell Mounta 79.89 18 P P 19 09 49.5 +0.5
G19K IAmb IAmb 19 09 51.4
comp=Z,33nm,1.2s
G19K Purcell Mounta 79.89 18 P P 19 09 50.2 +1.2
baz=229
PMR Palmer 79.95 24 P P 19 09 49.9 +0.5
baz=237
CUT Chulitna 79.95 23 P P 19 09 49.4 0.0
baz=236
Q23K Middleton Isla 79.99 26 P P 19 09 49.8 +0.2
baz=240
CHUM Lake Minchumin 80.05 21 P P 19 09 50.5 +0.6
baz=234,SNR=8.1
DGZ Jazzator, Alta 80.12 323 *i* P P 19 09 51.1 +0.3
DGZ pmax pmax
comp=Z,26nm,0.9s
KNK Knik Glacier 80.13 24 P P 19 09 50.7 +0.3
KNK IAmb IAmb 19 11 54.7
comp=Z,45nm,1.5s
KNK Knik Glacier 80.13 24 P P 19 09 51.2 +0.8
baz=238
GHO Glory Hole Cre 80.13 24 P P 19 09 49.6 -0.9
F19K Shaleruckik Mo 80.14 17 P P 19 09 49.9 -0.4
F19K Shaleruckik Mo 80.14 17 P P 19 09 51.2 +0.9
baz=228,SNR=11
H20K Anotleneega Mo 80.16 19 P P 19 09 51.8 +1.3
baz=231,SNR=9.8
KTH Kantishna Hill 80.36 22 P P 19 09 51.6 -0.1
SML Sawmill 80.39 24 P P 19 09 52.0 +0.1
SML IAmb IAmb 19 09 53.7
comp=Z,36nm,1.0s
SML Sawmill 80.39 24 P P 19 09 52.3 +0.4
baz=238
SML Sawmill 80.39 24 P P 19 09 51.0 -0.8
SML pmax pmax
comp=Z,36nm,1.0s
GLI Glacier Island 80.41 25 P P 19 09 51.5 -0.4
GLI Glacier Island 80.41 25 P P 19 09 52.6 +0.7
baz=239
HIN Hinchinbrook I 80.42 26 P P 19 09 51.2 -0.8
C18K Utukok River 80.45 15 P P 19 09 52.5 +0.4
C18K IAmb IAmb 19 09 54.1
comp=Z,31nm,1.5s
C18K Utukok River 80.45 15 P P 19 09 52.9 +0.9
baz=224
TRF Thorofare Moun 80.54 22 P P 19 09 52.3 -0.4
TRF Thorofare Moun 80.54 22 P P 19 09 52.9 +0.2
baz=236
BPAW Bear Paw Mtn. 80.65 21 P P 19 09 51.7 -1.5
BPAW Bear Paw Mtn. 80.65 21 P P 19 09 53.3 +0.2
baz=235
E19K Redstone River 80.71 17 P P 19 09 54.4 +1.0
E19K IAmb IAmb 19 09 55.8
comp=Z,53nm,1.2s
E19K Redstone River 80.71 17 P P 19 09 54.3 +0.9
baz=228
SCM Sheep Creek Mo 80.81 24 P P 19 09 54.5 +0.5
SCM IAmb IAmb 19 09 56.2
comp=Z,27nm,1.0s
SCM Sheep Creek Mo 80.81 24 P P 19 09 55.0 +0.9
baz=239
SCM Sheep Creek Mo 80.81 24 P P 19 09 54.6 +0.5
SCM pmax pmax
comp=Z,27nm,1.0s
EYAK Cordova Ski Ar 80.81 26 P P 19 09 54.6 +0.6
baz=240
B18K Kokolik River 80.81 14 P P 19 09 55.1 +1.3
baz=224
IMAR Indian Mountai 80.83 19 P P 19 09 54.9 +0.8
WAT1 Susitna Watana 80.85 23 P P 19 09 54.7 +0.5
baz=237
F20K Avaraart Lake 80.89 18 P P 19 09 55.2 +0.9
F20K Avaraart Lake 80.89 18 P P 19 09 55.5 +1.2
baz=230
I21K Tanana 80.94 20 P P 19 09 54.3 -0.3
I21K Tanana 80.94 20 P P 19 09 55.2 +0.6
baz=234,SNR=9.9
ZSN Zaisan 80.94 320 *e*P P 19 09 55.2 +0.2
baz=320
ZSN Zaisan 80.94 320 *e*P P 19 09 55.2 +0.2
H21K Melozitna Rive 80.94 19 P P 19 09 53.1 -1.5
H21K Melozitna Rive 80.94 19 P P 19 09 55.1 +0.5
baz=233,SNR=5.8
WAT6 Susitna Watana 81.04 23 P P 19 09 55.4 -0.1
baz=238
RND Reindeer 81.05 22 P P 19 09 55.5 +0.1
RND Reindeer 81.05 22 P P 19 09 55.5 +0.1
RND pmax pmax
comp=Z,13nm,0.8s
KAIM Kayak Island 81.09 26 P P 19 09 56.3 +0.8
baz=242
D19K Kuna River 81.16 16 P P 19 09 56.6 +0.9
D19K IAmb IAmb 19 09 57.7
comp=Z,41nm,1.4s
D19K Kuna River 81.16 16 P P 19 09 56.3 +0.5
baz=228,SNR=14
C19K Lookout Ridge 81.19 15 P P 19 09 56.8 +0.9
C19K Lookout Ridge 81.19 15 P P 19 09 56.7 +0.7
baz=226,SNR=9.0
MCK McKinley 81.20 22 P P 19 09 56.1 +0.1
baz=237,SNR=15
KLU Klutina 81.21 25 P P 19 09 56.1 -0.1
baz=240
G21K Allakaket 81.24 19 P P 19 09 57.0 +0.7
G21K Allakaket 81.24 19 P P 19 09 56.9 +0.7
baz=232
MLY Manley 81.28 20 P P 19 09 57.0 +0.6
MLY Manley 81.28 20 P P 19 09 57.2 +0.7
baz=235,SNR=10
M24K Tolsona, Glenn 81.42 24 P P 19 09 57.6 +0.3
M24K IAmb IAmb 19 09 59.7
comp=Z,26nm,0.9s
M24K Tolsona, Glenn 81.42 24 P P 19 09 58.3 +1.0
baz=240
DHY Denali Highway 81.44 23 P P 19 09 57.7 +0.2
baz=238,SNR=7.0
DHY Denali Highway 81.44 23 P P 19 09 58.0 +0.5
BMRM Bremner River 81.51 25 P P 19 09 58.1 +0.4
baz=241
E20K Nigu River 81.54 17 P P 19 09 58.7 +0.9
baz=229
H22K Ishtalitna Cre 81.56 20 P P 19 09 58.8 +0.9
baz=234
A19K Wainwright 81.60 14 P P 19 09 58.4 +0.4
baz=224
NEA2 Nenana 81.62 21 P P 19 09 58.1 -0.2
baz=237
F21K Alatna River 81.68 18 P P 19 09 59.2 +0.7
F21K Alatna River 81.68 18 P P 19 09 59.4 +0.9
baz=232,SNR=8.3
BGLC Bering Glacier 81.69 27 P P 19 09 58.7 +0.1
baz=242
D20K Etivluk River 81.72 16 P P 19 09 59.2 +0.5
baz=229
N25K Chitina, Valde 81.82 25 P P 19 09 59.7 +0.2
baz=241
I23K Minto, Yukon-K 81.83 21 P P 19 09 58.9 -0.3
I23K IAmb IAmb 19 10 02.0
comp=Z,36nm,1.8s
I23K Minto, Yukon-K 81.83 21 P P 19 09 59.7 +0.5
baz=236
HARP HAARP 81.98 24 P P 19 10 00.1 0.0
baz=241
WAX Waxell Ridge 82.03 26 P P 19 10 01.0 +0.5
CRQE Cirque 82.06 26 P P 19 10 00.8 0.0
baz=243
GLB Gilahina Butte 82.07 25 P P 19 10 01.4 +0.6
GLB IAmb IAmb 19 10 02.8
comp=Z,19nm,1.0s
CCB Clear Creek Bu 82.11 22 P P 19 09 60.0 -0.8
G22K Bettles 82.12 19 P P 19 10 01.0 +0.3
baz=234
MDM Murphy Dome 82.12 21 P P 19 10 00.1 -0.8
PAX Paxson 82.13 24 P P 19 10 01.2 +0.1
baz=240
COLA College 82.21 21 P P 19 10 02.1 +0.9
baz=238
COLA College 82.21 21 P P 19 10 00.9 -0.4
F22K John River 82.26 18 P P 19 10 02.5 +1.0
baz=233
E21K Killik River 82.29 17 P P 19 10 01.6 -0.1
E21K IAmb IAmb 19 10 03.8
comp=Z,28nm,1.2s
E21K Killik River 82.29 17 P P 19 10 02.8 +1.1
baz=232
HDA Harding Lake 82.30 22 P P 19 10 01.2 -0.6
HDA Harding Lake 82.30 22 P P 19 10 02.5 +0.7
baz=239,SNR=6.2
HDA P P 19 10 02.5 +0.7
baz=239,SNR=6.2
MESA MESA 82.31 27 P P 19 10 02.4 +0.2
baz=244
MCARA McCarthy VSAT 82.38 25 P P 19 10 02.6 +0.3
baz=243
MK31 Makanchi Array 82.41 319 P P 19 10 02.7 -0.1
MK31 IAmb IAmb 19 10 04.7
comp=Z,27nm,0.8s
MK31 Makanchi Array 82.41 319 *ce*P P 19 10 03.3 +0.5
MKAR Makanchi Array 82.41 319 P P 19 10 02.5 -0.3
MKAR Makanchi Array 82.41 319 P P 19 10 03.0 +0.2
comp=Z,26nm,0.6s,baz=94,slow=6.8,SNR=187
comp=Z,26nm,0.6s
K24K Donnelly Dome 82.43 23 P P 19 10 02.8 +0.3
baz=240
B20K Meade River 82.43 15 P P 19 10 02.6 +0.3
B20K IAmb IAmb 19 10 03.8
comp=Z,19nm,0.9s
B20K Meade River 82.43 15 P P 19 10 02.3 0.0
baz=228
G23K Bananza Creek 82.48 19 P P 19 10 02.2 -0.5
G23K Bananza Creek 82.48 19 P P 19 10 03.6 +0.9
baz=236
POKR Poker Plat Res 82.49 21 P P 19 10 02.3 -0.5
POKR Poker Plat Res 82.49 21 P P 19 10 02.8 0.0
baz=238
IL31 82.51 22 P P 19 10 01.7 -1.1
ILAR Eielson Array 82.51 22 P P 19 10 02.0 -0.9
ILAR Eielson Array 82.51 22 P P 19 10 02.1 -0.8
comp=Z,5.0nm,0.6s,baz=244,slow=5.2,SNR=81
ILAR PKKPbc **PKKPbc** 19 28 26.9 -4.3
comp=Z,0.2nm,0.6s,baz=346,slow=0.9,SNR=5.1
ILAR LR LR 19 42 44.7
comp=Z,47nm,19.5s,baz=170,slow=32
comp=Z,5.0nm,0.6s
C21K Knifeblade Rid 82.51 16 P P 19 10 03.4 +0.6
baz=231,SNR=9.0
MAKZ Makanchi 82.62 319 P P 19 10 04.0 +0.1
MAKZ Makanchi 82.62 319 P P 19 10 04.0 +0.1
MAKZ pmax pmax
comp=Z,41nm,0.9s
COLD Coldfoot 82.72 19 P P 19 10 04.3 +0.5
baz=235,SNR=9.8
H24K Noodor Dome 82.72 20 P P 19 10 03.7 -0.3
H24K Noodor Dome 82.72 20 P P 19 10 04.5 +0.5
baz=238
E22K Anaktuvuk Pass 82.74 18 P P 19 10 03.9 -0.2
E22K Anaktuvuk Pass 82.74 18 P P 19 10 04.4 +0.3
baz=234,SNR=9.1
RIDG Independent Ri 82.76 23 P P 19 10 04.1 -0.1
RIDG IAmb IAmb 19 10 06.1
comp=Z,34nm,1.4s
RIDG Independent Ri 82.76 23 P P 19 10 04.9 +0.7
baz=241,SNR=8.9
MENT Mentasta 82.82 24 P P 19 10 04.6 0.0
B21K Ikpikpuk River 82.85 16 P P 19 10 04.0 -0.5
B21K IAmb IAmb 19 10 06.7
comp=Z,21nm,1.1s
B21K Ikpikpuk River 82.85 16 P P 19 10 05.6 +1.1
baz=231
M26K Nabesna, AK 82.86 25 P P 19 10 05.6 +0.8
baz=242
CTG Chitna Glacier 82.92 26 P P 19 10 05.7 +0.5
baz=244
CTGM Chitina Glacie 82.93 26 P P 19 10 04.7 -0.5
CTGM IAmb IAmb 19 10 47.2
comp=Z,23nm,1.2s
D22K Ayikyak River 82.93 17 P P 19 10 05.6 +0.6
D22K IAmb IAmb 19 10 07.6
comp=Z,50nm,1.4s
D22K Ayikyak River 82.93 17 P P 19 10 05.9 +0.9
baz=233,SNR=17
J25K Salcha River, 82.99 22 P P 19 10 05.2 -0.3
J25K IAmb IAmb 19 10 06.9
comp=Z,19nm,0.9s
J25K Salcha River, 82.99 22 P P 19 10 05.9 +0.5
baz=240,SNR=21
L26K Log Cabin Wild 83.01 24 P P 19 10 04.0 -1.5
L26K Log Cabin Wild 83.01 24 P P 19 10 06.0 +0.5
baz=242
LOGN Logan Glacier 83.01 26 P P 19 10 05.5 -0.3
LOGN IAmb IAmb 19 10 11.9
comp=Z,30nm,1.2s
PINM Pinnacle 83.04 27 P P 19 10 06.4 +0.6
baz=245
ZAA0 Zalesovo Array 83.14 326 P P 19 10 05.0 -1.3
ZAA0 IAmb IAmb 19 10 06.6
comp=Z,25nm,0.8s
ZALV Zalesovo Beam 83.14 326 P P 19 10 05.7 -0.6
comp=Z,21nm,0.7s,baz=111,slow=5.5,SNR=109
comp=Z,21nm,0.7s
SCRK Sand Creek 83.21 23 P P 19 10 06.6 0.0
SCRK Sand Creek 83.21 23 P P 19 10 06.9 +0.3
baz=241,SNR=6.5
PNL Peninsula 83.26 28 P P 19 10 06.3 -0.6
baz=246
M27K Edge Creek, AK 83.31 25 P P 19 10 05.5 -1.7
M27K IAmb IAmb 19 10 09.8
comp=Z,29nm,1.1s
M27K Edge Creek, AK 83.31 25 P P 19 10 07.3 +0.1
baz=244
G24K Hadweenzic Riv 83.32 20 P P 19 10 06.5 -0.5
G24K Hadweenzic Riv 83.32 20 P P 19 10 07.9 +0.9
baz=238
SHLS Shalkode 83.36 315 *e*P P 19 10 06.6 -1.3
baz=315
SHLS Shalkode 83.36 315 *e*P P 19 10 06.6 -1.3
E23K Chandalar 83.37 18 P P 19 10 08.2 +0.9
baz=236
PRP Porcupine Dome 83.39 21 P P 19 10 08.5 +1.0
baz=240
A21K Barrow 83.44 14 P P 19 10 08.6 +1.2
baz=229
D23K Nanushuk River 83.57 17 P P 19 10 09.4 +1.1
baz=235
J26L Joseph Creek 83.62 23 P P 19 10 09.1 +0.4
J26L Joseph Creek 83.62 23 P P 19 10 09.7 +1.0
baz=242
F24K Squaw Lake 83.62 19 P P 19 10 09.6 +1.1
F24K IAmb IAmb 19 10 11.1
comp=Z,16nm,0.9s
F24K Squaw Lake 83.62 19 P P 19 10 09.7 +1.1
baz=237
B22K Teshekpuk Lake 83.62 16 P P 19 10 09.0 +0.6
B22K IAmb IAmb 19 10 10.2
comp=Z,23nm,1.1s
B22K Teshekpuk Lake 83.62 16 P P 19 10 09.1 +0.7
baz=232
A22K Sinclair Lake 83.64 15 P P 19 10 09.5 +1.0
baz=230
L27K Beaver Creek, 83.64 24 P P 19 10 10.3 +1.6
L27K Beaver Creek, 83.64 24 P P 19 10 09.6 +0.8
baz=244,SNR=5.3
YUK3 Moose Creek 83.66 26 P P 19 10 09.9 +0.9
baz=245
BCAR Beaver Creek A 83.66 24 P P 19 10 08.0 -0.9
UZB Uzynbulak 83.67 314 *e*P P 19 10 09.8 +0.3
baz=314
UZB Uzynbulak 83.67 314 *e*P P 19 10 09.8 +0.3
TOLK Toolik Lake Re 83.71 18 P P 19 10 09.7 +0.7
baz=236,SNR=11
E24K Your Creek 83.73 18 P P 19 10 08.5 -0.6
E24K Your Creek 83.73 18 P P 19 10 10.2 +1.0
baz=237
YUK8 Steele Glacier 83.75 26 P P 19 10 10.1 +0.5
baz=246
BVCY Beaver Creek 83.76 25 P P 19 10 09.6 +0.2
baz=244
G25K Bearman Lake 83.82 20 P P 19 10 10.3 +0.8
baz=239
O29M Mount Kennedy 83.89 27 P P 19 10 08.9 -1.2
O29M IAmb IAmb 19 11 07.1
comp=Z,43nm,1.8s
O29M Mount Kennedy 83.89 27 P P 19 10 10.7 +0.5
baz=247
K27K Chicken 83.98 23 P P 19 10 11.8 +1.4
baz=243
KPKS Kokpek 83.99 315 *e*P P 19 10 10.9 -0.2
baz=315
KPKS Kokpek 83.99 315 *e*P P 19 10 10.8 -0.2
P29M Windy Craggy 84.02 28 P P 19 10 11.2 +0.5
baz=248
FYU Fort Yukon 84.02 20 P P 19 10 10.8 +0.3
FYU IAmb IAmb 19 10 13.5
comp=Z,48nm,1.7s
QSPA South Pole Qui 84.03 180 P P 19 10 11.4 +0.5
QSPA South Pole Qui 84.03 180 P P 19 10 11.3 +0.5
comp=Z,26nm,0.5s,baz=293,slow=17,SNR=50
comp=Z,26nm,0.5s
SATY Saty 84.09 314 *e*P P 19 10 12.0 +0.3
baz=314
SATY Saty 84.09 314 *e*P P 19 10 11.9 +0.3
ZHN Zhinishke 84.09 314 *e*P P 19 10 11.8 +0.1
baz=314
ZHN Zhinishke 84.09 314 *e*P P 19 10 11.7 +0.1
C23K Itkillik River 84.09 17 P P 19 10 11.1 +0.3
C23K IAmb IAmb 19 10 13.4
comp=Z,39nm,1.2s
C23K Itkillik River 84.09 17 P P 19 10 12.2 +1.4
baz=235
S31K Pelican 84.13 30 P P 19 10 11.4 +0.2
baz=249
I26K Coal Creek Min 84.15 22 P P 19 10 10.5 -0.7
I26K Coal Creek Min 84.15 22 P P 19 10 12.1 +0.9
baz=242
TARG Taragay, Kyrgy 84.21 313 P P 19 10 12.4 -0.2
TARG Taragay, Kyrgy 84.21 313 P P 19 10 12.4 -0.2
TARG pmax pmax
comp=Z,9.0nm,0.9s
D24K Happy Valley 84.23 17 P P 19 10 12.7 +1.1
D24K IAmb IAmb 19 10 13.9
comp=Z,23nm,1.1s
D24K Happy Valley 84.23 17 P P 19 10 12.4 +0.9
baz=236
YUK6 Outpost Mounta 84.24 27 P P 19 10 12.4 +0.3
baz=247
SIT Sitka 84.27 31 P P 19 10 12.5 +0.6
baz=250
YUK4 Talbot Arm 84.27 26 P P 19 10 13.1 +0.9
baz=247
F25K Christian Rive 84.40 19 P P 19 10 13.9 +1.4
baz=240,SNR=7.3
TDK Taldyqorghan 84.55 316 *e*P P 19 10 13.9 +0.1
comp=Z,13nm,0.6s,baz=316
TDK Taldyqorghan 84.55 316 *e*P P 19 10 13.8 +0.1
TDK pmax pmax
comp=Z,13nm,0.6s
P30M Million Dollar 84.56 28 P P 19 10 14.3 +0.8
baz=248
C24K Franklin Bluff 84.58 17 P P 19 10 14.5 +1.3
baz=236
HYT Haines Junctio 84.58 27 P P 19 10 13.4 -0.2
HYT IAmb IAmb 19 10 15.7
comp=Z,12nm,0.7s
HYT Haines Junctio 84.58 27 P P 19 10 14.7 +1.1
baz=248
EGAK Eagle 84.67 23 P P 19 10 13.2 -0.6
EGAK IAmb IAmb 19 10 16.0
comp=Z,16nm,0.9s
EGAK Eagle 84.67 23 P P 19 10 15.2 +1.3
baz=244,SNR=8.0
BMAR Burnt Mountain 84.67 20 P P 19 10 14.6 +0.7
E25K Arctic Village 84.69 19 P P 19 10 14.8 +0.8
E25K Arctic Village 84.69 19 P P 19 10 15.3 +1.4
baz=240,SNR=6.2
G26K Porcupine Rive 84.71 20 P P 19 10 15.4 +1.4
baz=241
SEM Semipalatinsk 84.73 322 *e*P P 19 10 15.6 +0.8
comp=Z,9.8nm,0.7s,baz=322
SEM Semipalatinsk 84.73 322 *e*P P 19 10 15.5 +0.8
SEM pmax pmax
comp=Z,10.0nm,0.7s
M29M Somme Creek 84.79 25 P P 19 10 13.7 -0.9
M29M IAmb IAmb 19 12 16.9
comp=Z,33nm,1.7s
M29M Somme Creek 84.79 25 P P 19 10 15.9 +1.3
baz=247
S32K Killisnoo 84.79 31 P P 19 10 15.5 +1.0
baz=250
I27K Kandik River 84.86 22 P P 19 10 15.7 +0.8
baz=244
CRAG Craig 84.91 33 P P 19 10 16.3 +1.1
baz=252
F26K Sheenjek River 84.95 20 P P 19 10 16.3 +1.1
baz=241,SNR=10
N30M Aishikik Lake 85.01 27 P P 19 10 16.6 +0.9
baz=248
D25K Kavik River 85.06 18 P P 19 10 15.8 +0.1
D25K Kavik River 85.06 18 P P 19 10 16.7 +0.9
baz=239
DAWY Dawson 85.06 24 P P 19 10 16.5 +0.6
DAWY Dawson 85.06 24 P P 19 10 17.1 +1.2
baz=246,SNR=8.4
MDOK Medeo 85.08 314 *e*P P 19 10 16.8 +0.2
baz=314
MDOK Medeo 85.08 314 *e*P P 19 10 16.8 +0.2
R32K Eaglecrest 85.09 30 P P 19 10 16.4 +0.3
baz=250
KSH Kashi 85.10 310 P P 19 10 18.5 +1.8
KSH pP pP 19 10 57.0 -1.1
KSH sP sP 19 11 13.1 -2.6
KSH pmax pmax
comp=Z,22nm,0.8s
SKAG Skagway 85.10 29 P P 19 10 16.6 +0.5
baz=250
U33K Whale Pass 85.11 32 P P 19 10 16.7 +0.6
baz=252
TNSS Tian-Shan 85.12 314 *e*P P 19 10 17.5 +0.4
baz=314
TNSS Tian-Shan 85.12 314 *e*P P 19 10 17.5 +0.4
H27K Steamboat Moun 85.17 21 P P 19 10 17.1 +0.7
baz=244,SNR=12
AAA Alma-Ata 85.18 314 *e*P P 19 10 17.3 +0.2
comp=Z,15nm,0.8s,baz=314
AAA Alma-Ata 85.18 314 *e*P P 19 10 17.2 +0.2
AAA pmax pmax
comp=Z,15nm,0.8s
L29M L29M 85.19 25 P P 19 10 17.5 +1.0
baz=247
O30N Mendenhall 85.20 27 P P 19 10 17.6 +1.0

baz=249
MAW Mawson 85.25 203 P **P** **19 10 16.3 -0.4**
MAW Mawson 85.25 203 P **P** **19 10 17.4 +0.7**
comp=Z,35nm,0.6s,baz=98,slow=5.3,SNR=57
comp=Z,35nm,0.6s
CHKK Chushkaly 85.27 315 *e*P **P** **19 10 17.3 -0.1**
baz=315
CHKK Chushkaly 85.27 315 *e*P **P** **19 10 17.2 -0.1**
G27K Doyon Strip 85.39 21 P **P** **19 10 17.7 +0.3**
G27K Doyon Strip 85.39 21 P **P** **19 10 18.2 +0.7**
baz=243
I28M Miner Creek 85.42 22 P **P** **19 10 18.5 +0.8**
I28M IAmb IAmb 19 10 59.2
comp=Z,32nm,1.8s
I28M Miner Creek 85.42 22 P **P** **19 10 18.6 +0.8**
baz=245,SNR=7.8
M30M Minto, Yukon 85.55 26 P **P** **19 10 19.6 +1.3**
baz=248
N31M Braeburn, Yuko 85.60 27 P **P** **19 10 18.8 +0.2**
N31M IAmb IAmb 19 11 04.1
comp=Z,27nm,1.2s
WRAK Wrangell Islan 85.62 32 P **P** **19 10 19.6 +0.9**
baz=252
V35K Ketchikan 85.69 33 P **P** **19 10 19.9 +0.8**
baz=253
WHY Whitehorse 85.72 28 P **P** **19 10 20.2 +0.9**
baz=250
K29M Barlow Dome 85.73 24 P **P** **19 10 20.2 +0.9**
K29M IAmb IAmb 19 10 22.0
comp=Z,22nm,1.1s
K29M Barlow Dome 85.73 24 P **P** **19 10 20.5 +1.2**
baz=247,SNR=13
KUU Kurty 85.74 315⇑ *i*P **P** **19 10 19.4 -0.3**
baz=315
KUU Kurty 85.74 315*c i*P **P** **19 10 19.4 -0.3**
C26K Camden Bay 85.80 18 P **P** **19 10 21.2 +1.9**
baz=240
KURK Kurchatov 85.82 322 P **P** **19 10 19.4 -0.5**
KURK IAmb IAmb 19 10 19.9
comp=Z,12nm,0.7s
KURK Kurchatov 85.82 322*ce*P **P** **19 10 19.3 -0.5**
KURK pmax pmax
comp=Z,25nm,1.3s
KURBB Kurchatov Arra 85.85 322 P **P** **19 10 19.8 -0.2**
KURBB PKKPbc **PKKPbc** **19 28 20.3 -2.3**
comp=Z,6.9nm,0.5s,baz=100,slow=4.7,SNR=69
comp=Z,0.2nm,0.7s,baz=287,slow=3.4,SNR=5.5
comp=Z,6.9nm,0.5s
P32M Atlin 85.92 29 P **P** **19 10 21.4 +1.2**
baz=251
I29M Ogilvie Camp, 86.01 23 P **P** **19 10 21.4 +0.9**
I29M Ogilvie Camp, 86.01 23 P **P** **19 10 21.6 +1.0**
baz=247,SNR=12
E27K Coleen River 86.03 20 P **P** **19 10 21.6 +1.1**
E27K IAmb IAmb 19 10 23.1
comp=Z,26nm,1.0s
E27K Coleen River 86.03 20 P **P** **19 10 21.5 +1.0**
baz=243
TKM2 Tokmak 2 86.07 314 P **P** **19 10 21.6 +0.1**
SNR=6.9
MAYO Mayo, Yukon 86.31 25 P **P** **19 10 23.3 +1.3**
baz=249
H29M Whitestone 86.33 22 P **P** **19 10 22.0 -0.1**
H29M IAmb IAmb 19 10 45.2
comp=Z,20nm,1.3s
H29M Whitestone 86.33 22 P **P** **19 10 23.4 +1.3**
baz=246
F28M Old Crow 86.36 20 P **P** **19 10 23.3 +1.1**
F28M IAmb IAmb 19 10 24.6
comp=Z,14nm,0.9s
F28M Old Crow 86.36 20 P **P** **19 10 23.3 +1.1**
baz=245,SNR=13
Q32M Nakina River 86.42 30 P **P** **19 10 23.0 +0.1**
Q32M Nakina River 86.42 30 P **P** **19 10 23.6 +0.7**
baz=252
M31M Drury Creek, Y 86.47 26 P **P** **19 10 22.7 -0.1**
M31M IAmb IAmb 19 10 25.5
comp=Z,34nm,1.7s
M31M Drury Creek, Y 86.47 26 P **P** **19 10 23.7 +0.9**
baz=250
J30M Hart River 86.49 24 P **P** **19 10 23.3 +0.3**
J30M IAmb IAmb 19 10 25.7
comp=Z,24nm,1.1s
J30M Hart River 86.49 24 P **P** **19 10 24.4 +1.4**
baz=248,SNR=14
P33M Teslin, Yukon 86.54 28 P **P** **19 10 24.4 +1.1**
baz=252
S34M Telegraph Cree 86.69 31 P **P** **19 10 24.4 +0.5**
baz=253
CHMS Chumysh 86.69 314 P **P** **19 10 24.4 0.0**
SNR=8.0
D27M Malcolm River 86.71 19 P **P** **19 10 24.9 +1.0**
D27M IAmb IAmb 19 10 26.4
comp=Z,14nm,1.0s
D27M Malcolm River 86.71 19 P **P** **19 10 24.9 +1.0**
baz=244
I30M Mount Dempster 86.71 23 P **P** **19 10 24.5 +0.4**
I30M Mount Dempster 86.71 23 P **P** **19 10 25.1 +1.0**
baz=248
N32M Quiet Lake 86.71 28 P **P** **19 10 25.1 +1.0**
baz=252
G29M Pine Creek 86.73 21 P **P** **19 10 24.6 +0.6**
G29M IAmb IAmb 19 10 26.3
comp=Z,23nm,0.9s
G29M Pine Creek 86.73 21 P **P** **19 10 25.0 +1.0**
baz=247
AAK Ala-Archa 86.81 313 P **P** **19 10 25.6 +0.5**
SNR=9.1
AAK Ala-Archa 86.81 313 P **P** **19 10 25.0 -0.1**
AAK IAmb IAmb 19 10 26.4
comp=Z,8.0nm,0.6s
AAK Ala-Archa 86.81 313*ce*P **P** **19 10 25.6 +0.5**
AAK pmax pmax
comp=Z,6.0nm,0.6s
SGDS Sogindy 86.86 314 *e*P **P** **19 10 24.6 -0.7**
baz=314
SGDS Sogindy 86.86 314 *e*P **P** **19 10 24.5 -0.7**
BBB Bella Bella 86.87 37 LR LR **19 46 08.9**
comp=Z,28nm,18.3s,baz=242,slow=33
T35M Bob Quinn 86.89 32 P **P** **19 10 25.6 +0.7**
baz=254
E28M Babbage River 86.90 20 P **P** **19 10 23.8 -1.0**
E28M IAmb IAmb 19 10 27.3
comp=Z,28nm,1.4s
E28M Babbage River 86.90 20 P **P** **19 10 25.8 +1.1**
baz=245
FARO Faro, Yukon 86.94 26 P **P** **19 10 25.8 +0.7**
baz=251
EPYK Eagle Plains 87.00 22 P **P** **19 10 25.2 -0.2**
EPYK Eagle Plains 87.00 22 P **P** **19 10 26.0 +0.6**
baz=248,SNR=23
R33M Jennings River 87.19 30 P **P** **19 10 26.6 +0.1**
baz=254
AML Almayashu 87.30 313 P **P** **19 10 28.4 +0.6**
SNR=16
EKS2 Erkin-Say 87.33 313 P **P** **19 10 27.9 +0.3**
SNR=11
E29M Blow River 87.36 20 P **P** **19 10 27.3 +0.3**
E29M Blow River 87.36 20 P **P** **19 10 27.8 +0.8**
baz=247
KBO Bosley Butte 87.38 47 P **P** **19 10 27.9 +0.1**
DLBC Dease Lake 87.39 31 P **P** **19 10 27.9 +0.4**
baz=254
G30M tAoh Zraii Nji 87.42 22 P **P** **19 10 28.1 +0.7**
G30M IAmb IAmb 19 10 29.7
comp=Z,16nm,1.1s
G30M tAoh Zraii Nji 87.42 22 P **P** **19 10 27.6 +0.3**
baz=248
D28M Stokes Point 87.46 19 P **P** **19 10 28.5 +1.1**
baz=246,SNR=13
BTLS Baital 87.58 316 *e*P **P** **19 10 28.2 -0.4**
baz=316
BTLS Baital 87.58 316 *e*P **P** **19 10 28.1 -0.4**
ARSB Arslanbob 87.68 312 P **P** **19 10 29.7 +0.4**
ARSB Arslanbob 87.68 312 P **P** **19 10 29.7 +0.4**
ARSB pmax pmax
comp=Z,7.0nm,0.7s
F30M Barrier River 87.80 21 P **P** **19 10 30.0 +0.9**
baz=249,SNR=9.6
G31M Satah River 88.11 22 P **P** **19 10 29.8 -0.7**
G31M IAmb IAmb 19 10 32.5
comp=Z,19nm,1.1s
G31M Satah River 88.11 22 P **P** **19 10 31.5 +1.0**
baz=250,SNR=7.7
YBH Yreka Blue Hor 88.42 48 P **P** **19 10 32.4 -0.2**
comp=Z,7.5nm,0.9s,baz=153,slow=2.5,SNR=11
YBH LR LR 19 49 17.1
comp=Z,28nm,18.3s,baz=242,slow=35
comp=Z,7.5nm,0.9s
RADR Rader Ridge 88.44 43 P **P** **19 10 32.6 0.0**
F31M Tsiigehtchic 88.48 21 P **P** **19 10 32.8 +0.6**
F31M IAmb IAmb 19 10 33.9
comp=Z,32nm,1.6s
F31M Tsiigehtchic 88.48 21 P **P** **19 10 33.1 +0.9**
baz=251,SNR=5.4
E03A Lebam 88.62 43 P **P** **19 10 34.1 +0.7**
INK Inuvik 88.84 21 P **P** **19 10 32.5 -1.4**
INK Inuvik 88.84 21 P **P** **19 10 34.3 +0.4**
baz=251,SNR=6.0
INK Inuvik 88.84 21 P **P** **19 10 32.5 -1.4**
INK pmax pmax
comp=Z,9.0nm,1.1s
INK Inuvik 88.84 21 LR LR 19 47 29.2
comp=Z,38nm,19.4s,baz=202,slow=33
DZA Taraz 89.14 313 *e*P **P** **19 10 35.5 -0.5**
baz=313
DZA Taraz 89.14 313 *e*P **P** **19 10 35.5 -0.5**
AFDM Forest Hills D 89.31 51 P **P** **19 10 37.6 +0.8**
AFDM IAmb IAmb 19 10 39.1
comp=Z,10.0nm,0.8s
CMB Columbia Colle 89.64 52 P **P** **19 10 39.1 +0.7**
CMB Columbia Colle 89.64 52 P **P** **19 10 39.1 +0.7**
CMB pmax pmax
comp=Z,6.0nm,1.0s
LON Longmire 89.84 43 P **P** **19 10 37.7 -1.5**
LON IAmb IAmb 19 10 41.0
comp=Z,33nm,1.8s
LON Longmire 89.84 43 P **P** **19 10 37.7 -1.5**
LON pmax pmax
comp=Z,33nm,1.8s
K05A Summer Lake 89.90 47 P **P** **19 10 39.7 -0.1**
K05A IAmb IAmb 19 10 41.9
comp=Z,15nm,1.0s
PINE Pine Mountain 90.02 46 P **P** **19 10 40.3 0.0**
PINE IAmb IAmb 19 10 42.4
comp=Z,11nm,0.8s
CHM Chimkent 90.33 312 *e*P **P** **19 10 41.3 -0.3**
baz=312
CHM Chimkent 90.33 312 *e*P **P** **19 10 41.2 -0.3**
PNTR Pine Nut 90.39 51 P **P** **19 10 40.8 -1.3**
WAKR Walker 90.44 51 P **P** **19 10 41.4 -1.0**
WAKR IAmb IAmb 19 10 45.1
comp=Z,9.4nm,1.0s
PAHR Pah Rah Range 90.63 50 P **P** **19 10 44.2 +1.0**
PAHR IAmb IAmb 19 10 45.5
comp=Z,13nm,0.9s
I07A Izee 91.08 46 IAmb IAmb 19 10 47.0
comp=Z,11nm,1.0s
EDW2 Edwards Air Fo 91.16 55 P **P** **19 10 46.5 +0.8**
baz=264,SNR=6.2
TIN Tinemaha, Big 91.22 53 P **P** **19 10 47.6 +1.8**
baz=264
CWC Cottonwood Cre 91.27 54 P **P** **19 10 47.1 +0.9**
baz=264
BVAR Borovoye Array 91.27 323 P **P** **19 10 44.6 -1.0**
comp=Z,24nm,0.8s,baz=102,slow=5.4,SNR=103
BVAR PKKPbc **PKKPdf** **19 28 07.5 +1.7**
comp=Z,0.3nm,0.6s,baz=348,slow=6.1,SNR=2.0
comp=Z,24nm,0.8s
NVAR Mina Array Bea 91.31 52 P **P** **19 10 48.1 +1.6**
comp=Z,23nm,0.9s,baz=253,slow=6.5,SNR=91
comp=Z,23nm,0.9s
BRVK Borovoye 91.34 323 P **P** **19 10 44.7 -1.2**
BRVK IAmb IAmb 19 10 45.7
comp=Z,12nm,0.8s
BRVK Borovoye 91.34 323*ce*P **P** **19 10 45.0 -0.9**
BRVK pmax pmax
comp=Z,18nm,1.0s
HAWA Hanford 91.35 44 P **P** **19 10 45.8 -0.3**
HAWA IAmb IAmb 19 10 48.0
comp=Z,12nm,0.8s
BFSC Mount Baldy Ra 91.37 56 P **P** **19 10 47.3 +0.6**
baz=264
KVN Kaiserville 91.54 51 IAmb IAmb 19 10 49.9
comp=Z,20nm,1.0s
PNT Penticton 91.66 41 P P 19 10 40.8 -6.7
PNT pmax pmax
comp=Z,29nm,0.9s
MURC Murrieta 91.68 57 P **P** **19 10 48.6 +0.6**
baz=264
109C Camp Elliot, M 91.69 57 P **P** **19 10 48.7 +0.8**
baz=264
MPMC Manual Prospec 91.70 54 P **P** **19 10 48.4 +0.1**
baz=264
GRAC Grapevine Rang 91.90 53 P **P** **19 10 49.4 +0.4**
baz=264
RRX Wilson Barstow 91.98 55 P **P** **19 10 50.0 +0.7**
baz=264
BBRC Big Bear Solar 91.98 56 P **P** **19 10 50.2 +0.6**
baz=264
GSC Goldstone, Bar 92.18 55 P **P** **19 10 51.2 +0.9**
baz=264
FURC Furnace Creek, 92.25 54 P **P** **19 10 51.8 +1.3**
baz=264,SNR=10
MONP2 Monument Peak 92.26 57 P **P** **19 10 52.2 +1.3**
baz=264,SNR=8.3
PFO Pinyon Flats O 92.30 57 P **P** **19 10 51.9 +0.9**
PFO Pinyon Flats O 92.30 57 P **P** **19 10 52.4 +1.4**
baz=264,SNR=7.1
PFO Pinyon Flats O 92.30 57 *i* P **P** **19 10 51.9 +0.9**
PFO pmax pmax
comp=Z,33nm,0.8s
PFO Pinyon Flats O 92.30 57 P **P** **19 10 52.8 +1.9**
comp=Z,18nm,0.8s,baz=283,slow=4.5,SNR=24
comp=Z,18nm,0.8s
TPFO Pinon Flats 92.30 57 P **P** **19 10 52.3 +1.3**
baz=264,SNR=6.9
C36M Paulatuk 92.43 21 P **P** **19 10 49.6 -1.0**
C36M IAmb IAmb 19 10 51.6
comp=Z,7.8nm,0.8s
C36M Paulatuk 92.43 21 P **P** **19 10 52.3 +1.8**
baz=260
IKP In-Ko-Pah, Jac 92.50 58 P **P** **19 10 52.6 +0.7**
baz=265
HEC Hector Ludlow 92.52 55 P **P** **19 10 53.2 +1.4**
baz=265,SNR=5.2
A36M Sachs Harbour 92.54 18 IAmb IAmb 19 10 52.2
comp=Z,13nm,0.9s
A36M Sachs Harbour 92.54 18 P **P** **19 10 52.8 +1.8**
baz=259
BELC Belle Mtn. Jos 92.72 56 P **P** **19 10 54.0 +1.1**
baz=265,SNR=8.3
BMO Blue Mountains 92.73 45 P **P** **19 10 50.9 -1.8**
BMO IAmb IAmb 19 10 54.2
comp=Z,8.7nm,1.1s
BMO Blue Mountains 92.73 45 P **P** **19 10 50.9 -1.8**
BMO pmax pmax
comp=Z,9.0nm,1.1s
TPNV Topopah Spring 92.78 53 P **P** **19 10 54.3 +1.1**
baz=265,SNR=11
SWSC Sam W. Stewart 92.78 57 P **P** **19 10 54.6 +1.5**
baz=265
TUQ Turquoise Moun 92.91 55 P **P** **19 10 55.1 +1.3**
baz=265
GMRC Granite Mounta 93.06 56 P **P** **19 10 55.6 +1.2**
baz=265
BC3 Big Chuckawall 93.14 57 P **P** **19 10 56.2 +1.4**
baz=265,SNR=8.4
NEW Newport 93.18 42 P **P** **19 10 53.0 -1.6**
NEW IAmb IAmb 19 10 55.9
comp=Z,9.7nm,0.9s
NEW Newport 93.18 42 P **P** **19 10 55.0 +0.4**
baz=265,SNR=9.8
NEW Newport 93.18 42 P **P** **19 10 54.9 +0.3**
comp=Z,10nm,0.9s,baz=232,slow=4.4,SNR=19
NEW LR LR 19 47 10.9
comp=Z,70nm,20.4s,baz=260,slow=32
comp=Z,10nm,0.9s
R11B Troy Canyon, C 93.43 52 P **P** **19 10 56.9 +0.7**
baz=265,SNR=18
IRM Iron Mountain 93.43 56 P **P** **19 10 57.5 +1.4**
baz=265,SNR=14
ELK Elko 93.89 50 P **P** **19 10 59.3 +1.0**
comp=Z,5.1nm,0.9s,baz=280,slow=6.4,SNR=15
ELK LR LR 19 51 16.2
comp=Z,28nm,18.7s,baz=278,slow=34
comp=Z,5.1nm,0.9s
NEE2 Needles Airpor 93.92 56 P **P** **19 10 59.3 +1.1**
baz=266
PDMCI Parker Dam,Lak 94.28 56 P **P** **19 11 01.1 +1.2**
baz=266,SNR=5.3
HLID Hailey 94.70 47 P **P** **19 11 03.0 +1.2**
baz=266,SNR=7.4
214A Organ Pipe Nat 95.23 59 P **P** **19 11 05.1 +0.8**
baz=266
MSO Missoula 95.23 44 P **P** **19 11 05.6 +1.5**
baz=267
YKA Yellowknife Ar 95.55 28 P **P** **19 11 05.7 +0.7**
comp=Z,2.8nm,0.8s,baz=268,slow=4.8,SNR=31
YKA PKKPbc **PKKPdf** **19 27 54.5 -3.8**
comp=Z,0.5nm,0.6s,baz=86,slow=2.6,SNR=11
comp=Z,2.8nm,0.8s
DUG Dugway, Tooele 95.70 50 IAmb IAmb 19 11 08.6
comp=Z,7.3nm,1.3s
DUG Dugway, Tooele 95.70 50 P **P** **19 11 07.0 +0.5**
baz=267
HVU Hansel Valley 95.81 49 IAmb IAmb 19 11 08.8
comp=Z,8.5nm,0.8s
ELIB Princess Elisa 96.15 194 *d*P **P** **19 11 07.7 -0.1**
comp=Z,6.1nm,0.8s
ELIB *dp*P **pP** **19 11 46.1 -2.4**
WUAZ Wupatki 96.62 55 P **P** **19 11 11.6 +0.9**
baz=267,SNR=6.4
BOZ Bozeman (W) 96.78 45 P **P** **19 11 11.6 +0.4**
baz=268
TUC Tucson 96.96 58 P **P** **19 11 13.0 +0.7**
baz=267
H17A Grant Village 97.50 46 P Pdif 19 11 16.2 +1.5
baz=269
EGMT Eagleton 98.10 42 P Pdif 19 11 18.0 +0.9
baz=270
BW06 Boulder Array 98.22 48 P Pdif 19 11 18.3 +0.4
baz=270
PD31 Pinedale Array 98.22 48 IAmb IAmb 19 11 18.7
comp=Z,3.4nm,0.7s
PDAR Pinedale Array 98.22 48 P Pdif 19 11 18.0 +0.1
comp=Z,3.6nm,0.6s,baz=236,slow=2.4,SNR=44
PDAR PKKPbc **PKKPbc** **19 27 47.8 -3.0**
comp=Z,0.4nm,0.5s,baz=110,slow=4.3,SNR=3.7
PDAR LR LR 19 49 33.3
comp=Z,37nm,20.2s,baz=286,slow=32
comp=Z,3.6nm,0.6s
ARU Arti 98.30 326 P **P** **19 11 14.8 -2.8**
ARU IAmb IAmb 19 11 16.5
comp=Z,5.7nm,0.8s
ARU Arti 98.30 326*c i*P **P** **19 11 15.6 -2.0**
ARU 19 15 19.3
ARU S **SKSac** **19 21 37.2 -2.1**
ARU SS **SS** **19 29 14.0 -4.2**
ARU pmax pmax
comp=Z,6.0nm,0.8s
RLMT Red Lodge 98.44 45 P Pdif 19 11 20.2 +1.4
baz=270
MVCO Mesa Verde 98.98 53 P Pdif 19 11 23.0 +1.5
baz=269
O20A White River Ci 99.20 50 P **Pdif** **19 11 23.6 +1.3**
baz=270
TROLL Troll, Antarti 100.12 188⇑ Pdiff **Pdif** **19 11 25.4 -0.2**
comp=Z,144nm,0.7s
S22A 4UR Ranch, Cre 100.31 53 P **Pdif** **19 11 28.6 +1.2**
baz=270
K22A Casper 100.46 48 P **Pdif** **19 11 28.6 +0.8**
baz=272
LAO LASA Array 100.53 44 P **Pdif** **19 11 29.3 +1.5**
baz=272
ANMO Albuquerque 100.63 56 P **Pdif** **19 11 29.4 +0.7**
baz=270
ANMO Albuquerque 100.63 56 P **Pdif** **19 11 27.2 -1.5**
comp=Z,1.3nm,0.8s,baz=351,slow=6.0,SNR=5.0
N23A Red Feather La 100.94 50 P **Pdif** **19 11 30.8 +0.7**
baz=272
SNAA Sanae 101.15 187⇑ Pdiff **Pdif** **19 11 35.2 +5.1**
comp=Z,33nm,0.6s
ISCO Idaho Springs 101.23 51 P **Pdif** **19 11 31.7 +0.3**
baz=272
SDCO Great Sand Dun 101.37 53 P **Pdif** **19 11 32.5 +0.4**
baz=271
MNTX Cornudas Mount 101.54 59 P **Pdif** **19 11 33.3 +0.7**
baz=270
Q24A Divide 101.61 52 P **Pdif** **19 11 33.5 +0.4**
baz=272
DGMT Dagmar 101.79 42 P **Pdif** **19 11 33.8 +0.4**
baz=274
RSSD Black Hills 102.21 46 P **Pdif** **19 11 36.1 +0.5**
baz=274
TXAR Lajitas Array 103.03 61 Pdiff **Pdif** **19 11 43.9 +4.4**
comp=Z,0.2nm,0.5s,baz=238,slow=4.3,SNR=4.1
TXAR PKKPbc **PKKPbc** **19 27 34.7 -1.6**
comp=Z,0.8nm,0.8s,baz=117,slow=2.7,SNR=9.5
833A Chaparral WMA, 106.80 62 P **PKiKP** **19 16 05.2 -0.3**
baz=272
ECSD EROS Data Cent 107.58 46 P **PKiKP** **19 16 06.6 +0.1**
baz=279
WHTX Lake Whitney, 108.27 58 P **PKiKP** **19 16 08.1 0.0**
baz=274
ARCES ARCESS Array B 108.50 343 Pdiff **Pdif** **19 11 58.8 -3.9**
comp=Z,1.8nm,0.9s,baz=50,slow=8.0,SNR=4.7
ARCES PKiKP **PKiKP** **19 16 06.9 -0.6**
comp=Z,2.0nm,0.9s,baz=90,slow=0.4,SNR=4.7
TUL3 Leonard 109.26 54 P **PKiKP** **19 16 10.2 +0.3**
baz=277
MIAR Mount Ida 111.23 55 P **PKiKP** **19 16 13.9 +0.2**
baz=278
JFWS Jewell Farm 112.29 46 P **PKiKP** **19 16 15.8 +0.4**
baz=283
CCM Cathedral Cave 112.54 51 P **PKiKP** **19 16 16.3 +0.3**
baz=280
FINES FINESS Array B 112.85 336 Pdiff **Pdif** **19 12 20.8 -1.4**
comp=Z,2.9nm,1.1s,baz=98,slow=3.9,SNR=4.0
FINES PKiKP **PKiKP** **19 16 15.0 -0.9**
comp=Z,1.6nm,0.8s,baz=127,slow=1.0,SNR=4.5
FINES PKKPbc **PKKPbc** **19 27 03.8 -2.6**
comp=Z,0.7nm,0.8s,baz=236,slow=2.1,SNR=3.9
OXF Oxford 114.64 55 P **PKiKP** **19 16 20.4 +0.2**
baz=280
WVT Waverly 115.59 53 P **PKPdf** **19 16 21.4 -0.5**
baz=282
GLMI Grayling 115.70 43 P **PKPdf** **19 16 21.9 0.0**
baz=288
WCI Wyandotte Cave 116.32 50 P **PKPdf** **19 16 23.1 -0.2**
baz=284
AKASG Malin Array Be 116.50 325 PKP **PKPdf** **19 16 21.3 -1.9**
comp=Z,1.8nm,0.6s,baz=56,slow=2.1,SNR=6.2
O48B Farmland 116.66 48 P **PKPdf** **19 16 23.7 -0.2**
baz=286
LRAL Lakeview Retre 116.88 56 P **PKPdf** **19 16 24.1 -0.4**
baz=281
BRAL Brewton 117.17 58 P **PKPdf** **19 16 24.8 -0.3**
baz=280
P49A Miami Univ. Ec 117.18 48 P **PKPdf** **19 16 24.7 -0.2**
baz=286
BRTR Keskin Array B 117.45 312 PKP **PKPdf** **19 16 24.2 -1.4**
comp=Z,1.0nm,0.8s,baz=190,slow=2.8,SNR=6.1
BRTR PKKPbc **PKKPbc** **19 26 49.6 -0.4**
comp=Z,0.7nm,0.7s,baz=261,slow=2.3,SNR=4.4
MMAI Mount Meron Ar 117.68 304 PKP **PKPdf** **19 16 25.3 -0.9**
comp=Z,0.2nm,0.2s,baz=27,slow=13,SNR=1.5
PLCA Paso Flores 117.74 142 PKP **PKPdf** **19 16 25.3 -0.8**
comp=Z,1.3nm,0.8s,baz=280,slow=2.5,SNR=3.9
ACSO Alum Creek Sta 118.26 47 P **PKPdf** **19 16 27.0 +0.1**
baz=288
HFS Hagfors 118.41 339 PKP **PKPdf** **19 16 25.4 -1.2**
comp=Z,4.2nm,1.0s,baz=24,slow=1.8,SNR=4.7
NB2 NORSAR Subarra 118.61 341 PKPdf **PKPdf** **19 16 26.3 -0.7**
comp=Z,2.7nm,0.9s,baz=39,slow=1.7
NOA NORSAR Array B 118.61 341 PKP **PKPdf** **19 16 25.7 -1.3**
comp=Z,0.7nm,0.7s,baz=44,slow=2.0,SNR=4.9
TZTN Tazewell 118.86 51 P **PKPdf** **19 16 28.3 +0.1**
baz=285
P52A Corning 119.06 48 P **PKPdf** **19 16 28.1 -0.4**
baz=288
M53A WI Miller and 119.53 45 P **PKPdf** **19 16 29.2 -0.2**
baz=290
O53A New Philadelph 119.54 47 P **PKPdf** **19 16 29.3 -0.1**
baz=289
GOGA Godfrey 119.69 55 P **PKPdf** **19 16 29.8 -0.1**
baz=284
ERPA Erie 119.78 44 P **PKPdf** **19 16 29.9 +0.1**
baz=291
TIGA Tifton 120.03 57 P **PKiKP** **19 16 30.8 +0.1**
baz=282
KONO Kongsberg 120.18 340*c i*PKIKP **PKiKP** **19 16 30.6 +0.5**
KONO pmax pmax
comp=Z,26nm,1.7s
BOSA Boshof 120.43 232 PKP **PKPdf** **19 16 31.3 -0.4**
comp=Z,3.6nm,0.5s,baz=128,slow=1.7,SNR=21
MCWV Mont Chateau 120.72 47 P **PKiKP** **19 16 31.9 +0.1**
baz=290
KMSC Kings Mountain 120.97 52 P **PKPdf** **19 16 32.4 +0.1**
baz=286
BLA Blacksburg 121.08 50 P **PKPdf** **19 16 32.4 -0.1**
baz=288

KOLS	Kolonicke sedl	121.31	325	*e*PKP	PKiKP	19 16 33.2	+0.5
KOLS	Kolonicke sedl	121.31	325	*e*PKiKP	PKiKP	19 16 33.2	+0.5
SSPA	Standing Stone baz=292	121.79	45	P	PKPdf	19 16 33.7	0.0
LONY	Lake Ozonia baz=297	122.38	40	P	PKiKP	19 16 35.0	0.0
NHSC	New Hope baz=286	122.44	54	P	PKPdf	19 16 34.9	-0.2
BINY	Binghamton baz=294	122.50	43	P	PKPdf	19 16 34.5	-0.5
DWPF	Disney Wildern baz=282	122.55	60	P	PKPdf	19 16 34.4	-1.2
LANS	Liptovska Anna	122.76	327	*e*PKP	PKiKP	19 16 36.6	+1.0
LANS	Liptovska Anna	122.76	327	*e*PKiKP	PKiKP	19 16 36.6	+1.0
CBN	Corbin Frederi baz=291	123.03	48	P	PKPdf	19 16 35.5	-0.7
MORC	Moravsky Berou	123.43	328	*e*PKP	PKPdf	19 16 36.7	0.0
CNNC	Cliffs of the baz=288	123.63	51	P	PKPdf	19 16 36.8	-0.6
KRLC	Kraliky	123.65	329	*e*PKPDF	PKPdf	19 16 36.9	-0.2
KRLC	Kraliky	123.65	329	*e*PKiKP	PKPdf	19 16 36.9	-0.2
DPC	Dobruska-Polom	123.72	329	*e*PKPDF	PKPdf	19 16 37.1	-0.1
DPC	Dobruska-Polom	123.72	329	*e*PKiKP	PKPdf	19 16 37.1	-0.1
JAVC	Velka Javorina	123.90	327	*e*PKP	PKiKP	19 16 39.2	+1.3
VRAC	Vranov	124.21	328	*e*PKP	PKPdf	19 16 38.2	+0.1
LBNH	Lisbon baz=299	124.24	39	P	PKPdf	19 16 37.8	-0.5
PAL	Palisades baz=295	124.41	43	P	PKPdf	19 16 37.9	-0.8
KRUC	Moravsky	124.46	328	*e*PKP	PKPdf	19 16 38.8	+0.2
BRG	Berggiesshubel comp=Z,4.0nm,0.9s	124.58	331	Amp		19 16 26.5	
BRG	Berggiesshubel	124.58	331	*e*PKP	PKPdf	19 16 24.4	-14
L61B	Northampton baz=297	124.59	41	P	PKPdf	19 16 39.0	0.0
CLL	Collm	124.74	332	*e*PP	PP	19 18 31.0	+2.9
CLL	Collm	124.74	332	*i* PKiKP	PKPdf	19 16 39.1	+0.1
CLL	comp=Z,5.0nm,0.9s			pmax	pmax		
CLL	Collm comp=Z,5.0nm,0.9s	124.74	332	*i* PKPdf	PKPdf	19 16 39.1	+0.1
HRV	Adam Dziewonsk baz=298	125.30	41	P	PKPdf	19 16 40.1	-0.3
RONA	Rosalia, Austr comp=Z,3.6nm,0.9s	125.32	327	*i* PKP	PKPdf	19 16 40.6	+0.2
ZVC	Zvikov	125.37	329	*e*PKPDF	PKiKP	19 16 40.7	0.0
CONA	Conrad Observa comp=Z,2.5nm,0.8s	125.42	327	*e*PKP	PKPdf	19 16 40.8	+0.3
CKRC	Cesky Krumlov	125.70	329	*e*PKPDF	PKPdf	19 16 41.1	+0.1
CKRC	Cesky Krumlov	125.70	329	*e*PKiKP	PKPdf	19 16 41.1	+0.1
KHC	Kasperske Hory	125.87	329	PKPdf	PKiKP	19 16 41.7	0.0
KHC	Kasperske Hory	125.87	329	*e*PKPDF	PKPdf	19 16 41.3	-0.1
KHC	Kasperske Hory	125.87	329*c*	*i* PKiKP	PKiKP	19 16 42.2	+0.4
KHC	comp=Z,32nm,2.5s			pmax	pmax		
GERES	GERESS Array B comp=Z,3.0nm,0.7s,baz=33,slow=3.2,SNR=12	125.99	329	PKP	PKPdf	19 16 41.4	-0.3
MOA	Molln comp=Z,2.4nm,0.9s	126.32	328	*i* PKP	PKPdf	19 16 42.1	-0.2
SOKA	Soboth comp=Z,8.0nm,1.3s	126.62	326	*i* PKP	PKPdf	19 16 42.8	-0.2
OBKA	Obir comp=Z,8.0nm,1.1s	126.99	326	*e*PKP	PKPdf	19 16 43.1	-0.5
LESA	Schwarzleotal comp=Z,3.4nm,0.6s	127.43	328	*i* PKP	PKPdf	19 16 44.3	-0.1
EKA	Eskdalemuir Ar comp=Z,4.4nm,1.1s,baz=47,slow=4.2,SNR=2.3	127.64	344	PKP	PKPdf	19 16 44.1	-0.4
WATA	Walderalm comp=Z,4.9nm,0.9s	128.06	329	*i* PKP	PKPdf	19 16 45.7	0.0
WTTA	Wattenberg comp=Z,9.7nm,1.0s	128.07	329	*i* PKiKP	PKPdf	19 16 46.1	+0.3
MOTA	Moosalm comp=Z,4.4nm,0.7s	128.29	329	*e*PKP	PKPdf	19 16 46.3	+0.1
SQTA	Sankt Quirin comp=Z,7.2nm,0.9s	128.32	329	*i* PKP	PKPdf	19 16 46.4	+0.2
FETA	Feichten comp=Z,5.9nm,0.9s	128.70	329	*e*PKP	PKPdf	19 16 47.2	+0.2
DAVA	Damuels comp=Z,4.2nm,0.8s	128.95	330	*e*PKiKP	PKiKP	19 16 48.6	+0.5
ROSC	El Rosal comp=Z,5.9nm,0.4s,baz=145,slow=23,SNR=4.5	131.21	89	PKP	PKPdf	19 16 53.1	+0.1
CPUP	Villa Florida	135.36	137	PKiKP	PKPdf	19 17 00.0	0.0
CPUP	Villa Florida comp=Z,3.9nm,1.0s,baz=232,slow=0.8,SNR=4.5	135.36	137	PKP	PKPdf	19 16 60.0	0.0
ESDC	Sonseca Array comp=Z,0.9nm,1.0s,baz=24,slow=2.5,SNR=4.9	141.29	333	PKP	PKPdf	19 17 07.7	-2.8
POLO	Lamas de Olo	141.40	339	*e*PKPdf	PKPdf	19 17 05.5	-5.2
PVIS	Viseu	142.02	338	*e*PKPdf	PKPdf	19 17 07.0	-4.8
PCBR	Castelo Branco	142.62	337	*e*PKPdf	PKPdf	19 17 09.2	-3.6
PCAS	Casmilo, Conde	142.82	338	*e*PKPdf	PKPdf	19 17 13.1	-0.1
PMRV	Marv??o	142.94	337	*e*PKPdf	PKPdf	19 17 10.1	-3.3
PSBE	So Bento	143.40	338	*e*PKPdf	PKPbc	19 17 12.0	+0.2
PESTR	Estremoz	143.50	336	*e*PKPdf	PKPab	19 17 11.6	+0.5
MACA	Manacapuru-AM	143.54	103	PKPdf	PKPbc	19 17 12.8	-0.2
PMTG	Montargil	143.58	337	*e*PKPdf	PKPab	19 17 11.8	+0.5
PBAR	Barrancos	143.87	335	*e*PKPdf	PKPbc	19 17 13.7	+0.5
EVO	Evora	143.96	337	*e*PKPdf	PKPbc	19 17 13.3	-0.2
PBEJ	Beja	144.34	336	*e*PKPdf	PKPbc	19 17 14.5	-0.1
PNCL	Nicolau / Gran	144.53	337	*e*PKPdf	PKPbc	19 17 15.6	+0.4
MESJ	Messejana	144.64	336	*e*PKPdf	PKPdf	19 17 16.1	-0.3
MESJ	Messejana	144.64	336	*e*PKP	PKPdf	19 17 16.1	-0.3
BOAV	Boa Vista	144.72	94	PKPdf	PKPab	19 17 16.5	0.0
PCVE	Castro Verde	144.74	336	*e*PKPdf	PKPdf	19 17 16.3	-0.3
PTEO	Sao Teotonio	145.09	337	*e*PKPdf	PKPbc	19 17 16.8	-0.2
MORF	Marmelete	145.27	336	*e*PKPdf	PKPab	19 17 18.9	+1.0
BDFB	Brasilia comp=Z,7.5nm,0.6s,baz=190,slow=4.0,SNR=11	148.93	134	PKP	PKPdf	19 17 24.6	+0.3
BDFB				PKPbc	PKPbc	19 17 28.0	-0.5
TOA0	comp=Z,7.5nm,0.6s,baz=206,slow=5.8,SNR=11 Torodi Ar. Sit	152.44	287		PKPbc	19 17 36.5	-0.1
TORD	Torodi Ar. Bea comp=Z,1.2nm,0.6s,baz=34,slow=2.4,SNR=8.4	152.44	287	PKP	PKPdf	19 17 28.6	-1.0
TORD				PKPbc	PKPbc	19 17 35.9	-0.7
DBIC	comp=Z,5.8nm,0.5s,baz=80,slow=2.5,SNR=54 Dimbokro comp=Z,5.7nm,0.7s,baz=95,slow=4.5,SNR=11	159.65	273	PKPab	PKPab	19 18 18.4	-0.1

TAP 17 19:05:40.3, 22.79N×120.94E, h32km±1km, ML1.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWG	Pinlang baz=79	0.13	77	*e*P	Pb	19 05 46.7	+0.6
TWG				*e*S	Sb	19 05 50.7	+0.6
TWGBT	Beinan baz=79	0.13	79	P	Pn	19 05 46.3	+0.1
TWGBT				S	Sb	19 05 50.5	+0.4
LONT	Longtian baz=57	0.21	57	P	Pn	19 05 47.6	+0.3
TSMG	Majia baz=252	0.28	252	P	Pn	19 05 48.6	+0.3
TSMG				S	Sn	19 05 53.7	+0.2
SSD	Sandimen baz=259	0.29	261	*e*P	Pn	19 05 49.3	+1.0
SSD				*e*S	Sn	19 05 53.8	+0.3
MASBT	Mashibuluo baz=237	0.34	238	P	Pn	19 05 49.0	0.0
MASBT				S	Sn	19 05 55.0	+0.2
SLGT	Liugui baz=306	0.34	307	*e*P	Pn	19 05 50.7	+1.7
SLGT				*e*S	Sn	19 05 55.0	+0.1
ELDTW	Lidau baz=11	0.40	10	P	Pn	19 05 49.8	-0.3
STYH	Taoyuan baz=339	0.41	338	P	Pn	19 05 50.7	+0.7
STYH				*e*S	Sn	19 05 57.0	+0.6
STYT	Tauyuan baz=336	0.41	336	P	Pn	19 05 50.6	+0.6
STYT				*e*S	Sn	19 05 56.9	+0.3
SCST	Cishan baz=282	0.42	283	*e*P	Pn	19 05 51.0	+0.9
SCST				*e*S	Sb	19 05 56.3	+0.2
EHD	Haiduan baz=34	0.43	35	*e*P	Pn	19 05 51.0	+0.6
EHD				*e*S	Sn	19 05 56.9	-0.3
SGST	Jiashian baz=311	0.44	311	P	Pn	19 05 50.4	-0.1
WTP	Ta-pu baz=326	0.54	326	P	Pn	19 05 52.0	+0.1
WTP				*e*S	Sn	19 06 00.3	+0.4
CHN1	Nanshi baz=315	0.54	316	P	Pn	19 05 52.1	+0.2
TPUB	Ta-pu baz=330	0.58	331	*i* P	Pb	19 05 52.1	-0.1
TPUB	Ta-pu	0.58	331	P	Pb	19 05 51.7	-0.5
SNST	Tainan City baz=316	0.59	316	P	Pn	19 05 52.4	-0.1
TWK	Hsinying baz=319	0.63	319	P	Pb	19 05 52.8	-0.2
CHN4	Tsaushan baz=330	0.64	330	P	Pb	19 05 52.7	-0.5
WCKO	Fanlu baz=334	0.71	334	*e*P	Pn	19 05 53.2	-1.0

ROM 17 19:14:21.4±0.1, 43.124N±0.003×13.104E±0.005, h10km, ML1.8/34, 6C-5D, Error ellipse: s-maj=0.4km s-min=0.1km az=70.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDAR	Monte D'Aria	0.07	22	P	Pg	19 14 24.1	+0.3
MDAR				S	Sg	19 14 25.7	+0.2
MDAR	comp=N,1092μm,0.5s			AML	AML		
MDAR	comp=E,1610μm,0.2s			AML	AML		
MDAR	comp=N,1094μm,0.5s			AML	AML		
CSP1	Cessapalombo	0.08	114	↑P	Pg	19 14 24.2	+0.3
CSP1				S	Sg	19 14 25.9	+0.2
CSP1	comp=E,546μm,0.7s			AML	AML		
CSP1	comp=N,318μm,0.1s			AML	AML		
CSP1	comp=E,545μm,0.7s			AML	AML		
CSP1	comp=N,318μm,1.9s			AML	AML		
FDMO	Fiordimonte	0.09	188	P	Pg	19 14 24.2	+0.3
FDMO				S	Sg	19 14 26.1	+0.4
FDMO	comp=E,927μm,0.3s			AML	AML		
FDMO	comp=N,808μm,0.2s			AML	AML		
FDMO	comp=N,808μm,0.2s			AML	AML		
GAG1	Gagliole	0.12	347	↑P	Pg	19 14 24.9	+0.6
GAG1				S	Sg	19 14 27.3	+0.9
SEF1	Sefro	0.12	281	P	Pg	19 14 24.8	+0.6
FEMA	Monte Fema	0.17	194	P	Pg	19 14 25.7	+0.6
SNTG	Esanatoglia	0.18	318	↓P	Pg	19 14 25.8	+0.5
SNTG				S	Sg	19 14 29.0	+1.1
SNTG	comp=N,280μm,1.2s			AML	AML		
SNTG	comp=E,254μm,1.2s			AML	AML		
SNTG	comp=N,291μm,0.2s			AML	AML		
SNTG	comp=E,286μm,0.3s			AML	AML		
GUMA	Gualdo di Mace	0.18	110	↑P	Pg	19 14 26.0	+0.7
GUMA				S	Sg	19 14 29.3	+1.4
GUMA	comp=E,1095μm,0.2s			AML	AML		
GUMA	comp=N,1082μm,1.6s			AML	AML		
GUMA	comp=E,1500μm,0.2s			AML	AML		
GUMA	comp=N,835μm,0.2s			AML	AML		
GUMA	comp=N,1082μm,0.4s			AML	AML		
CESI	CESI - Serrava	0.19	231	↑P	Pg	19 14 26.1	+0.7
CESI				S	Sg	19 14 29.6	+1.4
CESI	comp=E,212μm,1.3s			AML	AML		
CESI	comp=N,240μm,0.6s			AML	AML		
CESI	comp=E,212μm,0.7s			AML	AML		
EL6	Elcito	0.20	359	↓P	Pg	19 14 26.2	+0.4
EL6				S	Sg	19 14 29.9	+1.1
EL6	comp=E,292μm,0.2s			AML	AML		
EL6	comp=N,276μm,0.5s			AML	AML		
EL6	comp=E,292μm,0.2s			AML	AML		
EL6	comp=N,277μm,0.5s			AML	AML		
MC2	Monte Cornacci	0.22	163	↓P	Pg	19 14 26.5	+0.4
MC2				S	Sg	19 14 31.1	+1.8
CING	Cingoli	0.26	15	↓P	Pg	19 14 27.2	+0.5
CING				S	Sg	19 14 31.5	+1.2
CING	comp=E,279μm,0.6s			AML	AML		
CING	comp=N,254μm,0.2s			AML	AML		
CING	comp=E,279μm,1.4s			AML	AML		
MNTP	Montappone	0.27	87	P	Pb	19 14 27.9	-0.4
MMO1	Montemonaco	0.28	144	P	Pg	19 14 27.4	+0.3
MMO1				S	Sg	19 14 31.9	+1.1
NRCA	Norcia	0.29	179	↓P	Pg	19 14 27.6	+0.3
NRCA				S	Sb	19 14 32.6	-1.1
NRCA	comp=E,334μm,1.6s			AML	AML		
NRCA	comp=E,334μm,0.4s			AML	AML		
NRCA	comp=N,246μm,1.4s			AML	AML		
MF5	Montefalcone A	0.29	117	↑P	Pb	19 14 28.3	-0.6
MF5				S	Sb	19 14 33.5	-0.3
FOSV	Fossato di Vic	0.30	304	P	Pg	19 14 28.1	+0.5
FOSV				S	Sb	19 14 33.2	-0.9
SSFR	Montelago di S	0.39	323	↑P	Pg	19 14 29.6	+0.5
SSFR				S	Sb	19 14 36.4	-0.2
SSFR	comp=E,290μm,1.3s			AML	AML		
SSFR	comp=N,278μm,0.2s			AML	AML		
SSFR	comp=N,426μm,0.8s			AML	AML		
SSFR	comp=E,290μm,0.7s			AML	AML		
SSFR	comp=E,341μm,0.7s			AML	AML		
GAVE	Gavelli	0.46	200	P	Pg	19 14 30.8	+0.4
GAVE				S	Sb	19 14 37.8	-0.8
GAVE	comp=E,150μm,0.2s			AML	AML		
GAVE	comp=N,139μm,1.6s			AML	AML		
GAVE	comp=N,139μm,0.4s			AML	AML		

IDC 17 19:16:39.3±5.8, 6.22S×146.69E, h196km±64km, mb2.8/2, mbtmp3.4/4, Error ellipse: s-maj=101.1km s-min=31.0km az=133.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby 5.1nm,0.4s,baz=295,slow=16,SNR=12	3.20	172	P	Pn	19 17 29.2	-1.9
PMG	1.8nm,0.3s,baz=230,slow=23,SNR=1.1			S	Sn	19 18 13.4	+1.6
WRA	Warramunga Arr 0.4nm,0.4s,baz=47,slow=12,SNR=12	18.17	220	P	P	19 20 37.5	+0.1
ASAR	Alice Springs 0.4nm,0.6s,baz=48,slow=8.3,SNR=5.3 0.4nm,0.6s	21.27	214	P	P	19 21 10.3	-0.2
ILAR	Eielson Array 0.6nm,1.1s,baz=232,slow=4.4,SNR=2.5 0.6nm,1.1s	85.80	23	P	P	19 28 56.8	+0.5

CATAC 17 19:32:07.1±0.9, 8.65N×82.75W, h18km±3km, ML2.4

UPA 17 19:32:08.0±0.7, 8.68N×82.71W, h21km±3km, MD3.0, ML3.4, MW3.4

ISC 17 19:32:07.5±0.9, 8.69N±0.03×82.73W±0.03, h29km±5km, n24, σ0.51/43, 6C-6D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRU2	Volcan	0.11	19	↑*i*P	Pb	19 32 12.9	-0.1
BRU2	comp=Z,14μm,0.1s			AMP		19 32 13.0	
BRU2				*i* S	Sb	19 32 16.4	-0.3
BRU2	Volcan	0.11	19	*i* P	Pb	19 32 12.9	-0.1
BRU2	comp=Z,3μm,1.0s			IAML		19 32 13.0	
BRU2				*i* S	Sb	19 32 16.7	0.0
MLIR3	Monte Lirio, C	0.14	318	↑*i*P	Pb	19 32 13.3	+0.1
MLIR3				*i* S	Sb	19 32 17.9	+0.9
BC3P	Paso Ancho	0.17	42	↑*i*P	Pb	19 32 13.6	0.0
BC3P				*i* S	Sb	19 32 17.4	-0.3
CDITO	Canoas	0.18	232	*i* P	Pb	19 32 12.5	-0.9
CDITO				*i* S	Sb	19 32 16.3	-1.1
CDITO	comp=Z,1μm,1.0s			IAML		19 32 19.2	
BCO2	Palmira	0.20	81	↓*i*P	Pb	19 32 13.9	+0.1
BCO2	comp=Z,15μm,0.1s			AMP		19 32 16.4	
BCO2				*i* S	Sb	19 32 17.9	-0.2
CTCR	Cotoan	0.21	352	*i* P	Pb	19 32 14.0	0.0
CTCR	comp=Z,2μm,1.0s			IAML		19 32 21.6	
PTAR3	Potrerillos Ar	0.23	88	↓*i*P	Pb	19 32 14.3	+0.2
PTAR3				*i* S	Sb	19 32 18.9	+0.3
LNBQ3	Los Naranjos,	0.30	70	↑*i*P	Pb	19 32 14.8	-0.2
LNBQ3				*i* S	Sb	19 32 19.8	-0.3
DVD	David	0.37	132	↓*e*P	Pb	19 32 15.9	0.0
DVD				*e*S	Sb	19 32 21.4	-0.1
LOCO3	Loma Colorada,	0.41	132	↓*e*P	Pb	19 32 16.1	-0.4
LOCO3				*i* S	Sb	19 32 22.8	+0.2
PEDE3	Pedregal, Chir	0.43	135	↑*e*P	Pb	19 32 16.6	-0.1
PEDE3				*i* S	Sb	19 32 23.1	+0.1
GUAL3	Gualaca, Chiri	0.45	110	↓*e*P	Pb	19 32 17.1	0.0
GUAL3				*i* S	Sb	19 32 23.8	+0.1
PTPM	Petroterminale	0.50	197	↓*i*P	Pb	19 32 17.7	-0.3
PTPM	comp=Z,760nm,0.2s			AMP		19 32 18.3	
PTPM				*i* S	Sb	19 32 25.8	+0.7
POTG	Potrero Grande	0.53	313	*i* P	Pb	19 32 18.7	+0.2
POTG				*i* S	Sn	19 32 27.1	-0.2
POTG	comp=Z,520nm,1.0s			IAML		19 32 30.7	
CHGR2	Aguacate	0.63	66	↑*e*P	Pb	19 32 19.9	-0.1
CHGR2				*i* S	Sb	19 32 28.7	+0.1
CNI2	El Empalme, Bo	0.78	19	*e*P	Pb	19 32 20.9	-1.6
SRBA	San Rafael, Bu	0.83	311	*i* P	Pb	19 32 23.6	+0.1
SRBA				*i* S	Sb	19 32 34.8	+0.5
SRBA	comp=Z,130nm,1.0s			IAML		19 32 36.1	
OCHAL	Ojochal	0.99	294	*i* P	Pb	19 32 25.1	-1.1
OCHAL	comp=Z,2.9nm,1.0s			IAML		19 32 25.9	
NANC3	Nancito, Chiri	1.08	114	*e*P	Pn	19 32 27.1	+0.3
NANC3				*i* S	Sb	19 32 41.4	0.0
CDM	Cerro de Muert	1.34	310	*i* P	Pn	19 32 30.6	-0.1
CDM	comp=Z,55nm,1.0s			IAML		19 32 31.5	
CDM				*i* S	Sb	19 32 50.0	+0.8
GMAL	Guarumal, Vera	1.74	122	*e*P	Pn	19 32 35.7	-0.1
GMAL				*e*S	Sn	19 32 57.0	-0.1
AZU	Azuero	2.59	110	*e*P	Pn	19 32 48.1	+0.6
JTS	Las Juntas de	2.71	306	*e*P	Pn	19 32 50.0	+0.7

NEIC 17 19:49:10.2±1.9, 18.38S±0.08×71.16W±0.1, h48km±10km, mb4.2/8, Error ellipse: s-maj=20.1km s-min=9.1km az=110.0

GUC 17 19:49:10.4±0.7, 18.44S×71.41W, h32km±3km, ML3.9

IDC 17 19:49:13.7±3.5, 18.32S×71.25W, h59km±33km, mb3.6/9, mbtmp3.9/11, ML4.1/2, MS3.1/5, Error ellipse: s-maj=24.7km s-min=22.2km az=85.0

ISC 17 19:49:11.4±1.2, 18.39S±0.05×71.41W±0.07, h51km±11km, n80, σ1.65/76, mb4.0/12, 6C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AP01	Chacalluta	1.01	89		Pn	19 49 28.5	-0.8
AP01	Chacalluta	1.01	89	*e*P	Pn	19 49 28.6	-0.8
AP01				*e*S	Sn	19 49 41.9	-0.7
AP01	comp=E,13μm,0.3s			IAML		19 49 45.2	
PB12	IPOC Station P	1.05	103		Pn	19 49 28.6	-1.4
PB12	IPOC Station P	1.05	103	↑*i*P	Pn	19 49 29.1	-0.9
PB12				*e*S	Sn	19 49 42.6	-1.0
PB12	comp=N,3μm,0.5s			IAML		19 49 44.4	
PB16	IPOC Station P	1.81	89	P	Pn	19 49 40.9	+0.3
PB16	IPOC Station P	1.81	89	↑*i*P	Pn	19 49 41.0	+0.3
PB16				*e*S	Sn	19 50 04.4	+1.7
PB16	comp=N,2μm,0.4s			IAML		19 50 07.2	
PB18	Visviri	2.00	67	Pn	Pn	19 49 45.3	+2.0
PB18	Visviri	2.00	67	*e*P	Pn	19 49 45.5	+2.2
PB18				*e*S	Sn	19 50 11.7	+4.3
PB18	comp=N,3μm,0.7s			IAML		19 50 21.6	
PB11	IPOC Station P	2.15	130		Pn	19 49 45.4	+0.4
PB11	IPOC Station P	2.15	130	↑*i*P	Pn	19 49 45.8	+0.8
PB11				*e*S	Sn	19 50 12.5	+1.8
PB11	comp=E,2μm,0.4s			IAML		19 50 20.6	
TA02	Huaiquique	2.23	147		Pn	19 49 46.8	+0.8
TA02	Huaiquique	2.23	147	*e*P	Pn	19 49 46.6	+0.7
TA02				*e*S	Sn	19 50 14.2	+1.9
TA02	comp=N,1μm,0.1s			IAML		19 50 16.2	
HMBC	Humberstone	2.37	143	↑*i*P	Pn	19 49 48.9	+0.9
HMBC	comp=N,865nm,0.4s			IAML		19 50 21.7	
GO01	Chusmiza	2.45	122		Pn	19 49 50.6	+1.1
GO01	Chusmiza	2.45	122	*e*P	Pn	19 49 50.9	+1.4
GO01				*e*S	Sn	19 50 22.5	+4.0
GO01	comp=E,1μm,0.3s			IAML		19 50 28.3	
TA01	Diego Aracena	2.46	152	Pn	Pn	19 49 49.5	+0.4
TA01	Diego Aracena	2.46	152	↑*i*P	Pn	19 49 49.5	+0.4
TA01	comp=E,417nm,0.3s			IAML		19 50 21.3	
PATCX	Punta Patache	2.70	154		Pn	19 49 52.7	+0.3
PATCX	Punta Patache	2.70	154	↑*i*P	Pn	19 49 52.8	+0.3
PATCX	comp=N,278nm,0.3s			IAML		19 50 26.3	
PB08	IPOC Station P	2.76	130		Pn	19 49 54.4	+0.9
PB08	IPOC Station P	2.76	130	*e*P	Pn	19 49 54.7	+1.2
PB08				*e*S	Sn	19 50 28.4	+2.6
PB08	comp=N,452nm,0.5s			IAML		19 50 33.7	
PB01	IPOC Station P	3.21	146		Pn	19 49 59.7	+0.2
PB01	IPOC Station P	3.21	146	*e*P	Pn	19 49 60.0	+0.5
PB01	comp=N,308nm,0.5s			IAML		19 50 39.2	
PB02	IPOC Station P	3.25	154		Pn	19 50 00.5	+0.5
PB07	IPOC Station P	3.62	157		Pn	19 50 05.3	+0.1
LPAZ	La Paz	3.76	57	Pn	Pn	19 50 10.5	+3.0
PB09	IPOC Station P	3.96	149		Pn	19 50 11.3	+1.4
PB04	IPOC Station P	4.10	163	Pn	Pn	19 50 11.2	-0.6
PB06	IPOC Station P	4.63	158		Pn	19 50 18.6	-0.4
LVC	Limon Verde comp=N,9.2nm,0.3s,baz=349,slow=9.0,SNR=102	4.81	151	P	Pn	19 50 23.1	+1.4
LVC				S	Sn	19 51 19.5	+3.1
PB15	comp=N,39nm,0.3s,baz=96,slow=23,SNR=15 comp=N,22nm,0.3s IPOC Station P	5.13	160		Pn	19 50 25.4	-0.5
PB14	IPOC Station P	6.28	172		Pn	19 50 40.5	-1.4
GO02	Mina Guanaco	6.95	166		Pn	19 50 50.7	-0.3
AC01	Pan de Azucar	7.76	175	Pn	Pn	19 50 58.7	-3.2
NNA	Nana comp=N,6.9nm,0.6s,baz=189,slow=16,SNR=2.9	8.24	320	P	Pn	19 51 19.1	+11
NNA				S	Sn	19 52 42.4	+2.1
NNA	comp=N,5.8nm,0.4s,baz=169,slow=23,SNR=2.4			LR	LR	19 54 14.0	
AC06	comp=N,54nm,19.9s,baz=178,slow=36 Mina Casimiro	8.98	174	Pn	Pn	19 51 15.6	-3.0
ETMB	Extrema	9.89	31	Pn	Pn	19 51 31.2	+0.1
SIV	San Ignacio	10.16	78	P	Pn	19 51 36.5	+1.7

comp=N,0.2nm,0.3s,baz=268,slow=9.1,SNR=24
comp=N,4.4nm,0.5s

VILB	Vilhena	12.07	65	Pn		Pn	19 52 02.5	+1.7
PTLB	Pontes e Lacer	12.10	78	Pn		Pn	19 52 02.5	+1.2
SAML	Samuel	12.32	41	Pn		Pn	19 52 02.0	-2.3
ATAH	Atahualpa	13.09	328	LR		LR	19 57 34.1	

comp=N,106nm,20.7s,baz=142,slow=38

VA01	Torpederas	14.58	181	Pn		Pn	19 52 31.1	-3.6
CPUP	Villa Florida	15.23	124	LR		LR	19 59 42.7	

comp=N,39nm,21.0s,baz=233,slow=42

H03N1	Juan Fernandez	16.43	203	T		T	20 10 03.9	

baz=27,slow=73,SNR=110

H03N2	Juan Fernandez	16.44	203	T		T	20 10 02.8	

baz=27,slow=73,SNR=54

H03N3	Juan Fernandez	16.45	203	T		T	20 10 07.2	

baz=27,slow=73,SNR=77

ITAB	Concordia	19.82	120	P		P	19 53 38.4	+0.5
ITAB				IAmb		IAmb	19 53 50.8	

comp=Z,15nm,1.1s

GO06	Curarrehue	21.12	180	P		P	19 53 52.0	-0.1
GO06				IAmb		IAmb	19 53 57.3	

comp=Z,11nm,1.2s

PLCA	Paso Flores	22.29	178	P		P	19 54 05.9	+1.4

comp=Z,3.8nm,1.1s,baz=327,slow=3.4,SNR=3.6
comp=Z,3.8nm,1.1s

BDFB	Brasilia	22.53	87	P		P	19 54 05.9	-1.5
BDFB	Brasilia	22.53	87	P		P	19 54 06.3	-1.1

comp=Z,5.9nm,0.5s,baz=262,slow=11,SNR=12
comp=Z,5.9nm,0.5s

BOAV	Boa Vista	23.27	29	P		P	19 54 12.2	-2.5
PCRV	Puerto La Cruz	29.16	14	LR		LR	20 07 32.1	

comp=Z,93nm,19.9s,slow=38

CMIG	Matias Romero	42.15	325	LR		LR	20 11 17.1	

comp=Z,29nm,21.6s,baz=186,slow=31

TXAR	Lajitas Array	56.74	326	P		P	19 58 51.0	+0.6

comp=Z,0.1nm,0.4s,baz=153,slow=10,SNR=1.6
comp=Z,0.1nm,0.4s

SNAA	Sanae	65.97	161	P		P	19 59 52.2	0.0
DBIC	Dimbokro	70.17	76	P		P	20 00 19.2	-0.2

comp=Z,2.1nm,0.6s,baz=281,slow=1.1,SNR=3.4
comp=Z,2.1nm,0.6s

PDAR	Pinedale Array	70.26	331	P		P	20 00 20.6	+1.1

comp=Z,0.2nm,0.7s,baz=119,slow=5.2,SNR=1.9
comp=Z,0.2nm,0.7s

NVAR	Mina Array Bea	71.60	323	P		P	20 00 30.6	+2.7

comp=Z,0.5nm,0.7s,baz=142,slow=4.6,SNR=2.3
comp=Z,0.5nm,0.7s

TOA0	Torodi Ar. Sit	78.58	72	P		P	20 01 07.7	-0.6
TOA0				IAmb		IAmb	20 01 49.0	

comp=Z,5.3nm,1.5s

TORD	Torodi Ar. Bea	78.58	72	P		P	20 01 06.2	-2.0
TORD	Torodi Ar. Bea	78.58	72	P		P	20 01 08.3	+0.1

comp=Z,0.8nm,0.7s,baz=261,slow=4.5,SNR=4.9
comp=Z,0.8nm,0.7s

ESDC	Sonseca Array	85.31	46	P		P	20 01 44.6	+1.4

comp=Z,1.3nm,1.0s,baz=240,slow=6.6,SNR=5.8
comp=Z,1.3nm,1.0s

YKA	Yellowknife Ar	87.49	341	P		P	20 01 54.5	+1.3

comp=Z,1.9nm,0.8s,baz=138,slow=4.7,SNR=34
comp=Z,1.9nm,0.8s

MAW	Mawson	87.97	164	P		P	20 01 53.7	-1.9
MAW				IAmb		IAmb	20 02 10.6	

comp=Z,1.7nm,1.0s

H11S2	WAKE ISLAND Hy	25.09	280	T		T	22 25 44.0	

baz=100,slow=74,SNR=39

H11S1	WAKE ISLAND Hy	25.10	280	T		T	22 25 41.5	

baz=100,slow=74,SNR=22

H11N3	WAKE ISLAND Hy	25.10	282	T		T	22 25 38.4	

baz=100,slow=75,SNR=14

H11S3	WAKE ISLAND Hy	25.11	280	T		T	22 25 41.7	

baz=100,slow=74,SNR=28

H11N2	WAKE ISLAND Hy	25.11	282	T		T	22 25 37.9	

baz=100,slow=75,SNR=14

H11N1	WAKE ISLAND Hy	25.11	282	T		T	22 25 34.9	

baz=100,slow=75,SNR=12

WRA	Warramunga Arr	134.29	215	PKP		PKiKP	20 08 26.0	+0.1

comp=Z,0.2nm,0.6s,baz=158,slow=1.8,SNR=1.7

BVAR	Borovoye Array	134.47	32	PKP		PKiKP	20 08 26.2	+1.0

comp=Z,0.2nm,0.5s,baz=321,slow=1.8,SNR=2.2

ZALV	Zalesovo Beam	140.04	22	PKP		PKiKP	20 08 36.3	-0.2

comp=Z,0.6nm,0.6s,baz=336,slow=3.3,SNR=3.8

MKAR	Makanchi Array	144.36	31	PKP		PKPdf	20 08 42.1	+0.1

comp=Z,0.8nm,0.7s,baz=319,slow=3.3,SNR=5.3

KSH	Kashi	144.82	46	PKP		PKiKP	20 08 44.6	-2.4
MJAR	Matsushiro Arr	148.28	311	PKPbc		PKiKP	20 08 52.7	-1.3

comp=Z,1.6nm,1.0s,baz=13,slow=1.4,SNR=2.3

SONM	Songino Array	150.57	3	PKPbc		PKiKP	20 08 59.7	+1.2

comp=Z,1.4nm,0.9s,baz=6.3,slow=1.8,SNR=4.7

PZH	PanZhiHua	169.74	37	PKP		PKPdf	20 09 12.1	-2.1

*NEIC **17** 20:08:04.4±2.0,2°.69N±0°.09×122°.3E±0°.1,h544km±8km, mb4.2/55, Error ellipse: s-maj=16.1km s-min=10.8km az=54.0*
*DJA **17** 20:08:05.5±0.2,3°N±4°×12°2E±°, h534km±2km, M4.4/14, mB4.8/3, mb4.4/14, MLv4.5/13, Mw(mB)4.0/3*
*IDC **17** 20:08:06.6±1.0,2°.66N×122°.36E,h567km±12km, mb3.4/23, mbtmp4.4/25, Error ellipse: s-maj=15.0km s-min=7.6km az=67.0*

ISC 17 20:08:05.0±0.4,**2°.62N**±0°.05×**122°.28E**±0°.06,**h550**km,**n125,** σ1§**12**/132,**mb4.1**/51,**Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
TOLI2	Tolitoli	2.11	225	P	P	20 09 14.3		-0.9
MRSI	Marisa	2.15	189	P	P	20 09 15.4		0.0
MRSI				S	S	20 10 10.8		-1.8
KMSI	Cibinong	2.65	140	P	P	20 09 18.8		+0.8
KMSI				S	S	20 10 17.1		-0.2
MPSI	Mapaga	3.28	226	P	P	20 09 21.8		-0.1
MPSI				S	S	20 10 22.8		-1.6
SGSI	Sangihe	3.42	72	P	P	20 09 20.7		-2.1
LUWI	Luwuk	3.67	172	P	P	20 09 25.5		+1.0
MYLDM	Lahad Datu	4.55	304	P	P	20 09 32.6		+1.5
TNTI	Ternate	5.41	110	P	P	20 09 37.9		-0.5
TNTI	Ternate	5.41	110	P	P	20 09 37.8		-0.5

123nm,0.8s,1µm0.9nm

DAV	Davao City (W)	5.51	37	P	P	20 09 41.8		+2.5

122nm,0.5s,baz=233,slow=0.4,SNR=6.4

DAV				S	S	20 10 59.2		+2.9

168nm,0.6s,baz=276,slow=22,SNR=6.3

SANI	Sanana	5.94	141	P	P	20 09 44.9		+1.8

103nm,0.6s,3µm0.7nm

TTSI	Tana Toraja	6.14	204	P	P	20 09 46.8		+1.9

65nm,0.8s

BKB	Balikpapan	6.62	234	P	P	20 09 49.8		+0.4
KKM	Kota Kinabalu	6.94	300	P	P	20 09 52.2		-0.4
SPSI	Sidrap Palu	7.00	201	P	P	20 09 54.0		+1.0

27nm,1.1s,0.1nm

KSM	Kuching	12.02	265	P	P	20 10 43.3		-0.5
PLAI	Plampang	12.22	201	P	P	20 10 50.3		+4.4

24nm,0.6s

SOEI	Soe	12.45	171	P	P	20 10 49.4		+1.1
LEM	Lembang	17.38	237	P	P	20 11 39.1		+1.6

33nm,0.8s,baz=11,slow=10,SNR=7.0

MTN	Manton Dam	17.70	150	P	P	20 11 40.8		+0.6
MYKOM	Kota Tinggi	18.43	268	P	P	20 11 48.2		+1.2
GENI	Genyem	18.62	106	P	P	20 11 50.3		+1.6

75nm,1.3s

CGJI	Cibinong	18.93	241	P	P	20 11 51.4		-0.1

75nm,0.7s

KNRA	Kununurra	19.27	161	P	P	20 11 54.2		-0.3
KNRA				IAmb	IAmb	20 12 08.6		

comp=Z,9.9nm,1.1s

MNAI	Manna	20.51	250	P	P	20 12 05.7		-0.2
FITZ	Fitzroy Crossi	20.85	171	P	P	20 12 08.6		-0.3
RPSI	Rantau Prapat	23.33	271	P	P	20 12 29.9		-1.3
RPSI				IAmb	IAmb	20 12 32.6		

comp=Z,8.2nm,0.8s

MBWA	Marble Bar	23.76	186	P	P	20 12 33.5		-1.3
MBWA				IAmb	IAmb	20 12 48.7		

comp=Z,8.6nm,1.1s

GSI	Gunungsitoli	24.72	267	P	P	20 12 41.5		-2.0
JOW	Kunigami	24.76	13	P	P	20 12 40.9		-2.8
WB0	Warramunga Arr	25.23	152	P	P	20 12 46.9		-1.0
WB0				IAmb	IAmb	20 12 48.4		

comp=Z,6.4nm,1.0s

WRAB	Tennant Creek	25.35	153	P	P	20 12 48.2		-0.7
WRAB				IAmb	IAmb	20 12 49.4		

comp=Z,5.9nm,0.6s

WRA	Warramunga Arr	25.35	153	P	P	20 12 48.0		-1.0
WRA	Warramunga Arr	25.35	153	P	P	20 12 49.0		0.0

comp=Z,4.9nm,0.6s,baz=335,slow=9.5,SNR=28

WRA				ScP	ScP	20 18 50.1		-0.4

comp=Z,1.8nm,0.7s,baz=340,slow=3.1,SNR=16
comp=Z,4.9nm,0.6s

WB2	Warramunga Arr	25.36	153	P	P	20 12 48.0		-1.0
WB2				IAmb	IAmb	20 12 49.5		

comp=Z,7.3nm,0.6s

WR0	Warramunga Arr	25.46	152	P	P	20 12 49.2		-0.8
WR0				IAmb	IAmb	20 12 50.8		

comp=Z,6.9nm,1.0s

PMG	Port Moresby	27.52	116	P	P	20 13 08.6		+0.5

comp=Z,12nm,0.8s,baz=272,slow=6.1,SNR=5.1
comp=Z,12nm,0.8s

CMAR	Chiang Mai Arr	27.76	306	P	P	20 13 10.1		0.0
CMAR	Chiang Mai Arr	27.76	306	P	P	20 13 10.8		+0.6

comp=Z,2.0nm,0.7s,baz=128,slow=7.1,SNR=15
comp=Z,2.0nm,0.7s

CHTO	Chiang Mai	27.95	307	P	P	20 13 10.7		-1.1
CHTO				IAmb	IAmb	20 13 13.2		

comp=Z,6.4nm,0.7s

AS31	Alice Springs	28.47	157	P	P	20 13 16.9		+0.5
ASAR	Alice Springs	28.47	157	P	P	20 13 16.2		-0.2
ASAR	Alice Springs	28.47	157	P	P	20 13 17.2		+0.8

comp=Z,2.3nm,0.6s,baz=334,slow=7.6,SNR=12

ASAR				S	S	20 17 24.9		-0.8

comp=Z,1.7nm,1.0s,baz=343,slow=17,SNR=6.3

ASAR				ScP	ScP	20 18 59.6		-0.4

comp=Z,0.6nm,0.7s,baz=327,slow=2.8,SNR=6.0
comp=Z,2.3nm,0.6s

PZH	PanZhiHua	30.86	322	P	P	20 13 38.3		+1.2
PZH				pmax	pmax			

comp=Z,10.0nm,1.0s

PZH				pmax	pmax			

comp=Z,200nm,5.6s

JCJ	Chichijima	30.92	36	P	P	20 13 33.9		-3.5
MORW	Morawa	32.06	190	P	P	20 13 46.9		-0.3
MORW				IAmb	IAmb	20 13 58.3		

comp=Z,12nm,1.1s

JMN	Monobe	32.80	18	P	P	20 13 50.7		-2.7
KSAR	Wonju Array Be	35.04	8	P	P	20 14 10.4		-1.6
KSRS	Korea Array	35.06	8	P	P	20 14 13.2		+1.0

comp=Z,1.7nm,0.6s,baz=187,slow=9.7,SNR=5.9
comp=Z,1.7nm,0.6s

NWAO	Narrogin (SRO)	35.67	187	P	P	20 14 18.0		+0.6
MJAR	Matsushiro Arr	36.83	22	P	P	20 14 25.9		-0.9

comp=Z,3.1nm,0.9s,baz=188,slow=8.8,SNR=8.1
comp=Z,3.1nm,0.9s

BBOO	Buckleboo	37.57	161	P	P	20 14 32.6		-0.4
STKA	Stephens Creek	38.90	153	P	P	20 14 44.7		+0.9
STKA	Stephens Creek	38.90	153	P	P	20 14 45.2		+1.4

comp=Z,5.9nm,0.7s,baz=325,slow=8.1,SNR=12
comp=Z,5.9nm,0.7s

JMM	Marumori	38.98	24	P	P	20 14 44.1		-0.2
HHC	Hu-ho-hao-te	39.27	347	eP	P	20 14 48.0		+1.2
LSA	Lhasa	39.97	316	P	P	20 14 54.0		+0.9
LSA				IAmb	IAmb	20 14 55.5		

comp=Z,8.3nm,0.7s

TAPN	Taplejung	41.20	310	eP	P	20 15 03.2		+0.5

comp=Z,20nm,0.4s

ODAN	Odare	41.20	309	eP	P	20 15 03.2		+0.6
RAMN	Ramite	41.86	309	eP	P	20 15 08.9		+1.1

comp=Z,40nm,0.7s

GTA	Gaotai	41.94	334	eP	P	20 15 09.6		+1.5
GTA				pmax	pmax			

comp=Z,4.0nm,1.2s

USA0B	Ussuriysk Arra	42.29	10	P	P	20 15 10.4		-0.2
USA0B				IAmb	IAmb	20 15 11.7		

comp=Z,7.6nm,0.7s

USRK	Ussuriysk Ar.	42.29	10	P	P	20 15 10.5		-0.1

comp=Z,5.9nm,0.5s,baz=194,slow=6.4,SNR=17
comp=Z,5.9nm,0.5s

MDJ	Mudanjiang	42.32	8	P	P	20 15 09.2		-1.6
MDJ				IAmb	IAmb	20 15 12.1		

comp=Z,7.9nm,0.6s

JIRN	Jiri	42.52	309	eP	P	20 15 13.9		+0.7

comp=Z,29nm,0.6s

GUN	Gumba	42.89	310	eP	P	20 15 16.5		+0.5

comp=Z,42nm,0.5s

PKI	Pulchoki	43.09	309	eP	P	20 15 17.6		+0.1

comp=Z,12nm,0.5s

PKIN	Phulchoki	43.10	309	eP	P	20 15 17.8		+0.3

comp=Z,11nm,0.5s

ARMA	Armidale	43.17	142	P	P	20 15 17.4		-0.5
ARMA				IAmb	IAmb	20 15 21.8		

comp=Z,11nm,0.9s

KKN	Kakani	43.29	309	eP	P	20 15 19.2		+0.2
DMN	Daman	43.34	309	eP	P	20 15 19.9		+0.5
GKN	Gorkha	43.89	309	eP	P	20 15 24.0		+0.4

comp=Z,24nm,0.7s

KOLN	Koldanda	44.60	308	eP	P	20 15 29.9		+0.8

comp=Z,67nm,0.7s

DANN	Dangsing	44.74	309	eP	P	20 15 30.7		+0.5

comp=Z,70nm,0.6s

PYUN	Piuthan	45.23	308	eP	P	20 15 34.8		+0.9

comp=Z,67nm,0.5s

CAN	Canberra	45.28	149	P	P	20 15 33.4		-0.6
SONM	Songino Array	47.09	345	P	P	20 15 47.8		+0.2

comp=Z,1.2nm,0.7s,baz=160,slow=8.6,SNR=6.9
comp=Z,1.2nm,0.7s

KLR	Kul'dur	47.14	8	P	P	20 15 47.0		-0.8

comp=Z,0.8nm,0.5s,baz=214,slow=4.6,SNR=5.7
comp=Z,0.8nm,0.5s

WMQ	Urumqi	51.20	328	eP	P	20 16 19.0		+1.1
KSH	Kashi	55.77	317	P	P	20 16 52.3		+1.9
MKAR	Makanchi Array	56.03	328	P	P	20 16 52.2		+0.3
MKAR	Makanchi Array	56.03	328	P	P	20 16 52.5		+0.6

comp=Z,5.1nm,0.5s,baz=116,slow=9.6,SNR=12
comp=Z,5.1nm,0.5s

MAKZ	Makanchi	56.20	328	P	P	20 16 52.2		-0.9
MAKZ				IAmb	IAmb	20 16 54.4		

comp=Z,3.9nm,0.6s

AAK	Ala-Archa	58.27	320	P	P	20 17 07.5		0.0
AAK	Ala-Archa	58.27	320	P	P	20 17 08.6		+1.1

comp=Z,1.5nm,0.5s,baz=146,slow=6.3,SNR=8.3
comp=Z,1.5nm,0.5s

ARSB	Arslanbob	58.63	318	P	P	20 17 10.7		+0.8
KBL	Kabul	58.72	309	P	P	20 17 09.8		-1.0
KBL				IAmb	IAmb	20 17 11.8		

comp=Z,6.8nm,0.7s

YAK	Yakutsk	59.53	4	P	P	20 17 15.6		+0.3

comp=Z,0.4nm,0.6s,baz=158,slow=2.7,SNR=1.2

BTK	Batken	59.55	316	P	P	20 17 15.2		-0.9
ZALV	Zalesovo Beam	59.65	335	P	P	20 17 15.5		-0.8

comp=Z,1.9nm,0.3s,baz=125,slow=6.3,SNR=2.2
comp=Z,1.9nm,0.3s

CHGR	Chuyangaron	60.16	314	P	P	20 17 18.4		-1.8
CHGR				IAmb	IAmb	20 17 21.1		

comp=Z,15nm,1.2s

KURBB	Kurchatov Arra	60.36	330	P	P	20 17 21.4		+0.4

comp=Z,5.8nm,0.7s,baz=131,slow=6.0,SNR=17
comp=Z,5.8nm,0.7s

KURK	Kurchatov	60.37	330	P	P	20 17 19.9		-1.2
KK31	Karatay Array	61.08	319	P	P	20 17 25.1		-0.9
KKAR	Karatay Array	61.08	319	P	P	20 17 24.4		-1.6
KKAR	Karatay Array	61.08	319	P	P	20 17 25.1		-0.9
KKAR				IAmb	IAmb	20 17 27.3		

comp=Z,2.9nm,0.8s

MRZ	Mangatainoka R	64.87	138	P	P	20 17 49.6		-0.7
BVAR	Borovoye Array	65.89	329	P	P	20 17 56.6		+0.1

comp=Z,1.9nm,0.4s,baz=136,slow=9.0,SNR=12
comp=Z,1.9nm,0.4s

BRVK	Borovoye	65.96	329	P	P	20 17 56.8		-0.1
BRVK				IAmb	IAmb	20 17 57.8		

comp=Z,6.2nm,1.1s

GEYT	Alibeck	68.16	310	P	P	20 18 11.4		+0.6

comp=Z,3.2nm,0.6s,baz=111,slow=8.1,SNR=5.3
comp=Z,3.2nm,0.6s

GYA0B	ALIBECK ARRAY	68.16	310	P	P	20 18 11.3		+0.5
GYA0B				IAmb	IAmb	20 18 12.3		

comp=Z,3.9nm,0.6s

ABKAR	Akbulak array	70.24	322	P	P	20 18 23.0		0.0
AKTO	Aktyubinsk	71.80	323	P	P	20 18 32.4		+0.2

comp=Z,5.9nm,0.5s,baz=100,slow=6.9,SNR=15
comp=Z,5.9nm,0.5s

ARU	Arti	73.53	329	P	P	20 18 41.0		-0.9
ARU				IAmb	IAmb	20 18 42.2		

comp=Z,3.9nm,0.8s

ARU	Arti	73.53	329	P	P	20 18 41.5		-0.5

comp=Z,1.2nm,0.3s,baz=127,slow=3.4,SNR=8.3
comp=Z,1.2nm,0.3s

ABPO	Ambohimpanom	76.75	250	P	P	20 19 00.5		-0.4
ABPO				IAmb	IAmb	20 19 01.5		

comp=Z,5.5nm,1.1s

VOI	Vohitsoka	77.54	247	P	P	20 19 04.2		-0.9
VOI				IAmb	IAmb	20 19 15.3		

comp=Z,9.5nm,1.0s

L16K	Owhat River	82.14	28	P	P	20 19 28.8		+0.6
L16K				IAmb	IAmb	20 19 45.4		

comp=Z,7.1nm,1.1s

F17K	Baldwin Pennin	82.22	23	P	P	20 19 28.4		0.0
M16K	Timber Creek	82.28	29	P	P	20 19 29.3		+0.4
M16K				IAmb	IAmb	20 19 31.4		

comp=Z,5.4nm,1.0s

C19K	Lookout Ridge	83.34	21	P	P	20 19 35.2		+1.0
L18K	Granite Mounta	83.51	28	P	P	20 19 35.8		+0.7
D19K	Kuna River	83.77	21	P	P	20 19 37.5		+1.2
D19K				IAmb	IAmb	20 19 51.4		

comp=Z,4.3nm,1.1s

TTA	Tatalina	83.90	27	P	P	20 19 36.5		-0.6
H19K	Roundabout Mou	84.01	24	P	P	20 19 36.7		-0.7
H19K				IAmb	IAmb	20 19 39.3		

comp=Z,3.0nm,1.0s

KMBO	Kilima Mbogo	85.08	269	P	P	20 19 44.8		+0.6

comp=Z,2.8nm,0.9s,baz=45,slow=10.0,SNR=5.6
comp=Z,2.8nm,0.9s

IMAR	Indian Mountai	85.17	24	P	P	20 19 42.5		-0.6
MMAI	Mount Meron Ar	85.97	303	P	P	20 19 48.9		+1.1

comp=Z,1.8nm,0.6s,baz=104,slow=9.5,SNR=4.8
comp=Z,1.8nm,0.6s

MLY	Manley	86.37	25	P	P	20 19 49.0		+0.1
I23K	Minto, Yukon-K	86.95	25	P	P	20 19 51.3		-0.3
I23K				IAmb	IAmb	20 19 55.2		

comp=Z,2.9nm,1.1s

BRTR	Keskin Array B	87.30	309	P	P	20 19 53.7		-0.3

comp=Z,0.8nm,0.8s,baz=135,slow=7.1,SNR=6.3
comp=Z,0.8nm,0.8s

ILAR	Eielson Array	88.01	25	P	P	20 19 55.6		-1.0

comp=Z,0.2nm,0.6s,baz=251,slow=4.7,SNR=6.4
comp=Z,0.2nm,0.6s

BMAR	Burnt Mountain	88.82	23	P	P	20 19 59.8		-0.6
ARCES	ARCESS Array B	89.94	340	P	P	20 20 06.0		+0.6
ARCES				IAmb	IAmb	20 20 06.4		

comp=Z,5.4nm,1.1s

SPITS	Spitsbergen Ar	90.69	349	P	P	20 20 08.2		-0.6

comp=Z,3.4nm,0.8

NWAO	Narrogin (SRO)	35.27	195	P		P		20 21 17.2	-2.0
PBA	Port Blair	35.67	288	P		P		20 21 23.4	+0.6
STKA	Stephens Creek	35.69	159	P		P		20 21 22.5	-0.3
STKA	Stephens Creek	35.69	159	P		P		20 21 22.8	+0.1
	comp=Z,2.4nm,0.5s,baz=339,slow=9.0,SNR=12								
	comp=Z,2.4nm,0.5s								
KSAR	Wonju Array Be	36.01	1	P		P		20 21 27.6	+2.2
ARMA	Armidale	39.19	146	P		P		20 21 53.3	+0.9
OUENC	Quen Island, N	45.28	124	P		P		20 22 42.1	+0.5
SONM	Songino Array	49.76	342	P		P		20 23 18.7	+2.7
	comp=Z,0.7nm,0.8s,baz=134,slow=6.2,SNR=2.4								
	comp=Z,0.7nm,0.8s								
PEA0B	Petropavlovsk-	57.55	21	P		P		20 24 12.1	-0.4
MK31	Makanchi Array	59.82	326	P		P		20 24 27.6	-0.7
MK31				IAmb		IAmb		20 24 43.9	
	comp=Z,3.2nm,1.1s								
MKAR	Makanchi Array	59.82	326	P		P		20 24 27.8	-0.5
	comp=Z,0.6nm,0.3s,baz=113,slow=7.7,SNR=16								
	comp=Z,0.6nm,0.3s								
MAKZ	Makanchi	60.01	326	P		P		20 24 28.6	-1.0
MAKZ				IAmb		IAmb		20 24 36.7	
	comp=Z,4.3nm,1.1s								
RTZ	Ruatahuna	60.55	137	P		P		20 24 32.2	-1.3
KURBB	Kurchatov Arra	64.04	328	P		P		20 24 55.7	-0.7
	comp=Z,0.8nm,0.5s,baz=128,slow=6.2,SNR=5.1								
	comp=Z,0.8nm,0.5s								
KURK	Kurchatov	64.04	328	P		P		20 24 54.5	-1.9
KURK				IAmb		IAmb		20 24 58.8	
	comp=Z,1.6nm,0.8s								
KK31	Karatay Array	65.33	318	P		P		20 25 04.3	-0.6
KKAR	Karatay Array	65.33	318	P		P		20 25 03.5	-1.5
KKAR	Karatay Array	65.33	318	P		P		20 25 04.5	-0.4
KKAR				IAmb		IAmb		20 25 05.6	
	comp=Z,1.5nm,1.1s								
TIXI	Tiksi	70.29	1	P		P		20 25 33.2	-2.1
TIXI				IAmb		IAmb		20 25 41.6	
	comp=Z,1.9nm,1.1s								
VNDA	Vanda	80.94	173	P		P		20 26 34.8	-1.0
VNDA	Vanda	80.94	173	P		P		20 26 35.5	-0.4
	comp=Z,1.0nm,0.7s,baz=313,slow=6.5,SNR=7.2								
	comp=Z,1.0nm,0.7s								

*IDC **17** 20:52:28.5±1.0,26°.70N×125°.19E,h200km±9km,mb3.6/21, mbtmp4.1/26,MS2.1/1,Error ellipse: s-maj=12.7km s-min=9.5km az=63.0*

*NEIC **17** 20:52:29.4±1.7,26°.63N±0°.10×125°.08E±0°.08, h202km±8km,mb4.4/93,Error ellipse: s-maj=15.0km s-min=10.2km az=160.0*

*NIED **17** 20:52:30.1,26°.71N×125°.06E,h188km,MW4.2,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr=1.63; Mθθ1.00; Mφφ0.62; Mrθ-1.03; Mθφ0.05; Mφr-1.20; Fault plane solution: M₀2.02000×10¹⁵ NP1:φs48.00000°, δ71.00000°,λ-97.00000°. NP2:φs248.00000°,δ21.00000°, λ-71.00000°.*

*JMA **17** 20:52:30.1±0.3,27°N±2°×12°5E±°,h188km,MV4.4/30,NW OFF MIYAKOJIMA ISLAND*

ISC 17 20:52:29.1±0.6,26°.61N±0°.05×125°.17E±0°.04,h208km±6km, n171,σ1§36/192,mb4.3/68,1C-1D,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	1.47	101	P	Pn	20 53 04.4	+1.1
JKE				eS	Sn	20 53 29.8	-0.1
JIKM	Ikemajima	1.68	178	P	Pn	20 53 06.2	+1.0
JIKM				eS	Sn	20 53 32.6	-0.7
JIRB	Irabujima	1.77	180	P	Pn	20 53 06.7	+0.6
JIRB				eS	Sn	20 53 33.4	-1.5
JAGN	Aguni-jima	1.85	90	P	Pn	20 53 07.6	+0.8
JAGN				eS	Sn	20 53 35.2	-0.8
JOGS	Gusukube	1.85	173	P	Pn	20 53 08.2	+1.3
JOGS				eS	Sn	20 53 35.6	-0.6
JMJ2	Miyako jima3	1.87	176	P	Pn	20 53 08.2	+1.2
JMJ2				S	Sn	20 53 36.1	-0.4
JTJ	Tarama	2.01	192	P	Pn	20 53 09.0	+0.6
JTJ				S	Sn	20 53 36.8	-2.2
JISG	Ishigakijimahi	2.16	201	P	Pn	20 53 10.2	+0.3
JISG				S	Sn	20 53 39.5	-2.3
JJT3	Tamagusuku3	2.39	101	P	Pn	20 53 14.0	+1.7
JJT3				S	Sn	20 53 45.9	-0.1
JIJ	Ishigaki jima	2.42	203	P	Pn	20 53 12.5	-0.2
JIJ				S	Sn	20 53 43.4	-3.4
JIH	Iheya	2.53	80	P	Pn	20 53 14.8	+0.9
JIH				eS	Sn	20 53 47.3	-1.5
JNTH	Nagotoyohara	2.55	91	eP	Pn	20 53 15.1	+1.0
JNTH				S	Sn	20 53 47.3	-1.9
JKRS	Kuro-shima	2.59	204	P	Pn	20 53 14.5	-0.1
JKRS				S	Sn	20 53 47.0	-3.0
IRIF	Iriomote-Funau	2.61	210	P	Pn	20 53 14.5	-0.3
IRIF				S	Sn	20 53 48.4	-2.2
JOW	Kunigami	2.78	85	Pn	Pn	20 53 14.4	+0.8
JOW				Sn	Sn	20 53 51.7	-2.1
JOW	Kunigami	2.78	85	P	Pn	20 53 17.5	+0.8
JOW	Kunigami	2.78	85	P	Pn	20 53 17.4	+0.8
JOW				S	Sn	20 53 51.8	-2.1
JOW	Kunigami	2.78	85	P	Pn	20 53 17.1	+0.3
	347nm,0.3s,baz=195,slow=9.5,SNR=280						
JOW				LR	LR	20 53 44.7	
	comp=Z,35nm,21.0s,baz=230,slow=28						
JOW				S	Sn	20 53 51.3	-2.6
	464nm,0.2s,baz=138,slow=27,SNR=28						
HATJ	Hateruma jima	2.83	206	eP	Pn	20 53 17.1	-0.1
HATJ				S	Sn	20 53 51.9	-3.0
YOJ	Yonaguni jima	2.90	223	P	Pn	20 53 18.5	+0.5
YOJ				eS	Sn	20 53 55.7	-0.5
JYNG	Yonagunijimaku	2.94	224	P	Pn	20 53 19.1	+0.5
JYNG				eS	Sn	20 53 56.9	-0.4
JYRO	Yoronjima	2.96	81	P	Pn	20 53 19.3	+0.6
JYRO				S	Sn	20 53 54.6	-2.9
JOKE	Okinoerabujima	3.12	75	P	Pn	20 53 21.1	+0.4
JOKE				S	Sn	20 53 58.4	-2.6
JTK	Tokunoshima	3.56	70	P	Pn	20 53 25.9	+0.1
JTK				S	Sn	20 54 07.0	-3.4
TATO	Taipei	3.70	245	Pn	Pn	20 53 29.7	+2.2
TATO	Taipei	3.70	245	P	Pn	20 53 29.7	+2.2
JAMN	Amaminishikomi	3.91	65	P	Pn	20 53 30.1	0.0
JAMN				S	Sn	20 54 15.7	-2.4
YHNB	Yeheng	3.93	241	Pn	Pn	20 53 31.4	+0.9
YHNB	Yeheng	3.93	241	P	Pn	20 53 32.2	+1.7
NACB	Ninganchiao	4.04	234		Pn	20 53 31.0	-0.8
NACB	Ninganchiao	4.04	234	P	Pn	20 53 31.1	-0.7
JAM	Amami Oshima	4.33	64	P	Pn	20 53 35.1	-0.1
SSLB	Suanglung	4.74	235		Pn	20 53 37.5	-3.1
SSLB	Suanglung	4.74	235	P	Pn	20 53 40.0	-0.6
YULB	Yu-li	4.76	228		Pn	20 53 38.5	-2.2
YULB	Yu-li	4.76	228	P	Pn	20 53 38.8	-1.9
TPUB	Ta-pu	5.28	232	Pn	Pn	20 53 46.4	-0.9
TPUB	Ta-pu	5.28	232	P	Pn	20 53 46.5	-0.9
TWGBT	Beinan	5.30	225	P	Pn	20 53 45.7	-1.9
TWG	Pinlang	5.30	226	Pn	Pn	20 53 45.2	-2.5
JMZ	Minamidaito 2	5.49	97	Pn	Pn	20 53 51.1	+1.1
JMZ	Minamidaito 2	5.49	97	P	Pn	20 53 50.5	+0.6
JMZ				S	Sn	20 54 49.8	-4.2
JKDJ	Kitadaitoujima	5.54	95	P	Pn	20 53 51.2	+0.7
JKDJ				S	Sn	20 54 51.3	-3.7
JYAK	Yakushimahirau	5.93	51	eS	Sn	20 55 01.4	-2.6
JNU	Nakatsue	8.16	36	Pn	Pn	20 54 28.1	+3.6
JNU	Nakatsue	8.16	36	P	Pn	20 54 23.8	-0.7
	4.0nm,0.3s,baz=86,slow=15,SNR=2.0						
JMN	Monobe	10.34	45	Pn	Pn	20 54 50.6	-2.1
KSAR	Wonju Array Be	11.04	11	Pn	P	20 55 09.0	+1.6
KSRS	Korea Array	11.06	11	P	Pn	20 55 01.5	-0.2
	2.9nm,0.9s,baz=186,slow=13,SNR=5.3						
KS19	Wonju Array Si	11.10	11	Pn	P	20 55 08.3	+0.2
TIA	Tai'an	11.78	326	⇓P	P	20 55 17.5	+1.8
TIA				pmax	pmax		
	comp=Z,30nm,0.6s						
HNS	HongShan	13.94	323	⇑P	P	20 55 41.0	+1.4
HNS				pmax	pmax		
	comp=Z,20nm,0.9s						
MJAR	Matsushiro Arr	14.87	45	P	Pn	20 55 50.2	+0.9
	comp=Z,0.4nm,0.3s,baz=241,slow=9.2,SNR=1.9						
USRK	Ussuriysk Ar.	18.40	16	P	P	20 56 29.1	+0.5
	comp=Z,2.2nm,0.6s,baz=190,slow=9.4,SNR=4.8						
LZH	Lanzhou	20.48	303	eP	P	20 56 52.1	+0.8
LZH				pP	pP	20 57 13.1	-13
LZH				pmax	pmax		
	comp=Z,30nm,1.3s						
GTA	Gaotai	24.71	307	eP	P	20 57 31.4	+0.1
GTA				sP	pP	20 58 15.8	+4.2
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CHTO	Chiang Mai	25.37	258	P	P	20 57 36.9	-0.5
CHTO				IAmb	IAmb	20 57 39.1	
	comp=Z,3.9nm,0.6s						
CMAR	Chiang Mai Arr	25.51	257	P	P	20 57 39.6	+1.0
	comp=Z,1.4nm,0.7s,baz=56,slow=8.0,SNR=11						
	comp=Z,1.4nm,0.7s						
ULN	Ulaanbaatar	25.54	331	P	P	20 57 40.1	+1.4
ULN				IAmb	IAmb	20 57 43.3	
	comp=Z,13nm,1.0s						
TOLI2	Tolitoli	25.70	190	P	P	20 57 41.5	+1.1
SONM	Songino Array	25.80	330	P	P	20 57 41.5	+0.4
SONM				IAmb	IAmb	20 57 45.8	
	comp=Z,4.7nm,0.8s						
SONM	Songino Array	25.80	330	P	P	20 57 41.4	+0.4
	comp=Z,5.4nm,0.5s,baz=150,slow=11,SNR=20						
SONM				PcP	PcP	21 01 05.1	+0.2
	comp=Z,0.8nm,0.5s,baz=146,slow=3.6,SNR=4.9						
SONM				ScP	ScP	21 04 24.7	+0.1
	comp=Z,0.3nm,0.7s,baz=161,slow=6.1,SNR=3.7						
	comp=Z,5.4nm,0.5s						
PETK	Petropavlovsk-	35.85	34	P	P	20 59 09.8	+1.0
	comp=Z,4.2nm,0.9s,baz=261,slow=8.6,SNR=2.2						
	comp=Z,4.2nm,0.9s						
MK31	Makanchi Array	39.25	312	P	P	20 59 36.8	-0.6
MK31				PcP	PcP	21 01 42.5	+0.6
MKAR	Makanchi Array	39.25	312	P	P	20 59 37.1	-0.3
MKAR				PcP	PcP	21 01 42.4	+0.5
MKAR	Makanchi Array	39.25	312	P	P	20 59 37.3	-0.1
	comp=Z,4.3nm,0.7s,baz=98,slow=9.1,SNR=40						
MKAR				PcP	PcP	21 01 42.0	0.0
	comp=Z,0.7nm,0.6s,baz=76,slow=5.2,SNR=3.9						
MKAR				ScP	ScP	21 05 10.2	-0.3
	comp=Z,0.9nm,0.8s,baz=91,slow=4.9,SNR=5.4						
	comp=Z,4.3nm,0.7s						
MAKZ	Makanchi	39.46	312	P	P	20 59 37.5	-1.6
MAKZ				PcP	PcP	21 01 42.5	-0.2
MTN	Manton Dam	39.64	171	P	P	20 59 39.7	-1.2
MTN				IAmb	IAmb	20 59 41.2	
	comp=Z,14nm,1.2s						
ZAA0	Zalesovo Array	40.30	324	P	P	20 59 44.3	-1.6
ZAA0				IAmb	IAmb	20 59 46.2	
	comp=Z,5.1nm,0.6s						
ZALV	Zalesovo Beam	40.30	324	P	P	20 59 44.3	-1.6
ZALV	Zalesovo Beam	40.30	324	P	P	20 59 45.5	-0.4
	comp=Z,4.7nm,0.5s,baz=111,slow=8.2,SNR=26						
ZALV				ScP	ScP	21 05 13.5	-1.0
	comp=Z,1.5nm,1.0s,baz=153,slow=3.8,SNR=5.2						
	comp=Z,4.7nm,0.5s						
KNRA	Kununurra	42.18	175	P	P	21 00 01.7	+0.2
KNRA				IAmb	IAmb	21 00 19.1	
	comp=Z,26nm,1.4s						
KURBB	Kurchatov Arra	42.70	317	P	P	21 00 05.1	-0.2
	comp=Z,3.1nm,0.7s,baz=107,slow=8.8,SNR=16						
	comp=Z,3.1nm,0.7s						
FITZ	Fitzroy Crossi	44.44	179	P	P	21 00 19.5	-0.1
ARSB	Arslanbob	45.05	303	P	P	21 00 23.8	-0.7
KKAR	Karatay Array	46.95	305	P	P	21 00 39.5	+0.4
KKAR				PcP	PcP	21 02 08.6	+0.5
WB0	Warramunga Arr	46.96	168	P	P	21 00 39.8	+0.5
WRA	Warramunga Arr	47.12	168	P	P	21 00 40.2	-0.4
WRA	Warramunga Arr	47.12	168	P	P	21 00 41.2	+0.7
	comp=Z,4.3nm,0.6s,baz=349,slow=8.6,SNR=40						
	comp=Z,4.3nm,0.6s						
WB2	Warramunga Arr	47.12	168	P	P	21 00 40.2	-0.4
WR0	Warramunga Arr	47.18	168	P	P	21 00 41.5	+0.5
BVAR	Borovoye Array	48.17	319	P	P	21 00 48.2	0.0
	comp=Z,0.7nm,0.3s,baz=102,slow=8.4,SNR=10						
BVAR				PcP	PcP	21 02 12.1	-0.1
	comp=Z,0.6nm,0.4s,baz=108,slow=4.8,SNR=5.2						
	comp=Z,0.7nm,0.3s						
BRVK	Borovoye	48.24	319	P	P	21 00 48.4	-0.3
KBL	Kabul	48.45	294	P	P	21 00 48.6	-2.3
KBL				IAmb	IAmb	21 00 52.4	
	comp=Z,6.1nm,0.6s						
AS31	Alice Springs	50.69	170	P	P	21 01 09.0	+1.4
ASAR	Alice Springs	50.69	170	P	P	21 01 09.3	+1.7
ASAR	Alice Springs	50.69	170	P	P	21 01 08.9	+1.3
	comp=Z,2.0nm,0.8s,baz=354,slow=12,SNR=28						
	comp=Z,2.0nm,0.8s						
ABKAR	Akbulak array	54.38	313	P	P	21 01 33.8	-0.6
ABKAR	Akbulak array	54.38	313	P	P	21 01 33.9	-0.5
GEYT	Alibeck	56.72	299	P	P	21 01 51.2	-0.1
	comp=Z,1.4nm,0.6s,baz=95,slow=10,SNR=2.8						
	comp=Z,1.4nm,0.6s						
K13K	Kusilvak Mount	57.58	32	P	P	21 01 56.7	-0.1
L14K	Kuka Creek	58.49	33	P	P	21 02 05.2	+2.1
M14K	Bethel	58.83	33	P	P	21 02 04.8	-0.6
K15K	Wolf Creek Mou	59.06	31	P	P	21 02 07.5	+0.4
F17K	Baldwin Pennin	59.36	27	P	P	21 02 08.2	-0.8
F17K				IAmb	IAmb	21 02 34.1	
	comp=Z,7.1nm,1.3s						
I17K	Unalakleet	59.48	30	P	P	21 02 09.4	-0.4
I17K				IAmb	IAmb	21 02 25.4	
	comp=Z,11nm,1.4s						
C18K	Utukok River	59.54	24	P	P	21 02 10.0	-0.3
N15K	Kwethluk River	59.76	34	P	P	21 02 13.6	+1.7
H17K	Granite Mounta	59.85	28	P	P	21 02 13.0	+0.6
H17K				IAmb	IAmb	21 02 15.4	
	comp=Z,9.0nm,1.1s						
L16K	Owhat River	60.03	32	P	P	21 02 13.6	-0.1
L16K				IAmb	IAmb	21 02 35.3	
	comp=Z,13nm,1.3s						
STKA	Stephens Creek	60.23	164	P	P	21 02 15.6	+0.2
STKA	Stephens Creek	60.23	164	P	P	21 02 16.1	+0.7
	comp=Z,1.7nm,0.5s,baz=344,slow=5.1,SNR=4.5						
	comp=Z,1.7nm,0.5s						
M16K	Timber Creek	60.29	33	P	P	21 02 17.1	+1.7
G18K	Tagagawik	60.39	27	P	P	21 02 16.9	+0.8
K17K	Iditarod	60.56	31	P	P	21 02 18.9	+1.7
D19K	Kuna River	60.66	24	P	P	21 02 18.5	+0.6
F19K	Shaleruckik Mo	60.76	26	P	P	21 02 18.6	+0.1
E19K	Redstone River	60.97	26	P	P	21 02 20.9	+0.9
M17K	Holitna River	61.01	32	P	P	21 02 21.5	+1.2
G19K	Purcell Mounta	61.03	27	P	P	21 02 21.4	+1.0
N17K	Nushagak Hills	61.18	33	P	P	21 02 23.3	+1.8
J18K	Innoko River	61.26	30	P	P	21 02 22.8	+0.8
J18K				IAmb	IAmb	21 02 32.0	
	comp=Z,9.8nm,1.5s						
H19K	Roundabout Mou	61.30	28	P	P	21 02 23.3	+1.1
H19K				IAmb	IAmb	21 02 24.7	
	comp=Z,8.3nm,0.8s						
L18K	Granite Mounta	61.33	32	P	P	21 02 24.3	+1.9
F20K	Avaraart Lake	61.56	26	P	P	21 02 24.9	+1.0
TTA	Tatalina	61.60	31	P	P	21 02 25.5	+1.1
TTA				IAmb	IAmb	21 02 42.8	
	comp=Z,10.0nm,1.4s						
J19K	Poorman	61.72	29	P	P	21 02 26.9	+1.8
J19K				IAmb	IAmb	21 02 27.4	
	comp=Z,7.2nm,0.9s						
B21K	Ikpikpuk River	61.93	23	P	P	21 02 27.1	+0.8
SVW2	Sparrevohn	61.93	33	P	P	21 02 28.3	+1.8
L19K	White Mountain	62.19	31	P	P	21 02 29.3	+1.1
L19K				IAmb	IAmb	21 02 47.3	
	comp=Z,7.7nm,1.3s						
E21K	Killik River	62.19	24	P	P	21 02 28.6	+0.5
E21K				IAmb	IAmb	21 03 02.9	
	comp=Z,6.5nm,1.5s						
B22K	Teshekpuk Lake	62.32	22	P	P	21 02 29.0	+0.2
B22K				IAmb	IAmb	21 02 54.7	
	comp=Z,6.3nm,1.2s						
J20K	Nowinta River	62.35	29	P	P	21 02 31.1	+1.9
IMAR	Indian Mountai	62.40	27	P	P	21 02 31.1	+1.6
K20K	Telida	62.45	30	P	P	21 02 31.5	+1.6
K20K				IAmb	IAmb	21 02 32.8	
	comp=Z,6.7nm,1.0s						
G21K	Allakaket	62.46	27	P	P	21 02 31.3	+1.3
G21K				IAmb	IAmb	21 02 31.9	
	comp=Z,7.2nm,1.2s						
N19K	Bonanza Creek	62.49	33	P	P	21 02 32.1	+1.8
D22K	Ayikyak River	62.64	24	P	P	21 02 32.3	+1.3
D22K				IAmb	IAmb	21 02 33.3	
	comp=Z,10nm,1.4s						
H21K	Melozitna Rive	62.81	27	P	P	21 02 33.6	+1.4
H21K				IAmb	IAmb	21 02 35.3	
	comp=Z,6.8nm,1.1s						
E22K	Anaktuvuk Pass	63.01	25	P	P	21 02 34.5	+0.9
M20K	Styx River	63.02	32	P	P	21 02 35.2	+1.4
M20K				IAmb	IAmb	21 03 10.1	
	comp=Z,14nm,1.4s						
I21K	Tanana	63.20	28	IAmb	IAmb	21 02 37.6	
	comp=Z,8.7nm,0.9s						
MLY	Manley	63.73	28	IAmb	IAmb	21 02 41.4	
	comp=Z,10nm,1.2s						
I23K	Minto, Yukon-K	64.30	28	IAmb	IAmb	21 02 46.5	
	comp=Z,7.3nm,1.2s						
F24K	Squaw Lake	64.56	25	IAmb	IAmb	21 02 46.6	
	comp=Z,4.3nm,0.8s						
G24K	Hadweenzic Riv	64.84	26	IAmb	IAmb	21 02 48.2	
	comp=Z,5.8nm,0.8s						
CCB	Clear Creek Bu	65.03	28	IAmb	IAmb	21 02 52.5	
	comp=Z,11nm,1.5s						
IL31		65.40	28	IAmb	IAmb	21 03 05.0	
	comp=Z,6.5nm,1.4s						
ILAR	Eielson Array	65.40	28	P	P	21 02 49.1	0.0
	comp=Z,0.8nm,0.5s,baz=255,slow=4.8,SNR=35						
	comp=Z,0.8nm,0.5s						
HDA	Harding Lake	65.44	29	IAmb	IAmb	21 02 50.4	
	comp=Z,8.2nm,1.0s						
J26L	Joseph Creek	66.85	28	IAmb	IAmb	21 02 59.7	
	comp=Z,5.8nm,0.8s						
K27K	Chicken	67.60	28	IAmb	IAmb	21 03 06.0	
	comp=Z,8.3nm,1.0s						
SPITS	Spitsbergen Ar	67.89	348	P	P	21 03 03.3	-1.3
	comp=Z,1.5nm,0.7s,baz=54,slow=7.3,SNR=1.1						
	comp=Z,1.5nm,0.7s						
L27K	Beaver Creek,	67.96	29	IAmb	IAmb	21 03 07.4	
	comp=Z,13nm,1.4s						
I28M	Miner Creek	68.11	27	IAmb	IAmb	21 03 09.0	
	comp=Z,6.6nm,0.9s						
ARCES	ARCESS Array B	68.64	338	P	P	21 03 08.2	-1.2
	comp=Z,1.7nm,0.8s,baz=72,slow=7.1,SNR=7.7						
	comp=Z,1.7nm,0.8s						
DAWY	Dawson	68.72	28	IAmb	IAmb	21 03 12.3	
	comp=Z,5.2nm,1.0s						
L29M	L29M	69.56	29	IAmb	IAmb	21 03 18.4	
	comp=Z,10nm,0.9s						
K29M	Barlow Dome	69.58	28	IAmb	IAmb	21 03 18.3	
	comp=Z,5.9nm,1.0s						
M30M	Minto, Yukon	70.31	29	P	P	21 03 21.7	+1.9
M30M				IAmb	IAmb	21 03 22.7	
	comp=Z,3.6nm,0.6s						
N30M	Aishikik Lake	70.56	30	P	P	21 03 23.3	+2.0
N30M				IAmb	IAmb	21 03 24.1	
	comp=Z,17nm,1.4s						
HYT	Haines Junctio	70.58	31	P	P	21 03 22.3	+0.8
HYT				IAmb	IAmb	21 03 32.6	
	comp=Z,17nm,1.4s						
A36M	Sachs Harbour	70.73	18	P	P	21 03 22.5	+0.5
A36M				IAmb	IAmb	21 03 23.1	
	comp=Z,8.4nm,1.2s						
P29M	Windy Craggy	70.88	32	P	P	21 03 23.7	+0.4
N31M	Braeburn, Yuko	71.14	30	P	P	21 03 26.0	+1.3
N31M				IAmb	IAmb	21 03 27.3	
	comp=Z,11nm,0.9s						
FIA1	FINESS Array S	71.17	330	P	P	21 03 25.3	+0.4
FINES	FINESS Array B	71.17	330	P	P	21 03 24.5	-0.4
FINES	FINESS Array B	71.17	330	P	P	21 03 24.0	-0.9
	comp=Z,1.2nm,0.3s,baz=52,slow=6.0,SNR=23						
	comp=Z,1.2nm,0.3s						
O30N	Mendenhall	71.25	31	P	P	21 03 27.2	+1.7
O30N				IAmb	IAmb	21 03 44.9	
	comp=Z,15nm,1.4s						
M31M	Drury Creek, Y	71.49	29		P	21 03 27.7	+0.8
M31M				IAmb	IAmb	21 03 45.4	
	comp=Z,7.9nm,1.4s						
WHY	Whitehorse	71.85	31	P	P	21 03 30.3	+1.2
FARO	Faro, Yukon	71.93	29	P	P	21 03 31.2	+1.8
FARO				IAmb	IAmb	21 03 32.0	
	comp=Z,6.0nm,0.9s						
C36M	Paulatuk	72.30	20	P	P	21 03 31.7	+0.2
C36M				IAmb	IAmb	21 03 32.2	
	comp=Z,7.8nm,1.1s						
AKASG	Malin Array Be	73.45	319	P	P	21 03 37.7	-0.9
	comp=Z,0.3nm,0.4s,baz=66,slow=6.2,SNR=3.3						
	comp=Z,0.3nm,0.4s						
BRTR	Keskin Array B	74.63	307	P	P	21 03 45.4	-0.5
	comp=Z,0.3nm,0.3s,baz=134,slow=5.3,SNR=4.4						
	comp=Z,0.3nm,0.3s						
HFS	Hagfors	77.19	331	P	P	21 03 59.0	-0.7
	comp=Z,0.8nm,0.4s,baz=125,slow=7.8,SNR=11						
	comp=Z,0.8nm,0.4s						
NB2	NORSAR Subarra	77.75	333	P	P	21 04 02.5	-0.3
	comp=Z,0.7nm,0.5s,baz=54,slow=5.6						
NOA	NORSAR Array B	77.75	333	P	P	21 04 02.0	-0.8
	comp=Z,0.7nm,0.5s,baz=64,slow=7.7,SNR=9.5						
	comp=Z,0.7nm,0.5s						
YKA	Yellowknife Ar	79.32	24	P	P	21 04 11.2	-0.1
	comp=Z,2.3nm,0.9s,baz=306,slow=5.5,SNR=20						
	comp=Z,2.3nm,0.9s						
CLL	Collm	82.25	324	eP	P	21 04 27.0	-0.1
NVAR	Mina Array Bea	92.19	45	P	P	21 05 16.7	+1.1
	comp=Z,0.2nm,0.5s,baz=315,slow=4.3,SNR=1.6						
	comp=Z,0.2nm,0.5s						

*MOS **17** 21:09:54.1±1.1,38°.96N×142°.05E,h54km,mb4.5/14,Error ellipse: s-maj=8.6km s-min=5.5km az=93.8*

*JMA **17** 21:09:55.2±0.1,38°.9N±0°.3×142°.1E±0°.6,h50km,MD4.4/40, MV4.7/40,KINKAZAN REGION*

JMA Felt III J1 at KINKAZAN REGION .

*NEIC **17** 21:09:55.5±2.0,38°.84N±0°.06×142°.1E±0°.1,h49km±7km, mb4.5/30,Error ellipse: s-maj=14.4km

comp=E,7.0nm,0.3s,comp=N,8.0nm,0.5s
JANG Nango 1.62 341 *i* P **Pn 21 10 20.4 -0.9**
JANG *e*S **Sn 21 10 39.7 -1.4**
JANG Nango 1.62 341 A A 21 10 20.4
comp=E,5.0nm,0.2s,comp=N,4.0nm,1.0s
JYW Yuwa 1.70 295 A A 21 10 21.7
comp=E,19nm,0.8s,comp=N,19nm,1.2s
JYS Shirataka 1.79 251 A A 21 10 23.3
comp=E,15nm,0.9s,comp=N,11nm,1.0s
JFK Kawauchi 1.80 216 A A 21 10 24.3
comp=E,3.0nm,0.8s,comp=N,6.0nm,0.4s
JAH Hinai 1.81 319 A A 21 10 23.5
comp=E,5.0nm,3.3s,comp=N,4.0nm,0.9s
JYAR Yonezawaarcadi 1.86 241 A A 21 10 24.5
comp=E,12nm,0.6s,comp=N,12nm,0.4s
JOTO OTAMA OYAMA 1.95 230 A A 21 10 26.0
comp=E,8.0nm,0.4s,comp=N,8.0nm,0.8s
JYA Atsumi 1.96 264 A A 21 10 25.6
comp=E,7.0nm,0.5s,comp=N,7.0nm,0.9s
ONAJ Iwakimizuishiy 2.06 213 A A 21 10 27.9
comp=E,20nm,0.3s,comp=N,13nm,0.3s
JNTW Noshirotokiwa 2.13 313 A A 21 10 27.9
comp=E,16nm,3.2s,comp=N,18nm,2.1s
JTM Tenmabayashi 2.14 336 Pn **Pn 21 10 27.8 -0.5**
JIW Iwasaki 2.44 317 A A 21 10 32.3
comp=E,4.0nm,2.1s,comp=N,3.0nm,2.6s
JAHD Aomorihigashid 2.52 345 A A 21 10 33.8
comp=E,8.0nm,0.6s,comp=N,7.0nm,1.2s
JSI2 Shiura 2 2.61 329 A A 21 10 34.9
comp=E,4.0nm,2.0s,comp=N,4.0nm,1.0s
JYT Yasato 3.05 212 A A 21 10 42.1
comp=E,6.0nm,0.4s,comp=N,6.0nm,0.3s
ERM Erimo 3.26 13 Pn **Pn 21 10 43.8 +0.2**
ERM Erimo 3.26 13 *i* P **Pn 21 10 43.1 -0.5**
JNBK Urakawa-nobuka 3.47 7 A A 21 10 47.8
comp=E,3.0nm,1.2s,comp=N,3.0nm,0.7s
MJA0 Matsu Arr-Jizo 3.88 235 *e*P **Pn 21 10 54.0 +1.7**
MJA0 pmax pmax
comp=Z,4.0nm,0.3s
MJAR Matsushiro Arr 3.91 235 P **Pn 21 10 54.0 +1.4**
comp=Z,44nm,0.6s,baz=36,slow=12,SNR=142
MJAR S **Sn 21 11 42.6 +5.4**
comp=Z,16nm,0.3s,baz=32,slow=22,SNR=2.6
MJAR LR LR 21 12 42.7
comp=Z,164nm,18.4s,baz=138,slow=43
MAJO Matsushiro 3.91 235 Pn **Pn 21 10 53.6 +1.0**
MAJO Matsushiro 3.91 235 *i* P **Pn 21 10 53.5 +1.0**
MJB9 Matsu-Tunnel 3.91 235 Pn **Pn 21 10 54.7 +2.1**
NMR Nemuro--Hokkai 5.25 29⇓ *i* P **Pn 21 11 09.4 -1.5**
NMR *i* S **Sn 21 12 04.9 -5.3**
ASAJ Asahikawa 5.28 3 P **Pn 21 11 12.0 +0.6**
ASAJ Asahikawa 5.28 3 P **Pn 21 11 12.0 +0.6**
comp=Z,13nm,0.3s,baz=242,slow=8.9,SNR=12
ASAJ S **Sn 21 12 19.0 +8.1**
comp=Z,25nm,0.4s,baz=239,slow=16,SNR=4.2
JKA Kamikawa-asahi 5.28 3 Pn **Pn 21 11 11.5 +0.1**
RUSJ Misakicho 5.74 22 *e*P **Pn 21 11 16.4 -1.2**
RUSJ *e*S **Sn 21 12 20.1 -2.0**
YUK Yuzh-Kuril'sk 5.88 27 *e*P **Pn 21 11 18.4 -1.1**
YUK *e*S **Sn 21 12 21.0 -4.5**
YUK pmax pmax
comp=E,63nm,0.2s
YUK pmax pmax
comp=Z,116nm,0.2s
YUK smax smax
comp=E,325nm,0.5s
YUK smax smax
comp=N,144nm,0.2s
JHJ Hachijo jima 2 6.03 200 P **Pn 21 11 22.2 +0.5**
comp=N,97nm,0.3s,baz=315,slow=21,SNR=16
JHJ S **Sn 21 12 27.5 -1.9**
comp=N,138nm,0.3s,baz=88,slow=23,SNR=1.7
SHO Shikotan 6.12 33 *e*P **Pn 21 11 22.9 +0.1**
SHO *i* S **Sn 21 12 25.9 -5.5**
SHO pmax pmax
comp=Z,30nm,0.4s
SHO pmax pmax
comp=N,18nm,0.3s
SHO smax smax
comp=N,181nm,0.2s
SHO smax smax
comp=E,182nm,0.3s
TEY Ternei 7.47 328⇑ *e*P **Pn 21 11 44.8 +3.5**
TEY pmax pmax
comp=N,40nm,0.7s
TEY pmax pmax
comp=E,20nm,0.7s
TEY pmax pmax
comp=Z,30nm,0.7s
YSS Yuzh-Sakhalins 8.12 3 *e*P **Pn 21 11 52.3 +2.0**
YSS *e*S **Sn 21 13 22.7 +2.1**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,500nm,16.0s
MSHR Mys Shultsa 9.18 298 *i* P **Pn 21 12 04.6 -0.2**
USA0B Ussuriysk Arra 9.35 308 **Pn 21 12 08.6 +1.6**
USA0B Ussuriysk Arra 9.35 308 *i* P **Pn 21 12 08.2 +1.2**
USRK Ussuriysk Ar. 9.35 308 Pn **Pn 21 12 07.0 0.0**
USRK Ussuriysk Ar. 9.35 308 P **Pn 21 12 07.2 +0.2**
comp=Z,42nm,0.9s,baz=119,slow=13,SNR=37
USRK LR LR 21 15 23.5
comp=Z,162nm,21.5s,baz=175,slow=35
JNU Nakatsue 10.80 242 P **Pn 21 12 28.1 +1.1**
comp=Z,6.2nm,0.5s,baz=359,slow=2.7,SNR=6.6
JNU LR LR 21 16 48.5
comp=Z,122nm,20.3s,baz=40,slow=38
MDJ Mudanjiang 11.05 306 Pn **Pn 21 12 31.3 +1.0**
KSRS Korea Array 11.33 267 *e*P **Pn 21 12 37.5 +3.3**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS Korea Array 11.33 267 P **Pn 21 12 36.6 +2.4**
comp=Z,9.3nm,0.6s,baz=79,slow=14,SNR=23
KSRS LR LR 21 16 24.2
comp=Z,98nm,21.0s,baz=75,slow=34
KLR Kul'dur 12.81 328 *i* P **Pn 21 12 51.6 -2.7**
KLR pmax pmax
comp=Z,19nm,3.0s
KLR Kul'dur 12.81 328 P **Pn 21 12 52.7 -1.6**
comp=Z,1.4nm,0.7s,baz=141,slow=12,SNR=2.4
KLR LR LR 21 18 35.1
comp=Z,22nm,19.0s,baz=148,slow=41
PETK Petropavlovsk- 17.82 32 LR LR 21 20 10.4
comp=Z,53nm,21.8s,baz=259,slow=34
ZEA Zeya 18.08 330 *e*P **P 21 13 59.8 -2.4**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
BJT Baijiatuau 20.13 282 P **P 21 14 22.3 -2.5**
BJT Baijiatuau 20.13 282 P **P 21 14 22.3 -2.5**
BJT pmax pmax
comp=Z,7.0nm,0.7s
MA2 Magadan 21.46 12 P **P 21 14 40.3 +1.4**
comp=Z,11nm,0.8s,baz=180,slow=19,SNR=2.6
MA2 LR LR 21 22 30.9
comp=Z,36nm,20.9s,baz=138,slow=35
comp=Z,11nm,0.8s
YAK Yakutsk 24.46 346 P **P 21 15 09.1 +0.2**
YAK IAmb IAmb 21 15 27.6
comp=Z,16nm,0.7s
YAK Yakutsk 24.46 346 *e*P **P 21 15 07.9 -1.0**
YAK *e**PP **pP 21 15 24.2 +2.5**
YAK *e* 21 15 39.2
YAK *e*S **S 21 19 23.8 -1.5**
YAK *e**SS **sS 21 19 48.6 +1.9**
YAK *e*SS **SnSn 21 20 11.4 -1.9**
YAK pmax pmax
comp=Z,4.0nm,0.8s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.5s
YAK pmax pmax
comp=Z,165nm,4.8s
YAK pmax pmax
comp=N,38nm,3.3s
YAK pmax pmax
comp=E,117nm,5.1s
YAK smax smax
comp=E,164nm,4.6s
YAK smax smax
comp=N,145nm,5.1s
SEY Seymchan 24.91 11 *i* P **P 21 15 12.5 -0.4**
SEY pmax pmax
comp=Z,10.0nm,1.1s
SEY Seymchan 24.91 11 LR LR 21 24 31.5
comp=Z,50nm,19.6s,baz=260,slow=35

GUMO Guam 25.26 174 LR LR 21 25 20.9
comp=Z,23nm,20.9s,baz=95,slow=36
BOD Bodaibo 26.37 325 *e*P **P 21 15 24.7 -1.6**
BOD pmax pmax
comp=Z,9.0nm,1.3s
ULN Ulaanbaatar 26.91 301 P **P 21 15 32.0 +0.6**
ULN Ulaanbaatar 26.91 301 *i* P **P 21 15 29.6 -1.8**
ULN pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 27.35 301 *e*P **P 21 15 34.7 -0.6**
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM Songino Array 27.35 301 P **P 21 15 33.9 -1.5**
comp=Z,2.4nm,0.7s,baz=95,slow=8.2,SNR=11
SONM LR LR 21 25 22.0
comp=Z,44nm,20.7s,baz=151,slow=34
comp=Z,2.4nm,0.7s
ENH Enshi 28.15 262 P **P 21 15 42.6 0.0**
H11N2 WAKE ISLAND Hy 28.59 125 T T 21 46 09.6
baz=314,slow=75
H11N1 WAKE ISLAND Hy 28.61 125 T T 21 46 10.2
baz=314,slow=75
H11N3 WAKE ISLAND Hy 28.61 125 T T 21 46 11.0
baz=314,slow=75
H11S1 WAKE ISLAND Hy 29.37 127 T T 21 47 06.0
baz=321,slow=76
H11S3 WAKE ISLAND Hy 29.38 127 T T 21 47 21.1
baz=321,slow=76
H11S2 WAKE ISLAND Hy 29.39 127 T T 21 47 08.8
baz=321,slow=76
ZAK Zakamensk 29.68 306 *e*P **P 21 15 54.5 -1.6**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
DGZ Jazzator, Alta 39.87 304 *d i*P **P 21 17 23.7 -0.1**
DGZ pmax pmax
comp=Z,14nm,0.6s
CRAI Chiangrai 40.43 255 P **P 21 17 28.1 -0.5**
CRAI IAmb IAmb 21 17 37.5
comp=Z,9.4nm,0.9s
ZAA0 Zalesovo Array 41.19 311 P **P 21 17 33.4 -1.0**
ZAA0 IAmb IAmb 21 17 46.2
comp=Z,5.3nm,0.6s
ZALV Zalesovo Beam 41.19 311 P **P 21 17 33.2 -1.2**
ZALV Zalesovo Beam 41.19 311 P **P 21 17 33.5 -0.9**
comp=Z,3.3nm,0.4s,baz=89,slow=8.3,SNR=25
ZALV LR LR 21 35 14.8
comp=Z,50nm,19.9s,baz=81,slow=37
comp=Z,3.3nm,0.4s
CMAR Chiang Mai Arr 42.57 254 *e*P **P 21 17 49.9 +3.7**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 42.57 254 P **P 21 17 46.0 -0.2**
comp=Z,0.6nm,0.5s,baz=44,slow=7.9,SNR=5.4
CMAR LR LR 21 36 26.7
comp=Z,12nm,18.3s,baz=135,slow=37
comp=Z,0.6nm,0.5s
E19K Redstone River 43.59 29 P **P 21 17 55.6 +1.8**
E19K IAmb IAmb 21 18 21.1
comp=Z,5.7nm,0.9s
MK31 Makanchi Array 43.72 301 *i* P **P 21 17 53.8 -1.3**
MKAR Makanchi Array 43.72 301 P **P 21 17 54.0 -1.1**
MKAR Makanchi Array 43.72 301 P **P 21 17 54.1 -1.0**
comp=Z,3.9nm,0.6s,baz=81,slow=9.7,SNR=31
MKAR LR LR 21 36 31.9
comp=Z,41nm,19.4s,baz=64,slow=36
comp=Z,3.9nm,0.6s
MAKZ Makanchi 43.92 301 P **P 21 17 55.9 -0.9**
MAKZ IAmb IAmb 21 17 58.5
comp=Z,7.7nm,1.1s
MAKZ Makanchi 43.92 301 P **P 21 17 55.9 -0.9**
MAKZ pmax pmax
comp=Z,8.0nm,1.1s
SHL Shillong 44.07 268 P **P 21 17 57.8 -0.6**
SHL IAmb IAmb 21 18 00.6
comp=Z,7.2nm,0.7s
SHL Shillong 44.07 268 P **P 21 17 57.8 -0.6**
SHL pmax pmax
comp=Z,7.0nm,0.7s
KURBB Kurchatov Arra 45.41 307 P **P 21 18 07.4 -1.1**
comp=Z,12nm,0.5s,baz=81,slow=8.1,SNR=37
comp=Z,12nm,0.5s
D22K Ayikyak River 45.48 27 P **P 21 18 10.7 +1.9**
D22K IAmb IAmb 21 18 34.5
comp=Z,6.7nm,0.9s
E22K Anaktuvuk Pass 45.72 29 P **P 21 18 12.8 +2.0**
E22K IAmb IAmb 21 18 26.3
comp=Z,3.7nm,0.8s
ILAR Eielson Array 47.64 33 P **P 21 18 27.0 +1.2**
comp=Z,0.9nm,0.6s,baz=265,slow=5.9,SNR=27
comp=Z,0.9nm,0.6s
D25K Kavik River 47.76 27 P **P 21 18 28.2 +1.5**
D25K IAmb IAmb 21 19 02.9
comp=Z,4.0nm,0.9s
BVAR Borovoye Array 49.84 311 P **P 21 18 42.0 -0.8**
comp=Z,5.2nm,0.5s,baz=68,slow=7.8,SNR=17
BVAR LR LR 21 40 21.2
comp=Z,42nm,19.4s,baz=82,slow=37
comp=Z,5.2nm,0.5s
BRVK Borovoye 49.89 311 *i* P **P 21 18 42.2 -1.0**
BRVK pmax pmax
comp=Z,7.0nm,1.5s
HNR Honiara 50.78 157 LR LR 21 38 31.4
comp=Z,391nm,20.8s,baz=335,slow=34
BCPM Bancas Point 51.66 39 P **P 21 18 58.0 +1.6**
I30M Mount Dempster 52.01 32 P **P 21 19 01.1 +1.9**
I30M IAmb IAmb 21 19 20.4
comp=Z,14nm,1.5s
SVE Sverdlovsk 54.22 318⇓ *e*P **P 21 19 15.2 -0.1**
SVE pmax pmax
comp=Z,10.0nm,0.8s
ARU Arti 55.44 318 LR LR 21 45 09.8
comp=Z,57nm,19.2s,baz=74,slow=38
ABKAR Akbulak array 57.27 309 P **P 21 19 36.2 -1.0**
AKTO Aktyubinsk 57.95 311 LR LR 21 45 58.1
comp=Z,36nm,18.0s,baz=262,slow=37
WB0 Warramunga Arr 58.75 189 P **P 21 19 47.4 -0.4**
WR0 Warramunga Arr 58.92 188 P **P 21 19 48.6 -0.5**
WRA Warramunga Arr 58.93 189 P **P 21 19 47.8 -1.3**
WRA Warramunga Arr 58.93 189 P **P 21 19 48.6 -0.5**
comp=Z,7.1nm,0.5s,baz=6.3,slow=7.0,SNR=158
comp=Z,7.1nm,0.5s
YKA Yellowknife Ar 61.94 31 *e*P **P 21 20 10.9 +1.7**
YKA Yellowknife Ar 61.94 31 P **P 21 20 09.7 +0.5**
comp=Z,0.2nm,0.4s,baz=300,slow=7.1,SNR=4.6
comp=Z,0.2nm,0.4s
ARCES ARCESS Array B 62.53 339 *e*P **P 21 20 13.2 +0.1**
ARCES pmax pmax
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 62.53 339 P **P 21 20 12.3 -0.7**
comp=Z,2.8nm,1.0s,baz=46,slow=12,SNR=3.6
ARCES LR LR 21 49 44.6
comp=Z,23nm,19.6s,baz=97,slow=38
comp=Z,2.8nm,1.0s
AS31 Alice Springs 62.66 189 P **P 21 20 14.6 +0.2**
ASAR Alice Springs 62.66 189 *e*P **P 21 20 14.3 -0.1**
ASAR pmax pmax
comp=Z,4.0nm,0.6s
ASAR Alice Springs 62.66 189 P **P 21 20 14.2 -0.3**
comp=Z,3.8nm,0.7s,baz=7.7,slow=5.1,SNR=44
comp=Z,3.8nm,0.7s
BELG Belogornoye 62.91 317 LR LR 21 49 52.3
comp=Z,52nm,18.5s,baz=197,slow=38
DZM Mont Dzumac 64.71 155 LR LR 21 45 10.0
comp=Z,38nm,21.4s,baz=254,slow=33
FINES FINESS Array B 67.51 332 P **P 21 20 44.4 -1.1**
FINES FINESS Array B 67.51 332 P **P 21 20 45.0 -0.5**
comp=Z,1.8nm,0.6s,baz=42,slow=8.8,SNR=8.9
FINES LR LR 21 51 42.2
comp=Z,46nm,18.2s,baz=54,slow=37
comp=Z,1.8nm,0.6s
SUMG Summit 68.89 0 P **P 21 20 54.7 +0.3**
SUMG IAmb IAmb 21 21 23.5
comp=Z,6.4nm,1.1s
SUMG Summit 68.89 0 P **P 21 20 54.7 +0.3**
SUMG pmax pmax
comp=Z,6.0nm,1.1s
KIV Kislovodsk 70.20 311 *e*P **P 21 21 01.0 -1.6**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 70.21 311 P **P 21 21 02.6 +0.1**
comp=Z,1.1nm,0.7s,baz=68,slow=5.4,SNR=1.7
comp=Z,1.1nm,0.7s
STKA Stephens Creek 70.36 181 *e*P **P 21 21 04.4 +1.1**
STKA pmax pmax
comp=Z,1.0nm,0.5s
FCC Fort Churchill 72.11 27 P **P 21 21 14.2 +0.5**
FCC Fort Churchill 72.11 27 P **P 21 21 14.3 +0.5**

NC405 NORSAR Array S 72.56 337 P **P 21 21 16.4 0.0**
HFS Hagfors 72.70 336 P **P 21 21 16.6 -0.7**
comp=Z,1.3nm,0.9s,baz=71,slow=13,SNR=1.1
HFS LR LR 21 56 08.4
comp=Z,49nm,18.4s,baz=64,slow=38
comp=Z,1.3nm,0.9s
NC204 NORSAR Array S 72.72 338 P **P 21 21 19.8 +2.4**
NB2 NORSAR Subarra 72.77 337 P **P 21 21 17.7 0.0**
comp=Z,0.8nm,0.6s,baz=32,slow=6.5
NOA NORSAR Array B 72.77 337 P **P 21 21 16.5 -1.2**
comp=Z,0.3nm,0.6s,baz=40,slow=6.0,SNR=1.5
NOA LR LR 21 56 03.0
comp=Z,25nm,21.1s,baz=275,slow=38
comp=Z,0.3nm,0.6s
AKASG Malin Array Be 73.25 322 P **P 21 21 20.1 -0.6**
AKASG Malin Array Be 73.25 322 *e*P **P 21 21 20.9 +0.2**
AKASG Malin Array Be 73.25 322 P **P 21 21 19.6 -1.1**
comp=Z,0.8nm,0.5s,baz=44,slow=6.3,SNR=6.9
AKASG LR LR 21 53 48.2
comp=Z,15nm,20.1s,baz=29,slow=36
comp=Z,0.8nm,0.5s
NVAR Mina Array Bea 73.42 54 P **P 21 21 24.0 +1.8**
comp=Z,0.3nm,0.6s,baz=309,slow=5.7,SNR=1.1
comp=Z,0.3nm,0.6s
S11A Rachel 75.50 53 P **P 21 21 35.0 +0.8**
S11A IAmb IAmb 21 21 40.2
comp=Z,17nm,1.4s
DUG Dugway, Tooele 75.71 50 P **P 21 21 36.3 +1.0**
DUG Dugway, Tooele 75.71 50 P **P 21 21 36.3 +1.0**
DUG pmax pmax
comp=Z,1.0nm,0.8s
PDAR Pinedale Array 75.96 46 P **P 21 21 37.4 +0.6**
PDAR Pinedale Array 75.96 46 P **P 21 21 37.9 +1.0**
comp=Z,0.4nm,0.7s,baz=272,slow=1.9,SNR=5.7
comp=Z,0.4nm,0.7s
NLU North Lily Min 76.30 50 P **P 21 21 39.2 +0.4**
BUR08 Bucovina Ar. S 77.27 322 P **P 21 21 44.1 +0.1**
BUR08 IAmb IAmb 21 21 52.2
comp=Z,3.8nm,1.2s
ULM Lac du Bonnet 77.66 34 P **P 21 21 47.8 +1.8**
ULM Lac du Bonnet 77.66 34 P **P 21 21 47.8 +1.8**
ULM pmax pmax
comp=Z,26nm,1.3s
SRU San Rafael Swe 77.76 49 P **P 21 21 48.1 +1.1**
SRU San Rafael Swe 77.76 49 P **P 21 21 48.1 +1.1**
SRU pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 78.12 312 P **P 21 21 48.8 -0.1**
BRTR Keskin Array B 78.12 312 P **P 21 21 48.8 -0.1**
BRTR Keskin Array B 78.12 312 P **P 21 21 48.2 -0.8**
comp=Z,0.3nm,0.3s,baz=107,slow=4.3,SNR=2.6
BRTR LR LR 21 59 22.6
comp=Z,25nm,19.8s,baz=250,slow=38
comp=Z,0.3nm,0.3s
VRAC Vranov 79.95 327 LR LR 21 58 54.4
comp=Z,19nm,20.6s,baz=35,slow=37
MMAI Mount Meron Ar 81.43 306 LR LR 22 01 53.4
comp=Z,20nm,18.4s,baz=66,slow=38
GERES GERESS Array B 81.51 328 P **P 21 22 06.4 -0.6**
comp=Z,0.2nm,0.4s,baz=65,slow=4.7,SNR=1.7
GERES LR LR 21 59 49.7
comp=Z,25nm,18.9s,baz=61,slow=37
comp=Z,0.2nm,0.4s
PPT Papeete 84.89 117 LR LR 21 56 29.6
comp=Z,48nm,18.8s,baz=291,slow=33
TXAR Lajitas Array 88.53 53 P **P 21 22 43.3 +0.8**
comp=Z,0.5nm,0.7s,baz=302,slow=4.1,SNR=4.0
comp=Z,0.5nm,0.7s
ESDC Sonseca Array 95.94 334 LR LR 22 11 22.7
comp=Z,22nm,21.6s,baz=322,slow=38

IDC ***17****21:14:30.5±3.0,36.°18N×71.°27E,h91km±25km,mb3.5/13, mbtmp4.0/18,Error ellipse: s-maj=21.9km s-min=15.1km az=155.0*
NEIC ***17****21:14:34.6±1.9,36.°36N±0.°02×71.°21E±0.°09,h119km±8km, mb4.4/15,Error ellipse: s-maj=11.4km s-min=1.6km az=103.0*
NNC ***17****21:14:37.6±2.5,36.°67N×71.°11E,h110km±39km,mb3.5, mpv4.0,Error ellipse: s-maj=24.8km s-min=18.0km az=62.0*

ISC 17 21:14:32.4±0.5,36.°25N±0.°05×71.°30E±0.°05,h114km,n101, σ1§**98**/112**,mb3.9**/16**,6C-4D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.51**	**228**			**Pn**	**21 15 15.1**	**+2.7**
KBL						**Sn**	**21 15 45.7**	**+2.7**
CHGR	**Chuyangaron**	**2.94**	**325**	Pn		**Pn**	**21 15 18.1**	**+0.2**
NIL	**Nilore**	**3.05**	**148**	Pn		**Pn**	**21 15 24.0**	**+4.7**
BTK	**Batken**	**3.82**	**354**	Pn		**Pn**	**21 15 31.4**	**+1.9**
BTK						**Sn**	**21 16 13.3**	**-0.3**
JMU	**Jammu**	**4.61**	**139**	*e*P		**Pn**	**21 15 43.0**	**+2.9**
JMU				*e*S		**Sn**	**21 16 33.0**	**+0.4**
ARSB	**Arslanbob**	**5.23**	**14**	Pn		**Pn**	**21 15 49.1**	**+0.6**
DHRM	**DHARAMSHALA**	**5.75**	**133**	*e*P		**Pn**	**21 15 58.4**	**+2.7**
DHRM				*e*S		**Sn**	**21 17 00.3**	**-0.3**
DHRM				IAML			21 17 03.1	
	comp=N,224nm,0.3s							
AML	**Almayashu**	**6.16**	**17**	P		**Pn**	**21 16 02.4**	**+1.2**
	SNR=82							
AML	**Almayashu**	**6.16**	**17**	⇑P		**Pn**	**21 16 02.1**	**+0.9**
	comp=N,1.7nm,0.4s							
AML				⇑S		**Sn**	**21 17 08.2**	**-2.2**
	comp=N,23nm,0.7s							
BHK	**Bhakra**	**6.43**	**137**	*e*P		**Pn**	**21 16 07.4**	**+2.7**
BHK				*e*S		**Sn**	**21 17 16.9**	**+0.1**
BHK				IAML			21 17 21.5	
	comp=E,109nm,0.2s							
UCH	**Uchtor**	**6.46**	**22**	P		**Pn**	**21 16 06.8**	**+1.4**
	SNR=22							
KZA	**Kyzart**	**6.57**	**27**	P		**Pn**	**21 16 08.1**	**+1.2**
	SNR=13							
EKS2	**Erkin-Say**	**6.68**	**16**	P		**Pn**	**21 16 09.3**	**+1.3**
	SNR=14							
AAK	**Ala-Archa**	**6.84**	**20**	P		**Pn**	**21 16 11.4**	**+1.2**
	SNR=17							
AAK	**Ala-Archa**	**6.84**	**20**			**Pn**	**21 16 11.9**	**+1.7**
AAK	**Ala-Archa**	**6.84**	**20**	P		**Pn**	**21 16 11.3**	**+1.2**
	comp=E,9.0nm,0.3s,baz=182,slow=6.4,SNR=67							
AAK				S		**Sn**	**21 17 24.8**	**-1.8**
	comp=E,11nm,0.5s,baz=333,slow=22,SNR=15							
KK31	**Karatay Array**	**6.87**	**355**	Pn		**Pn**	**21 16 11.1**	**+0.6**
KK31	**Karatay Array**	**6.87**	**355**	P		**Pn**	**21 16 10.9**	**+0.4**
	comp=E,9.5nm,0.3s,baz=180,slow=13,SNR=504							
KK31				⇓S		**Sn**	**21 17 22.1**	**-5.0**
	comp=E,7.4nm,0.3s,baz=182,slow=23,SNR=9.6							
KKAR	**Karatay Array**	**6.87**	**355**	Pn		**Pn**	**21 16 10.7**	**+0.2**
KKAR	**Karatay Array**	**6.87**	**355**	Pn		**Pn**	**21 16 11.1**	**+0.6**
KBK	**Karagaybulak**	**6.99**	**23**	P		**Pn**	**21 16 13.8**	**+1.6**
	SNR=14							
FRU1	**Bishkek**	**7.03**	**20**	Pn		**Pn**	**21 16 13.2**	**+0.4**
SMLA	**Simla**	**7.07**	**135**	*e*P		**Pn**	**21 16 14.8**	**+1.5**
SMLA				*e*S		**Sn**	**21 17 29.5**	**-2.7**
SMLA				IAML			21 17 35.2	
	comp=E,82nm,0.2s							
ULHL	**Ulahol**	**7.11**	**31**	P		**Pn**	**21 16 15.8**	**+1.9**
	SNR=12							
CHMS	**Chumysh**	**7.24**	**21**	P		**Pn**	**21 16 16.7**	**+1.1**
	SNR=9.0							
CHMS	**Chumysh**	**7.24**	**21**	⇓P		**Pn**	**21 16 16.4**	**+0.9**
	comp=E,5.0nm,0.3s							
USP	**Ospenovka**	**7.42**	**18**	P		**Pn**	**21 16 18.8**	**+0.7**
	SNR=20							
TKM2	**Tokmak 2**	**7.44**	**25**	P		**Pn**	**21 16 20.0**	**+1.6**
	SNR=8.3							
TKM2	**Tokmak 2**	**7.44**	**25**	⇓P		**Pn**	**21 16 19.3**	**+0.9**
	comp=E,13nm,0.6s							
TARG	**Taragay, Kyrgy**	**7.45**	**41**	Pn		**Pn**	**21 16 18.5**	**-0.3**
MDOK	**Medeo**	**8.20**	**31**	P		**Pn**	**21 16 29.1**	**+0.5**
	comp=E,6.7nm,0.8s							
PRZ	**Przheval'sk**	**8.30**	**39**	Pn		**Pn**	**21 16 31.5**	**+1.4**
KHET	**Khetri**	**9.00**	**154**	*e*P		**Pn**	**21 16 39.2**	**-0.3**
KHET				*e*S		**Sn**	**21 18 14.0**	**-5.2**
KUDL	**Kundal**	**9.20**	**150**	*e*P		**Pn**	**21 16 42.2**	**+0.1**
KUDL				*e*S		**Sn**	**21 18 18.6**	**-5.3**
PTH	**Pithoragarh**	**10.04**	**129**	*e*P		**Pn**	**21 16 53.5**	**-0.2**
PTH				*e*S		**Sn**	**21 18 37.1**	**-7.4**
LGTI	**Lohaghat**	**10.13**	**130**	*e*P		**Pn**	**21 16 54.4**	**-0.3**
LGTI				*e*S		Sn	21 18 35.9	-10
GEYT	**Alibeck**	**10.66**	**283**	P		**Pn**	**21 17 00.1**	**-1.9**
	comp=E,5.6nm,0.3s,baz=114,slow=11,SNR=40							
GEYT				S		**Sn**	**21 18 53.9**	**-5.5**
	comp=E,5.0nm,0.3s,baz=256,slow=15,SNR=13							

GYA0B	**ALIBECK ARRAY**	10.66	283	Pn		Pn	21 16 60.0	-2.0	
OTUK	**Ortayu**	12.01	3	⇓P		Pn	21 17 17.5	-2.3	
	comp=E,2.6nm,1.0s								
PYUN	**Piuthan**	12.80	126	*e*P		Pn	21 17 29.6	-0.9	
	comp=E,40nm,0.3s								
DANN	**Dangsing**	13.15	123	*e*P		Pn	21 17 34.2	-0.9	
	comp=E,43nm,0.3s								
DANN				*e*S		Sn	21 19 52.5	-7.6	
MAKZ	**Makanchi**	13.22	34	Pn		Pn	21 17 35.3	-0.3	
MK31	**Makanchi Array**	13.35	35	Pn		Pn	21 17 37.8	+0.5	
MKAR	**Makanchi Array**	13.35	35	Pn		Pn	21 17 37.5	+0.1	
MKAR	**Makanchi Array**	13.35	35	P		Pn	21 17 37.9	+0.6	
	comp=E,1.7nm,0.8s,baz=228,slow=14,SNR=8.7								
KOLN	**Koldanda**	13.42	126	*e*P		Pn	21 17 38.7	+0.1	
GKN	**Gorkha**	13.97	122	*e*P		Pn	21 17 44.7	-0.8	
	comp=E,20nm,0.2s								
DMN	**Daman**	14.54	122	*e*P		Pn	21 17 53.1	+0.2	
	comp=E,26nm,0.3s								
KKN	**Kakani**	14.54	122	*e*P		Pn	21 17 52.9	0.0	
PKIN	**Phulchoki**	14.76	122	*e*P		Pn	21 17 55.6	-0.1	
PKI	**Pulchoki**	14.77	122	*e*P		Pn	21 17 55.7	-0.2	
	comp=E,36nm,0.4s								
GUN	**Gumba**	14.88	120	*e*P		Pn	21 17 56.3	-1.1	
JIRN	**Jiri**	15.26	120	*e*P		Pn	21 18 00.7	-1.4	
	comp=E,31nm,0.3s								
KURBB	**Kurchatov Arra**	15.28	18	P		Pn	21 17 59.5	-2.3	
	comp=E,0.4nm,0.2s,baz=206,slow=12,SNR=1.8								
KURBB	**Kurchatov Arra**	15.28	18	⇑P		P	21 18 04.4	+0.4	
	comp=E,6.3nm,0.5s								
KURK	**Kurchatov**	15.39	18			P	21 18 06.0	+0.8	
KURK				IAmb		IAmb	21 18 07.5		
	comp=E,9.6nm,0.8s								
KURK	**Kurchatov**	15.39	18	pmax		pmax			
	comp=E,7.0nm,0.6s								
KURK	**Kurchatov**	15.39	18	*c*e	P	P	21 18 06.0	+0.8	
AB31	**Akbulak array**	15.42	331	P		Pn	21 18 02.9	-0.7	
	comp=E,2.3nm,0.3s,baz=141,slow=13,SNR=88								
ABKAR	**Akbulak array**	15.42	331	Pn		Pn	21 18 02.4	-1.2	
ABKAR	**Akbulak array**	15.42	331	Pn		Pn	21 18 03.2	-0.3	
ABKAR				IAmb		IAmb	21 18 04.8		
	comp=E,7.3nm,0.4s								
RAMN	**Ramite**	15.98	121	*e*P		Pn	21 18 10.3	-0.7	
TAPN	**Taplejung**	16.52	118	*e*P		Pn	21 18 17.1	-0.6	
ODAN	**Odare**	16.59	120	*e*P		P	21 18 19.2	+0.2	
BVA0	**Borovoye Array**	16.78	358	P		P	21 18 20.8	+0.2	
	comp=E,0.2nm,0.7s,baz=163,slow=10,SNR=30								
BVAR	**Borovoye Array**	16.78	358	P		Pn	21 18 19.9	-0.5	
	comp=E,4.1nm,0.6s,baz=165,slow=10.0,SNR=24								
BRVK	**Borovoye**	16.82	358			P	21 18 22.0	+1.0	
AKTO	**Aktyubinsk**	17.11	330	P		P	21 18 24.2	-0.2	
	comp=E,11nm,0.8s,baz=139,slow=9.9,SNR=26								
AKTO				S		Sn	21 21 22.2	-13	
	comp=E,2.8nm,0.6s,baz=50,slow=18,SNR=1.9								
AKTO	**Aktyubinsk**	17.11	330	⇑P		Pn	21 18 25.7	+1.2	
	comp=E,6.4nm,0.8s								
LSA	**Lhasa**	17.88	106	P		P	21 18 33.7	+0.3	
HYB	**Hyderabad**	19.83	159	*e*P		Pn	21 18 58.2	+1.2	
ZAA0	**Zalesovo Array**	20.04	24	P		P	21 18 56.6	+0.4	
ZALV	**Zalesovo Beam**	20.04	24	P		P	21 18 56.2	0.0	
ZALV	**Zalesovo Beam**	20.04	24	P		P	21 18 57.1	+0.9	
	comp=E,5.6nm,0.5s,baz=222,slow=10,SNR=17								
	comp=E,5.6nm,0.5s								
ARU	**Arti**	21.94	341	P		P	21 19 17.3	+0.8	
ARU				IAmb		IAmb	21 19 24.0		
	comp=E,13nm,1.1s								
ARU	**Arti**	21.94	341	*e*S		PcS	21 26 54.7	+5.7	
ARU	**Arti**	21.94	341	P		P	21 19 18.0	+1.5	
	comp=E,4.9nm,0.6s,baz=162,slow=5.8,SNR=11								
	comp=E,4.9nm,0.6s								
ARU	**Arti**	21.94	341	pmax		pmax			
	comp=E,10.0nm,0.9s								
ARU	**Arti**	21.94	341	⇑*i*P		P	21 19 18.1	+1.5	
ARU	**Arti**	21.94	341	*e*AP		pP	21 19 34.4	-4.5	
SONM	**Songino Array**	28.28	55	P		P	21 20 16.0	+1.0	
	comp=Z,0.4nm,0.5s,baz=263,slow=8.6,SNR=3.2								
	comp=Z,0.4nm,0.5s								
AKASG	**Malin Array Be**	33.29	309	P		P	21 20 59.8	+1.0	
	comp=Z,0.8nm,0.6s,baz=81,slow=7.6,SNR=3.3								
	comp=Z,0.8nm,0.6s								
FINES	**FINESS Array B**	37.82	326	P		P	21 21 38.7	+1.2	
	comp=Z,0.8nm,0.3s,baz=118,slow=9.1,SNR=5.8								
	comp=Z,0.8nm,0.3s								
ARCES	**ARCESS Array B**	41.46	338	P		P	21 22 08.7	+1.1	
ARCES				IAmb		IAmb	21 22 37.4		
	comp=Z,23nm,1.5s								
ARCES	**ARCESS Array B**	41.46	338	P		P	21 22 09.2	+1.6	
	comp=Z,0.8nm,0.5s,baz=119,slow=7.6,SNR=7.4								
	comp=Z,0.8nm,0.5s								
GERES	**GERESS Array B**	43.27	306	P		P	21 22 21.0	-1.6	
HFS	**Hagfors**	43.41	322	P		P	21 22 24.6	+1.2	
	comp=Z,2.4nm,0.5s,baz=90,slow=11,SNR=6.6								
	comp=Z,2.4nm,0.5s								
NC405	**NORSAR Array S**	44.49	323	P		P	21 22 31.2	-0.9	
NC303	**NORSAR Array S**	44.66	323	P		P	21 22 34.0	+0.6	
NB201	**NORSAR Array S**	44.68	323	P		P	21 22 34.8	+1.2	
NB2	**NORSAR Subarra**	44.72	323	P		P	21 22 34.9	+1.0	
	comp=Z,0.8nm,0.6s,baz=96,slow=7.9								
NOA	**NORSAR Array B**	44.72	323	P		P	21 22 34.8	+0.8	
	comp=Z,1.9nm,0.8s,baz=97,slow=7.8,SNR=6.2								
	comp=Z,1.9nm,0.8s								
NBO00	**NORSAR Array S**	44.93	323	P		P	21 22 36.0	+0.4	
NBO00				IAmb		IAmb	21 22 37.7		
	comp=Z,35nm,1.4s								
NC204	**NORSAR Array S**	44.96	323	P		P	21 22 36.7	+0.9	
NC204				IAmb		IAmb	21 22 58.4		
	comp=Z,14nm,1.2s								
CTI	**Castel Tesino**	45.01	302	P		P	21 22 35.5	-1.0	
CTI				IAmb		IAmb	21 22 48.3		
	comp=Z,8.5nm,1.3s								
TIXI	**Tiksi**	45.91	22	P		P	21 22 44.3	+1.3	
TIXI				IAmb		IAmb	21 22 52.8		
	comp=Z,6.3nm,1.4s								
TORD	**Torodi Ar. Bea**	65.95	269	P		P	21 25 05.7	-1.0	
	comp=Z,0.3nm,0.4s,baz=52,slow=6.0,SNR=8.0								
	comp=Z,0.3nm,0.4s								
MATP	**Matopo**	69.39	223	P		P	21 25 29.8	+1.5	
	comp=Z,0.8nm,0.5s,baz=353,slow=8.1,SNR=5.6								
	comp=Z,0.8nm,0.5s								
ILAR	**Eielson Array**	74.95	16	P		P	21 26 00.5	-0.1	
	comp=Z,0.3nm,0.7s,baz=324,slow=1.6,SNR=4.4								
	comp=Z,0.3nm,0.7s								
YKA	**Yellowknife Ar**	81.48	3	P		P	21 26 37.5	+1.0	
	comp=Z,0.6nm,0.7s,baz=348,slow=5.5,SNR=10.0								
	comp=Z,0.6nm,0.7s								
ASAR	**Alice Springs**	83.92	125	P		P	21 26 49.7	-0.1	
	comp=Z,0.4nm,0.8s,baz=310,slow=5.3,SNR=4.9								
	comp=Z,0.4nm,0.8s								

IDC ***17*** *21:34:01.6±1.7, 7°.11S×125°.36E, h504km±21km, mb3.4/11, mbtmp4.3/14, Error ellipse: s-maj=27.1km s-min=9.2km az=63.0*

NEIC ***17*** *21:34:01.1±1.3, 7°.08S±0°.09×125°.3E±0°.1, h487km±7km, mb4.4/25, Error ellipse: s-maj=20.3km s-min=12.6km az=82.0*

DJA ***17*** *21:34:01.1±0.3, 7°.5±3'×12°.5E±', h478km±4km, M4.5/14, mB5.0/11, mb4.8/14, MLv4.7/13, Mw(mB)4.3/11*

ISC 17 21:34:01.3±0.4, 7°.15S±0°.05×125°.30E±0°.08, h500km, n112, σ1°03/114, mb3.9/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SOEI	**Soe**	2.78	201	P		P	21 35 10.4	-0.5
SOEI	**Soe**	2.78	201	P		P	21 35 10.4	-0.5
SOEI	**Soe**	2.78	201	P		P	21 35 10.1	-0.9
SOEI				S		S	21 36 02.8	-4.8
BBSI	**Bau Bau**	3.17	301	S		S	21 36 12.3	+0.2
MMRI	**Maumere**	3.37	244	P		P	21 35 13.2	-1.7
MMRI	**Maumere**	3.37	244	P		P	21 35 13.2	-1.7
MMRI	**Maumere**	3.37	244	P		P	21 35 12.7	-2.1
SANI	**Sanana**	5.12	8	P		P	21 35 28.5	-0.9
SANI	**Sanana**	5.12	8	P		P	21 35 28.3	-1.1
	309nm,0.9s,3μm1.1nm							
BNDI	**Bandanaira**	5.28	61	P		P	21 35 30.1	-0.7
	58nm,0.6s,4μm0.8nm							
BKSI	**Bulukumba**	5.45	289	P		P	21 35 32.1	-0.4
	39nm,0.6s,536nm0.2nm							
BASI	**Baing, Sumba**	5.57	237	P		P	21 35 31.8	-1.7
	292nm,0.4s,9μm2.5nm							
KAPI	**Kappang**	5.91	291	P		P	21 35 37.2	+0.4
	18nm,0.5s,baz=80,slow=3.9,SNR=6.4							
SAUI	**Saumlaki**	6.01	98			P	21 35 36.9	-0.8
SAUI	**Saumlaki**	6.01	98	P		P	21 35 36.8	-0.9
	326nm,0.7s,1.8nm							
SPSI	**Sidrap Palu**	6.35	300	P		P	21 35 40.7	-0.3
	17nm,0.7s,0.1nm							
LUWI	**Luwuk**	6.57	337	P		P	21 35 43.8	+0.5
LUWI	**Luwuk**	6.57	337	P		P	21 35 43.6	+0.3
LUWI	**Luwuk**	6.57	337	P		P	21 35 43.4	+0.1
	344nm,0.8s,3μm1.2nm							
TTSI	**Tana Toraja**	6.81	307	P		P	21 35 45.7	+0.1
	39nm,1.1s,0.1nm							
PLAI	**Plampang**	7.63	257	P		P	21 35 51.4	-2.5
PLAI	**Plampang**	7.63	257	P		P	21 35 51.0	-2.9
	64nm,0.6s,0.3nm							
KMSI	**Cibinong**	7.79	350	P		P	21 35 56.0	+0.4
	574nm,0.6s,7μm2.3nm							
MTN	**Manton Dam**	8.06	135	P		P	21 35 58.3	0.0
MTN	**Manton Dam**	8.06	135	P		P	21 35 58.2	-0.2
TNTI	**Ternate**	8.14	15	P		P	21 35 58.2	-1.0
TNTI	**Ternate**	8.14	15	P		P	21 35 58.2	-1.0
TNTI	**Ternate**	8.14	15	P		P	21 35 57.8	-1.4
	118nm,0.8s,939nm							
MRSI	**Marisa**	8.29	336	P		P	21 36 01.0	+0.3
	493nm,0.9s,4μm							
KDU	**Kakadu**	8.96	128	P		P	21 36 06.9	-0.8
KNRA	**Kununurra**	9.13	158	P		P	21 36 09.8	+0.4
KNRA	**Kununurra**	9.13	158	P		P	21 36 09.6	+0.2
MPSI	**Mapaga**	9.18	324	P		P	21 36 10.9	+0.8
TOLI2	**Tolitoli**	9.36	331	P		P	21 36 11.1	-1.0
TOLI2	**Tolitoli**	9.36	331	P		P	21 36 12.2	+0.2
FITZ	**Fitzroy Crossi**	10.88	178	P		P	21 36 28.4	+0.4
FITZ	**Fitzroy Crossi**	10.88	178	P		P	21 36 28.0	0.0
JAGI	**Jajag, Banyuwa**	11.12	263	P		P	21 36 28.1	-2.4
MBWA	**Marble Bar**	14.93	201	P		P	21 37 10.3	-0.5
MBWA	**Marble Bar**	14.93	201	P		P	21 37 10.4	-0.3
PSA00	**Pilbara Seismi**	15.27	200	P		P	21 37 13.8	-0.5
PSA00	**Pilbara Seismi**	15.27	200	P		P	21 37 13.5	-0.8
PSA00				IAmb		IAmb	21 37 15.6	
	comp=Z,18nm,1.4s							
PSA00	**Pilbara Seismi**	15.27	200	P		P	21 37 14.0	-0.3
WB0	**Warramunga Arr**	15.34	146	P		P	21 37 14.4	-0.7
WB0				IAmb		IAmb	21 37 34.9	
	comp=Z,15nm,0.6s							
WRA	**Warramunga Arr**	15.45	146	P		P	21 37 14.5	-1.7
WRA	**Warramunga Arr**	15.45	146	P		P	21 37 15.2	-1.1
	comp=Z,6.7nm,0.4s,baz=336,slow=9.5,SNR=235							
WRA				S		S	21 39 55.9	-1.2
	comp=Z,7.1nm,0.9s,baz=322,slow=15,SNR=6.3							
WB2	**Warramunga Arr**	15.46	146	P		P	21 37 15.6	-0.7
WB2				IAmb		IAmb	21 37 15.9	
	comp=Z,10nm,0.7s							
WR0	**Warramunga Arr**	15.57	146	P		P	21 37 16.8	-0.7
WR0				IAmb		IAmb	21 37 19.2	
	comp=Z,18nm,0.9s							
WRKA	**Warakurna**	18.02	171	P		P	21 37 42.6	+0.8
AS31	**Alice Springs**	18.38	154	P		P	21 37 46.1	+0.9
AS31				IAmb		IAmb	21 37 47.6	
	comp=Z,5.4nm,0.7s							
ASAR	**Alice Springs**	18.38	154	P		P	21 37 46.1	+0.9
	comp=Z,8.4nm,0.4s,baz=344,slow=13,SNR=155							
ASAR				S		S	21 40 47.9	+0.1
	comp=Z,16nm,0.9s,baz=344,slow=22,SNR=26							
GIRL	**Giralia**	18.73	214	P		P	21 37 50.1	+1.8
GIRL	**Giralia**	18.73	214	P		P	21 37 50.0	+1.7
QIS	**Mount Isa**	19.23	135	P		P	21 37 53.3	+0.3
MEEK	**Meekatharra**	20.39	197	P		P	21 38 03.9	+0.4
OOD	**Oodnadatta**	22.77	156	P		P	21 38 26.0	+1.1
FORT	**Forrest**	23.65	174	P		P	21 38 33.2	+0.4
FORT	**Forrest**	23.65	174	P		P	21 38 33.1	+0.4
MULG	**Mulgathing**	24.44	161	P		P	21 38 40.6	+0.9
BLDU	**Ballidu**	24.69	198	P		P	21 38 42.4	+0.4
INKA	**Innaminka**	25.17	146	P		P	21 38 48.1	+1.8
LCRK	**Leigh Creek**	26.15	154	P		P	21 38 55.9	+0.9
NWAO	**Narrogin (SRO)**	26.72	195	P		P	21 39 00.5	+0.5
NWAO	**Narrogin (SRO)**	26.72	195	P		P	21 39 00.4	+0.5
BBOO	**Buckleboo**	27.42	160	P		P	21 39 06.8	+0.7
BBOO				IAmb		IAmb	21 39 07.3	
	comp=Z,18nm,0.6s							
BBOO	**Buckleboo**	27.42	160	P		P	21 39 06.7	+0.6
STKA	**Stephens Creek**	28.92	150	P		P	21 39 20.3	+1.1
STKA	**Stephens Creek**	28.92	150	P		P	21 39 20.3	+1.1
STKA	**Stephens Creek**	28.92	150	P		P	21 39 20.1	+0.8
	comp=Z,5.6nm,0.3s,baz=328,slow=8.9,SNR=20							
	comp=Z,5.6nm,0.3s							
HTT	**Hallett**	29.04	156	P		P	21 39 21.8	+1.5
TPUB	**Ta-pu**	30.61	352	P		P	21 39 32.9	-1.1
CMSA	**Cobar Meteorol**	30.84	145	P		P	21 39 37.5	+1.6
CMAR	**Chiang Mai Arr**	36.38	315	P		P	21 40 23.1	+0.2
	comp=Z,1.8nm,0.7s,baz=145,slow=6.8,SNR=15							
	comp=Z,1.8nm,0.7s							
KSRS	**Korea Array**	44.44	3	P		P	21 41 27.9	+0.8
	comp=Z,0.9nm,0.5s,baz=180,slow=8.6,SNR=2.9							
	comp=Z,0.9nm,0.5s							
MJAR	**Matsushiro Arr**	45.12	15	P		P	21 41 31.5	-0.9
	comp=Z,2.4nm,0.7s,baz=188,slow=9.0,SNR=7.1							
	comp=Z,2.4nm,0.7s							
MJB9	**Matsu-Tunnel**	45.12	15	P		P	21 41 32.1	-0.3
MJB9				IAmb		IAmb	21 41 34.0	
	comp=Z,25nm,1.5s							
TAPN	**Taplejung**	49.99	315	*e*P		P	21 42 09.9	+0.3
RAMN	**Ramite**	50.54	314	*e*P		P	21 42 14.4	+0.9
	comp=Z,11nm,0.6s							
JIRN	**Jiri**	51.25	314	*e*P		P	21 42 19.3	+0.4
USRK	**Ussuriysk Ar.**	51.47	6	P		P	21 42 20.5	+0.9
GUN	**Gumba**	51.62	314	*e*P		P	21 42 21.9	+0.4
	comp=Z,7.6nm,0.5s							
PKI	**Pulchoki**	51.76	314	*e*P		P	21 42 22.5	0.0
	comp=Z,5.4nm,0.5s							
PKIN	**Phulchoki**	51.77	314	*e*P		P	21 42 22.4	-0.1
	comp=Z,7.2nm,0.5s							
GKN	**Gorkha**	52.56	313	*e*P		P	21 42 28.1	0.0
	comp=Z,7.0nm,0.4s							
DANN	**Dangsing**	53.40	313	*e*P		P	21 42 34.7	+0.5
	comp=Z,6.4nm,0.7s							
PYUN	**Piuthan**	53.81	313	*e*P		P	21 42 37.4	+0.3
SONM	**Songino Array**	57.24	345	P		P	21 43 00.6	+0.1
SONM	**Songino Array**	57.24	345	P		P	21 43 00.4	0.0
	comp=Z,0.4nm,0.5s,baz=154,slow=8.3,SNR=3.6							
	comp=Z,0.4nm,0.5s							
MK31	**Makanchi Array**	65.88	329	P		P	21 43 57.5	+0.5
MK31				IAmb		IAmb	21 44 36.1	
	comp=Z,4.2nm,1.2s							
MKAR	**Makanchi Array**	65.88	329	P		P	21 43 57.3	+0.3
MKAR	**Makanchi Array**	65.88	329	P		P	21 43 56.9	-0.1
	comp=Z,1.5nm,0.5s,baz=122,slow=7.3,SNR=36							
	comp=Z,1.5nm,0.5s							
PEA0B	**Petropavlovsk**	66.02	21	P		P	21 43 58.2	+0.5
PETK	**Petropavlovsk**	66.02	21	P		P	21 43 58.0	+0.3
PETK	**Petropavlovsk**	66.02	21	P		P	21 43 57.4	-0.2
	comp=Z,3.9nm,0.7s,baz=245,slow=5.0,SNR=5.9							
	comp=Z,3.9nm,0.7s							
MAKZ	**Makanchi**	66.05	329	P		P	21 43 58.3	+0.3
MAKZ				IAmb		IAmb	21 44 24.9	
	comp=Z,7.1nm,1.2s							
AAK	**Ala-Archa**	67.71	322	P		P	21 44 09.2	+0.6
ZALV	**Zalesovo Beam**	69.73	336	P		P	21 44 20.1	-0.2
ZALV	**Zalesovo Beam**	69.73	336	P		P	21 44 19.8	-0.5
	comp=Z,1.7nm,0.5s,baz=142,slow=5.6,SNR=9.4							
	comp=Z,1.7nm,0.5s							
KURBB	**Kurchatov Arra**	70.27	330	P		P	21 44 23.5	0.0
	comp=Z,1.0nm,0.2s,baz=136,slow=5.1,SNR=2.1							
	comp=Z,1.0nm,0.2s							
VNDA	**Vanda**	72.89	172	P		P	21 44 40.4	+1.9
VNDA				IAmb		IAmb	21 45 14.9	
	comp=Z,3.7nm,1.4s							
BVAR	**Borovoye Array**	75.76	329	P		P	21 44 55.4	+0.3
	comp=Z,1.3nm,0.5s,baz=115,slow=6.7,SNR=7.0							
	comp=Z,1.3nm,0.5s							
BRVK	**Borovoye**	75.83	329	P		P	21 44 55.4	-0.1
TIXI	**Tiksi**	78.67	1	P		P	21 45 10.4	-0.1
TIXI				IAmb		IAmb	21 45 11.0	
	comp=Z,3.2nm,0.5s							
ABKAR	**Akbulak array**	79.76	323	P		P	21 45 16.8	-0.1
ABKAR	**Akbulak array**	79.76	323	P		P	21 45 16.7	-0.1
ABKAR				IAmb		IAmb	21 45 50.5	
	comp=Z,2.5nm,1.4s							
J16K	**Anvik River**	89.28	26	P		P	21 46 04.1	+0.8
J16K				IAmb		IAmb	21 46 45.3	
	comp=Z,17nm,1.4s							
L16K	**Owhat River**	89.33	27	P		P	21 46 03.7	+0.1
L16K				IAmb		IAmb	21 46 34.6	
	comp=Z,19nm,1.5s							
ILAR	**Eielson Array**	95.48	25	P		P	21 46 29.8	-2.0
	comp=Z,0.3nm,0.8s,baz=224,slow=5.0,SNR=5.3							
	comp=Z,0.3nm,0.8s							
K22A	**Casper**	122.42	43			PKiKP	21 52 00.5	+0.5
RSSD	**Black Hills**	123.47	41			PKPpre	21 51 55.0	
TORD	**Torodi Ar. Bea**	124.26	281	PKP		PKiKP	21 52 04.0	-0.2
	comp=Z,0.1nm,0.5s,baz=59,slow=2.9,SNR=4.2							
TXAR	**Lajitas Array**	128.99	58	PKP		PKiKP	21 52 13.7	+0.3
	comp=Z,0.2nm,0.5s,baz=300,slow=1.8,SNR=2.6							

ROM 17 21:36:16.0±0.1, 41°.739N±0°.004×14°.250E±0°.004, h14km±1km, Md1.4/2, ML1.0/11, 2C, Error ellipse: s-maj=0.4km s-min=0.2km az=43.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MIDA	**Miranda**	0.10	178	⇑P		Pg	21 36 19.5	+0.3
MIDA				S		Sg	21 36 21.6	+0.2
MIDA				AML		AML		
	comp=E,458μm,0.1s							
MIDA				AML		AML		
	comp=N,378μm,0.5s							
MIDA				AML		AML		
	comp=N,264μm,0.3s							
MIDA				END				
CERA	**Filignano**	0.22	231	P		Pg	21 36 21.4	+0.4
CERA				S		Sb	21 36 25.4	-0.5
CERA				AML		AML		
	comp=N,30μm,0.3s							
CERA				AML		AML		
	comp=E,42μm,0.3s							
CERA				AML		AML		
	comp=E,45μm,0.3s							
CERA				AML		AML		
	comp=N,27μm,0.2s							
CERA				END				
TRIV	**Trivento**	0.23	83	P		Pg	21 36 21.4	+0.4
TRIV				S		Sb	21 36 25.6	-0.4
LPEL	**Lama dei Pelig**	0.31	351	P		Pg	21 36 22.6	+0.1
LPEL				S		Sg	21 36 27.6	+0.7
BSSO	**Busso**	0.32	127	P		Pg	21 36 23.1	+0.4
BSSO				S		Sg	21 36 27.9	+0.7
BSSO				AML		AML		
	comp=E,38μm,0.5s							
BSSO				AML		AML		
	comp=E,13μm,0.5s							
BSSO				AML		AML		
	comp=N,57μm,0.7s							
BSSO				AML		AML		
	comp=N,22μm,0.7s							
VAGA	**Valle Agricola**	0.32	182	P		Pg	21 36 22.8	+0.1
SGG	**Gregorio Mates**	0.36	165	P		Pg	21 36 23.7	+0.3
INTR	**Introdacqua**	0.38	317	⇑P		Pg	21 36 23.8	+0.1
INTR				S		Sb	21 36 29.8	-0.5
POFI	**Posta Fibreno**	0.40	267	P		Pg	21 36 24.4	+0.2
POFI				S		Sb	21 36 30.4	-0.7

IDC ***17*** *22:04:49.4±1.1, 15°.78N×95°.66W, h0km, mb3.8/8, mbtmp3.7/9, ML3.4/1, MS3.5/12, Error ellipse: s-maj=24.7km s-min=20.5km az=86.0*

NEIC ***17*** *22:04:53.3±1.9, 15°.62N±0°.08×95°.77W±0°.05, h29km±8km, mb4.1/24, Md4.5/46(MEX), Error ellipse: s-maj=13.1km s-min=6.0km az=201.0*

MEX ***17*** *22:04:55.5±2.2, 15°.83N×95°.77W, h16km±34km, MD4.4*

ISC 17 22:04:51.1±1.2, 15°.82N±0°.03×95°.65W±0°.02, h12km±8km, n82, σ1°95/104, mb3.9/11, MS3.5/9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HUIG	**Huatulco**	0.45	264			Pb	22 05 01.1	+0.2
HUIG						Sg	22 05 06.4	+0.6
HUIG	**Huatulco**	0.45	264	*i* P		Pb	22 05 01.1	+0.2
HUIG				*i* S		Sg	22 05 06.4	+0.6
NILT	**Santiago Nilte**	1.24	53	*e*P		Pg	22 05 16.0	+1.0
NILT				*e*S		Sg	22 05 29.5	-1.5
CMIG	**Matias Romero**	1.46	30			Pg	22 05 18.5	-0.7
CMIG						Sg	22 05 37.5	-0.7
CMIG	**Matias Romero**	1.46	30	Pn		Pb	22 05 18.2	-0.1
	48nm,0.3s,baz=221,slow=11,SNR=190							
CMIG				Sn		Sg	22 05 38.8	+0.6
	202nm,0.3s,baz=232,slow=17,SNR=18							
CMIG				LR		LR	22 05 55.7	
	comp

comp=Z,5.7nm,0.7s
LPIG La Paz 16.05 303 LR LR 22 14 09.6
comp=Z,62nm,19.6s,baz=16,slow=35
WHTX Lake Whitney, 16.18 354 P **Pn** **22 08 39.8 +1.3**
WHTX IAmb IAmb 22 08 51.0
comp=Z,19nm,1.1s
ALPN Alpine 16.24 335 Pn **Pn** **22 08 40.7 +1.4**
ALPN IAmb IAmb 22 08 52.3
comp=Z,7.8nm,1.0s
FW13 Cleburne 16.54 355 Pn **P** **22 08 45.4 -0.2**
FW13 IAmb IAmb 22 09 03.7
comp=Z,8.8nm,0.7s
MNHN Monahans 16.76 338 Pn **Pn** **22 08 46.8 +0.9**
MNHN IAmb IAmb 22 09 04.4
comp=Z,6.3nm,0.6s
PLPT Palo Pinto 17.09 352 P **P** **22 08 53.2 +1.5**
PLPT IAmb IAmb 22 09 00.9
comp=Z,10nm,0.8s
ABTX Abilene, Hawle 17.12 348 Pn **Pn** **22 08 51.1 +0.7**
ABTX IAmb IAmb 22 09 01.6
comp=Z,11nm,0.9s
Z41A Richland Creek 17.55 8 P **P** **22 08 59.2 +2.4**
SN01 Snyder 1 17.62 345 **P** **22 08 57.9 +0.3**
SN01 IAmb IAmb 22 09 11.7
comp=Z,6.6nm,0.8s
WMOK Wichita Mounta 19.05 352 P **P** **22 09 13.2 -0.1**
WMOK IAmb IAmb 22 09 21.4
comp=Z,12nm,1.4s
MSTX Muleshoe 19.18 342 P **Pn** **22 09 16.2 +0.4**
MSTX IAmb IAmb 22 09 23.8
comp=Z,7.4nm,0.9s
SMWD Samnorwood 19.64 349 P **Pn** **22 09 23.0 +1.8**
SMWD IAmb IAmb 22 09 35.0
comp=Z,12nm,0.7s
OK052 Battle Ridge R 20.12 357 P Pn 22 09 28.0 +1.2
OK048 Pawnee Station 20.55 357 Pn 22 09 32.6 +0.8
OK048 IAmb IAmb 22 09 40.6
comp=Z,14nm,0.9s
OK051 E0350 and S346 20.63 357 P Pn 22 09 34.2 +1.4
CROK Carrier 20.71 355 P Pn 22 09 33.4 -0.3
T35A Sooner Cattle 21.03 358 P **P** **22 09 37.4 +2.5**
ANMO Albuquerque 21.38 335 P **P** **22 09 39.3 +0.5**
comp=Z,0.3nm,0.3s,baz=254,slow=19,SNR=2.3
ANMO LR LR 22 18 40.5
comp=Z,63nm,21.0s,baz=242,slow=39
comp=Z,0.3nm,0.3s
PBMO Poplar Bluff 21.39 12 P **P** **22 09 38.6 0.0**
PBMO IAmb IAmb 22 09 39.4
comp=Z,11nm,1.1s
TKL Tuckaleechee C 22.43 26 P **P** **22 09 50.8 +1.0**
comp=Z,2.0nm,0.8s,baz=17,slow=18,SNR=2.4
comp=Z,2.0nm,0.8s
T25A Trinidad 22.61 342 P **P** **22 09 52.6 +0.5**
T25A IAmb IAmb 22 10 09.6
comp=Z,5.6nm,1.0s
SDCO Great Sand Dun 23.51 340 P **P** **22 10 02.4 +1.0**
SDCO IAmb IAmb 22 10 17.3
comp=Z,3.8nm,0.9s
BOSC San Juan Bosco 25.36 137 P **P** **22 10 16.7 -1.9**
SDV Santo Domingo 25.37 103 LR LR 22 21 01.5
comp=Z,71nm,19.8s,baz=270,slow=38
PFO Pinyon Flats O 25.82 317 LR LR 22 21 27.2
comp=Z,109nm,18.8s,baz=150,slow=39
NVAR Mina Array Bea 30.07 323 P **P** **22 11 02.8 +2.1**
comp=Z,0.5nm,0.3s,baz=126,slow=9.1,SNR=8.2
NVAR LR LR 22 24 47.9
comp=Z,119nm,19.7s,baz=100,slow=40
comp=Z,0.5nm,0.3s
ELK Elko 30.10 329 P **P** **22 11 02.2 +1.3**
comp=Z,1.2nm,0.9s,baz=131,slow=8.4,SNR=3.6
ELK LR LR 22 24 50.4
comp=Z,157nm,18.8s,baz=172,slow=40
comp=Z,1.2nm,0.9s
NNA Nana 33.31 145 LR LR 22 22 23.3
comp=Z,28nm,18.1s,baz=276,slow=32
YBH Yreka Blue Hor 34.79 323 LR LR 22 27 37.4
comp=Z,141nm,18.3s,baz=157,slow=39
NEW Newport 36.86 336 LR LR 22 28 41.2
comp=Z,73nm,19.3s,baz=206,slow=39
ETMB Extrema 38.71 129 P **P** **22 12 14.6 -0.7**
YKA Yellowknife Ar 48.50 348 P **P** **22 13 32.4 -1.2**
comp=Z,0.3nm,0.7s,baz=155,slow=7.3,SNR=3.6
comp=Z,0.3nm,0.7s
DLBC Dease Lake 49.59 337 LR LR 22 36 55.4
comp=Z,118nm,18.7s,baz=111,slow=39
ILAR Eielson Array 59.80 337 P **P** **22 14 55.3 -0.7**
comp=Z,1.0nm,0.9s,baz=131,slow=3.8,SNR=9.5
comp=Z,1.0nm,0.9s
PLCA Paso Flores 60.90 158 P **P** **22 15 04.0 +0.1**
comp=Z,2.8nm,0.8s,baz=322,slow=10,SNR=7.3
comp=Z,2.8nm,0.8s
ESDC Sonseca Array 81.35 51 P **P** **22 17 08.3 +0.3**
comp=Z,1.4nm,1.1s,baz=308,slow=7.3,SNR=5.0
comp=Z,1.4nm,1.1s

*NEIC **17** 22:09:34.8±0.6, 19°.27N±0°.02×155°.41W±0°.01, h41km±2km, Error ellipse: s-maj=3.1km s-min=1.4km az=179.0*
HVO 17 22:09:36.5±0.9,**19°.25N**±0°.02×**155°.38W**±0°.05,**h32**km±7km, **ML2.3**/12,**ML2.5**/50(NEIC), **Error ellipse: s-maj=7.3km s-min=2.2km az=111.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.02**	**235**		Pb	22 09 41.6	-0.3
HLP	**Hilina Pali**	**0.09**	**56**		Pb	22 09 41.8	-0.4
HLP					Sb	22 09 45.7	-0.4
HLP	**Hilina Pali**	**0.09**	**56**	IAML		22 09 46.4	
	comp=N,626nm,0.8s						
HLP				IAML		22 09 49.3	
	comp=E,534nm,1.1s						
AIN	**Ainahou**	**0.14**	**331**		Pn	22 09 42.2	-0.5
AIN					Sn	22 09 46.3	-0.1
AIN	**Ainahou**	**0.14**	**331**	IAML		22 09 46.7	
	comp=E,2μm,0.3s						
AIN				IAML		22 09 47.0	
	comp=N,3μm,0.3s						
SDHHI	**Sand Hill**	**0.17**	**31**		Pb	22 09 42.1	-0.8
WRMHI	**West Rim**	**0.18**	**26**		Pb	22 09 42.1	-0.9
WRMHI	**West Rim**	**0.18**	**26**	IAML		22 09 49.3	
	comp=E,851nm,0.4s						
WRMHI				IAML		22 09 53.2	
	comp=N,1μm,1.7s						
RIM	**Rim**	**0.18**	**35**		Pb	22 09 42.1	-0.8
RIM	**Rim**	**0.18**	**35**	IAML		22 09 50.2	
	comp=N,1μm,1.4s						
RIM				IAML		22 09 51.8	
	comp=E,710nm,1.3s						
KKO	**Keanakako`i**	**0.19**	**36**		Pb	22 09 42.2	-0.8
KKO					Sn	22 09 46.3	-1.1
KKO	**Keanakako`i**	**0.19**	**36**	IAML		22 09 51.1	
	comp=E,852nm,1.3s						
KKO				IAML		22 09 51.3	
	comp=N,1μm,1.3s						
OBL	**Observatory Le**	**0.19**	**29**		Pb	22 09 42.2	-0.9
OBL	**Observatory Le**	**0.19**	**29**	IAML		22 09 47.1	
	comp=N,899nm,0.7s						
OBL				IAML		22 09 55.0	
	comp=E,1μm,0.6s						
UWE	**Uwekahuna**	**0.19**	**26**		Pb	22 09 42.2	-0.9
UWE	**Uwekahuna**	**0.19**	**26**	IAML		22 09 48.6	
	comp=N,986nm,1.5s						
UWE				IAML		22 09 52.0	
	comp=E,829nm,0.9s						
BYL	**Byron's Ledge**	**0.20**	**35**		Pb	22 09 42.3	-0.9
BYL	**Byron's Ledge**	**0.20**	**35**	IAML		22 09 50.2	
	comp=N,798nm,1.3s						
BYL				IAML		22 09 55.9	
	comp=E,512nm,1.3s						
PUH	**Pauahi**	**0.20**	**51**		Pb	22 09 42.3	-0.9
PUH					Sb	22 09 46.5	-1.3
PUH	**Pauahi**	**0.20**	**51**	IAML		22 09 46.7	
	comp=E,301nm,0.3s						
PUH				IAML		22 09 47.4	
	comp=N,272nm,0.7s						
UWB	**Uwekahuna B**	**0.20**	**29**		Pb	22 09 42.1	-1.1
UWB	**Uwekahuna B**	**0.20**	**29**	IAML		22 09 50.8	
	comp=N,348nm,1.5s						
UWB				IAML		22 09 54.4	
	comp=E,239nm,0.8s						
HATHI	**Halema'uma'u T**	**0.21**	**33**		Pb	22 09 42.3	-1.0
HATHI	**Halema'uma'u T**	**0.21**	**33**	IAML		22 09 47.7	
	comp=N,558nm,1.1s						
HATHI				IAML		22 09 56.4	
	comp=E,724nm,1.3s						
SBLHI	**Steaming Bluff**	**0.21**	**31**		Pb	22 09 42.2	-1.1
SBLHI					Sb	22 09 46.5	-1.3
SBLHI	**Steaming Bluff**	**0.21**	**31**	IAML		22 09 50.8	
	comp=E,458nm,1.5s						
SBLHI				IAML		22 09 55.0	
	comp=N,487nm,0.9s						
KHU	**Kahuku**	**0.22**	**270**		Pb	22 09 42.5	-1.0
KHU					Sb	22 09 46.9	-1.3
KHU	**Kahuku**	**0.22**	**270**	IAML		22 09 46.9	
	comp=N,546nm,0.2s						
KHU				IAML		22 09 47.1	
	comp=E,1μm,0.6s						
HPO	**Honuapo**	**0.23**	**226**		Pb	22 09 42.5	-0.8
HPO					Sb	22 09 46.9	-1.0
RSD	**Rainshed**	**0.24**	**25**		Sb	22 09 47.8	-0.6
RSD	**Rainshed**	**0.24**	**25**		Pb	22 09 42.5	-1.1
RSD	**Rainshed**	**0.24**	**25**	IAML		22 09 47.4	
	comp=N,252nm,4.4s						
RSD	**Rainshed**	**0.24**	**25**	IAML		22 09 51.1	
	comp=E,329nm,3.5s						
KNHH	**Kane Nui o Ham**	**0.24**	**57**		Pb	22 09 42.8	-0.9
MLH	**Mauna Loa**	**0.25**	**360**		Pb	22 09 43.0	-0.8
MLH	**Mauna Loa**	**0.25**	**360**	IAML		22 09 45.7	
	comp=N,295nm,1.1s						
MLH				IAML		22 09 53.2	
	comp=E,176nm,1.9s						
STCH	**Steam Cracks**	**0.28**	**61**	IAML		22 09 48.4	
	comp=E,539nm,0.2s						
STCH	**Steam Cracks**	**0.28**	**61**		Pb	22 09 43.1	-1.0
STCH					Sb	22 09 48.0	-1.1
NPOC	**North of Pu'u**	**0.30**	**61**	IAML		22 09 48.2	
	comp=E,429nm,0.7s						
NPOC	**North of Pu'u**	**0.30**	**61**		Pb	22 09 43.3	-1.0
NPOC				IAML		22 09 48.5	
	comp=N,521nm,0.3s						
NPOC	**North of Pu'u**	**0.30**	**61**		Sb	22 09 48.4	-1.1
JCUZ	**Jacuzzi**	**0.30**	**63**	IAML		22 09 55.5	
	comp=N,400nm,1.5s						
JCUZ	**Jacuzzi**	**0.30**	**63**		Pb	22 09 43.4	-0.9
JCUZ					Sb	22 09 48.5	-1.1
MWH	**Moku'aweowe**	**0.31**	**320**		Pb	22 09 43.5	-1.3
MWH					Sb	22 09 49.0	-1.5
MWH	**Moku'aweowe**	**0.31**	**320**	IAML		22 09 49.1	
	comp=E,426nm,0.6s						
MWH				IAML		22 09 51.8	
	comp=N,386nm,0.2s						
MLOA	**Mauna Loa Obse**	**0.34**	**328**		Pb	22 09 43.9	-1.2
MLOA					Sb	22 09 49.1	-1.9
MLOA	**Mauna Loa Obse**	**0.34**	**328**	IAML		22 09 49.2	
	comp=E,330nm,0.2s						
MLOA				IAML		22 09 49.3	
	comp=N,308nm,0.2s						
HMH	**Humu'ula Sheep**	**0.37**	**345**		Pb	22 09 44.5	-0.9
HMH					Sb	22 09 50.2	-1.2
HMH	**Humu'ula Sheep**	**0.37**	**345**	IAML		22 09 50.6	
	comp=E,396nm,0.9s						
HMH				IAML		22 09 50.7	
	comp=N,325nm,0.3s						
ALEP	**Alea Permanent**	**0.38**	**320**		Pb	22 09 44.1	-1.5
ALEP					Sb	22 09 50.0	-1.9
JOKA	**Jonika Flow**	**0.40**	**63**		Pb	22 09 44.4	-1.3
JOKA					Sb	22 09 50.2	-1.7
POHA	**Pohakuloa**	**0.53**	**345**		Pb	22 09 46.0	-1.7
POHA					Sb	22 09 52.7	-2.6
KHLU	**Kahalu`u**	**0.59**	**306**	IAML		22 09 54.0	
	comp=E,197nm,2.2s						
KHLU				IAML		22 09 54.5	
	comp=N,307nm,0.1s						
KHLU	**Kahalu`u**	**0.59**	**306**		Pb	22 09 46.6	-2.0
KHLU					Sb	22 09 53.9	-3.0
HPAH	**Hawaii Prepara**	**0.83**	**339**	IAML		22 10 11.4	
	comp=E,142nm,4.5s						
HPAH	**Hawaii Prepara**	**0.83**	**339**		Pn	22 09 49.8	-2.4
HPAH					Sn	22 09 59.1	-4.3

NOU 17 22:16:56.9, 17°.89S×169°.04E, h128km, MLv3.7/9, **Vanuatu Islands, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**0.59**	**279**	P	Pn	22 17 18.3	+2.0
DVP	**Devils Point**	**0.83**	**281**	P	Pn	22 17 19.1	+1.0
LIFNC	**LIFOU**	**3.34**	**210**	P	Pn	22 17 46.4	-1.4
MARNC	**Mare, Loyalty**	**3.70**	**195**	P	Pn	22 17 52.4	-0.2
YATNC	**Mamie plateau,**	**4.61**	**206**	P	Pn	22 18 05.1	+0.3
DZM	**Mont Dzumac**	**4.82**	**210**	P	Pn	22 18 08.2	+0.5
OUENC	**Ouen Island, N**	**4.96**	**204**	P	Pn	22 18 09.8	+0.4

*TEH **17** 22:36:55.2, 30°.51N×50°.69E, h10km±37km, ML2.9*
*OMAN **17** 22:36:59.2±1.4, 30°.11N×51°.11E, h0km, mb3.8/2, Error ellipse: s-maj=10.7km s-min=7.1km az=165.0*
ISC 17 22:36:56.3±1.2,**30°.44N**±0°.04×**50°.90E**±0°.07,**h19**km,**n33,** σ1**9**4/47,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLNJ	**Kolanjah**	**0.83**	**46**	Pg	**Pb**	**22 37 12.7**	**+0.4**
IBRJ	**Brojen**	**1.50**	**12**	Pg	**Pn**	**22 37 23.2**	**+0.8**
AHBU	**AHRAM**	**1.61**	**167**	Pg	**Pb**	**22 37 26.6**	**+1.3**
SHI	**Shiraz**	**1.61**	**119**	Pn	**Pg**	**22 37 28.4**	**+1.0**
ZNGN	**Zangian**	**1.68**	**359**	Pg	**Pn**	**22 37 26.0**	**+1.0**
JHBN	**Jahan bin**	**1.80**	**354**	Pg	**Pn**	**22 37 27.7**	**+1.1**
AMIS	**Naft Sefid**	**1.84**	**312**	Pg	**Pn**	**22 37 26.1**	**-0.9**
IRAM	**Rameshеh**	**1.87**	**43**	Pn	**Pb**	**22 37 30.6**	**+0.6**
DSBU	**Dashti - Bushe**	**2.09**	**171**	Pn	**Pb**	**22 37 34.3**	**+0.6**
IGAR	**Gharneh**	**2.19**	**26**	Pn	**Pn**	**22 37 34.4**	**+2.4**
IPIR	**Pirpir**	**2.24**	**360**	Pn	**Pn**	**22 37 33.7**	**+1.0**
IZEF	**Zefreh**	**2.74**	**26**	Pn	**Pn**	**22 37 42.1**	**+2.6**
ISAD	**Sadrabad**	**2.81**	**58**	Pn	**Pb**	**22 37 44.0**	**-2.1**
IKLH	**Kolahrood**	**2.93**	**11**	Pn	**Pn**	**22 37 43.6**	**+1.5**
IMEH	**Mehriz**	**3.33**	**73**	Pn	**Pn**	**22 37 51.3**	**+3.6**
SAKB	**Bahrain**	**4.45**	**184**	P	**Pn**	**22 38 05.6**	**+2.8**
SHMA	**Al-Shehemyia** SNR=7.4	**4.56**	**179**	P	**Pn**	**22 38 06.2**	**+1.8**
SHMA				S	**Sn**	**22 38 56.9**	**0.0**
SMRA	**Abu-Samra**	**5.67**	**181**	P	**Pn**	**22 38 19.8**	**+0.2**
SMRA				S	**Sn**	**22 39 23.9**	**-0.3**
TRNA	**Turayna** SNR=16	**5.69**	**177**	P	**Pn**	**22 38 21.6**	**+1.8**
TRNA				S	**Sn**	**22 39 25.0**	**+0.4**
SHME	**Shamm**	**6.36**	**132**	P	**Pn**	**22 38 29.9**	**+0.8**
SHME				S	**Sn**	**22 39 39.9**	**-1.4**
BANOM	**Banah**	**6.55**	**132**	P	**Pn**	**22 38 32.8**	**+1.0**
BANOM				S	**Sn**	**22 39 44.0**	**-2.0**
MASF	**Masafi**	**6.87**	**136**	P	**Pn**	**22 38 37.1**	**+1.0**
MASF				S	**Sn**	**22 39 53.0**	**-0.7**
UOSS	**Minazif**	**7.21**	**138**	P	**Pn**	**22 38 41.5**	**+0.7**
UOSS				S	**Sn**	**22 39 57.4**	**-4.8**
HATD	**Hatta, Dubai**	**7.27**	**139**	P	**Pn**	**22 38 42.8**	**+1.3**
HATD				S	**Sn**	**22 40 00.1**	**-3.4**
ASHO	**Ashiyiah**	**7.34**	**140**	P	**Pn**	**22 38 44.7**	**+2.2**
ASHO				S	**Sn**	**22 40 04.2**	**-1.1**
ALNE	**Al Ain**	**7.69**	**145**	P	**Pn**	**22 38 48.9**	**+1.6**
ALNE				S	**Sn**	**22 40 13.3**	**-0.6**
MZR	**Muzera**	**7.76**	**162**	P	**Pn**	**22 38 50.2**	**+1.9**
SOHO	**SOHO**	**8.03**	**140**	P	**Pn**	**22 38 52.0**	**0.0**
SOHO				S	**Sn**	**22 40 21.4**	**-1.0**
BSY	**Bisya**	**9.51**	**142**	P	**Pn**	**22 39 13.0**	**+0.6**
MHTO	**MHTO**	**11.36**	**144**	P	**Pn**	**22 39 38.4**	**+0.7**
MHTO				S	**Sn**	**22 41 42.2**	**-1.9**
WHFO	**Wadi Hawf** SNR=9.5	**12.73**	**167**	P	**Pn**	**22 39 55.3**	**-1.2**
WHFO				S	**Sn**	**22 42 15.6**	**-2.3**
DMTO	**DMTO**	**13.19**	**163**	P	**Pn**	**22 40 01.3**	**-1.4**
DMTO				S	**Sn**	**22 42 22.8**	**-6.1**
ABTO	**Aybut** SNR=8.3	**13.21**	**170**	P	**Pn**	**22 40 02.0**	**-1.0**

*IDC **17** 22:37:26.6±9.7, 21°.58S×179°.38W, h586km±111km, mb3.2/7, mbtmp4.2/7, Error ellipse: s-maj=51.1km s-min=23.8km az=52.0*
ISC 17 22:37:28.4±1.2,**21°.7S**±0°.2×**179°.4W**±0°.2,**h604**km,**n8,** σ0**88/7**,**mb3.8/7**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.2nm,0.5s,baz=94,slow=14,SNR=2.9 1.2nm,0.5s	**36.09**	**245**	P	**P**	**22 43 41.0**	**-0.1**
ASAR	**Alice Springs** 6.0nm,0.8s,baz=99,slow=7.9,SNR=41	**42.97**	**258**	P	**P**	**22 44 35.8**	**-0.4**
WRA	**Warramunga Arr** 3.5nm,0.6s,baz=97,slow=7.7,SNR=52 3.5nm,0.6s	**43.14**	**264**	P	**P**	**22 44 36.6**	**-0.9**
VNDA	**Vanda** 0.7nm,0.5s,baz=359,slow=5.6,SNR=7.2 0.7nm,0.5s	**56.64**	**185**	P	**P**	**22 46 15.3**	**+0.4**
QSPA	**South Pole Qui** 4.0nm,0.8s,baz=317,slow=2.4,SNR=6.7 4.0nm,0.8s	**68.40**	**180**	P	**P**	**22 47 30.7**	**-0.1**
TXAR	**Lajitas Array** 0.4nm,0.8s,baz=210,slow=7.2,SNR=4.4 0.4nm,0.8s	**88.80**	**58**	P	**P**	**22 49 19.0**	**-0.5**
CMAR	**Chiang Mai Arr** 0.8nm,0.7s,baz=123,slow=2.3,SNR=5.8 0.8nm,0.7s	**89.27**	**290**	P	**P**	**22 49 23.1**	**+1.3**
AKASG	**Malin Array Be** 0.4nm,0.3s,baz=43,slow=4.3,SNR=7.9	**143.37**	**329**	PKP	PKPab	22 55 52.4	-1.0

*AEIC **17** 22:39:26.8±1.9, 63°.10N±0°.03×151°.62W±0°.04, h14km±6km, ML3.3, ML3.5/208(NEIC), Error ellipse: s-maj=3.9km s-min=2.5km az=186.0*
*NEIC **17** 22:39:27.2±1.9, 63°.09N±0°.03×151°.62W±0°.04, h13km±4km, Error ellipse: s-maj=4.4km s-min=2.4km az=185.0*
ISC 17 22:39:26.5±1.0,**63°.07N**±0°.02×**151°.60W**±0°.02,**h10**km±9km, **n258,** σ0**95**/217,**Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLA	**Purkeypile**	**0.32**	**237**		**Pg**	**22 39 33.0**	**+0.1**
PPLA					**Sg**	**22 39 37.2**	**0.0**
PPLA	**Purkeypile** baz=54	**0.32**	**237**	P	**Pg**	**22 39 33.0**	**+0.1**
PPLA				S	**Sg**	**22 39 37.3**	**+0.1**
	baz=54						
CAST	**Castle Rocks**	**0.41**	**328**		**Pg**	**22 39 34.9**	**+0.3**
CAST					**Sg**	**22 39 40.0**	**0.0**
CAST	**Castle Rocks** comp=E,1μm,0.4s	**0.41**	**328**	IAML		22 39 41.1	
CAST				IAML		22 39 41.2	
	comp=N,2μm,0.4s						
CAST	**Castle Rocks** baz=149	**0.41**	**328**	P	**Pg**	**22 39 34.7**	**+0.2**
CAST				S	**Sg**	**22 39 40.0**	**0.0**
	baz=149						
KTH	**Kantishna Hill**	**0.57**	**32**		**Pg**	**22 39 37.8**	**+0.2**
KTH	**Kantishna Hill**	**0.57**	**32**		**Sg**	**22 39 45.2**	**+0.1**
TRF	**Thorofare Moun**	**0.70**	**57**		**Pg**	**22 39 40.0**	**-0.2**
TRF	**Thorofare Moun**	**0.70**	**57**		**Sb**	**22 39 50.3**	**-0.4**
TRF	**Thorofare Moun** baz=239	**0.70**	**57**	P	**Pg**	**22 39 39.9**	**-0.2**
TRF				S	**Sb**	**22 39 50.5**	**-0.2**
	baz=239						
CHUM	**Lake Minchumin**	**0.87**	**339**		**Pb**	**22 39 43.5**	**-0.1**
CHUM					**Sb**	**22 39 55.2**	**-0.2**
CHUM	**Lake Minchumin** baz=159	**0.87**	**339**	P	**Pb**	**22 39 43.7**	**0.0**
CHUM				S	**Sb**	**22 39 55.2**	**-0.2**
	baz=159						
CUT	**Chulitna**	**0.91**	**137**		**Pg**	**22 39 43.8**	**-0.2**
CUT	**Chulitna** baz=318	**0.91**	**137**	P	**Pg**	**22 39 43.7**	**-0.2**
BPAW	**Bear Paw Mtn.**	**1.07**	**15**		**Pg**	**22 39 46.5**	**-0.5**
BPAW					**Sb**	**22 40 00.9**	**-0.1**
BPAW	**Bear Paw Mtn.** baz=196	**1.07**	**15**	P	**Pg**	**22 39 46.6**	**-0.4**
BPAW				S	**Sb**	**22 40 00.9**	**-0.1**
	baz=196						
SKT	**Skwentna**	**1.10**	**178**		**Pg**	**22 39 47.1**	**-0.5**
SKT	**Skwentna** comp=N,820nm,0.4s	**1.10**	**178**	IAML		22 40 01.9	
SKT				IAML		22 40 02.9	
	comp=E,1μm,0.3s						
SKT	**Skwentna** baz=358	**1.10**	**178**	P	**Pg**	**22 39 47.1**	**-0.5**
K20K	**Telida**	**1.15**	**285**		**Pg**	**22 39 48.1**	**-0.5**
K20K					**Sb**	**22 40 03.8**	**+0.3**
K20K	**Telida** comp=E,1μm,0.3s	**1.15**	**285**	IAML		22 40 04.4	
K20K				IAML		22 40 05.3	
	comp=N,1μm,0.4s						
L20K	**Farewell, AK**	**1.21**	**241**		**Pg**	**22 39 48.4**	**-1.2**
WAT7	**Susitna Watana**	**1.28**	**100**		**Pg**	**22 39 50.0**	**-1.0**
WAT7					**Sg**	**22 40 07.1**	**-0.6**
RND	**Reindeer**	**1.29**	**74**	Pn	**Pg**	**22 39 50.1**	**-1.1**
MCK	**McKinley**	**1.37**	**60**		**Pn**	**22 39 51.6**	**-0.1**
MCK	**McKinley** baz=243	**1.37**	**60**	P	**Pn**	**22 39 51.6**	**-0.1**
M20K	**Styx River**	**1.39**	**211**		**Pn**	**22 39 51.2**	**-0.8**
M20K	**Styx River** comp=E,710nm,0.6s	**1.39**	**211**	IAML		22 40 13.2	
M20K				IAML		22 40 14.0	
	comp=N,642nm,0.6s						
WAT1	**Susitna Watana**	**1.42**	**99**		**Pn**	**22 39 52.3**	**0.0**
WAT1	**Susitna Watana** baz=282	**1.42**	**99**	P	**Pn**	**22 39 52.1**	**-0.2**
BWN	**Browne**	**1.46**	**40**		**Pn**	**22 39 52.9**	**0.0**
BWN	**Browne** comp=N,517nm,1.1s	**1.46**	**40**	IAML		22 40 21.1	
BWN				IAML		22 40 21.4	
	comp=E,600nm,0.9s						
M22K	**Willow**	**1.50**	**152**		**Pn**	**22 39 53.0**	**-0.2**
M22K					**Sn**	**22 40 13.1**	**+0.3**
M22K	**Willow** baz=333	**1.50**	**152**	P	**Pn**	**22 39 53.3**	**0.0**
M22K				S	**Sn**	**22 40 13.1**	**+0.3**
	baz=333						
STLK	**Strandline Lak**	**1.58**	**184**		**Pn**	**22 39 54.2**	**-0.5**
J20K	**Nowinta River**	**1.59**	**315**	Pn	**Pn**	**22 39 54.3**	**-0.3**
SUA	**Susitna One**	**1.67**	**166**		**Pn**	**22 39 56.0**	**+0.3**
SUA	**Susitna One** comp=E,680nm,0.8s	**1.67**	**166**	IAML		22 40 19.4	
SUA				IAML		22 40 20.7	
	comp=N,601nm,0.6s						
L19K	**White Mountain**	**1.75**	**241**		**Pn**	**22 39 56.3**	**-0.5**
L19K	**White Mountain** comp=N,399nm,0.9s	**1.75**	**241**	IAML		22 40 21.9	
L19K				IAML		22 40 26.3	
	comp=E,583nm,0.5s						
SPNN	**North Nagishla**	**1.79**	**197**		**Pn**	**22 39 57.4**	**-0.1**
SPCG	**Spurr Capps Gl**	**1.80**	**186**		**Pn**	**22 39 57.7**	**+0.1**
GHO	**Glory Hole Cre**	**1.81**	**135**		**Pn**	**22 39 57.7**	**+0.1**
GHO				IAML		22 40 29.8	
	comp=E,576nm,0.6s						
SPCP	**Crater Peak Br**	**1.83**	**188**		**Pn**	**22 39 57.9**	**-0.2**
WAT6	**Susitna Watana**	**1.84**	**104**		**Pn**	**22 39 57.4**	**-0.8**
WAT6	**Susitna Watana** baz=287	**1.84**	**104**	P	**Pn**	**22 39 57.8**	**-0.4**
SPBG	**Spurr Blockage**	**1.86**	**192**		**Pn**	**22 39 58.7**	**+0.3**
PMR	**Palmer**	**1.88**	**141**		**Pn**	**22 39 58.8**	**+0.2**
PMR	**Palmer** comp=E,394nm,0.8s	**1.88**	**141**	IAML		22 40 27.1	
PMR				IAML		22 40 29.2	
	comp=N,410nm,0.8s						
NEA2	**Nenana**	**1.89**	**35**		**Pn**	**22 39 57.4**	**-1.5**
NEA2	**Nenana** baz=218	**1.89**	**35**	P	**Pn**	**22 39 57.5**	**-1.3**
SPCR	**Spurr Chakacha**	**1.90**	**189**		**Pn**	**22 39 59.4**	**+0.5**
DHY	**Denali Highway**	**1.92**	**88**		**Pn**	**22 39 59.4**	**0.0**
DHY	**Denali Highway** comp=N,556nm,0.7s	**1.92**	**88**	IAML		22 40 28.0	
DHY				IAML		22 40 29.6	
	comp=E,255nm,0.8s						
DHY	**Denali Highway** baz=272	**1.92**	**88**	P	**Pn**	**22 39 59.6**	**+0.3**
SML	**Sawmill**	**1.98**	**128**	Pn	**Pn**	**22 40 00.0**	**-0.1**
MLY	**Manley**	**2.00**	**11**	Pn	**Pn**	**22 39 59.8**	**-0.5**
MLY	**Manley** baz=192	**2.00**	**11**	P	**Pn**	**22 39 59.9**	**-0.4**
TTA	**Tatalina**	**2.02**	**268**		**Pn**	**22 39 59.6**	**-0.9**
TTA	**Tatalina** comp

I20K	Naaghedeneel	2.15	325			Pn	22 40 02.4	+0.2
RC01	Rabbit Creek A	2.18	155			Pn	22 40 03.4	+0.7
RC01	Rabbit Creek A	2.18	155		IAML		22 40 34.0	
	comp=N,346nm,0.4s							
RC01					IAML		22 40 34.4	
	comp=E,216nm,0.4s							
M23K	Glacier View	2.21	124			Pn	22 40 03.6	+0.4
KNK	Knik Glacier	2.22	137			Pn	22 40 04.5	+1.2
KNK	Knik Glacier	2.22	137		IAML		22 40 35.2	
	comp=E,378nm,0.4s							
KNK					IAML		22 40 42.2	
	comp=N,209nm,0.5s							
I23K	Minto, Yukon-K	2.30	24			Pn	22 40 03.9	-0.5
I23K					IAML		22 40 39.8	
	comp=N,176nm,0.6s							
CCB	Clear Creek Bu	2.31	45			Pn	22 40 03.1	-1.3
CCB					IAML		22 40 38.7	
	comp=E,170nm,0.6s							
J18K	Innoko River	2.34	282			Pn	22 40 04.8	-0.2
J18K	Innoko River	2.34	282		IAML		22 40 45.2	
	comp=E,249nm,0.5s							
J18K					IAML		22 40 46.6	
	comp=N,264nm,0.6s							
SCM	Sheep Creek Mo	2.34	120			Pn	22 40 05.9	+0.8
MDM	Murphy Dome	2.41	37	Pn		Pn	22 40 04.8	-1.1
COLA	College	2.45	41			Pn	22 40 06.2	-0.2
HDA	Harding Lake	2.47	55			Pn	22 40 06.2	-0.5
HDA					IAML		22 40 44.1	
	comp=N,200nm,0.6s							
HDA					IAML		22 40 47.2	
	comp=E,160nm,0.6s							
L18K	Granite Mounta	2.50	252			Pn	22 40 06.1	-1.0
L18K	Granite Mounta	2.50	252		IAML		22 40 50.7	
	comp=E,185nm,0.7s							
L18K					IAML		22 40 52.6	
	comp=N,227nm,0.8s							
M18K	Stony River	2.53	233			Pn	22 40 07.0	-0.6
DFR	Drift River	2.54	192			Pn	22 40 08.9	+1.1
NCT	North Crescent	2.60	195			Pn	22 40 09.7	+1.1
H21K	Melozitna Rive	2.65	349			Pn	22 40 09.2	0.0
H21K	Melozitna Rive	2.65	349		IAML		22 40 50.7	
	comp=E,118nm,0.5s							
N19K	Bonanza Creek	2.65	212			Pn	22 40 09.7	+0.5
N19K	Bonanza Creek	2.65	212		IAML		22 40 50.5	
	comp=E,161nm,0.8s							
N19K					IAML		22 40 51.9	
	comp=N,153nm,1.1s							
SLKM	Skilak Lake	2.66	165			Pn	22 40 08.3	-1.0
RDWB	Redoubt West	2.66	193			Pn	22 40 10.2	+0.7
RSO	Redoubt South	2.68	192			Pn	22 40 09.8	0.0
RDSO	Redoubt South	2.68	192			Pn	22 40 10.8	+1.0
IL31		2.69	49			Pn	22 40 08.8	-0.9
ILAR	Eielson Array	2.69	49			Pn	22 40 09.4	-0.4
M24K	Tolsona, Glenn	2.69	109			Pn	22 40 11.4	+1.6
K24K	Donnelly Dome	2.72	72			Pn	22 40 11.0	+0.8
RED	Redoubt Volcan	2.72	192			Pn	22 40 11.4	+1.2
SVW2	Sparrevohn	2.73	225			Pn	22 40 10.3	0.0
SVW2	Sparrevohn	2.73	225		IAML		22 40 53.3	
	comp=E,193nm,0.8s							
POKR	Poker Plat Res	2.75	40			Pn	22 40 10.1	-0.4
POKR	Poker Plat Res	2.75	40			Pn	22 40 10.3	-0.3
O22K	Cooper Landing	2.75	160			Pn	22 40 10.8	+0.3
PAX	Paxson	2.80	89			Pn	22 40 11.8	+0.5
H20K	Anotleneega Mo	2.82	331			Pn	22 40 11.8	+0.3
H22K	Ishtalitna Cre	2.83	2			Pn	22 40 11.5	-0.2
GCSA	Galena City Sc	2.87	308			Pn	22 40 11.8	-0.4
O20K	Slope Mountain	3.04	190			Pn	22 40 16.7	+2.1
HARP	HAARP	3.04	100			Pn	22 40 16.2	+1.6
GLI	Glacier Island	3.06	134			Pn	22 40 16.4	+1.6
GLI	Glacier Island	3.06	134		IAML		22 41 06.0	
	comp=N,181nm,0.6s							
IMAR	Indian Mountai	3.06	343	Pn		Pn	22 40 15.2	+0.3
K17K	Iditarod	3.09	266			Pn	22 40 14.8	-0.3
K17K	Iditarod	3.09	266		IAML		22 41 13.2	
	comp=N,143nm,0.7s							
KLU	Klutina	3.09	118			Pn	22 40 16.7	+1.4
KLU	Klutina	3.09	118		IAML		22 41 03.9	
	comp=E,105nm,1.0s							
KLU					IAML		22 41 05.5	
	comp=N,126nm,0.7s							
ILW	Iliamna West	3.11	194			Pn	22 40 16.7	+1.0
RIDG	Independent Ri	3.11	75			Pn	22 40 17.1	+1.5
RIDG	Independent Ri	3.11	75		IAML		22 41 07.3	
	comp=E,146nm,0.7s							
RIDG					IAML		22 41 14.1	
	comp=N,161nm,1.0s							
N18K	Kilae Creek	3.14	222			Pn	22 40 15.9	-0.1
N18K	Kilae Creek	3.14	222		IAML		22 41 07.3	
	comp=N,127nm,0.5s							
N18K					IAML		22 41 12.5	
	comp=E,139nm,0.9s							
SEW	Seward	3.15	160			Pn	22 40 18.9	+2.8
J25K	Salcha River,	3.16	58			Pn	22 40 15.7	-0.6
J25K	Salcha River,	3.16	58		IAML		22 41 10.7	
	comp=N,78nm,1.0s							
O19K	Port Alsworth	3.17	205	Pn		Pn	22 40 16.5	+0.3
ILSW	Iliamna Southw	3.19	194	Pn		Pn	22 40 17.7	+1.0
M17K	Holitna River	3.21	241	Pn		Pn	22 40 16.6	-0.2
H24K	Noodor Dome	3.21	29			Pn	22 40 16.0	-0.9
L17K	Donlin	3.23	256			Pn	22 40 16.5	-0.7
H19K	Roundabout Mou	3.24	322			Pn	22 40 17.8	+0.5
H19K	Roundabout Mou	3.24	322		IAML		22 41 16.1	
	comp=N,153nm,0.8s							
BRLK	Bradley Lake	3.34	174			Pn	22 40 20.3	+1.7
FID	Port Fidalgo	3.36	132			Pn	22 40 19.8	+0.8
FID					IAML		22 41 18.1	
	comp=N,134nm,1.0s							
BRSE	Bradley Lake S	3.37	173			Pn	22 40 20.3	+1.2
P19K	Oil Pt	3.52	194			Pn	22 40 23.7	+2.5
P19K	Oil Pt	3.52	194		IAML		22 41 37.1	
	comp=E,74nm,0.7s							
P19K					IAML		22 41 41.5	
	comp=N,79nm,1.2s							
SCRK	Sand Creek	3.53	72			Pn	22 40 21.4	0.0
SCRK	Sand Creek	3.53	72		IAML		22 41 23.9	
	comp=N,58nm,0.7s							
SCRK					IAML		22 41 25.9	
	comp=E,68nm,0.6s							
WACK	Wrangell Chich	3.54	105			Pn	22 40 24.1	+2.4
G21K	Allakaket	3.55	348			Pn	22 40 21.9	+0.4
G21K					IAML		22 41 25.8	
	comp=N,78nm,0.7s							
G21K					IAML		22 41 27.5	
	comp=E,64nm,0.6s							
CNPM	China Poot	3.56	177			Pn	22 40 22.7	+0.9
CNPM	China Poot	3.56	177		IAML		22 41 25.0	
	comp=E,63nm,1.5s							
N25K	Chitina, Valde	3.58	111			Pn	22 40 23.6	+1.5
MENT	Mentasta	3.60	89			Pn	22 40 24.2	+1.9
MENT					IAML		22 41 25.1	
	comp=E,123nm,0.8s							
PRP	Porcupine Dome	3.61	45			Pn	22 40 21.9	-0.6
PRP	Porcupine Dome	3.61	45		IAML		22 41 27.2	
	comp=N,55nm,0.8s							
HIN	Hinchinbrook I	3.62	136			Pn	22 40 23.4	+0.8
H18K	Honhosa River	3.62	308			Pn	22 40 23.9	+1.3
H18K	Honhosa River	3.62	308		IAML		22 41 22.7	
	comp=N,76nm,0.6s							
H18K					IAML		22 41 23.0	
	comp=E,102nm,0.8s							
O18K	Koktuh Hills	3.66	210			Pn	22 40 23.6	+0.5
O18K	Koktuh Hills	3.66	210		IAML		22 41 24.8	
	comp=N,78nm,1.0s							
O18K					IAML		22 41 29.4	
	comp=E,73nm,1.4s							
N17K	Nushagak Hills	3.68	229			Pn	22 40 23.4	0.0
N17K	Nushagak Hills	3.68	229		IAML		22 41 29.0	
	comp=E,98nm,0.8s							
G23K	Bananza Creek	3.71	10			Pn	22 40 24.1	+0.3
J26L	Joseph Creek	3.84	65			Pn	22 40 25.4	-0.2
J26L	Joseph Creek	3.84	65		IAML		22 41 31.9	
	comp=E,46nm,0.7s							
J26L					IAML		22 41 36.5	
	comp=N,60nm,0.7s							
G19K	Purcell Mounta	3.88	325			Pn	22 40 26.5	+0.4
G19K	Purcell Mounta	3.88	325		IAML		22 41 30.8	
	comp=N,64nm,0.5s							
G19K					IAML		22 41 34.2	
	comp=E,62nm,1.1s							
L16K	Owhat River	3.91	253			Pn	22 40 25.8	-0.7
L16K	Owhat River	3.91	253		IAML		22 41 31.8	
	comp=E,72nm,1.1s							
L16K					IAML		22 41 35.6	
	comp=N,62nm,1.1s							
BMRM	Bremner River	3.92	120			Pn	22 40 27.2	+0.6
GLB	Gilahina Butte	4.00	111			Pn	22 40 29.1	+1.4
GLB	Gilahina Butte	4.00	111		IAML		22 41 33.1	
	comp=E,41nm,0.8s							
GLB					IAML		22 41 34.6	
	comp=N,59nm,1.0s							
M26K	Nabesna, AK	4.02	96			Pn	22 40 29.9	+1.9
M26K	Nabesna, AK	4.02	96		IAML		22 41 34.6	
	comp=N,71nm,0.7s							
M26K					IAML		22 41 35.8	
	comp=E,52nm,0.5s							
M16K	Timber Creek	4.03	243			Pn	22 40 27.2	-0.9
M16K	Timber Creek	4.03	243		IAML		22 41 40.2	
	comp=N,81nm,0.8s							
M16K					IAML		22 41 45.3	
	comp=E,61nm,0.8s							
J16K	Anvik River	4.08	277			Pn	22 40 28.3	-0.6
J16K	Anvik River	4.08	277		IAML		22 41 37.1	
	comp=E,49nm,0.5s							
J16K					IAML		22 41 45.8	
	comp=N,56nm,0.9s							
P18K	Big Mountain,	4.09	207			Pn	22 40 29.5	+0.5
P18K	Big Mountain,	4.09	207		IAML		22 41 46.9	
	comp=E,37nm,0.9s							
P18K					IAML		22 41 49.2	
	comp=N,36nm,3.0s							
H17K	Granite Mounta	4.11	301			Pn	22 40 29.6	+0.4
H17K	Granite Mounta	4.11	301		IAML		22 41 46.5	
	comp=N,72nm,0.8s							
GOAT	Goat Mountain	4.11	124			Pn	22 40 30.6	+1.3
I17K	Unalakleet	4.16	285			Pn	22 40 30.5	+0.6
I17K	Unalakleet	4.16	285		IAML		22 41 46.3	
	comp=E,45nm,0.8s							
G18K	Tagagawik	4.16	316			Pn	22 40 31.0	+1.1
COLD	Coldfoot	4.21	7			Pn	22 40 31.3	+0.6
O17K	Koliganek Bris	4.23	221			Pn	22 40 30.6	-0.2
F21K	Alatna River	4.24	350			Pn	22 40 31.9	+0.9
VRDI	Verde Repeater	4.25	112			Pn	22 40 32.6	+1.3
VRDI	Verde Repeater	4.25	112		IAML		22 41 40.1	
	comp=N,38nm,1.1s							
VRDI					IAML		22 41 42.4	
	comp=E,34nm,1.2s							
Q19K	Cape Douglas,	4.28	194			Pn	22 40 33.0	+1.5
N16K	Nishlik Lake	4.29	236			Pn	22 40 31.3	-0.3
I26K	Coal Creek Min	4.32	55			Pn	22 40 31.9	-0.2
I26K					IAML		22 41 50.4	
	comp=N,66nm,0.9s							
I26K					IAML		22 41 55.1	
	comp=E,59nm,0.9s							
F20K	Avaraart Lake	4.36	338			Pn	22 40 33.5	+1.0
F20K	Avaraart Lake	4.36	338		IAML		22 41 47.7	
	comp=E,32nm,0.9s							
MCARA	McCarthy VSAT	4.36	109			Pn	22 40 34.6	+2.0
K27K	Chicken	4.37	73			Pn	22 40 32.8	0.0
K27K	Chicken	4.37	73		IAML		22 41 47.7	
	comp=N,44nm,1.4s							
G25K	Bearman Lake	4.38	30			Pn	22 40 33.0	0.0
FYU	Fort Yukon	4.44	35	Pn		Pn	22 40 33.6	-0.1
FYU					IAML		22 43 16.1	
	comp=E,55nm,4.5s							
L27K	Beaver Creek,	4.45	86			Pn	22 40 34.7	+0.8
F22K	John River	4.46	357			Pn	22 40 34.9	+0.9
BCAR	Beaver Creek A	4.47	86	Pn		Pn	22 40 35.1	+1.0
M27K	Edge Creek, AK	4.54	95			Pn	22 40 35.7	+2.3
M27K	Edge Creek, AK	4.54	95		IAML		22 41 57.3	
	comp=N,54nm,1.1s							
M27K					IAML		22 42 00.1	
	comp=E,29nm,1.5s							
P17K	Kvichak River	4.54	213			Pn	22 40 35.9	+0.8
F19K	Shaleruckik Mo	4.59	328			Pn	22 40 36.8	+0.9
F19K	Shaleruckik Mo	4.59	328		IAML		22 41 56.8	
	comp=E,29nm,0.8s							
F19K					IAML		22 41 58.2	
	comp=N,32nm,1.2s							
CRQM	Cirque	4.63	116	Pn		Pn	22 40 38.0	+1.5
G17K	Kiwalik Mounta	4.63	306			Pn	22 40 37.1	+0.7
K15K	Wolf Creek Mou	4.64	265			Pn	22 40 36.3	-0.2
K15K	Wolf Creek Mou	4.64	265		IAML		22 41 24.8	
	comp=E,38nm,3.8s							
K15K					IAML		22 41 33.8	
	comp=N,33nm,3.4s							
O16K	Kokwok River B	4.69	225			Pn	22 40 36.9	-0.2
O16K	Kokwok River B	4.69	225		IAML		22 42 06.8	
	comp=E,47nm,1.8s							
O16K					IAML		22 42 07.1	
	comp=N,38nm,1.1s							
F24K	Squaw Lake	4.73	18			Pn	22 40 37.9	+0.1
KAHC	Katmai Hardscr	4.74	202			Pn	22 40 39.0	+1.0
TGL	Tana Glacier	4.75	115			Pn	22 40 39.4	+1.2
TGL	Tana Glacier	4.75	115		IAML		22 42 04.3	
	comp=N,48nm,1.5s							
KIAG	Kiagna River	4.86	112			Pn	22 40 39.9	+0.2
M15K	Kasigluk River	4.92	245			Pn	22 40 39.7	-0.5
EGAK	Eagle	4.92	65	Pn		Pn	22 40 40.8	+0.5
H16K	Elim	4.96	293			Pn	22 40 41.5	+0.7
BVCY	Beaver Creek	4.98	93			Pn	22 40 43.5	+2.2
N15K	Kwethluk River	4.99	238			Pn	22 40 41.4	+0.1
E19K	Redstone River	4.99	334			Pn	22 40 42.9	+1.5
E19K	Redstone River	4.99	334		IAML		22 42 07.0	
	comp=E,35nm,1.3s							
E19K					IAML		22 42 09.7	
	comp=N,44nm,0.7s							
E23K	Chandalar	5.07	8			Pn	22 40 43.5	+0.9
E22K	Anaktuvuk Pass	5.08	359			Pn	22 40 43.1	+0.5
KAKN	Katmai Knife C	5.08	201			Pn	22 40 44.0	+1.3
BARN	Barnard Glacie	5.09	109			Pn	22 40 44.5	+1.6
BARN	Barnard Glacie	5.09	109		IAML		22 42 11.1	
	comp=N,32nm,1.0s							
BARN					IAML		22 42 16.9	
	comp=E,20nm,1.5s							
P16K	Nushagak River	5.11	220			Pn	22 40 43.3	+0.4
KABU	Katmai Buttres	5.15	202			Pn	22 40 45.7	+2.2
YUK2	White River	5.16	100			Pn	22 40 46.2	+2.4
E24K	Your Creek	5.19	13			Pn	22 40 44.5	+0.5
ACHA	Angle Creek He	5.21	202			Pn	22 40 45.9	+1.4
G16K	Koyuk River	5.24	301	Pn		Pn	22 40 45.3	+0.7
G16K					IAML		22 42 20.3	
	comp=E,20nm,1.1s							
ANCK	Angle Creek	5.25	203			Pn	22 40 46.8	+1.8
CNTC	Contact Creek	5.26	205			Pn	22 40 46.6	+1.5
CTGM	Chitina Glacie	5.28	109			Pn	22 40 47.2	+1.8
CTGM	Chitina Glacie	5.28	109		IAML		22 41 53.7	
	comp=N,26nm,4.6s							
CTGM					IAML		22 43 31.7	
	comp=E,20nm,4.6s							
KDAK	Kodiak Island	5.33	186			Pn	22 40 47.5	+1.5
F17K	Baldwin Pennin	5.33	314			Pn	22 40 47.2	+1.2
F17K	Baldwin Pennin	5.33	314		IAML		22 42 25.7	
	comp=N,29nm,1.4s							
F17K					IAML		22 42 26.1	
	comp=E,26nm,1.2s							
YUK3	Moose Creek	5.34	99			Pn	22 40 48.6	+2.3
M14K	Bethel	5.42	249	Pn		Pn	22 40 47.1	0.0
L14K	Kuka Creek	5.47	256	Pn		Pn	22 40 48.0	+0.2
E21K	Killik River	5.48	351			Pn	22 40 49.9	+1.9
DAWY	Dawson	5.55	74	Pn		Pn	22 40 48.7	-0.3
I28M	Miner Creek	5.61	60	Pn		Pn	22 40 50.4	+0.5
G27K	Doyon Strip	5.65	44			Pn	22 40 49.7	-0.6
E25K	Arctic Village	5.65	24	Pn		Pn	22 40 50.3	-0.1
TOLK	Toolik Lake Re	5.65	8			Pn	22 40 52.0	+1.5
E18K	Tukpahlearik C	5.77	323			Pn	22 40 53.4	+1.4
D22K	Ayikyak River	5.85	356			Pn	22 40 53.0	-0.1
E17K	Hotham Inlet	5.90	317			Pn	22 40 54.8	+1.1
D19K	Kuna River	6.06	337			Pn	22 40 56.6	+0.5
M29M	Somme Creek	6.07	90			Pn	22 40 56.8	+0.6
L29M	L29M	6.12	84			Pn	22 40 57.8	+0.9
I29M	Ogilvie Camp,	6.24	63	Pn		Pn	22 40 58.9	+0.5
D25K	Kavik River	6.62	16			Pn	22 41 04.6	+0.9
B21K	Ikpikpuk River	6.69	351	Pn		Pn	22 41 05.2	+0.7
F28M	Old Crow	6.69	42			Pn	22 41 03.8	-0.9
C18K	Utukok River	6.83	329			Pn	22 41 07.1	+0.5
RDOG	Red Dog Mine	6.85	322	Pn		Pn	22 41 03.3	-3.4

IDC 17 22:50:30.0±1.5, 56°15S×140°63W, h0km, mb3.8/2, mbtmp3.8/2, MS3.6/6, Error ellipse: s-maj=215.1km s-min=43.7km az=177.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	29.04	202	LR	LR	23 05 14.8	
	comp=Z,114nm,21.3s,baz=61,slow=30						
QSPA	South Pole Qui	34.01	180	LR	LR	23 08 56.3	
	comp=Z,125nm,18.6s,baz=72,slow=32						

PPT	Papeete	39.11	346		LR		LR	23 09 22.0
	comp=Z,80nm,18.4s,baz=352,slow=29							
H03S2	Juan Fernandez	47.14	89		T		T	23 50 02.1
	baz=219,slow=74,SNR=8.0							
H03S1	Juan Fernandez	47.15	89		T		T	23 49 42.5
	baz=219,slow=74,SNR=7.0							
H03S3	Juan Fernandez	47.16	89		T		T	23 50 01.0
	baz=219,slow=74,SNR=7.5							
H03N3	Juan Fernandez	47.43	88		T		T	23 49 56.9
	baz=222,slow=72,SNR=52							
H03N2	Juan Fernandez	47.43	88		T		T	23 49 53.2
	baz=222,slow=72,SNR=83							
H03N1	Juan Fernandez	47.45	88		T		T	23 49 53.7
	baz=222,slow=72,SNR=46							
MAW	Mawson	55.33	191		LR		LR	23 20 38.7
	comp=Z,75nm,19.8s,baz=139,slow=33							
ASAR	Alice Springs	68.20	260		P		P	23 01 32.0 -0.1
	0.8nm,0.7s,baz=141,slow=6.5,SNR=9.2 0.8nm,0.7s							
WRA	Warramunga Arr	70.94	263		P		P	23 01 49.3 +0.2
	0.6nm,0.7s,baz=148,slow=5.5,SNR=6.3 0.6nm,0.7s							
LPIG	La Paz	83.98	28		LR		LR	23 31 54.9
	comp=Z,25nm,19.4s,baz=258,slow=30							
SUR	Sutherland	90.41	164		LR		LR	23 41 08.0
	comp=Z,17nm,18.8s,baz=183,slow=34							
H10N3	ASCENSION HYDR	102.39	125		T		T	00 58 29.9
	baz=205,SNR=4.1							
H10N1	ASCENSION HYDR	102.39	125		T		T	00 59 03.2
	baz=205,slow=74,SNR=5.4							
H10N2	ASCENSION HYDR	102.41	125		T		T	00 58 36.9
	baz=205,slow=74,SNR=4.7							
ESDC	Sonseca Array	147.26	102		PKPbc		PKPbc	23 10 13.8 -0.8
	2.7nm,1.1s,baz=245,slow=2.5,SNR=9.3							
MKAR	Makanchi Array	152.10	269		PKPbc		PKPbc	23 10 26.2 -0.1
	1.6nm,0.9s,baz=120,slow=4.3,SNR=6.9							
ZALV	Zalesovo Beam	154.23	284		PKPab		PKPab	23 10 44.2 -0.5
	0.4nm,0.5s,baz=132,slow=2.1,SNR=2.6							

IDC 17 23:11:35.4±2.4, 36°27N×71°13E, h182km±22km, mb3.4/13, mbtmp4.0/19, Error ellipse: s-maj=18.4km s-min=11.4km az=15.0

NEIC 17 23:11:40.4±1.5, 36°58N±0°06×71°22E±0°10, h227km±6km, mb4.3/11, Error ellipse: s-maj=11.5km s-min=9.4km az=88.0

NNC 17 23:11:46.2±1.6, 37°11N×71°30E, h246km±20km, mb3.1, mpv4.3, Error ellipse: s-maj=16.9km s-min=10.7km az=18.0

ISC 17 23:11:39.8±0.5, 36°55N±0°05×71°27E±0°04, h227km, n93, σ1°54/108, mb3.7/16, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	Chuyangaron	2.69	322	Pn	Pn	23 12 27.6	0.0
CHGR				Sn	S	23 13 01.6	-3.4
KBL	Kabul	2.70	223	Pn	Pn	23 12 28.3	+0.4
KBL				Sn	S	23 13 03.7	-1.6
NIL	Nilore	3.31	150	Pn	Pn	23 12 35.7	+1.1
BTK	Batken	3.53	354	Pn	Pn	23 12 37.9	+0.9
KSH	Kashi	4.75	50	Pn	Pn	23 12 47.3	-4.6
KSH				Sn	S	23 13 36.5	-12
KSH				pmax	pmax		
	comp=Z,250nm,0.5s						
KSH				smax	smax		
	comp=N,150nm,0.3s						
KSH				smax	smax		
	comp=E,110nm,0.4s						
JMU	Jammu	4.85	141	*e*S	S	23 13 47.8	-3.2
ARSB	Arslanbob	4.96	15		Pn	23 12 54.2	-0.2
AML	Almayashu	5.89	18	P	Pn	23 13 06.4	0.0
	SNR=309						
AML	Almayashu	5.89	18	⇑P	Pn	23 13 06.3	0.0
	comp=E,10nm,0.5s						
AML				⇑S	S	23 14 10.5	-4.5
	comp=E,59nm,0.8s						
DHRM	DHARAMSHALA	5.97	134	*e*P	Pn	23 13 07.3	0.0
DHRM				*e*S	S	23 14 14.2	-2.7
DHRM				IAML		23 14 15.4	
	comp=E,855nm,0.5s						
DHRM				IAML		23 14 16.1	
	comp=N,569nm,0.3s						
UCH	Uchtor	6.21	23	P	Pn	23 13 10.7	+0.3
	SNR=56						
KZA	Kyzart	6.33	28	P	Pn	23 13 11.4	-0.5
	SNR=18						
EKS2	Erkin-Say	6.41	17	P	Pn	23 13 13.1	+0.4
	SNR=53						
AAK	Ala-Archa	6.58	21	P	Pn	23 13 15.4	+0.5
	SNR=55						
AAK	Ala-Archa	6.58	21	P	Pn	23 13 15.3	+0.4
	comp=N,40nm,0.3s,baz=190,slow=6.3,SNR=264						
AAK				S	S	23 14 29.5	-1.1
	comp=N,22nm,0.6s,baz=329,slow=23,SNR=30						
KK31	Karatay Array	6.58	355	Pn	Pn	23 13 14.4	-0.3
KK31	Karatay Array	6.58	355	⇑P	Pn	23 13 14.4	-0.3
	comp=N,4.1nm,0.3s,baz=171,slow=12,SNR=152						
KK31				S	S	23 14 25.0	-5.5
	comp=N,41nm,0.5s,baz=182,slow=21,SNR=16						
KKAR	Karatay Array	6.58	355	Pn	Pn	23 13 14.5	-0.2
KKAR	Karatay Array	6.58	355	Pn	Pn	23 13 14.6	-0.1
BHK	Bhakra	6.67	139	*e*P	Pn	23 13 16.4	+0.4
BHK				*e*S	S	23 14 28.4	-4.3
BHK				IAML		23 14 31.7	
	comp=N,202nm,0.4s						
BHK				IAML		23 14 33.9	
	comp=E,148nm,0.3s						
KBK	Karagaybulak	6.73	24	P	Pn	23 13 17.7	+0.9
	SNR=33						
FRU1	Bishkek	6.77	21		Pn	23 13 18.4	+1.1
ULHL	Ulahol	6.87	33	P	Pn	23 13 18.6	-0.1
	SNR=42						
CHMS	Chumysh	6.98	22	P	Pn	23 13 20.7	+0.8
	SNR=16						
CHMS	Chumysh	6.98	22

DMN	**Daman**	**14.72**	**123**	*e*P		**Pn**	**23**	**14**	**58.9**	**+1.2**
	comp=Z,38nm,0.5s									
PKIN	**Phulchoki**	**14.93**	**123**	*e*P		**Pn**	**23**	**15**	**00.9**	**+0.5**
	comp=Z,30nm,0.3s									
PKI	**Pulchoki**	**14.95**	**123**	*e*P		**Pn**	**23**	**15**	**00.8**	**+0.2**
KURBB	**Kurchatov Arra**	**15.01**	**18**	P		**Pn**	**23**	**15**	**00.6**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=207,slow=11,SNR=7.6									
GUN	**Gumba**	**15.05**	**121**	*e*P		**P**	**23**	**15**	**01.9**	**-0.1**
	comp=Z,35nm,0.5s									
KURK	**Kurchatov**	**15.12**	**18**	P		**P**	**23**	**15**	**01.2**	**-0.9**
AB31	**Akbulak array**	**15.15**	**331**	P		**P**	**23**	**15**	**02.4**	**-0.1**
	comp=Z,3.5nm,0.6s,baz=140,slow=12,SNR=63									
ABKAR	**Akbulak array**	**15.15**	**331**			**P**	**23**	**15**	**02.4**	**0.0**
ABKAR				IAmb		IAmb	23	15	06.8	
	comp=Z,4.3nm,0.6s									
ABKAR	**Akbulak array**	**15.15**	**331**	P		**P**	**23**	**15**	**02.0**	**-0.4**
JIRN	**Jiri**	**15.42**	**121**	*e*P		**P**	**23**	**15**	**06.5**	**+0.4**
RAMN	**Ramite**	**16.16**	**122**	*e*P		**P**	**23**	**15**	**15.6**	**+1.6**
BVAR	**Borovoye Array**	**16.49**	**358**	P		**Pn**	**23**	**15**	**19.2**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=163,slow=9.4,SNR=5.9									
TAPN	**Taplejung**	**16.68**	**119**	*e*P		**Pn**	**23**	**15**	**21.7**	**+0.5**
	comp=Z,25nm,0.6s									
ODAN	**Odare**	**16.76**	**121**	*e*P		**Pn**	**23**	**15**	**23.1**	**+1.0**
AKTO	**Aktyubinsk**	**16.85**	**330**	P		**Pn**	**23**	**15**	**22.0**	**-0.7**
	comp=Z,4.5nm,0.4s,baz=144,slow=7.3,SNR=15									
AKTO	**Aktyubinsk**	**16.85**	**330**	⇑P		**P**	**23**	**15**	**21.8**	**+0.7**
	comp=Z,2.9nm,0.7s									
UOSS	**Minazif**	**17.33**	**232**	P		**P**	**23**	**15**	**26.9**	**+0.3**
UOSS				IAmb		IAmb	23	15	28.8	
	comp=Z,17nm,1.0s									
LSA	**Lhasa**	**17.98**	**107**	P		**P**	**23**	**15**	**35.0**	**+0.9**
LSA				IAmb		IAmb	23	15	39.2	
	comp=Z,6.9nm,0.8s									
ZAA0	**Zalesovo Array**	**19.79**	**24**	P		**P**	**23**	**15**	**53.1**	**+0.4**
ZALV	**Zalesovo Beam**	**19.79**	**24**	P		**P**	**23**	**15**	**52.5**	**-0.2**
ZALV	**Zalesovo Beam**	**19.79**	**24**	P		**Pn**	**23**	**15**	**55.4**	**-1.8**
	comp=Z,1.1nm,0.3s,baz=210,slow=9.7,SNR=8.9									
	comp=Z,1.1nm,0.3s									
SHL	**Shillong**	**20.73**	**116**	P		**P**	**23**	**16**	**03.6**	**+0.2**
SHL				IAmb		IAmb	23	16	06.6	
	comp=Z,8.0nm,0.6s									
GNI	**Garni**	**21.09**	**288**	P		**P**	**23**	**16**	**05.7**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=108,slow=6.4,SNR=1.7									
	comp=Z,1.6nm,0.8s									
KBZ	**Khabaz**	**22.77**	**297**	P		**P**	**23**	**16**	**23.2**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=122,slow=12,SNR=3.6									
	comp=Z,2.7nm,0.9s									
ARPR	**Arapgir-MALATY**	**26.06**	**286**	P		**P**	**23**	**16**	**53.2**	**+0.7**
ARPR				IAmb		IAmb	23	17	00.6	
	comp=Z,7.9nm,1.2s									
PZH	**PanZhiHua**	**27.74**	**102**	P		**P**	**23**	**17**	**10.0**	**+2.4**
PZH				pmax		pmax				
	comp=Z,10.0nm,0.5s									
PZH				pmax		pmax				
	comp=Z,160nm,5.3s									
ULN	**Ulaanbaatar**	**28.57**	**55**	P		**P**	**23**	**17**	**13.7**	**-1.1**
ULN				IAmb		IAmb	23	17	27.0	
	comp=Z,1.4nm,0.8s									
BRTR	**Keskin Array B**	**29.63**	**288**	P		**P**	**23**	**17**	**25.4**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=93,slow=9.7,SNR=4.6									
	comp=Z,0.5nm,0.5s									
CMAR	**Chiang Mai Arr**	**30.29**	**119**	P		**P**	**23**	**17**	**30.9**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=298,slow=8.8,SNR=5.5									
	comp=Z,0.8nm,0.5s									
HHC	**Hu-ho-hao-te**	**31.55**	**70**	*e*P		**P**	**23**	**17**	**43.8**	**+2.9**
ELL	**Elmali**	**33.00**	**283**	P		**P**	**23**	**17**	**55.6**	**+2.0**
FINES	**FINESS Array B**	**37.57**	**326**	P		**P**	**23**	**18**	**33.5**	**+1.5**
	comp=Z,1.1nm,0.4s,baz=120,slow=9.4,SNR=18									
	comp=Z,1.1nm,0.4s									
ARCES	**ARCESS Array B**	**41.19**	**338**	P		**P**	**23**	**19**	**03.6**	**+1.9**
	comp=Z,0.6nm,0.4s,baz=108,slow=7.7,SNR=9.9									
	comp=Z,0.6nm,0.4s									
HFS	**Hagfors**	**43.16**	**322**	P		**P**	**23**	**19**	**18.9**	**+1.1**
	comp=Z,4.0nm,0.8s,baz=94,slow=12,SNR=9.1									
	comp=Z,4.0nm,0.8s									
CLL	**Collm**	**43.33**	**309**	*e*P		**P**	**23**	**19**	**19.0**	**-0.2**
CLL				*es*P		**sP**	**23**	**20**	**32.0**	**-1.3**
MDJ	**Mudanjiang**	**44.19**	**61**	P		**P**	**23**	**19**	**26.8**	**+0.6**
MDJ				pP		pP	23	20	14.8	-1.0
MDJ				sP		sP	23	20	40.8	-1.1
MDJ				PcP		**PcP**	**23**	**21**	**07.3**	**+0.6**
MDJ				ScP		**ScP**	**23**	**24**	**36.6**	**-0.1**
MDJ				PcS		**PcS**	**23**	**25**	**00.6**	**+0.5**
MDJ				S		**S**	**23**	**25**	**43.8**	**+1.9**
MDJ				sS		sS	23	27	09.1	+0.4
MDJ				ScS		**ScS**	**23**	**29**	**00.8**	**+1.2**
MDJ				SS		**SS**	**23**	**29**	**10.0**	**+3.9**
MDJ				pmax		pmax				
	comp=Z,6.0nm,0.9s									
MDJ				pmax		pmax				
	comp=Z,220nm,3.6s									
NB2	**NORSAR Subarra**	**44.48**	**323**	P		**P**	**23**	**19**	**29.1**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=94,slow=7.9									
NOA	**NORSAR Array B**	**44.48**	**323**	P		**P**	**23**	**19**	**28.1**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=104,slow=8.2,SNR=5.7									
	comp=Z,1.1nm,0.7s									
ESDC	**Sonseca Array**	**57.63**	**298**	P		**P**	**23**	**21**	**07.0**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=52,slow=7.8,SNR=10									
	comp=Z,0.6nm,0.6s									
TORD	**Torodi Ar. Bea**	**65.94**	**269**	P		**P**	**23**	**22**	**00.1**	**-1.7**
	comp=Z,1.5nm,0.6s,baz=42,slow=6.0,SNR=10									
	comp=Z,1.5nm,0.6s									
WRA	**Warramunga Arr**	**81.83**	**122**	P		**P**	**23**	**23**	**33.3**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=324,slow=4.9,SNR=19									
	comp=Z,0.7nm,0.5s									
ASAR	**Alice Springs**	**84.10**	**125**	P		**P**	**23**	**23**	**45.5**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=314,slow=4.5,SNR=8.9									
	comp=Z,0.8nm,0.6s									

IDC ***17*** *23:14:36.0±0.9, 30.6°N×131.9°E, h0km, mb3.8/14, mbtmp3.8/18, ML3.5/4, MS3.3/3, Error ellipse: s-maj=22.2km s-min=20.5km az=77.0*

NIED ***17*** *23:14:38.5, 30.63°N×132.13°E, h56km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-8.24; $M_{\theta\theta}$2.28; $M_{\phi\phi}$5.96; $M_{r\theta}$4.04; $M_{\theta\phi}$2.04; $M_{r\phi}$4.85; Fault plane solution: $M_0$9.82000×10^{14} NP1: ϕ_s213.00000°, δ65.00000°, λ-84.00000°. NP2:ϕ_s19.00000°, δ26.00000°, λ-103.00000°.*

JMA ***17*** *23:14:38.5±0.1, 30.6°N±0.3°×132.1°E±0.7, h56km±2km, MV3.5/37, E OFF TANEGASHIMA ISLAND*

ISC 17 23:14:37.2±3.3, 30°65N±0°04×132°07E±0°06, h10km±20km, n36, σ1°29/44, mb3.9/14, 1C, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JTN	**Tanegashima 3**	**0.94**	**271**	*i* P		**Pn**	**23 14 56.4**	**0.0**
JTN				S		**Sn**	**23 15 09.9**	**0.0**
JMTN	**Minamitane**	**1.04**	**256**	*e*P		**Pn**	**23 14 57.9**	**+0.1**
JMTN				*e*S		**Sn**	**23 15 12.3**	**0.0**
JNAR	**Kushima--Naru**	**1.11**	**322**	*e*P		**Pn**	**23 14 58.8**	**0.0**
JNAR				S		**Sn**	**23 15 13.7**	**-0.4**
JTSR	**Tashiro 2**	**1.11**	**298**	*e*P		**Pn**	**23 14 58.9**	**+0.1**
JTSR				*e*S		**Sn**	**23 15 13.4**	**-0.8**
JNKG	**Nichinankitago**	**1.17**	**330**	*e*P		**Pn**	**23 14 59.4**	**-0.2**
JNKG				S		**Sn**	**23 15 15.4**	**-0.2**
JYAK	**Yakushimahirau**	**1.41**	**253**	P		**Pb**	**23 15 02.9**	**-0.6**
JYAK				S		**Sn**	**23 15 20.9**	**-0.6**
JTZ	**Takazaki**	**1.50**	**326**	P		**Pn**	**23 15 04.1**	**-0.1**
JTZ				S		**Sb**	**23 15 23.9**	**-0.4**
JSU	**Suzuyama**	**1.63**	**302**	P		**Pb**	**23 15 06.2**	**-1.1**
JSU				S		**Sb**	**23 15 26.7**	**-1.1**
JTSN	**Tsuno**	**1.66**	**343**	*i* P		**Pn**	**23 15 06.4**	**0.0**
JTSN				S		**Sn**	**23 15 26.8**	**-0.9**
JNN	**Nakanoshima**	**2.06**	**248**	S		**Sn**	**23 15 37.6**	**0.0**
JIU3	**Izumi3**	**2.18**	**331**	P		**Pn**	**23 15 14.0**	**+0.6**
UWA2	**Uwa jima 2**	**2.60**	**10**	P		**Pn**	**23 15 18.9**	**-0.4**
UWA2				S		**Sn**	**23 15 46.3**	**-4.7**
JNU	**Nakatsue**	**2.67**	**338**	Pn		**Pn**	**23 15 21.0**	**+0.8**
	11nm,0.3s,baz=203,slow=8.0,SNR=49							
JNU				Sn		**Sn**	**23 15 51.3**	**-1.2**
	15nm,0.3s,baz=327,slow=24,SNR=11							
	31nm,0.3s							
JOW	**Kunigami**	**5.06**	**222**	Pn		**Pn**	**23 15 53.8**	**+0.7**
	5.5nm,0.3s,baz=104,slow=22,SNR=2.2							
JOW				Sn		**Sn**	**23 16 47.9**	**-3.6**
	3.6nm,0.3s,baz=51,slow=20,SNR=2.9							
	10nm,0.3s							
KSRS	**Korea Array**	**7.61**	**334**	Pn		**Pn**	**23 16 30.8**	**+2.8**
	0.1nm,0.3s,baz=161,slow=14,SNR=4.8							
MJAR	**Matsushiro Arr**	**7.79**	**39**	Pn		**Pn**	**23 16 32.7**	**+2.1**
	0.3nm,0.3s,baz=241,slow=14,SNR=9.8							
	1.5nm,0.3s							
HNS	**HongShan**	**15.88**	**300**	⇑P		**P**	**23 18 25.9**	**+1.5**
HNS				pmax		pmax		
	comp=Z,12nm,0.9s							
KLR	**Kul'dur**	**18.56**	**359**	P		**Pn**	**23 18 55.6**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=188,slow=5.8,SNR=5.9							
KLR				LR		LR	23 25 26.8	
	comp=Z,46nm,18.9s,baz=188,slow=35							
	comp=Z,2.1nm,0.7s							
SONM	**Songino Array**	**26.08**	**318**	P		**P**	**23 20 09.8**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=144,slow=9.9,SNR=5.2							
SONM				LR		LR	23 32 01.8	
	comp=Z,98nm,20.2s,baz=126,slow=40							
	comp=Z,0.7nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**33.21**	**101**	T		T	23 56 15.1	
	baz=298,slow=74							
H11N1	**WAKE ISLAND Hy**	**33.22**	**101**	T		T	23 56 15.2	
	baz=299							
H11N3	**WAKE ISLAND Hy**	**33.23**	**101**	T		T	23 56 16.2	
	baz=298,slow=74							
ZALV	**Zalesovo Beam**	**40.98**	**319**	LR		LR	23 40 53.6	
	comp=Z,40nm,19.7s,baz=74,slow=39							
MKAR	**Makanchi Array**	**41.33**	**307**	P		**P**	**23 22 22.0**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=87,slow=9.2,SNR=5.6							
	comp=Z,0.8nm,0.8s							
KURBB	**Kurchatov Arra**	**44.17**	**313**	P		**P**	**23 22 45.4**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=101,slow=9.3,SNR=11							
	comp=Z,2.0nm,0.7s							
BVAR	**Borovoye Array**	**49.37**	**316**	P		**P**	**23 23 26.4**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=91,slow=12,SNR=4.2							
	comp=Z,1.1nm,0.5s							
ILAR	**Eielson Array**	**58.95**	**30**	P		**P**	**23 24 37.2**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=298,slow=7.6,SNR=8.6							
	comp=Z,0.7nm,0.8s							
STKA	**Stephens Creek**	**62.84**	**171**	P		**P**	**23 25 03.3**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=333,slow=4.5,SNR=3.6							
	comp=Z,1.3nm,0.5s							
INK	**Inuvik**	**63.49**	**24**	P		**P**	**23 25 08.0**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=283,slow=4.8,SNR=1.9							
	comp=Z,0.7nm,0.7s							
FINES	**FINESS Array B**	**70.68**	**331**	P		**P**	**23 25 52.8**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=68,slow=5.1,SNR=18							
	comp=Z,2.2nm,0.7s							
AKASG	**Malin Array Be**	**74.36**	**320**	P		**P**	**23 26 14.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=51,slow=6.6,SNR=4.6							
	comp=Z,0.2nm,0.3s							
NOA	**NORSAR Array B**	**76.82**	**335**	P		**P**	**23 26 28.3**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=52,slow=5.1,SNR=1.3							
	comp=Z,0.4nm,0.7s							
BRTR	**Keskin Array B**	**76.97**	**308**	P		**P**	**23 26 31.0**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=86,slow=6.0,SNR=6.1							
	comp=Z,1.1nm,0.8s							
GERES	**GERESS Array B**	**83.67**	**324**	P		**P**	**23 27 06.3**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=26,slow=6.5,SNR=3.7							
	comp=Z,0.5nm,0.7s							
NVAR	**Mina Array Bea**	**85.03**	**48**	P		**P**	**23 27 14.5**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=303,slow=4.6,SNR=4.4							
	comp=Z,0.4nm,0.4s							
PDAR	**Pinedale Array**	**87.62**	**40**	P		**P**	**23 27 26.8**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=329,slow=1.1,SNR=2.5							
	comp=Z,0.3nm,0.7s							

IDC 17 23:39:09.8±1.8, 4°47S×145°47E, h0km, mb3.4/2, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=53.1km s-min=27.2km az=103.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**5.18**	**161**	Pn		Pn	23 40 30.3	+1.6
	8.0nm,0.3s,baz=327,slow=5.3,SNR=6.0							
PMG				Sn		Sn	23 41 27.6	-1.6
	4.0nm,0.3s,baz=311,slow=23,SNR=7.5							
WRA	**Warramunga Arr**	**18.82**	**214**	P		P	23 43 31.2	0.0
	0.2nm,0.3s,baz=41,slow=12,SNR=12							
	1.6nm,0.8s							
ASAR	**Alice Springs**	**22.11**	**209**	P		P	23 44 06.8	-0.2
	1.0nm,0.8s,baz=44,slow=8.7,SNR=9.3							
	1.0nm,0.8s							
ILAR	**Eielson Array**	**84.69**	**23**	P		P	23 51 45.1	-0.2
	0.2nm,0.7s,baz=262,slow=4.4,SNR=4.8							
	0.2nm,0.7s							

IDC ***17*** *23:41:13.8±0.4, 10.02°N×140.15°E, h0km, mb4.9/38, mbtmp5.0/40, ML5.9/2, MS4.5/68, Error ellipse: s-maj=16.6km s-min=9.5km az=80.0*

MOS ***17*** *23:41:14.3±0.8, 10.00°N×140.12°E, h13km, mb5.6/87, MS4.9/25, Error ellipse: s-maj=7.0km s-min=4.1km az=112.6*

NEIC ***17*** *23:41:16.7, 10.05°N×140.16°E, h20km*

NEIC ***17*** *23:41:16.4±1.2, 10.04°N±0.07°×140.14°E±0.09, h10km±1km, mb5.5/388, Ms_20 4.9/166, Mwb5.2/19, Mww5.4/18, Error ellipse: s-maj=15.1km s-min=11.8km az=284.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.39; $M_{\theta\theta}$8.04; $M_{\phi\phi}$-9.43; $M_{r\theta}$-0.90; $M_{\theta\phi}$-1.57; $M_{r\phi}$-1.48; Fault plane solution: $M_0$9.12000×10^{16} NP1: ϕ_s319.90000°, δ79.80000°, λ-1.08000°. NP2:ϕ_s50.09000°, δ88.93000°, λ-169.80000°. Principal axes: T 8.2619, Plg6.0000°, Azm185.0000°; N 1.5225, Plg80.0000°, Azm56.0000°; P -9.7844, Plg8.0000°, Azm275.0000°;*

NEIC ***17*** *23:41:16.7, 10.05°N×140.16°E, h10km*

NEIC ***17*** *23:41:16.7, 10.05°N×140.16°E, h20km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.21; $M_{\theta\theta}$1.20; $M_{\phi\phi}$-1.41; $M_{r\theta}$0.01; $M_{\theta\phi}$-0.40; $M_{r\phi}$-0.17; Fault plane solution: $M_0$1.38000×10^{17} NP1: ϕ_s323.37000°, δ87.45000°, λ-5.43000°. NP2:ϕ_s53.62000°, δ84.57000°, λ-177.43000°. Principal axes: T 1.2653, Plg2.0000°, Azm9.0000°; N 0.2248, Plg84.0000°, Azm118.0000°; P -1.4901, Plg6.0000°, Azm278.0000°;*

DJA ***17*** *23:41:18.0±1.4, 10°N±2°×14°0E±°, h22km±10km, M5.5/60, mb5.5/60, mB5.9/32, MLv6.1/1, Mw(mB)5.5/32, MwMwp5.1/6, Mwp5.3/6*

GCMT ***17*** *23:41:18.4±0.1, 10.00°N±0.01°×140.08°E±0.01, h16km, MW5.4/150, Moment Tensor Solution. s95,c150; s150,c260; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}0.06±.02; $M_{\theta\theta}$1.24±.02; $M_{\phi\phi}$-1.30±.02; $M_{r\theta}$-0.23±.05; $M_{\theta\phi}$-0.43±.02; $M_{r\phi}$-0.49±.06; Best double couple: $M_0$1.43600×10^{17} NP1:ϕ_s55.00000°, δ82.00000°, λ-162.00000°. NP2:ϕ_s323.00000°, δ72.00000°, λ-8.00000°. Principal axes: T 1.3300, Plg7.0000°, Azm188.0000°; N 0.2070, Plg70.0000°, Azm77.0000°; P -1.5420, Plg18.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 23:41:17.1±0.5, 10°04N±0°03×140°16E±0°04, h17km±2km, h18km:pP-P, n1188, σ1°36/1156, mb5.5/327, MS4.8/195, 25C-7D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**5.80**	**52**	Pn		**Pn**	**23 42 42.8**	**+0.3**
GUMO				Sn		**Sn**	**23 43 48.0**	**-0.7**
GUMO	**Guam**	**5.80**	**52**	P		**Pn**	**23 42 43.9**	**+1.4**
GUMO	**Guam**	**5.80**	**52**	Pn		**Pn**	**23 42 43.2**	**+0.7**
	227nm,0.3s,baz=167,slow=3.2,SNR=41							
GUMO				Sn		**Sn**	**23 43 46.7**	**-2.0**
	347nm,0.3s,baz=26,slow=19,SNR=9.6							
GUMO				LR		LR	23 45 10.3	
	comp=Z,4µm,20.6s,baz=230,slow=41							
	859nm,0.5s							
GENI	**Genyem**	**12.55**	**180**	P		**Pn**	**23 44 19.5**	**+4.5**
MANU	**Manus Island**	**13.99**	**149**			**Pn**	**23 44 35.1**	**+0.5**
MANU	**Manus Island**	**13.99**	**149**	P		**Pn**	**23 44 35.9**	**+1.2**
DAV	**Davao City (W)**	**14.72**	**260**	⇓*i*P		**Pn**	**23 44 47.0**	**+2.3**
DAV	**Davao City (W)**	**14.72**	**260**	P		**P**	**23 44 48.9**	**-1.8**
DAV	**Davao City (W)**	**14.72**	**260**	P		**P**	**23 44 48.8**	**-1.9**
DAV	**Davao City (W)**	**14.72**	**260**	Pn		**Pn**	**23 44 45.6**	**+0.9**
	25nm,0.3s,baz=76,slow=4.8,SNR=24							
DAV				LR		LR	23 49 27.2	
	comp=Z,1µm,21.8s,baz=76,slow=34							
TABU	**Tabubil**	**15.24**	**176**	P		**P**	**23 44 54.6**	**-2.0**
TNTI	**Ternate**	**15.70**	**235**	P		**P**	**23 45 01.3**	**-0.3**
TNTI	**Ternate**	**15.70**	**235**	P		**P**	**23 45 02.7**	**+1.0**
JCJ	**Chichijima**	**17.07**	**6**	Pn		**Pn**	**23 45 14.0**	**-1.1**
JCJ	**Chichijima**	**17.07**	**6**	P		**P**	**23 45 17.0**	**+0.2**
JCJ	**Chichijima**	**17.07**	**6**	P		**Pn**	**23 45 11.1**	**-4.0**
	514nm,0.8s,baz=163,slow=12,SNR=11							
JCJ				LR		LR	23 50 58.1	
	comp=Z,1µm,18.4s,baz=157,slow=34							
BNDI	**Bandanaira**	**17.71**	**216**	P		**P**	**23 45 26.1**	**+2.2**
BNDI	**Bandanaira**	**17.71**	**216**	P		**Pn**	**23 45 23.2**	**+0.1**
	445nm,1.4s							
JMZ	**Minamidaito 2**	**17.84**	**333**			**Pn**	**23 45 24.8**	**+0.2**
JMZ				IAmb		IAmb	23 45 30.2	
	comp=Z,896nm,1.9s							
JMZ	**Minamidaito 2**	**17.84**	**333**	P		**P**	**23 45 26.6**	**+1.4**
PATS	**Pohnpei**	**18.24**	**99**	P		**P**	**23 45 32.9**	**+3.2**
KRVT	**Keravat (AS076**	**18.52**	**140**	LR		LR	23 51 01.7	
	comp=Z,2µm,19.8s,baz=74,slow=32							
SANI	**Sanana**	**18.53**	**230**	P		**Pn**	**23 45 33.5**	**+0.3**
SANI	**Sanana**	**18.53**	**230**	P		**P**	**23 45 30.5**	**-2.4**
	comp=Z,121nm,0.9s,comp=Z,2µmcomp=Z,2µm							
KMSI	**Cibinong**	**18.64**	**241**	P		**P**	**23 45 33.0**	**-1.1**
	comp=Z,833nm,1.2s,comp=Z,9µm							
TGY	**Tagaytay City**	**19.22**	**284**	P		**P**	**23 45 40.6**	**-0.1**
	comp=Z,41nm,0.3s,baz=111,slow=13,SNR=1.7							
TGY				LR		LR	23 51 53.6	
	comp=Z,2µm,21.1s,baz=116,slow=33							
	comp=Z,116nm,0.4s							
SAUI	**Saumlaki**	**19.96**	**207**	P		**P**	**23 45 48.4**	**-0.2**
SAUI	**Saumlaki**	**19.96**	**207**	P		**Pn**	**23 45 49.7**	**-0.6**
JOW	**Kunigami**	**20.12**	**328**	P		**P**	**23 45 50.3**	**0.0**
JOW				IAmb		IAmb	23 46 00.4	
	comp=Z,305nm,1.5s							
JOW	**Kunigami**	**20.12**	**328**	P		Pn	23 45 52.8	+0.6
JOW	**Kunigami**	**20.12**	**328**	P		**P**	**23 45 50.9**	**+0.5**
	comp=Z,53nm,0.8s,baz=172,slow=8.6,SNR=5.7							
JOW				LR		LR	23 51 56.2	
	comp=Z,2µm,21.2s,baz=160,slow=32							
	comp=Z,53nm,0.8s							
MRSI	**Marisa**	**20.46**	**243**	P		**P**	**23 45 53.3**	**-0.8**
	comp=Z,897nm,1.4s,comp=Z,11µm							
LUWI	**Luwuk**	**20.51**	**239**	P		**P**	**23 45 54.2**	**-0.5**
LUWI	**Luwuk**	**20.51**	**239**	P		**P**	**23 45 55.0**	**+0.4**
LUWI	**Luwuk**	**20.51**	**239**	P		**P**	**23 45 53.3**	**-1.3**
	comp=Z,710nm,1.0s,comp=Z,7µm							
PMG	**Port Moresby**	**20.54**	**160**	P		**P**	**23 45 54.2**	**-0.6**
PMG				IAmb		IAmb	23 46 03.2	
	comp=Z,208nm,1.1s							
PMG	**Port Moresby**	**20.54**	**160**	P		**P**	**23 45 54.4**	**-0.5**
PMG	**Port Moresby**	**20.54**	**160**	P		**P**	**23 45 54.7**	**-0.2**
PMG	**Port Moresby**	**20.54**	**160**	*ce*P		**P**	**23 45 53.5**	**-1.4**
PMG				pmax		pmax		
	comp=Z,139nm,1.3s							
PMG	**Port Moresby**	**20.54**	**160**	P		**P**	**23 45 54.0**	**-0.9**
	comp=Z,57nm,0.8s,baz=356,slow=7.2,SNR=25							
	comp=Z,57nm,0.8s							
TOLI2	**Tolitoli**	**21.21**	**246**	P		**P**	**23 46 02.4**	**+0.2**
TOLI2	**Tolitoli**	**21.21**	**246**	P		**P**	**23 46 02.7**	**+0.5**
YOJ	**Yonaguni jima**	**21.73**	**313**	P		**P**	**23 46 06.5**	**-1.2**
YOJ	**Yonaguni jima**	**21.73**	**313**	P		**P**	**23 46 06.5**	**-1.2**
YOJ				pmax		pmax		
	comp=Z,630nm,1.5s							
MYLDM	**Lahad Datu**	**22.00**	**259**	P		**P**	**23 46 11.3**	**+0.6**
TWGBT	**Beinan**	**22.24**	**307**	P		**P**	**23 46 15.0**	**+1.8**
TWG	**Pinlang**	**22.25**	**307**	P		**P**	**23 46 13.3**	**0.0**
TWG				IAmb		IAmb	23 46 31.1	
	comp=Z,217nm,1.1s							
MPSI	**Mapaga**	**22.34**	**246**	P		**P**	**23 46 13.3**	**-1.0**
	comp=Z,96nm,1.0s,comp=Z,2µm							
YULB	**Yu-li**	**22.38**	**309**	P		**P**	**23 46 14.7**	**0.0**
YULB				IAmb		IAmb	23 46 34.0	
	comp=Z,228nm,1.1s							
YULB	**Yu-li**	**22.38**	**309**	P		**P**	**23 46 16.5**	**+1.8**
NACB	**Ninganchiao**	**22.59**	**311**	P		**

H11S1	**WAKE ISLAND Hy**	**27.04**	**69**	T	T	00 15 28.9			
	baz=254,slow=75								
H11S2	**WAKE ISLAND Hy**	**27.04**	**69**	T	T	00 15 33.7			
	baz=254,slow=75								
SSE	**Sheshan**	**27.38**	**323**	P	**P**	**23 47 02.3**	**+0.7**		
SSE				S	**S**	**23 51 40.4**	**-0.6**		
SSE				pmax	pmax				
	comp=Z,49nm,1.0s								
SSE				pmax	pmax				
	comp=Z,200nm,4.3s								
SSE				LR	LR				
	comp=Z,1µm,17.1s								
SSE				LR	LR				
	comp=Z,1µm,16.3s								
H11N1	**WAKE ISLAND Hy**	**27.53**	**66**	T	T	00 15 47.5			
	baz=254,slow=75								
H11N2	**WAKE ISLAND Hy**	**27.54**	**66**	T	T	00 16 08.5			
	baz=254,slow=75								
H11N3	**WAKE ISLAND Hy**	**27.55**	**66**	T	T	00 16 11.5			
	baz=254,slow=75								
HNR	**Honiara**	**27.61**	**134**	P	**P**	**23 47 02.0**	**-1.8**		
	comp=Z,566nm,0.3s,baz=182,slow=15,SNR=1.1								
HNR				LR	LR	23 57 29.1			
	comp=Z,15µm,18.7s,baz=304,slow=35								
JMM	**Marumori**	**27.71**	**1**	P	**P**	**23 47 03.3**	**-1.3**		
JMM				IAmb	IAmb	23 47 20.4			
	comp=Z,79nm,0.9s								
JMM	**Marumori**	**27.71**	**1**	P	**P**	**23 47 06.6**	**+2.1**		
HKPS	**Hong Kong Po S**	**27.74**	**299**	P	**P**	**23 47 04.3**	**-0.6**		
KNRA	**Kununurra**	**27.93**	**204**	P	**P**	**23 47 05.8**	**-0.8**		
	baz=28								
KNRA	**Kununurra**	**27.93**	**204**	P	**P**	**23 47 05.5**	**-1.1**		
KNRA				IAmb	IAmb	23 47 06.8			
	comp=Z,116nm,0.9s								
KNRA	**Kununurra**	**27.93**	**204**	P	**P**	**23 47 06.0**	**-0.7**		
BASI	**Baing, Sumba**	**28.01**	**225**	P	**P**	**23 47 05.6**	**-1.8**		
	comp=Z,202nm,2.1s,comp=Z,3µm								
TJN	**Taejon**	**28.67**	**338**	P	**P**	**23 47 11.8**	**-1.3**		
TJN	**Taejon**	**28.67**	**338**	P	**P**	**23 47 14.2**	**+1.1**		
TJN	**Taejon**	**28.67**	**338**	*i* P	**P**	**23 47 12.6**	**-0.5**		
SBUM	**Sibu**	**28.76**	**257**	P	**P**	**23 47 13.8**	**-0.3**		
KSRS	**Korea Array**	**29.44**	**340**	P	**P**	**23 47 18.9**	**-1.0**		
	comp=Z,6.3nm,0.6s,baz=158,slow=9.5,SNR=18								
KSRS				PcP	**PcP**	**23 50 26.5**	**+1.0**		
	comp=Z,1.9nm,0.9s,baz=205,slow=2.0,SNR=2.8								
KSRS				LR	LR	23 57 10.4			
	comp=Z,1µm,21.4s,baz=160,slow=32								
	comp=Z,6.3nm,0.6s								
KSAR	**Wonju Array Be**	**29.44**	**340**	P	**P**	**23 47 19.2**	**-0.8**		
KSAR	**Wonju Array Be**	**29.44**	**340**	P	**P**	**23 47 19.2**	**-0.8**		
NJ2	**Nanjing**	**29.46**	**321**	*e*P	**P**	**23 47 20.6**	**+0.4**		
NJ2				pP	**pP**	**23 47 23.3**	**-1.7**		
NJ2				pmax	pmax				
	comp=Z,6.0nm,0.5s								
NJ2				pmax	pmax				
	comp=Z,360nm,4.3s								
NJ2				LR	LR				
	comp=Z,3µm,18.0s								
NJ2				LR	LR				
	comp=Z,3µm,19.9s								
NJ2				LR	LR				
	comp=Z,2µm,20.8s								
KS19	**Wonju Array Si**	**29.50**	**340**	P	**P**	**23 47 19.6**	**-0.9**		
WB0	**Warramunga Arr**	**30.16**	**191**	P	**P**	**23 47 24.9**	**-1.6**		
WB0				IAmb	IAmb	23 47 26.5			
	comp=Z,110nm,1.3s								
WB0				IAMs_20	IAMs_20	23 58 52.8			
	comp=Z,3µm,21.0s								
WB9	**Warramunga Arr**	**30.18**	**191**	IAMs_20	IAMs_20	23 58 52.5			
	comp=Z,3µm,21.0s								
WB8	**Warramunga Arr**	**30.21**	**191**	IAMs_20	IAMs_20	23 58 55.1			
	comp=Z,3µm,21.0s								
WB7	**Warramunga Arr**	**30.23**	**191**	IAMs_20	IAMs_20	23 58 55.8			
	comp=Z,3µm,21.0s								
WB6	**Warramunga Arr**	**30.25**	**191**	IAMs_20	IAMs_20	23 58 55.2			
	comp=Z,3µm,20.0s								
WB5	**Warramunga Arr**	**30.27**	**191**	IAMs_20	IAMs_20	23 58 56.8			
	comp=Z,3µm,21.0s								
WB3	**Warramunga Arr**	**30.32**	**191**	IAMs_20	IAMs_20	23 58 57.0			
	comp=Z,3µm,20.0s								
WR0	**Warramunga Arr**	**30.32**	**191**	P	**P**	**23 47 26.8**	**-1.1**		
WR0				IAmb	IAmb	23 47 27.9			
	comp=Z,71nm,0.8s								
WR0				IAMs_20	IAMs_20	23 59 20.1			
	comp=Z,2µm,21.0s								
WC1	**Warramunga Arr**	**30.32**	**191**	IAMs_20	IAMs_20	23 58 57.2			
	comp=Z,3µm,20.0s								
WR9	**Warramunga Arr**	**30.32**	**191**	IAMs_20	IAMs_20	23 59 22.2			
	comp=Z,2µm,20.0s								
WR8	**Warramunga Arr**	**30.32**	**191**	IAMs_20	IAMs_20	23 59 20.2			
	comp=Z,3µm,20.0s								
WR7	**Warramunga Arr**	**30.33**	**191**	IAMs_20	IAMs_20	23 59 20.3			
	comp=Z,3µm,21.0s								
WRAB	**Tennant Creek**	**30.33**	**191**	P	**P**	**23 47 26.8**	**-1.2**		
WRAB				IAmb	IAmb	23 47 35.3			
	comp=Z,66nm,1.1s								
WRAB				IAMs_20	IAMs_20	23 58 58.1			
	comp=Z,3µm,20.0s								
WRAB	**Tennant Creek**	**30.33**	**191**	P	**P**	**23 47 26.8**	**-1.2**		
WRAB				pmax	pmax				
	comp=Z,66nm,1.1s								
WRAB				MLR	MLR				
	comp=Z,3µm,20.0s								
WR5	**Warramunga Arr**	**30.33**	**191**	IAMs_20	IAMs_20	23 59 21.4			
	comp=Z,3µm,20.0s								
WR4	**Warramunga Arr**	**30.34**	**191**	IAMs_20	IAMs_20	23 58 58.5			
	comp=Z,3µm,21.0s								
WR3	**Warramunga Arr**	**30.34**	**191**	IAMs_20	IAMs_20	23 58 58.5			
	comp=Z,3µm,21.0s								
WB2	**Warramunga Arr**	**30.34**	**191**	P	**P**	**23 47 26.5**	**-1.5**		
WB2				IAmb	IAmb	23 47 28.1			
	comp=Z,60nm,0.9s								
WR2	**Warramunga Arr**	**30.34**	**191**	IAMs_20	IAMs_20	23 58 58.6			
	comp=Z,3µm,20.0s								
WR1	**Warramunga Arr**	**30.34**	**191**	IAMs_20	IAMs_20	23 58 58.6			
	comp=Z,3µm,20.0s								
WRA	**Warramunga Arr**	**30.34**	**191**	P	**P**	**23 47 26.4**	**-1.7**		
WRA	**Warramunga Arr**	**30.34**	**191**	*i* P	**P**	**23 47 26.7**	**-1.4**		
WRA				pmax	pmax				
	comp=Z,39nm,0.8s								
WRA	**Warramunga Arr**	**30.34**	**191**	P	**P**	**23 47 26.8**	**-1.2**		
	comp=Z,39nm,0.8s,baz=12,slow=9.4,SNR=165								
WRA				PcP	**PcP**	**23 50 27.4**	**-0.8**		
	comp=Z,3.7nm,0.7s,baz=358,slow=2.8,SNR=4.9								
	comp=Z,39nm,0.8s								
WC3	**Warramunga Arr**	**30.35**	**191**	IAMs_20	IAMs_20	23 58 59.9			
	comp=Z,3µm,20.0s								
WB1	**Warramunga Ar.**	**30.36**	**191**	IAMs_20	IAMs_20	23 58 59.0			
	comp=Z,3µm,20.0s								
WC4	**Warramunga Arr**	**30.36**	**191**	IAMs_20	IAMs_20	23 58 59.1			
	comp=Z,2µm,20.0s								
QIS	**Mount Isa**	**30.41**	**181**	P	**P**	**23 47 28.2**	**-0.5**		
CTA	**Charters Tower**	**30.53**	**169**	P	**P**	**23 47 29.1**	**-0.7**		
	comp=Z,10nm,0.8s,baz=350,slow=10,SNR=8.2								
CTA				LR	LR	23 58 31.5			
	comp=Z,1µm,20.1s,baz=344,slow=34								
	comp=Z,10nm,0.8s								
CTAO	**Charters Tower**	**30.53**	**169**	P	**P**	**23 47 29.7**	**-0.1**		
CTAO	**Charters Tower**	**30.53**	**169**	P	**P**	**23 47 30.4**	**+0.6**		
CTAO	**Charters Tower**	**30.53**	**169**	P	**P**	**23 47 29.7**	**-0.1**		
CTAO				pmax	pmax				
	comp=Z,38nm,1.0s								
CTAO				MLR	MLR				
	comp=Z,2µm,20.0s								
QIZ	**Qiongzhong**	**30.63**	**290**	P	**P**	**23 47 30.9**	**+0.2**		
QIZ	**Qiongzhong**	**30.63**	**290**	P	**P**	**23 47 30.5**	**-0.2**		
QIZ				PcP	**PcP**	**23 50 28.8**	**-0.2**		
QIZ				S	**S**	**23 52 33.5**	**+1.0**		
QIZ				pmax	pmax				
	comp=Z,38nm,1.5s								
QIZ				LR	LR				
	comp=Z,1µm,15.5s								
QIZ				LR	LR				
	comp=Z,610nm,5.3s								
QIZ				LR	LR				
	comp=Z,900nm,12.2s								
CNSH	**ChangSha**	**31.30**	**309**	⇑P	**P**	**23 47 38.1**	**+1.6**		
CNSH				S	**S**	**23 52 47.3**	**+4.5**		
CNSH				pmax	pmax				
	comp=Z,32nm,1.4s								
CNSH				LR	LR				
	comp=Z,2µm,16.8s								
CNSH				LR	LR				
	comp=Z,650nm,15.4s								
CNSH				LR	LR				
	comp=Z,950nm,19.1s								
WHN	**Wuhan**	**31.51**	**314**	⇓*i*P	**P**	**23 47 40.9**	**+2.6**		
WHN				pmax	pmax				
	comp=Z,50nm,0.8s								
WHN				LR	LR				
	comp=Z,1µm,7.1s								
WHN				LR	LR				
	comp=Z,2µm,13.9s								
WHN				LR	LR				
	comp=Z,2µm,22.0s								
JAGI	**Jajag, Banyuwa**	**31.76**	**236**	P	**P**	**23 47 41.0**	**+0.3**		
JAGI				IAmb	IAmb	23 48 14.3			
	comp=Z,60nm,1.3s								
ERM	**Erimo**	**31.96**	**4**	IAMs_20	IAMs_20	23 57 52.3			
	comp=Z,2µm,20.0s								
GULI	**GuiLin**	**32.08**	**302**	⇑P	P	23 47 51.8	+8.4		
DL2	**Dalian**	**33.18**	**333**	P	P	23 48 00.3	+7.4		
DL2				*e*S	S	23 53 23.0	+11		
DL2				pmax	pmax				
	comp=Z,85nm,1.3s								
DL2				pmax	pmax				
	comp=Z,190nm,4.5s								
DL2				LR	LR				
	comp=N,2µm,21.9s								
DL2				LR	LR				
	comp=E,2µm,20.4s								
DL2				LR	LR				
	comp=Z,1µm,19.7s								
TIA	**Tai'an**	**33.40**	**325**	P	P	23 48 01.3	+6.5		
TIA				pmax	pmax				
	comp=Z,25nm,1.0s								
TIA				pmax	pmax				
	comp=Z,190nm,3.5s								
TIA				LR	LR				
	comp=Z,2µm,11.5s								
TIA				LR	LR				
	comp=Z,1µm,10.8s								
TIA				LR	LR				
	comp=Z,2µm,16.5s								
ASAJ	**Asahikawa**	**34.02**	**3**	LR	LR	00 02 36.6			
	comp=Z,253nm,18.3s,baz=198,slow=38								
JKA	**Kamikawa-asahi**	**34.02**	**3**	IAMs_20	IAMs_20	23 59 25.8			
	comp=Z,2µm,21.0s								
AS31	**Alice Springs**	**34.05**	**190**	P	**P**	**23 47 59.7**	**-0.9**		
ASAR	**Alice Springs**	**34.05**	**190**	P	**P**	**23 47 59.9**	**-0.8**		
	comp=Z,19nm,0.6s,baz=16,slow=12,SNR=201								
ASAR				PP	**PP**	**23 49 18.9**	**+1.0**		
	comp=Z,28nm,1.0s,baz=12,slow=11,SNR=6.0								
ASAR				PcP	**PcP**	**23 50 38.9**	**+0.6**		
	comp=Z,6.2nm,0.7s,baz=24,slow=2.3,SNR=7.4								
ASAR				LR	LR	00 01 46.8			
	comp=Z,2µm,19.6s,baz=13,slow=36								
	comp=Z,19nm,0.6s								
USA0B	**Ussuriysk Arra**	**34.76**	**350**	P	**P**	**23 48 05.7**	**-0.8**		
USA0B	**Ussuriysk Arra**	**34.76**	**350**	P	**P**	**23 48 05.7**	**-0.8**		
USA0B				pmax	pmax				
	comp=Z,22nm,0.9s								
USRK	**Ussuriysk Ar.**	**34.76**	**350**	P	**P**	**23 48 06.0**	**-0.5**		
USRK	**Ussuriysk Ar.**	**34.76**	**350**	P	**P**	**23 48 06.8**	**+0.3**		
	comp=Z,14nm,0.7s,baz=172,slow=8.1,SNR=33								
USRK				LR	LR	00 00 14.1			
	comp=Z,1µm,21.6s,baz=164,slow=33								
	comp=Z,14nm,0.7s								
SNY	**Shenyang**	**34.86**	**338**	P	**P**	**23 48 07.6**	**+0.2**		
SNY				S	**S**	**23 53 34.8**	**-2.9**		
SNY				pmax	pmax				
	comp=Z,43nm,1.2s								
SNY				pmax	pmax				
	comp=Z,260nm,4.2s								
SNY				LR	LR				
	comp=Z,1µm,21.0s								
SNY				LR	LR				
	comp=Z,2µm,21.7s								
SNY				LR	LR				
	comp=Z,1µm,28.8s								
ENH	**Enshi**	**34.94**	**310**	P	**P**	**23 48 08.4**	**+0.1**		
ENH				IAmb	IAmb	23 48 20.1			
	comp=Z,65nm,0.9s								
ENH	**Enshi**	**34.94**	**310**	P	**P**	**23 48 09.5**	**+1.1**		
LYN	**LuoYang**	**35.16**	**318**	⇑P	**P**	**23 48 10.6**	**+0.5**		
LYN				pP	pwP	23 48 19.0	+1.7		
LYN				S	**S**	**23 53 41.0**	**-1.5**		
LYN				pmax	pmax				
	comp=Z,47nm,0.9s								
LYN				pmax	pmax				
	comp=Z,400nm,4.5s								
LYN				LR	LR				
	comp=Z,2µm,20.5s								
LYN				LR	LR				
	comp=Z,2µm,20.6s								
LYN				LR	LR				
	comp=Z,2µm,20.6s								
HNS	**HongShan**	**35.61**	**324**	⇑P	**P**	**23 48 14.1**	**+0.2**		
HNS				S	**S**	**23 53 51.6**	**+2.2**		
HNS				pmax	pmax				
	comp=Z,73nm,0.9s								
HNS				LR	LR				
	comp=Z,2µm,15.5s								
HNS				LR	LR				
	comp=Z,2µm,15.9s								
HNS				LR	LR				
	comp=Z,1µm,20.3s								
MDJ	**Mudanjiang**	**35.64**	**347**	P	**P**	**23 48 14.6**	**+0.5**		
MDJ	**Mudanjiang**	**35.64**	**347**	P	**P**	**23 48 16.8**	**+2.7**		
MDJ				pP	sP	23 48 19.9	-0.8		
MDJ				sP	pwP	23 48 21.1	-0.6		
MDJ				PP	**PP**	**23 49 35.8**	**+0.6**		
MDJ				PcP	**PcP**	**23 50 45.1**	**+2.6**		
MDJ				S	**S**	**23 53 54.1**	**+4.4**		
MDJ				sS	sS	23 53 58.3	+0.9		
MDJ				ScP	**ScP**	**23 54 31.3**	**+3.4**		
MDJ				SS	**SnSn**	**23 56 16.3**	**+5.0**		
MDJ				ScS	**ScS**	**23 58 36.0**	**+3.4**		
MDJ				pmax	pmax				
	comp=Z,7.0nm,0.8s								
MDJ				pmax	pmax				
	comp=Z,220nm,3.6s								
MDJ				LR	LR				
	comp=Z,850nm,17.3s								
MDJ				LR	LR				
	comp=Z,2µm,19.0s								
MDJ				LR	LR				
	comp=Z,2µm,19.7s								
CN2	**Changchun**	**35.98**	**342**	*e*P	**P**	**23 48 16.1**	**-0.9**		
CN2				pmax	pmax				
	comp=Z,20nm,0.7s								
CN2				pmax	pmax				
	comp=Z,100nm,4.0s								
CN2				LR	LR				
	comp=Z,1µm,17.8s								
CN2				LR	LR				
	comp=Z,1µm,17.8s								
CN2				LR	LR				
	comp=Z,700nm,14.4s								
CMJI	**Cimerak**	**36.20**	**242**	P	**P**	**23 48 18.8**	**-0.5**		
	comp=Z,91nm,1.7s								
LEM	**Lembang**	**36.49**	**244**	P	**P**	**23 48 21.0**	**-0.9**		
	comp=Z,104nm,0.9s								
LEM	**Lembang**	**36.49**	**244**	LR	LR	00 02 38.3			
	comp=Z,521nm,21.6s,baz=62,slow=35								
SLVN	**Son La**	**36.57**	**292**	P	**P**	**23 48 22.7**	**+0.2**		
SLVN				IAmb	IAmb	23 48 24.7			
	comp=Z,61nm,1.0s								
QLP	**Quilpie**	**36.62**	**174**	P	**P**	**23 48 22.7**	**+0.1**		
BJT	**Baijiatuau**	**36.68**	**328**	P	**P**	**23 48 23.4**	**+0.3**		
BJT				IAmb	IAmb	23 48 32.0			
	comp=Z,152nm,1.4s								
BJT	**Baijiatuau**	**36.68**	**328**	P	**P**	**23 48 24.1**	**+1.0**		
BJT	**Baijiatuau**	**36.68**	**328**	P	**P**	**23 48 23.4**	**+0.3**		
BJT				pmax	pmax				
	comp=Z,152nm,1.4s								
BJI	**Beijing**	**36.70**	**329**	P	**P**	**23 48 24.1**	**+0.9**		
BJI				pP	**pP**	**23 48 27.8**	**-0.2**		
BJI				sP	**pwP**	**23 48 31.0**	**+0.5**		
BJI				PcP	**PcP**	**23 50 46.8**	**+1.1**		
BJI				S	**S**	**23 54 08.4**	**+2.5**		
BJI				pmax	pmax				
	comp=Z,14nm,1.7s								
BJI				pmax	pmax				
	comp=Z,160nm,3.9s								
BJI				LR	LR				
	comp=Z,790nm,17.3s								
BJI				LR	LR				
	comp=Z,790nm,15.9s								
BJI				LR	LR				
	comp=Z,610nm,18.6s								
NONG	**Nongkai**	**36.72**	**287**	P	**P**	**23 48 24.2**	**+0.5**		
WRKA	**Warakurna**	**36.73**	**198**	P	**P**	**23 48 22.9**	**-0.8**		
BBJI	**Bungbulang**	**36.75**	**243**	P	**P**	**23 48 21.4**	**-2.6**		
YSS	**Yuzh-Sakhalins**	**36.85**	**3**	P	**P**	**23 48 22.9**	**-1.5**		
YSS				IAmb	IAmb	23 48 26.2			
	comp=Z,72nm,1.0s								
YSS				IAMs_20	IAMs_20	00 02 11.9			
	comp=Z,2µm,19.0s								
YSS	**Yuzh-Sakhalins**	**36.85**	**3**	P	**P**	**23 48 24.5**	**+0.1**		
YSS	**Yuzh-Sakhalins**	**36.85**	**3**	*e*P	**P**	**23 48 24.1**	**-0.3**		
YSS				*e*		23 49 47.4			
YSS				*e*S	**S**	**23 54 05.9**	**-2.2**		
YSS				*e*SS	**SnSn**	**23 56 30.1**	**-10**		
YSS				pmax	pmax				
	comp=Z,70nm,1.0s								
YSS				pmax	pmax				
	comp=Z,300nm,2.6s								
YSS				MLR	MLR				
	comp=Z,1µm,16.0s								
TIY	**Taiyuan**	**37.16**	**322**	*e*P	P	23 48 34.4	+7.1		
TIY				S	**S**	**23 54 13.4**	**+0.1**		
TIY				SS	**SnSn**	**23 56 51.9**	**+3.5**		
TIY				pmax	pmax				
	comp=Z,33nm,0.5s								
TIY				pmax	pmax				
	comp=Z,270nm,5.7s								
TIY				LR	LR				
	comp=N,2µm,19.2s								
TIY				LR	LR				
	comp=E,2µm,19.2s								
TIY				LR	LR				
	comp=Z,930nm,22.8s								
PSA00	**Pilbara Seismi**	**37.21**	**212**	P	**P**	**23 48 25.7**	**-2.1**		
PSA00	**Pilbara Seismi**	**37.21**	**212**	P	**P**	**23 48 24.9**	**-2.9**		
PSA00				IAmb	IAmb	23 48 36.7			
	comp=Z,28nm,1.0s								
PSA00	**Pilbara Seismi**	**37.21**	**212**	P	**P**	**23 48 26.0**	**-1.8**		
BNX	**BinXian**	**37.22**	**345**	⇑P	**P**	**23 48 27.5**	**0.0**		
BNX				pP	**pwP**	**23 48 40.4**	**+5.3**		
BNX				S	**S**	**23 54 12.4**	**-1.3**		
BNX				pmax	pmax				
	comp=Z,66nm,1.5s								
BNX				pmax	pmax				
	comp=Z,230nm,2.0s								
BNX				LR	LR				
	comp=Z,980nm,16.5s								
BNX				LR	LR				
	comp=Z,820nm,17.6s								
BNX				LR	LR				
	comp=Z,1µm,19.1s								
PSAB1	**Pilbara Seismi**	**37.22**	**212**	IAMs_20	IAMs_20	00 02 22.0			
	comp=Z,1µm,18.0s								
XAN	**Xi'an**	**37.27**	**315**	⇑P	**P**	**23 48 27.8**	**-0.5**		
XAN				pP	pP	23 48 32.3	-0.8		
XAN				sP	sP	23 48 34.6	-0.2		
XAN				S	**S**	**23 54 13.5**	**-1.5**		
XAN				SS	**SnSn**	**23 56 41.9**	**-9.2**		
XAN				pmax	pmax				
	comp=Z,21nm,1.0s								
XAN				pmax	pmax				
	comp=Z,720nm,4.5s								
XAN				LR	LR				
	comp=Z,3µm,24.3s								
XAN				LR	LR				
	comp=Z,1µm,20.8s								
XAN				LR	LR				
	comp=Z,2µm,19.4s								
INKA	**Innaminka**	**37.56**	**179**	P	**P**	**23 48 29.8**	**-0.8**		
OOD	**Oodnadatta**	**37.86**	**186**	P	**P**	**23 48 32.2**	**-0.9**		
NAYO	**Nakonayok**	**38.17**	**280**	P	**P**	**23 48 36.0**	**0.0**		
KMI	**Kunming**	**38.54**	**298**	⇓P	**P**	**23 48 40.3**	**+1.0**		
KMI				S	**S**	**23 54 37.4**	**+2.6**		
KMI				pmax	pmax				
	comp=Z,62nm,1.0s								
KMI				pmax	pmax				
	comp=Z,370nm,4.5s								
KMI				LR	LR				
	comp=Z,920nm,14.3s								
KMI				LR	LR				
	comp=Z,730nm,22.5s								
KMI				LR	LR				
	comp=Z,1µm,18.4s								
CRAI	**Chiangrai**	**39.62**	**290**	P	**P**	**23 48 48.2**	**0.0**		
CD2	**Chengdu**	**39.66**	**307**	P	**P**	**23 48 48.9**	**+0.5**		
CD2				S	**S**	**23 54 52.1**	**+0.9**		
CD2				pmax	pmax				
	comp=Z,70nm,1.0s								
CD2				LR	LR				
	comp=Z,820nm,13.6s								
CD2				LR	LR				
	comp=Z,500nm,12.0s								
CD2				LR	LR				
	comp=Z,700nm,16.2s								
XLT	**XiLinHaoTe**	**39.67**	**332**	*e*P	**P**	**23 48 50.0**	**+1.6**		
XLT				S	**S**	**23 54 59.3**	**+8.2**		
XLT				pmax	pmax				
	comp=Z,71nm,1.2s								
XLT				pmax	pmax				
	comp=Z,270nm,3.5s								
XLT				LR	LR				
	comp=Z,160nm,19.6s								
XLT				LR	LR				
	comp=Z,1µm,22.8s								
XLT				LR	LR				
	comp=Z,630nm,17.3s								
KLR	**Kul'dur**	**39.69**	**351**	*ce*P	**P**	**23 48 48.9**	**+0.6**		
KLR				pmax	pmax				
	comp=Z,108nm,0.7s								
KLR	**Kul'dur**	**39.69**	**351**	LR	LR	00 05 09.7			
	comp=Z,275nm,18.1s,baz=164,slow=36								
PZH	**PanZhiHua**	**39.79**	**300**	P	**P**	**23 48 50.5**	**+0.8**		
PZH				S	**S**	**23 54 52.6**	**-0.8**		
PZH				pmax	pmax				
	comp=Z,50nm,0.9s								
PZH				pmax	pmax				
	comp=Z,200nm,3.5s								
PZH				LR	LR				
	comp=Z,930nm,18.6s								
PZH				LR	LR				
	comp=Z,750nm,20.4s								
PZH				LR	LR				
	comp=Z,830nm,22.0s								
XMIS	**Christmas Isla**	**39.92**	**240**	P	**P**	**23 48 48.5**	**-2.1**		
XMIS				IAmb	IAmb	23 49 00.2			
	comp=Z,130nm,1.2s								
XMIS	**Christmas Isla**	**39.92**	**240**	P	**P**	**23 48 50.2**	**-0.5**		
SURA	**Surathani**	**39.95**	**272**	P	**P**	**23 48 50.6**	**-0.4**		
AULRC	**Lightning Ridg**	**39.96**	**169**	P	**P**	**23 48 50.9**	**+0.2**		
SRIT	**Nakonsritamara**	**40.03**	**271**	P	**P**	**23 48 50.6**	**-1.0**		
SRIT				IAmb	IAmb	23 48 51.9			
	comp=Z,130nm,0.9s								
SRIT	**Nakonsritamara**	**40.03**	**271**	P	**P**	**23 48 51.3**	**-0.3**		
BKNI	**Bangkinang**	**40.09**	**258**	P	**P**	**23 48 49.0**	**-3.1**		
BKNI				IAmb	IAmb	23 48 50.7			
	comp=Z,112nm,1.2s								
BKNI	**Bangkinang**	**40.09**	**258**	P	**P**	**23 48 50.5**	**-1.6**		
LCRK	**Leigh Creek**	**40.30**	**183**	P	**P**	**23 48 54.1**	**+0.6**		
SRDT	**SRDT**	**40.30**	**280**	P	**P**	**23 48 54.1**	**+0.2**		
BTO	**Baotou**	**40.47**	**324**	*e*P	**P**	**23 48 56.8**	**+1.8**		
BTO				PP	**PnPn**	**23 50 32.5**	**+0.3**		
BTO				S

comp=Z,82nm,0.7s
TYV Tymovskoe 40.75 2 *e*P **P** **23 48 57.5 +0.4**
TYV *e*S **S** **23 55 10.3 +3.5**
TYV pmax pmax
comp=Z,49nm,0.9s
TYV pmax pmax
comp=Z,500nm,4.2s
TYV smax smax
comp=N,600nm,5.3s
TYV smax smax
comp=E,400nm,5.3s
CHTO Chiang Mai 40.77 287 P **P** **23 48 57.7 0.0**
CHTO Chiang Mai 40.77 287 P **P** **23 48 58.3 +0.5**
CHTO Chiang Mai 40.77 287 P **P** **23 48 57.7 0.0**
CHTO pmax pmax
comp=Z,36nm,0.9s
CHTO MLR MLR
comp=Z,600nm,19.0s
DZM Mont Dzumac 41.03 141 P **P** **23 48 59.2 -0.6**
DZM IAMs_20 IAMs_20 00 00 27.9
comp=Z,1μm,21.0s
DZM Mont Dzumac 41.03 141 P **P** **23 49 00.8 +1.0**
DZM Mont Dzumac 41.03 141 *e*P **P** **23 48 58.0 -1.8**
comp=Z,114nm,1.2s
DZM *e*S **S** **23 55 20.6 +8.8**
comp=Z,145nm,24.8s
DZM *e*SS **SnSn** **23 58 21.6 -0.5**
comp=Z,863nm,25.9s
DZM Mont Dzumac 41.03 141 LR LR 00 04 41.4
comp=Z,830nm,19.7s,baz=288,slow=34
YATNC Mamie plateau, 41.30 141 P **P** **23 49 03.2 +1.3**
HEH HeiHe 41.46 348 *e*P **P** **23 49 02.8 -0.1**
HEH pP **pP** **23 49 05.9 -1.7**
HEH S **S** **23 55 14.8 -2.5**
HEH pmax pmax
comp=Z,62nm,1.0s
HEH pmax pmax
comp=Z,320nm,4.1s
HEH LR LR
comp=Z,1μm,19.2s
HEH LR LR
comp=Z,2μm,19.0s
HEH LR LR
comp=Z,2μm,18.2s
OUENC Ouen Island, N 41.53 141 IAMs_20 IAMs_20 00 09 27.3
comp=Z,2μm,18.0s
PSI Prapat 41.57 263 P **P** **23 49 01.5 -3.0**
PSI pmax pmax
comp=Z,70nm,0.8s
RPSI Rantau Prapat 41.59 263 P **P** **23 49 01.5 -3.0**
RPSI IAmb IAmb 23 49 03.5
comp=Z,70nm,0.8s
CMSA Cobar Meteorol 41.68 173 P **P** **23 49 05.5 +0.6**
baz=42,SNR=8.3
CMSA Cobar Meteorol 41.68 173 P **P** **23 49 04.6 -0.3**
STKA Stephens Creek 41.70 178 P **P** **23 49 04.2 -0.9**
baz=42,SNR=6.6
STKA Stephens Creek 41.70 178 P **P** **23 49 03.8 -1.3**
STKA Stephens Creek 41.70 178 P **P** **23 49 05.3 +0.2**
STKA Stephens Creek 41.70 178 P **P** **23 49 04.2 -0.9**
comp=Z,5.0nm,0.7s,baz=344,slow=8.9,SNR=7.9
STKA LR LR 00 06 40.3
comp=Z,817nm,20.9s,baz=359,slow=37
comp=Z,5.0nm,0.7s
ARMA Armidale 41.71 165 P **P** **23 49 04.8 -0.5**
ARMA Armidale 41.71 165 P **P** **23 49 04.9 -0.4**
LZH Lanzhou 41.89 314 *e*P **P** **23 49 07.8 +0.9**
LZH sP pwP 23 49 15.0 +0.8
LZH S **S** **23 55 31.5 +6.9**
LZH sS sS 23 55 38.9 +6.3
LZH SS **SS** **23 58 27.5 -3.8**
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,340nm,4.4s
LZH LR LR
comp=Z,1μm,15.3s
LZH LR LR
comp=Z,1μm,15.3s
LZH LR LR
comp=Z,1μm,17.6s
MEEK Meekatharra 42.04 209 P **P** **23 49 08.4 +0.4**
FORT Forrest 42.22 196 P **P** **23 49 09.6 +0.3**
baz=42,SNR=16
FORT Forrest 42.22 196 P **P** **23 49 09.0 -0.3**
FORT Forrest 42.22 196 P **P** **23 49 10.2 +0.9**
TNCH TengChong 42.22 296 ⇑P **P** **23 49 10.1 +0.4**
TNCH PP **PP** **23 50 50.9 +3.3**
TNCH pmax pmax
comp=Z,69nm,1.1s
TNCH pmax pmax
comp=Z,370nm,5.0s
TNCH LR LR
comp=Z,870nm,19.1s
TNCH LR LR
comp=Z,450nm,18.7s
TNCH LR LR
comp=Z,570nm,27.0s
SKR Severo-Kuril's 42.61 15 *ce*P **P** **23 49 12.9 +0.7**
HIA Hailar 42.65 340 P **P** **23 49 12.9 +0.2**
HIA Hailar 42.65 340 P **P** **23 49 13.5 +0.8**
HIA Hailar 42.65 340 P **P** **23 49 12.9 +0.2**
HIA pmax pmax
comp=Z,40nm,1.0s
BBOO Buckleboo 42.79 185 P **P** **23 49 13.4 -0.6**
baz=43,SNR=10
BBOO Buckleboo 42.79 185 P **P** **23 49 13.0 -0.9**
BBOO Buckleboo 42.79 185 P **P** **23 49 14.3 +0.3**
AUDCS Dubbo College 42.80 169 P **P** **23 49 15.0 +0.9**
LHMI Lhok Sumawe 43.07 267 P **P** **23 49 16.0 -0.6**
comp=Z,188nm,1.8s
GSI Gunungsitoli 43.21 261 P **P** **23 49 15.0 -2.7**
GSI IAmb IAmb 23 49 15.6
comp=Z,70nm,0.8s
GSI Gunungsitoli 43.21 261 P **P** **23 49 16.5 -1.2**
HTT Hallett 43.24 182 P **P** **23 49 19.6 +1.9**
baz=43,SNR=5.3
MND Mandalay 43.82 291 P **P** **23 49 22.0 -0.5**
MND IAmb IAmb 23 49 23.8
comp=Z,108nm,1.1s
MND IAMs_20 IAMs_20 00 06 12.9
comp=Z,463nm,21.0s
MND Mandalay 43.82 291 P **P** **23 49 23.2 +0.7**
KMBL Kambalda 44.74 202 P **P** **23 49 29.6 -0.2**
baz=45,SNR=11
KMBL Kambalda 44.74 202 P **P** **23 49 29.5 -0.2**
ZEA Zeya 44.80 349 *e*P **P** **23 49 30.0 +0.2**
ZEA pmax pmax
comp=N,20nm,0.6s
ZEA pmax pmax
comp=Z,40nm,1.0s
PEA0B Petropavlovsk- 45.22 15 P **P** **23 49 32.5 -0.8**
PEA0B IAmb IAmb 23 49 34.6
comp=Z,65nm,1.1s
PEA0B Petropavlovsk- 45.22 15 *ce*P **P** **23 49 34.4 +1.1**
PETK Petropavlovsk- 45.22 15 P **P** **23 49 32.5 -0.8**
PETK Petropavlovsk- 45.22 15 P **P** **23 49 33.0 -0.3**
PETK Petropavlovsk- 45.22 15 P **P** **23 49 33.0 -0.3**
comp=Z,52nm,1.0s,baz=178,slow=7.1,SNR=23
PETK LR LR 00 05 44.5
comp=Z,627nm,20.2s,baz=207,slow=32
comp=Z,52nm,1.0s
PET Petropavlovsk 45.39 16 P **P** **23 49 34.4 -0.2**
PET Petropavlovsk 45.39 16 *e*P **P** **23 49 34.8 +0.2**
PET *e*S **S** **23 56 16.2 +1.4**
PET pmax pmax
comp=Z,161nm,1.2s
CAN Canberra 45.88 170 P **P** **23 49 38.3 -0.4**
CAN IAmb IAmb 23 49 50.5
comp=Z,73nm,1.6s
CAN Canberra 45.88 170 P **P** **23 49 41.7 +3.0**
CAN Canberra 45.88 170 P **P** **23 49 38.3 -0.4**
CAN pmax pmax
comp=Z,73nm,1.6s
CAN MLR MLR
comp=Z,700nm,20.0s
BLDU Ballidu 46.28 208 P **P** **23 49 40.9 -1.0**
baz=46,SNR=14
BLDU Ballidu 46.28 208 P **P** **23 49 41.7 -0.2**
GTA Gaotai 46.29 316 ⇓P **P** **23 49 42.3 +0.2**
GTA sP pwP 23 49 50.6 +1.2
GTA S **S** **23 56 25.6 -2.9**
GTA sS sS 23 56 42.3 +5.7
GTA pmax pmax
comp=Z,18nm,1.2s
GTA LR LR
comp=Z,1μm,22.2s
GTA LR LR
comp=Z,570nm,22.2s
GTA LR LR
comp=Z,740nm,22.2s
PBA Port Blair 46.56 277 IAMs_20 IAMs_20 00 09 17.4
comp=Z,963nm,20.0s
ARPS Mount Arapiles 46.59 178 P **P** **23 49 43.0 -1.2**
baz=47,SNR=5.7
KLBR Kellerberrin 46.63 207 P **P** **23 49 43.8 -0.8**
baz=47,SNR=16
ULN Ulaanbaatar 46.88 330 P **P** **23 49 46.8 +0.2**
ULN IAmb IAmb 23 50 07.4
comp=Z,73nm,1.4s
ULN Ulaanbaatar 46.88 330 IAMs_20 IAMs_20 00 08 43.1
comp=Z,870nm,18.0s
ULN Ulaanbaatar 46.88 330 *ce*P **P** **23 49 47.7 +1.1**
ULN pmax pmax
comp=Z,27nm,1.3s
DGTI Dogotuki 47.10 123 P **P** **23 49 49.0 +0.4**
CIT Chita 47.13 338 *e*P **P** **23 49 48.7 +0.3**
CIT pmax pmax
comp=Z,172nm,1.8s
SONM Songino Array 47.19 329 P **P** **23 49 49.5 +0.5**
SONM IAmb IAmb 23 50 03.2
comp=Z,53nm,1.2s
SONM Songino Array 47.19 329 P **P** **23 49 49.5 +0.5**
SONM pmax pmax
comp=Z,53nm,1.2s
SONM Songino Array 47.19 329 P **P** **23 49 49.3 +0.3**
comp=Z,8.0nm,0.8s,baz=149,slow=8.1,SNR=35
SONM LR LR 00 09 53.5
comp=Z,410nm,19.6s,baz=124,slow=36
comp=Z,8.0nm,0.8s
TOO Toolangi 47.62 174 P **P** **23 49 53.1 +0.8**
baz=48,SNR=4.6
TOO Toolangi 47.62 174 P **P** **23 49 52.8 +0.5**
TOO IAmb IAmb 23 50 03.6
comp=Z,41nm,1.2s
TOO Toolangi 47.62 174 P **P** **23 49 52.9 +0.5**
TOO Toolangi 47.62 174 P **P** **23 49 52.8 +0.5**
TOO pmax pmax
comp=Z,41nm,1.2s
MUN Mundaring 47.65 208 P **P** **23 49 51.9 -0.7**
baz=48,SNR=6.2
NWAO Narrogin (SRO) 47.99 206 P **P** **23 49 55.0 -0.2**
baz=48,SNR=7.1
NWAO P **P** **23 49 55.0 -0.2**
baz=48,SNR=7.1
NWAO Narrogin (SRO) 47.99 206 P **P** **23 49 54.8 -0.5**
NWAO Narrogin (SRO) 47.99 206 P **P** **23 49 54.5 -0.8**
NWAO IAmb IAmb 23 50 07.3
comp=Z,314nm,1.2s
NWAO Narrogin (SRO) 47.99 206 P **P** **23 49 55.4 +0.1**
NWAO Narrogin (SRO) 47.99 206 P **P** **23 49 54.6 -0.6**
comp=Z,24nm,0.7s,baz=34,slow=6.1,SNR=13
NWAO LR LR 00 11 04.8
comp=Z,316nm,18.8s,baz=2.0,slow=37
comp=Z,24nm,0.7s
SHL Shillong 48.21 295 P **P** **23 49 56.5 -0.9**
SHL Shillong 48.21 295 P **P** **23 49 56.5 -0.9**
SHL pmax pmax
comp=Z,118nm,1.4s
GOMU GeErMu 48.57 310 P **P** **23 50 01.6 +1.4**
GOMU S **S** **23 56 57.3 -4.2**
GOMU pmax pmax
comp=Z,25nm,1.0s
GOMU LR LR
comp=Z,320nm,18.2s
GOMU LR LR
comp=Z,320nm,17.5s
GOMU LR LR
comp=Z,440nm,16.7s
LSA Lhasa 49.65 300 P **P** **23 50 08.1 -0.6**
LSA Lhasa 49.65 300 P **P** **23 50 08.1 -0.6**
LSA pmax pmax
comp=Z,31nm,0.9s
MA2 Magadan 50.08 7 P **P** **23 50 10.4 -0.5**
MA2 Magadan 50.08 7 P **P** **23 50 11.2 +0.4**
MA2 Magadan 50.08 7 *ce*P **P** **23 50 11.5 +0.7**
MA2 pmax pmax
comp=Z,156nm,2.5s
MA2 Magadan 50.08 7 LR LR 00 09 51.7
comp=Z,275nm,21.6s,baz=200,slow=34
ZAK Zakamensk 50.40 330 *e*P **P** **23 50 13.1 -0.5**
ZAK pmax pmax
comp=Z,56nm,1.4s
SHEM Shemya Is, Ala 50.62 26 LR LR 00 09 57.3
comp=Z,504nm,19.9s,baz=132,slow=34
IRK Irkutsk 51.16 332 *e*P **P** **23 50 23.9 +4.8**
IRK pmax pmax
comp=Z,87nm,1.6s
BOD Bodaibo 51.73 343 *e*P **P** **23 50 23.3 0.0**
BOD pmax pmax
comp=Z,40nm,1.5s
TAPN Taplejung 52.19 297 *e*P **P** **23 50 27.8 +0.1**
comp=Z,70nm,0.8s
MOY Mondy 52.33 330 *e*P **P** **23 50 28.7 +0.6**
MOY pmax pmax
comp=Z,59nm,1.4s
ODAN Odare 52.40 296 *e*Pg **P** **23 50 29.2 +0.1**
comp=Z,335nm,1.7s
ODAN Odare 52.40 296 *e*Pg **P** **23 50 29.4 +0.3**
comp=Z,500nm,1.4s
YAK Yakutsk 52.46 354 P **P** **23 50 28.1 -0.5**
YAK Yakutsk 52.46 354 IAMs_20 IAMs_20 00 09 28.4
comp=Z,1μm,22.0s
YAK Yakutsk 52.46 354 *c i*P **P** **23 50 28.5 -0.1**
YAK *e*S **S** **23 57 49.1 -4.9**
YAK *e*SS **SS** **00 01 29.1 -2.9**
YAK pmax pmax
comp=Z,61nm,1.0s
YAK pmax pmax
comp=N,42nm,1.5s
YAK smax smax
comp=E,31nm,9.4s
YAK smax smax
comp=N,149nm,14.1s
YAK Yakutsk 52.46 354 LR LR 00 12 34.4
comp=N,21nm,18.5s,baz=154,slow=36
MOO Moorlands 52.62 173 P **P** **23 50 30.1 0.0**
RAMN Ramite 53.11 296 *e*P **P** **23 50 34.8 +0.4**
SEY Seymchan 53.53 7 *ce*P **P** **23 50 37.8 +1.2**
SEY pmax pmax
comp=Z,126nm,1.7s
SEY Seymchan 53.53 7 LR LR 00 11 49.3
comp=Z,483nm,21.7s,baz=207,slow=34
JIRN Jiri 53.57 297 *e*P **P** **23 50 38.1 +0.2**
comp=Z,118nm,0.9s
GUN Gumba 53.88 297 *e*P **P** **23 50 40.3 +0.1**
comp=Z,243nm,0.9s
PKI Pulchoki 54.24 297 *e*P **P** **23 50 42.5 -0.3**
comp=Z,103nm,1.0s
PKIN Phulchoki 54.26 297 *e*P **P** **23 50 42.6 -0.2**
KKN Kakani 54.39 297 *e*Pg **P** **23 50 43.5 -0.2**
comp=Z,200nm,1.2s
DMN Daman 54.52 297 *e*P **P** **23 50 44.6 -0.1**
GKN Gorkha 54.98 297 *e*P **P** **23 50 47.8 -0.2**
comp=Z,154nm,1.1s
DANN Dangsing 55.79 297 *e*P **P** **23 50 53.9 -0.1**
comp=Z,133nm,1.0s
KOLN Koldanda 55.86 297 *e*Pg **P** **23 50 54.5 +0.1**
comp=Z,235nm,1.5s
WMQ Urumqi 56.37 316 *e*P **P** **23 50 58.4 +0.8**
WMQ pP pwP 23 51 04.9 -0.1
WMQ PcP **PcP** **23 51 53.9 -0.8**
WMQ pmax pmax
comp=Z,38nm,1.3s
WMQ pmax pmax
comp=Z,240nm,3.7s
WMQ LR LR
comp=Z,750nm,23.3s
WMQ LR LR
comp=Z,440nm,13.7s
WMQ LR LR
comp=Z,420nm,27.3s
PYUN Piuthan 56.44 297 *e*P **P** **23 50 58.3 -0.2**
comp=Z,265nm,1.0s
HIZ Hauiti 58.14 148 P **P** **23 51 10.2 +0.2**
DGZ Jazzator, Alta 58.73 323 *i*P **P** **23 51 14.2 0.0**
DGZ pmax pmax
comp=Z,55nm,1.1s
PALK Pallekele 58.78 272 LR LR 00 13 55.6
comp=Z,145nm,21.4s,baz=186,slow=33
NIKH Nikolski High 59.14 33 P **P** **23 51 16.4 -0.4**
baz=243
URZ Urewera 59.15 147 LR LR 00 13 55.2
comp=Z,392nm,19.8s,baz=54,slow=33
MRNZ Matariki Terra 59.33 152 P **P** **23 51 16.2 -2.0**
RTZ Ruatahuna 59.34 147 P **P** **23 51 17.1 -1.3**
RTZ IAmb IAmb 23 51 29.8
comp=Z,38nm,1.0s
RTZ IAMs_20 IAMs_20 00 10 36.9
comp=Z,691nm,22.0s
NNZ Nelson 59.48 151 P **P** **23 51 19.4 +0.2**
NNZ IAMs_20 IAMs_20 00 12 32.5
comp=Z,706nm,19.0s
ZSN Zaisan 59.48 320 *e*P **P** **23 51 19.6 +0.2**
baz=320
ZSN Zaisan 59.48 320 *e*P **P** **23 51 19.5 +0.2**
HYB Hyderabad 60.09 284 *e*P **P** **23 51 23.8 -0.2**
HYB *e*S **S** **23 59 37.3 +0.5**
RPZ Rata Peaks 60.43 155 LR LR 00 14 51.1
comp=Z,462nm,21.5s,baz=322,slow=33
BILL Bilibino 60.45 11 P **P** **23 51 25.4 -0.2**
BILL IAmb IAmb 23 51 41.7
comp=Z,44nm,1.0s
BILL Bilibino 60.45 11 ⇑*e*P **P** **23 51 25.8 +0.3**
WKZ Wanaka 60.52 157 P **P** **23 51 25.8 -0.5**
OXZ Oxford 60.53 154 P **P** **23 51 24.9 -1.5**
OXZ IAmb IAmb 23 51 38.1
comp=Z,60nm,1.2s
LBZ Lake Benmore 60.62 156 P **P** **23 51 25.5 -1.5**
MLZ Mavora Lakes 60.63 158 P **P** **23 51 26.8 -0.3**
MLZ IAmb IAmb 23 51 27.8
comp=Z,54nm,1.0s
PLWZ Palliser 60.65 150 P **P** **23 51 27.3 0.0**
PYZ Puysegur Point 60.80 159 P **P** **23 51 27.7 -0.4**
MK31 Makanchi Array 60.94 318 P **P** **23 51 29.4 +0.2**
MK31 IAmb IAmb 23 51 41.8
comp=Z,58nm,1.3s
MK31 Makanchi Array 60.94 318 *ce*P **P** **23 51 30.0 +0.7**
MKAR Makanchi Array 60.94 318 P **P** **23 51 29.2 -0.1**
MKAR Makanchi Array 60.94 318 P **P** **23 51 29.4 +0.1**
comp=Z,8.8nm,0.7s,baz=95,slow=7.5,SNR=45
MKAR LR LR 00 17 45.4
comp=Z,488nm,21.4s,baz=108,slow=36
comp=Z,8.8nm,0.7s
WHZ Wether Hill Ro 61.02 158 P **P** **23 51 28.9 -0.7**
WHZ IAmb IAmb 23 51 29.7
comp=Z,25nm,0.9s
MQZ McQueen's Vall 61.11 154 P **P** **23 51 30.3 0.0**
MAKZ Makanchi 61.15 318 P **P** **23 51 30.6 -0.1**
MAKZ IAmb IAmb 23 51 43.8
comp=Z,54nm,1.1s
MAKZ IAMs_20 IAMs_20 00 17 40.9
comp=Z,670nm,20.0s
MAKZ Makanchi 61.15 318 P **P** **23 51 30.6 -0.1**
MAKZ pmax pmax
comp=Z,54nm,1.1s
MAKZ MLR MLR
comp=Z,700nm,20.0s
AKUT Akutan 61.31 33 P **P** **23 51 32.4 +0.9**
ODZ Otahua Downs 61.34 156 P **P** **23 51 32.5 +0.6**
ZAA0 Zalesovo Array 61.91 327 P **P** **23 51 34.9 -0.8**
ZAA0 IAmb IAmb 23 51 46.9
comp=Z,34nm,1.1s
ZAA0 IAMs_20 IAMs_20 00 17 12.9
comp=Z,542nm,19.0s
ZALV Zalesovo Beam 61.91 327 P **P** **23 51 34.9 -0.7**
ZALV Zalesovo Beam 61.91 327 P **P** **23 51 35.2 -0.4**
comp=Z,8.6nm,0.6s,baz=109,slow=6.9,SNR=39
comp=Z,8.6nm,0.6s
SHLS Shalkode 61.91 314 *e*P **P** **23 51 33.9 -2.3**
baz=314
SHLS Shalkode 61.91 314 *e*P **P** **23 51 33.8 -2.3**
TIXI Tiksi 61.95 356 P **P** **23 51 35.2 -0.4**
TIXI IAmb IAmb 23 51 47.5
comp=Z,20nm,0.8s
TIXI Tiksi 61.95 356 IAMs_20 IAMs_20 00 15 18.9
comp=Z,726nm,22.0s
TIXI Tiksi 61.95 356 *ce*P **P** **23 51 35.9 +0.3**
TIXI Tiksi 61.95 356 LR LR 00 17 04.8
comp=Z,14nm,20.7s,baz=178,slow=35
UZB Uzynbulak 62.23 314 *e*P **P** **23 51 38.2 -0.1**
comp=Z,37nm,1.6s,baz=314
UZB Uzynbulak 62.23 314 *e*P **P** **23 51 38.1 -0.1**
UZB pmax pmax
comp=Z,37nm,1.6s
PRZ Przheval'sk 62.53 313 P **P** **23 51 40.5 +0.2**
PRZ IAMs_20 IAMs_20 00 18 10.7
comp=Z,608nm,22.0s
PRZ Przheval'sk 62.53 313 P **P** **23 51 40.5 +0.2**
PRZ pmax pmax
comp=Z,44nm,0.8s
KPKS Kokpek 62.54 314 *e*P **P** **23 51 40.4 +0.2**
comp=Z,30nm,1.7s,baz=314
KPKS Kokpek 62.54 314 *e*P **P** **23 51 40.4 +0.2**
KPKS pmax pmax
comp=Z,30nm,1.7s
SATY Saty 62.65 313 *e*P **P** **23 51 41.3 +0.3**
comp=Z,23nm,1.1s,baz=313
SATY Saty 62.65 313 *e*P **P** **23 51 41.3 +0.3**
SATY pmax pmax
comp=Z,23nm,1.1s
ZHN Zhinishke 62.65 313 *e*P **P** **23 51 41.1 +0.1**
baz=314
ZHN Zhinishke 62.65 313 *e*P **P** **23 51 41.1 +0.1**
TARG Taragay, Kyrgy 62.81 312 P **P** **23 51 42.8 +0.3**
TARG IAmb IAmb 23 52 19.3
comp=Z,41nm,1.2s
TARG Taragay, Kyrgy 62.81 312 P **P** **23 51 42.8 +0.3**
TARG pmax pmax
comp=Z,41nm,1.2s
FALS False Pass 62.85 33 P **P** **23 51 42.0 +0.1**
baz=247
TDK Taldyqorghan 63.08 315 *e*P **P** **23 51 44.2 +0.4**
comp=Z,26nm,0.8s,baz=316
TDK Taldyqorghan 63.08 315 *e*P **P** **23 51 44.1 +0.4**
TDK pmax pmax
comp=Z,26nm,0.8s
SEM Semipalatinsk 63.32 322 *e*P **P** **23 51 45.8 +0.4**
baz=322
SEM Semipalatinsk 63.32 322 *e*P **P** **23 51 45.8 +0.4**
GAMB Gambell 63.44 22 P **P** **23 51 46.6 +1.0**
baz=235
MDOK Medeo 63.64 313 *e*P **P** **23 51 48.1 +0.4**
baz=313
MDOK Medeo 63.64 313 *e*P **P** **23 51 48.0 +0.4**
TNSS Tian-Shan 63.69 313 *e*P **P** **23 51 48.8 +0.5**
baz=313
TNSS Tian-Shan 63.69 313 *e*P **P** **23 51 48.8 +0.5**
AAA Alma-Ata 63.75 313 *e*P **P** **23 51 48.7 +0.4**
baz=313
AAA Alma-Ata 63.75 313 *e*P **P** **23 51 48.6 +0.4**
KSH Kashi 63.80 309 P **P** **23 51 51.3 +2.6**
KSH pP pwP 23 51 57.8 +1.2
KSH sP sP 23 52 01.5 +6.0
KSH S **S** **00 00 26.1 +2.8**
KSH pmax pmax
comp=Z,14nm,1.4s
KSH LR LR
comp=Z,200nm,13.1s
KSH LR LR
comp=Z,560nm,17.9s
KSH LR LR
comp=Z,550nm,19.9s
CHKK Chushkaly 63.82 314 *e*P **P** **23 51 48.2 -0.5**
baz=314
CHKK Chushkaly 63.82 314 *e*P **P** **23 51 48.1 -0.5**
M11K Mekoryuk 63.88 26 P **P** **23 51 48.1 -0.5**
baz=242
KUU Kurty 64.29 314 *e*P **P** **23 51 51.4 -0.4**
comp=Z,25nm,0.9s,baz=314
KUU Kurty 64.29 314 *e*P **P** **23 51 51.3 -0.4**
KUU pmax pmax
comp=Z,25nm,0.9s
KURK Kurchatov 64.40 322 P **P** **23 51 51.7 -0.5**
KURK Kurchatov 64.40 322 IAMs_20 IAMs_20 00 20 09.8
comp=Z,646nm,19.0s
KURK Kurchatov 64.40 322 ⇑*e*P **P** **23 51 52.1 -0.1**
KURK pmax pmax
comp=Z,28nm,0.8s
KURBB Kurchatov Arra 64.43 322 P **P** **23 51 52.1 -0.3**
comp=Z,18nm,0.9s,baz=118,slow=5.7,SNR=79
KURBB LR LR 00 20 04.6
comp=Z,523nm,21.4s,baz=148,slow=36
comp=Z,18nm,0.9s
SDPT Sand Point 64.61 33 P **P** **23 51 53.7 +0.2**
SDPT Sand Point 64.61 33 P **P** **23 51 53.5 0.0**
baz=250

TKM2	Tokmak 2	64.64	313	P		P		23 51 54.5	+0.2
	SNR=8.8								
KZA	Kyzart	64.75	312	P		P		23 51 56.4	+1.2
	SNR=12								
KBK	Karagaybulak	65.07	312	P		P		23 51 57.4	+0.4
	SNR=9.3								
M13K	Dall Lake	65.15	27	P		P		23 51 57.2	+0.3
M13K	Dall Lake	65.15	27	P		P		23 51 57.2	+0.3
	baz=245								
CHMS	Chumysh	65.27	313	P		P		23 51 58.4	+0.3
	SNR=8.4								
NIL	Nilore	65.31	302	P		P		23 51 58.6	+0.1
NIL	Nilore	65.31	302	P		P		23 51 58.6	+0.1
NIL				pmax		pmax			
	comp=Z,90nm,0.9s								
NIL				MLR		MLR			
	comp=Z,400nm,20.0s								
UCH	Uchtor	65.31	312	P		P		23 52 00.1	+1.1
	SNR=11								
FRU1	Bishkek	65.32	313	P		P		23 51 58.6	0.0
FRU1				IAMs_20		IAMs_20		00 22 15.6	
	comp=Z,523nm,20.0s								
FRU1	Bishkek	65.32	313	P		P		23 51 58.6	0.0
FRU1				pmax		pmax			
	comp=Z,20nm,0.9s								
FRU1				MLR		MLR			
	comp=Z,500nm,20.0s								
AAK	Ala-Archa	65.39	312	P		P		23 51 58.9	-0.2
AAK	Ala-Archa	65.39	312	IAMs_20		IAMs_20		00 22 27.5	
	comp=Z,478nm,20.0s								
AAK	Ala-Archa	65.39	312	*ce*P		P		23 51 59.7	+0.6
AAK				pmax		pmax			
	comp=Z,8.0nm,1.3s								
SGDS	Sogindy	65.43	313	*e*P		P		23 51 58.9	-0.3
	baz=313								
SGDS	Sogindy	65.43	313	*e*P		P		23 51 58.9	-0.3
USP	Ospenovka	65.49	313	P		P		23 51 59.6	0.0
	SNR=8.9								
N14K	Kuskokwak Cree	65.71	28	P		P		23 52 00.2	-0.3
	baz=247								
TNA	Tin City	65.78	21	P		P		23 52 01.0	0.0
	baz=238								
L14K	Kuka Creek	65.84	26	P		P		23 52 01.1	-0.3
L14K	Kuka Creek	65.84	26	P		P		23 52 01.2	-0.2
	baz=245								
AML	Almayashu	65.90	312	P		P		23 52 03.5	+0.8
	SNR=8.5								
M14K	Bethel	65.92	27	P		P		23 52 01.9	0.0
M14K				IAmb		IAmb		23 52 20.4	
	comp=Z,42nm,0.9s								
M14K	Bethel	65.92	27	P		P		23 52 02.2	+0.3
	baz=246,SNR=5.5								
EKS2	Erkin-Say	65.92	312	P		P		23 52 02.9	+0.4
	SNR=6.1								
CHGN	Chignik	66.02	32	P		P		23 52 03.1	+0.5
	baz=251								
J14K	Nanvaranak Lak	66.08	25	P		P		23 52 03.5	+0.6
J14K				IAmb		IAmb		23 52 04.7	
	comp=Z,26nm,1.0s								
J14K	Nanvaranak Lak	66.08	25	P		P		23 52 03.4	+0.4
	baz=244								
BTLS	Baital	66.11	315	*e*P		P		23 52 03.3	-0.3
	comp=Z,36nm,2.0s,baz=315								
BTLS	Baital	66.11	315	*e*P		P		23 52 03.2	-0.3
BTLS				pmax		pmax			
	comp=Z,36nm,2.0s								
ANM	Nome	66.21	23	P		P		23 52 03.7	0.0
ANM				IAmb		IAmb		23 52 05.5	
	comp=Z,19nm,0.8s								
ANM	Nome	66.21	23	P		P		23 52 04.2	+0.4
	baz=241,SNR=5.4								
ANM	Nome	66.21	23	P		P		23 52 03.7	0.0
ANM				pmax		pmax			
	comp=Z,19nm,0.8s								
O15K	Ungalikthiuk R	66.30	29	P		P		23 52 05.4	+1.0
	baz=249								
F14K	Arctic Creek	66.31	21	P		P		23 52 05.6	+1.3
	baz=240								
ARSB	Arslanbob	66.32	311	P		P		23 52 05.3	+0.2
ARSB	Arslanbob	66.32	311	P		P		23 52 05.3	+0.2
ARSB				pmax		pmax			
	comp=Z,18nm,1.2s								
M15K	Kasigluk River	66.47	27	P		P		23 52 05.8	+0.3
	baz=247								
L15K	Ungalak Mounta	66.50	26	P		P		23 52 05.7	0.0
	baz=246								
N15K	Kwethluk River	66.54	28	P		P		23 52 06.3	+0.3
N15K				IAmb		IAmb		23 52 07.5	
	comp=Z,36nm,0.9s								
N15K	Kwethluk River	66.54	28	P		P		23 52 06.7	+0.7
	baz=248								
RAR	Rarotonga	66.66	118	LR		LR		00 19 38.5	
	comp=Z,183nm,18.1s,baz=310,slow=35								
K15K	Wolf Creek Mou	66.74	26	P		P		23 52 07.7	+0.5
K15K	Wolf Creek Mou	66.74	26	P		P		23 52 07.9	+0.7
	baz=246,SNR=9.1								
G15K	Niukluk	66.92	22	P		P		23 52 08.8	+0.5
	baz=242,SNR=5.9								
F15K	North Star Dit	67.03	22	P		P		23 52 09.7	+0.7
F15K				IAmb		IAmb		23 52 25.7	
	comp=Z,41nm,0.9s								
F15K	North Star Dit	67.03	22	P		P		23 52 09.5	+0.5
	baz=241,SNR=13								
P16K	Nushagak River	67.14	30	P		P		23 52 10.3	+0.5
	baz=250,SNR=5.8								
N16K	Nishlik Lake	67.27	28	P		P		23 52 11.5	+0.9
	baz=249								
O16K	Kokwok River B	67.28	29	P		P		23 52 10.8	+0.2
O16K	Kokwok River B	67.28	29	P		P		23 52 11.4	+0.7
	baz=250								
CHIR	Chirikof Islan	67.37	33	P		P		23 52 11.0	-0.3
CHIR	Chirikof Islan	67.37	33	P		P		23 52 11.6	+0.3
	baz=254								
M16K	Timber Creek	67.38	27	P		P		23 52 11.2	-0.1
M16K				IAMs_20		IAMs_20		00 13 41.2	
	comp=Z,1µm,18.0s								
M16K	Timber Creek	67.38	27	P		P		23 52 11.3	+0.1
	baz=249								
L16K	Owhat River	67.40	27	P		P		23 52 11.3	-0.1
L16K				IAmb		IAmb		23 52 49.4	
	comp=Z,42nm,1.2s								
L16K	Owhat River	67.40	27	P		P		23 52 11.2	-0.1
	baz=248								
H16K	Elim	67.44	23	P		P		23 52 11.7	+0.1
	baz=244,SNR=9.8								
R17K	Ugashik Creek	67.50	31	P		P		23 52 12.2	+0.1
	baz=252								
J16K	Anvik River	67.53	25	P		P		23 52 12.4	+0.3
J16K				IAmb		IAmb		23 52 14.2	
	comp=Z,22nm,0.8s								
J16K	Anvik River	67.53	25	P		P		23 52 12.7	+0.5
	baz=246								
Q16K	King Salmon	67.68	30	P		P		23 52 13.2	+0.1
	baz=252								
G16K	Koyuk River	67.73	22	P		P		23 52 13.8	+0.4
G16K	Koyuk River	67.73	22	P		P		23 52 13.8	+0.4
	baz=244								
DZA	Taraz	67.74	312	*e*P		P		23 52 14.0	+0.1
	baz=312								
DZA	Taraz	67.74	312	*e*P		P		23 52 14.0	+0.1
I17K	Unalakleet	67.74	24	P		P		23 52 13.7	+0.3
I17K				IAmb		IAmb		23 52 15.6	
	comp=Z,29nm,0.9s								
I17K	Unalakleet	67.74	24	P		P		23 52 14.6	+1.1
	baz=246,SNR=13								
BTK	Batken	67.81	309	P		P		23 52 14.4	-0.1
BTK				IAmb		IAmb		23 52 30.1	
	comp=Z,32nm,0.9s								
BTK	Batken	67.81	309	P		P		23 52 14.4	-0.1
BTK				pmax		pmax			
	comp=Z,32nm,1.0s								
O17K	Koliganek Bris	67.82	29	P		P		23 52 14.5	+0.5
	baz=251,SNR=9.4								
BRZS	Berezniki	67.93	320	*e*P		P		23 52 14.9	-0.1
	baz=320								
BRZS	Berezniki	67.93	320	*e*P		P		23 52 14.9	-0.1
Q17K	Contact Creek	67.94	31	P		P		23 52 14.6	-0.4
	baz=253								
P17K	Kvichak River	67.95	30	P		P		23 52 15.5	+0.6
	baz=252								
N17K	Nushagak Hills	68.02	28	P		P		23 52 15.5	+0.2
N17K				IAmb		IAmb		23 52 48.3	
	comp=Z,59nm,1.4s								
N17K	Nushagak Hills	68.02	28	P		P		23 52 15.9	+0.6
	baz=251								
C16K	Lisburne Hills	68.06	19	P		P		23 52 15.7	+0.4
C16K				IAmb		IAmb		23 52 17.1	
	comp=Z,30nm,0.8s								
C16K	Lisburne Hills	68.06	19	P		P		23 52 16.1	+0.7
	baz=240								
L17K	Donlin	68.08	26	P		P		23 52 16.4	+0.8
	baz=249								
M17K	Holitna River	68.20	27	P		P		23 52 16.2	-0.2
M17K	Holitna River	68.20	27	P		P		23 52 16.8	+0.4
	baz=250,SNR=9.5								
K17K	Iditarod	68.28	26	P		P		23 52 17.6	+0.7
K17K	Iditarod	68.28	26	P		P		23 52 17.7	+0.8
	baz=249								
SII	Sitkinak Islan	68.35	33	P		P		23 52 17.7	+0.3
	baz=255								
KK31	Karatay Array	68.36	312	P		P		23 52 17.6	-0.2
KK31	Karatay Array	68.36	312	P		P		23 52 17.6	-0.2
KK31				pmax		pmax			
	comp=Z,105nm,2.0s								
KKAR	Karatay Array	68.36	312	P		P		23 52 17.5	-0.3
KKAR	Karatay Array	68.36	312	P		P		23 52 17.5	-0.3
KKAR				pmax		pmax			
	comp=Z,105nm,2.0s								
G17K	Kiwalik Mounta	68.42	23	P		P		23 52 18.1	+0.4
	baz=245								
R18K	Karluk	68.47	32	P		P		23 52 18.5	+0.3
	baz=254								
H17K	Granite Mounta	68.47	23	P		P		23 52 18.4	+0.3
H17K				IAmb		IAmb		23 52 20.1	
	comp=Z,31nm,0.8s								
H17K				IAMs_20		IAMs_20		00 19 27.1	
	comp=Z,492nm,20.0s								
H17K	Granite Mounta	68.47	23	P		P		23 52 18.7	+0.6
	baz=246								
Q18K	Katmai Hardscr	68.49	31	P		P		23 52 18.2	-0.3
	baz=253								
F17K	Baldwin Pennin	68.60	22	P		P		23 52 19.4	+0.7
F17K	Baldwin Pennin	68.60	22	P		P		23 52 19.5	+0.7
	baz=244								
P18K	Big Mountain,	68.60	30	P		P		23 52 19.3	+0.3
	baz=253								
E17K	Hotham Inlet	68.67	21	P		P		23 52 19.5	+0.3
	baz=244,SNR=40								
N18K	Kilae Creek	68.68	28	P		P		23 52 19.2	-0.3
N18K				IAmb		IAmb		23 52 21.4	
	comp=Z,27nm,0.9s								
N18K	Kilae Creek	68.68	28	P		P		23 52 20.1	+0.7
	baz=252								
O18K	Koktuh Hills	68.75	29	P		P		23 52 19.6	-0.3
O18K				IAmb		IAmb		23 52 32.1	
	comp=Z,32nm,0.8s								
O18K	Koktuh Hills	68.75	29	P		P		23 52 20.1	+0.2
	baz=253								
RDOG	Red Dog Mine	68.75	20	P		P		23 52 20.3	+0.6
RDOG				IAmb		IAmb		23 52 21.8	
	comp=Z,35nm,0.8s								
RDOG	Red Dog Mine	68.75	20	P		P		23 52 20.6	+0.9
	baz=242,SNR=13								
L18K	Granite Mounta	68.81	27	P		P		23 52 20.5	+0.2
L18K				IAmb		IAmb		23 52 22.4	
	comp=Z,24nm,0.9s								
L18K	Granite Mounta	68.81	27	P		P		23 52 21.0	+0.8
	baz=250								
KBL	Kabul	68.84	303	P		P		23 52 20.5	-0.8
KBL	Kabul	68.84	303	P		P		23 52 20.5	-0.8
KBL				pmax		pmax			
	comp=Z,19nm,1.0s								
C17K	DeLong Mountai	68.86	19	P		P		23 52 20.8	+0.4
	baz=242								
CHM	Chimkent	68.94	311	*e*P		P		23 52 21.6	+0.1
	baz=312								
CHM	Chimkent	68.94	311	*e*P		P		23 52 21.5	+0.1
SVW2	Sparrevohn	68.95	28	P		P		23 52 21.4	+0.2
SVW2				IAmb		IAmb		23 52 23.0	
	comp=Z,26nm,0.9s								
M18K	Stony River	68.96	28	P		P		23 52 22.1	+1.0
	baz=252								
CHGR	Chuyangaron	68.97	308	P		P		23 52 21.7	-0.1
CHGR				IAMs_20		IAMs_20		00 23 54.4	
	comp=Z,994nm,20.0s								
CHGR	Chuyangaron	68.97	308	P		P		23 52 21.7	-0.1
CHGR				pmax		pmax			
	comp=Z,77nm,0.9s								
CHGR				MLR		MLR			
	comp=Z,1µm,20.0s								
OHAK	Old Harbor	68.99	32	P		P		23 52 22.2	+0.8
	baz=255								
H18K	Honhosa River	69.16	23	P		P		23 52 22.4	0.0
H18K				IAmb		IAmb		23 52 24.0	
	comp=Z,37nm,0.9s								
H18K	Honhosa River	69.16	23	P		P		23 52 23.3	+0.9
	baz=248								
J18K	Innoko River	69.22	25	P		P		23 52 22.6	-0.2
J18K	Innoko River	69.22	25	P		P		23 52 23.7	+0.9
	baz=250								
E18K	Tukpahlearik C	69.25	21	P		P		23 52 22.9	0.0
E18K	Tukpahlearik C	69.25	21	P		P		23 52 23.5	+0.6
	baz=245								
Q19K	Cape Douglas,	69.25	30	P		P		23 52 21.9	-1.1
Q19K	Cape Douglas,	69.25	30	P		P		23 52 22.9	-0.2
	baz=254								
O19K	Port Alsworth	69.27	29	P		P		23 52 23.8	+0.6
O19K				IAmb		IAmb		23 52 41.1	
	comp=Z,76nm,1.6s								
O19K	Port Alsworth	69.27	29	P		P		23 52 23.7	+0.6
	baz=253								
G18K	Tagagawik	69.34	23	P		P		23 52 23.3	-0.2
G18K				IAmb		IAmb		23 52 25.2	
	comp=Z,45nm,0.9s								
G18K	Tagagawik	69.34	23	P		P		23 52 24.4	+0.9
	baz=247								
TTA	Tatalina	69.34	26	P		P		23 52 23.5	-0.1
TTA	Tatalina	69.34	26	P		P		23 52 24.2	+0.5
	baz=251,SNR=7.4								
TTA	Tatalina	69.34	26	P		P		23 52 23.5	-0.1
TTA				pmax		pmax			
	comp=Z,34nm,1.4s								
N19K	Bonanza Creek	69.38	28	P		P		23 52 24.1	+0.2
N19K				IAmb		IAmb		23 52 56.4	
	comp=Z,28nm,0.9s								
N19K				IAMs_20		IAMs_20		00 19 34.1	
	comp=Z,640nm,18.0s								
N19K	Bonanza Creek	69.38	28	P		P		23 52 24.5	+0.6
	baz=253								
KDAK	Kodiak Island	69.50	32	P		P		23 52 24.8	+0.2
	baz=256								
KDAK	Kodiak Island	69.50	32	LR		LR		00 20 33.4	
	comp=Z,302nm,20.6s,baz=263,slow=34								
C18K	Utukok River	69.58	19	P		P		23 52 24.7	-0.3
C18K				IAmb		IAmb		23 52 40.8	
	comp=Z,27nm,0.9s								
C18K	Utukok River	69.58	19	P		P		23 52 25.1	+0.1
	baz=244								
GCSA	Galena City Sc	69.60	24	P		P		23 52 25.4	+0.4
	baz=249								
L19K	White Mountain	69.62	27	P		P		23 52 25.7	+0.5
L19K				IAmb		IAmb		23 52 27.1	
	comp=Z,31nm,0.9s								
L19K	White Mountain	69.62	27	P		P		23 52 26.1	+0.8
	baz=252,SNR=12								
P19K	Oil Pt	69.65	30	P		P		23 52 25.9	+0.4
	baz=255								
B18K	Kokolik River	69.71	19	P		P		23 52 26.7	+1.0
	baz=243								
J19K	Poorman	69.86	25	P		P		23 52 27.0	+0.3
J19K				IAmb		IAmb		23 52 28.6	
	comp=Z,37nm,0.9s								
J19K	Poorman	69.86	25	P		P		23 52 27.5	+0.8
	baz=251								
BVAR	Borovoye Array	69.89	323	P		P		23 52 27.0	-0.2
BVAR	Borovoye Array	69.89	323	P		P		23 52 26.9	-0.2
	comp=Z,25nm,0.6s,baz=107,slow=8.3,SNR=155								
BVAR				LR		LR		00 24 04.9	
	comp=Z,180nm,19.9s,baz=95,slow=37								
	comp=Z,25nm,0.6s								
BRVK	Borovoye	69.96	323	P		P		23 52 27.0	-0.5
BRVK				IAmb		IAmb		23 52 39.5	
	comp=Z,40nm,0.8s								
BRVK	Borovoye	69.96	323	IAMs_20		IAMs_20		00 22 51.9	
	comp=Z,506nm,18.0s								
BRVK	Borovoye	69.96	323	*ce*P		P		23 52 27.5	0.0
BRVK				pmax		pmax			
	comp=Z,22nm,0.6s								
G19K	Purcell Mounta	70.03	23	P		P		23 52 27.5	-0.2
G19K	Purcell Mounta	70.03	23	P		P		23 52 28.4	+0.7
	baz=249,SNR=58								
F19K	Shaleruckik Mo	70.03	22	P		P		23 52 28.0	+0.4
F19K	Shaleruckik Mo	70.03	22	P		P		23 52 28.0	+0.4
	baz=248								
H19K	Roundabout Mou	70.05	23	P		P		23 52 28.5	+0.8
H19K	Roundabout Mou	70.05	23	P		P		23 52 29.1	+1.3
	baz=250								
O20K	Slope Mountain	70.06	29	P		P		23 52 28.0	-0.1
	baz=255								
RSO	Redoubt South	70.10	29	P		P		23 52 28.4	-0.1
L20K	Farewell, AK	70.14	27	P		P		23 52 29.3	+0.8
	baz=253,SNR=6.5								
M20K	Styx River	70.31	28	P		P		23 52 29.7	+0.1
M20K				IAmb		IAmb		23 53 09.2	
	comp=Z,36nm,1.2s								
M20K				IAMs_20		IAMs_20		00 15 09.6	
	comp=Z,720nm,20.0s								
M20K	Styx River	70.31	28	P		P		23 52 30.2	+0.6
	baz=254,SNR=7.7								
C19K	Lookout Ridge	70.31	19	P		P		23 52 29.8	+0.4
C19K	Lookout Ridge	70.31	19	P		P		23 52 30.4	+1.0
	baz=245								
K20K	Telida	70.32	26	P		P		23 52 30.1	+0.5
K20K				IAmb		IAmb		23 52 31.8	
	comp=Z,27nm,0.8s								
K20K	Telida	70.32	26	P		P		23 52 29.6	0.0
	baz=252								
A19K	Wainwright	70.32	18	P		P		23 52 30.4	+1.0
	baz=243								
HOM	Homer	70.43	30	P		P		23 52 29.6	-0.7
E19K	Redstone River	70.46	21	P		P		23 52 30.6	+0.3
E19K	Redstone River	70.46	21	P		P		23 52 31.3	+1.0
	baz=248								
J20K	Nowinta River	70.53	25	P		P		23 52 31.8	+1.0
J20K				IAmb		IAmb		23 52 33.2	
	comp=Z,46nm,0.8s								
J20K	Nowinta River	70.53	25	P		P		23 52 31.3	+0.5
	baz=252,SNR=25								
N20K	Mount Spurr	70.55	28	P		P		23 52 31.6	+0.6
	baz=255								
D19K	Kuna River	70.55	20	P		P		23 52 31.4	+0.6
D19K	Kuna River	70.55	20	P		P		23 52 31.0	+0.1
	baz=247								
I20K	Naaghedeneel	70.59	24	P		P		23 52 32.1	+1.0
I20K				IAMs_20		IAMs_20		00 22 11.0	
	comp=Z,646nm,19.0s								
I20K	Naaghedeneel	70.59	24	P		P		23 52 31.8	+0.7
	baz=252								
CNPM	China Poot	70.60	30	P		P		23 52 30.8	-0.6
CNPM				IAmb		IAmb		23 52 32.2	
	comp=Z,38nm,0.8s								
H20K	Anotleneega Mo	70.65	24	P		P		23 52 32.1	+0.5
	baz=251								
BRLK	Bradley Lake	70.83	30	P		P		23 52 32.1	-0.6
BRLK				IAmb		IAmb		23 52 33.2	
	comp=Z,46nm,1.0s								
F20K	Avaraart Lake	70.86	22	P		P		23 52 33.3	+0.7
F20K				IAmb		IAmb		23 52 35.1	
	comp=Z,30nm,0.9s								
F20K	Avaraart Lake	70.86	22	P		P		23 52 33.4	+0.7
	baz=250,SNR=35								
BRSE	Bradley Lake S	70.90	30	P		P		23 52 33.6	+0.5
	baz=257								
PPLA	Purkeypile	71.00	27	P		P		23 52 33.7	-0.2
	baz=254,SNR=6.0								
SKT	Skwentna	71.06	28	P		P		23 52 33.6	-0.5
SKT	Skwentna	71.06	28	P		P		23 52 33.9	-0.2
	baz=255,SNR=9.8								
E20K	Nigu River	71.12	21	P		P		23 52 34.8	+0.4
	baz=249								
D20K	Etivluk River	71.14	20	P		P		23 52 35.0	+0.6
	baz=248								
CAST	Castle Rocks	71.19	26	P		P		23 52 35.1	+0.2
CAST				IAmb		IAmb		23 52 36.5	
	comp=Z,53nm,0.9s								
CAST	Castle Rocks	71.19	26	P		P		23 52 35.0	+0.1
	baz=254,SNR=37								
CHUM	Lake Minchumin	71.22	26	P		P		23 52 35.7	+0.7
	baz=254,SNR=13								
IMAR	Indian Mountai	71.25	23	P		P		23 52 35.6	+0.4
SUA	Susitna One	71.30	28	P		P		23 52 35.1	-0.5
SUA				IAmb		IAmb		23 52 36.6	
	comp=Z,27nm,0.9s								
SUA	Susitna One	71.30	28	P		P		23 52 35.5	-0.1
	baz=256,SNR=10								
B20K	Meade River	71.45	19	P		P		23 52 36.8	+0.5
B20K	Meade River	71.45	19	P		P		23 52 36.7	+0.4
	baz=247,SNR=17								
FIS	Fire Island	71.47	29	P		P		23 52 37.4	+0.8
G21K	Allakaket	71.51	23	P		P		23 52 37.4	+0.7
G21K				IAmb		IAmb		23 52 53.9	
	comp=Z,60nm,1.2s								
G21K	Allakaket	71.51	23	P		P		23 52 37.4	+0.7
	baz=252,SNR=22								
H21K	Melozitna Rive	71.53	24	P		P		23 52 37.2	+0.4
H21K				IAmb		IAmb		23 52 39.0	
	comp=Z,42nm,0.9s								
H21K	Melozitna Rive	71.53	24	P		P		23 52 37.3	+0.4
	baz=253								
O22K	Cooper Landing	71.56	29	P		P		23 52 37.0	0.0
O22K	Cooper Landing	71.56	29	P		P		23 52 37.0	0.0
	baz=258								
SEW	Seward	71.61	30	P		P		23 52 36.9	-0.5
	baz=258								
M22K	Willow	71.66	28	P		P		23 52 37.0	-0.6
M22K	Willow	71.66	28	P		P		23 52 37.5	-0.1
	baz=257,SNR=8.8								
RC01	Rabbit Creek A	71.69	29	P		P		23 52 37.1	-0.8
RC01				IAmb		IAmb		23 52 38.5	
	comp=Z,47nm,0.9s								
RC01	Rabbit Creek A	71.69	29	P		P		23 52 37.7	-0.2
	baz=257,SNR=9.0								
I21K	Tanana	71.72	24	P		P		23 52 38.5	+0.6
I21K				IAmb		IAmb		23 52 40.2	
	comp=Z,52nm,0.9s								
I21K	Tanana	71.72	24	P		P		23 52 38.1	+0.2
	baz=254,SNR=50								
KTH	Kantishna Hill	71.73	26	P		P		23 52 38.3	+0.2
CUT	Chulitna	71.74	27	P		P		23 52 37.4	-0.7
CUT				IAmb		IAmb		23 53 22.7	
	comp=Z,57nm,1.1s								
CUT	Chulitna	71.74	27	P		P		23 52 38.4	+0.3
	baz=256								
F21K	Alatna River	71.74	22	P		P		23 52 38.4	+0.3
F21K	Alatna River	71.74	22	P		P		23 52 38.6	+0.5
	baz=252								
BPAW	Bear Paw Mtn.	71.84	26	P		P		23 52 38.6	-0.2
BPAW				IAmb		IAmb		23 52 40.4	
	comp=Z,44nm,0.9s								
BPAW	Bear Paw Mtn.	71.84	26	P		P		23 52 39.0	+0.2
	baz=255,SNR=24								
C21K	Knifeblade Rid	71.92	20	P		P		23 52 39.6	+0.5
	baz=250								
E21K	Killik River	71.96	21	P		P		23 52 39.7	+0.3
E21K				IAmb		IAmb		23 52 55.5	
	comp=Z,28nm,0.9s						

F22K	**John River**	**72.31**	**22**	P	**P**	**23 52 42.1**	**+0.6**
	baz=253							
KNK	**Knik Glacier**	**72.36**	**29**	P	**P**	**23 52 41.5**	**-0.4**
KNK				IAmb	IAmb	23 53 14.8		
	comp=Z,46nm,1.0s							
KNK	**Knik Glacier**	**72.36**	**29**	P	**P**	**23 52 41.4**	**-0.5**
	baz=258,SNR=9.4							
G22K	**Bettles**	**72.39**	**23**	P	**P**	**23 52 42.5**	**+0.5**
	baz=254							
SML	**Sawmill**	**72.50**	**28**	P	**P**	**23 52 42.1**	**-0.7**
SML	**Sawmill**	**72.50**	**28**	P	**P**	**23 52 42.4**	**-0.4**
	baz=258,SNR=12							
A22K	**Sinclair Lake**	**72.50**	**18**	P	**P**	**23 52 43.1**	**+0.5**
	baz=249,SNR=9.7							
BWN	**Browne**	**72.51**	**26**	P	**P**	**23 52 42.7**	**0.0**
D22K	**Ayikyak River**	**72.54**	**20**	P	**P**	**23 52 43.5**	**+0.6**
D22K				IAmb	IAmb	23 53 00.3		
	comp=Z,58nm,1.1s							
D22K	**Ayikyak River**	**72.54**	**20**	P	**P**	**23 52 43.4**	**+0.6**
	baz=252							
P23K	**Montague Islan**	**72.60**	**30**	P	**P**	**23 52 43.5**	**+0.1**
	baz=260							
RND	**Reindeer**	**72.60**	**26**	P	**P**	**23 52 42.5**	**-0.9**
RND				IAmb	IAmb	23 52 45.1		
	comp=Z,35nm,0.9s							
RND	**Reindeer**	**72.60**	**26**	P	**P**	**23 52 42.5**	**-0.9**
RND				pmax	pmax			
	comp=Z,35nm,0.9s							
WAT1	**Susitna Watana**	**72.61**	**27**	P	**P**	**23 52 43.3**	**-0.1**
	baz=258							
E22K	**Anaktuvuk Pass**	**72.62**	**21**	P	**P**	**23 52 43.8**	**+0.4**
E22K	**Anaktuvuk Pass**	**72.62**	**21**	P	**P**	**23 52 44.1**	**+0.7**
	baz=253,SNR=36							
MCK	**McKinley**	**72.64**	**26**	P	**P**	**23 52 43.2**	**-0.3**
	baz=257,SNR=25							
B22K	**Teshekpuk Lake**	**72.76**	**19**	P	**P**	**23 52 43.8**	**-0.3**
B22K				IAmb	IAmb	23 53 01.0		
	comp=Z,52nm,1.1s							
B22K	**Teshekpuk Lake**	**72.76**	**19**	P	**P**	**23 52 44.4**	**+0.3**
	baz=251,SNR=17							
NEA2	**Nenana**	**72.77**	**25**	P	**P**	**23 52 43.6**	**-0.7**
NEA2	**Nenana**	**72.77**	**25**	P	**P**	**23 52 44.3**	**0.0**
	baz=257,SNR=19							
M23K	**Glacier View**	**72.78**	**28**	P	**P**	**23 52 44.4**	**0.0**
	baz=259,SNR=7.9							
I23K	**Minto, Yukon-K**	**72.78**	**25**	P	**P**	**23 52 44.6**	**+0.3**
I23K				IAmb	IAmb	23 52 46.3		
	comp=Z,46nm,0.9s							
I23K	**Minto, Yukon-K**	**72.78**	**25**	P	**P**	**23 52 44.9**	**+0.6**
	baz=256,SNR=24							
G23K	**Bananza Creek**	**72.90**	**23**	P	**P**	**23 52 45.9**	**+0.8**
G23K				IAmb	IAmb	23 52 47.4		
	comp=Z,52nm,0.9s							
G23K	**Bananza Creek**	**72.90**	**23**	P	**P**	**23 52 46.1**	**+1.0**
	baz=255,SNR=61							
GLI	**Glacier Island**	**72.91**	**29**	P	**P**	**23 52 45.4**	**+0.3**
	baz=260							
WAT6	**Susitna Watana**	**72.92**	**27**	P	**P**	**23 52 45.1**	**-0.4**
	baz=259,SNR=26							
COLD	**Coldfoot**	**72.97**	**22**	P	**P**	**23 52 46.0**	**+0.6**
	baz=255,SNR=86							
SCM	**Sheep Creek Mo**	**72.97**	**28**	P	**P**	**23 52 45.5**	**-0.1**
SCM	**Sheep Creek Mo**	**72.97**	**28**	P	**P**	**23 52 45.8**	**+0.2**
	baz=259,SNR=15							
SCM	**Sheep Creek Mo**	**72.97**	**28**	P	**P**	**23 52 45.5**	**-0.1**
SCM				pmax	pmax			
	comp=Z,93nm,0.9s							
Q23K	**Middleton Isla**	**73.03**	**31**	P	**P**	**23 52 46.0**	**+0.2**
	baz=261							
WRH	**Wood River Hil**	**73.16**	**25**	P	**P**	**23 52 46.3**	**-0.3**
FID	**Port Fidalgo**	**73.18**	**29**	P	**P**	**23 52 46.3**	**-0.5**
FID				IAmb	IAmb	23 52 48.0		
	comp=Z,49nm,0.9s							
DHY	**Denali Highway**	**73.18**	**27**	P	**P**	**23 52 46.7**	**-0.2**
DHY	**Denali Highway**	**73.18**	**27**	P	**P**	**23 52 47.5**	**+0.6**
	baz=259,SNR=8.5							
MDM	**Murphy Dome**	**73.20**	**25**	P	**P**	**23 52 46.1**	**-0.8**
D23K	**Nanushuk River**	**73.26**	**21**	P	**P**	**23 52 48.0**	**+0.9**
	baz=254							
CCB	**Clear Creek Bu**	**73.31**	**25**	P	**P**	**23 52 46.9**	**-0.6**
CCB				IAmb	IAmb	23 52 48.1		
	comp=Z,44nm,1.2s							
COLA	**College**	**73.34**	**25**	P	**P**	**23 52 46.6**	**-1.0**
COLA				IAmb	IAmb	23 52 56.8		
	comp=Z,27nm,0.8s							
COLA	**College**	**73.34**	**25**	P	**P**	**23 52 48.2**	**+0.6**
	baz=258							
COLA	**College**	**73.34**	**25**	P	**P**	**23 52 47.6**	**0.0**
E23K	**Chandalar**	**73.40**	**22**	P	**P**	**23 52 48.8**	**+0.7**
	baz=255							
EYAK	**Cordova Ski Ar**	**73.50**	**30**	P	**P**	**23 52 49.0**	**+0.4**
	baz=261							
C23K	**Itkillik River**	**73.53**	**20**	P	**P**	**23 52 49.3**	**+0.7**
C23K				IAmb	IAmb	23 53 05.9		
	comp=Z,52nm,1.0s							
C23K	**Itkillik River**	**73.53**	**20**	P	**P**	**23 52 49.6**	**+1.0**
	baz=254,SNR=20							
H24K	**Noodor Dome**	**73.54**	**24**	P	**P**	**23 52 49.1**	**+0.2**
H24K				IAmb	IAmb	23 52 50.9		
	comp=Z,50nm,1.1s							
H24K	**Noodor Dome**	**73.54**	**24**	P	**P**	**23 52 49.7**	**+0.8**
	baz=258,SNR=37							
M24K	**Tolsona, Glenn**	**73.55**	**28**	P	**P**	**23 52 49.5**	**+0.4**
M24K				IAmb	IAmb	23 53 06.8		
	comp=Z,65nm,1.0s							
M24K	**Tolsona, Glenn**	**73.55**	**28**	P	**P**	**23 52 50.1**	**+1.0**
	baz=260,SNR=6.2							
TOLK	**Toolik Lake Re**	**73.56**	**21**	P	**P**	**23 52 49.7**	**+0.7**
TOLK				IAmb	IAmb	23 52 59.3		
	comp=Z,24nm,0.7s							
TOLK	**Toolik Lake Re**	**73.56**	**21**	P	**P**	**23 52 50.2**	**+1.2**
	baz=255,SNR=20							
POKR	**Poker Plat Res**	**73.57**	**25**	P	**P**	**23 52 49.3**	**+0.3**
POKR	**Poker Plat Res**	**73.57**	**25**	P	**P**	**23 52 49.6**	**+0.5**
	baz=258,SNR=7.5							
KLU	**Klutina**	**73.57**	**29**	P	**P**	**23 52 49.0**	**-0.2**
KLU				IAmb	IAmb	23 52 51.4		
	comp=Z,40nm,0.9s							
KLU	**Klutina**	**73.57**	**29**	P	**P**	**23 52 50.0**	**+0.8**
	baz=261,SNR=15							
HDA	**Harding Lake**	**73.63**	**26**	P	**P**	**23 52 48.6**	**-0.7**
HDA	**Harding Lake**	**73.63**	**26**	P	**P**	**23 52 49.2**	**-0.2**
	baz=259,SNR=15							
HDA				P	**P**	**23 52 49.2**	**-0.2**
	baz=259,SNR=15							
IL31		**73.73**	**25**	P	**P**	**23 52 48.9**	**-0.9**
ILAR	**Eielson Array**	**73.73**	**25**	P	**P**	**23 52 48.9**	**-1.0**
ILAR	**Eielson Array**	**73.73**	**25**	P	**P**	**23 52 48.9**	**-1.0**
ILAR	**Eielson Array**	**73.73**	**25**	P	**P**	**23 52 48.8**	**-1.1**
	comp=Z,14nm,0.6s,baz=249,slow=6.1,SNR=177							
	comp=Z,14nm,0.6s							
E24K	**Your Creek**	**73.81**	**22**	P	**P**	**23 52 50.7**	**+0.3**
E24K	**Your Creek**	**73.81**	**22**	P	**P**	**23 52 50.8**	**+0.3**
	baz=256,SNR=14							
G24K	**Hadweenzic Riv**	**73.88**	**23**	P	**P**	**23 52 51.8**	**+1.0**
G24K				IAmb	IAmb	23 53 08.7		
	comp=Z,40nm,1.0s							
G24K				IAMs_20	IAMs_20	00 23 36.0		
	comp=Z,589nm,19.0s							
G24K	**Hadweenzic Riv**	**73.88**	**23**	P	**P**	**23 52 51.2**	**+0.3**
	baz=258,SNR=23							
F24K	**Squaw Lake**	**73.91**	**22**	P	**P**	**23 52 51.7**	**+0.7**
F24K	**Squaw Lake**	**73.91**	**22**	P	**P**	**23 52 51.6**	**+0.7**
	baz=257,SNR=21							
D24K	**Happy Valley**	**73.95**	**21**	P	**P**	**23 52 51.5**	**+0.3**
D24K	**Happy Valley**	**73.95**	**21**	P	**P**	**23 52 51.9**	**+0.8**
	baz=256							
PAX	**Paxson**	**74.02**	**27**	P	**P**	**23 52 52.2**	**+0.4**
	baz=261,SNR=17							
K24K	**Donnelly Dome**	**74.02**	**26**	P	**P**	**23 52 52.3**	**+0.6**
	baz=260,SNR=8.1							
KAIM	**Kayak Island**	**74.07**	**30**	P	**P**	**23 52 52.2**	**+0.2**
	baz=262							
HARP	**HAARP**	**74.07**	**28**	P	**P**	**23 52 52.5**	**+0.5**
	baz=261,SNR=15							
BMRM	**Bremner River**	**74.12**	**29**	P	**P**	**23 52 52.8**	**+0.4**
	baz=262,SNR=14							
C24K	**Franklin Bluff**	**74.14**	**20**	P	**P**	**23 52 53.5**	**+1.2**
	baz=256							
N25K	**Chitina, Valde**	**74.21**	**29**	P	**P**	**23 52 52.5**	**-0.5**
N25K				IAmb	IAmb	23 52 55.0		
	comp=Z,81nm,1.6s							
N25K	**Chitina, Valde**	**74.21**	**29**	P	**P**	**23 52 53.3**	**+0.4**
	baz=262,SNR=6.6							
J25K	**Salcha River,**	**74.34**	**26**	P	**P**	**23 52 52.4**	**-1.2**
J25K	**Salcha River,**	**74.34**	**26**	P	**P**	**23 52 53.4**	**-0.2**
	baz=260							
RIDG	**Independent Ri**	**74.42**	**26**	P	**P**	**23 52 53.6**	**-0.5**
RIDG				IAmb	IAmb	23 52 55.4		
	comp=Z,51nm,1.0s							
RIDG	**Independent Ri**	**74.42**	**26**	P	**P**	**23 52 53.8**	**-0.3**
	baz=261,SNR=21							
G25K	**Bearman Lake**	**74.43**	**23**	P	**P**	**23 52 54.5**	**+0.5**
	baz=259							
PRP	**Porcupine Dome**	**74.43**	**25**	P	**P**	**23 52 52.9**	**-1.3**
PRP	**Porcupine Dome**	**74.43**	**25**	P	**P**	**23 52 53.1**	**-1.1**
	baz=260,SNR=8.2							
HRA	**Herat**	**74.46**	**303**	P	**P**	**23 52 53.3**	**-1.8**
GLB	**Gilahina Butte**	**74.57**	**29**	P	**P**	**23 52 54.8**	**-0.1**
GLB				IAmb	IAmb	23 52 57.1		
	comp=Z,68nm,1.1s							
PPT	**Papeete**	**74.62**	**111**	LR	LR	00 18 14.7		
	comp=Z,396nm,20.0s,baz=270,slow=30							
PPT2	**Papeete2**	**74.62**	**111**	*e*P	P	23 52 44.4	-12	
	comp=Z,33nm,22.2s							
PPT2				*e*S	**S**	**00 02 29.9**	**-1.8**	
	comp=Z,331nm,28.2s							
PPT2				*e*SS	**SS**	**00 07 26.4**	**+7.2**	
	comp=Z,246nm,25.5s							
PPT2				*e*LR	LR	00 15 30.9		
	comp=Z,1μm,24.5s							
PPT2				*e*LR	LR	00 15 40.9		
	comp=Z,1μm,32.2s							
VRDI	**Verde Repeater**	**74.71**	**29**	P	**P**	**23 52 56.1**	**+0.1**
VRDI				IAmb	IAmb	23 53 06.0		
	comp=Z,29nm,0.8s							
FYU	**Fort Yukon**	**74.73**	**24**	P	**P**	**23 52 56.5**	**+0.8**
F25K	**Christian Rive**	**74.77**	**22**	P	**P**	**23 52 56.9**	**+0.8**
	baz=259							
CRQM	**Cirque**	**74.80**	**30**	P	**P**	**23 52 55.9**	**-0.6**
MENT	**Mentasta**	**74.81**	**27**	P	**P**	**23 52 56.9**	**+0.6**
MENT				IAmb	IAmb	23 52 58.1		
	comp=Z,31nm,0.8s							
CRQE	**Cirque**	**74.83**	**30**	P	**P**	**23 52 57.0**	**+0.4**
	baz=263,SNR=9.3							
SCRK	**Sand Creek**	**74.83**	**26**	P	**P**	**23 52 56.2**	**-0.3**
SCRK	**Sand Creek**	**74.83**	**26**	P	**P**	**23 52 56.7**	**+0.1**
	baz=262,SNR=11							
D25K	**Kavik River**	**74.84**	**21**	P	**P**	**23 52 56.4**	**0.0**
D25K				IAmb	IAmb	23 53 15.5		
	comp=Z,32nm,0.9s							
D25K	**Kavik River**	**74.84**	**21**	P	**P**	**23 52 57.1**	**+0.7**
	baz=258							
E25K	**Arctic Village**	**74.89**	**22**	P	**P**	**23 52 57.1**	**+0.4**
E25K				IAmb	IAmb	23 53 07.8		
	comp=Z,40nm,1.0s							
E25K	**Arctic Village**	**74.89**	**22**	P	**P**	**23 52 57.5**	**+0.8**
	baz=259,SNR=38							
WAX	**Waxell Ridge**	**74.91**	**30**	P	**P**	**23 52 57.7**	**+0.7**
WAX				IAmb	IAmb	23 52 58.9		
	comp=Z,43nm,0.8s							
MCARA	**McCarthy VSAT**	**74.93**	**29**	P	**P**	**23 52 56.7**	**-0.4**
MCARA				IAmb	IAmb	23 52 59.8		
	comp=Z,65nm,1.0s							
MCARA	**McCarthy VSAT**	**74.93**	**29**	P	**P**	**23 52 57.1**	**+0.1**
	baz=263,SNR=14							
TGL	**Tana Glacier**	**74.95**	**30**	P	**P**	**23 52 57.6**	**+0.4**
TGL				IAmb	IAmb	23 52 59.1		
	comp=Z,56nm,1.0s							
L26K	**Log Cabin Wild**	**74.99**	**27**	P	**P**	**23 52 57.7**	**+0.3**
L26K				IAmb	IAmb	23 52 59.1		
	comp=Z,35nm,0.9s							
L26K	**Log Cabin Wild**	**74.99**	**27**	P	**P**	**23 52 58.2**	**+0.8**
	baz=262,SNR=26							
M26K	**Nabesna, AK**	**75.07**	**28**	P	**P**	**23 52 58.0**	**+0.2**
M26K	**Nabesna, AK**	**75.07**	**28**	P	**P**	**23 52 58.2**	**+0.4**
	baz=263,SNR=6.1							
J26L	**Joseph Creek**	**75.09**	**26**	P	**P**	**23 52 57.9**	**-0.1**
J26L				IAmb	IAmb	23 53 07.4		
	comp=Z,30nm,0.7s							
J26L	**Joseph Creek**	**75.09**	**26**	P	**P**	**23 52 57.6**	**-0.4**
	baz=262,SNR=20							
BMAR	**Burnt Mountain**	**75.14**	**23**	P	**P**	**23 52 59.4**	**+1.2**
ISLE	**Juniper Island**	**75.18**	**30**	P	**P**	**23 52 58.8**	**+0.2**
ISLE				IAmb	IAmb	23 53 04.5		
	comp=Z,65nm,1.2s							
MESA	**MESA**	**75.33**	**30**	P	**P**	**23 52 59.7**	**+0.1**
MESA	**MESA**	**75.33**	**30**	P	**P**	**23 52 60.0**	**+0.4**
	baz=264							
F26K	**Sheenjek River**	**75.35**	**22**	P	**P**	**23 53 00.2**	**+0.9**
	baz=260,SNR=48							
G26K	**Porcupine Rive**	**75.36**	**23**	P	**P**	**23 53 00.1**	**+0.7**
	baz=261,SNR=29							
I26K	**Coal Creek Min**	**75.38**	**25**	P	**P**	**23 52 58.8**	**-0.7**
I26K	**Coal Creek Min**	**75.38**	**25**	P	**P**	**23 52 59.6**	**+0.1**
	baz=262							
C26K	**Camden Bay**	**75.46**	**20**	P	**P**	**23 53 00.8**	**+0.9**
	baz=259							
GRNC	**Granite Creek**	**75.48**	**30**	P	**P**	**23 52 59.4**	**-1.1**
GRNC				IAmb	IAmb	23 53 02.2		
	comp=Z,39nm,0.8s							
BARN	**Barnard Glacie**	**75.56**	**29**	P	**P**	**23 53 00.7**	**-0.2**
M27K	**Edge Creek, AK**	**75.58**	**28**	P	**P**	**23 53 01.0**	**0.0**
M27K				IAmb	IAmb	23 53 02.9		
	comp=Z,42nm,0.9s							
M27K	**Edge Creek, AK**	**75.58**	**28**	P	**P**	**23 53 01.6**	**+0.7**
	baz=264,SNR=26							
K27K	**Chicken**	**75.68**	**26**	P	**P**	**23 53 01.2**	**0.0**
K27K				IAmb	IAmb	23 53 03.7		
	comp=Z,37nm,1.1s							
K27K	**Chicken**	**75.68**	**26**	P	**P**	**23 53 02.1**	**+0.8**
	baz=263							
L27K	**Beaver Creek,**	**75.68**	**27**	P	**P**	**23 53 01.8**	**+0.5**
L27K	**Beaver Creek,**	**75.68**	**27**	P	**P**	**23 53 01.9**	**+0.5**
	baz=264,SNR=14							
BCAR	**Beaver Creek A**	**75.70**	**27**	P	**P**	**23 53 01.9**	**+0.5**
CTG	**Chitna Glacier**	**75.70**	**30**	P	**P**	**23 53 02.2**	**+0.6**
	baz=265,SNR=15							
CTGM	**Chitina Glacie**	**75.70**	**30**	P	**P**	**23 53 02.4**	**+0.7**
TABL	**Table Mountain**	**75.75**	**30**	P	**P**	**23 53 02.5**	**+0.5**
LOGN	**Logan Glacier**	**75.85**	**30**	P	**P**	**23 53 02.5**	**0.0**
LOGN				IAmb	IAmb	23 53 22.9		
	comp=Z,55nm,0.9s							
SVE	**Sverdlovsk**	**75.93**	**326**	*e*P	**P**	**23 53 03.1**	**+0.3**
SVE				pmax	pmax			
	comp=Z,46nm,1.4s							
SVE				MLR	MLR			
	comp=Z,1μm,20.0s							
I27K	**Kandik River**	**76.05**	**25**	P	**P**	**23 53 03.6**	**+0.2**
	baz=263,SNR=30							
BVCY	**Beaver Creek**	**76.06**	**28**	P	**P**	**23 53 04.2**	**+0.7**
	baz=265,SNR=14							
ABKAR	**Akbulak array**	**76.08**	**318**	P	**P**	**23 53 03.1**	**-0.7**
ABKAR	**Akbulak array**	**76.08**	**318**	P	**P**	**23 53 03.3**	**-0.6**
EGAK	**Eagle**	**76.15**	**26**	P	**P**	**23 53 04.2**	**+0.3**
EGAK	**Eagle**	**76.15**	**26**	P	**P**	**23 53 04.1**	**+0.2**
	baz=264,SNR=12							
H27K	**Steamboat Moun**	**76.16**	**24**	P	**P**	**23 53 04.7**	**+0.7**
	baz=263							
PINM	**Pinnacle**	**76.17**	**30**	P	**P**	**23 53 04.9**	**+0.6**
	baz=266							
G27K	**Doyon Strip**	**76.18**	**24**	P	**P**	**23 53 04.4**	**+0.3**
G27K	**Doyon Strip**	**76.18**	**24**	P	**P**	**23 53 04.9**	**+0.8**
	baz=263							
YUK3	**Moose Creek**	**76.19**	**29**	P	**P**	**23 53 04.8**	**+0.3**
	baz=265,SNR=26							
TBI	**Tubuai**	**76.37**	**117**	*e*P	P	23 53 21.3	+15	
	comp=Z,465nm,36.0s							
TBI				*e*S	**S**	**00 02 51.7**	**+1.0**	
	comp=Z,834nm,34.2s							
TBI	**Tubuai**	**76.37**	**117**	*e*LQ	LQ	00 13 29.7		
	comp=Z,2μm,26.5s							
TBI				*e*LR	LR	00 16 34.3		
	comp=Z,7μm,32.8s							
TBI				*e*LR	LR	00 16 38.9		
	comp=Z,1μm,32.2s							
E27K	**Coleen River**	**76.37**	**22**	P	**P**	**23 53 05.5**	**+0.3**
E27K				IAmb	IAmb	23 53 16.1		
	comp=Z,29nm,0.9s							
E27K	**Coleen River**	**76.37**	**22**	P	**P**	**23 53 06.0**	**+0.8**
	baz=263							
BCPM	**Bancas Point**	**76.47**	**31**	P	**P**	**23 53 06.5**	**+0.6**
YUK8	**Steele Glacier**	**76.49**	**29**	P	**P**	**23 53 06.9**	**+0.6**
	baz=266,SNR=12							
PNL	**Peninsula**	**76.57**	**31**	P	**P**	**23 53 07.1**	**+0.7**
	baz=267							
D27M	**Malcolm River**	**76.73**	**21**	P	**P**	**23 53 07.6**	**+0.4**
D27M				IAmb	IAmb	23 53 18.1		
	comp=Z,29nm,0.9s							
D27M	**Malcolm River**	**76.73**	**21**	P	**P**	**23 53 07.7**	**+0.4**
	baz=263							
I28M	**Miner Creek**	**76.73**	**25**	P	**P**	**23 53 07.4**	**0.0**
I28M				IAmb	IAmb	23 53 26.6		
	comp=Z,52nm,1.1s							
I28M	**Miner Creek**	**76.73**	**25**	P	**P**	**23 53 07.9**	**+0.5**
	baz=265,SNR=19							
DAWY	**Dawson**	**76.86**	**26**	P	**P**	**23 53 08.8**	**+0.8**
DAWY				IAmb	IAmb	23 53 27.9		
	comp=Z,48nm,1.0s							
DAWY	**Dawson**	**76.86**	**26**	P	**P**	**23 53 08.4**	**+0.4**
	baz=266,SNR=20							
F28M	**Old Crow**	**76.96**	**23**	P	**P**	**23 53 08.9**	**+0.4**
F28M				IAmb	IAmb	23 53 19.4		
	comp=Z,50nm,0.9s							
F28M	**Old Crow**	**76.96**	**23**	P	**P**	**23 53 09.1**	**+0.6**
	baz=265,SNR=33							
O29M	**Mount Kennedy**	**77.02**	**30**	P	**P**	**23 53 08.8**	**-0.2**
O29M				IAmb	IAmb	23 53 26.8		
	comp=Z,47nm,1.1s							
O29M	**Mount Kennedy**	**77.02**	**30**	P	**P**	**23 53 09.4**	**+0.3**
	baz=267,SNR=12							
YUK4	**Talbot Arm**	**77.03**	**29**	P	**P**	**23 53 10.1**	**+0.9**
	baz=267,SNR=16							
ARU	**Arti**	**77.06**	**326**	P	**P**	**23 53 08.7**	**-0.5**
ARU				IAmb	IAmb	23 53 22.2		
	comp=Z,32nm,0.8s							
ARU				IAMs_20	IAMs_20	00 27 18.4		
	comp=Z,1μm,21.0s							
ARU	**Arti**	**77.06**	**326**	*c i*P	**P**	**23 53 09.0**	**-0.2**
ARU						23 56 05.2		
ARU				PPP	PPP	23 57 48.1		
ARU				S	**S**	**00 03 01.4**	**+4.3**	
ARU				SS	**SS**	**00 07 55.4**	**+1.3**	
ARU				pmax	pmax			
	comp=Z,16nm,0.9s							
ARU				MLR	MLR			
	comp=Z,902nm,21.0s							
ARU	**Arti**	**77.06**	**326**	P	**P**	**23 53 08.5**	**-0.7**
	comp=Z,11nm,0.8s,baz=106,slow=3.2,SNR=21							
ARU				LR	LR	00 27 42.4		
	comp=Z,865nm,21.8s,baz=86,slow=36							
	comp=Z,11nm,0.8s							
YUK6	**Outpost Mounta**	**77.15**	**30**	P	**P**	**23 53 09.7**	**-0.3**
	baz=268,SNR=5.3							
M29M	**Somme Creek**	**77.17**	**28**	P	**P**	**23 53 10.2**	**+0.2**
M29M				IAmb	IAmb	23 53 27.6		
	comp=Z,40nm,1.0s							
M29M	**Somme Creek**	**77.17**	**28**	P	**P**	**23 53 10.3**	**+0.4**
	baz=267,SNR=25							
E28M	**Babbage River**	**77.17**	**22**	P	**P**	**23 53 09.3**	**-0.4**
E28M				IAmb	IAmb	23 53 20.6		
	comp=Z,41nm,0.9s							
E28M	**Babbage River**	**77.17**	**22**	P	**P**	**23 53 10.5**	**+0.9**
	baz=265							
AKTO	**Aktyubinsk**	**77.33**	**320**	P	**P**	**23 53 10.4**	**-0.5**
	comp=Z,4.3nm,0.6s,baz=94,slow=7.4,SNR=16							
AKTO				LR	LR	00 28 58.6		
	comp=Z,394nm,19.2s,baz=50,slow=37							
	comp=Z,4.3nm,0.6s							
L29M	**L29M**	**77.36**	**27**	P	**P**	**23 53 11.6**	**+0.8**
L29M	**L29M**	**77.36**	**27**	P	**P**	**23 53 11.5**	**+0.6**
	baz=267							
I29M	**Ogilvie Camp,**	**77.41**	**25**	P	**P**	**23 53 11.5**	**+0.4**
I29M				IAmb	IAmb	23 53 23.0		
	comp=Z,48nm,1.1s							
I29M	**Ogilvie Camp,**	**77.41**	**25**	P	**P**	**23 53 11.9**	**+0.8**
	baz=266,SNR=15							
P29M	**Windy Craggy**	**77.41**	**31**	P	**P**	**23 53 11.6**	**+0.4**
P29M				IAmb	IAmb	23 53 13.7		
	comp=Z,41nm,0.8s							
P29M	**Windy Craggy**	**77.41**	**31**	P	**P**	**23 53 11.5**	**+0.3**
	baz=268							
H29M	**Whitestone**	**77.44**	**24**	P	**P**	**23 53 11.3**	**+0.1**
H29M				IAmb	IAmb	23 53 39.2		
	comp=Z,44nm,0.9s							
H29M	**Whitestone**	**77.44**	**24**	P	**P**	**23 53 11.9**	**+0.7**
	baz=266,SNR=12							
D28M	**Stokes Point**	**77.53**	**21**	P	**P**	**23 53 12.6**	**+1.0**
	baz=265							
HYT	**Haines Junctio**	**77.56**	**30**	P	**P**	**23 53 12.5**	**+0.3**
HYT	**Haines Junctio**	**77.56**	**30**	P	**P**	**23 53 12.6**	**+0.4**
	baz=268,SNR=20							
G29M	**Pine Creek**	**77.62**	**24**	P	**P**	**23 53 12.2**	**0.0**
G29M				IAmb	IAmb	23 53 23.3		
	comp=Z,53nm,0.9s							
G29M	**Pine Creek**	**77.62**	**24**	P	**P**	**23 53 13.0**	**+0.8**
	baz=266,SNR=15							
GEYT	**Alibeck**	**77.65**	**307**	P	**P**	**23 53 13.5**	**+0.5**
GEYT				IAmb	IAmb	23 53 29.1		
	comp=Z,48nm,0.9s							
GEYT	**Alibeck**	**77.65**	**307**	P	**P**	**23 53 13.5**	**+0.5**
GEYT				pmax	pmax			
	comp=Z,49nm,1.0s							
GEYT	**Alibeck**	**77.65**	**307**	P	**P**	**23 53 12.3**	**-0.7**
	comp=Z,20nm,1.1s,baz=116,slow=3.4,SNR=23							
GEYT				LR	LR	00 31 29.9		
	comp=Z,211nm,19.8s,baz=102,slow=39							
	comp=Z,20nm,1.1s							
GYA0B	**ALIBECK ARRAY**	**77.65**	**307**	P	**P**	**23 53 12.9**	**-0.1**
GYA0B				IAmb	IAmb	23 53 29.0		
	comp=Z,48nm,0.9s							
K29M	**Barlow Dome**	**77.67**	**27**	P	**P**	**23 53 13.2**	**+0.6**
K29M				IAmb	IAmb	23 53 32.9		
	comp=Z,48nm,1.1s							
K29M	**Barlow Dome**	**77.67**	**27**	P	**P**	**23 53 13.3**	**+0.6**
	baz=268,SNR=22							
E29M	**Blow River**	**77.76**	**22**	P	**P**	**23 53 12.9**	**-0.1**

S32K	**Killisnoo**	**79.07**	**33**	P	**P**	23 53 21.3	+1.0			
	baz=272									
M31M	**Drury Creek, Y**	**79.07**	**28**	P	**P**	23 53 20.0	-0.4			
M31M				IAmb	IAmb	23 53 40.9				
	comp=Z,56nm,1.2s									
M31M				IAMs_20	IAMs_20	00 24 52.4				
	comp=Z,668nm,18.0s									
M31M	**Drury Creek, Y**	**79.07**	**28**	P	**P**	23 53 20.9	+0.5			
	baz=271,SNR=8.5									
R32K	**Eaglecrest**	**79.08**	**32**	P	**P**	23 53 19.4	-1.0			
R32K				IAmb	IAmb	23 53 33.7				
	comp=Z,51nm,1.2s									
R32K	**Eaglecrest**	**79.08**	**32**	P	**P**	23 53 20.9	+0.5			
	baz=271,SNR=5.1									
G31M	**Satah River**	**79.10**	**24**	P	**P**	23 53 19.8	-0.5			
G31M	**Satah River**	**79.10**	**24**	P	**P**	23 53 20.6	+0.4			
	baz=270,SNR=7.9									
JIS	**Juneau Island**	**79.15**	**32**	P	**P**	23 53 20.8	+0.1			
JIS				IAmb	IAmb	23 53 36.1				
	comp=Z,54nm,1.2s									
CASY	**Casey**	**79.17**	**192**	P	**P**	23 53 19.9	-0.7			
F31M	**Tsiigehtchic**	**79.30**	**23**	P	**P**	23 53 20.6	-0.8			
F31M	**Tsiigehtchic**	**79.30**	**23**	P	**P**	23 53 21.7	+0.3			
	baz=270									
INK	**Inuvik**	**79.38**	**22**	P	**P**	23 53 21.1	-0.7			
INK	**Inuvik**	**79.38**	**22**	P	**P**	23 53 21.9	+0.1			
	baz=270,SNR=9.7									
INK	**Inuvik**	**79.38**	**22**	P	**P**	23 53 21.1	-0.7			
INK				pmax	pmax					
	comp=Z,20nm,1.0s									
INK	**Inuvik**	**79.38**	**22**	LR	LR	00 31 27.6				
	comp=Z,85nm,18.4s,baz=197,slow=38									
P32M	**Atlin**	**79.46**	**31**	P	**P**	23 53 22.8	+0.3			
P32M				IAmb	IAmb	23 53 43.5				
	comp=Z,43nm,1.1s									
P32M	**Atlin**	**79.46**	**31**	P	**P**	23 53 22.9	+0.3			
	baz=272,SNR=7.4									
FARO	**Faro, Yukon**	**79.56**	**28**	P	**P**	23 53 23.3	+0.3			
FARO				IAmb	IAmb	23 53 37.2				
	comp=Z,62nm,1.4s									
FARO	**Faro, Yukon**	**79.56**	**28**	P	**P**	23 53 23.9	+0.9			
	baz=272,SNR=7.3									
N32M	**Quiet Lake**	**79.72**	**29**	P	**P**	23 53 24.4	+0.5			
N32M				IAmb	IAmb	23 53 37.7				
	comp=Z,95nm,1.2s									
N32M	**Quiet Lake**	**79.72**	**29**	P	**P**	23 53 24.4	+0.5			
	baz=272,SNR=9.7									
P33M	**Teslin, Yukon**	**79.89**	**30**	P	**P**	23 53 24.1	-0.8			
P33M	**Teslin, Yukon**	**79.89**	**30**	P	**P**	23 53 25.3	+0.4			
	baz=272,SNR=5.4									
U33K	**Whale Pass**	**79.92**	**35**	P	**P**	23 53 24.4	-0.5			
U33K	**Whale Pass**	**79.92**	**35**	P	**P**	23 53 25.5	+0.5			
	baz=273									
CRAG	**Craig**	**79.95**	**35**	P	**P**	23 53 25.5	+0.4			
	baz=273									
Q32M	**Nakina River**	**80.23**	**32**	P	**P**	23 53 27.0	+0.1			
Q32M	**Nakina River**	**80.23**	**32**	P	**P**	23 53 27.2	+0.3			
	baz=273									
WRAK	**Wrangell Islan**	**80.33**	**34**	P	**P**	23 53 27.6	+0.3			
WRAK				IAmb	IAmb	23 53 48.4				
	comp=Z,56nm,1.0s									
WRAK	**Wrangell Islan**	**80.33**	**34**	P	**P**	23 53 27.8	+0.6			
	baz=274									
V35K	**Ketchikan**	**80.82**	**35**	P	**P**	23 53 30.1	+0.3			
R33M	**Jennings River**	**80.87**	**31**	P	**P**	23 53 30.7	+0.5			
R33M	**Jennings River**	**80.87**	**31**	P	**P**	23 53 30.8	+0.5			
	baz=274,SNR=8.8									
S34M	**Telegraph Cree**	**80.89**	**33**	P	**P**	23 53 31.0	+0.8			
S34M				IAmb	IAmb	23 53 52.6				
	comp=Z,36nm,1.0s									
S34M	**Telegraph Cree**	**80.89**	**33**	P	**P**	23 53 30.8	+0.6			
	baz=274,SNR=6.4									
HG4B	**Hotspring**	**81.31**	**38**	P	**P**	23 53 32.7	+0.1			
DLBC	**Dease Lake**	**81.43**	**32**	P	**P**	23 53 33.5	+0.4			
DLBC				IAmb	IAmb	23 53 48.7				
	comp=Z,52nm,1.2s									
DLBC	**Dease Lake**	**81.43**	**32**	P	**P**	23 53 33.7	+0.5			
	baz=275,SNR=8.4									
DLBC	**Dease Lake**	**81.43**	**32**	LR	LR	00 26 51.3				
	comp=Z,258nm,19.7s,baz=310,slow=34									
T35M	**Bob Quinn**	**81.44**	**34**	P	**P**	23 53 33.3	+0.1			
T35M	**Bob Quinn**	**81.44**	**34**	P	**P**	23 53 33.9	+0.7			
	baz=275,SNR=6.2									
TAOE	**Nuku Hiva Isla**	**81.51**	**101**	*e*LR	LR	00 19 02.9				
	comp=Z,885nm,25.3s									
U35K	**Hyder**	**81.67**	**35**	P	**P**	23 53 34.9	+0.6			
	baz=276									
WTLY	**Watson Lake, Y**	**81.90**	**30**	P	**P**	23 53 35.7	+0.2			
WTLY				IAmb	IAmb	23 53 57.3				
	comp=Z,44nm,0.9s									
WTLY	**Watson Lake, Y**	**81.90**	**30**	P	**P**	23 53 36.3	+0.8			
	baz=276,SNR=5.0									
KIRV	**Kirov**	**81.90**	**328**	*ce*P	**P**	23 53 35.9	+0.4			
KIRV	**Kirov**	**81.90**	**328**	P	**P**	23 53 35.4	-0.1			
	comp=Z,12nm,0.6s,baz=64,slow=4.9,SNR=7.6									
KIRV				LR	LR	00 33 47.7				
	comp=Z,310nm,18.9s,baz=79,slow=38									
	comp=Z,12nm,0.6s									
A36M	**Sachs Harbour**	**81.95**	**18**	P	**P**	23 53 35.8	+0.3			
A36M				IAmb	IAmb	23 53 47.1				
	comp=Z,26nm,0.8s									
A36M	**Sachs Harbour**	**81.95**	**18**	P	**P**	23 53 36.5	+0.9			
	baz=278									
TGTN	**Hyland Airport**	**82.00**	**29**	P	**P**	23 53 36.8	+0.6			
	baz=276,SNR=10									
C36M	**Paulatuk**	**82.72**	**21**	P	**P**	23 53 39.1	-0.4			
C36M				IAmb	IAmb	23 53 55.2				
	comp=Z,82nm,1.6s									
C36M	**Paulatuk**	**82.72**	**21**	P	**P**	23 53 40.3	+0.8			
	baz=279,SNR=8.5									
BBB	**Bella Bella**	**83.21**	**38**	LR	LR	00 24 25.1				
	comp=Z,513nm,20.1s,baz=276,slow=31									
PRGR	**Permogore**	**83.39**	**331**	*e*P	**P**	23 53 42.7	-0.5			
PRGR				pmax	pmax					
	comp=Z,110nm,0.9s									
BELG	**Belogornoye**	**83.67**	**322**	*i* P	**P**	23 53 45.7	+0.8			
BELG				pmax	pmax					
	comp=Z,23nm,1.1s									
BELG	**Belogornoye**	**83.67**	**322**	P	**P**	23 53 44.4	-0.5			
	comp=Z,30nm,0.8s,baz=37,slow=3.0,SNR=8.6									
BELG				LR	LR	00 32 52.7				
	comp=Z,424nm,20.2s,baz=91,slow=37									
	comp=Z,30nm,0.8s									
WRGLY	**Wrigley**	**83.98**	**27**	P	**P**	23 53 46.5	+0.3			
WRGLY				IAmb	IAmb	23 54 07.5				
	comp=Z,20nm,0.9s									
WRGLY	**Wrigley**	**83.98**	**27**	P	**P**	23 53 47.3	+1.1			
	baz=280									
KOTAN	**Kotaneelee Air**	**84.25**	**30**	P	**P**	23 53 48.6	+1.0			
	baz=280									
LKRN	**Lenkeran, Azer**	**84.88**	**308**	P	**P**	23 53 50.2	-1.1			
MAK	**Makhachkala**	**85.17**	**313**	*d i*P	P	23 53 47.7	-5.0			
MAK				*e*		00 04 08.9				
MAK				*e*SS	SS	00 09 52.1	-3.6			
MAK				pmax	pmax					
	comp=Z,394nm,1.4s									
MAK				MLR	MLR					
	comp=Z,818nm,18.0s									
MSEY	**Mahe Island**	**85.58**	**264**	P	**P**	23 53 54.5	-0.9			
MSEY				IAmb	IAmb	23 54 04.5				
	comp=Z,29nm,1.1s									
MSEY	**Mahe Island**	**85.58**	**264**	P	**P**	23 53 54.5	-0.9			
MSEY				pmax	pmax					
	comp=Z,29nm,1.1s									
SEKA	**Sheki**	**85.68**	**311**	P	**P**	23 53 53.9	-1.5			
GANJ	**Ganja**	**86.43**	**310**	P	**P**	23 53 57.9	-1.2			
KLMR	**Klimovskoe**	**86.44**	**331**	*e*P	**P**	23 53 57.9	-0.7			
KLMR				AMP		23 54 05.1				
	comp=Z,28nm,1.3s									
KLMR				*e*PP	**PP**	23 57 18.9	-0.8			
KLMR				LQ	LQ	00 21 59.7				
KLMR				LQ	LQ	00 21 59.7				
KLMR				LR	LR	00 29 46.3				
KLMR				AMP		00 35 16.6				
	comp=Z,509nm,14.6s									
KLMR	**Klimovskoe**	**86.44**	**331**	*e*P	**P**	23 53 57.8	-0.8			
KLMR				*e*		23 57 18.9				
KLMR				pmax	pmax					
	comp=Z,28nm,1.3s									
KLMR				MLR	MLR					
	comp=Z,509nm,15.0s									
SPITS	**Spitsbergen Ar**	**86.76**	**350**	P	**P**	23 53 59.4	-0.5			
	comp=Z,4.9nm,0.8s,baz=70,slow=18,SNR=2.0									
SPITS				LR	LR	00 33 28.2				
	comp=Z,304nm,20.2s,baz=9.0,slow=36									
	comp=Z,4.9nm,0.8s									
KBS	**Kingsbay**	**87.01**	**351**	IAMs_20	IAMs_20	00 29 21.6				
	comp=Z,488nm,21.0s									
APA	**Apatity**	**87.08**	**338**	*i* P	P	23 54 07.1	+5.5			
APA				pmax	pmax					
	comp=Z,7.0nm,0.7s									
E03A	**Lebam**	**87.08**	**43**	P	**P**	23 54 01.4	-0.6			
J01E	**Myrtle Point**	**87.49**	**47**	P	**P**	23 54 03.5	-0.6			
VRH	**Novokhopyorsk**	**87.49**	**321**	*e*P	**P**	23 54 05.7	+1.8			
VRH				pmax	pmax					
	comp=Z,10.0nm,0.8s									
GNI	**Garni**	**87.71**	**310**	IAMs_20	IAMs_20	00 36 50.2				
	comp=Z,278nm,18.0s									
GNI	**Garni**	**87.71**	**310**	*i* P	**P**	23 54 05.2	-0.3			
GNI				pmax	pmax					
	comp=Z,38nm,1.5s									
GNI	**Garni**	**87.71**	**310**	LR	LR	00 37 02.6				
	comp=Z,210nm,20.1s,baz=86,slow=38									
I03D	**Drain, OR**	**87.80**	**46**	P	**P**	23 54 04.3	-1.2			
I03D				IAmb	IAmb	23 54 28.6				
	comp=Z,42nm,1.1s									
ZEI	**Tsey**	**87.81**	**313**	*e*P	**P**	23 54 05.3	-0.6			
ZEI				pmax	pmax					
	comp=Z,29nm,1.0s									
NCK	**Nalchik**	**87.89**	**314**	*i* P	**P**	23 54 07.6	+1.6			
NCK				pmax	pmax					
	comp=Z,16nm,0.9s									
BUCK	**Buck Mountain**	**87.95**	**46**	P	**P**	23 54 06.8	+0.4			
F04A	**Amboy**	**87.98**	**44**	P	**P**	23 54 06.5	+0.1			
DBO	**Dodson Butte**	**87.99**	**47**	P	**P**	23 54 07.2	+0.6			
DBO				IAmb	IAmb	23 54 31.9				
	comp=Z,34nm,1.4s									
YKA	**Yellowknife Ar**	**88.10**	**27**	P	**P**	23 54 06.4	-0.1			
YKA	**Yellowknife Ar**	**88.10**	**27**	P	**P**	23 54 06.7	+0.1			
	comp=Z,7.9nm,0.9s,baz=290,slow=5.3,SNR=47									
YKA				LR	LR	00 35 31.1				
	comp=Z,205nm,19.0s,baz=278,slow=37									
	comp=Z,7.9nm,0.9s									
HILA	**High Level**	**88.11**	**31**	P	**P**	23 54 06.4	-0.4			
ONI	**Oni**	**88.17**	**313**	P	**P**	23 54 07.2	-0.3			
ONI				IAmb	IAmb	23 54 42.7				
	comp=Z,26nm,1.1s									
ONI				IAMs_20	IAMs_20	00 36 19.3				
	comp=Z,406nm,20.0s									
ONI	**Oni**	**88.17**	**313**	P	**P**	23 54 07.2	-0.3			
ONI				pmax	pmax					
	comp=Z,26nm,1.1s									
ONI				MLR	MLR					
	comp=Z,400nm,20.0s									
LON	**Longmire**	**88.22**	**43**	P	**P**	23 54 07.6	0.0			
LON				IAmb	IAmb	23 54 21.6				
	comp=Z,26nm,1.4s									
LON	**Longmire**	**88.22**	**43**	P	**P**	23 54 07.6	0.0			
LON				pmax	pmax					
	comp=Z,26nm,1.5s									
VNDA	**Vanda**	**88.28**	**175**	P	**P**	23 54 07.1	+0.1			
VNDA				IAmb	IAmb	23 54 18.6				
	comp=Z,32nm,1.7s									
VNDA	**Vanda**	**88.28**	**175**	P	**P**	23 54 07.1	+0.1			
VNDA				pmax	pmax					
	comp=Z,32nm,1.7s									
VNDA	**Vanda**	**88.28**	**175**	P	**P**	23 54 06.4	-0.7			
	comp=Z,2.1nm,0.9s,baz=328,slow=5.6,SNR=9.1									
VNDA				LR	LR	00 32 30.8				
	comp=Z,315nm,19.9s,baz=346,slow=35									
	comp=Z,2.1nm,0.9s									
HUMO	**Hull Mountain**	**88.30**	**47**	P	**P**	23 54 09.0	+1.0			
HUMO				IAmb	IAmb	23 54 31.2				
	comp=Z,22nm,0.9s									
KBZ	**Khabaz**	**88.33**	**314**	*i* P	**P**	23 54 07.3	-0.8			
KBZ				pmax	pmax					
	comp=Z,8.0nm,1.0s									
KBZ	**Khabaz**	**88.33**	**314**	P	**P**	23 54 08.2	+0.2			
	comp=Z,2.4nm,0.9s,baz=90,slow=2.0,SNR=4.6									
KBZ				LR	LR	00 37 40.7				
	comp=Z,275nm,18.7s,baz=62,slow=38									
	comp=Z,2.4nm,0.9s									
H04A	**Detroit Lake**	**88.41**	**45**	P	**P**	23 54 07.7	-0.9			
H04A				IAmb	IAmb	23 54 30.9				
	comp=Z,35nm,1.1s									
KIV	**Kislovodsk**	**88.44**	**314**	IAMs_20	IAMs_20	00 36 31.0				
	comp=Z,350nm,18.0s									
KIV	**Kislovodsk**	**88.44**	**314**	*e*P	**P**	23 54 08.8	+0.1			
KIV				*e*		00 04 37.4				
KIV				pmax	pmax					
	comp=Z,6.0nm,1.1s									
KIV				MLR	MLR					
	comp=Z,272nm,20.0s									
I04A	**Tendick Farm,**	**88.44**	**46**	P	**P**	23 54 08.4	-0.3			
I04A				IAmb	IAmb	23 54 31.2				
	comp=Z,37nm,1.1s									
I04A				IAMs_20	IAMs_20	00 28 29.3				
	comp=Z,716nm,18.0s									
YBH	**Yreka Blue Hor**	**88.66**	**48**	P	**P**	23 54 10.0	+0.1			
YBH				IAmb	IAmb	23 54 32.5				
	comp=Z,24nm,1.1s									
YBH	**Yreka Blue Hor**	**88.66**	**48**	P	**P**	23 54 10.0	+0.1			
YBH				pmax	pmax					
	comp=Z,24nm,1.1s									
YBH	**Yreka Blue Hor**	**88.66**	**48**	LR	LR	00 27 56.8				
	comp=Z,340nm,20.2s,baz=276,slow=32									
MOS	**Moscow**	**88.74**	**326**	*e*P	**P**	23 54 07.8	-1.9			
MOS				*e*		23 57 40.9				
MOS				pmax	pmax					
	comp=Z,47nm,1.5s									
MOS				MLR	MLR					
	comp=E,600nm,21.0s									
MOS				MLR	MLR					
	comp=Z,800nm,21.0s									
LPSR	**Galich'ya Gora**	**88.84**	**323**	*e*P	**P**	23 54 09.1	-1.2			
LPSR				pmax	pmax					
	comp=Z,30nm,1.0s									
L04D	**Klamath Falls**	**88.85**	**47**	P	**P**	23 54 10.3	-0.5			
KARS	**Kars**	**88.86**	**311**	P	**P**	23 54 10.7	-0.2			
KARS	**Kars**	**88.86**	**311**	P	**P**	23 54 10.7	-0.2			
KARS				pmax	pmax					
	comp=Z,108nm,1.2s									
LTY	**Liberty**	**88.86**	**42**	P	**P**	23 54 10.5	-0.1			
VORR	**Voronezh**	**88.91**	**322**	*e*P	**P**	23 54 14.3	+3.7			
VORR				pmax	pmax					
	comp=Z,20nm,0.4s									
ARCES	**ARCESS Array B**	**88.99**	**341**	P	**P**	23 54 10.6	-0.1			
ARCES	**ARCESS Array B**	**88.99**	**341**	P	**P**	23 54 10.6	-0.1			
ARCES				pmax	pmax					
	comp=Z,121nm,1.9s									
ARCES	**ARCESS Array B**	**88.99**	**341**	P	**P**	23 54 09.8	-0.9			
	comp=Z,3.5nm,0.7s,baz=72,slow=8.1,SNR=9.8									
ARCES				LR	LR	00 36 30.6				
	comp=Z,676nm,21.2s,baz=67,slow=37									
	comp=Z,3.5nm,0.7s									
RES	**Resolute Bay**	**89.02**	**13**	P	**P**	23 54 10.5	-0.2			
RES	**Resolute Bay**	**89.02**	**13**	P	**P**	23 54 10.5	-0.2			
RES				pmax	pmax					
	comp=Z,35nm,1.9s									
RES	**Resolute Bay**	**89.02**	**13**	LR	LR	00 36 20.2				
	comp=Z,115nm,20.1s,baz=352,slow=37									
VSR	**Storozhevoye**	**89.05**	**322**	*e*P	**P**	23 54 11.2	-0.1			
VSR				pmax	pmax					
	comp=Z,10.0nm,1.0s									
BRLDA	**Berland Lookou**	**89.14**	**35**	P	**P**	23 54 11.7	-0.2			
BRLDA				IAmb	IAmb	23 54 37.7				
	comp=Z,36nm,1.0s									
J05D	**Fort Rock, OR**	**89.39**	**46**	P	**P**	23 54 13.8	+0.5			
J05D				IAmb	IAmb	23 54 36.4				
	comp=Z,42nm,1.1s									
PINE	**Pine Mountain**	**89.48**	**46**	P	**P**	23 54 14.1	+0.3			
PINE				IAmb	IAmb	23 54 37.5				
	comp=Z,45nm,1.1s									
OBN	**Obninsk**	**89.50**	**326**	*e*P	**P**	23 54 13.1	-0.2			
OBN				*i*		23 54 19.3				
OBN						23 57 45.0				
OBN				PPP	PPP	23 59 38.0				
OBN				*i* S	S	00 04 51.3	-12			
OBN				*i* SS	**SS**	**00 10 57.4**	**-0.7**			
OBN				pmax	pmax					
	comp=Z,48nm,1.4s									
OBN				MLR	MLR					
	comp=Z,908nm,20.0s									
OBN	**Obninsk**	**89.50**	**326**	P	**P**	23 54 12.6	-0.7			
	comp=Z,5.9nm,0.4s,baz=188,slow=22,SNR=0.8									
OBN				LR	LR	00 35 09.2				
	comp=Z,931nm,21.4s,baz=52,slow=36									
	comp=Z,5.9nm,0.4s									
E07A	**Sunnyside**	**89.57**	**43**	P	**P**	23 54 15.0	+1.0			
E07A				IAmb	IAmb	23 54 40.9				
	comp=Z,25nm,1.2s									
K05A	**Summer Lake**	**89.76**	**47**	P	**P**	23 54 14.8	-0.3			
K05A				IAmb	IAmb	23 54 45.0				
	comp=Z,45nm,1.1s									
HAWA	**Hanford**	**89.83**	**43**	P	**P**	23 54 15.4	+0.4			
ORV	**Oroville**	**90.03**	**50**	P	**P**	23 54 15.6	-0.6			
ORV				IAmb	IAmb	23 54 39.1				
	comp=Z,43nm,1.5s									
ORV	**Oroville**	**90.03**	**50**	P	**P**	23 54 15.6	-0.6			
ORV				pmax	pmax					
	comp=Z,43nm,1.5s									
D08A	**Wollman Farm,**	**90.07**	**42**	P	**P**	23 54 15.0	-1.2			
GURO	**Guroymak-BITLI**	**90.09**	**309**	P	**P**	23 54 16.4	-0.3			
I07A	**Izee**	**90.42**	**45**	P	**P**	23 54 17.3	-0.7			
G08A	**Pilot Rock**	**90.49**	**44**	P	**P**	23 54 18.2	-0.2			
AFDM	**Forest Hills D**	**90.57**	**50**	P	**P**	23 54 18.6	-0.1			
SOC	**Sochi**	**90.61**	**314**	*e*P	**P**	23 54 17.3	-1.5			
SOC				*e*		23 57 52.9				
SOC				*e*PPP	PPP	23 59 48.9				
SOC				*e*S	**SKSac**	**00 04 48.5**	**-1.4**			
SOC				*e*SS	**SS**	**00 11 10.2**	**-4.8**			
SOC				*e*SSS	SSS	00 14 48.9				
SOC				MLR	MLR					
	comp=Z,293nm,21.0s									
E09A	**Wood Farm, Sta**	**90.72**	**43**	P	**P**	23 54 19.3	+0.1			
E09A				IAmb	IAmb	23 54 42.3				
	comp=Z,25nm,1.2s									
NEW	**Newport**	**90.92**	**41**	P	**P**	23 54 20.4	+0.2			
NEW	**Newport**	**90.92**	**41**	P	**P**	23 54 20.8	+0.6			
	baz=286									
NEW	**Newport**	**90.92**	**41**	P	**P**	23 54 20.4	+0.2			
NEW				pmax	pmax					
	comp=Z,21nm,1.2s									
NEW	**Newport**	**90.92**	**41**	LR	LR	00 28 04.4				
	comp=Z,407nm,21.3s,baz=286,slow=31									
CMB	**Columbia Colle**	**91.23**	**51**	P	**P**	23 54 21.3	-0.6			
CMB	**Columbia Colle**	**91.23**	**51**	P	**P**	23 54 21.3	-0.6			
CMB				pmax	pmax					
	comp=Z,17nm,1.2s									
J08A	**Circle Bar Ran**	**91.32**	**46**	P	**P**	23 54 22.6	+0.3			
J08A				IAmb	IAmb	23 54 41.4				
	comp=Z,23nm,1.2s									
WVOR	**Wild Horse Val**	**91.45**	**47**	P	**P**	23 54 23.4	+0.5			
WVOR				IAmb	IAmb	23 54 44.5				
	comp=Z,18nm,1.1s									
WVOR	**Wild Horse Val**	**91.45**	**47**	P	**P**	23 54 23.4	+0.5			
WVOR				pmax	pmax					
	comp=Z,18nm,1.1s									
PNTR	**Pine Nut**	**91.58**	**50**	P	**P**	23 54 22.9	-0.8			
PNTR				IAmb	IAmb	23 55 04.7				
	comp=Z,25nm,1.0s									
PAHR	**Pah Rah Range**	**91.59**	**49**	P	**P**	23 54 23.3	-0.3			
PAHR				IAmb	IAmb	23 54 45.3				
	comp=Z,20nm,1.2s									
BMO	**Blue Mountains**	**91.74**	**44**	P	**P**	23 54 23.7	-0.4			
BMO				IAmb	IAmb	23 54 45.9				
	comp=Z,29nm,1.5s									
BMO	**Blue Mountains**	**91.74**	**44**	P	**P**	23 54 23.7	-0.4			
BMO				pmax	pmax					
	comp=Z,29nm,1.5s									
WAKR	**Walker**	**91.84**	**51**	P	**P**	23 54 24.8	-0.1			
WAKR				IAmb	IAmb	23 55 05.4				
	comp=Z,24nm,1.2s									
YERR	**Yerington**	**91.87**	**50**	P	**P**	23 54 25.1	+0.1			
YERR				IAmb	IAmb	23 54 46.9				
	comp=Z,31nm,1.3s									
SMMC	**Simmler**	**92.18**	**54**	P	**P**	23 54 26.8	+0.4			
	baz=284									
FINES	**FINESS Array B**	**92.36**	**334**	P	**P**	23 54 24.5	-2.0			
	comp=Z,2.0nm,0.7s,baz=66,slow=4.2,SNR=16									
FINES				LR	LR	00 36 58.6				
	comp=Z,310nm,21.9s,baz=66,slow=36									
	comp=Z,2.0nm,0.7s									
OMMB	**Old Mammoth Mi**	**92.40**	**51**	P	**P**	23 54 27.4	-0.3			
DAG	**Danmarks Havn**	**92.46**	**355**	*i* P	**P**	23 54 25.0	-1.7			
RYN	**Ryan**	**92.51**	**50**	P	**P**	23 54 27.5	-0.5			
RYN				IAmb	IAmb	23 54 49.1				
	comp=Z,21nm,1.3s									
RYN				IAMs_20	IAMs_20	00 37 30.3				
	comp=Z,379nm,18.0s									
PLID	**Pearl Lake**	**92.56**	**44**	P	**P**	23 54 27.6	-0.6			
LHV	**Little Huntoon**	**92.62**	**51**	P	**P**	23 54 27.8	-0.4			
KVN	**Kaiserville**	**92.72**	**50**	P	**P**	23 54 29.6	+0.7			
KVN				IAmb	IAmb	23 54 50.7				
	comp=Z,30nm,1.5s									
KVN	**Kaiserville**	**92.72**	**50**	P	**P**	23 54 29.6	+0.7			
KVN				pmax	pmax					
	comp=Z,30nm,1.5s									
NVAR	**Mina Array Bea**	**92.72**	**50**	P	**P**	23 54 29.3	+0.3			
NVAR	**Mina Array Bea**	**92.72**	**50**	P

MNK				*i* LRM	MLR	00 40 00.8			
	comp=Z,640nm,19.7s								
MNK				*i* LRM	MLR	00 41 00.6			
	comp=N,272nm,19.1s								
MNK	**Minsk**	**94.42**	**327**	*i* P	**P**	**23 54 34.0**	**-2.1**		
MNK				*i* PPP	PPP	00 00 22.3			
MNK				*i* S	**SKSac**	**00 05 08.9**	**-1.7**		
MNK				*i* SS	**SS**	**00 12 14.4**	**+5.6**		
MNK				*i* SSS	SSS	00 15 53.2			
MNK				pmax	pmax				
	comp=N,12nm,1.3s								
MNK				pmax	pmax				
	comp=E,8.0nm,1.8s								
MNK				pmax	pmax				
	comp=Z,18nm,1.3s								
MNK				MLR	MLR				
	comp=E,256nm,20.0s								
MNK				MLR	MLR				
	comp=Z,640nm,20.0s								
WCT	**Wildcat Mounta**	**94.44**	**52**	P	**P**	**23 54 35.9**	**-0.8**		
ELMT	**Elliston**	**94.44**	**41**	P	**P**	**23 54 35.2**	**-1.5**		
QSM	**Queen of Sheba**	**94.48**	**52**	IAMs_20	IAMs_20	00 36 02.7			
	comp=Z,347nm,19.0s								
GWY	**Greenwater Val**	**94.58**	**52**	P	**P**	**23 54 37.3**	**-0.2**		
RRX	**Edison Barstow**	**94.67**	**54**	P	**P**	**23 54 38.4**	**+0.6**		
	baz=286								
TPNV	**Topopah Spring**	**94.69**	**51**	P	**P**	**23 54 37.2**	**-0.8**		
TPNV	**Topopah Spring**	**94.69**	**51**	P	**P**	**23 54 38.5**	**+0.5**		
	baz=286								
TPNV	**Topopah Spring**	**94.69**	**51**	P	**P**	**23 54 37.2**	**-0.8**		
TPNV				pmax	pmax				
	comp=Z,9.0nm,0.9s								
GSC	**Goldstone, Bar**	**94.71**	**53**	P	**P**	**23 54 36.6**	**-1.4**		
GSC	**Goldstone, Bar**	**94.71**	**53**	P	**P**	**23 54 38.6**	**+0.5**		
	baz=286								
GSC	**Goldstone, Bar**	**94.71**	**53**	P	**P**	**23 54 36.6**	**-1.4**		
GSC				pmax	pmax				
	comp=Z,14nm,1.2s								
R11B	**Troy Canyon, C**	**94.80**	**50**	P	**P**	**23 54 38.3**	**-0.2**		
R11B	**Troy Canyon, C**	**94.80**	**50**	P	**P**	**23 54 39.0**	**+0.4**		
	baz=287								
NACGM	**Naroch**	**94.83**	**328**	*e*P	**P**	**23 54 37.6**	**-0.4**		
	comp=Z,14nm,0.9s,baz=65								
MURC	**Murrieta**	**94.85**	**55**	P	**P**	**23 54 39.3**	**+0.7**		
	baz=285								
SHOC	**Shoshone, Teco**	**94.96**	**52**	P	**P**	**23 54 39.9**	**+0.8**		
	baz=286								
109C	**Camp Elliot, M**	**95.11**	**55**	P	**P**	**23 54 40.5**	**+0.7**		
	baz=285								
AKASG	**Malin Array Be**	**95.17**	**323**	P	**P**	**23 54 36.4**	**-3.3**		
	comp=Z,0.3nm,0.3s,baz=58,slow=4.6,SNR=2.0								
AKASG				PP	**PP**	**23 58 29.6**	**+0.5**		
	comp=Z,0.3nm,0.3s,baz=58,slow=6.9,SNR=1.1								
AKASG				LR	LR	00 38 13.2			
	comp=Z,241nm,21.2s,baz=36,slow=36								
HEC	**Hector,Ludlow**	**95.21**	**53**	P	**P**	**23 54 41.0**	**+0.6**		
	baz=286								
PFO	**Pinyon Flats O**	**95.44**	**55**	P	**P**	**23 54 41.5**	**0.0**		
	baz=286								
PFO	**Pinyon Flats O**	**95.44**	**55**	LR	LR	00 38 24.4			
	comp=Z,110nm,18.1s,baz=272,slow=36								
TPFO	**Pinon Flats**	**95.44**	**55**	P	**P**	**23 54 42.2**	**+0.7**		
	baz=286								
SPR3	**Spring Creek 3**	**95.55**	**49**	P	**P**	**23 54 41.4**	**-0.7**		
SHPR	**Sheep Range**	**95.65**	**52**	P	**P**	**23 54 41.8**	**-0.6**		
EGMT	**Eagleton**	**95.66**	**39**	P	**P**	**23 54 43.1**	**+1.0**		
	baz=292								
MONP2	**Monument Peak**	**95.66**	**55**	P	**P**	**23 54 43.4**	**+0.8**		
	baz=286								
GMRC	**Granite Mounta**	**95.75**	**53**	P	**P**	**23 54 43.8**	**+0.9**		
	baz=286								
HVU	**Hansel Valley**	**95.81**	**46**	P	**P**	**23 54 42.5**	**-0.5**		
HVU	**Hansel Valley**	**95.81**	**46**	P	**P**	**23 54 42.5**	**-0.5**		
HVU				pmax	pmax				
	comp=Z,14nm,1.3s								
YHL	**Hebgen Lake**	**95.88**	**43**	P	**P**	**23 54 42.1**	**-1.4**		
IKP	**In-Ko-Pah, Jac**	**95.98**	**55**	P	**P**	**23 54 44.3**	**+0.4**		
	baz=286								
PSUT	**Pine Spring**	**96.04**	**49**	P	**P**	**23 54 42.6**	**-1.7**		
BRTR	**Keskin Array B**	**96.07**	**312**	P	**P**	**23 54 41.3**	**-2.9**		
	comp=Z,0.5nm,0.6s,baz=85,slow=3.5,SNR=3.3								
YMR	**Madison River**	**96.09**	**43**	P	**P**	**23 54 44.3**	**0.0**		
YMR				IAmb	IAmb	23 55 01.9			
	comp=Z,17nm,0.9s								
SPUT	**South Promonto**	**96.19**	**46**	P	**P**	**23 54 44.2**	**-0.5**		
YNR	**Norris Junctio**	**96.26**	**43**	P	**P**	**23 54 44.1**	**-1.0**		
DUG	**Dugway, Tooele**	**96.29**	**47**	P	**P**	**23 54 45.0**	**-0.2**		
DUG				IAmb	IAmb	23 55 07.1			
	comp=Z,20nm,1.4s								
DUG	**Dugway, Tooele**	**96.29**	**47**	P	**P**	**23 54 45.9**	**+0.7**		
	baz=289								
DUG	**Dugway, Tooele**	**96.29**	**47**	P	**P**	**23 54 45.0**	**-0.2**		
DUG				pmax	pmax				
	comp=Z,20nm,1.5s								
IRM	**Iron Mountain**	**96.34**	**54**	P	**P**	**23 54 46.0**	**+0.5**		
	baz=287								
JMIC	**Jan Mayen**	**96.44**	**350**	LR	LR	00 39 07.2			
	comp=Z,65nm,20.1s,baz=48,slow=36								
H17A	**Grant Village**	**96.44**	**43**	P	**P**	**23 54 46.0**	**0.0**		
	baz=291								
FLWY	**Flagg Ranch**	**96.47**	**43**	P	**P**	**23 54 45.9**	**-0.1**		
FLWY				IAmb	IAmb	23 55 08.9			
	comp=Z,18nm,1.2s								
VTX	**Valle De La Tr**	**96.59**	**57**	IAMs_20	IAMs_20	00 28 51.0			
	comp=Z,624nm,19.0s								
MMAI	**Mount Meron Ar**	**96.71**	**305**	P	**P**	**23 54 45.1**	**-2.0**		
	comp=Z,1.5nm,0.7s,baz=234,slow=50,SNR=2.2								
MMAI				LR	LR	00 43 31.8			
	comp=Z,206nm,20.3s,baz=42,slow=39								
	comp=Z,1.5nm,0.7s								
CCUT	**Cedar City**	**96.72**	**50**	P	**P**	**23 54 44.9**	**-2.4**		
HWUT	**Hardware Ranch**	**96.72**	**46**	P	**P**	**23 54 46.6**	**-0.6**		
RLMT	**Red Lodge**	**97.05**	**42**	P	**P**	**23 54 47.4**	**-1.3**		
RLMT	**Red Lodge**	**97.05**	**42**	P	Pdif	23 54 48.9	+0.2		
	baz=292								
KNB	**Kanab**	**97.29**	**50**	P	**P**	**23 54 49.5**	**-0.4**		
KNB				IAmb	IAmb	23 55 12.0			
	comp=Z,14nm,1.2s								
KNB	**Kanab**	**97.29**	**50**	P	**P**	**23 54 49.5**	**-0.4**		
KNB				pmax	pmax				
	comp=Z,14nm,1.2s								
PDAR	**Pinedale Array**	**97.72**	**44**	P	**P**	**23 54 49.6**	**-2.1**		
	comp=Z,0.1nm,0.5s,baz=297,slow=6.0,SNR=1.7								
PDAR				PP	**PP**	**23 58 45.9**	**-3.4**		
	comp=Z,0.1nm,0.4s,baz=328,slow=3.2,SNR=2.6								
PDAR				LR	LR	00 34 19.4			
	comp=Z,103nm,20.1s,baz=306,slow=33								
	comp=Z,0.1nm,0.5s								
TMUT	**Trail Mountain**	**97.75**	**48**	IAMs_20	IAMs_20	00 35 53.0			
	comp=Z,550nm,19.0s								
EIL	**Elat**	**98.02**	**302**	LR	LR	00 44 15.4			
	comp=Z,134nm,19.5s,baz=56,slow=39								
HFS	**Hagfors**	**98.22**	**336**	P	**P**	**23 54 52.8**	**-0.5**		
	comp=Z,2.2nm,0.9s,baz=27,slow=6.8,SNR=1.9								
HFS				LR	LR	00 41 33.8			
	comp=Z,181nm,20.0s,baz=47,slow=37								
	comp=Z,2.2nm,0.9s								
LAO	**LASA Array**	**98.40**	**40**	P	**P**	**23 54 54.3**	**-0.2**		
	baz=294								
NOA	**NORSAR Array B**	**98.63**	**337**	P	**P**	**23 54 53.5**	**-1.7**		
	comp=Z,0.9nm,0.9s,baz=56,slow=4.7,SNR=2.2								
NOA				PP	**PP**	**23 58 55.1**	**-0.2**		
	comp=Z,0.7nm,0.9s,baz=205,slow=5.4,SNR=1.9								
NOA				LR	LR	00 41 53.6			
	comp=Z,270nm,20.8s,baz=50,slow=37								
	comp=Z,0.9nm,0.9s								
MLR	**Muntele Rosu**	**99.27**	**319**	LR	LR	00 43 16.7			
	comp=Z,253nm,19.4s,baz=56,slow=38								
KWP	**Kalwaria Pacla**	**99.42**	**324**	P	**Pdif**	**23 54 58.6**	**-0.3**		
KWP	**Kalwaria Pacla**	**99.42**	**324**	P	**Pdif**	**23 54 58.6**	**-0.3**		
KWP				pmax	pmax				
	comp=Z,69nm,2.0s								
QSPA	**South Pole Qui**	**99.90**	**180**	P	**Pdif**	**23 54 59.2**	**-1.5**		
	comp=Z,0.5nm,0.3s,baz=38,slow=1.5,SNR=3.1								
QSPA				LR	LR	00 39 13.6			
	comp=Z,501nm,20.1s,baz=1.0,slow=35								
	comp=Z,0.5nm,0.3s								
W18A	**Petrified Fore**	**100.27**	**51**	P	**Pdif**	**23 55 02.8**	**-0.5**		
	baz=290								
TUC	**Tucson**	**100.38**	**54**	P	**Pdif**	**23 55 03.7**	**0.0**		
	baz=289								
MVCO	**Mesa Verde**	**100.48**	**49**	P	**Pdif**	**23 55 04.1**	**-0.1**		
	baz=291								
CRVS	**Cervenica-Dubn**	**100.48**	**324**	*e*	**Pdif**	**23 55 09.0**	**+5.3**		
CRVS	**Cervenica-Dubn**	**100.48**	**324**	*e*P	**Pdif**	**23 55 09.0**	**+5.3**		
RSSD	**Black Hills**	**100.87**	**41**	P	**Pdif**	**23 55 05.7**	**-0.1**		
	baz=296								
N23A	**Red Feather La**	**100.92**	**45**	P	**Pdif**	**23 55 05.1**	**-1.0**		
	baz=294								
OKC	**Ostrava-Krasne**	**101.89**	**326**	AMS	AMS	00 42 00.0			
	comp=Z,500nm,21.3s								
VYHS	**Vyhne**	**102.20**	**324**	*e*PDIFF	**Pdif**	**23 55 11.8**	**+0.5**		
VYHS				*e*		23 55 18.4			
VYHS	**Vyhne**	**102.20**	**324**	*e*P	**Pdif**	**23 55 11.8**	**+0.5**		
MORC	**Moravsky Berou**	**102.26**	**326**	*e*PDIFF	**Pdif**	**23 55 11.9**	**+0.3**		
MAUC	**Maruska**	**102.31**	**326**	AMS	AMS	00 42 50.0			
	comp=Z,1μm,22.3s								
KRLC	**Kraliky**	**102.51**	**327**	*e*PDIFF	**Pdif**	**23 55 18.6**	**+5.9**		
KRLC				AMS	AMS	00 42 50.0			
	comp=Z,500nm,20.8s								
KRLC	**Kraliky**	**102.51**	**327**	*e*P	**Pdif**	**23 55 18.6**	**+5.9**		
KRLC				MLR	MLR				
	comp=Z,500nm,20.8s								
OSTC	**Ostas**	**102.56**	**327**	AMS	AMS	00 42 50.0			
	comp=Z,600nm,17.3s								
DPC	**Dobruska-Polom**	**102.61**	**327**	AMS	AMS	00 43 00.0			
	comp=Z,600nm,20.0s								
CHVC	**Chvalec**	**102.62**	**327**	AMS	AMS	00 42 40.0			
	comp=Z,700nm,21.7s								
UPC	**Upice**	**102.69**	**327**	AMS	AMS	00 42 50.0			
	comp=Z,700nm,20.6s								
VRAC	**Vranov**	**103.03**	**326**	*e*PDIFF	**Pdif**	**23 55 14.0**	**-1.0**		
PVCC	**Panska Ves**	**103.44**	**328**	AMS	AMS	00 44 10.0			
	comp=Z,700nm,17.2s								
TREC	**Trest**	**103.64**	**326**	AMS	AMS	00 43 50.0			
	comp=Z,600nm,20.9s								
GOPC	**GO Pecny, Ondr**	**103.68**	**327**	AMS	AMS	00 44 20.0			
	comp=Z,500nm,17.4s								
RICC	**Richard**	**103.68**	**328**	AMS	AMS	00 43 40.0			
	comp=Z,800nm,20.3s								
PRU	**Pruhonice**	**103.76**	**327**	*e*PDIFF	**Pdif**	**23 55 24.7**	**+6.5**		
PRU				AMS	AMS	00 44 30.0			
	comp=Z,600nm,17.0s								
PRU	**Pruhonice**	**103.76**	**327**	*e*P	**Pdif**	**23 55 24.7**	**+6.5**		
PRU				MLR	MLR				
	comp=Z,600nm,17.0s								
PRA	**Prague**	**103.78**	**327**	AMS	AMS	00 44 30.0			
	comp=Z,700nm,18.0s								
CLL	**Collm**	**103.80**	**329**	IAMs_20	IAMs_20	00 44 31.3			
	comp=Z,640nm,22.0s								
CLL	**Collm**	**103.80**	**329**	*e*(Pdif)	**Pdif**	**23 55 22.0**	**+3.7**		
CLL				*i* x	x	23 59 08.1			
CLL				*e*PP	**PKiKP**	**23 59 36.0**	**-0.2**		
CLL				*e*(SKSac)		00 05 56.0			
CLL				*e*Sdif	Sdif	00 07 06.0	-1.1		
CLL				*e*SS	**SS**	**00 14 24.0**	**+3.9**		
CLL				*e*SSS	SSS	00 18 18.0			
CLL				*e*x	x	00 24 12.0			
CLL				AMS	AMS	00 36 00.0			
	comp=N,1μm,20.7s								
CLL				AMS	AMS	00 36 00.0			
	comp=E,1μm,20.9s								
CLL				AMS	AMS	00 44 00.0			
	comp=Z,500nm,20.8s								
CLL	**Collm**	**103.80**	**329**	*e*P	**Pdif**	**23 55 22.0**	**+3.7**		
CLL				*e*		23 59 36.0			
CLL				MLR	MLR				
	comp=Z,500nm,20.8s								
HSKC	**Hora Svate Kat**	**103.99**	**328**	AMS	AMS	00 44 30.0			
	comp=Z,800nm,17.2s								
ZVC	**Zvikov**	**104.26**	**327**	AMS	AMS	00 43 50.0			
	comp=Z,400nm,16.6s								
KHC	**Kasperske Hory**	**104.77**	**327**	IAMs_20	IAMs_20	00 45 21.3			
	comp=Z,429nm,19.0s								
KHC	**Kasperske Hory**	**104.77**	**327**	*e*PDIFF	**Pdif**	**23 55 21.0**	**-1.8**		
KHC				AMS	AMS	00 44 20.0			
	comp=Z,500nm,20.6s								
KHC	**Kasperske Hory**	**104.77**	**327**	*e*P	**Pdif**	**23 55 21.0**	**-1.8**		
KHC				MLR	MLR				
	comp=Z,500nm,20.6s								
PDG	**Podgorica**	**104.95**	**319**	IAMs_20	IAMs_20	00 46 35.7			
	comp=Z,437nm,20.0s								
GRA1	**Grafenberg Arr**	**105.68**	**328**	IAMs_20	IAMs_20	00 45 05.1			
	comp=Z,592nm,21.0s								
GRFO	**Grafenberg**	**105.68**	**328**	IAMs_20	IAMs_20	00 44 54.1			
	comp=Z,578nm,21.0s								
CBKS	**Cedar Bluff**	**106.13**	**45**	IAMs_20	IAMs_20	00 35 38.3			
	comp=Z,500nm,19.0s								
SABO	**M.te Sabotino**	**106.56**	**324**	IAMs_20	IAMs_20	00 45 55.0			
	comp=Z,614nm,21.0s								
CLUD	**Cludinico**	**106.69**	**325**	IAMs_20	IAMs_20	00 46 09.2			
	comp=Z,518nm,20.0s								
TXAR	**Lajitas Array**	**107.15**	**55**	PP	**PP**	**00 00 02.6**	**+2.1**		
	comp=Z,0.3nm,0.7s,baz=63,slow=0.6,SNR=2.6								
EKA	**Eskdalemuir Ar**	**108.01**	**339**	PP	**PP**	**00 00 08.0**	**+2.6**		
	comp=Z,1.4nm,0.8s,baz=51,slow=10,SNR=2.0								
TEOL	**Teolo**	**108.02**	**325**	IAMs_20	IAMs_20	00 48 40.2			
	comp=Z,360nm,21.0s								
INTR	**Intaglietta**	**108.58**	**321**	IAMs_20	IAMs_20	00 41 38.4			
	comp=Z,240nm,18.0s								
CAMP	**Campotosto**	**108.59**	**321**	IAMs_20	IAMs_20	00 46 53.9			
	comp=Z,379nm,20.0s								
WMOK	**Wichita Mounta**	**108.68**	**48**	IAMs_20	IAMs_20	00 47 53.2			
	comp=Z,590nm,22.0s								
AQU	**L'Aquila**	**108.70**	**321**	IAMs_20	IAMs_20	00 50 00.6			
	comp=Z,477nm,20.0s								
WCI	**Wyandotte Cave**	**115.32**	**39**	IAMs_20	IAMs_20	00 55 57.0			
	comp=Z,473nm,18.0s								
ES10	**SONSECA Array**	**120.36**	**328**	IAMs_20	IAMs_20	00 55 34.8			
	comp=Z,486nm,20.0s								
ES11	**SONSECA Array**	**120.38**	**328**	IAMs_20	IAMs_20	00 55 54.2			
	comp=Z,493nm,20.0s								
ESDC	**Sonseca Array**	**120.38**	**328**	PKP	**PKPdf**	**00 00 07.2**	**-0.9**		
	comp=Z,0.3nm,0.7s,baz=11,slow=4.7,SNR=1.8								
ESDC				PP	**PP**	**00 01 35.9**	**+2.5**		
	comp=Z,1.3nm,1.0s,baz=39,slow=7.0,SNR=4.6								
154A	**Montrose**	**120.82**	**42**		**PKPdf**	**00 00 08.0**	**-1.0**		
ESQI	**Esquipulas**	**125.18**	**64**	IAMs_20	IAMs_20	00 41 55.8			
	comp=Z,293nm,19.0s								
TOA0	**Torodi Ar. Sit**	**132.77**	**298**	PKPdf	**PKPdf**	**00 00 32.8**	**+0.5**		
TORD	**Torodi Ar. Bea**	**132.77**	**298**		**PKPdf**	**00 00 31.8**	**-0.5**		
TORD	**Torodi Ar. Bea**	**132.77**	**298**	PKP	**PKPdf**	**00 00 30.6**	**-1.7**		
	comp=Z,1.4nm,0.8s,baz=23,slow=3.5,SNR=7.9								
TORD				PP	**PP**	**00 02 54.6**	**-2.1**		
	comp=Z,1.4nm,0.9s,baz=59,slow=8.0,SNR=3.2								
PLCA	**Paso Flores**	**139.12**	**144**	PKP	**PKPdf**	**00 00 41.2**	**-2.2**		
	comp=Z,1.7nm,0.8s,baz=219,slow=12,SNR=2.2								
DBIC	**Dimbokro**	**141.40**	**294**	PKhKP	PKPpre	00 00 43.0			
	comp=Z,4.5nm,1.0s,baz=70,slow=5.4,SNR=4.3								
ROSC	**El Rosal**	**142.61**	**68**	PKhKP	PKPpre	00 00 45.0			
	comp=Z,4.8nm,0.4s,baz=89,slow=23,SNR=1.9								
SDV	**Santo Domingo**	**144.04**	**59**	PKPdf	PKPbc	00 00 51.2	+0.2		
CO03	**El Pedregal**	**144.65**	**130**	PKPdf	**PKPab**	**00 00 52.3**	**0.0**		
GO04	**Tololo Observa**	**144.89**	**129**		**PKPab**	**00 00 53.2**	**-0.1**		
CFA	**Coronel Fontan**	**146.05**	**133**	PKPbc	**PKPbc**	**00 00 56.6**	**-0.2**		
	comp=Z,14nm,0.7s,baz=246,slow=4.3,SNR=34								
BAUV	**El Baul**	**146.18**	**57**		**PKPdf**	**00 00 56.6**	**0.0**		
PB12	**IPOC Station P**	**149.30**	**110**	PKPbc	**PKPbc**	**00 01 06.0**	**0.0**		
PB09	**IPOC Station P**	**149.47**	**116**	PKPbc	**PKPbc**	**00 01 05.3**	**-1.2**		
PB01	**IPOC Station P**	**149.47**	**115**	PKPbc	**PKPbc**	**00 01 06.3**	**-0.1**		
LVC	**Limon Verde**	**149.50**	**118**	PKPbc	**PKiKP**	**00 01 07.6**	**-0.3**		
LVC	**Limon Verde**	**149.50**	**118**	PKP2	**PKiKP**	**00 01 07.6**	**-0.3**		
PB16	**IPOC Station P**	**150.12**	**109**	PKPdf	**PKPdf**	**00 01 02.3**	**-1.3**		
ETMB	**Extrema**	**154.02**	**92**		**PKPdf**	**00 01 08.0**	**-0.9**		
ETMB				PKPbc	**sPKPdf**	**00 01 15.2**	**-0.5**		
CPUP	**Villa Florida**	**156.84**	**137**	PKP	**PKPdf**	**00 01 12.8**	**+0.4**		
	comp=Z,1.5nm,0.8s,baz=209,slow=11,SNR=1.8								
SAML	**Samuel**	**156.95**	**89**	PKPdf	**PKPdf**	**00 01 12.2**	**-0.6**		
SAML					**PKPab**	**00 01 41.6**	**-1.3**		
SAML				IAMs_20	IAMs_20	00 59 28.6			
	comp=Z,326nm,22.0s								
SAML	**Samuel**	**156.95**	**89**	PKIKP	**PKPdf**	**00 01 12.2**	**-0.6**		

IDC ***17*** *23:59:47.7±0.7,27°.44S×176°.62W,h0km,mb4.2/10, mbtmp4.2/11,ML4.7/1,MS3.9/5,Error ellipse: s-maj=25.2km s-min=18.4km az=118.0*
NEIC ***17*** *23:59:50.0±2.3,27°.8S±0°.1×176°.3W±0°.2,h10km±1km, mb4.5/14,Error ellipse: s-maj=28.0km s-min=18.2km az=126.0*

ISC 17 23:59:53.0±0.6,27°.85S±0°.09×176°.5W±0°.1,h35km,n49, σ1§93/47,mb4.4/18,MS4.3/5,4D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.89**	**222**				**Pn**	**00 00 24.8**	**+2.0**
RAO	**Raoul Island**	**1.89**	**222**	Pn		Pn	**Pn**	**00 00 26.6**	**+3.8**
	218nm,0.3s,baz=179,slow=17,SNR=8.4								
RAO				LR		LR	LR	00 00 53.8	
	comp=Z,474nm,19.2s,baz=108,slow=31								
RAO				Sn		Sn	Sn	00 00 54.5	+9.1
	278nm,0.3s,baz=87,slow=20,SNR=6.5								
	338nm,0.3s								
URZ	**Urewera**	**11.69**	**206**	Pn		**Pn**	**Pn**	**00 02 36.5**	**-0.7**
	0.5nm,0.3s,baz=140,slow=13,SNR=2.4								
URZ				Sn		**Sn**	**Sn**	**00 04 42.3**	**-4.1**
	0.9nm,0.3s,baz=305,slow=23,SNR=2.4								
RTZ	**Ruatahuna**	**12.05**	**205**	Pn		**Pn**	**Pn**	**00 02 38.9**	**-3.3**
BFZ	**Birch Farm**	**14.14**	**203**	Pn		**Pn**	**Pn**	**00 03 07.8**	**-2.9**
MRZ	**Mangatainoka R**	**14.36**	**205**	Pn		**Pn**	**Pn**	**00 03 11.1**	**-2.6**
PLWZ	**Palliser**	**15.27**	**204**	Pn		**Pn**	**Pn**	**00 03 26.0**	**0.0**
TUWZ	**Tuamarina**	**15.66**	**208**				**Pn**	**00 03 28.9**	**-2.0**
THZ	**Tophouse**	**16.38**	**209**	Pn		**Pn**	**Pn**	**00 03 35.3**	**-4.8**
THZ				IAmb		IAmb	IAmb	00 03 53.6	
	comp=Z,26nm,1.2s								
KHZ	**Kahutara**	**16.65**	**207**	Pn		**Pn**	**Pn**	**00 03 41.7**	**-1.9**
KHZ				IAmb		IAmb	IAmb	00 03 55.5	
	comp=Z,101nm,1.5s								
HNR	**Honiara**	**28.80**	**305**	LR		LR	LR	00 15 20.0	
	comp=Z,3μm,18.1s,baz=144,slow=33								
TOO	**Toolangi**	**33.25**	**243**	P		**P**	**P**	**00 06 28.5**	**+1.5**
TOO				IAmb		IAmb	IAmb	00 06 46.7	
	comp=Z,10nm,1.3s								
CTA	**Charters Tower**	**34.83**	**275**	LR		LR	LR	00 19 20.3	
	comp=Z,482nm,18.8s,baz=77,slow=34								
CTAO	**Charters Tower**	**34.83**	**275**	P		**P**	**P**	**00 06 42.4**	**+1.6**
STKA	**Stephens Creek**	**36.43**	**253**	P		**P**	**P**	**00 06 55.7**	**+1.3**
STKA	**Stephens Creek**	**36.43**	**253**	P		**P**	**P**	**00 06 55.2**	**+0.8**
	comp=Z,1.7nm,0.5s,baz=84,slow=10,SNR=3.2								
	comp=Z,1.7nm,0.5s								
BBOO	**Buckleboo**	**41.01**	**251**	P		**P**	**P**	**00 07 34.8**	**+2.0**
BBOO				IAmb		IAmb	IAmb	00 07 46.5	
	comp=Z,18nm,1.2s								
AS31	**Alice Springs**	**44.65**	**264**	P		**P**	**P**	**00 08 03.8**	**+1.2**
ASAR	**Alice Springs**	**44.65**	**264**	P		**P**	**P**	**00 08 03.0**	**+0.5**
ASAR	**Alice Springs**	**44.65**	**264**	P		**P**	**P**	**00 08 00.8**	**-1.8**
	comp=Z,1.3nm,0.8s,baz=101,slow=8.1,SNR=8.9								
ASAR				LR		LR	LR	00 24 23.2	
	comp=Z,159nm,21.7s,baz=104,slow=33								
	comp=Z,1.3nm,0.8s								
WR0	**Warramunga Arr**	**45.23**	**269**	P		**P**	**P**	**00 08 08.0**	**+0.9**
WR0				IAmb		IAmb	IAmb	00 08 23.9	
	comp=Z,10nm,1.3s								
WB2	**Warramunga Arr**	**45.41**	**269**	P		**P**	**P**	**00 08 07.9**	**-0.7**
WB2				IAmb		IAmb	IAmb	00 08 20.1	
	comp=Z,4.1nm,1.1s								
WRA	**Warramunga Arr**	**45.42**	**269**	P		**P**	**P**	**00 08 07.6**	**-1.1**
WRA	**Warramunga Arr**	**45.42**	**269**	P		**P**	**P**	**00 08 06.8**	**-1.8**
	comp=Z,1.6nm,0.7s,baz=108,slow=7.7,SNR=9.1								
	comp=Z,1.6nm,0.7s								
WB0	**Warramunga Arr**	**45.43**	**269**	P		**P**	**P**	**00 08 07.3**	**-1.4**
WB0				IAmb		IAmb	IAmb	00 08 21.1	
	comp=Z,7.6nm,1.1s								
FORT	**Forrest**	**48.04**	**252**	P		**P**	**P**	**00 08 29.1**	**0.0**
SBA	**Scott Base**	**50.67**	**185**	P		**P**	**P**	**00 08 47.3**	**-1.1**
SBA				IAmb		IAmb	IAmb	00 09 02.6	
	comp=Z,5.4nm,1.1s								
QSPA	**South Pole Qui**	**62.25**	**180**	P		**P**	**P**	**00 10 13.7**	**+2.6**
	comp=Z,4.3nm,1.0s,baz=28,slow=2.9,SNR=6.4								
	comp=Z,4.3nm,1.0s								
KAPI	**Kappang**	**64.53**	**278**	LR		LR	L

NIL	**Nilore**	**8.38**	**269**	Pn	**Pn**	**00 22 05.3**	**+1.3**
NIL	**Nilore**	**8.38**	**269**	P	**Pn**	**00 22 05.3**	**+1.3**
KUDL	**Kundal**	**8.44**	**226**	*e*P	**Pn**	**00 22 04.7**	**0.0**
KUDL				*e*S	**Sn**	**00 23 40.1**	**+0.1**
TARG	**Taragay, Kyrgy**	**8.64**	**331**	Pn	**Pn**	**00 22 09.4**	**+1.6**
TARG	**Taragay, Kyrgy**	**8.64**	**331**	P	**Pn**	**00 22 09.4**	**+1.6**
KHET	**Khetri**	**8.90**	**228**	*e*P	**Pn**	**00 22 11.1**	**0.0**
KHET				*e*S	**Sn**	**00 23 51.8**	**+0.3**
PRZ	**Przheval'sk**	**9.08**	**336**	Pn	**Pn**	**00 22 15.7**	**+2.0**
PRZ	**Przheval'sk**	**9.08**	**336**	P	**Pn**	**00 22 15.7**	**+2.0**
GOMU	**GeErMu**	**9.61**	**75**	P	**Pn**	**00 22 24.4**	**+3.3**
GOMU	comp=Z,6.0nm,1.0s			pmax	pmax		
GOMU	comp=N,210nm,7.7s			LR	LR		
GOMU	comp=E,250nm,7.6s			LR	LR		
GOMU	comp=Z,230nm,8.1s			LR	LR		
WMQ	**Urumqi**	**10.14**	**18**	*e*P	**Pn**	**00 22 29.3**	**+1.1**
WMQ				pP		00 22 33.4	
WMQ	comp=Z,13nm,0.7s			pmax	pmax		
WMQ	comp=N,230nm,10.5s			LR	LR		
WMQ	comp=E,200nm,11.3s			LR	LR		
WMQ	comp=Z,210nm,15.5s			LR	LR		
ARSB	**Arslanbob**	**10.80**	**314**	Pn	**Pn**	**00 22 37.2**	**0.0**
ARSB	**Arslanbob**	**10.80**	**314**	P	**Pn**	**00 22 37.2**	**0.0**
AAK	**Ala-Archa**	**10.86**	**323**	Pn	**Pn**	**00 22 38.4**	**+0.4**
AAK	**Ala-Archa**	**10.86**	**323**	*ce*P	**Pn**	**00 22 41.7**	**+3.7**
AAK	comp=Z,13nm,1.7s			pmax	pmax		
AAK	**Ala-Archa**	**10.86**	**323**	Pn	**Pn**	**00 22 41.6**	**+3.7**
AAK	comp=Z,0.1nm,0.3s,baz=166,slow=17,SNR=9.5 comp=Z,0.1nm,0.3s,baz=297,slow=23,SNR=1.2 comp=Z,2.6nm,0.7s			Lg	Lg	00 25 48.7	
FRU1	**Bishkek**	**10.92**	**324**	Pn	**Pn**	**00 22 39.1**	**+0.3**
FRU1	**Bishkek**	**10.92**	**324**	P	**Pn**	**00 22 39.1**	**+0.3**
BTK	**Batken**	**11.53**	**304**		**Pn**	**00 22 47.4**	**+0.2**
BTK	**Batken**	**11.53**	**304**	P	**Pn**	**00 22 47.4**	**+0.2**
KBL	**Kabul**	**11.80**	**275**	Pn	**Pn**	**00 22 51.5**	**+0.5**
KBL	**Kabul**	**11.80**	**275**	P	**Pn**	**00 22 51.5**	**+0.5**
CHGR	**Chuyangaron**	**12.22**	**295**		**Pn**	**00 22 56.2**	**-0.4**
CHGR	**Chuyangaron**	**12.22**	**295**	P	**Pn**	**00 22 56.2**	**-0.4**
MK31	**Makanchi Array**	**12.55**	**357**	Pn	**Pn**	**00 23 00.6**	**-0.5**
MK31	**Makanchi Array**	**12.55**	**357**	*i* P	**Pn**	**00 23 01.4**	**+0.3**
MKAR	**Makanchi Array**	**12.55**	**357**	Pn	**Pn**	**00 22 60.0**	**-1.1**
MKAR	**Makanchi Array**	**12.55**	**357**	Pn	**Pn**	**00 23 00.9**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=185,slow=12,SNR=21 comp=Z,2.0nm,0.6s						
MAKZ	**Makanchi**	**12.59**	**356**	Pn	**Pn**	**00 23 01.0**	**-0.5**
MAKZ	**Makanchi**	**12.59**	**356**	P	**Pn**	**00 23 01.0**	**-0.5**
KK31	**Karatay Array**	**13.34**	**315**	Pn	**Pn**	**00 23 12.4**	**+0.6**
KK31	**Karatay Array**	**13.34**	**315**	P	**Pn**	**00 23 12.4**	**+0.6**
KKAR	**Karatay Array**	**13.34**	**315**		**Pn**	**00 23 12.6**	**+0.8**
KKAR	**Karatay Array**	**13.34**	**315**	Pn	**Pn**	**00 23 12.5**	**+0.8**
KKAR	**Karatay Array**	**13.34**	**315**	P	**Pn**	**00 23 12.5**	**+0.8**
GTA	**Gaotai**	**14.18**	**64**	*e*P	**P**	**00 23 32.6**	**+1.6**
GTA	comp=Z,2.0nm,1.1s			pmax	pmax		
DGZ	**Jazzator, Alta**	**15.74**	**10**	*i* P	**Pn**	**00 23 42.2**	**-2.0**
KURBB	**Kurchatov Arra**	**16.73**	**349**	Pn	**Pn**	**00 23 55.0**	**-1.8**
	comp=Z,12nm,0.8s,baz=170,slow=11,SNR=11						
KURK	**Kurchatov**	**16.81**	**350**		**Pn**	**00 23 57.7**	**-0.1**
KURK	comp=Z,28nm,0.9s			IAmb	IAmb	00 24 01.0	
KURK	**Kurchatov**	**16.81**	**350**	*ce*P	**Pn**	**00 23 58.6**	**+0.8**
KURK	comp=Z,28nm,0.8s			pmax	pmax		
LZH	**Lanzhou**	**16.89**	**78**	*e*P	**P**	**00 24 03.4**	**+2.3**
LZH				pP	sP	00 24 07.3	-0.1
LZH	comp=Z,19nm,1.3s			pmax	pmax		
HYB	**Hyderabad**	**17.30**	**195**	*e*P	**P**	**00 24 06.6**	**+1.0**
HYB				*e*S	S	00 27 45.8	+20
HRA	**Herat**	**17.41**	**276**		**P**	**00 24 06.9**	**0.0**
HRA	comp=Z,15nm,1.1s			IAmb	IAmb	00 24 11.6	
PZH	**PanZhiHua**	**17.66**	**111**	P	**P**	**00 24 10.4**	**+0.7**
PZH	comp=Z,10.0nm,0.5s			pmax	pmax		
PZH	comp=Z,180nm,5.1s			pmax	pmax		
PZH	comp=Z,10.0nm,0.5s			pmax	pmax		
PZH	comp=Z,310nm,5.5s			pmax	pmax		
ZAA0	**Zalesovo Array**	**19.72**	**3**		**P**	**00 24 31.9**	**-0.1**
ZAA0	comp=Z,9.6nm,0.9s			IAmb	IAmb	00 24 33.6	
ZALV	**Zalesovo Beam**	**19.72**	**3**	*e*P	**P**	**00 24 32.5**	**+0.5**
ZALV	comp=Z,7.0nm,0.6s			pmax	pmax		
ZALV	**Zalesovo Beam**	**19.72**	**3**	P	**P**	**00 24 31.8**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=186,slow=11,SNR=38 comp=Z,7.2nm,0.7s						
CRAI	**Chiangrai**	**20.57**	**128**	P	**P**	**00 24 42.0**	**+0.5**
GEYT	**Alibeck**	**20.67**	**288**		**P**	**00 24 42.5**	**0.0**
GEYT	**Alibeck**	**20.67**	**288**	P	**P**	**00 24 42.5**	**0.0**
GEYT	comp=Z,6.0nm,1.0s			pmax	pmax		
GEYT	**Alibeck**	**20.67**	**288**	P	**P**	**00 24 42.1**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=89,slow=17,SNR=3.4 comp=Z,2.1nm,0.7s						
GYA0	**ALIBECK ARRAY**	**20.67**	**288**	P	**P**	**00 24 43.1**	**+0.6**
GYA0	comp=Z,4.0nm,0.7s			pmax	pmax		
GYA0B	**ALIBECK ARRAY**	**20.67**	**288**	P	**P**	**00 24 42.6**	**+0.1**
BVAR	**Borovoye Array**	**20.91**	**338**	P	**P**	**00 24 45.6**	**+0.7**
	comp=Z,6.0nm,0.7s,baz=145,slow=11,SNR=24 comp=Z,6.0nm,0.7s						
BRVK	**Borovoye**	**20.97**	**338**	P	**P**	**00 24 45.5**	**0.0**
BRVK	**Borovoye**	**20.97**	**338**	*ce*P	**P**	**00 24 45.3**	**-0.2**
BRVK	comp=Z,8.0nm,1.3s			pmax	pmax		
CMAR	**Chiang Mai Arr**	**21.01**	**135**	P	**P**	**00 24 47.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**21.01**	**135**	*e*P	**P**	**00 24 45.9**	**-0.4**
CMAR	comp=Z,2.0nm,0.3s			pmax	pmax		
CMAR	**Chiang Mai Arr**	**21.01**	**135**	P	**P**	**00 24 44.9**	**-1.4**
	comp=Z,1.5nm,0.3s,baz=328,slow=12,SNR=8.4 comp=Z,1.5nm,0.3s						
ZAK	**Zakamensk**	**21.75**	**36**	*e*P	**P**	**00 24 55.8**	**+1.7**
ZAK	comp=Z,5.0nm,1.0s			pmax	pmax		
SONM	**Songino Array**	**21.97**	**45**	P	**P**	**00 24 57.0**	**+0.5**
SONM	comp=Z,9.6nm,1.0s			IAmb	IAmb	00 25 00.5	
SONM	**Songino Array**	**21.97**	**45**	P	**P**	**00 24 57.0**	**+0.5**
SONM	comp=Z,10.0nm,1.0s			pmax	pmax		
SONM	**Songino Array**	**21.97**	**45**	P	**P**	**00 24 57.5**	**+1.0**
	comp=Z,7.2nm,0.8s,baz=239,slow=9.9,SNR=23 comp=Z,7.2nm,0.8s						
ULN	**Ulaanbaatar**	**22.37**	**45**	P	**P**	**00 25 01.2**	**+0.4**
ULN	comp=Z,8.9nm,1.1s			IAmb	IAmb	00 25 03.9	
ULN	**Ulaanbaatar**	**22.37**	**45**	*i* P	**P**	**00 25 01.1**	**+0.4**
ULN	comp=Z,10.0nm,1.1s			pmax	pmax		
ABKAR	**Akbulak array**	**22.87**	**318**	P	**P**	**00 25 05.5**	**-0.4**
ABKAR	**Akbulak array**	**22.87**	**318**	P	**P**	**00 25 05.6**	**-0.3**
ABKAR	comp=Z,5.4nm,0.9s			IAmb	IAmb	00 25 09.0	
HHC	**Hu-ho-hao-te**	**23.28**	**65**	*e*P	**P**	**00 25 10.3**	**-0.1**
HHC	comp=Z,20nm,0.7s			pmax	pmax		
HHC	comp=Z,140nm,4.6s			pmax	pmax		
HHC	comp=N,540nm,13.1s			LR	LR		
ARU	**Arti**	**27.91**	**330**	*i* P	**P**	**00 25 52.0**	**-0.4**
ARU	comp=Z,2.0nm,1.0s			pmax	pmax		
ONI	**Oni**	**32.08**	**297**	P	**P**	**00 26 29.7**	**+0.1**
ONI	**Oni**	**32.08**	**297**	P	**P**	**00 26 29.7**	**+0.1**
ONI	comp=Z,7.0nm,1.1s			pmax	pmax		
KIV	**Kislovodsk**	**32.70**	**299**	*e*P	**P**	**00 26 34.6**	**-0.5**
KIV	comp=Z,5.0nm,1.1s			pmax	pmax		
KSRS	**Korea Array**	**36.05**	**72**	LR	LR	00 43 14.8	
	comp=Z,53nm,20.3s,baz=155,slow=39						
OBN	**Obninsk**	**38.31**	**318**	*e*P	**P**	**00 27 23.8**	**+0.8**
OBN				*e*		00 28 52.1	
OBN	comp=Z,8.0nm,1.2s			pmax	pmax		
BRTR	**Keskin Array B**	**39.65**	**293**	*e*P	**P**	**00 27 35.5**	**+0.9**
BRTR	comp=Z,1.0nm,0.8s			pmax	pmax		
BRTR	**Keskin Array B**	**39.65**	**293**	P	**P**	**00 27 33.8**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=120,slow=10,SNR=6.4 comp=Z,1.1nm,0.8s						
AKASG	**Malin Array Be**	**42.16**	**310**	*e*P	**P**	**00 27 54.6**	**-0.3**
AKASG	comp=Z,2.0nm,0.6s			pmax	pmax		
AKASG	**Malin Array Be**	**42.16**	**310**	P	**P**	**00 27 54.5**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=78,slow=8.0,SNR=12 comp=Z,1.1nm,0.6s						
TIXI	**Tiksi**	**44.35**	**19**	P	**P**	**00 28 12.2**	**-0.1**
TIXI	comp=Z,2.8nm,1.0s			IAmb	IAmb	00 28 15.5	
TIXI	**Tiksi**	**44.35**	**19**	*ce*P	**P**	**00 28 11.1**	**-1.2**
MLR	**Muntele Rosu**	**44.57**	**302**	P	**P**	**00 28 14.3**	**-0.4**
MLR	**Muntele Rosu**	**44.57**	**302**	P	**P**	**00 28 14.3**	**-0.4**
MLR	comp=Z,12nm,0.9s			pmax	pmax		
FINES	**FINESS Array B**	**45.03**	**325**	P	**P**	**00 28 18.1**	**+0.1**
FINES	**FINESS Array B**	**45.03**	**325**	P	**P**	**00 28 18.1**	**+0.1**
FINES	**FINESS Array B**	**45.03**	**325**	P	**P**	**00 28 18.3**	**+0.4**
	comp=Z,4.9nm,0.7s,baz=106,slow=8.8,SNR=18 comp=Z,4.9nm,0.7s						
ARCES	**ARCESS Array B**	**47.19**	**336**	P	**P**	**00 28 34.9**	**0.0**
	comp=Z,2.4nm,0.7s,baz=87,slow=7.3,SNR=8.1 comp=Z,2.4nm,0.7s						
HFS	**Hagfors**	**51.00**	**323**	P	**P**	**00 29 03.9**	**-0.2**
	comp=Z,6.2nm,0.6s,baz=92,slow=10,SNR=25 comp=Z,6.2nm,0.6s						
NORES	**NORESS Array B**	**52.03**	**324**	P	**P**	**00 29 11.5**	**-0.4**
NC303	**NORSAR Array S**	**52.09**	**324**	P	**P**	**00 29 12.2**	**0.0**
NB2	**NORSAR Subarra**	**52.17**	**324**	P	**P**	**00 29 12.7**	**-0.3**
	comp=Z,3.7nm,0.6s,baz=86,slow=7.4						
NB2	**NORSAR Subarra**	**52.17**	**324**	P	**P**	**00 29 12.6**	**-0.4**
NB2	comp=Z,1.0nm,0.7s			pmax	pmax		
NOA	**NORSAR Array B**	**52.17**	**324**	P	**P**	**00 29 12.4**	**-0.5**
	comp=Z,6.6nm,0.7s,baz=86,slow=7.4,SNR=22 comp=Z,6.6nm,0.7s						
GERES	**GERESS Array B**	**52.32**	**309**	*e*P	**P**	**00 29 14.6**	**+0.2**
GERES	comp=Z,2.0nm,0.7s			pmax	pmax		
GERES	**GERESS Array B**	**52.32**	**309**	P	**P**	**00 29 14.4**	**0.0**
	comp=Z,1.5nm,0.7s,baz=69,slow=5.5,SNR=7.2 comp=Z,1.5nm,0.7s						
ESDC	**Sonseca Array**	**67.26**	**303**	P	**P**	**00 30 55.9**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=49,slow=6.7,SNR=8.5 comp=Z,0.8nm,0.8s						
WRA	**Warramunga Arr**	**72.53**	**130**	P	**P**	**00 31 27.9**	**-1.8**
	comp=Z,9.2nm,1.1s,baz=330,slow=6.1,SNR=19						
ILAR	**Eielson Array**	**73.81**	**20**	P	**P**	**00 31 35.8**	**-0.9**
	comp=Z,1.2nm,0.9s,baz=311,slow=5.4,SNR=11 comp=Z,1.2nm,0.9s						
ASAR	**Alice Springs**	**75.01**	**133**	P	**P**	**00 31 43.1**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=324,slow=6.1,SNR=6.6 comp=Z,0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**75.86**	**276**	P	**P**	**00 31 47.4**	**-2.0**
	comp=Z,0.4nm,0.5s,baz=55,slow=6.3,SNR=5.4 comp=Z,0.4nm,0.5s						
YKA	**Yellowknife Ar**	**82.52**	**8**	P	**P**	**00 32 24.1**	**-0.9**
	comp=Z,2.6nm,0.7s,baz=334,slow=5.5,SNR=37 comp=Z,2.6nm,0.7s						
BOSA	**Boshof**	**83.20**	**229**	P	**P**	**00 32 27.4**	**-1.7**
	comp=Z,2.5nm,0.7s,baz=2.9,slow=4.0,SNR=5.2 comp=Z,2.5nm,0.7s						

*IDC **18** 00:27:41.8±3.8,36°.39N×70°.53E,h199km±37km,mb3.4/4, mbtmp3.9/10,Error ellipse: s-maj=35.0km s-min=20.4km az=162.0*
*NEIC **18** 00:27:42.0±2.5,36°.52N±0°.06×70°.22E±0°.08,h214km±6km, mb4.0/3,Error ellipse: s-maj=9.2km s-min=8.4km az=97.0*
*MOS **18** 00:27:42.2±1.1,36°.53N×70°.39E,h223km,mb4.0/3,Error ellipse: s-maj=13.0km s-min=5.8km az=78.7*
*NNC **18** 00:27:47.8±3.2,36°.96N×70°.27E,h203km±53km,mb2.8, mpv3.8,Error ellipse: s-maj=32.0km s-min=27.1km az=173.0*

ISC 18 00:27:40.5±0.6,36°.48N±0°.05×70°.33E±0°.05,h204km,n75, σ2s03/91,mb3.8/6,5C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.20**	**209**	Pn	**Pn**	**00 28 24.5**	**+2.8**
KBL				Sn	**S**	**00 28 54.7**	**+1.6**
KBL	**Kabul**	**2.20**	**209**	PN	**Pn**	**00 28 24.5**	**+2.8**
CHGR	**Chuyangaron**	**2.37**	**337**	Pn	**Pn**	**00 28 25.3**	**+2.1**
CHGR				Sn	**S**	**00 28 56.2**	**0.0**
BTK	**Batken**	**3.60**	**6**	Pn	**Pn**	**00 28 40.8**	**+3.3**
BTK				Sn	**S**	**00 29 23.2**	**+1.4**
BTK	**Batken**	**3.60**	**6**	PN	**Pn**	**00 28 40.8**	**+3.3**
BTK						00 29 23.3	
NIL	**Nilore**	**3.70**	**139**	Pn	**Pn**	**00 28 42.3**	**+3.4**
NIL				Sn	**S**	**00 29 26.8**	**+2.8**
NIL	**Nilore**	**3.70**	**139**	PN	**Pn**	**00 28 42.3**	**+3.4**
NIL						00 29 26.8	
ARSB	**Arslanbob**	**5.26**	**22**		**Pn**	**00 29 00.1**	**+1.6**
ARSB				Sn	**S**	**00 29 58.3**	**-1.4**
ARSB	**Arslanbob**	**5.26**	**22**	PN	**Pn**	**00 29 00.1**	**+1.6**
ARSB						00 29 58.3	
KSH	**Kashi**	**5.39**	**54**	Pn	**Pn**	**00 28 57.4**	**-2.7**
KSH				Sn	S	00 29 52.4	-10
KSH	comp=N,42nm,0.5s			smax	smax		
KSH	comp=E,33nm,0.7s			smax	smax		
AML	**Almayashu** SNR=57	**6.22**	**24**	P	**Pn**	**00 29 12.9**	**+1.9**
AML	**Almayashu**	**6.22**	**24**	PN	**Pn**	**00 29 12.7**	**+1.7**
AML				S	**S**	**00 30 21.3**	**-1.1**
AML	**Almayashu**	**6.22**	**24**	⇑P	**Pn**	**00 29 12.7**	**+1.7**
AML	comp=E,1.8nm,0.5s			S	**S**	**00 30 21.3**	**-1.1**
AML	comp=E,4.7nm,0.6s						
DHRM	**DHARAMSHALA**	**6.49**	**129**	*e*P	**Pn**	**00 29 16.5**	**+2.1**
DHRM				*e*S	**S**	**00 30 27.5**	**-1.1**
DHRM	comp=E,130nm,0.6s			IAML		00 30 28.5	
DHRM	comp=N,113nm,0.4s			IAML		00 30 29.5	
UCH	**Uchtor** SNR=38	**6.59**	**28**	P	**Pn**	**00 29 17.9**	**+2.0**
KK31	**Karatay Array**	**6.62**	**1**		**Pn**	**00 29 17.4**	**+1.6**
KK31	**Karatay Array**	**6.62**	**1**	PN	**Pn**	**00 29 17.4**	**+1.6**
KK31	**Karatay Array**	**6.62**	**1**	⇑P	**Pn**	**00 29 17.3**	**+1.6**
KK31	comp=N,1.4nm,0.2s,baz=178,slow=10,SNR=61 comp=N,2.8nm,0.3s,baz=45,slow=9.0,SNR=6.5			⇑S	**S**	**00 30 26.0**	**-5.2**
KKAR	**Karatay Array**	**6.62**	**1**		**Pn**	**00 29 17.4**	**+1.6**
KKAR	**Karatay Array**	**6.62**	**1**		**Pn**	**00 29 17.2**	**+1.4**
KKAR	**Karatay Array**	**6.62**	**1**	*e*PN	**Pn**	**00 29 17.2**	**+1.4**
EKS2	**Erkin-Say** SNR=9.9	**6.73**	**22**	P	**Pn**	**00 29 19.4**	**+2.2**
KZA	**Kyzart** SNR=7.6	**6.77**	**33**	P	**Pn**	**00 29 20.1**	**+2.0**
AAK	**Ala-Archa** SNR=9.1	**6.94**	**26**	P	**Pn**	**00 29 22.2**	**+2.1**
AAK	**Ala-Archa**	**6.94**	**26**		**Pn**	**00 29 21.9**	**+1.8**
AAK				Sn	**S**	**00 30 38.8**	**-0.3**
AAK	**Ala-Archa**	**6.94**	**26**	*i* PN	**Pn**	**00 29 20.9**	**+0.8**
AAK	**Ala-Archa**	**6.94**	**26**	P	**Pn**	**00 29 21.9**	**+1.8**
AAK	comp=N,3.9nm,0.2s,baz=196,slow=8.3,SNR=31 comp=N,27nm,0.7s,baz=329,slow=18,SNR=24			S	**S**	**00 30 37.8**	**-1.3**
KBK	**Karagaybulak** SNR=8.1	**7.13**	**29**	P	**Pn**	**00 29 25.0**	**+2.5**
FRU1	**Bishkek**	**7.14**	**26**	Pn	**Pn**	**00 29 23.9**	**+1.3**
FRU1	**Bishkek**	**7.14**	**26**	PN	**Pn**	**00 29 23.9**	**+1.3**
CHMS	**Chumysh** SNR=8.2	**7.35**	**26**	P	**Pn**	**00 29 27.3**	**+2.0**
CHMS	**Chumysh**	**7.35**	**26**	PN	**Pn**	**00 29 27.1**	**+1.9**
CHMS				S	**S**	**00 30 47.6**	**-0.9**
CHMS	**Chumysh**	**7.35**	**26**	⇓P	**Pn**	**00 29 27.2**	**+1.9**
CHMS	comp=N,4.2nm,0.5s			⇑S	**S**	**00 30 47.6**	**-0.9**
USP	**Ospenovka** SNR=21	**7.50**	**24**	P	**Pn**	**00 29 28.9**	**+1.6**
TKM2	**Tokmak 2** SNR=16	**7.61**	**31**	P	**Pn**	**00 29 30.6**	**+1.8**
TKM2	**Tokmak 2**	**7.61**	**31**	PN	**Pn**	**00 29 30.5**	**+1.8**
TKM2	**Tokmak 2**	**7.61**	**31**	⇑P	**Pn**	**00 29 30.5**	**+1.8**
TKM2	comp=N,12nm,0.5s comp=N,9.4nm,0.8s			⇓S	**S**	**00 30 52.5**	**-2.4**
SMLA	**Simla**	**7.80**	**131**	*e*P	**Pn**	**00 29 33.0**	**+1.8**
SMLA				*e*S	**S**	**00 30 56.6**	**-2.6**
SMLA	comp=N,45nm,0.4s			IAML		00 30 59.7	
SMLA	comp=E,35nm,0.2s			IAML		00 31 00.1	
PRZ	**Przheval'sk**	**8.65**	**44**	Pn	**Pn**	**00 29 43.1**	**+0.8**
PRZ	**Przheval'sk**	**8.65**	**44**	PN	**Pn**	**00 29 43.1**	**+0.8**
KUDL	**Kundal**	**9.81**	**146**	*e*P	**Pn**	**00 29 57.6**	**+0.4**
KUDL				*e*S	**S**	**00 31 40.1**	**-7.0**
GEYT	**Alibeck**	**9.85**	**282**	P	**P**	**00 30 03.0**	**-2.7**
GEYT	**Alibeck**	**9.85**	**282**	P	**P**	**00 30 03.0**	**-2.7**
	comp=E,0.6nm,0.4s,baz=90,slow=21,SNR=1.5						
MAKZ	**Makanchi**	**13.49**	**36**	Pn	**Pn**	**00 30 44.8**	**+0.9**
MAKZ	**Makanchi**	**13.49**	**36**	P	**Pn**	**00 30 44.8**	**+0.9**
MK31	**Makanchi Array**	**13.63**	**37**	Pn	**Pn**	**00 30 46.0**	**+0.3**
MK31	**Makanchi Array**	**13.63**	**37**	*i* P	**P**	**00 30 46.9**	**-1.0**
MKAR	**Makanchi Array**	**13.63**	**37**	Pn	**Pn**	**00 30 46.5**	**+0.9**
MKAR	**Makanchi Array**	**13.63**	**37**	P	**Pn**	**00 30 46.5**	**+0.9**
MKAR	**Makanchi Array**	**13.63**	**37**	P	**P**	**00 30 47.4**	**-0.5**
	comp=E,2.0nm,0.8s,baz=214,slow=17,SNR=10						
AB31	**Akbulak array**	**14.85**	**333**	P	**P**	**00 31 01.8**	**+0.6**
AB31	**Akbulak array**	**14.85**	**333**	⇓P	**P**	**00 31 01.8**	**+0.6**
	comp=E,0.5nm,0.3s,baz=151,slow=12,SNR=6.6						
ABKAR	**Akbulak array**	**14.85**	**333**	Pn	**Pn**	**00 30 58.4**	**-2.1**
ABKAR	**Akbulak array**	**14.85**	**333**	Pn	**Pn**	**00 30 58.4**	**-2.1**
WMQ	**Urumqi**	**15.16**	**56**	*e*P	**P**	**00 31 07.0**	**+2.2**
KURBB	**Kurchatov Arra**	**15.32**	**20**	P	**P**	**00 31 07.5**	**+1.1**
	comp=E,0.5nm,0.4s,baz=212,slow=10,SNR=4.8						
KURK	**Kurchatov**	**15.43**	**20**	P	**P**	**00 31 07.6**	**-0.1**
AKTO	**Aktyubinsk**	**16.54**	**331**	P	**Pn**	**00 31 23.9**	**+3.0**
	comp=E,6.8nm,0.8s,baz=128,slow=5.8,SNR=14						
AKTO	comp=E,0.8nm,0.5s,baz=127,slow=10,SNR=1.9			S	**S**	**00 34 18.8**	**-3.5**
AKTO	**Aktyubinsk** comp=E,4.7nm,0.8s	**16.54**	**331**	⇓P	**Pn**	**00 31 23.1**	**+2.3**
BVAR	**Borovoye Array**	**16.55**	**0**	P	**Pn**	**00 31 23.2**	**+2.3**
	comp=E,1.2nm,0.4s,baz=161,slow=9.9,SNR=16						
BRVK	**Borovoye**	**16.58**	**360**		**Pn**	**00 31 23.6**	**+2.2**
BRVK	comp=Z,3.5nm,0.7s			IAmb	IAmb	00 31 26.3	
BRVK	**Borovoye**	**16.58**	**360**	*i* P	**P**	**00 31 20.7**	**+0.4**
DGZ	**Jazzator, Alta**	**18.13**	**38**	*i* P	**Pn**	**00 31 39.0**	**-0.8**
ZAA0	**Zalesovo Array**	**20.16**	**25**	P	**P**	**00 32 00.5**	**+1.3**
ZAA0	comp=Z,2.5nm,0.5s			IAmb	IAmb	00 32 03.3	
ZALV	**Zalesovo Beam**	**20.16**	**25**	P	**P**	**00 32 01.3**	**+2.2**
ZALV	**Zalesovo Beam**	**20.16**	**25**	P	Pn	**00 32 01.9**	**-1.9**
	comp=Z,1.7nm,0.3s,baz=212,slow=10,SNR=16 comp=Z,1.7nm,0.3s						
GNI	**Garni**	**20.38**	**288**	P	**P**	**00 32 01.6**	**-0.2**
GNI	comp=Z,6.2nm,1.2s			IAmb	IAmb	00 32 01.9	
GNI	**Garni**	**20.38**	**288**	P	**P**	**00 32 01.6**	**-0.2**
GNI	comp=Z,6.0nm,1.3s			pmax	pmax		
BELG	**Belogornoye**	**22.57**	**322**	*i* P	**P**	**00 32 24.0**	**+0.6**
BELG	comp=Z,2.0nm,1.4s			pmax	pmax		
OBN	**Obninsk**	**29.60**	**320**	*e*P	**P**	**00 33 27.5**	**+1.2**
OBN				*e*		00 34 30.8	
OBN	comp=Z,6.0nm,1.2s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**32.28**	**69**	*e*P	**P**	**00 33 48.8**	**-1.3**
HHC	comp=Z,17nm,0.7s			pmax	pmax		
HHC	comp=Z,300nm,4.9s			pmax	pmax		
TORD	**Torodi Ar. Bea**	**65.17**	**268**	P	**P**	**00 38 01.2**	**+1.1**
	comp=Z,0.6nm,0.9s,baz=52,slow=7.5,SNR=2.9 comp=Z,0.6nm,0.9s						
WRA	**Warramunga Arr**	**82.44**	**121**	P	**P**	**00 39 41.0**	**+0.8**
WRA	**Warramunga Arr**	**82.44**	**121**	P	**P**	**00 39 41.0**	**+0.8**
	comp=Z,5.0nm,1.2s,baz=328,slow=5.0,SNR=3.2 comp=Z,5.0nm,1.2s						
ASAR	**Alice Springs**	**84.69**	**124**	P	**P**	**00 39 52.6**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=307,slow=5.8,SNR=4.3 comp=Z,0.5nm,0.8s						

*IDC **18** 01:12:48.1±1.1,37°.16N×142°.49E,h0km,mb3.9/10, mbtmp3.9/15,ML3.5/4,MS3.7/4,Error ellipse: s-maj=23.6km s-min=19.6km az=152.0*
*JMA **18** 01:12:52.4±0.3,37°.3N±0°.6×14°2E±°,h31km±4km, MD4.1/39,MV4.0/39,E OFF FUKUSHIMA PREF*
*NIED **18** 01:12:52.4,37°.26N×142°.25E,h31km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.04; Mθθ0.41; Mϕϕ-0.38; Mrθ-0.19; Mϕθ-0.22; Mϕr0.94; Fault plane solution: M0 1.04000×10¹⁵ NP1: ϕs341.00000°,δ89.00000°,λ67.00000°. NP2: ϕs249.00000°,δ23.00000°,λ178.00000°.*

ISC 18 01:12:49.4±3.5,37°.21N±0°.05×142°.35E±0°.06,h7km±21km, n42,σ1s28/38,mb3.9/10,MS3.7/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.19**	**278**	P	**Pn**	**01 13 12.0**	**-0.6**
JFK				*e*S	**Sb**	**01 13 25.8**	**-2.1**
ONAJ	**Iwakimizuishiy**	**1.25**	**265**	P	**Pn**	**01 13 12.8**	**-0.5**
ONAJ	**Iwakimizuishiy**	**1.25**	**265**	A	A	01 13 12.8	
	comp=E,11nm,0.3s,comp=N,5.0nm,0.3s						
JMST	**Minamisoumatoc**	**1.27**	**294**	P	**Pn**	**01 13 13.1**	**-0.5**
JMST				S	**Sb**	**01 13 28.1**	**-2

baz=316,slow=76,SNR=17
ZALV Zalesovo Beam 42.35 312 P **P** **01 20 44.6 +0.7**
comp=N,0.7nm,0.5s,baz=93,slow=9.1,SNR=4.8
comp=N,0.7nm,0.5s
MKAR Makanchi Array 44.66 302 P **P** **01 21 02.9 +0.2**
comp=N,1.3nm,0.7s,baz=91,slow=9.1,SNR=9.3
comp=N,1.3nm,0.7s
KURBB Kurchatov Arra 46.48 308 P **P** **01 21 17.3 +0.2**
comp=N,1.1nm,0.2s,baz=82,slow=8.2,SNR=7.8
KURBB LR LR 01 41 29.2
comp=N,168nm,18.6s,baz=191,slow=37
comp=N,1.1nm,0.2s
ILAR Eielson Array 48.94 32 P **P** **01 21 37.1 +1.2**
comp=N,0.7nm,0.8s,baz=264,slow=6.3,SNR=9.0
comp=N,0.7nm,0.8s
BVAR Borovoye Array 51.01 312 P **P** **01 21 52.7 +0.9**
comp=N,0.2nm,0.4s,baz=90,slow=7.2,SNR=2.3
comp=N,0.2nm,0.4s
WRA Warramunga Arr 57.35 189 P **P** **01 22 38.4 +0.1**
comp=N,0.4nm,0.6s,baz=3.9,slow=7.3,SNR=2.6
comp=N,0.4nm,0.6s
GEYT Alibeck 64.40 299 LR LR 01 52 33.7
comp=N,56nm,21.6s,baz=278,slow=37
FINES FINESS Array B 69.00 333 P **P** **01 23 55.6 +0.4**
comp=N,2.5nm,0.9s,baz=55,slow=7.3,SNR=2.2
comp=N,2.5nm,0.9s
NVAR Mina Array Bea 74.28 54 P **P** **01 24 25.5 -2.2**
comp=N,0.5nm,0.3s,baz=345,slow=6.0,SNR=4.9
comp=N,0.5nm,0.3s
NOA NORSAR Array B 74.31 338 LR LR 02 02 05.2
comp=N,33nm,18.4s,baz=60,slow=40
AKASG Malin Array Be 74.61 323 P **P** **01 24 29.1 0.0**
comp=N,0.6nm,0.4s,baz=45,slow=6.0,SNR=4.2
comp=N,0.6nm,0.4s
H03N2 Juan Fernandez 146.30 96 T T 04 15 56.1
baz=291,slow=76,SNR=4.4
H03N3 Juan Fernandez 146.31 96 T T 04 16 05.7
baz=291,slow=76,SNR=5.4
H03N1 Juan Fernandez 146.31 96 T T 04 16 04.2
baz=291,slow=76,SNR=4.7

WEL 18 01:38:32.4±0.4, 42°S±4°×17°4E±°, h15km±4km, M3.2/15, ML3.5/15, MLv3.2/15, Error ellipse: s-maj=0.0km s-min=0.0km az=155.2, confirmed, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**252**	P	Pg	01 38 35.3	-0.2
CMWZ				S	Sg	01 38 39.9	+2.4
BSWZ	**Blackbirch Sta**	**0.33**	**271**	P	Pb	01 38 39.8	-0.2
BSWZ				S	Sb	01 38 46.6	+1.4
TUWZ	**Tuamarina**	**0.41**	**316**	P	Pb	01 38 41.4	+0.1
TUWZ				S	Sb	01 38 48.9	+1.5
TCW	**Tory Channel**	**0.52**	**357**	P	Pg	01 38 42.9	+0.3
BHW	**Baring Head**	**0.52**	**53**	P	Pg	01 38 42.6	-0.2
WEL	**Wellington**	**0.56**	**38**	P	Pg	01 38 43.3	0.0
PLWZ	**Palliser**	**0.72**	**78**	P	Pg	01 38 46.4	-0.1
PLWZ				S	Sn	01 38 58.5	-0.5
MSWZ	**Moikau Station**	**0.77**	**67**	P	Pb	01 38 47.6	+0.2
MSWZ				S	Sn	01 38 60.0	0.0
CAW	**Cannon Point**	**0.84**	**43**	P	Pg	01 38 47.9	-0.7
CAW				S	Sn	01 39 02.1	+0.4
NNZ	**Nelson**	**0.87**	**305**	P	Pg	01 38 49.5	+0.3
PAWZ	**Paruwai Farm**	**0.90**	**68**	P	Pb	01 38 49.1	-0.6
PAWZ				S	Sn	01 39 02.9	-0.5
KHZ	**Kahutara**	**0.90**	**220**	P	Pb	01 38 49.8	0.0
KHZ				S	Sn	01 39 03.6	+0.3
DUWZ	**D'Urville Isla**	**0.97**	**342**	P	Pg	01 38 51.1	0.0
KIW	**Kapiti Island**	**0.97**	**28**	P	Pb	01 38 50.5	-0.5
MTW	**Mount Morrison**	**1.05**	**58**	P	Pb	01 38 51.4	-1.0
MTW				S	Sn	01 39 07.1	-0.1
THZ	**Tophouse**	**1.06**	**267**	P	Pg	01 38 53.0	+0.2
TRWZ	**Traveller**	**1.08**	**73**	P	Pb	01 38 51.2	-1.6
OGWZ	**Otaki Gorge**	**1.11**	**36**	P	Pb	01 38 52.8	-0.5
OGWZ				S	Sn	01 39 09.5	+0.9
MRNZ	**Matariki Terra**	**1.21**	**285**	P	Pg	01 38 55.9	+0.1
HOWZ	**Holdsworth Sta**	**1.22**	**48**	P	Pn	01 38 54.0	-1.0
TKNZ	**Takaka Hill**	**1.23**	**304**	P	Pg	01 38 56.0	-0.2
TMWZ	**Te Maipa**	**1.33**	**63**	P	Pn	01 38 54.9	-1.7
MRZ	**Mangatainoka R**	**1.43**	**42**	P	Pn	01 38 57.0	-0.8
TIWZ	**Tintock**	**1.52**	**52**	P	Pn	01 38 57.8	-1.2
GVZ	**Greta Valley S**	**1.56**	**217**	P	Pn	01 38 58.8	-0.9
QRZ	**Quartz Range**	**1.62**	**303**	P	Pg	01 39 02.4	+0.4
CPWZ	**Castlepoint**	**1.64**	**61**	P	Pn	01 38 58.4	-1.2
PRWZ	**Pori Road**	**1.71**	**47**	P	Pn	01 39 00.5	-1.2
POWZ	**Post Office Ro**	**1.73**	**40**	P	Pn	01 39 01.1	-0.8
BFZ	**Birch Farm**	**1.79**	**55**	P	Pn	01 39 00.7	-2.1
LTZ	**Lake Taylor**	**1.85**	**234**	P	Pn	01 39 03.2	-0.4
DSZ	**Denniston Nort**	**1.88**	**269**	P	Pb	01 39 05.4	-1.1
DVHZ	**Dannevirke**	**2.00**	**45**	P	Pn	01 39 04.0	-1.7
WAZ	**Wanganui**	**2.03**	**15**	P	Pb	01 39 09.6	+0.5
TSZ	**Takapari Road**	**2.08**	**37**	P	Pn	01 39 05.9	-0.9
OKCZ	**Okains Bay**	**2.20**	**204**	P	Pn	01 39 06.4	-2.1
LREZ	**Lake Rotokare**	**2.26**	**2**	P	Pb	01 39 13.3	+0.3
PNHZ	**Pukenui**	**2.31**	**39**	P	Pn	01 39 08.6	-1.3
OXZ	**Oxford**	**2.32**	**226**	P	Pb	01 39 14.8	+0.8
MQZ	**McQueen's Vall**	**2.33**	**211**	P	Pn	01 39 07.7	-2.5
PREZ	**Palmer Road**	**2.38**	**357**	P	Pb	01 39 16.0	+1.0
KHEZ	**Kahui Hut**	**2.44**	**354**	P	Pg	01 39 17.9	-1.2
NEZ	**North Egmont**	**2.46**	**356**	P	Pb	01 39 16.5	+0.1
NBEZ	**Newall Road No**	**2.48**	**352**	P	Pb	01 39 18.0	+1.4
MTVZ	**Mangateitei**	**2.50**	**21**	P	Pb	01 39 18.4	+1.4
PKE	**Pukeiti**	**2.54**	**354**	P	Pb	01 39 17.5	-0.3
PKVZ	**Pokaka**	**2.56**	**18**	P	Pn	01 39 15.0	+1.6
MOVZ	**Moawhango**	**2.56**	**26**	P	Pn	01 39 14.1	+0.7
WNVZ	**Wahianoa**	**2.59**	**23**	P	Pn	01 39 14.4	+0.5
BHHZ	**Black Hill Sta**	**2.60**	**31**	P	Pn	01 39 13.7	-0.3
TRVZ	**Turoa**	**2.60**	**22**	P	Pn	01 39 15.0	+0.9
KRHZ	**Kereru**	**2.60**	**38**	P	Pn	01 39 12.4	-1.5
VRZ	**Vera Road**	**2.62**	**8**	P	Pn	01 39 16.2	+2.0
WHVZ	**Whangaehu Hut**	**2.62**	**22**	P	Pn	01 39 15.3	+0.8
MAVZ	**Matarangi**	**2.63**	**22**	P	Pb	01 39 20.0	+0.5
FWVZ	**Far West T-bar**	**2.64**	**21**	P	Pb	01 39 18.0	-1.6
TUVZ	**Tukino**	**2.66**	**23**	P	Pn	01 39 15.6	+0.7
COVZ	**Chateau Observ**	**2.69**	**21**	P	Pb	01 39 20.5	+0.2
NGZ	**Ngauruhoe**	**2.73**	**21**	P	Pn	01 39 16.6	+0.8
SNVZ	**South Ngauruho**	**2.73**	**22**	P	Pn	01 39 16.5	+0.6
OTVZ	**Oturere**	**2.77**	**22**	P	Pn	01 39 16.8	+0.6
NNVZ	**North Ngauruho**	**2.77**	**21**	P	Pn	01 39 17.4	+1.0
WTVZ	**West Tongariro**	**2.78**	**21**	P	Pn	01 39 17.6	+1.1
TWVZ	**Taurewa**	**2.79**	**18**	P	Pn	01 39 18.0	+1.5
ETVZ	**East Tongariro**	**2.80**	**23**	P	Pn	01 39 17.4	+0.6
KWHZ	**Kaweka Forest**	**2.80**	**36**	P	Pb	01 39 23.2	+1.0
TMVZ	**Te Maari**	**2.81**	**23**	P	Pn	01 39 17.3	+0.3
KRVZ	**Karewarewa**	**2.81**	**21**	P	Pb	01 39 22.1	-0.4
NTVZ	**North Tongarir**	**2.82**	**22**	P	Pn	01 39 17.6	+0.5
KATZ	**Kakaramea**	**2.94**	**21**	P	Pb	01 39 24.9	+0.3
RITZ	**Rihia Road**	**2.99**	**24**	P	Pb	01 39 25.3	0.0
RATZ	**Rangitukua**	**3.06**	**22**	P	Pb	01 39 27.5	+0.9
GCSZ	**Gaunt Creek Bo**	**3.35**	**240**	P	Pb	01 39 29.1	-2.4
TLZ	**Tolley Road**	**3.52**	**16**	P	Pb	01 39 32.9	-1.5
PRRZ	**Plateau Road**	**3.59**	**27**	P	Pb	01 39 34.2	-1.5
JCZ	**Jackson Bay**	**4.69**	**238**	P	Pb	01 39 49.0	-5.4

NOU 18 01:48:05.6, 22°.05S×169°.48E, h0km, MLv3.9/8, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.46**	**293**	P	Pn	01 48 32.5	-0.7
MARNC	**Mare, Loyalty**	**1.46**	**293**	P	Pn	01 48 32.4	-0.8
PINNC	**Pines Island,**	**1.96**	**253**	P	Pn	01 48 40.2	0.0
PINNC	**Pines Island,**	**1.96**	**253**	P	Pn	01 48 40.0	-0.2
YATNC	**Mamie plateau,**	**2.40**	**269**	P	Pn	01 48 44.9	-1.3
YATNC	**Mamie plateau,**	**2.40**	**269**	P	Pn	01 48 45.0	-1.2
LIFNC	**LIFOU**	**2.44**	**301**	P	Pn	01 48 46.6	-0.1
OUENC	**Ouen Island, N**	**2.47**	**261**	P	Pn	01 48 47.4	+0.2
OUENC	**Ouen Island, N**	**2.47**	**261**	P	Pn	01 48 47.3	+0.1
DZM	**Mont Dzumac**	**2.82**	**269**	P	Pn	01 48 52.1	+0.1
ONTNC	**Ouen Toro**	**2.82**	**264**	P	Pn	01 48 52.3	+0.4
ONTNC	**Ouen Toro**	**2.82**	**264**	P	Pn	01 48 52.1	+0.2
NOUC	**Port Laguerre**	**2.95**	**268**	P	Pn	01 48 53.8	+0.1

*TAP **18** 02:02:28.4, 24°.49N×122°.95E, h101km, ML3.1, C*
*JMA **18** 02:02:28.7±0.2, 25°.N±2°×123°.0E±0°.6, h100km±1km, MV2.5/13, NW OFF ISHIGAKIJIMA IS*
ISC 18 02:02:28.4±1.5, 24°.50N±0°.06×122°.96E±0°.03, h103km±9km, n57, σ0s65/92, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonaguni jima**	**0.05**	**190**	P	**Pn**	**02 02 42.8**	**+0.1**
JYNG				*e*S	**Sn**	**02 02 53.1**	**-0.3**
YOJ	**Yonaguni jima**	**0.06**	**127**	P	**Pn**	**02 02 42.7**	**0.0**
YOJ				*e*S	**Sn**	**02 02 53.0**	**-0.4**
YOJ	**Yonaguni jima** baz=108	**0.06**	**127**	P	**Pn**	**02 02 42.4**	**-0.3**
YOJ				*i* S	**Sn**	**02 02 52.8**	**-0.6**
EOS3	**EOS3** baz=250	**0.62**	**250**	*e*P	**Pn**	**02 02 46.0**	**+0.7**
EOS3				*e*S	**Sn**	**02 02 59.6**	**+1.6**
EOS2	**EOS2** baz=264	**0.66**	**263**	P	**Pn**	**02 02 46.1**	**+0.4**
EOS2				*e*S	**Sn**	**02 02 58.9**	**+0.3**
EOS4	**EOS4** baz=237	**0.69**	**237**	*e*P	**Pn**	**02 02 46.1**	**+0.5**
EOS4				*i* S	**Sn**	**02 02 59.3**	**+0.7**
IRIF	**Iriomote-Funau**	**0.73**	**103**	P	**Pn**	**02 02 46.5**	**+0.2**
IRIF				S	**Sn**	**02 02 59.8**	**-0.1**
HATJ	**Hateruma jima**	**0.89**	**120**	P	**Pn**	**02 02 48.8**	**+0.8**
HATJ				*e*S	**Sn**	**02 03 03.0**	**+0.4**
JKRS	**Kuro-shima**	**1.00**	**105**	P	**Pn**	**02 02 49.6**	**+0.6**
JKRS				S	**Sn**	**02 03 04.9**	**+0.3**
TWB1	**Santiao Chiao** baz=300	**1.01**	**300**	*e*P	**Pn**	**02 02 49.2**	**0.0**
TWC	**Suao** baz=276	**1.01**	**276**	*e*P	**Pn**	**02 02 48.9**	**-0.3**
JIJ	**Ishigaki jima**	**1.09**	**97**	P	**Pn**	**02 02 50.1**	**0.0**
JIJ				S	**Sn**	**02 03 05.4**	**-1.0**
ENA	**Nanau** baz=266	**1.11**	**266**	*e*P	**Pn**	**02 02 50.4**	**+0.2**
ENA				*e*S	**Sn**	**02 03 06.8**	**+0.1**
SXI1	**Grass Mountain** baz=301	**1.15**	**301**	*e*P	**Pn**	**02 02 51.0**	**+0.2**
TWE	**Neicheng** baz=281	**1.19**	**281**	*e*P	**Pn**	**02 02 51.3**	**+0.1**
NWF	**Wu-fen Shan** baz=298	**1.21**	**298**	*e*P	**Pn**	**02 02 51.8**	**+0.3**
WFSB	**Wu-fen Shan** baz=298	**1.21**	**298**	*e*P	**Pn**	**02 02 51.9**	**+0.5**
JISG	**Ishigakijimahi**	**1.24**	**86**	*e*P	**Pn**	**02 02 51.9**	**+0.2**
JISG				*e*S	**Sn**	**02 03 08.3**	**-1.0**
FUSB	**Fushanzhiwuyua** baz=282	**1.27**	**282**	P	**Pn**	**02 02 52.4**	**+0.2**
FUSB				*e*S	**Sn**	**02 03 09.6**	**-0.6**
ENTT	**Nioudou** baz=276	**1.27**	**277**	*e*P	**Pn**	**02 02 52.8**	**+0.6**
NACB	**Ninganchiao** baz=255	**1.28**	**256**	*e*P	**Pn**	**02 02 51.9**	**-0.3**
NACB				*e*S	**Sn**	**02 03 09.1**	**-1.2**
LATG	**Datong** baz=272	**1.30**	**272**	P	**Pn**	**02 02 52.9**	**+0.4**
LATG				S	**Sn**	**02 03 10.6**	**-0.3**
TWD	**Chiawan** baz=251	**1.31**	**252**	*e*P	**Pn**	**02 02 52.3**	**-0.2**
TWD				*e*S	**Sn**	**02 03 09.9**	**-0.9**
NDT	**Datong Townshi** baz=275	**1.32**	**275**	*e*P	**Pn**	**02 02 53.2**	**+0.6**
NDT				*e*S	**Sn**	**02 03 10.8**	**-0.2**
NWLT	**Wulai** baz=282	**1.35**	**282**	*e*P	**Pn**	**02 02 53.7**	**+0.6**
NWLT				*e*S	**Sn**	**02 03 11.1**	**-0.6**
ETLH	**Xiulin Townshi** baz=258	**1.38**	**258**	*e*P	**Pn**	**02 02 53.4**	**-0.1**
ETLH				*e*S	**Sn**	**02 03 11.5**	**-0.9**
NNSB	**Datong** baz=267	**1.43**	**267**	*e*P	**Pn**	**02 02 54.5**	**+0.3**
ETM	**Tongmen** baz=248	**1.44**	**249**	*e*P	**Pn**	**02 02 53.9**	**-0.2**
ETM				*e*S	**Sn**	**02 03 12.6**	**-1.0**
NNS	**Nan Shan** baz=268	**1.44**	**268**	*e*P	**Pn**	**02 02 54.7**	**+0.4**
YHNB	**Yeheng** baz=277	**1.45**	**277**	*e*P	**Pn**	**02 02 54.7**	**+0.5**
YHNB				*e*S	**Sn**	**02 03 13.4**	**-0.5**
SHUL	**Shoufeng** baz=241	**1.46**	**241**	*e*P	**Pn**	**02 02 54.5**	**+0.2**
SHUL				*e*S	**Sn**	**02 03 13.6**	**-0.3**
NSK	**Sanguang** baz=277	**1.46**	**277**	*e*P	**Pn**	**02 02 54.8**	**+0.4**
NSK				*e*S	**Sn**	**02 03 13.5**	**-0.7**
LXIB	**Xiulin Townshi** baz=251	**1.49**	**252**	*e*P	**Pn**	**02 02 54.5**	**-0.3**
LXIB				*e*S	**Sn**	**02 03 13.5**	**-1.4**
ESL	**Shilin** baz=243	**1.55**	**244**	*e*P	**Pn**	**02 02 55.6**	**+0.2**
FUSS	**Fushou** baz=261	**1.58**	**261**	*e*P	**Pn**	**02 02 56.4**	**+0.4**
WHF	**Hehuan Shan** baz=257	**1.58**	**257**	P	**Pn**	**02 02 56.4**	**+0.1**
WHF				S	**Sn**	**02 03 16.6**	**-0.8**
JTJ	**Tarama**	**1.60**	**85**	P	**Pn**	**02 02 56.4**	**+0.4**
JTJ				S	**Sn**	**02 03 16.4**	**-0.6**
EGFH	**Guangfu** baz=239	**1.62**	**240**	*e*S	**Sn**	**02 03 16.9**	**-0.7**
WARBT	**Fenglin Townsh** baz=241	**1.63**	**242**	P	**Pn**	**02 02 56.2**	**-0.3**
WARBT				*e*S	**Sn**	**02 03 16.6**	**-1.2**
TDCB	**Techi** baz=261	**1.66**	**262**	*e*P	**Pn**	**02 02 57.6**	**+0.7**
TDCB				*e*S	**Sn**	**02 03 17.9**	**-0.7**
NFF	**Wufeng Townshi** baz=274	**1.68**	**275**	*e*P	**Pn**	**02 02 57.6**	**+0.5**
NFF				*e*S	**Sn**	**02 03 18.7**	**-0.2**
CHGB	**Renai** baz=255	**1.68**	**255**	*e*P	**Pn**	**02 02 57.9**	**+0.5**
HGSD	**Ruisui** baz=234	**1.72**	**235**	*e*P	**Pn**	**02 02 58.8**	**+1.2**
HGSD				*e*S	**Sn**	**02 03 19.2**	**-0.6**
WUSB	**Renai** baz=253	**1.75**	**254**	*e*P	**Pn**	**02 02 58.5**	**+0.4**
WUSB				*e*S	**Sn**	**02 03 20.0**	**-0.7**
NSTT	**Nanjuang** baz=274	**1.78**	**275**	*e*S	**Sn**	**02 03 21.0**	**-0.2**
EHY	**Hungye** baz=236	**1.79**	**237**	*e*P	**Pn**	**02 02 58.9**	**+0.4**
VWDT	**VWDT** baz=246	**1.82**	**246**	*e*P	**Pn**	**02 02 59.4**	**+0.6**
VWDT				*e*S	**Sn**	**02 03 21.6**	**-0.3**
WHP	**Taichung City** baz=263	**1.84**	**263**	*e*P	**Pn**	**02 03 00.7**	**+1.5**
WHP				*e*S	**Sn**	**02 03 23.3**	**+0.6**
YULB	**Yu-li** baz=234	**1.88**	**234**	*e*P	**Pn**	**02 02 59.4**	**-0.2**
TWF1	**Yuli** baz=233	**1.90**	**233**	*e*P	**Pn**	**02 03 00.2**	**+0.3**
SSLB	**Suanglung** baz=249	**1.96**	**249**	*e*P	**Pn**	**02 03 01.7**	**+1.1**
FULB	**Fuli** baz=229	**2.00**	**230**	*e*P	**Pn**	**02 03 01.5**	**+0.4**
FULB				*e*S	**Sn**	**02 03 25.2**	**-0.9**
TYC	**Yuchr** baz=253	**2.01**	**253**	*e*P	**Pn**	**02 03 02.1**	**+0.9**
WHYT	**Xinyi Township** baz=247	**2.08**	**248**	*e*P	**Pn**	**02 03 03.7**	**+1.5**
EDH	**Donghe** baz=224	**2.15**	**225**	*e*P	**Pn**	**02 03 03.5**	**+0.5**
EDH				*e*S	**Sn**	**02 03 28.3**	**-1.2**
ALS	**Alishan**	**2.20**	**244**	*e*P	**Pn**	**02 03 04.4**	**+0.4**
	baz=243						
CHN5	**Tsauling** baz=246	**2.27**	**247**	*e*P	**Pn**	**02 03 05.5**	**+0.8**

*IDC **18** 02:04:41.9±1.0, 37°.24N×141°.62E, h0km, mb3.7/11, mbtmp3.7/14, ML3.1/2, Error ellipse: s-maj=23.9km s-min=19.2km az=97.0*
*JMA **18** 02:04:45.3±0.2, 37°.2N±0°.4×141°.5E±0°.8, h34km±1km, MD3.8/40, MV4.0/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
ISC 18 02:04:47.0±1.3, 37°.26N±0°.04×141°.41E±0°.06, h34km±3km, n37, σ1s01/36, mb3.5/11, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.44**	**284**	P	**Pn**	**02 04 56.1**	**-0.9**
JFK				S	**Sb**	**02 05 03.6**	**+0.1**
JFK	**Kawauchi** comp=E,8.0nm,0.3s,comp=N,7.0nm,0.3s	**0.44**	**284**	A	A	02 04 56.1	
ONAJ	**Iwakimizuishiy**	**0.51**	**252**	||P	**Pn**	**02 04 56.9**	**-1.0**
ONAJ				||S	**Sn**	**02 05 05.1**	**-0.5**
ONAJ	**Iwakimizuishiy** comp=E,11nm,0.3s,comp=N,7.0nm,0.2s	**0.51**	**252**	A	A	02 04 56.9	
JMST	**Minamisoumatoc**	**0.62**	**318**	P	**Pn**	**02 04 58.6**	**-0.7**
JMST				S	**Sn**	**02 05 08.0**	**-0.1**
JFFD	**Fukushimafurud**	**0.70**	**256**	*i* P	**Pn**	**02 04 59.8**	**-0.6**
JFFD				S	**Sn**	**02 05 09.9**	**-0.1**
JMM	**Marumori**	**0.77**	**321**	*i* P	**Pn**	**02 05 01.0**	**-0.5**
JMM				*e*S	**Sn**	**02 05 12.2**	**+0.3**
JOTO	**OTAMA OYAMA**	**0.90**	**289**	*i* P	**Pb**	**02 05 03.9**	**-0.4**
JOTO				S	**Sb**	**02 05 17.1**	**+0.9**
JHO	**Hitachi**	**0.94**	**226**	P	**Pn**	**02 05 02.2**	**-1.5**
JHO				S	**Sn**	**02 05 14.9**	**-1.0**
JIO	**Ouri**	**1.19**	**358**	*i* P	**Pn**	**02 05 06.3**	**-0.9**
JIO				*e*S	**Sn**	**02 05 21.1**	**-1.1**
JYAR	**Yonezawaarcadi** comp=E,4.0nm,1.0s,comp=N,6.0nm,0.6s	**1.20**	**303**	A	A	02 05 07.6	
JOU	**Okura**	**1.25**	**332**	*i* P	**Pb**	**02 05 08.7**	**-1.4**
JOU				S	**Sb**	**02 05 25.7**	**-0.2**
JOU	**Okura** comp=E,3.0nm,0.5s,comp=N,4.0nm,0.7s	**1.25**	**332**	A	A	02 05 08.7	
JFY	**Yanaizu**	**1.36**	**277**	P	**Pb**	**02 05 11.0**	**-1.0**
JFY				*e*S	**Sb**	**02 05 29.9**	**+0.7**
MJAR	**Matsushiro Arr** comp=N,0.7nm,0.3s,baz=78,slow=17,SNR=8.7	**2.66**	**255**	Pn	**Pn**	**02 05 29.1**	**+1.6**
MJAR	comp=N,1.1nm,0.3s,baz=89,slow=28,SNR=8.0 comp=N,3.8nm,0.4s			Sn	**Sb**	**02 06 03.8**	**-2.6**
JHJ	**Hachijo jima 2** comp=N,9.5nm,0.3s,baz=338,slow=22,SNR=7.0	**4.34**	**198**	Pn	**Pn**	**02 05 50.6**	**0.0**
JHJ	comp=N,16nm,0.3s,baz=34,slow=18,SNR=1.9 comp=N,114nm,0.8s			Sn	**Sn**	**02 06 40.4**	**+0.4**
USRK	**Ussuriysk Ar.** comp=N,0.7nm,0.6s,baz=123,slow=16,SNR=1.7	**9.95**	**317**	Pn	**Pn**	**02 07 06.3**	**-1.2**
SONM	**Songino Array** comp=N,0.3nm,0.5s,baz=89,slow=9.2,SNR=1.7 comp=N,0.3nm,0.5s	**27.65**	**304**	P	**P**	**02 10 33.1**	**+1.5**
H11N2	**WAKE ISLAND Hy** baz=314,slow=75,SNR=120	**28.27**	**121**	T	T	02 40 04.1	
H11N1	**WAKE ISLAND Hy** baz=314,slow=75,SNR=122	**28.28**	**121**	T	T	02 40 05.9	
H11N3	**WAKE ISLAND Hy** baz=314,slow=75,SNR=105	**28.29**	**121**	T	T	02 40 06.6	
H11S1	**WAKE ISLAND Hy** baz=316,slow=76,SNR=25	**28.99**	**123**	T	T	02 40 57.4	
H11S3	**WAKE ISLAND Hy** baz=316,slow=76,SNR=17	**28.99**	**123**	T	T	02 40 55.7	
H11S2	**WAKE ISLAND Hy** baz=316,slow=76,SNR=24	**29.00**	**123**	T	T	02 40 56.7	
ZALV	**Zalesovo Beam** comp=N,0.4nm,0.5s,baz=71,slow=11,SNR=1.4 comp=N,0.4nm,0.5s	**41.76**	**312**	P	**P**	**02 12 33.7**	**+1.0**
MKAR	**Makanchi Array** comp=N,0.4nm,0.6s,baz=82,slow=10,SNR=3.1 comp=N,0.4nm,0.6s	**43.99**	**302**	P	**P**	**02 12 51.8**	**+0.8**
KURBB	**Kurchatov Arra** comp=N,0.6nm,0.6s,baz=83,slow=7.8,SNR=7.6 comp=N,0.6nm,0.6s	**45.86**	**308**	P	**P**	**02 13 06.6**	**+0.9**
ILAR	**Eielson Array** comp=N,0.3nm,0.9s,baz=257,slow=7.0,SNR=2.1 comp=N,0.3nm,0.9s	**49.30**	**32**	P	**P**	**02 13 32.4**	**+0.2**
BVAR	**Borovoye Array** comp=N,0.4nm,0.5s,baz=66,slow=7.3,SNR=2.6 comp=N,0.4nm,0.5s	**50.41**	**312**	P	**P**	**02 13 41.4**	**+0.6**
WRA	**Warramunga Arr** comp=N,0.5nm,0.7s,baz=6.1,slow=6.9,SNR=9.8 comp=N,0.5nm,0.7s	**57.29**	**188**	P	**P**	**02 14 31.0**	**-0.3**
FINES	**FINESS Array B** comp=N,3.5nm,1.1s,baz=52,slow=9.0,SNR=1.7 comp=N,3.5nm,1.1s	**68.61**	**332**	P	**P**	**02 15 47.2**	**+1.0**
HFS	**Hagfors** comp=N,4.5nm,1.1s,baz=64,slow=11,SNR=2.4 comp=N,4.5nm,1.1s	**73.88**	**336**	P	**P**	**02 16 19.2**	**+1.2**
AKASG	**Malin Array Be** comp=N,0.2nm,0.3s,baz=43,slow=6.6,SNR=2.5 comp=N,0.2nm,0.3s	**74.11**	**322**	P	**P**	**02 16 20.3**	**+0.7**
TXAR	**Lajitas Array** comp=N,0.2nm,0.7s,baz=311,slow=5.8,SNR=2.0 comp=N,0.2nm,0.7s	**89.98**	**52**	P	**P**	**02 17 42.4**	**-0.9**
H03N2	**Juan Fernandez** baz=292,slow=76,SNR=18	**147.05**	**96**	T	T	05 08 38.6	
H03N3	**Juan Fernandez** baz=292,slow=76,SNR=24	**147.06**	**96**	T	T	05 08 35.0	
H03N1	**Juan Fernandez** baz=292,slow=76,SNR=18	**147.07**	**96**	T	T	05 08 35.8	

*IDC **18** 02:46:58.2±1.1, 34°.71N×45°.86E, h0km, mb3.7/15, mbtmp3.7/21, ML3.5/6, MS3.5/3, Error ellipse: s-maj=23.8km s-min=12.2km az=157.0*
*TEH **18** 02:46:59.4, 34°.59N×46°.09E, h6km±43km, ML4.0*
*AZER **18** 02:47:00.8±0.5, 34°.71N×46°.12E, h7km, Error ellipse: s-maj=5.4km s-min=4.5km az=17.0*
*ISN **18** 02:47:00.2±0.5, 34°.63N×46°.04E, h18km±3km, ML4.1*
*OMAN **18** 02:47:08.4±0.3, 33°.77N×46°.24E, h37km±8km, mb4.6/12, ms2.6/2, Error ellipse: s-maj=10.2km s-min=4.4km az=39.0*
ISC 18 02:46:59.5±1.0, 34°.58N±0°.02×46°.07E±0°.02, h14km±6km, n110, σ1s59/137, mb3.6/17, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.29**	**65**	Pg	**Pg**	**02 47 05.1**	**-0.7**
IDHR				Sg	**Sg**	**02 47 09.8**	**-0.1**
KGS1	**Ghasr-e-Shirin**	**0.40**	**260**	Pg	**Pg**	**02 47 07.7**	**+0.1**
KGS1				Sg	**Sb**	**02 47 14.5**	**+0.1**
IGHG	**Ghaleghazi**	**0.48**	**121**	Pg	**Pg**	**02 47 08.6**	**-0.5**
IGHG				Sg	**Sb**	**02 47 17.5**	**+0.6**
ILIN	**Lien**	**0.81**	**65**	Pg	**Pg**	**02 47 13.9**	**-1.4**
ILIN				Sg	**Sb**	**02 47 26.1**	**-0.4**
KCHF	**Cheshme Sefid,**	**0.86**	**110**	Pg	**Pg**	**02 47 15.3**	**-0.9**
KCHF				Sg	**Sb**	**02 47 28.6**	**+0.9**
ILBA	**Ilam Banvizeh**	**0.96**	**173**	Pg	**Pg**	**02 47 17.4**	**-0.6**
ILBA				Sg	**Sb**	**02 47 31.7**	**+1.3**

comp=N,502nm,0.4s
IHSH Hashtrud 2.89 19 Pn **Pn** **02 47 47.5 +2.1**
IAZR Azarshahr 3.10 359 Pn **Pn** **02 47 50.3 +2.1**
QSDN Sirdan 3.18 52 Pn **Pn** **02 47 51.6 +2.3**
IRAZ Razeghan 3.27 74 Pn **Pn** **02 47 53.4 +2.8**
ISRB Sarab 3.49 21 Pn **Pn** **02 47 55.7 +2.1**
ITBZ Tabriz 3.65 1 Pn **Pn** **02 47 57.3 +1.6**
JIR1 Jirandeh 3.71 54 Pn **Pn** **02 47 58.4 +1.9**
ISHB Shabestar 3.72 355 Pn **Pn** **02 47 58.1 +1.5**
IHRS Heris 3.82 12 Pn **Pn** **02 47 59.9 +1.8**
IMHD Mahdasht 3.93 72 Pn **Pn** **02 48 00.8 +1.4**
AMIS Naft Sefid 3.96 136 Pn **Pn** **02 48 01.7 +1.9**
IMRD Marand 4.14 356 Pn **Pn** **02 48 04.3 +1.9**
ORD Ordubad 4.34 359 P **Pn** **02 48 05.6 +0.5**
SNR=24
ORD S **Sn** **02 48 56.0 +0.4**
GAS1 Astara - Iran 4.41 30 Pn **Pn** **02 48 08.7 +2.7**
IPIR Pirpir 4.44 114 Pn **Pn** **02 48 07.9 +1.2**
LRK Lerik 4.45 24 P **Pn** **02 48 06.9 +0.2**
SNR=5.9
LRK S **Sn** **02 48 58.5 +0.1**
GRMI Germi 4.47 19 Pn **Pn** **02 48 09.1 +2.1**
QAMS Qamsar 4.50 99 Pn **Pn** **02 48 09.9 +2.5**
JHBN Jahan bin 4.50 120 Pn **Pn** **02 48 09.6 +2.1**
ASTR Astara 4.54 28 P **Pn** **02 48 08.0 +0.3**
SNR=4.7
ASTR S **Sn** **02 49 00.6 +0.4**
NAX Nakhchivan 4.61 354 P **Pn** **02 48 09.5 +0.6**
SNR=4.7
NAX S **Sn** **02 49 02.8 +0.5**
LKRN Lenkeran, Azer 4.67 27 P **Pn** **02 48 09.9 +0.4**
SNR=5.3
LKRN S **Sn** **02 49 03.8 +0.4**
YRD Yardimli 4.67 21 P **Pn** **02 48 09.9 +0.2**
SNR=7.2
YRD S **Sn** **02 49 05.4 +1.6**
ZNGN Zangian 4.70 120 Pn **Pn** **02 48 12.1 +1.9**
IKLH Kolahrood 4.75 104 Pn **Pn** **02 48 12.9 +2.0**
SBZ Shahbuz 4.83 355 P **Pn** **02 48 12.3 +0.4**
SNR=8.7
SBZ S **Sn** **02 49 08.0 +0.4**
MAKU Maku 4.90 347 Pn **Pn** **02 48 15.7 +2.9**
QRD Qoradiz 4.98 11 P **Pn** **02 48 14.2 +0.4**
SNR=12
QRD S **Sn** **02 49 11.7 +0.6**
IDMV Damavand 4.99 77 Pn **Pn** **02 48 16.3 +2.1**
GLBA Ciilabad 5.01 21 P **Pn** **02 48 14.9 +0.6**
SNR=15
GLBA S **Sn** **02 49 12.7 +0.7**
IBRJ Brojen 5.10 120 Pn **Pn** **02 48 18.3 +2.6**
ISFB Sefidab 5.10 91 Pn **Pn** **02 48 17.0 +1.4**
BLQ Beylaqan 5.27 13 P **Pn** **02 48 18.3 +0.5**
SNR=6.7
BLQ S **Sn** **02 49 19.0 +0.7**
IZEF Zefreh 5.48 106 Pn **Pn** **02 48 22.9 +2.0**
IFIR Firoozkooh 5.58 77 Pn **Pn** **02 48 23.5 +1.2**
AGDM Agdam 5.58 8 P **Pn** **02 48 22.8 +0.6**
AGDM S **Sn** **02 49 26.9 +0.8**
GNI Garni 5.66 350 Pn **Pn** **02 48 26.0 +2.6**
comp=N,0.9nm,0.3s,baz=193,slow=20,SNR=2.5
GNI Pg **Pb** **02 48 41.3 +3.1**
comp=N,1.0nm,0.3s,baz=187,slow=8.1,SNR=7.1
GNI Sn **Sn** **02 49 28.5 +0.3**
comp=N,0.3nm,0.3s,baz=229,slow=20,SNR=1.8
GNI Lg Lg 02 49 57.9
baz=274,slow=18
comp=N,1.6nm,0.4s
BRDA Brd 5.75 9 P **Pn** **02 48 25.0 +0.7**
SNR=5.2
BRDA S **Sn** **02 49 30.7 +0.7**
ZRD Zardab 5.84 12 P **Pn** **02 48 26.1 +0.6**
SNR=4.3
ZRD S **Sn** **02 49 32.9 +0.7**
GANJ Ganja 6.06 2 P **Pn** **02 48 29.6 +0.9**
SNR=4.0
GANJ S **Sn** **02 49 38.8 +0.9**
GDB GEDABAY 6.14 358 P **Pn** **02 48 30.2 +0.3**
GDB S **Sn** **02 49 40.4 +0.4**
ANAR Anarak 6.52 100 Pn **Pn** **02 48 36.7 +1.6**
ASF Jabal al Asfar 8.04 255 Pn **Pn** **02 48 56.0 +0.1**
comp=N,1.1nm,0.3s,baz=56,slow=7.9,SNR=14
ASF Sn **Sn** **02 50 24.9 -1.8**
comp=N,0.4nm,0.3s,baz=297,slow=19,SNR=1.5
ASF Lg Lg 02 51 08.4
comp=N,1.1nm,0.3s,baz=342,slow=21,SNR=2.0
comp=N,4.3nm,0.4s
MMAI Mount Meron Ar 9.01 263 Pn **Pn** **02 49 09.3 0.0**
comp=N,2.0nm,0.3s,baz=69,slow=17,SNR=13
MMAI Sn **Sn** **02 50 50.1 -0.5**
comp=N,0.7nm,0.3s,baz=92,slow=19,SNR=1.9
MMAI Lg Lg 02 51 39.5
comp=N,1.2nm,0.3s,baz=102,slow=41,SNR=2.6
comp=N,1.2nm,0.3s
EIL Elat 10.62 246 Pn **Pn** **02 49 31.2 +0.1**
comp=N,0.4nm,0.3s,baz=100,slow=5.7,SNR=6.2
EIL Lg Lg 02 52 30.8
comp=N,0.3nm,0.3s,baz=61,slow=23,SNR=1.5
comp=N,1.1nm,0.4s
BRTR Keskin Array B 11.17 301 Pn **Pn** **02 49 40.3 +1.5**
comp=N,0.1nm,0.3s,baz=131,slow=11,SNR=1.5
comp=N,0.5nm,0.7s
SHME Shamm 12.16 132 P **Pn** **02 49 49.7 -2.5**
SNR=10
BANOM Banah 12.35 132 P **Pn** **02 49 52.6 -2.2**
BANOM S Sn 02 52 03.3 -9.0
MASF Masafi 12.67 134 P **Pn** **02 49 57.9 -1.4**
MASF S Sn 02 52 11.0 -9.2
NAZ Nazwa, Dubai 12.67 136 P **Pn** **02 49 56.7 -2.6**
NAZ S Sn 02 52 10.9 -9.2
FAQ Al Faqa, Dubai 12.82 137 P **Pn** **02 49 58.2 -3.2**
FAQ S Sn 02 52 13.9 -10
UOSS Minazif 13.02 135 P **Pn** **02 50 02.6 -1.4**
UOSS S Sn 02 52 18.0 -11
HATD Hatta, Dubai 13.06 135 P **Pn** **02 50 03.3 -1.4**
HATD S Sn 02 52 21.6 -8.3
ASHO Ashiyiah 13.13 136 P **Pn** **02 50 03.9 -1.7**
SNR=12
ASHO S Sn 02 52 21.9 -10
JASK Jask - Hormozg 13.38 127 P **Pn** **02 50 08.2 -0.8**
ALNE Al Ain 13.45 139 P **Pn** **02 50 09.1 -0.9**
ALNE S Sn 02 52 30.0 -9.3
SOHO SOHO 13.83 136 P **Pn** **02 50 12.7 -2.4**
SOHO P **Pn** **02 50 12.7 -2.4**
SOHO S Sn 02 52 38.1 -10
SOHO S Sn 02 52 38.1 -10
ARQ Araqi 14.45 138 P **Pn** **02 50 22.2 -1.4**
SNR=11
ARQ S Sn 02 52 52.8 -11
HOQ Hoqain 14.70 135 P **Pn** **02 50 25.2 -1.9**
HOQ S Sn 02 53 00.9 -9.0
BSY Bisya 15.30 138 P **Pn** **02 50 32.9 -2.2**
SMDO Samad 15.54 134 P **Pn** **02 50 35.6 -2.7**
SMDO S Sn 02 53 20.2 -10
WSAR Wadi Sarin 15.75 133 P **Pn** **02 50 37.5 -3.4**
WSAR S Sn 02 53 25.9 -9.4
WSAR Wadi Sarin 15.75 133 Pn **Pn** **02 50 38.9 -2.0**
comp=N,1.1nm,0.3s,baz=316,slow=13,SNR=9.6
WSAR Sn Sn 02 53 23.8 -12
comp=N,0.3nm,0.3s,baz=220,slow=22,SNR=1.0
WSAR LR LR 02 57 54.3
comp=N,56nm,18.8s,baz=231,slow=41
JMDO Jabal Madar 16.10 136 P **Pn** **02 50 42.3 -3.2**
JMDO S Sn 02 53 34.0 -10
WBK Wadi Bani Khal 16.43 133 P **Pn** **02 50 47.8 -1.9**
JLN Jalan Bani Buh 17.04 133 P **Pn** **02 50 55.6 -1.8**
MHTO MHTO 17.13 139 P **Pn** **02 50 56.4 -2.1**
MHTO S Sn 02 53 58.2 -11
WHFO Wadi Hawf 17.96 156 P **Pn** **02 51 05.9 -3.0**
SNR=14
WHFO S Sn 02 54 17.5 -11
AKTO Aktyubinsk 18.09 25 P **Pn** **02 51 10.1 -0.2**
comp=N,0.1nm,0.3s,baz=199,slow=5.8,SNR=2.7
comp=N,1.3nm,0.6s
ABTO Aybut 18.33 158 P **Pn** **02 51 10.2 -3.2**
SNR=9.3
RBK Rabkut 18.49 155 P **P** **02 51 14.6 -0.6**
RBK S Sn 02 54 30.1 -12
SHAO Shalim 18.56 150 P **P** **02 51 15.0 -1.0**
SNR=7.7
DMTO DMTO 18.57 152 P **P** **02 51 15.7 -0.3**
DMTO S Sn 02 54 31.4 -12
AKASG Malin Array Be 20.25 328 P **P** **02 51 33.1 -1.1**
comp=N,0.4nm,0.3s,baz=139,slow=8.5,SNR=8.0
comp=N,0.4nm,0.3s

AAK Ala-Archa 23.55 62 LR LR 03 02 20.6
comp=N,35nm,19.1s,baz=332,slow=39
BVAR Borovoye Array 25.26 36 P **P** **02 52 25.6 +0.6**
comp=N,0.7nm,0.4s,baz=241,slow=9.1,SNR=8.7
comp=N,0.7nm,0.4s
KURBB Kurchatov Arra 28.48 46 P **P** **02 52 55.1 +1.0**
comp=N,0.4nm,0.4s,baz=253,slow=9.4,SNR=2.2
comp=N,0.4nm,0.4s
WTTA Wattenberg 28.70 307 *e*P pP 02 52 59.4 -1.7
comp=N,1.7nm,0.7s
SQTA Sankt Quirin 28.97 306 *e*P **P** **02 52 58.6 0.0**
comp=N,0.4nm,0.3s
MOTA Moosalm 29.07 307 *e*P **P** **02 52 59.1 -0.4**
comp=N,0.8nm,0.4s
FINES FINESS Array B 29.77 341 P **P** **02 53 04.1 -1.2**
comp=N,0.9nm,0.5s,baz=143,slow=7.7,SNR=5.2
comp=N,0.9nm,0.5s
MKAR Makanchi Array 29.79 55 P **P** **02 53 07.0 +1.2**
comp=N,0.7nm,0.8s,baz=259,slow=7.2,SNR=2.9
comp=N,0.7nm,0.8s
HFS Hagfors 33.09 331 P **P** **02 53 34.0 -0.5**
comp=N,1.8nm,0.5s,baz=138,slow=7.6,SNR=8.4
comp=N,1.8nm,0.5s
NOA NORSAR Array B 34.61 331 P **P** **02 53 46.8 -1.0**
comp=N,0.9nm,0.9s,baz=122,slow=9.2,SNR=1.6
comp=N,0.9nm,0.9s
ARCES ARCESS Array B 36.82 348 P **P** **02 54 05.7 -0.9**
comp=N,0.3nm,0.5s,baz=171,slow=8.4,SNR=5.6
comp=N,0.3nm,0.5s
EKA Eskdalemuir Ar 39.51 317 P **P** **02 54 27.9 -1.6**
comp=N,0.4nm,0.3s,baz=102,slow=8.8,SNR=5.8
comp=N,0.4nm,0.3s
ESDC Sonseca Array 39.80 292 P **P** **02 54 31.0 -1.2**
comp=N,0.3nm,0.8s,baz=75,slow=8.0,SNR=2.0
comp=N,0.3nm,0.8s
TORD Torodi Ar. Bea 45.39 253 P **P** **02 55 16.9 -0.8**
comp=N,0.8nm,0.7s,baz=42,slow=7.1,SNR=7.0
comp=N,0.8nm,0.7s
SPITS Spitsbergen Ar 45.53 352 P **P** **02 55 17.6 -0.5**
comp=N,5.3nm,0.9s,baz=140,slow=12,SNR=12
comp=N,5.3nm,0.9s
SONM Songino Array 46.16 54 LR LR 03 15 45.2
comp=N,337nm,18.9s,baz=128,slow=37
CMAR Chiang Mai Arr 49.42 95 P **P** **02 55 52.5 +3.3**
comp=N,1.3nm,0.3s,baz=301,slow=10,SNR=1.1
comp=N,1.3nm,0.3s
ILAR Eielson Array 80.46 6 P **P** **02 59 11.1 +0.7**
comp=N,0.3nm,0.9s,baz=339,slow=4.9,SNR=2.2
comp=N,0.3nm,0.9s
YKA Yellowknife Ar 82.02 351 P **P** **02 59 18.7 -0.1**
comp=N,0.3nm,0.9s,baz=13,slow=5.2,SNR=4.1
comp=N,0.3nm,0.9s

*NEIC **18** 02:47:00.9±2.8, 32.°33S±0.°09×179.°7W±0.°2, h165km±8km, mb4.2/14, Error ellipse: s-maj=20.8km s-min=13.0km az=99.0*
*IDC **18** 02:47:03.6±1.3, 32.°15S×179.°92W, h190km±15km, mb3.9/4, mbtmp4.5/6, Error ellipse: s-maj=23.7km s-min=15.8km az=118.0*
*WEL **18** 02:47:04.7±0.4, 33.°5S±13.°×18.°0W±3.°2, h33km, M4.5/12, mB5.0/7, ML5.0/17, MLv4.7/12, Mw(mB)4.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=112.0, confirmed*
ISC 18 02:47:00.7±0.7,**32.°34S**±0.°06×**179.°9W**±0.°1,**h150**km,**n86,**
σ2.°51/98,mb4.3/11,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.52**	**30**	P	**Pn**	**02 47 55.0**	**+0.3**
GLKZ				S	**Sn**	**02 48 38.1**	**+1.6**
RAO	**Raoul Island**	**3.52**	**30**	Pn	**Pn**	**02 47 55.6**	**+0.8**
RAO	**Raoul Island**	**3.52**	**30**	P	**Pn**	**02 47 56.0**	**+1.2**
	131nm,0.3s,baz=236,slow=22,SNR=1.8						
RAO				S	**Sn**	**02 48 40.2**	**+3.4**
	258nm,0.3s,baz=262,slow=24,SNR=4.3						
RIZ	**Raoul Island**	**3.53**	**29**	S	**Sn**	**02 48 40.3**	**+3.5**
MXZ	**Matakaoa Point**	**5.41**	**195**	Pn	**Pn**	**02 48 20.8**	**+1.3**
MXZ	**Matakaoa Point**	**5.41**	**195**	P	Pn	02 48 24.3	+4.8
MXZ				S	**Sn**	**02 49 22.0**	**+0.9**
WMGZ	**Waiomatatini S**	**5.64**	**194**	P	**Pn**	**02 48 24.7**	**+2.2**
HAZ	**Te Kaha**	**5.72**	**199**	P	**Pn**	**02 48 26.7**	**+3.0**
HAZ				S	**Sn**	**02 49 32.2**	**+3.7**
PKGZ	**Pakihiroa**	**5.78**	**196**	P	**Pn**	**02 48 25.2**	**+0.8**
PUZ	**Puketiti**	**5.91**	**194**	P	**Pn**	**02 48 27.4**	**+1.2**
PUZ				S	**Sn**	**02 49 33.2**	**+0.1**
RUGZ	**Raukumara Rang**	**5.95**	**199**	P	**Pn**	**02 48 29.3**	**+2.5**
TWGZ	**Tauwhareparae**	**6.07**	**196**	P	Pn	02 48 33.7	+5.3
TWGZ				S	**Sn**	**02 49 39.1**	**+2.1**
CNGZ	**Carnagh Statio**	**6.32**	**194**	P	**Pn**	**02 48 33.0**	**+1.4**
CNGZ				S	**Sn**	**02 49 40.2**	**-2.5**
MWZ	**Matawai**	**6.33**	**199**	P	**Pn**	**02 48 34.8**	**+3.0**
MWZ				S	**Sn**	**02 49 42.9**	**-0.3**
TKGZ	**Te Karaka**	**6.35**	**196**	P	**Pn**	**02 48 36.4**	**+4.4**
TKGZ				S	**Sn**	**02 49 44.2**	**+0.6**
URZ	**Urewera**	**6.39**	**202**	P	**Pn**	**02 48 37.1**	**+4.6**
	8.0nm,0.3s,baz=354,slow=3.0,SNR=29						
URZ				S	**Sn**	**02 49 44.4**	**+0.1**
	23nm,0.4s,baz=318,slow=4.9,SNR=2.9						
URZ	**Urewera**	**6.39**	**202**	P	**Pn**	**02 48 36.9**	**+4.4**
URZ				S	**Sn**	**02 49 44.5**	**+0.1**
RIGZ	**Rimuhau**	**6.63**	**196**	P	**Pn**	**02 48 39.6**	**+3.9**
MUGZ	**Murupara**	**6.69**	**203**	P	**Pn**	**02 48 40.0**	**+3.4**
MUGZ				S	**Sn**	**02 49 55.9**	**+4.1**
RTZ	**Ruatahuna**	**6.75**	**201**	Pn	**Pn**	**02 48 40.1**	**+2.7**
RTZ	**Ruatahuna**	**6.75**	**201**	P	**Pn**	**02 48 40.7**	**+3.2**
SNGZ	**Shannon Statio**	**6.80**	**198**	P	**Pn**	**02 48 42.3**	**+4.2**
SNGZ				S	**Sn**	**02 49 54.1**	**-0.4**
KNZ	**Kokohu**	**6.95**	**196**	P	**Pn**	**02 48 43.9**	**+3.9**
KNZ				S	**Sn**	**02 49 58.0**	**+0.1**
RAHZ	**Arahi**	**7.00**	**200**	P	**Pn**	**02 48 44.3**	**+3.6**
RAHZ				S	**Sn**	**02 49 57.9**	**-1.3**
MTHZ	**Maungataniwha**	**7.01**	**201**	P	**Pn**	**02 48 44.4**	**+3.5**
MTHZ				S	**Sn**	**02 49 58.6**	**-0.9**
NMHZ	**Naumai**	**7.25**	**201**	P	**Pn**	**02 48 48.2**	**+4.1**
NMHZ				S	**Sn**	**02 50 04.8**	**-0.5**
ARHZ	**Aropaoanui**	**7.35**	**199**	P	**Pn**	**02 48 48.7**	**+3.3**
BKZ	**Black Stump Fm**	**7.41**	**202**	Pn	**Pn**	**02 48 48.4**	**+2.2**
BKZ	**Black Stump Fm**	**7.41**	**202**	P	**Pn**	**02 48 49.8**	**+3.6**
KATZ	**Kakaramea**	**7.52**	**207**	P	Pn	02 48 52.8	+5.0
MCHZ	**McNeill Hill**	**7.60**	**200**	P	**Pn**	**02 48 52.6**	**+3.9**
NTVZ	**North Tongarir**	**7.64**	**207**	P	**Pn**	**02 48 53.3**	**+4.0**
TMVZ	**Te Maari**	**7.64**	**207**	P	**Pn**	**02 48 53.2**	**+3.8**
KRVZ	**Karewarewa**	**7.65**	**207**	P	**Pn**	**02 48 54.1**	**+4.7**
ETVZ	**East Tongariro**	**7.66**	**206**	P	**Pn**	**02 48 52.9**	**+3.3**
KWHZ	**Kaweka Forest**	**7.67**	**202**	P	**Pn**	**02 48 52.0**	**+2.4**
WTVZ	**West Tongariro**	**7.68**	**207**	P	**Pn**	**02 48 53.9**	**+4.0**
NNVZ	**North Ngauruho**	**7.69**	**207**	P	**Pn**	**02 48 53.9**	**+3.9**
OTVZ	**Oturere**	**7.70**	**207**	P	**Pn**	**02 48 52.7**	**+2.6**
TWVZ	**Taurewa**	**7.71**	**208**	P	**Pn**	**02 48 54.5**	**+4.3**
SNVZ	**South Ngauruho**	**7.73**	**207**	P	**Pn**	**02 48 53.2**	**+2.7**
NGZ	**Ngauruhoe**	**7.73**	**207**	P	**Pn**	**02 48 54.3**	**+3.7**
FWVZ	**Far West T-bar**	**7.82**	**207**	P	**Pn**	**02 48 54.7**	**+2.9**
MAVZ	**Matarangi**	**7.83**	**207**	P	**Pn**	**02 48 55.6**	**+3.6**
BHHZ	**Black Hill Sta**	**7.84**	**203**	P	**Pn**	**02 48 54.3**	**+2.3**
TRVZ	**Turoa**	**7.86**	**207**	P	**Pn**	**02 48 55.6**	**+3.2**
WNVZ	**Wahianoa**	**7.87**	**206**	P	**Pn**	**02 48 55.0**	**+2.6**
MOVZ	**Moawhango**	**7.88**	**205**	P	**Pn**	**02 48 54.4**	**+2.0**
KAHZ	**Kahuranaki**	**7.88**	**198**	P	**Pn**	**02 48 54.5**	**+2.1**
KAHZ				S	**Sn**	**02 50 19.1**	**-1.1**
KRHZ	**Kereru**	**7.88**	**201**	P	**Pn**	**02 48 54.2**	**+1.7**
PKVZ	**Pokaka**	**7.93**	**208**	P	**Pn**	**02 48 55.8**	**+2.6**
VRZ	**Vera Road**	**8.04**	**211**	P	Pn	02 48 59.6	+5.1
PXZ	**Pawanui**	**8.10**	**198**	P	**Pn**	**02 48 56.6**	**+1.2**
PNHZ	**Pukenui**	**8.18**	**201**	P	**Pn**	**02 48 57.7**	**+1.2**
PRHZ	**Porangahau**	**8.38**	**198**	P	**Pn**	**02 49 00.6**	**+1.4**
TSZ	**Takapari Road**	**8.39**	**202**	P	**Pn**	**02 49 00.4**	**+1.1**
NEZ	**North Egmont**	**8.45**	**213**	P	Pn	02 49 06.1	+6.0
DVHZ	**Dannevirke**	**8.55**	**201**	P	**Pn**	**02 49 02.4**	**+1.1**
POWZ	**Post Office Ro**	**8.76**	**202**	P	**Pn**	**02 49 04.9**	**+0.8**
PRWZ	**Pori Road**	**8.84**	**201**	P	**Pn**	**02 49 07.0**	**+1.8**
BFZ	**Birch Farm**	**8.88**	**199**	P	**Pn**	**02 49 06.0**	**+0.3**
MRZ	**Mangatainoka R**	**9.06**	**202**	Pn	**Pn**	**02 49 07.3**	**-0.8**
TRWZ	**Traveller**	**9.70**	**200**	P	**Pn**	**02 49 16.4**	**-0.3**
TKNZ	**Takaka Hill**	**10.39**	**211**	Pn	**Pn**	**02 49 25.1**	**-0.7**
EIDS	**Eidsvold**	**26.28**	**278**	P	**P**	**02 52 22.8**	**+0.5**
EIDS				IAmb	IAmb	02 52 23.2	
	comp=Z,7.6nm,0.9s						
STKA	**Stephens Creek**	**32.49**	**260**	P	**P**	**02 53 18.7**	**+1.6**
STKA	**Stephens Creek**	**32.49**	**260**	P	**P**	**02 53 17.1**	**0.0**
	comp=Z,2.1nm,0.8s,baz=111,slow=14,SNR=3.2						
	comp=Z,2.1nm,0.8s						
CTAO	**Charters Tower**	**32.57**	**284**	P	**P**	**02 53 18.4**	**+0.5**
CTAO				IAmb	IAmb	02 53 36.6	

comp=Z,9.1nm,1.1s
BBOO Buckleboo 36.90 257 P **P** **02 53 54.6 -0.4**
BBOO IAmb IAmb 02 54 22.8
comp=Z,9.3nm,1.1s
AS31 Alice Springs 41.42 270 P **P** **02 54 31.8 -0.8**
AS31 IAmb IAmb 02 54 32.3
comp=Z,2.0nm,0.7s
ASAR Alice Springs 41.42 270 P **P** **02 54 30.8 -1.8**
ASAR Alice Springs 41.42 270 P **P** **02 54 31.7 -0.9**
comp=Z,6.2nm,0.8s,baz=104,slow=7.7,SNR=67
comp=Z,6.2nm,0.8s
WR0 Warramunga Arr 42.41 275 P **P** **02 54 39.6 -1.1**
WR0 IAmb IAmb 02 54 40.3
comp=Z,9.3nm,0.9s
WB2 Warramunga Arr 42.58 275 P **P** **02 54 40.6 -1.5**
WRA Warramunga Arr 42.59 275 P **P** **02 54 39.7 -2.4**
WRA Warramunga Arr 42.59 275 P **P** **02 54 40.7 -1.4**
comp=Z,7.7nm,0.4s,baz=113,slow=7.9,SNR=179
comp=Z,7.7nm,0.4s
MTN Manton Dam 48.72 282 P **P** **02 55 28.6 -1.6**
KNRA Kununurra 49.27 277 P **P** **02 55 33.4 -1.0**
FITZ Fitzroy Crossi 50.76 272 P **P** **02 55 44.0 -1.7**
QSPA South Pole Qui 57.77 180 P **P** **02 56 36.1 +0.3**
QSPA IAmb IAmb 02 56 39.7
comp=Z,3.9nm,1.1s
QSPA South Pole Qui 57.77 180 P **P** **02 56 36.2 +0.3**
comp=Z,2.6nm,0.7s,baz=39,slow=4.5,SNR=7.5
comp=Z,2.6nm,0.7s
BELA Belgrano 2 68.08 173 P **P** **02 57 42.5 -1.1**
BELA IAmb IAmb 02 57 43.5
comp=Z,3.8nm,1.0s
SNAA Sanae 76.26 179 P **P** **02 58 30.2 -2.1**
SNAA IAmb IAmb 02 58 36.0
comp=Z,2.2nm,1.0s
ARCES ARCESS Array B 140.11 346 PKhKP PKPpre 03 06 02.2
comp=Z,1.7nm,0.8s,baz=20,slow=2.9,SNR=1.8
FINES FINESS Array B 146.36 338 PKPbc **PKPdf** **03 06 19.8 -1.8**
comp=Z,3.2nm,0.8s,baz=53,slow=4.2,SNR=12
HFS Hagfors 150.77 346 PKPbc **PKPbc** **03 06 31.3 -3.2**
comp=Z,3.0nm,1.0s,baz=48,slow=2.1,SNR=5.5

*AFAD **18** 03:01:01.9±0.0, 37.°84N×27.°59E, h7km±2km, MW3.5*
*ISK **18** 03:01:01.4, 37.°87N×27.°56E, h5km, ML3.3/44*
*THE **18** 03:01:02.3, 37.°87N×27.°59E, h3km±2km, ML3.1/6, Error ellipse: s-maj=2.1km s-min=0.7km az=204.0*
*ATH **18** 03:01:03.4, 37.°82N×27.°58E, h12km±2km, ML3.1/9, Error ellipse: s-maj=2.6km s-min=1.2km az=246.0*
ISC 18 03:01:02.4±1.0,**37.°85N**±0.°01×**27.°57E**±0.°02,**h9**km±8km,
n90,σ0.°70/123,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcami?**	**0.31**	**240**	Pg	**Pg**	**03 01 08.6**	**0.0**
GCAM	**G?zelcami?**	**0.31**	**240**	P	**Pg**	**03 01 08.6**	**0.0**
GCAM				*i* AML	AML	03 01 13.0	
	comp=E,2μm,0.5s						
GCAM				S	**Sg**	**03 01 13.0**	**+3.0**
GCAM				*i* AML	AML	03 01 15.0	
	comp=N,2μm,0.4s						
IZMR	**zmir-demi**	**0.41**	**47**	P	**Pg**	**03 01 10.1**	**-0.4**
IZMR				S	**Sg**	**03 01 15.6**	**-0.3**
IZMR				*i* AML	AML	03 01 17.0	
	comp=E,3μm,0.4s						
IZMR				*i* AML	AML	03 01 18.0	
	comp=N,2μm,0.8s						
DDIM	**Aydin, Didim**	**0.47**	**214**	P	**Pg**	**03 01 12.0**	**+0.3**
DDIM				S	**Sb**	**03 01 20.0**	**-0.1**
DDIM				*i* AML	AML	03 01 25.0	
	comp=E,1μm,0.4s						
DDIM				*i* AML	AML	03 01 29.0	
	comp=N,1μm,0.6s						
DIDI	**Didim-Aydin**	**0.55**	**209**	Pg	**Pg**	**03 01 13.6**	**+0.6**
GMLD	**Gumuldur**	**0.56**	**293**	Pg	**Pg**	**03 01 13.8**	**+0.4**
GMLD				Sg	**Sb**	**03 01 22.9**	**+0.3**
DGB	**zmir**	**0.58**	**290**	P	**Pg**	**03 01 13.8**	**+0.1**
DGB				S	**Sg**	**03 01 21.4**	**+0.1**
MLSB	**Milas**	**0.58**	**164**	Pg	**Pg**	**03 01 13.9**	**+0.2**
SMG	**Samos**	**0.60**	**256**	P	**Pg**	**03 01 14.2**	**+0.1**
SMG				S	**Sb**	**03 01 23.8**	**+0.1**
	2μm,0.4s						
SMG	**Samos**	**0.60**	**256**	P	**Pg**	**03 01 14.2**	**+0.1**
SMG				S	**Sb**	**03 01 23.6**	**-0.1**
SMG				AML	AML	03 01 27.1	
	comp=N,4264μm,0.4s						
SMG				AML	AML	03 01 27.5	
	comp=E,3993μm,0.4s						
BLCB	**Balcova**	**0.68**	**322**	Pg	**Pg**	**03 01 15.5**	**-0.1**
BLCB	**Balcova**	**0.68**	**322**	P	**Pg**	**03 01 15.4**	**-0.1**
BLCB				S	**Sg**	**03 01 24.5**	**+0.2**
BDRM	**Kayabasi**	**0.79**	**187**	P	**Pg**	**03 01 17.2**	**-0.5**
BDRM				S	**Sb**	**03 01 29.3**	**+0.1**
BDRM				*i* AML	AML	03 01 33.0	
	comp=E,1μm,0.5s						
BODT	**Bodrum**	**0.82**	**195**	Pg	**Pg**	**03 01 18.5**	**+0.3**
BODT	**Bodrum**	**0.82**	**195**	P	**Pg**	**03 01 17.8**	**-0.4**
BODT				S	**Sb**	**03 01 30.6**	**+0.7**
MULA	**Mugla, Merkez-**	**0.84**	**135**	P	**Pg**	**03 01 18.8**	**+0.1**
MULA				S	**Sb**	**03 01 31.9**	**+1.2**
MULA				*i* AML	AML	03 01 34.0	
	comp=E,464nm,0.6s						
MULA				*i* AML	AML	03 01 38.0	
	comp=E,709nm,1.0s						
RFTAA	**Mazikoy-Bodrum**	**0.86**	**171**	Pg	**Pb**	**03 01 19.5**	**-0.1**
RFTAA				Sg	**Sb**	**03 01 32.7**	**+1.4**
GOMA	**Golmarmara-Man**	**0.89**	**18**	Pg	**Pb**	**03 01 19.9**	**-0.2**
YER	**Yerkesik**	**0.91**	**142**	Pg	**Pg**	**03 01 20.2**	**+0.2**
YER	**Yerkesik**	**0.91**	**142**	P	**Pg**	**03 01 20.2**	**+0.2**
YER				S	**Sb**	**03 01 33.6**	**+0.8**
RFTB	**Kemer-Bodrum**	**0.92**	**195**	Pg	**Pg**	**03 01 20.4**	**+0.3**
URLA	**Izmir**	**0.92**	**304**	Pg	**Pg**	**03 01 19.8**	**-0.4**
URLA				Sg	**Sb**	**03 01 33.6**	**+0.6**
URLA	**Izmir**	**0.92**	**304**	P	**Pg**	**03 01 20.0**	**-0.1**
URLA				S	**Sb**	**03 01 33.3**	**+0.3**
URLA				*i* AML	AML	03 01 37.0	
	comp=E,744nm,0.7s						
URLA				*i* AML	AML	03 01 38.0	
	comp=E,1μm,0.8s						
ZEYE	**Izmir, Urla-Ze**	**0.93**	**295**	P	**Pg**	**03 01 20.4**	**+0.2**
ZEYE				S	**Sb**	**03 01 33.8**	**+0.7**
ZEYE				*i* AML	AML	03 01 36.0	
	comp=E,881nm,0.4s						
ZEYE				*i* AML	AML	03 01 36.0	
	comp=E,710nm,0.6s						
MANT	**Manisa**	**1.00**	**50**	P	**Pg**	**03 01 21.2**	**-0.6**
MANT				S	**Sb**	**03 01 35.1**	**-0.5**
MANT				*i* AML	AML	03 01 37.0	
	comp=E,683nm,0.3s						
MANT				*i* AML	AML	03 01 41.0	
	comp=E,599nm,0.5s						
KLNA	**Kalymnos**	**1.01**	**208**	P	**Pg**	**03 01 21.5**	**-0.4**
KLNA				S	**Sg**	**03 01 35.0**	**-0.2**
KLNA				AML	AML	03 01 41.9	
	comp=E,3214μm,0.3s						
KLNA				AML	AML	03 01 42.0	
	comp=N,3876μm,0.3s

CAND	**Candarli**	**1.25**	**331**	Pn	**Pn**	**03 01 26.1**	**0.0**	
NISR	**Nisiros**	**1.29**	**196**	P	**Pn**	**03 01 26.1**	**-0.5**	
CHOS	**Chios island**	**1.31**	**294**	P	**Pn**	**03 01 27.2**	**+0.3**	
CHOS	comp=N,505nm,0.4s			S	**Sg**	**03 01 44.6**	**0.0**	
CHOS	**Chios island**	**1.31**	**294**	P	**Pn**	**03 01 27.3**	**+0.3**	
CHOS				S	**Sb**	**03 01 44.3**	**+0.1**	
CHOS	comp=N,877µm,0.4s			AML	AML	03 01 50.5		
CHOS	comp=E,1163µm,0.4s			AML	AML	03 01 50.9		
DKL	**Dikili**	**1.32**	**337**	Pn	**Pb**	**03 01 27.3**	**-0.1**	
DALY	**Dalyan (Mula)**	**1.35**	**140**	Pn	**Pg**	**03 01 28.8**	**+0.5**	
APMY	**Acipayam-Deniz**	**1.42**	**105**	Pn	**Pg**	**03 01 29.9**	**+0.1**	
STEP	**BALIKESIR_Sava**	**1.52**	**4**	P	**Pn**	**03 01 29.8**	**-0.1**	
STEP				S	**Sg**	**03 01 53.2**	**+1.7**	
STEP	comp=E,674nm,0.5s			*i* AML	AML	03 01 56.0		
STEP	comp=E,579nm,0.6s			*i* AML	AML	03 01 58.0		
AYVA	**Ayvalik**	**1.61**	**335**	P	**Pb**	**03 01 32.5**	**+0.2**	
AYVA				S	**Sg**	**03 01 54.5**	**+0.4**	
AYVA	comp=E,223nm,0.7s			*i* AML	AML	03 01 57.0		
AYVA	comp=E,331nm,0.7s			*i* AML	AML	03 01 58.0		
KHL	**Karahalli**	**1.61**	**72**	Pn	**Pb**	**03 01 32.4**	**0.0**	
CAME	**Cameli-Denizli**	**1.65**	**123**	Pn	**Pb**	**03 01 32.9**	**-0.2**	
SIMA	**Simav-Kutahya**	**1.65**	**42**	Pn	**Pb**	**03 01 33.0**	**-0.1**	
ARG	**Arkhangelos**	**1.69**	**165**	Pn	**Pb**	**03 01 33.3**	**-0.5**	
ARG	**Arkhangelos**	**1.69**	**165**	P	**Pn**	**03 01 32.5**	**+0.3**	
ARG	comp=E,458nm,0.5s			S	**Sn**	**03 01 54.3**	**+0.3**	
ARG	**Arkhangelos**	**1.69**	**165**	P	**Pn**	**03 01 32.2**	**0.0**	
ARG				S	**Sn**	**03 01 52.2**	**-1.7**	
ARG	comp=E,955µm,0.7s			AML	AML	03 02 04.2		
ARG	comp=N,924µm,0.9s			AML	AML	03 02 05.8		
PRK	comp=N,1569µm,1.1s			AML	AML	03 02 04.9		
PRK	comp=E,1720µm,0.7s			AML	AML	03 02 06.8		
FETY	**Fethiye**	**1.71**	**135**	Pn	**Pb**	**03 01 33.5**	**-0.6**	
PRK	**Paraskevi**	**1.72**	**324**	P	**Pn**	**03 01 32.7**	**+0.1**	
PRK	comp=N,848nm,0.8s			S	**Sn**	**03 01 54.8**	**+0.1**	
PRK	**Paraskevi**	**1.72**	**324**	P	**Pn**	**03 01 32.6**	**+0.1**	
PRK				S	**Sn**	**03 01 54.8**	**+0.1**	
PRK	comp=N,1569µm,1.1s			AML	AML	03 02 01.9		
PRK	comp=E,1720µm,0.7s			AML	AML	03 02 04.9		
PSRA	**Psara**	**1.73**	**294**	P	**Pn**	**03 01 33.4**	**+0.8**	
BALB	**Balikesir**	**1.80**	**8**	Pn	**Pb**	**03 01 34.7**	**-0.9**	
APE	**Apeiranthos**	**1.80**	**245**	Pn	**Pb**	**03 01 35.3**	**-0.4**	
APE	**Apeiranthos**	**1.80**	**245**	P	**Pn**	**03 01 33.1**	**-0.6**	
APE	**Apeiranthos**	**1.80**	**245**	P	**Pn**	**03 01 33.5**	**-0.2**	
APE				S	**Sn**	**03 01 54.9**	**-1.8**	
APE	comp=N,410µm,1.0s			AML	AML	03 02 08.4		
APE	comp=E,436µm,0.5s			AML	AML	03 02 08.9		
GEDZ	**Gediz**	**1.87**	**50**	Pn	**Pb**	**03 01 35.9**	**-0.9**	
RFT1	**Sazli**	**1.90**	**333**	Pn	**Pn**	**03 01 36.0**	**+1.0**	
SIGR	**SIGRI**	**1.91**	**316**	Pn	**Pb**	**03 01 36.4**	**-1.0**	
SIGR	**SIGRI**	**1.91**	**316**	P	**Pn**	**03 01 34.8**	**-0.4**	
SIGR	comp=E,240nm,0.7s			S	**Sn**	**03 01 59.2**	**-0.1**	
SIGR	**SIGRI**	**1.91**	**316**	P	**Pn**	**03 01 35.3**	**+0.1**	
SIGR	comp=N,550µm,0.8s			AML	AML	03 02 08.0		
SIGR	comp=E,406µm,0.6s			AML	AML	03 02 08.7		
DST	**Dursunbey**	**1.93**	**25**	Pn	**Pb**	**03 01 36.8**	**-1.0**	
BASM	**Basmaki-Afyon**	**1.96**	**87**	Pn	**Pb**	**03 01 37.4**	**-1.0**	
ELL	**Elmali**	**2.17**	**120**	Pn	**Pb**	**03 01 40.9**	**-1.0**	
TVSB	**Tavsanli**	**2.17**	**42**	Pn	**Pn**	**03 01 40.1**	**+1.2**	
GONE	**Gonen-Balikesi**	**2.19**	**2**	Pn	**Pn**	**03 01 40.1**	**+1.1**	
EZN	**Ezine**	**2.20**	**334**	Pn	**Pn**	**03 01 40.2**	**+1.1**	
AKAS	**Kas**	**2.29**	**134**	Pn	**Pb**	**03 01 42.4**	**-1.7**	
KARP	**Karpathos**	**2.33**	**188**	Pn	**Pn**	**03 01 42.3**	**+1.4**	
KARP	**Karpathos**	**2.33**	**188**	P	**Pn**	**03 01 40.8**	**-0.1**	
KARP	comp=N,281µm,0.9s			AML	AML	03 02 23.9		
KARP	comp=E,394µm,0.6s			AML	AML	03 02 30.0		
ISP	**Isparta**	**2.33**	**90**	Pn	**Pb**	**03 01 42.9**	**-1.9**	
KSL	**Kastellorizon**	**2.34**	**136**	P	**Pn**	**03 01 40.4**	**-0.7**	
KSL	comp=E,328µm,1.0s			AML	AML	03 02 31.2		
KSL	comp=N,364µm,1.6s			AML	AML	03 02 34.0		
KORT	**Korkueli**	**2.37**	**110**	Pn	**Pn**	**03 01 43.4**	**+1.8**	
ORLT	**Orhaneli**	**2.42**	**25**	Pn	**Pn**	**03 01 43.6**	**+1.4**	
SHUT	**Suhut-Afyon**	**2.45**	**73**	Pn	**Pn**	**03 01 44.3**	**+1.6**	
KCTX	**Karacabey (Bur**	**2.48**	**14**	Pn	**Pn**	**03 01 44.2**	**+1.1**	
EDC	**Edincik**	**2.50**	**5**	Pn	**Pn**	**03 01 42.9**	**-0.4**	
KRBG	**Karabiga-Canak**	**2.54**	**355**	Pn	**Pn**	**03 01 43.9**	**0.0**	
LPK	**Lapseki**	**2.59**	**346**	Pn	**Pn**	**03 01 45.7**	**+1.1**	
GADA	**Gvkgeada**	**2.67**	**331**	Pn	**Pn**	**03 01 47.1**	**+1.5**	
GELI	**Tayfur-Gelibol**	**2.68**	**342**	Pn	**Pn**	**03 01 46.8**	**+1.1**	
LIA	**Limnos Island**	**2.77**	**318**	P	**Pn**	**03 01 47.4**	**+0.5**	
ZKR	**Zakros**	**2.94**	**202**	P	**Pn**	**03 01 48.8**	**-0.6**	
SMTH	**Samothraki Isl**	**3.06**	**329**	P	**Pn**	**03 01 51.1**	**+0.2**	

IDC 18 03:03:20.4±4.1,20°.45N×109°.18W,h0km,mb3.2/2, mbtmp3.4/5,ML3.6/3,MS3.0/2,Error ellipse: s-maj=72.5km s-min=41.0km az=28.0,Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**10.16**	**28**	Pn	Pn	03 05 48.3	+0.6
	0.1nm,0.3s,baz=205,slow=14,SNR=9.4 1.0nm,0.9s						
CMIG	**Matias Romero**	**13.94**	**101**	Pn	Pn	03 06 39.9	+0.6
	1.9nm,0.3s,baz=294,slow=15,SNR=17 5.2nm,0.3s						
PFO	**Pinyon Flats O**	**14.62**	**335**	LR	LR	03 11 59.4	
	comp=Z,68nm,21.1s,baz=154,slow=36						
NVAR	**Mina Array Bea**	**19.58**	**338**	P	P	03 07 50.7	+0.4
	0.1nm,0.3s,baz=161,slow=11,SNR=1.2 0.1nm,0.3s						
ELK	**Elko**	**20.88**	**347**	LR	LR	03 16 34.2	
	comp=Z,35nm,20.3s,baz=52,slow=38						
PDAR	**Pinedale Array**	**22.26**	**359**	P	P	03 08 20.4	+1.3
	0.5nm,0.8s,baz=160,slow=14,SNR=3.3 0.5nm,0.8s						
ILAR	**Eielson Array**	**50.82**	**340**	P	P	03 12 21.7	-0.7
	0.4nm,0.7s,baz=148,slow=6.7,SNR=7.2 0.4nm,0.7s						
H03N2	**Juan Fernandez**	**60.86**	**151**	T	T	04 17 54.4	
	baz=329,slow=78,SNR=7.4						
H03N1	**Juan Fernandez**	**60.87**	**151**	T	T	04 17 54.5	
	baz=329,slow=78,SNR=7.7						
H03N3	**Juan Fernandez**	**60.88**	**151**	T	T	04 17 47.9	
	baz=329,slow=78,SNR=5.9						

IDC 18 03:05:33.9±1.9,16°.98S×177°.58W,h0km,mb4.2/6, mbtmp4.2/6,Error ellipse: s-maj=116.0km s-min=22.2km az=152.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.58**	**259**	P	P	03 13 56.0	-0.1
	1.0nm,0.4s,baz=98,slow=7.3,SNR=30 1.0nm,0.4s						
ASAR	**Alice Springs**	**45.81**	**253**	P	P	03 13 57.9	-0.1
	11nm,0.4s,baz=90,slow=8.4,SNR=157 11nm,0.4s						
NVAR	**Mina Array Bea**	**78.21**	**44**	P	P	03 17 36.5	+0.8
	1.2nm,0.8s,baz=223,slow=8.7,SNR=8.5 1.2nm,0.8s						
ILAR	**Eielson Array**	**84.81**	**13**	P	P	03 18 09.9	+0.1
	0.6nm,0.3s,baz=224,slow=5.0,SNR=31 0.6nm,0.3s						
TXAR	**Lajitas Array**	**84.83**	**57**	P	P	03 18 10.6	-0.3
	1.9nm,1.0s,baz=216,slow=5.6,SNR=14 1.9nm,1.0s						
YKA	**Yellowknife Ar**	**93.16**	**24**	P	P	03 18 48.4	-1.2
	0.3nm,0.8s,baz=232,slow=4.9,SNR=4.2 0.3nm,0.8s						

*SJA **18** 03:09:40.4±0.6,28°.17S×70°.90W,h61km±3km,ML3.8, MW3.7*

*GUC **18** 03:09:41.2±0.8,28°.22S×70°.81W,h52km±4km,ML3.4*

ISC 18 03:09:43.4±1.4,28°.16S±0°.04×70°.90W±0°.07,h46km±10km, n28,σ191/42,3C-1D,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.16**	**254**	*e*P	**Pn**	**03 09 50.4**	**-0.7**
AC04				*e*S	**Sn**	**03 09 57.9**	**+1.4**
AC04	comp=Z,4µm,0.1s			IAML		03 09 58.8	
AC04	**Llanos de Chal**	**0.16**	**254**	⇓ *i*P	**Pn**	**03 09 50.9**	**-0.2**
AC04				*e*S	**Sn**	**03 09 57.4**	**+0.9**
AC04	comp=N,9µm,0.2s			IAML		03 09 57.6	
GO03	**Copiap**	**0.81**	**46**	*e*P	**Pn**	**03 09 57.4**	**-1.2**
GO03	**Copiap**	**0.81**	**46**	⇑ *i*P	**Pn**	**03 09 57.7**	**-0.9**
GO03				*e*S	**Sn**	**03 10 09.3**	**-0.3**
GO03	comp=N,2µm,0.2s			IAML		03 10 11.1	
LCO	**Las Campanas**	**0.86**	**169**	*e*P	**Pn**	**03 09 57.9**	**-1.6**
LCO				*e*S	**Sn**	**03 10 10.8**	**-0.3**
LCO	comp=Z,3µm,0.4s			IAML		03 10 16.7	
LCO	**Las Campanas**	**0.86**	**169**	*e*P	**Pn**	**03 09 57.8**	**-1.7**
LCO				*e*S	**Sn**	**03 10 09.6**	**-1.5**
LCO	comp=Z,9µm,0.2s			IAML		03 10 12.2	
AC05	**El Transito**	**0.87**	**141**	*e*P	**Pn**	**03 09 57.9**	**-1.6**
AC05				*e*S	**Sn**	**03 10 08.6**	**-2.5**
AC05	**El Transito**	**0.87**	**141**	*i* P	**Pn**	**03 09 58.1**	**-1.3**
AC05				*e*S	**Sn**	**03 10 09.7**	**-1.3**
AC05	comp=E,926nm,0.2s			IAML		03 10 13.5	
AC06	**Mina Casimiro**	**0.93**	**31**	⇑ *i*P	**Pn**	**03 09 59.8**	**-0.4**
AC06	comp=N,1µm,0.1s			IAML		03 10 16.4	
CO05	**La Serena**	**1.78**	**190**	*e*P	**Pn**	**03 10 10.2**	**-1.5**
CO05				*i* S	**Sn**	**03 10 33.0**	**0.0**
CO05	comp=N,1µm,0.3s			IAML		03 10 37.6	
CO01	**Juntas del Tor**	**1.94**	**159**	*e*P	**Pn**	**03 10 13.5**	**-0.7**
CO01				*e*S	**Sn**	**03 10 38.4**	**+0.9**
CO01	**Juntas del Tor**	**1.94**	**159**	*e*P	**Pn**	**03 10 13.3**	**-0.8**
CO01				*i* S	**Sn**	**03 10 37.5**	**0.0**
CO01	comp=N,408nm,0.2s			IAML		03 10 40.2	
GO04	**Tololo Observa**	**2.01**	**178**	*e*P	**Pn**	**03 10 14.3**	**-0.8**
AC01	**Pan de Azucar**	**2.02**	**8**	⇑ *i*P	**Pn**	**03 10 13.7**	**-1.4**
AC01	comp=E,336nm,0.4s			IAML		03 10 50.8	
CO06	**Fray Jorge**	**2.59**	**194**	*e*P	**Pn**	**03 10 20.2**	**-2.6**
CO03	**El Pedregal**	**2.67**	**176**	*e*P	**Pn**	**03 10 23.2**	**-0.9**
CO03				*e*S	**Sn**	**03 10 59.0**	**+3.7**
CO03	comp=Z,223nm,0.2s			IAML		03 11 08.9	
CO03	**El Pedregal**	**2.67**	**176**	*e*P	**Pn**	**03 10 23.4**	**-0.7**
CO02	**Combarbal**	**3.03**	**182**	*e*P	**Pn**	**03 10 27.4**	**-1.7**
CO02				*e*S	**Sn**	**03 11 08.9**	**+4.7**
CO02	comp=Z,330nm,0.3s			IAML		03 11 14.0	
CO02	**Combarbal**	**3.03**	**182**	*e*P	**Pn**	**03 10 27.4**	**-1.7**
GO02	**Mina Guanaco**	**3.21**	**22**	*e*P	**Pn**	**03 10 31.0**	**-0.6**
GO02	**Mina Guanaco**	**3.21**	**22**	*e*P	**Pn**	**03 10 30.9**	**-0.6**
RTLL	**Cerro Villicun**	**3.79**	**147**	*e*P	**Pn**	**03 10 40.3**	**+0.8**
RTLL				*e*S	**Sn**	**03 11 29.0**	**+6.2**
RTLL	comp=Z,86nm,0.9s			IAML		03 11 30.7	
CFA	**Coronel Fontan**	**4.14**	**147**	*e*P	**Pn**	**03 10 44.2**	**+0.1**
CFA				*e*S	**Sn**	**03 11 33.0**	**+1.7**
VA03	**San Esteban**	**4.60**	**176**	*e*P	**Pn**	**03 10 49.5**	**-1.0**
VA03	comp=Z,80nm,0.6s			IAML		03 12 07.0	
MT02	**Curacav**	**5.09**	**182**	*e*P	**Pn**	**03 10 54.3**	**-2.8**
MT02				*e*S	Sn	03 12 04.5	+10
MT02	comp=Z,73nm,0.4s			IAML		03 12 09.6	
PB15	**IPOC Station P**	**5.10**	**15**	*e*P	**Pn**	**03 10 57.1**	**-0.4**
PB15	comp=Z,127nm,0.3s			IAML		03 12 34.6	
MT05	**Renca**	**5.22**	**179**	*e*P	**Pn**	**03 10 57.1**	**-1.8**
MT05	comp=Z,72nm,0.7s			IAML		03 12 19.5	
MT03	**Universidad Ad**	**5.33**	**177**	*e*P	**Pn**	**03 10 59.4**	**-1.1**
MT03	comp=Z,72nm,0.3s			IAML		03 12 26.9	

*ANF **18** 03:45:00.9±0.4,36°.42N×96°.91W,h4km,ML2.8/5,Error ellipse: s-maj=4.1km s-min=3.0km az=19.0*

*TUL **18** 03:45:00.5±0.4,36°.424N±0°.010×96°.93W±0°.01,h4km±1km, ML2.6,mb_Lg2.6/15(NEIC),ML2.9/58(NEIC),Error ellipse: s-maj=1.6km s-min=1.3km az=66.0*

*NEIC **18** 03:45:01.1±0.3,36°.421N±0°.007×96°.93W±0°.01,h3km±3km, Error ellipse: s-maj=1.6km s-min=0.7km az=62.0*

ISC 18 03:45:00.7±0.9,36°.41N±0°.02×96°.94W±0°.02,h5km±5km, n64,σ065/81,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK048	**Pawnee Station**	**0.01**	**309**	Pg	**Pg**	**03 45 01.5**	**-0.1**
OK048				Sg	**Sg**	**03 45 02.1**	**-0.1**
OK048	19µm,0.1s			IAML		03 45 02.2	
OK051	**E0350 and S346**	**0.12**	**42**	Pg	**Pg**	**03 45 03.1**	**-0.1**
OK051				Sg	**Sg**	**03 45 05.0**	**+0.1**
QUOK	**Quay**	**0.30**	**142**	Pg	**Pg**	**03 45 06.8**	**+0.2**
QUOK				Sg	**Sg**	**03 45 10.9**	**+0.3**
QUOK	comp=N,2µm,0.3s			IAML		03 45 11.2	
QUOK	comp=E,1µm,0.2s			IAML		03 45 12.8	
OK033	**Mehan**	**0.37**	**180**	Pg	**Pg**	**03 45 08.1**	**+0.3**
BLOK	**Blackwell**	**0.41**	**327**	Pg	**Pg**	**03 45 08.7**	**0.0**
BLOK				Sg	**Sg**	**03 45 14.1**	**0.0**
BLOK	comp=E,1µm,0.2s			IAML		03 45 14.7	
BLOK	comp=N,1µm,0.2s			IAML		03 45 16.8	
OK052	**Battle Ridge R**	**0.43**	**165**	Pg	**Pg**	**03 45 09.2**	**+0.2**
OK052				Sg	**Sg**	**03 45 15.2**	**+0.5**
OK052	comp=N,884nm,0.4s			IAML		03 45 18.6	
T35A	**Sooner Cattle**	**0.61**	**34**	Pg	**Pg**	**03 45 12.0**	**-0.4**
T35A				Sg	**Sg**	**03 45 19.8**	**-0.5**
T35B	**Sooner Cattle** baz=214	**0.61**	**34**	P	**Pg**	**03 45 12.1**	**-0.3**
T35B	baz=214			S	**Sg**	**03 45 19.9**	**-0.4**
DEOK	**Depew**	**0.67**	**148**	Pg	**Pg**	**03 45 13.5**	**0.0**
DEOK				Sg	**Sg**	**03 45 22.6**	**+0.3**
DEOK	comp=E,455nm,0.5s			IAML		03 45 26.1	
DEOK	comp=N,366nm,0.4s			IAML		03 45 26.1	
KAN13	**South Haven SW**	**0.74**	**324**	Pg	**Pg**	**03 45 14.5**	**-0.4**
KAN13				Sg	**Sg**	**03 45 24.5**	**0.0**
KAN13	comp=N,609nm,0.3s			IAML		03 45 26.9	
OK029	**Liberty Lake**	**0.74**	**214**	Pg	**Pg**	**03 45 14.9**	**0.0**
OK029				Sg	**Sg**	**03 45 25.2**	**+0.6**
ADOK	**Arcadia Dam**	**0.84**	**205**	Pg	**Pg**	**03 45 16.6**	**-0.1**
ADOK				Sg	**Sg**	**03 45 28.1**	**+0.5**
CROK	**Carrier**	**0.85**	**277**	Pg	**Pg**	**03 45 16.8**	**-0.2**
CROK				Sg	**Sg**	**03 45 28.6**	**+0.6**
CROK	comp=E,301nm,0.3s			IAML		03 45 32.5	
CROK	comp=N,299nm,0.2s			IAML		03 45 36.8	
GC02	**Grant County #**	**0.86**	**301**	Pg	**Pg**	**03 45 16.9**	**-0.4**
GC02				Sg	**Sg**	**03 45 28.4**	**0.0**
KAN09	**Caldwell North**	**0.91**	**323**	Pg	**Pg**	**03 45 17.7**	**-0.4**
KAN09				Sg	**Sg**	**03 45 29.4**	**-0.4**
KAN17	**Caldwell West**	**0.92**	**314**	Pg	**Pg**	**03 45 17.9**	**-0.3**
KAN17				Sg	**Sg**	**03 45 30.1**	**0.0**
KAN17	comp=E,380nm,0.2s			IAML		03 45 30.3	
KAN14	**Manchester OK**	**0.99**	**304**	Pg	**Pg**	**03 45 19.1**	**-0.5**
KAN14				Sg	**Sg**	**03 45 32.9**	**+0.5**
KAN14	comp=E,311nm,0.1s			IAML		03 45 33.4	
KAN01	**Argonia South**	**0.99**	**319**	Pg	**Pg**	**03 45 19.3**	**-0.4**
KAN01				Sg	**Sg**	**03 45 32.4**	**-0.1**
KAN01	comp=E,379nm,0.1s			IAML		03 45 34.0	
KAN01	comp=N,317nm,0.4s			IAML		03 45 35.8	
KAN05	**Bluff City Nor**	**1.02**	**313**	Pg	**Pg**	**03 45 19.8**	**-0.5**
KAN05				Sg	**Sg**	**03 45 32.7**	**-0.8**
KAN05	comp=N,398nm,0.3s			IAML		03 45 33.6	
KAN05	comp=E,389nm,0.2s			IAML		03 45 39.8	
KS21	**Milan North St**	**1.05**	**327**	IAML		03 45 35.5	
KS21	comp=E,258nm,0.1s			IAML		03 45 37.5	
KS21	**Milan North St**	**1.05**	**327**	Pg	**Pg**	**03 45 20.2**	**-0.6**
KS21				Sg	**Sg**	**03 45 33.6**	**-0.8**
TUL3	**Leonard**	**1.05**	**118**	Pg	**Pg**	**03 45 20.2**	**-0.7**
TUL3				Sg	**Sg**	**03 45 33.1**	**-1.4**
TUL3	**Leonard** baz=300	**1.05**	**118**	P	**Pg**	**03 45 20.2**	**-0.7**
TUL3	baz=300			S	**Sg**	**03 45 34.0**	**-0.5**
OKCSW	**OKLAHOMA CITY**	**1.08**	**202**	Pg	**Pg**	**03 45 20.8**	**-0.7**
OKCSW				Sg	**Sg**	**03 45 36.1**	**+0.6**
OKCSW	comp=N,298nm,0.1s			IAML		03 45 38.0	
OKCSW	comp=E,269nm,0.1s			IAML		03 45 38.5	
OK032	**Salt Plains WL**	**1.09**	**291**	Pg	**Pg**	**03 45 21.2**	**-0.5**
OK032				Sg	**Sg**	**03 45 35.8**	**-0.1**
KAN06	**Argonia West S**	**1.11**	**319**	Pg	**Pg**	**03 45 21.3**	**-0.8**
KAN06	comp=E,270nm,0.1s			IAML		03 45 37.7	
KAN06	comp=N,261nm,0.1s			IAML		03 45 37.9	
KAN08	**Anthony NE Sta**	**1.16**	**315**	Pg	**Pg**	**03 45 22.2**	**-0.8**
KAN08				IAML		03 45 41.4	
KAN08	comp=E,255nm,0.4s			IAML		03 45 42.8	
KAN10	**Anthony SW Sta**	**1.17**	**308**	Pg	**Pg**	**03 45 22.4**	**-0.7**
KAN10	comp=N,285nm,0.1s			IAML		03 45 40.2	
KAN10	comp=E,205nm,0.3s			IAML		03 45 41.6	
FNO	**Franklin**	**1.21**	**198**	Pg	**Pg**	**03 45 22.9**	**-1.1**
FNO	comp=E,152nm,0.1s			IAML		03 45 44.6	
KAN12	**Harper NE Stat**	**1.23**	**316**	Pg	**Pg**	**03 45 23.3**	**-0.9**
W35A	**Tecumseh**	**1.26**	**178**	Pg	**Pg**	**03 45 23.3**	**-1.5**
W35A	comp=N,229nm,0.2s			IAML		03 45 43.3	
RLO	**Rose Lookout**	**1.57**	**99**		**Pn**	**03 45 29.0**	**-0.2**
U32A	**Winter Ranch,**	**1.67**	**269**	Pn	**Pn**	**03 45 31.0**	**+0.4**
U32A	**Winter Ranch,** baz=88	**1.67**	**269**	P	**Pn**	**03 45 31.0**	**+0.4**
U32A	baz=88			S	**Sb**	**03 45 54.1**	**+0.9**
U38A	**Gravette**	**2.06**	**89**	Pn	**Pn**	**03 45 36.7**	**+0.7**
U38A	**Gravette** baz=270	**2.06**	**89**	P	**Pn**	**03 45 36.9**	**+1.0**
WMOK	**Wichita Mounta**	**2.25**	**222**	Pn	**Pn**	**03 45 39.1**	**+0.5**
LOOK	**Love County**	**2.42**	**185**	Pn	**Pn**	**03 45 40.5**	**-0.4**
HHAR	**Hobbs**	**2.42**	**92**	Pn	**Pn**	**03 45 41.5**	**+0.5**
HHAR	**Hobbs** baz=274	**2.42**	**92**	P	**Pn**	**03 45 41.9**	**+0.9**
R32A	**Long Quarter,**	**2.45**	**325**	Pn	**Pn**	**03 45 41.6**	**+0.1**
R32A	**Long Quarter,** baz=144	**2.45**	**325**	S	**Sn**	**03 46 12.7**	**+0.9**
KSU1	**Kansas State U**	**2.70**	**5**	Pn	**Pn**	**03 45 44.7**	**0.0**
SMWD	**Samnorwood**	**2.99**	**245**	Pn	**Pn**	**03 45 48.8**	**0.0**
S39A	**Bolivar**	**3.16**	**65**	Pn	**Pn**	**03 45 51.5**	**+0.4**
S39A	comp=Z,14nm,0.7s			IAmb_Lg		03 46 47.4	
U40A	**Yellville** baz=272	**3.30**	**90**	P	**Pn**	**03 45 53.5**	**+0.5**
U40A	baz=272			P	**Pn**	**03 45 53.5**	**+0.5**
FW03	**Perrin-Whitt E**	**3.49**	**196**	Pn	**Pn**	**03 45 55.0**	**-0.7**
PLPT	**Palo Pinto**	**3.77**	**198**	Pn	**Pn**	**03 45 58.4**	**-1.1**
MGMO	**Mountain Grove**	**3.82**	**77**	Pn	**Pn**	**03 45 60.0**	**-0.2**
MGMO	comp=Z,7.9nm,0.8s			IAmb_Lg		03 47 06.6	
X40A	**Basin Creek Fa**	**3.86**	**119**	Pn	**Pn**	**03 46 01.4**	**+0.7**
X40A	comp=Z,18nm,1.3s			IAmb_Lg		03 47 06.5	
FCAR	**Ozark Folk Cen**	**3.93**	**96**	Pn	**Pn**	**03 46 02.5**	**+0.8**
WHAR	**Wooly Hollow**	**3.94**	**105**	Pn	**Pn**	**03 46 01.9**	**+0.1**
APMT	**Aspermont** comp=Z,6.7nm,0.8s	**4.04**	**221**	IAmb_Lg		03 47 14.3	
UALR	**University of** comp=Z,7.1nm,1.0s	**4.09**	**112**	IAmb_Lg		03 47 20.7	
AMTX	**Amarillo**	**4.15**	**250**	Pn	**Pn**	**03 46 04.8**	**0.0**
R40A	**Maddies Statio**	**4.17**	**62**	Pn	**Pn**	**03 46 05.6**	**+0.7**
DKNS	**Dickens** comp=Z,8.2nm,0.9s	**4.26**	**231**	IAmb_Lg		03 47 27.6	
WHTX	**Lake Whitney,**	**4.43**	**186**	Pn	**Pn**	**03 46 08.4**	**-0.1**
RTBA	**Rita Blanca**	**4.68**	**272**	Pn	**Pn**	**03 46 12.2**	**+0.2**
P40A	**Paris** comp=Z,16nm,0.8s	**4.96**	**50**	IAmb_Lg		03 47 35.0	
BRDY	**Brady**	**5.39**	**199**	Pn	**Pn**	**03 46 19.1**	**-2.7**
FVM	**French Village** comp=Z,9.9nm,1.1s	**5.43**	**71**	IAmb_Lg		03 48 00.2	
L34A	**Svendsen Farm,** comp=Z,14nm,0.8s	**5.56**	**4**	IAmb_Lg		03 48 01.6	
T25A	**Trinidad** comp=Z,11nm,1.3s	**6.04**	**279**	IAmb_Lg		03 48 20.7	

IDC 18 04:29:03.0±1.8,13°.13N×51°.10E,h0km,mb3.5/6, mbtmp3.5/6,MS3.0/3,Error ellipse: s-maj=52.2km s-min=34.8km az=145.0,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIL	**Elat**	**22.25**	**320**	LR	LR	04 42 43.8	
	comp=Z,26nm,21.9s,baz=198,slow=37						
GNI	**Garni**	**27.49**	**349**	LR	LR	04 46 41.6	
	comp=Z,28nm,18.3s,baz=208,slow=38						
BELG	**Belogornoye**	**39.26**	**357**	LR	LR	04 57 43.1	
	comp=Z,29nm,19.0s,baz=181,slow=44						
MKAR	**Makanchi Array**	**42.56**	**32**	P	P	04 37 00.1	-0.5
	0.4nm,0.7s,baz=220,slow=7.9,SNR=3.0 0.4nm,0.7s						
BVAR	**Borovoye Array**	**42.66**	**17**	P	P	04 37 01.8	+0.5
	0.3nm,0.5s,baz=200,slow=7.2,SNR=2.2 0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**43.55**	**25**	P	P	04 37 08.8	+0.3
	0.1nm,0.3s,baz=226,slow=7.7,SNR=2.0 0.1nm,0.3s						
TORD	**Torodi Ar. Bea**	**48.05**	**276**	P	P	04 37 44.5	-0.2
	0.2nm,0.4s,baz=79,slow=7.5,SNR=2.2 0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**48.62**	**26**	P	P	04 37 47.7	-0.7
	0.5nm,0.4s,baz=216,slow=6.6,SNR=2.7 0.5nm,0.4s						

MOVZ	Moawhango	0.63	184	P	Pn	04 36 35.6	+0.3
BKZ	Black Stump Fm	0.66	126	P	Pn	04 36 35.7	+0.3
MTVZ	Mangateitei	0.66	204	P	Pn	04 36 36.1	+0.6
BHHZ	Black Hill Sta	0.73	165	P	Pn	04 36 36.4	+0.4
HIZ	Hauiti	0.80	289	P	Pn	04 36 35.9	-0.5
KWHZ	Kaweka Forest	0.80	144	P	Pn	04 36 37.2	+0.7
MTHZ	Maungataniwha	0.81	96	P	Pn	04 36 36.6	+0.1
MUGZ	Murupara	0.81	68	P	Pn	04 36 35.5	-0.9
NMHZ	Naumai	0.84	113	P	Pn	04 36 37.9	+1.2
VRZ	Vera Road	0.89	247	P	Pn	04 36 37.4	+0.3
KRHZ	Kereru	0.96	154	P	Pn	04 36 38.6	+0.8
RAHZ	Arahi	1.00	98	P	Pn	04 36 38.8	+0.8
TOZ	Tahuroa Road	1.07	347	P	Pn	04 36 37.6	-1.1
URZ	Urewera	1.14	63	P	Pn	04 36 38.0	-1.3
PNHZ	Pukenui	1.17	165	P	Pn	04 36 40.3	+0.6
TSZ	Takapari Road	1.28	175	P	Pn	04 36 41.4	+0.6
LREZ	Lake Rotokare	1.29	238	P	Pn	04 36 41.5	+0.7
WHRZ	Whale Island	1.30	45	P	Pn	04 36 38.2	-2.8
WPHZ	Waipukurau	1.37	159	P	Pn	04 36 42.3	+0.6
MWZ	Matawai	1.42	72	P	Pn	04 36 41.3	-0.9
NEZ	North Egmont	1.43	249	P	Pn	04 36 42.6	+0.3
PKE	Pukeiti	1.48	253	P	Pn	04 36 42.9	0.0
KHEZ	Kahui Hut	1.49	249	P	Pn	04 36 43.3	+0.3
RIGZ	Rimuhau	1.53	88	P	Pn	04 36 43.2	-0.2
DVHZ	Dannevirke	1.54	170	P	Pn	04 36 43.7	+0.2
POWZ	Post Office Ro	1.61	181	P	Pn	04 36 44.5	+0.2
PRHZ	Porangahau	1.62	157	P	Pn	04 36 44.9	+0.6
TKGZ	Te Karaka	1.63	79	P	Pn	04 36 44.6	+0.2
MHGZ	Mahia Peninsul	1.67	104	P	Pn	04 36 45.2	+0.2
RUGZ	Raukumara Rang	1.68	62	P	Pn	04 36 43.1	-2.1
MKAZ	Moumakai	1.75	343	P	Pn	04 36 44.2	-1.7
ANWZ	Angora Road	1.75	163	P	Pn	04 36 46.4	+0.5
PRMZ	Pori Road	1.78	176	P	Pn	04 36 46.5	+0.3
HAZ	Te Kaha	1.86	57	P	Pn	04 36 45.1	-2.0
MRZ	Mangatainoka R	1.89	185	P	Pn	04 36 47.2	-0.3
BFZ	Birch Farm	1.93	170	P	Pn	04 36 47.8	-0.1
AWAZ	Awhitu Peninsu	1.95	331	P	Pn	04 36 46.5	-1.7
PKGZ	Pakihiroa	1.99	64	P	Pn	04 36 47.6	-1.1
TIWZ	Tintock	2.00	178	P	Pn	04 36 48.6	-0.1
OGWZ	Otaki Gorge	2.10	193	P	Pn	04 36 49.6	-0.3
HOWZ	Holdsworth Sta	2.13	186	P	Pn	04 36 49.6	-0.7
KIW	Kapiti Island	2.19	198	P	Pn	04 36 50.2	-0.9
WMGZ	Waiomatatini S	2.26	66	P	Pn	04 36 50.3	-1.6
TMWZ	Te Maipa	2.33	179	P	Pn	04 36 52.1	-0.6
MTW	Mount Morrison	2.39	186	P	Pn	04 36 52.5	-1.0
CAW	Cannon Point	2.40	194	P	Pn	04 36 52.7	-0.9
DUWZ	D'Urville Isla	2.49	215	P	Pn	04 36 53.5	-1.3
PAWZ	Paruwai Farm	2.62	186	P	Pn	04 36 55.1	-1.3
TRWZ	Traveller	2.62	182	P	Pn	04 36 55.5	-0.9
WEL	Wellington	2.63	197	P	Pn	04 36 55.3	-1.2
TCW	Tory Channel	2.70	205	P	Pn	04 36 56.1	-1.3
BHW	Baring Head	2.72	195	P	Pn	04 36 56.2	-1.5
PLWZ	Palliser	2.82	189	P	Pn	04 36 57.3	-1.7
NNZ	Nelson	3.07	217	P	Pn	04 37 00.2	-1.9
TKNZ	Takaka Hill	3.14	223	P	Pn	04 37 00.9	-2.2
QRZ	Quartz Range	3.25	230	P	Pn	04 37 01.8	-2.6
BSWZ	Blackbirch Sta	3.29	206	P	Pn	04 37 03.1	-1.8
MRNZ	Matariki Terra	3.51	221	P	Pn	04 37 05.6	-2.3
THZ	Tophouse	3.72	216	P	Pn	04 37 09.1	-1.5
KHZ	Kahutara	4.02	205	P	Pn	04 37 12.4	-2.1
GVZ	Greta Valley S	4.68	206	P	Pn	04 37 20.5	-2.8
OKCZ	Okains Bay	5.36	202	P	Pn	04 37 29.1	-3.2
OXZ	Oxford	5.36	211	P	Pn	04 37 28.8	-3.6
MQZ	McQueen's Vall	5.47	205	P	Pn	04 37 29.5	-4.2
MHCZ	Mount Hutt	5.73	213	P	Pn	04 37 33.9	-3.4
WACZ	Wakanui South	5.96	209	P	Pn	04 37 36.3	-4.0

*NOU **18** 04:44:48.5,21.°36S×169.°93E, h0km, MLv4.2/8, Southeast of Loyalty Islands*
*IDC **18** 04:44:55.3±1.0,21.°48S×169.°40E, h0km, mb3.9/7, mbtmp3.9/8, ML3.8/1, MS2.8/2, Error ellipse: s-maj=38.8km s-min=20.3km az=159.0*
*NEIC **18** 04:44:57.4±1.7,21.°55S±0.°07×169.°31E±0.°07, h10km±2km, mb4.3/9, Error ellipse: s-maj=14.0km s-min=9.2km az=35.0*

ISC 18 04:44:58.2±0.8,**21.°52S**±0.°09×**169.°38E**±0.°08,**h21**km,**n35**, σ0ˢ**86**/37,**mb4.1**/11,**Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**1.26**	**271**	Pn	**Pn**	**04 45 19.9**	**-0.7**
MARNC				Sn	**Sn**	**04 45 36.0**	**-0.9**
MARNC	**Mare, Loyalty**	**1.26**	**271**	P	**Pn**	**04 45 19.8**	**-0.7**
PINNC	**Pines Island,**	**2.10**	**238**	Pn	**Pn**	**04 45 31.3**	**-0.8**
PINNC				Sn	**Sn**	**04 45 56.2**	**-1.4**
PINNC	**Pines Island,**	**2.10**	**238**	P	**Pn**	**04 45 31.6**	**-0.5**
LIFNC	**LIFOU**	**2.13**	**290**	Pn	**Pn**	**04 45 31.3**	**-1.3**
LIFNC	**LIFOU**	**2.13**	**290**	P	**Pn**	**04 45 31.3**	**-1.3**
YATNC	**Mamie plateau,**	**2.38**	**250**	P	**Pn**	**04 45 34.8**	**-1.1**
OUENC	**Ouen Island, N**	**2.52**	**249**	Pn	**Pn**	**04 45 37.5**	**-0.4**
OUENC	**Ouen Island, N**	**2.52**	**249**	P	**Pn**	**04 45 38.3**	**+0.4**
DZM	**Mont Dzumac**	**2.79**	**258**	P	**Pn**	**04 45 42.5**	**+0.9**
DZM	**Mont Dzumac**	**2.79**	**258**	Pn	**Pn**	**04 45 41.7**	**+0.1**
	16nm,0.3s,baz=127,slow=17,SNR=169						
DZM				Sn	**Sn**	**04 46 15.4**	**+0.7**
	72nm,0.3s,baz=106,slow=18,SNR=11						
DZM				LR	LR	04 46 29.2	
	comp=Z,42nm,21.2s,baz=104,slow=33						
	39nm,0.3s						
ONTNC	**Ouen Toro**	**2.83**	**253**	Pn	**Pn**	**04 45 41.6**	**-0.5**
ONTNC	**Ouen Toro**	**2.83**	**253**	P	**Pn**	**04 45 42.4**	**+0.2**
NOUC	**Port Laguerre**	**2.92**	**258**	P	**Pn**	**04 45 44.0**	**+0.6**
KOUNC	**Koumac, New Ca**	**4.86**	**281**	Pn	**Pn**	**04 46 11.0**	**+0.9**
URZ	**Urewera**	**17.97**	**160**	LR	LR	04 55 11.3	
	comp=Z,101nm,18.1s,baz=132,slow=34						
MRZ	**Mangatainoka R**	**19.80**	**166**	P	**Pn**	**04 49 28.6**	**-0.2**
CTA	**Charters Tower**	**21.67**	**270**	P	**P**	**04 49 49.5**	**+1.9**
	6.7nm,0.8s,baz=87,slow=12,SNR=5.2						
	6.7nm,0.8s						
MLZ	**Mavora Lakes**	**23.81**	**182**	P	**P**	**04 50 08.2**	**-1.4**
MLZ				IAmb	IAmb	04 50 33.7	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**26.81**	**242**	P	**P**	**04 50 38.5**	**+1.4**
	comp=Z,2.2nm,0.7s,baz=56,slow=8.5,SNR=3.9						
	comp=Z,2.2nm,0.7s						
WR0	**Warramunga Arr**	**32.58**	**266**	P	**P**	**04 51 27.6**	**-0.7**
WR0				IAmb	IAmb	04 51 39.8	
	comp=Z,4.8nm,1.1s						
WB0	**Warramunga Arr**	**32.75**	**267**	P	**P**	**04 51 28.8**	**-1.0**
WB0				IAmb	IAmb	04 51 41.2	
	comp=Z,4.6nm,1.1s						
WRA	**Warramunga Arr**	**32.77**	**266**	P	**P**	**04 51 29.8**	**-0.2**
WRA	**Warramunga Arr**	**32.77**	**266**	P	**P**	**04 51 29.6**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=100,slow=8.1,SNR=13						
	comp=Z,0.8nm,0.8s						
ASAR	**Alice Springs**	**32.78**	**259**	P	**P**	**04 51 29.4**	**-0.7**
ASAR	**Alice Springs**	**32.78**	**259**	P	**P**	**04 51 30.3**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=85,slow=9.1,SNR=17						
	comp=Z,1.9nm,0.8s						
MTN	**Manton Dam**	**37.47**	**277**	P	**P**	**04 52 10.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**41.20**	**267**	P	**P**	**04 52 42.8**	**+1.1**
QSPA	**South Pole Qui**	**68.55**	**180**	P	**P**	**04 55 59.6**	**+0.5**
QSPA				IAmb	IAmb	04 56 02.0	
	comp=Z,3.0nm,1.1s						
QSPA	**South Pole Qui**	**68.55**	**180**	P	**P**	**04 55 59.7**	**+0.6**
	comp=Z,1.8nm,1.0s,baz=24,slow=1.0,SNR=5.2						
	comp=Z,1.8nm,1.0s						
BELA	**Belgrano 2**	**79.83**	**175**	P	**P**	**04 57 04.3**	**-0.3**
BELA				IAmb	IAmb	04 57 32.9	
	comp=Z,4.4nm,1.1s						
NVAR	**Mina Array Bea**	**90.20**	**48**	P	**P**	**04 57 58.4**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=223,slow=6.1,SNR=3.8						
	comp=Z,0.3nm,0.7s						
ILAR	**Eielson Array**	**92.36**	**17**	P	**P**	**04 58 06.1**	**-0.5**
	comp=Z,0.3nm,0.9s,baz=228,slow=11,SNR=5.1						
	comp=Z,0.3nm,0.9s						
EKA	**Eskdalemuir Ar**	**145.77**	**352**	PKPbc	**PKPbc**	**05 04 35.0**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=356,slow=2.5,SNR=17						
GERES	**GERESS Array B**	**146.54**	**330**	PKPbc	**PKPab**	**05 04 38.5**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=72,slow=4.3,SNR=4.3						

*NEIC **18** 04:55:09.7±0.5,36.°308N±0.°010×96.°644W±0.°003, h4km±3km, Error ellipse: s-maj=1.5km s-min=0.4km az=173.0*

TUL 18 04:55:09.2±0.4,**36.°309N**±0.°010×**96.°651W**±0.°003, **h4**km±4km,**ML2.3**,**ML2.3**/32(NEIC),**Error ellipse: s-maj=1.3km s-min=0.4km az=173.0**,**Oklahoma**

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

QUOK	**Quay**	**0.14**	**199**	Pg	Pg	04 55 12.6	+0.5
QUOK				Sg	Sg	04 55 14.7	+0.8
QUOK				IAML		04 55 14.9	
	comp=N,885nm,0.2s						
QUOK				IAML		04 55 14.9	
	comp=E,904nm,0.2s						
OK051	**E0350 and S346**	**0.25**	**323**	Pg	Pg	04 55 14.5	+0.5
OK051				Sg	Sg	04 55 17.8	+0.6
OK051				IAML		04 55 18.1	
	comp=E,771nm,0.3s						
OK048	**Pawnee Station**	**0.26**	**294**	Pg	Pg	04 55 14.6	+0.4
OK048				Sg	Sg	04 55 18.2	+0.6
OK048				IAML		04 55 18.5	
	comp=E,500nm,0.3s						
OK052	**Battle Ridge R**	**0.34**	**201**	Pg	Pg	04 55 16.1	+0.4
OK052				Sg	Sg	04 55 20.8	+0.7
OK052				IAML		04 55 22.7	
	comp=E,267nm,0.4s						
OK052				IAML		04 55 26.6	
	comp=E,202nm,0.4s						
OK033	**Mehan**	**0.35**	**221**	Pg	Pg	04 55 16.3	+0.3
OK033				Sg	Sg	04 55 21.3	+0.7
OK033				IAML		04 55 21.5	
	comp=E,578nm,0.3s						
DEOK	**Depew**	**0.48**	**165**	Pg	Pg	04 55 18.9	+0.4
DEOK				Sg	Sg	04 55 25.5	+0.8
DEOK				IAML		04 55 27.2	
	comp=E,209nm,0.4s						
T35A	**Sooner Cattle**	**0.62**	**10**	Pg	Pg	04 55 20.9	-0.1
T35A				Sg	Sg	04 55 29.1	+0.1
BLOK	**Blackwell**	**0.64**	**315**	Pg	Pg	04 55 21.4	-0.1
BLOK				Sg	Sg	04 55 29.9	+0.1
BLOK				IAML		04 55 32.7	
	comp=N,215nm,0.2s						
BLOK				IAML		04 55 33.6	
	comp=E,179nm,0.2s						
TUL3	**Leonard**	**0.80**	**120**	Pg	Pg	04 55 24.4	-0.1
TUL3				Sg	Sg	04 55 34.9	0.0
OK029	**Liberty Lake**	**0.83**	**232**	Pg	Pg	04 55 24.8	-0.3
OK029				Sg	Sg	04 55 36.3	+0.5
OK029				IAML		04 55 37.0	
	comp=E,112nm,0.2s						
OK029				IAML		04 55 37.1	
	comp=E,112nm,0.2s						
KAN13	**South Haven SW**	**0.97**	**317**	Pg	Pg	04 55 27.5	-0.2
KAN13				Sg	Sg	04 55 40.2	-0.1
CROK	**Carrier**	**1.09**	**281**	Pg	Pg	04 55 29.1	-1.1
CROK				IAML		04 55 51.1	
	comp=N,127nm,0.1s						
OKCSW	**OKLAHOMA CITY**	**1.10**	**216**	Pg	Pg	04 55 29.4	-1.0
OKCSW				Sg	Sg	04 55 44.9	+0.2
GC02	**Grant County #**	**1.11**	**299**	Pg	Pg	04 55 29.8	-0.7
KAN09	**Caldwell North**	**1.13**	**317**	Pg	Pg	04 55 30.6	-0.4
KAN09				Sg	Sg	04 55 45.0	-0.7
KAN17	**Caldwell West**	**1.16**	**310**	Pg	Pg	04 55 30.9	-0.5
KAN17				Sg	Sg	04 55 46.2	-0.2
FNO	**Franklin**	**1.21**	**210**		Pg	04 55 31.3	-1.2
FNO				IAML		04 55 50.4	
	comp=E,107nm,0.2s						
KAN01	**Argonia South**	**1.23**	**314**		Pg	04 55 31.8	-0.9
KAN14	**Manchester OK**	**1.24**	**302**		Pg	04 55 32.1	-0.9
KAN05	**Bluff City Nor**	**1.27**	**309**		Pg	04 55 32.9	-0.5
KS21	**Milan North St**	**1.27**	**321**		Pg	04 55 33.4	-0.1
RLO	**Rose Lookout**	**1.32**	**96**		Pn	04 55 33.8	-0.7
RLO				IAML		04 55 55.2	
	comp=E,76nm,0.2s						
RLO				IAML		04 55 57.0	
	comp=N,120nm,0.2s						
OK032	**Salt Plains WL**	**1.35**	**292**		Pn	04 55 34.1	-0.8
KAN08	**Anthony NE Sta**	**1.40**	**311**		Pn	04 55 35.2	-0.4
KAN10	**Anthony SW Sta**	**1.42**	**305**		Pn	04 55 35.8	0.0
KAN12	**Harper NE Stat**	**1.46**	**313**		Pn	04 55 36.5	+0.1
U38A	**Gravette**	**1.83**	**85**	Pn	Pn	04 55 41.7	+0.2
HHAR	**Hobbs**	**2.19**	**90**	Pn	Pn	04 55 47.1	+0.7
ELIS	**Ellis County**	**2.25**	**265**	Pn	Pn	04 55 47.5	+0.2
WMOK	**Wichita Mounta**	**2.34**	**229**	Pn	Pn	04 55 49.2	+0.7
LOOK	**Love County**	**2.35**	**191**	Pn	Pn	04 55 48.7	0.0

*IDC **18** 05:18:51.7±1.0,32.°17N×141.°00E, h0km, mb3.8/8, mbtmp3.8/9, ML3.3/1, Error ellipse: s-maj=32.0km s-min=19.1km az=68.0*
*JMA **18** 05:18:54.9±0.3,32.°5N±0.°8×14.°1E±.°, h26km, MV3.9/26, E OFF HACHIJOJIMA ISLAND*
*NIED **18** 05:18:54.9,32.°50N×141.°07E, h26km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.13; $M_{\theta\theta}$3.56; $M_{\phi\phi}$-1.43; $M_{r\theta}$-0.06; $M_{\theta\phi}$0.94; $M_{\phi r}$0.91; Fault plane solution: $M_0$3.27000×10^{14} NP1: ϕ_s229.00000°,δ56.00000°,λ-136.00000°. NP2: ϕ_s111.00000°,δ55.00000°,λ-43.00000°.*

ISC 18 05:18:54.5±2.4,**32.°41N**±0.°09×**141.°00E**±0.°09,**h15**km±14km, **n28**,σ1ˢ**47**/28,**mb3.8**/8,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.05**	**273**	eP	**Pg**	**05 19 14.7**	**0.0**
JHCJ	**Hachijojimakas**	**1.21**	**303**	P	**Pn**	**05 19 16.6**	**-0.3**
JHJ2	**Mitsune**	**1.22**	**305**	P	**Pn**	**05 19 16.4**	**-0.5**
JHJ2				S	**Sb**	**05 19 32.1**	**-0.6**
JHJ	**Hachijo jima 2**	**1.24**	**305**	Pn	**Pn**	**05 19 16.7**	**-0.6**
	69nm,0.3s,baz=111,slow=22,SNR=31						
JHJ				Sn	**Sb**	**05 19 30.6**	**-2.9**
	276nm,0.3s,baz=74,slow=23,SNR=10						
JMKN	**Mikurajimanish**	**1.89**	**322**	P	**Pn**	**05 19 26.3**	**+0.1**
JMKN				S	**Sn**	**05 19 49.0**	**-0.8**
JMYK	**Miyake Tsubota**	**2.04**	**324**	eP	**Pn**	**05 19 28.4**	**+0.1**
JMYK				eS	**Sn**	**05 19 53.4**	**-0.2**
BSO1	**Boso 1**	**2.23**	**360**	eP	**Pn**	**05 19 29.2**	**-1.3**
BSO3	**Boso 3**	**2.42**	**350**	eP	**Pn**	**05 19 32.2**	**-1.1**
BSO3				eS	**Sn**	**05 20 00.4**	**-2.0**
JOD2	**Odawara 2**	**3.26**	**331**	eP	**Pn**	**05 19 45.5**	**+0.5**
JYN	**Shimob**	**3.69**	**327**	eP	**Pn**	**05 19 52.7**	**+1.7**
JRY	**Ryogami san**	**3.99**	**335**	eP	**Pn**	**05 19 56.2**	**+1.0**
JAG	**Ashikaga**	**4.20**	**343**	eP	**Pn**	**05 19 57.5**	**-0.4**
MJAR	**Matsushiro Arr**	**4.72**	**332**	Pn	**Pn**	**05 20 07.0**	**+1.9**
	1.3nm,0.3s,baz=151,slow=12,SNR=47						
MJAR				Sn	**Sn**	**05 20 58.5**	**-1.2**
	baz=224,slow=56						
	19nm,0.6s						
MAT	**Matsushiro**	**4.72**	**332**	eP	**Pn**	**05 20 07.1**	**+1.9**
H11N2	**WAKE ISLAND Hy**	**26.39**	**112**	T	T	05 52 00.1	
	baz=305,slow=74,SNR=14						
H11N1	**WAKE ISLAND Hy**	**26.39**	**112**	T	T	05 51 58.4	
	baz=305,slow=74,SNR=16						
H11N3	**WAKE ISLAND Hy**	**26.41**	**112**	T	T	05 52 00.7	
	baz=305,slow=74,SNR=12						
H11S3	**WAKE ISLAND Hy**	**26.93**	**115**	T	T	05 52 43.2	
	baz=307,slow=74						
H11S1	**WAKE ISLAND Hy**	**26.93**	**115**	T	T	05 52 42.0	
	baz=307,slow=74						
H11S2	**WAKE ISLAND Hy**	**26.95**	**115**	T	T	05 52 46.4	
	baz=307						
MKAR	**Makanchi Array**	**46.41**	**306**	P	**P**	**05 27 21.8**	**+1.4**
	0.4nm,0.5s,baz=91,slow=8.5,SNR=6.2						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**48.68**	**311**	P	**P**	**05 27 38.5**	**+0.6**
	2.3nm,0.2s,baz=87,slow=7.9,SNR=4.8						
	2.3nm,0.2s						
WRA	**Warramunga Arr**	**52.45**	**188**	P	**P**	**05 28 04.0**	**-2.7**
	0.3nm,0.3s,baz=3.1,slow=7.6,SNR=11						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**53.51**	**315**	P	**P**	**05 28 16.7**	**+2.5**
	0.8nm,0.5s,baz=94,slow=5.9,SNR=4.6						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**53.61**	**30**	P	**P**	**05 28 15.4**	**+0.7**
	0.2nm,0.6s,baz=276,slow=6.5,SNR=5.6						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**56.17**	**188**	P	**P**	**05 28 31.6**	**-2.1**
	0.3nm,0.6s,baz=15,slow=7.7,SNR=2.5						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**72.75**	**333**	P	**P**	**05 30 21.7**	**0.0**
	0.7nm,0.6s,baz=40,slow=7.2,SNR=4.7						
	0.7nm,0.6s						
TXAR	**Lajitas Array**	**93.21**	**52**	P	**P**	**05 32 09.5**	**+0.8**
	0.5nm,0.9s,baz=308,slow=4.6,SNR=4.7						
	0.5nm,0.9s						

IDC 18 05:25:25.9±3.6,**54.°63N**×**86.°63E**,**h0**km,**mbtmp3.3**/2, **ML2.5**/2,**Error ellipse: s-maj=29.9km s-min=18.1km az=56.0**,**Southwestern Siberia**

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

I46RU	**ZALESOVO INFRA**	**1.26**	**238**	I	I	05 32 17.3	
	baz=56,slow=342,SNR=3.7						
ZALV	**Zalesovo Beam**	**1.26**	**238**	Pg	Pg	05 25 49.8	-0.4
	0.6nm,0.3s,baz=57,slow=17,SNR=7.5						
ZALV				Lg	Lg	05 26 06.1	
	0.6nm,0.3s,baz=60,slow=15,SNR=4.7						
KURBB	**Kurchatov Arra**	**6.36**	**234**	Pn	Pn	05 27 01.6	+0.8
	0.1nm,0.3s,baz=51,slow=14,SNR=3.6						
	1.6nm,0.2s						
MKAR	**Makanchi Array**	**8.32**	**201**	Pn	Pn	05 27 28.3	+0.5
	0.1nm,0.3s,baz=24,slow=18,SNR=2.4						
MKAR				Sn	Sn	05 29 02.3	0.0
	0.1nm,0.3s,baz=25,slow=24,SNR=2.4						
MKAR				Lg	Lg	05 29 51.7	
	baz=21,slow=34,SNR=1.6						
	0.2nm,0.3s						

*FUNV **18** 05:57:51.8,7.°41N×72.°22W, h34km, MW3.0*
*RSNC **18** 05:57:52.9±1.4,7.°36N×71.°97W, h0km±7km, ML1.8*

ISC 18 05:57:51.7±1.1,**7.°40N**±0.°04×**72.°01W**±0.°03,**h29**km±13km, **n12**,σ1ˢ**79**/24,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**0.55**	**327**	eP	**Pb**	**05 58 01.8**	**-1.3**
CAPV				eS	**Sb**	**05 58 09.8**	**-1.2**
TAMC	**Tame, Arauca**	**0.98**	**167**	eP	**Pb**	**05 58 09.3**	**-0.8**
TAMC				eS	**Sb**	**05 58 23.1**	**+0.3**
TAMC				i		05 58 27.1	
	comp=Z,16nm,0.5s						
BARC	**Barichara**	**1.42**	**236**	eP	**Pb**	**05 58 18.6**	**+1.0**
BARC				eS	**Sb**	**05 58 39.0**	**+3.6**
BARC				i		05 58 48.4	
	comp=Z,13nm,0.4s						
SOCV	**Socops**	**1.44**	**52**	eP	**Pb**	**05 58 17.3**	**-0.6**
SOCV				eS	**Sb**	**05 58 36.3**	**+0.4**
OCAC	**Ocana**	**1.54**	**303**	eP	**Pb**	**05 58 20.3**	**+0.6**
OCAC				eS	**Sb**	**05 58 42.8**	**+3.8**
SDV	**Santo Domingo**	**2.01**	**43**	eP	**Pb**	**05 58 27.9**	**+0.2**
SDV				eS	**Sb**	**05 58 54.2**	**+1.9**
SDV				i		05 58 56.0	
	comp=Z,22nm,0.5s						
PTBC	**PUERTO BERRIO,**	**2.58**	**251**	eP	**Pn**	**05 58 33.1**	**+1.6**
PTBC				eS	**Sb**	**05 59 09.1**	**+0.5**
PTBC				i		05 59 15.0	
	comp=Z,3.4nm,0.4s						
SPBC	**San Pablo de B**	**2.69**	**230**	eP	**Pb**	**05 58 37.2**	**-2.0**
SPBC				eS	**Sb**	**05 59 11.2**	**-0.6**
SPBC				i		05 59 18.8	
	comp=Z,2.9nm,0.4s						
ZARC	**Zaragoza, Cauc**	**2.83**	**272**	eP	**Pb**	**05 58 38.0**	**-3.5**
ZARC				eS	**Sb**	**05 59 14.6**	**-1.2**
ZARC				i		05 59 21.3	
	comp=Z,3.2nm,0.3s						
CURV	**Curarigua**	**3.29**	**38**	eP	**Pn**	**05 58 42.1**	**+0.7**
CURV				eS	**Sn**	**05 59 18.6**	**-1.1**
BAUV	**El Baul**	**4.21**	**68**	eP	**Pn**	**05 58 54.9**	**+0.9**
BAUV				eS	**Sn**	**05 59 41.8**	**-0.5**
BENV	**Beln**	**5.05**	**59**	eP	**Pn**	**05 59 06.0**	**+0.4**
BENV				eS	**Sn**	**06 00 00.9**	**-2.0**

IDC 18 06:04:57.2±2.9,**54.°13N**×**86.°49E**,**h0**km,**mbtmp3.0**/2, **ML2.7**/2,**Error ellipse: s-maj=23.3km s-min=13.7km az=58.0**,**Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**260**	I	I	06 10 39.8	
	baz=81,slow=342,SNR=9.5						
ZALV	**Zalesovo Beam**	**1.00**	**260**	Pg	Pg	06 05 15.6	-0.8
	0.6nm,0.3s,baz=81,slow=17,SNR=8.3						
ZALV				Lg	Lg	06 05 30.8	
	1.4nm,0.3s,baz=76,slow=28,SNR=7.8						
ZALV				Rg	Rg	06 05 35.1	
	2.3nm,0.3s,baz=79,slow=32,SNR=4.7						
KURBB	**Kurchatov Arra**	**6.01**	**237**	Pn	Pn	06 06 27.8	+0.6
	0.1nm,0.3s,baz=54,slow=13,SNR=2.3						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**7.81**	**202**	Pn	Pn	06 06 53.3	+1.2
	0.2nm,0.3s,baz=23,slow=12,SNR=5.2						
	0.3nm,0.3s						

IDC 18 06:14:17.2±3.2,**54.°36N**×**86.°78E**,**h0**km,**mbtmp3.2**/2, **ML2.7**/2,**Error ellipse: s-maj=27.7km s-min=17.9km az=54.0**,**Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.23**	**251**	I	I	06 21 26.7	
	0.1nm,0

comp=Z,166nm,31.0s
PPT2 Papeete2 24.11 90 *e*T T 06 43 34.5
comp=Z,9.1nm,0.4s
PPT Papeete 24.12 89 LR LR 06 25 58.6
comp=Z,70nm,18.3s,baz=328,slow=30
TVO Taravao 24.39 90 *e*T T 06 43 44.7
comp=Z,2.2nm,0.3s
MEH Mehetia 25.50 91 *e*T T 06 45 35.7
comp=Z,17nm,0.2s
TAOE Nuku Hiva Isla 35.29 77 *e*LR LR 06 29 49.5
comp=Z,65nm,26.7s
TAOE Nuku Hiva Isla 35.29 77 *e*T T 06 57 16.4
comp=Z,35nm,0.2s
CTA Charters Tower 36.46 262 LR LR 06 34 46.1
comp=Z,50nm,19.4s,baz=85,slow=33
CTAO Charters Tower 36.46 262 P **P** **06 21 30.8 -0.4**
CTAO IAmb IAmb 06 21 32.5
comp=Z,22nm,1.2s
TOO Toolangi 38.78 234 P **P** **06 21 50.3 -0.2**
TOO IAmb IAmb 06 22 20.5
comp=Z,14nm,1.4s
STKA Stephens Creek 40.79 244 LR LR 06 37 45.3
comp=Z,38nm,18.2s,baz=130,slow=34
AS31 Alice Springs 47.54 255 P **P** **06 23 00.4 -0.4**
ASAR Alice Springs 47.54 255 P **P** **06 23 00.6 -0.3**
ASAR Alice Springs 47.54 255 P **P** **06 23 01.4 +0.6**
comp=Z,3.9nm,0.5s,baz=86,slow=8.3,SNR=18
comp=Z,3.9nm,0.5s
WB0 Warramunga Arr 47.57 261 P **P** **06 23 00.1 -0.9**
WRA Warramunga Arr 47.59 261 P **P** **06 23 00.6 -0.6**
WRA Warramunga Arr 47.59 261 P **P** **06 23 00.6 -0.6**
comp=Z,2.7nm,0.3s,baz=97,slow=7.5,SNR=7.4
comp=Z,2.7nm,0.3s
MTN Manton Dam 52.05 269 P **P** **06 23 33.8 -1.0**
MTN IAmb IAmb 06 23 34.7
comp=Z,12nm,0.8s
KNRA Kununurra 53.60 265 P **P** **06 23 45.6 -0.6**
KNRA IAmb IAmb 06 23 46.3
comp=Z,12nm,0.7s
FITZ Fitzroy Crossi 56.01 261 P **P** **06 24 03.5 +0.1**
PSA00 Pilbara Seismi 60.69 256 P **P** **06 24 35.3 -0.5**
PSA00 IAmb IAmb 06 24 36.5
comp=Z,4.1nm,0.9s
MBWA Marble Bar 60.87 256 P **P** **06 24 36.3 -0.7**
MBWA IAmb IAmb 06 24 59.1
comp=Z,17nm,1.1s
JCJ Chichijima 62.27 317 P **P** **06 24 46.6 +0.5**
CASY Casey 66.05 205 P **P** **06 25 10.8 +0.7**
CASY IAmb IAmb 06 25 32.0
comp=Z,13nm,1.2s
QSPA South Pole Qui 70.51 180 P **P** **06 25 38.0 0.0**
QSPA IAmb IAmb 06 26 01.5
comp=Z,6.3nm,1.4s
QSPA South Pole Qui 70.51 180 P **P** **06 25 38.0 0.0**
comp=Z,0.7nm,0.5s,baz=269,slow=0.9,SNR=8.8
comp=Z,0.7nm,0.5s
YBH Yreka Blue Hor 77.78 37 LR LR 06 52 47.2
comp=Z,49nm,19.1s,baz=7.0,slow=30
NVAR Mina Array Bea 78.38 42 P P 06 26 16.1 -7.8
comp=Z,0.7nm,0.9s,baz=220,slow=11,SNR=5.1
comp=Z,0.7nm,0.9s
MAW Mawson 83.41 199 P **P** **06 26 51.7 +2.0**
MAW IAmb IAmb 06 26 55.3
comp=Z,6.3nm,1.5s
TXAR Lajitas Array 84.13 56 P P 06 26 47.0 -7.1
comp=Z,0.4nm,0.9s,baz=205,slow=5.6,SNR=2.2
comp=Z,0.4nm,0.9s
H03S2 Juan Fernandez 84.14 124 T T 07 59 29.6
baz=249,slow=75,SNR=70
H03S1 Juan Fernandez 84.15 124 T T 07 59 23.8
baz=249,slow=75,SNR=48
H03S3 Juan Fernandez 84.15 124 T T 07 59 19.4
baz=249,slow=75,SNR=40
H03N2 Juan Fernandez 84.26 123 T T 07 59 32.2
baz=257,slow=72,SNR=44
H03N3 Juan Fernandez 84.26 123 T T 07 59 31.7
baz=257,slow=72,SNR=32
H03N1 Juan Fernandez 84.28 123 T T 07 59 28.1
baz=257,slow=72,SNR=30
PDAR Pinedale Array 86.32 42 P P 06 26 57.0 -7.9
comp=Z,0.5nm,0.9s,baz=234,slow=5.1,SNR=4.0
comp=Z,0.5nm,0.9s
ILAR Eielson Array 86.78 12 P P 06 26 59.8 -6.5
comp=Z,0.2nm,0.5s,baz=236,slow=6.5,SNR=10.0
comp=Z,0.2nm,0.5s
BVAR Borovoye Array 120.19 321 PKP **PKPdf** **06 33 10.6 -1.5**
comp=Z,0.4nm,0.5s,baz=82,slow=3.1,SNR=2.1

*NEIC **18** 06:14:57.5±1.8, 6.46S±0.09×128.24E±0.06, h313km±9km, mb4.6/17, Error ellipse: s-maj=13.1km s-min=8.8km az=165.0*
*IDC **18** 06:14:59.8±2.2, 6.65S±0.35×128.35E, h324km±22km, mb3.4/8, mbtmp4.1/10, Error ellipse: s-maj=39.5km s-min=10.9km az=70.0*
ISC 18 06:14:59.0±0.5, 6.59S±0.06×128.28E±0.08, h334km, n47, σ1§63/49, mb4.1/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.30**	**115**	Pn	**Pn**	**06 15 57.9**	**-2.2**
SOEI	**Soe**	**5.06**	**231**		**Pn**	**06 16 16.9**	**-1.9**
MMRI	**Maumere**	**6.32**	**251**	Pn	**Pn**	**06 16 31.3**	**-1.8**
MTN	**Manton Dam**	**6.82**	**156**		**Pn**	**06 16 37.6**	**-1.3**
KAPI	**Kappang**	**8.62**	**280**	P	**Pn**	**06 17 02.0**	**+1.5**
	5.5nm,0.6s,baz=217,slow=21,SNR=1.7						
KNRA	**Kununurra**	**9.04**	**177**		**Pn**	**06 17 04.4**	**-1.1**
TOLI2	**Tolitoli**	**10.70**	**315**		**Pn**	**06 17 22.9**	**-2.6**
FITZ	**Fitzroy Crossi**	**11.72**	**192**	Pn	**Pn**	**06 17 36.8**	**-1.0**
JAGI	**Jajag, Banyuwa**	**14.13**	**262**	P	**P**	**06 18 03.9**	**-1.1**
WB0	**Warramunga Arr**	**14.38**	**156**	P	**P**	**06 18 08.1**	**+0.4**
WRA	**Warramunga Arr**	**14.52**	**157**	P	**P**	**06 18 08.2**	**-1.0**
WRA	**Warramunga Arr**	**14.52**	**157**	P	**P**	**06 18 09.3**	**+0.1**
	4.9nm,0.4s,baz=339,slow=9.7,SNR=162						
WRA				S	**S**	**06 20 44.6**	**-2.5**
	5.9nm,0.8s,baz=330,slow=20,SNR=12						
WR0	**Warramunga Arr**	**14.62**	**156**	P	**P**	**06 18 10.7**	**+0.4**
MBWA	**Marble Bar**	**16.68**	**209**	P	**P**	**06 18 32.8**	**+0.1**
MBWA				IAmb	IAmb	06 18 34.0	
	comp=Z,14nm,0.8s						
PSA00	**Pilbara Seismi**	**16.98**	**208**	P	**P**	**06 18 36.4**	**+0.4**
AS31	**Alice Springs**	**17.82**	**163**	P	**P**	**06 18 45.8**	**+0.8**
AS31				IAmb	IAmb	06 18 47.1	
	comp=Z,23nm,0.6s						
ASAR	**Alice Springs**	**17.82**	**163**	P	**P**	**06 18 46.3**	**+1.3**
ASAR	**Alice Springs**	**17.82**	**163**	P	**P**	**06 18 46.1**	**+1.1**
	comp=Z,72nm,0.4s,baz=345,slow=12,SNR=1203						
ASAR				S	**S**	**06 21 52.4**	**0.0**
	comp=Z,3.0nm,0.8s,baz=345,slow=21,SNR=12						
ASAR				ScP	**ScP**	**06 26 10.5**	**+2.7**
	comp=Z,0.5nm,0.4s,baz=359,slow=1.7,SNR=5.0						
FORT	**Forrest**	**24.07**	**180**	P	**P**	**06 19 45.1**	**0.0**
FORT				IAmb	IAmb	06 19 46.7	
	comp=Z,21nm,0.7s						
MORW	**Morawa**	**25.17**	**206**	P	**P**	**06 19 56.5**	**+1.4**
MORW				IAmb	IAmb	06 20 03.8	
	comp=Z,32nm,1.4s						
BBOO	**Buckleboo**	**27.08**	**165**	P	**P**	**06 20 13.4**	**+1.4**
BBOO				IAmb	IAmb	06 20 33.4	
	comp=Z,31nm,1.2s						
STKA	**Stephens Creek**	**28.07**	**155**	P	**P**	**06 20 22.0**	**+1.2**
STKA	**Stephens Creek**	**28.07**	**155**	P	**P**	**06 20 22.1**	**+1.2**
	comp=Z,3.8nm,0.5s,baz=333,slow=8.1,SNR=12						
	comp=Z,3.8nm,0.5s						
NWAO	**Narrogin (SRO)**	**28.15**	**200**	P	**P**	**06 20 22.2**	**+0.8**
CAN	**Canberra**	**34.36**	**149**	P	**P**	**06 21 17.1**	**+1.5**
CAN				IAmb	IAmb	06 21 19.2	
	comp=Z,9.7nm,0.6s						
TOO	**Toolangi**	**34.59**	**156**	P	**P**	**06 21 17.7**	**+0.3**
SLVN	**Son La**	**36.63**	**320**	P	**P**	**06 21 32.5**	**-2.4**
SLVN				IAmb	IAmb	06 21 43.5	
	comp=Z,6.9nm,1.2s						
PZH	**PanZhiHua**	**41.76**	**323**	P	**P**	**06 22 16.0**	**-1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,180nm,5.7s						
JWT	**Wachi**	**42.19**	**9**	P	**P**	**06 22 18.6**	**-1.5**
KSRS	**Korea Array**	**43.82**	**360**	P	**P**	**06 22 34.9**	**+1.9**
	comp=Z,1.8nm,0.6s,baz=179,slow=9.6,SNR=5.5						
	comp=Z,1.8nm,0.6s						
LZH	**Lanzhou**	**48.26**	**333**	*e*P	P	06 23 12.9	+5.3
LZH				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC	**Hu-ho-hao-te**	**49.64**	**343**	*e*P	**P**	**06 23 19.4**	**+1.6**
HHC				pmax	pmax		
	comp=Z,111nm,0.5s						
HHC				pmax	pmax		
	comp=Z,280nm,6.5s						
USRK	**Ussuriysk Ar.**	**50.66**	**3**	P	**P**	**06 23 26.2**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=191,slow=6.8,SNR=2.8						
	comp=Z,1.4nm,0.5s						
RPZ	**Rata Peaks**	**52.61**	**142**	P	**P**	**06 23 39.2**	**-0.4**
RPZ				IAmb	IAmb	06 23 53.9	
	comp=Z,47nm,1.5s						
KHZ	**Kahutara**	**53.53**	**139**	P	**P**	**06 23 48.5**	**+2.3**
KHZ				IAmb	IAmb	06 24 04.5	
	comp=Z,47nm,1.2s						
WMQ	**Urumqi**	**62.13**	**328**	*e*P	**P**	**06 24 46.9**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,16nm,0.6s						
KSH	**Kashi**	**66.57**	**318**	P	**P**	**06 25 16.3**	**+2.0**
MK31	**Makanchi Array**	**66.95**	**328**	P	**P**	**06 25 15.2**	**-1.2**
MKAR	**Makanchi Array**	**66.95**	**328**	P	**P**	**06 25 14.1**	**-2.4**
MKAR	**Makanchi Array**	**66.95**	**328**	P	**P**	**06 25 19.0**	**+2.5**
	comp=Z,0.4nm,0.5s,baz=123,slow=7.9,SNR=6.2						
	comp=Z,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**70.47**	**334**	P	**P**	**06 25 41.9**	**+4.1**
	comp=Z,0.4nm,0.4s,baz=315,slow=42,SNR=2.0						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**71.27**	**329**	P	**P**	**06 25 44.4**	**+1.8**
	comp=Z,0.6nm,0.2s,baz=128,slow=4.9,SNR=1.7						
	comp=Z,0.6nm,0.2s						
BVAR	**Borovoye Array**	**76.81**	**328**	P	**P**	**06 26 15.9**	**+1.5**
	comp=Z,0.3nm,0.4s,baz=216,slow=40,SNR=2.2						
	comp=Z,0.3nm,0.4s						
KHLH	**Kahului Airpor**	**78.74**	**67**	P	**P**	**06 26 25.0**	**-0.6**
QSPA	**South Pole Qui**	**83.38**	**180**	P	**P**	**06 26 49.9**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=188,slow=1.9,SNR=5.6						
	comp=Z,1.5nm,0.7s						
CAST	**Castle Rocks**	**91.23**	**26**	P	**P**	**06 27 25.7**	**-0.9**
CPUP	**Villa Florida**	**146.83**	**171**	PKPbc	**PKPbc**	**06 34 04.6**	**+1.6**
	comp=Z,2.4nm,0.9s,baz=217,slow=9.6,SNR=3.4						

*FUNV **18** 06:21:54.3, 8.04N×71.34W, h3km, MW3.5*
ISC 18 06:21:53.2±1.3, 8.01N±0.04×71.34W±0.03, h12km±10km, n31, σ1§39/43, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCV	**Socops**	**0.55**	**60**	*e*P	**Pg**	**06 22 04.6**	**+0.7**
SOCV				*e*S	**Sg**	**06 22 12.6**	**+1.3**
SDV	**Santo Domingo**	**1.12**	**39**	*e*P	**Pg**	**06 22 14.6**	**-0.1**
SDV				*e*S	**Sg**	**06 22 28.4**	**-1.0**
SDV				*i*		06 22 37.0	
	comp=Z,152nm,0.4s						
PAMC	**Pamplona, Colo**	**1.50**	**244**	*e*P	**Pn**	**06 22 20.2**	**-0.3**
PAMC				*e*S	**Sg**	**06 22 39.7**	**-2.0**
PAMC				*i*		06 22 41.3	
	comp=Z,135nm,0.4s						
TAMC	**Tame, Arauca**	**1.63**	**196**	*e*P	**Pn**	**06 22 22.3**	**+0.5**
TAMC				*e*S	**Sn**	**06 22 45.2**	**+2.5**
TAMC				*i*		06 22 54.1	
	comp=Z,110nm,0.2s						
OCAC	**Ocana**	**1.97**	**277**	*e*P	**Pn**	**06 22 26.7**	**0.0**
OCAC				*e*S	**Sn**	**06 22 53.0**	**+1.5**
OCAC				*i*		06 22 55.4	
	comp=Z,1μm,0.4s						
BARC	**Barichara**	**2.31**	**233**	*e*P	**Pn**	**06 22 31.9**	**+0.6**
SANV	**Sanarito**	**2.32**	**50**	*e*P	**Pn**	**06 22 33.3**	**+1.9**
SANV				*e*S	**Sn**	**06 23 00.7**	**+0.7**
MCQV	**Machiques**	**2.35**	**330**	*e*P	**Pn**	**06 22 32.3**	**+0.7**
MCQV				*e*S	**Sn**	**06 23 01.1**	**+0.6**
CURV	**Curarigua**	**2.41**	**34**	*e*P	**Pn**	**06 22 34.8**	**+2.2**
CURV				*e*S	**Sn**	**06 23 02.8**	**+0.6**
LL6C	**La Loma 6 Bece**	**2.57**	**312**	*e*P	**Pn**	**06 22 35.2**	**+0.5**
LL6C				*i*		06 23 13.5	
	comp=Z,64nm,0.3s						
TEPV	**Terepaima**	**2.88**	**47**	*e*P	**Pn**	**06 22 40.5**	**+1.4**
TEPV				*e*S	**Sn**	**06 23 13.9**	**+0.3**
SIQV	**Siquisique**	**3.03**	**30**	*e*P	**Pn**	**06 22 41.8**	**+0.7**
SIQV				*e*S	**Sn**	**06 23 17.0**	**-0.3**
CRJC	**Cerrejon, Guaj**	**3.36**	**333**	*e*P	**Pn**	**06 22 45.7**	**+0.1**
BAUV	**El Baul**	**3.39**	**74**	*e*P	**Pn**	**06 22 46.3**	**+0.3**
BAUV				*e*S	**Sn**	**06 23 26.0**	**-0.3**
ARGC	**Ariguani, Magd**	**3.41**	**303**	*e*P	**Pn**	**06 22 46.8**	**+0.5**
PTBC	**PUERTO BERRIO,**	**3.42**	**245**	*e*P	**Pn**	**06 22 45.2**	**-1.3**
ZARC	**Zaragoza, Cauc**	**3.52**	**262**	*e*P	**Pn**	**06 22 47.9**	**0.0**
SPBC	**San Pablo de B**	**3.58**	**229**	*e*P	**Pn**	**06 22 49.7**	**+0.9**
PTGC	**Puerto Gaitan,**	**3.87**	**192**	*e*P	Pg	06 23 13.1	+5.7
BENV	**Beln**	**4.17**	**62**	*e*P	**Pn**	**06 22 58.8**	**+1.9**
BENV				*e*S	**Sn**	**06 23 44.2**	**-1.5**
SJCC	**San Jacinto, C**	**4.23**	**297**	*e*P	**Pn**	**06 22 59.0**	**+1.3**
ROSC	**El Rosal**	**4.32**	**223**	*e*P	**Pn**	**06 23 01.4**	**+2.2**
CVER	**Cruz Verde, Cu**	**4.40**	**218**	*e*P	**Pn**	**06 23 03.1**	**+2.7**
VILC	**Villavicencio,**	**4.52**	**211**	*e*P	**Pn**	**06 23 02.0**	**+0.2**
TACV	**Tcata**	**4.75**	**63**	*e*P	**Pn**	**06 23 05.1**	**+0.2**
TACV				*e*S	**Sn**	**06 23 57.6**	**-2.4**
CACV	**CAICARA DEL OR**	**4.78**	**95**	*e*P	Pn	06 23 12.8	+7.7
CACV				*e*S	**Sb**	**06 24 11.1**	**-3.4**
GUY2C	**Guyana, Caldas**	**4.86**	**236**	*e*P	**Pn**	**06 23 07.7**	**+1.0**
CBOC	**Ciudad Bolivar**	**5.11**	**246**	*e*P	**Pn**	**06 23 11.8**	**+2.0**
PRAC	**Prado**	**5.54**	**220**	*e*P	**Pn**	**06 23 15.7**	**+0.1**
ORTC	**Ortega, Tolima**	**5.63**	**224**	*e*P	**Pn**	**06 23 16.9**	**+0.1**
PLMC	**San Jos del P**	**5.80**	**238**	*e*P	**Pn**	**06 23 20.5**	**+1.2**

IDC 18 06:28:24.2±1.8, 12.86N×146.71E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=58.8km s-min=33.7km az=94.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.79**	**201**	P	P	06 35 16.8	0.0
	0.4nm,0.8s,baz=27,slow=9.4,SNR=2.4						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**63.26**	**316**	P	P	06 38 55.1	+0.3
	0.6nm,0.5s,baz=90,slow=8.6,SNR=8.6						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**66.34**	**320**	P	P	06 39 14.8	0.0
	1.4nm,0.2s,baz=101,slow=6.6,SNR=6.1						
	1.4nm,0.2s						
ILAR	**Eielson Array**	**68.47**	**25**	P	P	06 39 28.3	+0.3
	0.2nm,0.6s,baz=245,slow=6.0,SNR=2.2						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**71.61**	**322**	P	P	06 39 46.9	-0.6
	0.9nm,0.6s,baz=100,slow=7.9,SNR=5.0						
	0.9nm,0.6s						

*TEH **18** 06:35:13.7, 35.21N×45.68E, h9km±47km, ML3.6*
*AZER **18** 06:35:15.9±5.2, 34.50N×46.67E, h8km, Error ellipse: s-maj=42.2km s-min=25.6km az=140.0*
ISC 18 06:35:14.8±1.0, 35.24N±0.03×45.75E±0.06, h10km, n18, σ2§23/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.74**	**191**	Pg	**Pb**	**06 35 27.8**	**-2.0**
IDHR	**Dehrash**	**0.75**	**136**	Pg	**Pg**	**06 35 28.5**	**-0.8**
SDS1	**Sardasht. Az.**	**0.94**	**347**	Pg	**Pg**	**06 35 32.2**	**-0.6**
ILIN	**Lien**	**1.04**	**107**	Pg	**Pb**	**06 35 35.0**	**-0.1**
ILIN				Sg	**Sn**	**06 35 51.0**	**+0.6**
IGHG	**Ghaleghazi**	**1.13**	**143**	Pg	**Pg**	**06 35 35.5**	**-1.0**
KCHF	**Cheshme Sefid,**	**1.43**	**132**	Pg	**Pg**	**06 35 41.4**	**-0.8**
MAHB	**Mahabad**	**1.53**	**359**	Pg	**Pb**	**06 35 42.7**	**-0.7**
ILBA	**Ilam Banvizeh**	**1.65**	**167**	Pg	**Pb**	**06 35 44.0**	**-1.3**
IKOM	**Komasi**	**1.79**	**126**	Pn	**Pg**	**06 35 48.0**	**-1.2**
IKFM	**Kafar-mosalman**	**2.43**	**134**	Pn	**Pb**	**06 35 56.6**	**-2.1**
ISHB	**Shabestar**	**3.04**	**358**	Pn	**Pn**	**06 36 03.9**	**+0.7**
ORD	**Ordubad**	**3.69**	**3**	P	**Pg**	**06 36 23.6**	**-1.9**
ORD				S	**Sg**	**06 37 15.2**	**+1.9**
NAX	**Nakhchivan**	**3.94**	**357**	P	**Pg**	**06 36 29.6**	**-0.7**
NAX				S	**Sg**	**06 37 25.5**	**+4.3**
LRK	**Lerik**	**3.98**	**31**	S	**Sb**	**06 37 14.5**	**+1.1**
ASTR	**Astara**	**4.11**	**35**	P	**Pb**	**06 36 23.1**	**-4.2**
ASTR				S	**Sb**	**06 37 13.7**	**-3.4**
YRD	**Yardimli**	**4.18**	**28**	P	**Pb**	**06 36 25.1**	**-3.4**
YRD				S	**Sb**	**06 37 21.9**	**+2.9**
AMIS	**Naft Sefid**	**4.63**	**139**	Pn	**Pn**	**06 36 26.0**	**+1.2**
QAMS	**Qamsar**	**4.89**	**106**	Pn	**Pn**	**06 36 31.3**	**+2.6**

*IDC **18** 06:41:35.7±1.1, 51.30N×98.09E, h0km, mb3.6/4, mbtmp3.5/10, ML2.9/6, MS2.9/4, Error ellipse: s-maj=31.9km s-min=13.3km az=10.0*
*MOS **18** 06:41:35.5±1.2, 51.36N×97.98E, h7km, mb4.5/4, Error ellipse: s-maj=14.2km s-min=10.4km az=168.7*

ISC 18 06:41:37.4±0.6, 51.44N±0.09×97.97E±0.06, h10km, n32, σ1§33/31, mb4.0/8, 4C-5D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORL	**Orlik**	**1.59**	**45**	⇓*i*PN	**Pn**	**06 42 05.7**	**+0.1**
ORL				*e*		06 42 27.1	
ORL				pmax	pmax		
	comp=Z,510nm,0.5s						
ORL				smax	smax		
	comp=N,1μm,0.5s						
MOY	**Mondy**	**1.90**	**82**	*e*PN	**Pb**	**06 42 11.4**	**-0.8**
MOY				*i*		06 42 12.9	
MOY				*e*		06 42 36.0	
MOY				*i*		06 42 40.4	
ARS	**Arshan**	**2.82**	**78**	*e*PN	**Pn**	**06 42 23.5**	**+1.0**
ARS				*e*		06 42 28.9	
ARS				*e*		06 43 03.6	
ARS				pmax	pmax		
	comp=Z,209nm,0.4s						
ARS				smax	smax		
	comp=E,3μm,0.8s						
ZAK	**Zakamensk**	**3.52**	**105**	*e*PN	**Pn**	**06 42 33.6**	**+1.3**
ZAK				*e*		06 42 38.7	
ZAK				*e*		06 43 24.7	
ZAK				pmax	pmax		
	comp=Z,87nm,0.6s						
ZAK				smax	smax		
	comp=N,1μm,0.7s						
TLY	**Talaya**	**3.55**	**84**	*e*PN	**Pb**	**06 42 40.0**	**-0.3**
TLY				*e*		06 43 25.7	
TLY				pmax	pmax		
	comp=Z,50nm,1.1s						
TLY				smax	smax		
	comp=E,393nm,0.6s						
IRK	**Irkutsk**	**3.99**	**76**	*e*PN	**Pb**	**06 42 48.0**	**+0.2**
IRK				*e*		06 43 38.1	
IRK				pmax	pmax		
	comp=Z,165nm,0.1s						
IRK				smax	smax		
	comp=N,2μm,0.8s						
LSTR	**Listvyanka**	**4.30**	**82**	*e*PN	**Pb**	**06 42 54.0**	**+1.0**
LSTR				*e*		06 43 48.2	
LSTR				pmax	pmax		
	comp=Z,48nm,0.6s						
LSTR				smax	smax		
	comp=N,519nm,1.1s						
TRG	**Tyrgan**	**5.33**	**72**	*e*PN	**Pb**	**06 43 12.3**	**+1.7**
TRG				*e*		06 44 21.2	
TRG				pmax	pmax		
	comp=Z,77nm,0.5s						
TRG				smax	smax		
	comp=N,430nm,0.5s						
OGRR	**Ongureny**	**6.28**	**66**	*e*PN	**Pn**	**06 43 10.4**	**+0.5**
OGRR				*e*		06 43 29.4	
OGRR				*e*		06 44 49.0	
OGRR				pmax	pmax		
	comp=Z,16nm,0.7s						
OGRR				smax	smax		
	comp=E,272nm,1.0s						
SONM	**Songino Array**	**6.55**	**120**	Pn	**Pn**	**06 43 13.0**	**-0.9**
	comp=E,0.1nm,0.3s,baz=306,slow=16,SNR=1.7						
SONM				Pg	**Pb**	**06 43 33.5**	**+2.0**
	comp=E,1.9nm,0.3s,baz=301,slow=16,SNR=39						
SONM				Lg	Lg	06 45 00.6	
	comp=E,4.6nm,0.3s,baz=307,slow=27,SNR=20						
	comp=E,0.3nm,0.4s						
ULN	**Ulaanbaatar**	**6.90**	**118**	⇓*e*PN	Pn	06 43 24.0	+5.4
DGZ	**Jazzator, Alta**	**6.93**	**260**	⇓*e*PN	**Pn**	**06 43 19.7**	**+0.6**
ZALV	**Zalesovo Beam**	**8.37**	**293**	*i* P	**Pn**	**06 43 42.0**	**+3.3**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV	**Zalesovo Beam**	**8.37**	**293**	Pn	**Pn**	**06 43 40.4**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=108,slow=9.5,SNR=3.5						
ZALV				Lg	Lg	06 45 53.1	
	baz=116,slow=20						
	comp=Z,0.9nm,0.4s						
MK31	**Makanchi Array**	**11.27**	**252**	⇑*e*P	**Pn**	**06 44 19.7**	**+1.3**
MKAR	**Makanchi Array**	**11.27**	**252**	Pn	**Pn**	**06 44 18.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=52,slow=14,SNR=1.6						
MKAR				Lg	Lg	06 47 32.7	
	comp=Z,0.5nm,0.3s,baz=70,slow=25,SNR=6.0						
MKAR				LR	LR	06 48 46.6	
	comp=Z,96nm,19.3s,baz=66,slow=38						
	comp=Z,0.3nm,0.4s						
KURK	**Kurchatov**	**12.19**	**274**	P	**Pn**	**06 44 33.7**	**+2.8**
KURBB	**Kurchatov Arra**	**12.26**	**274**	Pn	**Pn**	**06 44 33.7**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=86,slow=12,SNR=1.8						
KURBB				Lg	Lg	06 48 03.7	
	comp=Z,0.2nm,0.3s,baz=79,slow=30,SNR=8.1						
	comp=Z,1.1nm,0.2s						
BVAR	**Borovoye Array**	**16.93**	**286**	P	**P**	**06 45 36.1**	**0.0**
	baz=94,slow=12,SNR=7.7						
BVAR				LR	LR	06 52 36.9	
	comp=Z,22nm,20.3s,baz=47,slow=39						
	comp=Z,1.4nm,0.7s						
BRVK	**Borovoye**	**16.99**	**286**	⇓*e*P	**Pn**	**06 45 34.2**	**-0.7**
AAK	**Ala-Archa**	**18.20**	**250**	⇓*e*P	**P**	**06 45 50.9**	**+0.6**
AAK	**Ala-Archa**	**18.20**	**250**	P	**P**	**06 45 51.8**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=56,slow=11,SNR=3.7						
AAK				Lg	Lg	06 51 12.9	
	baz=186,slow=20,SNR=2.0						
AAK				LR	LR	06 52 58.4	
	comp=Z,47nm,18.2s,baz=355,slow=38						
	comp=Z,0.9nm,0.5s						
KLR	**Kul'dur**	**21.57**	**83**	⇑*e*P	**P**	**06 46 27.6**	**+0.8**
KLR				pmax	pmax		
	comp=Z,11nm,2.3s						
KLR	**Kul'dur**	**21.57**	**83**	P	**P**	**06 46 26.5**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=279,slow=9.3,SNR=3.6						
KLR				LR	LR	06 53 54.0	
	comp=Z,36nm,18.5s,baz=274,slow=34						
	comp=Z,1.2nm,0.8s						
TIXI	**Tiksi**	**24.52**	**23**	⇑*i*P	**P**	**06 46 56.4**	**-0.1**
SEY	**Seymchan**	**30.67**	**47**	⇑*e*P	**P**	**06 47 51.0**	**-0.7**
SEY				pmax	pmax		
	comp=Z,20nm,2.0s						
OBN	**Obninsk**	**35.86**	**301**	*e*P	**P**	**06 48 36.9**	**0.0**
OBN				*e*		06 49 57.4	
OBN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,41nm,16.0s						
ZEI	**Tsey**	**37.04**	**278**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.50**	**258**	P	P	07 16 14.7	+0.4
	0.7nm,0.4s,baz=96,slow=7.2,SNR=29						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**45.77**	**253**	P	P	07 16 15.8	-0.6
	1.7nm,0.5s,baz=89,slow=8.1,SNR=7.0						
	1.7nm,0.5s						
NVAR	**Mina Array Bea**	**78.00**	**44**	P	P	07 19 54.3	+0.9
	0.5nm,0.7s,baz=221,slow=7.6,SNR=5.0						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**84.39**	**13**	P	P	07 20 26.4	-0.2
	0.4nm,0.4s,baz=223,slow=4.7,SNR=18						
	0.4nm,0.4s						
TXAR	**Lajitas Array**	**84.73**	**57**	P	P	07 20 29.2	-0.1
	0.6nm,0.7s,baz=214,slow=6.6,SNR=8.7						
	0.6nm,0.7s						
PDAR	**Pinedale Array**	**85.92**	**43**	P	P	07 20 34.3	-0.8
	0.3nm,0.5s,baz=228,slow=3.5,SNR=3.5						
	0.3nm,0.5s						

*IDC **18** 07:45:58.4±0.7,35°54S×53°58E,h0km,mb4.0/9, mbtmp4.0/9,MS3.3/4,Error ellipse: s-maj=32.6km s-min=20.5km az=37.0*
*NEIC **18** 07:46:00.6±1.3,35°5S±0°1×53°55E±0°06,h10km±1km, mb4.6/17,Error ellipse: s-maj=18.3km s-min=7.6km az=192.0*
ISC 18 07:46:00.0±0.5,35°48S±0°09×53°6E±0°1,h10km,n48, σ0s93/35,mb4.5/15,MS3.2/4,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**10.75**	**187**	T	T	07 59 25.6	
	baz=9.4,slow=75,SNR=1187						
H04N2	**CROZET ISLANDS**	**10.75**	**187**	T	T	07 59 24.3	
	baz=9.4,slow=75,SNR=884						
H04N3	**CROZET ISLANDS**	**10.77**	**187**	T	T	07 59 24.6	
	baz=9.4,slow=75,SNR=739						
FOMA	**Nahampoana Res**	**11.92**	**330**	Pn	**Pn**	**07 48 49.5**	**-0.5**
RER	**Riviere de l'E**	**14.40**	**8**	Pn	**Pn**	**07 49 22.8**	**-1.3**
VOI	**Vohitsoka**	**14.77**	**335**	Pn	**Pn**	**07 49 29.5**	**+0.4**
ABPO	**Ambohimpanom**	**17.34**	**339**		**Pn**	**07 49 59.9**	**-2.4**
BOSA	**Boshof**	**24.90**	**278**	P	**P**	**07 51 22.9**	**-0.4**
BOSA	**Boshof**	**24.90**	**278**	P	**P**	**07 51 24.7**	**+1.4**
	4.6nm,0.8s,baz=97,slow=9.5,SNR=5.7						
	4.6nm,0.8s						
LBTB	**Lobatse**	**26.24**	**286**	LR	LR	08 00 13.6	
	comp=Z,54nm,18.2s,baz=86,slow=33						
LSZ	**Lusaka**	**30.35**	**305**	LR	LR	08 02 16.4	
	comp=Z,40nm,18.5s,baz=312,slow=32						
MSEY	**Mahe Island**	**30.71**	**4**	P	**P**	**07 52 15.1**	**-0.2**
MSEY				IAmb	IAmb	07 52 24.9	
	comp=Z,9.6nm,1.0s						
MAW	**Mawson**	**32.61**	**173**	P	**P**	**07 52 30.9**	**-0.4**
H08S1	**Diego Garcia H**	**32.68**	**37**	T	T	08 26 53.9	
	baz=208,slow=75,SNR=4.3						
H08S2	**Diego Garcia H**	**32.69**	**37**	T	T	08 26 53.1	
	baz=208,slow=75,SNR=9.6						
H08S3	**Diego Garcia H**	**32.70**	**37**	T	T	08 26 55.6	
	baz=208,slow=75,SNR=37						
TSUM	**Tsumeb**	**35.60**	**288**	LR	LR	08 05 39.2	
	comp=Z,68nm,19.1s,baz=152,slow=33						
H01W2	**Cape Leeuwin H**	**48.80**	**108**	T	T	08 46 48.0	
	baz=251,slow=75,SNR=8.9						
H01W3	**Cape Leeuwin H**	**48.80**	**108**	T	T	08 46 48.5	
	baz=251,slow=75,SNR=10						
H01W1	**Cape Leeuwin H**	**48.81**	**108**	T	T	08 46 49.4	
	baz=251,slow=75,SNR=9.8						
QSPA	**South Pole Qui**	**54.70**	**180**	P	**P**	**07 55 28.2**	**-1.0**
QSPA				IAmb	IAmb	07 55 31.3	
	comp=Z,12nm,1.3s						
QSPA	**South Pole Qui**	**54.70**	**180**	P	**P**	**07 55 28.1**	**-1.0**
	comp=Z,4.2nm,1.0s,baz=260,slow=5.5,SNR=6.5						
	comp=Z,4.2nm,1.0s						
MNAI	**Manna**	**55.02**	**68**	P	**P**	**07 55 32.3**	**+0.4**
VNDA	**Vanda**	**59.45**	**166**	P	**P**	**07 56 02.8**	**+0.4**
VNDA				IAmb	IAmb	07 56 13.8	
	comp=Z,5.5nm,1.4s						
VNDA	**Vanda**	**59.45**	**166**	P	**P**	**07 56 01.4**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=243,slow=18,SNR=1.6						
	comp=Z,0.3nm,0.5s						
HOPE	**Hope Point**	**62.12**	**222**	P	**P**	**07 56 20.8**	**0.0**
SOEI	**Soe**	**68.71**	**87**	P	**P**	**07 57 05.4**	**+1.1**
CMAR	**Chiang Mai Arr**	**68.76**	**46**	P	**P**	**07 57 04.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**68.76**	**46**	LR	LR	08 23 16.0	
	comp=Z,15nm,19.3s,baz=5.0,slow=32						
TOA0	**Torodi Ar. Sit**	**68.88**	**305**	P	**P**	**07 57 06.1**	**+1.0**
TOA0				IAmb	IAmb	07 57 21.5	
	comp=Z,4.3nm,1.2s						
TORD	**Torodi Ar. Bea**	**68.88**	**305**	P	**P**	**07 57 05.9**	**+0.7**
TORD				IAmb	IAmb	07 57 07.7	
	comp=Z,4.1nm,1.5s						
TORD	**Torodi Ar. Bea**	**68.88**	**305**	P	**P**	**07 57 06.4**	**+1.2**
	comp=Z,1.6nm,1.2s,baz=129,slow=5.0,SNR=4.4						
	comp=Z,1.6nm,1.2s						
DBIC	**Dimbokro**	**69.03**	**295**	P	**P**	**07 57 06.0**	**-0.1**
DBIC	**Dimbokro**	**69.03**	**295**	P	**P**	**07 57 06.1**	**0.0**
	comp=Z,3.2nm,0.9s,baz=338,slow=1.9,SNR=3.8						
	comp=Z,3.2nm,0.9s						
ASAR	**Alice Springs**	**69.13**	**105**	P	**P**	**07 57 07.6**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=230,slow=6.0,SNR=5.1						
	comp=Z,1.1nm,0.9s						
WRA	**Warramunga Arr**	**71.39**	**102**	P	**P**	**07 57 20.9**	**+0.3**
WRA	**Warramunga Arr**	**71.39**	**102**	P	**P**	**07 57 21.2**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=236,slow=5.6,SNR=7.5						
	comp=Z,1.9nm,0.9s						
WB2	**Warramunga Arr**	**71.41**	**102**	P	**P**	**07 57 19.9**	**-0.8**
WB2				IAmb	IAmb	07 57 58.3	
	comp=Z,7.4nm,1.1s						
WB0	**Warramunga Arr**	**71.53**	**101**	P	**P**	**07 57 21.4**	**-0.1**
WB0				IAmb	IAmb	07 57 28.2	
	comp=Z,5.1nm,0.9s						
WR0	**Warramunga Arr**	**71.55**	**102**	P	**P**	**07 57 21.9**	**+0.3**
WR0				IAmb	IAmb	07 57 27.5	
	comp=Z,7.8nm,1.4s						
MTN	**Manton Dam**	**72.60**	**94**		**P**	**07 57 27.7**	**-0.2**
MTN				IAmb	IAmb	07 58 09.8	
	comp=Z,17nm,1.4s						
BRTR	**Keskin Array B**	**77.06**	**344**	P	**P**	**07 57 52.1**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=81,slow=4.5,SNR=2.2						
	comp=Z,0.7nm,0.8s						
AKASG	**Malin Array Be**	**88.46**	**345**	P	**P**	**07 58 52.0**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=167,slow=4.5,SNR=2.5						
	comp=Z,0.8nm,0.5s						
J16K	**Anvik River**	**145.15**	**26**	PKPbc	**PKPdf**	**08 05 37.7**	**+0.9**
D27M	**Malcolm River**	**145.24**	**9**	PKPbc	**PKPdf**	**08 05 38.4**	**+1.5**
IMAR	**Indian Mountai**	**145.49**	**19**	PKPdf	**PKPbc**	**08 05 37.6**	**+0.2**
ILAR	**Eielson Array**	**148.19**	**17**	PKPbc	**PKPbc**	**08 05 45.7**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=323,slow=3.7,SNR=12						
YKA	**Yellowknife Ar**	**151.97**	**348**	PKPbc	**PKPbc**	**08 05 52.6**	**-1.9**
	comp=Z,0.5nm,0.7s,baz=14,slow=2.1,SNR=4.2						

*NEIC **18** 07:51:48.4±1.8,34°96N±0°02×97°86W±0°02,h5km±1km, Error ellipse: s-maj=3.7km s-min=2.9km az=134.0*
TUL 18 07:51:49.4±1.7,34°956N±0°009×97°82W±0°03,h7km±5km, ML2.5,mb_Lg2.3/10(NEIC),ML2.2/20(NEIC),Error ellipse: s-maj=3.7km s-min=0.8km az=105.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.46**	**49**	Pg	Pg	07 51 58.5	+0.2
FNO				Sg	Sg	07 52 05.4	+1.1
FNO				IAML		07 52 09.9	
	comp=E,162nm,0.1s						
OKCSW	**OKLAHOMA CITY**	**0.55**	**35**	Pg	Pg	07 51 60.0	0.0
OKCSW				Sg	Sg	07 52 08.0	+0.8
ADOK	**Arcadia Dam**	**0.79**	**28**	Pg	Pg	07 52 04.6	+0.1
ADOK				Sg	Sg	07 52 15.2	+0.4
W35A	**Tecumseh**	**0.80**	**76**		Pg	07 52 04.5	-0.4
W35A				IAML		07 52 25.2	
	comp=E,67nm,0.3s						
W35A				IAML		07 52 26.1	
	comp=N,89nm,0.3s						
WMOK	**Wichita Mounta**	**0.82**	**255**	Pg	Pg	07 52 04.5	-0.6
OK029	**Liberty Lake**	**0.89**	**20**	Pg	Pg	07 52 06.2	-0.3
OK029				IAML		07 52 23.6	
	comp=N,80nm,0.2s						
LOOK	**Love County**	**1.10**	**151**	Pg	Pg	07 52 10.1	-0.3
LOOK				IAML		07 52 36.4	
	comp=N,56nm,0.6s						
LOOK				IAML		07 52 37.1	
	comp=E,60nm,0.5s						
WTFS	**Witchita Falls**	**1.30**	**204**		Pn	07 52 13.4	-0.6
WTFS				IAML		07 52 38.8	
	comp=E,26nm,0.3s						
WTFS				IAML		07 52 42.6	
	comp=E,25nm,0.8s						
OK052	**Battle Ridge R**	**1.33**	**39**		Pn	07 52 13.8	-0.6
DEOK	**Depew**	**1.40**	**50**		Pn	07 52 14.7	-0.7
QUOK	**Quay**	**1.52**	**37**		Pn	07 52 16.8	-0.1
CROK	**Carrier**	**1.55**	**355**		Pn	07 52 17.5	0.0
OK048	**Pawnee Station**	**1.62**	**26**		Pn	07 52 18.2	-0.2
Z35A	**Perchaven, San**	**1.69**	**164**		Pn	07 52 19.0	-0.3
ELIS	**Ellis County**	**1.71**	**311**		Pn	07 52 19.4	-0.2
U32A	**Winter Ranch,**	**1.71**	**326**		Pn	07 52 19.2	-0.5
U32A				IAmb_Lg		07 52 47.7	
	comp=Z,27nm,1.1s						
OK051	**E0350 and S346**	**1.74**	**27**	Pn	Pn	07 52 19.7	-0.3
OK032	**Salt Plains WL**	**1.87**	**350**		Pn	07 52 21.4	-0.5
GC02	**Grant County #**	**1.89**	**359**	Pn	Pn	07 52 22.1	0.0
TUL3	**Leonard**	**1.91**	**60**		Pn	07 52 22.6	+0.2
TUL3				IAmb_Lg		07 52 53.9	
	comp=Z,9.3nm,0.8s						
TUL3	**Leonard**	**1.91**	**60**		Pn	07 52 23.2	+0.8
FW03	**Perrin-Whitt E**	**1.92**	**186**		Pn	07 52 23.1	+0.5
SMWD	**Samnorwood**	**1.99**	**275**	Pn	Pn	07 52 24.5	+1.0
FW06	**Azle**	**1.99**	**174**	Pn	Pn	07 52 23.9	+0.5
KAN14	**Manchester OK**	**2.00**	**357**	Pn	Pn	07 52 23.0	-0.6
PLPT	**Palo Pinto**	**2.18**	**191**	Pn	Pn	07 52 26.2	+0.2
KAN01	**Argonia South**	**2.19**	**1**	Pn	Pn	07 52 27.4	+1.2
T35A	**Sooner Cattle**	**2.23**	**28**	Pn	Pn	07 52 25.3	-1.5
FW07	**Weatherford**	**2.25**	**179**	Pn	Pn	07 52 26.1	-0.9
FW07				IAmb_Lg		07 53 01.7	
	comp=Z,6.5nm,0.7s						
RLO	**Rose Lookout**	**2.58**	**61**	Pn	Pn	07 52 31.4	-0.2
TREL	**Terrell**	**2.65**	**146**	IAmb_Lg		07 53 19.8	
	comp=Z,10.0nm,0.7s						
U38A	**Gravette**	**3.17**	**61**	Pn	Pn	07 52 39.8	+0.1
AMTX	**Amarillo**	**3.17**	**270**	IAmb_Lg		07 53 37.6	
	comp=Z,9.1nm,1.1s						
HHAR	**Hobbs**	**3.43**	**66**	Pn	Pn	07 52 43.8	+0.6
R32A	**Long Quarter,**	**3.53**	**349**	Pn	Pn	07 52 43.6	-1.1
BRDY	**Brady**	**3.79**	**195**	Pn	Pn	07 52 47.7	-0.5
OLIL	**Olney**	**8.66**	**61**	IAmb_Lg		07 56 26.0	
	comp=Z,3.6nm,0.8s						

IDC 18 08:00:35.5±1.9,54°48N×83°60E,h0km,mbtmp2.4/2, ML2.2/2,Error ellipse: s-maj=16.9km s-min=10.1km az=164.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.89**	**126**	I	I	08 06 00.0	
	0.2nm,0.8s,baz=306,slow=336,SNR=28						
ZALV	**Zalesovo Beam**	**0.89**	**126**	Pg	Pg	08 00 52.6	0.0
	1.9nm,0.3s,baz=308,slow=15,SNR=29						
ZALV				Lg	Lg	08 01 05.3	
	2.3nm,0.3s,baz=307,slow=30,SNR=12						
ZALV				Rg	Rg	08 01 11.7	
	2.8nm,0.3s,baz=313,slow=23,SNR=5.7						
KURBB	**Kurchatov Arra**	**4.95**	**221**	Pn	Pn	08 01 50.6	-0.4
	baz=42,slow=13,SNR=6.6						
KURBB				Lg	Lg	08 03 14.8	
	baz=44,slow=32,SNR=3.8						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**7.74**	**187**	Pn	Pn	08 02 29.9	+0.5
	0.1nm,0.3s,baz=15,slow=13,SNR=5.4						
	0.1nm,0.3s						

*CATAC **18** 08:10:23.3±1.1,14°31N×93°52W,h21km±43km,ML3.8*
*MEX **18** 08:10:24.0±0.8,14°48N×93°58W,h27km±26km,MD4.2*
*GCG **18** 08:10:26.6±0.5,14°94N×93°19W,h105km±17km,MD3.4*
ISC 18 08:10:22.4±1.3,14°44N±0°06×93°64W±0°03,h35km,n33, σ2s19/62,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.33**	**18**	*e*P	**Pn**	**08 10 43.3**	**-1.1**
PCIG				*e*S	**Sn**	**08 10 58.1**	**-2.8**
PATR	**El Naranjo**	**1.52**	**63**	*e*P	**Pn**	**08 10 46.2**	**-1.2**
PATR				*e*S	**Sn**	**08 11 04.0**	**-2.1**
SMCA	**Catarina**	**1.58**	**74**	*i* P	**Pn**	**08 10 47.4**	**-0.5**
SMCA				*i* S	**Sn**	**08 11 05.5**	**-1.6**
SMCA				IAML		08 11 10.8	
	comp=Z,600nm,1.0s						
PAVE	**Pavencul**	**1.61**	**62**	*e*P	**Pn**	**08 10 47.7**	**-0.9**
PAVE				*e*S	**Sn**	**08 11 06.4**	**-1.7**
CHUJ	**Union Juarez**	**1.62**	**66**	*e*P	**Pn**	**08 10 48.1**	**-0.7**
CHUJ				*e*S	**Sn**	**08 11 05.5**	**-3.1**
CARR	**Arriaga**	**1.82**	**352**	*e*P	**Pn**	**08 10 51.1**	**-0.2**
CARR				*e*S	**Sn**	**08 11 12.6**	**-0.5**
SMSP	**San Marcos**	**1.88**	**73**	*e*P	**Pn**	**08 10 52.4**	**0.0**
SMSP				*e*S	**Sn**	**08 11 13.8**	**-1.3**
SMSP	**San Marcos**	**1.88**	**73**	*i* P	**Pn**	**08 10 52.5**	**+0.1**
SMSP				IAML		08 11 19.4	
	comp=Z,2μm,1.0s						
RTAL	**Retalhuleu**	**1.89**	**87**	*e*P	**Pn**	**08 10 52.8**	**+0.5**
RTAL				*e*S	**Sn**	**08 11 14.4**	**-0.4**
RTAL	**Retalhuleu**	**1.89**	**87**	*i* P	**Pn**	**08 10 51.6**	**-0.6**
RTAL				IAML		08 10 52.6	
	comp=Z,550nm,1.0s						
RTAL				*i* S	**Sn**	**08 11 14.0**	**-0.9**
SULM	**Suchitepequez,**	**2.02**	**93**	*e*P	**Pn**	**08 10 55.6**	**+1.6**
STG3	**Santiaguito 3,**	**2.03**	**82**	*e*P	**Pn**	**08 10 54.7**	**+0.4**
STG3				*e*S	**Sn**	**08 11 17.2**	**-1.3**
QUEO	**Labor Ovalle**	**2.11**	**78**	*i* P	**Pn**	**08 10 55.8**	**+0.3**
QUEO				*i* S	**Sn**	**08 11 19.8**	**-0.8**
QUEO				IAML		08 11 23.5	
	comp=Z,940nm,1.0s						
HUEH	**Huehuetenango**	**2.25**	**67**	*e*P	**Pn**	**08 10 57.9**	**+0.6**
HUEH				*e*S	**Sn**	**08 11 25.4**	**+1.4**
HUEH	**Huehuetenango**	**2.25**	**67**	*i* P	**Pn**	**08 10 58.8**	**+1.4**
HUEH				*i* S	**Sn**	**08 11 25.0**	**+1.0**
HUEH				IAML		08 11 35.7	
	comp=Z,570nm,1.0s						
NILT	**Santiago Nilte**	**2.31**	**336**	*e*P	**Pn**	**08 10 58.0**	**0.0**
NILT				*e*S	**Sn**	**08 11 23.2**	**-2.1**
CCIG	**Comitan**	**2.34**	**38**	*e*P	**Pn**	**08 11 00.2**	**+1.6**
CCIG				*e*S	**Sn**	**08 11 28.7**	**+2.5**
CCIG	**Comitan**	**2.34**	**38**	*i* P	**Pn**	**08 11 00.4**	**+1.8**
CCIG				*i* S	**Sn**	**08 11 28.6**	**+2.3**
CCIG				IAML		08 11 29.8	
	comp=Z,380nm,1.0s						
TGIG		**2.38**	**12**	*e*P	**Pn**	**08 11 00.3**	**+1.3**
TGIG				*e*S	**Sn**	**08 11 27.5**	**+0.4**
FUG	**Fuego 3**	**2.71**	**89**	*e*P	**Pn**	**08 11 04.6**	**+0.9**
FUG				*e*S	**Sn**	**08 11 33.8**	**-1.7**
HUIG	**Huatulco**	**2.72**	**299**	*e*P	**Pn**	**08 11 04.0**	**+0.3**
HUIG				*e*S	**Sn**	**08 11 31.9**	**-3.5**
CMIG	**Matias Romero**	**2.90**	**336**	*e*P	**Pn**	**08 11 06.7**	**+0.6**
CMIG				*e*S	**Sn**	**08 11 37.3**	**-2.5**
UXUV	**UXUV**	**2.91**	**351**	*e*P	**Pn**	**08 11 08.2**	**+2.0**
UXUV				*e*S	**Sn**	**08 11 39.2**	**-0.7**
NUBE	**Las Nubes**	**3.79**	**98**	*i* P	**Pn**	**08 11 19.0**	**+0.5**
NUBE				IAML		08 12 40.7	
	comp=Z,68nm,1.0s						
NEUV	**Arroyo Zacate**	**3.86**	**328**	*e*P	**Pn**	**08 11 18.3**	**-1.1**
NEUV				*e*S	**Sn**	**08 12 08.1**	**+4.6**
VHO	**Vista Hermosa**	**3.96**	**312**	*e*P	**Pn**	**08 11 23.9**	**+3.0**
VHO				*e*S	**Sn**	**08 12 03.4**	**-3.0**
PETF	**Flores**	**4.39**	**55**	*e*P	**Pn**	**08 11 27.9**	**+1.2**
PETF				*e*S	**Sn**	**08 12 16.4**	**-0.3**
PETF	**Flores**	**4.39**	**55**	*i* P	**Pn**	**08 11 28.0**	**+1.3**
PETF				IAML		08 13 24.1	
	comp=Z,160nm,1.0s						
PNIG	**Pinotepa**	**4.74**	**295**	*e*P	**Pn**	**08 11 33.4**	**+1.9**
PNIG				*e*S	**Sn**	**08 12 21.1**	**-4.2**
HLIG	**Huajuapan de L**	**5.23**	**311**	*e*P	**Pn**	**08 11 42.1**	**+3.8**
HLIG				*e*S	**Sn**	**08 12 41.3**	**+3.7**
FTIG	**Fresnillo de T**	**5.52**	**309**	*e*P	**Pn**	**08 11 45.3**	**+3.0**
FTIG				*e*S	**Sn**	**08 12 42.4**	**-2.3**
MGIG	**Malinaltepec**	**5.55**	**301**	*i* P	**Pn**	**08 11 46.8**	**+4.1**
MGIG				*e*S	**Sn**	**08 12 44.4**	**-1.0**
JAUV	**Jalcomulco**	**5.76**	**329**	*e*P	**Pn**	**08 11 45.3**	**-0.2**
JAUV				*i* S	**Sn**	**08 12 42.5**	**-8.0**

IDC 18 08:15:20.6±2.6,53°94N×86°55E,h0km,mbtmp2.8/2, ML2.6/2,Error ellipse: s-maj=20.9km s-min=13.1km az=65.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**271**	I	I	08 21 25.8	
	baz=90,slow=342,SNR=12						
ZALV	**Zalesovo Beam**	**1.03**	**271**	Pg	Pg	08 15 38.9	-1.4
	0.5nm,0.3s,baz=89,slow=17,SNR=12						
ZALV				Lg	Lg	08 15 54.9	
	1.3nm,0.3s,baz=95,slow=30,SNR=10						
KURBB	**Kurchatov Arra**	**5.94**	**239**	Pn	Pn	08 16 50.8	+1.1
	0.1nm,0.3s,baz=58,slow=14,SNR=4.7						
KURBB				Lg	Lg	08 18 32.0	
	baz=22,slow=23,SNR=2.8						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.65**	**203**	Pn	Pn	08 17 14.3	+1.0
	0.2nm,0.3s,baz=26,slow=13,SNR=5.5						
	0.2nm,0.2s						

IDC 18 08:24:12.0±3.5,54°11N×86°90E,h0km,mbtmp2.5/2, ML2.2/2,Error ellipse: s-maj=30.3km s-min=17.8km az=59.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.24**	**263**	I	I	08 32 20.0	
	baz=81,slow=342,SNR=11						
ZALV	**Zalesovo Beam**	**1.24**	**263**	Pg	Pg	08 24 34.1	-1.6
	0.2nm,0.3s,baz=79,slow=16,SNR=2.4						
ZALV				Lg	Lg	08 24 52.5	
	0.5nm,0.3s,baz=86,slow=27,SNR=4.7						
KURBB	**Kurchatov Arra**	**6.20**	**239**	Pn	Pn	08 25 45.7	+1.0
	0.1nm,0.3s,baz=53,slow=13,SNR=2.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.89**	**204**	Pn	Pn	08 26 09.4	+1.3
	baz=24,slow=14,SNR=1.3						
	0.2nm,0.6s						

IDC 18 08:34:50.6±3.0,54°04N×86°58E,h0km,mbtmp2.7/2, ML2.4/2,Error ellipse: s-maj=25.2km s-min=14.8km az=50.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.04**	**266**	I	I	08 41 40.0	
	baz=85,slow=342,SNR=22						
ZALV	**Zalesovo Beam**	**1.04**	**266**	Pg	Pg	08 35 09.1	-1.5
	0.5nm,0.3s,baz=87,slow=16,SNR=12						
ZALV				Lg	Lg	08 35 25.8	
	1.4nm,0.3s,baz=93,slow=28,SNR=11						
KURBB	**Kurchatov Arra**	**6.00**	**239**	Pn	Pn	08 36 21.6	+1.0
	0.1nm,0.3s,baz=57,slow=13,SNR=4.9						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.75**	**202**	Pn	Pn	08 36 45.8	+1.1
	0.1nm,0.3s,baz=24,slow=14,SNR=5.9						
	0.1nm,0.3s						

IDC 18 08:45:31.7±3.3,54°35N×86°77E,h0km,mbtmp3.0/2, ML2.6/2,Error ellipse: s-maj=25.2km s-min=16.1km az=58.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**251**	I	I	08 52 35.5	
	0.2nm,0.7s,baz=70,slow=342,SNR=60						
ZALV	**Zalesovo Beam**	**1.22**	**251**	Pg	Pg	08 45 53.8	-1.2
	1.2nm,0.3s,baz=75,slow=16,SNR=8.7						
ZALV				Lg	Lg	08 46 10.5	
	1.1nm,0.3s,baz=68,slow=27,SNR=5.0						
KURBB	**Kurchatov Arra**	**6.27**	**237**	Pn	Pn	08 47 06.1	+0.8
	0.1nm,0.3s,baz=55,slow=14,SNR=4.9						
KURBB				Sn	Sn	08 48 19.2	+1.6
	baz=47,slow=22,SNR=1.6						
KURBB				Lg	Lg	08 48 50.6	
	baz=57,slow=32,SNR=1.4						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**8.09**	**202**	Pn	Pn	08 47 31.4	+1.1
	0.1nm,0.3s,baz=26,slow=13,SNR=2.3						
MKAR				Sn	Sn	08 49 01.5	-0.9
	0.2nm,0.3s,baz=15,slow=26,SNR=5.1						
	0.5nm,0.9s						

IDC 18 08:50:55.8±1.8,0°64N×126°07E,h0km,mb3.5/4, mbtmp3.6/4,Error ellipse: s-maj=177.6km s-min=22.8km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.01**	**159**	P	P	08 55 51.8	-0.1
	1.5nm,0.6s,baz=337,slow=12,SNR=26						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**25.34**	**163**	P	P	08 56 24.7	+0.1
	0.4nm,0.3s,baz=344,slow=11,SNR=11						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**59.73**	**327**	P	P	09 01 02.4	0.0
	0.2nm,0.4s,baz=123,slow=7.4,SNR=1.7						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**63.99**	**328**	P	P	09 01 31.0	0.0
	0.3nm,0.5s,baz=133,slow=6.7,SNR=2.8						
	0.3nm,0.5s						

IDC 18 08:54:49.5±2.3,54°27N×86°03E,h0km,mbtmp3.2/2, ML3.1/2,Error ellipse: s-maj=17.2km s-min=10.3km az=54.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.79**	**246**	I	I	08 59 37.9	
	0.1nm,0.8s,baz=66,slow=341,SNR=11						
ZALV	**Zalesovo Beam**	**0.79**	**246**	Pg	Pg	08 55 02.7	-1.8
	2.1nm,0.3s,baz=60,slow

IDC 18 09:25:33.4±1.6, 2°67'S×139°56'E, h0km, mb3.5/3, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=80.0km s-min=27.1km az=99.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.91**	**196**	P	Pn	09 29 42.7	-1.5
	0.2nm,0.3s,baz=19,slow=12,SNR=4.4						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**21.58**	**194**	P	P	09 30 25.2	+0.3
	1.0nm,0.8s,baz=19,slow=12,SNR=12						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**70.27**	**322**	P	P	09 36 48.6	-0.1
	0.5nm,0.6s,baz=112,slow=6.6,SNR=2.2						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**85.44**	**24**	P	P	09 38 13.1	+0.3
	0.3nm,0.6s,baz=262,slow=4.0,SNR=5.6						
	0.3nm,0.6s						

IDC 18 09:37:20.9±3.2, 53°53N×90°66E, h0km, mbtmp3.3/3, ML2.6/3, Error ellipse: s-maj=27.2km s-min=22.8km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.49**	**279**	I	I	10 00 20.0	
	baz=95,slow=330,SNR=2.5						
ZALV	**Zalesovo Beam**	**3.49**	**279**	Pn	Pn	09 38 16.7	+0.3
	0.3nm,0.3s,baz=97,slow=16,SNR=2.2						
ZALV				Lg	Lg	09 39 12.4	
	3.9nm,0.3s,baz=94,slow=24,SNR=10						
	2.1nm,0.3s						
KURBB	**Kurchatov Arra**	**8.02**	**254**	Pn	Pn	09 39 18.3	-0.2
	0.2nm,0.3s,baz=65,slow=14,SNR=10						
KURBB				Sn	Sn	09 40 47.2	-2.6
	baz=68,slow=22						
KURBB				Lg	Lg	09 41 38.0	
	0.2nm,0.3s,baz=60,slow=30,SNR=10						
	3.1nm,0.7s						
MKAR	**Makanchi Array**	**8.62**	**222**	Pn	Pn	09 39 27.7	+1.0
	0.3nm,0.3s,baz=32,slow=12,SNR=7.9						
MKAR				Sn	Sn	09 41 03.6	-0.9
	0.1nm,0.3s,baz=28,slow=13,SNR=1.2						
MKAR				Lg	Lg	09 41 54.1	
	0.1nm,0.3s,baz=37,slow=22,SNR=2.7						
	0.5nm,0.4s						
SONM	**Songino Array**	**11.48**	**113**	Lg	Lg	09 43 16.1	
	baz=302,slow=22						
I34MN	**SONGINO INFRAS**	**11.51**	**114**	I	I	10 42 10.0	
	baz=309,slow=328,SNR=0.8						

*ISK **18** 09:38:49.3, 40°35N×23°31E, h12km, ML3.4/18*
*BEO **18** 09:38:50.8±0.6, 40°46N×23°57E, h0km±2km, ML3.3/7*
*ATH **18** 09:38:51.9, 40°53N×23°51E, h4km±1km, ML3.4/16, Error ellipse: s-maj=1.8km s-min=0.6km az=4.0*
*SOF **18** 09:38:51.0, 40°50N×23°52E, h12km, MD4.0*
*AFAD **18** 09:38:51.4±0.0, 40°08N×23°72E, h2km±1km, ML3.1*
*THE **18** 09:38:51.9, 40°53N×23°52E, h9km±1km, ML3.4/16, Error ellipse: s-maj=1.5km s-min=0.5km az=4.0*
*IDC **18** 09:38:51.0±1.4, 40°38N×23°73E, h0km, mb3.8/3, mbtmp3.6/7, ML3.5/4, Error ellipse: s-maj=28.7km s-min=13.7km az=102.0*
*SKO **18** 09:38:52.4, 40°51N×23°51E, h0km, ML3.3*

ISC 18 09:38:51.4±1.0, 40°50N±0°01×23°53E±0°01, h4km±8km, n156, σ0°77/218, mb3.7/3, 14C-14D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HORT	**Hortiatis**	**0.34**	**287**	P	**Pg**	**09 38 58.3**	**+0.3**
HORT	**Hortiatis**	**0.34**	**287**	P	**Pg**	**09 38 58.2**	**+0.2**
HORT				S	**Sg**	**09 39 02.1**	**-0.3**
HORT				AML	AML	09 39 03.6	
	comp=E,14532μm,0.3s						
HORT				AML	AML	09 39 03.8	
	comp=N,18123μm,0.2s						
SOH	**Sokhos**	**0.35**	**338**	P	**Pg**	**09 38 58.2**	**0.0**
SOH				S	**Sg**	**09 39 02.7**	**0.0**
	comp=N,23μm,0.3s						
SOH	**Sokhos**	**0.35**	**338**	↑*i*Pg	**Pg**	**09 38 58.2**	**0.0**
SOH				*i* Sg	**Sg**	**09 39 02.6**	**0.0**
SOH	**Sokhos**	**0.35**	**338**	P	**Pg**	**09 38 58.1**	**0.0**
SOH				S	**Sg**	**09 39 02.5**	**-0.2**
SOH				AML	AML	09 39 03.5	
	comp=E,52408μm,0.3s						
SOH				AML	AML	09 39 04.0	
	comp=N,62536μm,0.3s						
OUR	**Ouranopolis**	**0.39**	**115**	Pg	**Pb**	**09 38 59.9**	**-0.9**
OUR	**Ouranopolis**	**0.39**	**115**	P	**Pb**	**09 38 59.9**	**-0.9**
OUR				S	**Sb**	**09 39 05.7**	**-1.3**
	comp=N,14μm,0.3s						
OUR	**Ouranopolis**	**0.39**	**115**	P	**Pb**	**09 38 59.9**	**-0.9**
OUR				S	**Sg**	**09 39 05.3**	**+1.5**
OUR				AML	AML	09 39 07.2	
	comp=N,31830μm,0.3s						
OUR				AML	AML	09 39 07.5	
	comp=E,23455μm,0.2s						
THE	**Thessaloniki**	**0.45**	**288**	P	**Pg**	**09 38 59.9**	**-0.1**
THE				S	**Sg**	**09 39 06.1**	**+0.3**
	comp=E,2μm,0.2s						
THE	**Thessaloniki**	**0.45**	**288**	↑*i*Pg	**Pg**	**09 38 59.8**	**-0.2**
THE				*i* Sg	**Sg**	**09 39 05.8**	**0.0**
THE	**Thessaloniki**	**0.45**	**288**	P	**Pg**	**09 38 59.7**	**-0.2**
THE				S	**Sg**	**09 39 05.5**	**-0.3**
THE				AML	AML	09 39 10.2	
	comp=E,3579μm,0.2s						
THE				AML	AML	09 39 11.2	
	comp=N,3393μm,0.2s						
KOKK	**Kokkinochori,**	**0.48**	**48**	P	**Pg**	**09 39 01.0**	**+0.4**
KOKK				S	**Sg**	**09 39 07.6**	**+0.7**
	comp=N,2μm,0.3s						
KOKK	**Kokkinochori,**	**0.48**	**48**	P	**Pg**	**09 39 00.8**	**+0.2**
KOKK				S	**Sg**	**09 39 07.3**	**+0.5**
SRS	**Serrai**	**0.62**	**5**	P	**Pg**	**09 39 02.9**	**-0.4**
SRS				S	**Sg**	**09 39 11.1**	**-0.2**
	comp=N,3μm,0.2s						
SRS	**Serrai**	**0.62**	**5**	*e*Pg	**Pg**	**09 39 02.9**	**-0.4**
SRS				*e*Sg	**Sg**	**09 39 11.3**	**0.0**
SRS	**Serrai**	**0.62**	**5**	↑*i*Pg	**Pg**	**09 39 02.8**	**-0.4**
SRS				*i* Sg	**Sb**	**09 39 12.7**	**-1.2**
SRS	**Serrai**	**0.62**	**5**	P	**Pg**	**09 39 02.7**	**-0.6**
SRS				S	**Sg**	**09 39 11.1**	**-0.2**
SRS				AML	AML	09 39 17.7	
	comp=E,6994μm,0.1s						
SRS				AML	AML	09 39 18.3	
	comp=N,6837μm,0.2s						
KVLA	**Kavala**	**0.79**	**56**	P	**Pg**	**09 39 06.5**	**0.0**
KVLA				S	**Sg**	**09 39 17.1**	**+0.4**
KVLA				AML	AML	09 39 19.8	
	comp=N,22439μm,0.3s						
KVLA				AML	AML	09 39 20.0	
	comp=E,8143μm,0.3s						
KNT	**Kendrikon**	**0.82**	**325**	Pg	**Pg**	**09 39 06.4**	**-0.6**
KNT	**Kendrikon**	**0.82**	**325**	P	**Pg**	**09 39 06.5**	**-0.6**
KNT				S	**Sg**	**09 39 17.7**	**+0.1**
	comp=E,2μm,0.2s						
KNT	**Kendrikon**	**0.82**	**325**	↑*i*Pg	**Pg**	**09 39 06.4**	**-0.6**
KNT				*i* Sg	**Sg**	**09 39 17.4**	**-0.2**
KNT	**Kendrikon**	**0.82**	**325**	P	**Pg**	**09 39 06.2**	**-0.9**
KNT				S	**Sg**	**09 39 16.4**	**-1.2**
KNT				AML	AML	09 39 17.8	
	comp=N,4077μm,0.2s						
KNT				AML	AML	09 39 17.9	
	comp=E,4274μm,0.2s						
NVR	**Nevrokopi**	**0.89**	**17**	P	**Pb**	**09 39 09.0**	**-0.4**
NVR				S	**Sg**	**09 39 20.4**	**+0.5**
	comp=E,2μm,0.3s						
NVR	**Nevrokopi**	**0.89**	**17**	P	**Pg**	**09 39 08.7**	**+0.3**
NVR				S	**Sg**	**09 39 19.8**	**-0.1**
NVR				AML	AML	09 39 23.4	
	comp=N,4502μm,0.2s						
NVR				AML	AML	09 39 24.3	
	comp=E,4792μm,0.5s						
KAVA	**Kavala**	**0.90**	**56**	P	**Pb**	**09 39 09.2**	**-0.4**
KAVA				S	**Sg**	**09 39 21.0**	**+0.7**
	comp=E,6μm,0.3s						
KAVA	**Kavala**	**0.90**	**56**	P	**Pg**	**09 39 08.5**	**-0.2**
KAVA				S	**Sg**	**09 39 20.9**	**+0.7**
THAS	**Thassos island**	**0.92**	**83**	P	**Pg**	**09 39 09.0**	**+0.1**
THAS				S	**Sg**	**09 39 21.6**	**+0.8**
	comp=E,2μm,0.2s						
THAS	**Thassos island**	**0.92**	**83**	P	**Pg**	**09 39 08.9**	**-0.1**
THAS				S	**Sg**	**09 39 21.2**	**+0.4**
THAS				AML	AML	09 39 23.8	
	comp=N,4630μm,0.2s						
THAS				AML	AML	09 39 25.3	
	comp=E,4690μm,0.3s						
GRG	**Griva**	**0.97**	**299**	P	**Pg**	**09 39 09.9**	**-0.1**
GRG				S	**Sb**	**09 39 23.6**	**-0.3**
	comp=E,5μm,0.4s						
GRG	**Griva**	**0.97**	**299**	↓*i*Pg	**Pg**	**09 39 09.0**	**-0.9**
GRG				*i* Sg	**Sb**	**09 39 24.0**	**0.0**
GRG	**Griva**	**0.97**	**299**	P	**Pg**	**09 39 09.1**	**-0.8**
GRG				S	**Sb**	**09 39 23.7**	**-0.3**
GRG				AML	AML	09 39 27.0	
	comp=N,13176μm,0.4s						
GRG				AML	AML	09 39 27.3	
	comp=E,7854μm,0.5s						
MMB	**Musomishta**	**1.06**	**9**	↑*i*Pg	**Pg**	**09 39 11.2**	**-0.6**
MMB				*i* Sg	**Sb**	**09 39 27.5**	**+0.9**
MMB	**Musomishta**	**1.06**	**9**	*i* P	**Pg**	**09 39 11.3**	**-0.4**
VAY	**Valandovo**	**1.09**	**319**	*e*Pg	**Pg**	**09 39 11.8**	**-0.6**
VAY				*e*Sg	**Sg**	**09 39 26.5**	**-0.1**
VAY	**Valandovo**	**1.09**	**319**	↓*i*Pg	**Pg**	**09 39 11.9**	**-0.5**
VAY				*i* Sg	**Sb**	**09 39 27.0**	**-0.5**
VAY				*e*Lg	Lg	09 39 27.3	
	comp=N,792nm,0.4s						
VAY				*e*Lg	Lg	09 39 29.1	
	comp=E,1μm,0.5s						
XOR	**Xorichti**	**1.16**	**193**	P	**Pb**	**09 39 14.0**	**0.0**
XOR				S	**Sb**	**09 39 30.1**	**+0.7**
	comp=E,2μm,0.4s						
XOR	**Xorichti**	**1.16**	**193**	P	**Pg**	**09 39 13.8**	**+0.2**
XOR				S	**Sb**	**09 39 29.5**	**+0.1**
XOR				AML	AML	09 39 31.1	
	comp=N,5617μm,0.5s						
XOR				AML	AML	09 39 31.3	
	comp=E,2447μm,0.4s						
NEO	**Neokhori**	**1.21**	**191**	P	**Pg**	**09 39 14.8**	**+0.2**
NEO				S	**Sn**	**09 39 31.6**	**-0.4**
	comp=E,2μm,0.6s						
NEO	**Neokhori**	**1.21**	**191**	P	**Pg**	**09 39 14.6**	**0.0**
NEO				S	**Sb**	**09 39 30.8**	**-0.1**
NEO				AML	AML	09 39 32.5	
	comp=N,4395μm,0.5s						
NEO				AML	AML	09 39 33.5	
	comp=E,4650μm,0.3s						
TYRN	**Tyrnavos**	**1.27**	**232**	P	**Pb**	**09 39 15.8**	**0.0**
TYRN				S	**Sn**	**09 39 33.0**	**-0.3**
	comp=E,2μm,0.5s						
TYRN	**Tyrnavos**	**1.27**	**232**	P	**Pb**	**09 39 15.8**	**0.0**
TYRN				S	**Sg**	**09 39 32.1**	**+0.1**
ALNA	**Alonissos**	**1.38**	**169**	P	**Pn**	**09 39 17.0**	**-0.3**
ALNA				S	**Sn**	**09 39 36.1**	**+0.2**
ALNA				AML	AML	09 39 40.3	
	comp=E,2302μm,0.7s						
ALNA				AML	AML	09 39 40.7	
	comp=N,2031μm,0.9s						
KKB	**Krupnik**	**1.38**	**348**	*i* Pg	**Pn**	**09 39 17.1**	**-0.3**
KKB				*i* Sg	**Sb**	**09 39 35.8**	**+0.2**
KKB	**Krupnik**	**1.38**	**348**	*i* P	**Pn**	**09 39 17.5**	**+0.1**
LIA	**Limnos Island**	**1.40**	**115**	P	**Pn**	**09 39 17.1**	**-0.6**
LIA				S	**Sn**	**09 39 37.1**	**+0.4**
	comp=N,2μm,0.5s						
LIA	**Limnos Island**	**1.40**	**115**	P	**Pn**	**09 39 16.9**	**-0.8**
LIA				S	**Sn**	**09 39 37.2**	**+0.6**
LIA				AML	AML	09 39 40.4	
	comp=E,3133μm,0.5s						
LIA				AML	AML	09 39 40.5	
	comp=N,3254μm,0.4s						
THL	**Klokotos Trika**	**1.49**	**232**	P	**Pn**	**09 39 19.0**	**+0.1**
THL				S	**Sn**	**09 39 38.6**	**-0.2**
	comp=N,398nm,0.8s						
THL	**Klokotos Trika**	**1.49**	**232**	P	**Pn**	**09 39 18.7**	**-0.2**
RZN	**Rozhen**	**1.51**	**37**	*i* P	**Pn**	**09 39 19.1**	**-0.2**
SMTH	**Samothraki Isl**	**1.53**	**90**	P	**Pn**	**09 39 18.7**	**-0.8**
SMTH				S	**Sn**	**09 39 40.0**	**+0.2**
	comp=N,260nm,0.4s						
SMTH	**Samothraki Isl**	**1.53**	**90**	P	**Pn**	**09 39 18.5**	**-0.9**
SMTH				S	**Sn**	**09 39 39.0**	**-0.8**
SMTH				AML	AML	09 39 43.5	
	comp=N,477μm,0.3s						
SMTH				AML	AML	09 39 44.7	
	comp=E,467μm,0.4s						
RDO	**Rodhopi**	**1.66**	**66**	Pn	**Pn**	**09 39 21.4**	**+0.2**
RDO	**Rodhopi**	**1.66**	**66**	P	**Pn**	**09 39 20.5**	**-0.7**
RDO	**Rodhopi**	**1.66**	**66**	P	**Pn**	**09 39 20.3**	**-0.9**
FNA	**Florina**	**1.66**	**281**	*e*Pg	**Pn**	**09 39 21.7**	**+0.3**
FNA				*e*Sg	**Sg**	**09 39 44.4**	**-0.3**
FNA	**Florina**	**1.66**	**281**	↓*i*Pg	**Pn**	**09 39 21.7**	**+0.3**
FNA				*i* Sg	**Sg**	**09 39 45.4**	**+0.6**
FNA	**Florina**	**1.66**	**281**	P	**Pn**	**09 39 21.6**	**+0.3**
AGG	**Agios Georgios**	**1.74**	**212**	P	**Pn**	**09 39 22.6**	**+0.3**
KPRO	**Kipourio**	**1.74**	**253**	P	**Pn**	**09 39 22.6**	**+0.2**
KDZ	**Kurdzhali**	**1.78**	**50**	Pn	**Pb**	**09 39 23.9**	**-0.6**
KDZ	**Kurdzhali**	**1.78**	**50**	*i* P	**Pn**	**09 39 25.2**	**-0.2**
SKY	**Skiros Island**	**1.80**	**154**	P	**Pn**	**09 39 23.1**	**-0.1**
GAVA	**Gvkgeada**	**1.84**	**99**	Pn	**Pn**	**09 39 23.7**	**0.0**
PENT	**Pentalofos**	**1.85**	**261**	P	**Pn**	**09 39 24.2**	**+0.2**
AXAR	**Agios Charalam**	**1.85**	**201**	P	**Pn**	**09 39 24.2**	**+0.3**
PLD	**Plovdiv**	**1.89**	**29**	Pn	**Pn**	**09 39 24.7**	**+0.3**
PLD	**Plovdiv**	**1.89**	**29**	*e*Pn	**Pn**	**09 39 24.7**	**+0.3**
PLD				*e*Sn	**Sn**	**09 39 48.8**	**+0.2**
PLD	**Plovdiv**	**1.89**	**29**	*i* Pn	**Pn**	**09 39 24.5**	**+0.1**
PLD				*i* Sn	**Sb**	**09 39 50.7**	**+0.4**
NEST	**Nestorio**	**1.89**	**268**	P	**Pn**	**09 39 24.7**	**+0.1**
KYMI	**Kymi, Euboea I**	**1.92**	**166**	P	**Pn**	**09 39 25.7**	**+0.9**
ALN	**Alexandroupoli**	**1.96**	**77**	Pn	**Pn**	**09 39 25.7**	**+0.4**
ALN	**Alexandroupoli**	**1.96**	**77**	P	**Pn**	**09 39 24.3**	**-1.0**
ENEZ	**Enez**	**2.01**	**82**	Pn	**Pn**	**09 39 26.9**	**+0.8**
CAVK	**Edirne/Enez-Ca**	**2.02**	**84**	P	**Pb**	**09 39 28.3**	**-0.4**
CAVK				S	**Sg**	**09 39 56.9**	**+0.6**
CAVK				*i* AML	AML	09 39 59.0	
	comp=E,200nm,1.2s						
CAVK				*i* AML	AML	09 40 06.0	
	comp=E,264nm,0.9s						
BOZC	**Bozcaada**	**2.04**	**108**	P	**Pn**	**09 39 25.8**	**-0.7**
EVR	**Evrytania**	**2.06**	**221**	P	**Pn**	**09 39 27.7**	**+0.8**
BOSS	**Bosilegrad**	**2.15**	**339**	*e*Pn	**Pn**	**09 39 28.6**	**+0.6**
BOSS				*e*Sn	**Sb**	**09 39 57.4**	**-0.4**
SKO	**Skopje**	**2.15**	**314**	*e*Pn	**Pb**	**09 39 30.3**	**-0.6**
SKO	**Skopje**	**2.15**	**314**	*e*Pn	**Pn**	**09 39 28.9**	**+0.8**
OHR	**Ohrid**	**2.16**	**287**	*e*Pn	**Pn**	**09 39 29.5**	**+1.3**
OHR				*e*Sn	**Sn**	**09 39 56.5**	**+1.1**
OHR	**Ohrid**	**2.16**	**287**	↓*i*Pn	**Pn**	**09 39 29.6**	**+1.3**
OHR				*i* Sn	**Sn**	**09 39 56.2**	**+0.8**
OHR				*e*Lg	Lg	09 39 57.0	
	comp=E,78nm,0.8s						
OHR				*e*Lg	Lg	09 39 57.0	
	comp=N,117nm,0.8s						
DIM	**Dimitrovgrad**	**2.19**	**44**	*i* P	**Pg**	**09 39 32.5**	**-0.8**
SIGR	**SIGRI**	**2.21**	**125**	Pn	**Pn**	**09 39 27.4**	**-1.4**
CNKL	**anakkale-Mer**	**2.23**	**100**	P	**Pn**	**09 39 29.9**	**+0.8**
CNKL				S	**Sn**	**09 39 56.1**	**-1.0**
CNKL				*i* AML	AML	09 40 05.0	
	comp=N,149nm,0.8s						
KOCA	**Canakkale, Ayv**	**2.24**	**116**	P	**Pb**	**09 39 32.4**	**0.0**
EZN	**Ezine**	**2.25**	**106**	Pn	**Pn**	**09 39 29.5**	**+0.2**
GELI	**Tayfur-Gelibol**	**2.25**	**92**	Pn	**Pn**	**09 39 29.7**	**+0.3**
ANX	**Ano Chora**	**2.27**	**214**	P	**Pn**	**09 39 30.5**	**+0.7**
ERIK	**Erikli-Kesan**	**2.28**	**85**	Pn	**Pn**	**09 39 30.5**	**+0.7**
PRVS	**Prvonek**	**2.28**	**332**	*e*Pn	**Pn**	**09 39 29.8**	**-0.1**
PRVS				*e*Sn	**Sb**	**09 40 01.6**	**-0.2**
COMU	**Canakkale**	**2.29**	**99**	Pn	**Pn**	**09 39 29.7**	**-0.2**
VIL2	**Platees**	**2.29**	**185**	P	**Pn**	**09 39 30.4**	**+0.4**
VIL2				AML	AML	09 40 02.3	
	comp=E,649μm,0.7s						
VIL2				AML	AML	09 40 03.4	
	comp=N,744μm,0.7s						
TRIZ	**Trizonia**	**2.41**	**208**	P	**Pn**	**09 39 32.1**	**+0.5**
EFP	**Efpalio**	**2.42**	**212**	P	**Pn**	**09 39 32.5**	**+0.8**
PVO	**Paravola**	**2.43**	**220**	P	**Pn**	**09 39 33.0**	**+1.1**
BAYC	**CANAKKALE_Bayr**	**2.44**	**107**	P	**Pn**	**09 39 31.5**	**-0.4**
BAYC				S	**Sn**	**09 40 01.8**	**-0.4**
DION	**Dionisos Attik**	**2.44**	**172**	P	**Pn**	**09 39 33.1**	**+1.1**
UKOP	**Uzunkopru-Edir**	**2.44**	**74**	Pn	**Pn**	**09 39 32.9**	**+0.9**
PRK	**Paraskevi**	**2.46**	**120**	P	**Pn**	**09 39 32.8**	**+0.6**
LPK	**Lapseki**	**2.47**	**92**	Pn	**Pn**	**09 39 32.8**	**+0.4**
LTK	**Loutraki**	**2.51**	**190**	P	**Pn**	**09 39 33.0**	**0.0**
LAKA	**Lakka**	**2.55**	**208**	P	**Pn**	**09 39 33.8**	**+0.2**
IGT	**Igoumenitsa**	**2.63**	**250**	*i* Pn	**Pb**	**09 39 37.5**	**-1.6**
BARS	**Barje**	**2.65**	**332**	*e*Pn	**Pn**	**09 39 34.8**	**-0.1**
BARS	**Barje**	**2.65**	**332**	*e*Pg	**Pb**	**09 39 39.7**	**+0.4**
BARS				*e*Sn	**Sb**	**09 40 09.8**	**-2.4**
BARS	**Barje**	**2.65**	**332**	*i* Pn	**Pn**	**09 39 34.5**	**-0.3**
VLY	**Voula,Athens**	**2.65**	**175**	P	**Pn**	**09 39 34.9**	**0.0**
KLV	**Kalavryta, Ach**	**2.67**	**204**	P	**Pn**	**09 39 35.6**	**+0.3**
AYVA	**Ayvalik**	**2.71**	**115**	P	**Pn**	**09 39 37.3**	**+1.6**
AYVA				*i* AML	AML	09 40 35.0	
	comp=N,71nm,0.6s						
GUR	**Goura**	**2.72**	**200**	P	**Pn**	**09 39 36.3**	**+0.4**
CANM	**Can-anakkale**	**2.74**	**99**	Pn	**Pn**	**09 39 36.9**	**+0.8**
EDRB	**Edirne**	**2.78**	**60**	Pn	**Pn**	**09 39 38.4**	**+1.8**
ZAPS	**Zavoj**	**2.85**	**347**	*e*Pn	**Pn**	**09 39 38.7**	**+1.0**
ZAPS				*e*Sn	**Sn**	**09 40 12.2**	**-0.3**
MPEP	**Malo Peshtene**	**2.86**	**3**	*i* P	**Pn**	**09 39 38.2**	**+0.4**
CHOS	**Chios island**	**2.88**	**136**	Pn	**Pn**	**09 39 37.0**	**-1.1**
BUHA	**Balikesir, Bur**	**2.90**	**109**	P	**Pn**	**09 39 39.7**	**+1.4**
BUHA				S	**Sb**	**09 40 17.4**	**-2.2**
ELND	**Elena**	**3.00**	**35**	↑P	**Pn**	**09 39 40.1**	**+0.4**
BLKB	**Belogradchik**	**3.19**	**349**	↓P	**Pn**	**09 39 42.5**	**+0.2**
BALY	**Balya**	**3.23**	**102**	P	**Pn**	**09 39 41.4**	**-1.5**
SELS	**Selova**	**3.26**	**327**	*e*Pn	**Pn**	**09 39 42.6**	**-0.7**
STEP	**BALIKESIR_Sava**	**3.41**	**108**	P	**Pn**	**09 39 46.3**	**+0.9**
STEP				*i* AML	AML	09 40 45.0	
	comp=N,56nm,0.7s						
BOVS	**Bovan**	**3.42**	**337**	↑P	**Pn**	**09 39 44.9**	**-0.5**
BOVS	**Bovan**	**3.42**	**337**	*e*Pn	**Pn**	**09 39 46.1**	**+0.7**
BOVS	**Bovan**	**3.42**	**337**	*e*Pg	**Pb**	**09 39 53.7**	**+1.3**
BOVS				*e*Sn	**Sn**	**09 40 28.6**	**+2.3**
ZAGS	**Zajecar**	**3.45**	**344**	*e*Pn	**Pn**	**09 39 45.5**	**-0.3**
ZAGS				*e*Sn	**Sn**	**09 40 26.7**	**-0.4**
SJES	**Sjenica**	**3.83**	**317**	*e*Pn	**Pn**	**09 39 51.9**	**+0.7**
COPA	**Copaceanca**	**3.84**	**18**	↓P	**Pn**	**09 39 52.5**	**+1.3**
IVAS	**Ivanjica**	**3.97**	**322**	*e*Pn	**Pn**	**09 39 52.8**	**-0.3**
GRUS	**Gruza**	**3.98**	**329**	*e*Pn	**Pn**	**09 39 52.9**	**-0.2**
GRUS				*e*Sn	**Sn**	**09 40 39.3**	**-0.9**
KUBS	**Kucevo**	**4.14**	**341**	*e*Pn	**Pn**	**09 39 54.7**	**-0.7**
TRUS	**Trudelj**	**4.38**	**329**	*e*Pn	**Pn**	**09 39 58.2**	**-0.5**
DIVS	**Divibare**	**4.45**	**325**	*e*Pn	**Pn**	**09 39 59.6**	**-0.1**
HERR	**Herculane**	**4.46**	**350**	↓P	**Pn**	**09 39 58.7**	**-1.0**
MDVR	**Moldovita**	**4.48**	**343**	↓P	**Pn**	**09 40 00.1**	**-0.1**
GZR	**Gura Zlata**	**4.92**	**354**	↓P	**Pn**	**09 40 05.1**	**-1.1**
ARR	**Arges**	**4.93**	**9**	↓P	**Pn**	**09 40 06.5**	**+0.1**
LOT	**Lotru**	**4.95**	**2**	↑P	**Pn**	**09 40 06.5**	**-0.1**
TEKS	**Tekeris**	**5.01**	**325**	*e*Pn	**Pn**	**09 40 06.9**	**-0.4**
VOIR		**5.06**	**12**	↓P	**Pn**	**09 40 08.7**	**+0.6**
ISR	**Istrita**	**5.12**	**25**	↓P	**Pn**	**09 40 09.5**	**+0.6**
MLR	**Muntele Rosu**	**5.30**	**19**	↑P	**Pn**	**09 40 12.7**	**+1.3**
MLR	**Muntele Rosu**	**5.30**	**19**	Pn	**Pn**	**09 40 12.8**	**+1.5**
	comp=N,3.7nm,0.3s,baz=159,slow=3.6,SNR=14						
MLR				Sn	**Sn**	**09 41 15.4**	**+2.5**
	baz=260,slow=23						
MLR				Lg	Lg	09 41 40.2	
	comp=N,0.3nm,0.3s,baz=115,slow=23,SNR=4.0						
	comp=N,15nm,0.4s						
BZS	**Buzias**	**5.30**	**345**	↓P	**Pn**	**09 40 10.4**	**-0.9**
BZS	**Buzias**	**5.30**	**345**	*e*Pn	**Pn**	**09 40 10.5**	**-0.9**
IDI	**Anoyia**	**5.31**	**168**	Pn	**Pn**	**09 40 10.8**	**-0.7**
	comp=N,0.7nm,0.3s,baz=135,slow=6.8,SNR=1.5						
	comp=N,7.8nm,0.8s						
NEHR	**Nehoiu**	**5.33**	**21**	↑P	**Pn**	**09 40 13.6**	**+1.9**
CFR	**Carcaliu**	**5.78**	**34**	↑P	**Pn**	**09 40 18.1**	**+0.3**
PLOR	**Plostina**	**5.82**	**22**	↓P	**Pn**	**09 40 20.1**	**+1.7**
TURR	**Turia**	**5.84**	**17**	↑P	**Pn**	**09 40 20.4**	**+1.7**
VRI	**Vrincioaia**	**5.85**	**23**	↑P	**Pn**	**09 40 21.3**	**+2.4**
MARR	**Marisel-Cluj**	**6.18**	**357**	↑P	**Pn**	**09 40 23.1**	**-0.4**
BRTR	**Keskin Array B**	**7.79**	**92**	Pn	**Pn**	**09 40 43.4**	**-2.2**
	comp=N,0.1nm,0.3s,baz=272,slow=13,SNR=2.2						
	comp=N,0.6nm,0.7s						
AKASG	**Malin Array Be**	**10.95**	**19**	Pn	**Pn**	**09 41 29.3**	**+0.5**
	comp=N,0.6nm,0.3s,baz=274,slow=15,SNR=2.1						
	comp=N,3nm,0.4s						
TORD	**Torodi Ar. Bea**	**33.30**	**221**	P	**P**	**09 45 30.1**	**-0.1**
	comp=N,0.7nm,0.5s,baz=28,slow=10,SNR=5.5						
	comp=N,0.7nm,0.5s						
MKAR	**Makanchi Array**	**42.12**	**61**	P	**P**	**09 46 45.2**	**+0.6**
	comp=N,0.8nm,0.6s,baz=275,slow=6.3,SNR=4.3						
	comp=N,0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**42.41**	**50**	P	**P**	**09 46 46.8**	**0.0**
	comp=N,0.6nm,0.3s,baz=278,slow=8.8,SNR=1.9

VLI	**Veliai**	**1.67**	**356**		P	**Pn**	**09 42 54.5**	**+3.4**
VLI					S	**Sn**	**09 43 12.3**	**+1.0**
VLI					AML	AML	09 43 22.5	
	comp=E,3141µm,0.9s							
VLI					AML	AML	09 43 35.7	
	comp=N,3780µm,0.7s							
HRKL	**Herakleio**	**1.68**	**81**		Pn	**Pn**	**09 42 53.4**	**+2.2**
HRKL	**Herakleio**	**1.68**	**81**		P	**Pn**	**09 42 54.0**	**+2.8**
HRKL	**Herakleio**	**1.68**	**81**		P	**Pn**	**09 42 53.7**	**+2.5**
HRKL					S	**Sn**	**09 43 11.1**	**-0.3**
HRKL					AML	AML	09 43 48.8	
	comp=E,27142µm,0.7s							
HRKL					AML	AML	09 43 54.5	
	comp=N,35212µm,0.8s							
MHLO	**Agia Marina, M**	**1.96**	**33**		P	**Pn**	**09 42 57.9**	**+2.8**
MHLO	**Agia Marina, M**	**1.96**	**33**		P	**Pn**	**09 42 56.9**	**+1.8**
MHLO					AML	AML	09 43 39.4	
	comp=E,11779µm,0.6s							
MHLO					AML	AML	09 43 48.1	
	comp=N,8697µm,0.7s							
PYL	**PYLOS**	**2.14**	**330**		P	**Pn**	**09 42 58.4**	**+0.9**
FRMA	**Ierapetra Chan**	**2.18**	**90**		P	**Pn**	**09 43 02.1**	**+4.0**
THR9	**Santorini-Faro**	**2.27**	**54**		P	**Pn**	**09 43 00.4**	**+1.1**
THR6	**Thira Island,**	**2.29**	**55**		P	**Pn**	**09 43 02.0**	**+2.3**
THR5	**Thira Island,**	**2.29**	**53**		P	**Pn**	**09 43 01.7**	**+2.0**
YDRA	**Hydra**	**2.31**	**8**		P	**Pn**	**09 43 02.0**	**+2.1**
SNT5	**Nea Kammeni, S**	**2.32**	**54**		P	**Pn**	**09 43 02.1**	**+2.1**
THR3	**Thira Island,**	**2.32**	**54**		P	**Pn**	**09 43 01.0**	**+0.9**
KRND	**KRANIDI**	**2.33**	**1**		P	**Pn**	**09 43 02.7**	**+2.6**
SANT	**Santorini**	**2.34**	**55**	⇓	P	**Pn**	**09 43 02.6**	**+2.3**
SANT	**Santorini**	**2.34**	**55**		Pn	**Pn**	**09 43 01.9**	**+1.5**
SANT					Sn	**Sn**	**09 43 28.6**	**+0.7**
SANT	**Santorini**	**2.34**	**55**		Pn	**Pn**	**09 43 02.0**	**+1.6**
SANT	**Santorini**	**2.34**	**55**		P	**Pn**	**09 43 01.6**	**+1.3**
SANT	**Santorini**	**2.34**	**55**		P	**Pn**	**09 43 02.2**	**+1.8**
CMBO	**Columbo, Santo**	**2.36**	**53**		P	**Pn**	**09 43 02.8**	**+2.1**
THR2	**Thira island,**	**2.37**	**53**		P	**Pn**	**09 43 03.1**	**+2.4**
THR8	**Santorini-Mono**	**2.37**	**55**		P	**Pn**	**09 43 01.8**	**+1.0**
EPID	**Epidavros**	**2.57**	**1**		P	**Pn**	**09 43 05.3**	**+2.0**
ZKR	**Zakros**	**2.57**	**88**		Pn	**Pn**	**09 43 06.8**	**+3.3**
ZKR	**Zakros**	**2.57**	**88**		P	**Pn**	**09 43 06.7**	**+3.1**
ZKR					AML	AML	09 44 06.2	
	comp=E,1353µm,0.7s							
ZKR					AML	AML	09 44 17.8	
	comp=N,557µm,0.8s							
APE	**Apeiranthos**	**2.83**	**44**	⇑	P	**Pn**	**09 43 08.6**	**+1.5**
APE	**Apeiranthos**	**2.83**	**44**		Pn	**Pn**	**09 43 08.3**	**+1.2**
APE					Sn	**Sn**	**09 43 40.2**	**+0.3**
APE	**Apeiranthos**	**2.83**	**44**		Pn	**Pn**	**09 43 08.0**	**+1.0**
APE	**Apeiranthos**	**2.83**	**44**		P	**Pn**	**09 43 08.6**	**+1.5**
APE	**Apeiranthos**	**2.83**	**44**	*c*	*i*P	**Pn**	**09 43 08.1**	**+1.0**
APE	**Apeiranthos**	**2.83**	**44**		P	**Pn**	**09 43 08.3**	**+1.2**
VLY	**Voula,Athens**	**2.85**	**11**		P	**Pn**	**09 43 09.2**	**+1.8**
VLY					AML	AML	09 44 08.4	
	comp=N,644µm,0.9s							
VLY					AML	AML	09 44 13.8	
	comp=E,874µm,0.8s							
GUR	**Goura**	**2.94**	**349**		P	**Pn**	**09 43 11.2**	**+2.5**
ATH	**Athens Observa**	**2.96**	**10**		P	**Pn**	**09 43 11.6**	**+2.8**
ATH	**Athens Observa**	**2.96**	**10**		P	**Pn**	**09 43 11.2**	**+2.3**
ATHU	**Athens Univers**	**2.96**	**11**		P	**Pn**	**09 43 10.7**	**+1.8**
LTK	**Loutraki**	**2.97**	**358**		P	**Pn**	**09 43 10.9**	**+1.9**
PTL	**Penteli**	**3.06**	**12**		P	**Pn**	**09 43 13.4**	**+3.1**
KLV	**Kalavryta, Ach**	**3.08**	**346**		P	**Pn**	**09 43 14.1**	**+3.5**
DION	**Dionisos Attik**	**3.10**	**13**		P	**Pn**	**09 43 13.9**	**+3.1**
VIL2	**Platees**	**3.16**	**3**		P	**Pn**	**09 43 12.4**	**+0.8**
KARP	**Karpathos**	**3.37**	**80**		Pn	**Pn**	**09 43 17.0**	**+2.4**
KARP					Sn	**Sn**	**09 43 54.9**	**+1.5**
KARP	**Karpathos**	**3.37**	**80**		Pn	**Pn**	**09 43 16.8**	**+2.2**
KARP	**Karpathos**	**3.37**	**80**		P	**Pn**	**09 43 18.4**	**+3.8**
KARP	**Karpathos**	**3.37**	**80**		P	**Pn**	**09 43 16.7**	**+2.2**
TRIZ	**Trizonia**	**3.41**	**347**		P	**Pn**	**09 43 18.8**	**+3.9**
VLS	**Valsamata**	**3.71**	**328**		P	**Pn**	**09 43 19.5**	**+0.4**
YAZI	**Mula-Dat§a-**	**3.91**	**64**		P	**Pn**	**09 43 23.3**	**+1.4**
BODT	**Bodrum**	**3.97**	**58**		Pn	**Pn**	**09 43 25.0**	**+2.3**
BODT	**Bodrum**	**3.97**	**58**		P	**Pn**	**09 43 24.0**	**+1.2**
AGG	**Agios Georgios**	**4.01**	**352**		Pn	**Pn**	**09 43 25.2**	**+2.0**
AGG	**Agios Georgios**	**4.01**	**352**		Pn	**Pn**	**09 43 25.3**	**+2.0**
AGG	**Agios Georgios**	**4.01**	**352**		P	**Pn**	**09 43 25.5**	**+2.2**
AGG					S	**Sn**	**09 44 08.9**	**-0.1**
AGG	**Agios Georgios**	**4.01**	**352**		P	**Pn**	**09 43 25.3**	**+2.0**
DAT	**Datca**	**4.02**	**64**		Pn	**Pn**	**09 43 25.2**	**+1.7**
DAT	**Datca**	**4.02**	**64**		P	**Pn**	**09 43 24.1**	**+0.6**
DAT					*i* AML	AML	09 43 48.0	
	comp=E,29nm,0.6s							
DAT					*i* AML	AML	09 43 51.0	
	comp=E,26nm,0.7s							
BDRM	**Kayabasi**	**4.07**	**59**		P	**Pn**	**09 43 24.9**	**+0.9**
CHOS	**Chios island**	**4.10**	**35**		Pn	**Pn**	**09 43 26.1**	**+1.6**
ZEYE	**Izmir, Urla-Ze**	**4.21**	**40**		P	**Pn**	**09 43 26.9**	**+1.0**
RFTAA	**Mazikoy-Bodrum**	**4.25**	**61**		Pn	**Pn**	**09 43 28.3**	**+1.8**
GCAM	**G?zelcaml?**	**4.27**	**51**		P	**Pn**	**09 43 28.2**	**+1.4**
GCAM					*i* AML	AML	09 43 59.0	
	comp=E,113nm,1.0s							
GCAM					*i* AML	AML	09 43 59.0	
	comp=E,56nm,0.9s							
ARG	**Arkhangelos**	**4.27**	**73**		Pn	**Pn**	**09 43 28.9**	**+2.0**
ARG	**Arkhangelos**	**4.27**	**73**			**Pn**	**09 43 28.9**	**+2.0**
ARG	**Arkhangelos**	**4.27**	**73**		P	**Pn**	**09 43 28.9**	**+2.0**
ARG	**Arkhangelos**	**4.27**	**73**		P	**Pn**	**09 43 28.9**	**+2.0**
DGB	**zmir**	**4.28**	**45**		P	**Pn**	**09 43 26.3**	**-0.7**
URLA	**Izmir**	**4.34**	**40**		Pn	**Pn**	**09 43 29.6**	**+1.7**
URLA	**Izmir**	**4.34**	**40**		P	**Pn**	**09 43 28.2**	**+0.3**
TURN	**Turunc**	**4.53**	**66**		Pn	**Pn**	**09 43 32.6**	**+2.2**
TURN	**Turunc**	**4.53**	**66**		P	**Pn**	**09 43 32.3**	**+1.9**
TURN					*i* AML	AML	09 44 01.0	
	comp=E,28nm,0.4s							
TURN					*i* AML	AML	09 44 03.0	
	comp=E,41nm,0.6s							
YER	**Yerkesik**	**4.70**	**62**		Pn	**Pn**	**09 43 35.1**	**+2.3**
YER	**Yerkesik**	**4.70**	**62**		P	**Pn**	**09 43 35.5**	**+2.8**
YER	**Yerkesik**	**4.70**	**62**		P	**Pn**	**09 43 36.0**	**+3.2**
MULA	**Mugla, Merkez-**	**4.78**	**61**		P	**Pn**	**09 43 37.1**	**+3.2**
DALY	**Dalyan (Mula)**	**4.85**	**67**		Pn	**Pn**	**09 43 36.9**	**+2.1**
FETY	**Fethiye**	**5.13**	**70**		Pn	**Pn**	**09 43 40.2**	**+1.6**
FETY	**Fethiye**	**5.13**	**70**		P	**Pn**	**09 43 42.1**	**+3.5**
IZZE	**Mula-Seydike**	**5.18**	**73**		P	**Pn**	**09 43 40.5**	**+1.1**
IZZE					S	**Sn**	**09 44 35.7**	**-2.2**
IZZE					*i* AML	AML	09 44 42.0	
	comp=E,100nm,0.3s							
IZZE					*i* AML	AML	09 44 45.0	
	comp=E,80nm,0.3s							
TAVA	**DENIZLI_Tavas**	**5.29**	**61**		P	**Pn**	**09 43 44.6**	**+3.6**
TAVA					*i* AML	AML	09 44 15.0	
	comp=E,13nm,0.9s							
TAVA					*i* AML	AML	09 44 29.0	
	comp=E,16nm,1.2s							
KEK	**Kerkira**	**5.34**	**332**		Pn	**Pn**	**09 43 41.8**	**+0.3**
CAME	**Cameli-Denizli**	**5.38**	**68**		Pn	**Pn**	**09 43 44.3**	**+2.0**
AKAS	**Kas**	**5.44**	**76**		Pn	**Pn**	**09 43 44.8**	**+1.7**
AKAS	**Kas**	**5.44**	**76**		P	**Pn**	**09 43 44.6**	**+1.5**
AKAS					S	**Sn**	**09 44 43.8**	**-0.6**
DNIZ	**Denizli-Tavas-**	**5.45**	**60**		P	**Pn**	**09 43 47.0**	**+3.9**
DNIZ					*i* AML	AML	09 44 12.0	
	comp=E,52nm,0.7s							
DNIZ					*i* AML	AML	09 44 20.0	
	comp=E,45nm,0.3s							
BUHA	**Balikesir, Bur**	**5.46**	**34**		P	**Pn**	**09 43 44.8**	**+1.5**
KNIK	**Mula-Seydike**	**5.56**	**69**		P	**Pn**	**09 43 46.2**	**+1.5**
KNIK					*i* AML	AML	09 44 17.0	
	comp=E,28nm,0.9s							
KNIK					*i* AML	AML	09 44 42.0	
	comp=E,14nm,0.7s							
APMY	**Acipayam-Deniz**	**5.58**	**63**		Pn	**Pn**	**09 43 46.6**	**+1.7**
MANT	**Manisa**	**5.58**	**50**		P	**Pn**	**09 43 47.0**	**+2.0**
MANT					*i* AML	AML	09 44 16.0	
	comp=E,18nm,0.9s							
MANT					*i* AML	AML	09 44 28.0	
	comp=E,9.0nm,1.1s							
GOLH	**Golhisar**	**5.68**	**66**		P	**Pn**	**09 43 48.7**	**+2.4**
GOLH					*i* AML	AML	09 44 19.0	
	comp=E,32nm,0.9s							
GOLH					*i* AML	AML	09 44 43.0	
	comp=E,26nm,0.9s							
ELL	**Elmali**	**5.79**	**71**		Pn	**Pn**	**09 43 50.1**	**+2.2**
ELL	**Elmali**	**5.79**	**71**		Pn	**Pn**	**09 43 50.3**	**+2.4**
ELL	**Elmali**	**5.79**	**71**		P	**Pn**	**09 43 50.3**	**+2.4**
FNA	**Florina**	**5.88**	**347**			**Pn**	**09 43 49.7**	**+0.8**
FNA	**Florina**	**5.88**	**347**		P	**Pn**	**09 43 49.7**	**+0.8**
USAK	**Uak-Merkez**	**6.00**	**51**		P	**Pn**	**09 43 53.6**	**+2.9**
USAK					*i* AML	AML	09 44 23.0	
	comp=E,38nm,1.8s							
USAK					*i* AML	AML	09 44 59.0	
	comp=E,52nm,2.3s							
AKUM	**Antalya-Kumluc**	**6.04**	**76**		P	**Pn**	**09 43 51.9**	**+0.8**
PASA	**Karahalli, USA**	**6.11**	**56**		P	Pn	09 43 56.8	+4.7
KORT	**Korkueli**	**6.20**	**70**		Pn	**Pn**	**09 43 55.1**	**+1.6**
KORT	**Korkueli**	**6.20**	**70**		P	**Pn**	**09 43 55.2**	**+1.7**
KORT					*i* AML	AML	09 44 34.0	
	comp=E,25nm,1.3s							
KORT					*i* AML	AML	09 44 35.0	
	comp=E,27nm,0.6s							
SCTE	**Santa Cesarea**	**6.21**	**325**		Pn	**Pn**	**09 43 52.9**	**-0.6**
ALN	**Alexandroupoli**	**6.29**	**21**		Pn	**Pn**	**09 43 54.6**	**+0.1**
ALN	**Alexandroupoli**	**6.29**	**21**		P	**Pn**	**09 43 54.6**	**+0.1**
RDO	**Rodhopi**	**6.38**	**17**			**Pn**	**09 43 56.8**	**+1.0**
TVSB	**Tavsanli**	**6.72**	**47**		Pn	**Pn**	**09 44 01.8**	**+1.2**
YVAC	**Isparta, Yalva**	**7.30**	**62**		P	**Pn**	**09 44 11.6**	**+3.0**
YVAC					*i* AML	AML	09 44 58.0	
	comp=E,6.0nm,2.0s							
YVAC					*i* AML	AML	09 44 59.0	
	comp=E,4.8nm,1.3s							
RAFF	**Raffo Rosso**	**7.38**	**290**		Pn	**Pn**	**09 44 09.2**	**-0.4**
SEDI	**Konya, Seydise**	**7.41**	**69**		P	**Pn**	**09 44 09.9**	**0.0**
VAE	**Valguarnera**	**7.41**	**292**		Pn	**Pn**	**09 44 10.4**	**+0.5**
	comp=E,1.4nm,0.3s,baz=204,slow=20,SNR=2.2							
VAE					Sn	**Sn**	**09 45 31.9**	**-0.8**
	comp=E,2.5nm,0.3s,baz=125,slow=16,SNR=3.6							
	comp=E,6.4nm,0.4s							
CUC	**Castrocucco**	**7.59**	**313**			**Pn**	**09 44 12.6**	**+0.2**
GAZI	**Gazipasa**	**7.61**	**78**		Pn	**Pn**	**09 44 14.1**	**+1.4**
PDG	**Podgorica**	**7.95**	**339**	⇑	P	**Pn**	**09 44 15.1**	**-2.2**
CSS	**Mathiatis**	**8.41**	**88**		Pn	**Pn**	**09 44 21.6**	**-2.1**
BLKB	**Belogradchik**	**8.56**	**358**	⇑	P	**Pn**	**09 44 27.1**	**+1.3**
BOVS	**Bovan**	**8.64**	**353**	⇑	P	**Pn**	**09 44 25.8**	**-0.9**
SGRT	**San Giovanni R**	**8.82**	**321**		Pn	**Pn**	**09 44 30.9**	**+1.6**
DIVS	**Divibare**	**9.34**	**346**			**Pn**	**09 44 34.1**	**-2.4**
BR131	**Keskin Array S**	**9.61**	**58**		Pn	**Pn**	**09 44 42.7**	**+2.5**
BR131	**Keskin Array S**	**9.61**	**58**	*c*	*i*P	**Pn**	**09 44 42.9**	**+2.7**
BRTR	**Keskin Array B**	**9.61**	**58**		Pn	**Pn**	**09 44 42.7**	**+2.5**
BRTR	**Keskin Array B**	**9.61**	**58**		*e*P	**Pn**	**09 44 43.2**	**+3.0**
BRTR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
BRTR	**Keskin Array B**	**9.61**	**58**		Pn	**Pn**	**09 44 41.7**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=231,slow=14,SNR=36							
BRTR					LR	LR	09 49 21.2	
	comp=Z,230nm,18.9s,baz=250,slow=44							
	comp=Z,7.0nm,0.7s							
MDVR	**Moldovita**	**9.77**	**354**	⇑	P	**Pn**	**09 44 41.7**	**-0.6**
KZIT	**Kziot**	**10.36**	**110**		P	**Pn**	**09 44 51.7**	**+1.3**
ARR	**Arges**	**10.37**	**6**	⇑	P	**Pn**	**09 44 52.2**	**+1.6**
MMAI	**Mount Meron Ar**	**10.43**	**98**		Pn	**Pn**	**09 44 50.3**	**-1.1**
	comp=Z,5.5nm,0.3s,baz=263,slow=12,SNR=7.8							
MMAI					Sn	**Sn**	**09 46 39.4**	**-7.5**
	comp=Z,5.8nm,0.3s,baz=287,slow=23,SNR=7.1							
	comp=Z,2.3nm,0.3s							
MMA0B	**Mount Meron ar**	**10.43**	**98**		Pn	**Pn**	**09 44 50.2**	**-1.1**
MMA0B					Sn	**Sn**	**09 46 38.6**	**-8.2**
VOIR		**10.48**	**8**	⇑	P	**Pn**	**09 44 52.5**	**+0.5**
VOIR		**10.48**	**8**	⇑	P	**Pn**	**09 44 52.5**	**+0.5**
GEM	**Giv'at Ha'Em**	**10.59**	**96**		Pn	**Pn**	**09 44 51.6**	**-1.9**
NATI	**Neve Ativ**	**10.64**	**96**		P	**Pn**	**09 44 57.5**	**+3.4**
MLR	**Muntele Rosu**	**10.65**	**11**	⇑	P	**Pn**	**09 44 56.6**	**+2.2**
MLR	**Muntele Rosu**	**10.65**	**11**		Pn	**Pn**	**09 44 56.1**	**+1.7**
MLR	**Muntele Rosu**	**10.65**	**11**	⇑	P	**Pn**	**09 44 56.6**	**+2.2**
MLR	**Muntele Rosu**	**10.65**	**11**		LR	LR	09 49 49.9	
	comp=Z,137nm,18.4s,baz=181,slow=42							
YTIR	**Yattir**	**10.73**	**107**		Pn	**Pn**	**09 44 54.2**	**-1.3**
YTIR					Sn	**Sn**	**09 46 46.3**	**-8.0**
SHMJ	**Saham**	**10.79**	**99**		P	**Pn**	**09 44 56.7**	**+0.4**
DSI	**Dead Sea**	**10.86**	**105**		Pn	**Pn**	**09 44 55.4**	**-1.8**
DSI					Sn	**Sn**	**09 46 49.1**	**-8.3**
DSI	**Dead Sea**	**10.86**	**105**		P	**Pn**	**09 44 56.4**	**-0.8**
MDBI	**Mazsada**	**10.94**	**106**		Pn	**Pn**	**09 44 56.2**	**-2.1**
MSBI	**Mazada**	**10.94**	**106**		Pn	**Pn**	**09 44 56.9**	**-1.4**
KRMI	**Paran Flat**	**10.98**	**113**		Pn	**Pn**	**09 44 57.7**	**-1.2**
KRMI					Sn	**Sn**	**09 46 52.2**	**-8.2**
PRNI	**Paran**	**11.08**	**112**		Pn	**Pn**	**09 44 58.8**	**-1.5**
PRNI					Sn	**Sn**	**09 46 55.1**	**-7.8**
PRNI	**Paran**	**11.08**	**112**		P	**Pn**	**09 45 02.1**	**+1.8**
PLOR	**Plostina**	**11.12**	**13**	⇑	P	**Pn**	**09 45 03.3**	**+2.5**
PLOR	**Plostina**	**11.12**	**13**	⇑	P	**Pn**	**09 45 03.3**	**+2.5**
VRI	**Vrincioaia**	**11.15**	**13**	⇓	P	**Pn**	**09 45 03.5**	**+2.4**
VRI	**Vrincioaia**	**11.15**	**13**	⇓	P	**Pn**	**09 45 03.5**	**+2.4**
HRFI	**Mount Harif**	**11.26**	**113**		Pn	**Pn**	**09 45 01.7**	**-1.0**
HRFI					Sn	**Sn**	**09 46 59.6**	**-7.6**
MBRI	**Mt Berech**	**11.29**	**114**		Pn	**Pn**	**09 45 01.9**	**-1.2**
MBRI					Sn	**Sn**	**09 47 00.3**	**-7.7**
MBRI	**Mt Berech**	**11.29**	**114**		P	**Pn**	**09 45 04.1**	**+1.0**
EIL	**Elat**	**11.38**	**115**		Pn	**Pn**	**09 45 02.7**	**-1.6**
EIL	**Elat**	**11.38**	**115**		P	Pn	09 45 15.8	+11
EIL	**Elat**	**11.38**	**115**		P	**Pn**	**09 45 02.9**	**-1.5**
	comp=Z,2.1nm,0.3s,baz=2.3,slow=7.4,SNR=12							
EIL					Sn	**Sn**	**09 47 03.9**	**-6.2**
	comp=Z,4.2nm,0.3s,baz=315,slow=15,SNR=6.6							
	comp=Z,5.8nm,0.4s							
ASF	**Jabal al Asfar**	**11.87**	**100**		Pn	**Pn**	**09 45 10.2**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=294,slow=13,SNR=4.6							
ASF					Sn	**Sn**	**09 47 13.6**	**-8.7**
	comp=Z,0.7nm,0.3s,baz=325,slow=13,SNR=2.4							
	comp=Z,2.8nm,0.4s							
CKRC	**Cesky Krumlov**	**15.21**	**337**		*e*P	**P**	**09 46 00.9**	**+0.5**
CKRC					AMS	AMS	09 53 00.0	
	comp=Z,200nm,9.3s							
CKRC	**Cesky Krumlov**	**15.21**	**337**		*e*P	**P**	**09 46 00.9**	**+0.5**
CKRC					MLR	MLR		
	comp=Z,200nm,9.3s							
MORC	**Moravsky Berou**	**15.27**	**346**		Pn	**Pn**	**09 45 58.6**	**+1.7**
MORC	**Moravsky Berou**	**15.27**	**346**		P	**Pn**	**09 45 58.6**	**+1.7**
MORC					pmax	pmax		
	comp=Z,5.0nm,0.9s							
SOC	**Sochi**	**15.42**	**51**		*e*P	**Pn**	**09 45 57.7**	**-1.1**
SOC					*e*		09 48 49.4	
SOC					MLR	MLR		
	comp=Z,143nm,19.0s							
GERES	**GERESS Array B**	**15.43**	**336**			**P**	**09 46 01.6**	**-1.3**
GERES	**GERESS Array B**	**15.43**	**336**		P	**P**	**09 46 01.6**	**-1.3**
GERES	**GERESS Array B**	**15.43**	**336**		Pn	**P**	**09 46 05.1**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=130,slow=5.4,SNR=4.0							
GERES					LR	LR	09 53 28.0	
	comp=Z,172nm,18.3s,baz=142,slow=43							
KRLC	**Kraliky**	**15.71**	**345**		*e*P	**P**	**09 46 07.7**	**+1.8**
KRLC	**Kraliky**	**15.71**	**345**		*e*P	**P**	**09 46 07.7**	**+1.8**
KHC	**Kasperske Hory**	**15.72**	**336**		P	**P**	**09 46 07.3**	**+1.2**
KHC	**Kasperske Hory**	**15.72**	**336**		*e*P	**P**	**09 46 07.8**	**+1.7**
KHC					AMS	AMS	09 53 50.0	
	comp=Z,200nm,13.0s							
KHC	**Kasperske Hory**	**15.72**	**336**	*c*	*i*P	**P**	**09 46 07.3**	**+1.2**
KHC					pmax	pmax		
	comp=Z,13nm,0.8s							
ZVC	**Zvikov**	**15.79**	**338**		*e*P	**P**	**09 46 07.9**	**+1.0**
ZVC					AMS	AMS	09 52 50.0	
	comp=Z,200nm,6.9s							
GOPC	**GO Pecny, Ondr**	**16.05**	**340**		*e*P	**P**	**09 46 10.7**	**+1.0**
GOPC					AMS	AMS	09 52 50.0	
	comp=Z,200nm,15.2s							
GOPC	**GO Pecny, Ondr**	**16.05**	**340**		*e*P	**P**	**09 46 10.7**	**+1.0**
GOPC					MLR	MLR		
	comp=Z,200nm,15.2s							
DPC	**Dobruska-Polom**	**16.06**	**344**		*e*P	**P**	**09 46 11.0**	**+1.1**
DPC	**Dobruska-Polom**	**16.06**	**344**		*e*P	**P**	**09 46 11.0**	**+1.1**
PRU	**Pruhonice**	**16.18**	**340**		*e*P	**P**	**09 46 12.3**	**+1.1**
PRU					AMS	AMS	09 52 20.0	
	comp=Z,300nm,7.0s							
PRU	**Pruhonice**	**16.18**	**340**		*e*P	**P**	**09 46 12.3**	**+1.1**
PRU					MLR	MLR		
	comp=Z,300nm,7.0s							
KIEV	**Kiev**	**16.26**	**14**		Pn	**Pn**	**09 46 08.2**	**-1.2**
KIEV	**Kiev**	**16.26**	**14**		P	**Pn**	**09 46 08.3**	**-1.2**
KIEV					pmax	pmax		
	comp=Z,7.0nm,0.9s							
AKASG	**Malin Array Be**	**16.27**	**14**		Pn	**Pn**	**09 46 09.6**	**0.0**
AKASG	**Malin Array Be**	**16.27**	**14**		P	**Pn**	**09 46 09.6**	**0.0**
AKASG					pmax	pmax		
	comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**16.27**	**14**		Pn	**Pn**	**09 46 06.3**	**-3.3**
	comp=Z,1.3nm,0.3s,baz=204,slow=11,SNR=6.6							
	comp=Z,1.0nm,0.5s							
AKBB	**Malin Array Si**	**16.27**	**14**		Pn	**Pn**	**09 46 08.5**	**-1.1**
AKBB	**Malin Array Si**	**16.27**	**14**		P	**Pn**	**09 46 08.5**	**-1.1**
AKBB					pmax	pmax		
	comp=Z,8.0nm,0.9s							
UPC	**Upice**	**16.28**	**344**		*e*P	**P**	**09 46 13.9**	**+1.6**
UPC					AMS	AMS	09 54 30.0	
	comp=Z,300nm,5.7s							
UPC	**Upice**	**16.28**	**344**		*e*P	**P**	**09 46 13.9**	**+1.6**
UPC					MLR	MLR		
	comp=Z,300nm,5.7s							
PVCC	**Panska Ves**	**16.66**	**341**		AMS	AMS	09 53 10.0	
	comp=Z,300nm,6.0s							
RICC	**Richard**	**16.81**	**340**		AMS	AMS	09 54 30.0	
	comp=Z,400nm,22.5s							
NKC	**Novy Kostel**	**17.04**	**336**		AMS	AMS	09 52 10.0	
	comp=Z,300nm,6.5s							
KIV	**Kislovodsk**	**17.52**	**54**		*e*P	**Pn**	**09 46 25.3**	**-0.1**
KIV					pmax	pmax		
	comp=Z,8.0nm,0.9s							
KIV					MLR	MLR		
	comp=Z,42nm,14.0s							
KBZ	**Khabaz**	**17.57**	**55**	⇑	*e*P	**P**	**09 46 28.3**	**+1.8**
KBZ					pmax	pmax		
	comp=Z,6.0nm,1.0s							
KBZ	**Khabaz**	**17.57**	**55**		P	**P**	**09 46 26.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=238,slow=16,SNR=3.1							
KBZ					LR	LR	09 54 28.5	
	comp=Z,72nm,18.6s,baz=286,slow=41							
	comp=Z,1.6nm,0.5s							
CLL	**Collm**	**17.80**	**339**		*e*P	**Pn**	**09 46 29.0**	**+0.3**
CLL					*ex*	x	09 46 41.0	
CLL					*e*(sP)	**sP**	**09 46 46.0**	**+2.4**
GNI	**Garni**	**17.89**	**67**		LR	LR	09 54 49.8	
	comp=Z,180nm,18.7s,baz=264,slow=42							
ZEI	**Tsey**	**17.92**	**58**		*e*P	**P**	**09 46 31.3**	**+0.6**
ZEI					pmax	pmax		
	comp=Z,4.0nm,0.7s							
NACGM	**Naroch**	**20.02**	**6**		*e*P	**P**	**09 46 52.4**	**-0.9**
PABE	**Paberze**	**20.46**	**1**			**P**	**09 46 57.4**	**-0.7**
LPSR	**Galich'ya Gora**	**20.86**	**28**		*e*P	**P**	**09 47 02.0**	**-0.4**
LPSR					pmax	pmax		
	comp=Z,30nm,0.7s							
VRH	**Novokhopyorsk**	**21.01**	**34**		*e*P	**P**	**09 47 00.0**	**-4.1**
VRH					pmax	pmax		
	comp=Z,10.0nm,0.5s							
ESDC	**Sonseca Array**	**21.95**	**290**		P	**P**	**09 47 12.2**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=192,slow=12,SNR=1.1							
OBN	**Obninsk**	**22.13**	**21**		*e*P	**P**	**09 47 17.1**	**+1.1**
OBN					pmax	pmax		
	comp=Z,11nm,0.4s							
OBN					MLR	MLR		
	comp=Z,69nm,16.0s							
OBN	**Obninsk**	**22.13**	**21**		LR	LR	09 56 41.3	
	comp=Z,93nm,21.4s,baz=11,slow=39							
BELG	**Belogornoye**	**24.61**	**38**	*d*	*i*P	**P**	**09 47 40.2**	**-

KURK					IAmb	IAmb	09 50 16.6		
	comp=Z,4.8nm,0.6s								
KURK	**Kurchatov**	**42.57**	**51**	*d*	*i*P	**P**	**09 50 16.0**	**+0.2**	
KURK					pmax	pmax			
	comp=Z,3.0nm,0.6s								
TARG	**Taragay, Kyrgy**	**42.80**	**64**		IAmb	IAmb	09 50 27.7		
	comp=Z,4.6nm,0.6s								
SPITS	**Spitsbergen Ar**	**43.33**	**358**		P	**P**	**09 50 22.0**	**+0.4**	
	comp=Z,12nm,1.0s,baz=151,slow=10,SNR=7.8								
	comp=Z,12nm,1.0s								
MK31	**Makanchi Array**	**45.25**	**56**		P	**P**	**09 50 38.0**	**+0.5**	
MK31					IAmb	IAmb	09 50 39.0		
	comp=Z,4.3nm,0.7s								
MK31	**Makanchi Array**	**45.25**	**56**	*c*	*i*P	**P**	**09 50 37.9**	**+0.4**	
MKAR	**Makanchi Array**	**45.25**	**56**		P	**P**	**09 50 38.1**	**+0.6**	
MKAR	**Makanchi Array**	**45.25**	**56**		P	**P**	**09 50 38.0**	**+0.5**	
	comp=Z,5.9nm,0.6s,baz=265,slow=7.3,SNR=56								
	comp=Z,5.9nm,0.6s								
ZAA0	**Zalesovo Array**	**46.31**	**46**		P	**P**	**09 50 45.4**	**-0.2**	
ZAA0					IAmb	IAmb	09 50 46.3		
	comp=Z,6.9nm,0.8s								
ZALV	**Zalesovo Beam**	**46.31**	**46**		P	**P**	**09 50 45.3**	**-0.3**	
	comp=Z,7.1nm,0.4s,baz=265,slow=9.1,SNR=31								
	comp=Z,7.1nm,0.4s								
PYUN	**Piuthan**	**50.85**	**80**	*e*	P	**P**	**09 51 22.4**	**+1.2**	
	comp=Z,24nm,0.6s								
DANN	**Dangsing**	**51.38**	**80**	*e*	P	**P**	**09 51 26.6**	**+1.4**	
	comp=Z,36nm,0.8s								
DMN	**Daman**	**52.77**	**80**	*e*	P	**P**	**09 51 36.5**	**+1.0**	
	comp=Z,18nm,0.4s								
PKIN	**Phulchoki**	**53.01**	**80**	*e*	P	**P**	**09 51 37.9**	**+0.5**	
	comp=Z,13nm,0.6s								
PKI	**Pulchoki**	**53.02**	**80**	*e*	P	**P**	**09 51 38.1**	**+0.6**	
	comp=Z,14nm,0.6s								
GUN	**Gumba**	**53.27**	**79**	*e*	P	**P**	**09 51 40.0**	**+0.7**	
	comp=Z,16nm,0.5s								
JIRN	**Jiri**	**53.62**	**79**	*e*	P	**P**	**09 51 42.8**	**+0.9**	
	comp=Z,9.2nm,0.4s								
LBTB	**Lobatse**	**59.79**	**177**		LR	LR	10 19 56.3		
	comp=Z,57nm,18.3s,baz=352,slow=38								
SONM	**Songino Array**	**60.87**	**50**		P	**P**	**09 52 33.4**	**+0.9**	
SONM					IAmb	IAmb	09 52 33.7		
	comp=Z,1.0nm,0.8s								
SONM	**Songino Array**	**60.87**	**50**	*e*	P	**P**	**09 52 33.4**	**+0.9**	
SONM					pmax	pmax			
	comp=Z,1.0nm,0.6s								
SONM	**Songino Array**	**60.87**	**50**		P	**P**	**09 52 33.2**	**+0.6**	
	comp=Z,1.0nm,0.6s,baz=285,slow=8.1,SNR=8.9								
	comp=Z,1.0nm,0.6s								
ULN	**Ulaanbaatar**	**61.27**	**50**⇑	*e*	P	**P**	**09 52 35.8**	**+0.5**	
ULN					pmax	pmax			
	comp=Z,3.0nm,0.7s								
BOSA	**Boshof**	**63.36**	**178**		P	**P**	**09 52 51.5**	**+2.3**	
BOSA	**Boshof**	**63.36**	**178**		P	**P**	**09 52 51.5**	**+2.3**	
BOSA					pmax	pmax			
	comp=Z,21nm,1.5s								
BOSA	**Boshof**	**63.36**	**178**		LR	LR	10 21 40.3		
	comp=Z,39nm,18.4s,baz=19,slow=37								
KLR	**Kul'dur**	**74.95**	**40**⇑	*e*	P	**P**	**09 54 01.5**	**+0.7**	
KLR					pmax	pmax			
	comp=Z,6.0nm,1.8s								
YKA	**Yellowknife Ar**	**77.02**	**341**		P	**P**	**09 54 13.0**	**+0.7**	
YKA	**Yellowknife Ar**	**77.02**	**341**		P	**P**	**09 54 13.0**	**+0.7**	
	comp=Z,0.1nm,0.4s,baz=108,slow=5.7,SNR=4.2								
	comp=Z,0.1nm,0.4s								
USRK	**Ussuriysk Ar.**	**78.11**	**44**	*e*	P	**P**	**09 54 19.2**	**+0.4**	
USRK					pmax	pmax			
	comp=Z,2.0nm,0.5s								
USRK	**Ussuriysk Ar.**	**78.11**	**44**		P	**P**	**09 54 18.9**	**+0.1**	
	comp=Z,1.8nm,0.5s,baz=289,slow=4.2,SNR=8.4								
	comp=Z,1.8nm,0.5s								
KSRS	**Korea Array**	**79.69**	**51**	*e*	P	**P**	**09 54 28.5**	**+1.0**	
KSRS					pmax	pmax			
	comp=Z,2.0nm,0.6s								
KSRS	**Korea Array**	**79.69**	**51**		P	**P**	**09 54 28.1**	**+0.6**	
	comp=Z,2.0nm,0.6s,baz=307,slow=5.1,SNR=9.2								
	comp=Z,2.0nm,0.6s								
ILAR	**Eielson Array**	**80.19**	**356**	*e*	P	**P**	**09 54 31.4**	**+1.6**	
ILAR	**Eielson Array**	**80.19**	**356**		P	**P**	**09 54 29.5**	**-0.3**	
	comp=Z,0.3nm,0.7s,baz=338,slow=3.4,SNR=5.6								
ILAR					PP	**PP**	**09 57 27.4**	**-4.4**	
	comp=Z,0.6nm,0.8s,baz=8.0,slow=4.3,SNR=5.7								
	comp=Z,0.3nm,0.7s								
WRA	**Warramunga Arr**	**118.28**	**95**		PKP	**PKPdf**	**10 01 07.7**	**+0.4**	
	comp=Z,0.2nm,0.4s,baz=314,slow=1.8,SNR=1.5								
ASAR	**Alice Springs**	**119.71**	**99**		PKP	**PKPdf**	**10 01 10.1**	**+0.1**	
	comp=Z,0.3nm,0.5s,baz=318,slow=1.1,SNR=8.0								

*IDC **18** 09:47:12.0±0.7, 54.°26N×35.°17W, h0km, mb3.6/11, mbtmp3.7/13, ML3.3/2, MS3.6/29, Error ellipse: s-maj=26.3km s-min=15.4km az=180.0*
ISC 18 09:47:13.2±0.7, 54.°3N±0.°2×35.°14W±0.°09, h10km, n39, σ0s87/15, mb3.8/12, MS3.5/27, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.31**	**285**	P		**P**	**P**	**09 51 27.1**	**0.0**
	0.3nm,0.3s,baz=140,slow=13,SNR=1.5								
SCHQ				LR		LR	LR	09 58 07.5	
	comp=Z,47nm,18.4s,baz=116,slow=36								
	3.4nm,0.8s								
EKA	**Eskdalemuir Ar**	**18.38**	**74**	P			**Pn**	**09 51 28.4**	**+0.5**
	baz=275,slow=12								
	3.0nm,0.8s								
FRB	**Frobisher Bay**	**19.40**	**313**	LR		LR	LR	09 57 00.6	
	comp=Z,152nm,20.9s,baz=44,slow=30								
NOA	**NORSAR Array B**	**25.23**	**56**	P			**P**	**09 52 38.2**	**-0.8**
	0.5nm,0.7s,baz=315,slow=17,SNR=2.0								
	0.5nm,0.7s								
ESDC	**Sonseca Array**	**25.54**	**112**	P			**P**	**09 52 42.5**	**+0.5**
	2.9nm,0.9s,baz=316,slow=9.7,SNR=8.1								
ESDC				LR		LR	LR	10 00 25.6	
	comp=Z,132nm,18.9s,baz=293,slow=31								
	2.9nm,0.9s								
DAVOX	**Davos/Dischmat**	**29.16**	**86**	LR		LR	LR	10 03 47.8	
	comp=Z,113nm,20.6s,baz=277,slow=34								
SADO	**Sadowa**	**29.66**	**270**	LR		LR	LR	10 04 07.5	
	comp=Z,176nm,19.1s,baz=79,slow=34								
GERES	**GERESS Array B**	**30.34**	**80**	LR		LR	LR	10 04 27.7	
	comp=Z,86nm,18.4s,baz=292,slow=34								
RES	**Resolute Bay**	**30.75**	**333**	LR		LR	LR	10 04 58.4	
	comp=Z,99nm,18.8s,baz=17,slow=35								
VRAC	**Vranov**	**31.77**	**77**	LR		LR	LR	10 06 05.9	
	comp=Z,73nm,19.0s,baz=306,slow=36								
ULM	**Lac du Bonnet**	**36.38**	**289**	LR		LR	LR	10 06 39.5	
	comp=Z,95nm,18.0s,baz=89,slow=32								
AKASG	**Malin Array Be**	**38.14**	**68**	LR		LR	LR	10 09 59.6	
	comp=Z,41nm,18.8s,slow=36								
TKL	**Tuckaleechee C**	**38.22**	**261**	LR		LR	LR	10 10 08.1	
	comp=Z,77nm,18.8s,baz=30,slow=36								
MLR	**Muntele Rosu**	**39.18**	**77**	LR		LR	LR	10 10 05.1	
	comp=Z,59nm,19.2s,baz=298,slow=35								
SJG	**San Juan**	**43.26**	**226**	LR		LR	LR	10 10 55.3	
	comp=Z,17nm,19.3s,baz=27,slow=33								
INK	**Inuvik**	**43.92**	**328**	LR		LR	LR	10 10 53.6	
	comp=Z,109nm,18.9s,baz=352,slow=32								
IDI	**Anoyia**	**45.13**	**90**	LR		LR	LR	10 14 53.2	
	comp=Z,28nm,18.4s,baz=274,slow=37								
BELG	**Belogornoye**	**46.73**	**57**	LR		LR	LR	10 14 56.9	
	comp=Z,41nm,19.8s,baz=151,slow=36								
BRTR	**Keskin Array B**	**47.21**	**78**	P			**P**	**09 55 45.4**	**-0.8**
	0.8nm,0.7s,baz=312,slow=3.0,SNR=2.6								
	0.8nm,0.7s								
PDAR	**Pinedale Array**	**48.39**	**288**	P			**P**	**09 55 54.9**	**-0.5**
	1.1nm,0.9s,baz=64,slow=10,SNR=6.4								
PDAR				LR		LR	LR	10 14 56.9	
	comp=Z,94nm,18.0s,baz=46,slow=34								
	1.1nm,0.9s								
NEW	**Newport**	**48.90**	**299**	LR		LR	LR	10 14 39.9	
	comp=Z,95nm,20.4s,baz=43,slow=34								
KBZ	**Khabaz**	**49.75**	**68**	LR		LR	LR	10 18 23.9	
	comp=Z,47nm,18.1s,baz=354,slow=38								
TORD	**Torodi Ar. Bea**	**50.19**	**131**	P			**P**	**09 56 08.8**	**-0.3**
	1.0nm,0.9s,baz=335,slow=8.5,SNR=4.7								
	1.0nm,0.9s								
ILAR	**Eielson Array**	**50.30**	**329**	P			**P**	**09 56 09.8**	**+0.4**
	0.5nm,0.8s,baz=45,slow=5.0,SNR=6.9								
	0.5nm,0.8s								
BBB	**Bella Bella**	**51.71**	**308**	LR		LR	LR	10 14 59.0	
	comp=Z,31nm,20.8s,baz=55,slow=32								
ANMO	**Albuquerque**	**51.96**	**279**	LR		LR	LR	10 17 48.5	
	comp=Z,123nm,18.8s,baz=136,slow=35								
MMAI	**Mount Meron Ar**	**52.89**	**83**	LR		LR	LR	10 19 46.1	
	comp=Z,30nm,18.3s,baz=292,slow=37								
ELK	**Elko**	**52.89**	**290**	LR		LR	LR	10 18 12.3	
	comp=Z,97nm,18.1s,baz=42,slow=35								
AKTO	**Aktyubinsk**	**52.98**	**53**	LR		LR	LR	10 17 45.3	
	comp=Z,47nm,19.8s,baz=210,slow=35								
DBIC	**Dimbokro**	**53.39**	**141**	LR		LR	LR	10 16 35.0	
	comp=Z,103nm,18.2s,baz=332,slow=33								
TXAR	**Lajitas Array**	**54.39**	**272**	P			**P**	**09 56 40.8**	**+0.5**
	0.9nm,0.9s,baz=57,slow=9.1,SNR=6.9								
TXAR				LR		LR	LR	10 19 37.7	
	comp=Z,41nm,18.1s,baz=28,slow=36								
	0.9nm,0.9s								
NVAR	**Mina Array Bea**	**56.20**	**290**	P			**P**	**09 56 52.2**	**-1.3**
	0.3nm,0.9s,baz=83,slow=10,SNR=1.5								
NVAR				LR		LR	LR	10 18 48.7	
	comp=Z,84nm,18.2s,baz=46,slow=34								
	0.3nm,0.9s								
YBH	**Yreka Blue Hor**	**56.23**	**296**	LR		LR	LR	10 22 02.1	
	comp=Z,42nm,19.0s,baz=20,slow=37								
BVAR	**Bonneville Array**	**56.58**	**44**	P			**P**	**09 56 56.4**	**+0.7**
	0.4nm,0.5s,baz=311,slow=9.2,SNR=2.5								
	0.4nm,0.5s								
ROSC	**El Rosal**	**58.62**	**228**	P			**P**	**09 57 11.2**	**+0.4**
	7.1nm,0.5s,baz=319,slow=20,SNR=5.2								
KURBB	**Kurchatov Arra**	**61.67**	**42**	P			**P**	**09 57 33.0**	**+2.1**
	0.2nm,0.3s,baz=323,slow=7.3,SNR=2.2								
	0.2nm,0.3s								
LPIG	**La Paz**	**62.22**	**273**	LR		LR	LR	10 22 49.4	
	comp=Z,57nm,19.0s,baz=38,slow=34								
MKAR	**Makanchi Array**	**66.23**	**42**	P			**P**	**09 58 01.0**	**0.0**
	0.7nm,0.7s,baz=359,slow=2.7,SNR=1.6								
	0.7nm,0.7s								
ASAR	**Alice Springs**	**148.34**	**19**	PKPbc			**PKiKP**	**10 07 00.9**	**-0.3**
	1.6nm,0.8s,baz=352,slow=2.5,SNR=16								

IDC 18 10:08:19.1±3.2, 7.°59S×115.°92E, h282km±36km, mb2.7/3, mbtmp3.3/3, Error ellipse: s-maj=113.1km s-min=19.7km az=50.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.67**	**126**	P		P	P	10 12 46.9	-0.7
	0.4nm,0.7s,baz=299,slow=12,SNR=5.7								
WRA				S		S	S	10 16 28.5	+1.0
	0.1nm,0.3s,baz=315,slow=15,SNR=10								
	0.4nm,0.7s								
ASAR	**Alice Springs**	**23.52**	**135**	P		P	P	10 13 05.0	+0.5
	0.4nm,0.4s,baz=308,slow=8.5,SNR=16								
ASAR				S		S	S	10 16 57.9	+0.7
	0.2nm,0.4s,baz=348,slow=12,SNR=1.7								
	0.4nm,0.4s								
MKAR	**Makanchi Array**	**61.85**	**334**	P		P	P	10 18 08.6	-0.1
	0.2nm,0.5s,baz=140,slow=7.3,SNR=1.6								
	0.2nm,0.5s								

*UCR **18** 10:28:46.7±1.2, 9.°40N×85.°50W, h15km±4km, MW4.4*
*CATAC **18** 10:28:49.6±0.0, 9.°54N×85.°40W, h10km±3km, ML4.1*
ISC 18 10:28:45.7±1.6, 9.°44N±0.°05×85.°49W±0.°05, h14km±10km, n109, σ0s92/127, 35C-4D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBL1	**Cabuya**	**0.42**	**69**⇓	*e*	P		**Pn**	**10 28 56.0**	**-1.3**
CBL1				*e*	S		**Sb**	**10 29 02.1**	**+1.0**
INDI	**Punta indio, G**	**0.43**	**358**⇓	*i*	P		**Pn**	**10 28 56.7**	**-0.7**
INDI				*e*	S		**Sn**	**10 29 03.6**	**-1.6**
INDI	**Punta indio, G**	**0.43**	**358**	*i*	P		**Pn**	**10 28 56.9**	**-0.6**
INDI				*i*	S		**Sn**	**10 29 02.4**	**-2.7**
INDI				IAML				10 29 05.4	
	comp=Z,13μm,1.0s								
NYURE	**Nandayure**	**0.60**	**22**⇓	*i*	P		**Pn**	**10 28 59.2**	**-0.7**
NYURE				*e*	S		**Sn**	**10 29 08.1**	**-1.4**
NICO	**Nicoya**	**0.69**	**3**⇑	*e*	P		**Pn**	**10 29 01.9**	**+0.7**
NICO				*e*	S		**Sn**	**10 29 12.5**	**+0.8**
JUD3	**Juan Diaz 3**	**0.73**	**356**⇑	*e*	P		**Pn**	**10 29 01.4**	**-0.3**
JUD3				*e*	S		**Sn**	**10 29 12.1**	**-0.6**
SACU	**Santa Cruz**	**0.83**	**353**	*e*	P		**Pn**	**10 29 02.9**	**-0.1**
SACU				*e*	S		**Sn**	**10 29 15.8**	**+0.8**
JACO	**JACO, Garabito**	**0.84**	**75**⇑	*i*	P		**Pn**	**10 29 02.7**	**-0.6**
PLVR	**Palo Verde**	**0.92**	**8**	*e*	P		**Pn**	**10 29 04.1**	**-0.3**
ORTG	**Ortega, Santa**	**0.92**	**2**⇑	*i*	P		**Pn**	**10 29 04.2**	**-0.2**
ORTG				*e*	S		**Sn**	**10 29 16.7**	**-0.7**
ARZA	**Esparza**	**0.98**	**56**⇑	*i*	P		**Pn**	**10 29 05.7**	**+0.6**
ARZA				*e*	S		**Sn**	**10 29 18.2**	**-0.5**
JUNT	**Juntas**	**0.99**	**32**⇑	*i*	P		**Pn**	**10 29 05.0**	**-0.2**
JUNT				*e*	S		**Sg**	**10 29 17.2**	**-0.5**
JTS	**Las Juntas de**	**1.00**	**32**⇑	*i*	P		**Pn**	**10 29 05.2**	**-0.2**
JTS				*e*	S		**Sn**	**10 29 17.8**	**-1.5**
DELF	**Filadelfia**	**1.01**	**356**	*e*	P		**Pn**	**10 29 05.5**	**0.0**
CNAS	**Canas**	**1.06**	**21**⇑	*i*	P		**Pn**	**10 29 06.3**	**+0.1**
CNAS				*e*	S		**Sn**	**10 29 24.5**	**+3.7**
BAGA	**Bagaces**	**1.11**	**12**⇑	*i*	P		**Pg**	**10 29 07.4**	**+0.3**
TRB2	**Turrubares**	**1.13**	**65**⇑	*i*	P		**Pb**	**10 29 06.8**	**-0.2**
LIBE	**Liberia**	**1.17**	**2**	*i*	P		**Pg**	**10 29 14.9**	**+6.6**
SRA1	**San Ramn**	**1.18**	**57**⇑	*i*	P		**Pn**	**10 29 07.9**	**-0.1**
ERIA	**Liberia**	**1.19**	**2**	*e*	P		**Pg**	**10 29 08.9**	**+0.2**
RAMO	**San Ramon**	**1.19**	**57**	*e*	P		**Pg**	**10 29 09.0**	**+0.3**
ELI1	**Hacienda Flor**	**1.20**	**357**	*e*	P		**Pg**	**10 29 08.9**	**0.0**
COLC	**Colonia**	**1.25**	**13**⇑	*i*	P		**Pg**	**10 29 09.4**	**-0.4**
CUI	**Cuipilapa**	**1.25**	**15**⇑	*i*	P		**Pg**	**10 29 09.5**	**-0.4**
CUI				*e*	S		**Sg**	**10 29 26.8**	**+0.6**
SGBR	**La Fortuna**	**1.26**	**35**	*e*	P		**Pb**	**10 29 09.2**	**-0.1**
ARE1	**Arenal 1**	**1.27**	**37**⇑	*i*	P		**Pg**	**10 29 10.0**	**-0.2**
ARE1				*e*	S		**Sg**	**10 29 28.3**	**+1.7**
ACAL	**Aguas Claras**	**1.27**	**20**⇑	*i*	P		**Pg**	**10 29 09.7**	**-0.5**
SOCE	**Pocosol**	**1.27**	**42**⇑	*e*	P		**Pg**	**10 29 09.7**	**-0.5**
SOCE				*e*	S		**Sg**	**10 29 26.4**	**-0.4**
HZTE	**Horizontes, Gu**	**1.27**	**355**	*e*	P		**Pg**	**10 29 10.1**	**-0.2**
NARAN	**Naranjo de Ala**	**1.27**	**59**	*e*	P		**Pb**	**10 29 09.7**	**+0.1**
CAMAV	**Centro de Prod**	**1.29**	**13**	*e*	P		**Pg**	**10 29 10.2**	**-0.3**
CEDE	**Laguna Cedeo**	**1.30**	**36**⇑	*i*	P		**Pg**	**10 29 10.5**	**-0.2**
CEDE				*e*	S		**Sg**	**10 29 30.4**	**+2.8**
SARCI	**Sarchi**	**1.30**	**60**⇑	*e*	P		**Pg**	**10 29 10.3**	**-0.4**
VACR	**Volcan Arenal**	**1.30**	**38**⇑	*i*	P		**Pg**	**10 29 10.3**	**-0.5**
ZARE	**Zarcero**	**1.31**	**55**⇑	*e*	P		**Pg**	**10 29 10.7**	**-0.3**
TCS1	**Tacares**	**1.31**	**63**⇑	*e*	P		**Pg**	**10 29 10.5**	**-0.6**
TCS1	**Tacares**	**1.31**	**63**	*i*	P		**Pg**	**10 29 10.7**	**-0.3**
TCS1				IAML				10 29 37.3	
	comp=Z,15μm,1.0s								
GPS3	**Bodega del ICE**	**1.31**	**5**⇑	*e*	P		**Pg**	**10 29 10.3**	**-0.8**
TUNA	**La Fortuna**	**1.32**	**39**⇑	*i*	P		**Pg**	**10 29 11.6**	**+0.5**
GREC	**Grecia**	**1.32**	**61**	*e*	P		**Pg**	**10 29 12.8**	**+1.6**
VRLE	**La Escondida,**	**1.35**	**5**⇑	*e*	P		**Pg**	**10 29 10.9**	**-0.8**
VRLE	**La Escondida,**	**1.35**	**5**	*i*	P		**Pg**	**10 29 11.8**	**+0.1**
VRLE				IAML				10 29 17.0	
	comp=Z,1μm,1.0s								
ACOS	**Acosta**	**1.35**	**75**	*e*	P		**Pn**	**10 29 10.6**	**+0.2**
LLNJ	**Naranjito**	**1.37**	**88**	*e*	P		**Pn**	**10 29 10.5**	**0.0**
CPMI	**Catarata Coope**	**1.37**	**52**⇑	*i*	P		**Pb**	**10 29 11.5**	**+0.1**
CPMI	**Catarata Coope**	**1.37**	**52**	*i*	P		**Pg**	**10 29 11.8**	**-0.4**
CPMI				IAML				10 29 41.5	
	comp=Z,3μm,1.0s								
GB1A	**Borinquen Arri**	**1.38**	**4**	*e*	P		**Pg**	**10 29 11.5**	**-0.7**
BELE	**Belen**	**1.39**	**67**	*e*	P		**Pg**	**10 29 12.3**	**-0.2**
VMAR	**Armenia, Volca**	**1.42**	**15**⇑	*i*	P		**Pb**	**10 29 12.0**	**0.0**
VMAR				⇓	*e*P		**Pg**	**10 29 12.3**	**-0.6**
VMAR	**Armenia, Volca**	**1.42**	**15**	*i*	P		**Pg**	**10 29 12.5**	**-0.5**
VMAR				IAML				10 29 49.0	
	comp=Z,2μm,1.0s								
ABE2	**San Pablo**	**1.44**	**79**	*e*	P		**Pb**	**10 29 12.3**	**-0.1**
CANAL	**Canalete**	**1.45**	**17**	*e*	P		**Pb**	**10 29 12.4**	**-0.1**
POA5	**Crater Von Fra**	**1.45**	**58**	*e*	P		**Pn**	**10 29 11.1**	**-0.7**
HDC	**Heredia**	**1.46**	**67**⇑	*e*	P		**Pb**	**10 29 12.5**	**-0.3**
VPTE	**Poasito**	**1.46**	**60**⇑	*i*	P		**Pb**	**10 29 12.8**	**-0.1**
VPTE	**Poasito**	**1.46**	**60**	*i*	P		**Pb**	**10 29 13.0**	**+0.1**
VPTE				*i*	S		**Sg**	**10 29 32.1**	**-0.9**
VPTE				IAML				10 29 52.2	
	comp=Z,3μm,1.0s								
HDC3	**Heredia 3**	**1.47**	**67**	*e*	P		**Pb**	**10 29 12.6**	**-0.3**
HDC3	**Heredia 3**	**1.47**	**67**	*i*	P		**Pg**	**10 29 13.3**	**-0.6**
HDC3				IAML				10 29 39.6	
	comp=Z,3μm,1.0s								
AMPA	**Desamparados**	**1.48**	**72**	*e*	P		**Pn**	**10 29 12.1**	**+0.1**
LUJA	**Lujan**	**1.48**	**71**	*e*	P		**Pb**	**10 29 13.4**	**+0.3**
DOMI	**Santo Domingo**	**1.48**	**68**	*e*	P		**Pb**	**10 29 12.6**	**-0.5**
TIBA	**Tibas**	**1.49**	**69**	*e*	P		**Pg**	**10 29 15.6**	**+1.2**
LCR2	**La Lucha 2**	**1.49**	**78**	*e*	P		**Pn**	**10 29 12.5**	**+0.2**
SJS	**Escuela Geolog**	**1.50**	**70**	*e*	P		**Pb**	**10 29 13.1**	**-0.3**
SJS3	**Mercedes San J**	**1.50**	**70**	*e*	P		**Pb**	**10 29 13.5**	**+0.1**
LUPE	**Guadalupe**	**1.50**	**70**	*e*	P		**Pb**	**10 29 13.0**	**-0.4**
VERA	**Finca Concepci**	**1.53**	**23**⇑	*e*	P		**Pb**	**10 29 13.7**	**-0.3**
CORON	**Coronado**	**1.56**	**70**	*e*	P		**Pb**	**10 29 14.6**	**+0.2**
ITAL	**Pital**	**1.56**	**50**	*e*	P		**Pb**	**10 29 14.0**	**-0.4**
CVIMO	**Finca Echandi**	**1.63**	**69**	*e*	P		**Pb**	**10 29 15.4**	**-0.3**
LCRUZ	**La Cruz**	**1.64**	**355**	*e*	P		**Pg**	**10 29 17.3**	**+0.1**
COVE	**Coope Vega, Sa**	**1.66**	**40**⇑	*e*	P		**Pb**	**10 29 15.4**	**-0.7**
COVE	**Coope Vega, Sa**	**1.66**	**40**	*i*	P		**Pb**	**10 29 15.7**	**-0.4**
COVE				IAML				10 29 46.3	
	comp=Z,3μm,1.0s								
CDM	**Cerro de Muert**	**1.70**	**86**⇑	*i*	P		**Pn**	**10 29 15.7**	**+0.3**
CDM	**Cerro de Muert**	**1.70**	**86**	*i*	P		**Pb**	**10 29 17.8**	**+0.7**
CDM				IAML				10 29 52.3	
	comp=Z,1μm,1.0s								
HAYA	**Volcan Irazu**	**1.71**	**71**	*i*	P		**Pg**	**10 29 17.8**	**-0.8**
HAYA				IAML				10 29 45.1	
	comp=Z,2μm,1.0s								
VICA	**Volcano Irazu**	**1.71**	**71**	*e*	P		**Pb**	**10 29 17.1**	**0.0**
ICR3	**Volcano Irazu**	**1.72**	**72**	*e*	P		**Pb**	**10 29 17.2**	**-0.1**
BUS1	**Rivas**	**1.72**	**86**⇑	*i*	P		**Pn**	**10 29 15.8**	**+0.1**
PCAYA	**Pacayas**	**1.72**	**74**	*e*	P		**Pg**	**10 29 18.9**	**+0.1**
LCHIL	**Los Chiles**	**1.76**	**25**⇑	*i*	P		**Pb**	**10 29 17.0**	**-0.9**
RIFO	**Rio Frio, Sara**	**1.77**	**60**	*e*	P		**Pb**	**10 29 17.4**	**-0.6**
RIFO				*e*	S		**Sg**	**10 29 41.1**	**-1.6**
VINA	**Juan Vinas**	**1.77**	**75**	*e*	P		**Pg**	**10 29 19.2**	**-0.6**
CVTQ	**Turrialba Volc**	**1.79**	**71**	*e*	P		**Pb**	**10 29 18.7**	**+0.2**
CVTR	**Volcan Turrial**	**1.80**	**71**	*e*	P		**Pb**	**10 29 17.7**	**-1.0**
CVTV	**Tajo**	**1.80**	**72**	*e*	P		**Pb**	**10 29 18.3**	**-0.4**
VTCV	**VTCV, Calle Va**	**1.82**	**72**	*e*	P		**Pb**	**10 29 18.6**	**-0.3**
VERB	**Verbena**	**1.84**	**74**	*e*	P		**Pb**	**10 29 19.1**	**-0.1**
OCHAL	**Ojochal**	**1.85**	**100**	*i*	P		**Pb**	**10 29 18.5**	**-0.8**
OCHAL				IAML				10 29 40.9	
	comp=Z,8.7nm,1.0s								
RVSTA	**Santa Teresita**	**1.89**	**73**	*e*	P		**Pb**	**10 29 19.8**	**-0.2**
CARI	**Cariari**	**1.96**	**62**	*e*	P		**Pb**	**10 29 20.6**	**-0.5**
LCOCO	**El Coco**	**2.01**	**71**⇑	*e*	P		**Pb**	**10 29 21.3**	**-0.7**
TRT2	**Tortugero**	**2.05**	**57**	*i*	P		**Pb**	**10 29 21.5**	**-1.3**
TRT2				IAML				10 30 00.7	
	comp=Z,2μm,1.0s								
EDPN	**Palmar Norte**	**2.06**	**103**	*e*	P		**Pn**	**10 29 20.6**	**+0.7**
IRES	**Siquirres**	**2.06**	**71**	*e

SMCA *i* S **Sn** **10 42 33.8 -1.3**
SMCA IAML 10 43 04.6
comp=Z,5µm,1.0s
LVIG Laguna Verde 3.42 339 *e*P **Pn** **10 41 54.2 -2.2**
LVIG *e*S **Sb** **10 42 43.3 -2.1**
MGIG Malinaltepec 3.45 282 **Pn** **10 41 57.2 +0.1**
MGIG Malinaltepec 3.45 282 *e*P **Pn** **10 41 57.2 +0.1**
MGIG *i* 10 42 46.4
TLIG Tlapa 3.47 288 Pn **Pn** **10 41 58.4 +1.2**
TLIG Tlapa 3.47 288 *e*P **Pn** **10 41 58.1 +0.8**
TLIG *e*S **Sb** **10 42 44.9 -2.0**
TLIG Tlapa 3.47 288 *i* P **Pb** **10 42 05.4 +0.5**
TLIG *i* S **Sb** **10 42 46.2 -0.9**
HMTT Tlapaneco 3.54 292 *e* **Pb** **10 42 06.4 +0.4**
HMTT *e* 10 42 50.6
SMSP San Marcos 3.55 115 *e* Pn 10 41 45.8 -13
SMSP *e* 10 42 47.8
SMSP San Marcos 3.55 115 *i* P **Pn** **10 42 02.0 +3.5**
SMSP *i* S **Sn** **10 42 40.3 -0.1**
SMSP IAML 10 43 09.6
comp=Z,4µm,1.0s
HUEH Huehuetenango 3.67 109 **Pn** **10 42 02.9 +2.9**
HUEH Huehuetenango 3.67 109 *e* **Pb** **10 42 07.0 -1.2**
HUEH *e* 10 42 58.5
HUEH Huehuetenango 3.67 109 *i* P **Pn** **10 42 03.6 +3.6**
HUEH IAML 10 43 06.4
comp=Z,10µm,1.0s
QUEO Labor Ovalle 3.83 115 *i* P **Pn** **10 42 06.1 +3.8**
QUEO *i* S **Sn** **10 42 47.4 +0.2**
QUEO IAML 10 43 27.6
comp=Z,4µm,1.0s
RTAL Retalhuleu 3.84 121 Pn **Pn** **10 42 03.3 +1.1**
RTAL Retalhuleu 3.84 121 *e* **Pn** **10 42 02.6 +0.4**
RTAL *e* 10 42 45.4
RTAL Retalhuleu 3.84 121 *i* P **Pn** **10 42 04.2 +2.0**
RTAL IAML 10 43 22.4
comp=Z,2µm,1.0s
PHPU Puebla 3.85 311 *e* **Pb** **10 42 13.1 +1.7**
PHPU *e* 10 43 00.8
CRIG Cruz Grande 3.87 274 *e* **Pn** **10 42 00.2 -2.0**
CRIG *e* 10 42 58.0
SOKI Kika Raxquin 3.94 115 *i* P **Pn** **10 42 07.1 +3.1**
SOKI *i* S **Sn** **10 42 50.2 -0.1**
SOKI IAML 10 43 26.4
comp=Z,2µm,1.0s
PPM Popocatepetl 4.20 308 *e* **Pn** **10 42 10.6 +2.9**
PPM *e* 10 43 08.0
AMVM AMECAMECA 4.36 307 *e* Pb 10 42 15.9 -4.3
AMVM *e* 10 43 19.5
DAIG Los Arroyos 4.38 277 **Pn** **10 42 08.3 -1.4**
DAIG **Sn** **10 42 57.7 -2.9**
DAIG Los Arroyos 4.38 277 *e*P **Pn** **10 42 08.3 -1.4**
DAIG *e*S **Sn** **10 42 57.7 -2.9**
YAIG Yautepec 4.44 302 **Pn** **10 42 12.4 +1.8**
YAIG **Sn** **10 43 03.2 +1.1**
YAIG Yautepec 4.44 302 *e*P **Pn** **10 42 12.4 +1.8**
YAIG *e*S **Sn** **10 43 03.2 +1.1**
SCIG Sabancuy 4.46 56 *e*P **Pn** **10 42 11.2 +0.6**
SCIG *e*S **Sn** **10 43 01.2 -1.1**
MEIG Mezcala 4.54 289 **Pn** **10 42 12.7 +0.9**
MEIG Mezcala 4.54 289 *e*P **Pn** **10 42 12.7 +0.9**
MEIG *e* 10 43 12.2
MPVM San Francisco 4.58 306 *e* Pn 10 42 18.7 +6.1
MPVM *e* 10 43 27.0
PLIG Platanillo 4.59 295 **Pn** **10 42 14.6 +2.0**
PLIG Platanillo 4.59 295 *e*P **Pn** **10 42 14.6 +2.0**
PLIG *e* 10 43 19.7
ACP2 Acapulco 4.60 275 *e* 10 43 22.0
THVM De Xico 4.61 308 *e* Pb 10 42 20.0 -4.4
THVM *e* 10 43 27.3
TXVM Universitario 4.64 309 *e* **Pg** **10 42 30.2 -2.4**
TXVM *e* 10 43 28.8
XCVM Xochimilco 4.69 306 *e* **Pb** **10 42 23.3 -2.4**
XCVM *e* 10 43 29.5
TLVM San Miguel Top 4.69 305 *e* **Pb** **10 42 24.0 -1.8**
TLVM *e* 10 43 26.0
VTVM Tizayuca 4.76 313 *e* **Pb** **10 42 29.2 +2.3**
VTVM *e* 10 43 31.7
PBVM Pinon 4.77 308 *e* **Pb** **10 42 30.0 +3.0**
PBVM *e* 10 43 27.1
COVM Coyoacan 4.78 307 *e* Pb 10 42 22.3 -4.9
COVM *e* 10 42 31.9
COVM *e* 10 43 25.5
COVM *e* 10 43 30.4
UNM Universidad Na 4.78 306 Pn **Pn** **10 42 15.1 -0.3**
CUP5 Mexico City 4.78 306 *e* 10 43 26.6
VRVM Mexico City 4.78 308 *e* **Pb** **10 42 27.4 +0.1**
VRVM *e* 10 43 27.1
BJVM Benito Juarez 4.80 307 *e* **Pb** **10 42 28.6 +1.0**
BJVM *e* 10 43 32.8
AOVM Tlapan 4.86 305 *e* **Pn** **10 42 19.6 +3.0**
AOVM *e* 10 43 32.8
CJVM Cuajimalpa 4.88 306 *e* Pb 10 42 23.7 -5.3
CJVM *e* 10 43 31.6
PTVM Pico Tres Padr 4.89 309 *e* Pb 10 42 23.9 -5.2
PTVM *e* 10 43 28.0
INVM La Marquesa 4.92 305 *e* Pn 10 42 24.2 +6.8
INVM *e* 10 43 28.6
CAIG El Cayaco 4.97 277 **Pn** **10 42 16.4 -1.4**
CAIG **Sn** **10 43 11.4 -3.7**
CAIG El Cayaco 4.97 277 *e*P **Pn** **10 42 16.4 -1.4**
CAIG *e*S **Sn** **10 43 11.4 -3.7**
PETF Flores 5.03 85 **Pn** **10 42 21.1 +2.5**
PETF Flores 5.03 85 *e*P **Pn** **10 42 22.0 +3.4**
PETF *e*S **Sn** **10 43 17.2 +0.7**
DEIG Demacu 5.30 316 *e* **Pn** **10 42 25.2 +2.7**
DEIG *e* 10 43 45.8
ARIG Puente Sto Nin 5.30 290 **Pn** **10 42 23.4 +1.1**
ARIG **Sn** **10 42 26.9 +3.7**
ARIG Puente Sto Nin 5.30 290 *e*P **Pn** **10 42 23.4 +1.1**
ARIG *e*S **Sn** **10 43 26.9 +3.7**
ATVM ATLACOMULCO 5.54 306 *e* **Pb** **10 42 41.9 +1.6**
ATVM *e* 10 43 52.8
ACIG Acambay 5.69 308 *e* Pb 10 42 48.2 +5.4
ACIG *e* 10 44 02.8
NUBE Las Nubes 5.76 116 *i* P **Pn** **10 42 31.3 +2.5**
NUBE IVmB_BB 10 42 41.1
comp=Z,2µm,1.0s
NUBE IAmb IAmb 10 42 59.3
comp=Z,230nm,0.9s
NUBE IAML 10 44 16.2
comp=Z,310nm,1.0s
CTUV Llano Grande 5.81 329 *e* **Pn** **10 42 28.6 -0.6**
CTUV *e* 10 44 03.8
ESQI Esquipulas 5.89 109 **Pn** **10 42 31.9 +1.5**
ESQI Esquipulas 5.89 109 *i* P **Pn** **10 42 31.9 +1.5**
MTO3 Montecristo 5.93 110 **Pn** **10 42 33.4 +2.3**
JAYA Jayaque - finc 6.16 117 *i* P **Pn** **10 42 36.1 +1.8**
JAYA IAmb IAmb 10 42 51.6
comp=Z,210nm,0.6s
JAYA IAML 10 44 13.8
comp=Z,390nm,1.0s
ZIIG Zihuatanejo 6.18 281 **Pn** **10 42 33.9 -0.5**
ZIIG **Sn** **10 43 40.2 -4.6**
ZIIG Zihuatanejo 6.18 281 *e*P **Pn** **10 42 33.9 -0.5**
ZIIG *e*S **Sn** **10 43 40.2 -4.6**
PMON Piamonte 6.25 116 *i* P **Pn** **10 42 38.4 +3.0**
SARH Santa Rosa de 6.35 105 *i* P **Pn** **10 42 39.8 +3.0**
IGN Direccin Gen 6.37 115 *i* P Pg 10 43 12.3 +6.6
JRQG Juriquilla Cam 6.55 310 *e* **Pb** **10 43 01.0 +3.5**
SJTE Alcalda de S 6.56 115 *i* P Pb 10 42 50.0 -7.5
MOIG Morelia 6.58 299 **Pn** **10 42 38.9 -1.3**
MOIG Morelia 6.58 299 *e* **Pn** **10 42 44.2 +4.0**
MOIG *e* 10 44 24.1
COEG Centro de Oper 6.67 115 *i* P Pn 10 42 47.8 +6.7
SCLA Alcaldia de Sa 6.76 114 *i* P Pn 10 42 47.9 +5.4
NISHN Nisperales Com 6.98 95 *i* P **Pn** **10 42 49.4 +4.0**
RPIG Rio Verde 7.05 320 *e* **Pn** **10 42 49.3 +2.9**
RPIG *e* 10 44 19.9
TEIG Tepich 7.46 59 Pn **Pn** **10 42 52.3 +0.4**
TEIG Tepich 7.46 59 Pn **Pn** **10 42 51.9 0.0**
comp=Z,232nm,0.3s,baz=148,slow=1.0,SNR=158
TEIG Sn **Sn** **10 44 12.5 -3.8**
comp=Z,372nm,0.3s,baz=142,slow=19,SNR=13
MMIG Aquila 8.06 284 **Pn** **10 42 58.6 -1.6**
MMIG **Sn** **10 44 30.4 -0.8**
MMIG Aquila 8.06 284 *e*P **Pn** **10 42 58.6 -1.6**
MMIG *e*S **Sn** **10 44 30.4 -0.8**
JUBC Volcan de Coli 8.59 292 *e* Pn 10 43 13.8 +6.1
JUBC *e* 10 45 28.7
COIG Colima 8.59 289 *e* **Pn** **10 43 10.2 +2.6**
COIG *e* 10 45 25.4
EZ5V 8.60 291 *e* **Pn** **10 43 10.8 +2.9**
EZ5V *e* 10 45 23.8
MNGA Volcan de Coli 8.62 291 *e* **Pn** **10 43 12.0 +4.0**
MNGA *e* 10 45 26.8
INCO Volcan de Coli 8.62 292 *e* Pn 10 43 14.6 +6.4
INCO *e* 10 45 30.0
SOMAC Volcano de Col 8.64 291 *e* Pn 10 43 14.1 +5.5
SOMAC *e* 10 45 32.7
CRIN San Cristobal 8.67 115 **Pn** **10 43 10.8 +2.1**
CEGR Campo Tres 8.81 290 *e* **Pn** **10 43 13.1 +2.5**
CEGR *e* 10 45 27.6
CDAR Ciudad de Arme 8.82 287 *e* **Pn** **10 43 10.1 -0.6**
CDAR *e* 10 45 27.3
ZAIG Zacatecas 9.38 313 **Pn** **10 43 16.9 -1.7**
CJM Chamela 9.91 289 *e*P Pn 10 43 31.4 +5.8
CJM *e*S **Sn** **10 45 10.3 -6.3**
ACON Acoyapa 10.64 114 Pn **Pn** **10 43 37.1 +1.5**
HZTE Horizontes, Gu 10.89 121 Pn **Pn** **10 43 41.4 +2.3**
HBVL Hebbronville 11.00 343 Pn **Pn** **10 43 39.7 -0.8**
ORTG Ortega, Santa 11.20 122 **Pn** **10 43 44.6 +1.3**
JTS Las Juntas de 11.65 121 Pn **Pn** **10 43 51.0 +1.5**
JTS Las Juntas de 11.65 121 Pn **Pn** **10 43 52.8 +3.3**
comp=Z,1.8nm,0.3s,baz=313,slow=16,SNR=6.3
comp=Z,4.4nm,0.4s
JACO JACO, Garabito 12.24 123 **Pn** **10 43 59.6 +2.0**
833A Chaparral WMA, 12.39 342 Pn **Pn** **10 43 57.6 -2.0**
833A Chaparral WMA, 12.39 342 P **Pn** **10 43 60.0 +0.4**
baz=159,SNR=10
LCR2 La Lucha 2 12.73 121 **Pn** **10 44 06.2 +1.7**
RIMA Rio Macho 12.84 120 Pn **Pn** **10 44 07.3 +1.4**
SOR Soroa 12.98 59 Pn **Pn** **10 44 05.3 -2.3**
HNDO Hondo 13.50 344 **Pn** **10 44 13.5 -1.2**
435B Jarrell 14.38 351 Pn **Pn** **10 44 26.2 -0.5**
435B Jarrell 14.38 351 P **Pn** **10 44 26.2 -0.5**
baz=169
JCT Junction City 14.54 344 Pn **Pn** **10 44 27.9 -1.1**
JCT Junction City 14.54 344 P **Pn** **10 44 29.6 +0.6**
baz=161,SNR=16
SAND Sanderson 14.84 336 Pn **Pn** **10 44 32.7 -0.3**
TXAR Lajitas Array 14.98 330 Pn **Pn** **10 44 35.3 +0.3**
TXAR Lajitas Array 14.98 330 Pn **Pn** **10 44 36.6 +1.5**
baz=156,slow=12,SNR=11
comp=Z,3.5nm,1.1s
TX31 Lajitas Ar. Si 14.99 330 Pn **Pn** **10 44 35.4 +0.3**
BRDY Brady 15.12 347 Pn **Pn** **10 44 36.3 -0.5**
BRDY IAmb IAmb 10 44 51.2
comp=Z,23nm,0.9s
NATX Nacogdoches 15.18 1 P **Pn** **10 44 36.1 -1.4**
NATX Nacogdoches 15.18 1 P **Pn** **10 44 37.1 -0.3**
baz=181
OZNA Ozona 15.35 340 P **P** **10 44 43.7 -0.8**
OZNA IAmb IAmb 10 44 51.2
comp=Z,47nm,0.8s
237A Washetta, Mont 15.43 358 Pn **Pn** **10 44 40.0 -0.8**
237A IAmb IAmb 10 45 02.6
comp=Z,25nm,0.8s
WHTX Lake Whitney, 15.55 353 P **Pn** **10 44 43.6 +1.2**
WHTX Lake Whitney, 15.55 353 P **Pn** **10 44 43.1 +0.7**
baz=171,SNR=23
ALPN Alpine 15.85 332 IAmb IAmb 10 44 55.6
comp=Z,44nm,0.9s
FW13 Cleburne 15.90 353 P **P** **10 44 48.8 -1.8**
FW13 IAmb IAmb 10 44 52.9
comp=Z,45nm,0.6s
FW14 Alvarado 15.92 354 P **Pn** **10 44 47.2 0.0**
FW14 IAmb IAmb 10 44 53.1
comp=Z,61nm,0.6s
FW16 Waxahatchie 15.97 354 P **P** **10 44 49.5 -1.9**
FW16 IAmb IAmb 10 44 53.5
comp=Z,39nm,0.7s
LPIG La Paz 16.12 300 LR LR 10 51 11.6
comp=Z,145nm,18.9s,baz=92,slow=38
VBMS Vicksburg 16.17 14 P **Pn** **10 44 49.9 -0.5**
baz=196
SGCY Sterling City 16.27 341 Pn **Pn** **10 44 51.0 -0.8**
SGCY IAmb IAmb 10 44 59.3
comp=Z,41nm,1.2s
FW07 Weatherford 16.29 352 P **Pn** **10 44 52.4 +0.4**
FW07 IAmb IAmb 10 45 06.5
comp=Z,36nm,0.5s
MNHN Monahans 16.32 336 IAmb IAmb 10 45 02.1
comp=Z,69nm,0.9s
BRAL Brewton 16.32 25 P **Pn** **10 44 51.4 -0.9**
baz=208
PLPT Palo Pinto 16.48 350 IAmb IAmb 10 45 09.4
comp=Z,32nm,0.9s
FW06 Azle 16.53 353 IAmb IAmb 10 45 17.9
comp=Z,26nm,0.7s
ABTX Abilene, Hawle 16.55 346 IAmb IAmb 10 45 03.5
comp=Z,29nm,0.8s
ABTX Abilene, Hawle 16.55 346 P **P** **10 44 57.6 -0.2**
baz=164,SNR=23
FW03 Perrin-Whitt E 16.66 351 IAmb IAmb 10 45 00.5
comp=Z,26nm,0.7s
Z38A Mt. Pleasant 16.67 0 IAmb IAmb 10 45 10.2
comp=Z,27nm,0.7s
Z41A Richland Creek 16.79 7 IAmb IAmb 10 45 20.5
comp=Z,54nm,1.2s
PECS Pecos 16.80 333 IAmb IAmb 10 45 07.8
comp=Z,47nm,0.9s
425A Indio Mountain 16.82 329 P **P** **10 45 01.3 +0.3**
Z35A Perchaven, San 16.85 354 IAmb IAmb 10 45 13.4
comp=Z,32nm,0.7s
ODSA Odessa 16.94 338 IAmb IAmb 10 45 09.0
comp=Z,25nm,0.9s
SN01 Snyder 1 17.09 343 **Pn** **10 45 02.4 +0.3**
SN01 IAmb IAmb 10 45 10.2
comp=Z,27nm,0.7s
WLAR White Oak Lake 17.19 6 IAmb IAmb 10 45 31.9
comp=Z,62nm,1.5s
APMT Aspermont 17.33 346 IAmb IAmb 10 45 37.0
comp=Z,15nm,0.8s
WTFS Witchita Falls 17.44 351 **P** **10 45 07.2 -0.4**
WTFS IAmb IAmb 10 45 23.3
comp=Z,28nm,0.7s
POST Post 17.46 342 IAmb IAmb 10 45 31.8
comp=Z,16nm,0.9s
352A Blakely 17.54 30 IAmb IAmb 10 45 11.1
comp=Z,47nm,1.4s
MNTX Cornudas Mount 17.77 330 P **P** **10 45 12.7 +1.4**
baz=145
DKNS Dickens 17.86 344 P **Pn** **10 45 10.0 -1.7**
DKNS IAmb IAmb 10 45 17.5
comp=Z,21nm,0.6s
Y45A Yeager Farm, C 17.98 15 IAmb IAmb 10 45 22.2
comp=Z,39nm,1.4s
LRAL Lakeview Retre 18.00 23 P **P** **10 45 13.2 -0.5**
baz=206
X40A Basin Creek Fa 18.01 6 P **P** **10 45 13.6 -0.2**
UALR University of 18.35 7 **Pn** **10 45 16.1 -1.4**
WMOK Wichita Mounta 18.44 350 P **Pn** **10 45 19.5 +0.8**
baz=168
W35A Tecumseh 18.62 355 IAmb IAmb 10 45 30.4
comp=Z,29nm,0.8s
OXF Oxford 18.63 15 P **Pn** **10 45 20.8 -0.2**
baz=197
MSTX Muleshoe 18.69 340 P **Pn** **10 45 21.9 0.0**
baz=156
FNO Franklin 18.77 354 IAmb IAmb 10 45 36.5
comp=Z,21nm,0.6s
SMWD Samnorwood 19.07 347 IAmb IAmb 10 45 38.3
comp=Z,18nm,0.8s
AMTX Amarillo 19.21 343 P **P** **10 45 27.4 +0.2**
baz=160
TUL3 Leonard 19.32 358 IAmb IAmb 10 45 51.5
comp=Z,32nm,0.9s
TUL3 Leonard 19.32 358 P **P** **10 45 28.3 0.0**
baz=177
OK052 Battle Ridge R 19.45 356 IAmb IAmb 10 45 30.6
comp=Z,26nm,0.7s
FCAR Ozark Folk Cen 19.47 7 IAmb IAmb 10 45 31.8
comp=Z,16nm,0.8s
OK033 Mehan 19.51 356 IAmb IAmb 10 45 30.9
comp=Z,31nm,1.0s
RLO Rose Lookout 19.57 0 IAmb IAmb 10 45 43.2
comp=Z,11nm,0.8s
319A Douglas 19.63 321 IAmb IAmb 10 45 39.1
comp=Z,21nm,1.0s
121A Cookes Peak, D 19.65 327 P **Pn** **10 45 33.6 +0.1**
baz=140,SNR=17
GOGA Godfrey 19.82 30 P **P** **10 45 32.5 -1.3**
baz=215
ELIS Ellis County 19.84 350 IAmb IAmb 10 45 41.1
comp=Z,23nm,0.8s
OK048 Pawnee Station 19.88 356 IAmb IAmb 10 45 39.5
comp=Z,38nm,1.1s
CROK Carrier 20.07 353 **P** **10 45 35.4 -1.0**
CROK IAmb IAmb 10 45 41.4
comp=Z,32nm,1.1s
BLOK Blackwell 20.25 355 **P** **10 45 37.6 -0.8**
BLOK IAmb IAmb 10 45 41.7
comp=Z,32nm,1.2s
OK032 Salt Plains WL 20.39 353 **P** **10 45 38.9 -1.0**
OK032 IAmb IAmb 10 46 04.2
comp=Z,19nm,0.7s
Y22D IRIS PASSCAL I 20.45 331 P Pn 10 45 42.5 -0.5
baz=145
KAN13 South Haven SW 20.52 355 IAmb IAmb 10 45 45.3
comp=Z,18nm,0.7s
WVT Waverly 20.57 17 P **P** **10 45 41.7 -0.2**
WVT Waverly 20.57 17 P **P** **10 45 41.8 -0.1**
baz=200
KAN17 Caldwell West 20.58 354 **P** **10 45 41.0 -1.0**
KAN17 IAmb IAmb 10 46 13.4
comp=Z,18nm,0.6s
PBMO Poplar Bluff 20.60 11 P **P** **10 45 40.5 -1.6**
PBMO IAmb IAmb 10 45 46.7
comp=Z,15nm,0.8s
PARMO Parma 20.62 12 IAmb IAmb 10 45 46.9
comp=Z,23nm,0.8s
KAN05 Bluff City Nor 20.65 354 IAmb IAmb 10 45 48.3
comp=Z,18nm,0.7s
KAN09 Caldwell North 20.65 354 IAmb IAmb 10 45 46.7
comp=Z,23nm,0.8s
KAN01 Argonia South 20.68 354 IAmb IAmb 10 45 47.4
comp=Z,18nm,0.7s
KAN06 Argonia West S 20.79 354 IAmb IAmb 10 45 48.0
comp=Z,21nm,0.9s
RTBA Rita Blanca 20.96 343 IAmb IAmb 10 45 50.7
comp=Z,21nm,0.8s
ANMO Albuquerque 20.98 333 P **P** **10 45 46.8 +0.3**
ANMO Albuquerque 20.98 333 P **P** **10 45 47.7 +1.2**
baz=147
ANMO Albuquerque 20.98 333 P **P** **10 45 46.8 +0.3**
comp=Z,4.1nm,0.9s,baz=218,slow=14,SNR=7.2
comp=Z,4.1nm,0.9s
HODGE Hodges 21.07 31 IAmb IAmb 10 45 51.5
comp=Z,21nm,1.0s
TUC Tucson 21.19 321 P **P** **10 45 50.0 +1.3**
TUC IAmb IAmb 10 45 54.7
comp=Z,18nm,1.1s
TUC Tucson 21.19 321 P **P** **10 45 50.4 +1.6**
baz=133
NHSC New Hope 21.32 36 P **P** **10 45 49.5 -0.4**
baz=223
TKL Tuckaleechee C 21.57 26 P **P** **10 45 51.8 -0.9**
comp=Z,7.0nm,1.0s,baz=219,slow=10,SNR=5.8
comp=Z,7.0nm,1.0s
T47A Sharon Grove 21.58 18 IAmb IAmb 10 45 54.9
comp=Z,12nm,0.8s
CCM Cathedral Cave 21.72 8 P **P** **10 45 52.1 -2.2**
CCM IAmb IAmb 10 45 56.0
comp=Z,13nm,0.8s
CCM Cathedral Cave 21.72 8 P **P** **10 45 53.5 -0.8**
baz=190
PAULI Pauline 21.77 31 P **P** **10 45 54.7 -0.1**
PAULI IAmb IAmb 10 46 00.3
comp=Z,17nm,0.9s
FVM French Village 21.77 10 P **P** **10 45 53.8 -1.0**
R40A Maddies Statio 21.83 6 IAmb IAmb 10 45 57.3
comp=Z,14nm,0.8s
V53A Saluda 22.00 28 IAmb IAmb 10 46 02.6
comp=Z,20nm,1.5s
R32A Long Quarter, 22.05 352 IAmb IAmb 10 46 05.8
comp=Z,14nm,0.7s
T25A Trinidad 22.13 340 IAmb IAmb 10 46 07.8
comp=Z,27nm,1.0s
T25A Trinidad 22.13 340 P **P** **10 46 00.3 +1.4**
baz=155,SNR=13
214A Organ Pipe Nat 22.24 317 IAmb IAmb 10 46 06.5
comp=Z,35nm,1.3s
214A Organ Pipe Nat 22.24 317 P **P** **10 46 00.7 +0.8**
baz=129
YOTC Yotoco, Valle 22.24 122 *e*P **P** **10 46 05.6 +5.4**
KMSC Kings Mountain 22.26 31 P **P** **10 45 59.0 -1.0**
baz=217
X18A Snowflake 22.34 326 IAmb IAmb 10 46 08.9
comp=Z,21nm,1.3s
GUY2C Guyana, Caldas 22.37 118 *e*P **P** **10 46 06.4 +4.5**
PIX Pinacate 22.42 315 P **P** **10 46 02.3 +0.4**
PIX IAmb IAmb 10 46 08.1
comp=Z,14nm,1.0s
TZTN Tazewell 22.43 25 IAmb IAmb 10 46 43.8
comp=Z,18nm,1.2s
TZTN Tazewell 22.43 25 P **P** **10 46 00.7 -1.1**
baz=210
KSU1 Kansas State U 22.53 357 IAmb IAmb 10 46 04.0
comp=Z,20nm,0.7s
KSU1 Kansas State U 22.53 357 P **P** **10 46 02.5 -0.5**
baz=176,SNR=8.2
CBKS Cedar Bluff 22.58 351 IAmb IAmb 10 46 10.2
comp=Z,20nm,0.9s
CBKS Cedar Bluff 22.58 351 P **P** **10 46 03.3 -0.2**
baz=168
BBAC Balboa, Cauca 22.73 128 *e*P **P** **10 46 07.9 +2.5**
W57A Gilead 22.95 33 IAmb IAmb 10 46 13.8
comp=Z,14nm,1.0s
WCI Wyandotte Cave 22.97 18 P **P** **10 46 06.3 -1.3**
WCI IAmb IAmb 10 46 08.0
comp=Z,14nm,0.8s
WCI Wyandotte Cave 22.97 18 P **P** **10 46 06.7 -0.9**
baz=202
SDCO Great Sand Dun 23.05 339 IAmb IAmb 10 46 15.3
comp=Z,22nm,1.2s
SDCO Great Sand Dun 23.05 339 P **P** **10 46 09.2 +0.5**
baz=153,SNR=22
OTAV Otavalo 23.05 133 P **P** **10 46 11.5 +2.4**
P38A Dawn 23.06 3 IAmb IAmb 10 46 08.6
comp=Z,14nm,0.8s
P40A Paris 23.08 6 IAmb IAmb 10 46 08.6
comp=Z,26nm,1.1s
U54A Nelsons Funny 23.15 28 IAmb IAmb 10 46 33.7
comp=Z,15nm,1.1s
ORTC Ortega, Tolima 23.18 121 *e*P **P** **10 46 13.0 +3.0**
KSCO Kaye Shedlock' 23.35 345 P **P** **10 46 12.9 +1.2**
baz=161
113A Mohawk Valley, 23.38 317 P **P** **10 46 09.0 -2.8**
S22A 4UR Ranch, Cre 23.54 336 P **P** **10 46 14.7 +1.0**
baz=150,SNR=5.2
BONI La Bonita 23.56 131 *e*P **P** **10 46 19.2 +5.2**
PRAC Prado 23.59 120 *e*P **P** **10 46 16.3 +2.2**
MVCO Mesa Verde 23.77 333 IAmb IAmb 10 46 22.2
comp=Z,13nm,1.0s
MVCO Mesa Verde 23.77 333 P **P** **10 46 17.4 +1.5**
baz=146
BLO Bloomington 23.78 17 IAmb IAmb 10 46 16.1
comp=Z,12nm,0.8s
WUAZ Wupatki 23.84 326 IAmb IAmb 10 46 22.4
comp=Z,13nm,1.0s
WUAZ Wupatki 23.84 326 P **P** **10 46 17.7 +1.1**
baz=138,SNR=5.7
Q24A Divide 24.03 340 IAmb IAmb 10 46 23.9
comp=Z,26nm,1.4s
Q24A Divide 24.03 340 P **P** **10 46 18.0 -0.4**
baz=155
PIAT Ana Tenorio 24.07 135 *e*P **P** **10 46 20.6 +1.5**
BLA Blacksburg 24.36 29 P **P** **10 46 19.8 -1.3**
baz=216
P48A Milroy 24.37 18 IAmb IAmb 10 46 19.9
comp=Z,17nm,0.9s
HDIL Hopedale 24.47 11 P **P** **10 46 21.2 -0.9**
baz=193
COHC Cochancay 24.52 139 P **P** **10 46 23.6 +0.9**
PDMCI Parker Dam,Lak 24.61 320 P **P** **10 46 25.2 +1.8**
baz=131
P49A Miami Univ. Ec 24.66 20 IAmb IAmb 10 46 25.9
comp=Z,13nm,0.8s
P49A Miami Univ. Ec 24.66 20 P **P** **10 46 22.6 -1.1**
baz=204
SFIN Lafayette 24.77 15 P **P** **10 46 24.3 -0.5**
baz=198
SWSC Sam W. Stewart 24.84 315 P **P** **10 46 27.5 +2.0**
baz=126
IKP In-Ko-Pah, Jac 24.88 314 P **P** **10 46 27.5 +1.5**
baz=124
ISCO Idaho Springs 24.94 341 IAmb IAmb 10 46 32.8
comp=Z,7.6nm,0.8s
ISCO Idaho Springs 24.94 341 P **P** **10 46 27.5 +0.9**
baz=155
BGNE Belgrade 24.94 355 P **P** **10 46 26.8 +0.4**
baz=173
U15A North Rim 25.02 326 IAmb IAmb 10 46 34.4

comp=Z,9.1nm,1.0s
SDV Santo Domingo 25.03 105 LR LR 10 56 38.2
comp=Z,61nm,21.1s,baz=324,slow=37
BC3 Big Chuckawall 25.03 317 P P 10 46 29.3 +1.9
baz=127
OGNE Ogallala 25.07 348 P P 10 46 29.2 +1.6
baz=164,SNR=11
IRM Iron Mountain 25.15 318 P P 10 46 30.6 +2.3
baz=129,SNR=5.3
O48B Farmland 25.18 18 P P 10 46 27.5 -1.0
baz=203,SNR=8.3
NEE2 Needles Airpor 25.21 320 P P 10 46 30.6 +1.8
baz=130
SCIA State Center 25.35 3 P P 10 46 29.2 -0.8
baz=184,SNR=7.3
HMU Henry Mountain 25.39 330 IAmb IAmb 10 46 39.0
comp=Z,14nm,1.2s
N47A Urbana 25.60 17 IAmb IAmb 10 46 32.0
comp=Z,21nm,1.0s
BELC Belle Mtn. Jos 25.60 317 P P 10 46 34.1 +1.5
baz=127
PMD Palm Desert 25.64 316 P P 10 46 31.4 -1.4
P52A Corning 25.66 24 P P 10 46 32.9 +0.1
baz=210
TPFO Pinon Flats 25.67 315 P P 10 46 35.2 +2.0
baz=126
PFO Pinyon Flats O 25.68 315 P P 10 46 35.3 +2.0
baz=126
PFO Pinyon Flats O 25.68 315 LR LR 10 56 09.4
comp=Z,91nm,18.5s,baz=67,slow=35
KNB Kanab 25.74 326 IAmb IAmb 10 46 41.2
comp=Z,8.7nm,1.0s
ACSO Alum Creek Sta 25.87 22 P P 10 46 34.9 +0.1
baz=207
GMRC Granite Mounta 25.87 319 P P 10 46 36.2 +1.2
baz=129
N23A Red Feather La 26.04 341 P P 10 46 37.5 +0.9
baz=155
O20A White River Ci 26.15 337 IAmb IAmb 10 46 39.6
comp=Z,15nm,1.4s
O20A White River Ci 26.15 337 P P 10 46 38.4 +0.8
baz=150
MURC Murrieta 26.17 315 P P 10 46 39.3 +1.7
baz=124
MTPU Mount Pierson 26.18 328 IAmb IAmb 10 46 46.6
comp=Z,11nm,0.9s
PHWY Pilot Hill 26.26 342 IAmb IAmb 10 46 41.7
comp=Z,7.1nm,0.8s
L44A Lake County Fo 26.30 12 P P 10 46 38.6 0.0
baz=195
HEC Hector,Ludlow 26.33 318 P P 10 46 40.9 +1.8
baz=128
BBRC Big Bear Solar 26.37 316 P P 10 46 41.5 +1.9
baz=126
Q16A Castle Valley 26.38 331 IAmb IAmb 10 46 48.5
comp=Z,13nm,1.1s
TUQ Turquoise Moun 26.45 319 P P 10 46 41.8 +1.5
baz=129
O53A New Philadelph 26.54 24 P P 10 46 40.7 -0.2
baz=211
P17A Butcher Ranch, 26.63 332 IAmb IAmb 10 46 47.2
comp=Z,11nm,1.4s
JFWS Jewell Farm 26.63 8 P P 10 46 40.6 -1.0
baz=190,SNR=14
BFSC Mount Baldy Ra 26.85 315 P P 10 46 45.4 +1.6
baz=125
CIS Catalina Islan 26.90 313 P P 10 46 45.9 +1.6
baz=122
GSC Goldstone, Bar 26.93 318 P P 10 46 45.6 +1.1
baz=128
ECSD EROS Data Cent 27.16 358 P P 10 46 47.1 +0.7
baz=176
EDW2 Edwards Air Fo 27.45 316 P P 10 46 49.9 +0.7
baz=125
I40A Norwalk 27.55 7 IAmb IAmb 10 46 48.9
comp=Z,24nm,1.3s
LRMC Laurel Mtn Rad 27.60 317 P P 10 46 51.5 +0.9
baz=127
TPNV Topopah Spring 27.64 321 P P 10 46 52.8 +1.8
baz=131
FURC Furnace Creek, 27.70 320 P P 10 46 53.1 +1.8
baz=130
M53A WI Miller and 27.77 24 P P 10 46 51.1 -0.8
baz=211
K22A Casper 27.82 342 P P 10 46 54.1 +1.6
baz=156
MPMC Manual Prospec 27.83 319 P P 10 46 54.1 +1.4
baz=128
ARVC Arvin 28.15 316 P P 10 46 56.3 +0.9
baz=124
DUG Dugway, Tooele 28.16 330 P P 10 46 56.4 +0.8
baz=141
R11B Troy Canyon, C 28.22 324 P P 10 46 56.7 +0.5
baz=134
ISA Isabella, Lake 28.23 317 P P 10 46 57.1 +1.0
baz=126
TCUT Toone Canyon 28.27 333 IAmb IAmb 10 47 05.5
comp=Z,15nm,1.1s
SSPA Standing Stone 28.28 28 P P 10 46 56.1 -0.3
baz=217
CWC Cottonwood Cre 28.44 319 P P 10 46 59.8 +1.6
baz=128
SPMN Marine on St. 28.68 3 P P 10 46 58.9 -1.0
baz=184,SNR=9.6
VES Vestal, Richgr 28.73 317 P P 10 47 02.2 +1.7
baz=125
ATAH Atahualpa 28.74 144 LR LR 10 56 20.5
comp=Z,36nm,20.5s,baz=324,slow=32
BW06 Boulder Array 28.93 338 P P 10 47 02.6 +0.1
baz=150
PDAR Pinedale Array 28.93 338 P P 10 47 02.8 +0.3
comp=Z,1.3nm,0.9s,baz=156,slow=7.5,SNR=7.1
comp=Z,1.3nm,0.9s
F36A Milaca 29.28 2 IAmb IAmb 10 47 04.7
comp=Z,8.7nm,0.8s
HVU Hansel Valley 29.40 332 IAmb IAmb 10 47 12.3
comp=Z,6.0nm,0.9s
AHID Auburn Hatcher 29.51 336 IAmb IAmb 10 47 16.0
comp=Z,8.7nm,1.2s
MLAC Mammoth, Mammo 29.66 320 P P 10 47 09.5 +0.5
baz=128
ELK Elko 29.77 328 LR LR 11 01 27.8
comp=Z,105nm,19.1s,baz=6.5,slow=41
MDPB Devils Postpil 29.81 320 IAmb IAmb 10 47 13.0
comp=Z,5.6nm,1.0s
NVAR Mina Array Bea 29.84 322 P P 10 47 12.7 +2.1
comp=Z,4.0nm,0.8s,baz=138,slow=9.1,SNR=35
NVAR LR LR 10 59 44.5
comp=Z,136nm,18.6s,baz=128,slow=38
comp=Z,4.0nm,0.8s
LHV Little Huntoon 29.85 321 IAmb IAmb 10 47 13.5
comp=Z,4.7nm,0.8s
LOHW Long Hollow 30.04 337 IAmb IAmb 10 47 20.1
comp=Z,14nm,1.4s
TPAW Teton Pass 30.07 337 P P 10 47 12.5 -0.2
PCRV Puerto La Cruz 30.28 98 LR LR 11 00 05.5
comp=Z,75nm,19.5s,slow=38
H17A Grant Village 30.71 338 P P 10 47 18.5 +0.2
baz=149
YERR Yerington 30.76 321 IAmb IAmb 10 47 21.2
comp=Z,11nm,1.5s
RLMT Red Lodge 30.90 340 P P 10 47 19.9 0.0
baz=152
MPK Martis Peak 31.43 321 IAmb IAmb 10 47 31.3
comp=Z,12nm,1.0s
MDND Maddock 31.46 354 P P 10 47 24.4 -0.2
baz=171
EYMN Ely 31.48 5 P P 10 47 22.8 -1.8
baz=186
HLID Hailey 31.55 333 P P 10 47 26.0 +0.4
baz=142,SNR=7.2
AGMN Agassiz Nation 31.70 359 P P 10 47 25.9 -0.7
baz=178,SNR=12
WVOR Wild Horse Val 32.75 327 IAmb IAmb 10 47 41.6
comp=Z,8.6nm,1.2s
PLID Pearl Lake 33.46 333 IAmb IAmb 10 47 48.0
comp=Z,6.7nm,0.9s
NNA Nana 33.59 146 LR LR 10 58 49.6
comp=Z,44nm,19.8s,baz=342,slow=32
ULM Lac du Bonnet 33.65 359 P P 10 47 42.2 -1.4
comp=Z,9.0nm,0.9s,baz=181,slow=7.9,SNR=12
comp=Z,9.0nm,0.9s
MSO Missoula 34.02 337 P P 10 47 47.2 +0.1
baz=146
YBH Yreka Blue Hor 34.55 322 LR LR 11 02 30.9
comp=Z,146nm,18.6s,baz=179,slow=37
NEW Newport 36.44 335 LR LR 11 03 44.7
comp=Z,104nm,18.4s,baz=357,slow=37
FFC Flin Flon 38.50 354 P P 10 48 24.4 -0.7
FFC IAmb IAmb 10 48 30.8
comp=Z,5.6nm,0.8s
ETMB Extrema 38.75 130 P P 10 48 29.9 +2.1
SAML Samuel 40.47 126 P P 10 48 41.5 -0.6
SCHQ Schefferville 44.00 23 LR LR 11 08 08.6
comp=Z,86nm,18.6s,baz=50,slow=37
VILB Vilhena 45.25 128 P P 10 49 23.7 +2.9
PTLB Pontes e Lacer 47.63 130 P P 10 49 39.6 +0.1
V35K Ketchikan 47.74 333 P P 10 49 40.3 +0.5
baz=129
YKA Yellowknife Ar 47.92 348 P P 10 49 40.3 -0.8
comp=Z,3.5nm,0.9s,baz=153,slow=7.3,SNR=15
comp=Z,3.5nm,0.9s
T35M Bob Quinn 48.25 335 P P 10 49 44.1 +0.4
baz=132
KOTAN Kotaneelee Air 48.33 341 P P 10 49 43.9 -0.4
baz=141
DLBC Dease Lake 49.15 337 P P 10 49 51.3 +0.6
baz=133
R33M Jennings River 50.16 337 P P 10 49 59.1 +0.5
baz=133
S32K Killisnoo 50.36 334 P P 10 50 00.4 +0.5
baz=127
P33M Teslin, Yukon 51.41 337 P P 10 50 07.8 0.0
baz=131
R31K City Hall, Gus 51.43 334 P P 10 50 08.6 +0.7
baz=127
N32M Quiet Lake 52.13 338 P P 10 50 13.8 +0.6
baz=131
WHY Whitehorse 52.48 337 P P 10 50 16.3 +0.4
baz=129
FARO Faro, Yukon 52.95 339 P P 10 50 19.3 +0.1
baz=132
P30M Million Dollar 52.96 335 P P 10 50 19.5 +0.1
baz=126
P29M Windy Craggy 52.99 334 P P 10 50 19.9 +0.4
baz=125
O30N Mendenhall 53.01 336 P P 10 50 19.6 -0.1
baz=128
M31M Drury Creek, Y 53.30 338 P P 10 50 21.9 +0.1
baz=130
HYT Haines Junctio 53.60 336 P P 10 50 24.2 +0.1
baz=126
MAYO Mayo, Yukon 54.72 339 P P 10 50 32.7 +0.6
baz=130
M29M Somme Creek 54.93 337 P P 10 50 34.9 +1.1
baz=126
L29M L29M 55.21 338 P P 10 50 36.2 +0.5
baz=127
J30M Hart River 55.50 340 P P 10 50 38.7 +0.8
baz=130
C36M Paulatuk 55.81 348 P P 10 50 40.0 +0.2
baz=146
I30M Mount Dempster 55.94 340 P P 10 50 40.5 -0.5
baz=130
MCARA McCarthy VSAT 56.14 335 P P 10 50 42.8 +0.4
baz=121
DAWY Dawson 56.24 338 P P 10 50 42.5 -0.6
baz=126
G31M Satah River 56.43 343 P P 10 50 44.0 -0.3
baz=133
L27K Beaver Creek, 56.56 337 P P 10 50 45.7 +0.4
baz=123
BMRM Bremner River 56.59 334 P P 10 50 45.8 +0.1
baz=115
F31M Tsiigehtchic 56.65 343 P P 10 50 45.9 +0.1
baz=134
Q23K Middleton Isla 56.65 331 P P 10 50 46.1 +0.2
baz=116
M26K Nabesna, AK 56.66 336 P P 10 50 46.5 +0.4
baz=121
EPYK Eagle Plains 56.79 341 P P 10 50 47.6 +0.7
baz=130
EYAK Cordova Ski Ar 56.89 333 P P 10 50 48.4 +0.7
baz=117
N25K Chitina, Valde 56.90 334 P P 10 50 48.4 +0.5
baz=119
G30M tAoh Zraii Nji 57.04 342 P P 10 50 49.3 +0.6
baz=131
L26K Log Cabin Wild 57.12 336 P P 10 50 50.0 +0.6
baz=121
K27K Chicken 57.18 337 P P 10 50 50.5 +0.8
baz=123
INK Inuvik 57.20 344 P P 10 50 49.7 0.0
H29M Whitestone 57.21 341 P P 10 50 50.6 +0.7
baz=128
EGAK Eagle 57.28 338 P P 10 50 50.4 0.0
baz=124
F30M Barrier River 57.34 343 P P 10 50 51.3 +0.5
baz=132
P23K Montague Islan 57.38 332 P P 10 50 52.3 +1.1
baz=115
KLU Klutina 57.40 334 P P 10 50 52.4 +1.0
baz=118
HARP HAARP 57.52 335 P P 10 50 53.2 +1.0
baz=119
G29M Pine Creek 57.54 341 P P 10 50 53.1 +0.9
baz=129
M24K Tolsona, Glenn 57.80 334 P P 10 50 55.2 +1.0
baz=118
SCRK Sand Creek 57.87 337 P P 10 50 54.5 -0.2
baz=121
PAX Paxson 57.93 335 P P 10 50 54.7 -0.4
baz=119
RIDG Independent Ri 58.07 336 P P 10 50 57.0 +0.9
baz=120
A36M Sachs Harbour 58.22 349 P P 10 50 55.8 -1.1
A36M IAmb IAmb 10 51 02.2
comp=Z,4.9nm,0.9s
A36M Sachs Harbour 58.22 349 P P 10 50 56.7 -0.1
baz=145
H27K Steamboat Moun 58.24 340 P P 10 50 58.5 +1.3
baz=125
E29M Blow River 58.45 343 P P 10 50 59.1 +0.5
baz=130
K24K Donnelly Dome 58.46 336 P P 10 50 59.8 +1.0
baz=119
F28M Old Crow 58.54 342 P P 10 50 59.2 0.0
F28M IAmb IAmb 10 51 00.4
comp=Z,3.1nm,0.8s
F28M Old Crow 58.54 342 P P 10 50 59.9 +0.6
baz=127
G27K Doyon Strip 58.62 340 P P 10 51 00.2 +0.4
baz=125
O22K Cooper Landing 58.63 332 P P 10 51 01.1 +1.2
baz=113
WAT6 Susitna Watana 58.67 334 P P 10 51 01.0 +0.6
baz=116
J25K Salcha River, 58.71 337 P P 10 50 59.7 -0.8
baz=120
BRSE Bradley Lake S 58.81 331 P P 10 51 01.0 -0.2
baz=112
PMR Palmer 58.82 333 P P 10 51 01.3 +0.1
baz=114
RC01 Rabbit Creek A 58.88 332 P P 10 51 02.1 +0.4
baz=114
E28M Babbage River 59.05 343 P P 10 51 02.3 -0.4
baz=128
WAT1 Susitna Watana 59.11 335 P P 10 51 03.9 +0.6
baz=116
HDA Harding Lake 59.21 337 P P 10 51 03.8 -0.1
baz=118
HDA P P 10 51 03.8 -0.1
baz=118
PRP Porcupine Dome 59.23 338 P P 10 51 04.6 +0.4
baz=120
D28M Stokes Point 59.29 343 P P 10 51 04.5 +0.2
baz=129
ILAR Eielson Array 59.36 337 P P 10 51 04.8 -0.1
comp=Z,1.0nm,0.9s,baz=126,slow=5.9,SNR=11
comp=Z,1.0nm,0.9s
G26K Porcupine Rive 59.39 340 P P 10 51 05.0 -0.1
baz=123
E27K Coleen River 59.41 342 P P 10 51 05.2 0.0
baz=126
SUA Susitna One 59.48 333 P P 10 51 05.3 -0.6
baz=113
MCK McKinley 59.67 335 P P 10 51 07.4 +0.3
baz=116
POKR Poker Plat Res 59.73 337 P P 10 51 08.9 +1.4
baz=118
COLA College 59.77 337 P P 10 51 08.4 +0.7
baz=118
D27M Malcolm River 59.85 343 P P 10 51 09.0 +0.6
baz=127
F26K Sheenjek River 59.92 341 P P 10 51 09.4 +0.6
baz=123
P19K Oil Pt 59.96 330 P P 10 51 09.8 +0.7
baz=109
CHIR Chirikof Islan 60.02 325 P P 10 51 10.5 +0.8
baz=105
SKT Skwentna 60.02 333 P P 10 51 10.2 +0.6
baz=112
N20K Mount Spurr 60.03 332 P P 10 51 09.6 -0.1
baz=111
G25K Bearman Lake 60.07 339 P P 10 51 10.3 +0.5
baz=120
TRF Thorofare Moun 60.09 335 P P 10 51 10.7 +0.4
TRF Thorofare Moun 60.09 335 P P 10 51 10.6 +0.4
baz=114
NEA2 Nenana 60.10 336 P P 10 51 10.4 +0.3
baz=116
H24K Noodor Dome 60.24 338 P P 10 51 10.8 -0.2
baz=118
F25K Christian Rive 60.35 340 P P 10 51 11.5 -0.2
baz=121
I23K Minto, Yukon-K 60.47 337 P P 10 51 12.5 0.0
baz=116
G24K Hadweenzic Riv 60.51 339 P P 10 51 13.2 +0.3
baz=119
BPAW Bear Paw Mtn. 60.65 335 P P 10 51 13.0 -0.9
baz=114
O19K Port Alsworth 60.65 331 P P 10 51 13.4 -0.5
baz=109
PPLA Purkeypile 60.66 334 P P 10 51 13.9 -0.2
baz=112
M20K Styx River 60.69 333 P P 10 51 13.8 -0.5
baz=111
CAST Castle Rocks 60.82 334 P P 10 51 14.7 -0.3
baz=113
Q17K Contact Creek 60.83 328 P P 10 51 15.2 0.0
baz=106
P18K Big Mountain, 60.84 329 P P 10 51 14.5 -0.7
baz=107
R17K Ugashik Creek 60.91 327 P P 10 51 15.9 +0.2
baz=105
N19K Bonanza Creek 60.93 331 P P 10 51 15.9 0.0
baz=109
MLY Manley 60.94 336 P P 10 51 15.7 -0.1
baz=115
O18K Koktuh Hills 60.97 330 P P 10 51 16.2 +0.1
baz=108
F24K Squaw Lake 61.05 340 P P 10 51 17.0 +0.5
baz=119
L20K Farewell, AK 61.23 333 P P 10 51 17.8 -0.1
baz=110
PLCA Paso Flores 61.36 159 P P 10 51 22.8 +3.8
comp=Z,4.7nm,1.0s,baz=341,slow=10,SNR=4.7
comp=Z,4.7nm,1.0s
C26K Camden Bay 61.38 343 P P 10 51 18.1 -0.5
baz=123
I21K Tanana 61.48 336 P P 10 51 19.8 +0.4
baz=114
D25K Kavik River 61.49 342 P P 10 51 19.6 +0.1
baz=121
R16K Pilot Point 61.51 327 P P 10 51 20.3 +0.6
baz=104
E24K Your Creek 61.52 340 P P 10 51 20.0 +0.2
baz=118
N18K Kilae Creek 61.55 331 P P 10 51 20.4 +0.4
baz=107
H22K Ishtalitna Cre 61.55 337 P P 10 51 20.2 +0.3
baz=114
L19K White Mountain 61.56 333 P P 10 51 20.6 +0.6
baz=109
K20K Telida 61.63 334 P P 10 51 20.4 -0.1
baz=111
CHGN Chignik 61.65 326 P P 10 51 20.8 +0.1
baz=103
COLD Coldfoot 61.71 339 P P 10 51 20.8 -0.1
baz=116
M18K Stony River 61.77 332 P P 10 51 21.4 0.0
baz=108
O17K Koliganek Bris 61.86 330 P P 10 51 23.0 +1.0
baz=106
E23K Chandalar 61.89 340 P P 10 51 22.7 +0.4
baz=117
J20K Nowinta River 61.95 335 P P 10 51 22.1 -0.5
baz=111
H21K Melozitna Rive 61.99 337 P P 10 51 22.5 -0.4
baz=113
CHNA Chernabura Isl 61.99 324 P P 10 51 22.9 -0.1
baz=101
G22K Bettles 62.03 338 P P 10 51 23.6 +0.5
baz=115
P16K Nushagak River 62.10 329 P P 10 51 22.4 -1.3
baz=105
O16K Kokwok River B 62.30 329 P P 10 51 25.9 +0.9
baz=105
TTA Tatalina 62.31 333 P P 10 51 24.2 -0.9
baz=108
I20K Naaghedeneel 62.31 335 P P 10 51 25.0 0.0
baz=111
L18K Granite Mounta 62.38 332 P P 10 51 25.8 +0.2
baz=108
C24K Franklin Bluff 62.40 342 P P 10 51 26.0 +0.5
baz=119
J19K Poorman 62.50 334 P P 10 51 25.9 -0.3
J19K IAmb IAmb 10 51 26.9
comp=Z,4.6nm,0.8s
J19K Poorman 62.50 334 P P 10 51 26.4 +0.1
baz=109
F22K John River 62.52 339 P P 10 51 26.9 +0.5
baz=114
G21K Allakaket 62.59 337 P P 10 51 27.6 +0.8
baz=113
D23K Nanushuk River 62.66 340 P P 10 51 28.0 +0.8
baz=117
E22K Anaktuvuk Pass 62.66 339 P P 10 51 28.5 +1.1
baz=115
H20K Anotleneega Mo 62.73 336 P P 10 51 27.9 +0.1
baz=111
J18K Innoko River 62.78 334 P P 10 51 28.6 +0.4
baz=108
N16K Nishlik Lake 62.85 330 P P 10 51 29.6 +0.9
baz=105
F21K Alatna River 62.86 338 P P 10 51 28.8 +0.1
F21K IAmb IAmb 10 51 30.3
comp=Z,7.0nm,1.1s
F21K Alatna River 62.86 338 P P 10 51 29.2 +0.5
baz=113
C23K Itkillik River 63.03 341 P P 10 51 30.4 +0.7
C23K IAmb IAmb 10 51 30.6
comp=Z,5.1nm,0.8s
C23K Itkillik River 63.03 341 P P 10 51 30.5 +0.7
baz=117
K17K Iditarod 63.25 333 P P 10 51 32.6 +1.3
baz=106
GCSA Galena City Sc 63.26 335 P P 10 51 31.3 0.0
baz=108
D22K Ayikyak River 63.27 340 P P 10 51 31.9 +0.5
baz=115
H19K Roundabout Mou 63.35 336 P P 10 51 31.6 -0.3
baz=109
L16K Owhat River 63.50 331 P P 10 51 32.0 -1.0
baz=105
E21K Killik River 63.52 339 P P 10 51 33.0 -0.1
baz=113
F20K Avaraart Lake 63.61 338 P P 10 51 33.0 -0.5
baz=111
G19K Purcell Mounta 63.80 336 P P 10 51 34.6 -0.3
baz=109
C21K Knifeblade Rid 64.07 340 P P 10 51 36.5 -0.2
baz=113
B22K Teshekuk Lake 64.12 341 P P 10 51 37.2 +0.3
baz=115
N14K Kuskokwak Cree 64.14 329 P P 10 51 36.9 -0.2
baz=102
B21K Ikpikpuk River 64.20 340 P P 10 51 37.8 +0.3
baz=113
E20K Nigu River 64.21 339 P P 10 51 37.7 0.0
baz=111
F19K Shaleruckik Mo 64.29 337 P P 10 51 38.2 +0.2
baz=109
G18K Tagagawik 64.33 336 P P 10 51 37.8 -0.6
baz=107
J16K Anvik River 64.41 333 P P 10 51 39.1 +0.2
baz=104
L15K Ungalak Mounta 64.43 331 P P 10 51 39.1 0.0
baz=103
M14K Bethel 64.45 330 P P 10 51 39.6 +0.4
baz=102
D20K Etivluk River 64.52 339 P P 10 51 39.8 +0.2
baz=111
H17K Granite Mounta 64.56 335 P P 10 51 39.9 +0.1
baz=106

K15K	**Wolf Creek Mou** baz=103	**64.59 332**	P	**P**	**10 51 41.2**	**+1.1**
I17K	**Unalakleet** baz=104	**64.61 334**	P	**P**	**10 51 40.9**	**+0.7**
D19K	**Kuna River** baz=109	**64.96 339**	P	**P**	**10 51 42.8**	**+0.2**
G17K	**Kiwalik Mounta** baz=105	**65.01 335**	P	**P**	**10 51 43.2**	**+0.4**
M13K	**Dall Lake** baz=100	**65.05 329**	P	**P**	**10 51 43.9**	**+0.8**
B20K	**Meade River** baz=111	**65.17 340**	P	**P**	**10 51 43.8**	**+0.1**
H16K	**Elim** baz=103	**65.44 334**	P	**P**	**10 51 46.5**	**+0.8**
F17K	**Baldwin Pennin** baz=105	**65.50 336**	P	**P**	**10 51 46.5**	**+0.5**
E18K	**Tukpahlearik C** baz=106	**65.52 337**	P	**P**	**10 51 46.4**	**+0.3**
C19K	**Lookout Ridge** baz=108	**65.67 339**	P	**P**	**10 51 47.0**	**-0.1**
UNV	**Unalaska Valle** baz=95	**65.86 322**	P	**P**	**10 51 49.3**	**+0.8**
E17K	**Hotham Inlet** baz=105	**65.89 337**	P	**P**	**10 51 49.0**	**+0.6**
B18K	**Kokolik River** baz=106	**66.50 339**	P	**P**	**10 51 52.4**	**+0.1**
F15K	**North Star Dit** baz=102	**66.67 335**	P	**P**	**10 51 54.1**	**+0.6**
C17K	**DeLong Mountai** baz=104	**66.74 338**	P	**P**	**10 51 54.7**	**+0.8**
ANM	**Nome** baz=100	**66.75 334**	P	**P**	**10 51 55.1**	**+1.0**
C16K	**Lisburne Hills** baz=102	**67.48 338**	P	**P**	**10 51 58.7**	**+0.1**
SPIA	**Saint Paul Isl** baz=93	**68.22 325**	P	**P**	**10 52 03.7**	**+0.2**
EKA	**Eskdalemuir Ar** comp=Z,1.0nm,0.6s,baz=283,slow=5.3,SNR=5.5 comp=Z,1.0nm,0.6s	**77.68 36**	P	**P**	**10 52 58.4**	**-1.2**
ESDC	**Sonseca Array** comp=Z,1.8nm,0.9s,baz=289,slow=5.6,SNR=7.4 comp=Z,1.8nm,0.9s	**80.50 51**	P	**P**	**10 53 14.4**	**-1.1**
MDJ	**Mudanjiang**	**106.81 328**	Pdif	**Pdif**	**10 55 19.4**	**+0.7**
MDJ			pP	pPdif	10 55 24.1	+0.5
MDJ			sP	sPdif	10 55 25.0	-0.4
MDJ			PP	PP	10 59 53.3	+10
WRA	**Warramunga Arr** comp=Z,0.4nm,0.8s,baz=80,slow=2.6,SNR=6.4	**133.05 258**	PKP	**PKPdf**	**11 00 18.2**	**-1.2**
ASAR	**Alice Springs** comp=Z,0.2nm,0.7s,baz=123,slow=2.9,SNR=4.2	**133.61 253**	PKP	**PKPdf**	**11 00 19.9**	**-0.5**
PZH	**PanZhiHua**	**134.21 339**	PKP	**PKPdf**	**11 00 22.1**	**+0.4**

IDC ***18*** *10:43:38.7±5.8, 10.°10S×161.°16E, h92km±35km, mb3.5/3, mbtmp3.8/4, Error ellipse: s-maj=63.2km s-min=29.9km az=105.0*

ISC 18 10:43:40.0±2.4, 10.°0S±0.°2×161.°1E±0.°2, h100km, n5, σ0s99/6, mb3.4/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 1µm,0.4s,baz=144,slow=6.9,SNR=6.4	**1.24**	**297**	P	**Pn**	**10 44 02.2**	**-0.9**
HNR	comp=Z,466nm,19.9s,baz=148,slow=26			LR	LR	10 44 13.9	
HNR	4µm,0.3s,baz=186,slow=22,SNR=16			S	**Sn**	**10 44 21.2**	**+0.7**
CTA	**Charters Tower** 3.0nm,0.8s,baz=65,slow=14,SNR=1.8	**17.45**	**233**	P	**Pn**	**10 47 38.1**	**+0.9**
WRA	**Warramunga Arr** 0.6nm,0.5s,baz=74,slow=9.4,SNR=22 0.6nm,0.5s	**27.60**	**246**	P	**P**	**10 49 17.8**	**-0.3**
ASAR	**Alice Springs** 0.5nm,0.7s,baz=61,slow=10,SNR=7.8 0.5nm,0.7s	**29.26**	**239**	P	**P**	**10 49 32.2**	**-0.7**
SONM	**Songino Array** 1.0nm,0.7s,baz=134,slow=4.2,SNR=7.3 1.0nm,0.7s	**75.15**	**325**	P	**P**	**10 55 12.1**	**+0.6**

IDC ***18*** *10:47:18.5±1.4, 24.°32N×121.°08E, h0km, mb3.9/3, mbtmp3.8/4, ML3.5/1, MS3.4/3, Error ellipse: s-maj=92.6km s-min=23.7km az=76.0*

ASIES ***18*** *10:47:19.4, 24.°80N×122.°28E, h11km, ML4.0, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}=1.92; $M_{\theta\theta}$=2.54; $M_{\phi\phi}$=-0.62; $M_{r\theta}$=1.15; $M_{\theta\phi}$=-0.27; $M_{r\phi}$=1.27; Fault plane solution: M_o=2.87633×10^{21} NP1: ϕ_s=246.83000°, δ=64.53000°, λ=-121.71000°. NP2: ϕ_s=121.99000°, δ=39.82000°, λ=-42.19000°. Principal axes: T Plg13.8270°, Azm359.3370°; N Plg28.3250°, Azm261.7140°; P Plg57.9090°, Azm112.4470°;*

JMA ***18*** *10:47:19.7±0.1, 24.°7N±0.°8×122.°3E±0.°3, h40km±2km, MV2.9/13, TAIWAN REGION*

TAP ***18*** *10:47:19.4, 24.°80N×122.°28E, h11km, ML4.0, C*

NEIC ***18*** *10:47:22.1±2.3, 24.°76N±0.°05×122.°16E±0.°07, h28km±7km, mb4.4/7, Error ellipse: s-maj=10.1km s-min=7.4km az=67.0*

ISC 18 10:47:19.0±1.0, 24.°79N±0.°02×122.°33E±0.°02, h10km±7km, n144, σ0s98/210, mb4.3/8, 7C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS	baz=278	**0.37**	**279**	P	**Pb**	**10 47 26.8**	**-0.8**
EGS	baz=278			eS	**Sb**	**10 47 32.8**	**-0.7**
EOS2	**EOS2** baz=199	**0.38**	**194**	⇑iP	**Pb**	**10 47 27.6**	**-0.2**
TWB1	**Santiao Chiao** baz=309	**0.38**	**305**	⇑iP	**Pb**	**10 47 26.9**	**-1.0**
TWB1	baz=309			iS	**Sg**	**10 47 31.7**	**0.0**
TWC	**Suao** baz=253	**0.47**	**248**	⇑iP	**Pg**	**10 47 28.1**	**-0.1**
TWC	baz=253			S	**Sg**	**10 47 34.6**	**+0.1**
ESAO	**Su ao** baz=250	**0.49**	**245**	eP	**Pg**	**10 47 28.8**	**+0.2**
ESAO	baz=250			eS	**Sg**	**10 47 34.8**	**-0.3**
TIPB	**Shuangxi** baz=292	**0.49**	**292**	⇑P	**Pb**	**10 47 29.2**	**-0.6**
TIPB	baz=292			eS	**Sb**	**10 47 37.4**	**+0.2**
EOS3	**EOS3** baz=176	**0.50**	**182**	P	**Pg**	**10 47 29.7**	**+1.0**
EOS3	baz=176			eS	**Sb**	**10 47 38.3**	**+1.2**
SXI1	**Grass Mountain** baz=308	**0.52**	**306**	⇑iP	**Pb**	**10 47 29.7**	**-0.5**
SXI1	baz=308			S	**Sb**	**10 47 36.8**	**-1.0**
ILA	**Ilan** baz=266	**0.53**	**268**	P	**Pb**	**10 47 30.4**	**0.0**
ILA	baz=266			S	**Sb**	**10 47 39.4**	**+1.2**
NWF	**Wu-fen Shan** baz=300	**0.57**	**299**	P	**Pb**	**10 47 31.4**	**+0.1**
NWF	baz=300			S	**Sb**	**10 47 39.6**	**+0.1**
WFSB	**Wu-fen Shan** baz=300	**0.57**	**299**	P	**Pb**	**10 47 30.9**	**-0.3**
WFSB	baz=300			S	**Sb**	**10 47 39.7**	**+0.2**
NDS	**Dongshan** baz=245	**0.58**	**255**	P	**Pg**	**10 47 30.4**	**+0.1**
NDS	baz=245			eS	**Sb**	**10 47 38.3**	**-1.3**
EWUT	**Wuta** baz=232	**0.61**	**236**	P	**Pg**	**10 47 29.7**	**-1.1**
EWUT	baz=232			eS	**Sg**	**10 47 38.2**	**-0.6**
TWE	**Neicheng** baz=255	**0.61**	**264**	P	**Pg**	**10 47 30.7**	**-0.1**
TWE	baz=255			S	**Sb**	**10 47 40.2**	**-0.2**
TNOU	**National Taiwa** baz=307	**0.62**	**305**	P	**Pb**	**10 47 31.8**	**-0.2**
TNOU	baz=307			S	**Sb**	**10 47 40.5**	**-0.4**
ENA	**Nanau** baz=232	**0.65**	**236**	P	**Pg**	**10 47 31.3**	**-0.2**
ENA	baz=232			S	**Sg**	**10 47 40.1**	**+0.1**
JYNG	**Yonagunijimaku**	**0.65**	**121**	P	**Pg**	**10 47 31.9**	**+0.3**
JYNG				S	**Sg**	**10 47 41.0**	**+0.8**
EOS4	**EOS4** baz=170	**0.66**	**181**	P	**Pg**	**10 47 32.5**	**+0.7**
FUSB	**Fushanzhiwuyua** baz=267	**0.68**	**268**	P	**Pb**	**10 47 32.8**	**-0.2**
FUSB	baz=267			S	**Sb**	**10 47 41.9**	**-0.6**
YOJ	**Yonaguni jima**	**0.70**	**118**	P	**Pg**	**10 47 33.1**	**+0.6**
YOJ	**Yonaguni jima**	**0.70**	**118**	eP	**Pg**	**10 47 32.9**	**+0.4**
YOJ				S	**Sg**	**10 47 41.9**	**+0.2**
YOJ	**Yonaguni jima** baz=116	**0.70**	**118**	eP	**Pg**	**10 47 32.7**	**+0.2**
TWA	**Mucha** baz=275	**0.71**	**286**	⇓iP	**Pb**	**10 47 33.8**	**+0.3**
TWA	baz=275			iS	**Sb**	**10 47 43.1**	**-0.2**
EAHA	**Aohua** baz=235	**0.71**	**230**	eP	**Pg**	**10 47 32.8**	**+0.1**
EAHA	baz=235			eS	**Sg**	**10 47 41.7**	**-0.2**
ENTT	**Nioudou** baz=256	**0.71**	**258**	P	**Pb**	**10 47 32.8**	**-0.8**
ENTT	baz=256			eS	**Sb**	**10 47 42.5**	**-0.9**
NHDH	**Xindian Distri** baz=273	**0.75**	**284**	⇓iP	**Pn**	**10 47 34.8**	**-1.0**
NHDH	baz=273			S	**Sb**	**10 47 44.8**	**+0.2**
NWLT	**Wulai** baz=268	**0.75**	**269**	P	**Pb**	**10 47 34.1**	**-0.2**
NWLT	baz=268			eS	**Sg**	**10 47 43.0**	**-0.4**
NDT	**Datong Townshi** baz=255	**0.77**	**256**	eP	**Pb**	**10 47 34.3**	**-0.2**
NDT	baz=255			eS	**Sb**	**10 47 44.9**	**-0.2**
LATG	**Datong** baz=249	**0.78**	**251**	P	**Pg**	**10 47 33.8**	**-0.2**
LATG	baz=249			S	**Sb**	**10 47 44.8**	**-0.5**
YM01	**YM01** baz=298	**0.78**	**297**	⇓iP	**Pb**	**10 47 34.7**	**0.0**
YM01	baz=298			S	**Sb**	**10 47 45.2**	**-0.1**
YM08	**YM08** baz=301	**0.78**	**301**	P	**Pb**	**10 47 34.4**	**-0.3**
YM08	baz=301			S	**Sb**	**10 47 44.6**	**-0.9**
TATO	**Taipei**	**0.79**	**284**		**Pn**	**10 47 35.4**	**-0.9**
TATO	**Taipei**	**0.79**	**284**	P	**Pn**	**10 47 35.3**	**-0.9**
TAP	**Taipei** baz=289	**0.79**	**289**	eP	**Pb**	**10 47 35.1**	**+0.2**
TAP	baz=289			S	**Sn**	**10 47 46.1**	**-2.0**
ANP	**Anpu** baz=299	**0.84**	**298**	eP	**Pn**	**10 47 36.0**	**-1.0**
PCYT	**Pengchaiyu** baz=359	**0.87**	**344**	eP	**Pb**	**10 47 36.7**	**+0.4**
YHNB	**Yeheng**	**0.88**	**262**	Pn	**Pb**	**10 47 36.5**	**0.0**
YHNB	**Yeheng**	**0.88**	**262**	P	**Pn**	**10 47 37.0**	**-0.5**
YHNB	**Yeheng** baz=256	**0.88**	**262**	eP	**Pb**	**10 47 36.1**	**-0.3**
YHNB	baz=256			eS	**Sb**	**10 47 48.0**	**-0.3**
NTST	**Danshui** baz=308	**0.89**	**295**	eP	**Pn**	**10 47 37.4**	**-0.2**
NTST	baz=308			eS	**Sn**	**10 47 48.9**	**-1.6**
TWS1	**Kuangyinshan** baz=291	**0.89**	**291**	eP	**Pn**	**10 47 37.0**	**-0.6**
TWS1	baz=291			S	**Sn**	**10 47 48.9**	**-1.6**
NSK	**Sanguang** baz=256	**0.89**	**263**	P	**Pb**	**10 47 36.1**	**-0.6**
NSK	baz=256			eS	**Sb**	**10 47 47.9**	**-0.8**
ETL	**Fush Village** baz=222	**0.90**	**226**	P	**Pg**	**10 47 36.2**	**-0.2**
NACB	**Ninganchiao**	**0.91**	**228**	Pn	**Pg**	**10 47 36.3**	**-0.2**
NACB	**Ninganchiao**	**0.91**	**228**	P	**Pg**	**10 47 36.4**	**-0.1**
NACB	**Ninganchiao** baz=234	**0.91**	**228**	⇑iP	**Pg**	**10 47 35.8**	**-0.7**
NACB	baz=234			S	**Sg**	**10 47 47.4**	**-0.9**
NNSB	**Datong** baz=246	**0.94**	**248**	P	**Pg**	**10 47 36.6**	**-0.4**
NNSB	baz=246			S	**Sb**	**10 47 49.1**	**-0.9**
NNS	**Nan Shan** baz=237	**0.94**	**249**	P	**Pg**	**10 47 37.0**	**-0.1**
NNS	baz=237			S	**Sb**	**10 47 49.6**	**-0.5**
ETLH	**Xiulin Townshi** baz=237	**0.97**	**233**	P	**Pg**	**10 47 37.2**	**-0.4**
TWD	**Chiawan** baz=229	**0.97**	**224**	P	**Pg**	**10 47 37.3**	**-0.5**
TWD	baz=229			eS	**Sg**	**10 47 50.1**	**-0.3**
HWA	**Hwalien** baz=223	**1.04**	**220**	eP	**Pn**	**10 47 40.9**	**+1.2**
NCUH	**Zhongli** baz=280	**1.06**	**280**	eP	**Pn**	**10 47 40.5**	**+0.6**
NFF	**Wufeng Townshi** baz=269	**1.12**	**262**	P	**Pn**	**10 47 40.6**	**-0.2**
NFF	baz=269			S	**Sn**	**10 47 56.2**	**-0.1**
LXIB	**Xiulin Townshi** baz=236	**1.13**	**228**	P	**Pb**	**10 47 40.3**	**-0.5**
LXIB	baz=236			eS	**Sg**	**10 47 55.1**	**-0.4**
WHF	**Hehuan Shan** baz=235	**1.16**	**237**	⇑iP	**Pg**	**10 47 41.2**	**-0.2**
WHF	baz=235			S	**Sg**	**10 47 56.1**	**-0.6**
TWT	**Tachien** baz=235	**1.18**	**243**	P	**Pn**	**10 47 42.1**	**+0.3**
TWT	baz=235			S	**Sn**	**10 47 57.5**	**-0.5**
TDCB	**Techi** baz=235	**1.20**	**244**	P	**Pn**	**10 47 41.8**	**-0.1**
TDCB	baz=235			S	**Sb**	**10 47 56.4**	**-1.1**
LIOB	**Emei** baz=282	**1.21**	**264**	P	**Pg**	**10 47 42.0**	**-0.2**
LIOB	baz=282			eS	**Sn**	**10 48 00.8**	**+2.3**
SHUL	**Shoufeng** baz=194	**1.22**	**215**	eP	**Pg**	**10 47 42.6**	**+0.2**
NSTT	**Nanjuang** baz=263	**1.22**	**263**	P	**Pg**	**10 47 42.0**	**-0.5**
NSTT	baz=263			S	**Sn**	**10 47 58.8**	**0.0**
SBCB	**Hsinchu** baz=290	**1.22**	**270**	eP	**Pn**	**10 47 41.9**	**-0.4**
HSN	**Hsinchu** baz=291	**1.24**	**271**	eP	**Pb**	**10 47 40.9**	**-1.6**
HSN	baz=291			eS	**Sn**	**10 47 59.2**	**0.0**
ESL	**Shilin** baz=238	**1.27**	**220**	P	**Pn**	**10 47 42.6**	**-0.3**
ESL	baz=238			eS	**Sn**	**10 48 00.3**	**+0.3**
CHGB	**Renai** baz=234	**1.28**	**236**	P	**Pb**	**10 47 43.3**	**-0.1**
CHGB	baz=234			eS	**Sg**	**10 47 59.6**	**-0.7**
IRIF	**Iriomote-Funau**	**1.35**	**109**	eP	**Pn**	**10 47 42.0**	**-2.0**
IRIF				eS	**Sn**	**10 47 59.2**	**-2.8**
WHP	**Taichung City** baz=248	**1.36**	**248**	eP	**Pg**	**10 47 45.4**	**+0.2**
WHP	baz=248			eS	**Sg**	**10 48 03.2**	**+0.3**
WUSB	**Renai** baz=233	**1.36**	**235**	P	**Pg**	**10 47 44.9**	**-0.3**
WUSB	baz=233			S	**Sn**	**10 48 02.0**	**-0.4**
WARBT	**Fenglin Townsh** baz=236	**1.37**	**219**	eP	**Pn**	**10 47 44.3**	**0.0**
WARBT	baz=236			eS	**Sg**	**10 48 03.2**	**0.0**
EGFH	**Guangfu** baz=195	**1.39**	**217**	eP	**Pg**	**10 47 45.4**	**-0.3**
NSY	**Sanyi** baz=274	**1.48**	**256**	eP	**Pg**	**10 47 48.8**	**+1.4**
NSY	baz=274			S	**Sg**	**10 48 08.9**	**+2.3**
TWQ1	**Liyutan** baz=253	**1.49**	**253**	P	**Pg**	**10 47 47.8**	**+0.3**
TWQ1	baz=253			eS	**Sg**	**10 48 07.8**	**+0.9**
WCS	**Beigang Elemen** baz=241	**1.49**	**241**	eP	**Pg**	**10 47 47.6**	**+0.1**
VWDT	**VWDT** baz=231	**1.50**	**227**	eP	**Pb**	**10 47 47.1**	**+0.2**
VWDT	baz=231			eS	**Sg**	**10 48 07.3**	**+0.2**
HATJ	**Hateruma jima**	**1.53**	**118**	eS	**Sn**	**10 48 04.0**	**-2.3**
HGSD	**Ruisui** baz=195	**1.53**	**213**	eP	**Pn**	**10 47 46.8**	**+0.3**
EHY	**Hungye** baz=211	**1.57**	**216**	eP	**Pn**	**10 47 46.5**	**-0.5**
SMLT	**Sun Moon Lake** baz=235	**1.59**	**236**	eP	**Pg**	**10 47 49.2**	**-0.3**
WDJ	**Dajia District** baz=275	**1.60**	**254**	eP	**Pg**	**10 47 51.2**	**+1.4**
SSLB	**Suanglung**	**1.60**	**232**	Pn	**Pb**	**10 47 48.8**	**0.0**
SSLB	**Suanglung**	**1.60**	**232**	P	**Pg**	**10 47 49.2**	**-0.6**
SSLB	**Suanglung** baz=240	**1.60**	**232**	eP	**Pb**	**10 47 48.6**	**-0.2**
SSLB	baz=240			eS	**Sg**	**10 48 09.5**	**-1.1**
TYC	**Yuchr** baz=237	**1.61**	**237**	P	**Pg**	**10 47 49.5**	**-0.4**
JKRS	**Kuro-shima**	**1.62**	**109**	eP	**Pn**	**10 47 46.4**	**-1.4**
JKRS				eS	**Sn**	**10 48 06.7**	**-2.0**
TCU	**Taichung** baz=247	**1.64**	**247**	eP	**Pg**	**10 47 51.8**	**+1.3**
YULB	**Yu-li**	**1.68**	**214**	Pn	**Pn**	**10 47 48.1**	**-0.4**
YULB	**Yu-li**	**1.68**	**214**	P	**Pn**	**10 47 48.1**	**-0.4**
YULB	**Yu-li** baz=210	**1.68**	**214**	eP	**Pn**	**10 47 47.9**	**-0.7**
JIJ	**Ishigaki jima**	**1.70**	**104**	eP	**Pn**	**10 47 47.7**	**-1.1**
JIJ				eS	**Sn**	**10 48 08.8**	**-1.9**
EYUL	**Yuli** baz=196	**1.71**	**213**	eP	**Pn**	**10 47 49.3**	**+0.4**
TWF1	**Yuli** baz=209	**1.71**	**214**	P	**Pn**	**10 47 48.5**	**-0.4**
WHYT	**Xinyi Township** baz=240	**1.73**	**231**	eP	**Pb**	**10 47 51.4**	**+0.4**
WHYT	baz=240			eS	**Sg**	**10 48 16.2**	**+1.4**
WJS	**Zhushan** baz=237	**1.75**	**237**	eP	**Pg**	**10 47 52.5**	**-0.1**
WJS	baz=237			eS	**Sg**	**10 48 17.0**	**+1.6**
WNT	**Mingjian** baz=261	**1.75**	**239**	eP	**Pg**	**10 47 52.1**	**-0.6**
WNT	baz=261			eS	**Sg**	**10 48 17.1**	**+1.6**
CHKH	**Chenggong** baz=189	**1.81**	**209**	eP	**Pb**	**10 47 52.5**	**+0.3**
JISG	**Ishigakijimahi**	**1.81**	**96**	eP	**Pn**	**10 47 48.8**	**-1.5**
FULB	**Fuli** baz=192	**1.84**	**211**	eP	**Pb**	**10 47 51.9**	**-1.0**
ALS	**Alishan** baz=206	**1.89**	**228**	P	**Pb**	**10 47 53.2**	**-0.5**
ALS	baz=206			eS	**Sg**	**10 48 20.8**	**+1.0**
CHN5	**Tsauling** baz=231	**1.92**	**232**	eP	**Pb**	**10 47 54.4**	**+0.1**
EHD	**Haiduan** baz=208	**1.93**	**212**	eP	**Pn**	**10 47 52.3**	**+0.3**
WDLH	**Douliu** baz=237	**1.97**	**237**	eP	**Pb**	**10 47 54.6**	**-0.4**
WDLH	baz=237			eS	**Sg**	**10 48 22.4**	**0.0**
WRL	**Guolierlin Hig** baz=246	**1.99**	**244**	eP	**Pb**	**10 47 54.3**	**-1.0**
ELDTW	**Lidau** baz=199	**2.00**	**217**	eP	**Pn**	**10 47 53.4**	**+0.4**
EDH	**Donghe** baz=190	**2.04**	**208**	eP	**Pn**	**10 47 51.3**	**-2.1**
WCKO	**Fanlu** baz=230	**2.07**	**230**	eP	**Pb**	**10 47 56.9**	**+0.1**
WCKO	baz=230			eS	**Sg**	**10 48 24.5**	**-1.2**
WTK	**Tuku** baz=242	**2.08**	**239**	eP	**Pb**	**10 47 56.1**	**-0.9**
WTK	baz=242			eS	**Sg**	**10 48 24.3**	**-1.8**
CHN4	**Tsaushan** baz=207	**2.14**	**228**	eP	**Pb**	**10 47 57.4**	**-0.5**
CHN4	baz=207			eS	**Sg**	**10 48 25.7**	**-2.1**
TPUB	**Ta-pu**	**2.15**	**227**	Pn	**Pb**	**10 47 57.0**	**-1.1**
TPUB	**Ta-pu**	**2.15**	**227**	P	**Pb**	**10 47 57.2**	**-0.9**
TPUB	**Ta-pu** baz=206	**2.15**	**227**	eP	**Pb**	**10 47 57.1**	**-0.9**
TPUB	baz=206			eS	**Sb**	**10 48 25.8**	**+1.0**
STYH	**Taoyuan** baz=202	**2.15**	**222**	eP	**Pb**	**10 47 56.5**	**-1.5**
LONT	**Longtian** baz=207	**2.17**	**211**	eP	**Pn**	**10 47 55.7**	**+0.4**
WTP	**Ta-pu** baz=205	**2.20**	**226**	P	**Pb**	**10 47 57.8**	**-1.2**
WTP	baz=205			eS	**Sg**	**10 48 27.9**	**-1.8**
TWK	**Hsinying** baz=229	**2.27**	**228**	eP	**Pb**	**10 47 59.1**	**-1.0**
TWK	baz=229			eS	**Sg**	**10 48 29.9**	**-2.0**
TWGBT	**Beinan**	**2.27**	**211**	P	**Pn**	**10 47 57.1**	**+0.4**
TWGBT	**Beinan** baz=206	**2.27**	**211**	eP	**Pn**	**10 47 55.3**	**-1.3**
TWG	**Pinlang** baz=206	**2.27**	**211**	eP	**Pn**	**10 47 56.7**	**0.0**
SNST	**Tainan City** baz=226	**2.29**	**227**	eP	**Pb**	**10 47 59.0**	**-1.5**
CHN1	**Nanshi** baz=227	**2.30**	**226**	eP	**Pb**	**10 47 59.0**	**-1.6**
CHN1	baz=227			eS	**Sg**	**10 48 32.4**	**-0.4**
SGST	**Jiashian** baz=204	**2.33**	**224**	eP	**Pn**	**10 47 58.8**	**+1.3**
ICHU	**Yijhu** baz=235	**2.35**	**233**	eP	**Pn**	**10 47 58.9**	**+1.2**
SLGT	**Liugui** baz=201	**2.36**	**221**	eP	**Pb**	**10 47 59.9**	**-1.8**
SCST	**Cishan** baz=220	**2.53**	**222**	eP	**Pb**	**10 48 03.3**	**-1.3**
MATB	**Ma-tsu** baz=301	**2.55**	**303**	eP	**Pn**	**10 47 59.0**	**-1.5**
MASBT	**Mashibuluo** baz=199	**2.67**	**216**	eP	**Pn**	**10 48 03.0**	**+0.9**
EAST	**Anshuo** baz=194	**2.75**	**210**	eP	**Pn**	**10 48 02.5**	**-0.9**
XPSS	**Dashiqiu** baz=315	**2.88**	**318**	eP	**Pn**	**10 48 03.9**	**-1.0**
LYJJ	**Jianjiangzhen** baz=305	**2.91**	**308**	eP	**Pn**	**10 48 03.9**	**-1.5**
KNMB	**Chin-men Tao**	**3.60**	**266**	Pn	**Pn**	**10 48 12.9**	**-2.0**
JOW	**Kunigami**	**5.73**	**68**	Pn	**Pn**	**10 48 47.8**	**+3.6**
JNU	**Nakatsue** comp=Z,121nm,18.0s,baz=200,slow=41	**11.17**	**40**	LR	LR	10 55 40.9	
KSRS	**Korea Array** 0.2nm,0.3s,baz=196,slow=10,SNR=5.1	**13.50**	**19**	Pn	**P**	**10 50 43.2**	**+3.3**
KSRS	comp=Z,35nm,18.2s,baz=165,slow=44 1.0nm,0.7s			LR	LR	10 57 45.3	
SONM	**Songino Array** 1.7nm,1.0s,baz=147,slow=10.0,SNR=6.6 1.7nm,1.0s	**26.24**	**335**	P	**P**	**10 52 54.9**	**+0.6**
WB0	**Warramunga Arr**	**45.82**	**164**	P	**P**	**10 55 40.3**	**-1.0**
WB0	comp=Z,7.7nm,1.4s			IAmb	IAmb	10 56 02.4	
WRAB	**Tennant Creek**	**45.97**	**164**	P	**P**	**10 55 41.4**	**-1.1**
WRAB	comp=Z,9.2nm,1.3s			IAmb	IAmb	10 55 52.9	
WRA	**Warramunga Arr**	**45.97**	**164**	P	**P**	**10 55 40.9**	**-1.7**
WRA	**Warramunga Arr** comp=Z,2.9nm,0.9s,baz=346,slow=8.6,SNR=16 comp=Z,2.9nm,0.9s	**45.97**	**164**	P	**P**	**10 55 42.1**	**-0.5**
WB2	**Warramunga Arr**	**45.98**	**164**	P	**P**	**10 55 42.2**	**-0.4**
WB2	comp=Z,12nm,1.2s			IAmb	IAmb	10 56 12.4	
WR0	**Warramunga Arr**	**46.04**	**164**	P	**P**	**10 55 42.0**	**-1.1**
WR0	comp=Z,3.1nm,0.8s			IAmb	IAmb	10 55 49.0	
AS31	**Alice Springs**	**49.46**	**166**	P	**P**	**10 56 10.0**	**+0.4**
AS31	comp=Z,1.5nm,1.2s			IAmb	IAmb	10 56 43.9	
ASAR	**Alice Springs** comp=Z,1.0nm,0.8s,baz=344,slow=8.5,SNR=11 comp=Z,1.0nm,0.8s	**49.46**	**166**	P	**P**	**10 56 09.7**	**+0.1**

ABKAR	Akbulak array	53.77	314	P	P	10 56 41.0 -0.6
BBOO	Buckleboo	58.75	166	P	P	10 57 19.0 +1.8
BMAR	Burnt Mountain	68.55	24	P	P	10 58 21.3 -0.3
ASF	Jabal al Asfar	73.60	298	LR	LR	11 36 01.0
	comp=Z,169nm,21.5s,baz=209,slow=40					

CATAC ***18*** *10:49:33.5±0.0, 9.°33N×84.°35W, h1km±2km, ML2.9*
UCR ***18*** *10:49:33.6±1.3, 9.°33N×84.°40W, h1km±3km, MW3.5*
ISC 18 10:49:33.7±1.3, **9.°38N**±0.°03×**84.°39W**±0.°02, **h3**km±11km, **n81**, σ0**69**/105, **5C-3D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LLNJ	Naranjito	0.30	71	*e*P		Pb	10 49 40.9	-0.8
JACO	JACO, Garabito	0.39	317	*e*P		Pb	10 49 42.5	-0.8
JACO				*e*S		Sb	10 49 49.8	+0.2
JACO	JACO, Garabito	0.39	317	*i* P		Pb	10 49 42.5	-0.8
JACO				*i* S		Sb	10 49 50.1	+0.5
JACO				IAML			10 49 50.8	
	comp=Z,460nm,1.0s							
RAZU	San Marcos de	0.46	52	*e*P		Pb	10 49 43.9	-0.5
RAZU				*e*S		Sb	10 49 52.6	+0.9
ABE2	San Pablo	0.46	45	*e*P		Pb	10 49 44.1	-0.5
ABE2				*e*S		Sb	10 49 52.8	+0.8
ACOS	Acosta	0.47	28	⇓*i*P		Pb	10 49 44.2	-0.5
LCR2	La Lucha 2	0.52	46	*e*P		Pb	10 49 45.0	-0.6
LCR2				*e*S		Sb	10 49 53.9	+0.2
LCR2	La Lucha 2	0.52	46	*i* P		Pb	10 49 44.9	-0.7
LCR2				*i* S		Sb	10 49 53.8	+0.2
LCR2				IAML			10 50 03.0	
	comp=Z,330nm,1.0s							
BELE	Belen	0.63	18	⇑*i*P		Pb	10 49 47.8	+0.4
LUJA	Lujan	0.63	30	*e*P		Pb	10 49 47.3	-0.1
CDM	Cerro de Muert	0.64	74	⇑*i*P		Pg	10 49 46.5	+0.5
CDM				*e*S		Sb	10 49 57.2	0.0
CDM	Cerro de Muert	0.64	74	*i* P		Pg	10 49 46.5	+0.5
CDM				IAML			10 49 59.6	
	comp=Z,410nm,1.0s							
BUS1	Rivas	0.66	74	⇑*e*P		Pg	10 49 46.6	+0.3
BUS1				*e*S		Sb	10 49 57.2	-0.5
ZELE	Perez Zeledon	0.67	90	⇑*i*P		Pg	10 49 46.8	+0.2
ZELE				*e*S		Sb	10 49 56.9	-0.9
HDC	Heredia	0.68	23	*e*P		Pg	10 49 44.9	-1.8
HDC3	Heredia 3	0.68	24	*e*P		Pg	10 49 44.9	-1.9
REPA	Paraso	0.68	49	*e*P		Pb	10 49 49.2	+1.0
RAMO	San Ramon	0.71	354	*e*P		Pb	10 49 48.0	-0.8
RAMO				*e*S		Sn	10 50 00.4	-1.8
SRA1	San Ramn	0.71	353	*e*P		Pb	10 49 48.0	-0.7
CBL1	Cabuya	0.73	287	*e*P		Pb	10 49 48.4	-0.5
CVIMO	Finca Echandi	0.78	34	*e*P		Pb	10 49 49.7	-0.2
PCAYA	Pacayas	0.78	47	*e*P		Pn	10 49 53.4	+1.6
OCHAL	Ojochal	0.78	111	*i* P		Pg	10 49 48.0	-0.7
OCHAL				IAML			10 49 50.1	
	comp=Z,10.0nm,1.0s							
HAYA	Volcan Irazu	0.81	42	*i* P		Sn	10 50 03.7	-1.2
VPTE	Poasito	0.81	13	*e*P		Pb	10 49 50.4	-0.2
VPTE				*e*S		Sn	10 50 03.7	-1.2
VPTE	Poasito	0.81	13	*i* P		Pb	10 49 50.7	+0.1
VPTE				*i* S		Sb	10 50 02.8	+0.8
VPTE				IAML			10 50 06.2	
	comp=Z,570nm,1.0s							
VINA	Juan Vinas	0.82	51	*e*P		Pn	10 49 52.6	+0.4
TURIB	Turrialba	0.87	53	*e*P		Pn	10 49 53.8	+0.9
CVTV	Tajo	0.89	45	*e*P		Pn	10 49 53.5	+0.2
VERB	Verbena	0.89	50	*e*P		Pb	10 49 51.5	-0.2
VTCV	VTCV, Calle Va	0.89	47	*e*P		Pb	10 49 52.3	+0.5
CPMI	Catarata Coope	0.90	0	*e*P		Pb	10 49 51.7	-0.4
CPMI				*e*S		Sb	10 50 05.3	+0.7
CPMI	Catarata Coope	0.90	0	*i* P		Pb	10 49 51.7	-0.4
CPMI				IAML			10 50 12.4	
	comp=Z,280nm,1.0s							
RVSTA	Santa Teresita	0.94	51	*e*P		Pn	10 49 53.4	-0.4
EDPN	Palmar Norte	1.01	114	*e*P		Pg	10 49 53.4	+0.4
EDPN				*e*S		Sn	10 50 09.3	0.0
SOCE	Pocosol	1.03	347	*e*P		Pb	10 49 54.2	0.0
SOCE				*e*S		Sn	10 50 10.3	+0.4
SOCE	Pocosol	1.03	347	*i* P		Pb	10 49 54.1	0.0
SOCE				*i* S		Sn	10 50 09.4	-0.5
SOCE				IAML			10 50 10.5	
	comp=Z,560nm,1.0s							
RIFO	Rio Frio, Sara	1.04	26	*e*P		Pb	10 49 54.1	-0.2
RIFO				*e*S		Sn	10 50 09.6	-0.6
NYURE	Nandayure	1.05	306	*e*P		Pb	10 49 54.8	+0.2
NYURE				*e*S		Sn	10 50 11.6	+1.1
JUNT	Juntas	1.06	328	*e*P		Pg	10 49 53.9	-0.2
JUNT				*e*S		Sn	10 50 09.8	-1.0
JTS	Las Juntas de	1.07	329	⇓*e*P		Pg	10 49 53.9	-0.2
ITAL	Pital	1.07	6	*e*P		Pb	10 49 55.0	+0.1
LCOCO	El Coco	1.08	49	*e*P		Pn	10 49 56.0	+0.3
CASO	Castillo	1.11	342	⇓*e*P		Pb	10 49 55.4	-0.1
CASO				*e*S		Sn	10 50 11.9	+0.1
EDBA	Buenos Aires	1.12	101	*e*P		Pg	10 49 53.7	-1.4
ARE1	Arenal 1	1.13	343	*e*P		Pb	10 49 55.9	0.0
VACR	Volcan Arenal	1.13	345	*e*P		Pb	10 49 56.0	+0.1
VACR	Volcan Arenal	1.13	345	*i* P		Pn	10 49 56.1	-0.3
VACR				IAML			10 50 15.9	
	comp=Z,220nm,1.0s							
CEDE	Laguna Cedeo	1.15	344	*e*P		Pn	10 49 57.0	+0.3
TABAC	Tabacon	1.18	341	*e*P		Pg	10 49 55.7	-0.5
INDI	Punta indio, G	1.20	294	*e*P		Pb	10 49 57.0	-0.1
INDI	Punta indio, G	1.20	294	*i* P		Pg	10 49 56.7	-0.1
INDI				IAML			10 50 20.9	
	comp=Z,140nm,1.0s							
POTG	Potrero Grande	1.29	104	*e*P		Pn	10 49 58.2	-0.5
COTE	Lago Cote	1.30	336	*e*P		Pg	10 49 58.4	-0.2
COVE	Coope Vega, Sa	1.33	359	*e*P		Pn	10 49 58.6	-0.5
COVE	Coope Vega, Sa	1.33	359	*i* P		Pn	10 49 58.8	-0.4
COVE				*i* S		Sn	10 50 18.2	+0.7
COVE				IAML			10 50 20.8	
	comp=Z,190nm,1.0s							
TRT2	Tortugero	1.34	29	*i* P		Pn	10 49 58.9	-0.3
TRT2				IAML			10 50 25.8	
	comp=Z,220nm,1.0s							
JIME	Puerto Jimenez	1.34	128	*e*P		Pn	10 49 59.1	-0.1
PLVR	Palo Verde	1.35	316	*e*P		Pn	10 49 58.7	-0.9
JUD3	Juan Diaz 3	1.38	305	*e*P		Pg	10 50 00.3	+0.1
ACAL	Aguas Claras	1.40	333	*e*P		Pn	10 49 59.9	-0.3
EDAD	Golfito	1.41	121	*e*P		Pn	10 49 59.3	-0.9
PTEN	Parque Tenorio	1.46	336	*e*P		Pn	10 50 00.8	-0.2
MOTZ	Rio Naranjo	1.47	333	*e*P		Pn	10 50 01.0	0.0
CUI	Cuipilapa	1.49	329	*e*P		Pn	10 50 01.2	-0.1
CUI				*e*S		Sg	10 50 22.1	+0.6
COLC	Colonia	1.51	328	*e*P		Pn	10 50 01.4	-0.2
BRIBI	Bribri	1.54	81	*e*P		Pg	10 50 04.3	+1.2
VERA	Finca Concepci	1.54	342	*e*P		Pg	10 50 03.6	+0.3
MESS	Mesas	1.57	330	⇑*e*P		Pn	10 50 02.6	0.0
MESS				*e*S		Sg	10 50 24.6	+0.3
CANAL	Canalete	1.59	336	*e*P		Pn	10 50 02.9	+0.2
VMAR	Armenia, Volca	1.60	333	*e*P		Pb	10 50 03.5	-0.4
VMAR				*e*P		Pg	10 50 03.6	-0.7
VMAR	Armenia, Volca	1.60	333	*i* P		Pb	10 50 03.5	-0.4
VMAR				IAML			10 50 29.5	
	comp=Z,190nm,1.0s							
GP77	Hacienda Santa	1.66	326	*e*P		Pn	10 50 04.1	+0.4
VRLE	La Escondida,	1.70	326	*i* P		Pn	10 50 04.8	+0.5
VRLE				IAML			10 51 37.5	
	comp=Z,140nm,1.0s							
LAPC	Finca la Perla	1.72	323	*e*P		Pn	10 50 04.9	+0.4
BUEV	Buena Vista	1.73	325	*e*P		Pn	10 50 05.3	+0.5
GBS3	Finca Las Img	1.75	323	*e*P		Pn	10 50 04.9	0.0
HZTE	Horizontes, Gu	1.78	318	*e*P		Pb	10 50 06.4	-0.6
HZTE	Horizontes, Gu	1.78	318	*i* P		Pb	10 50 06.1	-0.9
HZTE				IAML			10 50 41.1	
	comp=Z,110nm,1.0s							
ALLN	Telcor Managua	3.33	326	*i* P		Pn	10 50 28.7	+2.1
BCIP	Isla Barro Col	4.50	92	*i* P		Pn	10 50 43.9	+1.2

TEH ***18*** *11:21:20.7, 32.°92N×47.°95E, h8km±43km, ML3.8*
ISN ***18*** *11:21:22.8±1.8, 32.°94N×47.°98E, h16km±11km, ML3.5*
ISC 18 11:21:23.6±1.1, **32.°94N**±0.°04×**47.°97E**±0.°04, **h10**km, **n37**, σ0**82**/41, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IKFM	Kafar-mosalman	0.60	350	Pg		Pg	11 21 33.6	-1.6
IKFM				Sg		Sg	11 21 42.6	-0.4
IKOM	Komasi	1.29	343	Pg		Pn	11 21 46.6	-1.3
KCHF	Cheshme Sefid,	1.54	330	Pg		Pn	11 21 51.3	0.0
ILBA	Ilam Banvizeh	1.63	295	Pg		Pn	11 21 52.3	-0.1
AMIS	Naft Sefid	1.69	138	Pg		Pn	11 21 53.6	+0.4
AHWZ	Ahwaz	1.70	160	Pg		Pn	11 21 54.2	+0.9
IBDR	Badra	1.72	276	*e*Pg		Pn	11 21 55.0	+1.4
IBDR				*e*Sg		Sn	11 22 16.5	+0.8
IBDR				AML	AML		11 22 32.2	
	comp=N,456nm,0.7s							
IBDR				AML	AML		11 22 34.2	
	comp=E,539nm,0.6s							
IGHG	Ghaleghazi	1.82	320	Pn		Pn	11 21 55.2	+0.1
IALM	Almabolaq	1.93	5	Pn		Pn	11 21 58.2	+1.5
RAFI	Al-Rafai	1.98	233	*e*Pn		Pn	11 21 57.0	-0.2
RAFI				*e*Sn		Sn	11 22 24.0	+1.9
HAGD	Aghdareh	2.12	27	Pn		Pn	11 21 60.0	+0.7
ILIN	Lien	2.15	337	Pn		Pn	11 22 00.4	+0.7
IDHR	Dehrash	2.20	324	Pn		Pn	11 22 00.4	+0.1
JHBN	Jahan bin	2.38	106	Pn		Pn	11 22 02.9	0.0
IPIR	Pirpir	2.47	95	Pn		Pn	11 22 04.8	+0.6
ZNGN	Zangian	2.57	108	Pn		Pn	11 22 05.5	0.0
IRAZ	Razeghan	2.95	33	Pn		Pn	11 22 12.2	+1.5
IBRJ	Brojen	2.96	109	Pn		Pn	11 22 10.6	-0.3
QAMS	Qamsar	2.98	74	Pn		Pn	11 22 12.1	+1.0
BHD	Baghdad	3.03	277	*e*Pn		Pn	11 22 12.0	+0.4
BHD				*e*Sn		Sn	11 22 49.0	+1.0
BHD				AML	AML		11 23 09.6	
	comp=E,418nm,0.4s							
IKLH	Kolahrood	3.05	82	Pn		Pn	11 22 12.6	+0.5
IQOM	Qom	3.20	53	Pn		Pn	11 22 15.0	+0.8
IGAR	Gharneh	3.47	98	Pn		Pn	11 22 18.1	+0.2
IMHD	Mahdasht	3.54	38	Pn		Pn	11 22 19.5	+0.8
KLNJ	Kolanjah	3.63	121	Pn		Pn	11 22 19.4	-0.7
IZEF	Zefreh	3.67	89	Pn		Pn	11 22 21.2	+0.6
IVRN	Varamin	3.74	56	Pn		Pn	11 22 22.0	+0.6
ISFB	Sefidab	3.83	67	Pn		Pn	11 22 23.5	+0.8
IRAM	Ramesheh	3.90	106	Pn		Pn	11 22 23.1	-0.6
JIR1	Jirandeh	4.05	21	Pn		Pn	11 22 26.9	+1.0
IDMV	Damavand	4.27	51	Pn		Pn	11 22 29.2	+0.3
IFIR	Firoozkooh	4.79	54	Pn		Pn	11 22 36.8	+0.7
ANAR	Anarak	4.84	85	Pn		Pn	11 22 36.2	-0.4
ISAD	Sadrabad	4.94	100	Pn		Pn	11 22 38.0	-0.1
IBAF	Bafgh	6.57	100	Pn		Pn	11 23 00.2	-0.3
TPRV	Parvadeh(Tabas	7.32	87	Pn		Pn	11 23 10.6	-0.1
TKDS	Koohdasht(Taba	7.69	82	Pn		Pn	11 23 16.2	+0.4

IDC ***18*** *11:22:07.5±1.3, 24.°34N×120.°84E, h0km, mb4.1/4, mbtmp4.0/5, ML3.4/1, MS3.2/4, Error ellipse: s-maj=91.3km s-min=22.5km az=75.0*
ASIES ***18*** *11:22:08.4, 24.°81N×122.°34E, h13km, ML4.0, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}-1.80; $M_{\theta\theta}$2.43; $M_{\phi\phi}$-0.63; $M_{r\theta}$1.25; $M_{\theta\phi}$0.38; $M_{\phi r}$-1.26; Fault plane solution: M_o2.84448×10^{21} NP1: ϕ_s292.22000°, δ66.09000°, λ-57.93000°. NP2:ϕ_s55.11000°, δ39.23000°, λ-140.15000°. Principal axes: T Plg15.1400°, Azm359.3310°; N Plg29.0480°, Azm97.9740°; P Plg56.5420°, Azm245.1610°;*
TAP ***18*** *11:22:08.4, 24.°81N×122.°34E, h13km, ML4.0, C*
JMA ***18*** *11:22:09.2±0.1, 24.°7N±0.°6×122.°4E±0.°2, h41km±2km, MD3.9/14, MV3.6/14, TAIWAN REGION*
ISC 18 11:22:08.3±1.0, **24.°79N**±0.°02×**122.°36E**±0.°02, **h12**km±7km, **n158**, σ1**5**/270, **mb4.2**/4, **10C-10D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EOS2	EOS2	0.39	197	⇑P		Pb	11 22 17.1	0.0
	baz=195							
EOS2				S		Sb	11 22 23.6	+0.6
	baz=195							
EGS		0.39	277	*i* P		Pb	11 22 16.4	-0.7
	baz=275							
TWB1	Santiao Chiao	0.40	302	P		Pg	11 22 16.1	-0.1
	baz=302							
TWB1				S		Sg	11 22 21.5	-0.1
	baz=302							
TWC	Suao	0.50	249	P		Pg	11 22 17.6	-0.5
	baz=253							
TWC				*e*S		Sg	11 22 24.4	-0.4
	baz=253							
EOS3	EOS3	0.51	184	⇓P		Pb	11 22 19.2	+0.2
	baz=181							
EOS3				*e*S		Sn	11 22 28.3	-1.4
	baz=181							
TIPB	Shuangxi	0.52	290	P		Pb	11 22 18.6	-0.6
	baz=289							
TIPB				*i* S		Sb	11 22 25.5	-1.2
	baz=289							
ESAO	Su ao	0.52	245	P		Pg	11 22 18.2	-0.2
	baz=250							
ESAO				S		Sb	11 22 26.2	-0.5
	baz=250							
SXI1	Grass Mountain	0.53	304	*i* P		Pb	11 22 19.2	-0.4
	baz=298							
SXI1				S		Sb	11 22 27.7	+0.4
	baz=298							
ILA	Ilan	0.56	267	P		Pb	11 22 20.2	+0.3
	baz=264							
ILA				S		Sb	11 22 28.1	+0.2
	baz=264							
NWF	Wu-fen Shan	0.59	298	P		Pb	11 22 20.7	0.0
	baz=297							
NWF				S		Sb	11 22 29.0	0.0
	baz=297							
WFSB	Wu-fen Shan	0.59	298	P		Pb	11 22 20.5	-0.1
	baz=297							
WFSB				*e*S		Sn	11 22 29.7	-2.4
	baz=297							
NDS	Dongshan	0.61	255	P		Pg	11 22 20.0	-0.1
	baz=244							
NDS				*e*S		Sb	11 22 29.7	+0.4
	baz=244							
JYNG	Yonagunijimaku	0.63	123	P		Pb	11 22 21.4	+0.2
JYNG				S		Sb	11 22 30.2	+0.2
JYNG	Yonagunijimaku	0.63	123	A		A	11 22 21.4	
	comp=E,12nm,0.6s,comp=N,13nm,0.8s							
EWUT	Wuta	0.63	237	*e*P		Pg	11 22 19.2	-1.4
	baz=234							
EWUT				S		Sb	11 22 29.6	-0.4
	baz=234							
TWE	Neicheng	0.64	264	P		Pg	11 22 20.4	-0.2
	baz=261							
TWE				*e*S		Sg	11 22 28.7	-0.3
	baz=261							
TNOU	National Taiwa	0.64	304	P		Pn	11 22 21.6	-1.5
	baz=303							
TNOU				S		Sb	11 22 30.3	0.0
	baz=303							
ENA	Nanau	0.67	237	*i* P		Pg	11 22 21.1	-0.2
	baz=234							
ENA				*e*S		Sb	11 22 31.2	+0.1
	baz=234							
EOS4	EOS4	0.67	183	P		Pn	11 22 22.3	-0.9
	baz=166							
EOS4				S		Sn	11 22 32.6	-0.8
	baz=166							
YOJ	Yonaguni jima	0.68	119	P		Pb	11 22 22.2	+0.2
YOJ	Yonaguni jima	0.68	119	P		Pb	11 22 22.2	+0.2
YOJ				S		Sb	11 22 31.4	+0.1
YOJ	Yonaguni jima	0.68	119	A		A	11 22 22.2	
	comp=E,7.0nm,0.5s,comp=N,10.0nm,2.1s							
YOJ	Yonaguni jima	0.68	119	⇑*i*P		Pb	11 22 22.3	+0.3
	baz=119							
YOJ				*i* S		Sn	11 22 32.3	-1.7
	baz=119							
FUSB	Fushanzhiwuyua	0.70	267	P		Pb	11 22 22.0	-0.5
	baz=265							
FUSB				*e*S		Sb	11 22 31.7	-0.4
	baz=265							
TWA	Mucha	0.73	285	*e*P		Pb	11 22 22.2	-0.7
	baz=283							
TWA				S		Sb	11 22 33.0	+0.2
	baz=283							
EAHA	Aohua	0.73	231	⇓P		Pb	11 22 22.3	-0.6
	baz=236							
EAHA				*e*S		Sb	11 22 31.3	-1.5
	baz=236							
ENTT	Nioudou	0.74	258	P		Pb	11 22 22.4	-0.7
	baz=256							
ENTT				*e*S		Sg	11 22 32.5	+0.1
	baz=256							
EHP	Heping Village	0.74	230	P		Pn	11 22 23.7	-0.8
	baz=240							
EHP				*e*S		Sb	11 22 32.7	-0.5
	baz=240							
NHDH	Xindian Distri	0.78	283	⇓P		Pn	11 22 24.2	-0.8
	baz=281							
NHDH				*i* S		Sn	11 22 34.5	-2.1
	baz=281							
NWLT	Wulai	0.78	269	⇑P		Pg	11 22 23.8	+0.4
	baz=282							
NWLT				S		Sn	11 22 34.9	-1.8
	baz=282							
NDT	Datong Townshi	0.80	256	P		Pg	11 22 23.7	+0.1
	baz=262							
NDT				*e*S		Sn	11 22 36.4	-0.6
	baz=262							
YM01	YM01	0.80	296	⇑P		Pn	11 22 24.3	-1.1
	baz=295							
YM01				*i* S		Sg	11 22 34.9	+0.6
	baz=295							
LATG	Datong	0.80	251	P		Pb	11 22 23.8	-0.4
	baz=249							
LATG				S		Sg	11 22 35.0	+0.7
	baz=249							
YM08	YM08	0.80	299	⇓P		Pn	11 22 24.7	-0.7
	baz=299							
YM08				*e*S		Sb	11 22 33.7	-1.3
	baz=299							
TATO	Taipei	0.81	283	P		Pn	11 22 24.6	-0.9
ANP	Anpu	0.86	297	P		Pn	11 22 25.8	-0.4
	baz=297							
ANP				*e*S		Sn	11 22 38.6	-0.1
	baz=297							
PCYT	Pengchaiyu	0.87	343	*e*P		Pn	11 22 26.3	0.0
	baz=344							
PCYT				*e*S		Sn	11 22 40.0	+1.1
	baz=344							
YHNB	Yeheng	0.90	262	P		Pg	11 22 25.6	-0.2
YHNB	Yeheng	0.90	262	P		Pg	11 22 25.7	-0.1
	baz=271							
YHNB				S		Sn	11 22 38.8	-1.0
	baz=271							
NTST	Danshui	0.91	294	⇓*e*P		Pn	11 22 28.4	+1.6
	baz=293							
NTST				*i* S		Sn	11 22 38.4	-1.3
	baz=293							
TWS1	Kuangyinshan	0.91	290	P		Pn	11 22 26.4	-0.4
	baz=289							
TWS1				*e*S		Sn	11 22 38.2	-1.6
	baz=289							
NSK	Sanguang	0.92	263	P		Pg	11 22 25.8	-0.2
	baz=261							
NSK				*e*S		Sg	11 22 38.1	0.0
	baz=261							
ETL	Fush Village	0.92	227	P		Pb	11 22 25.6	-0.6
	baz=236							
ETL				*e*S		Sb	11 22 36.6	-1.8
	baz=236							
NACB	Ninganchiao	0.93	229	P		Pb	11 22 25.4	-0.9
NACB	Ninganchiao	0.93	229	⇓*i*P		Pb	11 22 25.6	-0.7
	baz=237							
NACB				*e*S		Sb	11 22 37.6	-1.0
	baz=237							
NNSB	Datong	0.96	248	P		Pb	11 22 26.4	-0.5
	baz=233							
NNSB				S		Sn	11 22 40.0	-1.3
	baz=233							
NNS	Nan Shan	0.97	249	*i* P		Pg	11 22 26.9	0.0
	baz=233							
NNS				S		Sg	11 22 39.5	-0.1
	baz=233							
ETLH	Xiulin Townshi	0.99	234	*e*P		Pb	11 22 26.6	-0.8
	baz=231							
ETLH				*e*S		Sb	11 22 40.0	-0.4
	baz=231							
TWD	Chiawan	1.00	225	*e*P		Pb	11 22 26.9	-0.5
	baz=231							
TWD				*i* S		Sn	11 22 41.6	-0.3
	baz=231							
HWA	Hwalien	1.07	220	*e*P		Pg	11 22 30.5	+1.7
	baz=196							
HWA				*e*S		Sg	11 22 48.1	+5.4
	baz=196							
NCUH	Zhongli	1.08	279	⇓*e*P		Pg	11 22 30.9	+1.8
	baz=278							
NCUH				*e*S		Sg	11 22 46.3	+3.1
	baz=278							
NFF	Wufeng Townshi	1.14	262	⇓P		Pg	11 22 30.0	-0.3
	baz=260							
NFF				*e*S		Sg	11 22 46.5	+1.3
	baz=260							
ETM	Tongmen	1.14	224	P		Pb	11 22 29.8	-0.1
	baz=203							
ETM				*e*S		Sb	11 22 44.1	-0.6
	baz=203							
LXIB	Xiulin Townshi	1.16	228	*e*P		Pb	11 22 30.0	-0.3
	baz=243							
LXIB				*e*S		Sn	11 22 45.4	-0.8
	baz=243							
WHF	Hehuan Shan	1.19	237	P		Pb	11 22 30.9	-0.1
	baz=235							
WHF				*i* S		Sg	11 22 46.9	+0.2
	baz=235							
TWT	Tachien	1.21	244	P		Pg	11 22 31.3	-0.2
	baz=241							
TWT				*e*S		Sg	11 22 47.8	+0.5
	baz=241							
HSN1	Hsinchu	1.22	270	*e*P		Pg	11 22 32.9	+1.1
	baz=287							
HSN1				*e*S		Sg	11 22 50.5	+2.9
	baz=287							
TDCB	Techi	1.22	244	⇑P		Pg	11 22 31.7	-0.1
	baz=242							
TDCB				S		Sn	11 22 46.8	-0.9
	baz=242							
LIOB	Emei	1.23	263	*e*P		Pb	11 22 31.2	-0.3
	baz=261							
LIOB				S		Sg	11 22 48.8	+0.7
	baz=261							
SHUL	Shoufeng	1.24	216	⇑P		Pg	11 22 32.2	+0.1
	baz=197							
NSTT	Nanjuang	1.25	263	P		Pb	11 22 31.7	0.0
	baz=260							
NSTT				*e*S		Sg	11 22 48.1	-0.4
	baz=260							
SBCB	Hsinchu	1.25	270	P		Pg	11 22 32.1	-0.2
	baz=286							
SBCB				*e*S		Sg	11 22 51.3	+2.7
	baz=286							
ESL	Shilin	1.29	221	*e*P		Pb	11 22 32.3	-0.2
	baz=200							
ESL

baz=207
HGSD Ruisui 1.55 214 ⇓P **Pb 11 22 36.0 -0.9**
baz=197
HGSD *e*S **Sg 11 22 59.0 +0.8**
baz=197
EHY Hungye 1.59 217 P **Pn 11 22 35.8 -0.5**
baz=199
EHY *e*S **Sg 11 22 58.9 -0.7**
baz=199
JKRS Kuro-shima 1.60 110 P **Pn 11 22 35.7 -0.6**
JKRS *e*S **Sn 11 22 55.4 -1.5**
SMLT Sun Moon Lake 1.61 236 *e*P **Pb 11 22 37.3 -0.7**
baz=234
SMLT S **Sg 11 22 59.3 -0.9**
baz=234
WDJ Dajia District 1.63 255 *e*P **Pg 11 22 40.0 +0.4**
baz=253
SSLB Suanglung 1.63 232 P **Pb 11 22 38.1 -0.1**
SSLB Suanglung 1.63 232 P **Pb 11 22 38.0 -0.3**
baz=241
SSLB *e*S **Sg 11 23 00.6 -0.1**
baz=241
TYC Yuchr 1.63 237 P **Pg 11 22 38.9 -0.8**
baz=235
TYC *e*S **Sb 11 22 58.8 0.0**
baz=235
TCU Taichung 1.67 248 *e*P **Pg 11 22 41.5 +1.3**
baz=265
TCU *e*S **Sg 11 23 03.3 +1.5**
baz=265
JIJ Ishigaki jima 1.68 104 P **Pn 11 22 36.6 -0.7**
JIJ *e*S **Sn 11 22 58.1 -0.7**
ECBN Changbin 1.69 210 S **Sb 11 22 59.5 -1.0**
baz=191
YULB Yu-li 1.70 215 P **Pn 11 22 37.3 -0.4**
YULB Yu-li 1.70 215 *i* P **Pn 11 22 37.3 -0.4**
baz=213
YULB *e*S **Sg 11 23 02.4 -0.6**
baz=213
EYUL Yuli 1.73 214 P **Pn 11 22 37.9 -0.2**
baz=198
EYUL *e*S **Sg 11 23 03.1 -0.7**
baz=198
TWF1 Yuli 1.73 214 P **Pn 11 22 37.7 -0.5**
baz=212
TWF1 *e*S **Sg 11 23 03.7 -0.4**
baz=212
WHYT Xinyi Township 1.76 232 P **Pb 11 22 40.0 -0.5**
baz=213
WHYT *e*S **Sg 11 23 06.4 +1.6**
baz=213
WJS Zhushan 1.78 237 P **Pg 11 22 41.9 -0.5**
baz=235
WJS S **Sg 11 23 07.1 +1.7**
baz=235
WNT Mingjian 1.78 240 P **Pb 11 22 41.3 +0.5**
baz=257
WNT *e*S **Sg 11 23 07.2 +1.6**
baz=257
JISG Ishigakijimahi 1.79 96 P **Pn 11 22 38.1 -0.8**
CHKH Chenggong 1.82 209 P **Pn 11 22 39.4 0.0**
baz=193
CHKH *i* S **Sn 11 23 01.9 -0.5**
baz=193
FULB Fuli 1.86 212 *e*P **Pb 11 22 41.5 -0.8**
baz=193
FULB *e*S **Sn 11 23 02.2 -1.3**
baz=193
ALS Alishan 1.91 228 *e*P **Pb 11 22 41.7 -1.5**
baz=209
ALS *e*S **Sb 11 23 06.1 -1.0**
baz=209
CHKT Chengkung 1.92 209 P **Pn 11 22 39.6 -1.1**
baz=192
CHKT S **Sn 11 23 04.5 -0.2**
baz=192
CHN5 Tsauling 1.94 233 *e*P **Pb 11 22 43.9 +0.3**
baz=230
CHN5 *e*S **Sg 11 23 10.1 -0.7**
baz=230
EHD Haiduan 1.95 213 *e*P **Pn 11 22 41.7 +0.6**
baz=211
EHD *e*S **Sn 11 23 03.9 -1.6**
baz=211
WGK Gukeng 1.98 236 *e*P **Pb 11 22 44.2 0.0**
baz=251
WGK *e*S **Sg 11 23 13.1 +1.2**
baz=251
ECS Chishang 1.99 212 *e*P **Pn 11 22 42.1 +0.4**
baz=210
ECS *e*S **Sb 11 23 09.1 0.0**
baz=210
WDLH Douliu 2.00 237 *e*P **Pb 11 22 44.0 -0.5**
baz=253
WDLH *e*S **Sg 11 23 11.9 -0.5**
baz=253
ELDTW Lidau 2.02 218 *i* P **Pn 11 22 42.5 +0.3**
baz=202
ELDTW *e*S **Sn 11 23 07.7 +0.4**
baz=202
WRL Guolierlin Hig 2.02 244 *e*P **Pb 11 22 43.4 -1.4**
baz=259
WRL *e*S **Sg 11 23 12.2 -1.0**
baz=259
EDH Donghe 2.06 208 *e*P **Pn 11 22 41.3 -1.3**
baz=193
EDH *e*S **Sn 11 23 06.2 -1.9**
baz=193
WCKO Fanlu 2.10 230 *e*P **Pb 11 22 45.8 -0.5**
baz=211
WCKO *e*S **Sg 11 23 14.8 -1.0**
baz=211
WTK Tuku 2.11 239 P **Pb 11 22 45.5 -0.9**
baz=237
WTK *e*S **Sg 11 23 14.4 -1.8**
baz=237
JTJ Tarama 2.13 94 P **Pn 11 22 43.8 +0.2**
CHN4 Tsaushan 2.16 229 *i* P **Pb 11 22 46.6 -0.7**
baz=210
CHN4 *e*S **Sg 11 23 15.9 -1.9**
baz=210
STYH Taoyuan 2.17 222 *e*P **Pb 11 22 45.9 -1.6**
baz=206
STYH *e*S **Sb 11 23 14.4 +0.1**
baz=206
TPUB Ta-pu 2.17 227 P **Pb 11 22 46.6 -0.9**
TPUB Ta-pu 2.17 227 *i* P **Pb 11 22 46.3 -1.2**
baz=209
TPUB *e*S **Sg 11 23 16.3 -1.9**
baz=209
STYT Tauyuan 2.19 222 P **Pb 11 22 46.3 -1.5**
baz=205
STYT *e*S **Sb 11 23 13.2 -1.7**
baz=205
CHY Chiayi 2.19 234 *e*P **Pb 11 22 46.7 -1.1**
baz=250
CHY *e*S **Sb 11 23 16.0 +1.1**
baz=250
LONT Longtian 2.19 211 *e*P **Pn 11 22 45.3 +0.9**
baz=209
LONT *e*S **Sn 11 23 11.6 +0.1**
baz=209
WTP Ta-pu 2.22 226 *e*P **Pb 11 22 46.2 -2.1**
baz=208
WTP *e*S **Sb 11 23 13.8 -1.9**
baz=208
WSF Szhu 2.27 240 *e*P **Pb 11 22 48.3 -0.8**
baz=254
WSF *e*S **Sb 11 23 18.6 +1.6**
baz=254
TWK Hsinying 2.29 229 ⇑P **Pb 11 22 48.7 -0.9**
baz=210
TWK *e*S **Sb 11 23 18.8 +1.0**
baz=210
TWGBT Beinan 2.29 211 P **Pn 11 22 46.5 +0.7**
TWGBT Beinan 2.29 211 *e*P **Pn 11 22 46.1 +0.3**
baz=209
TWGBT *e*S **Sn 11 23 14.6 +0.7**
baz=209
TWG Pinlang 2.29 211 *e*P **Pn 11 22 46.3 +0.4**
baz=209
TWG *e*S **Sn 11 23 14.1 +0.1**
baz=209
SNST Tainan City 2.31 228 *e*P **Pb 11 22 48.4 -1.5**
baz=209
SNST *e*S **Sb 11 23 19.6 +1.1**
baz=209
CHN1 Nanshi 2.32 227 *e*P **Pn 11 22 47.7 +1.4**
baz=209
CHN1 *e*S **Sb 11 23 16.4 -2.2**
baz=209
SGST Jiashian 2.36 224 *e*P **Pn 11 22 48.2 +1.4**
baz=206
SGST *e*S **Sb 11 23 21.2 +1.5**
baz=206
ICHU Yijhu 2.38 234 *e*P **Pb 11 22 50.1 -0.9**
baz=248
ICHU *e*S **Sb 11 23 18.9 -1.4**
baz=248
SLGT Liugui 2.38 222 *i* P **Pb 11 22 49.4 -1.7**
baz=204
SLGT *e*S **Sb 11 23 20.8 +0.3**
baz=204
CHN8 Yiju 2.44 234 *e*S **Sb 11 23 23.1 +1.1**
baz=248
ECL Taimali 2.54 211 *e*S **Sn 11 23 19.6 -0.5**
baz=208
SHHT Tainan City 2.55 227 *e*P **Pb 11 22 52.8 -1.2**
baz=224
SCST Cishan 2.56 222 *e*P **Pb 11 22 52.6 -1.4**
baz=221
SCST *e*S **Sb 11 23 25.4 -0.1**
baz=221
MATB Ma-tsu 2.57 302 *e*P **Pn 11 22 48.0 -1.6**
baz=302
TSMG Majia 2.61 217 *e*P **Pb 11 22 52.2 -2.7**
baz=201
TSMG *e*S **Sb 11 23 26.1 -0.8**
baz=201
TWM1 Shoushan 2.65 223 *e*P **Pb 11 22 55.1 -0.5**
baz=220
TSCK Chigu Township 2.65 232 *e*P **Pn 11 22 52.0 +1.3**
baz=214
TSCK *e*S **Sn 11 23 24.8 +2.0**
baz=214
MASBT Mashibuluo 2.69 216 *e*P **Pn 11 22 52.4 +1.1**
baz=201
MASBT *e*S **Sb 11 23 28.0 -1.2**
baz=201
TAWH Dawu Township 2.79 209 *e*S **Sn 11 23 27.1 +0.8**
baz=207
PNG Pengfu 2.84 245 *e*P **Pn 11 22 52.8 -0.6**
baz=243
PHUB P'eng-hu 2.85 244 *e*P **Pn 11 22 54.1 +0.7**
baz=241
PHUB *e*S **Sn 11 23 28.6 +0.9**
baz=241
LYUB Lan-yu 2.87 195 *e*P **Pn 11 22 51.9 -1.9**
baz=192
LYUB *e*S **Sn 11 23 24.4 -3.8**
baz=192
XPSS Dashiqiu 2.89 318 *e*P **Pn 11 22 53.0 -1.1**
baz=316
XPSS *e*S **Sb 11 23 32.2 -2.8**
baz=316
SCZT Fangliau 2.89 214 *e*P **Pb 11 22 57.0 -2.8**
baz=198
SCZT *e*S **Sb 11 23 33.0 -2.1**
baz=198
LYJJ Jianjiangzhen 2.93 307 *e*P **Pn 11 22 54.0 -0.6**
baz=307
VCHM Qimei 3.11 240 *e*S **Sn 11 23 36.1 +1.9**
baz=238
HEN Hengchun 3.15 209 *e*P **Pn 11 23 00.5 +2.8**
baz=196
TWKBT Hengchun 3.18 207 *e*S **Sn 11 23 36.9 +1.0**
baz=205
MHZQ Yeshan 3.28 294 *e*P **Pb 11 23 03.3 -3.0**
baz=294
KNM Kinmen 3.59 265 *e*P **Pn 11 23 04.9 +1.1**
baz=264
KNMB Chin-men Tao 3.63 266 *e*P **Pn 11 23 02.6 -1.7**
baz=264
AXDP Jialang 3.99 272 *e*P **Pn 11 23 08.7 -0.5**
baz=273
KSRS Korea Array 13.48 19 Pn P 11 25 32.5 +3.9
comp=N,0.2nm,0.3s,baz=197,slow=12,SNR=4.9
KSRS LR LR 11 31 10.9
comp=N,50nm,18.5s,baz=165,slow=38
comp=N,1.6nm,0.8s
JCJ Chichijima 17.98 78 LR LR 11 33 14.7
comp=N,53nm,21.8s,baz=112,slow=34
KLR Kul'dur 25.48 14 LR LR 11 38 20.9
comp=N,84nm,18.2s,baz=2.0,slow=37
SONM Songino Array 26.24 335 P **P 11 27 43.0 -0.3**
comp=N,1.8nm,0.9s,baz=150,slow=8.5,SNR=8.4
comp=N,1.8nm,0.9s
WRA Warramunga Arr 45.97 164 P **P 11 30 31.1 -0.3**
comp=N,3.6nm,0.7s,baz=345,slow=8.6,SNR=25
comp=N,3.6nm,0.7s
ASAR Alice Springs 49.46 166 P **P 11 30 58.8 +0.4**
comp=N,1.5nm,0.8s,baz=345,slow=9.3,SNR=14
comp=N,1.5nm,0.8s
STKA Stephens Creek 59.27 161 P **P 11 32 12.9 +3.3**
comp=N,1.5nm,0.6s,baz=336,slow=9.4,SNR=3.2
comp=N,1.5nm,0.6s
URZ Urewera 81.04 139 LR LR 12 08 30.5
comp=N,31nm,20.6s,baz=288,slow=34

AFAD 18 11:27:42.2±0.0, 39.07N×37.33E, h7km±5km, ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUKAN	**kangal_SIVAS**	**0.27**	**24**	P	Pg	11 27 47.1	-0.5
CUKAN				S	Sg	11 27 52.4	+1.2
CUKAN				*i* AML	AML	11 27 56.0	
	comp=E,50nm,0.4s						
CUGUR	**Gurin_SVAS**	**0.35**	**187**	P	Pg	11 27 48.8	-0.3
CUGUR				S	Sb	11 27 55.7	-0.9
CUGUR				*i* AML	AML	11 27 56.0	
	comp=N,132nm,0.3s						
KEMA	**Kemaliye**	**0.93**	**77**	P	Pg	11 27 57.9	-2.2
KEMA				S	Sb	11 28 13.1	-0.2

ISK 18 11:28:30.6, 37.14N×37.14E, h0km, ML1.4/6, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.07**	**63**	Pg	Pg	11 28 32.5	+0.6
KMRS	**Kahramanmaras**	**0.41**	**332**	Pg	Pg	11 28 39.1	+0.6
KMRS				Sg	Sg	11 28 45.3	+1.5
TAHT	**Tahtakopru-Hat**	**1.08**	**225**	Pn	Pg	11 28 51.6	+0.3
CEYT	**Ceyhan**	**1.12**	**264**	Pn	Pb	11 28 52.7	-0.1
URFA	**Urfa**	**1.38**	**77**	Pn	Pb	11 28 57.3	0.0
SARI	**SarD1z-Kayseri**	**1.39**	**336**	Pn	Pn	11 28 57.3	-0.1

*IDC **18** 11:33:43.7±1.8, 27.83N×85.53E, h0km, mb3.7/6, mbtmp3.7/7, ML3.8/1, Error ellipse: s-maj=53.6km s-min=27.8km az=58.0*
*DMN **18** 11:33:45.1±0.2, 27.96N×85.68E, h10km, Ml4.6/8, Error ellipse: s-maj=3.8km s-min=1.6km az=10.0*
ISC 18 11:33:45.7±1.0, **27.88N**±0.04×**85.65E**±0.03, **h10**km±7km, **n23, σ0.79/39, mb3.6/6, Nepal**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUN	**Gumba**	**0.21**	**83**	*e*Pg	**Pg**	**11 33 50.3**	**0.0**
GUN				*e*Sg	**Sg**	**11 33 53.1**	**-0.2**
	34μm,0.4s						
KKN	**Kakani**	**0.34**	**254**	*e*Pg	**Pb**	**11 33 53.3**	**-0.7**
KKN				*e*Sg	**Sb**	**11 33 58.9**	**-0.7**
PKI	**Pulchoki**	**0.38**	**214**	*e*Pg	**Pb**	**11 33 54.3**	**-0.4**
PKI	**Pulchoki**	**0.38**	**214**	*e*Pg	**Pb**	**11 33 54.4**	**-0.3**
PKI				*e*Sg	**Sb**	**11 34 00.0**	**-0.8**
	3μm,0.2s						
PKI				*e*Sg	**Sg**	**11 34 00.9**	**+2.6**
PKIN	**Phulchoki**	**0.38**	**216**	*e*Pg	**Pb**	**11 33 54.3**	**-0.4**
PKIN				*e*Sg	**Sb**	**11 34 00.0**	**-0.7**
	4μm,0.3s						
JIRN	**Jiri**	**0.53**	**115**	*e*Pg	**Pg**	**11 33 56.2**	**+0.1**
JIRN				*e*Sg	**Sg**	**11 34 02.6**	**-0.6**
DMN	**Daman**	**0.55**	**240**	*e*Pg	**Pb**	**11 33 57.4**	**-0.3**
DMN				*e*Sg	**Sb**	**11 34 05.5**	**-0.3**
	3μm,0.4s						
GKN	**Gorkha**	**0.90**	**278**	*e*Pg	**Pb**	**11 34 03.5**	**-0.1**
GKN				*e*Sg	**Sb**	**11 34 15.5**	**-0.2**
	983nm,0.3s						
RAMN	**Ramite**	**1.26**	**137**	*e*Pg	**Pg**	**11 34 09.0**	**-0.9**
RAMN				*e*Sg	**Sn**	**11 34 27.6**	**+0.9**
	2μm,0.4s						
DANN Dangsing 1.73 286 *e*Pg **Pn 11 34 17.0 +0.8**
DANN Dangsing 1.73 286 *e*Pg **Pb 11 34 18.1 +0.3**
DANN *e*Sg **Sb 11 34 39.6 -0.1**
1μm,0.4s
KOLN Koldanda 1.82 267 *e*Pg **Pb 11 34 18.9 -0.3**
KOLN *e*Sg **Sg 11 34 43.2 -1.0**
3μm,0.3s
KOLN *e*Sg **Sb 11 34 43.5 +1.4**
1μm,0.3s
ODAN Odare 1.85 123 *e*Pg **Pb 11 34 19.9 0.0**
ODAN *e*Sg **Sg 11 34 44.7 -0.7**
ODAN *e*Sg **Sb 11 34 45.3 +2.0**
995nm,0.5s
TAPN Taplejung 1.91 106 *e*Pg **Pb 11 34 20.4 -0.4**
TAPN *e*Sg **Sg 11 34 46.2 -0.9**
313nm,0.4s
PYUN Piuthan 2.36 276 *e*Pn **Pn 11 34 25.3 +0.5**
PYUN Piuthan 2.36 276 *e*Pg **Pb 11 34 28.5 0.0**
PYUN *e*Sg **Sb 11 34 58.0 +0.2**
964nm,0.4s
MKAR Makanchi Array 19.06 353 P **P 11 38 08.1 -0.1**
0.3nm,0.3s,baz=174,slow=12,SNR=12
1.6nm,0.6s
KURBB Kurchatov Arra 23.34 349 P **P 11 38 54.0 -0.1**
1.3nm,0.6s,baz=169,slow=9.9,SNR=9.7
1.3nm,0.6s
SONM Songino Array 25.64 33 P **P 11 39 15.9 +0.3**
0.7nm,0.5s,baz=214,slow=10,SNR=5.6
0.7nm,0.5s
ZALV Zalesovo Beam 26.05 359 P **P 11 39 19.4 +0.4**
0.6nm,0.4s,baz=200,slow=11,SNR=4.1
0.6nm,0.4s
FINES FINESS Array B 51.43 328 P **P 11 42 50.1 -0.7**
1.4nm,0.4s,baz=107,slow=8.1,SNR=9.3
1.4nm,0.4s
ARCES ARCESS Array B 53.81 338 P **P 11 43 07.7 -0.5**
0.9nm,0.7s,baz=107,slow=8.3,SNR=6.4
0.9nm,0.7s
WRA Warramunga Arr 66.92 130 P **P 11 44 38.6 0.0**
0.2nm,0.8s,baz=322,slow=6.5,SNR=1.5
0.2nm,0.8s

*IDC **18** 11:50:19.5±1.1, 4.06N×123.12E, h555km±12km, mb3.4/15, mbtmp4.4/16, Error ellipse: s-maj=25.6km s-min=7.6km az=65.0*
ISC 18 11:50:19.1±0.6, **4.04N**±0.09×**123.1E**±0.1, **h550**km, **n17, σ1.9/09/26, mb3.9/15, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.92**	**40**	P	**P**	**11 51 41.0**	**+0.6**
	284nm,0.6s,baz=235,slow=1.1,SNR=5.4						
DAV				S	**S**	**11 52 46.5**	**-0.1**
	199nm,0.4s,baz=224,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**26.29**	**155**	P	**P**	**11 55 11.2**	**-0.1**
	3.7nm,0.4s,baz=335,slow=9.7,SNR=132						
WRA				PcP	**PcP**	**11 58 19.2**	**0.0**
	0.2nm,0.5s,baz=307,slow=4.7,SNR=1.6						
WRA				S	**S**	**11 59 01.9**	**-3.8**
	0.3nm,0.4s,baz=336,slow=15,SNR=4.9						
WRA				ScP	**ScP**	**12 01 06.9**	**-0.4**
	0.5nm,0.6s,baz=340,slow=3.0,SNR=6.1						
	3.7nm,0.4s						
PMG	**Port Moresby**	**27.49**	**119**	P	**P**	**11 55 21.6**	**-0.3**
	4.2nm,0.5s,baz=4.1,slow=14,SNR=3.7						
	4.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**27.59**	**303**	P	**P**	**11 55 24.3**	**+1.5**
	0.6nm,0.5s,baz=49,slow=50,SNR=1.9						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**29.50**	**159**	P	**P**	**11 55 40.1**	**+0.8**
	1.8nm,0.4s,baz=341,slow=6.9,SNR=120						
ASAR				PcP	**PcP**	**11 58 27.8**	**+0.5**
	0.4nm,0.4s,baz=346,slow=2.3,SNR=7.0						
ASAR				S	**S**	**11 59 56.1**	**+0.5**
	1.8nm,0.9s,baz=347,slow=21,SNR=8.0						
ASAR				ScP	**ScP**	**12 01 17.9**	**+0.5**
	0.8nm,0.6s,baz=340,slow=2.9,SNR=13						
	1.8nm,0.4s						
STKA	**Stephens Creek**	**39.84**	**155**	P	**P**	**11 57 06.6**	**+1.2**
	1.6nm,0.5s,baz=337,slow=8.5,SNR=4.7						
	1.6nm,0.5s						
SONM	**Songino Array**	**45.93**	**344**	P	**P**	**11 57 52.8**	**-0.1**
	1.5nm,0.9s,baz=158,slow=7.4,SNR=8.4						
SONM				PcP	**PcP**	**11 59 18.0**	**-0.3**
	0.4nm,0.4s,baz=180,slow=4.6,SNR=4.2						
	1.5nm,0.9s						
MKAR	**Makanchi Array**	**55.25**	**327**	P	**P**	**11 59 01.1**	**+0.5**
	3.2nm,0.3s,baz=123,slow=7.4,SNR=88						
MKAR				PcP	**PcP**	**11 59 52.9**	**-0.3**
	1.3nm,0.5s,baz=125,slow=4.0,SNR=7.4						
	3.2nm,0.3s						
PETK	**Petropavlovsk-**	**56.59**	**24**	P	**P**	**11 59 10.8**	**+1.1**
	5.8nm,1.0s,baz=248,slow=6.0,SNR=4.3						
	5.8nm,1.0s						
ZALV	**Zalesovo Beam**	**58.70**	**335**	P	**P**	**11 59 23.1**	**-0.8**
	1.1nm,0.4s,baz=108,slow=4.8,SNR=6.2						
	1.1nm,0.4s						
KURBB	**Kurchatov Arra**	**59.54**	**329**	P	**P**	**11 59 29.7**	**0.0**
	3.5nm,0.6s,baz=134,slow=6.6,SNR=33						
	3.5nm,0.6s						
BVAR	**Borovoye Array**	**65.09**	**328**	P	**P**	**12 00 05.3**	**-0.3**
	0.8nm,0.3s,baz=141,slow=9.4,SNR=9.1						
	0.8nm,0.3s						
ILAR	**Eielson Array**	**86.40**	**25**	P	**P**	**12 02 03.1**	**0.0**
	0.6nm,1.0s,baz=240,slow=5.0,SNR=5.9						
	0.6nm,1.0s						
ARCES	**ARCESS Array B**	**88.89**	**340**	P	**P**	**12 02 12.7**	**-2.0**
	1.9nm,0.9s,baz=72,slow=4.0,SNR=3.6						
	1.9nm,0.9s						
SPITS	**Spitsbergen Ar**	**89.46**	**349**	P	**P**	**12 02 16.7**	**-0.5**
	1.3nm,0.4s,baz=97,slow=7.1,SNR=17						
	1.3nm,0.4s						
FINES	**FINESS Array B**	**89.82**	**332**	P	**P**	**12 02 18.1**	**-1.0**
	5.8nm,1.0s,baz=72,slow=8.2,SNR=6.4						
	5.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**119.33**	**287**	PKP	**PKPdf**	**12 08 06.8**	**-0.3**
	0.4nm,0.3s,baz=60,slow=1.7,SNR=6.4						

*IDC **18** 11:54:46.6±17.0, 29.33N×80.20E, h0km, mb3.4/2, mbtmp3.4/3, ML3.3/1, MS2.9/1, Error ellipse: s-maj=670.1km s-min=43.8km az=77.0*
*NDI **18** 11:54:52.0±2.2, 29.49N×80.71E, h10km, ML2.8*
ISC 18 11:54:51.6±1.3, **29.5N**±0.1×**80.75E**±0.08, **h19**km, **n8, σ1.9/50/10, Nepal-India border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGTI	**Lohaghat**	**0.45**	**258**	*e*P	**Pb**	**11 55 02.8**	**+1.8**
LGTI				*e*S	**Sn**	**11 55 11.6**	**+1.1**
PTH	**Pithoragarh**	**0.46**	**271**	*e*P	**Pg**	**11 54 59.4**	**-1.7**
PTH				*e*S	**Sg**	**11 55 06.0**	**-1.5**
SMLA	**Simla**	**3.47**	**298**	*e*P	**Pb**	**11 55 53.2**	**+0.7**
SMLA				*e*S	**Sn**	**11 56 27.4**	**+2.1**
SMLA				IAML		11 56 37.7	
	comp=E,34nm,0.3s						
SMLA				IAML		11 56 38.2	
	comp=N,34nm,0.3s						
DHRM	**DHARAMSHALA**	**4.68**	**306**	*e*S	**Sn**	**11 56 55.2**	**-0.1**
MKAR	**Makanchi Array**	**17.26**	**4**	P	**Pn**	**11 58 52.1**	**+0.5**
	comp=N,0.1nm,0.3s,baz=180,slow=11,SNR=5.8						
	comp=N,0.4nm,0.6s						
TIXI	**Tiksi**	**49.49**	**18**	LR	LR	12 27 14.4	
	comp=N,12nm,19.2s,baz=338,slow=39						
WRA	**Warramunga Arr**	**71.33**	**127**	P	**P**	**12 06 10.2**	**-0.1**
	comp=N,0.1nm,0.3s,baz=316,slow=5.8,SNR=1.8						
	comp=N,0.1nm,0.3s						
ASAR	**Alice Springs**	**73.55**	**130**	P	**P**	**12 06 22.9**	**-0.7**
	comp=N,0.1nm,0.4s,baz=314,slow=6.0,SNR=4.5						
	comp=N,0.1nm,0.4s						

TAP 18 12:17:22.6, 24.85N×122.39E, h17km±1km, ML1.9, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.40**	**294**	*i* P	Pb	12 17 31.3	+0.1
	baz=293						
TWB1				*i* S	Sg	12 17 36.4	+0.1
	baz=293						
EOS2	**EOS2**	**0.45**	**199**	*i* P	Pb	12 17 32.1	+0.1
	baz=202						
EOS2				*i* S	Sb	12 17 38.3	0.0
	baz=202						
SXI1	**Grass Mountain**	**0.53**	**298**	P	Pb	12 17 34.4	+1.0
	baz=296						

SXI1				*e*S		Sb	12 17 41.9	+1.0
	baz=296								
TIPB	**Shuangxi**	**0.53**	**284**	P		Pn	12 17 34.5	-0.9
	baz=283								
TIPB				S		Sb	12 17 42.1	+1.3
	baz=283								
TWC	**Suao**	**0.55**	**245**	*e*P		Pg	12 17 32.5	-0.9
	baz=244								
TWC				*e*S		Sg	12 17 40.3	-0.4
	baz=244								
EOS3	**EOS3**	**0.56**	**187**	*i* P		Pb	12 17 34.1	+0.3
	baz=196								
EOS3				*i* S		Sb	12 17 42.9	+1.4
	baz=196								
TWE	**Neicheng**	**0.67**	**259**	*i* P		Pn	12 17 36.7	-0.6
	baz=259								
TWE				S		Sn	12 17 46.3	-1.1
	baz=259								
ENA	**Nanau**	**0.72**	**235**	P		Pb	12 17 37.0	+0.2
	baz=235								
ENA				S		Sb	12 17 46.5	+0.1
	baz=235								
EOS4	**EOS4**	**0.72**	**185**	*e*P		Pn	12 17 37.3	-0.4
	baz=186								
EOS4				*e*S		Sn	12 17 47.5	-0.7
	baz=186								
FUSB	**Fushanzhiwuyua**	**0.73**	**263**	*e*P		Pb	12 17 37.5	+0.5
	baz=276								
FUSB				S		Sg	12 17 46.5	-0.2
	baz=276								
ENTT	**Nioudou**	**0.78**	**255**	P		Pn	12 17 39.2	+0.4
	baz=255								
ENTT				*e*S		Sg	12 17 48.9	+0.9
	baz=255								
NWLT	**Wulai**	**0.81**	**265**	*e*P		Pb	12 17 38.0	-0.2
	baz=265								
NWLT				*e*S		Sb	12 17 48.9	0.0
	baz=265								
NDT	**Datong Townshi**	**0.83**	**253**	*e*P		Pn	12 17 38.9	+0.1
	baz=253								
NDT				S		Sg	12 17 50.4	+0.6
	baz=253								
LATG	**Datong**	**0.84**	**249**	P		Pg	12 17 39.0	0.0
	baz=249								
LATG				S		Sb	12 17 49.2	-0.8
	baz=249								
YHNB	**Yeheng**	**0.94**	**259**	P		Pn	12 17 41.2	+0.1
	baz=245								
YHNB				S		Sg	12 17 53.4	+0.2
	baz=245								
NSK	**Sanguang**	**0.95**	**260**	*e*S		Sn	12 17 54.5	0.0
	baz=245								
NACB	**Ninganchiao**	**0.99**	**227**	P		Pb	12 17 40.5	-0.7
	baz=237								
NACB				S		Sb	12 17 52.6	-1.3
	baz=237								
NNSB	**Datong**	**1.01**	**246**	P		Pg	12 17 42.2	+0.1
	baz=236								
NNSB				S		Sb	12 17 54.8	+0.1
	baz=236								
NNS	**Nan Shan**	**1.01**	**247**	S		Sb	12 17 54.7	-0.1
	baz=236								
ETLH	**Xiulin Townshi**	**1.04**	**233**	P		Pg	12 17 42.8	0.0
	baz=233								
ETLH				S		Sb	12 17 55.4	-0.3
	baz=233								
LXIB	**Xiulin Townshi**	**1.21**	**228**	*e*P		Pg	12 17 46.4	+0.5
	baz=228								
WHF	**Hehuan Shan**	**1.24**	**236**	P		Pg	12 17 46.5	0.0
	baz=236								
WHF				S		Sb	12 18 00.9	-0.8
	baz=236								

JMA 18 12:18:17.4±0.2,24°.0N±0°.9×122°.8E±0°.7, h42km, MV1.7/10, NW OFF ISHIGAKIJIMA IS, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.43**	**18**	P	Pn	12 18 27.3	-0.1
JYNG				*e*S	Sn	12 18 34.8	+0.4
IRIF	**Iriomote-Funau**	**0.90**	**71**	P	Pn	12 18 33.9	+0.3
IRIF				*e*S	Sn	12 18 46.4	+1.0
JKRS	**Kuro-shima**	**1.12**	**80**	*e*P	Pn	12 18 38.0	+1.3
JIJ	**Ishigaki jima**	**1.27**	**75**	P	Pn	12 18 38.9	+0.3
JIJ				*e*S	Sn	12 18 54.6	+0.1
JISG	**Ishigakijimahi**	**1.48**	**68**	*e*P	Pn	12 18 41.6	0.0
JISG				*e*S	Sn	12 18 59.3	-0.5

IDC 18 12:18:19.7±383.0,58°.80N×31°.35E, h0km, Error ellipse: s-maj=148.8km s-min=87.1km az=117.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**3.77**	**121**	I	I	12 39 54.3	
	0.1nm,0.8s,baz=306,slow=308,SNR=3.0						
I37NO	**I37NO**	**11.70**	**337**	I	I	13 29 03.6	
	baz=148,slow=325,SNR=0.7						
I31KZ	**AKTYUBINSK INF**	**17.49**	**107**	I	I	14 08 00.5	
	baz=311,slow=329,SNR=3.7						

IDC 18 12:25:29.5±7.7, 18°.70S×178°.18W, h540km±83km, mb2.8/6, mbtmp3.7/6, Error ellipse: s-maj=104.6km s-min=26.7km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.70**	**260**	P	P	12 32 55.3	+0.3
	0.5nm,0.4s,baz=98,slow=7.8,SNR=10.0						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**44.79**	**255**	P	P	12 32 55.0	-0.6
	0.7nm,0.4s,baz=87,slow=8.2,SNR=16						
ASAR				PcP	PcP	12 34 26.4	+0.3
	0.3nm,0.6s,baz=104,slow=4.2,SNR=5.1						
	0.7nm,0.4s						
NVAR	**Mina Array Bea**	**79.85**	**44**	P	P	12 36 42.5	+0.1
	0.3nm,0.6s,baz=236,slow=7.2,SNR=2.8						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**86.24**	**57**	P	P	12 37 14.7	+0.3
	0.4nm,0.6s,baz=216,slow=7.5,SNR=7.3						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**86.61**	**13**	P	P	12 37 15.3	+0.1
	0.3nm,0.6s,baz=226,slow=5.1,SNR=10						
	0.3nm,0.6s						
PDAR	**Pinedale Array**	**87.78**	**43**	P	P	12 37 20.5	-1.0
	0.2nm,0.6s,baz=186,slow=4.5,SNR=2.6						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**117.59**	**321**	PKP	PKPdf	12 43 12.0	-2.0
	0.5nm,0.3s,baz=112,slow=2.8,SNR=4.2						
ARCES	**ARCESS Array B**	**127.13**	**350**	PKP	PKiKP	12 43 32.4	-0.1
	2.7nm,1.1s,baz=11,slow=1.2,SNR=6.1						

*DRS **18** 12:30:33.0, 44°.00N×44°.20E, h22km*
*MOS **18** 12:30:34.5, 43°.94N×44°.71E, h11km, MPVA3.5*
*TIF **18** 12:30:34.6, 43°.92N×44°.83E, h14km±2km*
*NORS **18** 12:30:35.2, 43°.88N×44°.77E, h12km, MPVA3.3*
ISC 18 12:30:36.3±1.2, 43°.91N±0°.05×44°.73E±0°.03, h11km±8km, n22, σ0°.51/44, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRKR	**Terskaya**	**0.19**	**178**	*i* P*g*	**Pg**	**12 30 40.2**	**-0.1**
TRKR				*e*S*g*	**Sg**	**12 30 44.0**	**+1.0**
PRTR	**Priterechnaya**	**0.36**	**244**	*e*P*g*	**Pb**	**12 30 44.5**	**-0.2**
PRTR				*e*S*g*	**Sb**	**12 30 51.9**	**+1.6**
KORR	**Kora**	**0.95**	**210**	*e*P*g*	**Pn**	**12 30 55.5**	**-0.2**
KORR				*e*S*g*	**Sn**	**12 31 10.3**	**+1.0**
KBTC	**Kuba-Taba**	**0.96**	**265**	*e*P*g*	**Pg**	**12 30 54.5**	**-0.2**
KBTC				*e*S*g*	**Sb**	**12 31 08.3**	**+0.6**
PYA1	**Pyatigorsk**	**1.19**	**278**	*e*P*g*	**Pn**	**12 30 58.3**	**-0.6**
PYA1				*e*S*g*	**Sn**	**12 31 15.6**	**+0.5**
MTEO	**Meteo**	**1.24**	**187**	P	**Pn**	**12 30 58.7**	**-1.3**
MTEO				S	**Sb**	**12 31 16.2**	**+0.1**
ZEI	**Tsey**	**1.27**	**208**	*e*P*g*	**Pn**	**12 30 59.6**	**-0.7**
ZEI				*e*S*g*	**Sb**	**12 31 16.9**	**0.0**
KBZ	**Khabaz**	**1.33**	**263**	*e*P*g*	**Pn**	**12 31 00.7**	**-0.1**
KBZ				*i* S*g*	**Sg**	**12 31 19.4**	**+0.2**
BEYR	**Belyy Ugol+**	**1.38**	**275**	*e*P*g*	**Pn**	**12 31 01.5**	**-0.1**
BEYR				*e*S*g*	**Sg**	**12 31 20.8**	**+0.1**
KIV0	**Kislovodsk Arr**	**1.47**	**272**	*e*P*g*	**Pb**	**12 31 03.1**	**-0.6**
KIV0				*e*S*g*	**Sg**	**12 31 23.4**	**-0.1**
KIV	**Kislovodsk**	**1.47**	**272**	*e*P*g*	**Pb**	**12 31 03.3**	**-0.4**
KIV				*e*S*g*	**Sg**	**12 31 23.5**	**-0.2**
SHA1	**Shidzhatmaz**	**1.51**	**264**	*e*P*g*	**Pn**	**12 31 03.6**	**+0.1**
SHA1				*e*S*g*	**Sg**	**12 31 24.2**	**-0.6**
CHRG	**Chargali**	**1.59**	**175**	P	**Pn**	**12 31 04.3**	**-0.2**
CHRG				S	**Sb**	**12 31 25.8**	**-0.1**
NEUR	**Neytrino**	**1.61**	**247**	*e*P*g*	**Pn**	**12 31 05.0**	**+0.2**
NEUR				*e*S*g*	**Sb**	**12 31 26.3**	**-0.2**
DLMR	**Dylym**	**1.62**	**121**	*e*P*g*	**Pn**	**12 31 04.6**	**-0.3**
DLMR				*e*S*g*	**Sg**	**12 31 28.2**	**-0.2**
BTLR	**Botlikh**	**1.66**	**138**	*e*P*g*	**Pn**	**12 31 05.7**	**+0.3**
BTLR				*e*S*g*	**Sn**	**12 31 27.2**	**+0.4**
DBC	**Dubki**	**1.77**	**119**	*e*P*g*	**Pn**	**12 31 07.6**	**+0.6**
DBC				*e*S*g*	**Sb**	**12 31 31.4**	**+0.2**
KRNR	**Karanay**	**1.93**	**124**	*e*P*g*	**Pn**	**12 31 09.1**	**0.0**
KRNR				*e*S*g*	**Sb**	**12 31 35.9**	**+0.3**
UNCR	**Uncukul**	**1.93**	**128**	*e*P*g*	**Pn**	**12 31 09.3**	**+0.2**
UNCR				*e*S*g*	**Sb**	**12 31 35.8**	**+0.2**
XNZR	**Khunzakh**	**1.99**	**133**	*e*P*g*	**Pn**	**12 31 10.3**	**+0.2**
XNZR				*e*S*g*	**Sb**	**12 31 37.5**	**-0.1**
BUJR	**Buynaksk**	**2.05**	**121**	*e*P*g*	**Pn**	**12 31 10.9**	**+0.1**
BUJR				*e*S*g*	**Sb**	**12 31 39.1**	**+0.1**
GNBR	**Gunib**	**2.24**	**132**	*e*P*n*	**Pn**	**12 31 13.3**	**-0.1**
GNBR				*e*S*n*	**Sb**	**12 31 43.7**	**-0.7**

*IDC **18** 12:31:03.3±0.9, 20°.15N×122°.17E, h0km, mb3.7/8, mbtmp3.8/10, ML3.7/2, Error ellipse: s-maj=34.1km s-min=17.7km az=72.0*
*JMA **18** 12:31:08.3±0.8, 21°.4°N×12°.2°E±°, h0km, MV4.0/13, PHILIPPINE ISL REGION*
ISC 18 12:31:08.8±2.1, 20°.7N±0°.2×122°.2E±0°.2, h10km, n23, σ0°.95/20, mb3.6/8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**3.88**	**21**	*e*P	**Pn**	**12 32 09.1**	**+0.5**
IRIF				*e*S	**Sn**	**12 32 54.3**	**0.0**
JKRS	**Kuro-shima**	**3.90**	**25**	P	**Pn**	**12 32 09.1**	**+0.3**
JIJ	**Ishigaki jima**	**4.06**	**26**	*e*P	**Pn**	**12 32 12.0**	**+0.9**
JIJ				*e*S	**Sn**	**12 32 58.3**	**-0.4**
JISG	**Ishigakijimahi**	**4.33**	**26**	P	**Pn**	**12 32 14.5**	**-0.3**
JISG				*e*S	**Sn**	**12 33 05.2**	**-0.2**
JTJ	**Tarama**	**4.55**	**30**	P	**Pn**	**12 32 18.4**	**+0.6**
JTJ				*e*S	**Sn**	**12 33 10.5**	**-0.2**
JIRB	**Irabujima**	**4.94**	**33**	*e*P	**Pn**	**12 32 23.3**	**+0.2**
JOGS	**Gusukube**	**5.01**	**36**	*e*P	**Pn**	**12 32 24.5**	**+0.5**
JOW	**Kunigami**	**8.26**	**41**	P*n*	**Pn**	**12 33 09.0**	**+0.3**
	2.9nm,0.3s,baz=138,slow=24,SNR=12						
JOW				S*n*	**Sn**	**12 34 39.5**	**-2.6**
	1.0nm,0.3s,baz=282,slow=20,SNR=1.2						
	16nm,0.5s						
KSRS	**Korea Array**	**17.42**	**15**	P	**P**	**12 35 15.0**	**+1.8**
	0.1nm,0.3s,baz=203,slow=14,SNR=4.2						
	1.7nm,0.9s						
SONM	**Songino Array**	**29.94**	**338**	P	**P**	**12 37 16.8**	**-0.4**
	0.3nm,0.4s,baz=138,slow=11,SNR=2.6						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**41.52**	**318**	P	**P**	**12 38 56.0**	**-0.4**
	0.4nm,0.4s,baz=107,slow=9.7,SNR=11						
	0.4nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**41.85**	**83**	T	T	13 23 53.6	
	baz=279,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hy**	**41.85**	**83**	T	T	13 23 52.1	
	baz=279,slow=75,SNR=10.0						
H11N3	**WAKE ISLAND Hy**	**41.87**	**83**	T	T	13 23 54.5	
	baz=279,slow=75,SNR=6.8						
H11S3	**WAKE ISLAND Hy**	**41.87**	**85**	T	T	13 23 54.2	
	baz=281,slow=74,SNR=27						
H11S1	**WAKE ISLAND Hy**	**41.88**	**85**	T	T	13 23 54.5	
	baz=281,slow=74,SNR=17						
H11S2	**WAKE ISLAND Hy**	**41.89**	**85**	T	T	13 23 52.4	
	baz=281,slow=74,SNR=22						
WRA	**Warramunga Arr**	**42.10**	**163**	P	P	12 38 52.2	-9.0
	0.6nm,0.5s,baz=343,slow=8.9,SNR=7.1						
	0.6nm,0.5s						
PETK	**Petropavlovsk-**	**42.28**	**31**	P	**P**	**12 39 03.2**	**+0.8**
	8.2nm,1.0s,baz=248,slow=14,SNR=2.6						
	8.2nm,1.0s						
ZALV	**Zalesovo Beam**	**43.69**	**329**	P	**P**	**12 39 13.2**	**-0.5**
	0.4nm,0.3s,baz=126,slow=7.5,SNR=3.9						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**45.40**	**322**	P	**P**	**12 39 26.4**	**-1.0**
	0.6nm,0.5s,baz=117,slow=7.2,SNR=4.5						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**45.55**	**165**	P	P	12 39 21.4	-7.6
	0.2nm,0.5s,baz=350,slow=7.5,SNR=9.8						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**50.98**	**322**	P	**P**	**12 40 09.6**	**-1.0**
	0.6nm,0.6s,baz=72,slow=4.7,SNR=3.0						
	0.6nm,0.6s						

*NORS **18** 12:37:07.7, 43°.95N×44°.77E, h9km, MPVA3.6*
*TIF **18** 12:37:08.3, 43°.92N×44°.74E, h12km±2km*
*MOS **18** 12:37:09.1, 43°.89N×44°.69E, h12km, MPVA3.5*
ISC 18 12:37:08.7±1.3, 43°.96N±0°.05×44°.82E±0°.04, h15km±8km, n16, σ0°.82/32, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRKR	**Terskaya**	**0.25**	**195**	*e*P*g*	**Pg**	**12 37 13.9**	**-0.2**
TRKR				*e*S*g*	**Sg**	**12 37 18.6**	**+0.8**
PRTR	**Priterechnaya**	**0.44**	**242**	*e*P*g*	**Pb**	**12 37 18.2**	**-0.1**
PRTR				*e*S*g*	**Sb**	**12 37 25.6**	**+0.1**
KBTC	**Kuba-Taba**	**1.03**	**262**	*e*P*g*	**Pn**	**12 37 28.8**	**0.0**
KBTC				*e*S*g*	**Sg**	**12 37 42.2**	**+0.1**
KORR	**Kora**	**1.03**	**212**	*e*P*g*	**Pg**	**12 37 29.2**	**+0.5**
KORR				*e*S*g*	**Sn**	**12 37 44.7**	**+1.8**
PYA1	**Pyatigorsk**	**1.25**	**275**	*e*P*g*	**Pg**	**12 37 33.0**	**+0.2**
PYA1				*e*S*g*	**Sg**	**12 37 49.0**	**-0.1**
MTEO	**Meteo**	**1.30**	**189**	P	**Pn**	**12 37 32.4**	**-0.3**
MTEO				S	**Sb**	**12 37 49.4**	**-0.3**
ZEI	**Tsey**	**1.35**	**210**	*e*P*g*	**Pn**	**12 37 32.8**	**-0.4**
ZEI				*e*S*g*	**Sn**	**12 37 50.6**	**-0.5**
KBZ	**Khabaz**	**1.41**	**261**	*e*P*g*	**Pb**	**12 37 34.4**	**-0.3**
KBZ				*e*S*g*	**Sb**	**12 37 52.8**	**+0.3**
BEYR	**Belyy Ugol+**	**1.45**	**273**	*e*P*g*	**Pg**	**12 37 35.9**	**-0.7**
BEYR				*e*S*g*	**Sg**	**12 37 54.6**	**-0.8**
KIV0	**Kislovodsk Arr**	**1.54**	**271**	*e*P*g*	**Pg**	**12 37 36.8**	**-1.4**
KIV0				*e*S*g*	**Sb**	**12 37 56.8**	**+0.6**
KIV	**Kislovodsk**	**1.54**	**270**	*e*P*g*	**Pg**	**12 37 36.9**	**-1.5**
KIV				*e*S*g*	**Sb**	**12 37 56.9**	**+0.5**
SHA1	**Shidzhatmaz**	**1.58**	**263**	*e*P*g*	**Pb**	**12 37 37.3**	**-0.5**
SHA1				*e*S*g*	**Sb**	**12 37 58.4**	**+0.7**
ALER	**Alexandrovskoy**	**1.58**	**301**	*e*P*g*	**Pg**	**12 37 39.6**	**+0.4**
ALER				*e*S*g*	**Sg**	**12 38 01.6**	**+1.8**
CHRG	**Chargali**	**1.63**	**177**	P	**Pb**	**12 37 38.0**	**-0.6**
CHRG				S	**Sb**	**12 38 00.1**	**+1.0**
NEUR	**Neytrino**	**1.69**	**246**	*e*P*g*	**Pb**	**12 37 38.8**	**-0.8**
NEUR				*e*S*g*	**Sb**	**12 38 00.4**	**-0.4**
DBC	**Dubki**	**1.74**	**122**	*e*P*g*	**Pg**	**12 37 41.5**	**-0.6**
DBC				*e*S*g*	**Sg**	**12 38 05.3**	**+0.6**

IDC 18 12:48:35.9±1.5, 30°.01S×178°.43W, h154km±17km, mb3.2/2, mbtmp3.7/3, Error ellipse: s-maj=57.8km s-min=22.4km az=109.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.88**	**31**	P	Pn	12 49 01.5	+1.4
	425nm,0.3s,baz=278,slow=4.9,SNR=9.6						
RAO				S	Sn	12 49 18.3	-0.4
	276nm,0.2s,baz=96,slow=22,SNR=2.8						
URZ	**Urewera**	**9.02**	**203**	P	Pn	12 50 43.0	+0.3
	3.6nm,0.8s,baz=181,slow=8.4,SNR=1.5						
URZ				S	Sn	12 52 22.1	-0.7
	4.5nm,0.8s,baz=208,slow=16,SNR=1.3						
ASAR	**Alice Springs**	**42.76**	**267**	P	P	12 56 18.3	0.0
	0.3nm,0.3s,baz=106,slow=7.3,SNR=19						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**43.71**	**272**	P	P	12 56 25.6	-0.3
	0.6nm,0.5s,baz=110,slow=8.1,SNR=14						
	0.6nm,0.5s						
FINES	**FINESS Array B**	**144.65**	**340**	PKP	PKPab	13 07 52.0	-0.5
	1.4nm,0.5s,baz=55,slow=3.5,SNR=13						

*IDC **18** 13:03:16.1±1.5, 4°.96N×126°.92E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=142.4km s-min=17.6km az=66.0*
*NEIC **18** 13:03:20.2±0.8, 5°.0N±0°.1×127°.1E±0°.3, h35km±1km, mb4.3/16, Error ellipse: s-maj=53.0km s-min=5.9km az=249.0*

ISC 18 13:03:19.8±0.7, 5°.0N±0°.1×127°.0E±0°.3, h35km, n29, σ0°.96/29, mb4.2/14, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.53**	**325**	Pn	**Pn**	**13 03 57.9**	**-0.5**
TNTI	**Ternate**	**4.20**	**176**	Pn	**Pn**	**13 04 21.0**	**-0.4**
WB0	**Warramunga Arr**	**25.64**	**164**	P	**P**	**13 08 45.3**	**-1.0**
WB0				IAmb	IAmb	13 09 10.3	
	comp=Z,9.3nm,1.4s						
WRAB	**Tennant Creek**	**25.78**	**164**	P	**P**	**13 08 47.0**	**-0.6**
WRAB				IAmb	IAmb	13 09 06.1	
	comp=Z,7.9nm,1.3s						
WRA	**Warramunga Arr**	**25.79**	**164**	P	**P**	**13 08 49.4**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=343,slow=10,SNR=21						
	comp=Z,0.9nm,0.5s						
WB2	**Warramunga Arr**	**25.79**	**164**	P	**P**	**13 08 48.6**	**+0.8**
WB2				IAmb	IAmb	13 09 23.6	
	comp=Z,8.5nm,1.2s						
WR0	**Warramunga Arr**	**25.86**	**164**	P	**P**	**13 08 48.2**	**-0.1**
AS31	**Alice Springs**	**29.25**	**167**	P	**P**	**13 09 18.7**	**-0.1**
ASAR	**Alice Springs**	**29.25**	**167**	P	**P**	**13 09 18.7**	**0.0**
ASAR	**Alice Springs**	**29.25**	**167**	P	**P**	**13 09 20.5**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=353,slow=7.5,SNR=19						
	comp=Z,0.5nm,0.5s						
EIDS	**Eidsvold**	**38.16**	**143**	P	**P**	**13 10 35.6**	**-0.4**
BBOO	**Buckleboo**	**38.55**	**168**	P	**P**	**13 10 38.9**	**-0.3**
STKA	**Stephens Creek**	**39.19**	**160**	P	**P**	**13 10 43.9**	**-0.7**
STKA	**Stephens Creek**	**39.19**	**160**	P	**P**	**13 10 45.3**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=330,slow=13,SNR=7.1						
	comp=Z,2.1nm,0.5s						
MK31	**Makanchi Array**	**56.71**	**325**	P	**P**	**13 12 59.0**	**-1.0**
MK31				IAmb	IAmb	13 13 38.5	
	comp=Z,4.8nm,1.3s						
MKAR	**Makanchi Array**	**56.71**	**325**	P	**P**	**13 12 58.6**	**-1.4**
MKAR	**Makanchi Array**	**56.71**	**325**	P	**P**	**13 13 00.2**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=125,slow=6.4,SNR=8.1						
	comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**60.86**	**327**	P	**P**	**13 13 30.8**	**+2.1**
	comp=Z,1.0nm,0.2s,baz=124,slow=6.4,SNR=7.2						
	comp=Z,1.0nm,0.2s						
KURK	**Kurchatov**	**60.86**	**327**	P	**P**	**13 13 30.4**	**+1.7**
KURK				IAmb	IAmb	13 14 04.6	
	comp=Z,5.4nm,1.5s						
BVAR	**Borovoye Array**	**66.45**	**327**	P	**P**	**13 14 07.4**	**+1.9**
	comp=Z,0.4nm,0.4s,baz=84,slow=4.0,SNR=2.6						
	comp=Z,0.4nm,0.4s						
ABKAR	**Akbulak array**	**71.38**	**320**	P	**P**	**13 14 36.5**	**+0.2**
H19K	**Roundabout Mou**	**79.91**	**24**	P	**P**	**13 15 24.6**	**-0.1**
H19K				IAmb	IAmb	13 16 08.5	
	comp=Z,2.8nm,1.1s						
E19K	**Redstone River**	**79.96**	**22**	P	**P**	**13 15 25.4**	**+0.3**
E19K				IAmb	IAmb	13 15 46.8	
	comp=Z,6.5nm,1.4s						
IMAR	**Indian Mountai**	**81.08**	**24**	P	**P**	**13 15 30.8**	**-0.3**
G23K	**Bananza Creek**	**82.65**	**23**	P	**P**	**13 15 39.3**	**-0.1**
C23K	**Itkillik River**	**82.71**	**20**	P	**P**	**13 15 39.3**	**-0.3**
TOLK	**Toolik Lake Re**	**82.97**	**22**	P	**P**	**13 15 41.0**	**0.0**
H24K	**Noodor Dome**	**83.47**	**24**	P	**P**	**13 15 43.2**	**-0.5**
H24K				IAmb	IAmb	13 15 51.5	
	comp=Z,5.3nm,1.5s						
BMAR	**Burnt Mountain**	**84.81**	**23**	P	**P**	**13 15 50.4**	**-0.1**

*SJA **18** 13:14:01.6±1.2, 23°.85S×67°.05W, h202km±8km, ML3.5, MW3.6*
*IDC **18** 13:14:02.7±1.6, 23°.80S×66°.92W, h174km±17km, mb3.2/4, mbtmp3.9/7, Error ellipse: s-maj=25.2km s-min=18.8km az=153.0*
*GUC **18** 13:14:04.0±0.6, 23°.86S×67°.40W, h225km±8km, ML4.0*
ISC 18 13:14:03.3±0.8, 23°.87S±0°.04×67°.10W±0°.04, h190km±7km, n42, σ1°.59/70, mb3.5/4, 4C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.69**	**120**	*i* P	**Pn**	**13 14 37.9**	**-0.2**
SLA				*e*S	**Sn**	**13 15 04.3**	**-0.7**
LVC	**Limon Verde**	**2.08**	**307**	*e*P	**Pn**	**13 14 43.0**	**+0.6**
LVC				*e*S	**Sn**	**13 15 12.5**	**-0.2**
LVC				IAML		13 15 13.9	
	comp=Z,120nm,0.8s						
LVC	**Limon Verde**	**2.08**	**307**	P	**Pn**	**13 14 43.0**	**+0.6**
	comp=Z,36nm,0.3s,baz=146,slow=6.7,SNR=122						
LVC				S	**Sn**	**13 15 12.0**	**-0.7**
	comp=Z,118nm,0.4s,baz=274,slow=20,SNR=14						
LVC	**Limon Verde**	**2.08**	**307**	*i* P	**Pn**	**13 14 43.0**	**+0.6**
LVC				*e*S	**Sn**	**13 15 12.7**	**-0.1**
YJA	**Yavi**	**2.23**	**41**	*e*P	**Pn**	**13 14 43.6**	**-0.5**
YJA				*e*S	**Sn**	**13 15 14.5**	**-1.3**
PB15	**IPOC Station P**	**2.27**	**286**	*e*P	**Pn**	**13 14 45.0**	**+0.7**
PB15				*e*S	**Sn**	**13 15 16.0**	**-0.1**
PB15	**IPOC Station P**	**2.27**	**286**	*i* P	**Pn**	**13 14 44.9**	**+0.7**
PB15				*e*S	**Sn**	**13 15 15.9**	**-0.1**
PB06	**IPOC Station P**	**2.55**	**297**	*i* P	**Pn**	**13 14 48.0**	**+0.6**
PB06				*e*S	**Sn**	**13 15 20.9**	**-0.7**
PB06				IAML		13 15 22.9	
	comp=Z,168nm,0.3s						
PB06	**IPOC Station P**	**2.55**	**297**	*i* P	**Pn**	**13 14 47.9**	**+0.6**
PB06				*e*S	**Sn**	**13 15 20.6**	**-1.0**
PB06				IAML		13 15 23

PB11	**IPOC Station P**	**4.73**	**329**	*e*P	**Pn**	**13 15 13.0**	**-1.2**
PB11				*e*S	**Sn**	**13 16 05.9**	**-4.0**
PB11				IAML		13 16 10.1	
	comp=Z,25nm,1.1s						
PB11	**IPOC Station P**	**4.73**	**329**	*i* P	**Pn**	**13 15 14.8**	**+0.5**
PB11				*e*S	**Sn**	**13 16 07.1**	**-2.9**
AC04	**Llanos de Chal**	**5.60**	**219**	*i* P	**Pn**	**13 15 22.7**	**-2.6**
SIV	**San Ignacio**	**9.67**	**37**	P	**Pn**	**13 16 15.3**	**-3.3**
	comp=Z,4.1nm,0.4s,baz=209,slow=13,SNR=19						
BDFB	**Brasilia**	**19.73**	**69**	P	**P**	**13 18 18.3**	**-0.5**
	comp=Z,13nm,1.0s,baz=243,slow=9.8,SNR=8.1						
SNAA	**Sanae**	**59.50**	**161**	P	**P**	**13 23 46.7**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=168,slow=2.5,SNR=3.6						
	comp=Z,2.1nm,0.8s						
TXAR	**Lajitas Array**	**63.52**	**324**	P	**P**	**13 24 15.3**	**+1.7**
	comp=Z,0.1nm,0.5s,baz=88,slow=10.0,SNR=1.8						
	comp=Z,0.1nm,0.5s						
QSPA	**South Pole Qui**	**66.33**	**180**	P	**P**	**13 24 33.2**	**+1.8**
	comp=Z,0.6nm,0.4s,baz=233,slow=0.8,SNR=7.3						
	comp=Z,0.6nm,0.4s						
TORD	**Torodi Ar. Bea**	**76.61**	**69**	P	**P**	**13 25 32.7**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=257,slow=7.2,SNR=5.4						
	comp=Z,0.3nm,0.4s						
ASAR	**Alice Springs**	**128.53**	**205**	PKP	**PKPdf**	**13 32 48.9**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=142,slow=2.1,SNR=5.2						
WRA	**Warramunga Arr**	**131.70**	**207**	PKP	**PKPdf**	**13 32 55.9**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=153,slow=2.0,SNR=8.1						
MKAR	**Makanchi Array**	**146.49**	**39**	PKPbc	**PKPbc**	**13 33 22.8**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=300,slow=2.3,SNR=5.4						

NEIC ***18*** *13:23:11.3±2.2,32.76N±0.03×118.69W±0.03,h14km±2km, Error ellipse: s-maj=4.9km s-min=3.0km az=184.0*
ANF ***18*** *13:23:11.8±0.4,32.96N×118.63W,h1km,ML2.9/21,Error ellipse: s-maj=3.6km s-min=2.1km az=25.0*
PAS ***18*** *13:23:12.2±3.3,32.86N±0.03×118.71W±0.02,h-0km±6km, ML3.0/78,ML2.7/56(NEIC),Error ellipse: s-maj=4.0km s-min=2.6km az=191.0*

ISC 18 13:23:11.6±1.2,32.81N±0.04×118.68W±0.03,h12km±9km, n57,σ1s04/75,Off coast of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIAC	**Catalina I. Ai**	**0.63**	**21**		**Pg**	**13 23 24.0**	**+0.1**
CIAC					**Sg**	**13 23 32.3**	**0.0**
CIS	**Catalina Islan**	**0.63**	**20**	P	**Pg**	**13 23 24.1**	**+0.2**
	baz=205,SNR=21						
CIS				S	**Sg**	**13 23 32.2**	**-0.1**
	baz=205						
SBI	**Santa Barbara**	**0.73**	**336**		**Pg**	**13 23 25.3**	**-0.5**
SBI					**Sg**	**13 23 34.5**	**-0.9**
SNCC	**San Nicolas Is**	**0.83**	**302**	Pg	**Pg**	**13 23 27.6**	**-0.2**
SNCC				IAML		13 23 40.5	
	comp=N,268nm,0.2s						
SNCC				IAML		13 23 41.4	
	comp=E,316nm,0.3s						
SNCC	**San Nicolas Is**	**0.83**	**302**		**Sg**	**13 23 38.8**	**+0.2**
SNCC	**San Nicolas Is**	**0.83**	**302**	P	**Pg**	**13 23 27.5**	**-0.3**
	baz=120						
SNCC				S	**Sg**	**13 23 38.2**	**-0.5**
	baz=120						
FMP	**Fort Macarthur**	**0.96**	**20**		**Pb**	**13 23 30.0**	**-0.2**
FMP					**Sb**	**13 23 42.6**	**-0.3**
FMP	**Fort Macarthur**	**0.96**	**20**	P	**Pb**	**13 23 30.1**	**-0.1**
	baz=202,SNR=19						
FMP				S	**Sb**	**13 23 42.5**	**-0.3**
	baz=202						
RPV	**Rancho Palos V**	**0.96**	**14**		**Pb**	**13 23 30.3**	**+0.1**
RPV					**Sb**	**13 23 43.0**	**+0.1**
LCGC	**La Cienega, Cu**	**1.22**	**12**		**Sb**	**13 23 50.6**	**+0.3**
109C	**Camp Elliot, M**	**1.33**	**86**	Pg	**Pn**	**13 23 35.8**	**-0.2**
109C	**Camp Elliot, M**	**1.33**	**86**	P	**Pb**	**13 23 36.4**	**0.0**
	baz=269						
109C				S	**Sn**	**13 23 52.6**	**-1.0**
	baz=269						
ELS	**Elsinore Mount**	**1.34**	**51**		**Pn**	**13 23 35.7**	**-0.6**
ELS				IAML		13 23 55.3	
	comp=N,147nm,0.3s						
ELS				IAML		13 23 55.5	
	comp=E,116nm,0.6s						
TJX	**Tijuana**	**1.40**	**102**	Pn	**Pn**	**13 23 36.0**	**-1.0**
TJX				IAML		13 24 04.5	
	comp=E,157nm,1.0s						
TJX				IAML		13 24 05.4	
	comp=N,128nm,0.8s						
PASC	**Pasadena Art C**	**1.42**	**17**		**Pn**	**13 23 36.9**	**-0.5**
PASC				IAML		13 23 58.4	
	comp=N,92nm,0.4s						
PASC				IAML		13 24 04.1	
	comp=E,92nm,0.5s						
SCZ2	**Santa Cruz Isl**	**1.43**	**326**	S	**Sn**	**13 23 55.3**	**-0.9**
	baz=146						
DECC	**Green Verdugo**	**1.47**	**11**	S	**Sn**	**13 23 55.3**	**-2.0**
	baz=193						
MURC	**Murrieta**	**1.47**	**57**		**Sn**	**13 23 55.7**	**-1.7**
MURC	**Murrieta**	**1.47**	**57**	P	**Pn**	**13 23 38.0**	**-0.1**
	baz=240,SNR=19						
MURC				S	**Sn**	**13 23 55.8**	**-1.5**
	baz=240						
PSRC	**Puddingstone R**	**1.47**	**29**		**Pn**	**13 23 38.0**	**-0.1**
BFSC	**Mount Baldy Ra**	**1.66**	**31**	P	**Pn**	**13 23 40.6**	**-0.1**
	baz=213,SNR=37						
BFSC				S	**Sn**	**13 24 00.5**	**-1.7**
	baz=213						
BAR	**Barrett**	**1.70**	**94**		**Pn**	**13 23 40.8**	**-0.3**
BAR				IAML		13 24 09.4	
	comp=N,100nm,0.4s						
BAR				IAML		13 24 11.1	
	comp=E,69nm,0.2s						
TKX	**Tecate**	**1.76**	**97**		**Pn**	**13 23 42.1**	**+0.1**
SBC	**Santa Barbara**	**1.84**	**332**	S	**Sn**	**13 24 05.5**	**-0.9**
	baz=152						
CCX	**Cicese**	**1.95**	**118**	Pn	**Pn**	**13 23 44.6**	**+0.1**
CCX				IAML		13 25 02.9	
	comp=E,63nm,0.1s						
PFO	**Pinyon Flats O**	**2.03**	**66**		**Pn**	**13 23 45.9**	**+0.2**
PFO				IAML		13 24 16.3	
	comp=E,51nm,0.6s						
PFO	**Pinyon Flats O**	**2.03**	**66**	P	**Pn**	**13 23 46.4**	**+0.6**
	baz=249						
PFO				S	**Sn**	**13 24 10.4**	**-0.7**
	baz=249						
BBRC	**Big Bear Solar**	**2.06**	**45**	Pb	**Pb**	**13 23 48.7**	**-0.5**
	baz=227						
BBRC				Sb	**Sb**	**13 24 14.4**	**-0.5**
	baz=227						
PMD	**Palm Desert**	**2.10**	**66**		**Pn**	**13 23 47.3**	**+0.6**
PMD				IAML		13 24 17.9	
	comp=N,36nm,0.7s						
PMD				IAML		13 24 20.9	
	comp=E,41nm,0.5s						
EDW2	**Edwards Air Fo**	**2.15**	**15**	P	**Pn**	**13 23 48.2**	**+0.8**
	baz=197,SNR=19						
EDW2				S	**Sn**	**13 24 13.2**	**-0.8**
	baz=197						
IKP	**In-Ko-Pah, Jac**	**2.17**	**93**	P	**Pn**	**13 23 48.7**	**+1.0**
	baz=276						
IKP				Sb	**Sb**	**13 24 19.3**	**+1.4**
	baz=276						
RMX	**La Rumorosa**	**2.20**	**95**	Pn	**Pn**	**13 23 49.3**	**+1.1**
RMX				IAML		13 24 25.7	
	comp=N,29nm,0.7s						
BCW	**Bitter Crk WRg**	**2.21**	**344**	Pn	**Pn**	**13 23 49.8**	**+1.5**
PKM	**Mcpherson Peak**	**2.28**	**336**	P	**Pn**	**13 23 49.5**	**+0.2**
	baz=155						
PKM				S	**Sn**	**13 24 16.7**	**-0.7**
	baz=155						
ARVC	**Arvin**	**2.32**	**357**	Pb	**Pb**	**13 23 52.5**	**-0.8**
	baz=178						
ARVC				S	**Sn**	**13 24 17.6**	**-0.4**
	baz=178						
YUH	**Yuha Desert**	**2.33**	**93**	Pn	**Pn**	**13 23 50.4**	**+0.6**
CCAC	**Calif City Air**	**2.40**	**13**		**Pn**	**13 23 50.9**	**0.0**
SWSC	**Sam W. Stewart**	**2.43**	**86**	Sb	**Sb**	**13 24 27.2**	**+2.1**
	baz=269						
ESJX	**Sierra Juarez**	**2.44**	**108**	Pn	**Pn**	**13 23 51.3**	**-0.3**
RRX	**Edison Barstow**	**2.49**	**34**	Sb	**Sb**	**13 24 28.3**	**+1.2**
	baz=216						
BELC	**Belle Mtn. Jos**	**2.54**	**61**	Sb	**Sb**	**13 24 29.6**	**+1.1**
	baz=244						
SMMC	**Simmler**	**2.73**	**337**	S	**Sn**	**13 24 27.9**	**-0.4**
	baz=156						
LRMC	**Laurel Mtn Rad**	**2.79**	**17**	P	**Pn**	**13 23 56.4**	**+0.1**
	baz=198,SNR=6.3						
VTX	**Valle De La Tr**	**2.83**	**119**	Pn	**Pn**	**13 23 57.6**	**+0.8**
ISA	**Isabella, Lake**	**2.85**	**3**	Pn	**Pn**	**13 23 58.3**	**+1.2**
ISA	**Isabella, Lake**	**2.85**	**3**	P	**Pn**	**13 23 58.1**	**+1.0**
	baz=184						
ISA				S	**Sn**	**13 24 30.3**	**-1.1**
	baz=184						
GSC	**Goldstone, Bar**	**2.93**	**31**	Pn	**Pn**	**13 23 59.5**	**+1.3**
GSC				IAML		13 24 48.0	
	comp=N,27nm,0.5s						
GSC	**Goldstone, Bar**	**2.93**	**31**	P	**Pn**	**13 23 59.5**	**+1.3**
	baz=213,SNR=22						
GSC				S	**Sn**	**13 24 32.8**	**-0.7**
	baz=213						
QSM	**Queen of Sheba**	**3.49**	**25**	Pn	**Pn**	**13 24 07.0**	**+1.3**
QSM				IAML		13 25 05.0	
	comp=E,18nm,0.6s						
QSM				IAML		13 25 05.2	
	comp=N,15nm,1.6s						
PMPB	**Monarch Peak**	**3.83**	**333**	Pn	**Pn**	**13 24 11.0**	**+0.6**
BBGB	**Big Mountain B**	**4.24**	**333**	Pn	**Pn**	**13 24 17.2**	**+1.1**
TPNV	**Topopah Spring**	**4.59**	**25**	Pn	**Pn**	**13 24 23.1**	**+2.0**
TPNV				IAML		13 25 38.8	
	comp=N,9.6nm,1.0s						
TPNV	**Topopah Spring**	**4.59**	**25**	P	**Pn**	**13 24 22.9**	**+1.9**
	baz=207,SNR=8.2						
W13A	**Hualapai Mount**	**4.59**	**59**	Pn	**Pn**	**13 24 22.5**	**+1.4**
W13A				IAML		13 24 59.9	
	comp=N,6.5nm,0.1s						
W13A				IAML		13 25 37.5	
	comp=E,7.2nm,4.9s						
SHPR	**Sheep Range**	**4.69**	**37**	Pn	**Pn**	**13 24 24.1**	**+1.7**
OMMB	**Old Mammoth Mi**	**4.80**	**357**	Pn	**Pn**	**13 24 27.1**	**+3.1**
OMMB				IAML		13 25 20.7	
	comp=E,7.5nm,3.9s						
OMMB				IAML		13 26 39.0	
	comp=N,6.9nm,4.9s						
MDPB	**Devils Postpil**	**4.83**	**356**	Pn	**Pn**	**13 24 26.9**	**+2.5**
MDPB				IAML		13 25 50.0	
	comp=N,6.1nm,4.9s						
MDPB				IAML		13 26 04.6	
	comp=E,6.1nm,4.9s						

NEIC ***18*** *13:47:21.6±0.5,35.89N±0.01×97.29W±0.01,h7km±5km, Error ellipse: s-maj=1.8km s-min=1.2km az=141.0*

TUL 18 13:47:21.1±0.5,35.89N±0.01×97.28W±0.02,h6km±4km, ML3.0,mb_Lg2.8/60(NEIC),ML3.1/42(NEIC),Error ellipse: s-maj=2.1km s-min=1.4km az=125.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.25**	**197**	Pg	Pg	13 47 26.2	+0.3
ADOK				Sg	Sg	13 47 29.9	+0.7
OK033	**Mehan**	**0.32**	**61**	Pg	Pg	13 47 27.6	+0.3
OK033				Sg	Sg	13 47 32.3	+0.7
OK033				IAML		13 47 32.8	
	2μm,0.3s						
OK033				IAML		13 47 32.8	
	2μm,0.4s						
OK052	**Battle Ridge R**	**0.40**	**75**	Pg	Pg	13 47 29.3	+0.4
OK052				Sg	Sg	13 47 34.9	+0.8
OK052				IAML		13 47 35.3	
	2μm,0.3s						
OK052				IAML		13 47 35.5	
	2μm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.50**	**195**	Pg	Pg	13 47 30.9	+0.2
OKCSW				IAML		13 47 38.4	
	comp=N,2μm,0.3s						
OKCSW				IAML		13 47 38.5	
	comp=E,2μm,0.4s						
QUOK	**Quay**	**0.54**	**59**	Pg	Pg	13 47 31.8	+0.2
QUOK				IAML		13 47 40.8	
	comp=N,889nm,0.2s						
OK048	**Pawnee Station**	**0.59**	**27**	Pg	Pg	13 47 32.7	+0.2
DEOK	**Depew**	**0.64**	**94**	Pg	Pg	13 47 33.3	-0.1
FNO	**Franklin**	**0.64**	**189**	Pg	Pg	13 47 33.2	-0.2
OK051	**E0350 and S346**	**0.71**	**30**	Pg	Pg	13 47 34.9	+0.1
OK051				IAML		13 47 45.0	
	comp=N,911nm,0.2s						
CROK	**Carrier**	**0.83**	**317**		Pg	13 47 37.0	-0.1
BLOK	**Blackwell**	**0.87**	**4**	Pg	Pg	13 47 37.6	-0.2
BLOK				IAML		13 47 52.0	
	comp=N,619nm,0.2s						
BLOK				IAML		13 48 03.3	
	comp=E,428nm,0.2s						
GC02	**Grant County #**	**1.07**	**334**	Pg	Pg	13 47 40.8	-0.8
KAN13	**South Haven SW**	**1.13**	**352**		Pg	13 47 42.3	-0.5
OK032	**Salt Plains WL**	**1.18**	**321**		Pg	13 47 43.0	-0.7
T35A	**Sooner Cattle**	**1.20**	**31**		Pg	13 47 43.3	-0.8
T35A				IAML		13 48 00.4	
	comp=N,316nm,0.2s						
T35A				IAML		13 48 06.4	
	comp=E,447nm,0.5s						
KAN14	**Manchester OK**	**1.20**	**333**		Pg	13 47 43.4	-0.6
KAN14				IAML		13 48 03.2	
	comp=N,638nm,0.1s						
KAN14				IAML		13 48 03.3	
	comp=E,646nm,0.3s						
TUL3	**Leonard**	**1.21**	**89**		Pg	13 47 43.0	-1.3
TUL3	**Leonard**	**1.21**	**89**	IAmb_Lg		13 48 01.9	
	comp=Z,62nm,1.1s						
KAN17	**Caldwell West**	**1.22**	**341**		Pg	13 47 43.8	-0.6
KAN09	**Caldwell North**	**1.27**	**348**		Pn	13 47 44.8	-0.7
KAN05	**Bluff City Nor**	**1.31**	**339**		Pn	13 47 45.2	-0.7
KAN01	**Argonia South**	**1.32**	**343**		Pn	13 47 45.6	-0.5
KAN01				IAML		13 48 04.1	
	comp=E,574nm,0.5s						
KAN01				IAML		13 48 07.8	
	comp=N,380nm,0.2s						
KAN10	**Anthony SW Sta**	**1.39**	**332**		Pn	13 47 46.9	-0.3
KS21	**Milan North St**	**1.43**	**348**		Pn	13 47 47.5	-0.1
KAN08	**Argonia West S**	**1.43**	**341**		Pn	13 47 47.6	-0.1
KAN08	**Anthony NE Sta**	**1.45**	**338**		Pn	13 47 47.8	-0.1
U32A	**Winter Ranch,**	**1.48**	**290**		Pn	13 47 47.8	-0.5
KAN12	**Harper NE Stat**	**1.52**	**338**		Pn	13 47 48.7	-0.2
WMOK	**Wichita Mounta**	**1.68**	**227**		Pn	13 47 51.1	0.0
ELIS	**Ellis County**	**1.74**	**276**		Pn	13 47 52.4	+0.4
RLO	**Rose Lookout**	**1.85**	**81**		Pn	13 47 53.7	+0.3
LOOK	**Love County**	**1.90**	**177**		Pn	13 47 54.8	+0.7
LOOK				IAmb_Lg		13 48 24.5	
	comp=Z,34nm,0.8s						
X37A	**Clayton**	**2.03**	**129**		Pn	13 47 55.7	-0.2
WTFS	**Witchita Falls**	**2.33**	**205**		Pn	13 47 59.7	-0.4
U38A	**Gravette**	**2.41**	**76**		Pn	13 48 00.6	-0.5
SMWD	**Samnorwood**	**2.54**	**253**		Pn	13 48 01.9	-1.1
SMWD				IAmb_Lg		13 48 43.2	
	comp=Z,24nm,0.7s						
HHAR	**Hobbs**	**2.73**	**81**	Pn	Pn	13 48 04.7	-0.9
FW06	**Azle**	**2.92**	**185**	IAmb_Lg		13 48 58.6	
	comp=Z,7.8nm,0.9s						
PLPT	**Palo Pinto**	**3.19**	**196**	Pn	Pn	13 48 12.3	+0.5
PLPT				IAmb_Lg		13 49 04.7	
	comp=Z,10nm,0.7s						
Z38A	**Mt. Pleasant**	**3.24**	**144**	Pn	Pn	13 48 12.7	+0.2
Z38A				IAmb_Lg		13 49 09.2	
	comp=Z,30nm,0.7s						
KSU1	**Kansas State U**	**3.25**	**9**	IAmb_Lg		13 49 07.4	
	comp=Z,23nm,0.8s						
APMT	**Aspermont**	**3.47**	**223**	Pn	Pn	13 48 15.3	-0.4
APMT				IAmb_Lg		13 49 20.3	
	comp=Z,16nm,0.7s						
S39A	**Bolivar**	**3.65**	**59**	IAmb_Lg		13 49 15.7	
	comp=Z,21nm,0.9s						
DKNS	**Dickens**	**3.73**	**235**	IAmb_Lg		13 49 20.0	
	comp=Z,26nm,1.0s						
AMTX	**Amarillo**	**3.73**	**256**	IAmb_Lg		13 49 29.2	
	comp=Z,17nm,0.7s						
WHTX	**Lake Whitney,**	**3.89**	**182**	Pn	Pn	13 48 21.3	-0.2
X40A	**Basin Creek Fa**	**3.90**	**110**	IAmb_Lg		13 49 31.6	
	comp=Z,16nm,0.8s						
WHAR	**Wooly Hollow**	**4.11**	**97**	Pn	Pn	13 48 24.8	+0.3
FCAR	**Ozark Folk Cen**	**4.19**	**89**	Pn	Pn	13 48 25.6	+0.1
FCAR				IAmb_Lg		13 49 32.5	
	comp=Z,14nm,0.7s						
MGMO	**Mountain Grove**	**4.23**	**71**	IAmb_Lg		13 49 41.8	
	comp=Z,14nm,0.7s						
SN01	**Snyder 1**	**4.25**	**226**	IAmb_Lg		13 49 41.1	
	comp=Z,36nm,0.9s						
RTBA	**Rita Blanca**	**4.45**	**279**	IAmb_Lg		13 49 51.7	
	comp=Z,9.4nm,0.7s						
POST	**Post**	**4.48**	**232**	IAmb_Lg		13 49 47.7	
	comp=Z,28nm,0.8s						
R40A	**Maddies Statio**	**4.67**	**58**	IAmb_Lg		13 49 55.7	
	comp=Z,24nm,0.9s						
P38A	**Dawn**	**4.77**	**37**	IAmb_Lg		13 49 51.2	
	comp=Z,30nm,1.2s						
BRDY	**Brady**	**4.81**	**198**	IAmb_Lg		13 49 52.3	
	comp=Z,28nm,0.8s						
SGCY	**Sterling City**	**5.09**	**220**	IAmb_Lg		13 50 16.0	
	comp=Z,27nm,0.8s						
435B	**Jarrell**	**5.10**	**183**	IAmb_Lg		13 50 03.7	
	comp=Z,14nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.27**	**308**	IAmb_Lg		13 50 15.0	
	comp=Z,16nm,0.8s						
CCM	**Cathedral Cave**	**5.29**	**64**	IAmb_Lg		13 50 14.4	
	comp=Z,16nm,0.7s						
P40A	**Paris**	**5.51**	**47**	IAmb_Lg		13 50 22.3	
	comp=Z,22nm,0.7s						
BGNE	**Belgrade**	**5.55**	**353**	IAmb_Lg		13 50 26.6	
	comp=Z,16nm,0.8s						
PBMO	**Poplar Bluff**	**5.60**	**79**	IAmb_Lg		13 50 17.0	
	comp=Z,16nm,0.7s						
JCT	**Junction City**	**5.79**	**202**	IAmb_Lg		13 50 33.2	
	comp=Z,16nm,0.8s						
FVM	**French Village**	**5.88**	**67**	IAmb_Lg		13 50 38.3	
	comp=Z,8.4nm,0.8s						
T25A	**Trinidad**	**5.88**	**284**	IAmb_Lg		13 50 34.2	
	comp=Z,12nm,0.7s						
OZNA	**Ozona**	**5.91**	**214**	IAmb_Lg		13 50 36.3	
	comp=Z,14nm,0.8s						
MNHN	**Monahans**	**6.44**	**227**	IAmb_Lg		13 50 51.5	
	comp=Z,9.9nm,0.8s						
DRIO	**Del Rio**	**7.04**	**204**	IAmb_Lg		13 51 18.4	
	comp=Z,5.6nm,0.8s						
SAND	**Sanderson**	**7.18**	**216**	IAmb_Lg		13 51 17.7	
	comp=Z,11nm,1.0s						
ALPN	**Alpine**	**7.66**	**226**	IAmb_Lg		13 51 29.3	
	comp=Z,7.5nm,0.8s						

IDC 18 14:45:14.0±4.4,0.19N×16.89W,h0km,mb3.8/2, mbtmp3.9/3,ML3.4/1,MS3.6/11,Error ellipse: s-maj=113.3km s-min=42.2km az=118.0,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.31**	**163**	T	T	14 54 35.5	
	baz=348,slow=74,SNR=90						
H10N3	**ASCENSION HYDR**	**8.32**	**163**	T	T	14 54 34.8	
	baz=348,slow=74,SNR=100						
H10N1	**ASCENSION HYDR**	**8.33**	**163**	T	T	14 54 35.2	
	baz=348,slow=74,SNR=100						
DBIC	**Dimbokro**	**13.62**	**62**	Pn	Pn	14 48 30.2	+1.5
	0.2nm,0.3s,baz=248,slow=11,SNR=1.6						
DBIC				LR	LR	14 52 35.3	
	comp=Z,118nm,19.9s,baz=210,slow=32						
	1.9nm,0.6s						
TORD	**Torodi Ar. Bea**	**22.47**	**54**	P	P	14 50 14.6	-0.5
	1.8nm,0.9s,baz=230,slow=9.2,SNR=7.3						
TORD				LR	LR	14 57 55.9	
	comp=Z,74nm,18.6s,baz=192,slow=34						
	1.8nm,0.9s						
H09N1	**TRISTAN DA CUN**	**37.31**	**174**	T	T	15 33 23.2	
	SNR=34						
TSUM	**Tsumeb**	**38.92**	**122**	LR	LR	15 04 40.8	
	comp=Z,84nm,21.1s,baz=328,slow=30						
CPUP	**Villa Florida**	**47.03**	**233**	LR	LR	15 13 46.0	
	comp=Z,71nm,18.6s,baz=205,slow=36						
SUR	**Sutherland**	**48.10**	**136**	LR	LR	15 09 47.2	
	comp=Z,66nm,19.5s,baz=262,slow=31						
LBTB	**Lobatse**	**48.11**	**125**	LR	LR	15 11 21.8	
	comp=Z,41nm,19.2s,baz=222,slow=33						
BOSA	**Boshof**	**49.43**	**129**	P	P	14 54 06.0	-0.3
	2.4nm,0.9s,baz=321,slow=6.5,SNR=3.4						
BOSA				LR	LR	15 10 37.4	
	comp=Z,52nm,19.6s,baz=196,slow=31						
	2.4nm,0.9s						
KMBO	**Kilima Mbogo**	**54.15**	**92**	LR	LR	15 15 13.9	
	comp=Z,74nm,20.7s,baz=86,slow=33						
ATAH	**Atahualpa**	**61.77**	**262**	LR	LR	15 22 00.2	
	comp=Z,54nm,18.4s,baz=156,slow=36						
JTS	**Las Juntas de**	**68.40**	**281**	LR	LR	15 26 42.6	
	comp=Z,48nm,18.7s,baz=54,slow=36						
ULM	**Lac du Bonnet**	**82.81**	**321**	LR	LR	15 31 07.8	
	comp=Z,54nm,19.3s,baz=70,slow=33						
ASAR	**Alice Springs**	**143.28**	**132**	PKhKP	PKPpre	15 04 46.0	
	0.2nm,0.7s,baz=212,slow=3.2,SNR=1.5						
WRA	**Warramunga Arr**	**145.66**	**127**	PKPbc	PKPdf	15 04 55.1	-0.4
	0.3nm,0.6s,baz=239,slow=2.8,SNR=7.1						

NEIC ***18*** *14:52:09.2±1.2,45.71N±0.03×112.18W±0.05,h5km±1km, ML2.9/40,ML3.0/17(BUT),Error ellipse: s-maj=7.2km s-min=2.9km az=232.0*

BUT 18 14:52:09.6±1.0,45.73N±0.02×112.13W±0.05,h5km±1km, Error ellipse: s-maj=4.9km s-min=2.5km az=61.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZ	**Bozeman (W)**	**0.37**	**110**	Pg	Pg	14 52 16.5	-0.4
BOZ				Sg	Sg	14 52 21.2	-0.6
BOZ				IAML		14 52 21.9	
	2μm,0.3s						
BOZ				IAML		14 52 22.4	
	1μm,0.4s						
ELMT	**Elliston**	**0.83**	**342**		Pg	14 52 25.6	0.0
BEMT	**Mount Belmont**	**1.03**	**352**	Pg	Pg	14 52 29.5	+0.1
YHL	**Hebgen Lake**	**1.10**	**142**		Pg	14 52 30.2	-0.5
YHL				Sg	Sg	14 52 44.4	-0.6
YHL				IAML		14 52 45.9	
	comp=N,187nm,0.4s						
YHL				IAML		14 52 51.5	
	comp=E,260nm,0.4s						
BPMT	**Black Pine Rid**	**1.16**	**308**	Pg	Pg	14 52 31.4	-0.4
GCR	**Grayling Creek**	**1.18**	**142**		Pg	14 52 32.0	-0.2
YHB	**Horse Butte**	**1.18**	**146**		Pb	14 52 32.4	-0.2
YPDC	**Denny Creek**	**1.20**	**148**		Pg	14 52 32.1	-0.4
LYMT	**Lyon Mountain**	**1.25**	**355**		Pg	14 52 32.9	-0.6
YMC	**Maple Creek**	**1.25**	**140**		Pg	14 52 33.0	-0.6
CMI	**Centennial Mou**	**1.25**	**163**		Pg	14 52 33.2	-0.5
YMV	**Mammoth Vault**	**1.26**	**126**		Pn	14 52 34.6	+0.6
YHH	**Holmes Hill**	**1.30**	**136**		Pg	14 52 33.6	-0.9
YPWB	**West Boundary**	**1.34**	**147**		Pb	14 52 36.1	+0.9
YMR	**

MFID	**Camas Ranch**	**3.51**	**230**		Pn		14 53 04.6	-0.3
BMO	**Blue Mountains**	**3.76**	**258**	Pn	Pn		14 53 07.9	-0.4
BMO				IAML			14 54 08.2	
	comp=E,19nm,0.7s							
BMO				IAML			14 54 08.6	
	comp=E,17nm,0.3s							
LAO	**LASA Array**	**4.21**	**75**	Pn	Pn		14 53 13.5	-1.0
D08A	**Wollman Farm,**	**4.88**	**288**	Pn	Pn		14 53 23.4	-0.3
E07A	**Sunnyside**	**5.43**	**282**	Pn	Pn		14 53 31.5	+0.2
I07A	**Izee**	**5.49**	**255**	Pn	Pn		14 53 31.7	-0.4
LON	**Longmire**	**6.79**	**282**	Pn	Pn		14 53 50.0	+0.1

IDC 18 14:56:34.9±1.6, 5°23S×146°13E, h0km, mb3.3/2, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=67.1km s-min=26.9km az=112.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.28**	**166**	Pn	Pn	14 57 41.7	+0.4
	8.2nm,0.4s,baz=3.9,slow=6.3,SNR=13						
PMG				Sn	Sn	14 58 24.8	-7.2
	8.2nm,0.3s,baz=302,slow=23,SNR=15						
WRA	**Warramunga Arr**	**18.59**	**217**	P	P	15 00 52.8	-1.0
	0.1nm,0.3s,baz=37,slow=11,SNR=14						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**21.79**	**212**	P	P	15 01 28.9	+0.2
	0.3nm,0.6s,baz=51,slow=8.1,SNR=8.6						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**85.12**	**23**	P	P	15 09 12.6	+0.1
	0.4nm,0.6s,baz=256,slow=4.9,SNR=10						
	0.4nm,0.6s						

*IDC **18** 15:09:29.6±0.8, 0.07N×123.34E, h150km±7km, mb4.3/29, mbtmp4.7/30, MS3.2/4, Error ellipse: s-maj=13.8km s-min=7.9km az=81.0*

*NEIC **18** 15:09:29.6±2.2, 0.07N±0.08×123.47E±0.07, h143km±4km, mb4.9/88, Error ellipse: s-maj=11.3km s-min=10.4km az=204.0*

*DJA **18** 15:09:31.4±0.2, 0.2°S±2°×12°3E±°, h129km±3km, M5.0/18, mb5.0/18, mB5.3/8, MLv5.3/15, Mw(mB)4.8/8*

ISC 18 15:09:30.1±0.4, 0.02S±0.04×123.44E±0.04, h154km±3km, h154km:pP-P, n262, σ1948/271, mb4.8/87, 4C-2D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.80**	**42**	P	**Pn**	**15 09 54.2**	**+0.6**
KMSI				S	**Sn**	**15 10 12.9**	**+1.2**
LUWI	**Luwuk**	**1.22**	**213**		**Pn**	**15 09 56.5**	**-0.6**
LUWI	**Luwuk**	**1.22**	**213**	P	**Pn**	**15 09 56.8**	**-0.3**
LUWI	**Luwuk**	**1.22**	**213**	P	**Pn**	**15 09 56.5**	**-0.6**
LUWI				S	**Sn**	**15 10 15.0**	**-2.9**
MRSI	**Marisa**	**1.58**	**288**	P	**Pn**	**15 09 59.6**	**-1.1**
MRSI				S	**Sn**	**15 10 21.6**	**-2.7**
TOLI2	**Tolitoli**	**2.89**	**293**	Pn	**Pn**	**15 10 15.6**	**-0.6**
TOLI2	**Tolitoli**	**2.89**	**293**	P	**Pn**	**15 10 16.3**	**+0.1**
SANI	**Sanana**	**3.25**	**128**	P	**Pn**	**15 10 19.2**	**-1.5**
SANI	**Sanana**	**3.25**	**128**	P	**Pn**	**15 10 18.5**	**-2.2**
SANI				S	**Sn**	**15 10 54.8**	**-5.2**
MPSI	**Mapaga**	**3.56**	**276**	P	**Pn**	**15 10 24.8**	**+0.1**
TNTI	**Ternate**	**4.00**	**79**	Pn	**Pn**	**15 10 29.7**	**-0.7**
TNTI	**Ternate**	**4.00**	**79**	P	**Pn**	**15 10 30.4**	**-0.1**
TNTI	**Ternate**	**4.00**	**79**	P	**Pn**	**15 10 29.9**	**-0.6**
SGSI	**Sangihe**	**4.23**	**30**	P	**Pn**	**15 10 34.4**	**+0.9**
TTSI	**Tana Toraja**	**4.71**	**230**	P	**Pn**	**15 10 40.4**	**+0.7**
SPSI	**Sidrap Palu**	**5.37**	**223**	P	**Pn**	**15 10 50.1**	**+1.6**
	248nm,0.7s,3μm1.8nm						
BBSI	**Bau Bau**	**5.50**	**189**	P	**Pn**	**15 10 49.8**	**-0.4**
KAPI	**Kappang**	**6.18**	**217**	Pn	**Pn**	**15 11 00.4**	**+1.2**
KAPI	**Kappang**	**6.18**	**217**	P	**Pn**	**15 11 00.8**	**+1.6**
	38nm,0.4s,baz=88,slow=3.6,SNR=15						
KAPI				S	**Sn**	**15 12 08.8**	**-0.3**
	190nm,0.6s,baz=212,slow=21,SNR=11						
KAPI				LR	LR	15 13 15.4	
	comp=Z,206nm,18.3s,baz=40,slow=36						
BKB	**Balikpapan**	**6.66**	**259**	Pn	**Pn**	**15 11 05.3**	**-0.3**
BKB	**Balikpapan**	**6.66**	**259**	P	**Pn**	**15 11 07.4**	**+1.8**
BKB	**Balikpapan**	**6.66**	**259**	P	**Pn**	**15 11 07.1**	**+1.5**
	2μm,0.8s,13μm5.5nm						
MYLDM	**Lahad Datu**	**7.14**	**316**	Pn	**Pn**	**15 11 13.7**	**+1.6**
DAV	**Davao City (W)**	**7.36**	**17**	LR	LR	15 14 26.5	
	comp=Z,209nm,19.4s,baz=206,slow=41						
BNDI	**Bandanaira**	**7.85**	**125**	P	**Pn**	**15 11 23.0**	**+1.4**
BNDI	**Bandanaira**	**7.85**	**125**	P	**Pn**	**15 11 22.2**	**+0.6**
	775nm,0.7s,6μm2.4nm						
EDFI	**Ende, Flores**	**8.85**	**191**	P	**Pn**	**15 11 35.8**	**+0.9**
	60nm,0.7s,1μm						
KKM	**Kota Kinabalu**	**9.40**	**310**	Pn	**Pn**	**15 11 42.9**	**+0.7**
SOEI	**Soe**	**9.71**	**175**	P	**Pn**	**15 11 47.3**	**+1.0**
	89nm,0.8s						
PLAI	**Plampang**	**10.41**	**213**	P	**Pn**	**15 11 58.1**	**+2.6**
JAGI	**Jajag, Banyuwa**	**12.50**	**228**	Pn	**Pn**	**15 12 23.9**	**+1.1**
JAGI	**Jajag, Banyuwa**	**12.50**	**228**	P	**Pn**	**15 12 23.8**	**+1.1**
	77nm,1.0s						
KSM	**Kuching**	**13.21**	**276**	P	**P**	**15 12 36.9**	**+0.6**
NGJI	**Ngawi**	**14.00**	**238**	P	**P**	**15 12 45.2**	**+0.2**
	60nm,1.2s						
MTN	**Manton Dam**	**14.85**	**149**	P	**P**	**15 12 53.6**	**-0.8**
	baz=15,SNR=66						
MTN	**Manton Dam**	**14.85**	**149**	P	**Pn**	**15 12 53.5**	**+0.9**
MTN	**Manton Dam**	**14.85**	**149**	P	**Pn**	**15 12 53.2**	**+0.7**
KDU	**Kakadu**	**15.45**	**145**	P	**Pn**	**15 13 00.3**	**+0.4**
	baz=16,SNR=21						
KDU	**Kakadu**	**15.45**	**145**	P	**Pn**	**15 13 00.1**	**+0.2**
KPJI	**Karang Pucung**	**16.19**	**243**	P	**P**	**15 13 11.0**	**+1.7**
	51nm,0.9s,2μm						
KNRA	**Kununurra**	**16.42**	**162**	P	**P**	**15 13 13.8**	**+2.0**
	baz=17,SNR=19						
KNRA	**Kununurra**	**16.42**	**162**	P	**P**	**15 13 12.2**	**+0.4**
KNRA	**Kununurra**	**16.42**	**162**	P	**P**	**15 13 14.2**	**+2.4**
GENI	**Genyem**	**16.91**	**99**	P	**Pn**	**15 13 19.5**	**+1.6**
	215nm,1.1s						
LEM	**Lembang**	**17.17**	**246**	P	**Pn**	**15 13 23.8**	**+2.7**
FITZ	**Fitzroy Crossi**	**18.10**	**173**	P	**P**	**15 13 30.4**	**+0.3**
	baz=18,SNR=14						
TABU	**Tabubil**	**18.51**	**107**	P	**Pn**	**15 13 37.1**	**+0.3**
MYKOM	**Kota Tinggi**	**19.67**	**275**	P	**P**	**15 13 46.9**	**-0.5**
XMIS	**Christmas Isla**	**20.52**	**239**	P	**P**	**15 13 58.1**	**+1.7**
MNAI	**Manna**	**20.92**	**258**	P	**P**	**15 14 01.8**	**+1.1**
MBWA	**Marble Bar**	**21.32**	**190**	P	**P**	**15 14 04.0**	**-1.0**
PSA00	**Pilbara Seismi**	**21.71**	**189**	P	**P**	**15 14 06.9**	**-2.2**
PSA00				IAmb	IAmb	15 14 07.3	
	comp=Z,95nm,2.0s						
PSA00	**Pilbara Seismi**	**21.71**	**189**	P	**P**	**15 14 09.8**	**+0.7**
WRA	**Warramunga Arr**	**22.50**	**152**	P	**P**	**15 14 16.5**	**-0.5**
WRA	**Warramunga Arr**	**22.50**	**152**	P	**P**	**15 14 16.7**	**-0.2**
	comp=Z,3.7nm,0.4s,baz=335,slow=9.7,SNR=86						
WRA				pP	**pP**	**15 14 45.0**	**0.0**
	comp=Z,10.0nm,0.7s,baz=330,slow=11,SNR=8.5						
WRA				PcP	**PcP**	**15 18 05.8**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=329,slow=2.2,SNR=7.8						
WRA				ScP	**ScP**	**15 21 29.3**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=332,slow=2.7,SNR=9.1						
WRA				PKiKP	**PKiKP**	**15 25 49.2**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=309,slow=1.3,SNR=6.1						
	comp=Z,3.7nm,0.4s						
WR0	**Warramunga Arr**	**22.60**	**152**	P	**P**	**15 14 18.0**	**+0.1**
TWGBT	**Beinan**	**22.82**	**354**	P	**P**	**15 14 20.0**	**+0.1**
TPUB	**Ta-pu**	**23.34**	**353**	P	**P**	**15 14 25.4**	**+0.7**
TPUB	**Ta-pu**	**23.34**	**353**	P	**P**	**15 14 25.2**	**+0.5**
YULB	**Yu-li**	**23.36**	**355**	P	**P**	**15 14 24.4**	**-0.5**
SSLB	**Suanglung**	**23.79**	**354**	P	**P**	**15 14 29.4**	**+0.6**
SSLB				IAmb	IAmb	15 14 31.3	
	comp=Z,44nm,0.8s						
SSLB	**Suanglung**	**23.79**	**354**	P	**P**	**15 14 29.7**	**+0.9**
YHNB	**Yeheng**	**24.62**	**355**	P	**P**	**15 14 38.3**	**+1.9**
WRKA	**Warakurna**	**25.31**	**170**	P	**P**	**15 14 43.4**	**+0.8**
	baz=26,SNR=23						
WRKA	**Warakurna**	**25.31**	**170**	P	**P**	**15 14 43.6**	**+1.0**
AS31	**Alice Springs**	**25.61**	**157**	P	**P**	**15 14 46.1**	**+0.8**
ASAR	**Alice Springs**	**25.61**	**157**	P	**P**	**15 14 46.6**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=345,slow=13,SNR=24						
ASAR				pP	**pP**	**15 15 16.9**	**+0.1**
	comp=Z,4.3nm,0.7s,baz=347,slow=14,SNR=9.5						
ASAR				PcP	**PcP**	**15 18 12.8**	**+0.5**
	comp=Z,4.7nm,0.5s,baz=346,slow=2.1,SNR=24						
ASAR				ScP	**ScP**	**15 21 38.0**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=339,slow=2.7,SNR=13						
ASAR				LR	LR	15 25 44.1	
	comp=Z,42nm,18.4s,baz=352,slow=38						
ASAR				PKiKP	**PKiKP**	**15 25 50.1**	**-2.5**
	comp=Z,0.3nm,0.7s,baz=332,slow=1.1,SNR=5.6						
	comp=Z,1.3nm,0.6s						
QIS	**Mount Isa**	**25.82**	**143**	P	**P**	**15 14 48.8**	**+1.6**
	baz=26,SNR=8.8						
QIS	**Mount Isa**	**25.82**	**143**	P	**P**	**15 14 48.8**	**+1.6**
GSI	**Gunungsitoli**	**25.90**	**273**	P	**P**	**15 14 46.8**	**-1.2**
GSI				IAmb	IAmb	15 15 23.9	
	comp=Z,21nm,0.8s						
MEEK	**Meekatharra**	**26.87**	**190**	P	**P**	**15 14 56.6**	**+0.1**
	baz=27,SNR=6.3						
MEEK	**Meekatharra**	**26.87**	**190**	P	**P**	**15 14 56.7**	**+0.1**
SRDT	**SRDT**	**27.98**	**302**	P	**P**	**15 15 08.1**	**+1.5**
CRAI	**Chiangrai**	**30.25**	**313**	P	**P**	**15 15 26.9**	**+0.3**
CM31	**Chiang Mai Arr**	**30.27**	**309**	IAmb	IAmb	15 15 30.1	
	comp=Z,14nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.27**	**309**	P	**P**	**15 15 27.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**30.27**	**309**	P	**P**	**15 15 27.3**	**+0.5**
	comp=Z,13nm,0.7s,baz=134,slow=7.1,SNR=68						
CMAR				PcP	**PcP**	**15 18 24.6**	**+0.8**
	comp=Z,1.7nm,0.4s,baz=154,slow=1.7,SNR=8.4						
	comp=Z,13nm,0.7s						
CHTO	**Chiang Mai**	**30.48**	**309**	P	**P**	**15 15 28.7**	**0.0**
CHTO				IAmb	IAmb	15 15 32.1	
	comp=Z,31nm,0.8s						
CHTO	**Chiang Mai**	**30.48**	**309**	P	**P**	**15 15 30.3**	**+1.7**
CHTO	**Chiang Mai**	**30.48**	**309**	P	**P**	**15 15 29.6**	**+0.9**
CHTO				PcP	**PcP**	**15 18 24.6**	**+0.2**
FORT	**Forrest**	**30.90**	**172**	P	**P**	**15 15 32.9**	**+0.7**
	baz=31,SNR=18						
FORT	**Forrest**	**30.90**	**172**	P	**P**	**15 15 32.6**	**+0.4**
FORT	**Forrest**	**30.90**	**172**	P	**P**	**15 15 32.8**	**+0.6**
BLDU	**Ballidu**	**31.09**	**191**	P	**P**	**15 15 33.8**	**-0.1**
	baz=31,SNR=9.4						
BLDU	**Ballidu**	**31.09**	**191**	P	**P**	**15 15 33.7**	**-0.2**
WHN	**Wuhan**	**31.60**	**345**	⇑P	**P**	**15 15 40.8**	**+2.5**
MULG	**Mulgathing**	**31.75**	**162**	P	**P**	**15 15 41.0**	**+1.4**
INKA	**Innaminka**	**32.18**	**150**	P	**P**	**15 15 45.9**	**+2.4**
NJ2	**Nanjing**	**32.19**	**353**	⇑P	**P**	**15 15 45.5**	**+2.0**
NJ2				pP	**pP**	**15 16 14.8**	**-1.3**
NJ2				sP	**sP**	**15 16 31.6**	**-2.2**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,190nm,5.7s						
JCJ	**Chichijima**	**32.43**	**32**	P	**P**	**15 15 45.2**	**-0.5**
ENH	**Enshi**	**32.92**	**337**	P	**P**	**15 15 47.2**	**-2.8**
ENH	**Enshi**	**32.92**	**337**	P	**P**	**15 15 51.4**	**+1.5**
QLP	**Quilpie**	**33.14**	**144**	P	**P**	**15 15 53.3**	**+1.4**
	baz=33,SNR=3.7						
QLP	**Quilpie**	**33.14**	**144**	P	**P**	**15 15 53.3**	**+1.4**
NWAO	**Narrogin (SRO)**	**33.25**	**190**	P	**P**	**15 15 53.3**	**+0.6**
LCRK	**Leigh Creek**	**33.36**	**156**	P	**P**	**15 15 54.9**	**+1.2**
PZH	**PanZhiHua**	**33.65**	**323**	P	**P**	**15 15 57.5**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,260nm,7.4s						
TNCH	**TengChong**	**34.66**	**318**	P	**P**	**15 16 06.8**	**+1.6**
TNCH				pmax	pmax		
	comp=Z,13nm,0.7s						
TNCH				pmax	pmax		
	comp=Z,120nm,4.8s						
BBOO	**Buckleboo**	**34.72**	**161**	P	**P**	**15 16 06.2**	**+0.8**
JMN	**Monobe**	**34.97**	**15**	P	**P**	**15 16 07.8**	**+0.2**
LYN	**LuoYang**	**35.89**	**344**	⇓P	**P**	**15 16 16.1**	**+0.7**
LYN				pmax	pmax		
	comp=Z,41nm,0.8s						
CD2	**Chengdu**	**35.99**	**330**	P	**P**	**15 16 17.4**	**+1.0**
CD2				pmax	pmax		
	comp=Z,40nm,0.7s						
STKA	**Stephens Creek**	**36.04**	**153**	P	**P**	**15 16 18.2**	**+1.5**
	baz=36,SNR=15						
STKA	**Stephens Creek**	**36.04**	**153**	P	**P**	**15 16 18.0**	**+1.3**
STKA	**Stephens Creek**	**36.04**	**153**	P	**P**	**15 16 18.2**	**+1.5**
	comp=Z,6.9nm,0.6s,baz=326,slow=10.0,SNR=17						
STKA				PcP	**PcP**	**15 18 40.9**	**+1.2**
	comp=Z,1.8nm,0.5s,baz=2.1,slow=3.7,SNR=4.8						
	comp=Z,6.9nm,0.6s						
HTT	**Hallett**	**36.28**	**158**	P	**P**	**15 16 20.9**	**+2.1**
	baz=37,SNR=9.2						
HTT	**Hallett**	**36.28**	**158**	P	**P**	**15 16 20.9**	**+2.1**
XAN	**Xi'an**	**36.52**	**340**	⇓P	**P**	**15 16 21.4**	**+0.6**
XAN				pP	pP	15 16 57.0	+3.0
XAN				pmax	pmax		
	comp=Z,36nm,0.7s						
XAN	**Xi'an**	**36.52**	**340**	P	**P**	**15 16 20.9**	**+0.2**
KSRS	**Korea Array**	**37.52**	**6**	P	**P**	**15 16 28.9**	**-0.2**
	comp=Z,3.4nm,0.6s,baz=182,slow=9.9,SNR=15						
KSRS				LR	LR	15 31 10.4	
	comp=Z,33nm,21.7s,baz=160,slow=35						
	comp=Z,3.4nm,0.6s						
CMSA	**Cobar Meteorol**	**37.77**	**148**	P	**P**	**15 16 33.4**	**+2.1**
	baz=38,SNR=14						
CMSA	**Cobar Meteorol**	**37.77**	**148**	P	**P**	**15 16 33.5**	**+2.1**
MJAR	**Matsushiro Arr**	**38.87**	**19**	P	**P**	**15 16 39.4**	**-1.1**
	comp=Z,13nm,0.8s,baz=194,slow=8.8,SNR=25						
	comp=Z,13nm,0.8s						
MAJO	**Matsushiro**	**38.87**	**19**	P	**P**	**15 16 39.2**	**-1.3**
MAJO				IAmb	IAmb	15 16 39.8	
	comp=Z,18nm,0.9s						
MAJO	**Matsushiro**	**38.87**	**19**	P	**P**	**15 16 39.9**	**-0.6**
MAJO	**Matsushiro**	**38.87**	**19**	P	**P**	**15 16 39.1**	**-1.5**
MAJO				sP	**sP**	**15 17 28.0**	**-3.4**
MJB9	**Matsu-Tunnel**	**38.88**	**19**	P	**P**	**15 16 40.3**	**-0.2**
MJB9				IAmb	IAmb	15 16 40.8	
	comp=Z,17nm,0.9s						
LZH	**Lanzhou**	**40.28**	**335**	*e*P	**P**	**15 16 53.6**	**+1.3**
LZH				pP	pP	15 17 32.4	+6.2
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
ARPS	**Mount Arapiles**	**40.35**	**157**	P	**P**	**15 16 54.3**	**+1.6**
	baz=41,SNR=7.2						
BJT	**Baijiatuan**	**40.40**	**351**	P	**P**	**15 16 52.4**	**-0.6**
ARMA	**Armidale**	**40.40**	**141**	P	**P**	**15 16 56.1**	**+2.7**
	baz=41,SNR=6.8						
ARMA	**Armidale**	**40.40**	**141**	P	**P**	**15 16 55.9**	**+2.5**
JMM	**Marumori**	**40.95**	**21**	P	**P**	**15 16 56.8**	**-0.9**
JMM	**Marumori**	**40.95**	**21**	P	**P**	**15 16 59.8**	**+2.2**
HHC	**Hu-ho-hao-te**	**42.09**	**347**	*e*P	**P**	**15 17 08.9**	**+2.0**
HHC				pmax	pmax		
	comp=Z,32nm,0.5s						
HHC				pmax	pmax		
	comp=Z,360nm,5.6s						
BTO	**Baotou**	**42.24**	**345**	*e*P	**P**	**15 17 10.9**	**+2.7**
BTO				pP	**pP**	**15 17 46.5**	**+4.4**
BTO				sP	**sP**	**15 18 04.6**	**+5.1**
BTO				PP	**PP**	**15 18 53.8**	**+4.5**
BTO				S	**S**	**15 23 22.3**	**+5.2**
BTO				pmax	pmax		
	comp=Z,18nm,0.5s						
BTO				pmax	pmax		
	comp=Z,370nm,5.0s						
BTO				LR	LR		
	comp=Z,290nm,7.6s						
BTO				LR	LR		
	comp=Z,290nm,7.0s						
BTO				LR	LR		
	comp=Z,320nm,12.2s						
CAN	**Canberra**	**42.45**	**148**	P	**P**	**15 17 11.7**	**+1.8**
CAN				IAmb	IAmb	15 17 13.1	
	comp=Z,16nm,0.6s						
CAN	**Canberra**	**42.45**	**148**	P	**P**	**15 17 12.7**	**+2.8**
CAN	**Canberra**	**42.45**	**148**	P	**P**	**15 17 12.1**	**+2.2**
CAN				pP	**pwP**	**15 17 44.7**	**-1.1**
CAN				PcP	**PcP**	**15 19 01.0**	**+0.9**
CNB	**Canberra Magne**	**42.63**	**148**	P	**P**	**15 17 14.2**	**+2.8**
	baz=43,SNR=9.5						
CNB	**Canberra Magne**	**42.63**	**148**	P	**P**	**15 17 14.1**	**+2.7**
LSA	**Lhasa**	**42.66**	**317**	P	**P**	**15 17 11.8**	**-0.5**
LSA				IAmb	IAmb	15 17 16.2	
	comp=Z,13nm,0.5s						
LSA	**Lhasa**	**42.66**	**317**	P	**P**	**15 17 14.0**	**+1.8**
JTM	**Tenmabayashi**	**43.66**	**19**	P	**P**	**15 17 20.8**	**+1.3**
ODAN	**Odare**	**43.77**	**311**	*e*P	**P**	**15 17 21.2**	**+0.3**
TAPN	**Taplejung**	**43.79**	**311**	*e*P	**P**	**15 17 21.4**	**+0.3**
XLT	**XiLinHaoTe**	**44.22**	**352**	*e*P	**P**	**15 17 23.4**	**-0.6**
XLT				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,170nm,5.8s						
RAMN	**Ramite**	**44.42**	**310**	*e*P	**P**	**15 17 27.3**	**+1.2**
	comp=Z,112nm,0.7s						
USRK	**Ussuriysk Ar.**	**44.68**	**9**	P	**P**	**15 17 27.4**	**-0.1**
	comp=Z,5.4nm,0.6s,baz=190,slow=6.0,SNR=27						
	comp=Z,5.4nm,0.6s						
MDJ	**Mudanjiang**	**44.78**	**6**	P	**P**	**15 17 27.1**	**-1.2**
MDJ	**Mudanjiang**	**44.78**	**6**	P	**P**	**15 17 27.4**	**-0.9**
MDJ				pP	pP	15 18 00.4	-2.2
MDJ				sP	sP	15 18 17.5	-2.3
MDJ				PP	**PP**	**15 19 17.0**	**+0.9**
MDJ				ScS	ScS	15 27 06.3	-3.3
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,380nm,6.4s						
MDJ				LR	LR		
	comp=Z,310nm,6.2s						
MDJ				LR	LR		
	comp=Z,280nm,5.6s						
MDJ				LR	LR		
	comp=Z,340nm,5.8s						
MDJ	**Mudanjiang**	**44.78**	**6**	P	**P**	**15 17 27.2**	**-1.1**
GTA	**Gaotai**	**44.80**	**334**	⇑P	**P**	**15 17 29.9**	**+1.1**
GTA				PcP	**PcP**	**15 19 08.5**	**+0.4**
GTA				pmax	pmax		
	comp=Z,30nm,0.8s						
JIRN	**Jiri**	**45.10**	**311**	*e*P	**P**	**15 17 31.8**	**+0.2**
	comp=Z,51nm,0.4s						
ERM	**Erimo**	**45.47**	**21**	P	**P**	**15 17 34.9**	**+1.1**
PKI	**Pulchoki**	**45.65**	**310**	*e*P	**P**	**15 17 35.8**	**-0.1**
	comp=Z,34nm,0.5s						
PKIN	**Phulchoki**	**45.66**	**310**	*e*P	**P**	**15 17 35.8**	**-0.1**
	comp=Z,33nm,0.5s						
KKN	**Kakani**	**45.86**	**310**	*e*P	**P**	**15 17 37.0**	**-0.4**
DMN	**Daman**	**45.90**	**310**	*e*P	**P**	**15 17 38.4**	**+0.6**
	comp=Z,47nm,0.6s						
GKN	**Gorkha**	**46.46**	**310**	*e*P	**P**	**15 17 42.5**	**+0.5**
	comp=Z,20nm,0.3s						
KOLN	**Koldanda**	**47.14**	**309**	*e*P	**P**	**15 17 47.2**	**-0.2**
DANN	**Dangsing**	**47.30**	**310**	*e*P	**P**	**15 17 48.8**	**+0.1**
	comp=Z,168nm,0.7s						
PYUN	**Piuthan**	**47.77**	**309**	*e*P	**P**	**15 17 52.4**	**+0.2**
	comp=Z,290nm,0.9s						
HIA	**Hailar**	**49.20**	**357**	IAmb	IAmb	15 18 02.5	
	comp=Z,11nm,0.6s						
HIA	**Hailar**	**49.20**	**357**	P	**P**	**15 18 02.1**	**-0.4**
ULN	**Ulaanbaatar**	**49.78**	**346**	P	**P**	**15 18 07.0**	**-0.2**
ULN				IAmb	IAmb	15 18 08.5	
	comp=Z,15nm,0.6s						
ULN	**Ulaanbaatar**	**49.78**	**346**	P	**P**	**15 18 06.8**	**-0.3**
ULN				PcP	**PcP**	**15 19 24.7**	**-1.0**
SONM	**Songino Array**	**49.92**	**345**	P	**P**	**15 18 07.8**	**-0.3**
SONM				IAmb	IAmb	15 18 09.4	
	comp=Z,14nm,0.7s						
SONM	**Songino Array**	**49.92**	**345**	P	**P**	**15 18 07.6**	**-0.5**
	comp=Z,17nm,0.8s,baz=161,slow=8.7,SNR=78						
SONM				PcP	**PcP**	**15 19 25.5**	**-0.7**
	comp=Z,3.7nm,0.7s,baz=175,slow=3.4,SNR=6.2						
	comp=Z,17nm,0.8s						
HEH	**HeiHe**	**50.20**	**3**	*e*P	**P**	**15 18 08.6**	**-1.4**
HEH				pmax	pmax		
	comp=Z,23nm,0.8s						
WMQ	**Urumqi**	**54.04**	**329**	*e*P	**P**	**15 18 39.5**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
NIL	**Nilore**	**57.73**	**311**	P	**P**	**15 19 04.7**	**-0.4**
NIL				IAmb	IAmb	15 19 06.0	
	comp=Z,11nm,0.8s						
NIL	**Nilore**	**57.73**	**311**	P	**P**	**15 19 05.6**	**+0.5**
ZSN	**Zaisan**	**57.97**	**330**	*e*P	**P**	**15 19 05.5**	**-0.9**
	baz=330						
SHLS	**Shalkode**	**58.24**	**323**	*e*P	**P**	**15 19 05.5**	**-3.1**
	baz=324						
KSH	**Kashi**	**58.49**	**318**	P	**P**	**15 19 10.4**	**+0.1**
KSH				PcP	**PcP**	**15 19 59.8**	**+0.6**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SATY	**Saty**	**58.82**	**323**	*e*P	**P**	**15 19 11.3**	**-1.3**
	comp=Z,5.3nm,0.6s,baz=323						
MK31	**Makanchi Array**	**58.86**	**328**	IAmb	IAmb	15 19 13.5	
	comp=Z,7.1nm,0.5s						
MKAR	**Makanchi Array**	**58.86**	**328**	P	**P**	**15 19 11.8**	**-0.8**
	comp=Z,10.0nm,0.5s,baz=122,slow=8.3,SNR=130						
MKAR				PcP	**PcP**	**15 19 59.2**	**-1.2**
	comp=Z,3.8nm,0.4s,baz=161,slow=2.8,SNR=14						
	comp=Z,10.0nm,0.5s						
KPKS	**Kokpek**	**58.88**	**323**	*e*P	**P**	**15 19 11.7**	**-1.2**
	baz=323						
MAKZ	**Makanchi**	**59.04**	**328**	P	**P**	**15 19 12.7**	**-1.2**
MAKZ				IAmb	IAmb	15 19 14.6	
	comp=Z,7.6nm,0.5s						
MAKZ	**Makanchi**	**59.04**	**328**	P	**P**	**15 19 13.2**	**-0.6**
MAKZ	

H19K	**Roundabout Mou**	**85.91**	**24**	IAmb	IAmb	15 21 53.9	
	comp=Z,16nm,0.6s						
N19K	**Bonanza Creek**	**86.14**	**29**	IAmb	IAmb	15 23 24.5	
	comp=Z,28nm,1.6s						
KMBO	**Kilima Mbogo**	**86.19**	**269**	P	**P**	**15 21 54.6**	**-0.6**
KMBO	**Kilima Mbogo**	**86.19**	**269**	P	**P**	**15 21 54.5**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=48,slow=5.8,SNR=6.8						
	comp=Z,3.0nm,0.7s						
ARPR	**Arapgir-MALATY**	**86.20**	**309**	IAmb	IAmb	15 21 55.3	
	comp=Z,25nm,1.3s						
KDAK	**Kodiak Island**	**86.79**	**32**	P	**P**	**15 21 56.8**	**-0.1**
	comp=Z,6.0nm,0.5s,baz=147,slow=1.3,SNR=15						
	comp=Z,6.0nm,0.5s						
KLMR	**Klimovskoe**	**87.05**	**331**	*eP*	**P**	**15 21 54.6**	**-3.4**
KLMR				AMP		15 21 57.2	
	comp=Z,11nm,0.7s						
G21K	**Allakaket**	**87.24**	**23**	IAmb	IAmb	15 22 15.5	
	comp=Z,41nm,2.0s						
CAST	**Castle Rocks**	**87.53**	**27**	IAmb	IAmb	15 23 60.0	
	comp=Z,32nm,1.9s						
B22K	**Teshekpuk Lake**	**87.70**	**20**	IAmb	IAmb	15 22 03.3	
	comp=Z,18nm,1.3s						
MMAI	**Mount Meron Ar**	**88.36**	**303**	P	**P**	**15 22 06.2**	**+1.2**
	comp=Z,1.5nm,0.5s,baz=98,slow=6.0,SNR=6.4						
	comp=Z,1.5nm,0.5s						
C23K	**Itkillik River**	**88.61**	**20**	IAmb	IAmb	15 25 20.5	
	comp=Z,29nm,1.8s						
I23K	**Minto, Yukon-K**	**88.83**	**25**	IAmb	IAmb	15 22 07.4	
	comp=Z,6.9nm,0.7s						
TOLK	**Toolik Lake Re**	**88.91**	**21**	IAmb	IAmb	15 25 34.5	
	comp=Z,31nm,2.0s						
RND	**Reindeer**	**88.98**	**27**	IAmb	IAmb	15 22 06.9	
	comp=Z,7.8nm,0.8s						
BRTR	**Keskin Array B**	**89.86**	**310**	P	**P**	**15 22 09.7**	**-2.3**
	comp=Z,0.5nm,0.5s,baz=145,slow=8.8,SNR=3.7						
	comp=Z,0.5nm,0.5s						
IL31		**89.88**	**25**	IAmb	IAmb	15 22 23.3	
	comp=Z,31nm,1.9s						
ILAR	**Eielson Array**	**89.88**	**25**	P	**P**	**15 22 09.8**	**-1.5**
	comp=Z,1.1nm,0.5s,baz=242,slow=5.1,SNR=37						
ILAR				PKKPbc	**PKKPbc**	**15 39 43.4**	**-2.3**
	comp=Z,0.3nm,0.5s,baz=122,slow=2.6,SNR=5.1						
	comp=Z,1.1nm,0.5s						
QSPA	**South Pole Qui**	**89.91**	**180**	P	**P**	**15 22 11.1**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=260,slow=0.7,SNR=11						
	comp=Z,1.5nm,0.4s						
D25K	**Kavik River**	**90.08**	**21**	IAmb	IAmb	15 22 12.9	
	comp=Z,18nm,1.9s						
E25K	**Arctic Village**	**90.39**	**22**	IAmb	IAmb	15 25 08.0	
	comp=Z,16nm,1.8s						
E27K	**Coleen River**	**91.87**	**22**	IAmb	IAmb	15 24 10.4	
	comp=Z,23nm,1.9s						
AKASG	**Malin Array Be**	**92.69**	**321**	P	**P**	**15 22 22.2**	**-2.4**
	comp=Z,0.6nm,0.4s,baz=68,slow=4.5,SNR=5.5						
	comp=Z,0.6nm,0.4s						
ARCES	**ARCESS Array B**	**92.80**	**340**	P	**P**	**15 22 22.6**	**-2.2**
	comp=Z,2.4nm,0.7s,baz=81,slow=5.0,SNR=11						
	comp=Z,2.4nm,0.7s						
DAWY	**Dawson**	**93.16**	**26**	P	**P**	**15 22 26.5**	**-0.1**
I29M	**Ogilvie Camp,**	**93.47**	**25**	IAmb	IAmb	15 22 28.8	
	comp=Z,8.6nm,0.9s						
SPITS	**Spitsbergen Ar**	**93.49**	**349**	P	**P**	**15 22 26.4**	**-1.4**
	comp=Z,9.9nm,0.5s,baz=88,slow=9.3,SNR=31						
	comp=Z,9.9nm,0.5s						
FINES	**FINESS Array B**	**93.55**	**331**	P	**P**	**15 22 25.7**	**-2.6**
	comp=Z,1.0nm,0.6s,baz=80,slow=6.0,SNR=8.6						
	comp=Z,1.0nm,0.6s						
L29M	**L29M**	**93.84**	**27**	IAmb	IAmb	15 22 31.8	
	comp=Z,11nm,0.9s						
HYT	**Haines Junctio**	**94.44**	**29**	IAmb	IAmb	15 22 34.2	
	comp=Z,7.6nm,0.8s						
M30M	**Minto, Yukon**	**94.52**	**27**	IAmb	IAmb	15 22 34.5	
	comp=Z,8.2nm,1.0s						
MATP	**Matopo**	**94.63**	**250**	P	**P**	**15 22 34.0**	**-0.3**
	comp=Z,2.5nm,0.4s,baz=90,slow=5.9,SNR=14						
	comp=Z,2.5nm,0.4s						
LSZ	**Lusaka**	**95.06**	**255**	P	**P**	**15 22 34.8**	**-1.6**
LSZ	**Lusaka**	**95.06**	**255**	P	**P**	**15 22 36.0**	**-0.4**
	comp=Z,12nm,0.7s,baz=78,slow=4.5,SNR=18						
	comp=Z,12nm,0.7s						
HFS	**Hagfors**	**99.75**	**331**	P	**Pdif**	**15 22 54.0**	**-2.4**
	comp=Z,1.1nm,0.5s,baz=106,slow=4.9,SNR=11						
	comp=Z,1.1nm,0.5s						
DAG	**Danmarks Havn**	**100.49**	**352**	*i* P	**Pdif**	**15 22 57.0**	**-2.3**
YKA	**Yellowknife Ar**	**104.24**	**24**	PKiKP	**PKiKP**	**15 27 31.5**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=314,slow=2.3,SNR=5.5						
NVAR	**Mina Array Bea**	**111.84**	**48**	PKiKP	**PKiKP**	**15 27 47.3**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=266,slow=3.1,SNR=6.2						
PDAR	**Pinedale Array**	**116.32**	**41**	PKP	**PKiKP**	**15 27 56.8**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=139,slow=2.7,SNR=8.0						
U15A	**North Rim**	**117.02**	**48**	PKPdf	**PKiKP**	**15 27 58.8**	**+1.2**
SRU	**San Rafael Swe**	**117.25**	**45**	PKPdf	**PKiKP**	**15 27 58.0**	**+0.1**
RSSD	**Black Hills**	**119.14**	**37**	PKPdf	**PKPdf**	**15 28 01.3**	**-0.1**
ULM	**Lac du Bonnet**	**119.80**	**28**	PKP	**PKPdf**	**15 28 01.5**	**-0.6**
	comp=Z,5.6nm,0.6s,baz=274,slow=1.3,SNR=15						
TORD	**Torodi Ar. Bea**	**120.84**	**285**	PKP	**PKPdf**	**15 28 04.2**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=74,slow=2.2,SNR=23						
TORD				PKKPbc	**PKKPab**	**15 38 12.2**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=294,slow=3.7,SNR=6.0						
ECSD	**EROS Data Cent**	**123.72**	**34**		**PKPdf**	**15 28 09.1**	**-0.8**
SCHQ	**Schefferville**	**124.72**	**7**	PKP	**PKPdf**	**15 28 10.9**	**-0.5**
	comp=Z,5.4nm,0.6s,baz=148,slow=3.0,SNR=3.4						
TXAR	**Lajitas Array**	**126.47**	**53**	PKP	**PKiKP**	**15 28 16.9**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=230,slow=1.0,SNR=11						
CCM	**Cathedral Cave**	**130.49**	**36**	PKPdf	**PKPdf**	**15 28 23.2**	**+0.2**
PLCA	**Paso Flores**	**137.49**	**164**	PKP	**PKiKP**	**15 28 38.1**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=344,slow=1.4,SNR=4.6						

IDC 18 15:39:58.6±2.4,13°.18N×124°.81E,h0km,mb3.6/4, mbtmp3.6/4,MS3.3/2,Error ellipse: s-maj=246.0km s-min=22.3km az=67.0,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**24.10**	**32**	LR	LR	15 55 08.9	
	comp=Z,36nm,9.0s,baz=88,slow=38						
WRA	**Warramunga Arr**	**34.23**	**164**	P	P	15 46 47.2	+0.9
	0.3nm,0.6s,baz=343,slow=8.3,SNR=4.6						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**37.69**	**166**	P	P	15 47 15.2	-0.8
	0.7nm,0.6s,baz=348,slow=6.9,SNR=23						
	0.7nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**40.80**	**75**	T	T	16 31 41.3	
	baz=267,slow=75,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**40.81**	**75**	T	T	16 31 33.6	
	baz=267,slow=75,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**40.82**	**75**	T	T	16 31 42.3	
	baz=267,slow=75,SNR=12						
ZALV	**Zalesovo Beam**	**51.40**	**331**	P	P	15 49 05.0	-0.2
	0.6nm,0.5s,baz=104,slow=6.1,SNR=1.5						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**52.88**	**325**	P	P	15 49 16.3	+0.1
	0.3nm,0.4s,baz=122,slow=7.9,SNR=6.6						
	0.3nm,0.4s						
ARU	**Arti**	**66.02**	**326**	LR	LR	16 22 43.6	
	comp=Z,33nm,18.8s,baz=47,slow=39						

*IDC **18** 15:47:38.9±1.8,24°.17S×67°.11W,h169km±21km,mb3.5/3, mbtmp4.0/7,Error ellipse: s-maj=28.6km s-min=19.2km az=141.0*

*SJA **18** 15:47:38.2±0.7,24°.24S×67°.19W,h198km±6km,ML4.3, MW3.9*

*NEIC **18** 15:47:38.4±1.1,24°.28S±0°.07×67°.3W±0°.1,h207km±11km, mb4.6/4,Error ellipse: s-maj=15.5km s-min=10.4km az=93.0*

*GUC **18** 15:47:40.5±0.7,24°.20S×67°.45W,h208km±7km,ML4.5*

ISC 18 15:47:38.6±0.7,24°.23S±0°.03×67°.25W±0°.04,h193km±7km, n79,σ1°.28/106,mb3.9/4,2C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**1.54**	**326**		**Pn**	**15 48 13.5**	**+1.1**
AF01	**San Pedro de A**	**1.54**	**326**	*i* P	**Pn**	**15 48 13.9**	**+1.5**
AF01				*eS*	**Sn**	**15 48 39.7**	**+1.2**
SLA	**San Lorenzo**	**1.66**	**107**	*eP*	**Pn**	**15 48 13.6**	**+0.2**
SLA				*eS*	**Sn**	**15 48 39.4**	**-1.0**
LVC	**Limon Verde**	**2.22**	**316**	*eP*	**Pn**	**15 48 20.7**	**+1.3**
LVC				*eS*	**Sn**	**15 48 51.7**	**+0.6**
LVC	**Limon Verde**	**2.22**	**316**	P	**Pn**	**15 48 20.5**	**+1.1**
	37nm,0.3s,baz=155,slow=7.2,SNR=173						
LVC				S	**Sn**	**15 48 49.2**	**-1.9**
	219nm,0.3s,baz=96,slow=16,SNR=12						
LVC	**Limon Verde**	**2.22**	**316**	⇓*i* P	**Pn**	**15 48 20.7**	**+1.3**
LVC				*eS*	**Sn**	**15 48 50.9**	**-0.2**
LVC				IAML		15 48 52.2	
	3μm,0.3s						
PB15	**IPOC Station P**	**2.28**	**296**		**Pn**	**15 48 21.2**	**+1.3**
PB15	**IPOC Station P**	**2.28**	**296**	*eP*	**Pn**	**15 48 21.3**	**+1.5**
PB15				*eS*	**Sn**	**15 48 52.3**	**+0.4**
PB15	**IPOC Station P**	**2.28**	**296**	⇑*iP*	**Pn**	**15 48 21.4**	**+1.5**
PB15				*eS*	**Sn**	**15 48 51.9**	**0.0**
GO02	**Mina Guanaco**	**2.33**	**246**	Pn	**Pn**	**15 48 21.8**	**+1.4**
GO02	**Mina Guanaco**	**2.33**	**246**	*eP*	**Pn**	**15 48 21.8**	**+1.4**
GO02				*eS*	**Sn**	**15 48 53.9**	**+0.9**
GO02	**Mina Guanaco**	**2.33**	**246**	*i* P	**Pn**	**15 48 21.6**	**+1.2**
GO02				*eS*	**Sn**	**15 48 53.8**	**+0.8**
GO02				IAML		15 48 54.7	
	comp=N,1μm,0.1s						
YJA	**Yavi**	**2.59**	**38**	*eP*	**Pn**	**15 48 24.3**	**+0.7**
YJA				*eS*	**Sn**	**15 48 59.0**	**+0.3**
PB06	**IPOC Station P**	**2.62**	**305**	Pn	**Pn**	**15 48 24.9**	**+1.2**
PB06	**IPOC Station P**	**2.62**	**305**	*eP*	**Pn**	**15 48 24.9**	**+1.2**
PB06				*eS*	**Sn**	**15 48 58.4**	**-0.4**
PB06				IAML		15 48 59.9	
	comp=Z,1μm,0.3s						
PB06	**IPOC Station P**	**2.62**	**305**	*i* P	**Pn**	**15 48 25.0**	**+1.2**
PB06				*eS*	**Sn**	**15 48 58.0**	**-0.7**
PB06				IAML		15 49 00.7	
	comp=N,2μm,0.1s						
PB14	**IPOC Station P**	**2.91**	**262**	Pn	**Pn**	**15 48 28.0**	**+0.9**
PB14	**IPOC Station P**	**2.91**	**262**	*eP*	**Pn**	**15 48 27.9**	**+0.9**
PB14				*eS*	**Sn**	**15 49 04.6**	**-0.2**
PB14	**IPOC Station P**	**2.91**	**262**	*i* P	**Pn**	**15 48 28.0**	**+0.9**
PB14				*eS*	**Sn**	**15 49 04.0**	**-0.9**
PB09	**IPOC Station P**	**3.04**	**322**		**Pn**	**15 48 30.2**	**+1.6**
PB09	**IPOC Station P**	**3.04**	**322**	*eP*	**Pn**	**15 48 30.3**	**+1.6**
PB09				IAML		15 49 12.6	
	comp=Z,330nm,0.5s						
PB09	**IPOC Station P**	**3.04**	**322**	⇓*i* P	**Pn**	**15 48 30.3**	**+1.6**
PB09				*eS*	**Sn**	**15 49 07.7**	**0.0**
PB09				IAML		15 49 14.2	
	comp=E,371nm,0.3s						
PB04	**IPOC Station P**	**3.27**	**305**		**Pn**	**15 48 32.2**	**+0.8**
PB04	**IPOC Station P**	**3.27**	**305**	*eP*	**Pn**	**15 48 32.5**	**+1.2**
PB04				*eS*	**Sn**	**15 49 11.7**	**-0.9**
PB04				IAML		15 49 15.8	
	comp=Z,724nm,0.3s						
PB04	**IPOC Station P**	**3.27**	**305**	*i* P	**Pn**	**15 48 32.5**	**+1.2**
PB04				*eS*	**Sn**	**15 49 10.8**	**-1.8**
PB07	**IPOC Station P**	**3.48**	**315**	Pn	**Pn**	**15 48 34.6**	**+0.7**
PB07	**IPOC Station P**	**3.48**	**315**	*eP*	**Pn**	**15 48 34.8**	**+0.7**
PB07				*eS*	**Sn**	**15 49 15.1**	**-2.2**
PB07				IAML		15 49 19.2	
	comp=Z,307nm,0.1s						
PB07	**IPOC Station P**	**3.48**	**315**	*i* P	**Pn**	**15 48 34.7**	**+0.7**
PB07				*eS*	**Sn**	**15 49 15.1**	**-2.2**
AC01	**Pan de Azucar**	**3.59**	**237**	Pn	**Pn**	**15 48 34.9**	**-0.1**
AC01	**Pan de Azucar**	**3.59**	**237**	*eP*	**Pn**	**15 48 34.4**	**-0.6**
AC01				*eS*	**Sn**	**15 49 17.9**	**-1.3**
AC01	**Pan de Azucar**	**3.59**	**237**	⇑*iP*	**Pn**	**15 48 35.1**	**+0.1**
AC01				*eS*	**Sn**	**15 49 17.4**	**-1.9**
PB01	**IPOC Station P**	**3.79**	**326**		**Pn**	**15 48 37.8**	**+0.2**
PB01	**IPOC Station P**	**3.79**	**326**	*eP*	**Pn**	**15 48 37.9**	**+0.2**
PB01				*eS*	**Sn**	**15 49 23.0**	**-0.9**
PB01				IAML		15 49 27.2	
	comp=Z,232nm,0.1s						
PB01	**IPOC Station P**	**3.79**	**326**	*i* P	**Pn**	**15 48 38.0**	**+0.3**
PB01				*eS*	**Sn**	**15 49 21.9**	**-2.1**
PB02	**IPOC Station P**	**3.79**	**319**		**Pn**	**15 48 38.0**	**+0.3**
PB02	**IPOC Station P**	**3.79**	**319**	*eP*	**Pn**	**15 48 38.1**	**+0.3**
PB02				*eS*	**Sn**	**15 49 23.4**	**-0.6**
PB02				IAML		15 49 27.8	
	comp=Z,763nm,0.3s						
AC06	**Mina Casimiro**	**4.19**	**221**		**Pn**	**15 48 42.0**	**-0.5**
GO03	**Copiap**	**4.29**	**218**	Pn	**Pn**	**15 48 43.4**	**-0.5**
GO03	**Copiap**	**4.29**	**218**	*eP*	**Pn**	**15 48 43.6**	**-0.3**
GO03				*eS*	**Sn**	**15 49 34.5**	**-0.7**
PATCX	**Punta Patache**	**4.33**	**321**		**Pn**	**15 48 44.7**	**+0.2**
PATCX	**Punta Patache**	**4.33**	**321**	*eP*	**Pn**	**15 48 44.9**	**+0.5**
PB08	**IPOC Station P**	**4.44**	**336**		**Pn**	**15 48 46.5**	**+0.4**
PB08	**IPOC Station P**	**4.44**	**336**	*eP*	**Pn**	**15 48 47.2**	**+1.1**
PB08				*eS*	**Sn**	**15 49 38.3**	**-0.8**
TA01	**Diego Aracena**	**4.55**	**323**		**Pn**	**15 48 47.3**	**+0.1**
HMBC	**Humberstone**	**4.63**	**328**	*eP*	**Pn**	**15 48 47.6**	**-0.8**
TA02	**Huaiquique**	**4.76**	**325**		**Pn**	**15 48 50.2**	**+0.3**
GO01	**Chusmiza**	**4.89**	**338**		**Pn**	**15 48 52.0**	**0.0**
PB11	**IPOC Station P**	**4.98**	**333**		**Pn**	**15 48 52.1**	**-0.8**
PB11	**IPOC Station P**	**4.98**	**333**	*eP*	**Pn**	**15 48 52.0**	**-0.9**
PB11				IAML		15 49 50.5	
	comp=Z,80nm,0.3s						
AC04	**Llanos de Chal**	**5.24**	**220**	Pn	**Pn**	**15 48 54.5**	**-1.4**
AC04	**Llanos de Chal**	**5.24**	**220**	*eP*	**Pn**	**15 48 55.3**	**-0.7**
AC04				*eS*	**Sn**	**15 49 55.7**	**-1.2**
AC05	**El Transito**	**5.33**	**210**	Pn	**Pn**	**15 48 56.6**	**-0.6**
AC05	**El Transito**	**5.33**	**210**	*eP*	**Pn**	**15 48 56.9**	**-0.3**
AC05				*eS*	**Sn**	**15 49 58.3**	**-0.8**
LCO	**Las Campanas**	**5.67**	**212**	Pn	**Pn**	**15 49 00.8**	**-1.0**
PB16	**IPOC Station P**	**6.24**	**340**		**Pn**	**15 49 09.6**	**+0.1**
CO01	**Juntas del Tor**	**6.26**	**203**	Pn	**Pn**	**15 49 09.3**	**-0.1**
PB12	**IPOC Station P**	**6.29**	**332**		**Pn**	**15 49 08.6**	**-1.0**
GO04	**Tololo Observa**	**6.71**	**207**		**Pn**	**15 49 13.6**	**-1.6**
CO03	**El Pedregal**	**7.25**	**204**	Pn	**Pn**	**15 49 20.6**	**-1.6**
CO06	**Fray Jorge**	**7.51**	**210**	Pn	**Pn**	**15 49 23.4**	**-1.9**
LPAZ	**La Paz**	**7.95**	**354**		**Pn**	**15 49 31.8**	**-0.1**
CPUP	**Villa Florida**	**9.21**	**105**	P	Pn	15 49 55.1	+7.4
	comp=Z,1.7nm,0.5s,baz=270,slow=12,SNR=4.6						
SIV	**San Ignacio**	**10.04**	**36**	P	**Pn**	**15 49 56.5**	**-2.1**
	comp=Z,4.7nm,0.6s,baz=212,slow=13,SNR=17						
ITQB	**Itaqui**	**10.91**	**122**	Pn	**Pn**	**15 50 10.1**	**+0.4**
ETMB	**Extrema**	**14.37**	**4**		**Pn**	**15 50 52.5**	**-1.0**
TRQA	**Tornquist**	**14.49**	**163**		**Pn**	**15 50 53.4**	**-1.5**
PLCA	**Paso Flores**	**16.68**	**189**	P	**P**	**15 51 19.2**	**-1.3**
PLCA	**Paso Flores**	**16.68**	**189**	P	**Pn**	**15 51 23.2**	**+1.8**
	comp=Z,1.6nm,0.8s,baz=3.8,slow=12,SNR=4.5						
BDFB	**Brasilia**	**19.98**	**68**	P	**P**	**15 51 54.6**	**-2.0**
BDFB				IAmb	IAmb	15 51 57.4	
	comp=Z,9.3nm,0.7s						
BDFB	**Brasilia**	**19.98**	**68**	P	**P**	**15 51 57.0**	**+0.4**
	comp=Z,6.2nm,0.5s,baz=226,slow=9.8,SNR=10						
SNAA	**Sanae**	**59.20**	**161**	P	**P**	**15 57 20.9**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=260,slow=11,SNR=2.5						
	comp=Z,1.3nm,0.7s						
QSPA	**South Pole Qui**	**65.97**	**180**	P	**P**	**15 58 07.7**	**+3.7**
	comp=Z,1.6nm,0.5s,baz=160,slow=0.5,SNR=9.4						
	comp=Z,1.6nm,0.5s						
O44A	**Mansfield**	**67.04**	**342**	P	**P**	**15 58 09.3**	**-1.5**
ERPA	**Erie**	**67.06**	**350**	P	**P**	**15 58 10.0**	**-0.9**
ERPA				IAmb	IAmb	15 58 18.8	
	comp=Z,20nm,0.9s						
TORD	**Torodi Ar. Bea**	**76.86**	**69**	P	**P**	**15 59 12.4**	**+2.6**
	comp=Z,0.3nm,0.4s,baz=266,slow=5.4,SNR=2.0						
	comp=Z,0.3nm,0.4s						
ASAR	**Alice Springs**	**128.15**	**205**	PKP	**PKiKP**	**16 06 25.4**	**+2.2**
	comp=Z,0.5nm,0.7s,baz=136,slow=1.6,SNR=12						
WRA	**Warramunga Arr**	**131.32**	**207**	PKP	**PKiKP**	**16 06 30.2**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=166,slow=1.6,SNR=8.3						
MKAR	**Makanchi Array**	**146.85**	**40**	PKPbc	**PKiKP**	**16 07 01.0**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=272,slow=4.3,SNR=5.7						
PZH	**PanZhiHua**	**169.79**	**75**	PKP	**PKPdf**	**16 07 18.9**	**-4.8**

IDC 18 15:57:27.6±3.5,30°.99N×93°.36E,h0km,mb3.6/3, mbtmp3.6/4,ML3.3/1,Error ellipse: s-maj=409.5km s-min=23.6km az=59.0,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**17.95**	**335**	P	P	16 01 40.0	+0.9
	0.1nm,0.3s,baz=150,slow=12,SNR=5.5						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**22.51**	**335**	P	P	16 02 28.0	-0.8
	0.8nm,0.7s,baz=150,slow=9.3,SNR=7.1						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**64.14**	**137**	P	P	16 08 03.9	-0.2
	0.8nm,0.9s,baz=327,slow=6.9,SNR=4.7						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**66.81**	**140**	P	P	16 08 21.4	+0.1
	0.6nm,0.5s,baz=326,slow=6.5,SNR=21						
	0.6nm,0.5s						

*SJA **18** 15:58:00.6±0.7,21°.12S×69°.08W,h115km±3km,ML3.3, MW3.5*

*GUC **18** 15:58:01.6±0.5,21°.12S×69°.00W,h109km±3km,ML3.1*

ISC 18 15:58:01.9±1.6,21°.12S±0°.03×69°.08W±0°.07, h111km±10km,n26,σ0°.51/51,6C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.39**	**281**	*eP*	**Pn**	**15 58 18.8**	**+0.6**
PB01				*eS*	**Sn**	**15 58 30.5**	**0.0**
PB01				*eS*		15 58 30.6	
PB01				IAML		15 58 31.3	
	comp=Z,2μm,0.1s						
PB01	**IPOC Station P**	**0.39**	**281**	⇑*iP*	**Pn**	**15 58 17.6**	**-0.6**
PB01				*eS*	**Sn**	**15 58 30.0**	**-0.4**
PB09	**IPOC Station P**	**0.69**	**193**	*eP*	**Pn**	**15 58 20.1**	**-0.3**
PB09				*eP*		15 58 20.2	
PB09				*eS*	**Sn**	**15 58 34.5**	**+0.1**
PB09				IAML		15 58 38.1	
	comp=Z,576nm,0.2s						
PB09	**IPOC Station P**	**0.69**	**193**	⇓*iP*	**Pn**	**15 58 20.1**	**-0.3**
PB09				*eS*	**Sn**	**15 58 34.4**	**0.0**
PB09				IAML		15 58 36.7	
	comp=E,625nm,0.3s						
PB02	**IPOC Station P**	**0.79**	**255**	*eP*	**Pn**	**15 58 21.1**	**-0.1**
PB02				*eS*	**Sn**	**15 58 36.6**	**+0.9**
PB02				IAML		15 58 37.0	
	comp=Z,796nm,0.1s						
PB02	**IPOC Station P**	**0.79**	**255**	⇑*iP*	**Pn**	**15 58 21.1**	**-0.1**
PB02				*eS*	**Sn**	**15 58 36.0**	**+0.3**
PB02				IAML		15 58 37.5	
	comp=E,2μm,0.2s						
PB07	**IPOC Station P**	**0.97**	**231**	*eP*	**Pn**	**15 58 22.6**	**-0.4**
PB07				*eS*	**Sn**	**15 58 39.5**	**+0.7**
PB07				IAML		15 58 40.4	
	comp=Z,356nm,0.1s						
PB07	**IPOC Station P**	**0.97**	**231**	⇑*iP*	**Pn**	**15 58 22.6**	**-0.4**
PB07				*eS*	**Sn**	**15 58 38.8**	**-0.1**
PB07				IAML		15 58 40.8	
	comp=N,479nm,0.1s						
PB08	**IPOC Station P**	**0.97**	**356**	*eP*	**Pn**	**15 58 23.1**	**-0.1**
PB08				*eS*	**Sn**	**15 58 40.1**	**+0.8**
PB08	**IPOC Station P**	**0.97**	**356**	*i* P	**Pn**	**15 58 22.8**	**-0.5**
PB08				*eS*	**Sn**	**15 58 39.1**	**-0.2**
PB08				IAML		15 58 40.8	
	comp=E,301nm,0.2s						
PATCX	**Punta Patache**	**1.04**	**286**	*eP*	**Pn**	**15 58 23.7**	**+0.1**
PATCX				*eS*	**Sn**	**15 58 42.0**	**+1.9**
PATCX				IAML		15 58 42.0	
	comp=Z,247nm,0.2s						
PATCX	**Punta Patache**	**1.04**	**286**	⇑*iP*	**Pn**	**15 58 23.7**	**+0.1**
PATCX				*eS*	**Sn**	**15 58 40.0**	**-0.1**
PATCX				IAML		15 58 42.5	
	comp=E,611nm,0.5s						
TA01	**Diego Aracena**	**1.17**	**298**	*eP*	**Pn**	**15 58 24.6**	**-0.3**
TA01				*eS*	**Sn**	**15 58 42.8**	**+0.5**
TA01	**Diego Aracena**	**1.17**	**298**	⇑*iP*	**Pn**	**15 58 24.4**	**-0.4**
TA01				*eS*	**Sn**	**15 58 42.1**	**-0.1**
TA01				IAML		15 58 43.3	
	comp=E,512nm,0.3s						
TA02	**Huaiquique**	**1.29**	**310**	*i* P	**Pn**	**15 58 25.5**	**-0.8**
TA02				*eS*	**Sn**	**15 58 44.4**	**-0.4**
GO01	**Chusmiza**	**1.44**	**356**	*eP*	**Pn**	**15 58 28.6**	**0.0**
GO01				*eS*	**Sn**	**15 58 49.5**	**+0.7**
GO01	**Chusmiza**	**1.44**	**356**	*i* P	**Pn**	**15 58 28.1**	**-0.5**
PB11	**IPOC Station P**	**1.45**	**338**	*eP*	**Pn**	**15 58 27.8**	**-0.6**
PB11				*eS*	**Sn**	**15 58 48.2**	**-0.1**
PB11				IAML		15 58 48.9	
	comp=Z,155nm,0.2s						
PB11	**IPOC Station P**	**1.45**	**338**	⇑*iP*	**Pn**	**15 58 27.6**	**-0.7**
PB11				*eS*	**Sn**	**15 58 47.7**	**-0.6**
PB11				IAML		15 58 49.5	
	comp=E,406nm,0.4s						
LVC

mbtmp4.3/20,ML4.0/1,MS3.9/33,Error ellipse: s-maj=17.9km s-min=15.3km az=151.0

MOS ***18*** *16:25:24.3₀1.3,21˙87S×169˙08E,h10ᵏᵐ,mb5.1/13,Error ellipse: s-maj=13.5km s-min=10.6km az=103.1*

BJI ***18*** *16:25:24.0,21˙80S×169˙00E,h5ᵏᵐ,mb4.9/27,mB5.5/17, Ms5.3/4,Ms7 4.9/3*

NEIC ***18*** *16:25:25.6,22˙02S×168˙68E,h12ᵏᵐ,Moment Tensor Solution. Duration: 1ŝ2 Moment tensor: Scale 10¹⁶Nm; Mᵣᵣ-1.15; Mᵩᵩ0.70; Mᵗᵗ0.45; Mᵣᵗ-0.88; Mᵩᵗ-0.21; Mᵣᵩ1.09; Fault plane solution: M₀1.70000×10¹⁶ NP1: ϕₛ136.81000°,δ72.73000°,λ-84.53000°. NP2: ϕₛ298.92000°,δ18.09000°,λ-107.06000°. Principal axes: T 1.5142, Plg28.0000°, Azm222.0000°; N 0.3777, Plg5.0000°, Azm315.0000°; P -1.8919, Plg62.0000°, Azm55.0000°;*

NEIC ***18*** *16:25:25.7±1.9,21˙82S±0˙07×169˙00E±0˙04,h10ᵏᵐ±3ᵏᵐ, mb5.1/92,Mww4.8/9 Error ellipse: s-maj=11.2km s-min=3.4km az=202.0*

NEIC ***18*** *16:25:25.6,21˙82S×169˙00E,h12ᵏᵐ*

BGR ***18*** *16:25:28.6,21˙23S×170˙36E,h23ᵏᵐ*

ISC 18 16:25:26.2±0.6,21˙93S±0˙05×169˙07E±0˙05,h15ᵏᵐ±3ᵏᵐ, h52ᵏᵐ:pP-P,n290,σ1ŝ27/267,mb5.0/79,MS4.0/30,13C-6D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.06**	**295**			**Pb**		**16 25 44.2**	**-2.2**
MARNC						**Sb**		**16 25 58.7**	**-1.4**
MARNC	**Mare, Loyalty**	**1.06**	**295**	P		**Pb**		**16 25 44.5**	**-1.8**
PINNC	**Pines Island,**	**1.65**	**245**			**Pn**		**16 25 53.3**	**-1.3**
PINNC	**Pines Island,**	**1.65**	**245**	P		**Pn**		**16 25 53.6**	**-1.0**
YATNC	**Mamie plateau,**	**2.02**	**266**	P		**Pn**		**16 25 58.7**	**-1.1**
LIFNC	**LIFOU**	**2.06**	**304**			**Pn**		**16 25 57.9**	**-2.4**
LIFNC	**LIFOU**	**2.06**	**304**	P		**Pn**		**16 25 58.9**	**-1.3**
OUENC	**Ouen Island, N**	**2.12**	**256**			**Pn**		**16 25 60.0**	**-1.1**
OUENC	**Ouen Island, N**	**2.12**	**256**	P		**Pn**		**16 26 01.4**	**+0.3**
DZM	**Mont Dzumac**	**2.44**	**266**			**Pn**		**16 26 04.1**	**-1.5**
DZM	**Mont Dzumac**	**2.44**	**266**	P		**Pn**		**16 26 05.7**	**+0.1**
DZM	**Mont Dzumac**	**2.44**	**266**	*e*Pn		**Pn**		**16 26 05.4**	**-0.2**
DZM	1μm,0.9s				*e*Sn	**Sn**		**16 26 35.1**	**-0.1**
DZM	8μm,1.2s **Mont Dzumac**	**2.44**	**266**	Pn		**Pn**		**16 26 04.9**	**-0.7**
DZM	37nm,0.3s,baz=126,slow=1.6,SNR=421				LR	LR		16 26 30.8	
DZM	comp=Z,845nm,18.9s,baz=92,slow=27				Sn	**Sn**		**16 26 35.1**	**-0.1**
ONTNC	67nm,0.3s,baz=97,slow=18,SNR=6.8 172nm,0.4s **Ouen Toro**	**2.45**	**261**	Pn		**Pn**		**16 26 04.6**	**-1.1**
ONTNC	**Ouen Toro**	**2.45**	**261**	P		**Pn**		**16 26 06.0**	**+0.3**
NOUC	**Port Laguerre**	**2.57**	**266**	P		**Pn**		**16 26 07.5**	**+0.2**
RTV	**Rentapao**	**4.16**	**352**	P		**Pn**		**16 26 28.4**	**-0.9**
DVP	**Devils Point**	**4.27**	**349**	P		**Pn**		**16 26 28.3**	**-2.4**
KOUNC	**Koumac, New Ca**	**4.67**	**286**	Pn		**Pn**		**16 26 36.1**	**0.0**
KOUNC	**Koumac, New Ca**	**4.67**	**286**	P		**Pn**		**16 26 36.7**	**+0.5**
HNR	**Honiara**	**15.21**	**323**	P		**Pn**		**16 29 01.8**	**+1.2**
HNR	**Honiara**	**15.21**	**323**	P		**Pn**		**16 29 01.8**	**+1.2**
HNR	comp=Z,40nm,0.9s				pmax	pmax			
HNR	**Honiara**	**15.21**	**323**	Pn		**Pn**		**16 29 02.1**	**+1.5**
HNR	comp=Z,106nm,0.3s,baz=189,slow=4.8,SNR=7.1				LR	LR		16 32 57.0	
TOZ	comp=Z,2μm,20.9s,baz=147,slow=30 **Tahuroa Road**	**16.70**	**162**			**P**		**16 29 23.6**	**+1.7**
EIDS	**Eidsvold**	**16.83**	**255**	Pn		**Pn**		**16 29 20.1**	**-1.3**
HIZ	**Hauiti**	**17.26**	**165**			**P**		**16 29 30.0**	**+1.9**
URZ	**Urewera**	**17.68**	**159**	P		**P**		**16 29 34.9**	**+2.0**
URZ	comp=Z,27nm,0.8s,baz=55,slow=7.5,SNR=13				LR	LR		16 35 06.5	
ARMA	comp=Z,182nm,18.0s,baz=110,slow=33 **Armidale**	**17.77**	**238**	P		**P**		**16 29 34.2**	**+0.2**
RTZ	**Ruatahuna**	**17.96**	**160**			**P**		**16 29 36.6**	**+0.6**
MRZ	**Mangatainoka R**	**19.47**	**165**	P		**P**		**16 29 53.0**	**+0.5**
BFZ	**Birch Farm**	**19.66**	**164**	P		**Pn**		**16 29 56.6**	**+0.7**
THZ	**Tophouse**	**20.03**	**172**	P		Pn		16 30 00.6	+0.1
THZ	comp=Z,118nm,1.6s				IAmb	IAmb		16 30 09.0	
GVZ	**Greta Valley S**	**21.23**	**172**	P		**P**		**16 30 12.3**	**+0.6**
GVZ	comp=Z,391nm,1.9s				IAmb	IAmb		16 30 17.7	
CTA	**Charters Tower**	**21.37**	**271**	P		**P**		**16 30 14.6**	**+1.3**
CTA	comp=Z,5.3nm,1.0s,baz=108,slow=14,SNR=3.6				LR	LR		16 38 30.6	
RPZ	comp=Z,473nm,18.4s,baz=95,slow=37 comp=Z,5.3nm,1.0s **Rata Peaks**	**21.78**	**176**	P		**P**		**16 30 20.2**	**+2.7**
RPZ	**Rata Peaks**	**21.78**	**176**	P		**P**		**16 30 19.2**	**+1.7**
RPZ	comp=Z,13nm,0.8s,baz=33,slow=16,SNR=3.3				LR	LR		16 38 04.0	
CAN	comp=Z,562nm,18.7s,baz=26,slow=35 comp=Z,13nm,0.8s **Canberra**	**22.04**	**228**	P		**P**		**16 30 22.1**	**+1.7**
CAN	**Canberra**	**22.04**	**228**	P		**P**		**16 30 22.1**	**+1.7**
CAN	comp=Z,24nm,1.2s				pmax	pmax			
PMG	**Port Moresby**	**24.45**	**297**	P		**P**		**16 30 42.4**	**-2.4**
PMG	**Port Moresby**	**24.45**	**297**	*ce*P		**P**		**16 30 44.2**	**-0.5**
PMG	comp=Z,24nm,1.0s				pmax	pmax			
PMG	**Port Moresby**	**24.45**	**297**	LR		LR		16 38 43.4	
TOO	comp=Z,166nm,21.0s,baz=120,slow=33 **Toolangi**	**25.62**	**227**	P		**P**		**16 30 57.1**	**+1.9**
TOO	**Toolangi**	**25.62**	**227**	P		**P**		**16 30 57.1**	**+1.9**
TOO	comp=Z,15nm,1.1s				pmax	pmax			
STKA	**Stephens Creek**	**26.36**	**242**	P		**P**		**16 31 02.0**	**+0.1**
STKA	**Stephens Creek**	**26.36**	**242**	*i*eP		**P**		**16 31 02.7**	**+0.8**
STKA	**Stephens Creek**	**26.36**	**242**	P		**P**		**16 31 02.5**	**+0.5**
STKA	comp=Z,3.1nm,0.8s,baz=63,slow=8.9,SNR=4.9				LR	LR		16 41 22.1	
RAR	comp=Z,366nm,18.3s,baz=41,slow=36 comp=Z,3.1nm,0.8s **Rarotonga**	**28.96**	**94**	LR		LR		16 43 01.8	
BBOO	comp=Z,81nm,18.0s,baz=201,slow=36 **Buckleboo**	**31.13**	**243**	P		**P**		**16 31 42.7**	**-1.8**
BBOO	comp=Z,122nm,1.8s				IAmb	IAmb		16 32 05.7	
WR0	**Warramunga Arr**	**32.27**	**267**	P		**P**		**16 31 51.6**	**-2.9**
AS31	**Alice Springs**	**32.41**	**260**	P		**P**		**16 31 54.5**	**-1.3**
ASAR	**Alice Springs**	**32.41**	**260**	P		**P**		**16 31 54.4**	**-1.5**
ASAR	**Alice Springs**	**32.41**	**260**	P		**P**		**16 31 54.4**	**-1.5**
ASAR	**Alice Springs**	**32.41**	**260**	P		**P**		**16 31 55.8**	**-0.1**
ASAR	comp=Z,2.4nm,0.7s,baz=77,slow=9.0,SNR=42				PcP	**PcP**		**16 34 43.3**	**+0.1**
ASAR	comp=Z,1.4nm,1.0s,baz=71,slow=2.4,SNR=4.8				LR	LR		16 45 46.0	
WB0	comp=Z,239nm,18.1s,baz=93,slow=38 comp=Z,2.4nm,0.7s **Warramunga Arr**	**32.44**	**267**	P		**P**		**16 31 54.8**	**-1.2**
WB0	comp=Z,45nm,2.0s				IAmb	IAmb		16 32 18.8	
WRA	**Warramunga Arr**	**32.45**	**267**	P		**P**		**16 31 53.7**	**-2.5**
WRA	**Warramunga Arr**	**32.45**	**267**	*e*P		**P**		**16 31 53.7**	**-2.5**
WRA	**Warramunga Arr**	**32.45**	**267**	P		**P**		**16 31 54.3**	**-1.9**
WRA	comp=Z,0.9nm,0.6s,baz=98,slow=8.2,SNR=19				PcP	**PcP**		**16 34 42.4**	**-1.0**
TBI	comp=Z,0.9nm,0.9s,baz=106,slow=2.1,SNR=3.2 comp=Z,0.9nm,0.6s **Tubuai**	**38.21**	**100**	*e*LR		LR		16 43 21.9	
PPT2	comp=Z,487nm,29.0s **Papeete2**	**39.08**	**91**	*e*LR		LR		16 43 31.3	
PPT2	comp=Z,135nm,24.0s				*e*LR	LR		16 43 47.9	
PPT	comp=Z,141nm,22.2s **Papeete**	**39.08**	**91**	LR		LR		16 45 09.9	
FITZ	comp=Z,185nm,20.5s,baz=220,slow=30 **Fitzroy Crossi**	**40.88**	**267**	P		**P**		**16 33 07.8**	**-0.2**
NWAO	**Narrogin (SRO)**	**46.88**	**245**	P		**P**		**16 33 55.8**	**-0.4**
NWAO	**Narrogin (SRO)**	**46.88**	**245**	P		**P**		**16 33 55.8**	**-0.4**
NWAO	comp=Z,241nm,1.4s				pmax	pmax			
NWAO	**Narrogin (SRO)**	**46.88**	**245**	LR		LR		16 52 39.3	
TAOE	comp=Z,375nm,21.4s,baz=129,slow=35 **Nuku Hiva Isla**	**50.44**	**83**	*e*LR		LR		16 48 27.1	
KAPI	comp=Z,136nm,28.4s **Kappang**	**50.56**	**282**	LR		LR		16 56 32.3	
TOLI2	comp=Z,125nm,21.2s,baz=38,slow=37 **Tolitoli**	**52.37**	**290**	P		**P**		**16 34 36.0**	**-2.1**
TOLI2	comp=Z,31nm,1.1s				IAmb	IAmb		16 34 40.2	
JCJ	**Chichijima**	**55.25**	**331**	LR		LR		16 56 18.2	
	comp=Z,34nm,21.1s,baz=49,slow=34								
VNDA	**Vanda**	**55.75**	**182**	P		**P**		**16 35 02.3**	**+0.4**
VNDA	**Vanda**	**55.75**	**182**	P		**P**		**16 35 02.3**	**+0.4**
VNDA	comp=Z,10.0nm,1.5s				pmax	pmax			
VNDA	**Vanda**	**55.75**	**182**	P		**P**		**16 35 02.5**	**+0.6**
VNDA	comp=Z,1.1nm,0.8s,baz=7.3,slow=10,SNR=8.3				LR	LR		16 55 14.7	
SBA	comp=Z,66nm,19.5s,baz=10.0,slow=32 comp=Z,1.1nm,0.8s **Scott Base**	**55.98**	**181**	P		**P**		**16 35 04.7**	**+1.2**
SBA	**Scott Base**	**55.98**	**181**	P		**P**		**16 35 04.7**	**+1.2**
SBA	comp=Z,99nm,1.9s				pmax	pmax			
CASY	**Casey**	**57.61**	**204**	P		**P**		**16 35 14.9**	**-0.4**
CASY	comp=Z,12nm,1.0s				IAmb	IAmb		16 35 15.9	
LEM	**Lembang**	**61.02**	**274**	LR		LR		17 03 24.4	
JMN	comp=Z,70nm,18.7s,baz=52,slow=37 **Monobe**	**64.71**	**328**	P		**P**		**16 36 03.9**	**-0.1**
MJAR	**Matsushiro Arr**	**65.06**	**333**	P		**P**		**16 36 05.5**	**-0.6**
MAJO	comp=Z,5.0nm,0.8s,baz=169,slow=8.2,SNR=10 comp=Z,5.0nm,0.8s **Matsushiro**	**65.06**	**333**	P		**P**		**16 36 05.4**	**-0.7**
MAJO	**Matsushiro**	**65.06**	**333**	||*e*P	**P**		**16 36 05.2**	**-0.9**
MAJO	comp=Z,48nm,2.0s				pmax	pmax			
MJB9	**Matsu-Tunnel**	**65.06**	**333**	P		**P**		**16 36 06.2**	**+0.1**
QSPA	**South Pole Qui**	**68.13**	**180**	P		**P**		**16 36 25.2**	**-0.4**
QSPA	comp=Z,15nm,1.1s				IAmb	IAmb		16 36 26.7	
KSRS	**Korea Array**	**70.64**	**326**	P		**P**		**16 36 42.1**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=148,slow=5.7,SNR=5.5 comp=Z,2.0nm,0.7s								
NJ2	**Nanjing**	**72.04**	**317**	⇑P		**P**		**16 36 51.8**	**+2.1**
NJ2					PcP	**PcP**		**16 37 09.8**	**+1.6**
NJ2	comp=Z,6.0nm,0.6s				pmax	pmax			
NJ2	comp=Z,410nm,4.0s				pmax	pmax			
USA0B	**Ussuriysk Arra**	**74.05**	**333**	P		**P**		**16 37 01.9**	**+0.5**
USA0B	comp=Z,37nm,1.5s				IAmb	IAmb		16 37 03.0	
USA0B	**Ussuriysk Arra**	**74.05**	**333**	⇑*e*P		**P**		**16 37 02.1**	**+0.7**
USRK	**Ussuriysk Ar.**	**74.05**	**333**	P		**P**		**16 37 01.7**	**+0.3**
USRK	**Ussuriysk Ar.**	**74.05**	**333**	P		**P**		**16 37 01.7**	**+0.3**
USRK	**Ussuriysk Ar.**	**74.05**	**333**	P		**P**		**16 37 02.2**	**+0.8**
	comp=Z,6.3nm,0.9s,baz=151,slow=5.0,SNR=8.9 comp=Z,6.3nm,0.9s								
PEA0B	**Petropavlovsk-**	**75.38**	**353**	P		**P**		**16 37 07.4**	**-1.5**
PEA0B	**Petropavlovsk-**	**75.38**	**353**	P		**P**		**16 37 07.4**	**-1.5**
PEA0B	comp=Z,155nm,1.5s				pmax	pmax			
PETK	**Petropavlovsk-**	**75.38**	**353**	P		**P**		**16 37 07.3**	**-1.6**
PETK	**Petropavlovsk-**	**75.38**	**353**	P		**P**		**16 37 07.3**	**-1.6**
PETK	**Petropavlovsk-**	**75.38**	**353**	P		**P**		**16 37 10.2**	**+1.3**
	comp=Z,2.8nm,0.7s,baz=133,slow=6.7,SNR=4.8								
PETK	comp=Z,123nm,19.8s,baz=124,slow=30 comp=Z,2.8nm,0.7s				LR	LR		17 03 36.3	
MDJ	**Mudanjiang**	**75.41**	**332**	P		**P**		**16 37 11.5**	**+2.2**
MDJ					sP	sP		16 37 15.6	+0.9
MDJ					PcP	**PcP**		**16 37 23.6**	**+1.2**
MDJ					PP	**PP**		**16 40 00.8**	**+2.2**
MDJ					S	**S**		**16 46 54.6**	**+5.9**
MDJ					sS	sS		16 47 00.3	+4.8
MDJ	comp=Z,13nm,2.0s				pmax	pmax			
MDJ	comp=Z,310nm,5.6s				pmax	pmax			
MAW	**Mawson**	**75.89**	**202**	P		**P**		**16 37 12.3**	**+0.6**
MAW	**Mawson**	**75.89**	**202**	P		**P**		**16 37 12.4**	**+0.6**
MAW	**Mawson**	**75.89**	**202**	LR		LR		17 06 33.4	
CN2	comp=Z,140nm,19.9s,baz=162,slow=32 **Changchun**	**76.67**	**329**	*e*P		**P**		**16 37 14.8**	**-1.7**
CN2	comp=Z,10.0nm,1.3s				pmax	pmax			
BNX	**BinXian**	**77.25**	**331**	⇑P		**P**		**16 37 19.4**	**-0.3**
BNX	comp=Z,14nm,0.8s				pmax	pmax			
BNX	comp=Z,140nm,4.0s				pmax	pmax			
KLR	**Kul'dur**	**78.25**	**336**	||*e*P	**P**		**16 37 25.5**	**+0.3**
KLR	comp=Z,18nm,1.9s				pmax	pmax			
BELA	**Belgrano 2**	**79.44**	**175**	P		**P**		**16 37 30.4**	**-1.1**
BELA	comp=Z,14nm,0.7s				IAmb	IAmb		16 37 31.8	
CMAR	**Chiang Mai Arr**	**79.47**	**295**	P		**P**		**16 37 33.7**	**+1.1**
	comp=Z,1.2nm,0.9s,baz=129,slow=5.4,SNR=6.2 comp=Z,1.2nm,0.9s								
CHTO	**Chiang Mai**	**79.63**	**295**	P		**P**		**16 37 33.3**	**-0.2**
CHTO	comp=Z,10nm,0.6s				IAmb	IAmb		16 39 14.7	
CHTO	**Chiang Mai**	**79.63**	**295**	P		**P**		**16 37 33.3**	**-0.2**
CHTO	comp=Z,10.0nm,0.6s				pmax	pmax			
HEH	comp=Z,10.0nm,0.6s **HeiHe**	**80.76**	**334**	*e*P		**P**		**16 37 38.5**	**-0.3**
HEH	comp=Z,8.0nm,0.8s				pmax	pmax			
HEH	comp=Z,320nm,4.7s				pmax	pmax			
PZH	**PanZhiHua**	**81.03**	**303**	P		**P**		**16 37 41.3**	**+0.3**
PZH	comp=Z,10.0nm,0.5s				pmax	pmax			
PZH	comp=Z,180nm,5.4s				pmax	pmax			
HHC	**Hu-ho-hao-te**	**82.16**	**320**	*e*P		**P**		**16 37 46.5**	**-0.1**
HHC	comp=Z,40nm,0.5s				pmax	pmax			
HHC	comp=Z,360nm,5.0s				pmax	pmax			
MA2	**Magadan**	**82.59**	**351**	LR		LR		17 07 08.8	
CHGN	comp=Z,61nm,20.9s,baz=136,slow=30 **Chignik**	**82.64**	**18**	P		**P**		**16 37 48.9**	**+0.4**
TNCH	**TengChong**	**82.86**	**300**	P		**P**		**16 37 48.6**	**-2.2**
TNCH	comp=Z,7.0nm,1.9s				pmax	pmax			
BTO	**Baotou**	**82.94**	**319**	*e*P		**P**		**16 37 52.8**	**+2.1**
BTO					pP	**pwP**		**16 37 57.5**	**-0.9**
BTO					sP	**sP**		**16 38 00.0**	**+3.8**
BTO					PP	**PP**		**16 41 03.8**	**+2.1**
BTO					S	**S**		**16 48 14.8**	**+5.5**
BTO					SS	**SS**		**16 53 36.5**	**+3.2**
BTO	comp=Z,10.0nm,0.5s				pmax	pmax			
BTO	comp=Z,330nm,4.5s				LR	LR			
BTO	comp=Z,300nm,7.2s				LR	LR			
BTO	comp=Z,240nm,4.5s				LR	LR			
BTO	comp=Z,360nm,5.4s				LR	LR			
ELIB	**Princess Elisa**	**83.47**	**190**	*d*P		**P**		**16 37 52.2**	**-0.9**
ZEA	comp=Z,3.2nm,0.9s **Zeya**	**83.55**	**337**	*e*P		**P**		**16 37 54.2**	**+0.8**
ZEA	comp=Z,10.0nm,0.8s				pmax	pmax			
LZH	**Lanzhou**	**84.41**	**312**	*e*P		**P**		**16 37 59.5**	**+1.1**
LZH					pP	pwP		16 38 06.3	+0.2
LZH					S	**S**		**16 48 30.9**	**+6.5**
LZH	comp=Z,14nm,1.2s				pmax	pmax			
OHAK	**Old Harbor**	**84.94**	**19**	P		**P**		**16 38 01.4**	**+1.1**
O16K	**Kokwok River B**	**85.58**	**16**	P		**P**		**16 38 01.2**	**-2.3**
O16K	comp=Z,33nm,1.5s				IAmb	IAmb		16 40 45.7	
N15K	**Kwethluk River**	**85.59**	**15**	P		**P**		**16 38 03.1**	**-0.4**
SEY	**Seymchan**	**85.61**	**352**	||*e*P	**P**		**16 38 02.8**	**-0.8**
SEY	comp=Z,16nm,1.9s				pmax	pmax			
SEY	**Seymchan**	**85.61**	**352**	LR		LR		17 12 46.7	
KDAK	comp=Z,86nm,20.4s,baz=238,slow=33 **Kodiak Island**	**85.61**	**19**	LR		LR		17 09 28.1	
	comp=Z,84nm,20.2s,baz=226,slow=31								
M14K	**Bethel**	**85.68**	**14**	P		**P**		**16 38 03.7**	**-0.2**
TROLL	**Troll, Antarti**	**85.85**	**184**	⇑P		**P**		**16 38 04.3**	**-0.8**
L14K	comp=Z,855nm,0.6s **Kuka Creek**	**86.05**	**13**	P		**P**		**16 38 05.6**	**-0.2**
SNAA	**Sanae**	**86.47**	**183**	P		**P**		**16 38 07.2**	**-0.9**
SNAA					IAmb	IAmb		16 38 07.9	
SNAA	comp=Z,9.1nm,0.9s **Sanae**	**86.47**	**183**	⇑P		**P**		**16 38 06.9**	**-1.2**
SNAA	comp=Z,185nm,0.8s **Sanae**	**86.47**	**183**	*d*⇑P		**P**		**16 38 07.2**	**-0.9**
SNAA	comp=Z,9.0nm,0.8s				pmax	pmax			
SNAA	**Sanae**	**86.47**	**183**	P		**P**		**16 38 07.1**	**-0.9**
SNAA	comp=Z,7.6nm,0.8s,baz=199,slow=7.7,SNR=19				LR	LR		17 15 45.8	
N17K	comp=Z,82nm,18.1s,baz=195,slow=35 comp=Z,7.6nm,0.8s **Nushagak Hills**	**86.62**	**16**	P		**P**		**16 38 08.7**	**0.0**
N17K					IAmb	IAmb		16 39 17.6	
VNA3	comp=Z,48nm,1.6s **Neumayer Olymp**	**87.07**	**180**	⇑P		**P**		**16 38 09.6**	**-1.4**
	comp=Z,20nm,0.7s								
K15K	**Wolf Creek Mou**	**87.15**	**13**	P		**P**		**16 38 10.6**	**-0.6**
VNA2	**Neumayer--Watz**	**87.36**	**181**	⇑P		**P**		**16 38 11.4**	**-1.0**
	comp=Z,18nm,0.6s,baz=178,slow=5.0								
KCPM	**Cahto Peak**	**87.73**	**45**	P		**P**		**16 38 15.2**	**+0.5**
KMPM	**Mount Pierce**	**87.75**	**45**	P		**P**		**16 38 14.6**	**-0.1**
KMRM	**Mail Ridge**	**87.92**	**45**	P		**P**		**16 38 15.4**	**-0.1**
J16K	**Anvik River**	**88.23**	**13**	P		**P**		**16 38 15.7**	**-0.6**
KHMM	**Horse Mountain**	**88.24**	**44**	P		**P**		**16 38 17.5**	**+0.3**
KHMM	comp=Z,12nm,0.8s				IAmb	IAmb		16 38 18.3	
KRMB	**Red Mountain**	**88.46**	**44**	P		**P**		**16 38 17.9**	**-0.2**
ULN	**Ulaanbaatar**	**88.92**	**324**	P		**P**		**16 38 19.8**	**-0.4**
ULN	comp=Z,18nm,1.3s				IAmb	IAmb		16 38 21.7	
ULN	**Ulaanbaatar**	**88.92**	**324**	*c i*P		**P**		**16 38 21.1**	**+0.9**
ULN	comp=Z,18nm,1.4s				pmax	pmax			
TTA	**Tatalina**	**88.97**	**15**	P		**P**		**16 38 18.4**	**-1.6**
TTA	comp=Z,30nm,1.8s				IAmb	IAmb		16 38 20.4	
TTA	**Tatalina**	**88.97**	**15**	P		**P**		**16 38 18.4**	**-1.6**
TTA	comp=Z,30nm,1.8s				pmax	pmax			
CMB	**Columbia Colle**	**89.07**	**48**	P		**P**		**16 38 20.1**	**-0.9**
CMB	comp=Z,7.2nm,0.8s				IAmb	IAmb		16 38 21.3	
CMB	**Columbia Colle**	**89.07**	**48**	P		**P**		**16 38 20.1**	**-0.9**
CMB	comp=Z,7.0nm,0.9s				pmax	pmax			
AFDM	**Forest Hills D**	**89.11**	**47**	P		**P**		**16 38 20.7**	**-0.4**
AFDM	comp=Z,8.5nm,0.9s				IAmb	IAmb		16 38 21.6	
J18K	**Innoko River**	**89.25**	**15**	P		**P**		**16 38 19.6**	**-1.6**
J18K	comp=Z,40nm,1.9s				IAmb	IAmb		16 41 32.3	
SONM	**Songino Array**	**89.27**	**323**	P		**P**		**16 38 21.5**	**-0.3**
SONM	comp=Z,9.8nm,1.3s				IAmb	IAmb		16 38 29.6	
SONM	**Songino Array**	**89.27**	**323**	P		**P**		**16 38 21.5**	**-0.3**
SONM	comp=Z,10.0nm,1.3s				pmax	pmax			
SONM	**Songino Array**	**89.27**	**323**	P		**P**		**16 38 22.3**	**+0.5**
	comp=Z,3.5nm,0.9s,baz=139,slow=5.3,SNR=15 comp=Z,3.5nm,0.9s								
YBH	**Yreka Blue Hor**	**89.34**	**44**	P		**P**		**16 38 22.9**	**+0.7**
YBH	comp=Z,1.9nm,0.6s,baz=166,slow=2.8,SNR=6.3				LR	LR		17 10 23.5	
HUMO	comp=Z,46nm,20.2s,baz=268,slow=30 comp=Z,1.9nm,0.6s **Hull Mountain**	**89.62**	**43**	P		**P**		**16 38 23.3**	**-0.1**
HUMO					IAmb	IAmb		16 38 24.5	
EMB	comp=Z,37nm,1.9s **Emerald Bay**	**89.71**	**47**	P		**P**		**16 38 23.8**	**-0.4**
BILL	**Bilibino**	**89.73**	**359**	⇑*e*P		**P**		**16 38 22.0**	**-1.3**
G16K	**Koyuk River**	**89.76**	**12**	P		**P**		**16 38 22.9**	**-0.6**
YUH	**Yuha Desert**	**89.82**	**55**	P		**P**		**16 38 24.5**	**0.0**
YUH	comp=Z,31nm,2.0s				IAmb	IAmb		16 41 39.8	
H17K	**Granite Mounta**	**89.83**	**13**	P		**P**		**16 38 22.6**	**-1.2**
H17K	comp=Z,49nm,2.0s				IAmb	IAmb		16 41 27.8	
PFO	**Pinyon Flats O**	**89.84**	**54**	||*i*P	**P**		**16 38 23.9**	**-0.9**
PFO	**Pinyon Flats O**	**89.84**	**54**	P		**P**		**16 38 24.5**	**-0.3**
PFO	comp=Z,2.7nm,0.7s,baz=274,slow=2.5,SNR=4.4				LR	LR		17 11 14.4	
L04D	comp=Z,81nm,19.6s,baz=268,slow=31 comp=Z,2.7nm,0.7s **Klamath Falls**	**89.84**	**44**	P		**P**		**16 38 23.9**	**-0.8**
L04D	comp=Z,31nm,1.5s				IAmb	IAmb		16 39 01.0	
WAKR	**Walker**	**89.95**	**48**	IAmb		IAmb		16 38 26.2	
PNTR	comp=Z,8.4nm,0.9s **Pine Nut**	**90.11**	**48**	IAmb		IAmb		16 38 26.8	
YERR	comp=Z,13nm,1.0s **Yerington**	**90.31**	**48**	IAmb		IAmb		16 38 27.4	
LHV	comp=Z,12nm,1.3s **Little Huntoon**	**90.48**	**49**	IAmb		IAmb		16 38 28.4	
PAHR	comp=Z,7.4nm,0.8s **Pah Rah Range**	**90.55**	**47**	IAmb		IAmb		16 38 28.5	
QSM	comp=Z,6.9nm,0.9s **Queen of Sheba**	**90.59**	**51**	IAmb		IAmb		16 38 28.5	
RYN	comp=Z,7.4nm,1.1s **Ryan**	**90.64**	**48**	IAmb		IAmb		16 38 28.9	
NVAR	comp=Z,6.6nm,0.9s **Mina Array Bea**	**90.70**	**49**	P		**P**		**16 38 28.3**	**-0.5**
NVAR	comp=Z,4.3nm,0.7s,baz=226,slow=8.5,SNR=34				LR	LR		17 11 32.7	
LPIG	comp=Z,62nm,19.5s,baz=276,slow=30 comp=Z,4.3nm,0.7s **La Paz**	**90.72**	**64**	LR		LR		17 09 48.1	
NV11	comp=Z,103nm,21.2s,baz=219,slow=29 **Mina Array Sit**	**90.80**	**49**	IAmb		IAmb		16 38 29.7	
GWY	comp=Z,8.2nm,0.8s **Greenwater Val**	**90.84**	**51**	IAmb		IAmb		16 38 29.6	
KVN	comp=Z,6.6nm,1.0s **Kaiserville**	**91.13**	**48**	IAmb		IAmb		16 38 31.2	
PALK	comp=Z,8.4nm,0.7s **Pallekele**	**91.17**	**277**	LR		LR		17 22 11.0	
TPNV	comp=Z,45nm,19.2s,baz=203,slow=37 **Topopah Spring**	**91.48**	**51**	IAmb		IAmb	

OBN				*e*PPP	PPP	16 49 44.6		
OBN				pmax	pmax			
	comp=Z,4.0nm,0.9s							
FINES	**FINESS Array B**	**133.00 337**		PKP	**PKPdf**	**16 44 41.3**	**+0.8**	
	comp=Z,3.9nm,1.0s,baz=5.7,slow=3.8,SNR=4.2							
AKASG	**Malin Array Be**	**137.55 323**		PKP	**PKiKP**	**16 44 50.8**	**-0.5**	
	comp=Z,0.7nm,0.6s,baz=69,slow=1.9,SNR=5.2							
AKBB	**Malin Array Si**	**137.55 323**		*e*PKIKP	**PKPdf**	**16 44 48.9**	**-0.5**	
KOLS	**Kolonicke sedl**	**142.32 324**		*e*PKP	**PKPdf**	**16 44 58.8**	**+0.6**	
KOLS	**Kolonicke sedl**	**142.32 324**		*e*PKIKP	**PKPdf**	**16 44 58.8**	**+0.6**	
PSZ	**Piszkesteto**	**144.21 324**		PKPdf	**PKPab**	**16 44 59.5**	**+0.1**	
PSZ	**Piszkesteto**	**144.21 324**		PKIKP	**PKPab**	**16 44 59.5**	**+0.1**	
MORC	**Moravsky Berou**	**144.28 328**		*e*PKP	**PKPab**	**16 44 59.5**	**0.0**	
OSTC	**Ostas**	**144.39 330**		*e*PKP	PKPbc	16 45 00.5	+0.3	
OSTC	**Ostas**	**144.39 330**		*e*PKIKP	PKPbc	16 45 00.5	+0.3	
VYHS	**Vyhne**	**144.43 325**		*e*PKP	PKPbc	16 45 01.1	+0.7	
VYHS				*e*		16 45 08.0		
VYHS	**Vyhne**	**144.43 325**		*e*PKIKP	PKPbc	16 45 01.1	+0.7	
VYHS				*e*		16 45 08.0		
KRLC	**Kraliky**	**144.45 329**		*e*PKP	**PKPab**	**16 45 00.2**	**0.0**	
KRLC				*ep*PKP	**PKiKP**	**16 45 05.9**	**+0.3**	
KRLC	**Kraliky**	**144.45 329**		*e*PKIKP	**PKPab**	**16 45 00.2**	**0.0**	
KRLC				*e*		16 45 05.9		
DPC	**Dobruska-Polom**	**144.48 330**		*e*PKP	**PKPab**	**16 45 00.5**	**+0.2**	
DPC	**Dobruska-Polom**	**144.48 330**		*e*PKIKP	**PKPab**	**16 45 00.5**	**+0.2**	
UPC	**Upice**	**144.52 330**		*e*PKP	**PKPab**	**16 45 00.5**	**+0.2**	
UPC	**Upice**	**144.52 330**		*e*PKIKP	**PKPab**	**16 45 00.5**	**+0.2**	
JAVC	**Velka Javorina**	**144.81 327**		*e*PKP	**PKPdf**	**16 45 02.7**	**+0.1**	
VRAC	**Vranov**	**145.05 328**		*e*PKP	PKPbc	16 45 02.1	-0.2	
VRAC	**Vranov**	**145.05 328**		PKPbc	**PKPab**	**16 45 02.7**	**+0.4**	
	comp=Z,4.9nm,0.6s,baz=42,slow=3.5,SNR=6.8							
SRO	**Srobarova**	**145.12 325**		*e*PKP	**PKPdf**	**16 45 03.4**	**+0.3**	
SRO	**Srobarova**	**145.12 325**		*e*PKIKP	**PKPdf**	**16 45 03.4**	**+0.3**	
PVCC	**Panska Ves**	**145.16 331**		*e*PKP	**PKPbc**	**16 45 02.7**	**+0.1**	
PVCC				*ep*PKP	**sPKPdf**	**16 45 09.2**	**+0.2**	
PVCC	**Panska Ves**	**145.16 331**		*e*PKIKP	**PKPbc**	**16 45 02.7**	**+0.1**	
PVCC				*e*		16 45 09.2		
FLTG	**Flechtingen**	**145.17 336**		*e*PKPbc	**PKPbc**	**16 45 02.5**	**0.0**	
	baz=37,slow=3.1							
FLTG				*ep*PKPbc	**sPKPdf**	**16 45 09.5**	**+0.6**	
	baz=38,slow=3.5							
BRG	**Berggiesshubel**	**145.19 332**		P	PKPbc	16 44 53.6	-9.1	
BRG				Amp		16 44 55.2		
	comp=Z,14nm,0.9s							
CLL	**Collm**	**145.26 333**			**PKPbc**	**16 45 01.5**	**-1.4**	
CLL	**Collm**	**145.26 333**		*i* PKPbc	**PKPbc**	**16 45 02.3**	**-0.6**	
	comp=Z,26nm,0.8s							
CLL				*i* x	x	16 45 04.2		
	comp=Z,17nm,1.1s							
CLL				*i* pPKPbc	**sPKPdf**	**16 45 09.1**	**0.0**	
	comp=Z,18nm,0.9s							
CLL				*e*PP	**PP**	**16 48 18.0**	**-4.1**	
CLL	**Collm**	**145.26 333**		*i* PKIKP	**PKPbc**	**16 45 02.3**	**-0.6**	
CLL				*i*		16 45 09.1		
CLL				pmax	pmax			
	comp=Z,26nm,0.8s							
CLL	**Collm**	**145.26 333**		*e*PKPbc	**PKPbc**	**16 45 03.1**	**+0.2**	
	baz=37,slow=3.1							
CLL				*ep*PKPbc	**sPKPdf**	**16 45 10.0**	**+0.9**	
	baz=38,slow=3.5							
KRUC	**Moravsky**	**145.31 328**		*e*PKP	**PKPbc**	**16 45 02.9**	**-0.3**	
MODS	**Modra-Piesok**	**145.32 326**		*e*PKP	**PKPdf**	**16 45 03.7**	**+0.3**	
MODS	**Modra-Piesok**	**145.32 326**		*e*PKIKP	**PKPdf**	**16 45 03.7**	**+0.3**	
RICC	**Richard**	**145.36 332**		*e*PKP	**PKPab**	**16 45 03.6**	**+0.2**	
FBE	**Freiberg**	**145.41 333**		*e*PKPbc	**PKPab**	**16 45 04.0**	**+0.4**	
	baz=37,slow=3.1							
FBE				*ep*PKPbc	**sPKPdf**	**16 45 10.8**	**+1.5**	
	baz=38,slow=3.5							
NRDL	**Niedersach Rie**	**145.46 337**		*e*PKPbc	**PKPbc**	**16 45 03.6**	**+0.3**	
	baz=37,slow=3.1							
NRDL				*ep*PKPbc	sPKPab	16 45 10.6	+1.5	
	baz=38,slow=3.5							
GOPC	**GO Pecny, Ondr**	**145.50 330**		*e*PKP	**PKPdf**	**16 45 01.0**	**-2.7**	
GOPC				*ex*	x	16 45 10.5		
GOPC	**GO Pecny, Ondr**	**145.50 330**		*e*PKP2	**PKPdf**	**16 45 01.0**	**-2.7**	
ZST	**Bratislava**	**145.52 326**		*e*PKP	**PKPab**	**16 45 04.7**	**+0.6**	
ZST	**Bratislava**	**145.52 326**		*e*PKIKP	**PKPab**	**16 45 04.7**	**+0.6**	
RETH	**Rethem/Aller,**	**145.52 338**		*e*PKPbc	**PKPdf**	**16 45 03.8**	**+0.2**	
	baz=37,slow=3.1							
RETH				*ep*PKPbc	sPKPab	16 45 10.7	+1.4	
	baz=38,slow=3.5							
ASSE	**Asse, Remlinge**	**145.54 336**		*e*PKPbc	**PKPbc**	**16 45 03.9**	**+0.3**	
	baz=37,slow=3.1							
ASSE				*ep*PKPbc	sPKPab	16 45 11.1	+1.7	
	baz=38,slow=3.5							
PRU	**Pruhonice**	**145.56 331**		*e*PKP	**PKPdf**	**16 45 03.7**	**-0.1**	
PRU				*ep*PKP	sPKPab	16 45 10.4	+0.4	
PRU	**Pruhonice**	**145.56 331**		*e*PKIKP	**PKPdf**	**16 45 03.7**	**-0.1**	
PRU				*e*		16 45 10.4		
HSKC	**Hora Svate Kat**	**145.60 332**		*e*PKP	**PKPdf**	**16 45 03.9**	**0.0**	
HSKC				*ex*	x	16 45 10.5		
NEUB	**Neuenburg**	**145.84 334**		*e*PKPbc	**PKPbc**	**16 45 05.0**	**+0.3**	
	baz=37,slow=3.1							
NEUB				*ep*PKPbc	sPKPab	16 45 12.1	+1.1	
	baz=38,slow=3.5							
CLZ	**Clausthal**	**145.89 336**		*e*PKPbc	**PKPbc**	**16 45 05.3**	**+0.4**	
	baz=37,slow=3.1							
CLZ				*ep*PKPbc	sPKPab	16 45 12.4	+1.5	
	baz=38,slow=3.5							
ZVC	**Zvikov**	**146.11 330**		*e*PKP	**PKPdf**	**16 45 05.4**	**+0.7**	
ZVC				*ex*	x	16 45 12.1		
EKA	**Eskdalemuir Ar**	**146.14 352**		PKPbc	**PKPdf**	**16 45 03.9**	**-0.7**	
	comp=Z,9.8nm,0.6s,baz=0.8,slow=2.4,SNR=43							
TANN	**Tannenbergstha**	**146.16 333**		*e*PKPbc	**PKPbc**	**16 45 06.2**	**+0.4**	
	baz=37,slow=3.1							
WERD	**Werda**	**146.20 333**		*e*PKPbc	**PKPbc**	**16 45 06.2**	**+0.3**	
	baz=37,slow=3.1							
WERD				*ep*PKPbc	sPKPab	16 45 13.2	+1.0	
	baz=38,slow=3.5							
PLN	**Plauen**	**146.24 333**		*e*PKPbc	**PKPbc**	**16 45 06.4**	**+0.4**	
	baz=37,slow=3.1							
PLN				*ep*PKPbc	sPKPab	16 45 13.3	+1.0	
	baz=38,slow=3.5							
GUNZ	**Gunzen**	**146.25 333**		*e*PKPbc	**PKPbc**	**16 45 06.4**	**+0.3**	
	baz=37,slow=3.1							
GUNZ				*ep*PKPbc	sPKPab	16 45 13.6	+1.2	
	baz=38,slow=3.5							
RONA	**Rosalia, Austr**	**146.25 326**		*i* PKP	**PKPbc**	**16 45 06.6**	**+0.4**	
	comp=Z,10nm,0.7s,SNR=11							
WERN	**Wernitzgruen**	**146.29 333**		*e*PKPbc	**PKPbc**	**16 45 06.6**	**+0.4**	
	baz=37,slow=3.1							
WERN				*ep*PKPbc	sPKPab	16 45 13.8	+1.2	
	baz=38,slow=3.5							
NKC	**Novy Kostel**	**146.30 333**		*e*PKP	**PKPdf**	**16 45 05.9**	**+0.8**	
NKC				*ex*	x	16 45 13.5		
NKC	**Novy Kostel**	**146.30 333**		*e*PKP2	**PKPdf**	**16 45 05.9**	**+0.8**	
CONA	**Conrad Observa**	**146.33 327**		*i* PKP	**PKPbc**	**16 45 07.0**	**+0.6**	
	comp=Z,35nm,1.7s,SNR=11							
MOX	**Moxa**	**146.34 334**		*e*PKPbc	**PKPbc**	**16 45 06.5**	**+0.2**	
	baz=37,slow=3.1							
IBBN	**Ibbenburen**	**146.42 339**		*e*PKPbc	**PKPbc**	**16 45 06.6**	**+0.1**	
	baz=37,slow=3.1							
CKRC	**Cesky Krumlov**	**146.49 329**		*e*PKP	**PKPbc**	**16 45 06.7**	**-0.1**	
CKRC				*ex*	x	16 45 13.8		
CKRC	**Cesky Krumlov**	**146.49 329**		*e*PKP2	**PKPbc**	**16 45 06.7**	**-0.1**	
KHC	**Kasperske Hory**	**146.61 330**			**PKPdf**	**16 45 06.7**	**+1.0**	
KHC	**Kasperske Hory**	**146.61 330**		*e*PKP	**PKPbc**	**16 45 07.4**	**+0.2**	
KHC				*ex*	x	16 45 13.9		
KHC	**Kasperske Hory**	**146.61 330**		*e*PKP2	**PKPbc**	**16 45 07.4**	**+0.2**	
MANZ	**Manzenberg**	**146.63 333**		*e*PKPbc	**PKPbc**	**16 45 07.7**	**+0.5**	
	baz=37,slow=3.1							
GEC2	**GERESS Array S**	**146.75 330**			**PKPbc**	**16 45 07.2**	**-0.5**	
GEC2	**GERESS Array S**	**146.75 330**		PKP2	**PKPbc**	**16 45 07.2**	**-0.5**	
GEC2	**GERESS Array S**	**146.75 330**		*e*PKPbc	**PKPbc**	**16 45 08.1**	**+0.4**	
	baz=37,slow=3.1							
GERES	**GERESS Array B**	**146.75 330**		PKPbc	**PKPdf**	**16 45 06.2**	**+0.2**	
	comp=Z,8.6nm,0.7s,baz=25,slow=3.5,SNR=41							
ROTZ	**Rotzenmuhle**	**146.75 332**		*e*PKPbc	**PKPbc**	**16 45 08.0**	**+0.5**	
	baz=37,slow=3.1							
WET	**Wettzell**	**146.92 331**		*e*PKPbc	**PKPbc**	**16 45 08.6**	**+0.5**	
	baz=37,slow=3.1							
ARSA	**Arzberg**	**146.95 326**		*i* pPKP	**PKPab**	**16 45 09.8**	**+0.2**	
	comp=Z,3.3nm,0.6s							
MOA	**Molln**	**147.18 328**		*i* pPKP	**PKPbc**	**16 45 08.7**	**-0.1**	
	comp=Z,8.1nm,1.1s							
SOKA	**Soboth**	**147.57 326**		*i* PKP	**PKPbc**	**16 45 09.4**	**-0.7**	
	comp=Z,8.0nm,0.8s							
CRES	**Cresnjev**	**147.89 324**		*i* PKPbc	**PKPbc**	**16 45 10.6**	**-0.2**	
OBKA	**Obir**	**147.94 326**		*i* PKP	**PKPdf**	**16 45 08.5**	**+0.5**	
	comp=Z,9.8nm,1.3s							
LESA	**Schwarzleotal**	**148.25 329**		*i* pPKP	**PKPbc**	**16 45 11.1**	**-0.7**	
	comp=Z,16nm,1.1s							
MYKA	**Terra Mystica**	**148.32 327**		*i* PKP	**PKPbc**	**16 45 10.8**	**-1.2**	
	comp=Z,6.7nm,0.6s							
CRNS	**Crni Vrh**	**148.37 326**		*i* PKPbc	**PKPbc**	**16 45 11.3**	**-0.8**	
CEY	**Cerknica**	**148.50 325**		*i* PKPbc	**PKPbc**	**16 45 12.0**	**-0.4**	
ABTA	**Abfaltersbach**	**148.80 328**		*i* PKP	**PKPbc**	**16 45 12.4**	**-0.9**	
	comp=Z,9.3nm,0.8s							
WATA	**Walderalm**	**148.83 330**		*ep*PKP	**PKPab**	**16 45 19.0**	**+1.7**	
	comp=Z,28nm,1.9s							
WTTA	**Wattenberg**	**148.86 330**		*e*PKP	**PKPdf**	**16 45 09.7**	**+0.1**	
	comp=Z,11nm,1.1s							
MOTA	**Moosalm**	**149.04 330**		*i* PKP	**PKPbc**	**16 45 13.2**	**-0.8**	
	comp=Z,16nm,1.0s							
SQTA	**Sankt Quirin**	**149.09 330**		*i* PKP	**PKPbc**	**16 45 13.5**	**-0.5**	
	comp=Z,7.0nm,0.6s							
RETA	**Reutte**	**149.09 331**		*i* PKP	**PKPbc**	**16 45 13.3**	**-0.7**	
	comp=Z,2.7nm,1.0s							
FETA	**Feichten**	**149.46 330**		*i* PKP	**PKPbc**	**16 45 15.0**	**0.0**	
	comp=Z,14nm,1.1s,SNR=5.8							
BFO	**Black Forest**	**149.49 334**			**PKPbc**	**16 45 14.1**	**-0.8**	
BFO	**Black Forest**	**149.49 334**		PKP2	**PKPbc**	**16 45 14.1**	**-0.8**	
DAVA	**Damuels**	**149.64 331**		*i* PKP	**PKPbc**	**16 45 15.5**	**0.0**	
	comp=Z,9.8nm,0.8s							
DAVOX	**Davos/Dischmat**	**150.02 331**		PKPbc	**PKPbc**	**16 45 16.4**	**0.0**	
	comp=Z,11nm,0.8s,baz=36,slow=1.4,SNR=20							

*ISN **18** 16:26:04.0±1.0,34.48N×45.62E,h0km±266km, ML3.3*
*TEH **18** 16:26:04.8,34.52N×45.69E,h12km±10km, ML3.1*
ISC 18 16:26:05.9±1.1,34.53N±0.04×45.68E±0.04,h7km±10km, n21,σ0.94/25, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.08**	**253**	Pg	**Pg**	**16 26 07.7**	**-0.2**
IDHR	**Dehrash**	**0.61**	**74**	Pg	**Pg**	**16 26 16.6**	**-1.2**
IDHR				Sg	**Sg**	**16 26 26.2**	**+0.5**
IGHG	**Ghaleghazi**	**0.76**	**105**	Pg	**Pg**	**16 26 19.7**	**-0.9**
ILBA	**Ilam Banvizeh**	**1.00**	**154**	Pg	**Pg**	**16 26 24.0**	**-1.2**
ILIN	**Lien**	**1.13**	**69**	Pg	**Pg**	**16 26 26.4**	**-1.2**
KCHF	**Cheshme Sefid,**	**1.16**	**102**	Pg	**Pg**	**16 26 26.8**	**-1.3**
IBDR	**Badra**	**1.43**	**171**	*e*Pn	**Pg**	**16 26 32.5**	**-0.9**
IBDR				*e*Sn	**Sg**	**16 26 54.0**	**+2.1**
IBDR				AML	AML	16 26 56.5	
	comp=E,218nm,0.4s						
IBDR				AML	AML	16 27 03.7	
	comp=N,210nm,1.0s						
IKOM	**Komasi**	**1.56**	**103**	Pg	**Pn**	**16 26 34.4**	**+0.3**
BHD	**Baghdad**	**1.66**	**221**	*e*Pn	**Pn**	**16 26 35.0**	**-0.4**
BHD				*e*Sn	**Sg**	**16 26 58.0**	**-1.1**
BHD				AML	AML	16 27 07.3	
	comp=E,646nm,0.4s						
IBZA	**Bozab**	**1.80**	**91**	Pg	**Pn**	**16 26 38.1**	**+0.5**
IKFM	**Kafar-mosalman**	**2.06**	**118**	Pn	**Pn**	**16 26 41.4**	**+0.4**
IALM	**Almabolaq**	**2.08**	**80**	Pn	**Pn**	**16 26 42.3**	**+0.8**
MAHB	**Mahabad**	**2.23**	**1**	Pn	**Pn**	**16 26 44.3**	**+0.8**
RAFI	**Al-Rafai**	**2.82**	**172**	*e*Pn	**Pn**	**16 26 52.0**	**+0.6**
RAFI				*e*Sn	**Sn**	**16 27 26.0**	**+0.4**
RAFI				AML	AML	16 27 53.7	
	comp=N,322nm,0.3s						
RAFI				AML	AML	16 27 55.0	
	comp=E,368nm,0.3s						
HAGD	**Aghdareh**	**2.87**	**83**	Pn	**Pn**	**16 26 52.8**	**+0.6**
IAZR	**Azarshahr**	**3.15**	**4**	Pn	**Pn**	**16 26 56.8**	**+0.5**
QSDN	**Sirdan**	**3.47**	**54**	Pn	**Pn**	**16 27 01.1**	**+0.6**
IHRS	**Heris**	**3.94**	**16**	Pn	**Pn**	**16 27 07.6**	**+0.6**
IMRD	**Marand**	**4.18**	**0**	Pn	**Pn**	**16 27 10.5**	**+0.3**
GRMI	**Germi**	**4.63**	**22**	Pn	**Pn**	**16 27 16.6**	**+0.2**
IKLH	**Kolahrood**	**5.05**	**102**	Pn	**Pn**	**16 27 23.4**	**+1.1**

*ISK **18** 16:29:41.6,36.73N×27.36E, h6km, ML2.4/22*
*THE **18** 16:29:42.2,36.75N×27.40E,h12km, ML2.4/3, Error ellipse: s-maj=0.8km s-min=0.4km az=310.0*
*ATH **18** 16:29:42.7,36.75N×27.36E,h16km±2km, ML2.7/5, Error ellipse: s-maj=3.1km s-min=1.2km az=237.0*
*AFAD **18** 16:29:42.3±0.0,36.77N×27.41E,h7km±2km, ML2.5*
ISC 18 16:29:42.2±0.8,36.76N±0.02×27.38E±0.02,h15km±5km, n49,σ0.62/78, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YAZI	**Mula-Dat§a-**	**0.09**	**143**	P	**Pg**	**16 29 45.0**	**-0.3**
YAZI				S	**Sg**	**16 29 46.6**	**-0.8**
YAZI				*i* AML	AML	16 29 47.0	
	comp=E,3µm,0.2s						
DAT	**Datca**	**0.16**	**100**	Pg	**Pg**	**16 29 45.9**	**-0.4**
DAT				Sg	**Sg**	**16 29 48.8**	**-0.3**
DAT	**Datca**	**0.16**	**100**	P	**Pg**	**16 29 46.0**	**-0.3**
DAT				S	**Sg**	**16 29 48.4**	**-0.6**
DAT				*i* AML	AML	16 29 49.0	
	comp=E,2µm,0.4s						
DAT	**Datca**	**0.16**	**100**	P	**Pg**	**16 29 45.9**	**-0.4**
DAT				S	**Sg**	**16 29 48.7**	**-0.3**
DATC	**Datca-Mugla**	**0.22**	**89**	Pg	**Pg**	**16 29 47.2**	**0.0**
DATC				Sg	**Sg**	**16 29 50.9**	**+0.4**
NIS1	**Nisyros Isl.**	**0.23**	**227**	P	**Pg**	**16 29 47.3**	**+0.1**
NIS1				S	**Sg**	**16 29 51.2**	**+0.6**
NIS1	**Nisyros Isl.**	**0.23**	**227**	P	**Pg**	**16 29 47.3**	**+0.1**
NIS1				S	**Sg**	**16 29 51.4**	**+0.8**
NIS1				AML	AML	16 29 52.7	
	comp=E,6886µm,0.4s						
NIS1				AML	AML	16 29 54.3	
	comp=N,8646µm,0.4s						
RFTB	**Kemer-Bodrum**	**0.23**	**337**	Pg	**Pg**	**16 29 47.3**	**+0.1**
RFTB				Sg	**Sg**	**16 29 51.1**	**+0.4**
NISR	**Nisiros**	**0.25**	**235**	P	**Pg**	**16 29 47.9**	**+0.2**
NISR				S	**Sg**	**16 29 51.8**	**+0.5**
	comp=N,3µm,0.1s						
NISR	**Nisiros**	**0.25**	**235**	P	**Pg**	**16 29 47.8**	**+0.2**
NISR				S	**Sg**	**16 29 51.7**	**+0.4**
NISR				AML	AML	16 29 52.7	
	comp=E,8128µm,0.2s						
NISR				AML	AML	16 29 52.8	
	comp=N,3723µm,0.2s						
BODT	**Bodrum**	**0.31**	**349**	Pg	**Pg**	**16 29 48.5**	**-0.2**
BODT				Sg	**Sg**	**16 29 53.5**	**+0.3**
BODT	**Bodrum**	**0.31**	**349**	P	**Pg**	**16 29 48.6**	**-0.2**
BODT				S	**Sg**	**16 29 53.7**	**+0.5**
BDRM	**Kayabasi**	**0.31**	**9**	P	**Pg**	**16 29 48.5**	**-0.3**
BDRM				S	**Sg**	**16 29 52.7**	**-0.5**
BDRM				*i* AML	AML	16 29 53.0	
	comp=N,489nm,0.2s						
RFTAA	**Mazikoy-Bodrum**	**0.38**	**50**	Pg	**Pg**	**16 29 49.6**	**-0.3**
RFTAA				Sg	**Sb**	**16 29 55.8**	**-0.5**
MLSB	**Milas**	**0.62**	**30**	Pg	**Pb**	**16 29 54.9**	**+0.1**
MRSB	**Marmaris-Mugla**	**0.65**	**93**	Pg	**Pb**	**16 29 55.4**	**+0.1**
TURN	**Turunc**	**0.69**	**88**	Pg	**Pg**	**16 29 55.1**	**-0.6**
TURN	**Turunc**	**0.69**	**88**	P	**Pg**	**16 29 55.0**	**-0.6**
TURN				S	**Sg**	**16 30 03.4**	**-1.4**
DDIM	**Aydin, Didim**	**0.71**	**351**	P	**Pg**	**16 29 55.9**	**-0.2**
DDIM				S	**Sg**	**16 30 04.7**	**-0.7**
DDIM				*i* AML	AML	16 30 10.0	
	comp=N,168nm,0.4s						
ARG	**Arkhangelos**	**0.81**	**132**	Pg	**Pg**	**16 29 57.5**	**-0.4**
ARG	**Arkhangelos**	**0.81**	**132**	P	**Pg**	**16 29 57.4**	**-0.4**
ARG				S	**Sb**	**16 30 09.0**	**+0.4**
	comp=N,435nm,0.3s						
ARG	**Arkhangelos**	**0.81**	**132**	P	**Pg**	**16 29 57.4**	**-0.4**
ARG				S	**Sb**	**16 30 09.6**	**+1.0**
ARG				AML	AML	16 30 12.9	
	comp=N,880µm,0.4s						
ARG				AML	AML	16 30 13.1	
	comp=E,855µm,0.3s						
YER	**Yerkesik**	**0.81**	**62**	Pg	**Pb**	**16 29 58.2**	**+0.1**
YER	**Yerkesik**	**0.81**	**62**	P	**Pg**	**16 29 57.8**	**-0.2**
YER				S	**Sb**	**16 30 09.1**	**+0.2**
MULA	**Mugla, Merkez-**	**0.90**	**56**	P	**Pg**	**16 29 58.9**	**-0.8**
MULA				S	**Sg**	**16 30 10.9**	**-0.6**
GCAM	**G?zelcaml?**	**0.95**	**353**	Pg	**Pb**	**16 30 01.0**	**+0.6**
GCAM	**G?zelcaml?**	**0.95**	**353**	P	**Pg**	**16 30 00.5**	**-0.1**
GCAM				S	**Sg**	**16 30 12.6**	**-0.5**
GCAM				*i* AML	AML	16 30 17.0	
	comp=E,107nm,0.2s						
DALY	**Dalyan (Mula)**	**1.02**	**86**	Pg	**Pg**	**16 30 01.8**	**-0.1**
DALY				Sg	**Sn**	**16 30 16.8**	**+0.8**
SMG	**Samos**	**1.05**	**336**	P	**Pb**	**16 30 01.3**	**-0.7**
SMG	**Samos**	**1.05**	**336**	P	**Pb**	**16 30 01.3**	**-0.7**
SMG				S	**Sb**	**16 30 16.2**	**+0.7**
SMG				AML	AML	16 30 18.6	
	comp=E,777µm,0.4s						
SMG				AML	AML	16 30 20.8	
	comp=N,613µm,0.3s						
KARP	**Karpathos**	**1.22**	**189**	Pn	**Pn**	**16 30 03.9**	**-0.8**
KARP	**Karpathos**	**1.22**	**189**	P	**Pn**	**16 30 04.0**	**-0.8**
KARP				S	**Sb**	**16 30 19.6**	**-1.0**
	comp=N,45nm,0.2s						
KARP	**Karpathos**	**1.22**	**189**	P	**Pn**	**16 30 03.9**	**-0.8**
KARP				S	**Sb**	**16 30 19.9**	**-0.6**
KARP				AML	AML	16 30 25.4	
	comp=E,245µm,0.6s						
KARP				AML	AML	16 30 27.3	
	comp=N,340µm,0.6s						
SABU	**Mula-Dalaman**	**1.27**	**86**	P	**Pg**	**16 30 06.8**	**0.0**
SABU				S	**Sb**	**16 30 21.9**	**-0.2**
ESEN	**Aydn-Nazilli**	**1.29**	**36**	P	**Pn**	**16 30 05.6**	**-0.1**
ESEN				S	**Sb**	**16 30 21.4**	**-1.3**
DGB	**zmir**	**1.35**	**343**	P	**Pn**	**16 30 05.5**	**-1.0**
FETY	**Fethiye**	**1.37**	**95**	Pn	**Pb**	**16 30 08.1**	**+0.5**
TAVA	**DENİZLİ_Tavas**	**1.41**	**59**	P	**Pg**	**16 30 09.7**	**+0.3**
IZMR	**zmir-demi**	**1.45**	**18**	P	**Pn**	**16 30 08.6**	**+0.7**
IZMR				S	**Sn**	**16 30 27.3**	**+0.6**
IZZE	**Mula-Seydike**	**1.52**	**102**	P	**Pb**	**16 30 10.0**	**0.0**
IZZE				S	**Sb**	**16 30 29.1**	**+0.1**
IZZE				*i* AML	AML	16 30 37.0	
	comp=N,90nm,0.5s						
IZZE				*i* AML	AML	16 30 39.0	
	comp=N,67nm,0.6s						
APE	**Apeiranthos**	**1.52**	**282**	Pn	**Pn**	**16 30 08.1**	**-0.8**
APE	**Apeiranthos**	**1.52**	**282**	P	**Pn**	**16 30 08.0**	**-0.9**
CAME	**Cameli-Denizli**	**1.55**	**82**	Pn	**Pb**	**16 30 10.6**	**-0.1**
BLCB	**Balcova**	**1.65**	**351**	Pn	**Pb**	**16 30 12.4**	**+0.1**
APMY	**Acipayam-Deniz**	**1.69**	**64**	Pn	**Pb**	**16 30 13.9**	**+0.8**
URLA	**Izmir**	**1.72**	**339**	Pn	**Pn**	**16 30 12.8**	**+1.2**
AKAS	**Kas**	**1.86**	**106**	Pn	**Pn**	**16 30 15.1**	**+1.4**
KULA	**Kula-Manisa**	**2.03**	**30**	Pn	**Pb**	**16 30 18.2**	**-0.6**
ELL	**Elmali**	**2.03**	**89**	Pn	**Pn**	**16 30 17.5**	**+1.5**

IDC 18 16:44:37.5±403.0,59.27N×8.86E,h0km, Error ellipse: s-maj=163.6km s-min=148.3km az=87.0, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I37NO	**I37NO**	**10.70**	**19**	I	I	17 49 00.0	
	baz=208,slow=328,SNR=0.7						
I26DE	**FREYUNG INFRAS**	**10.82**	**163**	I	I	17 47 20.0	
	baz=349,slow=331,SNR=0.6						
I43RU	**DUBNA INFRASON**	**15.20**	**87**	I	I	18 17 00.0	
	baz=292,slow=333,SNR=1.3						
I31KZ	**AKTYUBINSK INF**	**29.05**	**86**	I	I	19 42 32.7	
	baz=310,slow=336,SNR=2.7						

IDC 18 16:45:50.4±1.0,21.11N×144.61E,h0km,mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=44.1km s-min=22.7km az=95.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.02**	**195**	P	P	16 53 43.0	-0.7
	0.5nm,0.6s,baz=19,slow=9.0,SNR=7.4						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**45.71**	**194**	P	P	16 54 13.9	+0.5
	0.3nm,0.8s,baz=14,slow=6.9,SNR=5.8						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**58.

	baz=28							
EOS3				*e*S		**Sn**	17 25 35.1	+0.7
	baz=28							
OWD	**Renai**	**0.71**	**292**	P		**Pb**	17 25 24.7	-0.4
	baz=299							
OWD				*e*S		**Sb**	17 25 34.5	-0.3
	baz=299							
WHF	**Hehuan Shan**	**0.74**	**308**	*i* P		**Pb**	17 25 25.0	-0.7
	baz=308							
WHF				*e*S		**Sb**	17 25 35.2	-0.5
	baz=308							
FULB	**Fuli**	**0.74**	**229**	*e*P		**Pn**	17 25 24.9	-0.5
	baz=217							
FULB				*e*S		**Sb**	17 25 35.0	-0.4
	baz=217							
ENA	**Nanau**	**0.75**	**349**	P		**Pb**	17 25 25.1	-0.5
	baz=349							
ENA				S		**Sb**	17 25 35.3	-0.3
	baz=349							
CHGB	**Renai**	**0.76**	**299**	P		**Pb**	17 25 25.5	-0.4
	baz=306							
EWUT	**Wuta**	**0.76**	**352**	*e*P		**Pn**	17 25 25.3	-0.3
	baz=352							
EWUT				*e*S		**Sb**	17 25 35.3	-0.6
	baz=352							
CHKT	**Chengkung**	**0.77**	**220**	*e*S		**Sb**	17 25 34.0	-2.0
	baz=210							
WUSB	**Renai**	**0.78**	**293**	*i* P		**Pn**	17 25 25.9	-0.1
	baz=298							
EOS2	**EOS2**	**0.79**	**23**	*e*P		**Pb**	17 25 26.5	+0.3
	baz=16							
FUSS	**Fushou**	**0.82**	**313**	*i* P		**Pn**	17 25 26.4	-0.3
	baz=313							
EHD	**Haiduan**	**0.83**	**230**	P		**Pn**	17 25 25.9	-0.7
	baz=243							
EHD				*e*S		**Sb**	17 25 36.7	-1.3
	baz=243							
ECS	**Chishang**	**0.86**	**227**	*e*P		**Pn**	17 25 27.6	+0.6
	baz=239							
TWT	**Tachien**	**0.87**	**310**	*i* P		**Pn**	17 25 27.5	+0.2
	baz=309							
TWT				S		**Sb**	17 25 38.9	-0.3
	baz=309							
SSLB	**Suanglung**	**0.87**	**277**	P		**Pn**	17 25 26.9	-0.3
	baz=284							
NNSB	**Datong**	**0.88**	**327**	*e*P		**Pn**	17 25 27.3	-0.1
	baz=327							
NNSB				S		**Sb**	17 25 38.7	-0.6
	baz=327							
TDCB	**Techi**	**0.88**	**310**	P		**Pn**	17 25 27.5	+0.1
	baz=309							
TDCB				S		**Sb**	17 25 38.6	-0.8
	baz=309							
NNS	**Nan Shan**	**0.89**	**327**	*i* P		**Pn**	17 25 27.4	-0.1
	baz=327							
NNS				*e*S		**Sb**	17 25 39.0	-0.7
	baz=327							
EDH	**Donghe**	**0.90**	**218**	*e*P		**Pn**	17 25 25.7	-1.8
	baz=217							
LATG	**Datong**	**0.91**	**338**	P		**Pn**	17 25 27.9	+0.1
	baz=338							
TWC	**Suao**	**0.92**	**357**	*e*P		**Pb**	17 25 28.3	-0.1
	baz=358							
TWC				*e*S		**Sb**	17 25 40.4	+0.1
	baz=358							
SMLT	**Sun Moon Lake**	**0.94**	**282**	P		**Pn**	17 25 28.3	+0.1
	baz=275							
ELDTW	**Lidau**	**0.95**	**239**	*e*P		**Pn**	17 25 27.7	-0.7
	baz=237							
ELDTW				*e*S		**Sn**	17 25 39.6	-1.3
	baz=237							
NDS	**Dongshan**	**0.95**	**350**	*e*P		**Pn**	17 25 28.7	+0.4
	baz=350							
WHYT	**Xinyi Township**	**0.96**	**271**	P		**Pn**	17 25 28.9	+0.5
	baz=265							
NDT	**Datong Townshi**	**0.98**	**339**	*e*P		**Pb**	17 25 29.1	-0.3
	baz=339							
NDT				*e*S		**Sn**	17 25 41.4	0.0
	baz=339							
WCS	**Beigang Elemen**	**0.98**	**292**	P		**Pn**	17 25 29.0	+0.4
	baz=292							
TYC	**Yuchr**	**0.98**	**283**	P		**Pn**	17 25 28.9	+0.3
	baz=282							
ENTT	**Nioudou**	**0.99**	**342**	*e*P		**Pn**	17 25 29.3	+0.4
	baz=342							
ALS	**Alishan**	**1.02**	**260**	P		**Pn**	17 25 30.1	+0.6
	baz=252							
TWE	**Neicheng**	**1.05**	**348**	*e*P		**Pb**	17 25 30.2	-0.4
	baz=340							
WHP	**Taichung City**	**1.05**	**304**	*e*P		**Pb**	17 25 30.6	-0.1
	baz=312							
WHP				*e*S		**Sb**	17 25 44.1	-0.1
	baz=312							
LONT	**Longtian**	**1.05**	**222**	*e*P		**Pn**	17 25 29.1	-0.5
	baz=232							
WJS	**Zhushan**	**1.08**	**277**	*e*P		**Pb**	17 25 31.5	+0.3
	baz=276							
WJS				*e*S		**Sb**	17 25 46.5	+1.5
	baz=276							
YHNB	**Yeheng**	**1.09**	**334**	P		**Pn**	17 25 30.5	+0.3
	baz=334							
YHNB				*e*S		**Sn**	17 25 43.9	-0.3
	baz=334							
NSK	**Sanguang**	**1.10**	**333**	*e*P		**Pn**	17 25 30.9	+0.5
	baz=333							
NSK				*e*S		**Sn**	17 25 44.4	-0.2
	baz=333							
FUSB	**Fushanzhiwuyua**	**1.10**	**345**	P		**Pn**	17 25 30.9	+0.5
	baz=332							
FUSB				*e*S		**Sb**	17 25 45.3	-0.3
	baz=332							
CHN5	**Tsauling**	**1.12**	**266**	P		**Pb**	17 25 32.0	0.0
	baz=265							
CHN5				*e*S		**Sb**	17 25 46.9	+0.5
	baz=265							
WNT	**Mingjian**	**1.13**	**280**	*e*P		**Pb**	17 25 32.1	+0.1
	baz=279							
NWLT	**Wulai**	**1.14**	**342**	*e*P		**Pn**	17 25 31.5	+0.6
	baz=330							
NWLT				*e*S		**Sn**	17 25 45.5	0.0
	baz=330							
TWGBT	**Beinan**	**1.15**	**221**	*e*P		**Pn**	17 25 31.0	0.0
	baz=221							
TWG	**Pinlang**	**1.15**	**222**	*e*P		**Pn**	17 25 31.0	0.0
	baz=221							
STYH	**Taoyuan**	**1.16**	**244**	P		**Pn**	17 25 31.6	+0.5
	baz=233							
NFF	**Wufeng Townshi**	**1.18**	**323**	*e*P		**Pb**	17 25 32.6	-0.3
	baz=322							
NFF				*e*S		**Sb**	17 25 47.4	-0.4
	baz=322							
TCU	**Taichung**	**1.21**	**292**	*e*P		**Pb**	17 25 33.7	+0.4
	baz=292							
WCKO	**Fanlu**	**1.22**	**258**	*e*P		**Pb**	17 25 33.5	0.0
	baz=257							
WCKO				*e*S		**Sb**	17 25 49.6	+0.8
	baz=257							
TWQ1	**Liyutan**	**1.22**	**303**	*e*P		**Pb**	17 25 33.8	+0.2
	baz=302							
WGK	**Gukeng**	**1.23**	**270**	*e*P		**Pb**	17 25 33.4	-0.2
	baz=270							
TPUB	**Ta-pu**	**1.23**	**252**	P		**Pb**	17 25 33.5	-0.2
	baz=242							
CHN4	**Tsaushan**	**1.25**	**255**	*e*P		**Pb**	17 25 33.9	-0.1
	baz=254							
NSTT	**Nanjuang**	**1.25**	**319**	*e*P		**Pb**	17 25 33.8	-0.2
	baz=319							
NSTT				S		**Sb**	17 25 49.3	-0.4
	baz=319							
LIOB	**Emei**	**1.25**	**320**	*e*P		**Pb**	17 25 34.2	+0.1
	baz=319							
LIOB				*e*S		**Sb**	17 25 49.6	-0.2
	baz=319							
WDLH	**Douliu**	**1.25**	**270**	*e*P		**Pb**	17 25 34.1	+0.1
	baz=270							
WTP	**Ta-pu**	**1.26**	**250**	*e*P		**Pb**	17 25 33.8	-0.4
	baz=240							
TIPB	**Shuangxi**	**1.28**	**357**	*e*P		**Pb**	17 25 33.9	-0.7
	baz=357							
TIPB				*e*S		**Sb**	17 25 50.1	-0.5
	baz=357							
NHDH	**Xindian Distri**	**1.31**	**345**	*e*P		**Pb**	17 25 34.2	-0.8
	baz=345							
SLGT	**Liugui**	**1.34**	**239**	*e*P		**Pb**	17 25 35.1	-0.6
	baz=230							
SGST	**Jiashian**	**1.35**	**244**	*e*P		**Pn**	17 25 34.7	+0.9
	baz=233							
SGST				*e*S		**Sb**	17 25 53.1	+0.4
	baz=233							
CHN1	**Nanshi**	**1.36**	**249**	*e*P		**Pb**	17 25 35.5	-0.3
	baz=248							
CHN1				*e*S		**Sb**	17 25 54.0	+1.1
	baz=248							
TWK	**Hsinying**	**1.36**	**252**	*e*P		**Pb**	17 25 35.5	-0.4
	baz=251							
SNST	**Tainan City**	**1.37**	**250**	*e*P		**Pb**	17 25 35.8	-0.2
	baz=250							
ECL	**Taimali**	**1.39**	**219**	*e*P		**Pn**	17 25 35.2	+0.9
	baz=227							
SXI1	**Grass Mountain**	**1.40**	**359**	*e*P		**Pb**	17 25 35.9	-0.7
	baz=15							
WRL	**Guolierlin Hig**	**1.41**	**279**	*e*S		**Sb**	17 25 54.6	+0.2
	baz=278							
YM01	**YM01**	**1.48**	**348**	*e*S		**Sn**	17 25 54.8	+0.9
	baz=333							
TSMG	**Majia**	**1.52**	**230**	*e*P		**Pn**	17 25 37.2	+1.2
	baz=221							
SCST	**Cishan**	**1.52**	**239**	*e*P		**Pb**	17 25 38.7	+0.1
	baz=230							
MASBT	**Mashibuluo**	**1.58**	**228**	*e*P		**Pn**	17 25 37.9	+0.9
	baz=219							
EAST	**Anshuo**	**1.62**	**217**	*e*P		**Pn**	17 25 38.7	+1.1
	baz=216							
TSCK	**Chigu Township**	**1.75**	**252**	*e*P		**Pn**	17 25 41.1	+1.8
	baz=251							
TSCK				*e*S		**Sb**	17 26 03.5	-0.6
	baz=251							
SCZT	**Fangliau**	**1.76**	**222**	*e*P		**Pb**	17 25 41.8	-0.9
	baz=217							
HATJ	**Hateruma jima**	**1.78**	**78**	S		**Sn**	17 26 01.0	-0.2
IRIF	**Iriomote-Funau**	**1.79**	**69**	P		**Pn**	17 25 40.6	+0.8
IRIF				S		**Sn**	17 26 02.1	+0.6
JKRS	**Kuro-shima**	**2.00**	**74**	P		**Pn**	17 25 43.7	+1.0
JKRS				S		**Sn**	17 26 08.5	+1.7
JIJ	**Ishigaki jima**	**2.16**	**71**	P		**Pn**	17 25 45.2	+0.4
JIJ				S		**Sn**	17 26 10.0	-0.5
JISG	**Ishigakijimahi**	**2.38**	**67**	P		**Pn**	17 25 48.0	+0.2
JISG				S		**Sn**	17 26 14.8	-1.1

IDC 18 17:28:07.0±2.6, 7°95S×115°76E, h0km, mb3.6/4, mbtmp3.7/4, MS3.1/1, Error ellipse: s-maj=200.6km s-min=26.8km az=51.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
LEM	**Lembang**	**8.15**	**277**	LR		LR	17 34 11.2	
	comp=Z,114nm,18.3s,baz=356,slow=45							
WRA	**Warramunga Arr**	**21.59**	**125**	P		P	17 32 58.8	+0.2
	1.0nm,0.7s,baz=300,slow=11,SNR=12							
	1.0nm,0.7s							
ASAR	**Alice Springs**	**23.39**	**134**	P		P	17 33 16.9	-0.7
	1.3nm,0.7s,baz=308,slow=9.0,SNR=29							
	1.3nm,0.7s							
STKA	**Stephens Creek**	**33.83**	**138**	P		P	17 34 51.9	+0.7
	1.0nm,0.5s,baz=301,slow=11,SNR=3.1							
	1.0nm,0.5s							
MKAR	**Makanchi Array**	**62.10**	**335**	P		P	17 38 29.7	0.0
	0.7nm,0.9s,baz=123,slow=5.3,SNR=3.0							
	0.7nm,0.9s							

MEX 18 17:30:55.9±1.4, 15°43N×94°65W, h20km±13km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.08**	**41**	*e*P		Pn	17 31 12.5	-3.4
CARR				*i* S		Sb	17 31 24.3	-5.4
CARR	**Arriaga**	**1.08**	**41**	*e*P		Pn	17 31 12.5	-3.5
CARR				*i* S		Sb	17 31 24.3	-5.4
NILT	**Santiago Nilte**	**1.13**	**2**	*e*P		Pn	17 31 13.5	-3.2
NILT				*i* S		Sb	17 31 25.8	-5.4
NILT	**Santiago Nilte**	**1.13**	**2**	*e*P		Pn	17 31 13.4	-3.2
NILT				*i* S		Sb	17 31 24.9	-6.2
PCIG		**1.41**	**78**	*e*P		Pn	17 31 17.4	-3.0
PCIG				*e*S		Sn	17 31 34.0	-4.4
HUIG	**Huatulco**	**1.45**	**284**	*e*P		Pn	17 31 18.0	-2.9
HUIG				*e*S		Sn	17 31 34.0	-5.4
HUIG	**Huatulco**	**1.45**	**284**	*e*P		Pn	17 31 18.1	-2.9
HUIG				*e*S		Sn	17 31 33.9	-5.5
CMIG	**Matias Romero**	**1.67**	**352**	*e*P		Pn	17 31 21.5	-2.6
CMIG				*e*S		Sn	17 31 40.5	-4.4
CMIG	**Matias Romero**	**1.67**	**352**	*e*P		Pn	17 31 21.4	-2.7
CMIG				*e*S		Sn	17 31 41.2	-3.7
UXUV	**UXUV**	**1.94**	**14**	*e*P		Pn	17 31 26.2	-1.6
UXUV				*e*S		Sn	17 31 48.3	-3.3
UXUV	**UXUV**	**1.94**	**14**	*e*P		Pn	17 31 26.2	-1.6
UXUV				*e*S		Sn	17 31 48.2	-3.4
PATR	**El Naranjo**	**2.35**	**97**	*e*P		Pn	17 31 31.1	-2.5
PATR				*e*S		Sn	17 31 57.5	-4.6
PATR	**El Naranjo**	**2.35**	**97**	*e*P		Pn	17 31 31.1	-2.5
PATR				*e*S		Sn	17 31 56.8	-5.3
PAVE	**Pavencul**	**2.40**	**95**	*e*P		Pn	17 31 32.3	-2.0
PAVE				*e*S		Sn	17 31 58.1	-5.0
PAVE	**Pavencul**	**2.40**	**95**	*e*P		Pn	17 31 32.2	-2.1
PAVE				*e*S		Sn	17 31 59.4	-3.8
CHUJ	**Union Juarez**	**2.48**	**97**	*e*P		Pn	17 31 33.2	-2.2
CHUJ				*e*S		Sn	17 32 01.0	-4.2
CHUJ	**Union Juarez**	**2.48**	**97**	*e*P		Pn	17 31 33.2	-2.1
CHUJ				*e*S		Sn	17 32 01.1	-4.1
NEUV	**Arroyo Zacate**	**2.53**	**334**	*e*P		Pn	17 31 33.4	-2.5
NEUV				*i* S		Sn	17 32 02.8	-3.3
OXLC	**Oaxaca**	**2.56**	**310**	*i* P		Pn	17 31 36.0	-0.4
OXLC				*e*S		Sn	17 32 04.5	-2.6
OXLC	**Oaxaca**	**2.56**	**310**	*i* P		Pn	17 31 36.2	-0.3
OXLC				*e*S		Sn	17 32 04.5	-2.7
CCIG	**Comitan**	**2.56**	**70**	*e*P		Pn	17 31 36.8	+0.3
CCIG				*e*S		Sn	17 32 06.4	-0.8
CCIG	**Comitan**	**2.56**	**70**	*e*P		Pn	17 31 37.0	+0.5
CCIG				*e*S		Sn	17 32 07.7	+0.5
VHO	**Vista Hermosa**	**2.58**	**310**	*e*P		Pn	17 31 36.2	-0.6
VHO				*e*S		Sn	17 32 05.5	-2.3
VHO	**Vista Hermosa**	**2.58**	**310**	*e*P		Pn	17 31 36.4	-0.4
VHO				*e*S		Sn	17 32 05.3	-2.4
YOIG	**Yosondua**	**3.12**	**297**	*e*P		Pn	17 31 43.7	-0.6
YOIG				*i* S		Sn	17 32 14.8	-6.4
YOIG	**Yosondua**	**3.12**	**297**	*e*P		Pn	17 31 43.7	-0.6
YOIG				*e*S		Sn	17 32 17.6	-3.6
PNIG	**Pinotepa**	**3.48**	**286**	*e*P		Pn	17 31 47.0	-2.0
PNIG				*e*S		Sn	17 32 21.8	-7.9
FTIG	**Fresnillo de T**	**4.15**	**307**	*e*P		Pn	17 31 58.4	+0.1
FTIG				*e*S		Sn	17 32 42.8	-3.6
MGIG	**Malinaltepec**	**4.23**	**296**	*e*P		Pn	17 31 57.5	-1.9
MGIG				*e*S		Sn	17 32 44.6	-3.7
JAUV	**Jalcomulco**	**4.42**	**333**	*e*P		Pn	17 31 58.5	-3.5
JAUV				*i* S		Sn	17 32 45.8	-7.2
YAIG	**Yautepec**	**5.43**	**310**	*e*P		Pn	17 32 16.8	+0.9
YAIG				*e*S		Sn	17 33 11.7	-6.3

*SOF **18** 17:51:10.8, 41°66N×23°99E, h20km, MD3.5*
*ATH **18** 17:51:11.6, 41°68N×23°99E, h9km±1km, ML3.3/18, Manual Solution by M.Kolligri This location: 2019/12/30 11:14:42 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*ISK **18** 17:51:11.4, 41°61N×24°00E, h6km, ML3.5/25*
*BEO **18** 17:51:12.8±0.3, 41°68N×23°98E, h13km±2km, ML3.3/9*
*THE **18** 17:51:12.9, 41°63N×23°99E, h10km, ML3.2/12, Error ellipse: s-maj=1.3km s-min=0.7km az=181.0*
*SKO **18** 17:51:13.3, 41°65N×24°00E, h2km, ML3.1*
*AFAD **18** 17:51:18.8±0.0, 40°87N×24°02E, h6km±3km, ML3.1*

ISC 18 17:51:12.0±0.9, 41°65N±0°01×24°01E±0°01, h15km±6km, n160, σ1$23/211, 19C-12D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MMB	**Musomishta**	**0.23**	**242**	*i* Pg		**Pg**	**17 51 16.9**	**-0.2**
MMB				*i* Sg		**Sg**	**17 51 20.5**	**0.0**
MMB	**Musomishta**	**0.23**	**242**	*i* Pg		**Pg**	**17 51 16.8**	**-0.2**
NVR	**Nevrokopi**	**0.33**	**201**	P		**Pb**	**17 51 19.6**	**+0.1**
NVR				S		**Sg**	**17 51 23.5**	**+0.1**
	5μm,0.2s							
NVR	**Nevrokopi**	**0.33**	**201**	P		**Pb**	**17 51 19.4**	**-0.1**
NVR				S		**Sg**	**17 51 23.2**	**-0.1**
RZN	**Rozhen**	**0.54**	**86**	*i* Pg		**Pg**	**17 51 22.4**	**-0.4**
SRS	**Serrai**	**0.62**	**211**	P		**Pg**	**17 51 24.2**	**0.0**
SRS				S		**Sg**	**17 51 32.6**	**+0.1**
	2μm,0.2s							
SRS	**Serrai**	**0.62**	**211**	*e*Pg		**Pg**	**17 51 24.2**	**0.0**
SRS				*e*Sg		**Sb**	**17 51 32.8**	**-0.3**
SRS	**Serrai**	**0.62**	**211**	*i*Pg		**Pg**	**17 51 24.2**	**0.0**
SRS				*i* Sg		**Sb**	**17 51 32.9**	**-0.3**
SRS	**Serrai**	**0.62**	**211**	P		**Pg**	**17 51 24.2**	**0.0**
SRS				S		**Sg**	**17 51 32.5**	**+0.1**
KKB	**Krupnik**	**0.69**	**286**	*i* Pg		**Pg**	**17 51 25.0**	**-0.4**
PLD	**Plovdiv**	**0.74**	**48**	Pg		**Pg**	**17 51 25.9**	**-0.4**
PLD				Sg		**Sg**	**17 51 35.9**	**-0.2**
PLD	**Plovdiv**	**0.74**	**48**	*e*Pg		**Pg**	**17 51 25.8**	**-0.5**
PLD				*e*Sg		**Sb**	**17 51 36.8**	**+0.4**
PLD	**Plovdiv**	**0.74**	**48**	*i*Pg		**Pg**	**17 51 25.9**	**-0.4**
PLD				*i* Sg		**Sg**	**17 51 35.6**	**-0.5**
PLD	**Plovdiv**	**0.74**	**48**	*i* Pg		**Pg**	**17 51 25.9**	**-0.4**
KAVA	**Kavala**	**0.76**	**150**	P		**Pg**	**17 51 26.4**	**-0.3**
KAVA				S		**Sb**	**17 51 37.8**	**+0.9**
	3μm,0.1s							
KAVA	**Kavala**	**0.76**	**150**	P		**Pg**	**17 51 26.4**	**-0.3**
KAVA				S		**Sb**	**17 51 37.8**	**+0.9**
KOKK	**Kokkinochori,**	**0.84**	**181**	P		**Pg**	**17 51 28.1**	**-0.1**
KOKK				S		**Sb**	**17 51 39.8**	**+0.6**
	1μm,0.3s							
KOKK	**Kokkinochori,**	**0.84**	**181**	P		**Pg**	**17 51 28.2**	**0.0**
KOKK				S		**Sb**	**17 51 40.0**	**+0.8**
PGB	**Panagyurishte**	**0.87**	**8**	*i* Pg		**Pb**	**17 51 28.4**	**-0.3**
PLNA	**Plana**	**0.93**	**332**	*i* Pg		**Pb**	**17 51 29.3**	**-0.6**
SOH	**Sokhos**	**0.97**	**211**	P		**Pb**	**17 51 30.3**	**-0.1**
SOH				S		**Sn**	**17 51 44.8**	**+0.2**
	3μm,0.4s							
SOH	**Sokhos**	**0.97**	**211**	*i*Pg		**Pb**	**17 51 30.4**	**-0.1**
SOH				*i* Sg		**Sn**	**17 51 45.0**	**+0.5**
SOH	**Sokhos**	**0.97**	**211**	P		**Pb**	**17 51 30.4**	**-0.1**
SOH				S		**Sn**	**17 51 44.0**	**-0.5**
KNT	**Kendrikon**	**0.97**	**240**	Pg		**Pb**	**17 51 29.8**	**-0.7**
KNT				Sg		**Sg**	**17 51 43.4**	**-0.1**
KNT	**Kendrikon**	**0.97**	**240**	P		**Pb**	**17 51 30.0**	**-0.5**
KNT				S		**Sg**	**17 51 43.5**	**-0.1**
	1μm,0.3s							
KNT	**Kendrikon**	**0.97**	**240**	*i* Pg		**Pb**	**17 51 29.8**	**-0.7**
KNT				*i* Sg		**Sg**	**17 51 43.7**	**+0.1**
KNT	**Kendrikon**	**0.97**	**240**	P		**Pb**	**17 51 30.2**	**-0.3**
KNT				S		**Sg**	**17 51 43.3**	**-0.5**
KDZ	**Kurdzhali**	**0.99**	**91**	Pg		**Pb**	**17 51 31.2**	**-0.4**
KDZ	**Kurdzhali**	**0.99**	**91**	Pg		**Pb**	**17 51 31.3**	**+0.4**
VTS	**Vitosha**	**1.12**	**329**	*e*Pg		**Pb**	**17 51 32.3**	**-0.9**
VTS				*e*Sg		**Sg**	**17 51 47.9**	**-0.5**
VTS	**Vitosha**	**1.12**	**329**	Pg		**Pb**	**17 51 32.3**	**-0.9**
VAY	**Valandovo**	**1.14**	**253**	*e*Pg		**Pg**	**17 51 34.5**	**+0.6**
VAY				*e*Sg		**Sn**	**17 51 49.2**	**+0.7**
VAY	**Valandovo**	**1.14**	**253**	*i* Pg		**Pg**	**17 51 34.4**	**+0.6**
VAY				*i* Sg		**Sn**	**17 51 49.2**	**+0.7**
VAY				*e*Lg		Lg	17 51 51.0	
	comp=E,332nm,0.6s							
VAY				*e*Lg		Lg	17 51 52.0	
	comp=N,370nm,0.5s							
THAS	**Thassos island**	**1.18**	**153**	P		**Pb**	**17 51 34.4**	**+0.5**
THAS				S		**Sg**	**17 51 50.5**	**+0.6**
	comp=N,3μm,0.4s							
THAS	**Thassos island**	**1.18**	**153**	P		**Pb**	**17 51 34.4**	**+0.5**
DIM	**Dimitrovgrad**	**1.23**	**71**	P		**Pg**	**17 51 35.8**	**+0.1**
RDO	**Rodhopi**	**1.25**	**113**	Pn		**Pb**	**17 51 35.6**	**+0.3**
RDO	**Rodhopi**	**1.25**	**113**	P		**Pb**	**17 51 35.6**	**+0.3**
RDO				S		**Sg**	**17 51 53.5**	**+1.0**
	comp=N,3μm,0.2s							
RDO	**Rodhopi**	**1.25**	**113**	P		**Pb**	**17 51 35.8**	**+0.5**
RDO				S		**Sg**	**17 51 52.8**	**+0.3**
HORT	**Hortiatis**	**1.26**	**214**	Pn		**Pn**	**17 51 34.7**	**-0.4**
HORT	**Hortiatis**	**1.26**	**214**	P		**Pb**	**17 51 35.6**	**+0.1**
HORT				S		**Sg**	**17 51 52.6**	**-0.1**
	comp=N,1μm,0.5s							
HORT	**Hortiatis**	**1.26**	**214**	P		**Pb**	**17 51 35.4**	**-0.1**
THE	**Thessaloniki**	**1.29**	**218**	P		**Pb**	**17 51 36.2**	**+0.3**
THE				S		**Sg**	**17 51 53.2**	**-0.5**
	comp=N,755nm,0.5s							
THE	**Thessaloniki**	**1.29**	**218**	*i*Pg		**Pb**	**17 51 36.0**	**+0.1**
THE				*i* Sg		**Sg**	**17 51 53.6**	**-0.1**
THE	**Thessaloniki**	**1.29**	**218**	P		**Pb**	**17 51 36.0**	**+0.1**
OUR	**Ouranopolis**	**1.32**	**181**	Pn		**Pb**	**17 51 36.2**	**-0.2**
OUR	**Ouranopolis**	**1.32**	**181**	P		**Pb**	**17 51 36.2**	**-0.2**
OUR				S		**Sg**	**17 51 54.5**	**0.0**
	comp=N,4μm,0.3s							
OUR	**Ouranopolis**	**1.32**	**181**	P		**Pb**	**17 51 36.4**	**0.0**
OUR				S		**Sg**	**17 51 54.2**	**-0.3**
GRG	**Griva**	**1.40**	**241**	Pn		**Pb**	**17 51 37.8**	**0.0**
GRG	**Griva**	**1.40**	**241**	P		**Pb**	**17 51 38.0**	**+0.2**
GRG				S		**Sg**	**17 51 56.6**	**-0.6**
	comp=N,440nm,0.4s							
GRG	**Griva**	**1.40**	**241**	*i* Pg		**Pb**	**17 51 38.0**	**+0.2**
GRG				*i* Sg		**Sg**	**17 51 57.7**	**+0.5**
GRG	**Griva**	**1.40**	**241**	P		**Pb**	**17 51 37.5**	**-0.3**
BOSS	**Bosilegrad**	**1.42**	**307**	*e*Pg		**Pg**	**17 51 38.7**	**-0.6**
BOSS				*e*Sg		**Sg**	**17 51 57.3**	**-0.4**
SMTH	**Samothraki Isl**	**1.65**	**135**	P		**Pb**	**17 51 41.9**	**-0.1**
SMTH				S		**Sb**	**17 52 02.6**	**+0.1**
PRVS	**Prvonek**	**1.68**	**301**	*e*Pg		**Pb**	**17 51 42.1**	**-0.4**
PRVS				*e*Sg		**Sb**	**17 52 04.1**	**+0.6**
PVL	**Pavlikeni**	**1.70**	**30**	P		**Pb**	**17 51 42.6**	**-0.3**
ALN	**Alexandroupoli**	**1.71**	**116**	Pn		**Pn**	**17 51 42.1**	**+0.9**
ALN	**Alexandroupoli**	**1.71**	**116**	P		**Pn**	**17 51 42.2**	**+1.

BOVS				*e*Sn		**Sn**	**17 52 25.5**	**+0.5**
PHSR	**Pinarhisar**	**2.63**	**89**	Pn		**Pn**	**17 51 56.4**	**+2.5**
COPA	**Copaceanca**	**2.63**	**19**	⇑P		**Pn**	**17 51 56.2**	**+2.3**
KPRO	**Kipourio**	**2.63**	**231**	P		**Pn**	**17 51 55.1**	**+1.1**
SELS	**Selova**	**2.65**	**307**	*e*Pn		**Pn**	**17 51 54.4**	**+0.2**
SELS				*e*Sn		**Sn**	**17 52 26.0**	**-0.1**
KOCA	**Canakkale, Ayv**	**2.69**	**142**	P		**Pn**	**17 51 54.9**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**2.71**	**134**	P		**Pn**	**17 51 56.1**	**+1.1**
BAYC				S		**Sn**	**17 52 24.6**	**-3.0**
BAYC				*i* AML		AML	17 52 32.0	
	comp=N,112nm,0.2s							
TKR	**Tekirdag**	**2.73**	**103**	Pn		**Pn**	**17 51 57.6**	**+2.3**
KRBG	**Karabiga-Canak**	**2.79**	**116**	Pn		**Pn**	**17 51 57.9**	**+1.9**
RFT1	**Sazli**	**2.81**	**138**	Pn		**Pn**	**17 51 57.9**	**+1.5**
CANM	**Can-anakkale**	**2.83**	**124**	Pn		**Pn**	**17 51 58.4**	**+1.8**
AGG	**Agios Georgios**	**2.93**	**207**	Pn		**Pn**	**17 51 58.9**	**+0.9**
AGG	**Agios Georgios**	**2.93**	**207**	P		**Pn**	**17 51 58.9**	**+0.9**
SGRR	**Singureni**	**2.94**	**29**	⇓P		**Pn**	**17 52 00.1**	**+2.0**
HUMR	**Humele**	**2.96**	**14**	⇑P		**Pn**	**17 52 00.2**	**+1.8**
PRK	**Paraskevi**	**2.96**	**144**	P		**Pn**	**17 52 00.1**	**+1.7**
KYMI	**Kymi, Euboea I**	**3.02**	**179**	P		**Pn**	**17 52 00.9**	**+1.7**
SRE	**Strehaia**	**3.06**	**349**	⇓P		**Pn**	**17 52 00.5**	**+0.6**
AYVA	**Ayvalik**	**3.11**	**138**	P		**Pn**	**17 52 01.1**	**+0.7**
AYVA				S		**Sn**	**17 52 32.0**	**-5.2**
AYVA				*i* AML		AML	17 52 56.0	
	comp=N,65nm,0.4s							
BUHA	**Balikesir, Bur**	**3.17**	**132**	P		Pn	17 51 56.6	-4.7
BUHA				S		**Sn**	**17 52 33.0**	**-5.9**
EVR	**Evrytania**	**3.21**	**212**	P		**Pn**	**17 52 03.6**	**+1.6**
KUBS	**Kucevo**	**3.25**	**329**	*e*Pn		**Pn**	**17 52 02.2**	**-0.1**
GRUS	**Gruza**	**3.30**	**314**	*e*Pn		**Pn**	**17 52 03.5**	**+0.5**
GRUS				*e*Sn		**Sn**	**17 52 42.9**	**+0.9**
BALY	**Balya**	**3.34**	**124**	P		**Pn**	**17 52 00.2**	**-3.5**
SJES	**Sjenica**	**3.39**	**300**	*e*Pn		**Pn**	**17 52 05.7**	**+1.2**
HERR	**Herculane**	**3.43**	**341**	⇑P		**Pn**	**17 52 04.5**	**-0.4**
IVAS	**Ivanjica**	**3.44**	**305**	*e*Pn		**Pn**	**17 52 05.2**	**+0.2**
IVAS				*e*Sn		**Sn**	**17 52 45.5**	**0.0**
ANX	**Ano Chora**	**3.45**	**208**	P		**Pn**	**17 52 06.8**	**+1.5**
BKES	**Balkesir-Mer**	**3.54**	**122**	P		**Pn**	**17 52 07.8**	**+1.4**
MDVR	**Moldovita**	**3.55**	**332**	⇓P		**Pn**	**17 52 06.6**	**+0.1**
ZEDA	**zmir-Bergama**	**3.56**	**138**	P		**Pn**	**17 52 08.4**	**+1.8**
ZEDA				S		**Sn**	**17 52 43.7**	**-4.8**
PVO	**Paravola**	**3.58**	**213**	P		**Pn**	**17 52 08.5**	**+1.6**
EFP	**Efpalio**	**3.61**	**207**	P		**Pn**	**17 52 09.0**	**+1.7**
CHOS	**Chios island**	**3.62**	**154**	P		**Pn**	**17 52 08.8**	**+1.2**
ICOR	**Ion Corvin**	**3.71**	**47**	⇑P		**Pn**	**17 52 11.7**	**+3.0**
LTK	**Loutraki**	**3.71**	**193**	P		**Pn**	**17 52 10.1**	**+1.3**
ARR	**Arges**	**3.74**	**7**	⇑P		**Pn**	**17 52 10.1**	**+0.9**
LOT	**Lotru**	**3.80**	**357**	⇑P		**Pn**	**17 52 10.2**	**+0.2**
VLY	**Voula,Athens**	**3.80**	**183**	P		**Pn**	**17 52 11.0**	**+1.0**
DIVS	**Divibare**	**3.83**	**311**	*e*Pn		**Pn**	**17 52 10.8**	**+0.3**
DIVS				*e*Sn		**Sn**	**17 52 54.2**	**-1.1**
URLA	**Izmir**	**3.84**	**148**	P		**Pn**	**17 52 12.1**	**+1.6**
URLA				*i* AML		AML	17 53 48.0	
	comp=N,47nm,1.8s							
GZR	**Gura Zlata**	**3.84**	**347**	⇓P		**Pn**	**17 52 10.8**	**+0.1**
VOIR		**3.86**	**11**	⇑P		**Pn**	**17 52 12.2**	**+1.4**
KLV	**Kalavryta, Ach**	**3.88**	**202**	P		**Pn**	**17 52 11.8**	**+0.7**
ISR	**Istrita**	**3.92**	**27**	⇓P		**Pn**	**17 52 14.2**	**+2.5**
GUR	**Goura**	**3.93**	**200**	P		**Pn**	**17 52 12.8**	**+0.9**
MLR	**Muntele Rosu**	**4.08**	**19**	⇓P		**Pn**	**17 52 16.5**	**+2.6**
SURR	**Surduc**	**4.32**	**342**	⇑P		**Pn**	**17 52 17.2**	**+0.1**
BZS	**Buzias**	**4.33**	**337**	⇓P		**Pn**	**17 52 17.0**	**-0.1**
BZS	**Buzias**	**4.33**	**337**	*e*Pn		**Pn**	**17 52 17.0**	**-0.1**
BZS				*e*Lg		Lg	17 53 26.3	
TEKS	**Tekeris**	**4.38**	**313**	*e*Pn		**Pn**	**17 52 17.2**	**-0.7**
DOPR	**Dopca**	**4.42**	**13**	⇓P		**Pn**	**17 52 20.3**	**+1.8**
COVR	**Voineasa-Covas**	**4.48**	**20**	⇑P		**Pn**	**17 52 22.0**	**+2.7**
PLOR	**Plostina**	**4.61**	**24**	⇑P		**Pn**	**17 52 23.8**	**+2.7**
VRI	**Vrincioaia**	**4.65**	**24**	⇑P		**Pn**	**17 52 23.4**	**+1.9**
SIRR	**Siria**	**4.92**	**341**	⇑P		**Pn**	**17 52 25.5**	**+0.2**
MARR	**Marisel-Cluj**	**5.06**	**353**	⇓P		**Pn**	**17 52 28.2**	**+0.8**
VLDR	**Vladesti**	**5.12**	**34**	⇑P		**Pn**	**17 52 30.7**	**+2.7**
MORH	**Mrgy, Hungar**	**5.98**	**321**	*e*Pn		**Pn**	**17 52 39.8**	**-0.1**
KOLS	**Kolonicke sedl**	**7.38**	**351**	*e*SG		**Sg**	**17 55 09.3**	**+0.6**

CATAC ***18*** *17:55:40.1±0.4, 8°.93N×82°.93W, h9km±3km, ML2.5*
UPA ***18*** *17:55:41.4±1.0, 8°.90N×82°.85W, h16km±2km, MWV3.4*
ISC 18 17:55:39.8±0.9, 8°.94N±0°.04×82°.90W±0°.03, h24km±7km, n16, σ0°61/31, 3C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCR	**Cotoan**	**0.15**	**108**	*i* P	**Pb**	**17 55 45.1**	**+0.1**
CTCR				*i* S	**Sb**	**17 55 48.1**	**-0.4**
CTCR				IAML		17 55 49.0	
	comp=Z,4μm,1.0s						
POTG	**Potrero Grande**	**0.24**	**297**	*i* P	**Pb**	**17 55 46.5**	**+0.5**
POTG				*i* S	**Sb**	**17 55 49.7**	**-0.4**
POTG				IAML		17 55 52.7	
	comp=Z,3μm,1.0s						
BRU2	**Volcan**	**0.26**	**125**	⇑*i*P	**Pb**	**17 55 46.6**	**+0.4**
BRU2				*e*S	**Sb**	**17 55 51.2**	**+0.6**
BRU2	**Volcan**	**0.26**	**125**	*i* P	**Pb**	**17 55 46.4**	**+0.1**
BRU2				IAML		17 55 46.7	
	comp=Z,700nm,1.0s						
BRU2				*i* S	**Sb**	**17 55 50.8**	**+0.1**
BC3P	**Paso Ancho**	**0.32**	**114**	⇑*i*P	**Pb**	**17 55 47.5**	**+0.3**
BC3P				*e*S	**Sb**	**17 55 52.7**	**+0.5**
CDITO	**Canoas**	**0.37**	**175**	*i* P	**Pb**	**17 55 47.8**	**0.0**
CDITO				*i* S	**Sb**	**17 55 54.1**	**+0.8**
CDITO				IAML		17 55 55.9	
	comp=Z,620nm,1.0s						
BCO2	**Palmira**	**0.43**	**121**	⇑*i*P	**Pb**	**17 55 49.5**	**+0.5**
BCO2				*e*S	**Sb**	**17 55 56.2**	**+1.0**
SRBA	**San Rafael, Bu**	**0.53**	**303**	*i* P	**Pn**	**17 55 51.1**	**-0.9**
SRBA				*i* S	**Sb**	**17 55 58.1**	**+0.1**
SRBA				IAML		17 56 00.3	
	comp=Z,260nm,1.0s						
CNI2	**El Empalme, Bo**	**0.64**	**42**	*e*S	**Sn**	**17 56 03.3**	**+0.5**
DVD	**David**	**0.67**	**138**	*e*P	**Pn**	**17 55 53.4**	**-0.4**
DVD				*e*S	**Sn**	**17 56 02.8**	**-0.8**
PTPM	**Petroterminale**	**0.73**	**178**	*e*P	**Pn**	**17 55 54.2**	**-0.4**
PTPM				*e*S	**Sn**	**17 56 05.6**	**+0.5**
OCHAL	**Ojochal**	**0.75**	**282**	*i* P	**Pn**	**17 55 54.8**	**-0.1**
OCHAL				IAML		17 55 55.3	
	comp=Z,6.4nm,1.0s						
OCHAL				*i* S	**Sn**	**17 56 04.7**	**-0.8**
CHGR2	**Aguacate**	**0.75**	**90**	*e*P	**Pn**	**17 55 54.5**	**-0.4**
CHGR2				*e*S	**Sn**	**17 56 04.8**	**-0.8**
CDM	**Cerro de Muert**	**1.04**	**306**	*i* P	**Pb**	**17 56 00.1**	**+0.6**
CDM				*i* S	**Sb**	**17 56 13.2**	**+0.3**
CDM				IAML		17 56 19.3	
	comp=Z,90nm,1.0s						
RIMA	**Rio Macho**	**1.25**	**311**	*i* P	**Pb**	**17 56 03.0**	**+0.1**
RIMA				IAML		17 56 04.6	
	comp=Z,81nm,1.0s						
RIMA				*i* S	**Sb**	**17 56 19.4**	**+0.7**
LCR2	**La Lucha 2**	**1.35**	**306**	*i* P	**Pb**	**17 56 04.5**	**0.0**
LCR2				IAML		17 56 06.0	
	comp=Z,94nm,1.0s						
LCR2				*i* S	**Sb**	**17 56 22.7**	**+1.3**

TEH 18 18:07:39.8, 30°.70N×57°.35E, h9km±33km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.21**	**200**	Pg	Pg	18 07 44.7	+0.6
ZRDN	**Zarand Kerman**	**0.75**	**291**	Pg	Pg	18 07 54.8	+0.4
KHGB	**Koh Gabri**	**0.82**	**247**	Pg	Pg	18 07 55.9	+0.3
CHMN	**Cheshme madani**	**0.85**	**169**	Pg	Pg	18 07 56.0	-0.2
TVBK	**TV Kerman**	**0.87**	**216**	Pg	Pb	18 07 57.4	+0.1
NGRK	**Negar Kerman**	**1.18**	**207**	Pg	Pb	18 08 02.6	0.0
IBAF	**Bafgh**	**1.77**	**301**	Pg	Pg	18 08 13.5	-0.3
KBAM	**BAM**	**1.83**	**148**	Pn	Pb	18 08 13.3	-0.2
BSRN	**Basiran**	**1.98**	**50**	Pn	Pb	18 08 16.2	+0.2
IKOO	**Kooshah**	**2.23**	**39**	Pn	Pb	18 08 19.1	-1.2
TPRV	**Parvadeh(Tabas**	**2.39**	**346**	Pn	Pn	18 08 20.6	+1.3
NHDN	**Nehbandan**	**2.42**	**73**	Pn	Pn	18 08 21.0	+1.4
IMEH	**Mehriz**	**2.45**	**287**	Pn	Pb	18 08 22.3	-1.9
ITEG	**Tejag**	**2.49**	**28**	Pn	Pn	18 08 22.6	+1.9
TKDS	**Koohdasht(Taba**	**2.91**	**356**	Pn	Pn	18 08 28.4	+1.9
AFRZ	**Afriz**	**3.06**	**27**	Pn	Pn	18 08 30.9	+2.4
ZHDN	**Zahedan**	**3.27**	**112**	Pn	Pn	18 08 33.9	+2.5
TNSJ	**Nastanj**	**3.32**	**349**	Pn	Pn	18 08 34.0	+2.0
ISAD	**Sadrabad**	**3.36**	**292**	Pn	Pn	18 08 35.8	+3.0
SHRT	**Shahrakht**	**3.85**	**40**	Pn	Pn	18 08 42.4	+3.1
ANAR	**Anarak**	**3.96**	**310**	Pn	Pn	18 08 42.9	+2.0
IRAM	**Ramesheh**	**4.40**	**286**	Pn	Pn	18 08 50.4	+3.4
IZEF	**Zefreh**	**4.80**	**298**	Pn	Pn	18 08 55.5	+2.9
TBJM	**Torbat-e-JAM**	**5.20**	**28**	Pn	Pn	18 09 00.7	+2.7

NEIC ***18*** *18:33:35.3±1.8, 45°.08N±0°.03×83°.38W±0°.03, h0km±2km, ML2.4/4, mb_Lg2.5(OTT), Error ellipse: s-maj=5.5km s-min=3.0km az=145.0*
OTT ***18*** *18:33:37.0±0.1, 45°.10N×83°.39W, h0km, MN2.5/9, Blast, Michigan, U.S. 129km south from Thessalon, On Mining explosion.*
ISC 18 18:33:35.1±0.8, 45°.09N±0°.03×83°.38W±0°.03, h0km, n19, σ1s03/30, Michigan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLMI	**Grayling**	**0.92**	**254**	Pg	**Pg**	**18 33 53.0**	**+0.4**
GLMI				IAML		18 34 14.8	
	118nm,0.8s						
I49A	**Point Hope**	**1.22**	**161**	Pg	**Pg**	**18 33 58.5**	**+0.2**
I49A				IAML		18 34 18.1	
	comp=E,80nm,0.3s						
I49A	**Point Hope**	**1.22**	**161**	PG	**Pn**	**18 33 59.0**	**-0.3**
I49A				SG	**Sb**	**18 34 15.0**	**-0.2**
I49A				Trac		18 34 18.8	
	comp=E,18nm,0.2s						
TOBO	**Tobermory, Bru**	**1.32**	**83**	Pg	**Pn**	**18 34 00.7**	**-0.1**
TOBO				Sg	**Sb**	**18 34 18.4**	**+0.1**
TOBO	**Tobermory, Bru**	**1.32**	**83**	PG	**Pn**	**18 34 00.7**	**-0.1**
TOBO				SG	**Sb**	**18 34 18.4**	**+0.1**
TOBO				Trac		18 34 21.8	
	comp=E,20nm,0.2s						
E46A	**Sault Ste Mari**	**1.43**	**333**	Pn	**Pg**	**18 34 02.3**	**-0.2**
E46A					**Sn**	**18 34 22.6**	**+0.8**
E46A	**Sault Ste Mari**	**1.43**	**333**	PG	**Pg**	**18 34 02.4**	**-0.2**
E46A				SG	**Sn**	**18 34 22.3**	**+0.5**
E46A				Trac		18 34 26.0	
	comp=E,21nm,0.3s						
G45A	**Suttons Bay**	**1.61**	**269**	Pn	**Pn**	**18 34 04.3**	**-0.5**
G45A				Sn	**Sg**	**18 34 27.3**	**+0.4**
BMRO	**Meriville Lake**	**1.62**	**107**	PG	**Pb**	**18 34 05.5**	**-0.3**
BMRO				SG	**Sg**	**18 34 27.3**	**+0.3**
BMRO				Trac		18 34 32.2	
	comp=E,20nm,0.3s						
BASO	**Ashfield**	**1.63**	**131**	PN	**Pg**	**18 34 06.1**	**-0.2**
BASO				SG	**Sg**	**18 34 28.1**	**+0.6**
BASO				Trac		18 34 30.3	
	comp=E,20nm,0.3s						
J47A	**Sunmer**	**2.12**	**210**	Pn	**Pn**	**18 34 12.0**	**+0.2**
SUBO	**Sudbury**	**2.19**	**45**	PN	**Pb**	**18 34 14.4**	**-1.1**
SUBO				SN	**Sn**	**18 34 41.6**	**+1.2**
SUBO				Trac		18 35 00.2	
	comp=E,11nm,0.3s						
CLWO	**Collingwood**	**2.29**	**105**	PN	**Pb**	**18 34 17.6**	**+0.4**
CLWO				SN	**Sn**	**18 34 44.3**	**+1.3**
CLWO				Trac		18 34 51.6	
	comp=E,5.0nm,0.2s						
ELFO	**Elginfield**	**2.41**	**141**	PN	**Pb**	**18 34 17.9**	**-1.4**
ELFO				Trac		18 34 54.0	
	comp=E,13nm,0.3s						
BUKO	**Buck Lake**	**2.83**	**81**	PN	**Pn**	**18 34 23.2**	**+1.6**
BUKO				SN	**Sn**	**18 34 57.9**	**+1.5**
BUKO				Trac		18 35 14.6	
	comp=E,14nm,0.5s						
E43A	**Lone Tree Farm**	**2.84**	**298**	Pn	**Pn**	**18 34 20.5**	**-1.1**
SADO	**Sadowa**	**3.03**	**95**	Pn	**Pn**	**18 34 21.6**	**-2.7**
N53A	**Lisbon**	**4.67**	**156**	Pg	**Pb**	**18 34 59.2**	**+1.3**
O53A	**New Philadelph**	**5.10**	**161**	Pg	**Pg**	**18 35 10.4**	**-2.3**

BJI ***18*** *18:39:37.4, 40°.55N×123°.02E, h10km, mb4.4/40, mB4.7/22, ML5.2/24, Ms4.4/42, Ms7 4.1/37*
IDC ***18*** *18:39:37.7±0.5, 40°.46N×122°.97E, h0km, mb4.1/19, mbtmp4.2/24, ML3.9/5, MS3.6/27, Error ellipse: s-maj=15.8km s-min=10.8km az=48.0*
MOS ***18*** *18:39:37.3±1.1, 40°.47N×123°.06E, h13km, mb4.7/23, Error ellipse: s-maj=8.2km s-min=5.6km az=120.2*
NEIC ***18*** *18:39:38.8±1.4, 40°.44N±0°.07×122°.99E±0°.09, h10km±1km, mb4.6/78, Error ellipse: s-maj=13.3km s-min=10.5km az=223.0*
KEA ***18*** *18:39:42.7, 40°.50N×123°.57E, h10km, ML5.0/4*
ISC 18 18:39:39.4±0.3, 40°.53N±0°.03×123°.00E±0°.03, h13km, n238, σ1s83/248, mb4.5/90, MS3.7/30, 8C-11D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUJ	**Sinuiju**	**1.22**	**110**	Pg	**Pn**	**18 39 59.3**	**-2.8**
SUJ				AML	AML		
	comp=N,30μm,0.2s						
SUJ				AML	AML		
	comp=E,16μm,0.1s						
SUJ				AML	AML		
	comp=Z,21μm,0.1s						
SNY	**Shenyang**	**1.37**	**18**	Pn	**Pn**	**18 40 03.5**	**-0.7**
SNY				Sg	**Sn**	**18 40 21.6**	**-0.6**
SNY				smax	smax		
	comp=Z,58μm,0.4s						
SNY				smax	smax		
	comp=Z,69μm,0.5s						
DL2	**Dalian**	**1.94**	**214**	Pn	**Pn**	**18 40 11.8**	**-0.2**
DL2				Pg	**Pb**	**18 40 14.1**	**-0.4**
DL2				Sg	**Sb**	**18 40 39.9**	**+1.3**
DL2				smax	smax		
	comp=Z,35μm,0.6s						
DL2				smax	smax		
	comp=Z,33μm,0.6s						
PYS	**Pyongsong**	**2.54**	**119**	Pn	**Pn**	**18 40 18.1**	**-2.2**
PYS				Sg	**Sb**	**18 40 55.8**	**-0.2**
PYS				AML	AML		
	comp=N,40μm,0.6s						
PYS				AML	AML		
	comp=E,23μm,0.6s						
PYS				AML	AML		
	comp=Z,11μm,0.2s						
HHU	**Hamhung**	**3.52**	**98**	Pg	**Pb**	**18 40 42.3**	**+0.8**
HHU				Sg	**Sb**	**18 41 26.0**	**+1.9**
HHU				AML	AML		
	comp=N,13μm,0.5s						
HHU				AML	AML		
	comp=E,8μm,0.6s						
HHU				AML	AML		
	comp=Z,3μm,0.6s						
WOSN	**Wonsan**	**3.67**	**110**	Pg	**Pb**	**18 40 45.5**	**+1.4**
WOSN				Sg	**Sb**	**18 41 32.1**	**+3.7**
WOSN				AML	AML		
	comp=N,7μm,0.7s						
WOSN				AML	AML		
	comp=E,5μm,0.5s						
WOSN				AML	AML		
	comp=Z,4μm,0.7s						
CN2	**Changchun**	**3.74**	**28**	*e*Pg	**Pb**	**18 40 46.5**	**+1.2**
CN2				*e*Sg	**Sb**	**18 41 33.8**	**+3.3**
CN2				smax	smax		
	comp=E,8μm,0.6s						
CN2				smax	smax		
	comp=Z,6μm,0.6s						
HYSN	**Hyesan**	**4.01**	**76**	Sg	**Sb**	**18 41 43.3**	**+4.8**
INCN	**Inchon**	**4.16**	**136**	Pn	**Pn**	**18 40 41.4**	**-1.2**
INCN				Pg	**Pb**	**18 40 53.5**	**+1.1**
INCN	**Inchon**	**4.16**	**136**	P	**Pn**	**18 40 41.4**	**-1.2**
KS19	**Wonju Array Si**	**4.85**	**127**		**Pn**	**18 40 52.0**	**-0.1**
KSAR	**Wonju Array Be**	**4.90**	**127**	Pn	**Pn**	**18 40 51.9**	**-0.8**
KSAR	**Wonju Array Be**	**4.90**	**127**	P	**Pn**	**18 40 51.9**	**-0.8**
KSRS	**Korea Array**	**4.91**	**127**	Pn	**Pn**	**18 40 52.0**	**-0.9**
	comp=Z,14nm,0.3s,baz=310,slow=14,SNR=232						
KSRS				Lg	Lg	18 42 10.9	
	comp=Z,127nm,0.3s,baz=310,slow=28,SNR=10.0						
	comp=Z,57nm,0.5s						
BJI	**Beijing**	**5.24**	**267**	Pn	**Pn**	**18 40 56.9**	**-0.5**
BJI				Sn	**Sn**	**18 41 58.3**	**+0.6**
BJI				Sg	**Sg**	**18 42 25.1**	**-2.5**
BJT	**Baijiatuau**	**5.25**	**267**	Pn	**Pn**	**18 40 57.6**	**0.0**
BJT	**Baijiatuau**	**5.25**	**267**	P	**Pn**	**18 40 57.6**	**0.0**
TJN	**Taejon**	**5.38**	**139**	Pn	**Pn**	**18 40 58.3**	**-1.0**
TJN	**Taejon**	**5.38**	**139**	*ce*P	**Pn**	**18 40 58.2**	**-1.1**
BNX	**BinXian**	**6.12**	**30**	⇑Pg	Pb	18 41 32.3	+6.4
BNX				Sg	**Sg**	**18 42 50.0**	**-5.8**
BNX				smax	smax		
	comp=N,1μm,0.7s						
BNX				smax	smax		
	comp=E,930nm,0.7s						
XLT	**XiLinHaoTe**	**6.14**	**306**	*e*Pn	**Pn**	**18 41 10.3**	**+0.4**
XLT				Sn	Sn	18 42 31.1	+11
XLT				Sg	**Sg**	**18 42 52.6**	**-3.9**
XLT				smax	smax		
	comp=E,91nm,1.0s						
XLT				smax	smax		
	comp=E,650nm,0.9s						
XLT				LR	LR		
	comp=E,250nm,6.9s						
XLT				LR	LR		
	comp=E,2μm,4.4s						
XLT				LR	LR		
	comp=E,550nm,6.7s						
TIA	**Tai'an**	**6.32**	**229**	Pn	**Pn**	**18 41 11.9**	**-0.3**
TIA				smax	smax		
	comp=E,360nm,0.7s						
TIA				smax	smax		
	comp=E,340nm,0.7s						
MDJ	**Mudanjiang**	**6.35**	**48**	Pn	**Pn**	**18 41 14.1**	**+1.4**
MDJ	**Mudanjiang**	**6.35**	**48**	Pn	**Pn**	**18 41 14.1**	**+1.4**
MDJ				Pg	**Pb**	**18 41 33.0**	**+3.2**
MDJ				Sg	**Sg**	**18 42 56.8**	**-6.4**
MDJ				smax	smax		
	comp=E,2μm,0.8s						
MDJ				smax	smax		
	comp=E,1μm,0.7s						
MSHR	**Mys Shultsa**	**6.45**	**69**	⇓*e*P	**Pn**	**18 41 14.6**	**+0.5**
HNS	**HongShan**	**7.18**	**247**	Pn	**Pn**	**18 41 24.5**	**+0.5**
HNS				Sn	**Sn**	**18 42 53.4**	**+8.0**
HNS				LR	LR		
	comp=E,600nm,9.6s						
HNS				LR	LR		
	comp=E,510nm,9.6s						
HNS				LR	LR		
	comp=E,410nm,12.2s						
USA0B	**Ussuriysk Arra**	**7.60**	**58**	Pn	**Pn**	**18 41 30.7**	**+0.9**
USA0B	**Ussuriysk Arra**	**7.60**	**58**	*d* iP	**Pn**	**18 41 30.3**	**+0.5**
USRK	**Ussuriysk Ar.**	**7.60**	**58**	Pn	**Pn**	**18 41 29.7**	**-0.1**
USRK	**Ussuriysk Ar.**	**7.60**	**58**	Pn	**Pn**	**18 41 30.2**	**+0.4**
	comp=E,3.6nm,0.3s,baz=246,slow=16,SNR=35						
USRK				Lg	Lg	18 43 36.2	
	comp=E,16nm,0.3s,baz=257,slow=33,SNR=12						
	comp=E,22nm,0.6s						
JTU	**Tsushima**	**7.86**	**138**	Pn	**Pn**	**18 41 32.4**	**-1.0**
HHC	**Hu-ho-hao-te**	**8.70**	**276**	*e*P	**Pn**	**18 41 46.8**	**+1.8**
HHC				*e*S	Sn	18 43 33.3	+10
HHC				pmax	pmax		
	comp=E,25nm,0.7s						
HHC				pmax	pmax		
	comp=E,190nm,5.6s						
HHC				LR	LR		
	comp=E,3μm,8.6s						
HHC				LR	LR		
	comp=E,670nm,9.2s						
HIA	**Hailar**	**9.04**	**346**	Pn	**Pn**	**18 41 47.7**	**-1.8**
HIA	**Hailar**	**9.04**	**346**	P	**Pn**	**18 41 47.7**	**-1.8**
NJ2	**Nanjing**	**9.10**	**203**	*e*P	**Pn**	**18 41 49.5**	**-0.9**
NJ2				S	**Sn**	**18 43 31.3**	**-1.3**
NJ2				pmax	pmax		
	comp=E,7.0nm,0.6s						
NJ2				pmax	pmax		
	comp=E,230nm,5.7s						
NJ2				smax	smax		
	comp=E,310nm,0.7s						
NJ2				smax	smax		
	comp=E,300nm,0.6s						
NJ2				LR	LR		
	comp=E,930nm,6.2s						
NJ2				LR	LR		
	comp=E,2μm,8.1s						
NJ2				LR	LR		
	comp=E,830nm,8.9s						
SSE	**Sheshan**	**9.53**	**189**	P	**Pn**	**18 41 54.8**	**-1.5**
SSE				S	**Sn**	**18 43 43.4**	**+0.2**
SSE				pmax	pmax		
	comp=E,12nm,0.7s						
SSE				pmax	pmax		
	comp=E,98nm,3.7s						
SSE				LR	LR		
	comp=E,310nm,13.2s						
SSE				LR	LR		
	comp=E,300nm,13.7s						
JNU	**Nakatsue**	**9.72**	**137**	Pn	**Pn**	**18 41 56.5**	**-2.5**
JNU	**Nakatsue**	**9.72**	**137**	Pn	**Pn**	**18 41 59.6**	**+0.6**
	comp=E,0.6nm,0.3s,baz=271,slow=6.7,SNR=5.4						
JNU				Lg	Lg	18 44 42.4	
	comp=E,1.7nm,0.3s,baz=257,slow=19,SNR=5.9						
	comp=E,6.9nm,0.8s						
BTO	**Baotou**	**9.88**	**275**	*e*P	**Pn**	**18 42 03.1**	**+1.9**
BTO				pP		18 42 06.3	
BTO				sP		18 42 09.3	
BTO				PP	**PnPn**	**18 42 11.3**	**+2.6**
BTO				S	**Sn**	**18 43 56.5**	**+4.6**
BTO				pmax	pmax		
	comp=E,10.0nm,0.6s						
BTO				pmax	pmax		
	comp=E,350nm,4.3s						
BTO				LR	LR		
	comp=E,4μm,4.5s						
BTO				LR	LR		
	comp=E,1μm,2.9s						
BTO				LR	LR		
	comp=E,820nm,4.2s						
HEH	**HeiHe**	**10.20**	**16**	*e*P	**Pn**	**18 42 06.0**	**+0.5**
HEH				S	**Sn**	**18 43 58.5**	**-1.2**
KLR	**Kul'dur**	**10.68**	**33**	Pn	**Pn**	**18 42 14.7**	**+2.7**
	comp=E,0.2nm,0.3s,baz=230,slow=14,SNR=10						
KLR				Lg	Lg	18 45 14.9	
	comp=E,5.4nm,0.3s,baz=188,slow=19,SNR=12						

SONM Lg Lg 18 46 57.6
comp=Z,0.5nm,0.3s,baz=124,slow=29,SNR=7.1
SONM LR LR 18 49 15.8
comp=Z,52nm,19.1s,baz=95,slow=41
comp=Z,2.5nm,0.6s
JOW Kunigami 14.35 161 LR LR 18 48 03.0
comp=Z,122nm,20.5s,baz=34,slow=35
ASAJ Asahikawa 14.93 70 LR LR 18 48 27.8
comp=Z,154nm,18.5s,baz=60,slow=35
JHJ Hachijo jima 2 15.33 114 LR LR 18 48 44.9
comp=Z,164nm,18.2s,baz=273,slow=36
LZH Lanzhou 15.67 260 *e*P **Pn 18 43 21.0 +0.9**
LZH pP P 18 43 25.8 +1.6
LZH pmax pmax
comp=Z,36nm,1.1s
LZH LR LR
comp=Z,1μm,12.2s
LZH LR LR
comp=Z,530nm,13.1s
LZH LR LR
comp=Z,500nm,14.7s
ZAK Zakamensk 16.93 312 *e*P **Pn 18 43 35.8 -0.2**
ZAK pmax pmax
comp=Z,11nm,1.1s
IRK Irkutsk 17.38 319 *e*P **Pn 18 43 43.6 +2.1**
IRK pmax pmax
comp=Z,42nm,1.9s
GTA Gaotai 17.80 274 *e*P **Pn 18 43 48.0 +1.0**
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA LR LR
comp=Z,1μm,16.4s
GTA LR LR
comp=Z,430nm,14.2s
GTA LR LR
comp=Z,300nm,14.9s
BOD Bodaibo 18.25 344 *e*P **Pn 18 43 52.7 +0.6**
BOD pmax pmax
comp=Z,13nm,1.8s
CD2 Chengdu 18.30 244 P **P 18 43 54.4 +1.2**
CD2 pmax pmax
comp=Z,40nm,0.7s
GYA Guiyang 19.51 229⇓ *i*P **Pn 18 44 08.5 +0.7**
GYA pmax pmax
comp=Z,40nm,1.0s
JCJ Chichijima 20.77 124 LR LR 18 52 00.8
comp=Z,59nm,21.0s,baz=3.0,slow=36
YAK Yakutsk 21.91 8 P **P 18 44 31.4 -0.7**
YAK IAmb IAmb 18 44 47.7
comp=Z,30nm,1.0s
YAK Yakutsk 21.91 8 *e*P **P 18 44 31.2 -0.8**
YAK *e**PP **pP 18 44 35.6 -0.2**
YAK *e*PPP PPP 18 45 00.2
YAK *e*S **S 18 48 34.8 +1.3**
YAK *e**SS **pS 18 48 41.3 +2.0**
YAK *e*SS **SnSn 18 49 05.6 +6.8**
YAK *e*SSS SSS 18 49 26.6
YAK pmax pmax
comp=Z,22nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=N,16nm,1.3s
YAK smax smax
comp=E,24nm,2.2s
YAK smax smax
comp=N,239nm,3.8s
YAK MLR MLR
comp=Z,209nm,13.0s
YAK MLR MLR
comp=N,172nm,13.0s
YAK Yakutsk 21.91 8 LR LR 18 52 41.4
comp=N,6.1nm,19.2s,baz=130,slow=36
GOMU GeErMu 22.47 268 P **P 18 44 39.0 +0.2**
GOMU S **S 18 48 45.8 +0.4**
GOMU pmax pmax
comp=N,11nm,1.0s
GOMU LR LR
comp=N,350nm,15.8s
GOMU LR LR
comp=N,220nm,14.1s
GOMU LR LR
comp=N,220nm,14.7s
PZH PanZhiHua 22.50 238 P **P 18 44 39.6 +0.7**
PZH pmax pmax
comp=N,20nm,0.7s
PZH pmax pmax
comp=N,160nm,5.8s
KMI Kunming 22.85 234⇑ P **P 18 44 43.3 +0.6**
KMI sP sP 18 44 48.8 +0.6
KMI pmax pmax
comp=N,33nm,1.2s
KMI LR LR
comp=N,360nm,11.6s
KMI LR LR
comp=N,210nm,8.7s
KMI LR LR
comp=N,350nm,14.8s
QIZ Qiongzhong 24.23 212 P **P 18 44 54.6 -1.3**
QIZ S **S 18 49 14.4 +0.3**
QIZ LR LR
comp=N,750nm,9.0s
QIZ LR LR
comp=N,1μm,9.6s
QIZ LR LR
comp=N,460nm,8.0s
TNCH TengChong 25.62 240 P **P 18 45 09.1 +0.3**
TNCH pP pP 18 45 11.3 -1.6
TNCH sP sP 18 45 13.3 -1.2
TNCH S S 18 49 26.9 -10
TNCH SS **SnSn 18 50 41.4 +11**
TNCH pmax pmax
comp=N,7.0nm,0.7s
TNCH pmax pmax
comp=N,100nm,4.3s
TNCH LR LR
comp=N,470nm,5.3s
TNCH LR LR
comp=N,260nm,6.3s
TNCH LR LR
comp=N,190nm,6.8s
MA2 Magadan 25.78 33⇑ *e*P **P 18 45 10.8 +1.1**
MA2 pmax pmax
comp=Z,19nm,1.1s
WMQ Urumqi 26.25 289 *e*P **P 18 45 16.0 +1.8**
WMQ pP sP 18 45 21.0 +1.1
WMQ pmax pmax
comp=Z,7.0nm,0.9s
WMQ LR LR
comp=Z,860nm,17.7s
WMQ LR LR
comp=Z,350nm,14.5s
DGZ Jazzator, Alta 26.51 302⇑ *e*P **P 18 45 17.5 +0.9**
DGZ pmax pmax
comp=Z,14nm,1.2s
PETK Petropavlovsk- 26.59 50 LR LR 18 56 55.4
comp=Z,173nm,19.6s,baz=33,slow=39
ZALV Zalesovo Beam 28.80 311 P **P 18 45 36.5 -0.4**
ZALV Zalesovo Beam 28.80 311 P **P 18 45 37.0 +0.1**
comp=Z,1.6nm,0.5s,baz=98,slow=11,SNR=7.3
ZALV LR LR 18 57 28.9
comp=Z,58nm,18.7s,baz=84,slow=37
comp=Z,1.6nm,0.5s
MKAR Makanchi Array 29.85 296 *e*P P 18 45 51.4 +5.1
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 29.85 296 P **P 18 45 46.7 +0.3**
comp=Z,1.5nm,0.8s,baz=92,slow=8.9,SNR=3.7
comp=Z,1.5nm,0.8s
CMAR Chiang Mai Arr 30.19 230 P **P 18 45 50.0 +0.5**
comp=Z,0.9nm,0.7s,baz=28,slow=6.6,SNR=7.1
CMAR LR LR 18 59 16.7
comp=Z,89nm,20.7s,baz=35,slow=39
comp=Z,0.9nm,0.7s
TIXI Tiksi 31.33 4 P **P 18 45 58.0 -1.0**
TIXI Tiksi 31.33 4⇓ *i*P **P 18 45 58.3 -0.8**
TIXI Tiksi 31.33 4 LR LR 18 58 22.2
comp=Z,4.1nm,18.1s,baz=209,slow=36
TAPN Taplejung 31.87 257 *e*P **P 18 46 05.3 +0.6**
comp=Z,6.5nm,0.5s
KURK Kurchatov 32.22 303 P **P 18 46 06.0 -1.1**
KURK IAmb IAmb 18 46 12.5
comp=Z,7.8nm,0.9s
KURK Kurchatov 32.22 303⇓ *e*P **P 18 46 07.2 +0.1**
KURK pmax pmax
comp=Z,8.0nm,0.9s

KURBB Kurchatov Arra 32.27 303 P **P 18 46 07.9 +0.3**
comp=Z,5.3nm,0.9s,baz=89,slow=8.6,SNR=4.2
KURBB LR LR 18 59 08.2
comp=Z,125nm,18.2s,baz=179,slow=36
comp=Z,5.3nm,0.9s
GUN Gumba 32.94 259 *e*P **P 18 46 14.2 +0.2**
comp=Z,15nm,0.6s
PKI Pulchoki 33.47 259 *e*P **P 18 46 18.4 -0.3**
comp=Z,6.3nm,0.5s
PKIN Phulchoki 33.48 259 *e*P **P 18 46 18.2 -0.5**
comp=Z,8.8nm,0.5s
GKN Gorkha 33.82 260 *e*P **P 18 46 21.1 -0.4**
comp=Z,23nm,0.9s
DANN Dangsing 34.30 262 *e*P **P 18 46 25.9 +0.1**
comp=Z,50nm,0.8s
PYUN Piuthan 35.01 262 *e*P **P 18 46 32.0 +0.1**
comp=Z,43nm,0.9s
AAK Ala-Archa 35.95 290 P **P 18 46 40.5 +0.8**
AAK Ala-Archa 35.95 290 *c*e P **P 18 46 40.6 +0.8**
AAK pmax pmax
comp=Z,1.0nm,0.5s
AAK Ala-Archa 35.95 290 LR LR 19 01 28.3
comp=Z,224nm,18.1s,baz=82,slow=36
BVAR Borovoye Array 37.30 308 P **P 18 46 51.4 +0.4**
comp=Z,5.6nm,0.7s,baz=89,slow=11,SNR=16
BVAR LR LR 19 02 12.4
comp=Z,76nm,19.2s,baz=80,slow=36
comp=Z,5.6nm,0.7s
BRVK Borovoye 37.36 308 P **P 18 46 52.2 +0.7**
BRVK IAmb IAmb 18 46 57.1
comp=Z,10nm,0.9s
BRVK Borovoye 37.36 308⇑ *e*P **P 18 46 53.1 +1.6**
BRVK pmax pmax
comp=Z,10.0nm,0.8s
KK31 Karatay Array 38.68 292 P **P 18 47 02.5 -0.3**
KK31 Karatay Array 38.68 292 P **P 18 47 02.5 -0.3**
KK31 pmax pmax
comp=Z,6.0nm,1.3s
KKAR Karatay Array 38.68 292 P **P 18 47 02.6 -0.1**
KKAR Karatay Array 38.68 292 P **P 18 47 02.0 -0.7**
KKAR Karatay Array 38.68 292 P **P 18 47 02.6 -0.1**
KKAR pmax pmax
comp=Z,6.0nm,1.3s
NIL Nilore 39.84 276 P **P 18 47 13.2 +0.6**
NIL IAmb IAmb 18 47 14.2
comp=Z,14nm,0.8s
NIL Nilore 39.84 276 P **P 18 47 13.2 +0.6**
NIL pmax pmax
comp=Z,14nm,0.9s
CHGR Chuyangaron 40.99 285 P **P 18 47 22.1 0.0**
CHGR Chuyangaron 40.99 285 P **P 18 47 22.2 0.0**
CHGR pmax pmax
comp=Z,28nm,0.7s
SVE Sverdlovsk 42.68 314 *e*P **P 18 47 39.4 +3.8**
SVE pmax pmax
comp=Z,9.0nm,0.8s
ARU Arti 43.87 314 P **P 18 47 44.7 -0.5**
ARU IAmb IAmb 18 48 08.2
comp=Z,6.4nm,0.9s
ARU Arti 43.87 314 *d*i P **P 18 47 45.2 +0.1**
ARU S **S 18 54 16.5 +0.8**
ARU SS **SS 18 57 25.4 -6.1**
ARU pmax pmax
comp=Z,6.0nm,0.8s
ARU Arti 43.87 314 LR LR 19 05 24.4
comp=Z,69nm,20.9s,baz=72,slow=35
ABKAR Akbulak array 44.33 303 P **P 18 47 48.5 -0.4**
ABKAR Akbulak array 44.33 303 P **P 18 47 49.0 0.0**
ABKAR IAmb IAmb 18 47 54.3
comp=Z,5.6nm,0.8s
AKTO Aktyubinsk 45.27 305 LR LR 19 09 13.3
comp=Z,39nm,19.4s,baz=216,slow=39
GEYT Alibeck 49.30 289 P **P 18 48 29.4 +1.3**
comp=Z,1.3nm,0.5s,baz=28,slow=3.4,SNR=2.7
GEYT LR LR 19 10 05.9
comp=Z,84nm,20.9s,baz=1.0,slow=37
comp=Z,1.3nm,0.5s
PRGR Permogore 49.58 322 *e*P **P 18 48 27.9 -1.9**
PRGR pmax pmax
comp=Z,8.0nm,0.9s
PALK Pallekele 50.16 240 LR LR 19 12 12.0
comp=Z,28nm,19.1s,baz=184,slow=39
H19K Roundabout Mou 50.16 32 P **P 18 48 34.7 +0.5**
H19K IAmb IAmb 18 48 39.0
comp=Z,5.0nm,0.8s
B22K Teshekpuk Lake 50.36 26 P **P 18 48 36.5 +0.9**
B22K IAmb IAmb 18 49 19.0
comp=Z,9.8nm,1.1s
M17K Holitna River 50.66 38 P **P 18 48 39.8 +1.8**
L18K Granite Mounta 50.80 37 P **P 18 48 39.1 0.0**
L18K IAmb IAmb 18 49 08.7
comp=Z,11nm,1.4s
J19K Poorman 50.85 34 P **P 18 48 39.7 +0.3**
J19K IAmb IAmb 18 48 44.8
comp=Z,5.4nm,0.9s
TTA Tatalina 50.93 36 P **P 18 48 38.9 -1.2**
TTA IAmb IAmb 18 48 44.7
comp=Z,9.4nm,1.3s
TTA Tatalina 50.93 36 P **P 18 48 38.9 -1.2**
TTA pmax pmax
comp=Z,9.0nm,1.3s
F21K Alatna River 50.97 30 P **P 18 48 39.8 -0.5**
F21K IAmb IAmb 18 49 03.1
comp=Z,7.0nm,1.3s
G21K Allakaket 51.12 31 P **P 18 48 40.7 -0.8**
IMAR Indian Mountai 51.15 31 P **P 18 48 41.9 +0.2**
E22K Anaktuvuk Pass 51.38 29 P **P 18 48 43.3 -0.1**
C23K Itkillik River 51.41 26 P **P 18 48 42.4 -1.1**
C23K IAmb IAmb 18 49 00.3
comp=Z,7.8nm,1.1s
J20K Nowinta River 51.43 34 P **P 18 48 44.6 +0.9**
J20K IAmb IAmb 18 49 11.7
comp=Z,16nm,1.4s
H21K Melozitna Rive 51.61 32 P **P 18 48 45.5 +0.5**
H21K IAmb IAmb 18 49 13.9
comp=Z,8.8nm,1.4s
K20K Telida 51.68 35 P **P 18 48 45.3 -0.3**
K20K IAmb IAmb 18 48 50.6
comp=Z,6.2nm,1.0s
G23K Bananza Creek 52.41 30 P **P 18 48 50.2 -0.9**
CAST Castle Rocks 52.52 34 P **P 18 48 52.3 +0.4**
CAST IAmb IAmb 18 48 58.5
comp=Z,4.2nm,0.7s
KLMR Klimovskoe 52.64 322 *i* P **P 18 48 51.7 -1.1**
KLMR AMP 18 48 53.9
comp=Z,24nm,1.9s
KLMR Klimovskoe 52.64 322 *i* P **P 18 48 51.7 -1.1**
KLMR pmax pmax
comp=Z,24nm,1.9s
KTH Kantishna Hill 52.98 34 P **P 18 48 56.2 +0.9**
F24K Squaw Lake 52.98 29 P **P 18 48 55.2 -0.1**
I23K Minto, Yukon-K 53.13 32 P **P 18 48 56.5 +0.1**
I23K IAmb IAmb 18 49 01.1
comp=Z,6.4nm,1.0s
BWN Browne 53.40 33 P **P 18 48 59.6 +1.2**
NEA2 Nenana 53.43 32 P **P 18 48 59.3 +0.7**
NEA2 IAmb IAmb 18 49 03.6
comp=Z,7.3nm,1.0s
H24K Noodor Dome 53.51 31 P **P 18 48 59.5 +0.3**
MDM Murphy Dome 53.65 32 P **P 18 49 00.2 0.0**
MDM IAmb IAmb 18 49 06.6
comp=Z,5.7nm,0.8s
RND Reindeer 53.90 34 P **P 18 49 02.1 -0.1**
RND IAmb IAmb 18 49 08.1
comp=Z,4.2nm,0.9s
RND Reindeer 53.90 34 P **P 18 49 02.1 -0.1**
RND pmax pmax
comp=Z,4.0nm,0.9s
POKR Poker Plat Res 53.92 32 P **P 18 49 03.3 +1.1**
POKR IAmb IAmb 18 49 08.7
comp=Z,6.0nm,0.7s
CCB Clear Creek Bu 53.92 32 P **P 18 49 01.5 -0.6**
CCB IAmb IAmb 18 49 08.0
comp=Z,3.2nm,0.6s
BMAR Burnt Mountain 54.22 28 P **P 18 49 04.4 0.0**
IL31 54.25 32 P **P 18 49 04.1 -0.5**
IL31 IAmb IAmb 18 49 10.0
comp=Z,5.1nm,0.9s
ILAR Eielson Array 54.25 32 P **P 18 49 04.5 -0.2**
comp=Z,4.4nm,0.8s,baz=288,slow=7.7,SNR=25
comp=Z,4.4nm,0.8s
PRP Porcupine Dome 54.53 31 P **P 18 49 07.5 +0.7**
MAK Makhachkala 54.57 299 *d*i P P 18 49 02.8 -4.4
MAK *e*S **S 18 56 41.0 -5.2**
MAK pmax pmax
comp=Z,490nm,1.7s
MAK MLR MLR
comp=Z,97nm,15.0s
KEV Kevo 54.61 335 P **P 18 49 06.2 -0.8**
KEV Kevo 54.61 335 P **P 18 49 06.3 -0.8**
KEV pmax pmax
comp=Z,19nm,1.1s
DHY Denali Highway 54.65 34 P **P 18 49 07.9 +0.2**
DHY IAmb IAmb 18 49 13.1
comp=Z,3.6nm,0.7s
SML Sawmill 54.68 36 P **P 18 49 08.3 +0.4**
SML Sawmill 54.68 36 P **P 18 49 08.3 +0.4**
SML pmax pmax
comp=Z,15nm,1.2s
J25K Salcha River, 54.92 32 P **P 18 49 08.2 -1.3**
SCM Sheep Creek Mo 55.12 35 P **P 18 49 11.3 +0.3**
SCM Sheep Creek Mo 55.12 35 P **P 18 49 11.3 +0.3**
SCM pmax pmax
comp=Z,29nm,1.3s
ARCES ARCESS Array B 55.18 335 P **P 18 49 11.4 +0.1**
comp=Z,3.0nm,0.9s,baz=64,slow=8.4,SNR=4.8
ARCES LR LR 19 15 12.9
comp=Z,57nm,19.6s,baz=184,slow=39
comp=Z,3.0nm,0.9s
RIDG Independent Ri 55.46 33 P **P 18 49 12.9 -0.5**
G27K Doyon Strip 55.51 29 P **P 18 49 14.6 +0.9**
M24K Tolsona, Glenn 55.52 35 P **P 18 49 14.6 +0.7**
SCRK Sand Creek 55.72 32 P **P 18 49 15.1 -0.3**
F28M Old Crow 55.83 27 P **P 18 49 16.7 +0.8**
OBN Obninsk 56.15 316 *e*P **P 18 49 19.8 +1.5**
OBN *e* 18 50 20.5
OBN pmax pmax
comp=Z,5.0nm,1.4s
OBN MLR MLR
comp=Z,69nm,16.0s
E29M Blow River 56.18 26 P **P 18 49 18.7 +0.3**
N25K Chitina, Valde 56.41 35 P **P 18 49 20.5 +0.3**
EGAK Eagle 56.52 31 P **P 18 49 21.2 +0.3**
EGAK IAmb IAmb 18 49 23.6
comp=Z,7.0nm,1.2s
I28M Miner Creek 56.70 30 P **P 18 49 23.0 +0.6**
I28M IAmb IAmb 18 49 29.1
comp=Z,6.1nm,1.3s
M26K Nabesna, AK 56.77 34 P **P 18 49 23.1 +0.3**
M26K IAmb IAmb 18 49 27.8
comp=Z,10nm,1.4s
G29M Pine Creek 56.77 28 P **P 18 49 22.9 +0.2**
G29M IAmb IAmb 18 49 39.7
comp=Z,4.0nm,0.8s
H29M Whitestone 56.95 29 P **P 18 49 25.2 +1.2**
H29M IAmb IAmb 18 50 05.9
comp=Z,6.6nm,1.3s
L27K Beaver Creek, 56.98 33 P **P 18 49 24.9 +0.6**
BCAR Beaver Creek A 56.99 33 P **P 18 49 24.6 +0.2**
VRDI Verde Repeater 57.06 35 P **P 18 49 25.1 0.0**
VRDI IAmb IAmb 18 49 30.5
comp=Z,11nm,1.1s
MCARA McCarthy VSAT 57.19 35 P **P 18 49 27.0 +1.3**
KBZ Khabaz 57.26 302 LR LR 19 14 23.1
comp=Z,122nm,19.1s,baz=66,slow=36
M27K Edge Creek, AK 57.26 34 P **P 18 49 26.6 +0.2**
M27K IAmb IAmb 18 49 32.8
comp=Z,7.2nm,0.9s
KIV Kislovodsk 57.29 302 *e*P **P 18 49 25.8 -1.0**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,74nm,17.0s
I29M Ogilvie Camp, 57.36 29 P **P 18 49 27.5 +0.6**
I29M IAmb IAmb 18 49 32.7
comp=Z,3.2nm,0.8s
G30M tAoh Zraii Nji 57.38 27 P **P 18 49 26.9 -0.1**
CRQM Cirque 57.40 36 P **P 18 49 27.9 +0.4**
EPYK Eagle Plains 57.48 28 P **P 18 49 27.9 +0.2**
EPYK IAmb IAmb 18 49 47.8
comp=Z,4.0nm,0.9s
BARN Barnard Glacie 57.92 35 P **P 18 49 30.1 -1.0**
G31M Satah River 58.08 27 P **P 18 49 32.0 +0.1**
I30M Mount Dempster 58.14 29 P **P 18 49 32.3 -0.2**
K29M Barlow Dome 58.36 31 P **P 18 49 35.0 +1.0**
K29M IAmb IAmb 18 49 39.9
comp=Z,4.3nm,0.7s
FINES FINESS Array B 58.43 326 P **P 18 49 34.7 +0.3**
comp=Z,2.3nm,0.5s,baz=68,slow=6.1,SNR=29
comp=Z,2.3nm,0.5s
L29M L29M 58.46 32 P **P 18 49 35.3 +0.6**
L29M IAmb IAmb 18 49 43.2
comp=Z,7.0nm,1.1s
J30M Hart River 58.47 30 P **P 18 49 35.7 +0.8**
J30M IAmb IAmb 18 49 45.0
comp=Z,4.6nm,1.1s
M29M Somme Creek 58.64 33 P **P 18 49 37.8 +1.8**
M29M IAmb IAmb 18 49 44.6
comp=Z,3.2nm,0.7s
WRA Warramunga Arr 61.08 168 P **P 18 49 51.3 -1.8**
WRA Warramunga Arr 61.08 168 *i* P **P 18 49 53.0 -0.1**
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 61.08 168 P **P 18 49 51.8 -1.2**
comp=Z,1.8nm,0.8s,baz=353,slow=8.5,SNR=9.3
comp=Z,1.8nm,0.8s
AKASG Malin Array Be 62.12 314 *e*P **P 18 50 02.1 +2.3**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 62.12 314 P **P 18 49 58.9 -0.9**
comp=Z,3.3nm,0.8s,baz=53,slow=6.6,SNR=9.7
comp=Z,3.3nm,0.8s
AKBB Malin Array Si 62.12 314 P **P 18 49 59.2 -0.6**
AKBB Malin Array Si 62.12 314⇑ *e*P **P 18 49 59.7 -0.1**
AKBB pmax pmax
comp=Z,9.0nm,1.1s
KIEV Kiev 62.13 314 P **P 18 49 58.9 -1.0**
KIEV Kiev 62.13 314 P **P 18 49 58.9 -1.0**
KIEV pmax pmax
comp=Z,8.0nm,1.2s
RES Resolute Bay 62.34 11 LR LR 19 19 19.2
comp=Z,68nm,18.3s,baz=10.0,slow=38
HFS Hagfors 64.26 328 P **P 18 50 16.3 +2.4**
comp=Z,1.6nm,0.7s,baz=98,slow=6.4,SNR=4.5
HFS LR LR 19 21 39.6
comp=Z,60nm,21.5s,baz=30,slow=39
comp=Z,1.6nm,0.7s
NB201 NORSAR Array S 64.63 330 P **P 18 50 17.2 +0.8**
ASAR Alice Springs 64.67 169 P **P 18 50 16.0 -0.9**
ASAR Alice Springs 64.67 169 P **P 18 50 16.2 -0.7**
comp=Z,1.4nm,0.7s,baz=1.0,slow=9.6,SNR=9.1
comp=Z,1.4nm,0.7s
NB2 NORSAR Subarra 64.67 330 P **P 18 50 18.2 +1.6**
comp=Z,8.1nm,1.0s,baz=52,slow=6.5
NOA NORSAR Array B 64.67 330 *e*P **P 18 50 18.9 +2.3**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 64.67 330 P **P 18 50 17.0 +0.4**
comp=Z,0.7nm,0.7s,baz=55,slow=7.1,SNR=4.6
NOA LR LR 19 21 06.5
comp=Z,48nm,18.0s,baz=310,slow=38
comp=Z,0.7nm,0.7s
BRTR Keskin Array B 65.25 302 P **P 18 50 20.3 -0.6**
BRTR Keskin Array B 65.25 302 P **P 18 50 21.3 +0.4**
comp=Z,1.8nm,0.9s,baz=69,slow=6.0,SNR=7.6
BRTR LR LR 19 20 58.3
comp=Z,49nm,21.7s,baz=31,slow=38
comp=Z,1.8nm,0.9s
BUR08 Bucovina Ar. S 65.99 313 P **P 18 50 24.4 -1.0**
BUR08 IAmb IAmb 18 50 31.1
comp=Z,4.2nm,1.1s
BURAR Bucovina Array 65.99 313 P **P 18 50 25.0 -0.5**
BURAR IAmb IAmb 18 50 31.4
comp=Z,3.1nm,0.9s
BURAR Bucovina Array 65.99 313 P **P 18 50 25.0 -0.5**
BURAR pmax pmax
comp=Z,3.0nm,0.9s
MLR Muntele Rosu 66.78 311 LR LR 19 21 02.2
comp=Z,75nm,21.7s,baz=38,slow=37
YKA Yellowknife Ar 67.44 25 *e*P **P 18 50 36.3 +2.0**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 67.44 25 P **P 18 50 34.5 +0.3**
comp=Z,0.9nm,0.7s,baz=311,slow=7.0,SNR=6.4
comp=Z,0.9nm,0.7s
VRAC Vranov 69.60 318 LR LR 19 22 44.1
comp=Z,48nm,19.8s,baz=350,slow=37
EIL Elat 70.04 292 LR LR 19 23 52.2
comp=Z,53nm,18.6s,baz=196,slow=38
CLL Collm 70.10 321 *e*P **P 18 50 51.0 -0.1**
CLL *ex* x 18 51 05.0

CLL	**Collm**	**70.10 321**	*e*P		**P**	**18 50 51.0**	**-0.1**
RONA	**Rosalia, Austr**	**70.77 317**	*e*P		**P**	**18 50 55.2**	**-0.2**
	comp=E,6.1nm,1.5s						
KOUNC	**Koumac, New Ca**	**71.89 139**	P		**P**	**18 51 01.5**	**-0.7**
SOKA	**Soboth**	**72.09 317**	*e*P		**P**	**18 51 03.5**	**+0.2**
	comp=E,1.3nm,0.6s						
BIOA	**Bad Ischl, Aus**	**72.15 318**	*e*P		**P**	**18 51 03.6**	**0.0**
	comp=E,1.6nm,0.9s						
LESA	**Schwarzleotal**	**72.81 318**	*e*pP		**P**	**18 51 08.6**	**+0.9**
	comp=E,2.1nm,0.5s						
ABTA	**Abfaltersbach**	**73.35 318**	*e*pP		**P**	**18 51 11.6**	**+0.7**
	comp=E,6.1nm,1.1s						
IDI	**Anoyia**	**73.48 302**	LR		LR	19 26 37.6	
	comp=E,240nm,18.1s,baz=348,slow=38						
MOTA	**Moosalm**	**73.66 319**	*e*pP		**P**	**18 51 16.3**	**+3.5**
	comp=E,8.2nm,1.4s						
SQTA	**Sankt Quirin**	**73.69 319**	*e*P		**P**	**18 51 10.9**	**-2.0**
	comp=Z,10nm,1.7s						
FETA	**Feichten**	**74.07 319**	*e*pP		**P**	**18 51 17.0**	**+1.8**
	comp=E,5.4nm,1.3s						
STKA	**Stephens Creek**	**74.07 164**	P		**P**	**18 51 16.1**	**+1.2**
	comp=E,1.8nm,0.6s,baz=10,slow=3.6,SNR=7.1						
	comp=E,1.8nm,0.6s						
DAVA	**Damuels**	**74.31 319**	*e*P		**P**	**18 51 13.7**	**-2.8**
	comp=E,7.3nm,1.1s						
FRB	**Frobisher Bay**	**75.66 5**	LR		LR	19 26 37.7	
	comp=E,110nm,18.2s,baz=186,slow=37						
NVAR	**Mina Array Bea**	**83.50 44**	P		**P**	**18 52 09.9**	**+2.6**
	comp=E,1.7nm,0.9s,baz=299,slow=4.6,SNR=8.2						
	comp=E,1.7nm,0.9s						
PDAR	**Pinedale Array**	**84.45 36**	P		**P**	**18 52 14.4**	**+2.3**
	comp=E,0.6nm,0.8s,baz=345,slow=2.8,SNR=2.9						
	comp=E,0.6nm,0.8s						
QSPA	**South Pole Qui**	**130.27 180**	PKP		**PKPdf**	**18 58 48.1**	**-0.2**
	comp=E,0.2nm,0.3s,baz=112,slow=1.6,SNR=1.9						

*IDC **18** 18:59:17.7±0.7, 16°.43S×167°.50E, h0km, mb4.4/14, mbtmp4.4/15, ML5.0/2, MS3.8/20, Error ellipse: s-maj=21.5km s-min=17.9km az=81.0*
*NOU **18** 18:59:18.7, 16°.39S×167°.42E, h15km, MLv4.9/17, Vanuatu Islands*
*NEIC **18** 18:59:19.4±1.4, 16°.5S±0°.1×167°.5E±0°.1, h10km±1km, mb4.7/21, Error ellipse: s-maj=20.5km s-min=17.8km az=74.0*

ISC 18 18:59:20.7±0.5, 16°.50S±0°.06×167°.45E±0°.08, h20km, n87, σ0.96/78, mb4.7/23, MS3.8/19, 3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.41**	**150**	P	**Pb**	**18 59 45.8**	**-0.5**
RTV	**Rentapao**	**1.59**	**144**	P	**Pn**	**18 59 47.6**	**-0.1**
LIFNC	**LIFOU**	**4.26**	**183**	Pn	**Pn**	**19 00 23.6**	**-0.8**
LIFNC	**LIFOU**	**4.26**	**183**	P	**Pn**	**19 00 23.7**	**-0.7**
MARNC	**Mare, Loyalty**	**4.98**	**174**	Pn	**Pn**	**19 00 33.3**	**-1.1**
KOUNC	**Koumac, New Ca**	**5.02**	**216**		**Pn**	**19 00 34.1**	**-0.8**
KOUNC	**Koumac, New Ca**	**5.02**	**216**	P	**Pn**	**19 00 34.7**	**-0.2**
YATNC	**Mamie plateau,**	**5.55**	**185**	P	**Pn**	**19 00 41.0**	**-1.2**
DZM	**Mont Dzumac**	**5.62**	**190**		**Pn**	**19 00 42.6**	**-0.7**
DZM	**Mont Dzumac**	**5.62**	**190**	P	**Pn**	**19 00 43.2**	**0.0**
DZM	**Mont Dzumac**	**5.62**	**190**	*e*Pn	**Pn**	**19 00 44.0**	**+0.8**
	88nm,1.0s						
DZM				*e*Sn	**Sn**	**19 01 45.8**	**-1.5**
	141nm,0.9s						
DZM				*e*LR	LR	19 02 01.6	
	598nm,24.1s						
DZM	**Mont Dzumac**	**5.62**	**190**	Pn	**Pn**	**19 00 43.1**	**-0.2**
	7.8nm,0.3s,baz=88,slow=14,SNR=22						
DZM				Sn	**Sn**	**19 01 47.5**	**+0.2**
	6.7nm,0.3s,baz=320,slow=23,SNR=7.5						
	18nm,0.3s						
NOUC	**Port Laguerre**	**5.67**	**191**	P	**Pn**	**19 00 44.0**	**+0.1**
ONTNC	**Ouen Toro**	**5.85**	**189**		**Pn**	**19 00 46.0**	**-0.3**
ONTNC	**Ouen Toro**	**5.85**	**189**	P	**Pn**	**19 00 46.5**	**+0.2**
OUENC	**Ouen Island, N**	**5.91**	**185**	Pn	**Pn**	**19 00 47.3**	**+0.1**
OUENC	**Ouen Island, N**	**5.91**	**185**	P	**Pn**	**19 00 47.5**	**+0.3**
PINNC	**Pines Island,**	**6.08**	**180**	Pn	**Pn**	**19 00 49.4**	**-0.1**
PINNC	**Pines Island,**	**6.08**	**180**	P	**Pn**	**19 00 50.0**	**+0.6**
HNR	**Honiara**	**10.14**	**313**	Pn	**Pn**	**19 01 45.4**	**+0.2**
	64nm,0.3s,baz=315,slow=18,SNR=2.7						
HNR				Sn	**Sn**	**19 03 38.4**	**+0.1**
	174nm,0.3s,baz=82,slow=10,SNR=4.6						
HNR				LR	LR	19 04 51.5	
	comp=Z,2μm,21.4s,baz=100,slow=33						
EIDS	**Eidsvold**	**17.63**	**237**	P	**Pn**	**19 03 24.9**	**-0.4**
CTA	**Charters Tower**	**20.43**	**257**	P	**P**	**19 03 57.2**	**+0.3**
	6.1nm,0.8s,baz=83,slow=9.8,SNR=8.1						
CTA				LR	LR	19 10 48.0	
	comp=Z,216nm,19.3s,baz=86,slow=34						
	6.1nm,0.8s						
CTAO	**Charters Tower**	**20.43**	**257**	P	**P**	**19 03 57.4**	**+0.4**
PMG	**Port Moresby**	**20.98**	**287**	P	Pn	19 04 05.0	-0.4
PMG				IAmb	IAmb	19 04 08.1	
	comp=Z,23nm,1.1s						
PMG	**Port Moresby**	**20.98**	**287**	P	Pn	19 04 04.2	-1.3
	comp=Z,10nm,0.9s,baz=80,slow=7.9,SNR=6.7						
PMG				LR	LR	19 11 37.3	
	comp=Z,312nm,18.2s,baz=92,slow=35						
	comp=Z,10nm,0.9s						
MRZ	**Mangatainoka R**	**25.09**	**165**	P	**P**	**19 04 45.4**	**+1.5**
MRZ				IAmb	IAmb	19 05 03.1	
	comp=Z,43nm,1.3s						
STKA	**Stephens Creek**	**28.01**	**232**	P	**P**	**19 05 10.1**	**-0.4**
STKA	**Stephens Creek**	**28.01**	**232**	P	**P**	**19 05 10.0**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=40,slow=7.3,SNR=5.8						
STKA				PcP	**PcP**	**19 08 26.2**	**+1.0**
	comp=Z,4.7nm,0.9s,baz=14,slow=3.2,SNR=5.2						
STKA				LR	LR	19 15 39.0	
	comp=Z,164nm,19.1s,baz=37,slow=35						
	comp=Z,2.8nm,0.7s						
RAR	**Rarotonga**	**31.34**	**104**	LR	LR	19 17 13.6	
	comp=Z,68nm,18.1s,baz=202,slow=34						
WB0	**Warramunga Arr**	**31.55**	**259**	P	**P**	**19 05 41.7**	**-0.3**
WB0				IAmb	IAmb	19 05 43.6	
	comp=Z,7.7nm,0.9s						
WB2	**Warramunga Arr**	**31.59**	**259**	P	**P**	**19 05 42.0**	**-0.3**
WB2				IAmb	IAmb	19 05 42.9	
	comp=Z,13nm,1.4s						
WRAB	**Tennant Creek**	**31.59**	**259**	P	**P**	**19 05 41.7**	**-0.6**
WRAB				IAmb	IAmb	19 05 45.5	
	comp=Z,6.9nm,1.0s						
WRA	**Warramunga Arr**	**31.60**	**259**	P	**P**	**19 05 40.8**	**-1.7**
WRA					**PcP**	**19 08 35.7**	**+1.0**
WRA	**Warramunga Arr**	**31.60**	**259**	P	**P**	**19 05 42.2**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=89,slow=8.9,SNR=16						
WRA				PcP	**PcP**	**19 08 34.3**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=87,slow=3.1,SNR=9.5						
	comp=Z,1.9nm,0.7s						
AS31	**Alice Springs**	**32.24**	**252**	P	**P**	**19 05 47.3**	**-0.7**
AS31				IAmb	IAmb	19 05 52.3	
	comp=Z,4.3nm,0.9s						
ASAR	**Alice Springs**	**32.24**	**252**	P	**P**	**19 05 46.9**	**-1.2**
ASAR	**Alice Springs**	**32.24**	**252**	P	**P**	**19 05 47.8**	**-0.2**
	comp=Z,12nm,0.8s,baz=76,slow=8.6,SNR=107						
ASAR				PcP	**PcP**	**19 08 36.8**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=87,slow=3.1,SNR=12						
ASAR				LR	LR	19 18 21.9	
	comp=Z,289nm,18.7s,baz=70,slow=35						
	comp=Z,12nm,0.8s						
GUMO	**Guam**	**37.30**	**322**	LR	LR	19 20 54.8	
	comp=Z,82nm,18.2s,baz=100,slow=35						
FITZ	**Fitzroy Crossi**	**39.89**	**261**	P	**P**	**19 06 52.4**	**-1.1**
TBI	**Tubuai**	**40.97**	**107**	*e*LR	LR	19 17 58.1	
	comp=Z,1μm,31.8s						
PPT2	**Papeete2**	**41.04**	**98**	*e*LR	LR	19 18 21.5	
	comp=Z,266nm,26.8s						
PPT2				*e*LR	LR	19 18 27.0	
	comp=Z,212nm,27.8s						
PPT	**Papeete**	**41.04**	**98**	LR	LR	19 21 06.3	
	comp=Z,95nm,18.1s,baz=182,slow=32						
DAV	**Davao City (W)**	**47.58**	**296**	LR	LR	19 25 39.7	
	comp=Z,43nm,21.2s,baz=146,slow=33						
NWAO	**Narrogin (SRO)**	**48.01**	**240**	LR	LR	19 28 26.0	
	comp=Z,156nm,18.8s,baz=203,slow=36						
MORW	**Morawa**	**48.67**	**246**	P	**P**	**19 08 03.5**	**-0.3**
LEM	**Lembang**	**59.20**	**272**	P	**P**	**19 09 22.7**	**+1.6**
	comp=Z,15nm,0.5s,baz=149,slow=20,SNR=4.3						
	comp=Z,15nm,0.5s						
MJAR	**Matsushiro Arr**	**59.55**	**333**	P	**P**	**19 09 23.4**	**+0.5**
	comp=Z,3.2nm,0.9s,baz=171,slow=8.1,SNR=4.7						
MJAR				LR	LR	19 38 10.7	
	comp=Z,28nm,18.0s,baz=116,slow=39						
	comp=Z,3.2nm,0.9s						
CGJI	**Cibinong**	**61.10**	**272**	P	**P**	**19 09 33.7**	**-0.2**
	comp=Z,33nm,0.7s						
VNDA	**Vanda**	**61.10**	**181**	P	**P**	**19 09 32.7**	**-0.3**
VNDA				IAmb	IAmb	19 09 41.1	
	comp=Z,5.1nm,1.1s						
VNDA	**Vanda**	**61.10**	**181**	P	**P**	**19 09 34.3**	**+1.3**
	comp=Z,1.2nm,0.9s,baz=22,slow=8.6,SNR=2.8						
	comp=Z,1.2nm,0.9s						
SBA	**Scott Base**	**61.38**	**180**	P	**P**	**19 09 36.6**	**+1.8**
QSPA	**South Pole Qui**	**73.54**	**180**	P	**P**	**19 10 52.9**	**+0.9**
QSPA	**South Pole Qui**	**73.54**	**180**	P	**P**	**19 10 53.9**	**+1.8**
	comp=Z,14nm,0.9s,baz=10,slow=2.4,SNR=32						
QSPA				LR	LR	19 41 29.3	
	comp=Z,56nm,18.1s,baz=156,slow=34						
	comp=Z,14nm,0.9s						
CMAR	**Chiang Mai Arr**	**75.83**	**294**	P	**P**	**19 11 07.0**	**+1.0**
	comp=Z,1.1nm,1.0s,baz=126,slow=4.4,SNR=2.8						
	comp=Z,1.1nm,1.0s						
ULN	**Ulaanbaatar**	**83.66**	**324**	P	**P**	**19 11 47.4**	**-0.7**
ULN				IAmb	IAmb	19 11 53.0	
	comp=Z,5.3nm,0.9s						
SONM	**Songino Array**	**84.02**	**324**	P	**P**	**19 11 50.1**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=136,slow=4.9,SNR=7.5						
	comp=Z,2.1nm,1.0s						
SHL	**Shillong**	**84.56**	**299**	P	**P**	**19 11 52.8**	**-0.3**
SHL				IAmb	IAmb	19 11 53.9	
	comp=Z,10nm,1.0s						
BELA	**Belgrano 2**	**84.95**	**175**	P	**P**	**19 11 53.9**	**-0.1**
YBH	**Yreka Blue Hor**	**86.55**	**45**	LR	LR	19 48 48.5	
	comp=Z,39nm,18.4s,baz=319,slow=34						
G19K	**Purcell Mounta**	**86.57**	**14**	P	**P**	**19 12 02.5**	**+0.5**
G19K				IAmb	IAmb	19 12 03.3	
	comp=Z,9.1nm,1.1s						
IMAR	**Indian Mountai**	**87.22**	**15**	P	**P**	**19 12 05.2**	**0.0**
E19K	**Redstone River**	**87.63**	**13**	P	**P**	**19 12 07.7**	**+0.6**
E19K				IAmb	IAmb	19 12 12.8	
	comp=Z,3.1nm,0.7s						
PFO	**Pinyon Flats O**	**87.89**	**54**	LR	LR	19 46 51.5	
	comp=Z,97nm,18.5s,baz=242,slow=32						
BBB	**Bella Bella**	**88.14**	**34**	LR	LR	19 45 12.0	
	comp=Z,44nm,19.8s,baz=323,slow=31						
ILAR	**Eielson Array**	**88.15**	**18**	P	**P**	**19 12 07.8**	**-1.9**
	comp=Z,0.7nm,0.6s,baz=236,slow=5.3,SNR=14						
ILAR				LR	LR	19 45 45.7	
	comp=Z,57nm,19.4s,baz=184,slow=32						
	comp=Z,0.7nm,0.6s						
PALK	**Pallekele**	**88.94**	**278**	LR	LR	19 51 48.3	
	comp=Z,36nm,19.7s,baz=229,slow=35						
TROLL	**Troll, Antarti**	**91.12**	**185**	P	**P**	**19 12 24.4**	**+0.6**
	comp=Z,578nm,0.9s						
ELK	**Elko**	**91.35**	**48**	LR	LR	19 53 52.7	
	comp=Z,61nm,18.2s,baz=338,slow=36						
SNAA	**Sanae**	**91.80**	**183**	P	**P**	**19 12 26.8**	**-0.1**
SNAA	**Sanae**	**91.80**	**183**	||P	**P**	**19 12 27.1**	**+0.2**
	comp=Z,127nm,0.9s						
SNAA	**Sanae**	**91.80**	**183**	P	**P**	**19 12 27.2**	**+0.2**
	comp=Z,7.8nm,1.1s,baz=209,slow=4.6,SNR=7.9						
	comp=Z,7.8nm,1.1s						
VNA3	**Neumayer Olymp**	**92.45**	**181**	||P	**P**	**19 12 29.9**	**0.0**
	comp=Z,4.0nm,0.7s						
VNA2	**Neumayer--Watz**	**92.72**	**182**	||P	**P**	**19 12 31.5**	**+0.4**
	comp=Z,5.1nm,0.8s,baz=182,slow=2.0						
INK	**Inuvik**	**94.50**	**19**	LR	LR	19 50 29.4	
	comp=Z,43nm,20.7s,baz=174,slow=32						
ANMO	**Albuquerque**	**96.16**	**56**	LR	LR	19 47 09.3	
	comp=Z,41nm,21.0s,baz=42,slow=30						
MKAR	**Makanchi Array**	**98.59**	**316**	P	Pdif	19 12 59.1	+0.8
	comp=Z,0.7nm,1.0s,baz=129,slow=5.7,SNR=2.4						
	comp=Z,0.7nm,1.0s						
ARCES	**ARCESS Array B**	**122.00**	**345**	PKP	**PKiKP**	**19 18 12.4**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=84,slow=1.7,SNR=21						
FINES	**FINESS Array B**	**127.42**	**338**	PKP	**PKPdf**	**19 18 22.4**	**-1.3**
	comp=Z,6.1nm,1.1s,baz=354,slow=3.8,SNR=6.5						
AKASG	**Malin Array Be**	**132.28**	**325**	PKP	**PKiKP**	**19 18 33.8**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=53,slow=2.1,SNR=4.0						
BRTR	**Keskin Array B**	**133.78**	**310**	PKP	**PKiKP**	**19 18 37.6**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=164,slow=5.8,SNR=3.8						
MMAI	**Mount Meron Ar**	**133.86**	**300**	PKP	**PKiKP**	**19 18 37.8**	**-0.4**
	comp=Z,0.3nm,0.2s,baz=61,slow=8.7,SNR=5.7						
CLL	**Collm**	**139.73**	**335**	*e*PKPdf	**PKiKP**	**19 18 49.0**	**-0.4**
GERES	**GERESS Array B**	**141.29**	**332**	PKP	**PKiKP**	**19 18 50.6**	**-2.3**
	comp=Z,0.6nm,0.6s,baz=104,slow=4.3,SNR=4.6						
ABTA	**Abfaltersbach**	**143.37**	**331**	*e*PKiKP	**PKiKP**	**19 18 54.8**	**-2.4**
	comp=Z,1.9nm,0.7s						
FETA	**Feichten**	**143.98**	**333**	*e*PKP	**PKPdf**	**19 18 53.2**	**-1.9**
	comp=Z,6.0nm,1.2s						
KEST	**Kesra**	**152.66**	**319**	PKPbc	**PKiKP**	**19 19 19.3**	**+2.6**
	comp=Z,7.2nm,0.8s,baz=307,slow=5.0,SNR=6.6						
TORD	**Torodi Ar. Bea**	**165.83**	**258**	PKP	**PKPdf**	**19 19 23.4**	**-1.7**
	comp=Z,1.1nm,0.8s,baz=39,slow=2.3,SNR=5.8						
TORD				PKPab	**PKPab**	**19 20 26.2**	**+1.5**
	comp=Z,1.3nm,1.0s,baz=78,slow=4.2,SNR=5.3						

IDC 18 19:01:23.1±1.3, 31°.56N×103°.94E, h0km, mb3.3/4, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=90.4km s-min=23.2km az=57.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**16.37**	**6**	Pn	Pn	19 05 14.7	+0.5
	0.1nm,0.3s,baz=187,slow=10,SNR=3.9						
	1.0nm,1.1s						
MKAR	**Makanchi Array**	**22.55**	**319**	P	P	19 06 24.6	0.0
	0.8nm,0.8s,baz=114,slow=12,SNR=4.1						
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**26.80**	**323**	P	P	19 07 04.6	-0.1
	0.2nm,0.2s,baz=125,slow=9.4,SNR=4.5						
	0.2nm,0.2s						
WRA	**Warramunga Arr**	**58.92**	**146**	P	P	19 11 24.6	+0.4
	0.4nm,0.6s,baz=338,slow=7.3,SNR=2.2						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**61.95**	**149**	P	P	19 11 44.4	-0.5
	0.2nm,0.8s,baz=342,slow=7.2,SNR=1.5						
	0.2nm,0.8s						

*IDC **18** 19:01:05.0±1.7, 0°.47N×122°.50E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=224.1km s-min=26.6km az=61.0*
*DJA **18** 19:01:26.8±0.5, 0°.N±4°×12°.2E±°, h163km±4km, M3.6/10, MLv3.6/10*

ISC 18 19:01:25.1±1.0, 0°.23N±0°.08×122°.27E±0°.07, h200km, n12, σ2.21/15, mb3.7/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.42**	**307**	P	**Pn**	**19 01 49.8**	**-2.2**
MRSI				S	**Sn**	**19 02 07.4**	**-5.3**
LUWI	**Luwuk**	**1.35**	**158**	P	**Pn**	**19 01 57.0**	**-0.6**
LUWI				S	**Sn**	**19 02 19.8**	**-3.1**
KMSI	**Cibinong**	**1.74**	**79**	P	**Pn**	**19 02 01.4**	**+0.3**
KMSI				S	**Sn**	**19 02 26.7**	**-2.2**
MPSI	**Mapaga**	**2.38**	**273**	P	**Pn**	**19 02 07.4**	**-0.3**
TTSI	**Tana Toraja**	**4.07**	**217**	P	**Pn**	**19 02 28.3**	**+0.4**
SANI	**Sanana**	**4.35**	**121**	P	**Pn**	**19 02 29.9**	**-1.4**
SGSI	**Sangihe**	**4.73**	**43**	P	**Pn**	**19 02 37.3**	**+1.1**
SPSI	**Sidrap Palu**	**4.86**	**211**	P	**Pn**	**19 02 37.8**	**0.0**
WRA	**Warramunga Arr**	**23.27**	**150**	P	**P**	**19 06 16.2**	**+1.1**
	1.8nm,0.7s,baz=328,slow=11,SNR=16						
	1.8nm,0.7s						
ASAR	**Alice Springs**	**26.30**	**155**	P	**P**	**19 06 43.1**	**+0.6**
	0.6nm,0.6s,baz=331,slow=9.6,SNR=8.9						
	0.6nm,0.6s						
STKA	**Stephens Creek**	**36.80**	**152**	P	**P**	**19 08 15.2**	**+1.3**
	1.5nm,0.5s,baz=353,slow=8.1,SNR=2.8						
	1.5nm,0.5s						
MKAR	**Makanchi Array**	**58.04**	**329**	P	**P**	**19 10 59.3**	**+2.0**
	0.2nm,0.5s,baz=126,slow=8.7,SNR=2.0						
	0.2nm,0.5s						

IDC 18 19:04:32.7±2.2, 3°.59N×129°.17E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=96.7km s-min=22.2km az=62.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.93**	**168**	P	P	19 09 49.1	+0.4
	0.7nm,0.5s,baz=346,slow=11,SNR=12						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**27.48**	**171**	P	P	19 10 20.6	-0.3
	0.2nm,0.5s,baz=350,slow=7.5,SNR=6.3						
	0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**33.06**	**299**	P	P	19 11 11.8	+1.4
	1.0nm,0.8s,baz=120,slow=5.4,SNR=7.6						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**59.08**	**324**	P	P	19 14 33.5	-1.4
	0.2nm,0.4s,baz=109,slow=8.7,SNR=4.9						
	0.2nm,0.4s						

*TEH **18** 19:20:25.9, 34°.60N×45°.42E, h17km±14km, ML3.8*
*ISN **18** 19:20:25.3±0.5, 34°.63N×45°.33E, h12km±78km, ML3.7*

ISC 18 19:20:27.7±1.2, 34°.60N±0°.04×45°.45E±0°.05, h18km, n35, σ0.78/39, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.15**	**129**	Pg	**Pb**	**19 20 30.5**	**-0.8**
IDHR	**Dehrash**	**0.78**	**82**	Pg	**Pb**	**19 20 41.1**	**-1.7**
IDHR				Sg	**Sg**	**19 20 53.2**	**-0.2**
IGHG	**Ghaleghazi**	**0.96**	**106**	Pg	**Pb**	**19 20 44.9**	**-1.1**
ILBA	**Ilam Banvizeh**	**1.16**	**147**	Pg	**Pn**	**19 20 48.1**	**-1.0**
ILIN	**Lien**	**1.28**	**75**	Pg	**Pn**	**19 20 51.0**	**0.0**
KCHF	**Cheshme Sefid,**	**1.35**	**103**	Pg	**Pn**	**19 20 52.2**	**+0.3**
IBDR	**Badra**	**1.54**	**165**	*e*Pn	**Pn**	**19 20 55.0**	**+0.8**
IBDR				*e*Sn	**Sg**	**19 21 17.0**	**-0.4**
IBDR				AML	AML	19 21 20.4	
	comp=N,838nm,0.3s						
IBDR				AML	AML	19 21 20.9	
	comp=E,903nm,0.4s						
SDS1	**Sardasht. Az.**	**1.55**	**1**	Pg	**Pn**	**19 20 54.5**	**-0.1**
BHD	**Baghdad**	**1.60**	**214**	*e*Pn	**Pn**	**19 20 55.0**	**-0.1**
BHD				*e*Sn	**Sn**	**19 21 16.0**	**+0.8**
BHD				AML	AML	19 21 19.8	
	comp=E,2μm,0.5s						
IKOM	**Komasi**	**1.75**	**103**	Pg	**Pb**	**19 20 58.9**	**-0.6**
IBZA	**Bozab**	**1.99**	**93**	Pn	**Pn**	**19 21 02.1**	**+1.3**
MAHB	**Mahabad**	**2.17**	**5**	Pn	**Pn**	**19 21 03.1**	**0.0**
IALM	**Almabolaq**	**2.25**	**83**	Pn	**Pn**	**19 21 05.2**	**+0.9**
IKFM	**Kafar-mosalman**	**2.26**	**118**	Pn	**Pn**	**19 21 04.5**	**+0.4**
RAFI	**Al-Rafai**	**2.92**	**169**	*e*Pn	**Pn**	**19 21 14.0**	**+0.7**
RAFI				*e*Sn	**Sn**	**19 21 50.0**	**+2.1**
HAGD	**Aghdareh**	**3.05**	**85**	Pn	**Pn**	**19 21 16.3**	**+1.0**
QSDN	**Sirdan**	**3.58**	**57**	Pn	**Pn**	**19 21 23.3**	**+0.7**
ISRB	**Sarab**	**3.68**	**28**	Pn	**Pn**	**19 21 24.0**	**0.0**
IRAZ	**Razeghan**	**3.76**	**76**	Pn	**Pn**	**19 21 25.4**	**+0.4**
IHRS	**Heris**	**3.93**	**19**	Pn	**Pn**	**19 21 28.1**	**+0.8**
IMRD	**Marand**	**4.11**	**3**	Pn	**Pn**	**19 21 30.3**	**+0.5**
AMIS	**Naft Sefid**	**4.35**	**131**	Pn	**Pn**	**19 21 33.1**	**+0.2**
IQOM	**Qom**	**4.63**	**85**	Pn	**Pn**	**19 21 37.4**	**+0.3**
GRMI	**Germi**	**4.64**	**24**	Pn	**Pn**	**19 21 37.8**	**+0.8**
IPIR	**Pirpir**	**4.92**	**111**	Pn	**Pn**	**19 21 40.5**	**-0.6**
JHBN	**Jahan bin**	**4.96**	**117**	Pn	**Pn**	**19 21 41.2**	**-0.4**
QAMS	**Qamsar**	**5.00**	**98**	Pn	**Pn**	**19 21 42.7**	**+0.5**
ZNGN	**Zangian**	**5.15**	**117**	Pn	**Pn**	**19 21 44.5**	**+0.2**
IVRN	**Varamin**	**5.18**	**84**	Pn	**Pn**	**19 21 44.9**	**+0.5**
IKLH	**Kolahrood**	**5.25**	**102**	Pn	**Pn**	**19 21 46.2**	**+0.7**
ISFB	**Sefidab**	**5.61**	**91**	Pn	**Pn**	**19 21 50.5**	**+0.1**
IZEF	**Zefreh**	**5.98**	**105**	Pn	**Pn**	**19 21 56.0**	**+0.5**
IFIR	**Firoozkooh**	**6.07**	**78**	Pn	**Pn**	**19 21 58.1**	**+1.2**
KLNJ	**Kolanjah**	**6.29**	**123**	Pn	**Pn**	**19 21 59.4**	**-0.5**
IRAM	**Ramesheh**	**6.44**	**114**	Pn	**Pn**	**19 22 01.5**	**-0.4**

*IDC **18** 19:54:42.0±8.1, 47°.87N×152°.60E, h140km±46km, mb3.4/12, mbtmp3.8/14, Error ellipse: s-maj=99.9km s-min=27.7km az=167.0*
*NEIC **18** 19:54:42.4±1.1, 47°.91N±0°.10×152°.6E±0°.3, h143km±6km, mb4.2/24, Error ellipse: s-maj=29.4km s-min=13.2km az=76.0*

ISC 18 19:54:42.6±1.9, 47°.9N±0°.3×152°.7E±0°.2, h150km, n46, σ0.73/40, mb4.1/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.13**	**29**	P	**Pn**	**19 56 10.9**	**0.0**
	1.8nm,0.6s,baz=207,slow=13,SNR=4.4						
SEY	**Seymchan**	**15.10**	**359**	P	**P**	**19 58 09.3**	**-0.3**
	1.7nm,0.3s,baz=176,slow=10,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**30.33**	**153**	T	T	20 32 22.2	
	baz=341,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy

*IDC **18** 20:04:55.1±2.5, 43°.21N×105°.12W, h0km, mbtmp3.5/2, ML3.0/2, Error ellipse: s-maj=47.5km s-min=11.2km az=154.0*
*NEIC **18** 20:04:57.3±1.9, 43°.67N±0°.08×105°.26W±0°.06, h0km±2km, ML3.1/36, Error ellipse: s-maj=15.2km s-min=3.1km az=334.0*

ISC 18 20:04:56.3±1.0, **43°.63N**±0°.08×**105°.24W**±0°.06, **h0**km, **n29,** σ**0**s**89**/27, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.00**	**60**	Pg	**Pb**	**20 05 16.0**	**-0.7**
RSSD				IAML		20 05 38.1	
	312nm,0.5s						
K22A	**Casper**	**1.36**	**224**		**Pg**	**20 05 21.6**	**-0.7**
K22A				IAML		20 05 47.1	
	comp=N,218nm,0.3s						
K22A				IAML		20 05 54.5	
	comp=E,224nm,0.8s						
PHWY	**Pilot Hill**	**2.33**	**184**		**Pn**	**20 05 37.1**	**+0.9**
PHWY				IAML		20 06 24.0	
	comp=E,93nm,0.6s						
PHWY				IAML		20 07 09.3	
	comp=E,61nm,3.6s						
RWWY	**Rawlins**	**2.42**	**217**		**Pn**	**20 05 37.9**	**+0.5**
N23A	**Red Feather La**	**2.78**	**191**	Pn	**Pn**	**20 05 43.4**	**+1.0**
N23A				IAML		20 06 30.7	
	comp=N,88nm,0.7s						
N23A				IAML		20 06 31.2	
	comp=E,111nm,0.6s						
BRIGG	**Briggsdale**	**3.12**	**167**		**Pn**	**20 05 46.8**	**-0.1**
PD31	**Pinedale Array**	**3.27**	**256**	Pn	**Pn**	**20 05 50.1**	**+1.1**
PDAR	**Pinedale Array**	**3.27**	**256**	Pn	**Pn**	**20 05 50.0**	**+0.9**
PDAR	**Pinedale Array**	**3.27**	**256**	Pn	**Pn**	**20 05 50.9**	**+1.8**
	comp=E,1.9nm,0.3s,baz=85,slow=16,SNR=27						
PDAR				Lg	Lg	20 06 38.0	
	comp=E,5.1nm,0.3s,baz=81,slow=33,SNR=1.2						
	comp=E,3.4nm,0.3s						
BW06	**Boulder Array**	**3.27**	**256**		**Pn**	**20 05 50.5**	**+1.4**
BW06				IAML		20 06 50.5	
	comp=E,42nm,0.6s						
ISCO	**Idaho Springs**	**3.84**	**184**		**Pn**	**20 05 57.0**	**+0.1**
ISCO				IAML		20 08 06.7	
	comp=E,17nm,3.6s						
MOOW	**Moose Ponds**	**3.99**	**274**	Pn	Pn	20 05 53.4	-5.6
O20A	**White River Ci**	**4.15**	**214**		**Pn**	**20 06 01.1**	**0.0**
SMCO	**Snowmass**	**4.64**	**197**		**Pn**	**20 06 09.2**	**+1.2**
SMCO				IAML		20 09 12.3	
	comp=E,19nm,2.9s						
BSUT	**Blindstream Ca**	**5.14**	**235**	Pn	**Pn**	**20 06 15.4**	**+0.5**
BSUT				IAML		20 08 00.1	
	comp=E,18nm,2.4s						
BSUT				IAML		20 08 25.7	
	comp=N,15nm,4.7s						
SPUT	**South Promonto**	**5.81**	**249**	Pn	**Pn**	**20 06 23.7**	**-0.2**
HVU	**Hansel Valley**	**5.85**	**254**		**Pn**	**20 06 25.0**	**+0.6**
P17A	**Butcher Ranch,**	**5.85**	**227**	Pn	**Pn**	**20 06 24.4**	**-0.1**
SDCO	**Great Sand Dun**	**5.88**	**182**		**Pn**	**20 06 26.6**	**+1.6**
S22A	**4UR Ranch, Cre**	**6.00**	**192**	Pn	**Pn**	**20 06 27.8**	**+1.2**
SRU	**San Rafael Swe**	**6.01**	**223**	Pn	**Pn**	**20 06 26.7**	**0.0**
TMUT	**Trail Mountain**	**6.23**	**228**		**Pn**	**20 06 29.0**	**-0.8**
NLU	**North Lily Min**	**6.29**	**237**	Pn	**Pn**	**20 06 29.7**	**-0.8**
Q16A	**Castle Valley**	**6.49**	**225**		**Pn**	**20 06 33.3**	**0.0**
HMU	**Henry Mountain**	**7.05**	**218**		**Pn**	**20 06 41.7**	**+0.6**
MSU	**Marysvale**	**7.32**	**228**	Pn	**Pn**	**20 06 45.3**	**+0.6**
MTPU	**Mount Pierson**	**7.67**	**226**		**Pn**	**20 06 50.4**	**+0.8**
I10CA	**LAC DU BONNET**	**9.10**	**41**	I	I	20 59 55.0	
	comp=N,0.1nm,1.2s,baz=218,slow=327,SNR=10						
ULM	**Lac du Bonnet**	**9.21**	**41**	Pn	**Pn**	**20 07 10.7**	**+0.3**
	comp=N,0.3nm,0.3s,baz=229,slow=13,SNR=2.7						
ULM				Lg	Lg	20 09 46.4	
	comp=N,0.4nm,0.3s,baz=319,slow=20,SNR=3.6						
	comp=N,1.7nm,0.5s						

*IDC **18** 20:07:00.4±1.1, 35°.06N×25°.49E, h0km, mb3.7/6, mbtmp3.7/11, ML3.5/5, Error ellipse: s-maj=22.8km s-min=8.6km az=16.0*
*ISK **18** 20:07:02.4, 35°.14N×25°.41E, h7km, ML3.4/13*
*ATH **18** 20:07:02.7, 35°.09N×25°.41E, h11km±1km, ML3.4/12, Error ellipse: s-maj=1.5km s-min=0.7km az=191.0*
*THE **18** 20:07:02.5, 35°.10N×25°.41E, h11km±1km, ML3.3/5, Error ellipse: s-maj=2.6km s-min=0.7km az=17.0*
*AFAD **18** 20:07:05.3±0.0, 35°.39N×25°.64E, h5km±5km, MW3.8*

ISC 18 20:07:02.3±0.9, **35°.14N**±0°.03×**25°.41E**±0°.02, **h11**km±7km, **n75,** σ1**s77**/107, **mb3.6/6, Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRMA	**Ierapetra Chan**	**0.29**	**116**	P	**Pb**	**20 07 09.8**	**+0.2**
FRMA				S	**Sb**	**20 07 15.8**	**+1.4**
	5µm,0.5s						
FRMA	**Ierapetra Chan**	**0.29**	**116**	P	**Pb**	**20 07 09.6**	**+0.1**
FRMA				S	**Sb**	**20 07 15.6**	**+1.1**
FRMA				AML	AML	20 07 16.7	
	comp=N,29600µm,0.5s						
FRMA				AML	AML	20 07 17.1	
	comp=E,28725µm,0.5s						
HRKL	**Herakleio**	**0.31**	**303**	Pg	**Pg**	**20 07 09.5**	**+1.0**
HRKL	**Herakleio**	**0.31**	**303**	P	**Pg**	**20 07 09.4**	**+1.0**
HRKL	**Herakleio**	**0.31**	**303**	P	**Pg**	**20 07 09.4**	**+0.9**
HRKL				S	**Sg**	**20 07 14.1**	**+1.5**
HRKL				AML	AML	20 07 19.0	
	comp=E,42504µm,0.2s						
HRKL				AML	AML	20 07 22.0	
	comp=N,44820µm,0.5s						
KSTL	**Kastelli Herak**	**0.32**	**300**	P	**Pg**	**20 07 06.2**	**-2.6**
KSTL				S	**Sg**	**20 07 08.7**	**-4.4**
KSTL	**Kastelli Herak**	**0.32**	**300**	P	**Pg**	**20 07 05.7**	**-3.1**
KSTL				S	**Sg**	**20 07 08.3**	**-4.8**
KSTL				AML	AML	20 07 09.2	
KSTL				AML	AML	20 07 09.3	
	comp=E,99196µm,0.2s						
IACM	**Heraklion**	**0.32**	**300**	P	**Pg**	**20 07 09.8**	**+1.0**
IACM				S	**Sg**	**20 07 15.0**	**+1.8**
IACM	**Heraklion**	**0.32**	**300**	P	**Pg**	**20 07 09.7**	**+1.0**
IACM				S	**Sg**	**20 07 14.5**	**+1.3**
IDI	**Anoyia**	**0.45**	**289**	Pg	**Pg**	**20 07 11.5**	**+0.3**
IDI				Sg	**Sg**	**20 07 18.8**	**+1.6**
IDI	**Anoyia**	**0.45**	**289**	P	**Pg**	**20 07 11.1**	**-0.1**
IDI				S	**Sg**	**20 07 18.5**	**+1.3**
	comp=E,5µm,0.3s						
IDI	**Anoyia**	**0.45**	**289**	LR	LR	20 07 03.4	
	comp=E,25nm,20.3s,baz=113,slow=5.6						
IDI				Pg	**Pg**	**20 07 11.1**	**-0.1**
	comp=E,238nm,0.3s,baz=139,slow=14,SNR=1311						
IDI				Lg	Lg	20 07 18.5	
	comp=E,1µm,0.3s,baz=349,slow=21,SNR=64						
IDI	**Anoyia**	**0.45**	**289**	P	**Pg**	**20 07 11.1**	**-0.1**
IDI				S	**Sg**	**20 07 18.4**	**+1.1**
IDI				AML	AML	20 07 18.9	
	comp=N,12880µm,0.4s						
IDI				AML	AML	20 07 19.4	
	comp=E,8749µm,0.1s						
TMBK	**Timbaki Herakl**	**0.54**	**263**	P	**Pg**	**20 07 12.8**	**+0.1**
TMBK	**Timbaki Herakl**	**0.54**	**263**	P	**Pg**	**20 07 12.6**	**-0.1**
ZKR	**Zakros**	**0.66**	**92**	Pg	**Pg**	**20 07 15.5**	**+0.4**
ZKR				Sg	**Sb**	**20 07 25.2**	**+0.2**
ZKR	**Zakros**	**0.66**	**92**	P	**Pg**	**20 07 14.9**	**-0.2**
ZKR				S	**Sg**	**20 07 24.8**	**+1.0**
	comp=E,5µm,0.7s						
ZKR	**Zakros**	**0.66**	**92**	P	**Pg**	**20 07 15.1**	**0.0**
ZKR				S	**Sg**	**20 07 24.7**	**+1.0**
ZKR				AML	AML	20 07 27.5	
	comp=N,4428µm,0.6s						
ZKR				AML	AML	20 07 27.8	
	comp=E,17714µm,0.6s						
PRNS	**Prines Rethymn**	**0.78**	**287**	P	**Pg**	**20 07 18.1**	**+0.8**
PRNS				S	**Sb**	**20 07 29.7**	**+1.3**
	comp=E,1µm,0.3s						
GVD	**Gavdhos**	**1.13**	**255**	Pn	**Pb**	**20 07 24.0**	**+0.1**
GVD				Sn	**Sn**	**20 07 40.8**	**+1.2**
GVD	**Gavdhos**	**1.13**	**255**	P	**Pb**	**20 07 23.7**	**-0.2**
GVD	**Gavdhos**	**1.13**	**255**	P	**Pb**	**20 07 23.3**	**-0.5**
GVD				S	**Sb**	**20 07 38.5**	**-0.1**
GVD				AML	AML	20 07 49.8	
	comp=N,2767µm,0.3s						
GVD				AML	AML	20 07 50.3	
	comp=E,3548µm,0.4s						
CHAN	**Chania**	**1.18**	**289**	P	**Pn**	**20 07 24.9**	**+0.2**
CHAN				S	**Sb**	**20 07 40.3**	**+0.2**
CHAN				AML	AML	20 07 45.9	
	comp=N,3298µm,0.5s						
CHAN				AML	AML	20 07 47.5	
	comp=E,2630µm,0.4s						
THR6	**Thira Island,**	**1.21**	**359**	P	**Pn**	**20 07 25.2**	**0.0**
IMMV	**Iera Moni Meta**	**1.21**	**286**	Pn	**Pb**	**20 07 25.8**	**+0.5**
IMMV	**Iera Moni Meta**	**1.21**	**286**	P	**Pn**	**20 07 24.9**	**-0.4**
IMMV				S	**Sb**	**20 07 41.4**	**+0.4**
	comp=E,2µm,0.3s						
IMMV	**Iera Moni Meta**	**1.21**	**286**	P	**Pn**	**20 07 24.8**	**-0.4**
IMMV				S	**Sb**	**20 07 40.8**	**-0.2**
IMMV				AML	AML	20 07 46.4	
	comp=N,3884µm,0.4s						
IMMV				AML	AML	20 07 47.6	
	comp=E,3608µm,0.6s						
SNT5	**Nea Kammeni, S**	**1.26**	**359**	P	**Pn**	**20 07 26.5**	**+0.7**
THR8	**Santorini-Mono**	**1.26**	**2**	P	**Pn**	**20 07 24.6**	**-1.3**
THR5	**Thira Island,**	**1.27**	**358**	P	**Pn**	**20 07 25.9**	**-0.1**
THR2	**Thira island,**	**1.30**	**1**	P	**Pn**	**20 07 26.5**	**+0.1**
CMBO	**Columbo, Santo**	**1.32**	**360**	P	**Pn**	**20 07 26.9**	**+0.1**
CMBO	**Columbo, Santo**	**1.32**	**360**	P	**Pn**	**20 07 26.7**	**-0.1**
CMBO				S	**Sb**	**20 07 44.7**	**+0.5**
RODP	**Rodopos**	**1.42**	**288**	Pn	**Pb**	**20 07 29.3**	**+0.5**
KARP	**Karpathos**	**1.48**	**74**	Pn	**Pb**	**20 07 30.6**	**+0.7**
KARP	**Karpathos**	**1.48**	**74**	P	**Pn**	**20 07 30.0**	**+1.0**
KARP				S	**Sn**	**20 07 47.6**	**-0.8**
KARP				AML	AML	20 07 53.4	
	comp=E,1969µm,0.5s						
KARP				AML	AML	20 07 59.6	
	comp=N,2015µm,0.6s						
MHLO	**Agia Marina, M**	**1.75**	**332**	P	**Pn**	**20 07 33.0**	**+0.4**
MHLO				S	**Sn**	**20 07 54.4**	**-0.5**
MHLO				AML	AML	20 08 07.7	
	comp=N,3340µm,0.4s						
MHLO				AML	AML	20 08 08.7	
	comp=E,3236µm,0.4s						
ANKY	**Antikythira Is**	**1.87**	**293**	P	**Pn**	**20 07 33.9**	**-0.3**
APE	**Apeiranthos**	**1.92**	**3**	Pn	**Pn**	**20 07 35.9**	**+0.8**
APE	**Apeiranthos**	**1.92**	**3**	P	**Pn**	**20 07 35.2**	**+0.2**
APE				S	**Sn**	**20 07 59.5**	**+0.2**
APE				AML	AML	20 08 11.0	
	comp=E,336µm,0.4s						
APE				AML	AML	20 08 16.0	
	comp=N,272µm,0.2s						
YAZI	**Mula-Dat§a-**	**2.26**	**47**	P	**Pn**	**20 07 41.1**	**+1.5**
YAZI				S	**Sb**	**20 08 12.5**	**+1.4**
YAZI				*i* AML	AML	20 08 25.0	
	comp=N,29nm,1.1s						
DAT	**Datca**	**2.36**	**47**	Pn	**Pn**	**20 07 42.8**	**+1.6**
DAT	**Datca**	**2.36**	**47**	P	**Pn**	**20 07 41.0**	**-0.2**
DAT				S	**Sb**	**20 08 16.0**	**+1.8**
ARG	**Arkhangelos**	**2.45**	**63**	Pn	**Pn**	**20 07 43.9**	**+1.6**
ARG	**Arkhangelos**	**2.45**	**63**	P	**Pn**	**20 07 42.7**	**+0.4**
ARG				AML	AML	20 08 25.4	
	comp=N,193µm,0.4s						
ARG				AML	AML	20 08 27.1	
	comp=E,279µm,0.4s						
BODT	**Bodrum**	**2.46**	**38**	Pn	**Pn**	**20 07 43.3**	**+1.0**
BDRM	**Kayabasi**	**2.53**	**40**	P	**Pn**	**20 07 46.0**	**+2.7**
BDRM				*i* AML	AML	20 08 36.0	
	comp=E,23nm,1.1s						
VLI	**Veliai**	**2.55**	**309**	P	**Pn**	**20 07 44.1**	**+0.5**
TURN	**Turunc**	**2.81**	**54**	Pn	**Pn**	**20 07 49.5**	**+2.3**
TURN	**Turunc**	**2.81**	**54**	P	**Pn**	**20 07 48.5**	**+1.3**
TURN				S	**Sn**	**20 08 22.8**	**+1.6**
TURN				*i* AML	AML	20 08 45.0	
	comp=E,22nm,1.2s						
KRND	**KRANIDI**	**2.89**	**321**	P	**Pn**	**20 07 49.2**	**+1.0**
GCAM	**G?zelcaml?**	**2.94**	**29**	Pn	**Pn**	**20 07 51.1**	**+2.1**
MULA	**Mugla, Merkez-**	**3.16**	**47**	P	**Pn**	**20 07 55.5**	**+3.4**
MULA				*i* AML	AML	20 08 47.0	
	comp=E,18nm,1.0s						
FETY	**Fethiye**	**3.33**	**62**	P	**Pb**	**20 07 59.8**	**-1.6**
SABU	**Mula-Dalaman**	**3.33**	**59**	P	**Pn**	**20 07 58.0**	**+3.5**
SABU				S	**Sn**	**20 08 38.3**	**+4.3**
SABU				*i* AML	AML	20 08 39.0	
	comp=E,23nm,1.2s						
IZZE	**Mula-Seydike**	**3.36**	**66**	P	**Pn**	**20 07 57.0**	**+2.3**
IZZE				S	**Sn**	**20 08 35.0**	**+0.4**
IZZE				*i* AML	AML	20 08 46.0	
	comp=E,21nm,0.3s						
ESEN	**Aydn-Nazilli**	**3.55**	**41**	P	**Pn**	**20 07 59.8**	**+2.4**
ESEN				*i* AML	AML	20 09 50.0	
	comp=E,11nm,2.2s						
AKAS	**Kas**	**3.58**	**71**	P	**Pn**	**20 07 59.3**	**+1.4**
AKAS				*i* AML	AML	20 09 22.0	
	comp=E,33nm,1.6s						
TAVA	**DENIZLI_Tavas**	**3.66**	**50**	P	**Pn**	**20 08 03.3**	**+4.4**
TAVA				S	**Sn**	**20 08 39.0**	**-3.1**
TAVA				*i* AML	AML	20 09 33.0	
	comp=E,8.7nm,1.7s						
CAEL	**Denizli, Camel**	**3.73**	**57**	P	**Pb**	**20 08 05.5**	**-2.7**
KNIK	**Mula-Seydike**	**3.78**	**62**	P	**Pn**	**20 08 03.3**	**+2.7**
KNIK				S	**Sn**	**20 08 47.3**	**+2.2**
KNIK				*i* AML	AML	20 09 26.0	
	comp=E,11nm,1.2s						
GOLH	**Golhisar**	**3.95**	**57**	P	**Pn**	**20 08 06.7**	**+3.7**
GOLH				S	**Sb**	**20 08 58.1**	**-1.9**
GOLH				*i* AML	AML	20 10 18.0	
	comp=E,20nm,2.3s						
BRTR	**Keskin Array B**	**7.98**	**53**	Pn	**Pn**	**20 08 55.9**	**-2.5**
	comp=E,0.1nm,0.3s,baz=269,slow=29,SNR=1.4						
MMAI	**Mount Meron Ar**	**8.55**	**102**	Pn	**Pn**	**20 09 03.6**	**-2.6**
	comp=E,1.4nm,0.3s,baz=266,slow=13,SNR=9.2						
	comp=E,0.8nm,0.3s						
VAE	**Valguarnera**	**9.18**	**288**	Pn	**Pn**	**20 09 17.1**	**+2.4**
	comp=E,0.6nm,0.3s,baz=345,slow=19,SNR=2.2						
	comp=E,11nm,0.9s						
EIL	**Elat**	**9.73**	**121**	Pn	**Pn**	**20 09 21.6**	**-0.7**
	comp=E,0.2nm,0.3s,baz=175,slow=9.9,SNR=1.6						
EIL				Sn	**Sn**	**20 11 04.8**	**-6.8**
	comp=E,0.5nm,0.3s,baz=109,slow=15,SNR=2.1						
	comp=E,1.7nm,0.4s						
AKASG	**Malin Array Be**	**15.79**	**9**	Pn	**Pn**	**20 10 44.3**	**-0.2**
	comp=E,1.1nm,0.3s,baz=202,slow=11,SNR=12						
	comp=E,0.6nm,0.5s						
KBZ	**Khabaz**	**15.98**	**52**	Pn	**P**	**20 10 52.3**	**+1.8**
	comp=E,0.1nm,0.3s,baz=232,slow=22,SNR=1.7						
GERES	**GERESS Array B**	**16.20**	**331**	Pn	**P**	**20 10 52.5**	**-0.5**
	comp=E,0.1nm,0.3s,baz=153,slow=8.8,SNR=2.4						
	comp=E,0.4nm,0.5s						
ESDC	**Sonseca Array**	**23.72**	**290**	P	**P**	**20 12 13.6**	**-0.8**
	comp=E,0.5nm,0.7s,baz=75,slow=8.5,SNR=5.3						
	comp=E,0.5nm,0.7s						
FINES	**FINESS Array B**	**26.32**	**1**	P	**P**	**20 12 36.5**	**-1.3**
	comp=E,2.4nm,1.0s,baz=166,slow=13,SNR=2.0						
	comp=E,2.4nm,1.0s						
EKA	**Eskdalemuir Ar**	**28.17**	**325**	P	**P**	**20 12 53.9**	**-0.7**
	comp=E,0.7nm,0.7s,baz=132,slow=9.0,SNR=1.8						
	comp=E,0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**30.64**	**230**	P	**P**	**20 13 16.5**	**-0.3**
	comp=E,1.5nm,0.5s,baz=36,slow=9.3,SNR=23						
	comp=E,1.5nm,0.5s						
KURBB	**Kurchatov Arra**	**40.97**	**51**	P	**P**	**20 14 45.4**	**+0.4**
	comp=E,0.7nm,0.7s,baz=276,slow=8.5,SNR=5.0						
	comp=E,0.7nm,0.7s						
MKAR	**Makanchi Array**	**43.61**	**57**	P	**P**	**20 15 06.9**	**+0.3**
	comp=E,0.6nm,0.5s,baz=268,slow=8.6,SNR=11						
	comp=E,0.6nm,0.5s						

*DRS **18** 20:10:53.2, 41°.85N×49°.36E, h22km*

MOS 18 20:10:52.1, 41°.88N×49°.08E, h20km, **MPVA3.6, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRN	**Derbent**	**0.58**	**285**	*e*Pg	Pn	20 11 05.8	+0.7
DRN				*e*Sg	Sn	20 11 14.8	+0.7
KSMR	**Kasumkent**	**0.77**	**249**	*e*Pg	Pn	20 11 07.6	-0.2
KSMR				*e*Sg	Sn	20 11 19.6	+0.8
URKR	**Urkarakh**	**1.11**	**285**	*e*Pg	Pg	20 11 13.4	-0.4
URKR				*e*Sg	Sn	20 11 28.0	+0.4
SGKR	**Sergokala**	**1.21**	**299**	*e*Pg	Pb	20 11 14.8	+0.5
	48nm,0.9s						
SGKR				*e*Sg	Sg	20 11 32.0	+0.7
	441nm,0.2s						
KMKR	**Kumukh**	**1.50**	**280**	*e*Pg	Pb	20 11 19.5	+0.2
	37nm,0.3s						
KMKR				*e*Sg	Sg	20 11 40.3	-0.3
	200nm,0.3s						
GNBR	**Gunib**	**1.65**	**289**	*e*Pg	Pb	20 11 21.9	0.0
	35nm,0.3s						
GNBR				*e*Sg	Sg	20 11 44.5	-1.1
	92nm,0.5s						
ARKR	**Arakani**	**1.71**	**296**	*e*Pg	Pb	20 11 22.4	-0.5
	16nm,0.4s						
ARKR				*e*Sg	Sg	20 11 45.8	-1.5
	172nm,0.4s						
BUJR	**Buynaksk**	**1.74**	**304**	*e*Pg	Pb	20 11 22.6	-0.7
	20nm,0.3s						
BUJR				*e*Sg	Sb	20 11 46.1	+1.3
	54nm,0.4s						
KRNR	**Karanay**	**1.87**	**301**	*e*Pg	Pb	20 11 25.6	0.0
	8.0nm,0.3s						
KRNR				*e*Sg	Sb	20 11 49.7	+1.1
	75nm,0.6s						
XNZR	**Khunzakh**	**1.88**	**291**	*e*Pg	Pb	20 11 25.5	-0.4
XNZR				*e*Sg	Sb	20 11 49.6	+0.5
UNCR	**Uncukul**	**1.89**	**297**	*e*Pg	Pb	20 11 25.7	-0.3
UNCR				*e*Sg	Sb	20 11 49.7	+0.6
DBC	**Dubki**	**2.02**	**305**	*e*Pg	Pb	20 11 27.2	-0.9
DBC				*e*Sg	Sb	20 11 53.3	+0.5
DLMR	**Dylym**	**2.17**	**304**	*e*Pg	Pb	20 11 29.5	-1.2
DLMR				*e*Sg	Sb	20 11 56.5	-0.6
BTLR	**Botlikh**	**2.26**	**291**	*e*Pn	Pb	20 11 31.7	-0.6
BTLR				*e*Sn	Sb	20 11 58.9	-1.0
DVE	**Vedeno**	**2.44**	**297**	*e*Pn	Pn	20 11 32.7	+1.8
DVE				*e*Sn	Sn	20 12 01.9	+1.8
GNI	**Garni**	**3.71**	**244**	*e*Pn	Pn	20 11 52.1	+3.6
GNI				*e*Sn	Sb	20 12 37.6	-4.1
KBZ	**Khabaz**	**4.91**	**294**	*e*Pn	Pn	20 12 08.4	+3.7
KBZ				*e*Sn	Sn	20 13 01.8	+0.9
SHA1	**Shidzhatmaz**	**5.08**	**294**	*e*Pn	Pn	20 12 09.2	+1.9
SHA1				*e*Sn	Sn	20 13 04.1	-1.3
KIV0	**Kislovodsk Arr**	**5.13**	**296**	*e*Pn	Pn	20 12 08.6	+0.8
KIV	**Kislovodsk**	**5.13**	**296**	*e*Pn	Pn	20 12 08.3	+0.4

*NEIC **18** 20:12:03.6±1.8, 19°.2S±0°.2×169°.6E±0°.1, h246km±13km, mb4.2/11, Error ellipse: s-maj=33.3km s-min=9.0km az=146.0*
*IDC **18** 20:12:04.2±2.5, 19°.49S×169°.70E, h259km±19km, mb3.5/7, mbtmp4.1/8, Error ellipse: s-maj=38.2km s-min=23.0km az=130.0*
*NOU **18** 20:12:08.6, 19°.48S×169°.54E, h204km, MLv4.1/12, Vanuatu Islands*

ISC 18 20:12:03.3±0.8, **19°.44S**±0°.08×**169°.7E**±0°.1, **h250**km, **n54,** σ1**s37**/57, **mb4.0**/13, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTV	**Rentapao**	**2.04**	**323**	P	**Pn**	**20 12 48.0**	**+1.9**
DVP	**Devils Point**	**2.23**	**320**	P	**Pn**	**20 12 49.4**	**+1.5**
MARNC	**Mare, Loyalty**	**2.56**	**217**		**Pn**	**20 12 52.1**	**+0.9**
MARNC				Sn	**S**	**20 13 29.1**	**+0.1**
MARNC	**Mare, Loyalty**	**2.56**	**217**	P	**Pn**	**20 12 52.4**	**+1.2**
LIFNC	**LIFOU**	**2.67**	**240**		**Pn**	**20 12 52.8**	**+0.6**
LIFNC				Sn	**S**	**20 13 25.6**	**-5.3**
LIFNC	**LIFOU**	**2.67**	**240**	P	**Pn**	**20 12 52.8**	**+0.6**
YATNC	**Mamie plateau,**	**3.70**	**225**	P	**Pn**	**20 13 04.1**	**+0.5**
PINNC	**Pines Island,**	**3.79**	**213**	Pn	**Pn**	**20 13 06.4**	**+1.7**
OUENC	**Ouen Island, N**	**3.99**	**222**		**Pn**	**20 13 08.7**	**+1.7**
OUENC	**Ouen Island, N**	**3.99**	**222**	P	**Pn**	**20 13 09.1**	**+2.1**
DZM	**Mont Dzumac**	**4.01**	**229**		**Pn**	**20 13 08.6**	**+1.2**
DZM	**Mont Dzumac**	**4.01**	**229**	P	**Pn**	**20 13 09.4**	**+2.0**
DZM	**Mont Dzumac**	**4.01**	**229**	P	**Pn**	**20 13 09.1**	**+1.7**
	64nm,0.7s,baz=63,slow=16,SNR=46						
DZM				S	**S**	**20 13 59.2**	**+0.9**
	18nm,0.5s,baz=318,slow=22,SNR=3.7						
NOUC	**Port Laguerre**	**4.13**	**230**	P	**Pn**	**20 13 10.7**	**+2.0**
ONTNC	**Ouen Toro**	**4.16**	**226**		**Pn**	**20 13 10.7**	**+1.6**
ONTNC	**Ouen Toro**	**4.16**	**226**	P	**Pn**	**20 13 11.1**	**+2.1**
KOUNC	**Koumac, New Ca**	**5.21**	**257**		**Pn**	**20 13 22.7**	**+1.1**
KOUNC	**Koumac, New Ca**	**5.21**	**257**	P	**Pn**	**20 13 23.9**	**+2.3**
HNR	**Honiara**	**13.71**	**315**	P	**P**	**20 15 10.2**	**+1.2**
	646nm,0.5s,baz=238,slow=3.1,SNR=4.3						
EIDS	**Eidsvold**	**18.19**	**248**	P	**P**	**20 15 58.3**	**+0.3**
EIDS				IAmb	IAmb	20 16 02.9	
	comp=E,5.7nm,1.0s						
PMG	**Port Moresby**	**23.97**	**291**	P	**P**	**20 16 54.5**	**-0.9**
STKA	**Stephens Creek**	**28.11**	**238**	P	**P**	**20 17 33.7**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=68,slow=7.5,SNR=3.5						
	comp=Z,1.4nm,0.7s						
BBOO	**Buckleboo**	**32.85**	**239**	P	**P**	**20 18 13.6**	**-0.3**
WB0	**Warramunga Arr**	**33.22**	**263**	P	**P**	**20 18 16.1**	**-1.2**
WB0				IAmb	IAmb	20 18 16.5	
	comp=Z,3.7nm,0.9s						
WB2	**Warramunga Arr**	**33.25**	**263**	P	**P**	**20 18 16.1**	**-1.4**
WB2				IAmb	IAmb	20 18 23.7	
	comp=Z,7.7nm,1.2s						
WRAB	**Tennant Creek**	**33.25**	**263**	P	**P**	**20 18 16.3**	**-1.2**
WRAB				IAmb	IAmb	20 18 48.7	
	comp=Z,5.6nm,1.2s						
WRA	**Warramunga Arr**	**33.26**	**263**	P	**P**	**20 18 16.2**	**-1.4**
WRA	**Warramunga Arr**	**33.26**	**263**	P	**P**	**20 18 16.6**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=82,slow=5.9,SNR=35						
WRA				PcP	**PcP**	**20 20 53.2**	**-0.6**
	comp=Z,0

PHC				Sn	Sn	20 45 00.6	-3.3
MAYB	**Maynard**	**1.82**	**90**	Pn	Pn	20 44 42.7	-2.1
EDB	**Eliza Dome**	**1.95**	**106**	Pn	Pn	20 44 43.6	-2.8
EDB				Sn	Sn	20 45 06.8	-4.2
HG4B	**Hotspring**	**1.99**	**339**	Pn	Pn	20 44 43.4	-3.5
BBB	**Bella Bella**	**2.11**	**34**	Pn	Pn	20 44 46.9	-1.6
BBB				Sn	Sn	20 45 10.4	-4.5
WOSB	**Woss**	**2.23**	**96**	Pn	Pn	20 44 48.8	-1.5
WOSB				Sn	Sn	20 45 15.2	-2.7
BAIB	**Barry Inlet**	**2.39**	**334**	Pn	Pn	20 44 50.5	-2.0
BNB	**Barry Inlet**	**2.39**	**334**	Pn	Pn	20 44 50.5	-2.0
ETB	**Estevan Point**	**2.49**	**114**	Pn	Pn	20 44 52.6	-1.2
NCRB	**Newcastle Ridg**	**2.54**	**89**	Pn	Pn	20 44 52.9	-1.6
NCSB	**Newcastle Ridg**	**2.54**	**89**	Pn	Pn	20 44 52.9	-1.6
NCSB				Sn	Sn	20 45 20.5	-5.0
NC89	**ODP889**	**2.73**	**130**	Sn	Sn	20 45 28.2	-1.5
BUTB	**Butedale**	**2.79**	**20**	Pn	Pn	20 44 57.0	-1.1
BUTB				Sn	Sn	20 45 28.4	-3.5
SPLB	**Strathcona Par**	**2.86**	**100**	Pn	Pn	20 44 57.1	-1.8
GRIB	**Gribbell Islan**	**2.95**	**10**	Pn	Pn	20 44 57.9	-2.2
GRIB				Sn	Sn	20 45 32.5	-3.0
CBB	**Campbell River**	**3.02**	**96**	Pn	Pn	20 44 59.9	-1.2
CBB				Sn	Sn	20 45 32.7	-4.5
OZB	**Mount Ozzard**	**3.29**	**115**	Sn	Sn	20 45 38.5	-5.6
GRNB	**Grenville Isla**	**3.41**	**1**	Pn	Pn	20 45 04.1	-2.3
B928	**Bamfield**	**3.56**	**115**	Sn	Sn	20 45 47.4	-3.2
TXB	**Texada**	**3.67**	**100**	Pn	Pn	20 45 08.8	-1.3
KITB	**Kitimat**	**3.73**	**13**	Pn	Pn	20 45 09.4	-1.4
KITB				Sn	Sn	20 45 51.3	-3.5
RUBB	**Prince Rupert**	**3.89**	**358**	Pn	Pn	20 45 11.1	-1.8
SHB	**Sechelt**	**4.05**	**100**	Pn	Pn	20 45 14.3	-1.1
SHB				Sn	Sn	20 45 59.5	-3.4
PFB	**Port Renfrew**	**4.09**	**115**	Pn	Pn	20 45 15.0	-0.9
PFB				Sn	Sn	20 45 58.7	-5.1
PTRF	**Port Renfrew**	**4.12**	**115**	Pn	Pn	20 45 15.4	-0.7
PTRF				Sn	Sn	20 45 60.0	-4.4
OCP	**Olym-Cheeka Pk**	**4.13**	**119**	Pn	Pn	20 45 16.3	0.0
CLRS	**Cowichan Lake**	**4.16**	**111**	Pn	Pn	20 45 16.8	0.0
UBRB	**Upper Baezaeko**	**4.43**	**54**	Pn	Pn	20 45 21.1	+0.5
UBRB				Sn	Sn	20 46 10.3	-2.0
SYMB	**Survey Mountai**	**4.47**	**113**	Pn	Pn	20 45 21.0	-0.1
SYMB				Sn	Sn	20 46 09.7	-3.6
GOBB	**Galiano Island**	**4.48**	**107**	Pn	Pn	20 45 21.1	0.0
OBC	**Olympics--Boni**	**4.58**	**120**	Pn	Pn	20 45 23.2	+0.7
B010	**North Saanich**	**4.64**	**110**	Pn	Pn	20 45 23.9	+0.6
B009	**North Saanich**	**4.64**	**110**	Pn	Pn	20 45 23.9	+0.6
PGC	**Sidney**	**4.64**	**110**	Pn	Pn	20 45 23.8	+0.6
SNB	**Saturna Island**	**4.76**	**108**	Pn	Pn	20 45 25.8	+0.8
OSD	**Olympics--Snow**	**4.91**	**120**	Pn	Pn	20 45 28.2	+1.0
HNBB	**Haney**	**4.96**	**101**	Pn	Pn	20 45 28.4	+0.7
MCW	**Mount Constitu**	**5.00**	**108**	Pn	Pn	20 45 29.2	+0.9
FSJB	**Fort St James**	**5.33**	**39**	Pn	Pn	20 45 33.3	+0.5
FSJB				Sn	Sn	20 46 31.2	-3.0
MBW	**Mount Baker**	**5.54**	**104**	Pn	Pn	20 45 36.8	+1.0
CMW	**Cultus Mountai**	**5.54**	**108**	Pn	Pn	20 45 36.8	+1.1
JCW	**Jim Creek**	**5.75**	**110**	Pn	Pn	20 45 39.6	+0.9
B06A	**Marblemount**	**5.89**	**106**	Pn	Pn	20 45 41.0	+0.5
RPW	**Rockport**	**5.90**	**107**	Pn	Pn	20 45 40.8	+0.1

IDC 18 20:46:53.7±3.5, 11°54S×163°95E, h0km, mb3.6/3, mbtmp3.6/3, MS3.5/1, Error ellipse: s-maj=164.9km s-min=33.9km az=139.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.46**	**298**	LR	LR	20 50 09.4	
	comp=Z,586nm,19.2s,baz=173,slow=44						
WRA	**Warramunga Arr**	**29.66**	**250**	P	P	20 53 02.0	+0.6
	0.7nm,0.5s,baz=80,slow=8.8,SNR=12						
	0.7nm,0.5s						
H11S2	**WAKE ISLAND Hy**	**29.96**	**5**	T	T	21 24 36.0	
	baz=184						
H11S3	**WAKE ISLAND Hy**	**29.96**	**5**	T	T	21 24 35.5	
	baz=184						
H11S1	**WAKE ISLAND Hy**	**29.98**	**5**	T	T	21 24 36.7	
	baz=184						
ASAR	**Alice Springs**	**31.00**	**243**	P	P	20 53 12.4	-0.9
	0.2nm,0.6s,baz=63,slow=11,SNR=2.5						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**84.54**	**19**	P	P	20 59 28.4	0.0
	0.4nm,0.7s,baz=241,slow=4.7,SNR=5.4						
	0.4nm,0.7s						

*NEIC **18** 21:08:42.0±2.2, 6°07S±0°09×128°75E±0°08, h283km±8km, mb4.8/16, Error ellipse: s-maj=12.7km s-min=11.0km az=203.0*
*DJA **18** 21:08:41.2±0.2, 6°S±3°×127°9E±°, h265km±3km, M4.5/18, mB4.9/5, mb4.4/18, MLv4.8/11, Mw(mB)4.1/5*
*IDC **18** 21:08:43.0±2.6, 6°14S×128°70E, h294km±26km, mb3.4/12, mbtmp4.2/14, Error ellipse: s-maj=27.1km s-min=8.4km az=72.0*

ISC 18 21:08:39.6±0.4, 6°12S±0°04×128°79E±0°07, h250km, n100, σ1s99/114, mb4.2/25, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.93**	**35**	P	**Pn**	**21 09 25.7**	**+4.2**
BNDI	**Bandanaira**	**1.93**	**35**	P	**Pn**	**21 09 25.3**	**+3.8**
BNDI				S	**S**	**21 09 57.8**	**+3.2**
SAUI	**Saumlaki**	**3.10**	**127**	Pn	**Pn**	**21 09 37.2**	**+4.0**
SAUI	**Saumlaki**	**3.10**	**127**	P	**Pn**	**21 09 35.2**	**+2.0**
SAUI				S	**S**	**21 10 18.6**	**+2.9**
SANI	**Sanana**	**4.91**	**325**	P	**Pn**	**21 09 56.9**	**+2.5**
SANI	**Sanana**	**4.91**	**325**	P	**Pn**	**21 09 56.5**	**+2.1**
SOEI	**Soe**	**5.76**	**231**	Pn	**Pn**	**21 10 07.7**	**+2.8**
SOEI	**Soe**	**5.76**	**231**	P	**Pn**	**21 10 07.5**	**+2.6**
SOEI	**Soe**	**5.76**	**231**	P	**Pn**	**21 10 07.5**	**+2.6**
	124nm,0.5s,4µm0.7nm						
MMRI	**Maumere**	**6.96**	**249**	Pn	**Pn**	**21 10 23.4**	**+3.6**
MMRI	**Maumere**	**6.96**	**249**	P	**Pn**	**21 10 23.6**	**+3.7**
	45nm,0.9s,0.2nm						
MTN	**Manton Dam**	**7.07**	**161**	Pn	**Pn**	**21 10 22.7**	**+1.6**
MTN	**Manton Dam**	**7.07**	**161**	P	**Pn**	**21 10 22.8**	**+1.6**
KDU	**Kakadu**	**7.47**	**151**	P	**Pn**	**21 10 27.6**	**+1.4**
EDFI	**Ende, Flores**	**7.51**	**249**	P	**Pn**	**21 10 30.4**	**+3.5**
	39nm,1.0s,503nm0.1nm						
LUWI	**Luwuk**	**7.84**	**310**	Pn	**Pn**	**21 10 34.2**	**+3.2**
LUWI	**Luwuk**	**7.84**	**310**	P	**Pn**	**21 10 33.6**	**+2.6**
	50nm,1.0s,0.2nm						
BASI	**Baing, Sumba**	**9.09**	**243**	P	**Pn**	**21 10 49.1**	**+2.3**
	108nm,1.0s						
KNRA	**Kununurra**	**9.50**	**180**	Pn	**Pn**	**21 10 52.9**	**+1.0**
KNRA	**Kununurra**	**9.50**	**180**	P	**Pn**	**21 10 53.1**	**+1.2**
PLAI	**Plampang**	**11.25**	**255**	P	**Pn**	**21 11 16.2**	**+2.1**
PLAI	**Plampang**	**11.25**	**255**	P	**Pn**	**21 11 14.2**	**+0.3**
	21nm,1.8s						
FITZ	**Fitzroy Crossi**	**12.30**	**194**	Pn	**Pn**	**21 11 27.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**12.30**	**194**	P	**Pn**	**21 11 27.4**	**+0.5**
WB0	**Warramunga Arr**	**14.62**	**159**	P	**P**	**21 11 55.1**	**-0.2**
WRAB	**Tennant Creek**	**14.76**	**159**	P	**P**	**21 11 56.9**	**+0.1**
WRA	**Warramunga Arr**	**14.76**	**159**	P	**P**	**21 11 55.8**	**-1.1**
WRA	**Warramunga Arr**	**14.76**	**159**	P	**P**	**21 11 56.8**	**-0.1**
	25nm,0.5s,baz=340,slow=12,SNR=392						
WRA				S	**S**	**21 14 37.1**	**-3.2**
	7.0nm,0.7s,baz=340,slow=19,SNR=8.8						
WB2	**Warramunga Arr**	**14.77**	**159**	P	**P**	**21 11 56.8**	**-0.1**
WR0	**Warramunga Arr**	**14.85**	**158**	P	**P**	**21 11 57.9**	**+0.1**
MBWA	**Marble Bar**	**17.34**	**210**	P	**P**	**21 12 26.1**	**+1.1**
MBWA	**Marble Bar**	**17.34**	**210**	P	**P**	**21 12 26.2**	**+1.1**
KKM	**Kota Kinabalu**	**17.42**	**314**	P	**P**	**21 12 25.9**	**-0.3**
PSA00	**Pilbara Seismi**	**17.64**	**209**	P	**P**	**21 12 29.1**	**+0.7**
PSA00	**Pilbara Seismi**	**17.64**	**209**	P	**P**	**21 12 29.6**	**+1.3**
QIS	**Mount Isa**	**17.78**	**145**	P	**P**	**21 12 30.8**	**+0.8**
AS31	**Alice Springs**	**18.13**	**165**	P	**P**	**21 12 35.2**	**+1.5**
ASAR	**Alice Springs**	**18.13**	**165**	P	**P**	**21 12 35.3**	**+1.6**
ASAR	**Alice Springs**	**18.13**	**165**	P	**P**	**21 12 35.0**	**+1.3**
	204nm,0.5s,baz=347,slow=11,SNR=3039						
ASAR				S	**S**	**21 15 45.4**	**-2.8**
	13nm,0.8s,baz=346,slow=20,SNR=27						
ASAR				ScP	**ScP**	**21 20 02.0**	**-4.9**
	2.0nm,0.6s,baz=355,slow=2.3,SNR=6.9						
PMG	**Port Moresby**	**18.49**	**101**	P	**P**	**21 12 39.7**	**+2.0**
PMG	**Port Moresby**	**18.49**	**101**	P	**P**	**21 12 40.7**	**+3.1**
	12nm,0.5s,baz=265,slow=3.2,SNR=9.7						
WRKA	**Warakurna**	**18.82**	**181**	P	**P**	**21 12 42.4**	**+1.3**
CTA	**Charters Tower**	**21.92**	**131**	P	**P**	**21 13 14.0**	**+1.0**
	14nm,0.8s,baz=303,slow=11,SNR=13						
	14nm,0.8s						
CTAO	**Charters Tower**	**21.92**	**131**	P	**P**	**21 13 13.1**	**+0.1**
CTAO	**Charters Tower**	**21.92**	**131**	P	**P**	**21 13 14.5**	**+1.5**
OOD	**Oodnadatta**	**22.53**	**164**	P	**P**	**21 13 18.5**	**0.0**
MEEK	**Meekatharra**	**22.60**	**204**	P	**P**	**21 13 18.7**	**-0.4**
FORT	**Forrest**	**24.54**	**182**	P	**P**	**21 13 35.7**	**-1.0**
FORT				IAmb	IAmb	21 13 37.9	
	comp=Z,36nm,0.8s						
FORT	**Forrest**	**24.54**	**182**	P	**P**	**21 13 36.9**	**+0.2**
MULG	**Mulgathing**	**24.54**	**169**	P	**P**	**21 13 37.0**	**+0.3**
MORW	**Morawa**	**25.81**	**206**	P	**P**	**21 13 46.3**	**-1.9**
MORW				IAmb	IAmb	21 14 35.4	
	comp=Z,76nm,1.7s						
KMBL	**Kambalda**	**25.94**	**194**	P	**P**	**21 13 49.5**	**+0.2**
BBOO	**Buckleboo**	**27.41**	**167**	P	**P**	**21 14 01.9**	**-0.4**
BBOO	**Buckleboo**	**27.41**	**167**	P	**P**	**21 14 02.2**	**-0.1**
STKA	**Stephens Creek**	**28.29**	**157**	P	**P**	**21 14 10.4**	**+0.2**
STKA	**Stephens Creek**	**28.29**	**157**	P	**P**	**21 14 10.5**	**+0.3**
STKA	**Stephens Creek**	**28.29**	**157**	P	**P**	**21 14 10.5**	**+0.3**
	comp=Z,11nm,0.6s,baz=330,slow=9.4,SNR=28						
	comp=Z,11nm,0.6s						
HTT	**Hallett**	**28.76**	**162**	P	**P**	**21 14 14.7**	**+0.3**
NWAO	**Narrogin (SRO)**	**28.76**	**200**	P	**P**	**21 14 14.2**	**-0.1**
NWAO	**Narrogin (SRO)**	**28.76**	**200**	P	**P**	**21 14 14.6**	**+0.3**
CMSA	**Cobar Meteorol**	**29.83**	**150**	P	**P**	**21 14 24.3**	**+0.5**
YHNB	**Yeheng**	**31.44**	**347**	P	**P**	**21 14 35.9**	**-2.2**
ARMA	**Armidale**	**32.33**	**141**	P	**P**	**21 14 46.8**	**+1.0**
CAN	**Canberra**	**34.51**	**150**	P	**P**	**21 15 05.5**	**+1.1**
CAN				IAmb	IAmb	21 15 06.5	
	comp=Z,12nm,0.7s						
CAN	**Canberra**	**34.51**	**150**	P	**P**	**21 15 05.7**	**+1.3**
TOO	**Toolangi**	**34.81**	**156**	P	**P**	**21 15 07.9**	**+0.9**
NJ2	**Nanjing**	**39.12**	**347**	*e*P	**P**	**21 15 43.9**	**+0.8**
NJ2				pP	**pwP**	**21 16 41.3**	**+3.8**
NJ2				sP	**PP**	**21 17 12.8**	**-5.9**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,290nm,5.5s						
PZH	**PanZhiHua**	**41.70**	**322**	P	**P**	**21 16 06.3**	**+1.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,260nm,7.3s						
TNCH	**TengChong**	**42.73**	**318**	*e*P	**P**	**21 16 14.5**	**+1.6**
TNCH				pmax	pmax		
	comp=Z,7.0nm,3.5s						
TNCH				pmax	pmax		
	comp=Z,140nm,4.9s						
MJAR	**Matsushiro Arr**	**43.34**	**11**	P	**P**	**21 16 15.1**	**-2.2**
	comp=Z,2.2nm,0.8s,baz=193,slow=9.4,SNR=2.0						
	comp=Z,2.2nm,0.8s						
KSRS	**Korea Array**	**43.35**	**359**	P	**P**	**21 16 16.3**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=174,slow=8.9,SNR=4.6						
	comp=Z,1.2nm,0.5s						
HHC	**Hu-ho-hao-te**	**49.34**	**343**	*e*P	**P**	**21 17 04.9**	**+1.0**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,6.1s						
BTO	**Baotou**	**49.59**	**341**	*e*P	**P**	**21 17 06.9**	**+1.1**
BTO				S	**S**	**21 23 54.3**	**-0.2**
BTO	**Baotou**	**49.59**	**341**	SS	**SS**	**21 27 29.3**	**-1.1**
BTO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BTO				pmax	pmax		
	comp=Z,440nm,6.0s						
BTO				LR	LR		
	comp=N,440nm,11.0s						
BTO				LR	LR		
	comp=E,480nm,6.9s						
BTO				LR	LR		
	comp=Z,300nm,5.5s						
USRK	**Ussuriysk Ar.**	**50.17**	**3**	P	**P**	**21 17 08.1**	**-1.8**
	comp=Z,3.1nm,0.7s,baz=163,slow=5.5,SNR=3.0						
	comp=Z,3.1nm,0.7s						
MDJ	**Mudanjiang**	**50.51**	**1**	P	**P**	**21 17 13.3**	**+0.9**
MDJ				pP	pwP	21 18 13.5	+3.6
MDJ				sP	sP	21 18 45.8	+13
MDJ				PP	**PP**	**21 19 12.8**	**+1.8**
MDJ				PcS	**PcS**	**21 22 24.4**	**+0.3**
MDJ				S	**S**	**21 24 07.1**	**+0.4**
MDJ				ScS	**ScS**	**21 26 29.9**	**-6.8**
MDJ				pmax	pmax		
	comp=Z,10.0nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,250nm,4.3s						
QRZ	**Quartz Range**	**52.11**	**138**	P	**P**	**21 17 24.7**	**+0.3**
QRZ				IAmb	IAmb	21 17 43.8	
	comp=Z,103nm,1.5s						
LBZ	**Lake Benmore**	**52.51**	**143**	P	**P**	**21 17 26.6**	**-0.7**
LBZ				IAmb	IAmb	21 19 07.8	
	comp=Z,81nm,1.5s						
TUWZ	**Tuamarina**	**53.34**	**138**	P	**P**	**21 17 32.4**	**-1.0**
KHZ	**Kahutara**	**53.55**	**140**	P	**P**	**21 17 34.5**	**-0.4**
KHZ				IAmb	IAmb	21 17 49.4	
	comp=Z,118nm,1.6s						
BHW	**Baring Head**	**53.94**	**138**	P	**P**	**21 17 36.1**	**-1.6**
RTZ	**Ruatahuna**	**54.19**	**134**	P	**P**	**21 17 38.7**	**-1.0**
RTZ				IAmb	IAmb	21 17 42.3	
	comp=Z,40nm,1.7s						
SONM	**Songino Array**	**57.23**	**342**	P	**P**	**21 18 00.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=166,slow=7.4,SNR=2.4						
	comp=Z,0.2nm,0.3s						
DRV	**Dumont d'Urvil**	**60.95**	**175**	P	**P**	**21 18 25.4**	**-0.6**
WMQ	**Urumqi**	**62.01**	**327**	*e*P	**P**	**21 18 34.4**	**+0.8**
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PETK	**Petropavlovsk-**	**63.88**	**19**	P	**P**	**21 18 44.1**	**-1.5**
PETK	**Petropavlovsk-**	**63.88**	**19**	P	**P**	**21 18 43.9**	**-1.7**
	comp=Z,1.3nm,0.6s,baz=208,slow=4.2,SNR=1.4						
	comp=Z,1.3nm,0.6s						
MK31	**Makanchi Array**	**66.84**	**327**	P	**P**	**21 19 03.0**	**-1.7**
MKAR	**Makanchi Array**	**66.84**	**327**	P	**P**	**21 19 02.8**	**-1.9**
MKAR	**Makanchi Array**	**66.84**	**327**	P	**P**	**21 19 03.7**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=115,slow=8.2,SNR=18						
	comp=Z,0.9nm,0.5s						
CCD	**Concordia, Ant**	**69.01**	**182**	P	**P**	**21 19 18.0**	**-0.2**
CCD				PcP	**PcP**	**21 19 39.7**	**-0.8**
ZALV	**Zalesovo Beam**	**70.27**	**334**	P	**P**	**21 19 23.9**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=128,slow=9.6,SNR=3.0						
	comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**71.14**	**329**	P	**P**	**21 19 29.9**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=133,slow=4.9,SNR=13						
	comp=Z,1.1nm,0.7s						
KURK	**Kurchatov**	**71.14**	**329**	P	**P**	**21 19 29.7**	**-1.3**
KURK				pP	**pP**	**21 20 31.6**	**+3.8**
VNDA	**Vanda**	**73.46**	**173**	P	**P**	**21 19 42.7**	**-1.6**
VNDA				IAmb	IAmb	21 19 43.5	
	comp=Z,13nm,1.6s						
VNDA	**Vanda**	**73.46**	**173**	P	**P**	**21 19 43.9**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=315,slow=6.6,SNR=12						
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**76.68**	**328**	P	**P**	**21 20 01.9**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=90,slow=1.7,SNR=2.5						
	comp=Z,0.3nm,0.5s						
ABKAR	**Akbulak array**	**81.08**	**322**	P	**P**	**21 20 24.9**	**-2.0**
ELIB	**Princess Elisa**	**88.97**	**197**	*d*P	**P**	**21 21 05.3**	**-0.4**
KOLS	**Kolonicke sedl**	**105.43**	**319**	*e*PDIFF	**Pdif**	**21 22 18.7**	**-1.8**

IDC 18 21:50:56.4±2.0, 1°01N×124°70E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=193.4km s-min=27.2km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.87**	**156**	P	P	21 56 00.1	-1.6
	0.6nm,0.4s,baz=334,slow=11,SNR=11						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**26.11**	**161**	P	P	21 56 34.1	+1.8
	0.3nm,0.7s,baz=343,slow=8.7,SNR=1.5						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**58.67**	**327**	P	P	22 00 55.7	-0.1
	0.1nm,0.4s,baz=120,slow=7.6,SNR=4.0						
	0.1nm,0.4s						

*BJI **18** 21:54:31.3, 38°12N×141°86E, h60km, mb4.7/60, mB5.1/33, Ms4.3/37, MS7 4.1/37*
*MOS **18** 21:54:32.7±1.0, 38°20N×141°73E, h55km, mb5.0/28, Error ellipse: s-maj=6.8km s-min=4.5km az=114.2*
*NEIC **18** 21:54:33.5, 38°13N×141°77E, h52km*
*NEIC **18** 21:54:33.5±1.6, 38°17N±0°06×141°74E±0°10, h50km±1km, mb4.9/71, Mwr4.8/16, Error ellipse: s-maj=12.5km s-min=7.5km az=124.0, Moment Tensor Solution.*
Moment tensor: Scale 10¹⁶Nm; Mrr1.16; Mθθ0.05; Mθθ-1.20; Mrθ0.42; Mθθ-0.32; Mθr1.08; Fault plane solution: M0 1.69000×10¹⁶ NP1:φs187.20000°, δ23.54000°, λ79.16000°. NP2:φs19.00000°, δ66.90000°, λ94.68000°. Principal axes: T 1.6266, Plg68.0000°, Azm298.0000°; N 0.1124, Plg4.0000°, Azm197.0000°; P -1.7390, Plg22.0000°, Azm105.0000°;
*JMA **18** 21:54:34.2±0.1, 38°.2N±0°.3×141°.7E±0°.5, h51km, MD4.6/40, MW4.8/40, E OFF MIYAGI PREF*
JMA Felt III J1 at E OFF MIYAGI PREF .
*NIED **18** 21:54:34.2, 38°.18N×141°.69E, h51km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr1.48; Mθθ-0.26; Mφφ-1.22; Mrθ0.37; Mθφ-0.51; Mφr1.04; Fault plane solution: M0 1.82000×10¹⁶ NP1:φs21.00000°, δ64.00000°, λ88.00000°. NP2:φs205.00000°, δ27.00000°, λ94.00000°.*
*IDC **18** 21:54:35.7±0.5, 38°.14N×141°.73E, h66km±3km, mb4.0/25, mbtmp4.3/32, MS3.9/52 Error ellipse: s-maj=11.4km s-min=7.6km az=115.0*
*GCMT **18** 21:54:36.5±0.4, 38°.28N±0°.02×141°.71E±0°.03, h45km±1km, MW5.0/91, Moment Tensor Solution. s40, c50; s91, c127; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.06±.18; Mθθ-0.81±.12; Mφφ-2.25±.11; Mrθ0.70±.07; Mθφ-0.79±.08; Mφr1.69±.08; Best double couple: M0 3.37100×10¹⁶ NP1:φs23.00000°, δ61.00000°, λ89.00000°. NP2: φs204.00000°, δ29.00000°, λ91.00000°. Principal axes: T 3.6000, Plg74.0000°, Azm292.0000°; N -0.4560, Plg0.0000°, Azm23.0000°; P -3.1410, Plg16.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 21:54:33.0±0.4, 38°.15N±0°.04×141°.82E±0°.04, h50km±2km, h50km:pP-P, n420, σ1s59/401, mb4.7/118, MS4.0/58, 9C-41D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**0.32**	**299**	⇓*i*P	**Pn**	**21 54 42.8**	**+0.4**
JIKH				⇓S	**Sn**	**21 54 48.7**	**-0.4**
JIKH	**Ishinomakibobu**	**0.32**	**299**	A	A	21 54 42.8	
	comp=E,225nm,1.7s,comp=N,96nm,2.4s						
JIO	**Ouri**	**0.48**	**309**	⇓*i*P	**Pn**	**21 54 44.2**	**+0.2**
JIO				⇓S	**Sn**	**21 54 51.0**	**-0.9**
JIO	**Ouri**	**0.48**	**309**	A	A	21 54 44.2	
	comp=E,97nm,3.2s,comp=N,42nm,0.9s						
JKMT	**Kesennumamotoy**	**0.71**	**338**	⇓*i*P	**Pn**	**21 54 47.2**	**+0.3**
JKMT				⇓S	**Sn**	**21 54 56.4**	**-0.6**
JKMT	**Kesennumamotoy**	**0.71**	**338**	A	A	21 54 47.2	
	comp=E,55nm,2.2s,comp=N,33nm,2.4s						
JOFO	**Osakifurukawao**	**0.84**	**302**	A	A	21 54 48.6	
	comp=E,121nm,4.8s,comp=N,143nm,3.4s						
JMST	**Minamisoumatoc**	**0.85**	**240**	A	A	21 54 49.1	
	comp=E,69nm,2.1s,comp=N,54nm,0.2s						
JMM	**Marumori**	**0.86**	**251**	Pn	**Pn**	**21 54 48.3**	**-0.6**
JMM	**Marumori**	**0.86**	**251**	⇓*i*P	**Pn**	**21 54 48.5**	**-0.4**
JMM				⇓S	**Sn**	**21 54 59.0**	**-1.5**
JMM	**Marumori**	**0.86**	**251**	A	A	21 54 48.5	
	comp=E,44nm,2.9s,comp=N,36nm,1.8s						
JMK	**Ichinoseki**	**0.93**	**330**	⇓*i*P	**Pn**	**21 54 50.1**	**+0.4**
JMK				⇓S	**Sn**	**21 55 01.5**	**-0.6**
JMK	**Ichinoseki**	**0.93**	**330**	A	A	21 54 50.1	
	comp=E,32nm,2.8s,comp=N,38nm,3.4s						
OFUJ	**Ofunato**	**0.93**	**353**	⇓*i*P	**Pn**	**21 54 50.3**	**+0.5**
OFUJ				⇓S	**Sn**	**21 55 01.8**	**-0.4**
OFUJ	**Ofunato**	**0.93**	**353**	A	A	21 54 50.3	
	comp=E,28nm,3.0s,comp=N,26nm,2.1s						
JOU	**Okura**	**0.94**	**283**	⇓*i*P	**Pn**	**21 54 49.8**	**-0.1**
JOU				⇓S	**Sn**	**21 55 01.4**	**-1.0**
JOU	**Okura**	**0.94**	**283**	A	A	21 54 49.8	
	comp=E,38nm,2.0s,comp=N,34nm,2.2s						
JFK	**Kawauchi**	**1.09**	**224**	⇓*i*P	**Pn**	**21 54 52.2**	**+0.2**
JFK				⇓S	**Sn**	**21 55 05.2**	**-0.7**
JFK	**Kawauchi**	**1.09**	**224**	A	A	21 54 52.2	
	comp=E,28nm,0.8s,comp=N,17nm,0.8s						
JOTO	**OTAMA OYAMA**	**1.32**	**244**	*i* P	**Pn**	**21 54 55.4**	**+0.3**
JOTO				*e*S	**Sn**	**21 55 11.2**	**-0.4**
JOTO	**OTAMA OYAMA**	**1.32**	**244**	A	A	21 54 55.4	
	comp=E,25nm,3.3s,comp=N,29nm,2.6s						
ONAJ	**Iwakimizuishiy**	**1.33**	**218**	A	A	21 54 56.2	
	comp=E,30nm,0.3s,comp=N,21nm,1.6s						
JYAR	**Yonezawaarcadi**	**1.35**	**260**	A	A	21 54 55.7	
	comp=E,27n

MAJO	Matsushiro	3.30	242	Pn	Pn	21 55 23.4	+1.2	BJI	LR	LR
MAJO	Matsushiro	3.30	242	*d iP*	Pn	21 55 23.8	+1.6	comp=Z,140nm,14.7s		
MJB9	Matsu-Tunnel	3.30	242	Pn	Pn	21 55 24.0	+1.8	**BJT**	**Baijiatuao**	**19.98 283**	P	**P**	**21 59 01.2 +0.1**
JNG	Nsakai	3.44	241	A	A	21 55 25.7		**BJT**	**Baijiatuao**	**19.98 283**	P	**P**	**21 59 01.3 +0.1**
comp=E,2.0nm,2.4s,comp=N,3.0nm,3.3s								BJT			pmax	pmax	
TATJ	Tateyama 2	3.48	207	A	A	21 55 27.0		comp=Z,11nm,0.8s					
comp=E,28nm,2.7s,comp=N,25nm,2.2s								**XLT**	**XiLinHaoTe**	**20.21 295**	*eP*	**P**	**21 59 03.0 -0.7**
JSR	Shiriuchi	3.54	343	A	A	21 55 27.4		XLT			pP	pP	21 59 15.9 +0.7
comp=E,5.0nm,4.3s,comp=N,3.0nm,3.8s								XLT			PP	**sP**	**21 59 25.3 +3.7**
JOD2	Odawara 2	3.62	218	A	A	21 55 28.8		XLT			pmax	pmax	
comp=E,7.0nm,1.8s,comp=N,5.0nm,4.2s								comp=Z,17nm,0.9s					
JHTM	Izuhatsuma	3.91	216	A	A	21 55 32.9		XLT			pmax	pmax	
comp=E,8.0nm,1.2s,comp=N,9.0nm,1.7s								comp=Z,170nm,4.4s					
ERM	Erimo	3.99	14	Pn	Pn	21 55 32.2	+0.6	**HNS**	**HongShan**	**21.42 276**	⇑P	**P**	**21 59 14.8 -1.9**
ERM	Erimo	3.99	14	⇓*eP*	Pn	21 55 33.0	+1.4	HNS			S	**S**	**22 03 04.3 -7.3**
JNBK	Urakawa-nobuka	4.18	10	A	A	21 55 37.1		HNS			pmax	pmax	
comp=E,4.0nm,4.1s,comp=N,6.0nm,4.1s								comp=Z,14nm,0.8s					
JNY	Yasuok	4.23	230	A	A	21 55 37.0		HNS			LR	LR	
comp=E,4.0nm,3.4s,comp=N,12nm,2.0s								comp=Z,490nm,12.2s					
JHJ2	Mitsune	5.29	199	Pn	Pn	21 55 49.7	+0.2	HNS			LR	LR	
JHJ	Hachijo jima 2	5.29	199	P	Pn	21 55 52.2	+2.7	comp=Z,450nm,17.1s					
comp=N,91nm,0.3s,baz=338,slow=23,SNR=13								**YHNB**	**Yeheng**	**21.96 238**	P	**P**	**21 59 21.8 -0.8**
JHJ				S	Sn	21 56 47.7	-1.4	YHNB			lAmb	lAmb	21 59 36.6
comp=N,260nm,0.3s,baz=321,slow=22,SNR=7.3								comp=Z,101nm,1.5s					
JHJ				LR	LR	21 57 32.3		**MA2**	**Magadan**	**22.19 12**	⇓*eP*	**P**	**21 59 27.5 +2.8**
comp=N,307nm,18.4s,baz=323,slow=34								MA2			pmax	pmax	
ASAJ	Asahikawa	5.99	5	P	Pn	21 56 00.2	+1.2	comp=Z,45nm,2.0s					
comp=N,13nm,0.3s,baz=221,slow=9.3,SNR=13								**MA2**	**Magadan**	**22.19 12**	P	**P**	**21 59 26.8 +2.1**
ASAJ				S	Sn	21 57 06.5	+0.4	comp=Z,7.1nm,0.6s,baz=195,slow=10,SNR=5.8					
comp=N,14nm,0.4s,baz=206,slow=32,SNR=1.5								MA2			LR	LR	22 07 51.2
JKA	Kamikawa-asahi	5.99	5	Pn	Pn	21 55 59.8	+0.9	comp=Z,160nm,18.6s,baz=198,slow=36					
NMR	Nemuro--Hokkai	6.00	28	*eP*	Pn	21 55 58.6	-0.5	comp=Z,7.1nm,0.6s					
NMR				*eS*	Sn	21 57 02.1	-4.2	**SSLB**	**Suanglung**	**22.85 237**	P	**P**	**21 59 31.0 -1.0**
RUSJ	Misakicho	6.48	22	*eP*	Pn	21 56 08.2	+2.4	SSLB			lAmb	lAmb	21 59 34.1
YUK	Yuzh-Kuril'sk	6.62	26	*eP*	Pn	21 56 09.0	+1.4	comp=Z,61nm,1.3s					
YUK				*eS*	Sn	21 57 19.1	-2.6	**YULB**	**Yu-li**	**22.89 236**	P	**P**	**21 59 30.6 -1.8**
YUK				pmax	pmax			YULB			lAmb	lAmb	21 59 54.8
comp=Z,96nm,0.2s								comp=Z,78nm,1.4s					
SHO	Shikotan	6.85	32	*eP*	Pn	21 56 11.7	+0.9	**TPUB**	**Ta-pu**	**23.40 237**	P	**P**	**21 59 35.5 -1.9**
SHO				*eS*	Sn	21 57 22.9	-4.5	**HHC**	**Hu-ho-hao-te**	**23.45 286**	*eP*	**P**	**21 59 36.8 -1.1**
SHO				pmax	pmax			HHC			sP	sP	21 59 56.0 -0.4
comp=N,11nm,0.3s								HHC			S	**S**	**22 03 44.9 -2.8**
SHO				pmax	pmax			HHC			pmax	pmax	
comp=Z,20nm,0.3s								comp=Z,25nm,0.9s					
SHO				pmax	pmax			HHC			pmax	pmax	
comp=E,23nm,0.2s								comp=Z,120nm,3.9s					
JMN	Monobe	7.81	238	Pn	Pn	21 56 24.3	+0.3	HHC			LR	LR	
TEY	Ternei	7.91	332	⇑*eP*	Pn	21 56 30.0	+4.7	comp=Z,270nm,11.2s					
TEY				*e*		21 57 55.9		HHC			LR	LR	
TEY				pmax	pmax			comp=Z,640nm,11.2s					
comp=Z,30nm,0.7s								HHC			LR	LR	
TEY				pmax	pmax			comp=Z,660nm,13.8s					
comp=N,40nm,0.8s								**LYN**	**LuoYang**	**23.87 270**	⇑P	**P**	**21 59 41.0 -0.7**
TEY				pmax	pmax			LYN			pmax	pmax	
comp=E,10.0nm,0.8s								comp=Z,41nm,0.6s					
KUR	Kuril'sk	8.39	31	P	Pn	21 56 44.4	+12	LYN			LR	LR	
KUR				*eS*	Sn	21 58 03.3	-1.9	comp=Z,480nm,8.6s					
KUR				smax	smax			LYN			LR	LR	
comp=E,110nm,1.0s								comp=Z,570nm,13.5s					
KUR				smax	smax			**GUMO**	**Guam**	**24.61 173**	LR	LR	22 07 44.5
comp=N,87nm,0.8s								comp=Z,55nm,21.6s,baz=172,slow=32					
YSS	Yuzh-Sakhalins	8.82	4	*eP*	Pn	21 56 40.4	+2.6	**BTO**	**Baotou**	**24.64 286**	*eP*	**P**	**21 59 49.6 +0.8**
YSS				*eS*	Sn	21 58 14.9	-0.8	BTO			pP	**pP**	**22 00 04.1 +2.4**
YSS				pmax	pmax			BTO			sP	**sP**	**22 00 11.3 +3.6**
comp=Z,20nm,0.5s								BTO			PP	**PnPn**	**22 00 27.9 +5.6**
YSS				MLR	MLR			BTO			S	**S**	**22 04 08.4 +1.6**
comp=N,500nm,15.0s								BTO			SS	**SnSn**	**22 05 03.0 +7.0**
YSS				MLR	MLR			BTO			pmax	pmax	
comp=Z,400nm,15.0s								comp=Z,17nm,0.6s					
MSHR	Mys Shultsa	9.26	302	⇓*eP*	Pn	21 56 44.2	+0.4	BTO			pmax	pmax	
USA0B	Ussuriysk Arra	9.56	312	Pn	Pn	21 56 48.5	+0.6	comp=Z,590nm,5.2s					
USA0B	Ussuriysk Arra	9.56	312	⇓*eP*	Pn	21 56 49.0	+1.1	BTO			LR	LR	
USRK	Ussuriysk Ar.	9.56	312	P	Pn	21 56 49.0	+1.2	comp=Z,470nm,6.1s					
comp=Z,29nm,0.7s,baz=123,slow=14,SNR=22								BTO			LR	LR	
USRK				LR	LR	22 00 17.9		comp=Z,400nm,5.1s					
comp=Z,678nm,20.6s,baz=117,slow=36								BTO			LR	LR	
JNU	Nakatsue	10.22	244	P	Pn	21 56 56.8	-0.3	comp=Z,720nm,10.0s					
comp=Z,6.8nm,0.7s,baz=112,slow=17,SNR=2.0								**YAK**	**Yakutsk**	**25.05 346**	*eP*	**P**	**21 59 51.0 -1.2**
JNU				LR	LR	22 01 15.1		YAK			*e**PP	**pP**	**22 00 02.7 -2.3**
comp=Z,1μm,21.4s,baz=51,slow=39								YAK			*eS*	**S**	**22 04 11.9 -0.9**
KSRS	Korea Array	11.02	271	P	Pn	21 57 11.2	+3.2	YAK			pmax	pmax	
comp=Z,3.8nm,0.7s,baz=84,slow=14,SNR=7.3								comp=Z,10.0nm,1.1s					
KSRS				LR	LR	22 01 02.4		YAK			pmax	pmax	
comp=Z,663nm,21.5s,baz=80,slow=35								comp=N,9.0nm,1.5s					
MDJ	Mudanjiang	11.22	309	P	Pn	21 57 09.3	-1.4	YAK			pmax	pmax	
MDJ				sP		21 57 24.4		comp=E,2.0nm,1.3s					
MDJ				S	Sn	21 59 14.5	-0.1	YAK			smax	smax	
MDJ				SS	SnSn	21 59 27.5	+0.8	comp=E,282nm,4.8s					
MDJ				PcP	PcP	22 03 00.0	-2.9	YAK			smax	smax	
MDJ				PcS	PcS	22 06 34.8	-1.8	comp=N,256nm,4.2s					
MDJ				ScS	ScS	22 09 59.8	-6.6	YAK			MLR	MLR	
MDJ				pmax	pmax			comp=Z,262nm,16.0s					
comp=Z,19nm,2.1s								YAK			MLR	MLR	
MDJ				pmax	pmax			comp=N,126nm,15.0s					
comp=Z,410nm,6.4s								YAK			MLR	MLR	
MDJ				LR	LR			comp=E,59nm,14.0s					
comp=Z,700nm,18.2s								**YAK**	**Yakutsk**	**25.05 346**	LR	LR	22 10 05.9
MDJ				LR	LR			comp=E,14nm,18.7s,baz=131,slow=37					
comp=Z,640nm,22.3s								**SEY**	**Seymchan**	**25.63 11**	⇓*eP*	**P**	**21 59 59.0 +1.5**
MDJ				LR	LR			SEY			pmax	pmax	
comp=Z,1μm,23.4s								comp=Z,35nm,1.6s					
BNX	BinXian	13.13	310	⇓P	Pn	21 57 37.9	+1.3	**SEY**	**Seymchan**	**25.63 11**	LR	LR	22 10 12.7
BNX				pP	P	21 57 46.6	+1.2	comp=Z,146nm,19.4s,baz=165,slow=36					
BNX				PP	PnPn	21 57 51.1	+6.5	**SHEM**	**Shemya Is, Ala**	**26.66 46**	LR	LR	22 08 33.9
BNX				sP		21 57 56.8		comp=Z,123nm,21.6s,baz=298,slow=31					
BNX				S	Sn	22 00 02.8	+1.8	**BOD**	**Bodaibo**	**26.77 326**	*eP*	**P**	**22 00 07.6 -0.2**
BNX				sS	S	22 00 16.5	-7.1	BOD			pmax	pmax	
BNX				pmax	pmax			comp=Z,14nm,0.9s					
comp=Z,13nm,1.1s								**XAN**	**Xi'an**	**26.82 271**	⇓P	**P**	**22 00 08.6 0.0**
BNX				pmax	pmax			XAN			pP	sP	22 00 25.4 -2.0
comp=Z,170nm,3.5s								XAN			pmax	pmax	
BNX				LR	LR			comp=Z,13nm,0.6s					
comp=Z,260nm,6.3s								XAN			pmax	pmax	
BNX				LR	LR			comp=Z,260nm,4.2s					
comp=Z,580nm,13.3s								XAN			LR	LR	
BNX				LR	LR			comp=Z,370nm,4.2s					
comp=Z,600nm,17.3s								XAN			LR	LR	
KLR	Kul'dur	13.24	330	⇓*eP*	P	21 57 43.4	-3.2	comp=Z,200nm,4.5s					
KLR				pmax	pmax			XAN			LR	LR	
comp=Z,23nm,1.3s								comp=Z,420nm,12.9s					
KLR	Kul'dur	13.24	330	P	Pn	21 57 42.0	+3.8	**ULN**	**Ulaanbaatar**	**27.01 302**	P	**P**	**22 00 09.8 -0.5**
comp=Z,0.7nm,0.3s,baz=136,slow=14,SNR=4.4								**ULN**	**Ulaanbaatar**	**27.01 302**	⇓*eP*	**P**	**22 00 11.1 +0.8**
KLR				LR	LR	22 02 46.8		ULN			pmax	pmax	
comp=Z,619nm,18.9s,baz=144,slow=37								comp=Z,5.0nm,1.3s					
HEH	HeiHe	15.87	324	*eP*	Pn	21 58 08.8	-4.1	**SONM**	**Songino Array**	**27.45 302**	P	**P**	**22 00 13.3 -0.9**
HEH				pmax	pmax			**SONM**	**Songino Array**	**27.45 302**	P	**P**	**22 00 14.6 +0.4**
comp=Z,3.0nm,0.6s								comp=Z,3.2nm,0.8s,baz=89,slow=9.4,SNR=14					
HEH				LR	LR			comp=Z,3.2nm,0.8s					
comp=Z,380nm,13.3s								**ENH**	**Enshi**	**27.77 263**	P	**P**	**22 00 15.7 -1.4**
HEH				LR	LR			**H11N2**	**WAKE ISLAND Hy**	**28.46 123**	T	T	22 30 36.2
comp=Z,380nm,13.7s								baz=316,slow=76,SNR=636					
HEH				LR	LR			**H11N1**	**WAKE ISLAND Hy**	**28.47 123**	T	T	22 30 36.8
comp=Z,630nm,15.1s								baz=316,slow=76,SNR=1402					
JOW	Kunigami	16.04	229	LR	LR	22 03 59.0		**H11N3**	**WAKE ISLAND Hy**	**28.48 123**	T	T	22 30 37.5
comp=Z,133nm,21.1s,baz=121,slow=35								baz=316,slow=76,SNR=1032					
ZEA	Zeya	18.53	332	*eP*	P	21 58 42.8	-2.3	**H11S1**	**WAKE ISLAND Hy**	**29.21 125**	T	T	22 31 35.7
ZEA				pmax	pmax			baz=317,slow=76,SNR=1119					
comp=Z,10.0nm,0.7s								**H11S3**	**WAKE ISLAND Hy**	**29.22 125**	T	T	22 31 38.6
ZEA				MLR	MLR			baz=317,slow=76,SNR=1544					
comp=Z,300nm,16.0s								**H11S2**	**WAKE ISLAND Hy**	**29.23 125**	T	T	22 31 36.9
PETK	Petropavlovsk-	18.56	31	LR	LR	22 06 51.8		baz=317,slow=76,SNR=1308					
comp=Z,155nm,18.9s,baz=218,slow=40								**ZAK**	**Zakamensk**	**29.85 307**	*eP*	P	22 00 29.4 -6.0
NJ2	Nanjing	19.73	259	*eP*	P	21 58 58.3	-0.1	ZAK			pmax	pmax	
NJ2				pP	**pP**	**21 59 09.8**	**-0.1**	comp=Z,5.0nm,1.4s					
NJ2				sP	**sP**	**21 59 16.1**	**-0.2**	**LZH**	**Lanzhou**	**30.22 278**	*eP*	**P**	**22 00 38.6 -0.3**
NJ2				pmax	pmax			LZH			pP	sP	22 00 57.4 -0.5
comp=Z,7.0nm,0.6s								LZH			pmax	pmax	
NJ2				pmax	pmax			comp=Z,13nm,1.0s					
comp=Z,490nm,4.7s								LZH			LR	LR	
TIA	Tai'an	19.76	272	P	P	21 58 59.6	+0.8	comp=Z,330nm,15.1s					
TIA				pmax	pmax			LZH			LR	LR	
comp=Z,24nm,1.0s								comp=Z,450nm,17.5s					
TIA				LR	LR			LZH			LR	LR	
comp=Z,340nm,14.4s								comp=Z,500nm,18.3s					
TIA				LR	LR			**GYA**	**Guiyang**	**31.74 259**	P	**P**	**22 00 51.3 -1.1**
comp=Z,460nm,16.7s								GYA			sP	sP	22 01 09.4 -2.0
TIA				LR	LR			GYA			pmax	pmax	
comp=Z,490nm,22.6s								comp=Z,10.0nm,1.0s					
BJI	Beijing	19.98	283	P	P	21 59 00.6	-0.4	GYA			pmax	pmax	
BJI				pP	**pP**	**21 59 11.3**	**-1.3**	comp=Z,420nm,4.7s					
BJI				sP	**sP**	**21 59 16.8**	**-2.1**	**GTA**	**Gaotai**	**32.56 286**	*eP*	**P**	**22 01 00.3 +0.8**
BJI				PP	**PnPn**	**21 59 19.9**	**+1.5**	GTA			pP	pP	22 01 14.5 +2.0
BJI				LR	LR			GTA			sP	sP	22 01 23.3 +4.8
comp=Z,110nm,12.3s								GTA			pmax	pmax	
BJI				LR	LR			comp=Z,4.0nm,1.0s					
comp=Z,140nm,10.9s								GTA			LR	LR	
comp=Z,180nm,17.8s													
GTA						LR	LR						
comp=Z,290nm,19.3s													
GTA						LR	LR						
comp=Z,380nm,18.9s													
QIZ	**Qiongzhong**	**33.69 245**		P	**P**	**22 01 09.5 +0.1**							
QIZ				S	**S**	**22 06 29.8 +0.7**							
QIZ				LR	LR								
comp=Z,630nm,7.5s													
QIZ				LR	LR								
comp=Z,780nm,8.2s													
QIZ				LR	LR								
comp=Z,460nm,8.0s													
TIXI	**Tiksi**	**34.22 353**	⇓*eP*		**P**	**22 01 12.6 -0.8**							
TIXI	**Tiksi**	**34.22 353**		LR	LR	22 16 25.0							
comp=Z,8.2nm,18.8s,baz=192,slow=38													
DAV	**Davao City (W)**	**34.27 210**		LR	LR	22 12 28.5							
comp=Z,82nm,21.3s,baz=12,slow=31													
KMI	**Kunming**	**35.46 260**	⇓P		**P**	**22 01 25.0 +0.1**							
KMI				pP	pP	22 01 37.8 -0.2							
KMI				sP	sP	22 01 42.9 -1.0							
KMI				pmax	pmax								
comp=Z,13nm,1.0s													
PZH	**PanZhiHua**	**35.55 263**		P	**P**	**22 01 25.5 0.0**							
PZH				pmax	pmax								
comp=Z,10.0nm,0.7s													
PZH				pmax	pmax								
comp=Z,150nm,5.2s													
GOMU	**GeErMu**	**37.20 282**		P	**P**	**22 01 40.5 +0.7**							
GOMU				sP	sP	22 01 57.8 -1.1							
GOMU				pmax	pmax								
comp=Z,8.0nm,0.7s													
TNCH	**TengChong**	**38.80 263**		P	**P**	**22 01 53.5 +0.3**							
TNCH				pP	pP	22 02 06.8 +0.4							
TNCH				sP	sP	22 02 12.8 +0.5							
TNCH				S	**S**	**22 07 38.5 -8.9**							
TNCH				pmax	pmax								
comp=Z,16nm,2.1s													
TNCH				pmax	pmax								
comp=Z,170nm,4.6s													
TNCH				LR	LR								
comp=Z,300nm,5.0s													
TNCH				LR	LR								
comp=Z,420nm,5.5s													
TNCH				LR	LR								
comp=Z,140nm,6.6s													
CRAI	**Chiangrai**	**39.97 255**		P	**P**	**22 02 03.6 +0.9**							
DGZ	**Jazzator, Alta**	**40.01 305**	*c iP*		**P**	**22 02 04.1 +1.2**							
DGZ				pmax	pmax								
comp=Z,19nm,0.8s													
WMQ	**Urumqi**	**40.64 296**	*eP*		**P**	**22 02 08.5 +0.4**							
WMQ				pP	pP	22 02 21.1 -0.3							
WMQ				sP	sP	22 02 27.5 +0.2							
WMQ				pmax	pmax								
comp=Z,18nm,0.9s													
WMQ				LR	LR								
comp=Z,180nm,25.5s													
ZAA0	**Zalesovo Array**	**41.41 311**		P	**P**	**22 02 13.6 -0.6**							
ZALV	**Zalesovo Beam**	**41.41 311**		P	**P**	**22 02 13.3 -0.9**							
ZALV	**Zalesovo Beam**	**41.41 311**		P	**P**	**22 02 14.5 +0.3**							
comp=Z,6.9nm,0.5s,baz=83,slow=7.6,SNR=35													
ZALV				pP	**sP**	**22 02 31.7 -1.7**							
comp=Z,6.4nm,0.7s,baz=86,slow=6.8,SNR=6.9													
ZALV				PcP	**PcP**	**22 04 12.2 +0.9**							
comp=Z,0.9nm,0.3s,baz=107,slow=3.0,SNR=1.9													
ZALV				LR	LR	22 20 16.9							
comp=Z,230nm,18.0s,baz=68,slow=37													
comp=Z,6.9nm,0.5s													
CHTO	**Chiang Mai**	**41.89 255**		P	**P**	**22 02 18.2 -0.3**							
CHTO	**Chiang Mai**	**41.89 255**		P	**P**	**22 02 18.3 -0.3**							
CHTO				pmax	pmax								
comp=Z,14nm,1.4s													
CHTO	**Chiang Mai**	**41.89 255**		P	**P**	**22 02 18.9 +0.3**							
CHTO				pP	**pP**	**22 02 31.7 -0.2**							
CHTO				sP	**sP**	**22 02 37.0 -0.8**							
ZSN	**Zaisan**	**41.96 302**	*eP*		**P**	**22 02 19.7 +0.8**							
comp=Z,13nm,0.8s,baz=302													
ZSN	**Zaisan**	**41.96 302**	*eP*		**P**	**22 02 19.6 +0.8**							
ZSN				pmax	pmax								
comp=Z,13nm,0.8s													
CMAR	**Chiang Mai Arr**	**42.10 254**		P	**P**	**22 02 20.8 +0.5**							
comp=Z,1.0nm,0.6s,baz=44,slow=9.5,SNR=6.3													
CMAR				LR	LR	22 21 02.6							
comp=Z,53nm,18.7s,baz=40,slow=38													
comp=Z,1.0nm,0.6s													
MK31	**Makanchi Array**	**43.81 301**		P	**P**	**22 02 33.3 -0.5**							
MK31				lAmb	lAmb	22 02 52.9							
comp=Z,20nm,1.0s													
MK31	**Makanchi Array**	**43.81 301**	*c eP*		**P**	**22 02 34.1 +0.3**							
MKAR	**Makanchi Array**	**43.81 301**	P		**P**	**22 02 33.1 -0.7**							
MKAR	**Makanchi Array**	**43.81 301**	P		**P**	**22 02 33.9 +0.1**							
comp=Z,4.7nm,0.7s,baz=85,slow=9.7,SNR=32													
MKAR				pP	**sP**	**22 02 52.1 -1.0**							
comp=Z,8.9nm,0.7s,baz=84,slow=11,SNR=16													
MKAR				LR	LR	22 22 03.8							
comp=Z,112nm,19.1s,baz=118,slow=38													
comp=Z,4.7nm,0.7s													
MAKZ	**Makanchi**	**44.02 301**		P	**P**	**22 02 34.0 -1.5**							
MAKZ				lAmb	lAmb	22 02 54.7							
comp=Z,44nm,1.2s													
MAKZ	**Makanchi**	**44.02 301**		P	**P**	**22 02 34.0 -1.5**							
MAKZ				pmax	pmax								
comp=Z,44nm,1.3s													
MAKZ	**Makanchi**	**44.02 301**		P	**P**	**22 02 35.6 +0.1**							
MAKZ				pP	**pP**	**22 02 48.3 -0.6**							
MAKZ				sP	**sP**	**22 02 53.6 -1.2**							
D19K	**Kuna River**	**44.20 27**		P	**P**	**22 02 37.1 +0.5**							
D19K				lAmb	lAmb	22 02 55.6							
comp=Z,18nm,1.1s													
SEM	**Semipalatinsk**	**44.53 307**	*eP*		**P**	**22 02 40.3 +0.5**							
baz=307													
SEM	**Semipalatinsk**	**44.53 307**	*eP*		**P**	**22 02 40.2 +0.5**							
KURK	**Kurchatov**	**45.51 307**	P		**P**	**22 02 47.1 -0.1**							
KURK	**Kurchatov**	**45.51 307**	*c iP*		**P**	**22 02 46.9 -0.3**							
KURK				pmax	pmax								
comp=Z,19nm,0.7s													
KURK	**Kurchatov**	**45.51 307**	P		**P**	**22 02 47.1 -0.1**							
KURK				pP	**pP**	**22 03 00.2 -0.5**							
KURK				sP	**sP**	**22 03 05.0 -1.5**							
IMAR	**Indian Mountai**	**45.53 31**		P	**P**	**22 02 49.6 +2.4**							
KURBB	**Kurchatov Arra**	**45.58 307**		P	**P**	**22 02 47.8 0.0**							
comp=Z,6.5nm,0.3s,baz=82,slow=8.7,SNR=96													
KURBB				LR	LR	22 22 32.4							
comp=Z,220nm,20.8s,baz=142,slow=37													
comp=Z,6.5nm,0.3s													
B21K	**Ikpikpuk River**	**45.64 26**		P	**P**	**22 02 49.1 +1.1**							
B21K				lAmb	lAmb	22 03 07.3							
comp=Z,18nm,1.0s													
KDAK	**Kodiak Island**	**46.05 43**		LR	LR	22 21 16.5							
comp=Z,134nm,20.4s,baz=265,slow=35													
TAPN	**Taplejung**	**46.20 273**	*eP*		**P**	**22 02 53.5 +0.2**							
D22K	**Ayikyak River**	**46.22 27**	P		**P**	**22 02 54.4 +1.7**							
D22K				lAmb	lAmb	22 03 11.9							
comp=Z,22nm,1.2s													
E22K	**Anaktuvuk Pass**	**46.47 28**		P	**P**	**22 02 56.0 +1.4**							
E22K				lAmb	lAmb	22 03 28.3							
comp=Z,24nm,1.6s													
SHLS	**Shalkode**	**46.61 297**	*eP*		**P**	**22 02 53.8 -2.5**							
baz=297													
SHLS	**Shalkode**	**46.61 297**	*eP*		**P**	**22 02 53.7 -2.5**							
TDK	**Taldyqorghan**	**46.85 300**	*eP*		**P**	**22 02 58.4 +0.5**							
baz=300													
TDK	**Taldyqorghan**	**46.85 300**	*eP*		**P**	**22 02 58.4 +0.5**							
UZB	**Uzynbulak**	**46.92 297**	*eP*		**P**	**22 02 59.7 +0.9**							
baz=297													
UZB	**Uzynbulak**	**46.92 297**	*eP*		**P**	**22 02 59.6 +0.9**							
KPKS	**Kokpek**	**47.07 297**	*eP*		**P**	**22 03 00.0 +0.2**							
baz=297													
KPKS	**Kokpek**	**47.07 297**	*eP*		**P**	**22 03 00.0 +0.2**							
JIRN	**Jiri**	**47.25 274**	*eP*		**P**	**22 03 02.3 +0.7**							
comp=Z,9.3nm,0.5s													
RAMN	**Ramite**	**47.26 273**	*eP*		**P**	**22 03 01.2 -0.4**							
comp=Z,32nm,0.8s													
GUN	**Gumba**	**47.38 275**	*eP*		**P**	**22 03 03.0 +0.4**							
comp=Z,32nm,0.7s													
SATY	**Saty**	**47.38 297**	*eP*		**P**	**22 03 01.5 -0.7**							
baz=297													
SATY	**Saty**	**47.38 297**	*eP*		**P**	**22 03

POKR IAmb IAmb 22 03 26.7
comp=Z,11nm,0.9s
CHKK Chushkaly 48.14 298 *e*P **P** **22 03 07.6 -0.4**
baz=298
CHKK Chushkaly 48.14 298 *e*P **P** **22 03 07.6 -0.4**
TARG Taragay, Kyrgy 48.20 296 P **P** **22 03 10.4 +1.5**
TARG pmax pmax
comp=Z,31nm,1.1s
MDOK Medeo 48.30 298 *e*P **P** **22 03 10.2 +0.8**
baz=298
MDOK Medeo 48.30 298 *e*P **P** **22 03 10.2 +0.8**
GKN Gorkha 48.31 276 *e*P **P** **22 03 09.9 +0.3**
comp=Z,28nm,0.9s
IL31 48.38 33 P **P** **22 03 10.6 +1.3**
IL31 IAmb IAmb 22 03 26.8
comp=Z,5.8nm,0.8s
ILAR Eielson Array 48.38 33 P **P** **22 03 10.1 +0.6**
ILAR Eielson Array 48.38 33 P **P** **22 03 11.3 +1.9**
comp=Z,0.9nm,0.7s,baz=266,slow=6.2,SNR=18
ILAR pP **sP** **22 03 26.2 -2.6**
comp=Z,2.8nm,0.4s,baz=274,slow=29,SNR=33
comp=Z,0.9nm,0.7s
AAA Alma-Ata 48.38 298 *e*P **P** **22 03 10.3 +0.4**
comp=Z,3.1nm,0.4s,baz=298
AAA Alma-Ata 48.38 298 *e*P **P** **22 03 10.3 +0.4**
AAA pmax pmax
comp=Z,3.0nm,0.4s
IL03 Eielson Array 48.39 33 P **P** **22 03 10.9 +1.3**
TNSS Tian-Shan 48.41 297 *e*P **P** **22 03 10.5 -0.1**
baz=297
TNSS Tian-Shan 48.41 297 *e*P **P** **22 03 10.4 -0.1**
D25K Kavik River 48.51 27 P **P** **22 03 11.6 +1.1**
D25K IAmb IAmb 22 03 28.8
comp=Z,9.0nm,1.1s
KUU Kurty 48.58 299 *e*P **P** **22 03 11.8 +0.4**
comp=Z,7.4nm,0.8s,baz=299
KUU Kurty 48.58 299 *e*P **P** **22 03 11.7 +0.4**
KUU pmax pmax
comp=Z,7.0nm,0.8s
DANN Dangsing 48.84 277 *e*P **P** **22 03 14.3 +0.5**
comp=Z,66nm,0.7s
BRZS Berezniki 49.38 307 *e*P **P** **22 03 17.7 +0.4**
baz=307
BRZS Berezniki 49.38 307 *e*P **P** **22 03 17.7 +0.4**
PYUN Piuthan 49.56 277 *e*P **P** **22 03 19.5 +0.3**
comp=Z,30nm,1.0s
BTLS Baital 49.81 301 *e*P **P** **22 03 20.6 -0.2**
baz=301
BTLS Baital 49.81 301 *e*P **P** **22 03 20.5 -0.2**
SGDS Sogindy 49.90 299 *e*P **P** **22 03 22.0 +0.5**
baz=299
SGDS Sogindy 49.90 299 *e*P **P** **22 03 21.9 +0.5**
BVAR Borovoye Array 50.07 312 P **P** **22 03 22.6 +0.1**
comp=Z,2.1nm,0.5s,baz=70,slow=8.3,SNR=22
BVAR pP **sP** **22 03 40.6 -1.4**
comp=Z,6.2nm,0.6s,baz=69,slow=8.1,SNR=12
BVAR LR LR 22 25 36.4
comp=Z,161nm,18.2s,baz=82,slow=37
comp=Z,2.1nm,0.5s
BRVK Borovoye 50.12 312 P **P** **22 03 22.5 -0.4**
BRVK Borovoye 50.12 312‖ *e*P **P** **22 03 23.4 +0.5**
BRVK Borovoye 50.12 312 P **P** **22 03 23.5 +0.5**
BRVK pP **pP** **22 03 36.7 +0.2**
BRVK sP **sP** **22 03 41.5 -0.8**
AAK Ala-Archa 50.25 298 P **P** **22 03 23.5 -0.7**
AAK IAmb IAmb 22 03 43.8
comp=Z,20nm,1.4s
AAK Ala-Archa 50.25 298*d i*P **P** **22 03 25.1 +0.8**
AAK pmax pmax
comp=Z,7.0nm,2.5s
AAK Ala-Archa 50.25 298 LR LR 22 26 25.1
comp=Z,161nm,18.4s,baz=78,slow=38
AAK Ala-Archa 50.25 298 P **P** **22 03 24.6 +0.4**
AAK pP **pP** **22 03 37.1 -0.8**
AAK sP **sP** **22 03 42.7 -1.0**
KSH Kashi 50.25 293 P **P** **22 03 28.8 +4.5**
KSH pP sP 22 03 42.8 -0.9
KSH sP pP 22 03 47.3 +9.4
KSH pmax pmax
comp=Z,7.0nm,0.8s
HNR Honiara 50.27 156 LR LR 22 23 17.2
comp=Z,1µm,20.5s,baz=330,slow=34
L27K Beaver Creek, 50.77 35 P **P** **22 03 28.4 +0.7**
L27K IAmb IAmb 22 04 45.5
comp=Z,26nm,1.9s
BCAR Beaver Creek A 50.79 35 P **P** **22 03 29.1 +1.2**
E29M Blow River 51.63 28 P **P** **22 03 34.3 +0.2**
ARSB Arslanbob 51.76 297 P **P** **22 03 35.2 -0.3**
ARSB IAmb IAmb 22 03 55.7
comp=Z,9.5nm,0.9s
KKAR Karatay Array 52.85 299 P **P** **22 03 42.4 -1.1**
KKAR Karatay Array 52.85 299 P **P** **22 03 42.4 -1.1**
TRKS Terek-Say 52.98 297 P **P** **22 03 44.6 0.0**
BTK Batken 53.75 296 P **P** **22 03 50.1 -0.1**
BTK IAmb IAmb 22 04 09.7
comp=Z,22nm,1.4s
BTK Batken 53.75 296 P **P** **22 03 50.1 -0.1**
BTK pmax pmax
comp=Z,22nm,1.4s
SVE Sverdlovsk 54.53 318 *e*P **P** **22 03 56.5 +1.0**
SVE pmax pmax
comp=Z,41nm,1.3s
NIL Nilore 54.58 288 P **P** **22 03 55.9 -0.4**
NIL Nilore 54.58 288 P **P** **22 03 55.9 -0.4**
NIL pmax pmax
comp=Z,52nm,1.4s
NIL Nilore 54.58 288 P **P** **22 03 57.5 +1.2**
NIL sP **sP** **22 04 15.3 -0.5**
GSI Gunungsitoli 54.65 239 P **P** **22 03 55.2 -1.8**
A36M Sachs Harbour 55.10 22 P **P** **22 04 00.2 +0.8**
A36M IAmb IAmb 22 04 18.0
comp=Z,24nm,1.5s
CHGR Chuyangaron 55.48 295 P **P** **22 04 02.7 -0.1**
CHGR Chuyangaron 55.48 295 P **P** **22 04 02.7 -0.1**
CHGR pmax pmax
comp=Z,50nm,0.8s
ARU Arti 55.74 318 P **P** **22 04 03.9 -0.4**
ARU Arti 55.74 318*d i*P **P** **22 04 04.9 +0.7**
ARU *PP **pP** **22 04 20.1 +2.0**
ARU S **S** **22 11 48.0 +1.0**
ARU SS **SS** **22 15 30.3 -2.1**
ARU pmax pmax
comp=Z,27nm,1.9s
ARU Arti 55.74 318 LR LR 22 30 15.4
comp=Z,208nm,18.4s,baz=64,slow=38
ARU Arti 55.74 318 P **P** **22 04 04.2 0.0**
ARU pP **pP** **22 04 17.3 -0.8**
ARU sP **sP** **22 04 22.7 -1.2**
C36M Paulatuk 56.28 25 P **P** **22 04 08.1 +0.3**
C36M IAmb IAmb 22 04 10.4
comp=Z,6.5nm,1.0s
KBL Kabul 57.32 290 P **P** **22 04 15.0 -1.1**
KBL Kabul 57.32 290 P **P** **22 04 15.0 -1.1**
KBL pmax pmax
comp=Z,29nm,1.1s
ABKAR Akbulak array 57.47 310 P **P** **22 04 15.0 -1.7**
WB0 Warramunga Arr 58.03 188 P **P** **22 04 20.8 0.0**
WB0 IAmb IAmb 22 04 48.9
comp=Z,16nm,1.1s
CTA Charters Tower 58.08 175 LR LR 22 36 27.9
comp=Z,22nm,18.0s,baz=57,slow=43
AKTO Aktyubinsk 58.17 312 LR LR 22 30 02.4
comp=Z,120nm,20.8s,baz=202,slow=37
WR0 Warramunga Arr 58.21 188 P **P** **22 04 21.1 -0.9**
WB2 Warramunga Arr 58.21 188 P **P** **22 04 21.5 -0.5**
WB2 IAmb IAmb 22 04 39.3
comp=Z,12nm,1.0s
WRA Warramunga Arr 58.21 188 P **P** **22 04 21.8 -0.3**
WRA Warramunga Arr 58.21 188 P **P** **22 04 22.6 +0.6**
comp=Z,3.6nm,0.6s,baz=4.9,slow=7.0,SNR=93
WRA pP **pP** **22 04 38.5 +2.6**
comp=Z,5.0nm,0.8s,baz=4.0,slow=7.0,SNR=8.6
comp=Z,3.6nm,0.6s
SPITS Spitsbergen Ar 59.49 349 LR LR 22 32 15.6
comp=Z,82nm,18.9s,baz=7.5,slow=38
KIRV Kirov 59.55 323*d i*P **P** **22 04 31.8 +0.9**
KIRV Kirov 59.55 323 LR LR 22 33 16.0
comp=Z,58nm,19.2s,baz=45,slow=39
RES Resolute Bay 61.44 15 P **P** **22 04 44.2 +0.6**
RES IAmb IAmb 22 05 10.2
comp=Z,11nm,1.5s
RES Resolute Bay 61.44 15 P **P** **22 04 44.2 +0.6**
RES pmax pmax
comp=Z,11nm,1.5s
AS31 Alice Springs 61.94 188 P **P** **22 04 48.1 +0.6**
ASAR Alice Springs 61.94 188 P **P** **22 04 48.6 +1.0**
comp=Z,3.5nm,0.7s,baz=12,slow=5.6,SNR=37
ASAR LR LR 22 29 27.7
comp=Z,56nm,21.7s,baz=0.5,slow=34
comp=Z,3.5nm,0.7s
KEV Kevo 62.51 339 P **P** **22 04 51.8 +0.9**
KEV pP **pP** **22 05 04.4 -0.4**
KEV sP **sP** **22 05 09.8 -0.7**
YKA Yellowknife Ar 62.68 31 P **P** **22 04 53.9 +1.9**
comp=Z,1.0nm,1.0s,baz=297,slow=6.7,SNR=5.5
comp=Z,1.0nm,1.0s
PALK Pallekele 62.93 257 LR LR 22 35 14.1
comp=Z,48nm,18.8s,baz=158,slow=39
ARCES ARCESS Array B 63.07 339 P **P** **22 04 54.8 +0.2**
comp=Z,1.2nm,0.5s,baz=52,slow=7.2,SNR=14
ARCES pP **sP** **22 05 14.8 +0.5**
comp=Z,3.1nm,0.8s,baz=52,slow=7.9,SNR=2.5
ARCES LR LR 22 36 21.0
comp=Z,90nm,18.6s,baz=24,slow=40
comp=Z,1.2nm,0.5s
BELG Belogornoye 63.21 317 LR LR 22 34 18.2
comp=Z,152nm,19.1s,baz=309,slow=38
GEYT Alibeck 63.58 299 P **P** **22 04 59.6 +1.1**
comp=Z,1.4nm,0.7s,baz=326,slow=45,SNR=2.6
GEYT pP **sP** **22 05 17.9 -0.4**
comp=Z,7.3nm,1.1s,baz=153,slow=1.3,SNR=5.9
GEYT LR LR 22 34 20.3
comp=Z,96nm,21.1s,baz=75,slow=38
comp=Z,1.4nm,0.7s
DZM Mont Dzumac 64.22 155 *e*LR LR 22 24 07.7
comp=Z,201nm,22.1s
DZM Mont Dzumac 64.22 155 LR LR 22 30 09.8
comp=Z,120nm,21.3s,baz=43,slow=33
NEEM North Greenlan 64.39 3 *e*P **P** **22 05 04.0 +0.4**
NEEM IAmb IAmb 22 05 05.7
comp=Z,5.1nm,0.7s
DAG Danmarks Havn 64.69 355 P **P** **22 05 06.1 +1.0**
DAG Danmarks Havn 64.69 355 *i* P **P** **22 05 05.0 -0.1**
DAG IAmb IAmb 22 05 08.0
comp=Z,5.6nm,1.1s
MOS Moscow 66.55 323 *e*P **P** **22 05 16.3 -1.1**
MOS *e* 22 05 35.2
DBG Daneborg 67.18 355 *e*P **P** **22 05 22.3 +1.2**
OBN Obninsk 67.40 323 P **P** **22 05 21.9 -0.9**
OBN Obninsk 67.40 323‖ *e*P **P** **22 05 22.7 -0.1**
OBN *e*PP **sP** **22 05 40.4 -2.2**
OBN *e*SP **PcP** **22 05 47.6 -2.4**
OBN *e* 22 05 50.4
OBN *e* 22 07 53.2
OBN *e*PPP PPP 22 09 25.7
OBN pmax pmax
comp=Z,20nm,1.5s
OBN MLR MLR
comp=Z,56nm,16.0s
OBN Obninsk 67.40 323 P **P** **22 05 22.5 -0.3**
OBN pP **pP** **22 05 35.8 -1.1**
OBN sP **sP** **22 05 41.0 -1.6**
FINES FINESS Array B 67.98 332 P **P** **22 05 27.0 +0.6**
comp=Z,3.2nm,0.6s,baz=40,slow=7.2,SNR=18
FINES pP **sP** **22 05 45.3 -0.9**
comp=Z,6.0nm,1.0s,baz=42,slow=7.3,SNR=2.3
FINES LR LR 22 36 33.6
comp=Z,83nm,20.3s,baz=57,slow=37
comp=Z,3.2nm,0.6s
MAK Makhachkala 68.03 308 *e*P **P** **22 05 28.9 +1.9**
MAK *e*SP **pP** **22 05 42.0 +0.9**
MAK *e* 22 07 58.1
MAK *e*PPP PPP 22 09 34.0
MAK *e*S **S** **22 14 25.7 +3.2**
MAK *e*SS **pS** **22 14 43.1 +3.5**
NEW Newport 69.10 45 LR LR 22 41 28.5
comp=Z,29nm,18.0s,baz=339,slow=41
SUMG Summit 69.57 0 *e*P **P** **22 05 38.0 +1.5**
STKA Stephens Creek 69.67 180‖ *e*P **P** **22 05 38.4 +1.3**
STKA Stephens Creek 69.67 180 P **P** **22 05 38.9 +1.8**
comp=Z,1.4nm,0.5s,baz=329,slow=14,SNR=3.7
comp=Z,1.4nm,0.5s
KIV Kislovodsk 70.42 311 P **P** **22 05 41.8 -0.1**
KIV Kislovodsk 70.42 311 *e*P **P** **22 05 43.2 +1.3**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,76nm,18.0s
KIV Kislovodsk 70.42 311 P **P** **22 05 43.2 +1.3**
KIV sP **sP** **22 06 01.0 -0.8**
KBZ Khabaz 70.42 311*c i*P **P** **22 05 42.2 +0.4**
KBZ pmax pmax
comp=Z,12nm,1.4s
KBZ Khabaz 70.42 311 P **P** **22 05 43.3 +1.5**
comp=Z,2.4nm,0.7s,baz=86,slow=4.4,SNR=5.5
comp=Z,2.4nm,0.7s
GNI Garni 71.30 307 LR LR 22 39 12.8
comp=Z,82nm,21.6s,baz=52,slow=38
UOSS Minazif 71.78 288 P **P** **22 05 50.8 +0.4**
UOSS pP **pP** **22 06 03.7 -0.9**
UOSS sP **PcP** **22 06 09.5 +0.4**
NACGM Naroch 71.97 327 *e*P **P** **22 05 52.2 +1.3**
comp=Z,17nm,0.9s,baz=49
ELMT Elliston 72.67 44 P **P** **22 05 55.6 +0.1**
LRM Limekiln Ridge 73.12 45 P **P** **22 05 57.8 -0.5**
HFS Hagfors 73.20 336 P **P** **22 05 58.9 +0.7**
comp=Z,3.9nm,0.4s,baz=46,slow=6.4,SNR=40
HFS LR LR 22 40 52.7
comp=Z,262nm,18.8s,baz=42,slow=38
comp=Z,3.9nm,0.4s
NB2 NORSAR Subarra 73.28 337 P **P** **22 05 59.5 +0.8**
comp=Z,1.3nm,0.5s,baz=40,slow=6.2
NB2 NORSAR Subarra 73.28 337 P **P** **22 05 58.9 +0.2**
NOA NORSAR Array B 73.28 337 P **P** **22 05 59.3 +0.6**
comp=Z,2.6nm,0.6s,baz=52,slow=7.1,SNR=19
NOA pP **sP** **22 06 18.6 0.0**
comp=Z,1.5nm,0.7s,baz=38,slow=5.9,SNR=2.8
NOA LR LR 22 40 44.9
comp=Z,134nm,21.4s,baz=35,slow=38
comp=Z,2.6nm,0.6s
NORES NORESS Array B 73.42 337 P **P** **22 05 59.9 +0.4**
AKASG Malin Array Be 73.61 322 P **P** **22 06 00.3 -0.4**
AKASG Malin Array Be 73.61 322 P **P** **22 06 01.1 +0.3**
comp=Z,1.8nm,0.4s,baz=45,slow=6.3,SNR=20
AKASG pP **sP** **22 06 18.9 -1.8**
comp=Z,3.5nm,0.6s,baz=42,slow=6.2,SNR=6.7
AKASG LR LR 22 39 14.4
comp=Z,109nm,20.2s,baz=31,slow=36
comp=Z,1.8nm,0.4s
AKBB Malin Array Si 73.61 322 P **P** **22 06 00.9 +0.1**
AKBB IAmb IAmb 22 06 20.6
comp=Z,23nm,1.2s
AKBB Malin Array Si 73.61 322‖ *i*P **P** **22 06 01.1 +0.3**
KIEV Kiev 73.62 322 P **P** **22 05 59.8 -1.0**
KIEV IAmb IAmb 22 06 20.6
comp=Z,22nm,1.3s
KIEV Kiev 73.62 322 P **P** **22 05 59.8 -1.0**
KIEV pmax pmax
comp=Z,22nm,1.3s
KVN Kaiserville 73.82 53 P **P** **22 06 03.8 +1.3**
KVN IAmb IAmb 22 07 33.2
comp=Z,12nm,0.7s
KVN Kaiserville 73.82 53 P **P** **22 06 03.8 +1.3**
KVN pmax pmax
comp=Z,12nm,0.7s
GURO Guroymak-BITLI 73.94 306 P **P** **22 06 03.4 +0.3**
GURO IAmb IAmb 22 06 24.7
comp=Z,19nm,1.4s
NVAR Mina Array Bea 74.06 54 P **P** **22 06 03.8 -0.1**
NVAR Mina Array Bea 74.06 54 P **P** **22 06 06.2 +2.3**
comp=Z,1.2nm,0.8s,baz=286,slow=6.2,SNR=6.9
comp=Z,1.2nm,0.8s
SIRT Sirnak 74.29 305 P **P** **22 06 04.9 -0.3**
MARD Mardin 75.47 306 P **P** **22 06 11.5 -0.4**
MARD IAmb IAmb 22 06 33.4
comp=Z,30nm,1.5s
HWUT Hardware Ranch 76.23 48 P **P** **22 06 16.5 +0.1**
HWUT IAmb IAmb 22 06 34.8
comp=Z,12nm,1.3s
DUG Dugway, Tooele 76.38 49 P **P** **22 06 17.4 +0.3**
DUG IAmb IAmb 22 08 26.6
comp=Z,24nm,1.7s
DUG Dugway, Tooele 76.38 49 P **P** **22 06 17.4 +0.3**
DUG pmax pmax
comp=Z,24nm,1.7s
QSM Queen of Sheba 76.45 55 P **P** **22 06 16.7 -0.7**
PD31 Pinedale Array 76.65 46 P **P** **22 06 18.5 -0.2**
PD31 IAmb IAmb 22 06 35.6
comp=Z,16nm,1.9s
PDAR Pinedale Array 76.65 46 P **P** **22 06 19.6 +0.9**
PDAR Pinedale Array 76.65 46 P **P** **22 06 20.7 +2.0**
comp=Z,1.0nm,0.7s,baz=291,slow=2.7,SNR=12
comp=Z,1.0nm,0.7s
PSUT Pine Spring 76.78 51 P **P** **22 06 19.1 -0.4**
PSUT IAmb IAmb 22 08 26.1
comp=Z,12nm,0.7s
KWP Kalwaria Pacla 77.41 324 P **P** **22 06 23.2 +0.6**
KWP Kalwaria Pacla 77.41 324 P **P** **22 06 23.2 +0.6**
KWP pmax pmax
comp=Z,30nm,1.3s
BUR08 Bucovina Ar. S 77.62 322 P **P** **22 06 23.2 -0.8**
BUR08 IAmb IAmb 22 06 44.7
comp=Z,18nm,1.6s
BURAR Bucovina Array 77.64 322 P **P** **22 06 24.2 +0.2**
BURAR Bucovina Array 77.64 322 P **P** **22 06 24.2 +0.2**
BURAR pmax pmax
comp=Z,3.0nm,0.7s
CCUT Cedar City 77.69 52 P **P** **22 06 24.7 0.0**
CCUT IAmb IAmb 22 08 58.7
comp=Z,20nm,2.0s
LCMT Little Creek M 78.11 52 P **P** **22 06 26.4 -0.4**
PFO Pinyon Flats O 78.15 57 LR LR 22 33 04.0
comp=Z,68nm,20.8s,baz=332,slow=30
BRTR Keskin Array B 78.35 312 P **P** **22 06 29.6 +1.4**
comp=Z,0.5nm,0.4s,baz=144,slow=24,SNR=4.8
BRTR pP **sP** **22 06 46.5 -1.7**
comp=Z,1.3nm,0.5s,baz=80,slow=3.8,SNR=5.1
BRTR LR LR 22 45 45.8
comp=Z,54nm,18.3s,baz=45,slow=39
comp=Z,0.5nm,0.4s
KNB Kanab 78.36 52 P **P** **22 06 27.7 -0.6**
KNB IAmb IAmb 22 06 47.2
comp=Z,9.2nm,1.3s
KNB Kanab 78.36 52 P **P** **22 06 27.7 -0.6**
KNB pmax pmax
comp=Z,9.0nm,1.3s
MLR Muntele Rosu 78.74 320 LR LR 22 42 36.9
comp=Z,170nm,20.6s,baz=47,slow=37
LANS Liptovska Anna 79.22 326 *e*P **P** **22 06 35.0 +2.4**
LANS Liptovska Anna 79.22 326 *e*P **P** **22 06 35.0 +2.4**
LANS pmax pmax
comp=Z,3.0nm,0.9s
MORC Moravsky Berou 79.60 327 P **P** **22 06 35.3 +0.6**
MORC Moravsky Berou 79.60 327 *e*P **P** **22 06 35.3 +0.6**
MORC Moravsky Berou 79.60 327 P **P** **22 06 35.3 +0.6**
MORC pmax pmax
comp=Z,6.0nm,1.1s
CHVC Chvalec 79.61 328 *e*P **P** **22 06 36.6 +1.9**
CHVC Chvalec 79.61 328 *e*P **P** **22 06 36.6 +1.9**
DPC Dobruska-Polom 79.68 328 *e*P **P** **22 06 37.2 +2.1**
DPC Dobruska-Polom 79.68 328 *e*P **P** **22 06 37.2 +2.1**
KRLC Kraliky 79.70 328 *e*P **P** **22 06 36.9 +1.7**
KRLC Kraliky 79.70 328 *e*P **P** **22 06 36.9 +1.7**
PSZ Piszkesteto 79.94 325 P **P** **22 06 37.7 +1.1**
PSZ pmax pmax
comp=Z,9.0nm,0.4s
VYHS Vyhne 79.99 325 *e*P **P** **22 06 38.0 +1.2**
VYHS Vyhne 79.99 325 *e*P **P** **22 06 38.0 +1.2**
VYHS pmax pmax
comp=Z,7.0nm,1.3s
JAVC Velka Javorina 80.23 326 *e*P **P** **22 06 40.0 +1.9**
CLL Collm 80.29 330 *e*P **P** **22 06 39.0 +0.7**
CLL AMS AMS 22 40 00.0
comp=Z,100nm,18.6s
CLL Collm 80.29 330 *e*P **P** **22 06 39.0 +0.7**
VRAC Vranov 80.36 327 *e*P **P** **22 06 39.9 +1.2**
VRAC Vranov 80.36 327 LR LR 22 46 10.7
comp=Z,160nm,18.4s,baz=7.0,slow=38
RAR Rarotonga 80.56 126 LR LR 22 34 39.5
comp=Z,132nm,20.4s,baz=340,slow=30
KRUC Moravsky 80.63 327 *e*P **P** **22 06 40.8 +0.6**
PRU Pruhonice 80.70 329 *e*P **P** **22 06 41.9 +1.4**
PRU Pruhonice 80.70 329 *e*P **P** **22 06 41.9 +1.4**
TREC Trest 80.84 328 *e*P **P** **22 06 42.7 +1.4**
TREC Trest 80.84 328 *e*P **P** **22 06 42.7 +1.4**
MMAI Mount Meron Ar 81.58 305 P **P** **22 06 45.6 -0.1**
comp=Z,1.8nm,0.6s,baz=27,slow=7.5,SNR=9.0
MMAI LR LR 22 45 56.6
comp=Z,74nm,21.5s,baz=14,slow=38
comp=Z,1.8nm,0.6s
CKRC Cesky Krumlov 81.70 328 *e*P **P** **22 06 47.3 +1.4**
CKRC Cesky Krumlov 81.70 328 *e*P **P** **22 06 47.3 +1.4**
RONA Rosalia, Austr 81.71 326 *e*PcP **P** **22 06 48.0 +2.0**
comp=Z,6.9nm,1.2s
CONA Conrad Observa 81.72 327 *e*PcP **P** **22 06 48.3 +2.2**
comp=Z,4.2nm,1.3s
KHC Kasperske Hory 81.76 329 P **P** **22 06 46.4 +0.2**
KHC Kasperske Hory 81.76 329 *e*P **P** **22 06 47.4 +1.2**
KHC Kasperske Hory 81.76 329‖ *i*P **P** **22 06 47.6 +1.4**
KHC pmax pmax
comp=Z,7.0nm,0.9s
GERES GERESS Array B 81.93 328 P **P** **22 06 47.2 0.0**
GERES GERESS Array B 81.93 328 P **P** **22 06 47.5 +0.3**
comp=Z,1.0nm,0.6s,baz=32,slow=5.3,SNR=8.3
comp=Z,1.0nm,0.6s
ARSA Arzberg 82.39 326 *e*P **P** **22 06 49.0 -0.6**
comp=Z,2.5nm,0.9s
URZ Urewera 82.69 153 LR LR 22 40 29.9
comp=Z,58nm,18.7s,baz=130,slow=33
BIOA Bad Ischl, Aus 82.86 328 *i* P **P** **22 06 50.3 -1.6**
comp=Z,2.7nm,0.9s
SOKA Soboth 83.05 326 *i* P **P** **22 06 53.5 +0.5**
comp=Z,8.2nm,1.3s
KBA Koelnbreinsper 83.46 327 *e*PcP **P** **22 06 56.8 +1.5**
comp=Z,5.4nm,0.8s
LESA Schwarzleotal 83.47 328 *e*PcP **P** **22 06 56.3 +1.1**
comp=Z,5.9nm,0.9s
ANMO Albuquerque 83.62 50‖ *e*P **P** **22 06 58.7 +2.3**
ANMO pmax pmax
comp=Z,9.0nm,2.5s
MYKA Terra Mystica 83.69 327 *e*P **P** **22 06 56.6 +0.2**
comp=Z,6.8nm,1.0s
WATA Walderalm 84.00 329 *i* P **P** **22 06 57.2 -0.8**
comp=Z,7.0nm,1.5s
EIL Elat 84.04 303 LR LR 22 49 03.4
comp=Z,63nm,18.4s,baz=76,slow=39
ABTA Abfaltersbach 84.08 328 *e*PcP **P** **22 06 59.0 +0.6**
comp=Z,3.1nm,1.0s
BMRD Maredsous 84.15 334 *d*PcP **PcP** **22 07 00.9 -1.4**
MOTA Moosalm 84.19 329 *e*PcP **P** **22 06 59.8 +0.9**
comp=Z,16nm,2.1s
RETA Reutte 84.21 329 *e*PcP **P** **22 07 00.0 +1.0**
comp=Z,12nm,1.4s
SQTA Sankt Quirin 84.24 329 *e*P **P** **22 06 56.6 -2.6**
comp=Z,9.7nm,1.6s
PMOR Pomariorio Ree 84.33 114 *e*T T 23 40 21.9
comp=Z,32nm,0.2s
FETA Feichten 84.60 329 *e*PcP **P** **22 07 01.6 +0.5**
comp=Z,2.3nm,1.0s
DAVA Damuels 84.73 329 *i* PcP **P** **22 07 02.6 +0.9**
comp=Z,5.9nm,0.9s
PPT Papeete 84.85 117 LR LR 22 36 06.4
comp=Z,100nm,21.9s,baz=328,slow=29
PPT2 Papeete2 84.86 117 *e*LR LR 22 33 24.1
comp=Z,163nm,26.0s
PPT2 *e*LR LR 22 33 45.0
comp=Z,229nm,26.0s
FUORN Ofenpass-Fuorn 85.11 329 P **P** **22 07 04.5 +0.7**
FUORN IAmb IAmb 22 07 05.6
comp=Z,5.2nm,0.6s
DAVOX Davos/Dischmat 85.14 329 LR LR 22 48 16.9
comp=Z,105nm,18.1s,baz=25,slow=38
RPZ Rata Peaks 85.69 159 LR LR 22 43 39.5
comp=Z,84nm,19.0s,baz=210,slow=34
MEH Mehetia 86.12 116 *e*T T 23 42 28.6
comp=Z,19nm,0.2s
TAOE Nuku Hiva Isla 86.13 104 *e*LR LR 22 34 29.9
comp=Z,190nm,26.3s
TBI Tubuai 88.82 121 *e*LR LR 22 35 42.3
comp=Z,1µm,31.2s
TBI Tubuai 88.82 121 *e*T T 23 45 59.9
comp=Z,56nm,0.3s
TXAR Lajitas Array 89.18 53 P **P** **22 07 25.4 +1.8**
comp=Z,0.8nm,0.7s,baz=296,slow=2.5,SNR=9.3

comp=Z,0.8nm,0.7s
VAE Valguarnera 90.47 321 LR LR 22 52 36.7
comp=Z,89nm,19.8s,baz=140,slow=38
KEST Kesra 94.33 323 LR LR 22 53 19.4
comp=Z,114nm,18.4s,baz=286,slow=37
ESDC Sonseca Array 96.43 334 LR LR 22 56 13.9
comp=Z,122nm,19.3s,baz=11,slow=38
LPAZ La Paz 145.84 59 **PKPdf 22 14 07.0 -0.2**
LPAZ La Paz 145.84 59 PKP2 **PKPdf 22 14 07.0 -0.2**
PB12 IPOC Station P 145.91 64 **PKPbc 22 14 07.7 +0.3**
PB16 IPOC Station P 146.31 63 **PKPdf 22 14 08.5 +0.5**
H03N2 Juan Fernandez 146.80 94 T T 00 58 59.4
baz=291,slow=76,SNR=23
H03N3 Juan Fernandez 146.81 95 T T 00 58 41.7
baz=291,slow=76,SNR=20
H03N1 Juan Fernandez 146.82 94 T T 00 58 42.5
baz=291,slow=76,SNR=17

IDC 18 21:58:12.4±8.1, 15°.68S×174°.40W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=358.6km s-min=36.7km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.84**	**257**	P	P	22 07 00.0	0.0
	0.4nm,0.5s,baz=92,slow=6.9,SNR=5.1						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**49.10**	**252**	P	P	22 07 01.9	-0.2
	2.1nm,0.6s,baz=88,slow=8.5,SNR=19						
	2.1nm,0.6s						
ILAR	**Eielson Array**	**82.91**	**12**	P	P	22 10 38.6	0.0
	0.1nm,0.3s,baz=204,slow=6.4,SNR=6.0						
	0.1nm,0.3s						

*ISK **18** 22:04:03.2, 39°.55N×26°.03E, h11km, ML2.9/17*
*THE **18** 22:04:04.2, 39°.55N×26°.09E, h11km±1km, ML2.4/2, Error ellipse: s-maj=1.8km s-min=0.5km az=86.0*
*AFAD **18** 22:04:04.3±0.0, 39°.56N×26°.13E, h6km±1km, ML2.6*
*ATH **18** 22:04:04.6, 39°.53N×26°.04E, h13km±1km, ML2.5/5, Error ellipse: s-maj=2.2km s-min=0.8km az=232.0*
ISC 18 22:04:03.3±0.8, 39°.55N±0°.02×26°.12E±0°.02, h15km±5km, n48, σ0°.50/73, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.05**	**159**	P	**Pg**	**22 04 06.2**	**0.0**
KOCA				S	**Sg**	**22 04 07.6**	**-0.6**
GPNR	**Gulpinar-Canak**	**0.10**	**171**	Pg	**Pg**	**22 04 06.7**	**+0.1**
GPNR				Sg	**Sg**	**22 04 08.9**	**+0.2**
EZN	**Ezine**	**0.32**	**31**	Pg	**Pb**	**22 04 10.9**	**+0.2**
EZN				Sg	**Sb**	**22 04 15.9**	**+0.2**
EZN	**Ezine**	**0.32**	**31**	P	**Pb**	**22 04 10.8**	**+0.1**
EZN				S	**Sb**	**22 04 15.7**	**0.0**
	695nm,0.1s						
PRK	**Paraskevi**	**0.33**	**158**	P	**Pb**	**22 04 11.0**	**+0.1**
PRK				S	**Sb**	**22 04 16.1**	**+0.2**
	1μm,0.3s						
PRK	**Paraskevi**	**0.33**	**158**	P	**Pb**	**22 04 10.9**	**+0.1**
PRK				S	**Sb**	**22 04 16.0**	**+0.1**
PRK				AML	AML	22 04 16.3	
	comp=N,2594μm,0.4s						
PRK				AML	AML	22 04 16.6	
	comp=E,2671μm,0.2s						
BAYC	**CANAKKALE_Bayr**	**0.38**	**60**	P	**Pb**	**22 04 12.0**	**+0.2**
BAYC				S	**Sg**	**22 04 16.7**	**+0.2**
ECEA	**Canakkale, Ece**	**0.49**	**5**	P	**Pb**	**22 04 14.1**	**+0.4**
ECEA				S	**Sb**	**22 04 20.9**	**+0.1**
ECEA				*i* AML	AML	22 04 22.0	
	comp=E,358nm,0.2s						
ECEA				*i* AML	AML	22 04 23.0	
	comp=E,444nm,0.2s						
AYVA	**Ayvalik**	**0.51**	**118**	P	**Pb**	**22 04 14.3**	**+0.4**
CNKL	**anakkale-Mer**	**0.56**	**22**	P	**Pb**	**22 04 14.6**	**-0.1**
CNKL				P	**Pg**	**22 04 14.9**	**+0.5**
CNKL				S	**Sb**	**22 04 22.1**	**-0.4**
EAG3	**Mitilini, Lesv**	**0.58**	**143**	P	**Pb**	**22 04 16.1**	**+0.9**
EAG3				S	**Sn**	**22 04 25.0**	**-1.2**
EAG3				AML	AML	22 04 29.2	
	comp=N,1430μm,0.2s						
EAG3				AML	AML	22 04 29.8	
	comp=E,1542μm,0.2s						
COMU	**Canakkale**	**0.61**	**27**	Pg	**Pb**	**22 04 16.1**	**+0.4**
COMU				Sg	**Sn**	**22 04 25.7**	**-1.4**
GOAD	**anakkale-G¶**	**0.63**	**346**	P	**Pg**	**22 04 15.8**	**+0.1**
GOAD				*i* AML	AML	22 04 25.0	
	comp=E,272nm,0.5s						
GADA	**Gvkgeada**	**0.66**	**345**	Pg	**Pg**	**22 04 16.2**	**-0.1**
GADA				Sg	**Sb**	**22 04 25.5**	**0.0**
BUHA	**Balikesir, Bur**	**0.75**	**94**	P	**Pn**	**22 04 18.9**	**-0.4**
BUHA				S	**Sb**	**22 04 27.8**	**-0.1**
DKL	**Dikili**	**0.78**	**128**	Pg	**Pn**	**22 04 19.9**	**+0.2**
LIA	**Limnos Island**	**0.80**	**296**	P	**Pg**	**22 04 18.9**	**0.0**
LIA	**Limnos Island**	**0.80**	**296**	P	**Pg**	**22 04 18.8**	**0.0**
LIA				S	**Sb**	**22 04 29.7**	**+0.3**
CANM	**Can-anakkale**	**0.86**	**57**	Pg	**Pn**	**22 04 21.2**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.89**	**18**	Pg	**Pn**	**22 04 21.1**	**-0.2**
GELI				Sg	**Sn**	**22 04 34.3**	**+0.4**
KARB	**zmir-Karabur**	**0.92**	**165**	P	**Pn**	**22 04 21.9**	**+0.3**
KARB				S	**Sb**	**22 04 33.0**	**+0.1**
KARB				*i* AML	AML	22 04 36.0	
	comp=E,193nm,0.3s						
ZEDA	**zmir-Bergama**	**0.95**	**128**	P	**Pn**	**22 04 22.8**	**+0.7**
ZEDA				S	**Sg**	**22 04 34.4**	**+0.2**
ZEDA				*i* AML	AML	22 04 37.0	
	comp=E,142nm,0.3s						
ZEDA				*i* AML	AML	22 04 38.0	
	comp=E,139nm,0.2s						
LPK	**Lapseki**	**0.96**	**31**	Pg	**Pn**	**22 04 22.6**	**+0.4**
FOCM	**Foa**	**0.96**	**150**	Pg	**Pn**	**22 04 23.1**	**+0.8**
SMTH	**Samothraki Isl**	**1.02**	**334**	P	**Pn**	**22 04 23.4**	**+0.3**
SMTH	**Samothraki Isl**	**1.02**	**334**	P	**Pn**	**22 04 23.2**	**+0.1**
SMTH				S	**Sn**	**22 04 37.1**	**-0.1**
SMTH				AML	AML	22 04 38.9	
	comp=E,292μm,0.4s						
SMTH				AML	AML	22 04 39.1	
	comp=N,413μm,0.3s						
CAVK	**Edirne/Enez-Ca**	**1.14**	**2**	P	**Pg**	**22 04 25.6**	**+0.3**
CAVK				*i* AML	AML	22 04 47.0	
	comp=N,126nm,0.8s						
CAVK				*i* AML	AML	22 04 51.0	
	comp=N,110nm,0.6s						
ERIK	**Erikli-Kesan**	**1.16**	**15**	Pn	**Pg**	**22 04 25.7**	**0.0**
CHOS	**Chios island**	**1.16**	**182**	P	**Pb**	**22 04 25.3**	**+0.1**
CHOS	**Chios island**	**1.16**	**182**	P	**Pb**	**22 04 25.3**	**+0.1**
CHOS				S	**Sb**	**22 04 40.5**	**+0.4**
CHOS				AML	AML	22 04 45.8	
	comp=E,558μm,0.4s						
CHOS				AML	AML	22 04 47.9	
	comp=N,329μm,0.4s						
BALY	**Balya**	**1.18**	**80**	P	**Pg**	**22 04 26.6**	**+0.5**
BALY				*i* AML	AML	22 04 45.0	
	comp=N,106nm,0.5s						
KRBG	**Karabiga-Canak**	**1.24**	**47**	Pn	**Pg**	**22 04 27.3**	**+0.1**
URLA	**Izmir**	**1.25**	**162**	Pn	**Pb**	**22 04 26.5**	**-0.1**
URLA	**Izmir**	**1.25**	**162**	P	**Pb**	**22 04 26.4**	**-0.1**
URLA				S	**Sb**	**22 04 40.9**	**-1.5**
STEP	**BALIKESIR_Sava**	**1.25**	**97**	P	**Pg**	**22 04 28.0**	**+0.5**
STEP				S	**Sg**	**22 04 43.4**	**-0.4**
STEP				*i* AML	AML	22 04 50.0	
	comp=N,95nm,1.1s						
GONE	**Gonen-Balikesi**	**1.31**	**67**	Pn	**Pg**	**22 04 28.9**	**+0.4**
ALN	**Alexandroupoli**	**1.34**	**358**	Pn	**Pb**	**22 04 28.3**	**+0.1**
ALN	**Alexandroupoli**	**1.34**	**358**	P	**Pg**	**22 04 28.8**	**-0.4**
ALN				S	**Sg**	**22 04 46.1**	**-0.7**
ALN				AML	AML	22 04 48.3	
	comp=E,533μm,0.5s						
ALN				AML	AML	22 04 48.4	
	comp=N,351μm,0.4s						
ZEYE	**Izmir, Urla-Ze**	**1.34**	**167**	P	**Pn**	**22 04 27.7**	**+0.2**
ZEYE				S	**Sn**	**22 04 44.5**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.40**	**35**	Pn	**Pb**	**22 04 29.6**	**+0.5**
BKES	**Balkesir-Mer**	**1.41**	**82**	P	**Pb**	**22 04 29.7**	**+0.4**
BKES				S	**Sb**	**22 04 47.7**	**+0.5**
AKHS	**Akhisar**	**1.48**	**116**	P	**Pn**	**22 04 27.9**	**-1.5**
EDC	**Edincik**	**1.56**	**59**	Pn	**Pb**	**22 04 32.0**	**+0.1**
UKOP	**Uzunkopru-Edir**	**1.62**	**14**	Pn	**Pb**	**22 04 32.4**	**-0.6**
RDO	**Rodhopi**	**1.65**	**345**	P	**Pb**	**22 04 33.3**	**-0.1**
OUR	**Ouranopolis**	**1.82**	**296**	P	**Pn**	**22 04 34.6**	**+0.6**
KOKK	**Kokkinochori,**	**2.06**	**309**	P	**Pn**	**22 04 37.8**	**+0.5**
NVR	**Nevrokopi**	**2.49**	**317**	P	**Pn**	**22 04 44.3**	**+1.0**

*ISK **18** 22:42:43.6, 39°.51N×26°.10E, h7km, ML2.7/18*
*AFAD **18** 22:42:44.8±0.0, 39°.56N×26°.13E, h9km±1km, ML2.5*
*THE **18** 22:42:45.0, 39°.55N×26°.08E, h0km±2km, ML2.4/4, Error ellipse: s-maj=2.2km s-min=0.6km az=184.0*
ISC 18 22:42:44.3±0.9, 39°.56N±0°.02×26°.09E±0°.03, h13km±6km, n38, σ0°.51/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.07**	**144**	P	**Pg**	**22 42 47.1**	**+0.2**
KOCA				S	**Sg**	**22 42 48.4**	**-0.4**
GPNR	**Gulpinar-Canak**	**0.11**	**160**	Pg	**Pg**	**22 42 47.0**	**-0.3**
EZN	**Ezine**	**0.33**	**34**	Pg	**Pb**	**22 42 51.4**	**-0.5**
EZN				Sg	**Sb**	**22 42 56.6**	**-0.4**
EZN	**Ezine**	**0.33**	**34**	P	**Pb**	**22 42 51.7**	**-0.2**
EZN				S	**Sb**	**22 42 56.9**	**-0.1**
	628nm,0.4s						
PRK	**Paraskevi**	**0.34**	**155**	P	**Pg**	**22 42 51.9**	**+0.7**
PRK				S	**Sg**	**22 42 57.0**	**+1.1**
	985nm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.40**	**63**	P	**Pb**	**22 42 52.9**	**-0.3**
BAYC				S	**Sg**	**22 42 57.1**	**-0.6**
ECEA	**Canakkale, Ece**	**0.49**	**8**	P	**Pb**	**22 42 54.8**	**+0.1**
ECEA				S	**Sb**	**22 43 01.5**	**-0.3**
ECEA				*i* AML	AML	22 43 05.0	
	comp=E,342nm,0.3s						
ECEA				*i* AML	AML	22 43 07.0	
	comp=N,266nm,0.5s						
AYVA	**Ayvalik**	**0.53**	**118**	P	**Pg**	**22 42 54.8**	**+0.2**
AYVA				S	**Sb**	**22 43 03.0**	**+0.1**
CNKL	**anakkale-Mer**	**0.56**	**24**	P	**Pg**	**22 42 55.2**	**0.0**
CNKL				P	**Pb**	**22 42 55.5**	**-0.4**
CNKL				S	**Sb**	**22 43 03.2**	**-0.5**
COMU	**Canakkale**	**0.62**	**29**	Pg	**Pb**	**22 42 56.7**	**-0.2**
COMU				Sg	**Sb**	**22 43 06.5**	**+1.0**
GOAD	**anakkale-G¶**	**0.62**	**347**	P	**Pg**	**22 42 56.3**	**-0.1**
GOAD				S	**Sg**	**22 43 04.1**	**-0.5**
GOAD				*i* AML	AML	22 43 06.0	
	comp=N,227nm,0.4s						
GOAD				*i* AML	AML	22 43 06.0	
	comp=E,282nm,0.5s						
GADA	**Gvkgeada**	**0.65**	**347**	Pg	**Pb**	**22 42 57.4**	**0.0**
GADA				Sg	**Sb**	**22 43 06.5**	**+0.1**
BUHA	**Balikesir, Bur**	**0.77**	**94**	P	**Pb**	**22 42 59.6**	**+0.2**
BUHA				S	**Sg**	**22 43 09.0**	**-0.3**
LIA	**Limnos Island**	**0.78**	**296**	P	**Pb**	**22 42 59.9**	**+0.3**
LIA				S	**Sn**	**22 43 12.1**	**-0.2**
	425nm,0.3s						
DKL	**Dikili**	**0.80**	**127**	Pg	**Pg**	**22 42 58.8**	**-0.9**
CANM	**Can-anakkale**	**0.87**	**58**	Pg	**Pg**	**22 43 00.8**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.89**	**19**	Pg	**Pg**	**22 43 01.9**	**+0.4**
GELI				Sg	**Sn**	**22 43 15.1**	**-0.1**
KARB	**zmir-Karabur**	**0.93**	**164**	P	**Pg**	**22 43 01.9**	**-0.3**
KARB				S	**Sg**	**22 43 14.0**	**-0.3**
KARB				*i* AML	AML	22 43 16.0	
	comp=E,136nm,0.5s						
KARB				*i* AML	AML	22 43 17.0	
	comp=N,133nm,0.4s						
LPK	**Lapseki**	**0.96**	**32**	Pg	**Pb**	**22 43 03.1**	**+0.3**
ZEDA	**zmir-Bergama**	**0.97**	**127**	P	**Pb**	**22 43 03.8**	**+0.9**
ZEDA				S	**Sb**	**22 43 16.3**	**+0.8**
ZEDA				*i* AML	AML	22 43 19.0	
	comp=N,111nm,0.3s						
FOCM	**Foa**	**0.98**	**149**	Pg	**Pg**	**22 43 01.4**	**-1.8**
SMTH	**Samothraki Isl**	**1.01**	**335**	P	**Pn**	**22 43 04.2**	**+0.1**
SMTH				S	**Sn**	**22 43 18.5**	**+0.4**
	160nm,0.1s						
CAVK	**Edirne/Enez-Ca**	**1.14**	**3**	P	**Pn**	**22 43 06.2**	**+0.4**
CAVK				*i* AML	AML	22 43 31.0	
	comp=N,123nm,1.0s						
CAVK				*i* AML	AML	22 43 49.0	
	comp=E,119nm,1.1s						
ERIK	**Erikli-Kesan**	**1.16**	**16**	Pn	**Pn**	**22 43 06.5**	**+0.4**
CHOS	**Chios island**	**1.17**	**181**	P	**Pb**	**22 43 06.2**	**-0.1**
BALY	**Balya**	**1.20**	**81**	P	**Pb**	**22 43 07.0**	**+0.2**
KRBG	**Karabiga-Canak**	**1.25**	**48**	Pn	**Pg**	**22 43 08.2**	**-0.1**
URLA	**Izmir**	**1.26**	**161**	Pn	**Pn**	**22 43 07.4**	**-0.1**
URLA	**Izmir**	**1.26**	**161**	P	**Pn**	**22 43 06.8**	**-0.7**
URLA				*i* AML	AML	22 43 25.0	
	comp=E,117nm,1.6s						
URLA				*i* AML	AML	22 43 36.0	
	comp=N,102nm,1.7s						
STEP	**BALIKESIR_Sava**	**1.28**	**98**	P	**Pn**	**22 43 07.7**	**-0.1**
STEP				S	**Sb**	**22 43 25.1**	**+0.6**
GONE	**Gonen-Balikesi**	**1.32**	**68**	Pn	**Pn**	**22 43 08.9**	**+0.5**
ALN	**Alexandroupoli**	**1.34**	**359**	Pn	**Pg**	**22 43 10.1**	**+0.1**
ALN	**Alexandroupoli**	**1.34**	**359**	P	**Pg**	**22 43 10.2**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.41**	**36**	Pn	**Pb**	**22 43 10.6**	**+0.3**
EDC	**Edincik**	**1.58**	**59**	Pn	**Pn**	**22 43 12.6**	**+0.7**
UKOP	**Uzunkopru-Edir**	**1.62**	**15**	Pn	**Pb**	**22 43 13.7**	**-0.3**
RDO	**Rodhopi**	**1.64**	**345**	Pn	**Pb**	**22 43 14.4**	**+0.1**
RDO	**Rodhopi**	**1.64**	**345**	P	**Pb**	**22 43 14.0**	**-0.3**

IDC 18 23:06:17.6±6.2, 7°.17S×155°.19E, h0km, mb3.6/3, mbtmp3.7/3, MS4.4/1, Error ellipse: s-maj=176.1km s-min=40.8km az=116.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.88**	**236**	P	P	23 11 33.0	-0.2
	0.9nm,1.0s,baz=59,slow=9.3,SNR=5.6						
	0.9nm,1.0s						
KLR	**Kul'dur**	**59.79**	**342**	LR	LR	23 41 27.8	
	comp=Z,314nm,21.3s,baz=186,slow=35						
SONM	**Songino Array**	**69.58**	**327**	P	P	23 17 30.1	+1.4
	0.5nm,0.5s,baz=142,slow=5.8,SNR=4.6						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**83.66**	**319**	P	P	23 18 47.2	-1.1
	0.4nm,0.5s,baz=101,slow=4.8,SNR=7.5						
	0.4nm,0.5s						

*SFS **18** 23:12:10.5, 36°.61N×4°.59W, h82km, ML2.4/16, MLv1.9/16*
*CNRM **18** 23:12:10.7, 36°.53N×4°.72W, h74km, ml2.1*
*MDD **18** 23:12:10.9±0.4, 36°.64N×4°.60W, h82km±4km, Mb2.8/29, Error ellipse: s-maj=3.3km s-min=1.9km az=160.0*
*INMG **18** 23:12:11.9±1.9, 36°.69N×4°.67W, h67km±8km, ML2.0, Error ellipse: s-maj=5.3km s-min=3.7km az=6.0*
*IGIL **18** 23:12:12.0, 36°.64N×4°.60W, h56km, ML2.0*
ISC 18 23:12:08.8±1.2, 36°.62N±0°.02×4°.58W±0°.02, h90km±6km, n66, σ1°.55/120, 16C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.16**	**252**	⇓P	**Pn**	**23 12 21.7**	**-0.1**
EMIJ				S	**Sn**	**23 12 29.9**	**-1.5**
EMIJ	**Mijas**	**0.16**	**252**	S	**Sn**	**23 12 29.6**	**-1.8**
EMIJ				P	**Pn**	**23 12 21.7**	**-0.1**
EMAL	**Malaga-Limoner**	**0.19**	**40**	S	**Sn**	**23 12 30.5**	**-1.0**
EMAL				P	**Pn**	**23 12 22.4**	**+0.6**
EGOR	**Sierra Gorda,**	**0.62**	**37**	P	**Pn**	**23 12 25.8**	**+1.0**
EGOR				S	**Sn**	**23 12 37.7**	**+1.0**
EGOR	**Sierra Gorda,**	**0.62**	**37**	S	**Sn**	**23 12 36.9**	**+0.2**
EGOR				P	**Pn**	**23 12 25.8**	**+1.0**
ELGU	**Los Guajares,**	**0.81**	**72**	P	**Pn**	**23 12 26.7**	**+0.2**
ELGU				S	**Sn**	**23 12 39.8**	**0.0**
ELGU	**Los Guajares,**	**0.81**	**72**	S	**Sn**	**23 12 39.8**	**0.0**
ELGU				P	**Pn**	**23 12 26.7**	**+0.2**
ECEU	**Ceuta**	**0.96**	**222**	P	**Pn**	**23 12 27.6**	**-0.6**
ECEU				⇑*i*Vmb_V		23 12 29.5	
	337nm,SNR=1.9						
ECEU				S	**Sn**	**23 12 44.7**	**+2.1**
ESPR	**Espera**	**1.05**	**284**	P	**Pn**	**23 12 30.7**	**+1.6**
ESPR				S	**Sn**	**23 12 45.3**	**+0.9**
ESPR	**Espera**	**1.05**	**284**	P	**Pn**	**23 12 30.3**	**+1.2**
ESPR				S	**Sn**	**23 12 45.2**	**+0.7**
EQTA	**Presa de Quent**	**1.09**	**57**	S	**Sn**	**23 12 45.4**	**+0.1**
EQUE	**Quentar**	**1.09**	**57**	S	**Sn**	**23 12 45.5**	**+0.2**
SMIR	**Smir Dam**	**1.14**	**215**	P	**Pn**	**23 12 29.6**	**-0.5**
SMIR				S	**Sn**	**23 12 44.4**	**-1.6**
EBER	**Berja**	**1.39**	**78**	P	**Pn**	**23 12 33.9**	**+0.6**
EBER				⇑*i*Vmb_V		23 12 38.2	
	153nm,SNR=1.4						
EBER				S	**Sn**	**23 12 50.7**	**-1.2**
EBER	**Berja**	**1.39**	**78**	P	**Pn**	**23 12 33.0**	**-0.3**
PALE	**Palemas**	**1.49**	**159**	P	**Pn**	**23 12 35.9**	**+1.3**
PALE				S	**Sn**	**23 12 54.3**	**+0.4**
EADA	**Adamuz**	**1.55**	**0**	⇑P	**Pn**	**23 12 36.3**	**+1.0**
EADA				⇑*i*Vmb_V		23 12 36.9	
	773nm,SNR=13						
EADA				S	**Sn**	**23 12 54.3**	**-1.0**
ECAB	**El Cabril**	**1.60**	**336**	P	**Pn**	**23 12 36.4**	**+0.5**
ECAB				⇑*i*Vmb_V		23 12 37.7	
	137nm,SNR=2.6						
ECAB				S	**Sn**	**23 12 55.4**	**-1.1**
EQES	**Quesada**	**1.69**	**45**	P	**Pn**	**23 12 38.5**	**+1.3**
EQES				⇑*i*Vmb_V		23 12 38.6	
	115nm,SNR=1.7						
EQES				S	**Sn**	**23 12 57.9**	**-0.7**
GOG	**Mont Gurugu**	**1.90**	**137**	P	**Pn**	**23 12 41.2**	**+1.4**
GOG				S	**Sn**	**23 13 03.5**	**+0.2**
EMIN	**Mina Concepcio**	**2.03**	**305**	P	**Pn**	**23 12 42.1**	**+0.7**
EMIN				⇑*i*Vmb_V		23 12 42.2	
	159nm,SNR=2.4						
EMIN				S	**Sn**	**23 13 04.5**	**-1.7**
EMIN	**Mina Concepcio**	**2.03**	**305**	P	**Pn**	**23 12 42.0**	**+0.7**
EMIN				S	**Sn**	**23 13 05.0**	**-1.2**
AKLM	**AKL**	**2.18**	**164**	P	**Pn**	**23 12 42.8**	**-0.7**
AKLM				S	**Sn**	**23 13 06.4**	**-3.6**
PSIM	**Granatula de C**	**2.29**	**16**	P	**Pn**	**23 12 46.1**	**+1.1**
PSIM				S	**Sn**	**23 13 10.9**	**-1.7**
EGRO	**El Granado**	**2.50**	**292**	P	**Pn**	**23 12 48.7**	**+1.1**
EGRO				⇑*i*Vmb_V		23 12 49.2	
	129nm,SNR=0.9						
EGRO				S	**Sn**	**23 13 15.4**	**-1.9**
PBAR	**Barrancos**	**2.50**	**309**	*e*P	**Pn**	**23 12 48.8**	**+1.2**
PBAR				*e*S	**Sn**	**23 13 15.8**	**-1.6**
PBAR				A	A	23 13 18.2	
	4.5nm,0.2s						
PVAQ	**Vaqueiros**	**2.63**	**288**	*e*P	**Pn**	**23 12 51.0**	**+1.6**
PVAQ				*e*S	**Sn**	**23 13 18.6**	**-1.9**
PVAQ	**Vaqueiros**	**2.63**	**288**	P	**Pn**	**23 12 48.8**	**-0.6**
PVAQ				S	**Sn**	**23 13 19.7**	**-0.9**
PBDV	**Barranco-do-Ve**	**2.76**	**284**	*e*P	**Pn**	**23 12 52.3**	**+1.2**
PBDV				*e*S	**Sn**	**23 13 22.1**	**-1.5**
PBDV				A	A	23 13 30.5	
	2.9nm,0.8s						
JBK	**JBK**	**2.81**	**144**	P	**Pn**	**23 12 52.3**	**+0.4**
JBK				S	**Sn**	**23 13 26.3**	**+1.2**
EBAD	**Badajoz**	**2.88**	**319**	P	**Pn**	**23 12 53.9**	**+1.2**
EBAD				⇑*i*Vmb_V		23 12 53.9	
	94nm,SNR=1.3						
EBAD				S	**Sn**	**23 13 25.1**	**-1.3**
EBAD	**Badajoz**	**2.88**	**319**	P	**Pn**	**23 12 53.9**	**+1.2**
EBAD				S	**Sn**	**23 13 25.2**	**-1.3**
PAB	**San Pablo**	**2.93**	**4**	P	**Pn**	**23 12 54.5**	**+1.0**
PAB				⇑*i*Vmb_V		23 12 57.1	
	92nm,SNR=1.5						
PAB				S	**Sn**	**23 13 25.5**	**-2.3**
PCVE	**Castro Verde**	**2.94**	**291**	*e*P	**Pn**	**23 12 54.4**	**+0.8**
PCVE				*e*S	**Sn**	**23 13 26.6**	**-1.5**
PCVE				A	A	23 13 30.1	
	2.0nm,0.5s						
PBEJ	**Beja**	**2.97**	**299**	*e*P	**Pn**	**23 12 55.0**	**+1.0**
PBEJ				*e*S	**Sn**	**23 13 27.5**	**-1.3**
PBEJ				A	A	23 13 28.9	
	2.6nm,0.5s						
ESDC	**Sonseca Array**	**3.09**	**9**	⇑*i*Vmb_V		23 13 01.0	
	62nm,SNR=1.0						
ESDC				S	**Sn**	**23 13 29.5**	**-2.2**
IFR	**Ifrane**	**3.12**	**188**	P	**Pn**	**23 12 56.9**	**+0.6**
IFR				S	**Sn**	**23 13 30.3**	**-2.4**
ETOB	**Tobarra**	**3.15**	**49**	P	**Pn**	**23 12 57.4**	**+1.1**
ETOB				⇑*i*Vmb_V		23 12 58.1	
	230nm,SNR=1.7						
ETOB				S	**Sn**	**23 13 30.7**	**-2.3**
ETOB	**Tobarra**	**3.15**	**49**	P	**Pn**	**23 12 57.5**	**+1.1**
ETOB				S	**Sn**	**23 13 31.6**	**-1.4**
MESJ	**Messejana**	**3.15**	**294**	*e*P	**Pn**	**23 12 57.6**	**+1.2**
MESJ				*e*S	**Sn**	**23 13 31.2**	**-1.8**
MESJ				A	A	23 13 33.3	
	2.9nm,0.4s						
MESJ	**Messejana**	**3.15**	**294**	*e*P	**Pn**	**23 12 57.4**	**+1.1**
MESJ				*e*S	**Sn**	**23 13 30.7**	**-2.3**
MESJ				IAML		23 13 33.5	
	comp=N,4.8nm,0.4s						
PESTR	**Estremoz**	**3.28**	**314**	*e*P	**Pn**	**23 12 59.9**	**+1.8**
PESTR				*e*S	**Sn**	**23 13 34.7**	**-1.4**
PESTR				A	A	23 13 38.0	
	comp=N,2.5nm,0.7s						
EVO	**Evora**	**3.33**	**306**	*e*P	**Pn**	**23 13 00.4**	**+1.6**
EVO				*e*S	**Sn**	**23 13 35.7**	**-1.7**
EVO				A	A	23 13 37.6	
	comp=N,4.6nm,0.1s						
PTEO	**Sao Teotonio**	**3.44**	**287**	*e*S	**Sn**	**23 13 39.5**	**-0.5**
PTEO				A	A	23 13 44.4	
	comp=N,5.6nm,0.8s						
PFVI	**Vila Bisbo**	**3.44**	**280**	*e*S	**Sn**	**23 13 39.0**	**-1.1**
PFVI				A	A	23 13 41.1	
	comp=N,5.8nm,0.5s						
PNCL	**Nicolau / Gran**	**3.48**	**297**	*e*P	**Pn**	**23 13 01.9**	**+1.1**
PNCL				*e*S	**Sn**	**23 13 38.6**	**-2.4**
PNCL				A	A	23 13 51.9	
	comp=N,2.3nm,0.6s						
PMRV	**Marv??o**	**3.58**	**323**	*e*P	**Pn**	**23 13 03.4**	**+1.2**
PMRV				*e*S	**Sn**	**23 13 41.6**	**-1.8**
PMRV				A	A	23 13 59.0	
	comp=N,2.0nm,1.2s						
ZHG	**ZHG**	**3.59**	**209**	P	**Pn**	**23 13 04.9**	**+2.6**
EPLA	**Plasencia**	**3.64**	**342**	P	**Pn**	**23 13 04.5**	**+1.5**
EPLA				⇑*i*Vmb_V		23 13 04.9	

H04N2	**CROZET ISLANDS**	**8.63**	**179**	T		T		23 26 52.5	
	baz=359,slow=75								
H04N3	**CROZET ISLANDS**	**8.64**	**179**	T		T		23 26 53.0	
	baz=359,slow=75,SNR=8765								
CRZF	**Crozet Islands**	**8.89**	**179**	Pn		**Pn**		**23 18 04.3**	**-1.0**
FOMA	**Nahampoana Res**	**13.13**	**341**	Pn		**Pn**		**23 19 01.2**	**-2.1**
VOI	**Vohitsoka**	**16.12**	**344**	Pn		**Pn**		**23 19 43.5**	**-0.1**
OPO	**Ambohidratompo**	**19.29**	**347**	P		**Pn**		**23 20 22.8**	**-0.1**
	baz=300,slow=22,SNR=1.2								
	1.2nm,0.7s								
BOSA	**Boshof**	**23.76**	**284**	P		**P**		**23 21 08.4**	**-1.0**
	3.2nm,0.9s,baz=250,slow=20,SNR=1.3								
BOSA				LR		LR		23 28 34.1	
	comp=Z,105nm,20.4s,baz=182,slow=32								
	3.2nm,0.9s								
LBTB	**Lobatse**	**25.41**	**292**	LR		LR		23 29 44.5	
	comp=Z,52nm,19.9s,baz=154,slow=33								
SUR	**Sutherland**	**25.70**	**272**	LR		LR		23 30 50.7	
	comp=Z,55nm,18.6s,baz=161,slow=35								
LSZ	**Lusaka**	**30.37**	**311**	LR		LR		23 33 29.5	
	comp=Z,65nm,18.5s,baz=161,slow=35								
MAW	**Mawson**	**30.79**	**172**	LR		LR		23 31 17.8	
	comp=Z,174nm,18.2s,baz=244,slow=30								
MSEY	**Mahe Island**	**32.89**	**7**	P		**P**		**23 22 31.9**	**+0.8**
MSEY				IAmb		IAmb		23 22 33.3	
	comp=Z,46nm,1.4s								
TSUM	**Tsumeb**	**34.82**	**292**	P		**P**		**23 22 48.0**	**-0.1**
TSUM				IAmb		IAmb		23 22 51.5	
	comp=Z,16nm,1.4s								
TSUM	**Tsumeb**	**34.82**	**292**	LR		LR		23 35 25.4	
	comp=Z,36nm,20.7s,baz=156,slow=34								
H08S3	**Diego Garcia H**	**35.28**	**38**	T		T		23 59 59.9	
	SNR=5.3								
KIBK	**Kibwezi**	**37.18**	**337**	P		**P**		**23 23 08.3**	**+0.1**
KMBO	**Kilima Mbogo**	**38.57**	**337**	LR		LR		23 37 16.8	
	comp=Z,72nm,20.5s,baz=98,slow=33								
SNAA	**Sanae**	**43.81**	**202**	P		**P**		**23 24 03.6**	**+1.2**
SNAA	**Sanae**	**43.81**	**202**	P		**P**		**23 24 01.4**	**-1.1**
	comp=Z,1.4nm,0.9s,baz=338,slow=21,SNR=2.1								
	comp=Z,1.4nm,0.9s								
COCO	**West Island**	**47.56**	**70**	P		**P**		**23 24 32.7**	**+0.1**
ATD	**Arta Tunnel**	**49.49**	**349**	P		**P**		**23 24 48.3**	**+0.8**
ATD				IAmb		IAmb		23 24 58.2	
	comp=Z,29nm,1.4s								
H01W2	**Cape Leeuwin H**	**49.68**	**107**	T		T		00 18 12.0	
	baz=248,slow=75,SNR=134								
H01W3	**Cape Leeuwin H**	**49.68**	**107**	T		T		00 18 12.6	
	baz=248,slow=75,SNR=152								
H01W1	**Cape Leeuwin H**	**49.69**	**107**	T		T		00 18 13.3	
	baz=248,slow=75,SNR=156								
QSPA	**South Pole Qui**	**52.66**	**180**	P		**P**		**23 25 10.3**	**-0.7**
	comp=Z,1.7nm,1.0s,baz=4.5,slow=1.8,SNR=2.9								
QSPA				LR		LR		23 45 03.6	
	comp=Z,93nm,21.7s,baz=214,slow=33								
	comp=Z,1.7nm,1.0s								
MORW	**Morawa**	**53.58**	**101**	P		**P**		**23 25 16.9**	**-1.2**
MORW				IAmb		IAmb		23 25 27.8	
	comp=Z,32nm,1.3s								
SHEL	**Horse Pasture**	**54.68**	**277**	P		**P**		**23 25 26.0**	**-0.3**
FORT	**Forrest**	**62.01**	**109**	P		**P**		**23 26 17.4**	**+0.1**
JAGI	**Jajag, Banyuwa**	**63.16**	**80**	P		**P**		**23 26 23.4**	**-1.7**
SMAI	**San Martin Ant**	**65.21**	**201**	P		**P**		**23 26 38.5**	**+0.7**
TOA0	**Torodi Ar. Sit**	**68.81**	**307**	P		**P**		**23 27 01.9**	**+0.5**
TOA0				IAmb		IAmb		23 27 05.8	
	comp=Z,4.5nm,1.2s								
TORD	**Torodi Ar. Bea**	**68.81**	**307**	P		**P**		**23 27 01.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**68.81**	**307**	P		**P**		**23 27 02.4**	**+1.0**
	comp=Z,1.3nm,0.9s,baz=122,slow=6.0,SNR=3.9								
	comp=Z,1.3nm,0.9s								
TAU	**Tasmania Unive**	**69.30**	**129**	P		**P**		**23 27 04.6**	**+0.4**
ASAR	**Alice Springs**	**70.12**	**105**	P		**P**		**23 27 09.9**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=229,slow=6.1,SNR=14								
	comp=Z,1.5nm,0.7s								
CMAR	**Chiang Mai Arr**	**71.30**	**47**	P		**P**		**23 27 16.6**	**0.0**
	comp=Z,1.2nm,0.7s,baz=233,slow=6.7,SNR=8.1								
	comp=Z,1.2nm,0.7s								
WRA	**Warramunga Arr**	**72.51**	**102**	P		**P**		**23 27 23.9**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=231,slow=5.2,SNR=21								
	comp=Z,1.3nm,0.6s								
NIL	**Nilore**	**73.63**	**19**	P		**P**		**23 27 31.6**	**+1.4**
NIL				IAmb		IAmb		23 27 41.8	
	comp=Z,5.3nm,1.2s								
MYLDM	**Lahad Datu**	**75.14**	**71**	P		**P**		**23 27 40.0**	**+0.6**
MYLDM				IAmb		IAmb		23 27 42.8	
	comp=Z,54nm,1.5s								
SIRT	**Sirnak**	**75.14**	**352**	P		**P**		**23 27 38.6**	**-0.4**
SIRT				IAmb		IAmb		23 27 56.1	
	comp=Z,8.1nm,0.7s								
GEYT	**Alibeck**	**75.33**	**5**	P		**P**		**23 27 39.9**	**-0.1**
GYA0B	**ALIBECK ARRAY**	**75.33**	**5**	P		**P**		**23 27 39.6**	**-0.4**
GYA0B				IAmb		IAmb		23 28 05.9	
	comp=Z,3.2nm,0.8s								
CHGR	**Chuyangaron**	**77.52**	**14**	P		**P**		**23 27 52.5**	**0.0**
CHGR				IAmb		IAmb		23 27 54.7	
	comp=Z,28nm,1.3s								
AKH	**Akhalkalaki**	**78.92**	**354**	P		**P**		**23 28 01.2**	**+0.9**
AKH				IAmb		IAmb		23 28 07.6	
	comp=Z,31nm,1.4s								
ARSB	**Arslanbob**	**80.87**	**16**	P		**P**		**23 28 11.2**	**+0.3**
ODZ	**Otahua Downs**	**81.12**	**141**	P		**P**		**23 28 14.0**	**+1.8**
ODZ				IAmb		IAmb		23 28 34.5	
	comp=Z,40nm,1.4s								
RAFF	**Raffo Rosso**	**81.97**	**331**	P		**P**		**23 28 16.1**	**-0.5**
KK31	**Karatay Array**	**82.07**	**14**	P		**P**		**23 28 18.1**	**+1.1**
KK31				IAmb		IAmb		23 28 19.2	
	comp=Z,4.9nm,1.4s								
KKAR	**Karatay Array**	**82.07**	**14**	P		**P**		**23 28 17.4**	**+0.4**
AAK	**Ala-Archa**	**82.47**	**17**	P		**P**		**23 28 19.7**	**+0.5**
AAK				IAmb		IAmb		23 28 21.3	
	comp=Z,7.0nm,1.3s								
KBN	**Korca**	**82.75**	**337**	P		**P**		**23 28 21.8**	**+1.1**
KBN				IAmb		IAmb		23 28 30.1	
	comp=Z,37nm,1.3s								
KURBB	**Kurchatov Arra**	**90.92**	**17**	P		**P**		**23 28 58.7**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=215,slow=4.5,SNR=5.2								
	comp=Z,0.4nm,0.3s								
BVAR	**Borovoye Array**	**91.65**	**11**	P		**P**		**23 29 03.4**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=224,slow=44,SNR=3.9								
	comp=Z,0.7nm,0.6s								
ZALV	**Zalesovo Beam**	**95.51**	**19**	P		**P**		**23 29 20.4**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=201,slow=2.5,SNR=4.5								
	comp=Z,0.8nm,0.6s								
JOW	**Kunigami**	**96.22**	**61**	LR		LR		00 08 09.3	
	comp=Z,416nm,18.8s,baz=20,slow=33								
ILAR	**Eielson Array**	**150.59**	**16**	PKPbc		**PKPbc**		**23 35 47.0**	**-0.9**
	comp=Z,2.4nm,0.8s,baz=310,slow=3.1,SNR=16								
YKA	**Yellowknife Ar**	**153.61**	**346**	PKPbc		**PKPbc**		**23 35 54.4**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=35,slow=2.3,SNR=3.2								
TXAR	**Lajitas Array**	**157.86**	**256**	PKP		**PKPdf**		**23 35 55.0**	**+1.1**
	comp=Z,0.3nm,0.9s,baz=108,slow=2.9,SNR=2.5								
TXAR				PKPab		**PKPab**		**23 36 27.6**	**+0.7**
	comp=Z,0.7nm,1.0s,baz=123,slow=4.6,SNR=4.2								

IDC ***18*** *23:23:49.1±1.1,30.˙68N×131.˙95E,h0km,mb4.2/17, mbtmp4.2/22,ML3.5/5,Error ellipse: s-maj=25.2km s-min=18.6km az=173.0*

NIED ***18*** *23:23:51.0,30.˙64N×132.˙12E,h62km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-7.08; Mθθ2.84; Mφφ4.24; Mrθ0.83; Mθφ0.38; Mφr4.76; Fault plane solution: M₀7.47000×1015 NP1: φs191.00000°,δ65.00000°,λ-91.00000°. NP2:φs13.00000°, δ25.00000°,λ-88.00000°.*

JMA ***18*** *23:23:51.0±0.2,30.˙6N±0.˙5×13.˙2E±˚,h62km±3km, MV3.8/35,E OFF TANEGASHIMA ISLAND*

NEIC ***18*** *23:23:53.2±1.7,30.˙97N±0.˙10×132.˙02E±0.˙08,h10km±1km, mb4.9/175,Error ellipse: s-maj=16.7km s-min=11.1km az=188.0*

ISC 18 23:23:51.3±1.7,30˙71N±0˙04×132˙02E±0˙04,h9km±10km, n462,σ0˚89/472,mb4.9/106,1C,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.89**	**267**	P		**Pb**	**23 24 08.8**	**-0.1**
JTN				S		**Sn**	**23 24 22.6**	**-0.4**
JMTN	**Minamitane**	**1.01**	**252**	P		**Pb**	**23 24 10.5**	**-0.4**
JMTN				S		**Sn**	**23 24 25.4**	**-0.5**
JNAR	**Kushima--Naru**	**1.04**	**322**	*i* P		**Pb**	**23 24 11.5**	**+0.1**
JNAR				S		**Sn**	**23 24 26.6**	**0.0**
JTSR	**Tashiro 2**	**1.04**	**296**	P		**Pg**	**23 24 10.9**	**-0.5**
JTSR				*e*S		**Sg**	**23 24 25.1**	**+0.1**
JNKG	**Nichinankitago**	**1.10**	**330**	*i* P		**Pb**	**23 24 12.2**	**-0.3**
JNKG				*e*S		**Sn**	**23 24 28.3**	**+0.2**
JYAK	**Yakushimahirau**	**1.38**	**251**	*i* P		**Pn**	**23 24 15.4**	**-1.4**
JYAK				*e*S		**Sb**	**23 24 33.8**	**-1.2**
JTZ	**Takazaki**	**1.43**	**326**	*i* P		**Pn**	**23 24 16.8**	**-0.6**
JTZ				S		**Sn**	**23 24 36.1**	**-0.2**
JNN	**Nakanoshima**	**2.04**	**246**	*e*P		**Pn**	**23 24 24.7**	**-1.2**
JNN				*e*S		**Sn**	**23 24 49.8**	**-1.6**
JIU3	**Izumi3**	**2.10**	**331**	P		**Pn**	**23 24 26.6**	**-0.1**
JIU3				*e*S		**Sn**	**23 24 53.5**	**+0.6**
JSJ	**Shimokoshiki**	**2.19**	**297**	P		**Pn**	**23 24 26.7**	**-1.3**
JTO	**Tosashimizu**	**2.25**	**17**	P		**Pn**	**23 24 26.2**	**-2.4**
JTO				S		**Sn**	**23 24 51.1**	**-5.4**
UWA2	**Uwa jima 2**	**2.55**	**12**	P		**Pn**	**23 24 31.3**	**-1.6**
UWA2				S		**Sn**	**23 24 58.9**	**-5.1**
JNU	**Nakatsue**	**2.59**	**338**	P		**Pn**	**23 24 33.2**	**-0.2**
JNU	**Nakatsue**	**2.59**	**338**	Pn		**Pn**	**23 24 34.0**	**+0.5**
	15nm,0.3s,baz=192,slow=14,SNR=63							
JNU				Sn		**Sn**	**23 25 07.0**	**+1.9**
	31nm,0.3s,baz=210,slow=23,SNR=9.9							
	47nm,0.4s							
JMN	**Monobe**	**3.40**	**27**			**Pn**	**23 24 43.7**	**-0.8**
JTU	**Tsushima**	**4.40**	**331**	Pn		**Pn**	**23 24 57.9**	**-0.3**
JOW	**Kunigami**	**5.07**	**221**	Pn		**Pn**	**23 25 07.5**	**+0.1**
	7.1nm,0.3s,baz=104,slow=23,SNR=18							
JOW				Sn		**Sn**	**23 26 01.1**	**-5.1**
	3.1nm,0.3s,baz=237,slow=26,SNR=6.8							
	15nm,0.3s							
KSRS	**Korea Array**	**7.54**	**334**	Pn		**Pn**	**23 25 41.7**	**+0.4**
	0.2nm,0.3s,baz=161,slow=14,SNR=6.0							
	2.7nm,0.7s							
MJAR	**Matsushiro Arr**	**7.78**	**40**	Pn		**Pn**	**23 25 45.1**	**+0.4**
	0.4nm,0.3s,baz=239,slow=14,SNR=10.0							
	3.6nm,0.4s							
USRK	**Usuriysk Ar.**	**13.47**	**360**	Pn		**Pn**	**23 27 06.0**	**+3.5**
	0.1nm,0.3s,baz=193,slow=16,SNR=1.7							
CN2	**Changchun**	**14.07**	**340**	*e*P		**P**	**23 27 19.8**	**+1.2**
CN2				*es*P			23 28 11.3	
CN2				*e*S		**Sn**	**23 29 46.4**	**-0.5**
CN2				LR		LR		
	comp=N,120nm,11.0s							
CN2				LR		LR		
	comp=E,1μm,11.0s							
CN2				LR		LR		
	comp=Z,1μm,13.0s							
HNS	**HongShan**	**15.81**	**300**	⇑P		**P**	**23 27 38.6**	**+0.7**
HNS				pmax		pmax		
	comp=Z,28nm,1.1s							
BJT	**Baijiatuan**	**15.90**	**310**			**Pn**	**23 27 34.6**	**-0.6**
KLR	**Kul'dur**	**18.50**	**359**	P		**Pn**	**23 28 08.2**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=170,slow=9.1,SNR=15							
	comp=Z,7.4nm,0.9s							
ENH	**Enshi**	**19.42**	**274**	P		**Pn**	**23 28 18.2**	**-0.8**
HEH	**HeiHe**	**19.83**	**351**	*e*P		**P**	**23 28 21.5**	**-0.6**
HEH				pmax		pmax		
	comp=Z,7.0nm,0.7s							
HEH				pmax		pmax		
	comp=Z,270nm,5.7s							
LZH	**Lanzhou**	**24.08**	**290**	*e*P		**P**	**23 29 06.8**	**-0.4**
LZH				pP		pwP	23 29 12.3	0.0
LZH				pmax		pmax		
	comp=Z,21nm,1.3s							
ULN	**Ulaanbaatar**	**25.65**	**319**	P		**P**	**23 29 19.8**	**-1.6**
SONM	**Songino Array**	**26.01**	**318**	P		**P**	**23 29 22.8**	**-1.8**
	comp=Z,1.3nm,0.7s,baz=137,slow=9.6,SNR=8.2							
	comp=Z,1.3nm,0.7s							
GTA	**Gaotai**	**27.64**	**297**	*e*P		**P**	**23 29 39.3**	**-0.1**
GTA				pP		pwP	23 29 49.0	+4.6
GTA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
PETK	**Petropavlovsk-**	**29.15**	**32**	P		**P**	**23 29 52.6**	**+0.1**
	comp=Z,1.3nm,1.0s,baz=230,slow=9.2,SNR=4.5							
	comp=Z,1.3nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**33.27**	**101**	T		T	00 05 32.9	
	baz=296,slow=74,SNR=10							
H11N1	**WAKE ISLAND Hy**	**33.27**	**101**	T		T	00 05 29.6	
	baz=296,slow=74,SNR=7.2							
H11N3	**WAKE ISLAND Hy**	**33.29**	**101**	T		T	00 05 32.7	
	baz=296,slow=74,SNR=11							
MKAR	**Makanchi Array**	**41.26**	**307**	P		**P**	**23 31 35.0**	**-1.8**
	comp=Z,1.3nm,0.8s,baz=94,slow=9.5,SNR=7.6							
	comp=Z,1.3nm,0.8s							
GSI	**Gunungsitoli**	**43.81**	**235**	P		**P**	**23 32 01.2**	**+3.5**
GSI				IAmb		IAmb	23 32 12.4	
	comp=Z,48nm,1.6s							
KURK	**Kurchatov**	**44.05**	**313**	P		**P**	**23 31 57.3**	**-2.0**
KURBB	**Kurchatov Arra**	**44.10**	**313**	P		**P**	**23 31 58.4**	**-1.2**
	comp=Z,2.9nm,0.8s,baz=98,slow=8.9,SNR=13							
	comp=Z,2.9nm,0.8s							
BVAR	**Borovoye Array**	**49.29**	**315**	P		**P**	**23 32 38.9**	**-1.5**
	comp=Z,1.5nm,0.5s,baz=95,slow=8.1,SNR=7.0							
	comp=Z,1.5nm,0.5s							
BRVK	**Borovoye**	**49.36**	**316**	P		**P**	**23 32 39.3**	**-1.5**
AKUT	**Akutan**	**49.67**	**43**	P		**P**	**23 32 45.4**	**+2.2**
KK31	**Karatay Array**	**49.69**	**302**	P		**P**	**23 32 42.2**	**-1.3**
KKAR	**Karatay Array**	**49.69**	**302**	P		**P**	**23 32 42.4**	**-1.2**
F15K	**North Star Dit**	**51.50**	**28**	P		**P**	**23 32 56.7**	**-0.2**
F15K	**North Star Dit**	**51.50**	**28**	P		**P**	**23 32 58.4**	**+1.6**
	baz=260							
C16K	**Lisburne Hills**	**51.76**	**25**	P		**P**	**23 32 59.5**	**+0.8**
	baz=257							
L14K	**Kuka Creek**	**51.78**	**34**	P		**P**	**23 33 00.2**	**+1.3**
	baz=265							
N14K	**Kuskokwak Cree**	**52.17**	**36**	P		**P**	**23 33 02.8**	**+1.0**
	baz=267							
H16K	**Elim**	**52.34**	**30**	P		**P**	**23 33 03.8**	**+0.7**
	baz=263							
O14K	**Tigyukauivet M**	**52.35**	**37**	P		**P**	**23 33 04.1**	**+0.8**
	baz=268							
G16K	**Koyuk River**	**52.39**	**29**	P		**P**	**23 33 04.0**	**+0.6**
	baz=262							
RDOG	**Red Dog Mine**	**52.60**	**25**	P		**P**	**23 33 06.1**	**+1.1**
	baz=260							
SDPT	**Sand Point**	**52.75**	**42**	P		**P**	**23 33 06.8**	**+0.6**
	baz=272							
E17K	**Hotham Inlet**	**52.85**	**27**	P		**P**	**23 33 07.8**	**+0.9**
	baz=261							
J16K	**Anvik River**	**52.92**	**32**	P		**P**	**23 33 08.5**	**+1.1**
	baz=265							
I17K	**Unalakleet**	**52.93**	**31**	P		**P**	**23 33 08.7**	**+1.3**
	baz=265							
N15K	**Kwethluk River**	**52.98**	**35**	P		**P**	**23 33 08.5**	**+0.6**
	baz=268							
F17K	**Baldwin Pennin**	**52.98**	**28**	P		**P**	**23 33 08.6**	**+0.7**
	baz=262							
O15K	**Ungalikthiuk R**	**53.09**	**37**	P		**P**	**23 33 09.3**	**+0.6**
	baz=269							
G17K	**Kiwalik Mounta**	**53.11**	**29**	P		**P**	**23 33 09.6**	**+0.8**
	baz=264							
B18K	**Kokolik River**	**53.24**	**24**	P		**P**	**23 33 11.1**	**+1.4**
	baz=260							
PALK	**Pallekele**	**53.27**	**255**	P		**P**	**23 33 12.7**	**+1.9**
C18K	**Utukok River**	**53.33**	**25**	P		**P**	**23 33 09.3**	**-1.2**
C18K				IAmb		IAmb	23 33 11.7	
	comp=Z,9.7nm,0.9s							
C18K	**Utukok River**	**53.33**	**25**	P		**P**	**23 33 11.3**	**+0.8**
	baz=261							
L16K	**Owhat River**	**53.34**	**34**	P		**P**	**23 33 11.0**	**+0.5**
	baz=268							
E18K	**Tukpahlearik C**	**53.37**	**26**	P		**P**	**23 33 11.4**	**+0.7**
E18K	**Tukpahlearik C**	**53.37**	**26**	P		**P**	**23 33 11.9**	**+1.2**
	baz=262							
M16K	**Timber Creek**	**53.56**	**34**	P		**P**	**23 33 12.6**	**+0.4**
	baz=269							
N16K	**Nishlik Lake**	**53.64**	**35**	P		**P**	**23 33 13.4**	**+0.6**
	baz=269							
L17K	**Donlin**	**53.91**	**33**	P		**P**	**23 33 15.5**	**+0.8**
	baz=268							
K17K	**Iditarod**	**53.93**	**32**	P		**P**	**23 33 15.4**	**+0.5**
	baz=268							
G18K	**Tagagawik**	**53.97**	**28**	P		**P**	**23 33 15.1**	**0.0**
G18K				IAmb		IAmb	23 33 17.0	
	comp=Z,16nm,1.1s							
G18K	**Tagagawik**	**53.97**	**28**	P		**P**	**23 33 15.9**	**+0.7**
	baz=265							
O16K	**Kokwok River B**	**53.98**	**36**	P		**P**	**23 33 15.8**	**+0.6**
	baz=270							
C19K	**Lookout Ridge**	**53.98**	**24**	P		**P**	**23 33 16.4**	**+1.2**
	baz=262							
P16K	**Nushagak River**	**54.03**	**37**	P		**P**	**23 33 15.8**	**+0.2**
	baz=271							
H18K	**Honhosa River**	**54.04**	**29**	P		**P**	**23 33 16.1**	**+0.5**
	baz=266							
M17K	**Holitna River**	**54.30**	**34**	P		**P**	**23 33 18.1**	**+0.4**
	baz=270							
F19K	**Shaleruckik Mo**	**54.41**	**27**	P		**P**	**23 33 19.5**	**+1.2**
	baz=265							
N17K	**Nushagak Hills**	**54.43**	**35**	P		**P**	**23 33 18.9**	**+0.4**
	baz=270							
D19K	**Kuna River**	**54.44**	**25**	P		**P**	**23 33 19.0**	**+0.5**
D19K				IAmb		IAmb	23 33 20.4	
	comp=Z,21nm,1.1s							
D19K	**Kuna River**	**54.44**	**25**	P		**P**	**23 33 19.5**	**+1.0**
	baz=264							
G19K	**Purcell Mounta**	**54.63**	**28**	P		**P**	**23 33 20.7**	**+0.7**
	baz=267							
L18K	**Granite Mounta**	**54.67**	**33**	P		**P**	**23 33 21.1**	**+0.9**
	baz=270							
E19K	**Redstone River**	**54.67**	**27**	P		**P**	**23 33 20.5**	**+0.3**
E19K				IAmb		IAmb	23 33 22.1	
	comp=Z,13nm,0.9s							
E19K	**Redstone River**	**54.67**	**27**	P		**P**	**23 33 21.0**	**+0.8**
	baz=266							
J18K	**Innoko River**	**54.67**	**31**	P		**P**	**23 33 20.4**	**+0.1**
J18K				IAmb		IAmb	23 34 17.1	
	comp=Z,8.6nm,0.9s							
Q16K	**King Salmon**	**54.74**	**37**	P		**P**	**23 33 21.1**	**+0.3**
	baz=272							
JOHN	**Johnston Islan**	**54.75**	**91**	P		**P**	**23 33 20.2**	**-1.2**
P17K	**Kvichak River**	**54.83**	**37**	P		**P**	**23 33 21.8**	**+0.3**
	baz=272							
H19K	**Roundabout Mou**	**54.86**	**29**	P		**P**	**23 33 21.5**	**0.0**
H19K				IAmb		IAmb	23 33 23.8	
	comp=Z,17nm,1.0s							
H19K	**Roundabout Mou**	**54.86**	**29**	P		**P**	**23 33 22.2**	**+0.7**
	baz=268							
B20K	**Meade River**	**54.94**	**23**	P		**P**	**23 33 22.9**	**+0.9**
	baz=264							
TTA	**Tatalina**	**54.98**	**32**	P		**P**	**23 33 22.9**	**+0.3**
	baz=270							
D20K	**Etivluk River**	**55.00**	**25**	P		**P**	**23 33 23.8**	**+1.2**
	baz=265							
N18K	**Kilae Creek**	**55.06**	**35**	P		**P**	**23 33 23.6**	**+0.4**
	baz=272							
M18K	**Stony River**	**55.08**	**34**	P		**P**	**23 33 23.7**	**+0.5**
	baz=271							
E20K	**Nigu River**	**55.12**	**26**	P		**P**	**23 33 24.6**	**+1.1**
	baz=266							
J19K	**Poorman**	**55.17**	**31**	P		**P**	**23 33 24.1**	**+0.3**
J19K				IAmb		IAmb	23 33 25.2	
	comp=Z,8.6nm,0.8s							
J19K	**Poorman**	**55.17**	**31**	P		**P**	**23 33 24.4**	**+0.6**
	baz=269							
F20K	**Avaraart Lake**	**55.23**	**27**	P		**P**	**23 33 24.9**	**+0.8**
	baz=267							
O18K	**Koktuh Hills**	**55.43**	**36**	P		**P**	**23 33 26.4**	**+0.5**
O18K	**Koktuh Hills**	**55.43**	**36**	P		**P**	**23 33 25.9**	**0.0**
	baz=273							
P18K	**Big Mountain,**	**55.44**	**36**	P		**P**	**23 33 25.6**	**-0.3**
P18K				IAmb		IAmb	23 33 27.1	
	comp=Z,14nm,0.8s							
P18K	**Big Mountain,**	**55.44**	**36**	P		**P**	**23 33 26.2**	**+0.2**
	baz=273							
H20K	**Anotleneega Mo**	**55.51**	**29**	P		**P**	**23 33 26.6**	**+0.3**
	baz=269							
L19K	**White Mountain**	**55.53**	**33**	P		**P**	**23 33 27.2**	**+0.7**
L19K				IAmb		IAmb	23 33 28.0	
	comp=Z,27nm,1.4s							
L19K	**White Mountain**	**55.53**	**33**	P		**P**	**23 33 27.1**	**+0.6**
	baz=271							
Q18K	**Katmai Hardscr**	**55.60**	**37**	P		**P**	**23 33 27.3**	**+0.1**
	baz=274							
I20K	**Naaghedeneel**	**55.67**	**30**	P		**P**	**23 33 27.9**	**+0.5**
I20K	**Naaghedeneel**	**55.67**	**30**	P		**P**	**23 33 28.0**	**+0.6**
	baz=270							
C21K	**Knifeblade Rid**	**55.70**	**25**	P		**P**	**23 33 28.9**	**+1.3**
	baz=267							
N19K	**Bonanza Creek**	**55.75**	**35**	P		**P**	**23 33 28.1**	**-0.1**
N19K	**Bonanza Creek**	**55.75**	**35**	P		**P**	**23 33 28.1**	**-0.1**
	baz=273							
A22K	**Sinclair Lake**	**55.77**	**22**	P		**P**	**23 33 28.6**	**+0.6**
	baz=265							
B21K	**Ikpikpuk River**	**55.79**	**24**	P		**P**	**23 33 28.6**	**+0.4**
B21K				IAmb		IAmb	23 33 31.8	
	comp=Z,11nm,1.1s							
B21K	**Ikpikpuk River**	**55.79**	**24**	P		**P**	**23 33 29.1**	**+1.0**
	baz=266,SNR=6.5							
J20K	**Nowinta River**	**55.82**	**31**	P		**P**	**23 33 28.9**	**+0.4**
J20K				IAmb		IAmb	23 33 30.7	
	comp=Z,17nm,0.9s							
J20K	**Nowinta River**	**55.82**	**31**	P		**P**	**23 33 28.9**	**+0.4**
	baz=271							
O19K	**Port Alsworth**	**

C23K Itkillik River 57.19 24 P P 23 33 39.2 +1.0
baz=270
BPAW Bear Paw Mtn. 57.21 31 P P 23 33 38.4 -0.1
BPAW IAmb IAmb 23 33 39.9
comp=Z,13nm,1.1s
BPAW Bear Paw Mtn. 57.21 31 P P 23 33 39.5 +1.1
baz=274,SNR=5.5
MLY Manley 57.26 29 P P 23 33 39.4 +0.6
MLY IAmb IAmb 23 33 40.4
comp=Z,11nm,0.9s
MLY Manley 57.26 29 P P 23 33 39.9 +1.1
baz=273,SNR=10
KTH Kantishna Hill 57.27 31 P P 23 33 38.6 -0.4
KTH IAmb IAmb 23 33 41.4
comp=Z,24nm,1.4s
COLD Coldfoot 57.38 27 P P 23 33 39.9 +0.3
baz=272
G23K Bananza Creek 57.47 27 P P 23 33 40.7 +0.4
G23K Bananza Creek 57.47 27 P P 23 33 41.2 +0.9
baz=273
SUA Susitna One 57.52 34 P P 23 33 41.5 +0.8
SUA IAmb IAmb 23 33 42.2
comp=Z,15nm,0.9s
SUA Susitna One 57.52 34 P P 23 33 40.9 +0.2
baz=275
TRF Thorofare Moun 57.56 31 P P 23 33 41.6 +0.5
baz=274
TOLK Toolik Lake Re 57.58 25 P P 23 33 41.9 +0.9
baz=272
E23K Chandalar 57.58 26 P P 23 33 42.0 +0.9
baz=272
BRLK Bradley Lake 57.62 36 P P 23 33 42.4 +1.0
BRSE Bradley Lake S 57.69 36 P P 23 33 43.0 +1.1
baz=276
M22K Willow 57.78 33 P P 23 33 41.3 -1.2
M22K Willow 57.78 33 P P 23 33 42.7 +0.2
baz=276
D24K Happy Valley 57.83 25 P P 23 33 43.0 +0.4
D24K IAmb IAmb 23 33 44.2
comp=Z,13nm,0.9s
D24K Happy Valley 57.83 25 P P 23 33 43.5 +0.8
baz=272
I23K Minto, Yukon-K 57.84 29 P P 23 33 43.4 +0.6
baz=274
C24K Franklin Bluff 57.85 24 P P 23 33 43.7 +0.9
baz=272
E24K Your Creek 58.00 26 P P 23 33 44.1 +0.1
E24K Your Creek 58.00 26 P P 23 33 44.7 +0.7
baz=273
NEA2 Nenana 58.00 30 P P 23 33 44.0 0.0
NEA2 Nenana 58.00 30 P P 23 33 44.7 +0.7
baz=275,SNR=15
RC01 Rabbit Creek A 58.04 34 P P 23 33 44.9 +0.6
RC01 IAmb IAmb 23 33 45.2
comp=Z,17nm,1.0s
RC01 Rabbit Creek A 58.04 34 P P 23 33 44.7 +0.4
baz=276
MCK McKinley 58.14 31 P P 23 33 44.5 -0.4
MCK IAmb IAmb 23 33 46.8
comp=Z,15nm,1.0s
MCK McKinley 58.14 31 P P 23 33 45.1 +0.1
baz=276,SNR=7.3
RND Reindeer 58.21 31 P P 23 33 44.9 -0.7
F24K Squaw Lake 58.26 26 P P 23 33 46.4 +0.6
F24K Squaw Lake 58.26 26 P P 23 33 46.5 +0.7
baz=274
PMR Palmer 58.27 33 P P 23 33 45.7 -0.2
PMR Palmer 58.27 33 P P 23 33 45.8 -0.1
baz=277
SEW Seward 58.29 35 P P 23 33 45.6 -0.4
baz=277
GHO Glory Hole Cre 58.35 33 P P 23 33 47.6 +1.1
H24K Noodor Dome 58.40 28 P P 23 33 47.1 +0.3
H24K IAmb IAmb 23 33 49.2
comp=Z,10.0nm,1.1s
H24K Noodor Dome 58.40 28 P P 23 33 47.8 +1.0
baz=275
WAT1 Susitna Watana 58.40 32 P P 23 33 46.7 -0.2
baz=276
G24K Hadweenzic Riv 58.49 27 P P 23 33 46.8 -0.5
G24K IAmb IAmb 23 34 19.6
comp=Z,32nm,1.8s
G24K Hadweenzic Riv 58.49 27 P P 23 33 48.2 +0.8
baz=275
CCB Clear Creek Bu 58.54 30 P P 23 33 48.1 +0.4
KNK Knik Glacier 58.61 34 P P 23 33 48.7 +0.4
KNK IAmb IAmb 23 33 49.0
comp=Z,17nm,1.0s
KNK Knik Glacier 58.61 34 P P 23 33 48.2 -0.1
baz=277
SML Sawmill 58.62 33 P P 23 33 48.8 +0.3
SML Sawmill 58.62 33 P P 23 33 48.2 -0.3
baz=277
POKR Poker Plat Res 58.65 29 P P 23 33 48.5 0.0
POKR Poker Plat Res 58.65 29 P P 23 33 49.6 +1.1
baz=276,SNR=10
D25K Kavik River 58.69 24 P P 23 33 49.1 +0.3
D25K Kavik River 58.69 24 P P 23 33 49.0 +0.3
baz=274
WAT6 Susitna Watana 58.80 32 P P 23 33 49.6 -0.3
baz=277
DHY Denali Highway 58.91 32 P P 23 33 50.4 -0.1
baz=277
M23K Glacier View 58.91 33 P P 23 33 50.3 -0.1
baz=278
IL31 58.92 30 P P 23 33 49.7 -0.6
IL31 IAmb IAmb 23 33 54.0
comp=Z,11nm,1.4s
ILAR Eielson Array 58.92 30 P P 23 33 49.9 -0.5
ILAR Eielson Array 58.92 30 P P 23 33 49.5 -0.8
comp=Z,2.3nm,0.8s,baz=274,slow=5.5,SNR=25
comp=Z,2.3nm,0.8s
IL03 Eielson Array 58.94 30 P P 23 33 49.4 -1.1
HDA Harding Lake 58.94 30 P P 23 33 49.4 -1.1
HDA IAmb IAmb 23 33 50.5
comp=Z,14nm,0.9s
HDA Harding Lake 58.94 30 P P 23 33 50.2 -0.3
baz=277,SNR=9.0
HDA P P 23 33 50.2 -0.3
baz=277,SNR=9.0
G25K Bearman Lake 59.02 27 P P 23 33 52.1 +1.1
baz=276
E25K Arctic Village 59.09 26 P P 23 33 52.0 +0.4
E25K IAmb IAmb 23 34 38.8
comp=Z,32nm,1.9s
E25K Arctic Village 59.09 26 P P 23 33 52.8 +1.2
baz=276,SNR=5.8
SCM Sheep Creek Mo 59.09 33 P P 23 33 51.1 -0.6
SCM Sheep Creek Mo 59.09 33 P P 23 33 51.4 -0.3
baz=278
F25K Christian Rive 59.12 26 P P 23 33 53.3 +1.6
baz=276
C26K Camden Bay 59.15 24 P P 23 33 53.1 +1.2
baz=275
P23K Montague Islan 59.33 35 P P 23 33 53.4 +0.1
baz=279
GLI Glacier Island 59.34 34 P P 23 33 53.8 +0.4
FYU Fort Yukon 59.39 27 P P 23 33 54.9 +1.3
PRP Porcupine Dome 59.40 29 P P 23 33 54.0 +0.2
PRP IAmb IAmb 23 33 54.9
comp=Z,12nm,1.2s
PRP Porcupine Dome 59.40 29 P P 23 33 54.1 +0.2
baz=277,SNR=5.4
K24K Donnelly Dome 59.52 31 P P 23 33 54.1 -0.5
baz=278
BMAR Burnt Mountain 59.54 26 P P 23 33 56.4 +1.6
M24K Tolsona, Glenn 59.59 33 P P 23 33 56.0 +0.8
M24K Tolsona, Glenn 59.59 33 P P 23 33 55.1 -0.1
baz=279
FID Port Fidalgo 59.66 34 P P 23 33 55.2 -0.4
F26K Sheenjek River 59.67 26 P P 23 33 56.7 +1.1
baz=277
PAX Paxson 59.78 32 P P 23 33 56.2 -0.3
baz=279
KLU Klutina 59.81 33 P P 23 33 56.6 -0.1
KLU IAmb IAmb 23 34 08.6
comp=Z,19nm,1.5s
KLU Klutina 59.81 33 P P 23 33 56.7 +0.1
baz=280
G26K Porcupine Rive 59.91 27 P P 23 33 58.4 +1.2
baz=278
RIDG Independent Ri 59.94 31 P P 23 33 57.5 0.0
RIDG Independent Ri 59.94 31 P P 23 33 57.6 0.0
baz=279
Q23K Middleton Isla 59.95 36 P P 23 33 58.5 +0.9
baz=280
HARP HAARP 60.02 32 P P 23 33 58.9 +0.8
baz=280,SNR=5.3
SCRK Sand Creek 60.28 30 P P 23 33 59.4 -0.6
SCRK IAmb IAmb 23 34 00.8
comp=Z,14nm,1.1s
SCRK Sand Creek 60.28 30 P P 23 33 59.8 -0.2
baz=280,SNR=7.1
J26L Joseph Creek 60.38 30 P P 23 34 00.3 -0.2
J26L IAmb IAmb 23 34 00.6
comp=Z,8.6nm,0.9s
J26L Joseph Creek 60.38 30 P P 23 34 00.2 -0.3
baz=280
N25K Chitina, Valde 60.41 33 P P 23 34 01.5 +0.6
N25K Chitina, Valde 60.41 33 P P 23 34 01.1 +0.2
baz=280
I26K Coal Creek Min 60.41 29 P P 23 34 00.2 -0.5
I26K IAmb IAmb 23 35 49.9
comp=Z,9.0nm,1.2s
I26K Coal Creek Min 60.41 29 P P 23 34 00.2 -0.5
baz=280
BMRM Bremner River 60.53 34 P P 23 34 02.1 +0.5
BMRM Bremner River 60.53 34 P P 23 34 01.7 +0.1
baz=281,SNR=6.0
E27K Coleen River 60.55 25 P P 23 34 02.4 +0.8
E27K Coleen River 60.55 25 P P 23 34 02.7 +1.0
baz=279
MENT Mentasta 60.58 31 P P 23 34 01.4 -0.4
MENT IAmb IAmb 23 34 03.2
comp=Z,8.9nm,0.8s
D27M Malcolm River 60.61 24 P P 23 34 02.3 +0.3
D27M IAmb IAmb 23 34 04.2
comp=Z,8.4nm,1.1s
D27M Malcolm River 60.61 24 P P 23 34 02.7 +0.7
baz=279
L26K Log Cabin Wild 60.73 31 P P 23 34 03.2 +0.3
L26K Log Cabin Wild 60.73 31 P P 23 34 03.3 +0.4
baz=281
G27K Doyon Strip 60.76 27 P P 23 34 03.6 +0.5
G27K Doyon Strip 60.76 27 P P 23 34 03.9 +0.8
baz=280
HMT Hamilton 60.81 34 P P 23 34 02.9 -0.6
GLB Gilahina Butte 60.81 33 P P 23 34 04.0 +0.4
GLB IAmb IAmb 23 34 04.5
comp=Z,7.0nm,1.0s
H27K Steamboat Moun 60.92 28 P P 23 34 05.1 +1.0
baz=280
I27K Kandik River 60.99 28 P P 23 34 05.7 +1.0
baz=281
M26K Nabesna, AK 61.01 32 P P 23 34 05.0 +0.2
M26K IAmb IAmb 23 34 06.0
comp=Z,11nm,0.9s
M26K Nabesna, AK 61.01 32 P P 23 34 05.2 +0.3
baz=281
VRDI Verde Repeater 61.03 33 P P 23 34 05.3 +0.1
K27K Chicken 61.10 30 P P 23 34 05.5 +0.2
K27K IAmb IAmb 23 34 06.6
comp=Z,9.7nm,1.1s
K27K Chicken 61.10 30 P P 23 34 05.9 +0.5
baz=281
MCARA McCarthy VSAT 61.20 33 P P 23 34 07.0 +0.9
MCARA McCarthy VSAT 61.20 33 P P 23 34 06.4 +0.3
baz=282
E28M Babbage River 61.23 25 P P 23 34 06.8 +0.6
E28M Babbage River 61.23 25 P P 23 34 06.8 +0.6
baz=281
CRQE Cirque 61.30 34 P P 23 34 06.7 -0.2
baz=282
F28M Old Crow 61.30 26 P P 23 34 07.6 +0.9
F28M IAmb IAmb 23 34 09.1
comp=Z,12nm,1.1s
F28M Old Crow 61.30 26 P P 23 34 07.6 +0.9
baz=281
EGAK Eagle 61.34 29 P P 23 34 07.2 +0.2
baz=282
D28M Stokes Point 61.38 24 P P 23 34 08.3 +1.2
baz=281
L27K Beaver Creek, 61.40 31 P P 23 34 06.7 -0.7
L27K IAmb IAmb 23 34 09.9
comp=Z,12nm,1.4s
L27K Beaver Creek, 61.40 31 P P 23 34 07.9 +0.4
baz=282
BCAR Beaver Creek A 61.42 31 P P 23 34 08.2 +0.5
TGL Tana Glacier 61.42 34 P P 23 34 08.2 +0.5
TGL IAmb IAmb 23 34 09.0
comp=Z,12nm,1.0s
M27K Edge Creek, AK 61.53 32 P P 23 34 08.8 +0.3
M27K IAmb IAmb 23 34 09.1
comp=Z,7.5nm,0.9s
M27K Edge Creek, AK 61.53 32 P P 23 34 08.9 +0.5
baz=282
I28M Miner Creek 61.71 28 P P 23 34 10.1 +0.5
I28M IAmb IAmb 23 34 11.2
comp=Z,13nm,0.9s
I28M Miner Creek 61.71 28 P P 23 34 10.8 +1.2
baz=282
E29M Blow River 61.87 25 P P 23 34 11.0 +0.5
E29M IAmb IAmb 23 34 12.5
comp=Z,6.6nm,1.1s
E29M Blow River 61.87 25 P P 23 34 11.4 +0.9
baz=282
BARN Barnard Glacie 61.91 33 P P 23 34 11.3 +0.2
MESA MESA 61.97 34 P P 23 34 11.6 0.0
baz=283
BVCY Beaver Creek 61.98 32 P P 23 34 11.3 0.0
baz=283
CTG Chitna Glacier 62.09 33 P P 23 34 12.2 0.0
baz=284
G29M Pine Creek 62.15 26 P P 23 34 13.3 +0.8
baz=283
H29M Whitestone 62.17 27 P P 23 34 13.4 +0.8
H29M IAmb IAmb 23 34 22.9
comp=Z,19nm,1.4s
H29M Whitestone 62.17 27 P P 23 34 13.3 +0.8
baz=283
DAWY Dawson 62.25 30 P P 23 34 13.3 +0.2
baz=284
YUK3 Moose Creek 62.31 32 P P 23 34 13.2 -0.7
baz=284
I29M Ogilvie Camp, 62.40 28 P P 23 34 14.4 +0.3
I29M IAmb IAmb 23 34 15.4
comp=Z,8.4nm,1.0s
I29M Ogilvie Camp, 62.40 28 P P 23 34 14.2 +0.1
baz=284,SNR=6.5
YUK8 Steele Glacier 62.75 33 P P 23 34 16.9 0.0
baz=285
EPYK Eagle Plains 62.78 27 P P 23 34 16.9 +0.2
EPYK Eagle Plains 62.78 27 P P 23 34 16.7 0.0
baz=285,SNR=12
PINM Pinnacle 62.82 34 P P 23 34 18.0 +0.9
baz=285
G30M tAoh Zraii Nji 62.82 26 P P 23 34 16.2 -0.7
G30M tAoh Zraii Nji 62.82 26 P P 23 34 16.9 0.0
baz=285
F30M Barrier River 62.82 25 P P 23 34 17.7 +0.8
baz=285
L29M L29M 63.03 31 P P 23 34 18.6 +0.2
L29M IAmb IAmb 23 34 20.3
comp=Z,6.9nm,0.8s
L29M L29M 63.03 31 P P 23 34 19.5 +1.1
baz=285,SNR=7.2
M29M Somme Creek 63.05 31 P P 23 34 19.5 +0.8
M29M IAmb IAmb 23 34 20.4
comp=Z,8.9nm,1.1s
M29M Somme Creek 63.05 31 P P 23 34 19.5 +0.8
baz=285
K29M Barlow Dome 63.10 30 P P 23 34 19.1 +0.2
K29M IAmb IAmb 23 34 20.4
comp=Z,7.7nm,0.9s
K29M Barlow Dome 63.10 30 P P 23 34 19.7 +0.7
baz=285,SNR=5.1
I30M Mount Dempster 63.22 28 P P 23 34 19.4 -0.3
I30M IAmb IAmb 23 34 21.0
comp=Z,13nm,1.1s
I30M Mount Dempster 63.22 28 P P 23 34 20.2 +0.5
baz=286
YUK4 Talbot Arm 63.26 33 P P 23 34 20.5 +0.4
baz=286
PNL Peninsula 63.35 35 P P 23 34 20.8 +0.2
baz=286
J30M Hart River 63.41 29 P P 23 34 21.6 +0.6
J30M Hart River 63.41 29 P P 23 34 21.1 +0.1
baz=286
INK Inuvik 63.46 24 P P 23 34 20.3 -0.7
INK IAmb IAmb 23 34 21.8
comp=Z,6.1nm,0.9s
INK Inuvik 63.46 24 P P 23 34 21.3 +0.2
baz=286
YUK6 Outpost Mounta 63.50 33 P P 23 34 21.7 -0.1
baz=286
O29M Mount Kennedy 63.57 34 P P 23 34 22.1 -0.1
baz=286
G31M Satah River 63.58 26 P P 23 34 21.3 -0.6
G31M IAmb IAmb 23 34 22.1
comp=Z,5.6nm,0.8s
G31M Satah River 63.58 26 P P 23 34 22.0 +0.1
baz=286
F31M Tsiigehtchic 63.63 25 P P 23 34 23.8 +1.6
F31M IAmb IAmb 23 36 38.5
comp=Z,11nm,1.2s
F31M Tsiigehtchic 63.63 25 P P 23 34 22.5 +0.3
baz=287
M30M Minto, Yukon 63.76 31 P P 23 34 24.2 +0.9
M30M Minto, Yukon 63.76 31 P P 23 34 23.6 +0.3
baz=286
HYT Haines Junctio 63.93 33 P P 23 34 25.3 +0.8
HYT Haines Junctio 63.93 33 P P 23 34 24.6 0.0
baz=287
N30M Aishikik Lake 63.95 32 P P 23 34 25.0 +0.5
baz=287
P29M Windy Craggy 64.17 34 P P 23 34 26.8 +0.9
P29M IAmb IAmb 23 34 27.6
comp=Z,10.0nm,0.8s
P29M Windy Craggy 64.17 34 P P 23 34 26.6 +0.6
baz=287
P30M Million Dollar 64.40 34 P P 23 34 28.2 +0.7
baz=288
HLK Haleakala 64.43 80 P P 23 34 30.0 +1.5
N31M Braeburn, Yuko 64.54 32 P P 23 34 28.9 +0.6
N31M IAmb IAmb 23 34 30.4
comp=Z,14nm,1.1s
N31M Braeburn, Yuko 64.54 32 P P 23 34 29.0 +0.6
baz=288
O30N Mendenhall 64.61 33 P P 23 34 29.3 +0.4
baz=288
A36M Sachs Harbour 64.92 20 P P 23 34 31.0 +0.4
A36M IAmb IAmb 23 34 32.1
comp=Z,13nm,1.0s
A36M Sachs Harbour 64.92 20 P P 23 34 31.6 +1.0
baz=292
M31M Drury Creek, Y 64.94 31 P P 23 34 30.9 -0.1
M31M IAmb IAmb 23 34 32.5
comp=Z,7.2nm,1.1s
M31M Drury Creek, Y 64.94 31 P P 23 34 31.0 0.0
baz=289
WHY Whitehorse 65.21 33 P P 23 34 33.2 +0.4
baz=289
FARO Faro, Yukon 65.40 31 P P 23 34 34.4 +0.4
FARO IAmb IAmb 23 34 35.6
comp=Z,11nm,0.9s
FARO Faro, Yukon 65.40 31 P P 23 34 34.8 +0.8
baz=289
P32M Atlin 66.12 34 P P 23 34 39.3 +0.6
baz=290
C36M Paulatuk 66.32 22 P P 23 34 39.6 -0.1
C36M Paulatuk 66.32 22 P P 23 34 39.9 +0.2
baz=294
P33M Teslin, Yukon 66.33 33 P P 23 34 40.8 +0.8
P33M IAmb IAmb 23 34 42.9
comp=Z,18nm,1.4s
P33M Teslin, Yukon 66.33 33 P P 23 34 40.4 +0.4
baz=291
S32K Killisnoo 66.43 36 P P 23 34 41.1 +0.5
baz=290
Q32M Nakina River 67.04 34 P P 23 34 45.0 +0.3
baz=292
R33M Jennings River 67.50 33 P P 23 34 48.2 +0.6
baz=292
TGTN Hyland Airport 67.89 31 P P 23 34 50.4 +0.5
baz=294
CRAG Craig 67.91 38 P P 23 34 50.6 +0.6
baz=292
WRAK Wrangell Islan 67.95 37 P P 23 34 49.4 -0.8
baz=293
S34M Telegraph Cree 67.98 35 P P 23 34 50.9 +0.4
baz=293
DLBC Dease Lake 68.32 34 P P 23 34 53.1 +0.5
baz=294
T35M Bob Quinn 68.79 36 P P 23 34 56.2 +0.6
baz=294
KOTAN Kotaneelee Air 70.36 31 P P 23 35 05.6 +0.5
baz=298
RES Resolute Bay 70.52 12 P P 23 35 05.5 -0.4
RES IAmb IAmb 23 35 06.6
comp=Z,6.4nm,0.9s
FINES FINESS Array B 70.61 331 P P 23 35 05.7 -1.0
comp=Z,2.6nm,0.5s,baz=77,slow=5.8,SNR=31
comp=Z,2.6nm,0.5s
YKA Yellowknife Ar 73.06 26 P P 23 35 21.1 -0.3
comp=Z,2.3nm,0.8s,baz=301,slow=5.7,SNR=14
comp=Z,2.3nm,0.8s
AKASG Malin Array Be 74.28 320 P P 23 35 26.9 -1.8
comp=Z,0.7nm,0.5s,baz=54,slow=6.1,SNR=6.4
comp=Z,0.7nm,0.5s
HFS Hagfors 76.38 333 P P 23 35 40.3 -0.4
comp=Z,3.8nm,1.0s,baz=66,slow=3.7,SNR=5.2
comp=Z,3.8nm,1.0s
NOA NORSAR Array B 76.75 335 P P 23 35 42.0 -0.8
comp=Z,0.5nm,0.6s,baz=52,slow=5.1,SNR=2.0
comp=Z,0.5nm,0.6s
BRTR Keskin Array B 76.90 308 P P 23 35 44.1 0.0
comp=Z,2.0nm,0.9s,baz=90,slow=5.8,SNR=9.1
comp=Z,2.0nm,0.9s
NEW Newport 80.03 39 P P 23 36 00.7 -0.5
NEW Newport 80.03 39 P P 23 36 01.0 -0.2
baz=305
L04D Klamath Falls 80.37 47 P P 23 36 04.2 +0.9
L04D IAmb IAmb 23 36 05.4
comp=Z,26nm,1.4s
J05D Fort Rock, OR 80.45 45 P P 23 36 04.1 +0.4
E09A Wood Farm, Sta 80.47 41 P P 23 36 04.1 +0.6
TUWZ Tuamarina 81.55 149 P P 23 36 12.8 +3.7
BMO Blue Mountains 81.90 42 P P 23 36 11.1 -0.2
J08A Circle Bar Ran 82.08 44 P P 23 36 12.0 -0.3
J08A IAmb IAmb 23 36 13.1
comp=Z,16nm,1.4s
CLL Collm 82.34 326 P P 23 36 12.6 -0.7
CLL IAmb IAmb 23 36 14.7
comp=Z,9.8nm,1.3s
MSO Missoula 82.62 39 P P 23 36 14.3 -0.7
MSO Missoula 82.62 39 P P 23 36 15.1 0.0
baz=308
FCC Fort Churchill 82.97 22 P P 23 36 15.6 -0.8
FCC IAmb IAmb 23 36 16.7
comp=Z,7.7nm,0.8s
FFC Flin Flon 83.10 28 P P 23 36 16.8 -0.4
FFC IAmb IAmb 23 39 13.0
comp=Z,29nm,2.0s
RAR Rarotonga 83.37 119 P P 23 36 20.5 +1.5
KHC Kasperske Hory 83.47 324 P P 23 36 18.2 -1.1
KHC IAmb IAmb 23 36 21.8
comp=Z,9.5nm,1.6s
EMB Emerald Bay 83.56 48 P P 23 36 19.0 -1.2
EMB IAmb IAmb 23 36 33.0
comp=Z,15nm,1.7s
ELMT Elliston 83.59 39 P P 23 36 20.2 0.0
GEC2 GERESS Array S 83.59 324 P P 23 36 20.0 0.0
GEC2 IAmb IAmb 23 36 23.9
comp=Z,8.8nm,1.5s
GERES GERESS Array B 83.59 324 P P 23 36 20.4 +0.4
GERES GERESS Array B 83.59 324 P P 23 36 21.1 +1.0
comp=Z,1.0nm,0.9s,baz=47,slow=5.9,SNR=5.8
comp=Z,1.0nm,0.9s
PAHR Pah Rah Range 83.60 47 P P 23 36 19.1 -1.2
MFID Camas Ranch 83.61 43 P P 23 36 19.5 -0.7
PNTR Pine Nut 83.82 48 P P 23 36 20.9 -0.7
CMB Columbia Colle 83.91 49 P P 23 36 20.8 -1.0
EGMT Eagleton 84.08 36 P P 23 36 21.8 -0.8
EGMT IAmb IAmb 23 36 23.4
comp=Z,9.3nm,1.1s
EGMT Eagleton 84.08 36 P P 23 36 22.8 +0.3
baz=310
WAKR Walker 84.25 48 P P 23 36 23.9 +0.2
GRA1 Grafenberg Arr 84.26 326 P P 23 36 23.8 +0.5
GRFO Grafenberg 84.26 326 P P 23 36 22.9 -0.3
HLID Hailey 84.34 42 P P 23 36 24.2 +0.2
HLID Hailey 84.34 42 P P 23 36 24.3 +0.2
baz=308
BMN Battle Mountai 84.54 46 P P 23 36 24.9 -0.2
BMN IAmb IAmb 23 36 26.0
comp=Z,6.2nm,1.1s
BOZ Bozeman (W) 84.64 39 P P 23 36 25.9 +0.4
baz=309
AGG Agios Georgios 84.69 313 P P 23 36 26.6 +1.0

RYN	Ryan	84.77	48	P	P	23 36 25.2	-1.1	
RYN				IAmb	IAmb	23 36 27.2		
	comp=Z,5.0nm,0.9s							
KVN	Kaiserville	84.79	47	P	P	23 36 25.9	-0.5	
KVN				IAmb	IAmb	23 36 27.4		
	comp=Z,10nm,1.1s							
MDPB	Devils Postpil	84.98	49	P	P	23 36 25.8	-1.8	
MDPB				IAmb	IAmb	23 36 27.2		
	comp=Z,5.8nm,1.1s							
NVAR	Mina Array Bea	85.03	48	P	P	23 36 27.1	-0.5	
NVAR	Mina Array Bea	85.03	48	P	P	23 36 27.5	-0.2	
	comp=Z,3.1nm,0.8s,baz=288,slow=4.6,SNR=18							
	comp=Z,3.1nm,0.8s							
OMMB	Old Mammoth Mi	85.05	49	P	P	23 36 27.3	-0.6	
YHL	Hebgen Lake	85.36	40	P	P	23 36 29.6	+0.3	
YHL				IAmb	IAmb	23 36 30.8		
	comp=Z,7.0nm,1.2s							
SABO	M.te Sabotino	85.50	322	IAmb	IAmb	23 38 51.7		
	comp=Z,101nm,0.7s							
ELK	Elko	85.56	45	P	P	23 36 30.1	-0.3	
TPH	Tonopah	85.92	48	P	P	23 36 32.2	+0.1	
H17A	Grant Village	85.98	40	P	P	23 36 32.9	+0.5	
H17A				IAmb	IAmb	23 36 34.9		
	comp=Z,6.4nm,1.1s							
H17A	Grant Village	85.98	40	P	P	23 36 33.5	+1.1	
	baz=310							
MZP	Montezuma Peak	86.04	48	P	P	23 36 31.9	-0.9	
PKM	Mcpherson Peak	86.07	52	P	P	23 36 32.3	-0.6	
	baz=305							
IMW	Indian Meadow	86.10	40	P	P	23 36 31.9	-1.1	
EKA	Eskdalemuir Ar	86.10	336	P	P	23 36 31.4	-0.9	
	comp=Z,2.1nm,0.8s,baz=44,slow=4.2,SNR=4.2							
	comp=Z,2.1nm,0.8s							
FLWY	Flagg Ranch	86.11	40	P	P	23 36 33.0	0.0	
FLWY				IAmb	IAmb	23 37 27.2		
	comp=Z,14nm,1.6s							
CWC	Cottonwood Cre	86.33	49	P	P	23 36 33.4	-0.6	
	baz=306							
GMN	Gold Mountain	86.36	48	P	P	23 36 33.7	-0.6	
TPAW	Teton Pass	86.36	41	P	P	23 36 31.4	-2.9	
TPAW				IAmb	IAmb	23 36 35.9		
	comp=Z,9.3nm,1.2s							
GRAC	Grapevine Rang	86.47	49	P	P	23 36 34.7	+0.1	
	baz=306							
R11B	Troy Canyon, C	86.79	47	P	P	23 36 34.8	-1.6	
R11B	Troy Canyon, C	86.79	47	P	P	23 36 36.0	-0.4	
	baz=307							
MPMC	Manual Prospec	86.94	49	P	P	23 36 36.6	-0.5	
	baz=306							
LRMC	Laurel Mtn Rad	87.15	50	P	P	23 36 37.5	-0.6	
	baz=306							
HWUT	Hardware Ranch	87.20	42	P	P	23 36 38.2	-0.1	
HWUT				IAmb	IAmb	23 36 39.9		
	comp=Z,8.0nm,1.1s							
SNCC	San Nicolas Is	87.20	53	P	P	23 36 37.6	-0.6	
	baz=305							
TPNV	Topopah Spring	87.21	48	P	P	23 36 37.9	-0.5	
TPNV				IAmb	IAmb	23 36 46.0		
	comp=Z,9.0nm,1.6s							
TPNV	Topopah Spring	87.21	48	P	P	23 36 38.0	-0.5	
	baz=307							
EDW2	Edwards Air Fo	87.29	51	P	P	23 36 39.0	+0.3	
	baz=306							
DUG	Dugway, Tooele	87.36	44	P	P	23 36 38.6	-0.5	
DUG	Dugway, Tooele	87.36	44	P	P	23 36 38.9	-0.1	
	baz=309							
QSM	Queen of Sheba	87.40	49	P	P	23 36 38.7	-0.5	
BW06	Boulder Array	87.60	40	P	P	23 36 39.9	-0.4	
	baz=311							
PDAR	Pinedale Array	87.60	40	P	P	23 36 39.5	-0.7	
	comp=Z,1.4nm,0.9s,baz=349,slow=1.5,SNR=9.8							
	comp=Z,1.4nm,0.9s							
GSC	Goldstone, Bar	87.83	50	P	P	23 36 41.4	+0.1	
	baz=307							
TUQ	Turquoise Moun	88.33	49	P	P	23 36 43.8	+0.1	
	baz=307							
ULM	Lac du Bonnet	88.92	28	P	P	23 36 46.0	0.0	
	comp=Z,5.7nm,1.1s,baz=276,slow=6.5,SNR=4.8							
	comp=Z,5.7nm,1.1s							
P17A	Butcher Ranch,	89.05	43	P	P	23 36 47.0	-0.1	
P17A				IAmb	IAmb	23 36 48.2		
	comp=Z,5.4nm,1.0s							
PFO	Pinyon Flats O	89.07	51	P	P	23 36 47.8	+0.5	
	baz=307							
TPFO	Pinon Flats	89.08	51	P	P	23 36 48.0	+0.7	
	baz=307							
MDND	Maddock	89.12	32	P	P	23 36 47.6	+0.5	
	baz=318							
SRU	San Rafael Swe	89.41	44	P	P	23 36 48.5	-0.4	
RSSD	Black Hills	89.65	37	P	P	23 36 50.2	+0.3	
	baz=315							
IKP	In-Ko-Pah, Jac	89.88	52	P	P	23 36 52.1	+1.1	
	baz=307							
O20A	White River Ci	90.08	42	P	P	23 36 52.5	+0.5	
	baz=312							
N23A	Red Feather La	90.86	40	P	P	23 36 56.1	+0.4	
	baz=313							
WUAZ	Wupatki	91.19	47	P	P	23 36 57.1	-0.1	
	baz=310							
ISCO	Idaho Springs	91.79	41	P	P	23 36 59.6	-0.4	
	baz=314							
MVCO	Mesa Verde	91.86	44	P	P	23 37 00.2	-0.2	
	baz=312							
214A	Organ Pipe Nat	92.51	50	P	P	23 37 03.4	+0.3	
	baz=309							
TUC	Tucson	93.62	49	P	P	23 37 08.8	+0.5	
	baz=310							
ANMO	Albuquerque	94.60	45	P	P	23 37 13.4	+0.4	
	baz=313							
121A	Cookes Peak, D	95.39	47	P	P	23 37 16.2	-0.4	
	baz=312							
JFWS	Jewell Farm	97.09	30	P	P	23 37 23.1	-0.7	
	baz=324							
OXF	Oxford	104.28	34	P	Pdif	23 37 54.9	-1.2	
	baz=324							

IDC ***18*** *23:25:33.8±2.9,8˚.96S×124˚.00E,h83km±26km,mb4.1/14, mbtmp4.5/18,MS3.3/4,Error ellipse: s-maj=27.4km s-min=11.8km az=65.0*

DJA ***18*** *23:25:34.8±0.2,9˚S±2˚×12˚4E±˚,h76km±3km,M4.8/15, mB5.3/6,mb4.9/15,MLv4.8/13,Mw(mB)4.7/6*

NEIC ***18*** *23:25:34.1±2.2,9.˚11S±0.˚07×123.˚89E±0.˚08,h97km±7km, mb4.7/30,Error ellipse: s-maj=14.2km s-min=6.0km az=52.0*

ISC 18 23:25:35.0±0.3,9.˚19S±0.˚04×123.˚86E±0.˚05,h100km,n149, σ1.9 96/162,mb4.7/40,3C-1D,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	Soe	0.70	144	Pn	Pn	23 25 53.0	+0.4
SOEI	Soe	0.70	144	P	Pn	23 25 53.3	+0.8
SOEI				S	Sn	23 26 01.4	-4.3
MMRI	Maumere	1.69	289	Pn	Pn	23 26 03.0	-0.5
MMRI				Sn	Sn	23 26 24.1	-1.3
MMRI	Maumere	1.69	289	P	Pn	23 26 03.6	0.0
MMRI	Maumere	1.69	289	P	Pn	23 26 03.2	-0.4
MMRI				S	Sn	23 26 24.1	-1.3
EDFI	Ende, Flores	2.18	281	P	Pn	23 26 10.1	+0.1
EDFI				S	Sn	23 26 36.1	-0.7
BASI	Baing, Sumba	3.39	252	P	Pn	23 26 26.3	+0.3
BBSI	Bau Bau	3.89	341	P	Pn	23 26 33.3	+0.6
BBSI				S	Sn	23 27 18.6	+1.2
BKSI	Bulukumba	5.33	316	P	Pn	23 26 51.9	-0.3
	99nm,0.6s,1μm0.4nm						
KAPI	Kappang	5.81	315	Pn	Pn	23 26 58.2	-0.5
KAPI	Kappang	5.81	315	P	Pn	23 26 57.9	-0.8
	23nm,0.7s,baz=83,slow=9.8,SNR=3.4						
KAPI				S	Sn	23 28 04.4	+0.4
	7.8nm,0.4s,baz=57,slow=19,SNR=0.8						
KAPI				LR	LR	23 29 26.1	
	comp=Z,221nm,20.6s,baz=112,slow=40						
PLAI	Plampang	6.01	273	P	Pn	23 27 02.1	+0.6
PLAI	Plampang	6.01	273	P	Pn	23 27 01.7	+0.2
	135nm,0.5s,5μm1.0nm						
SPSI	Sidrap Palu	6.58	322	P	Pn	23 27 10.0	+0.7
	28nm,0.9s,0.2nm						
TTSI	Tana Toraja	7.30	326	P	Pn	23 27 21.5	+2.5
	65nm,1.2s,0.2nm						
SANI	Sanana	7.40	17	P	Pn	23 27 22.8	+2.4
SANI	Sanana	7.40	17	P	Pn	23 27 22.1	+1.7
	164nm,0.7s,1μm0.5nm						
SAUI	Saumlaki	7.46	81	Pn	Pn	23 27 20.2	-1.0
SAUI	Saumlaki	7.46	81	P	Pn	23 27 20.8	-0.4
	118nm,0.5s,1.3nm						

MTN	Manton Dam	8.02	118		Pn	23 27 28.0	-0.8	
MTN	Manton Dam	8.02	118	P	Pn	23 27 28.4	-0.3	
KNRA	Kununurra	8.04	144	Pn	Pn	23 27 27.8	-1.2	
KNRA	Kununurra	8.04	144	P	Pn	23 27 28.3	-0.7	
LUWI	Luwuk	8.16	352	Pn	Pn	23 27 28.8	-2.0	
FITZ	Fitzroy Crossi	9.03	169	Pn	Pn	23 27 41.2	-1.3	
FITZ	Fitzroy Crossi	9.03	169	P	Pn	23 27 41.6	-0.9	
KDU	Kakadu	9.15	113	P	Pn	23 27 42.9	-1.2	
JAGI	Jajag, Banyuwa	9.62	273	Pn	Pn	23 27 46.4	-4.1	
JAGI	Jajag, Banyuwa	9.62	273	P	Pn	23 27 50.2	-0.3	
	34nm,0.4s							
MRSI	Maurisa	9.79	349	P	Pn	23 27 53.4	+0.6	
	23nm,0.9s							
TOLI2	Tolitoli	10.68	343	Pn	Pn	23 28 04.6	-0.4	
WB0	Warramunga Arr	14.65	137		Pn	23 28 54.4	-2.9	
WRA	Warramunga Arr	14.73	138	P	Pn	23 28 56.2	-2.2	
WRA	Warramunga Arr	14.73	138	P	Pn	23 28 57.4	-1.0	
	15nm,0.6s,baz=323,slow=13,SNR=130							
WRA				S	Sn	23 31 27.8	-13	
	40nm,0.7s,baz=310,slow=22,SNR=16							
WRAB	Tennant Creek	14.73	138		Pn	23 28 57.2	-1.2	
WB2	Warramunga Arr	14.74	138		Pn	23 28 56.5	-2.0	
WR0	Warramunga Arr	14.88	137		Pn	23 28 57.9	-2.3	
LEM	Lembang	16.25	277	P	P	23 29 18.9	+0.1	
	27nm,0.6s,baz=12,slow=10,SNR=6.2							
WRKA	Warakurna	16.32	166	P	Pn	23 29 18.7	+0.4	
CNJI	Cibinong	16.66	275	P	P	23 29 24.1	+0.9	
	19nm,0.7s							
AS31	Alice Springs	17.31	147	P	P	23 29 29.5	-0.9	
ASAR	Alice Springs	17.31	147	P	P	23 29 30.1	-0.3	
ASAR	Alice Springs	17.31	147	P	Pn	23 29 30.7	+0.2	
	23nm,0.6s,baz=324,slow=12,SNR=179							
ASAR				S	Sn	23 32 33.7	-10	
	33nm,0.7s,baz=314,slow=20,SNR=14							
ASAR				LR	LR	23 36 31.2		
	comp=Z,116nm,20.8s,baz=334,slow=38							
MEEK	Meekatharra	18.05	195	P	Pn	23 29 40.7	+1.3	
CGJI	Cibinong	18.17	277	P	Pn	23 29 41.0	+0.1	
QIS	Mount Isa	18.94	128	P	Pn	23 29 50.8	+0.8	
MORW	Morawa	21.10	199	P	P	23 30 12.6	+1.1	
MORW				IAmb	IAmb	23 30 13.6		
	comp=Z,64nm,1.4s							
MORW	Morawa	21.10	199	P	P	23 30 12.7	+1.1	
OOD	Oodnadatta	21.62	150	P	P	23 30 18.9	+1.9	
FORT	Forrest	21.84	170	P	P	23 30 18.9	-0.5	
FORT				IAmb	IAmb	23 30 27.7		
	comp=Z,62nm,1.1s							
KMBL	Kambalda	22.15	184	P	P	23 30 24.5	+1.8	
BLDU	Ballidu	22.34	196	P	P	23 30 25.6	+0.9	
MULG	Mulgathing	23.05	157	P	P	23 30 33.6	+1.8	
CTA	Charters Tower	24.20	119	P	P	23 30 43.0	+0.6	
	comp=Z,4.0nm,0.9s,baz=346,slow=22,SNR=2.9							
CTA				LR	LR	23 40 44.5		
	comp=Z,69nm,18.0s,baz=307,slow=38							
	comp=Z,4.0nm,0.9s							
INKA	Innaminka	24.38	141	P	P	23 30 47.8	+3.9	
NWAO	Narrogin (SRO)	24.41	194	P	P	23 30 44.7	+0.6	
NWAO	Narrogin (SRO)	24.41	194	P	P	23 30 45.0	+0.8	
NWAO				IAmb	IAmb	23 30 56.5		
	comp=Z,237nm,1.4s							
NWAO	Narrogin (SRO)	24.41	194	P	P	23 30 45.9	+1.7	
	comp=Z,13nm,0.9s,baz=13,slow=6.0,SNR=9.7							
NWAO				S	S	23 35 07.9	+11	
	comp=Z,7.0nm,0.8s,baz=266,slow=20,SNR=1.3							
	comp=Z,13nm,0.9s							
BBOO	Buckleboo	26.08	156	P	P	23 31 01.2	+1.9	
BBOO	Buckleboo	26.08	156	P	P	23 31 01.2	+1.9	
STKA	Stephens Creek	27.95	146	P	P	23 31 18.5	+2.5	
STKA	Stephens Creek	27.95	146	P	P	23 31 18.0	+2.0	
	comp=Z,5.7nm,0.7s,baz=313,slow=6.3,SNR=8.2							
STKA				LR	LR	23 43 37.3		
	comp=Z,72nm,21.7s,baz=4.2,slow=39							
	comp=Z,5.7nm,0.7s							
CMSA	Cobar Meteorol	30.11	141	P	P	23 31 38.0	+2.8	
UBPT	Khong Chiam	30.38	323	P	P	23 31 37.8	+0.1	
UBPT				IAmb	IAmb	23 31 48.6		
	comp=Z,33nm,1.3s							
QIZ	Qiongzhong	31.26	334	P	P	23 31 45.5	+0.1	
QIZ				S	S	23 36 46.6	+1.7	
QIZ				LR	LR			
	comp=N,3μm,16.2s							
QIZ				LR	LR			
	comp=E,3μm,15.7s							
QIZ				LR	LR			
	comp=Z,2μm,11.8s							
AUPHS	Peel High Scho	33.29	135	P	P	23 32 06.6	+3.4	
YNG	Young	33.64	142	P	P	23 32 09.6	+3.4	
CM31	Chiang Mai Arr	36.86	318	P	P	23 32 32.7	-1.3	
CM31				IAmb	IAmb	23 32 35.3		
	comp=Z,12nm,1.0s							
CMAR	Chiang Mai Arr	36.86	318	P	P	23 32 33.0	-1.0	
CMAR	Chiang Mai Arr	36.86	318	P	P	23 32 34.3	+0.3	
	comp=Z,6.4nm,0.7s,baz=146,slow=7.0,SNR=31							
	comp=Z,6.4nm,0.7s							
CHTO	Chiang Mai	37.12	319	P	P	23 32 35.3	-0.8	
CHTO				IAmb	IAmb	23 32 37.0		
	comp=Z,8.7nm,0.7s							
NJ2	Nanjing	41.28	354	eP	P	23 33 11.0	+0.5	
NJ2				pP	pwP	23 33 35.0	-0.6	
NJ2				pmax	pmax			
	comp=Z,8.0nm,0.6s							
NJ2				pmax	pmax			
	comp=Z,670nm,4.3s							
PZH	PanZhiHua	41.47	329	P	P	23 33 12.1	-0.3	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,130nm,5.9s							
PINNC	Pines Island,	43.83	113	P	P	23 33 29.0	-2.4	
LYN	LuoYang	44.82	347	⇑P	P	23 33 38.9	-0.1	
LYN				pmax	pmax			
	comp=Z,35nm,1.4s							
LYN				pmax	pmax			
	comp=Z,480nm,5.2s							
JWT	Wachi	45.55	13	P	P	23 33 41.4	-3.4	
SHL	Shillong	46.49	319	P	P	23 33 49.7	-2.9	
SHL				IAmb	IAmb	23 33 52.1		
	comp=Z,11nm,0.6s							
LSA	Lhasa	49.86	322	P	P	23 34 17.5	-1.3	
ODAN	Odare	50.35	316	eP	P	23 34 21.2	-1.1	
TAPN	Taplejung	50.45	317	eP	P	23 34 22.5	-0.6	
	comp=Z,30nm,0.7s							
RAMN	Ramite	50.95	316	eP	P	23 34 26.1	-0.7	
	comp=Z,47nm,0.7s							
HHC	Hu-ho-hao-te	51.06	348	eP	P	23 34 28.9	+1.7	
HHC				pmax	pmax			
	comp=Z,14nm,0.6s							
HHC				pmax	pmax			
	comp=Z,320nm,6.6s							
JIRN	Jiri	51.68	316	eP	P	23 34 31.5	-0.9	
	comp=Z,21nm,0.7s							
GUN	Gumba	52.05	316	eP	P	23 34 34.2	-1.0	
	comp=Z,42nm,0.7s							
PKI	Pulchoki	52.16	316	eP	P	23 34 34.5	-1.4	
	comp=Z,24nm,0.5s							
PKIN	Phulchoki	52.17	316	eP	P	23 34 34.8	-1.2	
	comp=Z,25nm,0.4s							
GKN	Gorkha	52.96	316	eP	P	23 34 40.1	-1.6	
	comp=Z,16nm,0.3s							
KOLN	Koldanda	53.54	315	eP	P	23 34 44.4	-1.6	
USRK	Ussuriysk Ar.	53.64	7	P	P	23 34 45.1	-0.9	
USRK	Ussuriysk Ar.	53.64	7	P	P	23 34 44.9	-1.2	
	comp=Z,6.6nm,0.6s,baz=196,slow=5.2,SNR=5.1							
	comp=Z,2.6nm,0.6s							
DANN	Dangsing	53.79	315	eP	P	23 34 46.6	-1.2	
	comp=Z,39nm,0.5s							
MDJ	Mudanjiang	53.80	5	P	P	23 34 46.8	-0.4	
MDJ				pP	pP	23 34 48.8	-22	
MDJ				sP	pwP	23 34 50.0	-25	
MDJ				PcP	PcP	23 35 56.1	+4.3	
MDJ				PP	PP	23 36 46.0	-3.4	
MDJ				S	S	23 42 16.3	+2.1	
MDJ				ScS	ScS	23 44 36.8	+10	
MDJ				pmax	pmax			
	comp=Z,20nm,2.1s							
MDJ				pmax	pmax			
	comp=Z,550nm,11.9s							
MDJ				LR	LR			
	comp=N,1μm,11.0s							
MDJ				LR	LR			
	comp=E,770nm,10.8s							
MDJ				LR	LR			
	comp=Z,1μm,12.0s							
PYUN	Piuthan	54.17	315	eP	P	23 34 49.4	-1.2	
	comp=Z,22nm,0.5s							

SONM	Songino Array	58.84	346	P	P	23 35 22.9	-0.3	
	comp=Z,2.5nm,0.9s,baz=153,slow=7.7,SNR=1.1							
	comp=Z,2.5nm,0.9s							
WMQ	Urumqi	62.12	331	eP	P	23 35 45.6	+0.1	
WMQ				pP	pP	23 36 10.6	+1.3	
WMQ				pmax	pmax			
	comp=Z,11nm,1.5s							
WMQ				LR	LR			
	comp=N,1μm,11.7s							
WMQ				LR	LR			
	comp=E,1μm,14.7s							
WMQ				LR	LR			
	comp=Z,1μm,17.7s							
NIL	Nilore	64.20	314	P	P	23 35 57.8	-1.6	
NIL				IAmb	IAmb	23 35 60.0		
	comp=Z,8.5nm,0.6s							
KSH	Kashi	65.69	321	P	P	23 36 08.8	-0.3	
KSH				pP	pP	23 36 34.0	+1.0	
KSH				pmax	pmax			
	comp=Z,18nm,0.7s							
KSH				LR	LR			
	comp=N,2μm,18.6s							
KSH				LR	LR			
	comp=E,3μm,17.2s							
KSH				LR	LR			
	comp=Z,2μm,20.6s							
SHLS	Shalkode	65.91	326	eP	P	23 36 07.8	-2.6	
	comp=Z,6.1nm,0.7s,baz=326							
SHLS				*i* S	S	23 44 46.6	-3.4	
	baz=326							
UZB	Uzynbulak	66.15	326	eP	P	23 36 11.3	-0.6	
	comp=Z,6.5nm,0.9s,baz=326							
ZSN	Zaisan	66.15	332	eP	P	23 36 10.4	-1.3	
	baz=332							
SATY	Saty	66.44	325	eP	P	23 36 13.2	-0.6	
	comp=Z,5.7nm,0.8s,baz=325							
ZHN	Zhinishke	66.49	325	eP	P	23 36 13.5	-0.6	
	baz=325							
KPKS	Kokpek	66.54	326	eP	P	23 36 13.9	-0.5	
	comp=Z,8.5nm,0.8s,baz=326							
MKAR	Makanchi Array	66.90	330	P	P	23 36 17.1	+0.6	
	comp=Z,1.7nm,0.5s,baz=142,slow=7.7,SNR=9.1							
	comp=Z,1.7nm,0.5s							
TNSS	Tian-Shan	67.25	325	eP	P	23 36 18.4	-0.9	
	baz=324							
MDOK	Medeo	67.27	325	eP	P	23 36 18.3	-0.8	
	baz=325							
KBL	Kabul	67.66	313	P	P	23 36 20.2	-1.6	
KBL				IAmb	IAmb	23 36 24.0		
	comp=Z,5.3nm,0.6s							
TDK	Taldyqorghan	67.69	327	eP	P	23 36 20.7	-0.8	
	comp=Z,7.4nm,1.0s,baz=327							
CHKK	Chushkaly	67.74	325	eP	P	23 36 21.0	-0.8	
	baz=325							
TKM2	Tokmak 2	67.96	324	P	P	23 36 23.3	-0.2	
	SNR=5.8							
KUU	Kurty	68.13	325	eP	P	23 36 23.7	-0.6	
	baz=325							
KBK	Karagaybulak	68.18	323	P	P	23 36 25.1	+0.3	
	SNR=5.4							
AAK	Ala-Archa	68.44	323	P	P	23 36 24.8	-1.7	
AAK				IAmb	IAmb	23 36 27.3		
	comp=Z,14nm,1.2s							
FRU1	Bishkek	68.46	323	P	P	23 36 24.5	-2.0	
FRU1				IAmb	IAmb	23 36 27.1		
	comp=Z,5.9nm,0.5s							
ARSB	Arslanbob	68.59	321	P	P	23 36 25.8	-1.6	
ARSB					pP	23 36 48.9	-2.7	
AML	Almayashu	68.62	322	P	P	23 36 27.9	0.0	
	SNR=8.8							
USP	Ospenovka	68.81	324	P	P	23 36 28.1	-0.5	
	SNR=11							
SGDS	Sogindy	68.84	324	eP	P	23 36 27.9	-0.9	
	baz=324							
EKS2	Erkin-Say	68.88	323	P	P	23 36 28.9	-0.3	
	SNR=6.2							
BTK	Batken	69.27	319	P	P	23 36 29.9	-1.7	
BTK					PcP	23 36 52.7	-1.9	
CHGR	Chuyangaron	69.63	317	P	P	23 36 31.8	-2.0	
CHGR				IAmb	IAmb	23 36 34.5		
	comp=Z,11nm,1.0s							
CHGR					PcP	23 36 53.3	-2.8	
BTLS	Baital	70.13	325	eP	P	23 36 35.2	-1.5	
	baz=325							
H04N2	CROZET ISLANDS	71.01	224	T	T	00 54 40.9		
	baz=81,slow=75,SNR=7.5							
ZAA0	Zalesovo Array	71.01	337	P	P	23 36 39.0	-2.8	
ZAA0				IAmb	IAmb	23 36 40.7		
	comp=Z,7.6nm,0.9s							
ZALV	Zalesovo Beam	71.01	337	P	P	23 36 39.3	-2.5	
ZALV	Zalesovo Beam	71.01	337	P	P	23 36 40.2	-1.5	
	comp=Z,5.2nm,0.7s,baz=138,slow=5.1,SNR=4.2							
	comp=Z,5.2nm,0.7s							
H04N3	CROZET ISLANDS	71.02	224	T	T	00 54 43.6		
	baz=81,slow=75,SNR=7.0							
H04N1	CROZET ISLANDS	71.02	224	T	T	00 54 39.6		
	baz=81,slow=75,SNR=7.2							
VNDA	Vanda	71.09	172	P	P	23 36 44.3	+2.3	
	comp=Z,0.7nm,0.4s,baz=327,slow=9.2,SNR=7.5							
	comp=Z,0.7nm,0.4s							
KK31	Karatay Array	71.11	322	P	P	23 36 41.8	-0.9	
KKAR	Karatay Array	71.11	322	P	P	23 36 41.4	-1.3	
BRZS	Berezniki	73.83	328	eP	P	23 36 57.8	-0.9	
	baz=328							
BVAR	Borovoye Array	76.78	330	P	P	23 37 14.9	-0.6	
	comp=Z,7.9nm,1.0s,baz=106,slow=7.9,SNR=22							
	comp=Z,7.9nm,1.0s							
ABKAR	Akbulak array	80.52	323	P	P	23 37 34.1	-1.9	
ABKAR	Akbulak array	80.52	323	P	P	23 37 34.4	-1.7	
QSPA	South Pole Qui	80.81	180	P	P	23 37 40.0	+2.4	
QSPA				IAmb	IAmb	23 37 40.1		
	comp=Z,6.0nm,0.9s							
QSPA	South Pole Qui	80.81	180	P	P	23 37 39.9	+2.3	
	comp=Z,3.5nm,0.7s,baz=296,slow=1.5,SNR=21							
	comp=Z,3.5nm,0.7s							
ARU	Arti	84.41	330	P	P	23 37 54.8	-1.3	
ARU				IAmb	IAmb	23 38 07.3		
	comp=Z,11nm,1.1s							
ELIB	Princess Elisa	84.58	198	dPcP	PcP	23 37 59.7	-0.6	
KMBO	Kilima Mbogo	86.47	269	P	P	23 38 08.7	+1.0	
	comp=Z,0.7nm,0.3s,baz=65,slow=6.1,SNR=3.8							
	comp=Z,0.7nm,0.3s

$M_{\theta\theta}$0.10±.09; $M_{\phi\phi}$2.11±.07; $M_{r\theta}$0.86±.30; $M_{\theta\phi}$1.09±.07; $M_{r\phi}$4.73±.22; Best double couple: $M_0$5.37800×10^{16} NP1:$\phi_8$191.00000°,δ77.00000°,λ-97.00000°. NP2: $\phi_8$39.00000°,δ14.00000°,λ-63.00000°. Principal axes: T 5.5030, Plg32.0000°, Azm287.0000°; N -0.2540, Plg6.0000°, Azm193.0000°; P -5.2530, Plg57.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*NEIC **18** 23:28:29.2±1.1,30.70N±0.05×132.04E±0.07,h15km±3km, mb5.2/379 Error ellipse: s-maj=9.4km s-min=7.8km az=93.0*

*BGR **18** 23:28:29.9,31.49N×132.94E,h9km,mb5.1,Ms5.6*

ISC 18 23:28:28.5±0.5,30.66N±0.03×132.03E±0.03,h15km±2km, h15km:pP-P,n1118,σ1.940/1133,mb5.1/321,MS4.9/74, 47C-20D,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.91**	**270**	P	**Pb**	**23 28 45.7**	**-0.2**
JTN				*e*S	**Sn**	**23 28 59.6**	**+0.1**
JTN	**Tanegashima 3**	**0.91**	**270**	A	A	23 28 45.7	
	comp=E,81nm,1.6s,comp=N,39nm,3.2s						
JMTN	**Minamitane**	**1.01**	**255**	P	**Pb**	**23 28 47.2**	**-0.4**
JMTN				*e*S	**Sg**	**23 29 01.4**	**+0.1**
JMTN	**Minamitane**	**1.01**	**255**	A	A	23 28 47.2	
	comp=E,56nm,1.9s,comp=N,34nm,2.4s						
JTSR	**Tashiro 2**	**1.08**	**298**	*e*P	**Pb**	**23 28 48.0**	**-0.9**
JTSR	**Tashiro 2**	**1.08**	**298**	A	A	23 28 48.0	
	comp=E,34nm,2.4s,comp=N,21nm,3.8s						
JNAR	**Kushima--Naru**	**1.08**	**323**	*e*P	**Pb**	**23 28 48.4**	**-0.5**
JNAR				*e*S	**Sg**	**23 29 03.4**	**-0.2**
JNAR	**Kushima--Naru**	**1.08**	**323**	A	A	23 28 48.4	
	comp=E,60nm,3.2s,comp=N,28nm,2.5s						
JNKG	**Nichinankitago**	**1.15**	**331**	P	**Pn**	**23 28 49.3**	**-0.7**
JNKG				*e*S	**Sb**	**23 29 05.0**	**+0.3**
JNKG	**Nichinankitago**	**1.15**	**331**	A	A	23 28 49.3	
	comp=E,30nm,5.4s,comp=N,30nm,3.6s						
JYAK	**Yakushimahirau**	**1.38**	**253**	*e*P	**Pn**	**23 28 52.2**	**-1.0**
JYAK				*e*S	**Sn**	**23 29 10.8**	**-0.4**
JYAK	**Yakushimahirau**	**1.38**	**253**	A	A	23 28 52.2	
	comp=E,20nm,3.5s,comp=N,14nm,1.3s						
JTZ	**Takazaki**	**1.48**	**327**	*e*P	**Pn**	**23 28 53.7**	**-0.9**
JTZ				*e*S	**Sn**	**23 29 13.3**	**-0.3**
JSU	**Suzuyama**	**1.59**	**302**	*e*P	**Pn**	**23 28 55.7**	**-0.5**
JSU				*e*S	**Sn**	**23 29 16.7**	**+0.2**
JSU	**Suzuyama**	**1.59**	**302**	A	A	23 28 55.7	
	comp=E,12nm,3.7s,comp=N,15nm,2.0s						
JKC	**Kuchinoerabu**	**1.60**	**263**	A	A	23 28 55.4	
	comp=E,17nm,3.5s,comp=N,18nm,3.9s						
JTSN	**Tsuno**	**1.64**	**344**	A	A	23 28 55.8	
	comp=E,28nm,2.5s,comp=N,14nm,4.4s						
JZO	**Okuchi**	**1.92**	**321**	A	A	23 29 00.2	
	comp=E,16nm,4.3s,comp=N,12nm,3.5s						
JNN	**Nakanoshima**	**2.04**	**247**	P	**Pn**	**23 29 02.4**	**+0.2**
JNN				*e*S	**Sn**	**23 29 27.2**	**-0.2**
JNN	**Nakanoshima**	**2.04**	**247**	A	A	23 29 02.4	
	comp=E,18nm,4.4s,comp=N,17nm,4.1s						
JIU3	**Izumi3**	**2.15**	**331**	*i*P	**Pn**	**23 29 04.1**	**+0.2**
JIU3				*e*S	**Sn**	**23 29 30.6**	**+0.3**
JIU3	**Izumi3**	**2.15**	**331**	A	A	23 29 04.1	
	comp=E,7.0nm,6.0s,comp=N,8.0nm,3.7s						
JTO	**Tosashimizu**	**2.29**	**16**	*i*P	**Pn**	**23 29 03.2**	**-2.5**
JTO				*e*S	**Sn**	**23 29 28.3**	**-5.3**
JTA	**Tamana**	**2.63**	**331**	A	A	23 29 10.1	
	comp=E,10.0nm,5.4s,comp=N,7.0nm,3.3s						
JNU	**Nakatsue**	**2.64**	**338**	P	**Pn**	**23 29 11.4**	**+0.8**
JNU	**Nakatsue**	**2.64**	**338**	Pn	**Pn**	**23 29 10.9**	**+0.2**
	comp=N,42nm,0.3s,baz=198,slow=8.5,SNR=138						
JNU				Sn	**Sn**	**23 29 42.7**	**+0.2**
	comp=N,66nm,0.3s,baz=17,slow=19,SNR=7.5						
	comp=N,292nm,0.7s						
JBEP	**Beppuamama**	**2.72**	**349**	A	A	23 29 10.9	
	comp=E,13nm,3.3s,comp=N,12nm,2.6s						
NGSJ	**Nagasakinomoza**	**2.74**	**316**	A	A	23 29 11.8	
	comp=E,6.0nm,3.7s,comp=N,5.0nm,4.3s						
JKI	**Kunimi**	**2.99**	**353**	A	A	23 29 14.7	
	comp=E,7.0nm,3.5s,comp=N,7.0nm,3.0s						
JAM	**Amami Oshima**	**3.08**	**224**	A	A	23 29 15.4	
	comp=E,4.0nm,1.2s,comp=N,4.0nm,5.9s						
JMN	**Monobe**	**3.44**	**27**		**Pn**	**23 29 21.0**	**-0.5**
JMN	**Monobe**	**3.44**	**27**	P	**Pn**	**23 29 21.4**	**-0.1**
JHM	**Kurahashi**	**3.50**	**7**	A	A	23 29 21.4	
	comp=E,4.0nm,4.9s,comp=N,4.0nm,3.4s						
JHS	**Saijyo**	**4.42**	**12**		**Pn**	**23 29 35.1**	**0.0**
JTU	**Tsushima**	**4.45**	**331**		**Pn**	**23 29 35.1**	**-0.2**
JTU	**Tsushima**	**4.45**	**331**	P	**Pn**	**23 29 35.3**	**-0.1**
JMZ	**Minamidaito 2**	**4.88**	**189**		**Pn**	**23 29 41.8**	**+0.6**
JMZ	**Minamidaito 2**	**4.88**	**189**	P	**Pn**	**23 29 42.1**	**+0.8**
JOW	**Kunigami**	**5.04**	**222**	Pn	**Pn**	**23 29 44.7**	**+1.1**
JOW	**Kunigami**	**5.04**	**222**	P	**Pn**	**23 29 44.3**	**+0.7**
JOW	**Kunigami**	**5.04**	**222**	Pn	**Pn**	**23 29 44.3**	**+0.7**
	comp=N,27nm,0.3s,baz=109,slow=24,SNR=31						
JOW				Sn	**Sn**	**23 30 36.3**	**-5.3**
	comp=N,20nm,0.3s,baz=340,slow=27,SNR=15						
	comp=N,44nm,0.3s						
JSG	**Sagara**	**6.55**	**51**		**Pn**	**23 30 03.5**	**-0.8**
TJN	**Taejon**	**6.91**	**327**		**Pn**	**23 30 10.1**	**+0.9**
TJN	**Taejon**	**6.91**	**327**	⇓*e*P	**Pn**	**23 30 09.2**	**+0.1**
JHJ	**Hachijo jima 2**	**7.03**	**68**	Pn	**Pn**	**23 30 10.9**	**0.0**
	comp=N,20nm,0.3s,baz=154,slow=15,SNR=5.1						
JHJ				Sn	**Sn**	**23 31 26.5**	**-4.1**
	comp=N,4.9nm,0.3s,baz=68,slow=19,SNR=2.3						
	comp=N,82nm,0.4s						
JHJ2	**Mitsune**	**7.06**	**68**	P	**Pn**	**23 30 11.5**	**+0.3**
KSRS	**Korea Array**	**7.58**	**334**	Pn	**Pn**	**23 30 19.7**	**+1.3**
	comp=N,0.6nm,0.3s,baz=158,slow=14,SNR=14						
	comp=N,10nm,0.9s						
KSAR	**Wonju Array Be**	**7.59**	**334**	Pn	**Pn**	**23 30 17.9**	**-0.6**
KSAR	**Wonju Array Be**	**7.59**	**334**	P	**Pn**	**23 30 17.9**	**-0.6**
KS19	**Wonju Array Si**	**7.65**	**334**	Pn	**Pn**	**23 30 18.9**	**-0.4**
MAJO	**Matsushiro**	**7.80**	**40**	Pn	**Pn**	**23 30 21.0**	**-0.5**
MAJO	**Matsushiro**	**7.80**	**40**	P	**Pn**	**23 30 22.3**	**+0.8**
MAJO	**Matsushiro**	**7.80**	**40**	*c i*P	**Pn**	**23 30 22.3**	**+0.8**
MJAR	**Matsushiro Arr**	**7.80**	**40**	Pn	**Pn**	**23 30 22.3**	**+0.7**
	comp=N,2.0nm,0.3s,baz=235,slow=14,SNR=36						
	comp=N,12nm,0.3s						
MJB9	**Matsu-Tunnel**	**7.81**	**40**	Pn	**Pn**	**23 30 22.0**	**+0.5**
JSD	**Sado**	**8.98**	**33**	Pn	**Pn**	**23 30 36.2**	**-1.4**
SSE	**Sheshan**	**9.33**	**275**	P	**Pn**	**23 30 41.9**	**-0.5**
SSE				S	**Sn**	**23 32 27.8**	**+0.7**
SSE				pmax	pmax		
	comp=N,10.0nm,0.8s						
SSE				pmax	pmax		
	comp=N,250nm,4.8s						
SSE				LR	LR		
	comp=N,5μm,16.6s						
SSE				LR	LR		
	comp=N,2μm,16.6s						
JCJ	**Chichijima**	**9.58**	**109**	Pn	**Pn**	**23 30 46.4**	**+0.6**
JCJ	**Chichijima**	**9.58**	**109**	P	**Pn**	**23 30 47.5**	**+1.6**
	comp=N,132nm,1.1s						
JCJ	**Chichijima**	**9.58**	**109**	Pn	Pn	23 30 40.1	-5.7
	comp=N,9.7nm,0.3s,baz=268,slow=22,SNR=4.2						
JCJ				LR	LR	23 34 04.6	
	comp=N,1μm,18.2s,baz=314,slow=35						
JMM	**Marumori**	**10.20**	**43**		**Pn**	**23 30 54.3**	**-0.1**
NJ2	**Nanjing**	**11.35**	**280**	*e*P	**Pn**	**23 31 10.9**	**+0.8**
NJ2				pP		23 31 14.3	
NJ2				S	**Sn**	**23 33 20.3**	**+3.6**
NJ2				sS		23 33 28.3	
NJ2				pmax	pmax		
	comp=N,10.0nm,1.1s						
NJ2				pmax	pmax		
	comp=N,1μm,8.1s						
NJ2				LR	LR		
	comp=N,9μm,15.2s						
NJ2				LR	LR		
	comp=N,5μm,18.5s						
NJ2				LR	LR		
	comp=N,7μm,19.9s						
DL2	**Dalian**	**11.86**	**317**	*e*P	**Pn**	**23 31 12.3**	**-4.7**
DL2				pmax	pmax		
	comp=Z,66nm,1.2s						
DL2				pmax	pmax		
	comp=Z,540nm,6.8s						
DL2				LR	LR		
	comp=N,10μm,17.3s						
DL2				LR	LR		
	comp=E,5μm,16.1s						
DL2				LR	LR		
	comp=Z,4μm,11.6s						
SNY	**Shenyang**	**13.06**	**331**	⇓P	**P**	**23 31 41.8**	**-1.9**
SNY				S	S	23 34 36.8	+13
SNY				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SNY				pmax	pmax		
	comp=Z,550nm,6.5s						
SNY				LR	LR		
	comp=N,4μm,24.9s						
SNY				LR	LR		
	comp=E,8μm,17.5s						
SNY				LR	LR		
	comp=Z,5μm,22.5s						
USA0B	**Ussuriysk Arra**	**13.52**	**360**	Pn	**Pn**	**23 31 37.7**	**-1.9**
USA0B	**Ussuriysk Arra**	**13.52**	**360**	P	**Pn**	**23 31 37.7**	**-1.9**
USRK	**Ussuriysk Ar.**	**13.52**	**360**	Pn	**Pn**	**23 31 39.3**	**-0.3**
USRK	**Ussuriysk Ar.**	**13.52**	**360**	P	**Pn**	**23 31 39.3**	**-0.3**
USRK	**Ussuriysk Ar.**	**13.52**	**360**	Pn	**Pn**	**23 31 44.1**	**+4.5**
	comp=Z,0.3nm,0.3s,baz=189,slow=12,SNR=7.4						
TIA	**Tai'an**	**13.62**	**298**	*e*P	**Pn**	**23 31 41.6**	**+0.5**
TIA				pmax	pmax		
	comp=Z,700nm,5.7s						
TIA				LR	LR		
	comp=Z,3μm,14.3s						
TIA				LR	LR		
	comp=Z,6μm,12.4s						
TIA				LR	LR		
	comp=Z,6μm,14.2s						
MDJ	**Mudanjiang**	**14.06**	**353**	Pn	**Pn**	**23 31 46.7**	**-0.4**
MDJ	**Mudanjiang**	**14.06**	**353**	P	**Pn**	**23 31 48.0**	**+0.9**
MDJ				pP	P	23 31 49.9	-5.0
MDJ				PP	**PnPn**	**23 31 56.8**	**+1.6**
MDJ				S	**Sn**	**23 34 27.3**	**+4.4**
MDJ				SS	**S**	**23 34 41.6**	**-2.6**
MDJ				PcS	**PcS**	**23 40 40.6**	**-1.0**
MDJ				ScS	**ScS**	**23 44 15.8**	**-1.3**
MDJ				pmax	pmax		
	comp=Z,18nm,2.3s						
MDJ				pmax	pmax		
	comp=Z,430nm,6.3s						
MDJ				LR	LR		
	comp=Z,4μm,17.2s						
MDJ				LR	LR		
	comp=Z,5μm,18.9s						
MDJ				LR	LR		
	comp=Z,4μm,17.2s						
CN2	**Changchun**	**14.12**	**340**	*e*P	**P**	**23 31 52.5**	**-3.0**
CN2				*e*S	**Sn**	**23 34 19.5**	**-4.8**
CN2				LR	LR		
	comp=Z,3μm,12.0s						
CN2				LR	LR		
	comp=Z,9μm,12.0s						
CN2				LR	LR		
	comp=Z,5μm,14.0s						
TEY	**Ternei**	**14.79**	**13**	*e*P	**P**	**23 32 05.3**	**+2.3**
BNX	**BinXian**	**15.48**	**348**	⇓P	**Pn**	**23 32 07.0**	**+0.8**
BNX				pP	**P**	**23 32 10.8**	**+0.2**
BNX				sP	**pP**	**23 32 14.3**	**+0.1**
BNX				PP	**pwP**	**23 32 19.9**	**+2.8**
BNX				S	**Sn**	**23 35 02.1**	**+4.6**
BNX				sS	**S**	**23 35 06.8**	**-6.4**
BNX				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BNX				pmax	pmax		
	comp=Z,93nm,3.7s						
BNX				LR	LR		
	comp=Z,4μm,14.5s						
BNX				LR	LR		
	comp=Z,6μm,14.4s						
BNX				LR	LR		
	comp=Z,3μm,14.0s						
ASAJ	**Asahikawa**	**15.82**	**29**	Pn	**Pn**	**23 32 08.5**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=168,slow=7.9,SNR=4.8						
	comp=Z,12nm,0.7s						
HNS	**HongShan**	**15.85**	**300**	⇓P	**P**	**23 32 14.0**	**-0.7**
HNS				S	**S**	**23 35 17.5**	**-3.2**
HNS				pmax	pmax		
	comp=Z,110nm,1.2s						
HNS				LR	LR		
	comp=Z,2μm,13.2s						
HNS				LR	LR		
	comp=Z,4μm,13.1s						
HNS				LR	LR		
	comp=Z,3μm,12.6s						
BJT	**Baijiatuau**	**15.94**	**310**		**Pn**	**23 32 11.7**	**-0.5**
BJT	**Baijiatuau**	**15.94**	**310**	P	**Pn**	**23 32 11.7**	**-0.5**
BJT				pmax	pmax		
	comp=Z,76nm,1.1s						
BJI	**Beijing**	**15.95**	**310**	P	**Pn**	**23 32 13.8**	**+1.5**
BJI				pmax	pmax		
	comp=Z,32nm,1.1s						
BJI				pmax	pmax		
	comp=Z,260nm,8.0s						
BJI				LR	LR		
	comp=Z,3μm,16.7s						
BJI				LR	LR		
	comp=Z,3μm,16.9s						
BJI				LR	LR		
	comp=Z,3μm,16.5s						
CNSH	**ChangSha**	**16.83**	**266**	⇑P	**P**	**23 32 26.9**	**+1.3**
CNSH				LR	LR		
	comp=Z,6μm,16.1s						
CNSH				LR	LR		
	comp=Z,3μm,18.4s						
CNSH				LR	LR		
	comp=Z,4μm,17.3s						
LYN	**LuoYang**	**16.93**	**288**	*e*P	**Pn**	**23 32 22.4**	**-2.5**
LYN				PP	**PnPn**	**23 32 37.1**	**+2.6**
LYN				pmax	pmax		
	comp=Z,13nm,0.7s						
LYN				pmax	pmax		
	comp=Z,2μm,7.8s						
LYN				LR	LR		
	comp=Z,8μm,15.7s						
LYN				LR	LR		
	comp=Z,7μm,16.2s						
LYN				LR	LR		
	comp=Z,9μm,18.6s						
YUK	**Yuzh-Kuril'sk**	**17.26**	**36**	*de*P	**P**	**23 32 31.6**	**+1.3**
TIY	**Taiyuan**	**17.66**	**299**	*e*P	**P**	**23 32 36.4**	**+1.5**
TIY				PP	**PnPn**	**23 32 47.8**	**+3.3**
TIY				S	**Sn**	**23 35 52.8**	**+2.3**
TIY				pmax	pmax		
	comp=Z,46nm,2.1s						
TIY				pmax	pmax		
	comp=Z,830nm,5.3s						
TIY				LR	LR		
	comp=Z,3μm,15.8s						
TIY				LR	LR		
	comp=Z,3μm,16.8s						
TIY				LR	LR		
	comp=Z,3μm,20.8s						
YSS	**Yuzh-Sakhalins**	**18.26**	**24**	*e*P	**Pn**	**23 32 39.5**	**-1.7**
YSS				*e*S	**Sn**	**23 36 03.6**	**-1.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=N,1μm,13.0s						
YSS				MLR	MLR		
	comp=E,2μm,13.0s						
YSS				MLR	MLR		
	comp=Z,2μm,13.0s						
XLT	**XiLinHaoTe**	**18.28**	**321**	*e*P	**Pn**	**23 32 40.6**	**-1.0**
XLT				pP	pP	23 32 44.3	-1.1
XLT				PP	**PnPn**	**23 32 56.0**	**+3.0**
XLT				PcS	**PcS**	**23 40 50.9**	**+0.9**
XLT				pmax	pmax		
	comp=Z,20nm,1.2s						
XLT				pmax	pmax		
	comp=Z,1μm,8.1s						
XLT				LR	LR		
	comp=Z,520nm,12.3s						
XLT				LR	LR		
	comp=Z,4μm,13.0s						
XLT				LR	LR		
	comp=Z,7μm,12.5s						
GZH	**Guangzhou**	**18.29**	**250**	P	**Pn**	**23 32 35.5**	**-6.2**
GZH				S	Sn	23 35 53.8	-12
GZH				LR	LR		
	comp=Z,2μm,11.3s						
GZH				LR	LR		
	comp=Z,2μm,10.7s						
KLR	**Kul'dur**	**18.55**	**359**	*de*P	**Pn**	**23 32 45.1**	**+0.4**
KLR				pmax	pmax		
	comp=Z,31nm,0.7s						
KLR	**Kul'dur**	**18.55**	**359**	P	**Pn**	**23 32 45.5**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=168,slow=8.7,SNR=65						
	comp=Z,25nm,0.7s						
HHC	**Hu-ho-hao-te**	**19.43**	**307**	*e*P	**P**	**23 32 54.9**	**+0.5**
HHC				sP	pwP	23 33 05.6	+4.7
HHC				S	**Sn**	**23 36 32.3**	**-1.1**
HHC				SS	**SnSn**	**23 36 53.1**	**+5.5**
HHC				pmax	pmax		
	comp=Z,28nm,0.8s						
HHC				pmax	pmax		
	comp=Z,1μm,4.8s						
HHC				LR	LR		
	comp=Z,5μm,12.5s						
HHC				LR	LR		
	comp=Z,9μm,11.4s						
HHC				LR	LR		
	comp=Z,12μm,12.1s						
ENH	**Enshi**	**19.44**	**275**		**P**	**23 32 54.5**	**+0.1**
XAN	**Xi'an**	**19.81**	**286**	⇑P	**P**	**23 32 58.3**	**-0.2**
XAN				S	**S**	**23 36 41.6**	**+0.4**
XAN				SS	**SnSn**	**23 37 02.6**	**+5.9**
XAN				pmax	pmax		
	comp=Z,98nm,1.1s						
XAN				pmax	pmax		
	comp=Z,960nm,9.6s						
XAN				LR	LR		
	comp=Z,12μm,17.2s						
XAN				LR	LR		
	comp=Z,4μm,19.2s						
XAN				LR	LR		
	comp=Z,7μm,17.5s						
HEH	**HeiHe**	**19.88**	**351**	*e*P	**P**	**23 32 59.0**	**0.0**
HEH				S	**Sn**	**23 36 43.8**	**+0.1**
HEH				sS	**sS**	**23 36 50.4**	**+2.4**
HEH				SS	**SnSn**	**23 37 04.8**	**+6.5**
HEH				pmax	pmax		
	comp=Z,31nm,1.1s						
HEH				pmax	pmax		
	comp=Z,490nm,7.4s						
HEH				LR	LR		
	comp=Z,2μm,19.7s						
HEH				LR	LR		
	comp=Z,3μm,17.6s						
HEH				LR	LR		
	comp=Z,2μm,24.2s						
GRNR	**Gornyy**	**20.36**	**8**	*e*P	**P**	**23 32 57.4**	**-6.9**
GRNR				MLR	MLR		
	comp=E,780nm,14.0s						
GRNR				MLR	MLR		
	comp=Z,2μm,14.0s						
GRNR				MLR	MLR		
	comp=N,1μm,15.0s						
BTO	**Baotou**	**20.41**	**305**	*e*P	Pn	23 33 08.3	+1.1
BTO				pP	pwP	23 33 12.3	+0.7
BTO				sP	sP	23 33 15.3	+4.9
BTO				PP	**PnPn**	**23 33 29.3**	**+7.1**
BTO				pmax	pmax		
	comp=N,21nm,0.6s						
BTO				pmax	pmax		
	comp=N,1μm,3.9s						
BTO				LR	LR		
	comp=N,10μm,12.6s						
BTO				LR	LR		
	comp=N,6μm,12.0s						
BTO				LR	LR		
	comp=N,11μm,12.6s						
HIA	**Hailar**	**20.79**	**337**	P	**P**	**23 33 08.0**	**-1.0**
HIA	**Hailar**	**20.79**	**337**	P	**P**	**23 33 08.0**	**-1.0**
HIA				pmax	pmax		
	comp=Z,13nm,0.9s						
TYV	**Tymovskoe**	**21.68**	**18**	*e*P	**P**	**23 33 21.1**	**+2.6**
TYV				*e*S	Sn	23 37 26.2	-0.9
TYV				pmax	pmax		
	comp=Z,200nm,3.5s						
TYV				pmax	pmax		
	comp=Z,17nm,0.8s						
GYA	**Guiyang**	**22.66**	**266**	⇓*i*P	**P**	**23 33 28.4**	**-0.9**
GYA				sP	pwP	23 33 35.4	-0.6
GYA				S	**S**	**23 37 34.4**	**-2.7**
GYA				pmax	pmax		
	comp=Z,70nm,1.2s						
GYA				pmax	pmax		
	comp=Z,540nm,5.8s						
GYA				LR	LR		
	comp=Z,4μm,19.0s						
GYA				LR	LR		
	comp=Z,2μm,18.4s						
GYA				LR	LR		
	comp=Z,4μm,18.0s						
QIZ	**Qiongzhong**	**23.18**	**245**	P	**P**	**23 33 36.8**	**+2.1**
QIZ				LR	LR		
	comp=Z,3μm,12.9s						
QIZ				LR	LR		
	comp=Z,3μm,13.9s						
QIZ				LR	LR		
	comp=Z,2μm,12.3s						
ZEA	**Zeya**	**23.32**	**353**	*e*P	**P**	**23 33 35.1**	**-0.7**
ZEA				pmax	pmax		
	comp=N,20nm,1.3s						
ZEA				pmax	pmax		
	comp=Z,30nm,0.9s						
ZEA				MLR	MLR		
	comp=E,1μm,15.0s						
ZEA				MLR	MLR		
	comp=N,1μm,13.0s						
ZEA				MLR	MLR		
	comp=Z,1μm,16.0s						
LZH	**Lanzhou**	**24.11**	**291**	*e*P	**P**	**23 33 42.8**	**-1.0**
LZH				pP	pwP	23 33 54.3	+3.8
LZH				PP	**PnPn**	**23 34 17.4**	**+4.5**
LZH				S	**S**	**23 37 58.5**	**-2.6**
LZH				SS	**SnSn**	**23 38 55.1**	**+13**
LZH				pmax	pmax		
	comp=Z,53nm,1.3s						
LZH				pmax	pmax		
	comp=Z,600nm,7.2s						
LZH				LR	LR		
	comp=Z,3μm,18.6s						
LZH				LR	LR		
	comp=Z,5μm,19.2s						
LZH				LR	LR		
	comp=Z,7μm,18.9s						
DAV	**Davao City (W)**	**24.24**	**196**	LR	LR	23 42 58.8	
	comp=Z,728nm,21.6s,baz=22,slow=36						
CD2	**Chengdu**	**24.27**	**278**	P	**P**	**23 33 43.5**	**-1.7**
CD2				S	**S**	**23 38 05.3**	**+1.8**
CD2				pmax	pmax		
	comp=Z,50nm,1.8s						
CD2				LR	LR		
	comp=Z,4μm,11.6s						
CD2				LR	LR		
	comp=Z,4μm,11.4s						
CD2				LR	LR		
	comp=Z,6μm,10.8s						
ULN	**Ulaanbaatar**	**25.70**	**319**	P	**P**	**23 33 57.1**	**-1.1**
ULN				IAmb	IAmb	23 33 59.3	
	comp=Z,58nm,1.1s						
ULN	**Ulaanbaatar**	**25.70**	**319**	*c i*P	**P**	**23 33 56.9**	**-1.2**
ULN				pmax	pmax		
	comp=Z,50nm,1.0s						
SONM	**Songino Array**	**26.06**	**318**	P	**P**	**23 34 00.2**	**-1.2**
SONM	**Songino Array**	**26.06**	**318**	P	**P**	**23 34 00.4**	**-1.0**
	comp=Z,7.1nm,1.0s,baz=138,slow=10,SNR=26						
SONM				LR	LR	23 45 30.6	
	comp=Z,3μm,21.7s,baz=124,slow=39						
	comp=Z,7.1nm,1.0s						
KMI	**Kunming**	**26.43**	**265**	⇓P	**P**	**23 34 05.8**	**+0.8**
KMI				S	**S**	**23 38 42.3**	**+3.9**
KMI				pmax	pmax		
	comp=Z,21nm,1.2s						
KMI				LR	LR		
	comp=Z,3μm,15.6s						
KMI				LR	LR		
	comp=Z,2μm,19.3s						
KMI				LR	LR		
	comp=Z,3μm,15.5s						
SLVN	**Son La**	**26.87**	**256**	P	**P**	**23 34 08.8**	**0.0**
PZH	**PanZhiHua**	**26.88**	**269**	P	**P**	**23 34 08.3**	**-0.7**
PZH				pmax	pmax		
	comp=Z,20nm,1.1s						
PZH				pmax	pmax		
	comp=Z,260nm,5.3s						
PZH				LR	LR		
	comp=Z,3μm,17.1s						
PZH				LR	LR		
	comp=Z,2μm,16.7s						
PZH				LR	LR		
	comp=Z,2μm,13.3s						
GTA	**Gaotai**	**27.67**	**297**	*e*P	**P**	**23 34 14.4**	**-1.6**
GTA				sP	pwP	23 34 28.1	+5.5

GTA sS sS 23 39 05.5 +1.2
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA LR LR
comp=Z,2µm,13.1s
GTA LR LR
comp=Z,3µm,13.5s
GTA LR LR
comp=Z,4µm,13.4s
ZAK Zakamensk 29.14 321 *e*P P 23 34 23.3 -5.6
ZAK pmax pmax
comp=Z,5.0nm,1.4s
PEA0B Petropavlovsk- 29.18 32⇓ *e*P **P 23 34 30.6 +1.5**
PETK Petropavlovsk- 29.18 32 P **P 23 34 28.2 -0.9**
PETK Petropavlovsk- 29.18 32 P **P 23 34 29.6 +0.5**
comp=Z,21nm,0.9s,baz=216,slow=4.8,SNR=12
PETK LR LR 23 48 03.1
comp=Z,951nm,18.1s,baz=228,slow=40
comp=Z,21nm,0.9s
PET Petropavlovsk 29.57 33 *e*P P 23 34 46.3 +14
PET *e*S **S 23 39 34.7 +7.8**
TNCH TengChong 30.09 268 *e*P **P 23 34 34.3 -3.4**
TNCH PP **PnPn 23 35 38.0 +3.3**
TNCH S **S 23 39 38.3 +2.4**
TNCH SS **SnSn 23 41 10.1 +1.5**
TNCH pmax pmax
comp=Z,15nm,0.5s
TNCH pmax pmax
comp=Z,180nm,8.1s
TNCH LR LR
comp=Z,3µm,13.9s
TNCH LR LR
comp=Z,1µm,17.7s
TNCH LR LR
comp=Z,2µm,20.3s
CRAI Chiangrai 30.32 257 P **P 23 34 39.6 +0.1**
GOMU GeErMu 31.42 290 P **P 23 34 48.8 -0.7**
GOMU S **S 23 39 59.6 +2.7**
GOMU pmax pmax
comp=Z,6.0nm,0.7s
GOMU LR LR
comp=Z,760nm,13.7s
GOMU LR LR
comp=Z,1µm,18.0s
GOMU LR LR
comp=Z,2µm,17.7s
YAK Yakutsk 31.42 358 P **P 23 34 48.7 0.0**
YAK IAmb IAmb 23 34 51.3
comp=Z,28nm,0.9s
YAK Yakutsk 31.42 358 *e*P **P 23 34 48.1 -0.6**
YAK *e**PP **pP 23 34 52.4 -0.2**
YAK *e* 23 35 49.0
YAK *e* 23 37 41.1
YAK *e*S **S 23 39 56.2 +0.6**
YAK *e**SS **sS 23 40 02.1 0.0**
YAK *e*SS **SnSn 23 41 37.1 -2.7**
YAK *e* 23 45 24.1
YAK pmax pmax
comp=Z,31nm,1.0s
YAK pmax pmax
comp=N,15nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,390nm,4.7s
YAK pmax pmax
comp=N,101nm,4.3s
YAK pmax pmax
comp=E,196nm,4.6s
YAK smax smax
comp=N,253nm,3.7s
YAK smax smax
comp=E,42nm,3.9s
YAK MLR MLR
comp=Z,2µm,16.0s
YAK MLR MLR
comp=E,953nm,13.0s
YAK MLR MLR
comp=N,1µm,13.0s
YAK Yakutsk 31.42 358 LR LR 23 47 22.6
comp=N,59nm,21.1s,baz=171,slow=36
MA2 Magadan 31.56 18 P **P 23 34 50.1 0.0**
MA2 IAmb IAmb 23 34 51.1
comp=Z,36nm,1.2s
MA2 Magadan 31.56 18⇓ *e*P **P 23 34 49.9 -0.1**
MA2 pmax pmax
comp=Z,36nm,1.7s
MA2 Magadan 31.56 18 LR LR 23 48 29.6
comp=Z,455nm,21.0s,baz=200,slow=38
CHTO Chiang Mai 32.17 256 P **P 23 34 55.4 -0.4**
CHTO IAmb IAmb 23 34 57.3
comp=Z,30nm,1.1s
CHTO Chiang Mai 32.17 256 P **P 23 34 55.4 -0.4**
CHTO pmax pmax
comp=Z,30nm,1.1s
CM31 Chiang Mai Arr 32.33 256 P **P 23 34 56.9 -0.4**
CMAR Chiang Mai Arr 32.33 256 P **P 23 34 56.6 -0.7**
CMAR Chiang Mai Arr 32.33 256 P **P 23 34 57.6 +0.3**
comp=Z,3.7nm,0.3s,baz=52,slow=7.0,SNR=22
comp=Z,3.7nm,0.3s
H11N2 WAKE ISLAND Hy 33.25 101 T T 00 10 06.3
baz=296,slow=74,SNR=31
H11N1 WAKE ISLAND Hy 33.25 101 T T 00 10 06.4
baz=296,slow=74,SNR=25
H11N3 WAKE ISLAND Hy 33.26 101 T T 00 10 07.6
baz=296,slow=74,SNR=32
H11S3 WAKE ISLAND Hy 33.63 103 T T 00 11 18.3
baz=303
H11S1 WAKE ISLAND Hy 33.63 103 T T 00 11 40.4
baz=303
H11S2 WAKE ISLAND Hy 33.64 103 T T 00 11 29.4
baz=303
SEY Seymchan 34.84 16⇑ *e*P **P 23 35 19.8 +1.2**
SEY pmax pmax
comp=Z,25nm,2.5s
SHL Shillong 35.64 272 P **P 23 35 24.8 -1.4**
SHL IAmb IAmb 23 35 49.0
comp=Z,68nm,1.9s
SHL Shillong 35.64 272 P **P 23 35 24.8 -1.4**
SHL pmax pmax
comp=Z,68nm,1.9s
WMQ Urumqi 37.23 303 *e*P **P 23 35 38.0 -1.4**
WMQ pmax pmax
comp=Z,13nm,1.3s
WMQ LR LR
comp=Z,1µm,13.9s
WMQ LR LR
comp=Z,2µm,15.7s
WMQ LR LR
comp=Z,2µm,18.5s
SRIT Nakonsritamara 37.38 241 P **P 23 35 42.5 +1.6**
DGZ Jazzator, Alta 38.35 313⇑ *e*P **P 23 35 46.9 -2.0**
DGZ pmax pmax
comp=Z,4.0nm,1.1s
ZSN Zaisan 39.62 309 *e*P **P 23 35 57.9 -1.6**
baz=309
ZSN Zaisan 39.62 309 *e*P **P 23 35 57.8 -1.6**
ZALV Zalesovo Beam 40.95 319 *i* P **P 23 36 09.1 -1.2**
ZALV pmax pmax
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 40.95 319 P **P 23 36 09.1 -1.2**
comp=Z,2.9nm,1.1s,baz=110,slow=6.8,SNR=6.2
ZALV LR LR 23 54 43.9
comp=Z,2µm,20.6s,baz=108,slow=39
comp=Z,2.9nm,1.1s
TIXI Tiksi 41.08 358 P **P 23 36 10.8 -0.3**
TIXI IAmb IAmb 23 36 24.3
comp=Z,70nm,1.8s
TIXI Tiksi 41.08 358⇓ *e*P **P 23 36 12.0 +0.9**
TIXI Tiksi 41.08 358 LR LR 23 54 06.8
comp=Z,92nm,20.7s,baz=186,slow=38
MK31 Makanchi Array 41.30 307 P **P 23 36 12.3 -1.0**
MK31 Makanchi Array 41.30 307 *ce*P **P 23 36 13.0 -0.3**
MKAR Makanchi Array 41.30 307 P **P 23 36 12.6 -0.8**
MKAR Makanchi Array 41.30 307 *i* P **P 23 36 12.3 -1.0**
MKAR pmax pmax
comp=Z,6.0nm,0.9s
MKAR Makanchi Array 41.30 307 P **P 23 36 12.4 -0.9**
comp=Z,5.5nm,0.9s,baz=91,slow=9.7,SNR=21
MKAR PcP **PcP 23 38 12.2 +0.5**
comp=Z,2.3nm,0.8s,baz=78,slow=4.8,SNR=3.9
MKAR LR LR 23 55 19.4
comp=Z,2µm,18.3s,baz=102,slow=39
comp=Z,5.5nm,0.9s
MAKZ Makanchi 41.52 307 P **P 23 36 14.5 -0.6**
MAKZ Makanchi 41.52 307 P **P 23 36 14.5 -0.6**

MAKZ pmax pmax
comp=Z,14nm,1.5s
PMG Port Moresby 42.40 158 LR LR 23 52 27.2
comp=Z,614nm,20.5s,baz=332,slow=34
BILL Bilibino 42.43 18 P **P 23 36 22.4 +0.1**
BILL Bilibino 42.43 18 *i*P **P 23 36 23.4 +1.2**
SEM Semipalatinsk 43.03 313 *e*P **P 23 36 26.5 -1.2**
comp=Z,20nm,1.2s,baz=313
SEM Semipalatinsk 43.03 313 *e*P **P 23 36 26.4 -1.2**
SEM pmax pmax
comp=Z,20nm,1.2s
MTN Manton Dam 43.26 181 P **P 23 36 28.6 -0.9**
MTN IAmb IAmb 23 36 30.3
comp=Z,33nm,0.9s
UZB Uzynbulak 43.51 302 *e*P **P 23 36 30.1 -1.5**
baz=302
UZB Uzynbulak 43.51 302 *e*P **P 23 36 30.0 -1.5**
KPKS Kokpek 43.75 302 *e*P **P 23 36 32.5 -1.0**
baz=302
KPKS Kokpek 43.75 302 *e*P **P 23 36 32.4 -1.0**
GSI Gunungsitoli 43.80 235 P **P 23 36 33.8 -0.1**
GSI IAmb IAmb 23 36 35.8
comp=Z,63nm,1.1s
TDK Taldygorghan 43.93 305 *e*P **P 23 36 33.9 -0.8**
comp=Z,22nm,1.2s,baz=305
TDK Taldyqorghan 43.93 305 *e*P **P 23 36 33.9 -0.8**
TDK pmax pmax
comp=Z,22nm,1.2s
ZHN Zhinishke 43.94 302 *e*P **P 23 36 33.4 -1.6**
baz=302
ZHN Zhinishke 43.94 302 *e*P **P 23 36 33.4 -1.6**
SATY Saty 43.97 302 *e*P **P 23 36 33.9 -1.3**
baz=302
SATY Saty 43.97 302 *e*P **P 23 36 33.9 -1.3**
KURK Kurchatov 44.09 313 P **P 23 36 34.8 -1.1**
KURK Kurchatov 44.09 313 *c i*P **P 23 36 34.5 -1.4**
KURK pmax pmax
comp=Z,22nm,1.0s
KURBB Kurchatov Arra 44.14 313 P **P 23 36 35.7 -0.6**
comp=Z,8.4nm,0.7s,baz=98,slow=9.0,SNR=29
KURBB LR LR 23 57 09.5
comp=Z,4µm,19.4s,baz=116,slow=39
comp=Z,8.4nm,0.7s
MDOK Medeo 44.96 302 *e*P **P 23 36 42.0 -1.1**
baz=302
MDOK Medeo 44.96 302 *e*P **P 23 36 42.0 -1.1**
CHKK Chushkaly 44.97 303 *e*P **P 23 36 41.4 -1.7**
baz=303
CHKK Chushkaly 44.97 303 *e*P **P 23 36 41.4 -1.7**
TNSS Tian-Shan 45.04 302 *e*P **P 23 36 43.2 -0.8**
baz=302
TNSS Tian-Shan 45.04 302 *e*P **P 23 36 43.2 -0.8**
AAA Alma-Ata 45.05 302 *e*P **P 23 36 43.5 -0.3**
baz=302
AAA Alma-Ata 45.05 302 *e*P **P 23 36 43.4 -0.3**
KUU Kurty 45.44 303 *e*P **P 23 36 44.5 -2.3**
comp=Z,20nm,0.9s,baz=303
KUU Kurty 45.44 303 *e*P **P 23 36 44.5 -2.3**
KUU pmax pmax
comp=Z,20nm,0.9s
KNRA Kununurra 46.18 184 P **P 23 36 52.5 -0.1**
AAK Ala-Archa 46.86 301⇓ *i*P **P 23 36 57.8 -0.4**
AAK pmax pmax
comp=Z,12nm,1.3s
BTLS Baital 47.02 305 *e*P **P 23 36 57.9 -1.4**
comp=Z,9.9nm,1.4s,baz=305
BTLS Baital 47.02 305 *e*P **P 23 36 57.8 -1.4**
BTLS pmax pmax
comp=Z,10.0nm,1.4s
BRZS Berezniki 47.85 311 *e*P **P 23 37 04.1 -1.5**
baz=312
BRZS Berezniki 47.85 311 *e*P **P 23 37 04.0 -1.5**
FITZ Fitzroy Crossi 48.87 188 P **P 23 37 13.4 -0.1**
DZA Taraz 49.16 302 *e*P **P 23 37 15.3 -0.5**
baz=302
DZA Taraz 49.16 302 *e*P **P 23 37 15.2 -0.5**
NIL Nilore 49.28 290 P **P 23 37 16.3 -0.5**
NIL Nilore 49.28 290 P **P 23 37 16.3 -0.5**
NIL pmax pmax
comp=Z,90nm,1.9s
BVAR Borovoye Array 49.34 316 PcP **PcP 23 38 41.1 +1.7**
comp=Z,2.3nm,0.8s,baz=108,slow=4.9,SNR=3.7
BVAR LR LR 00 00 37.0
comp=Z,2µm,18.4s,baz=96,slow=39
BRVK Borovoye 49.40 316 P **P 23 37 15.8 -1.7**
BRVK Borovoye 49.40 316 *c i*P **P 23 37 16.4 -1.0**
BRVK pmax pmax
comp=Z,13nm,1.0s
KK31 Karatay Array 49.73 302 P **P 23 37 19.6 -0.5**
KK31 IAmb IAmb 23 37 45.6
comp=Z,37nm,1.5s
KK31 Karatay Array 49.73 302 P **P 23 37 19.6 -0.5**
KK31 pmax pmax
comp=Z,37nm,1.5s
KKAR Karatay Array 49.73 302 P **P 23 37 19.7 -0.4**
KKAR IAmb IAmb 23 37 45.6
comp=Z,37nm,1.5s
KKAR Karatay Array 49.73 302 P **P 23 37 19.7 -0.4**
KKAR pmax pmax
comp=Z,37nm,1.5s
HYB Hyderabad 50.17 268 *e*P **P 23 37 24.4 +0.6**
HYB *es*P **pwP 23 37 31.0 +0.2**
HYB *e*PP **PP 23 39 19.6 +0.6**
WB0 Warramunga Arr 50.19 177 P **P 23 37 21.0 -2.7**
WB0 IAmb IAmb 23 37 24.0
comp=Z,21nm,1.1s
WRAB Tennant Creek 50.35 177 P **P 23 37 24.3 -0.6**
WRAB IAmb IAmb 23 39 24.9
comp=Z,13nm,0.7s
WRAB Tennant Creek 50.35 177 P **P 23 37 24.3 -0.6**
WRAB pmax pmax
comp=Z,13nm,0.7s
WB2 Warramunga Arr 50.36 177 P **P 23 37 24.1 -0.9**
WB2 IAmb IAmb 23 37 25.9
comp=Z,18nm,1.0s
WRA Warramunga Arr 50.36 177 P **P 23 37 23.8 -1.2**
WRA Warramunga Arr 50.36 177 P **P 23 37 24.1 -0.9**
comp=Z,6.9nm,0.9s,baz=352,slow=7.6,SNR=6.0
comp=Z,6.9nm,0.9s
WR0 Warramunga Arr 50.39 177 P **P 23 37 24.6 -0.6**
WR0 IAmb IAmb 23 37 26.2
comp=Z,22nm,1.1s
F14K Arctic Creek 50.81 28 P **P 23 37 30.0 +2.1**
baz=258
ANM Nome 51.03 30 P **P 23 37 31.8 +2.2**
baz=260
CHGR Chuyangaron 51.45 297 P **P 23 37 32.4 -0.8**
CHGR IAmb IAmb 23 38 16.3
comp=Z,27nm,1.1s
CHGR Chuyangaron 51.45 297 P **P 23 37 32.4 -0.8**
CHGR pmax pmax
comp=Z,27nm,1.1s
F15K North Star Dit 51.54 28 P **P 23 37 33.1 -0.2**
F15K IAmb IAmb 23 37 36.1
comp=Z,34nm,0.8s
F15K North Star Dit 51.54 28 P **P 23 37 35.2 +1.8**
baz=260
G15K Niukluk 51.66 29 P **P 23 37 35.9 +1.6**
baz=261
C16K Lisburne Hills 51.80 25 P **P 23 37 36.1 +0.8**
C16K IAmb IAmb 23 37 37.3
comp=Z,32nm,0.8s
C16K Lisburne Hills 51.80 25 P **P 23 37 36.6 +1.3**
baz=257,SNR=6.7
L14K Kuka Creek 51.81 34 P **P 23 37 35.9 +0.5**
L14K Kuka Creek 51.81 34 P **P 23 37 37.3 +1.9**
baz=265
M14K Bethel 52.12 35 P **P 23 37 39.7 +2.0**
baz=266
N14K Kuskokwak Cree 52.20 36 P **P 23 37 39.9 +1.5**
baz=267
CTA Charters Tower 52.28 163 P **P 23 37 39.6 +0.3**
comp=Z,13nm,0.9s,baz=8.1,slow=21,SNR=3.6
comp=Z,13nm,0.9s
CTAO Charters Tower 52.28 163 P **P 23 37 38.7 -0.7**
CTAO Charters Tower 52.28 163 P **P 23 37 38.7 -0.7**
CTAO pmax pmax
comp=Z,15nm,0.9s
H16K Elim 52.38 30 P **P 23 37 41.0 +1.4**
baz=263
K15K Wolf Creek Mou 52.44 33 P **P 23 37 41.8 +1.6**
baz=265
KBL Kabul 52.45 292 P **P 23 37 40.8 -0.2**
KBL IAmb IAmb 23 38 07.1
comp=Z,55nm,1.8s
KBL Kabul 52.45 292 P **P 23 37 40.8 -0.2**

KBL pmax pmax
comp=Z,55nm,1.8s
C17K DeLong Mountai 52.62 25 P **P 23 37 43.3 +1.8**
baz=259
RDOG Red Dog Mine 52.64 25 P **P 23 37 42.3 +0.7**
RDOG IAmb IAmb 23 37 43.9
comp=Z,18nm,0.8s
RDOG Red Dog Mine 52.64 25 P **P 23 37 42.8 +1.2**
baz=259
M15K Kasigluk River 52.73 35 P **P 23 37 43.5 +1.1**
baz=267
MBWA Marble Bar 52.86 194 P **P 23 37 43.4 -0.3**
MBWA IAmb IAmb 23 38 41.5
comp=Z,29nm,1.2s
E17K Hotham Inlet 52.89 27 P **P 23 37 44.8 +1.4**
baz=261
J16K Anvik River 52.95 32 P **P 23 37 44.8 +0.9**
J16K IAmb IAmb 23 37 47.3
comp=Z,71nm,1.7s
J16K Anvik River 52.95 32 P **P 23 37 45.2 +1.3**
baz=265
I17K Unalakleet 52.96 31 P **P 23 37 44.3 +0.3**
I17K IAmb IAmb 23 37 46.7
comp=Z,16nm,0.8s
I17K Unalakleet 52.96 31 P **P 23 37 45.8 +1.8**
baz=265
N15K Kwethluk River 53.01 35 P **P 23 37 44.9 +0.5**
N15K Kwethluk River 53.01 35 P **P 23 37 46.0 +1.6**
baz=268
F17K Baldwin Pennin 53.02 28 P **P 23 37 44.9 +0.5**
F17K IAmb IAmb 23 37 47.0
comp=Z,36nm,0.8s
F17K Baldwin Pennin 53.02 28 P **P 23 37 45.9 +1.6**
baz=262
O15K Ungalikthiuk R 53.12 37 P **P 23 37 46.5 +1.3**
baz=269
G17K Kiwalik Mounta 53.15 29 P **P 23 37 46.9 +1.5**
baz=264
PSA00 Pilbara Seismi 53.24 194 P **P 23 37 45.9 -0.6**
PSA00 Pilbara Seismi 53.24 194 P **P 23 37 45.6 -0.8**
PSA00 IAmb IAmb 23 37 47.5
comp=Z,26nm,1.0s
S14K Fog Glacier 53.27 40 P **P 23 37 47.5 +1.0**
baz=271
PALK Pallekele 53.28 255 LR LR 00 04 05.9
comp=Z,563nm,18.0s,baz=152,slow=40
B18K Kokolik River 53.28 24 P **P 23 37 47.9 +1.6**
baz=260,SNR=7.1
L16K Owhat River 53.37 34 P **P 23 37 46.7 -0.3**
L16K IAmb IAmb 23 37 48.7
comp=Z,30nm,1.1s
L16K Owhat River 53.37 34 P **P 23 37 48.0 +1.0**
baz=267
C18K Utukok River 53.37 25 P **P 23 37 47.3 +0.3**
C18K IAmb IAmb 23 37 49.1
comp=Z,29nm,0.7s
C18K Utukok River 53.37 25 P **P 23 37 48.2 +1.2**
baz=261,SNR=11
H17K Granite Mounta 53.40 29 P **P 23 37 47.3 +0.1**
H17K IAmb IAmb 23 37 49.8
comp=Z,44nm,1.4s
H17K Granite Mounta 53.40 29 P **P 23 37 48.4 +1.2**
baz=265
E18K Tukpahlearik C 53.41 26 P **P 23 37 48.2 +0.9**
E18K IAmb IAmb 23 37 50.0
comp=Z,31nm,0.8s
E18K Tukpahlearik C 53.41 26 P **P 23 37 48.8 +1.6**
baz=262,SNR=12
M16K Timber Creek 53.59 34 P **P 23 37 49.1 +0.4**
M16K IAmb IAmb 23 37 50.9
comp=Z,22nm,0.8s
M16K Timber Creek 53.59 34 P **P 23 37 49.8 +1.1**
baz=268
N16K Nishlik Lake 53.67 35 P **P 23 37 51.0 +1.7**
baz=269
A19K Wainwright 53.68 23 P **P 23 37 50.9 +1.8**
baz=260
L17K Donlin 53.94 33 P **P 23 37 52.8 +1.6**
baz=268
K17K Iditarod 53.96 32 P **P 23 37 51.7 +0.3**
K17K IAmb IAmb 23 37 54.0
comp=Z,24nm,0.7s
K17K Iditarod 53.96 32 P **P 23 37 52.8 +1.4**
baz=268,SNR=5.3
O16K Kokwok River B 54.01 36 P **P 23 37 52.3 +0.6**
O16K IAmb IAmb 23 37 54.0
comp=Z,30nm,0.8s
O16K Kokwok River B 54.01 36 P **P 23 37 52.8 +1.1**
baz=270
G18K Tagagawik 54.01 28 P **P 23 37 52.1 +0.5**
G18K IAmb IAmb 23 37 53.9
comp=Z,37nm,1.1s
G18K Tagagawik 54.01 28 P **P 23 37 52.9 +1.2**
baz=265,SNR=8.4
C19K Lookout Ridge 54.02 24 P **P 23 37 52.2 +0.5**
C19K IAmb IAmb 23 37 54.3
comp=Z,24nm,0.8s
C19K Lookout Ridge 54.02 24 P **P 23 37 53.1 +1.4**
baz=262,SNR=10
ASAR Alice Springs 54.05 178 P **P 23 37 51.8 -0.6**
ASAR Alice Springs 54.05 178 P **P 23 37 52.9 +0.5**
comp=Z,6.1nm,0.9s,baz=359,slow=5.9,SNR=9.7
ASAR LR LR 00 01 12.5
comp=Z,178nm,20.7s,baz=6.0,slow=36
comp=Z,6.1nm,0.9s
H18K Honhosa River 54.07 29 P **P 23 37 52.2 0.0**
H18K IAmb IAmb 23 37 54.4
comp=Z,18nm,0.9s
H18K Honhosa River 54.07 29 P **P 23 37 53.5 +1.3**
baz=266
R16K Pilot Point 54.32 39 P **P 23 37 55.9 +1.9**
baz=272
M17K Holitna River 54.34 34 P **P 23 37 54.4 +0.3**
M17K Holitna River 54.34 34 P **P 23 37 55.6 +1.5**
baz=270
F19K Shaleruckik Mo 54.44 27 P **P 23 37 53.8 -1.0**
F19K IAmb IAmb 23 37 56.8
comp=Z,27nm,1.2s
F19K Shaleruckik Mo 54.44 27 P **P 23 37 55.7 +0.9**
baz=265,SNR=5.2
N17K Nushagak Hills 54.46 35 P **P 23 37 55.4 +0.4**
N17K Nushagak Hills 54.46 35 P **P 23 37 56.4 +1.4**
baz=270
D19K Kuna River 54.47 25 P **P 23 37 55.7 +0.6**
D19K Kuna River 54.47 25 P **P 23 37 56.1 +1.1**
baz=264
O17K Koliganek Bris 54.51 36 P **P 23 37 56.5 +1.1**
baz=271
G19K Purcell Mounta 54.67 28 P **P 23 37 56.5 +0.1**
G19K IAmb IAmb 23 37 58.0
comp=Z,19nm,1.1s
G19K Purcell Mounta 54.67 28 P **P 23 37 57.5 +1.1**
baz=266
GCSA Galena City Sc 54.68 30 P **P 23 37 57.7 +1.2**
baz=268
L18K Granite Mounta 54.70 33 P **P 23 37 57.0 +0.3**
L18K IAmb IAmb 23 37 59.5
comp=Z,19nm,0.8s
L18K Granite Mounta 54.70 33 P **P 23 37 58.2 +1.4**
baz=270
E19K Redstone River 54.70 26 P **P 23 37 57.5 +0.8**
E19K IAmb IAmb 23 37 59.1
comp=Z,30nm,0.8s
E19K Redstone River 54.70 26 P **P 23 37 58.0 +1.3**
baz=265
J18K Innoko River 54.71 31 P **P 23 37 56.4 -0.4**
J18K IAmb IAmb 23 37 58.8
comp=Z,24nm,1.4s
Q16K King Salmon 54.77 37 P **P 23 37 58.7 +1.4**
baz=272,SNR=6.2
P17K Kvichak River 54.86 37 P **P 23 37 59.2 +1.3**
baz=272,SNR=6.6
H19K Roundabout Mou 54.90 29 P **P 23 37 58.9 +0.8**
H19K Roundabout Mou 54.90 29 P **P 23 37 59.7 +1.7**
baz=267
SVE Sverdlovsk 54.90 320⇓ *e*P P 23 37 51.7 -6.6
SVE pmax pmax
comp=Z,14nm,1.0s
B20K Meade River 54.98 23 P **P 23 37 59.2 +0.6**
B20K IAmb IAmb 23 38 01.1
comp=Z,16nm,0.7s
B20K Meade River 54.98 23 P **P 23 38 00.1 +1.5**
baz=264
TTA Tatalina 55.02 32 P **P 23 37 59.4 +0.3**
TTA Tatalina 55.02 32 P **P 23 38 00.2 +1.1**
baz=270
TTA Tatalina 55.02 32 P **P 23 37 59.4 +0.3**

TTA pmax pmax

comp=Z,10.0nm,0.9s
D20K Etivluk River 55.04 25 P **P** **23 38 00.5 +1.3**
baz=265
N18K Kilae Creek 55.10 35 P **P** **23 38 00.6 +0.9**
N18K Kilae Creek 55.10 35 P **P** **23 38 01.0 +1.4**
baz=271
M18K Stony River 55.11 34 P **P** **23 38 01.4 +1.6**
baz=271,SNR=5.5
E20K Nigu River 55.16 26 P **P** **23 38 01.3 +1.2**
baz=266
Q17K Contact Creek 55.19 38 P **P** **23 38 01.6 +1.1**
baz=273
J19K Poorman 55.20 31 P **P** **23 38 01.0 +0.6**
J19K Poorman 55.20 31 P **P** **23 38 01.6 +1.2**
baz=269,SNR=14
SVW2 Sparrevohn 55.24 34 P **P**
SVW2 lAmb lAmb 23 38 03.3

comp=Z,24nm,1.0s
F20K Avaraart Lake 55.26 27 P **P** **23 38 01.1 +0.4**
F20K Avaraart Lake 55.26 27 P **P** **23 38 01.8 +1.1**
baz=267
A21K Barrow 55.31 22 P **P** **23 38 02.1 +1.1**
baz=263
O18K Koktuh Hills 55.46 36 P **P** **23 38 02.6 +0.3**
O18K Koktuh Hills 55.46 36 P **P** **23 38 03.8 +1.5**
baz=272,SNR=9.5
P18K Big Mountain, 55.47 36 P **P** **23 38 02.2 -0.2**
P18K Big Mountain, 55.47 36 P **P** **23 38 03.6 +1.1**
baz=273,SNR=9.5
H20K Anotleneega Mo 55.55 29 P **P** **23 38 04.2 +1.3**
baz=269
L19K White Mountain 55.56 33 P **P** **23 38 03.8 +0.8**
L19K lAmb lAmb 23 38 05.6

comp=Z,38nm,1.3s
L19K White Mountain 55.56 33 P **P** **23 38 04.5 +1.5**
baz=271
Q18K Katmai Hardscr 55.63 37 P **P** **23 38 04.3 +0.7**
baz=274
I20K Naaghedeneel 55.71 30 P **P** **23 38 05.3 +1.4**
I20K Naaghedeneel 55.71 30 P **P** **23 38 05.4 +1.5**
baz=270,SNR=10
C21K Knifeblade Rid 55.73 24 P **P** **23 38 05.6 +1.5**
baz=266,SNR=8.0
N19K Bonanza Creek 55.78 35 P **P** **23 38 04.8 +0.2**
N19K lAmb lAmb 23 38 07.1

comp=Z,22nm,0.8s
N19K Bonanza Creek 55.78 35 P **P** **23 38 05.8 +1.1**
baz=272
A22K Sinclair Lake 55.81 22 P **P** **23 38 05.8 +1.3**
baz=265
B21K Ikpikpuk River 55.83 24 P **P** **23 38 04.9 +0.2**
B21K lAmb lAmb 23 38 07.1

comp=Z,16nm,0.8s
B21K Ikpikpuk River 55.83 24 P **P** **23 38 06.0 +1.2**
baz=266,SNR=9.3
J20K Nowinta River 55.85 31 P **P** **23 38 06.3 +1.3**
J20K Nowinta River 55.85 31 P **P** **23 38 06.7 +1.7**
baz=270
O19K Port Alsworth 55.89 35 P **P** **23 38 06.0 +0.7**
O19K Port Alsworth 55.89 35 P **P** **23 38 06.6 +1.2**
baz=273,SNR=5.8
K20K Telida 55.90 32 P **P** **23 38 05.8 +0.4**
K20K Telida 55.90 32 P **P** **23 38 06.8 +1.4**
baz=271
E21K Killik River 55.99 25 P **P** **23 38 06.1 +0.1**
E21K lAmb lAmb 23 38 08.1

comp=Z,27nm,0.8s
E21K Killik River 55.99 25 P **P** **23 38 07.1 +1.1**
baz=268
R18K Karluk 56.00 39 P **P** **23 38 06.6 +0.5**
baz=275
L20K Farewell, AK 56.01 33 P **P** **23 38 07.3 +1.1**
baz=272,SNR=9.5
IMAR Indian Mountai 56.02 28 P **P** **23 38 06.8 +0.6**
ARU Arti 56.08 320 *c i* P **P** **23 38 05.8 -0.9**
ARU 23 39 00.3
ARU S **S** **23 45 55.9 +1.1**
ARU SS **SS** **23 49 35.6 -5.0**
ARU pmax pmax

comp=Z,12nm,1.1s
ARU Arti 56.08 320 LR LR 00 04 30.4
comp=Z,1µm,20.9s,baz=82,slow=39
G21K Allakaket 56.12 28 P **P** **23 38 08.0 +1.1**
G21K lAmb lAmb 23 38 09.4

comp=Z,20nm,0.8s
G21K Allakaket 56.12 28 P **P** **23 38 08.4 +1.5**
baz=269
F21K Alatna River 56.14 27 P **P** **23 38 07.8 +0.6**
F21K Alatna River 56.14 27 P **P** **23 38 07.7 +0.6**
baz=269,SNR=9.3
ABKAR Akbulak array 56.16 311 P **P** **23 38 06.7 -0.8**
B22K Teshekpuk Lake 56.28 23 P **P** **23 38 08.4 +0.5**
B22K lAmb lAmb 23 38 10.0

comp=Z,18nm,0.8s
B22K Teshekpuk Lake 56.28 23 P **P** **23 38 08.8 +0.9**
baz=267
Q19K Cape Douglas, 56.32 37 P **P** **23 38 08.4 0.0**
Q19K Cape Douglas, 56.32 37 P **P** **23 38 08.1 -0.3**
baz=274,SNR=5.4
M20K Styx River 56.38 33 P **P** **23 38 09.4 +0.5**
M20K lAmb lAmb 23 38 11.7

comp=Z,55nm,1.7s
M20K Styx River 56.38 33 P **P** **23 38 10.4 +1.4**
baz=273
H21K Melozitna Rive 56.41 29 P **P** **23 38 09.9 +0.9**
H21K lAmb lAmb 23 38 11.6

comp=Z,26nm,1.0s
H21K Melozitna Rive 56.41 29 P **P** **23 38 10.6 +1.6**
baz=271,SNR=17
P19K Oil Pt 56.47 36 P **P** **23 38 09.9 +0.4**
P19K Oil Pt 56.47 36 P **P** **23 38 10.2 +0.6**
baz=274
D22K Ayikyak River 56.48 25 P **P** **23 38 10.1 +0.7**
D22K Ayikyak River 56.48 25 P **P** **23 38 11.1 +1.7**
baz=269
ILSW Iliamna Southw 56.49 36 P **P** **23 38 10.0 +0.2**
F22K John River 56.65 27 P **P** **23 38 12.3 +1.6**
baz=270
RSO Redoubt South 56.65 35 P **P** **23 38 11.4 +0.4**
OHAK Old Harbor 56.66 39 P **P** **23 38 11.3 +0.5**
OHAK Old Harbor 56.66 39 P **P** **23 38 11.8 +1.0**
baz=276
CHUM Lake Minchumin 56.67 31 P **P** **23 38 12.4 +1.6**
baz=272,SNR=15
I21K Tanana 56.77 29 P **P** **23 38 12.2 +0.7**
I21K Tanana 56.77 29 P **P** **23 38 13.1 +1.6**
baz=272
PPLA Purkeypile 56.77 32 P **P** **23 38 13.2 +1.4**
baz=273,SNR=7.7
CAST Castle Rocks 56.79 31 P **P** **23 38 12.5 +0.8**
CAST lAmb lAmb 23 38 14.3

comp=Z,27nm,0.8s
CAST Castle Rocks 56.79 31 P **P** **23 38 13.1 +1.3**
baz=273,SNR=18
E22K Anaktuvuk Pass 56.79 26 P **P** **23 38 12.6 +0.9**
E22K Anaktuvuk Pass 56.79 26 P **P** **23 38 13.1 +1.4**
baz=270
N20K Mount Spurr 56.87 34 P **P** **23 38 13.8 +1.4**
baz=274
G22K Bettles 56.92 27 P **P** **23 38 13.5 +0.9**
baz=271
KDAK Kodiak Island 56.98 38 P **P** **23 38 12.7 -0.4**
KDAK Kodiak Island 56.98 38 P **P** **23 38 13.6 +0.5**
baz=276
KDAK Kodiak Island 56.98 38 P **P** **23 38 12.7 -0.4**
KDAK pmax pmax

comp=Z,53nm,0.9s
Q20K Shuyak Island 56.99 37 P **P** **23 38 13.3 +0.1**
baz=276
H22K Ishtalitna Cre 56.99 28 P **P** **23 38 15.1 +1.9**
baz=272
SKT Skwentna 57.13 33 P **P** **23 38 14.1 -0.1**
SKT lAmb lAmb 23 38 15.7

comp=Z,13nm,0.8s
SKT Skwentna 57.13 33 P **P** **23 38 14.7 +0.5**
baz=274
D23K Nanushuk River 57.20 25 P **P** **23 38 15.5 +0.9**
baz=270
C23K Itkillik River 57.23 24 P **P** **23 38 15.1 +0.4**
C23K lAmb lAmb 23 38 17.0

comp=Z,58nm,1.6s
C23K Itkillik River 57.23 24 P **P** **23 38 15.8 +1.1**
baz=270,SNR=7.4
BPAW Bear Paw Mtn. 57.24 31 P **P** **23 38 16.0 +1.1**
BPAW lAmb lAmb 23 38 17.3

comp=Z,22nm,0.9s
BPAW Bear Paw Mtn. 57.24 31 P **P** **23 38 16.2 +1.3**
baz=273,SNR=10
HOM Homer 57.28 36 P **P** **23 38 16.5 +1.3**
baz=276
MLY Manley 57.30 29 P **P** **23 38 16.2 +0.9**
MLY Manley 57.30 29 P **P** **23 38 16.8 +1.4**
baz=275,SNR=21
KTH Kantishna Hill 57.30 31 P **P** **23 38 15.4 -0.1**
KTH lAmb lAmb 23 38 17.8

comp=Z,40nm,1.2s
COLD Coldfoot 57.42 27 P **P** **23 38 17.3 +1.2**
baz=272,SNR=7.7
CNPM China Poot 57.50 36 P **P** **23 38 17.5 +0.7**
G23K Bananza Creek 57.51 27 P **P** **23 38 17.3 +0.5**
G23K lAmb lAmb 23 38 19.2

comp=Z,19nm,0.8s
G23K Bananza Creek 57.51 27 P **P** **23 38 18.0 +1.1**
baz=272
SUA Susitna One 57.55 34 P **P** **23 38 17.5 +0.3**
SUA Susitna One 57.55 34 P **P** **23 38 17.7 +0.5**
baz=275,SNR=12
TRF Thorofare Moun 57.59 31 P **P** **23 38 17.5 -0.1**
TRF lAmb lAmb 23 38 19.3

comp=Z,20nm,1.2s
TRF Thorofare Moun 57.59 31 P **P** **23 38 18.4 +0.7**
baz=274,SNR=5.4
TOLK Toolik Lake Re 57.61 25 **P** **23 38 18.9 +1.3**
TOLK Toolik Lake Re 57.61 25 P **P** **23 38 17.8 +0.3**
TOLK lAmb lAmb 23 38 20.0

comp=Z,25nm,1.1s
TOLK Toolik Lake Re 57.61 25 P **P** **23 38 18.8 +1.3**
baz=272,SNR=11
E23K Chandalar 57.62 26 P **P** **23 38 18.9 +1.3**
baz=272,SNR=41
BRLK Bradley Lake 57.65 36 P **P** **23 38 18.0 +0.2**
BRSE Bradley Lake S 57.72 36 P **P** **23 38 19.9 +1.5**
baz=276,SNR=6.5
M22K Willow 57.82 33 P **P** **23 38 19.4 +0.5**
M22K Willow 57.82 33 P **P** **23 38 19.9 +1.0**
baz=276
D24K Happy Valley 57.87 25 P **P** **23 38 20.2 +1.0**
D24K Happy Valley 57.87 25 P **P** **23 38 20.3 +1.0**
baz=272
I23K Minto, Yukon-K 57.87 29 P **P** **23 38 19.7 +0.4**
I23K lAmb lAmb 23 38 21.7

comp=Z,25nm,1.2s
I23K Minto, Yukon-K 57.87 29 P **P** **23 38 20.3 +1.0**
baz=274,SNR=8.2
C24K Franklin Bluff 57.89 24 P **P** **23 38 20.6 +1.2**
baz=272
BWN Browne 57.90 30 P **P** **23 38 21.0 +1.4**
E24K Your Creek 58.04 26 P **P** **23 38 21.4 +0.9**
E24K lAmb lAmb 23 38 23.1

comp=Z,19nm,0.8s
E24K Your Creek 58.04 26 P **P** **23 38 21.9 +1.4**
baz=273
NEA2 Nenana 58.04 30 P **P** **23 38 21.6 +1.1**
NEA2 Nenana 58.04 30 P **P** **23 38 21.6 +1.1**
baz=275,SNR=48
RC01 Rabbit Creek A 58.07 34 P **P** **23 38 21.1 +0.3**
RC01 lAmb lAmb 23 38 22.6

comp=Z,35nm,1.0s
RC01 Rabbit Creek A 58.07 34 P **P** **23 38 21.3 +0.5**
baz=276,SNR=9.9
O22K Cooper Landing 58.15 35 P **P** **23 38 21.2 -0.1**
MCK McKinley 58.17 31 P **P** **23 38 22.1 +0.6**
baz=275,SNR=16
RND Reindeer 58.24 31 P **P** **23 38 21.5 -0.5**
RND Reindeer 58.24 31 P **P** **23 38 21.5 -0.5**
RND pmax pmax

comp=Z,59nm,0.8s
F24K Squaw Lake 58.30 26 lAmb lAmb 23 38 24.8
comp=Z,18nm,0.7s
F24K Squaw Lake 58.30 26 P **P** **23 38 23.5 +1.1**
baz=274,SNR=19
PMR Palmer 58.30 33 P **P** **23 38 21.9 -0.5**
PMR Palmer 58.30 33 P **P** **23 38 22.6 +0.2**
baz=276,SNR=9.8
PMR Palmer 58.30 33 P **P** **23 38 21.9 -0.5**
PMR pmax pmax

comp=Z,36nm,1.0s
SEW Seward 58.33 35 P **P** **23 38 22.8 +0.3**
baz=277,SNR=7.8
GHO Glory Hole Cre 58.38 33 P **P** **23 38 23.4 +0.3**
GHO lAmb lAmb 23 38 26.1

comp=Z,26nm,0.9s
H24K Noodor Dome 58.43 28 P **P** **23 38 24.2 +0.9**
H24K lAmb lAmb 23 38 26.1

comp=Z,23nm,0.7s
H24K Noodor Dome 58.43 28 P **P** **23 38 24.7 +1.4**
baz=275
WAT1 Susitna Watana 58.44 32 P **P** **23 38 24.4 +1.0**
baz=276
WRH Wood River Hil 58.47 30 P **P** **23 38 24.6 +1.1**
WRH lAmb lAmb 23 38 26.9

comp=Z,23nm,1.2s
G24K Hadweenzic Riv 58.52 27 P **P** **23 38 24.4 +0.5**
G24K lAmb lAmb 23 38 26.7

comp=Z,20nm,0.8s
G24K Hadweenzic Riv 58.52 27 P **P** **23 38 25.2 +1.4**
baz=275
COLA College 58.53 30 P **P** **23 38 24.7 +0.8**
COLA lAmb lAmb 23 38 26.9

comp=Z,25nm,0.8s
COLA College 58.53 30 P **P** **23 38 25.0 +1.0**
baz=276
COLA College 58.53 30 P **P** **23 38 24.7 +0.8**
COLA pmax pmax

comp=Z,25nm,0.9s
CCB Clear Creek Bu 58.58 30 P **P** **23 38 24.2 -0.1**
EIDS Eidsvold 58.62 160 P **P** **23 38 24.7 -0.3**
KNK Knik Glacier 58.65 34 P **P** **23 38 25.1 +0.3**
KNK Knik Glacier 58.65 34 P **P** **23 38 25.4 +0.6**
baz=277,SNR=11
SML Sawmill 58.66 33 P **P** **23 38 25.0 +0.1**
SML Sawmill 58.66 33 P **P** **23 38 25.6 +0.6**
baz=277,SNR=7.3
POKR Poker Plat Res 58.69 29 P **P** **23 38 26.2 +1.2**
POKR Poker Plat Res 58.69 29 P **P** **23 38 26.2 +1.2**
baz=276,SNR=33
D25K Kavik River 58.73 24 P **P** **23 38 25.7 +0.3**
D25K lAmb lAmb 23 38 27.4

comp=Z,14nm,0.8s
D25K Kavik River 58.73 24 P **P** **23 38 26.4 +1.0**
baz=274
WAT6 Susitna Watana 58.84 32 P **P** **23 38 26.8 +0.5**
baz=277,SNR=14
DHY Denali Highway 58.94 32 P **P** **23 38 27.3 +0.3**
DHY lAmb lAmb 23 38 31.2

comp=Z,12nm,0.7s
DHY Denali Highway 58.94 32 P **P** **23 38 27.7 +0.7**
baz=277,SNR=9.5
M23K Glacier View 58.94 33 P **P** **23 38 26.9 0.0**
baz=278,SNR=8.9
IL31 58.95 30 P **P** **23 38 26.7 -0.2**
IL31 lAmb lAmb 23 38 29.8

comp=Z,14nm,0.8s
ILAR Eielson Array 58.95 30 P **P** **23 38 26.4 -0.5**
ILAR Eielson Array 58.95 30 P **P** **23 38 26.6 -0.3**
comp=Z,10nm,0.7s,baz=264,slow=5.4,SNR=82
ILAR LR LR 00 07 09.5
comp=Z,297nm,18.0s,baz=262,slow=39
comp=Z,10nm,0.7s
HDA Harding Lake 58.97 30 P **P** **23 38 26.6 -0.4**
HDA Harding Lake 58.97 30 P **P** **23 38 27.2 +0.2**
baz=277,SNR=29
HDA P **P** **23 38 27.2 +0.2**
baz=277,SNR=29
G25K Bearman Lake 59.06 27 P **P** **23 38 29.3 +1.7**
baz=276
SCM Sheep Creek Mo 59.13 33 P **P** **23 38 27.9 -0.3**
SCM Sheep Creek Mo 59.13 33 P **P** **23 38 29.0 +0.7**
baz=278,SNR=9.6
SCM Sheep Creek Mo 59.13 33 P **P** **23 38 27.9 -0.3**
SCM pmax pmax

comp=Z,38nm,0.9s
E25K Arctic Village 59.13 26 P **P** **23 38 29.1 +1.1**
E25K lAmb lAmb 23 38 30.9

comp=Z,20nm,1.1s
E25K Arctic Village 59.13 26 P **P** **23 38 29.6 +1.5**
baz=276,SNR=13
F25K Christian Rive 59.15 26 P **P** **23 38 30.3 +2.0**
baz=276
C26K Camden Bay 59.19 24 P **P** **23 38 30.3 +1.9**
baz=275

P23K Montague Islan 59.36 35 P **P** **23 38 30.7 +0.9**
baz=279
GLI Glacier Island 59.37 34 P **P** **23 38 30.5 +0.6**
baz=279
FYU Fort Yukon 59.43 27 P **P** **23 38 31.3 +1.2**
PRP Porcupine Dome 59.44 29 P **P** **23 38 30.7 +0.3**
PRP lAmb lAmb 23 38 32.8

comp=Z,19nm,0.9s
PRP Porcupine Dome 59.44 29 P **P** **23 38 30.9 +0.5**
baz=277,SNR=14
K24K Donnelly Dome 59.56 31 P **P** **23 38 31.6 +0.4**
baz=278,SNR=12
BMAR Burnt Mountain 59.58 26 P **P** **23 38 32.3 +1.1**
KOUNC Koumac, New Ca 59.61 145 P **P** **23 38 31.7 -0.2**
J25K Salcha River, 59.62 30 P **P** **23 38 31.4 -0.2**
J25K Salcha River, 59.62 30 P **P** **23 38 32.4 +0.8**
baz=278,SNR=5.7
M24K Tolsona, Glenn 59.62 33 P **P** **23 38 32.4 +0.7**
M24K Tolsona, Glenn 59.62 33 P **P** **23 38 33.0 +1.4**
baz=279,SNR=8.3
FID Port Fidalgo 59.69 34 P **P** **23 38 31.4 -0.6**
F26K Sheenjek River 59.71 26 P **P** **23 38 33.8 +1.7**
baz=277
HIN Hinchinbrook I 59.74 35 P **P** **23 38 31.7 -0.7**
PAX Paxson 59.82 32 P **P** **23 38 33.5 +0.5**
baz=279,SNR=10
KLU Klutina 59.84 33 P **P** **23 38 33.6 +0.5**
KLU lAmb lAmb 23 38 35.4

comp=Z,33nm,1.2s
KLU Klutina 59.84 33 P **P** **23 38 33.8 +0.6**
baz=279,SNR=9.5
G26K Porcupine Rive 59.95 27 P **P** **23 38 35.5 +1.9**
baz=278
RIDG Independent Ri 59.98 31 P **P** **23 38 34.0 0.0**
RIDG Independent Ri 59.98 31 P **P** **23 38 34.4 +0.3**
baz=279
GEYT Alibeck 60.04 299 LR LR 00 08 19.5
comp=Z,1µm,18.3s,baz=100,slow=40
HARP HAARP 60.05 32 P **P** **23 38 35.4 +0.9**
baz=279,SNR=7.8
EYAK Cordova Ski Ar 60.08 34 P **P** **23 38 35.6 +0.9**
baz=280
SCRK Sand Creek 60.31 30 P **P** **23 38 36.3 -0.1**
SCRK Sand Creek 60.31 30 P **P** **23 38 36.6 +0.2**
baz=280,SNR=30
J26L Joseph Creek 60.41 30 P **P** **23 38 36.6 -0.5**
J26L lAmb lAmb 23 38 38.0

comp=Z,21nm,0.8s
J26L Joseph Creek 60.41 30 P **P** **23 38 37.2 +0.2**
baz=280
N25K Chitina, Valde 60.45 33 P **P** **23 38 37.7 +0.3**
N25K lAmb lAmb 23 38 40.3

comp=Z,15nm,0.8s
N25K Chitina, Valde 60.45 33 P **P** **23 38 38.2 +0.9**
baz=280,SNR=10
I26K Coal Creek Min 60.45 29 P **P** **23 38 37.3 +0.1**
I26K Coal Creek Min 60.45 29 P **P** **23 38 37.4 +0.2**
baz=279
BMRM Bremner River 60.56 34 P **P** **23 38 39.2 +1.1**
baz=281,SNR=12
E27K Coleen River 60.59 25 P **P** **23 38 39.0 +0.8**
E27K lAmb lAmb 23 38 40.8

comp=Z,14nm,0.8s
E27K Coleen River 60.59 25 P **P** **23 38 39.8 +1.7**
baz=279
MENT Mentasta 60.61 31 P **P** **23 38 38.8 +0.4**
RAGM Ragged Mountai 60.63 34 P **P** **23 38 38.1 -0.5**
KIRV Kirov 60.64 323 *i e* P **P** **23 38 38.1 -0.5**
KIRV Kirov 60.64 323 LR LR 00 08 43.5
comp=Z,2µm,18.1s,baz=71,slow=40
D27M Malcolm River 60.65 24 P **P** **23 38 38.9 +0.3**
D27M lAmb lAmb 23 38 41.0

comp=Z,13nm,0.6s
D27M Malcolm River 60.65 24 P **P** **23 38 39.9 +1.4**
baz=279
L26K Log Cabin Wild 60.76 31 P **P** **23 38 40.2 +0.9**
L26K lAmb lAmb 23 38 41.6

comp=Z,22nm,0.8s
L26K Log Cabin Wild 60.76 31 P **P** **23 38 40.3 +0.9**
baz=281,SNR=11
G27K Doyon Strip 60.80 27 P **P** **23 38 40.2 +0.6**
G27K Doyon Strip 60.80 27 P **P** **23 38 41.2 +1.6**
baz=280,SNR=11
HMT Hamilton 60.84 34 P **P** **23 38 41.1 +1.1**
GLB Gilahina Butte 60.85 33 P **P** **23 38 40.4 +0.4**
GLB lAmb lAmb 23 38 42.0

comp=Z,15nm,0.8s
KAIM Kayak Island 60.85 35 P **P** **23 38 41.3 +1.3**
baz=281
H27K Steamboat Moun 60.95 28 P **P** **23 38 42.5 +1.8**
baz=280,SNR=19
I27K Kandik River 61.03 28 P **P** **23 38 42.5 +1.3**
baz=281
M26K Nabesna, AK 61.04 32 P **P** **23 38 41.6 +0.2**
M26K Nabesna, AK 61.04 32 P **P** **23 38 42.3 +1.0**
baz=281
VRDI Verde Repeater 61.06 33 P **P** **23 38 42.0 +0.3**
VRDI lAmb lAmb 23 38 43.4

comp=Z,20nm,0.7s
K27K Chicken 61.13 30 P **P** **23 38 42.5 +0.6**
K27K lAmb lAmb 23 38 44.1

comp=Z,19nm,0.8s
K27K Chicken 61.13 30 P **P** **23 38 43.1 +1.2**
baz=281
MCARA McCarthy VSAT 61.23 33 P **P** **23 38 43.1 +0.6**
MCARA lAmb lAmb 23 38 46.3

comp=Z,25nm,0.9s
MCARA McCarthy VSAT 61.23 33 P **P** **23 38 43.7 +1.1**
baz=282,SNR=9.5
E28M Babbage River 61.27 25 P **P** **23 38 43.9 +1.1**
E28M lAmb lAmb 23 38 45.3

comp=Z,13nm,0.9s
E28M Babbage River 61.27 25 P **P** **23 38 44.2 +1.5**
baz=281
CRQM Cirque 61.30 34 P **P** **23 38 43.5 +0.2**
CRQE Cirque 61.33 34 P **P** **23 38 43.8 +0.5**
baz=282,SNR=5.8
F28M Old Crow 61.34 26 P **P** **23 38 43.9 +0.7**
F28M lAmb lAmb 23 38 46.0

comp=Z,24nm,1.1s
F28M Old Crow 61.34 26 P **P** **23 38 45.0 +1.8**
baz=281,SNR=18
EGAK Eagle 61.38 29 P **P** **23 38 43.4 0.0**
EGAK lAmb lAmb 23 38 47.0

comp=Z,8.7nm,0.7s
EGAK Eagle 61.38 29 P **P** **23 38 44.0 +0.5**
baz=282,SNR=10
D28M Stokes Point 61.42 24 P **P** **23 38 45.2 +1.5**
baz=281
L27K Beaver Creek, 61.44 31 P **P** **23 38 44.4 +0.4**
L27K lAmb lAmb 23 38 46.2

comp=Z,12nm,0.7s
L27K Beaver Creek, 61.44 31 P **P** **23 38 45.1 +1.1**
baz=282,SNR=16
TGL Tana Glacier 61.45 34 P **P** **23 38 44.1 -0.1**
TGL lAmb lAmb 23 38 46.3

comp=Z,22nm,0.8s
M27K Edge Creek, AK 61.56 32 P **P** **23 38 45.5 +0.6**
M27K Edge Creek, AK 61.56 32 P **P** **23 38 46.1 +1.1**
baz=282
ISLE Juniper Island 61.72 34 P **P** **23 38 46.3 +0.3**
I28M Miner Creek 61.75 28 P **P** **23 38 46.6 +0.5**
I28M Miner Creek 61.75 28 P **P** **23 38 47.6 +1.5**
baz=282
PRGR Permogore 61.86 327 *e* P **P** **23 38 44.9 -1.9**
PRGR pmax pmax

comp=Z,17nm,1.1s
E29M Blow River 61.91 25 P **P** **23 38 47.6 +0.6**
E29M lAmb lAmb 23 38 49.5

comp=Z,13nm,1.0s
E29M Blow River 61.91 25 P **P** **23 38 48.5 +1.5**
baz=282
BARN Barnard Glacie 61.94 33 P **P** **23 38 48.0 +0.3**
BARN lAmb lAmb 23 38 49.4

comp=Z,12nm,0.7s
DZM Mont Dzumac 61.97 144 P **P** **23 38 48.3 +0.2**
DZM Mont Dzumac 61.97 144 *e* S **S** **23 47 19.5 +7.4**
comp=Z,158nm,27.4s
DZM Mont Dzumac 61.97 144 *e* LR LR 23 57 21.2
comp=Z,242nm,24.9s
MESA MESA 62.01 34 P **P** **23 38 48.9 +0.8**
baz=283
BVCY Beaver Creek 62.01 32 P **P** **23 38 48.9 +1.0**
baz=283,SNR=6.8
CTG Chitna Glacier 62.12 33 P **P** **23 38 49.5 +0.8**
baz=283,SNR=6.0

CTGM Chitina Glacie 62.12 33 P **P** **23 38 48.9 +0.1**
CTGM IAmb IAmb 23 38 50.6
comp=Z,14nm,0.8s
G29M Pine Creek 62.19 26 P **P** **23 38 50.0 +1.1**
G29M Pine Creek 62.19 26 P **P** **23 38 50.5 +1.5**
baz=283
H29M Whitestone 62.21 27 P **P** **23 38 50.2 +1.1**
H29M Whitestone 62.21 27 P **P** **23 38 50.7 +1.6**
baz=283
DAWY Dawson 62.28 30 P **P** **23 38 49.9 +0.3**
DAWY IAmb IAmb 23 38 51.4
comp=Z,8.6nm,0.8s
DAWY Dawson 62.28 30 P **P** **23 38 51.3 +1.6**
baz=283,SNR=8.9
LOGN Logan Glacier 62.31 34 P **P** **23 38 50.3 +0.2**
LOGN IAmb IAmb 23 38 51.8
comp=Z,29nm,1.4s
TABL Table Mountain 62.34 34 P **P** **23 38 49.6 -0.7**
TABL IAmb IAmb 23 38 52.0
comp=Z,30nm,1.2s
YUK3 Moose Creek 62.34 32 P **P** **23 38 51.3 +1.0**
baz=284,SNR=10
I29M Ogilvie Camp, 62.43 28 P **P** **23 38 51.2 +0.6**
I29M IAmb IAmb 23 38 52.8
comp=Z,17nm,0.8s
I29M Ogilvie Camp, 62.43 28 P **P** **23 38 51.9 +1.2**
baz=284,SNR=18
OUENC Ouen Island, N 62.47 143 P **P** **23 38 51.4 +0.1**
YUK8 Steele Glacier 62.78 33 P **P** **23 38 54.2 +0.9**
baz=284
EPYK Eagle Plains 62.82 27 P **P** **23 38 53.5 +0.3**
EPYK Eagle Plains 62.82 27 P **P** **23 38 54.1 +0.9**
baz=284,SNR=49
PINM Pinnacle 62.85 34 P **P** **23 38 54.1 +0.6**
baz=285
STKA Stephens Creek 62.85 171 P **P** **23 38 52.8 -0.9**
STKA Stephens Creek 62.85 171 *d* *i*P **P** **23 38 53.9 +0.2**
STKA Stephens Creek 62.85 171 P **P** **23 38 54.3 +0.6**
comp=Z,19nm,0.9s,baz=358,slow=9.5,SNR=5.3
STKA LR LR 00 05 47.9
comp=Z,179nm,20.6s,baz=2.7,slow=36
comp=Z,19nm,0.9s
G30M tAoh Zraii Nji 62.86 26 P **P** **23 38 53.8 +0.3**
G30M tAoh Zraii Nji 62.86 26 P **P** **23 38 54.1 +0.7**
baz=285
F30M Barrier River 62.86 25 P **P** **23 38 54.9 +1.4**
baz=285,SNR=18
L29M L29M 63.06 31 P **P** **23 38 56.1 +1.3**
L29M L29M 63.06 31 P **P** **23 38 56.5 +1.6**
baz=285,SNR=32
M29M Somme Creek 63.09 31 P **P** **23 38 56.3 +1.2**
M29M IAmb IAmb 23 38 57.9
comp=Z,13nm,0.7s
M29M Somme Creek 63.09 31 P **P** **23 38 57.0 +1.9**
baz=285
K29M Barlow Dome 63.14 30 P **P** **23 38 56.6 +1.2**
K29M IAmb IAmb 23 38 57.8
comp=Z,20nm,0.8s
K29M Barlow Dome 63.14 30 P **P** **23 38 56.5 +1.1**
baz=285,SNR=20
BCPM Bancas Point 63.19 34 P **P** **23 38 56.4 +0.7**
BBOO Buckleboo 63.24 176 P **P** **23 38 55.4 -0.8**
I30M Mount Dempster 63.25 28 P **P** **23 38 57.1 +0.9**
I30M Mount Dempster 63.25 28 P **P** **23 38 57.2 +1.1**
baz=285,SNR=36
YUK4 Talbot Arm 63.29 33 P **P** **23 38 58.2 +1.6**
baz=285,SNR=6.9
PNL Peninsula 63.38 35 P **P** **23 38 58.1 +1.1**
baz=286
J30M Hart River 63.44 29 P **P** **23 38 58.0 +0.5**
J30M IAmb IAmb 23 38 59.7
comp=Z,12nm,0.7s
J30M Hart River 63.44 29 P **P** **23 38 58.5 +1.0**
baz=286
INK Inuvik 63.50 24 P **P** **23 38 57.6 0.0**
INK IAmb IAmb 23 38 59.2
comp=Z,13nm,0.7s
INK Inuvik 63.50 24 P **P** **23 38 58.3 +0.7**
baz=286,SNR=14
INK Inuvik 63.50 24 P **P** **23 38 57.6 0.0**
INK pmax pmax
comp=Z,13nm,0.7s
INK Inuvik 63.50 24 LR LR 00 10 48.3
comp=Z,387nm,18.3s,baz=351,slow=40
YUK6 Outpost Mounta 63.53 33 P **P** **23 38 59.3 +1.1**
baz=286,SNR=6.6
ARMA Armidale 63.54 161 P **P** **23 38 58.9 +0.5**
ARMA IAmb IAmb 23 39 23.6
comp=Z,44nm,1.9s
O29M Mount Kennedy 63.60 34 P **P** **23 38 59.3 +0.7**
O29M IAmb IAmb 23 39 01.3
comp=Z,14nm,0.8s
O29M Mount Kennedy 63.60 34 P **P** **23 38 60.0 +1.4**
baz=286,SNR=8.6
G31M Satah River 63.61 26 P **P** **23 38 58.7 +0.3**
G31M IAmb IAmb 23 38 59.7
comp=Z,19nm,0.8s
G31M Satah River 63.61 26 P **P** **23 38 58.5 +0.2**
baz=286,SNR=18
F31M Tsiigehtchic 63.66 25 P **P** **23 38 58.7 0.0**
F31M IAmb IAmb 23 39 00.1
comp=Z,13nm,0.8s
F31M Tsiigehtchic 63.66 25 P **P** **23 38 59.1 +0.4**
baz=286,SNR=5.9
M30M Minto, Yukon 63.80 31 P **P** **23 39 00.3 +0.6**
M30M IAmb IAmb 23 39 02.2
comp=Z,11nm,0.7s
M30M Minto, Yukon 63.80 31 P **P** **23 39 01.0 +1.3**
baz=286,SNR=14
HYT Haines Junctio 63.97 33 P **P** **23 39 01.3 +0.3**
HYT IAmb IAmb 23 39 03.5
comp=Z,18nm,0.8s
HYT Haines Junctio 63.97 33 P **P** **23 39 02.2 +1.2**
baz=286,SNR=7.6
N30M Aishikik Lake 63.98 32 P **P** **23 39 01.4 +0.4**
N30M Aishikik Lake 63.98 32 P **P** **23 39 02.3 +1.3**
baz=286
P29M Windy Craggy 64.20 34 P **P** **23 39 02.7 +0.3**
P29M Windy Craggy 64.20 34 P **P** **23 39 03.9 +1.5**
baz=287,SNR=7.0
P30M Million Dollar 64.43 34 P **P** **23 39 05.4 +1.4**
baz=287,SNR=5.5
N31M Braeburn, Yuko 64.57 32 P **P** **23 39 05.8 +1.0**
N31M Braeburn, Yuko 64.57 32 P **P** **23 39 06.0 +1.2**
baz=288,SNR=10
O30N Mendenhall 64.64 33 P **P** **23 39 05.7 +0.4**
O30N IAmb IAmb 23 39 07.4
comp=Z,15nm,1.2s
O30N Mendenhall 64.64 33 P **P** **23 39 06.5 +1.2**
baz=288
WSAR Wadi Sarin 64.82 283 LR LR 00 12 25.0
comp=Z,560nm,18.5s,baz=86,slow=41
KLMR Klimovskoe 64.92 327 *e*P **P** **23 39 04.5 -2.5**
KLMR AMP 23 39 08.2
comp=Z,30nm,1.5s
KLMR LQ LQ 23 59 53.9
KLMR LQ LQ 23 59 53.9
KLMR LR LR 00 03 59.7
KLMR AMP 00 10 55.1
comp=Z,2µm,17.1s
KLMR Klimovskoe 64.92 327 *e*P **P** **23 39 04.5 -2.5**
KLMR pmax pmax
comp=Z,30nm,1.5s
KLMR MLR MLR
comp=Z,2µm,17.0s
A36M Sachs Harbour 64.96 20 P **P** **23 39 07.7 +0.5**
A36M Sachs Harbour 64.96 20 P **P** **23 39 08.0 +0.8**
baz=292,SNR=19
M31M Drury Creek, Y 64.98 31 P **P** **23 39 07.6 +0.2**
M31M IAmb IAmb 23 39 09.5
comp=Z,11nm,0.7s
M31M Drury Creek, Y 64.98 31 P **P** **23 39 08.6 +1.1**
SPITS Spitsbergen Ar 65.19 348 LR LR 00 08 45.5
comp=Z,905nm,20.4s,baz=14,slow=37
APA Apatity 65.23 335 ⇓ *i*P **P** **23 39 05.9 -3.0**
APA *i* 23 39 46.0
APA pmax pmax
comp=Z,12nm,1.1s
WHY Whitehorse 65.24 33 P **P** **23 39 10.1 +0.7**
WHY IAmb IAmb 23 39 11.6
comp=Z,16nm,0.8s
WHY Whitehorse 65.24 33 P **P** **23 39 10.3 +1.0**
baz=289,SNR=11
SKAG Skagway 65.42 34 P **P** **23 39 11.2 +0.9**
SKAG IAmb IAmb 23 39 12.7
comp=Z,21nm,0.9s
SKAG Skagway 65.42 34 P **P** **23 39 11.4 +1.1**
baz=289
FARO Faro, Yukon 65.43 31 P **P** **23 39 11.1 +0.7**
FARO Faro, Yukon 65.43 31 P **P** **23 39 11.7 +1.3**
baz=289,SNR=18
N32M Quiet Lake 65.91 32 P **P** **23 39 13.8 +0.3**
N32M IAmb IAmb 23 39 15.4
comp=Z,13nm,0.8s
N32M Quiet Lake 65.91 32 P **P** **23 39 14.9 +1.4**
baz=290
MAK Makhachkala 66.12 307 *e*P P 23 39 10.2 -4.9
MAK *e*S **S** **23 47 55.7 -7.3**
MAK *e*SS **SS** **23 52 13.1 -5.1**
MAK MLR MLR
comp=Z,927nm,12.0s
P32M Atlin 66.15 34 P **P** **23 39 15.9 +0.8**
P32M IAmb IAmb 23 39 17.2
comp=Z,12nm,0.8s
P32M Atlin 66.15 34 P **P** **23 39 16.1 +1.0**
baz=290,SNR=6.2
R32K Eaglecrest 66.21 35 P **P** **23 39 16.5 +1.1**
baz=290
JIS Juneau Island 66.28 35 P **P** **23 39 16.1 +0.3**
P33M Teslin, Yukon 66.36 33 P **P** **23 39 17.1 +0.6**
P33M IAmb IAmb 23 39 18.7
comp=Z,22nm,1.1s
P33M Teslin, Yukon 66.36 33 P **P** **23 39 17.6 +1.1**
baz=290,SNR=10
C36M Paulatuk 66.36 22 P **P** **23 39 16.7 +0.5**
C36M Paulatuk 66.36 22 P **P** **23 39 16.9 +0.8**
baz=294,SNR=18
S32K Killisnoo 66.46 36 P **P** **23 39 18.4 +1.4**
baz=290
Q32M Nakina River 67.07 34 P **P** **23 39 21.7 +0.6**
baz=292
ARCES ARCESS Array B 67.12 339 P **P** **23 39 20.7 -0.4**
comp=Z,3.2nm,0.9s,baz=69,slow=10,SNR=4.6
ARCES LR LR 00 12 08.6
comp=Z,2µm,21.9s,baz=67,slow=39
comp=Z,3.2nm,0.9s
EUNU Eureka 67.52 7 P **P** **23 39 23.7 +0.1**
R33M Jennings River 67.53 33 P **P** **23 39 23.8 -0.1**
R33M IAmb IAmb 23 39 26.5
comp=Z,12nm,0.9s
R33M Jennings River 67.53 33 P **P** **23 39 25.1 +1.1**
baz=292
MOS Moscow 67.60 322 *e*P **P** **23 39 22.3 -2.0**
MOS *e* 23 39 45.2
MOS MLR MLR
comp=Z,1µm,16.0s
U33K Whale Pass 67.69 37 P **P** **23 39 26.1 +1.2**
baz=292
TGTN Hyland Airport 67.93 31 P **P** **23 39 27.8 +1.4**
baz=294,SNR=28
S34M Telegraph Cree 68.02 35 P **P** **23 39 27.5 +0.6**
S34M IAmb IAmb 23 39 29.4
comp=Z,16nm,0.8s
S34M Telegraph Cree 68.02 35 P **P** **23 39 28.1 +1.2**
baz=293
LPSR Galich'ya Gora 68.06 319 *e*P **P** **23 39 25.9 -1.4**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
DLBC Dease Lake 68.35 34 P **P** **23 39 30.0 +0.9**
DLBC IAmb IAmb 23 39 31.7
comp=Z,11nm,0.8s
DLBC Dease Lake 68.35 34 P **P** **23 39 30.3 +1.2**
baz=293,SNR=6.1
OBN Obninsk 68.40 322 *e*P **P** **23 39 29.9 +0.6**
OBN *e* 23 39 51.8
OBN *e*PPP PPP 23 43 40.5
OBN *e*S **S** **23 48 30.9 +0.9**
OBN *e*SS **SS** **23 52 52.6 -0.3**
OBN *e*SSS SSS 23 55 57.9
OBN pmax pmax
comp=Z,26nm,1.5s
OBN MLR MLR
comp=Z,1µm,17.0s
OBN Obninsk 68.40 322 LR LR 00 12 56.6
comp=Z,2µm,18.2s,baz=44,slow=39
ZEI Tsey 68.65 308 *e*P **P** **23 39 29.5 -1.9**
ZEI pmax pmax
comp=Z,9.0nm,1.4s
T35M Bob Quinn 68.82 36 P **P** **23 39 32.3 +0.2**
T35M IAmb IAmb 23 39 34.7
comp=Z,16nm,0.9s
T35M Bob Quinn 68.82 36 P **P** **23 39 33.0 +1.0**
baz=294
KBZ Khabaz 68.97 309 ⇑ *i*P **P** **23 39 34.2 +1.1**
KBZ pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 68.97 309 P **P** **23 39 34.5 +1.4**
comp=Z,7.3nm,0.9s,baz=161,slow=3.8,SNR=10
KBZ LR LR 00 14 06.4
comp=Z,1µm,19.4s,baz=77,slow=40
comp=Z,7.3nm,0.9s
KIV Kislovodsk 69.02 309 P **P** **23 39 34.8 +1.2**
KIV Kislovodsk 69.02 309 *e*P **P** **23 39 34.7 +1.2**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,602nm,17.0s
TOO Toolangi 69.03 169 P **P** **23 39 34.0 +0.6**
TOO IAmb IAmb 23 39 36.0
comp=Z,16nm,1.1s
TOO Toolangi 69.03 169 P **P** **23 39 34.0 +0.6**
TOO pmax pmax
comp=Z,16nm,1.1s
GNI Garni 69.08 305 LR LR 00 15 03.6
comp=Z,417nm,18.3s,baz=67,slow=40
WRGLY Wrigley 69.23 28 P **P** **23 39 34.5 +0.1**
WRGLY IAmb IAmb 23 39 36.3
comp=Z,18nm,0.8s
WRGLY Wrigley 69.23 28 P **P** **23 39 35.7 +1.4**
baz=297
KOTAN Kotaneelee Air 70.39 31 P **P** **23 39 42.5 +0.8**
baz=297
RES Resolute Bay 70.56 12 P **P** **23 39 42.4 0.0**
RES IAmb IAmb 23 39 44.0
comp=Z,16nm,0.8s
RES Resolute Bay 70.56 12 P **P** **23 39 42.4 0.0**
RES pmax pmax
comp=Z,15nm,0.8s
RES Resolute Bay 70.56 12 LR LR 00 13 58.6
comp=Z,351nm,19.7s,baz=354,slow=39
FIA1 FINESS Array S 70.66 331 P **P** **23 39 43.0 -0.2**
FIA1 IAmb IAmb 23 39 43.8
comp=Z,18nm,0.8s
FINES FINESS Array B 70.66 331 P **P** **23 39 43.5 +0.3**
FINES FINESS Array B 70.66 331 P **P** **23 39 43.0 -0.2**
comp=Z,11nm,0.6s,baz=66,slow=6.2,SNR=59
FINES LR LR 00 14 10.8
comp=Z,2µm,19.2s,baz=64,slow=39
comp=Z,11nm,0.6s
SOC Sochi 71.14 310 *e*P **P** **23 39 47.9 +1.5**
SOC *e* 23 42 19.5
SOC *e*PPP PPP 23 44 04.0
SOC *e*S **S** **23 49 09.1 +6.4**
SOC *e*SS **SS** **23 53 30.6 -5.1**
SOC MLR MLR
comp=Z,508nm,20.0s
DAG Danmarks Havn 71.29 353 *i*P **P** **23 39 46.0 -0.8**
DAG IAmb IAmb 23 39 47.9
comp=Z,2.2nm,0.7s
GURO Guroymak-BITLI 71.64 304 P **P** **23 39 50.7 +0.9**
GURO IAmb IAmb 23 40 16.9
comp=Z,21nm,1.5s
BBB Bella Bella 72.00 40 P **P** **23 39 51.7 +0.3**
ANN Anapa 72.11 312 *e*P **P** **23 39 49.4 -2.9**
ANN *e**PP **pP** **23 39 52.8 -3.7**
ANN *e* 23 42 28.3
ANN *e*S **S** **23 49 11.9 -2.0**
ANN *e*SS **SS** **23 53 47.6 -2.9**
ANN pmax pmax
comp=Z,42nm,0.9s
ANN MLR MLR
comp=Z,1µm,19.0s
ANN MLR MLR
comp=E,1µm,18.0s
ANN MLR MLR
comp=N,580nm,15.0s
NEEM North Greenlan 72.13 1 *i*P **P** **23 39 52.4 +0.2**
NEEM IAmb IAmb 23 40 06.4
comp=Z,5.7nm,0.9s
XMAS Kiritimati 72.23 98 P **P** **23 39 53.5 +0.1**
YKA Yellowknife Ar 73.10 26 P **P** **23 39 57.9 +0.1**
YKA Yellowknife Ar 73.10 26 *i*P **P** **23 39 58.4 +0.6**
YKA pmax pmax
comp=Z,6.0nm,0.7s
YKA Yellowknife Ar 73.10 26 P **P** **23 39 58.4 +0.6**
comp=Z,6.6nm,0.8s,baz=300,slow=6.0,SNR=44
comp=Z,6.6nm,0.8s
MNK Minsk 73.18 324 *i*P **P** **23 39 55.7 -2.8**
comp=E,4.0nm,0.9s
MNK *i*P **P** **23 39 55.7 -2.8**
comp=N,5.0nm,0.9s
MNK *i*P **P** **23 39 55.7 -2.8**
comp=Z,3.0nm,0.9s,baz=61
MNK *i*PcP **PcP** **23 40 12.1 -3.0**
MNK *i*PP **PP** **23 42 38.2 -2.8**
MNK *i*PPP PPP 23 44 22.8
MNK *i*S **S** **23 49 24.0 -1.7**
MNK *i*SS SS 23 53 23.7 -43
MNK *i*SSS SSS 23 57 58.4
MNK *i*LQ LQ 00 06 03.3
MNK *i*LR LR 00 09 39.7
MNK *i*LRM MLR 00 15 32.1
comp=Z,951nm,18.4s
MNK *i*LRM MLR 00 16 07.5
comp=E,307nm,18.4s
MNK *i*LRM MLR 00 22 21.3
comp=N,1µm,17.9s
MNK Minsk 73.18 324 *i*P **P** **23 39 55.6 -2.8**
MNK *i* 23 40 12.0
MNK *i* 23 42 38.2
MNK *i*PPP PPP 23 44 22.8
MNK *i*S **S** **23 49 24.0 -1.7**
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=N,5.0nm,0.9s
MNK pmax pmax
comp=Z,3.0nm,0.9s
MNK MLR MLR
comp=Z,951nm,18.0s
MNK MLR MLR
comp=E,307nm,18.0s
NACGM Naroch 73.54 324 LQ LQ 00 09 23.3
HILA High Level 74.30 31 P **P** **23 40 05.0 0.0**
AKASG Malin Array Be 74.33 320 P **P** **23 40 05.0 -0.2**
AKASG Malin Array Be 74.33 320 P **P** **23 40 05.0 -0.2**
AKASG pmax pmax
comp=Z,22nm,1.9s
AKASG Malin Array Be 74.33 320 P **P** **23 40 04.8 -0.5**
comp=Z,6.4nm,0.9s,baz=54,slow=6.0,SNR=21
AKASG LR LR 00 16 14.0
comp=Z,1µm,19.1s,baz=33,slow=39
comp=Z,6.4nm,0.9s
AKBB Malin Array Si 74.33 320 P **P** **23 40 05.0 -0.2**
AKBB Malin Array Si 74.33 320 ⇓ *i*P **P** **23 40 04.5 -0.8**
AKBB pmax pmax
comp=Z,10.0nm,0.9s
KIEV Kiev 74.34 320 ⇑ P **P** **23 40 05.6 +0.3**
KIEV Kiev 74.34 320 P **P** **23 40 04.6 -0.7**
KIEV Kiev 74.34 320 P **P** **23 40 04.6 -0.7**
KIEV pmax pmax
comp=Z,8.0nm,0.9s
JMIC Jan Mayen 74.85 348 LR LR 00 15 40.0
comp=Z,168nm,20.1s,baz=58,slow=38
SUW Suwalki 75.80 325 P **P** **23 40 12.5 -1.2**
SUW IAmb IAmb 23 40 40.9
comp=Z,32nm,1.2s
SUW Suwalki 75.80 325 P **P** **23 40 12.5 -1.2**
SUW pmax pmax
comp=Z,32nm,1.2s
SORM Soroca 76.10 318 ⇑ P **P** **23 40 14.9 -0.6**
SORM Soroca 76.10 318 ⇑ P **P** **23 40 14.9 -0.6**
HFS Hagfors 76.43 333 P **P** **23 40 16.8 -0.4**
comp=Z,5.4nm,0.8s,baz=52,slow=2.4,SNR=9.5
HFS LR LR 00 16 55.7
comp=Z,975nm,20.1s,baz=50,slow=38
comp=Z,5.4nm,0.8s
NC405 NORSAR Array S 76.56 334 P **P** **23 40 17.5 -0.4**
NC405 IAmb IAmb 23 40 18.7
comp=Z,24nm,1.1s
BRLDA Berland Lookou 76.60 35 P **P** **23 40 17.9 -0.5**
BRLDA IAmb IAmb 23 40 19.8
comp=Z,30nm,1.1s
NC303 NORSAR Array S 76.62 335 IAmb IAmb 23 40 19.0
comp=Z,17nm,1.0s
NB201 NORSAR Array S 76.76 335 P **P** **23 40 17.8 -1.3**
NB2 NORSAR Subarra 76.80 335 P **P** **23 40 18.2 -1.1**
comp=Z,2.6nm,0.8s,baz=48,slow=5.9
NOA NORSAR Array B 76.80 335 P **P** **23 40 18.5 -0.8**
comp=Z,6.7nm,0.9s,baz=49,slow=5.7,SNR=13
NOA LR LR 00 17 45.4
comp=Z,1µm,19.8s,baz=50,slow=38
comp=Z,6.7nm,0.9s
SUMG Summit 76.83 357 P **P** **23 40 19.9 +0.1**
SUMG Summit 76.83 357 P **P** **23 40 19.9 +0.1**
SUMG pmax pmax
comp=Z,14nm,1.1s
SUMG Summit 76.83 357 *i*P **P** **23 40 19.0 -0.7**
SUMG IAmb IAmb 23 40 34.4
comp=Z,6.0nm,0.9s
BR131 Keskin Array S 76.94 308 *de*P **P** **23 40 20.6 0.0**
BRTR Keskin Array B 76.94 308 P **P** **23 40 20.1 -0.5**
BRTR Keskin Array B 76.94 308 P **P** **23 40 19.9 -0.8**
comp=Z,4.4nm,1.0s,baz=96,slow=4.9,SNR=12
BRTR LR LR 00 19 34.0
comp=Z,403nm,20.4s,baz=51,slow=40
comp=Z,4.4nm,1.0s
VLDR Vladesti 77.43 316 ⇑ P **P** **23 40 24.5 +1.5**
LVV L'vov 77.64 321 *e*P **P** **23 40 23.6 -0.6**
LVV MLR MLR
comp=E,900nm,18.0s
LVV MLR MLR
comp=N,900nm,19.0s
LVV MLR MLR
comp=Z,1µm,20.0s
TPGR Topolog 77.73 315 ⇓ P **P** **23 40 23.3 -1.5**
TESR Tescani 77.93 317 ⇑ P **P** **23 40 25.3 -0.6**
HARR Harsova 78.12 315 ⇑ P **P** **23 40 27.5 +0.6**
HARR Harsova 78.12 315 ⇑ P **P** **23 40 27.5 +0.6**
BUR08 Bucovina Ar. S 78.17 319 P **P** **23 40 27.4 +0.1**
BURAR Bucovina Array 78.17 319 ⇑ P **P** **23 40 26.7 -0.6**
BURAR Bucovina Array 78.17 319 P **P** **23 40 27.0 -0.3**
BURAR Bucovina Array 78.17 319 ⇑ P **P** **23 40 26.7 -0.6**
MDUB Mudurnu 78.20 310 P **P** **23 40 27.6 0.0**
VRI Vrincioaia 78.23 316 ⇑ P **P** **23 40 28.9 +1.3**
VRI Vrincioaia 78.23 316 ⇑ P **P** **23 40 28.9 +1.3**
PLOR Plostina 78.28 317 ⇑ P **P** **23 40 26.4 -1.5**
PLOR Plostina 78.28 317 ⇑ P **P** **23 40 26.4 -1.5**
KONO Kongsberg 78.32 334 P **P** **23 40 28.2 +0.5**
KONO Kongsberg 78.32 334 P **P** **23 40 28.2 +0.5**
KONO pmax pmax
comp=Z,52nm,1.5s
BISRR Bisoca 78.41 316 ⇑ P **P** **23 40 25.2 -3.4**
KWP Kalwaria Pacla 78.46 321 P **P** **23 40 29.0 +0.3**
KWP IAmb IAmb 23 40 34.0
comp=Z,33nm,1.3s
KWP Kalwaria Pacla 78.46 321 P **P** **23 40 29.0 +0.3**
KWP pmax pmax
comp=Z,33nm,1.3s
ICOR Ion Corvin 78.50 315 ⇑ P **P** **23 40 29.3 +0.3**
TURR Turia 78.55 317 ⇑ P **P** **23 40 29.8 +0.5**
OZUR 78.66 317 ⇑ P **P** **23 40 30.2 +0.2**
KEBM Edson Butte 78.78 47 P **P** **23 40 31.9 +1.3**
B08A Colville Reser 78.79 40 P **P** **23 40 30.4 -0.2**
MLR Muntele Rosu 78.89 316 ⇑ P **P** **23 40 32.0 +0.6**
MLR Muntele Rosu 78.89 316 ⇑ P **P** **23 40 32.0 +0.6**
MLR Muntele Rosu 78.89 316 LR LR 00 19 00.8
comp=Z,1µm,21.5s,baz=55,slow=38
MMAI Mount Meron Ar 78.95 302 P **P** **23 40 33.2 +1.4**
comp=Z,0.4nm,0.3s,baz=50,slow=7.8,SNR=7.3
comp=Z,0.4nm,0.3s
DOPR Dopca 78.96 317 ⇑ P **P** **23 40 33.1 +1.5**
EDM Edmonton 79.07 34 P **P** **23 40 31.8 -0.3**
EDM Edmonton 79.07 34 P **P** **23 40 31.8 -0.3**
KOLS Kolonicke sedl 79.09 321 *e*P **P** **23 40 33.8 +1.6**
KOLS Kolonicke sedl 79.09 321 *e*P **P** **23 40 33.8 +1.6**
KOLS pmax pmax
comp=Z,7.0nm,1.5s
BMR Baia Mare 79.11 319 P **P** **23 40 33.7 +1.3**
BMR pmax pmax
comp=Z,13nm,1.1s
HOOD Mount Hood Mea 79.12 44 P **P** **23 40 33.5 +0.9**
HOOD IAmb IAmb 23 40 35.0
comp=Z,19nm,0.9s
E07A Sunnyside 79.49 42 P **P** **23 40 33.6 -0.9**
E07A IAmb IAmb 23 40 35.5

comp=Z,49nm,1.9s
MDW Midway 79.52 42 P **P** **23 40 34.9 +0.3**
MDW Midway 79.52 42 P **P** **23 40 34.9 +0.3**
MDW pmax pmax
comp=Z,15nm,1.1s
L02F Cave Junction 79.65 47 P **P** **23 40 35.3 -0.1**
OJC Ojcow 79.67 323 P **P** **23 40 35.2 -0.1**
OJC Ojcow 79.67 323 P **P** **23 40 35.2 -0.1**
OJC pmax pmax
comp=Z,14nm,1.1s
C09A Chrisman Ranch 79.69 40 P **P** **23 40 36.1 +0.6**
C09A IAmb IAmb 23 40 37.0
comp=Z,23nm,1.3s
ARR Arges 79.73 317 ⇑P P 23 40 30.2 -5.7
D08A Wollman Farm, 79.75 41 P **P** **23 40 35.7 -0.2**
KRMB Red Mountain 79.75 48 P **P** **23 40 36.0 -0.1**
KRMB IAmb IAmb 23 41 50.0
comp=Z,56nm,1.8s
HAWA Hanford 79.77 42 P **P** **23 40 36.2 +0.3**
HUMO Hull Mountain 79.78 46 P **P** **23 40 36.3 +0.2**
HUMO IAmb IAmb 23 40 51.5
comp=Z,35nm,1.8s
NIE Niedzica 79.87 322 P **P** **23 40 37.9 +1.4**
NIE pmax pmax
comp=Z,5.0nm,1.1s
MARR Marisel-Cluj 79.88 319 ⇑P **P** **23 40 37.7 +1.0**
NEW Newport 80.06 39 P **P** **23 40 37.4 -0.2**
NEW Newport 80.06 39 P **P** **23 40 38.2 +0.7**
baz=305
NEW Newport 80.06 39 P **P** **23 40 37.4 -0.2**
NEW pmax pmax
comp=Z,9.0nm,1.0s
LOT Lotru 80.19 317 ⇑P **P** **23 40 40.6 +2.2**
ELND Elena 80.32 314 ⇑P **P** **23 40 37.0 -2.0**
PINE Pine Mountain 80.38 45 P **P** **23 40 40.1 +0.5**
L04D Klamath Falls 80.39 47 P **P** **23 40 38.9 -0.7**
L04D IAmb IAmb 23 40 42.1
comp=Z,48nm,1.4s
YBH Yreka Blue Hor 80.40 47 P **P** **23 40 39.8 +0.2**
YBH Yreka Blue Hor 80.40 47 P **P** **23 40 39.8 +0.2**
YBH pmax pmax
comp=Z,26nm,1.7s
URZ Urewera 80.44 146 LR LR 00 13 42.9
comp=Z,63nm,18.4s,baz=144,slow=34
DEV Deva 80.45 318 P **P** **23 40 40.7 +1.0**
DEV pmax pmax
comp=Z,7.0nm,1.3s
J05D Fort Rock, OR 80.47 45 P **P** **23 40 40.2 +0.1**
E09A Wood Farm, Sta 80.49 41 P **P** **23 40 40.0 +0.1**
RTZ Ruatahuna 80.65 146 P **P** **23 40 40.6 -0.1**
RTZ IAmb IAmb 23 40 57.6
comp=Z,21nm,1.1s
GZR Gura Zlata 80.80 318 ⇑P **P** **23 40 41.3 -0.3**
GZR Gura Zlata 80.80 318 ⇑P **P** **23 40 41.3 -0.3**
ELL Elmali 80.97 307 P **P** **23 40 42.9 +0.1**
ELL Elmali 80.97 307 P **P** **23 40 42.9 +0.1**
ELL pmax pmax
comp=Z,126nm,1.5s
SURR Surduc 80.98 318 ⇑P **P** **23 40 42.4 -0.1**
K05A Summer Lake 80.99 45 P **P** **23 40 43.2 +0.4**
K05A IAmb IAmb 23 40 45.0
comp=Z,26nm,1.5s
KSP Ksiaz 81.08 325 P **P** **23 40 44.1 +1.2**
KSP pmax pmax
comp=Z,10.0nm,1.3s
I07A Izee 81.08 44 P **P** **23 40 42.4 -0.8**
MORC Moravsky Berou 81.10 323 ⇑P **P** **23 40 44.3 +1.2**
MORC Moravsky Berou 81.10 323 P **P** **23 40 43.0 -0.1**
MORC Moravsky Berou 81.10 323 *e*P **P** **23 40 43.4 +0.3**
MORC Moravsky Berou 81.10 323 P **P** **23 40 43.0 -0.1**
MORC pmax pmax
comp=Z,6.0nm,1.0s
VYHS Vyhne 81.19 322 *e*P **P** **23 40 45.2 +1.6**
VYHS Vyhne 81.19 322 *e*P **P** **23 40 45.2 +1.6**
VYHS pmax pmax
comp=Z,8.0nm,1.2s
OSTC Ostas 81.29 324 *e*P **P** **23 40 46.3 +2.2**
OSTC Ostas 81.29 324 *e*P **P** **23 40 46.3 +2.2**
KRLC Kraliky 81.30 324 *e*P **P** **23 40 45.3 +1.1**
KRLC Kraliky 81.30 324 *e*P **P** **23 40 45.3 +1.1**
CHVC Chvalec 81.35 325 *e*P **P** **23 40 45.9 +1.5**
CHVC Chvalec 81.35 325 *e*P **P** **23 40 45.9 +1.5**
DPC Dobruska-Polom 81.37 324 *e*P **P** **23 40 45.5 +1.0**
DPC Dobruska-Polom 81.37 324 *e*P **P** **23 40 45.5 +1.0**
UPC Upice 81.42 325 *e*P **P** **23 40 46.1 +1.3**
UPC Upice 81.42 325 *e*P **P** **23 40 46.1 +1.3**
JAVC Velka Javorina 81.59 323 *e*P **P** **23 40 47.3 +1.5**
MDVR Moldovita 81.77 318 ⇑P **P** **23 40 45.6 -1.2**
VRAC Vranov 81.87 323 ⇑P **P** **23 40 48.8 +1.6**
VRAC Vranov 81.87 323 *e*P **P** **23 40 48.0 +0.8**
VRAC Vranov 81.87 323 ⇑P **P** **23 40 48.8 +1.6**
VRAC Vranov 81.87 323 LR LR 00 21 58.7
comp=Z,1μm,18.1s,baz=52,slow=39
BSEG Bad Segeberg 81.87 329 *e*P **P** **23 40 48.3 +1.3**
comp=Z,13nm,1.0s,baz=47,slow=5.1
SRO Srobarova 81.88 321 *e*P **P** **23 40 48.5 +1.3**
SRO Srobarova 81.88 321 *e*P **P** **23 40 48.5 +1.3**
SRO pmax pmax
comp=Z,9.0nm,0.9s
SMOL Smolenice 81.93 322 *e*P **P** **23 40 49.7 +2.2**
SMOL pmax pmax
comp=Z,7.0nm,0.9s
BMO Blue Mountains 81.93 42 P **P** **23 40 47.6 -0.1**
BMO Blue Mountains 81.93 42 P **P** **23 40 47.6 -0.1**
BMO pmax pmax
comp=Z,8.0nm,1.1s
MODS Modra-Piesok 82.09 322 *e*P **P** **23 40 50.5 +2.1**
MODS Modra-Piesok 82.09 322 *e*P **P** **23 40 50.5 +2.1**
MODS pmax pmax
comp=Z,28nm,1.2s
J08A Circle Bar Ran 82.10 44 IAmb IAmb 23 40 50.6
comp=Z,18nm,1.1s
KRUC Moravsky 82.13 323 *e*P **P** **23 40 49.1 +0.6**
KRUC Moravsky 82.13 323 P **P** **23 40 49.8 +1.3**
KRUC pmax pmax
comp=Z,9.0nm,1.1s
RPZ Rata Peaks 82.18 153 LR LR 00 10 35.9
comp=Z,109nm,21.6s,baz=290,slow=31
ORV Oroville 82.36 48 P **P** **23 40 49.3 -0.6**
ORV Oroville 82.36 48 P **P** **23 40 49.3 -0.6**
ORV pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 82.39 326 P **P** **23 40 49.7 -0.1**
CLL IAmb IAmb 23 40 51.2
comp=Z,15nm,0.7s
CLL Collm 82.39 326 *i* P **P** **23 40 49.9 +0.1**
comp=Z,18nm,0.8s
CLL *ex* x 23 43 41.0
CLL *e*PP **PP** **23 43 56.0 -2.0**
CLL *e*S **S** **23 51 07.0 +1.7**
CLL *e*SS **SS** **23 56 30.0 +5.1**
CLL *ex* x 00 01 30.0
CLL AMS AMS 00 21 00.0
comp=Z,2μm,20.0s
CLL Collm 82.39 326 *i* P **P** **23 40 49.9 +0.1**
CLL *e*S **S** **23 51 07.0 +1.7**
CLL pmax pmax
comp=Z,18nm,0.8s
CLL MLR MLR
comp=Z,2μm,20.0s
CLL Collm 82.39 326 *e*P **P** **23 40 51.1 +1.3**
comp=Z,15nm,0.8s,baz=47,slow=5.1
TREC Trest 82.45 324 *e*P **P** **23 40 51.7 +1.5**
TREC Trest 82.45 324 *e*P **P** **23 40 51.7 +1.5**
FBE Freiberg 82.47 326 *e*P **P** **23 40 52.0 +1.8**
comp=Z,15nm,1.0s,baz=47,slow=5.1
PRU Pruhonice 82.48 325 *e*P **P** **23 40 51.7 +1.4**
PRU Pruhonice 82.48 325 *e*P **P** **23 40 51.7 +1.4**
WVOR Wild Horse Val 82.53 45 P **P** **23 40 51.5 +0.6**
WVOR Wild Horse Val 82.53 45 P **P** **23 40 51.5 +0.6**
WVOR pmax pmax
comp=Z,7.0nm,1.0s
FLTG Flechtingen 82.54 328 *e*P **P** **23 40 51.5 +1.0**
comp=Z,15nm,0.8s,baz=47,slow=5.1
PLID Pearl Lake 82.54 41 P **P** **23 40 50.9 -0.2**
SFJD Kangerlussuaq 82.63 1 LR LR 00 19 49.8
comp=Z,444nm,18.8s,baz=345,slow=37
HSKC Hora Svate Kat 82.63 326 *e*P **P** **23 40 52.0 +0.9**
MSO Missoula 82.65 39 P **P** **23 40 51.4 0.0**
MSO Missoula 82.65 39 P **P** **23 40 52.0 +0.5**
baz=308
FRGS Fruska Gora 82.65 319 ⇑P **P** **23 40 52.1 +0.8**
MORH Mrgy, Hungar 82.67 320 ⇑P **P** **23 40 52.1 +0.8**
NRDL Niedersach Rie 82.94 328 *e*P **P** **23 40 53.9 +1.4**
comp=Z,5.4nm,0.8s,baz=47,slow=5.1
CHMT Chamberlain Mo 82.97 39 P **P** **23 40 52.4 -0.9**
FCC Fort Churchill 83.00 22 P **P** **23 40 52.7 -0.1**
FCC IAmb IAmb 23 40 54.1
comp=Z,14nm,0.8s
FCC Fort Churchill 83.00 22 P **P** **23 40 52.7 -0.1**
FCC pmax pmax
comp=Z,14nm,0.9s
ZVC Zvikov 83.01 324 *e*P **P** **23 40 53.8 +0.7**
OVMT Ovando 83.01 39 P **P** **23 40 52.6 -0.8**
RONA Rosalia, Austr 83.03 322 *i* pP **P** **23 40 55.2 +1.9**
comp=Z,9.4nm,1.3s
NEUB Neuenburg 83.03 327 *e*P **P** **23 40 54.7 +1.6**
comp=Z,25nm,1.0s,baz=47,slow=5.1
AFDM Forest Hills D 83.03 49 P **P** **23 40 52.9 -0.6**
RETH Rethem/Aller, 83.11 329 *e*pP pP 23 40 57.4 -0.3
baz=47,slow=5.4
CONA Conrad Observa 83.11 323 *i* pP **P** **23 40 55.9 +2.1**
comp=Z,12nm,1.1s
FFC Flin Flon 83.13 28 P **P** **23 40 53.3 -0.3**
FFC Flin Flon 83.13 28 P **P** **23 40 53.3 -0.3**
FFC pmax pmax
comp=Z,10.0nm,0.9s
DY2G Dye2 83.17 359 *i* P **P** **23 40 54.2 +0.3**
DY2G IAmb IAmb 23 41 11.7
comp=Z,4.4nm,0.8s
DIVS Divibare 83.17 318 P **P** **23 40 53.8 -0.3**
DIVS IAmb IAmb 23 40 56.2
comp=Z,12nm,1.1s
TANN Tannenbergstha 83.23 326 *e*P **P** **23 40 55.8 +1.5**
comp=Z,9.8nm,1.2s,baz=47,slow=5.1
TANN *e*pP **pP** **23 40 58.6 +0.1**
baz=47,slow=5.4
CLZ Clausthal 83.26 328 *e*P **P** **23 40 56.1 +1.8**
comp=Z,20nm,1.0s,baz=47,slow=5.1
CLZ *e*pP **PcP** **23 40 58.8 -0.1**
baz=47,slow=5.4
WERD Werda 83.28 326 *e*P **P** **23 40 55.9 +1.4**
comp=Z,9.1nm,1.1s,baz=47,slow=5.1
WERD *e*pP **pP** **23 40 58.6 -0.1**
baz=47,slow=5.4
GUNZ Gunzen 83.33 326 *e*P **P** **23 40 56.3 +1.5**
comp=Z,12nm,1.1s,baz=47,slow=5.1
GUNZ *e*pP **pP** **23 40 58.9 -0.1**
baz=47,slow=5.4
PLN Plauen 83.33 326 *e*P **P** **23 40 56.3 +1.6**
comp=Z,13nm,1.2s,baz=47,slow=5.1
RAR Rarotonga 83.33 119 LR LR 00 08 15.0
comp=Z,76nm,22.0s,baz=335,slow=29
CKRC Cesky Krumlov 83.35 324 *e*P **P** **23 40 55.6 +0.7**
CKRC Cesky Krumlov 83.35 324 *e*P **P** **23 40 55.6 +0.7**
WERN Wernitzgruen 83.35 326 *e*P **P** **23 40 56.5 +1.6**
comp=Z,16nm,1.1s,baz=47,slow=5.1
WERN *e*pP **PcP** **23 40 59.2 -0.1**
baz=47,slow=5.4
NKC Novy Kostel 83.35 326 *e*P **P** **23 40 55.8 +0.9**
NKC Novy Kostel 83.35 326 *e*P **P** **23 40 55.8 +0.9**
MPK Martis Peak 83.45 48 P **P** **23 40 55.5 -0.4**
MPK IAmb IAmb 23 40 57.5
comp=Z,11nm,1.0s
MOX Moxa 83.48 326 *e*P **P** **23 40 57.0 +1.5**
comp=Z,9.5nm,1.0s,baz=47,slow=5.1
MOX *e*pP **pP** **23 40 59.8 0.0**
baz=47,slow=5.4
MOX *e*L L 00 22 17.2
comp=Z,2μm,20.0s
KHC Kasperske Hory 83.52 324 P **P** **23 40 56.0 +0.2**
KHC Kasperske Hory 83.52 324 *e*P **P** **23 40 56.3 +0.5**
KHC Kasperske Hory 83.52 324 *c* iP **P** **23 40 55.6 -0.2**
KHC pmax pmax
comp=Z,24nm,1.3s
ATD Arta Tunnel 83.53 280 LR LR 00 18 21.1
comp=Z,15nm,21.9s,baz=66,slow=36
EMB Emerald Bay 83.58 48 P **P** **23 40 56.7 +0.1**
EMB IAmb IAmb 23 40 57.9
comp=Z,9.0nm,0.8s
ELMT Elliston 83.62 39 P **P** **23 40 56.9 +0.3**
PAHR Pah Rah Range 83.62 47 P **P** **23 40 56.7 +0.1**
PAHR IAmb IAmb 23 40 58.0
comp=Z,10.0nm,0.9s
MFID Camas Ranch 83.64 43 P **P** **23 40 56.5 -0.1**
MFID IAmb IAmb 23 40 58.5
comp=Z,19nm,1.2s
GEC2 GERESS Array S 83.64 324 P **P** **23 40 55.9 -0.6**
GEC2 GERESS Array S 83.64 324 *e*P **P** **23 40 57.7 +1.2**
comp=Z,7.4nm,1.0s,baz=47,slow=5.1
GERES GERESS Array B 83.64 324 P **P** **23 40 56.8 +0.3**
GERES GERESS Array B 83.64 324 P **P** **23 40 56.8 +0.3**
GERES GERESS Array B 83.64 324 P **P** **23 40 57.2 +0.7**
comp=Z,4.3nm,0.9s,baz=38,slow=5.0,SNR=19
GERES LR LR 00 23 20.5
comp=Z,2μm,18.5s,baz=48,slow=39
comp=Z,4.3nm,0.9s
GTTG Gottingen 83.65 328 *e*P **P** **23 40 57.8 +1.5**
comp=Z,14nm,0.9s,baz=47,slow=5.1
GTTG *e*pP **PcP** **23 41 00.5 0.0**
baz=47,slow=5.4
MANZ Manzenberg 83.68 326 *e*P **P** **23 40 58.2 +1.6**
comp=Z,2.0nm,0.9s,baz=47,slow=5.1
MANZ *e*pP **pP** **23 41 01.1 +0.2**
baz=47,slow=5.4
ARSA Arzberg 83.72 322 *i* pP **P** **23 40 58.3 +1.4**
comp=Z,9.9nm,1.0s
ROTZ Rotzenmuhle 83.78 326 *e*P **P** **23 40 58.9 +1.8**
comp=Z,3.8nm,1.1s,baz=47,slow=5.1
ROTZ *e*pP **pP** **23 41 01.6 +0.3**
baz=47,slow=5.4
PNTR Pine Nut 83.84 48 P **P** **23 40 57.6 -0.3**
PNTR IAmb IAmb 23 41 00.3
comp=Z,8.8nm,0.7s
WET Wettzell 83.86 325 P **P** **23 40 55.9 -1.6**
WET pmax pmax
comp=Z,7.0nm,1.8s
WET Wettzell 83.86 325 *e*P **P** **23 40 59.1 +1.6**
comp=Z,6.0nm,1.1s,baz=47,slow=5.1
CMB Columbia Colle 83.93 49 P **P** **23 40 57.0 -1.1**
CMB IAmb IAmb 23 40 59.3
comp=Z,23nm,1.5s
CMB Columbia Colle 83.93 49 P **P** **23 40 57.0 -1.1**
CMB pmax pmax
comp=Z,23nm,1.5s
MOA Molln 83.99 323 *i* pP **P** **23 40 59.3 +1.1**
comp=Z,13nm,1.0s
EGMT Eagleton 84.11 36 P **P** **23 40 59.1 +0.2**
EGMT IAmb IAmb 23 41 00.3
comp=Z,17nm,0.9s
EGMT Eagleton 84.11 36 P **P** **23 40 59.1 +0.2**
baz=310,SNR=9.0
IBBN Ibbenburen 84.11 329 *e*P **P** **23 40 59.7 +1.0**
comp=Z,19nm,1.0s,baz=47,slow=5.1
UBBA Unterbreizbach 84.13 327 *e*P **P** **23 41 00.1 +1.5**
comp=Z,11nm,1.2s,baz=47,slow=5.1
YERR Yerington 84.13 48 P **P** **23 40 59.6 +0.3**
YERR IAmb IAmb 23 41 00.7
comp=Z,17nm,1.1s
WAKR Walker 84.28 48 P **P** **23 41 00.2 +0.1**
WAKR IAmb IAmb 23 41 01.7
comp=Z,8.3nm,0.8s
GRA1 Grafenberg Arr 84.31 326 P **P** **23 40 59.6 -0.2**
GRF Grafenberg Arr 84.31 326 P **P** **23 40 59.6 -0.2**
GRF pmax pmax
comp=Z,30nm,1.0s
GRF Grafenberg Arr 84.31 326 *e*P **P** **23 41 01.6 +1.8**
comp=Z,34nm,1.1s,baz=47,slow=5.1
GRF *e*L L 00 23 06.7
comp=Z,3μm,18.7s
GRFO Grafenberg 84.31 326 P **P** **23 41 00.7 +1.0**
GRFO Grafenberg 84.31 326 P **P** **23 41 00.7 +1.0**
GRFO pmax pmax
comp=Z,32nm,1.0s
PERS Pernice 84.32 322 *e*P **P** **23 41 00.2 +0.3**
SOKA Soboth 84.34 322 *i* P **P** **23 41 00.4 +0.3**
comp=Z,27nm,1.0s,SNR=24
HLID Hailey 84.37 42 P **P** **23 41 00.3 -0.2**
HLID IAmb IAmb 23 41 02.5
comp=Z,12nm,1.1s
HLID Hailey 84.37 42 P **P** **23 41 01.1 +0.7**
baz=308
BIOA Bad Ischl, Aus 84.42 323 *e*pP **P** **23 41 01.2 +0.8**
comp=Z,16nm,1.2s,SNR=5.6
FRB Frobisher Bay 84.51 9 LR LR 00 22 24.7
comp=Z,673nm,18.4s,baz=358,slow=38
BMN Battle Mountai 84.56 46 P **P** **23 41 02.2 +0.8**
BMN IAmb IAmb 23 41 03.4
comp=Z,16nm,1.1s
BMN Battle Mountai 84.56 46 P **P** **23 41 02.2 +0.8**
BMN pmax pmax
comp=Z,16nm,1.1s
BOZ Bozeman (W) 84.67 39 P **P** **23 41 01.4 -0.5**
BOZ IAmb IAmb 23 43 10.9
comp=Z,12nm,1.0s
BOZ Bozeman (W) 84.67 39 P **P** **23 41 02.0 +0.2**
baz=309,SNR=6.4
BOZ Bozeman (W) 84.67 39 P **P** **23 41 01.4 -0.5**
BOZ pmax pmax
comp=Z,12nm,1.0s
OBKA Obir 84.70 322 *e*pP **P** **23 41 03.0 +1.1**
comp=Z,12nm,1.4s
KBN Korca 84.75 315 P **P** **23 41 02.5 +0.2**
KBN Korca 84.75 315 P **P** **23 41 02.5 +0.2**
KBN pmax pmax
comp=Z,55nm,1.7s
RYN Ryan 84.79 48 P **P** **23 41 02.4 -0.2**
RYN IAmb IAmb 23 41 04.2
comp=Z,13nm,0.9s
KVN Kaiserville 84.82 47 P **P** **23 41 03.0 +0.2**
KVN Kaiserville 84.82 47 P **P** **23 41 03.0 +0.2**
KVN pmax pmax
comp=Z,20nm,0.8s
BUG Bochum--Univer 84.94 329 *e*P **P** **23 41 03.8 +0.9**
comp=Z,20nm,1.2s,baz=47,slow=5.1
MDPB Devils Postpil 85.01 49 P **P** **23 41 04.1 +0.2**
MDPB IAmb IAmb 23 41 05.3
comp=Z,14nm,1.2s
LJU Ljubljana 85.02 322 *i* P **P** **23 41 03.5 +0.1**
NVAR Mina Array Bea 85.05 48 P **P** **23 41 03.8 -0.2**
NVAR Mina Array Bea 85.05 48 P **P** **23 41 04.1 +0.1**
comp=Z,8.4nm,0.7s,baz=64,slow=26,SNR=3.6
comp=Z,8.4nm,0.7s
OMMB Old Mammoth Mi 85.07 49 P **P** **23 41 03.7 -0.6**
OMMB IAmb IAmb 23 41 06.3
comp=Z,13nm,1.1s
LESA Schwarzleotal 85.09 324 *i* pP **P** **23 41 04.6 +0.8**
comp=Z,12nm,1.2s
MYKA Terra Mystica 85.11 323 *e*pP **P** **23 41 04.6 +0.7**
comp=Z,3.7nm,0.8s
CRNS Crni Vrh 85.13 322 *i* P **P** **23 41 03.7 -0.4**
NV11 Mina Array Sit 85.14 48 P **P** **23 41 04.2 -0.2**
MLAC Mammoth, Mammo 85.17 49 P **P** **23 41 05.0 +0.3**
baz=305
IDI Anoyia 85.18 308 LR LR 00 24 24.3
comp=Z,339nm,19.9s,baz=70,slow=39
TNS Taunus Mts 85.26 328 *e*P **P** **23 41 06.0 +1.4**
comp=Z,13nm,1.1s,baz=47,slow=5.1
FUR Furstenfeldbru 85.30 325 *e*P **P** **23 41 06.5 +1.7**
comp=Z,28nm,1.1s,baz=47,slow=5.1
YHL Hebgen Lake 85.39 40 P **P** **23 41 05.5 -0.1**
YHL IAmb IAmb 23 41 07.8
comp=Z,12nm,1.0s
ELK Elko 85.59 45 P **P** **23 41 06.4 -0.3**
ELK Elko 85.59 45 P **P** **23 41 06.4 -0.3**
ELK pmax pmax
comp=Z,8.0nm,1.0s
CLUD Cludinico 85.62 323 P **P** **23 41 05.9 -0.5**
CLUD IAmb IAmb 23 41 07.7
comp=Z,12nm,0.9s
ABTA Abfaltersbach 85.62 323 *e*P **P** **23 41 06.7 +0.2**
comp=Z,10.0nm,1.3s
YMR Madison River 85.62 40 P **P** **23 41 06.8 +0.1**
YMR IAmb IAmb 23 41 09.1
comp=Z,18nm,1.2s
AHRW Bad Neuenahr-A 85.66 328 *e*P **P** **23 41 08.2 +1.7**
comp=Z,34nm,1.4s,baz=47,slow=5.1
WTTA Wattenberg 85.72 324 *e*P **P** **23 41 04.7 -2.4**
comp=Z,11nm,1.8s
SMMC Simmler 85.72 51 P **P** **23 41 08.5 +1.3**
baz=305
STAL STALIGIAL 85.83 323 P **P** **23 41 07.3 -0.2**
STAL IAmb IAmb 23 41 41.0
comp=Z,11nm,1.0s
TIN Tinemaha, Big 85.89 49 P **P** **23 41 09.4 +1.3**
baz=306
MOTA Moosalm 85.94 324 *e*P **P** **23 41 08.3 +0.1**
comp=Z,4.6nm,1.2s
TPH Tonopah 85.94 48 P **P** **23 41 08.6 +0.2**
TPH Tonopah 85.94 48 P **P** **23 41 08.6 +0.2**
TPH pmax pmax
comp=Z,93nm,1.0s
SQTA Sankt Quirin 85.97 324 *e*pP **P** **23 41 08.9 +0.7**
comp=Z,3.8nm,1.1s
H17A Grant Village 86.01 40 P **P** **23 41 09.6 +0.9**
H17A IAmb IAmb 23 41 12.4
comp=Z,17nm,1.0s
H17A Grant Village 86.01 40 P **P** **23 41 11.3 +2.6**
baz=310,SNR=10
RETA Reutte 86.01 324 *e*P **P** **23 41 07.9 -0.5**
comp=Z,6.3nm,1.4s
VES Vestal, Richgr 86.03 50 P **P** **23 41 08.7 0.0**
baz=305
MZP Montezuma Peak 86.06 48 P **P** **23 41 09.5 +0.3**
PKM Mcpherson Peak 86.09 52 P **P** **23 41 09.9 +0.7**
baz=305,SNR=5.5
IMW Indian Meadow 86.13 40 P **P** **23 41 09.1 -0.3**
FLWY Flagg Ranch 86.14 40 P **P** **23 41 10.1 +0.8**
FLWY IAmb IAmb 23 41 12.1
comp=Z,12nm,0.9s
EKA Eskdalemuir Ar 86.15 336 P **P** **23 41 08.8 -0.1**
comp=Z,5.4nm,1.0s,baz=60,slow=4.7,SNR=5.6
comp=Z,5.4nm,1.0s
RLMT Red Lodge 86.25 38 P **P** **23 41 09.7 -0.2**
RLMT IAmb IAmb 23 41 11.7
comp=Z,14nm,1.1s
RLMT Red Lodge 86.25 38 P **P** **23 41 10.5 +0.7**
baz=311
MOOW Moose Ponds 86.33 40 P **P** **23 41 10.6 +0.4**
FETA Feichten 86.34 324 *i* PcP **P** **23 41 10.8 +0.6**
comp=Z,6.3nm,1.2s
CWC Cottonwood Cre 86.35 49 P **P** **23 41 10.7 +0.3**
baz=306
GMN Gold Mountain 86.38 48 P **P** **23 41 10.6 -0.1**
TPAW Teton Pass 86.38 41 P **P** **23 41 10.4 -0.2**
HVU Hansel Valley 86.42 43 P **P** **23 41 11.1 +0.4**
HVU Hansel Valley 86.42 43 P **P** **23 41 11.1 +0.4**
HVU pmax pmax
comp=Z,13nm,1.3s
GRAC Grapevine Rang 86.49 49 P **P** **23 41 11.0 0.0**
GRAC Grapevine Rang 86.49 49 P **P** **23 41 11.7 +0.8**
baz=306,SNR=6.4
LOHW Long Hollow 86.50 40 P **P** **23 41 09.6 -1.5**
REDW Red Top Meadow 86.52 41 P **P** **23 41 10.6 -0.7**
ISA Isabella, Lake 86.54 50 P **P** **23 41 10.0 -1.3**
ISA Isabella, Lake 86.54 50 P **P** **23 41 11.4 +0.1**
baz=306
ISA Isabella, Lake 86.54 50 P **P** **23 41 10.0 -1.3**
ISA pmax pmax
comp=Z,5.0nm,1.1s
DGMT Dagmar 86.56 34 P **P** **23 41 11.2 +0.2**
DGMT IAmb IAmb 23 41 12.5
comp=Z,27nm,1.2s
DGMT Dagmar 86.56 34 P **P** **23 41 11.3 +0.2**
baz=314
DAVA Damuels 86.59 325 *i* P **P** **23 41 10.2 -1.2**
comp=Z,11nm,1.4s
ARVC Arvin 86.61 51 P **P** **23 41 12.5 +0.9**
baz=306
BFO Black Forest 86.63 326 P **P** **23 41 11.2 -0.2**
BFO IAmb IAmb 23 41 23.5
comp=Z,29nm,1.6s
BFO Black Forest 86.63 326 P **P** **23 41 11.2 -0.2**
BFO pmax pmax
comp=Z,29nm,1.6s
BFO Black Forest 86.63 326 *e*P **P** **23 41 12.3 +0.9**
comp=Z,16nm,1.3s,baz=47,slow=5.1
WLF Walferdange 86.70 328 *e*P **P** **23 41 13.3 +1.6**
comp=Z,16nm,1.2s,baz=47,slow=5.1
SCZ2 Santa Cruz Isl 86.72 52 P **P** **23 41 13.0 +0.9**
baz=305
AHID Auburn Hatcher 86.76 41 P **P** **23 41 12.2 -0.2**
BGU Big Grassy Mou 86.80 43 P **P** **23 41 12.4 -0.2**
R11B Troy Canyon, C 86.82 47 P **P** **23 41 12.4 -0.3**
R11B Troy Canyon, C 86.82 47 P **P** **23 41 13.2 +0.5**
baz=307,SNR=12
Q12A Willow Creek R 86.87 46 P **P** **23 41 11.4 -1.5**
Q12A IAmb IAmb 23 41 14.8
comp=Z,9.9nm,1.0s
SPUT South Promonto 86.90 43 P **P** **23 41 13.3 +0.2**
DAVOX Davos/Dischmat 86.94 324 LR LR 00 25 17.8
comp=Z,2μm,19.1s,baz=45,slow=39
MPMC Manual Prospec 86.96 49 P **P** **23 41 13.6 +0.2**
baz=306,SNR=7.5
FURC Furnace Creek, 87.12 49 P **P** **23 41 14.3 +0.4**
baz=306

LRMC	**Laurel Mtn Rad**	87.17	50	P		P	23 41 14.4	-0.0	
	baz=306,SNR=1000								
SPR3	**Spring Creek 3**	87.20	46	P		P	23 41 14.8	0.0	
HWUT	**Hardware Ranch**	87.23	42	P		P	23 41 14.8	+0.1	
HWUT				IAmb		IAmb	23 41 16.8		
	comp=Z,14nm,1.1s								
TPNV	**Topopah Spring**	87.23	48	P		P	23 41 13.9	-0.8	
TPNV	**Topopah Spring**	87.23	48	P		P	23 41 14.9	+0.2	
	baz=307,SNR=9.9								
TPNV	**Topopah Spring**	87.23	48	P		P	23 41 13.9	-0.8	
TPNV				pmax		pmax			
	comp=Z,7.0nm,0.9s								
ECH	**Echery**	87.27	327	P		P	23 41 14.4	-0.1	
ECH				IAmb		IAmb	23 41 38.2		
	comp=Z,29nm,1.8s								
ECH	**Echery**	87.27	327	P		P	23 41 14.4	-0.1	
ECH				pmax		pmax			
	comp=Z,29nm,1.8s								
EDW2	**Edwards Air Fo**	87.31	51	P		P	23 41 15.6	+0.5	
	baz=306,SNR=5.8								
DUG	**Dugway, Tooele**	87.38	44	P		P	23 41 14.4	-1.0	
DUG				IAmb		IAmb	23 41 17.4		
	comp=Z,12nm,1.1s								
DUG	**Dugway, Tooele**	87.38	44	P		P	23 41 16.2	+0.8	
	baz=309,SNR=9.6								
DUG	**Dugway, Tooele**	87.38	44	P		P	23 41 14.4	-1.0	
DUG				pmax		pmax			
	comp=Z,12nm,1.1s								
GWY	**Greenwater Val**	87.42	49	P		P	23 41 15.4	-0.3	
GWY				IAmb		IAmb	23 41 17.4		
	comp=Z,22nm,1.7s								
QSM	**Queen of Sheba**	87.42	49	P		P	23 41 15.7	+0.2	
QSM				IAmb		IAmb	23 41 16.8		
	comp=Z,11nm,0.9s								
BW06	**Boulder Array**	87.63	40	P		P	23 41 15.8	-0.8	
BW06	**Boulder Array**	87.63	40	P		P	23 41 16.7	+0.1	
	baz=311,SNR=6.8								
PD31	**Pinedale Array**	87.63	40	P		P	23 41 16.4	-0.2	
PDAR	**Pinedale Array**	87.63	40	P		P	23 41 15.5	-1.1	
PDAR	**Pinedale Array**	87.63	40	P		P	23 41 16.9	+0.3	
	comp=Z,3.7nm,0.9s,baz=310,slow=1.7,SNR=24								
	comp=Z,3.7nm,0.9s								
CTU	**Camp Tracy**	87.70	43	P		P	23 41 17.0	+0.1	
PRN	**Pahroc Range**	87.72	47	P		P	23 41 16.4	-0.6	
PSUT	**Pine Spring**	87.78	46	P		P	23 41 16.1	-1.3	
GSC	**Goldstone, Bar**	87.85	50	P		P	23 41 17.1	-0.6	
GSC	**Goldstone, Bar**	87.85	50	P		P	23 41 18.4	+0.8	
	baz=307,SNR=5.4								
GSC	**Goldstone, Bar**	87.85	50	P		P	23 41 17.1	-0.6	
GSC				pmax		pmax			
	comp=Z,6.0nm,1.0s								
NLU	**North Lily Min**	87.98	44	P		P	23 41 18.4	0.0	
NLU				IAmb		IAmb	23 41 20.2		
	comp=Z,8.4nm,1.0s								
SHPR	**Sheep Range**	88.20	48	P		P	23 41 18.7	-0.7	
MPU	**Maple Canyon**	88.20	44	P		P	23 41 19.4	+0.1	
MPU				IAmb		IAmb	23 41 21.3		
	comp=Z,9.4nm,0.9s								
TUQ	**Turquoise Moun**	88.35	49	P		P	23 41 20.5	+0.4	
	baz=307,SNR=5.3								
BSUT	**Blindstream Ca**	88.38	43	P		P	23 41 19.4	-1.0	
HEC	**Hector,Ludlow**	88.44	50	P		P	23 41 21.2	+0.8	
	baz=307								
MVU	**Marysvale**	88.81	45	P		P	23 41 21.0	-1.3	
MSU	**Marysvale**	88.82	45	P		P	23 41 22.2	-0.2	
MSU	**Marysvale**	88.82	45	P		P	23 41 22.2	-0.2	
GMRC	**Granite Mounta**	88.92	50	P		P	23 41 23.8	+1.1	
	baz=307								
ULM	**Lac du Bonnet**	88.96	28	P		P	23 41 22.1	-0.3	
ULM				IAmb		IAmb	23 41 23.6		
	comp=Z,16nm,0.9s								
ULM	**Lac du Bonnet**	88.96	28	P		P	23 41 22.1	-0.3	
ULM				pmax		pmax			
	comp=Z,16nm,1.0s								
ULM	**Lac du Bonnet**	88.96	28	P		P	23 41 22.4	0.0	
	comp=Z,9.9nm,0.8s,baz=310,slow=4.2,SNR=16								
ULM				LR		LR	00 26 01.8		
	comp=Z,185nm,19.7s,baz=16,slow=39								
	comp=Z,9.9nm,0.8s								
RDMU	**Red Mountain**	89.05	42	P		P	23 41 22.4	-1.0	
RDMU				IAmb		IAmb	23 41 25.2		
	comp=Z,12nm,1.0s								
P17A	**Butcher Ranch,**	89.08	43	P		P	23 41 23.4	-0.1	
PFO	**Pinyon Flats O**	89.09	51	P		P	23 41 23.4	-0.2	
	baz=307								
PFO	**Pinyon Flats O**	89.09	51	LR		LR	00 15 53.1		
	comp=Z,116nm,18.8s,baz=312,slow=32								
TPFO	**Pinon Flats**	89.09	51	P		P	23 41 23.7	+0.1	
	baz=307								
LCMT	**Little Creek M**	89.10	47	P		P	23 41 23.0	-0.6	
MTPU	**Mount Pierson**	89.11	45	P		P	23 41 23.2	-0.8	
MDND	**Maddock**	89.15	32	P		P	23 41 23.6	+0.2	
MDND	**Maddock**	89.15	32	P		P	23 41 24.4	+1.0	
	baz=318								
MDND	**Maddock**	89.15	32	P		P	23 41 24.5	+1.0	
	baz=318								
BELC	**Belle Mtn. Jos**	89.16	50	P		P	23 41 23.7	-0.2	
	baz=307								
Q16A	**Castle Valley**	89.17	44	P		P	23 41 24.0	0.0	
Q16A				IAmb		IAmb	23 41 26.2		
	comp=Z,14nm,1.3s								
PPT	**Papeete**	89.24	111	LR		LR	00 14 39.0		
	comp=Z,51nm,19.8s,baz=292,slow=31								
PPT2	**Papeete2**	89.25	111	eLR		LR	00 09 25.7		
PPT2	comp=Z,110nm,22.5s			eLR		LR	00 09 37.4		
	comp=Z,153nm,23.8s								
KNB	**Kanab**	89.36	46	P		P	23 41 24.9	0.0	
KNB	**Kanab**	89.36	46	P		P	23 41 24.9	0.0	
KNB				pmax		pmax			
	comp=Z,8.0nm,1.1s								
K22A	**Casper**	89.38	39	P		P	23 41 24.6	-0.2	
	baz=313								
SRU	**San Rafael Swe**	89.44	44	P		P	23 41 24.7	-0.5	
SRU				IAmb		IAmb	23 41 26.8		
	comp=Z,10nm,1.0s								
SRU	**San Rafael Swe**	89.44	44	P		P	23 41 24.7	-0.5	
SRU				pmax		pmax			
	comp=Z,10.0nm,1.0s								
MONP2	**Monument Peak**	89.54	51	P		P	23 41 26.0	+0.2	
	baz=307								
IRM	**Iron Mountain**	89.63	50	P		P	23 41 26.4	+0.4	
	baz=308								
RSSD	**Black Hills**	89.68	37	P		P	23 41 26.9	+0.6	
RSSD				IAmb		IAmb	23 41 28.5		
	comp=Z,11nm,0.8s								
RSSD	**Black Hills**	89.68	37	P		P	23 41 26.4	+0.1	
	baz=314								
RSSD	**Black Hills**	89.68	37	P		P	23 41 26.3	+0.1	
	baz=314								
RSSD	**Black Hills**	89.68	37	P		P	23 41 26.9	+0.6	
RSSD				pmax		pmax			
	comp=Z,11nm,0.8s								
BC3	**Big Chuckawall**	89.73	50	P		P	23 41 27.1	+0.5	
	baz=307								
IKP	**In-Ko-Pah, Jac**	89.90	52	P		P	23 41 27.9	+0.6	
	baz=307								
SWSC	**Sam W. Stewart**	89.93	51	P		P	23 41 27.9	+0.6	
	baz=307								
HMU	**Henry Mountain**	90.06	45	P		P	23 41 28.4	+0.2	
HMU				IAmb		IAmb	23 41 29.8		
	comp=Z,10.0nm,1.0s								
U15A	**North Rim**	90.06	47	P		P	23 41 27.9	-0.4	
O20A	**White River Ci**	90.10	42	P		P	23 41 28.2	-0.1	
O20A				IAmb		IAmb	23 41 29.9		
	comp=Z,14nm,1.3s								
O20A	**White River Ci**	90.10	42	P		P	23 41 28.9	+0.6	
	baz=312								
VAE	**Valguarnera**	90.60	315	LR		LR	00 25 30.7		
	comp=Z,623nm,18.4s,baz=50,slow=38								
N23A	**Red Feather La**	90.89	40	P		P	23 41 31.1	-0.9	
N23A				IAmb		IAmb	23 41 34.2		
	comp=Z,11nm,0.9s								
N23A	**Red Feather La**	90.89	40	P		P	23 41 33.1	+1.0	
	baz=313								
WUAZ	**Wupatki**	91.22	47	P		P	23 41 32.2	-1.3	
WUAZ				IAmb		IAmb	23 41 35.5		
	comp=Z,10nm,1.2s								
WUAZ	**Wupatki**	91.22	47	P		P	23 41 34.3	+0.8	
	baz=310								
B35A	**Bob, Littlefor**	91.31	29	P		P	23 41 34.5	+1.1	
	baz=322								
SMCO	**Snowmass**	91.47	42	P		P	23 41 35.4	+0.5	
SMCO				IAmb		IAmb	23 41 37.0		
	comp=Z,8.8nm,1.0s								
ISCO	**Idaho Springs**	91.82	41	P		P	23 41 35.0	-1.4	

ISCO	**Idaho Springs**	91.82	41	P		P	23 41 37.3	+0.8	
	baz=313								
ISCO	**Idaho Springs**	91.82	41	P		P	23 41 37.2	+0.7	
	baz=313								
ISCO	**Idaho Springs**	91.82	41	P		P	23 41 35.0	-1.4	
ISCO				pmax		pmax			
	comp=Z,8.0nm,1.3s								
X16A	**Lo Mia Camp, P**	91.87	48	P		P	23 41 36.3	-0.3	
MVCO	**Mesa Verde**	91.89	44	P		P	23 41 36.5	-0.2	
MVCO				IAmb		IAmb	23 41 39.7		
	comp=Z,12nm,1.2s								
MVCO	**Mesa Verde**	91.89	44	P		P	23 41 37.4	+0.7	
	baz=312								
F33A	**5 Mile Ranch,**	92.16	32	P		P	23 41 37.0	-0.4	
F33A				IAmb		IAmb	23 41 38.8		
	comp=Z,12nm,0.8s								
F33A	**5 Mile Ranch,**	92.16	32	P		P	23 41 37.7	+0.2	
	baz=320								
TBI	**Tubuai**	92.42	116	eLR		LR	00 11 06.1		
	comp=Z,779nm,29.2s								
S22A	**4UR Ranch, Cre**	92.52	43	P		P	23 41 39.3	-0.3	
S22A				IAmb		IAmb	23 41 41.9		
	comp=Z,15nm,1.5s								
S22A	**4UR Ranch, Cre**	92.52	43	P		P	23 41 40.5	+0.9	
	baz=313								
214A	**Organ Pipe Nat**	92.53	50	P		P	23 41 39.7	+0.2	
214A	**Organ Pipe Nat**	92.53	50	P		P	23 41 40.0	+0.5	
	baz=309								
TAOE	**Nuku Hiva Isla**	92.59	99	eLR		LR	00 11 22.0		
	comp=Z,162nm,23.6s								
Q24A	**Divide**	92.65	41	P		P	23 41 40.5	+0.2	
	baz=314								
OGNE	**Ogallala**	92.97	38	P		P	23 41 41.9	+0.4	
	baz=316								
OGNE	**Ogallala**	92.97	38	P		P	23 41 42.5	+1.1	
	baz=316								
SDCO	**Great Sand Dun**	93.29	42	P		P	23 41 43.1	-0.1	
	baz=313								
SCHQ	**Schefferville**	93.32	11	LR		LR	00 27 00.0		
	comp=Z,604nm,19.0s,baz=1.5,slow=38								
ECSD	**EROS Data Cent**	93.62	33	P		P	23 41 44.4	+0.1	
	baz=320								
TUC	**Tucson**	93.64	49	P		P	23 41 44.7	0.0	
TUC	**Tucson**	93.64	49	P		P	23 41 45.1	+0.5	
	baz=310								
TUC	**Tucson**	93.64	49	P		P	23 41 44.7	0.0	
TUC				pmax		pmax			
	comp=Z,6.0nm,1.1s								
SPMN	**Marine on St.**	94.18	30	P		P	23 41 47.1	+0.4	
	baz=323								
T25A	**Trinidad**	94.33	42	P		P	23 41 48.0	+0.1	
	baz=314								
DUN6	**Lazy B Ranch**	94.57	48	P		P	23 41 49.3	+0.3	
ANMO	**Albuquerque**	94.62	45	P		P	23 41 49.2	-0.1	
ANMO	**Albuquerque**	94.62	45	P		P	23 41 49.7	+0.4	
	baz=313								
ANMO	**Albuquerque**	94.62	45	eP		P	23 41 50.3	+1.0	
ANMO				pmax		pmax			
	comp=Z,4.0nm,1.3s								
KMBO	**Kilima Mbogo**	94.69	271	LR		LR	00 24 23.9		
	comp=Z,282nm,21.8s,baz=90,slow=36								
KEST	**Kesra**	94.80	317	LR		LR	00 30 23.1		
	comp=Z,608nm,20.4s,baz=342,slow=39								
121A	**Cookes Peak, D**	95.42	47	P		P	23 41 53.4	+0.5	
	baz=312								
AMTX	**Amarillo**	97.49	42	P		Pdif	23 42 02.7	+0.4	
	baz=316								
ESDC	**Sonseca Array**	98.96	327	P		Pdif	23 42 08.9	+0.2	
	comp=Z,0.6nm,1.0s,baz=255,slow=20,SNR=2.4								
ESDC				LR		LR	00 33 14.6		
	comp=Z,817nm,18.3s,baz=35,slow=39								
	comp=Z,0.6nm,1.0s								
SADO	**Sadowa**	99.73	22	LR		LR	00 33 05.8		
	comp=Z,160nm,18.2s,baz=354,slow=39								
TXAR	**Lajitas Array**	100.18	47	P		Pdif	23 42 14.5	+0.1	
	comp=Z,0.4nm,0.7s,baz=295,slow=2.0,SNR=4.7								
TORD	**Torodi Ar. Bea**	115.38	305	PKP		PKiKP	23 47 08.6	-1.7	
	comp=Z,0.4nm,0.7s,baz=22,slow=3.1,SNR=2.4								
QSPA	**South Pole Qui**	120.42	180			PKPdf	23 47 18.4	-0.1	
QSPA	**South Pole Qui**	120.42	180	PKP		PKPdf	23 47 18.1	-0.4	
	comp=Z,3.6nm,1.0s,baz=96,slow=0.2,SNR=8.4								
DBIC	**Dimbokro**	124.49	305	PKP		PKPdf	23 47 27.8	-0.1	
	comp=Z,1.9nm,0.7s,baz=246,slow=3.2,SNR=3.6								
ELIB	**Princess Elisa**	124.62	201	dPKPdf		PKPdf	23 47 26.7	+0.1	
SDV	**Santo Domingo**	135.06	33	PKPdf		PKPdf	23 47 48.4	+0.2	
CZSB	**Cruzeiro do Su**	147.50	51			PKPbc	23 48 11.6	-1.1	
PTLB	**Pontes e Lacer**	161.72	37			PKPab	23 49 14.9	+0.2	

*IDC **18** 23:43:28.8±5.5,36.°01N×70.°81E,h103km±59km,mb3.1/2, mbtmp3.6/5,MS3.8/1,Error ellipse: s-maj=53.6km s-min=21.9km az=149.0*
*NNC **18** 23:43:37.9±5.1,36.°60N×70.°86E,h129km±85km,mb2.7, mpv3.2,Error ellipse: s-maj=49.2km s-min=40.4km az=128.0*

ISC 18 23:43:33.8±1.4,36.°3N±0.°1×70.°68E±0.°09,h150km,n11, σ2s34/15,5C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	6.24	21	⇓P	Pn	23 45 02.8	-1.1
	0.2nm,0.3s						
AML				⇑S	Sn	23 46 12.6	-1.9
	0.7nm,0.4s						
KK31	**Karatay Array**	6.76	359	P	Pn	23 45 10.6	+0.1
	1.2nm,0.3s,baz=175,slow=12,SNR=20						
KK31				⇑S	Sn	23 46 25.1	-1.3
	1.0nm,0.3s,baz=189,slow=20,SNR=7.5						
AAK	**Ala-Archa**	6.95	24	P	Pn	23 45 12.7	-0.5
	4.8nm,0.3s,baz=158,slow=4.0,SNR=34						
AAK				S	Sn	23 46 30.3	-0.8
	1.4nm,0.4s,baz=341,slow=22,SNR=8.2						
TKM2	**Tokmak 2**	7.59	28	⇑P	Pn	23 45 23.9	+2.2
	1.9nm,0.5s						
TKM2				⇑S	Sn	23 46 42.3	-4.3
	0.5nm,0.3s						
GEYT	**Alibeck**	10.16	283	P	Pn	23 45 55.1	-0.7
	1.7nm,0.3s,baz=114,slow=12,SNR=7.4						
GEYT				S	Sn	23 47 46.2	-2.1
	0.6nm,0.3s,baz=252,slow=24,SNR=2.4						
AB31	**Akbulak array**	15.10	332	⇑P	P	23 47 01.2	+0.3
	0.8nm,0.5s,baz=151,slow=12,SNR=23						
BVAR	**Borovoye Array**	16.69	359	P	P	23 47 20.7	+2.3
	0.2nm,0.5s,baz=146,slow=10,SNR=2.4						
AKTO	**Aktyubinsk**	16.79	331	⇓P	Pn	23 47 24.2	+4.3
	0.7nm,0.7s						
ZALV	**Zalesovo Beam**	20.17	25	P	P	23 47 58.5	+2.3
	0.5nm,0.4s,baz=213,slow=12,SNR=3.8						
	0.5nm,0.4s						
KLR	**Kul'dur**	45.45	54	LR	LR	00 12 05.8	
	comp=Z,115nm,19.1s,baz=218,slow=38						
WRA	**Warramunga Arr**	82.12	122	P	P	23 55 36.6	-1.3
	0.4nm,0.6s,baz=327,slow=4.9,SNR=6.6						
	0.4nm,0.6s						

*IDC **18** 23:43:54.8±0.8,30.°71N×131.°86E,h0km,mb3.8/10, mbtmp3.8/14,ML3.1/4,Error ellipse: s-maj=25.4km s-min=14.7km az=80.0*
*JMA **18** 23:43:56.4±0.2,30.°7N±0.°4×132.°1E±0.°9,h58km±3km, MV3.1/31,E OFF TANEGASHIMA ISLAND*

ISC 18 23:43:57.7±2.5,30.°69N±0.°05×132.°05E±0.°07,h23km±18km, n28,σ1s38/36,mb3.8/10,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	0.93	268	P	Pn	23 44 14.5	-0.9
JTN				eS	Sb	23 44 28.0	+1.1
JMTN	**Minamitane**	1.04	254	P	Pn	23 44 16.1	-0.8
JMTN				eS	Sb	23 44 30.9	+0.7
JNAR	**Kushima--Naru**	1.07	321	eP	Pn	23 44 16.7	-0.6
JNAR				eS	Sb	23 44 31.7	+0.6
JTSR	**Tashiro 2**	1.08	296	eP	Pn	23 44 16.4	-1.1
JTSR				eS	Sb	23 44 31.7	+0.2
JNKG	**Nichinankitago**	1.13	329	eP	Pn	23 44 17.5	-0.6
JNKG				eS	Sb	23 44 33.0	+0.2
JYAK	**Yakushimahirau**	1.41	252	eP	Pn	23 44 21.0	-1.0
JYAK				eS	Sn	23 44 39.4	-0.4
JTZ	**Takazaki**	1.46	326	eP	Pn	23 44 22.2	-0.5
JTZ				eS	Sn	23 44 41.4	+0.3
JSU	**Suzuyama**	1.59	301	eP	Pn	23 44 24.2	-0.3
JSU				eS	Sb	23 44 44.8	-1.5
JNN	**Nakanoshima**	2.07	246	eS	Sn	23 44 55.3	-0.8
JUI3	**Izumi3**	2.13	331	eP	Pn	23 44 31.6	-0.4
JTO	**Tosashimizu**	2.25	16	eP	Pn	23 44 31.3	-2.3
JTO				eS	Sn	23 44 56.5	-4.1
JNU	**Nakatsue**	2.62	338	Pn	Pn	23 44 39.5	+0.8
	2.9nm,0.3s,baz=192,slow=14,SNR=27						
JNU				Sn	Sn	23 45 10.6	+0.8
	6.9nm,0.3s,baz=184,slow=2.8,SNR=5.2						
	32nm,0.6s						
JOW	**Kunigami**	5.08	222	Pn	Pn	23 45 12.5	0.0
	4.7nm,0.3s,baz=105,slow=19,SNR=15						
JOW				Sn	Sn	23 46 06.7	-3.7
	4.3nm,0.3s,baz=145,slow=27,SNR=8.2						
	9.3nm,0.3s						
MJAR	**Matsushiro Arr**	7.77	40	Pn	Pn	23 45 51.0	+1.6
	0.2nm,0.3s,baz=242,slow=14,SNR=4.6						
	1.3nm,0.4s						
KLR	**Kul'dur**	18.52	359	P	Pn	23 48 13.1	+0.5
	0.1nm,0.3s,baz=132,slow=9.6,SNR=4.9						
	1.8nm,0.8s						
SONM	**Songino Array**	26.04	318	P	P	23 49 28.6	-0.7
	0.5nm,0.8s,baz=137,slow=7.6,SNR=3.9						
	0.5nm,0.8s						
H11N2	**WAKE ISLAND Hy**	33.23	101	T	T	00 25 37.1	
	baz=296						
H11N1	**WAKE ISLAND Hy**	33.24	101	T	T	00 25 36.8	
	baz=296						
H11N3	**WAKE ISLAND Hy**	33.25	101	T	T	00 25 38.3	
	baz=296						
MKAR	**Makanchi Array**	41.29	307	P	P	23 51 40.7	-0.7
	0.7nm,0.8s,baz=94,slow=11,SNR=4.7						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	44.13	313	P	P	23 52 03.6	-0.7
	1.2nm,0.7s,baz=97,slow=8.8,SNR=4.5						
	1.2nm,0.7s						
BVAR	**Borovoye Array**	49.33	315	P	P	23 52 44.7	-0.3
	0.9nm,0.8s,baz=95,slow=8.9,SNR=5.3						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	50.39	177	P	P	23 52 53.6	+0.4
	0.8nm,0.8s,baz=353,slow=8.0,SNR=6.5						
	0.8nm,0.8s						
ASAR	**Alice Springs**	54.08	178	P	P	23 53 21.0	+0.3
	0.8nm,0.9s,baz=11,slow=12,SNR=6.9						
	0.8nm,0.9s						
ILAR	**Eielson Array**	58.92	30	P	P	23 53 56.0	+1.3
	0.5nm,0.7s,baz=300,slow=8.3,SNR=6.8						
	0.5nm,0.7s						
STKA	**Stephens Creek**	62.88	171	P	P	23 54 23.9	+2.0
	1.0nm,0.4s,baz=331,slow=9.6,SNR=4.8						
	1.0nm,0.4s						
FINES	**FINESS Array B**	70.64	331	P	P	23 55 09.6	-1.5
	4.0nm,0.9s,baz=160,slow=6.1,SNR=8.4						
	4.0nm,0.9s						
NVAR	**Mina Array Bea**	85.01	48	P	P	23 56 33.0	+1.2
	0.7nm,0.7s,baz=314,slow=5.6,SNR=5.6						
	0.7nm,0.7s						

*NIED **19** 00:01:25.7,36.°60N×132.°10E,h59km,MW4.4,Moment Tension Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-4.10; $M_{\theta\theta}$1.66; $M_{\phi\phi}$2.43; $M_{r\theta}$-1.58; $M_{\theta\phi}$-0.05; $M_{\phi r}$3.13; Fault plane solution: $M_0$4.77000×10^{15} NP1: ϕ_s158.00000°,δ69.00000°,λ-94.00000°. NP2: ϕ_s348.00000°,δ22.00000°,λ-80.00000°.*
*JMA **19** 00:01:25.7±0.1,30.°6N±0.°4×132.°1E±0.°8,h59km±2km, MV3.5/30,E OFF TANEGASHIMA ISLAND*
*IDC **19** 00:01:28.5±3.4,30.°64N×131.°92E,h35km±28km,mb3.6/11, mbtmp3.9/16,ML3.5/5,MS3.9/3,Error ellipse: s-maj=21.7km s-min=16.1km az=99.0*

ISC 19 00:01:29.7±1.3,30.°65N±0.°05×131.°94E±0.°07,h47km±12km, n38,σ1s41/43,mb3.8/11,MS3.9/3,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	0.83	270	eP	Pn	00 01 43.4	-1.6
JTN				eS	Sn	00 01 57.1	+0.9
JMTN	**Minamitane**	0.93	254	eP	Pn	00 01 44.9	-1.6
JTSR	**Tashiro 2**	1.01	301	P	Pn	00 01 45.9	-1.7
JTSR				eS	Sn	00 02 01.3	+0.6
JNAR	**Kushima--Naru**	1.04	327	*i* P	Pn	00 01 46.2	-1.7
JNAR				S	Sn	00 02 01.2	-0.1
JNKG	**Nichinankitago**	1.11	334	P	Pn	00 01 47.3	-1.6
JNKG				eS	Sn	00 02 02.9	-0.2
JYAK	**Yakushimahirau**	1.30	252	eP	Pn	00 01 49.5	-2.0
JYAK				eS	Sn	00 02 08.2	+0.5
JTZ	**Takazaki**	1.44	330	eP	Pn	00 01 51.9	-1.5
JTZ				eS	Sn	00 02 11.0	-0.1
JSU	**Suzuyama**	1.53	304	P	Pn	00 01 53.6	-1.0
JTSN	**Tsuno**	1.63	347	*i* P	Pn	00 01 53.8	-2.1
JTSN				eS	Sn	00 02 14.8	-1.0
JNN	**Nakanoshima**	1.96	246	eP	Pn	00 01 59.1	-1.4
JNN				eS	Sn	00 02 23.7	-0.2
JIU3	**Izumi3**	2.12	333	P	Pn	00 02 01.5	-1.1
JNU	**Nakatsue**	2.62	340	P	Pn	00 02 08.7	-0.9
JNU	**Nakatsue**	2.62	340	Pn	Pn	00 02 08.4	-1.1
	16nm,0.3s,baz=195,slow=5.0,SNR=71						
JNU				Sn	Sn	00 02 41.0	+0.8
	20nm,0.3s,baz=336,slow=19,SNR=9.0						
	47nm,0.4s						
JMN	**Monobe**	3.48	28	P	Pn	00 02 18.2	-3.1
JTU	**Tsushima**	4.42	332	P	Pn	00 02 31.0	-3.1
JMZ	**Minamidaito 2**	4.86	188	P	Pn	00 02 41.0	+0.8
JOW	**Kunigami**	4.99	221	P	Pn	00 02 41.0	-1.0
JOW	**Kunigami**	4.99	221	Pn	Pn	00 02 40.5	-1.6
	3.9nm,0.3s,baz=95,slow=20,SNR=8.1						
JOW

E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.73**	**268**	S	Sn	00 03 35.4	-0.2
JMST	**Minamisoumatoc**	**0.79**	**295**	P	Pn	00 03 26.7	+0.3
JMST				S	Sn	00 03 36.9	-0.1
ONAJ	**Iwakimizuishiy**	**0.84**	**250**	P	Pn	00 03 27.5	+0.3
ONAJ				S	Sn	00 03 38.0	-0.4
JMM	**Marumori**	**0.92**	**301**	P	Sn	00 03 40.7	+0.5
JMM	**Marumori**	**0.92**	**301**	*eP*	Pn	00 03 28.7	+0.5
JMM				*eS*	Sn	00 03 40.6	+0.4
JOU	**Okura**	**1.32**	**318**	*eS*	Sn	00 03 52.0	+1.9

PGC ***19*** *00:10:15.9±0.0, 59°.85N×136°.74W, h5km, mb4.1, ML4.4/32, Mw4.3, 109km southeast of Haines Jct., Yt Southeastern Alaska*

NEIC ***19*** *00:10:15.9, 59°.85N×136°.74W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.94; $M_{\theta\theta}$0.29; $M_{\phi\phi}$-1.59; $M_{r\theta}$1.16; $M_{\theta\phi}$0.92; $M_{\phi r}$-2.76; Fault plane solution: $M_0$3.90000×10^{15} NP1:ϕ_s157.00000°, δ70.00000°, λ90.00000°. NP2:ϕ_s338.00000°, δ20.00000°, λ91.00000°. Principal axes: T 3.8153, Plg65.0000°, Azm67.0000°; N 0.1171, Plg0.0000°, Azm157.0000°; P -3.9324, Plg25.0000°, Azm248.0000°;*

AEIC ***19*** *00:10:15.0±1.9, 59°.85N±0°.01×136°.74W±0°.02, h3km±2km Error ellipse: s-maj=2.2km s-min=1.6km az=204.0*

ANF ***19*** *00:10:15.5±0.1, 59°.85N×136°.71W, h5km, ML4.5/54, Error ellipse: s-maj=1.3km s-min=1.0km az=26.0*

NEIC ***19*** *00:10:16.9, 59°.90N×136°.67W, h10km*

NEIC ***19*** *00:10:16.3±2.0, 59°.841N±0°.007×136°.73W±0°.02, h10km±1km, mb4.1/36, ML4.2/131, Mwr4.0/54, ML4.1(AEIC), Mwr4.3(OTT), Error ellipse: s-maj=2.4km s-min=1.9km az=323.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.01; $M_{\theta\theta}$0.11; $M_{\phi\phi}$-1.12; $M_{r\theta}$0.23; $M_{\theta\phi}$0.66; $M_{\phi r}$-0.35; Fault plane solution: $M_0$1.33000×10^{15} NP1:ϕ_s342.66000°, δ35.85000°, λ99.31000°. NP2: ϕ_s151.23000°, δ54.70000°, λ83.34000°. Principal axes: T 1.0857, Plg79.0000°, Azm36.0000°; N 0.3910, Plg5.0000°, Azm155.0000°; P -1.4767, Plg9.0000°, Azm246.0000°;*

IDC ***19*** *00:10:16.0±0.6, 59°.97N×136°.60W, h0km, mb3.9/16, mbtmp3.9/23, ML3.8/7, MS3.9/2 Error ellipse: s-maj=12.2km s-min=7.1km az=45.0*

ISC 19 00:10:16.3±0.4, 59°.85N±0°.01×136°.72W±0°.01, h10km, n547, σ1$85/666, mb4.1/28, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P30M	**Million Dollar**	**0.30**	**336**		**Pg**	**00 10 21.3**	**-1.1**
P30M					**Sg**	**00 10 25.7**	**-0.7**
P30M				IAML		00 10 26.3	
	comp=E,27μm,0.6s						
P30M	**Million Dollar**	**0.30**	**336**		**Pg**	**00 10 21.4**	**-0.9**
P30M					**Sg**	**00 10 25.6**	**-0.8**
P30M	**Million Dollar**	**0.30**	**336**	P	**Pg**	**00 10 21.4**	**-0.9**
	baz=157						
P30M				S	**Sg**	**00 10 25.5**	**-0.9**
	baz=157						
P30M	**Million Dollar**	**0.30**	**336**	P	**Pg**	**00 10 21.4**	**-0.9**
P30M				S	**Sg**	**00 10 25.6**	**-0.8**
P29M	**Windy Craggy**	**0.56**	**248**		**Pg**	**00 10 25.7**	**-1.4**
P29M				Sg	**Sg**	**00 10 33.3**	**-1.2**
P29M	**Windy Craggy**	**0.56**	**248**	P	**Pg**	**00 10 25.8**	**-1.4**
	baz=66						
P29M				S	**Sg**	**00 10 33.3**	**-1.2**
	baz=66						
P29M	**Windy Craggy**	**0.56**	**248**	P	**Pg**	**00 10 25.8**	**-1.4**
P29M				S	**Sg**	**00 10 33.2**	**-1.2**
SKAG	**Skagway**	**0.81**	**118**		**Pg**	**00 10 30.6**	**-1.1**
SKAG					**Sg**	**00 10 41.6**	**-0.6**
SKAG	**Skagway**	**0.81**	**118**	P	**Pg**	**00 10 30.8**	**-1.0**
SKAG	**Skagway**	**0.81**	**118**	P	**Pg**	**00 10 30.8**	**-1.0**
	baz=300,SNR=738						
SKAG				S	**Sg**	**00 10 41.6**	**-0.6**
	baz=300						
O30N	**Mendenhall**	**0.98**	**18**		**Pg**	**00 10 33.7**	**-1.3**
O30N					**Sg**	**00 10 46.6**	**-1.2**
O30N				IAML		00 10 47.5	
	comp=E,11μm,0.8s						
O30N	**Mendenhall**	**0.98**	**18**	P	**Pg**	**00 10 33.8**	**-1.3**
	baz=199,SNR=1000						
O30N				S	**Sg**	**00 10 46.7**	**-1.1**
	baz=199						
YUK7	**Dusty Glacier**	**0.99**	**315**		**Pg**	**00 10 32.9**	**-2.4**
YUK7					**Sg**	**00 10 46.4**	**-1.7**
YUK7	**Dusty Glacier**	**0.99**	**315**		**Pg**	**00 10 33.1**	**-2.2**
YUK7					**Sg**	**00 10 46.6**	**-1.5**
YUK7	**Dusty Glacier**	**0.99**	**315**	P	**Pg**	**00 10 33.1**	**-2.2**
YUK7				S	**Sg**	**00 10 46.6**	**-1.5**
O29M	**Mount Kennedy**	**1.04**	**297**		**Pg**	**00 10 33.8**	**-2.3**
O29M	**Mount Kennedy**	**1.04**	**297**		**Sg**	**00 10 48.4**	**-1.3**
O29M				IAML		00 10 52.1	
	comp=E,7μm,0.5s						
O29M	**Mount Kennedy**	**1.04**	**297**	P	**Pg**	**00 10 33.9**	**-2.3**
	baz=115						
O29M				S	**Sg**	**00 10 47.6**	**-2.1**
	baz=115						
O29M	**Mount Kennedy**	**1.04**	**297**	P	**Pg**	**00 10 33.8**	**-2.3**
O29M				S	**Sg**	**00 10 47.3**	**-2.4**
HYT	**Haines Junctio**	**1.06**	**339**	Pg	**Pg**	**00 10 34.1**	**-2.5**
HYT	**Haines Junctio**	**1.06**	**339**		**Pg**	**00 10 34.0**	**-2.5**
HYT					**Sg**	**00 10 48.1**	**-2.2**
HYT	**Haines Junctio**	**1.06**	**339**	P	**Pg**	**00 10 34.0**	**-2.5**
	baz=158,SNR=1000						
HYT				S	**Sg**	**00 10 49.4**	**-0.9**
	baz=158						
HYT	**Haines Junctio**	**1.06**	**339**	P	**Pg**	**00 10 34.0**	**-2.5**
HYT				S	**Sg**	**00 10 48.1**	**-2.2**
WHY	**Whitehorse**	**1.23**	**48**	Pn	**Pn**	**00 10 38.3**	**-1.3**
WHY					**Sb**	**00 10 55.4**	**-0.1**
WHY				IAML		00 10 58.7	
	comp=N,6μm,0.7s						
WHY				IAML		00 10 59.1	
	comp=E,6μm,0.7s						
WHY	**Whitehorse**	**1.23**	**48**		**Pn**	**00 10 38.3**	**-1.3**
WHY					**Sb**	**00 10 54.5**	**-1.0**
WHY	**Whitehorse**	**1.23**	**48**	P	**Pn**	**00 10 38.3**	**-1.3**
	baz=230,SNR=1000						
WHY				S	**Sb**	**00 10 54.6**	**-0.9**
	baz=230						
WHY	**Whitehorse**	**1.23**	**48**	P	**Pn**	**00 10 38.3**	**-1.3**
WHY				S	**Sb**	**00 10 54.5**	**-1.0**
PNL	**Peninsula**	**1.37**	**264**		**Sg**	**00 11 00.5**	**+0.4**
PNL	**Peninsula**	**1.37**	**264**	Pn	**Pn**	**00 10 40.0**	**-1.4**
PNL				Sg	**Sb**	**00 10 58.5**	**-0.9**
PNL	**Peninsula**	**1.37**	**264**	P	**Pn**	**00 10 39.9**	**-1.4**
PNL	**Peninsula**	**1.37**	**264**	P	**Pn**	**00 10 39.9**	**-1.4**
	baz=81,SNR=1000						
PNL				S	**Sb**	**00 10 58.8**	**-0.7**
	baz=81						
PNL	**Peninsula**	**1.37**	**264**	Pn	**Pn**	**00 10 40.0**	**-1.4**
PNL				Sg	**Sb**	**00 10 58.5**	**-0.9**
YUK6	**Outpost Mounta**	**1.37**	**324**		**Pn**	**00 10 39.5**	**-2.1**
YUK6					**Sb**	**00 10 58.6**	**-1.1**
YUK6	**Outpost Mounta**	**1.37**	**324**	Pn	**Pn**	**00 10 39.8**	**-1.8**
YUK6				Sg	**Sb**	**00 10 57.7**	**-2.0**
YUK6	**Outpost Mounta**	**1.37**	**324**	P	**Pn**	**00 10 39.6**	**-2.1**
	baz=143,SNR=1000						
YUK6				S	**Sb**	**00 10 58.7**	**-1.1**
	baz=143						
YUK6	**Outpost Mounta**	**1.37**	**324**	Pn	**Pn**	**00 10 39.8**	**-1.8**
YUK6				Sg	**Sb**	**00 10 57.7**	**-2.0**
YUK5	**Granite Creek**	**1.41**	**337**		**Pn**	**00 10 40.2**	**-1.9**
YUK5	**Granite Creek**	**1.41**	**337**	Pn	**Pn**	**00 10 40.2**	**-1.9**
YUK5				Sg	**Sb**	**00 10 59.0**	**-1.8**
YUK5	**Granite Creek**	**1.41**	**337**	Pn	**Pn**	**00 10 40.2**	**-1.9**
YUK5				Sg	**Sb**	**00 10 59.0**	**-1.8**
BCPM	**Bancas Point**	**1.47**	**275**		**Pg**	**00 10 44.7**	**+0.3**
R31K	**City Hall, Gus**	**1.52**	**160**		**Pn**	**00 10 43.0**	**-0.5**
R31K					**Sb**	**00 11 03.7**	**-0.2**
R31K	**City Hall, Gus**	**1.52**	**160**	P	**Pn**	**00 10 43.3**	**-0.2**
	baz=341,SNR=6.9						
R31K				S	**Sb**	**00 11 03.7**	**-0.2**
	baz=341						
YKU2	**Yakutat**	**1.54**	**259**	Pn	**Pn**	**00 10 43.2**	**-0.4**
YKU2	**Yakutat**	**1.54**	**259**	P	**Pb**	**00 10 44.7**	**0.0**
P32M	**Atlin**	**1.54**	**98**		**Pn**	**00 10 43.6**	**-0.3**
P32M					**Sn**	**00 11 03.8**	**-0.1**
P32M					IAML	00 11 08.4	
	comp=N,4μm,0.8s						
P32M					IAML	00 11 08.7	
	comp=E,3μm,0.7s						
P32M	**Atlin**	**1.54**	**98**	Pn	**Pn**	**00 10 43.7**	**-0.1**
P32M					**Sn**	**00 11 03.2**	**-0.7**
P32M	**Atlin**	**1.54**	**98**	P	**Pn**	**00 10 43.5**	**-0.3**
	baz=281,SNR=1000						
P32M				S	**Sn**	**00 11 04.2**	**+0.3**
	baz=281						
P32M	**Atlin**	**1.54**	**98**	Pn	**Pn**	**00 10 43.7**	**-0.1**
P32M				Sg	**Sn**	**00 11 03.2**	**-0.7**
BESE	**Bessie Mountai**	**1.59**	**142**		**Pn**	**00 10 43.6**	**-1.0**
BESE	**Bessie Mountai**	**1.59**	**142**		**Sn**	**00 11 05.0**	**-0.2**
BESE	**Bessie Mountai**	**1.59**	**142**	Pn	**Pn**	**00 10 43.8**	**-0.8**
BESE				Sg	**Sn**	**00 11 05.0**	**-0.2**
N30M	**Aishikik Lake**	**1.63**	**354**		**Pn**	**00 10 44.7**	**-0.3**
N30M				Sg	**Sb**	**00 11 07.9**	**+0.9**
N30M				IAML		00 11 11.3	
	comp=E,4μm,1.1s						
N30M				IAML		00 11 12.5	
	comp=N,3μm,0.5s						
N30M	**Aishikik Lake**	**1.63**	**354**	Pn	**Pn**	**00 10 44.8**	**-0.3**
N30M					**Sn**	**00 11 05.9**	**-0.2**
N30M	**Aishikik Lake**	**1.63**	**354**	P	**Pn**	**00 10 44.8**	**-0.3**
	baz=174						
N30M				S	**Sn**	**00 11 06.7**	**+0.6**
	baz=174						
N30M	**Aishikik Lake**	**1.63**	**354**	Pn	**Pn**	**00 10 44.8**	**-0.3**
N30M				Sg	**Sn**	**00 11 05.9**	**-0.2**
N31M	**Braeburn, Yuko**	**1.71**	**15**		**Pn**	**00 10 46.3**	**+0.1**
N31M				Sg	**Sg**	**00 11 10.8**	**-0.3**
N31M	**Braeburn, Yuko**	**1.71**	**15**	P	**Pn**	**00 10 46.2**	**+0.1**
	baz=196,SNR=1000						
N31M				S	**Sb**	**00 11 09.6**	**+0.3**
	baz=196						
N31M	**Braeburn, Yuko**	**1.71**	**15**	Pn	**Pn**	**00 10 46.5**	**+0.4**
N31M				Sg	**Sb**	**00 11 09.5**	**+0.3**
YUK4	**Talbot Arm**	**1.78**	**329**	Pn	**Pn**	**00 10 47.6**	**+0.4**
YUK4				Sg	**Sb**	**00 11 12.4**	**+1.0**
YUK4	**Talbot Arm**	**1.78**	**329**	P	**Pn**	**00 10 47.6**	**+0.4**
	baz=150,SNR=1000						
YUK4				S	**Sb**	**00 11 12.2**	**+0.8**
	baz=150						
YUK4	**Talbot Arm**	**1.78**	**329**	Pn	**Pn**	**00 10 47.6**	**+0.4**
YUK4				Sg	**Sb**	**00 11 12.4**	**+1.0**
PINM	**Pinnacle**	**1.79**	**280**	P	**Pn**	**00 10 46.6**	**-0.7**
	baz=96,SNR=796						
PINM				S	**Sb**	**00 11 11.9**	**+0.1**
	baz=96						
PCA	**Pinnacle**	**1.80**	**280**		**Pn**	**00 10 46.7**	**-0.7**
PCA	**Pinnacle**	**1.80**	**280**	Pn	**Pn**	**00 10 46.8**	**-0.5**
PCA				Sg	**Sb**	**00 11 11.8**	**0.0**
S31K	**Pelican**	**1.91**	**172**		**Pn**	**00 10 48.7**	**0.0**
S31K				IAML		00 11 16.4	
	comp=E,2μm,0.8s						
S31K				IAML		00 11 16.5	
	comp=N,2μm,0.7s						
S31K	**Pelican**	**1.91**	**172**	P	**Pn**	**00 10 48.4**	**-0.4**
	baz=352,SNR=629						
S31K				S	**Sn**	**00 11 13.4**	**+0.6**
	baz=352						
R32K	**Eaglecrest**	**1.94**	**143**		**Pn**	**00 10 48.6**	**-0.7**
R32K				Sg	**Sg**	**00 11 19.2**	**+0.5**
R32K	**Eaglecrest**	**1.94**	**143**	P	**Pn**	**00 10 48.4**	**-0.9**
	baz=325,SNR=208						
R32K				Sb	**Sb**	**00 11 16.6**	**+0.6**
	baz=325						
JIS	**Juneau Island**	**1.98**	**142**		**Pn**	**00 10 48.8**	**-1.0**
JIS				Sg	**Sg**	**00 11 19.1**	**-0.8**
JIS				IAML		00 11 22.5	
	comp=E,2μm,0.6s						
JIS				IAML		00 11 26.4	
	comp=N,2μm,0.7s						
JIS	**Juneau Island**	**1.98**	**142**	P	**Pn**	**00 10 50.9**	**+1.1**
P33M	**Teslin, Yukon**	**1.99**	**78**	Pn	**Pn**	**00 10 48.7**	**-1.4**
P33M					**Sb**	**00 11 18.6**	**+1.1**
P33M					**Sg**	**00 11 18.9**	**-1.4**
P33M				IAML		00 11 19.4	
	comp=N,3μm,0.8s						
P33M				IAML		00 11 20.5	
	comp=E,1μm,0.7s						
P33M	**Teslin, Yukon**	**1.99**	**78**	Pn	**Pn**	**00 10 49.4**	**-0.7**
P33M				Sg	**Sb**	**00 11 18.3**	**+0.8**
P33M	**Teslin, Yukon**	**1.99**	**78**	P	**Pn**	**00 10 49.3**	**-0.7**
	baz=261,SNR=1000						
P33M				Sb	**Sb**	**00 11 18.3**	**+0.8**
	baz=261						
P33M	**Teslin, Yukon**	**1.99**	**78**	Pn	**Pn**	**00 10 49.4**	**-0.7**
P33M				Sg	**Sb**	**00 11 18.3**	**+0.8**
SAMH	**Samovar Hills**	**2.06**	**280**	Pn	**Pn**	**00 10 51.2**	**+0.2**
SAMH				Sg	**Sb**	**00 11 18.8**	**-0.7**
SAMH	**Samovar Hills**	**2.06**	**280**	Pn	**Pn**	**00 10 51.2**	**+0.2**
SAMH				Sg	**Sb**	**00 11 18.8**	**-0.7**
YUK8	**Steele Glacier**	**2.08**	**315**	Pn	**Pn**	**00 10 51.1**	**-0.3**
YUK8				Sg	**Sb**	**00 11 20.6**	**+0.3**
YUK8	**Steele Glacier**	**2.08**	**315**	P	**Pn**	**00 10 51.0**	**-0.5**
	baz=132,SNR=616						
YUK8				Sb	**Sg**	**00 11 21.9**	**-1.3**
	baz=132						
YUK8	**Steele Glacier**	**2.08**	**315**	Pn	**Pn**	**00 10 51.1**	**-0.3**
YUK8				Sg	**Sb**	**00 11 20.6**	**+0.3**
N32M	**Quiet Lake**	**2.23**	**52**		**Pn**	**00 10 53.2**	**0.0**
N32M	**Quiet Lake**	**2.23**	**52**	Pn	**Pn**	**00 10 53.3**	**+0.1**
N32M				Sg	**Sb**	**00 11 24.6**	**+0.4**
N32M	**Quiet Lake**	**2.23**	**52**	P	**Pn**	**00 10 53.2**	**0.0**
	baz=236						
N32M				Sb	**Sb**	**00 11 25.4**	**+1.2**
	baz=236						
N32M	**Quiet Lake**	**2.23**	**52**	Pn	**Pn**	**00 10 53.3**	**+0.1**
N32M				Sg	**Sb**	**00 11 24.6**	**+0.4**
TABL	**Table Mountain**	**2.29**	**287**	Pn	**Pn**	**00 10 53.6**	**-0.7**
TABL				Sg	**Sg**	**00 11 29.6**	**-0.2**
TABL				IAML		00 11 33.4	
	comp=N,2μm,1.2s						
TABL	**Table Mountain**	**2.29**	**287**	Pn	**Pn**	**00 10 53.7**	**-0.6**
TABL				Sg	**Sb**	**00 11 25.2**	**-1.0**
LOGN	**Logan Glacier**	**2.34**	**297**		**Pn**	**00 10 54.9**	**-0.1**
LOGN	**Logan Glacier**	**2.34**	**297**	IAML		00 11 32.7	
	comp=E,1μm,0.8s						
LOGN				IAML		00 11 35.7	
	comp=N,1μm,0.9s						
LOGN	**Logan Glacier**	**2.34**	**297**	Pn	**Pn**	**00 10 54.5**	**-0.4**
LOGN				Sg	**Sb**	**00 11 26.0**	**-1.7**
Q32M	**Nakina River**	**2.44**	**109**	Pn	**Pn**	**00 10 56.1**	**-0.2**
Q32M				Sg	**Sg**	**00 11 33.0**	**-1.7**
Q32M	**Nakina River**	**2.44**	**109**	IAML		00 11 39.9	
	comp=N,2μm,1.2s						
Q32M				IAML		00 11 40.1	
	comp=E,2μm,0.7s						
Q32M	**Nakina River**	**2.44**	**109**	P	**Pn**	**00 10 56.1**	**-0.2**
	baz=293						
Q32M	**Nakina River**	**2.44**	**109**	Pn	**Pn**	**00 10 56.1**	**-0.2**
Q32M				Sg	**Sg**	**00 11 33.0**	**-1.7**
CTGM	**Chitina Glacie**	**2.55**	**298**	Pn	**Pn**	**00 10 57.6**	**-0.2**
CTGM	**Chitina Glacie**	**2.55**	**298**	IAML		00 11 37.7	
	comp=N,835nm,1.1s						
CTGM				IAML		00 11 42.2	
	comp=E,879nm,1.0s						
CTGM	**Chitina Glacie**	**2.55**	**298**	Pn	**Pn**	**00 10 57.7**	**0.0**
CTGM				Sg	**Sb**	**00 11 33.6**	**0.0**
CTG	**Chitna Glacier**	**2.55**	**298**	P	**Pn**	**00 10 57.7**	**-0.1**
	baz=114,SNR=169						
M31M	**Drury Creek, Y**	**2.62**	**25**		**Pn**	**00 10 58.5**	**-0.2**
M31M				IAML		00 11 38.7	
	comp=N,1μm,0.4s						
M31M	**Drury Creek, Y**	**2.62**	**25**	Pn	**Pn**	**00 10 59.1**	**+0.5**
M31M				Sg	**Sb**	**00 11 36.7**	**+1.2**
M31M	**Drury Creek, Y**	**2.62**	**25**	P	**Pn**	**00 10 58.8**	**+0.2**
	baz=207,SNR=218						
M31M				Sb	**Sb**	**00 11 36.8**	**+1.2**
	baz=207						
M31M	**Drury Creek, Y**	**2.62**	**25**	Pn	**Pn**	**00 10 59.1**	**+0.5**
M31M				Sg	**Sb**	**00 11 36.7**	**+1.2**
S32K	**Killisnoo**	**2.63**	**154**		**Pn**	**00 10 58.2**	**-0.5**
S32K	**Killisnoo**	**2.63**	**154**	P	**Pn**	**00 10 57.9**	**-0.8**
	baz=336						
S32K				Sb	**Sb**	**00 11 37.2**	**+1.3**
	baz=336						
MESA	**MESA**	**2.65**	**279**		**Pn**	**00 10 59.1**	**0.0**
MESA				IAML		00 11 45.9	
	comp=N,1μm,0.7s						
MESA				IAML		00 11 46.5	
	comp=E,1μm,0.8s						
MESA	**MESA**	**2.65**	**279**	P	**Pn**	**00 10 58.5**	**-0.7**
	baz=95,SNR=55						
MESA	**MESA**	**2.65**	**279**	Pn	**Pn**	**00 10 59.0**	**-0.2**
YUK3	**Moose Creek**	**2.67**	**318**	Pn	**Pn**	**00 10 58.8**	**-0.6**
YUK3				Sg	**Sb**	**00 11 39.2**	**+2.2**
YUK3	**Moose Creek**	**2.67**	**318**	P	**Pn**	**00 10 58.4**	**-1.0**
	baz=135,SNR=83						
YUK3				Sb	**Sb**	**00 11 38.9**	**+2.0**
	baz=135						
YUK3	**Moose Creek**	**2.67**	**318**	Pn	**Pn**	**00 10 58.8**	**-0.6**
YUK3				Sg	**Sb**	**00 11 39.2**	**+2.2**
BARN	**Barnard Glacie**	**2.73**	**299**		**Pn**	**00 11 00.1**	**-0.3**
BARN				IAML		00 11 43.7	
	comp=E,829nm,0.6s						
M29M	**Somme Creek**	**2.74**	**343**		**Pn**	**00 11 00.3**	**0.0**
M29M				IAML		00 11 53.8	
	comp=E,970nm,0.8s						
M29M				IAML		00 11 55.6	
	comp=N,743nm,0.8s						
M29M	**Somme Creek**	**2.74**	**343**	P	**Pn**	**00 11 00.3**	**0.0**
	baz=161,SNR=350						
M29M	**Somme Creek**	**2.74**	**343**	Pn	**Pn**	**00 11 00.4**	**0.0**
M29M				Sg	**Sb**	**00 11 40.0**	**+1.0**
M30M	**Minto, Yukon**	**2.74**	**359**	Pn	**Pn**	**00 10 59.7**	**-0.6**
M30M				IAML		00 11 42.2	
	comp=E,1μm,0.8s						
M30M	**Minto, Yukon**	**2.74**	**359**	Pn	**Pn**	**00 10 60.0**	**-0.3**
M30M				Sg	**Sb**	**00 11 40.6**	**+1.7**
M30M	**Minto, Yukon**	**2.74**	**359**	P	**Pn**	**00 10 59.8**	**-0.5**
	baz=179,SNR=142						
M30M				Sb	**Sb**	**00 11 40.7**	**+1.7**
	baz=179						
M30M	**Minto, Yukon**	**2.74**	**359**	Pn	**Pn**	**00 10 60.0**	**-0.3**
M30M				Sg	**Sb**	**00 11 40.6**	**+1.7**
YUK2	**White River**	**2.81**	**316**	Pn	**Pn**	**00 11 00.6**	**-0.6**
YUK2	**White River**	**2.81**	**316**	Pn	**Pn**	**00 11 00.6**	**-0.6**
SIT	**Sitka**	**2.89**	**165**		**Pn**	**00 11 03.4**	**+1.1**
SIT	**Sitka**	**2.89**	**165**	P	**Pn**	**00 11 04.1**	**+1.8**
SIT	**Sitka**	**2.89**	**165**	P	**Pn**	**00 11 02.5**	**+0.2**
	baz=346						
SIT				Sb	**Sb**	**00 11 45.0**	**+1.7**
	baz=346						
FARO	**Faro, Yukon**	**2.90**	**33**	Pn	**Pn**	**00 11 02.4**	**-0.1**
FARO				Pg	**Pg**	**00 11 10.6**	**-1.2**
FARO	**Faro, Yukon**	**2.90**	**33**	Pn	**Pn**	**00 11 03.3**	**+0.8**
FARO				Sg	**Sb**	**00 11 45.5**	**+2.0**
FARO	**Faro, Yukon**	**2.90**	**33**	P	**Pn**	**00 11 02.8**	**+0.3**
	baz=216						
FARO				Sb	**Sb**	**00 11 45.7**	**+2.2**
	baz=216						
FARO	**Faro, Yukon**	**2.90**	**33**	Pn	**Pn**	**00 11 03.3**	**+0.8**
FARO				Sg	**Sb**	**00 11 45.5**	**+2.0**
ISLE	**Juniper Island**	**2.90**	**288**		**Pn**	**00 11 02.5**	**-0.1**
ISLE				Pg	**Pg**	**00 11 10.3**	**-1.6**
ISLE				IAML		00 11 54.7	
	comp=N,906nm,1.4s						
ISLE				IAML		00 11 55.6	
	comp=E,1μm,0.8s						
R33M	**Jennings River**	**2.96**	**96**	Pn	**Pn**	**00 11 03.2**	**-0.1**
R33M	**Jennings River**	**2.96**	**96**	Pn	**Pn**	**00 11 03.0**	**-0.3**
R33M				Sn	**Sn**	**00 11 39.3**	**+0.4**
R33M				Sg	**Sg**	**00 11 48.8**	**-2.4**
R33M	**Jennings River**	**2.96**	**96**	P	**Pn**	**00 11 03.1**	**-0.3**
	baz=282,SNR=191						
R33M				S	**Sn**	**00 11 39.3**	**+0.4**
	baz=282						
R33M	**Jennings River**	**2.96**	**96**	Pn	**Pn**	**00 11 03.0**	**-0.3**
R33M				Sn	**Sn**	**00 11 39.3**	**+0.4**
R33M				Sg	**Sg**	**00 11 48.8**	**-2.4**
KIAG	**Kiagna River**	**3.00**	**294**	Pn	**Pn**	**00 11 03.5**	**-0.5**
KIAG	**Kiagna River**	**3.00**	**294**	Pn	**Pn**	**00 11 03.5**	**-0.5**
SNH	**Sunshine Point**	**3.09**	**279**		**Pn**	**00 11 05.0**	**-0.1**
SNH				IAML		00 11 52.6	
	comp=N,794nm,1.0s						
SNH				IAML		00 12 10.9	
	comp=E,616nm,1.2s						
WAX	**Waxell Ridge**	**3.13**	**284**		**Pn**	**00 11 05.9**	**+0.3**
WAX				IAML		00 12 01.3	
	comp=E,939nm,0.8s						
PTPK	**Patty Peak**	**3.14**	**298**	Pn	**Pn**	**00 11 06.1**	**+0.2**
PTPK				Sg	**Sb**	**00 11 51.9**	**+1.2**
PTPK	**Patty Peak**	**3.14**	**298**	Pn	**Pn**	**00 11 06.1**	**+0.2**
PTPK				Sg	**Sb**	**00 11 51.9**	**+1.2**
TGL	**Tana Glacier**	**3.17**	**289**		**Pn**	**00 11 06.0**	**-0.3**
TGL				IAML		00 12 02.0	
	comp=N,532nm,1.1s						
BVCY	**Beaver Creek**	**3.27**	**324**		**Pn**	**00 11 06.7**	**-0.8**
BVCY	**Beaver Creek**	**3.27**	**324**	Pn	**Pn**	**00 11 06.4**	**-1.1**
BVCY				Sg	**Sg**	**00 11 58.2**	**-2.8**
BVCY	**Beaver Creek**	**3.27**	**324**	P	**Pn**	**00 11 06.3**	**-1.1**
	baz=140,SNR=25						
BVCY				S	**Sn**	**00 11 47.6**	**+1.2**
	baz=140						
BVCY	**Beaver Creek**	**3.27**	**324**	Pn	**Pn**	**00 11 06.4**	**-1.1**
BVCY				Sg	**Sg**	**00 11 58.2**	**-2.8**
CRQE	**Cirque**	**3.30**	**289**	P	**Pn**	**00 11 07.5**	**-0.6**
	baz=103						
KHIT	**Khitrov Hills**	**3.32**	**283**		**Pn**	**00 11 08.0**	**-0.3**
CRQM	**Cirque**	**3.32**	**289**		**Pn**	**00 11 07.7**	**-0.7**
CRQM				IAML		00 12 05.1	
	comp=E,635nm,1.0s						
CRQM				IAML		00 12 05.5	
	comp=N,809nm,1.0s						
GRIN	**Grindle Hills**	**3.34**	**280**		**Pn**	**00 11 10.2**	**+1.8**
L29M	**L29M**	**3.34**	**349**		**Pn**	**00 11 08.8**	**+0.2**
L29M	**L29M**	**3.34**	**349**	Pn	**Pn**	**00 11 08.5**

KAIM IAML 00 12 39.6
comp=N,279nm,1.4s
KAIM IAML 00 12 40.9
comp=E,304nm,1.5s
KAIM Kayak Island 3.88 275 P Pn 00 11 15.6 -0.3
baz=88
M26K Nabesna, AK 3.98 313 Pn Pn 00 11 17.4 +0.1
M26K Nabesna, AK 3.98 313 P Pn 00 11 16.9 -0.4
baz=127,SNR=56
WTLY Watson Lake, Y 3.99 83 Sg Sg 00 12 20.8 -3.5
WTLY Watson Lake, Y 3.99 83 Sg Sg 00 12 20.8 -3.5
RAGM Ragged Mountai 4.02 281 Pn 00 11 18.0 +0.2
RAGM Ragged Mountai 4.02 281 IAML 00 12 27.3
comp=E,475nm,1.1s
K29M Barlow Dome 4.03 355 Pn Pn 00 11 18.7 +0.7
K29M Barlow Dome 4.03 355 P Pn 00 11 17.9 -0.2
baz=174
K29M Barlow Dome 4.03 355 Pn Pn 00 11 18.3 +0.3
K29M Sg Sb **00 12 20.8 +4.8**
BCAR Beaver Creek A 4.04 325 Pn Pn 00 11 17.9 -0.2
L27K Beaver Creek, 4.05 325 Pn Pn 00 11 18.5 +0.2
L27K Beaver Creek, 4.05 325 Pn Pn 00 11 18.0 -0.3
L27K Sg Sg **00 12 22.4 -3.8**
L27K Beaver Creek, 4.05 325 P Pn 00 11 17.8 -0.5
baz=140
L27K Beaver Creek, 4.05 325 Pn Pn 00 11 18.0 -0.3
L27K Sg Sg **00 12 22.4 -3.8**
GOAT Goat Mountain 4.06 284 Pn 00 11 18.6 +0.1
BMRM Bremner River 4.07 289 Pn 00 11 17.9 -0.6
BMRM Bremner River 4.07 289 P Pn 00 11 18.1 -0.5
baz=102
WRAK Wrangell Islan 4.14 144 Pn Pn 00 11 18.7 -0.8
WRAK Wrangell Islan 4.14 144 Pn Pn 00 11 19.4 -0.1
WRAK IAML 00 12 39.3
comp=E,392nm,0.7s
WRAK IAML 00 12 49.0
comp=E,389nm,0.7s
WRAK Wrangell Islan 4.14 144 P Pn 00 11 19.3 -0.1
baz=328
WRAK Wrangell Islan 4.14 144 Pn Pn 00 11 18.6 -0.9
U33K Whale Pass 4.20 151 Pn 00 11 19.8 -0.5
U33K IAML 00 12 33.1
comp=E,263nm,0.8s
U33K Whale Pass 4.20 151 P Pn 00 11 19.6 -0.7
baz=334
N25K Chitina, Valde 4.25 298 Pn 00 11 21.2 +0.1
N25K Chitina, Valde 4.25 298 P Pn 00 11 21.5 +0.4
baz=111
WAZA Wrangell Mount 4.26 305 Pn 00 11 22.4 +1.0
DAWY Dawson 4.42 345 Pn 00 11 23.3 0.0
DAWY Dawson 4.42 345 Pn Pn 00 11 23.3 0.0
DAWY Sg Sg **00 12 33.6 -4.4**
DAWY Dawson 4.42 345 P Pn 00 11 23.2 0.0
baz=162,SNR=55
DAWY Dawson 4.42 345 Pn Pn 00 11 23.3 0.0
DAWY Sg Sg **00 12 33.6 -4.4**
T35M Bob Quinn 4.45 127 Pn 00 11 24.6 +0.8
T35M Bob Quinn 4.45 127 Pn Pn 00 11 24.6 +0.8
T35M Sg Sg **00 12 34.0 -5.1**
T35M Bob Quinn 4.45 127 IAML 00 12 40.0
comp=E,375nm,1.2s
T35M IAML 00 12 46.7
comp=N,386nm,0.6s
T35M Bob Quinn 4.45 127 P Pn 00 11 24.3 +0.5
baz=313
T35M Bob Quinn 4.45 127 Pn Pn 00 11 24.6 +0.8
T35M Sg Sg **00 12 34.0 -5.1**
TGTN Hyland Airport 4.48 64 Pn 00 11 24.4 +0.2
TGTN Hyland Airport 4.48 64 Pn Pn 00 11 24.6 +0.4
TGTN Sg Sb **00 12 34.7 +5.7**
TGTN Hyland Airport 4.48 64 P Pn 00 11 24.2 0.0
baz=252,SNR=32
TGTN Hyland Airport 4.48 64 Pn Pn 00 11 24.6 +0.4
TGTN Sg Sb **00 12 34.7 +5.7**
L26K Log Cabin Wild 4.50 318 Pn 00 11 23.8 -0.7
L26K IAML 00 12 41.2
comp=E,271nm,0.4s
L26K IAML 00 12 48.5
comp=N,272nm,0.7s
L26K Log Cabin Wild 4.50 318 P Pn 00 11 25.5 +1.0
baz=132
EYAK Cordova Ski Ar 4.56 283 P Pn 00 11 25.9 +0.7
EYAK Cordova Ski Ar 4.56 283 P Pn 00 11 25.7 +0.4
baz=95
MENT Mentasta 4.58 316 Pn 00 11 26.0 +0.5
MENT IAML 00 13 10.4
comp=E,227nm,0.7s
MENT IAML 00 13 16.1
comp=N,186nm,0.8s
MENT Mentasta 4.58 316 P Pn 00 11 26.8 +1.3
DIV Divide 4.66 290 Pn Pn 00 11 26.4 -0.3
DIV Divide 4.66 290 Pn Pn 00 11 25.6 -1.0
J30M Hart River 4.75 2 Pn Pn 00 11 28.4 +0.5
J30M Hart River 4.75 2 P Pn 00 11 28.9 +0.9
baz=182
J30M Hart River 4.75 2 Pn Pn 00 11 28.4 +0.5
J30M Sg Sb **00 12 42.0 +5.2**
CRAG Craig 4.80 155 Pn 00 11 27.6 -0.9
CRAG IAML 00 13 06.2
comp=E,155nm,1.4s
CRAG IAML 00 13 15.1
comp=N,152nm,1.0s
CRAG Craig 4.80 155 P Pn 00 11 28.3 -0.1
CRAG Craig 4.80 155 P Pn 00 11 28.1 -0.3
baz=338
KLU Klutina 4.82 294 Pn 00 11 28.3 -0.5
KLU IAML 00 12 45.4
comp=N,146nm,0.9s
KLU IAML 00 12 45.5
comp=E,160nm,0.9s
KLU Klutina 4.82 294 P Pn 00 11 28.7 -0.2
baz=106
HARP HAARP 4.83 306 Pn 00 11 28.9 0.0
HARP HAARP 4.83 306 P Pn 00 11 29.2 +0.3
baz=118
K27K Chicken 4.90 331 P Pn 00 11 30.0 +0.1
baz=147
K27K Chicken 4.90 331 Pn Pn 00 11 30.1 +0.3
K27K Sg Sg **00 12 47.5 -5.9**
HIN Hinchinbrook I 4.92 281 Pn Pn 00 11 30.7 +0.4
HIN IAML 00 13 13.3
comp=E,218nm,0.9s
HIN IAML 00 13 24.8
comp=N,201nm,1.0s
FID Port Fidalgo 4.94 285 Pn Pn 00 11 31.5 +1.1
FID IAML 00 13 00.4
comp=E,127nm,0.8s
M24K Tolsona, Glenn 5.13 300 Pn Pn 00 11 34.0 +0.9
M24K IAML 00 13 15.2
comp=N,180nm,1.2s
M24K Tolsona, Glenn 5.13 300 P Pn 00 11 33.5 +0.4
baz=112
PAX Paxson 5.24 310 P Pn 00 11 34.0 -0.7
baz=123
GLI Glacier Island 5.25 286 Pn 00 11 35.7 +0.9
GLI IAML 00 13 09.2
comp=E,105nm,0.9s
GLI Glacier Island 5.25 286 P Pn 00 11 35.0 +0.3
baz=97
V35K Ketchikan 5.30 147 Pn 00 11 35.0 -0.3
V35K IAML 00 13 17.5
comp=E,129nm,1.3s
V35K IAML 00 13 21.9
comp=N,102nm,1.4s
V35K Ketchikan 5.30 147 P Pn 00 11 35.8 +0.5
baz=331
U35K Hyder 5.32 135 Pn Pn 00 11 34.6 -1.0
EGAK Eagle 5.36 339 Pn Pn 00 11 36.4 +0.2
EGAK Sg Sg **00 13 02.0 -6.2**
EGAK Eagle 5.36 339 P Pn 00 11 36.4 +0.2
baz=155,SNR=99
EGAK Eagle 5.36 339 Pn Pn 00 11 36.4 +0.2
EGAK Sg Sg **00 13 02.0 -6.2**
P23K Montague Islan 5.38 276 Pn 00 11 36.2 -0.2
P23K Montague Islan 5.38 276 P Pn 00 11 36.2 -0.2
baz=87
SCRK Sand Creek 5.38 323 Pn 00 11 36.5 -0.1
SCRK IAML 00 13 18.4
comp=N,101nm,1.3s
SCRK Sand Creek 5.38 323 P Pn 00 11 35.9 -0.7
baz=137
I30M Mount Dempster 5.40 2 Pn Pn 00 11 38.2 +1.3
I30M Mount Dempster 5.40 2 P Pn 00 11 37.1 +0.3
baz=182
I30M Mount Dempster 5.40 2 Pn Pn 00 11 37.8 +1.0

RIDG Independent Ri 5.49 319 Pn 00 11 37.8 -0.2
RIDG Independent Ri 5.49 319 P Pn 00 11 37.8 -0.2
baz=132
SCM Sheep Creek Mo 5.56 296 Pn 00 11 39.9 +0.9
SCM Sheep Creek Mo 5.56 296 P Pn 00 11 39.0 0.0
baz=106
I29M Ogilvie Camp, 5.58 353 Pn 00 11 39.9 +0.6
I29M Ogilvie Camp, 5.58 353 P Pn 00 11 39.1 -0.2
baz=172
I29M Ogilvie Camp, 5.58 353 Pn Pn 00 11 39.3 +0.1
I29M Sg Sg **00 13 09.1 -6.2**
J26L Joseph Creek 5.66 328 Pn 00 11 40.4 -0.1
J26L Joseph Creek 5.66 328 P Pn 00 11 40.4 -0.1
baz=142
M23K Glacier View 5.73 295 P Pn 00 11 41.1 -0.1
baz=105
I28M Miner Creek 5.81 347 Pn 00 11 43.0 +0.5
I28M Miner Creek 5.81 347 P Pn 00 11 42.5 0.0
baz=164
I28M Miner Creek 5.81 347 Pn Pn 00 11 42.5 0.0
I28M Sg Sg **00 13 16.1 -6.6**
TOAD Toad River Com 5.96 95 Sg Sg 00 13 21.1 -6.3
KNK Knik Glacier 5.99 290 Pn 00 11 44.9 +0.1
KNK Knik Glacier 5.99 290 P Pn 00 11 45.0 +0.1
baz=100
WAT6 Susitna Watana 5.99 302 Pn 00 11 45.3 +0.3
WAT6 Susitna Watana 5.99 302 P Pn 00 11 45.1 +0.1
baz=112
SML Sawmill 6.01 294 Pn 00 11 44.7 -0.5
SML Sawmill 6.01 294 P Pn 00 11 45.5 +0.3
baz=104
DHY Denali Highway 6.05 307 Pn 00 11 45.4 -0.3
DHY Denali Highway 6.05 307 P Pn 00 11 45.8 +0.1
baz=118
I27K Kandik River 6.20 341 Pn Pn 00 11 47.9 +0.1
I27K Sg Sg **00 13 30.4 -4.6**
I27K Kandik River 6.20 341 P Pn 00 11 48.0 +0.3
baz=156,SNR=36
I27K Kandik River 6.20 341 Pn Pn 00 11 47.9 +0.1
I27K Sg Sg **00 13 30.4 -4.6**
I26K Coal Creek Min 6.23 334 Pn Pn 00 11 48.9 +0.8
I26K Coal Creek Min 6.23 334 P Pn 00 11 48.7 +0.6
baz=149
J25K Salcha River, 6.26 324 Pn Pn 00 11 49.1 +0.5
J25K Salcha River, 6.26 324 P Pn 00 11 47.9 -0.6
baz=136
GHO Glory Hole Cre 6.28 293 Pn Pn 00 11 49.5 +0.7
PMR Palmer 6.34 291 Pn Pn 00 11 50.1 +0.6
PMR Palmer 6.34 291 P Pn 00 11 50.5 +0.9
baz=100
KOTAN Kotaneelee Air 6.36 82 P Pn 00 11 49.4 -0.6
baz=273,SNR=19
SEW Seward 6.40 278 P Pn 00 11 51.5 +1.1
baz=87
WAT1 Susitna Watana 6.43 303 Pn 00 11 50.9 0.0
WAT1 Susitna Watana 6.43 303 P Pn 00 11 52.2 +1.3
baz=112
H29M Whitestone 6.44 354 Pn 00 11 51.1 +0.1
H29M Whitestone 6.44 354 P Pn 00 11 51.1 +0.1
baz=173
H29M Whitestone 6.44 354 Pn Pn 00 11 48.3 -2.7
H29M Sg Sb **00 13 34.1 +8.9**
NBC1 NorthernBC 1 6.52 86 Sg Sg 00 13 38.4 -7.0
NBC1 NorthernBC 1 6.52 86 Sg Sg 00 13 38.4 -7.0
O22K Cooper Landing 6.52 281 Pn Pn 00 11 52.6 +0.5
O22K Cooper Landing 6.52 281 P Pn 00 11 52.4 +0.3
baz=90
EPYK Eagle Plains 6.55 0 Pn Pn 00 11 52.3 -0.3
EPYK Eagle Plains 6.55 0 Pn Pn 00 11 52.1 -0.5
EPYK Sg Sb 00 13 37.4 +9.1
EPYK Eagle Plains 6.55 0 P Pn 00 11 51.5 -1.0
baz=180
EPYK Eagle Plains 6.55 0 Pn Pn 00 11 52.1 -0.5
EPYK Sg Sb 00 13 37.4 +9.1
WAT7 Susitna Watana 6.56 302 Pn 00 11 53.0 +0.3
RC01 Rabbit Creek A 6.56 287 Pn Pn 00 11 53.5 +0.9
RC01 Rabbit Creek A 6.56 287 P Pn 00 11 53.0 +0.4
baz=95
RUBB Prince Rupert 6.56 145 Sg Sg 00 13 39.6 -7.0
RUBB Prince Rupert 6.56 145 Pn Pn 00 11 52.0 -0.6
RUBB Prince Rupert 6.56 145 Sg Sg 00 13 39.6 -7.0
HDA Harding Lake 6.62 318 Pn Pn 00 11 53.6 0.0
HDA Harding Lake 6.62 318 P Pn 00 11 53.8 +0.3
baz=129
HDA P Pn **00 11 53.8 +0.3**
baz=129
FLDN Fort Liard 6.65 81 Pn 00 11 54.6 +0.8
FLDN Fort Liard 6.65 81 Sg Sg 00 13 44.0 -5.4
FLDN Fort Liard 6.65 81 P Pn 00 11 53.5 -0.4
baz=272
FLDN Fort Liard 6.65 81 Sg Sg 00 13 44.0 -5.4
H27K Steamboat Moun 6.77 343 Pn Pn 00 11 55.5 0.0
H27K Sg Sg **00 13 45.7 -7.5**
H27K Steamboat Moun 6.77 343 P Pn 00 11 55.5 0.0
baz=159
H27K Steamboat Moun 6.77 343 Pn Pn 00 11 55.5 0.0
H27K Sg Sg **00 13 45.7 -7.5**
RND Reindeer 6.79 307 Pn 00 11 57.1 +1.2
M22K Willow 6.83 292 P Pn 00 11 57.5 +1.2
baz=100
IL31 6.84 321 Pn Pn 00 11 56.2 -0.2
ILAR Eielson Array 6.84 321 Pn Pn 00 11 56.6 +0.1
ILAR Eielson Array 6.84 321 Pn Pn 00 11 56.2 -0.2
comp=N,0.5nm,0.3s,baz=144,slow=12,SNR=36
ILAR Sn Sn **00 13 13.8 -0.5**
comp=N,1.3nm,0.3s,baz=116,slow=15,SNR=4.9
ILAR Lg Lg 00 13 51.8
comp=N,2.4nm,0.3s,baz=124,slow=29,SNR=6.5
comp=N,1.9nm,0.5s
MCK McKinley 6.97 309 P Pn 00 11 59.2 +0.8
baz=118
PRP Porcupine Dome 6.98 328 Pn Pn 00 11 58.1 -0.4
PRP Porcupine Dome 6.98 328 P Pn 00 11 58.6 +0.1
baz=141
CUT Chulitna 7.04 297 P Pn 00 12 00.0 +0.8
baz=105
DIB Dawson Inlet, 7.06 159 Pn Pn 00 11 59.8 +0.3
CCB Clear Creek Bu 7.06 318 Pn Pn 00 11 60.0 +0.4
GRNB Grenville Isla 7.06 145 Sg Sg 00 13 56.5 -6.3
GRNB Grenville Isla 7.06 145 Pn Pn 00 11 59.7 +0.1
GRNB Grenville Isla 7.06 145 Sg Sg 00 13 56.5 -6.3
BRSE Bradley Lake S 7.08 275 P Pn 00 12 00.9 +1.1
baz=83
SUA Susitna One 7.08 289 Pn Pn 00 11 59.4 -0.5
SUA Susitna One 7.08 289 P Pn 00 12 01.5 +1.6
baz=97
G29M Pine Creek 7.12 356 P Pn 00 12 00.6 +0.3
baz=175
G29M Pine Creek 7.12 356 Pn Pn 00 11 59.9 -0.5
G29M Sg Sg **00 13 58.1 -6.2**
BRLK Bradley Lake 7.15 275 Pn 00 12 00.8 0.0
G30M tAoh Zraii Nji 7.17 2 Pn Pn 00 12 00.9 0.0
G30M tAoh Zraii Nji 7.17 2 P Pn 00 12 01.0 0.0
baz=182
G30M tAoh Zraii Nji 7.17 2 Pn Pn 00 12 00.7 -0.3
G30M Sg Sg **00 13 59.1 -6.8**
WRGLY Wrigley 7.18 56 P Pn 00 12 00.8 -0.4
baz=248,SNR=16
G31M Satah River 7.19 8 P Pn 00 12 01.2 0.0
baz=190,SNR=81
FNSB Fort Nelson 7.23 92 Sg Sg 00 13 59.4 -8.7
POKR Poker Plat Res 7.25 321 P Pn 00 12 02.6 +0.5
baz=132
KITB Kitimat 7.27 139 Sg Sg 00 14 02.4 -7.1
KITB Kitimat 7.27 139 Sg Sg 00 14 02.4 -7.1
G27K Doyon Strip 7.33 345 P Pn 00 12 03.7 +0.5
baz=160
G27K Doyon Strip 7.33 345 Pn Pn 00 12 03.0 -0.3
TRF Thorofare Moun 7.40 305 P Pn 00 12 05.3 +1.0
baz=113
NEA2 Nenana 7.47 315 P Pn 00 12 05.5 +0.3
baz=124
SKT Skwentna 7.53 293 P Pn 00 12 06.2 +0.3
baz=100
HOM Homer 7.54 275 P Pn 00 12 06.6 +0.5
baz=82
NBC5 NorthernBC 5 7.68 102 Pn Pn 00 12 08.3 +0.2
NBC5 NorthernBC 5 7.68 102 Pn Pn 00 12 08.3 +0.2
F31M Tsiigehtchic 7.74 9 Pn 00 12 08.6 -0.1
F31M Tsiigehtchic 7.74 9 P Pn 00 12 08.8 +0.1
baz=191,SNR=6.1
F31M Tsiigehtchic 7.74 9 Pn Pn 00 12 09.3 +0.6
FYU Fort Yukon 7.76 334 Pn 00 12 09.9 +0.9
N20K Mount Spurr 7.76 287 P Pn 00 12 09.8 +0.6
baz=93
G26K Porcupine Rive 7.80 339 P Pn 00 12 09.2 -0.4
baz=153
F30M Barrier River 7.81 3 P Pn 00 12 09.5 -0.2
baz=184
H24K Noodor Dome 7.88 324 P Pn 00 12 10.8 +0.1
baz=135
I23K Minto, Yukon-K 7.90 318 Pn 00 12 12.0 +1.1
I23K Minto, Yukon-K 7.90 318 P Pn 00 12 11.7 +0.8
baz=126
F28M Old Crow 7.92 351 P Pn 00 12 11.2 -0.2
baz=168
F28M Old Crow 7.92 351 Pn Pn 00 12 10.6 -0.7
F28M Sg Sg **00 14 22.3 -7.8**
BPAW Bear Paw Mtn. 7.95 309 P Pn 00 12 12.3 +0.6
baz=116
O20K Slope Mountain 7.99 279 P Pn 00 12 12.7 +0.4
baz=85
NBC6 NorthernBC 6 8.00 92 Pn Pn 00 12 11.8 -0.6
NBC6 Sg Sg 00 14 21.6 -11
NBC6 NorthernBC 6 8.00 92 Pn Pn 00 12 11.8 -0.6
NBC6 Sg Sg 00 14 21.6 -11
PPLA Purkeypile 8.03 299 P Pn 00 12 14.1 +1.1
baz=105
NBC3 NorthernBC 3 8.11 85 Sg Sg 00 14 27.1 -9.1
NBC3 NorthernBC 3 8.11 85 Sg Sg 00 14 27.1 -9.1
G25K Bearman Lake 8.12 333 P Pn 00 12 14.2 +0.3
baz=144
Q20K Shuyak Island 8.13 268 P Pn 00 12 14.5 +0.3
baz=74
CAST Castle Rocks 8.14 303 P Pn 00 12 14.6 +0.3
baz=109
BUTB Butedale 8.19 143 Sg Sg 00 14 30.7 -8.1
BUTB Butedale 8.19 143 Sg Sg 00 14 30.7 -8.1
M20K Styx River 8.26 291 P Pn 00 12 16.5 +0.4
baz=97
MLY Manley 8.31 315 P Pn 00 12 16.9 +0.2
baz=122
P19K Oil Pt 8.34 276 P Pn 00 12 17.5 +0.4
baz=82
CHUM Lake Minchumin 8.40 305 P Pn 00 12 18.6 +0.8
baz=112
G24K Hadweenzic Riv 8.40 329 P Pn 00 12 18.0 +0.1
baz=140
KDAK Kodiak Island 8.49 263 P Pn 00 12 19.7 +0.7
baz=69
KDAK Kodiak Island 8.49 263 Pn Pn 00 12 19.1 0.0
comp=N,4.0nm,0.3s,baz=66,slow=8.9,SNR=44
KDAK Sn Sn **00 13 52.3 -2.5**
comp=N,1.2nm,0.3s,baz=201,slow=20,SNR=8.0
comp=N,12nm,0.5s
F26K Sheenjek River 8.53 341 P Pn 00 12 19.4 -0.2
baz=154
E29M Blow River 8.59 357 Pn Pn 00 12 20.8 +0.3
E29M Blow River 8.59 357 P Pn 00 12 20.5 0.0
baz=176
INK Inuvik 8.61 8 Pn 00 12 20.5 -0.1
INK Inuvik 8.61 8 Pn Pn 00 12 21.4 +0.8
INK Inuvik 8.61 8 P Pn 00 12 19.8 -0.8
baz=191
INK Inuvik 8.61 8 Pn Pn 00 12 21.6 +0.9
comp=N,0.8nm,0.3s,baz=198,slow=14,SNR=7.5
INK Sn Sn **00 14 00.3 +2.7**
comp=N,1.3nm,0.3s,baz=165,slow=9.7,SNR=4.0
INK Lg Lg 00 14 45.6
comp=N,0.6nm,0.3s,baz=272,slow=31,SNR=8.2
comp=N,2.2nm,0.4s
INK Inuvik 8.61 8 Pn Pn 00 12 21.4 +0.8
E27K Coleen River 8.64 348 LR 00 14 44.0
E27K Coleen River 8.64 348 P Pn 00 12 21.0 -0.1
baz=163
E27K Coleen River 8.64 348 Pn Pn 00 12 21.0 -0.1
E27K Sg Sg 00 14 44.0 -9.1
FSJB Fort St James 8.64 123 Pn Pn 00 12 21.8 +0.6
FSJB Lg 00 14 45.9
FSJB Fort St James 8.64 123 Pn Pn 00 12 21.8 +0.6
FSJB Sg Sg **00 14 45.9 -7.3**
Q19K Cape Douglas, 8.69 271 Pn 00 12 22.6 +0.8
Q19K Cape Douglas, 8.69 271 P Pn 00 12 22.2 +0.4
baz=77
L20K Farewell, AK 8.70 295 P Pn 00 12 21.6 -0.4
baz=100
F25K Christian Rive 8.71 337 P Pn 00 12 22.2 0.0
baz=149
Q19K Port Alsworth 8.82 280 Pn Pn 00 12 25.4 +1.8
I21K Tanana 8.84 314 P Pn 00 12 23.7 -0.1
baz=120
N19K Bonanza Creek 8.86 284 P Pn 00 12 24.3 0.0
baz=88
E28M Babbage River 8.88 353 P Pn 00 12 24.0 -0.4
baz=171
K20K Telida 8.98 300 Pn 00 12 26.2 +0.4
K20K Telida 8.98 300 P Pn 00 12 25.6 -0.2
baz=105
H22K Ishtalitna Cre 9.02 318 P Pn 00 12 26.5 +0.2
baz=125
OHAK Old Harbor 9.05 260 P Pn 00 12 26.6 -0.2
OHAK Old Harbor 9.05 260 P Pn 00 12 26.7 -0.1
baz=66
BBB Bella Bella 9.06 144 Pn Pn 00 12 28.9 +2.0
comp=N,0.4nm,0.3s,baz=207,slow=13,SNR=2.2
BBB Lg Lg 00 15 05.7
comp=N,0.5nm,0.3s,baz=148,slow=12,SNR=3.2
comp=N,16nm,1.0s
L19K White Mountain 9.11 293 P Pn 00 12 27.5 -0.1
baz=97
G23K Bananza Creek 9.11 325 Pn 00 12 29.1 +1.5
G23K Bananza Creek 9.11 325 P Pn 00 12 27.5 -0.1
baz=133
F24K Squaw Lake 9.14 332 P Pn 00 12 28.3 +0.2
baz=142
E25K Arctic Village 9.16 339 Pn 00 12 28.8 +0.5
E25K Arctic Village 9.16 339 P Pn 00 12 28.7 +0.5
baz=151
J20K Nowinta River 9.26 305 P Pn 00 12 29.6 0.0
baz=110
O18K Koktuh Hills 9.30 278 Pn 00 12 30.9 +0.6
O18K Koktuh Hills 9.30 278 P Pn 00 12 30.2 -0.1
baz=82
H21K Melozitna Rive 9.38 315 P Pn 00 12 30.8 -0.5
baz=121
P18K Big Mountain, 9.39 275 P Pn 00 12 32.1 +0.6
baz=79
Q18K Katmai Hardscr 9.44 271 P Pn 00 12 32.2 -0.1
baz=75
M18K Stony River 9.51 288 P Pn 00 12 32.9 -0.2
baz=92
COLD Coldfoot 9.52 327 Pn 00 12 34.8 +1.6
COLD Coldfoot 9.52 327 P Pn 00 12 32.1 -1.1
baz=135
COLD Coldfoot 9.52 327 P Pn 00 12 34.8 +1.6
NBC4 NorthernBC 4 9.53 109 Lg 00 15 12.2
NBC4 NorthernBC 4 9.53 109 Sg Sg 00 15 12.2
N18K Kilae Creek 9.56 283 P Pn 00 12 34.7 +0.9
baz=87
D28M Stokes Point 9.56 356 P Pn 00 12 32.8 -0.8
baz=174
D27M Malcolm River 9.61 351 Pn 00 12 32.5 -1.9
D27M Malcolm River 9.61 351 P Pn 00 12 33.8 -0.6
baz=167
I20K Naaghedeneel 9.62 309 P Pn 00 12 34.5 0.0
baz=113
G22K Bettles 9.69 323 P Pn 00 12 35.5 0.0
baz=130
E24K Your Creek 9.72 333 P Pn 00 12 36.8 +0.8
baz=142
TTA Tatalina 9.74 297 Pn Pn 00 12 35.9 -0.4
TTA Tatalina 9.74 297 P Pn 00 12 35.5 -0.9
TTA Tatalina 9.74 297 P Pn 00 12 35.9 -0.4
baz=100
J19K Poorman 9.82 303 P Pn 00 12 37.7 +0.4
baz=106
E23K Chandalar 9.98 331 P Pn 00 12 40.7 +1.2
baz=140
Q17K Contact Creek 9.99 269 P Pn 00 12 41.1 +1.3
baz=73
P17K Kvichak River 10.04 275 P Pn 00 12 41.3 +1.1
baz=78
H20K Anotleneega Mo 10.06 312 P Pn 00 12 41.5 +0.8
baz=116
G21K Allakaket 10.08 319 P Pn 00 12 40.8 -0.1
baz=124
J18K Innoko River 10.16 299 P Pn 00 12 42.1 +0.2
baz=102
N17K Nushagak Hills 10.21 283 Pn Pn 00 12 43.6 +0.9
N17K Nushagak Hills 10.21 283 P Pn 00 12 42.7 0.0
baz=85

O17K **Koliganek Bris** 10.26 278 P Pn 00 12 44.5 +1.3
baz=81
F22K **John River** 10.27 325 P Pn 00 12 44.3 +0.8
baz=131
M17K **Holitna River** 10.29 288 Pn Pn 00 12 44.6 +0.9
M17K **Holitna River** 10.29 288 P Pn 00 12 44.7 +1.0
baz=90
D25K **Kavik River** 10.36 341 P Pn 00 12 45.3 +0.6
baz=152
TOLK **Toolik Lake Re** 10.42 333 Pn Pn 00 12 47.4 +1.8
TOLK **Toolik Lake Re** 10.42 333 P Pn 00 12 46.3 +0.8
baz=142
R17K **Ugashik Creek** 10.45 266 P Pn 00 12 45.5 -0.4
baz=69
F21K **Alatna River** 10.48 322 P Pn 00 12 47.5 +1.1
baz=127
E22K **Anaktuvuk Pass** 10.60 328 Pn 00 12 50.3 +2.3
E22K **Anaktuvuk Pass** 10.60 328 P Pn 00 12 49.1 +1.1
baz=134
D24K **Happy Valley** 10.67 336 P Pn 00 12 49.6 +0.7
baz=145
H19K **Roundabout Mou** 10.67 311 P Pn 00 12 49.1 +0.2
baz=113
C26K **Camden Bay** 10.68 345 P Pn 00 12 50.5 +1.5
baz=157
L17K **Donlin** 10.71 292 P Pn 00 12 49.8 +0.3
baz=93
D23K **Nanushuk River** 10.93 333 P Pn 00 12 53.8 +1.4
baz=140
C36M **Paulatuk** 10.94 24 Pn 00 12 50.9 -1.7
C36M Sn 00 14 50.1 -4.8
C36M **Paulatuk** 10.94 24 P Pn 00 12 52.3 -0.3
baz=216
C36M **Paulatuk** 10.94 24 P Pn 00 12 50.9 -1.7
C36M S Sn 00 14 50.1 -4.8
YKA **Yellowknife Ar** 10.98 67 Pn 00 12 52.9 -0.3
YKA **Yellowknife Ar** 10.98 67 Pn Pn 00 12 50.9 -2.3
comp=N,0.7nm,0.3s,baz=265,slow=13,SNR=15
YKA Lg Lg 00 15 58.9
comp=N,0.2nm,0.3s,baz=263,slow=28,SNR=5.7
comp=N,1.7nm,0.6s
F20K **Avaraart Lake** 11.11 318 P Pn 00 12 55.5 +0.6
baz=122
C24K **Franklin Bluff** 11.12 338 P Pn 00 12 55.7 +0.7
baz=147
G19K **Purcell Mounta** 11.16 313 Pn Pn 00 12 56.0 +0.4
D22K **Ayikyak River** 11.35 330 P Pn 00 12 58.2 0.0
baz=135
E21K **Killik River** 11.40 326 P Pn 00 12 59.7 +0.8
baz=131
C23K **Itkillik River** 11.60 336 P Pn 00 13 01.2 -0.4
baz=143
E19K **Redstone River** 11.82 319 P Pn 00 13 06.1 +1.4
baz=120
E20K **Nigu River** 11.93 323 P Pn 00 13 08.2 +2.0
baz=126
C21K **Knifeblade Rid** 12.09 328 P Pn 00 13 10.2 +1.8
baz=132
D20K **Etivluk River** 12.33 324 P Pn 00 13 12.7 +1.1
baz=126
B21K **Ikpikpuk River** 12.36 330 P Pn 00 13 12.4 +0.4
baz=134
B22K **Teshekpuk Lake** 12.60 334 P Pn 00 13 15.8 +0.6
baz=138
MNB **Mounoet Dainar** 12.77 119 Pn 00 13 22.7 +4.8
MNB **Mounoet Dainar** 12.77 119 P Pn 00 13 22.7 +4.8
A36M **Sachs Harbour** 13.02 16 Pn 00 13 21.0 0.0
A36M **Sachs Harbour** 13.02 16 P Pn 00 13 18.6 -2.3
baz=206
A36M **Sachs Harbour** 13.02 16 P Pn 00 13 20.4 -0.6
C18K **Utukok River** 13.71 320 P Pn 00 13 27.6 -2.9
baz=118
NEW **Newport** 16.26 127 Pn Pn 00 14 05.3 +0.8
comp=N,0.1nm,0.3s,baz=315,slow=9.4,SNR=1.8
NEW Lg Lg 00 18 51.2
comp=N,0.1nm,0.3s,baz=261,slow=22,SNR=1.8
comp=N,0.9nm,0.7s
FFC **Flin Flon** 19.30 90 IAmb IAmb 00 14 48.0
comp=Z,12nm,1.4s
EGMT **Eagleton** 19.63 115 IAmb IAmb 00 14 56.0
comp=Z,14nm,1.1s
EGMT **Eagleton** 19.63 115 P P 00 14 42.6 -2.3
baz=317
YBH **Yreka Blue Hor** 20.10 148 P Pn 00 14 53.7 +1.9
comp=Z,1.0nm,0.9s,baz=259,slow=5.9,SNR=2.5
comp=Z,1.0nm,0.9s
BOZ **Bozeman (W)** 20.66 122 P P 00 14 54.6 -1.5
baz=323
HLID **Hailey** 21.20 130 P P 00 15 00.9 -1.0
baz=328
RES **Resolute Bay** 21.23 29 P P 00 15 02.6 +0.9
comp=Z,3.4nm,0.8s,baz=242,slow=12,SNR=9.1
RES S S 00 18 55.4 -1.8
comp=Z,1.8nm,0.8s,baz=192,slow=8.1,SNR=3.0
RES Lg Lg 00 21 25.2
baz=0.8,slow=18,SNR=3.6
comp=Z,3.4nm,0.8s
RLMT **Red Lodge** 22.06 120 IAmb IAmb 00 15 08.9
comp=Z,9.2nm,0.8s
RLMT **Red Lodge** 22.06 120 P P 00 15 08.1 -3.1
baz=322
IMW **Indian Meadow** 22.32 124 IAmb IAmb 00 15 24.5
comp=Z,6.8nm,1.1s
TPAW **Teton Pass** 22.65 125 IAmb IAmb 00 15 43.8
comp=Z,6.0nm,1.1s
REDW **Red Top Meadow** 22.80 125 P P 00 15 18.2 -0.8
BMN **Battle Mountai** 22.94 139 P P 00 15 20.7 +0.2
ELK **Elko** 23.34 135 P P 00 15 25.5 +0.8
PDAR **Pinedale Array** 23.83 124 P P 00 15 30.4 +0.9
PDAR **Pinedale Array** 23.83 124 P P 00 15 31.9 +2.4
comp=Z,1.3nm,0.9s,baz=316,slow=6.1,SNR=7.8
comp=Z,1.3nm,0.9s
KVN **Kaiserville** 23.91 142 P P 00 15 31.0 +0.7
BGU **Big Grassy Mou** 23.99 132 P P 00 15 31.7 +0.8
BGU IAmb IAmb 00 15 40.9
comp=Z,5.2nm,1.4s
NVAR **Mina Array Bea** 24.42 143 P P 00 15 36.0 +1.0
NVAR **Mina Array Bea** 24.42 143 P P 00 15 37.7 +2.7
comp=Z,2.1nm,0.7s,baz=327,slow=8.3,SNR=16
comp=Z,2.1nm,0.7s
NV11 **Mina Array Sit** 24.47 143 P P 00 15 36.4 +1.1
NV11 IAmb IAmb 00 15 38.4
comp=Z,3.4nm,0.9s
DUG **Dugway, Tooele** 24.71 132 IAmb IAmb 00 15 46.6
comp=Z,5.9nm,1.1s
E28A **Huff** 24.96 106 P 00 15 40.4 +0.8
TPH **Tonopah** 25.08 142 P P 00 15 41.7 +0.8
RSSD **Black Hills** 25.19 114 P P 00 15 42.7 +0.8
RSSD **Black Hills** 25.19 114 P P 00 15 41.0 -0.9
baz=320
R11B **Troy Canyon, C** 25.36 139 P P 00 15 44.1 +0.6
R11B **Troy Canyon, C** 25.36 139 P P 00 15 45.1 +1.6
baz=335
MZP **Montezuma Peak** 25.38 142 P P 00 15 44.2 +0.6
MZP IAmb IAmb 00 15 48.5
comp=Z,4.2nm,1.1s
WCT **Wildcat Mounta** 26.45 142 P P 00 15 54.0 +0.8
WCT IAmb IAmb 00 15 59.6
comp=Z,6.7nm,1.3s
SRU **San Rafael Swe** 26.52 130 P P 00 15 54.4 +0.4
SRU IAmb IAmb 00 16 01.6
comp=Z,2.7nm,0.9s
MNTX **Cornudas Mount** 35.02 129 P P 00 17 09.3 +0.5
baz=333
WMOK **Wichita Mounta** 35.16 118 P P 00 17 09.3 -0.7
WMOK IAmb IAmb 00 17 17.5
comp=Z,3.8nm,0.9s
MGMO **Mountain Grove** 36.19 109 P P 00 17 17.6 -1.2
PBMO **Poplar Bluff** 37.38 107 P P 00 17 28.6 -0.2
LCAR **Lake Charles** 37.59 109 P P 00 17 30.3 -0.4
LCAR IAmb IAmb 00 17 35.6
comp=Z,6.8nm,1.2s
TXAR **Lajitas Array** 37.80 129 P P 00 17 35.9 +3.3
comp=Z,0.8nm,1.0s,baz=337,slow=6.0,SNR=4.7
comp=Z,0.8nm,1.0s
SAND **Sanderson** 37.86 127 P P 00 17 33.0 -0.1
SAND IAmb IAmb 00 17 35.9
comp=Z,1.7nm,0.8s
WVT **Waverly** 39.15 105 P P 00 17 43.9 +0.1
baz=323
OXF **Oxford** 39.69 108 P P 00 17 47.5 -0.8
OXF **Oxford** 39.69 108 P P 00 17 48.9 +0.6
baz=325
Z47A **Carrollton** 41.40 108 P P 00 18 02.3 -0.1
ARCES **ARCESS Array B** 50.28 8 P P 00 19 12.5 +0.4
comp=Z,1.5nm,0.6s,baz=359,slow=5.0,SNR=6.0
comp=Z,1.5nm,0.6s

NB2 **NORSAR Subarra** 56.92 18 P P 00 20 01.4 +0.5
comp=Z,1.1nm,0.6s,baz=342,slow=7.4
NOA **NORSAR Array B** 56.92 18 P P 00 20 01.3 +0.4
comp=Z,1.6nm,0.7s,baz=343,slow=7.3,SNR=5.5
comp=Z,1.6nm,0.7s
HFS **Hagfors** 58.16 17 P P 00 20 10.3 +0.8
comp=Z,4.6nm,1.0s,baz=44,slow=4.5,SNR=5.5
comp=Z,4.6nm,1.0s
FINES **FINESS Array B** 58.31 10 P P 00 20 10.8 +0.3
comp=Z,1.6nm,0.7s,baz=1.1,slow=10,SNR=11
comp=Z,1.6nm,0.7s
EKA **Eskdalemuir Ar** 59.36 29 P P 00 20 18.6 +0.6
comp=Z,4.8nm,0.8s,baz=331,slow=6.9,SNR=9.5
comp=Z,4.8nm,0.8s
ZALV **Zalesovo Beam** 61.78 334 P P 00 20 33.3 -1.1
comp=Z,0.7nm,0.6s,baz=51,slow=7.8,SNR=2.5
comp=Z,0.7nm,0.6s
HHC **Hu-ho-hao-te** 65.12 309 *e*P P 00 20 55.0 -2.0
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,190nm,5.4s
BVAR **Borovoye Array** 65.39 342 P P 00 20 59.1 +0.7
comp=Z,1.1nm,0.9s,baz=32,slow=5.9,SNR=6.0
comp=Z,1.1nm,0.9s
KURBB **Kurchatov Arra** 66.24 336 P P 00 21 04.0 +0.1
comp=Z,0.7nm,0.4s,baz=23,slow=5.7,SNR=1.5
comp=Z,0.7nm,0.4s
AKASG **Malin Array Be** 69.22 10 P P 00 21 22.8 +0.2
comp=Z,0.8nm,0.4s,baz=346,slow=5.6,SNR=7.2
comp=Z,0.8nm,0.4s
SDV **Santo Domingo** 70.45 107 LR LR 00 53 24.0
comp=Z,263nm,20.9s,baz=48,slow=37
WMQ **Urumqi** 70.45 327 *e*P P 00 21 33.3 +2.8
ESDC **Sonseca Array** 73.48 36 IAmb IAmb 00 21 50.8
comp=Z,3.7nm,1.3s
ESDC **Sonseca Array** 73.48 36 P P 00 21 49.8 +1.1
comp=Z,1.1nm,0.7s,baz=334,slow=6.8,SNR=7.9
comp=Z,1.1nm,0.7s
KSH **Kashi** 77.38 335 P P 00 22 14.3 +3.1
BRTR **Keskin Array B** 80.47 8 P P 00 22 28.1 0.0
comp=Z,0.6nm,0.7s,baz=9.7,slow=2.4,SNR=2.5
comp=Z,0.6nm,0.7s
PZH **PanZhiHua** 81.58 309 P P 00 22 34.0 -0.2
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s

IDC 19 00:57:27.9±2.6, 3.85S×126.28E, h0km, mb3.4/2, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=367.1km s-min=29.4km az=64.0, Buru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.82**	**154**	P	P	01 01 38.2	-0.3
	0.1nm,0.3s,baz=331,slow=12,SNR=8.4						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**21.03**	**160**	P	P	01 02 13.2	-0.3
	0.3nm,0.3s,baz=345,slow=11,SNR=5.4						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**63.59**	**328**	P	P	01 08 00.6	0.0
	0.9nm,1.0s,baz=119,slow=5.4,SNR=3.2						
	0.9nm,1.0s						

*IDC **19** 01:40:47.3±0.6, 30.65N×132.01E, h0km, mb4.1/21, mbtmp4.1/28, ML3.4/6, MS4.2/39, Error ellipse: s-maj=16.4km s-min=12.9km az=83.0*
*MOS **19** 01:40:47.5±0.8, 30.64N×132.01E, h12km, mb4.7/14, MS4.3/5, Error ellipse: s-maj=12.0km s-min=7.3km az=101.8*
*NEIC **19** 01:40:49.9±1.5, 30.73N±0.06×132.07E±0.09, h10km±1km, mb4.7/84, Error ellipse: s-maj=12.9km s-min=10.0km az=100.0*
*JMA **19** 01:40:50.1±0.1, 30.6N±0.4×132.1E±0.9, h57km±2km, MV3.5/32, E OFF TANEGASHIMA ISLAND*
*NIED **19** 01:40:50.1, 30.64N×132.07E, h57km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.36; $M_{\theta\theta}$=0.53; $M_{\phi\phi}$=0.83; $M_{r\theta}$=0.20; $M_{r\phi}$=0.10; $M_{\theta\phi}$=0.83; Fault plane solution: M_0=1.40000×10^{16} NP1: ϕ_s=195.00000°, δ=64.00000°, λ=-91.00000°. NP2: ϕ_s=16.00000°, δ=26.00000°, λ=-88.00000°.*

ISC 19 01:40:51.4±0.7, 30.63N±0.03×132.05E±0.04, h28km±4km, n253, σ2=03/243, mb4.7/87, MS4.3/52, 7C-1D, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.92**	**272**	P	**Pb**	**01 41 07.4**	**-1.5**
JTN				S	**Sb**	**01 41 20.4**	**-0.4**
JMTN	**Minamitane**	**1.02**	**257**	P	**Pn**	**01 41 08.9**	**-0.9**
JTSR	**Tashiro 2**	**1.11**	**299**	P	**Pn**	**01 41 09.4**	**-1.7**
JNAR	**Kushima--Naru**	**1.12**	**324**	P	**Pn**	**01 41 10.0**	**-1.2**
JNAR				S	**Sb**	**01 41 24.4**	**-2.0**
JNKG	**Nichinankitago**	**1.18**	**331**	P	**Pn**	**01 41 10.7**	**-1.4**
JNKG				S	**Sn**	**01 41 26.2**	**-1.1**
JYAK	**Yakushimahirau**	**1.39**	**254**	P	**Pn**	**01 41 13.9**	**-1.0**
JYAK				*e*S	**Sn**	**01 41 31.0**	**-1.2**
JTZ	**Takazaki**	**1.52**	**327**	P	**Pn**	**01 41 15.3**	**-1.4**
JTZ				*e*S	**Sn**	**01 41 34.5**	**-1.0**
JKC	**Kuchinoerabu**	**1.61**	**265**	P	**Pn**	**01 41 17.3**	**-0.7**
JSU	**Suzuyama**	**1.62**	**303**	P	**Pn**	**01 41 17.2**	**-1.0**
JSU				S	**Sn**	**01 41 37.6**	**-0.7**
JTSN	**Tsuno**	**1.68**	**344**	P	**Pn**	**01 41 17.6**	**-1.4**
JTSN				*e*S	**Sn**	**01 41 36.8**	**-2.8**
JNN	**Nakanoshima**	**2.04**	**248**	S	**Sn**	**01 41 47.9**	**-0.5**
JNU	**Nakatsue**	**2.68**	**338**	Pn	**Pn**	**01 41 32.4**	**-0.4**
JNU	**Nakatsue**	**2.68**	**338**	Pn	**Pn**	**01 41 32.0**	**-0.8**
	6.1nm,0.3s,baz=197,slow=6.4,SNR=31						
JNU				Sn	**Sn**	**01 42 05.3**	**+0.9**
	20nm,0.3s,baz=141,slow=3.5,SNR=9.2						
	44nm,0.6s						
JMN	**Monobe**	**3.46**	**26**	Pn	**Pn**	**01 41 41.5**	**-2.0**
JMZ	**Minamidaito 2**	**4.84**	**189**	Pn	**Pn**	**01 42 04.9**	**+2.4**
JOW	**Kunigami**	**5.03**	**222**	Pn	**Pn**	**01 42 06.4**	**+1.4**
JOW	**Kunigami**	**5.03**	**222**	Pn	**Pn**	**01 42 04.3**	**-0.7**
	4.1nm,0.3s,baz=103,slow=25,SNR=11						
JOW				Sn	**Sn**	**01 42 59.0**	**-3.1**
	8.3nm,0.3s,baz=345,slow=28,SNR=8.1						
	12nm,0.3s						
JHJ	**Hachijo jima 2**	**7.03**	**67**	Pn	**Pn**	**01 42 31.2**	**-1.3**
	8.6nm,0.3s,baz=240,slow=20,SNR=1.7						
	32nm,0.3s						
KSRS	**Korea Array**	**7.62**	**334**	P	**Pn**	**01 42 40.0**	**-0.6**
KSRS	**Korea Array**	**7.62**	**334**	Pn	**Pn**	**01 42 40.0**	**-0.6**
	1.1nm,0.5s,baz=164,slow=13,SNR=1.5						
MAJO	**Matsushiro**	**7.82**	**39**	*e*P	**Pn**	**01 42 44.3**	**+0.9**
MJAR	**Matsushiro Ar**	**7.82**	**39**	Pn	**Pn**	**01 42 43.5**	**+0.1**
	0.5nm,0.3s,baz=237,slow=14,SNR=6.2						
	1.8nm,0.3s						
SSE	**Sheshan**	**9.35**	**276**	S	**Sn**	**01 44 48.8**	**+0.3**
SSE	**Sheshan**	**9.35**	**276**	LR	LR		
	comp=E,600nm,19.2s						
SSE	**Sheshan**	**9.35**	**276**	LR	LR		
	comp=N,710nm,19.0s						
SSE	**Sheshan**	**9.35**	**276**	pmax	pmax		
	comp=Z,10.0nm,0.9s						
SSE	**Sheshan**	**9.35**	**276**	pmax	pmax		
	comp=Z,160nm,3.8s						
SSE	**Sheshan**	**9.35**	**276**	P	**Pn**	**01 43 03.3**	**-1.0**
NJ2	**Nanjing**	**11.37**	**281**	*e*P	**Pn**	**01 43 31.9**	**-0.1**
NJ2				pP		01 43 39.1	
NJ2				sP		01 43 44.0	
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
USRK	**Ussuriysk Ar.**	**13.55**	**360**	Pn	**Pn**	**01 43 58.5**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=190,slow=15,SNR=2.7						
	comp=Z,2.9nm,0.9s						
MDJ	**Mudanjiang**	**14.10**	**353**	P	P	01 44 24.8	+8.2
MDJ				PP	PnPn	01 44 32.4	+15
MDJ				S	Sn	01 46 06.6	-38
HNS	**HongShan**	**15.88**	**300**	P	**P**	**01 44 36.9**	**+0.5**
HNS				S	**S**	**01 47 35.5**	**-6.2**
HNS				pmax	pmax		
	comp=Z,22nm,1.2s						
HNS				LR	LR		
	comp=N,1μm,17.9s						
HNS				LR	LR		
	comp=Z,750nm,18.6s						
BJT	**Baijiatuau**	**15.97**	**310**	Pn	**Pn**	**01 44 35.1**	**+0.9**
BJT	**Baijiatuau**	**15.97**	**310**	P	**Pn**	**01 44 35.1**	**+0.9**
BJT				pmax	pmax		
	comp=Z,38nm,1.4s						
LYN	**LuoYang**	**16.96**	**288**	*e*P	**P**	**01 44 49.0**	**+0.6**
LYN				S	**Sn**	**01 47 55.1**	**+0.8**
LYN				pmax	pmax		
	comp=Z,16nm,1.1s						
LYN				pmax	pmax		
	comp=Z,320nm,6.5s						
LYN				LR	LR		
	comp=N,2μm,15.1s						
LYN				LR	LR		
	comp=E,910nm,17.2s						
LYN				LR	LR		
	comp=Z,2μm,18.5s						
XLT	**XiLinHaoTe**	**18.32**	**321**	*e*P	**Pn**	**01 45 09.6**	**+6.1**
XLT				pP	sP	01 45 18.9	+5.2
XLT				sP	pwP	01 45 22.1	+9.4
XLT				PP	**PnPn**	**01 45 25.5**	**+10**
XLT				S	**S**	**01 48 37.5**	**+6.1**
XLT				sS	sS	01 48 45.5	+2.9
XLT				SS	**SnSn**	**01 48 54.5**	**+13**
XLT				pmax	pmax		
	comp=Z,8.0nm,0.5s						
XLT				pmax	pmax		
	comp=Z,180nm,4.3s						
XLT				LR	LR		
	comp=N,170nm,17.9s						
XLT				LR	LR		
	comp=E,710nm,15.3s						
XLT				LR	LR		
	comp=Z,1μm,11.9s						
KLR	**Kul'dur**	**18.58**	**359**	↑*i*P	**P**	**01 45 06.0**	**-0.2**
KLR				pmax	pmax		
	comp=Z,33nm,1.7s						
KLR	**Kul'dur**	**18.58**	**359**	P	**P**	**01 45 06.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=178,slow=9.3,SNR=9.2						
KLR				LR	LR	01 52 19.8	
	comp=Z,373nm,21.9s,baz=186,slow=37						
	comp=Z,6.2nm,0.9s						
HHC	**Hu-ho-hao-te**	**19.47**	**307**	*e*P	**Pn**	**01 45 18.1**	**+0.7**
HHC				PP	**PnPn**	**01 45 39.9**	**+9.0**
HHC				eS	**S**	**01 48 48.8**	**-5.8**
HHC				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC				pmax	pmax		
	comp=Z,160nm,4.6s						
HHC				LR	LR		
	comp=N,760nm,12.3s						
HHC				LR	LR		
	comp=E,2μm,13.2s						
HHC				LR	LR		
	comp=Z,2μm,13.1s						
XAN	**Xi'an**	**19.83**	**286**	↑P	**P**	**01 45 19.1**	**-1.0**
XAN				pP	pwP	01 45 28.0	-1.5
XAN				sP	sP	01 45 32.1	+1.9
XAN				pmax	pmax		
	comp=Z,18nm,1.3s						
XAN				pmax	pmax		
	comp=Z,260nm,5.7s						
XAN				LR	LR		
	comp=N,2μm,15.8s						
XAN				LR	LR		
	comp=E,1μm,17.9s						
XAN				LR	LR		
	comp=Z,2μm,16.5s						
HEH	**HeiHe**	**19.91**	**351**	*e*P	**P**	**01 45 21.4**	**+0.7**
HEH				pP	**pwP**	**01 45 29.6**	**-0.9**
HEH				S	**S**	**01 49 02.6**	**-0.7**
HEH				sS	**Sn**	**01 49 04.9**	**-0.6**
HEH				SS	**SnSn**	**01 49 17.3**	**-2.8**
HEH				pmax	pmax		
	comp=Z,12nm,0.9s						
HEH				pmax	pmax		
	comp=Z,310nm,5.4s						
HEH				LR	LR		
	comp=N,560nm,16.1s						
HEH				LR	LR		
	comp=E,660nm,15.8s						
HEH				LR	LR		
	comp=Z,560nm,21.3s						
BTO	**Baotou**	**20.44**	**305**	*e*P	Pn	01 45 29.8	+0.8
BTO				pP	sP	01 45 38.6	+1.6
BTO				sP	pwP	01 45 43.0	+6.7
BTO				PP	**PnPn**	**01 45 50.8**	**+6.5**
BTO				S	**S**	**01 49 15.4**	**+1.1**
BTO				sS	pS	01 49 26.3	-2.3
BTO				SS	**SnSn**	**01 49 43.1**	**+10**
BTO				pmax	pmax		
	comp=Z,20nm,0.7s						
BTO				pmax	pmax		
	comp=Z,270nm,5.0s						
BTO				LR	LR		
	comp=N,2μm,16.3s						
BTO				LR	LR		
	comp=E,1μm,12.0s						
BTO				LR	LR		
	comp=Z,2μm,14.5s						
GUMO	**Guam**	**20.67**	**142**	LR	LR	01 52 47.8	
	comp=Z,154nm,18.3s,baz=100,slow=35						
GYA	**Guiyang**	**22.67**	**266**	P	**P**	**01 45 51.4**	**+0.6**
GYA				pP	pwP	01 45 58.4	-2.1
GYA				pmax	pmax		
	comp=Z,17nm,0.5s						
GYA				LR	LR		
	comp=Z,840nm,16.6s						
QIZ	**Qiongzhong**	**23.18**	**245**	P	**P**	**01 45 55.5**	**-0.5**
QIZ				PcP	**PcP**	**01 49 43.5**	**-0.3**
QIZ				S	**S**	**01 50 06.8**	**+0.8**
QIZ				pmax	pmax		
	comp=Z,29nm,2.4s						
QIZ				pmax	pmax		
	comp=Z,220nm,2.2s						
QIZ				LR	LR		
	comp=N,1μm,13.1s						
QIZ				LR	LR		
	comp=E,1μm,12.4s						
QIZ				LR	LR		
	comp=Z,600nm,4.7s						
ZEA	**Zeya**	**23.36**	**353**	*e*P	**P**	**01 45 57.0**	**-0.4**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ZEA				MLR	MLR		
	comp=N,200nm,16.0s						
LZH	**Lanzhou**	**24.14**	**291**	*e*P	**P**	**01 46 05.0**	**-0.2**
LZH				pP	sP	01 46 14.0	-1.9
LZH				sP	pwP	01 46 19.3	+4.1
LZH				S	**S**	**01 50 15.3**	**-6.3**
LZH				sS	sS	01 50 31.5	-2.5
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
LZH				LR	LR		
	comp=N,970nm,17.5s						
LZH				LR	LR		
	comp=E,910nm,15.5s						
LZH				LR	LR		
	comp=Z,1μm,15.8s						
CD2	**Chengdu**	**24.29**	**278**	P	**P**	**01 46 05.9**	**-0.7**
CD2				pmax	pmax		
	comp=Z,20nm,0.4s						
CD2				LR	LR		
	comp=N,620nm,11.7s						
CD2				LR	LR		
	comp=E,740nm,9.6s						
CD2				LR	LR		
	comp=Z,1μm,11.4s						
ULN	**Ulaanbaatar**	**25.73**	**319**	P	**P**	**01 46 18.6**	**-1.0**
ULN	**Ulaanbaatar**	**25.73**	**319**	*e*P	**P**	**01 46 19.5**	**-0.1**
ULN				pmax	pmax		
	comp=Z,12nm,1.0s						
SONM	**Songino Array**	**26.09**	**318**	P	**P**	**01 46 22.5**	**-0.3**
SONM	**Songino Array**	**26.09**	**318**	P	**P**	**01 46 21.8**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=120,slow=8.8,SNR=5.6						
SONM				LR	LR	01 58 24.3	
	comp=Z,926nm,18.5s,baz=128,slow=41						
	comp=Z,1.4nm,0.8s						
SLVN	**Son La**	**26.88**	**257**	P	**P**	**01 46 30.3**	**+0.2**
SLVN				IAmb	IAmb	01 46 41.1	
	comp=Z,12nm,0.6s						
PZH	**PanZhiHua**	**26.89**	**269**	P	**P**	**01 46 30.9**	**+0.6**
PZH				S	**S**	**01 51 04.3**	**-1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,5.7s						
PZH				LR	LR		
	comp=N,580nm,14.9s						
PZH				LR	LR		

comp=E,580nm,13.5s
PZH LR LR
comp=Z,330nm,15.7s
GTA Gaotai 27.70 297 *e*P **P** **01 46 39.8 +2.4**
GTA sP pwP 01 46 59.9 +13
GTA pmax pmax
comp=Z,3.0nm,1.2s
PETK Petropavlovsk- 29.20 32 P **P** **01 46 50.9 +0.4**
comp=Z,7.0nm,0.9s,baz=209,slow=8.3,SNR=4.4
PETK LR LR 02 00 16.7
comp=Z,206nm,18.7s,baz=229,slow=40
comp=Z,7.0nm,0.9s
YAK Yakutsk 31.45 358 LR LR 02 01 32.6
comp=Z,10nm,18.0s,baz=134,slow=40
MA2 Magadan 31.59 18 LR LR 02 01 25.1
comp=Z,179nm,19.8s,baz=202,slow=39
CMAR Chiang Mai Arr 32.34 256 P **P** **01 47 18.8 +0.3**
CMAR Chiang Mai Arr 32.34 256‖ *e*P **P** **01 47 19.2 +0.7**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 32.34 256 P **P** **01 47 18.1 -0.4**
comp=Z,0.5nm,0.3s,baz=61,slow=5.8,SNR=4.2
CMAR LR LR 02 01 15.0
comp=Z,330nm,21.9s,baz=65,slow=38
comp=Z,0.5nm,0.3s
H11N2 WAKE ISLAND Hy 33.23 101 T T 02 22 29.2
baz=296,slow=74,SNR=18
H11N1 WAKE ISLAND Hy 33.23 101 T T 02 22 29.4
baz=296,slow=74,SNR=11
H11N3 WAKE ISLAND Hy 33.24 101 T T 02 22 30.5
baz=296,slow=74,SNR=17
WMQ Urumqi 37.26 303 *e*P **P** **01 48 02.3 +1.5**
WMQ LR LR
comp=N,270nm,18.1s
WMQ LR LR
comp=E,580nm,17.5s
WMQ LR LR
comp=Z,390nm,20.3s
ZALV Zalesovo Beam 40.99 319 P **P** **01 48 31.4 -0.3**
comp=Z,0.5nm,0.5s,baz=106,slow=7.7,SNR=2.3
ZALV PcP **PcP** **01 50 31.0 -0.5**
comp=Z,1.0nm,0.8s,baz=114,slow=6.5,SNR=3.5
ZALV LR LR 02 07 06.1
comp=Z,382nm,19.8s,baz=104,slow=39
comp=Z,0.5nm,0.5s
TIXI Tiksi 41.11 358 LR LR 02 06 30.0
comp=Z,22nm,21.3s,baz=190,slow=38
MKAR Makanchi Array 41.33 307‖ *e*P **P** **01 48 33.1 -1.6**
MKAR pmax pmax
comp=Z,2.0nm,1.0s
MKAR Makanchi Array 41.33 307 P **P** **01 48 33.8 -0.9**
comp=Z,1.5nm,0.9s,baz=87,slow=9.1,SNR=6.1
MKAR PcP **PcP** **01 50 33.4 +0.6**
comp=Z,0.7nm,0.8s,baz=85,slow=1.6,SNR=2.3
MKAR LR LR 02 07 32.5
comp=Z,342nm,20.1s,baz=109,slow=39
comp=Z,1.5nm,0.9s
GSI Gunungsitoli 43.79 235 P **P** **01 48 55.4 +0.4**
KURK Kurchatov 44.13 313 P **P** **01 48 55.7 -1.5**
KURK Kurchatov 44.13 313 *i* P **P** **01 48 56.8 -0.5**
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURBB Kurchatov Arra 44.17 313 P **P** **01 48 56.6 -1.0**
comp=Z,2.6nm,0.8s,baz=96,slow=8.8,SNR=18
KURBB PcP **PcP** **01 50 42.7 +0.6**
comp=Z,0.4nm,0.3s,baz=87,slow=4.7,SNR=1.8
KURBB LR LR 02 09 32.3
comp=Z,678nm,20.3s,baz=116,slow=39
comp=Z,2.6nm,0.8s
AAK Ala-Archa 46.89 301 LR LR 02 12 47.0
comp=Z,365nm,19.0s,baz=78,slow=41
BVAR Borovoye Array 49.37 316 P **P** **01 49 37.7 -0.7**
comp=Z,0.7nm,0.4s,baz=88,slow=10,SNR=7.0
BVAR LR LR 02 13 09.4
comp=Z,333nm,19.3s,baz=98,slow=39
comp=Z,0.7nm,0.4s
BRVK Borovoye 49.44 316 P **P** **01 49 38.4 -0.4**
BRVK Borovoye 49.44 316‖ *e*P **P** **01 49 37.9 -0.9**
BRVK pmax pmax
comp=Z,5.0nm,1.2s
KK31 Karatay Array 49.76 302 P **P** **01 49 40.0 -1.4**
KK31 Karatay Array 49.76 302 P **P** **01 49 40.0 -1.4**
KK31 pmax pmax
comp=Z,5.0nm,1.3s
KKAR Karatay Array 49.76 302 P **P** **01 49 40.8 -0.6**
KKAR Karatay Array 49.76 302 P **P** **01 49 40.3 -1.1**
KKAR Karatay Array 49.76 302 P **P** **01 49 40.3 -1.1**
WRA Warramunga Arr 50.33 177 P **P** **01 49 46.3 +0.5**
WRA Warramunga Arr 50.33 177 P **P** **01 49 46.3 +0.5**
WRA pmax pmax
comp=Z,1.0nm,1.4s
WRA Warramunga Arr 50.33 177 P **P** **01 49 45.6 -0.2**
comp=Z,1.7nm,0.8s,baz=354,slow=8.5,SNR=13
comp=Z,1.7nm,0.8s
WR0 Warramunga Arr 50.35 177 P **P** **01 49 46.9 +0.9**
CTA Charters Tower 52.24 163 LR LR 02 10 21.1
comp=Z,91nm,21.9s,baz=263,slow=34
PSA00 Pilbara Seismi 53.21 194 P **P** **01 50 08.1 +0.8**
PALK Pallekele 53.28 255 LR LR 02 13 36.1
comp=Z,155nm,21.0s,baz=154,slow=37
CHGN Chignik 53.93 40 P **P** **01 50 12.8 +0.6**
K17K Iditarod 53.98 32 P **P** **01 50 13.8 +1.2**
ASAR Alice Springs 54.01 178 P **P** **01 50 13.8 +0.6**
comp=Z,1.5nm,0.9s,baz=9.1,slow=7.2,SNR=10
ASAR LR LR 02 13 34.6
comp=Z,40nm,20.5s,baz=352,slow=36
comp=Z,1.5nm,0.9s
E19K Redstone River 54.73 26 P **P** **01 50 18.6 +0.7**
E19K IAmb IAmb 01 50 28.5
comp=Z,7.4nm,0.9s
H19K Roundabout Mou 54.92 29 P **P** **01 50 20.8 +1.5**
J19K Poorman 55.23 31 P **P** **01 50 22.6 +1.0**
J19K IAmb IAmb 01 50 23.1
comp=Z,5.3nm,0.7s
B21K Ikpikpuk River 55.85 24 P **P** **01 50 26.9 +1.0**
B21K IAmb IAmb 01 50 28.3
comp=Z,13nm,1.2s
J20K Nowinta River 55.88 31 P **P** **01 50 26.9 +0.7**
J20K IAmb IAmb 01 50 28.8
comp=Z,10nm,0.9s
IMAR Indian Mountai 56.05 28 P **P** **01 50 28.7 +1.3**
ARU Arti 56.11 320 LR LR 02 17 37.3
comp=Z,324nm,18.1s,baz=84,slow=39
ABKAR Akbulak array 56.19 311 P **P** **01 50 29.4 +0.7**
H21K Melozitna River 56.43 29 P **P** **01 50 31.6 +1.4**
H21K IAmb IAmb 01 50 32.8
comp=Z,11nm,1.2s
D22K Ayikyak River 56.50 25 P **P** **01 50 31.9 +1.2**
RSO Redoubt South 56.67 35 P **P** **01 50 32.8 +0.6**
I21K Tanana 56.79 29 P **P** **01 50 33.3 +0.5**
I21K IAmb IAmb 01 50 35.4
comp=Z,12nm,1.0s
CAST Castle Rocks 56.81 31 P **P** **01 50 34.1 +1.1**
E22K Anaktuvuk Pass 56.81 26 P **P** **01 50 33.6 +0.6**
E22K IAmb IAmb 01 50 35.4
comp=Z,12nm,1.1s
AKTO Aktyubinsk 57.23 313 LR LR 02 18 04.6
comp=Z,513nm,18.1s,baz=78,slow=39
MLY Manley 57.32 29 P **P** **01 50 37.7 +1.2**
MLY IAmb IAmb 01 50 38.9
comp=Z,6.8nm,1.0s
CNPM China Poot 57.52 36 P **P** **01 50 38.9 +0.9**
G23K Bananza Creek 57.53 27 P **P** **01 50 38.8 +0.7**
G23K IAmb IAmb 01 50 40.2
comp=Z,6.0nm,1.1s
TOLK Toolik Lake Re 57.64 25 P **P** **01 50 39.2 +0.5**
TOLK IAmb IAmb 01 50 41.0
comp=Z,10nm,1.2s
D24K Happy Valley 57.89 25 P **P** **01 50 41.9 +1.4**
D24K IAmb IAmb 01 50 42.7
comp=Z,12nm,1.2s
NEA2 Nenana 58.06 30 P **P** **01 50 42.7 +1.0**
NEA2 IAmb IAmb 01 50 43.8
comp=Z,11nm,0.9s
E24K Your Creek 58.06 26 P **P** **01 50 43.0 +1.3**
RND Reindeer 58.26 31 P **P** **01 50 44.0 +0.7**
RND Reindeer 58.26 31 P **P** **01 50 44.0 +0.7**
RND pmax pmax
comp=Z,13nm,0.9s
H24K Noodor Dome 58.46 28 P **P** **01 50 45.9 +1.4**
H24K IAmb IAmb 01 51 03.4
comp=Z,7.8nm,1.4s
KNK Knik Glacier 58.67 34 P **P** **01 50 46.3 +0.3**
SML Sawmill 58.68 33 P **P** **01 50 45.5 -0.7**
SML IAmb IAmb 01 51 13.0
comp=Z,7.5nm,1.0s

POKR Poker Plat Res 58.71 29 P **P** **01 50 47.7 +1.4**
D25K Kavik River 58.76 24 P **P** **01 50 47.6 +1.0**
IL31 58.98 30 P **P** **01 50 48.0 0.0**
IL31 IAmb IAmb 01 50 56.7
comp=Z,9.1nm,1.4s
ILAR Eielson Array 58.98 30 P **P** **01 50 48.0 -0.1**
ILAR Eielson Array 58.98 30 P **P** **01 50 47.8 -0.3**
comp=Z,1.8nm,0.8s,baz=264,slow=5.7,SNR=20
comp=Z,1.8nm,0.8s
HDA Harding Lake 58.99 30 P **P** **01 50 47.9 -0.3**
HDA IAmb IAmb 01 50 49.0
comp=Z,8.7nm,1.0s
E25K Arctic Village 59.15 26 P **P** **01 50 50.9 +1.6**
E25K IAmb IAmb 01 50 52.0
comp=Z,6.1nm,1.2s
FYU Fort Yukon 59.45 27 P **P** **01 50 52.1 +0.8**
GEYT Alibeck 60.07 299 LR LR 02 20 41.9
comp=Z,209nm,18.8s,baz=133,slow=40
SCRK Sand Creek 60.34 30 P **P** **01 50 57.7 +0.1**
SCRK IAmb IAmb 01 50 58.8
comp=Z,9.4nm,1.2s
J26L Joseph Creek 60.43 30 P **P** **01 50 58.3 +0.1**
J26L IAmb IAmb 01 50 59.1
comp=Z,4.6nm,0.9s
MENT Mentasta 60.63 31 P **P** **01 51 00.6 +1.1**
MENT IAmb IAmb 01 51 01.2
comp=Z,6.1nm,0.8s
KIRV Kirov 60.68 323 LR LR 02 21 05.6
comp=Z,291nm,18.6s,baz=72,slow=40
M26K Nabesna, AK 61.06 32 P **P** **01 51 03.3 +0.8**
M26K IAmb IAmb 01 51 04.6
comp=Z,6.9nm,1.0s
K27K Chicken 61.16 30 P **P** **01 51 04.3 +1.2**
E28M Babbage River 61.30 25 P **P** **01 51 05.0 +1.0**
E28M IAmb IAmb 01 51 06.5
comp=Z,9.7nm,1.4s
F28M Old Crow 61.36 26 P **P** **01 51 05.2 +0.7**
F28M IAmb IAmb 01 51 07.1
comp=Z,7.4nm,1.1s
I28M Miner Creek 61.77 28 P **P** **01 51 08.5 +1.2**
I28M IAmb IAmb 01 51 09.8
comp=Z,7.2nm,0.9s
G29M Pine Creek 62.21 26 P **P** **01 51 11.3 +1.2**
G29M IAmb IAmb 01 51 18.7
comp=Z,11nm,1.4s
I29M Ogilvie Camp, 62.45 28 P **P** **01 51 12.5 +0.7**
I29M IAmb IAmb 01 51 13.8
comp=Z,4.5nm,1.0s
STKA Stephens Creek 62.82 171 P **P** **01 51 15.4 +0.9**
STKA Stephens Creek 62.82 171 P **P** **01 51 15.4 +0.9**
STKA pmax pmax
comp=Z,4.0nm,1.5s
STKA Stephens Creek 62.82 171 P **P** **01 51 14.6 +0.1**
comp=Z,3.6nm,0.6s,baz=349,slow=7.6,SNR=7.0
STKA LR LR 02 18 40.0
comp=Z,62nm,19.8s,baz=26,slow=36
comp=Z,3.6nm,0.6s
EPYK Eagle Plains 62.84 27 P **P** **01 51 15.7 +1.3**
G30M tAoh Zraii Nji 62.88 26 P **P** **01 51 15.1 +0.5**
L29M L29M 63.08 31 P **P** **01 51 17.1 +1.0**
L29M IAmb IAmb 01 51 19.6
comp=Z,5.3nm,0.9s
BELG Belogornoye 63.13 317 LR LR 02 21 34.0
comp=Z,277nm,18.5s,baz=17,slow=39
K29M Barlow Dome 63.16 30 P **P** **01 51 17.5 +0.9**
K29M IAmb IAmb 01 51 18.4
comp=Z,4.3nm,0.8s
I30M Mount Dempster 63.27 28 P **P** **01 51 17.8 +0.4**
INK Inuvik 63.52 24 P **P** **01 51 19.5 +0.7**
INK IAmb IAmb 01 51 20.3
comp=Z,6.1nm,1.2s
INK Inuvik 63.52 24 P **P** **01 51 19.5 +0.7**
INK pmax pmax
comp=Z,6.0nm,1.2s
F31M Tsiigehtchic 63.69 25 P **P** **01 51 20.5 +0.6**
F31M IAmb IAmb 01 51 28.5
comp=Z,8.3nm,1.1s
A36M Sachs Harbour 64.99 20 P **P** **01 51 29.1 +0.8**
A36M IAmb IAmb 01 51 30.2
comp=Z,8.8nm,1.1s
SPITS Spitsbergen Ar 65.23 348 LR LR 02 21 19.4
comp=Z,229nm,20.1s,baz=22,slow=37
FARO Faro, Yukon 65.45 31 P **P** **01 51 32.3 +0.8**
MAK Makhachkala 66.15 307 *e*P **P** **01 51 33.9 -2.4**
MAK *e* 01 53 59.1
MAK *e*PPP PPP 01 55 34.6
MAK *e*S **S** **02 00 19.3 -3.8**
MAK *e*SS **SS** **02 04 36.2 -2.5**
MAK pmax pmax
comp=Z,444nm,1.3s
MAK MLR MLR
comp=Z,161nm,14.0s
C36M Paulatuk 66.39 22 P **P** **01 51 37.0 -0.3**
ARCES ARCESS Array B 67.16 339 LR LR 02 24 31.6
comp=Z,401nm,21.8s,baz=70,slow=39
OBN Obninsk 68.43 322 LR LR 02 25 30.1
comp=Z,262nm,19.7s,baz=334,slow=39
KBZ Khabaz 69.00 309 *i* P **P** **01 51 54.4 +0.1**
KBZ Khabaz 69.00 309 P **P** **01 51 54.7 +0.4**
KBZ comp=Z,1.8nm,0.9s,baz=67,slow=7.7,SNR=2.6
LR LR 02 26 29.4
comp=Z,272nm,19.9s,baz=80,slow=40
comp=Z,1.8nm,0.9s
KIV Kislovodsk 69.05 309 *e*P **P** **01 51 52.1 -2.7**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,119nm,17.0s
GNI Garni 69.11 305 LR LR 02 26 43.7
comp=Z,99nm,19.0s,baz=64,slow=40
RES Resolute Bay 70.59 12 P **P** **01 52 04.1 +0.5**
RES IAmb IAmb 01 52 06.0
comp=Z,5.1nm,1.1s
RES Resolute Bay 70.59 12 P **P** **01 52 04.1 +0.5**
RES pmax pmax
comp=Z,5.0nm,1.1s
RES Resolute Bay 70.59 12 LR LR 02 26 01.3
comp=Z,68nm,18.9s,baz=14,slow=38
FINES FINESS Array B 70.70 331 P **P** **01 52 04.1 -0.3**
FINES FINESS Array B 70.70 331 *i* P **P** **01 52 05.2 +0.8**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 70.70 331 P **P** **01 52 04.0 -0.4**
comp=Z,3.9nm,0.8s,baz=72,slow=4.5,SNR=6.4
FINES LR LR 02 26 33.7
comp=Z,443nm,19.0s,baz=64,slow=39
comp=Z,3.9nm,0.8s
YKA Yellowknife Ar 73.12 26 *i* P **P** **01 52 19.6 +0.7**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 73.12 26 P **P** **01 52 18.9 0.0**
comp=Z,1.0nm,0.8s,baz=305,slow=6.1,SNR=9.9
comp=Z,1.0nm,0.8s
MNK Minsk 73.22 324 *i* LRM MLR 02 25 26.6
comp=E,411nm,17.4s
MNK Minsk 73.22 324 *i* P **P** **01 52 17.6 -2.1**
MNK *i* 01 52 34.1
MNK *i* 01 55 00.0
MNK *i* PPP PPP 01 56 41.9
MNK *i* S **S** **02 01 42.8 -3.1**
MNK *i* 02 02 22.7
MNK *i* SS **SS** **02 06 24.8 -2.1**
MNK *i* SSS SSS 02 09 45.9
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=Z,4.0nm,0.7s
MNK MLR MLR
comp=N,1µm,15.0s
MNK MLR MLR
comp=Z,211nm,17.0s
MNK MLR MLR
comp=E,411nm,17.0s
MNK Minsk 73.22 324 *i* P **P** **01 52 17.6 -2.1**
comp=Z,4.0nm,0.7s,baz=61
MNK Minsk 73.22 324 *i* P **P** **01 52 17.6 -2.1**
comp=E,2.0nm,0.7s
MNK Minsk 73.22 324 *i* P **P** **01 52 17.6 -2.1**
comp=N,10.0nm,0.9s
MNK Minsk 73.22 324 *i* PcP **PcP** **01 52 34.1 -2.0**
MNK Minsk 73.22 324 *i* PP PP 01 55 00.1 -2.4
MNK Minsk 73.22 324 *i* PPP PPP 01 56 41.9
MNK Minsk 73.22 324 *i* S **S** **02 01 42.9 -3.1**
MNK Minsk 73.22 324 *i* ScS **SKSac** **02 02 22.8 -0.9**

MNK Minsk 73.22 324 *i* SS SS 02 06 24.8 -2.0
MNK Minsk 73.22 324 *i* SSS SSS 02 09 46.0
MNK Minsk 73.22 324 *i* LQ LQ 02 18 22.2
MNK Minsk 73.22 324 *i* LR LR 02 24 15.4
MNK Minsk 73.22 324 *i* LRM MLR 02 25 22.8
comp=N,1µm,15.5s
MNK Minsk 73.22 324 *i* LRM MLR 02 25 24.1
comp=Z,211nm,17.4s
NACGM Naroch 73.58 324 *e*P P 01 52 11.1 -11
comp=Z,11nm,0.8s,baz=61
AKASG Malin Array Be 74.36 320 P **P** **01 52 27.1 +0.7**
comp=Z,1.4nm,0.7s,baz=56,slow=5.3,SNR=8.3
AKASG LR LR 02 28 12.6
comp=Z,292nm,20.1s,baz=32,slow=38
comp=Z,1.4nm,0.7s
HFS Hagfors 76.47 333 P **P** **01 52 37.8 -0.6**
comp=Z,2.4nm,0.8s,baz=89,slow=9.4,SNR=2.8
HFS LR LR 02 29 29.5
comp=Z,221nm,19.2s,baz=52,slow=38
comp=Z,2.4nm,0.8s
NB2 NORSAR Subarra 76.83 335 P **P** **01 52 41.0 +0.5**
comp=Z,5.7nm,1.2s,baz=49,slow=5.9
NOA NORSAR Array B 76.83 335 P **P** **01 52 40.9 +0.5**
comp=Z,2.0nm,1.0s,baz=48,slow=5.9,SNR=3.7
NOA LR LR 02 30 18.4
comp=Z,272nm,19.6s,baz=45,slow=39
comp=Z,2.0nm,1.0s
BRTR Keskin Array B 76.97 308 P **P** **01 52 41.2 -0.6**
BRTR Keskin Array B 76.97 308 P **P** **01 52 41.2 -0.6**
BRTR Keskin Array B 76.97 308 P **P** **01 52 42.6 +0.8**
comp=Z,0.9nm,0.8s,baz=54,slow=7.3,SNR=4.8
comp=Z,0.9nm,0.8s
BUR08 Bucovina Ar. S 78.20 319 P **P** **01 52 48.7 +0.2**
BUR08 IAmb IAmb 01 52 58.1
comp=Z,5.7nm,1.1s
BURAR Bucovina Array 78.21 319 P **P** **01 52 48.8 +0.3**
MLR Muntele Rosu 78.92 316 LR LR 02 31 32.1
comp=Z,308nm,18.2s,baz=55,slow=39
NEW Newport 80.08 39 P **P** **01 52 59.0 +0.4**
NEW Newport 80.08 39 P **P** **01 52 59.0 +0.4**
NEW pmax pmax
comp=Z,3.0nm,1.1s
TKNZ Takaka Hill 80.72 150 P **P** **01 53 02.9 +1.0**
EIL Elat 80.97 299 LR LR 02 31 43.3
comp=Z,64nm,21.9s,baz=64,slow=38
VYHS Vyhne 81.23 322 *e*P **P** **01 53 07.0 +2.2**
VYHS Vyhne 81.23 322 *e*P **P** **01 53 07.0 +2.2**
DPC Dobruska-Polom 81.40 324 *e*P **P** **01 53 06.0 +0.3**
DPC Dobruska-Polom 81.40 324 *e*P **P** **01 53 06.0 +0.3**
VRAC Vranov 81.91 323 LR LR 02 34 21.1
comp=Z,271nm,18.2s,baz=50,slow=39
PLWZ Palliser 82.16 149 P **P** **01 53 10.9 +1.4**
CLL Collm 82.42 326 P **P** **01 53 10.5 -0.4**
CLL IAmb IAmb 01 53 20.5
comp=Z,8.6nm,1.0s
CLL Collm 82.42 326 *i* P **P** **01 53 11.1 +0.2**
comp=Z,9.0nm,0.9s
CLL AMS AMS 01 33 00.0
comp=N,400nm,20.4s
CLL AMS AMS 01 33 00.0
comp=E,200nm,18.7s
CLL AMS AMS 01 33 00.0
comp=Z,400nm,21.9s
CLL *i* x x 01 53 19.9
CLL AMS AMS 03 26 00.0
comp=Z,300nm,19.3s
CLL Collm 82.42 326 *i* P **P** **01 53 11.1 +0.2**
CLL *i* *PP **sP** **01 53 19.9 -2.2**
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL MLR MLR
comp=Z,400nm,21.9s
SFJD Kangerlussuaq 82.66 1 LR LR 02 32 13.9
comp=Z,119nm,18.1s,baz=356,slow=37
OVMT Ovando 83.03 39 P **P** **01 53 14.3 -0.1**
ZVC Zvikov 83.05 324 *e*P **P** **01 53 15.4 +1.1**
RONA Rosalia, Austr 83.06 322 *e*PcP **PcP** **01 53 17.8 -1.3**
comp=Z,6.8nm,1.6s
CONA Conrad Observa 83.15 323 *e*PcP **P** **01 53 16.9 +2.0**
comp=Z,7.4nm,1.3s
MPK Martis Peak 83.46 48 P **P** **01 53 16.8 -0.1**
MPK IAmb IAmb 01 53 19.7
comp=Z,10nm,1.5s
KHC Kasperske Hory 83.55 324 P **P** **01 53 16.6 -0.4**
KHC IAmb IAmb 01 53 26.9
comp=Z,5.2nm,1.1s
KHC Kasperske Hory 83.55 324 *e*P **P** **01 53 18.5 +1.6**
KHC Kasperske Hory 83.55 324‖ *i*P **P** **01 53 17.9 +1.0**
KHC pmax pmax
comp=Z,12nm,1.1s
ELMT Elliston 83.64 39 P **P** **01 53 17.7 +0.1**
PAHR Pah Rah Range 83.64 47 P **P** **01 53 17.3 -0.4**
MFID Camas Ranch 83.65 43 P **P** **01 53 17.7 +0.1**
GERES GERESS Array B 83.67 324 P **P** **01 53 17.4 +0.3**
GERES GERESS Array B 83.67 324 P **P** **01 53 17.4 -0.3**
GERES GERESS Array B 83.67 324 P **P** **01 53 18.4 +0.8**
comp=Z,1.4nm,0.8s,baz=38,slow=5.0,SNR=8.4
comp=Z,1.4nm,0.8s
ARSA Arzberg 83.75 322 *i* P **P** **01 53 18.2 +0.2**
comp=Z,7.9nm,1.2s
PNTR Pine Nut 83.85 48 P **P** **01 53 19.2 +0.3**
PNTR IAmb IAmb 01 53 22.3
comp=Z,3.1nm,0.8s
CMB Columbia Colle 83.94 49 P **P** **01 53 19.2 +0.1**
CMB IAmb IAmb 01 53 56.4
comp=Z,5.1nm,1.4s
CMB Columbia Colle 83.94 49 P **P** **01 53 19.2 +0.1**
CMB pmax pmax
comp=Z,5.0nm,1.4s
MOA Molln 84.03 323 *i* PcP **P** **01 53 20.3 +0.9**
comp=Z,6.5nm,1.3s
GRA1 Grafenberg Arr 84.34 326 P **P** **01 53 21.4 +0.5**
GRF Grafenberg Arr 84.34 326 P **P** **01 53 21.4 +0.5**
GRF pmax pmax
comp=Z,18nm,1.1s
GRFO Grafenberg 84.34 326 P **P** **01 53 21.6 +0.7**
GRFO Grafenberg 84.34 326 P **P** **01 53 21.6 +0.7**
GRFO pmax pmax
comp=Z,18nm,1.1s
SOKA Soboth 84.38 322 *i* PcP **P** **01 53 22.8 +1.6**
comp=Z,8.9nm,1.0s
HLID Hailey 84.38 42 P **P** **01 53 21.5 0.0**
BIOA Bad Ischl, Aus 84.45 323 *e*PcP **P** **01 53 23.8 +2.3**
comp=Z,5.6nm,1.0s
FRB Frobisher Bay 84.54 9 LR LR 02 32 10.1
comp=Z,114nm,19.8s,baz=5.0,slow=36
KVN Kaiserville 84.83 47 P **P** **01 53 23.8 0.0**
KVN IAmb IAmb 01 53 25.4
comp=Z,7.4nm,1.2s
KVN Kaiserville 84.83 47 P **P** **01 53 23.8 0.0**
KVN pmax pmax
comp=Z,7.0nm,1.2s
NVAR Mina Array Bea 85.06 48 P **P** **01 53 25.6 +0.5**
NVAR Mina Array Bea 85.06 48 P **P** **01 53 25.7 +0.7**
comp=Z,2.1nm,0.7s,baz=297,slow=5.6,SNR=19
comp=Z,2.1nm,0.7s
LESA Schwarzleotal 85.12 324 *i* PcP **P** **01 53 26.1 +1.1**
comp=Z,7.9nm,1.3s
IDI Anoyia 85.21 308 LR LR 02 37 07.5
comp=Z,81nm,20.4s,baz=42,slow=40
WTTA Wattenberg 85.76 324 *e*PcP **P** **01 53 28.9 +0.7**
comp=Z,7.9nm,1.4s
TPH Tonopah 85.96 48 P **P** **01 53 29.9 +0.4**
TPH Tonopah 85.96 48 P **P** **01 53 29.9 +0.4**
TPH pmax pmax
comp=Z,38nm,1.2s
GMN Gold Mountain 86.39 48 P **P** **01 53 31.4 -0.2**
DAVOX Davos/Dischmat 86.97 324 LR LR 02 37 39.6
comp=Z,370nm,18.9s,baz=46,slow=39
HWUT Hardware Ranch 87.25 42 P **P** **01 53 36.2 +0.5**
HWUT IAmb IAmb 01 53 37.8
comp=Z,5.5nm,1.2s
PDAR Pinedale Array 87.64 40 P **P** **01 53 37.9 +0.2**
comp=Z,0.7nm,0.8s,baz=31,slow=0.9,SNR=7.5
comp=Z,0.7nm,0.8s
SCHQ Schefferville 93.35 11 LR LR 02 39 06.1
comp=Z,117nm,19.0s,baz=52,slow=38
ESDC Sonseca Array 99.00 327 LR LR 02 45 17.3
comp=Z,187nm,19.1s,baz=52,slow=39

TAP 19 01:41:29.2, 24.73N×122.45E, h27$^{km}_{\pm 1km}$, ML2.4, C,
Taiwan region

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

EOS2	**EOS2** baz=213	**0.37**	**213**	*i* P		Pb	01 41 38.0	+0.6
EOS2	baz=213			*i* S		Sn	01 41 44.4	-0.6
EOS3	**EOS3** baz=195	**0.46**	**196**	P		Pn	01 41 39.4	-0.5
EOS3	baz=195			S		Sn	01 41 47.6	+0.4
TWB1	**Santiao Chiao** baz=303	**0.51**	**303**	*e*P		Pn	01 41 40.3	-0.4
TWB1	baz=303			*e*S		Sn	01 41 47.8	-0.8
TWC	**Suao** baz=257	**0.56**	**258**	*e*P		Pb	01 41 40.7	+0.1
TWC	baz=257			*e*S		Sn	01 41 49.3	-0.7
YOJ	**Yonaguni jima** baz=117	**0.57**	**118**	*e*P		Pb	01 41 40.9	+0.2
EOS4	**EOS4** baz=191	**0.62**	**192**	*e*P		Pn	01 41 42.1	+0.1
SXI1	**Grass Mountain** baz=304	**0.64**	**305**	*e*P		Pn	01 41 42.9	+0.3
EWUT	**Wuta** baz=245	**0.68**	**245**	*e*S		Sn	01 41 53.0	+0.2

IDC ***19*** *01:48:05.6±1.2,33.51N×138.59E,h0km,mb3.6/3, mbtmp3.6/4,ML2.8/1,Error ellipse: s-maj=24.5km s-min=16.4km az=44.0*
JMA ***19*** *01:48:08.9±0.2,34.3N±0.6×140.4E±0.7,h62km±2km, MV3.2/33,FAR S OFF BOSO PENINSULA*

ISC 19 01:48:08.5±1.1,34°20N±0.04×140°41E±0.07,h69km±9km, n20,σ1§01/28,mb3.5/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.61**	**7**	P	**Pn**	**01 48 22.0**	**-0.1**
BSO3				X		01 48 32.2	
BSO1	**Boso 1**	**0.65**	**45**	*i* P	**Pn**	**01 48 22.3**	**0.0**
JMYK	**Miyake Tsubota**	**0.73**	**260**	P	**Pn**	**01 48 24.0**	**+0.3**
JMYK				S	**Sn**	**01 48 35.5**	**+0.6**
JMKN	**Mikurajimanish**	**0.75**	**246**	P	**Pn**	**01 48 24.2**	**+0.3**
JMKN				S	**Sn**	**01 48 35.6**	**+0.4**
BSO4	**Boso 4**	**0.79**	**356**	P	**Pn**	**01 48 24.4**	**+0.1**
TATJ	**Tateyama 2**	**0.94**	**333**	P	**Pn**	**01 48 26.5**	**+0.3**
TATJ				*e*S	**Sn**	**01 48 39.6**	**+0.3**
JIM2	**Oshima 3**	**0.96**	**303**	P	**Pn**	**01 48 26.2**	**-0.4**
JIM2				S	**Sn**	**01 48 38.7**	**-1.2**
JTHY	**Toshimahigashi**	**0.99**	**290**	P	**Pn**	**01 48 27.2**	**+0.4**
JTHY				S	**Sn**	**01 48 40.4**	**0.0**
JHJ2	**Mitsune**	**1.19**	**205**	P	**Pn**	**01 48 30.5**	**+1.1**
JHJ2				S	**Sn**	**01 48 46.0**	**+1.0**
JHJ	**Hachijo jima 2** 51nn,0.3s,baz=307,slow=20,SNR=12	**1.20**	**206**	Pn	**Pn**	**01 48 28.2**	**-1.2**
JHJ	112nn,0.3s,baz=288,slow=23,SNR=30			Sn	**Sn**	**01 48 45.2**	**+0.1**
KTJ3	**Kamata3**	**1.33**	**304**	P	**Pn**	**01 48 30.9**	**-0.3**
KTJ3				S	**Sn**	**01 48 47.0**	**-1.2**
JIZS	**Izushimoda**	**1.37**	**293**	P	**Pn**	**01 48 31.9**	**+0.2**
JIZS				S	**Sn**	**01 48 49.2**	**0.0**
JOD2	**Odawara 2**	**1.52**	**315**	P	**Pn**	**01 48 33.5**	**-0.3**
JOD2				S	**Sn**	**01 48 51.7**	**-1.2**
MJAR	**Matsushiro Arr** 1.1nn,0.3s,baz=165,slow=32,SNR=18	**2.95**	**323**	Pn	**Pn**	**01 48 53.6**	**+0.5**
MJAR	0.6nn,0.3s,baz=260,slow=13,SNR=6.6 6.7nn,0.3s			Sn	**Sn**	**01 49 31.1**	**+3.7**
H11N2	**WAKE ISLAND Hy** baz=308	**27.55**	**115**	T	T	02 23 49.3	
H11N1	**WAKE ISLAND Hy** baz=308	**27.55**	**115**	T	T	02 23 48.5	
H11N3	**WAKE ISLAND Hy** baz=308	**27.57**	**115**	T	T	02 23 46.8	
MKAR	**Makanchi Array** 0.4nn,0.5s,baz=85,slow=9.7,SNR=4.3 0.4nn,0.5s	**44.99**	**304**	P	**P**	**01 56 16.2**	**-0.7**
KURBB	**Kurchatov Arra** 0.4nn,0.2s,baz=86,slow=7.5,SNR=1.8 0.4nn,0.2s	**47.15**	**310**	P	**P**	**01 56 34.1**	**+0.4**
WRA	**Warramunga Arr** 0.2nn,0.4s,baz=3.2,slow=7.6,SNR=2.7 0.2nn,0.4s	**54.15**	**187**	P	**P**	**01 57 26.3**	**-0.4**

HEL 19 01:50:24.1±0.0,61°66N×24°17E,h1km,ML1.4, Confirmed Induced event,Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEF	**Keuruu**	**0.60**	**33**	*e*P	Pg	01 50 34.7	-0.9
KEF				*e*S	Sg	01 50 42.7	-0.8
FIA0	**FINESS Array S**	**0.94**	**103**	*e*P	Pg	01 50 40.9	-1.2
FIA0				*e*S	Sg	01 50 52.6	-1.5
FIA1	**FINESS Array S**	**0.94**	**103**	*e*P	Pg	01 50 40.9	-1.2
FIA1				*e*S	Sg	01 50 52.6	-1.6
KPF	**Kankaanpaa**	**1.01**	**281**	*e*P	Pg	01 50 41.5	-2.0
KPF				*e*S	Sg	01 50 54.7	-2.0
KAF	**Kangasniemi**	**1.11**	**65**	*e*P	Pg	01 50 43.9	-1.4
KAF				*e*S	Sg	01 50 58.5	-1.2
NUR	**Nurmijrvi**	**1.18**	**168**	*e*P	Pg	01 50 45.5	-1.2
NUR				*e*S	Sg	01 51 00.4	-1.6
RAF	**Rauma**	**1.33**	**242**	*e*P	Pg	01 50 47.6	-1.9
RAF				*e*S	Sg	01 51 04.8	-1.8
PVF	**Pernaja**	**1.39**	**143**	*e*P	Pn	01 50 49.0	-1.6
PVF				*e*S	Sg	01 51 06.1	-2.5
SUF	**Sumiainen**	**1.41**	**40**	*e*P	Pn	01 50 49.2	-1.6
SUF				*e*S	Sg	01 51 07.6	-1.7
MEF	**Metsahovi**	**1.46**	**176**	*e*P	Pn	01 50 50.1	-1.3
MEF				*e*S	Sg	01 51 08.8	-1.9
HEL1	**Helsinki**	**1.53**	**167**	*e*S	Sn	01 51 11.3	-1.7
VAF	**Ylistaro**	**1.55**	**334**	*e*P	Pn	01 50 52.0	-0.8
VAF				*e*S	Sn	01 51 11.8	-1.8
VAF	comp=Z,3.2nm,0.1s			MSG		01 51 13.3	
VJF	**Virojoki** comp=Z,1.4nm,0.1s	**1.99**	**123**	MSG		01 51 28.0	
RUF	**Ruokolahti** comp=Z,2.2nm,0.2s	**2.30**	**94**	MSG		01 51 35.5	
NIF	**Nilsia** comp=Z,0.8nm,0.1s	**2.42**	**43**	MSG		01 51 38.5	

IDC ***19*** *02:29:05.7±1.0,12.63N×143.79E,h0km,mb3.5/6, mbtmp3.5/6,MS3.9/1,Error ellipse: s-maj=34.8km s-min=17.7km az=123.0*

ISC 19 02:29:09.9±1.0,12°6N±0.2×143°8E±0.2,h27km,n14, σ1§08/8,mb3.5/6,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam** 30nn,0.3s,baz=223,slow=1.4,SNR=10	**1.42**	**48**	Pn	**Pn**	**02 29 32.5**	**-1.4**
GUMO	143nn,0.3s,baz=285,slow=3.4,SNR=14			Sn	**Sn**	**02 29 52.1**	**+0.4**
H11S3	**WAKE ISLAND Hy** baz=258,slow=75,SNR=5.8	**22.80**	**72**	T	T	02 58 04.1	
H11S1	**WAKE ISLAND Hy** baz=258,slow=75,SNR=5.9	**22.82**	**72**	T	T	02 58 05.0	
H11S2	**WAKE ISLAND Hy** baz=258,slow=75,SNR=6.7	**22.82**	**72**	T	T	02 58 04.6	
H11N1	**WAKE ISLAND Hy** baz=255,slow=75,SNR=12	**23.26**	**69**	T	T	02 58 36.8	
H11N2	**WAKE ISLAND Hy** baz=255,slow=75,SNR=7.1	**23.27**	**69**	T	T	02 58 39.5	
H11N3	**WAKE ISLAND Hy** baz=255,slow=75,SNR=12	**23.28**	**69**	T	T	02 58 38.5	
WRA	**Warramunga Arr** 0.9nn,0.6s,baz=20,slow=9.7,SNR=20 0.9nn,0.6s	**33.68**	**196**	P	**P**	**02 35 48.3**	**-0.5**
ASAR	**Alice Springs** 0.2nn,0.5s,baz=20,slow=13,SNR=4.9 0.2nn,0.5s	**37.35**	**195**	P	**P**	**02 36 20.1**	**-0.2**
SEY	**Seymchan** comp=Z,118nn,20.8s,baz=218,slow=32	**50.60**	**5**	LR	LR	02 56 15.1	
MKAR	**Makanchi Array** 0.3nn,0.8s,baz=86,slow=7.8,SNR=3.0 0.3nn,0.8s	**61.45**	**317**	P	**P**	**02 39 24.3**	**+0.2**
BVAR	**Borovoye Array** 0.2nn,0.4s,baz=104,slow=6.1,SNR=1.6 0.2nn,0.4s	**70.03**	**322**	P	**P**	**02 40 18.5**	**-0.7**
YKA	**Yellowknife Ar** 0.2nn,0.6s,baz=277,slow=6.8,SNR=1.5 0.2nn,0.6s	**84.19**	**27**	P	**P**	**02 41 39.3**	**+0.8**
NVAR	**Mina Array Bea**	**88.34**	**51**	P	**P**	**02 42 01.2**	**+1.4**
	0.2nn,0.5s,baz=294,slow=6.8,SNR=2.0 0.2nn,0.5s						

IDC ***19*** *02:29:17.8±0.7,12.65N×143.78E,h0km,mb3.8/10, mbtmp3.8/10,Error ellipse: s-maj=26.1km s-min=16.2km az=118.0*
NEIC ***19*** *02:29:22.6±0.7,12.75N±0.06×143.7E±0.1,h35km±1km, mb4.4/13,Error ellipse: s-maj=22.8km s-min=8.3km az=284.0*

ISC 19 02:29:21.5±0.6,12°72N±0.09×143°7E±0.1,h27km,n32, σ1§01/35,mb4.3/17,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.39**	**52**	Pn	**Pn**	**02 29 45.7**	**+0.5**
GUMO	**Guam** 131nn,0.3s,baz=240,slow=4.3,SNR=27	**1.39**	**52**	Pn	**Pn**	**02 29 45.5**	**+0.2**
GUMO	90nn,0.3s,baz=62,slow=21,SNR=7.2			Sn	**Sb**	**02 30 04.0**	**-0.3**
JCJ	**Chichijima**	**14.38**	**354**	Pn	**Pn**	**02 32 41.5**	**-1.8**
KSAR	**Wonju Array Be**	**28.41**	**333**	P	**P**	**02 35 13.1**	**-0.8**
WB0	**Warramunga Arr**	**33.57**	**196**	P	**P**	**02 35 58.6**	**-0.9**
WB0	comp=Z,3.5nm,0.6s			IAmb	IAmb	02 35 59.9	
WR0	**Warramunga Arr**	**33.72**	**196**	P	**P**	**02 36 00.3**	**-0.5**
WR0	comp=Z,2.6nm,0.6s			IAmb	IAmb	02 36 01.0	
WB2	**Warramunga Arr**	**33.75**	**196**	P	**P**	**02 36 00.4**	**-0.7**
WRA	**Warramunga Arr**	**33.75**	**196**	P	**P**	**02 35 59.7**	**-1.4**
WRA	**Warramunga Arr** comp=Z,2.6nm,0.5s,baz=20,slow=9.6,SNR=11	**33.75**	**196**	P	**P**	**02 36 00.5**	**-0.6**
WRA	comp=Z,0.3nm,0.8s,baz=7.1,slow=2.9,SNR=2.1 comp=Z,2.6nm,0.5s			PcP	**PcP**	**02 38 41.2**	**+0.9**
AS31	**Alice Springs**	**37.42**	**195**	P	**P**	**02 36 32.6**	**-0.1**
ASAR	**Alice Springs**	**37.42**	**195**	P	**P**	**02 36 31.6**	**-1.0**
ASAR	**Alice Springs** comp=Z,0.3nm,0.4s,baz=15,slow=12,SNR=9.3	**37.42**	**195**	P	**P**	**02 36 32.2**	**-0.4**
ASAR	comp=Z,0.6nm,0.6s,baz=34,slow=2.8,SNR=6.2 comp=Z,0.3nm,0.4s			PcP	**PcP**	**02 38 51.6**	**+0.5**
EIDS	**Eidsvold**	**38.53**	**169**	P	**P**	**02 36 41.3**	**-0.6**
SONM	**Songino Array** comp=Z,0.2nm,0.4s,baz=128,slow=12,SNR=1.3 comp=Z,0.2nm,0.4s	**46.82**	**326**	P	**P**	**02 37 51.6**	**+2.5**
MKAR	**Makanchi Array** comp=Z,0.9nm,1.0s,baz=118,slow=16,SNR=1.9 comp=Z,0.9nm,1.0s	**61.36**	**317**	P	**P**	**02 39 37.2**	**+2.0**
KURK	**Kurchatov**	**64.54**	**320**	P	**P**	**02 39 55.1**	**-1.0**
KURK	comp=Z,2.1nm,0.7s			IAmb	IAmb	02 39 58.4	
KURBB	**Kurchatov Arra** comp=Z,0.3nm,0.3s,baz=88,slow=3.0,SNR=1.0 comp=Z,0.3nm,0.3s	**64.58**	**320**	P	**P**	**02 39 56.8**	**+0.4**
KDAK	**Kodiak Island**	**65.38**	**32**	P	**P**	**02 40 02.5**	**+1.1**
J19K	**Poorman** comp=Z,2.8nm,1.1s	**65.96**	**25**	P	**P**	**02 40 04.9**	**-0.2**
J19K				IAmb	IAmb	02 40 09.6	
B20K	**Meade River**	**67.80**	**19**	P	**P**	**02 40 16.4**	**-0.3**
KLU	**Klutina** comp=Z,6.0nm,1.4s	**69.54**	**29**	P	**P**	**02 40 28.1**	**+0.3**
KLU				IAmb	IAmb	02 40 34.2	
ILAR	**Eielson Array** comp=Z,0.2nm,0.8s,baz=251,slow=5.6,SNR=4.5 comp=Z,0.2nm,0.8s	**69.82**	**25**	P	**P**	**02 40 28.8**	**-0.5**
BVAR	**Borovoye Array** comp=Z,0.4nm,0.4s,baz=110,slow=7.9,SNR=5.3 comp=Z,0.4nm,0.4s	**69.93**	**322**	P	**P**	**02 40 30.9**	**+0.6**
BMAR	**Burnt Mountain**	**71.32**	**23**	P	**P**	**02 40 39.4**	**+0.9**
M29M	**Somme Creek**	**73.16**	**28**	P	**P**	**02 40 49.5**	**-0.3**
N31M	**Braeburn, Yuko**	**74.37**	**29**	P	**P**	**02 40 55.3**	**-1.4**
G31M	**Satah River**	**75.24**	**24**	P	**P**	**02 41 01.4**	**-0.2**
G31M	comp=Z,7.8nm,1.5s			IAmb	IAmb	02 41 03.8	
F31M	**Tsiigehtchic**	**75.47**	**23**	P	**P**	**02 41 02.5**	**-0.4**
F31M	comp=Z,4.6nm,0.7s			IAmb	IAmb	02 41 08.3	
V35K	**Ketchikan**	**76.61**	**36**	P	**P**	**02 41 08.7**	**-0.9**
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.4s,baz=273,slow=5.4,SNR=1.7 comp=Z,0.1nm,0.4s	**84.13**	**27**	P	**P**	**02 41 50.7**	**+0.8**
NVAR	**Mina Array Bea** comp=Z,1.1nm,0.7s,baz=264,slow=6.0,SNR=9.0 comp=Z,1.1nm,0.7s	**88.31**	**51**	P	**P**	**02 42 13.1**	**+1.7**
FINES	**FINESS Array B** comp=Z,2.5nm,0.9s,baz=51,slow=5.5,SNR=3.9 comp=Z,2.5nm,0.9s	**91.48**	**335**	P	**P**	**02 42 24.4**	**-0.9**

IDC ***19*** *02:33:49.4±0.7,30.64N×132.04E,h0km,mb4.0/17, mbtmp4.0/22,ML3.7/5,MS4.1/28,Error ellipse: s-maj=18.8km s-min=15.7km az=90.0*
MOS ***19*** *02:33:50.4±1.1,30.63N×131.99E,h17km,mb4.4/11,Error ellipse: s-maj=12.9km s-min=7.9km az=101.5*
JMA ***19*** *02:33:51.7±0.2,30.6N±0.6×13.2E±,h61km±4km, MV3.8/31,E OFF TANEGASHIMA ISLAND*
NEIC ***19*** *02:33:52.5±1.0,30.67N±0.03×132.00E±0.09,h10km±1km, mb4.8/88,Error ellipse: s-maj=13.8km s-min=6.1km az=96.0*

ISC 19 02:33:51.0±1.1,30°63N±0.04×132°09E±0.04,h7km±6km, n191,σ2§01/190,mb4.7/69,MS4.2/36,6C-2D,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.95**	**272**	P	**Pn**	**02 34 09.9**	**-1.0**
JTN				*e*S	**Sn**	**02 34 23.5**	**-1.3**
JMTN	**Minamitane**	**1.05**	**257**	P	**Pn**	**02 34 11.4**	**-0.8**
JNAR	**Kushima--Naru**	**1.13**	**322**	P	**Pg**	**02 34 12.2**	**-0.6**
JNAR				*e*S	**Sg**	**02 34 27.9**	**+0.4**
JTSR	**Tashiro 2**	**1.13**	**298**	*e*P	**Pg**	**02 34 11.8**	**-1.0**
JNKG	**Nichinankitago**	**1.19**	**330**	*e*P	**Pg**	**02 34 13.2**	**-0.7**
JNKG				*e*S	**Sg**	**02 34 29.1**	**-0.3**
JYAK	**Yakushimahirau**	**1.42**	**254**	P	**Pb**	**02 34 16.4**	**-1.4**
JTZ	**Takazaki**	**1.53**	**326**	P	**Pn**	**02 34 17.7**	**-1.1**
JTZ				S	**Sn**	**02 34 36.7**	**-2.2**
JNN	**Nakanoshima**	**2.07**	**248**	*e*P	**Pn**	**02 34 25.8**	**-0.5**
JIU3	**Izumi3**	**2.20**	**331**	P	**Pn**	**02 34 27.4**	**-0.7**
JIU3				S	**Sn**	**02 34 53.4**	**-2.2**
JSJ	**Shimokoshiki**	**2.28**	**298**	P	**Pn**	**02 34 28.5**	**-0.7**
JSJ				*e*S	**Sn**	**02 34 55.2**	**-2.4**
JTO	**Tosashimizu**	**2.30**	**15**	P	**Pn**	**02 34 26.7**	**-2.8**
JTO				S	**Sn**	**02 34 51.6**	**-6.5**
JNU	**Nakatsue**	**2.69**	**338**	Pn	**Pn**	**02 34 35.2**	**+0.4**
JNU	**Nakatsue** 25nn,0.3s,baz=246,slow=4.6,SNR=65	**2.69**	**338**	Pn	**Pn**	**02 34 34.5**	**-0.3**
JNU	53nn,0.3s,baz=130,slow=17,SNR=19 51nn,0.3s			Sn	**Sn**	**02 35 07.2**	**-0.4**
JMN	**Monobe**	**3.44**	**26**	Pn	**Pn**	**02 34 44.1**	**-1.0**
JTU	**Tsushima**	**4.50**	**330**	Pn	**Pn**	**02 34 59.8**	**+0.2**
JMZ	**Minamidaito 2**	**4.85**	**189**	Pn	**Pn**	**02 35 05.5**	**+1.0**
JOW	**Kunigami**	**5.05**	**222**	Pn	**Pn**	**02 35 08.2**	**+0.9**
JOW	**Kunigami** 6.7nn,0.3s,baz=110,slow=22,SNR=18	**5.05**	**222**	Pn	**Pn**	**02 35 07.8**	**+0.5**
JOW	5.8nn,0.3s,baz=136,slow=27,SNR=8.6 16nn,0.3s			Sn	**Sn**	**02 36 02.7**	**-3.2**
KSRS	**Korea Array** 0.4nn,0.3s,baz=139,slow=14,SNR=1.9 0.7nn,0.4s	**7.63**	**334**	Pn	**Pn**	**02 35 43.3**	**+0.6**
MAJO	**Matsushiro**	**7.80**	**39**	Pn	**Pn**	**02 35 45.5**	**+0.5**
MAJO	**Matsushiro**	**7.80**	**39**	P	**Pn**	**02 35 45.5**	**+0.5**
MJAR	**Matsushiro Arr** 0.8nn,0.3s,baz=243,slow=14,SNR=12 3.9nn,0.4s	**7.80**	**39**	Pn	**Pn**	**02 35 46.6**	**+1.6**
MJB9	**Matsu-Tunnel**	**7.80**	**39**	Pn	**Pn**	**02 35 46.5**	**+1.4**
JMM	**Marumori**	**10.19**	**43**	Pn	**Pn**	**02 36 20.1**	**+2.3**
NJ2	**Nanjing**	**11.40**	**281**	*e*P	**Pn**	**02 36 33.0**	**-1.4**
NJ2				pP		02 36 40.1	
NJ2				sP		02 36 45.0	
NJ2	comp=Z,10.0nm,0.5s			pmax	pmax		
MDJ	**Mudanjiang**	**14.10**	**353**	P	**Pn**	**02 37 12.5**	**+1.3**
MDJ				S	Sn	02 39 38.4	-10
MDJ				SS	**SnSn**	**02 39 51.3**	**-9.2**
MDJ				PcP	PcP	02 42 43.4	+12
MDJ				ScP	**ScP**	**02 46 13.9**	**+8.8**
MDJ				PcS	PcS	02 46 16.3	+11
MDJ	**Mudanjiang**	**14.10**	**353**	ScS	ScS	02 49 49.9	+7.7
MDJ	comp=Z,13nm,2.4s			pmax	pmax		
MDJ	comp=Z,230nm,4.5s			AMB	AMB		
MDJ	comp=N,640nm,17.9s			LR	LR		
MDJ	comp=E,720nm,20.3s			LR	LR		
MDJ	comp=Z,560nm,19.9s			LR	LR		
HNS	**HongShan**	**15.90**	**300**	⇑P	**P**	**02 37 40.3**	**+1.2**
HNS				S	**Sn**	**02 40 36.0**	**+4.1**
HNS	comp=Z,23nm,1.0s			pmax	pmax		
HNS	comp=N,530nm,13.3s			LR	LR		
HNS	comp=E,470nm,11.8s			LR	LR		
HNS	comp=Z,550nm,17.1s			LR	LR		
BJI	**Beijing**	**16.00**	**310**	Pn	**Pn**	**02 37 36.8**	**+0.2**
BJI				sPn	**pwP**	**02 37 47.8**	**+3.4**
BJI	comp=N,330nm,15.0s			LR	LR		
BJI	comp=E,340nm,15.9s			LR	LR		
BJI	comp=Z,420nm,13.3s			LR	LR		
LYN	**LuoYang**	**16.98**	**288**	⇑P	**P**	**02 37 51.6**	**+0.5**
LYN				S	**Sn**	**02 41 02.1**	**+3.9**
LYN	comp=Z,15nm,0.9s			pmax	pmax		
LYN	comp=Z,280nm,6.9s			pmax	pmax		
LYN	comp=N,590nm,14.1s			LR	LR		
LYN	comp=E,690nm,17.2s			LR	LR		
LYN	comp=Z,930nm,19.6s			LR	LR		
XLT	**XiLinHaoTe**	**18.33**	**321**	*e*P	**Pn**	**02 38 00.6**	**-5.3**
XLT				pP	pP	02 38 05.8	-1.4
XLT				sP	pwP	02 38 08.1	-2.2
XLT				PP	**PnPn**	**02 38 15.1**	**-2.2**
XLT				S	Sn	02 41 18.3	-13
XLT				sS	sS	02 41 28.1	-10
XLT				SS	**SnSn**	**02 41 55.3**	**+11**
XLT				PcP	**PcP**	**02 42 31.6**	**-5.9**
XLT	comp=Z,9.0nm,0.8s			pmax	pmax		
XLT	comp=Z,200nm,4.4s			pmax	pmax		
XLT	comp=N,87nm,14.9s			LR	LR		
XLT	comp=E,600nm,12.8s			LR	LR		
XLT	comp=Z,610nm,11.9s			LR	LR		
KLR	**Kul'dur** comp=Z,0.3nm,0.3s,baz=163,slow=10,SNR=15 comp=Z,11nm,1.0s	**18.58**	**359**	P	**P**	**02 38 08.8**	**+0.2**
HHC	**Hu-ho-hao-te**	**19.49**	**307**	*e*P	**Pn**	**02 38 20.8**	**+0.8**
HHC				PP	**PnPn**	**02 38 37.8**	**+4.6**
HHC				S	**Sn**	**02 41 57.4**	**-1.5**
HHC	comp=Z,14nm,0.7s			pmax	pmax		
HHC	comp=Z,210nm,4.5s			pmax	pmax		
HHC	comp=N,860nm,11.4s			LR	LR		
HHC	comp=E,1μm,14.2s			LR	LR		
HHC	comp=Z,1μm,11.7s			LR	LR		
XAN	**Xi'an**	**19.86**	**286**	⇑P	**P**	**02 38 22.3**	**-0.5**
XAN				pP	pwP	02 38 27.3	+0.2
XAN	comp=Z,17nm,0.6s			pmax	pmax		
XAN	comp=Z,220nm,4.1s			pmax	pmax		
XAN	comp=N,880nm,5.9s			LR	LR		
XAN	comp=E,1μm,10.6s			LR	LR		
XAN	comp=Z,1μm,11.4s			LR	LR		
BTO	**Baotou**	**20.46**	**305**	*e*P	Pn	02 38 31.8	+0.3
BTO				pP	pwP	02 38 35.9	+2.2
BTO				PP	**PnPn**	**02 38 52.6**	**+6.1**
BTO				S	**S**	**02 42 18.8**	**0.0**
BTO				sS	Sn	02 42 23.6	+1.2
BTO				SS	**SnSn**	**02 42 45.1**	**+8.1**
BTO	comp=Z,12nm,0.6s			pmax	pmax		
BTO	comp=Z,410nm,4.8s			pmax	pmax		
BTO	comp=N,1μm,11.3s			LR	LR		
BTO	comp=E,1μm,13.6s			LR	LR		
BTO	comp=Z,1μm,13.7s			LR	LR		
GYA	**Guiyang**	**22.70**	**266**	P	**P**	**02 38 52.0**	**-1.6**
GYA	comp=Z,16nm,1.5s			pmax	pmax		
ZEA	**Zeya**	**23.36**	**353**	*e*P	**P**	**02 38 59.0**	**-1.0**
ZEA	comp=Z,10.0nm,0.6s			pmax	pmax		
ZEA	comp=Z,200nm,13.0s			MLR	MLR		
LZH	**Lanzhou**	**24.16**	**291**	*e*P	**P**	**02 39 09.0**	**+0.8**
LZH				pP	pwP	02 39 17.1	+4.6
LZH	comp=Z,13nm,1.1s			pmax	pmax		
LZH	comp=N,500nm,14.8s			LR	LR		
LZH	comp=E,510nm,15.1s			LR	LR		
LZH	comp=Z,720nm,16.8s			LR	LR		
ULN	**Ulaanbaatar**	**25.75**	**319**	P	**P**	**02 39 22.2**	**-0.2**
ULN	**Ulaanbaatar**	**25.75**	**319**	*e*P	**P**	**02 39 20.0**	**-2.4**
SONM	**Songino Array** comp=Z,0.4nm,0.4s,baz=137,slow=8.9,SNR=4.1	**26.11**	**318**	P	**P**	**02 39 24.7**	**-0.9**
SONM	comp=Z,462nm,18.9s,baz=130,slow=40 comp=Z,0.4nm,0.4s			LR	LR	02 51 26.2	
GTA	**Gaotai**	**27.72**	**297**	*e*P	**P**	**02 39 41.0**	**+0.7**
GTA	comp=Z,2.0nm,1.0s			pmax	pmax		
GTA	comp=N,260nm,16.7s			LR	LR		
GTA	comp=E,290nm,16.7s			LR	LR		
GTA	comp=Z,340nm,14.5s			LR	LR		
YAK	**Yakutsk** comp=Z,9.1nm,20.3s,baz=116,slow=36	**31.45**	**358**	LR	LR	02 52 35.4	
CMAR	**Chiang Mai Arr**	**32.37**	**256**	*i* P	**P**	**02 40 22.5**	**+1.0**
CMAR	comp=Z,1.0nm,0.3s			pmax	pmax		
CMAR	**Chiang Mai Arr** comp=Z,1.1nm,0.4s,baz=59,slow=5.3,SNR=5.2 comp=Z,1.1nm,0.4s	**32.37**	**256**	P	**P**	**02 40 21.8**	**+0.3**
H11N2	**WAKE ISLAND Hy** baz=296,slow=74	**33.20**	**101**	T	T	03 15 32.1	
H11N1	**WAKE ISLAND Hy** baz=296	**33.20**	**101**	T	T	03 15 31.3	
H11N3	**WAKE ISLAND Hy** baz=296,slow=74	**33.21**	**101**	T	T	03 15 29.5	
WMQ	**Urumqi**	**37.28**	**303**	*e*P	**P**	**02 41 05.0**	**+1.2**
WMQ	comp=N,140nm,14.7s			LR	LR		
WMQ	comp=E,380nm,17.9s			LR	LR		
WMQ	comp=Z,150nm,17.9s			LR	LR		
KAPI	**Kappang** comp=Z,75nm,21.4s,baz=354,slow=38	**37.36**	**201**	LR	LR	02 57 13.4	
DGZ	**Jazzator, Alta** comp=Z,4.0nm,2.2s	**38.40**	**313**	*e*P	**P**	**02 41 13.3**	**+0.1**
DGZ				pmax	pmax		
ZALV	**Zalesovo Beam** comp=Z,120nm,19.2s,baz=104,slow=36	**41.00**	**319**	LR	LR	02 58 42.3	
TIXI	**Tiksi** comp=Z,12nm,18.5s,baz=190,slow=39	**41.11**	**358**	LR	LR	03 00 50.1	
MK31	**Makanchi Array**	**41.35**	**307**	*e*P	**P**	**02 41 35.4**	**-2.3**
MKAR	**Makanchi Array** comp=Z,1.0nm,0.8s,baz=92,slow=11,SNR=5.2	**41.35**	**307**	P	**P**	**02 41 36.3**	**-1.4**

MKAR				LR	LR	03 00 34.1	
	comp=Z,233nm,18.4s,baz=97,slow=39						
	comp=Z,1.0nm,0.8s						
BILL	**Bilibino**	**42.44**	**18**⇑	*i*P	**P**	**02 41 47.3**	**+1.1**
KURK	**Kurchatov**	**44.15**	**313**	P	**P**	**02 41 58.8**	**-1.5**
KURK	**Kurchatov**	**44.15**	**313**⇑	*i*P	**P**	**02 41 58.3**	**-1.9**
KURBB	**Kurchatov Arra**	**44.19**	**313**	P	**P**	**02 41 58.4**	**-2.3**
	comp=Z,1.4nm,0.7s,baz=97,slow=8.7,SNR=14						
KURBB				LR	LR	03 02 33.6	
	comp=Z,448nm,19.2s,baz=160,slow=39						
	comp=Z,1.4nm,0.7s						
BVAR	**Borovoye Array**	**49.39**	**316**	P	**P**	**02 42 40.6**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=95,slow=7.7,SNR=6.3						
BVAR				LR	LR	03 06 10.2	
	comp=Z,201nm,18.2s,baz=91,slow=39						
	comp=Z,0.9nm,0.5s						
BRVK	**Borovoye**	**49.45**	**316**⇑	*e*P	**P**	**02 42 40.1**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,14nm,4.0s						
KK31	**Karatay Array**	**49.78**	**302**	P	**P**	**02 42 42.9**	**-1.5**
KK31	**Karatay Array**	**49.78**	**302**	P	**P**	**02 42 42.9**	**-1.5**
KK31				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KKAR	**Karatay Array**	**49.78**	**302**	P	**P**	**02 42 43.3**	**-1.1**
KKAR	**Karatay Array**	**49.78**	**302**	P	**P**	**02 42 43.3**	**-1.1**
KKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WRA	**Warramunga Arr**	**50.33**	**177**	P	**P**	**02 42 48.0**	**-0.7**
WRA	**Warramunga Arr**	**50.33**	**177**	P	**P**	**02 42 48.0**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=5.4,slow=9.5,SNR=5.5						
	comp=Z,0.8nm,0.9s						
ASAR	**Alice Springs**	**54.02**	**178**	P	**P**	**02 43 15.1**	**-1.0**
	comp=Z,1.1nm,1.0s,baz=12,slow=13,SNR=4.6						
	comp=Z,1.1nm,1.0s						
D19K	**Kuna River**	**54.48**	**25**	P	**P**	**02 43 19.7**	**+0.7**
D19K				IAmb	IAmb	02 43 21.1	
	comp=Z,7.6nm,0.8s						
L18K	**Granite Mounta**	**54.70**	**33**	P	**P**	**02 43 21.6**	**+1.0**
E19K	**Redstone River**	**54.71**	**26**	P	**P**	**02 43 21.6**	**+0.9**
E19K				IAmb	IAmb	02 43 25.0	
	comp=Z,8.7nm,1.1s						
H19K	**Roundabout Mou**	**54.90**	**29**	P	**P**	**02 43 22.6**	**+0.5**
H19K				IAmb	IAmb	02 43 24.8	
	comp=Z,10nm,0.9s						
N18K	**Kilae Creek**	**55.09**	**35**	P	**P**	**02 43 23.4**	**-0.1**
B21K	**Ikpikpuk River**	**55.83**	**24**	P	**P**	**02 43 29.3**	**+0.6**
B21K				IAmb	IAmb	02 43 31.4	
	comp=Z,6.9nm,0.9s						
J20K	**Nowinta River**	**55.85**	**31**	P	**P**	**02 43 29.6**	**+0.7**
J20K				IAmb	IAmb	02 43 32.0	
	comp=Z,10.0nm,0.8s						
K20K	**Telida**	**55.90**	**32**	P	**P**	**02 43 30.5**	**+1.2**
IMAR	**Indian Mountai**	**56.02**	**28**	P	**P**	**02 43 30.7**	**+0.5**
ARU	**Arti**	**56.13**	**320**	LR	LR	03 08 56.6	
	comp=Z,141nm,19.4s,baz=77,slow=38						
ABKAR	**Akbulak array**	**56.21**	**311**	P	**P**	**02 43 31.2**	**-0.5**
H21K	**Melozitna Rive**	**56.41**	**29**	P	**P**	**02 43 34.0**	**+1.0**
H21K				IAmb	IAmb	02 43 35.7	
	comp=Z,9.3nm,1.1s						
D22K	**Ayikyak River**	**56.49**	**25**	P	**P**	**02 43 34.2**	**+0.8**
D22K				IAmb	IAmb	02 43 35.9	
	comp=Z,7.0nm,0.8s						
I21K	**Tanana**	**56.77**	**29**	P	**P**	**02 43 36.0**	**+0.5**
I21K				IAmb	IAmb	02 43 38.6	
	comp=Z,11nm,0.8s						
CAST	**Castle Rocks**	**56.79**	**31**	P	**P**	**02 43 36.2**	**+0.5**
CAST				IAmb	IAmb	02 43 38.0	
	comp=Z,23nm,1.6s						
E22K	**Anaktuvuk Pass**	**56.80**	**26**	P	**P**	**02 43 36.4**	**+0.7**
E22K				IAmb	IAmb	02 43 38.4	
	comp=Z,9.2nm,0.9s						
BPAW	**Bear Paw Mtn.**	**57.24**	**31**	P	**P**	**02 43 38.7**	**-0.2**
AKTO	**Aktyubinsk**	**57.24**	**313**	LR	LR	03 10 35.3	
	comp=Z,276nm,18.1s,baz=18,slow=39						
MLY	**Manley**	**57.30**	**29**	P	**P**	**02 43 40.0**	**+0.7**
D24K	**Happy Valley**	**57.87**	**25**	P	**P**	**02 43 43.4**	**+0.2**
D24K				IAmb	IAmb	02 43 45.9	
	comp=Z,8.4nm,0.8s						
E24K	**Your Creek**	**58.04**	**26**	P	**P**	**02 43 45.5**	**+0.9**
RND	**Reindeer**	**58.24**	**31**	P	**P**	**02 43 45.6**	**-0.4**
RND	**Reindeer**	**58.24**	**31**	P	**P**	**02 43 45.6**	**-0.4**
RND				pmax	pmax		
	comp=Z,13nm,0.8s						
H24K	**Noodor Dome**	**58.44**	**28**	P	**P**	**02 43 48.2**	**+0.9**
H24K				IAmb	IAmb	02 43 50.8	
	comp=Z,19nm,1.6s						
KNK	**Knik Glacier**	**58.64**	**34**	P	**P**	**02 43 49.5**	**+0.8**
KNK				IAmb	IAmb	02 43 50.7	
	comp=Z,9.0nm,0.8s						
POKR	**Poker Plat Res**	**58.69**	**29**	P	**P**	**02 43 50.1**	**+1.1**
IL31		**58.96**	**30**	P	**P**	**02 43 51.4**	**+0.6**
ILAR	**Eielson Array**	**58.96**	**30**	P	**P**	**02 43 50.2**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=261,slow=6.0,SNR=25						
	comp=Z,1.7nm,0.8s						
HDA	**Harding Lake**	**58.97**	**30**	P	**P**	**02 43 51.7**	**+0.8**
HDA				IAmb	IAmb	02 43 52.2	
	comp=Z,8.4nm,0.8s						
E25K	**Arctic Village**	**59.13**	**26**	P	**P**	**02 43 52.9**	**+0.8**
E25K				IAmb	IAmb	02 43 55.2	
	comp=Z,8.3nm,1.2s						
PRP	**Porcupine Dome**	**59.44**	**29**	P	**P**	**02 43 54.5**	**+0.1**
PRP				IAmb	IAmb	02 43 57.1	
	comp=Z,5.8nm,1.0s						
SCRK	**Sand Creek**	**60.32**	**30**	P	**P**	**02 44 00.0**	**-0.4**
SCRK				IAmb	IAmb	02 44 02.0	
	comp=Z,4.8nm,0.8s						
J26L	**Joseph Creek**	**60.41**	**30**	P	**P**	**02 44 01.2**	**+0.2**
J26L				IAmb	IAmb	02 44 02.3	
	comp=Z,5.3nm,0.9s						
MENT	**Mentasta**	**60.61**	**31**	P	**P**	**02 44 03.1**	**+0.8**
MENT				IAmb	IAmb	02 44 04.9	
	comp=Z,6.9nm,0.7s						
D27M	**Malcolm River**	**60.66**	**24**	P	**P**	**02 44 02.9**	**+0.3**
D27M				IAmb	IAmb	02 44 05.3	
	comp=Z,7.7nm,1.4s						
KIRV	**Kirov**	**60.69**	**323**	LR	LR	03 13 24.8	
	comp=Z,198nm,18.8s,baz=63,slow=39						
GLB	**Gilahina Butte**	**60.85**	**33**	P	**P**	**02 44 04.4**	**+0.4**
M26K	**Nabesna, AK**	**61.04**	**32**	P	**P**	**02 44 05.7**	**+0.4**
M26K				IAmb	IAmb	02 44 07.7	
	comp=Z,7.2nm,0.8s						
VRDI	**Verde Repeater**	**61.06**	**33**	P	**P**	**02 44 06.9**	**+1.3**
K27K	**Chicken**	**61.14**	**30**	P	**P**	**02 44 06.6**	**+0.8**
K27K				IAmb	IAmb	02 44 08.3	
	comp=Z,5.7nm,1.0s						
MCARA	**McCarthy VSAT**	**61.23**	**33**	P	**P**	**02 44 07.3**	**+0.8**
MCARA				IAmb	IAmb	02 44 08.6	
	comp=Z,7.2nm,0.9s						
E28M	**Babbage River**	**61.28**	**25**	P	**P**	**02 44 07.8**	**+1.1**
CRQM	**Cirque**	**61.30**	**34**	P	**P**	**02 44 08.4**	**+1.2**
F28M	**Old Crow**	**61.34**	**26**	P	**P**	**02 44 08.2**	**+1.0**
EGAK	**Eagle**	**61.38**	**29**	P	**P**	**02 44 08.4**	**+1.0**
L27K	**Beaver Creek,**	**61.44**	**31**	P	**P**	**02 44 07.9**	**0.0**
TGL	**Tana Glacier**	**61.45**	**34**	P	**P**	**02 44 08.4**	**+0.2**
BCAR	**Beaver Creek A**	**61.45**	**31**	P	**P**	**02 44 09.1**	**+1.1**
M27K	**Edge Creek, AK**	**61.56**	**32**	P	**P**	**02 44 09.3**	**+0.4**
M27K				IAmb	IAmb	02 44 11.1	
	comp=Z,5.1nm,0.8s						
I28M	**Miner Creek**	**61.75**	**28**	P	**P**	**02 44 11.1**	**+1.0**
I28M				IAmb	IAmb	02 44 12.9	
	comp=Z,9.3nm,0.9s						
E29M	**Blow River**	**61.91**	**25**	P	**P**	**02 44 11.7**	**+0.7**
BARN	**Barnard Glacie**	**61.94**	**33**	P	**P**	**02 44 11.8**	**+0.2**
GRNC	**Granite Creek**	**61.97**	**34**	P	**P**	**02 44 12.3**	**+0.5**
GRNC				IAmb	IAmb	02 44 16.9	
	comp=Z,8.1nm,1.2s						
CTGM	**Chitina Glacie**	**62.12**	**33**	P	**P**	**02 44 13.9**	**+1.2**
G29M	**Pine Creek**	**62.19**	**26**	P	**P**	**02 44 14.6**	**+1.6**
H29M	**Whitestone**	**62.21**	**27**	P	**P**	**02 44 13.6**	**+0.6**
DAWY	**Dawson**	**62.28**	**30**	P	**P**	**02 44 14.5**	**+0.8**
STKA	**Stephens Creek**	**62.82**	**171**	LR	LR	03 10 04.5	
	comp=Z,54nm,21.0s,baz=36,slow=35						
EPYK	**Eagle Plains**	**62.82**	**27**	P	**P**	**02 44 18.2**	**+1.0**
G30M	**tAoh Zraii Nji**	**62.86**	**26**	P	**P**	**02 44 17.8**	**+0.3**
L29M	**L29M**	**63.06**	**31**	P	**P**	**02 44 20.0**	**+1.1**
L29M				IAmb	IAmb	02 44 22.0	
	comp=Z,6.3nm,0.8s						
M29M	**Somme Creek**	**63.09**	**31**	P	**P**	**02 44 20.3**	**+1.2**
K29M	**Barlow Dome**	**63.14**	**30**	P	**P**	**02 44 19.7**	**+0.3**
K29M				IAmb	IAmb	02 44 22.0	
	comp=Z,4.5nm,0.8s						
BELG	**Belogornoye**	**63.15**	**317**	LR	LR	03 14 36.6	
	comp=Z,155nm,18.6s,baz=316,slow=39						
I30M	**Mount Dempster**	**63.26**	**28**	P	**P**	**02 44 20.7**	**+0.5**
I30M				IAmb	IAmb	02 44 22.2	
	comp=Z,5.4nm,0.8s						
J30M	**Hart River**	**63.45**	**29**	P	**P**	**02 44 21.7**	**+0.2**
J30M				IAmb	IAmb	02 44 23.5	
	comp=Z,9.7nm,1.4s						
INK	**Inuvik**	**63.51**	**24**	P	**P**	**02 44 21.7**	**+0.1**
INK	**Inuvik**	**63.51**	**24**	P	**P**	**02 44 21.7**	**+0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
O29M	**Mount Kennedy**	**63.60**	**34**	P	**P**	**02 44 24.4**	**+1.8**
G31M	**Satah River**	**63.62**	**26**	P	**P**	**02 44 22.4**	**0.0**
G31M				IAmb	IAmb	02 44 23.9	
	comp=Z,5.6nm,0.8s						
M30M	**Minto, Yukon**	**63.80**	**31**	P	**P**	**02 44 24.5**	**+0.8**
P29M	**Windy Craggy**	**64.19**	**34**	P	**P**	**02 44 27.6**	**+1.3**
P29M				IAmb	IAmb	02 44 29.3	
	comp=Z,6.9nm,0.8s						
N31M	**Braeburn, Yuko**	**64.57**	**32**	P	**P**	**02 44 30.4**	**+1.6**
A36M	**Sachs Harbour**	**64.97**	**20**	P	**P**	**02 44 32.3**	**+1.1**
A36M				IAmb	IAmb	02 44 33.3	
	comp=Z,6.1nm,0.8s						
M31M	**Drury Creek, Y**	**64.98**	**31**	P	**P**	**02 44 32.4**	**+1.0**
M31M				IAmb	IAmb	02 44 37.9	
	comp=Z,11nm,1.7s						
SPITS	**Spitsbergen Ar**	**65.23**	**348**	LR	LR	03 16 24.5	
	comp=Z,118nm,18.5s,baz=358,slow=39						
FARO	**Faro, Yukon**	**65.43**	**31**	P	**P**	**02 44 35.5**	**+1.1**
N32M	**Quiet Lake**	**65.91**	**32**	P	**P**	**02 44 38.7**	**+1.2**
N32M				IAmb	IAmb	02 44 48.0	
	comp=Z,8.1nm,1.4s						
MAK	**Makhachkala**	**66.17**	**307**	*e*P	**P**	**02 44 39.8**	**+0.4**
MAK				*e*PPP	PPP	02 48 34.9	
MAK				*e*S	**S**	**02 53 26.2**	**-2.3**
MAK				*e*SS	**SS**	**02 57 45.8**	**+2.1**
MAK				MLR	MLR		
	comp=Z,189nm,16.0s						
C36M	**Paulatuk**	**66.37**	**22**	P	**P**	**02 44 40.6**	**+0.4**
Q32M	**Nakina River**	**67.07**	**34**	P	**P**	**02 44 46.3**	**+1.2**
Q32M				IAmb	IAmb	02 44 47.7	
	comp=Z,8.6nm,1.4s						
ARCES	**ARCESS Array B**	**67.16**	**339**	LR	LR	03 19 04.5	
	comp=Z,111nm,18.2s,baz=54,slow=40						
DLBC	**Dease Lake**	**68.35**	**34**	P	**P**	**02 44 54.8**	**+1.7**
DLBC				IAmb	IAmb	02 44 56.3	
	comp=Z,14nm,1.5s						
OBN	**Obninsk**	**68.45**	**322**	LR	LR	03 18 19.4	
	comp=Z,168nm,18.4s,baz=2.5,slow=39						
KBZ	**Khabaz**	**69.02**	**309**	P	**P**	**02 44 58.2**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=62,slow=11,SNR=2.6						
KBZ				LR	LR	03 17 44.7	
	comp=Z,114nm,18.6s,baz=80,slow=38						
	comp=Z,2.4nm,0.8s						
GNI	**Garni**	**69.13**	**305**	LR	LR	03 20 28.2	
	comp=Z,56nm,18.3s,baz=58,slow=40						
RES	**Resolute Bay**	**70.58**	**12**	P	**P**	**02 45 07.2**	**+0.8**
RES	**Resolute Bay**	**70.58**	**12**	P	**P**	**02 45 07.2**	**+0.8**
RES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES	**FINESS Array B**	**70.71**	**331**	P	**P**	**02 45 06.9**	**-0.5**
FINES	**FINESS Array B**	**70.71**	**331**	*i*P	**P**	**02 45 07.1**	**-0.3**
FINES	**FINESS Array B**	**70.71**	**331**	P	**P**	**02 45 06.2**	**-1.2**
	comp=Z,3.8nm,0.9s,baz=80,slow=4.9,SNR=10.0						
FINES				LR	LR	03 19 35.0	
	comp=Z,233nm,18.5s,baz=60,slow=39						
	comp=Z,3.8nm,0.9s						
YKA	**Yellowknife Ar**	**73.10**	**26**	*i*P	**P**	**02 45 22.8**	**+1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**73.10**	**26**	P	**P**	**02 45 21.9**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=299,slow=5.9,SNR=14						
	comp=Z,1.4nm,0.8s						
AKASG	**Malin Array Be**	**74.38**	**320**	P	**P**	**02 45 28.6**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=58,slow=5.5,SNR=2.4						
AKASG				LR	LR	03 20 18.3	
	comp=Z,149nm,18.2s,baz=32,slow=38						
	comp=Z,0.6nm,0.5s						
HFS	**Hagfors**	**76.48**	**333**	P	**P**	**02 45 39.5**	**-1.9**
	comp=Z,1.8nm,1.0s,baz=51,slow=11,SNR=1.5						
HFS				LR	LR	03 22 07.6	
	comp=Z,147nm,18.0s,baz=48,slow=38						
	comp=Z,1.8nm,1.0s						
NOA	**NORSAR Array B**	**76.84**	**335**	P	**P**	**02 45 42.3**	**-1.2**
	comp=Z,1.2nm,1.1s,baz=49,slow=5.7,SNR=2.0						
NOA				LR	LR	03 23 19.0	
	comp=Z,149nm,19.0s,baz=40,slow=39						
	comp=Z,1.2nm,1.1s						
BRTR	**Keskin Array B**	**76.99**	**308**	*i*P	**P**	**02 45 45.2**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**76.99**	**308**	P	**P**	**02 45 44.2**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=75,slow=6.5,SNR=5.4						
BRTR				LR	LR	03 26 04.6	
	comp=Z,49nm,18.6s,baz=26,slow=41						
	comp=Z,0.7nm,0.8s						
KBO	**Bosley Butte**	**79.17**	**47**	P	**P**	**02 45 58.3**	**+1.4**
DBO	**Dodson Butte**	**79.31**	**46**	P	**P**	**02 45 58.5**	**+0.8**
KSXB	**Camp Six Broad**	**79.59**	**47**	P	**P**	**02 46 00.4**	**+1.2**
KRMB	**Red Mountain**	**79.74**	**48**	P	**P**	**02 46 00.3**	**+0.3**
L04D	**Klamath Falls**	**80.38**	**47**	P	**P**	**02 46 04.2**	**+0.7**
L04D				IAmb	IAmb	02 46 12.8	
	comp=Z,22nm,1.7s						
KCPM	**Cahto Peak**	**80.92**	**49**	P	**P**	**02 46 06.3**	**-0.1**
KCPM				IAmb	IAmb	02 46 09.0	
	comp=Z,15nm,1.1s						
K05A	**Summer Lake**	**80.98**	**46**	P	**P**	**02 46 07.4**	**+0.6**
VRAC	**Vranov**	**81.92**	**323**	LR	LR	03 27 03.6	
	comp=Z,106nm,18.6s,baz=41,slow=39						
CLL	**Collm**	**82.43**	**326**	*e*P	**P**	**02 46 14.0**	**0.0**
WHZ	**Wether Hill Ro**	**82.82**	**156**	P	**P**	**02 46 17.7**	**+1.9**
FCC	**Fort Churchill**	**83.01**	**22**	P	**P**	**02 46 16.8**	**0.0**
FCC				IAmb	IAmb	02 46 18.4	
	comp=Z,6.4nm,1.1s						
FCC	**Fort Churchill**	**83.01**	**22**	P	**P**	**02 46 16.8**	**0.0**
FCC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GERES	**GERESS Array B**	**83.69**	**324**	LR	LR	03 28 53.6	
	comp=Z,176nm,18.2s,baz=36,slow=40						
PNTR	**Pine Nut**	**83.82**	**48**	P	**P**	**02 46 22.2**	**+0.4**
PNTR				IAmb	IAmb	02 46 29.2	
	comp=Z,14nm,1.8s						
EGMT	**Eagleton**	**84.11**	**37**	P	**P**	**02 46 23.4**	**+0.6**
EGMT				IAmb	IAmb	02 46 24.6	
	comp=Z,5.9nm,0.9s						
FRB	**Frobisher Bay**	**84.53**	**9**	LR	LR	03 25 30.2	
	comp=Z,90nm,19.8s,baz=18,slow=37						
KVN	**Kaiserville**	**84.80**	**47**	P	**P**	**02 46 27.0**	**+0.3**
KVN				IAmb	IAmb	02 46 28.7	
	comp=Z,4.4nm,0.8s						
KVN	**Kaiserville**	**84.80**	**47**	P	**P**	**02 46 27.0**	**+0.3**
KVN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NVAR	**Mina Array Bea**	**85.03**	**48**	P	**P**	**02 46 28.4**	**+0.5**
NVAR	**Mina Array Bea**	**85.03**	**48**	P	**P**	**02 46 28.1**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=306,slow=5.3,SNR=19						
	comp=Z,1.8nm,0.7s						
DAVOX	**Davos/Dischmat**	**86.98**	**324**	LR	LR	03 30 21.6	
	comp=Z,187nm,20.1s,baz=41,slow=39						
PDAR	**Pinedale Array**	**87.62**	**40**	P	**P**	**02 46 39.1**	**-1.5**
	comp=Z,0.9nm,0.9s,baz=343,slow=1.5,SNR=6.5						
	comp=Z,0.9nm,0.9s						
KMBO	**Kilima Mbogo**	**94.73**	**271**	LR	LR	03 31 47.2	
	comp=Z,61nm,19.1s,baz=92,slow=37						
KEST	**Kesra**	**94.85**	**317**	LR	LR	03 34 54.9	
	comp=Z,124nm,18.4s,baz=290,slow=39						
ESDC	**Sonseca Array**	**99.01**	**327**	LR	LR	03 38 49.3	
	comp=Z,104nm,18.5s,baz=56,slow=39						

TAP ***19*** *03:25:17.5, 24°.73N×122°.49E, h15^{km}, ML3.1, D*

JMA ***19*** *03:25:18.7±0.1, 25°N±2°×122°.5E±0°.8, h33^{km}±3^{km}, MV2.3/11, NW OFF ISHIGAKIJIMA IS*

ISC 19 03:25:16.9±1.1**, 24°.71N**±0°.03×**122°.52E**±0°.02**, h9**^{km}±9^{km}**, n58, σ0s.51**/96**, 1C-1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.39**	**222**	*i*P	**Pb**	**03 25 26.2**	**+0.3**
	baz=218						
EOS2				*i*S	**Sb**	**03 25 32.6**	**+0.6**
	baz=218						
EOS3	**EOS3**	**0.46**	**204**⇑	*i*P	**Pb**	**03 25 27.6**	**+0.5**
	baz=208						
EOS3				*i*S	**Sb**	**03 25 34.6**	**+0.6**
	baz=208						
JYNG	**Yonagunijimaku**	**0.47**	**123**	P	**Pb**	**03 25 27.6**	**+0.2**
JYNG				S	**Sb**	**03 25 34.6**	**+0.3**
YOJ	**Yonaguni jima**	**0.51**	**118**	P	**Pb**	**03 25 28.6**	**+0.5**
YOJ				S	**Sb**	**03 25 35.6**	**0.0**
YOJ	**Yonaguni jima**	**0.51**	**118**	*i*P	**Pb**	**03 25 29.0**	**+0.9**
	baz=119						
YOJ				*i*S	**Sb**	**03 25 36.0**	**+0.3**
	baz=119						
TWB1	**Santiao Chiao**	**0.57**	**302**	*i*P	**Pg**	**03 25 28.5**	**+0.6**
	baz=301						
TWB1				*i*S	**Sg**	**03 25 35.4**	**+0.1**
	baz=301						
EOS4	**EOS4**	**0.61**	**197**	*i*P	**Pn**	**03 25 30.4**	**-1.1**
	baz=187						
TWC	**Suao**	**0.62**	**261**⇓	*i*P	**Pg**	**03 25 28.9**	**+0.1**
	baz=268						
TWC				*i*S	**Sb**	**03 25 38.4**	**-0.3**
	baz=268						
ESAO	**Su ao**	**0.63**	**258**	*e*P	**Pb**	**03 25 30.1**	**0.0**
	baz=255						
ESAO				*e*S	**Sb**	**03 25 38.2**	**-0.8**
	baz=255						
TIPB	**Shuangxi**	**0.68**	**293**	P	**Pb**	**03 25 30.9**	**-0.1**
	baz=291						
TIPB				*i*S	**Sb**	**03 25 40.2**	**-0.5**
	baz=291						
SXI1	**Grass Mountain**	**0.70**	**304**	*i*P	**Pb**	**03 25 31.3**	**-0.1**
	baz=303						
SXI1				*i*S	**Sb**	**03 25 40.8**	**-0.3**
	baz=303						
EWUT	**Wuta**	**0.72**	**249**	P	**Pg**	**03 25 30.3**	**-0.6**
	baz=246						
EWUT				S	**Sb**	**03 25 41.4**	**-0.4**
	baz=246						
NDS	**Dongshan**	**0.73**	**264**	P	**Pg**	**03 25 31.2**	**+0.1**
	baz=262						
NDS				S	**Sb**	**03 25 41.8**	**-0.3**
	baz=262						
ENA	**Nanau**	**0.76**	**249**	P	**Pb**	**03 25 32.1**	**-0.2**
	baz=246						
ENA				S	**Sb**	**03 25 42.1**	**-0.7**
	baz=246						
NWF	**Wu-fen Shan**	**0.76**	**299**	*i*P	**Pb**	**03 25 32.4**	**-0.1**
	baz=297						
NWF				*i*S	**Sb**	**03 25 42.8**	**-0.2**
	baz=297						
WFSB	**Wu-fen Shan**	**0.76**	**299**	*i*P	**Pb**	**03 25 32.4**	**+0.1**
	baz=297						
WFSB				*i*S	**Sb**	**03 25 42.6**	**-0.2**
	baz=297						
TWE	**Neicheng**	**0.77**	**271**	*i*P	**Pg**	**03 25 31.9**	**+0.1**
	baz=269						
TWE				*i*S	**Sb**	**03 25 42.8**	**-0.4**
	baz=269						
EAHA	**Aohua**	**0.80**	**242**	P	**Pb**	**03 25 32.6**	**-0.4**
	baz=240						
EAHA				S	**Sb**	**03 25 43.8**	**-0.3**
	baz=240						
FUSB	**Fushanzhiwuyua**	**0.85**	**274**	P	**Pg**	**03 25 33.4**	**+0.2**
	baz=272						
FUSB				S	**Sg**	**03 25 44.8**	**+0.5**
	baz=272						
ENTT	**Nioudou**	**0.87**	**266**	*i*P	**Pg**	**03 25 33.7**	**+0.1**
	baz=264						
ENTT				S	**Sb**	**03 25 45.4**	**-0.6**
	baz=264						
LATG	**Datong**	**0.92**	**259**	P	**Pg**	**03 25 34.6**	**0.0**
	baz=257						
LATG				S	**Sb**	**03 25 48.0**	**+0.5**
	baz=257						
NDT	**Datong Townshi**	**0.92**	**264**	P	**Pb**	**03 25 35.4**	**+0.3**
	baz=262						
NDT				S	**Sb**	**03 25 47.7**	**+0.2**
	baz=262						
NWLT	**Wulai**	**0.93**	**275**	P	**Pb**	**03 25 35.3**	**+0.1**
	baz=273						
NWLT				*i*S	**Sg**	**03 25 46.5**	**-0.3**
	baz=273						
NHDH	**Xindian Distri**	**0.94**	**286**	*e*S	**Sg**	**03 25 47.4**	**+0.2**
	baz=284						
YM01	**YM01**	**0.96**	**297**	P	**Pg**	**03 25 34.9**	**-0.6**
	baz=296						
YM01				S	**Sg**	**03 25 47.9**	**-0.2**
	baz=296						
NACB	**Ninganchiao**	**0.99**	**238**	*i*P	**Pg**	**03 25 35.9**	**-0.1**
	baz=236						
NACB				S	**Sb**	**03 25 49.3**	**-0.3**
	baz=236						
TWY	**Chenhua**	**1.01**	**304**	P	**Pn**	**03 25 37.4**	**+0.1**
	baz=304						
TWY				S	**Sg**	**03 25 50.0**	**+0.6**
	baz=304						
YHNB	**Yeheng**	**1.04**	**268**	*i*P	**Pb**	**03 25 37.5**	**+0.3**
	baz=266						
YHNB				S	**Sb**	**03 25 51.1**	**+0.2**
	baz=266						
TWD	**Chiawan**	**1.05**	**234**	*e*P	**Pb**	**03 25 37.1**	**-0.1**
	baz=239						
TWD				*e*S	**Sn**	**03 25 51.6**	**-0.9**
	baz=239						
NSK	**Sanguang**	**1.05**	**269**	*i*P	**Pb**	**03 25 37.6**	**+0.2**
	baz=267						
NSK				S	**Sg**	**03 25 49.9**	**-1.1**
	baz=267						
ETLH	**Xiulin Townshi**	**1.07**	**242**	P	**Pn**	**03 25 37.9**	**-0.3**
	baz=249						
ETLH				S	**Sn**	**03 25 52.8**	**-0.4**
	baz=249						
NNSB	**Datong**	**1.07**	**255**	P	**Pn**	**03 25 38.5**	**+0.2**
	baz=253						
NNSB				S	**Sb**	**03 25 52.0**	**+0.1**
	baz=253						
NNS	**Nan Shan**	**1.08**	**256**	P	**Pn**	**03 25 38.5**	**+0.1**
	baz=254						
NNS				S	**Sb**	**03 25 52.0**	**-0.1**
	baz=254						
IRIF	**Iriomote-Funau**	**1.17**	**108**	P	**Pg**	**03 25 38.5**	**-0.8**
IRIF				S	**Sb**	**03 25 55.0**	**+0.5**
ETM	**Tongmen**	**1.19**	**232**	*e*P	**Pn**	**03 25 40.1**	**+0.3**
	baz=230						
LXIB	**Xiulin Townshi**	**1.22**	**236**	*e*P	**Pn**	**03 25 40.5**	**+0.2**
	baz=217						
LXIB				*e*S	**Sn**	**03 25 58.0**	**+0.9**
	baz=217						
FUSS	**Fushou**	**1.25**	**249**	P	**Pn**	**03 25 41.2**	**+0.4**
	baz=257						
FUSS				*e*S	**Sb**	**03 25 57.1**	**0.0**
	baz=257						
SHUL	**Shoufeng**	**1.26**	**224**	*e*P	**Pg**	**03 25 41.7**	**+0.5**
	baz=205						
WHF	**Hehuan Shan**	**1.27**	**244**	P	**Pn**	**03 25 41.8**	**+0.5**
	baz=253						
WHF				S	**Sn**	**03 25 58.7**	**0.0**
	baz=253						
NFF	**Wufeng Townshi**	**1.28**	**267**	*e*P	**Pg**	**03 25 42.9**	**+1.5**
	baz=255						
NFF				*e*S	**Sn**	**03 25 59.2**	**+0.9**
	baz=255						
TDCB	**Techi**	**1.32**	**250**	*e*S	**Sn**	**03 25 59.7**	**+0.2**
	baz=258						
ESL	**Shilin**	**1.33**	**228**	*e*P	**Pg**	**03 25 43.2**	**+0.8**
	baz=208						
HATJ	**Hateruma jima**	**1.34**	**119**	*e*S	**Sn**	**03 26 01.1**	**+1.2**
LIOB	**Emei**	**1.37**	**268**	*e*P	**Pn**	**03 25 42.5**	**+0.2**
	baz=284						
NSTT	**Nanjuang**	**1.38**	**267**	*e*P	**Pb**	**03 25 43.1**	**+0.1**
	baz=283						
CHGB	**Renai**	**1.38**	**243**	P	**Pg**	**03 25 43.6**	**+0.1**
	baz=241						
CHGB				*e*S	**Sn**	**03 26 01.4**	**+0.2**
	baz=241						
WARBT	**Fenglin Townsh**	**1.43**	**227**	*e*P	**Pb**	**03 25 43.5**	**-0.3**
	baz=209						
WUSB	**Renai**	**1.46**	**241**	*e*P	**Pg**	**03 25 45.0**	**0.0**
	baz=224						
WHP	**Taichung City**	**1.50**	**254**	*e*P	**Pb**	**03 25 45.1**	**+0.2**
	baz=252						
JIJ	**Ishigaki jima**	**1.52**	**103**	P	**Pn**	**03 25 43.7**	**-0.6**
JIJ				S	**Sn**	**03 26 02.7**	**-1.6**
VWDT	**VWDT**	**1.57**	**233**	*e*P	**Pg**	**03 25 46.5**	**-0.6**
	baz=214						
EHY	**Hungye**	**1.62**	**223**	*e*P	**Pb**	**03 25 46.9**	**-0.1**
	baz=221						
SMLT	**Sun Moon Lake**	**1.69**	**241**	*e*P	**Pb**	**03 25 47.5**	**-0.8**
	baz=222						
SSLB	**Suanglung**	**1.70**	**238**	*e*P	**Pg**	**03 25 48.9**	**-0.5**
	baz=220						
TYC	**Yuchr**	**1.71**	**243**	*e*P	**Pb**	**03 25 48.2**	**-0.4**
	baz=224						
YULB	**Yu-li**	**1.72**	**221**	*e*P	**Pn**	**03 25 47.1**	**0.0**
	baz=219						

WHYT	**Xinyi Township** baz=221	**1.82**	**237**	*eP*	**Pb**	**03 25 50.5**	**0.0**
ALS	**Alishan** baz=215	**1.97**	**233**	*eP*	**Pn**	**03 25 51.6**	**+0.8**

*MDD **19** 03:42:52.3±0.9, 36˚.45N×9˚.79W, h11km, mb_Lg2.4/5, Error ellipse: s-maj=7.2km s-min=4.5km az=78.0*
*SFS **19** 03:42:53.5, 36˚.43N×9˚.90W, h52km, ML3.1/8, ML2.8/7, MLv3.1/8*
*IGIL **19** 03:42:54.8, 36˚.45N×9˚.84W, h32km, ML1.2*
*INMG **19** 03:42:55.0±1.2, 36˚.46N×9˚.84W, h38km, ML1.7, Error ellipse: s-maj=5.4km s-min=3.0km az=90.0*
*CNRM **19** 03:42:58.3, 35˚.88N×9˚.25W, h249km, ml3.6*

ISC 19 03:42:51.1±1.6, 36˚.37N±0˚.04×9˚.90W±0˚.08, h35km, n49, σ1s66/80, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.15**	**48**	*eP*	**Pn**	**03 43 12.2**	**+1.5**
PFVI				*eS*	**Sn**	**03 43 24.7**	**-0.4**
PFVI				A	A	03 43 27.7	
	10nm,0.6s						
MORF	**Marmelete**	**1.36**	**47**	*eP*	**Pn**	**03 43 15.3**	**+1.6**
MORF				*eS*	**Sn**	**03 43 30.5**	**-0.1**
MORF				A	A	03 43 31.3	
	8.8nm,0.1s						
MORF	**Marmelete**	**1.36**	**47**	*eP*	**Pn**	**03 43 15.3**	**+1.6**
MORF				*eS*	**Sn**	**03 43 30.2**	**-0.4**
MORF				IAML		03 43 30.7	
	comp=N,7.5nm,0.1s						
PTEO	**Sao Teotonio**	**1.50**	**38**	*eS*	**Sn**	**03 43 33.6**	**-0.3**
PTEO				A	A	03 43 47.5	
	comp=N,5.1nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.80**	**61**	*eP*	**Pn**	**03 43 21.4**	**+1.7**
PBDV				*eS*	**Sn**	**03 43 40.9**	**-0.4**
PBDV				A	A	03 43 42.9	
	comp=N,1.5nm,0.2s						
PCVE	**Castro Verde**	**1.95**	**49**	*eP*	**Pn**	**03 43 23.5**	**+1.8**
PCVE				*eS*	**Sn**	**03 43 45.2**	**+0.3**
PCVE				A	A	03 43 53.1	
	comp=N,2.3nm,0.6s						
PCVE	**Castro Verde**	**1.95**	**49**	P	**Pn**	**03 43 23.4**	**+1.8**
MESJ	**Messejana**	**1.98**	**42**	*eP*	**Pn**	**03 43 23.7**	**+1.5**
MESJ				*eS*	**Sn**	**03 43 45.3**	**-0.6**
MESJ				A	A	03 43 51.1	
	comp=N,3.4nm,0.8s						
MESJ	**Messejana**	**1.98**	**42**	*eP*	**Pn**	**03 43 23.7**	**+1.5**
MESJ				*eS*	**Sn**	**03 43 44.8**	**-1.1**
MESJ				IAML		03 43 45.6	
	comp=E,0.8nm,0.1s						
PVAQ	**Vaqueiros**	**2.03**	**59**	*eP*	**Pn**	**03 43 24.0**	**+1.2**
PVAQ				*eS*	**Sn**	**03 43 46.4**	**-0.5**
PNCL	**Nicolau / Gran**	**2.05**	**32**	*eP*	**Pn**	**03 43 24.5**	**+1.4**
PNCL				*eS*	**Sn**	**03 43 46.7**	**-0.7**
PNCL				A	A	03 43 50.6	
	comp=E,2.2nm,0.6s						
PNCL	**Nicolau / Gran**	**2.05**	**32**	P	**Pn**	**03 43 24.5**	**+1.4**
EGRO	**El Granado**	**2.25**	**58**	S	**Sn**	**03 43 52.0**	**-0.5**
EGRO				*i* Vmb_Lg		03 44 03.1	
EGRO	**El Granado**	**2.25**	**58**	S	**Sn**	**03 43 52.5**	**0.0**
EGRO				P	**Pn**	**03 43 27.8**	**+2.0**
PBEJ	**Beja**	**2.31**	**44**	*eS*	**Sn**	**03 43 53.0**	**-1.0**
PMAFR	**Mafra**	**2.62**	**11**	*eP*	**Pn**	**03 43 32.1**	**+1.1**
PMAFR				*eS*	**Sn**	**03 44 00.9**	**-0.8**
PMAFR				A	A	03 44 03.6	
	comp=E,15nm,0.7s						
PMAFR	**Mafra**	**2.62**	**11**	P	**Pn**	**03 43 32.0**	**+1.1**
PMAFR				S	**Sn**	**03 44 00.8**	**-0.8**
EVO	**Evora**	**2.63**	**34**	*eP*	**Pn**	**03 43 32.2**	**+1.2**
EVO				*eS*	**Sn**	**03 44 00.2**	**-1.4**
EVO				A	A	03 44 02.9	
	comp=E,3.3nm,0.5s						
EVO	**Evora**	**2.63**	**34**	S	**Sn**	**03 43 59.8**	**-1.9**
PBAR	**Barrancos**	**2.90**	**51**	*eP*	**Pn**	**03 43 36.1**	**+1.3**
PBAR				*eS*	**Sn**	**03 44 07.6**	**-0.9**
PBAR				A	A	03 44 10.9	
	comp=E,1.0nm,0.5s						
PBAR	**Barrancos**	**2.90**	**51**	P	**Pn**	**03 43 35.9**	**+1.1**
PMTG	**Montargil**	**3.00**	**26**	*eP*	**Pn**	**03 43 37.7**	**+1.5**
PMTG				*eS*	**Sn**	**03 44 09.2**	**-1.7**
PMTG				A	A	03 44 09.8	
	comp=E,2.4nm,0.3s						
PESTR	**Estremoz**	**3.09**	**36**	*eP*	**Pn**	**03 43 40.3**	**+2.9**
PESTR				*eS*	**Sn**	**03 44 11.6**	**-1.6**
PESTR				A	A	03 44 21.7	
	comp=E,2.2nm,0.6s						
PESTR	**Estremoz**	**3.09**	**36**	P	**Pn**	**03 43 39.3**	**+1.9**
PSBE	**So Bento**	**3.25**	**15**	*eP*	**Pn**	**03 43 41.1**	**+1.4**
PSBE				*eS*	**Sn**	**03 44 15.2**	**-2.0**
PSBE				A	A	03 44 17.9	
	comp=E,4.9nm,0.8s						
ESPR	**Espera**	**3.29**	**80**	S	**Sn**	**03 44 17.7**	**-0.2**
ESPR				*i* Vmb_Lg		03 44 19.0	
ESPR	**Espera**	**3.29**	**80**	S	**Sn**	**03 44 17.6**	**-0.4**
EBAD	**Badajoz**	**3.30**	**43**	P	**Pn**	**03 43 41.8**	**+1.5**
EBAD				S	**Sn**	**03 44 16.2**	**-2.1**
EBAD				*i* Vmb_Lg		03 44 18.8	
EBAD	**Badajoz**	**3.30**	**43**	P	**Pn**	**03 43 40.9**	**+0.6**
EBAD				S	**Sn**	**03 44 16.3**	**-2.1**
PMRV	**Marv??o**	**3.64**	**32**	*eP*	**Pn**	**03 43 46.2**	**+1.3**
PMRV				*eS*	**Sn**	**03 44 24.0**	**-2.6**
PMRV				A	A	03 44 26.2	
	comp=E,1.2nm,0.3s						
PCAS	**Casmilo, Conde**	**3.84**	**16**	*eS*	**Sn**	**03 44 30.7**	**-0.8**
ECAB	**El Cabril**	**3.96**	**63**	P	**Pn**	**03 43 51.1**	**+1.8**
ECAB				S	**Sn**	**03 44 32.5**	**-2.0**
ECAB				*i* Vmb_Lg		03 44 39.8	
ECAB	**El Cabril**	**3.96**	**63**	P	**Pn**	**03 43 51.1**	**+1.8**
ECAB				S	**Sn**	**03 44 32.3**	**-2.2**
MTE	**Manteigas**	**4.42**	**24**	*eP*	**Pn**	**03 43 57.0**	**+1.2**
MTE				*eS*	**Sn**	**03 44 43.3**	**-2.8**
EADA	**Adamuz**	**4.61**	**66**	P	**Pn**	**03 44 00.2**	**+1.9**
EADA				*i* Vmb_Lg		03 44 42.8	
EADA				S	**Sn**	**03 44 49.9**	**-0.6**
EADA	**Adamuz**	**4.61**	**66**	S	**Sn**	**03 44 49.8**	**-0.8**
EADA				P	**Pn**	**03 43 59.7**	**+1.5**
PVIS	**Viseu**	**4.61**	**19**	*eS*	**Sn**	**03 44 49.2**	**-1.5**
IFR	**Ifrane**	**4.84**	**125**	S	**Sn**	**03 44 54.5**	**-2.2**
LCRM	**LCR**	**4.93**	**121**	P	**Pn**	**03 44 02.7**	**-0.1**
LCRM				S	**Sn**	**03 44 59.5**	**+0.8**
POLO	**Lamas de Olo**	**5.26**	**18**	*eS*	**Sn**	**03 45 04.9**	**-1.7**
AKLM	**AKL**	**5.26**	**109**	P	**Pn**	**03 44 07.7**	**+0.3**
AKLM				S	**Sn**	**03 45 04.5**	**-2.3**
MVO	**Moncorvo**	**5.28**	**24**	*eS*	**Sn**	**03 45 05.4**	**-1.9**
PSIM	**Granatula de C**	**5.45**	**62**	S	**Sn**	**03 45 09.3**	**-2.1**
MD31	**MD31**	**5.49**	**128**	P	**Pn**	**03 44 11.2**	**+0.7**
MD31				S	**Sn**	**03 45 09.5**	**-3.0**
MDT	**Midelt**	**5.62**	**128**	P	**Pn**	**03 44 14.6**	**+2.3**
MDT				S	**Sn**	**03 45 12.4**	**-3.4**
EQES	**Quesada**	**5.64**	**73**	S	**Sn**	**03 45 14.5**	**-1.6**
ELOB	**Lobios**	**5.67**	**14**	S	**Sn**	**03 45 12.6**	**-4.2**
TIO	**Tiouine**	**5.86**	**157**	P	**Pn**	**03 44 17.7**	**+2.1**
TIO				S	**Sn**	**03 45 20.3**	**-1.3**
OUZM	**OUZ**	**6.04**	**153**	P	**Pn**	**03 44 20.6**	**+2.5**
OUZM				S	**Sn**	**03 45 24.7**	**-1.5**

*NEIC **19** 04:02:38.0±1.6, 30˚.58N±0˚.09×131˚.9E±0˚.1, h10km±1km, mb4.8/31, Error ellipse: s-maj=19.5km s-min=15.1km az=244.0*
*JMA **19** 04:02:39.6±0.2, 30˚.7N±0˚.4×13˚.2E±˚, h59km±3km, MV3.5/35, E OFF TANEGASHIMA ISLAND*
*IDC **19** 04:02:42.6±2.1, 30˚.65N×131˚.76E, h51km±17km, mb3.5/16, mbtmp3.8/20, ML3.4/4, MS3.9/22, Error ellipse: s-maj=22.3km s-min=10.0km az=100.0*

ISC 19 04:02:37.9±1.7, 30˚.64N±0˚.04×131˚.98E±0˚.06, h14km±10km, n93, σ1s20/83, mb4.5/33, MS4.0/24, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.86**	**271**	P	**Pn**	**04 02 56.8**	**+1.2**
JTN				*eS*	**Sn**	**04 03 10.3**	**+2.4**
JMTN	**Minamitane**	**0.96**	**256**	P	**Pn**	**04 02 58.4**	**+1.5**
JTSR	**Tashiro 2**	**1.04**	**300**	P	**Pn**	**04 02 58.6**	**+0.4**
JNAR	**Kushima--Naru**	**1.07**	**326**	P	**Pg**	**04 02 59.0**	**+0.5**
JNAR				S	**Sn**	**04 03 13.2**	**+0.2**
JNKG	**Nichinankitago**	**1.14**	**333**	P	**Pn**	**04 02 59.7**	**+0.3**
JNKG				*eS*	**Sb**	**04 03 14.1**	**+0.1**
JYAK	**Yakushimahirau**	**1.33**	**253**	P	**Pg**	**04 03 03.3**	**-0.2**
JYAK				S	**Sg**	**04 03 20.9**	**+0.1**
JTZ	**Takazaki**	**1.47**	**329**	P	**Pn**	**04 03 04.4**	**+0.4**
JTZ				*eS*	**Sb**	**04 03 23.5**	**0.0**
JKC	**Kuchinoerabu**	**1.54**	**264**	P	**Pb**	**04 03 06.3**	**0.0**
JKC				*eS*	**Sg**	**04 03 26.1**	**-1.6**
JSU	**Suzuyama**	**1.56**	**304**	P	**Pb**	**04 03 06.4**	**-0.2**
JTSN	**Tsuno**	**1.65**	**346**	P	**Pn**	**04 03 06.4**	**0.0**
JTSN				S	**Sn**	**04 03 26.4**	**-1.0**
JZO	**Okuchi**	**1.90**	**322**	*eP*	**Pn**	**04 03 10.8**	**+0.8**
JNN	**Nakanoshima**	**1.98**	**247**	P	**Pn**	**04 03 12.5**	**+1.4**
JNU	**Nakatsue** 11nm,0.3s,baz=85,slow=3.9,SNR=49	**2.64**	**340**	P	**Pn**	**04 03 21.1**	**+1.0**
JNU				S	**Sn**	**04 03 53.3**	**+1.3**
	79nm,0.5s,baz=188,slow=11,SNR=5.2						
	47nm,0.6s						
JOW	**Kunigami**	**5.00**	**221**	P	**Pn**	**04 03 53.3**	**+0.8**
	3.7nm,0.3s,baz=88,slow=21,SNR=9.8						
JOW				S	**Sn**	**04 04 49.4**	**-0.7**
	20nm,0.6s,baz=46,slow=29,SNR=7.2						
	8.1nm,0.3s						
KSRS	**Korea Array** 0.2nm,0.3s,baz=148,slow=13,SNR=2.9	**7.58**	**335**	P	**Pn**	**04 04 28.1**	**+0.1**
	0.7nm,0.3s						
MAJO	**Matsushiro**	**7.85**	**40**	Pn	**Pn**	**04 04 32.1**	**+0.4**
MJAR	**Matsushiro Arr**	**7.85**	**40**	P	**Pn**	**04 04 32.5**	**+0.8**
	6.9nm,0.3s,baz=243,slow=14,SNR=13						
MJB9	**Matsu-Tunnel**	**7.85**	**40**	Pn	**Pn**	**04 04 33.1**	**+1.4**
USRK	**Ussuriysk Ar.**	**13.53**	**0**	P	**P**	**04 06 00.6**	**+2.1**
	5.4nm,0.8s,baz=165,slow=9.7,SNR=7.5						
KLR	**Kul'dur**	**18.57**	**360**	P	**Pn**	**04 06 55.2**	**+0.7**
	0.4nm,0.3s,baz=173,slow=6.7,SNR=9.9						
KLR				LR	LR	04 14 06.2	
	comp=Z,166nm,21.1s,baz=214,slow=37						
	6.9nm,0.9s						
SONM	**Songino Array**	**26.04**	**318**	P	**P**	**04 08 10.4**	**-0.3**
	0.2nm,0.4s,baz=134,slow=10.0,SNR=2.2						
SONM				LR	LR	04 20 02.5	
	comp=Z,331nm,21.1s,baz=127,slow=40						
	0.2nm,0.4s						
PETK	**Petropavlovsk-**	**29.22**	**32**	LR	LR	04 22 02.7	
	comp=Z,91nm,18.3s,baz=213,slow=40						
YAK	**Yakutsk**	**31.43**	**358**	LR	LR	04 21 31.7	
	comp=Z,6.6nm,19.6s,baz=123,slow=36						
MA2	**Magadan**	**31.59**	**18**	LR	LR	04 23 32.9	
	comp=Z,106nm,18.9s,baz=190,slow=40						
CMAR	**Chiang Mai Arr**	**32.28**	**256**	LR	LR	04 23 13.6	
	comp=Z,149nm,18.4s,baz=65,slow=38						
H11N2	**WAKE ISLAND Hy**	**33.29**	**101**	T	T	04 44 17.3	
	baz=296,slow=74						
H11N1	**WAKE ISLAND Hy**	**33.30**	**101**	T	T	04 44 20.4	
	baz=296						
H11N3	**WAKE ISLAND Hy**	**33.31**	**101**	T	T	04 44 19.9	
	baz=296,slow=74						
KAPI	**Kappang**	**37.33**	**200**	LR	LR	04 25 59.3	
	comp=Z,42nm,20.7s,baz=353,slow=38						
ZALV	**Zalesovo Beam**	**40.93**	**319**	LR	LR	04 28 52.8	
	comp=Z,122nm,19.7s,baz=85,slow=38						
TIXI	**Tiksi**	**41.10**	**359**	P	**P**	**04 10 18.8**	**-2.0**
TIXI	**Tiksi**	**41.10**	**359**	LR	LR	04 28 16.9	
	comp=Z,8.8nm,21.4s,baz=190,slow=37						
MKAR	**Makanchi Array**	**41.27**	**307**	P	**P**	**04 10 21.2**	**-1.4**
MKAR	**Makanchi Array**	**41.27**	**307**	P	**P**	**04 10 21.4**	**-1.3**
	0.5nm,0.7s,baz=93,slow=11,SNR=2.8						
MKAR				LR	LR	04 29 29.0	
	comp=Z,145nm,18.3s,baz=96,slow=39						
	0.5nm,0.7s						
KURK	**Kurchatov**	**44.07**	**313**	P	**P**	**04 10 45.4**	**+0.1**
KURBB	**Kurchatov Arra**	**44.12**	**313**	P	**P**	**04 10 44.3**	**-1.3**
	0.4nm,0.2s,baz=101,slow=9.3,SNR=4.4						
KURBB				LR	LR	04 31 09.8	
	comp=Z,290nm,19.2s,baz=178,slow=39						
	0.4nm,0.2s						
KNRA	**Kununurra**	**46.15**	**184**	P	**P**	**04 11 01.0**	**-1.1**
AAK	**Ala-Archa**	**46.83**	**301**	LR	LR	04 33 07.2	
	comp=Z,132nm,18.9s,baz=70,slow=39						
FITZ	**Fitzroy Crossi**	**48.84**	**188**	P	**P**	**04 11 22.8**	**-0.1**
BVAR	**Borovoye Array**	**49.32**	**316**	P	**P**	**04 11 24.7**	**-1.7**
	0.3nm,0.4s,baz=101,slow=12,SNR=3.3						
BVAR				LR	LR	04 34 56.5	
	comp=Z,167nm,18.4s,baz=99,slow=39						
	0.3nm,0.4s						
KKAR	**Karatay Array**	**49.70**	**302**	P	**P**	**04 11 29.8**	**+0.4**
WB0	**Warramunga Arr**	**50.17**	**177**	P	**P**	**04 11 31.3**	**-1.8**
WRA	**Warramunga Arr**	**50.34**	**177**	P	**P**	**04 11 35.0**	**+0.5**
	0.5nm,0.8s,baz=354,slow=8.2,SNR=3.2						
	0.5nm,0.8s						
C16K	**Lisburn Hills**	**51.83**	**25**	P	**P**	**04 11 45.0**	**-0.1**
PALK	**Pallekele**	**53.22**	**255**	LR	LR	04 35 25.3	
	comp=Z,52nm,20.1s,baz=156,slow=37						
C18K	**Utukok River**	**53.41**	**25**	P	**P**	**04 11 58.5**	**+1.7**
C18K				IAmb	IAmb	04 11 58.9	
	comp=Z,4.8nm,0.8s						
K17K	**Iditarod**	**54.01**	**32**	P	**P**	**04 12 02.8**	**+1.6**
K17K				IAmb	IAmb	04 12 04.6	
	comp=Z,27nm,1.6s						
ASAR	**Alice Springs**	**54.03**	**178**	P	**P**	**04 12 02.3**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=12,slow=13,SNR=2.0						
	comp=Z,0.3nm,0.3s						
M17K	**Holitna River**	**54.38**	**34**	P	**P**	**04 12 04.4**	**+0.4**
D19K	**Kuna River**	**54.51**	**25**	P	**P**	**04 12 06.3**	**+1.4**
D19K				IAmb	IAmb	04 12 07.3	
	comp=Z,19nm,1.2s						
E19K	**Redstone River**	**54.74**	**26**	P	**P**	**04 12 07.0**	**+0.5**
E19K				IAmb	IAmb	04 12 09.2	
	comp=Z,4.9nm,0.9s						
B20K	**Meade River**	**55.02**	**23**	P	**P**	**04 12 08.7**	**+0.3**
N18K	**Kilae Creek**	**55.14**	**35**	P	**P**	**04 12 09.4**	**-0.2**
J19K	**Poorman**	**55.25**	**31**	P	**P**	**04 12 08.1**	**-2.1**
J19K				IAmb	IAmb	04 12 10.9	
	comp=Z,14nm,1.4s						
L19K	**White Mountain**	**55.60**	**33**	P	**P**	**04 12 14.5**	**+1.7**
B21K	**Ikpikpuk River**	**55.86**	**24**	P	**P**	**04 12 16.1**	**+1.6**
B21K				IAmb	IAmb	04 12 17.3	
	comp=Z,9.3nm,1.2s						
J20K	**Nowinta River**	**55.89**	**31**	P	**P**	**04 12 16.6**	**+1.8**
K20K	**Telida**	**55.94**	**32**	P	**P**	**04 12 17.3**	**+2.1**
K20K				IAmb	IAmb	04 12 18.2	
	comp=Z,5.1nm,0.8s						
ARU	**Arti**	**56.06**	**320**	LR	LR	04 39 34.8	
	comp=Z,155nm,18.6s,baz=80,slow=40						
IMAR	**Indian Mountai**	**56.06**	**28**	P	**P**	**04 12 16.1**	**+0.1**
ABKAR	**Akbulak array**	**56.13**	**311**	P	**P**	**04 12 17.4**	**+0.6**
M20K	**Styx River**	**56.42**	**33**	P	**P**	**04 12 20.5**	**+1.6**
M20K				IAmb	IAmb	04 12 22.4	
	comp=Z,30nm,1.8s						
D22K	**Ayikyak River**	**56.52**	**25**	P	**P**	**04 12 20.8**	**+1.5**
D22K				IAmb	IAmb	04 12 22.7	
	comp=Z,11nm,1.2s						
I21K	**Tanana**	**56.80**	**29**	P	**P**	**04 12 23.3**	**+1.9**
I21K				IAmb	IAmb	04 12 24.4	
	comp=Z,8.9nm,1.0s						
PPLA	**Purkeypile**	**56.81**	**32**	P	**P**	**04 12 23.1**	**+1.4**
PPLA				IAmb	IAmb	04 12 24.4	
	comp=Z,17nm,1.2s						
E22K	**Anaktuvuk Pass**	**56.83**	**26**	P	**P**	**04 12 23.2**	**+1.6**
E22K				IAmb	IAmb	04 12 24.4	
	comp=Z,5.1nm,0.9s						
CAST	**Castle Rocks**	**56.83**	**31**	P	**P**	**04 12 23.2**	**+1.6**
KDAK	**Kodiak Island**	**57.02**	**38**	P	**P**	**04 12 23.8**	**+0.8**
KDAK				IAmb	IAmb	04 12 24.3	
	comp=Z,6.7nm,0.8s						
AKTO	**Aktyubinsk**	**57.17**	**313**	LR	LR	04 40 01.3	
	comp=Z,186nm,18.4s,baz=80,slow=39						
BPAW	**Bear Paw Mtn.**	**57.28**	**31**	P	**P**	**04 12 25.7**	**+0.9**
MLY	**Manley**	**57.34**	**29**	P	**P**	**04 12 27.1**	**+1.9**
MLY				IAmb	IAmb	04 12 28.5	
	comp=Z,14nm,1.5s						
SUA	**Susitna One**	**57.59**	**34**	P	**P**	**04 12 28.2**	**+1.1**
BRLK	**Bradley Lake**	**57.69**	**36**	P	**P**	**04 12 29.2**	**+1.4**
E24K	**Your Creek**	**58.08**	**26**	P	**P**	**04 12 32.2**	**+1.8**
E24K				IAmb	IAmb	04 12 32.6	
	comp=Z,22nm,1.9s						
MCK	**McKinley**	**58.21**	**31**	P	**P**	**04 12 32.1**	**+0.8**
MCK				IAmb	IAmb	04 12 33.5	
	comp=Z,28nm,1.6s						
RND	**Reindeer**	**58.28**	**31**	P	**P**	**04 12 32.8**	**+0.9**
RND				IAmb	IAmb	04 12 33.5	
	comp=Z,9.5nm,0.8s						
F24K	**Squaw Lake**	**58.34**	**26**	P	**P**	**04 12 34.0**	**+1.8**
ILAR	**Eielson Array**	**59.00**	**30**	P	**P**	**04 12 36.8**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=261,slow=6.0,SNR=22						
	comp=Z,1.0nm,0.8s						
KIRV	**Kirov**	**60.63**	**323**	LR	LR	04 42 10.3	
	comp=Z,150nm,18.3s,baz=56,slow=39						
BELG	**Belogornoye**	**63.08**	**317**	LR	LR	04 42 50.6	
	comp=Z,125nm,19.8s,baz=346,slow=38						
SPITS	**Spitsbergen Ar**	**65.20**	**348**	LR	LR	04 45 30.5	
	comp=Z,86nm,18.9s,baz=358,slow=39						
ARCES	**ARCESS Array B**	**67.12**	**339**	LR	LR	04 46 18.1	
	comp=Z,138nm,21.7s,baz=49,slow=39						
KBZ	**Khabaz**	**68.94**	**309**	LR	LR	04 48 06.2	
	comp=Z,108nm,19.7s,baz=72,slow=40						
FINES	**FINESS Array B**	**70.65**	**331**	P	**P**	**04 13 51.9**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=46,slow=5.5,SNR=5.7						
FINES				LR	LR	04 48 29.8	
	comp=Z,135nm,18.8s,baz=58,slow=39						
	comp=Z,2.2nm,0.7s						
YKA	**Yellowknife Ar**	**73.14**	**26**	P	**P**	**04 14 08.3**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=299,slow=5.6,SNR=8.9						
	comp=Z,0.9nm,0.8s						
AKASG	**Malin Array Be**	**74.31**	**320**	P	**P**	**04 14 14.4**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=54,slow=6.6,SNR=3.4						
	comp=Z,0.2nm,0.4s						
HFS	**Hagfors**	**76.43**	**333**	P	**P**	**04 14 25.7**	**-1.0**
	comp=Z,1.8nm,1.0s,baz=45,slow=8.4,SNR=1.3						
	comp=Z,1.8nm,1.0s						
NOA	**NORSAR Array B**	**76.79**	**335**	P	**P**	**04 14 28.1**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=31,slow=8.2,SNR=1.8						
NOA				LR	LR	04 52 05.4	
	comp=Z,116nm,19.2s,baz=30,slow=39						
	comp=Z,0.6nm,0.8s						
BRTR	**Keskin Array B**	**76.91**	**308**	P	**P**	**04 14 28.4**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=54,slow=2.5,SNR=2.6						
BRTR				LR	LR	04 51 50.2	
	comp=Z,73nm,18.7s,baz=9.5,slow=38						
	comp=Z,0.4nm,0.7s						
CLL	**Collm**	**82.37**	**326**	*eP*	**P**	**04 15 01.0**	**+1.7**
CLL				AMS	AMS	04 55 00.0	
	comp=Z,200nm,20.6s						
GERES	**GERESS Array B**	**83.62**	**324**	P	**P**	**04 15 06.1**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=44,slow=7.1,SNR=1.8						
	comp=Z,0.2nm,0.3s						
NVAR	**Mina Array Bea**	**85.10**	**48**	P	**P**	**04 15 14.9**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=295,slow=5.3,SNR=12						
	comp=Z,1.3nm,0.7s						
PDAR	**Pinedale Array**	**87.67**	**40**	P	**P**	**04 15 25.3**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=298,slow=3.9,SNR=4.4						
	comp=Z,0.4nm,0.7s						

*IDC **19** 04:27:03.7±1.7, 12˚.51S×167˚.84E, h537km±18km, mb3.3/11, mbtmp4.1/12, Error ellipse: s-maj=21.4km s-min=12.1km az=149.0*
*NEIC **19** 04:27:04.2±1.1, 12˚.6S±0˚.2×168˚.0E±0˚.1, h543km±11km, mb4.2/20, Error ellipse: s-maj=25.8km s-min=14.3km az=145.0*

ISC 19 04:27:04.6±0.6, 12˚.6S±0˚.1×167˚.9E±0˚.1, h550km, n37, σ0s92/42, mb4.1/21, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.53**	**188**	P	**P**	**04 29 16.7**	**-1.1**
DZM	**Mont Dzumac**	**9.53**	**188**	P	**P**	**04 29 17.3**	**-0.5**
	5.9nm,0.6s,baz=37,slow=18,SNR=6.5						
CTA	**Charters Tower**	**22.06**	**247**	P	**P**	**04 31 19.3**	**-0.1**
	1.0nm,0.4s,baz=67,slow=13,SNR=1.5						
	1.0nm,0.4s						
STKA	**Stephens Creek**	**30.87**	**227**	P	**P**	**04 32 37.4**	**+0.8**
	1.2nm,0.4s,baz=20,slow=12,SNR=2.0						
	1.2nm,0.4s						
TOO	**Toolangi**	**31.94**	**215**	P	**P**	**04 32 46.2**	**+0.5**
TOO				IAmb	IAmb	04 33 26.9	
	comp=Z,12nm,1.1s						
WR0	**Warramunga Arr**	**32.81**	**253**	P	**P**	**04 32 52.7**	**-0.6**
WR0				IAmb	IAmb	04 33 12.0	
	comp=Z,8.9nm,1.3s						
WB0	**Warramunga Arr**	**32.92**	**253**	P	**P**	**04 32 54.0**	**-0.3**
WB0				IAmb	IAmb	04 32 54.5	
	comp=Z,4.7nm,0.7s						
WB2	**Warramunga Arr**	**32.99**	**253**	P	**P**	**04 32 54.4**	**-0.4**
WB2				IAmb	IAmb	04 33 19.6	
	comp=Z,7.8nm,1.1s						
WRAB	**Tennant Creek**	**32.99**	**253**	P	**P**	**04 32 54.1**	**-0.7**
WRAB				IAmb	IAmb	04 33 20.9	
	comp=Z,5.5nm,1.1s						
WRA	**Warramunga Arr**	**33.00**	**253**	P	**P**	**04 32 54.0**	**-0.9**
WRA	**Warramunga Arr**	**33.00**	**253**	P	**P**	**04 32 54.5**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=84,slow=8.7,SNR=75						
WRA				S	**S**	**04 37 33.4**	**-1.6**
	comp=Z,0.4nm,0.8s,baz=84,slow=16,SNR=2.8						
WRA				ScP	**ScP**	**04 38 18.3**	**+3.4**
	comp=Z,0.2nm,0.6s,baz=78,slow=3.7,SNR=1.9						
	comp=Z,1.6nm,0.3s						
AS31	**Alice Springs**	**34.05**	**246**	P	**P**	**04 33 03.7**	**-0.1**

DZM	**Mont Dzumac**	**2.38**	**267**	Pn		**Pn**	**04 59 10.4**	**+0.4**	
	29nm,0.3s,baz=80,slow=17,SNR=411								
DZM				LR		LR	04 59 25.4		
	comp=Z,72nm,19.0s,baz=174,slow=24								
DZM				Sn		**Sn**	**04 59 39.2**	**-0.1**	
	62nm,0.3s,baz=92,slow=20,SNR=6.8								
	63nm,0.3s								
ONTNC	**Ouen Toro**	**2.39**	**261**	P		**Pn**	**04 59 10.5**	**+0.5**	
NOUC	**Port Laguerre**	**2.52**	**266**	P		**Pn**	**04 59 11.8**	**+0.2**	
ASAR	**Alice Springs**	**32.36**	**260**	P		**P**	**05 05 01.1**	**+0.5**	
	0.4nm,0.8s,baz=86,slow=9.9,SNR=2.3								
	0.4nm,0.8s								
WRA	**Warramunga Arr**	**32.40**	**267**	P		**P**	**05 05 00.3**	**-0.7**	
	0.3nm,0.5s,baz=98,slow=8.5,SNR=4.8								
	0.3nm,0.5s								
EKA	**Eskdalemuir Ar**	**146.16**	**352**	PKPbc		**PKPdf**	**05 18 10.3**	**+0.4**	
	0.5nm,0.5s,baz=19,slow=2.4,SNR=2.8								
GERES	**GERESS Array B**	**146.75**	**330**	PKPbc		**PKPab**	**05 18 14.1**	**0.0**	
	1.8nm,0.8s,baz=56,slow=3.4,SNR=6.2								

NEIC 19 04:59:37.4±1.4, 31.15N±0.03×103.24W±0.05, h5km±2km, mb_Lg2.5/23, ML2.5/64, Error ellipse: s-maj=8.4km s-min=3.0km az=303.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNHN	**Monahans**	**0.45**	**65**	Pg	Pg	04 59 45.3	-0.8
MNHN				Sg	Sg	04 59 51.3	-0.6
MNHN				IAML		04 59 55.4	
	359nm,0.3s						
MNHN				IAML		04 59 57.9	
	290nm,0.3s						
PECS	**Pecos**	**0.58**	**292**	Pg	Pg	04 59 48.0	-0.6
PECS				Sg	Sg	04 59 56.3	+0.2
PECS				IAML		05 00 01.8	
	268nm,0.4s						
PECS				IAML		05 00 06.9	
	192nm,0.6s						
ALPN	**Alpine**	**0.85**	**204**	Pg	Pg	04 59 51.4	-2.2
ALPN				Sg	Sg	05 00 03.5	-1.2
ALPN				IAML		05 00 09.2	
	98nm,0.4s						
ALPN				IAML		05 00 10.7	
	134nm,0.8s						
ODSA	**Odessa**	**1.13**	**31**	Pg	Pg	04 59 57.8	-1.3
ODSA				Sg	Sg	05 00 13.8	0.0
ODSA				IAML		05 00 20.0	
	92nm,0.3s						
ODSA				IAML		05 00 21.6	
	107nm,0.6s						
SAND	**Sanderson**	**1.53**	**141**	Pn	Pn	05 00 04.4	-1.0
SAND				IAmb_Lg		05 00 27.9	
	comp=Z,10nm,0.9s						
SAND				IAML		05 00 30.7	
	comp=Z,87nm,0.7s						
SAND				IAML		05 00 31.4	
	comp=Z,54nm,0.4s						
425A	**Indio Mountain**	**1.54**	**257**		Pn	05 00 05.0	-0.6
425A				IAML		05 00 31.7	
	comp=Z,52nm,0.7s						
OZNA	**Ozona**	**1.83**	**97**	Pn	Pn	05 00 09.9	+0.4
OZNA				IAML		05 00 37.6	
	comp=Z,51nm,0.6s						
OZNA				IAmb_Lg		05 00 38.5	
	comp=Z,11nm,0.8s						
OZNA				IAML		05 00 41.2	
	comp=Z,42nm,0.7s						
TX31	**Lajitas Ar. Si**	**1.85**	**192**	Pn	Pn	05 00 09.8	0.0
TXAR	**Lajitas Array**	**1.85**	**192**	Pn	Pn	05 00 09.8	0.0
SGCY	**Sterling City**	**1.96**	**67**	Pn	Pn	05 00 11.7	+0.4
SGCY				IAML		05 00 42.1	
	comp=Z,69nm,0.4s						
SGCY				IAmb_Lg		05 00 43.1	
	comp=Z,20nm,0.8s						
SGCY				IAML		05 00 43.9	
	comp=Z,77nm,0.6s						
POST	**Post**	**2.41**	**37**	Pn	Pn	05 00 17.5	0.0
POST				IAML		05 00 57.3	
	comp=Z,56nm,0.8s						
POST				IAmb_Lg		05 00 57.6	
	comp=Z,26nm,0.7s						
POST				IAML		05 00 59.5	
	comp=Z,72nm,0.9s						
SN01	**Snyder 1**	**2.62**	**49**	Pn	Pn	05 00 20.6	+0.1
SN01				IAmb_Lg		05 01 01.4	
	comp=Z,30nm,0.7s						
SN01				IAML		05 01 02.2	
	comp=Z,80nm,0.4s						
SN01				IAML		05 01 05.5	
	comp=Z,78nm,0.4s						
SN05	**Snyder 5**	**2.64**	**49**	IAmb_Lg		05 01 01.5	
	comp=Z,28nm,0.7s						
MSTX	**Muleshoe**	**2.84**	**8**	Pn	Pn	05 00 23.8	+0.3
MSTX				IAmb_Lg		05 01 12.8	
	comp=Z,8.6nm,0.7s						
DRIO	**Del Rio**	**2.85**	**127**	Pn	Pn	05 00 23.8	+0.4
DRIO				IAML		05 01 04.8	
	comp=Z,55nm,0.3s						
DRIO				IAML		05 01 05.7	
	comp=Z,44nm,0.3s						
DRIO				IAmb_Lg		05 01 12.0	
	comp=Z,17nm,0.7s						
JCT	**Junction City**	**3.03**	**102**	Pn	Pn	05 00 26.7	+0.6
JCT				IAmb_Lg		05 01 16.8	
	comp=Z,18nm,0.8s						
DKNS	**Dickens**	**3.18**	**37**	Pn	Pn	05 00 28.1	0.0
DKNS				IAML		05 01 21.2	
	comp=Z,71nm,0.7s						
DKNS				IAML		05 01 23.7	
	comp=Z,35nm,0.4s						
DKNS				IAmb_Lg		05 01 24.2	
	comp=Z,22nm,0.8s						
ABTX	**Abilene, Hawle**	**3.39**	**63**	Pn	Pn	05 00 30.3	-0.7
ABTX				IAmb_Lg		05 01 28.1	
	comp=Z,11nm,0.8s						
APMT	**Aspermont**	**3.42**	**50**	Pn	Pn	05 00 31.3	0.0
APMT				IAmb_Lg		05 01 30.5	
	comp=Z,22nm,1.3s						
APMT				IAML		05 01 30.7	
	comp=Z,48nm,0.6s						
APMT				IAML		05 01 33.6	
	comp=Z,36nm,0.3s						
BRDY	**Brady**	**3.63**	**87**	Pn	Pn	05 00 34.2	-0.2
BRDY				IAmb_Lg		05 01 36.3	
	comp=Z,14nm,0.8s						
BRDY				IAML		05 01 38.9	
	comp=Z,18nm,0.5s						
BRDY				IAML		05 01 39.3	
	comp=Z,12nm,0.4s						
HNDO	**Hondo**	**3.79**	**114**	Pn	Pn	05 00 37.3	+0.9
HNDO				IAmb_Lg		05 01 40.7	
	comp=Z,12nm,0.9s						
HNDO				IAML		05 01 45.8	
	comp=Z,9.5nm,0.5s						
HNDO				IAML		05 01 47.2	
	comp=Z,12nm,0.9s						
AMTX	**Amarillo**	**3.94**	**19**	Pn	Pn	05 00 37.1	-1.5
AMTX				IAmb_Lg		05 01 48.1	
	comp=Z,12nm,0.8s						
121A	**Cookes Peak, D**	**4.11**	**291**	Pn	Pn	05 00 41.6	+0.7
121A				IAML		05 02 00.1	
	comp=E,7.6nm,2.5s						
121A				IAML		05 02 01.8	
	comp=N,8.9nm,0.9s						
PLPT	**Palo Pinto**	**4.50**	**67**	Pn	Pn	05 00 45.7	-0.5
PLPT				IAML		05 02 09.2	
	comp=N,22nm,0.8s						
PLPT				IAML		05 02 09.4	
	comp=N,21nm,0.5s						
ANMO	**Albuquerque**	**4.65**	**325**	Pn	Pn	05 00 48.6	+0.2
ANMO	**Albuquerque**	**4.65**	**325**	IAML		05 02 47.5	
	comp=N,6.3nm,5.0s						
SMWD	**Samnorwood**	**4.67**	**32**	Pn	Pn	05 00 49.2	+0.6
SMWD				IAmb_Lg		05 02 11.6	
	comp=Z,9.9nm,0.8s						
SMWD				IAML		05 02 11.9	
	comp=Z,29nm,0.7s						
SMWD				IAML		05 02 17.1	
	comp=Z,25nm,1.1s						
WTFS	**Witchita Falls**	**4.80**	**56**	Pn	Pn	05 00 50.0	-0.4
WTFS				IAML		05 02 15.9	
	comp=Z,20nm,0.6s						
WTFS				IAML		05 02 19.8	
	comp=Z,23nm,0.9s						
FW07	**Weatherford**	**4.89**	**70**	Pn	Pn	05 00 51.0	-0.5
FW07				IAML		05 02 19.4	
	comp=Z,30nm,0.5s						
FW07				IAML		05 02 20.1	
	comp=Z,30nm,0.5s						
WHTX	**Lake Whitney,**	**5.01**	**79**	Pn	Pn	05 00 51.9	-1.2
WMOK	**Wichita Mounta**	**5.18**	**45**	Pn	Pn	05 00 55.3	-0.3
RTBA	**Rita Blanca**	**5.29**	**4**	Pn	Pn	05 00 56.6	-0.5
RTBA				IAmb_Lg		05 02 27.6	
	comp=Z,4.2nm,0.8s						
237A	**Washetta, Mont**	**6.40**	**80**	IAmb_Lg		05 03 16.1	
	comp=Z,7.6nm,0.8s						
HVU	**Hansel Valley**	**13.08**	**327**	Pn	Pn	05 02 41.3	-2.7

IDC 19 05:35:19.6±1.2, 9.21N×142.38E, h0km, mb3.6/4, mbtmp3.6/4, MS3.4/1, Error ellipse: s-maj=63.2km s-min=25.2km az=101.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**21.55**	**285**	LR	LR	05 47 45.7	
	comp=Z,92nm,19.6s,baz=152,slow=35						
WRA	**Warramunga Arr**	**30.03**	**195**	P	P	05 41 29.6	-0.9
	0.5nm,0.7s,baz=11,slow=9.6,SNR=2.6						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**33.71**	**194**	P	P	05 42 03.4	+0.6
	0.2nm,0.3s,baz=19,slow=12,SNR=5.8						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**63.01**	**318**	P	P	05 45 49.0	+0.5
	0.9nm,0.9s,baz=98,slow=8.2,SNR=4.0						
	0.9nm,0.9s						
ILAR	**Eielson Array**	**73.54**	**25**	P	P	05 46 53.9	-0.2
	0.8nm,0.7s,baz=258,slow=4.3,SNR=15						
	0.8nm,0.7s						

IDC 19 05:35:28.0±0.4, 21.80S×114.31W, h0km, mb4.8/16, mbtmp4.8/17, ML3.4/1, MS4.8/49, Error ellipse: s-maj=20.1km s-min=13.8km az=79.0

MOS 19 05:35:28.9±1.1, 21.72S×114.18W, h10km, mb5.6/34, Error ellipse: s-maj=9.8km s-min=7.9km az=89.8

NEIC 19 05:35:30.9, 21.80S×114.34W, h24km

NEIC 19 05:35:30.4±1.9, 21.9S±0.1×114.3W±0.1, h10km±1km, mb5.6/569, Ms_20 5.1/124, Mwb5.4/21, Mww5.5/14, Error ellipse: s-maj=18.9km s-min=18.2km az=261.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.11; $M_{\theta\theta}$-1.20; $M_{\phi\phi}$1.09; $M_{r\theta}$-0.76; $M_{\theta\phi}$0.71; $M_{r\phi}$-0.19; Fault plane solution: $M_0$1.56000×10^{17} NP1:ϕ_s61.43000°, δ88.41000°, λ-28.96000°. NP2:ϕ_s152.31000°, δ61.05000°, λ-178.18000°. Principal axes: T 1.4289, Plg19.0000°, Azm111.0000°; N 0.2409, Plg61.0000°, Azm239.0000°; P -1.6698, Plg21.0000°, Azm13.0000°;

NEIC 19 05:35:30.9, 21.80S×114.34W, h10km

NEIC 19 05:35:30.9, 21.60S×114.23W, h24km, Moment Tensor Solution. Duration: 2s8 Moment tensor: Scale 10^{17}Nm; M_{rr}0.06; $M_{\theta\theta}$-1.76; $M_{\phi\phi}$1.71; $M_{r\theta}$-0.31; $M_{\theta\phi}$1.23; $M_{r\phi}$0.41; Fault plane solution: $M_0$2.19000×10^{17} NP1: ϕ_s152.75000°, δ88.39000°, λ-166.55000°. NP2: ϕ_s62.37000°, δ76.56000°, λ-1.65000°. Principal axes: T 2.1404, Plg8.0000°, Azm287.0000°; N 0.0912, Plg76.0000°, Azm159.0000°; P -2.2315, Plg11.0000°, Azm18.0000°;

BJI 19 05:35:31.5, 21.80S×114.40W, h25km, mB5.7/9, Ms5.6/26, Ms7 5.4/28

GCMT 19 05:35:34.4±0.1, 21.89S±0.01×114.19W±0.01, h16km, MW5.4/150, Moment Tensor Solution. s114, c192; s150, c284; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}0.17±.02; $M_{\theta\theta}$-1.56±.02; $M_{\phi\phi}$1.39±.02; $M_{r\theta}$-0.41±.06; $M_{\theta\phi}$0.91±.02; $M_{r\phi}$0.30±.06; Best double couple: $M_0$1.79800×10^{17} NP1:ϕ_s151.00000°, δ86.00000°, λ-166.00000°. NP2:ϕ_s60.00000°, δ76.00000°, λ-4.00000°. Principal axes: T 1.6700, Plg7.0000°, Azm285.0000°; N 0.2600, Plg75.0000°, Azm167.0000°; P -1.9260, Plg13.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 19 05:35:29.4±0.3, 21.82S±0.06×114.37W±0.05, h10km, n1310, c0.98/1050, mb5.6/305, MS5.0/116, 43C-7D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**7.00**	**140**	Pn	**Pn**	**05 37 12.8**	**+0.8**
	0.7nm,0.3s,baz=273,slow=5.5,SNR=3.4						
RPN				Sn	**Sn**	**05 38 36.6**	**+4.9**
	3.2nm,0.3s,baz=65,slow=21,SNR=1.2						
RPN				LR	LR	05 39 06.6	
	comp=Z,9µm,18.9s,baz=326,slow=31						
	126nm,1.2s						
TAOE	**Nuku Hiva Isla**	**27.94**	**293**	*e*S	**S**	**05 46 09.6**	**+5.2**
	426nm,29.0s						
TAOE				*e*LR	LR	05 48 20.1	
	9µm,25.6s						
TBI	**Tubuai**	**32.39**	**261**	*e*S	S	05 46 57.1	-17
	1µm,28.0s						
TBI				*e*LR	LR	05 50 24.6	
	22µm,26.8s						
TBI	**Tubuai**	**32.39**	**261**	*e*T	T	06 16 08.3	
	10nm,0.3s						
TIAR	**Tiarei**	**33.16**	**271**	*e*T	T	06 17 08.0	
	0.8nm,0.2s						
H03N2	**Juan Fernandez**	**33.31**	**118**	T	T	06 17 10.4	
	baz=286,slow=75,SNR=796						
H03N3	**Juan Fernandez**	**33.32**	**118**	T	T	06 17 11.6	
	baz=286,slow=75,SNR=518						
H03N1	**Juan Fernandez**	**33.33**	**118**	T	T	06 17 11.6	
	baz=286,slow=75,SNR=708						
PPT2	**Papeete2**	**33.36**	**271**	*e*P	**P**	**05 42 06.1**	**-2.0**
PPT2				*e*S	**S**	**05 47 33.6**	**+4.3**
	434nm,26.8s						
PPT2				*e*SS	**SS**	**05 49 44.7**	**-8.4**
	2µm,24.5s						
PPT2				*e*LR	LR	05 50 43.7	
	5µm,29.0s						
PPT	**Papeete**	**33.37**	**271**	LR	LR	05 52 19.6	
	comp=Z,918nm,18.5s,baz=96,slow=30						
NNA	**Nana**	**37.13**	**81**	P	**P**	**05 42 40.2**	**-0.4**
NNA				IAmb	IAmb	05 42 41.6	
	comp=Z,176nm,1.6s						
NNA	**Nana**	**37.13**	**81**	IAMs_20	IAMs_20	05 53 29.6	
	comp=Z,3µm,19.0s						
NNA	**Nana**	**37.13**	**81**	P	**P**	**05 42 40.2**	**-0.4**
NNA				pmax	pmax		
	comp=Z,176nm,1.6s						
NNA	**Nana**	**37.13**	**81**	LR	LR	05 54 03.0	
	comp=Z,3µm,18.7s,baz=248,slow=30						
MCRA	**Macar, Loja**	**37.60**	**67**	*e*P	**P**	**05 42 44.0**	**-0.6**
ATAH	**Atahualpa**	**37.65**	**73**	LR	LR	05 54 04.1	
	comp=Z,3µm,21.2s,baz=243,slow=30						
CO06	**Fray Jorge**	**39.14**	**112**	P	**P**	**05 42 57.7**	**+0.4**
CO06				IAmb	IAmb	05 42 59.2	
	comp=Z,229nm,1.4s						
CO06	**Fray Jorge**	**39.14**	**112**	↑*i*P	**P**	**05 42 57.8**	**+0.4**
COHC	**Cochancay**	**39.18**	**65**	*e*P	**P**	**05 42 57.3**	**-0.5**
GO05	**Huala**	**39.29**	**119**	P	**P**	**05 42 58.0**	**-0.6**
GO05				IAmb	IAmb	05 43 00.5	
	comp=Z,131nm,1.2s						
GO05	**Huala**	**39.29**	**119**	↑*i*P	**P**	**05 42 59.0**	**+0.4**
VA05	**Santo Domingo**	**39.39**	**117**	P	**P**	**05 42 59.7**	**+0.4**
VA05				IAmb	IAmb	05 43 01.1	
	comp=Z,192nm,1.6s						
CO05	**La Serena**	**39.46**	**111**	P	**P**	**05 43 00.3**	**+0.3**
CO05				IAmb	IAmb	05 43 01.6	
	comp=Z,211nm,1.4s						
CO05	**La Serena**	**39.46**	**111**	*e*P	**P**	**05 43 00.5**	**+0.5**
LL05	**Los Muermos**	**39.48**	**129**	P	**P**	**05 43 00.5**	**+0.4**
LL05				IAmb	IAmb	05 43 04.7	
	comp=Z,322nm,1.6s						
AC04	**Llanos de Chal**	**39.59**	**108**	P	**P**	**05 43 00.7**	**-0.5**
AC04				IAmb	IAmb	05 43 02.5	
	comp=Z,120nm,1.4s						
MT01	**Popeta**	**39.71**	**117**	↑*i*P	**P**	**05 43 02.0**	**-0.1**
CO02	**Combarbal**	**39.71**	**113**	P	**P**	**05 43 01.8**	**-0.5**
CO02				IAmb	IAmb	05 43 03.9	
	comp=Z,181nm,1.4s						
CO02	**Combarbal**	**39.71**	**113**	↑*i*P	**P**	**05 43 02.6**	**+0.3**
MT02	**Curacav**	**39.74**	**116**	↑*i*P	**P**	**05 43 03.2**	**+0.8**
ML02	**Panimavida**	**39.82**	**120**	↑*i*P	**P**	**05 43 03.9**	**+1.0**
ROCH	**El Roble**	**39.82**	**116**	↑*i*P	**P**	**05 43 03.7**	**+0.4**
GO04	**Tololo Observa**	**39.85**	**111**	P	**P**	**05 43 03.2**	**-0.3**
GO04				IAmb	IAmb	05 43 05.1	
	comp=Z,304nm,1.4s						
GO04	**Tololo Observa**	**39.85**	**111**	↑*i*P	**P**	**05 43 03.2**	**-0.3**
BO01	**Tunca**	**39.91**	**118**	P	**P**	**05 43 04.0**	**+0.3**
BO01				IAmb	IAmb	05 43 05.8	
	comp=Z,231nm,1.5s						
BO01	**Tunca**	**39.91**	**118**	↑*i*P	**P**	**05 43 03.8**	**+0.1**
LCO	**Las Campanas**	**39.92**	**110**	P	**P**	**05 43 03.8**	**-0.4**
LCO				IAmb	IAmb	05 43 05.7	
	comp=Z,220nm,1.2s						
LCO	**Las Campanas**	**39.92**	**110**	IAMs_20	IAMs_20	05 54 38.3	
	comp=Z,3µm,18.0s						
LCO	**Las Campanas**	**39.92**	**110**	P	**P**	**05 43 03.8**	**-0.4**
LCO				pmax	pmax		
	comp=Z,220nm,1.3s						
LCO	**Las Campanas**	**39.92**	**110**	↑*i*P	**P**	**05 43 04.3**	**+0.1**
MT09	**Talagante**	**39.92**	**117**	*e*P	**P**	**05 43 03.8**	**-0.2**
CO03	**El Pedregal**	**39.96**	**112**	↑*i*P	**P**	**05 43 04.2**	**-0.2**
MT05	**Renca**	**40.09**	**116**	↑*i*P	**P**	**05 43 06.0**	**+0.7**
AC01	**Pan de Azucar**	**40.09**	**105**	P	**P**	**05 43 04.9**	**-0.4**
AC01				IAmb	IAmb	05 43 06.8	
	comp=Z,126nm,1.4s						
PEL	**Peldehue**	**40.11**	**116**	P	**P**	**05 43 05.8**	**+0.3**
PEL				IAmb	IAmb	05 43 07.7	
	comp=Z,166nm,1.3s						
PEL	**Peldehue**	**40.11**	**116**	P	**P**	**05 43 05.8**	**+0.3**
PEL				pmax	pmax		
	comp=Z,166nm,1.3s						
PEL	**Peldehue**	**40.11**	**116**	↑*i*P	**P**	**05 43 06.5**	**+1.0**
BO02	**Sierra Bellavi**	**40.20**	**118**	P	**P**	**05 43 06.7**	**+0.5**
BO02				IAmb	IAmb	05 43 08.2	
	comp=Z,158nm,1.4s						
BO02	**Sierra Bellavi**	**40.20**	**118**	↑*i*P	**P**	**05 43 06.5**	**+0.2**
MT10	**Hacienda Santa**	**40.25**	**116**	↓*i*P	P	05 42 58.2	-8.5
AC06	**Mina Casimiro**	**40.25**	**107**	↑*i*P	**P**	**05 43 07.2**	**+0.5**
BO04	**La Punta**	**40.25**	**117**	↑*i*P	**P**	**05 43 07.1**	**+0.4**
MT14	**Cerro Cal¡n**	**40.26**	**116**	↑*i*P	**P**	**05 43 07.3**	**+0.6**
MT12	**Pirque**	**40.28**	**117**	↓*i*P	P	05 43 01.1	-5.7
MT03	**Universidad Ad**	**40.29**	**116**	P	**P**	**05 43 07.5**	**+0.5**
MT03				IAmb	IAmb	05 43 09.6	
	comp=Z,193nm,1.2s						
MT03	**Universidad Ad**	**40.29**	**116**	↑*i*P	**P**	**05 43 07.6**	**+0.5**
AC05	**El Transito**	**40.29**	**109**	P	**P**	**05 43 07.4**	**+0.3**
AC05	**El Transito**	**40.29**	**109**	↑*i*P	**P**	**05 43 07.8**	**+0.6**
MT15	**Las Vizcachas**	**40.30**	**117**	↑*i*P	**P**	**05 43 07.5**	**+0.4**
GO03	**Copiap**	**40.35**	**107**	IAmb	IAmb	05 43 09.4	
	comp=Z,211nm,1.4s						
FCH	**Farellones**	**40.46**	**116**	↑*i*P	**P**	**05 43 09.4**	**+0.7**
MT13	**San Alfonso**	**40.50**	**117**	↑*i*P	**P**	**05 43 09.8**	**+1.0**
LL01	**San Ignacio de**	**40.53**	**130**	P	**P**	**05 43 09.7**	**+1.0**
LMEL	**Las Melosas**	**40.58**	**117**	↑*i*P	**P**	**05 43 10.6**	**+1.1**
MT04	**Ro Olivares**	**40.59**	**116**	↑*i*P	**P**	**05 43 10.5**	**+0.8**
PIAT	**Ana Tenorio**	**40.80**	**64**	*e*P	**P**	**05 43 11.3**	**-0.5**
PB04	**IPOC Station P**	**40.87**	**99**	↑*i*P	**P**	**05 43 12.0**	**-0.1**
PAC1	**Pacto, Paraso**	**41.06**	**62**	*e*P	**P**	**05 43 13.5**	**-0.1**
GO02	**Mina Guanaco**	**41.07**	**104**	IAmb	IAmb	05 43 15.6	
	comp=Z,207nm,1.6s						
PATCX	**Punta Patache**	**41.10**	**97**	P	**P**	**05 43 13.6**	**-0.3**
PATCX	**Punta Patache**	**41.10**	**97**	↑*i*P	**P**	**05 43 13.8**	**0.0**
TA01	**Diego Aracena**	**41.12**	**97**	↑*i*P	**P**	**05 43 13.8**	**-0.1**
PB07	**IPOC Station P**	**41.20**	**98**	↑*i*P	**P**	**05 43 14.9**	**+0.1**
PB02	**IPOC Station P**	**41.26**	**98**	P	**P**	**05 43 15.1**	**0.0**
PB02				IAmb	IAmb	05 43 17.0	
	comp=Z,263nm,1.7s						
PB02	**IPOC Station P**	**41.26**	**98**	↑*i*P	**P**	**05 43 15.4**	**+0.2**
OTAV	**Otavalo**	**41.33**	**63**	P	**P**	**05 43 16.3**	**+0.1**
OTAV	**Otavalo**	**41.33**	**63**	*e*P	**P**	**05 43 15.7**	**-0.4**
OTAV	**Otavalo**	**41.33**	**63**	P	**P**	**05 43 16.3**	**+0.1**
OTAV				pmax	pmax		
	comp=Z,109nm,1.6s						
OTAV	**Otavalo**	**41.33**	**63**	*e*P	**P**	**05 43 16.9**	**+0.7**
PB06	**IPOC Station P**	**41.35**	**100**	P	**P**	**05 43 14.5**	**-1.5**
PB06				IAmb	IAmb	05 43 17.4	
	comp=Z,110nm,1.3s						
PB06	**IPOC Station P**	**41.35**	**100**	*e*P	**P**	**05 43 13.1**	**-2.9**
PB12	**IPOC Station P**	**41.35**	**94**	P	**P**	**05 43 15.4**	**-0.6**
PB12				IAmb	IAmb	05 43 17.3	
	comp=Z,268nm,1.4s						
PB15	**IPOC Station P**	**41.38**	**101**	↑*i*P	**P**	**05 43 16.5**	**+0.2**
CUSE	**Cuicocha Este**	**41.41**	**63**	*e*P	**P**	**05 43 16.5**	**-0.3**
PLCA	**Paso Flores**	**41.44**	**127**	P	**P**	**05 43 15.6**	**-0.8**
PLCA	**Paso Flores**	**41.44**	**127**	*e*P	**P**	**05 43 17.7**	**+1.3**
PLCA	**Paso Flores**	**41.44**	**127**	P	**P**	**05 43 17.1**	**+0.7**
	comp=Z,23nm,1.2s,baz=284,slow=9.3,SNR=20						
PLCA				PcP	**PcP**	**05 45 14.3**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=294,slow=2.2,SNR=5.3						
PLCA				LR	LR	05 55 57.3	
	comp=Z,2µm,21.2s,baz=282,slow=30						
	comp=Z,23nm,1.2s						
PB01	**IPOC Station P**	**41.68**	**98**	P	**P**	**05 43 18.6**	**0.0**
PB01				IAmb	IAmb	05 43 20.6	
	comp=Z,287nm,1.8s						
PB01	**IPOC Station P**	**41.68**	**98**	↑*i*P	**P**	**05 43 18.9**	**+0.4**
ZON	**Zonda**	**41.71**	**113**	P	**P**	**05 43 19.5**	**+0.8**
ZON				pmax	pmax		
	comp=Z,235nm,1.3s						
COYC	**Coyhaique**	**41.77**	**135**	IAmb	IAmb	05 43 22.3	
	comp=Z,193nm,1.4s						
PB09	**IPOC Station P**	**41.78**	**99**	↑*i*P	**P**	**05 43 20.3**	**+0.8**
LVC	**Limon Verde**	**41.97**	**100**	P	**P**	**05 43 20.7**	**-0.6**
LVC				IAmb	IAmb	05 43 23.6	
	comp=Z,195nm,1.7s						
LVC	**Limon Verde**	**41.97**	**100**	P	**P**	**05 43 20.7**	**-0.6**
LVC				pmax	pmax		
	comp=Z,195nm,1.7s						
LVC	**Limon Verde**	**41.97**	**100**	*e*P	**P**	**05 43 22.0**	**+0.7**
CFA	**Coronel Fontan**	**42.09**	**113**	LR	LR	05 56 24.7	
	comp=Z,4µm,19.8s,baz=278,slow=30						
RAR	**Rarotonga**	**42.12**	**262**	LR	LR	05 56 12.7	
	comp=Z,3µm,18.7s,baz=105,slow=30						
TULM	**Tulcn-Chalpat**	**42.14**	**63**	*e*P	**P**	**05 43 22.6**	**-0.2**
PB08	**IPOC Station P**	**42.14**	**96**	↑*i*P	**P**	**05 43 23.1**	**+0.4**
BONI	**La Bonita**	**42.21**	**63**	*e*P	**P**	**05 43 21.9**	**-1.3**
PB18	**Visviri**	**42.37**	**93**	P	**P**	**05 43 25.7**	**+0.9**
CZSB	**Cruzeiro do Su**	**42.50**	**77**	*e*P	**P**	**05 43 23.8**	**-1.4**
CZSB

comp=Z,136nm,1.7s
ROSC El Rosal 47.33 61 *e*P **P 05 44 06.3 +2.2**
ROSC El Rosal 47.33 61 P **P 05 44 05.3 +1.2**
comp=Z,4.7nm,0.5s,baz=247,slow=8.0,SNR=12
ROSC LR LR 05 59 25.6
comp=Z,571nm,20.9s,baz=222,slow=30
comp=Z,4.7nm,0.5s
CVER Cruz Verde, Cu 47.34 61 *e*P **P 05 44 04.8 +0.4**
VILC Villavicencio, 47.42 62 *e*P **P 05 44 05.8 +1.3**
USHA Ushuaia 47.53 146 LR LR 06 00 40.1
comp=Z,2µm,18.2s,baz=302,slow=32
TRQA Tornquist 47.59 122 P **P 05 44 05.2 -0.3**
TRQA IAMs_20 IAMs_20 05 59 15.9
comp=Z,2µm,20.0s
TRQA Tornquist 47.59 122 P **P 05 44 05.2 -0.3**
TRQA pmax pmax
comp=Z,139nm,1.5s
ETMB Extrema 47.66 83 *e*P **P 05 44 04.9 -1.5**
SPBC San Pablo de B 48.00 60 *e*P **P 05 44 09.5 +0.5**
PTBC PUERTO BERRIO, 48.22 59 *e*P **P 05 44 09.5 -1.1**
ZARC Zaragoza, Cauc 48.47 57 *e*P **P 05 44 12.1 -0.5**
PTGC Puerto Gaitan, 48.76 63 *e*P **P 05 44 13.6 -1.2**
TEIG Tepich 48.95 33 LR LR 06 01 13.6
comp=Z,6µm,18.5s,baz=352,slow=32
TICA Tres Isletas 49.20 107 *e*P **P 05 44 18.4 +0.4**
BARC Barichara 49.26 60 *e*P **P 05 44 18.6 -0.3**
PAMC Pamplona, Colo 50.09 59 *e*P **P 05 44 24.8 -0.7**
OCAC Ocana 50.13 58 *e*P **P 05 44 24.5 -1.0**
SIV San Ignacio 50.56 93 LR LR 06 02 48.7
comp=Z,672nm,18.5s,baz=271,slow=32
SCCA San Cayetano, 50.62 108 *e*P **P 05 44 28.4 -0.4**
BBSD Serra de San D 50.69 95 *e*P **P 05 44 28.9 -0.6**
SAML Samuel 50.77 84 P **P 05 44 28.9 -1.2**
SAML IAmb IAmb 05 44 30.7
comp=Z,145nm,1.3s
SAML IAMs_20 IAMs_20 06 01 36.0
comp=Z,2µm,22.0s
SAML Samuel 50.77 84 P **P 05 44 28.9 -1.2**
SAML pmax pmax
comp=Z,145nm,1.3s
HBVL Hebbronville 50.91 18 P **P 05 44 33.1 +2.2**
HBVL IAmb IAmb 05 44 34.5
comp=Z,146nm,1.6s
LL6C La Loma 6 Bece 51.08 56 *e*P **P 05 44 31.1 -1.3**
ESFA Espinillo Form 51.09 105 *e*P **P 05 44 32.8 +0.4**
BBRB Robore, Bolivi 51.16 96 *e*P **P 05 44 32.4 -0.7**
SMRC Santa Marta, M 51.25 54 *e*P **P 05 44 32.5 -1.2**
TEFE Tefe 51.55 77 *e*P **P 05 44 35.3 -0.6**
TX31 Lajitas Ar. Si 51.89 12 P **P 05 44 38.8 +0.5**
TX31 Lajitas Ar. Si 51.89 12 P **P 05 44 39.8 +1.6**
baz=192,SNR=7.2
TXAR Lajitas Array 51.89 12 P **P 05 44 39.1 +0.8**
TXAR Lajitas Array 51.89 12 P **P 05 44 39.4 +1.2**
comp=Z,3.5nm,1.1s,baz=188,slow=8.6,SNR=19
TXAR PcP **PcP 05 45 51.4 +0.4**
comp=Z,1.8nm,0.9s,baz=204,slow=5.5,SNR=3.4
TXAR LR LR 06 02 32.6
comp=Z,830nm,19.0s,baz=179,slow=31
comp=Z,3.5nm,1.1s
833A Chaparral WMA, 51.90 17 P **P 05 44 39.0 +0.7**
833A Chaparral WMA, 51.90 17 P **P 05 44 39.7 +1.4**
baz=198,SNR=18
833A Chaparral WMA, 51.90 17 P **P 05 44 39.8 +1.5**
baz=198,SNR=18
CPUP Villa Florida 51.93 107 P **P 05 44 37.2 -1.5**
CPUP IAmb IAmb 05 44 39.5
comp=Z,140nm,1.4s
CPUP Villa Florida 51.93 107 *e*P **P 05 44 38.0 -0.6**
CPUP Villa Florida 51.93 107 P **P 05 44 37.6 -1.1**
comp=Z,44nm,1.1s,baz=265,slow=8.0,SNR=31
CPUP LR LR 06 02 56.2
comp=Z,1µm,18.6s,baz=266,slow=32
comp=Z,44nm,1.1s
ITQB Itaqui 52.16 111 *e*P **P 05 44 40.1 -0.2**
CRJC Cerrejon, Guaj 52.18 55 *e*P **P 05 44 39.6 -1.1**
VILB Vilhena 52.23 90 *e*P **P 05 44 40.4 -0.7**
MURT Porto Murtinho 52.46 101 *e*P **P 05 44 42.2 -0.4**
PTLB Pontes e Lacer 52.50 93 *e*P **P 05 44 42.4 -0.6**
DRIO Del Rio 52.64 15 P **P 05 44 43.9 +0.2**
DRIO IAmb IAmb 05 44 45.5
comp=Z,23nm,1.2s
SDV Santo Domingo 52.65 59 P **P 05 44 43.0 -1.4**
SDV Santo Domingo 52.65 59 *e*P **P 05 44 44.1 -0.2**
SDV Santo Domingo 52.65 59 LR LR 06 03 40.7
comp=Z,380nm,21.5s,baz=238,slow=32
SAND Sanderson 52.80 13 P **P 05 44 45.3 +0.3**
SAND IAmb IAmb 05 45 10.4
comp=Z,41nm,1.1s
735A Kenedy 52.85 18 P **P 05 44 46.4 +1.1**
735A IAmb IAmb 05 44 48.2
comp=Z,132nm,1.6s
ALPN Alpine 52.91 12 P **P 05 44 46.2 +0.3**
ALPN IAmb IAmb 05 45 02.4
comp=Z,45nm,1.2s
EF01 Eagle Ford 01 52.94 18 P **P 05 44 47.3 +1.3**
EF01 IAmb IAmb 05 45 01.2
comp=Z,84nm,1.8s
425A Indio Mountain 53.07 10 P **P 05 44 47.3 +0.2**
HNDO Hondo 53.08 16 P **P 05 44 47.6 +0.6**
HNDO IAmb IAmb 05 44 49.4
comp=Z,54nm,1.4s
PIX Pinacate 53.08 1 P **P 05 44 48.3 +1.4**
RODS Rosario do Sul 53.32 112 *e*P **P 05 44 48.5 -0.5**
214A Organ Pipe Nat 53.49 2 P **P 05 44 51.0 +1.0**
214A Organ Pipe Nat 53.49 2 P **P 05 44 51.9 +1.9**
baz=182,SNR=10
BDQN Bodoquena, MS 53.49 100 *e*P **P 05 44 49.5 -0.8**
UNIS Unistalda (Bra 53.57 111 *e*P **P 05 44 51.0 +0.2**
PECS Pecos 53.84 11 IAmb IAmb 05 45 20.6
comp=Z,41nm,1.6s
JCT Junction City 53.85 16 IAMs_20 IAMs_20 06 04 49.2
comp=Z,2µm,18.0s
JCT Junction City 53.85 16 P **P 05 44 53.7 +1.1**
baz=197,SNR=36
JCT Junction City 53.85 16 P **P 05 44 53.8 +1.1**
baz=197,SNR=36
ANTJ Antonio Joao (53.85 102 *e*P **P 05 44 52.9 -0.1**
MNTX Cornudas Mount 53.90 9 P **P 05 44 54.0 +1.0**
baz=190,SNR=27
MNTX Cornudas Mount 53.90 9 P **P 05 44 54.0 +1.0**
baz=190,SNR=27
TUC Tucson 53.93 4 P **P 05 44 53.8 +0.5**
TUC Tucson 53.93 4 IAMs_20 IAMs_20 06 02 23.5
comp=Z,2µm,22.0s
TUC Tucson 53.93 4 P **P 05 44 54.8 +1.5**
baz=184
TUC Tucson 53.93 4 P **P 05 44 53.8 +0.5**
TUC pmax pmax
comp=Z,30nm,1.5s
PANT Pantanal (Braz 53.94 98 *e*P **P 05 44 53.1 -0.6**
OZNA Ozona 53.96 14 P **P 05 44 53.5 0.0**
OZNA IAmb IAmb 05 45 22.8
comp=Z,66nm,1.4s
PMSA Palmer Station 53.98 156 LR LR 06 01 27.0
comp=Z,643nm,21.4s,baz=297,slow=29
MNHN Monahans 54.01 12 IAmb IAmb 05 44 56.1
comp=Z,88nm,1.8s
RMX La Rumorosa 54.14 358 P **P 05 44 55.4 +0.5**
IKP In-Ko-Pah, Jac 54.18 358 P **P 05 44 57.0 +1.9**
baz=178,SNR=8.1
121A Cookes Peak, D 54.41 7 P **P 05 44 58.8 +1.9**
baz=187,SNR=14
121A Cookes Peak, D 54.41 7 P **P 05 44 58.5 +1.6**
baz=187,SNR=14
MONP2 Monument Peak 54.44 358 P **P 05 44 58.9 +1.8**
baz=178,SNR=8.1
AQDB Aquidauana 54.45 100 *e*P **P 05 44 56.4 -0.9**
109C Camp Elliot, M 54.46 357 P **P 05 44 58.8 +1.8**
baz=177
SWSC Sam W. Stewart 54.47 359 P **P 05 44 58.9 +1.8**
baz=178
HKT Hockley 54.47 20 P **P 05 44 57.7 +0.6**
HKT IAmb IAmb 05 45 00.5
comp=Z,110nm,1.4s
HKT Hockley 54.47 20 P **P 05 44 58.6 +1.5**
baz=201
HKT Hockley 54.47 20 P **P 05 44 57.7 +0.6**
HKT pmax pmax
comp=Z,110nm,1.5s
PLTB Pedras Altas 54.54 114 *e*P **P 05 44 57.5 -0.5**
GLA Glamis 54.56 360 P **P 05 44 59.6 +1.8**
baz=179
CRSM Crissiumal (Br 54.67 109 *e*P **P 05 44 58.9 0.0**
435B Jarrell 54.73 18 IAmb IAmb 05 45 01.5
comp=Z,144nm,1.6s
435B Jarrell 54.73 18 P **P 05 45 00.6 +1.5**
baz=199
435B Jarrell 54.73 18 P **P 05 45 00.7 +1.7**
baz=199,SNR=6.7
ODSA Odessa 54.81 12 IAmb IAmb 05 45 25.2
comp=Z,46nm,1.0s
BRDY Brady 54.82 16 IAmb IAmb 05 45 01.5
comp=Z,105nm,1.8s
CPSB Cacapava Do Su 54.82 113 *e*P **P 05 44 59.8 -0.2**
SGCY Sterling City 54.91 14 P **P 05 45 00.2 -0.3**
SGCY IAmb IAmb 05 45 16.4
comp=Z,59nm,1.0s
SNCC San Nicolas Is 54.98 355 P **P 05 45 02.6 +1.9**
baz=174
CIS Catalina Islan 55.04 356 P **P 05 45 03.0 +1.7**
baz=175
TPFO Pinon Flats 55.15 358 P **P 05 45 04.0 +1.8**
baz=178
PFO Pinyon Flats O 55.15 358 P **P 05 45 03.4 +1.2**
PFO Pinyon Flats O 55.15 358 P **P 05 45 03.9 +1.6**
baz=178
PFO Pinyon Flats O 55.15 358 P **P 05 45 03.4 +1.2**
PFO pmax pmax
comp=Z,21nm,1.5s
PFO Pinyon Flats O 55.15 358 LR LR 06 02 48.9
comp=Z,924nm,19.4s,baz=178,slow=30
MCR1 Marechal Candi 55.16 105 *e*P **P 05 45 02.5 0.0**
BC3 Big Chuckawall 55.17 359 P **P 05 45 04.2 +1.9**
baz=178,SNR=8.2
MURC Murrieta 55.17 357 P **P 05 45 04.1 +1.8**
baz=177
ELS Elsinore Mount 55.23 357 P **P 05 45 04.0 +1.3**
BLYC Blythe 55.26 360 P **P 05 45 03.6 +0.8**
MACA Manacapuru-AM 55.27 78 *e*P **P 05 45 01.9 -1.5**
HNVL Huntsville, TX 55.34 20 IAmb IAmb 05 45 06.1
comp=Z,109nm,1.8s
FMP Fort Macarthur 55.34 356 P **P 05 45 05.3 +1.9**
baz=176
ALGR Alto Alegre (B 55.38 111 *e*P **P 05 45 04.1 +0.1**
RVDE Rio Verde (Bra 55.47 99 *e*P **P 05 45 04.3 -0.5**
BELC Bel Mtn. Jos 55.53 358 P **P 05 45 06.7 +1.8**
baz=178,SNR=9.4
SALV Santo Antonio 55.57 95 *e*P **P 05 45 04.3 -1.2**
IRM Iron Mountain 55.67 359 P **P 05 45 07.6 +1.8**
baz=179
SCZ2 Santa Cruz Isl 55.73 355 P **P 05 45 07.8 +1.6**
baz=174
FRBT Francisco Belt 55.77 107 *e*P **P 05 45 06.7 -0.3**
PASC Pasadena Art C 55.79 356 IAmb IAmb 05 45 24.0
comp=Z,61nm,1.6s
PASC Pasadena Art C 55.79 356 IAMs_20 IAMs_20 06 04 01.0
comp=Z,1µm,18.0s
PDMCI Parker Dam,Lak 55.81 0 P **P 05 45 08.6 +1.8**
baz=180
BBRC Big Bear Solar 55.82 357 P **P 05 45 08.8 +1.7**
baz=177
BFSC Mount Baldy Ra 55.83 357 P **P 05 45 08.5 +1.4**
baz=176,SNR=9.5
PDRB Porto dos Gac 55.86 89 *e*P **P 05 45 06.7 -1.0**
SN01 Snyder 1 55.88 14 IAmb IAmb 05 45 23.2
comp=Z,74nm,1.1s
PP1B Ponte de Pedra 55.88 97 *e*P **P 05 45 07.5 -0.2**
DECC Green Verdugo 55.88 356 P **P 05 45 09.1 +1.7**
baz=175
Y22A Socorro 55.89 7 P **P 05 45 09.2 +1.7**
baz=188,SNR=17
WHTX Lake Whitney, 55.90 17 IAmb IAmb 05 45 09.1
comp=Z,114nm,1.8s
WHTX Lake Whitney, 55.90 17 P **P 05 45 07.9 +0.5**
baz=199,SNR=13
WHTX Lake Whitney, 55.90 17 P **P 05 45 08.2 +0.8**
baz=199,SNR=13
ABTX Abilene, Hawle 55.94 15 P **P 05 45 08.2 +0.5**
baz=196,SNR=9.4
ABTX Abilene, Hawle 55.94 15 P **P 05 45 08.1 +0.4**
baz=196,SNR=9.4
POST Post 55.94 13 P **P 05 45 07.7 -0.1**
POST IAmb IAmb 05 45 09.4
comp=Z,72nm,1.4s
Y22D IRIS PASSCAL I 56.03 7 IAmb IAmb 05 45 30.9
comp=Z,64nm,0.9s
Y22D IAMs_20 IAMs_20 06 04 15.1
comp=Z,2µm,22.0s
Y22D IRIS PASSCAL I 56.03 7 P **P 05 45 10.3 +1.7**
baz=188
SBC Santa Barbara 56.18 355 P **P 05 45 10.8 +1.5**
baz=174
FW13 Cleburne 56.25 17 IAmb IAmb 05 45 11.5
comp=Z,91nm,1.8s
OSI Osito Audit: C 56.27 356 P **P 05 45 11.4 +1.2**
baz=175
NEE2 Needles Airpor 56.27 360 P **P 05 45 11.5 +1.5**
baz=180
RPRD Ribas do Rio P 56.27 101 *e*P **P 05 45 11.0 +0.5**
GMRC Granite Mounta 56.30 359 P **P 05 45 12.0 +1.5**
baz=178,SNR=7.3
FW14 Alvarado 56.36 17 IAmb IAmb 05 45 12.3
comp=Z,162nm,2.0s
HEC Hector, Ludlow 56.36 358 P **P 05 45 12.5 +1.7**
baz=178
237A Washetta, Mont 56.39 19 P **P 05 45 11.7 +0.7**
baz=201,SNR=12
ITAB Concordia 56.39 109 *e*P **P 05 45 10.8 -0.4**
RRX Edison Barstow 56.43 357 P **P 05 45 13.1 +1.8**
baz=177
PLPT Palo Pinto 56.45 16 P **P 05 45 11.5 +0.1**
PLPT IAmb IAmb 05 45 14.1
comp=Z,80nm,1.3s
FW07 Weatherford 56.48 17 IAmb IAmb 05 45 14.3
comp=Z,48nm,0.9s
EDW2 Edwards Air Fo 56.49 356 P **P 05 45 12.8 +1.1**
baz=176,SNR=7.0
APMT Aspermont 56.49 14 IAmb IAmb 05 45 14.4
comp=Z,270nm,1.8s
NATX Nacogdoches 56.52 20 IAmb IAmb 05 45 15.0
comp=Z,61nm,0.9s
NATX Nacogdoches 56.52 20 P **P 05 45 12.9 +1.0**
baz=202,SNR=8.6
NATX Nacogdoches 56.52 20 P **P 05 45 13.3 +1.4**
baz=202,SNR=8.6
MSTX Muleshoe 56.56 12 IAmb IAmb 05 45 27.9
comp=Z,52nm,1.1s
MSTX Muleshoe 56.56 12 P **P 05 45 12.7 +0.4**
baz=193,SNR=15
MSTX Muleshoe 56.56 12 P **P 05 45 12.5 +0.2**
baz=193,SNR=15
PKM Mcpherson Peak 56.63 355 P **P 05 45 13.9 +1.1**
baz=174
DKNS Dickens 56.64 13 IAmb IAmb 05 45 15.1
comp=Z,31nm,1.1s
BCW Bitter Crk WRg 56.65 355 IAmb IAmb 05 45 33.6
comp=Z,61nm,1.4s
FW03 Perrin-Whitt E 56.73 16 IAmb IAmb 05 45 15.1
comp=Z,193nm,1.9s
ARVC Arvin 56.79 356 P **P 05 45 15.5 +1.8**
baz=175
W18A Petrified Fore 56.79 5 P **P 05 45 15.5 +1.5**
baz=185
FW06 Azle 56.80 17 IAmb IAmb 05 45 16.5
comp=Z,211nm,1.8s
GSC Goldstone, Bar 56.85 358 P **P 05 45 15.8 +1.5**
baz=177,SNR=12
PTGB Pitanga 56.88 106 *e*P **P 05 45 14.8 -0.1**
ANMO Albuquerque 56.95 8 P **P 05 45 14.9 -0.2**
ANMO Albuquerque 56.95 8 IAMs_20 IAMs_20 06 05 16.3
comp=Z,1µm,19.0s
ANMO Albuquerque 56.95 8 P **P 05 45 16.3 +1.2**
baz=189
ANMO Albuquerque 56.95 8 P **P 05 45 16.1 +1.0**
baz=189,SNR=9.5
ANMO Albuquerque 56.95 8 P **P 05 45 14.9 -0.2**
ANMO pmax pmax
comp=Z,34nm,1.8s
ANMO Albuquerque 56.95 8 LR LR 06 05 36.5
comp=Z,1µm,18.7s,baz=285,slow=32
TUQ Turquoise Moun 56.96 358 P **P 05 45 16.7 +1.6**
baz=178
CLDB Colider 56.97 89 *e*P **P 05 45 14.8 -0.7**
TREL Terrell 56.98 18 IAmb IAmb 05 45 17.5
comp=Z,297nm,1.9s
SMMC Simmler 57.07 355 P **P 05 45 17.4 +1.6**
baz=174
LRMC Laurel Mtn Rad 57.07 357 P **P 05 45 16.9 +1.1**
baz=176,SNR=13
WUAZ Wupatki 57.09 3 P **P 05 45 17.9 +1.8**
baz=183,SNR=8.0
CNLB Canela 57.19 112 *e*P **P 05 45 17.9 +0.9**
Z35A Perchaven, San 57.22 17 P **P 05 45 17.4 +0.5**
ISA Isabella, Lake 57.30 356 P **P 05 45 19.5 +2.1**
baz=175,SNR=5.9
WTFS Witchita Falls 57.31 16 IAmb IAmb 05 45 20.0
comp=Z,40nm,0.8s
AIN Ainahou 57.36 313 P **P 05 45 18.3 0.0**
MLH Mauna Loa 57.39 313 P **P 05 45 19.9 +1.3**
SHOC Shoshone, Teco 57.43 358 P **P 05 45 20.2 +1.9**
baz=178,SNR=8.3
C2SB Chapadao do Su 57.47 99 *e*P **P 05 45 19.8 +0.8**
VES Vestal, Richgr 57.52 355 P **P 05 45 20.5 +1.6**
baz=175,SNR=9.6
HMH Humu'ula Sheep 57.53 313 P **P 05 45 21.0 +1.4**
MPMC Manual Prospec 57.63 357 P **P 05 45 21.4 +1.4**
baz=176,SNR=14
AMTX Amarillo 57.66 12 IAmb IAmb 05 45 21.7
comp=Z,51nm,1.4s
AMTX Amarillo 57.66 12 P **P 05 45 20.7 +0.7**
baz=194
AMTX Amarillo 57.66 12 P **P 05 45 20.7 +0.7**
baz=194,SNR=6.2
Z38A Mt. Pleasant 57.81 19 IAmb IAmb 05 45 22.8
comp=Z,168nm,1.9s
Z38A Mt. Pleasant 57.81 19 P **P 05 45 21.9 +1.0**
baz=201
BOAV Boa Vista 57.84 72 *e*P **P 05 45 20.8 -0.8**
LDASE Londrina, Braz 57.99 105 *e*P **P 05 45 21.9 -0.8**
FURC Furnace Creek, 58.01 358 P **P 05 45 23.9 +1.6**
baz=177,SNR=7.4
VOG Valley Oaks Go 58.02 355 P **P 05 45 23.7 +1.4**
baz=174
CWC Cottonwood Cre 58.05 356 P **P 05 45 24.6 +1.8**
baz=176
WMOK Wichita Mounta 58.16 15 P **P 05 45 24.5 +1.0**
baz=197
SMWD Samnorwood 58.17 14 IAmb IAmb 05 45 25.9
comp=Z,37nm,1.2s
PCRV Puerto La Cruz 58.24 62 LR LR 06 08 53.5
comp=Z,320nm,18.5s,slow=34
PCMB Pacaembu 58.24 103 *e*P **P 05 45 24.2 -0.3**
VBMS Vicksburg 58.38 24 P **P 05 45 25.7 +0.8**
baz=206
BBGB Big Mountain B 58.42 354 IAmb IAmb 05 45 43.0
comp=Z,48nm,1.2s
TPNV Topopah Spring 58.47 358 IAmb IAmb 05 45 29.5
comp=Z,76nm,1.9s
TPNV IAMs_20 IAMs_20 06 04 24.9
comp=Z,1µm,21.0s
TPNV Topopah Spring 58.47 358 P **P 05 45 27.7 +1.9**
baz=178,SNR=12
143A Socs Landing, 58.49 23 P **P 05 45 26.8 +1.1**
baz=205,SNR=8.4
KNB Kanab 58.53 1 IAmb IAmb 05 45 29.4
comp=Z,55nm,1.7s
GRAC Grapevine Rang 58.56 357 P **P 05 45 28.2 +1.9**
baz=177,SNR=6.5
SAO San Andreas Ge 58.65 353 IAMs_20 IAMs_20 06 04 16.5
comp=Z,1µm,19.0s
TIN Tinemaha, Big 58.67 356 P **P 05 45 28.9 +1.8**
baz=176
NPGB Novo Progresso 58.68 85 *e*P **P 05 45 26.3 -1.3**
BRAL Brewton 58.84 27 P **P 05 45 29.0 +0.7**
baz=210
PRN Pahroc Range 58.91 359 IAmb IAmb 05 45 46.8
comp=Z,48nm,1.3s
DWPF Disney Wildern 58.95 34 P **P 05 45 28.8 -0.3**
DWPF Disney Wildern 58.95 34 P **P 05 45 29.5 +0.4**
baz=216
DWPF Disney Wildern 58.95 34 P **P 05 45 29.9 +0.9**
baz=216,SNR=5.4
MVCO Mesa Verde 58.97 5 IAmb IAmb 05 45 46.1
comp=Z,68nm,1.6s
MVCO IAMs_20 IAMs_20 06 05 36.6
comp=Z,1µm,21.0s
MVCO Mesa Verde 58.97 5 P **P 05 45 30.6 +1.3**
baz=186,SNR=14
RTBA Rita Blanca 58.97 11 IAmb IAmb 05 46 20.0
comp=Z,66nm,1.8s
PKCU Pink Cliffs 58.97 2 IAmb IAmb 05 45 33.2
comp=Z,107nm,1.7s
CCUT Cedar City 59.06 1 P **P 05 45 31.7 +1.8**
CCUT IAmb IAmb 05 45 33.4
comp=Z,71nm,1.7s
SZCU Shurtz Canyon 59.10 1 IAmb IAmb 05 45 33.7
comp=Z,64nm,1.7s
S11A Rachel 59.16 359 IAmb IAmb 05 45 36.4
comp=Z,66nm,1.3s
MLAC Mammoth, Mammo 59.28 356 P **P 05 45 32.8 +1.4**
baz=175
ELIS Ellis County 59.28 14 IAmb IAmb 05 46 00.7
comp=Z,78nm,1.5s
146A Union 59.31 25 P **P 05 45 32.9 +1.5**
baz=207,SNR=5.7
ITTB Itaituba 59.33 82 *e*P **P 05 45 30.4 -1.6**
T25A Trinidad 59.38 9 P **P 05 45 33.3 +1.1**
baz=191,SNR=9.4
FRTB Fartura 59.40 105 *e*P **P 05 45 32.3 -0.2**
CCAR Cane Creek 59.46 22 P **P 05 45 33.8 +1.4**
baz=204,SNR=10
OK029 Liberty Lake 59.50 16 IAMs_20 IAMs_20 06 07 10.7
comp=Z,1µm,21.0s
ITRB Iturama 59.51 101 *e*P **P 05 45 32.7 -0.5**
HMU Henry Mountain 59.53 3 IAmb IAmb 05 45 37.0
comp=Z,137nm,2.0s
MTPU Mount Pierson 59.57 2 P **P 05 45 35.2 +1.6**
MTPU IAmb IAmb 05 45 37.1
comp=Z,65nm,2.0s
S22A 4UR Ranch, Cre 59.67 7 P **P 05 45 35.4 +1.2**
baz=188,SNR=14
U32A Winter Ranch, 59.68 14 IAmb IAmb 05 46 02.8
comp=Z,77nm,1.6s
CMB Columbia Colle 59.80 355 IAmb IAmb 05 45 37.8
comp=Z,52nm,1.8s
CMB IAMs_20 IAMs_20 06 05 10.1
comp=Z,1µm,20.0s
SDCO Great Sand Dun 59.83 8 IAmb IAmb 05 45 37.6
comp=Z,42nm,1.4s
SDCO IAMs_20 IAMs_20 06 06 53.6
comp=Z,1µm,20.0s
SDCO Great Sand Dun 59.83 8 P **P 05 45 36.5 +1.1**
baz=189,SNR=32
SDCO Great Sand Dun 59.83 8 P **P 05 45 36.3 +1.0**
baz=189,SNR=32
OK038 West end E0370 59.83 15 IAMs_20 IAMs_20 06 08 15.6
comp=Z,1µm,20.0s
OK052 Battle Ridge R 59.85 16 IAmb IAmb 05 45 37.2
comp=Z,119nm,1.9s
OK052 IAMs_20 IAMs_20 06 07 23.1
comp=Z,1µm,22.0s
R11B Troy Canyon, C 59.86 359 IAMs_20 IAMs_20 06 05 58.5
comp=Z,1µm,20.0s
R11B Troy Canyon, C 59.86 359 P **P 05 45 37.3 +1.9**
baz=179,SNR=24
OK033 Mehan 59.87 16 IAmb IAmb 05 45 36.5
comp=Z,132nm,1.8s
LHV Little Huntoon 59.87 356 IAmb IAmb 05 45 53.2
comp=Z,55nm,1.5s
250A Grady 59.88 28 P **P 05 45 36.1 +0.7**
baz=210,SNR=16
NV11 Mina Array Sit 60.03 357 IAmb IAmb 05 45 39.7
comp=Z,47nm,1.6s
MVU Marysvale 60.03 2 P **P 05 45 37.8 +1.1**
CROK Carrier 60.04 15 IAmb IAmb 05 45 37.9
comp=Z,107nm,1.5s
NVAR Mina Array Bea 60.04 356 P **P 05 45 38.3 +1.7**
comp=Z,8.1nm,0.8s,baz=186,slow=9.1,SNR=65
NVAR LR LR 06 06 00.0
comp=Z,1µm,18.6s,baz=172,slow=30
comp=Z,8.1nm,0.8s
352A Blakely 60.04 29 P **P 05 45 36.8 +0.3**
baz=212,SNR=13
TUL3 Leonard 60.05 17 IAMs_20 IAMs_20 06 07 44.3
comp=Z,2µm,22.0s
TUL3 Leonard 60.05 17 P **P 05 45 36.2 -0.2**
baz=200,SNR=15
TUL3 Leonard 60.05 17 P **P 05 45 36.7 +0.2**
baz=200,SNR=15
TCRU Three Creeks R 60.13 2 IAmb IAmb 05 45 40.7
comp=Z,101nm,2.0s
MCCM Marconi Confer 60.17 352 IAMs_20 IAMs_20 06 05 24.1
comp=Z,1µm,19.0s
Z47A Carrollton 60.19 25 IAmb IAmb 05 45 40.1
comp=Z,92nm,1.2s
Z47A Carrollton 60.19 25 P **P 05 45 38.2 +0.7**
baz=208,SNR=15
Y45A Yeager Farm, C 60.21 24 P **P 05 45 38.4 +0.8**
baz=206,SNR=17
OK032 Salt Plains WL 60.27 15 IAmb IAmb 05 45 39.6

comp=Z,62nm,1.4s
OK032 IAMs_20 IAMs_20 06 08 05.1
comp=Z,1µm,20.0s
URZ Urewera 60.28 238 LR LR 06 06 34.4
comp=Z,564nm,19.1s,baz=244,slow=31
OK051 E0350 and S346 60.33 16 IAMs_20 IAMs_20 06 08 53.7
comp=Z,1µm,18.0s
KAN14 Manchester OK 60.47 15 IAmb IAmb 05 45 40.9
comp=Z,66nm,1.4s
LRAL Lakeview Retre 60.48 26 IAmb IAmb 05 45 41.4
comp=Z,87nm,1.6s
LRAL Lakeview Retre 60.48 26 P **P 05 45 39.9 +0.4**
baz=209,SNR=15
LRAL Lakeview Retre 60.48 26 P **P 05 45 40.2 +0.7**
baz=209,SNR=15
Q16A Castle Valley 60.49 3 IAmb IAmb 05 45 42.4
comp=Z,95nm,1.9s
SPR3 Spring Creek 3 60.49 0 P **P 05 45 40.7 +0.8**
SPR3 IAmb IAmb 05 45 42.4
comp=Z,56nm,1.7s
RLO Rose Lookout 60.50 18 IAmb IAmb 05 45 40.4
comp=Z,96nm,2.0s
WHAR Wooly Hollow 60.53 21 IAmb IAmb 05 45 41.4
comp=Z,142nm,1.9s
TIGA Tifton 60.62 30 P **P 05 45 40.7 +0.2**
baz=213,SNR=6.7
TIGA Tifton 60.62 30 P **P 05 45 40.8 +0.3**
baz=213,SNR=6.7
KVN Kaiserville 60.65 357 IAmb IAmb 05 45 43.9
comp=Z,55nm,1.9s
YERR Yerington 60.65 356 IAmb IAmb 05 45 44.1
comp=Z,67nm,1.6s
EMB Emerald Bay 60.71 355 IAmb IAmb 05 45 44.5
comp=Z,54nm,1.5s
SRU San Rafael Swe 60.71 3 IAmb IAmb 05 45 43.5
comp=Z,82nm,1.8s
SNDB Serra Nova Dou 60.80 92 *eP* **P 05 45 41.5 -0.7**
OXF Oxford 60.84 24 IAmb IAmb 05 45 43.6
comp=Z,79nm,1.3s
OXF IAMs_20 IAMs_20 06 11 03.2
comp=Z,952nm,18.0s
OXF Oxford 60.84 24 P **P 05 45 41.8 -0.1**
baz=206,SNR=9.9
OXF Oxford 60.84 24 P **P 05 45 41.5 -0.4**
baz=206,SNR=9.9
BB19B Bebedouro 60.85 103 *eP* **P 05 45 42.3 -0.1**
TMUT Trail Mountain 60.86 3 IAmb IAmb 05 45 45.1
comp=Z,76nm,2.0s
U38A Gravette 60.94 18 P **P 05 45 41.8 -0.8**
U38A Gravette 60.94 18 P **P 05 45 42.7 +0.1**
baz=201,SNR=8.8
MPK Martis Peak 61.02 355 IAmb IAmb 05 46 05.1
comp=Z,57nm,1.4s
HOPS Hopland Field 61.04 352 IAMs_20 IAMs_20 06 05 21.9
comp=Z,2µm,20.0s
P17A Butcher Ranch, 61.06 3 IAmb IAmb 05 45 46.9
comp=Z,70nm,1.5s
SMCO Snowmass 61.07 7 IAmb IAmb 05 46 08.1
comp=Z,58nm,1.9s
SMCO IAMs_20 IAMs_20 06 08 18.4
comp=Z,1µm,18.0s
Q24A Divide 61.07 8 P **P 05 45 44.6 +0.7**
baz=190
FCAR Ozark Folk Cen 61.14 21 P **P 05 45 43.8 -0.2**
FCAR IAmb IAmb 05 45 45.1
comp=Z,122nm,1.9s
152A Waverly Hall 61.14 28 P **P 05 45 44.4 +0.3**
baz=211,SNR=14
SPB Sao Paulo 61.25 106 *eP* **P 05 45 46.1 +1.0**
U40A Yellville 61.33 20 P **P 05 45 45.4 +0.2**
baz=203,SNR=21
U40A P **P 05 45 45.4 +0.2**
baz=203,SNR=21
ORV Oroville 61.41 354 P **P 05 45 47.2 +1.5**
ORV Oroville 61.41 354 P **P 05 45 47.2 +1.5**
ORV pmax pmax
comp=Z,32nm,1.6s
RCLB Rio Claro- Sao 61.43 104 *eP* **P 05 45 46.3 -0.1**
Y49A Blount Mountai 61.44 26 IAmb IAmb 05 45 47.3
comp=Z,69nm,1.6s
Y49A Blount Mountai 61.44 26 P **P 05 45 46.4 +0.3**
baz=210,SNR=7.9
NLU North Lily Min 61.49 2 IAmb IAmb 05 45 49.7
comp=Z,59nm,1.7s
KSCO Kaye Shedlock' 61.50 10 P **P 05 45 47.2 +0.7**
baz=192
KSCO Kaye Shedlock' 61.50 10 P **P 05 45 46.8 +0.3**
baz=192
255A Hazlehurst 61.55 31 P **P 05 45 48.0 +1.2**
baz=214,SNR=5.5
MPU Maple Canyon 61.56 2 IAmb IAmb 05 45 49.8
comp=Z,61nm,1.8s
LCAR Lake Charles 61.62 21 IAmb IAmb 05 45 48.7
comp=Z,130nm,1.9s
LCAR Lake Charles 61.62 21 P **P 05 45 47.5 +0.4**
baz=204,SNR=10.0
MALB Monte Alegre 61.66 80 *eP* **P 05 45 47.8 -0.2**
SJG San Juan 61.66 54 LR LR 06 08 57.2
comp=Z,237nm,21.3s,baz=206,slow=33
R32A Long Quarter, 61.70 14 IAmb IAmb 05 45 49.2
comp=Z,103nm,1.6s
R32A Long Quarter, 61.70 14 P **P 05 45 48.2 +0.5**
baz=196,SNR=9.1
X48A Hartselle 61.70 26 IAmb IAmb 05 45 48.9
comp=Z,54nm,1.6s
X48A Hartselle 61.70 26 P **P 05 45 47.3 -0.5**
baz=209,SNR=8.4
DUG Dugway, Tooele 61.71 1 IAmb IAmb 05 46 05.1
comp=Z,39nm,1.4s
DUG Dugway, Tooele 61.71 1 P **P 05 45 49.3 +1.5**
baz=182,SNR=20
PLAL Pickwick Lake 61.76 24 IAmb IAmb 05 45 49.0
comp=Z,112nm,1.7s
VAO Valinhos 61.80 105 *eP* **P 05 45 49.0 0.0**
154A Montrose 61.83 30 P **P 05 45 48.7 +0.1**
baz=213,SNR=13
ISCO Idaho Springs 61.84 8 IAMs_20 IAMs_20 06 08 11.8
comp=Z,1µm,20.0s
ISCO Idaho Springs 61.84 8 P **P 05 45 49.8 +0.8**
baz=189,SNR=17
ISCO Idaho Springs 61.84 8 P **P 05 45 50.1 +1.1**
baz=189,SNR=17
ISCO Idaho Springs 61.84 8 P **P 05 45 50.0 +1.1**
CBKS Cedar Bluff 61.85 13 IAmb IAmb 05 45 50.2
comp=Z,94nm,1.9s
CBKS IAMs_20 IAMs_20 06 08 58.1
comp=Z,1µm,20.0s
CBKS Cedar Bluff 61.85 13 P **P 05 45 48.9 +0.1**
baz=195
O20A White River Ci 61.89 5 IAmb IAmb 05 45 51.7
comp=Z,47nm,1.6s
O20A White River Ci 61.89 5 P **P 05 45 50.4 +1.2**
baz=186,SNR=7.2
IPMB Ipameri, GO 61.91 99 *eP* **P 05 45 48.8 -0.9**
BMN Battle Mountai 61.98 358 IAmb IAmb 05 45 53.9
comp=Z,116nm,2.0s
BSUT Blindstream Ca 62.12 3 IAmb IAmb 05 45 53.4
comp=Z,63nm,1.7s
RDMU Red Mountain 62.23 4 IAmb IAmb 05 45 54.5
comp=Z,90nm,1.5s
LNXT Lenox 62.23 23 P **P 05 45 50.9 -0.3**
CTU Camp Tracy 62.23 2 IAmb IAmb 05 45 54.1
comp=Z,83nm,1.9s
ELK Elko 62.24 359 IAmb IAmb 05 45 54.7
comp=Z,44nm,1.6s
ELK IAMs_20 IAMs_20 06 08 16.7
comp=Z,1µm,18.0s
ELK Elko 62.24 359 P **P 05 45 53.4 +1.8**
ELK Elko 62.24 359 LR LR 06 07 54.6
comp=Z,1µm,18.3s,baz=186,slow=31
KMRM Mail Ridge 62.33 352 IAmb IAmb 05 46 09.0
comp=Z,42nm,1.3s
GOGA Godfrey 62.33 29 P **P 05 45 51.6 -0.4**
baz=212,SNR=12
GOGA Godfrey 62.33 29 P **P 05 45 51.8 -0.2**
baz=212,SNR=12
GOGA Godfrey 62.33 29 P **P 05 45 51.8 -0.2**
S39A Bolivar 62.42 19 IAmb IAmb 05 45 53.7
comp=Z,125nm,1.9s
S39A Bolivar 62.42 19 P **P 05 45 52.3 -0.2**
baz=202,SNR=18
BGU Big Grassy Mou 62.43 1 IAmb IAmb 05 45 55.6
comp=Z,58nm,1.7s
Y52A Lilburn 62.45 28 P **P 05 45 52.6 -0.2**
baz=212,SNR=12
Y52A P **P 05 45 52.6 -0.2**
baz=212,SNR=12
PBMO Poplar Bluff 62.51 22 P **P 05 45 53.0 -0.2**
baz=205,SNR=8.6
T42A Van Buren 62.51 21 P **P 05 45 53.1 -0.1**
baz=204
TCUT Toone Canyon 62.67 3 IAmb IAmb 05 45 57.9
comp=Z,67nm,1.6s
X51A Calhoun 62.70 27 P **P 05 45 53.9 -0.6**
X51A P **P 05 45 53.9 -0.6**
baz=211,SNR=7.8
BDFB Brasilia 62.74 97 P **P 05 45 53.9 -1.5**
BDFB Brasilia 62.74 97 P **P 05 45 54.5 -0.9**
comp=Z,36nm,1.1s,baz=257,slow=6.5,SNR=22
BDFB LR LR 06 10 07.0
comp=Z,806nm,20.7s,baz=286,slow=33
comp=Z,36nm,1.1s
BRIGG Briggsdale 62.78 9 IAmb IAmb 05 45 57.2
comp=Z,79nm,1.8s
SWET Sewanee 62.81 26 IAmb IAmb 05 45 57.0
comp=Z,61nm,1.1s
SPUT South Promonto 62.83 2 IAmb IAmb 05 45 57.9
comp=Z,49nm,1.6s
KSU1 Kansas State U 62.84 15 IAmb IAmb 05 45 57.0
comp=Z,92nm,1.7s
KSU1 Kansas State U 62.84 15 P **P 05 45 55.7 +0.4**
baz=198
KSU1 Kansas State U 62.84 15 P **P 05 45 56.0 +0.7**
baz=198
WVT Waverly 62.87 24 P **P 05 45 54.4 -1.2**
WVT IAmb IAmb 05 45 56.3
comp=Z,94nm,1.6s
WVT Waverly 62.87 24 IAMs_20 IAMs_20 06 12 05.8
comp=Z,2µm,18.0s
WVT Waverly 62.87 24 P **P 05 45 55.1 -0.5**
baz=208
WVT Waverly 62.87 24 P **P 05 45 55.0 -0.5**
baz=208,SNR=14
WVT Waverly 62.87 24 P **P 05 45 54.4 -1.2**
WVT pmax pmax
comp=Z,94nm,1.6s
N23A Red Feather La 62.88 7 IAmb IAmb 05 46 25.1
comp=Z,44nm,1.4s
N23A Red Feather La 62.88 7 P **P 05 45 56.7 +0.8**
baz=189,SNR=8.2
V48A Smith Brothers 62.91 25 P **P 05 45 55.2 -0.6**
baz=209,SNR=21
W50A Signal Mountai 63.05 27 IAmb IAmb 05 45 57.8
comp=Z,119nm,1.8s
W50A Signal Mountai 63.05 27 P **P 05 45 56.3 -0.5**
baz=210,SNR=9.3
HAW Hawthorne Fire 63.14 31 P **P 05 45 57.3 -0.1**
baz=214,SNR=7.5
CGM3 Cape Girardeau 63.24 22 IAmb IAmb 05 45 59.0
comp=Z,85nm,1.7s
R40A Maddies Statio 63.29 19 P **P 05 45 58.5 +0.2**
baz=203,SNR=17
PHWY Pilot Hill 63.34 8 IAMs_20 IAMs_20 06 08 37.5
comp=Z,2µm,22.0s
PMNB Patos De Minas 63.39 100 *eP* **P 05 45 59.9 +0.2**
CCM Cathedral Cave 63.40 20 P **P 05 45 58.4 -0.6**
CCM IAmb IAmb 05 46 00.0
comp=Z,112nm,1.8s
CCM Cathedral Cave 63.40 20 P **P 05 45 58.7 -0.3**
baz=204
CCM Cathedral Cave 63.40 20 P **P 05 45 58.8 -0.3**
baz=204,SNR=16
CCM Cathedral Cave 63.40 20 P **P 05 45 58.4 -0.6**
CCM pmax pmax
comp=Z,112nm,1.8s
CLTN Cedars of Leba 63.41 25 IAmb IAmb 05 45 60.0
comp=Z,77nm,1.7s
OGNE Ogallala 63.48 10 IAMs_20 IAMs_20 06 09 00.3
comp=Z,1µm,20.0s
OGNE Ogallala 63.48 10 P **P 05 46 00.5 +0.8**
baz=193
W52A Murphy 63.55 28 P **P 05 46 00.6 +0.4**
baz=211,SNR=16
HODGE Hodges 63.56 29 IAmb IAmb 05 46 01.5
comp=Z,70nm,1.5s
HODGE Hodges 63.56 29 P **P 05 46 00.4 +0.2**
baz=213,SNR=8.1
FVM French Village 63.60 21 IAmb IAmb 05 46 02.5
comp=Z,35nm,1.1s
FVM French Village 63.60 21 P **P 05 46 00.5 +0.1**
baz=205,SNR=9.4
NHSC New Hope 63.62 32 P **P 05 46 00.7 +0.1**
baz=215,SNR=6.7
NHSC New Hope 63.62 32 P **P 05 46 01.2 +0.6**
baz=215,SNR=6.7
KRMB Red Mountain 63.63 352 IAmb IAmb 05 46 29.6
comp=Z,48nm,1.6s
YBH Yreka Blue Hor 63.70 353 IAMs_20 IAMs_20 06 07 02.2
comp=Z,1µm,21.0s
YBH Yreka Blue Hor 63.70 353 LR LR 06 07 25.0
comp=Z,1µm,20.4s,baz=186,slow=30
S44A Carbondale 63.74 22 IAmb IAmb 05 46 03.5
comp=Z,48nm,1.1s
S44A Carbondale 63.74 22 P **P 05 46 01.6 +0.3**
baz=206,SNR=12
SIUC Southern Illin 63.77 22 IAmb IAmb 05 46 03.6
comp=Z,56nm,1.1s
T47A Sharon Grove 63.90 24 P **P 05 46 02.2 -0.2**
baz=208,SNR=19
CASEE Lake Jocassee 63.90 28 P **P 05 46 02.8 +0.4**
baz=212,SNR=16
V51A Loudon 63.97 27 IAmb IAmb 05 46 03.8
comp=Z,86nm,1.5s
V51A Loudon 63.97 27 P **P 05 46 02.5 -0.4**
baz=211,SNR=10
U49A Red Boiling Sp 64.00 25 IAmb IAmb 05 46 03.9
comp=Z,94nm,1.6s
U49A Red Boiling Sp 64.00 25 P **P 05 46 02.9 -0.1**
baz=209,SNR=15
WVOR Wild Horse Val 64.05 356 IAmb IAmb 05 46 24.9
comp=Z,38nm,1.2s
WVOR IAMs_20 IAMs_20 06 08 35.5
comp=Z,1µm,18.0s
WVOR Wild Horse Val 64.05 356 P **P 05 46 05.4 +2.0**
JSC Jenkinsville 64.07 30 P **P 05 46 04.0 +0.4**
baz=214
TKL Tuckaleechee C 64.09 27 IAmb IAmb 05 46 05.2
comp=Z,31nm,1.1s
TKL Tuckaleechee C 64.09 27 P **P 05 46 03.1 -0.6**
baz=211,SNR=10
TKL Tuckaleechee C 64.09 27 LR LR 06 11 31.9
comp=Z,546nm,20.1s,baz=214,slow=34
PRPB Parauapebas 64.13 86 *eP* **P 05 46 03.8 -0.6**
L04D Klamath Falls 64.13 353 P **P 05 46 04.6 +0.7**
L04D IAmb IAmb 05 46 11.5
comp=Z,34nm,0.9s
P38A Dawn 64.15 18 IAmb IAmb 05 46 05.1
comp=Z,97nm,1.8s
P38A Dawn 64.15 18 P **P 05 46 04.2 +0.2**
baz=201,SNR=8.0
N33B J Bar K, Exete 64.19 14 P **P 05 46 05.0 +0.7**
baz=197
PAULI Pauline 64.26 29 P **P 05 46 05.1 +0.3**
baz=213,SNR=6.3
MCPB Macapa, AP 64.28 79 *eP* **P 05 46 04.9 -0.5**
V52A Sevierville 64.32 27 IAmb IAmb 05 46 05.9
comp=Z,82nm,1.9s
V52A Sevierville 64.32 27 P **P 05 46 04.8 -0.4**
baz=212,SNR=6.3
BW06 Boulder Array 64.41 4 IAmb IAmb 05 46 07.3
comp=Z,67nm,1.8s
BW06 Boulder Array 64.41 4 P **P 05 46 06.1 +0.1**
baz=185,SNR=15
PD31 Pinedale Array 64.41 4 IAmb IAmb 05 46 07.3
comp=Z,64nm,1.9s
PDAR Pinedale Array 64.41 4 P **P 05 46 05.9 0.0**
comp=Z,6.2nm,0.7s,baz=170,slow=6.2,SNR=46
PDAR LR LR 06 09 10.4
comp=Z,743nm,20.9s,baz=184,slow=31
comp=Z,6.2nm,0.7s
P40A Paris 64.50 19 P **P 05 46 05.6 -0.6**
P40A IAmb IAmb 05 46 07.1
comp=Z,116nm,1.9s
P40A Paris 64.50 19 P **P 05 46 06.1 -0.2**
baz=203,SNR=6.5
K05A Summer Lake 64.50 355 IAmb IAmb 05 46 32.3
comp=Z,67nm,1.4s
V53A Saluda 64.52 28 P **P 05 46 06.2 -0.3**
baz=212,SNR=16
V53A P **P 05 46 06.2 -0.3**
baz=212,SNR=16
K22A Casper 64.55 6 IAmb IAmb 05 46 09.3
comp=Z,54nm,1.2s
K22A Casper 64.55 6 P **P 05 46 07.3 +0.6**
baz=188,SNR=15
K22A Casper 64.55 6 P **P 05 46 07.6 +0.8**
baz=188,SNR=15
HUMO Hull Mountain 64.59 353 IAMs_20 IAMs_20 06 07 30.8
comp=Z,1µm,20.0s
BGNE Belgrade 64.68 13 P **P 05 46 08.0 +0.6**
baz=196
BGNE Belgrade 64.68 13 P **P 05 46 09.1 +1.6**
baz=196
BIRD Birdtown, Kers 64.74 31 IAmb IAmb 05 46 10.0
comp=Z,62nm,1.3s
BIRD Birdtown, Kers 64.74 31 P **P 05 46 08.0 0.0**
baz=215,SNR=7.3
KMSC Kings Mountain 64.74 30 IAmb IAmb 05 46 09.1
comp=Z,102nm,1.9s
KMSC Kings Mountain 64.74 30 P **P 05 46 07.8 -0.2**
baz=214,SNR=6.3
KMSC Kings Mountain 64.74 30 P **P 05 46 07.3 -0.6**
baz=214,SNR=6.3
K02D Willamette Mer 64.76 352 IAmb IAmb 05 46 11.9
comp=Z,63nm,1.5s
T50A Nancy 64.81 26 IAmb IAmb 05 46 09.1
comp=Z,105nm,1.6s
T50A Nancy 64.81 26 P **P 05 46 07.9 -0.5**
baz=210
T50A P **P 05 46 07.9 -0.5**
baz=210
Q44A Meyer Farm, Va 64.91 22 P **P 05 46 09.5 +0.6**
baz=206,SNR=22
TZTN Tazewell 64.94 27 P **P 05 46 09.4 +0.2**
baz=211,SNR=10
TZTN Tazewell 64.94 27 P **P 05 46 08.9 -0.3**
baz=211,SNR=10
J08A Circle Bar Ran 64.96 357 IAmb IAmb 05 46 17.8
comp=Z,34nm,0.9s
SNOW Snow King Moun 65.04 3 IAMs_20 IAMs_20 06 09 31.5
comp=Z,1µm,20.0s
HLID Hailey 65.05 360 IAmb IAmb 05 46 18.5
comp=Z,38nm,1.1s
HLID Hailey 65.05 360 P **P 05 46 11.7 +1.6**
baz=180,SNR=37
TPAW Teton Pass 65.06 3 IAmb IAmb 05 46 18.8
comp=Z,40nm,1.3s
TPAW IAMs_20 IAMs_20 06 09 42.1
comp=Z,891nm,19.0s
OLIL Olney 65.07 22 IAmb IAmb 05 46 12.2
comp=Z,59nm,1.2s
OLIL Olney 65.07 22 P **P 05 46 10.1 +0.1**
baz=207,SNR=6.8
J05D Fort Rock, OR 65.08 354 IAmb IAmb 05 46 18.4
comp=Z,32nm,1.0s
DBO Dodson Butte 65.12 353 IAmb IAmb 05 46 17.9
comp=Z,57nm,1.6s
LOHW Long Hollow 65.20 3 IAmb IAmb 05 46 12.7
comp=Z,54nm,1.7s
LOHW IAMs_20 IAMs_20 06 09 20.7
comp=Z,957nm,21.0s
X58A Rowland 65.20 31 P **P 05 46 11.1 +0.2**
baz=216
X58A P **P 05 46 11.1 +0.2**
baz=216
WCI Wyandotte Cave 65.29 24 P **P 05 46 09.8 -1.6**
WCI Wyandotte Cave 65.29 24 IAMs_20 IAMs_20 06 13 15.1
comp=Z,1µm,18.0s
WCI Wyandotte Cave 65.29 24 P **P 05 46 10.9 -0.5**
baz=208
WCI Wyandotte Cave 65.29 24 P **P 05 46 11.0 -0.5**
baz=208,SNR=5.4
WCI Wyandotte Cave 65.29 24 P **P 05 46 09.9 -1.6**
WCI pmax pmax
comp=Z,28nm,1.1s
MOOW Moose Ponds 65.33 3 IAMs_20 IAMs_20 06 09 51.2
comp=Z,969nm,20.0s
W57A Gilead 65.38 31 P **P 05 46 11.6 -0.5**
baz=215,SNR=6.8
W57A P **P 05 46 11.6 -0.5**
baz=215,SNR=6.8
V55A Taylorsville 65.38 29 IAmb IAmb 05 46 14.1
comp=Z,88nm,1.4s
V55A Taylorsville 65.38 29 P **P 05 46 12.1 0.0**
baz=214,SNR=11
V55A P **P 05 46 12.1 0.0**
baz=214,SNR=11
P43A Skaggs, Pawnee 65.40 21 IAmb IAmb 05 46 13.5
comp=Z,114nm,1.9s
IMW Indian Meadow 65.46 3 IAmb IAmb 05 46 33.1
comp=Z,71nm,1.8s
IMW IAMs_20 IAMs_20 06 10 03.7
comp=Z,958nm,19.0s
PINE Pine Mountain 65.56 355 IAmb IAmb 05 46 16.5
comp=Z,62nm,1.6s
K30B Basset 65.60 12 IAmb IAmb 05 46 16.4
comp=Z,70nm,1.4s
L34A Svendsen Farm, 65.61 15 IAmb IAmb 05 46 15.9
comp=Z,80nm,1.2s
FLWY Flagg Ranch 65.66 3 IAMs_20 IAMs_20 06 10 47.0
comp=Z,944nm,18.0s
U54A Nelsons Funny 65.67 28 P **P 05 46 13.8 -0.2**
baz=213,SNR=12
U54A P **P 05 46 13.8 -0.2**
baz=213,SNR=12
R49A Shelbyville 65.78 25 P **P 05 46 13.9 -0.7**
baz=210,SNR=14
R49A P **P 05 46 13.9 -0.7**
baz=210,SNR=14
S51A Beattyville 65.85 26 IAmb IAmb 05 46 16.0
comp=Z,88nm,1.8s
H17A Grant Village 65.98 3 P **P 05 46 16.7 +0.6**
baz=184
DIAM Diamantina, MG 65.98 101 *eP* **P 05 46 16.6 -0.1**
BLO Bloomington 66.03 23 IAmb IAmb 05 46 18.0
comp=Z,79nm,1.4s
R50A Paris 66.10 26 P **P 05 46 15.7 -1.1**
baz=210,SNR=20
R50A P **P 05 46 15.7 -1.1**
baz=210,SNR=20
I05D Terrebonne, OR 66.14 355 IAmb IAmb 05 46 19.9
comp=Z,96nm,1.7s
BUCK Buck Mountain 66.16 353 IAmb IAmb 05 46 24.9
comp=Z,84nm,1.4s
U56A King 66.17 30 P **P 05 46 17.2 0.0**
baz=214,SNR=6.4
U56A P **P 05 46 17.2 0.0**
baz=214,SNR=6.4
YMR Madison River 66.23 3 IAmb IAmb 05 46 21.1
comp=Z,47nm,1.5s
RSSD Black Hills 66.29 8 P **P 05 46 17.4 -0.7**
RSSD Black Hills 66.29 8 P **P 05 46 18.4 +0.3**
baz=190
RSSD Black Hills 66.29 8 P **P 05 46 18.6 +0.5**
baz=190,SNR=9.9
RSSD Black Hills 66.29 8 P **P 05 46 17.4 -0.7**
RSSD pmax pmax
comp=Z,23nm,1.2s
HDIL Hopedale 66.30 21 IAmb IAmb 05 46 20.0
comp=Z,45nm,0.9s
HDIL Hopedale 66.30 21 P **P 05 46 17.8 -0.1**
baz=205,SNR=9.4
HDIL Hopedale 66.30 21 P **P 05 46 18.2 +0.3**
baz=205,SNR=9.4
V58A Windy Hill, Pi 66.31 31 IAmb IAmb 05 46 18.9
comp=Z,73nm,1.4s
V58A Windy Hill, Pi 66.31 31 P **P 05 46 17.3 -0.8**
baz=216,SNR=7.6
V58A P **P 05 46 17.3 -0.8**
baz=216,SNR=7.6
JANB Januaria 66.33 97 *eP* **P 05 46 18.2 -0.5**
SCIA State Center 66.36 17 IAMs_20 IAMs_20 06 11 28.4
comp=Z,1µm,21.0s
SCIA State Center 66.36 17 P **P 05 46 18.7 +0.4**
baz=201
BMO Blue Mountains 66.40 358 IAmb IAmb 05 46 21.4
comp=Z,76nm,1.7s
BMO IAMs_20 IAMs_20 06 09 44.6
comp=Z,976nm,19.0s
YHL Hebgen Lake 66.41 2 IAmb IAmb 05 46 22.3
comp=Z,32nm,1.3s
CNNC Cliffs of the 66.46 32 P **P 05 46 18.8 -0.3**
baz=217,SNR=5.9
CNNC Cliffs of the 66.46 32 P **P 05 46 19.5 +0.4**
baz=217,SNR=5.9
SBA Scott Base 66.48 193 IAMs_20 IAMs_20 06 08 28.0
comp=Z,1µm,20.0s
H04A Detroit Lake 66.56 354 IAmb IAmb 05 46 21.7
comp=Z,43nm,1.4s
SDBA SAO DESIDERIO 66.59 94 *eP* **P 05 46 20.1 -0.4**
P48A Milroy 66.69 24 IAmb IAmb 05 46 21.5
comp=Z,88nm,1.5s
P48A Milroy 66.69 24 P **P 05 46 19.7 -0.8**

baz=209,SNR=9.4
P48A P P 05 46 19.7 -0.8
baz=209,SNR=9.4
RLMT Red Lodge 66.78 4 P P 05 46 21.1 0.0
baz=185,SNR=8.4
BLA Blacksburg 66.87 29 IAmb IAmb 05 46 22.7
comp=Z,63nm,1.5s
BLA Blacksburg 66.87 29 P P 05 46 21.2 -0.5
baz=214
SFIN Lafayette 66.89 22 IAmb IAmb 05 46 22.7
comp=Z,93nm,1.6s
SFIN Lafayette 66.89 22 P P 05 46 21.3 -0.4
baz=207,SNR=6.1
SFIN Lafayette 66.89 22 P P 05 46 21.7 +0.1
baz=207,SNR=6.1
G08A Pilot Rock 66.91 356 IAmb IAmb 05 46 30.1
comp=Z,35nm,1.0s
G06A Carlson Farm, 66.97 355 IAmb IAmb 05 46 25.1
comp=Z,58nm,1.7s
P49A Miami Univ. Ec 67.03 25 P P 05 46 21.3 -1.3
P49A Miami Univ. Ec 67.03 25 P P 05 46 21.8 -0.9
baz=210,SNR=10
P49A Miami Univ. Ec 67.03 25 P P 05 46 21.9 -0.7
baz=210,SNR=10
L40A Anamosa 67.07 19 IAmb IAmb 05 46 25.3
comp=Z,72nm,1.2s
L40A Anamosa 67.07 19 P P 05 46 22.7 -0.1
baz=203,SNR=9.2
R53A Hurricane 67.13 27 P P 05 46 23.6 +0.4
baz=212,SNR=6.6
R53A P P 05 46 23.6 +0.4
baz=212,SNR=6.6
BOZ Bozeman (W) 67.13 2 P P 05 46 23.2 -0.1
baz=183
Q51A Peebles 67.14 26 P P 05 46 22.8 -0.5
baz=211,SNR=11
Q51A P P 05 46 22.8 -0.5
baz=211,SNR=11
HOOD Mount Hood Mea 67.14 354 IAmb IAmb 05 46 30.9
comp=Z,37nm,1.1s
T57A Hurt 67.22 30 IAmb IAmb 05 46 24.9
comp=Z,96nm,1.7s
T57A Hurt 67.22 30 P P 05 46 23.5 -0.4
baz=215,SNR=7.6
T57A P P 05 46 23.5 -0.4
baz=215,SNR=7.6
ECSD EROS Data Cent 67.23 14 IAmb IAmb 05 46 25.1
comp=Z,107nm,1.9s
ECSD EROS Data Cent 67.23 14 P P 05 46 23.7 -0.2
baz=198,SNR=14
ECSD EROS Data Cent 67.23 14 P P 05 46 23.9 +0.1
baz=198,SNR=14
U59A Littleton 67.40 31 IAmb IAmb 05 46 26.0
comp=Z,94nm,1.6s
U59A Littleton 67.40 31 P P 05 46 24.7 -0.3
baz=217,SNR=8.6
U59A P P 05 46 24.7 -0.3
baz=217,SNR=8.6
SUSD Miller 67.43 12 P P 05 46 25.0 0.0
baz=195
L42A Oliver, Polo 67.49 20 IAmb IAmb 05 46 26.2
comp=Z,62nm,1.4s
O48B Farmland 67.49 24 IAmb IAmb 05 46 26.6
comp=Z,62nm,1.4s
O48B Farmland 67.49 24 P P 05 46 24.8 -0.7
baz=209,SNR=6.1
O48B Farmland 67.49 24 P P 05 46 24.9 -0.6
baz=209,SNR=6.1
VNDA Vanda 67.51 194 P P 05 46 26.0 +0.8
VNDA Vanda 67.51 194 P P 05 46 26.8 +1.6
comp=Z,2.9nm,1.0s,baz=76,slow=4.6,SNR=5.9
VNDA LR LR 06 09 20.5
comp=Z,915nm,19.8s,baz=106,slow=30
comp=Z,2.9nm,1.0s
Q52A Bidwell 67.53 27 P P 05 46 25.4 -0.3
baz=212,SNR=12
Q52A P P 05 46 25.4 -0.3
baz=212,SNR=12
V61A Roper 67.55 33 P P 05 46 26.3 +0.4
baz=218,SNR=5.7
V61A P P 05 46 26.3 +0.4
baz=218,SNR=5.7
F04A Amboy 67.82 354 IAmb IAmb 05 46 29.7
comp=Z,94nm,1.7s
N47A Urbana 67.83 23 P P 05 46 26.7 -0.9
baz=208,SNR=7.5
N47A P P 05 46 26.7 -0.9
baz=208,SNR=7.5
T59A Double "B" Far 68.01 31 IAmb IAmb 05 46 29.7
comp=Z,77nm,1.8s
T59A Double "B" Far 68.01 31 P P 05 46 28.6 -0.2
baz=217
T59A P P 05 46 28.6 -0.2
baz=217
HAWA Hanford 68.05 356 IAmb IAmb 05 46 31.9
comp=Z,79nm,1.9s
E09A Wood Farm, Sta 68.09 357 IAmb IAmb 05 46 31.2
comp=Z,45nm,1.6s
E08A Dider Farm, El 68.11 357 IAmb IAmb 05 46 32.2
comp=Z,56nm,1.6s
SJMB Sao Joao De Ma 68.13 102 *e*P P 05 46 30.1 0.0
JFWS Jewell Farm 68.14 19 IAmb IAmb 05 46 30.9
comp=Z,82nm,1.6s
JFWS Jewell Farm 68.14 19 P P 05 46 29.5 0.0
baz=204,SNR=5.3
JFWS Jewell Farm 68.14 19 P P 05 46 29.9 +0.3
baz=204,SNR=5.3
P52A Corning 68.15 26 IAMs_20 IAMs_20 06 15 04.7
comp=Z,1µm,19.0s
P52A Corning 68.15 26 P P 05 46 29.6 -0.1
baz=212,SNR=19
Q54A Coxs Mills 68.15 28 P P 05 46 30.0 +0.3
baz=213,SNR=11
Q54A P P 05 46 30.0 +0.3
baz=213,SNR=11
L44A Lake County Fo 68.21 21 P P 05 46 29.9 -0.1
baz=206
E07A Sunnyside 68.23 356 IAmb IAmb 05 46 51.6
comp=Z,58nm,1.5s
I37B Waseca 68.27 16 P P 05 46 30.5 +0.2
baz=201,SNR=15
ACSO Alum Creek Sta 68.31 25 IAmb IAmb 05 46 31.2
comp=Z,54nm,1.8s
ACSO IAMs_20 IAMs_20 06 14 48.0
comp=Z,1µm,19.0s
ACSO Alum Creek Sta 68.31 25 P P 05 46 30.1 -0.6
baz=211
MSO Missoula 68.32 0 IAMs_20 IAMs_20 06 12 31.5
comp=Z,826nm,18.0s
MSO Missoula 68.32 0 P P 05 46 31.6 +0.8
baz=180,SNR=12
QSPA South Pole Qui 68.33 180 P P 05 46 31.6 +0.9
QSPA South Pole Qui 68.33 180 IAMs_20 IAMs_20 06 11 36.4
comp=Z,1µm,21.0s
QSPA South Pole Qui 68.33 180 P P 05 46 31.9 +1.2
comp=Z,64nm,1.1s,baz=113,slow=2.5,SNR=82
QSPA LR LR 06 12 06.5
comp=Z,815nm,19.3s,baz=104,slow=32
comp=Z,64nm,1.1s
P53A Whipple 68.33 27 P P 05 46 31.3 +0.5
baz=213,SNR=16
P53A P P 05 46 31.3 +0.5
baz=213,SNR=16
N49A Columbus Grove 68.44 24 IAmb IAmb 05 46 32.0
comp=Z,49nm,1.5s
N49A Columbus Grove 68.44 24 P P 05 46 30.6 -0.8
baz=210
N49A P P 05 46 30.6 -0.8
baz=210
LAO LASA Array 68.58 6 IAmb IAmb 05 46 34.1
comp=Z,92nm,1.9s
LAO LASA Array 68.58 6 P P 05 46 32.8 +0.5
baz=188,SNR=6.9
LAO LASA Array 68.58 6 P P 05 46 32.8 +0.5
baz=188,SNR=6.9
O52A Adamsville 68.68 26 IAmb IAmb 05 46 34.8
comp=Z,76nm,1.2s
O52A Adamsville 68.68 26 P P 05 46 33.0 +0.1
baz=212,SNR=12
O52A P P 05 46 33.0 +0.1
baz=212,SNR=12
Q56A Snyder Ridge, 68.92 29 IAmb IAmb 05 46 36.2
comp=Z,45nm,1.4s
I40A Norwalk 68.92 18 P P 05 46 34.9 +0.4
baz=203
LTY Liberty 68.98 355 IAmb IAmb 05 46 37.1
comp=Z,56nm,1.8s
D05A Enumclaw 69.02 354 IAmb IAmb 05 46 38.6
comp=Z,59nm,1.4s
O53A New Philadelph 69.05 27 P P 05 46 35.5 +0.2
baz=213,SNR=7.3
CBN Corbin Frederi 69.08 31 IAmb IAmb 05 46 36.6
comp=Z,72nm,1.4s
CBN Corbin Frederi 69.08 31 P P 05 46 35.2 -0.3
baz=216
N51A Ashland 69.14 25 P P 05 46 35.7 -0.1
baz=212,SNR=6.4
N51A P P 05 46 35.7 -0.1
baz=212,SNR=6.4
MCWV Mont Chateau 69.14 28 P P 05 46 35.5 -0.4
MCWV IAMs_20 IAMs_20 06 16 12.6
comp=Z,1µm,19.0s
MCWV Mont Chateau 69.14 28 P P 05 46 36.1 +0.3
baz=214,SNR=11
MCWV Mont Chateau 69.14 28 P P 05 46 36.2 +0.3
baz=214,SNR=11
E28A Huff 69.19 10 P P 05 46 36.2 +0.2
baz=193,SNR=6.6
L48A N Adams 69.23 23 IAmb IAmb 05 46 37.4
comp=Z,53nm,1.1s
L48A N Adams 69.23 23 P P 05 46 36.4 +0.1
baz=210,SNR=6.5
L48A P P 05 46 36.4 +0.1
baz=210,SNR=6.5
M50A Fremont 69.29 25 P P 05 46 36.4 -0.3
baz=211
M50A P P 05 46 36.4 -0.3
baz=211
F33A 5 Mile Ranch, 69.31 13 IAmb IAmb 05 46 38.0
comp=Z,60nm,1.6s
F33A 5 Mile Ranch, 69.31 13 P P 05 46 37.0 +0.3
baz=198,SNR=5.4
O54A Avella 69.34 27 IAmb IAmb 05 46 39.4
comp=Z,85nm,1.3s
O54A Avella 69.34 27 P P 05 46 37.4 +0.3
baz=214,SNR=11
O54A P P 05 46 37.4 +0.3
baz=214,SNR=11
NLWA Neilton Lookou 69.41 353 IAmb IAmb 05 46 58.7
comp=Z,47nm,1.4s
SPMN Marine on St. 69.56 16 IAmb IAmb 05 46 40.0
comp=Z,104nm,1.9s
SPMN Marine on St. 69.56 16 P P 05 46 38.5 +0.2
baz=201
EGMT Eagleton 69.64 3 P P 05 46 39.3 +0.4
EGMT IAmb IAmb 05 46 42.3
comp=Z,78nm,1.4s
EGMT Eagleton 69.64 3 P P 05 46 39.6 +0.8
baz=184,SNR=22
N53A Lisbon 69.67 27 P P 05 46 39.3 +0.2
baz=213,SNR=14
N53A P P 05 46 39.3 +0.2
baz=213,SNR=14
UPAO U. Pittsburgh 69.74 27 P P 05 46 40.6 +1.0
baz=214
NEW Newport 69.80 358 IAmb IAmb 05 46 46.7
comp=Z,53nm,1.4s
NEW Newport 69.80 358 P P 05 46 41.0 +1.2
baz=177,SNR=17
NEW Newport 69.80 358 P P 05 46 41.0 +1.2
NEW Newport 69.80 358 LR LR 06 12 13.9
comp=Z,1µm,19.0s,baz=186,slow=32
P57A Homestead Farm 69.81 29 IAmb IAmb 05 46 42.5
comp=Z,62nm,1.4s
P57A Homestead Farm 69.81 29 P P 05 46 40.8 +0.8
baz=216,SNR=7.7
P57A P P 05 46 40.8 +0.8
baz=216,SNR=7.7
AAM Ann Arbor 69.82 24 P P 05 46 39.8 -0.2
baz=210
F36A Milaca 69.97 15 P P 05 46 41.5 +0.7
baz=200,SNR=26
M52A Chesterland 70.07 26 P P 05 46 42.0 +0.4
baz=212
M52A P P 05 46 42.0 +0.4
baz=212
PAMR Moraine State 70.09 27 P P 05 46 42.4 +0.7
baz=214
PABK Blue Knob Stat 70.19 28 P P 05 46 43.1 +0.7
baz=215
M53A WI Miller and 70.27 26 IAMs_20 IAMs_20 06 16 04.7
comp=Z,1µm,18.0s
M53A WI Miller and 70.27 26 P P 05 46 43.2 +0.5
baz=213,SNR=7.6
G40A Rib Lake 70.30 18 IAmb IAmb 05 46 44.9
comp=Z,112nm,1.5s
G40A Rib Lake 70.30 18 P P 05 46 43.3 +0.3
baz=204,SNR=10.0
DGMT Dagmar 70.56 7 IAmb IAmb 05 46 46.4
comp=Z,70nm,1.2s
DGMT Dagmar 70.56 7 P P 05 46 45.3 +0.8
baz=190,SNR=5.4
DGMT Dagmar 70.56 7 P P 05 46 45.6 +1.2
baz=190,SNR=5.4
ROSB Rosrio 70.60 85 *e*P P 05 46 45.6 +0.1
MDND Maddock 70.60 10 P P 05 46 44.9 +0.2
baz=194
PAOC Oil Creek Stat 70.74 27 P P 05 46 45.7 +0.1
baz=214
SSPA Standing Stone 70.80 29 P P 05 46 45.6 -0.5
SSPA IAmb IAmb 05 46 47.5
comp=Z,118nm,1.6s
SSPA Standing Stone 70.80 29 IAMs_20 IAMs_20 06 16 59.9
comp=Z,1µm,19.0s
SSPA Standing Stone 70.80 29 P P 05 46 46.2 +0.2
baz=216
SSPA Standing Stone 70.80 29 P P 05 46 46.5 +0.4
baz=216,SNR=8.7
PSDB Penn State Uni 70.82 28 P P 05 46 47.5 +1.4
baz=215
MVL Millersville 70.99 30 IAmb IAmb 05 46 48.6
comp=Z,90nm,1.7s
M55A Ridgway 71.09 28 IAmb IAmb 05 46 50.0
comp=Z,59nm,1.2s
M55A Ridgway 71.09 28 P P 05 46 47.9 0.0
baz=215,SNR=8.0
M55A P P 05 46 47.9 0.0
baz=215,SNR=8.0
ERPA Erie 71.11 26 IAMs_20 IAMs_20 06 16 38.2
comp=Z,1µm,19.0s
ERPA Erie 71.11 26 P P 05 46 47.8 -0.1
baz=213
F42A Maple Grove Fa 71.36 19 IAmb IAmb 05 46 51.0
comp=Z,99nm,1.5s
N58A Sunbury 71.49 29 IAmb IAmb 05 46 51.5
comp=Z,76nm,1.2s
N58A Sunbury 71.49 29 P P 05 46 50.3 0.0
baz=216,SNR=11
N58A P P 05 46 50.3 0.0
baz=216,SNR=11
TUPA Temple Univers 71.67 31 P P 05 46 51.1 -0.1
baz=218,SNR=7.0
GLMI Grayling 71.67 22 P P 05 46 51.8 +0.6
baz=209
M57A Sunshine Farm, 71.70 29 IAmb IAmb 05 46 53.0
comp=Z,111nm,1.6s
M57A Sunshine Farm, 71.70 29 P P 05 46 51.2 -0.3
baz=216,SNR=5.7
M57A P P 05 46 51.2 -0.3
baz=216,SNR=5.7
AGMN Agassiz Nation 71.74 13 IAmb IAmb 05 46 53.3
comp=Z,85nm,1.8s
AGMN IAMs_20 IAMs_20 06 14 36.7
comp=Z,837nm,20.0s
AGMN Agassiz Nation 71.74 13 P P 05 46 52.2 +0.6
baz=198,SNR=6.2
AGMN Agassiz Nation 71.74 13 P P 05 46 51.8 +0.3
baz=198,SNR=6.2
LUPA Lehigh Univers 71.92 30 IAmb IAmb 05 46 55.0
comp=Z,85nm,1.4s
WVNY West Valley, N 71.93 27 IAmb IAmb 05 46 54.4
comp=Z,79nm,1.4s
L56A Greenwood 72.16 28 P P 05 46 54.1 -0.2
baz=216,SNR=9.5
L56A P P 05 46 54.1 -0.2
baz=216,SNR=9.5
BRNJ Basking Ridge 72.36 31 P P 05 46 55.4 -0.1
baz=218
EYMN Ely 72.42 16 IAMs_20 IAMs_20 06 15 58.7
comp=Z,958nm,18.0s
EYMN Ely 72.42 16 P P 05 46 56.0 +0.4
baz=202
DZM Mont Dzumac 72.55 253 *e*S **SKiKP** 05 56 30.4 -2.2
comp=Z,190nm,24.6s
DZM Mont Dzumac 72.55 253 *e*LR LR 06 08 58.6
comp=Z,1µm,23.1s
DZM Mont Dzumac 72.55 253 LR LR 06 11 06.7
comp=Z,555nm,21.8s,baz=76,slow=30
ODNJ Ogdensburg 72.66 30 IAmb IAmb 05 46 58.1
comp=Z,134nm,1.7s
ODNJ Ogdensburg 72.66 30 P P 05 46 56.7 -0.5
baz=218,SNR=8.4
BINY Binghamton 72.91 29 P P 05 46 59.0 +0.3
baz=217,SNR=10.0
BINY Binghamton 72.91 29 P P 05 46 59.4 +0.7
baz=217,SNR=10.0
PAL Palisades 72.93 31 P P 05 46 59.2 +0.4
PAL IAmb IAmb 05 47 00.5
comp=Z,102nm,1.6s
PAL Palisades 72.93 31 P P 05 46 58.7 -0.1
baz=219
PAL Palisades 72.93 31 P P 05 46 59.2 +0.4
PAL pmax pmax
comp=Z,102nm,1.6s
K57A Scipio Center 73.09 28 IAmb IAmb 05 47 01.8
comp=Z,82nm,1.2s
K57A Scipio Center 73.09 28 P P 05 46 60.0 +0.2
baz=216,SNR=6.3
E46A Sault Ste Mari 73.12 21 IAmb IAmb 05 47 02.7
comp=Z,53nm,1.1s
L59A Walton 73.33 29 IAmb IAmb 05 47 02.8
comp=Z,119nm,1.4s
L59A Walton 73.33 29 P P 05 47 01.3 0.0
baz=218,SNR=10
L59A P P 05 47 01.3 0.0
baz=218,SNR=10
WSPT Westport, CT 73.33 31 IAmb IAmb 05 47 02.5
comp=Z,74nm,1.6s
ULM Lac du Bonnet 73.59 12 P P 05 47 01.2 -1.3
comp=Z,7.3nm,1.1s,baz=206,slow=6.0,SNR=6.7
ULM LR LR 06 15 16.2
comp=Z,480nm,21.8s,baz=186,slow=32
comp=Z,7.3nm,1.1s
SADO Sadowa 73.66 25 LR LR 06 17 38.1
comp=Z,768nm,18.1s,baz=200,slow=34
KSCT Kent School, K 73.69 31 IAmb IAmb 05 47 05.1
comp=Z,103nm,1.7s
HCNY Howe Caverns 74.02 30 P P 05 47 05.1 -0.1
baz=218,SNR=9.8
VNA3 Neumayer Olymp 74.14 161 ⇑P P 05 47 05.9 +0.2
comp=Z,40nm,0.9s
J58A Remsen 74.14 29 IAmb IAmb 05 47 08.3
comp=Z,137nm,1.5s
J58A Remsen 74.14 29 P P 05 47 06.0 0.0
baz=217,SNR=14
J58A P P 05 47 06.0 0.0
baz=217,SNR=14
WCNY West Carthage 74.47 28 P P 05 47 08.4 +0.6
baz=217,SNR=6.7
J59A Piesco 74.57 29 IAmb IAmb 05 47 10.5
comp=Z,89nm,1.5s
J59A Piesco 74.57 29 P P 05 47 08.6 +0.2
baz=218,SNR=8.5
J59A P P 05 47 08.6 +0.2
baz=218,SNR=8.5
L61B Northampton 74.63 31 P P 05 47 09.1 +0.3
baz=220
BBB Bella Bella 74.66 351 LR LR 06 11 56.1
comp=Z,299nm,21.1s,baz=174,slow=29
EDM Edmonton 74.73 1 P P 05 47 09.9 +0.7
EDM IAmb IAmb 05 47 10.9
comp=Z,106nm,1.4s
EDM Edmonton 74.73 1 P P 05 47 09.9 +0.7
EDM pmax pmax
comp=Z,106nm,1.4s
VNA1 Neumayer--Stat 74.79 161 ⇑P P 05 47 10.1 +0.7
comp=Z,32nm,1.1s
ACCN Adirondack Com 74.89 30 IAmb IAmb 05 47 12.5
comp=Z,112nm,1.5s
ACCN Adirondack Com 74.89 30 P P 05 47 10.5 +0.2
baz=219,SNR=8.9
M65A Busby, Falmout 74.95 32 P P 05 47 10.4 -0.2
baz=221
VNA2 Neumayer--Watz 74.95 161 ⇑P P 05 47 10.7 +0.4
comp=Z,26nm,1.1s,baz=267,slow=4.0
NCB Newcomb 75.10 29 IAmb IAmb 05 47 12.8
comp=Z,99nm,1.6s
NCB Newcomb 75.10 29 P P 05 47 11.8 +0.3
baz=218,SNR=8.8
HRV Adam Dziewonsk 75.21 31 P P 05 47 12.1 -0.1
baz=220
LONY Lake Ozonia 75.45 28 IAmb IAmb 05 47 14.8
comp=Z,64nm,1.4s
LONY Lake Ozonia 75.45 28 P P 05 47 13.5 0.0
baz=218,SNR=6.2
BMNY Brushton-Moira 75.65 28 P P 05 47 14.4 -0.2
baz=218,SNR=8.0
SNAA Sanae 75.96 162 ⇑P P 05 47 16.4 +0.2
comp=Z,347nm,1.1s
SNAA Sanae 75.96 162 P P 05 47 15.8 -0.4
comp=Z,29nm,1.2s,baz=252,slow=5.3,SNR=25
SNAA LR LR 06 15 10.5
comp=Z,197nm,19.1s,baz=184,slow=31
comp=Z,29nm,1.2s
VT1 Waterbury 76.04 29 IAmb IAmb 05 47 19.2
comp=Z,100nm,1.6s
VT1 Waterbury 76.04 29 P P 05 47 17.4 +0.6
baz=219,SNR=6.5
FRNY Flat Rock 76.06 29 IAmb IAmb 05 47 19.4
comp=Z,126nm,2.0s
FRNY Flat Rock 76.06 29 P P 05 47 17.1 +0.2
baz=218,SNR=5.8
LBNH Lisbon 76.35 30 P P 05 47 18.8 +0.2
baz=220
TRQ Mont Tremblant 76.72 27 IAmb IAmb 05 47 22.8
comp=Z,113nm,1.5s
I63A Otisfield 76.84 31 IAmb IAmb 05 47 23.0
comp=Z,102nm,1.6s
H62A Milan 76.96 30 IAmb IAmb 05 47 23.9
comp=Z,103nm,1.5s
H62A Milan 76.96 30 P P 05 47 22.9 +0.8
baz=220,SNR=5.5
H62A P P 05 47 22.9 +0.8
baz=220,SNR=5.5
FFC Flin Flon 76.97 7 P P 05 47 20.9 -1.0
FFC IAmb IAmb 05 47 23.2
comp=Z,63nm,1.8s
FFC Flin Flon 76.97 7 P P 05 47 20.9 -1.0
FFC pmax pmax
comp=Z,63nm,1.8s
VLDQ Val d'Or 77.08 24 IAmb IAmb 05 47 23.6
comp=Z,79nm,1.6s
RCBR Riachuelo 77.17 91 *e*P P 05 47 24.8 +0.7
RCBR Riachuelo 77.17 91 LR LR 06 18 51.8
comp=Z,1µm,18.7s,baz=265,slow=34
TROLL Troll, Antarti 77.26 163 ⇑P P 05 47 24.3 +0.7
comp=Z,1µm,1.1s
V35K Ketchikan 78.23 350 P P 05 47 30.3 +1.4
baz=164
PKME Peaks-Kenny Pk 78.36 31 P P 05 47 30.0 +0.2
baz=222
F62A Pittston Farm, 78.51 30 IAmb IAmb 05 47 32.4
comp=Z,59nm,1.6s
U35K Hyder 78.56 351 P P 05 47 31.8 +1.2
baz=165
F63A Nahmakanta, Br 78.77 31 P P 05 47 32.5 +0.3
baz=222
F63A P P 05 47 32.5 +0.3
baz=222
U33K Whale Pass 79.23 349 P P 05 47 35.8 +1.4
baz=162
F64A Sherman 79.25 31 IAmb IAmb 05 47 36.3
comp=Z,187nm,1.9s
E62A Clayton Lake 79.26 30 IAmb IAmb 05 47 36.5
comp=Z,50nm,1.3s
E62A Clayton Lake 79.26 30 P P 05 47 35.6 +0.8
baz=222,SNR=6.8
E62A P P 05 47 35.6 +0.8
baz=222,SNR=6.8
WRAK Wrangell Islan 79.40 350 P P 05 47 36.7 +1.5
baz=163
LDAQ Lac Daran 79.50 28 IAmb IAmb 05 47 38.2
comp=Z,71nm,1.4s
LMQ La Malbaie 79.59 29 IAmb IAmb 05 47 37.9
comp=Z,84nm,1.5s
T35M Bob Quinn 79.62 351 P P 05 47 38.4 +1.9
baz=165
NVL N'lazarevskaya 80.40 164 *e*P P 05 47 40.6 -0.1
NVL *e*S S 05 57 44.5 -2.0
NVL pmax pmax
comp=Z,71nm,1.8s
NVL smax smax
comp=N,204nm,7.8s
SIT Sitka 80.52 349 P P 05 47 42.7 +1.4

baz=160
S34M **Telegraph Cree** 80.65 351 P P 05 47 43.9 +1.9
baz=164,SNR=5.3
S32K **Killisnoo** 80.78 349 P P 05 47 44.4 +1.7
baz=161
DLBC **Dease Lake** 81.00 352 P P 05 47 45.7 +1.7
DLBC **Dease Lake** 81.00 352 P P 05 47 46.0 +2.0
baz=165,SNR=7.8
BATG **Bathurst New B** 81.36 31 IAmb IAmb 05 47 47.4
comp=Z,64nm,1.4s
S31K **Pelican** 81.54 348 P P 05 47 47.0 +0.2
baz=160
Q32M **Nakina River** 81.82 351 IAmb IAmb 05 47 51.5
comp=Z,99nm,1.9s
Q32M **Nakina River** 81.82 351 P P 05 47 49.2 +0.7
baz=163
FCC **Fort Churchill** 82.02 11 IAmb IAmb 05 47 51.0
comp=Z,93nm,1.6s
KOTAN **Kotaneelee Air** 82.03 355 P P 05 47 50.3 +1.0
baz=171,SNR=8.0
R33M **Jennings River** 82.06 352 P P 05 47 50.7 +1.1
baz=164
ELIB **Princess Elisa** 82.14 168 dP P 05 47 50.6 +0.4
comp=Z,18nm,1.4s
WTLY **Watson Lake, Y** 82.48 353 P P 05 47 53.0 +1.3
baz=166
HNR **Honiara** 82.58 263 LR LR 06 17 03.8
comp=Z,10µm,20.6s,baz=142,slow=30
P32M **Atlin** 82.65 350 P P 05 47 53.8 +1.2
baz=162
SKAG **Skagway** 82.79 349 P P 05 47 54.4 +1.1
baz=160
CAN **Canberra** 82.82 235 P P 05 47 55.5 +1.2
CAN **Canberra** 82.82 235 P P 05 47 55.5 +1.2
CAN pmax pmax
comp=Z,21nm,1.1s
P33M **Teslin, Yukon** 83.11 351 IAmb IAmb 05 47 57.4
comp=Z,50nm,1.4s
P33M **Teslin, Yukon** 83.11 351 P P 05 47 56.0 +1.0
baz=163,SNR=8.8
P29M **Windy Craggy** 83.38 348 P P 05 47 56.7 +0.3
baz=158
P30M **Million Dollar** 83.70 349 P P 05 47 58.9 +0.8
baz=159
PNL **Peninsula** 83.74 348 P P 05 47 59.2 +0.9
baz=157
TGTN **Hyland Airport** 83.80 353 P P 05 47 59.5 +1.0
baz=167,SNR=6.9
WHY **Whitehorse** 83.85 350 IAmb IAmb 05 48 01.0
comp=Z,42nm,1.5s
WHY **Whitehorse** 83.85 350 P P 05 47 59.8 +0.9
baz=161,SNR=7.2
YKA **Yellowknife Ar** 84.02 360 P P 05 48 00.0 +0.4
YKA **Yellowknife Ar** 84.02 360 P P 05 47 60.0 +0.4
comp=Z,3.5nm,0.8s,baz=177,slow=5.3,SNR=55
YKA LR LR 06 21 00.7
comp=Z,949nm,18.8s,baz=162,slow=32
comp=Z,3.5nm,0.8s
N32M **Quiet Lake** 84.05 351 IAmb IAmb 05 48 08.0
comp=Z,37nm,0.9s
N32M **Quiet Lake** 84.05 351 P P 05 48 00.2 +0.4
baz=162
O30N **Mendenhall** 84.16 349 P P 05 48 01.0 +0.6
baz=160
O29M **Mount Kennedy** 84.17 348 P P 05 48 01.1 +0.5
baz=157
PINM **Pinnacle** 84.31 347 P P 05 48 02.1 +1.0
baz=156
HYT **Haines Junctio** 84.45 349 IAmb IAmb 05 48 04.5
comp=Z,34nm,1.4s
HYT **Haines Junctio** 84.45 349 P P 05 48 02.6 +0.6
baz=158,SNR=6.2
YUK6 **Outpost Mounta** 84.72 349 P P 05 48 04.0 +0.5
baz=158
MESA **MESA** 84.74 347 P P 05 48 03.8 +0.3
baz=154
N31M **Braeburn, Yuko** 84.78 350 P P 05 48 04.0 +0.5
baz=160
N30M **Aishikik Lake** 84.97 349 P P 05 48 05.0 +0.4
baz=159
WRGLY **Wrigley** 85.06 356 P P 05 48 05.0 +0.2
baz=177,SNR=8.0
FARO **Faro, Yukon** 85.11 351 P P 05 48 05.4 +0.2
baz=162,SNR=8.5
LOGN **Logan Glacier** 85.13 347 IAmb IAmb 05 48 07.8
comp=Z,69nm,1.9s
YUK4 **Talbot Arm** 85.15 349 P P 05 48 06.3 +0.7
baz=158
M31M **Drury Creek, Y** 85.24 351 P P 05 48 06.5 +0.7
baz=161
YUK8 **Steele Glacier** 85.30 348 P P 05 48 07.0 +0.5
baz=156,SNR=7.3
CTG **Chitna Glacier** 85.33 347 P P 05 48 07.3 +0.9
baz=155
TGL **Tana Glacier** 85.45 346 IAmb IAmb 05 48 08.9
comp=Z,48nm,1.5s
KDAK **Kodiak Island** 85.46 341 P P 05 48 07.4 +0.5
baz=145
KDAK **Kodiak Island** 85.46 341 LR LR 06 19 21.7
comp=Z,198nm,18.1s,baz=170,slow=31
BARN **Barnard Glacie** 85.48 347 P P 05 48 07.2 0.0
BARN IAmb IAmb 05 48 09.3
comp=Z,50nm,1.5s
CRQE **Cirque** 85.51 346 P P 05 48 07.6 +0.3
baz=153
CRQM **Cirque** 85.52 346 IAmb IAmb 05 48 09.1
comp=Z,49nm,1.4s
P23K **Montague Islan** 85.87 344 P P 05 48 09.4 +0.5
baz=149
YUK3 **Moose Creek** 85.89 348 P P 05 48 09.5 +0.2
baz=156,SNR=9.9
CASY **Casey** 85.89 197 P P 05 48 09.9 +0.7
CASY IAmb IAmb 05 48 16.8
comp=Z,48nm,1.4s
EYAK **Cordova Ski Ar** 85.94 345 P P 05 48 09.9 +0.7
baz=151
M30M **Minto, Yukon** 85.97 350 P P 05 48 09.6 +0.2
baz=159,SNR=8.4
BMRM **Bremner River** 86.04 346 P P 05 48 11.1 +1.3
baz=152
MCARA **McCarthy VSAT** 86.06 347 P P 05 48 10.7 +0.8
baz=153
Q20K **Shuyak Island** 86.08 341 P P 05 48 10.8 +0.8
baz=145
M29M **Somme Creek** 86.13 349 IAmb IAmb 05 48 12.2
comp=Z,56nm,1.7s
M29M **Somme Creek** 86.13 349 P P 05 48 10.5 +0.2
baz=158
CHGN **Chignik** 86.24 337 P P 05 48 10.8 0.0
baz=140
SCHQ **Schefferville** 86.47 25 P P 05 48 10.9 -1.2
comp=Z,6.3nm,0.9s,baz=238,slow=4.2,SNR=6.2
comp=Z,6.3nm,0.9s
SEW **Seward** 86.49 343 P P 05 48 11.9 -0.1
baz=148
BRSE **Bradley Lake S** 86.54 342 P P 05 48 12.3 0.0
baz=146
BVCY **Beaver Creek** 86.55 348 P P 05 48 12.3 0.0
baz=155,SNR=7.8
R17K **Ugashik Creek** 86.57 339 P P 05 48 12.1 -0.3
baz=141
N25K **Chitina, Valde** 86.60 346 P P 05 48 12.2 -0.5
baz=152
L29M **L29M** 86.69 349 IAmb IAmb 05 48 14.9
comp=Z,53nm,1.7s
L29M **L29M** 86.69 349 P P 05 48 12.7 -0.3
baz=158
M27K **Edge Creek, AK** 86.70 348 P P 05 48 12.6 -0.5
baz=154
Q19K **Cape Douglas,** 86.72 341 P P 05 48 12.5 -0.7
baz=144
MAYO **Mayo, Yukon** 86.79 351 P P 05 48 13.1 -0.3
baz=160
KLU **Klutina** 86.81 345 IAmb IAmb 05 48 24.6
comp=Z,48nm,1.8s
KLU **Klutina** 86.81 345 P P 05 48 13.3 -0.3
baz=151
O22K **Cooper Landing** 86.89 343 P P 05 48 12.9 -1.0
baz=147
Q17K **Contact Creek** 86.90 339 P P 05 48 13.7 -0.4
baz=142
Q18K **Katmai Hardscr** 86.92 340 P P 05 48 14.0 -0.3
baz=143
H11S2 **WAKE ISLAND Hy** 86.96 291 T T 07 24 34.8
baz=115,slow=75,SNR=186
M26K **Nabesna, AK** 86.97 347 P P 05 48 13.8 -0.6
baz=154
H11S1 **WAKE ISLAND Hy** 86.97 291 T T 07 24 38.8
baz=115,slow=75,SNR=140
H11S3 **WAKE ISLAND Hy** 86.98 291 T T 07 24 39.9
baz=115,slow=75,SNR=100
P19K **Oil Pt** 87.18 341 P P 05 48 15.4 -0.1
baz=144
K29M **Barlow Dome** 87.28 350 IAmb IAmb 05 48 17.7
comp=Z,59nm,1.7s
K29M **Barlow Dome** 87.28 350 P P 05 48 15.9 0.0
baz=158
BCAR **Beaver Creek A** 87.32 348 P P 05 48 15.7 -0.4
L27K **Beaver Creek,** 87.33 348 IAmb IAmb 05 48 17.2
comp=Z,43nm,1.9s
L27K **Beaver Creek,** 87.33 348 P P 05 48 15.5 -0.6
baz=154,SNR=8.2
KNK **Knik Glacier** 87.35 344 IAmb IAmb 05 48 17.7
comp=Z,57nm,1.5s
KNK **Knik Glacier** 87.35 344 P P 05 48 16.0 -0.2
baz=148,SNR=6.9
M24K **Tolsona, Glenn** 87.40 346 IAmb IAmb 05 48 19.3
comp=Z,45nm,1.2s
M24K **Tolsona, Glenn** 87.40 346 P P 05 48 16.4 -0.1
baz=151
RC01 **Rabbit Creek A** 87.40 344 P P 05 48 16.1 -0.3
baz=147
HARP **HAARP** 87.43 346 P P 05 48 16.5 0.0
baz=152,SNR=7.6
SCM **Sheep Creek Mo** 87.44 345 P P 05 48 16.2 -0.5
baz=150
Q16K **King Salmon** 87.47 339 P P 05 48 17.0 +0.3
baz=141
M23K **Glacier View** 87.50 345 P P 05 48 17.1 +0.2
baz=149
CAPN **Captain Cook N** 87.51 343 P P 05 48 16.5 -0.4
baz=146
P18K **Big Mountain,** 87.58 340 P P 05 48 17.0 -0.4
baz=142
MENT **Mentasta** 87.60 347 P P 05 48 17.8 +0.4
L26K **Log Cabin Wild** 87.60 347 P P 05 48 17.2 -0.2
baz=153
SML **Sawmill** 87.66 345 P P 05 48 17.3 -0.4
baz=149
PMR **Palmer** 87.67 344 IAmb IAmb 05 48 19.1
comp=Z,87nm,1.7s
PMR **Palmer** 87.67 344 P P 05 48 17.3 -0.4
baz=148,SNR=8.3
UNV **Unalaska Valle** 87.69 332 P P 05 48 17.6 -0.3
baz=133
GHO **Glory Hole Cre** 87.77 344 IAmb IAmb 05 48 19.6
comp=Z,22nm,0.9s
GHO IAMs_20 IAMs_20 06 22 46.4
comp=Z,639nm,20.0s
J30M **Hart River** 87.78 351 P P 05 48 18.1 -0.2
baz=160
DAWY **Dawson** 87.80 349 P P 05 48 18.3 -0.1
DAWY **Dawson** 87.80 349 P P 05 48 17.9 -0.5
baz=157,SNR=6.8
P17K **Kvichak River** 87.81 340 P P 05 48 17.7 -0.7
baz=141
O18K **Koktuh Hills** 87.94 341 P P 05 48 18.2 -0.9
baz=142
O19K **Port Alsworth** 87.95 341 P P 05 48 18.2 -0.8
baz=143
SUA **Susitna One** 87.98 343 P P 05 48 18.6 -0.7
baz=146,SNR=5.8
PAX **Paxson** 88.00 346 P P 05 48 18.3 -1.1
baz=151,SNR=8.4
M22K **Willow** 88.06 344 IAmb IAmb 05 48 20.8
comp=Z,46nm,1.1s
M22K **Willow** 88.06 344 P P 05 48 18.5 -1.0
baz=147
NIKH **Nikolski High** 88.15 330 P P 05 48 19.2 -0.9
baz=131
N20K **Mount Spurr** 88.16 343 P P 05 48 19.1 -1.1
baz=137
WAT6 **Susitna Watana** 88.18 345 P P 05 48 19.3 -1.0
baz=149,SNR=5.2
K27K **Chicken** 88.25 348 P P 05 48 19.5 -0.9
baz=154
I30M **Mount Dempster** 88.39 351 P P 05 48 20.4 -0.8
baz=160
O17K **Koliganek Bris** 88.47 340 P P 05 48 20.6 -0.9
baz=141,SNR=7.8
N19K **Bonanza Creek** 88.49 342 P P 05 48 21.0 -0.7
baz=143,SNR=5.9
DHY **Denali Highway** 88.52 346 IAmb IAmb 05 48 41.8
comp=Z,41nm,1.8s
DHY **Denali Highway** 88.52 346 P P 05 48 21.3 -0.6
baz=150
RIDG **Independent Ri** 88.55 347 IAmb IAmb 05 48 29.4
comp=Z,29nm,1.0s
RIDG **Independent Ri** 88.55 347 P P 05 48 21.0 -0.9
baz=152,SNR=8.6
SCRK **Sand Creek** 88.58 347 IAmb IAmb 05 48 23.4
comp=Z,43nm,2.0s
SCRK **Sand Creek** 88.58 347 P P 05 48 21.4 -0.7
baz=153
WAT1 **Susitna Watana** 88.59 345 P P 05 48 21.3 -0.8
baz=148
SKT **Skwentna** 88.62 343 IAmb IAmb 05 48 23.5
comp=Z,58nm,1.5s
SKT **Skwentna** 88.62 343 P P 05 48 21.0 -1.3
baz=146,SNR=8.9
CUT **Chulitna** 88.65 344 P P 05 48 20.8 -1.4
baz=147,SNR=9.1
O16K **Kokwok River B** 88.65 339 IAmb IAmb 05 48 24.4
comp=Z,53nm,1.2s
O16K **Kokwok River B** 88.65 339 P P 05 48 21.4 -1.0
baz=140
EGAK **Eagle** 88.76 349 P P 05 48 22.8 0.0
baz=155
K24K **Donnelly Dome** 88.80 347 P P 05 48 22.8 -0.2
baz=151
N18K **Kilae Creek** 88.81 341 P P 05 48 22.7 -0.4
baz=142
I29M **Ogilvie Camp,** 88.82 350 P P 05 48 23.7 +0.6
baz=158
O15K **Ungalikthiuk R** 88.91 338 P P 05 48 23.7 +0.1
baz=138
J26L **Joseph Creek** 88.96 348 P P 05 48 24.1 +0.2
baz=153
M20K **Styx River** 88.97 343 P P 05 48 23.9 -0.1
baz=144
N17K **Nushagak Hills** 89.08 340 P P 05 48 24.5 +0.1
baz=141
RND **Reindeer** 89.15 345 IAmb IAmb 05 48 27.1
comp=Z,57nm,1.6s
I28M **Miner Creek** 89.17 350 P P 05 48 25.0 +0.2
baz=156
J25K **Salcha River,** 89.43 347 IAmb IAmb 05 48 27.8
comp=Z,53nm,1.8s
J25K **Salcha River,** 89.43 347 P P 05 48 26.2 +0.2
baz=151
M18K **Stony River** 89.43 341 P P 05 48 26.1 +0.1
baz=142
MCK **McKinley** 89.45 345 P P 05 48 26.3 +0.3
baz=148,SNR=7.1
O14K **Tigyukauivet M** 89.47 338 P P 05 48 26.3 +0.1
baz=137
EPYK **Eagle Plains** 89.52 351 P P 05 48 26.7 +0.3
baz=159
TRF **Thorofare Moun** 89.53 345 P P 05 48 26.5 -0.2
baz=147,SNR=12
N16K **Nishlik Lake** 89.55 340 P P 05 48 26.6 -0.1
baz=139
PPLA **Purkeypile** 89.55 344 P P 05 48 26.7 0.0
baz=145
HDA **Harding Lake** 89.58 346 P P 05 48 26.9 +0.2
baz=150
HDA P P 05 48 26.9 +0.2
baz=150
I27K **Kandik River** 89.60 349 P P 05 48 26.3 -0.5
baz=155
I26K **Coal Creek Min** 89.61 348 P P 05 48 26.2 -0.6
baz=153
H29M **Whitestone** 89.63 351 P P 05 48 26.5 -0.3
baz=158
L20K **Farewell, AK** 89.67 343 P P 05 48 26.2 -0.9
baz=144
L19K **White Mountain** 89.70 342 IAmb IAmb 05 48 28.2
comp=Z,32nm,1.4s
L19K **White Mountain** 89.70 342 P P 05 48 26.5 -0.8
baz=143
G31M **Satah River** 89.72 352 P P 05 48 26.7 -0.5
baz=162
N15K **Kwethluk River** 89.75 339 P P 05 48 26.8 -0.7
baz=138
M17K **Holitna River** 89.84 341 P P 05 48 27.6 -0.3
baz=141
STKA **Stephens Creek** 89.86 236 P P 05 48 28.3 -0.6
STKA **Stephens Creek** 89.86 236 P P 05 48 28.3 -0.6
comp=Z,10nm,1.1s,baz=125,slow=4.1,SNR=7.0
STKA LR LR 06 23 52.6
comp=Z,339nm,18.8s,baz=111,slow=32
comp=Z,10nm,1.1s
ILAR **Eielson Array** 89.89 347 P P 05 48 28.1 0.0
ILAR **Eielson Array** 89.89 347 P P 05 48 28.1 0.0
ILAR **Eielson Array** 89.89 347 P P 05 48 27.4 -0.6
comp=Z,1.3nm,1.0s,baz=169,slow=3.6,SNR=8.1
ILAR LR LR 06 21 56.5
comp=Z,166nm,18.1s,baz=129,slow=31
comp=Z,1.3nm,1.0s
CAST **Castle Rocks** 89.96 344 IAmb IAmb 05 48 29.7
comp=Z,60nm,1.8s
CAST **Castle Rocks** 89.96 344 P P 05 48 27.8 -0.7
baz=145,SNR=9.2
M16K **Timber Creek** 90.03 340 P P 05 48 28.3 -0.5
baz=139
G30M **tAoh Zraii Nji** 90.03 352 P P 05 48 28.0 -0.8
baz=160
N14K **Kuskokwak Cree** 90.11 338 P P 05 48 27.7 -1.4
baz=137
F31M **Tsiigehtchic** 90.15 353 P P 05 48 28.3 -0.9
baz=162,SNR=5.9
H27K **Steamboat Moun** 90.15 349 P P 05 48 28.2 -1.2
baz=155
COLA **College** 90.18 346 P P 05 48 29.5 +0.1
COLA **College** 90.18 346 P P 05 48 28.1 -1.3
baz=149
COLA **College** 90.18 346 P P 05 48 29.5 +0.1
COLA pmax pmax
comp=Z,16nm,1.1s
NEA2 **Nenana** 90.21 346 IAmb IAmb 05 48 31.6
comp=Z,40nm,1.7s
NEA2 **Nenana** 90.21 346 P P 05 48 28.0 -1.6
baz=148
G29M **Pine Creek** 90.22 351 P P 05 48 28.4 -1.2
baz=158
BPAW **Bear Paw Mtn.** 90.25 345 P P 05 48 28.8 -1.0
baz=146,SNR=12
L18K **Granite Mounta** 90.26 342 P P 05 48 29.1 -0.8
baz=141
PRP **Porcupine Dome** 90.26 348 P P 05 48 29.2 -0.8
baz=151
POKR **Poker Plat Res** 90.30 347 IAmb IAmb 05 48 31.6
comp=Z,40nm,1.8s
POKR **Poker Plat Res** 90.30 347 P P 05 48 29.0 -1.0
baz=150
M15K **Kasigluk River** 90.34 339 P P 05 48 29.6 -0.7
baz=138
CHUM **Lake Minchumin** 90.40 344 P P 05 48 30.8 +0.3
baz=145
K20K **Telida** 90.43 343 P P 05 48 30.9 +0.2
baz=144
F30M **Barrier River** 90.57 352 P P 05 48 30.9 -0.3
baz=160
TTA **Tatalina** 90.62 342 P P 05 48 31.4 -0.2
baz=142
L17K **Donlin** 90.67 341 P P 05 48 32.1 +0.4
baz=140
G27K **Doyon Strip** 90.70 350 P P 05 48 31.5 -0.4
baz=155
L16K **Owhat River** 90.71 340 P P 05 48 31.7 -0.3
baz=139
I23K **Minto, Yukon-K** 90.75 346 IAmb IAmb 05 48 33.6
comp=Z,90nm,1.9s
I23K **Minto, Yukon-K** 90.75 346 P P 05 48 32.0 -0.1
baz=148,SNR=5.6
M14K **Bethel** 90.81 339 P P 05 48 32.5 +0.1
baz=137
MAW **Mawson** 90.83 179 LR LR 06 25 33.2
comp=Z,758nm,19.4s,baz=181,slow=33
CTA **Charters Tower** 90.92 248 LR LR 06 21 14.7
comp=Z,424nm,21.7s,baz=99,slow=30
CTAO **Charters Tower** 90.92 248 P P 05 48 34.3 +0.2
CTAO **Charters Tower** 90.92 248 P P 05 48 34.3 +0.2
CTAO pmax pmax
comp=Z,17nm,1.2s
INK **Inuvik** 90.95 353 P P 05 48 33.0 +0.1
baz=162,SNR=6.6
INK **Inuvik** 90.95 353 LR LR 06 23 32.8
comp=Z,337nm,18.4s,baz=181,slow=32
MLY **Manley** 90.97 345 P P 05 48 33.2 0.0
baz=146
H24K **Noodor Dome** 91.02 347 P P 05 48 32.8 -0.6
baz=149
M13K **Dall Lake** 91.04 338 P P 05 48 33.1 -0.4
baz=136
J20K **Nowinta River** 91.11 344 P P 05 48 33.5 -0.3
baz=144
K17K **Iditarod** 91.12 341 P P 05 48 33.6 -0.3
baz=140
FYU **Fort Yukon** 91.12 348 P P 05 48 35.0 +1.2
FYU IAmb IAmb 05 48 35.6
comp=Z,76nm,1.9s
F28M **Old Crow** 91.15 351 P P 05 48 33.6 -0.3
baz=156
C36M **Paulatuk** 91.17 357 P P 05 48 33.5 -0.4
baz=171
G26K **Porcupine Rive** 91.20 349 P P 05 48 33.9 -0.2
baz=153
L15K **Ungalaj Mounta** 91.33 340 P P 05 48 34.7 -0.2
baz=137
J19K **Poorman** 91.35 343 P P 05 48 34.6 -0.3
baz=142
I21K **Tanana** 91.39 345 P P 05 48 34.7 -0.4
baz=145
G25K **Bearman Lake** 91.47 348 P P 05 48 35.2 -0.2
baz=151
L14K **Kuka Creek** 91.48 339 P P 05 48 35.0 -0.5
baz=136
SPIA **Saint Paul Isl** 91.49 333 P P 05 48 35.0 -0.7
baz=130
E29M **Blow River** 91.58 351 P P 05 48 35.4 -0.5
baz=158
G24K **Hadweenzic Riv** 91.68 347 P P 05 48 36.0 -0.4
baz=149
K15K **Wolf Creek Mou** 91.79 340 P P 05 48 36.8 -0.2
baz=137
H22K **Ishtalitna Cre** 91.84 346 P P 05 48 36.9 -0.3
baz=146
F26K **Sheenjek River** 91.92 349 P P 05 48 37.1 -0.4
baz=152
E27K **Coleen River** 91.94 350 P P 05 48 36.9 -0.7
baz=155
H21K **Melozitna Rive** 91.98 345 P P 05 48 36.9 -0.9
baz=145
E28M **Babbage River** 92.01 351 P P 05 48 37.8 -0.1
baz=157
M11K **Mekoryuk** 92.03 337 P P 05 48 37.6 -0.5
baz=133
F25K **Christian Rive** 92.11 349 P P 05 48 38.6 +0.2
baz=151
G23K **Bananza Creek** 92.22 347 P P 05 48 38.9 -0.1
baz=147
GCSA **Galena City Sc** 92.29 343 P P 05 48 39.2 0.0
baz=141
H20K **Anotleneega Mo** 92.36 344 P P 05 48 39.6 +0.1
baz=143
FRB **Frobisher Bay** 92.46 19 LR LR 06 27 15.9
comp=Z,901nm,20.9s,baz=208,slow=34
F24K **Squaw Lake** 92.47 348 P P 05 48 40.4 +0.3
baz=149
E25K **Arctic Village** 92.56 349 IAMs_20 IAMs_20 06 22 06.6
comp=Z,564nm,21.0s
E25K **Arctic Village** 92.56 349 P P 05 48 40.5 +0.1
baz=151
D28M **Stokes Point** 92.57 352 P P 05 48 40.4 +0.1
baz=157
COLD **Coldfoot** 92.70 347 P P 05 48 41.2 +0.1
baz=147,SNR=7.6
I17K **Unalakleet** 92.71 341 P P 05 48 40.9 -0.3
baz=138
G22K **Bettles** 92.72 346 P P 05 48 41.2 0.0
baz=146
H19K **Roundabout Mou** 92.78 344 P P 05 48 41.6 +0.1
baz=141
D27M **Malcolm River** 92.81 351 P P 05 48 41.5 -0.1
baz=155
G21K **Allakaket** 92.85 345 P P 05 48 41.6 -0.2
baz=144
H18K **Honhosa River** 93.00 343 P P 05 48 42.6 0.0
baz=140
E24K **Your Creek** 93.07 348 P P 05 48 43.1 +0.3
baz=148
H17K **Granite Mounta** 93.27 342 P P 05 48 43.3 -0.5
baz=138

E23K Chandalar 93.28 347 P **P** **05 48 43.3 -0.5**
baz=147
F22K John River 93.36 346 P **P** **05 48 43.6 -0.6**
baz=145
F21K Alatna River 93.42 346 P **P** **05 48 44.3 -0.1**
baz=144
G19K Purcell Mounta 93.43 344 P **P** **05 48 44.3 -0.2**
baz=141
G18K Tagagawik 93.65 343 P **P** **05 48 45.4 -0.1**
baz=139
H16K Elim 93.72 341 P **P** **05 48 45.2 -0.6**
baz=136
D25K Kavik River 93.75 349 P **P** **05 48 45.5 -0.5**
baz=150
TOLK Toolik Lake Re 93.76 348 P **P** **05 48 45.8 -0.3**
baz=148
E22K Anaktuvuk Pass 93.80 347 P **P** **05 48 45.8 -0.4**
baz=145
F20K Avaraart Lake 93.80 345 P **P** **05 48 46.1 0.0**
baz=142
A36M Sachs Harbour 93.86 357 P **P** **05 48 46.1 -0.2**
baz=170,SNR=7.7
G17K Kiwalik Mounta 93.90 342 P **P** **05 48 46.3 -0.4**
baz=138
C26K Camden Bay 94.03 350 P **P** **05 48 47.0 -0.1**
baz=152
F19K Shaleruckik Mo 94.14 344 P **P** **05 48 47.8 +0.1**
baz=140
D23K Nanushuk River 94.25 348 P **P** **05 48 48.1 -0.1**
baz=146
PMG Port Moresby 94.30 258 IAMs_20 IAMs_20 06 23 12.4
comp=Z,529nm,21.0s
PMG Port Moresby 94.30 258 LR LR 06 23 46.4
comp=Z,383nm,21.9s,baz=98,slow=31
G16K Koyuk River 94.31 342 P **P** **05 48 48.6 +0.2**
baz=136
E19K Redstone River 94.49 345 P **P** **05 48 49.1 -0.3**
baz=141
E21K Killik River 94.51 346 P **P** **05 48 49.3 -0.1**
baz=144
G15K Niukluk 94.52 341 P **P** **05 48 49.2 -0.3**
baz=135
D22K Ayikyak River 94.59 347 IAmb IAmb 05 48 52.6
comp=Z,50nm,1.9s
D22K Ayikyak River 94.59 347 P **P** **05 48 50.1 +0.3**
baz=145
F17K Baldwin Pennin 94.76 343 P **P** **05 48 50.7 +0.2**
baz=137
E20K Nigu River 94.87 346 P **P** **05 48 51.0 -0.1**
baz=142
C23K Itkillik River 94.97 348 P **P** **05 48 51.5 0.0**
baz=146
F15K North Star Dit 95.20 341 P **P** **05 48 52.7 +0.1**
baz=134
C21K Knifeblade Rid 95.27 347 P **P** **05 48 52.8 0.0**
baz=143
E18K Tukpahlearik C 95.31 344 P **P** **05 48 52.9 -0.2**
baz=138
D20K Etivluk River 95.32 346 P **P** **05 48 53.2 +0.1**
baz=141
E17K Hotham Inlet 95.39 343 P **P** **05 48 53.4 0.0**
baz=136
D19K Kuna River 95.50 345 P **P** **05 48 54.4 +0.4**
baz=140
F14K Arctic Creek 95.55 341 P **P** **05 48 54.5 +0.3**
baz=133
B21K Ikpikpuk River 95.60 347 P **P** **05 48 54.4 0.0**
baz=143
B22K Teshekpuk Lake 95.94 348 IAmb IAmb 05 49 03.7
comp=Z,17nm,1.1s
B22K Teshekpuk Lake 95.94 348 P **P** **05 48 56.1 +0.3**
baz=144
TNA Tin City 96.10 340 P **P** **05 48 57.3 +0.6**
baz=131
GAMB Gambell 96.21 338 P **P** **05 48 58.0 +0.8**
baz=128
C19K Lookout Ridge 96.32 345 P **P** **05 48 57.6 -0.1**
baz=138
RDOG Red Dog Mine 96.38 344 P **P** **05 48 58.6 +0.7**
baz=136
B20K Meade River 96.45 346 P **P** **05 48 58.6 +0.4**
baz=140
A22K Sinclair Lake 96.78 348 P **P** **05 49 00.3 +0.6**
baz=142
RES Resolute Bay 97.09 5 LR LR 06 29 32.2
comp=Z,740nm,20.9s,baz=192,slow=33
ASAR Alice Springs 99.66 240 P **Pdif** **05 49 12.5 -1.5**
comp=Z,0.3nm,0.5s,baz=111,slow=5.1,SNR=2.8
ASAR LR LR 06 30 35.3
comp=Z,352nm,18.2s,baz=120,slow=33
comp=Z,0.3nm,0.5s
WRA Warramunga Arr 101.08 243 P **Pdif** **05 49 20.8 +0.5**
comp=Z,0.9nm,1.0s,baz=113,slow=4.3,SNR=4.8
TORD Torodi Ar. Bea 118.77 87 PKP **PKPdf** **05 54 17.4 -1.3**
comp=Z,2.8nm,1.1s,baz=225,slow=1.8,SNR=6.4
TTSI Tana Toraja 121.56 252 PKP **PKPdf** **05 54 19.5 -4.7**
KLR Kul'dur 121.71 315⇑ *e*PKIKP **PKPdf** **05 54 22.9 -0.5**
MDJ Mudanjiang 123.36 310 PKP PKPdf 05 54 18.3 -8.4
ZEA Zeya 124.03 321⇓ *e*PKIKP **PKiKP** **05 54 28.7 +0.7**
HEH HeiHe 124.42 317 *e*PKP **PKPdf** **05 54 27.5 -1.1**
KSRS Korea Array 124.58 301 PKP **PKiKP** **05 54 29.9 +0.3**
comp=Z,3.0nm,0.9s,baz=93,slow=2.5,SNR=7.0
KSAR Wonju Array Be 124.61 301 **PKPdf** **05 54 28.5 -0.8**
KSAR Wonju Array Be 124.61 301 PKIKP **PKPdf** **05 54 28.5 -0.8**
BNX BinXian 124.85 311⇓ PKP **PKPdf** **05 54 29.3 -0.3**
NOA NORSAR Array B 125.87 29 PKP **PKPdf** **05 54 29.7 -1.4**
comp=Z,1.2nm,0.8s,baz=282,slow=2.6,SNR=3.3
CN2 Changchun 126.38 309 *e*PKP **PKPdf** **05 54 30.0 -2.5**
BFO Black Forest 127.60 45 PKPdf **PKPdf** **05 54 34.5 -0.3**
BFO Black Forest 127.60 45 PKIKP **PKPdf** **05 54 34.5 -0.3**
DAVA Damuels 128.81 46 *i* PKP **PKPdf** **05 54 37.5 +0.2**
comp=Z,11nm,1.5s
GRF Grafenberg Arr 129.21 43 *e*PKPdf **PKiKP** **05 54 38.8 +0.3**
baz=283,slow=1.9
GRFO Grafenberg 129.21 43 **PKiKP** **05 54 38.5 0.0**
GRFO Grafenberg 129.21 43 PKIKP **PKiKP** **05 54 38.5 0.0**
RETA Reutte 129.36 46 *i* PKiKP **PKiKP** **05 54 39.7 +0.7**
comp=Z,8.5nm,1.6s
FETA Feichten 129.42 46 *i* PKiKP **PKiKP** **05 54 39.4 +0.2**
comp=Z,24nm,1.3s,SNR=7.6
MOTA Moosalm 129.62 46 *i* PKiKP **PKiKP** **05 54 39.5 -0.1**
comp=Z,24nm,1.4s,SNR=6.2
SQTA Sankt Quirin 129.71 46 *e*PKiKP **PKiKP** **05 54 39.9 +0.2**
comp=Z,31nm,1.6s,SNR=7.1
CLL Collm 129.92 41 *i* PKPdf **PKPdf** **05 54 39.0 0.0**
comp=Z,11nm,1.2s
CLL *i* pPKPdf **sPKPdf** **05 54 44.0 +1.8**
CLL *e*PP **PP** **05 56 52.0 +1.1**
CLL *e*(SKPdf) 05 58 20.0
CLL *e*SS SS 06 14 15.0 -0.6
CLL *e*SSS SSS 06 19 01.0
CLL *ex* x 06 21 30.0
CLL Collm 129.92 41 *i* PKIKP **PKPdf** **05 54 39.0 0.0**
CLL *i* 05 54 44.0
CLL pmax pmax
comp=Z,11nm,1.2s
WATA Walderalm 129.93 46 *i* PKiKP **PKiKP** **05 54 40.8 +0.6**
comp=Z,22nm,1.3s
WTTA Wattenberg 129.99 46 *i* PKiKP **PKiKP** **05 54 40.5 +0.1**
comp=Z,27nm,1.5s,SNR=5.8
APA Apatity 130.01 15⇓ *i* PKIKP PKiKP 05 54 48.7 +9.2
APA pmax pmax
comp=Z,7.0nm,0.9s
BRG Berggiesshubel 130.61 41 *i* PKHKP PKPpre 05 54 24.8
BRG pmax pmax
comp=Z,18nm,1.3s
BRG MLR MLR
comp=Z,398nm,17.1s
LESA Schwarzleotal 130.65 46 *i* PKiKP **PKiKP** **05 54 41.6 +0.1**
comp=Z,13nm,1.4s
ABTA Abfaltersbach 130.68 46 *i* PKP **PKPdf** **05 54 41.1 +0.3**
comp=Z,12nm,1.2s
KHC Kasperske Hory 130.84 43 *e*PKPDF **PKPdf** **05 54 41.0 +0.1**
KHC Kasperske Hory 130.84 43 *e*PKIKP **PKPdf** **05 54 41.0 +0.1**
GERES GERESS Array B 130.99 44 PKP **PKPdf** **05 54 41.7 +0.4**
comp=Z,2.0nm,0.9s,baz=253,slow=1.0,SNR=12
KBA Koelnbreinsper 131.17 46 *i* PKP **PKPdf** **05 54 42.3 +0.5**
comp=Z,1.1nm,1.8s
PRU Pruhonice 131.22 42 *e*PKPDF **PKiKP** **05 54 44.1 +1.6**
PRU Pruhonice 131.22 42 *e*PKIKP **PKiKP** **05 54 44.1 +1.6**
BIOA Bad Ischl, Aus 131.22 45 *i* PKP **PKPdf** **05 54 41.8 +0.1**
comp=Z,13nm,1.6s
MYKA Terra Mystica 131.46 46 *i* PKP **PKiKP** **05 54 42.9 -0.4**
comp=Z,8.3nm,1.3s
MOA Molln 131.60 45 *i* PKP **PKPdf** **05 54 42.7 +0.3**
comp=Z,10nm,1.3s
NJ2 Nanjing 131.88 294 *e*PKP **PKiKP** **05 54 44.8 +0.4**

FINES FINESS Array B 131.94 24 PKP **PKPdf** **05 54 41.7 -0.9**
comp=Z,3.0nm,0.9s,baz=309,slow=0.9,SNR=6.2
OBKA Obir 132.10 46 *i* PKiKP **PKiKP** **05 54 45.1 +0.6**
comp=Z,12nm,1.3s
SOKA Soboth 132.38 46 *i* PKiKP **PKiKP** **05 54 45.0 -0.1**
comp=Z,7.3nm,1.3s
ARSA Arzberg 132.57 45 *i* PKiKP **PKiKP** **05 54 45.5 +0.2**
comp=Z,6.0nm,1.0s
CONA Conrad Observa 132.62 44 *i* PKP **PKPdf** **05 54 44.7 +0.3**
comp=Z,8.7nm,1.3s
KRUC Moravsky 132.64 43 *e*PKP **PKPdf** **05 54 44.7 +0.4**
VRAC Vranov 132.69 42 *e*PKP **PKiKP** **05 54 45.2 -0.3**
RONA Rosalia, Austr 132.96 44 *i* PKP **PKPdf** **05 54 45.5 +0.5**
comp=Z,8.3nm,1.4s
MORC Moravsky Berou 133.14 41 *e*PKP **PKiKP** **05 54 46.8 +0.3**
MODS Modra-Piesok 133.40 43 *e*PKP **PKiKP** **05 54 47.4 +0.4**
MODS Modra-Piesok 133.40 43 *e*PKIKP **PKiKP** **05 54 47.5 +0.4**
JAVC Velka Javorina 133.51 43 *e*PKP **PKiKP** **05 54 48.0 +0.7**
BJT Baijiatuau 133.64 305 IAMs_20 IAMs_20 06 42 09.6
comp=Z,321nm,21.0s
VYHS Vyhne 134.35 43 *e*PKP **PKiKP** **05 54 49.1 +0.2**
VYHS Vyhne 134.35 43 *e*PKIKP **PKiKP** **05 54 49.2 +0.3**
HNS HongShan 135.09 302⇑ PKP **PKiKP** **05 54 51.6 +0.9**
HNS PP **PP** **05 57 28.4 +3.7**
HNS LR LR
comp=Z,860nm,22.0s
HNS LR LR
comp=Z,670nm,19.8s
NACGM Naroch 136.02 31 PP PP 05 57 41.3 +12
baz=303
MNK Minsk 136.78 31 *i* PKP **PKPdf** **05 54 50.2 -1.6**
comp=E,3.0nm,0.7s
MNK *i* PKP **PKPdf** **05 54 50.2 -1.6**
comp=N,14nm,0.8s
MNK *i* PKP **PKPdf** **05 54 50.2 -1.6**
comp=Z,6.0nm,0.7s,baz=304
MNK *i* PP **PP** **05 57 33.5 -0.8**
MNK *i* PPP PPP 06 00 32.0
MNK *i* SKS **SKSac** **06 02 11.8 +6.0**
MNK *i* PS **PS** **06 07 58.8 -1.8**
MNK *i* SS **SS** **06 15 39.4 +1.4**
MNK *i* SSS SSS 06 20 44.1
MNK *i* LQ LQ 06 48 09.7
MNK *i* LR LR 06 51 05.7
MNK *i* LRM MLR 06 54 27.5
comp=N,750nm,18.1s
MNK *i* LRM MLR 06 54 49.9
comp=Z,203nm,17.4s
MNK *i* LRM MLR 06 54 53.8
comp=E,204nm,16.8s
MNK Minsk 136.78 31 *i* PKIKP **PKPdf** **05 54 50.2 -1.6**
MNK *i* 05 57 33.5
MNK *i* PPP PPP 06 00 31.9
MNK *i* PS **PS** **06 07 58.7 -1.8**
MNK *i* SS SS 06 15 39.3 +1.3
MNK *i* SSS SSS 06 20 44.1
MNK pmax pmax
comp=N,14nm,0.8s
MNK pmax pmax
comp=Z,6.0nm,0.6s
MNK pmax pmax
comp=E,3.0nm,0.7s
MNK MLR MLR
comp=N,750nm,18.0s
MNK MLR MLR
comp=Z,203nm,17.0s
MNK MLR MLR
comp=E,204nm,17.0s
KLMR Klimovskoe 136.94 18 *e*PKPdf **PKPdf** **05 54 50.8 -1.1**
KLMR AMP 05 54 53.9
comp=Z,15nm,1.3s
KLMR *e*PP **PP** **05 57 34.5 -0.5**
KLMR *e*SKKPbc SKKPbc 06 07 13.4 -7.3
KLMR Klimovskoe 136.94 18 *e*PKIKP **PKPdf** **05 54 50.8 -1.1**
KLMR *e* 05 57 34.5
KLMR pmax pmax
comp=Z,15nm,1.3s
HHC Hu-ho-hao-te 136.97 307 *e*PKP **PKPdf** **05 54 50.4 -2.4**
LVV L'vov 137.02 39 *e*PKIKP **PKPdf** **05 54 52.5 0.0**
ULN Ulaanbaatar 137.93 318 PKPdf **PKPdf** **05 54 52.8 -1.6**
ULN Ulaanbaatar 137.93 318 PKIKP **PKPdf** **05 54 52.8 -1.6**
BTO Baotou 138.16 307 *e*PKP **PKPdf** **05 54 52.0 -3.0**
BTO PP **PP** **05 57 46.3 +2.4**
BTO SS SS 06 15 51.8 -4.3
BTO LR LR
comp=Z,870nm,22.7s
BTO LR LR
comp=Z,760nm,21.3s
BTO LR LR
comp=Z,1μm,22.8s
SONM Songino Array 138.35 319 PKP **PKPdf** **05 54 54.4 -0.8**
comp=Z,4.3nm,0.8s,baz=103,slow=3.1,SNR=14
BUR08 Bucovina Ar. S 138.64 42 PKPdf **PKPdf** **05 54 55.1 -0.5**
BURAR Bucovina Array 138.66 42 PKPdf **PKPdf** **05 54 55.4 -0.3**
ZAK Zakamensk 139.01 323 *e*PKIKP **PKPdf** **05 54 56.8 +0.6**
ZAK pmax pmax
comp=Z,12nm,1.4s
KIEV Kiev 139.53 36 PKPdf **PKPdf** **05 54 56.4 -0.6**
KIEV Kiev 139.53 36 PKIKP **PKPdf** **05 54 56.4 -0.6**
AKASG Malin Array Be 139.53 36 **PKPdf** **05 54 56.1 -0.9**
AKASG Malin Array Be 139.53 36 PKP **PKPdf** **05 54 56.5 -0.5**
comp=Z,6.8nm,0.9s,baz=283,slow=2.6,SNR=19
AKBB Malin Array Si 139.53 36 PKPdf **PKPdf** **05 54 56.1 -0.9**
AKBB Malin Array Si 139.53 36 PKIKP **PKPdf** **05 54 56.1 -0.9**
XAN Xi'an 140.13 297 PKP **PKPdf** **05 54 51.5 -7.2**
XAN LR LR
comp=N,410nm,5.7s
XAN LR LR
comp=E,580nm,9.4s
XAN LR LR
comp=Z,640nm,11.3s
MOS Moscow 140.24 25 *e*PKIKP **PKPdf** **05 54 58.1 0.0**
MOS *e* 05 58 00.1
OBN Obninsk 140.27 26*ce*PKIKP **PKPdf** **05 54 58.6 +0.4**
OBN *i* 05 57 56.9
OBN *e*SSS SSS 06 21 33.5
OBN pmax pmax
comp=Z,48nm,1.0s
MILM Milestii Mici 141.17 41 *e*PKP **PKPdf** **05 54 59.5 -0.6**
comp=Z,90nm,1.8s
MILM *eL* L 06 57 47.0
MILM LRM MLR 07 04 30.0
comp=Z,200nm,16.5s
MILM Milestii Mici 141.17 41 *e*PKIKP **PKPdf** **05 54 59.5 -0.6**
MILM pmax pmax
comp=Z,90nm,1.8s
KIRV Kirov 141.45 14 *i* PKIKP **PKPdf** **05 55 00.2 0.0**
GSI Gunungsitoli 142.81 241 PKP **PKPdf** **05 55 00.7 -3.4**
LPSR Galich'ya Gora 143.05 27 *e*PKHKP PKPpre 05 54 57.5
LPSR pmax pmax
comp=Z,60nm,1.6s
VORR Voronezh 143.84 28 *e*PKIKP PKPab 05 55 01.1 -0.6
VORR pmax pmax
comp=Z,59nm,2.1s
LZH Lanzhou 143.90 302 PKP PKPbc 05 55 03.5 +0.2
LZH pPKP PKiKP 05 55 13.3 +4.3
LZH sPKP 05 55 18.4
LZH LR LR
comp=Z,520nm,20.3s
LZH LR LR
comp=Z,820nm,19.2s
LZH LR LR
comp=Z,1μm,20.6s
KMBO Kilima Mbogo 144.12 126 PKPdf **PKPdf** **05 55 05.8 -0.9**
KMBO Kilima Mbogo 144.12 126 PKIKP **PKPdf** **05 55 05.8 -0.9**
KMBO Kilima Mbogo 144.12 126 PKP PKPbc 05 55 05.4 +0.7
comp=Z,44nm,1.1s,baz=223,slow=3.0,SNR=47
VSR Storozhevoye 144.14 29 *e*PKHKP PKPpre 05 55 00.7
VSR pmax pmax
comp=Z,20nm,0.8s
VORD Divnogorie 144.38 29 *e*PKHKP PKPpre 05 55 00.9
VORD pmax pmax
comp=Z,10.0nm,0.9s
ZALV Zalesovo Beam 144.76 340 PKP **PKPab** **05 55 04.9 -0.2**
comp=Z,19nm,0.7s,baz=38,slow=2.6,SNR=88
CD2 Chengdu 144.79 293 PKP **PKPdf** **05 55 06.8 -0.3**
SVE Sverdlovsk 144.84 5 *e*PKIKP **PKPab** **05 55 04.8 -0.5**
SVE pmax pmax
comp=Z,92nm,1.8s
ARU Arti 145.04 7 **PKPbc** **05 55 05.3 -0.6**
ARU Arti 145.04 7 *i* PKIKP **PKPbc** **05 55 05.4 -0.6**
ARU 05 58 22.0
ARU SS SS 06 17 10.4 -3.0
ARU MLR MLR
comp=Z,337nm,17.0s
VRH Novokhopyorsk 145.25 27 *e*PKIKP **PKPbc** **05 55 06.3 -0.5**
VRH pmax pmax
comp=Z,248nm,1.3s
SIM Simferopol' 145.36 41 *e*PKIKP **PKPbc** **05 55 07.4 0.0**
SIM *e* 05 55 12.3
ISP Isparta 145.86 54 *e*PKIKP **PKPbc** **05 55 09.4 0.0**
KMI Kunming 145.87 283⇓ PKPbc **PKPab** **05 55 10.6 +0.2**
KMI LR LR
comp=Z,490nm,23.4s
GTA Gaotai 146.01 309⇑ PKPbc **PKPab** **05 55 10.6 +0.2**
GTA PKPab sPKPab 05 55 16.0 +2.5
GTA pPKP PKiKP 05 55 19.8 +6.6
GTA sPKP 05 55 24.4
GTA LR LR
comp=Z,300nm,22.2s
GTA LR LR
comp=Z,400nm,22.5s
GTA LR LR
comp=Z,590nm,21.8s
BELG Belogornoye 146.46 20 *i* PKP2 **PKPdf** **05 55 09.2 0.0**
PZH PanZhiHua 146.79 285 PKPbc **PKPbc** **05 55 11.9 -0.6**
PZH AMB AMB
comp=Z,340nm,7.1s
PZH LR LR
comp=Z,310nm,14.5s
PZH LR LR
comp=Z,300nm,13.3s
PZH LR LR
comp=Z,330nm,15.7s
ANTO Ankara 146.81 50 **PKPbc** **05 55 12.2 +0.1**
ANTO Ankara 146.81 50 PKP2 **PKPbc** **05 55 12.2 +0.1**
DGZ Jazzator, Alta 147.27 334 *i* PKIKP **PKPdf** **05 55 11.7 +0.8**
BR131 Keskin Array S 147.46 49 **PKPdf** **05 55 12.7 +1.2**
BR131 Keskin Array S 147.46 49 PKP2 **PKPdf** **05 55 12.7 +1.2**
BRTR Keskin Array B 147.46 49 PKPbc **PKPbc** **05 55 13.1 -0.9**
comp=Z,21nm,1.1s,baz=288,slow=3.0,SNR=31
CM31 Chiang Mai Arr 148.58 270 **PKiKP** **05 55 18.7 -0.2**
CMAR Chiang Mai Arr 148.58 270 **PKPdf** **05 55 14.6 +0.9**
CMAR Chiang Mai Arr 148.58 270 PKIKP **PKPdf** **05 55 14.6 +0.9**
CMAR Chiang Mai Arr 148.58 270 PKPbc **PKiKP** **05 55 18.9 -0.1**
comp=Z,13nm,0.8s,baz=98,slow=1.1,SNR=25
BRVK Borovoye 148.61 355 PKPdf **PKPdf** **05 55 13.3 +0.5**
BRVK Borovoye 148.61 355 PKIKP **PKPdf** **05 55 13.3 +0.5**
BVAR Borovoye Array 148.63 354 PKPbc **PKPbc** **05 55 16.6 +0.1**
comp=Z,31nm,0.7s,baz=349,slow=1.5,SNR=87
CHTO Chiang Mai 148.65 271 **PKPdf** **05 55 14.5 +0.6**
CHTO Chiang Mai 148.65 271 PKIKP **PKPdf** **05 55 14.5 +0.6**
SEM Semipalatinsk 149.23 342 *e*PKP **PKPdf** **05 55 14.2 0.0**
baz=342
SEM Semipalatinsk 149.23 342 *e*PKIKP **PKPdf** **05 55 14.1 0.0**
KURK Kurchatov 149.41 344 PKPdf **PKPdf** **05 55 14.3 +0.2**
KURK Kurchatov 149.41 344 PKIKP **PKPdf** **05 55 14.3 +0.2**
KURBB Kurchatov Arra 149.52 344 PKIKP **PKPdf** **05 55 13.7 -0.6**
KURBB Kurchatov Arra 149.52 344 PKPbc **PKPbc** **05 55 18.0 -0.8**
comp=Z,25nm,0.8s,baz=23,slow=2.0,SNR=51
TNCH TengChong 149.69 283 PKPbc **PKPdf** **05 55 12.9 -2.7**
TNCH sPKP 05 55 21.4
TNCH PKPab **PKPab** **05 55 25.3 -0.2**
TNCH PP **PP** **05 58 53.4 -0.5**
TNCH AMB AMB
comp=Z,270nm,5.7s
ZSN Zaisan 150.09 333 *e*PKP **PKPdf** **05 55 15.3 0.0**
baz=333
ZSN Zaisan 150.09 333 *e*PKIKP **PKPdf** **05 55 15.3 0.0**
GOF Gofitskoye 150.31 33*ce*PKIKP **PKPbc** **05 55 21.2 +0.3**
AKTO Aktyubinsk 150.82 10 PKIKP **PKPdf** **05 55 16.2 -0.2**
GOMU GeErMu 150.86 306 PKPbc **PKPdf** **05 55 16.8 -0.6**
GOMU sPKP 05 55 24.3
GOMU LR LR
comp=Z,210nm,17.3s
GOMU LR LR
comp=Z,240nm,19.8s
GOMU LR LR
comp=Z,520nm,21.0s
KIV Kislovodsk 150.88 35 PKPdf **PKPdf** **05 55 16.6 -0.2**
KIV **PKPbc** **05 55 22.4 0.0**
KIV Kislovodsk 150.88 35 *e*PKIKP **PKPdf** **05 55 16.9 +0.1**
KIV pmax pmax
comp=Z,29nm,1.1s
MMAI Mount Meron Ar 151.04 61 PKPbc **PKPbc** **05 55 22.8 -0.3**
comp=Z,1.1nm,0.2s,baz=270,slow=1.4,SNR=5.0
FURI Furi 151.08 112 IAMs_20 IAMs_20 06 58 23.4
comp=Z,322nm,21.0s
KBZ Khabaz 151.14 35 *e*PKIKP **PKPdf** **05 55 16.6 -0.4**
KBZ Khabaz 151.14 35 PKPbc **PKPbc** **05 55 23.1 +0.2**
comp=Z,20nm,0.8s,baz=314,slow=2.0,SNR=27
BRZS Berezniki 151.34 350 *e*PKP **PKPdf** **05 55 16.8 -0.4**
baz=350
BRZS Berezniki 151.34 350 *e*PKIKP **PKPdf** **05 55 16.8 -0.4**
WMQ Urumqi 151.43 325 *e*PKPbc **PKPdf** **05 55 18.3 +0.7**
WMQ LR LR
comp=Z,290nm,17.3s
WMQ LR LR
comp=Z,280nm,18.7s
WMQ LR LR
comp=Z,380nm,22.5s
MK31 Makanchi Array 151.65 335 *i* PKIKP **PKPbc** **05 55 23.2 -0.9**
MKAR Makanchi Array 151.65 335 PKP **PKPdf** **05 55 17.8 0.0**
comp=Z,2.1nm,0.8s,baz=29,slow=2.8,SNR=13
MKAR PKPbc **PKPbc** **05 55 23.3 -0.7**
comp=Z,24nm,0.7s,baz=37,slow=2.1,SNR=94
MAKZ Makanchi 151.76 336 PKPdf **PKPdf** **05 55 18.2 +0.3**
MAKZ PKPbc **PKPbc** **05 55 24.0 -0.3**
MAKZ Makanchi 151.76 336 PKIKP **PKPdf** **05 55 18.2 +0.3**
MAKZ 05 55 24.0
AB31 Akbulak array 152.25 8 *i* PKIKP **PKPdf** **05 55 19.1 +0.6**
ABKAR Akbulak array 152.25 8 PKPdf **PKPdf** **05 55 18.9 +0.4**
ABKAR PKPbc **PKiKP** **05 55 25.8 +0.2**
ZEI Tsey 152.32 36 *e*PKIKP **PKPbc** **05 55 24.6 -1.3**
ZEI pmax pmax
comp=Z,16nm,1.5s
MAK Makhachkala 154.05 31 *e*PKIKP **PKPdf** **05 55 17.1 -4.2**
MAK *e* 05 59 13.4
MAK *e* 06 02 22.0
MAK *e*PP PPP 06 02 43.1
MAK *e*SS SS 06 18 54.8 -0.2
MAK *e*SSS SSS 06 24 48.2
MAK pmax pmax
comp=Z,293nm,1.3s
TDK Taldyqorghan 154.60 339 *e*PKP **PKPdf** **05 55 21.9 -0.3**
baz=338
TDK Taldyqorghan 154.60 339 *e*PKIKP **PKPdf** **05 55 21.8 -0.3**
LSA Lhasa 155.75 294 IAMs_20 IAMs_20 07 02 17.3
comp=Z,301nm,21.0s
SHLS Shalkode 155.79 335 *e*PKP **PKPdf** **05 55 22.8 -1.1**
baz=334
SHLS Shalkode 155.79 335 *e*PKIKP **PKPdf** **05 55 22.8 -1.1**
KPKS Kokpek 155.83 336 *e*PKP **PKPdf** **05 55 23.6 -0.4**
baz=336
KPKS Kokpek 155.83 336 *e*PKIKP **PKPdf** **05 55 23.6 -0.4**
ATD Arta Tunnel 155.93 111 IAMs_20 IAMs_20 07 05 56.2
comp=Z,306nm,20.0s
CHKK Chushkaly 156.09 339 *e*PKP **PKPdf** **05 55 23.8 -0.4**
baz=339
CHKK Chushkaly 156.09 339 *e*PKIKP **PKPdf** **05 55 23.7 -0.4**
ZHN Zhinishke 156.18 336 *e*PKP **PKPdf** **05 55 24.2 -0.3**
baz=336
ZHN Zhinishke 156.18 336 *e*PKIKP **PKPdf** **05 55 24.2 -0.3**
KUU Kurty 156.26 341 *e*PKP **PKPdf** **05 55 23.9 -0.5**
baz=340
KUU Kurty 156.26 341 *e*PKIKP **PKPdf** **05 55 23.9 -0.5**
SATY Saty 156.28 336 *e*PKP **PKPdf** **05 55 24.7 0.0**
baz=336
SATY Saty 156.28 336 *e*PKIKP **PKPdf** **05 55 24.6 0.0**
MDOK Medeo 156.68 339 *e*PKP **PKPdf** **05 55 25.1 0.0**
baz=338
MDOK *e*PP **PP** **05 59 33.3 +1.7**
baz=338
MDOK Medeo 156.68 339 *e*PKIKP **PKPdf** **05 55 25.1 0.0**
MDOK *e* 05 59 33.3
SGDS Sogindy 157.16 343 *e*PKP **PKPdf** **05 55 25.3 -0.3**
baz=343
SGDS Sogindy 157.16 343 *e*PKIKP **PKPdf** **05 55 25.3 -0.3**
TKM2 Tokmak 2 157.37 341 PKIKP **PKPdf** **05 55 24.7 -1.4**
AAK Ala-Archa 157.95 342 PKPdf **PKPdf** **05 55 27.0 +0.2**
AAK Ala-Archa 157.95 342 PKIKP **PKPdf** **05 55 27.0 +0.2**
KSH Kashi 160.26 336 PKP **PKPdf** **05 55 31.6 +2.1**
KSH LR LR
comp=Z,300nm,16.5s
KSH LR LR
comp=Z,290nm,15.1s
KSH LR LR
comp=Z,590nm,24.7s

GEYT	**Alibeck**	**162.68**	**20**		**PKPdf**	**05 55 32.2**	**+0.2**
GEYT	**Alibeck**	**162.68**	**20**	PKP	**PKPdf**	**05 55 32.8**	**+0.8**
	comp=Z,14nm,1.2s,baz=5.7,slow=1.4,SNR=14						
NIL	**Nilore**	**166.42**	**332**		**PKPdf**	**05 55 35.0**	**-0.4**
NIL					**PKPab**	**05 56 36.8**	**-0.1**
NIL	**Nilore**	**166.42**	**332**	PKP2	**PKPab**	**05 56 36.8**	**-0.1**
NIL						06 55 35.0	
UOSS	**Minazif**	**170.80**	**68**		**PKPab**	**05 56 54.7**	**-2.1**

IDC 19 05:58:06.4±2.8, 54°13N×86°50E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=21.9km s-min=11.9km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**261**	I	I	06 03 39.2	
	0.1nm,0.6s,baz=80,slow=342,SNR=25						
ZALV	**Zalesovo Beam**	**1.01**	**261**	Pg	Pg	05 58 24.2	-1.5
	0.9nm,0.3s,baz=79,slow=17,SNR=9.3						
ZALV				Lg	Lg	05 58 40.4	
	2.9nm,0.3s,baz=80,slow=29,SNR=19						
KURBB	**Kurchatov Arra**	**6.01**	**238**	Pn	Pn	05 59 38.1	+1.6
	0.1nm,0.3s,baz=53,slow=13,SNR=2.6						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.81**	**202**	Pn	Pn	06 00 02.1	+0.8
	0.1nm,0.3s,baz=26,slow=14,SNR=6.1						
MKAR				Sn	Sn	06 01 30.6	+0.2
	0.1nm,0.3s,baz=18,slow=24,SNR=2.2						
MKAR				Lg	Lg	06 02 13.9	
	0.2nm,0.3s,baz=41,slow=29,SNR=4.5						
	0.2nm,0.2s						

CATAC 19 05:59:13.0±0.8, 9°.28N×82°.50W, h10km, ML2.6
UPA 19 05:59:13.9±0.6, 9°.21N×82°.48W, h14km±3km, MW2.8
ISC 19 05:59:13.3±1.6, 9°28N±0°05×82°48W±0°06, h22km±2km, n15, σ0°50/27, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNI2	**El Empalme, Bo**	**0.15**	**2**	*e*P	**Pb**	**05 59 18.7**	**-0.2**
CNI2				*e*S	**Sb**	**05 59 22.9**	**0.0**
CHGR2	**Aguacate**	**0.47**	**136**	*e*P	**Pb**	**05 59 22.8**	**-0.1**
CTCR	**Cotoan**	**0.47**	**217**	*i* P	**Pb**	**05 59 22.7**	**-0.3**
CTCR				*i* S	**Sb**	**05 59 29.8**	**+0.2**
CTCR				IAML		05 59 30.3	
	comp=Z,720nm,1.0s						
BC3P	**Paso Ancho**	**0.48**	**196**	*e*P	**Pb**	**05 59 22.9**	**-0.2**
LNBQ3	**Los Naranjos,**	**0.48**	**176**	*e*P	**Pb**	**05 59 23.0**	**-0.1**
BRU2	**Volcan**	**0.52**	**204**	*e*P	**Pb**	**05 59 23.6**	**-0.3**
BRU2				*e*S	**Sb**	**05 59 31.4**	**+0.3**
BRU2	**Volcan**	**0.52**	**204**	*i* P	**Pb**	**05 59 23.5**	**-0.4**
BRU2				*i* S	**Sb**	**05 59 31.4**	**+0.3**
BRU2				IAML		05 59 32.7	
	comp=Z,180nm,1.0s						
BCO2	**Palmira**	**0.56**	**185**	*e*P	**Pb**	**05 59 24.2**	**-0.4**
BCO2				*e*S	**Sb**	**05 59 32.6**	**+0.5**
POTG	**Potrero Grande**	**0.67**	**251**	*i* P	**Pb**	**05 59 25.7**	**-0.7**
POTG				*i* S	**Sb**	**05 59 35.0**	**-0.4**
POTG				IAML		05 59 36.6	
	comp=Z,280nm,1.0s						
CDITO	**Canoas**	**0.80**	**209**	*i* P	**Pb**	**05 59 28.5**	**0.0**
CDITO				*i* S	**Sn**	**05 59 40.5**	**0.0**
CDITO				IAML		06 00 07.4	
	comp=Z,85nm,1.0s						
DVD	**David**	**0.83**	**178**	*e*P	**Pb**	**05 59 28.6**	**-0.5**
DVD				*e*S	**Sn**	**05 59 40.7**	**-0.7**
OCHAL	**Ojochal**	**1.17**	**261**	*i* P	**Pb**	**05 59 34.8**	**0.0**
OCHAL				IAML		05 59 35.1	
	comp=Z,1.8nm,1.0s						
OCHAL				*i* S	**Sn**	**05 59 51.2**	**+1.6**
CDM	**Cerro de Muert**	**1.30**	**282**	*i* P	**Pn**	**05 59 36.6**	**0.0**
CDM				IAML		05 59 44.4	
	comp=Z,55nm,1.0s						
CDM				*i* S	**Sn**	**05 59 52.8**	**-0.7**
LCR2	**La Lucha 2**	**1.58**	**287**	*i* P	**Pn**	**05 59 40.7**	**+0.5**
LCR2				*i* S	**Sb**	**06 00 01.3**	**-0.2**
LCR2				IAML		06 00 41.3	
	comp=Z,90nm,1.0s						
OCM	**Ochomogo**	**1.59**	**293**	*i* P	**Pn**	**05 59 40.4**	**+0.1**
OCM				*i* S	**Sn**	**06 00 00.4**	**+0.1**
OCM				IAML		06 00 42.5	
	comp=Z,160nm,1.0s						

IDC 19 06:00:31.9±0.7, 28°.72N×54°.29E, h0km, mb4.3/27, mbtmp4.2/32, ML3.6/4, MS3.7/18, Error ellipse: s-maj=16.6km s-min=12.4km az=170.0
MOS 19 06:00:32.4±1.2, 28°.68N×54°.35E, h14km, mb4.6/21, Error ellipse: s-maj=8.1km s-min=5.1km az=104.2
TEH 19 06:00:34.9, 28°.79N×54°.30E, h17km±28km, ML4.2
NEIC 19 06:00:34.6±2.0, 28°.73N±0°.06×54°.29E±0°.10, h10km±1km, mb4.7/42, Error ellipse: s-maj=15.0km s-min=9.6km az=70.0
DSN 19 06:00:35.7±0.8, 28°.84N×54°.40E, h10km, mb4.8/1, ML4.0/9, Error ellipse: s-maj=15.6km s-min=6.3km az=80.0
GII 19 06:00:42.0±0.0, 28°.80N×54°.26E, h30km
OMAN 19 06:00:47.1±0.1, 27°.98N×54°.17E, h10km, mb5.1/7, ml3.9/14, ms2.7/1, Error ellipse: s-maj=1.7km s-min=1.4km az=3.0
NAO 19 06:01:39.9, 34°.13N×47°.28E, h33km, mb3.8
ISC 19 06:00:34.2±0.3, 28°78N±0°.03×54°29E±0°.03, h10km, n264, σ2s9/14/281, mb4.5/71, MS3.5/15, 9C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	**Jahrom**	**0.69**	**247**	Pg	**Pg**	**06 00 48.1**	**+0.6**
LAR1	**LAR**	**1.11**	**176**	Pg	**Pn**	**06 00 56.6**	**+0.8**
QIR1	**Qir**	**1.14**	**255**	Pg	**Pn**	**06 00 56.7**	**+0.5**
LMD1	**Lamerd**	**1.75**	**215**	Pg	**Pb**	**06 01 07.0**	**+0.6**
SHI	**Shiraz**	**1.78**	**299**	Pg	**Pb**	**06 01 07.2**	**-0.8**
SHI	**Shiraz**	**1.78**	**299**	P	**Pb**	**06 01 07.6**	**+0.6**
GENO	**Geno**	**2.15**	**129**	Pn	**Pn**	**06 01 12.2**	**+1.8**
NGRK	**Negar Kerman**	**2.30**	**67**	Pn	**Pn**	**06 01 13.7**	**+1.1**
IBND	**Bandar-abas**	**2.39**	**123**	Pn	**Pn**	**06 01 14.7**	**+1.3**
TVBK	**TV Kerman**	**2.47**	**60**	Pn	**Pn**	**06 01 16.8**	**+1.9**
KHGB	**Koh Gabri**	**2.48**	**50**	Pn	**Pn**	**06 01 16.4**	**+1.5**
IMEH	**Mehriz**	**2.62**	**6**	Pn	**Pn**	**06 01 18.3**	**+1.5**
AHBU	**AHRAM**	**2.63**	**273**	Pn	**Pn**	**06 01 19.0**	**+2.2**
DSBU	**Dashti - Bushe**	**2.70**	**262**	Pn	**Pn**	**06 01 19.9**	**+2.1**
ZRDN	**Zarand Kerman**	**2.92**	**41**	Pn	**Pn**	**06 01 22.7**	**+1.7**
IBAF	**Bafgh**	**3.01**	**21**	Pn	**Pn**	**06 01 23.7**	**+1.5**
CHMN	**Cheshme madani**	**3.03**	**68**	Pn	**Pn**	**06 01 24.3**	**+1.7**
KRM1	**Kerman Provinc**	**3.11**	**56**	Pn	**Pn**	**06 01 24.8**	**+1.2**
KHNJ	**Kahnooj**	**3.12**	**105**	Pn	**Pn**	**06 01 24.9**	**+1.4**
ISAD	**Sadrabad**	**3.17**	**351**	Pn	**Pn**	**06 01 26.3**	**+1.9**
SHME	**Shamm**	**3.18**	**148**	P	**Pn**	**06 01 26.4**	**+2.2**
SHME	**Shamm**	**3.18**	**148**	P	**Pb**	**06 01 29.5**	**-1.2**
KLNJ	**Kolanjah**	**3.23**	**314**	Pn	**Pn**	**06 01 26.7**	**+1.4**
BANOM	**Banah**	**3.36**	**147**	P	**Pn**	**06 01 27.3**	**+0.5**
BANOM				S	**Sn**	**06 02 09.8**	**+3.1**
BANOM	**Banah**	**3.36**	**147**	P	**Pb**	**06 01 31.7**	**-2.2**
BANOM				S	**Sn**	**06 02 09.8**	**+3.1**
IRAM	**Ramesheh**	**3.44**	**332**	Pn	**Pn**	**06 01 29.6**	**+1.5**
ICHK	**Chekchek**	**3.46**	**2**	Pn	**Pn**	**06 01 29.6**	**+1.3**
UMQ	**Umm Al-Quwin**	**3.46**	**159**	P	**Pn**	**06 01 32.0**	**+3.8**
KBAM	**BAM**	**3.66**	**83**	Pn	**Pn**	**06 01 32.9**	**+1.9**
MASF	**Masafi**	**3.78**	**153**	P	**Pb**	**06 01 37.8**	**-3.3**
	SNR=6.0						
MSFE	**Esma-Masafi**	**3.79**	**154**	*i* P	**Pn**	**06 01 34.9**	**+2.2**
	SNR=22						
NAZ	**Nazwa, Dubai**	**3.97**	**162**	*i* P	**Pn**	**06 01 38.0**	**+2.8**
	SNR=16						
NAZ	**Nazwa, Dubai**	**3.97**	**162**	P	**Pn**	**06 01 39.0**	**+3.8**
	SNR=16						
JRN	**Qarnain Island**	**4.03**	**199**	P	**Pn**	**06 01 39.5**	**+3.5**
IBRJ	**Brojen**	**4.07**	**321**	Pn	**Pn**	**06 01 38.1**	**+1.2**
IGAR	**Gharneh**	**4.10**	**332**	Pn	**Pn**	**06 01 38.6**	**+1.4**
SHMA	**Al-Shehemyia**	**4.15**	**226**	P	**Pn**	**06 01 42.0**	**+4.3**
	SNR=8.3						
FAQ	**Al Faqa, Dubai**	**4.18**	**164**	*i* P	**Pn**	**06 01 40.8**	**+2.7**
	SNR=9.5						
FAQ	**Al Faqa, Dubai**	**4.18**	**164**	P	**Pn**	**06 01 41.1**	**+3.0**
	SNR=9.6						
UOSS	**Minazif**	**4.18**	**155**		**Pn**	**06 01 40.1**	**+2.0**
UOSS	**Minazif**	**4.18**	**155**	*i* P	**Pn**	**06 01 40.2**	**+2.1**
	SNR=20						
UOSS	**Minazif**	**4.18**	**155**	P	**Pn**	**06 01 42.2**	**+4.1**
AJN	**Ajban**	**4.25**	**171**	P	**Pn**	**06 01 42.5**	**+3.6**
HATD	**Hatta, Dubai**	**4.27**	**157**	*i* P	**Pn**	**06 01 41.4**	**+2.2**
	SNR=22						
HATD	**Hatta, Dubai**	**4.27**	**157**	P	**Pn**	**06 01 43.0**	**+3.7**
	SNR=22						
ASHO	**Ashiyiah**	**4.37**	**158**	*i* P	**Pn**	**06 01 42.9**	**+2.1**
	SNR=76						
ASHO	**Ashiyiah**	**4.37**	**158**	P	**Pn**	**06 01 45.0**	**+4.2**
	SNR=11						
ASHO				S	**Sn**	**06 02 32.1**	**+0.2**
ANAR	**Anarak**	**4.42**	**354**	Pn	**Pn**	**06 01 42.5**	**+1.0**
IZEF	**Zefreh**	**4.44**	**338**	Pn	**Pn**	**06 01 42.2**	**+0.3**
ZNGN	**Zangian**	**4.46**	**319**	Pn	**Pn**	**06 01 43.6**	**+1.4**
JHBN	**Jahan bin**	**4.65**	**319**	Pn	**Pn**	**06 01 46.2**	**+1.4**
TPRV	**Parvadeh(Tabas**	**4.71**	**25**	Pn	**Pn**	**06 01 47.5**	**+2.0**
IPIR	**Pirpir**	**4.87**	**324**	Pn	**Pn**	**06 01 49.2**	**+1.3**
TRNA	**Turayna**	**4.88**	**215**	P	**Pn**	**06 01 51.0**	**+3.3**
	SNR=19						
ALNE	**Al Ain**	**4.88**	**164**	*i* P	**Pn**	**06 01 49.9**	**+2.2**
	SNR=12						
ALNE	**Al Ain**	**4.88**	**164**	P	**Pn**	**06 01 50.3**	**+2.6**
	SNR=12						
ALNE				S	**Sn**	**06 02 40.9**	**-3.4**
SOHO	**SOHO**	**5.04**	**156**	*i* P	**Pn**	**06 01 51.0**	**+1.1**
	SNR=10						
SOHO	**SOHO**	**5.04**	**156**	P	**Pn**	**06 01 52.4**	**+2.4**
SOHO				S	**Sn**	**06 02 46.5**	**-1.8**
SMRA	**Abu-Samra**	**5.08**	**218**	P	**Pn**	**06 01 53.7**	**+3.4**
	SNR=13						
IKLH	**Kolahrood**	**5.09**	**333**	Pn	**Pn**	**06 01 52.2**	**+1.4**
AMIS	**Naft Sefid**	**5.20**	**305**	Pn	**Pn**	**06 01 53.6**	**+1.5**
BSRN	**Basiran**	**5.25**	**52**	Pn	**Pn**	**06 01 53.7**	**+0.9**
TKDS	**Koohdasht(Taba**	**5.39**	**26**	Pn	**Pn**	**06 01 56.2**	**+1.3**
IKOO	**Kooshah**	**5.45**	**47**	Pn	**Pn**	**06 01 57.0**	**+1.3**
QAMS	**Qamsar**	**5.53**	**334**	Pn	**Pn**	**06 01 58.3**	**+1.4**
TNSJ	**Nastanj**	**5.53**	**20**	Pn	**Pn**	**06 01 57.2**	**+0.4**
ITEG	**Tejag**	**5.61**	**42**	Pn	**Pn**	**06 01 59.5**	**+1.6**
NHDN	**Nehbandan**	**5.63**	**61**	Pn	**Pn**	**06 01 59.3**	**+1.2**
ZHDN	**Zahedan**	**5.74**	**82**	Pn	**Pn**	**06 02 01.1**	**+1.4**
ARQ	**Araqi**	**5.78**	**159**	P	**Pn**	**06 02 03.0**	**+3.0**
	SNR=22						
ISFB	**Sefidab**	**5.83**	**343**	Pn	**Pn**	**06 02 01.6**	**+0.8**
HOQ	**Hoqain**	**5.84**	**152**	P	**Pn**	**06 02 04.7**	**+3.7**
HOQ				S	**Sn**	**06 03 07.4**	**-0.6**
HOQ	**Hoqain**	**5.84**	**152**	Pn	**Pn**	**06 02 02.6**	**+1.7**
AFRZ	**Afriz**	**6.15**	**40**	Pn	**Pn**	**06 02 06.3**	**+1.0**
CHBR	**Chabahar**	**6.36**	**118**	Pn	**Pn**	**06 02 08.5**	**+0.5**
BSY	**Bisya**	**6.55**	**156**	P	**Pn**	**06 02 13.8**	**+3.0**
BSY				S	**Sn**	**06 03 23.6**	**-2.0**
IVRN	**Varamin**	**6.57**	**341**	Pn	**Pn**	**06 02 11.6**	**+0.6**
SMDO	**Samad**	**6.62**	**148**	P	**Pn**	**06 02 15.8**	**+4.0**
	SNR=21						
SMDO				P	**Pn**	**06 02 16.0**	**+4.2**
	SNR=28						
SMDO				S	**Sn**	**06 03 27.0**	**-0.4**
WSAR	**Wadi Sarin**	**6.76**	**144**	P	Pn	06 02 18.7	+5.2
	SNR=10						
WSAR				S	**Sn**	**06 03 30.4**	**-0.2**
WSAR	**Wadi Sarin**	**6.76**	**144**	Pn	**Pn**	**06 02 14.8**	**+1.3**
	6.5nm,0.3s,baz=320,slow=4.6,SNR=32						
WSAR				Sn	**Sn**	**06 03 28.8**	**-1.8**
	1.4nm,0.3s,baz=186,slow=7.1,SNR=1.6						
WSAR				LR	LR	06 05 28.7	
	comp=Z,144nm,18.2s,baz=345,slow=44						
IFIR	**Firoozkooh**	**6.96**	**350**	Pn	**Pn**	**06 02 18.0**	**+1.5**
NGCH	**Negor - Chabah**	**6.99**	**118**	Pn	**Pn**	**06 02 17.2**	**+0.6**
IDMV	**Damavand**	**7.04**	**345**	Pn	**Pn**	**06 02 18.8**	**+1.1**
SHRT	**Shahrakht**	**7.07**	**45**	Pn	**Pn**	**06 02 19.3**	**+1.5**
JMDO	**Jabal Madar**	**7.25**	**151**	P	**Pn**	**06 02 24.0**	**+3.7**
	SNR=9.6						
JMDO				S	**Sn**	**06 03 41.7**	**-1.0**
IKFM	**Kafar-mosalman**	**7.27**	**312**	Pn	**Pn**	**06 02 22.3**	**+1.8**
SRVN	**Saravan**	**7.29**	**99**	Pn	**Pn**	**06 02 22.4**	**+1.4**
HAGD	**Aghdareh**	**7.45**	**325**	Pn	**Pn**	**06 02 24.5**	**+1.3**
WBK	**Wadi Bani Khal**	**7.45**	**144**	P	**Pn**	**06 02 24.9**	**+1.8**
	SNR=23						
WBK				S	**Sn**	**06 03 46.8**	**-0.9**
WBK	**Wadi Bani Khal**	**7.45**	**144**	Pn	**Pn**	**06 02 23.9**	**+0.8**
IPRN	**Peran**	**7.62**	**348**	Pn	**Pn**	**06 02 28.0**	**+2.6**
IGLO	**Ghaloghah**	**7.71**	**357**	Pn	**Pn**	**06 02 28.3**	**+1.5**
JLN	**Jalan Bani Buh**	**8.06**	**144**	P	**Pn**	**06 02 33.7**	**+2.3**
	SNR=35						
JLN				P	**Pn**	**06 02 33.7**	**+2.3**
	SNR=35						
JLN				S	**Sn**	**06 04 01.1**	**-1.4**
JLN				S	**Sn**	**06 04 01.1**	**-1.4**
MHTO	**MHTO**	**8.45**	**156**	P	**Pn**	**06 02 39.2**	**+2.6**
	SNR=18						
MHTO				S	**Sn**	**06 04 10.0**	**-2.1**
	SNR=13						
JRKH	**Jarkhoshk**	**8.76**	**34**	Pn	**Pn**	**06 02 42.4**	**+1.3**
HRA	**Herat**	**8.79**	**48**	Pn	**Pn**	**06 02 43.4**	**+1.8**
GEYT	**Alibeck**	**9.67**	**18**	Pn	**Pn**	**06 02 55.7**	**+2.3**
GEYT	**Alibeck**	**9.67**	**18**	P	**Pn**	**06 02 55.7**	**+2.3**
GEYT	**Alibeck**	**9.67**	**18**	Pn	**Pn**	**06 02 55.1**	**+1.7**
	0.3nm,0.3s,baz=206,slow=9.9,SNR=8.6						
GEYT				LR	LR	06 07 09.4	
	comp=Z,535nm,18.3s,baz=211,slow=41						
	6.3nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**9.67**	**18**		**Pn**	**06 02 55.5**	**+2.0**
SHAO	**Shalim**	**10.78**	**173**	P	**Pn**	**06 03 10.6**	**+1.9**
	SNR=10						
SHAO				S	**Sn**	**06 05 04.9**	**-4.5**
WHFO	**Wadi Hawf**	**10.82**	**183**	P	**Pn**	**06 03 11.0**	**+1.7**
	SNR=31						
WHFO				S	**Sn**	**06 05 06.7**	**-3.8**
	SNR=8.6						
DMTO	**DMTO**	**11.03**	**177**	P	**Pn**	**06 03 14.4**	**+2.3**
DMTO				S	**Sn**	**06 05 11.2**	**-4.3**
RBK	**Rabkut**	**11.22**	**180**	P	**Pn**	**06 03 17.0**	**+2.1**
RBK				S	**Sn**	**06 05 16.3**	**-4.1**
ABTO	**Aybut**	**11.41**	**185**	P	**Pn**	**06 03 19.5**	**+2.1**
ABTO				S	**Sn**	**06 05 19.6**	**-5.4**
GNI	**Garni**	**13.80**	**328**	*i* P	**Pn**	**06 03 51.0**	**+1.0**
GNI	**Garni**	**13.80**	**328**	LR	LR	06 08 36.9	
	comp=Z,75nm,19.0s,baz=127,slow=35						
MAK	**Makhachkala**	**15.17**	**341**	*e*P	**Pn**	**06 04 07.3**	**-1.2**
MAK				*i* S	**Sn**	**06 06 52.8**	**-3.8**
MAK				pmax	pmax		
	comp=Z,357nm,1.0s						
MAK				MLR	MLR		
	comp=Z,90nm,12.0s						
ASF	**Jabal al Asfar**	**15.38**	**287**	P	**P**	**06 04 19.3**	**+3.2**
ASF	**Jabal al Asfar**	**15.38**	**287**	Pn	**Pn**	**06 04 11.0**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=82,slow=5.3,SNR=3.5						
ASF				Sn	**Sn**	**06 07 01.2**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=84,slow=22,SNR=2.4						
	comp=Z,2.3nm,0.4s						
ZEI	**Tsey**	**16.30**	**332**	*e*P	**P**	**06 04 26.7**	**+0.2**
ZEI				pmax	pmax		
	comp=Z,35nm,1.5s						
SHMJ	**Saham**	**16.41**	**288**	P	**P**	**06 04 29.6**	**+2.2**
KSHT	**Keshet**	**16.41**	**289**	Pn	**P**	**06 04 29.6**	**+2.1**
GHAJ	**Ghor Haditha**	**16.41**	**283**		**P**	**06 04 27.0**	**-0.4**
GEM	**Giv'at Ha'Em**	**16.57**	**290**	Pn	**P**	**06 04 32.8**	**+3.6**
MMA0B	**Mount Meron ar**	**16.75**	**289**	Pn	**P**	**06 04 33.8**	**+2.5**
MMAI	**Mount Meron Ar**	**16.75**	**289**	Pn	**Pn**	**06 04 28.8**	**-0.2**
	comp=Z,3.2nm,0.5s,baz=106,slow=15,SNR=6.5						
MMAI				LR	LR	06 12 35.3	
	comp=Z,351nm,18.1s,baz=60,slow=43						
YTIR	**Yattir**	**16.80**	**284**	Pn	**P**	**06 04 35.5**	**+3.6**
HRFI	**Mount Harif**	**16.83**	**279**	Pn	**P**	**06 04 34.2**	**+2.0**
PRNI	**Paran**	**16.86**	**280**	Pn	**P**	**06 04 35.1**	**+2.6**
PRNI	**Paran**	**16.86**	**280**	P	**P**	**06 04 34.7**	**+2.2**
EIL	**Elat**	**16.91**	**278**	Pn	**P**	**06 04 36.4**	**+3.4**
EIL	**Elat**	**16.91**	**278**	P	**P**	**06 04 37.2**	**+4.2**
EIL	**Elat**	**16.91**	**278**	Pn	**Pn**	**06 04 31.4**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=108,slow=4.8,SNR=2.4						
EIL				LR	LR	06 12 16.9	
	comp=Z,121nm,19.9s,baz=74,slow=42						
	comp=Z,3.2nm,0.7s						
NIL	**Nilore**	**16.93**	**69**	Pn	**Pn**	**06 04 30.2**	**-1.0**
NIL	**Nilore**	**16.93**	**69**	P	**Pn**	**06 04 30.2**	**-1.0**
NIL				pmax	pmax		
	comp=Z,16nm,1.1s						
MBRI	**Mt Berech**	**16.94**	**278**	Pn	**P**	**06 04 36.2**	**+2.8**
MBRI	**Mt Berech**	**16.94**	**278**	P	**P**	**06 04 37.5**	**+4.1**
NCK	**Nalchik**	**17.02**	**333**	*i* P	**Pn**	**06 04 33.1**	**+0.8**
NCK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KRMI	**Paran Flat**	**17.10**	**279**	Pn	**P**	**06 04 38.9**	**+3.8**
KBZ	**Khabaz**	**17.50**	**332**	*i* P	**P**	**06 04 40.0**	**+0.6**
KBZ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KBZ	**Khabaz**	**17.50**	**332**	P	**Pn**	**06 04 38.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=170,slow=18,SNR=2.6						
	comp=Z,2.4nm,0.9s						
KIV	**Kislovodsk**	**17.77**	**332**	*e*P	**P**	**06 04 44.3**	**+1.8**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KK31	**Karatay Array**	**19.36**	**38**	P	**P**	**06 04 59.5**	**-0.5**
KK31	**Karatay Array**	**19.36**	**38**	P	**P**	**06 04 59.5**	**-0.5**
KK31				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KKAR	**Karatay Array**	**19.36**	**38**	P	**P**	**06 04 59.8**	**-0.2**
KKAR	**Karatay Array**	**19.36**	**38**	P	**P**	**06 04 59.8**	**-0.2**
BR131	**Keskin Array S**	**20.22**	**308**	P	**P**	**06 05 10.0**	**+0.5**
BR131				IAmb	IAmb	06 05 15.2	
	comp=Z,19nm,0.8s						
BR131	**Keskin Array S**	**20.22**	**308**	P	**P**	**06 05 10.0**	**+0.5**
BR131				pmax	pmax		
	comp=Z,19nm,0.8s						
BRTR	**Keskin Array B**	**20.22**	**308**	P	**P**	**06 05 10.3**	**+0.9**
	comp=Z,13nm,0.7s,baz=127,slow=12,SNR=42						
BRTR				LR	LR	06 13 46.6	
	comp=Z,168nm,18.1s,baz=118,slow=39						
	comp=Z,13nm,0.7s						
KSH	**Kashi**	**20.85**	**53**	P	**P**	**06 05 11.3**	**-5.0**
KSH				pP	sP	06 05 21.3	+0.4
KSH				PP	**PnPn**	**06 05 37.4**	**+2.8**
KSH				pmax	pmax		
	comp=Z,18nm,0.9s						
ANTO	**Ankara**	**20.87**	**308**	P	Pn	06 05 17.9	-1.0
ANTO				IAmb	IAmb	06 05 19.5	
	comp=Z,30nm,0.8s						
ANTO	**Ankara**	**20.87**	**308**	P	Pn	06 05 17.9	-1.0
ANTO				pmax	pmax		
	comp=Z,31nm,0.9s						
BR231	**Keskin MP Arra**	**20.87**	**308**	P	Pn	06 05 18.3	-0.6
BR231				IAmb	IAmb	06 05 20.0	
	comp=Z,34nm,0.8s						
ABKAR	**Akbulak array**	**20.90**	**10**		**P**	**06 05 16.3**	**-0.3**
AAK	**Ala-Archa**	**21.38**	**44**	P	**P**	**06 05 22.1**	**0.0**
AAK	**Ala-Archa**	**21.38**	**44**	*i* P	**P**	**06 05 22.7**	**+0.6**
	SNR=11						
AAK	**Ala-Archa**	**21.38**	**44**	*e*P	**P**	**06 05 24.3**	**+2.2**
AAK				pmax	pmax		
	comp=Z,24nm,1.7s						
AAK	**Ala-Archa**	**21.38**	**44**	P	**P**	**06 05 22.1**	**0.0**
	comp=Z,6.5nm,0.8s,baz=234,slow=7.9,SNR=14						
AAK				LR	LR	06 15 06.2	
	comp=Z,156nm,20.7s,baz=264,slow=41						
	comp=Z,6.5nm,0.8s						
AKTO	**Aktyubinsk**	**21.81**	**6**	P	**P**	**06 05 26.1**	**-0.3**
	comp=Z,4.5nm,0.6s,baz=221,slow=12,SNR=12						
AKTO				LR	LR	06 15 32.9	
	comp=Z,98nm,20.4s,baz=238,slow=41						
	comp=Z,4.5nm,0.6s						
TARG	**Taragay, Kyrgy**	**23.06**	**50**	P	**P**	**06 05 40.0**	**-0.2**
TARG	**Taragay, Kyrgy**	**23.06**	**50**	P	**P**	**06 05 40.0**	**-0.2**
TARG				pmax	pmax		
	comp=Z,14nm,1.3s						
BELG	**Belogornoye**	**24.11**	**350**	*i* P	**P**	**06 05 50.2**	**+0.3**
VRH	**Novokhopyorsk**	**24.31**	**341**	*e*P	**P**	**06 05 50.9**	**-0.9**
VRH				pmax	pmax		
	comp=Z,20nm,0.8s						
VORD	**Divnogorie**	**24.88**	**337**	*e*P	**P**	**06 05 57.0**	**+0.1**
VORD				pmax	pmax		
	comp=Z,8.0nm,0.6s						
VSR	**Storozhevoye**	**25.13**	**337**	*e*P	**P**	**06 05 57.5**	**-1.7**
VSR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
IDI	**Anoyia**	**25.70**	**292**	LR	LR	06 20 31.0	
	comp=Z,56nm,20.2s,baz=113,slow=47						
BRVK	**Borovoye**	**26.97**	**22**	P	**P**	**06 06 16.6**	**+0.6**
BRVK	**Borovoye**	**26.97**	**22**	*e*P	**P**	**06 06 15.9**	**0.0**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.7s						
BVAR	**Borovoye Array**	**26.98**	**22**	P	**P**	**06 06 16.2**	**+0.3**
	comp=Z,6.2nm,0.7s,baz=215,slow=7.4,SNR=25						
BVAR				LR	LR	06 18 35.4	
	comp=Z,93nm,18.1s,baz=258,slow=40						
	comp=Z,6.2nm,0.7s						
ARU	**Ar

GOMU pmax pmax
comp=Z,4.0nm,0.9s
CONA Conrad Observa 35.22 314 *i* P **P** **06 07 28.2 -0.6**
comp=Z,1.8nm,0.7s
CAMP Campotosto 35.59 304 P **P** **06 07 33.5 +1.5**
OBKA Obir 35.65 311 *eP* **P** **06 07 33.7 +1.2**
comp=Z,9.7nm,1.3s
DPC Dobruska-Polom 35.80 318 *eP* **P** **06 07 37.2 +3.6**
DPC Dobruska-Polom 35.80 318 *eP* **P** **06 07 37.2 +3.6**
MOA Molln 36.22 313 *eP* **P** **06 07 37.5 +0.3**
comp=Z,3.2nm,0.6s
CKRC Cesky Krumlov 36.49 314 *eP* **P** **06 07 41.1 +1.6**
CKRC Cesky Krumlov 36.49 314 *eP* **P** **06 07 41.1 +1.6**
ZVC Zvikov 36.76 315 *eP* **P** **06 07 41.3 -0.5**
GERES GERESS Array B 36.88 314 P **P** **06 07 43.6 +0.7**
GERES GERESS Array B 36.88 314 P **P** **06 07 43.6 +0.7**
GERES GERESS Array B 36.88 314 P **P** **06 07 42.5 -0.4**
comp=Z,0.8nm,0.5s,baz=99,slow=8.8,SNR=5.2
comp=Z,0.8nm,0.5s
KHC Kasperske Hory 37.04 315 *eP* **P** **06 07 43.5 -0.8**
KHC Kasperske Hory 37.04 315 *eP* **P** **06 07 43.5 -0.8**
ABTA Abfaltersbach 37.07 311 *eP* **P** **06 07 44.9 +0.3**
comp=Z,7.3nm,1.1s
LESA Schwarzleotal 37.13 312 *i* P **P** **06 07 46.1 +1.0**
comp=Z,2.3nm,0.5s
FINES FINESS Array B 37.65 338⇑ *eP* **P** **06 07 49.2 0.0**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 37.65 338 P **P** **06 07 48.9 -0.2**
comp=Z,2.8nm,0.6s,baz=142,slow=9.9,SNR=15
comp=Z,2.8nm,0.6s
WTTA Wattenberg 37.78 311 *i* P **P** **06 07 50.9 +0.2**
comp=Z,5.2nm,0.5s
WATA Walderalm 37.84 311 *i* P **P** **06 07 50.4 -0.7**
comp=Z,5.2nm,0.7s
SQTA Sankt Quirin 38.05 311 *i* P **P** **06 07 51.6 -1.3**
comp=Z,7.0nm,0.7s
CLL Collm 38.11 318 *i* P **P** **06 07 54.1 +0.9**
CLL *ex* x 06 08 03.0
CLL Collm 38.11 318 *i* P **P** **06 07 54.1 +0.9**
CLL *e*'PP **sP** **06 08 03.0 +5.0**
MOTA Moosalm 38.15 311 *i* P **P** **06 07 54.0 +0.2**
comp=Z,3.7nm,0.6s
FETA Feichten 38.33 311 *i* P **P** **06 07 54.8 -0.4**
comp=Z,4.8nm,0.5s
RETA Reutte 38.41 311 *i* P **P** **06 07 54.9 -0.9**
comp=Z,5.7nm,1.0s
DAVA Damuels 38.95 311 *i* P **P** **06 07 59.9 -0.7**
comp=Z,9.5nm,0.5s
HFS Hagfors 41.56 331 P **P** **06 08 21.3 -0.5**
comp=Z,3.1nm,0.4s,baz=112,slow=10,SNR=20
comp=Z,3.1nm,0.4s
CMAR Chiang Mai Arr 41.97 94 P **P** **06 08 25.5 -0.1**
comp=Z,1.2nm,0.3s,baz=299,slow=8.1,SNR=1.4
comp=Z,1.2nm,0.3s
NC405 NORSAR Array S 42.90 331 P **P** **06 08 32.3 -0.4**
NC405 IAmb IAmb 06 08 39.6
comp=Z,23nm,1.4s
NB201 NORSAR Array S 43.05 331 P **P** **06 08 33.2 -0.7**
NB201 IAmb IAmb 06 09 09.4
comp=Z,30nm,1.4s
NB2 NORSAR Subarra 43.07 331 P **P** **06 08 33.0 -1.2**
comp=Z,0.9nm,0.5s,baz=123,slow=9.3
NB2 NORSAR Subarra 43.07 331 P **P** **06 08 34.6 +0.4**
NOA NORSAR Array B 43.07 331 P **P** **06 08 33.1 -1.0**
comp=Z,1.4nm,0.6s,baz=120,slow=8.1,SNR=9.4
comp=Z,1.4nm,0.6s
NC204 NORSAR Array S 43.38 331 P **P** **06 08 37.6 +0.9**
NC204 IAmb IAmb 06 09 11.6
comp=Z,30nm,1.5s
ARCES ARCESS Array B 44.03 346 P **P** **06 08 42.6 +0.9**
ARCES IAmb IAmb 06 08 52.5
comp=Z,23nm,1.4s
ARCES ARCESS Array B 44.03 346 P **P** **06 08 42.6 +0.9**
ARCES pmax pmax
comp=Z,23nm,1.4s
ARCES ARCESS Array B 44.03 346 P **P** **06 08 41.2 -0.5**
comp=Z,1.5nm,0.6s,baz=140,slow=9.6,SNR=8.9
comp=Z,1.5nm,0.6s
SONM Songino Array 44.17 50 P **P** **06 08 43.3 -0.1**
comp=Z,2.1nm,0.8s,baz=268,slow=8.4,SNR=9.3
comp=Z,2.1nm,0.8s
ULN Ulaanbaatar 44.62 50⇑ *eP* **P** **06 08 47.9 +1.0**
ULN pmax pmax
comp=Z,2.0nm,0.6s
EKA Eskdalemuir Ar 48.48 320 P **P** **06 09 16.1 -0.7**
comp=Z,0.5nm,0.3s,baz=96,slow=7.5,SNR=8.3
comp=Z,0.5nm,0.3s
ESDC Sonseca Array 48.62 299 P **P** **06 09 17.5 -0.8**
comp=Z,1.3nm,0.9s,baz=71,slow=7.5,SNR=10
comp=Z,1.3nm,0.9s
LYN LuoYang 49.27 68⇑ P **P** **06 09 22.3 -1.0**
LYN pmax pmax
comp=Z,10.0nm,0.8s
XLT XiLinHaoTe 50.88 55 *eP* **P** **06 09 37.6 +2.1**
XLT pP sP 06 09 46.8 +6.3
XLT sP pP 06 09 50.3 +11
XLT PcP **PcP** **06 10 55.5 +3.5**
XLT PP **PP** **06 11 38.0 +6.4**
XLT pmax pmax
comp=Z,8.0nm,0.7s
XLT AMB AMB
comp=Z,9.0nm,1.1s
TOA0 Torodi Ar. Sit 51.12 264 P **P** **06 09 36.9 -0.6**
TOA0 IAmb IAmb 06 09 39.6
comp=Z,7.8nm,0.7s
TORD Torodi Ar. Bea 51.12 264 P **P** **06 09 37.0 -0.6**
TORD IAmb IAmb 06 09 39.6
comp=Z,4.5nm,0.7s
TORD Torodi Ar. Bea 51.12 264 P **P** **06 09 36.8 -0.8**
comp=Z,7.3nm,0.6s,baz=58,slow=7.9,SNR=46
comp=Z,7.3nm,0.6s
SPITS Spitsbergen Ar 52.31 351 P **P** **06 09 44.7 -0.8**
comp=Z,18nm,1.0s,baz=124,slow=13,SNR=4.4
comp=Z,18nm,1.0s
YAK Yakutsk 58.21 32 LR LR 06 38 07.3
comp=Z,10nm,21.0s,baz=92,slow=39
BORG Borgarnes 58.25 331 LR LR 06 38 27.7
comp=Z,346nm,19.9s,baz=264,slow=39
DAG Danmarks Havn 58.31 345 *eP* **P** **06 10 28.4 -0.4**
TSUM Tsumeb 59.44 221 LR LR 06 36 22.8
comp=Z,430nm,20.6s,baz=213,slow=36
DBIC Dimbokro 59.84 261 P **P** **06 10 39.4 -0.9**
comp=Z,5.1nm,0.8s,baz=58,slow=5.0,SNR=6.9
comp=Z,5.1nm,0.8s
LBTB Lobatse 60.18 210 LR LR 06 39 50.6
comp=Z,292nm,18.7s,baz=231,slow=39
KSRS Korea Array 60.86 61 P **P** **06 10 45.6 -1.3**
comp=Z,2.2nm,0.7s,baz=278,slow=6.6,SNR=6.3
comp=Z,2.2nm,0.7s
KLR Kul'dur 60.88 47⇑ *eP* **P** **06 10 46.6 -0.3**
KLR pmax pmax
comp=Z,3.0nm,0.8s
TGY Tagaytay City 63.02 88 LR LR 06 40 04.7
comp=Z,363nm,19.7s,baz=108,slow=38
BOSA Boshof 63.47 208 P **P** **06 11 04.0 -0.6**
comp=Z,2.4nm,0.7s,baz=20,slow=9.3,SNR=4.8
comp=Z,2.4nm,0.7s
SUMG Summit 63.64 340 *i* P **P** **06 11 05.0 -0.5**
A36M Sachs Harbour 79.51 360 P **P** **06 12 40.6 0.0**
B21K Ikpikpuk River 79.66 10 P **P** **06 12 42.3 +0.8**
B21K IAmb IAmb 06 12 44.1
comp=Z,7.9nm,0.8s
C23K Itkillik River 80.03 9 IAmb IAmb 06 12 46.3
comp=Z,9.4nm,0.9s
TOLK Toolik Lake Re 81.28 9 IAmb IAmb 06 12 52.3
comp=Z,5.4nm,0.8s
C36M Paulatuk 82.16 359 P **P** **06 12 54.5 -0.3**
C36M IAmb IAmb 06 12 55.4
comp=Z,4.3nm,0.8s
E25K Arctic Village 82.27 7 P **P** **06 12 56.4 +0.9**
E25K IAmb IAmb 06 12 57.7
comp=Z,4.5nm,0.9s
SCHQ Schefferville 82.64 330 P **P** **06 12 57.0 -0.6**
comp=Z,3.3nm,1.0s,baz=73,slow=11,SNR=1.9
comp=Z,3.3nm,1.0s
G24K Hadweenzic Riv 83.39 9 P **P** **06 13 02.5 +1.1**
G24K IAmb IAmb 06 13 04.4
comp=Z,4.6nm,0.8s
F31M Tsiigehtchic 83.89 3 IAmb IAmb 06 13 05.2
comp=Z,5.0nm,0.8s
ILAR Eielson Array 85.30 9 P **P** **06 13 10.6 -0.5**
comp=Z,0.8nm,0.8s,baz=316,slow=3.8,SNR=10
comp=Z,0.8nm,0.8s
I28M Miner Creek 85.43 6 IAmb IAmb 06 13 44.6
comp=Z,5.9nm,1.5s
CAST Castle Rocks 85.76 12 P **P** **06 13 13.7 +0.3**

I30M Mount Dempster 85.94 4 IAmb IAmb 06 13 16.0
comp=Z,5.0nm,0.7s
EGAK Eagle 85.97 7 IAmb IAmb 06 13 16.5
comp=Z,9.7nm,1.2s
SCRK Sand Creek 86.44 8 P **P** **06 13 17.9 +1.0**
DAWY Dawson 86.84 6 P **P** **06 13 19.4 +0.7**
DAWY IAmb IAmb 06 13 26.4
comp=Z,6.8nm,1.2s
K29M Barlow Dome 87.22 5 IAmb IAmb 06 13 22.3
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 88.61 355 *i* P **P** **06 13 28.0 +0.8**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 88.61 355 P **P** **06 13 26.5 -0.7**
comp=Z,2.0nm,0.7s,baz=1.8,slow=5.0,SNR=31
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 91.13 112 P **P** **06 13 38.6 -1.0**
comp=Z,1.2nm,1.0s,baz=309,slow=4.2,SNR=6.0
comp=Z,1.2nm,1.0s
ASAR Alice Springs 92.64 115 P **P** **06 13 45.5 -1.1**
comp=Z,0.5nm,0.8s,baz=304,slow=5.4,SNR=2.6
comp=Z,0.5nm,0.8s

SJA ***19*** *06:21:08.6±0.7,24.°07S×66.°95W,h231km±5km, ML4.3, MW3.9*
IDC ***19*** *06:21:10.6±1.1,24.°01S×66.°79W,h184km±9km, mb3.5/7, mbtmp3.9/12, Error ellipse: s-maj=17.7km s-min=13.2km az=43.0*
NEIC ***19*** *06:21:10.6±2.1,24.°12S±0.°06×66.°91W±0.°06,h186km±9km, mb4.4/22, Error ellipse: s-maj=9.3km s-min=7.5km az=185.0*
VAO ***19*** *06:21:12.9±0.4,23.°87S×67.°05W,h214km, mb4.1*
ISC 19 06:21:11.5±0.6,**24.°06S**±0.°04×**66.°99W**±0.°04,**h203**km±6km,
n116,σ1**s38**/131,**mb4.3**/17,**12C,Salta Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.50**	**116**	*eP*		**Pn**		**06 21 45.1**	**-0.6**
SLA				*eS*		**S**		**06 22 12.9**	**+1.1**
AF01	**San Pedro de A**	**1.55**	**315**			**Pn**		**06 21 46.7**	**+0.3**
AF01	**San Pedro de A**	**1.55**	**315**⇑	*iP*		**Pn**		**06 21 46.7**	**+0.3**
AF01				*iS*		**S**		**06 22 15.2**	**+2.3**
AF01				IAML				06 22 25.3	
comp=N,429nm,0.3s									
AZAP	**Zapla**	**1.76**	**96**	*eP*		**Pn**		**06 21 47.0**	**-1.1**
LVC	**Limon Verde**	**2.28**	**309**	Pn		**Pn**		**06 21 53.6**	**0.0**
LVC	**Limon Verde**	**2.28**	**309**	*eP*		**Pn**		**06 21 53.5**	**-0.1**
LVC				*eS*		**S**		**06 22 27.4**	**+1.6**
LVC	**Limon Verde**	**2.28**	**309**	*eP*		**Pn**		**06 21 53.8**	**+0.2**
LVC				*eS*		**S**		**06 22 26.4**	**+0.7**
LVC	**Limon Verde**	**2.28**	**309**	P		**Pn**		**06 21 53.0**	**-0.6**
comp=N,295nm,0.4s,baz=135,slow=6.2,SNR=534									
LVC				S		**S**		**06 22 25.5**	**-0.2**
comp=N,91nm,0.3s,baz=285,slow=21,SNR=16									
LVC	**Limon Verde**	**2.28**	**309**⇑	*iP*		**Pn**		**06 21 53.6**	**0.0**
LVC				*i* S		**S**		**06 22 24.8**	**-1.0**
YJA	**Yavi**	**2.31**	**36**	*eP*		**Pn**		**06 21 53.9**	**-0.1**
YJA				*eS*		**S**		**06 22 26.1**	**-0.4**
ASTB	**Santa Barbara**	**2.32**	**88**	*eP*		**Pn**		**06 21 52.8**	**-1.0**
PB15	**IPOC Station P**	**2.43**	**290**			**Pn**		**06 21 54.6**	**-0.5**
PB15	**IPOC Station P**	**2.43**	**290**	*eP*		**Pn**		**06 21 54.9**	**-0.1**
PB15				*eS*		**S**		**06 22 28.4**	**+0.1**
PB15				IAML				06 22 32.8	
comp=Z,2µm,0.1s									
PB15	**IPOC Station P**	**2.43**	**290**⇑	*iP*		**Pn**		**06 21 55.2**	**+0.1**
PB15				*i* S		**S**		**06 22 27.7**	**-0.6**
GO02	**Mina Guanaco**	**2.61**	**245**	Pn		**Pn**		**06 21 57.0**	**-0.1**
GO02	**Mina Guanaco**	**2.61**	**245**	*eP*		**Pn**		**06 21 57.1**	**-0.1**
GO02				*eS*		**S**		**06 22 32.1**	**-0.1**
GO02	**Mina Guanaco**	**2.61**	**245**⇑	*iP*		**Pn**		**06 21 57.1**	**-0.1**
PB06	**IPOC Station P**	**2.73**	**299**	Pn		**Pn**		**06 21 58.1**	**-0.2**
PB06	**IPOC Station P**	**2.73**	**299**	*eP*		**Pn**		**06 21 58.2**	**-0.2**
PB06				*eS*		**S**		**06 22 34.3**	**0.0**
PB06				IAML				06 22 39.4	
comp=Z,404nm,0.3s									
PB06	**IPOC Station P**	**2.73**	**299**⇑	*iP*		**Pn**		**06 21 58.4**	**0.0**
ALOL	**LOMAS DE OLMED**	**2.76**	**86**	*eP*		**Pn**		**06 21 57.6**	**-1.0**
PB09	**IPOC Station P**	**3.07**	**317**			**Pn**		**06 22 02.5**	**+0.2**
PB09	**IPOC Station P**	**3.07**	**317**	*eP*		**Pn**		**06 22 02.4**	**+0.2**
PB09				*eS*		**S**		**06 22 44.1**	**+2.8**
PB09				IAML				06 22 46.9	
comp=Z,247nm,0.4s									
PB09	**IPOC Station P**	**3.07**	**317**⇑	*iP*		**Pn**		**06 22 02.5**	**+0.2**
PB14	**IPOC Station P**	**3.17**	**259**	Pn		**Pn**		**06 22 03.0**	**-0.6**
PB14	**IPOC Station P**	**3.17**	**259**	*eP*		**Pn**		**06 22 03.1**	**-0.6**
PB14				*eS*		**S**		**06 22 41.9**	**-1.8**
PB14				IAML				06 22 44.8	
comp=Z,538nm,0.3s									
PB14	**IPOC Station P**	**3.17**	**259**⇑	*iP*		**Pn**		**06 22 03.0**	**-0.6**
PB05	**IPOC Station P**	**3.19**	**291**			**Pn**		**06 22 02.9**	**-0.8**
PB04	**IPOC Station P**	**3.38**	**300**			**Pn**		**06 22 05.5**	**-0.5**
PB04	**IPOC Station P**	**3.38**	**300**	*eP*		**Pn**		**06 22 05.5**	**-0.5**
PB04				*eS*		**S**		**06 22 46.8**	**-1.2**
PB04				IAML				06 22 48.8	
comp=Z,434nm,0.3s									
PB04	**IPOC Station P**	**3.38**	**300**⇑	*iP*		**Pn**		**06 22 05.4**	**-0.5**
PB07	**IPOC Station P**	**3.54**	**310**	Pn		**Pn**		**06 22 07.3**	**-0.6**
PB07	**IPOC Station P**	**3.54**	**310**	*eP*		**Pn**		**06 22 07.4**	**-0.6**
PB07				*eS*		**S**		**06 22 49.5**	**-2.2**
PB07				IAML				06 22 49.9	
comp=Z,320nm,0.3s									
PB07	**IPOC Station P**	**3.54**	**310**⇑	*iP*		**Pn**		**06 22 07.4**	**-0.6**
PB01	**IPOC Station P**	**3.79**	**322**	*eP*		**Pn**		**06 22 10.0**	**-0.9**
PB01				*eS*		**S**		**06 22 55.4**	**-1.6**
PB01				IAML				06 23 00.6	
comp=Z,162nm,0.3s									
PB01	**IPOC Station P**	**3.79**	**322**⇑	*iP*		**Pn**		**06 22 10.0**	**-0.9**
PB02	**IPOC Station P**	**3.83**	**315**	*eP*		**Pn**		**06 22 10.4**	**-1.0**
PB02				*eS*		**S**		**06 22 56.1**	**-1.7**
PB02				IAML				06 22 59.2	
comp=Z,554nm,0.3s									
PB02	**IPOC Station P**	**3.83**	**315**⇑	*iP*		**Pn**		**06 22 10.4**	**-1.0**
AC01	**Pan de Azucar**	**3.88**	**237**	*eP*		**Pn**		**06 22 10.5**	**-1.4**
AC01				*eS*		**S**		**06 22 55.6**	**-3.2**
AC01				IAML				06 22 57.0	
comp=Z,304nm,0.3s									
PATCX	**Punta Patache**	**4.36**	**317**			**Pn**		**06 22 16.4**	**-1.5**
PATCX	**Punta Patache**	**4.36**	**317**	*eP*		**Pn**		**06 22 16.3**	**-1.7**
PATCX	**Punta Patache**	**4.36**	**317**	*eP*		**Pn**		**06 22 16.2**	**-1.7**
PB08	**IPOC Station P**	**4.39**	**332**	*eP*		**Pn**		**06 22 16.4**	**-0.2**
PB08				*eS*		**S**		**06 23 10.2**	**-0.7**
PB08				IAML				06 23 13.2	
comp=Z,153nm,0.6s									
PB08	**IPOC Station P**	**4.39**	**332**⇑	*iP*		**Pn**		**06 22 18.5**	**-0.2**
AC06	**Mina Casimiro**	**4.47**	**222**	Pn		**Pn**		**06 22 17.9**	**-1.4**
TA01	**Diego Aracena**	**4.56**	**319**			**Pn**		**06 22 18.7**	**-1.8**
TA01	**Diego Aracena**	**4.56**	**319**	*eP*		**Pn**		**06 22 18.6**	**-1.9**
TA01				*eS*		**S**		**06 23 12.8**	**-1.5**
TA01	**Diego Aracena**	**4.56**	**319**	*eP*		**Pn**		**06 22 18.6**	**-1.9**
GO03	**Copiap**	**4.58**	**219**			**Pn**		**06 22 19.2**	**-1.5**
GO03	**Copiap**	**4.58**	**219**	*eP*		**Pn**		**06 22 19.2**	**-1.5**
GO03				*eS*		**S**		**06 23 11.7**	**-3.1**
HMBC	**Humberstone**	**4.63**	**324**	*eP*		**Pn**		**06 22 19.3**	**-2.1**
HMBC				*eS*		**S**		**06 23 12.0**	**-4.0**
TA02	**Huaiquique**	**4.77**	**322**	*eP*		**Pn**		**06 22 22.5**	**-0.6**
TA02				IAML				06 23 22.6	
comp=Z,135nm,0.9s									
GO01	**Chusmiza**	**4.83**	**334**			**Pn**		**06 22 23.5**	**-0.8**
GO01	**Chusmiza**	**4.83**	**334**	*eP*		**Pn**		**06 22 23.7**	**-0.6**
GO01				*eS*		**S**		**06 23 20.1**	**-1.0**
PB11	**IPOC Station P**	**4.94**	**329**			**Pn**		**06 22 23.7**	**-1.8**
PB11	**IPOC Station P**	**4.94**	**329**	*eP*		**Pn**		**06 22 23.6**	**-1.8**
PB11				*eS*		**S**		**06 23 19.9**	**-3.5**
PB11				IAML				06 23 23.0	
comp=Z,171nm,0.4s									
PB16	**IPOC Station P**	**6.16**	**337**	Pn		**Pn**		**06 22 40.8**	**-0.7**
PB12	**IPOC Station P**	**6.25**	**329**	Pn		**Pn**		**06 22 39.6**	**-2.6**
CFA	**Coronel Fontan**	**7.60**	**188**	P		Pn		06 22 53.4	-6.1
comp=Z,4.4nm,0.3s,baz=24,slow=20,SNR=16									
CFA				S		S		06 24 18.2	-7.2
comp=Z,18nm,0.3s,baz=112,slow=22,SNR=14									
LPAZ	**La Paz**	**7.81**	**352**	Pn		**Pn**		**06 23 02.1**	**-0.8**
CPUP	**Villa Florida**	**9.03**	**107**	Pn		**Pn**		**06 23 15.1**	**-3.1**
CPUP	**Villa Florida**	**9.03**	**107**	P		**Pn**		**06 23 14.8**	**-3.3**
comp=Z,1.3nm,0.6s,baz=293,slow=12,SNR=4.2									
SIV	**San Ignacio**	**9.76**	**36**	P		**Pn**		**06 23 24.8**	**-2.9**
comp=Z,2.6nm,0.5s,baz=216,slow=9.8,SNR=17									
ITQB	**Itaqui**	**10.80**	**123**	Pn		**Pn**		**06 23 39.9**	**-1.1**
RODS	**Rosario do Sul**	**12.21**	**123**	*eP*		**P**		**06 24 02.9**	**-0.3**
FRBT	**Francisco Belt**	**12.77**	**101**	*eP*		**P**		**06 24 10.0**	**+0.4**
ALGR	**Alto Alegre (B**	**13.36**	**114**	*eP*		**P**		**06 24 16.4**	**+0.3**

CPSB Cacapava Do Su 13.60 121 *eP* **Pn** **06 24 18.0 +1.6**
PTGB Pitanga 13.61 96 *eP* **P** **06 24 19.9 +0.9**
ITAB Concordia 13.77 106 Pn **Pn** **06 24 17.0 -1.4**
PLTB Pedras Altas 14.09 126 Pn **Pn** **06 24 20.4 -2.1**
PLTB Pedras Altas 14.09 126 *eP* **P** **06 24 24.4 +0.3**
ETMB Extrema 14.18 3 *eP* **Pn** **06 24 22.7 -1.0**
LDASE Londrina, Braz 14.55 91 *eP* **P** **06 24 30.0 +0.7**
TRQA Tornquist 14.59 164 Pn **Pn** **06 24 26.5 -2.1**
PCMB Pacaembu 14.70 84 *eP* **P** **06 24 31.9 +0.9**
SAML Samuel 15.46 14 **Pn** **06 24 38.2 -1.1**
GO06 Curarrehue 15.94 193 **P** **06 24 44.2 -0.4**
FRTB Fartura 15.97 91 *eP* **Pn** **06 24 45.9 +0.4**
PLCA Paso Flores 16.89 189 P P **P** **06 24 56.0 +1.0**
comp=Z,1.1nm,0.8s,baz=355,slow=10.0,SNR=4.5
SNDB Serra Nova Dou 19.14 54 *eP* **P** **06 25 19.2 -0.4**
BDFB Brasilia 19.70 68 P **P** **06 25 25.1 -0.5**
BDFB IAmb IAmb 06 25 26.5
comp=Z,9.8nm,0.8s
BDFB Brasilia 19.70 68 P **P** **06 25 24.9 -0.8**
comp=Z,9.3nm,0.8s,baz=245,slow=11,SNR=16
TBTG Tabatinga, AM 19.96 351 P **Pn** **06 25 29.8 -2.9**
TEFE Tefe 20.56 7 *eP* **P** **06 25 34.1 -0.7**
ITTB Itaituba 22.38 31 *eP* **P** **06 25 52.1 -1.0**
JANB Januaria 23.14 71 *eP* **P** **06 25 59.1 -0.9**
SDBA SAO DESIDERIO 23.92 65 *eP* **P** **06 26 06.3 -0.9**
BOAV Boa Vista 27.04 14 P **P** **06 26 35.0 -0.2**
BOAV IAmb IAmb 06 26 35.9
comp=Z,8.5nm,1.4s
FDF Fort de France 38.97 9 P **P** **06 28 18.1 -0.2**
CELP Cerrillos 41.88 1 P **P** **06 28 41.2 -0.8**
SNAA Sanae 59.29 161 P **P** **06 30 52.3 +0.8**
comp=Z,1.0nm,0.8s,baz=262,slow=6.1,SNR=1.7
comp=Z,1.0nm,0.8s
833A Chaparral WMA, 60.72 327 P **P** **06 31 03.8 +2.0**
V48A Smith Brothers 62.37 342 IAmb IAmb 06 31 13.9
comp=Z,4.3nm,0.7s
JCT Junction City 62.70 328 P **P** **06 31 16.4 +1.5**
JCT IAmb IAmb 06 31 17.3
comp=Z,4.6nm,0.7s
BRDY Brady 62.99 329 IAmb IAmb 06 31 18.6
comp=Z,2.5nm,0.6s
WVT Waverly 63.02 341 P **P** **06 31 16.8 -0.1**
TXAR Lajitas Array 63.73 324 P **P** **06 31 23.1 +1.3**
comp=Z,0.6nm,0.7s,baz=150,slow=10,SNR=6.3
comp=Z,0.6nm,0.7s
ALPN Alpine 64.54 325 IAmb IAmb 06 31 30.6
comp=Z,2.0nm,0.8s
MNHN Monahans 64.86 326 IAmb IAmb 06 31 31.7
comp=Z,4.7nm,0.6s
425A Indio Mountain 65.58 324 P **P** **06 31 35.8 +2.1**
CCM Cathedral Cave 65.86 339 P **P** **06 31 35.8 +0.7**
CCM IAmb IAmb 06 31 36.7
comp=Z,7.2nm,0.7s
QSPA South Pole Qui 66.15 180 P **P** **06 31 39.2 +2.2**
QSPA IAmb IAmb 06 31 43.9
comp=Z,6.5nm,1.5s
QSPA South Pole Qui 66.15 180 P **P** **06 31 38.8 +1.9**
comp=Z,1.2nm,0.7s,baz=101,slow=0.9,SNR=10
comp=Z,1.2nm,0.7s
S39A Bolivar 66.23 337 IAmb IAmb 06 31 39.2
comp=Z,5.3nm,0.8s
MSTX Muleshoe 67.00 328 IAmb IAmb 06 31 45.9
comp=Z,7.8nm,1.1s
P38A Dawn 68.03 338 IAmb IAmb 06 31 50.6
comp=Z,6.2nm,0.8s
ECSD EROS Data Cent 72.74 338 IAmb IAmb 06 32 19.9
comp=Z,4.9nm,1.1s
PDAR Pinedale Array 77.20 329 P **P** **06 32 45.0 +1.8**
comp=Z,0.6nm,0.6s,baz=133,slow=7.2,SNR=6.7
comp=Z,0.6nm,0.6s
ULM Lac du Bonnet 78.29 342 P **P** **06 32 49.9 +1.2**
comp=Z,3.7nm,0.6s,baz=153,slow=7.6,SNR=10
comp=Z,3.7nm,0.6s
NVAR Mina Array Bea 78.59 321 P **P** **06 32 53.2 +2.3**
comp=Z,0.4nm,0.7s,baz=142,slow=4.6,SNR=5.2
comp=Z,0.4nm,0.7s
YKA Yellowknife Ar 94.19 340 P **P** **06 34 07.6 +0.9**
comp=Z,0.6nm,0.6s,baz=136,slow=4.1,SNR=12
comp=Z,0.6nm,0.6s
ASAR Alice Springs 128.41 205 PKP **PKiKP** **06 39 55.8 +0.4**
comp=Z,0.6nm,0.5s,baz=136,slow=2.1,SNR=7.4
WRA Warramunga Arr 131.58 207 PKP **PKiKP** **06 40 02.0 +0.2**
comp=Z,0.3nm,0.3s,baz=157,slow=1.8,SNR=10
ZALV Zalesovo Beam 143.44 28 PKP **PKPdf** **06 40 20.5 -0.9**
comp=Z,1.3nm,0.6s,baz=303,slow=4.0,SNR=6.2
MKAR Makanchi Array 146.56 40 PKPbc **PKPbc** **06 40 28.8 -0.1**
comp=Z,2.7nm,0.7s,baz=305,slow=3.5,SNR=13

IDC ***19*** *06:29:49.1±0.8,38.°94S×174.°86E,h181km±11km, mb3.1/3, mbtmp3.8/4, Error ellipse: s-maj=23.0km s-min=11.5km az=130.0*
NOU ***19*** *06:29:49.6,39.°01S×174.°99E,h223km, MLv4.3/14, North Island, New Zealand*
WEL ***19*** *06:29:53.4±0.9,39.°S±16.°×17.°5E±1.°1,h186km±8km, M3.5/29, ML3.7/7, MLv3.5/29, Error ellipse: s-maj=0.0km s-min=0.0km az=169.7, confirmed*
ISC 19 06:29:50.2±0.9,**39.°05S**±0.°05×**174.°96E**±0.°05,**h215**km±6km,
n187,σ1**s00**/199,**mb3.3**/3,**North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.17**	**244**			P	**Pn**	**06 30 18.5**	**+0.3**
TWVZ	**Taurewa**	**0.37**	**94**			P	**Pn**	**06 30 19.0**	**+0.3**
TWVZ						S	**S**	**06 30 39.5**	**-1.4**
PKVZ	**Pokaka**	**0.38**	**129**			P	**Pn**	**06 30 19.3**	**+0.7**
PKVZ						S	**S**	**06 30 39.5**	**-1.5**
COVZ	**Chateau Observ**	**0.48**	**109**			P	**Pn**	**06 30 19.6**	**+0.6**
WTVZ	**West Tongariro**	**0.49**	**98**			P	**Pn**	**06 30 19.5**	**+0.4**
WTVZ						S	**S**	**06 30 40.2**	**-1.4**
MHEZ	**Mangahewa**	**0.50**	**267**			P	**Pn**	**06 30 20.0**	**+1.0**
FWVZ	**Far West T-bar**	**0.50**	**114**			P	**Pn**	**06 30 19.9**	**+0.6**
FWVZ						S	**S**	**06 30 40.3**	**-1.6**
NGZ	**Ngauruhoe**	**0.51**	**104**			P	**Pn**	**06 30 19.8**	**+0.6**
NGZ						S	**S**	**06 30 40.5**	**-1.3**
MAVZ	**Matarangi**	**0.52**	**115**			P	**Pn**	**06 30 20.0**	**+0.6**
NNVZ	**North Ngauruho**	**0.52**	**99**			P	**Pn**	**06 30 19.7**	**+0.5**
NNVZ						S	**S**	**06 30 40.8**	**-1.1**
MTVZ	**Mangateitei**	**0.52**	**130**			P	**Pn**	**06 30 19.9**	**+0.8**
MTVZ						S	**S**	**06 30 40.3**	**-1.4**
TRVZ	**Turoa**	**0.52**	**119**			P	**Pn**	**06 30 20.0**	**+0.7**
KRVZ	**Karewarewa**	**0.53**	**95**			P	**Pn**	**06 30 19.7**	**+0.5**
KRVZ						S	**S**	**06 30 40.5**	**-1.3**
WHVZ	**Whangaehu Hut**	**0.54**	**116**			P	**Pn**	**06 30 20.1**	**+0.7**
HIZ	**Hauiti**	**0.54**	**351**			P	**Pn**	**06 30 19.2**	**0.0**
HIZ	**Hauiti**	**0.54**	**351**			P	**Pn**	**06 30 19.2**	**0.0**
SNVZ	**South Ngauruho**	**0.55**	**105**			P	**Pn**	**06 30 20.1**	**+0.8**
NTVZ	**

HRRZ	Handcock Road	1.23	58	P	Pn	06 30 23.0	-0.1
KRHZ	Kereru	1.24	119	P	Pn	06 30 24.1	+0.9
HSRZ	Hossack Road	1.25	54	P	Pn	06 30 23.1	-0.1
PRRZ	Plateau Road	1.25	64	P	Pn	06 30 22.8	-0.4
TSZ	Takapari Road	1.27	143	P	Pn	06 30 24.6	+1.3
PNHZ	Pukenui	1.29	132	P	Pn	06 30 24.6	+1.1
UTU	Utuhina	1.30	48	P	Pn	06 30 23.5	-0.1
NGRZ	Ngongotaha	1.35	46	P	Pn	06 30 23.8	-0.2
HLRZ	Highlands Stat	1.35	54	P	Pn	06 30 24.4	+0.4
TOZ	Tahuroa Road	1.38	18	P	Pn	06 30 24.0	-0.3
MCHZ	McNeill Hill	1.40	107	P	Pn	06 30 25.8	+1.4
RRRZ	Republican Roa	1.41	60	P	Pn	06 30 24.2	-0.3
KMRZ	Kaimai	1.43	33	P	Pn	06 30 24.5	-0.2
NMHZ	Naumai	1.44	92	P	Pn	06 30 25.5	+1.1
KARZ	Kaharoa	1.44	45	P	Pn	06 30 24.4	-0.3
OMRZ	Omania	1.45	50	P	Pn	06 30 24.4	-0.4
TARZ	Mount Tarawera	1.46	57	P	Pn	06 30 24.8	-0.1
POWZ	Post Office Ro	1.48	155	P	Pn	06 30 26.0	+1.0
MTHZ	Maungataniwha	1.48	83	P	Pn	06 30 25.0	0.0
MUGZ	Murupara	1.52	69	P	Pn	06 30 24.7	-0.7
WPHZ	Waipukurau	1.53	132	P	Pn	06 30 26.7	+1.3
DVHZ	Dannevirke	1.56	144	P	Pn	06 30 26.8	+1.1
ARHZ	Aropaoanui	1.60	98	P	Pn	06 30 26.9	+1.0
RTZ	Ruatahuna	1.64	75	P	Pn	06 30 26.1	-0.3
KAHZ	Kahuranaki	1.66	117	P	Pn	06 30 28.0	+1.4
RAHZ	Arahi	1.66	86	P	Pn	06 30 27.1	+0.5
TGRZ	Tauranga	1.67	38	P	Pn	06 30 26.3	-0.4
MRZ	Mangatainoka R	1.68	164	P	Pn	06 30 27.8	+1.2
EDRZ	Edgecumbe	1.68	57	P	Pn	06 30 26.2	-0.7
PRWZ	Pori Road	1.69	153	P	Pn	06 30 28.3	+1.5
MARZ	Manawahe	1.71	52	P	Pn	06 30 26.7	-0.4
OPRZ	Ohinepanea	1.74	47	P	Pn	06 30 26.7	-0.6
CKHZ	Cape Kidnapper	1.75	111	P	Pn	06 30 28.6	+1.3
PXZ	Pawanui	1.77	124	P	Pn	06 30 28.7	+1.2
WHHZ	Waihua	1.77	92	P	Pn	06 30 28.2	+0.6
OGWZ	Otaki Gorge	1.77	175	P	Pn	06 30 29.1	+1.6
PRHZ	Porangahau	1.77	134	P	Pn	06 30 28.9	+1.3
KIW	Kapiti Island	1.81	181	P	Pn	06 30 29.1	+1.2
ANWZ	Angora Road	1.83	141	P	Pn	06 30 29.5	+1.5
URZ	Urewera	1.86	66	P	Pn	06 30 27.5	-0.9
URZ	Urewera	1.86	66	P	Pn	06 30 26.9	-1.5
	419nm,0.4s,baz=332,slow=7.5,SNR=677						
URZ				S	S	06 30 52.9	-5.0
	318nm,0.2s,baz=41,slow=23,SNR=17						
URZ	Urewera	1.86	66	P	Pn	06 30 27.4	-1.0
TIWZ	Tintock	1.87	158	P	Pn	06 30 29.6	+1.2
SNGZ	Shannon Statio	1.88	83	P	Pn	06 30 28.8	+0.2
HOWZ	Holdsworth Sta	1.90	167	P	Pn	06 30 29.8	+1.1
BFZ	Birch Farm	1.91	149	P	Pn	06 30 29.9	+1.1
DUWZ	D'Urville Isla	1.93	204	P	Pn	06 30 30.2	+1.2
MKAZ	Moumakai	1.95	5	P	Pn	06 30 29.2	-0.1
WHRZ	Whale Island	1.98	54	P	Pn	06 30 29.7	+0.1
RAGZ	Rawiri	2.00	75	P	Pn	06 30 29.6	-0.3
AWAZ	Awhitu Peninsu	2.00	353	P	Pn	06 30 29.9	+0.1
CAW	Cannon Point	2.06	178	P	Pn	06 30 31.5	+1.3
CPWZ	Castlepoint	2.09	153	P	Pn	06 30 32.2	+1.6
ETAZ	East Tamaki Re	2.09	359	P	Pn	06 30 30.7	-0.1
KNZ	Kokohu	2.11	90	P	Pn	06 30 31.1	+0.2
MWZ	Matawai	2.13	71	P	Pn	06 30 30.5	-0.7
WTAZ	Waiatarua	2.13	352	P	Pn	06 30 31.5	+0.3
MTW	Mount Morrison	2.15	169	P	Pn	06 30 32.1	+0.9
TMWZ	Te Maipa	2.17	161	P	Pn	06 30 32.5	+1.0
EPAZ	Eden Park BICE	2.18	355	P	Pn	06 30 31.5	0.0
HBAZ	Herne Bay Bore	2.20	355	P	Pn	06 30 31.8	0.0
RIGZ	Rimuhau	2.21	82	P	Pn	06 30 32.0	0.0
TCW	Tory Channel	2.22	193	P	Pn	06 30 33.4	+1.5
WEL	Wellington	2.24	184	P	Pn	06 30 33.3	+1.2
WIAZ	Waiheke Island	2.26	4	P	Pn	06 30 32.2	-0.2
SNZO	South Karori	2.27	185	P	Pn	06 30 33.8	+1.4
MBAZ	Motutapu North	2.28	359	P	Pn	06 30 32.6	0.0
PRGZ	Paritu Road	2.28	88	P	Pn	06 30 32.8	+0.1
MHGZ	Mahia Peninsul	2.29	94	P	Pn	06 30 33.3	+0.6
RVAZ	Riverhead Bore	2.29	352	P	Pn	06 30 32.9	+0.1
TKGZ	Te Karaka	2.34	76	P	Pn	06 30 33.2	0.0
PAWZ	Paruwai Farm	2.36	171	P	Pn	06 30 34.3	+0.9
BHW	Baring Head	2.36	182	P	Pn	06 30 34.2	+0.8
KUZ	Kuaotunu	2.38	15	P	Pn	06 30 33.3	-0.4
KUZ	Kuaotunu	2.38	15	P	Pn	06 30 33.3	-0.4
RUGZ	Raukumara Rang	2.39	64	P	Pn	06 30 32.2	-1.7
TRWZ	Traveller	2.41	167	P	Pn	06 30 34.9	+0.9
ABAZ	Army Bay	2.43	348	P	Pn	06 30 34.5	+0.1
NNZ	Nelson	2.48	209	P	Pn	06 30 36.6	+0.9
TUWZ	Tuamarina	2.50	198	P	Pn	06 30 36.1	+1.2
TKNZ	Takaka Hill	2.51	217	P	Pn	06 30 35.4	+0.4
TWGZ	Tauwhareparae	2.52	71	P	Pn	06 30 34.9	-0.4
PLWZ	Palliser	2.53	175	P	Pn	06 30 35.9	+0.7
HAZ	Te Kaha	2.56	61	P	Pn	06 30 34.0	-1.6
QRZ	Quartz Range	2.58	226	P	Pn	06 30 36.1	+0.3
QRZ	Quartz Range	2.58	226	P	Pn	06 30 36.0	+0.3
CNGZ	Carnagh Statio	2.60	78	P	Pn	06 30 36.2	+0.1
PKGZ	Pakihiroa	2.71	66	P	Pn	06 30 36.3	-1.0
CMWZ	Cape Campbell	2.76	192	P	Pn	06 30 39.5	+1.8
PUZ	Puketiti	2.76	70	P	Pn	06 30 36.9	-1.0
BSWZ	Blackbirch Sta	2.79	197	P	Pn	06 30 39.7	+1.6
GRZ	Great Barrier	2.82	8	P	Pn	06 30 38.4	-0.2
MRNZ	Matariki Terra	2.89	215	P	Pn	06 30 39.5	+0.3
WMGZ	Waiomatatini S	2.98	67	P	Pn	06 30 39.1	-1.2
MXZ	Matakaoa Point	3.02	62	P	Pn	06 30 40.1	-0.7
MXZ	Matakaoa Point	3.02	62	P	Pn	06 30 39.8	-1.0
THZ	Tophouse	3.13	209	P	Pn	06 30 42.7	+0.6
WCZ	Waipu Caves	3.14	351	P	Pn	06 30 42.4	+0.2
KHZ	Kahutara	3.53	197	P	Pn	06 30 47.8	+1.1
KHZ	Kahutara	3.53	197	P	Pn	06 30 48.0	+1.3
DSZ	Denniston Nort	3.61	221	P	Pn	06 30 47.9	+0.1
OUZ	Omahuta	3.98	344	P	Pn	06 30 52.5	+0.3
GVZ	Greta Valley S	4.18	200	P	Pn	06 30 55.3	+0.8
LTZ	Lake Taylor	4.25	208	P	Pn	06 30 56.0	+0.5
AMCZ	Amberley	4.48	202	P	Pn	06 30 58.8	+0.5
INZ	Inchbonnie	4.54	215	P	Pn	06 30 58.8	-0.2
OXZ	Oxford	4.81	206	P	Pn	06 31 02.0	-0.4
MQZ	McQueen's Vall	4.97	200	P	Pn	06 31 03.8	-0.5
AKCZ	Akaroa Harbour	5.06	197	P	Pn	06 31 05.8	+0.2
RACZ	Rakaia	5.13	204	P	Pn	06 31 06.2	-0.2
WVZ	Waitaha Valley	5.13	217	P	Pn	06 31 06.2	-0.3
MHCZ	Mount Hutt	5.16	209	P	Pn	06 31 06.6	-0.3
WAZ	Wakanui South	5.42	205	P	Pn	06 31 09.9	-0.2
RPZ	Rata Peaks	5.51	211	P	Pn	06 31 10.8	-0.5
RPZ	Rata Peaks	5.51	211	P	Pn	06 31 10.8	-0.5
	22nm,0.3s,baz=278,slow=2.1,SNR=78						
RPZ				S	S	06 32 11.3	-4.1
	67nm,0.4s,baz=30,slow=20,SNR=30						
RPZ	Rata Peaks	5.51	211	P	Pn	06 31 10.7	-0.6
GCSZ	Gaunt Creek Bo	5.51	218	P	Pn	06 31 10.3	-1.0
ARCZ	Arundel	5.66	209	P	Pn	06 31 12.5	-0.7
FOZ	Fox Glacier	5.92	219	P	Pn	06 31 15.9	-0.6
TMZ	Timaru	6.09	208	P	Pn	06 31 18.8	+0.1
LBZ	Lake Benmore	6.42	212	P	Pn	06 31 22.1	-0.8
ODZ	Otahua Downs	6.80	207	P	Pn	06 31 27.8	+0.1
ODZ	Otahua Downs	6.80	207	P	Pn	06 31 27.5	-0.3
JCZ	Jackson Bay	6.83	221	P	Pn	06 31 27.0	-1.3
JCZ	Jackson Bay	6.83	221	P	Pn	06 31 26.8	-1.5
WKZ	Wanaka	7.28	216	P	Pn	06 31 32.6	-1.4
MSZ	Milford Sound	7.69	221	P	Pn	06 31 38.0	-1.2
TUZ	Tuapeka	7.94	208	P	Pn	06 31 42.9	+0.4
MLZ	Mavora Lakes	8.10	217	P	Pn	06 31 43.9	-0.7
SYZ	Scrubby Hill	8.62	208	P	Pn	06 31 51.8	+0.6
SYZ	Scrubby Hill	8.62	208	P	Pn	06 31 51.9	+0.6
APZ	The Paps	9.30	211	P	Pn	06 31 59.7	-0.5
ASAR	Alice Springs	37.93	282	P	P	06 36 49.6	+2.5
	0.5nm,0.6s,baz=117,slow=6.4,SNR=6.9						
	0.5nm,0.6s						
WRA	Warramunga Arr	39.76	287	P	P	06 37 04.5	+2.2
	0.2nm,0.5s,baz=128,slow=7.5,SNR=5.6						
	0.2nm,0.5s						
QSPA	South Pole Qui	51.08	180	P	P	06 38 35.0	+4.6
	0.8nm,0.4s,baz=172,slow=2.0,SNR=12						
	0.8nm,0.4s						
ARCES	ARCESS Array B	145.41	342	PKPbc	PKPab	06 49 02.4	+0.2
	3.8nm,0.8s,baz=59,slow=2.1,SNR=13						
FINES	FINESS Array B	150.53	330	PKPbc	PKiKP	06 49 15.3	-0.7
	2.3nm,0.9s,baz=333,slow=1.6,SNR=4.8						
FINES				PKPab	PKPab	06 49 23.2	+0.3
	1.7nm,0.5s,baz=62,slow=4.6,SNR=11						

IDC 19 06:36:17.1±3.1, 54°19'N×86°44'E, h0km, mbtmp2.9/2, ML2.3/2, Error ellipse: s-maj=23.4km s-min=13.4km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.98	256	I	I	06 41 48.4	
	baz=73,slow=341,SNR=13						
ZALV	Zalesovo Beam	0.98	256	Pg	Pg	06 36 34.8	-1.1
	2.0nm,0.3s,baz=74,slow=17,SNR=21						
ZALV				Lg	Lg	06 36 50.4	
	2.3nm,0.3s,baz=79,slow=31,SNR=10						
KURBB	Kurchatov Arra	6.01	237	Pn	Pn	06 37 47.8	+0.6
	0.1nm,0.3s,baz=51,slow=13,SNR=1.7						
	0.6nm,0.3s						
MKAR	Makanchi Array	7.87	201	Pn	Pn	06 38 14.1	+1.4
	0.1nm,0.3s,baz=24,slow=14,SNR=1.3						
	0.2nm,0.4s						

NNC ***19*** *07:04:20.8±0.6, 50°.00'N×78°.74'E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=11.6km s-min=3.0km az=77.0, Suspected Mining explosion.*

IDC ***19*** *07:04:22.1±1.0, 50°.05'N×78°.77'E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=14.9km s-min=6.9km az=64.0*

ISC 19 07:04:20.6±1.0, 49°.99'N±0°.05×78°.77E±0°.10, h0km, n9, σ1§61/12, 7C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	0.65	347	Pg	Pb	07 04 33.5	-1.4
	1.5nm,0.3s,baz=165,slow=17,SNR=15						
KURBB				Lg	Lg	07 04 42.4	
	1.2nm,0.3s,baz=166,slow=34,SNR=3.9						
KURBB	Kurchatov Arra	0.65	347	⇑P	Pg	07 04 33.2	+0.1
	10nm,0.3s						
KURBB				⇓S	Sg	07 04 42.1	+0.5
	24nm,0.7s						
KURK	Kurchatov	0.73	353	⇓P	Pg	07 04 34.8	+0.1
	4.1nm,0.3s						
KURK				⇑S	Sb	07 04 45.2	-1.7
	17nm,0.7s						
MAKZ	Makanchi	3.83	145	⇑Pg	Pb	07 05 28.3	-0.8
	1.1nm,0.4s						
MAKZ				⇑Lg	Lg	07 06 23.8	
	4.4nm,0.8s						
MK31	Makanchi Array	3.97	142	⇓Pn	Pn	07 05 23.9	+1.2
	0.1nm,0.2s,baz=325,slow=9.6,SNR=14						
MK31				⇑Pg	Pg	07 05 34.5	-2.1
	0.3nm,0.3s,baz=324,slow=13,SNR=14						
MK31				⇑Lg	Lg	07 06 27.7	
	5.2nm,0.7s,baz=326,slow=25,SNR=6.5						
MKAR	Makanchi Array	3.97	142	Pn	Pn	07 05 25.6	+2.8
	0.3nm,0.3s,baz=332,slow=11,SNR=14						
MKAR				Pg	Pb	07 05 32.0	+0.6
	0.6nm,0.3s,baz=325,slow=14,SNR=12						
MKAR				Lg	Lg	07 06 26.4	
	1.1nm,0.3s,baz=333,slow=26,SNR=10						
	0.3nm,0.3s						
OTUK	Ortayu	4.57	250	⇑Pn	Pn	07 05 32.0	+1.0
	0.7nm,0.3s						
OTUK				⇓Lg	Lg	07 06 45.3	
	2.1nm,0.8s						
I46RU	ZALESOVO INFRA	5.45	41	I	I	07 35 20.0	
	baz=229,slow=339,SNR=10						
ZALV	Zalesovo Beam	5.45	41	Pn	Pn	07 05 44.6	+1.5
	0.7nm,0.3s,baz=228,slow=14,SNR=7.3						
	1.2nm,0.3s						

IDC ***19*** *07:44:27.4±2.3, 16°.79N×59°.82E, h0km, mb4.0/15, mbtmp4.0/16, ML3.7/1, MS3.5/10, Error ellipse: s-maj=47.3km s-min=21.1km az=156.0*

OMAN ***19*** *07:44:33.2±0.1, 17°.07N×59°.78E, h17km±5km, mb4.6/13, ml4.9/5, ms2.5/3, Error ellipse: s-maj=10.2km s-min=1.1km az=309.0*

NEIC ***19*** *07:44:37.0±1.2, 17°.6N±0°.1×60°.0E±0°.1, h10km±2km, mb4.4/16, Error ellipse: s-maj=23.4km s-min=14.3km az=206.0*

ISC 19 07:44:31.9±0.7, 17°.08N±0°.06×59°.77E±0°.06, h10km, n68, σ1§57/81, mb4.2/21, MS3.4/10, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAO	Shalim	4.07	284	P	Pn	07 45 34.1	-0.1
	SNR=178						
SHAO				S	Sn	07 46 23.0	+1.1
	SNR=8.5						
MHTO	MHTO	4.25	337	P	Pn	07 45 37.0	+0.3
	SNR=94						
MHTO				S	Sn	07 46 27.5	+1.1
	SNR=21						
DMTO	DMTO	4.65	279	P	Pn	07 45 42.6	+0.3
	SNR=222						
DMTO				S	Sn	07 46 37.4	+1.1
JLN	Jalan Bani Buh	5.06	356	P	Pn	07 45 49.0	+1.2
	SNR=6.6						
JLN				S	Sn	07 46 45.2	-1.2
RBK	Rabkut	5.34	275	P	Pn	07 45 52.2	+0.4
	SNR=53						
RBK				S	Sn	07 46 54.1	+0.8
JMDO	Jabal Madar	5.50	344	P	Pn	07 45 55.0	+1.1
	SNR=67						
JMDO				S	Sn	07 46 59.0	+1.8
	SNR=11						
WBK	Wadi Bani Khal	5.56	352	P	Pn	07 45 55.4	+0.7
	SNR=45						
WBK				S	Sn	07 47 01.0	+2.3
	SNR=6.8						
WHFO	Wadi Hawf	5.79	279	P	Pn	07 45 59.0	+1.1
	SNR=27						
WHFO				S	Sn	07 47 05.5	+1.0
BSY	Bisya	6.14	337	P	Pn	07 46 05.0	+2.3
	SNR=23						
BSY				S	Sn	07 47 14.9	+1.9
SMDO	Samad	6.17	345	P	Pn	07 46 04.0	+0.9
	SNR=29						
SMDO				S	Sn	07 47 13.0	-0.9
ABTO	Aybut	6.20	273	P	Pn	07 46 03.9	+0.4
ABTO				S	Sn	07 47 18.0	+3.5
	SNR=7.5						
WSAR	Wadi Sarin	6.22	350	P	Pn	07 46 04.8	+0.9
WSAR				S	Sn	07 47 17.1	+2.0
WSAR	Wadi Sarin	6.22	350	Pn	Pn	07 46 04.5	+0.7
	1.7nm,0.3s,baz=198,slow=11,SNR=26						
WSAR				Sn	Sn	07 47 12.0	-3.1
	22nm,0.3s,baz=14,slow=17,SNR=8.8						
WSAR				LR	LR	07 48 29.4	
	comp=Z,159nm,18.4s,baz=202,slow=37						
	4.7nm,0.4s						
BIDO	Bidbid	6.59	347	P	Pn	07 46 09.6	+0.6
BIDO				S	Sn	07 47 26.0	+1.8
	SNR=7.2						
HOQ	Hoqain	6.87	341	P	Pn	07 46 13.7	+1.0
ARQ	Araqi	6.94	334	P	Pn	07 46 15.3	+1.7
	SNR=33						
ARQ				S	Sn	07 47 34.3	+1.7
SOHO	SOHO	7.65	337	P	Pn	07 46 24.5	+1.2
SOHO				P	Pn	07 46 24.5	+1.2
SOHO				S	Sn	07 47 51.1	+0.9
SOHO				S	Sn	07 47 51.1	+0.9

ALNE	Al Ain	7.90	332	P	Pn	07 46 27.7	+0.9
ALNE				S	Sn	07 47 58.2	+1.8
ASHO	Ashiyiah	8.33	336	P	Pn	07 46 34.3	+1.5
ASHO				P	Pn	07 46 34.3	+1.5
ASHO				S	Sn	07 48 07.5	+0.5
ASHO				S	Sn	07 48 07.5	+0.5
UOSS	Minazif	8.51	338		Pn	07 46 37.2	+2.0
UOSS	Minazif	8.51	338	P	Pn	07 46 37.7	+2.5
UOSS				P	Pn	07 46 37.7	+2.5
JASK	Jask - Hormozg	8.93	349	P	Pn	07 46 42.5	+1.5
HMDM	Hanimaadhoo	16.63	126	Pn	P	07 48 31.0	+3.3
ATD	Arta Tunnel	17.30	254	LR	LR	07 53 34.3	
	comp=Z,12nm,18.1s,baz=113,slow=32						
HYB	Hyderabad	17.94	86	eP	P	07 48 44.3	+2.1
GEYT	Alibeck	20.82	356	P	P	07 49 13.5	-0.2
GEYT	Alibeck	20.82	356	P	P	07 49 13.5	-0.2
	4.0nm,0.9s,baz=200,slow=12,SNR=5.1						
	4.0nm,0.9s						
GYA0B	ALIBECK ARRAY	20.82	356	P	P	07 49 13.1	-0.6
PALK	Pallekele	22.64	113	LR	LR	07 57 13.5	
	comp=Z,94nm,18.7s,baz=16,slow=34						
BTK	Batken	24.82	20	P	P	07 49 55.1	+0.7
BTK				IAmb	IAmb	07 49 58.7	
	comp=Z,6.5nm,1.1s						
SIRT	Sirnak	25.44	327	P	P	07 50 02.0	+2.0
EIL	Elat	25.94	303	LR	LR	08 01 31.1	
	comp=Z,74nm,19.1s,baz=67,slow=39						
GHAJ	Ghor Haditha	26.15	307	P	P	07 50 09.8	+3.4
GHAJ				IAmb	IAmb	07 50 11.5	
	comp=Z,34nm,1.1s						
GNI	Garni	26.43	333	LR	LR	08 02 28.6	
	comp=Z,70nm,18.6s,baz=108,slow=40						
GURO	Guroymak-BITLI	26.44	328	P	P	07 50 12.9	+3.8
GURO				IAmb	IAmb	07 50 15.2	
	comp=Z,6.0nm,0.9s						
MMAI	Mount Meron Ar	27.09	310	P	P	07 50 15.2	+0.2
	comp=Z,0.6nm,0.2s,baz=128,slow=11,SNR=5.0						
MMAI				LR	LR	08 02 46.0	
	comp=Z,100nm,18.5s,baz=80,slow=40						
	comp=Z,0.6nm,0.2s						
KK31	Karatay Array	27.50	17	P	P	07 50 18.2	-0.3
KKAR	Karatay Array	27.50	17	P	P	07 50 18.0	-0.6
KKAR	Karatay Array	27.50	17	P	P	07 50 18.6	+0.1
ARPR	Arapgir-MALATY	28.82	324	P	P	07 50 33.0	+2.5
ARPR				IAmb	IAmb	07 51 10.2	
	comp=Z,8.8nm,0.7s						
BRTR	Keskin Array B	32.00	320	P	P	07 51 01.5	+2.9
BRTR	Keskin Array B	32.00	320	P	P	07 50 59.1	+0.5
	comp=Z,2.1nm,0.7s,baz=136,slow=12,SNR=10						
	comp=Z,2.1nm,0.7s						
ABKAR	Akbulak array	32.10	0	P	P	07 50 59.2	+0.2
MK31	Makanchi Array	35.00	27	P	P	07 51 23.9	-0.6
MK31				IAmb	IAmb	07 51 45.8	
	comp=Z,4.2nm,1.3s						
MKAR	Makanchi Array	35.00	27	P	P	07 51 24.3	-0.2
	comp=Z,1.6nm,0.8s,baz=217,slow=9.8,SNR=9.3						
	comp=Z,1.6nm,0.8s						
IDI	Anoyia	35.93	307	LR	LR	08 08 47.1	
	comp=Z,59nm,20.1s,baz=256,slow=40						
BELG	Belogornoye	36.52	347	LR	LR	08 08 34.7	
	comp=Z,75nm,18.4s,baz=349,slow=39						
KURBB	Kurchatov Arra	36.69	20	P	P	07 51 38.4	-0.5
	comp=Z,0.3nm,0.3s,baz=217,slow=8.4,SNR=8.8						
	comp=Z,0.3nm,0.3s						
BVAR	Bovoye Array	36.83	11	P	P	07 51 39.7	-0.3
	comp=Z,0.8nm,0.5s,baz=197,slow=9.3,SNR=7.7						
	comp=Z,0.8nm,0.5s						
CMAR	Chiang Mai Arr	37.28	82	LR	LR	08 08 05.5	
	comp=Z,24nm,18.3s,baz=95,slow=38						
AKASG	Malin Array Be	41.49	331	P	P	07 52 17.7	-1.4
	comp=Z,0.6nm,0.5s,baz=141,slow=7.3,SNR=5.4						
	comp=Z,0.6nm,0.5s						
ZAA0	Zalesovo Array	41.62	22	P	P	07 52 19.4	-0.6
ZAA0				IAmb	IAmb	07 52 32.9	
	comp=Z,2.7nm,0.7s						
ZALV	Zalesovo Beam	41.62	22	P	P	07 52 18.8	-1.2
ZALV	Zalesovo Beam	41.62	22	P	P	07 52 18.6	-1.4
	comp=Z,1.1nm,0.3s,baz=198,slow=7.4,SNR=8.4						
	comp=Z,1.1nm,0.3s						
SONM	Songino Array	48.83	41	P	P	07 53 16.0	-1.6
	comp=Z,0.7nm,0.7s,baz=241,slow=5.9,SNR=3.1						
	comp=Z,0.7nm,0.7s						
FIA1	FINESS Array S	50.33	340	P	P	07 53 27.2	-1.4
FINES	FINESS Array B	50.33	340	P	P	07 53 27.2	-1.4
FINES	FINESS Array B	50.33	340	P	P	07 53 27.6	-1.0
	comp=Z,2.0nm,0.5s,baz=132,slow=9.0,SNR=21						
	comp=Z,2.0nm,0.5s						
HFS	Hagfors	54.22	334	P	P	07 53 56.3	-1.2
	comp=Z,1.7nm,0.5s,baz=108,slow=8.4,SNR=7.3						
	comp=Z,1.7nm,0.5s						
NC602	NORSAR Array S	55.44	334	P	P	07 54 06.1	-0.3
NC602				IAmb	IAmb	07 54 49.5	
	comp=Z,7.2nm,1.1s						
NOA	NORSAR Array B	55.73	334	P	P	07 54 06.8	-1.7
	comp=Z,0.7nm,0.7s,baz=116,slow=7.6,SNR=3.9						
	comp=Z,0.7nm,0.7s						
TORD	Torodi Ar. Bea	56.04	275	P	P	07 54 09.2	-2.2
	comp=Z,3.7nm,1.1s,baz=57,slow=7.7,SNR=11						
	comp=Z,3.7nm,1.1s						
HIA	Hailar	57.72	42	P	P	07 54 23.4	+0.6
ESDC	Sonseca Array	59.19	306	P	P	07 54 31.8	-1.5
	comp=Z,2.1nm,0.8s,baz=77,slow=5.2,SNR=9.7						
	comp=Z,2.1nm,0.8s						
EKA	Eskdalemuir Ar	60.78	324	P	P	07 54 41.8	-2.1
	comp=Z,0.5nm,0.5s,baz=102,slow=6.1,SNR=3.9						
	comp=Z,0.5nm,0.5s						
JNU	Nakatsue	65.25	61	LR	LR	08 22 26.6	
	comp=Z,605nm,21.8s,baz=156,slow=35						
MJAR	Matsushiro Arr	70.89	57	LR	LR	08 27 01.4	
	comp=Z,106nm,19.7s,baz=222,slow=36						
ASAJ	Asahikawa	73.23	48	LR	LR	08 30 03.0	
	comp=Z,108nm,19.1s,baz=20,slow=37						

GCMT ***19*** *07:47:35.9±0.4, 21°.68N±0°.04×143°.04E±0°.06, h294km±2km, MW5.1/55, Moment Tensor Solution. s55,c69; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr6.17±.38; Mθθ-3.69±.50

41nm,0.6s,baz=141,slow=12,SNR=8.4
JMN Monobe 14.58 328 Pn 07 50 51.8 +1.9
JMN Monobe 14.58 328 P Pn 07 50 52.6 +2.7
MJAR Matsushiro Arr 15.50 345 P P 07 50 57.9 -1.1
73nm,0.5s,baz=175,slow=11,SNR=91
MJAR S **S 07 53 44.5 -2.5**
35nm,0.9s,baz=165,slow=14,SNR=5.1
MJAR ScP **ScP 07 58 46.1 -1.4**
6.8nm,0.8s,baz=162,slow=3.1,SNR=8.1
MAJO Matsushiro 15.50 345 P P 07 50 58.7 -0.2
MAJO Matsushiro 15.50 345 P Pn 07 51 00.5 -0.1
MAJO Matsushiro 15.50 345 *i* P **P 07 50 59.2 +0.3**
MAJO pmax pmax
comp=Z,135nm,0.9s
MJB9 Matsu-Tunnel 15.51 345 Pn 07 50 59.8 -0.9
JNU Nakatsue 15.79 319 Pn 07 51 03.4 -0.7
JNU Nakatsue 15.79 319 P Pn 07 51 05.4 +1.3
JNU Nakatsue 15.79 319 P P 07 51 02.4 +0.2
comp=Z,153nm,1.0s,baz=109,slow=5.0,SNR=40
JNU S **S 07 53 52.7 -0.4**
comp=Z,11nm,0.8s,baz=140,slow=18,SNR=1.3
JMM Marumori 16.35 354 P P 07 51 08.9 +0.8
JMM Marumori 16.35 354 P Pn 07 51 10.7 +0.2
JTU Tsushima 17.65 320 P Pn 07 51 25.6 -0.1
JTM Tenmabayashi 19.22 355 P P 07 51 39.4 +0.4
JTM Tenmabayashi 19.22 355 P Pn 07 51 42.3 -1.4
NACB Ninganchiao 19.97 282 P P 07 51 48.6 +1.4
TJN Taejon 20.12 321 P P 07 51 49.2 +0.7
TJN Taejon 20.12 321 P P 07 51 50.8 +2.3
TJN Taejon 20.12 321 *i* P **P 07 51 48.4 -0.1**
YHNB Yeheng 20.20 283 P P 07 51 49.0 -0.6
YHNB Yeheng 20.20 283 P P 07 51 51.1 +1.5
YULB Yu-li 20.22 279 P P 07 51 50.4 +0.7
YULB Yu-li 20.22 279 P P 07 51 51.5 +1.8
ERM Erimo 20.37 0 P P 07 51 52.3 +1.3
ERM Erimo 20.37 0 ⇓ P **P 07 51 53.3 +2.3**
ERM Erimo 20.37 0‖ *eP* **P 07 51 52.5 +1.5**
ERM pmax pmax
comp=Z,275nm,0.8s
JEM Erimo 20.37 0 P P 07 51 53.4 +2.4
SSLB Suanglung 20.54 280 P P 07 51 53.0 0.0
SSLB Suanglung 20.54 280 P P 07 51 54.1 +1.1
KSRS Korea Array 20.56 324 P P 07 51 52.8 -0.1
comp=Z,79nm,0.7s,baz=145,slow=9.2,SNR=51
KSRS S **S 07 55 24.6 +0.8**
comp=Z,5.8nm,1.0s,baz=152,slow=18,SNR=4.8
KSRS ScP **ScP 07 58 57.8 -0.5**
comp=Z,7.3nm,0.9s,baz=138,slow=2.5,SNR=12
comp=Z,79nm,0.7s
KSAR Wonju Array Be 20.57 324 P P 07 51 53.2 +0.2
KS19 Wonju Array Si 20.62 324 P P 07 51 53.8 +0.2
ASAJ Asahikawa 22.48 359 P P 07 52 11.8 +1.2
JKA Kamikawa-asahi 22.48 359 P P 07 52 11.8 +1.2
KNMB Chin-men Tao 22.91 282 P P 07 52 14.6 -0.3
MSHR Mys Shultsa 23.20 337⇑ *eP* **P 07 52 17.7 +0.4**
MSHR pmax pmax
comp=Z,29nm,0.6s
NJ2 Nanjing 23.96 301 *eP* **P 07 52 24.6 +0.3**
NJ2 sP **sP 07 53 53.0 +0.5**
NJ2 pmax pmax
comp=Z,21nm,0.5s
USA0B Ussuriysk Arra 24.36 340 P P 07 52 28.4 +0.7
USA0B Ussuriysk Arra 24.36 340 *i* P **P 07 52 27.4 -0.3**
USRK Ussuriysk Ar. 24.36 340 P P 07 52 28.4 +0.7
USRK Ussuriysk Ar. 24.36 340 P P 07 52 28.7 +1.0
comp=Z,18nm,0.7s,baz=160,slow=8.6,SNR=33
comp=Z,18nm,0.7s
DL2 Dalian 25.23 318 P P 07 52 36.8 +1.2
DL2 S **S 07 56 42.0 +3.5**
DL2 pmax pmax
comp=Z,50nm,0.7s
YSS Yuzh-Sakhalins 25.31 359 *eP* **P 07 52 35.9 -0.3**
YSS *e*S **S 07 56 39.2 -0.3**
YSS pmax pmax
comp=Z,30nm,1.3s
YSS pmax pmax
comp=Z,600nm,3.8s
MDJ Mudanjiang 25.53 337 P P 07 52 38.8 +0.5
MDJ Mudanjiang 25.53 337 P P 07 52 38.8 +0.5
MDJ S **S 07 56 44.9 +1.8**
MDJ sS sS 07 58 27.6 +4.0
MDJ ScP **ScP 07 59 11.9 +0.4**
MDJ PcS **PcS 07 59 42.1 +0.5**
MDJ ScS **ScS 08 03 02.4 +1.5**
MDJ pmax pmax
comp=Z,19nm,1.0s
MDJ pmax pmax
comp=Z,270nm,6.4s
MDJ LR LR
comp=Z,380nm,13.1s
MDJ LR LR
comp=Z,210nm,10.7s
MDJ LR LR
comp=Z,360nm,14.1s
SNY Shenyang 26.02 325⇑ P **P 07 52 41.8 -0.8**
SNY S **S 07 56 56.3 +5.4**
SNY pmax pmax
comp=Z,8.0nm,0.8s
SNY pmax pmax
comp=Z,190nm,5.9s
SNY LR LR
comp=Z,210nm,5.0s
SNY LR LR
comp=Z,200nm,4.9s
SNY LR LR
comp=Z,220nm,7.3s
CN2 Changchun 26.56 331 *eP* **P 07 52 48.5 +1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
TIA Tai'an 26.90 308 P P 07 52 50.8 +0.3
TIA pmax pmax
comp=Z,30nm,1.2s
WHN Wuhan 27.26 295 ⇓ *iP* **P 07 52 54.3 +0.5**
WHN pmax pmax
comp=Z,50nm,1.0s
BNX BinXian 27.30 336⇑ P **P 07 52 54.9 +0.9**
BNX pmax pmax
comp=Z,56nm,0.5s
BNX pmax pmax
comp=Z,77nm,3.5s
GTOI Gorontalo 28.58 226 P P 07 53 05.6 -0.1
comp=Z,28nm,1.1s
MYLDM Lahad Datu 28.87 239 P P 07 53 09.1 +0.9
KLR Kul'dur 29.03 345 *eP* **P 07 53 09.8 +0.6**
KLR pmax pmax
comp=Z,106nm,0.7s
HNS HongShan 29.16 309⇑ P **P 07 53 11.0 +0.5**
HNS pmax pmax
comp=Z,68nm,0.8s
TYV Tymovskoe 29.23 359 *eP* **P 07 53 11.0 +0.1**
TYV *e*S **S 07 57 42.7 +1.8**
TYV pmax pmax
comp=Z,400nm,3.6s
TYV pmax pmax
comp=Z,16nm,0.6s
TYV smax smax
comp=N,21nm,1.7s
TYV smax smax
comp=E,16nm,1.7s
TYV smax smax
comp=N,300nm,6.0s
TYV smax smax
comp=E,700nm,6.0s
BJT Baijiatuau 29.36 315 P P 07 53 12.2 0.0
BJI Beijing 29.37 315 P P 07 53 13.6 +1.3
BJI pP **pwP 07 54 10.1 -1.5**
BJI sP **sP 07 54 40.3 -3.3**
BJI pmax pmax
comp=E,5.0nm,0.6s
MRSI Marisa 29.42 227 P P 07 53 13.5 +0.4
comp=E,91nm,1.1s
GRNR Gornyy 29.60 351 ⇓ *iP* **P 07 53 15.1 +0.9**
GRNR pmax pmax
comp=N,10.0nm,0.9s
GRNR pmax pmax
comp=Z,10.0nm,1.1s
TOLI2 Tolitoli 29.78 230 P P 07 53 16.5 +0.2
LYN LuoYang 29.83 302⇑ P **P 07 53 16.3 -0.1**
LYN PcP **PcP 07 56 12.4 +0.8**
LYN S **S 07 57 50.6 -0.2**
LYN pmax pmax
comp=Z,41nm,0.8s
LYN pmax pmax
comp=Z,160nm,4.8s
PMG Port Moresby 31.05 172⇑ *eP* **P 07 53 27.5 +0.2**
PMG pmax pmax
comp=Z,7.0nm,0.7s
PMG Port Moresby 31.05 172 ScP **ScP 07 59 29.1 0.0**
comp=Z,4.0nm,0.4s,baz=338,slow=5.4,SNR=6.9
HEH HeiHe 31.17 340 *eP* **P 07 53 28.5 +0.6**
HEH pmax pmax
comp=Z,67nm,1.0s
QIZ Qiongzhong 31.25 271 P P 07 53 30.6 +1.4
ENH Enshi 31.35 293 P P 07 53 29.1 -0.7
ENH IAmb IAmb 07 53 30.7
comp=Z,35nm,0.7s
ENH Enshi 31.35 293 P P 07 53 29.6 -0.2
XLT XiLinHaoTe 31.56 321 *eP* **P 07 53 34.3 +2.7**
XLT pP pP 07 54 30.3 +1.3
XLT PP **PP 07 54 53.4 +3.6**
XLT sP sP 07 55 02.8 -0.7
XLT PcP **PcP 07 56 16.9 +0.7**
XLT S **S 07 58 15.5 -2.2**
XLT pmax pmax
comp=Z,26nm,1.1s
XLT pmax pmax
comp=Z,160nm,4.0s
XAN Xi'an 32.52 300⇑ P **P 07 53 39.6 -0.4**
XAN pP pP 07 54 35.3 -1.5
XAN S **S 07 58 31.9 -0.8**
XAN sS sS 08 00 09.3 -6.5
XAN pmax pmax
comp=Z,37nm,0.6s
XAN pmax pmax
comp=Z,280nm,5.9s
XAN LR LR
comp=Z,640nm,9.2s
XAN LR LR
comp=Z,440nm,10.6s
XAN LR LR
comp=Z,350nm,5.9s
XAN Xi'an 32.52 300 P **P 07 53 39.8 -0.2**
XAN PcP **PcP 07 56 18.5 -0.5**
HHC Hu-ho-hao-te 32.85 313 ⇓ P **P 07 53 42.8 0.0**
HHC S **S 07 58 36.5 -1.2**
HHC sS sS 08 00 20.8 -0.1
HHC pmax pmax
comp=Z,53nm,0.7s
HHC pmax pmax
comp=Z,450nm,4.5s
HIA Hailar 33.27 332 P P 07 53 47.3 +1.1
PETK Petropavlovsk- 33.41 16 P P 07 53 48.4 +1.1
comp=Z,8.4nm,0.9s,baz=154,slow=7.7,SNR=9.2
PETK PcP **PcP 07 56 20.1 -0.9**
comp=Z,11nm,1.0s,baz=210,slow=5.1,SNR=3.7
comp=Z,8.4nm,0.9s
TTSI Tana Toraja 33.44 226 P P 07 53 48.6 +0.6
comp=Z,55nm,0.9s,comp=Z,2μmcomp=Z,14μm
BTO Baotou 33.81 312 *eP* **P 07 53 53.3 +2.3**
BTO pP **pwP 07 54 50.0 -2.1**
BTO sP **sP 07 55 22.9 +0.1**
BTO pmax pmax
comp=Z,29nm,0.7s
BTO pmax pmax
comp=Z,360nm,4.1s
SPSI Sidrap Palu 34.15 225 P P 07 53 54.6 +0.5
comp=Z,138nm,0.8s,comp=Z,4μm
ZEA Zeya 34.30 343 *eP* **P 07 53 55.0 +0.1**
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,30nm,0.4s
DLV T Lat 34.42 259 P P 07 53 57.4 +0.7
SBUM Sibu 35.55 242 P P 07 54 06.6 +0.6
KDU Kakadu 35.62 198 P P 07 54 06.6 +0.1
MTN Manton Dam 36.17 200 P P 07 54 10.6 -0.6
MTN IAmb IAmb 07 54 11.2
comp=Z,24nm,0.7s
MTN Manton Dam 36.17 200 P P 07 54 11.1 -0.1
UBPT Khong Chiam 36.17 267 P P 07 54 12.6 +1.3
UBPT IAmb IAmb 07 54 14.2
comp=Z,62nm,1.0s
CD2 Chengdu 36.33 293 P P 07 54 12.9 +0.4
CD2 pmax pmax
comp=Z,60nm,0.9s
MMRI Maumere 36.34 216 P P 07 54 13.1 +0.4
SLVN Son La 36.41 277 P P 07 54 14.1 +0.8
EDFI Ende, Flores 36.74 217 P P 07 54 15.4 -0.8
comp=Z,72nm,1.0s,comp=Z,803nm
LZH Lanzhou 37.03 302‖ *iP* **P 07 54 19.5 +1.0**
LZH pP pP 07 55 13.9 -2.6
LZH sP sP 07 55 49.6 -0.7
LZH pmax pmax
comp=Z,25nm,1.6s
LZH LR LR
comp=Z,530nm,14.1s
KMI Kunming 37.12 283⇑ P **P 07 54 20.8 +1.4**
KMI pmax pmax
comp=Z,48nm,0.9s
PZH PanZhiHua 37.96 286 P P 07 54 26.8 +0.5
PZH pmax pmax
comp=Z,110nm,0.8s
PZH pmax pmax
comp=Z,330nm,5.7s
MA2 Magadan 38.35 6 *i* P **P 07 54 29.5 +0.6**
MA2 pmax pmax
comp=Z,16nm,1.0s
BASI Baing, Sumba 38.57 217 P P 07 54 29.9 -1.3
comp=Z,366nm,0.9s
ULN Ulaanbaatar 39.00 321 P P 07 54 34.4 -0.2
ULN Ulaanbaatar 39.00 321 P P 07 54 35.2 +0.6
ULN Ulaanbaatar 39.00 321‖ *eP* **P 07 54 35.2 +0.6**
ULN pmax pmax
comp=Z,16nm,0.8s
ULN Ulaanbaatar 39.00 321 P P 07 54 35.2 +0.6
PLAI Plampang 39.13 222 P P 07 54 35.8 -0.1
PLAI Plampang 39.13 222 P P 07 54 35.0 -0.9
comp=Z,147nm,0.9s,comp=Z,1μm
SONM Songino Array 39.37 321 P P 07 54 38.3 +0.7
SONM Songino Array 39.37 321 P P 07 54 38.2 +0.5
comp=Z,14nm,0.8s,baz=134,slow=7.5,SNR=43
SONM PcP **PcP 07 56 38.3 -1.1**
comp=Z,5.2nm,0.9s,baz=123,slow=2.6,SNR=4.4
SONM ScP **ScP 07 59 57.7 -1.5**
comp=Z,1.3nm,0.6s,baz=80,slow=1.7,SNR=3.5
comp=Z,14nm,0.8s
KNRA Kununurra 39.61 202 P P 07 54 39.8 +0.1
KNRA Kununurra 39.61 202 P P 07 54 39.8 +0.1
CRAI Chiangrai 39.84 276 P P 07 54 42.5 +0.8
NAYO Nakonayok 40.30 267 P P 07 54 47.1 +1.6
GTA Gaotai 40.87 306⇑ P **P 07 54 50.5 +0.5**
GTA PcP **PcP 07 56 45.3 +0.9**
GTA ScP **ScP 08 00 08.1 +2.9**
GTA PcS **PcS 08 00 37.9 +2.0**
GTA S **S 08 00 41.4 +2.7**
GTA pmax pmax
comp=Z,16nm,1.4s
GTA LR LR
comp=Z,310nm,18.9s
GTA LR LR
comp=Z,160nm,19.3s
GTA LR LR
comp=Z,210nm,18.9s
TNCH TengChong 40.95 284 P P 07 54 52.0 +1.1
TNCH pmax pmax
comp=Z,400nm,4.4s
BLJI Banyuglugur 41.08 228 P P 07 54 52.7 +0.9
comp=Z,199nm,0.9s,comp=Z,3μm
JAGI Jajag, Banyuwa 41.22 227 P P 07 54 52.0 -1.0
JAGI IAmb IAmb 07 54 53.0
comp=Z,55nm,0.7s
CHTO Chiang Mai 41.43 274 P P 07 54 55.4 +0.8
CHTO IAmb IAmb 07 54 56.6
comp=Z,77nm,1.1s
CHTO Chiang Mai 41.43 274 P P 07 54 55.7 +1.1
CHTO Chiang Mai 41.43 274 P P 07 54 55.4 +0.8
CHTO pmax pmax
comp=Z,77nm,1.1s
CHTO Chiang Mai 41.43 274 P P 07 54 55.5 +0.8
YAK Yakutsk 41.47 350 P P 07 54 53.8 -0.4
YAK IAmb IAmb 07 54 55.3
comp=Z,82nm,1.0s
YAK Yakutsk 41.47 350 *eP* **P 07 54 53.7 -0.6**
YAK *e**PP **pP 07 55 53.6 0.0**
YAK *e* 07 56 32.5
YAK *e* 07 56 44.9
YAK *e*S **S 08 00 46.6 +0.2**
YAK *e**SS **sS 08 02 38.6 +5.9**
YAK *e* 08 04 23.5
YAK pmax pmax
comp=Z,63nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=N,14nm,1.0s
YAK pmax pmax
comp=Z,137nm,3.0s
YAK pmax pmax
comp=E,69nm,3.5s
YAK pmax pmax
comp=N,101nm,3.3s
YAK smax smax
comp=E,186nm,2.8s
YAK smax smax
comp=N,162nm,2.0s
YAK Yakutsk 41.47 350 P P 07 54 54.0 -0.3
YAK sP **sP 07 56 30.7 +3.4**
YAK PcP **PcP 07 56 45.2 -0.5**
CM31 Chiang Mai Arr 41.50 274 P P 07 54 56.5 +1.2
CM31 IAmb IAmb 07 54 58.4
comp=Z,54nm,0.6s
CM31 Chiang Mai Arr 41.50 274 P P 07 54 56.9 +1.6
SNR=9.6
CMAR Chiang Mai Arr 41.50 274 P P 07 54 56.3 +1.0
CMAR Chiang Mai Arr 41.50 274 P P 07 54 56.6 +1.4
comp=Z,32nm,0.6s,baz=78,slow=6.3,SNR=109
CMAR PcP **PcP 07 56 46.9 +0.2**
comp=Z,1.9nm,0.3s,baz=108,slow=2.3,SNR=5.5
comp=Z,32nm,0.6s
CTA Charters Tower 41.53 176 P P 07 54 55.1 -0.3
CTAO Charters Tower 41.53 176 P P 07 54 55.2 -0.1
CTAO Charters Tower 41.53 176 P P 07 54 55.3 -0.1
CTAO Charters Tower 41.53 176 P P 07 54 55.2 -0.1
CTAO pmax pmax
comp=Z,28nm,1.0s
CTAO Charters Tower 41.53 176 P P 07 54 55.6 +0.3
SEY Seymchan 41.81 6‖ *eP* **P 07 54 56.7 -0.3**
SEY pmax pmax
comp=Z,31nm,2.5s
WB0 Warramunga Arr 41.97 192 P P 07 54 58.7 -0.2
WB0 IAmb IAmb 07 54 59.6
comp=Z,64nm,1.0s
QIS Mount Isa 42.02 185 P P 07 54 59.1 -0.2
WR0 Warramunga Arr 42.13 192 P P 07 54 59.9 -0.2
WR0 IAmb IAmb 07 55 00.9
comp=Z,63nm,1.1s
WRAB Tennant Creek 42.14 192 P P 07 54 59.8 -0.4
WRAB Tennant Creek 42.14 192 P P 07 54 59.8 -0.4
WRAB pmax pmax
comp=Z,93nm,0.6s
WB2 Warramunga Arr 42.15 192 P P 07 55 00.3 0.0
WB2 IAmb IAmb 07 55 01.1
comp=Z,94nm,0.8s
WRA Warramunga Arr 42.15 192 P P 07 54 59.3 -1.0
WRA Warramunga Arr 42.15 192 P P 07 55 00.3 0.0
comp=Z,60nm,0.7s,baz=14,slow=8.6,SNR=220
WRA ScP **ScP 08 00 10.0 -0.3**
comp=Z,3.4nm,0.8s,baz=13,slow=4.1,SNR=4.9
WRA S **S 08 00 54.5 -2.9**
comp=Z,23nm,1.2s,baz=12,slow=14,SNR=21
comp=Z,60nm,0.7s
SRDT SRDT 42.33 268 P P 07 55 03.1 +1.2
ZAK Zakamensk 42.38 323 *eP* **P 07 55 02.2 +0.2**
ZAK *e* 08 01 00.0
ZAK pmax pmax
comp=Z,19nm,1.1s
MYKOM Kota Tinggi 42.96 248 P P 07 55 07.5 +0.5
MYKOM IAmb IAmb 07 55 09.8
comp=Z,67nm,0.6s
FITZ Fitzroy Crossi 42.98 205 P P 07 55 07.1 +0.1
FITZ Fitzroy Crossi 42.98 205 P P 07 55 07.0 +0.1
UGM Wanagama 43.37 231 P P 07 55 09.9 -0.3
UGM Wanagama 43.37 231 P P 07 55 10.6 +0.4
SRIT Nakonsritamara 43.78 260 P P 07 55 15.1 +1.7
KULM Kulim 44.16 255 P P 07 55 17.7 +1.2
GOMU GeErMu 44.27 300 P P 07 55 18.8 +1.3
GOMU pP pwP 07 56 20.5 -2.2
GOMU PcP **PcP 07 56 57.4 +1.1**
GOMU pmax pmax
comp=Z,35nm,1.1s
JMBI JAMBI 44.92 244 P P 07 55 25.8 +3.3
comp=Z,307nm,1.1s
CBJI Citeko 45.14 236 P P 07 55 25.1 +1.0
DBJI Dramaga 45.30 236 P P 07 55 26.0 +0.6
comp=Z,209nm,1.6s
SBJI Serang 45.51 237 P P 07 55 27.5 +0.5
comp=Z,334nm,1.2s
AS31 Alice Springs 45.86 192 P P 07 55 28.4 -1.2
ASAR Alice Springs 45.86 192 P P 07 55 28.8 -0.8
ASAR Alice Springs 45.86 192 P P 07 55 28.9 -0.6
comp=Z,13nm,0.7s,baz=16,slow=11,SNR=118
ASAR PcP **PcP 07 57 00.9 -0.5**
comp=Z,1.9nm,0.8s,baz=12,slow=4.7,SNR=5.0
ASAR ScP **ScP 08 00 25.3 -0.2**
comp=Z,1.4nm,0.8s,baz=17,slow=4.5,SNR=4.0
ASAR S **S 08 01 47.0 -3.7**
comp=Z,7.8nm,0.9s,baz=19,slow=17,SNR=19
comp=Z,13nm,0.7s
BKNI Bangkinang 46.12 248 P P 07 55 32.5 +0.7
BKNI Bangkinang 46.12 248 P P 07 55 33.2 +1.4
comp=Z,386nm,1.1s,comp=Z,3μm
CGJI Cibinong 46.16 237 P P 07 55 30.2 -1.8
comp=Z,272nm,1.0s,comp=Z,3μm
PSI Prapat 46.80 253 P P 07 55 38.6 +1.4
PSI Prapat 46.80 253 P P 07 55 37.5 +0.3
PSI pmax pmax
comp=Z,116nm,0.9s
RPSI Rantau Prapat 46.85 253 P P 07 55 37.5 +0.1
SHL Shillong 46.87 285 P P 07 55 37.7 0.0
SHL IAmb IAmb 07 55 38.8
comp=Z,79nm,0.8s
SHL Shillong 46.87 285 P P 07 55 37.9 +0.2
SNR=17
SHL Shillong 46.87 285 P P 07 55 37.7 0.0
SHL pmax pmax
comp=Z,79nm,0.8s
LSA Lhasa 47.20 291 P P 07 55 41.2 +0.7
LSA IAmb IAmb 07 55 43.9
comp=Z,45nm,0.8s
LSA Lhasa 47.20 291 P P 07 55 42.1 +1.6
LSA Lhasa 47.20 291 P P 07 55 42.2 +1.7
LHMI Lhok Sumawe 47.52 257 P P 07 55 45.2 +2.6
comp=Z,546nm,0.8s
MBWA Marble Bar 48.22 210 P P 07 55 47.4 -0.3
MBWA IAmb IAmb 07 55 48.5
comp=Z,36nm,0.8s
MBWA Marble Bar 48.22 210 P P 07 55 47.9 +0.2
MBWA Marble Bar 48.22 210 P P 07 55 47.5 -0.3
WRKA Warakurna 48.52 198 P P 07 55 49.5 -0.5
PSA00 Pilbara Seismi 48.52 209 P P 07 55 49.7 -0.4
PSA00 IAmb IAmb 07 55 50.9
comp=Z,38nm,0.8s
PSA00 Pilbara Seismi 48.52 209 P P 07 55 49.6 -0.4
PSA00 IAmb IAmb 07 55 50.9
comp=Z,24nm,0.8s
PSA00 Pilbara Seismi 48.52 209 P P 07 55 50.1 +0.1
BILL Bilibino 48.65 11‖ *eP* **P 07 55 48.8 -1.6**
BILL Bilibino 48.65 11 ⇓ **P 07 55 51.2 +0.9**
GSI Gunungsitoli 48.68 252 P P 07 55 51.6 +0.2
DZM Mont Dzumac 49.01 151 P P 07 55 53.5 -0.3
DZM pP **pP 07 56 56.9 +1.9**
SPIA Saint Paul Isl 49.11 32 P P 07 55 53.1 -0.9
baz=244
OOD Oodnadatta 49.61 189 P P 07 55 58.1 0.0
UNV Unalaska Valle 49.75 37 P P 07 55 59.5 +0.7
UNV Unalaska Valle 49.75 37 P P 07 55 59.0 +0.1
baz=250
AKUT Akutan 50.26 37 P P 07 56 03.8 +1.2
TAPN Taplejung 50.40 288 *eP* **P 07 56 05.3 +0.8**
WMQ Urumqi 50.59 310 *eP* **P 07 56 06.9 +1.5**
WMQ PcP **PcP 07 57 19.0 +0.6**
WMQ pmax pmax
comp=Z,30nm,0.9s
WMQ LR LR
comp=Z,160nm,23.3s
ODAN Odare 50.74 288 *eP* **P 07 56 07.5 +0.5**
comp=Z,191nm,1.0s
TIXI Tiksi 50.75 354 P P 07 56 06.1 +0.1
TIXI Tiksi 50.75 354‖ *eP* **P 07 56 05.2 -0.8**
TIXI Tiksi 50.75 354 P P 07 56 06.3 +0.3
TIXI pP **pP 07 57 09.7 +1.6**
TIXI PcP **PcP 07 57 18.0 -0.4**
RAMN Ramite 51.43 288 *eP* **P 07 56 12.9 +0.8**

comp=Z,117nm,0.8s
JIRN Jiri 51.71 289 *e*P P 07 56 15.1 +0.8
comp=Z,211nm,0.7s
DGZ Jazzator, Alta 51.76 317 *i* P P 07 56 13.5 -0.5
DGZ pmax pmax
comp=Z,29nm,0.9s
LCRK Leigh Creek 51.94 185 P P 07 56 16.0 +0.7
GUN Gumba 51.95 289 *e*P P 07 56 16.9 +0.8
comp=Z,144nm,0.7s
GIRL Giralia 52.19 214 P P 07 56 17.5 +0.2
MULG Mulgathing 52.29 190 P P 07 56 17.9 0.0
PKI Pulchoki 52.41 289 *e*P P 07 56 19.4 0.0
comp=Z,137nm,1.0s
PKIN Phulchoki 52.42 289 *e*P P 07 56 19.6 +0.2
comp=Z,75nm,0.7s
KKN Kakani 52.49 289 *e*P P 07 56 20.2 +0.3
comp=Z,206nm,1.2s
DMN Daman 52.67 289 *e*P P 07 56 21.6 +0.4
comp=Z,215nm,1.2s
GKN Gorkha 53.03 289 *e*P P 07 56 24.2 +0.5
comp=Z,320nm,1.1s
ZSN Zaisan 53.04 314 *e*P P 07 56 24.1 +0.8
baz=314
ZSN *e*pP PcP 07 57 27.8 +0.2
baz=314
ZSN *e*S S 08 03 31.3 +1.7
baz=314
ZSN Zaisan 53.04 314 *e*P P 07 56 24.1 +0.8
ZSN *e**PP PcP 07 57 27.7 +0.2
ZSN *e*S S 08 03 31.3 +1.7
STKA Stephens Creek 53.18 182 P P 07 56 23.6 -0.7
STKA Stephens Creek 53.18 182 P P 07 56 24.3 0.0
STKA Stephens Creek 53.18 182 P P 07 56 23.7 -0.7
comp=Z,33nm,0.7s,baz=358,slow=7.7,SNR=54
comp=Z,33nm,0.7s
MEEK Meekatharra 53.48 207 P P 07 56 26.2 -0.5
SDPT Sand Point 53.55 36 P P 07 56 27.2 +0.5
SDPT Sand Point 53.55 36 P P 07 56 27.7 +1.0
baz=255
M13K Dall Lake 53.71 30 P P 07 56 28.7 +1.0
baz=248
DANN Dangsing 53.76 290 *e*P P 07 56 29.9 +0.8
comp=Z,318nm,0.6s
CHNA Chernabura Isl 53.91 37 P P 07 56 30.0 +0.6
baz=256
KOLN Koldanda 53.97 289 *e*P P 07 56 30.2 -0.4
comp=Z,224nm,1.2s
FORT Forrest 54.03 196 P P 07 56 29.7 -0.8
FORT Forrest 54.03 196 P P 07 56 30.6 +0.1
ZAA0 Zalesovo Array 54.25 322 P P 07 56 31.4 -0.4
ZAA0 IAmb IAmb 07 56 32.8
comp=Z,36nm,0.8s
ZALV Zalesovo Beam 54.25 322 P P 07 56 31.6 -0.2
ZALV Zalesovo Beam 54.25 322 *i* P P 07 56 31.8 0.0
ZALV pmax pmax
comp=Z,36nm,0.8s
ZALV Zalesovo Beam 54.25 322 P P 07 56 31.8 0.0
comp=Z,50nm,0.9s,baz=101,slow=6.7,SNR=102
ZALV PcP PcP 07 57 31.4 -0.5
comp=Z,22nm,0.5s,baz=121,slow=3.9,SNR=19
ZALV ScP ScP 08 01 00.3 -0.7
comp=Z,1.2nm,0.6s,baz=116,slow=5.0,SNR=2.2
ZALV S S 08 03 43.6 -1.8
comp=Z,0.9nm,0.3s,baz=96,slow=15,SNR=5.5
comp=Z,50nm,0.9s
N14K Kuskokwak Cree 54.31 31 P P 07 56 33.3 +1.1
baz=250
L14K Kuka Creek 54.36 29 P P 07 56 33.6 +1.2
baz=248
PYUN Piuhan 54.47 290 *e*P P 07 56 34.6 +0.5
comp=Z,265nm,1.1s
M14K Bethel 54.47 30 P P 07 56 34.5 +1.3
baz=249
KIP Kipapa 54.49 79 P P 07 56 35.5 +1.4
BBOO Buckleboo 54.50 187 P P 07 56 33.9 0.0
ANM Nome 54.56 25 P P 07 56 35.1 +1.2
baz=243
F14K Arctic Creek 54.62 23 P P 07 56 35.5 +1.3
baz=242
MK31 Makanchi Array 54.71 313 P P 07 56 35.5 +0.1
MK31 Makanchi Array 54.71 313 *i* P P 07 56 35.6 +0.3
MKAR Makanchi Array 54.71 313 P P 07 56 35.5 +0.1
MKAR Makanchi Array 54.71 313 P P 07 56 36.0 +0.7
comp=Z,17nm,0.6s,baz=91,slow=9.1,SNR=131
MKAR PcP PcP 07 57 33.4 -0.5
comp=Z,13nm,0.7s,baz=90,slow=5.3,SNR=11
MKAR S S 08 03 51.5 -0.5
comp=Z,2.2nm,1.0s,baz=84,slow=12,SNR=5.3
comp=Z,17nm,0.6s
CHGN Chignik 54.92 36 P P 07 56 37.4 +0.9
baz=256
MAKZ Makanchi 54.93 313 P P 07 56 37.0 +0.1
MAKZ IAmb IAmb 07 56 38.5
comp=Z,31nm,0.8s
MAKZ Makanchi 54.93 313 P P 07 56 37.6 +0.8
MAKZ PcP PcP 07 57 34.2 -0.5
O15K Ungalikthiuk R 54.97 32 P P 07 56 38.0 +1.1
baz=252
L15K Ungalak Mounta 55.02 29 P P 07 56 38.2 +1.0
baz=249
M15K Kasigluk River 55.04 30 P P 07 56 38.5 +1.1
baz=251
N15K Kwethluk River 55.15 31 P P 07 56 39.2 +1.1
baz=252
K15K Wolf Creek Mou 55.22 28 P P 07 56 39.7 +1.1
baz=249
G15K Niukluk 55.26 24 P P 07 56 39.9 +1.0
baz=244
F15K North Star Dit 55.34 23 P P 07 56 40.7 +1.2
baz=243
YNG Young 55.80 175 P P 07 56 43.4 +0.3
H16K Elim 55.81 25 P P 07 56 43.7 +1.0
baz=247
P16K Nushagak River 55.84 32 P P 07 56 43.6 +0.6
baz=254
N16K Nishlik Lake 55.87 31 P P 07 56 44.4 +1.1
baz=253
L16K Owhat River 55.93 29 P P 07 56 44.9 +1.2
baz=251
O16K Kokwok River B 55.94 32 P P 07 56 44.8 +1.1
baz=254
M16K Timber Creek 55.95 30 P P 07 56 45.0 +1.2
baz=252
J16K Anvik River 55.97 27 P P 07 56 45.2 +1.3
baz=249
I17K Unalakleet 56.15 26 P P 07 56 46.7 +1.5
baz=249
C16K Lisburne Hills 56.30 21 P P 07 56 47.3 +1.2
baz=241
R17K Ugashik Creek 56.31 34 P P 07 56 47.4 +1.0
baz=257
COCO West Island 56.46 238 P P 07 56 48.0 0.0
COCO West Island 56.46 238 P P 07 56 48.0 0.0
COCO pmax pmax
comp=Z,121nm,0.7s
O17K Koliganek Bris 56.48 32 P P 07 56 48.6 +1.1
baz=255
PDGK Podgornoye 56.49 308 P P 07 56 48.1 0.0
SHLS Shalkode 56.51 308 *e*P P 07 56 46.7 -1.5
baz=308
SHLS Shalkode 56.51 308 *e*P P 07 56 46.7 -1.5
L17K Donlin 56.59 29 P P 07 56 49.7 +1.4
baz=252,SNR=5.3
N17K Nushagak Hills 56.64 31 P P 07 56 50.0 +1.4
baz=254
WUS Wushi 56.69 306 P P 07 56 50.3 +0.8
MORW Morawa 56.71 208 P P 07 56 49.1 -0.5
MORW IAmb IAmb 07 56 50.0
comp=Z,31nm,0.8s
MORW Morawa 56.71 208 P P 07 56 49.3 -0.2
M17K Holitna River 56.76 30 P P 07 56 51.0 +1.5
baz=253
K17K Iditarod 56.77 28 P P 07 56 50.6 +1.0
K17K IAmb IAmb 07 56 52.3
comp=Z,38nm,0.8s
K17K Iditarod 56.77 28 P P 07 56 51.1 +1.6
baz=252
G17K Kiwalik Mounta 56.77 24 P P 07 56 50.9 +1.4
baz=248
UZB Uzynbulak 56.83 308 ⇑ *i*P P 07 56 51.2 +0.7
baz=308
UZB Uzynbulak 56.83 308 *c i*P P 07 56 51.2 +0.7
H17K Granite Mounta 56.85 25 P P 07 56 50.7 +0.7
H17K Granite Mounta 56.85 25 P P 07 56 51.4 +1.4
baz=249
CAN Canberra 56.87 174 P P 07 56 51.1 +0.6
CAN pP pP 07 57 54.7 +0.7

F17K Baldwin Pennin 56.91 23 P P 07 56 51.8 +1.4
baz=246
E17K Hotham Inlet 56.97 23 P P 07 56 52.0 +1.3
baz=246
RDOG Red Dog Mine 57.01 21 P P 07 56 52.2 +1.1
baz=244
KPKS Kokpek 57.08 309 ⇑ *i*P P 07 56 52.1 -0.1
baz=308
KPKS Kokpek 57.08 309 *c i*P P 07 56 52.9 +0.7
C17K DeLong Mountai 57.10 21 P P 07 56 53.1 +1.4
baz=243
Q18K Katmai Hardscr 57.25 33 P P 07 56 52.6 -0.5
baz=257
ZHN Zhinishke 57.26 308 ⇑ *i*P P 07 56 54.3 +0.8
baz=308
ZHN Zhinishke 57.26 308 *c i*P P 07 56 54.2 +0.8
SII Sitkinak Islan 57.27 36 P P 07 56 53.2 +0.1
SII Sitkinak Islan 57.27 36 P P 07 56 53.4 +0.2
baz=260
SATY Saty 57.28 308 ⇑ *i*P P 07 56 54.6 +1.0
baz=308
SATY Saty 57.28 308 *c i*P P 07 56 54.6 +1.0
PRZ Przheval'sk 57.29 307 P P 07 56 54.4 +0.7
PRZ IAmb IAmb 07 56 56.7
comp=Z,53nm,0.9s
N18K Kilae Creek 57.30 31 P P 07 56 54.5 +1.3
baz=255
R18K Karluk 57.31 35 P P 07 56 53.8 +0.4
baz=259
L18K Granite Mounta 57.34 29 P P 07 56 54.6 +1.1
baz=254
O18K Koktuh Hills 57.42 32 P P 07 56 55.0 +0.8
O18K IAmb IAmb 07 56 56.5
comp=Z,60nm,0.9s
O18K Koktuh Hills 57.42 32 P P 07 56 55.4 +1.2
baz=256,SNR=5.7
KURK Kurchatov 57.50 317 P P 07 56 55.0 +0.2
KURK IAmb IAmb 07 56 56.0
comp=Z,50nm,0.8s
KURK Kurchatov 57.50 317 P P 07 56 55.2 +0.4
KURK Kurchatov 57.50 317 P P 07 56 55.5 +0.7
KURK 07 57 44.1
KURK S S 08 04 26.9 -1.3
KURK Kurchatov 57.50 317 ⇑ P S 07 56 55.0 +0.2
KURK PcP PcP 07 57 44.0 -0.7
M18K Stony River 57.53 30 P P 07 56 55.9 +1.1
baz=255
E18K Tukpahlearik C 57.54 22 P P 07 56 55.7 +0.9
baz=247
H18K Honhosa River 57.54 25 P P 07 56 55.6 +0.7
baz=250
SVW2 Sparrevohn 57.55 30 P P 07 56 56.1 +1.2
SVW2 Sparrevohn 57.55 30 P P 07 56 55.5 +0.5
KURBB Kurchatov Arra 57.55 317 P P 07 56 54.9 -0.2
KURBB Kurchatov Arra 57.55 317 P P 07 56 55.5 +0.3
comp=Z,78nm,0.7s,baz=95,slow=7.7,SNR=610
KURBB PcP PcP 07 57 44.1 -0.8
comp=Z,10nm,0.8s,baz=93,slow=3.9,SNR=6.6
KURBB S S 08 04 26.9 -1.9
comp=Z,1.1nm,0.7s,baz=32,slow=29,SNR=5.6
comp=Z,78nm,0.7s
G18K Tagagawik 57.69 24 P P 07 56 56.3 +0.5
G18K Tagagawik 57.69 24 P P 07 56 56.8 +0.9
baz=249,SNR=8.1
ARXS Arharly 57.71 309 *e*P P 07 56 57.2 +0.7
TARG Taragay, Kyrgy 57.74 306 P P 07 56 57.6 +0.4
BLDU Ballidu 57.76 207 P P 07 56 56.6 -0.2
C18K Utukok River 57.84 21 P P 07 56 57.8 +0.8
baz=245
TTA Tatalina 57.84 28 P P 07 56 57.8 +0.8
baz=254
OHAK Old Harbor 57.87 35 P P 07 56 58.0 +0.8
OHAK Old Harbor 57.87 35 P P 07 56 57.6 +0.4
baz=260
O19K Port Alsworth 57.94 32 P P 07 56 58.0 +0.4
O19K IAmb IAmb 07 56 59.6
comp=Z,36nm,1.0s
O19K Port Alsworth 57.94 32 P P 07 56 58.6 +0.9
baz=257,SNR=5.3
B18K Kokolik River 57.95 20 P P 07 56 58.6 +1.1
baz=244
N19K Bonanza Creek 58.00 31 P P 07 56 58.8 +0.6
baz=257
Q19K Cape Douglas, 58.00 33 P P 07 56 58.0 -0.2
baz=258
GCSA Galena City Sc 58.01 26 P P 07 56 58.3 +0.3
baz=252
L19K White Mountain 58.16 29 P P 07 56 59.6 +0.5
baz=255
MDOK Medeo 58.28 308 *i* P P 07 57 01.9 +1.3
baz=308
MDOK *e*S S 08 04 41.0 +2.1
baz=308
MDOK Medeo 58.28 308 *i* P P 07 57 01.8 +1.3
MDOK *e*S S 08 04 40.9 +2.1
J19K Poorman 58.30 27 P P 07 57 00.8 +0.7
baz=254
CHKK Chushkaly 58.32 309 *e*P P 07 57 01.3 +0.6
baz=309
CHKK Chushkaly 58.32 309 *e*P P 07 57 01.2 +0.6
KDAK Kodiak Island 58.34 35 P P 07 57 00.9 +0.4
baz=260
KDAK Kodiak Island 58.34 35 P P 07 57 01.1 +0.7
G19K Purcell Mounta 58.37 24 P P 07 57 01.2 +0.6
baz=251
AAA Alma-Ata 58.38 308 *e*P P 07 57 02.6 +1.4
baz=308
AAA Alma-Ata 58.38 308 *e*P P 07 57 02.5 +1.4
H19K Roundabout Mou 58.42 25 P P 07 57 01.7 +0.9
baz=252
A19K Wainwright 58.54 19 P P 07 57 02.6 +1.0
baz=244
C19K Lookout Ridge 58.56 21 P P 07 57 02.8 +1.0
baz=247
Q20K Shuyak Island 58.58 34 P P 07 57 02.5 +0.4
baz=260
L20K Farewell, AK 58.67 29 P P 07 57 03.5 +0.8
baz=256
O20K Slope Mountain 58.74 32 P P 07 57 04.0 +0.7
baz=259
RSO Reoubt South 58.75 31 P P 07 57 03.6 0.0
E19K Redstone River 58.76 23 P P 07 57 04.1 +0.8
baz=250
KUU Kurty 58.79 309 ⇑ *i*P P 07 57 04.7 +0.8
baz=309
KUU Kurty 58.79 309 *c i*P P 07 57 04.6 +0.8
K20K Telida 58.80 28 P P 07 57 05.0 +1.4
baz=255
D19K Kuna River 58.82 22 P P 07 57 04.8 +1.2
baz=248
M20K Styx River 58.87 30 P P 07 57 05.3 +1.2
baz=257
ULHL Ulahol 58.89 307 P P 07 57 06.0 +1.2
SNR=6.7
J20K Nowinta River 58.98 27 P P 07 57 06.1 +1.3
baz=255,SNR=12
I20K Naaghedeneel 59.01 26 P P 07 57 05.9 +1.1
baz=254
H20K Anotleneega Mo 59.04 25 P P 07 57 06.5 +1.3
baz=253
BOOM Boomskoye usch 59.11 307 P P 07 57 07.1 +0.9
BOOM IAmb IAmb 07 57 08.4
comp=Z,28nm,0.7s
N20K Mount Spurr 59.16 31 P P 07 57 06.7 +0.6
baz=258
F20K Avaraart Lake 59.18 24 P P 07 57 07.3 +1.2
baz=252,SNR=6.3
KSH Kashi 59.22 304 P P 07 57 10.9 +3.9
KSH pmax pmax
comp=Z,26nm,0.8s
CNPM China Poot 59.33 33 P P 07 57 07.0 -0.3
CNPM IAmb IAmb 07 57 08.2
comp=Z,25nm,0.8s
TKM2 Tokmak 2 59.35 308 P P 07 57 09.2 +1.3
SNR=26
TKM2 Tokmak 2 59.35 308 P P 07 57 08.6 +0.7
E20K Nigu River 59.40 22 P P 07 57 08.8 +1.1
baz=250
D20K Etivluk River 59.41 22 P P 07 57 08.9 +1.3
baz=250
PPLA Purkeypile 59.52 29 P P 07 57 10.1 +1.4
baz=258
NWAO Narrogin (SRO) 59.57 205 P P 07 57 09.5 +0.4
BRSE Bradley Lake S 59.61 32 P P 07 57 08.9 -0.3
baz=261
IMAR Indian Mountai 59.62 25 P P 07 57 09.9 +0.8

SKT Skwentna 59.63 30 P P 07 57 09.1 -0.2
SKT Skwentna 59.63 30 P P 07 57 09.6 +0.3
baz=259,SNR=6.8
KZA Kyzart 59.64 307 P P 07 57 12.0 +1.8
SNR=16
CAST Castle Rocks 59.69 28 P P 07 57 10.4 +0.8
CAST IAmb IAmb 07 57 11.7
comp=Z,27nm,0.9s
CAST Castle Rocks 59.69 28 P P 07 57 10.7 +1.1
baz=257,SNR=20
CHUM Lake Minchumin 59.69 28 P P 07 57 11.0 +1.5
baz=257,SNR=6.9
B20K Meade River 59.69 20 P P 07 57 10.9 +1.4
baz=249
KBK Karagaybulak 59.84 308 P P 07 57 12.4 +1.2
SNR=18
G21K Allakaket 59.86 24 P P 07 57 12.0 +1.2
baz=254
SUA Susitna One 59.91 31 P P 07 57 11.6 +0.3
SUA Susitna One 59.91 31 P P 07 57 12.0 +0.8
baz=260,SNR=5.6
H21K Melozitna Rive 59.91 26 P P 07 57 12.5 +1.4
baz=255
CHMS Chumysh 59.97 308 P P 07 57 12.9 +1.0
SNR=7.0
SGDS Sogindy 60.04 309 ⇑ *i*P P 07 57 12.1 -0.3
baz=309
SGDS Sogindy 60.04 309 *c i*P P 07 57 12.9 +0.5
F21K Alatna River 60.07 24 P P 07 57 13.4 +1.2
baz=254
I21K Tanana 60.13 26 P P 07 57 13.3 +0.8
I21K IAmb IAmb 07 57 15.2
comp=Z,30nm,0.9s
I21K Tanana 60.13 26 P P 07 57 14.0 +1.4
baz=256,SNR=16
USP Ospenovka 60.14 308 P P 07 57 13.9 +0.8
SNR=19
AAK Ala-Archa 60.17 308 P P 07 57 14.3 +0.8
SNR=13
AAK Ala-Archa 60.17 308 P P 07 57 14.2 +0.8
AAK Ala-Archa 60.17 308 *i* P P 07 57 14.2 +0.8
SNR=16
AAK Ala-Archa 60.17 308 P P 07 57 14.3 +0.8
AAK Ala-Archa 60.17 308 P P 07 57 14.3 +0.8
AAK PcP PcP 07 57 55.5 -0.2
UCH Uchtor 60.18 307 P P 07 57 15.4 +1.5
SNR=22
C21K Knifeblade Rid 60.18 21 P P 07 57 14.2 +1.3
baz=251
KTH Kantishna Hill 60.22 28 P P 07 57 14.1 +0.8
O22K Cooper Landing 60.23 32 P P 07 57 13.6 +0.3
O22K Cooper Landing 60.23 32 P P 07 57 13.3 0.0
baz=261,SNR=7.7
E21K Killik River 60.24 22 P P 07 57 14.1 +0.8
baz=253
CUT Chulitna 60.30 29 P P 07 57 13.5 -0.2
baz=260
BPAW Bear Paw Mtn. 60.31 27 P P 07 57 14.3 +0.5
BPAW IAmb IAmb 07 57 15.3
comp=Z,25nm,0.6s
BPAW Bear Paw Mtn. 60.31 27 P P 07 57 14.8 +1.0
baz=258,SNR=18
SEW Seward 60.31 32 P P 07 57 14.2 +0.4
baz=262,SNR=7.1
RC01 Rabbit Creek A 60.32 31 P P 07 57 13.9 0.0
baz=261,SNR=5.5
B21K Ikpikpuk River 60.39 21 P P 07 57 15.3 +1.1
baz=251,SNR=11
TRF Thorofare Moun 60.48 28 P P 07 57 15.4 +0.3
baz=259,SNR=11
H22K Ishtalitna Cre 60.54 25 P P 07 57 16.6 +1.3
baz=257
MLY Manley 60.61 26 P P 07 57 17.0 +1.1
baz=258,SNR=15
F22K John River 60.63 24 P P 07 57 17.4 +1.4
baz=255,SNR=20
PMR Palmer 60.69 31 P P 07 57 16.8 +0.5
PMR Palmer 60.69 31 P P 07 57 16.3 0.0
baz=261,SNR=12
EKS2 Erkin-Say 60.70 308 P P 07 57 17.9 +1.0
SNR=15
A22K Sinclair Lake 60.73 19 P P 07 57 17.7 +1.3
baz=250
G22K Bettles 60.73 24 P P 07 57 17.5 +0.9
baz=256
AML Almayashu 60.79 307 P P 07 57 19.4 +1.5
SNR=35
GHO Story Hole Cre 60.81 30 P P 07 57 17.2 -0.1
D22K Ayikyak River 60.82 22 P P 07 57 18.8 +1.7
baz=254,SNR=24
E22K Anaktuvuk Pass 60.93 23 P P 07 57 19.0 +1.1
baz=255,SNR=12
KNK Knik Glacier 60.98 31 P P 07 57 18.4 0.0
KNK IAmb IAmb 07 57 19.7
comp=Z,30nm,0.7s
KNK Knik Glacier 60.98 31 P P 07 57 18.7 +0.3
baz=262,SNR=14
B22K Teshekpuk Lake 61.00 20 P P 07 57 18.9 +0.6
B22K Teshekpuk Lake 61.00 20 P P 07 57 19.2 +0.9
baz=252
SML Sawmill 61.10 30 P P 07 57 19.5 +0.3
baz=262,SNR=12
RND Reindeer 61.11 28 P P 07 57 19.3 +0.1
RND Reindeer 61.11 28 P P 07 57 19.3 +0.1
RND pmax pmax
comp=Z,9.0nm,0.8s
MCK McKinley 61.13 28 P P 07 57 19.2 -0.1
baz=260,SNR=10
WAT1 Susitna Watana 61.15 29 P P 07 57 19.2 -0.3
baz=261
I23K Minto, Yukon-K 61.20 26 P P 07 57 20.6 +0.9
baz=259,SNR=13
NEA2 Nenana 61.22 27 P P 07 57 20.6 +0.7
baz=260,SNR=8.1
G23K Bananza Creek 61.26 25 P P 07 57 21.7 +1.6
baz=257
BRZS Berezniki 61.27 316 ⇑ *i*P P 07 57 20.7 +0.2
baz=316
BRZS Berezniki 61.27 316 *c i*P P 07 57 20.7 +0.2
COLD Coldfoot 61.30 24 P P 07 57 22.1 +1.7
baz=257,SNR=12
P23K Montague Islan 61.32 32 P P 07 57 21.2 +0.6
baz=264
ARSB Arslanbob 61.38 306 P P 07 57 21.9 +0.4
M23K Glacier View 61.38 30 P P 07 57 21.2 +0.1
baz=262,SNR=7.4
WAT6 Susitna Watana 61.48 29 P P 07 57 22.1 +0.2
baz=262,SNR=11
D23K Nanushuk River 61.54 22 P P 07 57 23.7 +1.7
baz=256,SNR=11
GLI Glacier Island 61.57 31 P P 07 57 22.7 +0.4
baz=263
SCM Sheep Creek Mo 61.57 30 P P 07 57 21.9 -0.5
SCM IAmb IAmb 07 57 24.1
comp=Z,34nm,1.0s
SCM Sheep Creek Mo 61.57 30 P P 07 57 22.9 +0.5
baz=263,SNR=8.8
E23K Chandalar 61.71 23 P P 07 57 25.1 +1.9
baz=257
PALK Pallekele 61.71 267 P P 07 57 24.5 +0.5
PALK IAmb IAmb 07 57 25.6
comp=Z,42nm,0.9s
PALK Pallekele 61.71 267 P P 07 57 24.6 +0.5
DHY Denali Highway 61.72 29 P P 07 57 23.1 -0.3
DHY IAmb IAmb 07 59 41.3
comp=Z,56nm,2.0s
DHY Denali Highway 61.72 29 P P 07 57 24.5 +1.1
baz=262
CCB Clear Creek Bu 61.77 27 P P 07 57 23.2 -0.3
C23K Itkillik River 61.78 21 P P 07 57 25.1 +1.6
baz=255
COLA College 61.79 27 P P 07 57 24.4 +0.8
COLA College 61.79 27 P P 07 57 24.4 +0.8
baz=260
COLA College 61.79 27 P P 07 57 24.1 +0.5
COLA College 61.79 27 P P 07 57 23.8 +0.2
Q23K Middleton Isla 61.79 33 P P 07 57 24.9 +1.2
baz=265
TOLK Toolik Lake Re 61.86 23 P P 07 57 25.4 +1.3
TOLK IAmb IAmb 07 57 26.4
comp=Z,35nm,1.1s
TOLK Toolik Lake Re 61.86 23 P P 07 57 25.2 +1.1
baz=257,SNR=16
H24K Noodor Dome 61.94 26 P P 07 57 25.8 +1.1
baz=260
POKR Poker Plat Res 62.00 27 P P 07 57 25.1 0.0
POKR Poker Plat Res 62.00 27 P P 07 57 25.3 +0.2

baz=261
NIL Nilore 62.01 298 P **P** **07 57 26.1 +0.3**
NIL Nilore 62.01 298 P **P** **07 57 25.8 +0.1**
NIL Nilore 62.01 298 P **P** **07 57 26.6 +0.9**
HDA Harding Lake 62.10 27 P **P** **07 57 25.3 -0.4**
HDA Harding Lake 62.10 27 P **P** **07 57 25.4 -0.4**
baz=262,SNR=11
HDA P **P** **07 57 25.4 -0.4**
baz=262,SNR=11
E24K Your Creek 62.13 23 P **P** **07 57 26.6 +0.7**
E24K Your Creek 62.13 23 P **P** **07 57 27.1 +1.2**
baz=258,SNR=12
M24K Tolsona, Glenn 62.15 30 P **P** **07 57 26.9 +0.8**
baz=264
IL31 62.18 27 P **P** **07 57 25.6 -0.5**
IL31 IAmb IAmb 07 57 26.6
comp=Z,18nm,0.8s
ILAR Eielson Array 62.18 27 P **P** **07 57 25.6 -0.6**
comp=Z,12nm,0.7s,baz=260,slow=5.4,SNR=149
ILAR S **S** **08 05 28.4 +1.2**
comp=Z,0.5nm,0.9s,baz=263,slow=12,SNR=5.3
comp=Z,12nm,0.7s
EYAK Cordova Ski Ar 62.19 32 P **P** **07 57 27.2 +0.8**
EYAK Cordova Ski Ar 62.19 32 P **P** **07 57 27.1 +0.8**
baz=265
KLU Klutina 62.20 31 P **P** **07 57 27.1 +0.6**
KLU IAmb IAmb 07 57 27.8
comp=Z,16nm,0.5s
KLU Klutina 62.20 31 P **P** **07 57 27.4 +0.9**
baz=264,SNR=11
D24K Happy Valley 62.23 22 P **P** **07 57 28.2 +1.6**
baz=257
F24K Squaw Lake 62.24 24 P **P** **07 57 28.1 +1.4**
baz=259,SNR=10
G24K Hadweenzic Riv 62.25 25 P **P** **07 57 28.1 +1.4**
baz=260
DZA Taraz 62.48 308 *e*P **P** **07 57 29.1 +0.4**
baz=308
DZA Taraz 62.48 308 *e*P **P** **07 57 29.0 +0.4**
K24K Donnelly Dome 62.53 28 P **P** **07 57 29.6 +1.0**
baz=263,SNR=5.6
PAX Paxson 62.57 29 P **P** **07 57 29.3 +0.3**
baz=264,SNR=7.4
HARP HAARP 62.65 30 P **P** **07 57 30.2 +0.8**
baz=264,SNR=10.0
BVA0 Borovoye Array 62.70 320 *i* P **P** **07 57 30.0 +0.1**
BVAR Borovoye Array 62.70 320 P **P** **07 57 30.4 +0.6**
comp=Z,88nm,0.4s,baz=91,slow=7.4,SNR=454
BVAR S **S** **08 05 33.0 -1.1**
comp=Z,4.3nm,0.8s,baz=82,slow=15,SNR=13
comp=Z,88nm,0.4s
BRVK Borovoye 62.77 320 P **P** **07 57 30.9 +0.6**
BRVK Borovoye 62.77 320 P **P** **07 57 31.0 +0.6**
BRVK Borovoye 62.77 320 P **P** **07 57 30.9 +0.6**
BRVK PcP **PcP** **07 58 05.5 -0.4**
BMRM Bremner River 62.79 32 P **P** **07 57 31.3 +0.9**
baz=266,SNR=8.7
G25K Bearman Lake 62.80 25 P **P** **07 57 31.6 +1.4**
baz=261
J25K Salcha River, 62.80 27 P **P** **07 57 30.5 +0.1**
baz=263
KAIM Kayak Island 62.81 33 P **P** **07 57 31.4 +1.0**
baz=266
N25K Chitina, Valde 62.84 31 P **P** **07 57 31.2 +0.4**
baz=265,SNR=7.5
PRP Porcupine Dome 62.85 26 P **P** **07 57 30.1 -0.7**
baz=262
RIDG Independent Ri 62.93 28 P **P** **07 57 31.6 +0.3**
baz=264,SNR=13
KK31 Karatay Array 63.06 308 P **P** **07 57 33.0 +0.6**
KK31 Karatay Array 63.06 308 *i* P **P** **07 57 32.7 +0.3**
KKAR Karatay Array 63.06 308 P **P** **07 57 32.9 +0.5**
F25K Christian Rive 63.10 24 P **P** **07 57 34.1 +1.8**
baz=261
D25K Kavik River 63.12 22 P **P** **07 57 33.8 +1.3**
baz=260
BTK Batken 63.13 305 P **P** **07 57 32.9 -0.2**
BTK IAmb IAmb 07 57 34.6
comp=Z,26nm,1.2s
GLB Gilahina Butte 63.21 31 P **P** **07 57 33.7 +0.6**
GLB IAmb IAmb 07 57 35.0
comp=Z,31nm,1.4s
E25K Arctic Village 63.21 23 P **P** **07 57 33.9 +0.9**
E25K IAmb IAmb 07 57 35.9
comp=Z,26nm,1.1s
E25K Arctic Village 63.21 23 P **P** **07 57 34.7 +1.6**
baz=261,SNR=19
SCRK Sand Creek 63.33 28 P **P** **07 57 34.3 +0.4**
SCRK IAmb IAmb 07 57 35.3
comp=Z,28nm,1.0s
SCRK Sand Creek 63.33 28 P **P** **07 57 34.4 +0.4**
baz=265,SNR=26
BMAR Burnt Mountain 63.48 24 P **P** **07 57 36.7 +1.9**
CRQM Cirque 63.49 32 P **P** **07 57 35.7 +0.6**
CRQM IAmb IAmb 07 57 36.9
comp=Z,36nm,1.1s
CRQE Cirque 63.51 32 P **P** **07 57 35.7 +0.5**
baz=267,SNR=6.9
L26K Log Cabin Wild 63.54 29 P **P** **07 57 35.9 +0.7**
baz=266
J26L Joseph Creek 63.57 28 P **P** **07 57 35.7 +0.2**
baz=265
MCARA McCarthy VSAT 63.58 31 P **P** **07 57 36.3 +0.8**
baz=267,SNR=7.3
WAX Waxell Ridge 63.62 32 P **P** **07 57 36.8 +0.9**
WAX IAmb IAmb 07 57 37.2
comp=Z,16nm,0.5s
M26K Nabesna, AK 63.66 30 P **P** **07 57 36.8 +0.8**
baz=266
F26K Sheenjek River 63.69 24 P **P** **07 57 37.9 +1.8**
baz=263
C26K Camden Bay 63.73 21 P **P** **07 57 38.2 +1.9**
baz=261,SNR=27
G26K Porcupine Rive 63.73 25 P **P** **07 57 38.1 +1.7**
baz=263,SNR=21
CHM Chimkent 63.80 308 *e*P **P** **07 57 38.0 +0.7**
comp=Z,11nm,0.6s,baz=308
CHM Chimkent 63.80 308 *e*P **P** **07 57 38.0 +0.7**
CHM pmax pmax
comp=Z,11nm,0.6s
I26K Coal Creek Min 63.81 27 P **P** **07 57 37.7 +0.7**
baz=265
MESA MESA 64.06 32 P **P** **07 57 39.8 +1.0**
baz=268
GRNC Granite Creek 64.17 32 P **P** **07 57 39.8 +0.2**
GRNC IAmb IAmb 07 57 41.4
comp=Z,21nm,1.0s
M27K Edge Creek, AK 64.17 30 P **P** **07 57 40.4 +0.9**
baz=267
K27K Chicken 64.18 28 P **P** **07 57 40.4 +1.1**
baz=266
L27K Beaver Creek, 64.23 29 P **P** **07 57 40.6 +0.9**
baz=267,SNR=7.8
BCAR Beaver Creek A 64.25 29 P **P** **07 57 40.3 +0.5**
CTG Chitna Glacier 64.38 32 P **P** **07 57 41.6 +0.8**
baz=268
CTGM Chitina Glacie 64.38 32 P **P** **07 57 41.2 +0.4**
TABL Table Mountain 64.46 32 P **P** **07 57 41.0 -0.4**
TABL IAmb IAmb 07 57 43.3
comp=Z,22nm,0.9s
I27K Kandik River 64.48 26 P **P** **07 57 41.7 +0.4**
baz=266,SNR=8.5
LOGN Logan Glacier 64.54 32 P **P** **07 57 42.4 +0.5**
G27K Doyon Strip 64.56 25 P **P** **07 57 42.4 +0.7**
G27K Doyon Strip 64.56 25 P **P** **07 57 42.6 +0.9**
baz=265
H27K Steamboat Moun 64.56 26 P **P** **07 57 43.3 +1.5**
baz=266
CHGR Chuyangaron 64.58 304 P **P** **07 57 42.8 +0.3**
EGAK Eagle 64.62 27 P **P** **07 57 42.3 +0.2**
EGAK Eagle 64.62 27 P **P** **07 57 42.8 +0.7**
baz=267,SNR=6.9
BVCY Beaver Creek 64.65 30 P **P** **07 57 43.1 +0.7**
baz=268
E27K Coleen River 64.70 24 P **P** **07 57 43.9 +1.3**
baz=265
YUK3 Moose Creek 64.82 31 P **P** **07 57 44.4 +0.7**
baz=269,SNR=9.7
PINM Pinnacle 64.90 33 P **P** **07 57 45.0 +0.9**
baz=270
D27M Malcolm River 65.02 22 P **P** **07 57 46.1 +1.4**
baz=265
YUK8 Steele Glacier 65.15 31 P **P** **07 57 46.7 +0.8**
baz=270,SNR=7.9
I28M Miner Creek 65.17 27 P **P** **07 57 46.8 +1.0**
baz=268
F28M Old Crow 65.30 24 P **P** **07 57 47.5 +1.1**
F28M IAmb IAmb 07 57 48.9
comp=Z,25nm,0.9s
F28M Old Crow 65.30 24 P **P** **07 57 47.7 +1.3**
baz=267,SNR=34
KBL Kabul 65.32 299 P **P** **07 57 47.6 +0.1**
KBL Kabul 65.32 299 P **P** **07 57 48.0 +0.6**
SNR=28
KBL Kabul 65.32 299 P **P** **07 57 47.6 +0.1**
KBL pmax pmax
comp=Z,96nm,1.1s
PNL Peninsula 65.34 33 P **P** **07 57 47.8 +1.0**
PNL Peninsula 65.34 33 P **P** **07 57 47.7 +0.8**
baz=271
DAWY Dawson 65.36 28 P **P** **07 57 47.9 +1.0**
DAWY Dawson 65.36 28 P **P** **07 57 48.0 +1.0**
baz=269,SNR=9.2
E28M Babbage River 65.49 23 P **P** **07 57 48.6 +0.9**
E28M IAmb IAmb 07 57 50.3
comp=Z,39nm,1.2s
E28M Babbage River 65.49 23 P **P** **07 57 49.2 +1.5**
baz=266,SNR=26
YUK4 Talbot Arm 65.69 31 P **P** **07 57 51.0 +1.7**
baz=271,SNR=18
O29M Mount Kennedy 65.74 32 P **P** **07 57 51.2 +1.7**
baz=271,SNR=9.5
M29M Somme Creek 65.77 30 P **P** **07 57 51.1 +1.5**
baz=270
D28M Stokes Point 65.82 22 P **P** **07 57 51.0 +1.3**
baz=267
YUK6 Outpost Mounta 65.83 32 P **P** **07 57 51.1 +0.8**
baz=271,SNR=9.8
H29M Whitestone 65.84 26 P **P** **07 57 50.7 +0.8**
baz=269
I29M Ogilvie Camp, 65.85 27 P **P** **07 57 50.8 +0.8**
baz=269,SNR=11
L29M L29M 65.92 29 P **P** **07 57 52.1 +1.6**
baz=270
G29M Pine Creek 65.99 25 P **P** **07 57 52.3 +1.5**
baz=269,SNR=21
E29M Blow River 66.08 23 P **P** **07 57 52.7 +1.3**
baz=268
P29M Windy Craggy 66.18 33 P **P** **07 57 52.7 +0.5**
P29M IAmb IAmb 07 57 54.9
comp=Z,34nm,1.0s
P29M Windy Craggy 66.18 33 P **P** **07 57 53.8 +1.6**
baz=272
K29M Barlow Dome 66.18 28 P **P** **07 57 53.6 +1.3**
baz=270
HYT Haines Junctio 66.25 32 P **P** **07 57 53.7 +1.0**
HYT Haines Junctio 66.25 32 P **P** **07 57 54.2 +1.5**
baz=272,SNR=11
N30M Aishikik Lake 66.44 31 P **P** **07 57 54.3 +0.4**
N30M IAmb IAmb 07 57 56.2
comp=Z,18nm,0.9s
N30M Aishikik Lake 66.44 31 P **P** **07 57 55.1 +1.3**
baz=272
EPYK Eagle Plains 66.51 26 P **P** **07 57 54.6 +0.4**
EPYK Eagle Plains 66.51 26 P **P** **07 57 55.1 +0.9**
baz=270,SNR=20
M30M Minto, Yukon 66.54 30 P **P** **07 57 55.5 +1.1**
baz=272,SNR=10.0
P30M Million Dollar 66.55 33 P **P** **07 57 56.2 +1.6**
baz=273
I30M Mount Dempster 66.66 27 P **P** **07 57 55.5 +0.3**
I30M Mount Dempster 66.66 27 P **P** **07 57 55.9 +0.6**
baz=271,SNR=12
J30M Hart River 66.69 28 P **P** **07 57 56.6 +1.1**
baz=271
G30M tAoh Zraii Nji 66.70 25 P **P** **07 57 56.2 +0.8**
baz=270,SNR=26
F30M Barrier River 66.87 24 P **P** **07 57 57.5 +1.2**
baz=270
MAYO Mayo, Yukon 66.91 29 P **P** **07 57 58.2 +1.4**
baz=272,SNR=9.6
O30N Mendenhall 66.95 32 P **P** **07 57 58.0 +0.9**
baz=273
S31K Pelican 67.06 35 P **P** **07 57 59.0 +1.3**
baz=274
N31M Braeburn, Yuko 67.06 31 P **P** **07 57 58.7 +1.0**
N31M IAmb IAmb 07 58 00.2
comp=Z,32nm,1.1s
N31M Braeburn, Yuko 67.06 31 P **P** **07 57 59.4 +1.6**
baz=273,SNR=12
SKAG Skagway 67.42 33 P **P** **07 58 00.6 +0.7**
SKAG IAmb IAmb 07 58 02.3
comp=Z,20nm,1.1s
SKAG Skagway 67.42 33 P **P** **07 58 01.3 +1.4**
baz=274,SNR=5.7
G31M Satah River 67.47 25 P **P** **07 58 00.9 +0.7**
G31M Satah River 67.47 25 P **P** **07 58 00.8 +0.7**
baz=272,SNR=52
H31M Peel River 67.49 26 P **P** **07 58 01.2 +0.9**
baz=272
WHY Whitehorse 67.55 32 P **P** **07 58 01.9 +1.0**
WHY IAmb IAmb 07 58 03.5
comp=Z,69nm,1.8s
WHY Whitehorse 67.55 32 P **P** **07 58 02.0 +1.1**
baz=274,SNR=7.0
URZ Urewera 67.56 152 P **P** **07 58 00.8 -0.2**
SIT Sitka 67.62 36 P **P** **07 58 02.2 +1.1**
baz=275
F31M Tsiigehtchic 67.66 24 P **P** **07 58 01.5 +0.3**
F31M Tsiigehtchic 67.66 24 P **P** **07 58 01.6 +0.4**
baz=272,SNR=7.9
M31M Drury Creek, Y 67.67 30 P **P** **07 58 02.4 +0.9**
M31M Drury Creek, Y 67.67 30 P **P** **07 58 02.6 +1.1**
baz=274,SNR=11
INK Inuvik 67.70 24 P **P** **07 58 01.4 -0.1**
INK IAmb IAmb 07 58 02.8
comp=Z,23nm,1.1s
INK Inuvik 67.70 24 P **P** **07 58 01.9 +0.4**
baz=272,SNR=12
INK Inuvik 67.70 24 P **P** **07 58 01.4 -0.1**
INK pmax pmax
comp=Z,23nm,1.1s
R32K Eaglecrest 67.94 34 P **P** **07 58 04.3 +1.1**
baz=276
S32K Killisnoo 67.98 35 P **P** **07 58 04.5 +1.1**
baz=276
JIS Juneau Island 68.01 34 P **P** **07 58 04.2 +0.7**
JIS IAmb IAmb 07 58 06.0
comp=Z,35nm,1.0s
SVE Sverdlovsk 68.12 324 *de*P **P** **07 58 04.9 +0.6**
SVE pmax pmax
comp=Z,72nm,0.9s
FARO Faro, Yukon 68.16 30 P **P** **07 58 04.7 +0.1**
FARO IAmb IAmb 07 58 07.4
comp=Z,24nm,1.3s
FARO Faro, Yukon 68.16 30 P **P** **07 58 05.5 +1.0**
baz=275,SNR=12
P32M Atlin 68.22 33 P **P** **07 58 06.0 +1.0**
baz=276,SNR=5.1
N32M Quiet Lake 68.38 31 P **P** **07 58 07.1 +1.1**
baz=276,SNR=5.8
P33M Teslin, Yukon 68.61 32 P **P** **07 58 07.8 +0.4**
P33M Teslin, Yukon 68.61 32 P **P** **07 58 08.6 +1.2**
baz=276,SNR=7.4
U33K Whale Pass 68.94 37 P **P** **07 58 10.5 +1.1**
baz=278
Q32M Nakina River 69.03 34 P **P** **07 58 11.3 +1.2**
baz=277
ARU Arti 69.31 324 P **P** **07 58 11.4 -0.1**
ARU Arti 69.31 324 *c i* P **P** **07 58 11.6 0.0**
ARU 07 58 31.3
ARU *PP **pP** **07 59 19.8 +1.9**
ARU S **S** **08 06 53.9 +0.7**
ARU SS **SS** **08 11 24.1 -2.0**
ARU pmax pmax
comp=Z,71nm,1.1s
ARU Arti 69.31 324 P **P** **07 58 11.5 -0.1**
comp=Z,26nm,0.4s,baz=286,slow=15,SNR=7.7
comp=Z,26nm,0.4s
ARU Arti 69.31 324 P **P** **07 58 11.7 +0.1**
WRAK Wrangell Islan 69.32 36 P **P** **07 58 12.8 +1.1**
baz=278
AB31 Akbulak array 69.57 316 *i* P **P** **07 58 13.2 -0.2**
ABKAR Akbulak array 69.57 316 P **P** **07 58 13.6 +0.2**
ABKAR Akbulak array 69.57 316 P **P** **07 58 13.4 +0.1**
ABKAR IAmb IAmb 07 58 14.4
comp=Z,83nm,0.7s
R33M Jennings River 69.64 33 P **P** **07 58 15.0 +1.2**
baz=278,SNR=5.3
S34M Telegraph Cree 69.77 35 P **P** **07 58 16.0 +1.6**
baz=278,SNR=7.6
A36M Sachs Harbour 70.17 19 P **P** **07 58 16.7 +0.2**
A36M Sachs Harbour 70.17 19 P **P** **07 58 17.0 +0.4**
baz=278,SNR=50
DLBC Dease Lake 70.26 34 P **P** **07 58 18.1 +0.7**
DLBC IAmb IAmb 07 58 20.1
comp=Z,24nm,1.1s
DLBC Dease Lake 70.26 34 P **P** **07 58 18.7 +1.2**
baz=279,SNR=14
T35M Bob Quinn 70.38 35 P **P** **07 58 19.3 +1.2**
baz=280
AKTO Aktyubinsk 70.59 318 P **P** **07 58 19.1 -0.4**
comp=Z,22nm,0.7s,baz=88,slow=6.3,SNR=70
comp=Z,22nm,0.7s
WTLY Watson Lake, Y 70.61 32 P **P** **07 58 20.3 +0.7**
WTLY IAmb IAmb 07 58 22.0
comp=Z,37nm,1.0s
WTLY Watson Lake, Y 70.61 32 P **P** **07 58 20.7 +1.1**
baz=280,SNR=21
C36M Paulatuk 71.00 22 P **P** **07 58 21.1 -0.5**
C36M IAmb IAmb 07 58 22.5
comp=Z,35nm,1.1s
C36M Paulatuk 71.00 22 P **P** **07 58 21.8 +0.2**
baz=280,SNR=22
WRGLY Wrigley 72.50 28 P **P** **07 58 31.5 +0.9**
WRGLY Wrigley 72.50 28 P **P** **07 58 31.6 +1.1**
baz=283,SNR=6.9
KOTAN Kotaneelee Air 72.94 32 P **P** **07 58 34.2 +1.0**
baz=284,SNR=11
FLDN Fort Liard 73.19 31 P **P** **07 58 35.6 +0.9**
baz=284
GEYT Alibeck 73.24 305 P **P** **07 58 35.7 +0.2**
GEYT Alibeck 73.24 305 P **P** **07 58 35.8 +0.3**
comp=Z,32nm,0.9s,baz=100,slow=4.5,SNR=38
comp=Z,32nm,0.9s
GYA0B ALIBECK ARRAY 73.24 305 P **P** **07 58 35.9 +0.4**
GYA0B IAmb IAmb 07 58 37.4
comp=Z,34nm,0.9s
KIRV Kirov 73.72 327 ⇑ *e*P **P** **07 58 37.9 +0.2**
KIRV Kirov 73.72 327 P **P** **07 58 38.1 +0.4**
comp=Z,54nm,0.5s,baz=65,slow=1.7,SNR=22
comp=Z,54nm,0.5s
NGCH Negor - Chabah 74.12 291 P **P** **07 58 42.0 +1.3**
PRGR Permogore 74.72 331 *e*P **P** **07 58 42.6 -0.8**
PRGR pmax pmax
comp=Z,43nm,0.8s
SPA0 Spitsbergen Ar 75.93 350 *e*P **P** **07 58 50.7 +0.6**
SPITS Spitsbergen Ar 75.93 350 P **P** **07 58 50.5 +0.4**
comp=Z,7.7nm,0.7s,baz=98,slow=6.1,SNR=11
comp=Z,7.7nm,0.7s
KBS Kingsbay 76.09 351 *i* P **P** **07 58 51.2 +0.3**
BELG Belogornoye 76.43 321 *i* P **P** **07 58 53.3 +0.1**
BELG pmax pmax
comp=Z,28nm,0.8s
BELG Belogornoye 76.43 321 P **P** **07 58 53.5 +0.2**
comp=Z,133nm,0.7s,baz=138,slow=0.4,SNR=29
comp=Z,133nm,0.7s
JLN Jalan Bani Buh 76.58 289 P **P** **07 58 55.5 +0.8**
YKA Yellowknife Ar 76.59 28 P **P** **07 58 54.0 0.0**
YKA Yellowknife Ar 76.59 28 P **P** **07 58 54.2 +0.2**
comp=Z,22nm,0.7s,baz=291,slow=5.7,SNR=229
comp=Z,22nm,0.7s
JASK Jask - Hormozg 76.79 293 P **P** **07 58 56.8 +1.0**
WBK Wadi Bani Khal 76.83 289 P **P** **07 58 57.2 +1.1**
HILA High Level 76.84 32 P **P** **07 58 55.4 -0.1**
LVZ Lovozero 76.87 338 P **P** **07 58 55.2 -0.3**
LVZ Lovozero 76.87 338 ⇑ *e*P **P** **07 58 55.6 +0.1**
LVZ pmax pmax
comp=Z,77nm,2.5s
WSAR Wadi Sarin 76.93 290 P **P** **07 58 57.4 +0.7**
GNW Green Mountain 77.04 44 P **P** **07 58 57.6 +0.9**
GNW IAmb IAmb 07 58 59.4
comp=Z,24nm,0.9s
RES Resolute Bay 77.20 13 P **P** **07 58 57.2 0.0**
RES IAmb IAmb 07 58 58.5
comp=Z,20nm,0.8s
RES Resolute Bay 77.20 13 P **P** **07 58 57.2 0.0**
RES pmax pmax
comp=Z,19nm,0.7s
BIDO Bidbid 77.29 290 P **P** **07 58 59.3 +0.7**
SMDO Samad 77.50 290 P **P** **07 59 00.7 +0.8**
VADS Vadso 77.55 341 *e*P **P** **07 58 59.1 0.0**
B06A Marblemount 77.60 43 P **P** **07 59 00.0 +0.2**
JMDO Jabal Madar 77.67 289 P **P** **07 59 01.7 +0.9**
KLMR Klimovskoe 77.76 331 *e*P **P** **07 58 56.0 -4.5**
KLMR AMP 07 59 01.3
comp=Z,44nm,1.4s
KLMR Klimovskoe 77.76 331 *e*P **P** **07 58 56.0 -4.5**
KLMR pmax pmax
comp=Z,44nm,1.4s
HOQ Hoqain 77.98 291 P **P** **07 59 04.0 +1.6**
SNR=6.3
BRLDA Berland Lookou 78.17 36 P **P** **07 59 03.3 +0.3**
BRLDA IAmb IAmb 07 59 04.7
comp=Z,37nm,0.9s
SHME Shamm 78.21 293 *i* P **P** **07 59 04.4 +0.7**
SNR=14
SHME Shamm 78.21 293 P **P** **07 59 06.0 +2.4**
SNR=5.5
MHTO MHTO 78.22 288 P **P** **07 59 05.0 +1.2**
SNR=6.8
BSY Bisya 78.34 290 P **P** **07 59 05.2 +0.7**
MASF Masafi 78.41 293 P **P** **07 59 06.2 +1.4**
SNR=7.9
MSFE Esma-Masafi 78.42 293 *i* P **P** **07 59 05.5 +0.6**
SNR=11
KEV Kevo 78.44 341 P **P** **07 59 04.1 +0.1**
KEV Kevo 78.44 341 P **P** **07 59 04.1 +0.1**
KEV pmax pmax
comp=Z,72nm,0.8s
SOHO SOHO 78.48 291 *i* P **P** **07 59 05.2 +0.1**
SNR=22
SOHO SOHO 78.48 291 P **P** **07 59 06.2 +1.1**
I04A Tendick Farm, 78.50 47 P **P** **07 59 05.8 +0.9**
I04A IAmb IAmb 07 59 06.7
comp=Z,30nm,0.9s
KHMM Horse Mountain 78.50 51 P **P** **07 59 06.1 +0.9**
UOSS Minazif 78.51 292 *i* P **P** **07 59 05.4 +0.1**
SNR=14
UOSS Minazif 78.51 292 P **P** **07 59 06.2 +0.9**
LTY Liberty 78.53 44 P **P** **07 59 05.2 +0.1**
HATD Hatta, Dubai 78.61 292 *i* P **P** **07 59 06.3 +0.4**
SNR=17
HATD Hatta, Dubai 78.61 292 P **P** **07 59 07.1 +1.2**
SNR=7.6
ASHO Ashiyiah 78.72 292 *i* P **P** **07 59 06.8 +0.3**
SNR=21
ASHO Ashiyiah 78.72 292 P **P** **07 59 08.1 +1.6**
SNR=7.6
ARQ Araqi 78.74 291 P **P** **07 59 07.9 +1.3**
HAMF Hammerfest 78.91 343 *e*P **P** **07 59 05.7 -0.8**
YBH Yreka Blue Hor 78.96 50 P **P** **07 59 08.5 +1.0**
YBH IAmb IAmb 07 59 09.8
comp=Z,22nm,0.9s
YBH Yreka Blue Hor 78.96 50 P **P** **07 59 08.5 +1.0**
YBH pmax pmax
comp=Z,21nm,0.9s
NAZ Nazwa, Dubai 78.96 293 P **P** **07 59 07.5 -0.3**
NAZ Nazwa, Dubai 78.96 293 P **P** **07 59 08.5 +0.7**
ARA0 ARCESS Array S 79.00 341 *e*P **P** **07 59 06.7 -0.4**
ARCES ARCESS Array B 79.00 341 P **P** **07 59 07.4 +0.3**
ARCES ARCESS Array B 79.00 341 P **P** **07 59 07.5 +0.3**
comp=Z,58nm,0.7s,baz=73,slow=8.5,SNR=164
comp=Z,58nm,0.7s
L04D Klamath Falls 79.08 49 P **P** **07 59 08.7 +0.4**
FAQ Al Faqa, Dubai 79.10 292 *i* P **P** **07 59 08.4 -0.1**
SNR=6.8
ALNE Al Ain 79.18 292 P **P** **07 59 09.2 +0.2**
ALNE Al Ain 79.18 292 P **P** **07 59 10.2 +1.2**
SNR=7.0
E07A Sunnyside 79.29 44 P **P** **07 59 09.8 +0.7**
E07A IAmb IAmb 07 59 11.2
comp=Z,27nm,1.0s
K04D Chiloquin, OR 79.34 48 P **P** **07 59 09.8 +0.2**
F07A Phinny Hill Vi 79.47 45 P **P** **07 59 10.6 +0.5**
F07A IAmb IAmb 07 59 12.1
comp=Z,17nm,1.1s
J05D Fort Rock, OR 79.47 48 P **P** **07 59 11.2 +0.8**
PINE Pine Mountain 79.50 47 P **P** **07 59 11.6 +1.0**
MAK Makhachkala 79.53 312 *e*P **P** **07 59 10.4 0.0**
MAK *e*PP **pP** **08 00 16.5 -2.4**
MAK *e*SP **sP** **08 00 48.6 -1.5**
MAK *e* 08 02 14.3
MAK *eS* **S** **08 08 45.8 -0.8**
MAK *eSS* **SS** **08 14 00.7 -0.4**
MAK *eSSS* SSS 08 17 28.9
D08A Wollman Farm, 79.72 43 P **P** **07 59 11.9 +0.5**
D08A IAmb IAmb 07 59 13.2
comp=Z,30nm,1.0s

KTK1 **Kautokeino** 79.97 341 *e*P P 07 59 11.5 -0.8
TULEG **Thule** 80.19 7 *i* P P 07 59 13.2 -0.1
TULEG IAmb IAmb 07 59 14.8
comp=Z,27nm,0.8s
VRH **Novokhopyorsk** 80.28 321 *e*P P 07 59 14.0 -0.2
VRH pmax pmax
comp=Z,57nm,0.7s
G08A **Pilot Rock** 80.32 45 P P 07 59 15.1 +0.3
SEKA **Sheki** 80.33 310 P P 07 59 14.6 -0.3
E09A **Wood Farm, Sta** 80.41 44 P P 07 59 15.3 +0.3
E09A IAmb IAmb 07 59 16.9
comp=Z,27nm,0.9s
NEW **Newport** 80.42 42 P P 07 59 15.7 +0.6
baz=292,SNR=33
NEW **Newport** 80.42 42 P P 07 59 15.9 +0.7
JETT **Jettan, Norway** 80.46 343 *e*P P 07 59 14.3 -0.6
ZKTA **Zakatala** 80.59 311 P P 07 59 16.8 +0.6
MOS **Moscow** 80.72 326 *e*P P 07 59 15.1 -1.4
MOS *e**PP **pP** 08 00 25.9 +0.9
MOS *e* 08 02 21.6
MOS *e*S **S** 08 08 56.6 -1.9
MOS pmax pmax
comp=Z,68nm,0.6s
MOS pmax pmax
comp=Z,100nm,0.6s
EDM **Edmonton** 80.73 36 P P 07 59 17.1 +0.4
TRO **Tromso** 80.82 343 *e*P P 07 59 16.0 -0.7
NEEM **North Greenlan** 80.83 3 *i* P P 07 59 16.8 -0.3
NEEM IAmb IAmb 07 59 19.9
comp=Z,16nm,0.8s
AFDM **Forest Hills D** 81.15 52 P P 07 59 19.4 +0.3
AFDM IAmb IAmb 07 59 20.9
comp=Z,24nm,1.3s
GANJ **Ganja** 81.15 310 P P 07 59 20.1 +0.9
DAG **Danmarks Havn** 81.24 356 *i* P P 07 59 17.5 -1.4
DAG IAmb IAmb 07 59 20.0
comp=Z,8.5nm,0.8s
SHAO **Shalim** 81.28 286 P P 07 59 21.1 +0.9
LPSR **Galich'ya Gora** 81.32 323 *e*P P 07 59 19.2 -0.5
LPSR pmax pmax
comp=Z,180nm,0.8s
OBN **Obninsk** 81.53 326 ⇑P P 07 59 21.6 +0.9
OBN **Obninsk** 81.53 326 *c i*P P 07 59 20.7 0.0
OBN *e**PP **pP** 08 00 29.9 +0.5
OBN pmax pmax
comp=Z,146nm,1.7s
OBN **Obninsk** 81.53 326 P P 07 59 21.0 +0.2
comp=Z,52nm,0.7s,baz=37,slow=2.3,SNR=15
comp=Z,52nm,0.7s
VORR **Voronezh** 81.54 322 *e*P P 07 59 21.1 +0.2
VORR pmax pmax
comp=Z,190nm,0.8s
BMO **Blue Mountains** 81.57 45 P P 07 59 21.9 +0.5
BMO IAmb IAmb 07 59 23.0
comp=Z,22nm,0.8s
VSR **Storozhevoye** 81.75 322 *e*P P 07 59 20.7 -1.3
VSR pmax pmax
comp=Z,110nm,0.6s
VORD **Divnogorie** 81.78 322 *e*P P 07 59 20.0 -2.1
CMB **Columbia Colle** 81.90 52 P P 07 59 23.3 +0.2
PNTR **Pine Nut** 82.09 51 P P 07 59 24.9 +0.6
PNTR IAmb IAmb 07 59 26.2
comp=Z,24nm,0.8s
KBZ **Khabaz** 82.39 314 *i* P P 07 59 26.0 +0.6
KBZ pmax pmax
comp=Z,108nm,0.9s
KBZ **Khabaz** 82.39 314 P P 07 59 26.2 +0.8
comp=Z,98nm,0.9s,baz=107,slow=4.8,SNR=33
comp=Z,98nm,0.9s
KIV **Kislovodsk** 82.44 314 *i* P P 07 59 26.2 +0.4
SNR=5.6
KIV **Kislovodsk** 82.44 314 *e*P P 07 59 26.6 +0.7
KIV *e*S **SKSac** 08 09 17.1 -0.9
KIV pmax pmax
comp=Z,45nm,3.8s
KIV pmax pmax
comp=Z,87nm,1.1s
KIV MLR MLR
comp=Z,73nm,19.0s
GNI **Garni** 82.46 310 P P 07 59 26.9 +0.8
comp=Z,16nm,0.6s,baz=122,slow=6.5,SNR=6.2
comp=Z,16nm,0.6s
STEI **Steigen** 82.95 343 *e*P P 07 59 26.4 -1.4
MSO **Missoula** 82.96 42 P P 07 59 28.7 +0.2
baz=294
WHFO **Wadi Hawf** 82.97 286 P P 07 59 29.4 +0.4
MDPB **Devils Postpil** 83.01 52 P P 07 59 29.3 +0.2
MFID **Camas Ranch** 83.10 46 P P 07 59 29.4 +0.1
SMMC **Simmler** 83.17 55 P P 07 59 30.5 +0.8
baz=292
MLAC **Mammoth, Mammo** 83.19 52 P P 07 59 30.9 +0.9
baz=292,SNR=7.5
FINES **FINESS Array B** 83.25 334 P P 07 59 28.6 -0.8
comp=Z,38nm,0.5s,baz=65,slow=5.0,SNR=232
comp=Z,38nm,0.5s
VOG **Valley Oaks Go** 83.27 54 P P 07 59 30.4 +0.3
baz=292
NVAR **Mina Array Bea** 83.28 51 P P 07 59 31.1 +0.7
comp=Z,18nm,0.7s,baz=273,slow=5.5,SNR=188
comp=Z,18nm,0.7s
BMN **Battle Mountai** 83.30 49 P P 07 59 30.6 +0.2
BMN IAmb IAmb 07 59 31.6
comp=Z,11nm,0.6s
FAUS **Fauske** 83.31 342 *e*P P 07 59 28.4 -1.2
CHMT **Chamberlain Mo** 83.36 42 P P 07 59 30.1 -0.6
NV11 **Mina Array Sit** 83.39 51 P P 07 59 31.0 +0.2
NV11 IAmb IAmb 07 59 32.6
comp=Z,17nm,0.9s
PKM **Mcpherson Peak** 83.47 55 P P 07 59 32.3 +0.9
baz=292,SNR=9.7
ABTO **Aybut** 83.59 286 P P 07 59 32.6 +0.4
VES **Vestal, Richgr** 83.67 54 P P 07 59 32.2 +0.1
baz=292,SNR=11
SBC **Santa Barbara** 83.71 56 P P 07 59 33.2 +0.8
baz=292
DBG **Daneborg** 83.73 355 *i* P P 07 59 30.6 -1.1
DBG IAmb IAmb 07 59 32.8
comp=Z,8.7nm,0.7s
TIN **Tinemaha, Big** 83.85 53 P P 07 59 34.0 +0.8
baz=292
SCZ2 **Santa Cruz Isl** 83.94 56 P P 07 59 34.1 +0.5
baz=292
HLID **Hailey** 83.98 46 P P 07 59 34.3 +0.4
baz=294,SNR=22
ARVC **Arvin** 84.13 55 P P 07 59 34.9 +0.4
baz=292
CWC **Cottonwood Cre** 84.20 53 P P 07 59 35.0 0.0
baz=292
ISA **Isabella, Lake** 84.20 54 P P 07 59 34.6 -0.3
baz=292,SNR=8.9
SNCC **San Nicolas Is** 84.30 57 P P 07 59 35.5 +0.1
baz=292
MOR8 **Moi Rana** 84.38 341 *e*P P 07 59 32.7 -2.4
GMN **Gold Mountain** 84.47 52 P P 07 59 36.5 0.0
GMN IAmb IAmb 07 59 38.1
comp=Z,14nm,0.9s
GRAC **Grapevine Rang** 84.51 52 P P 07 59 37.0 +0.5
baz=293,SNR=6.6
ELK **Elko** 84.56 48 P P 07 59 37.6 +0.8
SOC **Sochi** 84.56 315 *e*P P 07 59 35.6 -0.8
SOC *e* 08 02 55.0
SOC *e*PPP PPP 08 04 49.7
SOC *e*S **SKSac** 08 09 29.4 -2.1
SOC *e*SS **SS** 08 15 14.3 -1.1
SOC *e*SSS SSS 08 18 45.7
VSU **Vasula** 84.61 332 *e*P P 07 59 35.6 -0.7
MEF **Metsahovi** 84.62 334 *e*P P 07 59 35.5 -0.9
CCAC **Calif City Air** 84.74 54 P P 07 59 37.8 +0.2
CCAC IAmb IAmb 07 59 39.3
comp=Z,17nm,0.8s
MPMC **Manual Prospec** 84.78 53 P P 07 59 38.6 +0.7
baz=293,SNR=35
EDW2 **Edwards Air Fo** 84.86 55 P P 07 59 38.8 +0.6
baz=293,SNR=9.9
LRMC **Laurel Mtn Rad** 84.86 54 P P 07 59 38.2 -0.1
baz=293,SNR=23
BOZ **Bozeman (W)** 84.94 43 P P 07 59 37.8 -0.7
BOZ IAmb IAmb 07 59 40.0
comp=Z,18nm,0.7s
BOZ **Bozeman (W)** 84.94 43 P P 07 59 39.0 +0.5
baz=296,SNR=20
EGMT **Eagleton** 85.02 40 P P 07 59 39.3 +0.5
baz=297,SNR=15
FURC **Furnace Creek,** 85.09 53 P P 07 59 40.1 +0.9
baz=293,SNR=25

CIS **Catalina Islan** 85.10 56 P P 07 59 39.5 +0.2
baz=293
WCT **Wildcat Mounta** 85.14 52 P P 07 59 39.6 0.0
WCT IAmb IAmb 07 59 41.2
comp=Z,20nm,1.0s
RAF **Rauma** 85.19 335 *e*P P 07 59 37.6 -1.6
R11B **Troy Canyon, C** 85.28 51 P P 07 59 40.5 +0.1
R11B IAmb IAmb 07 59 42.1
comp=Z,20nm,1.1s
R11B **Troy Canyon, C** 85.28 51 P P 07 59 41.0 +0.7
baz=294,SNR=31
TPNV **Topopah Spring** 85.35 52 P P 07 59 41.4 +0.6
baz=294,SNR=51
BFSC **Mount Baldy Ra** 85.36 55 P P 07 59 40.7 -0.1
baz=293,SNR=5.9
GSC **Goldstone, Bar** 85.59 54 P P 07 59 41.6 -0.3
GSC IAmb IAmb 07 59 43.5
comp=Z,25nm,1.1s
GSC **Goldstone, Bar** 85.59 54 P P 07 59 42.5 +0.7
baz=293,SNR=19
MTSE **Matsula** 85.73 333 *e*P P 07 59 40.8 -1.1
SHOC **Shoshone, Teco** 85.75 53 P P 07 59 42.9 +0.4
baz=294,SNR=15
BBRC **Big Bear Solar** 85.91 55 P P 07 59 43.6 0.0
baz=293
MURC **Murrieta** 85.96 56 P P 07 59 43.6 0.0
baz=293,SNR=7.2
FFC **Flin Flon** 85.97 32 P P 07 59 43.3 +0.1
SUMG **Summit** 86.08 0 P P 07 59 44.3 +0.5
SUMG **Summit** 86.08 0 *i* P P 07 59 44.0 +0.2
SUMG IAmb IAmb 07 59 46.1
comp=Z,22nm,0.8s
HEC **Hector,Ludlow** 86.13 54 P P 07 59 45.1 +0.6
baz=294,SNR=18
H17A **Grant Village** 86.14 44 P P 07 59 47.0 +2.5
baz=296,SNR=12
TUQ **Turquoise Moun** 86.20 53 P P 07 59 45.6 +0.8
baz=294,SNR=13
MNK **Minsk** 86.22 328 *i* P P 07 59 42.3 -2.1
comp=E,7.0nm,0.8s
MNK *i* P P 07 59 42.3 -2.1
comp=N,25nm,0.9s
MNK *i* P P 07 59 42.3 -2.1
comp=Z,53nm,0.8s,baz=58
MNK *i* pP **pP** 08 00 53.1 -0.8
MNK *i* PP **PP** 08 03 07.7 -1.5
MNK *i* PPP PPP 08 05 03.7
MNK *i* S **SKSac** 08 09 38.3 -3.1
MNK *i* sS **sS** 08 11 50.7 -6.5
MNK *i* SS **SS** 08 15 39.9 +0.9
MNK *i* SSS SSS 08 19 14.8
MNK *i* LRM MLR 08 39 11.1
comp=E,298nm,20.4s
MNK *i* LRM MLR 08 39 11.1
comp=N,742nm,19.5s
MNK *i* LRM MLR 08 40 11.2
comp=Z,116nm,17.8s
MNK **Minsk** 86.22 328 *i* P P 07 59 42.3 -2.1
MNK *i* *PP **pP** 08 00 53.1 -0.8
MNK *i* 08 03 07.6
MNK *i* PPP PPP 08 05 03.7
MNK *i* S **SKSac** 08 09 38.3 -3.1
MNK *i* SS **SS** 08 15 39.8 +0.9
MNK *i* SSS SSS 08 19 14.8
MNK pmax pmax
comp=Z,53nm,0.9s
MNK pmax pmax
comp=N,25nm,0.9s
MNK pmax pmax
comp=E,7.0nm,0.8s
MNK MLR MLR
comp=N,742nm,20.0s
MNK MLR MLR
comp=E,298nm,20.0s
MNK MLR MLR
comp=Z,116nm,18.0s
NSS **Namsos** 86.27 341 *e*P P 07 59 42.8 -1.5
109C **Camp Elliot, M** 86.31 56 P P 07 59 45.5 +0.2
baz=293
DUG **Dugway, Tooele** 86.47 48 P P 07 59 46.7 +0.6
baz=295,SNR=31
ISAL **Salakas** 86.49 330 *e*P P 07 59 47.0 +1.4
PFO **Pinyon Flats O** 86.52 55 P P 07 59 46.7 +0.3
baz=294,SNR=22
TPFO **Pinon Flats** 86.53 55 P P 07 59 46.8 +0.3
baz=294,SNR=24
NACGM **Naroch** 86.54 329 *e*P P 07 59 45.6 -0.2
RLMT **Red Lodge** 86.64 43 P P 07 59 48.1 +1.2
baz=297,SNR=29
GMRC **Granite Mounta** 86.66 54 P P 07 59 47.7 +0.6
baz=294,SNR=24
BELC **Belle Mtn. Jos** 86.72 55 P P 07 59 47.6 +0.2
baz=294,SNR=16
MONP2 **Monument Peak** 86.84 56 P P 07 59 48.6 +0.5
baz=294,SNR=21
CTU **Camp Tracy** 86.99 47 P P 07 59 48.3 -0.3
CTU IAmb IAmb 07 59 50.0
comp=Z,17nm,1.1s
IKP **In-Ko-Pah, Jac** 87.18 56 P P 07 59 50.1 +0.6
baz=294,SNR=8.6
BC3 **Big Chuckawall** 87.27 55 P P 07 59 50.6 +0.6
baz=294,SNR=29
SWSC **Sam W. Stewart** 87.30 56 P P 07 59 50.3 +0.4
baz=294,SNR=7.8
IRM **Iron Mountain** 87.30 54 P P 07 59 50.7 +0.6
baz=294,SNR=14
NEE2 **Needles Airpor** 87.45 54 P P 07 59 51.4 +0.8
baz=294
LCMT **Little Creek M** 87.52 51 P P 07 59 51.5 +0.4
LCMT IAmb IAmb 07 59 53.0
comp=Z,14nm,1.0s
BW06 **Boulder Array** 87.53 45 P P 07 59 50.3 -0.9
BW06 IAmb IAmb 07 59 53.8
comp=Z,25nm,2.0s
BW06 **Boulder Array** 87.53 45 P P 07 59 51.4 +0.1
baz=297,SNR=5.8
PD31 **Pinedale Array** 87.53 45 P P 07 59 50.3 -0.9
PDAR **Pinedale Array** 87.53 45 P P 07 59 50.8 -0.5
PDAR **Pinedale Array** 87.53 45 P P 07 59 50.5 -0.7
comp=Z,1.7nm,0.6s,baz=188,slow=1.7,SNR=26
comp=Z,1.7nm,0.6s
PABE **Paberze** 87.53 330 P P 07 59 49.5 -1.1
PABE **Paberze** 87.53 330 *e*P P 07 59 50.0 -0.6
AKASG **Malin Array Be** 87.55 324 P P 07 59 49.1 -1.7
AKASG IAmb IAmb 07 59 50.8
comp=Z,17nm,1.1s
AKASG **Malin Array Be** 87.55 324 P P 07 59 49.5 -1.3
comp=Z,11nm,0.7s,baz=51,slow=4.9,SNR=66
comp=Z,11nm,0.7s
AKBB **Malin Array Si** 87.55 324 P P 07 59 49.1 -1.7
AKBB IAmb IAmb 07 59 50.5
comp=Z,22nm,0.8s
ESJX **Sierra Juarez** 87.56 57 P P 07 59 51.1 -0.4
KIEV **Kiev** 87.56 324 ⇑P P 07 59 49.6 -1.2
KIEV **Kiev** 87.56 324 P P 07 59 48.9 -1.9
KIEV IAmb IAmb 07 59 50.5
comp=Z,20nm,0.8s
KIEV **Kiev** 87.56 324 *i* P P 07 59 48.6 -2.2
SNR=13
KIEV **Kiev** 87.56 324 ⇑P P 07 59 49.6 -1.2
SCO **Scoresbysund** 87.58 355 *i* P P 07 59 49.7 -0.8
SCO IAmb IAmb 07 59 52.2
comp=Z,7.1nm,0.9s
MVU **Marysvale** 87.62 49 P P 07 59 52.0 +0.3
LAO **LASA Array** 87.77 40 P P 07 59 52.9 +0.8
baz=293,SNR=8.8
GLA **Glamis** 88.00 55 P P 07 59 54.0 +0.7
baz=294
PDMCI **Parker Dam,Lak** 88.00 54 P P 07 59 54.2 +0.9
baz=295,SNR=9.1
DGMT **Dagmar** 88.06 38 P P 07 59 53.3 0.0
baz=301
U15A **North Rim** 88.46 51 P P 07 59 56.1 +0.3
U15A IAmb IAmb 07 59 57.8
comp=Z,17nm,1.3s
RDMU **Red Mountain** 88.53 47 P P 07 59 55.6 -0.3
RDMU IAmb IAmb 07 59 57.3
comp=Z,17nm,1.0s
SUW **Suwalki** 88.78 329 *e*P P 07 59 55.9 -0.6
SUW **Suwalki** 88.78 329 *e*P P 07 59 55.7 -0.8
HFS **Hagfors** 88.80 337 P P 07 59 54.9 -1.6
comp=Z,11nm,0.5s,baz=84,slow=4.6,SNR=79
comp=Z,11nm,0.5s
DOMB **Dombas** 88.99 340 *e*P P 07 59 54.6 -2.7
NB2 **NORSAR Subarra** 89.02 339 P P 07 59 56.2 -1.4
comp=Z,12nm,0.8s,baz=44,slow=5.1

NB2 **NORSAR Subarra** 89.02 339 P P 07 59 56.2 -1.4
baz=44,slow=5.1
NB2 **NORSAR Subarra** 89.02 339 P P 07 59 54.0 -3.5
NB2 pmax pmax
comp=Z,1.0nm,0.6s
NOA **NORSAR Array B** 89.02 339 P P 07 59 56.1 -1.4
comp=Z,5.9nm,0.7s,baz=46,slow=4.5,SNR=17
comp=Z,5.9nm,0.7s
NORES **NORESS Array B** 89.13 338 P P 07 59 58.5 +0.5
NORES pmax pmax
comp=Z,1.0nm,0.6s
SORM **Soroca** 89.39 323 ⇑P P 07 59 58.0 -1.5
SORM **Soroca** 89.39 323 ⇑P P 07 59 58.0 -1.5
WUAZ **Wupatki** 89.53 52 P P 08 00 00.7 +0.1
WUAZ **Wupatki** 89.53 52 P P 08 00 01.5 +0.9
baz=296,SNR=8.0
K22A **Casper** 89.56 44 P P 08 00 00.4 -0.2
K22A **Casper** 89.56 44 P P 08 00 00.8 +0.2
baz=299
ICESG **Greenland Ices** 89.56 1 *i* P P 07 59 59.3 -1.0
ICESG IAmb IAmb 08 00 02.2
comp=Z,20nm,0.9s
O20A **White River Ci** 89.63 47 P P 08 00 00.6 -0.5
O20A IAmb IAmb 08 00 02.2
comp=Z,14nm,0.9s
O20A **White River Ci** 89.63 47 P P 08 00 01.1 +0.1
baz=298,SNR=9.6
214A **Organ Pipe Nat** 90.00 56 P P 08 00 03.6 +0.9
baz=296,SNR=6.7
BR131 **Keskin Array S** 90.36 313 P P 08 00 03.3 -1.1
BR131 IAmb IAmb 08 00 04.3
comp=Z,16nm,0.8s
BRTR **Keskin Array B** 90.36 313 P P 08 00 03.0 -1.3
comp=Z,9.3nm,0.7s,baz=90,slow=3.5,SNR=41
comp=Z,9.3nm,0.7s
RSSD **Black Hills** 90.39 42 P P 08 00 04.5 0.0
RSSD IAmb IAmb 08 00 05.3
comp=Z,14nm,0.6s
RSSD **Black Hills** 90.39 42 P P 08 00 04.4 0.0
baz=301
RSSD **Black Hills** 90.39 42 P P 08 00 04.5 0.0
RSSD pmax pmax
comp=Z,14nm,0.6s
N23A **Red Feather La** 90.80 45 P P 08 00 07.7 +1.2
baz=300,SNR=15
MVCO **Mesa Verde** 90.83 49 P P 08 00 07.1 +0.4
baz=298,SNR=6.4
MDND **Maddock** 90.99 37 P P 08 00 07.2 +0.2
baz=304
CFR **Carcaliu** 91.10 320 ⇑P P 08 00 06.4 -1.1
CFR **Carcaliu** 91.10 320 ⇑P P 08 00 06.4 -1.1
TPGR **Topolog** 91.10 320 ⇑P P 08 00 06.9 -0.7
TESR **Tescani** 91.25 322 ⇓P P 08 00 07.6 -0.5
DEL **Delary** 91.28 335 *e*P P 08 00 06.7 -1.4
TUC **Tucson** 91.39 54 P P 08 00 10.1 +0.8
baz=297
BURAR **Bucovina Array** 91.44 323 ⇑P P 08 00 09.2 0.0
BURAR **Bucovina Array** 91.44 323 ⇑P P 08 00 09.2 0.0
HARR **Harsova** 91.49 320 ⇑P P 08 00 08.3 -0.9
HARR **Harsova** 91.49 320 ⇑P P 08 00 08.3 -0.9
ASF **Jabal al Asfar** 91.51 305 P P 08 00 08.9 -0.8
comp=Z,7.7nm,1.0s,baz=354,slow=2.3,SNR=8.1
comp=Z,7.7nm,1.0s
VRI **Vrincioaia** 91.56 321 ⇑P P 08 00 09.6 0.0
VRI **Vrincioaia** 91.56 321 ⇑P P 08 00 09.6 0.0
ISCO **Idaho Springs** 91.56 46 P P 08 00 10.9 +0.8
baz=300,SNR=12
ULM **Lac du Bonnet** 91.58 33 P P 08 00 08.6 -1.0
comp=Z,3.4nm,0.8s,baz=309,slow=6.0,SNR=5.7
comp=Z,3.4nm,0.8s
PLOR **Plostina** 91.61 321 ⇑P P 08 00 10.1 +0.2
PLOR **Plostina** 91.61 321 ⇑P P 08 00 10.1 +0.2
S22A **4UR Ranch, Cre** 91.74 48 P P 08 00 11.7 +0.7
baz=299,SNR=11
TURR **Turia** 91.87 322 ⇑P P 08 00 11.7 +0.6
DY2G **Dye2** 91.93 4 *i* P P 08 00 10.3 -0.9
DY2G IAmb IAmb 08 00 12.1
comp=Z,4.1nm,0.7s
MLR **Muntele Rosu** 92.22 321 P P 08 00 12.3 -0.6
comp=Z,1.8nm,0.5s,baz=136,slow=18,SNR=3.4
comp=Z,1.8nm,0.5s
MMAI **Mount Meron Ar** 92.25 307 P P 08 00 12.5 -0.7
comp=Z,1.8nm,0.4s,baz=44,slow=4.9,SNR=10
comp=Z,1.8nm,0.4s
DOPR **Dopca** 92.28 322 ⇑P P 08 00 12.5 -0.4
Q24A **Divide** 92.29 46 P P 08 00 14.0 +0.5
baz=300,SNR=5.1
SDCO **Great Sand Dun** 92.66 48 P P 08 00 15.5 +0.3
baz=300,SNR=7.9
CRVS **Cervenica-Dubn** 92.71 326 *e*P P 08 00 15.1 +0.2
CRVS **Cervenica-Dubn** 92.71 326 *e*P P 08 00 15.1 +0.2
CRVS pmax pmax
comp=Z,23nm,1.1s
AGMN **Agassiz Nation** 92.77 35 P P 08 00 15.1 0.0
baz=307
ARR **Arges** 93.05 322 ⇓P P 08 00 16.6 0.0
ANMO **Albuquerque** 93.36 50 P P 08 00 19.0 +0.6
baz=299
ANMO **Albuquerque** 93.36 50⇑ *e*P P 08 00 16.8 -1.6
121A **Cookes Peak, D** 93.54 53 P P 08 00 20.0 +0.7
baz=298,SNR=5.8
T25A **Trinidad** 93.71 48 P P 08 00 20.3 +0.3
baz=301
KSCO **Kaye Shedlock'** 93.95 45 P P 08 00 20.9 0.0
baz=302
KSP **Ksiaz** 94.05 329 *e*P P 08 00 20.5 -0.4
EIL **Elat** 94.14 304 P P 08 00 20.6 -1.2
comp=Z,10nm,1.0s,baz=3.4,slow=3.7,SNR=6.6
comp=Z,10nm,1.0s
MORC **Moravsky Berou** 94.15 328 *e*P P 08 00 23.0 +1.5
SURR **Surduc** 94.25 323 ⇑P P 08 00 20.9 -1.0
VYHS **Vyhne** 94.33 327 *e*P P 08 00 22.4 +0.1
VYHS **Vyhne** 94.33 327 *e*P P 08 00 22.4 +0.1
JAVC **Velka Javorina** 94.68 327 *e*P P 08 00 23.9 -0.1
VRAC **Vranov** 94.92 328 *e*P P 08 00 24.2 -0.8
SMOL **Smolenice** 95.03 327 *e*P P 08 00 26.2 +0.7
ECSD **EROS Data Cent** 95.07 39 P P 08 00 24.8 -1.0
baz=306
KRUC **Moravsky** 95.19 328 *e*P P 08 00 25.1 -1.1
CLL **Collm** 95.25 331 *i* P P 08 00 25.3 -1.1
comp=Z,9.0nm,0.8s
CLL **Collm** 95.25 331 *i* P P 08 00 25.3 -1.1
CLL pmax pmax
comp=Z,9.0nm,0.8s
EYMN **Ely** 95.27 33 P P 08 00 24.9 -1.7
baz=310
MNTX **Cornudas Mount** 95.73 53 P P 08 00 29.2 +0.2
baz=300
CBKS **Cedar Bluff** 95.95 44 P P 08 00 30.1 +0.2
baz=304
RONA **Rosalia, Austr** 96.14 327 *e*P P 08 00 29.8 -0.8
comp=Z,3.8nm,1.0s
CONA **Conrad Observa** 96.20 327 *e*PcP P 08 00 30.6 -0.3
comp=Z,6.2nm,0.9s
KHC **Kasperske Hory** 96.50 329⇑ *e*P P 08 00 31.0 -1.2
GERES **GERESS Array B** 96.64 329 P P 08 00 31.3 -1.6
comp=Z,3.2nm,0.7s,baz=28,slow=6.0,SNR=12
comp=Z,3.2nm,0.7s
AMTX **Amarillo** 96.77 48 P P 08 00 33.8 0.0
baz=302
ARSA **Arzberg** 96.83 327 *i* PcP P 08 00 33.3 -0.4
comp=Z,4.6nm,0.9s
MOA **Molln** 97.05 328 *i* P P 08 00 33.7 -0.9
comp=Z,2.4nm,0.5s
SOKA **Soboth** 97.46 327 *i* PcP Pdif 08 00 36.9 +0.3
comp=Z,7.8nm,1.2s
LESA **Schwarzleotal** 98.12 329 *e*Pdiff P 08 00 38.9 -0.6
comp=Z,3.8nm,0.7s
EKA **Eskdalemuir Ar** 98.17 341 P P 08 00 37.8 -1.6
comp=Z,3.0nm,0.8s,baz=35,slow=3.1,SNR=6.2
comp=Z,3.0nm,0.8s
TXAR **Lajitas Array** 98.19 54 P P 08 00 38.9 -1.3
comp=Z,1.3nm,0.9s,baz=302,slow=3.6,SNR=9.5
TXAR PKKPbc **PKKPbc** 08 17 11.5 +0.5
comp=Z,0.9nm,0.6s,baz=132,slow=5.6,SNR=12
comp=Z,1.3nm,0.9s
MYKA **Terra Mystica** 98.20 327 *e*Pdiff P 08 00 39.7 -0.2
comp=Z,1.3nm,0.4s
ABTA **Abfaltersbach** 98.67 328 *e*Pdiff Pdif 08 00 40.1 -1.9
comp=Z,2.4nm,0.6s
BOSA **Boshof** 123.80 249 PKP **PKPdf** 08 05 58.7 -0.8
comp=Z,4.4nm,0.7s,baz=76,slow=2.4,SNR=7.3
HDC **Heredia** 124.03 61 *e*P **PKPdf** 08 06 00.4 0.0
TROLL **Troll, Antarti** 124.82 194 ⇓PKPdf **PKiKP** 08 06 00.5 -0.1
comp=Z,535nm,0.7s
SNAA **Sanae** 126.22 193 ⇓PKPdf **PKPdf** 08 06 02.5 -0.3
comp=Z,125nm,0.7s

SNAA	**Sanae**	**126.22**	**193**	PKP		**PKPdf**	**08 06 01.8**	**-1.0**
	comp=Z,6.3nm,0.8s,baz=58,slow=2.0,SNR=6.2								
VNA2	**Neumayer--Watz**	**127.71**	**192**	⇓PKPdf		**PKPdf**	**08 06 05.7**	**+0.1**
	comp=Z,21nm,0.6s,baz=149,slow=1.0								
VNA3	**Neumayer Olymp**	**127.86**	**191**	⇓PKPdf		**PKPdf**	**08 06 06.1**	**+0.2**
	comp=Z,14nm,0.8s								
VNA1	**Neumayer--Stat**	**128.10**	**192**	⇓PKPdf		**PKPdf**	**08 06 06.6**	**+0.3**
	comp=Z,14nm,1.0s								
TORD	**Torodi Ar. Bea**	**128.75**	**309**	PKP		**PKPdf**	**08 06 08.3**	**-0.9**
	comp=Z,5.0nm,0.9s,baz=18,slow=3.9,SNR=17								
TORD				SKPbc	SKiKP		08 09 00.7	-16	
	comp=Z,3.7nm,0.9s,baz=28,slow=5.0,SNR=7.0								
SJCC	**San Jacinto, C**	**131.11**	**54**	*e*P		**PKPdf**	**08 06 12.9**	**-0.9**
APAC	**Apartado, Choc**	**131.28**	**57**	*e*P		**PKPdf**	**08 06 12.5**	**-1.5**
UREC	**San Jos de Ur**	**132.19**	**57**	*e*P		**PKPdf**	**08 06 15.1**	**-0.7**
CBOC	**Ciudad Bolivar**	**132.95**	**59**	*e*P		**PKPdf**	**08 06 17.0**	**-0.4**
PLMC	**San Jos del P**	**133.30**	**60**	*e*P		**PKPdf**	**08 06 17.9**	**0.0**
OCAC	**Ocana**	**133.58**	**54**	*e*P		**PKPdf**	**08 06 18.9**	**+0.3**
YOTC	**Yotoco, Valle**	**133.78**	**61**	*e*P		**PKPdf**	**08 06 18.4**	**-0.5**
OTAV	**Otavalo**	**134.03**	**67**	*e*P		**PKPdf**	**08 06 19.5**	**-0.3**
GCUF	**Volcan Galeras**	**134.46**	**65**	*e*P		**PKPdf**	**08 06 21.1**	**+0.4**
SPBC	**San Pablo de B**	**134.62**	**58**	*e*P		**PKPdf**	**08 06 17.6**	**-2.8**
ORTC	**Ortega, Tolima**	**134.72**	**61**	*e*P		**PKPdf**	**08 06 16.6**	**-4.0**
BARC	**Barichara**	**134.73**	**56**	*e*P		**PKPdf**	**08 06 19.6**	**-1.2**
PRAC	**Prado**	**135.12**	**60**	*e*P	PKPpre	08 06 10.5		
SDV	**Santo Domingo**	**135.14**	**51**	*e*P		**PKPdf**	**08 06 19.5**	**-2.1**
SDV	**Santo Domingo**	**135.14**	**51**	*e*P		**PKPdf**	**08 06 21.4**	**-0.1**
DBIC	**Dimbokro**	**137.85**	**308**	PKP		**PKPdf**	**08 06 26.2**	**-0.1**
	comp=Z,5.8nm,0.7s,baz=11,slow=4.9,SNR=5.3								
TBTG	**Tabatinga, AM**	**143.61**	**66**	*e*P		PKPab	08 06 32.9	-1.1	
PLCA	**Paso Flores**	**145.74**	**132**	*e*P		**PKPdf**	**08 06 40.1**	**+0.4**
PLCA	**Paso Flores**	**145.74**	**132**	PKPbc		**PKPbc**	**08 06 40.6**	**-0.1**
	comp=Z,84nm,0.9s,baz=236,slow=3.4,SNR=203								
BOAV	**Boa Vista**	**146.81**	**47**	*e*P		**PKPdf**	**08 06 42.5**	**+0.4**
BOAV	**Boa Vista**	**146.81**	**47**	*e*P		**PKPdf**	**08 06 42.2**	**0.0**
TEFE	**Tefe**	**147.62**	**60**	*e*P		**PKPdf**	**08 06 43.8**	**+0.3**
ETMB	**Extrema**	**149.52**	**72**	*e*P		**PKPdf**	**08 06 46.4**	**-0.1**
LVC	**Limon Verde**	**150.36**	**98**	*e*P		**PKPdf**	**08 06 48.5**	**+0.4**
MACA	**Manacapuru-AM**	**150.51**	**55**	*e*P		**PKPdf**	**08 06 48.5**	**+0.3**
TRQA	**Tornquist**	**152.87**	**133**	*e*P		**PKPdf**	**08 06 50.9**	**-0.1**
VILB	**Vilhena**	**156.18**	**73**	*e*P		**PKPdf**	**08 06 55.7**	**-0.5**
NPGB	**Novo Progresso**	**157.05**	**54**	*e*P		**PKPdf**	**08 06 57.3**	**0.0**
BBSD	**Serra de San D**	**157.23**	**83**	*e*P		**PKPdf**	**08 06 57.7**	**+0.3**
TICA	**Tres Isletas**	**158.03**	**107**	*e*P		**PKPdf**	**08 06 58.5**	**+0.3**
PTLB	**Pontes e Lacer**	**158.07**	**78**	*e*P		**PKPdf**	**08 06 58.1**	**-0.3**
BBRB	**Robore, Bolivi**	**158.22**	**85**	*e*P		**PKPdf**	**08 06 58.5**	**-0.1**
PDRB	**Porto dos Gac**	**158.60**	**66**	*e*P		**PKPdf**	**08 06 58.9**	**-0.3**
CLDB	**Colider**	**158.99**	**63**	*e*P		**PKPdf**	**08 06 59.3**	**-0.3**
PRPB	**Parauapebas**	**160.23**	**41**	*e*P		**PKPdf**	**08 07 00.9**	**-0.2**
MURT	**Porto Murtinho**	**160.75**	**94**	*e*P		**PKPdf**	**08 07 00.9**	**-0.5**
CPUP	**Villa Florida**	**160.75**	**108**	PKP		**PKPdf**	**08 07 01.1**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=315,slow=2.4,SNR=3.2								
BDFB	**Brasilia**	**167.93**	**63**	PKP		**PKPdf**	**08 07 08.2**	**+0.2**
	comp=Z,7.6nm,0.8s,baz=49,slow=3.1,SNR=8.9								
SDBA	**SAO DESIDERIO**	**168.10**	**41**	*e*P		**PKPdf**	**08 07 07.9**	**-0.3**

CATAC 19 07:55:20.3±1.1,4°90'N×86°14'W,h10km,MB5.1,mb4.7, ML4.5, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDITO	**Canoas**	**4.89**	**41**	*i* S	Sn	07 57 35.1	+4.5
JACO	**JACO, Garabito**	**4.96**	**17**	*i* P	Pn	07 56 33.7	-1.2
JACO				*i* S	Sn	07 57 29.2	-3.2
INDI	**Punta indio, G**	**4.98**	**7**	*i* P	Pn	07 56 31.5	-3.7
POTG	**Potrero Grande**	**5.11**	**36**	*i* P	Pn	07 56 38.0	+1.0
POTG				IAmb	IAmb	07 56 44.9	
	comp=Z,29nm,0.5s						
POTG				*i* S	Sn	07 57 40.3	+4.2
POTG				IAML		07 57 43.7	
	comp=Z,160nm,1.0s						
LCR2	**La Lucha 2**	**5.26**	**24**	*i* P	Pn	07 56 38.6	-0.7
LCR2				IAmb	IAmb	07 56 46.6	
	comp=Z,13nm,0.5s						
LCR2				*i* S	Sn	07 57 36.8	-3.3
LCR2				IAML		07 57 42.2	
	comp=Z,31nm,1.0s						
ORTG	**Ortega, Santa**	**5.47**	**7**	*i* P	Pn	07 56 39.4	-2.7
ORTG				*i* S	Sn	07 57 39.9	-5.3
SOCE	**Pocosol**	**5.66**	**15**	*i* P	Pn	07 56 45.0	+0.4
SOCE				IAML		07 56 46.7	
	comp=Z,180nm,1.0s						
SOCE				IVmB_BB		07 56 46.7	
	comp=Z,2μm,1.0s						
SOCE				IAmb	IAmb	07 56 46.8	
	comp=Z,74nm,0.4s						
SOCE				*i* S	Sn	07 57 50.7	+1.0
VACR	**Volcan Arenal**	**5.73**	**15**	*i* P	Pn	07 56 46.1	+0.6
VACR				IAML		07 56 50.8	
	comp=Z,97nm,1.0s						
VACR				IAmb	IAmb	07 56 50.9	
	comp=Z,58nm,0.7s						
VACR				IVmB_BB		07 57 01.6	
	comp=Z,2μm,1.0s						
VACR				*i* S	Sn	07 57 52.8	+1.4
HZTE	**Horizontes, Gu**	**5.81**	**5**	*i* P	Pn	07 56 44.5	-2.1
HZTE				*i* S	Sn	07 57 50.7	-2.6
VRLE	**La Escondida,**	**5.91**	**7**	*i* P	Pn	07 56 46.6	-1.4
VMAR	**Armenia, Volca**	**5.97**	**10**	*i* P	Pn	07 56 47.8	-1.0
VMAR				IAmb	IAmb	07 56 53.8	
	comp=Z,37nm,0.8s						
VMAR				IAML		07 57 01.6	
	comp=Z,77nm,1.0s						
VMAR				*i* S	Sn	07 57 54.0	-3.3
COVE	**Coope Vega, Sa**	**6.04**	**16**	*i* P	Pn	07 56 49.5	-0.2
COVE				IAML		07 56 51.3	
	comp=Z,110nm,1.0s						
COVE				IAmb	IAmb	07 56 51.4	
	comp=Z,69nm,0.6s						
COVE				IVmB_BB		07 57 14.4	
	comp=Z,3μm,1.0s						
COVE				*i* S	Sn	07 58 02.2	+3.2
MOM2	**El Cardon**	**7.50**	**357**	*i* P	Pn	07 57 09.7	-0.2
MOM2				IAML		07 57 11.8	
	comp=Z,83nm,1.0s						
MOM2				IAmb	IAmb	07 57 11.9	
	comp=Z,51nm,0.5s						
BOAB	**BOACO BROADBAN**	**7.52**	**4**	*i* P	Pn	07 57 09.4	-0.7
BOAB				IAmb	IAmb	07 57 22.3	
	comp=Z,17nm,1.4s						
BOAB				IAML		07 59 25.6	
	comp=Z,36nm,1.0s						
LIMN	**Finca el Limon**	**8.12**	**358**	*i* P	Pn	07 57 17.8	-0.6
LIMN				IAmb	IAmb	07 57 20.6	
	comp=Z,15nm,0.6s						
CSGN	**Cosiguina Volc**	**8.15**	**350**	*i* P	Pn	07 57 18.4	-0.4
CSGN				IVmB_BB		07 57 24.7	
	comp=Z,5μm,1.0s						
CSGN				IAmb	IAmb	07 57 24.8	
	comp=Z,230nm,0.5s						
AMPH	**Amapala**	**8.47**	**350**	*i* P	Pn	07 57 23.4	+0.2
CNCH	**Conchagua**	**8.49**	**349**	*i* P	Pn	07 57 23.4	-0.2
CNCH				IAmb	IAmb	07 57 35.5	
	comp=Z,84nm,0.6s						
CNCH				IVmB_BB		07 58 21.6	
	comp=Z,2μm,1.0s						
LCND	**La Caada**	**8.54**	**348**	*i* P	Pn	07 57 23.8	-0.3
LCND				IVmB_BB		07 57 24.0	
	comp=Z,650nm,1.0s						
LCND				IAmb	IAmb	07 57 24.3	
	comp=Z,42nm,1.1s						
YUSH	**Yuscaran**	**9.03**	**356**	*i* P	Pn	07 57 31.9	+1.0
COEG	**Centro de Oper**	**9.08**	**343**	*i* P	Pn	07 57 31.8	+0.2
COEG				IAmb	IAmb	07 57 48.3	
	comp=Z,12nm,0.5s						
SCLA	**Alcaldia de Sa**	**9.12**	**344**	*i* P	Pn	07 57 32.0	-0.1
SCLA				IAmb	IAmb	07 57 33.1	
	comp=Z,22nm,0.5s						
SCLA				IVmB_BB		07 57 33.5	
	comp=Z,280nm,1.0s						
TGUH	**Tegucigalpa,Un**	**9.17**	**353**	*i* P	Pn	07 57 33.1	+0.2
TGUH				IAmb	IAmb	07 57 34.3	
	comp=Z,42nm,0.6s						
PAVA	**Las Pavas**	**9.19**	**343**	*i* P	Pn	07 57 33.8	+0.7
PAVA				IAmb	IAmb	07 57 34.6	
	comp=Z,95nm,0.6s						
PMON	**Piamonte**	**9.30**	**341**	*i* P	Pn	07 57 35.0	+0.3
PMON				IVmB_BB		07 57 37.7	
	comp=Z,750nm,1.0s						
PMON				IAmb	IAmb	07 57 38.0	
	comp=Z,39nm,0.5s						
NUBE	**Las Nubes**	**9.64**	**338**	*i* P	Pn	07 57 39.4	0.0
NUBE				IAmb	IAmb	07 57 41.8	
	comp=Z,34nm,0.5s						

NORS 19 07:58:21.5, 43.33N×46.11E, h17km, MPVA4.1
MOS 19 07:58:21.2, 43.31N×46.05E, h10km, MPVA4.1
TIF 19 07:58:21.7, 43.33N×46.05E, h14km±1km
DRS 19 07:58:22.4, 43.37N×45.96E, h16km

ISC 19 07:58:22.7±1.0, 43.33N±0.02×46.05E±0.01, h15km±7km, n119, σ1.943/220, 3C-4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.38**	**171**	*e*PG	Pg	07 58 30.1	-0.3
DVE				*e*S	Sb	07 58 36.6	-0.1
DVE	**Vedeno**	**0.38**	**171**	*e*Pg	Pg	07 58 30.0	-0.3
DVE				*e*Sg	Sb	07 58 36.6	-0.1
DLMR	**Dylym**	**0.50**	**121**	*e*PG	Pb	07 58 32.5	-0.6
DLMR				*e*S	Sb	07 58 41.2	+1.0
DLMR				pmax	pmax		
	comp=Z,127nm,0.7s						
DLMR				smax	smax		
	comp=N,4μm,0.4s						
DLMR	**Dylym**	**0.50**	**121**	*e*Pg	Pb	07 58 32.5	-0.6
	comp=N,127nm,0.7s						
DLMR				*e*Sg	Sb	07 58 40.2	0.0
	comp=N,160nm,0.6s						
DBC	**Dubki**	**0.65**	**118**	*e*PG	Pg	07 58 35.1	-0.3
DBC				*e*S	Sb	07 58 46.1	+1.5
DBC				pmax	pmax		
	comp=Z,152nm,0.2s						
DBC				smax	smax		
	comp=E,1μm,0.4s						
DBC	**Dubki**	**0.65**	**118**	*e*Pg	Pg	07 58 35.2	-0.3
	comp=E,151nm,0.2s						
DBC				*e*Sg	Sb	07 58 45.3	+0.7
	comp=E,879nm,0.6s						
BTLR	**Botlikh**	**0.68**	**169**	*e*PG	Pg	07 58 35.3	-0.6
BTLR				*e*S	Sb	07 58 45.9	+0.5
BTLR				pmax	pmax		
	comp=Z,283nm,0.6s						
BTLR				smax	smax		
	comp=E,830nm,0.6s						
BTLR	**Botlikh**	**0.68**	**169**	*e*Pg	Pg	07 58 35.4	-0.6
	comp=E,282nm,0.6s						
BTLR				*e*Sg	Sb	07 58 45.5	+0.1
	comp=E,174nm,0.4s						
KRNR	**Karanay**	**0.80**	**128**	*e*PG	Pb	07 58 38.1	-0.3
KRNR				*e*S	Sb	07 58 50.5	+1.4
KRNR				pmax	pmax		
	comp=E,60nm,0.2s						
KRNR				pmax	pmax		
	comp=Z,69nm,0.7s						
KRNR				smax	smax		
	comp=N,605nm,0.2s						
KRNR	**Karanay**	**0.80**	**128**	*e*Pg	Pb	07 58 38.1	-0.3
	comp=N,68nm,0.7s						
KRNR				*e*Sg	Sb	07 58 50.0	+0.9
	comp=N,2μm,0.4s						
UNCR	**Uncukul**	**0.82**	**138**	*e*PG	Pg	07 58 38.2	-0.4
UNCR				*e*S	Sb	07 58 51.0	+1.4
UNCR				pmax	pmax		
	comp=Z,172nm,0.6s						
UNCR				smax	smax		
	comp=N,2μm,0.4s						
UNCR	**Uncukul**	**0.82**	**138**	*e*Pg	Pg	07 58 38.2	-0.4
	comp=N,172nm,0.6s						
UNCR				*e*Sg	Sb	07 58 50.5	+0.9
	comp=N,72nm,0.6s						
KMGR	**Komgaron**	**0.91**	**253**	*e*PG	Pn	07 58 40.5	-0.4
KMGR	**Komgaron**	**0.91**	**253**	*e*Pg	Pn	07 58 40.5	-0.4
KMGR				*e*Sg	Sn	07 58 54.9	+1.2
HNZR	**Khunzah**	**0.91**	**147**	*e*PG	Pg	07 58 40.0	-0.4
HNZR				*e*S	Sn	07 58 54.4	+0.3
HNZR				pmax	pmax		
	comp=Z,127nm,0.5s						
XNZR	**Khunzakh**	**0.92**	**148**	*e*Pg	Pg	07 58 40.1	-0.5
	comp=Z,127nm,0.5s						
XNZR				*e*Sg	Sb	07 58 53.8	+1.2
	comp=Z,2μm,0.4s						
BUJR	**Buynaksk**	**0.93**	**123**	*e*PG	Pn	07 58 41.0	-0.1
BUJR				*e*S	Sn	07 58 55.6	+1.5
BUJR				pmax	pmax		
	comp=Z,161nm,0.6s						
BUJR				smax	smax		
	comp=E,4μm,0.3s						
BUJR				smax	smax		
	comp=N,2μm,0.5s						
BUJR				smax	smax		
	comp=E,2μm,0.4s						
BUJR	**Buynaksk**	**0.93**	**123**	*e*Pg	Pn	07 58 41.0	-0.1
BUJR				*e*Sg	Sn	07 58 55.7	+1.5
SHTL	**Shatili**	**0.94**	**225**	P	Pg	07 58 40.0	-0.9
SHTL				S	Sn	07 58 54.7	0.0
SHTL	**Shatili**	**0.94**	**225**	*e*PG	Pg	07 58 39.9	-0.9
SHTL				*e*S	Sn	07 58 54.6	0.0
SHTL	**Shatili**	**0.94**	**225**	*e*Pg	Pg	07 58 40.0	-0.9
SHTL				*e*Sg	Sn	07 58 54.7	0.0
ARKR	**Arakani**	**1.00**	**136**	⇑*i*PG	Pg	07 58 41.6	-0.5
ARKR				*e*S	Sn	07 58 56.8	+0.7
ARKR				pmax	pmax		
	comp=Z,62nm,0.6s						
ARKR				smax	smax		
	comp=N,408nm,0.2s						
ARKR	**Arakani**	**1.00**	**136**	*i* Pg	Pg	07 58 41.6	-0.5
ARKR				*e*Sg	Sb	07 58 55.9	+1.1
TRKR	**Terskaya**	**1.04**	**293**	*e*PG	Pn	07 58 42.5	-0.1
TRKR				*e*S	Sn	07 58 58.6	+1.8
TRKR	**Terskaya**	**1.04**	**293**	*e*Pg	Pn	07 58 42.5	-0.1
TRKR				*e*Sg	Sn	07 58 58.2	+1.3
VLKR	**Vladikavkaz**	**1.04**	**255**	*e*PG	Pn	07 58 43.2	+0.4
VLKR				*e*S	Sn	07 59 00.8	+3.7
VLKR	**Vladikavkaz**	**1.04**	**255**	*e*Pg	Pn	07 58 43.2	+0.4
VLKR				*e*Sg	Sn	07 59 00.8	+3.7
KANR	**Karaman**	**1.06**	**97**	*e*PG	Pb	07 58 42.6	0.0
KANR				*e*S	Sn	07 58 58.1	+0.8
KANR				pmax	pmax		
	comp=Z,479nm,0.5s						
KANR				smax	smax		
	comp=N,1μm,0.4s						
KANR				smax	smax		
	comp=E,2μm,0.5s						
KANR				smax	smax		
	comp=E,2μm,0.5s						
KANR	**Karaman**	**1.06**	**97**	*e*Pg	Pb	07 58 42.6	0.0
KANR				*e*Sg	Sn	07 58 58.1	+0.8
BTKR	**Batakoyurt**	**1.10**	**273**	*e*PG	Pn	07 58 44.0	+0.4
BTKR				*e*S	Sn	07 59 01.4	+2.9
BTKR	**Batakoyurt**	**1.10**	**273**	*e*Pg	Pn	07 58 44.0	+0.4
BTKR				*e*Sg	Sn	07 59 01.4	+2.9
MAK	**Makhachkala**	**1.13**	**109**	⇓*i*PG	Pn	07 58 44.4	+0.6
MAK				*e*		07 59 01.8	
MAK				pmax	pmax		
	comp=Z,331nm,0.3s						
MAK				smax	smax		
	comp=N,1μm,0.4s						
MAK				smax	smax		
	comp=N,1μm,0.5s						
MAK	**Makhachkala**	**1.13**	**109**	*e*Pg	Pn	07 58 45.1	+1.2
MAK				*e*Sg	Sn	07 59 02.3	+3.3
GNBR	**Gunib**	**1.16**	**144**	*e*PG	Pg	07 58 44.8	-0.1
GNBR				*e*S	Sn	07 59 02.3	+2.4
GNBR				pmax	pmax		
	comp=Z,149nm,0.4s						
GNBR				smax	smax		
	comp=E,2μm,0.8s						
GNBR	**Gunib**	**1.16**	**144**	*e*Pg	Pg	07 58 44.8	-0.1
GNBR				*e*Sg	Sn	07 59 01.2	+1.4
MTEO	**Meteo**	**1.29**	**240**	P	Pn	07 58 46.2	-0.4
MTEO				S	Sn	07 59 04.1	+0.5
MTEO	**Meteo**	**1.29**	**240**	*e*PG	Pn	07 58 46.1	-0.4
MTEO				*e*S	Sn	07 59 04.1	+0.5
CHRG	**Chargali**	**1.30**	**220**	P	Pn	07 58 46.5	+0.1
CHRG				S	Sg	07 59 04.6	0.0
CHRG	**Chargali**	**1.30**	**220**	*e*Pg	Pn	07 58 46.5	+0.1
CHRG				*e*Sg	Sg	07 59 04.6	0.0
ARNR	**Ardon**	**1.30**	**264**	*e*PG	Pg	07 58 47.3	-0.3
ARNR				*e*S	Sg	07 59 07.0	+2.4
ARNR	**Ardon**	**1.30**	**264**	*e*Pg	Pg	07 58 47.3	-0.3
ARNR				*e*Sg	Sg	07 59 07.0	+2.4
PRTR	**Priterechnaya**	**1.35**	**289**	*e*PG	Pb	07 58 47.3	-0.4
PRTR				*e*S	Sg	07 59 07.5	+1.2
PRTR	**Priterechnaya**	**1.35**	**289**	*e*Pg	Pb	07 58 47.3	-0.4
PRTR				*e*Sg	Sg	07 59 07.5	+1.2
LACR	**Lac**	**1.38**	**249**	*e*PG	Pb	07 58 48.0	-0.2
LACR				*e*S	Sg	07 59 07.2	0.0
LACR	**Lac**	**1.38**	**249**	*e*Pg	Pn	07 58 47.1	-0.4
LACR				*e*Sg	Sg	07 59 07.2	0.0
KMKR	**Kumukh**	**1.43**	**147**	*e*PG	Pb	07 58 49.2	+0.2
KMKR				*e*S	Sg	07 59 10.6	+1.9
KMKR				pmax	pmax		
	comp=Z,175nm,0.4s						
KMKR				smax	smax		
	comp=E,1μm,0.7s						
KMKR	**Kumukh**	**1.43**	**147**	*e*Pg	Pb	07 58 49.2	+0.2
KMKR				*e*Sg	Sg	07 59 09.8	+1.1
GUDG	**Gudauri**	**1.44**	**234**	P	Pn	07 58 48.9	+0.4
GUDG				S	Sg	07 59 08.5	-0.7
GUDG	**Gudauri**	**1.44**	**234**	*e*PG	Pn	07 58 48.8	+0.4
GUDG				*e*S	Sg	07 59 08.5	-0.7
GUDG	**Gudauri**	**1.44**	**234**	*e*Pg	Pb	07 58 49.1	-0.3
GUDG				*e*Sg	Sg	07 59 08.8	-0.4
STDR	**Stavd-Durt**	**1.45**	**272**	*e*PG	Pg	07 58 49.7	-0.8
STDR				*e*S	Sg	07 59 11.0	+1.6
STDR	**Stavd-Durt**	**1.45**	**272**	*e*Pg	Pg	07 58 49.7	-0.8
STDR				*e*Sg	Sg	07 59 11.0	+1.6
SGKR	**Sergokala**	**1.47**	**126**	*e*PG	Pb	07 58 49.9	+0.3
SGKR				*e*S	Sg	07 59 11.2	+1.2
SGKR	**Sergokala**	**1.47**	**126**	*e*Pg	Pb	07 58 49.9	+0.3
SGKR				*e*Sg	Sg	07 59 11.2	+1.2
KORR	**Kora**	**1.47**	**261**	*e*PG	Pb	07 58 49.5	-0.2
KORR				*e*S	Sg	07 59 09.6	-0.4
KORR	**Kora**	**1.47**	**261**	*e*Pg	Pb	07 58 49.5	-0.2
KORR				*e*Sg	Sg	07 59 11.4	+1.3
LGD	**Lagodekhi**	**1.50**	**174**	P	Pb	07 58 50.2	0.0
LGD				S	Sg	07 59 10.3	-0.7
LGD	**Lagodekhi**	**1.50**	**174**	*e*PG	Pb	07 58 50.2	0.0
LGD				*e*S	Sg	07 59 10.3	-0.7
LGD	**Lagodekhi**	**1.50**	**174**	*e*Pg	Pb	07 58 50.2	0.0
LGD				*e*Sg	Sg	07 59 10.3	-0.7
URKR	**Urkarakh**	**1.65**	**134**	*e*PN	Pb	07 58 52.6	-0.2
URKR				*e*S	Sg	07 59 17.2	+1.5
URKR				pmax	pmax		
	comp=Z,73nm,0.6s						
URKR				smax	smax		
	comp=N,565nm,0.4s						
URKR	**Urkarakh**	**1.65**	**134**	*e*Pg	Pb	07 58 53.1	+0.4
URKR				*e*Sg	Sg	07 59 16.1	+0.4
ZEI	**Tsey**	**1.67**	**252**	*i* PN	Pn	07 58 52.1	+0.7
ZEI				*e*S	Sg	07 59 15.2	-1.1
ZEI	**Tsey**	**1.67**	**252**	*e*Pg	Pn	07 58 52.1	+0.7
ZEI				*e*Sg	Sg	07 59 15.2	-1.1
NCK	**Nalchik**	**1.80**	**276**	*i* PN	Pb	07 58 54.2	-1.0
NCK				pmax	pmax		
	comp=Z,127nm,0.2s						
SEAG	**Tbilisi Sea**	**1.81**	**211**	P	Pg	07 58 57.7	+0.1
SEAG				S	Sg	07 59 23.5	+2.4
SEAG	**Tbilisi Sea**	**1.81**	**211**	*e*PN	Pg	07 58 57.6	+0.1
SEAG				*e*S	Sg	07 59 23.4	+2.4
DIGR	**Digorskoe uzhe**	**1.86**	**257**	*e*PN	Pn	07 58 55.0	+0.9
DIGR	**Digorskoe uzhe**	**1.86**	**257**	*e*Pg	Pn	07 58 55.1	+0.9
DIGR				*e*Sg	Sb	07 59 20.3	+0.7
KBTC	**Kuba-Taba**	**1.98**	**285**	*e*PN	Pb	07 58 57.6	-0.8
KBTC	**Kuba-Taba**	**1.98**	**285**	*e*Pg	Pb	07 58 57.6	-0.8
KBTC				*e*Sg	Sb	07 59 23.3	+0.4
ONI	**Oni**	**2.04**	**250**	P	Pb	07 58 58.5	-1.0
ONI				S	Sb	07 59 26.3	+1.6
ONI	**Oni**	**2.04**	**250**	*e*PN	Pb	07 58 58.5	-1.0
ONI				*e*S	Sb	07 59 26.3	+1.6
ONI	**Oni**	**2.04**	**250**	*e*Pg	Pb	07 58 58.2	-1.3
ONI				*e*Sg	Sb	07 59 24.9	+0.2
VSHL	**Vashlovani**	**2.11**	**173**	P	Pb	07 59 01.1	+0.4
VSHL				S	Sg	07 59 30.9	+0.3
DRN	**Derbent**	**2.12**	**127**	*e*PN	Pb	07 59 00.1	-0.7
DRN				*e*S	Sg	07 59 29.4	-1.6
DRN				*e*S	Sb	07 59 30.6	+3.7
DRN				pmax	pmax		
	comp=Z,89nm,0.5s						
DRN				smax	smax		
	comp=E,471nm,0.4s						
DRN				smax	smax		
	comp=N,474nm,0.3s						
DRN				smax	smax		
	comp=E,393nm,0.4s						
DRN	**Derbent**	**2.12**	**127**	*e*Pg	Pb	07 58 59.4	-1.5
DRN				*e*Sg	Sb	07 59 28.8	+1.8
ALIG	**Mtskhetisjvari**	**2.15**	**236**	P	Pb	07 59 00.9	-0.4
ALIG				S	Sb	07 59 28.5	+0.6
ALIG	**Mtskhetisjvari**	**2.15**	**236**	*e*PN	Pb	07 59 00.9	-0.4
ALIG				*e*S	Sb	07 59 28.4	+0.6
ALIG	**Mtskhetisjvari**	**2.15**	**236**	*e*Pg	Pb	07 59 00.9	-0.4
ALIG				*e*Sg	Sb	07 59 28.5	+0.6
PYA1	**Pyatigorsk**	**2.26**	**290**	*i* PN	Pn	07 59 00.9	+1.4
PYA1	**Pyatigorsk**	**2.26**	**290**	*e*Pn	Pn	07 59 00.6	+1.1
PYA1				*e*Sn	Sn	07 59 28.8	+1.6
KZRT	**Kazreti**	**2.29**	**213**	P	Pb	07 59 03.4	-0.4
KZRT				S	Sg	07 59 35.1	-1.4
KZRT	**Kazreti**	**2.

comp=Z,2.0nm,0.8s,baz=246,slow=22,SNR=4.1
OBN Obninsk 13.31 336↑ *e*P **Pn 08 01 33.4 +2.6**
OBN pmax pmax
comp=Z,13nm,0.3s
OBN MLR MLR
comp=Z,91nm,18.0s
MNK Minsk 16.30 320 *i* P **Pn 08 02 10.0 -0.8**
comp=E,11nm,0.9s
MNK *i* P **Pn 08 02 10.0 -0.8**
comp=N,16nm,0.9s
MNK *i* P **Pn 08 02 10.0 -0.8**
comp=Z,11nm,0.8s,baz=126
MNK *i* PPP PPP 08 02 26.5
MNK *i* S **Sn 08 05 12.1 +0.9**
MNK *i* SS **SnSn 08 05 26.5 +2.4**
MNK *i* SSS SSS 08 05 39.1
MNK *i* LQ LQ 08 06 28.3
MNK *i* LR LR 08 08 12.4
MNK *i* LRM MLR 08 10 35.5
comp=N,885nm,20.4s
MNK *i* LRM MLR 08 10 37.2
comp=E,313nm,20.4s
MNK *i* LRM MLR 08 10 40.6
comp=Z,126nm,16.9s
MNK Minsk 16.30 320 *i* P **Pn 08 02 09.9 -0.8**
MNK *i* S **Sn 08 05 12.1 +0.9**
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=E,11nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.8s
MNK MLR MLR
comp=N,885nm,20.0s
MNK MLR MLR
comp=E,313nm,20.0s
MNK MLR MLR
comp=Z,126nm,17.0s

DRS ***19*** *08:02:53.2, 43°.34N×45°.92E, h14km*
NORS ***19*** *08:02:53.8, 43°.30N×46°.10E, h12km, MPVA3.5*
MOS ***19*** *08:02:54.1, 43°.27N×46°.06E, h11km, MPVA3.3*
TIF ***19*** *08:02:54.3, 43°.33N×46°.04E, h12km±1km*
ISC 19 08:02:56.2±1.1,**43°.27N**±0°.04×**46°.07E**±0°.02,**h18**km±6km,
n24,σ0**86/48,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DVE	**Vedeno**	**0.31**	**172**	*e*Pg		**Pg**	**08 03 02.5**	**-0.5**
DVE				*e*Sg		**Sb**	**08 03 08.9**	**+0.9**
DLMR	**Dylym**	**0.46**	**115**	*e*Pg		**Pg**	**08 03 04.6**	**-0.8**
DLMR				*e*Sg		**Sb**	**08 03 12.5**	**+0.3**
DBC	**Dubki**	**0.61**	**114**	*e*Pg		**Pb**	**08 03 07.1**	**-1.3**
DBC				*e*Sg		**Sg**	**08 03 17.4**	**+1.0**
BTLR	**Botlikh**	**0.61**	**169**	*e*Pg		**Pb**	**08 03 07.7**	**-0.7**
BTLR				*e*Sg		**Sg**	**08 03 17.9**	**+1.3**
KRNR	**Karanay**	**0.76**	**125**	*e*Pg		**Pb**	**08 03 10.7**	**-0.2**
KRNR				*e*Sg		**Sn**	**08 03 22.1**	**-1.0**
UNCR	**Uncukul**	**0.77**	**136**	*e*Pg		**Pb**	**08 03 10.3**	**-0.8**
UNCR				*e*Sg		**Sn**	**08 03 22.8**	**-0.5**
XNZR	**Khunzakh**	**0.86**	**147**	*e*Pg		**Pb**	**08 03 12.2**	**-0.6**
XNZR				*e*Sg		**Sn**	**08 03 25.8**	**-0.1**
BUJR	**Buynaksk**	**0.88**	**120**	*e*Pg		**Pn**	**08 03 13.6**	**-0.1**
BUJR				*e*Sg		**Sn**	**08 03 27.5**	**+1.4**
SHTL	**Shatili**	**0.91**	**228**	P		**Pb**	**08 03 12.7**	**-0.8**
SHTL				S		**Sg**	**08 03 26.0**	**+0.1**
ARKR	**Arakani**	**0.95**	**134**	*e*Pg		**Pb**	**08 03 13.7**	**-0.5**
ARKR				*e*Sg		**Sn**	**08 03 28.1**	**+0.3**
GNBR	**Gunib**	**1.10**	**143**	*e*Pg		**Pn**	**08 03 16.3**	**-0.5**
GNBR				*e*Sg		**Sg**	**08 03 33.2**	**+1.4**
BTKR	**Batakoyurt**	**1.12**	**276**	*e*Pg		**Pg**	**08 03 17.8**	**-0.1**
BTKR				*e*Sg		**Sg**	**08 03 35.4**	**+2.9**
CHRG	**Chargali**	**1.26**	**222**	P		**Pn**	**08 03 19.1**	**+0.1**
CHRG				S		**Sg**	**08 03 37.0**	**0.0**
MTEO	**Meteo**	**1.27**	**243**	P		**Pn**	**08 03 18.9**	**-0.6**
MTEO				S		**Sg**	**08 03 37.0**	**-0.5**
ARNR	**Ardon**	**1.31**	**267**	*e*Pg		**Pb**	**08 03 20.0**	**-0.2**
ARNR				*e*Sg		**Sg**	**08 03 39.9**	**+1.4**
KMKR	**Kumukh**	**1.37**	**146**	*e*Pg		**Pb**	**08 03 21.7**	**+0.4**
KMKR				*e*Sg		**Sg**	**08 03 41.9**	**+1.5**
LACR	**Lac**	**1.37**	**252**	*e*Pg		**Pn**	**08 03 20.6**	**0.0**
LACR				*e*Sg		**Sg**	**08 03 39.5**	**-1.1**
PRTR	**Priterechnaya**	**1.39**	**291**	*e*Pg		**Pn**	**08 03 20.3**	**-0.4**
PRTR				*e*Sg		**Sg**	**08 03 40.6**	**-0.5**
LGD	**Lagodekhi**	**1.44**	**175**	P		**Pb**	**08 03 22.8**	**+0.3**
LGD				S		**Sg**	**08 03 43.0**	**+0.4**
STDR	**Stavd-Durt**	**1.47**	**275**	*e*Pg		**Pb**	**08 03 22.4**	**-0.6**
STDR				*e*Sg		**Sg**	**08 03 44.7**	**+1.1**
KORR	**Kora**	**1.48**	**264**	*e*Pg		**Pb**	**08 03 22.9**	**-0.2**
KORR				*e*Sg		**Sg**	**08 03 44.7**	**+0.8**
ZEI	**Tsey**	**1.66**	**254**	*e*Pg		**Pn**	**08 03 23.9**	**-0.7**
ZEI				*e*Sg		**Sb**	**08 03 46.9**	**-0.1**
DIGR	**Digorskoe uzhe**	**1.86**	**259**	*e*Pg		**Pn**	**08 03 27.8**	**+0.4**
DIGR				*e*Sg		**Sb**	**08 03 52.7**	**0.0**
KBTC	**Kuba-Taba**	**2.01**	**287**	*e*Pg		**Pn**	**08 03 29.4**	**+0.1**
KBTC				*e*Sg		**Sb**	**08 03 57.9**	**+0.9**

DRS ***19*** *08:03:39.4, 43°.46N×45°.96E, h16km*
TIF ***19*** *08:03:39.9, 43°.35N×46°.05E, h6km±1km*
NORS ***19*** *08:03:40.2, 43°.30N×46°.10E, h12km, MPVA3.9*
MOS ***19*** *08:03:40.4, 43°.27N×46°.05E, h12km, MPVA3.9*
ISC 19 08:03:41.3±1.1,**43°.31N**±0°.04×**46°.03E**±0°.02,**h13**km±9km,
n37,σ1**08/71,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DVE	**Vedeno**	**0.36**	**169**	*e*Pg		**Pg**	**08 03 48.7**	**+0.1**
DVE				*e*Sg		**Sb**	**08 03 55.1**	**+0.1**
DLMR	**Dylym**	**0.50**	**118**	*e*Pg		**Pb**	**08 03 51.2**	**-0.7**
DLMR				*e*Sg		**Sb**	**08 03 59.5**	**+0.4**
DBC	**Dubki**	**0.65**	**116**	*e*Pg		**Pb**	**08 03 53.5**	**-1.1**
DBC				*e*Sg		**Sb**	**08 04 03.4**	**-0.1**
BTLR	**Botlikh**	**0.66**	**168**	*i* Pg		**Pg**	**08 03 54.0**	**-0.2**
BTLR				*e*Sg		**Sb**	**08 04 04.1**	**+0.4**
KRNR	**Karanay**	**0.80**	**127**	*e*Pg		**Pb**	**08 03 56.2**	**-0.9**
KRNR				*e*Sg		**Sb**	**08 04 07.9**	**0.0**
UNCR	**Uncukul**	**0.81**	**136**	*e*Pg		**Pb**	**08 03 56.7**	**-0.7**
UNCR				*e*Sg		**Sb**	**08 04 08.7**	**+0.5**
KMGR	**Komgaron**	**0.89**	**254**	*e*Pg		**Pn**	**08 03 59.4**	**-0.1**
KMGR				*e*Sg		**Sn**	**08 04 11.7**	**-0.6**
XNZR	**Khunzakh**	**0.91**	**147**	*e*Pg		**Pb**	**08 03 58.7**	**-0.3**
XNZR				*e*Sg		**Sb**	**08 04 11.5**	**+0.4**
SHTL	**Shatili**	**0.92**	**225**	P		**Pb**	**08 03 58.9**	**-0.3**
SHTL				S		**Sn**	**08 04 12.8**	**-0.2**
BUJR	**Buynaksk**	**0.93**	**121**	*e*Pg		**Pn**	**08 04 00.1**	**+0.1**
BUJR				*e*Sg		**Sn**	**08 04 14.1**	**+1.0**
ARKR	**Arakani**	**1.00**	**135**	*e*Pg		**Pn**	**08 04 00.3**	**-0.7**
ARKR				*e*Sg		**Sn**	**08 04 14.0**	**-1.0**
VLKR	**Vladikavkaz**	**1.02**	**256**	*e*Pg		**Pn**	**08 04 01.9**	**+0.5**
VLKR				*e*Sg		**Sn**	**08 04 16.2**	**+0.6**
TRKR	**Terskaya**	**1.03**	**294**	*e*Sg		**Sn**	**08 04 17.4**	**+1.7**
BTKR	**Batakoyurt**	**1.09**	**274**	*e*Pg		**Pn**	**08 04 02.9**	**+0.6**
BTKR				*e*Sg		**Sn**	**08 04 20.5**	**+3.3**
GNBR	**Gunib**	**1.15**	**143**	*e*Pg		**Pg**	**08 04 03.6**	**+0.2**
GNBR				*e*Sg		**Sn**	**08 04 19.8**	**+1.2**
MTEO	**Meteo**	**1.27**	**241**	P		**Pg**	**08 04 05.2**	**-0.5**
MTEO				S		**Sg**	**08 04 23.3**	**+1.1**
CHRG	**Chargali**	**1.27**	**220**	P		**Pg**	**08 04 05.4**	**-0.4**
CHRG				S		**Sg**	**08 04 24.2**	**+1.9**
ARNR	**Ardon**	**1.28**	**265**	*e*Pg		**Pg**	**08 04 06.2**	**+0.2**
ARNR				*e*Sg		**Sg**	**08 04 23.6**	**+0.9**
PRTR	**Priterechnaya**	**1.35**	**290**	*e*Pg		**Pg**	**08 04 06.2**	**-1.0**
PRTR				*e*Sg		**Sg**	**08 04 26.7**	**+2.0**
LACR	**Lac**	**1.36**	**250**	*e*Pg		**Pg**	**08 04 06.8**	**-0.6**
LACR				*e*Sg		**Sg**	**08 04 25.1**	**0.0**
KMKR	**Kumukh**	**1.41**	**146**	*e*Pg		**Pg**	**08 04 07.9**	**-0.6**
KMKR				*e*Sg		**Sg**	**08 04 27.8**	**+0.8**
GUDG	**Gudauri**	**1.42**	**234**	P		**Pb**	**08 04 07.1**	**-0.6**
GUDG				S		**Sg**	**08 04 28.1**	**+1.0**
KORR	**Kora**	**1.45**	**262**	*e*Pg		**Pg**	**08 04 08.6**	**-0.6**
KORR				*e*Sg		**Sg**	**08 04 29.7**	**+1.6**
SGKR	**Sergokala**	**1.47**	**125**	*e*Pg		**Pg**	**08 04 09.4**	**0.0**
SGKR				*e*Sg		**Sg**	**08 04 29.2**	**+0.7**
LGD	**Lagodekhi**	**1.48**	**174**	P		**Pg**	**08 04 08.9**	**-0.8**
LGD				S		**Sg**	**08 04 29.3**	**+0.3**
URKR	**Urkarakh**	**1.64**	**133**	*e*Pg		**Pg**	**08 04 11.8**	**-1.1**
URKR				*e*Sg		**Sg**	**08 04 33.9**	**-0.3**
ZEI	**Tsey**	**1.65**	**252**	*e*Pg		**Pb**	**08 04 11.0**	**-0.6**
ZEI				*e*Sg		**Sg**	**08 04 33.7**	**-0.6**
DIGR	**Digorskoe uzhe**	**1.84**	**258**	*e*Pg		**Pb**	**08 04 13.4**	**-1.5**
DIGR				*e*Sg		**Sb**	**08 04 38.6**	**+0.7**
VSHL	**Vashlovani**	**2.09**	**172**	P		**Pg**	**08 04 20.3**	**-1.2**
VSHL				S		**Sg**	**08 04 51.3**	**+2.7**
ALIG	**Mtskhetisjvari**	**2.13**	**236**	P		**Pb**	**08 04 19.1**	**-0.7**
ALIG				S		**Sg**	**08 04 48.1**	**-1.6**
TRLG	**Trialeti**	**2.27**	**220**	P		**Pb**	**08 04 21.8**	**-0.4**
TRLG				S		**Sg**	**08 04 55.0**	**+0.7**
KBZ	**Khabaz**	**2.32**	**282**	*e*Pn		**Pb**	**08 04 22.7**	**-0.2**
KBZ				*e*Sn		**Sb**	**08 04 50.3**	**-1.1**
DMNI	**Dmanisi**	**2.40**	**215**	P		**Pb**	**08 04 22.4**	**-2.1**
DMNI				S		**Sb**	**08 04 54.0**	**0.0**
NEUR	**Neytrino**	**2.43**	**270**	*e*Pn		**Pb**	**08 04 23.1**	**-1.9**
NEUR				*i* Sn		**Sn**	**08 04 52.0**	**+1.5**
SHA1	**Shidzhatmaz**	**2.49**	**281**	*e*Sn		**Sb**	**08 04 54.2**	**-2.5**
ALER	**Alexandrovskoy**	**2.68**	**304**	*e*Pn		**Pn**	**08 04 24.6**	**+0.5**
ALER				*i* Sn		**Sn**	**08 04 57.1**	**+0.8**
ABS	**Abastumani**	**2.84**	**238**	P		**Pb**	**08 04 31.0**	**-0.9**

DRS ***19*** *08:05:37.5, 43°.40N×45°.86E, h14km*
TIF ***19*** *08:05:38.3, 43°.38N×46°.07E, h14km±2km*
NORS ***19*** *08:05:39.4, 43°.28N×46°.11E, h18km, MPVA3.6*
MOS ***19*** *08:05:39.0, 43°.27N×46°.05E, h11km, MPVA3.5*
ISC 19 08:05:40.1±1.2,**43°.33N**±0°.05×**46°.05E**±0°.02,**h14**km±9km,
n24,σ0**98/48,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DVE	**Vedeno**	**0.37**	**172**	*e*Pg		**Pg**	**08 05 47.9**	**+0.9**
DVE				*e*Sg		**Sb**	**08 05 53.7**	**+0.9**
DLMR	**Dylym**	**0.49**	**121**	*e*Pg		**Pb**	**08 05 49.8**	**-0.8**
DLMR				*e*Sg		**Sb**	**08 05 58.0**	**+0.3**
DBC	**Dubki**	**0.65**	**118**	*e*Pg		**Pb**	**08 05 52.2**	**-1.0**
DBC				*e*Sg		**Sb**	**08 06 02.5**	**+0.4**
BTLR	**Botlikh**	**0.67**	**169**	*e*Pg		**Pg**	**08 05 52.6**	**-0.6**
BTLR				*e*Sg		**Sg**	**08 06 02.7**	**+0.5**
KRNR	**Karanay**	**0.80**	**128**	*e*Pg		**Pb**	**08 05 55.5**	**-0.4**
KRNR				*e*Sg		**Sn**	**08 06 07.8**	**-1.1**
UNCR	**Uncukul**	**0.82**	**138**	*e*Pg		**Pg**	**08 05 55.5**	**-0.5**
UNCR				*e*Sg		**Sb**	**08 06 07.6**	**+0.5**
XNZR	**Khunzakh**	**0.92**	**148**	*e*Pg		**Pb**	**08 05 57.2**	**-0.7**
XNZR				*e*Sg		**Sg**	**08 06 10.8**	**+0.8**
BUJR	**Buynaksk**	**0.92**	**123**	*e*Pg		**Pn**	**08 05 58.7**	**0.0**
BUJR				*e*Sg		**Sn**	**08 06 13.4**	**+1.6**
SHTL	**Shatili**	**0.94**	**225**	P		**Pb**	**08 05 57.4**	**-0.9**
SHTL				S		**Sn**	**08 06 12.5**	**+0.1**
ARKR	**Arakani**	**1.00**	**136**	*e*Pg		**Pb**	**08 05 58.6**	**-0.6**
ARKR				*e*Sg		**Sn**	**08 06 13.5**	**-0.2**
BTKR	**Batakoyurt**	**1.10**	**273**	*e*Pg		**Pg**	**08 06 02.2**	**+0.8**
BTKR				*e*Sg		**Sn**	**08 06 19.2**	**+3.0**
GNBR	**Gunib**	**1.15**	**144**	*e*Pg		**Pg**	**08 06 01.9**	**-0.4**
GNBR				*e*Sg		**Sg**	**08 06 18.9**	**+1.5**
MTEO	**Meteo**	**1.29**	**240**	P		**Pn**	**08 06 03.7**	**-0.4**
MTEO				S		**Sg**	**08 06 21.8**	**0.0**
CHRG	**Chargali**	**1.30**	**220**	P		**Pb**	**08 06 03.9**	**-0.4**
CHRG				S		**Sg**	**08 06 22.9**	**+1.0**
PRTR	**Priterechnaya**	**1.36**	**289**	*e*Pg		**Pg**	**08 06 04.9**	**-1.3**
PRTR				*e*Sg		**Sg**	**08 06 24.1**	**+0.3**
LACR	**Lac**	**1.38**	**249**	*e*Pg		**Pg**	**08 06 05.8**	**-0.9**
LACR				*e*Sg		**Sg**	**08 06 25.2**	**+0.6**
KMKR	**Kumukh**	**1.42**	**147**	*e*Pg		**Pg**	**08 06 06.9**	**-0.6**
KMKR				*e*Sg		**Sg**	**08 06 26.9**	**+0.9**
GUDG	**Gudauri**	**1.44**	**234**	P		**Pb**	**08 06 06.5**	**-0.5**
GUDG				S		**Sb**	**08 06 26.2**	**+0.9**
STDR	**Stavd-Durt**	**1.45**	**272**	*e*Pg		**Pg**	**08 06 07.3**	**-0.8**
STDR				*e*Sg		**Sg**	**08 06 29.2**	**+2.3**
KORR	**Kora**	**1.47**	**261**	*e*Pg		**Pg**	**08 06 07.5**	**-0.9**
KORR				*e*Sg		**Sg**	**08 06 28.8**	**+1.2**
LGD	**Lagodekhi**	**1.50**	**175**	P		**Pb**	**08 06 07.5**	**-0.3**
LGD				S		**Sg**	**08 06 28.2**	**-0.1**
ZEI	**Tsey**	**1.67**	**252**	*e*Pg		**Pb**	**08 06 10.3**	**-0.5**
ZEI				*e*Sg		**Sg**	**08 06 32.6**	**-1.2**
DIGR	**Digorskoe uzhe**	**1.86**	**258**	*e*Pg		**Pb**	**08 06 12.8**	**-1.2**
DIGR				*e*Sg		**Sb**	**08 06 37.6**	**+0.4**
TRLG	**Trialeti**	**2.30**	**220**	P		**Pb**	**08 06 20.3**	**-1.1**
TRLG				S		**Sg**	**08 06 53.5**	**-0.4**

IDC 19 08:16:54.0±999.0,**46°.47N×44°.76E, h0**km,**Error ellipse: s-maj=10000.0km s-min=191.8km az=61.0,**
Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**9.66**	**61**	I		I	09 05 20.0	
	baz=252,slow=364,SNR=1.4							
I46RU	**ZALESOVO INFRA**	**26.41**	**59**	I		I	10 58 50.0	
	baz=269,slow=316,SNR=0.8							
I34MN	**SONGINO INFRAS**	**40.97**	**65**	I		I	12 26 50.0	
	baz=291,slow=322,SNR=0.5							

NEIC ***19*** *08:37:16.2±1.1, 18°.92N±0°.03×67°.21W±0°.03, h28km±10km, ML2.7/18, Md2.9/11(RSPR), Error ellipse: s-maj=5.1km s-min=3.6km az=215.0*
RSPR ***19*** *08:37:17.4, 18°.91N×67°.23W, h11km, MD2.9/11*
OSPL ***19*** *08:37:18.3±0.6, 18°.84N×67°.22W, h22km±6km, ML2.5*
SDD ***19*** *08:37:20.0±2.1, 18°.59N×67°.19W, h51km±16km, MD3.3, ML2.6, MW3.1*
ISC 19 08:37:16.1±1.4,**18°.86N**±0°.06×**67°.21W**±0°.03,**h23**km±13km,
n45,σ0**84/55,14C-4D,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.40**	**166**	↑ *i* P		**Pn**	**08 37 26.1**	**-0.4**
AGPR	**Aguadilla, PR**	**0.40**	**166**	*e*S		**Sn**	**08 37 33.4**	**-0.1**
AGPR	**Aguadilla, PR**	**0.40**	**166**			**Pn**	**08 37 26.1**	**-0.4**
AGPR						**Sn**	**08 37 33.4**	**-0.1**
AGPR	**Aguadilla, PR**	**0.40**	**166**	IAML			08 37 35.0	
	comp=N,599nm,0.3s							
AGPR				IAML			08 37 36.3	
	comp=E,422nm,0.3s							
AGPR	**Aguadilla, PR**	**0.40**	**166**	↑ *e*Pg		**Pn**	**08 37 26.2**	**-0.4**
AGPR				↑ *e*Sg		**Sn**	**08 37 33.6**	**+0.2**
AGPR				IAML			08 37 35.0	
	comp=N,592nm,0.2s							
AGPR				IAML			08 37 36.1	
	comp=E,408nm,0.4s							
AGPR	**Aguadilla, PR**	**0.40**	**166**	*i* P		**Pn**	**08 37 26.1**	**-0.4**
AGPR				*e*S		**Sb**	**08 37 31.4**	**+0.9**
AGPR				IAML			08 37 35.6	
	comp=Z,319nm,0.2s							
IDE	**Isla Desecheo**	**0.54**	**208**	↓ *i* P		**Pn**	**08 37 28.0**	**-0.4**
IDE	**Isla Desecheo**	**0.54**	**208**	*e*S		**Sn**	**08 37 36.6**	**-0.1**
IDE	**Isla Desecheo**	**0.54**	**208**			**Pn**	**08 37 28.0**	**-0.4**
IDE						**Sn**	**08 37 36.6**	**-0.1**
PRSN	**Puerto Rico Se**	**0.64**	**174**	↑ *i* P		**Pn**	**08 37 29.8**	**-0.1**
PRSN	**Puerto Rico Se**	**0.64**	**174**	*e*S		**Sn**	**08 37 39.7**	**+0.3**
PRSN	**Puerto Rico Se**	**0.64**	**174**			**Pn**	**08 37 29.8**	**-0.1**
PRSN						**Sn**	**08 37 39.7**	**+0.3**
PRSN	**Puerto Rico Se**	**0.64**	**174**	IAML			08 37 47.5	
	comp=E,461nm,0.3s							
AOPR	**Arecibo Observ**	**0.67**	**140**	↑ *e*P		**Pn**	**08 37 29.9**	**-0.4**
AOPR	**Arecibo Observ**	**0.67**	**140**	*e*S		**Sn**	**08 37 40.1**	**-0.1**
AOPR	**Arecibo Observ**	**0.67**	**140**			**Pn**	**08 37 29.9**	**-0.4**
AOPR						**Sn**	**08 37 40.1**	**-0.1**
AOPR	**Arecibo Observ**	**0.67**	**140**	IAML			08 37 50.2	
	comp=N,440nm,0.3s							
AOPR	**Arecibo Observ**	**0.67**	**140**	↑ *e*Pg		**Pn**	**08 37 30.0**	**-0.4**
AOPR				↓ *e*Sg		**Sb**	**08 37 38.5**	**+0.4**
AOPR				IAML			08 37 49.7	
	comp=E,692nm,0.3s							
AOPR				IAML			08 37 50.1	
	comp=N,415nm,0.2s							
LSP	**Las Mesas**	**0.69**	**170**	↓ *i* P		**Pn**	**08 37 30.7**	**+0.1**
LSP	**Las Mesas**	**0.69**	**170**	*e*S		**Sn**	**08 37 43.1**	**+2.4**
LSP	**Las Mesas**	**0.69**	**170**			**Pn**	**08 37 30.7**	**+0.1**
LSP						**Sn**	**08 37 43.1**	**+2.4**
EMPR	**Esperanza - Ma**	**0.75**	**121**	↑ *e*P		**Pn**	**08 37 31.4**	**+0.1**
EMPR	**Esperanza - Ma**	**0.75**	**121**	*e*S		**Sn**	**08 37 42.4**	**+0.4**
EMPR	**Esperanza - Ma**	**0.75**	**121**			**Pn**	**08 37 31.4**	**+0.1**
EMPR						**Sn**	**08 37 42.4**	**+0.4**
EMPR	**Esperanza - Ma**	**0.75**	**121**	IAML			08 37 51.5	
	comp=E,307nm,0.5s							
EMPR				IAML			08 37 51.9	
	comp=N,221nm,0.3s							
CRPR	**Cabo Rojo, PR**	**0.86**	**174**	↑ *i* P		**Pn**	**08 37 33.1**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.86**	**174**	*e*S		**Sn**	**08 37 45.0**	**+0.4**
CRPR	**Cabo Rojo, PR**	**0.86**	**174**			**Pn**	**08 37 33.1**	**+0.2**
CRPR						**Sn**	**08 37 45.0**	**+0.4**
CRPR	**Cabo Rojo, PR**	**0.86**	**174**	↑ *e*Pg		**Pn**	**08 37 33.1**	**+0.2**
CRPR				↑ *e*Sg		**Sb**	**08 37 39.4**	**-4.0**
CRPR				IAML			08 37 51.0	
	comp=N,103nm,0.2s							
CRPR				IAML			08 37 52.9	
	comp=E,126nm,0.2s							
CRPR	**Cabo Rojo, PR**	**0.86**	**174**	*i* P		**Pn**	**08 37 33.0**	**+0.2**
CRPR				IAML			08 37 51.5	
	comp=Z,150nm,0.4s							
GBPR	**Guanica, Bosqu**	**0.94**	**160**	↑ *e*P		**Pb**	**08 37 34.5**	**+0.8**
GBPR	**Guanica, Bosqu**	**0.94**	**160**			**Pb**	**08 37 34.5**	**+0.8**
OBIP	**Obispado Ponce**	**1.00**	**145**	↑ *e*P		**Pb**	**08 37 35.0**	**+0.3**
OBIP	**Obispado Ponce**	**1.00**	**145**	*e*S		**Sn**	**08 37 48.5**	**+0.4**
OBIP	**Obispado Ponce**	**1.00**	**145**			**Pb**	**08 37 35.0**	**+0.3**
OBIP						**Sn**	**08 37 48.5**	**+0.4**
PCDR	**Punta Cana, DR**	**1.16**	**253**	↑ *e*P		**Pn**	**08 37 37.1**	**+0.1**
PCDR	**Punta Cana, DR**	**1.16**	**253**			**Pn**	**08 37 37.1**	**+0.1**
PCDR						**Sn**	**08 37 51.4**	**-0.8**
PCDR	**Punta Cana, DR**	**1.16**	**253**	IAML			08 37 52.9	
	comp=N,201nm,2.1s							
PCDR				IAML			08 38 00.7	
	comp=E,116nm,1.1s							
PCDR	**Punta Cana, DR**	**1.16**	**253**	↑ *e*Pg		**Pb**	**08 37 38.4**	**+0.9**
PCDR				↑ *e*Sg		**Sn**	**08 37 52.1**	**-0.1**
PCDR				IAML			08 37 54.2	
	comp=N,128nm,0.6s							
PCDR				IAML			08 37 59.0	
	comp=E,96nm,0.5s							
PCDR	**Punta Cana, DR**	**1.16**	**253**	*i* P		**Pn**	**08 37 37.2**	**+0.1**
PCDR				*e*S		**Sn**	**08 37 51.8**	**-0.4**
PCDR				IAML			08 37 57.5	
	comp=Z,171nm,0.4s							
SJG	**San Juan**	**1.25**	**126**	↑ *e*P		**Pb**	**08 37 38.6**	**-0.5**
SJG	**San Juan**	**1.25**	**126**			**Pb**	**08 37 38.6**	**-0.5**
SJG	**San Juan**	**1.25**	**126**	IAML			08 38 03.1	
	comp=Z,134nm,0.2s							
SJG				IAML			08 38 03.4	
	comp=Z,156nm,0.5s							
MIDR	**Miches**	**1.75**	**274**	↑ *e*Pg		**Pb**	**08 37 47.1**	**-0.3**
MIDR				↓ *e*Sg		**Sb**	**08 38 08.9**	**-0.1**
MIDR				IAML			08 38 12.1	
	comp=N,49nm,1.4s							
MIDR				IAML			08 38 12.7	
	comp=E,55nm,0.6s							
SDDR	**Presa de Saban**	**3.86**	**272**	Pn		**Pn**	**08 38 14.9**	**+0.7**

OSPL ***19*** *08:42:20.8±2.4, 18°.92N×71°.82W, h0km±8km, ML3.6*
SSNC ***19*** *08:42:20.8±1.2, 18°.86N×71°.74W, h32km±20km, MD4.0, ML3.8, MW3.6*
SDD ***19*** *08:42:20.3±2.1, 18°.92N×71°.85W, h18km±27km, MD3.7, ML3.8, MW4.0*
ISC 19 08:42:19.2±1.0,**18°.93N**±0°.03×**71°.82W**±0°.02,**h13**km±8km,
n46,σ1**06/68,12C-8D,Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIDR	**Jimani**	**0.44**	**184**	↓ *e*Pg		**Pg**	**08 42 27.7**	**-0.2**
JIDR				↑ *e*Sg		**Sg**	**08 42 34.1**	**+0.3**
JIDR				IAML			08 42 35.9	
	comp=N,11μm,0.4s							
JIDR				IAML			08 42 39.9	
	comp=E,5μm,0.3s							
SDDR	**Presa de Saban**	**0.51**	**84**	↑ *e*Pg		**Pg**	**08 42 29.3**	**+0.2**
SDDR				↓ *e*Sg		**Sb**	**08 42 37.0**	**-0.2**
SDDR				IAML			08 42 43.0	
	comp=E,7μm,0.8s							
SDDR				IAML			08 42 48.1	
	comp=N,4μm,0.6s							
SDDR	**Presa de Saban**	**0.51**	**84**	*i* P		**Pg**	**08 42 29.3**	**+0.2**
SDDR				*e*S		**Sb**	**08 42 37.1**	**-0.2**
SDDR				IAML			08 42 43.0	
	comp=Z,5μm,0.6s							
SDDR	**Presa de Saban**	**0.51**	**84**	*e*P		**Pg**	**08 42 29.3**	**+0.2**
SDDR				*e*S		**Sg**	**08 42 36.1**	**+0.2**
SDDR				IAML			08 42 43.6	
	comp=Z,3μm,0.5s							
SDDR				IAML			08 42 43.6	
	comp=Z,5μm,0.6s							
**NED

MASC				*e*S		**Sn**	08 43 29.8	-2.3
GTBY	**Guantanamo Bay**	**3.26**	**288**	*i* P		**Pn**	08 43 10.1	0.0
GTBY				*e*S		**Sn**	08 43 49.0	+0.3
GTBY				IAML			08 43 59.0	
	comp=Z,44nm,0.7s							
GTBY	**Guantanamo Bay**	**3.26**	**288**	*e*P		**Pn**	08 43 10.0	0.0
GTBY				*e*S		**Sn**	08 43 46.5	-2.2
PCDR	**Punta Cana, DR**	**3.28**	**97**	*i* P		**Pb**	08 43 14.3	-3.0
PCDR				IAML			08 44 16.4	
	comp=Z,220nm,1.1s							
GTMO	**Guantanamo**	**3.33**	**291**	*e*P		**Pn**	08 43 09.8	-1.3
NMDO	**Nuevo Mundo**	**3.39**	**299**	*e*P		**Pn**	08 43 12.6	+0.8
MOAC	**Moa**	**3.42**	**301**	*e*P		**Pn**	08 43 13.0	+0.8
RCC	**Rio Carpintero**	**3.81**	**287**	*e*P		**Pn**	08 43 17.4	-0.2
MARVS	**Santiago de Cu**	**3.99**	**286**	*e*P		**Pn**	08 43 20.1	0.0
PINC	**Pinares de May**	**4.05**	**293**	*e*P		**Pn**	08 43 21.1	+0.3
CHIV	**Chivirico**	**4.46**	**284**	*e*P		**Pn**	08 43 26.4	-0.1
CRPR	**Cabo Rojo, PR**	**4.56**	**101**	*i* P		**Pn**	08 43 30.6	+2.7
CRPR				IAML			08 44 52.8	
	comp=Z,107nm,0.8s							
STH	**Stony Hill**	**4.81**	**261**	*e*P		**Pn**	08 43 31.4	0.0
LMGC	**Las Mercedes**	**5.02**	**284**	*e*P		**Pn**	08 43 33.9	-0.3
PILO	**Pilon**	**5.36**	**281**	*e*P		**Pn**	08 43 38.9	0.0
ANBD	**Bethesda, Anti**	**9.75**	**100**	*e*P		**Pn**	08 44 38.0	-1.2
UREC	**San Jos de Ur**	**11.69**	**198**	*e*P		**Pn**	08 45 07.7	+1.9
APAC	**Apartado, Choc**	**11.90**	**203**	*e*P		**Pn**	08 45 09.5	+0.8
BARC	**Barichara**	**12.34**	**186**	*e*P		**Pn**	08 45 15.9	+1.0
PTBC	**PUERTO BERRIO,**	**12.58**	**192**	*e*P		**Pn**	08 45 19.2	+1.1
PTBC				*e*P		P	08 45 21.0	-8.6
SPBC	**San Pablo de B**	**13.38**	**190**	*e*P		**Pn**	08 45 30.5	+1.5
CBOC	**Ciudad Bolivar**	**13.62**	**198**	*e*P		**Pn**	08 45 34.2	+1.9
GUY2C	**Guyana, Caldas**	**14.06**	**195**	*e*P		**Pn**	08 45 40.5	+1.9
PLMC	**San Jos del P**	**14.61**	**198**	*e*P		**Pn**	08 45 48.3	+2.5
ORTC	**Ortega, Tolima**	**15.30**	**193**	*e*P		**P**	08 45 58.8	-1.1

NNC ***19*** *08:51:51.5±2.5,54˚09N×86˚80E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=22.5km s-min=10.8km az=20.0, Suspected Mining explosion.*

IDC ***19*** *08:51:55.8±2.1,54˚01N×86˚47E, h0km, mbtmp3.7/3, ML3.1/3, Error ellipse: s-maj=17.9km s-min=11.0km az=65.0.*

ISC 19 08:51:57.8±4.4,53˚9N±0˚2×86˚2E±0˚2, h0km, n10, σ1§09/14, 6C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.84**	**272**	I	I	08 57 43.9	
	0.2nm,0.7s,baz=84,slow=340,SNR=34						
ZAA0	**Zalesovo Array**	**0.84**	**272**	⇓P	**Pg**	**08 52 13.0**	**-0.8**
ZAA0	0.9nm,0.3s			⇑S	**Sn**	**08 52 30.1**	**+0.2**
	3.0nm,0.5s						
ZALV	**Zalesovo Beam**	**0.84**	**272**	Pg	**Pg**	**08 52 13.2**	**-0.7**
ZALV	8.4nm,0.3s,baz=86,slow=17,SNR=87			Lg	Lg	08 52 28.5	
	9.8nm,0.3s,baz=85,slow=31,SNR=11						
KURK	**Kurchatov**	**5.67**	**238**	⇑Pn	**Pn**	**08 53 24.5**	**+1.2**
KURK	1.2nm,0.4s			⇓Lg	Lg	08 55 04.4	
	11nm,1.0s						
KURBB	**Kurchatov Arra**	**5.78**	**238**	Pn	**Pn**	**08 53 26.2**	**+1.5**
KURBB	0.9nm,0.3s,baz=56,slow=14,SNR=111			Sn	**Sn**	**08 54 32.6**	**+1.0**
KURBB	baz=52,slow=26,SNR=4.4			Lg	Lg	08 55 04.1	
	0.1nm,0.3s,baz=58,slow=30,SNR=5.8						
	9.9nm,0.4s						
KURBB	**Kurchatov Arra**	**5.78**	**238**	⇑Pn	**Pn**	**08 53 25.5**	**+0.8**
KURBB	9.7nm,0.4s			⇓Lg	Lg	08 55 08.0	
	15nm,0.6s						
MK31	**Makanchi Array**	**7.58**	**201**	⇑Pn	**Pn**	**08 53 49.7**	**+0.2**
MK31	0.4nm,0.3s,baz=27,slow=14,SNR=34			⇓Sn	**Sn**	**08 55 16.4**	**+0.4**
MK31	0.5nm,0.5s,baz=20,slow=26,SNR=4.6			⇓Lg	Lg	08 56 00.9	
	3.7nm,0.7s,baz=30,slow=25,SNR=4.3						
MKAR	**Makanchi Array**	**7.58**	**201**	Pn	**Pn**	**08 53 50.1**	**+0.6**
MKAR	0.9nm,0.3s,baz=23,slow=12,SNR=33			Sn	**Sn**	**08 55 16.3**	**+0.2**
MKAR	0.3nm,0.3s,baz=23,slow=27,SNR=5.6			Lg	Lg	08 55 58.9	
	0.2nm,0.3s,baz=21,slow=30,SNR=2.3						
	1.7nm,0.4s						
MAKZ	**Makanchi**	**7.63**	**203**	⇓Pn	**Pn**	**08 53 48.3**	**-1.9**
MAKZ	1.3nm,0.4s			⇑Sn	**Sn**	**08 55 16.3**	**-1.1**
MAKZ	1.7nm,0.6s			⇑Lg	Lg	08 56 03.0	
	4.0nm,0.8s						
BVAR	**Borovoye Array**	**9.50**	**271**	Pn	**Pn**	**08 54 14.8**	**-1.0**
	baz=71,slow=13,SNR=2.2						
	0.9nm,0.5s						

IDC 19 08:55:54.2±2.4,54˚27N×86˚10E, h0km, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=18.5km s-min=11.4km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.82**	**248**	I	I	09 00 40.8	
	baz=65,slow=343,SNR=4.3						
ZALV	**Zalesovo Beam**	**0.82**	**248**	Pg	Pg	08 56 09.4	-0.5
ZALV	1.4nm,0.3s,baz=66,slow=18,SNR=7.0			Lg	Lg	08 56 21.7	
	5.2nm,0.3s,baz=67,slow=27,SNR=18						
KURBB	**Kurchatov Arra**	**5.90**	**235**	Pn	Pn	08 57 23.8	+1.0
KURBB	0.2nm,0.3s,baz=52,slow=13,SNR=8.3			Lg	Lg	08 59 00.5	
	baz=52,slow=30,SNR=2.6						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**7.87**	**200**	Pn	Pn	08 57 50.5	+0.6
	0.3nm,0.3s,baz=21,slow=13,SNR=10						
	0.4nm,0.3s						

IDC ***19*** *08:57:16.1±1.9, 17˚47N×101˚54W, h0km, mb3.6/2, mbtmp3.5/5, ML3.0/3, MS3.2/7, Error ellipse: s-maj=40.7km s-min=25.8km az=46.0*

NEIC ***19*** *08:57:20.7±2.4, 17˚60N±0˚04×101˚20W±0˚03, h26km±9km, mb4.0/22, Md4.5/79(MEX), Error ellipse: s-maj=5.8km s-min=3.7km az=190.0*

MEX ***19*** *08:57:21.9±1.4, 17˚59N×101˚30W, h31km±5km, MD4.4*

ISC 19 08:57:19.5±0.7, 17˚58N±0˚03×101˚31W±0˚02, h25km, n100, σ1§66/153, mb3.9/6, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET2	**Petatlan**	**0.06**	**138**	*e*P	**Pb**	**08 57 25.2**	**+1.3**
PET2				*e*S	**Sb**	**08 57 29.1**	**+2.3**
ZIIG	**Zihuatanejo**	**0.15**	**280**		**Pn**	**08 57 26.2**	**-0.1**
ZIIG					**Sb**	**08 57 30.8**	**+2.6**
ZIIG	**Zihuatanejo**	**0.15**	**280**	*i* P	**Pn**	**08 57 26.2**	**-0.1**
ZIIG				*i* S	**Sb**	**08 57 30.8**	**+2.6**
UON	**La Union**	**0.62**	**309**	*e*P	**Pb**	**08 57 31.9**	**+0.2**
UON				*e*S	**Sn**	**08 57 41.2**	**-0.7**
ATYC	**Atoyac**	**0.91**	**114**	*e*P	**Pn**	**08 57 35.6**	**-1.1**
ATYC				*e*S	**Sb**	**08 57 47.8**	**-0.6**
CAIG	**El Cayaco**	**1.12**	**118**		**Pn**	**08 57 38.8**	**-0.9**
CAIG					**Sn**	**08 57 52.8**	**-1.5**
CAIG	**El Cayaco**	**1.12**	**118**	*e*P	**Pn**	**08 57 38.8**	**-0.9**
CAIG				*e*S	**Sn**	**08 57 52.8**	**-1.5**
ARIG	**Puente Sto Nin**	**1.15**	**52**		**Pn**	**08 57 39.0**	**-1.0**
ARIG					**Sn**	**08 57 53.2**	**-1.7**
ARIG	**Puente Sto Nin**	**1.15**	**52**	*i* P	**Pn**	**08 57 39.0**	**-1.0**
ARIG				*i* S	**Sn**	**08 57 53.2**	**-1.7**
ACP2	**Acapulco**	**1.53**	**117**		**Pn**	**08 57 45.2**	**-0.1**
ACP2					**Sn**	**08 58 05.5**	**+1.2**
ACP2	**Acapulco**	**1.53**	**117**	*e*P	**Pn**	**08 57 45.2**	**-0.1**
ACP2				*e*S	**Sn**	**08 58 05.5**	**+1.2**
MEIG	**Mezcala**	**1.64**	**78**		**Pn**	**08 57 46.9**	**0.0**
MEIG					**Sn**	**08 58 06.4**	**-0.9**
MEIG	**Mezcala**	**1.64**	**78**	*e*P	**Pn**	**08 57 46.9**	**0.0**
MEIG				*i* S	**Sn**	**08 58 06.4**	**-0.9**
DAIG	**Los Arroyos**	**1.68**	**109**		**Pn**	**08 57 46.9**	**-0.4**
DAIG					**Sn**	**08 58 07.3**	**-0.7**
DAIG	**Los Arroyos**	**1.68**	**109**	*e*P	**Pn**	**08 57 46.9**	**-0.4**
DAIG				*e*S	**Sn**	**08 58 07.3**	**-0.7**
TEJU	**Tejupilco**	**1.71**	**39**	*e*P	**Pn**	**08 57 48.9**	**+1.0**
TEJU				*e*S	**Sn**	**08 58 09.0**	**0.0**
PLIG	**Platanillo**	**1.90**	**65**		**Pn**	**08 57 50.3**	**-0.1**
PLIG					**Sn**	**08 58 14.2**	**+0.6**
PLIG	**Platanillo**	**1.90**	**65**	*i* P	**Pn**	**08 57 50.3**	**-0.1**
PLIG				*i* S	**Sn**	**08 58 14.2**	**+0.6**
MMIG	**Aquila**	**2.07**	**290**		**Pn**	**08 57 52.4**	**-0.3**
MMIG					**Sn**	**08 58 14.7**	**-2.9**
MMIG	**Aquila**	**2.07**	**290**	*i* P	**Pn**	**08 57 52.4**	**-0.3**
MMIG				*e*S	**Sn**	**08 58 14.7**	**-2.9**
MOIG	**Morelia**	**2.09**	**3**	Pn	**Pn**	**08 57 53.1**	**-0.1**
MOIG				Sn	**Sn**	**08 58 20.7**	**+2.2**
MOIG	**Morelia**	**2.09**	**3**	*i* P	**Pn**	**08 57 53.8**	**+0.6**
MOIG				*i* S	**Sn**	**08 58 20.4**	**+1.9**
CRIG	**Cruz Grande**	**2.24**	**112**		**Pn**	**08 57 54.9**	**-0.2**
CRIG					**Sn**	**08 58 23.6**	**+1.6**
CRIG	**Cruz Grande**	**2.24**	**112**	*e*P	**Pn**	**08 57 54.9**	**-0.2**
CRIG				*e*S	**Sn**	**08 58 23.6**	**+1.6**
YAIG	**Yautepec**	**2.48**	**59**		**Pn**	**08 57 58.0**	**-0.4**
YAIG					**Sb**	**08 58 32.8**	**-0.9**
YAIG	**Yautepec**	**2.48**	**59**	*e*P	**Pn**	**08 57 58.0**	**-0.4**
YAIG				*e*S	**Sb**	**08 58 32.8**	**-0.9**
MGIG	**Malinaltepec**	**2.57**	**97**		**Pn**	**08 58 00.6**	**+0.8**
MGIG					**Sn**	**08 58 33.1**	**+2.7**
MGIG	**Malinaltepec**	**2.57**	**97**	*e*P	**Pn**	**08 58 00.6**	**+0.8**
MGIG				*e*S	**Sn**	**08 58 33.1**	**+2.7**
TLIG	**Tlapa**	**2.61**	**90**		**Pn**	**08 57 59.8**	**-0.4**
TLIG	**Tlapa**	**2.61**	**90**	*e*P	**Pn**	**08 58 00.5**	**+0.2**
TLIG				*e*S	**Sn**	**08 58 32.5**	**+1.2**
HMTT	**Tlapaneco**	**2.63**	**85**		**Sn**	**08 58 35.5**	**+3.9**
HMTT	**Tlapaneco**	**2.63**	**85**	*e*S	**Sn**	**08 58 35.5**	**+3.9**
CNCY	**Coyoacan**	**2.66**	**49**	*e*P	**Pn**	**08 58 01.4**	**+0.3**
CNCY				*e*S	**Sn**	**08 58 30.8**	**-1.8**
UNM	**Universidad Na**	**2.67**	**49**	Pn	**Pn**	**08 58 02.8**	**+1.7**
UNM	**Universidad Na**	**2.67**	**49**	*e*P	**Pn**	**08 58 02.1**	**+0.9**
UNM				*e*S	**Sb**	**08 58 38.6**	**-0.5**
COIG	**Colima**	**2.77**	**305**	*e*P	**Pn**	**08 58 03.5**	**+1.2**
COIG				*e*S	**Sn**	**08 58 34.1**	**-0.9**
EZ5V		**2.88**	**311**		**Pn**	**08 58 05.4**	**+1.2**
EZ5V		**2.88**	**311**	*e*P	**Pn**	**08 58 05.4**	**+1.2**
EZ5V				*e*S	**Sn**	**08 58 38.0**	**-0.2**
JUBC	**Volcan de Coli**	**2.88**	**312**	*e*P	**Pn**	**08 58 06.0**	**+1.8**
JUBC				⇓*e*S	**Sn**	**08 58 38.6**	**+0.4**
MNGA	**Volcan de Coli**	**2.89**	**311**	*e*P	**Pn**	**08 58 05.7**	**+1.5**
MNGA				*e*S	**Sn**	**08 58 38.3**	**0.0**
INCO	**Volcan de Coli**	**2.92**	**312**	*e*P	**Pn**	**08 58 06.5**	**+1.8**
INCO				*e*S	**Sn**	**08 58 40.5**	**+1.3**
SOMAC	**Volcano de Col**	**2.93**	**312**	*e*P	**Pn**	**08 58 06.1**	**+1.2**
SOMAC				*e*S	**Sn**	**08 58 40.4**	**+0.8**
PPIG	**Popocatepetl**	**2.94**	**59**		**Pn**	**08 58 05.1**	**0.0**
PPIG					**Sn**	**08 58 41.1**	**+1.1**
PPM	**Popocatepetl**	**2.94**	**59**	*e*P	**Pn**	**08 58 05.1**	**0.0**
PPM				*e*S	**Sn**	**08 58 41.1**	**+1.1**
CEGR	**Campo Tres**	**3.02**	**307**	*e*P	**Pn**	**08 58 07.2**	**+1.3**
CEGR				*e*S	**Sn**	**08 58 40.7**	**-0.7**
FTIG	**Fresnillo de T**	**3.04**	**83**		**Pn**	**08 58 06.6**	**+0.4**
FTIG					**Sn**	**08 58 43.2**	**+1.3**
FTIG	**Fresnillo de T**	**3.04**	**83**	*e*P	**Pn**	**08 58 06.6**	**+0.4**
FTIG				*e*S	**Sn**	**08 58 43.2**	**+1.3**
IGIG	**Irapuato, Guan**	**3.16**	**360**		**Pb**	**08 58 13.8**	**-1.2**
IGIG					**Sn**	**08 58 48.2**	**+3.4**
IGIG	**Irapuato, Guan**	**3.16**	**360**	*e*P	**Pb**	**08 58 13.8**	**-1.2**
IGIG				*e*S	**Sn**	**08 58 48.2**	**+3.4**
PNIG	**Pinotepa**	**3.26**	**111**		**Pn**	**08 58 09.1**	**-0.1**
PNIG					**Sb**	**08 58 54.4**	**-1.7**
PNIG	**Pinotepa**	**3.26**	**111**	*e*P	**Pn**	**08 58 09.1**	**-0.1**
PNIG				*e*S	**Sb**	**08 58 54.4**	**-1.7**
HLIG	**Huajuapan de L**	**3.35**	**85**		**Pn**	**08 58 10.9**	**+0.5**
HLIG					**Sn**	**08 58 53.0**	**+3.5**
HLIG	**Huajuapan de L**	**3.35**	**85**	*e*P	**Pn**	**08 58 10.9**	**+0.5**
HLIG				*e*S	**Sn**	**08 58 53.0**	**+3.5**
TXIG	**Tlaxiaco**	**3.39**	**95**		**Pn**	**08 58 11.9**	**+0.8**
TXIG					**Sn**	**08 58 54.9**	**+4.1**
TXIG	**Tlaxiaco**	**3.39**	**95**	*e*P	**Pn**	**08 58 11.9**	**+0.8**
TXIG				*e*S	**Sn**	**08 58 54.9**	**+4.1**
DHIG	**Demacu**	**3.45**	**38**		**Pn**	**08 58 11.1**	**-0.8**
DHIG					**Sn**	**08 58 51.9**	**-0.4**
DEIG	**Demacu**	**3.46**	**38**	*e*P	**Pn**	**08 58 11.1**	**-0.9**
DEIG				*e*S	**Sn**	**08 58 51.9**	**-0.4**
CIHU	**Emiliano Zapat**	**3.66**	**298**	*e*P	**Pn**	**08 58 14.6**	**-0.1**
CIHU				*e*S	**Sn**	**08 58 54.1**	**-3.0**
YOIG	**Yosondua**	**3.66**	**101**		**Pn**	**08 58 16.3**	**+1.4**
YOIG					**Sn**	**08 58 59.4**	**+1.9**
YOIG	**Yosondua**	**3.66**	**101**	*e*P	**Pn**	**08 58 16.3**	**+1.4**
YOIG				*e*S	**Sn**	**08 58 59.4**	**+1.9**
TPIG	**Tehuac#an**	**3.84**	**77**		**Pn**	**08 58 18.6**	**+1.3**
TPIG					**Sb**	**08 59 10.7**	**-2.3**
TPIG	**Tehuac#an**	**3.84**	**77**	*e*P	**Pn**	**08 58 18.6**	**+1.3**
TPIG				*e*S	**Sb**	**08 59 10.7**	**-2.3**
CJM	**Chamela**	**4.03**	**299**	*e*P	**Pn**	**08 58 19.8**	**+0.2**
CJM				*e*S	**Sn**	**08 59 03.8**	**-2.2**
AAIG	**Aguscalientes**	**4.48**	**347**		**Pn**	**08 58 26.2**	**+0.1**
AAIG					**Sn**	**08 59 20.8**	**+3.3**
AAIG	**Aguscalientes**	**4.48**	**347**	*e*P	**Pn**	**08 58 26.2**	**+0.1**
AAIG				*e*S	**Sn**	**08 59 20.8**	**+3.3**
CMIG	**Matias Romero**	**6.15**	**94**	Pn	**Pn**	**08 58 50.6**	**+1.8**
	0.2nm,0.3s,baz=277,slow=13,SNR=2.0						
CMIG				Sn	Sn	09 00 08.1	+10
	1.8nm,0.3s,baz=329,slow=10,SNR=3.7						
CMIG				LR	LR	09 01 22.8	
	comp=Z,195nm,19.6s,baz=280,slow=39						
	2.1nm,0.5s						
SLBS	**Sierra La Lagu**	**10.11**	**308**	Pn	Pn	08 59 47.9	+4.6
LPIG	**La Paz**	**10.62**	**309**	LR	LR	09 03 22.4	
	comp=Z,55nm,19.2s,baz=26,slow=35						
TXAR	**Lajitas Array**	**11.90**	**350**	Pn	**Pn**	**09 00 11.1**	**+3.3**
	baz=176,slow=14,SNR=7.4						
TXAR				Lg	Lg	09 03 33.0	
	baz=164,slow=24,SNR=2.4						
TXAR				LR	LR	09 04 39.9	
	comp=Z,52nm,20.1s,baz=161,slow=37						
	0.6nm,0.8s						
TEIG	**Tepich**	**12.61**	**76**	LR	LR	09 06 41.2	
	comp=Z,482nm,18.2s,baz=12,slow=44						
237A	**Washetta, Mont**	**15.20**	**18**		**Pn**	**09 00 53.3**	**+0.8**
SN01	**Snyder 1**	**15.22**	**1**		**Pn**	**09 00 54.7**	**+1.7**
SN01				IAmb	IAmb	09 00 58.1	
	comp=Z,4.6nm,0.8s						
NATX	**Nacogdoches**	**15.35**	**22**		**Pn**	**09 00 55.5**	**+1.0**
PLPT	**Palo Pinto**	**15.40**	**10**		**Pn**	**09 00 57.5**	**+2.2**
PLPT				IAmb	IAmb	09 01 00.1	
	comp=Z,7.1nm,0.7s						
FW03	**Perrin-Whitt E**	**15.67**	**10**		**Pn**	**09 01 00.2**	**+1.5**
FW03				IAmb	IAmb	09 01 03.5	
	comp=Z,12nm,0.6s						
APMT	**Aspermont**	**15.71**	**4**		**Pn**	**09 01 01.6**	**+2.3**
APMT				IAmb	IAmb	09 01 06.8	
	comp=Z,5.0nm,0.8s						
ANMO	**Albuquerque**	**17.90**	**346**	P	**P**	**09 01 28.3**	**+0.8**
ANMO	**Albuquerque**	**17.90**	**346**	P	**Pn**	**09 01 26.4**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=228,slow=9.2,SNR=5.4						
ANMO				LR	LR	09 09 07.1	
	comp=Z,82nm,18.3s,baz=234,slow=40						
	comp=Z,0.9nm,0.6s						
W35A	**Tecumseh**	**17.94**	**12**		**Pn**	**09 01 25.9**	**-1.4**
W35A				IAmb	IAmb	09 01 27.4	
	comp=Z,7.6nm,0.7s						
RTBA	**Rita Blanca**	**18.83**	**356**		**Pn**	**09 01 38.5**	**+0.3**
RTBA				IAmb	IAmb	09 01 47.1	
	comp=Z,8.5nm,1.3s						
Y45A	**Yeager Farm, C**	**19.34**	**31**	P	**P**	**09 01 40.9**	**-2.3**
T35A	**Sooner Cattle**	**19.72**	**11**	P	**P**	**09 01 44.5**	**-2.8**
T35A				IAmb	IAmb	09 01 45.7	
	comp=Z,5.5nm,0.7s						
HHAR	**Hobbs**	**19.74**	**18**	P	**P**	**09 01 44.8**	**-2.6**
HHAR				IAmb	IAmb	09 01 47.2	
	comp=Z,5.6nm,0.7s						
FCAR	**Ozark Folk Cen**	**19.97**	**22**	P	**P**	**09 01 48.1**	**-1.9**
FCAR				IAmb	IAmb	09 01 49.8	
	comp=Z,7.2nm,0.7s						
SDCO	**Great Sand Dun**	**20.43**	**350**	P	**P**	**09 01 55.6**	**+0.4**
S22A	**4UR Ranch, Cre**	**20.67**	**348**	P	**P**	**09 01 58.5**	**+0.6**
S22A				IAmb	IAmb	09 02 00.3	
	comp=Z,3.0nm,0.6s						
PLAL	**Pickwick Lake**	**20.96**	**32**	P	**P**	**09 01 58.4**	**-2.4**
S39A	**Bolivar**	**21.23**	**18**	P	**P**	**09 02 01.0**	**-2.5**
S39A				IAmb	IAmb	09 02 02.7	
	comp=Z,4.7nm,0.7s						
HMU	**Henry Mountain**	**21.91**	**340**	P	**P**	**09 02 12.9**	**+1.7**
HMU				IAmb	IAmb	09 02 16.3	
	comp=Z,4.4nm,0.9s						
R40A	**Maddies Statio**	**22.10**	**19**	P	**P**	**09 02 10.8**	**-2.1**
R40A				IAmb	IAmb	09 02 15.3	
	comp=Z,4.2nm,0.8s						
ISCO	**Idaho Springs**	**22.45**	**351**	P	**P**	**09 02 16.4**	**-0.7**
MTPU	**Mount Pierson**	**22.51**	**337**	P	**P**	**09 02 19.0**	**+1.3**
TKL	**Tuckaleechee C**	**23.80**	**37**	LR	LR	09 12 42.7	
	comp=Z,31nm,20.0s,baz=194,slow=39						
T50A	**Nancy**	**24.20**	**34**	P	**P**	**09 02 29.8**	**-4.3**
T50A				IAmb	IAmb	09 02 32.8	
	comp=Z,5.0nm,0.8s						
NVAR	**Mina Array Bea**	**25.54**	**328**	P	**P**	**09 02 47.2**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=145,slow=11,SNR=22						
	comp=Z,1.8nm,0.6s						
PDAR	**Pinedale Array**	**26.07**	**346**	P	**P**	**09 02 52.4**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=158,slow=7.7,SNR=3.5						
PDAR				LR	LR	09 13 51.1	
	comp=Z,64nm,19.7s,baz=130,slow=38						
	comp=Z,0.3nm,0.7s						
H03N2	**Juan Fernandez**	**55.05**	**157**	T	T	10 06 14.3	
	baz=334,slow=77,SNR=25						
H03N1	**Juan Fernandez**	**55.06**	**157**	T	T	10 06 16.5	
	baz=334,slow=77,SNR=26						
H03N3	**Juan Fernandez**	**55.06**	**157**	T	T	10 06 16.2	
	baz=334,slow=77,SNR=26						
WRA	**Warramunga Arr**	**127.46**	**258**	PKP	**PKPdf**	**09 16 22.7**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=74,slow=2.6,SNR=4.8						

IDC 19 09:00:45.1±3.2,54˚16N×87˚18E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=28.5km s-min=17.2km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.41**	**263**	I	I	09 10 16.8	
	baz=79,slow=343,SNR=4.2						
ZALV	**Zalesovo Beam**	**1.41**	**262**	Pg	Pb	09 01 12.8	+0.6
ZALV	1.0nm,0.3s,baz=81,slow=17,SNR=7.5			Lg	Lg	09 01 29.1	
	2.3nm,0.3s,baz=80,slow=30,SNR=17						
KURBB	**Kurchatov Arra**	**6.37**	**240**	Pn	Pn	09 02 21.1	+1.0
	baz=54,slow=14,SNR=2.0						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**8.00**	**205**	Pn	Pn	09 02 42.6	+0.1
	0.1nm,0.3s,baz=28,slow=13,SNR=3.2						
	0.3nm,0.4s						

IDC ***19*** *09:11:57.5±0.7, 24˚61N×127˚47E, h0km, mb4.1/18, mbtmp4.1/22, ML4.1/4, MS3.4/9, Error ellipse: s-maj=21.2km s-min=14.2km az=81.0*

NEIC ***19*** *09:11:58.9±2.6, 24˚57N±0˚07×127˚51E±0˚06, h10km±1km, mb4.8/66, Error ellipse: s-maj=13.2km s-min=8.5km az=155.0*

JMA ***19*** *09:12:00.8±0.2, 24˚7N±0˚8×127˚5E±0˚8, h74km, MV4.0/30, NEAR OKINAWAJIMA ISLAND*

NIED ***19*** *09:12:00.8, 24˚69N×127˚47E, h74km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-1.23; Mθθ0.92; Mφφ0.32; Mrθ1.23; Mθφ0.96; Mφr-0.43; Fault plane solution: M₀1.95000×10¹⁵ NP1: φs264.00000°, δ67.00000°, λ-58.00000°. NP2:φs27.00000°, δ39.00000°, λ-141.00000°.*

ISC 19 09:11:58.6±4.1, 24˚59N±0˚05×127˚54E±0˚04, h12km±26km, n143, σ1§61/163, mb4.7/55, MS3.6/7, 2C-1D, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.56**	**8**	P	**Pn**	**09 12 26.1**	**-0.2**
JJT3				S	**Sn**	**09 12 44.7**	**-1.8**
JKE	**Kume jima 2**	**1.86**	**339**	P	**Pn**	**09 12 29.9**	**-0.4**
JKE				S	**Sn**	**09 12 51.0**	**-2.8**
JOGS	**Gusukube**	**1.95**	**275**	*e*S	**Sn**	**09 12 54.2**	**-1.9**
JNTH	**Nagotoyohara**	**1.97**	**13**	P	**Pn**	**09 12 31.1**	**-0.8**
JNTH				S	**Sn**	**09 12 54.2**	**-2.3**
JAGN	**Aguni-jima**	**2.01**	**352**	P	**Pn**	**09 12 32.0**	**-0.3**
JAGN				*e*S	**Sn**	**09 12 55.0**	**-2.5**
JMJ2	**Miyako jima3**	**2.02**	**275**	P	**Pn**	**09 12 32.8**	**+0.2**
JMJ2				*e*S	**Sn**	**09 12 56.2**	**-1.5**
JIKM	**Ikemajima**	**2.11**	**280**	P	**Pn**	**09 12 33.7**	**-0.1**
JIKM				S	**Sn**	**09 12 57.6**	**-2.4**
JIRB	**Irabujima**	**2.17**	**277**	P	**Pn**	**09 12 34.3**	**-0.2**
JIRB				*e*S	**Sn**	**09 12 58.8**	**-2.6**
JOW	**Kunigami**	**2.33**	**16**	P	**Pn**	**09 12 36.2**	**-0.3**
JOW				S	**Sn**

comp=Z,1.5nm,0.4s
CD2 Chengdu 21.95 292 P P 09 16 52.9 +0.6
CD2 pmax pmax
comp=Z,30nm,0.8s
PZH PanZhiHua 23.34 280 P P 09 17 08.3 +1.1
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,240nm,5.9s
LZH Lanzhou 23.38 305 *e*P **P 09 17 08.1 +0.6**
LZH sP pwP 09 17 18.3 +0.3
LZH pmax pmax
comp=Z,17nm,0.9s
TOLI2 Tolitoli 24.24 197 P P 09 17 14.3 -1.3
TOLI2 IAmb IAmb 09 17 17.6
comp=Z,37nm,1.0s
KLR Kul'dur 24.82 7 LR LR 09 27 10.3
comp=Z,34nm,18.9s,baz=186,slow=37
CMAR Chiang Mai Arr 27.26 263 P **P 09 17 42.1 -1.0**
comp=Z,0.6nm,0.3s,baz=70,slow=8.8,SNR=1.3
comp=Z,0.6nm,0.3s
GTA Gaotai 27.63 309 *e*P **P 09 17 48.1 +1.8**
GTA sP pwP 09 17 58.4 +1.5
GTA pmax pmax
comp=Z,5.0nm,0.9s
SONM Songino Array 28.62 330 P **P 09 17 54.1 -0.9**
SONM Songino Array 28.62 330 P **P 09 17 54.3 -0.7**
comp=Z,1.0nm,0.6s,baz=139,slow=6.7,SNR=4.4
SONM LR LR 09 31 12.0
comp=Z,139nm,18.2s,baz=149,slow=40
comp=Z,1.0nm,0.6s
PETK Petropavlovsk- 36.42 31 P **P 09 19 03.0 0.0**
comp=Z,2.8nm,0.8s,baz=241,slow=11,SNR=1.9
comp=Z,2.8nm,0.8s
MTN Manton Dam 37.37 174 P **P 09 19 11.6 +0.2**
MTN IAmb IAmb 09 19 12.2
comp=Z,17nm,0.9s
YAK Yakutsk 37.45 2 P **P 09 19 12.5 +0.8**
WMQ Urumqi 37.68 311 *e*P **P 09 19 15.5 +1.5**
PMG Port Moresby 38.84 148 LR LR 09 32 27.9
comp=Z,70nm,21.0s,baz=144,slow=32
KNRA Kununurra 40.04 178 P **P 09 19 34.7 +1.0**
KNRA IAmb IAmb 09 19 35.5
comp=Z,26nm,0.9s
MK31 Makanchi Array 42.18 313 P **P 09 19 50.4 -0.9**
MKAR Makanchi Array 42.18 313 P **P 09 19 50.8 -0.5**
MKAR Makanchi Array 42.18 313 P **P 09 19 51.4 +0.1**
comp=Z,2.8nm,0.5s,baz=99,slow=10,SNR=17
comp=Z,2.8nm,0.5s
FITZ Fitzroy Crossi 42.47 183 P **P 09 19 53.7 0.0**
ZAA0 Zalesovo Array 43.19 324 P **P 09 19 57.9 -1.4**
ZALV Zalesovo Beam 43.19 324 P **P 09 19 58.6 -0.7**
TARG Taragay, Kyrgy 44.37 305 P **P 09 20 06.7 -2.8**
WB0 Warramunga Arr 44.59 171 P **P 09 20 09.9 -1.0**
WB0 IAmb IAmb 09 20 12.7
comp=Z,11nm,0.9s
WRAB Tennant Creek 44.75 171 P **P 09 20 13.4 +1.2**
WRAB IAmb IAmb 09 20 14.0
comp=Z,10nm,0.8s
WRA Warramunga Arr 44.76 171 P **P 09 20 11.9 -0.3**
WRA Warramunga Arr 44.76 171 P **P 09 20 13.2 +1.0**
comp=Z,9.0nm,0.7s,baz=352,slow=8.6,SNR=74
comp=Z,9.0nm,0.7s
WB2 Warramunga Arr 44.76 171 P **P 09 20 13.3 +1.1**
WB2 IAmb IAmb 09 20 14.1
comp=Z,13nm,0.8s
WR0 Warramunga Arr 44.80 171 P **P 09 20 13.4 +0.9**
WR0 IAmb IAmb 09 20 14.5
comp=Z,9.0nm,0.7s
KURK Kurchatov 45.60 318 P **P 09 20 18.4 -0.2**
KURBB Kurchatov Arra 45.62 318 P **P 09 20 18.6 -0.2**
comp=Z,1.7nm,0.6s,baz=106,slow=8.9,SNR=4.8
comp=Z,1.7nm,0.6s
BOOM Boomskoye usch 45.84 306 P **P 09 20 20.6 -0.2**
PSA00 Pilbara Seismi 46.49 190 P **P 09 20 25.6 -0.3**
PSA00 IAmb IAmb 09 20 26.5
comp=Z,6.8nm,0.7s
TIXI Tiksi 47.09 1 P **P 09 20 30.5 +0.4**
ARSB Arslanbob 47.95 304 P **P 09 20 38.4 +1.0**
CTA Charters Tower 48.00 156 P **P 09 20 38.3 +0.6**
comp=Z,2.7nm,0.9s,baz=343,slow=11,SNR=1.9
CTA LR LR 09 41 49.5
comp=Z,24nm,18.8s,baz=79,slow=37
comp=Z,2.7nm,0.9s
CTAO Charters Tower 48.00 156 P **P 09 20 39.1 +1.4**
CTAO IAmb IAmb 09 20 44.7
comp=Z,5.6nm,1.1s
AS31 Alice Springs 48.36 172 P **P 09 20 41.9 +1.4**
ASAR Alice Springs 48.37 172 P **P 09 20 42.0 +1.5**
ASAR Alice Springs 48.37 172 P **P 09 20 41.3 +0.8**
comp=Z,2.4nm,0.8s,baz=2.5,slow=8.9,SNR=21
comp=Z,2.4nm,0.8s
KK31 Karatay Array 49.87 307 P **P 09 20 50.8 -1.1**
KKAR Karatay Array 49.87 307 P **P 09 20 50.4 -1.5**
CHGR Chuyangaron 50.87 301 P **P 09 20 58.2 -1.4**
CHGR IAmb IAmb 09 21 01.8
comp=Z,8.4nm,1.0s
BVAR Borovoye Array 51.09 319 P **P 09 21 01.0 0.0**
comp=Z,1.3nm,0.6s,baz=94,slow=8.1,SNR=7.4
comp=Z,1.3nm,0.6s
BRVK Borovoye 51.16 319 P **P 09 21 02.7 +1.2**
ABKAR Akbulak array 57.32 314 P **P 09 21 47.4 +1.0**
ABKAR IAmb IAmb 09 21 48.4
comp=Z,4.8nm,0.7s
ARU Arti 58.30 322 LR LR 09 49 34.7
comp=Z,106nm,18.1s,baz=88,slow=39
AKTO Aktyubinsk 58.55 315 P **P 09 21 55.0 -0.1**
comp=Z,1.9nm,0.5s,baz=90,slow=9.3,SNR=2.7
comp=Z,1.9nm,0.5s
GEYT Alibeck 59.58 301 P **P 09 22 03.5 +1.0**
comp=Z,3.3nm,0.8s,baz=100,slow=6.0,SNR=3.0
comp=Z,3.3nm,0.8s
E19K Redstone River 61.88 25 P **P 09 22 17.1 -0.5**
E19K IAmb IAmb 09 22 21.9
comp=Z,6.2nm,1.1s
L18K Granite Mounta 61.94 31 P **P 09 22 18.5 +0.4**
B20K Meade River 62.09 22 P **P 09 22 19.0 +0.1**
H19K Roundabout Mou 62.10 27 P **P 09 22 18.3 -0.8**
TTA Tatalina 62.25 30 P **P 09 22 19.8 -0.5**
P18K Big Mountain, 62.71 34 P **P 09 22 23.3 -0.1**
B21K Ikpikpuk River 62.95 23 P **P 09 22 27.5 +2.9**
B21K IAmb IAmb 09 22 28.4
comp=Z,8.4nm,0.9s
J20K Nowinta River 63.08 29 P **P 09 22 26.4 +0.8**
K20K Telida 63.13 30 P **P 09 22 27.2 +1.2**
K20K IAmb IAmb 09 22 38.7
comp=Z,6.7nm,1.0s
E21K Killik River 63.15 24 P **P 09 22 26.5 +0.4**
E21K IAmb IAmb 09 22 28.9
comp=Z,6.1nm,0.8s
KIRV Kirov 63.22 325 LR LR 09 51 38.9
comp=Z,66nm,18.5s,baz=55,slow=38
IMAR Indian Mountai 63.22 27 P **P 09 22 28.1 +1.6**
G21K Allakaket 63.32 26 P **P 09 22 26.5 -0.7**
G21K IAmb IAmb 09 22 42.7
comp=Z,9.1nm,1.3s
F21K Alatna River 63.32 25 P **P 09 22 27.5 +0.3**
H21K Melozitna Rive 63.62 27 P **P 09 22 28.8 -0.4**
D22K Ayikyak River 63.62 23 P **P 09 22 30.1 +0.9**
D22K IAmb IAmb 09 22 32.6
comp=Z,7.1nm,1.0s
E22K Anaktuvuk Pass 63.95 24 P **P 09 22 33.5 +2.0**
E22K IAmb IAmb 09 22 34.6
comp=Z,6.3nm,0.8s
CAST Castle Rocks 64.02 30 P **P 09 22 32.8 +0.9**
CAST IAmb IAmb 09 22 44.3
comp=Z,3.2nm,0.8s
C23K Itkillik River 64.35 22 P **P 09 22 35.0 +1.1**
C23K IAmb IAmb 09 22 44.0
comp=Z,11nm,1.4s
D24K Happy Valley 65.01 23 P **P 09 22 39.8 +1.6**
D24K IAmb IAmb 09 22 54.3
comp=Z,7.4nm,0.9s
I23K Minto, Yukon-K 65.08 28 P **P 09 22 39.5 +0.7**
I23K IAmb IAmb 09 22 49.2
comp=Z,7.8nm,1.5s
E24K Your Creek 65.20 24 P **P 09 22 41.8 +2.2**
E24K IAmb IAmb 09 22 42.8
comp=Z,5.6nm,0.9s
O22K Cooper Landing 65.38 33 P **P 09 22 41.5 +0.7**
F24K Squaw Lake 65.47 25 P **P 09 22 43.3 +1.9**
D25K Kavik River 65.86 23 P **P 09 22 43.3 -0.5**
D25K IAmb IAmb 09 22 59.8
comp=Z,3.3nm,0.9s
KNK Knik Glacier 65.88 32 P **P 09 22 44.7 +0.7**
KNK IAmb IAmb 09 22 56.7

comp=Z,7.7nm,0.9s
ILAR Eielson Array 66.17 28 P **P 09 22 46.5 +0.7**
comp=Z,0.4nm,0.8s,baz=282,slow=6.3,SNR=2.9
comp=Z,0.4nm,0.8s
E28M Babbage River 68.41 23 P **P 09 23 02.2 +2.2**
E28M IAmb IAmb 09 23 15.7
comp=Z,6.7nm,1.3s
M27K Edge Creek, AK 68.79 30 P **P 09 23 02.5 -0.2**
M27K IAmb IAmb 09 23 28.5
comp=Z,6.1nm,1.2s
I28M Miner Creek 68.95 27 P **P 09 23 05.2 +1.7**
H29M Whitestone 69.39 26 P **P 09 23 08.7 +2.5**
H29M IAmb IAmb 09 23 18.6
comp=Z,11nm,1.4s
EPYK Eagle Plains 70.00 25 P **P 09 23 12.2 +2.3**
EPYK IAmb IAmb 09 23 21.5
comp=Z,6.1nm,0.9s
G30M tAoh Zraii Nji 70.03 25 P **P 09 23 11.3 +1.2**
SPB2 Spitsbergen Ar 70.30 348 P **P 09 23 11.9 +0.4**
SPA0 Spitsbergen Ar 70.30 348 P **P 09 23 11.8 +0.2**
SPA2 Spitsbergen Ar 70.30 348 P **P 09 23 11.9 +0.4**
SPB3 Spitsbergen Ar 70.30 348 P **P 09 23 11.2 -0.3**
SPB4 Spitsbergen Ar 70.30 348 P **P 09 23 11.2 -0.3**
ARCES ARCESS Array B 71.30 339 P **P 09 23 19.2 +1.4**
comp=Z,1.7nm,0.8s,baz=73,slow=12,SNR=1.5
comp=Z,1.7nm,0.8s
A36M Sachs Harbour 71.97 18 P **P 09 23 22.1 +0.3**
A36M IAmb IAmb 09 23 44.0
comp=Z,5.3nm,0.9s
SKAG Skagway 72.66 32 P **P 09 23 26.1 0.0**
SKAG IAmb IAmb 09 23 47.5
comp=Z,13nm,1.5s
C36M Paulatuk 73.44 21 P **P 09 23 32.0 +1.6**
C36M IAmb IAmb 09 23 41.1
comp=Z,5.2nm,1.1s
FINES FINESS Array B 73.98 331 P **P 09 23 35.2 +1.5**
FINES FINESS Array B 73.98 331 P **P 09 23 35.1 +1.3**
comp=Z,2.9nm,0.6s,baz=81,slow=6.1,SNR=10
comp=Z,2.9nm,0.6s
NACGM Naroch 76.13 324 *e*P P 09 23 40.0 -6.3
comp=Z,2.2nm,0.8s,baz=67
AKASG Malin Array Be 76.37 320 P **P 09 23 49.0 +1.3**
comp=Z,0.3nm,0.3s,baz=64,slow=5.9,SNR=1.8
comp=Z,0.3nm,0.3s
YKA Yellowknife Ar 80.27 25 P **P 09 24 10.0 +0.9**
comp=Z,0.7nm,0.7s,baz=301,slow=5.4,SNR=9.3
comp=Z,0.7nm,0.7s
NC303 NORSAR Array S 80.34 334 P **P 09 24 10.7 +1.2**
NC303 IAmb IAmb 09 24 24.6
comp=Z,20nm,1.4s
NB2 NORSAR Subarra 80.50 334 P **P 09 24 11.2 +0.7**
comp=Z,0.4nm,0.5s,baz=53,slow=5.6
NOA NORSAR Array B 80.50 334 P **P 09 24 10.5 0.0**
comp=Z,1.0nm,0.8s,baz=56,slow=5.3,SNR=3.7
NOA LR LR 10 02 28.8
comp=Z,44nm,18.6s,baz=275,slow=38
comp=Z,1.0nm,0.8s
NVAR Mina Array Bea 92.09 46 P **P 09 25 10.1 +1.7**
comp=Z,0.4nm,0.7s,baz=289,slow=5.6,SNR=3.9
comp=Z,0.4nm,0.7s

NEIC ***19*** *09:15:45.6±1.4,34.°70N±0.°04×45.°73E±0.°07,h10km±1km, mb4.3/31,Error ellipse: s-maj=10.3km s-min=5.9km az=261.0*
IDC ***19*** *09:15:46.0±1.1,34.°87N×45.°66E,h0km,mb4.0/11, mbtmp3.9/19,ML3.6/7,MS3.2/9,Error ellipse: s-maj=20.0km s-min=13.5km az=166.0*
ISN ***19*** *09:15:46.9±1.0,34.°88N×45.°87E,h24km±6km,ML4.2*
TEH ***19*** *09:15:47.4,34.°76N×45.°86E,h9km±52km,ML4.2*
SGS ***19*** *09:15:50.2,34.°61N×45.°93E,h6km,Ml4.9*
ISC 19 09:15:46.3±0.4,34.°76N±0.°03×45.°78E±0.°03,h10km,n146,
σ1ᵗ99/145,mb4.3/24,MS3.4/3,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.30**	**212**	Pg	**Pg**	**09 15 54.1**	**+1.8**
KGS1				Sg	**Sb**	**09 16 00.8**	**+2.1**
IDHR	**Dehrash**	**0.50**	**97**	Pg	**Pg**	**09 15 56.2**	**0.0**
IDHR				Sg	**Sg**	**09 16 03.9**	**+1.1**
IGHG	**Ghaleghazi**	**0.78**	**123**	Pg	**Pg**	**09 16 01.5**	**+0.2**
ILIN	**Lien**	**0.99**	**80**	Pg	**Pg**	**09 16 04.8**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.15**	**115**	Pn	**Pg**	**09 16 07.9**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.15**	**115**	Pg	**Pg**	**09 16 08.0**	**-0.4**
ILBA	**Ilam Banvizeh**	**1.19**	**162**	Pg	**Pb**	**09 16 09.3**	**+0.4**
ILBA	**Ilam Banvizeh**	**1.19**	**162**	Pg	**Pb**	**09 16 09.0**	**+0.1**
SDS1	**Sardasht. Az.**	**1.41**	**350**		**Pn**	**09 16 13.6**	**+1.4**
SDS1	**Sardasht. Az.**	**1.41**	**350**	Pg	**Pb**	**09 16 14.6**	**+1.9**
IKOM	**Komasi**	**1.54**	**112**	Pg	**Pn**	**09 16 15.2**	**+1.2**
IBDR	**Badra**	**1.65**	**176**	*e*Pg	**Pb**	**09 16 19.0**	**+2.2**
IBDR				*e*Sg	**Sg**	**09 16 41.0**	**+1.7**
IBDR				AML	AML	09 16 49.2	
	comp=N,3μm,0.7s						
IBDR				AML	AML	09 16 50.6	
	comp=E,3μm,0.6s						
BHD	**Baghdad**	**1.89**	**218**	*e*Pn	**Pn**	**09 16 21.0**	**+2.5**
BHD				*e*Sn	**Sb**	**09 16 47.0**	**+2.6**
BHD				AML	AML	09 16 57.7	
	comp=E,2μm,0.6s						
IALM	**Almabolaq**	**1.97**	**86**	Pn	**Pn**	**09 16 22.4**	**+2.5**
MAHB	**Mahabad**	**2.00**	**358**	Pn	**Pn**	**09 16 23.2**	**+2.9**
MAHB	**Mahabad**	**2.00**	**358**	Pn	**Pn**	**09 16 23.0**	**+2.7**
IKFM	**Kafar-mosalman**	**2.11**	**125**	Pn	**Pn**	**09 16 24.8**	**+3.2**
IKFM	**Kafar-mosalman**	**2.11**	**125**	Pn	**Pn**	**09 16 24.6**	**+3.0**
HAGD	**Aghdareh**	**2.77**	**88**	Pn	**Pn**	**09 16 33.6**	**+2.7**
IHSH	**Hashtrud**	**2.81**	**25**	Pn	**Pn**	**09 16 34.6**	**+3.0**
IAZR	**Azarshahr**	**2.92**	**3**	Pn	**Pn**	**09 16 36.7**	**+3.7**
RAFI	**Al-Rafai**	**3.04**	**175**	*e*Pn	**Pn**	**09 16 37.0**	**+2.6**
RAFI				*e*Sn	**Sn**	**09 17 14.0**	**+3.1**
ISRB	**Sarab**	**3.42**	**26**	Pn	**Pn**	**09 16 43.4**	**+3.6**
IRAZ	**Razeghan**	**3.46**	**78**	Pn	**Pn**	**09 16 43.2**	**+2.8**
ITBZ	**Tabriz**	**3.48**	**5**	Pn	**Pn**	**09 16 43.5**	**+2.8**
ISHB	**Shabestar**	**3.52**	**358**	Pn	**Pn**	**09 16 43.4**	**+2.1**
IHRS	**Heris**	**3.69**	**16**	Pn	**Pn**	**09 16 47.5**	**+3.8**
IHRS	**Heris**	**3.69**	**16**	Pn	**Pn**	**09 16 47.2**	**+3.5**
SIRT	**Sirnak**	**3.85**	**316**	Pn	**Pn**	**09 16 45.3**	**-0.3**
IMRD	**Marand**	**3.95**	**359**	Pn	**Pn**	**09 16 50.5**	**+3.5**
GEVA	**Gevas**	**4.17**	**329**	Pn	**Pn**	**09 16 49.8**	**-0.4**
AMIS	**Naft Sefid**	**4.26**	**135**	Pn	**Pn**	**09 16 53.8**	**+2.5**
VANB	**Van**	**4.28**	**334**	Pn	**Pn**	**09 16 55.0**	**+3.4**
IQOM	**Qom**	**4.35**	**87**	Pn	**Pn**	**09 16 55.3**	**+2.6**
GAS1	**Astara - Iran**	**4.38**	**33**	Pn	**Pn**	**09 16 55.9**	**+3.1**
GRMI	**Germi**	**4.38**	**22**	Pn	**Pn**	**09 16 56.5**	**+3.4**
KLST	**Kelardasht - M**	**4.64**	**66**	Pn	**Pn**	**09 16 59.8**	**+3.1**
MAKU	**Maku**	**4.67**	**350**	Pn	**Pn**	**09 17 00.7**	**+3.7**
IPIR	**Pirpir**	**4.74**	**114**	Pn	**Pn**	**09 16 59.8**	**+1.7**
QAMS	**Qamsar**	**4.76**	**101**	Pn	**Pn**	**09 17 01.2**	**+2.8**
MARD	**Mardin**	**4.79**	**304**	Pn	**Pn**	**09 16 58.7**	**+0.1**
JHBN	**Jahan bin**	**4.80**	**120**	Pn	**Pn**	**09 17 01.7**	**+2.8**
GURO	**Guroymak-BITLI**	**4.84**	**323**	Pn	**Pn**	**09 16 59.2**	**-0.1**
IVRN	**Varamin**	**4.89**	**86**	Pn	**Pn**	**09 17 03.0**	**+3.0**
ZNGN	**Zangian**	**4.99**	**120**	Pn	**Pn**	**09 17 03.3**	**+1.7**
ZNGN	**Zangian**	**4.99**	**120**	Pn	**Pn**	**09 17 03.8**	**+2.2**
IKLH	**Kolahrood**	**5.03**	**105**	Pn	**Pn**	**09 17 04.8**	**+2.8**
AGRB	**Hanur-Agry**	**5.30**	**336**	Pn	**Pn**	**09 17 09.7**	**+4.1**
KRSH	**Karshahi**	**5.32**	**97**	Pn	**Pn**	**09 17 08.8**	**+2.9**
ISFB	**Sefidab**	**5.35**	**93**	Pn	**Pn**	**09 17 08.6**	**+2.4**
IBRJ	**Brojen**	**5.40**	**120**	Pn	**Pn**	**09 17 10.3**	**+3.2**
SARAR	**Arar**	**5.44**	**218**	S	**Sn**	**09 18 08.6**	**-1.6**
SARAR	**Arar**	**5.44**	**218**	P	**Pn**	**09 17 09.3**	**+1.8**
GNI	**Garni**	**5.44**	**352**	Pn	**Pn**	**09 17 06.5**	**-1.1**
GNI	**Garni**	**5.44**	**352**	Pn	**Pn**	**09 17 08.1**	**+0.5**
	comp=E,0.7nm,0.3s,baz=82,slow=20,SNR=2.0						
GNI				Lg	Lg	09 18 32.1	
	baz=209,slow=17						
	comp=E,4.5nm,0.4s						
NARAR	**Arar**	**5.57**	**231**	P	**Pn**	**09 17 11.7**	**+2.4**
NARAR	**Arar**	**5.57**	**231**	S	**Sn**	**09 18 12.6**	**-0.8**
IZEF	**Zefreh**	**5.76**	**107**	Pn	**Pn**	**09 17 14.8**	**+2.7**
KLNJ	**Kolanjah**	**6.16**	**126**	Pn	**Pn**	**09 17 19.0**	**+1.4**
IRAM	**Ramesheh**	**6.26**	**116**	Pn	**Pn**	**09 17 21.4**	**+2.4**
PTK	**Pertek**	**6.58**	**311**	Pn	**Pn**	**09 17 26.3**	**+3.1**
ASYS		**7.34**	**190**	P	**Pn**	**09 17 33.6**	**+0.1**
ASYS		**7.34**	**190**	S	**Sn**	**09 18 55.1**	**-1.8**
HIL04	**Ash Shaalaniya**	**7.44**	**201**	P	**Pn**	**09 17 36.0**	**+1.0**
HIL04	**Ash Shaalaniya**	**7.44**	**201**	S	**Sn**	**09 18 53.9**	**-5.5**
ASF	**Jabal al Asfar**	**7.86**	**253**	Pn	**Pn**	**09 17 40.4**	**-0.4**
	comp=E,1.0nm,0.3s,baz=97,slow=6.8,SNR=2.0						
ASF				Lg	Lg	09 19 52.7	
	comp=E,1.2nm,0.3s,baz=45,slow=19,SNR=1.9						
	comp=E,1.8nm,0.3s						
HTM05	**HTM05**	**8.18**	**203**	P	Pn	09 17 42.4	-2.8
HTM04	**HTM04**	**8.28**	**202**	P	**Pn**	**09 17 46.5**	**-0.1**
HTM02	**HTM02**	**8.31**	**200**	P	**Pn**	**09 17 47.0**	**0.0**
QSMS	**Sumairaa**	**8.49**	**199**	P	**Pn**	**09 17 49.2**	**-0.2**
HTM06	**HTM06**	**8.56**	**202**	P	**Pn**	**09 17 50.4**	**-0.1**
MJMS	**Al Majmaah**	**8.69**	**181**	P	**Pn**	**09 17 51.6**	**-0.5**
MMAI	**Mount Meron Ar**	**8.80**	**262**	Pn	**Pn**	**09 17 54.0**	**+0.3**
	comp=E,0.8nm,0.3s,baz=66,slow=14,SNR=2.6						
MMAI				Lg	Lg	09 20 21.8	
	comp=E,1.6nm,0.3s,baz=73,slow=38,SNR=1.4						
MMAI				LR	LR	09 21 45.7	
	comp=E,86nm,18.2s,baz=44,slow=41						
BNN	**Bunyan**	**8.95**	**300**	Pn	**Pn**	**09 17 54.9**	**-0.9**
ARSS	**Ar Rass**	**9.12**	**195**	P	**Pn**	**09 17 57.6**	**-0.4**
KBZ	**Khabaz**	**9.23**	**347**	LR	LR	09 22 20.7	
	comp=E,107nm,19.6s,baz=146,slow=43						
HIL01	**Al Amaaer**	**9.48**	**201**	P	**Pn**	**09 18 02.7**	**-0.3**
GEYT	**Alibeck**	**10.44**	**69**	Pn	**Pn**	**09 18 15.8**	**-0.3**
GEYT	**Alibeck**	**10.44**	**69**	Pn	**Pn**	**09 18 19.5**	**+3.5**
	comp=E,0.4nm,0.3s,baz=256,slow=16,SNR=2.0						
GEYT				LR	LR	09 22 52.5	
	comp=E,96nm,21.5s,baz=292,slow=41						
	comp=E,1.2nm,0.4s						
GYA0B	**ALIBECK ARRAY**	**10.44**	**69**	Pn	**Pn**	**09 18 16.0**	**-0.1**
EIL	**Elat**	**10.48**	**244**	LR	LR	09 23 23.2	
	comp=E,146nm,18.3s,baz=60,slow=44						
BR131	**Keskin Array S**	**10.87**	**301**	Pn	**Pn**	**09 18 19.9**	**-2.1**
BRTR	**Keskin Array B**	**10.87**	**301**	Pn	**Pn**	**09 18 20.9**	**-1.1**
BRTR	**Keskin Array B**	**10.87**	**301**	Pn	**Pn**	**09 18 25.8**	**+3.8**
	comp=E,0.1nm,0.3s,baz=124,slow=13,SNR=10						
BRTR				LR	LR	09 23 28.2	
	comp=E,162nm,19.2s,baz=126,slow=43						
	comp=E,1.9nm,0.8s						
SHME	**Shamn**	**12.46**	**131**	Pn	**Pn**	**09 18 42.8**	**-0.9**
BANOM	**Banah**	**12.64**	**131**	Pn	**Pn**	**09 18 44.5**	**-1.7**
MSFE	**Esma-Masafi**	**12.97**	**133**	Pn	**Pn**	**09 18 49.7**	**-1.1**
UOSS	**Minazif**	**13.31**	**134**	Pn	**Pn**	**09 18 54.4**	**-1.0**
UOSS	**Minazif**	**13.31**	**134**	Pn	**Pn**	**09 18 53.1**	**-2.2**
HATD	**Hatta, Dubai**	**13.36**	**135**	Pn	**Pn**	**09 18 54.5**	**-1.5**
ASHO	**Ashiyiah**	**13.43**	**136**	Pn	**Pn**	**09 18 55.3**	**-1.7**
ASHO				Sn	Sn	09 21 15.3	-11
SOHO	**SOHO**	**14.13**	**136**	Pn	**Pn**	**09 19 03.7**	**-2.8**
WSAR	**Wadi Sarin**	**16.05**	**132**	Pn	**Pn**	**09 19 30.3**	**-1.8**
	comp=E,2.1nm,0.3s,baz=292,slow=7.1,SNR=18						
WSAR				Sn	Sn	09 22 18.5	-12
	comp=E,0.3nm,0.3s,baz=182,slow=20,SNR=2.7						
WSAR				LR	LR	09 26 30.8	
	comp=E,73nm,20.2s,baz=350,slow=40						
BELG	**Belogornoye**	**17.68**	**4**	P	**Pn**	**09 19 52.4**	**0.0**
	comp=E,0.8nm,0.3s,baz=135,slow=4.3,SNR=2.7						
	comp=E,15nm,0.9s						
ABKAR	**Akbulak array**	**17.86**	**32**		**Pn**	**09 19 53.9**	**-0.8**
AKTO	**Aktyubinsk**	**18.03**	**26**	P	**Pn**	**09 19 57.4**	**+0.5**
	comp=E,0.1nm,0.3s,baz=200,slow=10,SNR=2.9						
	comp=E,0.9nm,0.5s						
CHGR	**Chuyangaron**	**19.13**	**71**	P	**P**	**09 20 08.7**	**-0.9**
CHGR				IAmb	IAmb	09 20 49.4	
	comp=Z,16nm,1.4s						
AK05	**Malin Array Si**	**19.92**	**328**	P	**P**	**09 20 16.9**	**-1.1**
AK05				IAmb	IAmb	09 20 21.2	
	comp=Z,9.9nm,1.1s						
AKASG	**Malin Array Be**	**19.97**	**328**	P	**P**	**09 20 18.2**	**-0.3**
AKASG	**Malin Array Be**	**19.97**	**328**	P	**P**	**09 20 18.1**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=135,slow=10,SNR=16						
	comp=Z,1.6nm,0.5s						
AKBB	**Malin Array Si**	**19.97**	**328**			**09 20 17.7**	**-0.9**
AKBB				IAmb	IAmb	09 20 25.5	
	comp=Z,7.7nm,0.7s						
KIEV	**Kiev**	**19.97**	**328**		**P**	**09 20 17.7**	**-0.9**
KIEV				IAmb	IAmb	09 20 25.5	
	comp=Z,6.9nm,0.7s						
BURAR	**Bucovina Array**	**20.03**	**316**	P	**P**	**09 20 18.8**	**-0.6**
BUR08	**Bucovina Ar. S**	**20.06**	**316**	P	**P**	**09 20 18.8**	**-0.8**
FNA	**Florina**	**20.18**	**295**	P	**P**	**09 20 19.2**	**-1.7**
KK31	**Karatay Array**	**20.91**	**59**	P	**P**	**09 20 27.7**	**-1.2**
KKAR	**Karatay Array**	**20.91**	**59**	P	**P**	**09 20 27.7**	**-1.2**
KOLS	**Kolonicke sedl**	**22.40**	**316**	*e*P	**P**	**09 20 48.2**	**+3.4**
KOLS	**Kolonicke sedl**	**22.40**	**316**	*e*PN	P	09 20 54.5	+10
SUW	**Suwalki**	**24.94**	**327**	P	**P**	**09 21 09.9**	**+0.5**
MODS	**Modra-Piesok**	**25.12**	**311**	*e*P	**P**	**09 21 16.3**	**+5.0**
BVAR	**Borovoye Array**	**25.25**	**36**	P	**P**	**09 21 13.8**	**+1.5**
	comp=Z,2.0nm,0.6s,baz=224,slow=4.0,SNR=7.6						
	comp=Z,2.0nm,0.6s						
MORC	**Moravsky Berou**	**25.53**	**315**	P	**P**	**09 21 13.5**	**-1.4**
MORC				IAmb	IAmb	09 21 18.6	
	comp=Z,7.5nm,1.4s						
PABE	**Paberze**	**25.63**	**331**	P	**P**	**09 21 15.2**	**-0.5**
KURBB	**Kurchatov Arra**	**28.53**	**46**	P	**P**	**09 21 43.2**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=253,slow=8.7,SNR=4.2						
	comp=Z,0.6nm,0.6s						
FINES	**FINESS Array B**	**29.52**	**341**	P	**P**	**09 21 50.3**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=150,slow=9.6,SNR=8.1						
FINES				LR	LR	09 34 12.7	
	comp=Z,86nm,20.3s,baz=168,slow=38						
	comp=Z,1.3nm,0.7s						
MK31	**Makanchi Array**	**29.88**	**55**	P	**P**	**09 21 53.2**	**-0.7**
MK31				IAmb	IAmb	09 22 34.8	
	comp=Z,7.4nm,1.5s						
MKAR	**Makanchi Array**	**29.88**	**55**	P	**P**	**09 21 52.7**	**-1.3**
MKAR	**Makanchi Array**	**29.88**	**55**	P	**P**	**09 21 55.5**	**+1.6**
	comp=Z,1.8nm,0.9s,baz=256,slow=8.5,SNR=3.6						
	comp=Z,1.8nm,0.9s						
BNI	**Bardonecchia**	**31.43**	**301**	P	**P**	**09 22 06.1**	**-1.8**
HFS	**Hagfors**	**32.81**	**331**	P	**P**	**09 22 19.4**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=130,slow=8.7,SNR=12						
HFS				LR	LR	09 38 45.4	
	comp=Z,122nm,20.0s,baz=248,slow=42						
	comp=Z,2.5nm,0.6s						
NOA	**NORSAR Array B**	**34.33**	**331**	LR	LR	09 36 40.1	
	comp=Z,21nm,18.7s,baz=250,slow=37						
NC204	**NORSAR Array S**	**34.65**	**331**	P	**P**	**09 22 35.6**	**0.0**
ARCES	**ARCESS Array B**	**36.59**	**348**	P	**P**	**09 22 52.7**	**+0.6**
	comp=Z,4.0nm,1.1s,baz=154,slow=10,SNR=4.5						
	comp=Z,4.0nm,1.1s						
EKA	**Eskdalemuir Ar**	**39.21**	**317**	P	**P**	**09 23 14.5**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=103,slow=8.3,SNR=5.2						
	comp=Z,0.9nm,0.4s						
KAAM	**Kaadhehdhoo**	**42.

AFAD 19 09:24:00.1±0.0, 39.80N×28.69E, h7km±4km, ML1.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.26**	**219**	P	Pb	09 24 06.5	-0.7
DURS				*i* AML	AML	09 24 10.0	
	comp=N,317nm,0.2s						
DURS				*i* AML	AML	09 24 10.0	
	comp=E,330nm,0.2s						
DURS				S	Sg	09 24 10.1	+1.3
ULDT	**Uludag**	**0.48**	**45**	P	Pg	09 24 10.0	+0.6
ULDT				S	Sg	09 24 15.5	-0.3
ULDT				*i* AML	AML	09 24 16.0	
	comp=N,61nm,0.1s						
BKES	**Balkesir-Mer**	**0.59**	**263**	P	Pb	09 24 12.8	0.0
BKES				S	Sg	09 24 20.2	+1.0
IGD	**Bursa**	**0.60**	**40**	P	Pg	09 24 12.2	+0.4
IGD				S	Sg	09 24 19.8	+0.2
EMET	**Ktahya-Emet**	**0.65**	**131**	P	Pg	09 24 12.3	-0.3
EMET				S	Sg	09 24 21.9	+0.8
BAND	**Balkesir-Ban**	**0.71**	**321**	P	Pg	09 24 14.1	+0.3
BAND				S	Sg	09 24 23.9	+0.8
BAND				*i* AML	AML	09 24 24.0	
	comp=N,46nm,0.5s						
BAND				*i* AML	AML	09 24 24.0	
	comp=E,39nm,0.2s						
DEMI	**Demirci**	**0.76**	**178**	P	Pb	09 24 15.5	-0.2
DEMI				S	Sn	09 24 29.4	+0.3
DEMI				*i* AML	AML	09 24 30.0	
	comp=E,52nm,0.2s						
DEMI				*i* AML	AML	09 24 31.0	
	comp=N,24nm,0.1s						
DEMI	**Demirci**	**0.76**	**178**	P	Pb	09 24 15.6	-0.2
DEMI				*i* AML	AML	09 24 30.0	
	comp=E,52nm,0.2s						
DEMI				S	Sn	09 24 30.0	+0.9
DEMI				*i* AML	AML	09 24 31.0	
	comp=N,24nm,0.1s						
BALY	**Balya**	**0.83**	**266**	P	Pg	09 24 16.1	+0.1
BALY				S	Sg	09 24 27.4	+0.6
STEP	**BALIKESIR_Sava**	**0.86**	**241**	P	Pb	09 24 17.4	0.0
STEP				S	Sb	09 24 28.5	-0.7
STEP				*i* AML	AML	09 24 33.0	
	comp=N,44nm,1.3s						
STEP				*i* AML	AML	09 24 34.0	
	comp=E,37nm,0.2s						
GDZ	**Gediz**	**0.94**	**139**	P	Pb	09 24 19.1	+0.3
GDZ				S	Sg	09 24 29.8	-0.6
GDZ				*i* AML	AML	09 24 35.0	
	comp=N,23nm,0.4s						
GDZ				*i* AML	AML	09 24 35.0	
	comp=E,19nm,0.2s						
GDZ	**Gediz**	**0.94**	**139**	P	Pb	09 24 18.9	0.0
GDZ				S	Sg	09 24 30.6	+0.2
GDZ				*i* AML	AML	09 24 35.0	
	comp=N,23nm,0.4s						
GDZ				*i* AML	AML	09 24 35.0	
	comp=E,19nm,0.2s						
ANDZ	**Kutahya, Merke**	**0.98**	**107**	P	Pb	09 24 19.2	-0.2
ANDZ				S	Sg	09 24 31.7	+0.1
ANDZ				*i* AML	AML	09 25 05.0	
	comp=N,41nm,1.6s						
BILE	**Bilecik/Merkez**	**0.98**	**68**	P	Pn	09 24 20.4	0.0
BILE				S	Sg	09 24 31.2	-0.4
BILE				*i* AML	AML	09 24 35.0	
	comp=N,31nm,1.2s						
BILE				*i* AML	AML	09 24 36.0	
	comp=E,38nm,0.2s						
AUBOZ	**BOZOYUK**	**1.04**	**84**	P	Pg	09 24 20.0	-0.1
AUBOZ				*i* AML	AML	09 24 35.0	
	comp=N,17nm,1.0s						
AUBOZ				S	Sn	09 24 36.0	0.0
AUBOZ				*i* AML	AML	09 24 37.0	
	comp=E,16nm,0.4s						
USAK	**Uak-Merkez**	**1.12**	**167**	P	Pn	09 24 22.8	+0.5
USAK				S	Sb	09 24 36.4	-0.2
USAK				*i* AML	AML	09 25 08.0	
	comp=N,74nm,1.5s						
USAK				*i* AML	AML	09 25 14.0	
	comp=E,164nm,2.1s						
AKHS	**Akhisar**	**1.15**	**217**	P	Pn	09 24 22.7	+0.2
AKHS				S	Sb	09 24 37.7	+0.4
AKHS				*i* AML	AML	09 24 40.0	
	comp=E,44nm,0.6s						
BUHA	**Balikesir, Bur**	**1.28**	**257**	P	Pn	09 24 23.5	-0.9
BUHA				S	Sn	09 24 42.0	+0.1
BUHA				*i* AML	AML	09 24 44.0	
	comp=E,22nm,0.4s						
BUHA				*i* AML	AML	09 24 47.0	
	comp=N,20nm,0.9s						
MANT	**Manisa**	**1.31**	**184**	P	Pg	09 24 25.8	+0.5
MANT				S	Sg	09 24 42.2	-0.2
MANT				*i* AML	AML	09 24 45.0	
	comp=N,7.3nm,0.3s						
MANT				*i* AML	AML	09 24 50.0	
	comp=E,6.9nm,0.6s						
BORA	**Eskisehir**	**1.36**	**86**	P	Pn	09 24 24.9	-0.7
BORA				S	Sn	09 24 44.1	+0.2
BORA				*i* AML	AML	09 24 46.0	
	comp=E,17nm,0.2s						
BORA				*i* AML	AML	09 24 47.0	
	comp=N,11nm,0.1s						

*NEIC **19** 09:28:40.6±0.7, 19.25N±0.03×156.03W±0.06, h49km±5km, Error ellipse: s-maj=8.8km s-min=3.7km az=74.0*

HVO 19 09:28:42.9±0.5, 19.25N±0.03×155.98W±0.05, h40km±4km, ML1.6/1, ML2.5/26(NEIC), Error ellipse: s-maj=6.8km s-min=3.1km az=68.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPH	**Captain Cook**	**0.24**	**15**		Pn	09 28 49.4	-1.3
KHU	**Kahuku**	**0.35**	**91**		Pn	09 28 50.8	-1.1
KHU					Sn	09 28 56.7	-1.7
KHU				IAML		09 29 08.2	
	comp=E,318nm,4.3s						
KHLU	**Kahalu`u**	**0.35**	**14**		Pn	09 28 50.5	-1.3
KHLU					Sn	09 28 55.9	-2.3
ALEP	**Alea Permanent**	**0.43**	**48**		Pn	09 28 52.0	-1.1
ALEP					Sn	09 28 58.4	-1.8
MWH	**Moku'aweowe**	**0.43**	**58**		Pn	09 28 51.7	-1.6
MWH				IAML		09 29 09.3	
	comp=E,339nm,4.4s						
MWH				IAML		09 29 10.4	
	comp=N,225nm,4.9s						
HUH	**Hualalai**	**0.45**	**18**		Pn	09 28 52.0	-1.3
HUH				IAML		09 28 57.7	
	comp=N,220nm,4.6s						
HUH					Sn	09 28 58.8	-1.8
HUH				IAML		09 29 01.4	
	comp=E,330nm,3.7s						
MLOA	**Mauna Loa Obse**	**0.48**	**54**	Pn	Pn	09 28 52.3	-1.5
MLOA				IAML		09 29 04.0	
	comp=E,278nm,4.3s						
AIN	**Ainahou**	**0.51**	**76**		Pn	09 28 52.7	-1.3
AIN				IAML		09 29 06.2	
	comp=E,281nm,4.6s						
AIN				IAML		09 29 15.4	
	comp=N,299nm,4.7s						
HTC	**Hot Caves**	**0.56**	**91**		Pn	09 28 53.1	-1.3
HMH	**Humu'ula Sheep**	**0.59**	**53**		Pn	09 28 53.8	-1.4
HMH				IAML		09 29 01.7	
	comp=N,238nm,4.7s						
HMH				IAML		09 29 16.4	
	comp=E,218nm,3.8s						
MLH	**Mauna Loa**	**0.61**	**67**		Pn	09 28 54.0	-1.5
MLH				IAML		09 29 01.0	
	comp=N,341nm,4.8s						
MLH				IAML		09 29 13.2	
	comp=E,214nm,4.4s						
HLP	**Hilina Pali**	**0.64**	**86**		Pn	09 28 54.2	-1.4
HLP				IAML		09 29 13.9	
	comp=E,454nm,4.1s						
POHA	**Pohakuloa**	**0.66**	**40**		Pn	09 28 54.6	-1.5
POHA					Sn	09 29 02.9	-2.5
WRMHI	**West Rim**	**0.67**	**76**	Pn	Pn	09 28 54.6	-1.4
MHA	**Mahukona**	**0.94**	**5**	Pn	Pn	09 28 57.0	-2.6
HLK	**Haleakala**	**1.52**	**351**	Pn	Pn	09 29 05.4	-2.4
KHLH	**Kahului Airpor**	**1.69**	**346**	Pn	Pn	09 29 07.8	-2.1
KHLH				IAML		09 30 09.4	
	comp=N,89nm,4.4s						

IDC 19 09:35:43.8±2.9, 53.74N×86.69E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=26.2km s-min=14.6km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.13**	**281**	I	I	09 42 36.1	
	baz=100,slow=341,SNR=55						
ZALV	**Zalesovo Beam**	**1.13**	**281**	Pg	Pg	09 36 05.1	-0.3
	1.5nm,0.3s,baz=101,slow=17,SNR=13						
ZALV				Lg	Lg	09 36 20.5	
	0.9nm,0.3s,baz=103,slow=18,SNR=4.9						
KURBB	**Kurchatov Arra**	**5.91**	**241**	Pn	Pn	09 37 13.7	+1.1
	0.1nm,0.3s,baz=57,slow=13,SNR=6.7						
MKAR	**Makanchi Array**	**7.50**	**204**	Pn	Pn	09 37 35.2	+0.7
	0.1nm,0.3s,baz=24,slow=13,SNR=5.1						
	0.3nm,0.2s						

*ISN **19** 09:42:49.6±0.7, 34.66N×45.79E, h0km±545km, ML3.1*
*TEH **19** 09:42:50.2, 34.75N×45.86E, h9km±32km, ML3.3*

ISC 19 09:42:50.3±1.4, 34.71N±0.03×45.83E±0.04, h4km±12km, n18, σ0.93/25, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.29**	**223**	Pg	**Pb**	**09 42 56.7**	**-1.4**
KGS1				Sg	**Sb**	**09 43 02.7**	**-0.5**
IDHR	**Dehrash**	**0.46**	**92**	Pg	**Pg**	**09 42 58.8**	**-0.4**
IDHR				Sg	**Sg**	**09 43 06.4**	**+1.1**
IGHG	**Ghaleghazi**	**0.72**	**122**	Pg	**Pg**	**09 43 04.3**	**+0.1**
ILIN	**Lien**	**0.96**	**77**	Pg	**Pg**	**09 43 08.1**	**-0.6**
ILIN				Sg	**Sg**	**09 43 21.4**	**+0.3**
KCHF	**Cheshme Sefid,**	**1.09**	**113**	Pg	**Pn**	**09 43 11.9**	**-0.8**
KCHF				Sg	**Sn**	**09 43 27.2**	**-1.2**
ILBA	**Ilam Banvizeh**	**1.13**	**164**	Pg	**Pb**	**09 43 12.0**	**-0.5**
SDS1	**Sardasht. Az.**	**1.46**	**349**	Pg	**Pb**	**09 43 17.8**	**-0.4**
IKOM	**Komasi**	**1.49**	**111**	Pg	**Pb**	**09 43 18.4**	**-0.6**
IBDR	**Badra**	**1.60**	**177**	*e*Pn	**Pb**	**09 43 20.0**	**-0.5**
IBDR				*e*Sn	**Sg**	**09 43 43.0**	**+1.2**
IBDR				AML	AML	09 43 50.4	
	comp=E,219nm,0.8s						
IBDR				AML	AML	09 43 51.5	
	comp=N,188nm,0.7s						
BHD	**Baghdad**	**1.88**	**220**	*e*Pn	**Pb**	**09 43 24.0**	**-1.2**
BHD				*e*Sn	**Sb**	**09 43 49.0**	**0.0**
BHD				AML	AML	09 43 58.3	
	comp=E,360nm,0.1s						
IALM	**Almabolaq**	**1.93**	**85**	Pn	**Pb**	**09 43 25.6**	**-0.8**
MAHB	**Mahabad**	**2.05**	**357**	Pn	**Pn**	**09 43 26.2**	**+0.4**
IKFM	**Kafar-mosalman**	**2.05**	**125**	Pn	**Pb**	**09 43 27.5**	**-0.7**
HAGD	**Aghdareh**	**2.73**	**87**	Pn	**Pn**	**09 43 36.4**	**+1.1**
IAZR	**Azarshahr**	**2.96**	**2**	Pn	**Pn**	**09 43 39.1**	**+0.7**
RAFI	**Al-Rafai**	**2.99**	**175**	*e*Pn	**Pn**	**09 43 40.0**	**+1.4**
RAFI				*e*Sn	**Sn**	**09 44 16.0**	**+1.1**
IHRS	**Heris**	**3.73**	**15**	Pn	**Pn**	**09 43 50.3**	**+1.3**
IMRD	**Marand**	**3.99**	**359**	Pn	**Pn**	**09 43 53.0**	**+0.4**

IDC 19 09:57:05.1±999.0, 52.20N×4.10E, h0km, Error ellipse: s-maj=528.5km s-min=188.3km az=88.0, The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**6.98**	**115**	I	I	10 36 40.0	
	0.1nm,0.9s,baz=306,slow=342,SNR=2.7						
I43RU	**DUBNA INFRASON**	**9.65**	**64**	I	I	11 56 10.0	
	baz=272,slow=329,SNR=1.5						
I31KZ	**AKTYUBINSK INF**	**33.12**	**71**	I	I	13 20 00.0	
	baz=295,slow=374,SNR=1.3						
I46RU	**ZALESOVO INFRA**	**46.02**	**54**	I	I	14 40 00.0	
	baz=303,slow=332,SNR=1.5						

*DNK **19** 10:01:07.1±1.2, 54.65N×19.24E, h0km, ML1.8(UPP), Suspected explosion*
*IDC **19** 10:01:08.6±1.5, 54.71N×19.39E, h0km, mbtmp3.4/5, ML2.9/5, Error ellipse: s-maj=20.9km s-min=11.8km az=48.0*
*UPP **19** 10:01:08.7±2.3, 54.69N×19.02E, h0km, ML1.8*

ISC 19 10:01:04.8±1.2, 54.65N±0.07×19.32E±0.07, h0km, n27, σ2.917/33, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLEU	**Blekinge**	**2.60**	**311**	P	**Pn**	**10 01 49.8**	**+1.8**
BLEU				S	**Sn**	**10 02 22.2**	**+2.1**
BLEU	**Blekinge**	**2.60**	**311**	P	**Pn**	**10 01 49.8**	**+1.8**
BLEU				S	**Sn**	**10 02 22.2**	**+2.1**
BYXU	**Byxelkrok**	**2.95**	**335**	P	**Pn**	**10 01 55.0**	**+2.2**
BYXU				S	**Sn**	**10 02 29.3**	**+0.4**
BYXU	**Byxelkrok**	**2.95**	**335**	P	**Pn**	**10 01 55.0**	**+2.2**
BYXU				S	**Sn**	**10 02 29.3**	**+0.4**
GOTU	**Gotland**	**3.08**	**352**	P	**Pn**	**10 01 57.7**	**+3.1**
GOTU	**Gotland**	**3.08**	**352**	P	**Pn**	**10 01 57.7**	**+3.1**
OSKU	**Oskarshamn**	**3.13**	**326**	P	**Pn**	**10 01 57.2**	**+1.9**
OSKU	**Oskarshamn**	**3.13**	**326**	P	**Pn**	**10 01 57.2**	**+1.9**
VSTU	**Vaestervik**	**3.40**	**334**	P	**Pn**	**10 02 01.1**	**+2.2**
VSTU	**Vaestervik**	**3.40**	**334**	P	**Pn**	**10 02 01.1**	**+2.2**
DEL	**Delary**	**3.59**	**303**	P	**Pn**	**10 02 03.3**	**+1.6**
DEL	**Delary**	**3.59**	**303**	P	**Pn**	**10 02 03.3**	**+1.6**
VIKU	**Vikbolandet**	**4.13**	**341**	P	**Pn**	**10 02 12.1**	**+3.1**
VIKU	**Vikbolandet**	**4.13**	**341**	P	**Pn**	**10 02 12.1**	**+3.1**
LNKU	**Linkoeping**	**4.16**	**331**	P	**Pn**	**10 02 11.4**	**+1.9**
LNKU	**Linkoeping**	**4.16**	**331**	P	**Pn**	**10 02 11.4**	**+1.9**
OSTC	**Ostas**	**4.51**	**206**	*e*P	**Pn**	**10 02 15.4**	**+1.1**
UPC	**Upice**	**4.61**	**207**	*e*P	**Pn**	**10 02 15.2**	**-0.4**
DPC	**Dobruska-Polom**	**4.68**	**204**	*e*P	**Pn**	**10 02 16.6**	**0.0**
KRLC	**Kraliky**	**4.83**	**200**	*e*P	**Pn**	**10 02 19.5**	**+0.7**
MORC	**Moravsky Berou**	**5.00**	**193**	*e*PN	**Pn**	**10 02 22.6**	**+1.6**
MAUC	**Maruska**	**5.37**	**190**	*e*P	**Pn**	**10 02 27.8**	**+1.7**
HFS	**Hagfors**	**6.29**	**333**	Pn	**Pn**	**10 02 40.2**	**+1.6**
	0.9nm,0.3s,baz=146,slow=14,SNR=39						
HFS				Sn	**Sn**	**10 03 47.0**	**-4.1**
	0.6nm,0.3s,baz=144,slow=18,SNR=2.0						
HFS				Lg	Lg	10 04 26.6	
	0.8nm,0.3s,baz=152,slow=33,SNR=1.1						
	2.7nm,0.2s						
AKASG	**Malin Array Be**	**7.20**	**119**	Pn	**Pn**	**10 02 51.6**	**+0.5**
	1.6nm,0.3s,baz=318,slow=12,SNR=6.3						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**7.70**	**25**	Pn	**Pn**	**10 02 59.9**	**+1.9**
	0.6nm,0.3s,baz=209,slow=11,SNR=25						
FINES				Sn	**Sn**	**10 04 23.2**	**-2.6**
	0.9nm,0.3s,baz=212,slow=18,SNR=5.3						
	1.1nm,0.3s						
NOA	**NORSAR Array B**	**7.73**	**329**	Pn	**Pn**	**10 02 58.8**	**+0.4**
	baz=137,slow=16,SNR=5.1						
	0.1nm,0.3s						
ARCES	**ARCESS Array B**	**15.21**	**8**	Pn	**Pn**	**10 04 37.2**	**-3.3**
	0.1nm,0.3s,baz=187,slow=14,SNR=8.5						
	1.7nm,0.8s						

*IDC **19** 10:03:56.4±2.7, 30.34N×57.49E, h0km, mb3.7/5, mbtmp3.8/5, Error ellipse: s-maj=75.2km s-min=23.0km az=152.0*
*TEH **19** 10:03:59.0, 30.74N×57.43E, h9km±21km, ML4.0*

ISC 19 10:04:00.4±0.8, 30.70N±0.04×57.43E±0.04, h15km, n36, σ1.941/38, mb3.9/6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.24**	**214**	Pg	**Pg**	**10 04 05.2**	**-0.7**
KRM1				Sg	**Sg**	**10 04 08.7**	**-0.9**
ZRDN	**Zarand Kerman**	**0.81**	**289**	Pg	**Pg**	**10 04 14.7**	**-1.6**
CHMN	**Cheshme madani**	**0.84**	**173**	Pg	**Pg**	**10 04 16.3**	**-0.6**
KHGB	**Koh Gabri**	**0.88**	**249**	Pg	**Pb**	**10 04 16.6**	**-1.0**
TVBK	**TV Kerman**	**0.92**	**219**	Pg	**Pb**	**10 04 18.0**	**-0.2**
NGRK	**Negar Kerman**	**1.22**	**210**	Pg	**Pn**	**10 04 23.4**	**+0.2**
NGRK				Sg	**Sg**	**10 04 41.4**	**+1.6**
KBAM	**BAM**	**1.80**	**150**	Pn	**Pb**	**10 04 32.3**	**-0.8**
IBAF	**Bafgh**	**1.82**	**300**	Pn	**Pn**	**10 04 32.8**	**+1.4**
BSRN	**Basiran**	**1.92**	**49**	Pn	**Pn**	**10 04 34.0**	**+1.3**
IKOO	**Kooshah**	**2.18**	**38**	Pn	**Pn**	**10 04 37.1**	**+0.7**
NHDN	**Nehbandan**	**2.35**	**72**	Pn	**Pn**	**10 04 39.7**	**+1.0**
TPRV	**Parvadeh(Tabas**	**2.40**	**345**	Pn	**Pn**	**10 04 40.2**	**+0.9**
ITEG	**Tejag**	**2.46**	**27**	Pn	**Pn**	**10 04 40.7**	**+0.5**
IMEH	**Mehriz**	**2.51**	**287**	Pn	**Pn**	**10 04 42.2**	**+1.3**
KHNJ	**Kahnooj**	**2.76**	**175**	Pn	**Pb**	**10 04 47.2**	**-2.2**
IDAH	**Dahanechah**	**2.91**	**45**	Pn	**Pn**	**10 04 47.4**	**+1.0**
TKDS	**Koohdasht(Taba**	**2.91**	**355**	Pn	**Pn**	**10 04 46.7**	**+0.4**
ICHK	**Chekchek**	**3.00**	**302**	Pn	**Pn**	**10 04 49.5**	**+1.8**
AFRZ	**Afriz**	**3.03**	**26**	Pn	**Pn**	**10 04 48.8**	**+0.8**
ZHDN	**Zahedan**	**3.21**	**113**	Pn	**Pn**	**10 04 52.3**	**+1.9**
TNSJ	**Nastanj**	**3.32**	**348**	Pn	**Pn**	**10 04 52.8**	**+0.8**
ISAD	**Sadrabad**	**3.42**	**292**	Pn	**Pn**	**10 04 55.2**	**+1.7**
GENO	**Geno**	**3.47**	**199**	Pn	**Pn**	**10 04 56.3**	**+2.3**
SHRT	**Shahrakht**	**3.81**	**39**	Pn	**Pn**	**10 04 60.0**	**+1.3**
ANAR	**Anarak**	**4.00**	**309**	Pn	**Pn**	**10 05 02.1**	**+0.8**
IRAM	**Ramesheh**	**4.46**	**286**	Pn	**Pn**	**10 05 10.3**	**+2.6**
IZEF	**Zefreh**	**4.86**	**298**	Pn	**Pn**	**10 05 14.6**	**+1.4**
SRVN	**Saravan**	**5.45**	**126**	Pn	**Pn**	**10 05 24.8**	**+3.4**
ISFB	**Sefidab**	**5.69**	**311**	Pn	**Pn**	**10 05 25.1**	**+0.6**
IGLO	**Ghaloghah**	**6.52**	**334**	Pn	**Pn**	**10 05 37.1**	**+1.1**
BRTR	**Keskin Array B**	**21.37**	**301**	P	**P**	**10 08 48.1**	**+0.7**
	1.5nm,0.8s,baz=124,slow=13,SNR=6.8						
	1.5nm,0.8s						
BVAR	**Borovoye Array**	**24.23**	**19**	P	**P**	**10 09 17.8**	**+1.3**
	2.4nm,0.8s,baz=199,slow=8.4,SNR=11						
	2.4nm,0.8s						
MKAR	**Makanchi Array**	**25.03**	**43**	P	**P**	**10 09 24.6**	**+0.7**
	0.5nm,0.6s,baz=221,slow=8.2,SNR=2.9						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**25.38**	**32**	P	**P**	**10 09 28.4**	**+1.5**
	1.5nm,0.2s,baz=227,slow=9.6,SNR=2.5						
ZALV	**Zalesovo Beam**	**30.48**	**32**	P	**P**	**10 10 12.3**	**-0.2**
	1.2nm,0.6s,baz=245,slow=8.8,SNR=4.8						
	1.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**54.04**	**264**	P	**P**	**10 13 23.0**	**-1.5**
	1.5nm,0.6s,baz=54,slow=8.1,SNR=12						
	1.5nm,0.6s						

IDC 19 10:08:05.4±1.4, 0.12S×118.94E, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=160.8km s-min=19.9km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.81**	**143**	P	P	10 13 29.5	0.0
	1.8nm,0.5s,baz=324,slow=9.5,SNR=64						
	1.8nm,0.5s						
ASAR	**Alice Springs**	**27.55**	**149**	P	P	10 13 55.2	+1.0
	1.1nm,0.4s,baz=323,slow=8.1,SNR=27						
	1.1nm,0.4s						
STKA	**Stephens Creek**	**38.16**	**148**	P	P	10 15 25.3	-1.4
	2.9nm,0.7s,baz=323,slow=10,SNR=4.8						
	2.9nm,0.7s						
SONM	**Songino Array**	**49.00**	**349**	P	P	10 16 53.7	-0.2
	0.7nm,0.6s,baz=164,slow=8.7,SNR=3.3						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**56.66**	**331**	P	P	10 17 50.5	0.0
	0.9nm,0.5s,baz=130,slow=7.9,SNR=7.8						
	0.9nm,0.5s						

*NNC **19** 10:09:37.0±1.3, 51.83N×75.25E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=28.5km s-min=8.1km az=22.0, Suspected Mining explosion.*
*IDC **19** 10:09:38.4±1.1, 51.83N×75.43E, h0km, mbtmp2.7/3, ML2.1/3, Error ellipse: s-maj=22.4km s-min=8.8km az=24.0*

ISC 19 10:09:38.1±1.2, 51.77N±0.07×75.30E±0.07, h0km, n11, σ1.905/12, 7C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.33**	**118**	Pn	**Pn**	**10 10 16.7**	**-1.0**
	0.4nm,0.3s,baz=302,slow=19,SNR=7.5						
KURBB				Lg	Lg	10 10 50.4	
	0.6nm,0.3s,baz=304,slow=32,SNR=7.7						
	1.8nm,0.3s						
KURBB	**Kurchatov Arra**	**2.33**	**118**	⇑Pn	**Pn**	**10 10 16.6**	**-1.1**
	1.6nm,0.5s						
KURBB				⇑Sn	**Sb**	**10 10 50.2**	**-0.1**
	46nm,0.7s						
KURK	**Kurchatov**	**2.34**	**116**	⇓Pn	**Pn**	**10 10 16.0**	**-1.7**
	0.8nm,0.4s						
KURK				⇑Sn	**Sn**	**10 10 47.6**	**+0.5**
	16nm,0.7s						
BVA0	**Borovoye Array**	**3.26**	**295**	⇓Pg	**Pb**	**10 10 37.7**	**+0.9**
	0.8nm,0.5s,baz=121,slow=18,SNR=7.4						
BVA0				⇑Lg	Lg	10 11 19.6	
	6.8nm,0.7s,baz=114,slow=27,SNR=7.8						
BVAR	**Borovoye Array**	**3.26**	**295**	Pg	**Pb**	**10 10 37.0**	**+0.2**
	0.1nm,0.3s,baz=121,slow=18,SNR=11						
BVAR				Lg	Lg	10 11 21.4	
	0.2nm,0.3s,baz=109,slow=25,SNR=13						
BRVK	**Borovoye**	**3.33**	**295**	⇓Pg	**Pb**	**10 10 36.6**	**-1.4**
	0.6nm,0.4s						
BRVK				⇑Lg	Lg	10 11 19.2	
	7.6nm,0.8s						
OTUK	**Ortayu**	**4.01**	**210**	⇑Pg	**Pb**	**10 10 50.2**	**+0.6**
	0.3nm,0.4s						
OTUK				⇑Lg	Lg	10 11 46.6	
	3.5nm,0.9s						
I46RU	**ZALESOVO INFRA**	**6.16**	**66**	I	I	10 44 40.0	
	baz=253,slow=339,SNR=4.5						
ZALV	**Zalesovo Beam**	**6.16**	**66**	Pn	**Pn**	**10 11 11.3**	**+1.1**
	0.2nm,0.3s,baz=264,slow=15,SNR=2.4						
ZALV				Sn	**Sn**	**10 12 21.2**	**-0.2**
	0.1nm,0.3s,baz=262,slow=22,SNR=2.0						
ZALV				Lg	Lg	10 12 50.0	
	0.1nm,0.3s,baz=241,slow=31,SNR=2.2						
	0.5nm,0.4s						
MK31	**Makanchi Array**	**6.76**	**135**	⇓Lg	Lg	10 13 12.3	
	6.2nm,0.7s,baz=329,slow=28,SNR=6.3						
MKAR	**Makanchi Array**	**6.76**	**135**	Pn	**Pn**	**10 11 18.9**	**+0.5**
	0.1nm,0.3s,baz=317,slow=10,SNR=2.7						
MKAR				Lg	Lg	10 13 08.8	
	0.3nm,0.3s,baz=322,slow=29,SNR=6.6						
	0.6nm,0.8s						

*IDC **19** 10:12:53.2±1.0, 39.99N×139.47E, h0km, mb3.5/7, mbtmp3.5/12, ML3.2/4, Error ellipse: s-maj=22.1km s-min=18.2km az=120.0*
*NIED **19** 10:12:54.6, 40.01N×139.52E, h11km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.81; $M_{\theta\theta}$3.10; $M_{\phi\phi}$-3.91; $M_{r\theta}$-2.76; $M_{\theta\phi}$2.04; $M_{\phi r}$-0.76; Fault plane solution: M_w4.94000×10^{14} NP1: ϕ_s205.00000°, δ

ASAJ Asahikawa 4.73 28 Pn **Pn 10 14 06.9 +1.2**
comp=N,1.0nm,0.3s,baz=149,slow=5.9,SNR=4.7
comp=N,2.7nm,0.3s
USRK Ussuriysk Ar. 6.98 310 Pn **Pn 10 14 35.9 -0.7**
comp=N,0.7nm,0.3s,baz=123,slow=14,SNR=11
USRK Sn **Sn 10 15 48.5 -7.7**
comp=N,0.1nm,0.3s,baz=126,slow=14,SNR=0.9
comp=N,4.0nm,0.6s
KSRS Korea Array 9.38 258 Pn **Pn 10 15 11.1 +1.6**
comp=N,0.3nm,0.3s,baz=61,slow=14,SNR=4.2
KSRS Sn **Sn 10 16 58.2 +3.0**
comp=N,0.4nm,0.3s,baz=71,slow=24,SNR=5.2
comp=N,1.1nm,0.5s
KLR Kul'dur 10.75 332 Pn **Pn 10 15 30.3 +2.1**
comp=N,0.1nm,0.3s,baz=120,slow=21,SNR=2.2
comp=N,0.7nm,0.4s
SONM Songino Array 24.94 299 P **P 10 18 17.8 -0.1**
comp=N,0.7nm,0.9s,baz=121,slow=10,SNR=2.4
comp=N,0.7nm,0.9s
KURBB Kurchatov Arra 43.02 305 P **P 10 20 53.9 -0.1**
comp=N,0.4nm,0.3s,baz=82,slow=9.4,SNR=2.1
comp=N,0.4nm,0.3s
BVAR Borovoye Array 47.48 310 P **P 10 21 30.2 +0.8**
comp=N,1.3nm,0.5s,baz=46,slow=6.2,SNR=1.9
comp=N,0.3nm,0.5s
ILAR Eielson Array 47.85 34 P **P 10 21 32.5 +0.5**
comp=N,0.7nm,0.8s,baz=273,slow=7.8,SNR=4.5
comp=N,0.7nm,0.8s
WRA Warramunga Arr 59.81 186 P **P 10 22 58.8 -1.2**
comp=N,1.3nm,1.0s,baz=1.8,slow=6.8,SNR=5.2
comp=N,1.3nm,1.0s
YKA Yellowknife Ar 62.03 30 P **P 10 23 14.5 -0.1**
comp=N,0.1nm,0.5s,baz=303,slow=6.8,SNR=1.3
comp=N,0.1nm,0.5s
NVAR Mina Array Bea 74.43 53 P **P 10 24 34.5 +1.4**
comp=N,0.4nm,0.7s,baz=300,slow=3.8,SNR=4.8
comp=N,0.4nm,0.7s

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*IDC **19** 10:23:29.9±0.8, 17°.27S×173°.69W, h0km, mb4.1/6, mbtmp4.2/7, ML3.5/1, MS3.5/8, Error ellipse: s-maj=39.7km s-min=22.2km az=151.0*
*NEIC **19** 10:23:31.7±1.2, 17°.47S±0°.06×173°.6W±0°.1, h10km±2km, mb4.4/7, Error ellipse: s-maj=24.8km s-min=5.7km az=70.0*
ISC 19 10:23:31.1±0.7, 17°.5S±0°.1×173°.6W±0°.1, h10km, n42, σ0s92/21, mb4.3/10, MS3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.83**	**115**		**Pn**	**10 24 30.0**	**-0.2**
AFI	**Afiamalu**	**3.96**	**27**		**Pn**	**10 24 32.0**	**0.0**
RAR	**Rarotonga**	**13.56**	**108**	Pn	**Pn**	**10 26 43.8**	**+0.1**
RAR	**Rarotonga**	**13.56**	**108**	Pn	**Pn**	**10 26 43.9**	**+0.2**
	2.3nm,0.3s,baz=270,slow=15,SNR=6.5						
RAR				LR	LR	10 30 45.8	
	comp=Z,57nm,19.7s,baz=316,slow=32						
	11nm,0.4s						
DZM	**Mont Dzumac**	**19.32**	**253**	*e*LR	LR	10 33 23.8	
	167nm,25.9s						
DZM	**Mont Dzumac**	**19.32**	**253**	LR	LR	10 34 08.4	
	comp=Z,120nm,19.8s,baz=22,slow=33						
PAE	**Paea**	**22.90**	**94**	*e*T	T	10 51 54.2	
	3.5nm,0.3s						
PPT2	**Papeete2**	**22.90**	**94**	*e*LR	LR	10 34 06.2	
	87nm,24.2s						
PPT2	**Papeete2**	**22.90**	**94**	*e*T	T	10 51 59.3	
	3.0nm,0.3s						
PPT	**Papeete**	**22.91**	**94**	LR	LR	10 35 01.8	
	comp=Z,32nm,19.8s,baz=254,slow=30						
TVO	**Taravao**	**23.20**	**94**	*e*T	T	10 52 13.3	
	1.7nm,0.3s						
VAH	**Vaihoa**	**25.01**	**89**	*e*T	T	10 54 40.9	
	3.8nm,0.3s						
HNR	**Honiara**	**26.92**	**284**	LR	LR	10 38 34.8	
	comp=Z,455nm,20.4s,baz=90,slow=34						
TAOE	**Nuku Hiva Isla**	**33.63**	**80**	*e*T	T	11 05 12.8	
	37nm,0.3s						
CTA	**Charters Tower**	**38.04**	**260**	LR	LR	10 43 55.9	
	comp=Z,64nm,20.5s,baz=84,slow=32						
H11S2	**WAKE ISLAND Hy**	**40.66**	**331**	T	T	11 14 41.5	
	baz=153,slow=74						
H11S3	**WAKE ISLAND Hy**	**40.67**	**331**	T	T	11 14 41.1	
	baz=153						
H11S1	**WAKE ISLAND Hy**	**40.67**	**331**	T	T	11 14 42.3	
	baz=153,slow=74						
WR0	**Warramunga Arr**	**49.02**	**259**	P	**P**	**10 32 18.4**	**-0.2**
WR0				IAmb	IAmb	10 32 27.3	
	comp=Z,4.1nm,1.1s						
WB0	**Warramunga Arr**	**49.18**	**259**	P	**P**	**10 32 19.5**	**-0.3**
WB0				IAmb	IAmb	10 32 37.8	
	comp=Z,3.2nm,1.0s						
WB2	**Warramunga Arr**	**49.20**	**259**	P	**P**	**10 32 20.8**	**+0.8**
WB2				IAmb	IAmb	10 32 28.6	
	comp=Z,4.8nm,0.9s						
WRA	**Warramunga Arr**	**49.21**	**259**	P	**P**	**10 32 19.9**	**-0.2**
WRA	**Warramunga Arr**	**49.21**	**259**	P	**P**	**10 32 19.4**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=97,slow=6.5,SNR=17						
WRA				PcP	**PcP**	**10 33 43.6**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=93,slow=3.4,SNR=2.1						
	comp=Z,1.0nm,0.8s						
AS31	**Alice Springs**	**49.31**	**254**	P	**P**	**10 32 21.1**	**+0.3**
AS31				IAmb	IAmb	10 32 22.0	
	comp=Z,3.4nm,0.7s						
ASAR	**Alice Springs**	**49.31**	**254**	P	**P**	**10 32 19.9**	**-0.9**
ASAR	**Alice Springs**	**49.31**	**254**	P	**P**	**10 32 20.3**	**-0.5**
	comp=Z,11nm,0.7s,baz=87,slow=8.5,SNR=86						
ASAR				PcP	**PcP**	**10 33 43.8**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=109,slow=3.5,SNR=2.2						
	comp=Z,11nm,0.7s						
VNDA	**Vanda**	**61.30**	**186**	P	**P**	**10 33 45.5**	**-0.8**
QSPA	**South Pole Qui**	**72.58**	**180**	P	**P**	**10 34 57.8**	**-0.6**
QSPA				IAmb	IAmb	10 35 15.6	
	comp=Z,5.9nm,1.2s						
QSPA	**South Pole Qui**	**72.58**	**180**	P	**P**	**10 35 01.1**	**+2.7**
	comp=Z,1.0nm,0.2s,baz=18,slow=3.9,SNR=4.0						
	comp=Z,1.0nm,0.2s						
PFO	**Pinyon Flats O**	**74.47**	**47**	LR	LR	11 02 04.0	
	comp=Z,38nm,18.6s,baz=55,slow=31						
NVAR	**Mina Array Bea**	**76.00**	**42**	P	**P**	**10 35 19.2**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=221,slow=9.5,SNR=9.8						
	comp=Z,0.9nm,0.8s						
ELK	**Elko**	**79.26**	**41**	LR	LR	11 08 03.4	
	comp=Z,42nm,18.1s,baz=28,slow=34						
NEW	**Newport**	**82.53**	**34**	LR	LR	11 06 50.4	
	comp=Z,47nm,19.4s,baz=302,slow=32						
PDAR	**Pinedale Array**	**83.94**	**42**	P	**P**	**10 35 59.9**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=205,slow=4.0,SNR=4.8						
	comp=Z,0.5nm,0.8s						
H03S2	**Juan Fernandez**	**84.22**	**124**	T	T	12 08 45.2	
	baz=251,slow=75,SNR=6.2						
H03S1	**Juan Fernandez**	**84.23**	**124**	T	T	12 09 02.8	
	baz=251,slow=75,SNR=6.0						
H03S3	**Juan Fernandez**	**84.23**	**123**	T	T	12 09 00.8	
	baz=251,slow=75,SNR=6.3						
H03N2	**Juan Fernandez**	**84.33**	**123**	T	T	12 09 06.1	
	baz=247						
H03N3	**Juan Fernandez**	**84.33**	**123**	T	T	12 09 11.4	
	baz=247						
H03N1	**Juan Fernandez**	**84.34**	**123**	T	T	12 09 11.1	
	baz=247						
ILAR	**Eielson Array**	**84.51**	**11**	P	**P**	**10 36 04.5**	**+0.7**
	comp=Z,0.5nm,1.0s,baz=216,slow=4.5,SNR=2.8						
	comp=Z,0.5nm,1.0s						
BRTR	**Keskin Array B**	**147.62**	**319**	PKPbc	**PKPbc**	**10 43 16.4**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=57,slow=5.3,SNR=5.4						

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*DJA **19** 11:11:08.8±0.6, 7°.S±5°×107°.6E±°, h109km±6km, M3.7/11, MLv3.7/11*
*IDC **19** 11:11:10.6±4.2, 6°.23S×106°.48E, h136km±20km, mb3.3/5, mbtmp3.7/5, Error ellipse: s-maj=129.6km s-min=18.7km az=53.0*
ISC 19 11:11:08.8±0.9, 6°.60S±0°.10×106°.26E±0°.07, h125km±6km, n22, σ1s09/22, mb3.4/5, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBJI	**Dramaga**	**0.49**	**85**	P	**Pn**	**11 11 26.8**	**-0.4**
DBJI				S	**Sn**	**11 11 40.6**	**-0.5**
SBJI	**Serang**	**0.49**	**345**	P	**Pn**	**11 11 27.6**	**+0.4**
SBJI				S	**Sn**	**11 11 41.5**	**+0.3**
SKJI	**Sukabumi**	**0.50**	**144**	P	**Pn**	**11 11 27.1**	**-0.2**
CGJI	**Cibinong**	**0.56**	**268**	P	**Pn**	**11 11 28.4**	**+0.8**
CGJI				S	**Sn**	**11 11 42.1**	**+0.2**
TNG	**Tangerang**	**0.57**	**42**	P	**Pn**	**11 11 27.3**	**-0.4**
CBJI	**Citeko**	**0.61**	**73**	P	**Pn**	**11 11 28.0**	**0.0**
CBJI				S	**Sn**	**11 11 42.5**	**0.0**
CNJI	**Cibinong**	**1.12**	**129**	P	**Pn**	**11 11 31.2**	**-1.2**
CNJI				S	**Sn**	**11 11 48.2**	**-2.1**
LEM	**Lembang**	**1.37**	**100**	P	**Pn**	**11 11 35.6**	**+0.4**
LEM	**Lembang**	**1.37**	**100**	P	**Pn**	**11 11 35.9**	**+0.7**
	81nm,0.4s,baz=162,slow=20,SNR=5.6						
LEM				S	**Sn**	**11 11 57.1**	**+1.9**
	234nm,0.7s,baz=292,slow=23,SNR=11						
CMJI	**Cimerak**	**2.47**	**119**	P	**Pn**	**11 11 48.0**	**-0.4**
KPJI	**Karang Pucung**	**2.75**	**106**	P	**Pn**	**11 11 51.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**25.92**	**344**	P	**P**	**11 16 28.9**	**-0.6**
	0.7nm,0.6s,baz=174,slow=8.7,SNR=1.2						
	0.7nm,0.6s						
H01W3	**Cape Leeuwin H**	**29.07**	**167**	T	T	11 47 39.9	
	baz=344						
H01W1	**Cape Leeuwin H**	**29.09**	**167**	T	T	11 47 55.8	
	baz=344						
H01W2	**Cape Leeuwin H**	**29.09**	**167**	T	T	11 47 49.6	
	baz=344						
WRA	**Warramunga Arr**	**30.31**	**119**	P	**P**	**11 17 08.5**	**-0.1**
	0.2nm,0.6s,baz=290,slow=10.0,SNR=7.0						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**31.52**	**126**	P	**P**	**11 17 20.5**	**+1.2**
	0.3nm,0.4s,baz=301,slow=7.7,SNR=7.7						
	0.3nm,0.4s						
STKA	**Stephens Creek**	**41.45**	**132**	P	**P**	**11 18 45.3**	**+1.9**
	3.1nm,0.3s,baz=306,slow=8.0,SNR=7.6						
	3.1nm,0.3s						
MKAR	**Makanchi Array**	**57.26**	**341**	P	**P**	**11 20 41.1**	**-2.1**
	0.3nm,0.4s,baz=138,slow=7.1,SNR=2.2						
	0.3nm,0.4s						
H04N2	**CROZET ISLANDS**	**61.09**	**220**	T	T	12 27 21.0	
	baz=68,slow=75,SNR=5.0						
H04N1	**CROZET ISLANDS**	**61.10**	**220**	T	T	12 27 29.8	
	baz=68,slow=75,SNR=5.3						
H04N3	**CROZET ISLANDS**	**61.11**	**220**	T	T	12 27 30.8	
	baz=68,slow=75,SNR=5.0						

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*KNET **19** 11:23:59.4±0.2, 42°.94N×74°.49E, h20km±3km, ml1.2, Error ellipse: s-maj=2.4km s-min=2.1km az=132.0*
*NNC **19** 11:23:59.4±0.5, 42°.88N×74°.53E, h7km±3km, mb2.9, mpv2.3, Error ellipse: s-maj=6.3km s-min=2.7km az=149.0*
*SOME **19** 11:23:59.9, 42°.95N×74°.50E, h15km*
ISC 19 11:23:59.5±1.0, 42°.93N±0°.03×74°.50E±0°.02, h14km±10km, n31, σ0s44/58, 16C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMS	**Chumysh**	**0.19**	**69**	⇑P	**Pb**	**11 24 04.7**	**-0.1**
	4.3nm,0.1s,SNR=17						
CHMS				⇑S	**Sb**	**11 24 08.2**	**-0.2**
	18nm,0.1s						
CHMS	**Chumysh**	**0.19**	**69**	⇑P	**Pb**	**11 24 04.6**	**-0.2**
	0.2nm,0.2s						
CHMS				⇑S	**Sb**	**11 24 08.0**	**-0.4**
	6.8nm,0.3s						
AAK	**Ala-Archa**	**0.29**	**181**	⇑P	**Pb**	**11 24 06.7**	**+0.1**
	6.1nm,0.1s,SNR=25						
AAK				⇓S	**Sb**	**11 24 11.6**	**+0.3**
	37nm,0.3s						
USP	**Ospenovka**	**0.34**	**359**	⇑P	**Pg**	**11 24 06.6**	**+0.2**
	12nm,0.1s,SNR=62						
USP				⇑S	**Sg**	**11 24 11.6**	**+0.3**
	51nm,0.2s						
KBK	**Karagaybulak**	**0.43**	**130**	⇓P	**Pb**	**11 24 09.0**	**+0.2**
	6.8nm,0.1s,SNR=23						
KBK				⇓S	**Sb**	**11 24 15.8**	**+0.6**
	27nm,0.2s						
SGDS	**Sogindy**	**0.53**	**10**	P	**Pg**	**11 24 10.0**	**0.0**
	9.0nm,0.1s						
SGDS				S	**Sg**	**11 24 17.1**	**0.0**
	19nm,0.1s						
EKS2	**Erkin-Say**	**0.60**	**244**	⇑P	**Pb**	**11 24 11.6**	**-0.1**
	1.5nm,0.1s,SNR=16						
EKS2				⇓S	**Sb**	**11 24 20.1**	**0.0**
	11nm,0.1s						
UCH	**Uchtor**	**0.70**	**179**	⇑P	**Pb**	**11 24 13.7**	**0.0**
	2.6nm,0.1s,SNR=8.0						
UCH				⇑S	**Sb**	**11 24 23.8**	**+0.4**
	4.4nm,0.1s						
TKM2	**Tokmak 2**	**0.80**	**90**	⇓P	**Pg**	**11 24 14.9**	**-0.3**
	1.2nm,0.1s,SNR=17						
TKM2	**Tokmak 2**	**0.80**	**90**	⇓P	**Pg**	**11 24 14.7**	**-0.4**
	0.1nm,0.2s						
TKM2				⇑S	**Sg**	**11 24 25.3**	**-0.4**
	0.7nm,0.3s						
MRKS	**Merke**	**0.96**	**259**	*e*P	**Pb**	**11 24 17.6**	**-0.3**
	0.5nm,0.1s						
MRKS				*e*S	**Sb**	**11 24 30.3**	**-0.2**
	3.3nm,0.2s						
MRKS	**Merke**	**0.96**	**259**	P	**Pb**	**11 24 17.6**	**-0.3**
	0.5nm,0.1s						
MRKS				S	**Sb**	**11 24 30.3**	**-0.2**
	3.3nm,0.2s						
DGS	**Degeres**	**0.98**	**71**	*e*P	**Pg**	**11 24 18.3**	**-0.2**
	1.6nm,0.2s						
DGS				*e*S	**Sg**	**11 24 31.3**	**0.0**
	5.7nm,0.2s						
DGS	**Degeres**	**0.98**	**71**	P	**Pg**	**11 24 18.3**	**-0.2**
	1.6nm,0.2s						
DGS				S	**Sg**	**11 24 31.3**	**0.0**
	3.5nm,0.3s						
AML	**Almayashu**	**1.00**	**217**	⇑P	**Pg**	**11 24 18.8**	**0.0**
	1.9nm,0.3s						
AML				⇑S	**Sg**	**11 24 32.3**	**+0.3**
	2.5nm,0.2s						
AML	**Almayashu**	**1.00**	**217**	⇑P	**Pg**	**11 24 19.0**	**+0.1**
AML				⇑S	**Sb**	**11 24 31.8**	**0.0**
	0.2nm,0.5s						
KZA	**Kyzart**	**1.01**	**147**	⇓P	**Pn**	**11 24 19.5**	**-0.1**
	2.0nm,0.2s,SNR=6.5						
KZA				⇑S	**Sn**	**11 24 34.2**	**+0.3**
	3.8nm,0.2s						
KST	**Kastek**	**1.08**	**83**	*e*P	**Pg**	**11 24 20.2**	**0.0**
	1.5nm,0.4s						
KST				*e*S	**Sg**	**11 24 34.5**	**+0.1**
	2.3nm,0.1s						
KST	**Kastek**	**1.08**	**83**	P	**Pg**	**11 24 20.3**	**0.0**
	1.5nm,0.4s						
KST				S	**Sg**	**11 24 34.5**	**+0.1**
	2.4nm,0.3s						
KRBS	**Karabastau**	**1.15**	**48**	*e*P	**Pg**	**11 24 21.4**	**-0.2**
	1.1nm,0.1s						
KRBS				*e*S	**Sg**	**11 24 36.5**	**-0.1**
	3.3nm,0.2s						
KRBS	**Karabastau**	**1.15**	**48**	P	**Pg**	**11 24 21.4**	**-0.2**
	1.1nm,0.1s						
KRBS				S	**Sg**	**11 24 36.5**	**-0.1**
	3.3nm,0.2s						
KUU	**Kurty**	**1.65**	**54**	*e*P	**Pb**	**11 24 30.1**	**+0.5**
	0.7nm,0.1s						
KUU				*e*S	**Sg**	**11 24 51.6**	**-1.0**
	7.3nm,0.2s						
KUU	**Kurty**	**1.65**	**54**	P	**Pb**	**11 24 30.1**	**+0.5**
	0.9nm,0.3s						
KUU				S	**Sg**	**11 24 51.6**	**-1.0**
	7.3nm,0.2s						
KTBS	**Karatobe**	**1.77**	**63**	*e*P	**Pb**	**11 24 31.7**	**0.0**
	1.5nm,0.3s						
KTBS				*e*S	**Sb**	**11 24 54.5**	**+0.7**
	2.5nm,0.3s						
KTBS	**Karatobe**	**1.77**	**63**	P	**Pb**	**11 24 31.8**	**0.0**
	1.5nm,0.3s						
KTBS				S	**Sb**	**11 24 54.5**	**+0.7**
	2.5nm,0.3s						
TNSS	**Tian-Shan**	**1.80**	**86**	*e*P	**Pb**	**11 24 33.0**	**+0.6**
	1.3nm,0.1s						
TNSS				*e*S	**Sg**	**11 24 57.1**	**-0.3**
	2.4nm,0.3s						
TNSS	**Tian-Shan**	**1.80**	**86**	P	**Pg**	**11 24 33.2**	**-0.8**
	1.5nm,0.3s						
TNSS				S	**Sg**	**11 24 57.1**	**-0.3**
	2.4nm,0.3s						
MDOK	**Medeo**	**1.88**	**82**	*e*P	**Pb**	**11 24 33.8**	**+0.2**
	2.4nm,0.2s						
MDOK				*e*S	**Sg**	**11 24 58.6**	**-1.4**
	3.9nm,0.6s						
MDOK	**Medeo**	**1.88**	**82**	Pg	**Pb**	**11 24 34.1**	**+0.5**
	2.6nm,0.6s						
MDOK				Lg	Lg	11 24 58.6	
	3.9nm,0.6s						
CHKK	**Chushkaly**	**2.03**	**62**	*e*Pg	**Pb**	**11 24 37.1**	**+0.9**
	0.8nm,0.1s						
CHKK				*e*Lg	Lg	11 25 03.5	
	6.5nm,0.2s						
CHKK	**Chushkaly**	**2.03**	**62**	Pg	**Pb**	**11 24 37.1**	**+0.9**
	0.8nm,0.1s						
CHKK				Lg	Lg	11 25 03.5	
	3.7nm,0.2s						

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*IDC **19** 11:26:18.5±0.8, 36°.61N×98°.95W, h0km, mb3.4/2, mbtmp3.6/9, ML3.6/7, MS2.9/9, Error ellipse: s-maj=11.6km s-min=9.3km az=111.0*
*ANF **19** 11:26:19.0±1.3, 36°.52N×98°.87W, h3km±10km, ML4.9/12, ML4.8/12, Error ellipse: s-maj=2.0km s-min=1.8km az=80.0*
*TUL **19** 11:26:19.2±1.0, 36°.55N±0°.02×98°.96W±0°.03, h5km±3km, ML4.1, mb_Lg4.0/133(NEIC), ML4.1/10(NEIC), Mwr3.8/41(NEIC), Error ellipse: s-maj=3.8km s-min=1.7km az=135.0*
*NEIC **19** 11:26:19.6±0.9, 36°.52N±0°.02×98°.92W±0°.03, h8km±9km, Error ellipse: s-maj=3.6km s-min=2.2km az=133.0, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr-0.90; Mθθ5.38; Mϕϕ-4.48; Mrθ-0.43; Mθϕ-1.87; Mϕr1.04; Fault plane solution: M0 5.45000×10^14^ NP1: ϕs235.87000°, δ77.03000°, λ-174.50000°. NP2: ϕs144.63000°, δ84.64000°, λ-13.03000°. Principal axes: T 5.7807, Plg5.0000°, Azm191.0000°; N -0.7430, Plg76.0000°, Azm303.0000°; P -5.0377, Plg13.0000°, Azm100.0000°;*
*NEIC **19** 11:26:19.2, 36°.55N×98°.96W, h5km*
ISC 19 11:26:20.1±0.7, 36°.50N±0°.02×98°.82W±0°.02, h14km±5km, n250, σ1s33/233, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK038	**West end E0370**	**0.07**	**108**	Pg	**Pg**	**11 26 23.6**	**+0.6**
OK038				Sg	**Sg**	**11 26 26.6**	**+1.6**
OK038				IAML		11 26 28.8	
	48μm,0.3s						
U32A	**Winter Ranch,**	**0.19**	**230**		**Pg**	**11 26 22.9**	**-1.6**
U32A				Sg	**Sg**	**11 26 25.0**	**-2.4**
U32A	**Winter Ranch,**	**0.19**	**230**	P	**Pg**	**11 26 23.0**	**-1.6**
	baz=10,SNR=1000						
OK032	**Salt Plains WL**	**0.58**	**58**	Pg	**Pb**	**11 26 31.9**	**-0.1**
OK032				Sg	**Sb**	**11 26 40.8**	**+0.7**
OK032				IAML		11 26 41.4	
	10μm,0.4s						
OK032				IAML		11 26 49.3	
	11μm,0.2s						
ELIS	**Ellis County**	**0.65**	**228**		**Pg**	**11 26 31.1**	**-1.7**
ELIS				Sg	**Sg**	**11 26 39.5**	**-1.8**
ELIS				IAML		11 26 49.3	
	comp=E,8μm,1.1s						
ELIS				IAML		11 26 49.5	
	comp=N,5μm,0.4s						
CROK	**Carrier**	**0.68**	**89**		**Pb**	**11 26 34.3**	**+0.6**
CROK				IAML		11 26 54.6	
	comp=E,9μm,0.2s						
KAN14	**Manchester OK**	**0.83**	**56**		**Pb**	**11 26 36.5**	**+0.2**
GC02	**Grant County #**	**0.85**	**65**	Pg	**Pn**	**11 26 37.1**	**-0.5**
KAN10	**Anthony SW Sta**	**0.85**	**43**		**Pg**	**11 26 36.6**	**-0.1**
KAN05	**Bluff City Nor**	**0.98**	**51**		**Pn**	**11 26 39.3**	**-0.1**
KAN08	**Anthony NE Sta**	**1.00**	**43**		**Pg**	**11 26 39.2**	**-0.2**
KAN17	**Caldwell West**	**1.01**	**57**	Pg	**Pn**	**11 26 39.7**	**-0.1**
KAN12	**Harper NE Stat**	**1.03**	**39**		**Pg**	**11 26 39.8**	**-0.3**
KAN01	**Argonia South**	**1.07**	**52**		**Pg**	**11 26 40.9**	**0.0**
KAN06	**Argonia West S**	**1.07**	**46**		**Pg**	**11 26 40.7**	**-0.2**
KAN09	**Caldwell North**	**1.16**	**56**		**Pg**	**11 26 42.3**	**-0.1**
KAN13	**South Haven SW**	**1.20**	**64**		**Pg**	**11 26 43.2**	**+0.1**
KS21	**Milan North St**	**1.22**	**49**		**Pg**	**11 26 43.4**	**-0.2**
OK029	**Liberty Lake**	**1.31**	**122**		**Pg**	**11 26 45.2**	**-0.1**
BLOK	**Blackwell**	**1.32**	**78**		**Pg**	**11 26 45.5**	**0.0**
ADOK	**Arcadia Dam**	**1.45**	**125**		**Pg**	**11 26 47.8**	**-0.2**
OK048	**Pawnee Station**	**1.52**	**93**		**Pg**	**11 26 48.9**	**-0.3**
OKCSW	**OKLAHOMA CITY**	**1.57**	**134**		**Pb**	**11 26 49.6**	**+0.7**
OK033	**Mehan**	**1.59**	**106**		**Pb**	**11 26 49.9**	**+0.7**
OK051	**E0350 and S346**	**1.60**	**89**		**Pb**	**11 26 50.0**	**+0.6**
FNO	**Franklin**	**1.69**	**137**	Pn	**Pb**	**11 26 51.6**	**+0.6**
OK052	**Battle Ridge R**	**1.71**	**107**	Pn	**Pb**	**11 26 51.3**	**0.0**
QUOK	**Quay**	**1.74**	**100**	Pn	**Pb**	**11 26 51.9**	**+0.2**
WMOK	**Wichita Mounta**	**1.76**	**179**	Pn	**Pn**	**11 26 51.0**	**+0.9**
WMOK	**Wichita Mounta**	**1.76**	**179**	P	**Pn**	**11 26 51.0**	**+0.9**
	baz=355,SNR=43						
WMOK				S	**Sb**	**11 27 15.3**	**+1.2**
	baz=355						
WMOK	**Wichita Mounta**	**1.76**	**179**	P	**Pn**	**11 26 50.9**	**+0.8**
	baz=355,SNR=129						
WMOK				S	**Sb**	**11 27 15.0**	**+1.0**
	baz=355						
SMWD	**Samnorwood**	**1.81**	**220**		**Pn**	**11 26 51.3**	**+0.5**
SMWD				IAmb_Lg		11 27 18.5	
	comp=Z,674nm,0.9s						
T35A	**Sooner Cattle**	**1.90**	**77**	Pn	**Pb**	**11 26 54.1**	**-0.5**
T35B	**Sooner Cattle**	**1.90**	**77**	P	**Pb**	**11 26 54.1**	**-0.5**
	baz=260,SNR=251						
T35B				Sb	**Sg**	**11 27 22.2**	**+0.8**
	baz=260						
R32A	**Long Quarter,**	**1.92**	**3**		**Pn**	**11 26 53.1**	**+0.7**
R32A	**Long Quarter,**	**1.92**	**3**	P	**Pn**	**11 26 53.1**	**+0.7**
	baz=186,SNR=91						
R32A				S	**Sb**	**11 27 17.4**	**-1.4**
	baz=186						
DEOK	**Depew**	**1.99**	**109**	Pn	**Pb**	**11 26 54.9**	**-1.1**
W35A	**Tecumseh**	**2.08**	**130**	Pn	**Pb**	**11 26 56.6**	**-1.0**
CBKS	**Cedar Bluff**	**2.42**	**343**		**Pn**	**11 26 59.3**	**+0.1**
CBKS				IAmb_Lg		11 27 33.0	
	comp=Z,481nm,0.8s						
CBKS	**Cedar Bluff**	**2.42**	**343**	P	**Pn**	**11 26 59.4**	**+0.1**
	baz=165,SNR=141						
CBKS	**Cedar Bluff**	**2.42**	**343**	P	**Pn**	**11 26 59.4**	**+0.1**
	baz=165,SNR=84						
CBKS				S	**Sb**	**11 27 31.7**	**-1.5**
	baz=165						
TUL3	**Leonard**	**2.52**	**103**	Pn	**Pn**	**11 27 02.3**	**+1.7**
TUL3				IAmb_Lg		11 27 43.4	
	comp=Z,330nm,0.9s						
TUL3	**Leonard**	**2.52**	**103**	P	**Pn**	**11 27 02.1**	**+1.6**
	baz=285,SNR=171						
TUL3	**Leonard**	**2.52**	**103**	P	**Pn**	**11 27 02.5**	**+1.9**
	baz=285,SNR=224						
WTFS	**Witchita Falls**	**2.74**	**174**		**Pn**	**11 27 05.8**	**+2.2**
AMTX	**Amarillo**	**2.83**	**236**		**Pn**	**11 27 05.6**	**+0

comp=Z,147nm,0.7s
FW07 Weatherford 3.88 167 Pn 11 27 20.4 +1.0
FW07 IAmb_Lg 11 28 33.1
comp=Z,204nm,0.8s
KSCO Kaye Shedlock' 3.92 311 Pn 11 27 20.2 +0.2
KSCO IAmb_Lg 11 28 25.6
comp=Z,532nm,0.7s
KSCO Kaye Shedlock' 3.92 311 P Pn 11 27 19.9 -0.1
baz=129
KSCO Sb Sb **11 28 18.4 +2.0**
baz=129
KSCO Kaye Shedlock' 3.92 311 P Pn 11 27 19.8 -0.1
baz=129,SNR=9.8
ABTX Abilene, Hawle 3.92 190 Pn 11 27 21.1 +1.2
ABTX IAmb_Lg 11 28 27.2
comp=Z,286nm,1.1s
ABTX Abilene, Hawle 3.92 190 P Pn 11 27 20.9 +1.0
baz=7.9,SNR=56
ABTX S Sn **11 28 08.8 +3.0**
baz=7.9
ABTX Abilene, Hawle 3.92 190 P Pn 11 27 20.9 +1.0
baz=7.9,SNR=16
HHAR Hobbs 3.95 92 IAmb_Lg 11 28 31.0
comp=Z,260nm,0.8s
HHAR Hobbs 3.95 92 P Pn 11 27 21.9 +1.7
baz=275
SN05 Snyder 5 3.99 206 IAmb_Lg 11 28 31.4
comp=Z,379nm,1.0s
SN01 Snyder 1 4.01 206 Pn Pn 11 27 21.2 +0.1
SN01 IAmb_Lg 11 28 30.9
comp=Z,297nm,0.8s
POST Post 4.07 214 Pn 11 27 23.0 +1.0
POST IAmb_Lg 11 28 31.4
comp=Z,301nm,1.0s
MSTX Muleshoe 4.10 233 IAmb_Lg 11 28 38.6
comp=Z,204nm,1.1s
MSTX Muleshoe 4.10 233 P Pn 11 27 22.3 -0.1
baz=49,SNR=20
MSTX Sb Sb **11 28 25.0 +3.4**
baz=49
MSTX Muleshoe 4.10 233 P Pn 11 27 22.7 +0.3
baz=49,SNR=9.3
FW13 Cleburne 4.29 164 IAmb_Lg 11 28 44.2
comp=Z,156nm,0.8s
FW14 Alvarado 4.31 161 IAmb_Lg 11 28 41.7
comp=Z,165nm,0.9s
FW16 Waxahatchie 4.31 158 IAmb_Lg 11 28 50.0
comp=Z,381nm,0.8s
N33B J Bar K, Exete 4.37 14 P Pn 11 27 25.4 -0.5
baz=196,SNR=33
N33B S Sn **11 28 16.5 -0.1**
baz=196
N33A J Bar K, Exete 4.37 14 Pn 11 27 25.0 -1.0
N33A IAmb_Lg 11 28 40.0
comp=Z,321nm,1.1s
TREL Terrell 4.38 148 IAmb_Lg 11 28 44.8
comp=Z,460nm,0.8s
Z38A Mt. Pleasant 4.52 135 Pn Pn 11 27 29.4 +1.4
Z38A IAmb_Lg 11 28 57.6
comp=Z,249nm,0.8s
Z38A Mt. Pleasant 4.52 135 P Pn 11 27 29.7 +1.7
baz=316,SNR=8.5
T25A Trinidad 4.53 280 IAmb_Lg 11 28 41.0
comp=Z,353nm,0.8s
T25A Trinidad 4.53 280 P Pn 11 27 27.8 -0.6
baz=96,SNR=32
T25A Sb Sb **11 28 36.8 +2.9**
baz=96
S39A Bolivar 4.55 73 Pn 11 27 30.1 +1.5
S39A IAmb_Lg 11 28 46.1
comp=Z,423nm,0.7s
S39A Bolivar 4.55 73 P Pn 11 27 30.1 +1.5
baz=257,SNR=110
WHTX Lake Whitney, 4.64 165 Pn 11 27 31.2 +1.5
WHTX Lake Whitney, 4.64 165 P Pn 11 27 30.9 +1.2
baz=345,SNR=10
WHTX S Sn **11 28 26.3 +3.0**
baz=345
WHTX Lake Whitney, 4.64 165 P Pn 11 27 31.4 +1.7
baz=345,SNR=36
U40A Yellville 4.82 90 P Pn 11 27 33.3 +1.2
baz=274,SNR=62
U40A P Pn **11 27 33.3 +1.2**
baz=274,SNR=62
BGNE Belgrade 4.93 6 IAmb_Lg 11 29 02.0
comp=Z,408nm,0.8s
BGNE Belgrade 4.93 6 P Pn 11 27 33.6 -0.1
baz=188,SNR=15
BGNE Belgrade 4.93 6 P Pn 11 27 33.8 0.0
baz=188,SNR=15
SGCY Sterling City 4.96 203 IAmb_Lg 11 29 09.6
comp=Z,162nm,0.8s
N35A Tabor 5.01 29 P Pn 11 27 35.3 +0.4
baz=212,SNR=15
OGNE Ogallala 5.10 331 P Pn 11 27 36.6 +0.4
baz=150,SNR=8.9
OGNE Sb Sb **11 28 54.8 +4.6**
baz=150
OGNE Ogallala 5.10 331 P Pn 11 27 36.5 +0.4
baz=150,SNR=17
237A Washetta, Mont 5.13 150 Pn 11 27 37.0 +0.6
237A IAmb_Lg 11 29 15.0
comp=Z,255nm,0.8s
237A Washetta, Mont 5.13 150 P Pn 11 27 37.1 +0.6
baz=331,SNR=15
237A S Sn **11 28 36.3 +0.7**
baz=331
BRDY Brady 5.20 182 Pn Pn 11 27 37.5 0.0
BRDY IAmb_Lg 11 29 08.0
comp=Z,149nm,1.0s
P38A Dawn 5.21 52 IAmb_Lg 11 29 16.7
comp=Z,359nm,0.9s
P38A Dawn 5.21 52 P Pn 11 27 39.3 +1.7
baz=236,SNR=20
X40A Basin Creek Fa 5.28 111 P Pn 11 27 40.6 +2.1
baz=294,SNR=7.1
X40A P Pn **11 27 40.6 +2.1**
baz=294,SNR=7.1
ODSA Odessa 5.35 216 IAmb_Lg 11 29 22.0
comp=Z,188nm,1.2s
WHAR Wooly Hollow 5.44 101 Pn Pn 11 27 42.4 +1.7
WHAR IAmb_Lg 11 29 20.1
comp=Z,347nm,1.0s
FCAR Ozark Folk Cen 5.45 94 Pn 11 27 42.1 +1.2
FCAR IAmb_Lg 11 29 16.3
comp=Z,157nm,0.7s
WLAR White Oak Lake 5.46 119 Pn Pn 11 27 41.8 +0.9
WLAR IAmb_Lg 11 29 28.9
comp=Z,187nm,0.9s
SDCO Great Sand Dun 5.48 285 IAmb_Lg 11 29 17.4
comp=Z,166nm,0.9s
SDCO Great Sand Dun 5.48 285 P Pn 11 27 41.2 -0.3
baz=101,SNR=52
SDCO Sb Sb **11 29 04.8 +3.4**
baz=101
SDCO Great Sand Dun 5.48 285 P Pn 11 27 41.8 +0.3
baz=101,SNR=18
R40A Maddies Statio 5.52 69 Pn 11 27 42.9 +1.1
R40A IAmb_Lg 11 29 18.0
comp=Z,237nm,0.8s
R40A Maddies Statio 5.52 69 P Pn 11 27 43.1 +1.4
baz=254,SNR=111
UALR University of 5.55 106 IAmb_Lg 11 29 28.5
comp=Z,157nm,0.9s
Q24A Divide 5.58 298 IAmb_Lg 11 29 13.3
comp=Z,220nm,0.9s
Q24A Divide 5.58 298 P Pn 11 27 42.4 -0.6
baz=114,SNR=6.0
Q24A Sb Sb **11 29 07.8 +3.3**
baz=114
435B Jarrell 5.79 169 IAmb_Lg 11 29 32.4
comp=Z,254nm,0.8s
435B Jarrell 5.79 169 P Pn 11 27 46.6 +0.9
baz=349
435B S Sn **11 28 53.0 +1.1**
baz=349
435B Jarrell 5.79 169 P Pn 11 27 47.1 +1.5
baz=349
NATX Nacogdoches 5.85 143 IAmb_Lg 11 29 44.9
comp=Z,134nm,0.8s
NATX Nacogdoches 5.85 143 P Pn 11 27 47.4 +1.0
baz=324
NATX S Sn **11 28 53.7 +0.4**
baz=324
OZNA Ozona 5.88 200 Pn Pn 11 27 47.0 +0.1
OZNA IAmb_Lg 11 29 43.7
comp=Z,124nm,0.8s
Z41A Richland Creek 5.91 121 Pn 11 27 47.5 +0.3
Z41A IAmb_Lg 11 29 43.2
comp=Z,187nm,0.9s
JCT Junction City 6.06 188 IAmb_Lg 11 29 40.9
comp=Z,181nm,0.7s
JCT Junction City 6.06 188 P Pn 11 27 50.1 +0.8
baz=6.3
JCT Junction City 6.06 188 P Pn 11 27 49.9 +0.7
baz=6.3
MNHN Monahans 6.10 214 Pn 11 27 48.9 -0.9
MNHN IAmb_Lg 11 29 36.3
comp=Z,79nm,0.8s
N38A Joes South For 6.12 44 P Pn 11 27 51.1 +1.0
baz=228
K30B Basset 6.20 355 P Pn 11 27 51.6 +0.5
baz=175,SNR=39
LCAR Lake Charles 6.21 92 IAmb_Lg 11 29 43.3
comp=Z,177nm,1.0s
LCAR Lake Charles 6.21 92 P Pn 11 27 53.2 +2.0
baz=277,SNR=14
CCM Cathedral Cave 6.24 73 P Pn 11 27 52.5 +0.8
baz=259
CCM Cathedral Cave 6.24 73 P Pn 11 27 52.7 +1.0
baz=259,SNR=24
ISCO Idaho Springs 6.28 304 IAmb_Lg 11 29 48.4
comp=Z,128nm,0.8s
ISCO Idaho Springs 6.28 304 P Pn 11 27 52.3 -0.3
baz=120,SNR=16
ISCO Idaho Springs 6.28 304 P Pn 11 27 52.0 -0.5
baz=120,SNR=14
CCAR Cane Creek 6.32 112 Pn 11 27 54.4 +1.6
CCAR Cane Creek 6.32 112 P Pn 11 27 55.0 +2.2
baz=296,SNR=11
ANMO Albuquerque 6.40 258 P Pn 11 27 54.1 +0.1
baz=73
ANMO Albuquerque 6.40 258 Pn Pn 11 27 54.9 +0.8
comp=Z,0.5nm,0.3s,baz=170,slow=17,SNR=9.8
ANMO Pg Pb **11 28 14.6 +3.3**
comp=Z,1.4nm,0.3s,baz=167,slow=18,SNR=15
ANMO Lg Lg 11 29 32.4
comp=Z,6.3nm,0.3s,baz=80,slow=6.3,SNR=5.7
ANMO LR LR 11 30 33.7
comp=Z,80nm,20.9s,baz=154,slow=40
comp=Z,1.3nm,0.3s
S22A 4UR Ranch, Cre 6.52 283 P Pn 11 27 55.8 0.0
baz=98
PECS Pecos 6.61 221 Pn 11 27 57.3 +0.4
PBMO Poplar Bluff 6.75 85 IAmb_Lg 11 30 03.0
comp=Z,220nm,0.8s
FVM French Village 6.86 75 P Pn 11 28 01.3 +1.1
baz=261,SNR=12
SCIA State Center 6.94 37 IAmb_Lg 11 30 02.0
comp=Z,194nm,0.8s
SCIA State Center 6.94 37 P Pn 11 28 02.3 +1.1
baz=222
Y22D IRASSCAL I 7.05 252 IAmb_Lg 11 30 17.4
comp=Z,173nm,0.9s
Y22D IRIS PASSCAL I 7.05 252 P Pn 11 28 04.2 +1.2
baz=67
PHWY Pilot Hill 7.05 315 IAmb_Lg 11 30 03.4
comp=Z,205nm,0.8s
N23A Red Feather La 7.09 310 IAmb_Lg 11 30 07.8
comp=Z,260nm,0.9s
N23A Red Feather La 7.09 310 P Pn 11 28 03.8 +0.2
baz=126,SNR=9.7
SLM Saint Louis 7.15 70 IAmb_Lg 11 30 17.1
comp=Z,188nm,0.8s
MNTX Cornudas Mount 7.25 231 P Pn 11 28 05.3 -0.2
baz=46,SNR=8.7
MNTX Cornudas Mount 7.25 231 P Pn 11 28 05.3 -0.2
baz=46
PVMO Portageville 7.35 88 IAmb_Lg 11 30 30.1
comp=Z,232nm,0.8s
EF01 Eagle Ford 01 7.36 177 IAmb_Lg 11 30 25.7
comp=Z,148nm,0.8s
CGM3 Cape Girardeau 7.39 81 IAmb_Lg 11 30 16.0
comp=Z,170nm,0.8s
ECSD EROS Data Cent 7.42 12 Pn Pn 11 28 06.4 -1.5
ECSD EROS Data Cent 7.42 12 P Pn 11 28 06.3 -1.7
baz=195,SNR=15
ECSD EROS Data Cent 7.42 12 P Pn 11 28 06.2 -1.7
baz=195,SNR=37
N41A Harden Midland 7.52 54 S Sn 11 29 32.1 -2.2
baz=239
HALT Falls 7.69 92 IAmb_Lg 11 30 28.0
comp=Z,191nm,0.9s
HICK Hickman 7.73 87 Pn 11 28 13.7 +1.7
S44A Carbondale 7.74 78 P Pn 11 28 13.6 +1.3
baz=264
MVCO Mesa Verde 7.79 278 P Pn 11 28 12.3 -0.9
baz=92
OXF Oxford 7.93 102 IAmb_Lg 11 30 49.4
comp=Z,163nm,1.2s
OXF Oxford 7.93 102 P Pn 11 28 14.8 -0.1
baz=287,SNR=16
OXF Oxford 7.93 102 P Pn 11 28 14.7 -0.2
baz=287,SNR=10
SUSD Miller 7.94 359 IAmb_Lg 11 30 49.6
comp=Z,172nm,0.9s
SUSD Miller 7.94 359 P Pn 11 28 14.5 -0.5
baz=180
P43A Skaggs, Pawnee 7.98 64 P Pn 11 28 16.2 +0.7
baz=250,SNR=23
Y45A Yeager Farm, C 8.04 106 IAmb_Lg 11 30 47.4
comp=Z,89nm,0.8s
Y45A Yeager Farm, C 8.04 106 P Pn 11 28 17.1 +0.7
baz=292
VBMS Vicksburg 8.09 119 P Pn 11 28 17.6 +0.6
baz=304
Q44A Meyer Farm, Va 8.13 70 P Pn 11 28 18.8 +1.1
baz=256,SNR=13
833A Chaparral WMA, 8.17 184 IAmb_Lg 11 30 52.4
comp=Z,97nm,0.9s
833A Chaparral WMA, 8.17 184 P Pn 11 28 19.1 +1.0
baz=2.4
TX31 Lajitas Ar. Si 8.22 211 Pn Pn 11 28 18.1 -0.9
TX31 Lajitas Ar. Si 8.22 211 P Pn 11 28 18.6 -0.4
baz=27,SNR=44
TXAR Lajitas Array 8.22 211 Pn Pn 11 28 17.9 -1.1
TXAR Lajitas Array 8.22 211 Pn Pn 11 28 18.5 -0.5
comp=Z,1.7nm,0.3s,baz=34,slow=10,SNR=188
TXAR Pg Pb **11 28 44.9 +2.6**
comp=Z,2.7nm,0.3s,baz=37,slow=14,SNR=7.2
TXAR Sn Sn **11 29 48.1 -3.7**
comp=Z,1.6nm,0.3s,baz=28,slow=27,SNR=1.7
TXAR Lg Lg 11 30 32.1
comp=Z,3.2nm,0.3s,baz=34,slow=27,SNR=6.1
TXAR LR LR 11 31 43.8
comp=Z,70nm,20.0s,baz=39,slow=39
comp=Z,3.0nm,0.4s
O20A White River Ci 8.24 299 P Pn 11 28 19.1 -0.3
baz=113
121A Cookes Peak, D 8.39 244 IAmb_Lg 11 31 04.8
comp=Z,89nm,1.1s
121A Cookes Peak, D 8.39 244 P Pn 11 28 21.0 -0.3
baz=59
HDIL Hopedale 8.49 59 P Pn 11 28 23.1 +0.6
baz=245,SNR=15
HDIL Hopedale 8.49 59 P Pn 11 28 23.2 +0.6
baz=245,SNR=13
K22A Casper 8.55 318 P Pn 11 28 23.1 -0.4
baz=134
I37A Lemond, Waseca 8.57 27 IAmb_Lg 11 31 04.9
comp=Z,131nm,0.8s
RSSD Black Hills 8.59 334 IAmb_Lg 11 31 13.3
comp=Z,110nm,0.8s
RSSD Black Hills 8.59 334 P Pn 11 28 24.0 -0.1
baz=151
RSSD Black Hills 8.59 334 P Pn 11 28 24.2 0.0
baz=151
WVT Waverly 8.88 89 P Pn 11 28 28.5 +0.6
baz=276
WVT Waverly 8.88 89 P Pn 11 28 28.8 +0.9
baz=276
O44A Mansfield 8.92 63 Pn 11 28 28.8 +0.4
O44A Mansfield 8.92 63 P Pn 11 28 29.2 +0.8
baz=250,SNR=10
L42A Oliver, Polo 8.98 49 Pn Pn 11 28 29.7 +0.5
JFWS Jewell Farm 9.20 43 P Pn 11 28 32.9 +0.6
baz=229
JFWS Jewell Farm 9.20 43 P Pn 11 28 32.7 +0.4
baz=229,SNR=12
T47A Sharon Grove 9.42 84 P Pn 11 28 36.1 +0.8
baz=271
I40A Norwalk 9.69 38 IAmb_Lg 11 31 31.0
comp=Z,82nm,0.8s
M44A Midewin, Midew 9.71 57 Pn 11 28 39.3 0.0
SPMN Marine on St. 9.83 26 IAmb_Lg 11 31 36.3
comp=Z,64nm,0.8s
SPMN Marine on St. 9.83 26 P Pn 11 28 40.3 -0.6
baz=210
SFIN Lafayette 9.98 64 P Pn 11 28 43.5 +0.5
baz=251,SNR=5.2
SFIN Lafayette 9.98 64 P Pn 11 28 43.6 +0.5
baz=251,SNR=9.1
BLO Bloomington 10.09 71 Pn 11 28 44.2 -0.3
WCI Wyandotte Cave 10.12 76 P Pn 11 28 45.7 +0.7
baz=264
WCI Wyandotte Cave 10.12 76 P Pn 11 28 45.9 +0.9
baz=264,SNR=5.6
L44A Lake County Fo 10.17 53 P Pn 11 28 45.8 +0.2
baz=240
LRAL Lakeview Retre 10.32 106 P Pn 11 28 48.0 +0.3
baz=293
BW06 Boulder Array 10.37 310 P Pn 11 28 46.9 -1.7
baz=124,SNR=6.4
PDAR Pinedale Array 10.37 310 Pn Pn 11 28 47.8 -0.8
comp=Z,0.4nm,0.3s,baz=118,slow=15,SNR=18
PDAR Pg 11 29 30.0
comp=Z,1.0nm,0.3s,baz=112,slow=20,SNR=6.4
PDAR Lg Lg 11 31 37.3
comp=Z,1.3nm,0.3s,baz=128,slow=28,SNR=3.7
PDAR LR LR 11 33 01.6
comp=Z,71nm,18.4s,baz=32,slow=39
comp=Z,2.2nm,0.7s
BRAL Brewton 10.14 115 P Pn 11 28 59.9 +1.1
baz=302
O48B Farmland 11.36 67 P Pn 11 29 00.5 -1.4
baz=256,SNR=6.0
P49A Miami Univ. Ec 11.53 71 P Pn 11 29 03.4 -0.9
baz=260,SNR=6.7
LAO LASA Array 11.58 334 P Pn 11 29 03.3 -1.7
baz=149
DUG Dugway, Tooele 11.59 293 P Pn 11 29 04.3 -0.8
baz=104
CPCT Cooper Cave 11.64 91 Pn 11 29 06.1 +0.4
V51A Loudon 11.72 89 Pn 11 29 07.0 +0.1
V51A Loudon 11.72 89 P Pn 11 29 07.5 +0.6
baz=278,SNR=12
TKL Tuckaleechee C 12.21 89 Pn Pn 11 29 13.8 +0.3
comp=Z,0.8nm,0.3s,baz=268,slow=9.9,SNR=16
TKL Lg Lg 11 32 39.1
comp=Z,1.3nm,0.3s,baz=0.0,slow=20,SNR=4.5
TKL LR LR 11 34 04.8
comp=Z,67nm,18.6s,baz=328,slow=38
comp=Z,5.8nm,0.6s
S51A Beattyville 12.22 80 Pn 11 29 13.3 -0.4
S51A Beattyville 12.22 80 P Pn 11 29 14.0 +0.3
baz=270,SNR=10
S51A P Pn **11 29 14.0 +0.3**
baz=270,SNR=10
N49A Columbus Grove 12.26 64 Pn 11 29 12.4 -1.7
TZTN Tazewell 12.29 85 P Pn 11 29 14.5 -0.1
baz=275
L48A N Adams 12.41 60 Pn Pn 11 29 15.2 -1.0
L48A N Adams 12.41 60 P Pn 11 29 15.4 -0.8
baz=249,SNR=6.7
L48A P Pn **11 29 15.4 -0.8**
baz=249,SNR=6.7
DGMT Dagmar 12.60 343 P Pn 11 29 16.7 -2.1
baz=160,SNR=6.2
ACSO Alum Creek Sta 12.98 69 P Pn 11 29 22.7 -1.3
baz=259
AAM Ann Arbor 13.08 59 P Pn 11 29 24.7 -0.6
baz=249
ELK Elko 13.52 293 Pn Pn 11 29 30.1 -1.4
baz=145,slow=17,SNR=1.4
ELK Pg Pg 11 30 28.4
comp=Z,0.1nm,0.3s,baz=148,slow=13,SNR=3.6
ELK Lg Lg 11 33 23.1
comp=Z,0.1nm,0.3s,baz=52,slow=20,SNR=1.7
comp=Z,0.2nm,0.3s
P52A Corning 13.52 72 P Pn 11 29 31.0 -0.4
baz=262
GLMI Grayling 13.60 48 P Pn 11 29 31.8 -0.7
baz=238
GMRC Granite Mounta 13.80 268 P Pn 11 29 35.3 -0.1
baz=78
HLID Hailey 13.86 305 P Pn 11 29 34.8 -1.4
baz=116
ULM Lac du Bonnet 13.91 8 Pn Pn 11 29 31.2 -5.4
comp=Z,0.9nm,0.3s,baz=194,slow=13,SNR=9.2
ULM Sn Sn 11 31 54.6 -16
comp=Z,0.8nm,0.3s,baz=217,slow=21,SNR=2.3
ULM Lg Lg 11 33 25.9
comp=Z,0.5nm,0.3s,baz=128,slow=17,SNR=1.5
ULM LR LR 11 34 50.3
comp=Z,86nm,20.4s,baz=174,slow=37
comp=Z,1.9nm,0.4s
O53A New Philadelph 14.31 70 P Pn 11 29 40.1 -2.1
baz=261
PFO Pinyon Flats O 14.73 264 LR LR 11 35 30.1
comp=Z,49nm,21.6s,baz=70,slow=38
BLA Blacksburg 14.76 82 P Pn 11 29 47.1 -1.2
baz=273
O54A Avella 14.93 70 Pn 11 29 49.2 -1.5
M53A WI Miller and 14.95 65 Pn Pn 11 29 48.4 -2.5
R55A Marlinton 14.98 78 Pn 11 29 49.4 -2.0
NVAR Mina Array Bea 15.59 283 Pn Pn 11 30 00.7 +1.1
baz=98,slow=10,SNR=3.2
NVAR LR LR 11 35 19.8
comp=Z,44nm,21.1s,baz=82,slow=35
comp=Z,0.2nm,0.6s
LPIG La Paz 15.83 222 LR LR 11 36 18.3
comp=Z,77nm,18.9s,baz=0.5,slow=38
SADO Sadowa 17.04 55 P Pn 11 30 14.8 -3.0
comp=Z,5.0nm,0.9s,baz=317,slow=10,SNR=1.1
SADO Sn Sn 11 33 14.2 -13
comp=Z,0.7nm,0.3s,baz=284,slow=6.7,SNR=1.6
SADO Lg Lg 11 35 12.8
comp=Z,1.5nm,0.3s,baz=0.8,slow=18,SNR=5.8
CMIG Matias Romero 19.65 169 LR LR 11 38 57.5
comp=Z,32nm,21.2s,baz=65,slow=38
YKA Yellowknife Ar 27.80 344 P P 11 32 06.9 -1.5
comp=Z,0.2nm,0.5s,baz=242,slow=19,SNR=3.3
YKA Lg Lg 11 40 48.8
baz=201,slow=21,SNR=1.5
comp=Z,0.2nm,0.5s
ILAR Eielson Array 40.02 330 P P 11 33 54.2 +0.1
comp=Z,0.5nm,0.7s,baz=111,slow=6.5,SNR=6.3
comp=Z,0.5nm,0.7s

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*IDC **19** 11:40:00.3±2.2,4.°07S×154.°34E,h387km±14km,mb3.0/5, mbtmp3.9/7,Error ellipse: s-maj=49.5km s-min=17.3km az=111.0*
*NEIC **19** 11:40:03.9±1.4,3.°9S±0.°2×154.°0E±0.°1,h399km±8km, mb4.0/13,Error ellipse: s-maj=26.5km s-min=15.2km az=141.0*

ISC 19 11:40:02.8±0.7,3.°9S±0.°1×154.°1E±0.°1,h398km,n26, σ1§68/30,mb3.7/11,North of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.91**	**261**	Pn	**Pn**	**11 40 59.0**	**+0.9**
KRVT	**Keravat (AS076**	**2.07**	**258**	P	**Pn**	**11 40 59.0**	**-0.1**
	488nm,0.7s,baz=154,slow=2.5,SNR=20						
KRVT				S	**S**	**11 41 42.0**	**-2.5**
	117nm,0.5s,baz=5.0,slow=23,SNR=1.6						
HNR	**Honiara**	**8.04**	**134**		**P**	**11 41 59.8**	**+1.1**
PMG	**Port Moresby**	**8.78**	**231**	P	**P**	**11 42 08.9**	**+2.0**
PMG	**Port Moresby**	**8.78**	**231**	P	**P**	**11 42 07.2**	**+0.2**
	24nm,0.8s,baz=41,slow=10.0,SNR=16						
PMG				S	**S**	**11 43 51.6**	**+3.0**
	3.0nm,0.3s,baz=360,slow=17,SNR=1.9						
CTA	**Charters Tower**	**17.82**	**205**	P	**P**	**11 43 43.4**	**-2.2**
	5.0nm,0.7s,baz=18,slow=10,SNR=7.2						
CTAO	**Charters Tower**	**17.82**	**205**	P	**P**	**11 43 46.2**	**+0.6**
CTAO				IAmb	IAmb	11 43 47.1	
	comp=Z,7.6nm,1.0s						
DZM	**Mont Dzumac**	**21.71**	**147**	P	**P**	**11 44 23.4**	**+0.2**
WB0	**Warramunga Arr**	**24.84**	**229**	P	**P**	**11 44 51.0**	**-0.4**
WB0				IAmb	IAmb	11 44 57.3	
	comp=Z,8.7nm,1.4s						
WR0	**Warramunga Arr**	**24.85**	**228**	P	**P**	**11 44 51.0**	**-0.4**
WR0				IAmb	IAmb	11 45 18.8	
	comp=Z,9.9nm,1.4s						
WRAB	**Tennant Creek**	**24.98**	**229**	P	**P**	**11 44 52.1**	**-0.5**
WRAB				IAmb	IAmb	11 45 20.3	
	comp=Z,8.4nm,1.5s						
WB2	**Warramunga Arr**	**24.98**	**229**	P	**P**	**11 44 54.4**	**+1.8**
WRA	**Warramunga Arr**	**24.99**	**229**	P	**P**	**11 44 53.3**	**+0.6**
WRA	**Warramunga Arr**	**24.99**	**229**	P	**P**	**11 44 51.7**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=52,slow=9.2,SNR=5.8						
WRA				PcP	**PcP**	**11 48 12.0**	**-3.6**
	comp=Z,0.4nm,0.5s,baz=60,slow=2.1,SNR=2.7						

	comp=Z,0.6nm,0.6s							
AS31	**Alice Springs**	**27.67**	**223**	P	**P**	**11 45 13.9**	**-2.5**
ASAR	**Alice Springs**	**27.67**	**223**	P	**P**	**11 45 15.8**	**-0.6**
ASAR	**Alice Springs**	**27.67**	**223**	P	**P**	**11 45 15.4**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=52,slow=8.9,SNR=16							
ASAR				PcP	**PcP**	**11 48 18.6**	**-3.3**
	comp=Z,0.3nm,0.5s,baz=45,slow=3.3,SNR=2.0							
	comp=Z,0.6nm,0.4s							
FITZ	**Fitzroy Crossi**	**31.20**	**241**	P	**P**	**11 45 46.6**	**-0.7**
BBOO	**Buckleboo**	**33.35**	**208**	P	**P**	**11 46 04.3**	**-1.4**
SONM	**Songino Array**	**66.23**	**327**	P	**P**	**11 50 10.6**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=122,slow=4.7,SNR=3.1							
	comp=Z,0.4nm,0.4s							
VNDA	**Vanda**	**73.70**	**178**	P	**P**	**11 50 54.3**	**+0.4**
VNDA				IAmb	IAmb	11 51 07.9		
	comp=Z,6.4nm,1.4s							
MKAR	**Makanchi Array**	**80.46**	**319**	P	**P**	**11 51 32.5**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=89,slow=7.5,SNR=2.5							
	comp=Z,0.3nm,0.5s							
ILAR	**Eielson Array**	**80.84**	**22**	P	**P**	**11 51 33.4**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=260,slow=5.7,SNR=5.2							
	comp=Z,0.6nm,0.9s							
J25K	**Salcha River,**	**81.33**	**22**	P	**P**	**11 51 37.0**	**+1.0**
J25K				IAmb	IAmb	11 51 50.6		
	comp=Z,1.9nm,1.1s							
M27K	**Edge Creek, AK**	**81.72**	**25**	P	**P**	**11 51 40.4**	**+2.4**
M27K				IAmb	IAmb	11 51 44.4		
	comp=Z,3.7nm,1.1s							
TORD	**Torodi Ar. Bea**	**151.19**	**290**	PKPbc	**PKPbc**	**11 59 09.4**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=53,slow=2.8,SNR=4.3							

*NNC **19** 11:41:58.8±0.5,50°.31N×73°.37E,h4km±11km, mb3.3, mpv3.0,Error ellipse: s-maj=5.3km s-min=4.1km az=92.0, Suspected Mining explosion.*

*IDC **19** 11:42:02.2±1.9,50°.49N×73°.54E,h0km, mbtmp2.7/3, ML2.0/3,Error ellipse: s-maj=31.3km s-min=8.7km az=31.0*

ISC 19 11:41:59.2±0.9,50°.45N±0°.05×73°.34E±0°.06,h0km,n18, σ2s38/20,7C-4D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRZS	**Berezniki**	**0.63**	**222**	P	**Pg**	**11 42 10.1**	**-1.2**
	13nm,0.1s						
BRZS				S	**Sg**	**11 42 17.8**	**-1.6**
	21nm,0.1s						
OTUK	**Ortayu**	**2.30**	**197**	Pg	**Pn**	**11 42 38.8**	**+0.4**
	2.9nm,0.2s						
OTUK				Lg	Lg	11 43 08.3	
	16nm,0.6s						
OTUK	**Ortayu**	**2.30**	**197**	⇑Pg	**Pn**	**11 42 38.8**	**+0.4**
	2.8nm,0.4s						
OTUK				⇑Lg	Lg	11 43 07.8	
	40nm,0.9s						
BVA0	**Borovoye Array**	**3.16**	**326**	⇑Pg	**Pg**	**11 42 58.9**	**-0.9**
	1.7nm,0.5s,baz=140,slow=16,SNR=26						
BVA0				⇓Lg	Lg	11 43 43.0	
	5.3nm,0.7s,baz=134,slow=28,SNR=7.0						
BVAR	**Borovoye Array**	**3.16**	**326**	Pg	**Pg**	**11 42 58.8**	**-1.0**
	0.3nm,0.3s,baz=137,slow=17,SNR=30						
BVAR				Lg	Lg	11 43 42.6	
	0.3nm,0.3s,baz=134,slow=27,SNR=10						
BRVK	**Borovoye**	**3.23**	**325**	⇑Pg	**Pg**	**11 42 59.7**	**-1.3**
	1.1nm,0.4s						
BRVK				⇓Lg	Lg	11 43 45.3	
	5.9nm,0.9s						
KURBB	**Kurchatov Arra**	**3.32**	**85**	Pn	**Pn**	**11 42 52.3**	**0.0**
	0.1nm,0.3s,baz=270,slow=15,SNR=4.1						
KURBB				Pg	**Pb**	**11 42 59.2**	**+0.3**
	0.2nm,0.3s,baz=271,slow=16,SNR=13						
KURBB				Lg	Lg	11 43 40.9	
	0.3nm,0.3s,baz=277,slow=28,SNR=4.5						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**3.32**	**85**	⇓Pg	**Pb**	**11 42 59.1**	**+0.3**
	1.8nm,0.4s						
KURBB				⇑Lg	Lg	11 43 46.0	
	38nm,0.8s						
KURK	**Kurchatov**	**3.38**	**83**	⇓Pg	**Pb**	**11 43 00.2**	**+0.3**
	0.5nm,0.4s						
KURK				⇑Lg	Lg	11 43 45.1	
	7.9nm,0.7s						
BTLS	**Baital**	**5.43**	**175**	Pg	**Pb**	**11 43 33.6**	**-1.3**
	1.0nm,0.5s						
BTLS				Lg	Lg	11 44 41.6	
	3.5nm,0.9s						
KRBS	**Karabastau**	**6.94**	**166**	Pg	**Pb**	**11 44 01.5**	**+0.8**
	0.8nm,0.9s						
KRBS				Lg	Lg	11 45 29.1	
	6.3nm,0.6s						
ARXS	**Arharly**	**6.94**	**152**	Pg	**Pb**	**11 44 05.1**	**+4.4**
	2.3nm,0.4s						
ARXS				Lg	Lg	11 45 35.0	
	12nm,0.5s						
MK31	**Makanchi Array**	**6.97**	**118**	⇑Lg	Lg	11 45 40.7	
	9.4nm,0.9s,baz=315,slow=27,SNR=4.3						
MKAR	**Makanchi Array**	**6.97**	**118**	Pn	**Pn**	**11 43 43.3**	**+0.8**
	0.1nm,0.3s,baz=309,slow=13,SNR=1.5						
MKAR				Pg	**Pb**	**11 44 00.3**	**-0.7**
	0.1nm,0.3s,baz=297,slow=14,SNR=2.9						
MKAR				Lg	Lg	11 45 38.9	
	0.3nm,0.3s,baz=311,slow=27,SNR=5.8						
	0.9nm,0.9s						
CHKK	**Chushkaly**	**7.05**	**158**	Pg	**Pb**	**11 44 06.3**	**+3.9**
	0.3nm,0.1s						
CHKK				Lg	Lg	11 45 37.2	
	4.1nm,0.7s						
KTBS	**Karatobe**	**7.12**	**160**	Pg	**Pb**	**11 44 07.4**	**+3.8**
	0.8nm,0.9s						
KTBS				Pg	**Sn**	**11 45 00.7**	**-5.4**
	1.9nm,0.6s						
KTBS				Lg	Lg	11 45 39.0	
	16nm,0.8s						
KTBS				Lg	Lg	11 45 39.1	
	16nm,0.8s						
I46RU	**ZALESOVO INFRA**	**7.88**	**59**	I	I	12 30 30.0	
	baz=243,slow=329,SNR=2.4						
ZALV	**Zalesovo Beam**	**7.88**	**59**	Pn	**Pn**	**11 43 57.5**	**+2.7**
	0.1nm,0.3s,baz=245,slow=15,SNR=2.1						
	0.3nm,0.3s						

*NEIC **19** 11:42:20.6±1.2,51°.5N±0°.2×178°.5E±0°.2,h61km±12km, mb4.0/16,ML3.8(AEIC),Error ellipse: s-maj=23.0km s-min=13.8km az=167.0*

*AEIC **19** 11:42:20.8±2.2,51°.5N±0°.1×178°.6E±0°.1,h54km±8km, Error ellipse: s-maj=14.9km s-min=11.9km az=193.0*

*IDC **19** 11:42:21.5±2.5,51°.60N×178°.50E,h71km±20km,mb3.6/15, mbtmp3.9/17,Error ellipse: s-maj=26.3km s-min=13.1km az=3.0*

ISC 19 11:42:19.4±0.6,51°.46N±0°.08×178°.57E±0°.04,h50km,n68, σ1s56/68,mb4.0/24,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.47**	**100**		**Pn**	**11 42 32.1**	**+1.9**
AMKA	**Amchitka**	**0.47**	**100**		**Sn**	**11 42 40.5**	**+2.6**
LSSE	**Little Sitkin**	**0.48**	**360**		**Pn**	**11 42 32.4**	**+2.1**
LSPA	**Little Sitkin**	**0.50**	**0**		**Pn**	**11 42 32.6**	**+2.0**
LSPA					**Sn**	**11 42 41.7**	**+3.0**
LSNW	**Little Sitkin**	**0.52**	**356**		**Pn**	**11 42 32.6**	**+1.8**
CETU	**Semis' Tuman**	**0.77**	**48**		**Pn**	**11 42 36.0**	**+2.0**
CERB	**Semis' Cerberu**	**0.81**	**54**		**Pn**	**11 42 36.5**	**+1.9**
CERB					**Sn**	**11 42 48.5**	**+2.8**
CEAP	**Semis' Anvil P**	**0.83**	**49**		**Pn**	**11 42 36.6**	**+1.8**
GAEA	**Gareloi East**	**1.70**	**78**		**Pn**	**11 42 48.9**	**+2.3**
TANO	**Tanaga North**	**2.11**	**76**		**Pn**	**11 42 54.3**	**+2.1**
TAFP	**Tanaga Falls P**	**2.19**	**77**		**Pn**	**11 42 55.0**	**+1.7**
TAFP					**Sn**	**11 43 21.0**	**+1.8**
TAPA	**Tanaga Point A**	**2.28**	**80**		**Pn**	**11 42 56.7**	**+2.1**
KIMD	**Kanaga Island**	**2.63**	**82**		**Pn**	**11 43 01.6**	**+2.3**
KIWB	**Kanaga Island**	**2.69**	**80**		**Pn**	**11 43 01.4**	**+1.2**
KINC	**Kanaga Island**	**2.72**	**78**		**Pn**	**11 43 02.6**	**+2.1**
SHEM	**Shemya Is, Ala**	**3.04**	**297**	P	**Pn**	**11 43 07.1**	**+2.2**
	58nm,0.4s,baz=268,slow=22,SNR=1.6						
SHEM				S	**Sn**	**11 43 40.0**	**+0.1**
	123nm,0.4s,baz=294,slow=20,SNR=5.7						
GSMY	**Great Sitkin M**	**3.39**	**78**		**Pn**	**11 43 11.3**	**+1.6**
GSTR	**Great Sitkin T**	**3.40**	**77**	Pn	**Pn**	**11 43 11.1**	**+1.3**
ATKA	**Atka Island**	**4.55**	**78**	Pn	**Pn**	**11 43 26.3**	**+0.7**
KOKL	**Mount Kliuchef**	**4.56**	**76**		**Pn**	**11 43 27.5**	**+1.7**
PETK	**Petropavlovsk-**	**12.88**	**286**	P	**Pn**	**11 45 20.8**	**+1.2**
	2.0nm,0.8s,baz=88,slow=13,SNR=1.3						
KDAK	**Kodiak Island**	**17.77**	**58**	P	**Pn**	**11 46 20.5**	**-2.3**
	8.4nm,0.9s,baz=274,slow=7.0,SNR=15						

IMAR	**Indian Mountai**	**20.19**	**33**	P	**P**	**11 46 49.4**	**-0.1**
BPAW	**Bear Paw Mtn.**	**20.32**	**40**	P	**P**	**11 46 52.2**	**+1.2**
GHO	**Glory Hole Cre**	**20.42**	**47**	P	**P**	**11 46 52.1**	**0.0**
GHO				IAmb	IAmb	11 47 13.9	
	comp=Z,8.7nm,1.0s						
SML	**Sawmill**	**20.70**	**47**	P	**P**	**11 46 54.5**	**-0.5**
SML				IAmb	IAmb	11 47 26.3	
	comp=Z,8.4nm,1.0s						
SCM	**Sheep Creek Mo**	**21.17**	**47**	P	**P**	**11 46 59.4**	**-0.7**
I23K	**Minto, Yukon-K**	**21.40**	**38**	P	**P**	**11 47 02.1**	**-0.3**
DHY	**Denali Highway**	**21.48**	**44**	P	**P**	**11 47 03.5**	**0.0**
DHY				IAmb	IAmb	11 47 22.9	
	comp=Z,6.7nm,1.2s						
M24K	**Tolsona, Glenn**	**21.76**	**47**	P	**P**	**11 47 04.7**	**-1.8**
ILAR	**Eielson Array**	**22.23**	**40**	P	**P**	**11 47 11.4**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=226,slow=8.7,SNR=8.9							
	comp=Z,0.5nm,0.9s							
VRDI	**Verde Repeater**	**22.88**	**50**	P	**P**	**11 47 17.9**	**-0.6**
VRDI				IAmb	IAmb	11 48 02.0		
	comp=Z,9.1nm,1.4s							
TOLK	**Toolik Lake Re**	**22.99**	**30**	P	**P**	**11 47 19.2**	**-0.2**
TOLK				IAmb	IAmb	11 47 50.7		
	comp=Z,5.0nm,1.1s							
SCRK	**Sand Creek**	**23.19**	**43**	P	**P**	**11 47 19.7**	**-1.8**
J26L	**Joseph Creek**	**23.50**	**42**	P	**P**	**11 47 23.4**	**-1.1**
BARN	**Barnard Glacie**	**23.72**	**51**	P	**P**	**11 47 26.1**	**-0.6**
BCAR	**Beaver Creek A**	**23.95**	**46**	P	**P**	**11 47 28.9**	**+0.3**
LOGN	**Logan Glacier**	**24.02**	**51**	P	**P**	**11 47 29.1**	**-0.3**
E25K	**Arctic Village**	**24.04**	**33**	P	**P**	**11 47 29.0**	**-0.3**
E25K				IAmb	IAmb	11 47 49.6		
	comp=Z,9.9nm,1.5s							
BMAR	**Burnt Mountain**	**24.09**	**35**	P	**P**	**11 47 29.8**	**0.0**
D25K	**Kavik River**	**24.34**	**30**	P	**P**	**11 47 31.6**	**-0.4**
D25K				IAmb	IAmb	11 47 43.1		
	comp=Z,5.3nm,1.4s							
DAWY	**Dawson**	**25.18**	**44**	P	**P**	**11 47 40.8**	**+1.1**
DAWY				IAmb	IAmb	11 48 17.9		
	comp=Z,9.4nm,1.5s							
H11N2	**WAKE ISLAND Hy**	**32.97**	**201**	T	T	12 24 03.7		
	baz=10,slow=76,SNR=9.6							
H11N3	**WAKE ISLAND Hy**	**32.98**	**200**	T	T	12 24 05.9		
	baz=10,slow=76,SNR=8.4							
H11N1	**WAKE ISLAND Hy**	**32.99**	**201**	T	T	12 24 02.2		
	baz=10,slow=76,SNR=9.1							
H11S1	**WAKE ISLAND Hy**	**34.19**	**200**	T	T	12 25 33.7		
	baz=11,SNR=6.5							
H11S2	**WAKE ISLAND Hy**	**34.21**	**200**	T	T	12 25 35.9		
	baz=11,SNR=5.0							
H11S3	**WAKE ISLAND Hy**	**34.21**	**200**	T	T	12 25 36.9		
	baz=11,SNR=4.0							
YKA	**Yellowknife Ar**	**36.37**	**46**	P	**P**	**11 49 17.8**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=282,slow=8.7,SNR=5.2							
	comp=Z,0.4nm,0.6s							
SONM	**Songino Array**	**45.13**	**295**	P	**P**	**11 50 31.0**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=50,slow=7.8,SNR=4.2							
	comp=Z,0.9nm,0.7s							
NVAR	**Mina Array Bea**	**45.17**	**81**	P	**P**	**11 50 31.5**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=296,slow=6.9,SNR=6.6							
	comp=Z,0.6nm,0.6s							
HHC	**Hu-ho-hao-te**	**46.08**	**284**	*e*P	**P**	**11 50 39.3**	**+1.1**
HHC				pmax	pmax			
	comp=Z,14nm,0.6s							
HHC				pmax	pmax			
	comp=Z,220nm,4.8s							
PDAR	**Pinedale Array**	**47.84**	**71**	P	**P**	**11 50 51.2**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=311,slow=3.3,SNR=4.9							
	comp=Z,0.3nm,0.5s							
SPITS	**Spitsbergen Ar**	**50.17**	**355**	P	**P**	**11 51 07.7**	**-1.5**
	comp=Z,13nm,1.0s,baz=55,slow=12,SNR=7.5							
	comp=Z,13nm,1.0s							
ZALV	**Zalesovo Beam**	**52.77**	**312**	P	**P**	**11 51 26.9**	**-2.0**
	comp=Z,0.5nm,0.4s,baz=48,slow=6.4,SNR=2.0							
	comp=Z,0.5nm,0.4s							
SUMG	**Summit**	**53.60**	**13**	*i* P	**P**	**11 51 34.0**	**-1.2**
LZH	**Lanzhou**	**53.77**	**284**	*e*P	P	11 51 42.1	+5.4
LZH				pP	pP	11 51 52.4	+2.2
LZH				pmax	pmax			
	comp=Z,15nm,0.5s							
ARCES	**ARCESS Array B**	**57.72**	**349**	P	**P**	**11 52 02.9**	**-1.4**
	comp=Z,5.3nm,1.1s,baz=28,slow=8.3,SNR=6.0							
	comp=Z,5.3nm,1.1s							
KURBB	**Kurchatov Arra**	**57.87**	**312**	P	**P**	**11 52 04.9**	**-0.7**
	comp=Z,2.0nm,0.4s,baz=42,slow=6.5,SNR=12							
	comp=Z,2.0nm,0.4s							
WMQ	**Urumqi**	**57.90**	**301**	*e*P	**P**	**11 52 09.8**	**+3.7**
MKAR	**Makanchi Array**	**58.68**	**307**	P	**P**	**11 52 10.4**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=54,slow=6.7,SNR=6.6							
MKAR				PcP	**PcP**	**11 53 00.5**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=66,slow=4.9,SNR=1.5							
	comp=Z,0.6nm,0.4s							
BVAR	**Borovoye Array**	**59.75**	**318**	P	**P**	**11 52 18.3**	**-0.3**
	comp=Z,2.4nm,0.4s,baz=51,slow=6.4,SNR=16							
BVAR				PcP	**PcP**	**11 53 04.5**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=25,slow=3.8,SNR=2.1							
	comp=Z,2.4nm,0.4s							
TXAR	**Lajitas Array**	**60.26**	**79**	P	**P**	**11 52 22.7**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=299,slow=4.3,SNR=10							
TXAR				PcP	**PcP**	**11 53 07.4**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=282,slow=0.8,SNR=2.5							
	comp=Z,0.6nm,0.6s							
PZH	**PanZhiHua**	**61.70**	**278**	P	**P**	**11 52 35.0**	**+2.5**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,100nm,4.8s							
FINES	**FINESS Array B**	**65.32**	**346**	P	**P**	**11 52 53.7**	**-1.9**
	comp=Z,2.7nm,1.0s,baz=40,slow=9.3,SNR=2.2							
	comp=Z,2.7nm,1.0s							
AKASG	**Malin Array Be**	**74.94**	**340**	P	**P**	**11 53 52.4**	**-2.2**
	comp=Z,0.7nm,0.4s,baz=22,slow=6.5,SNR=4.6							
	comp=Z,0.7nm,0.4s							
WRA	**Warramunga Arr**	**80.95**	**222**	P	**P**	**11 54 27.7**	**-0.6**
	comp=Z,0.2nm,0.8s,baz=30,slow=6.1,SNR=1.1							
	comp=Z,0.2nm,0.8s							
MAW	**Mawson**	**145.54**	**218**	PKPbc	**PKPdf**	**12 01 49.1**	**-1.2**
	comp=Z,2.3nm,0.7s,baz=90,slow=2.0,SNR=2.1							

WEL 19 11:47:48.7,39°S±3°×17°5E±°,h23km±5km,M2.3/26, ML2.5/12,MLv2.3/26,Error ellipse: s-maj=0.0km s-min=0.0km az=132.4,confirmed,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.14**	**344**	P	**Pb**	**11 47 53.9**	**+0.5**
VRZ				S	**Sb**	**11 47 58.1**	**+1.5**
HUKS	**Huiakama Schoo**	**0.19**	**269**	P	**Pb**	**11 47 52.4**	**-1.5**
HUKS				S	**Sb**	**11 47 57.7**	**+0.1**
LREZ	**Lake Rotokare**	**0.38**	**237**	P	**Pb**	**11 47 57.3**	**+0.5**
LREZ				S	**Sn**	**11 48 04.3**	**-1.0**
MHEZ	**Mangahewa**	**0.42**	**295**	P	**Pb**	**11 47 57.9**	**+0.4**
MHEZ				S	**Sn**	**11 48 05.0**	**-1.3**
PKVZ	**Pokaka**	**0.42**	**95**	P	**Pb**	**11 47 57.8**	**+0.2**
PKVZ				S	**Sb**	**11 48 04.5**	**+0.9**
WAZ	**Wanganui**	**0.52**	**165**	P	**Pb**	**11 47 59.7**	**+0.5**
TWVZ	**Taurewa**	**0.52**	**70**	P	**Pb**	**11 47 59.1**	**-0.2**
MTVZ	**Mangateitei**	**0.53**	**104**	P	**Pn**	**11 48 02.0**	**+1.0**
COVZ	**Chateau Observ**	**0.57**	**85**	P	**Pn**	**11 48 01.1**	**-0.5**
TRVZ	**Turoa**	**0.58**	**94**	P	**Pn**	**11 48 03.7**	**+2.0**
NGZ	**Ngauruhoe**	**0.62**	**83**	P	**Pn**	**11 48 03.8**	**+1.6**
WTVZ	**West Tongariro**	**0.62**	**77**	P	**Pb**	**11 48 00.9**	**-0.1**
NNVZ	**North Ngauruho**	**0.64**	**79**	P	**Pb**	**11 48 01.2**	**-0.1**
KRVZ	**Karewarewa**	**0.67**	**76**	P	**Pb**	**11 48 01.9**	**+0.1**
OTVZ	**Oturere**	**0.67**	**82**	P	**Pb**	**11 48 01.8**	**-0.1**
TMVZ	**Te Maari**	**0.71**	**79**	P	**Pb**	**11 48 02.6**	**+0.1**
TMVZ				S	**Sb**	**11 48 12.0**	**+0.1**
HIZ	**Hauiti**	**0.74**	**3**	P	**Pb**	**11 48 02.4**	**-0.6**
KATZ	**Kakaramea**	**0.74**	**68**	P	**Pb**	**11 48 03.1**	**0.0**
MOVZ	**Moawhango**	**0.75**	**102**	P	**Pb**	**11 48 03.3**	**+0.2**
MOVZ				S	**Sb**	**11 48 13.1**	**+0.2**
BHHZ	**Black Hill Sta**	**1.00**	**104**	P	**Pn**	**11 48 08.4**	**+1.0**
TLZ	**Tolley Road**	**1.09**	**32**	P	**Pn**	**11 48 06.3**	**-2.2**
TSZ	**Takapari Road**	**1.20**	**132**	P	**Pb**	**11 48 11.2**	**+0.4**
PNHZ	**Pukenui**	**1.26**	**122**	P	**Pb**	**11 48 12.4**	**+0.6**
OGWZ	**Otaki Gorge**	**1.58**	**170**	P	**Pb**	**11 48 16.7**	**-0.6**
KIW	**Kapiti Island**	**1.60**	**177**	P	**Pn**	**11 48 16.5**	**+0.8**
MTW	**Mount Morrison**	**1.97**	**165**	P	**Pb**	**11 48 22.4**	**-1.5**
MKAZ	**Moumakai**	**2.17**	**7**	P	**Pn**	**11 48 22.9**	**-0.4**

*IDC **19** 11:48:27.6±0.9,42°.45S×173°.63E,h0km,mb4.2/5, mbtmp4.2/7, ML3.7/2, MS3.7/9,Error ellipse: s-maj=34.3km s-min=22.7km az=151.0*

*NOU **19** 11:48:28.9,42°.55S×173°.75E,h0km, MLv4.8/15,South Island, New Zealand*

*NEIC **19** 11:48:28.9±1.2,42°.58S±0°.03×173°.77E±0°.06,h14km±6km, mb4.4/9,Error ellipse: s-maj=6.7km s-min=4.4km az=113.0*

*WEL **19** 11:48:31.0±0.6,42°.3±4°×17°.4E±°,h3km±3km,M4.5/6, ML4.8/6,MLv4.5/6,Error ellipse: s-maj=0.0km s-min=0.0km az=137.4,confirmed*

*WEL **19** 11:48:31.3,42°.47S×173°.65E,h5km,ML4.5,Mw4.5, Moment Tensor Solution. s6 Moment tensor: Mrr443.42; Mθθ-157.32; Mφφ-286.10; Mrθ136.64; Mrφ272.92; Mθr-351.99; Fault plane solution: NP1: φs231.00000°,δ27.00000°,λ112.00000°. NP2: φs27.00000°,δ65.00000°,λ79.00000°. Principal axes: T -625.9400, Plg68.0000°, Azm277.0000°; N 39.4700, Plg9.0000°, Azm31.0000°; P 586.4800, Plg19.0000°, Azm125.0000°; SOUTH ISLAND*

ISC 19 11:48:27.7±1.1,42°.56S±0°.02×173°.78E±0°.03,h5km±7km, n227,σ1s63/230,mb4.3/10,MS3.7/8,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIKS	**Kaikoura**	**0.15**	**331**	P	**Pg**	**11 48 31.4**	**+0.7**
KIKS				S	**Sg**	**11 48 33.1**	**+0.4**
KHZ	**Kahutara**	**0.23**	**308**	Pg	**Pg**	**11 48 32.0**	**-0.2**
KHZ					**Sg**	**11 48 34.1**	**-1.0**
KHZ	**Kahutara**	**0.23**	**308**	P	**Pg**	**11 48 31.9**	**-0.2**
KHZ	**Kahutara**	**0.23**	**308**	P	**Pg**	**11 48 32.0**	**-0.2**
KHZ				S	**Sg**	**11 48 34.2**	**-1.0**
CECS	**Cheviot Emerge**	**0.45**	**235**	P	**Pn**	**11 48 40.1**	**-0.8**
KEKS	**Kekerengu Vall**	**0.62**	**14**	P	**Pb**	**11 48 42.5**	**+1.5**
KEKS				S	**Sn**	**11 48 52.5**	**-1.0**
GVZ	**Greta Valley S**	**0.69**	**233**		**Pn**	**11 48 44.1**	**0.0**
GVZ				Sg	**Sn**	**11 48 54.9**	**-0.3**
GVZ	**Greta Valley S**	**0.69**	**233**	P	**Pn**	**11 48 44.3**	**+0.2**
GVZ				S	**Sn**	**11 48 55.9**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.84**	**5**		**Pb**	**11 48 45.5**	**+0.6**
BSWZ				Sg	**Sb**	**11 48 57.5**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.84**	**5**	P	**Pb**	**11 48 45.6**	**+0.8**
CMWZ	**Cape Campbell**	**0.87**	**22**		**Pn**	**11 48 47.5**	**+0.9**
CMWZ	**Cape Campbell**	**0.87**	**22**	P	**Pn**	**11 48 47.5**	**+0.9**
CMWZ				S	**Sn**	**11 49 02.6**	**+2.9**
THZ	**Tophouse**	**1.03**	**320**	Pn	**Pg**	**11 48 47.8**	**+0.4**
THZ	**Tophouse**	**1.03**	**320**	P	**Pg**	**11 48 47.8**	**+0.4**
THZ				S	**Sg**	**11 49 00.6**	**-0.1**
AMCZ	**Amberley**	**1.04**	**233**		**Pn**	**11 48 49.2**	**+0.3**
AMCZ	**Amberley**	**1.04**	**233**	P	**Pn**	**11 48 50.0**	**+1.1**
AMCZ	**Amberley**	**1.04**	**233**	S	**Sn**	**11 49 06.1**	**+2.3**
TUWZ	**Tuamarina**	**1.13**	**6**		**Pb**	**11 48 50.3**	**+0.6**
TUWZ	**Tuamarina**	**1.13**	**6**	P	**Pn**	**11 48 50.9**	**+0.6**
TUWZ				S	**Sn**	**11 49 07.0**	**+0.9**
LTZ	**Lake Taylor**	**1.14**	**258**	Pn	**Pn**	**11 48 50.3**	**-0.1**
LTZ	**Lake Taylor**	**1.14**	**258**	P	**Pn**	**11 48 50.6**	**+0.2**
LTZ	**Lake Taylor**	**1.14**	**258**	P	**Pn**	**11 48 51.3**	**+0.9**
LTZ				S	**Sn**	**11 49 06.6**	**+0.3**
OKCZ	**Okains Bay**	**1.28**	**204**	P	**Pg**	**11 48 53.7**	**+1.4**
NNZ	**Nelson**	**1.37**	**347**		**Pn**	**11 48 53.5**	**0.0**
NNZ	**Nelson**	**1.37**	**347**	P	**Pb**	**11 48 54.0**	**+0.1**
MRNZ	**Matariki Terra**	**1.39**	**326**	Pn	**Pg**	**11 48 54.8**	**+0.5**
MRNZ	**Matariki Terra**	**1.39**	**326**	P	**Pb**	**11 48 54.5**	**+0.3**
TCW	**Tory Channel**	**1.40**	**16**		**Pn**	**11 48 53.8**	**0.0**
TCW	**Tory Channel**	**1.40**	**16**	P	**Pn**	**11 48 54.3**	**+0.5**
BHW	**Baring Head**	**1.41**	**36**		**Pn**	**11 48 54.2**	**+0.2**
BHW	**Baring Head**	**1.41**	**36**	P	**Pn**	**11 48 54.7**	**+0.8**
BHW				S	**Sb**	**11 49 12.6**	**0.0**
MQZ	**McQueen's Vall**	**1.41**	**215**		**Pn**	**11 48 54.0**	**-0.1**
MQZ	**McQueen's Vall**	**1.41**	**215**	P	**Pn**	**11 48 54.5**	**+0.4**
MQZ				S	**Sn**	**11 49 13.3**	**+0.2**
SNZO	**South Karori**	**1.42**	**29**		**Pn**	**11 48 54.5**	**+0.3**
SNZO	**South Karori**	**1.42**	**29**	P	**Pb**	**11 48 55.0**	**+0.3**
AKCZ	**Akaroa Harbour**	**1.46**	**206**	P	**Pb**	**11 48 55.9**	**+0.5**
AKCZ				S	**Sg**	**11 49 16.0**	**+1.4**
WEL	**Wellington**	**1.47**	**30**	P	**Pb**	**11 48 55.8**	**+0.3**
PLWZ	**Palliser**	**1.48**	**49**	

KWHZ	Kaweka Forest	3.71	33	P	Pn	11 49 28.0	+2.2
ETVZ	East Tongariro	3.72	24	P	Pn	11 49 28.6	+2.7
TMVZ	Te Maari	3.73	24	P	Pn	11 49 28.4	+2.3
KRVZ	Karewarewa	3.74	23	P	Pn	11 49 28.5	+2.4
MCHZ	McNeill Hill	3.81	36	P	Pn	11 49 27.8	+0.7
RITZ	Rihia Road	3.91	24	P	Pn	11 49 31.4	+3.0
JCZ	Jackson Bay	3.95	246	P	Pn	11 49 31.5	+2.5
JCZ	Jackson Bay	3.95	246	P	Pn	11 49 30.4	+1.4
BKZ	Black Stump Fm	3.96	32		Pn	11 49 34.0	+4.8
BKZ	Black Stump Fm	3.96	32	P	Pn	11 49 30.6	+1.4
BKZ	Black Stump Fm	3.96	32	P	Pn	11 49 30.6	+1.4
HHSZ	Highcliff Hill	4.04	213	P	Pn	11 49 31.1	+0.9
ARHZ	Aropaoanui	4.09	38	P	Pn	11 49 32.4	+1.5
HIZ	Hauiti	4.12	12		Pn	11 49 33.4	+2.1
HIZ	Hauiti	4.12	12	P	Pn	11 49 33.6	+2.3
HIZ	Hauiti	4.12	12	P	Pn	11 49 33.5	+2.1
WATZ	Wairara	4.12	22	P	Pn	11 49 35.8	+4.4
WKZ	Wanaka	4.13	235	Pn	Pn	11 49 31.3	-0.2
WKZ	Wanaka	4.13	235	P	Pn	11 49 31.7	+0.2
NMHZ	Naumai	4.15	35	P	Pn	11 49 35.7	+3.9
EAZ	Earnscleugh	4.19	229	P	Pn	11 49 32.7	+0.4
MRHZ	Matea Rd	4.22	29	P	Pn	11 49 33.5	+0.7
WHHZ	Waihua	4.35	38	P	Pn	11 49 38.0	+3.5
RAHZ	Arahi	4.42	36	P	Pn	11 49 38.7	+3.3
TLZ	Tolley Road	4.43	18	P	Pn	11 49 38.3	+2.6
ALRZ	Allen Road	4.44	27	P	Pn	11 49 36.8	+1.1
TUZ	Tuapeka	4.52	220	P	Pn	11 49 37.5	+0.8
KNZ	Kokohu	4.60	41	P	Pn	11 49 37.5	-0.4
RTZ	Ruatahuna	4.63	33		Pn	11 49 39.9	+1.5
SNGZ	Shannon Statio	4.64	37	P	Pn	11 49 39.4	+0.9
MUGZ	Murupara	4.67	30	P	Pn	11 49 42.6	+3.7
PRGZ	Paritu Road	4.73	42	P	Pn	11 49 41.2	+0.7
OMRZ	Omania	4.87	25	P	Pn	11 49 46.9	+5.3
RIGZ	Rimuhau	4.90	40	P	Pn	11 49 44.1	+2.1
MLZ	Mavora Lakes	4.96	234	Pn	Pn	11 49 42.6	-0.2
MLZ	Mavora Lakes	4.96	234	P	Pn	11 49 42.6	-0.2
URZ	Urewera	4.99	32	Pn	Pn	11 49 42.1	-1.1
		0.7nm,0.3s,baz=312,slow=8.1,SNR=2.5					
URZ				Sn	Sn	11 50 36.5	-4.8
		4.3nm,0.3s,baz=217,slow=12,SNR=3.1					
		10nm,0.5s					
URZ	Urewera	4.99	32	P	Pn	11 49 42.9	-0.3
TOZ	Tahuroa Road	5.00	16		Pn	11 49 44.0	+0.7
TOZ	Tahuroa Road	5.00	16	P	Pn	11 49 44.4	+1.0
MWZ	Matawai	5.09	35	P	Pn	11 49 43.8	-1.0
TKGZ	Te Karaka	5.15	38	P	Pn	11 49 48.7	+3.2
SYZ	Scrubby Hill	5.18	218	P	Pn	11 49 48.2	+2.4
SYZ	Scrubby Hill	5.18	218	P	Pn	11 49 47.0	+1.2
TGRZ	Tauranga	5.18	22	P	Pn	11 49 48.9	+3.0
WHZ	Wether Hill Ro	5.36	230		Pn	11 49 47.6	-0.7
WHZ	Wether Hill Ro	5.36	230	P	Pn	11 49 47.9	-0.4
TWGZ	Tauwhareparae	5.42	38	P	Pn	11 49 52.4	+3.1
RUGZ	Raukumara Rang	5.47	34	P	Pn	11 49 48.6	-1.3
AWAZ	Awhitu Peninsu	5.53	7	P	Pn	11 49 52.4	+1.8
MKAZ	Moumakai	5.55	11	P	Pn	11 49 51.9	+0.9
WTAZ	Waiatarua	5.65	6	P	Pn	11 49 54.2	+1.9
ETAZ	East Tamaki Re	5.67	9	P	Pn	11 49 54.2	+1.6
HAZ	Te Kaha	5.69	34	P	Pn	11 49 54.1	+1.2
PKGZ	Pakihiroa	5.71	37	P	Pn	11 49 53.5	+0.4
RVAZ	Riverhead Bore	5.81	6	P	Pn	11 49 56.5	+1.9
MBAZ	Motutapu North	5.84	9	P	Pn	11 49 56.4	+1.4
WIAZ	Waiheke Island	5.85	11	P	Pn	11 49 56.9	+1.8
WMGZ	Waiomatatini S	5.91	38	P	Pn	11 49 55.5	-0.5
APZ	The Paps	5.94	222	P	Pn	11 49 57.4	+1.1
KUZ	Kuaotunu	5.99	15	P	Pn	11 49 57.8	+0.7
KUZ	Kuaotunu	5.99	15	P	Pn	11 49 57.7	+0.6
MXZ	Matakaoa Point	6.08	36	P	Pn	11 49 59.8	+1.6
WCZ	Waipu Caves	6.62	4	P	Pn	11 50 07.5	+1.8
CTZ	Chatham Island	7.12	103	Pn	Pn	11 50 12.6	+0.2
CTZ	Chatham Island	7.12	103	P	Pn	11 50 14.8	+2.3
CTZ	Chatham Island	7.12	103	P	Pn	11 50 12.7	+0.2
OUZ	Omahuta	7.33	359	P	Pn	11 50 17.3	+1.9
OUZ	Omahuta	7.33	359	P	Pn	11 50 20.8	+5.4
DZM	Mont Dzumac	21.33	341	eLR	LR	11 58 26.0	
	229nm,26.9s						
EIDS	Eidsvold	25.34	305	P	P	11 53 54.2	-1.4
STKA	Stephens Creek	27.61	282	LR	LR	12 03 30.7	
	comp=Z,85nm,22.0s,baz=203,slow=33						
CTA	Charters Tower	32.23	305	P	P	11 54 55.6	-1.4
	3.9nm,0.9s,baz=170,slow=6.9,SNR=3.0						
	3.9nm,0.9s						
VNDA	Vanda	35.41	184	P	P	11 55 22.9	-1.3
VNDA				IAmb	IAmb	11 55 42.6	
	comp=Z,8.3nm,1.5s						
VNDA	Vanda	35.41	184	LR	LR	12 08 26.2	
	comp=Z,90nm,18.5s,baz=24,slow=34						
TBI	Tubuai	35.94	70	eT	T	12 33 18.1	
	comp=Z,68nm,0.4s						
ASAR	Alice Springs	37.92	287	P	P	11 55 45.4	-0.7
ASAR	Alice Springs	37.92	287	P	P	11 55 45.2	-0.9
	comp=Z,0.8nm,0.6s,baz=133,slow=8.2,SNR=14						
ASAR				PcP	PcP	11 58 01.4	-0.8
	comp=Z,0.6nm,0.7s,baz=125,slow=3.8,SNR=6.3						
ASAR				LR	LR	12 11 16.9	
	comp=Z,134nm,18.1s,baz=148,slow=36						
	comp=Z,0.8nm,0.6s						
PAE	Paea	39.78	63	eT	T	12 38 21.9	
	comp=Z,7.7nm,0.4s						
PPT2	Papeete2	39.84	63	eLR	LR	12 07 11.5	
	comp=Z,89nm,24.0s						
PPT2				eLR	LR	12 07 17.4	
	comp=Z,82nm,25.0s						
PPT2	Papeete2	39.84	63	eT	T	12 38 25.8	
	comp=Z,8.3nm,0.3s						
PPT	Papeete	39.85	63	LR	LR	12 09 00.2	
	comp=Z,94nm,19.3s,baz=204,slow=31						
TVO	Taravao	39.91	63	eT	T	12 38 26.3	
	comp=Z,3.6nm,0.3s						
WR0	Warramunga Arr	39.92	292	P	P	11 56 00.2	-2.6
WR0				IAmb	IAmb	11 56 30.7	
	comp=Z,10nm,1.4s						
WB2	Warramunga Arr	40.06	292	P	P	11 56 02.2	-1.8
WB2				IAmb	IAmb	11 56 17.1	
	comp=Z,6.1nm,0.9s						
WRAB	Tennant Creek	40.07	292	P	P	11 56 03.1	-1.0
WRAB				IAmb	IAmb	11 56 08.0	
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	40.07	292	P	P	11 56 03.2	-0.9
WRA	Warramunga Arr	40.07	292	P	P	11 56 03.7	-0.4
	comp=Z,2.2nm,0.6s,baz=128,slow=8.4,SNR=26						
WRA				PcP	PcP	11 58 08.1	-0.9
	comp=Z,0.3nm,0.5s,baz=142,slow=2.9,SNR=6.9						
	comp=Z,2.2nm,0.6s						
WB0	Warramunga Arr	40.15	292	P	P	11 56 04.5	-0.3
WB0				IAmb	IAmb	11 56 44.1	
	comp=Z,12nm,1.4s						
VAH	Vaihoa	42.82	62	eT	T	12 42 36.6	
	comp=Z,6.6nm,0.2s						
NWAO	Narrogin (SRO)	45.00	263	LR	LR	12 12 14.3	
	comp=Z,62nm,19.7s,baz=262,slow=32						
MTN	Manton Dam	47.24	296	P	P	11 57 01.2	-0.7
RPN	Rapa Nui	62.93	103	LR	LR	12 22 19.2	
	comp=Z,58nm,18.0s,baz=236,slow=32						
SNAA	Sanae	66.05	181	P	P	11 59 13.1	-1.9
KSRS	Korea Array	89.92	325	P	P	12 01 28.7	+1.2
	comp=Z,2.0nm,0.9s,baz=160,slow=3.9,SNR=3.2						
	comp=Z,2.0nm,0.9s						
CMAR	Chiang Mai Arr	91.64	294	P	P	12 01 37.4	+1.4
	comp=Z,1.8nm,0.8s,baz=150,slow=3.4,SNR=10						
	comp=Z,1.8nm,0.8s						
NNA	Nana	95.78	112	LR	LR	12 36 19.9	
	comp=Z,70nm,19.1s,baz=198,slow=30						
CPUP	Villa Florida	96.83	135	LR	LR	12 39 54.8	
	comp=Z,107nm,18.1s,baz=224,slow=32						
XLT	XiLinHaoTe	100.38	322	eP	Pdif	12 02 24.3	+9.0
XLT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,100nm,4.4s						
YKA	Yellowknife Ar	119.25	30	PKP	PKiKP	12 07 17.2	+0.3
	comp=Z,1.2nm,0.8s,baz=237,slow=1.8,SNR=14						
MKAR	Makanchi Array	120.19	307	PKP	PKPdf	12 07 19.0	-0.2
	comp=Z,0.4nm,0.6s,baz=117,slow=6.9,SNR=3.8						
KURBB	Kurchatov Arra	124.23	310	PKP	PKPdf	12 07 25.0	-1.7
	comp=Z,0.9nm,0.7s,baz=113,slow=1.9,SNR=7.6						
BVAR	Borovoye Array	129.82	310	PKP	PKiKP	12 07 38.2	0.0
	comp=Z,0.7nm,0.7s,baz=101,slow=3.1,SNR=4.5						
MMAI	Mount Meron Ar	146.05	268	PKPbc	PKPdf	12 08 08.3	+0.5
	comp=Z,0.6nm,0.2s,baz=90,slow=4.3,SNR=4.1						
ARCES	ARCESS Array B	148.41	339	PKPbc	PKPbc	12 08 13.5	-0.5
	comp=Z,3.2nm,0.8s,baz=68,slow=5.9,SNR=3.7						
TORD	Torodi Ar. Bea	149.91	196	PKPbc	PKPbc	12 08 20.1	+0.7
	comp=Z,2.9nm,0.9s,baz=152,slow=1.2,SNR=13						
BRTR	Keskin Array B	150.04	278	PKPbc	PKPbc	12 08 19.2	0.0
	comp=Z,4.5nm,0.9s,baz=134,slow=4.2,SNR=16						
FINES	FINESS Array B	153.01	326	PKPbc	PKPbc	12 08 24.8	-0.3
	comp=Z,2.6nm,0.8s,baz=56,slow=3.7,SNR=4.7						
AKASG	Malin Array Be	154.53	301	PKPbc	PKiKP	12 08 31.5	+2.7
	comp=Z,0.3nm,0.3s,baz=78,slow=4.3,SNR=1.9						

NOU ***19*** *11:53:09.9,21.˚65S×169.˚32E, h0km, MLv4.2/9, Southeast of Loyalty Islands*
IDC ***19*** *11:53:15.2±3.3,21.˚69S×168.˚81E, h0km, mb3.7/3, mbtmp3.7/4, ML3.4/1, MS3.2/1, Error ellipse: s-maj=202.0km s-min=25.8km az=161.0*

ISC 19 11:53:18.5±1.4, 21.˚6S±0.˚1×168.˚9E±0.˚1, h29km, n15, σ0s72/15, mb3.8/3, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	0.79	281	P	Pn	11 53 32.5	-1.2
PINNC	Pines Island,	1.63	233	P	Pn	11 53 44.5	-0.8
LIFNC	LIFOU	1.74	299	P	Pn	11 53 46.0	-0.8
YATNC	Mamie plateau,	1.88	257	P	Pn	11 53 48.1	-0.6
OUENC	Ouen Island, N	2.03	247	P	Pn	11 53 51.1	+0.3
DZM	Mont Dzumac	2.29	259	P	Pn	11 53 54.8	+0.4
DZM	Mont Dzumac	2.29	259	Pn	Pn	11 53 54.4	-0.1
	12nm,0.3s,baz=124,slow=14,SNR=95						
DZM				Sn	Sn	11 54 21.7	0.0
	44nm,0.3s,baz=117,slow=21,SNR=14						
	50nm,0.5s						
ONTNC	Ouen Toro	2.33	253	P	Pn	11 53 55.1	+0.1
NOUC	Port Laguerre	2.42	258	P	Pn	11 53 56.4	+0.2
KOUNC	Koumac, New Ca	4.41	283	P	Pn	11 54 24.8	+1.3
RPZ	Rata Peaks	22.09	176	LR	LR	12 05 38.3	
	comp=Z,68nm,21.2s,baz=53,slow=34						
ASAR	Alice Springs	32.28	260	P	P	11 59 45.0	0.0
	0.9nm,0.7s,baz=84,slow=9.3,SNR=12						
	0.9nm,0.7s						
WRA	Warramunga Arr	32.28	267	P	P	11 59 45.1	+0.1
	0.5nm,0.6s,baz=97,slow=8.1,SNR=6.9						
	0.5nm,0.6s						
NVAR	Mina Array Bea	90.64	49	P	P	12 06 19.3	+0.6
	0.4nm,0.8s,baz=229,slow=7.7,SNR=2.8						
	0.4nm,0.8s						
GERES	GERESS Array B	146.40	330	PKPbc	PKiKP	12 12 58.9	-0.9
	1.4nm,0.7s,baz=45,slow=2.9,SNR=5.5						

IDC 19 12:38:44.7±8.1, 3.˚68S×150.˚52E, h86km±84km, mb3.5/3, mbtmp3.8/3, Error ellipse: s-maj=127.4km s-min=22.8km az=133.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.62	113	P	Pn	12 39 11.7	-0.1
	320nm,0.5s,baz=175,slow=2.5,SNR=49						
KRVT				S	Sn	12 39 27.9	-4.6
	382nm,0.5s,baz=141,slow=21,SNR=10						
WRA	Warramunga Arr	22.59	223	P	P	12 43 39.1	+0.7
	3.2nm,0.4s,baz=50,slow=10,SNR=74						
	3.2nm,0.4s						
ASAR	Alice Springs	25.54	217	P	P	12 44 05.2	-0.5
	0.6nm,0.3s,baz=49,slow=8.9,SNR=12						
	0.6nm,0.3s						
ILAR	Eielson Array	82.00	23	P	P	12 50 54.9	-0.1
	0.4nm,0.9s,baz=251,slow=5.8,SNR=2.4						
	0.4nm,0.9s						
TORD	Torodi Ar. Bea	147.80	289	PKPbc	PKPbc	12 58 20.1	-0.7
	0.2nm,0.3s,baz=71,slow=2.5,SNR=7.3						

IDC ***19*** *12:40:57.4±0.9, 9.˚27N×126.˚41E, h0km, mb3.8/7, mbtmp3.8/8, ML4.1/1, MS3.5/2, Error ellipse: s-maj=36.0km s-min=13.9km az=94.0*
NEIC ***19*** *12:40:59.1±2.3, 9.˚17N±0.˚06×126.˚3E±0.˚1, h10km±1km, mb4.5/14, Error ellipse: s-maj=19.0km s-min=6.3km az=299.0*

ISC 19 12:40:58.7±0.6, 9.˚20N±0.˚07×126.˚3E±0.˚1, h10km, n40, σ1s00/33, mb4.3/15, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.24	199	Pn	Pn	12 41 34.9	-1.0
DAV	Davao City (W)	2.24	199	Pn	Pn	12 41 37.2	+1.3
	52nm,0.3s,baz=65,slow=5.5,SNR=5.3						
DAV				Lg	Lg	12 42 12.0	
	104nm,0.3s,baz=340,slow=22,SNR=4.8						
	154nm,0.3s						
MYLDM	Lahad Datu	8.72	243	Pn	Pn	12 43 05.4	+0.5
YULB	Yu-li	14.90	342	Pn	Pn	12 44 28.7	-0.9
MTN	Manton Dam	22.42	168	P	P	12 45 59.0	+1.2
MYKOM	Kota Tinggi	23.52	253	P	P	12 46 07.3	-2.0
MYKOM				IAmb	IAmb	12 46 32.5	
	comp=Z,33nm,1.3s						
KNRA	Kununurra	24.84	174	P	P	12 46 21.1	-0.3
KNRA				IAmb	IAmb	12 46 34.8	
	comp=Z,25nm,1.3s						
WRAB	Tennant Creek	30.02	165	P	P	12 47 06.4	-1.5
WRAB				IAmb	IAmb	12 47 25.0	
	comp=Z,7.9nm,1.3s						
WRA	Warramunga Arr	30.02	165	P	P	12 47 06.1	-1.8
WRA	Warramunga Arr	30.02	165	P	P	12 47 08.0	+0.1
	comp=Z,0.4nm,0.8s,baz=346,slow=9.3,SNR=2.3						
	comp=Z,0.4nm,0.8s						
WB2	Warramunga Arr	30.02	165	P	P	12 47 06.3	-1.6
WB2				IAmb	IAmb	12 47 49.4	
	comp=Z,5.5nm,1.0s						
MBWA	Marble Bar	30.86	192	P	P	12 47 16.0	+0.7
AS31	Alice Springs	33.50	167	P	P	12 47 38.4	-0.1
ASAR	Alice Springs	33.50	167	P	P	12 47 37.1	-1.4
ASAR	Alice Springs	33.50	167	P	P	12 47 38.0	-0.5
	comp=Z,0.4nm,0.6s,baz=342,slow=7.3,SNR=1.7						
ASAR				LR	LR	13 02 58.5	
	comp=Z,39nm,18.4s,baz=4.0,slow=39						
	comp=Z,0.4nm,0.6s						
USRK	Ussuriysk Ar.	35.21	7	P	P	12 47 53.0	0.0
USRK	Ussuriysk Ar.	35.21	7	P	P	12 47 52.7	-0.4
	comp=Z,1.7nm,0.8s,baz=190,slow=7.9,SNR=2.4						
	comp=Z,1.7nm,0.8s						
H11S3	WAKE ISLAND Hy	40.20	72	T	T	13 31 42.9	
	baz=262,slow=74,SNR=18						
H11S1	WAKE ISLAND Hy	40.21	72	T	T	13 31 43.1	
	baz=262,slow=74,SNR=14						
H11S2	WAKE ISLAND Hy	40.21	72	T	T	13 31 45.8	
	baz=262,slow=74,SNR=8.3						
H11N1	WAKE ISLAND Hy	40.56	70	T	T	13 32 18.3	
	baz=265,slow=74,SNR=4.5						
H11N2	WAKE ISLAND Hy	40.57	70	T	T	13 32 21.4	
	baz=265,slow=74,SNR=4.5						
H11N3	WAKE ISLAND Hy	40.58	70	T	T	13 32 20.9	
	baz=265,slow=74,SNR=4.3						
BBOO	Buckleboo	42.80	168	P	P	12 48 56.5	-0.2
ARMA	Armidale	46.30	149	P	P	12 49 23.6	-1.3
PETK	Petropavlovsk-	50.59	24	P	P	12 49 57.5	0.0
	comp=Z,1.9nm,0.8s,baz=239,slow=8.2,SNR=1.4						
	comp=Z,1.9nm,0.8s						
MK31	Makanchi Array	52.90	323	P	P	12 50 15.0	0.0
MK31				IAmb	IAmb	12 50 59.2	
	comp=Z,5.0nm,1.2s						
MKAR	Makanchi Array	52.90	323	P	P	12 50 15.7	+0.7
MKAR	Makanchi Array	52.90	323	P	P	12 50 15.3	+0.4
	comp=Z,1.9nm,0.8s,baz=125,slow=7.9,SNR=10						
	comp=Z,1.9nm,0.8s						
ZALV	Zalesovo Beam	55.58	332	P	P	12 50 33.6	-0.7
ZALV	Zalesovo Beam	55.58	332	P	P	12 50 34.1	-0.2
	comp=Z,0.5nm,0.6s,baz=100,slow=6.0,SNR=2.1						
	comp=Z,0.5nm,0.6s						
KURK	Kurchatov	56.97	326	P	P	12 50 43.4	-0.9
KURK				IAmb	IAmb	12 50 46.4	
	comp=Z,4.5nm,1.1s						
KURBB	Kurchatov Arra	56.97	326	P	P	12 50 44.2	-0.1
	comp=Z,1.0nm,0.6s,baz=125,slow=6.6,SNR=7.7						
	comp=Z,1.0nm,0.6s						
KKAR	Karatay Array	59.03	315	P	P	12 50 58.9	-0.1
TIXI	Tiksi	62.41	1	P	P	12 51 23.5	+2.1
TIXI				IAmb	IAmb	12 51 25.2	
	comp=Z,7.8nm,1.1s						
BVAR	Borovoye Array	62.56	326	LR	LR	13 18 30.9	
	comp=Z,58nm,20.6s,baz=111,slow=36						
BRVK	Borovoye	62.63	326	P	P	12 51 22.4	-0.9
BRVK				IAmb	IAmb	12 51 41.2	
	comp=Z,3.1nm,1.1s						
ABKAR	Akbulak array	67.71	320	P	P	12 51 56.6	+0.4
TORD	Torodi Ar. Bea	120.69	291	PKP	PKiKP	12 59 52.7	+0.6
	comp=Z,1.4nm,1.0s,baz=27,slow=4.6,SNR=3.6						
PLCA	Paso Flores	145.21	157	PKPbc	PKPdf	13 00 37.5	+0.4
	comp=Z,1.4nm,0.8s,baz=177,slow=4.1,SNR=3.9						

IDC 19 12:46:40.4±380.0, 66.˚85N×42.˚67E, h0km, Error ellipse: s-maj=243.7km s-min=132.1km az=44.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	18.23	147	I	I	14 38 40.0	
	baz=342,slow=319,SNR=0.9						
I46RU	ZALESOVO INFRA	23.92	102	I	I	15 10 10.0	
	baz=320,slow=322,SNR=1.6						
I18DK	QAANAAQ INFRAS	30.22	336	I	I	15 51 40.0	
	baz=50,slow=341,SNR=1.5						
I34MN	SONGINO INFRAS	37.22	88	I	I	16 37 00.0	
	baz=322,slow=320,SNR=0.4						

WEL ***19*** *12:53:05.8±0.4,40.˚3S±2.˚5×17.˚5E±.˚, h16km±6km, M3.4/17, ML3.7/18, MLv3.4/17, Error ellipse: s-maj=0.0km s-min=0.0km az=82.8, confirmed*
NOU ***19*** *12:53:06.7,40.˚14S×174.˚86E, h71km, MLv3.4/10, Cook Strait, New Zealand*

ISC 19 12:53:06.2±1.0, 40.˚13S±0.˚02×174.˚86E±0.˚03, h29km±10km, n120, σ0s82/130, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHWZ	Ohakea	0.36	103	P	Pb	12 53 14.6	+0.1
OHWZ				S	Sn	12 53 21.1	-0.5
WAZ	Wanganui	0.38	15	P	Pb	12 53 15.1	+0.3
OGWZ	Otaki Gorge	0.73	161	P	Pb	12 53 20.1	-0.3
OGWZ				S	Sb	12 53 29.8	-0.3
KIWZ	Kapiti Island	0.74	177	P	Pb	12 53 19.8	-0.7
KIW				S	Sb	12 53 29.1	-1.2
POWZ	Post Office Ro	0.74	111	P	Pb	12 53 20.7	0.0
POWZ				S	Sb	12 53 31.1	+0.6
LREZ	Lake Rotokare	0.75	332	P	Pn	12 53 21.2	+0.3
MRZ	Mangatainoka R	0.77	134	P	Pn	12 53 20.9	-0.1
MRZ				S	Sb	12 53 31.6	+0.4
TSZ	Takapari Road	0.85	86	P	Pb	12 53 22.0	-0.4
TSZ				S	Sb	12 53 33.7	+0.2
MTVZ	Mangateitei	0.88	33	P	Pb	12 53 22.2	-0.8
MTVZ				S	Sn	12 53 35.4	+0.9
PKVZ	Pokaka	0.92	24	P	Pb	12 53 22.6	-1.0
HOWZ	Holdsworth Sta	0.92	147	P	Pb	12 53 23.1	-0.5
HOWZ				S	Sn	12 53 36.0	+0.4
PRWZ	Pori Road	0.95	117	P	Pn	12 53 24.4	+0.8
WNVZ	Wahianoa	0.98	36	P	Pb	12 53 23.7	-1.1
TRVZ	Turoa	0.98	33	P	Pb	12 53 23.6	-1.2
TRVZ				S	Sb	12 53 37.0	-0.5
DUWZ	D'Urville Isla	0.98	226	P	Pb	12 53 23.5	-1.2
CAW	Cannon Point	0.99	171	P	Pb	12 53 23.9	-0.9
MOVZ	Moawhango	0.99	44	P	Pb	12 53 23.5	-1.4
MOVZ				S	Sb	12 53 37.0	-0.7
VRZ	Vera Road	1.00	356	P	Pb	12 53 24.5	-0.4
WHVZ	Whangaehu Hut	1.01	34	P	Pb	12 53 24.1	-1.2
MAVZ	Matarangi	1.01	33	P	Pb	12 53 24.1	-1.3
DVHZ	Dannevirke	1.02	100	P	Pn	12 53 25.4	+0.8
TIWZ	Tintock	1.02	130	P	Pn	12 53 25.4	+0.8
FWVZ	Far West T-bar	1.02	32	P	Pb	12 53 24.3	-1.2
NEZ	North Egmont	1.04	325	P	Pn	12 53 25.7	+0.8
NMEZ	Namu Road	1.04	313	P	Pn	12 53 25.6	+0.8
PNHZ	Pukenui	1.05	79	P	Pn	12 53 25.1	0.0
TUVZ	Tukino	1.05	36	P	Pb	12 53 24.9	-1.1
KHEZ	Kahui Hut	1.05	322	P	Pn	12 53 26.0	+0.9
KHEZ	Kahui Hut	1.05	322	P	Pn	12 53 26.2	+1.0
COVZ	Chateau Observ	1.06	30	P	Pn	12 53 24.7	-0.6
NGUZ	Ngauruhoe	1.11	31	P	Pn	12 53 25.5	-0.4
SNVZ	South Ngauruho	1.11	33	P	Pn	12 53 25.8	-0.2
BHHZ	Black Hill Sta	1.12	56	P	Pn	12 53 25.4	-0.7
MHEZ	Mangahewa	1.13	338	P	Pn	12 53 27.2	+0.2
MTWZ	Mount Morrison	1.14	155	P	Pn	12 53 26.7	+0.4
TWVZ	Taurewa	1.14	23	P	Pn	12 53 25.6	-0.8
OTVZ	Oturere	1.15	33	P	Pn	12 53 26.2	-0.3
NBEZ	Newall Road No	1.15	318	P	Pb	12 53 27.4	-0.1
NNVZ	North Ngauruho	1.15	31	P	Pn	12 53 26.0	-0.6
WTVZ	West Tongariro	1.16	29	P	Pn	12 53 26.1	-0.5
WELZ	Wellington	1.16	183	P	Pn	12 53 26.3	-0.2
TCW	Tory Channel	1.17	202	P	Pn	12 53 26.0	-0.7
ETVZ	East Tongariro	1.19	34	P	Pn	12 53 26.7	-0.3
SNZO	South Karori	1.19	186	P	Pn	12 53 26.9	0.0
KRVZ

h15km±1km, Error ellipse: s-maj=1.9km s-min=1.1km az=99.0

NCEDC 19 12:57:12.3±2.5, 36°754N×0°008×121°46W×0°02, h7km±2km, Md3.0/155, ML2.7/56(NEIC), Error ellipse: s-maj=1.8km s-min=1.1km az=96.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAO	**San Andreas Ge**	**0.01**	**49**		Sg	12 57 14.4	-0.1
SAO	**San Andreas Ge**	**0.01**	**49**	Pg	Pg	12 57 13.4	-0.2
FRP	**Fremont Peak**	**0.02**	**269**		Pg	12 57 13.7	-0.1
BVYM	**Vineyard**	**0.04**	**97**		Pg	12 57 13.8	-0.1
HSFM	**Saint Francis**	**0.07**	**333**		Pg	12 57 15.2	+1.0
BSLM	**Silva Ranch**	**0.09**	**77**		Pg	12 57 15.2	+0.7
BSRM	**Salinas Radio**	**0.10**	**208**		Pg	12 57 14.7	+0.1
HBTM	**San Juan Bauti**	**0.12**	**323**		Pg	12 57 15.2	+0.2
BHRM	**Hodges Ranch**	**0.16**	**99**		Pg	12 57 16.4	+0.7
HTUM	**Tustin Road**	**0.16**	**297**		Pg	12 57 15.8	+0.1
HTUM					Sg	12 57 18.5	+0.6
SCZ	**Santa Cruz**	**0.16**	**163**		Pg	12 57 15.6	-0.1
SCZ					Sg	12 57 18.0	+0.1
ANZ	**Anzar Road**	**0.17**	**322**		Pg	12 57 15.8	0.0
OCR	**O'Connell Ranc**	**0.17**	**347**		Pg	12 57 15.2	-0.6
BJOM	**Mount Johnson**	**0.17**	**136**		Pg	12 57 16.0	+0.2
BJOM					Sg	12 57 18.8	+0.6
HLTM	**Lone Tree Road**	**0.18**	**43**		Pg	12 57 15.2	-0.8
HERM	**Elkhorn Road**	**0.20**	**283**		Pg	12 57 16.9	+0.4
BJCM	**Johnson Can.**	**0.21**	**165**		Pg	12 57 16.5	0.0
BPCNC	**Pine Canyon**	**0.22**	**216**		Pg	12 57 17.2	+0.4
HFEM	**San Felipe**	**0.23**	**12**		Pg	12 57 17.7	+0.7
HCOM	**Corn Cob Canyo**	**0.24**	**304**		Pg	12 57 17.4	+0.3
HCBM	**Chamberlain**	**0.24**	**318**		Pg	12 57 17.8	+0.7
CDC	**Canada Road**	**0.27**	**356**		Pg	12 57 18.4	+0.7
HCAM	**Canada Road**	**0.27**	**356**		Pg	12 57 18.4	+0.7
BVL	**Bear Valley**	**0.28**	**129**		Pg	12 57 17.9	0.0
PACP	**Pacheco Peak**	**0.29**	**29**		Pg	12 57 18.7	+0.6
PACP					Sg	12 57 23.4	+1.5
BEMM	**Emmet**	**0.31**	**107**		Pg	12 57 18.9	+0.5
HLPM	**Lions Peak**	**0.32**	**335**		Pg	12 57 19.1	+0.5
JELB	**Ellicott, Sant**	**0.34**	**301**		Pg	12 57 19.2	+0.2
BPIM	**Pinnacles**	**0.35**	**138**		Pg	12 57 18.9	-0.3
BAVM	**Antelope Valle**	**0.36**	**107**		Pg	12 57 19.9	+0.5
BSMM	**Soledad Missio**	**0.37**	**176**		Pg	12 57 19.7	+0.2
HAST	**Hastings Reser**	**0.37**	**191**		Pg	12 57 19.6	+0.1
HAST					Sg	12 57 24.8	+0.3
SLD	**San Luis Dam**	**0.37**	**31**		Pg	12 57 20.1	+0.5
SLD					Sg	12 57 25.8	+1.2
BSGM	**Shirttail Gulc**	**0.38**	**154**		Pg	12 57 19.3	-0.3
BBGB	**Big Mountain B**	**0.38**	**117**		Pg	12 57 20.5	+0.7
BBGB	**Big Mountain B**	**0.38**	**117**	IAML		12 57 29.7	
	comp=N,3μm,0.8s						
BBGB				IAML		12 57 30.5	
	comp=E,4μm,0.8s						
BBNM	**San Benito**	**0.40**	**128**		Pg	12 57 20.2	+0.2
BPRM	**Ponciano Ridge**	**0.41**	**212**		Pg	12 57 20.4	+0.1
CADM	**Anderson Res.**	**0.43**	**342**		Pg	12 57 21.2	+0.5
JLAB	**Laurel Hill**	**0.46**	**331**		Pg	12 57 21.7	+0.5
LRV	**Little Rabbit**	**0.49**	**133**		Pg	12 57 21.8	+0.1
SCKWR	**San Luis Creek**	**0.53**	**36**		Pb	12 57 23.3	-0.6
CCOB	**Coe Ranch Numb**	**0.53**	**342**		Pb	12 57 23.7	-0.3
BPOM	**Post Ranch**	**0.58**	**205**		Pg	12 57 23.4	-0.1
C072	**Blauer Lane Sa**	**0.58**	**336**		Pb	12 57 24.8	0.0
C054	**Valleyhaven Wa**	**0.59**	**331**		Pb	12 57 24.4	-0.6
ARN	**Arnold Ranch**	**0.60**	**355**		Pg	12 57 24.3	+0.4
MHC	**Mount Hamilton**	**0.60**	**346**		Pg	12 57 24.6	+0.6
JJOM	**Saint Joseph's**	**0.61**	**318**		Pg	12 57 24.3	+0.1
CMPM	**Mikes Peak**	**0.61**	**11**		Pb	12 57 24.8	-0.6
SCCB	**Santa Clara Co**	**0.62**	**329**		Pg	12 57 24.9	+0.6
CMMM	**Mount Mocho**	**0.70**	**358**		Pg	12 57 26.3	+0.5
PCCM	**Crazy Canyon**	**0.70**	**160**		Pg	12 57 25.8	-0.1
CMLM	**Mount Lewis**	**0.74**	**348**		Pb	12 57 27.1	-0.5
CALM	**Calaveras Res.**	**0.75**	**339**		Pb	12 57 27.3	-0.4
HULI	**Fort Hunter Li**	**0.75**	**166**		Pg	12 57 26.5	-0.3
PMPB	**Monarch Peak**	**0.76**	**135**		Pg	12 57 26.5	-0.4
MTOS	**Mt Oso, Westle**	**0.76**	**8**		Pb	12 57 27.5	-0.4
JSJM	**St Joseph**	**0.77**	**319**		Pg	12 57 27.5	+0.4
JBMM	**Black Mountain**	**0.79**	**316**		Pg	12 57 27.5	0.0
JPSM		**0.84**	**302**		Pg	12 57 27.9	-0.5
JFP	**Foothills Park**	**0.84**	**316**		Pg	12 57 28.1	-0.3
PSAM	**San Ardo**	**0.86**	**147**		Pg	12 57 28.3	-0.6
JSFB	**Stanford Teles**	**0.86**	**319**		Pg	12 57 28.7	-0.3
PJUM	**Juniper Ridge**	**0.88**	**127**		Pg	12 57 29.2	+0.1
PPTM	**Peach Tree Val**	**0.88**	**137**		Pg	12 57 28.7	-0.4
CSTL	**Corral Hollow**	**0.88**	**358**		Pb	12 57 30.2	+0.2
JRSC	**Jasper Ridge**	**0.90**	**316**		Pg	12 57 28.9	-0.7
WENL	**Wente Vineyard**	**0.90**	**345**		Pb	12 57 30.0	-0.2
CVLM	**Vallecito**	**0.92**	**341**		Pg	12 57 30.2	+0.2
CNIC	**Niles Canyon**	**0.94**	**335**		Pg	12 57 30.0	-0.4
PDRM	**Domengine Ranc**	**0.97**	**115**		Pb	12 57 31.4	-0.1
PSMM	**Smith Mountain**	**0.98**	**134**		Pg	12 57 30.6	-0.4
PHSB	**Hesperia Broad**	**0.98**	**160**		Pg	12 57 30.6	-0.6
PHPM	**Hope Ranch**	**1.03**	**138**		Pg	12 57 31.3	-0.9
MYLM	**Yosemite Lake**	**1.04**	**53**		Pg	12 57 31.4	-0.9
PWMM	**Westland Maint**	**1.06**	**107**		Pg	12 57 32.6	0.0
PANM	**San Antonio Re**	**1.07**	**155**		Pg	12 57 31.9	-0.9
CMOB	**Morgan Territo**	**1.09**	**346**		Pn	12 57 34.8	+0.7
PHCM	**Hearst Castle**	**1.10**	**167**		Pg	12 57 32.8	-0.6
CSLM	**San Leandro Hi**	**1.10**	**332**		Pg	12 57 32.1	-1.3
PPO	**Portuguese Can**	**1.12**	**142**		Pg	12 57 33.1	-0.7
PVCM	**Vineyard Canyo**	**1.12**	**138**		Pg	12 57 32.5	-1.3
SAC	**San Andreas**	**1.12**	**318**		Pg	12 57 32.5	-1.5
PSTM	**Stockdale Moun**	**1.13**	**137**		Pg	12 57 32.5	-1.4
BGC	**Bolinger Road**	**1.16**	**336**		Pg	12 57 33.4	-1.3
JSBM	**San Bruno Moun**	**1.19**	**321**		Pg	12 57 32.7	-2.4
JMGM	**Milagra Ridge**	**1.20**	**318**		Pg	12 57 33.2	-2.1
PWKM	**Work Ranch**	**1.21**	**140**		Pg	12 57 34.0	-1.6
RAMR	**Ramage Ranch**	**1.21**	**157**		Pg	12 57 33.9	-1.7
PHFM	**Heflinger Ranc**	**1.22**	**135**		Pg	12 57 34.2	-1.5
PHAM	**Harlan Ranch**	**1.26**	**137**		Pn	12 57 34.9	-1.4
BKS	**Berkeley--Byer**	**1.27**	**331**		Pn	12 57 34.8	-1.8
CVPM	**Vollmer Peak**	**1.28**	**332**		Pn	12 57 35.3	-1.4
GHC	**Gold Hill**	**1.28**	**135**		Pn	12 57 34.9	-1.8
PKEM	**Kettleman Hill**	**1.29**	**122**		Pn	12 57 35.5	-1.3
MHDM	**Hidden Dam**	**1.31**	**73**		Pn	12 57 35.3	-1.7
PSRM	**Scobie Ranch**	**1.31**	**133**		Pn	12 57 35.6	-1.5
JPRM	**Presidio of Sa**	**1.32**	**322**		Pn	12 57 35.8	-1.3
PKLM	**Kerr Lake**	**1.33**	**137**		Pn	12 57 36.0	-1.4
ARDC	**Alexander Ranc**	**1.35**	**163**		Pn	12 57 36.0	-1.5
TCAS	**Cass Winery, P**	**1.35**	**147**		Pn	12 57 35.9	-1.8
TCHL	**Shandon**	**1.37**	**141**		Pn	12 57 36.6	-1.2
CPIM	**Pinole Ridge**	**1.37**	**334**		Pn	12 57 36.4	-1.5
PMRM	**Maxey Ranch**	**1.38**	**134**		Pn	12 57 36.6	-1.4
MCUB	**Copperopolis B**	**1.39**	**29**		Pn	12 57 36.6	-1.6
FRI	**Friant**	**1.43**	**80**		Pn	12 57 37.1	-1.5
TRAM	**Private Proper**	**1.44**	**138**		Pn	12 57 37.6	-1.3
PTAM	**Tassajara Cree**	**1.49**	**156**		Pn	12 57 37.9	-1.7
TSCN	**Private Proper**	**1.51**	**143**		Pn	12 57 38.3	-1.4
MMIM	**Miami Mountain**	**1.53**	**64**		Pn	12 57 39.0	-1.1
LSDC	**Los Osos Digit**	**1.54**	**161**		Pn	12 57 40.1	-0.1
CMB	**Columbia Colle**	**1.54**	**33**		Pn	12 57 39.1	-1.1
CMB	**Columbia Colle**	**1.54**	**33**	Pn	Pn	12 57 39.0	-1.2
CMB	**Columbia Colle**	**1.54**	**33**	IAML		12 58 01.5	
	comp=E,73nm,0.7s						
TSCS	**Shell Creek So**	**1.59**	**145**		Pn	12 57 39.0	-1.9
DPD	**Davis Peak**	**1.61**	**160**		Pn	12 57 39.6	-1.6
TRAY	**Twisselman Ran**	**1.61**	**138**		Pn	12 57 40.1	-1.1
PBPM	**Bitterwater Pu**	**1.62**	**136**		Pn	12 57 40.2	-1.1
NOLM	**Olema**	**1.67**	**321**		Pn	12 57 39.8	-2.1
NBRB	**Beebe Ranch Br**	**1.74**	**330**		Pn	12 57 40.8	-2.0
CVS	**Carmenet Viney**	**1.77**	**334**		Pn	12 57 41.5	-1.9
MCCM	**Marconi Confer**	**1.79**	**321**		Pn	12 57 41.2	-2.4
MCCM				IAML		12 58 14.9	
	comp=E,56nm,1.5s						
MCCM				IAML		12 58 15.2	
	comp=N,56nm,1.0s						
MCCM	**Marconi Confer**	**1.79**	**321**		Pn	12 57 41.6	-1.9
SMMC	**Simmler**	**1.86**	**140**		Pn	12 57 43.5	-1.2
NTYM	**Taylor**	**1.89**	**330**		Pn	12 57 43.5	-1.5
CARC	**Carrizo Plain**	**1.95**	**137**		Pn	12 57 44.8	-1.1
MRHM	**Rocky Hill**	**1.97**	**103**		Pn	12 57 44.6	-1.5
PMLM	**Mount Lospe**	**1.98**	**159**		Pn	12 57 44.7	-1.5
CRGC	**Crocker Grade**	**2.06**	**136**		Pn	12 57 46.0	-1.5
MDPB	**Devils Postpil**	**2.10**	**65**		Pn	12 57 48.1	+0.1
MDPB	**Devils Postpil**	**2.10**	**65**	IAML		12 58 22.3	
	comp=N,61nm,0.5s						
MDPB				IAML		12 58 22.4	
	comp=E,76nm,0.6s						
MRDM	**Red Cones**	**2.10**	**66**		Pn	12 57 48.2	+0.1
MINS	**Minaret Summit**	**2.12**	**64**		Pn	12 57 48.6	+0.2
MMPM	**Mammoth Pass**	**2.12**	**66**		Pn	12 57 48.8	+0.2
MLIM	**Lincoln Peak**	**2.14**	**65**		Pn	12 57 49.5	+0.7
OMMB	**Old Mammoth Mi**	**2.14**	**66**		Pn	12 57 49.0	+0.2
OMMB	**Old Mammoth Mi**	**2.14**	**66**	IAML		12 58 21.5	
	comp=N,39nm,0.3s						
MDCM	**Deadman Creek**	**2.15**	**63**		Pn	12 57 49.2	+0.3
MDYM	**Dry Creek**	**2.15**	**64**		Pn	12 57 49.5	+0.5
MMLB	**Mammoth Lakes**	**2.18**	**65**		Pn	12 57 49.9	+0.6
MLCM	**Laurel Creek C**	**2.21**	**66**		Pn	12 57 50.2	+0.5
MEMM	**East Mammoth H**	**2.21**	**65**		Pn	12 57 50.2	+0.6
AFDM	**Forest Hills D**	**2.22**	**10**		Pn	12 57 48.8	-0.9
MCSM	**Casa Diablo Ho**	**2.23**	**65**		Pn	12 57 50.9	+0.9
MCBM	**Casa Benchmark**	**2.23**	**66**		Pn	12 57 50.9	+0.9
MCVM	**Convict Lake**	**2.26**	**68**		Pn	12 57 50.9	+0.5
MLAC	**Mammoth, Mammo**	**2.27**	**67**		Pn	12 57 51.5	+1.0
MDRNC	**Doe Ridge**	**2.27**	**66**		Pn	12 57 51.5	+1.0
WAKR	**Walker**	**2.37**	**42**		Pn	12 57 52.5	+0.6
WAKR				IAML		12 58 24.3	
	comp=E,51nm,0.6s						
WAKR				IAML		12 58 36.4	
	comp=N,38nm,0.8s						
MTUM	**Tungsten Hills**	**2.39**	**75**		Pn	12 57 53.1	+1.0
BHPR	**Bishop**	**2.44**	**76**		Pn	12 57 53.6	+0.8
MGNR	**McGee Canyon**	**2.45**	**64**		Pb	12 57 55.8	-1.0
BCW	**Bitter Crk WRg**	**2.46**	**137**		Pn	12 57 52.3	-0.6
BCW				IAML		12 58 34.4	
	comp=E,64nm,0.8s						
BCW				IAML		12 58 47.9	
	comp=N,44nm,0.7s						
EMB	**Emerald Bay**	**2.46**	**25**		Pn	12 57 54.4	+1.3
EMB	**Emerald Bay**	**2.46**	**25**	IAML		12 58 41.0	
	comp=E,46nm,0.7s						
BENR	**Benton**	**2.50**	**67**		Pn	12 57 55.0	+1.4
MFBM	**Five Bridges**	**2.52**	**74**		Pn	12 57 55.2	+1.5
HOPS	**Hopland Field**	**2.57**	**331**	Pn	Pn	12 57 52.6	-1.8
HOPS				IAML		12 58 48.5	
	comp=E,28nm,3.1s						
HOPS				IAML		12 59 01.3	
	comp=N,29nm,3.1s						
ISA	**Isabella, Lake**	**2.65**	**113**		Pn	12 57 55.3	-0.3
ISA	**Isabella, Lake**	**2.65**	**113**	Pn	Pn	12 57 54.9	-0.6
ISA	**Isabella, Lake**	**2.65**	**113**	IAML		12 58 36.2	
	comp=N,23nm,0.5s						
PNTR	**Pine Nut**	**2.76**	**32**		Pn	12 57 58.1	+1.0
PNTR				IAML		12 58 45.6	
	comp=E,42nm,0.9s						
MPK	**Martis Peak**	**2.78**	**24**		Pn	12 57 56.2	-1.3
ORV	**Oroville**	**2.80**	**359**		Pn	12 57 55.2	-2.3
YERR	**Yerington**	**2.84**	**38**		Pn	12 57 58.1	-0.1
YERR				IAML		12 58 48.8	
	comp=N,34nm,0.7s						
CCAC	**Calif City Air**	**3.22**	**119**		Pn	12 58 03.0	-0.4
CCAC				IAML		12 59 03.5	
	comp=E,21nm,1.1s						
GRAC	**Grapevine Rang**	**3.29**	**85**		Pn	12 58 03.3	-1.0
GRAC				IAML		12 59 03.7	
	comp=N,18nm,0.7s						
GRAC				IAML		12 59 15.5	
	comp=E,19nm,0.8s						
GMN	**Gold Mountain**	**3.41**	**80**		Pn	12 58 06.8	+0.7
KVN	**Kaiserville**	**3.51**	**48**		Pn	12 58 05.4	-2.0
KVN				IAML		12 59 05.4	
	comp=E,11nm,0.6s						
QSM	**Queen of Sheba**	**3.79**	**101**		Pn	12 58 10.6	-0.6
QSM				IAML		12 59 14.8	
	comp=E,8.8nm,3.9s						
WCT	**Wildcat Mounta**	**3.88**	**88**		Pn	12 58 13.6	+1.1
WCT				IAML		12 59 27.8	
	comp=E,8.0nm,4.7s						
WCT				IAML		13 00 36.5	
	comp=N,8.3nm,4.8s						
GSC	**Goldstone, Bar**	**4.04**	**110**		Pn	12 58 14.0	-0.7
GSC				IAML		12 59 36.5	
	comp=E,12nm,3.2s						
TPNV	**Topopah Spring**	**4.18**	**86**		Pn	12 58 17.5	+0.8
TPNV				IAML		12 59 34.7	
	comp=E,8.5nm,1.1s						
TPNV				IAML		12 59 38.9	
	comp=E,10nm,1.6s						
S11A	**Rachel**	**4.65**	**77**		Pn	12 58 23.0	0.0

*TEH **19** 13:02:29.8, 30°78N×57°27E, h9km±58km, ML4.1*
*IDC **19** 13:02:30.3±1.0, 30°67N×57°29E, h0km, mb4.0/19, mbtmp4.0/23, ML3.8/4, MS3.4/4, Error ellipse: s-maj=20.7km s-min=14.7km az=176.0*
*NEIC **19** 13:02:32.9±1.6, 30°81N±0°08×57°3E±0°1, h10km±1km, mb4.5/28, Error ellipse: s-maj=17.7km s-min=13.2km az=100.0*
*OMAN **19** 13:02:33.6±0.5, 30°86N×57°03E, h10km, mb4.6/12, ml3.1/2, ms2.8/2, Error ellipse: s-maj=8.2km s-min=6.3km az=23.0*
*DSN **19** 13:02:49.4±1.8, 29°56N×57°64E, h15km, ML3.4/6, Error ellipse: s-maj=98.2km s-min=15.4km az=103.0*

ISC 19 13:02:32.5±0.4, 30°81N±0°04×57°27E±0°03, h10km, n146, σ1s82/163, mb4.3/39, 1C, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.31**	**180**	Pg	**Pg**	**13 02 36.9**	**-1.9**
ZRDN	**Zarand Kerman**	**0.65**	**284**	Pg	**Pg**	**13 02 44.3**	**-0.9**
KHGB	**Koh Gabri**	**0.81**	**238**	Pg	**Pg**	**13 02 46.2**	**-2.1**
KHGB				Sg	**Sg**	**13 02 56.8**	**-2.1**
TVBK	**TV Kerman**	**0.94**	**208**	Pg	**Pg**	**13 02 49.2**	**-1.4**
CHMN	**Cheshme madani**	**0.98**	**166**	Pg	**Pg**	**13 02 48.7**	**-2.8**
NGRK	**Negar Kerman**	**1.26**	**202**	Pg	**Pn**	**13 02 55.0**	**-1.5**
IBAF	**Bafgh**	**1.65**	**298**	Pg	**Pn**	**13 03 02.6**	**+0.8**
BSRN	**Basiran**	**1.96**	**54**	Pn	**Pn**	**13 03 06.1**	**+0.1**
KBAM	**BAM**	**1.96**	**148**	Pn	**Pn**	**13 03 05.6**	**-0.4**
IKOO	**Kooshah**	**2.18**	**42**	Pn	**Pn**	**13 03 09.3**	**+0.2**
TPRV	**Parvadeh(Tabas**	**2.26**	**347**	Pn	**Pn**	**13 03 10.8**	**+0.7**
IMEH	**Mehriz**	**2.35**	**285**	Pn	**Pn**	**13 03 12.8**	**+1.3**
ITEG	**Tejag**	**2.43**	**31**	Pn	**Pn**	**13 03 12.7**	**+0.3**
NHDN	**Nehbandan**	**2.45**	**76**	Pn	**Pn**	**13 03 13.0**	**+0.3**
TKDS	**Koohdasht(Taba**	**2.79**	**357**	Pn	**Pn**	**13 03 18.3**	**+0.8**
ICHK	**Chekchek**	**2.83**	**301**	Pn	**Pn**	**13 03 20.3**	**+2.2**
KHNJ	**Kahnooj**	**2.88**	**172**	Pn	**Pn**	**13 03 18.9**	**+0.4**
IDAH	**Dahanechah**	**2.93**	**48**	Pn	**Pn**	**13 03 19.6**	**+0.2**
AFRZ	**Afriz**	**2.99**	**29**	Pn	**Pn**	**13 03 20.8**	**+0.5**
TNSJ	**Nastanj**	**3.19**	**350**	Pn	**Pn**	**13 03 23.5**	**+0.6**
ISAD	**Sadrabad**	**3.26**	**291**	Pn	**Pn**	**13 03 25.5**	**+1.6**
ZHDN	**Zahedan**	**3.38**	**114**	Pn	**Pn**	**13 03 25.9**	**+0.4**
GENO	**Geno**	**3.54**	**196**	Pn	**Pn**	**13 03 29.3**	**+1.6**
SHRT	**Shahrakht**	**3.81**	**41**	Pn	**Pn**	**13 03 32.4**	**+1.0**
ANAR	**Anarak**	**3.83**	**309**	Pn	**Pn**	**13 03 32.9**	**+1.2**
IZEF	**Zefreh**	**4.69**	**298**	Pn	**Pn**	**13 03 44.9**	**+1.3**
SHME	**Shamm**	**4.85**	**192**	P	**Pn**	**13 03 45.8**	**+0.2**
SHME	**Shamm**	**4.85**	**192**	P	**Pn**	**13 03 47.2**	**+1.6**
SHME				S	**Sn**	**13 04 42.6**	**+0.8**
TBHD	**Torbat heydari**	**4.87**	**19**	Pn	**Pn**	**13 03 47.9**	**+1.8**
KLNJ	**Kolanjah**	**4.88**	**274**	Pn	**Pn**	**13 03 48.4**	**+2.0**
BANOM	**Banah**	**4.95**	**190**	P	**Pn**	**13 03 48.9**	**+1.9**
BANOM	**Banah**	**4.95**	**190**	P	**Pn**	**13 03 46.4**	**-0.5**
BANOM				S	**Sn**	**13 04 49.2**	**+4.9**
JASK	**Jask - Hormozg**	**4.96**	**174**	P	**Pn**	**13 03 48.8**	**+1.8**
	SNR=19						
JASK	**Jask - Hormozg**	**4.96**	**174**	Pn	**Pn**	**13 03 48.1**	**+1.0**
TBJM	**Torbat-e-JAM**	**5.13**	**29**	Pn	**Pn**	**13 03 50.9**	**+1.3**
KRSH	**Karshahi**	**5.36**	**307**	Pn	**Pn**	**13 03 54.0**	**+1.2**
MASF	**Masafi**	**5.51**	**191**	P	**Pn**	**13 03 56.8**	**+2.0**
	SNR=7.2						
MSFE	**Esma-Masafi**	**5.52**	**191**	P	**Pn**	**13 03 55.6**	**+0.7**
SBZV	**Sabzevar**	**5.57**	**3**	Pn	**Pn**	**13 03 57.1**	**+1.5**
SRVN	**Saravan**	**5.63**	**126**	Pn	**Pn**	**13 03 58.4**	**+0.3**
JRKH	**Jarkhoshk**	**5.70**	**26**	Pn	**Pn**	**13 03 58.5**	**+1.2**
IPIR	**Pirpir**	**5.75**	**291**	Pn	**Pn**	**13 03 59.9**	**+1.7**
JHBN	**Jahan bin**	**5.81**	**286**	Pn	**Pn**	**13 04 01.2**	**+2.0**
UOSS	**Minazif**	**5.92**	**189**	Pn	**Pn**	**13 03 59.6**	**-0.7**
UOSS	**Minazif**	**5.92**	**189**	P	**Pn**	**13 04 00.9**	**+0.5**
UOSS	**Minazif**	**5.92**	**189**	P	**Pn**	**13 04 02.9**	**+2.5**
UOSS				S	**Sn**	**13 05 12.2**	**+3.9**
NAZ	**Nazwa, Dubai**	**5.98**	**194**	P	**Pn**	**13 04 04.0**	**+2.9**
NAZ				S	**Sn**	**13 05 09.5**	**-0.1**
HATD	**Hatta, Dubai**	**6.05**	**190**	P	**Pn**	**13 04 03.6**	**+1.5**
HATD	**Hatta, Dubai**	**6.05**	**190**	P	**Pn**	**13 04 04.5**	**+2.4**
HATD				S	**Sn**	**13 05 11.5**	**+0.1**
IFIR	**Firoozkooh**	**6.12**	**323**	Pn	**Pn**	**13 04 04.4**	**+1.1**
ASHO	**Ashiyiah**	**6.20**	**190**	P	**Pn**	**13 04 03.9**	**-0.4**
ASHO				S	Sn	13 05 04.3	-11
ASHO	**Ashiyiah**	**6.20**	**190**	P	**Pn**	**13 04 06.4**	**+2.1**
	SNR=9.6						
ASHO				S	**Sn**	**13 05 20.4**	**+5.1**
FAQ	**Al Faqa, Dubai**	**6.23**	**194**	P	**Pn**	**13 04 07.5**	**+3.0**
FAQ				S	**Sn**	**13 05 17.0**	**+1.2**
IKRD	**Kardeh**	**6.23**	**17**	Pn	**Pn**	**13 04 07.0**	**+2.1**
ISFR	**Sfrayin**	**6.25**	**5**	Pn	**Pn**	**13 04 06.8**	**+1.7**
IVRN	**Varamin**	**6.25**	**313**	Pn	**Pn**	**13 04 07.1**	**+2.2**
IGLO	**Ghaloghah**	**6.36**	**334**	Pn	**Pn**	**13 04 07.5**	**+1.0**
ASUD	**Al Ashush, Dub**	**6.40**	**196**	P	**Pn**	**13 04 09.0**	**+2.1**
NGCH	**Negor - Chabah**	**6.42**	**147**	P	**Pn**	**13 04 10.8**	**+3.7**
IDMV	**Damavand**	**6.47**	**319**	Pn	**Pn**	**13 04 09.7**	**+1.6**
IEMG	**Emamgholi**	**6.68**	**9**	Pn	**Pn**	**13 04 12.2**	**+1.1**
SOHO	**SOHO**	**6.69**	**186**	P	**Pn**	**13 04 11.2**	**+0.3**
MRVT	**Maraveh tapeh**	**6.90**	**352**	Pn	**Pn**	**13 04 15.0**	**+1.2**
GEYT	**Alibeck**	**7.13**	**5**	Pn	**Pn**	**13 04 15.5**	**-1.5**
GEYT	**Alibeck**	**7.13**	**5**	Pn	**Pn**	**13 04 18.1**	**+1.1**
	0.6nm,0.3s,baz=171,slow=12,SNR=3.1						
GEYT					Sn	**13 05 38.0**	**-0.1**
	baz=236,slow=23						
GEYT					Lg	Lg	13 06 19.9
	0.5nm,0.3s,baz=56,slow=48,SNR=2.6						
GEYT					LR	LR	13 07 31.4
	comp=E,274nm,18.3s,baz=178,slow=41 1.5nm,0.3s						
GYA0B	**ALIBECK ARRAY**	**7.13**	**5**			**Pn**	**13 04 16.1**	**-0.9**
HOQ	**Hoqain**	**7.20**	**180**	P		**Pn**	**13 04 19.2**	**+1.3**
HOQ				S		**Sn**	**13 05 42.8**	**+2.9**
WSAR	**Wadi Sarin**	**7.64**	**171**	P		**Pn**	**13 04 24.9**	**+0.9**
	SNR=17							
WSAR	**Wadi Sarin**	**7.64**	**171**	Pn		**Pn**	**13 04 24.8**	**+0.8**
	3.7nm,0.3s,baz=7.7,slow=8.4,SNR=38							
WSAR						Sn	**13 05 44.9**	**-5.8**
	baz=140,slow=9.6							
SMDO	**Samad**	**7.75**	**175**	P		**Pn**	**13 04 27.7**	**+2.0**
SMDO				P		**Pn**	**13 04 27.7**	**+2.0**
BSY	**Bisya**	**8.04**	**180**	P		**Pn**	**13 04 31.9**	**+2.4**
BSY				S		**Sn**	**13 06 07.3**	**+6.9**
TRNA	**Turayna**	**8.09**	**223**	P		**Pn**	**13 04 29.8**	**-0.3**
	SNR=6.7							
TRNA				S		**Sn**	**13 06 00.4**	**-1.3**
WBK	**Wadi Bani Khal**	**8.31**	**169**	P		**Pn**	**13 04 33.7**	**+0.5**
WBK				S		**Sn**	**13 06 15.6**	**+8.5**
SMRA	**Abu-Samra**	**8.31**	**225**	P		**Pn**	**13 04 32.9**	**-0.2**
SMRA				S		**Sn**	**13 06 06.8**	**-0.4**
JMDO	**Jabal Madar**	**8.44**	**175**	P		**Pn**	**13 04 37.6**	**+2.6**
MHTO	**MHTO**	**9.81**	**176**	P		**Pn**	**13 04 54.4**	**+0.7**
MHTO				P		**Pn**	**13 04 54.4**	**+0.7**
**

TOA0	**Torodi Ar. Sit**	**53.92**	**264**	P	**P**	**13 11 55.7**	**-0.8**
TOA0				IAmb	IAmb	13 11 58.0		
	comp=Z,3.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**53.92**	**264**	P	**P**	**13 11 55.2**	**-1.4**
TORD	**Torodi Ar. Bea**	**53.92**	**264**	P	**P**	**13 11 55.9**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=51,slow=7.8,SNR=18							
	comp=Z,2.5nm,0.8s							
HEH	**HeiHe**	**54.66**	**48**	*eP*	**P**	**13 12 01.1**	**-0.4**
HEH				pmax	pmax			
	comp=Z,4.0nm,1.1s							
KSRS	**Korea Array**	**57.62**	**63**	P	**P**	**13 12 22.4**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=272,slow=6.7,SNR=2.9							
	comp=Z,1.2nm,0.8s							
B20K	**Meade River**	**76.43**	**12**	P	**P**	**13 14 22.2**	**+0.3**
C18K	**Utukok River**	**76.84**	**14**	P	**P**	**13 14 25.1**	**+0.8**
A36M	**Sachs Harbour**	**77.47**	**1**	P	**P**	**13 14 27.6**	**-0.1**
A36M				IAmb	IAmb	13 14 30.6		
	comp=Z,3.9nm,0.7s							
C23K	**Itkillik River**	**77.62**	**10**	P	**P**	**13 14 28.9**	**+0.3**
E19K	**Redstone River**	**78.64**	**13**	P	**P**	**13 14 35.3**	**+1.0**
E19K				IAmb	IAmb	13 14 55.8		
	comp=Z,6.6nm,1.3s							
TOLK	**Toolik Lake Re**	**78.87**	**10**	P	**P**	**13 14 36.4**	**+0.8**
TOLK				IAmb	IAmb	13 15 18.7		
	comp=Z,9.7nm,1.5s							
E25K	**Arctic Village**	**79.90**	**8**	P	**P**	**13 14 42.4**	**+1.2**
E25K				IAmb	IAmb	13 14 48.4		
	comp=Z,5.3nm,1.5s							
E28M	**Babbage River**	**80.10**	**6**	P	**P**	**13 14 43.0**	**+0.8**
C36M	**Paulatuk**	**80.13**	**0**	P	**P**	**13 14 41.8**	**-0.5**
C36M				IAmb	IAmb	13 14 54.1		
	comp=Z,7.9nm,1.5s							
IMAR	**Indian Mountai**	**80.60**	**12**	P	**P**	**13 14 45.9**	**+0.9**
BMAR	**Burnt Mountain**	**80.68**	**8**	P	**P**	**13 14 46.5**	**+1.0**
F31M	**Tsiigehtchic**	**81.70**	**4**	P	**P**	**13 14 51.1**	**+0.3**
F31M				IAmb	IAmb	13 14 54.0		
	comp=Z,6.6nm,1.4s							
J20K	**Nowinta River**	**82.14**	**13**	P	**P**	**13 14 53.2**	**0.0**
G31M	**Satah River**	**82.17**	**5**	P	**P**	**13 14 53.3**	**0.0**
G31M				IAmb	IAmb	13 14 56.3		
	comp=Z,6.7nm,1.4s							
H29M	**Whitestone**	**82.53**	**6**	P	**P**	**13 14 55.5**	**+0.3**
H29M				IAmb	IAmb	13 15 12.7		
	comp=Z,5.1nm,1.4s							
ILAR	**Eielson Array**	**82.87**	**10**	P	**P**	**13 14 56.9**	**0.0**
	comp=Z,0.3nm,0.5s,baz=327,slow=4.8,SNR=8.0							
	comp=Z,0.3nm,0.5s							
J26L	**Joseph Creek**	**83.60**	**9**	P	**P**	**13 15 00.6**	**-0.2**
J26L				IAmb	IAmb	13 15 13.6		
	comp=Z,6.9nm,1.4s							
BCAR	**Beaver Creek A**	**85.21**	**9**	P	**P**	**13 15 09.4**	**+0.4**
ILSW	**Iliamna Southw**	**86.12**	**15**	P	**P**	**13 15 12.6**	**-1.1**
YKA	**Yellowknife Ar**	**86.79**	**356**	P	**P**	**13 15 16.6**	**-0.1**
	comp=Z,0.1nm,0.6s,baz=355,slow=5.1,SNR=4.5							
	comp=Z,0.1nm,0.6s							
WRA	**Warramunga Arr**	**89.52**	**114**	P	**P**	**13 15 29.7**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=313,slow=4.4,SNR=2.1							
	comp=Z,0.2nm,0.5s							

*IDC **19** 13:06:35.7±2.0,5.87S×130.21E, h0km, mb3.8/1, mbtmp3.8/3, ML4.0/2, Error ellipse: s-maj=96.1km s-min=30.7km az=70.0*

ISC 19 13:06:47.3±1.6, 6.2S±0.2×130.0E±0.3, h100km, n11, σ1°76/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**6.75**	**170**	P	**Pn**	**13 08 26.3**	**+2.5**
KDU	**Kakadu**	**6.95**	**159**	P	**Pn**	**13 08 28.8**	**+2.3**
KNRA	**Kununurra**	**9.53**	**187**	P	**Pn**	**13 09 02.3**	**+0.6**
WRA	**Warramunga Arr**	**14.35**	**163**	Pn	**Pn**	**13 10 04.2**	**-1.7**
	0.7nm,0.3s,baz=344,slow=12,SNR=39						
WRA				Sn	Sn	13 12 31.0	-13
	0.5nm,0.3s,baz=339,slow=21,SNR=3.6						
	0.6nm,0.3s						
QIS	**Mount Isa**	**17.11**	**148**	P	**P**	**13 10 40.0**	**-0.5**
ASAR	**Alice Springs**	**17.82**	**168**	P	**P**	**13 10 47.5**	**-0.8**
	0.4nm,0.3s,baz=348,slow=11,SNR=48						
ASAR				S	S	13 13 55.5	-13
	0.5nm,0.8s,baz=349,slow=26,SNR=5.5						
	2.1nm,0.6s						
AS01	**Alice Springs**	**17.83**	**168**	P	**P**	**13 10 47.5**	**-0.9**
	3.6nm,0.8s						
WRKA	**Warakurna**	**18.84**	**185**	P	**P**	**13 10 58.5**	**-1.0**
OOD	**Oodnadatta**	**22.20**	**166**	P	**P**	**13 11 33.2**	**-2.3**
MULG	**Mulgathing**	**24.31**	**171**	P	**P**	**13 11 54.3**	**-1.3**
MKAR	**Makanchi Array**	**67.50**	**327**	P	**P**	**13 17 33.1**	**+0.5**
	0.5nm,0.5s,baz=121,slow=7.9,SNR=6.7						
	0.5nm,0.5s						

*NEIC **19** 13:12:56.9±1.2, 35.86S±0.06×71.5W±0.1, h102km±10km, mb4.2/2, Error ellipse: s-maj=13.1km s-min=7.6km az=118.0*

*GUC **19** 13:12:58.1±0.5, 35.77S×71.43W, h115km±4km, ML4.0*

ISC 19 13:12:56.4±1.0, 35.87S±0.05×71.46W±0.07, h102km±7km, n55, σ0°71/74, 4D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ML02	**Panimavida**	**0.12**	**19**	Pn	**Pn**	**13 13 10.5**	**-0.1**
ML02				Sn	**Sn**	**13 13 20.8**	**-0.5**
ML02	**Panimavida**	**0.12**	**19**	*i* P	**Pn**	**13 13 10.8**	**+0.1**
ML02				*eS*	**Sn**	**13 13 21.0**	**-0.3**
GO05	**Huala**	**0.94**	**336**	Pn	**Pn**	**13 13 17.4**	**+1.0**
GO05				Sn	**Sn**	**13 13 31.5**	**+0.1**
GO05	**Huala**	**0.94**	**336**	*i* P	**Pn**	**13 13 17.4**	**+1.0**
BO02	**Sierra Bellavi**	**1.21**	**28**		**Pn**	**13 13 20.2**	**+0.8**
BO02				Sn	**Sn**	**13 13 37.4**	**+0.5**
BO02	**Sierra Bellavi**	**1.21**	**28**	⇓*i* P	**Pn**	**13 13 20.2**	**+0.8**
BO02				*eS*	**Sn**	**13 13 37.7**	**+0.9**
BO02				IAML		13 13 39.8	
	comp=E,3μm,0.3s						
BO03	**Pichilemu**	**1.43**	**343**	*i* P	**Pn**	**13 13 23.2**	**+1.2**
BO03				*eS*	**Sn**	**13 13 42.0**	**+0.7**
BO03				IAML		13 13 44.0	
	comp=N,2μm,0.3s						
BO01	**Tunca**	**1.51**	**12**		**Pn**	**13 13 23.5**	**+0.6**
BO01	**Tunca**	**1.51**	**12**	⇓*i* P	**Pn**	**13 13 23.6**	**+0.6**
BO01				*eS*	**Sn**	**13 13 43.5**	**+0.5**
BI05	**Punta Hualpn**	**1.65**	**237**	Pn	**Pn**	**13 13 24.8**	**+0.3**
BO04	**La Punta**	**2.01**	**21**		**Pn**	**13 13 29.8**	**+0.6**
BO04	**La Punta**	**2.01**	**21**	*i* P	**Pn**	**13 13 30.1**	**+0.9**
MT01	**Popeta**	**2.01**	**5**		**Pn**	**13 13 29.9**	**+0.7**
MT01	**Popeta**	**2.01**	**5**	⇓*i* P	**Pn**	**13 13 29.9**	**+0.7**
MT09	**Talagante**	**2.13**	**11**		**Pn**	**13 13 31.4**	**+0.6**
MT09	**Talagante**	**2.13**	**11**	*i* P	**Pn**	**13 13 31.4**	**+0.6**
MT09				*eS*	**Sn**	**13 13 57.0**	**-0.2**
MT09				IAML		13 14 01.6	
	comp=N,1μm,0.2s						
VA05	**Santo Domingo**	**2.21**	**357**		**Pn**	**13 13 32.1**	**+0.4**
VA05	**Santo Domingo**	**2.21**	**357**	*i* P	**Pn**	**13 13 32.2**	**+0.4**
VA05				*eS*	**Sn**	**13 13 58.8**	**-0.1**
VA05				IAML		13 14 03.0	
	comp=N,2μm,0.2s						
MT12	**Pirque**	**2.26**	**20**	*i* P	**Pn**	**13 13 33.3**	**+0.8**
MT12				*eS*	**Sn**	**13 13 60.0**	**-0.2**
LMEL	**Las Melosas**	**2.27**	**28**		**Pn**	**13 13 33.7**	**+1.0**
LMEL	**Las Melosas**	**2.27**	**28**	*i* P	**Pn**	**13 13 34.0**	**+1.3**
MT13	**San Alfonso**	**2.33**	**25**		**Pn**	**13 13 34.8**	**+1.2**
MT15	**Las Vizcachas**	**2.40**	**19**	*i* P	**Pn**	**13 13 34.8**	**+0.5**
MT15				*eS*	**Sn**	**13 14 02.9**	**-0.5**
MT15				IAML		13 14 09.6	
	comp=N,805nm,0.2s						
MT03	**Universidad Ad**	**2.50**	**19**		**Pn**	**13 13 36.4**	**+0.7**
MT03	**Universidad Ad**	**2.50**	**19**	*i* P	**Pn**	**13 13 36.2**	**+0.5**
MT03				*eS*	**Sn**	**13 14 05.3**	**-0.4**
MT03				IAML		13 14 11.9	
	comp=E,499nm,0.1s						
MT05	**Renca**	**2.55**	**14**		**Pn**	**13 13 37.0**	**+0.7**
MT05	**Renca**	**2.55**	**14**	*i* P	**Pn**	**13 13 36.9**	**+0.6**
MT05				*eS*	**Sn**	**13 14 06.0**	**-0.8**
MT05				IAML		13 14 11.7	
	comp=E,742nm,0.2s						
MT14	**Cerro Cal¡n**	**2.59**	**17**	*i* P	**Pn**	**13 13 37.4**	**+0.6**
MT14				*eS*	**Sn**	**13 14 07.2**	**-0.6**
MT14				IAML		13 14 11.4	
	comp=N,500nm,0.4s						
MT02	**Curacav**	**2.62**	**6**	Pn	**Pn**	**13 13 37.7**	**+0.5**
MT02	**Curacav**	**2.62**	**6**	*i* P	**Pn**	**13 13 37.9**	**+0.8**
MT02				*eS*	**Sn**	**13 14 07.5**	**-1.0**
MT04	**Ro Olivares**	**2.69**	**24**	⇓*i* P	**Pn**	**13 13 39.4**	**+1.0**
MT10	**Hacienda Santa**	**2.70**	**17**	*i* P	**Pn**	**13 13 39.0**	**+0.6**
MT10				IAML		13 14 15.7	
	comp=N,445nm,0.2s						
FCH	**Farellones**	**2.72**	**21**	*i* P	**Pn**	**13 13 39.4**	**+0.7**
PEL	**Peldehue**	**2.80**	**14**		**Pn**	**13 13 40.2**	**+0.6**
PEL	**Peldehue**	**2.80**	**14**	*i* P	**Pn**	**13 13 40.2**	**+0.6**
VA01	**Torpederas**	**2.85**	**357**		**Pn**	**13 13 40.5**	**+0.4**
VA01	**Torpederas**	**2.85**	**357**	*i* P	**Pn**	**13 13 40.4**	**+0.2**
VA01				*eS*	**Sn**	**13 14 12.9**	**-0.9**
VA01				IAML		13 14 15.3	
	comp=E,568nm,0.1s						
ROC1	**El Roble**	**2.91**	**7**		**Pn**	**13 13 41.7**	**+0.4**
ROCH	**El Roble**	**2.92**	**7**	*i* P	**Pn**	**13 13 41.9**	**+0.6**
ROCH				*i* P	**Pn**	**13 13 42.0**	**+0.6**
ROCH				*eS*	**Sn**	**13 14 15.2**	**-0.7**
ROCH				*eS*	**Sn**	**13 14 15.6**	**-0.3**
ROCH				IAML		13 14 19.6	
	comp=N,601nm,0.2s						
ROCH				IAML		13 14 19.8	
	comp=N,571nm,0.3s						
LC02	**Puerto Saavedr**	**3.29**	**207**	Pn	**Pn**	**13 13 47.4**	**+1.4**
GO06	**Curarrehue**	**3.70**	**180**	Pn	**Pn**	**13 13 51.8**	**+0.1**
CO02	**Combarbal**	**4.67**	**5**		**Pn**	**13 14 04.3**	**-0.5**
ZON	**Zonda**	**4.90**	**29**	Pn	**Pn**	**13 14 07.1**	**-0.7**
PLCA	**Paso Flores**	**4.91**	**172**	Pn	**Pn**	**13 14 08.4**	**+0.5**
CO03	**El Pedregal**	**5.06**	**8**	Pn	**Pn**	**13 14 10.0**	**-0.1**
CO06	**Fray Jorge**	**5.19**	**358**		**Pn**	**13 14 11.1**	**-0.6**
GO04	**Tololo Observa**	**5.71**	**6**		**Pn**	**13 14 18.0**	**-1.0**
CO01	**Juntas del Tor**	**5.99**	**11**		**Pn**	**13 14 22.5**	**-0.3**
LL01	**San Ignacio de**	**6.54**	**186**	Pn	**Pn**	**13 14 28.8**	**-1.1**
LCO	**Las Campanas**	**6.87**	**6**	Pn	**Pn**	**13 14 33.5**	**-1.3**
AC05	**El Transito**	**7.09**	**8**	Pn	**Pn**	**13 14 36.5**	**-1.1**
TRQA	**Tornquist**	**7.90**	**109**	Pn	**Pn**	**13 14 48.0**	**-0.4**
CPUP	**Villa Florida**	**15.38**	**56**	P	**P**	**13 16 30.0**	**-0.2**
CPUP				IAmb	IAmb	13 16 57.0	
	comp=Z,8.9nm,1.4s						
ITAB	**Concordia**	**18.57**	**68**	P	**P**	**13 17 05.0**	**-0.3**
BELA	**Belgrano 2**	**44.96**	**170**	P	**P**	**13 21 00.6**	**0.0**
BELA				IAmb	IAmb	13 21 01.6	
	comp=Z,8.5nm,0.7s						

*VAO **19** 13:14:33.3±0.9, 26.15S×70.65W, h10km, mb4.5*

*GUC **19** 13:14:36.9±0.9, 26.05S×70.42W, h48km±6km, ML4.6*

*IDC **19** 13:14:37.6±0.5, 26.13S×70.30W, h49km±4km, mb4.1/11, mbtmp4.4/14, MS3.4/10, Error ellipse: s-maj=19.0km s-min=10.9km az=99.0*

*NEIC **19** 13:14:37.6±1.6, 26.04S±0.04×70.47W±0.10, h45km±5km, mb4.7/42, Mwr4.2/55, Error ellipse: s-maj=12.4km s-min=6.4km az=98.0, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr 1.62; Mθθ -0.36; Mφφ -1.26; Mrθ 1.08; Mθφ 0.12; Mφr -2.25; Fault plane solution: M0 2.90000×10^15 NP1 φs 157.17000°, δ 75.17000°, λ 84.80000°. NP2 φs 356.75000°, δ 15.69000°, λ 108.90000°. Principal axes: T 3.0810, Plg 60.0000°, Azm 60.0000°; N -0.4139, Plg 5.0000°, Azm 159.0000°; P -2.6672, Plg 30.0000°, Azm 251.0000°;*

*NEIC **19** 13:14:37.5, 26.04S×70.47W, h45km*

ISC 19 13:14:37.1±0.5, 26.07S±0.03×70.41W±0.06, h46km±4km, n169, σ1°98/165, mb4.7/28, MS3.4/6, 1C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC01	**Pan de Azucar**	**0.19**	**244**	Pn	**Pn**	**13 14 45.4**	**+0.4**
AC01				Sn	**Sn**	**13 14 50.8**	**+0.3**
AC01	**Pan de Azucar**	**0.19**	**244**	*i* P	**Pn**	**13 14 45.5**	**+0.4**
AC01				*eS*	**Sn**	**13 14 51.2**	**+0.7**
AC01				IAML		13 14 52.0	
	comp=E,76μm,0.3s						
GO02	**Mina Guanaco**	**1.16**	**40**	Pn	**Pn**	**13 14 58.2**	**+0.9**
GO02	**Mina Guanaco**	**1.16**	**40**	⇓*i* P	**Pn**	**13 14 58.2**	**+0.9**
GO02				*eS*	**Sn**	**13 15 13.6**	**+1.4**
GO02				IAML		13 15 19.2	
	comp=N,12μm,0.1s						
AC06	**Mina Casimiro**	**1.29**	**178**		**Pn**	**13 14 59.9**	**+1.1**
AC06	**Mina Casimiro**	**1.29**	**178**	*i* P	**Pn**	**13 14 59.4**	**+0.6**
AC06				*eS*	**Sn**	**13 15 16.4**	**+1.5**
AC06				IAML		13 15 19.0	
	comp=E,23μm,0.3s						
PB14	**IPOC Station P**	**1.43**	**0**	Pn	**Pn**	**13 15 01.6**	**+0.6**
PB14	**IPOC Station P**	**1.43**	**0**	⇑*i* P	**Pn**	**13 15 01.7**	**+0.7**
PB14				*eS*	**Sn**	**13 15 19.9**	**+1.1**
GO03	**Copiap**	**1.53**	**174**	Pn	**Pn**	**13 15 02.7**	**+0.6**
GO03	**Copiap**	**1.53**	**174**	*i* P	**Pn**	**13 15 02.7**	**+0.6**
GO03				*eS*	**Sn**	**13 15 21.4**	**+0.6**
GO03				IAML		13 15 28.9	
	comp=E,6μm,0.2s						
AC04	**Llanos de Chal**	**2.21**	**195**	Pn	**Pn**	**13 15 11.1**	**-0.3**
AC04	**Llanos de Chal**	**2.21**	**195**	*i* P	**Pn**	**13 15 11.5**	**+0.1**
AC04				IAML		13 15 49.5	
	comp=E,6μm,0.4s						
AC05	**El Transito**	**2.76**	**178**	Pn	**Pn**	**13 15 20.9**	**+1.8**
AC05	**El Transito**	**2.76**	**178**	*i* P	**Pn**	**13 15 20.0**	**+1.0**
LCO	**Las Campanas**	**2.95**	**185**	Pn	**Pn**	**13 15 22.1**	**+0.4**
LCO	**Las Campanas**	**2.95**	**185**	*i* P	**Pn**	**13 15 22.1**	**+0.4**
PB15	**IPOC Station P**	**2.97**	**17**		**Pn**	**13 15 23.4**	**+1.4**
PB15	**IPOC Station P**	**2.97**	**17**	*i* P	**Pn**	**13 15 23.0**	**+1.0**
PB06	**IPOC Station P**	**3.43**	**13**	Pn	**Pn**	**13 15 28.3**	**0.0**
PB06	**IPOC Station P**	**3.43**	**13**	IAML		13 16 23.6	
	comp=N,1μm,0.5s						
LVC	**Limon Verde**	**3.70**	**22**	Pn	**Pn**	**13 15 32.7**	**+0.5**
LVC	**Limon Verde**	**3.70**	**22**	*eP*	**Pn**	**13 15 33.3**	**+1.1**
LVC	**Limon Verde**	**3.70**	**22**	P	**Pn**	**13 15 33.4**	**+1.2**
	comp=N,88nm,0.5s,baz=168,slow=7.4,SNR=58						
LVC				S	**Sn**	**13 16 17.2**	**+2.5**
	comp=N,162nm,0.3s,baz=202,slow=5.8,SNR=5.9						
LVC				LR	LR	13 17 09.6	
	comp=N,457nm,21.2s,baz=214,slow=41						
AF01	**San Pedro de A**	**3.71**	**34**		**Pn**	**13 15 32.5**	**+0.3**
PB04	**IPOC Station P**	**3.72**	**4**		**Pn**	**13 15 30.9**	**-1.4**
CO01	**Juntas del Tor**	**3.91**	**176**	Pn	**Pn**	**13 15 34.8**	**-0.1**
CO05	**La Serena**	**3.91**	**191**		**Pn**	**13 15 34.2**	**-0.5**
GO04	**Tololo Observa**	**4.11**	**185**	Pn	**Pn**	**13 15 38.0**	**+0.4**
PB07	**IPOC Station P**	**4.34**	**6**	Pn	**Pn**	**13 15 39.6**	**-1.2**
PB09	**IPOC Station P**	**4.38**	**14**		**Pn**	**13 15 42.0**	**+0.7**
PB02	**IPOC Station P**	**4.75**	**6**		**Pn**	**13 15 45.0**	**-1.3**
CO03	**El Pedregal**	**4.76**	**183**	Pn	**Pn**	**13 15 47.1**	**+0.6**
PB01	**IPOC Station P**	**5.07**	**10**		**Pn**	**13 15 49.4**	**-1.4**
PATCX	**Punta Patache**	**5.22**	**3**	Pn	**Pn**	**13 15 51.1**	**-1.8**
TA01	**Diego Aracena**	**5.48**	**2**	Pn	**Pn**	**13 15 54.2**	**-2.1**
ZON	**Zonda**	**5.67**	**165**	Pn	**Pn**	**13 15 59.3**	**+0.4**
PB08	**IPOC Station P**	**6.01**	**11**	Pn	**Pn**	**13 16 03.3**	**-0.6**
PB11	**IPOC Station P**	**6.31**	**6**		**Pn**	**13 16 05.8**	**-2.1**
GO01	**Chusmiza**	**6.46**	**10**		**Pn**	**13 16 08.4**	**-1.9**
PB12	**IPOC Station P**	**7.42**	**1**	Pn	**Pn**	**13 16 20.8**	**-2.1**
PB16	**IPOC Station P**	**7.74**	**6**	Pn	**Pn**	**13 16 26.6**	**-1.2**
TICA	**Tres Isletas**	**9.01**	**94**	*eP*	**Pn**	**13 16 47.5**	**+2.8**
LPAZ	**La Paz**	**9.96**	**13**	Pn	**Pn**	**13 16 57.2**	**-1.1**
H03N1	**Juan Fernandez**	**10.42**	**223**	T	T	13 27 27.4	
	baz=48,slow=71,SNR=556						
H03N2	**Juan Fernandez**	**10.43**	**223**	T	T	13 27 27.8	
	baz=48,slow=71,SNR=681						
H03N3	**Juan Fernandez**	**10.44**	**223**	T	T	13 27 29.7	
	baz=48,slow=71,SNR=38						
CPUP	**Villa Florida**	**11.75**	**94**	*eP*	**Pn**	**13 17 22.8**	**+0.6**
CPUP	**Villa Florida**	**11.75**	**94**	P	**Pn**	**13 17 21.4**	**-0.7**
	comp=N,1.4nm,0.5s,baz=245,slow=10,SNR=4.0						
CPUP				LR	LR	13 22 31.8	
	comp=N,190nm,21.1s,baz=255,slow=41						
BBRB	**Robore, Bolivi**	**12.50**	**54**	*eP*	**Pn**	**13 17 33.4**	**+0.9**
MURT	**Porto Murtinho**	**12.50**	**72**	*eP*	**Pn**	**13 17 32.8**	**+0.3**
ITQB	**Itaqui**	**12.71**	**110**		**Pn**	**13 17 36.0**	**+0.7**
ITQB	**Itaqui**	**12.71**	**110**	*eP*	**Pn**	**13 17 35.7**	**+0.4**
SIV	**San Ignacio**	**13.28**	**43**	P	**Pn**	**13 17 41.3**	**-1.8**
	comp=N,9.1nm,0.5s,baz=241,slow=7.5,SNR=26						
SIV				S	**Sn**	**13 20 05.9**	**-3.4**
	comp=N,1.6nm,0.7s,baz=226,slow=14,SNR=3.8						
SIV				LR	LR	13 23 28.1	
	comp=N,154nm,19.0s,baz=266,slow=40						
BDQN	**Bodoquena, MS**	**13.74**	**69**	*eP*	**Pn**	**13 17 49.8**	**+0.4**
ANTJ	**Antonio Joao (**	**13.77**	**76**	*eP*	**Pn**	**13 17 50.5**	**+0.7**
TRQA	**Tornquist**	**13.92**	**151**	Pn	**Pn**	**13 17 50.6**	**-1.1**
UNIS	**Unistalda (Bra**	**13.93**	**106**	P	**Pn**	**13 17 52.8**	**+0.9**
RODS	**Rosario do Sul**	**14.07**	**111**	*eP*	**Pn**	**13 17 54.0**	**+0.2**
AMBA	**Amambai (Brazi**	**14.38**	**81**	*eP*	**P**	**13 18 01.3**	**-2.7**
AQDB	**Aquidauana**	**14.61**	**71**	*eP*	**Pn**	**13 18 03.8**	**+2.6**
PLCA	**Paso Flores**	**14.63**	**180**	P	**P**	**13 18 07.5**	**+0.8**
PLCA	**Paso Flores**	**14.63**	**180**	P	**P**	**13 18 07.0**	**+0.3**
	comp=N,0.9nm,0.6s,baz=9.9,slow=10,SNR=2.0						
CRSM	**Crissiumal (Br**	**14.69**	**99**	*eP*	**P**	**13 18 05.2**	**-2.2**
PTLB	**Pontes e Lacer**	**14.91**	**47**	*eP*	**P**	**13 18 07.9**	**-2.0**
NNA	**Nana**	**15.26**	**335**	LR	LR	13 23 15.4	
	comp=N,50nm,19.5s,baz=155,slow=34						
CPSB	**Cacapava Do Su**	**15.57**	**110**	*eP*	**Pn**	**13 18 15.1**	**+1.5**
PLTB	**Pedras Altas**	**15.77**	**115**	Pn	**Pn**	**13 18 16.4**	**+0.2**
PLTB	**Pedras Altas**	**15.77**	**115**	*eP*	**P**	**13 18 18.2**	**-1.2**
VILB	**Vilhena**	**16.20**	**38**	Pn	**Pn**	**13 18 21.2**	**-0.5**
VILB	**Vilhena**	**16.20**	**38**	*eP*	**P**	**13 18 24.6**	**+0.3**
RPRD	**Ribas do Rio P**	**16.32**	**74**	*eP*	**P**	**13 18 26.5**	**+0.9**
LL01	**San Ignacio de**	**16.36**	**185**	Pn	**Pn**	**13 18 23.4**	**-0.1**
ITAB	**Concordia**	**16.38**	**98**	P	**P**	**13 18 27.0**	**+0.8**
ITAB	**Concordia**	**16.38**	**98**	*eP*	**P**	**13 18 26.7**	**+0.5**
PTGB	**Pitanga**	**16.63**	**89**	*eP*	**P**	**13 18 30.2**	**+1.1**
ETMB	**Extrema**	**16.64**	**15**	Pn	**Pn**	**13 18 26.1**	**-1.1**
ETMB	**Extrema**	**16.64**	**15**	*eP*	**P**	**13 18 28.7**	**-0.4**
PP1B	**Ponte de Pedra**	**16.68**	**63**	*eP*	**P**	**13 18 30.8**	**+1.2**
SALV	**Santo Antonio**	**17.05**	**56**	*eP*	**P**	**13 18 35.6**	**+2.0**
CNLB	**Canela**	**17.62**	**105**	*eP*	**P**	**13 18 43.0**	**+3.1**
LDASE	**Londrina, Braz**	**17.73**	**86**	*eP*	**P**	**13 18 43.2**	**+2.1**
PCMB	**Pacaembu**	**18.07**	**80**	*eP*	**Pn**	**13 18 46.1**	**+1.2**
SAML	**Samuel**	**18.35**	**23**	*eP*	**Pn**	**13 18 48.8**	**+0.4**
CZSB	**Cruzeiro do Su**	**18.36**	**353**	*eP*	**Pn**	**13 18 49.5**	**+1.0**
PDRB	**Porto dos Gac**	**19.32**	**44**	*eP*	**Pn**	**13 18 59.8**	**-0.3**
ITRB	**Iturama**	**19.52**	**75**	*eP*	**Pn**	**13 19 03.2**	**+0.9**
BB19B	**Bebedouro**	**20.66**	**81**	*eP*	Pn	13 19 16.6	+0.7
TEFE	**Tefe**	**23.10**	**15**	*eP*	**P**	**13 19 40.0**	**+0.8**
BDFB	**Brasilia**	**23.32**	**68**	P	**P**	**13 19 40.2**	**-1.3**
BDFB	**Brasilia**	**23.32**	**68**	P	**P**	**13 19 39.7**	**-1.8**
	comp=N,5.2nm,0.7s,baz=241,slow=14,SNR=6.0						
BDFB				LR	LR	13 29 00.8	
	comp=N,120nm,19.9s,baz=323,slow=37						
	comp=N,5.2nm,0.7s						
SDBA	**SAO DESIDERIO**	**27.58**	**65**	*eP*	**P**	**13 20 21.3**	**+1.1**
ROSC	**El Rosal**	**30.95**	**352**	LR	LR	13 32 57.2	
	comp=N,97nm,21.3s,baz=226,slow=35						
RPN	**Rapa Nui**	**34.73**	**259**	LR	LR	13 31 23.8	
	comp=N,81nm,18.1s,baz=54,slow=29						
BAUV	**El Baul**	**34.87**	**4**	P	**P**	**13 21 22.4**	**-1.9**
PCRV	**Puerto La Cruz**	**36.46**	**10**	LR	LR	13 37 57.9	
	comp=N,75nm,19.7s,slow=38						
RCBR	**Riachuelo**	**38.60**	**65**	LR	LR	13 40 07.7	
	comp=N,31nm,19.1s,baz=172,slow=40						
ESQI	**Esquipulas**	**44.39**	**333**	P	**P**	**13 22 43.6**	**+0.1**
CMIG	**Matias Romero**	**49.06**	**328**	LR	LR	13 39 56.8	
	comp=N,27nm,21.6s,baz=181,slow=31						
SNAA	**Sanae**	**58.46**	**160**	P	**P**	**13 24 27.5**	**-0.6**
SNAA				IAmb	IAmb	13 24 28.4	
	comp=Z,4.9nm,0.8s						
SNAA	**Sanae**	**58.46**	**160**	P	**P**	**13 24 26.7**	**-1.4**
	comp=Z,5.3nm,0.9s,baz=290,slow=6.8,SNR=5.5						
	comp=Z,5.3nm,0.9s						
KVTX	**Kingsville**	**59.51**	**332**	P	**P**	**13 24 36.7**	**+1.0**
SWET	**Sewanee**	**62.70**	**346**	P	**P**	**13 24 56.0**	**-1.3**
SWET				IAmb	IAmb	13 24 57.4	
	comp=Z,8.6nm,1.0s						
JCT	**Junction City**	**62.87**	**332**	P	**P**	**13 24 58.8**	**+0.2**
BRDY	**Brady**	**63.24**

baz=108,slow=74,SNR=40
H11N3 WAKE ISLAND Hyl 27.17 276 T T 15 53 49.2
baz=106
H11N1 WAKE ISLAND Hyl 27.18 276 T T 15 53 48.2
baz=106
H11N2 WAKE ISLAND Hyl 27.18 276 T T 15 54 10.8
baz=106
WRA Warramunga Arr 128.34 210 PKP **PKPdf 13 33 39.0 -0.5**
comp=Z,0.5nm,0.8s,baz=157,slow=1.7,SNR=5.2
BVAR Borovoye Array 140.29 37 PKP **PKPdf 13 34 01.2 +0.6**
comp=Z,1.4nm,0.7s,baz=0.0,slow=1.5,SNR=4.4
KURBB **Kurchatov Array 145.86 36** PKPbc **PKPab 13 34 11.9 +0.2**
comp=Z,3.0nm,0.7s,baz=304,slow=3.5,SNR=27
KURBB pPKPbc pPKPab 13 34 25.7 0.0
comp=Z,1.3nm,0.7s,baz=300,slow=3.1,SNR=5.2
ZALV Zalesovo Beam 146.64 27 PKPbc **PKPbc 13 34 12.6 -0.8**
comp=Z,14nm,0.8s,baz=303,slow=3.5,SNR=33
ZALV pPKPbc pPKPbc 13 34 27.1 -0.6
comp=Z,4.8nm,0.6s,baz=303,slow=3.7,SNR=6.1
AAK Ala-Archa 146.93 51 P **PKPbc 13 34 14.6 -0.3**
SNR=9.3
CHMS Chumysh 146.99 50 P **PKPab 13 34 15.8 -0.6**
SNR=5.3
UCH Uchtor 147.07 52 P **PKPbc 13 34 15.4 -0.3**
SNR=12
KBK Karagaybulak 147.24 51 P **PKPab 13 34 17.3 -0.3**
SNR=8.5
TKM2 Tokmak 2 147.60 50 P **PKPdf 13 34 15.3 +1.2**
SNR=6.6
ULHL Ulahol 148.28 51 P **PKiKP 13 34 19.9 -0.3**
SNR=8.7
KSH Kashi 148.91 56 PKPbc **PKPbc 13 34 20.8 +0.6**
KSH sPKP 13 34 34.8
MKAR Makanchi Array 150.07 39 PKPbc **PKPbc 13 34 23.0 +0.3**
comp=Z,12nm,0.8s,baz=313,slow=2.2,SNR=38
MKAR pPKPbc **sPKPdf 13 34 37.2 +0.1**
comp=Z,5.4nm,0.8s,baz=299,slow=1.2,SNR=7.9
HEH HeiHe 152.22 335 *eP* **PKPdf 13 34 22.5 +1.7**
WMQ Urumqi 154.91 40 *eP* **PKPdf 13 34 25.4 +0.4**
SONM Songino Array 158.12 6 PKP **PKPdf 13 34 29.2 +0.1**
comp=Z,1.0nm,0.9s,baz=8.1,slow=3.1,SNR=3.8
SONM PKPab **PKPab 13 35 03.1 +0.2**
comp=Z,1.2nm,0.7s,baz=347,slow=2.6,SNR=5.2
HHC Hu-ho-hao-te 165.16 354 *eP* **PKPdf 13 34 36.8 +0.2**
CMAR Chiang Mai Arr 167.57 125 PKP **PKPdf 13 34 39.0 0.0**
comp=Z,0.5nm,0.5s,baz=245,slow=1.9,SNR=1.8
NJ2 Nanjing 169.94 309 *eP* **PKPdf 13 34 39.8 -0.3**
PZH PanZhiHua 172.94 85 PKP 13 32 51.0
PZH PanZhiHua 172.94 85 PKP **PKPdf 13 34 41.0 -0.9**

IDC 19 13:17:17.8±1.6, 48.65S×122.42E, h0km, mb3.7/4, mbtmp3.8/4, MS3.6/8, Error ellipse: s-maj=123.2km s-min=27.1km az=115.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.05**	**333**	T	T	13 37 07.7	
	baz=156,slow=74,SNR=106						
H01W2	**Cape Leeuwin H**	**15.05**	**333**	T	T	13 37 08.3	
	baz=156,slow=74,SNR=101						
H01W3	**Cape Leeuwin H**	**15.07**	**333**	T	T	13 37 08.9	
	baz=156,slow=74,SNR=91						
NWAO	**Narrogin (SRO)**	**16.18**	**344**	LR	LR	13 26 13.8	
	comp=Z,315nm,20.0s,baz=186,slow=33						
STKA	**Stephens Creek**	**22.14**	**48**	P	P	13 22 14.6	-0.4
	1.7nm,0.7s,baz=231,slow=13,SNR=3.1						
STKA				LR	LR	13 29 34.6	
	comp=Z,62nm,18.6s,baz=205,slow=33 1.7nm,0.7s						
ASAR	**Alice Springs**	**26.54**	**24**	P	P	13 22 57.1	-0.1
	0.9nm,0.8s,baz=202,slow=8.7,SNR=15						
ASAR				LR	LR	13 33 11.3	
	comp=Z,97nm,18.1s,baz=192,slow=36 0.9nm,0.8s						
WRA	**Warramunga Arr**	**30.21**	**23**	P	P	13 23 29.5	-0.4
	0.4nm,0.7s,baz=194,slow=10,SNR=2.7 0.4nm,0.7s						
VNDA	**Vanda**	**32.65**	**165**	LR	LR	13 35 34.9	
	comp=Z,162nm,19.9s,baz=319,slow=34						
CTA	**Charters Tower**	**34.34**	**42**	LR	LR	13 38 10.5	
	comp=Z,63nm,18.7s,baz=262,slow=36						
QSPA	**South Pole Qui**	**41.47**	**180**	LR	LR	13 41 20.8	
	comp=Z,102nm,18.6s,baz=358,slow=35						
RAO	**Raoul Island**	**48.96**	**89**	LR	LR	13 42 29.4	
	comp=Z,59nm,18.5s,baz=61,slow=31						
SNAA	**Sanae**	**53.92**	**199**	P	P	13 26 41.9	-0.6
	4.5nm,1.1s,baz=191,slow=6.8,SNR=3.2 4.5nm,1.1s						
CMAR	**Chiang Mai Arr**	**70.01**	**336**	LR	LR	14 00 22.5	
	comp=Z,20nm,18.7s,baz=70,slow=37						
YKA	**Yellowknife Ar**	**146.15**	**44**	PKPbc	PKPbc	13 36 59.0	+0.3
	0.5nm,0.8s,baz=270,slow=3.6,SNR=5.7						

*CATAC **19** 13:21:41.6±0.5, 12.71N×88.45W, h30km±4km, ML4.0*
*SNET **19** 13:21:42.4±1.1, 12.72N×88.48W, h33km, ML4.0*
*IDC **19** 13:21:45.7±1.7, 12.90N×88.33W, h97km±20km, mb3.3/6, mbtmp3.7/8, Error ellipse: s-maj=48.9km s-min=13.6km az=39.0*

ISC 19 13:21:41.8±1.4, 12.71N±0.05×88.46W±0.03, h33km±4km, n70, σ1s00/103, mb3.6/6, 14C-13D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.62**	**350**	*eP*	**Pn**	**13 21 54.2**	**0.0**
ALJI				*eS*	**Sn**	**13 22 04.3**	**+1.3**
ALJI	**Alcalda de J**	**0.62**	**350**	⇑*iP*	**Pn**	**13 21 54.1**	**-0.2**
ALJI				*i* S	**Sb**	**13 22 03.1**	**+0.1**
ALJI				IAML		13 22 04.0	
	comp=Z,6μm,1.0s						
LCY	**Lacayo**	**0.72**	**13**	*eP*	**Pb**	**13 21 56.5**	**+0.4**
VSM	**San Miguel**	**0.73**	**14**	*eP*	**Pb**	**13 21 56.9**	**+0.5**
BLLM	**Bellamira**	**0.76**	**17**	*eP*	**Pb**	**13 21 57.1**	**+0.4**
PACA	**Pacayal**	**0.76**	**10**	*eP*	**Pb**	**13 21 57.2**	**+0.3**
PACA				*eS*	**Sb**	**13 22 08.4**	**+1.3**
PACA	**Pacayal**	**0.76**	**10**	⇑*iP*	**Pn**	**13 21 56.8**	**+0.4**
PACA				*i* S	**Sb**	**13 22 08.2**	**+1.1**
PACA				IAML		13 22 09.6	
	comp=Z,60μm,1.0s						
TECA	**Tecapa**	**0.78**	**357**	*eP*	**Pn**	**13 21 57.1**	**+0.4**
LCND	**La Caada**	**0.81**	**43**	*eP*	**Pn**	**13 21 57.1**	**+0.1**
LCND	**La Caada**	**0.81**	**43**	*iP*	**Pn**	**13 21 56.9**	**-0.1**
LCND				*i* P	**Pb**	**13 21 57.8**	**+0.2**
LCND				*i* S	**Sb**	**13 22 08.4**	**+0.1**
LCND				*i* S	**Sn**	**13 22 09.5**	**+1.6**
LCND				IAML		13 22 12.1	
	comp=Z,4μm,1.0s						
LCND				IAML		13 22 56.4	
	comp=Z,16μm,1.0s						
CNCH	**Conchagua**	**0.83**	**47**	*eP*	**Pn**	**13 21 57.5**	**+0.3**
CNCH	**Conchagua**	**0.83**	**47**	⇓*iP*	**Pn**	**13 21 56.9**	**-0.4**
CNCH				*i* S	**Sb**	**13 22 10.3**	**+1.4**
CNCH				IAML		13 22 16.3	
	comp=Z,11μm,1.0s						
TECO	**Alcaldia de Te**	**0.88**	**339**	*eP*	**Pn**	**13 21 58.0**	**+0.1**
TECO				*eS*	**Sn**	**13 22 10.1**	**+0.5**
TECO	**Alcaldia de Te**	**0.88**	**339**	*iP*	**Pn**	**13 21 57.5**	**-0.4**
TECO				*i* S	**Sn**	**13 22 09.5**	**0.0**
TECO				IAML		13 22 14.9	
	comp=Z,2μm,1.0s						
PQSS	**Presa 15 de Se**	**0.91**	**354**	*eP*	**Pn**	**13 21 58.9**	**+0.5**
PQSS				*eS*	**Sb**	**13 22 11.9**	**+0.8**
PQSS	**Presa 15 de Se**	**0.91**	**354**	⇓*iP*	**Pn**	**13 21 58.6**	**+0.3**
PQSS				*i* S	**Sb**	**13 22 11.7**	**+0.6**
PQSS				IAML		13 22 12.9	
	comp=Z,7μm,1.0s						
CSGN	**Cosiguina Volc**	**0.92**	**73**	⇓*iP*	**Pn**	**13 21 57.5**	**-1.0**
CSGN				IAML		13 22 12.3	
	comp=Z,13μm,1.0s						
AMPH	**Amapala**	**0.97**	**54**	⇓*iP*	**Pn**	**13 21 59.1**	**0.0**
AMPH				*i* S	**Sb**	**13 22 12.8**	**+0.2**
SNVI	**San Vicente**	**0.97**	**338**	*eP*	**Pn**	**13 21 59.5**	**+0.2**
UESV	**Universidad de**	**0.97**	**341**	⇑*iP*	**Pn**	**13 21 59.3**	**+0.1**
UESV				*i* S	**Sn**	**13 22 12.6**	**+0.7**
UESV				IAML		13 22 16.5	
	comp=Z,3μm,1.0s						
COEG	**Centro de Oper**	**0.99**	**336**	*eP*	**Pn**	**13 21 59.8**	**+0.3**
COEG	**Centro de Oper**	**0.99**	**336**	⇑*iP*	**Pn**	**13 21 59.6**	**+0.1**
COEG				*i* S	**Sn**	**13 22 13.0**	**+0.6**
COEG				IAML		13 22 17.0	
	comp=Z,6μm,1.0s						
SCLA	**Alcaldia de Sa**	**1.02**	**345**	*eP*	**Pn**	**13 22 00.5**	**+0.7**
SCLA				*eS*	**Sb**	**13 22 14.6**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.02**	**345**	⇑*iP*	**Pn**	**13 22 00.3**	**+0.5**
SCLA				*i* S	**Sb**	**13 22 14.2**	**0.0**
SCLA				IAML		13 22 18.1	
	comp=Z,2μm,1.0s						
SJTE	**Alcalda de S**	**1.04**	**329**	*eP*	**Pn**	**13 22 00.3**	**+0.1**
SJTE				*eS*	**Sn**	**13 22 14.4**	**+0.7**
SJTE	**Alcalda de S**	**1.04**	**329**	⇑*iP*	**Pn**	**13 22 00.2**	**0.0**
SJTE				*i* S	**Sn**	**13 22 14.0**	**+0.3**
SJTE				IAML		13 22 16.1	
	comp=Z,4μm,1.0s						
LFRS	**El Faro**	**1.08**	**327**	*eP*	**Pn**	**13 22 01.1**	**+0.3**
PAVA	**Las Pavas**	**1.10**	**335**	*eP*	**Pn**	**13 22 01.6**	**+0.5**
PAVA				*eS*	**Sb**	**13 22 16.8**	**+0.3**
PAVA	**Las Pavas**	**1.10**	**335**	*iP*	**Pn**	**13 22 01.5**	**+0.5**
PAVA				*i* S	**Sn**	**13 22 16.2**	**+1.1**
PAVA				IAML		13 22 21.9	
	comp=Z,8μm,1.0s						
LALI	**Alcalda de L**	**1.14**	**313**	*eP*	**Pn**	**13 22 01.4**	**-0.1**
LOMA	**Loma Larga**	**1.16**	**323**	*eP*	**Pn**	**13 22 02.1**	**+0.3**
LOMA	**Loma Larga**	**1.16**	**323**	⇑*iP*	**Pn**	**13 22 01.9**	**+0.1**
LOMA				*i* S	**Sn**	**13 22 17.2**	**+0.6**
LOMA				IAML		13 22 19.6	
	comp=Z,3μm,1.0s						
UDBS	**Universidad Do**	**1.21**	**326**	*iP*	**Pb**	**13 22 05.1**	**+0.9**
UDBS				*i* S	**Sn**	**13 22 18.5**	**+0.8**
UDBS				IAML		13 22 23.7	
	comp=Z,2μm,1.0s						
IGN	**Direccin Gen**	**1.21**	**325**	*iP*	**Pn**	**13 22 03.2**	**+0.7**
IGN				*i* S	**Sn**	**13 22 19.1**	**+1.3**
IGN				IAML		13 22 22.5	
	comp=Z,12μm,1.0s						
SNET	**Serv Nac Est T**	**1.23**	**322**	*iP*	**Pn**	**13 22 03.0**	**+0.3**
SNET				*i* S	**Sn**	**13 22 18.7**	**+0.5**
SNET				IAML		13 22 22.7	
	comp=Z,4μm,1.0s						
PMON	**Piamonte**	**1.30**	**320**	⇑*iP*	**Pn**	**13 22 03.9**	**+0.2**
PMON				*i* S	**Sn**	**13 22 20.8**	**+0.8**
PMON				IAML		13 22 29.4	
	comp=Z,3μm,1.0s						
JAYA	**Jayaque - finc**	**1.34**	**314**	*eP*	**Pn**	**13 22 04.3**	**-0.1**
JAYA				*eS*	**Sb**	**13 22 23.5**	**-0.1**
JAYA	**Jayaque - finc**	**1.34**	**314**	⇑*iP*	**Pn**	**13 22 04.2**	**-0.2**
JAYA				*i* S	**Sn**	**13 22 21.0**	**-0.2**
JAYA				IAML		13 22 23.1	
	comp=Z,4μm,1.0s						
CRIN	**San Cristobal**	**1.38**	**90**	⇓*iP*	**Pn**	**13 22 05.1**	**+0.3**
CRIN				*i* S	**Sn**	**13 22 22.7**	**+0.8**
CRIN				IAML		13 22 29.8	
	comp=Z,6μm,1.0s						
LLGN	**La Laguna**	**1.52**	**342**	*iP*	**Pn**	**13 22 07.6**	**+0.8**
SNJE	**San Jose**	**1.60**	**316**	*eP*	**Pn**	**13 22 08.5**	**+0.5**
CNGA	**Al SSO del Vol**	**1.73**	**97**	⇑*iP*	**Pn**	**13 22 09.4**	**-0.2**
CNGA				*i* S	**Sn**	**13 22 29.9**	**-0.7**
CNGA				IAML		13 22 39.2	
	comp=Z,1μm,1.0s						
CNGN	**Cerro Negro**	**1.73**	**97**	⇓*iP*	**Pn**	**13 22 09.2**	**-0.4**
CNGN				IAML		13 22 42.5	
	comp=Z,1μm,1.0s						
NUBE	**Las Nubes**	**1.75**	**313**	*eP*	**Pn**	**13 22 10.3**	**+0.3**
NUBE				*eS*	**Sn**	**13 22 32.0**	**+0.9**
NUBE	**Las Nubes**	**1.75**	**313**	⇑*iP*	**Pn**	**13 22 10.1**	**+0.1**
NUBE				*i* S	**Sn**	**13 22 31.5**	**+0.3**
NUBE				IAML		13 22 33.0	
	comp=Z,1μm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.77**	**41**	*iP*	**Pn**	**13 22 10.3**	**+0.1**
TGUH				*i* S	**Sn**	**13 22 31.6**	**0.0**
TGUH				IAML		13 22 37.9	
	comp=Z,960nm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.83**	**316**	*eP*	**Pn**	**13 22 11.7**	**+0.6**
SLOZ				*eS*	**Sn**	**13 22 35.1**	**+2.0**
MTO3	**Montecristo**	**1.89**	**333**	*eP*	**Pn**	**13 22 12.5**	**+0.5**
MTO3	**Montecristo**	**1.89**	**333**	⇑*iP*	**Pn**	**13 22 12.3**	**+0.3**
MTO3				IAML		13 22 40.4	
	comp=Z,300nm,1.0s						
COMHN	**El Horno**	**1.93**	**27**	⇓*iP*	**Pn**	**13 22 12.3**	**-0.3**
MOM2	**El Cardon**	**1.95**	**98**	⇓*iP*	**Pn**	**13 22 12.4**	**-0.2**
MOM2				IAML		13 22 13.4	
	comp=Z,440nm,1.0s						
YUSH	**Yuscaran**	**2.00**	**52**	⇓*iP*	**Pn**	**13 22 13.5**	**+0.1**
YUSH				*i* S	**Sn**	**13 22 37.3**	**-0.1**
ESQI	**Esquipulas**	**2.03**	**335**	⇑*iP*	**Pn**	**13 22 14.5**	**+0.7**
ESQI				IAML		13 22 48.5	
	comp=Z,430nm,1.0s						
LIMN	**Finca el Limon**	**2.07**	**80**	⇓*iP*	**Pn**	**13 22 14.0**	**-0.4**
LIMN				IAML		13 22 44.9	
	comp=Z,510nm,1.0s						
SARH	**Santa Rosa de**	**2.07**	**352**	⇑*iP*	**Pn**	**13 22 15.3**	**+0.9**
RCPN	**Sur Rio San Ju**	**2.44**	**70**	⇓*iP*	**Pn**	**13 22 18.8**	**-0.7**
RCPN				IAML		13 22 52.0	
	comp=Z,1.9nm,1.0s						
BOAB	**BOACO BROADBAN**	**2.74**	**95**	⇓*iP*	**Pn**	**13 22 22.9**	**-0.6**
BOAB				IAML		13 23 19.4	
	comp=Z,92nm,1.0s						
JUTIH	**Juticalpa Olan**	**2.92**	**48**	⇓*iP*	**Pn**	**13 22 26.6**	**+0.6**
HZTE	**Horizontes, Gu**	**3.44**	**125**	*iP*	**Pn**	**13 22 37.0**	**+3.9**
ORTG	**Ortega, Santa**	**3.75**	**128**	*iP*	**Pn**	**13 22 39.4**	**+1.9**
INDI	**Punta indio, G**	**4.05**	**134**	*iP*	**Pn**	**13 22 42.9**	**+1.4**
JTS	**Las Juntas de**	**4.20**	**125**	P	Pn	13 22 48.5	+5.0
	comp=Z,48nm,0.4s,baz=320,slow=22,SNR=33						
JTS				S	**Sn**	**13 23 35.9**	**+4.5**
	comp=Z,5.3nm,0.3s,baz=333,slow=22,SNR=1.1						
TEIG	**Tepich**	**7.47**	**1**	P	**Pn**	**13 23 30.4**	**+1.8**
	comp=Z,168nm,0.8s,baz=316,slow=18,SNR=7.4						
CMIG	**Matias Romero**	**7.58**	**306**	P	**Pn**	**13 23 31.9**	**+1.8**
	comp=Z,0.9nm,0.3s,baz=150,slow=8.1,SNR=1.7						
CMIG				S	**Sn**	**13 24 57.3**	**+2.3**
	comp=Z,1.9nm,0.4s,baz=39,slow=18,SNR=1.7						
TXAR	**Lajitas Array**	**21.75**	**322**	P	**P**	**13 26 29.7**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=147,slow=10,SNR=14 comp=Z,1.4nm,0.7s						
PDAR	**Pinedale Array**	**35.08**	**333**	P	**P**	**13 28 29.2**	**-2.9**
	comp=Z,0.7nm,0.8s,baz=134,slow=9.4,SNR=4.2 comp=Z,0.7nm,0.8s						
NVAR	**Mina Array Bea**	**36.86**	**319**	P	**P**	**13 28 45.8**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=158,slow=5.3,SNR=3.4 comp=Z,0.6nm,0.8s						
ULM	**Lac du Bonnet**	**37.92**	**352**	P	P	13 28 51.0	-5.0
	comp=Z,2.4nm,0.7s,baz=169,slow=8.6,SNR=3.7 comp=Z,2.4nm,0.7s						
YKA	**Yellowknife Ar**	**53.10**	**345**	P	P	13 30 51.2	-4.7
	comp=Z,0.8nm,0.9s,baz=142,slow=7.2,SNR=9.9 comp=Z,0.8nm,0.9s						
ILAR	**Eielson Array**	**65.39**	**336**	P	P	13 32 16.4	-4.4
	comp=Z,0.6nm,1.0s,baz=171,slow=5.0,SNR=6.5 comp=Z,0.6nm,1.0s						

*DJA **19** 13:23:28.8±0.4, 9.7N×4.2×93.3E×, h10km, M5.2/13, mb4.8/13, mB6.3/2, MLv5.4/3, Mw(mB)6.0/2, MwMwp5.6/1, Mwp5.7/1*
*IDC **19** 13:23:29.6±0.5, 9.92N×93.67E, h0km, mb4.3/24, mbtmp4.3/25, ML3.9/1, MS3.6/13, Error ellipse: s-maj=20.0km s-min=13.5km az=60.0*
*NEIC **19** 13:23:32.1±1.4, 9.76N±0.06×93.55E±0.06, h16km±4km, mb4.9/57, Error ellipse: s-maj=8.9km s-min=8.0km az=52.0*
*NDI **19** 13:23:36.3±3.0, 10.12N×93.64E, h14km±67km, mb4.8, mb4.9(NEIC)*

ISC 19 13:23:30.8±0.8, 9.57N±0.06×93.41E±0.05, h17km±4km, n180, σ1s57/176, mb4.7/66, MS3.6/13, 3C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.18**	**342**	Pn	**Pn**	**13 24 06.5**	**+0.2**
PBA	**Port Blair**	**2.18**	**342**	*eP*	**Pn**	**13 24 06.4**	**+0.1**
PBA				*eS*	**Sn**	**13 24 30.2**	**-2.6**
LHMI	**Lhok Sumawe**	**5.55**	**141**	Pn	Pn	13 24 55.9	+3.2
SRIT	**Nakonsritamara**	**6.19**	**98**		**Pn**	**13 25 00.8**	**-0.6**
KULM	**Kulim**	**8.34**	**120**	Pn	**Pn**	**13 25 30.7**	**-0.3**
RPSI	**Rantau Prapat**	**8.75**	**141**	Pn	Pn	13 25 39.3	+2.7
IPM	**Ipoh**	**9.09**	**123**	Pn	**Pn**	**13 25 42.3**	**+1.0**
GSI	**Gunungsitoli**	**9.19**	**153**	Pn	Pn	13 25 45.3	+2.6
GSI	**Gunungsitoli**	**9.19**	**153**	P	**Pn**	**13 25 38.7**	**-4.0**
	12nm,2.0s						
CMAR	**Chiang Mai Arr**	**10.34**	**31**	Pn	**Pn**	**13 25 56.4**	**-1.9**
CMAR	**Chiang Mai Arr**	**10.34**	**31**	Pn	**Pn**	**13 25 59.4**	**+1.0**
	0.3nm,0.3s,baz=218,slow=15,SNR=22						
CHTO	**Chiang Mai**	**10.64**	**30**		**Pn**	**13 26 00.4**	**-2.1**
PALK	**Pallekele**	**12.78**	**261**	Pn	**Pn**	**13 26 34.5**	**+2.6**
PALK	**Pallekele**	**12.78**	**261**	Pn	Pn	13 26 38.6	+6.8
	0.6nm,0.3s,baz=212,slow=14,SNR=1.5						
PALK				Sn	**Sn**	**13 28 49.4**	**-4.5**
	0.5nm,0.3s,baz=51,slow=15,SNR=2.3						
PALK				LR	LR	13 31 09.4	
	comp=Z,259nm,21.7s,baz=176,slow=35 3.3nm,0.5s						
MYKOM	**Kota Tinggi**	**12.94**	**126**	Pn	**Pn**	**13 26 34.8**	**+0.8**
MDRS	**Chennai**	**13.37**	**286**	*eP*	**P**	**13 26 46.6**	**-2.7**
MDRS				IAmb	IAmb	13 26 47.6	
	comp=Z,53nm,0.6s						
MDRS				*eS*	**Sn**	**13 29 05.3**	**-2.9**
VJD	**Vijayawada**	**14.22**	**300**	*eP*	**P**	**13 26 55.5**	**-3.3**
SALM	**Salem**	**15.10**	**279**	*eP*	**P**	**13 27 12.3**	**+3.8**
IMP	**Imphal**	**15.19**	**2**	*eP*	**Pn**	**13 27 01.8**	**-2.8**
IMP				IAmb	IAmb	13 27 08.8	
	comp=Z,20nm,1.0s						
SLVN	**Son La**	**15.45**	**40**	P	**Pn**	**13 27 11.5**	**+3.3**
BOK	**Bokaro**	**15.87**	**334**	*eP*	**P**	**13 27 18.1**	**+0.9**
BOK				IAmb	IAmb	13 27 26.8	
	comp=Z,12nm,0.8s						
BOK				*eS*	Sn	13 30 00.1	-9.0
SHL	**Shillong**	**15.98**	**355**	P	**Pn**	**13 27 16.5**	**+1.4**
SHL				IAmb	IAmb	13 27 17.3	
	comp=Z,34nm,0.8s						
SHL	**Shillong**	**15.98**	**355**	*eP*	**Pn**	**13 27 15.1**	**0.0**
SHL				IAmb	IAmb	13 27 17.1	
	comp=Z,23nm,0.8s						
KOHI	**KOHIMA**	**16.08**	**2**	*eP*	**Pn**	**13 27 13.4**	**-2.9**
KOHI				IAmb	IAmb	13 27 18.4	
	comp=Z,61nm,1.0s						
TNCH	**TengChong**	**16.13**	**17**	P	**Pn**	**13 27 15.3**	**-1.6**
TNCH				pP	P	13 27 20.0	-0.2
TNCH				sP	pP	13 27 23.3	-1.0
TNCH				pmax	pmax		
	comp=Z,16nm,0.7s						
HYB	**Hyderabad**	**16.41**	**300**	*eP*	**P**	**13 27 25.1**	**+1.9**
MOKO	**MOKOCHONG**	**16.70**	**3**	*eP*	**Pn**	**13 27 23.6**	**-0.6**
MOKO				IAmb	IAmb	13 27 26.7	
	comp=Z,29nm,0.8s						
MNAI	**Manna**	**16.79**	**145**	P	**Pn**	**13 27 21.7**	**-3.5**
	comp=Z,295nm,1.7s						
PMBI	**Palembang**	**16.80**	**137**	P	**Pn**	**13 27 20.2**	**-5.1**
	comp=Z,318nm,0.4s,comp=Z,16μmcomp=Z,13μm						
ITAN	**ITANAGAR**	**17.49**	**1**	*eP*	**Pn**	**13 27 32.4**	**-1.5**
ITAN				IAmb	IAmb	13 27 34.0	
	comp=Z,113nm,0.9s						
KMI	**Kunming**	**17.84**	**29**	⇑*iP*	**P**	**13 27 41.1**	**+2.0**
KMI				pmax	pmax		
	comp=Z,13nm,1.0s						
TAWA	**Tawang**	**17.99**	**356**	*eP*	**Pn**	**13 27 39.9**	**-0.7**
RAMN	**Ramite**	**18.45**	**340**	*eP*	**Pn**	**13 27 47.8**	**+1.8**
	comp=Z,48nm,0.8s						
QIZ	**Qiongzhong**	**18.48**	**58**	P	**P**	**13 27 43.8**	**-2.2**
QIZ				IAmb	IAmb	13 27 52.2	
	comp=Z,291nm,2.0s						
TAPN	**Taplejung**	**18.49**	**344**	*eP*	**P**	**13 27 47.3**	**+0.9**
PZH	**PanZhiHua**	**18.60**	**24**	P	**P**	**13 27 48.4**	**+1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
PZH				pmax	pmax		
	comp=Z,240nm,4.5s						
JIRN	**Jiri**	**19.24**	**340**	*eP*	**P**	**13 27 56.3**	**+1.5**
PKI	**Pulchoki**	**19.44**	**338**	*eP*	**P**	**13 27 58.6**	**+1.8**
PKIN	**Phulchoki**	**19.45**	**338**	*eP*	**Pn**	**13 27 59.1**	**+1.0**
GKN	**Gorkha**	**20.12**	**337**	*eP*	**P**	**13 28 05.3**	**+1.2**
	comp=Z,32nm,0.6s						
LSA	**Lhasa**	**20.14**	**354**	Pn	**P**	**13 28 05.3**	**+0.6**
LSA				IAmb	IAmb	13 28 10.9	
	comp=Z,16nm,0.6s						
CGJI	**Cibinong**	**20.20**	**142**	P	**P**	**13 28 01.7**	**-3.2**
	comp=Z,31nm,2.7s						
DANN	**Dangsing**	**20.77**	**335**	*eP*	**P**	**13 28 12.4**	**+1.1**
	comp=Z,60nm,0.7s						
PYUN	**Piuthan**	**20.89**	**333**	*eP*	**P**	**13 28 13.8**	**+1.3**
	comp=Z,33nm,0.7s						
GYA	**Guiyang**	**20.97**	**35**	⇑*iP*	**P**	**13 28 13.5**	**+0.2**
GYA				pmax	pmax		
	comp=Z,40nm,0.9s						
LEM	**Lembang**	**21.58**	**138**	LR	LR	13 36 38.4	
	comp=Z,125nm,19.7s,baz=330,slow=36						
CD2	**Chengdu**	**23.32**	**23**	P	**P**	**13 28 37.0**	**-1.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
GOMU	**GeErMu**	**26.54**	**3**	P	**P**	**13 29 08.1**	**0.0**
GOMU				pmax	pmax		
	comp=Z,27nm,0.9s						
H08S3	**Diego Garcia H**	**26.95**	**231**	T	T	13 56 29.4	
	baz=49,slow=74						
H08S2	**Diego Garcia H**	**26.96**	**231**	T	T	13 56 30.4	
	baz=49,slow=74						
H08S1	**Diego Carcia H**	**26.97**	**231**	T	T	13 56 29.6	
	baz=49						
LZH	**Lanzhou**	**28.05**	**18**	*eP*	P	13 29 12.8	-8.7
LZH				pP	pP	13 29 17.1	-8.9
LZH				pmax	pmax		
	comp=Z,19nm,1.6s						
XAN	**Xi'an**	**28.21**	**28**	⇑*iP*	**P**	**13 29 20.3**	**-2.5**
XAN				pP	pP	13 29 26.6	-0.8
XAN				sP	pwP	13 29 28.3	-2.3
XAN				S	S	13 34 01.3	-6.6
XAN				sS	pS	13 34 13.8	+0.7
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,340nm,4.5s						

KKAR	Karatay Array	38.94	333	P		P	13 30 56.1	+0.3
KKAR	Karatay Array	38.94	333	P		P	13 30 56.3	+0.5
KKAR				IAmb		IAmb	13 30 57.5	
	comp=Z,3.9nm,0.8s							
XLT	XiLinHaoTe	39.47	26	*e*P		P	13 30 59.8	-0.5
XLT				pP		pwP	13 31 09.1	+0.9
XLT				sP		sP	13 31 14.3	+7.6
XLT				PP		PnPn	13 32 35.8	+1.9
XLT				PcP		PcP	13 33 09.8	+1.8
XLT				pmax		pmax		
	comp=Z,11nm,0.8s							
XLT				pmax		pmax		
	comp=Z,260nm,4.3s							
SONM	Songino Array	39.69	14	P		P	13 31 00.8	-1.4
SONM	Songino Array	39.69	14	P		P	13 30 59.9	-2.2
	comp=Z,2.1nm,0.8s,baz=195,slow=10,SNR=8.5							
SONM				PcP		PcP	13 33 09.4	+0.6
	comp=Z,1.4nm,0.6s,baz=186,slow=4.8,SNR=6.0							
	comp=Z,2.1nm,0.8s							
KSRS	Korea Array	41.69	43	P		P	13 31 17.6	-1.0
	comp=Z,2.7nm,1.0s,baz=257,slow=8.9,SNR=5.8							
	comp=Z,2.7nm,1.0s							
GEYT	Alibeck	42.47	317	P		P	13 31 27.8	+2.7
GEYT				IAmb		IAmb	13 31 29.3	
	comp=Z,28nm,0.8s							
GEYT	Alibeck	42.47	317	P		P	13 31 27.8	+2.7
	comp=Z,25nm,0.8s,baz=137,slow=11,SNR=34							
	comp=Z,25nm,0.8s							
GYA0B	ALIBECK ARRAY	42.47	317	P		P	13 31 27.8	+2.7
GYA0B				IAmb		IAmb	13 31 29.3	
	comp=Z,23nm,0.8s							
KURBB	Kurchatov Arra	42.74	346	P		P	13 31 26.5	-0.5
	comp=Z,1.5nm,0.6s,baz=164,slow=7.8,SNR=24							
KURBB				PcP		PcP	13 33 19.6	+1.2
	comp=Z,1.5nm,0.7s,baz=158,slow=2.6,SNR=12							
	comp=Z,1.5nm,0.6s							
KURK	Kurchatov	42.80	346	P		P	13 31 26.8	-0.8
CN2	Changchun	44.01	34	*e*P		P	13 31 38.0	+0.7
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
ZAA0	Zalesovo Array	44.80	353	P		P	13 31 42.3	-1.2
ZALV	Zalesovo Beam	44.80	353	P		P	13 31 42.2	-1.3
ZALV	Zalesovo Beam	44.80	353	P		P	13 31 42.8	-0.7
	comp=Z,2.1nm,0.4s,baz=169,slow=8.5,SNR=16							
	comp=Z,2.1nm,0.4s							
BVAR	Borovoye Array	47.16	341	P		P	13 32 01.4	-0.8
	comp=Z,1.3nm,0.4s,baz=143,slow=8.3,SNR=13							
BVAR				PcP		PcP	13 33 34.8	+1.1
	comp=Z,1.9nm,0.7s,baz=182,slow=3.5,SNR=5.7							
	comp=Z,1.3nm,0.4s							
BRVK	Borovoye	47.23	341	P		P	13 32 01.0	-1.7
ABKAR	Akbulak array	48.41	331	P		P	13 32 12.3	+0.4
ABKAR				IAmb		IAmb	13 32 13.8	
	comp=Z,12nm,1.4s							
JCJ	Chichijima	49.13	62	P		P	13 32 17.4	-0.5
WB0	Warramunga Arr	49.78	126	P		P	13 32 24.0	+1.2
WB0				IAmb		IAmb	13 32 33.7	
	comp=Z,5.3nm,0.6s							
WRA	Warramunga Arr	49.83	126	P		P	13 32 24.8	+1.5
	comp=Z,1.1nm,0.5s,baz=305,slow=8.5,SNR=33							
	comp=Z,1.1nm,0.5s							
WRAB	Tennant Creek	49.83	126	P		P	13 32 24.2	+1.0
WRAB				IAmb		IAmb	13 32 33.8	
	comp=Z,4.8nm,0.7s							
WB2	Warramunga Arr	49.84	126	P		P	13 32 24.8	+1.5
WB2				IAmb		IAmb	13 33 35.4	
	comp=Z,23nm,1.6s							
WR0	Warramunga Arr	50.00	126	P		P	13 32 25.5	+1.0
WR0				IAmb		IAmb	13 32 35.4	
	comp=Z,6.2nm,0.8s							
KLR	Kul'dur	50.81	32	LR		LR	13 56 24.8	
	comp=Z,48nm,18.5s,baz=218,slow=39							
AS31	Alice Springs	51.55	131	P		P	13 32 36.4	+0.1
ASAR	Alice Springs	51.55	131	P		P	13 32 37.6	+1.4
	comp=Z,0.8nm,0.4s,baz=305,slow=7.5,SNR=24							
ASAR				PcP		PcP	13 33 51.9	+1.6
	comp=Z,0.8nm,0.6s,baz=316,slow=3.4,SNR=5.2							
	comp=Z,0.8nm,0.4s							
GNI	Garni	52.75	314	LR		LR	13 58 08.9	
	comp=Z,36nm,19.3s,baz=92,slow=40							
JKA	Kamikawa-asahi	54.63	42	P		P	13 32 58.0	-0.6
KBZ	Khabaz	55.36	317	P		P	13 33 05.4	+1.5
	comp=Z,6.1nm,0.9s,baz=124,slow=7.2,SNR=8.6							
	comp=Z,6.1nm,0.9s							
EIL	Elat	57.97	299	LR		LR	14 02 05.2	
	comp=Z,25nm,18.2s,baz=88,slow=40							
MMAI	Mount Meron Ar	58.09	303	LR		LR	14 01 06.5	
	comp=Z,47nm,20.6s,baz=78,slow=39							
BR131	Keskin Array S	60.79	310	P		P	13 33 42.4	+0.2
BR131				IAmb		IAmb	13 33 43.5	
	comp=Z,6.7nm,0.8s							
BRTR	Keskin Array B	60.79	310	P		P	13 33 42.3	+0.1
BRTR	Keskin Array B	60.79	310	P		P	13 33 42.8	+0.5
	comp=Z,4.6nm,0.7s,baz=122,slow=7.4,SNR=24							
BRTR				LR		LR	14 01 51.0	
	comp=Z,67nm,19.2s,baz=60,slow=38							
	comp=Z,4.6nm,0.7s							
STKA	Stephens Creek	61.79	134	LR		LR	14 02 59.7	
	comp=Z,38nm,18.5s,baz=14,slow=38							
AKASG	Malin Array Be	66.39	321	P		P	13 34 18.2	-0.6
	comp=Z,0.5nm,0.5s,baz=85,slow=5.2,SNR=6.3							
	comp=Z,0.5nm,0.5s							
H04N2	CROZET ISLANDS	66.81	210	T		T	14 46 32.7	
	baz=46,slow=75,SNR=6.4							
H04N1	CROZET ISLANDS	66.82	210	T		T	14 46 35.8	
	baz=46,slow=75,SNR=4.1							
H04N3	CROZET ISLANDS	66.83	210	T		T	14 46 34.9	
	baz=46,slow=75,SNR=5.3							
MLR	Muntele Rosu	67.47	315	P		P	13 34 26.4	+0.5
MLR				IAmb		IAmb	13 34 28.4	
	comp=Z,7.2nm,0.8s							
MNK	Minsk	68.14	325	*i* P		P	13 34 26.7	-3.1
	comp=E,10.0nm,0.8s							
MNK				*i* P		P	13 34 26.7	-3.1
	comp=N,25nm,1.1s							
MNK				*i* P		P	13 34 26.7	-3.1
	comp=Z,14nm,0.6s,baz=104							
MNK				*i* PcP		PcP	13 34 52.5	-3.1
MNK				*i* PP		PP	13 36 56.6	-3.5
MNK				*i* PPP		PPP	13 38 34.5	
MNK				*i* S		S	13 43 26.9	-2.1
MNK				*i* ScS		SKiKP	13 44 25.7	+1.1
MNK				*i* SS		SS	13 47 50.2	-1.3
MNK				*i* SSS		SSS	13 51 05.8	
MNK				*i* LR		LR	14 02 33.1	
MNK				*i* LRM		MLR	14 05 31.8	
	comp=N,811nm,18.9s							
MNK				*i* LRM		MLR	14 05 33.5	
	comp=Z,131nm,18.1s							
MNK				*i* LRM		MLR	14 05 35.3	
	comp=E,181nm,19.8s							
BURAR	Bucovina Array	68.32	317	P		P	13 34 31.8	+0.6
BURAR				IAmb		IAmb	13 34 33.0	
	comp=Z,3.0nm,0.6s							
BUR08	Bucovina Ar. S	68.33	317	P		P	13 34 31.8	+0.5
BUR08				IAmb		IAmb	13 36 01.5	
	comp=Z,18nm,1.9s							
PABE	Paberze	70.56	326	P		P	13 34 44.9	+0.2
FINES	FINESS Array B	70.89	332	P		P	13 34 46.9	+0.3
	comp=Z,1.5nm,0.6s,baz=93,slow=5.1,SNR=11							
	comp=Z,1.5nm,0.6s							
PDG	Podgorica	71.92	311	P		P	13 34 53.5	+0.2
PDG				IAmb		IAmb	13 37 26.9	
	comp=Z,40nm,1.7s							
OJC	Ojcow	72.22	320	P		P	13 34 55.3	+0.4
OJC				IAmb		IAmb	13 34 56.5	
	comp=Z,6.8nm,0.6s							
SCTE	Santa Cesarea	72.39	309	P		P	13 34 56.4	+0.2
VYHS	Vyhne	72.68	318	*e*P		P	13 34 58.6	+0.9
KEV	Kevo	73.01	341	P		P	13 34 59.5	+0.3
ARCES	ARCESS Array B	73.44	340	P		P	13 35 02.1	+0.2
ARCES	ARCESS Array B	73.44	340	P		P	13 35 02.4	+0.6
	comp=Z,7.0nm,1.1s,baz=93,slow=6.7,SNR=14							
	comp=Z,7.0nm,1.1s							
DPC	Dobruska-Polom	74.46	320	*e*P		P	13 35 09.9	+1.7
TREC	Trest	74.94	318	*e*P		P	13 35 11.7	+0.7
OBKA	Obir	75.47	316	*e*P		P	13 35 15.5	+1.3
	comp=Z,4.3nm,0.7s							
CKRC	Cesky Krumlov	75.69	318	*e*P		P	13 35 16.7	+1.4
BOSA	Boshof	75.88	237	P		P	13 35 19.9	+3.0
BOSA				IAmb		IAmb	13 35 24.0	
	comp=Z,14nm,1.2s							
BOSA	Boshof	75.88	237	P		P	13 35 21.2	+4.4
	comp=Z,5.6nm,0.8s,baz=94,slow=2.6,SNR=6.9							
	comp=Z,5.6nm,0.8s							
GEC2	GERESS Array S	76.09	318	P		P	13 35 18.4	+0.7
GEC2				IAmb		IAmb	13 35 19.6	
	comp=Z,3.8nm,0.6s							
GERES	GERESS Array B	76.09	318	P		P	13 35 18.8	+1.1
GERES	GERESS Array B	76.09	318	P		P	13 35 19.0	+1.3
	comp=Z,3.4nm,0.5s,baz=100,slow=7.0,SNR=10							
	comp=Z,3.4nm,0.5s							
SABO	M.te Sabotino	76.11	315	P		P	13 35 17.9	+0.1
SABO				IAmb		IAmb	13 37 05.4	
	comp=Z,50nm,1.5s							
PRED	Cave del Predi	76.14	315	P		P	13 35 18.6	+0.6
PRED				IAmb		IAmb	13 35 19.7	
	comp=Z,6.3nm,0.7s							
KHC	Kasperske Hory	76.18	318	*e*P		P	13 35 19.0	+0.9
CLL	Collm	76.60	320	*e*P		P	13 35 21.0	+0.6
CLUD	Cludinico	76.62	315	P		P	13 35 21.6	+0.9
CLUD				IAmb		IAmb	13 35 22.5	
	comp=Z,7.4nm,0.7s							
HFS	Hagfors	76.64	330	P		P	13 35 20.8	+0.3
	comp=Z,1.1nm,0.5s,baz=100,slow=7.7,SNR=8.7							
	comp=Z,1.1nm,0.5s							
STAL	STALIGIAL	76.73	315	P		P	13 35 22.1	+0.8
STAL				IAmb		IAmb	13 36 40.9	
	comp=Z,19nm,1.5s							
LESA	Schwarzleotal	76.76	316	*i* P		P	13 35 21.7	+0.2
	comp=Z,3.5nm,0.5s							
WTTA	Wattenberg	77.47	316	*i* P		P	13 35 26.0	+0.3
	comp=Z,4.2nm,0.5s							
SQTA	Sankt Quirin	77.76	316	*i* P		P	13 35 27.6	+0.4
	comp=Z,5.5nm,0.5s							
MOTA	Moosalm	77.83	316	*i* P		P	13 35 27.8	+0.2
	comp=Z,1.5nm,0.3s							
NOA	NORSAR Array B	77.91	330	P		P	13 35 26.9	-0.8
	comp=Z,1.8nm,0.8s,baz=93,slow=6.2,SNR=4.4							
	comp=Z,1.8nm,0.8s							
SPITS	Spitsbergen Ar	78.04	348	P		P	13 35 27.4	-0.7
	comp=Z,3.7nm,0.6s,baz=120,slow=9.2,SNR=6.9							
	comp=Z,3.7nm,0.6s							
RETA	Reutte	78.06	317	*i* P		P	13 35 29.3	+0.5
	comp=Z,5.7nm,0.5s							
FETA	Feichten	78.09	316	*i* P		P	13 35 29.7	+0.7
	comp=Z,2.2nm,0.5s							
DZM	Mont Dzumac	78.15	115	LR		LR	14 13 57.3	
	comp=Z,21nm,18.4s,baz=267,slow=39							
DAVA	Damuels	78.66	316	*i* P		P	13 35 33.2	+1.0
	comp=Z,2.8nm,0.3s							
TUE	Stuetta	79.06	316	P		P	13 35 34.8	+0.3
TUE				IAmb		IAmb	13 35 36.5	
	comp=Z,27nm,2.0s							
MAW	Mawson	80.04	191	P		P	13 35 43.0	+4.1
MAW	Mawson	80.04	191	P		P	13 35 42.7	+3.8
	comp=Z,1.9nm,0.6s,baz=319,slow=8.6,SNR=2.0							
	comp=Z,1.9nm,0.6s							
SENIN	Lac Senin/Sane	80.48	316	P		P	13 35 43.1	+0.9
BNI	Bardonecchia	81.01	314	P		P	13 35 46.6	+1.6
BNI				IAmb		IAmb	13 38 47.7	
	comp=Z,52nm,1.8s							
EKA	Eskdalemuir Ar	85.93	325	P		P	13 36 10.8	+0.9
	comp=Z,2.3nm,0.7s,baz=98,slow=5.9,SNR=7.0							
	comp=Z,2.3nm,0.7s							
WHZ	Wether Hill Ro	86.24	138	P		P	13 36 12.4	+0.9
RPZ	Rata Peaks	87.74	135	LR		LR	14 18 29.1	
	comp=Z,33nm,18.2s,baz=288,slow=38							
E19K	Redstone River	88.49	21	P		P	13 36 21.9	-0.1
E19K				IAmb		IAmb	13 39 08.9	
	comp=Z,20nm,1.8s							
B21K	Ikpikpuk River	88.55	19	P		P	13 36 22.0	-0.2
TORD	Torodi Ar. Bea	89.51	283	P		P	13 36 29.8	+1.9
	comp=Z,1.0nm,0.9s,baz=94,slow=6.0,SNR=3.7							
	comp=Z,1.0nm,0.9s							
ESDC	Sonseca Array	89.58	310	P		P	13 36 29.2	+1.4
	comp=Z,0.6nm,0.5s,baz=65,slow=4.1,SNR=8.1							
	comp=Z,0.6nm,0.5s							
C23K	Itkillik River	89.71	18	P		P	13 36 27.8	+0.2
G21K	Allakaket	90.21	22	P		P	13 36 31.1	+1.0
IMAR	Indian Mountai	90.34	22	P		P	13 36 31.9	+1.2
ILAR	Eielson Array	93.45	22	P		P	13 36 45.1	-0.1
	comp=Z,0.3nm,0.7s,baz=306,slow=4.0,SNR=5.0							
ILAR				PKKPbc		PKKPbc	13 53 53.5	-0.3
	comp=Z,0.2nm,0.4s,baz=151,slow=2.3,SNR=5.2							
	comp=Z,0.3nm,0.7s							
A36M	Sachs Harbour	94.74	11	P		P	13 36 50.2	-0.7
A36M				IAmb		IAmb	13 36 51.7	
	comp=Z,3.6nm,0.9s							
DBIC	Dimbokro	97.00	278	LR		LR	14 20 54.9	
	comp=Z,31nm,18.0s,baz=6.0,slow=35							
NVAR	Mina-Array Bea	123.83	30	PKP		PKiKP	13 42 29.6	+0.7
	comp=Z,1.2nm,0.6s,baz=321,slow=1.9,SNR=14							
PDAR	Pinedale Array	123.85	20	PKP		PKiKP	13 42 28.9	+0.1
	comp=Z,0.9nm,0.7s,baz=94,slow=0.9,SNR=9.8							
TXAR	Lajitas Array	137.97	23	PKP		PKiKP	13 42 56.3	-1.1
	comp=Z,0.6nm,0.6s,baz=91,slow=0.3,SNR=10							
TXAR				SKPbc		SKPbc	13 46 29.1	+0.2
	comp=Z,0.5nm,1.1s,baz=327,slow=1.5,SNR=5.0							
PLCA	Paso Flores	145.86	202	PKPbc		PKiKP	13 43 12.7	-0.5
	comp=Z,2.8nm,0.6s,baz=201,slow=3.8,SNR=19							
CPUP	Villa Florida	147.68	235	PKPbc		PKiKP	13 43 17.7	+0.5
	comp=Z,1.9nm,0.7s,baz=193,slow=4.5,SNR=4.6							

*SJA **19** 13:25:13.1±1.7,21°.18S×68°.63W,h100km,ML3.5,MW3.4*
*GUC **19** 13:25:13.7±0.5,21°.20S×68°.66W,h117km±3km,ML3.5*

ISC 19 13:25:13.3±1.5,21°.20S±0°.03×68°.77W±0°.06,
h127km±10km,n32,σ0°.86/64,8C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PB01	IPOC Station P	0.69	283	*e*P		Pn	13 25 33.0	-0.4
PB01				eS		Sn	13 25 48.5	-0.1
PB01				IAML			13 25 49.6	
	comp=Z,391nm,0.1s							
PB01	IPOC Station P	0.69	283	⇓*i* P		Pn	13 25 32.9	-0.5
PB01				eS		Sn	13 25 47.8	-0.7
PB01				IAML			13 25 50.4	
	comp=E,926nm,0.7s							
PB09	IPOC Station P	0.74	216	*e*P		Pn	13 25 33.9	0.0
PB09				eS		Sn	13 25 49.9	+0.4
PB09				IAML			13 25 51.1	
	comp=Z,429nm,0.7s							
PB09	IPOC Station P	0.74	216	⇑*i* P		Pn	13 25 33.8	0.0
PB09				eS		Sn	13 25 49.1	-0.4
PB09				IAML			13 25 50.6	
	comp=N,657nm,0.2s							
PB02	IPOC Station P	1.06	263	*e*P		Pn	13 25 36.7	+0.1
PB02				eS		Sn	13 25 54.8	+0.5
PB02				IAML			13 25 57.1	
	comp=Z,1μm,0.3s							
PB02	IPOC Station P	1.06	263	⇓*i* P		Pn	13 25 36.7	+0.1
PB02				eS		Sn	13 25 54.5	+0.2
PB02				IAML			13 25 56.6	
	comp=N,1μm,0.3s							
PB08	IPOC Station P	1.11	341	*e*P		Pn	13 25 37.5	0.0
PB08				eS		Sn	13 25 56.4	+0.6
PB08				IAML			13 25 58.5	
	comp=Z,265nm,0.3s							
PB08	IPOC Station P	1.11	341	⇑*i* P		Pn	13 25 37.4	0.0
PB08				eS		Sn	13 25 55.4	-0.3
PB07	IPOC Station P	1.16	243	*e*P		Pn	13 25 37.6	-0.1
PB07				eS		Sn	13 25 56.9	+0.6
PB07				IAML			13 26 00.7	
	comp=Z,385nm,0.2s							
PB07	IPOC Station P	1.16	243	*i* P		Pn	13 25 37.7	0.0
PB07				eS		Sn	13 25 56.2	-0.1
PB07				IAML			13 25 57.4	
	comp=N,758nm,0.3s							
PATCX	Punta Patache	1.34	286	*e*P		Pn	13 25 39.5	0.0
PATCX				eS		Sn	13 26 00.9	+1.4
PATCX				IAML			13 26 02.6	
	comp=Z,728nm,0.2s							
PATCX	Punta Patache	1.34	286	*i* P		Pn	13 25 39.5	0.0
PATCX				eS		Sn	13 26 00.1	+0.6
PATCX				IAML			13 26 02.2	
	comp=E,2μm,0.3s							
HMBC	Humberstone	1.39	311	*e*P		Pn	13 25 39.8	-0.3
HMBC				eS		Sn	13 26 00.9	+0.5
HMBC				IAML			13 26 01.4	
	comp=Z,646nm,0.5s							
HMBC	Humberstone	1.39	311	⇑*i* P		Pn	13 25 40.0	-0.1
HMBC				⇑eS		Sn	13 26 00.1	-0.3
HMBC				IAML			13 26 01.8	
	comp=N,1μm,0.7s							
LVC	Limon Verde	1.41	185	*e*P		Pn	13 25 40.3	-0.3
LVC				eS		Sn	13 26 01.5	+0.1
TA01	Diego Aracena	1.46	295	*e*P		Pn	13 25 40.4	-0.4
TA01				eS		Sn	13 26 02.0	+0.4
TA01				IAML			13 26 03.3	
	comp=Z,336nm,0.2s							
TA01	Diego Aracena	1.46	295	*i* P		Pn	13 25 40.7	0.0
TA01				⇑eS		Sn	13 26 01.4	-0.2
TA01				IAML			13 26 02.3	
	comp=E,955nm,0.3s							
GO01	Chusmiza	1.57	345	*e*P		Pn	13 25 42.5	0.0
GO01				eS		Sn	13 26 06.6	+1.9
GO01	Chusmiza	1.57	345	⇑*i* P		Pn	13 25 42.4	-0.1
GO01				eS		Sn	13 26 04.6	-0.2
PB11	IPOC Station P	1.65	330	*e*P		Pn	13 25 42.8	-0.3
PB11				eS		Sn	13 26 01.5	-4.4
PB11				eS		Sn	13 26 06.7	+0.8
PB11				IAML			13 26 10.7	
	comp=Z,340nm,0.3s							
PB11	IPOC Station P	1.65	330	⇑*i* P		Pn	13 25 42.8	-0.3
PB11				eS		Sn	13 26 05.7	-0.2
PB11				IAML			13 26 06.9	
	comp=E,499nm,0.2s							
PB06	IPOC Station P	1.68	206	*e*P		Pn	13 25 43.2	-0.1
PB06				eS		Sn	13 26 06.4	+0.1
PB06				eS		Sn	13 26 06.7	+0.3
PB06				IAML			13 26 09.8	
	comp=Z,339nm,0.5s							
PB06	IPOC Station P	1.68	206	⇑*i* P		Pn	13 25 43.3	0.0
PB06				eS		Sn	13 26 06.2	-0.2
PB06				IAML			13 26 07.6	
	comp=E,579nm,0.3s							
PB04	IPOC Station P	1.71	228	*e*P		Pn	13 25 44.4	+0.6
PB04				eS		Sn	13 26 07.9	+0.9
PB04				IAML			13 26 11.5	
	comp=Z,291nm,0.2s							
PB04	IPOC Station P	1.71	228	*i* P		Pn	13 25 44.0	+0.3
PB04				eS		Sn	13 26 07.4	+0.4
PB04				IAML			13 26 09.1	
	comp=N,372nm,0.3s							
PB15	IPOC Station P	2.10	198	*e*P		Pn	13 25 48.3	-0.3
PB15				eS		Sn	13 26 16.7	+1.0
PB15				IAML			13 26 21.6	
	comp=Z,848nm,0.2s							
PB15	IPOC Station P	2.10	198	*i* P		Pn	13 25 48.6	0.0
PB15				eS		Sn	13 26 15.9	+0.2
PB16	IPOC Station P	2.93	346	*e*P		Pn	13 25 59.6	+0.1
PB16				eS		Sn	13 26 37.8	+2.8
PB12	IPOC Station P	2.96	330	*e*P		Pn	13 25 58.3	-1.1
PB12				eS		Sn	13 26 34.7	-0.2
YJA	Yavi	3.18	108	*e*P		Pn	13 26 02.7	+0.1
PB14	IPOC Station P	3.73	203	*e*P		Pn	13 26 10.2	+0.6
PB14				eS		Sn	13 26 52.0	-1.4
GO02	Mina Guanaco	4.02	191	*e*P		Pn	13 26 12.4	-1.1

NOU 19 13:34:45.0,21°.43S×169°.06E,h0km,MLv4.2/8,
Southeast of Loyalty Islands,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MARNC	Mare, Loyalty	0.96	267	P		Pg	13 35 03.5	+0.1
PINNC	Pines Island,	1.91	232	P		Pn	13 35 18.7	0.0
YATNC	Mamie plateau,	2.11	252	P		Pn	13 35 20.1	-1.5
OUENC	Ouen Island, N	2.28	244	P		Pn	13 35 24.3	+0.3
DZM	Mont Dzumac	2.51	255	P		Pn	13 35 27.0	-0.2
ONTNC	Ouen Toro	2.57	250	P		Pn	13 35 28.0	0.0
NOUC	Port Laguerre	2.65	255	P		Pn	13 35 29.1	+0.1
KOUNC	Koumac, New Ca	4.55	280	P		Pn	13 35 55.1	0.0

*IDC **19** 13:39:41.9±0.8,9°.99N×126°.20E,h0km,mb3.8/13,*
mbtmp3.8/13,MS3.0/2,Error ellipse: s-maj=35.4km
s-min=17.2km az=69.0
*NEIC **19** 13:39:51.7±0.8,9°.9N±0°.1×126°.06E±0°.09,h63km±8km,*
mb4.5/29,Error ellipse: s-maj=20.0km s-min=8.4km
az=213.0

ISC 19 13:39:50.0±0.6,9°.94N±0°.09×126°.1E±0°.2,h54km,n59,
σ1s04/50,mb4.3/28,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DAV	Davao City (W)	2.90	191	Lg		Lg	13 41 13.5	
	93nm,0.3s,baz=294,slow=6.8,SNR=1.9							
TGY	Tanaytay City	6.56	310	LR		LR	13 44 47.1	
	comp=Z,60nm,18.1s,baz=112,slow=46							
FAKI	Fak Fak	14.15	154	Pn		Pn	13 43 09.2	+1.5
TPUB	Ta-pu	14.29	339	Pn		Pn	13 43 11.0	+1.5
JOW	Kunigami	16.93	7	LR		LR	13 49 15.9	
	comp=Z,110nm,20.1s,baz=130,slow=34							
KNRA	Kununurra	25.58	174	P		P	13 45 14.5	+0.3
KNRA				IAmb		IAmb	13 45 14.9	
	comp=Z,16nm,1.1s							
CMAR	Chiang Mai Arr	27.66	291	P		P	13 45 33.6	+0.6
	comp=Z,0.5nm,0.7s,baz=91,slow=8.1,SNR=1.9							
	comp=Z,0.5nm,0.7s							
WRA	Warramunga Arr	30.77	165	P		P	13 45 58.5	-2.1
	comp=Z,0.3nm,0.7s,baz=345,slow=9.0,SNR=2.0							
	comp=Z,0.3nm,0.7s							
WB2	Warramunga Arr	30.77	165	P		P	13 46 01.4	+0.8
WB2				IAmb		IAmb	13 46 14.7	
	comp=Z,8.1nm,1.3s							
PATS	Pohnpei	31.97	93	P		P	13 46 10.7	-0.6
AS31	Alice Springs	34.25	167	P		P	13 46 29.6	-1.4
ASAR	Alice Spring

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,7.7nm,1.4s						
I23K	**Minto, Yukon-K**	**78.74**	**25**	P	P	**13 51 47.3**	**+0.9**
I23K				IAmb	IAmb	13 52 14.1	
	comp=Z,7.2nm,1.4s						
D24K	**Happy Valley**	**79.01**	**21**	P	P	**13 51 48.9**	**+1.0**
D24K				IAmb	IAmb	13 51 50.8	
	comp=Z,3.4nm,0.8s						
F24K	**Squaw Lake**	**79.35**	**23**	P	P	**13 51 51.4**	**+1.6**
F24K				IAmb	IAmb	13 51 57.1	
	comp=Z,5.4nm,1.4s						
ILAR	**Eielson Array**	**79.80**	**26**	P	P	**13 51 50.6**	**-1.6**
ILAR	**Eielson Array**	**79.80**	**26**	P	P	**13 51 50.9**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=231,slow=4.3,SNR=7.9						
	comp=Z,0.3nm,0.7s						
E25K	**Arctic Village**	**80.22**	**22**	P	P	**13 51 55.8**	**+1.3**
BMAR	**Burnt Mountain**	**80.62**	**23**	P	P	**13 51 57.8**	**+1.0**
D27M	**Malcolm River**	**81.81**	**21**	P	P	**13 52 04.5**	**+1.4**
D27M				IAmb	IAmb	13 52 10.4	
	comp=Z,6.6nm,1.4s						
K27K	**Chicken**	**81.93**	**26**	P	P	**13 52 04.7**	**+1.1**
K27K				IAmb	IAmb	13 52 06.0	
	comp=Z,8.9nm,1.4s						
I28M	**Miner Creek**	**82.67**	**25**	P	P	**13 52 08.6**	**+1.0**
I28M				IAmb	IAmb	13 52 09.6	
	comp=Z,3.1nm,0.8s						
G29M	**Pine Creek**	**83.22**	**23**	P	P	**13 52 11.2**	**+0.9**
ARCES	**ARCESS Array B**	**84.46**	**340**	P	P	**13 52 17.2**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=74,slow=6.7,SNR=1.7						
	comp=Z,2.7nm,0.9s						
FINES	**FINESS Array B**	**86.12**	**332**	P	P	**13 52 24.8**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=88,slow=5.1,SNR=10						
	comp=Z,0.6nm,0.4s						
A36M	**Sachs Harbour**	**86.27**	**17**	P	P	**13 52 26.2**	**+0.7**
A36M				IAmb	IAmb	13 52 27.2	
	comp=Z,3.5nm,0.8s						
YKA	**Yellowknife Ar**	**94.11**	**24**	P	P	**13 53 02.5**	**0.0**
	comp=Z,0.5nm,0.8s,baz=297,slow=4.7,SNR=7.2						
	comp=Z,0.5nm,0.8s						

IDC ***19*** *13:43:39.9±4.0, 10°.23S×161°.24E, h70km±30km, mb3.5/6, mbtmp3.8/6, Error ellipse: s-maj=36.9km s-min=25.2km az=101.0*

NEIC ***19*** *13:43:40.8±0.9, 10°.0S±0°.1×161°.2E±0°.1, h79km±9km, mb4.2/8, Error ellipse: s-maj=21.7km s-min=14.3km az=221.0*

ISC 19 13:43:39.7±0.9, 10°.1S±0°.1×161°.2E±0°.1, h67km, n18, σ1§06/19, mb3.9/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.42**	**299**	Pn	**Pn**	**13 44 03.8**	**+0.3**
HNR	**Honiara**	**1.42**	**299**	P	**Pn**	**13 44 04.1**	**+0.6**
	2μm,0.3s,baz=159,slow=6.5,SNR=18						
HNR				S	**Sn**	**13 44 23.8**	**+2.4**
	4μm,0.3s,baz=181,slow=19,SNR=4.7						
HNR				LR	LR	13 44 50.6	
	comp=Z,1μm,20.9s,baz=154,slow=47						
RABL	**Rabaul**	**10.73**	**303**	Pn	**Pn**	**13 46 10.3**	**-0.4**
KOUNC	**Koumac, New Ca**	**10.78**	**164**	Pn	**Pn**	**13 46 13.4**	**+2.0**
CTAO	**Charters Tower**	**17.49**	**234**	P	**Pn**	**13 47 38.4**	**-0.9**
WR0	**Warramunga Arr**	**27.50**	**246**	P	**P**	**13 49 19.9**	**-0.2**
WR0				IAmb	IAmb	13 49 37.3	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**27.58**	**247**	P	**P**	**13 49 20.6**	**-0.2**
WB0				IAmb	IAmb	13 49 37.1	
	comp=Z,7.3nm,1.5s						
WRA	**Warramunga Arr**	**27.68**	**246**	P	**P**	**13 49 21.2**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=75,slow=9.0,SNR=5.9						
	comp=Z,1.1nm,0.6s						
ASAR	**Alice Springs**	**29.32**	**239**	P	**P**	**13 49 35.5**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=62,slow=10,SNR=9.2						
	comp=Z,0.3nm,0.5s						
PSA00	**Pilbara Seismi**	**41.26**	**249**	P	**P**	**13 51 16.9**	**-1.8**
CMAR	**Chiang Mai Arr**	**67.66**	**295**	P	**P**	**13 54 30.6**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=133,slow=7.5,SNR=1.8						
	comp=Z,0.3nm,0.4s						
SONM	**Songino Array**	**75.33**	**325**	P	**P**	**13 55 16.2**	**+0.2**
SONM	**Songino Array**	**75.33**	**325**	P	**P**	**13 55 16.8**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=138,slow=5.9,SNR=6.9						
	comp=Z,1.3nm,0.6s						
ANM	**Nome**	**78.62**	**14**	P	**P**	**13 55 32.9**	**-1.0**
QSPA	**South Pole Qui**	**79.87**	**180**	P	**P**	**13 55 41.1**	**+0.1**
QSPA				IAmb	IAmb	13 56 22.5	
	comp=Z,4.4nm,1.5s						
QSPA	**South Pole Qui**	**79.87**	**180**	P	**P**	**13 55 40.9**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=38,slow=1.3,SNR=6.2						
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	**84.11**	**20**	P	**P**	**13 56 02.9**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=245,slow=5.0,SNR=6.3						
	comp=Z,0.1nm,0.4s						
G23K	**Bananza Creek**	**84.39**	**17**	P	**P**	**13 56 03.5**	**-1.0**
G23K				IAmb	IAmb	13 56 12.4	
	comp=Z,6.7nm,1.4s						

IDC ***19*** *14:05:09.2±1.8, 17°.78S×69°.17W, h140km±18km, mb3.7/8, mbtmp4.2/13, MS3.7/1, Error ellipse: s-maj=21.2km s-min=15.4km az=33.0*

VAO ***19*** *14:05:09.0±0.3, 17°.77S×69°.19W, h124km, mb4.3*

NEIC ***19*** *14:05:10.8±1.4, 17°.92S±0°.05×69°.31W±0°.07, h158km±5km, mb4.3/13, Error ellipse: s-maj=10.0km s-min=7.6km az=70.0*

GUC ***19*** *14:05:11.1±0.8, 17°.90S×69°.41W, h162km±4km, ML4.5*

ISC 19 14:05:09.6±0.6, 17°.89S±0°.04×69°.24W±0°.06, h154km±6km, n125, σ1§40/138, mb4.1/9, 8C-4D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.38**	**323**	Pn	**Pn**	**14 05 33.7**	**+2.1**
PB18	**Visviri**	**0.38**	**323**	↓*i* P	**Pn**	**14 05 33.8**	**+2.3**
PB18				*e*S	**Sn**	**14 05 51.0**	**+2.9**
PB16	**IPOC Station P**	**0.51**	**210**	Pn	**Pn**	**14 05 33.9**	**+1.7**
PB16	**IPOC Station P**	**0.51**	**210**	↓*i* P	**Pn**	**14 05 33.9**	**+1.7**
PB16				*e*S	**Sn**	**14 05 51.4**	**+2.0**
AP01	**Chacalluta**	**1.15**	**245**	Pn	**Pn**	**14 05 36.3**	**+0.3**
AP01	**Chacalluta**	**1.15**	**245**	↑*i* P	**Pn**	**14 05 36.5**	**+0.5**
AP01				*e*S	**Sn**	**14 05 56.3**	**+0.1**
AP01				IAML		14 05 57.3	
	comp=E,5μm,0.3s						
PB12	**IPOC Station P**	**1.26**	**235**	Pn	**Pn**	**14 05 37.2**	**+0.1**
PB12	**IPOC Station P**	**1.26**	**235**	↑*i* P	**Pn**	**14 05 37.3**	**+0.1**
PB12				*i* S	**Sn**	**14 05 57.6**	**-0.7**
GO01	**Chusmiza**	**1.77**	**179**	Pn	**Pn**	**14 05 45.0**	**+2.2**
GO01	**Chusmiza**	**1.77**	**179**	↓*i* P	**Pn**	**14 05 45.0**	**+2.2**
GO01				*e*S	**Sn**	**14 06 10.7**	**+2.3**
GO01				IAML		14 06 14.8	
	comp=N,2μm,0.3s						
PB11	**IPOC Station P**	**1.90**	**192**		**Pn**	**14 05 45.2**	**+1.2**
PB11	**IPOC Station P**	**1.90**	**192**	↑*i* P	**Pn**	**14 05 45.2**	**+1.2**
PB11				*e*S	**Sn**	**14 06 11.0**	**+0.5**
LPAZ	**La Paz**	**1.91**	**34**	Pn	**Pn**	**14 05 46.6**	**+2.0**
PB08	**IPOC Station P**	**2.24**	**178**		**Pn**	**14 05 50.2**	**+2.0**
PB08	**IPOC Station P**	**2.24**	**178**	↓*i* P	**Pn**	**14 05 50.2**	**+2.0**
PB08				*e*S	**Sn**	**14 06 19.4**	**+1.5**
PB08				IAML		14 06 22.4	
	comp=E,1μm,0.5s						
TA02	**Huaiquique**	**2.51**	**199**		**Pn**	**14 05 51.5**	**+0.4**
TA02	**Huaiquique**	**2.51**	**199**	*e*P	**Pn**	**14 05 51.5**	**+0.4**
TA02				*i* S	**Sn**	**14 06 21.5**	**-1.6**
TA02				IAML		14 06 33.0	
	comp=N,1μm,0.3s						
PX03	**IPOC Station P**	**2.53**	**188**	*e*P	**Pn**	**14 05 51.8**	**+0.5**
PX03				*e*S	**Sn**	**14 06 23.3**	**-0.3**
PX03				IAML		14 06 28.3	
	comp=N,3μm,0.3s						
TA01	**Diego Aracena**	**2.81**	**198**		**Pn**	**14 05 54.9**	**+0.2**
TA01	**Diego Aracena**	**2.81**	**198**	↑*i* P	**Pn**	**14 05 54.6**	**-0.1**
TA01				*i* S	**Sn**	**14 06 27.1**	**-2.5**
TA01				IAML		14 06 30.9	
	comp=N,966nm,0.6s						
PATCX	**Punta Patache**	**3.04**	**196**		**Pn**	**14 05 58.3**	**+0.6**
PATCX	**Punta Patache**	**3.04**	**196**	*i* P	**Pn**	**14 05 57.8**	**+0.1**
PATCX				*e*S	**Sn**	**14 06 33.6**	**-1.4**
PB01	**IPOC Station P**	**3.15**	**184**		**Pn**	**14 06 00.5**	**+1.5**
PB01	**IPOC Station P**	**3.15**	**184**	↑*i* P	**Pn**	**14 06 00.1**	**+1.0**
PB01				*i* S	**Sn**	**14 06 36.4**	**-1.1**
PB01				IAML		14 06 39.9	
	comp=E,996nm,0.4s						
PB02	**IPOC Station P**	**3.47**	**190**		**Pn**	**14 06 04.0**	**+0.9**
PB02	**IPOC Station P**	**3.47**	**190**	↑*i* P	**Pn**	**14 06 03.8**	**+0.7**
PB02				*i* S	**Sn**	**14 06 39.9**	**-4.9**
PB07	**IPOC Station P**	**3.87**	**189**	Pn	**Pn**	**14 06 09.0**	**+0.7**
PB07	**IPOC Station P**	**3.87**	**189**	*e*P	**Pn**	**14 06 09.0**	**+0.7**
PB07				*i* S	Sn	14 06 46.8	-7.3
PB09	**IPOC Station P**	**3.89**	**180**		**Pn**	**14 06 10.4**	**+1.7**
PB09	**IPOC Station P**	**3.89**	**180**	*e*P	**Pn**	**14 06 10.4**	**+1.7**
PB04	**IPOC Station P**	**4.50**	**191**		**Pn**	**14 06 16.8**	**+0.2**
PB04	**IPOC Station P**	**4.50**	**191**	↑*i* P	**Pn**	**14 06 16.9**	**+0.2**
LVC	**Limon Verde**	**4.71**	**176**	Pn	**Pn**	**14 06 20.5**	**+1.0**
LVC	**Limon Verde**	**4.71**	**176**	*e*P	**Pn**	**14 06 19.7**	**+0.2**
LVC	**Limon Verde**	**4.71**	**176**	P	**Pn**	**14 06 21.2**	**+1.7**
	comp=E,25nm,0.3s,baz=38,slow=12,SNR=145						
LVC				S	**Sn**	**14 07 13.2**	**-0.9**
	comp=E,145nm,0.4s,baz=249,slow=16,SNR=26						
PB06	**IPOC Station P**	**4.80**	**184**	Pn	**Pn**	**14 06 20.9**	**+0.3**
PB06	**IPOC Station P**	**4.80**	**184**	↑*i* P	**Pn**	**14 06 21.1**	**+0.5**
PB15	**IPOC Station P**	**5.30**	**182**		**Pn**	**14 06 27.5**	**+0.3**
PB14	**IPOC Station P**	**6.79**	**189**	Pn	**Pn**	**14 06 45.2**	**-1.9**
GO02	**Mina Guanaco**	**7.25**	**183**	Pn	**Pn**	**14 06 52.2**	**-1.0**
SIV	**San Ignacio**	**8.04**	**78**	P	**Pn**	**14 07 02.6**	**-1.0**
	comp=E,32nm,0.4s,baz=269,slow=11,SNR=46						
SIV				S	**Sn**	**14 08 28.1**	**-5.2**
	comp=E,13nm,0.7s,baz=169,slow=21,SNR=6.5						
BBSD	**Serra de San D**	**8.26**	**86**	*e*P	**Pn**	**14 07 05.5**	**-1.1**
AC01	**Pan de Azucar**	**8.31**	**188**	Pn	**Pn**	**14 07 04.8**	**-2.3**
ETMB	**Extrema**	**8.54**	**21**	Pn	**Pn**	**14 07 09.1**	**-1.2**
ETMB	**Extrema**	**8.54**	**21**	*e*P	**Pn**	**14 07 09.0**	**-1.3**
BBRB	**Robore, Bolivi**	**8.98**	**94**	*e*P	**Pn**	**14 07 14.4**	**-1.6**
NNA	**Nana**	**9.40**	**308**	P	**Pn**	**14 07 20.4**	**-1.3**
	comp=E,18nm,0.2s,baz=132,slow=12,SNR=11						
GO03	**Copiap**	**9.70**	**185**	Pn	**Pn**	**14 07 25.0**	**-0.7**
PTLB	**Pontes e Lacer**	**9.98**	**77**		**Pn**	**14 07 27.3**	**-2.0**
PTLB	**Pontes e Lacer**	**9.98**	**77**	*e*P	**Pn**	**14 07 28.3**	**-1.0**
VILB	**Vilhena**	**10.00**	**62**		**Pn**	**14 07 27.7**	**-2.0**
VILB	**Vilhena**	**10.00**	**62**	*e*P	**Pn**	**14 07 27.9**	**-1.8**
AC04	**Llanos de Chal**	**10.40**	**189**	Pn	Pn	14 07 31.0	-3.9
CZSB	**Cruzeiro do Su**	**10.65**	**341**	*e*P	**Pn**	**14 07 37.6**	**-0.6**
SAML	**Samuel**	**10.66**	**34**	Pn	**Pn**	**14 07 36.0**	**-2.4**
SAML	**Samuel**	**10.66**	**34**	*e*P	**Pn**	**14 07 36.1**	**-2.2**
AC05	**El Transito**	**10.94**	**185**	Pn	**Pn**	**14 07 40.2**	**-1.8**
LCO	**Las Campanas**	**11.15**	**187**	Pn	**Pn**	**14 07 41.9**	**-3.0**
MURT	**Porto Murtinho**	**11.57**	**111**	*e*P	**Pn**	**14 07 50.3**	**+0.1**
CO01	**Juntas del Tor**	**12.06**	**184**	Pn	**Pn**	**14 07 56.6**	**-0.1**
BDQN	**Bodoquena, MS**	**12.07**	**104**	*e*P	**Pn**	**14 07 56.4**	**-0.4**
AQDB	**Aquidauana**	**13.05**	**104**	*e*P	**Pn**	**14 08 09.7**	**+0.4**
SALV	**Santo Antonio**	**13.12**	**83**	*e*P	**Pn**	**14 08 10.2**	**-0.1**
PP1B	**Ponte de Pedra**	**13.69**	**91**	*e*P	**Pn**	**14 08 16.6**	**-0.9**
CPUP	**Villa Florida**	**13.86**	**129**	Pn	**Pn**	**14 08 18.4**	**-1.3**
CPUP	**Villa Florida**	**13.86**	**129**	*e*P	**P**	**14 08 21.8**	**-1.2**
CPUP	**Villa Florida**	**13.86**	**129**	P	**Pn**	**14 08 20.1**	**+0.5**
	comp=E,1.0nm,0.5s,baz=322,slow=12,SNR=3.0						
ATAH	**Atahualpa**	**13.92**	**319**	P	**Pn**	**14 08 20.4**	**-0.5**
	comp=E,3.2nm,0.6s,baz=142,slow=7.8,SNR=1.9						
CLDB	**Colider**	**14.77**	**64**	*e*P	**P**	**14 08 31.3**	**-1.8**
TEFE	**Tefe**	**14.99**	**18**	*e*P	**P**	**14 08 34.1**	**-1.4**
MCR1	**Marechal Candi**	**15.61**	**117**	*e*P	**P**	**14 08 42.9**	**+0.6**
MACA	**Manacapuru-AM**	**16.87**	**31**	P	**Pn**	**14 08 56.3**	**-0.5**
MACA	**Manacapuru-AM**	**16.87**	**31**	*e*P	**Pn**	**14 08 56.7**	**-0.1**
CRSM	**Crissiumal (Br**	**16.96**	**127**	*e*P	**Pn**	**14 08 59.8**	**+2.0**
FRBT	**Francisco Belt**	**17.02**	**121**	*e*P	**Pn**	**14 08 59.5**	**+0.9**
MCRA	**Macar, Loja**	**17.04**	**321**		**Pn**	**14 08 59.0**	**+0.1**
UNIS	**Unistalda (Bra**	**17.09**	**133**	*e*P	**Pn**	**14 09 01.1**	**+1.8**
BOSC	**San Juan Bosco**	**17.23**	**327**	P	**Pn**	**14 08 59.5**	**-1.8**
BOSC				IAmb	IAmb	14 09 00.6	
	comp=Z,4.9nm,0.5s						
NPGB	**Novo Progresso**	**17.30**	**53**	*e*P	**Pn**	**14 09 00.7**	**-1.3**
PTGB	**Pitanga**	**17.38**	**116**	*e*P	**Pn**	**14 09 04.1**	**+1.1**
RODS	**Rosario do Sul**	**17.81**	**137**	*e*P	**Pn**	**14 09 08.6**	**+0.6**
LDASE	**Londrina, Braz**	**17.82**	**111**	*e*P	**Pn**	**14 09 09.1**	**+0.9**
ITRB	**Iturama**	**17.97**	**99**	*e*P	**Pn**	**14 09 09.8**	**-0.1**
COHC	**Cochancay**	**18.21**	**326**		**Pn**	**14 09 12.7**	**0.0**
SNDB	**Serra Nova Dou**	**18.30**	**74**	*e*P	**Pn**	**14 09 12.7**	**-1.2**
ITAB	**Concordia**	**18.32**	**124**	P	**P**	**14 09 13.0**	**+0.9**
ITAB				IAmb	IAmb	14 09 15.5	
	comp=Z,12nm,0.9s						
ITAB	**Concordia**	**18.32**	**124**	*e*P	**Pn**	**14 09 14.2**	**+0.3**
ALGR	**Alto Alegre (B**	**18.40**	**129**	*e*P	**Pn**	**14 09 15.8**	**+0.8**
ITTB	**Itaituba**	**18.85**	**46**	*e*P	**Pn**	**14 09 17.9**	**-2.4**
CPSB	**Cacapava Do Su**	**19.03**	**134**	*e*P	**P**	**14 09 20.9**	**+1.2**
FRTB	**Fartura**	**19.20**	**110**	*e*P	**Pn**	**14 09 25.9**	**+1.7**
PLTB	**Pedras Altas**	**19.77**	**137**	P	**P**	**14 09 28.1**	**+0.3**
PLTB				IAmb	IAmb	14 09 28.7	
	comp=Z,8.1nm,0.5s						
PLTB	**Pedras Altas**	**19.77**	**137**	*e*P	**P**	**14 09 28.3**	**+0.5**
BB19B	**Bebedouro**	**19.78**	**103**	*e*P	**P**	**14 09 29.0**	**+1.0**
IPMB	**Ipameri, GO**	**20.01**	**94**	*e*P	**P**	**14 09 31.2**	**+0.7**
BDFB	**Brasilia**	**20.45**	**87**	P	Pn	14 09 36.6	-2.6
BDFB				IAmb	IAmb	14 09 39.5	
	comp=Z,7.9nm,0.8s						
BDFB	**Brasilia**	**20.45**	**87**	P	**P**	**14 09 35.3**	**0.0**
	comp=Z,4.7nm,0.4s,baz=256,slow=14,SNR=9.6						
	comp=Z,4.7nm,0.4s						
PMNB	**Patos De Minas**	**21.67**	**95**	*e*P	**P**	**14 09 48.6**	**+0.2**
MALB	**Monte Alegre**	**21.68**	**44**	*e*P	**P**	**14 09 48.1**	**-0.3**
BOAV	**Boa Vista**	**21.91**	**24**	P	**P**	**14 09 50.7**	**0.0**
BOAV				IAmb	IAmb	14 09 52.3	
	comp=Z,16nm,1.3s						
BOAV	**Boa Vista**	**21.91**	**24**	*e*P	**P**	**14 09 51.9**	**+1.2**
PLCA	**Paso Flores**	**22.79**	**183**	P	**P**	**14 09 59.1**	**0.0**
PLCA	**Paso Flores**	**22.79**	**183**	*e*P	**P**	**14 10 01.5**	**+2.4**
PLCA	**Paso Flores**	**22.79**	**183**	P	**P**	**14 10 00.2**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=358,slow=13,SNR=6.1						
PLCA				LR	LR	14 20 32.4	
	comp=Z,180nm,20.0s,baz=291,slow=40						
	comp=Z,1.9nm,0.8s						
JANB	**Januaria**	**24.07**	**87**	*e*P	**P**	**14 10 11.9**	**+0.9**
SDBA	**SAO DESIDERIO**	**24.10**	**80**	*e*P	**P**	**14 10 12.2**	**+0.9**
MCPB	**Macapa, AP**	**24.27**	**46**	*e*P	**P**	**14 10 12.5**	**-0.2**
DIAM	**Diamantina, MG**	**24.30**	**95**	*e*P	**P**	**14 10 15.1**	**+1.9**
TXAR	**Lajitas Array**	**57.52**	**324**	P	**P**	**14 14 43.6**	**+0.5**
TXAR	**Lajitas Array**	**57.52**	**324**	P	**P**	**14 14 43.8**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=172,slow=7.3,SNR=3.0						
	comp=Z,0.2nm,0.6s						
SNAA	**Sanae**	**65.78**	**161**	P	**P**	**14 15 39.5**	**+1.7**
SNAA				IAmb	IAmb	14 16 20.2	
	comp=Z,8.1nm,1.3s						
DBIC	**Dimbokro**	**68.06**	**75**	P	**P**	**14 15 53.2**	**+0.2**
DBIC	**Dimbokro**	**68.06**	**75**	P	**P**	**14 15 53.7**	**+0.7**
	comp=Z,11nm,0.7s,baz=226,slow=5.5,SNR=10.0						
	comp=Z,11nm,0.7s						
PDAR	**Pinedale Array**	**70.84**	**330**	P	**P**	**14 16 11.2**	**+1.3**
	comp=Z,0.3nm,0.8s,baz=127,slow=5.8,SNR=2.2						
	comp=Z,0.3nm,0.8s						
ULM	**Lac du Bonnet**	**71.80**	**342**	P	**P**	**14 16 15.1**	**0.0**
	comp=Z,1.5nm,0.4s,baz=148,slow=8.7,SNR=2.6						
	comp=Z,1.5nm,0.4s						
TOA0	**Torodi Ar. Sit**	**76.47**	**71**	P	**P**	**14 16 43.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**76.47**	**71**		**P**	**14 16 43.0**	**+0.1**
TORD				IAmb	IAmb	14 16 47.5	
	comp=Z,4.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.47**	**71**	P	**P**	**14 16 43.1**	**+0.1**
	comp=Z,6.0nm,0.6s,baz=264,slow=5.4,SNR=25						
	comp=Z,6.0nm,0.6s						
YKA	**Yellowknife Ar**	**87.69**	**341**	P	**P**	**14 17 41.0**	**+0.6**
YKA	**Yellowknife Ar**	**87.69**	**341**	P	**P**	**14 17 41.4**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=135,slow=4.5,SNR=18						
	comp=Z,0.7nm,0.5s						
ASAR	**Alice Springs**	**132.92**	**209**	PKP	**PKiKP**	**14 24 08.3**	**-0.3**
	comp=Z,0.5nm,1.1s,baz=128,slow=1.7,SNR=1.3						
WRA	**Warramunga Arr**	**135.85**	**213**	PKP	**PKiKP**	**14 24 15.2**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=135,slow=1.8,SNR=2.1						
ZALV	**Zalesovo Beam**	**138.80**	**23**	PKP	**PKiKP**	**14 24 19.1**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=242,slow=3.2,SNR=4.4						
SONM	**Songino Array**	**149.92**	**6**	PKPbc	**PKiKP**	**14 24 43.5**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=321,slow=0.8,SNR=6.1						
PZH	**PanZhiHua**	**168.04**	**43**	PKP	**PKPdf**	**14 24 57.3**	**-1.1**

CATAC ***19*** *14:13:34.1±0.5, 13°.15N×91°.55W, h10km, MB4.9, mb5.0, ML4.3*

MEX ***19*** *14:13:34.0±0.8, 12°.97N×92°.21W, h14km±999km, MD4.5*

NEIC ***19*** *14:13:35.6±1.6, 13°.31N±0°.05×91°.52W±0°.04, h10km±1km, mb4.5/110, Error ellipse: s-maj=8.9km s-min=6.4km az=154.0*

SNET ***19*** *14:13:36.3±0.9, 13°.29N×91°.52W, h22km±423km, ML3.4*

IDC ***19*** *14:13:40.6±3.2, 13°.71N×91°.12W, h40km±26km, mb3.9/10, mbtmp4.1/14, ML4.1/4, MS3.5/12, Error ellipse: s-maj=39.9km s-min=18.6km az=31.0*

GCG ***19*** *14:13:46.8±0.4, 14°.13N×91°.37W, h62km±5km, MD4.3*

ISC 19 14:13:37.0±1.8, 13°.35N±0°.06×91°.51W±0°.05, h26km±12km, n167, σ1§48/147, mb4.5/53, MS3.4/11, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.96**	**357**	*i* P	**Pn**	**14 13 56.8**	**+2.1**
SULM				*e*S	**Sb**	**14 14 04.5**	**-2.6**
RTAL	**Retalhuleu**	**1.19**	**351**		**Pn**	**14 13 57.7**	**-0.2**
FUG	**Fuego 3**	**1.27**	**30**	*i* P	**Pb**	**14 14 00.7**	**+0.3**
PCG	**Pacaya**	**1.36**	**40**	*i* P	**Pb**	**14 14 01.7**	**-0.2**
STG3	**Santiaguito 3,**	**1.36**	**357**	*i* P	**Pn**	**14 14 00.8**	**+0.4**
SOKI	**Kika Raxquin**	**1.47**	**4**	*i* P	**Pn**	**14 14 02.3**	**+0.1**
SOKI				*i* S	**Sb**	**14 14 23.6**	**+1.3**
SOKI				IAML		14 14 36.1	
	comp=Z,2μm,1.0s						
NBG	**Las Nubes**	**1.67**	**42**	*i* P	**Pb**	**14 14 06.9**	**-0.4**
GUNB	**GUNB**	**1.68**	**42**	*i* P	**Pn**	**14 14 05.4**	**+0.5**
GUNB				IAML		14 14 27.2	
	comp=Z,910nm,1.0s						
THIG		**1.72**	**335**	*e*P	**Pn**	**14 14 01.6**	**-3.6**
THIG				*e*S	**Sn**	**14 14 24.4**	**-1.9**
NUBE	**Las Nubes**	**1.77**	**72**	*e*P	**Pn**	**14 14 05.7**	**-0.4**
NUBE				*e*S	**Sn**	**14 14 29.3**	**+1.6**
NUBE				IAML		14 14 46.7	
	comp=Z,163nm,0.5s						
NUBE	**Las Nubes**	**1.77**	**72**	*i* P	**Pn**	**14 14 05.6**	**-0.4**
NUBE				*i* S	**Sb**	**14 14 34.2**	**+3.6**
NUBE				IAML		14 14 46.4	
	comp=Z,610nm,1.0s						
LOAL	**Lomas de Alarc**	**1.80**	**69**	*i* P	**Pn**	**14 14 07.4**	**+1.1**
LOAL				IAML		14 14 44.7	
	comp=Z,4μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.81**	**68**	*e*P	**Pn**	**14 14 06.8**	**+0.4**
CHUJ	**Union Juarez**	**1.83**	**341**	*e*P	**Pn**	**14 14 05.7**	**-1.3**
CHUJ				*i* S	**Sn**	**14 14 31.6**	**+2.1**
CEVE	**Cerro Verde**	**1.89**	**75**	*e*P	**Pn**	**14 14 08.4**	**+0.6**
CEVE	**Cerro Verde**	**1.89**	**75**	*i* P	**Pn**	**14 14 08.1**	**+0.3**
CEVE				*i* S	**Sb**	**14 14 33.8**	**-0.5**
CEVE				IAML		14 14 42.8	
	comp=Z,1μm,1.0s						
PATR	**El Naranjo**	**1.90**	**338**	*e*P	**Pn**	**14 14 06.4**	**-1.5**
PATR				*i* S	**Sn**	**14 14 31.7**	**+0.6**
SNJE	**San Jose**	**1.92**	**74**	*e*P	**Pn**	**14 14 08.3**	**+0.1**
PAVE	**Pavencul**	**1.95**	**341**	*e*P	**Pn**	**14 14 07.5**	**-1.0**
PAVE				*e*S	**Sn**	**14 14 32.5**	**+0.2**
HUEH	**Huehuetenango**	**1.96**	**0**		**Pn**	**14 14 09.6**	**+0.8**
JAYA	**Jayaque - finc**	**2.02**	**81**	*e*P	**Pn**	**14 14 09.2**	**-0.3**
JAYA				*e*S	**Sn**	**14 14 35.5**	**+1.5**
JAYA				IAML		14 14 44.2	
	comp=Z,696nm,0.3s						
JAYA	**Jayaque - finc**	**2.02**	**81**	*i* P	**Pn**	**14 14 08.9**	**-0.6**
JAYA				*i* S	**Sb**	**14 14 36.2**	**-1.8**
JAYA				IAML		14 14 41.6	
	comp=Z,2μm,1.0s						
PMON	**Piamonte**	**2.16**	**

SRBA	San Rafael, Bu	8.97	116			Pn	14 15 46.8	+1.8
HBVL	Hebbronville	15.21	335	Pn		Pn	14 17 11.0	+1.0
HBVL				IAmb	IAmb		14 17 19.3	
	comp=Z,29nm,1.1s							
HNDO	Hondo	17.64	337	P		P	14 17 42.9	+1.1
HNDO				IAmb	IAmb		14 17 44.8	
	comp=Z,8.2nm,0.7s							
GUY2C	Guyana, Caldas	17.84	115	*e*P		P	14 17 48.1	+3.5
DRIO	Del Rio	18.09	334	P		P	14 17 47.3	+0.6
DRIO				IAmb	IAmb		14 18 01.9	
	comp=Z,5.4nm,0.9s							
ORTC	Ortega, Tolima	18.59	119	*e*P		Pn	14 17 57.4	+4.6
JCT	Junction City	18.69	337	P		Pn	14 17 55.4	+1.5
BRDY	Brady	19.14	340	P		Pn	14 17 59.7	+0.4
BRDY				IAmb	IAmb		14 18 01.8	
	comp=Z,6.6nm,0.9s							
SAND	Sanderson	19.23	331			Pn	14 18 00.3	0.0
SAND				IAmb	IAmb		14 18 02.5	
	comp=Z,7.1nm,0.8s							
TXAR	Lajitas Array	19.50	327	P		Pn	14 18 04.7	+0.9
	comp=Z,0.2nm,0.3s,baz=152,slow=8.4,SNR=30							
	comp=Z,3.9nm,0.9s							
TX31	Lajitas Ar. Si	19.50	327	Pn		Pn	14 18 04.7	+0.9
TX31				IAmb	IAmb		14 18 16.4	
	comp=Z,40nm,1.4s							
OZNA	Ozona	19.61	335			Pn	14 18 05.8	+0.9
OZNA				IAmb	IAmb		14 18 17.6	
	comp=Z,8.9nm,0.8s							
Z47A	Carrollton	20.01	8			Pn	14 18 10.4	+0.9
Z47A				IAmb	IAmb		14 18 20.7	
	comp=Z,24nm,0.9s							
ALPN	Alpine	20.32	328	P		Pn	14 18 14.1	+0.7
ALPN				IAmb	IAmb		14 18 16.4	
	comp=Z,15nm,0.7s							
PLPT	Palo Pinto	20.35	343	P		P	14 18 12.1	+0.6
PLPT				IAmb	IAmb		14 18 13.8	
	comp=Z,25nm,0.8s							
SGCY	Sterling City	20.48	336	P		P	14 18 13.7	+0.8
SGCY				IAmb	IAmb		14 18 15.3	
	comp=Z,26nm,0.9s							
FW03	Perrin-Whitt E	20.50	344	P		P	14 18 14.0	+0.9
FW03				IAmb	IAmb		14 18 14.9	
	comp=Z,19nm,0.8s							
ABTX	Abilene, Hawle	20.58	340	IAmb	IAmb		14 18 25.0	
	comp=Z,14nm,0.8s							
MNHN	Monahans	20.69	332	P		Pn	14 18 16.8	-0.8
MNHN				IAmb	IAmb		14 18 18.7	
	comp=Z,40nm,0.8s							
SDV	Santo Domingo	20.95	100	P		P	14 18 17.4	-0.9
SDV	Santo Domingo	20.95	100	*e*P		P	14 18 17.2	-1.1
SDV	Santo Domingo	20.95	100	P		P	14 18 17.3	-0.9
	comp=Z,2.5nm,0.5s,baz=278,slow=5.4,SNR=4.0							
SDV				LR		LR	14 26 06.3	
	comp=Z,37nm,19.4s,baz=259,slow=36							
	comp=Z,2.5nm,0.5s							
OXF	Oxford	21.16	5	P		P	14 18 19.7	-0.5
OXF				IAmb	IAmb		14 18 21.3	
	comp=Z,23nm,1.0s							
SN01	Snyder 1	21.23	338	P		P	14 18 21.2	+0.1
SN01				IAmb	IAmb		14 18 23.2	
	comp=Z,13nm,0.6s							
PECS	Pecos	21.24	330	IAmb	IAmb		14 18 24.9	
	comp=Z,28nm,0.9s							
ODSA	Odessa	21.25	333	P		P	14 18 22.0	+0.7
ODSA				IAmb	IAmb		14 18 23.2	
	comp=Z,24nm,0.9s							
WTFS	Witchita Falls	21.29	344	P		P	14 18 21.6	0.0
WTFS				IAmb	IAmb		14 18 22.4	
	comp=Z,8.6nm,0.6s							
425A	Indio Mountain	21.35	327	P		P	14 18 23.8	+1.4
APMT	Aspermont	21.39	340	P		P	14 18 22.6	0.0
APMT				IAmb	IAmb		14 18 23.7	
	comp=Z,20nm,0.7s							
POST	Post	21.65	337	IAmb	IAmb		14 18 27.0	
	comp=Z,25nm,0.8s							
WHAR	Wooly Hollow	21.86	358	IAmb	IAmb		14 18 39.0	
	comp=Z,16nm,1.0s							
DKNS	Dickens	21.97	339	IAmb	IAmb		14 18 29.6	
	comp=Z,8.1nm,0.7s							
FCAR	Ozark Folk Cen	22.45	359	IAmb	IAmb		14 18 34.9	
	comp=Z,8.7nm,0.7s							
LCAR	Lake Charles	22.63	1	P		P	14 18 34.5	-1.4
LCAR				IAmb	IAmb		14 18 36.4	
	comp=Z,14nm,0.8s							
MSTX	Muleshoe	22.94	335	IAmb	IAmb		14 18 41.1	
	comp=Z,16nm,0.8s							
SMWD	Samnorwood	23.06	341	IAmb	IAmb		14 18 42.7	
	comp=Z,28nm,0.9s							
CLTN	Cedars of Leba	23.12	11	P		P	14 18 40.0	-1.0
CLTN				IAmb	IAmb		14 18 42.4	
	comp=Z,8.7nm,0.8s							
TKL	Tuckaleechee C	23.28	16	IAmb	IAmb		14 18 43.8	
	comp=Z,11nm,0.7s							
TKL	Tuckaleechee C	23.28	16	P		P	14 18 42.1	-0.6
	comp=Z,9.5nm,0.7s,baz=175,slow=11,SNR=12							
TKL				LR		LR	14 28 02.5	
	comp=Z,143nm,20.6s,baz=172,slow=38							
	comp=Z,9.5nm,0.7s							
PBMO	Poplar Bluff	23.36	2	IAmb	IAmb		14 18 43.0	
	comp=Z,14nm,0.7s							
OK051	E0350 and S346	23.55	349	IAmb	IAmb		14 18 45.2	
	comp=Z,14nm,0.9s							
U49A	Red Boiling Sp	23.64	12	IAmb	IAmb		14 18 46.2	
	comp=Z,12nm,0.7s							
MGMO	Mountain Grove	23.72	358	IAmb	IAmb		14 18 47.6	
	comp=Z,15nm,0.8s							
T47A	Sharon Grove	23.87	9	IAmb	IAmb		14 18 48.3	
	comp=Z,15nm,0.7s							
CGM3	Cape Girardeau	23.91	4	IAmb	IAmb		14 18 49.1	
	comp=Z,10.0nm,0.7s							
121A	Cookes Peak, D	24.22	325	IAmb	IAmb		14 19 06.9	
	comp=Z,16nm,1.1s							
S39A	Bolivar	24.30	356	IAmb	IAmb		14 18 53.1	
	comp=Z,14nm,0.8s							
T50A	Nancy	24.32	13	IAmb	IAmb		14 18 53.0	
	comp=Z,9.5nm,0.7s							
CCM	Cathedral Cave	24.61	0	P		P	14 18 53.1	-2.0
R40A	Maddies Statio	24.85	359	IAmb	IAmb		14 18 57.5	
	comp=Z,13nm,0.9s							
RTBA	Rita Blanca	25.11	338	IAmb	IAmb		14 19 01.4	
	comp=Z,7.9nm,0.7s							
WCI	Wyandotte Cave	25.21	10	P		P	14 18 59.4	-1.2
ANMO	Albuquerque	25.40	330	P		P	14 19 03.8	+1.2
ANMO	Albuquerque	25.40	330	P		P	14 19 04.5	+1.9
	comp=Z,1.6nm,0.8s,baz=226,slow=9.1,SNR=5.4							
	comp=Z,1.6nm,0.8s							
P40A	Paris	26.09	359	IAmb	IAmb		14 19 09.0	
	comp=Z,8.0nm,0.8s							
T25A	Trinidad	26.36	336	IAmb	IAmb		14 19 16.0	
	comp=Z,5.7nm,0.8s							
PCRV	Puerto La Cruz	26.49	94	LR		LR	14 30 35.2	
	comp=Z,54nm,21.6s,slow=39							
S22A	4UR Ranch, Cre	27.88	333	P		P	14 19 26.0	+1.1
MVCO	Mesa Verde	28.20	330	IAmb	IAmb		14 19 41.1	
	comp=Z,8.0nm,1.1s							
NNA	Nana	29.07	149	LR		LR	14 29 04.9	
	comp=Z,59nm,18.6s,baz=178,slow=32							
HMU	Henry Mountain	29.88	328	IAmb	IAmb		14 20 12.1	
	comp=Z,11nm,1.5s							
V12A	Nelson	30.63	321	IAmb	IAmb		14 20 01.8	
	comp=Z,6.0nm,1.0s							
MTPU	Mount Pierson	30.71	327	IAmb	IAmb		14 19 55.8	
	comp=Z,4.7nm,0.7s							
MVU	Marysvale	31.07	327	IAmb	IAmb		14 19 57.4	
	comp=Z,8.1nm,0.8s							
TCRU	Three Creeks R	31.27	327	IAmb	IAmb		14 19 59.5	
	comp=Z,5.6nm,0.8s							
SADO	Sadowa	33.05	16	LR		LR	14 34 27.8	
	comp=Z,102nm,18.9s,baz=231,slow=38							
PDAR	Pinedale Array	33.21	335	P		P	14 20 11.7	-0.3
	comp=Z,0.3nm,0.4s,baz=147,slow=12,SNR=3.2							
	comp=Z,0.3nm,0.4s							
SPUT	South Promonto	33.32	331	IAmb	IAmb		14 20 31.7	
	comp=Z,7.8nm,1.5s							
HVU	Hansel Valley	33.84	331	IAmb	IAmb		14 20 30.8	
	comp=Z,7.0nm,1.2s							
ETMB	Extrema	34.06	131	P		P	14 20 18.6	-0.7
ETMB				IAmb	IAmb		14 20 28.9	
	comp=Z,7.8nm,1.2s							
TPAW	Teton Pass	34.38	335	IAmb	IAmb		14 20 35.4	
	comp=Z,13nm,1.5s							
NV11	Mina Array Sit	34.39	321	IAmb	IAmb		14 20 35.1	
	comp=Z,7.3nm,1.1s							
NVAR	Mina Array Bea	34.48	321	P		P	14 20 25.0	+1.9
	comp=Z,2.7nm,0.7s,baz=130,slow=8.9,SNR=26							
NVAR				LR		LR	14 35 07.0	
	comp=Z,70nm,20.0s,baz=102,slow=38							
	comp=Z,2.7nm,0.7s							
KVN	Kaiserville	34.75	322	IAmb	IAmb		14 20 40.7	
	comp=Z,5.3nm,1.1s							
HLID	Hailey	35.98	331	IAmb	IAmb		14 20 38.8	
	comp=Z,7.0nm,1.4s							
ULM	Lac du Bonnet	36.98	355	P		P	14 20 41.8	-2.2
	comp=Z,1.9nm,0.6s,baz=172,slow=12,SNR=4.7							
	comp=Z,1.9nm,0.6s							
LMQ	La Malbaie	38.41	23	IAmb	IAmb		14 20 55.9	
	comp=Z,7.7nm,0.9s							
YBH	Yreka Blue Hor	39.17	322	LR	LR		14 40 28.7	
	comp=Z,54nm,19.2s,baz=174,slow=41							
SCHQ	Schefferville	45.67	20	P		P	14 21 53.1	-2.2
	comp=Z,4.4nm,0.8s,baz=210,slow=7.5,SNR=4.5							
SCHQ				LR		LR	14 41 26.9	
	comp=Z,105nm,19.4s,baz=229,slow=37							
	comp=Z,4.4nm,0.8s							
YKA	Yellowknife Ar	51.77	347	P		P	14 22 42.0	-0.1
	comp=Z,1.5nm,0.8s,baz=149,slow=7.4,SNR=20							
	comp=Z,1.5nm,0.8s							
ML02	Panimavida	52.41	159	P		P	14 22 47.3	+0.1
FRB	Frobisher Bay	52.84	13	LR		LR	14 47 40.0	
	comp=Z,49nm,18.8s,baz=268,slow=39							
DLBC	Dease Lake	53.44	336	P		P	14 22 55.8	+1.1
DLBC				IAmb	IAmb		14 22 58.1	
	comp=Z,7.1nm,0.8s							
M29M	Somme Creek	59.20	337	P		P	14 23 36.8	+1.1
SFJD	Kangerlussuaq	59.99	17	LR		LR	14 50 08.0	
	comp=Z,119nm,18.9s,baz=244,slow=37							
BCAR	Beaver Creek A	60.83	336	P		P	14 23 47.8	+1.0
INK	Inuvik	61.20	344	IAmb	IAmb		14 24 19.7	
	comp=Z,6.4nm,1.2s							
RES	Resolute Bay	61.36	359	LR		LR	14 51 55.2	
	comp=Z,58nm,18.9s,baz=10,slow=38							
J26L	Joseph Creek	62.24	337	IAmb	IAmb		14 24 11.8	
	comp=Z,4.6nm,1.0s							
J25K	Salcha River,	62.98	337	IAmb	IAmb		14 24 03.7	
	comp=Z,3.7nm,0.8s							
ILAR	Eielson Array	63.63	337	P		P	14 24 06.2	+0.8
	comp=Z,4.4nm,1.0s,baz=133,slow=4.5,SNR=34							
	comp=Z,4.4nm,1.0s							
MLY	Manley	65.23	336	P		P	14 24 16.5	+0.5
EUNU	Eureka	66.77	1	P		P	14 24 24.8	-0.8
EUNU				IAmb	IAmb		14 24 25.7	
	comp=Z,3.0nm,0.8s							
EKA	Eskdalemuir Ar	78.21	36	P		P	14 25 31.9	-2.2
	comp=Z,1.7nm,0.7s,baz=277,slow=7.1,SNR=3.3							
	comp=Z,1.7nm,0.7s							
PZH	PanZhiHua	138.35	342	PKP		PKPdf	14 33 00.5	-0.4
CMAR	Chiang Mai Arr	146.76	342	PKPbc		PKPbc	14 33 18.0	+0.5
	comp=Z,3.5nm,0.7s,baz=336,slow=3.4,SNR=19							

IDC 19 14:24:26.8±749.0, 52°18N×6°79E, h0km, Error ellipse: s-maj=403.2km s-min=120.1km az=120.0, The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	5.53	124	I	I	14 57 00.0	
	0.1nm,0.6s,baz=310,slow=324,SNR=2.0						
I43RU	DUBNA INFRASONI	8.18	64	I	I	16 14 00.0	
	baz=269,slow=368,SNR=2.5						
I31KZ	AKTYUBINSK INF	29.33	72	I	I	17 38 20.0	
	baz=293,slow=377,SNR=0.9						

IDC 19 14:26:57.2±577.0, 53°45N×10°01E, h0km, Error ellipse: s-maj=286.5km s-min=173.9km az=116.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASONI	5.87	67	I	I	16 01 00.0	
	baz=271,slow=332,SNR=2.3						
I48TN	KESRA INFRASON	17.64	182	I	I	16 12 30.0	
	baz=1.5,slow=326,SNR=0.7						
I31KZ	AKTYUBINSK INF	29.33	76	I	I	17 25 40.0	
	baz=293,slow=334,SNR=1.7						
I46RU	ZALESOVO INFRA	42.35	58	I	I	18 47 30.0	
	baz=302,slow=330						

IDC 19 14:31:56.0±3.3, 22°90N×12°25W, h0km, mbtmp3.5/1, ML3.3/1, Error ellipse: s-maj=110.0km s-min=57.0km az=34.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	16.42	124	Pn	Pn	14 35 46.8	-1.2
	0.1nm,0.3s,baz=315,slow=12,SNR=4.7						
TORD				Sn	Sn	14 38 54.7	+3.8
	0.1nm,0.3s,baz=292,slow=20,SNR=2.7						
	0.6nm,0.6s						
I48TN	KESRA INFRASON	22.71	51	I	I	16 50 10.0	
	baz=238,slow=309,SNR=0.9						
ASAR	Alice Springs	148.94	98	PKPbc	PKPbc	14 51 46.2	-0.4
	0.2nm,0.6s,baz=300,slow=2.3,SNR=1.8						

*SJA **19** 14:32:32.6±2.3, 21°78S×68°28W, h100km, ML3.5, MW3.5*
*GUC **19** 14:32:34.2±0.6, 21°78S×68°48W, h133km±5km, ML3.5*
ISC 19 14:32:32.2±1.7, 21°79S±0°04×68°47W±0°05, h145km±12km, n29, σ0°87/57, 3C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.72	269	*e*P	Pn	14 32 54.9	+0.3
PB09				*e*S	Sn	14 33 11.6	+0.1
PB09				IAML		14 33 12.9	
	comp=Z,312nm,0.3s						
PB09	IPOC Station P	0.72	269	⇑*i*P	Pn	14 32 54.9	+0.3
PB09				*e*S	Sn	14 33 10.6	-0.9
LVC	Limon Verde	0.91	206	*e*P	Pn	14 32 56.2	-0.1
LVC				*e*S	Sn	14 33 14.1	-0.5
AF01	San Pedro de A	1.19	167	*i*P	Pn	14 32 59.3	+0.7
PB01	IPOC Station P	1.20	308	*e*P	Pn	14 32 58.7	+0.2
PB01				*e*S	Sn	14 33 18.3	-0.3
PB01				IAML		14 33 19.4	
	comp=Z,847nm,0.2s						
PB01	IPOC Station P	1.20	308	*i*P	Pn	14 32 58.6	+0.1
PB01				*e*S	Sn	14 33 17.7	-0.9
PB01				IAML		14 33 19.2	
	comp=N,1μm,0.2s						
PB07	IPOC Station P	1.32	272	*e*P	Pn	14 32 59.9	+0.2
PB07				*e*S	Sn	14 33 20.8	+0.1
PB07				IAML		14 33 22.5	
	comp=Z,321nm,0.3s						
PB07	IPOC Station P	1.32	272	*e*S	Sn	14 33 19.8	-0.9
PB07				IAML		14 33 21.2	
	comp=N,383nm,0.5s						
PB06	IPOC Station P	1.37	228	*e*P	Pn	14 33 00.4	+0.1
PB06				*e*P	Pn	14 33 00.8	+0.6
PB06				*e*S	Sn	14 33 21.6	-0.1
PB06				IAML		14 33 23.2	
	comp=Z,350nm,0.4s						
PB06	IPOC Station P	1.37	228	⇑*i*P	Pn	14 33 00.9	+0.6
PB06				⇑*e*S	Sn	14 33 21.1	-0.5
PB06				IAML		14 33 22.5	
	comp=E,1μm,0.3s						
PB02	IPOC Station P	1.41	289	*e*P	Pn	14 33 00.8	+0.2
PB02				*e*S	Sn	14 33 22.0	-0.2
PB02				IAML		14 33 23.2	
	comp=Z,746nm,0.2s						
PB02	IPOC Station P	1.41	289	*i*P	Pn	14 33 00.8	+0.2
PB02				*e*S	Sn	14 33 21.4	-0.8
PB02				IAML		14 33 23.1	
	comp=N,951nm,0.4s						
PB04	IPOC Station P	1.65	250	*e*P	Pn	14 33 03.3	0.0
PB04				*e*S	Sn	14 33 26.6	-0.4
PB04				IAML		14 33 31.4	
	comp=Z,249nm,0.3s						
PB04	IPOC Station P	1.65	250	*i*P	Pn	14 33 03.8	+0.5
PB04				*e*S	Sn	14 33 26.3	-0.7
PB04				IAML		14 33 30.3	
	comp=E,446nm,0.4s						
PB15	IPOC Station P	1.69	213	*e*P	Pn	14 33 04.5	+0.8
PB15				*e*P	Pn	14 33 05.2	+1.5
PB15				*e*S	Sn	14 33 28.1	+0.2
PB15	IPOC Station P	1.69	213	*i*P	Pn	14 33 04.8	+1.1
PB15				*e*S	Sn	14 33 28.6	+0.7
PB08	IPOC Station P	1.76	339	*e*P	Pn	14 33 05.2	+0.5
PB08				*e*S	Sn	14 33 30.3	+0.7
PB08				IAML		14 33 33.9	
	comp=Z,203nm,0.7s						
PB08	IPOC Station P	1.76	339	*i*P	Pn	14 33 05.8	+1.0
PB08				*e*S	Sn	14 33 30.2	+0.7
PB08				IAML		14 33 31.5	
	comp=E,583nm,0.2s						
PATCX	Punta Patache	1.84	301	*e*P	Pn	14 33 05.5	+0.2
PATCX				*e*S	Sn	14 33 30.5	-0.2
PATCX				IAML		14 33 35.8	
	comp=Z,306nm,0.5s						
PATCX	Punta Patache	1.84	301	*i*P	Pn	14 33 05.5	+0.2
PATCX				*e*S	Sn	14 33 29.7	-0.9
PATCX				IAML		14 33 31.4	
	comp=N,796nm,0.3s						
HMBC	Humberstone	2.00	318	*e*P	Pn	14 33 07.3	0.0
HMBC				*e*S	Sn	14 33 34.1	-0.1
HMBC				IAML		14 33 34.9	
	comp=Z,628nm,0.4s						
TA01	Diego Aracena	2.01	307	*e*P	Pn	14 33 07.1	-0.1
TA01				*e*S	Sn	14 33 33.5	-0.5
TA01				IAML		14 33 35.6	
	comp=Z,179nm,0.4s						
TA01	Diego Aracena	2.01	307	*i*P	Pn	14 33 07.1	-0.1
TA01				*e*S	Sn	14 33 32.7	-1.3
TA01				IAML		14 33 36.0	
	comp=N,396nm,0.3s						
GO01	Chusmiza	2.22	342	*e*P	Pn	14 33 10.5	+0.3
GO01				*e*S	Sn	14 33 39.9	+0.6
GO01				IAML		14 33 41.5	
	comp=Z,134nm,0.3s						
GO01	Chusmiza	2.22	342	*i*P	Pn	14 33 10.7	+0.6
PB11	IPOC Station P	2.30	331	*e*P	Pn	14 33 11.1	+0.2
PB11				*e*S	Sn	14 33 40.4	-0.2
PB11				IAML		14 33 41.3	
	comp=Z,353nm,0.4s						
PB11	IPOC Station P	2.30	331	*i*P	Pn	14 33 10.9	0.0
PB11				*e*S	Sn	14 33 39.8	-0.9
YJA	Yavi	2.77	99	*e*P	Pn	14 33 18.9	+2.0
YJA				*e*S	Sn	14 33 47.2	-4.1
PB14	IPOC Station P	3.34	212	*e*P	Pn	14 33 24.3	+0.2
PB14				*e*S	Sn	14 34 02.8	-1.3
PB14				IAML		14 34 04.9	
	comp=Z,89nm,0.4s						

*TUL **19** 14:33:03.8±0.9, 34°95N±0°02×97°82W±0°02, h6km±5km, ML3.0, mb_Lg2.7/65(NEIC), ML2.7/22(NEIC), Error ellipse: s-maj=3.0km s-min=2.2km az=126.0*
*ANF **19** 14:33:04.3±0.2, 34°93N×97°81W, h6km, ML3.6/13, Error ellipse: s-maj=2.6km s-min=2.0km az=104.0*
*NEIC **19** 14:33:04.3±1.0, 34°93N±0°02×97°77W±0°02, h5km±1km, Error ellipse: s-maj=3.5km s-min=2.9km az=313.0*
ISC 19 14:33:03.9±0.8, 34°95N±0°02×97°81W±0°03, h10km, n91, σ0°98/81, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	Franklin	0.46	47	Pg	Pg	14 33 13.0	+0.1
FNO				IAML		14 33 28.9	
	comp=E,429nm,0.4s						
OKCSW	OKLAHOMA CITY	0.55	33	Pg	Pg	14 33 14.9	+0.3
OKCSW				IAML		14 33 22.6	
	comp=E,588nm,0.6s						
W35A	Tecumseh	0.79	75	Pg	Pg	14 33 18.7	-0.5
W35A				Sg	Sg	14 33 27.1	-2.4
W35A				IAML		14 33 40.3	
	comp=E,274nm,0.4s						
W35A				IAML		14 33 40.6	
	comp=N,403nm,0.3s						
WMOK	Wichita Mounta	0.83	256	Pg	Pg	14 33 18.8	-1.1
WMOK	Wichita Mounta	0.83	256	P	Pg	14 33 18.9	-0.9
	baz=74,SNR=24						
OK029	Liberty Lake	0.90	19	Pg	Pg	14 33 20.8	-0.4
OK029				IAML		14 33 37.1	
	comp=N,200nm,0.4s						
OK029				IAML		14 33 37.1	
	comp=N,298nm,0.5s						
LOOK	Love County	1.08	151		Pb	14 33 24.4	-0.4
LOOK				IAML		14 33 47.2	
	comp=N,241nm,0.2s						
WTFS	Witchita Falls	1.30	205	Pg	Pn	14 33 27.8	-0.3
WTFS				IAML		14 33 46.5	
	comp=N,168nm,0.3s						
WTFS				IAML		14 33 46.9	
	comp=N,116nm,0.2s						
OK033	Mehan	1.31	33		Pn	14 33 26.8	-1.4
OK052	Battle Ridge R	1.33	38		Pn	14 33 28.0	-0.6
DEOK	Depew	1.40	50		Pn	14 33 28.8	-0.7
QUOK	Quay	1.52	36		Pn	14 33 31.0	-0.1
CROK	Carrier	1.56	355		Pb	14 33 32.2	-0.7
CROK				IAmb_Lg		14 33 54.2	
	comp=Z,54nm,0.7s						
OK048	Pawnee Station	1.63	25	Pn	Pn	14 33 32.8	+0.2
Z35A	Perchaven, San	1.68	164		Pn	14 33 33.6	+0.3
Z35A	Perchaven, San	1.68	164	P	Pn	14 33 33.4	+0.1
	baz=344,SNR=13						
Z35A				S	Sb	14 33 56.3	+0.3
	baz=344						
ELIS	Ellis County	1.72	311		Pb	14 33 34.8	-0.9
U32A	Winter Ranch,	1.73	326		Pn	14 33 34.6	+0.5
U32A				IAmb_Lg		14 34 02.2	
	comp=Z,71nm,0.7s						
U32A	Winter Ranch,	1.73	326	P	Pb	14 33 34.8	-1.0
	baz=146,SNR=17						
U32A				S	Sg	14 33 58.2	-1.3
	baz=146						
OK051	E0350 and S346	1.75	27		Pn	14 33 34.6	+0.3
BLOK	Blackwell	1.87	15	Pn	Pb	14 33 37.0	-1.2
OK032	Salt Plains WL	1.88	350	Pn	Pn	14 33 36.9	+0.7
GC02	Grant County #	1.90	359	Pn	Pn	14 33 37.2	+0.8
TUL3	Leonard	1.91	59		Pn	14 33 37.2	+0.7
TUL3				IAmb_Lg		14 34 07.4	
	comp=Z,38nm,0.9s						
TUL3	Leonard	1.91	59	P	Pn	14 33 37.4	+0.9
	baz=241,SNR=24						
TUL3				S	Sb	14 34 03.2	+0.5
	baz=241						
FW03	Perrin-Whitt E	1.91	186		Pn	14 33 37.3	+0.7
FW03				IAmb_Lg		14 34 08.2	
	comp=Z,24nm,0.7s						
FW06	Azle	1.98	174		Pb	14 33 39.0	-1.0
SMWD	Samnorwood	2.00	275		Pn	14 33 38.9	+1.0
SMWD				IAmb_Lg		14 34 11.0	
	comp=Z,26nm,0.7s						
KAN14	Manchester OK	2.01	356		Pn	14 33 38.8	+0.9
KAN13	South Haven SW	2.08	7		Pn	14 33 38.7	-0.2
KAN05	Bluff City Nor	2.16	359		Pn	14 33 40.8	+0.9
KAN10	Anthony SW Sta	2.19	354		Pn	14 33 41.6	+1.2
KAN10				IAmb_Lg		14 34 13.

SN01				IAmb_Lg			14 34 50.9	
	comp=Z,17nm,0.8s							
237A	**Washetta, Mont**	**3.38**	**150**	S	**Sn**		**14 34 38.7**	**+1.9**
	baz=331							
HHAR	**Hobbs**	**3.42**	**66**		**Pn**		**14 33 57.7**	**+0.4**
R32A	**Long Quarter,**	**3.54**	**348**	IAmb_Lg			14 35 04.8	
	comp=Z,15nm,0.7s							
R32A	**Long Quarter,**	**3.54**	**348**	S	**Sn**		**14 34 43.1**	**+2.1**
	baz=168							
POST	**Post**	**3.59**	**240**	IAmb_Lg			14 35 00.5	
	comp=Z,22nm,1.1s							
BRDY	**Brady**	**3.79**	**196**		**Pn**		**14 34 02.1**	**-0.2**
BRDY				IAmb_Lg			14 35 09.3	
	comp=Z,26nm,0.8s							
SGCY	**Sterling City**	**4.10**	**223**	Pn	**Pn**		**14 34 07.2**	**+0.4**
SGCY				IAmb_Lg			14 35 24.9	
	comp=Z,20nm,0.8s							
X40A	**Basin Creek Fa**	**4.12**	**95**	IAmb_Lg			14 35 18.6	
	comp=Z,13nm,0.7s							
435B	**Jarrell**	**4.16**	**177**	Pn	**Pn**		**14 34 08.1**	**+0.7**
435B				IAmb_Lg			14 35 19.8	
	comp=Z,26nm,1.1s							
435B	**Jarrell**	**4.16**	**177**	P	**Pn**		**14 34 08.2**	**+0.8**
	baz=357							
CBKS	**Cedar Bluff**	**4.16**	**339**	Pn	**Pn**		**14 34 08.3**	**+0.8**
CBKS				IAmb_Lg			14 35 19.8	
	comp=Z,18nm,0.9s							
CBKS	**Cedar Bluff**	**4.16**	**339**	P	**Pn**		**14 34 08.5**	**+1.0**
	baz=158,SNR=5.4							
MSTX	**Muleshoe**	**4.21**	**258**	Pn	**Pn**		**14 34 09.0**	**+0.7**
MSTX	**Muleshoe**	**4.21**	**258**	P	**Pn**		**14 34 09.5**	**+1.1**
	baz=75							
MSTX				S	**Sn**		**14 35 00.4**	**+2.7**
	baz=75							
U40A	**Yellville**	**4.27**	**69**	P	**Pn**		**14 34 09.6**	**+0.6**
	baz=252							
U40A				P	**Pn**		**14 34 09.6**	**+0.6**
	baz=252							
RTBA	**Rita Blanca**	**4.28**	**292**	IAmb_Lg			14 35 31.0	
	comp=Z,5.7nm,0.7s							
WHAR	**Wooly Hollow**	**4.54**	**84**	Pn	**Pn**		**14 34 13.0**	**+0.4**
WHAR				IAmb_Lg			14 35 36.4	
	comp=Z,14nm,0.9s							
S39A	**Bolivar**	**4.54**	**52**	Pn	**Pn**		**14 34 13.2**	**+0.6**
S39A				IAmb_Lg			14 35 30.9	
	comp=Z,19nm,0.8s							
S39A	**Bolivar**	**4.54**	**52**	P	**Pn**		**14 34 13.3**	**+0.6**
	baz=234,SNR=10.0							
FCAR	**Ozark Folk Cen**	**4.74**	**77**		**Pn**		**14 34 15.9**	**+0.5**
JCT	**Junction City**	**4.76**	**201**	Pn	**Pn**		**14 34 16.4**	**+0.7**
ODSA	**Odessa**	**4.86**	**236**	IAmb_Lg			14 35 51.3	
	comp=Z,15nm,1.1s							
OZNA	**Ozona**	**4.89**	**216**	Pn	**Pn**		**14 34 18.1**	**+0.5**
OZNA				IAmb_Lg			14 35 47.3	
	comp=Z,17nm,0.9s							
MGMO	**Mountain Grove**	**5.00**	**62**	IAmb_Lg			14 35 55.9	
	comp=Z,12nm,0.9s							
MNHN	**Monahans**	**5.49**	**230**	IAmb_Lg			14 36 02.1	
	comp=Z,13nm,0.8s							
HNDO	**Hondo**	**5.54**	**193**	Pn	**Pn**		**14 34 26.8**	**+0.3**
HNDO				IAmb_Lg			14 36 13.2	
	comp=Z,20nm,0.8s							
R40A	**Maddies Statio**	**5.57**	**52**	Pn	**Pn**		**14 34 27.5**	**+0.7**
R40A				IAmb_Lg			14 36 05.1	
	comp=Z,12nm,0.7s							
T25A	**Trinidad**	**5.78**	**294**	IAmb_Lg			14 36 18.9	
	comp=Z,15nm,0.7s							
P38A	**Dawn**	**5.78**	**35**	IAmb_Lg			14 36 15.1	
	comp=Z,17nm,0.7s							
EF01	**Eagle Ford 01**	**5.82**	**185**	IAmb_Lg			14 36 20.7	
	comp=Z,20nm,0.9s							
DRIO	**Del Rio**	**6.00**	**204**	IAmb_Lg			14 36 19.2	
	comp=Z,13nm,0.8s							
SAND	**Sanderson**	**6.17**	**217**	Pn	**Pn**		**14 34 35.5**	**+0.3**
SAND				IAmb_Lg			14 36 26.0	
	comp=Z,21nm,0.9s							
P40A	**Paris**	**6.48**	**43**	Pn	**Pn**		**14 34 39.4**	**0.0**
ALPN	**Alpine**	**6.70**	**229**	IAmb_Lg			14 36 47.2	
	comp=Z,10nm,0.9s							
833A	**Chaparral WMA,**	**6.74**	**192**	IAmb_Lg			14 36 56.5	
	comp=Z,17nm,1.2s							
Q24A	**Divide**	**7.11**	**306**	IAmb_Lg			14 36 53.8	
	comp=Z,11nm,0.7s							
ISCO	**Idaho Springs**	**7.88**	**310**	IAmb_Lg			14 37 23.6	
	comp=Z,11nm,1.2s							
ECSD	**EROS Data Cent**	**8.82**	**6**	IAmb_Lg			14 37 45.3	
	comp=Z,6.2nm,1.1s							

NEIC ***19*** *14:47:44.7±0.3,36.52N±0.02×98.93W±0.02,h4km±5km, Error ellipse: s-maj=3.9km s-min=2.1km az=142.0*

TUL 19 14:47:43.9±0.4,36.54N±0.02×98.96W±0.03,h6km±6km, ML2.8,mb_Lg2.6/50(NEIC),ML3.1/16(NEIC),Error ellipse: s-maj=3.6km s-min=2.7km az=136.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.16**	**192**	Pg	Pg	14 47 47.5	+0.3
U32A				Sg	Sg	14 47 50.0	+0.8
ELIS	**Ellis County**	**0.60**	**218**	Pg	Pg	14 47 55.5	+0.1
ELIS				Sg	Sg	14 48 03.9	+0.8
OK032	**Salt Plains WL**	**0.66**	**66**	Pg	Pg	14 47 56.5	-0.1
OK032				IAML		14 48 06.1	
	939nm,0.2s						
OK032				IAML		14 48 09.3	
	800nm,0.2s						
CROK	**Carrier**	**0.79**	**92**		Pg	14 47 58.9	-0.2
KAN14	**Manchester OK**	**0.91**	**62**		Pg	14 48 01.0	-0.3
KAN10	**Anthony SW Sta**	**0.91**	**50**		Pg	14 48 01.1	-0.2
GC02	**Grant County #**	**0.94**	**70**	Pg	Pg	14 48 01.6	-0.3
KAN05	**Bluff City Nor**	**1.04**	**56**		Pg	14 48 03.7	-0.3
KAN08	**Anthony NE Sta**	**1.05**	**49**	Pg	Pg	14 48 03.7	-0.4
KAN12	**Harper NE Stat**	**1.08**	**45**	Pg	Pg	14 48 04.7	0.0
KAN17	**Caldwell West**	**1.09**	**62**	Pg	Pg	14 48 04.3	-0.4
KAN17				IAML		14 48 23.4	
	comp=E,474nm,0.3s						
KAN17				IAML		14 48 27.3	
	comp=N,480nm,0.2s						
KAN06	**Argonia West S**	**1.14**	**51**		Pg	14 48 05.1	-0.5
KAN06				IAML		14 48 22.9	
	comp=N,574nm,0.1s						
KAN01	**Argonia South**	**1.15**	**57**		Pg	14 48 05.3	-0.6
KAN01				IAML		14 48 25.7	
	comp=N,427nm,0.1s						
KAN01				IAML		14 48 25.8	
	comp=E,444nm,0.1s						
KAN09	**Caldwell North**	**1.23**	**60**		Pg	14 48 06.8	-0.7
KAN13	**South Haven SW**	**1.28**	**68**		Pn	14 48 07.6	-0.8
KAN13				IAML		14 48 31.3	
	comp=E,530nm,0.3s						
KS21	**Milan North St**	**1.28**	**54**	Pg	Pn	14 48 07.8	-0.6
BLOK	**Blackwell**	**1.42**	**80**		Pn	14 48 09.9	-0.3
OK029	**Liberty Lake**	**1.43**	**121**		Pn	14 48 09.8	-0.5
OK048	**Pawnee Station**	**1.63**	**94**	Pn	Pn	14 48 13.6	+0.4
OKCSW	**OKLAHOMA CITY**	**1.67**	**132**	Pn	Pn	14 48 14.3	+0.6
OK033	**Mehan**	**1.71**	**106**	Pn	Pn	14 48 14.6	+0.4
OK051	**E0350 and S346**	**1.71**	**90**		Pn	14 48 14.9	+0.7
SMWD	**Samnorwood**	**1.77**	**216**		Pn	14 48 15.7	+0.7
FNO	**Franklin**	**1.80**	**135**	Pn	Pn	14 48 16.2	+0.7
WMOK	**Wichita Mounta**	**1.80**	**175**		Pn	14 48 15.2	-0.3
OK052	**Battle Ridge R**	**1.83**	**107**		Pn	14 48 16.3	+0.5
QUOK	**Quay**	**1.85**	**101**		Pn	14 48 17.0	+0.7
R32A	**Long Quarter,**	**1.90**	**6**		Pb	14 48 18.0	-0.9
T35A	**Sooner Cattle**	**2.00**	**78**		Pn	14 48 18.8	+0.5
DEOK	**Depew**	**2.11**	**108**		Pn	14 48 19.8	+0.1
W35A	**Tecumseh**	**2.19**	**129**		Pn	14 48 21.5	+0.7
CBKS	**Cedar Bluff**	**2.36**	**345**		Pn	14 48 24.6	+1.4
WTFS	**Witchita Falls**	**2.79**	**171**	Pn	Pn	14 48 29.8	+0.6
RTBA	**Rita Blanca**	**3.04**	**269**	Pn	Pn	14 48 33.6	+0.9
RTBA				IAmb_Lg		14 49 19.8	
	comp=Z,6.2nm,0.8s						
KSU1	**Kansas State U**	**3.17**	**35**	Pn	Pn	14 48 35.1	+0.8
KSU1				IAmb_Lg		14 49 28.2	
	comp=Z,27nm,0.9s						
RLO	**Rose Lookout**	**3.20**	**95**	Pn	Pn	14 48 35.4	+0.6
APMT	**Aspermont**	**3.34**	**197**	Pn	Pn	14 48 37.9	+1.2
FW06	**Azle**	**3.74**	**162**	IAmb_Lg		14 49 42.6	
	comp=Z,8.2nm,0.8s						
PLPT	**Palo Pinto**	**3.75**	**172**	Pn	Pn	14 48 43.2	+0.9
PLPT				IAmb_Lg		14 49 44.8	
	comp=Z,4.8nm,0.7s						
FW07	**Weatherford**	**3.94**	**165**	IAmb_Lg		14 49 53.9	
	comp=Z,10nm,0.7s						
SN01	**Snyder 1**	**3.99**	**204**	IAmb_Lg		14 49 54.0	
	comp=Z,18nm,0.9s						
MSTX	**Muleshoe**	**4.03**	**232**	IAmb_Lg		14 50 00.7	
	comp=Z,16nm,1.2s						
POST	**Post**	**4.04**	**212**	IAmb_Lg		14 50 00.2	
	comp=Z,11nm,0.9s						
HHAR	**Hobbs**	**4.06**	**92**	IAmb_Lg		14 49 50.6	
	comp=Z,9.6nm,1.0s						
T25A	**Trinidad**	**4.41**	**279**	IAmb_Lg		14 50 06.1	
	comp=Z,16nm,0.8s						
TREL	**Terrell**	**4.47**	**147**	IAmb_Lg		14 50 04.5	
	comp=Z,36nm,0.8s						
Z38A	**Mt. Pleasant**	**4.62**	**134**	IAmb_Lg		14 50 20.5	
	comp=Z,13nm,0.7s						
S39A	**Bolivar**	**4.65**	**74**	Pn	Pn	14 48 54.4	-0.3
S39A				IAmb_Lg		14 50 11.6	
	comp=Z,16nm,0.8s						
SGCY	**Sterling City**	**4.95**	**202**	IAmb_Lg		14 50 26.1	
	comp=Z,6.3nm,0.7s						
OGNE	**Ogallala**	**5.01**	**332**	IAmb_Lg		14 50 26.4	
	comp=Z,20nm,0.7s						
BRDY	**Brady**	**5.24**	**180**	Pn	Pn	14 49 02.6	-0.2
BRDY				IAmb_Lg		14 50 37.7	
	comp=Z,4.9nm,0.9s						
P38A	**Dawn**	**5.28**	**53**	IAmb_Lg		14 50 37.9	
	comp=Z,14nm,0.8s						
ODSA	**Odessa**	**5.31**	**215**	IAmb_Lg		14 50 37.9	
	comp=Z,7.2nm,0.7s						
SDCO	**Great Sand Dun**	**5.36**	**285**	IAmb_Lg		14 50 40.8	
	comp=Z,9.7nm,1.1s						
MGMO	**Mountain Grove**	**5.40**	**81**	Pn	Pn	14 49 05.4	+0.3
MGMO				IAmb_Lg		14 50 37.5	
	comp=Z,13nm,0.8s						
Q24A	**Divide**	**5.47**	**298**	Pn	Pn	14 49 07.1	+0.9
Q24A				IAmb_Lg		14 50 44.9	
	comp=Z,10nm,0.7s						
WHAR	**Wooly Hollow**	**5.56**	**101**	IAmb_Lg		14 50 44.4	
	comp=Z,8.8nm,0.9s						
R40A	**Maddies Statio**	**5.61**	**70**	Pn	Pn	14 49 07.9	+0.1
R40A				IAmb_Lg		14 50 42.6	
	comp=Z,8.7nm,0.8s						
MNHN	**Monahans**	**6.07**	**212**	IAmb_Lg		14 51 02.7	
	comp=Z,5.5nm,0.8s						
JCT	**Junction City**	**6.08**	**187**	IAmb_Lg		14 50 59.2	
	comp=Z,7.4nm,0.8s						
ISCO	**Idaho Springs**	**6.17**	**304**	IAmb_Lg		14 51 01.4	
	comp=Z,6.1nm,0.8s						
CCM	**Cathedral Cave**	**6.34**	**74**	IAmb_Lg		14 51 05.5	
	comp=Z,11nm,0.9s						
PBMO	**Pear Bluff**	**6.86**	**85**	IAmb_Lg		14 51 32.4	
	comp=Z,10nm,0.9s						
PHWY	**Pilot Hill**	**6.95**	**315**	IAmb_Lg		14 51 28.2	
	comp=Z,7.2nm,0.7s						
N23A	**Red Feather La**	**6.98**	**311**	IAmb_Lg		14 51 30.8	
	comp=Z,13nm,1.0s						
K22A	**Casper**	**8.45**	**319**	IAmb_Lg		14 52 33.5	
	comp=Z,9.1nm,0.9s						
RSSD	**Black Hills**	**8.51**	**334**	IAmb_Lg		14 52 18.4	
	comp=Z,4.5nm,0.8s						

IDC 19 14:50:45.1±1.8,5.07N±61.14E,h0km,mb3.8/5, mbtmp3.8/5,MS3.5/6,Error ellipse: s-maj=76.3km s-min=26.5km az=42.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**19.58**	**83**	LR	LR	15 01 13.1	
	comp=Z,55nm,18.7s,baz=227,slow=32						
EIL	**Elat**	**34.79**	**318**	LR	LR	15 10 58.8	
	comp=Z,64nm,19.0s,baz=65,slow=35						
MMAI	**Mount Meron Ar**	**36.72**	**322**	LR	LR	15 12 35.3	
	comp=Z,91nm,18.5s,baz=83,slow=36						
CMAR	**Chiang Mai Arr**	**39.23**	**67**	P	P	14 58 15.6	+0.1
	0.5nm,0.8s,baz=265,slow=11,SNR=1.8						
	0.5nm,0.8s						
BRTR	**Keskin Array B**	**42.50**	**328**	P	P	14 58 43.3	+0.9
	0.7nm,0.9s,baz=148,slow=8.5,SNR=2.5						
	0.7nm,0.9s						
AKTO	**Aktyubinsk**	**45.29**	**357**	LR	LR	15 18 17.2	
	comp=Z,94nm,18.5s,baz=34,slow=36						
H04N1	**CROZET ISLANDS**	**51.68**	**188**	T	T	15 55 52.9	
	baz=10,slow=75,SNR=67						
H04N2	**CROZET ISLANDS**	**51.68**	**188**	T	T	15 55 51.6	
	baz=10,slow=75,SNR=83						
H04N3	**CROZET ISLANDS**	**51.69**	**188**	T	T	15 55 51.8	
	baz=10,slow=75,SNR=79						
HFS	**Hagfors**	**65.60**	**336**	P	P	15 01 29.8	-0.8
	1.2nm,0.6s,baz=123,slow=5.5,SNR=4.4						
	1.2nm,0.6s						
MDT	**Midelt**	**66.92**	**303**	LR	LR	15 29 18.3	
	comp=Z,49nm,18.1s,baz=10.0,slow=35						
WRA	**Warramunga Arr**	**76.05**	**112**	P	P	15 02 34.9	-0.2
	1.5nm,1.1s,baz=297,slow=4.5,SNR=6.2						
	1.5nm,1.1s						
ASAR	**Alice Springs**	**76.38**	**116**	P	P	15 02 37.1	+0.2
	1.3nm,1.0s,baz=290,slow=5.8,SNR=14						
	1.3nm,1.0s						
STKA	**Stephens Creek**	**84.59**	**123**	LR	LR	15 37 04.9	
	comp=Z,32nm,20.0s,baz=216,slow=33						

IDC 19 14:55:15.2±637.0,52.95N×5.68E,h0km,Error ellipse: s-maj=292.4km s-min=106.6km az=121.0,The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**6.53**	**126**	I	I	15 31 20.0	
	baz=312,slow=384,SNR=1.5						
I48TN	**KESRA INFRASON1**	**7.34**	**170**	I	I	16 42 10.0	
	baz=352,slow=322,SNR=0.9						
I43RU	**DUBNA INFRASON1**	**8.46**	**66**	I	I	16 45 50.0	
	baz=272,slow=331,SNR=2.2						
I31KZ	**AKTYUBINSK INF**	**31.97**	**73**	I	I	18 11 50.0	
	baz=297,slow=328,SNR=0.7						

IDC ***19*** *15:02:56.9±4.4,5.34S×152.49E,h51km±40km,mb3.6/4, mbtmp3.9/5,ML1.8/1,Error ellipse: s-maj=57.2km s-min=16.9km az=107.0*

ISC 19 15:02:55.9±1.4,5.39S±0.08×152.5E±0.2,h40km,n6, σ1s78/8,mb3.7/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.18**	**336**	P	**Pn**	**15 03 16.4**	**+0.4**
	2μm,0.3s,baz=188,slow=2.1,SNR=400						
KRVT				S	**Sn**	**15 03 30.6**	**-0.2**
	3μm,0.4s,baz=101,slow=23,SNR=4.2						
PMG	**Port Moresby**	**6.64**	**233**	P	**Pn**	**15 04 33.6**	**+2.6**
	1.1nm,0.3s,baz=42,slow=16,SNR=6.3						
PMG				S	**Sn**	**15 05 43.0**	**-2.5**
	7.6nm,0.3s,baz=233,slow=14,SNR=4.2						
	3.0nm,0.4s						
WRA	**Warramunga Arr**	**22.84**	**229**	P	**P**	**15 07 56.1**	**+0.2**
	2.5nm,0.6s,baz=53,slow=9.9,SNR=18						
	2.5nm,0.6s						
ASAR	**Alice Springs**	**25.53**	**223**	P	**P**	**15 08 21.4**	**+0.4**
	1.3nm,0.7s,baz=59,slow=8.9,SNR=18						
	1.3nm,0.7s						
STKA	**Stephens Creek**	**28.27**	**200**	P	**P**	**15 08 44.0**	**-1.4**
	0.9nm,0.3s,baz=23,slow=1.8,SNR=3.5						
	0.9nm,0.3s						
ILAR	**Eielson Array**	**82.81**	**22**	P	**P**	**15 15 15.8**	**+0.2**
	0.3nm,0.7s,baz=236,slow=6.0,SNR=5.3						
	0.3nm,0.7s						

TEH ***19*** *15:13:12.9,33.98N×44.84E,h14km±56km,ML3.8*
NEIC ***19*** *15:13:14.2±1.0,33.9N±0.1×45.1E±0.1,h10km±1km, mb4.3/9,Error ellipse: s-maj=23.3km s-min=14.5km az=133.0*
ISN ***19*** *15:13:15.5±1.2,34.01N×44.93E,h25km±80km,ML3.7*
IDC ***19*** *15:13:18.4±6.0,34.74N×45.15E,h0km,mb3.5/6, mbtmp3.5/7,ML3.8/1,Error ellipse: s-maj=131.7km s-min=37.4km az=6.0*

ISC 19 15:13:14.0±1.4,34.02N±0.04×44.93E±0.05,h6km±10km, n41,σ1s15/47,mb3.7/10,Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.73**	**48**	Pg	**Pg**	**15 13 28.0**	**-0.1**
BHD	**Baghdad**	**0.88**	**212**	*e*Pg	**Pb**	**15 13 32.0**	**+0.4**
BHD				*e*Sg	**Sg**	**15 13 43.0**	**+0.8**
BHD				AML	AML	15 13 57.3	
	comp=E,5μm,0.6s						
ILBA	**Ilam Banvizeh**	**1.13**	**110**	Pg	**Pb**	**15 13 35.7**	**-0.4**
ILBA				Sg	**Sn**	**15 13 53.6**	**+1.1**
IBDR	**Badra**	**1.23**	**137**	*e*Pn	**Pn**	**15 13 38.5**	**+0.7**
IBDR				*e*Sn	**Sn**	**15 13 56.0**	**+1.2**
IBDR				AML	AML	15 14 00.9	
	comp=N,1μm,0.6s						
IBDR				AML	AML	15 14 13.0	
	comp=E,1μm,0.5s						
IDHR	**Dehrash**	**1.38**	**60**	Pg	**Pg**	**15 13 40.3**	**-0.3**
IDHR				Sg	**Sn**	**15 14 00.2**	**+1.3**
IGHG	**Ghaleghazi**	**1.39**	**77**	Pg	**Pb**	**15 13 40.9**	**+0.2**
IGHG				Sg	**Sn**	**15 14 02.7**	**+3.6**
KCHF	**Cheshme Sefid,**	**1.77**	**81**	Pn	**Pn**	**15 13 46.2**	**+0.8**
ILIN	**Lien**	**1.91**	**61**	Pn	**Pn**	**15 13 48.5**	**+1.2**
IKOM	**Komasi**	**2.15**	**85**	Pn	**Pn**	**15 13 51.1**	**+0.6**
IKFM	**Kafar-mosalman**	**2.48**	**101**	Pn	**Pn**	**15 13 55.6**	**+0.7**
RAFI	**Al-Rafai**	**2.50**	**156**	*e*Pn	**Pn**	**15 13 57.0**	**+1.8**
RAFI				*e*Sn	**Sn**	**15 14 27.0**	**+1.0**
RAFI				AML	AML	15 14 34.9	
	comp=E,468nm,0.4s						
RAFI				AML	AML	15 14 35.7	
	comp=N,524nm,0.5s						
IALM	**Almabolaq**	**2.81**	**72**	Pn	**Pn**	**15 13 59.3**	**-0.5**
MAHB	**Mahabad**	**2.81**	**13**	Pn	**Pn**	**15 14 01.0**	**+1.3**
IAZR	**Azarshahr**	**3.75**	**13**	Pn	**Pn**	**15 14 13.7**	**+1.0**
AMIS	**Naft Sefid**	**4.35**	**121**	Pn	**Pn**	**15 14 20.6**	**-0.2**
MARD	**Mardin**	**4.71**	**315**	Pn	**Pn**	**15 14 25.9**	**0.0**
JHBN	**Jahan bin**	**5.13**	**109**	Pn	**Pn**	**15 14 30.9**	**-0.9**
IPIR	**Pirpir**	**5.16**	**103**	Pn	**Pn**	**15 14 32.4**	**+0.2**
QAMS	**Qamsar**	**5.39**	**91**	Pn	**Pn**	**15 14 36.0**	**+0.8**
IZEF	**Zefreh**	**6.29**	**98**	Pn	**Pn**	**15 14 47.5**	**0.0**
KLNJ	**Kolanjah**	**6.38**	**116**	Pn	**Pn**	**15 14 49.6**	**+0.7**
IRAM	**Ramesheh**	**6.64**	**107**	Pn	**Pn**	**15 14 52.6**	**+0.2**
ABKAR	**Akbulak array**	**18.86**	**32**	P	**P**	**15 17 33.7**	**-1.0**
AKASG	**Malin Array Be**	**20.24**	**330**	P	**P**	**15 17 49.0**	**-0.8**
	comp=N,0.3nm,0.3s,baz=134,slow=10.0,SNR=5.6						
	comp=N,0.9nm,0.6s						
NRN	**Naryn**	**25.57**	**64**	P	**P**	**15 18 42.3**	**-1.8**
NRN				IAmb	IAmb	15 18 49.2	
	comp=Z,3.0nm,0.6s						
BVAR	**Borovoye Array**	**26.26**	**36**	P	**P**	**15 18 49.6**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=233,slow=7.2,SNR=4.2						
	comp=Z,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**29.55**	**46**	P	**P**	**15 19 18.5**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=253,slow=8.9,SNR=5.4						
	comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**30.88**	**54**	P	**P**	**15 19 31.4**	**+0.1**
MKAR	**Makanchi Array**	**30.88**	**54**	P	**P**	**15 19 31.2**	**0.0**
	comp=Z,0.3nm,0.6s,baz=248,slow=7.6,SNR=1.8						
	comp=Z,0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**34.32**	**42**	P	**P**	**15 20 00.3**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=257,slow=10,SNR=1.9						
	comp=Z,0.4nm,0.3s						
LSZ	**Lusaka**	**51.55**	**201**	P	**P**	**15 22 18.8**	**-2.4**
C18K	**Utukok River**	**75.81**	**10**	P	**P**	**15 25 01.0**	**+0.3**
TOLK	**Toolik Lake Re**	**77.08**	**5**	P	**P**	**15 25 08.6**	**+0.8**
E22K	**Anaktuvuk Pass**	**77.39**	**6**	P	**P**	**15 25 09.8**	**+0.3**
E29M	**Blow River**	**77.88**	**1**	P	**P**	**15 25 12.0**	**-0.2**
E29M				IAmb	IAmb	15 25 37.2	
	comp=Z,3.3nm,1.3s						
BMAR	**Burnt Mountain**	**78.61**	**4**	P	**P**	**15 25 16.4**	**+0.1**
IMAR	**Indian Mountai**	**79.28**	**8**	P	**P**	**15 25 19.3**	**-0.7**
G31M	**Satah River**	**79.38**	**360**	P	**P**	**15 25 20.2**	**-0.2**
G31M				IAmb	IAmb	15 25 22.2	
	comp=Z,7.0nm,1.4s						
H29M	**Whitestone**	**80.05**	**1**	P	**P**	**15 25 24.1**	**-0.1**
H29M				IAmb	IAmb	15 25 41.3	
	comp=Z,5.1nm,1.4s						
ILAR	**Eielson Array**	**81.10**	**5**	P	**P**	**15 25 33.2**	**+3.4**
	comp=Z,0.3nm,0.8s,baz=324,slow=4.5,SNR=2.8						
	comp=Z,0.3nm,0.8s						
YKA	**Yellowknife Ar**	**82.42**	**351**	P	**P**	**15 25 37.2**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=26,slow=5.5,SNR=2.8						
	comp=Z,0.2nm,0.6s						

IDC 19 15:28:07.6±3.8,24.20S×179.32W,h0km,mb3.7/2, mbtmp3.7/2,Error ellipse: s-maj=210.4km s-min=45.6km az=157.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.60**	**261**	P	P	15 36 05.2	-0.7
	0.4nm,0.4s,baz=91,slow=7.7,SNR=28						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**43.01**	**266**	P	P	15 36 09.5	+0.3
	0.5nm,0.4s,baz=103,slow=7.9,SNR=12						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**121.08**	**319**	PKP	PKPdf	15 47 00.4	-1.6
	0.4nm,0.5s,baz=48,slow=2.1,SNR=2.6						
NB2	**NORSAR Subarra**	**142.47**	**352**	PKP	PKPdf	15 47 41.9	-0.1
	comp=Z,2.0nm,0.7s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**142.47**	**352**	PKP	PKPdf	15 47 41.5	-0.5
	comp=Z,0.8nm,0.8s,baz=7.4,slow=6.2,SNR=3.3						
HFS	**Hagfors**	**142.96**	**349**	PKP	PKPdf	15 47 42.1	-0.7
	comp=Z,0.9nm,0.3s,baz=58,slow=3.6,SNR=9.3						
AKASG	**Malin Array Be**	**145.56**	**328**	PKPbc	PKPab	15 47 48.6	+0.6
	comp=Z,0.2nm,0.3s,baz=42,slow=2.2,SNR=2.3						

**NOU 19 15:43:54.5,20.15S×169.71E,h30km,M

MBWA	**Marble Bar**	**11.34**	**182**	P		**Pn**	15 47 11.8	**-1.0**
PSA00	**Pilbara Seismi**	**11.75**	**181**			**Pn**	15 47 16.3	**-2.1**
PSA00	**Pilbara Seismi**	**11.75**	**181**	P		**Pn**	15 47 16.7	**-1.7**
KDU	**Kakadu**	**12.47**	**105**	P		**Pn**	15 47 26.4	**-1.8**
GIRL	**Giralia**	**14.00**	**203**	Pn		**Pn**	15 47 47.8	**-1.3**
GIRL	**Giralia**	**14.00**	**203**	P		**Pn**	15 47 48.5	**-0.5**
MEEK	**Meekatharra**	**16.85**	**185**	P		**Pn**	15 48 26.3	**+0.4**
WB0	**Warramunga Arr**	**17.01**	**127**	Pn		**Pn**	15 48 25.9	**-2.0**
WB0				IAmb		IAmb	15 48 28.0	
	comp=Z,13nm,1.4s							
WRA	**Warramunga Arr**	**17.06**	**128**	Pn		**Pn**	15 48 26.4	**-2.2**
WRA	**Warramunga Arr**	**17.06**	**128**	Pn		**Pn**	15 48 26.6	**-2.0**
	comp=Z,0.7nm,0.3s,baz=302,slow=13,SNR=24							
WRA				Sn		Sn	15 51 20.0	-18
	comp=Z,0.4nm,0.3s,baz=306,slow=23,SNR=7.3							
	comp=Z,2.9nm,0.8s							
WB2	**Warramunga Arr**	**17.07**	**128**	P		**Pn**	15 48 28.1	**-0.6**
WB2				IAmb		IAmb	15 48 28.8	
	comp=Z,10nm,1.2s							
WR0	**Warramunga Arr**	**17.23**	**128**			**Pn**	15 48 29.1	**-1.6**
WR0				IAmb		IAmb	15 48 33.1	
	comp=Z,4.6nm,0.8s							
AS31	**Alice Springs**	**19.10**	**138**			**P**	15 48 52.4	**+0.2**
ASAR	**Alice Springs**	**19.10**	**138**	P		**P**	15 48 53.0	**+0.7**
	comp=Z,0.5nm,0.3s,baz=320,slow=11,SNR=63							
ASAR				S		S	15 52 10.7	-16
	comp=Z,1.7nm,0.6s,baz=313,slow=24,SNR=6.1							
	comp=Z,1.5nm,0.4s							
MORW	**Morawa**	**19.59**	**191**	Pn		**P**	15 48 57.0	**-0.4**
MORW				IAmb		IAmb	15 49 40.1	
	comp=Z,55nm,1.4s							
BKNI	**Bangkinang**	**21.46**	**297**	P		**P**	15 49 19.4	**+1.5**
QIS	**Mount Isa**	**21.64**	**122**	P		**P**	15 49 21.0	**+1.3**
NWAO	**Narrogin (SRO)**	**23.21**	**186**	P		**P**	15 49 34.7	**-1.4**
PZH	**PanZhiHua**	**40.22**	**334**	P		**P**	15 52 08.0	**+2.5**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,100nm,4.8s							
HHC	**Hu-ho-hao-te**	**50.97**	**352**	*e*P		**P**	15 53 32.3	**+2.1**
HHC				pmax		pmax		
	comp=Z,27nm,0.5s							
HHC				pmax		pmax		
	comp=Z,400nm,5.1s							
WMQ	**Urumqi**	**60.91**	**334**	*e*P		**P**	15 54 42.3	**+1.1**
MKAR	**Makanchi Array**	**65.63**	**332**	P		**P**	15 55 09.6	**-2.7**
	comp=Z,0.4nm,0.6s,baz=142,slow=7.3,SNR=2.1							
	comp=Z,0.4nm,0.6s							
MAKZ	**Makanchi**	**65.78**	**332**	P		**P**	15 55 11.4	**-1.9**
MAW	**Mawson**	**68.90**	**200**	P		**P**	15 55 31.9	**-0.8**
MAW				IAmb		IAmb	15 56 08.9	
	comp=Z,2.2nm,1.4s							
ZALV	**Zalesovo Beam**	**70.14**	**339**	P		**P**	15 55 39.0	**-1.4**
	comp=Z,0.3nm,0.3s,baz=133,slow=6.1,SNR=2.1							
	comp=Z,0.3nm,0.3s							
ABKAR	**Akbulak array**	**78.81**	**325**	P		**P**	15 56 30.4	**-0.6**

NEIC ***19*** *15:47:47.4±0.2,36.˚15N±0.˚01×97.˚67W±0.˚02,h3km±2km, Error ellipse: s-maj=2.1km s-min=1.5km az=224.0*

TUL 19 15:47:46.8±0.3,36.˚154N±0.˚009×97.˚67W±0.˚01,h4km±2km, ML3.2,mb_Lg3.0/96(NEIC),**ML3.3**/62(NEIC),**Error ellipse: s-maj=1.5km s-min=0.9km az=141.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.40**	**154**	Pg	Pg	15 47 54.7	+0.3
OK029				Sg	Sg	15 48 00.3	+0.6
CROK	**Carrier**	**0.43**	**324**	Pg	Pg	15 47 55.5	+0.4
CROK				Sg	Sg	15 48 01.5	+0.7
CROK				IAML		15 48 02.0	
	comp=E,2μm,0.4s						
CROK				IAML		15 48 06.4	
	comp=N,2μm,0.3s						
ADOK	**Arcadia Dam**	**0.56**	**154**	Pg	Pg	15 47 57.8	+0.3
OK033	**Mehan**	**0.60**	**100**	Pg	Pg	15 47 58.6	+0.2
OK033				IAML		15 48 09.5	
	comp=N,2μm,0.5s						
OK048	**Pawnee Station**	**0.64**	**66**		Pg	15 47 59.4	+0.2
BLOK	**Blackwell**	**0.71**	**31**	Pg	Pg	15 48 00.6	+0.2
GC02	**Grant County #**	**0.71**	**348**	Pg	Pg	15 48 00.6	+0.1
OK052	**Battle Ridge R**	**0.72**	**103**	Pg	Pg	15 48 00.7	0.0
OK052				IAML		15 48 13.1	
	comp=N,1μm,0.5s						
OK051	**E0350 and S346**	**0.76**	**62**		Pg	15 48 01.4	0.0
OK051				IAML		15 48 19.6	
	comp=N,936nm,0.2s						
OK051				IAML		15 48 20.6	
	comp=N,899nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.77**	**166**	Pg	Pg	15 48 01.6	0.0
OKCSW				IAML		15 48 19.7	
	comp=N,1μm,0.5s						
OKCSW				IAML		15 48 19.9	
	comp=E,1μm,0.5s						
QUOK	**Quay**	**0.78**	**88**	Pg	Pg	15 48 01.7	0.0
QUOK				IAML		15 48 12.6	
	comp=N,1μm,0.3s						
QUOK				IAML		15 48 24.6	
	comp=E,840nm,0.2s						
OK032	**Salt Plains WL**	**0.78**	**326**	Pg	Pg	15 48 01.7	-0.1
OK032				IAML		15 48 14.8	
	comp=E,968nm,0.3s						
OK032				IAML		15 48 14.9	
	comp=E,1μm,0.2s						
KAN14	**Manchester OK**	**0.83**	**344**		Pg	15 48 02.7	-0.1
KAN14				IAML		15 48 16.2	
	comp=E,778nm,0.1s						
KAN14				IAML		15 48 19.8	
	comp=N,759nm,0.2s						
KAN13	**South Haven SW**	**0.87**	**10**		Pg	15 48 03.5	-0.1
KAN13				IAML		15 48 24.7	
	comp=N,1μm,0.3s						
KAN17	**Caldwell West**	**0.89**	**355**	Pg	Pg	15 48 03.9	-0.1
KAN17				IAML		15 48 19.8	
	comp=N,988nm,0.3s						
KAN17				IAML		15 48 21.2	
	comp=E,1μm,0.3s						
FNO	**Franklin**	**0.92**	**166**		Pg	15 48 04.2	-0.3
OK038	**West end E0370**	**0.93**	**291**		Pg	15 48 04.3	-0.3
KAN05	**Bluff City Nor**	**0.97**	**350**		Pg	15 48 05.1	-0.2
KAN05				IAML		15 48 19.2	
	comp=E,864nm,0.2s						
KAN05				IAML		15 48 19.3	
	comp=N,1μm,0.2s						
KAN09	**Caldwell North**	**0.98**	**2**		Pg	15 48 05.4	-0.2
DEOK	**Depew**	**1.00**	**108**	Pg	Pg	15 48 05.5	-0.5
DEOK				IAML		15 48 19.4	
	comp=N,835nm,0.4s						
DEOK				IAML		15 48 24.1	
	comp=E,648nm,0.2s						
KAN01	**Argonia South**	**1.00**	**356**		Pg	15 48 05.8	-0.2
KAN01				IAML		15 48 24.6	
	comp=E,519nm,0.1s						
OK035	**E0210 Rd and N**	**1.00**	**304**		Pg	15 48 05.8	-0.3
KAN10	**Anthony SW Sta**	**1.03**	**341**		Pg	15 48 06.0	-0.5
KAN08	**Anthony NE Sta**	**1.10**	**347**		Pg	15 48 07.5	-0.4
KAN08				IAML		15 48 26.4	
	comp=N,491nm,0.3s						
KAN08				IAML		15 48 28.7	
	comp=E,425nm,0.1s						
U32A	**Winter Ranch,**	**1.10**	**282**		Pg	15 48 07.4	-0.5
U32A				IAML		15 48 30.4	
	comp=N,908nm,0.7s						
KAN06	**Argonia West S**	**1.10**	**352**		Pg	15 48 07.6	-0.4
KAN06				IAML		15 48 26.2	
	comp=N,578nm,0.1s						
KAN06				IAML		15 48 27.0	
	comp=E,634nm,0.2s						
KS21	**Milan North St**	**1.13**	**0**	IAML		15 48 24.1	
	comp=E,820nm,0.2s						
KS21	**Milan North St**	**1.13**	**0**		Pg	15 48 08.2	-0.3
KAN12	**Harper NE Stat**	**1.17**	**347**		Pg	15 48 08.8	-0.5
W35A	**Tecumseh**	**1.19**	**147**		Pg	15 48 08.6	-1.0
W35A				IAML		15 48 30.2	
	comp=N,744nm,0.5s						
T35A	**Sooner Cattle**	**1.20**	**50**		Pg	15 48 09.4	-0.4
T35A				IAML		15 48 29.5	
	comp=E,796nm,0.3s						
ELIS	**Ellis County**	**1.42**	**267**		Pn	15 48 13.1	-0.3
TUL3	**Leonard**	**1.54**	**99**		Pn	15 48 14.5	-0.5
TUL3				IAmb_Lg		15 48 38.0	
	comp=Z,143nm,0.9s						
WMOK	**Wichita Mounta**	**1.68**	**213**		Pn	15 48 16.5	-0.4
RLO	**Rose Lookout**	**2.14**	**89**		Pn	15 48 23.5	+0.2
LOOK	**Love County**	**2.19**	**169**	Pn	Pn	15 48 24.2	+0.3
SMWD	**Samnorwood**	**2.34**	**244**		Pn	15 48 26.4	+0.3
SMWD				IAmb_Lg		15 49 06.2	
	comp=Z,84nm,0.8s						
R32A	**Long Quarter,**	**2.41**	**340**		Pn	15 48 27.7	+0.6
WTFS	**Witchita Falls**	**2.47**	**196**	Pn	Pn	15 48 28.4	+0.6
U38A	**Gravette**	**2.67**	**83**		Pn	15 48 30.9	+0.4
Z35A	**Perchaven, San**	**2.84**	**173**	Pn	Pn	15 48 33.1	+0.3
HHAR	**Hobbs**	**3.02**	**86**	Pn	Pn	15 48 35.5	+0.2
KSU1	**Kansas State U**	**3.06**	**16**	Pn	Pn	15 48 36.4	+0.5
KSU1				IAmb_Lg		15 49 25.7	
	comp=Z,42nm,0.8s						
CBKS	**Cedar Bluff**	**3.12**	**329**	Pn	Pn	15 48 37.5	+0.7
FW03	**Perrin-Whitt E**	**3.12**	**186**	Pn	Pn	15 48 37.7	+0.9
FW06	**Azle**	**3.17**	**178**	Pn	Pn	15 48 38.1	+0.7
PLPT	**Palo Pinto**	**3.38**	**189**	Pn	Pn	15 48 40.6	+0.3
PLPT				IAmb_Lg		15 49 37.2	
	comp=Z,20nm,0.7s						
FW07	**Weatherford**	**3.44**	**182**	Pn	Pn	15 48 41.9	+0.7
FW07				IAmb_Lg		15 49 43.8	
	comp=Z,27nm,0.8s						
AMTX	**Amarillo**	**3.51**	**250**		Pn	15 48 42.3	+0.1
Z38A	**Mt. Pleasant**	**3.64**	**142**	Pn	Pn	15 48 44.2	+0.4
Z38A				IAmb_Lg		15 49 51.7	
	comp=Z,54nm,0.8s						
DKNS	**Dickens**	**3.65**	**228**	Pn	Pn	15 48 44.2	+0.1
DKNS				IAmb_Lg		15 49 46.6	
	comp=Z,26nm,0.7s						
FW14	**Alvarado**	**3.77**	**174**	IAmb_Lg		15 49 56.6	
	comp=Z,25nm,0.8s						
FW13	**Cleburne**	**3.80**	**177**	IAmb_Lg		15 49 55.3	
	comp=Z,12nm,0.7s						
S39A	**Bolivar**	**3.81**	**65**		Pn	15 48 46.5	+0.4
S39A				IAmb_Lg		15 49 50.9	
	comp=Z,28nm,0.8s						
ABTX	**Abilene, Hawle**	**3.88**	**205**	Pn	Pn	15 48 47.7	+0.5
ABTX				IAmb_Lg		15 49 53.4	
	comp=Z,31nm,1.0s						
RTBA	**Rita Blanca**	**4.10**	**275**	Pn	Pn	15 48 50.8	+0.4
RTBA				IAmb_Lg		15 49 58.5	
	comp=Z,31nm,0.7s						
SN01	**Snyder 1**	**4.23**	**220**	Pn	Pn	15 48 52.5	+0.5
SN01				IAmb_Lg		15 50 03.7	
	comp=Z,47nm,0.8s						
X40A	**Basin Creek Fa**	**4.29**	**111**	Pn	Pn	15 48 53.6	+0.8
X40A				IAmb_Lg		15 50 06.9	
	comp=Z,42nm,0.9s						
POST	**Post**	**4.41**	**227**	IAmb_Lg		15 50 09.7	
	comp=Z,31nm,0.9s						
237A	**Washetta, Mont**	**4.42**	**159**	Pn	Pn	15 48 54.2	-0.3
MGMO	**Mountain Grove**	**4.46**	**75**	Pn	Pn	15 48 54.9	-0.2
MGMO				IAmb_Lg		15 50 16.6	
	comp=Z,31nm,1.0s						
WHAR	**Wooly Hollow**	**4.46**	**100**	Pn	Pn	15 48 55.1	0.0
WHAR				IAmb_Lg		15 50 14.3	
	comp=Z,35nm,0.7s						
WLAR	**White Oak Lake**	**4.48**	**122**	IAmb_Lg		15 50 17.3	
	comp=Z,29nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.50**	**92**	Pn	Pn	15 48 56.0	+0.3
FCAR				IAmb_Lg		15 50 11.4	
	comp=Z,35nm,0.8s						
UALR	**University of**	**4.56**	**106**	IAmb_Lg		15 50 19.3	
	comp=Z,40nm,0.8s						
N33A	**J Bar K, Exete**	**4.58**	**2**	IAmb_Lg		15 50 20.8	
	comp=Z,27nm,0.7s						
P38A	**Dawn**	**4.76**	**42**	IAmb_Lg		15 50 18.8	
	comp=Z,22nm,0.7s						
R40A	**Maddies Static**	**4.81**	**62**	Pn	Pn	15 49 00.1	+0.2
KSCO	**Kaye Shedlock'**	**4.86**	**307**	IAmb_Lg		15 50 28.6	
	comp=Z,25nm,1.0s						
BRDY	**Brady**	**4.98**	**193**	Pn	Pn	15 49 02.5	+0.1
BRDY				IAmb_Lg		15 50 38.1	
	comp=Z,20nm,0.7s						
SGCY	**Sterling City**	**5.11**	**215**	IAmb_Lg		15 50 39.4	
	comp=Z,49nm,0.9s						
LCAR	**Lake Charles**	**5.28**	**89**	IAmb_Lg		15 50 36.4	
	comp=Z,19nm,0.8s						
435B	**Jarrell**	**5.36**	**179**	IAmb_Lg		15 50 41.3	
	comp=Z,42nm,0.7s						
CCM	**Cathedral Cave**	**5.47**	**68**	IAmb_Lg		15 50 44.5	
	comp=Z,36nm,1.1s						
T25A	**Trinidad**	**5.51**	**282**	Pn	Pn	15 49 09.6	-0.1
T25A				IAmb_Lg		15 50 44.9	
	comp=Z,40nm,0.8s						
P40A	**Paris**	**5.58**	**51**	Pn	Pn	15 49 10.5	0.0
ODSA	**Odessa**	**5.71**	**227**	IAmb_Lg		15 50 59.9	
	comp=Z,13nm,0.7s						
OZNA	**Ozona**	**5.96**	**210**	IAmb_Lg		15 51 05.2	
	comp=Z,24nm,0.9s						
FVM	**French Village**	**6.07**	**70**	IAmb_Lg		15 51 07.5	
	comp=Z,22nm,0.9s						
143A	**Socs Landing,**	**6.22**	**122**	IAmb_Lg		15 51 20.0	
	comp=Z,22nm,0.8s						
MNHN	**Monahans**	**6.41**	**223**	IAmb_Lg		15 51 09.3	
	comp=Z,17nm,0.8s						
SLM	**Saint Louis**	**6.42**	**65**	IAmb_Lg		15 51 20.9	
	comp=Z,20nm,0.8s						
CGM3	**Cape Girardeau**	**6.53**	**78**	IAmb_Lg		15 51 14.0	
	comp=Z,19nm,0.8s						
Q24A	**Divide**	**6.57**	**298**	IAmb_Lg		15 51 19.2	
	comp=Z,20nm,0.8s						
BRIGG	**Briggsdale**	**6.84**	**312**	IAmb_Lg		15 51 32.8	
	comp=Z,21nm,0.8s						
S44A	**Carbondale**	**6.91**	**75**	IAmb_Lg		15 51 23.9	
	comp=Z,31nm,0.8s						
PECS	**Pecos**	**7.03**	**229**	IAmb_Lg		15 51 47.2	
	comp=Z,10nm,0.7s						
Y45A	**Yeager Farm, C**	**7.05**	**107**	IAmb_Lg		15 51 51.1	
	comp=Z,20nm,0.8s						
DRIO	**Del Rio**	**7.16**	**201**	IAmb_Lg		15 51 53.5	
	comp=Z,14nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.32**	**59**	IAmb_Lg		15 51 43.0	
	comp=Z,28nm,0.8s						
ALPN	**Alpine**	**7.63**	**223**	IAmb_Lg		15 52 05.4	
	comp=Z,11nm,0.9s						
L40A	**Anamosa**	**7.74**	**38**	IAmb_Lg		15 51 55.3	
	comp=Z,25nm,0.8s						
833A	**Chaparral WMA,**	**7.94**	**191**	IAmb_Lg		15 52 06.2	
	comp=Z,16nm,0.9s						
PHWY	**Pilot Hill**	**7.96**	**313**	IAmb_Lg		15 52 21.9	
	comp=Z,11nm,0.8s						
425A	**Indio Mountain**	**8.12**	**231**	IAmb_Lg		15 52 16.2	
	comp=Z,11nm,1.0s						
O44A	**Mansfield**	**8.27**	**58**	IAmb_Lg		15 52 14.6	
	comp=Z,20nm,0.9s						
Z47A	**Carrollton**	**8.44**	**108**	IAmb_Lg		15 52 18.8	
	comp=Z,22nm,1.2s						
K22A	**Casper**	**9.43**	**316**	IAmb_Lg		15 52 59.0	
	comp=Z,14nm,0.8s						

IDC ***19*** *16:07:39.4±1.5,1.˚16N×128.˚92E,h0km,mb3.9/5, mbtmp4.0/5,MS3.2/1,Error ellipse: s-maj=118.0km s-min=18.6km az=68.0*

NEIC ***19*** *16:07:40.8±1.5,1.˚2N±0.˚1×129.˚30E±0.˚08,h10km±1km, mb4.3/14,Error ellipse: s-maj=18.9km s-min=11.9km az=30.0*

DJA ***19*** *16:07:43.7±1.0,1.˚1N±3.˚×12.˚9E±.˚,h33km±15km,M4.4/9, mb5.1/1,MLv4.0/9*

ISC 19 16:07:43.9±0.7,1.˚13N±0.˚07×129.˚27E±0.˚05,h35km,n43, o0s99/42,mb4.2/12,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.94**	**259**	Pn	**Pn**	**16 08 14.9**	**+0.5**
TNTI	**Ternate**	**1.94**	**259**	P	**Pn**	**16 08 14.8**	**+0.4**
TNTI				S	**Sn**	**16 08 37.9**	**+0.4**
LBMI	**Labuha**	**2.49**	**225**	P	**Pn**	**16 08 23.0**	**+1.0**
LBMI				S	**Sn**	**16 08 51.8**	**+0.5**
SWI	**Sorong**	**2.81**	**135**	P	**Pn**	**16 08 27.3**	**+0.9**
SWI				S	**Sn**	**16 08 59.9**	**+0.9**
SGSI	**Sangihe**	**4.52**	**304**	P	**Pn**	**16 08 49.7**	**-0.2**
SANI	**Sanana**	**4.55**	**226**	P	**Pn**	**16 08 50.4**	**0.0**
SANI				S	**Sn**	**16 09 43.2**	**+1.1**
NLAI	**Namlea**	**4.85**	**207**	P	**Pn**	**16 08 53.6**	**-0.9**
NLAI				S	**Sn**	**16 09 50.5**	**+1.0**
FAKI	**Fak Fak**	**5.00**	**143**	Pn	**Pn**	**16 08 57.5**	**+0.9**
FAKI				Sn	**Sn**	**16 09 52.0**	**-1.3**
KMPI	**Kaimana, Papua**	**6.50**	**137**	P	**Pn**	**16 09 16.2**	**-1.0**
SAUI	**Saumlaki**	**9.28**	**167**	Pn	**Pn**	**16 09 54.3**	**-1.0**
KAPI	**Kappang**	**11.30**	**237**	Pn	**Pn**	**16 10 21.9**	**-1.1**
MTN	**Manton Dam**	**14.01**	**172**	Pn	**Pn**	**16 10 56.7**	**-3.3**
KNRA	**Kununurra**	**16.71**	**182**		**Pn**	**16 11 35.0**	**-0.4**
KNRA				IAmb	IAmb	16 11 45.9	
	comp=Z,21nm,1.3s						
PMG	**Port Moresby**	**20.66**	**121**	LR	LR	16 21 48.2	
	comp=Z,66nm,18.7s,baz=326,slow=40						
WB0	**Warramunga Arr**	**21.37**	**167**	P	**P**	**16 12 28.6**	**+0.1**
WB0				IAmb	IAmb	16 12 39.1	
	comp=Z,12nm,1.4s						
WRAB	**Tennant Creek**	**21.52**	**167**	P	**P**	**16 12 30.8**	**+0.7**
WRAB				IAmb	IAmb	16 12 42.5	
	comp=Z,6.8nm,1.0s						
WRA	**Warramunga Arr**	**21.52**	**167**	P	**P**	**16 12 30.0**	**-0.2**
WRA	**Warramunga Arr**	**21.52**	**167**	P	**P**	**16 12 31.3**	**+1.2**
	comp=Z,3.6nm,0.8s,baz=346,slow=11,SNR=20						
	comp=Z,3.6nm,0.8s						
WB2	**Warramunga Arr**	**21.53**	**167**	P	**P**	**16 12 29.8**	**-0.4**
WB2				IAmb	IAmb	16 12 42.7	
	comp=Z,8.0nm,1.1s						
WR0	**Warramunga Arr**	**21.59**	**166**	P	**P**	**16 12 31.3**	**+0.5**
AS31	**Alice Springs**	**25.05**	**170**		**P**	**16 13 05.6**	**+0.4**
ASAR	**Alice Springs**	**25.06**	**170**	P	**P**	**16 13 05.5**	**+0.3**
ASAR	**Alice Springs**	**25.06**	**170**	P	**P**	**16 13 06.7**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=355,slow=8.3,SNR=26						
	comp=Z,0.9nm,0.7s						
STKA	**Stephens Creek**	**34.84**	**161**	P	**P**	**16 14 33.4**	**+1.5**
	comp=Z,1.8nm,0.6s,baz=330,slow=10,SNR=5.3						
	comp=Z,1.8nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**40.56**	**62**	T	T	16 58 39.6	
	baz=248,slow=75,SNR=26						
H11S2	**WAKE ISLAND Hy**	**40.57**	**62**	T	T	16 58 27.8	
	baz=248,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**40.57**	**62**	T	T	16 58 35.2	
	baz=248,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**41.18**	**61**	T	T	16 59 33.4	
	baz=247,slow=75,SNR=49						
H11N2	**WAKE ISLAND Hy**	**41.19**	**61**	T	T	16 59 33.6	
	baz=247,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hy**	**41.20**	**61**	T	T	16 59 33.3	
	baz=247,slow=75,SNR=57						
MK31	**Makanchi Array**	**61.12**	**325**	P	**P**	**16 17 54.3**	**-0.5**
MK31				IAmb	IAmb	16 18 21.5	
	comp=Z,5.3nm,1.3s						
MKAR	**Makanchi Array**	**61.12**	**325**	P	**P**	**16 17 54.4**	**-0.4**
MKAR	**Makanchi Array**	**61.12**	**325**	P	**P**	**16 17 54.2**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=118,slow=8.6,SNR=7.6						
	comp=Z,0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**65.28**	**327**	P	**P**	**16 18 21.5**	**-0.7**
	comp=Z,2.8nm,0.9s,baz=124,slow=5.7,SNR=21						
	comp=Z,2.8nm,0.9s						
KURK	**Kurchatov**	**65.28**	**327**	P	**P**	**16 18 21.5**	**-0.8**
KURK				IAmb	IAmb	16 18 22.9	
	comp=Z,3.7nm,0.9s						
CASY	**Casey**	**68.58**	**188**	P	**P**	**16 18 43.9**	**+1.0**
ABKAR	**Akbulak array**	**75.75**	**321**	P	**P**	**16 19 25.2**	**-0.9**
E19K	**Redstone River**	**82.67**	**22**	P	**P**	**16 20 05.1**	**+1.6**
E19K				IAmb	IAmb	16 20 27.5	
	comp=Z,6.6nm,1.2s						
B21K	**Ikpikpuk River**	**84.12**	**20**	P	**P**	**16 20 11.3**	**+0.4**
C23K	**Itkillik River**	**85.53**	**20**	P	**P**	**16 20 19.2**	**+1.2**
BMAR	**Burnt Mountain**	**87.48**	**23**	P	**P**	**16 20 27.7**	**-0.1**
FINES	**FINESS Array B**	**95.31**	**332**	P	**P**	**16 21 04.3**	**+0.1**
BURAR	**Bucovina Array**	**98.62**	**318**	P	**P**	**16 21 19.0**	**-0.6**
BURAR				IAmb	IAmb	16 21 34.0	
	comp=Z,1.0nm,1.1s						

NEIC ***19*** *16:21:31.3±0.4,36.˚146N±0.˚009×97.˚66W±0.˚02,h5km±1km, Error ellipse: s-maj=2.5km s-min=2.0km az=254.0*

TUL 19 16:21:30.7±0.4,36.˚154N±0.˚009×97.˚56W±0.˚01,h5km±2km, ML2.2,mb_Lg2.1/8(NEIC),**ML2.5**/60(NEIC),**Error ellipse: s-maj=1.5km s-min=1.0km az=131.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.39**	**155**	Pg	Pg	16 21 38.5	+0.2
OK029				Sg	Sg	16 21 44.0	+0.5
CROK	**Carrier**	**0.44**	**323**	Pg	Pg	16 21 39.4	+0.3
CROK				Sg	Sg	16 21 45.6	+0.7
CROK				IAML		16 21 48.9	
	comp=E,354nm,0.3s						
CROK				IAML		16 21 50.6	
	comp=N,399nm,0.2s						
ADOK	**Arcadia Dam**	**0.55**	**155**	Pg	Pg	16 21 41.5	+0.2
OK033	**Mehan**	**0.59**	**100**	Pg	Pg	16 21 42.2	+0.1
OK033				IAML		16 21 52.7	
	comp=N,288nm,0.1s						
OK033				IAML		16 21 53.8	
	comp=N,286nm,0.1s						
OK048	**Pawnee Station**	**0.64**	**65**	Pg	Pg	16 21 43.1	+0.1
BLOK	**Blackwell**	**0.70**	**30**	Pg	Pg	16 21 44.4	+0.1
BLOK				IAML		16 21 56.7	
	comp=E,281nm,0.3s						
OK052	**Battle Ridge R**	**0.71**	**103**	Pg	Pg	16 21 44.5	+0.1
OK052				IAML		16 21 56.9	
	comp=E,197nm,0.3s						
GC02	**Grant County #**	**0.71**	**347**	Pg	Pg	16 21 44.4	-0.1
OK051	**E0350 and S346**	**0.75**	**62**		Pg	16 21 45.2	+0.1
OK051				IAML		16 22 00.6	
	comp=E,207nm,0.1s						
OK051				IAML		16 22 05.5	
	comp=E,219nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.77**	**166**	Pg	Pg	16 21 45.4	-0.1
OKCSW				IAML		16 21 58.3	
	comp=N,229nm,0.2s						
OKCSW				IAML		16 22 00.4	
	comp=E,263nm,0.3s						
QUOK	**Quay**	**0.77**	**88**

comp=Z,8.2nm,0.8s
WTFS Wichita Falls 2.47 196 Pn Pn 16 22 12.4 +0.8
WTFS IAmb_Lg 16 22 55.4
comp=Z,5.8nm,1.0s
DKNS Dickens 3.65 228 IAmb_Lg 16 23 30.4
comp=Z,4.8nm,0.8s
S39A Bolivar 3.80 65 IAmb_Lg 16 23 34.4
comp=Z,5.6nm,0.8s
ECSD EROS Data Cent 7.61 6 IAmb_Lg 16 25 43.6
comp=Z,1.9nm,1.0s

*NEIC **19** 16:55:14.3±0.6,36.54N±0.01×98.95W±0.02,h5km±1km, Error ellipse: s-maj=3.5km s-min=2.8km az=306.0*
TUL 19 16:55:14.5±0.7,36.54N±0.01×98.96W±0.03,h6km±3km, ML2.5,mb_Lg2.0/4(NEIC),ML2.4/10(NEIC),Error ellipse: s-maj=3.0km s-min=1.4km az=106.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.17**	**193**	Pg	Pg	16 55 18.2	+0.3
U32A				Sg	Sg	16 55 20.7	+0.6
OK038	**West end E0370**	**0.18**	**110**	Pg	Pg	16 55 18.6	+0.4
OK038				Sg	Sg	16 55 21.2	+0.6
OK038				IAML		16 55 21.8	
	1μm,0.3s						
OK038				IAML		16 55 24.7	
	1μm,0.4s						
OK035	**E0210 Rd and N**	**0.26**	**50**	Pg	Pg	16 55 19.9	+0.4
OK035				Sg	Sg	16 55 23.7	+0.6
ELIS	**Ellis County**	**0.60**	**218**	Pg	Pg	16 55 26.0	-0.1
ELIS				IAML		16 55 35.7	
	comp=N,172nm,0.2s						
ELIS				IAML		16 55 42.7	
	comp=E,131nm,0.2s						
OK032	**Salt Plains WL**	**0.65**	**66**	Pg	Pg	16 55 26.9	-0.2
OK032				IAML		16 55 45.2	
	comp=E,186nm,0.2s						
OK032				IAML		16 55 46.6	
	comp=E,154nm,0.2s						
CROK	**Carrier**	**0.78**	**92**	Pg	Pg	16 55 29.4	-0.1
KAN14	**Manchester OK**	**0.90**	**62**	Pg	Pg	16 55 31.3	-0.4
KAN14				Sg	Sg	16 55 43.2	-0.2
KAN10	**Anthony SW Sta**	**0.90**	**50**	Pg	Pg	16 55 31.3	-0.5
GC02	**Grant County #**	**0.93**	**70**	Pg	Pg	16 55 32.1	-0.3
KAN05	**Bluff City Nor**	**1.04**	**57**	Pg	Pg	16 55 34.1	-0.3
KAN08	**Anthony NE Sta**	**1.04**	**49**	Pg	Pg	16 55 34.1	-0.5
KAN12	**Harper NE Stat**	**1.08**	**45**	Pg	Pg	16 55 34.5	-0.6
KAN17	**Caldwell West**	**1.08**	**62**	Pg	Pg	16 55 34.7	-0.5
KAN01	**Argonia South**	**1.14**	**57**	Pg	Pg	16 55 35.9	-0.4
KAN09	**Caldwell North**	**1.23**	**61**	Pg	Pg	16 55 37.3	-0.7
KS21	**Milan North St**	**1.27**	**54**		Pn	16 55 38.1	-0.7
KAN13	**South Haven SW**	**1.28**	**68**		Pn	16 55 38.1	-0.8
BLOK	**Blackwell**	**1.42**	**81**		Pn	16 55 40.3	-0.5
OK048	**Pawnee Station**	**1.62**	**94**		Pn	16 55 43.6	0.0
SMWD	**Samnorwood**	**1.77**	**217**	IAmb_Lg		16 56 14.5	
	comp=Z,6.9nm,0.8s						
WMOK	**Wichita Mounta**	**1.81**	**175**	Pn	Pn	16 55 46.0	-0.1
OK052	**Battle Ridge R**	**1.82**	**107**	Pn	Pn	16 55 46.2	-0.1
QUOK	**Quay**	**1.85**	**101**	Pn	Pn	16 55 46.9	+0.1
W35A	**Tecumseh**	**2.19**	**129**	IAmb_Lg		16 56 22.5	
	comp=Z,7.9nm,1.2s						

*NEIC **19** 16:57:27.9±0.2,36.15N±0.01×97.68W±0.02,h4km±2km, Error ellipse: s-maj=1.9km s-min=1.7km az=48.0*
TUL 19 16:57:27.3±0.3,36.15N±0.01×97.67W±0.02,h5km±3km, ML3.2,mb_Lg3.0/104(NEIC),ML3.3/60(NEIC),Error ellipse: s-maj=1.9km s-min=1.6km az=98.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.40**	**154**	Pg	Pg	16 57 35.2	+0.3
OK029				Sg	Sg	16 57 40.8	+0.7
CROK	**Carrier**	**0.43**	**324**	Pg	Pg	16 57 36.1	+0.4
CROK				IAML		16 57 46.7	
	comp=E,3μm,0.3s						
CROK				IAML		16 57 46.9	
	comp=N,4μm,0.2s						
ADOK	**Arcadia Dam**	**0.56**	**154**	Pg	Pg	16 57 38.2	+0.2
OK033	**Mehan**	**0.60**	**100**	Pg	Pg	16 57 39.1	+0.2
OK033				IAML		16 57 50.0	
	comp=N,1μm,0.5s						
OK048	**Pawnee Station**	**0.64**	**66**	Pg	Pg	16 57 39.8	+0.2
BLOK	**Blackwell**	**0.71**	**31**	Pg	Pg	16 57 41.2	+0.3
GC02	**Grant County #**	**0.71**	**348**	Pg	Pg	16 57 41.1	0.0
OK052	**Battle Ridge R**	**0.72**	**102**	Pg	Pg	16 57 41.3	+0.1
OK052				IAML		16 57 53.7	
	comp=N,1μm,0.5s						
OK051	**E0350 and S346**	**0.76**	**62**		Pg	16 57 42.0	+0.1
OK051				IAML		16 57 58.4	
	comp=N,819nm,0.2s						
OK051				IAML		16 57 58.6	
	comp=N,811nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.77**	**166**	Pg	Pg	16 57 42.1	0.0
OKCSW				IAML		16 57 55.2	
	comp=E,1μm,0.4s						
OKCSW				IAML		16 58 00.1	
	comp=N,791nm,0.4s						
QUOK	**Quay**	**0.78**	**88**	Pg	Pg	16 57 42.3	+0.1
OK032	**Salt Plains WL**	**0.78**	**326**	Pg	Pg	16 57 42.2	-0.1
OK032				IAML		16 57 55.3	
	comp=N,2μm,0.3s						
KAN14	**Manchester OK**	**0.84**	**344**		Pg	16 57 43.2	-0.2
KAN14				IAML		16 57 57.2	
	comp=E,2μm,0.2s						
KAN14				IAML		16 57 57.2	
	comp=N,1μm,0.2s						
KAN13	**South Haven SW**	**0.87**	**10**		Pg	16 57 44.1	0.0
KAN13				IAML		16 58 03.3	
	comp=N,2μm,0.3s						
KAN17	**Caldwell West**	**0.89**	**355**	Pg	Pg	16 57 44.4	-0.1
KAN17				IAML		16 58 00.3	
	comp=N,1μm,0.3s						
KAN17				IAML		16 58 02.7	
	comp=E,1μm,0.2s						
FNO	**Franklin**	**0.92**	**166**	Pg	Pg	16 57 44.7	-0.2
KAN05	**Bluff City Nor**	**0.97**	**350**		Pg	16 57 45.7	-0.2
KAN09	**Caldwell North**	**0.98**	**2**		Pg	16 57 45.9	-0.2
DEOK	**Depew**	**1.00**	**108**	Pg	Pg	16 57 46.0	-0.4
KAN01	**Argonia South**	**1.00**	**356**		Pg	16 57 46.3	-0.3
KAN01				IAML		16 58 03.3	
	comp=N,730nm,0.1s						
KAN01				IAML		16 58 03.8	
	comp=E,840nm,0.1s						
OK035	**E0210 Rd and N**	**1.00**	**304**	Pg	Pg	16 57 46.2	-0.4
KAN10	**Anthony SW Sta**	**1.03**	**341**		Pg	16 57 46.5	-0.5
KAN10				IAML		16 58 03.8	
	comp=N,673nm,0.1s						
KAN10				IAML		16 58 05.8	
	comp=E,703nm,0.1s						
KAN08	**Anthony NE Sta**	**1.10**	**347**		Pg	16 57 48.1	-0.3
KAN08				IAML		16 58 03.3	
	comp=N,567nm,0.1s						
KAN08				IAML		16 58 03.6	
	comp=E,610nm,0.1s						
U32A	**Winter Ranch,**	**1.10**	**282**		Pg	16 57 47.7	-0.7
U32A				IAML		16 58 07.9	
	comp=E,788nm,0.2s						
U32A				IAML		16 58 11.3	
	comp=N,1μm,0.7s						
KAN06	**Argonia West S**	**1.10**	**352**		Pg	16 57 48.1	-0.3
KAN06				IAML		16 58 05.4	
	comp=N,736nm,0.1s						
KAN06				IAML		16 58 07.8	
	comp=E,774nm,0.1s						
KS21	**Milan North St**	**1.13**	**0**		Pg	16 57 48.6	-0.4
KAN12	**Harper NE Stat**	**1.17**	**347**		Pg	16 57 49.3	-0.5
W35A	**Tecumseh**	**1.19**	**147**		Pg	16 57 49.2	-0.9
W35A				IAML		16 58 11.0	
	comp=E,815nm,0.3s						
W35A				IAML		16 58 11.2	
	comp=N,534nm,0.3s						
T35A	**Sooner Cattle**	**1.20**	**50**	Pg	Pg	16 57 50.0	-0.4
T35A				IAML		16 58 10.1	
	comp=E,769nm,0.3s						
ELIS	**Ellis County**	**1.42**	**267**		Pn	16 57 53.5	-0.3
TUL3	**Leonard**	**1.54**	**98**		Pn	16 57 55.0	-0.4
TUL3				IAmb_Lg		16 58 18.6	
	comp=Z,114nm,0.9s						
WMOK	**Wichita Mounta**	**1.68**	**213**	Pn	Pn	16 57 57.0	-0.3
RLO	**Rose Lookout**	**2.14**	**89**		Pn	16 58 04.0	+0.3
RLO				IAmb_Lg		16 58 34.2	
	comp=Z,43nm,0.7s						
LOOK	**Love County**	**2.19**	**169**		Pn	16 58 04.7	+0.3
LOOK				IAmb_Lg		16 58 41.2	
	comp=Z,43nm,0.9s						
SMWD	**Samnorwood**	**2.34**	**244**	Pn	Pn	16 58 06.2	-0.3
R32A	**Long Quarter,**	**2.41**	**340**		Pn	16 58 07.5	0.0
WTFS	**Witchita Falls**	**2.47**	**196**		Pn	16 58 08.6	+0.4
U38A	**Gravette**	**2.67**	**83**		Pn	16 58 11.1	+0.1
Z35A	**Perchaven, San**	**2.84**	**173**	Pn	Pn	16 58 12.7	-0.6
HHAR	**Hobbs**	**3.02**	**86**	Pn	Pn	16 58 15.9	+0.1
KSU1	**Kansas State U**	**3.06**	**16**	Pn	Pn	16 58 16.5	+0.2
KSU1				IAmb_Lg		16 59 08.7	
	comp=Z,32nm,0.9s						
FW03	**Perrin-Whitt E**	**3.12**	**186**	Pn	Pn	16 58 17.4	+0.2
CBKS	**Cedar Bluff**	**3.12**	**329**	Pn	Pn	16 58 17.5	+0.3
CBKS				IAmb_Lg		16 59 10.2	
	comp=Z,36nm,0.8s						
PLPT	**Palo Pinto**	**3.37**	**189**	Pn	Pn	16 58 21.1	+0.5
PLPT				IAmb_Lg		16 59 21.7	
	comp=Z,21nm,0.7s						
FW07	**Weatherford**	**3.44**	**182**	Pn	Pn	16 58 22.1	+0.5
FW07				IAmb_Lg		16 59 26.3	
	comp=Z,24nm,0.7s						
APMT	**Aspermont**	**3.47**	**216**	Pn	Pn	16 58 22.4	+0.4
AMTX	**Amarillo**	**3.51**	**250**		Pn	16 58 23.1	+0.5
AMTX				IAmb_Lg		16 59 17.7	
	comp=Z,29nm,0.8s						
Z38A	**Mt. Pleasant**	**3.64**	**142**	Pn	Pn	16 58 24.9	+0.6
Z38A				IAmb_Lg		16 59 25.3	
	comp=Z,53nm,0.9s						
DKNS	**Dickens**	**3.65**	**228**	Pn	Pn	16 58 24.3	-0.2
DKNS				IAmb_Lg		16 59 24.7	
	comp=Z,51nm,1.0s						
FW16	**Waxahatchie**	**3.72**	**170**	IAmb_Lg		16 59 34.8	
	comp=Z,33nm,0.8s						
FW14	**Alvarado**	**3.77**	**174**	IAmb_Lg		16 59 31.2	
	comp=Z,22nm,0.9s						
FW13	**Cleburne**	**3.80**	**177**	IAmb_Lg		16 59 31.7	
	comp=Z,14nm,0.7s						
S39A	**Bolivar**	**3.81**	**65**	Pn	Pn	16 58 26.9	+0.3
S39A				IAmb_Lg		16 59 31.4	
	comp=Z,27nm,0.8s						
ABTX	**Abilene, Hawle**	**3.88**	**205**	Pn	Pn	16 58 28.0	+0.4
ABTX				IAmb_Lg		16 59 32.9	
	comp=Z,29nm,0.8s						
RTBA	**Rita Blanca**	**4.10**	**275**		Pn	16 58 31.1	+0.3
WHTX	**Lake Whitney,**	**4.16**	**177**	Pn	Pn	16 58 31.6	+0.3
SN01	**Snyder 1**	**4.22**	**220**	Pn	Pn	16 58 32.6	+0.2
SN01				IAmb_Lg		16 59 44.2	
	comp=Z,51nm,0.8s						
X40A	**Basin Creek Fa**	**4.29**	**111**	Pn	Pn	16 58 34.0	+0.7
X40A				IAmb_Lg		16 59 46.3	
	comp=Z,44nm,0.7s						
POST	**Post**	**4.41**	**227**	Pn	Pn	16 58 35.2	+0.2
POST				IAmb_Lg		16 59 52.1	
	comp=Z,31nm,0.8s						
MGMO	**Mountain Grove**	**4.46**	**75**	Pn	Pn	16 58 36.3	+0.7
MGMO				IAmb_Lg		16 59 48.4	
	comp=Z,46nm,0.8s						
WHAR	**Wooly Hollow**	**4.46**	**100**	IAmb_Lg		16 59 56.6	
	comp=Z,31nm,0.9s						
WLAR	**White Oak Lake**	**4.48**	**122**	IAmb_Lg		16 59 58.8	
	comp=Z,29nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.50**	**92**	IAmb_Lg		17 00 01.9	
	comp=Z,22nm,0.9s						
UALR	**University of**	**4.56**	**106**	IAmb_Lg		17 00 03.9	
	comp=Z,36nm,0.8s						
MSTX	**Muleshoe**	**4.72**	**244**	Pn	Pn	16 58 39.5	+0.3
R40A	**Maddies Statio**	**4.81**	**62**		Pn	16 58 40.6	+0.2
R40A				IAmb_Lg		16 59 56.6	
	comp=Z,21nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.86**	**307**	IAmb_Lg		17 00 14.7	
	comp=Z,26nm,0.8s						
Z41A	**Richland Creek**	**4.94**	**124**	IAmb_Lg		17 00 16.3	
	comp=Z,43nm,0.8s						
BRDY	**Brady**	**4.98**	**193**	Pn	Pn	16 58 41.1	-1.6
BRDY				IAmb_Lg		17 00 19.0	
	comp=Z,28nm,1.0s						
SGCY	**Sterling City**	**5.11**	**215**	IAmb_Lg		17 00 19.2	
	comp=Z,47nm,0.7s						
BGNE	**Belgrade**	**5.26**	**356**	IAmb_Lg		17 00 27.6	
	comp=Z,42nm,0.9s						
CCAR	**Cane Creek**	**5.33**	**113**	IAmb_Lg		17 00 28.9	
	comp=Z,42nm,0.8s						
435B	**Jarrell**	**5.36**	**179**	IAmb_Lg		17 00 21.5	
	comp=Z,40nm,0.8s						
CCM	**Cathedral Cave**	**5.48**	**68**	IAmb_Lg		17 00 31.7	
	comp=Z,17nm,0.7s						
T25A	**Trinidad**	**5.51**	**282**	IAmb_Lg		17 00 25.8	
	comp=Z,32nm,0.8s						
ODSA	**Odessa**	**5.70**	**227**	IAmb_Lg		17 00 36.0	
	comp=Z,20nm,1.0s						
OZNA	**Ozona**	**5.96**	**210**	IAmb_Lg		17 00 45.3	
	comp=Z,24nm,0.9s						
FVM	**French Village**	**6.07**	**70**	IAmb_Lg		17 00 48.0	
	comp=Z,26nm,0.9s						
143A	**Socs Landing,**	**6.22**	**122**	IAmb_Lg		17 00 54.0	
	comp=Z,17nm,0.8s						
MNHN	**Monahans**	**6.40**	**223**	IAmb_Lg		17 00 49.8	
	comp=Z,17nm,0.8s						
CGM3	**Cape Girardeau**	**6.54**	**78**	IAmb_Lg		17 00 51.5	
	comp=Z,16nm,0.8s						
K30B	**Basset**	**6.68**	**348**	IAmb_Lg		17 01 08.4	
	comp=Z,22nm,0.8s						
HNDO	**Hondo**	**6.74**	**192**	IAmb_Lg		17 01 04.1	
	comp=Z,40nm,1.0s						
BRIGG	**Briggsdale**	**6.84**	**312**	IAmb_Lg		17 01 12.9	
	comp=Z,26nm,0.8s						
S44A	**Carbondale**	**6.91**	**75**	IAmb_Lg		17 01 04.5	
	comp=Z,28nm,0.8s						
PECS	**Pecos**	**7.03**	**229**	IAmb_Lg		17 01 15.1	
	comp=Z,10nm,0.7s						
Y45A	**Yeager Farm, C**	**7.05**	**107**	IAmb_Lg		17 01 14.8	
	comp=Z,18nm,0.7s						
DRIO	**Del Rio**	**7.16**	**201**	IAmb_Lg		17 01 12.8	
	comp=Z,15nm,0.8s						
SAND	**Sanderson**	**7.22**	**212**	IAmb_Lg		17 01 26.0	
	comp=Z,25nm,0.9s						
ISCO	**Idaho Springs**	**7.25**	**303**	IAmb_Lg		17 01 24.1	
	comp=Z,14nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.32**	**59**	IAmb_Lg		17 01 24.3	
	comp=Z,26nm,0.7s						
ALPN	**Alpine**	**7.63**	**223**	IAmb_Lg		17 01 49.4	
	comp=Z,9.8nm,0.7s						
833A	**Chaparral WMA,**	**7.94**	**191**	IAmb_Lg		17 01 43.8	
	comp=Z,16nm,0.8s						
PHWY	**Pilot Hill**	**7.96**	**313**	IAmb_Lg		17 01 45.9	
	comp=Z,14nm,0.8s						
425A	**Indio Mountain**	**8.12**	**231**	IAmb_Lg		17 01 57.2	
	comp=Z,9.4nm,0.9s						
O44A	**Mansfield**	**8.28**	**58**	IAmb_Lg		17 02 05.0	
	comp=Z,22nm,0.8s						
SUSD	**Miller**	**8.34**	**354**	IAmb_Lg		17 02 13.4	
	comp=Z,21nm,0.8s						
I37A	**Lemond, Waseca**	**8.51**	**21**	IAmb_Lg		17 02 06.5	
	comp=Z,19nm,0.7s						
K22A	**Casper**	**9.43**	**316**	IAmb_Lg		17 02 39.9	
	comp=Z,18nm,0.9s						

*NEIC **19** 17:10:57.9±1.4,18.54S±0.05×69.74W±0.08,h142km±6km, mb4.0/3,Error ellipse: s-maj=11.1km s-min=7.5km az=96.0*
*SJA **19** 17:10:57.5±1.1,18.34S×69.32W,h110km,ML3.5,MW3.7*
*GUC **19** 17:11:00.2±0.8,18.51S×69.60W,h117km±4km,ML3.5*
ISC 19 17:10:57.0±0.9,18.52S±0.04×69.67W±0.06,h143km±7km, n64,σ1$30/88,4C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.23**	**40**	Pn	**Pn**	**17 11 16.9**	**-0.3**
PB16				Sn	**Sn**	**17 11 30.9**	**-1.7**
PB16	**IPOC Station P**	**0.23**	**40**	*e*P	Pn	17 11 11.7	-5.5
PB16				*e*S	**Pn**	**17 11 17.0**	**-0.3**
PB16				IAML		17 11 32.0	
	comp=Z,2μm,0.5s						
PB16	**IPOC Station P**	**0.23**	**40**	⇓*i*P	**Pn**	**17 11 17.1**	**-0.2**
PB16				*i*S	**Sn**	**17 11 30.5**	**-2.0**
PB16				IAML		17 11 31.6	
	comp=E,3μm,0.5s						
PB12	**IPOC Station P**	**0.64**	**261**		**Pn**	**17 11 18.9**	**+0.5**
PB12				Sn	**Sn**	**17 11 34.4**	**-0.3**
PB12	**IPOC Station P**	**0.64**	**261**	*e*P	**Pn**	**17 11 18.3**	**-0.2**
PB12				IAML		17 11 35.1	
	comp=Z,345nm,0.6s						
PB12				*e*S	**Sn**	**17 11 35.6**	**+0.9**
PB12	**IPOC Station P**	**0.64**	**261**	⇑*i*P	**Pn**	**17 11 18.9**	**+0.5**
PB12				*i*S	**Sn**	**17 11 34.4**	**-0.3**
AP01	**Chacalluta**	**0.66**	**283**		**Pn**	**17 11 19.3**	**+0.9**
AP01				Sn	**Sn**	**17 11 35.1**	**+0.4**
AP01	**Chacalluta**	**0.66**	**283**	*e*P	**Pn**	**17 11 18.9**	**+0.4**
AP01				*e*S	**Sn**	**17 11 36.0**	**+1.3**
AP01				IAML		17 11 39.2	
	comp=Z,1μm,0.2s						
AP01	**Chacalluta**	**0.66**	**283**	⇑*i*P	**Pn**	**17 11 19.4**	**+0.9**
AP01				*i*S	**Sn**	**17 11 35.1**	**+0.4**
AP01				IAML		17 11 36.3	
	comp=N,2μm,0.1s						
PX02	**IPOC Station P**	**0.67**	**228**	*e*P	**Pn**	**17 11 18.5**	**-0.2**
PX02				*i*S	**Sn**	**17 11 33.8**	**-1.5**
PX02				IAML		17 11 34.7	
PB18	**Visviri**	**0.94**	**11**		Pn	17 11 22.8	+1.6
PB18	**Visviri**	**0.94**	**11**	⇓*i*P	Pn	17 11 23.0	+1.7
PB18				*i*S	**Sn**	**17 11 40.5**	**+0.9**
GO01	**Chusmiza**	**1.23**	**159**		**Pn**	**17 11 24.9**	**+1.1**
GO01				Sn	**Sn**	**17 11 44.2**	**0.0**
GO01	**Chusmiza**	**1.23**	**159**	*e*P	**Pn**	**17 11 24.4**	**+0.6**
GO01				*e*S	**Sn**	**17 11 44.5**	**+0.2**
GO01				IAML		17 11 45.0	
	comp=Z,451nm,0.3s						
GO01	**Chusmiza**	**1.23**	**159**	*e*P	**Pn**	**17 11 24.9**	**+1.1**
GO01				*i*S	**Sn**	**17 11 43.9**	**-0.4**
GO01				IAML		17 11 47.5	
	comp=E,1μm,0.1s						
PB11	**IPOC Station P**	**1.24**	**180**		**Pn**	**17 11 24.4**	**+0.8**
PB11				Sn	**Sn**	**17 11 43.5**	**-0.3**
PB11	**IPOC Station P**	**1.24**	**180**	*e*P	**Pn**	**17 11 23.8**	**+0.3**
PB11				*e*S	**Sn**	**17 11 44.4**	**+0.5**
PB11				IAML		17 11 44.5	
	comp=Z,604nm,0.9s						
PB11	**IPOC Station P**	**1.24**	**180**	⇑*i*P	**Pn**	**17 11 24.4**	**+0.8**
PB11				*i*S	**Sn**	**17 11 43.5**	**-0.3**
PB11				IAML		17 11 44.2	
	comp=N,2μm,0.5s						
PB08	**IPOC Station P**	**1.69**	**163**		**Pn**	**17 11 29.2**	**+0.7**
PB08				Sn	**Sn**	**17 11 51.7**	**-1.0**
PB08	**IPOC Station P**	**1.69**	**163**	*e*P	**Pn**	**17 11 29.5**	**+0.9**
PB08				*e*S	**Sn**	**17 11 54.0**	**+1.4**
PB08				IAML		17 11 54.5	
	comp=Z,263nm,0.5s						
PB08	**IPOC Station P**	**1.69**	**163**	⇑*i*P	**Pn**	**17 11 30.0**	**+1.5**
PB08				*i*S	**Sn**	**17 11 52.6**	**0.0**
PB08				IAML		17 11 54.4	
	comp=E,609nm,0.5s						
HMBC	**Humberstone**	**1.77**	**187**	*e*P	**Pn**	**17 11 30.0**	**+0.8**
HMBC				*e*S	**Sn**	**17 11 54.2**	**+0.4**
HMBC				IAML		17 11 56.4	
	comp=Z,324nm,0.6s						
HMBC	**Humberstone**	**1.77**	**187**	*e*P	**Pn**	**17 11 29.9**	**+0.7**
HMBC				*e*S	**Sn**	**17 11 53.0**	**-0.8**
HMBC				IAML		17 11 58.4	
	comp=N,426nm,0.5s						
TA02	**Huaiquique**	**1.80**	**194**		**Pn**	**17 11 29.6**	**+0.2**
TA01	**Diego Aracena**	**2.10**	**193**		**Pn**	**17 11 33.2**	**+0.3**
TA01	**Diego Aracena**	**2.10**	**193**	*e*P	**Pn**	**17 11 33.6**	**+0.7**
TA01				*e*S	**Sn**	**17 11 59.4**	**-1.0**
TA01				IAML		17 12 24.1	
	comp=Z,117nm,0.7s						
TA01	**Diego Aracena**	**2.10**	**193**	*e*P	**Pn**	**17 11 33.4**	**+0.5**
TA01				*i*S	**Sn**	**17 11 58.9**	**-1.6**
TA01				IAML		17 12 07.2	
PATCX	**Punta Patache**	**2.34**	**191**		**Pn**	**17 11 35.8**	**-0.1**
PATCX	**Punta Patache**	**2.34**	**191**	*e*P	**Pn**	**17 11 36.9**	**+1.0**
PATCX				*e*S	**Sn**	**17 12 05.0**	**-0.9**
PATCX				IAML		17 12 05.9	
	comp=Z,132nm,0.5s						
PATCX	**Punta Patache**	**2.34**	**191**	*e*P	**Pn**	**17 11 37.1**	**+1.3**
PB01	**IPOC Station P**	**2.52**	**176**		**Pn**	**17 11 39.2**	**+1.1**
PB01	**IPOC Station P**	**2.52**	**176**	*e*P	**Pn**	**17 11 38.9**	**+0.7**
PB01				*e*S	**Sn**	**17 12 09.8**	**0.0**
PB01				IAML		17 12 10.1	
	comp=Z,236nm,0.2s						
PB01	**IPOC Station P**	**2.52**	**176**	*e*P	**Pn**	**17 11 39.5**	**+1.3**
LPAZ	**La Paz**	**2.66**	**34**		Pn	17 11 42.0	+1.6
LPAZ	**La Paz**	**2.66**	**34**	*e*P	Pn	17 11 42.5	+2.1
PB02	**IPOC Station P**	**2.80**	**184**		**Pn**	**17 11 42.7**	**+1.1**
PB02	**IPOC Station P**	**2.80**	**184**	*e*P	**Pn**	**17 11 43.2**	**+1.5**
PB02				*e*S	Sn	17 12 08.2	-7.9
PB02				IAML		17 12 16.3	
	comp=Z,235nm,0.6s						
PB02	**IPOC Station P**	**2.80**	**184**	*e*P	**Pn**	**17 11 43.5**	**+1.9**
PB07	**IPOC Station P**	**3.20**	**184**	Pn	**Pn**	**17 11 47.8**	**+1.0**
PB07	**IPOC Station P**	**3.20**	**184**	*e*P	**Pn**	**17 11 48.5**	**+1.7**
PB07				*e*S	**Sn**	**17 12 21.3**	**-4.1**
PB07				IAML		17 12 38.9	
	comp=Z,86nm,0.6s						
PB07	**IPOC Station P**	**3.20**	**184**	*e*P	**Pn**	**17 11 48.7**	**+1.8**
PB09	**IPOC Station P**	**3.29**	**173**		**Pn**	**17 11 48.6**	**+0.6**
PB09	**IPOC Station P**	**3.29**	**173**	*e*P	**Pn**	**17 11 49.2**	**+1.3**
PB09				*e*S	**Sn**	**17 12 22.1**	**-5.3**
PB09				IAML		17 12 58.0	
	comp=Z,90nm,0.5s						
PB09	**IPOC Station P**	**3.29**	**173**	*e*P	**Pn**	**17 11 49.8**	**+1.8**
PB04	**IPOC Station P**	**3.83**	**187**	Pn	**Pn**	**17 11 55.2**	**+0.2**
LVC	**Limon Verde**	**4.13**	**170**	Pn	**Pn**	**17 11 60.0**	**+0.8**
LVC	**Limon Verde**	**4.13**	**170**	*e*P	**Pn**	**17 12 01.3**	**+2.1**
LVC				*e*S	**Sn**	**17 12 48.7**	**+1.2**
LVC				IAML		17 13 15.4	
	comp=Z,29nm,0.6s						
LVC	**Limon Verde**	**4.13**	**170**	*e*P	**Pn**	**17 12 01.8**	**+2.6**
PB06	**IPOC Station P**	**4.17**	**179**	Pn	**Pn**	**17 12 00.5**	**+1.0**
PB06	**IPOC Station P**	**4.17**	**179**	*e*P	**Pn**	**17 12 00.7**	**+1.3**
PB06				IAML		17 13 15.8	
	comp=Z,48nm,0.9s						

OK051				IAML			17 22 56.4	
	comp=N,103nm,0.2s							
OKCSW	**OKLAHOMA CITY**	**0.77**	**166**	Pg	Pg		17 22 34.6	+0.2
OKCSW				IAML			17 22 49.5	
	comp=N,140nm,0.1s							
QUOK	**Quay**	**0.78**	**88**	Pg	Pg		17 22 34.8	+0.2
QUOK				IAML			17 22 55.4	
	comp=E,106nm,0.2s							
OK032	**Salt Plains WL**	**0.78**	**326**		Pg		17 22 34.6	-0.1
OK032				IAML			17 22 51.2	
	comp=E,129nm,0.1s							
OK032				IAML			17 22 55.7	
	comp=E,180nm,0.2s							
KAN14	**Manchester OK**	**0.84**	**344**		Pg		17 22 35.7	-0.1
KAN14				IAML			17 22 51.5	
	comp=E,98nm,0.1s							
KAN14				IAML			17 22 52.2	
	comp=N,111nm,0.1s							
KAN17	**Caldwell West**	**0.89**	**355**		Pg		17 22 36.9	0.0
KAN17				IAML			17 22 50.5	
	comp=E,97nm,0.2s							
KAN17				IAML			17 22 59.0	
	comp=N,103nm,0.2s							
FNO	**Franklin**	**0.92**	**166**	Pg	Pg		17 22 37.2	-0.2
OK038	**West end E0370**	**0.93**	**291**		Pg		17 22 37.3	-0.2
KAN05	**Bluff City Nor**	**0.97**	**350**	Pg	Pg		17 22 38.0	-0.3
KAN09	**Caldwell North**	**0.98**	**2**	Pg	Pg		17 22 38.1	-0.5
DEOK	**Depew**	**1.00**	**108**	Pg	Pg		17 22 38.4	-0.4
KAN01	**Argonia South**	**1.00**	**356**	Pg	Pg		17 22 38.4	-0.5
KAN01				IAML			17 22 58.9	
	comp=N,114nm,0.1s							
OK035	**E0210 Rd and N**	**1.01**	**304**	Pg	Pg		17 22 38.4	-0.6
KAN10	**Anthony SW Sta**	**1.03**	**341**	Pg	Pg		17 22 38.7	-0.7
KAN08	**Anthony NE Sta**	**1.10**	**347**	Pg	Pg		17 22 39.8	-1.0
U32A	**Winter Ranch,**	**1.10**	**282**	Pg	Pg		17 22 39.9	-0.9
KAN06	**Argonia West S**	**1.10**	**352**	Pg	Pg		17 22 39.6	-1.3
KS21	**Milan North St**	**1.13**	**0**	Pg	Pg		17 22 41.1	-0.3
KAN12	**Harper NE Stat**	**1.17**	**347**	Pg	Pg		17 22 41.8	-0.5
W35A	**Tecumseh**	**1.19**	**147**	Pg	Pg		17 22 41.7	-0.8
T35A	**Sooner Cattle**	**1.21**	**50**	Pg	Pg		17 22 42.4	-0.4
TUL3	**Leonard**	**1.54**	**98**		Pn		17 22 47.5	-0.4
WMOK	**Wichita Mounta**	**1.68**	**213**		Pn		17 22 50.1	+0.3
RLO	**Rose Lookout**	**2.14**	**89**	Pn	Pn		17 22 56.0	-0.1
TREL	**Terrell**	**3.65**	**159**	Pn	Pn		17 23 15.6	-1.3
TREL				IAmb_Lg			17 24 24.2	
	comp=Z,11nm,0.8s							
ABTX	**Abilene, Hawle**	**3.88**	**205**	Pn	Pn		17 23 19.5	-0.6
POST	**Post**	**4.41**	**227**	Pn	Pn		17 23 26.0	-1.4
FCAR	**Ozark Folk Cen**	**4.50**	**92**	IAmb_Lg			17 24 41.1	
	comp=Z,5.3nm,1.0s							
Y45A	**Yeager Farm, C**	**7.05**	**107**	IAmb_Lg			17 26 13.6	
	comp=Z,12nm,0.8s							

NEIC 19 17:22:39.1±0.4, 36.146N±0.010×97.68W±0.01, h6km±1km, mb_Lg2.3/10, ML2.5/56, Error ellipse: s-maj=1.4km s-min=1.2km az=157.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.39**	**152**	Pg	Pg	17 22 47.2	+0.5
OK029				Sg	Sg	17 22 52.7	+0.8
CROK	**Carrier**	**0.43**	**326**	Pg	Pg	17 22 48.0	+0.5
CROK				Sg	Sg	17 22 54.0	+0.8
CROK				IAML		17 22 58.7	
	comp=E,327nm,0.3s						
CROK				IAML		17 22 59.2	
	comp=N,467nm,0.2s						
ADOK	**Arcadia Dam**	**0.55**	**153**	Pg	Pg	17 22 50.2	+0.4
OK033	**Mehan**	**0.61**	**99**	Pg	Pg	17 22 50.9	0.0
OK033				Sg	Sg	17 22 59.5	+0.6
OK033				IAML		17 23 01.8	
	comp=N,220nm,0.1s						
OK033				IAML		17 23 03.7	
	comp=N,200nm,0.2s						
OK048	**Pawnee Station**	**0.66**	**65**	Pg	Pg	17 22 51.7	0.0
OK048				Sg	Sg	17 23 00.6	+0.4
GC02	**Grant County #**	**0.72**	**349**		Pg	17 22 53.0	0.0
GC02				Sg	Sg	17 23 02.4	+0.1
BLOK	**Blackwell**	**0.72**	**31**	Pg	Pg	17 22 52.6	-0.4
BLOK				Sg	Sg	17 23 02.8	+0.4
OK052	**Battle Ridge R**	**0.73**	**102**		Pg	17 22 53.2	0.0
OK052				Sg	Sg	17 23 02.8	+0.2
OK052				IAML		17 23 05.5	
	comp=N,158nm,0.4s						
OKCSW	**OKLAHOMA CITY**	**0.77**	**165**	Pg	Pg	17 22 54.0	+0.2
OKCSW				IAML		17 23 06.0	
	comp=N,176nm,0.1s						
OKCSW				IAML		17 23 08.5	
	comp=E,154nm,0.3s						
OK051	**E0350 and S346**	**0.77**	**62**	Pg	Pg	17 22 53.9	-0.1
OK051				IAML		17 23 07.6	
	comp=E,202nm,0.2s						
OK051				IAML		17 23 11.0	
	comp=E,186nm,0.2s						
OK032	**Salt Plains WL**	**0.78**	**327**	Pg	Pg	17 22 54.4	+0.2
OK032				IAML		17 23 07.2	
	comp=E,230nm,0.2s						
OK032				IAML		17 23 07.3	
	comp=E,241nm,0.2s						
QUOK	**Quay**	**0.79**	**88**	Pg	Pg	17 22 54.2	-0.1
KAN14	**Manchester OK**	**0.84**	**344**	Pg	Pg	17 22 55.3	0.0
KAN14				IAML		17 23 09.0	
	comp=E,188nm,0.2s						
KAN13	**South Haven SW**	**0.88**	**11**	Pg	Pg	17 22 55.9	-0.1
KAN17	**Caldwell West**	**0.90**	**356**		Pg	17 22 56.0	-0.4
KAN17				IAML		17 23 13.6	
	comp=N,135nm,0.2s						
KAN17				IAML		17 23 14.1	
	comp=E,136nm,0.2s						
FNO	**Franklin**	**0.92**	**165**	Pg	Pg	17 22 56.5	-0.2
OK038	**West end E0370**	**0.92**	**291**	Pg	Pg	17 22 56.6	-0.2
KAN05	**Bluff City Nor**	**0.97**	**351**	IAML		17 23 12.1	
	comp=E,138nm,0.2s						
KAN09	**Caldwell North**	**0.99**	**3**	Pg	Pg	17 22 57.6	-0.6
DEOK	**Depew**	**1.01**	**107**	Pg	Pg	17 22 56.8	-1.7
DEOK				IAML		17 23 13.2	
	comp=N,102nm,0.2s						
KAN01	**Argonia South**	**1.01**	**356**		Pg	17 22 58.3	-0.2
KAN01				IAML		17 23 15.1	
	comp=N,93nm,0.1s						
KAN01				IAML		17 23 20.8	
	comp=E,107nm,0.1s						
KAN01	**Argonia South**	**1.01**	**356**	IAML		17 23 13.2	
	comp=E,85nm,0.1s						
KAN10	**Anthony SW Sta**	**1.03**	**341**	Pg	Pg	17 22 58.4	-0.5
KAN10				IAML		17 23 16.6	
	comp=E,90nm,0.2s						
KAN10				IAML		17 23 18.1	
	comp=N,93nm,0.1s						
KAN10	**Anthony SW Sta**	**1.03**	**341**	IAML		17 23 13.6	
	comp=E,62nm,0.1s						
KAN10	**Anthony SW Sta**	**1.03**	**341**	IAML		17 23 14.9	
	comp=N,84nm,0.1s						
U32A	**Winter Ranch,**	**1.09**	**283**	IAML		17 23 16.2	
	comp=E,74nm,0.1s						
U32A	**Winter Ranch,**	**1.09**	**283**	IAML		17 23 17.8	
	comp=N,105nm,0.2s						
KAN08	**Anthony NE Sta**	**1.10**	**348**		Pg	17 22 59.8	-0.5
KAN08				IAML		17 23 15.4	
	comp=E,105nm,0.1s						
KAN08				IAML		17 23 15.6	
	comp=N,104nm,0.1s						
KAN06	**Argonia West S**	**1.11**	**353**	Pg	Pg	17 22 59.9	-0.6
KAN06				IAML		17 23 16.6	
	comp=E,113nm,0.1s						
KAN06				IAML		17 23 18.3	
	comp=N,125nm,0.1s						
KS21	**Milan North St**	**1.14**	**1**	Pg	Pg	17 23 00.4	-0.6
KS21	**Milan North St**	**1.14**	**1**	IAML		17 23 16.6	
	comp=N,136nm,0.1s						
KAN12	**Harper NE Stat**	**1.18**	**348**	Pg	Pg	17 23 01.3	-0.4
W35A	**Tecumseh**	**1.19**	**146**	Pg	Pg	17 23 01.5	-0.4
W35A				IAML		17 23 19.4	
	comp=N,86nm,0.2s						
W35A				IAML		17 23 22.9	
	comp=E,118nm,0.3s						
T35A	**Sooner Cattle**	**1.22**	**50**	Pg	Pg	17 23 01.5	-1.0
T35A				IAML		17 23 22.0	
	comp=E,101nm,0.3s						
ELIS	**Ellis County**	**1.41**	**267**		Pn	17 23 04.6	-0.8
TUL3	**Leonard**	**1.55**	**98**	Pg	Pn	17 23 06.7	-0.6
TUL3				IAmb_Lg		17 23 30.5	
	comp=Z,16nm,0.9s						
WMOK	**Wichita Mounta**	**1.67**	**213**		Pn	17 23 08.1	-0.8

RLO	**Rose Lookout**	**2.15**	**89**	Pn	Pn		17 23 15.9	+0.3
SMWD	**Samnorwood**	**2.33**	**244**	Pn	Pn		17 23 17.2	-0.9
WTFS	**Witchita Falls**	**2.46**	**195**	Pn	Pn		17 23 20.0	+0.2
WTFS				IAmb_Lg			17 23 58.7	
	comp=Z,5.2nm,0.7s							
Z35A	**Perchaven, San**	**2.83**	**173**	Pn	Pn		17 23 24.9	0.0
AMTX	**Amarillo**	**3.50**	**250**	Pn	Pn		17 23 34.6	+0.5
AMTX				IAmb_Lg			17 24 28.6	
	comp=Z,5.3nm,0.8s							
S39A	**Bolivar**	**3.82**	**65**	Pn	Pn		17 23 37.3	-1.2
ABTX	**Abilene, Hawle**	**3.87**	**205**	Pn	Pn		17 23 38.6	-0.7
SN01	**Snyder 1**	**4.21**	**220**	IAmb_Lg			17 25 03.2	
	comp=Z,4.6nm,0.8s							
WLAR	**White Oak Lake**	**4.48**	**122**	IAmb_Lg			17 25 08.5	
	comp=Z,10nm,0.7s							
CCM	**Cathedral Cave**	**5.49**	**68**	Pn	Pn		17 23 59.7	-1.7
P40A	**Paris**	**5.59**	**51**	Pn	Pn		17 24 01.4	-1.4
Q24A	**Divide**	**6.56**	**298**	IAmb_Lg			17 26 12.7	
	comp=Z,8.3nm,1.3s							
N23A	**Red Feather La**	**8.03**	**309**	IAmb_Lg			17 27 05.4	
	comp=Z,3.8nm,0.8s							

NDI ***19*** *17:40:46.7±3.1, 30.66N×95.59E, h30km, mb4.8, ML4.7, mb5.1(NEIC)*
IDC ***19*** *17:40:51.4±0.5, 29.89N×95.06E, h0km, mb4.7/28, mbtmp4.6/31, ML4.2/3, MS4.2/50, Error ellipse: s-maj=16.3km s-min=10.8km az=36.0*
BJI ***19*** *17:40:52.4, 29.83N×95.06E, h6km, mb4.7/63, mB5.2/42, ML5.3/8, Ms5.1/81, Ms7 5.2/70*
MOS ***19*** *17:40:53.2±0.9, 29.92N×95.07E, h26km, mb5.3/89, MS4.5/9, Error ellipse: s-maj=5.8km s-min=3.0km az=125.7*
NEIC ***19*** *17:40:55.6±1.4, 29.96N±0.06×95.09E±0.08, h28km±4km, mb5.1/217, Error ellipse: s-maj=9.5km s-min=9.1km az=64.0*
BGR ***19*** *17:40:58.2, 29.83N×94.73E, h33km, mb5.2, Ms4.3*
ISC 19 17:40:54.1±0.3, 29.89N±0.03×95.02E±0.02, h19km±1km, h20km:pP-P, n811, σ1$49/830, mb5.1/272, MS4.3/63, 39C-29D, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIRO	**ZIRO**	**2.56**	**204**	*e*P	**Pb**	**17 41 40.9**	**+1.3**
ZIRO				*e*S	**Sg**	**17 42 15.9**	**-0.8**
ZIRO				IAML		17 42 19.9	
	comp=N,14μm,0.6s						
ITAN	**ITANAGAR**	**2.96**	**203**	*e*P	**Pb**	**17 41 44.5**	**-1.7**
ITAN				*e*S	**Sg**	**17 42 27.4**	**-1.9**
ITAN				IAML		17 42 31.2	
	comp=N,7μm,0.5s						
JORH	**JORHAT**	**3.20**	**192**	IAML		17 42 44.9	
	comp=E,5μm,0.3s						
JORH				IAML		17 42 45.6	
	comp=N,4μm,0.7s						
LSA	**Lhasa**	**3.37**	**268**		**Pn**	**17 41 49.8**	**+3.7**
LSA	**Lhasa**	**3.37**	**268**	P	**Pn**	**17 41 49.8**	**+3.7**
MOKO	**MOKOCHONG**	**3.58**	**187**	*e*P	**Pn**	**17 41 50.9**	**+2.1**
MOKO				*e*S	**Sb**	**17 42 40.8**	**+0.8**
MOKO				IAML		17 42 49.7	
	comp=N,3μm,0.6s						
TAWA	**Tawang**	**3.59**	**231**	*e*P	**Pn**	**17 41 53.2**	**+4.1**
TAWA				IAML		17 42 48.6	
	comp=N,4μm,0.7s						
TAWA				IAML		17 42 49.3	
	comp=E,5μm,0.5s						
TEZP	**TEZPUR**	**3.80**	**212**	*e*P	**Pn**	**17 41 54.4**	**+2.8**
TEZP				IAML		17 42 51.0	
	comp=E,2μm,0.4s						
TEZP				IAML		17 42 53.4	
	comp=N,2μm,0.1s						
KOHI	**KOHIMA**	**4.23**	**191**	*e*P	**Pn**	**17 41 59.8**	**+2.1**
KOHI				IAML		17 43 15.3	
	comp=N,2μm,0.7s						
SHL	**Shillong**	**5.12**	**214**	Pn	**Pn**	**17 42 11.7**	**+1.7**
SHL	**Shillong**	**5.12**	**214**	P	**Pn**	**17 42 11.7**	**+1.7**
SHL	**Shillong**	**5.12**	**214**	*e*P	**Pn**	**17 42 11.2**	**+1.2**
IMP	**Imphal**	**5.12**	**191**	*e*P	**Pn**	**17 42 12.5**	**+2.6**
IMP				*e*S	**Sb**	**17 43 18.3**	**-6.2**
IMP				IAML		17 43 40.6	
	comp=E,238nm,0.8s						
IMP				IAML		17 43 49.0	
	comp=N,167nm,0.8s						
SILR	**SILCHAR**	**5.45**	**202**	*e*P	**Pn**	**17 42 18.3**	**+4.0**
SILR				IAML		17 43 59.3	
	comp=E,2μm,0.4s						
SILR				IAML		17 44 07.4	
	comp=N,3μm,1.5s						
TNCH	**TengChong**	**5.75**	**146**	Pn	**Pn**	**17 42 20.6**	**+2.0**
TNCH				Sn	**Sn**	**17 43 26.4**	**+2.2**
TNCH				Sg	**Sg**	**17 43 56.8**	**-2.0**
TNCH				smax	smax		
	comp=N,590nm,1.7s						
TNCH				smax	smax		
	comp=N,610nm,1.4s						
TNCH				LR	LR		
	comp=N,5μm,3.9s						
TNCH				LR	LR		
	comp=N,9μm,5.0s						
TNCH				LR	LR		
	comp=N,4μm,4.7s						
DHUB	**DHUBRI**	**5.88**	**230**	IAML		17 44 05.2	
	comp=E,345nm,0.6s						
GTK	**Tadong**	**6.19**	**247**	*e*P	**Pn**	**17 42 26.1**	**+1.4**
GTK				*e*S	**Sn**	**17 43 38.0**	**+2.9**
GOMU	**GeErMu**	**6.30**	**358**	Pn	**Pn**	**17 42 27.9**	**+1.6**
GOMU				Sn	**Sn**	**17 43 37.5**	**-0.4**
GOMU				LR	LR		
	comp=E,4μm,5.9s						
GOMU				LR	LR		
	comp=E,3μm,5.1s						
GOMU				LR	LR		
	comp=E,4μm,5.9s						
PZH	**PanZhiHua**	**6.82**	**118**	Pn	**Pn**	**17 42 36.5**	**+3.2**
PZH				Sn	**Sn**	**17 43 54.1**	**+3.6**
PZH				Sg	**Sg**	**17 44 26.1**	**-7.0**
PZH				smax	smax		
	comp=E,240nm,1.5s						
PZH				smax	smax		
	comp=E,200nm,1.6s						
PZH				LR	LR		
	comp=E,7μm,7.4s						
PZH				LR	LR		
	comp=E,940nm,8.7s						
PZH				LR	LR		
	comp=E,13μm,10.2s						
TAPN	**Taplejung**	**6.90**	**250**	*e*Pn	**Pn**	**17 42 36.4**	**+1.8**
ODAN	**Odare**	**7.37**	**248**	*e*Pn	**Pn**	**17 42 42.5**	**+1.6**
SAIH	**SAIHA**	**7.59**	**194**	*e*P	**Pn**	**17 42 46.5**	**+2.7**
SAIH				IAML		17 44 23.7	
	comp=N,271nm,0.8s						
SAIH				IAML		17 44 31.2	
	comp=E,390nm,0.9s						
CD2	**Chengdu**	**7.62**	**80**	Pn	**Pn**	**17 42 47.0**	**+2.8**
CD2				LR	LR		
	comp=E,14μm,7.6s						
CD2				LR	LR		
	comp=E,22μm,9.2s						
CD2				LR	LR		
	comp=E,23μm,9.2s						
MND	**Mandalay**	**7.90**	**173**	Pn	**Pn**	**17 42 49.2**	**+1.2**
RAMN	**Ramite**	**7.97**	**251**	*e*Pn	**Pn**	**17 42 50.5**	**+1.3**
RAMN				*e*Sn	**Sn**	**17 44 21.9**	**+3.0**
	comp=E,291nm,0.9s						
JIRN	**Jiri**	**8.06**	**256**	*e*Pn	**Pn**	**17 42 51.2**	**+0.7**
GUN	**Gumba**	**8.25**	**258**	*e*Pn	**Pn**	**17 42 53.6**	**+0.5**
KMI	**Kunming**	**8.34**	**123**	⇑P	**Pn**	**17 42 56.8**	**+2.6**
KMI				S	**Sn**	**17 44 31.8**	**+3.9**
KMI				LR	LR		
	comp=E,7μm,7.5s						
KMI				LR	LR		
	comp=E,7μm,9.0s						
KMI				LR	LR		
	comp=E,8μm,9.4s						
PKI	**Pulchoki**	**8.75**	**257**	*e*Pn	**Pn**	**17 43 00.2**	**+0.3**
PKIN	**Phulchoki**	**8.76**	**257**	*e*Pn	**Pn**	**17 43 00.2**	**+0.2**
KKN	**Kakani**	**8.79**	**259**	*e*Pn	**Pn**	**17 43 00.8**	**+0.4**
DMN	**Daman**	**8.99**	**258**	*e*Pn	**Pn**	**17 43 03.9**	**+0.7**
GKN	**Gorkha**	**9.29**	**261**	*e*Pn	**Pn**	**17 43 05.6**	**-1.6**
GKN				*e*Sn	**Sn**	**17 44 48.7**	**-2.5**
	comp=E,60nm,0.4s						
LZH	**Lanzhou**	**9.65**	**48**	⇓P	**Pn**	**17 43 13.0**	**+0.9**
LZH				pP		17 43 18.4	
LZH				S	Sn	17 45 11.8	+12
LZH				pmax	pmax		
	comp=E,61nm,1.0s						
LZH				pmax	pmax		
	comp=E,420nm,7.2s						
LZH				smax	smax		
	comp=E,130nm,1.8s						
LZH				smax	smax		
	comp=E,140nm,1.3s						
LZH				LR	LR		
	comp=E,8μm,10.0s						
LZH				LR	LR		
	comp=E,9μm,12.4s						
LZH				LR	LR		
	comp=E,11μm,14.1s						
DANN	**Dangsing**	**9.96**	**264**	*e*Pn	**Pn**	**17 43 14.9**	**-1.7**
DANN				*e*Sn	**Sn**	**17 45 04.7**	**-3.4**
	comp=E,106nm,0.6s						
BOK	**Bokaro**	**10.16**	**236**	*e*P	**Pn**	**17 43 19.6**	**+0.5**
KOLN	**Koldanda**	**10.23**	**261**	*e*Pn	**Pn**	**17 43 19.2**	**-1.0**
KOLN				*e*Sn	**Sn**	**17 45 11.3**	**-3.2**
GTA	**Gaotai**	**10.29**	**21**	*e*P	**Pn**	**17 43 21.9**	**+1.1**
GTA				pP		17 43 28.6	
GTA				LR	LR		
	comp=E,5μm,9.5s						
GTA				LR	LR		
	comp=E,2μm,8.5s						
GTA				LR	LR		
	comp=E,6μm,10.9s						
PYUN	**Piuthan**	**10.68**	**263**	*e*Pn	**Pn**	**17 43 25.3**	**-1.0**
PYUN				*e*Sn	**Sn**	**17 45 22.0**	**-3.5**
	comp=E,141nm,0.7s						
CRAI	**Chiangrai**	**10.77**	**152**	Pn	**Pn**	**17 43 28.8**	**+1.5**
GYA	**Guiyang**	**10.83**	**106**	P	**Pn**	**17 43 29.5**	**+1.3**
GYA				S	**Sn**	**17 45 32.3**	**+3.3**
GYA				pmax	pmax		
	comp=E,95nm,1.4s						
GYA				pmax	pmax		
	comp=E,440nm,4.3s						
GYA				LR	LR		
	comp=E,3μm,7.6s						
GYA				LR	LR		
	comp=E,6μm,6.9s						
GYA				LR	LR		
	comp=E,4μm,6.6s						
CHTO	**Chiang Mai**	**11.59**	**161**	Pn	**Pn**	**17 43 40.0**	**+1.4**
CHTO	**Chiang Mai**	**11.59**	**161**	P	**Pn**	**17 43 40.0**	**+1.4**
CM31	**Chiang Mai Arr**	**11.93**	**162**		**Pn**	**17 43 43.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**11.93**	**162**	Pn	**Pn**	**17 43 44.7**	**+1.5**
CMAR	**Chiang Mai Arr**	**11.93**	**162**	P	**Pn**	**17 43 44.7**	**+1.5**
CMAR	**Chiang Mai Arr**	**11.93**	**162**	Pn	**Pn**	**17 43 44.5**	**+1.3**
	comp=E,0.2nm,0.3s,baz=330,slow=13,SNR=27						
CMAR				LR	LR	17 49 25.1	
	comp=E,160nm,19.8s,baz=355,slow=43						
	comp=E,7.7nm,0.8s						
XAN	**Xi'an**	**12.51**	**67**	⇑P	**Pn**	**17 43 52.1**	**+0.9**
XAN				pP	P	17 43 58.5	-4.3
XAN				S	**Sn**	**17 46 13.3**	**+3.3**
XAN				pmax	pmax		
	comp=E,26nm,1.0s						
XAN				pmax	pmax		
	comp=E,590nm,5.6s						
XAN				LR	LR		
	comp=E,5μm,8.0s						
XAN				LR	LR		
	comp=E,8μm,7.9s						
XAN				LR	LR		
	comp=E,8μm,10.0s						
ENH	**Enshi**	**12.54**	**85**	Pn	**Pn**	**17 43 50.0**	**-1.5**
LGTI	**Lohaghat**	**12.86**	**272**	*e*P	**Pn**	**17 43 56.2**	**+0.4**
PTH	**Pithoragarh**	**12.87**	**272**	*e*P	**Pn**	**17 43 55.1**	**-1.1**
GULI	**GuiLin**	**14.36**	**105**	⇑P	**P**	**17 44 22.1**	**-1.2**
GULI				pmax	pmax		
	comp=E,50nm,1.1s						
GULI				LR	LR		
	comp=E,2μm,9.8s						
GULI				LR	LR		
	comp=E,4μm,9.2s						
GULI				LR	LR		
	comp=E,5μm,11.9s						
WMQ	**Urumqi**	**15.08**	**339**	*e*P	**Pn**	**17 44 24.3**	**-1.9**
WMQ				pP	P	17 44 31.8	+0.4
WMQ				sP	pP	17 44 37.1	-0.7
WMQ				pmax	pmax		
	comp=E,13nm,0.9s						
WMQ				LR	LR		
	comp=E,930nm,14.3s						
WMQ				LR	LR		
	comp=E,640nm,12.3s						
SMLA	**Simla**	**15.44**	**279**	*e*P	**Pn**	**17 44 27.2**	**-3.7**
SMLA				IAmb	IAmb	17 44 35.9	
	comp=Z,62nm,1.0s						
LYN	**LuoYang**	**15.48**	**68**	⇑P	**Pn**	**17 44 29.8**	**-1.6**
LYN				sP	P	17 44 36.5	+0.7
LYN				S	**Sn**	**17 47 18.4**	**-4.0**
LYN				sS	S	17 47 27.0	-11
LYN				SS	**SnSn**	**17 47 43.4**	**+8.2**
LYN				pmax	pmax		
	comp=Z,34nm,1.0s						
LYN				pmax	pmax		
	comp=Z,260nm,4.1s						
LYN				LR	LR		
	comp=Z,3μm,8.9s						
LYN				LR	LR		
	comp=Z,3μm,10.3s						
LYN				LR	LR		
	comp=Z,4μm,13.1s						
CNSH	**ChangSha**	**15.76**	**92**	⇑P	**Pn**	**17 44 33.3**	**-1.8**
CNSH				S	**Sn**	**17 47 27.0**	**-2.3**
CNSH				pmax	pmax		
	comp=Z,56nm,1.6s						
CNSH				LR	LR		
	comp=Z,4μm,10.2s						
CNSH				LR	LR		
	comp=Z,7μm,10.2s						
CNSH				LR	LR		
	comp=Z,8μm,10.1s						
DHRM	**DHARAMSHALA**	**16.21**	**283**	*e*P	**Pn**	**17 44 37.6**	**-3.5**
DHRM				IAmb	IAmb	17 44 56.6	
	comp=Z,74nm,0.8s						
BTO	**Baotou**	**16.24**	**45**	*e*P	**Pn**	**17 44 40.6**	**-0.7**
BTO				pP	**pP**	**17 44 48.6**	**-1.9**
BTO				sP	**sP**	**17 44 53.0**	**-1.2**
BTO				PP	**PnPn**	**17 44 54.8**	**+4.5**
BTO				S	**Sn**	**17 47 39.0**	**-2.0**
BTO				sS	**S**	**17 47 51.5**	**-2.2**
BTO				SS	**SnSn**	**17 47 58.1**	**+4.0**
BTO				pmax	pmax		
	comp=Z,59nm,1.4s						
BTO				pmax	pmax		
	comp=Z,1μm,4.8s						
BTO				LR	LR		
	comp=Z,5μm,11.5s						
BTO				LR	LR		
	comp=Z,4μm,11.6s						
BTO				LR	LR		
	comp=Z,8μm,12.4s						
TIY	**Taiyuan**	**16.43**	**57**	⇑P	**Pn**	**17 44 41.8**	**-1.9**
TIY				pP	**P**	**17 44 46.0**	**-0.4**
TIY				sP	**pP**	**17 44 49.8**	**-2.9**
TIY				PP	sP	17 45 01.3	+5.2
TIY				S	**Sn**	**17 47 49.6**	**+4.0**
TIY				pmax	pmax		
	comp=Z,81nm,1.0s						
TIY				LR	LR		
	comp=Z,4μm,9.2s						
TIY				LR	LR		
	comp=Z,5μm,11.1s						
TIY				LR	LR		
	comp=Z,6μm,11.8s						
WHN	**Wuhan**	**16.73**	**83**	⇑*i*P	**Pn**	**17 44 46.8**	**-0.6**
WHN				PP	**sP**	**17 44 58.0**	**-1.1**
WHN				LR	LR		
	comp=Z,4μm,8.9s						
WHN				LR	LR		
	comp=Z,8μm,9.5s						
WHN				LR	LR		
	comp=Z,10μm,12.0s						
QIZ	**Qiongzhong**

QIZ LR LR
comp=Z,3µm,9.8s
QIZ LR LR
comp=Z,5µm,11.0s
HHC Hu-ho-hao-te 17.34 46 *e*P **Pn** 17 44 54.3 -0.9
HHC sP sP 17 45 04.3 -2.0
HHC PP **PnPn** **17 45 11.4 +6.1**
HHC S **Sn** **17 48 08.6 +0.9**
HHC pmax pmax
comp=Z,100nm,1.1s
HHC pmax pmax
comp=Z,440nm,4.4s
HHC LR LR
comp=Z,7µm,12.0s
HHC LR LR
comp=Z,7µm,11.0s
HHC LR LR
comp=Z,10µm,11.6s
UBPT Khong Chiam 17.43 144 Pn **Pn** **17 44 56.2 -0.1**
HNS HongShan 18.01 60 ⇑P **Pn** **17 45 02.5 -0.8**
HNS S **Sn** **17 48 23.5 -0.1**
HNS pmax pmax
comp=Z,41nm,1.4s
HNS LR LR
comp=Z,2µm,10.6s
HNS LR LR
comp=Z,3µm,11.0s
HNS LR LR
comp=Z,4µm,11.2s
SHLS Shalkode 18.17 321 *e*P **Pn** **17 45 02.1 -3.4**
baz=322
SHLS *i* S **Sn** **17 48 21.1 -6.7**
baz=322
SHLS Shalkode 18.17 321 *e*P **Pn** **17 45 02.0 -3.4**
TARG Taragay, Kyrgy 18.25 315 P **Pn** **17 45 06.6 -0.1**
TARG Taragay, Kyrgy 18.25 315 P **Pn** **17 45 06.6 -0.1**
TARG pmax pmax
comp=Z,49nm,1.0s
AJM Ajmer 18.28 264 *e*P **Pn** **17 45 05.1 -1.7**
KSH Kashi 18.34 307 P **P** **17 45 09.8 +2.3**
KSH PP sP 17 45 26.4 +10
KSH S **Sn** **17 48 32.8 +0.9**
KSH pmax pmax
comp=Z,35nm,0.9s
KSH pmax pmax
comp=Z,530nm,5.3s
KSH LR LR
comp=Z,870nm,13.4s
KSH LR LR
comp=Z,3µm,13.2s
KSH LR LR
comp=Z,3µm,15.8s
PRZ Przheval'sk 18.34 318 P **P** **17 45 07.6 0.0**
PRZ Przheval'sk 18.34 318 P **P** **17 45 07.6 0.0**
PRZ pmax pmax
comp=Z,79nm,1.0s
UZB Uzynbulak 18.41 320 *e*P **P** **17 45 07.7 -0.7**
baz=320
UZB *e*S **Sn** **17 48 33.2 -0.4**
baz=320
UZB Uzynbulak 18.41 320 *e*P **P** **17 45 07.6 -0.7**
UZB *e*S **Sn** **17 48 33.1 -0.5**
SATY Saty 18.70 319 *e*P **P** **17 45 11.1 -0.3**
baz=319
SATY *e*S **Sn** **17 48 40.5 -0.1**
baz=319
SATY Saty 18.70 319 *e*P **P** **17 45 11.1 -0.3**
SATY *e*S **Sn** **17 48 40.4 -0.1**
ZHN Zhinishke 18.75 319 *e*P **P** **17 45 11.9 -0.1**
baz=319
ZHN Zhinishke 18.75 319 *e*P **P** **17 45 11.9 -0.1**
KPKS Kokpek 18.80 321 *e*P **P** **17 45 12.2 -0.4**
baz=320
KPKS *e*S **Sn** **17 48 42.6 -0.5**
baz=320
KPKS Kokpek 18.80 321 *e*P **P** **17 45 12.2 -0.4**
KPKS *e*S **Sn** **17 48 42.5 -0.5**
NIL Nilore 18.88 287 P **P** **17 45 12.1 -1.3**
NIL IAmb IAmb 17 45 16.4
comp=Z,181nm,1.2s
NIL Nilore 18.88 287 P **P** **17 45 12.1 -1.3**
NIL pmax pmax
comp=Z,181nm,1.3s
ZSN Zaisan 19.22 339 *e*P **Pn** **17 45 17.4 -0.5**
baz=339
ZSN *e*S **Sn** **17 48 52.9 0.0**
baz=339
ZSN Zaisan 19.22 339 *e*P **Pn** **17 45 17.4 -0.5**
ZSN *e*S **Sn** **17 48 52.8 0.0**
HYB Hyderabad 19.50 234 *e*P **Pn** **17 45 21.6 0.0**
HYB *es*P **sP** **17 45 32.9 +3.2**
HYB *e*S **Sn** **17 49 02.3 +2.3**
ULHL Ulahol 19.51 314 P **Pn** **17 45 21.9 +0.2**
SNR=21
TNSS Tian-Shan 19.53 317 *e*P **Pn** **17 45 21.6 -0.6**
baz=317
TNSS Tian-Shan 19.53 317 *e*P **Pn** **17 45 21.6 -0.6**
MDOK Medeo 19.55 318 *e*P **P** **17 45 20.6 -0.1**
baz=317
MDOK *e*S **S** **17 49 00.0 -0.8**
baz=317
MDOK Medeo 19.55 318 *e*P **P** **17 45 20.6 -0.1**
MDOK *e*S **S** **17 49 00.0 -0.8**
TIA Tai'an 19.56 65 P **Pn** **17 45 20.8 -1.3**
TIA S **S** **17 49 04.3 +3.5**
TIA pmax pmax
comp=Z,49nm,1.7s
TIA pmax pmax
comp=Z,840nm,4.5s
TIA LR LR
comp=Z,2µm,13.7s
TIA LR LR
comp=Z,2µm,15.7s
TIA LR LR
comp=Z,3µm,15.2s
MK31 Makanchi Array 19.57 333 P **P** **17 45 19.4 -1.4**
MK31 Makanchi Array 19.57 333 P **P** **17 45 19.4 -1.4**
MK31 pmax pmax
comp=Z,69nm,1.5s
MKAR Makanchi Array 19.57 333 P **P** **17 45 20.0 -0.8**
MKAR Makanchi Array 19.57 333 P **P** **17 45 21.0 +0.2**
comp=Z,1.1nm,0.3s,baz=139,slow=11,SNR=39
MKAR LR LR 17 54 07.4
comp=Z,272nm,18.5s,baz=161,slow=41
comp=Z,7.8nm,0.6s
AAA Alma-Ata 19.65 318 *e*P **P** **17 45 22.3 +0.5**
comp=Z,113nm,1.1s,baz=317
AAA Alma-Ata 19.65 318 *e*P **P** **17 45 22.3 +0.5**
AAA pmax pmax
comp=Z,113nm,1.1s
MAKZ Makanchi 19.70 333 **P** **17 45 21.5 -0.8**
MAKZ Makanchi 19.70 333 P **P** **17 45 21.5 -0.8**
MAKZ pmax pmax
comp=Z,58nm,1.4s
ARXS Arharly 19.76 321 *e*P **Pn** **17 45 24.0 -0.6**
SONM Songino Array 19.95 23 P **P** **17 45 24.5 -0.6**
SONM Songino Array 19.95 23 P **P** **17 45 25.0 -0.1**
SONM Songino Array 19.95 23 P **P** **17 45 25.0 -0.1**
comp=Z,1.0nm,0.3s,baz=204,slow=12,SNR=52
SONM LR LR 17 53 53.3
comp=Z,2µm,19.1s,baz=197,slow=39
comp=Z,11nm,0.7s
TDK Taldyqorghan 19.98 324 *e*P **P** **17 45 26.1 +0.7**
comp=Z,76nm,1.2s,baz=324
TDK Taldyqorghan 19.98 324 *e*P **P** **17 45 26.0 +0.7**
TDK pmax pmax
comp=Z,76nm,1.2s
CHKK Chushkaly 20.00 319 *e*P **P** **17 45 26.2 +0.6**
baz=319
CHKK Chushkaly 20.00 319 *e*P **P** **17 45 26.2 +0.6**
BJT Baijiatuau 20.02 54 **P** **17 45 24.9 -0.9**
BJT Baijiatuau 20.02 54 P **P** **17 45 24.9 -0.9**
BJT pmax pmax
comp=Z,20nm,0.9s
BJI Beijing 20.04 54 P **Pn** **17 45 26.8 -1.0**
BJI S **Sn** **17 49 13.6 +1.0**
BJI pmax pmax
comp=Z,12nm,1.4s
BJI pmax pmax
comp=Z,200nm,7.9s
KZA Kyzart 20.04 313 P Pn 17 45 28.9 +0.6
SNR=31
ULN Ulaanbaatar 20.21 24 P **P** **17 45 27.3 -0.7**
ULN Pn 17 45 27.5 -2.4
ULN IAmb IAmb 17 45 34.1
comp=Z,62nm,1.0s
ULN Ulaanbaatar 20.21 24 P **P** **17 45 27.5 -0.4**
ULN pmax pmax
comp=Z,60nm,1.0s
TKM2 Tokmak 2 20.28 315 P Pn 17 45 30.4 -0.4
SNR=23
KUU Kurty 20.40 318⇑ *i*P **P** **17 45 30.5 +0.6**
comp=Z,105nm,1.3s,baz=318
KUU Kurty 20.40 318 *c i*P **P** **17 45 30.4 +0.6**
KUU pmax pmax
comp=Z,105nm,1.3s
KBK Karagaybulak 20.54 314 P Pn 17 45 33.7 -0.1
SNR=36
NJ2 Nanjing 20.55 78 *e*P Pn 17 45 32.3 -1.5
NJ2 pP sP 17 45 37.5 -3.8
NJ2 S **S** **17 49 21.8 +1.2**
NJ2 pmax pmax
comp=Z,25nm,0.6s
NJ2 LR LR
comp=Z,2µm,9.5s
NJ2 LR LR
comp=Z,5µm,11.8s
NJ2 LR LR
comp=Z,6µm,13.0s
UCH Uchtor 20.59 312 P Pn 17 45 34.1 -0.7
SNR=43
DGZ Jazzator, Alta 20.61 346 *i* P **P** **17 45 32.4 +0.1**
DGZ pmax pmax
comp=Z,26nm,0.8s
AAK Ala-Archa 20.81 313 P Pn 17 45 36.5 -0.5
SNR=72
AAK Ala-Archa 20.81 313 P **P** **17 45 35.0 +0.5**
AAK IAmb IAmb 17 45 43.4
comp=Z,107nm,1.1s
AAK Ala-Archa 20.81 313 P Pn 17 45 36.3 -0.7
comp=Z,48nm,0.9s,baz=129,slow=7.9,SNR=131
AAK LR LR 17 55 00.8
comp=Z,555nm,20.7s,baz=116,slow=41
comp=Z,48nm,0.9s
FRU1 Bishkek 20.82 314 P **P** **17 45 35.5 +1.0**
FRU1 Bishkek 20.82 314 P **P** **17 45 35.5 +1.0**
FRU1 pmax pmax
comp=Z,658nm,2.0s
CHMS Chumysh 20.84 314 P **P** **17 45 35.7 +1.0**
SNR=31
AML Almayashu 21.07 311 P **P** **17 45 39.3 +1.6**
SNR=46
USP Ospenovka 21.14 315 P **P** **17 45 38.9 +1.0**
SNR=19
SGDS Sogindy 21.16 315 *e*P **P** **17 45 38.9 +0.7**
baz=315
SGDS Sogindy 21.16 315 *e*P **P** **17 45 38.9 +0.7**
EKS2 Erkin-Say 21.28 313 P **P** **17 45 41.2 +1.7**
SNR=24
ZAK Zakamensk 21.40 15 *e*P **P** **17 45 41.0 +0.3**
ZAK pmax pmax
comp=Z,52nm,1.3s
KNMB Chin-men Tao 21.46 99 P **P** **17 45 41.4 -0.2**
KNMB IAmb IAmb 17 45 47.9
comp=Z,98nm,1.0s
QZH Quanzhou 21.48 98 P **P** **17 45 41.8 +0.1**
SRIT Nakonsritamara 21.61 168 P **P** **17 45 44.0 +0.9**
SRIT IAmb IAmb 17 45 58.7
comp=Z,104nm,1.3s
DLV T Lat 21.80 142 P **P** **17 45 46.0 +0.6**
DLV IAmb IAmb 17 45 51.5
comp=Z,135nm,1.5s
XLT XiLinHaoTe 21.81 44 *e*P **P** **17 45 45.1 -0.1**
XLT pP sP 17 45 53.4 -1.7
XLT sP pP 17 46 00.6 +9.0
XLT PP **PnPn** **17 46 11.3 +4.8**
XLT S **S** **17 49 42.1 -3.5**
XLT PcP **PcP** **17 49 43.6 -1.2**
XLT sS Sn 17 49 52.8 -2.6
XLT SS **SnSn** **17 50 20.4 +10**
XLT pmax pmax
comp=Z,42nm,1.0s
XLT pmax pmax
comp=Z,380nm,3.5s
XLT LR LR
comp=Z,2µm,9.8s
XLT LR LR
comp=Z,2µm,11.9s
BTK Batken 22.21 304 P **P** **17 45 50.2 +0.6**
BTK Batken 22.21 304 P **P** **17 45 50.2 +0.6**
BTK pmax pmax
comp=Z,507nm,1.8s
BTLS Baital 22.40 318⇑ *i*P **P** **17 45 51.4 -0.1**
baz=318
BTLS Baital 22.40 318 *c i*P **P** **17 45 51.3 -0.1**
KBL Kabul 22.44 289 P **P** **17 45 52.2 +0.1**
KBL Kabul 22.44 289 P **P** **17 45 52.2 +0.1**
KBL pmax pmax
comp=Z,401nm,1.5s
TRKS Terek-Say 22.53 308 P **P** **17 45 53.3 +0.3**
TRKS pmax pmax
comp=Z,88nm,0.9s
SSE Sheshan 22.57 80 P **P** **17 45 51.6 -1.7**
SSE S **S** **17 49 55.6 -4.2**
SSE pmax pmax
comp=Z,17nm,0.9s
SSE pmax pmax
comp=Z,270nm,4.3s
SSE LR LR
comp=Z,910nm,11.5s
SSE LR LR
comp=Z,3µm,11.4s
DZA Taraz 22.98 311 *e*P **P** **17 45 58.0 +0.5**
comp=Z,43nm,1.4s,baz=311
DZA Taraz 22.98 311 *e*P **P** **17 45 58.0 +0.5**
DZA pmax pmax
comp=Z,43nm,1.4s
CHGR Chuyangaron 23.04 299 P **P** **17 45 57.9 -0.4**
CHGR Chuyangaron 23.04 299 P **P** **17 45 57.9 -0.4**
CHGR pmax pmax
comp=Z,378nm,1.0s
SEM Semipalatinsk 23.32 336 *e*P **P** **17 46 02.6 +1.4**
baz=336
SEM Semipalatinsk 23.32 336 *e*P **P** **17 46 02.6 +1.4**
KK31 Karatay Array 23.61 311 P **P** **17 46 04.1 +0.2**
KK31 Karatay Array 23.61 311 P **P** **17 46 04.1 +0.2**
KK31 pmax pmax
comp=Z,21nm,1.1s
KKAR Karatay Array 23.61 311 P **P** **17 46 04.0 +0.1**
KKAR Karatay Array 23.61 311 P **P** **17 46 04.0 +0.1**
KKAR Karatay Array 23.61 311 P **P** **17 46 04.0 +0.1**
KKAR pmax pmax
comp=Z,21nm,1.1s
DL2 Dalian 23.66 61 P **P** **17 46 06.6 +2.2**
DL2 S **S** **17 50 23.0 +4.8**
DL2 pmax pmax
comp=Z,47nm,1.7s
DL2 pmax pmax
comp=Z,340nm,5.9s
DL2 LR LR
comp=Z,2µm,14.0s
DL2 LR LR
comp=Z,2µm,17.0s
DL2 LR LR
comp=Z,2µm,16.4s
TPUB Ta-pu 23.79 100 P **P** **17 46 06.5 +0.7**
CHM Chimkent 23.89 308 *e*P **P** **17 46 07.7 +1.1**
baz=308
CHM Chimkent 23.89 308 *e*P **P** **17 46 07.7 +1.1**
SSLB Suanglung 23.90 99 P **P** **17 46 06.5 -0.3**
SSLB IAmb IAmb 17 46 21.0
comp=Z,180nm,1.7s
YHNB Yeheng 23.97 96 P **P** **17 46 07.2 -0.3**
YHNB IAmb IAmb 17 46 31.6
comp=Z,143nm,1.4s
KURBB Kurchatov Arra 24.13 334 P **P** **17 46 08.9 +0.2**
comp=Z,31nm,0.9s,baz=146,slow=9.9,SNR=151
KURBB LR LR 17 56 41.4
comp=Z,278nm,19.2s,baz=166,slow=39
comp=Z,31nm,0.9s
KURK Kurchatov 24.17 334 P **P** **17 46 08.4 -0.6**
KURK IAmb IAmb 17 46 12.6
comp=Z,72nm,1.0s
KURK Kurchatov 24.17 334 P **P** **17 46 08.9 -0.2**
NACB Ninganchiao 24.32 97 P **P** **17 46 09.3 -1.3**
YULB Yu-li 24.33 99 P **P** **17 46 10.4 -0.4**
YULB IAmb IAmb 17 46 18.2
comp=Z,123nm,1.3s
LHMI Lhok Sumawe 24.59 175 P **P** **17 46 16.7 +3.6**
comp=Z,191nm,1.0s
KULM Kulim 25.04 167 P **P** **17 46 16.7 -0.4**
KULM IAmb IAmb 17 46 18.2
comp=Z,135nm,2.0s
ZAA0 Zalesovo Array 25.16 346 P **P** **17 46 17.8 -0.2**
ZAA0 IAmb IAmb 17 46 21.5
comp=Z,27nm,0.8s
ZALV Zalesovo Beam 25.16 346 P **P** **17 46 17.9 -0.1**
ZALV Zalesovo Beam 25.16 346 P **P** **17 46 18.4 +0.4**
comp=Z,26nm,0.7s,baz=165,slow=9.2,SNR=112
ZALV LR LR 17 57 01.8
comp=Z,147nm,21.1s,baz=140,slow=39
comp=Z,26nm,0.7s
YOJ Yonaguni jima 25.45 96 P **P** **17 46 19.9 -1.0**
YOJ Yonaguni jima 25.45 96 P **P** **17 46 19.9 -1.0**
YOJ pmax pmax
comp=Z,319nm,1.3s
MLSI Meulaboh, Aceh 25.51 177 P **P** **17 46 24.6 +3.1**
comp=Z,17nm,0.6s
SNY Shenyang 25.91 55 ⇑P **P** **17 46 24.9 0.0**
SNY S **S** **17 50 54.3 +0.2**
SNY pmax pmax
comp=Z,16nm,1.0s
SNY pmax pmax
comp=Z,340nm,5.4s
SNY LR LR
comp=Z,560nm,10.2s
SNY LR LR
comp=Z,2µm,10.6s
SNY LR LR
comp=Z,3µm,11.8s
BRZS Berezniki 26.21 326⇑ *i*P **P** **17 46 29.0 +1.4**
comp=Z,37nm,0.9s,baz=326
BRZS Berezniki 26.21 326 *c i*P **P** **17 46 29.0 +1.4**
BRZS pmax pmax
comp=Z,37nm,0.9s
PALK Pallekele 26.21 214 P **P** **17 46 28.2 +0.4**
PALK Pallekele 26.21 214 P **P** **17 46 28.3 +0.4**
PALK pmax pmax
comp=Z,31nm,1.2s
PALK Pallekele 26.21 214 LR LR 17 57 15.4
comp=Z,358nm,20.5s,baz=132,slow=38
HIA Hailar 26.96 37 P **P** **17 46 32.8 -1.6**
HIA Hailar 26.96 37 P **P** **17 46 32.8 -1.6**
HIA pmax pmax
comp=Z,26nm,1.3s
PSI Prapat 27.19 171 P **P** **17 46 37.9 +1.1**
PSI pmax pmax
comp=Z,13nm,1.1s
RPSI Rantau Prapat 27.29 171 P **P** **17 46 36.7 -0.9**
SNSI Sinabang, Aceh 27.35 177 P **P** **17 46 41.6 +3.5**
CN2 Changchun 27.85 52 *e*P **P** **17 46 42.4 0.0**
CN2 *e*pP sP 17 46 49.0 -3.3
CN2 *e*S **S** **17 51 20.8 -3.9**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,3µm,12.0s
CN2 LR LR
comp=Z,4µm,12.0s
CN2 LR LR
comp=Z,6µm,12.0s
HRA Herat 28.04 288 P **P** **17 46 44.0 -0.5**
HRA IAmb IAmb 17 46 45.6
comp=Z,71nm,1.6s
KS19 Wonju Array Si 28.26 66 P **P** **17 46 45.2 -0.9**
KS19 IAmb IAmb 17 47 31.1
comp=Z,46nm,1.6s
KSAR Wonju Array Be 28.27 66 P **P** **17 46 45.2 -1.0**
KSAR Wonju Array Be 28.27 66 P **P** **17 46 45.2 -1.0**
KSRS Korea Array 28.30 66 P **P** **17 46 45.6 -0.8**
comp=Z,4.5nm,0.9s,baz=255,slow=9.6,SNR=8.9
comp=Z,4.5nm,0.9s
GSI Gunungsitoli 28.53 175 P **P** **17 46 48.5 -0.1**
GSI IAmb IAmb 17 47 01.2
comp=Z,63nm,1.2s
GSI Gunungsitoli 28.53 175 P **P** **17 46 50.6 +2.0**
comp=Z,48nm,1.1s
TGY Tagaytay City 28.61 118 LR LR 17 58 09.5
comp=Z,381nm,19.5s,baz=238,slow=36
BVAR Borovoye Array 29.31 329 P **P** **17 46 56.2 +0.9**
comp=Z,22nm,0.8s,baz=132,slow=10,SNR=75
BVAR LR LR 17 59 46.2
comp=Z,160nm,20.9s,baz=127,slow=39
comp=Z,22nm,0.8s
JOW Kunigami 29.37 88 P **P** **17 46 55.8 -0.3**
JOW Kunigami 29.37 88 LR LR 17 59 32.2
comp=Z,707nm,21.5s,baz=272,slow=38
BRVK Borovoye 29.38 329 P **P** **17 46 56.2 +0.3**
BRVK IAmb IAmb 17 47 00.9
comp=Z,41nm,0.9s
BRVK Borovoye 29.38 329 P **P** **17 46 56.2 +0.3**
BRVK pmax pmax
comp=Z,41nm,1.0s
BNX BinXian 29.83 49 ⇓P **P** **17 47 00.3 +0.3**
BNX pP **sP** **17 47 09.9 0.0**
BNX sP pP 17 47 14.0 +7.1
BNX PP **PnPn** **17 47 57.4 +1.4**
BNX S **S** **17 51 55.9 +0.1**
BNX sS **sS** **17 52 09.8 +2.1**
BNX pmax pmax
comp=Z,25nm,1.1s
BNX pmax pmax
comp=Z,240nm,3.5s
BNX LR LR
comp=Z,3µm,9.1s
BNX LR LR
comp=Z,3µm,9.3s
BNX LR LR
comp=Z,6µm,10.0s
JNU Nakatsue 30.65 75 LR LR 18 00 39.5
comp=Z,1µm,18.8s,baz=346,slow=39
BOD Bodaibo 30.88 20 *e*P **P** **17 47 10.9 +1.8**
BOD pmax pmax
comp=Z,16nm,1.6s
KKM Kota Kinabalu 31.00 136 P **P** **17 47 12.1 +1.3**
GEYT Alibeck 31.50 295 P **P** **17 47 16.1 +1.2**
comp=Z,11nm,0.8s,baz=120,slow=7.9,SNR=18
GEYT LR LR 18 01 56.4
comp=Z,755nm,19.2s,baz=129,slow=40
comp=Z,11nm,0.8s
GYA0B ALIBECK ARRAY 31.50 295 P **P** **17 47 14.2 -0.6**
GYA0B IAmb IAmb 17 47 17.7
comp=Z,17nm,0.9s
HEH HeiHe 31.70 41 *e*P **P** **17 47 16.1 -0.3**
HEH sP **sP** **17 47 22.6 -3.8**
HEH S **S** **17 52 32.1 +7.3**
HEH pmax pmax
comp=Z,11nm,1.1s
HEH pmax pmax
comp=Z,220nm,4.1s
HEH LR LR
comp=Z,1µm,17.7s
HEH LR LR
comp=Z,2µm,15.9s
HEH LR LR
comp=Z,3µm,15.5s
JMZ Minamidaito 2 32.18 88 P **P** **17 47 18.1 -2.8**
USA0B Ussuriysk Arra 32.49 54 P **P** **17 47 21.1 -2.3**
USA0B Ussuriysk Arra 32.49 54 P **P** **17 47 21.1 -2.3**
USA0B pmax pmax
comp=Z,9.0nm,1.0s
USRK Ussuriysk Ar. 32.49 54 P **P** **17 47 21.3 -2.1**
USRK Ussuriysk Ar. 32.49 54 P **P** **17 47 23.7 +0.3**
comp=Z,5.2nm,0.8s,baz=245,slow=4.0,SNR=8.0
USRK LR LR 18 01 37.5
comp=Z,1µm,19.4s,baz=211,slow=38
comp=Z,5.2nm,0.8s
ABKAR Akbulak array 32.84 316 P **P** **17 47 26.7 +0.3**
ABKAR IAmb IAmb 17 47 28.8
comp=Z,32nm,1.1s
ABKAR Akbulak array 32.84 316 P **P** **17 47 27.0 +0.6**
WSAR Wadi Sarin 33.12 267 LR LR 18 02 46.5
comp=Z,498nm,18.0s,baz=106,slow=40
ZEA Zeya 33.36 35 *e*P **P** **17 47 32.1 +1.2**
ZEA pmax pmax
comp=E,10.0nm,1.1s
ZEA pmax pmax
comp=N,10.0nm,1.5s
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA MLR MLR
comp=N,700nm,10.0s
ZEA MLR MLR
comp=Z,1µm,11.0s
KLR Kul'dur 33.84 45⇑ *e*P **P** **17 47 35.2 +0.1**
KLR pmax pmax

comp=Z,37nm,1.7s
KLR Kul'dur 33.84 45 LR LR 18 02 38.9
comp=Z,2μm,18.3s,baz=258,slow=39
MNAI Manna 34.89 166 P **P** **17 47 43.8 -0.8**
SVE Sverdlovsk 36.09 328 *de*P **P** **17 47 55.7 +1.3**
SVE pmax pmax
comp=Z,76nm,0.9s
SVE MLR MLR
comp=Z,368nm,13.0s
MAJO Matsushiro 36.50 68 P **P** **17 47 57.8 -0.5**
MAJO IAmb IAmb 17 48 02.7
comp=Z,49nm,1.7s
MAJO Matsushiro 36.50 68 P **P** **17 47 57.8 -0.5**
MAJO pmax pmax
comp=Z,49nm,1.7s
MJAR Matsushiro Arr 36.50 68 P **P** **17 47 58.0 -0.3**
comp=Z,6.1nm,1.1s,baz=272,slow=9.6,SNR=7.4
comp=Z,6.1nm,1.1s
JSG Sagara 36.60 71 P **P** **17 47 57.8 -1.3**
ARU Arti 36.84 327 P **P** **17 48 00.8 -0.1**
ARU IAmb IAmb 17 48 02.9
comp=Z,45nm,1.1s
ARU Arti 36.84 327 *c* *i*P **P** **17 48 01.5 +0.6**
ARU 17 50 21.2
ARU S **S** **17 53 44.4 +0.2**
ARU SS **SnSn** **17 56 15.8 -0.6**
ARU pmax pmax
comp=Z,47nm,1.0s
ARU MLR MLR
comp=Z,313nm,16.0s
ARU Arti 36.84 327 LR LR 18 04 46.9
comp=Z,208nm,19.6s,baz=116,slow=39
GRNR Gornyy 37.19 44⇓ *i*P **P** **17 48 03.9 -0.1**
GRNR pmax pmax
comp=E,4.0nm,1.2s
GRNR pmax pmax
comp=Z,5.0nm,1.2s
BKB Balikpapan 37.35 142 P **P** **17 48 05.0 -0.7**
TOLI2 Tolitoli 37.67 135 P **P** **17 48 08.7 +0.4**
JHJ Hachijo jima 2 38.09 73 P **P** **17 48 12.9 +1.1**
comp=Z,178nm,0.8s,baz=158,slow=5.4,SNR=2.5
JHJ2 Mitsune 38.12 73 P **P** **17 48 12.2 +0.3**
LEM Lembang 38.45 160 LR LR 18 05 10.2
comp=Z,181nm,18.4s,baz=352,slow=38
JMM Marumori 38.52 66 P **P** **17 48 16.6 +1.3**
JMM IAmb IAmb 17 48 34.2
comp=Z,77nm,1.5s
YAK Yakutsk 39.29 25 P **P** **17 48 20.8 -0.6**
YAK IAmb IAmb 17 48 24.1
comp=Z,41nm,1.2s
YAK Yakutsk 39.29 25 *e*P **P** **17 48 22.1 +0.7**
YAK *e**PP **sP** **17 48 31.4 -0.2**
YAK *e* 17 49 54.2
YAK *e* 17 50 31.4
YAK *e*S **S** **17 54 20.5 -0.5**
YAK *e*SS **SS** **17 57 10.1 -4.4**
YAK *e* 17 58 29.3
YAK pmax pmax
comp=Z,31nm,1.3s
YAK pmax pmax
comp=E,21nm,1.5s
YAK pmax pmax
comp=N,15nm,1.3s
YAK pmax pmax
comp=Z,125nm,5.4s
YAK smax smax
comp=E,183nm,3.3s
YAK smax smax
comp=N,72nm,3.3s
YAK MLR MLR
comp=Z,2μm,11.0s
YAK MLR MLR
comp=N,871nm,11.0s
YAK MLR MLR
comp=E,768nm,11.0s
YAK Yakutsk 39.29 25 LR LR 18 05 45.5
comp=E,67nm,18.4s,baz=192,slow=38
MAK Makhachkala 39.89 302 *e*P **P** **17 48 25.4 -1.3**
MAK *e* 17 49 58.1
MAK *e*S **S** **17 54 28.6 -2.0**
MAK MLR MLR
comp=Z,714nm,10.0s
ASAJ Asahikawa 40.02 56 P **P** **17 48 27.2 -0.5**
ASAJ pmax pmax
comp=Z,77nm,1.2s
JKA Kamikawa-asahi 40.02 56 P **P** **17 48 27.2 -0.5**
JKA IAmb IAmb 17 48 37.7
comp=Z,77nm,1.2s
KMSI Cibinong 40.11 131 P **P** **17 48 31.1 +2.3**
comp=Z,146nm,0.9s
ERM Erimo 40.32 59 P **P** **17 48 29.9 -0.3**
ERM Erimo 40.32 59 P **P** **17 48 30.0 -0.3**
ERM pmax pmax
comp=Z,222nm,1.5s
YSS Yuzh-Sakhalins 40.42 51 P **P** **17 48 30.6 -0.4**
YSS Yuzh-Sakhalins 40.42 51 *e*P **P** **17 48 30.7 -0.4**
YSS *e*S **S** **17 54 37.4 -1.0**
YSS *e*SS **SS** **17 57 31.3 -6.3**
YSS pmax pmax
comp=Z,50nm,1.3s
YSS MLR MLR
comp=Z,1μm,14.0s
YSS MLR MLR
comp=N,700nm,13.0s
YSS MLR MLR
comp=E,1μm,15.0s
UGM Wanagama 40.43 156 P **P** **17 48 31.7 +0.3**
TTSI Tana Toraja 40.44 140 P P 17 48 37.8 +6.3
TYV Tymovskoe 41.03 46 *e*P **P** **17 48 37.2 +1.2**
TYV *e*S **S** **17 54 49.0 +1.6**
TYV pmax pmax
comp=Z,200nm,3.4s
TYV pmax pmax
comp=Z,13nm,1.4s
TYV smax smax
comp=N,400nm,5.7s
TYV smax smax
comp=E,300nm,5.7s
BELG Belogornoye 41.23 317 *i*P **P** **17 48 38.2 +0.6**
BELG pmax pmax
comp=Z,12nm,1.1s
XMIS Christmas Isla 41.42 164 P **P** **17 48 38.3 -1.2**
GNI Garni 41.94 298 P **P** **17 48 44.6 +0.8**
GNI Garni 41.94 298 P **P** **17 48 44.7 +0.8**
GNI pmax pmax
comp=Z,25nm,1.3s
GNI Garni 41.94 298 LR LR 18 10 12.5
comp=Z,160nm,18.2s,baz=101,slow=42
KAPI Kappang 42.03 141 LR LR 18 08 21.6
comp=Z,92nm,18.2s,baz=326,slow=39
KIRV Kirov 42.22 326⇑ *e*P **P** **17 48 46.1 +0.5**
KIRV Kirov 42.22 326 LR LR 18 08 15.1
comp=Z,224nm,21.4s,baz=119,slow=39
TRLG Trialeti 42.39 300 P **P** **17 48 48.3 +0.8**
ZEI Tsey 42.54 302 *e*P **P** **17 48 47.3 -1.4**
ZEI pmax pmax
comp=Z,20nm,1.5s
AKH Akhalkalaki 42.85 300 P **P** **17 48 51.7 +0.4**
AKH Akhalkalaki 42.85 300 P **P** **17 48 51.7 +0.4**
AKH pmax pmax
comp=Z,112nm,1.3s
ONI Oni 42.87 302 P **P** **17 48 51.3 +0.1**
ONI IAmb IAmb 17 48 54.9
comp=Z,46nm,1.2s
ONI Oni 42.87 302 P **P** **17 48 51.3 +0.1**
ONI pmax pmax
comp=Z,46nm,1.2s
DGAR Diego Garcia 42.96 214 P **P** **17 48 51.1 -1.0**
DGAR Diego Garcia 42.96 214 P **P** **17 48 51.1 -1.0**
DGAR pmax pmax
comp=Z,375nm,1.6s
KARS Kars 43.19 299 P **P** **17 48 53.9 -0.1**
KARS Kars 43.19 299 P **P** **17 48 53.9 -0.1**
KARS pmax pmax
comp=Z,113nm,1.5s
GOF Gofitskoye 43.21 305 *ce*P **P** **17 48 54.9 +1.0**
KBZ Khabaz 43.28 303⇑ *e*P **P** **17 48 56.1 +1.7**
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 43.28 303 P **P** **17 48 55.4 +1.0**
comp=Z,2.9nm,0.9s,baz=60,slow=8.3,SNR=8.7
KBZ LR LR 18 09 43.8
comp=Z,196nm,21.2s,baz=77,slow=40
comp=Z,2.9nm,0.9s
NEUR Neytrino 43.42 303 *i*P **P** **17 48 56.4 +0.6**
NEUR pmax pmax
comp=Z,16nm,1.4s
KIV Kislovodsk 43.43 304 P **P** **17 48 56.5 +0.7**
KIV IAmb IAmb 17 48 59.1
comp=Z,52nm,1.3s
KIV Kislovodsk 43.43 304 *e*P **P** **17 48 56.6 +0.7**
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,228nm,16.0s
SHA1 Shidzhatmaz 43.45 303 *i*P **P** **17 48 57.4 +1.2**
SIRT Sirnak 43.93 294 P **P** **17 49 00.2 +0.3**
SIRT IAmb IAmb 17 49 12.8
comp=Z,26nm,0.9s
GURO Guroymak-BITLI 44.14 296 P **P** **17 49 01.2 -0.5**
VRH Novokhopyorsk 44.61 314 *e*P **P** **17 49 05.4 +0.4**
VRH pmax pmax
comp=Z,53nm,1.4s
PRGR Permogore 45.13 329⇓ *i*P **P** **17 49 09.5 +0.5**
PRGR pmax pmax
comp=Z,45nm,0.9s
SOC Sochi 45.59 303 *e*P **P** **17 49 11.1 -1.8**
SOC *e* 17 51 01.2
SOC *e*PPP PPP 17 51 40.7
SOC *e*S **S** **17 55 51.3 -3.0**
SOC *e*SSS SSS 18 00 16.5
SOC MLR MLR
comp=Z,159nm,16.0s
TIXI Tiksi 45.68 14 P **P** **17 49 12.3 -0.8**
TIXI IAmb IAmb 17 49 21.3
comp=Z,49nm,1.8s
TIXI Tiksi 45.68 14 P **P** **17 49 12.4 -0.8**
TIXI pmax pmax
comp=Z,49nm,1.8s
VSR Storozhevoye 46.21 314 *e*P **P** **17 49 15.9 -1.8**
VSR pmax pmax
comp=Z,20nm,1.1s
VORR Voronezh 46.23 314 *e*P **P** **17 49 18.5 +0.7**
VORR pmax pmax
comp=Z,38nm,1.0s
MMRI Maumere 46.39 141 P **P** **17 49 20.8 +1.3**
MMRI IAmb IAmb 17 50 55.0
comp=Z,31nm,0.9s
LPSR Galich'ya Gora 46.50 316 *e*P **P** **17 49 20.1 +0.2**
LPSR pmax pmax
comp=Z,50nm,1.1s
ARPR Arapgir-MALATY 46.96 297 P **P** **17 49 24.1 +0.2**
ARPR IAmb IAmb 17 49 26.9
comp=Z,29nm,1.3s
ANN Anapa 47.19 305 *e*P **P** **17 49 25.8 +0.3**
ANN *e**PP **sP** **17 49 34.3 -0.8**
ANN *e*S **S** **17 56 21.4 +4.2**
ANN pmax pmax
comp=Z,72nm,1.0s
MA2 Magadan 47.51 35 P **P** **17 49 27.4 -0.4**
MA2 IAmb IAmb 17 49 38.9
comp=Z,51nm,1.8s
MA2 Magadan 47.51 35 P **P** **17 49 27.4 -0.4**
MA2 pmax pmax
comp=Z,51nm,1.8s
MA2 Magadan 47.51 35 LR LR 18 10 18.3
comp=Z,299nm,18.0s,baz=209,slow=37
MOS Moscow 47.66 320 *e*P **P** **17 49 28.0 -1.0**
MOS *e* 17 51 19.4
MOS pmax pmax
comp=Z,42nm,0.6s
KLMR Klimovskoe 47.70 327 *e*P **P** **17 49 28.2 -1.0**
KLMR AMP 17 49 33.4
comp=Z,111nm,1.2s
KLMR *e*PcP **PcP** **17 50 56.7 -1.6**
KLMR *e*PP **PP** **17 51 20.4 -0.3**
KLMR LR LR 18 09 54.5
KLMR Klimovskoe 47.70 327 *e*P **P** **17 49 28.1 -1.1**
KLMR *e* 17 50 56.7
KLMR *e* 17 51 20.4
KLMR pmax pmax
comp=Z,111nm,1.2s
OBN Obninsk 48.18 319 P **P** **17 49 31.8 -1.1**
OBN IAmb IAmb 17 49 34.5
comp=Z,19nm,0.8s
OBN Obninsk 48.18 319 *ce*P **P** **17 49 33.1 +0.1**
OBN *i* 17 51 01.0
OBN *e* 17 51 25.3
OBN pmax pmax
comp=Z,35nm,1.3s
OBN MLR MLR
comp=Z,258nm,18.0s
OBN Obninsk 48.18 319 LR LR 18 11 34.6
comp=Z,299nm,20.1s,baz=158,slow=38
SOEI Soe 48.43 140 P **P** **17 49 34.5 -1.0**
SOEI Soe 48.43 140 P **P** **17 49 36.0 +0.5**
BNN Bunyan 48.91 297 P **P** **17 49 39.1 +0.1**
SEY Seymchan 49.07 31⇑ *e*P **P** **17 49 41.5 +1.7**
SEY pmax pmax
comp=Z,19nm,1.2s
SIM Simferopol' 49.54 305 *e*P **P** **17 49 44.6 +1.0**
SIM S **S** **17 56 51.5 +1.1**
SIM pmax pmax
comp=Z,23nm,0.9s
MMAI Mount Meron Ar 50.36 290 LR LR 18 15 46.1
comp=Z,225nm,19.6s,baz=66,slow=42
BR131 Keskin Array S 50.48 299 P **P** **17 49 50.7 -0.3**
BRTR Keskin Array B 50.48 299 P **P** **17 49 51.2 +0.2**
BRTR Keskin Array B 50.48 299⇑ *e*P **P** **17 49 51.4 +0.4**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 50.48 299 P **P** **17 49 51.1 +0.1**
comp=Z,3.4nm,0.8s,baz=118,slow=7.0,SNR=18
comp=Z,3.4nm,0.8s
PEA0B Petropavlovsk- 50.52 44 P **P** **17 49 51.0 0.0**
PEA0B Petropavlovsk- 50.52 44 P **P** **17 49 51.0 0.0**
PEA0B pmax pmax
comp=Z,204nm,1.9s
PETK Petropavlovsk- 50.52 44 P **P** **17 49 50.2 -0.7**
PETK Petropavlovsk- 50.52 44 P **P** **17 49 50.2 -0.7**
PETK Petropavlovsk- 50.52 44 LR LR 18 13 20.4
comp=Z,381nm,18.2s,baz=228,slow=39
PET Petropavlovsk 51.09 44 *e*P **P** **17 49 52.7 -2.5**
PET *e*S **S** **17 57 08.1 -3.7**
PET pmax pmax
comp=Z,100nm,16.2s
ANTO Ankara 51.10 299⇑ P **P** **17 49 56.2 +0.6**
ANTO Ankara 51.10 299 P **P** **17 49 56.0 +0.4**
ANTO IAmb IAmb 17 49 57.4
comp=Z,44nm,1.1s
ANTO Ankara 51.10 299 P **P** **17 49 56.2 +0.6**
BR231 Keskin MP Arra 51.12 299 P **P** **17 49 56.6 +0.8**
LVZ Lovozero 51.58 335 P **P** **17 49 57.9 -0.9**
LVZ Lovozero 51.58 335 P **P** **17 49 57.9 -0.9**
LVZ pmax pmax
comp=Z,48nm,1.0s
EIL Elat 51.59 286 LR LR 18 14 39.2
comp=Z,255nm,20.7s,baz=67,slow=39
ATD Arta Tunnel 51.65 261 P **P** **17 50 00.3 +0.3**
ATD IAmb IAmb 17 50 02.2
comp=Z,35nm,1.1s
APA Apatity 51.96 335⇓ *i*P **P** **17 49 59.9 -1.6**
APA *i* 17 51 14.6
APA *i* 17 52 05.6
APA pmax pmax
comp=Z,9.0nm,0.7s
APA MLR MLR
comp=Z,600nm,14.0s
MDUB Mudurnu 52.21 300 P **P** **17 50 03.6 -0.3**
AKASG Malin Array Be 52.48 313 P **P** **17 50 05.0 -0.6**
AKASG Malin Array Be 52.48 313 P **P** **17 50 05.5 -0.2**
comp=Z,7.6nm,0.8s,baz=76,slow=6.7,SNR=28
AKASG LR LR 18 14 55.8
comp=Z,235nm,21.7s,baz=32,slow=39
comp=Z,7.6nm,0.8s
AKBB Malin Array Si 52.48 313 P **P** **17 50 05.0 -0.5**
AKBB IAmb IAmb 17 50 08.5
comp=Z,62nm,1.6s
AKBB Malin Array Si 52.48 313 P **P** **17 50 05.1 -0.5**
AKBB pmax pmax
comp=Z,62nm,1.6s
KIEV Kiev 52.49 313 P **P** **17 50 04.8 -0.9**
KIEV IAmb IAmb 17 50 08.5
comp=Z,55nm,1.6s
KIEV Kiev 52.49 313 P **P** **17 50 04.8 -0.9**
KIEV pmax pmax
comp=Z,55nm,1.6s
MILM Milestii Mici 53.05 308 *e*P **P** **17 50 11.5 +1.6**
comp=Z,30nm,0.8s
MILM Milestii Mici 53.05 308 *e*P **P** **17 50 11.5 +1.6**
MILM pmax pmax
comp=Z,30nm,0.8s
MNK Minsk 53.17 318 *i*P **P** **17 50 10.8 +0.2**
comp=E,12nm,1.0s
MNK *i*P **P** **17 50 10.8 +0.2**
comp=N,14nm,0.9s
MNK *i*P **P** **17 50 10.8 +0.2**
comp=Z,26nm,1.1s,baz=89
MNK *i*PP **PP** **17 52 11.0 +0.5**
MNK *i*PPP PPP 17 53 16.8
MNK *i*S **S** **17 57 39.6 -0.7**
MNK *i*sS **sS** **17 57 56.5 +4.5**
MNK *i*SS **SS** **18 01 20.6 +1.2**
MNK *i*SSS SSS 18 03 12.0
MNK *i*LR LR 18 13 15.3
MNK *i*LRM MLR 18 14 06.2
comp=E,159nm,22.1s
MNK *i*LRM MLR 18 14 07.0
comp=N,652nm,21.2s
MNK *i*LRM MLR 18 14 38.4
comp=Z,185nm,16.9s
MNK Minsk 53.17 318 *i*P **P** **17 50 10.8 +0.2**
MNK *i* 17 52 10.9
MNK *i*PPP PPP 17 53 16.7
MNK *i*S **S** **17 57 39.5 -0.7**
MNK *i**SS **sS** **17 57 56.5 +4.5**
MNK *i*SS **SS** **18 01 20.6 +1.2**
MNK *i*SSS SSS 18 03 12.0
MNK pmax pmax
comp=Z,26nm,1.0s
MNK pmax pmax
comp=E,12nm,1.0s
MNK pmax pmax
comp=N,14nm,0.9s
MNK MLR MLR
comp=E,159nm,22.0s
MNK MLR MLR
comp=N,652nm,21.0s
MNK MLR MLR
comp=Z,185nm,17.0s
ISP Isparta 53.21 297 P **P** **17 50 11.2 -0.2**
ISP IAmb IAmb 17 50 13.0
comp=Z,30nm,1.0s
ISP Isparta 53.21 297 P **P** **17 50 11.2 -0.2**
ISP pmax pmax
comp=Z,29nm,1.0s
SORM Soroca 53.24 310⇑ P **P** **17 50 11.5 +0.2**
SORM Soroca 53.24 310 P **P** **17 50 11.4 +0.2**
TIRR Tirgusor 53.63 305 P **P** **17 50 13.3 -0.9**
TIRR IAmb IAmb 17 50 24.4
comp=Z,51nm,1.3s
TIRR Tirgusor 53.63 305 P **P** **17 50 13.3 -0.9**
TIRR pmax pmax
comp=Z,51nm,1.3s
NACGM Naroch 53.79 318 *e*P **P** **17 50 15.4 +0.1**
VSU Vasula 53.80 323 *e*P **P** **17 50 16.1 +0.9**
ELL Elmali 53.92 296 P **P** **17 50 15.1 -1.5**
ELL Elmali 53.92 296 P **P** **17 50 15.1 -1.5**
ELL pmax pmax
comp=Z,188nm,0.9s
HARR Harsova 53.94 306⇑ P **P** **17 50 16.6 +0.1**
HARR Harsova 53.94 306 P **P** **17 50 16.6 +0.1**
ICOR Ion Corvin 54.12 305⇓ P **P** **17 50 18.5 +0.7**
ISAL Salakas 54.15 319 *e*P **P** **17 50 18.4 +0.6**
FINES FINESS Array B 54.22 326 P **P** **17 50 18.1 -0.1**
FINES FINESS Array B 54.22 326⇓ *e*P **P** **17 50 19.6 +1.4**
FINES pmax pmax
comp=Z,22nm,1.2s
FINES FINESS Array B 54.22 326 P **P** **17 50 18.6 +0.4**
comp=Z,23nm,1.2s,baz=103,slow=6.1,SNR=11
comp=Z,23nm,1.2s
TESR Tescani 54.58 308⇓ P **P** **17 50 21.2 +0.1**
VRI Vrincioaia 54.61 307⇓ P **P** **17 50 22.3 +0.8**
VRI Vrincioaia 54.61 307 P **P** **17 50 22.2 +0.8**
PLOR Plostina 54.67 307⇑ P **P** **17 50 22.9 +1.1**
PLOR Plostina 54.67 307 P **P** **17 50 22.9 +1.1**
ISR Istrita 54.85 306⇓ P **P** **17 50 24.3 +1.0**
ISR Istrita 54.85 306 P **P** **17 50 24.2 +1.0**
MTN Manton Dam 54.92 135 P **P** **17 50 23.5 -0.3**
MEF Metsahovi 55.01 325 *e*P **P** **17 50 24.7 +0.7**
TURR Turia 55.08 308⇑ P **P** **17 50 25.6 +0.8**
LOZB Loznitsa 55.10 304⇑ P **P** **17 50 25.4 +0.5**
ARCES ARCESS Array B 55.18 336 P **P** **17 50 25.1 -0.1**
ARCES ARCESS Array B 55.18 336 P **P** **17 50 25.6 +0.5**
comp=Z,10nm,0.9s,baz=91,slow=7.6,SNR=5.8
comp=Z,10nm,0.9s
MLR Muntele Rosu 55.21 307⇓ P **P** **17 50 26.8 +0.9**
MLR Muntele Rosu 55.21 307 P **P** **17 50 25.7 -0.2**
MLR Muntele Rosu 55.21 307 P **P** **17 50 26.7 +0.9**
MLR Muntele Rosu 55.21 307 LR LR 18 17 33.8
comp=Z,256nm,21.4s,baz=66,slow=40
OZUR 55.23 308⇓ P **P** **17 50 26.8 +0.9**
MTSE Matsula 55.33 323 *e*P **P** **17 50 27.0 +0.8**
PABE Paberze 55.38 319 P **P** **17 50 26.2 -0.5**
PABE Paberze 55.38 319 *e*P **P** **17 50 27.7 +1.0**
BURAR Bucovina Array 55.39 310⇑ P **P** **17 50 27.3 +0.1**
BURAR Bucovina Array 55.39 310 P **P** **17 50 26.9 -0.3**
BURAR Bucovina Array 55.39 310 P **P** **17 50 27.2 +0.1**
BUR08 Bucovina Ar. S 55.40 310 P **P** **17 50 26.4 -0.8**
ARG Arkhangelos 55.44 295 P **P** **17 50 27.7 +0.2**
ARG Arkhangelos 55.44 295 P **P** **17 50 27.7 +0.2**
ARG pmax pmax
comp=Z,76nm,1.4s
BILL Bilibino 55.65 26 P **P** **17 50 27.9 -0.5**
BILL Bilibino 55.65 26⇑ *e*P **P** **17 50 29.4 +0.9**
KNRA Kununurra 55.77 140 P **P** **17 50 29.7 -0.2**
KNRA IAmb IAmb 17 50 33.7
comp=Z,55nm,1.6s
VOIR 55.84 307⇑ P **P** **17 50 30.2 -0.2**
VOIR 55.84 307 P **P** **17 50 30.1 -0.2**
LVV L'vov 55.88 312 *e*P **P** **17 50 30.7 +0.3**
SUW Suwalki 55.95 317 *e*P **P** **17 50 31.5 +0.7**
SUW Suwalki 55.95 317 P **P** **17 50 30.1 -0.7**
SUW Suwalki 55.95 317 *e*P **P** **17 50 31.5 +0.7**
SUW Suwalki 55.95 317 P **P** **17 50 30.1 -0.7**
SUW pmax pmax
comp=Z,39nm,1.0s
ALN Alexandroupoli 55.98 301 P **P** **17 50 30.7 -0.5**
ALN IAmb IAmb 17 51 03.7
comp=Z,42nm,1.2s
ALN Alexandroupoli 55.98 301 P **P** **17 50 30.7 -0.5**
ALN pmax pmax
comp=Z,42nm,1.2s
MBWA Marble Bar 56.05 152 P **P** **17 50 31.2 -0.6**
MBWA IAmb IAmb 17 52 16.9
comp=Z,25nm,1.2s
ARCR ARCALIA 56.05 309⇓ P **P** **17 50 32.9 +1.1**
FITZ Fitzroy Crossi 56.10 144 P **P** **17 50 32.0 -0.3**
ARR Arges 56.14 307⇑ P **P** **17 50 33.0 +0.5**
RAF Rauma 56.30 326 *e*P **P** **17 50 34.5 +1.3**
RDO Rodhopi 56.30 302 P **P** **17 50 32.4 -1.2**
RDO IAmb IAmb 17 50 35.7
comp=Z,29nm,1.3s
KARP Karpathos 56.37 295 P **P** **17 50 32.8 -1.4**
PSA00 Pilbara Seismi 56.47 152 P **P** **17 50 34.7 -0.2**
PSA00 IAmb IAmb 17 50 42.2
comp=Z,24nm,1.4s
PSA00 Pilbara Seismi 56.47 152 P **P** **17 50 34.8 0.0**
PSA00 IAmb IAmb 17 50 42.2
comp=Z,38nm,1.4s
FURI Furi 56.51 260 P **P** **17 50 35.6 -0.2**
KWP Kalwaria Pacla 56.76 312 *e*P **P** **17 50 38.0 +1.3**
KWP Kalwaria Pacla 56.76 312 P **P** **17 50 36.3 -0.4**
KWP Kalwaria Pacla 56.76 312 P **P** **17 50 36.3 -0.4**
KWP pmax pmax
comp=Z,44nm,0.6s
MARR Marisel-Cluj 56.96 309⇓ P **P** **17 50 39.3 +1.0**
KOLS Kolonicke sedl 57.14 311 *e*P **P** **17 50 42.4 +2.9**
KOLS Kolonicke sedl 57.14 311 *e*P **P** **17 50 42.4 +2.9**
KOLS pmax pmax
comp=Z,5.0nm,1.0s
GZR Gura Zlata 57.42 307⇑ P **P** **17 50 41.8 +0.2**
CRVS Cervenica-Dubn 57.68 312 *e*P **P** **17 50 44.6 +1.4**
CRVS Cervenica-Dubn 57.68 312 *e*P **P** **17 50 44.6 +1.4**
CRVS pmax pmax
comp=Z,17nm,1.3s
SURR Surduc 57.80 308⇓ P **P** **17 50 45.3 +1.1**
BLKB Belogradchik 57.85 305⇓ P **P** **17 50 44.7 +0.1**
ROCAM Rodrigues Isla 58.01 216 P **P** **17 50 46.4 +0.7**
BZS Buzias 58.18 308⇓ P **P** **17 50 46.8 0.0**
BZS Buzias 58.18 308 P **P** **17 50 46.8 0.0**
MDVR Moldovita 58.28 307⇑ P **P** **17 50 48.1 +0.4**
NIE Niedzica 58.34 312 P **P** **17 50 50.1 +2.2**

UPP Uppsala 58.42 325 *e*P **P** 17 50 49.1 +0.9
VAY Valandovo 58.44 303 *i* P **P** 17 50 48.7 0.0
OJC Ojcow 58.52 313 P **P** 17 50 49.0 -0.1
OJC Ojcow 58.52 313 P **P** 17 50 49.0 -0.1
OJC pmax pmax
comp=Z,79nm,1.9s
BOVS Bovan 58.54 305 ⇓P **P** 17 50 49.5 +0.2
STIP Stip 58.63 303 *i* P **P** 17 50 48.4 -1.6
SPITS Spitsbergen Ar 58.65 346 P **P** 17 50 50.2 +0.6
comp=Z,4.8nm,0.6s,baz=162,slow=15,SNR=1.2
comp=Z,4.8nm,0.6s
PSZ Piszkesteto 58.88 311 P **P** 17 50 50.7 -1.1
PSZ Piszkesteto 58.88 311 P **P** 17 50 50.7 -1.1
PSZ pmax pmax
comp=Z,7.0nm,0.9s
VIKU Vikbolandet 59.05 323 *e*P **P** 17 50 53.8 +1.2
SKO Skopje 59.11 304 *i* P **P** 17 50 53.5 +0.1
AGG Agios Georgios 59.19 300 P **P** 17 50 52.4 -1.6
AGG IAmb IAmb 17 50 53.9
comp=Z,32nm,1.5s
AGG Agios Georgios 59.19 300 P **P** 17 50 52.4 -1.6
AGG pmax pmax
comp=Z,32nm,1.5s
FNA Florina 59.45 302 P **P** 17 50 53.6 -2.2
FNA Florina 59.45 302 P **P** 17 50 53.6 -2.2
FNA pmax pmax
comp=Z,5.0nm,1.1s
VYHS Vyhne 59.46 311 *e*P **P** 17 50 56.2 +0.5
VYHS Vyhne 59.46 311 *e*P **P** 17 50 56.2 +0.5
VYHS pmax pmax
comp=Z,16nm,1.4s
FRGS Fruska Gora 59.52 307 ⇑P **P** 17 50 57.0 +0.9
DIVS Divibare 59.64 306 P **P** 17 50 55.7 -1.4
DIVS IAmb IAmb 17 50 58.3
comp=Z,18nm,1.3s
KBN Korca 59.92 302 P **P** 17 50 58.0 -1.1
KBN Korca 59.92 302 P **P** 17 50 58.0 -1.1
KBN pmax pmax
comp=Z,49nm,1.2s
SRO Srobarova 59.95 311 *e*P **P** 17 51 00.2 +1.2
SRO Srobarova 59.95 311 *e*P **P** 17 51 00.2 +1.2
SRO pmax pmax
comp=Z,25nm,1.5s
MORC Moravsky Berou 60.03 313 ⇓P **P** 17 51 00.7 +1.0
MORC Moravsky Berou 60.03 313 P **P** 17 50 58.9 -0.7
MORC IAmb IAmb 17 51 02.3
comp=Z,18nm,1.3s
MORC Moravsky Berou 60.03 313 *e*P **P** 17 51 00.2 +0.6
MORC Moravsky Berou 60.03 313 P **P** 17 51 00.6 +1.0
JAVC Velka Javorina 60.14 312 *e*P **P** 17 51 02.0 +1.6
HFS Hagfors 60.35 325 P **P** 17 51 02.0 +0.5
comp=Z,11nm,0.9s,baz=70,slow=6.5,SNR=10
comp=Z,11nm,0.9s
SMOL Smolenice 60.37 312 *e*P **P** 17 51 02.7 +0.8
SMOL pmax pmax
comp=Z,4.0nm,1.0s
SHEM Shemya Is, Ala 60.42 43 LR LR 18 18 39.1
comp=Z,262nm,19.6s,baz=311,slow=38
MODS Modra-Piesok 60.50 312 *e*P **P** 17 51 04.3 +1.5
MODS Modra-Piesok 60.50 312 *e*P **P** 17 51 04.3 +1.5
MODS pmax pmax
comp=Z,25nm,1.4s
PDG Podgorica 60.57 305 P **P** 17 51 03.0 -0.3
PDG IAmb IAmb 17 52 08.0
comp=Z,29nm,1.2s
KSP Ksiaz 60.59 314 *e*P **P** 17 51 04.8 +1.4
KSP Ksiaz 60.59 314 P **P** 17 51 05.1 +1.7
DPC Dobruska-Polom 60.68 314 *e*P **P** 17 51 04.6 +0.6
DPC Dobruska-Polom 60.68 314 *e*P **P** 17 51 04.6 +0.6
VRAC Vranov 60.73 313 ⇑P **P** 17 51 05.2 +0.7
VRAC Vranov 60.73 313 *e*P **P** 17 51 04.8 +0.4
VRAC Vranov 60.73 313 P **P** 17 51 05.1 +0.7
VRAC Vranov 60.73 313 LR LR 18 19 45.5
comp=Z,170nm,21.4s,baz=60,slow=38
DEL Delary 60.88 321 *e*P **P** 17 51 05.8 +0.6
KRUC Moravsky 60.92 312 *e*P **P** 17 51 06.1 +0.5
NC405 NORSAR Array S 61.15 327 P **P** 17 51 06.4 -0.6
RONA Rosalia, Austr 61.30 311 *e*P **P** 17 51 08.6 +0.3
comp=Z,14nm,1.8s
NORES NORESS Array B 61.30 326 P **P** 17 51 09.0 +1.0
NB2 NORSAR Subarra 61.40 327 P **P** 17 51 08.6 -0.2
comp=Z,30nm,1.4s,baz=80,slow=6.9
NB2 NORSAR Subarra 61.40 327 P **P** 17 51 08.6 -0.2
baz=80,slow=6.9
NB2 NORSAR Subarra 61.40 327 P **P** 17 51 08.5 -0.2
NOA NORSAR Array B 61.40 327 P **P** 17 51 08.8 +0.1
comp=Z,8.0nm,1.0s,baz=79,slow=6.7,SNR=12
NOA PP **PP** 17 53 22.2 -1.5
comp=Z,1.5nm,0.8s,baz=83,slow=11,SNR=3.4
comp=Z,8.0nm,1.0s
CONA Conrad Observa 61.53 311 *e*P **P** 17 51 10.4 +0.6
comp=Z,28nm,1.5s,SNR=12
NC204 NORSAR Array S 61.57 327 P **P** 17 51 09.6 -0.3
NC204 IAmb IAmb 17 51 13.2
comp=Z,26nm,1.1s
PRU Pruhonice 61.88 314 *e*P **P** 17 51 12.5 +0.4
PRU Pruhonice 61.88 314 *e*P **P** 17 51 12.5 +0.4
ARSA Arzberg 61.92 311 *e*P **P** 17 51 12.6 +0.1
comp=Z,8.2nm,1.1s
GROS Grobnik 62.13 310 *i* P **P** 17 51 14.0 0.0
LODK Lodwar 62.14 257 P **P** 17 51 13.5 -0.9
LODK IAmb IAmb 17 51 16.3
comp=Z,12nm,1.1s
ZVC Zvikov 62.23 313 *e*P **P** 17 51 15.1 +0.6
WB0 Warramunga Arr 62.25 138 P **P** 17 51 15.0 0.0
WB0 IAmb IAmb 17 51 18.1
comp=Z,16nm,1.1s
CKRC Cesky Krumlov 62.31 313 *e*P **P** 17 51 15.9 +0.8
CKRC Cesky Krumlov 62.31 313 *e*P **P** 17 51 15.9 +0.8
WRA Warramunga Arr 62.36 138 P **P** 17 51 13.7 -1.9
WRA Warramunga Arr 62.36 138 P **P** 17 51 16.0 +0.4
comp=Z,12nm,1.1s,baz=329,slow=7.4,SNR=26
comp=Z,12nm,1.1s
FBE Freiberg 62.39 315 *e*P **P** 17 51 17.3 +1.8
comp=Z,29nm,1.5s,baz=75,slow=6.5
SOKA Soboth 62.39 310 *e*P **P** 17 51 15.8 +0.1
comp=Z,15nm,1.4s,SNR=6.3
HSKC Hora Svate Kat 62.42 315 *e*P **P** 17 51 14.5 -1.2
KONO Kongsberg 62.47 325 ⇑*e*P **P** 17 51 17.1 +1.2
KONO pmax pmax
comp=Z,40nm,1.7s
WR0 Warramunga Arr 62.49 138 P **P** 17 51 15.7 -0.8
WR0 IAmb IAmb 17 51 19.8
comp=Z,22nm,1.3s
CLL Collm 62.51 316 P **P** 17 51 15.4 -0.8
CLL IAmb IAmb 17 51 21.7
comp=Z,21nm,1.6s
CLL Collm 62.51 316 *i* P **P** 17 51 16.2 -0.1
comp=Z,10.0nm,1.2s
CLL *i* pP **sP** 17 51 24.7 -1.8
CLL *es*P pP 17 51 30.0 +6.4
CLL *e*PP **PP** 17 53 34.0 +0.4
CLL Collm 62.51 316 *i* P **P** 17 51 16.2 -0.1
CLL *i* *PP **sP** 17 51 24.7 -1.8
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL Collm 62.51 316 *e*P **P** 17 51 17.5 +1.2
comp=Z,10nm,1.2s,baz=75,slow=6.5
PDKS Podkum 62.57 309 *i* P **P** 17 51 17.4 +0.5
MOA Molln 62.59 312 *e*P **P** 17 51 16.9 0.0
comp=Z,7.1nm,1.1s,SNR=6.4
GEC2 GERESS Array S 62.69 313 P **P** 17 51 18.0 +0.3
GEC2 IAmb IAmb 17 51 19.8
comp=Z,46nm,1.6s
GEC2 GERESS Array S 62.69 313 *e*P **P** 17 51 19.3 +1.6
comp=Z,41nm,1.6s,baz=75,slow=6.5
GERES GERESS Array B 62.69 313 P **P** 17 51 17.4 -0.3
GERES GERESS Array B 62.69 313 P **P** 17 51 18.3 +0.6
comp=Z,2.2nm,0.5s,baz=57,slow=4.9,SNR=18
comp=Z,2.2nm,0.5s
KHC Kasperske Hory 62.70 313 P **P** 17 51 16.9 -0.8
KHC IAmb IAmb 17 51 28.6
comp=Z,26nm,1.9s
KHC Kasperske Hory 62.70 313 *e*P **P** 17 51 18.4 +0.7
KHC Kasperske Hory 62.70 313 *e*P **P** 17 51 18.4 +0.7
OBKA Obir 62.75 310 *e*P **P** 17 51 16.8 -1.3
comp=Z,7.7nm,1.3s
KMBO Kilima Mbogo 63.03 252 P **P** 17 51 20.9 +0.2
KMBO IAmb IAmb 17 51 22.3
comp=Z,27nm,1.8s
KMBO Kilima Mbogo 63.03 252 P **P** 17 51 20.6 -0.1
comp=Z,2.8nm,0.8s,baz=32,slow=10,SNR=6.7
KMBO LR LR 18 18 12.5
comp=Z,200nm,19.7s,baz=94,slow=36
comp=Z,2.8nm,0.8s

CEY Cerknica 63.05 309 *i* P **P** 17 51 20.2 +0.2
TANN Tannenbergstha 63.06 315 *e*P **P** 17 51 21.6 +1.5
comp=Z,18nm,1.3s,baz=75,slow=6.5
GORT1 Trebel 63.10 318 *e*P **P** 17 51 22.3 +2.2
comp=Z,36nm,1.2s,baz=75,slow=6.5
WET Wettzell 63.14 313 *e*P **P** 17 51 22.3 +1.8
comp=Z,30nm,1.6s,baz=75,slow=6.5
WERN Wernitzgruen 63.15 315 *e*P **P** 17 51 22.3 +1.6
comp=Z,16nm,1.3s,baz=75,slow=6.5
WERD Werda 63.15 315 *e*P **P** 17 51 22.1 +1.4
comp=Z,22nm,1.5s,baz=75,slow=6.5
GUNZ Gunzen 63.16 315 *e*P **P** 17 51 22.3 +1.6
comp=Z,25nm,1.4s,baz=75,slow=6.5
PLN Plauen 63.23 315 *e*P **P** 17 51 22.7 +1.5
comp=Z,10.0nm,1.2s,baz=75,slow=6.5
FLTG Flechtingen 63.31 317 *e*P **P** 17 51 22.5 +0.9
comp=Z,32nm,1.4s,baz=75,slow=6.5
ROTZ Rotzenmuhle 63.39 314 *e*P **P** 17 51 24.4 +2.1
comp=Z,9.3nm,1.4s,baz=75,slow=6.5
MANZ Manzenberg 63.40 314 *e*P **P** 17 51 24.2 +1.9
comp=Z,4.2nm,1.3s,baz=75,slow=6.5
PRED Cave del Predi 63.43 310 P **P** 17 51 22.1 -0.5
PRED IAmb IAmb 17 51 34.5
comp=Z,11nm,1.2s
BSEG Bad Segeberg 63.44 319 *e*P **P** 17 51 24.6 +2.2
comp=Z,26nm,1.1s,baz=75,slow=6.5
MOX Moxa 63.52 315 *e*P **P** 17 51 24.7 +1.6
comp=Z,17nm,1.4s,baz=75,slow=6.5
MOX *e*L L 18 24 26.0
comp=Z,115nm,18.1s
SABO M.te Sabotino 63.53 310 P **P** 17 51 22.7 -0.5
SABO IAmb IAmb 17 53 37.3
comp=Z,44nm,1.6s
PMG Port Moresby 63.55 120 P **P** 17 51 23.1 -0.6
PMG IAmb IAmb 17 52 03.5
comp=Z,19nm,1.1s
PMG Port Moresby 63.55 120 P **P** 17 51 23.1 -0.6
PMG pmax pmax
comp=Z,19nm,1.1s
ASSE Asse, Remlinge 63.70 317 *e*P **P** 17 51 25.5 +1.4
comp=Z,7.9nm,1.1s,baz=75,slow=6.5
LESA Schwarzleotal 63.73 311 *e*P **P** 17 51 24.5 -0.1
comp=Z,20nm,1.3s
CUC Castrocucco 63.75 303 P **P** 17 51 23.4 -1.4
CUC IAmb IAmb 17 51 31.0
comp=Z,20nm,1.1s
CLUD Cludinico 63.88 310 P **P** 17 51 24.9 -0.6
NRDL Niedersach Rie 63.94 317 *e*P **P** 17 51 27.8 +2.2
comp=Z,50nm,1.3s,baz=75,slow=6.5
CLZ Clausthal 63.95 317 *e*P **P** 17 51 27.7 +1.7
comp=Z,35nm,1.2s,baz=75,slow=6.5
GRA1 Grafenberg Arr 64.03 314 P **P** 17 51 25.5 -0.9
GRA1 IAmb IAmb 17 51 28.8
comp=Z,32nm,1.3s
GRF Grafenberg Arr 64.03 314 P **P** 17 51 25.5 -0.9
GRF pmax pmax
comp=Z,32nm,1.3s
GRF Grafenberg Arr 64.03 314 *e*P **P** 17 51 28.5 +2.1
comp=Z,38nm,1.4s,baz=75,slow=6.5
GRF *e*L L 18 21 20.7
comp=Z,252nm,18.6s
GRFO Grafenberg 64.03 314 P **P** 17 51 26.2 -0.2
GRFO IAmb IAmb 17 51 28.8
comp=Z,33nm,1.3s
GRFO Grafenberg 64.03 314 P **P** 17 51 26.3 -0.2
GRFO pmax pmax
comp=Z,33nm,1.3s
ABTA Abfaltersbach 64.04 311 *e*P **P** 17 51 25.8 -0.9
comp=Z,2.0nm,1.2s
STAL STALIGIAL 64.05 310 P **P** 17 51 25.6 -1.1
STAL IAmb IAmb 17 51 27.1
comp=Z,22nm,1.2s
CEL Celeste 64.23 301 P **P** 17 51 26.6 -1.4
GTTG Gottingen 64.28 316 *e*P **P** 17 51 29.8 +1.8
comp=Z,21nm,1.1s,baz=75,slow=6.5
RETH Rethem/Aller, 64.31 318 *e*P **P** 17 51 30.0 +1.9
comp=Z,7.3nm,1.1s,baz=75,slow=6.5
FUR Furstenfeldbru 64.43 312 *e*P **P** 17 51 31.0 +1.9
comp=Z,52nm,1.3s,baz=75,slow=6.5
WTTA Wattenberg 64.46 311 *e*P **P** 17 51 27.6 -2.0
comp=Z,7.1nm,1.1s
UBBA Unterbreizbach 64.46 316 *e*P **P** 17 51 30.7 +1.6
comp=Z,22nm,1.6s,baz=75,slow=6.5
WATA Walderalm 64.48 312 *e*P **P** 17 51 29.1 -0.5
comp=Z,10nm,1.1s
SQTA Sankt Quirin 64.75 311 *e*P **P** 17 51 30.8 -0.6
comp=Z,6.7nm,0.9s,SNR=5.6
MOTA Mosalm 64.78 312 *e*P **P** 17 51 30.0 -1.6
comp=Z,16nm,1.6s
RETA Reutte 64.96 312 *e*P **P** 17 51 32.5 -0.2
comp=Z,13nm,1.1s,SNR=5.0
AS31 Alice Springs 65.04 141 P **P** 17 51 33.2 -0.1
ASAR Alice Springs 65.04 141 P **P** 17 51 33.2 -0.1
ASAR Alice Springs 65.04 141 P **P** 17 51 34.0 +0.7
comp=Z,14nm,1.1s,baz=324,slow=6.4,SNR=39
comp=Z,14nm,1.1s
MURB Monte Urbino 65.08 307 P **P** 17 51 33.5 +0.1
FETA Feten 65.12 311 *e*P **P** 17 51 33.5 -0.3
comp=Z,15nm,1.2s,SNR=6.2
KASTN Kahler Asten 65.31 316 *e*P **P** 17 51 36.4 +1.6
comp=Z,19nm,1.5s,baz=75,slow=6.5
UBR Ueberruh 65.32 312 *e*P **P** 17 51 35.9 +0.9
comp=Z,53nm,1.8s,baz=75,slow=6.5
IBBN Ibbenburen 65.37 318 *e*P **P** 17 51 36.8 +1.7
comp=Z,42nm,1.5s,baz=75,slow=6.5
FUORN Ofenpass-Fuorn 65.55 311 IAmb IAmb 17 51 47.9
comp=Z,36nm,2.0s
TNS Taunus Mts 65.59 315 *e*P **P** 17 51 38.2 +1.6
comp=Z,23nm,1.2s,baz=75,slow=6.5
DAVA Damuels 65.59 312 *e*P **P** 17 51 36.6 -0.3
comp=Z,18nm,1.6s
VAE Valguarnera 65.60 300 LR LR 18 27 10.6
comp=Z,88nm,18.3s,baz=16,slow=42
DAVOX Davos/Dischmat 65.75 311 LR LR 18 23 01.4
comp=Z,199nm,19.6s,baz=53,slow=38
BUG Bochum-Univer 65.92 317 *e*P **P** 17 51 40.4 +1.8
comp=Z,27nm,1.2s,baz=75,slow=6.5
TUE Stuetta 66.20 311 IAmb IAmb 17 51 47.9
comp=Z,9.8nm,0.8s
BFO Black Forest 66.25 313 P **P** 17 51 40.5 -0.5
BFO IAmb IAmb 17 51 42.5
comp=Z,27nm,1.5s
BFO Black Forest 66.25 313 P **P** 17 51 40.5 -0.5
BFO pmax pmax
comp=Z,27nm,1.5s
BFO Black Forest 66.25 313 *e*P **P** 17 51 42.1 +1.2
comp=Z,15nm,1.5s,baz=75,slow=6.5
B18K Kokolik River 66.84 22 P **P** 17 51 42.1 -2.2
baz=293
BTNL Ternell 66.88 316 *d*P **P** 17 51 45.9 +1.0
comp=Z,7.5nm,1.2s
CDF Champ du Feu 66.89 314 *e*P **P** 17 51 44.9 -0.2
CDF pmax pmax
comp=Z,21nm,1.3s
MEM Membach 66.94 316 *d*P **P** 17 51 46.2 +1.0
comp=Z,7.2nm,1.1s
ECH Echery 67.03 313 IAmb IAmb 17 51 47.3
comp=Z,27nm,1.7s
WLF Walferdange 67.17 315 *d*P **P** 17 51 48.4 +1.6
comp=Z,23nm,1.2s
WLF Walferdange 67.17 315 *e*P **P** 17 51 49.0 +2.3
comp=Z,66nm,1.2s,baz=75,slow=6.5
BSTI Sart Tilman 67.22 316 *d*P **P** 17 51 47.7 +0.7
C18K Utukok River 67.33 23 P **P** 17 51 46.8 -0.7
baz=294
HINF Hinteralfeld 67.36 313 *e*P **P** 17 51 47.7 -0.3
HINF pmax pmax
comp=Z,30nm,1.6s
BCLA Clavier 67.43 316 *d*P **P** 17 51 49.8 +1.4
comp=Z,6.8nm,1.2s
BCLA *d*PcP **PcP** 17 52 18.3 +2.6
RCHB Rochefort 67.57 316 *d*P **P** 17 51 50.0 +0.9
BGES Gesves 67.57 316 *d*P **P** 17 51 50.0 +0.8
comp=Z,5.9nm,1.2s
HAU Haudompre 67.61 313 *e*P **P** 17 51 49.4 -0.2
HAU pmax pmax
comp=Z,19nm,1.4s
E17K Hotham Inlet 67.75 24 P **P** 17 51 50.7 +0.6
baz=294
BMRD Maredsous 67.79 316 *d*P **P** 17 51 51.4 +0.8
comp=Z,8.2nm,1.2s
DOU Dourbes 67.97 316 *d*P **P** 17 51 52.6 +0.9
comp=Z,6.4nm,0.0s
B20K Meade River 68.03 21 P **P** 17 51 51.9 +0.2
baz=297
E18K Tukpahlearik C 68.04 24 P **P** 17 51 51.7 -0.1
baz=295

MBAR Mbarara 68.18 256 P **P** 17 51 52.8 -1.0
MBAR IAmb IAmb 17 51 55.3
comp=Z,13nm,1.2s
MBAR Mbarara 68.18 256 *i* P **P** 17 51 54.3 +0.5
MBAR pmax pmax
comp=Z,7.0nm,1.0s
A22K Sinclair Lake 68.22 19 P **P** 17 51 53.6 +0.7
baz=298
BAIF Baives 68.22 316 *e*P **P** 17 51 53.2 -0.1
BAIF pmax pmax
comp=Z,11nm,1.0s
F17K Baldwin Pennin 68.22 25 P **P** 17 51 52.8 -0.2
baz=295
LPG La Plagne 68.23 311 *e*P **P** 17 51 54.1 +0.3
LPG pmax pmax
comp=Z,18nm,0.9s
LPL La Plagne 68.24 311 *e*P **P** 17 51 54.0 +0.2
LPL pmax pmax
comp=Z,18nm,0.8s
G16K Koyuk River 68.24 26 P **P** 17 51 53.8 +0.6
baz=294
D19K Kuna River 68.41 22 P **P** 17 51 54.0 -0.2
baz=297
BNI Bardonecchia 68.44 310 IAmb IAmb 17 51 56.3
comp=Z,31nm,1.6s
MBDF Montbardon 68.49 310 *e*P **P** 17 51 56.0 +0.7
MBDF pmax pmax
comp=Z,7.0nm,0.6s
H16K Elim 68.60 27 P **P** 17 51 55.6 +0.2
baz=294
D20K Etivluk River 68.80 22 P **P** 17 51 57.3 +0.6
baz=298
B22K Teshekpuk Lake 68.99 20 P **P** 17 51 58.4 +0.7
baz=300
B21K Ikpikpuk River 69.00 21 P **P** 17 51 58.2 +0.4
baz=299
ORIF Oris-en-Rattie 69.01 310 *e*P **P** 17 51 58.8 +0.3
ORIF pmax pmax
comp=Z,8.0nm,0.9s
E20K Nigu River 69.16 22 P **P** 17 51 58.7 -0.2
baz=298
C21K Knifeblade Rid 69.17 21 P **P** 17 51 59.8 +0.8
baz=299
E19K Redstone River 69.19 23 P **P** 17 51 59.4 +0.3
baz=298
H17K Granite Mounta 69.37 26 P **P** 17 52 00.0 -0.2
baz=296
LOR Lormes 69.45 313 *e*P **P** 17 52 00.6 -0.5
LOR pmax pmax
comp=Z,9.0nm,1.1s
SMF Signal de Mont 69.69 313 *e*P **P** 17 52 02.3 -0.3
SMF pmax pmax
comp=Z,31nm,1.4s
E21K Killik River 69.78 22 P **P** 17 52 03.1 +0.3
baz=300
J16K Anvik River 69.83 28 P **P** 17 52 04.1 +1.0
baz=296
VIVF Saint-Julien-l 69.83 311 *e*P **P** 17 52 03.3 -0.2
VIVF pmax pmax
comp=Z,31nm,1.4s
H18K Honhosa River 69.86 26 P **P** 17 52 03.5 +0.3
baz=298
F20K Avaraart Lake 69.90 23 IAmb IAmb 17 53 05.0
comp=Z,32nm,1.9s
F20K Avaraart Lake 69.90 23 P **P** 17 52 03.0 -0.4
baz=299
AVF Avril sur Loir 69.95 313 *e*P **P** 17 52 03.9 -0.2
AVF pmax pmax
comp=Z,35nm,1.3s
D22K Ayikyak River 69.97 21 P **P** 17 52 03.9 +0.1
baz=301
CTAO Charters Tower 70.01 129 P **P** 17 52 04.7 -0.1
CTAO IAmb IAmb 17 52 08.2
comp=Z,13nm,1.1s
CTAO Charters Tower 70.01 129 P **P** 17 52 04.7 -0.1
CTAO pmax pmax
comp=Z,13nm,1.1s
KEST Kesra 70.03 300 P **P** 17 52 04.4 -0.5
KEST IAmb IAmb 17 52 18.9
comp=Z,36nm,1.6s
KEST Kesra 70.03 300 P **P** 17 52 05.5 +0.6
comp=Z,8.6nm,1.1s,baz=58,slow=0.5,SNR=3.8
KEST LR LR 18 28 04.2
comp=Z,97nm,18.3s,baz=245,slow=40
comp=Z,8.6nm,1.1s
C23K Itkillik River 70.08 20 P **P** 17 52 04.6 +0.1
baz=303
EUNU Eureka 70.29 0 P **P** 17 52 06.4 +0.6
EKA Eskdalemuir Ar 70.35 323 P **P** 17 52 07.0 +0.6
EKA Eskdalemuir Ar 70.35 323 P **P** 17 52 07.0 +0.6
comp=Z,10.0nm,1.0s,baz=71,slow=6.3,SNR=9.0
comp=Z,10.0nm,1.0s
H19K Roundabout Mou 70.39 25 P **P** 17 52 07.6 +1.1
H19K IAmb IAmb 17 52 16.0
comp=Z,25nm,1.2s
H19K Roundabout Mou 70.39 25 P **P** 17 52 07.0 +0.6
baz=299
D23K Nanushuk River 70.53 20 P **P** 17 52 09.4 +2.1
baz=303
F21K Alatna River 70.57 23 P **P** 17 52 06.8 -0.8
baz=301
E22K Anaktuvuk Pass 70.63 21 P **P** 17 52 08.0 0.0
E22K Anaktuvuk Pass 70.63 21 P **P** 17 52 07.8 -0.2
baz=302
F22K John River 70.85 22 P **P** 17 52 08.6 -0.7
baz=302
TCF Toulx Ste Croi 70.87 313 *e*P **P** 17 52 10.1 +0.3
TCF pmax pmax
comp=Z,34nm,1.3s
G21K Allakaket 70.93 23 P **P** 17 52 10.1 +0.3
baz=301
H20K Anotleneega Mo 70.97 24 P **P** 17 52 10.6 +0.5
baz=300
NEEM North Greenlan 70.97 353 *i* P **P** 17 52 09.4 -0.8
NEEM IAmb IAmb 17 52 15.6
comp=Z,26nm,0.8s
D24K Happy Valley 70.98 20 P **P** 17 52 10.6 +0.6
baz=304
K17K Iditarod 71.03 28 P **P** 17 52 10.2 -0.2
baz=298
TOLK Toolik Lake Re 71.05 20 P **P** 17 52 09.8 -0.7
baz=304
E23K Chandalar 71.36 21 P **P** 17 52 12.2 -0.3
baz=304
LDF La Druitiere 71.39 316 *e*P **P** 17 52 12.6 -0.3
LDF pmax pmax
comp=Z,34nm,1.2s
J19K Poorman 71.45 26 IAmb IAmb 17 52 17.1
comp=Z,19nm,1.1s
J19K Poorman 71.45 26 P **P** 17 52 12.8 -0.2
baz=300
CAF Calviac 71.51 312 *e*P **P** 17 52 14.1 +0.4
CAF pmax pmax
comp=Z,30nm,1.4s
D25K Kavik River 71.60 19 P **P** 17 52 14.3 +0.5
baz=306
H21K Melozitna Rive 71.62 24 P **P** 17 52 14.8 +0.8
baz=302
C26K Camden Bay 71.64 18 P **P** 17 52 13.9 -0.1
baz=308
E24K Your Creek 71.70 21 IAmb IAmb 17 52 18.4
comp=Z,14nm,1.1s
E24K Your Creek 71.70 21 P **P** 17 52 15.0 +0.5
baz=305
RJF Les Rejaudoux 71.71 312 *e*P **P** 17 52 15.5 +0.6
RJF pmax pmax
comp=Z,44nm,1.4s
J20K Nowinta River 71.92 26 IAmb IAmb 17 52 24.8
comp=Z,16nm,1.2s
J20K Nowinta River 71.92 26 P **P** 17 52 15.8 0.0
baz=301
GRR Gorron 71.92 316 *e*P **P** 17 52 15.9 -0.2
GRR pmax pmax
comp=Z,37nm,1.3s
G23K Bananza Creek 71.99 22 P **P** 17 52 16.7 +0.5
baz=304
MTLF Montolieu 72.06 310 *e*P **P** 17 52 17.0 0.0
MTLF pmax pmax
comp=Z,48nm,1.4s
I21K Tanana 72.17 24 P **P** 17 52 16.6 -0.7
baz=303
F24K Squaw Lake 72.21 21 P **P** 17 52 17.0 -0.5
baz=306
LFF La Frestale 72.36 312 *e*P **P** 17 52 19.3 +0.5
LFF pmax pmax
comp=Z,39nm,1.4s
K20K Telida 72.38 26 P **P** 17 52 18.8 +0.2

baz=302
E25K Arctic Village 72.56 20 P P 17 52 19.6 0.0
E25K Arctic Village 72.56 20 P P 17 52 19.4 -0.2
baz=308
L19K White Mountain 72.69 27 IAmb IAmb 17 52 24.5
comp=Z,25nm,1.2s
MLY Manley 72.69 24 P P 17 52 19.7 -0.8
baz=304
CHUM Lake Minchumin 72.76 25 P P 17 52 20.3 -0.4
baz=303
F25K Christian Rive 72.86 20 P P 17 52 21.1 -0.3
baz=308
SUMG Summit 72.98 347 P P 17 52 21.9 -0.6
SUMG IAmb IAmb 17 52 25.7
comp=Z,40nm,1.5s
SUMG Summit 72.98 347 P P 17 52 21.9 -0.6
SUMG pmax pmax
comp=Z,41nm,1.5s
SUMG Summit 72.98 347 *i* P P 17 52 22.0 -0.5
SUMG IAmb IAmb 17 52 26.9
comp=Z,5.6nm,1.0s
SGMF Saint Gilles 73.01 316 *e*P P 17 52 24.1 +1.6
SGMF pmax pmax
comp=Z,33nm,1.4s
CAST Castle Rocks 73.10 26 IAmb IAmb 17 52 32.4
comp=Z,30nm,1.5s
CAST Castle Rocks 73.10 26 P P 17 52 22.8 0.0
baz=303
I23K Minto, Yukon-K 73.11 23 P P 17 52 22.9 +0.1
baz=305
BPAW Bear Paw Mtn. 73.13 25 P P 17 52 23.5 +0.5
baz=304
D27M Malcolm River 73.14 18 P P 17 52 22.1 -1.0
baz=311
H24K Noodor Dome 73.21 23 P P 17 52 23.2 -0.3
baz=306
G25K Bearman Lake 73.22 21 P P 17 52 22.8 -0.7
baz=307
F26K Sheenjek River 73.25 20 P P 17 52 24.2 +0.5
baz=309
PPLA Purkeypile 73.35 26 P P 17 52 22.3 -2.2
baz=303
NEA2 Nenana 73.53 24 P P 17 52 25.4 0.0
NEA2 Nenana 73.53 24 P P 17 52 24.6 -0.7
baz=306
M20K Styx River 73.53 27 P P 17 52 26.4 +0.9
baz=303
N19K Bonanza Creek 73.56 29 P P 17 52 26.0 +0.4
baz=302
E27K Coleen River 73.67 19 IAmb IAmb 17 52 35.6
comp=Z,18nm,1.4s
E27K Coleen River 73.67 19 P P 17 52 24.9 -1.2
baz=311
D28M Stokes Point 73.67 17 P P 17 52 27.4 +1.4
baz=313
POKR Poker Plat Res 73.78 23 IAmb IAmb 17 52 35.3
comp=Z,18nm,1.4s
POKR Poker Plat Res 73.78 23 P P 17 52 26.6 -0.2
baz=307
COLA College 73.79 23 P P 17 52 30.0 +3.2
G26K Porcupine Rive 73.83 21 P P 17 52 25.4 -1.6
baz=309
E28M Babbage River 73.96 18 IAmb IAmb 17 52 37.1
comp=Z,19nm,1.4s
E28M Babbage River 73.96 18 P P 17 52 26.1 -1.7
baz=313
MCK McKinley 74.08 25 P P 17 52 27.8 -0.8
baz=306
SKT Skwentna 74.11 27 IAmb IAmb 17 52 33.4
comp=Z,46nm,1.8s
PRP Porcupine Dome 74.18 22 P P 17 52 29.2 -0.1
PRP Porcupine Dome 74.18 22 P P 17 52 28.4 -0.9
baz=308
IL31 74.18 23 P P 17 52 28.5 -0.6
ILAR Eielson Array 74.18 23 P P 17 52 29.1 -0.1
ILAR Eielson Array 74.18 23 P P 17 52 29.3 +0.2
comp=Z,2.7nm,0.9s,baz=287,slow=6.0,SNR=21
ILAR LR LR 18 28 11.0
comp=Z,348nm,18.2s,baz=286,slow=38
comp=Z,2.7nm,0.9s
SJPF Ste Jean 74.43 311 *e*P P 17 52 35.2 +4.2
SJPF pmax pmax
comp=Z,10.0nm,1.0s
F28M Old Crow 74.54 19 P P 17 52 31.0 -0.2
baz=312
E29M Blow River 74.55 18 IAmb IAmb 17 52 38.8
comp=Z,46nm,2.0s
E29M Blow River 74.55 18 P P 17 52 31.3 +0.1
baz=314
G27K Doyon Strip 74.56 20 P P 17 52 32.3 +1.0
baz=311
A36M Sachs Harbour 74.64 12 IAmb IAmb 17 52 37.1
comp=Z,18nm,0.8s
A36M Sachs Harbour 74.64 12 P P 17 52 31.8 +0.2
baz=324
WAT1 Susitna Watana 74.75 25 P P 17 52 32.0 -0.5
baz=306
J25K Salcha River, 74.79 23 P P 17 52 32.0 -0.8
baz=308
H27K Steamboat Moun 74.98 20 P P 17 52 34.5 +0.7
baz=311
I26K Coal Creek Min 75.08 22 P P 17 52 34.1 -0.2
baz=310
I27K Kandik River 75.37 21 P P 17 52 37.0 +0.9
baz=311
SML Sawmill 75.45 26 P P 17 52 36.8 +0.2
baz=307
J26L Joseph Creek 75.47 22 P P 17 52 36.6 -0.1
baz=310
RES Resolute Bay 75.49 3 LR LR 18 27 01.5
comp=Z,88nm,20.9s,baz=16,slow=37
RIDG Independent Ri 75.52 23 P P 17 52 37.2 +0.2
baz=309
G29M Pine Creek 75.55 19 IAmb IAmb 17 52 40.8
comp=Z,38nm,1.7s
G29M Pine Creek 75.55 19 P P 17 52 38.3 +1.2
baz=314
F30M Barrier River 75.66 18 P P 17 52 37.7 0.0
baz=316
SCRK Sand Creek 75.66 23 P P 17 52 36.9 -1.0
SCRK Sand Creek 75.66 23 P P 17 52 37.5 -0.4
baz=310
STKA Stephens Creek 75.68 140 P P 17 52 38.2 +0.1
comp=Z,6.4nm,0.9s,baz=348,slow=5.1,SNR=5.3
STKA LR LR 18 29 18.4
comp=Z,54nm,19.2s,baz=19,slow=38
comp=Z,6.4nm,0.9s
INK Inuvik 75.73 17 P P 17 52 37.1 -0.9
baz=318
INK Inuvik 75.73 17 LR LR 18 30 43.9
comp=Z,139nm,18.1s,baz=348,slow=40
PAX Paxson 75.79 24 P P 17 52 38.4 -0.1
baz=309
ICESG Greenland Ices 75.91 345 *i* P P 17 52 38.4 -1.1
ICESG IAmb IAmb 17 52 45.5
comp=Z,10.0nm,0.9s
H29M Whitestone 75.93 20 IAmb IAmb 17 52 57.3
comp=Z,22nm,1.3s
H29M Whitestone 75.93 20 P P 17 52 37.8 -1.5
baz=314
I28M Miner Creek 75.99 21 P P 17 52 39.6 -0.1
baz=313
G30M tAoh Zraii Nji 76.00 18 IAmb IAmb 17 52 43.4
comp=Z,23nm,1.1s
G30M tAoh Zraii Nji 76.00 18 P P 17 52 39.1 -0.5
baz=316
KDAK Kodiak Island 76.03 31 LR LR 18 29 08.2
comp=Z,349nm,20.6s,baz=273,slow=38
EGAK Eagle 76.07 22 P P 17 52 39.5 -0.5
baz=312
K27K Chicken 76.27 22 P P 17 52 41.7 +0.5
baz=311
EPYK Eagle Plains 76.30 19 P P 17 52 41.3 0.0
baz=315
F31M Tsiigehtchic 76.32 17 IAmb IAmb 17 52 44.6
comp=Z,29nm,1.7s
KLU Klutina 76.55 26 P P 17 52 42.6 -0.3
KLU IAmb IAmb 17 52 46.6
comp=Z,17nm,1.1s
KLU Klutina 76.55 26 P P 17 52 43.0 +0.1
baz=309
G31M Satah River 76.57 18 IAmb IAmb 17 52 50.6
comp=Z,22nm,1.4s
G31M Satah River 76.57 18 P P 17 52 42.4 -0.4
baz=317
N25K Chitina, Valde 76.97 25 P P 17 52 44.9 -0.4
baz=310
L27K Beaver Creek, 77.00 23 P P 17 52 44.5 -0.8
baz=312
BCAR Beaver Creek A 77.01 23 P P 17 52 44.6 -0.9
M26K Nabesna, AK 77.03 24 IAmb IAmb 17 52 54.7
comp=Z,20nm,1.5s
M26K Nabesna, AK 77.03 24 P P 17 52 45.7 +0.1
baz=311
C36M Paulatuk 77.04 13 P P 17 52 44.9 -0.5
C36M IAmb IAmb 17 52 48.9
comp=Z,46nm,1.8s
C36M Paulatuk 77.04 13 P P 17 52 44.7 -0.6
baz=326
DAWY Dawson 77.11 22 P P 17 52 45.7 -0.3
baz=314
I30M Mount Dempster 77.22 20 P P 17 52 46.8 +0.1
baz=316
H31M Peel River 77.38 19 IAmb IAmb 17 52 50.6
comp=Z,21nm,1.2s
H31M Peel River 77.38 19 P P 17 52 47.2 -0.3
baz=318
BMRM Bremner River 77.38 26 P P 17 52 47.2 -0.4
baz=310
M27K Edge Creek, AK 77.45 24 IAmb IAmb 17 52 55.4
comp=Z,30nm,1.6s
M27K Edge Creek, AK 77.45 24 P P 17 52 46.1 -1.9
baz=312
J30M Hart River 77.70 20 P P 17 52 49.0 -0.4
baz=316
ESDC Sonseca Array 77.84 309 P P 17 52 51.0 +0.4
comp=Z,6.3nm,1.2s,baz=53,slow=5.9,SNR=15
comp=Z,6.3nm,1.2s
K29M Barlow Dome 77.86 21 P P 17 52 50.6 +0.3
baz=315
BARN Barnard Glacie 78.40 25 P P 17 52 51.8 -1.6
BARN IAmb IAmb 17 53 03.3
comp=Z,21nm,1.4s
LSZ Lusaka 78.46 245 P P 17 52 53.6 -0.7
LSZ IAmb IAmb 17 52 58.2
comp=Z,18nm,1.4s
LSZ Lusaka 78.46 245 P P 17 52 53.6 -0.7
LSZ pmax pmax
comp=Z,18nm,1.4s
LSZ Lusaka 78.46 245 LR LR 18 25 53.8
comp=Z,258nm,18.9s,baz=50,slow=34
CTG Chitna Glacier 78.58 24 P P 17 52 52.1 -2.2
baz=312
PBRG Braganca 78.64 312 *e*P P 17 52 56.1 +1.1
comp=Z,23nm,1.7s
YUK8 Steele Glacier 78.92 24 P P 17 52 54.5 -1.9
baz=314
MVO Moncorvo 79.15 311 *e*P P 17 52 59.2 +1.4
comp=Z,26nm,1.8s
DY2G Dye2 79.51 345 *i* P P 17 52 56.3 -3.2
DY2G IAmb IAmb 17 53 02.4
comp=Z,6.3nm,0.7s
PGAV Gavieira, Arco 79.55 312 *e*P P 17 53 01.3 +1.3
comp=Z,23nm,1.9s
YUK6 Outpost Mounta 79.64 23 P P 17 52 58.4 -1.8
baz=315
N30M Aishikik Lake 79.71 23 P P 17 52 59.5 -0.9
baz=316
MTE Manteigas 79.88 311 *e*P P 17 53 03.1 +1.4
comp=Z,32nm,1.5s
PVIS Viseu 79.94 311 *e*P P 17 53 03.8 +1.7
SFJD Kangerlussuaq 79.97 347 P P 17 53 00.9 -0.7
SFJD Kangerlussuaq 79.97 347 P P 17 53 00.9 -0.7
SFJD pmax pmax
comp=Z,106nm,1.7s
SFJD Kangerlussuaq 79.97 347 *i* P P 17 52 58.8 -2.8
SFJD IAmb IAmb 17 53 03.2
comp=Z,14nm,1.1s
HYT Haines Junctio 80.02 23 IAmb IAmb 17 53 11.9
comp=Z,22nm,1.3s
HYT Haines Junctio 80.02 23 P P 17 53 00.3 -2.0
baz=316
M31M Drury Creek, Y 80.04 21 P P 17 53 00.8 -1.3
baz=318
PCBR Castelo Branco 80.12 310 *e*P P 17 53 05.0 +2.1
comp=Z,14nm,1.4s
PMRV Marv??o 80.27 310 *e*P P 17 53 04.9 +1.1
comp=Z,19nm,1.7s
FARO Faro, Yukon 80.34 21 P P 17 53 02.9 -0.8
baz=319
O30N Mendenhall 80.54 23 P P 17 53 05.2 +0.3
O30N IAmb IAmb 17 53 09.3
comp=Z,18nm,1.2s
PBAR Barrancos 80.67 309 *e*P P 17 53 06.1 +0.2
comp=Z,22nm,1.5s
EVO Evora 81.14 309 *e*P P 17 53 09.9 +1.4
comp=Z,27nm,1.6s
N32M Quiet Lake 81.24 21 IAmb IAmb 17 53 12.2
comp=Z,25nm,1.2s
N32M Quiet Lake 81.24 21 P P 17 53 08.5 -0.1
baz=319
SKAG Skagway 81.77 23 IAmb IAmb 17 53 16.0
comp=Z,29nm,1.1s
SKAG Skagway 81.77 23 P P 17 53 11.5 +0.2
baz=318
R33M Jennings River 83.27 22 P P 17 53 20.6 +1.2
baz=321
DLBC Dease Lake 84.33 22 IAmb IAmb 17 53 30.1
comp=Z,32nm,1.8s
DLBC Dease Lake 84.33 22 P P 17 53 25.3 +0.5
baz=322
DLBC Dease Lake 84.33 22 LR LR 18 34 09.7
comp=Z,318nm,18.2s,baz=302,slow=38
YKA Yellowknife Ar 84.92 13 P P 17 53 27.8 +0.2
comp=Z,2.0nm,1.0s,baz=332,slow=4.8,SNR=18
comp=Z,2.0nm,1.0s
LBTB Lobatse 86.07 238 P P 17 53 33.8 -0.2
LBTB IAmb IAmb 17 53 40.0
comp=Z,11nm,0.9s
LBTB Lobatse 86.07 238 P P 17 53 33.8 -0.2
LBTB pmax pmax
comp=Z,11nm,0.9s
LBTB Lobatse 86.07 238 LR LR 18 29 45.1
comp=Z,82nm,19.1s,baz=48,slow=34
TOA0 Torodi Ar. Sit 86.39 283 IAmb IAmb 17 53 37.4
comp=Z,20nm,1.1s
TORD Torodi Ar. Bea 86.39 283 IAmb IAmb 17 53 37.4
comp=Z,16nm,1.2s
TORD Torodi Ar. Bea 86.39 283 P P 17 53 36.1 +0.4
comp=Z,11nm,1.1s,baz=50,slow=5.6,SNR=29
TORD LR LR 18 37 37.9
comp=Z,402nm,18.3s,baz=120,slow=39
comp=Z,11nm,1.1s
TSUM Tsumeb 89.06 247 LR LR 18 32 03.8
comp=Z,155nm,20.8s,baz=46,slow=34
BBB Bella Bella 89.98 25 LR LR 18 37 17.9
comp=Z,186nm,20.3s,baz=322,slow=38
FCC Fort Churchill 91.36 5 IAmb IAmb 17 54 00.9
comp=Z,14nm,1.4s
SUR Suthend 93.68 235 LR LR 18 34 32.4
comp=Z,158nm,18.6s,baz=64,slow=34
SCHQ Schefferville 94.19 350 P P 17 54 11.7 +0.1
comp=Z,5.4nm,1.0s,baz=40,slow=6.5,SNR=3.8
SCHQ LR LR 18 41 32.2
comp=Z,53nm,18.4s,baz=344,slow=39
comp=Z,5.4nm,1.0s
FFC Flin Flon 94.47 10 P P 17 54 11.9 -1.0
FFC IAmb IAmb 17 54 20.2
comp=Z,8.7nm,1.0s
FFC Flin Flon 94.47 10 P P 17 54 11.9 -1.0
FFC pmax pmax
comp=Z,9.0nm,1.0s
DBIC Dimbokro 95.21 281 LR LR 18 42 11.6
comp=Z,236nm,18.0s,baz=70,slow=39
NEW Newport 97.04 21 LR LR 18 42 13.8
comp=Z,315nm,19.5s,baz=316,slow=38
TXAR Lajitas Array 118.47 19 PKP PKiKP 17 59 41.4 +0.3
comp=Z,0.8nm,0.9s,baz=236,slow=1.4,SNR=4.3
TXAR PKKPbc PKKPbc 18 09 57.0 -1.1
comp=Z,0.4nm,0.8s,baz=177,slow=6.2,SNR=2.3
QSPA South Pole Qui 119.67 180 PKP PKiKP 17 59 42.7 +0.6
comp=Z,2.7nm,0.8s,baz=307,slow=0.8,SNR=9.0
GUY2C Guyana, Caldas 143.89 344 *e*P PKPbc 18 00 27.2 0.0
ROSC El Rosal 143.99 342 PKPdf PKPab 18 00 26.1 -0.7
ROSC El Rosal 143.99 342 PKP PKPbc 18 00 28.5 +1.1
comp=Z,30nm,0.7s,baz=346,slow=4.2,SNR=6.1
ORTC Ortega, Tolima 145.13 343 *e*P PKPbc 18 00 30.1 -0.6
PRAC Prado 145.22 342 *e*P PKPab 18 00 31.2 +0.2
YOTC Yotoco, Valle 145.32 345 *e*P PKPbc 18 00 30.0 -1.3
POPC Popayan, Colom 146.79 345 *e*P PKPbc 18 00 35.7 -0.2
FLOC Florencia 147.47 342 *e*P PKPbc 18 00 37.4 -0.2
PTLC Puerto Leguiza 148.57 340 *e*P PKiKP 18 00 41.5 -0.6
OTAV Otavalo 149.41 347 PKPdf 18 00 40.4 +1.6
OTAV Otavalo 149.41 347 *e*P PKPdf 18 00 40.4 +1.6
OTAV Otavalo 149.41 347 PKHKP PKPpre 18 00 40.4

SAML Samuel 150.84 311 *e*P PKPdf 18 00 37.5 -2.9
AQDB Aquidauana 151.96 283 PKPdf 18 00 44.5 +2.6
BOSC San Juan Bosco 152.71 346 PKPdf 18 00 45.6 +2.1
MCRA Macar, Loja 154.18 348 PKPdf 18 00 47.4 +1.9

BJI ***19*** *17:52:30.4,33.32N×141.55E,h31km,mb4.7/62,mB5.1/26, Ms4.5/33,Ms7 4.3/33*

MOS ***19*** *17:52:32.7±1.3,33.52N×141.22E,h38km,mb5.0/58, MS4.1/6,Error ellipse: s-maj=7.4km s-min=3.8km az=108.2*

NEIC ***19*** *17:52:36.6±2.6,33.47N±0.05×141.26E±0.07,h34km±5km, mb4.9/181,Error ellipse: s-maj=8.3km s-min=6.6km az=118.0*

JMA ***19*** *17:52:37.2±0.1,33.5N±0.4×141.2E±0.8,h57km±4km, MD5.0/39,MW4.9/39,E OFF HACHIJOJIMA ISLAND*

JMA Felt I J1 at E OFF HACHIJOJIMA ISLAND.

NIED ***19*** *17:52:37.2,33.53N×141.15E,h57km,MW4.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.89; Mθθ1.70; Mϕϕ-2.59; Mrθ-0.58; Mθϕ0.32; Mϕr-0.37; Fault plane solution: M₀2.35000×10¹⁶ NP1: ϕs217.00000°,δ75.00000°,λ156.00000°. NP2: ϕs314.00000°,δ67.00000°,λ17.00000°.*

GCMT ***19*** *17:52:39.7±0.3,33.43N±0.02×141.19E±0.02,h40km±1km, MW5.0/86,Moment Tensor Solution. s25,c28; s86,c115; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.63±.21; Mθθ2.82±.14; Mϕϕ-3.45±.13; Mrθ-0.57±.13; Mθϕ0.61±.11; Mϕr-0.78±.14; Best double couple: M₀3.34500×10¹⁶ NP1:ϕs219.00000°,δ86.00000°,λ162.00000°. NP2: ϕs310.00000°,δ72.00000°,λ4.00000°. Principal axes: T 3.0560, Plg15.0000°, Azm173.0000°; N 0.5780, Plg72.0000°, Azm27.0000°; P -3.6330, Plg10.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***19*** *17:52:40.1±1.3,33.46N×141.01E,h58km±10km,mb4.2/27, mbtmp4.5/31,MS3.9/32 Error ellipse: s-maj=13.4km s-min=9.2km az=92.0*

ISC 19 17:52:36.6±0.4,33.43N±0.03×141.21E±0.03,h35km±1km, h35km:pP-P,n721,σ1§83/717,mb4.8/181,MS4.1/44, 21C-36D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.21**	**255**	Pn	**Pb**	**17 52 58.0**	**-1.0**
JHJ2				Sn	**Sn**	**17 53 12.9**	**+0.7**
JHJ2	**Mitsune**	**1.21**	**255**	P	**Pb**	**17 52 58.5**	**-0.5**
JHJ2	**Mitsune**	**1.21**	**255**	⇓*i*P	**Pb**	**17 52 58.1**	**-0.9**
JHJ2				⇓S	**Sb**	**17 53 13.1**	**-1.2**
JHJ2	**Mitsune**	**1.21**	**255**	A	A	17 52 58.1	
	comp=E,79nm,0.8s,comp=N,118nm,0.9s						
JHJ	**Hachijo jima 2**	**1.23**	**256**	P	**Pb**	**17 52 58.2**	**-1.3**
	comp=N,10μm,0.3s,baz=178,slow=23,SNR=985						
JHJ				S	**Sn**	**17 53 13.1**	**+0.3**
	comp=N,24μm,0.3s,baz=45,slow=19,SNR=24						
JHCJ	**Hachijojimakas**	**1.23**	**254**	⇓*i*P	**Pb**	**17 52 58.3**	**-1.2**
JHCJ				⇓S	**Sn**	**17 53 13.2**	**+0.4**
JHCJ	**Hachijojimakas**	**1.23**	**254**	A	A	17 52 58.3	
	comp=E,43nm,1.6s,comp=N,52nm,2.0s						
BSO1	**Boso 1**	**1.24**	**351**	P	**Pn**	**17 52 57.1**	**+0.1**
JMKN	**Mikurajimanish**	**1.43**	**289**	*i* P	**Pn**	**17 53 00.2**	**+0.2**
JMKN				*e*S	**Sn**	**17 53 17.0**	**-0.6**
JMKN	**Mikurajimanish**	**1.43**	**289**	A	A	17 53 00.2	
	comp=E,60nm,1.1s,comp=N,59nm,1.4s						
BSO3	**Boso 3**	**1.49**	**337**	P	**Pn**	**17 53 00.7**	**0.0**
JMYK	**Miyake Tsubota**	**1.52**	**295**	*i* P	**Pn**	**17 53 01.5**	**+0.1**
JMYK				*e*S	**Sn**	**17 53 19.6**	**-0.3**
JMYK	**Miyake Tsubota**	**1.52**	**295**	A	A	17 53 01.5	
	comp=E,62nm,1.2s,comp=N,98nm,1.3s						
JAOM	**Aogashimamukai**	**1.55**	**232**	P	**Pb**	**17 53 03.3**	**-1.5**
JAOM	**Aogashimamukai**	**1.55**	**232**	A	A	17 53 03.3	
	comp=E,44nm,1.3s,comp=N,41nm,1.1s						
BSO4	**Boso 4**	**1.72**	**335**	*e*P	**Pn**	**17 53 04.2**	**+0.2**
BSO4				S	**Sn**	**17 53 23.7**	**-1.0**
JNIO	**Niijimaoohara**	**1.86**	**301**	A	A	17 53 06.0	
	comp=E,82nm,1.8s,comp=N,79nm,1.1s						
JKO	**Kozu shima**	**1.88**	**294**	⇓*i*P	**Pn**	**17 53 06.6**	**+0.3**
JKO				⇓*e*S	**Sn**	**17 53 28.0**	**-0.8**
JKO	**Kozu shima**	**1.88**	**294**	A	A	17 53 06.6	
	comp=E,54nm,2.2s,comp=N,85nm,2.2s						
JSKK	**Shikinejimakit**	**1.89**	**299**	A	A	17 53 06.5	
	comp=E,40nm,2.0s,comp=N,52nm,1.5s						
JKUC	**kamogawauchiur**	**1.92**	**335**	A	A	17 53 06.6	
	comp=E,24nm,3.7s,comp=N,17nm,3.1s						
JTHY	**Toshimahigashi**	**1.93**	**305**	*i* P	**Pn**	**17 53 07.3**	**+0.3**
JTHY				S	**Sn**	**17 53 28.9**	**-1.2**
JTHY	**Toshimahigashi**	**1.93**	**305**	A	A	17 53 07.3	
	comp=E,35nm,2.8s,comp=N,42nm,2.4s						
TATJ	**Tateyama 2**	**1.94**	**326**	A	A	17 53 06.9	
	comp=E,36nm,2.1s,comp=N,32nm,1.5s						
JIM2	**Oshima 3**	**1.96**	**312**	*i* P	**Pn**	**17 53 07.1**	**-0.3**
JIM2				*e*S	**Sn**	**17 53 27.2**	**-3.6**
JIM2	**Oshima 3**	**1.96**	**312**	A	A	17 53 07.1	
	comp=E,37nm,1.3s,comp=N,44nm,1.1s						
JCN	**Sagara**	**2.15**	**338**	A	A	17 53 10.0	
	comp=E,35nm,4.2s,comp=N,40nm,5.0s						
JYO	**Yokosk**	**2.20**	**325**	A	A	17 53 10.6	
	comp=E,39nm,2.1s,comp=N,39nm,1.1s						
JSMT	**Sammumatsuo**	**2.30**	**344**	*i* P	**Pn**	**17 53 12.4**	**+0.4**
JIZS	**Izushimoda**	**2.32**	**304**	⇓*i*P	**Pn**	**17 53 12.8**	**+0.5**
JIZS				⇓S	**Sn**	**17 53 38.6**	**-1.1**
JIZS	**Izushimoda**	**2.32**	**304**	A	A	17 53 12.8	
	comp=E,15nm,1.2s,comp=N,44nm,1.4s						
KTJ3	**Kamata3**	**2.32**	**311**	*i* P	**Pn**	**17 53 12.2**	**-0.2**
KTJ3				*e*S	**Sn**	**17 53 37.3**	**-2.5**
JHTM	**Izuhatsuma**	**2.38**	**311**	A	A	17 53 13.2	
	comp=E,24nm,1.6s,comp=N,26nm,1.5s						
JOD2	**Odawara 2**	**2.54**	**317**	*i* P	**Pn**	**17 53 15.2**	**-0.2**
JOD2				S	**Sn**	**17 53 43.0**	**-2.1**
JOD2	**Odawara 2**	**2.54**	**317**	A	A	17 53 15.2	
	comp=E,7.0nm,1.5s,comp=N,9.0nm,0.9s						
TOK	**Tokyo**	**2.55**	**332**	A	A	17 53 15.6	
	comp=E,28nm,3.3s,comp=N,23nm,3.1s						
JIHU	**Itakohorinouch**	**2.59**	**348**	A	A	17 53 16.2	
	comp=E,24nm,3.3s,comp=N,25nm,4.2s						
JSGW	**Sagamiharawaka**	**2.73**	**323**	A	A	17 53 18.0	
	comp=E,7.0nm,2.3s,comp=N,8.0nm,1.7s						
JFNN	**Fujinakano**	**2.73**	**311**	⇓*i*P	**Pn**	**17 53 19.1**	**+1.1**
JFNN				⇓*e*S	**Sn**	**17 53 49.0**	**-0.8**
JFNN	**Fujinakano**	**2.73**	**311**	A	A	17 53 19.1	
	comp=E,11nm,2.1s,comp=N,20nm,5.1s						
JSG	**Sagara**	**2.80**	**297**		**Pn**	**17 53 20.2**	**+1.3**
JSG				Sn	**Sn**	**17 53 51.5**	**0.0**
JSG	**Sagara**	**2.80**	**297**	P	**Pn**	**17 53 21.1**	**+2.2**
JSG	**Sagara**	**2.80**	**297**	A	A	17 53 19.4	
	comp=E,14nm,1.8s,comp=N,15nm,4.6s						
JHU	**Hanno**	**2.89**	**327**	A	A	17 53 20.4	
	comp=E,4.0nm,1.4s,comp=N,7.0nm,2.8s						
JYT	**Yasato**	**2.92**	**344**	A	A	17 53 20.7	
	comp=E,2.0nm,1.0s,comp=N,2.0nm,0.3s						
SHZ3	**Shizuoka 3**	**2.97**	**304**	A	A	17 53 21.7	
	comp=E,8.0nm,3.7s,comp=N,13nm,2.6s						
JKKS	**Kakegawashinom**	**2.98**	**297**	A	A	17 53 21.9	
	comp=E,10.0nm,3.8s,comp=N,11nm,2.8s						
JNY	**Yasuok**	**3.37**	**306**	A	A	17 53 27.3	
	comp=E,7.0nm,1.4s,comp=N,8.0nm,2.9s						
JGK	**Kuni**	**3.77**	**327**	A	A	17 53 32.8	
	comp=E,6.0nm,2.1s,comp=N,5.0nm,2.8s						
JNG	**Nsakai**	**3.92**	**320**	A	A	17 53 34.9	
	comp=E,5.0nm,1.5s,comp=N,6.0nm,4.5s						
MJAR	**Matsushiro Arr**	**3.96**	**322**	P	**Pn**	**17 53 35.7**	**+0.8**
	comp=N,358nm,0.7s,baz=150,slow=12,SNR=711						
MJAR				S	**Sn**	**17 54 20.7**	**+0.4**
	comp=N,128nm,0.4s,baz=289,slow=8.2,SNR=7.5						
MJAR				LR	LR	17 55 18.0	
	comp=N,2μm,20.3s,baz=148,slow=41						
MAJO	**Matsushiro**	**3.97**	**322**	Pn	**Pn**	**17 53 36.1**	**+1.1**
MAJO				Sn	**Sn**	**17 54 19.6**	**-0.7**
MAJO	**Matsushiro**	**3.97**	**322**	P	**Pn**	**17 53 36.7**	**+1.7**
MAJO	**Matsushiro**	**3.97**	**322**	P	**Pn**	**17 53 36.1**	**+1.1**
MAJO						17 54 19.7	
MJB9	**Matsu-Tunnel**	**3.97**	**322**	Pn	**Pn**	**17 53 36.6**	**+1.5**
MJB9				Sn	**Sn**	**17 54 19.2**	**-1.2**
JMM	**Marumori**	**4.44**	**356**		**Pn**	**17 53 41.0**	**-0.6**
JMM				Sn	**Sn**	**17 54 27.1**	**-4.9**
JMM	**Marumori**	**4.44**	**356**	P	**Pn**	**17 53 41.4**	**-0.1**
JMN	**Monobe**	**6.12**	**275**	Pn	**Pn**	**17 54 06.1**	**+1.4**
JMN	**Monobe**	**6.12**	**275**	P	**Pn**	**17 54 07.0**	**+2.3**
JCJ	**Chichijima**	**6.37**	**172**	Pn	**Pn**	**17 54 08.4**	**+0.4**
JCJ				Sn	**Sn**	**17 55 18.8**	**-0.7**

JCJ Chichijima 6.37 172 P **Pn** **17 54 08.4 +0.4**
JCJ Chichijima 6.37 172 P **Pn** **17 54 04.7 -3.3**
comp=N,191nm,0.3s,baz=164,slow=22,SNR=75
JCJ S **Sn** **17 55 13.6 -5.9**
comp=N,196nm,0.3s,baz=275,slow=22,SNR=6.0
JCJ LR LR 17 56 14.4
comp=N,479nm,21.7s,baz=77,slow=33
JTM Tenmabayashi 7.35 359 **Pn** **17 54 19.8 -1.6**
JTM Tenmabayashi 7.35 359 P **Pn** **17 54 21.4 0.0**
JNU Nakatsue 8.65 271 Pn **Pn** **17 54 39.0 -0.4**
JNU Nakatsue 8.65 271 P **Pn** **17 54 41.6 +2.2**
JNU Nakatsue 8.65 271 P **Pn** **17 54 41.0 +1.6**
comp=N,38nm,0.9s,baz=93,slow=2.1,SNR=16
ERM Erimo 8.71 10 **Pn** **17 54 38.5 -1.6**
ERM Erimo 8.71 10 P **Pn** **17 54 38.5 -1.6**
ERM Erimo 8.71 10 P **Pn** **17 54 38.5 -1.6**
JEM Erimo 8.71 10 P **Pn** **17 54 38.8 -1.3**
JTU Tsushima 9.87 280 Pn **Pn** **17 54 54.4 -1.6**
NMR Nemuro--Hokkai 10.54 18 *e*P **Pn** **17 55 02.0 -3.1**
ASAJ Asahikawa 10.73 5 P **Pn** **17 55 05.2 -2.5**
ASAJ Asahikawa 10.73 5 P **Pn** **17 55 05.4 -2.3**
comp=N,28nm,0.3s,baz=220,slow=10.0,SNR=85
ASAJ S **Sn** **17 56 57.7 -8.9**
comp=N,29nm,0.8s,baz=184,slow=13,SNR=3.3
ASAJ LR LR 18 00 13.8
comp=N,580nm,21.0s,baz=132,slow=42
JKA Kamikawa-asahi 10.73 5 Pn **Pn** **17 55 05.2 -2.6**
RUSJ Misakicho 11.12 15 *e*P **Pn** **17 55 11.1 -1.9**
YUK Yuzh-Kuril'sk 11.20 18 *e*P **Pn** **17 55 11.1 -3.0**
YUK pmax pmax
comp=Z,171nm,0.4s
YUK pmax pmax
comp=N,87nm,0.2s
YUK pmax pmax
comp=E,71nm,0.2s
SHO Shikotan 11.31 21 *e*P **Pn** **17 55 12.5 -3.2**
SHO pmax pmax
comp=Z,22nm,0.3s
SHO pmax pmax
comp=N,21nm,0.2s
SHO pmax pmax
comp=E,9.0nm,0.2s
JMZ Minamidaito 2 11.52 231 Pn **Pn** **17 55 20.6 +2.0**
KSRS Korea Array 11.55 294 P **Pn** **17 55 22.2 +3.1**
comp=E,7.2nm,0.8s,baz=106,slow=14,SNR=13
KSAR Wonju Array Be 11.58 294 **Pn** **17 55 20.0 +0.6**
KSAR Wonju Array Be 11.58 294 P **Pn** **17 55 20.0 +0.6**
KS19 Wonju Array Si 11.61 294 **Pn** **17 55 20.6 +0.7**
PSTR Posyet 12.32 321 *i* P **Pn** **17 55 30.9 +1.4**
USA0B Ussuriysk Arra 12.93 329 Pn **Pn** **17 55 36.6 -1.2**
USA0B Ussuriysk Arra 12.93 329 P **Pn** **17 55 36.6 -1.2**
USRK Ussuriysk Ar. 12.93 329 Pn **Pn** **17 55 37.2 -0.6**
USRK Ussuriysk Ar. 12.93 329 P **Pn** **17 55 37.5 -0.3**
comp=E,3.7nm,0.7s,baz=125,slow=11,SNR=6.5
JOW Kunigami 12.97 243 Pn **Pn** **17 55 36.8 -1.7**
YSS Yuzh-Sakhalins 13.56 5 Pn **Pn** **17 55 43.4 -3.0**
YSS Yuzh-Sakhalins 13.56 5 *e*P **Pn** **17 55 43.8 -2.6**
YSS *e*S **Sn** **17 58 11.3 -4.5**
YSS pmax pmax
comp=Z,80nm,0.7s
MDJ Mudanjiang 14.35 325 Pn **Pn** **17 55 56.1 -1.0**
MDJ Mudanjiang 14.35 325 P **Pn** **17 55 58.8 +1.6**
MDJ pP P 17 56 04.8 +1.1
MDJ sP 17 56 08.4
MDJ pmax pmax
comp=Z,12nm,1.0s
MDJ pmax pmax
comp=Z,210nm,4.3s
MDJ LR LR
comp=Z,1μm,12.4s
MDJ LR LR
comp=Z,4μm,10.7s
MDJ LR LR
comp=Z,5μm,11.0s
CN2 Changchun 16.07 315 *e*P **Pn** **17 56 19.1 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
BNX BinXian 16.23 323 P **Pn** **17 56 20.6 -1.3**
BNX pP **P** **17 56 24.3 -0.3**
BNX PP **sP** **17 56 34.0 -2.7**
BNX S **Sn** **17 59 21.3 +0.6**
BNX pmax pmax
comp=Z,4.0nm,0.4s
BNX pmax pmax
comp=Z,130nm,2.7s
BNX LR LR
comp=Z,3μm,8.8s
BNX LR LR
comp=Z,3μm,9.7s
BNX LR LR
comp=Z,6μm,10.2s
KLR Kul'dur 17.29 339 *i* P **Pn** **17 56 31.9 -3.3**
KLR pmax pmax
comp=Z,10.0nm,0.7s
KLR Kul'dur 17.29 339 P **Pn** **17 56 31.8 -3.3**
comp=Z,6.1nm,0.6s,baz=142,slow=8.2,SNR=23
TYV Tymovskoe 17.46 3 *e*P **Pn** **17 56 36.1 -1.1**
TYV *e*S **Sn** **17 59 49.3 -1.1**
TYV pmax pmax
comp=Z,71nm,1.0s
TYV pmax pmax
comp=Z,200nm,3.4s
TYV smax smax
comp=N,600nm,4.8s
TYV smax smax
comp=E,600nm,4.8s
GRNR Gornyy 17.68 350 ⇓*i* P **Pn** **17 56 36.0 -4.0**
GRNR *e*S **Sn** **17 59 50.4 -5.5**
GRNR pmax pmax
comp=E,4.0nm,1.1s
GRNR pmax pmax
comp=N,8.0nm,0.8s
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR smax smax
comp=N,1.0nm,1.0s
GRNR MLR MLR
comp=E,1μm,13.0s
GRNR MLR MLR
comp=N,940nm,11.0s
GRNR MLR MLR
comp=Z,2μm,13.0s
NJ2 Nanjing 18.85 272 *e*P **P** **17 56 53.1 -0.6**
NJ2 pP **pP** **17 57 01.5 -0.6**
NJ2 sP **sP** **17 57 06.6 +0.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
YHNB Yeheng 19.39 248 **P** **17 56 57.2 -2.4**
YHNB IAmb IAmb 17 57 03.6
comp=Z,140nm,1.5s
YHNB Yeheng 19.39 248 P **P** **17 57 00.0 +0.3**
NACB Ninganchiao 19.48 247 P **P** **17 56 58.5 -2.1**
NACB Ninganchiao 19.48 247 P **P** **17 57 00.6 0.0**
HEH HeiHe 19.65 333 *e*P **P** **17 56 59.1 -3.2**
HEH pmax pmax
comp=Z,17nm,0.7s
HEH pmax pmax
comp=Z,280nm,5.2s
TIA Tai'an 19.96 285 P **P** **17 57 04.9 -0.8**
TIA pmax pmax
comp=Z,22nm,1.5s
TIA LR LR
comp=Z,1μm,18.6s
TIA LR LR
comp=Z,390nm,20.6s
TIA LR LR
comp=Z,1μm,18.6s
GUMO Guam 20.03 170 P **P** **17 57 05.0 -1.6**
GUMO Guam 20.03 170 P Pn 17 57 08.5 0.0
comp=Z,106nm,0.8s,baz=345,slow=18,SNR=2.7
comp=Z,106nm,0.8s
YULB Yu-li 20.13 245 P **P** **17 57 05.9 -1.8**
YULB IAmb IAmb 17 57 16.2
comp=Z,105nm,1.5s
YULB Yu-li 20.13 245 P **P** **17 57 07.4 -0.4**
SSLB Suanglung 20.18 247 P **P** **17 57 05.6 -2.6**
SSLB IAmb IAmb 17 57 08.9
comp=Z,95nm,1.1s
SSLB Suanglung 20.18 247 P **P** **17 57 07.6 -0.7**
TPUB Ta-pu 20.69 246 P **P** **17 57 12.5 -1.3**
BJI Beijing 21.08 295 P **P** **17 57 17.3 -0.6**
BJI sP **sP** **17 57 30.8 +0.8**
KNMB Chin-men Tao 21.84 252 P **P** **17 57 24.9 -1.2**
KNMB IAmb IAmb 17 57 27.6
comp=Z,59nm,1.0s

HNS HongShan 21.93 288 ⇓P **P** **17 57 25.3 -1.7**
HNS S **S** **18 01 27.4 +0.1**
HNS pmax pmax
comp=Z,8.0nm,0.7s
HNS LR LR
comp=Z,820nm,15.4s
HNS LR LR
comp=Z,730nm,14.9s
XLT XiLinHaoTe 22.15 306 *e*P **P** **17 57 28.3 -1.2**
XLT pP pP 17 57 32.3 -5.6
XLT PP **PnPn** **17 57 55.0 +2.8**
XLT PcP **PcP** **18 01 24.3 -1.3**
XLT S **S** **18 01 30.6 -0.9**
XLT SS **SnSn** **18 02 10.6 +11**
XLT pmax pmax
comp=Z,22nm,0.7s
XLT pmax pmax
comp=Z,380nm,6.9s
XLT LR LR
comp=Z,43nm,12.8s
XLT LR LR
comp=Z,360nm,15.7s
XLT LR LR
comp=Z,260nm,20.4s
HIA Hailar 22.47 321 P **P** **17 57 31.4 -1.3**
HIA Hailar 22.47 321 P **P** **17 57 31.4 -1.3**
HIA pmax pmax
comp=Z,42nm,1.6s
ZEA Zeya 22.60 338 *e*P **P** **17 57 33.2 -0.9**
ZEA *e* 18 01 21.6
ZEA pmax pmax
comp=E,40nm,0.8s
ZEA pmax pmax
comp=Z,110nm,0.8s
ZEA pmax pmax
comp=N,60nm,0.7s
WHN Wuhan 22.94 270 P **P** **17 57 37.0 -0.8**
WHN pmax pmax
comp=N,38nm,0.8s
PEA0B Petropavlovsk- 22.94 26 P **P** **17 57 36.4 -1.3**
PEA0B IAmb IAmb 17 57 41.0
comp=Z,60nm,1.3s
PEA0B Petropavlovsk- 22.94 26 P **P** **17 57 36.4 -1.3**
PEA0B pmax pmax
comp=Z,60nm,1.3s
PETK Petropavlovsk- 22.94 26 P **P** **17 57 36.4 -1.3**
PETK Petropavlovsk- 22.94 26 P **P** **17 57 36.4 -1.3**
PETK Petropavlovsk- 22.94 26 P **P** **17 57 39.3 +1.6**
comp=Z,8.4nm,0.9s,baz=211,slow=8.4,SNR=6.2
comp=Z,8.4nm,0.9s
LYN LuoYang 23.83 281 *e*P **P** **17 57 45.3 -1.1**
LYN S **S** **18 02 01.0 +1.0**
LYN pmax pmax
comp=Z,19nm,0.5s
LYN pmax pmax
comp=Z,510nm,7.9s
LYN LR LR
comp=Z,1μm,18.2s
LYN LR LR
comp=Z,850nm,16.8s
LYN LR LR
comp=Z,1μm,14.4s
HHC Hu-ho-hao-te 24.68 296 *e*P **P** **17 57 54.8 +0.4**
HHC pmax pmax
comp=Z,24nm,0.6s
HHC pmax pmax
comp=Z,470nm,5.0s
HHC LR LR
comp=Z,620nm,12.9s
HHC LR LR
comp=Z,710nm,13.3s
BTO Baotou 25.82 295 *e*P **P** **17 58 04.3 -0.4**
BTO pP **pP** **17 58 13.8 +0.1**
BTO sP **pwP** **17 58 17.8 +0.1**
BTO PP **PnPn** **17 58 45.3 +2.9**
BTO S **S** **18 02 32.9 +1.0**
BTO sS **sS** **18 02 46.9 -0.6**
BTO SS **SnSn** **18 03 37.4 +8.3**
BTO pmax pmax
comp=Z,13nm,0.6s
BTO pmax pmax
comp=Z,610nm,10.7s
BTO LR LR
comp=Z,2μm,18.0s
BTO LR LR
comp=Z,680nm,12.9s
BTO LR LR
comp=Z,750nm,23.7s
HKPS Hong Kong Po S 26.31 252 P **P** **17 58 07.5 -1.6**
H11N2 WAKE ISLAND Hy 26.63 114 T T 18 27 10.6
baz=304,slow=74,SNR=124
TGY Tagaytay City 26.63 229 LR LR 18 08 44.3
comp=Z,74nm,18.7s,baz=120,slow=36
H11N1 WAKE ISLAND Hy 26.64 114 T T 18 27 15.4
baz=304
H11N3 WAKE ISLAND Hy 26.65 114 T T 18 27 18.7
baz=304,slow=74
XAN Xi'an 26.80 280 ⇓P **P** **17 58 11.3 -2.3**
XAN pmax pmax
comp=Z,13nm,0.7s
XAN LR LR
comp=Z,1μm,15.3s
XAN LR LR
comp=Z,710nm,12.8s
XAN LR LR
comp=Z,800nm,18.8s
MA2 Magadan 26.92 11 P **P** **17 58 14.3 0.0**
MA2 IAmb IAmb 17 58 16.4
comp=Z,22nm,0.8s
MA2 Magadan 26.92 11 *i* P **P** **17 58 14.6 +0.3**
MA2 pmax pmax
comp=Z,22nm,0.9s
ENH Enshi 27.07 272 P **P** **17 58 13.2 -2.8**
ENH IAmb IAmb 17 58 27.4
comp=Z,23nm,1.0s
H11S3 WAKE ISLAND Hy 27.21 117 T T 18 27 51.6
baz=307,slow=75,SNR=9.2
H11S1 WAKE ISLAND Hy 27.21 117 T T 18 27 54.3
baz=307,slow=75,SNR=12
H11S2 WAKE ISLAND Hy 27.23 117 T T 18 27 54.7
baz=307,slow=75,SNR=5.1
CIT Chita 27.27 321 *e*P **P** **17 58 18.1 +0.5**
CIT *e* 17 58 58.1
CIT pmax pmax
comp=Z,77nm,2.4s
ULN Ulaanbaatar 29.38 310 P **P** **17 58 35.9 -0.7**
ULN Ulaanbaatar 29.38 310 P **P** **17 58 35.9 -0.7**
ULN pmax pmax
comp=Z,10.0nm,1.0s
YAK Yakutsk 29.56 349 P **P** **17 58 37.4 -0.4**
YAK IAmb IAmb 17 58 38.7
comp=Z,28nm,0.8s
YAK Yakutsk 29.56 349 *e*P **P** **17 58 37.3 -0.4**
YAK *e**PP **sP** **17 58 47.3 -3.1**
YAK *e* 17 59 31.8
YAK *e* 18 01 41.6
YAK *e*S **S** **18 03 30.7 +0.6**
YAK *e* 18 09 12.6
YAK pmax pmax
comp=Z,35nm,1.0s
YAK pmax pmax
comp=N,13nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=Z,123nm,3.8s
YAK pmax pmax
comp=N,98nm,3.7s
YAK pmax pmax
comp=E,72nm,4.1s
YAK smax smax
comp=E,90nm,3.5s
YAK MLR MLR
comp=Z,301nm,17.0s
YAK MLR MLR
comp=E,97nm,18.0s
YAK MLR MLR
comp=N,184nm,17.0s
SONM Songino Array 29.80 309 P **P** **17 58 40.5 +0.3**
SONM Songino Array 29.80 309 P **P** **17 58 40.5 +0.3**
comp=N,9.1nm,1.0s,baz=117,slow=8.1,SNR=31
SONM LR LR 18 10 56.8
comp=N,443nm,19.2s,baz=106,slow=37
comp=N,9.1nm,1.0s
SEY Seymchan 30.36 10 *i* P **P** **17 58 45.8 +1.0**
SEY pmax pmax
comp=Z,9.0nm,1.0s
BOD Bodaibo 30.55 331 *e*P **P** **17 58 46.3 -0.3**
BOD pmax pmax
comp=Z,20nm,1.6s
LZH Lanzhou 30.69 286 *e*P **P** **17 58 51.8 +3.5**
LZH sP pwP 17 59 05.1 +3.7
LZH pmax pmax
comp=Z,12nm,1.1s
LZH LR LR
comp=Z,400nm,18.2s
LZH LR LR
comp=Z,400nm,15.8s
LZH LR LR
comp=Z,440nm,21.3s
CD2 Chengdu 31.69 276 P **P** **17 58 56.1 -0.9**
CD2 pmax pmax
comp=Z,20nm,0.5s
ZAK Zakamensk 32.49 313 *e*P **P** **17 59 03.6 -0.3**
ZAK pmax pmax
comp=Z,14nm,1.4s
GTA Gaotai 33.62 292 *e*P **P** **17 59 12.8 -1.1**
GTA ScP **ScP** **18 05 33.3 -2.2**
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA LR LR
comp=Z,510nm,20.7s
GTA LR LR
comp=Z,210nm,19.6s
GTA LR LR
comp=Z,270nm,18.9s
MOY Mondy 34.24 314 *e*P **P** **17 59 19.8 +0.7**
MOY pmax pmax
comp=Z,9.0nm,1.4s
KMI Kunming 34.41 266 ⇓P **P** **17 59 19.4 -1.6**
KMI pmax pmax
comp=Z,12nm,0.8s
PZH PanZhiHua 34.72 269 P **P** **17 59 24.6 +1.0**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,290nm,5.3s
TNTI Ternate 34.99 205 P **P** **17 59 27.3 +1.5**
comp=Z,23nm,1.1s
SWI Sorong 35.37 197 P **P** **17 59 29.4 +0.4**
comp=Z,22nm,1.0s
SWI Sorong 35.37 197 P **P** **17 59 29.3 +0.3**
SWI pmax pmax
comp=Z,21nm,0.9s
JAY Jayapura 35.75 181 P **P** **17 59 33.6 +1.3**
comp=Z,19nm,1.1s
GENI Genyem 35.84 182 P **P** **17 59 35.4 +2.4**
comp=Z,62nm,1.1s
DLV T Lat 36.75 242 P **P** **17 59 39.5 -1.6**
UBPT Khong Chiam 36.99 250 P **P** **17 59 41.7 -1.3**
UBPT IAmb IAmb 17 59 43.6
comp=Z,29nm,1.1s
FAKI Fak Fak 37.13 195 P **P** **17 59 43.1 -0.9**
TOLI2 Tolitoli 37.43 215 P **P** **17 59 45.1 -1.5**
TOLI2 IAmb IAmb 17 59 49.0
comp=Z,33nm,1.4s
MRSI Marisa 37.44 213 P **P** **17 59 48.5 +1.8**
comp=Z,20nm,1.3s
BILL Bilibino 37.54 15 P **P** **17 59 45.8 -1.2**
BILL Bilibino 37.54 15 *i* P **P** **17 59 47.9 +0.9**
GOMU GeErMu 37.91 288 P **P** **17 59 50.4 -0.7**
GOMU PcP **PcP** **18 02 08.4 +1.7**
GOMU S **S** **18 05 34.6 -6.1**
GOMU SS **SnSn** **18 08 22.9 -0.6**
GOMU pmax pmax
comp=Z,8.0nm,1.0s
GOMU LR LR
comp=Z,320nm,19.2s
GOMU LR LR
comp=Z,270nm,20.0s
GOMU LR LR
comp=Z,350nm,18.8s
TNCH TengChong 37.97 269 P **P** **17 59 49.5 -1.9**
TNCH S **S** **18 05 38.3 -3.0**
TNCH pmax pmax
comp=Z,9.0nm,0.9s
TNCH pmax pmax
comp=Z,170nm,5.4s
TNCH LR LR
comp=Z,310nm,5.1s
TNCH LR LR
comp=Z,310nm,5.8s
TNCH LR LR
comp=Z,250nm,9.4s
LUWI Luwuk 38.43 211 P **P** **17 59 55.3 +0.2**
comp=Z,20nm,1.3s
CRAI Chiangrai 38.50 261 P **P** **17 59 53.6 -2.1**
TIXI Tiksi 38.85 354 P **P** **17 59 56.8 -1.2**
TIXI Tiksi 38.85 354 P **P** **17 59 56.8 -1.2**
TIXI pmax pmax
comp=Z,8.0nm,0.8s
TIXI Tiksi 38.85 354 P **P** **17 59 58.0 0.0**
TIXI pP **pP** **18 00 08.2 +1.2**
CHTO Chiang Mai 40.36 260 P **P** **18 00 09.8 -1.4**
CHTO Chiang Mai 40.36 260 P **P** **18 00 09.8 -1.4**
CHTO pmax pmax
comp=Z,8.0nm,1.0s
CHTO Chiang Mai 40.36 260 P **P** **18 00 09.9 -1.4**
CHTO pP **pP** **18 00 19.8 -0.7**
CM31 Chiang Mai Arr 40.54 259 P **P** **18 00 11.1 -1.6**
CMAR Chiang Mai Arr 40.54 259 P **P** **18 00 10.2 -2.5**
CMAR Chiang Mai Arr 40.54 259 P **P** **18 00 12.1 -0.6**
comp=Z,2.4nm,0.8s,baz=45,slow=7.4,SNR=18
CMAR LR LR 18 19 02.0
comp=Z,115nm,18.5s,baz=60,slow=39
comp=Z,2.4nm,0.8s
UNV Unalaska Valle 41.86 45 P **P** **18 00 21.9 -1.2**
baz=262
WMQ Urumqi 42.42 300 *e*P **P** **18 00 27.4 -0.5**
WMQ pP sP 18 00 38.5 -2.2
WMQ pmax pmax
comp=Z,26nm,1.1s
WMQ LR LR
comp=Z,300nm,12.9s
WMQ LR LR
comp=Z,440nm,13.7s
WMQ LR LR
comp=Z,100nm,22.1s
DGZ Jazzator, Alta 42.45 309 *i* P **P** **18 00 28.5 +0.3**
DGZ pmax pmax
comp=Z,48nm,1.4s
PMG Port Moresby 42.97 171 P **P** **18 00 31.1 -1.4**
PMG Port Moresby 42.97 171 P **P** **18 00 31.1 -1.4**
PMG pmax pmax
comp=Z,16nm,1.0s
M11K Mekoryuk 43.26 35 P **P** **18 00 33.7 -0.7**
baz=256
TNA Tin City 44.10 28 P **P** **18 00 40.5 -0.5**
baz=249
ZAA0 Zalesovo Array 44.28 315 P **P** **18 00 40.7 -2.0**
ZALV Zalesovo Beam 44.28 315 P **P** **18 00 40.8 -1.9**
ZALV Zalesovo Beam 44.28 315 *i* P **P** **18 00 42.4 -0.3**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 44.28 315 P **P** **18 00 42.5 -0.2**
comp=Z,2.9nm,0.4s,baz=111,slow=8.6,SNR=14
ZALV PcP **PcP** **18 02 26.6 0.0**
comp=Z,4.1nm,0.6s,baz=106,slow=3.4,SNR=6.5
ZALV LR LR 18 19 56.7
comp=Z,113nm,18.2s,baz=86,slow=37
comp=Z,2.9nm,0.4s
ANM Nome 44.78 29 P **P** **18 00 45.2 -1.4**
baz=252
F15K North Star Dit 45.43 28 P **P** **18 00 52.4 +0.7**
baz=252
SOEI Soe 45.87 204 P **P** **18 00 55.4 -0.4**
MK31 Makanchi Array 45.97 305 P **P** **18 00 54.5 -1.8**
MK31 IAmb IAmb 18 00 59.9
comp=Z,16nm,1.2s
MK31 Makanchi Array 45.97 305 P **P** **18 00 54.5 -1.8**
MK31 pmax pmax
comp=Z,17nm,1.2s
MKAR Makanchi Array 45.97 305 P **P** **18 00 55.0 -1.3**
MKAR Makanchi Array 45.97 305 P **P** **18 00 55.9 -0.4**
comp=Z,4.3nm,0.7s,baz=88,slow=9.2,SNR=29
MKAR ScP **ScP** **18 06 21.3 -1.8**
comp=Z,2.1nm,1.1s,baz=86,slow=5.2,SNR=3.6
MKAR LR LR 18 20 49.8
comp=Z,200nm,18.4s,baz=93,slow=37
comp=Z,4.3nm,0.7s
C16K Lisburne Hills 46.03 25 P **P** **18 00 54.4 -2.0**
H16K Elim 46.10 30 P **P** **18 00 59.0 +2.0**

baz=256
TAPN Taplejung 46.13 277 *e*P P 18 00 56.5 -1.6
comp=Z,4.2nm,0.4s
MAKZ Makanchi 46.18 305 P P 18 00 56.5 -1.5
MAKZ IAmb IAmb 18 01 07.6
comp=Z,14nm,1.1s
MAKZ Makanchi 46.18 305 P P 18 00 56.5 -1.5
MAKZ pmax pmax
comp=Z,14nm,1.1s
MAKZ Makanchi 46.18 305 P P 18 00 57.6 -0.4
MAKZ pP **pP** 18 01 08.0 +0.6
MAKZ sP **pwP** 18 01 12.2 +1.1
N15K Kwethluk River 46.21 36 P P 18 00 56.4 -1.5
ODAN Odare 46.57 277 *e*P P 18 00 59.7 -1.8
I17K Unalakleet 46.59 31 P P 18 01 01.9 +1.1
baz=258
CHGN Chignik 46.72 42 P P 18 01 01.1 -0.8
E17K Hotham Inlet 46.92 27 P P 18 01 03.4 0.0
baz=254
KULM Kulim 46.93 242 P P 18 01 03.3 -0.8
MTN Manton Dam 47.00 193 P P 18 01 04.2 -0.3
MTN IAmb IAmb 18 01 06.5
comp=Z,16nm,0.8s
H17K Granite Mounta 47.14 30 P P 18 01 02.7 -2.5
baz=258
RAMN Ramite 47.19 277 *e*P P 18 01 04.9 -1.5
comp=Z,27nm,0.6s
JIRN Jiri 47.27 278 *e*P P 18 01 05.8 -1.4
L17K Donlin 47.35 34 P P 18 01 08.3 +1.5
baz=262
K17K Iditarod 47.44 33 P P 18 01 06.8 -0.7
GUN Gumba 47.44 279 *e*P P 18 01 07.6 -0.8
comp=Z,29nm,0.8s
E18K Tukpahlearik C 47.47 26 P P 18 01 07.4 -0.3
C18K Utukok River 47.60 25 P P 18 01 08.4 -0.3
C18K IAmb IAmb 18 02 05.9
comp=Z,22nm,1.4s
C18K Utukok River 47.60 25 P P 18 01 10.0 +1.2
baz=253
B18K Kokolik River 47.61 24 P P 18 01 09.2 +0.4
baz=252
M17K Holitna River 47.66 35 P P 18 01 09.0 -0.2
Q16K King Salmon 47.80 39 P P 18 01 11.4 +1.1
baz=266
G18K Tagagawik 47.86 29 P P 18 01 10.6 -0.2
G18K IAmb IAmb 18 01 22.0
comp=Z,12nm,1.1s
G18K Tagagawik 47.86 29 P P 18 01 11.7 +0.9
baz=258
PKI Pulchoki 47.95 279 *e*P P 18 01 10.5 -1.9
PKIN Phulchoki 47.96 279 *e*P P 18 01 10.2 -2.2
KURK Kurchatov 48.09 311 P P 18 01 11.8 -0.8
KURK Kurchatov 48.09 311 P P 18 01 12.7 0.0
KURK Kurchatov 48.09 311 P P 18 01 12.0 -0.7
KURK sP **pwP** 18 01 26.8 +1.0
KURBB Kurchatov Arra 48.15 311 P P 18 01 12.7 -0.5
comp=Z,9.4nm,0.8s,baz=88,slow=7.6,SNR=33
KURBB LR LR 18 22 14.2
comp=Z,311nm,19.4s,baz=173,slow=37
comp=Z,9.4nm,0.8s
DMN Daman 48.19 279 *e*P P 18 01 13.0 -1.1
GKN Gorkha 48.44 280 *e*P P 18 01 14.5 -1.4
comp=Z,44nm,1.0s
SHLS Shalkode 48.44 301 *e*P P 18 01 12.5 -3.2
SHLS pmax pmax
comp=Z,30nm,1.7s
TTA Tatalina 48.51 33 P P 18 01 14.6 -1.2
TTA Tatalina 48.51 33 P P 18 01 14.6 -1.2
TTA pmax pmax
comp=Z,53nm,2.0s
D19K Kuna River 48.65 25 P P 18 01 15.2 -1.6
D19K IAmb IAmb 18 01 28.1
comp=Z,16nm,1.1s
H19K Roundabout Mou 48.69 29 P P 18 01 16.4 -0.6
baz=260
E19K Redstone River 48.74 27 P P 18 01 17.5 0.0
E19K IAmb IAmb 18 02 02.1
comp=Z,10nm,0.8s
E19K Redstone River 48.74 27 P P 18 01 16.4 -1.1
baz=258
KPKS Kokpek 48.95 301 *e*P P 18 01 18.9 -0.6
KPKS pmax pmax
comp=Z,4.0nm,0.7s
WUS Wushi 48.99 298 P P 18 01 20.0 0.0
DANN Dangsing 49.03 280 *e*P P 18 01 19.7 -1.0
D20K Etiviluk River 49.24 25 P P 18 01 20.6 -0.7
baz=258
F20K Avaraart Lake 49.24 27 P P 18 01 20.9 -0.4
baz=260
E20K Nigu River 49.29 26 P P 18 01 20.8 -0.9
baz=258
H20K Anotleneega Mo 49.33 30 P P 18 01 20.9 -1.2
baz=262
PRZ Przheval'sk 49.33 300 P P 18 01 21.9 -0.8
PRZ Przheval'sk 49.33 300 P P 18 01 21.9 -0.8
PRZ pmax pmax
comp=Z,27nm,0.9s
B20K Meade River 49.35 24 P P 18 01 22.7 +0.6
B20K Meade River 49.35 24 P P 18 01 21.9 -0.1
baz=256
KOLN Koldanda 49.38 280 *e*P P 18 01 20.9 -2.3
ARXS Arharly 49.42 302 *e*P P 18 01 22.8 -0.4
K20K Telida 49.43 32 P P 18 01 22.6 -0.3
baz=265
J20K Nowinta River 49.48 31 P P 18 01 24.7 +1.6
baz=264
PYUN Piuthan 49.76 280 *e*P P 18 01 24.7 -1.4
comp=Z,50nm,0.6s
A21K Barrow 49.85 22 P P 18 01 27.1 +1.2
baz=255
PSI Prapat 49.87 242 P P 18 01 24.5 -2.4
PSI pmax pmax
comp=Z,8.0nm,0.9s
TARG Taragay, Kyrgy 49.92 299 IAmb IAmb 18 01 28.6
comp=Z,15nm,0.8s
O20K Slope Mountain 49.92 37 P P 18 01 28.1 +1.4
baz=269
KDAK Kodiak Island 49.93 40 P P 18 01 26.7 0.0
KDAK Kodiak Island 49.93 40 P P 18 01 26.7 0.0
KDAK pmax pmax
comp=Z,70nm,1.5s
RPSI Rantau Prapat 49.94 241 P P 18 01 24.5 -2.8
RPSI IAmb IAmb 18 01 41.8
comp=Z,8.4nm,0.9s
C21K Knifeblade Rid 49.97 25 P P 18 01 26.7 -0.2
baz=259
G21K Aliakaket 50.02 28 P P 18 01 26.9 -0.5
baz=262
Q20K Shuyak Island 50.03 39 P P 18 01 26.2 -1.2
baz=270
B21K Ikpikpuk River 50.12 24 P P 18 01 29.3 +1.3
B21K IAmb IAmb 18 01 44.1
comp=Z,21nm,1.2s
B21K Ikpikpuk River 50.12 24 P P 18 01 27.6 -0.4
baz=259
F21K Alatna River 50.13 27 P P 18 01 28.3 +0.2
F21K IAmb IAmb 18 01 51.6
comp=Z,20nm,1.6s
F21K Alatna River 50.13 27 P P 18 01 27.4 -0.7
baz=262
E21K Killik River 50.14 26 IAmb IAmb 18 01 43.7
comp=Z,11nm,1.0s
E21K Killik River 50.14 26 P P 18 01 28.4 +0.2
baz=260
N20K Mount Spurr 50.16 35 P P 18 01 30.0 +1.5
baz=268
H21K Melozitna River 50.21 30 IAmb IAmb 18 01 41.6
comp=Z,12nm,1.3s
H21K Melozitna Rive 50.21 30 P P 18 01 29.1 +0.4
baz=264
PPLA Purkeypile 50.25 33 P P 18 01 28.7 -0.5
baz=267
KNRA Kununurra 50.25 196 P P 18 01 30.1 +0.7
CAST Castle Rocks 50.33 32 P P 18 01 29.8 +0.2
baz=266
UGM Wanagama 50.40 221 P P 18 01 30.5 -0.3
I21K Tanana 50.50 30 P P 18 01 32.5 +1.6
baz=265
SKT Skwentna 50.51 34 P P 18 01 31.4 +0.4
baz=268
CAPN Captain Cook N 50.66 36 P P 18 01 31.2 -1.0
baz=269
F22K John River 50.67 27 P P 18 01 32.4 +0.2
baz=263
D22K Ayikyak River 50.67 25 P P 18 01 31.6 -0.6
D22K IAmb IAmb 18 01 51.6
comp=Z,8.9nm,0.8s
D22K Ayikyak River 50.67 25 P P 18 01 32.0 -0.2
baz=261
H22K Ishtalitna Cre 50.81 29 P P 18 01 33.3 0.0
baz=265
SUA Susitna One 50.87 35 P P 18 01 32.2 -1.7
E22K Anaktuvuk Pass 50.88 26 IAmb IAmb 18 01 37.1
comp=Z,8.5nm,0.8s
E22K Anaktuvuk Pass 50.88 26 P P 18 01 36.5 +2.6
baz=263,SNR=7.3
MLY Manley 51.02 30 P P 18 01 37.2 +2.4
baz=266
TRF Thorofare Moun 51.13 32 P P 18 01 37.6 +1.7
baz=268
RC01 Rabbit Creek A 51.36 36 P P 18 01 39.9 +2.5
baz=270
O22K Cooper Landing 51.37 36 P P 18 01 40.3 +2.9
baz=271
D23K Nanushuk River 51.40 25 P P 18 01 38.1 +0.5
baz=263
G23K Bananza Creek 51.43 28 P P 18 01 36.4 -1.5
G23K Bananza Creek 51.43 28 P P 18 01 39.1 +1.2
baz=266
C23K Itkillik River 51.53 24 IAmb IAmb 18 01 41.9
comp=Z,14nm,0.9s
C23K Itkillik River 51.53 24 P P 18 01 38.9 +0.3
baz=262
I23K Minto, Yukon-K 51.60 30 P P 18 01 40.9 +1.7
baz=267
PMR Palmer 51.65 35 P P 18 01 41.2 +1.7
baz=270
E23K Chandalar 51.70 27 P P 18 01 42.0 +2.1
baz=265
NEA2 Nenana 51.71 31 P P 18 01 37.4 -2.6
NEA2 Nenana 51.71 31 P P 18 01 42.3 +2.3
baz=268,SNR=5.6
MCK McKinley 51.74 32 P P 18 01 42.4 +2.1
baz=269
TOLK Toolik Lake Re 51.77 26 P P 18 01 38.8 -1.6
TOLK IAmb IAmb 18 01 43.1
comp=Z,13nm,1.2s
TOLK Toolik Lake Re 51.77 26 P P 18 01 42.9 +2.5
baz=264,SNR=5.6
KSH Kashi 51.80 297 P P 18 01 44.4 +3.2
KSH sP pwP 18 02 00.1 +5.6
KSH pmax pmax
comp=Z,12nm,0.9s
SGDS Sogindy 51.84 302 *e*P P 18 01 41.1 -0.3
SGDS pmax pmax
comp=Z,6.0nm,1.4s
GSI Gunungsitoli 51.86 241 P P 18 01 39.9 -1.9
WAT1 Susitna Watana 51.91 33 P P 18 01 43.5 +1.9
baz=270
BTLS Baital 51.92 304 *e*P P 18 01 41.3 -0.6
BTLS pmax pmax
comp=Z,10.0nm,1.3s
BRZS Berezniki 51.95 310 *e*P P 18 01 41.7 -0.3
BRZS pmax pmax
comp=Z,6.0nm,1.0s
KNK Knik Glacier 51.97 35 P P 18 01 41.1 -1.0
KNK IAmb IAmb 18 01 49.3
comp=Z,14nm,0.8s
KNK Knik Glacier 51.97 35 P P 18 01 43.9 +1.9
baz=271
FRU1 Bishkek 51.98 301 P P 18 01 40.2 -2.3
FRU1 IAmb IAmb 18 01 46.5
comp=Z,22nm,1.1s
FRU1 Bishkek 51.98 301 P P 18 01 40.2 -2.3
FRU1 pmax pmax
comp=Z,22nm,1.1s
SML Sawmill 52.02 35 P P 18 01 42.3 -0.2
SML IAmb IAmb 18 02 03.0
comp=Z,12nm,0.9s
SML Sawmill 52.02 35 P P 18 01 44.2 +1.7
baz=271
SML Sawmill 52.02 35 P P 18 01 42.3 -0.2
SML pmax pmax
comp=Z,12nm,0.9s
D24K Happy Valley 52.09 25 IAmb IAmb 18 01 46.0
comp=Z,11nm,0.8s
D24K Happy Valley 52.09 25 P P 18 01 43.7 +1.0
baz=265
AAK Ala-Archa 52.12 301 P P 18 01 42.1 -1.5
AAK IAmb IAmb 18 01 53.7
comp=Z,12nm,1.1s
AAK Ala-Archa 52.12 301 P P 18 01 42.1 -1.5
AAK pmax pmax
comp=Z,13nm,1.1s
AAK Ala-Archa 52.12 301 P P 18 01 43.5 -0.1
E24K Your Creek 52.12 27 IAmb IAmb 18 02 39.2
comp=Z,30nm,1.9s
E24K Your Creek 52.12 27 P P 18 01 44.4 +1.3
baz=266
C24K Franklin Bluff 52.18 25 P P 18 01 44.6 +1.2
baz=264
H24K Noodor Dome 52.25 29 P P 18 01 45.9 +1.8
baz=268
WAT6 Susitna Watana 52.29 34 P P 18 01 45.4 +0.9
baz=271
M23K Glacier View 52.31 35 P P 18 01 45.9 +1.3
baz=272
F24K Squaw Lake 52.31 27 P P 18 01 46.0 +1.5
baz=267
POKR Poker Plat Res 52.42 30 P P 18 01 45.7 +0.5
POKR IAmb IAmb 18 02 12.9
comp=Z,20nm,1.6s
POKR Poker Plat Res 52.42 30 P P 18 01 47.7 +2.5
baz=269
G24K Hadweenzic Riv 52.44 28 P P 18 01 46.3 +0.9
baz=268
DHY Denali Highway 52.45 33 P P 18 01 46.3 +0.7
baz=271
SCM Sheep Creek Mo 52.50 35 P P 18 01 43.9 -2.1
SCM Sheep Creek Mo 52.50 35 P P 18 01 44.9 -1.1
baz=272
SCM Sheep Creek Mo 52.50 35 P P 18 01 43.9 -2.1
SCM pmax pmax
comp=Z,53nm,1.6s
HDA Harding Lake 52.62 31 P P 18 01 46.9 +0.1
HDA Harding Lake 52.62 31 P P 18 01 48.8 +2.0
baz=270
HDA P P 18 01 48.8 +2.0
baz=270
IL31 52.65 31 P P 18 01 46.8 -0.1
ILAR Eielson Array 52.65 31 P P 18 01 47.1 +0.1
ILAR Eielson Array 52.65 31 P P 18 01 48.0 +1.0
ILAR Eielson Array 52.65 31 P P 18 01 48.0 +1.0
comp=Z,2.8nm,0.8s,baz=266,slow=6.2,SNR=25
comp=Z,2.8nm,0.8s
GLI Glacier Island 52.65 36 P P 18 01 48.8 +1.8
baz=273
BVAR Borovoye Array 52.92 314 P P 18 01 49.0 -0.2
comp=Z,3.3nm,0.6s,baz=83,slow=7.9,SNR=18
BVAR LR LR 18 23 44.0
comp=Z,142nm,21.8s,baz=78,slow=35
comp=Z,3.3nm,0.6s
D25K Kavik River 52.97 25 P P 18 01 48.1 -1.2
D25K Kavik River 52.97 25 P P 18 01 51.6 +2.3
baz=267
BRVK Borovoye 52.98 314 P P 18 01 48.2 -1.4
BRVK Borovoye 52.98 314 P P 18 01 48.2 -1.4
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 52.98 314 P P 18 01 49.4 -0.1
BRVK pP **pP** 18 02 00.2 +1.3
BRVK sP **pwP** 18 02 04.6 +1.2
G25K Bearman Lake 52.99 28 P P 18 01 52.2 +2.8
baz=269
M24K Tolsona, Glenn 53.03 34 P P 18 01 50.4 +0.5
baz=275
Q23K Middleton Isla 53.12 38 P P 18 01 52.4 +2.0
baz=275
F25K Christian Rive 53.18 27 P P 18 01 53.7 +2.8
baz=269
KLU Klutina 53.18 35 P P 18 01 51.6 +0.5
KLU IAmb IAmb 18 03 48.9
comp=Z,35nm,1.5s
KLU Klutina 53.18 35 P P 18 01 53.4 +2.4
baz=273
E25K Arctic Village 53.22 27 P P 18 01 51.2 +0.1
E25K Arctic Village 53.22 27 P P 18 01 54.1 +3.0
baz=269,SNR=7.6
WB0 Warramunga Arr 53.29 188 P P 18 01 52.3 +0.1
PAX Paxson 53.32 33 P P 18 01 54.6 +2.6
baz=273
EYAK Cordova Ski Ar 53.33 36 P P 18 01 54.7 +2.7
baz=274
FITZ Fitzroy Crossi 53.35 199 P P 18 01 53.3 +0.7
CTA Charters Tower 53.43 174 LR LR 18 23 47.2
comp=Z,107nm,21.9s,baz=346,slow=35
WRAB Tennant Creek 53.46 188 P P 18 01 53.5 +0.1
WRAB Tennant Creek 53.46 188 P P 18 01 53.5 +0.1
WRAB pmax pmax
comp=Z,31nm,0.9s
WR0 Warramunga Arr 53.47 188 P P 18 01 53.3 -0.1
WB2 Warramunga Arr 53.47 188 P P 18 01 53.6 +0.1
WRA Warramunga Arr 53.47 188 P P 18 01 54.2 +0.7
comp=Z,22nm,0.6s,baz=5.3,slow=7.6,SNR=64
WRA LR LR 18 23 53.6
comp=Z,1µm,21.9s,baz=182,slow=35
comp=Z,22nm,0.6s
HARP HAARP 53.49 34 P P 18 01 56.0 +2.8
baz=273
C26K Camden Bay 53.51 24 P P 18 01 56.5 +3.3
baz=268,SNR=6.7
RIDG Independent Ri 53.56 32 P P 18 01 53.1 -0.7
RIDG Independent Ri 53.56 32 P P 18 01 55.9 +2.1
baz=273
BMAR Burnt Mountain 53.59 27 P P 18 01 54.0 +0.1
F26K Sheenjek River 53.75 27 P P 18 01 57.9 +2.8
baz=270
N25K Chitina, Valde 53.81 35 P P 18 01 56.5 +0.9
N25K IAmb IAmb 18 02 41.5
comp=Z,24nm,1.8s
BMRM Bremner River 53.86 36 P P 18 01 57.9 +1.9
baz=275
G26K Porcupine Rive 53.90 28 P P 18 02 00.4 +4.2
baz=271
SCRK Sand Creek 53.93 32 P P 18 01 57.1 +0.5
SCRK IAmb IAmb 18 02 25.4
comp=Z,15nm,1.4s
SCRK Sand Creek 53.93 32 P P 18 01 58.5 +2.0
baz=273
J26L Joseph Creek 54.09 31 P P 18 01 58.1 +0.4
J26L Joseph Creek 54.09 31 P P 18 01 58.6 +0.9
baz=273
GLB Gilahina Butte 54.20 35 P P 18 01 59.1 +0.7
GLB IAmb IAmb 18 02 28.9
comp=Z,15nm,1.4s
L26K Log Cabin Wild 54.28 33 P P 18 02 01.8 +2.8
baz=274
SUCK Suckling Hills 54.35 37 P P 18 02 01.2 +1.6
VRDI Verde Repeater 54.39 35 P P 18 02 00.8 +0.7
VRDI IAmb IAmb 18 02 59.5
comp=Z,16nm,1.4s
MCARA McCarthy VSAT 54.58 35 P P 18 02 01.9 +0.7
MCARA IAmb IAmb 18 02 08.4
comp=Z,21nm,1.2s
MCARA McCarthy VSAT 54.58 35 P P 18 02 03.7 +2.5
baz=276
CRQM Cirque 54.59 36 P P 18 02 01.1 -0.4
CRQM IAmb IAmb 18 02 08.2
comp=Z,12nm,0.9s
CRQE Cirque 54.62 36 P P 18 02 03.1 +1.5
baz=276
E27K Coleen River 54.70 27 P P 18 02 02.0 0.0
E27K Coleen River 54.70 27 P P 18 02 03.8 +1.8
baz=272
TGL Tana Glacier 54.74 36 P P 18 02 03.0 +0.5
TGL IAmb IAmb 18 02 52.4
comp=Z,18nm,1.3s
G27K Doyon Strip 54.75 28 P P 18 02 03.4 +1.0
baz=273
K27K Chicken 54.77 32 P P 18 02 03.8 +1.3
baz=275
WAX Waxell Ridge 54.77 36 P P 18 02 04.8 +2.2
H27K Steamboat Moun 54.83 29 P P 18 02 04.2 +1.2
baz=274
I27K Kandik River 54.84 30 P P 18 02 03.4 +0.3
baz=274
KK31 Karatay Array 54.84 302 P P 18 02 02.4 -1.0
KK31 IAmb IAmb 18 02 13.7
comp=Z,23nm,1.2s
KK31 Karatay Array 54.84 302 P P 18 02 02.4 -1.0
KK31 pmax pmax
comp=Z,23nm,1.3s
KKAR Karatay Array 54.84 302 P P 18 02 02.4 -1.0
KKAR Karatay Array 54.84 302 P P 18 02 01.8 -1.6
KKAR IAmb IAmb 18 02 13.7
comp=Z,23nm,1.2s
KKAR Karatay Array 54.84 302 P P 18 02 02.4 -1.0
KKAR pmax pmax
comp=Z,23nm,1.3s
D27M Malcolm River 54.89 25 P P 18 02 04.9 +1.5
baz=272
L27K Beaver Creek, 54.97 33 P P 18 02 05.7 +1.7
baz=276
BCAR Beaver Creek A 54.99 33 P P 18 02 03.3 -0.8
M27K Edge Creek, AK 55.02 34 IAmb IAmb 18 02 12.8
comp=Z,13nm,1.2s
M27K Edge Creek, AK 55.02 34 P P 18 02 06.7 +2.2
baz=276
EGAK Eagle 55.10 31 P P 18 02 04.2 -0.7
EGAK IAmb IAmb 18 02 10.5
comp=Z,24nm,1.9s
EGAK Eagle 55.10 31 P P 18 02 06.6 +1.8
baz=275
MESA MESA 55.25 36 P P 18 02 04.5 -1.8
MESA MESA 55.25 36 P P 18 02 05.4 -0.9
baz=278
BARN Barnard Glacie 55.27 35 P P 18 02 06.1 -0.3
BARN IAmb IAmb 18 02 10.5
comp=Z,40nm,2.0s
F28M Old Crow 55.39 27 P P 18 02 07.8 +0.9
F28M IAmb IAmb 18 02 43.8
comp=Z,14nm,1.4s
F28M Old Crow 55.39 27 P P 18 02 10.0 +3.1
baz=274
CTG Chitna Glacier 55.44 35 P P 18 02 09.9 +2.4
baz=278
E28M Babbage River 55.44 26 P P 18 02 08.8 +1.5
E28M IAmb IAmb 18 02 16.3
comp=Z,30nm,1.9s
E28M Babbage River 55.44 26 P P 18 02 09.8 +2.5
baz=274
CTGM Chitina Glacie 55.45 35 P P 18 02 07.1 -0.5
CTGM IAmb IAmb 18 02 36.2
comp=Z,14nm,1.3s
BTK Batken 55.47 299 P P 18 02 07.1 -0.9
BTK IAmb IAmb 18 02 21.4
comp=Z,10nm,1.1s
BTK Batken 55.47 299 P P 18 02 07.1 -0.9
BTK pmax pmax
comp=Z,10.0nm,1.1s
I28M Miner Creek 55.55 30 P P 18 02 10.6 +2.4
baz=276
TABL Table Mountain 55.61 36 P P 18 02 09.9 +1.1
TABL IAmb IAmb 18 02 56.9
comp=Z,30nm,1.4s
NIL Nilore 55.65 291 P P 18 02 07.2 -2.2
NIL IAmb IAmb 18 02 12.5
comp=Z,18nm,1.1s
NIL Nilore 55.65 291 P P 18 02 07.2 -2.2
NIL pmax pmax
comp=Z,18nm,1.1s
YUK3 Moose Creek 55.75 34 P P 18 02 12.4 +2.5
baz=278
DAWY Dawson 55.94 31 P P 18 02 14.3 +3.3
baz=277
E29M Blow River 56.06 26 IAmb IAmb 18 02 25.1
comp=Z,10.0nm,1.1s
E29M Blow River 56.06 26 P P 18 02 13.9 +2.2
baz=276
PINM Pinnacle 56.10 36 P P 18 02 13.3 +1.1
baz=279
H29M Whitestone 56.11 29 P P 18 02 14.1 +2.0
baz=277
G29M Pine Creek 56.17 28 IAmb IAmb 18 02 16.4
comp=Z,21nm,1.3s
G29M Pine Creek 56.17 28 P P 18 02 15.2 +2.7
baz=276,SNR=6.3
I29M Ogilvie Camp, 56.24 30 P P 18 02 15.3 +2.2
baz=277
M29M Somme Creek 56.58 33 IAmb IAmb 18 02 19.9
comp=Z,9.7nm,0.9s
M29M Somme Creek 56.58 33 P P 18 02 18.9 +3.2
baz=279,SNR=9.9
PNL Peninsula 56.60 37 P P 18 02 18.0 +2.3
baz=280
L29M L29M 56.63 32 IAmb IAmb 18 02 20.4
comp=Z,12nm,0.9s
L29M L29M 56.63 32 P P 18 02 19.0 +3.0
baz=279

YUK4 Talbot Arm 56.68 35 P P 18 02 18.7 +2.2
baz=280
EPYK Eagle Plains 56.75 29 IAmb IAmb 18 02 19.9
comp=Z,17nm,1.1s
EPYK Eagle Plains 56.75 29 P P 18 02 19.3 +2.6
baz=278,SNR=7.4
K29M Barlow Dome 56.79 32 P P 18 02 19.1 +2.0
baz=279
G30M tAoh Zraii Nji 56.86 28 IAmb IAmb 18 02 20.6
comp=Z,15nm,1.2s
G30M tAoh Zraii Nji 56.86 28 P P 18 02 19.9 +2.4
baz=278
YUK6 Outpost Mounta 56.88 35 P P 18 02 21.1 +3.1
baz=280
O29M Mount Kennedy 56.89 36 P P 18 02 20.5 +2.6
baz=280,SNR=5.3
F30M Barrier River 56.94 27 P P 18 02 20.7 +2.7
baz=278
I30M Mount Dempster 57.06 30 IAmb IAmb 18 02 57.7
comp=Z,10nm,1.0s
I30M Mount Dempster 57.06 30 P P 18 02 21.4 +2.4
baz=279,SNR=8.1
J30M Hart River 57.19 31 P P 18 02 22.6 +2.6
baz=279
AS31 Alice Springs 57.20 188 P P 18 02 20.7 +0.4
AS31 IAmb IAmb 18 02 27.8
comp=Z,7.3nm,0.6s
ASAR Alice Springs 57.20 188 P P 18 02 20.9 +0.6
ASAR Alice Springs 57.20 188 P P 18 02 21.1 +0.8
comp=Z,4.0nm,0.4s,baz=3.5,slow=6.8,SNR=89
ASAR LR LR 18 25 32.5
comp=Z,88nm,21.4s,baz=354,slow=34
comp=Z,4.0nm,0.4s
HYT Haines Junctio 57.31 35 P P 18 02 23.4 +2.5
baz=281
M30M Minto, Yukon 57.33 33 P P 18 02 23.4 +2.6
baz=280,SNR=5.7
P29M Windy Craggy 57.43 37 P P 18 02 23.7 +2.1
baz=281
G31M Satah River 57.63 28 P P 18 02 22.9 +0.1
G31M Satah River 57.63 28 P P 18 02 24.4 +1.6
baz=280
INK Inuvik 57.68 26 P P 18 02 25.0 +1.8
baz=280,SNR=6.2
INK Inuvik 57.68 26 P P 18 02 24.4 +1.2
INK pmax pmax
comp=Z,7.0nm,1.1s
P30M Million Dollar 57.72 36 P P 18 02 25.5 +1.8
baz=282
SVE Sverdlovsk 57.77 320 eP P 18 02 24.3 +0.3
SVE pmax pmax
comp=Z,22nm,0.9s
H31M Peel River 57.80 29 IAmb IAmb 18 02 40.0
comp=Z,31nm,1.4s
H31M Peel River 57.80 29 P P 18 02 25.6 +1.5
baz=280
N31M Braeburn, Yuko 58.00 34 P P 18 02 28.1 +2.5
baz=282
O30N Mendenhall 58.01 35 P P 18 02 28.2 +2.5
baz=282
PSA00 Pilbara Seismi 58.37 203 P P 18 02 29.6 +1.1
PSA00 Pilbara Seismi 58.37 203 P P 18 02 29.5 +1.0
PSA00 IAmb IAmb 18 02 52.8
comp=Z,19nm,1.4s
M31M Drury Creek, Y 58.50 33 P P 18 02 31.1 +2.1
M31M IAmb IAmb 18 02 32.3
comp=Z,5.6nm,0.7s
M31M Drury Creek, Y 58.50 33 P P 18 02 31.8 +2.7
baz=282,SNR=5.1
KBL Kabul 58.61 293 P P 18 02 29.1 -1.4
KBL IAmb IAmb 18 02 30.5
comp=Z,13nm,0.9s
KBL Kabul 58.61 293 P P 18 02 29.1 -1.4
KBL pmax pmax
comp=Z,13nm,1.0s
WHY Whitehorse 58.61 35 IAmb IAmb 18 02 33.6
comp=Z,7.1nm,0.8s
WHY Whitehorse 58.61 35 P P 18 02 32.2 +2.2
baz=283,SNR=5.6
SKAG Skagway 58.67 36 P P 18 02 33.4 +3.2
baz=283
FARO Faro, Yukon 58.97 33 P P 18 02 33.7 +1.4
FARO IAmb IAmb 18 02 35.5
comp=Z,5.0nm,0.7s
FARO Faro, Yukon 58.97 33 P P 18 02 34.4 +2.1
baz=283
ARU Arti 58.98 320 P P 18 02 31.7 -0.8
ARU Arti 58.98 320 d iP P 18 02 32.0 -0.4
ARU 18 03 17.3
ARU S S 18 10 39.0 +2.8
ARU SS SS 18 14 30.1 +0.4
ARU pmax pmax
comp=Z,16nm,0.7s
ARU Arti 58.98 320 LR LR 18 30 35.4
comp=Z,118nm,19.2s,baz=77,slow=39
ARU Arti 58.98 320 P P 18 02 32.0 -0.4
ARU pP pP 18 02 42.3 +0.3
ARU sP pwP 18 02 46.4 +0.1
BESE Bessie Mountai 59.12 37 P P 18 02 33.2 -0.2
BESE IAmb IAmb 18 04 14.1
comp=Z,17nm,1.1s
EIDS Eidsvold 59.22 170 P P 18 02 35.3 +1.0
EIDS IAmb IAmb 18 03 06.6
comp=Z,11nm,1.1s
N32M Quiet Lake 59.35 34 IAmb IAmb 18 02 41.6
comp=Z,8.4nm,0.9s
P32M Atlin 59.43 36 P P 18 02 38.3 +2.7
baz=285
S32K Killisnoo 59.54 39 P P 18 02 38.7 +2.4
baz=285
A36M Sachs Harbour 59.67 21 P P 18 02 38.5 +1.6
A36M Sachs Harbour 59.67 21 P P 18 02 39.3 +2.4
baz=285,SNR=13
P33M Teslin, Yukon 59.71 35 IAmb IAmb 18 02 41.2
comp=Z,10.0nm,1.1s
P33M Teslin, Yukon 59.71 35 P P 18 02 39.9 +2.3
baz=285
ABKAR Akbulak array 60.17 312 P P 18 02 39.6 -1.1
ABKAR Akbulak array 60.17 312 P P 18 02 39.8 -1.0
ABKAR IAmb IAmb 18 02 51.2
comp=Z,8.7nm,0.9s
DZM Mont Dzumac 60.21 153 eLR LR 18 20 22.1
comp=Z,222nm,23.4s
DZM Mont Dzumac 60.21 153 LR LR 18 27 01.2
comp=Z,76nm,20.6s,baz=32,slow=34
U33K Whale Pass 60.69 40 P P 18 02 46.1 +1.9
baz=287
C36M Paulatuk 60.78 24 P P 18 02 44.5 -0.1
C36M IAmb IAmb 18 02 46.9
comp=Z,8.5nm,0.8s
C36M Paulatuk 60.78 24 P P 18 02 46.0 +1.5
baz=287,SNR=6.6
R33M Jennings River 60.84 36 P P 18 02 46.4 +1.1
baz=287
AKTO Aktyubinsk 60.99 313 LR LR 18 30 27.7
comp=Z,115nm,18.0s,baz=42,slow=37
S34M Telegraph Cree 61.19 37 P P 18 02 49.4 +1.9
baz=288
PALK Pallekele 61.48 259 LR LR 18 28 40.8
comp=Z,44nm,21.6s,baz=162,slow=35
T35M Bob Quinn 61.94 38 P P 18 02 56.0 +3.4
baz=289
KIRV Kirov 63.04 324 LR LR 18 31 32.5
comp=Z,119nm,18.3s,baz=67,slow=37
PRGR Permogore 63.71 328 eP P 18 03 02.9 -1.4
PRGR pmax pmax
comp=Z,17nm,1.0s
ALE Alert 63.71 3 P P 18 03 05.3 +1.2
ALE sP pwP 18 03 20.3 +2.0
EUNU Eureka 63.77 8 P P 18 03 05.0 +0.5
STKA Stephens Creek 64.95 180 P P 18 03 14.0 +1.3
STKA Stephens Creek 64.95 180 P P 18 03 14.0 +1.3
comp=Z,3.3nm,0.8s,baz=64,slow=6.1,SNR=4.9
comp=Z,3.3nm,0.8s
FORT Forrest 65.06 192 P P 18 03 13.2 -0.2
GEYT Alibeck 65.47 300 P P 18 03 16.5 +0.2
comp=Z,3.5nm,0.8s,baz=78,slow=14,SNR=4.4
GEYT LR LR 18 33 48.6
comp=Z,130nm,18.2s,baz=68,slow=38
comp=Z,3.5nm,0.8s
RES Resolute Bay 66.13 14 P P 18 03 20.4 +0.5
RES IAmb IAmb 18 03 21.9
comp=Z,9.6nm,0.9s
RES Resolute Bay 66.13 14 P P 18 03 20.4 +0.5
RES pmax pmax
comp=Z,10.0nm,1.0s
BELG Belogornoye 66.34 318 i P P 18 03 21.8 +0.2
BELG pmax pmax
comp=Z,3.0nm,0.8s
BELG Belogornoye 66.34 318 LR LR 18 34 37.0
comp=Z,122nm,18.8s,baz=280,slow=38
KLMR Klimovskoe 66.72 329 eP P 18 03 23.0 -0.9
KLMR AMP 18 03 26.3
comp=Z,25nm,2.0s
KLMR Klimovskoe 66.72 329 eP P 18 03 22.9 -0.9
KLMR pmax pmax
comp=Z,25nm,2.0s
YKA Yellowknife Ar 67.02 29 P P 18 03 26.9 +1.2
comp=Z,1.4nm,0.8s,baz=295,slow=6.4,SNR=14
comp=Z,1.4nm,0.8s
ARCES ARCESS Array B 67.31 340 P P 18 03 27.9 +0.4
comp=Z,8.6nm,1.0s,baz=52,slow=7.9,SNR=4.5
ARCES LR LR 18 35 58.2
comp=Z,112nm,20.7s,baz=358,slow=39
comp=Z,8.6nm,1.0s
NEEM North Greenlan 69.13 3 i P P 18 03 38.4 -0.7
NEEM IAmb IAmb 18 03 45.6
comp=Z,8.8nm,0.8s
DAG Danmarks Havn 69.35 355 i P P 18 03 40.0 -0.1
DAG IAmb IAmb 18 03 45.5
comp=Z,4.3nm,0.8s
NWAO Narrogin (SRO) 69.75 201 P P 18 03 44.3 +1.2
NWAO pP pP 18 03 55.1 +2.2
NWAO sP pwP 18 03 59.8 +3.0
VRH Novokhopyorsk 70.16 319 eP P 18 03 46.2 +0.7
VRH pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 70.89 324 deP P 18 03 51.0 +1.1
OBN e 18 04 12.4
OBN e 18 06 32.9
OBN ePPP PPP 18 08 16.2
OBN eS S 18 13 08.5 +5.9
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,129nm,18.0s
LPSR Galich'ya Gora 70.97 321 eP P 18 03 50.6 +0.2
LPSR pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 71.55 320 eP P 18 03 54.0 +0.1
VSR pmax pmax
comp=Z,10.0nm,0.7s
FINES FINESS Array B 71.93 333 P P 18 03 56.3 +0.2
comp=Z,3.3nm,0.6s,baz=108,slow=6.3,SNR=11
comp=Z,3.3nm,0.6s
GOF Gofitskoye 72.39 313 ceP P 18 03 55.3 -3.8
UOSS Minazif 72.78 289 P P 18 04 01.3 -0.5
UOSS IAmb IAmb 18 04 19.3
comp=Z,27nm,1.4s
NEW Newport 72.85 43 P P 18 04 05.2 +3.3
baz=301
ZEI Tsey 72.97 310 eP P 18 04 02.0 -0.9
ZEI pmax pmax
comp=Z,9.0nm,1.3s
KBZ Khabaz 73.14 311 i P P 18 04 04.2 +0.6
KBZ pmax pmax
comp=Z,13nm,1.0s
KBZ Khabaz 73.14 311 P P 18 04 03.8 +0.3
comp=Z,8.0nm,0.8s,baz=87,slow=5.4,SNR=14
KBZ LR LR 18 38 49.2
comp=Z,107nm,18.1s,baz=46,slow=38
comp=Z,8.0nm,0.8s
KIV Kislovodsk 73.16 312 ⇓P P 18 04 04.8 +1.0
KIV Kislovodsk 73.16 312 P P 18 04 04.2 +0.4
KIV Kislovodsk 73.16 312 eP P 18 04 04.2 +0.4
KIV pmax pmax
comp=Z,21nm,1.1s
KIV MLR MLR
comp=Z,74nm,18.0s
SHA1 Shidzhatmaz 73.28 312 i P P 18 04 06.0 +1.2
MEF Metsahovi 73.34 332 eP P 18 04 04.5 +0.1
ONI Oni 73.36 310 IAmb IAmb 18 04 30.9
comp=Z,19nm,1.3s
VSU Vasula 73.48 330 eP P 18 04 05.6 +0.4
NEUR Neytrino 73.50 311 i P P 18 04 08.1 +2.1
NEUR pmax pmax
comp=Z,6.0nm,1.2s
GNI Garni 73.74 308 LR LR 18 39 06.6
comp=Z,134nm,19.9s,baz=68,slow=38
RAF Rauma 73.82 334 eP P 18 04 06.8 -0.5
SUMG Summit 74.28 360 P P 18 04 11.6 +1.3
SUMG IAmb IAmb 18 04 13.1
comp=Z,12nm,1.0s
SUMG Summit 74.28 360 P P 18 04 11.6 +1.3
SUMG pmax pmax
comp=Z,12nm,1.0s
SUMG Summit 74.28 360 i P P 18 04 11.0 +0.7
SUMG IAmb IAmb 18 04 16.9
comp=Z,4.8nm,0.8s
MTSE Matsula 74.52 331 eP P 18 04 12.6 +1.3
MNK Minsk 75.39 326 i P P 18 04 14.9 -1.5
comp=E,6.0nm,1.1s
MNK i P P 18 04 14.9 -1.5
comp=N,11nm,1.2s
MNK i P P 18 04 14.9 -1.5
comp=Z,4.0nm,0.8s,baz=53
MNK i PcP sP 18 04 27.9 -1.9
MNK i PP PP 18 07 03.6 -1.4
MNK i PPP PPP 18 08 49.9
MNK i S S 18 13 52.7 -1.0
MNK i SS SS 18 18 53.6 +10
MNK i SSS SSS 18 22 06.9
MNK i LR LR 18 39 31.4
MNK i LRM MLR 18 42 32.9
comp=Z,100nm,15.3s
MNK Minsk 75.39 326 i P P 18 04 14.9 -1.5
MNK i 18 04 27.8
MNK i 18 07 03.6
MNK i PPP PPP 18 08 49.8
MNK i S S 18 13 52.7 -1.0
MNK i SS SS 18 18 53.6 +10
MNK i SSS SSS 18 22 06.9
MNK pmax pmax
comp=Z,4.0nm,0.8s
MNK pmax pmax
comp=E,6.0nm,1.1s
MNK pmax pmax
comp=N,11nm,1.2s
MNK MLR MLR
comp=Z,100nm,15.0s
MSO Missoula 75.44 43 P P 18 04 20.2 +3.1
baz=303
NACGM Naroch 75.65 327 eP P 18 04 18.6 +0.6
baz=52
GURO Guroymak-BITLI 76.36 307 P P 18 04 23.1 +0.6
GURO IAmb IAmb 18 04 40.9
comp=Z,12nm,1.2s
PABE Paberze 76.52 329 eP P 18 04 23.7 +0.8
FFC Flin Flon 76.83 32 P P 18 04 25.7 +1.0
FFC Flin Flon 76.83 32 P P 18 04 25.7 +1.0
FFC pmax pmax
comp=Z,4.0nm,0.9s
HLID Hailey 76.97 46 P P 18 04 28.4 +2.5
baz=304
AKASG Malin Array Be 77.05 323 P P 18 04 25.8 -0.2
comp=Z,3.3nm,0.5s,baz=49,slow=5.7,SNR=22
AKASG LR LR 18 41 12.7
comp=Z,123nm,18.0s,baz=31,slow=38
comp=Z,3.3nm,0.5s
AKBB Malin Array Si 77.05 323 IAmb IAmb 18 04 48.0
comp=Z,9.9nm,0.9s
KIEV Kiev 77.06 323 ⇓P P 18 04 25.6 -0.4
KIEV Kiev 77.06 323 P P 18 04 25.2 -0.8
KIEV IAmb IAmb 18 04 48.0
comp=Z,8.3nm,0.8s
KIEV Kiev 77.06 323 ⇓P P 18 04 25.6 -0.4
EGMT Eagleton 77.10 41 P P 18 04 28.7 +2.2
baz=306
NVAR Mina Array Bea 77.30 52 P P 18 04 30.4 +2.4
comp=Z,2.2nm,0.8s,baz=289,slow=5.7,SNR=15
comp=Z,2.2nm,0.8s
FCC Fort Churchill 77.30 26 P P 18 04 27.6 +0.4
FCC Fort Churchill 77.30 26 P P 18 04 27.6 +0.4
FCC pmax pmax
comp=Z,8.0nm,1.2s
HFS Hagfors 77.30 336 P P 18 04 27.4 +0.1
comp=Z,3.0nm,0.6s,baz=96,slow=3.0,SNR=16
comp=Z,3.0nm,0.6s
VIKU Vikbolandet 77.42 334 eP P 18 04 26.4 -1.5
NB2 NORSAR Subarra 77.44 338 P P 18 04 27.9 -0.2
comp=Z,2.6nm,0.7s,baz=41,slow=5.6
NB2 NORSAR Subarra 77.44 338 P P 18 04 26.6 -1.5
NB2 pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 77.44 338 P P 18 04 28.6 +0.5
comp=Z,4.3nm,0.8s,baz=40,slow=5.7,SNR=20
NOA LR LR 18 41 52.2
comp=Z,72nm,18.6s,baz=85,slow=38
comp=Z,4.3nm,0.8s
PKM Mcpherson Peak 78.18 56 P P 18 04 35.5 +2.6
baz=303
ARPR Arapgir-MALATY 78.50 309 P P 18 04 34.6 +0.1
ARPR IAmb IAmb 18 04 54.9
comp=Z,19nm,1.0s
CWC Cottonwood Cre 78.53 54 P P 18 04 36.8 +2.1
baz=303
ISA Isabella, Lake 78.68 55 P P 18 04 37.3 +1.8
baz=303
GRAC Grapevine Rang 78.70 53 P P 18 04 38.5 +3.0
baz=303,SNR=5.5
URZ Urewera 78.75 152 LR LR 18 34 47.1
comp=Z,36nm,21.8s,baz=235,slow=32
H17A Grant Village 78.76 44 P P 18 04 39.2 +3.2
baz=306
SORM Soroca 79.08 321 ⇓P P 18 04 37.1 -0.2
SORM Soroca 79.08 321 ⇓P P 18 04 37.1 -0.2
RLMT Red Lodge 79.09 43 P P 18 04 40.0 +2.3
baz=307
R11B Troy Canyon, C 79.13 51 P P 18 04 40.4 +2.4
baz=304,SNR=6.8
MPMC Manual Prospec 79.14 54 P P 18 04 40.0 +1.9
baz=304
Q12A Willow Creek R 79.23 50 P P 18 04 37.4 -1.2
LRMC Laurel Mtn Rad 79.32 55 P P 18 04 41.1 +2.0
baz=304
FURC Furnace Creek, 79.33 53 P P 18 04 41.0 +2.2
baz=304
EDW2 Edwards Air Fo 79.44 55 P P 18 04 42.0 +2.4
baz=303
TPNV Topopah Spring 79.47 53 P P 18 04 42.6 +2.7
baz=304,SNR=11
SPR3 Spring Creek 3 79.58 50 P P 18 04 40.9 +0.3
SPR3 IAmb IAmb 18 05 10.7
comp=Z,18nm,1.8s
GWY Greenwater Val 79.62 54 IAmb IAmb 18 04 43.9
comp=Z,9.4nm,0.9s
DGMT Dagmar 79.77 38 P P 18 04 43.3 +2.2
baz=310
LAO LASA Array 79.82 40 P P 18 04 43.6 +2.1
baz=308
DUG Dugway, Tooele 79.86 48 P P 18 04 44.4 +2.5
baz=305
GSC Goldstone, Bar 80.02 54 P P 18 04 44.6 +1.8
baz=304
BFSC Mount Baldy Ra 80.02 56 P P 18 04 45.1 +2.2
baz=304
BW06 Boulder Array 80.33 45 P P 18 04 45.9 +1.5
baz=307
PDAR Pinedale Array 80.33 45 P P 18 04 45.8 +1.3
comp=Z,0.8nm,0.7s,baz=349,slow=1.4,SNR=7.0
comp=Z,0.8nm,0.7s
TUQ Turquoise Moun 80.54 54 P P 18 04 48.1 +2.4
baz=304
HEC Hector,Ludlow 80.60 55 P P 18 04 48.3 +2.4
baz=304
MURC Murrieta 80.69 56 P P 18 04 48.4 +2.0
baz=304
TESR Tescani 81.00 321 ⇑P P 18 04 48.0 +0.3
BUR08 Bucovina Ar. S 81.03 322 IAmb IAmb 18 06 32.5
comp=Z,25nm,1.8s
CFR Carcaliu 81.04 319 ⇓P P 18 04 49.6 +1.7
CFR Carcaliu 81.04 319 ⇓P P 18 04 49.6 +1.7
BURAR Bucovina Array 81.04 322 ⇑P P 18 04 48.1 +0.1
BURAR Bucovina Array 81.04 322 P P 18 04 47.8 -0.2
BURAR Bucovina Array 81.04 322 ⇑P P 18 04 48.1 +0.1
TPGR Topolog 81.08 318 ⇑P P 18 04 48.8 +0.6
GMRC Granite Mounta 81.08 54 P P 18 04 51.1 +2.5
baz=305
BR131 Keskin Array S 81.12 312 i P P 18 04 49.6 +0.9
BRTR Keskin Array B 81.12 312 P P 18 04 48.5 -0.2
comp=Z,1.6nm,0.8s,baz=123,slow=4.5,SNR=8.7
comp=Z,1.6nm,0.8s
PFO Pinyon Flats O 81.20 56 P P 18 04 49.3 +0.1
PFO Pinyon Flats O 81.20 56 P P 18 04 51.9 +2.7
baz=304
PFO Pinyon Flats O 81.20 56 P P 18 04 49.3 +0.1
PFO pmax pmax
comp=Z,22nm,0.4s
PFO Pinyon Flats O 81.20 56 LR LR 18 36 18.8
comp=Z,116nm,19.4s,baz=260,slow=32
TPFO Pinon Flats 81.20 56 P P 18 04 51.7 +2.5
baz=304,SNR=5.7
BELC Belle Mtn. Jos 81.30 55 P P 18 04 51.5 +1.8
baz=304,SNR=8.1
VRI Vrincioaia 81.37 320 ⇑P P 18 04 51.1 +1.4
VRI Vrincioaia 81.37 320 ⇑P P 18 04 51.1 +1.4
PLOR Plostina 81.42 320 ⇓P P 18 04 51.4 +1.4
PLOR Plostina 81.42 320 ⇓P P 18 04 51.4 +1.4
HARR Harsova 81.46 319 ⇑P P 18 04 51.0 +0.9
HARR Harsova 81.46 319 ⇑P P 18 04 51.0 +0.9
RPZ Rata Peaks 81.47 159 LR LR 18 35 17.7
comp=Z,94nm,21.1s,baz=321,slow=31
MONP2 Monument Peak 81.63 56 P P 18 04 53.7 +2.1
baz=304
OZUR 81.72 321 ⇓P P 18 04 53.0 +1.4
IRM Iron Mountain 81.79 55 P P 18 04 54.3 +2.1
baz=305
BC3 Big Chuckawall 81.86 55 P P 18 04 55.1 +2.4
baz=305
ICOR Ion Corvin 81.89 318 ⇓P P 18 04 54.0 +1.6
IKP In-Ko-Pah, Jac 81.98 56 P P 18 04 55.7 +2.4
baz=305
DOPR Dopca 82.02 321 ⇑P P 18 04 54.5 +1.4
MLR Muntele Rosu 82.03 320 ⇓P P 18 04 55.3 +1.9
MLR Muntele Rosu 82.03 320 ⇓P P 18 04 55.3 +1.9
MLR Muntele Rosu 82.03 320 LR LR 18 46 31.0
comp=Z,144nm,18.1s,baz=64,slow=39
PDMCI Parker Dam,Lak 82.39 54 P P 18 04 57.2 +1.9
baz=305
VOIR 82.54 320 ⇑P P 18 04 56.4 +0.4
VOIR 82.54 320 ⇑P P 18 04 56.4 +0.4
RSSD Black Hills 82.64 41 P P 18 04 57.2 +0.5
baz=310
O20A White River Ci 82.71 46 P P 18 04 58.9 +1.8
baz=308
ARR Arges 82.81 321 ⇓P P 18 04 59.4 +2.1
LANS Liptovska Anna 82.84 326 eP P 18 05 00.9 +3.5
LANS Liptovska Anna 82.84 326 eP P 18 05 00.9 +3.5
PPT2 Papeete2 83.20 116 eLR LR 18 31 16.7
comp=Z,106nm,24.8s
PPT2 eLR LR 18 31 23.9
comp=Z,175nm,26.8s
MORC Moravsky Berou 83.28 327 eP P 18 05 02.9 +3.2
DPC Dobruska-Polom 83.42 328 eP P 18 05 02.0 +1.6
DPC Dobruska-Polom 83.42 328 eP P 18 05 02.0 +1.6
PSZ Piszkesteto 83.49 325 ⇑P P 18 05 02.2 +1.4
PSZ Piszkesteto 83.49 325 P P 18 05 00.5 -0.3
PSZ IAmb IAmb 18 05 05.7
comp=Z,10.0nm,0.9s
PSZ Piszkesteto 83.49 325 ⇑P P 18 05 02.2 +1.4
WUAZ Wupatki 83.52 52 P P 18 05 03.5 +2.1
baz=307
VYHS Vyhne 83.59 326 eP P 18 05 04.5 +3.3
VYHS Vyhne 83.59 326 eP P 18 05 04.6 +3.3
VYHS pmax pmax
comp=Z,19nm,1.7s
N23A Red Feather La 83.60 45 P P 18 05 03.8 +2.0
baz=309
SIRR Siria 83.75 323 ⇑P P 18 05 03.9 +1.8
GZR Gura Zlata 83.77 321 ⇑P P 18 05 02.7 +0.4
GZR Gura Zlata 83.77 321 ⇑P P 18 05 02.7 +0.4
SURR Surduc 83.86 322 ⇑P P 18 05 03.3 +0.6
MMAI Mount Meron Ar 83.92 306 P P 18 05 03.2 -0.1
comp=Z,5.6nm,0.9s,baz=29,slow=5.3,SNR=6.2
MMAI LR LR 18 45 56.9
comp=Z,91nm,20.3s,baz=28,slow=38
comp=Z,5.6nm,0.9s
AGMN Agassiz Nation 84.00 34 P P 18 05 04.1 +0.8
baz=315
VRAC Vranov 84.05 327 ⇑P P 18 05 05.2 +1.6
VRAC Vranov 84.05 327 eP P 18 05 04.7 +1.1
VRAC Vranov 84.05 327 ⇑P P 18 05 05.2 +1.6
VRAC Vranov 84.05 327 LR LR 18 45 12.0
comp=Z,119nm,18.7s,baz=40,slow=38
CLL Collm 84.14 330 eP P 18 05 04.0 +0.1
CLL ePcP PcP 18 05 07.0 -0.7
CLL ex x 18 05 22.0
CLL ex x 18 05 29.0
comp=Z,14nm,1.3s

CLL	**Collm**	**84.14**	**330**	*e*P		**P**		**18 05 04.0**	**+0.1**
BZS	**Buzias**	**84.22**	**322**	⇓P		**P**		**18 05 04.8**	**+0.3**
BZS	**Buzias**	**84.22**	**322**	⇓P		**P**		**18 05 04.8**	**+0.3**
SMOL	**Smolenice**	**84.24**	**326**	*e*P		**P**		**18 05 08.0**	**+3.4**
KRUC	**Moravsky**	**84.32**	**327**	*e*P		**P**		**18 05 05.3**	**+0.4**
SRO	**Srobarova**	**84.32**	**325**	*e*P		**P**		**18 05 06.2**	**+1.2**
SRO	**Srobarova**	**84.32**	**325**	*e*P		**P**		**18 05 06.2**	**+1.2**
SRO					pmax	pmax			
	comp=Z,10.0nm,0.7s								
MVCO	**Mesa Verde**	**84.34**	**49**	P		**P**		**18 05 07.4**	**+1.8**
	baz=306								
MODS	**Modra-Piesok**	**84.41**	**326**	*e*P		**P**		**18 05 07.9**	**+2.5**
MODS	**Modra-Piesok**	**84.41**	**326**	*e*P		**P**		**18 05 07.9**	**+2.5**
MODS					pmax	pmax			
	comp=Z,27nm,1.6s								
PRU	**Pruhonice**	**84.47**	**329**	*e*P		**P**		**18 05 05.9**	**+0.2**
PRU	**Pruhonice**	**84.47**	**329**	*e*P		**P**		**18 05 05.9**	**+0.2**
HSKC	**Hora Svate Kat**	**84.48**	**330**	*e*P		P		18 04 54.4	-11
ISCO	**Idaho Springs**	**84.49**	**45**	P		**P**		**18 05 07.8**	**+1.4**
	baz=310								
214A	**Organ Pipe Nat**	**84.66**	**55**	P		**P**		**18 05 08.9**	**+1.9**
	baz=306								
MDVR	**Moldovita**	**84.74**	**322**	⇑P		**P**		**18 05 07.5**	**+0.3**
BLKB	**Belogradchik**	**85.02**	**320**	⇓P		**P**		**18 05 09.7**	**+1.1**
ZVC	**Zvikov**	**85.03**	**328**	*e*P		**P**		**18 05 08.4**	**-0.1**
S22A	**4UR Ranch, Cre**	**85.05**	**48**	P		**P**		**18 05 10.9**	**+1.7**
	baz=309								
ELL	**Elmali**	**85.26**	**311**	P		**P**		**18 05 10.1**	**0.0**
ELL	**Elmali**	**85.26**	**311**	P		**P**		**18 05 10.1**	**0.0**
ELL					pmax	pmax			
	comp=Z,166nm,1.6s								
MORH	**Mrgy, Hungar**	**85.30**	**324**	⇓P		**P**		**18 05 10.9**	**+1.0**
Q24A	**Divide**	**85.30**	**46**	P		**P**		**18 05 11.9**	**+1.4**
	baz=310								
RONA	**Rosalia, Austr**	**85.35**	**326**	*e*PcP		**P**		**18 05 11.1**	**+0.9**
	comp=Z,6.9nm,0.9s								
CONA	**Conrad Observa**	**85.39**	**327**	*e*P		**P**		**18 05 10.2**	**-0.2**
	comp=Z,9.5nm,1.3s								
CKRC	**Cesky Krumlov**	**85.43**	**328**	*e*P		**P**		**18 05 10.0**	**-0.6**
CKRC	**Cesky Krumlov**	**85.43**	**328**	*e*P		**P**		**18 05 10.0**	**-0.6**
FRGS	**Fruska Gora**	**85.46**	**323**	⇓P		**P**		**18 05 11.6**	**+0.8**
TAOE	**Nuku Hiva Isla**	**85.48**	**104**	*e*LR		LR		18 32 22.0	
	comp=Z,210nm,23.1s								
KHC	**Kasperske Hory**	**85.52**	**329**	*e*P		**P**		**18 05 11.3**	**+0.3**
KHC	**Kasperske Hory**	**85.52**	**329**	*e*P		**P**		**18 05 11.3**	**+0.3**
GERES	**GERESS Array B**	**85.68**	**328**	P		**P**		**18 05 11.8**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=38,slow=5.0,SNR=4.8								
	comp=Z,1.3nm,0.8s								
SDCO	**Great Sand Dun**	**85.87**	**47**	P		**P**		**18 05 14.9**	**+1.6**
	baz=310								
MOA	**Molln**	**86.17**	**327**	*e*PcP		**PcP**		**18 05 15.7**	**-1.2**
	comp=Z,1.4nm,0.6s								
EIL	**Elat**	**86.20**	**303**	LR		LR		18 45 50.1	
	comp=Z,43nm,21.4s,baz=66,slow=37								
EKA	**Eskdalemuir Ar**	**86.47**	**341**	P		**P**		**18 05 15.9**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=34,slow=5.2,SNR=2.8								
	comp=Z,2.4nm,0.9s								
SOKA	**Soboth**	**86.69**	**326**	*e*PcP		**PcP**		**18 05 18.4**	**-0.9**
	comp=Z,10nm,1.9s								
TBI	**Tubuai**	**86.83**	**121**	*e*LR		LR		18 32 34.4	
	comp=Z,498nm,27.2s								
ECSD	**EROS Data Cent**	**86.86**	**38**	P		**P**		**18 05 19.2**	**+1.5**
	baz=315								
T25A	**Trinidad**	**86.92**	**47**	P		**P**		**18 05 20.1**	**+1.7**
	baz=310								
OBKA	**Obir**	**87.04**	**326**	*e*PcP		**P**		**18 05 18.9**	**+0.3**
	comp=Z,8.2nm,1.2s								
ANMO	**Albuquerque**	**87.04**	**50**	P		**P**		**18 05 21.0**	**+2.0**
	baz=309								
ANMO	**Albuquerque**	**87.04**	**50**	*i* P		**P**		**18 05 20.1**	**+1.1**
ANMO					pmax	pmax			
	comp=Z,1.0nm,1.0s								
MOTA	**Moosalm**	**87.96**	**329**	*e*PcP		**P**		**18 05 23.2**	**+0.1**
	comp=Z,3.9nm,1.1s								
FUORN	**Ofenpass-Fuorn**	**88.88**	**329**	IAmb		IAmb		18 05 49.0	
	comp=Z,12nm,1.4s								
MNTX	**Cornudas Mount**	**89.80**	**51**	P		**P**		**18 05 33.6**	**+1.7**
	baz=310								
KSU1	**Kansas State U**	**90.13**	**41**	P		**P**		**18 05 34.9**	**+1.7**
	baz=315								
LPIG	**La Paz**	**91.13**	**60**	LR		LR		18 39 31.2	
	comp=Z,31nm,21.3s,baz=21,slow=31								
WMOK	**Wichita Mounta**	**91.92**	**46**	P		**P**		**18 05 42.3**	**+0.6**
WMOK					IAmb	IAmb		18 05 58.5	
	comp=Z,7.1nm,1.1s								
WMOK	**Wichita Mounta**	**91.92**	**46**	P		**P**		**18 05 42.3**	**+0.6**
WMOK					pmax	pmax			
	comp=Z,7.0nm,1.2s								
TXAR	**Lajitas Array**	**92.45**	**52**	P		**P**		**18 05 46.4**	**+2.1**
	comp=Z,2.0nm,0.6s,baz=305,slow=3.4,SNR=16								
	comp=Z,2.0nm,0.6s								
BRDY	**Brady**	**94.15**	**48**	P		**P**		**18 05 52.9**	**+0.8**
BRDY					IAmb	IAmb		18 06 00.0	
	comp=Z,5.4nm,1.1s								
TORD	**Torodi Ar. Bea**	**119.71**	**313**	PKP		**PKPdf**		**18 11 23.4**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=338,slow=2.7,SNR=1.9								
QSPA	**South Pole Qui**	**123.18**	**180**	PKP		**PKPdf**		**18 11 28.9**	**+0.2**
	comp=Z,4.4nm,1.0s,baz=354,slow=0.6,SNR=12								
ELIB	**Princess Elisa**	**130.00**	**201**	*d*PP		**PP**		**18 13 54.0**	**-0.6**

*SJA **19** 18:20:12.2±0.7,24°.24S×67°.16W,h210km±5km, ML5.0, MW4.8*

*IDC **19** 18:20:13.9±0.9,24°.18S×66°.98W,h170km±8km, mb4.3/14, mbtmp4.8/20, Error ellipse: s-maj=11.9km s-min=9.5km az=40.0*

*NEIC **19** 18:20:13.4±1.9,24°.26S±0°.05×67°.10W±0°.08,h175km±6km, mb4.8/257, Error ellipse: s-maj=10.8km s-min=7.4km az=90.0*

*GUC **19** 18:20:15.0±0.6,24°.21S×67°.46W,h210km±5km, ML5.2*

*GCMT **19** 18:20:19.4±0.3,24°.26S±0°.02×67°.13W±0°.02,h204km±2km, MW5.0/99, Moment Tension Solution. s31,c34; s99,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.72±.15; $M_{\theta\theta}$-0.16±.18; $M_{\phi\phi}$3.88±.21; $M_{r\theta}$1.21±.12; $M_{r\phi}$-0.59±.20; $M_{\theta\phi}$-2.02±.16; Best double couple: M₀4.51100×10^{16} NP1:ϕs340.00000°,δ61.00000°,λ-102.00000°. NP2: ϕs184.00000°,δ31.00000°,λ-69.00000°. Principal axes: T 4.5460, Plg15.0000°, Azm79.0000°; N -0.0740, Plg11.0000°, Azm346.0000°; P -4.4750, Plg71.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 18:20:13.8±0.5,24°.25S±0°.03×67°.21W±0°.04,h178km±4km, n525,σ1ϕ33/510,mb4.8/136,9C-5D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.57**	**325**			**Pn**	**18 20 48.1**	**+1.4**
AF01					Sn	**Sn**	**18 21 13.5**	**+1.4**
AF01	**San Pedro de A**	**1.57**	**325**	*e*P		**Pn**	**18 20 48.5**	**+1.8**
AF01				*i* S		**Sn**	**18 21 14.7**	**+2.6**
AF01				IAML			18 21 17.9	
	comp=E,11μm,0.6s							
SLA	**San Lorenzo**	**1.62**	**107**	*e*P		**Pn**	**18 20 48.5**	**+1.5**
SLA				*e*S		**Sn**	**18 21 14.8**	**+2.1**
SLA				IAML			18 21 18.6	
	comp=Z,3μm,0.9s							
AZAP	**Zapla**	**1.95**	**90**	*e*P		**Pn**	**18 20 51.2**	**+0.7**
AZAP				IAML			18 21 26.4	
	comp=Z,3μm,1.0s							
LVC	**Limon Verde**	**2.26**	**316**	Pn		**Pn**	**18 20 55.2**	**+1.1**
LVC				Sn		**Sn**	**18 21 25.3**	**0.0**
LVC	**Limon Verde**	**2.26**	**316**	*e*P		**Pn**	**18 20 55.2**	**+1.1**
LVC				IAML			18 21 30.7	
	comp=Z,4μm,0.7s							
LVC	**Limon Verde**	**2.26**	**316**	P		**Pn**	**18 20 55.4**	**+1.3**
	comp=Z,805nm,0.5s,baz=139,slow=5.8,SNR=240							
LVC					S	**Sn**	**18 21 26.4**	**+1.1**
	comp=Z,3μm,0.4s,baz=243,slow=21,SNR=18							
LVC	**Limon Verde**	**2.26**	**316**	⇑*i*P		**Pn**	**18 20 55.4**	**+1.3**
LVC				*e*S		**Sn**	**18 21 25.6**	**+0.3**
PB15	**IPOC Station P**	**2.32**	**296**	Pn		**Pn**	**18 20 55.9**	**+1.4**
GO02	**Mina Guanaco**	**2.35**	**247**			**Pn**	**18 20 56.4**	**+1.4**
GO02					Sn	**Sn**	**18 21 28.2**	**+1.3**
GO02	**Mina Guanaco**	**2.35**	**247**	*e*P		Pn	18 20 48.9	-6.0
GO02				*e*S		**Sn**	**18 21 29.3**	**+2.4**
GO02	**Mina Guanaco**	**2.35**	**247**	⇑*i*P		**Pn**	**18 20 56.5**	**+1.4**
GO02				*i* S		**Sn**	**18 21 28.3**	**+1.4**
GO02				IAML			18 21 31.0	
	comp=N,12μm,0.2s							
ASTB	**Santa Barbara**	**2.54**	**84**	*e*P		**Pn**	**18 20 57.8**	**+0.8**
YJA	**Yavi**	**2.59**	**37**	*e*P		**Pn**	**18 20 58.8**	**+0.8**
YJA				*e*S		**Sn**	**18 21 33.5**	**+1.4**
PB06	**IPOC Station P**	**2.66**	**305**	Pn		**Pn**	**18 20 59.1**	**+0.6**
PB06				Sn		**Sn**	**18 21 31.9**	**-1.3**
PB06	**IPOC Station P**	**2.66**	**305**	*e*P		**Pn**	**18 20 59.7**	**+1.2**
PB06				*e*S		**Sn**	**18 21 33.4**	**+0.2**
PB06	**IPOC Station P**	**2.66**	**305**	⇑*i*P		**Pn**	**18 20 59.7**	**+1.2**
PB06				*e*S		**Sn**	**18 21 33.0**	**-0.2**
PB06				IAML			18 21 35.7	
	comp=E,10μm,0.3s							
PB14	**IPOC Station P**	**2.94**	**262**	Pn		**Pn**	**18 21 02.4**	**+0.5**
PB14				Sn		**Sn**	**18 21 37.9**	**-1.5**
PB14	**IPOC Station P**	**2.94**	**262**	*e*P		Pn	18 20 44.2	-18
PB14				IAML			18 21 44.7	
	comp=Z,3μm,0.6s							
PB14	**IPOC Station P**	**2.94**	**262**	⇑*i*P		**Pn**	**18 21 02.6**	**+0.7**
PB14				*i* S		**Sn**	**18 21 38.5**	**-0.8**
PB14				IAML			18 21 41.0	
	comp=E,2μm,0.4s							
ALOL	**LOMAS DE OLMED**	**2.98**	**82**	*e*P		**Pn**	**18 21 02.5**	**+0.3**
PB09	**IPOC Station P**	**3.08**	**322**	Pn		**Pn**	**18 21 04.6**	**+1.1**
PB09				Sn		**Sn**	**18 21 41.6**	**-0.7**
PB09	**IPOC Station P**	**3.08**	**322**	*e*P		**Pn**	**18 21 04.8**	**+1.2**
PB09				*e*S		**Sn**	**18 21 42.9**	**+0.6**
PB09				IAML			18 21 43.7	
	comp=Z,3μm,0.8s							
PB09	**IPOC Station P**	**3.08**	**322**	⇑*i*P		**Pn**	**18 21 05.0**	**+1.4**
PB09				*i* S		**Sn**	**18 21 42.2**	**-0.1**
PB09				IAML			18 21 50.8	
	comp=N,3μm,0.6s							
PB05	**IPOC Station P**	**3.08**	**296**			**Pn**	**18 21 04.1**	**+0.6**
PB04	**IPOC Station P**	**3.31**	**305**			**Pn**	**18 21 06.7**	**+0.4**
PB04				Sn		**Sn**	**18 21 44.7**	**-2.7**
PB04	**IPOC Station P**	**3.31**	**305**	*e*P		**Pn**	**18 21 06.8**	**+0.4**
PB04				*e*S		**Sn**	**18 21 46.7**	**-0.6**
PB04				IAML			18 21 50.9	
	comp=Z,6μm,0.7s							
PB04	**IPOC Station P**	**3.31**	**305**	*i* P		**Pn**	**18 21 06.8**	**+0.4**
PB04				*e*S		**Sn**	**18 21 45.9**	**-1.4**
PB07	**IPOC Station P**	**3.52**	**315**	Pn		**Pn**	**18 21 09.1**	**0.0**
PB07				Sn		**Sn**	**18 21 49.4**	**-2.7**
PB07	**IPOC Station P**	**3.52**	**315**	*e*P		**Pn**	**18 21 09.1**	**0.0**
PB07				IAML			18 21 55.6	
	comp=Z,2μm,0.2s							
PB07	**IPOC Station P**	**3.52**	**315**	*e*P		**Pn**	**18 21 09.4**	**+0.3**
PB07				*i* S		**Sn**	**18 21 49.9**	**-2.2**
AC01	**Pan de Azucar**	**3.61**	**238**	Pn		**Pn**	**18 21 09.8**	**-0.1**
AC01				Sn		**Sn**	**18 21 51.6**	**-2.1**
AC01	**Pan de Azucar**	**3.61**	**238**	*e*P		**Pn**	**18 21 09.8**	**-0.1**
AC01				*e*S		**Sn**	**18 21 52.7**	**-1.0**
AC01				IAML			18 21 55.8	
	comp=Z,1μm,0.2s							
AC01	**Pan de Azucar**	**3.61**	**238**	*e*P		**Pn**	**18 21 09.8**	**-0.1**
AC01				*i* S		**Sn**	**18 21 52.5**	**-1.2**
PB01	**IPOC Station P**	**3.83**	**326**	Pn		**Pn**	**18 21 12.4**	**-0.4**
PB01				Sn		**Sn**	**18 21 56.1**	**-2.7**
PB01	**IPOC Station P**	**3.83**	**326**	*e*P		**Pn**	**18 21 13.0**	**+0.3**
PB01				IAML			18 22 02.4	
	comp=Z,2μm,0.2s							
PB01	**IPOC Station P**	**3.83**	**326**	*e*P		**Pn**	**18 21 12.7**	**-0.1**
PB01				*i* S		**Sn**	**18 21 56.7**	**-2.1**
PB02	**IPOC Station P**	**3.83**	**319**	Pn		**Pn**	**18 21 12.6**	**-0.3**
PB02				Sn		**Sn**	**18 21 55.2**	**-3.7**
PB02	**IPOC Station P**	**3.83**	**319**	*e*P		**Pn**	**18 21 13.3**	**+0.4**
PB02				*e*S		**Sn**	**18 21 58.5**	**-0.5**
PB02	**IPOC Station P**	**3.83**	**319**	⇑*i*P		**Pn**	**18 21 12.7**	**-0.1**
PB02				*i* S		**Sn**	**18 21 56.4**	**-2.6**
AC06	**Mina Casimiro**	**4.20**	**222**			**Pn**	**18 21 17.8**	**-0.6**
AC06				Sn		**Sn**	**18 22 04.7**	**-2.5**
AC06	**Mina Casimiro**	**4.20**	**222**	⇑*i*P		**Pn**	**18 21 17.1**	**-0.3**
AC06				*i* S		**Sn**	**18 22 05.2**	**-2.0**
GO03	**Copiap**	**4.30**	**219**	Pn		**Pn**	**18 21 18.3**	**-0.5**
GO03	**Copiap**	**4.30**	**219**	*e*P		**Pn**	**18 21 18.6**	**-0.2**
GO03				*e*S		**Sn**	**18 22 09.8**	**0.0**
PATCX	**Punta Patache**	**4.37**	**321**			**Pn**	**18 21 18.6**	**-1.1**
PATCX	**Punta Patache**	**4.37**	**321**	*e*P		**Pn**	**18 21 19.3**	**-0.4**
PATCX				IAML			18 22 21.4	
	comp=Z,1μm,0.9s							
PATCX	**Punta Patache**	**4.37**	**321**	*i* P		**Pn**	**18 21 19.5**	**-0.2**
PB08	**IPOC Station P**	**4.47**	**336**			**Pn**	**18 21 21.2**	**-0.1**
PB08	**IPOC Station P**	**4.47**	**336**	*e*P		**Pn**	**18 21 21.7**	**+0.4**
PB08				IAML			18 22 19.3	
	comp=Z,710nm,0.4s							
TA01	**Diego Aracena**	**4.58**	**323**			**Pn**	**18 21 21.3**	**-1.1**
HMBC	**Humberstone**	**4.67**	**327**	*e*P		**Pn**	**18 21 22.8**	**-0.8**
HMBC				IAML			18 22 21.1	
	comp=Z,1μm,0.5s							
TA02	**Huaiquique**	**4.80**	**325**			**Pn**	**18 21 24.0**	**-1.1**
GO01	**Chusmiza**	**4.92**	**338**	Pn		**Pn**	**18 21 26.6**	**-0.6**
PB11	**IPOC Station P**	**5.01**	**333**	Pn		**Pn**	**18 21 26.6**	**-1.5**
AC04	**Llanos de Chal**	**5.25**	**221**	Pn		**Pn**	**18 21 29.7**	**-1.3**
AC04	**Llanos de Chal**	**5.25**	**221**	*e*P		**Pn**	**18 21 30.0**	**-0.9**
AC04				*e*S		**Sn**	**18 22 29.4**	**-2.2**
AC04				IAML			18 22 34.2	
	comp=Z,935nm,1.6s							
AC04	**Llanos de Chal**	**5.25**	**221**	*e*P		**Pn**	**18 21 29.7**	**-1.3**
AC04				*i* S		**Sn**	**18 22 29.0**	**-2.7**
AC05	**El Transito**	**5.33**	**210**	Pn		**Pn**	**18 21 31.4**	**-0.7**
AC05	**El Transito**	**5.33**	**210**	*e*P		**Pn**	**18 21 31.5**	**-0.6**
AC05				*e*S		**Sn**	**18 22 33.1**	**-0.6**
AC05				IAML			18 22 41.0	
	comp=Z,864nm,0.5s							
AC05				IAML			18 22 41.0	
	comp=Z,864nm,0.5s							
LCO	**Las Campanas**	**5.68**	**213**	Pn		**Pn**	**18 21 35.3**	**-1.5**
CO01	**Juntas del Tor**	**6.26**	**204**			**Pn**	**18 21 43.7**	**-0.6**
PB16	**IPOC Station P**	**6.26**	**340**	Pn		**Pn**	**18 21 43.8**	**-1.1**
PB12	**IPOC Station P**	**6.32**	**332**	Pn		**Pn**	**18 21 42.5**	**-2.6**
AP01	**Chacalluta**	**6.54**	**333**			**Pn**	**18 21 46.0**	**-1.9**
CO05	**La Serena**	**6.69**	**212**			**Pn**	**18 21 47.7**	**-2.1**
GO04	**Tololo Observa**	**6.71**	**208**			**Pn**	**18 21 48.3**	**-2.0**
PB18	**Visviri**	**6.96**	**342**	Pn		**Pn**	**18 21 52.9**	**-1.1**
CO03	**El Pedregal**	**7.25**	**204**	Pn		**Pn**	**18 21 55.5**	**-1.8**
ZON	**Zonda**	**7.38**	**190**			**Pn**	**18 21 57.6**	**-1.4**
CO06	**Fray Jorge**	**7.51**	**211**			**Pn**	**18 21 58.7**	**-1.9**
CO02	**Combarbal**	**7.70**	**205**			**Pn**	**18 22 00.8**	**-2.4**
LPAZ	**La Paz**	**7.97**	**354**	Pn		**Pn**	**18 22 06.8**	**-0.6**
VA03	**San Esteban**	**8.98**	**198**			**Pn**	**18 22 18.0**	**-2.0**
CPUP	**Villa Florida**	**9.18**	**105**	P		**Pn**	**18 22 20.6**	**-1.9**
	comp=Z,25nm,0.8s,baz=288,slow=11,SNR=42							
ROC1	**El Roble**	**9.31**	**200**			**Pn**	**18 22 22.6**	**-2.0**
PEL	**Peldehue**	**9.37**	**198**	Pn		**Pn**	**18 22 22.6**	**-2.5**
VA01	**Torpederas**	**9.57**	**203**	Pn		**Pn**	**18 22 24.8**	**-2.9**
MT02	**Curacav**	**9.61**	**200**	Pn		**Pn**	**18 22 25.1**	**-3.2**
MT05	**Renca**	**9.62**	**198**	Pn		**Pn**	**18 22 25.3**	**-3.1**
MT03	**Universidad Ad**	**9.65**	**197**			**Pn**	**18 22 25.4**	**-2.4**
MT13	**San Alfonso**	**9.84**	**195**			**Pn**	**18 22 28.4**	**-2.9**
LMEL	**Las Melosas**	**9.91**	**195**	Pn		**Pn**	**18 22 29.3**	**-3.1**
SIV	**San Ignacio**	**10.03**	**36**	P		**Pn**	**18 22 31.3**	**-2.6**
	comp=Z,84nm,0.8s,baz=214,slow=11,SNR=311							
SIV					S	Sn	18 24 11.0	-15
	comp=Z,30nm,1.0s,baz=225,slow=15,SNR=7.5							
MT09	**Talagante**	**10.05**	**198**			**Pn**	**18 22 30.5**	**-3.6**
VA05	**Santo Domingo**	**10.13**	**201**	Pn		**Pn**	**18 22 33.7**	**-1.3**
BO04	**La Punta**	**10.15**	**196**	Pn		**Pn**	**18 22 32.3**	**-3.0**
MT01	**Popeta**	**10.21**	**199**			**Pn**	**18 22 32.5**	**-3.5**
BO01	**Tunca**	**10.65**	**198**			**Pn**	**18 22 37.7**	**-4.1**
ITQB	**Itaqui**	**10.87**	**122**			Pn	18 22 39.5	-5.2
BO02	**Sierra Bellavi**	**10.96**	**196**			**Pn**	**18 22 43.0**	**-2.8**
AQDB	**Aquidauana**	**11.29**	**73**			**Pn**	**18 22 46.0**	**-4.2**
PTLB	**Pontes e Lacer**	**11.59**	**42**			**Pn**	**18 22 50.4**	**-3.6**
ML02	**Panimavida**	**12.04**	**197**			**Pn**	**18 22 57.5**	**-2.2**
VILB	**Vilhena**	**13.05**	**32**			**Pn**	**18 23 11.5**	**-1.2**
BI05	**Punta Hualpn**	**13.48**	**201**	Pn		**Pn**	**18 23 16.4**	**-1.5**
H03N1	**Juan Fernandez**	**13.74**	**226**	P		**P**	**18 23 23.1**	**-0.6**
	baz=111,slow=14,SNR=34							
H03N2	**Juan Fernandez**	**13.75**	**226**	P		**P**	**18 23 22.9**	**-1.0**
	baz=111,slow=14,SNR=17							
H03N3	**Juan Fernandez**	**13.76**	**226**	P		**Pn**	**18 23 22.6**	**+1.4**
	baz=111,slow=14,SNR=32							
ITAB	**Concordia**	**13.91**	**106**			**Pn**	**18 23 21.4**	**-2.1**
H03S3	**Juan Fernandez**	**13.98**	**224**	P		**Pn**	**18 23 24.7**	**+0.7**
	baz=268,slow=19,SNR=19							
H03S1	**Juan Fernandez**	**13.99**	**224**	P		**P**	**18 23 26.1**	**-0.5**
	baz=268,slow=19,SNR=25							
H03S2	**Juan Fernandez**	**14.00**	**224**	P		**Pn**	**18 23 24.2**	**-0.1**
	baz=268,slow=19,SNR=17							
PLTB	**Pedras Altas**	**14.15**	**125**			**Pn**	**18 23 24.0**	**-2.4**
ETMB	**Extrema**	**14.39**	**4**			**Pn**	**18 23 27.7**	**-1.8**
TRQA	**Tornquist**	**14.47**	**163**	Pn		**Pn**	**18 23 28.3**	**-2.0**
NNA	**Nana**	**15.24**	**321**	P		**P**	**18 23 42.3**	**+1.4**
	comp=Z,8.4nm,0.5s,baz=138,slow=8.3,SNR=4.8							
NNA					S	**Sn**	**18 26 29.5**	**-0.9**
	comp=Z,5.0nm,0.4s,baz=233,slow=12,SNR=1.8							
SAML	**Samuel**	**15.70**	**15**	P		**Pn**	**18 23 43.3**	**-2.3**
GO06	**Curarrehue**	**15.71**	**192**	P		**Pn**	**18 23 45.0**	**-0.7**
LR05	**Currie**	**16.44**	**193**	P		**P**	**18 23 53.1**	**-0.7**
PLCA	**Paso Flores**	**16.67**	**189**	P		**P**	**18 23 56.2**	**-0.3**
PLCA	**Paso Flores**	**16.67**	**189**	P		**Pn**	**18 23 58.2**	**+1.0**
	comp=Z,32nm,0.9s,baz=9.6,slow=13,SNR=66							
PLCA					PcP	**PcP**	**18 28 36.8**	**+1.4**
	comp=Z,2.6nm,0.6s,baz=333,slow=4.5,SNR=5.2							
CZSB	**Cruzeiro do Su**	**17.25**	**341**	P		**P**	**18 24 01.6**	**-1.4**
LL03	**Petrohue**	**17.39**	**193**	P		**P**	**18 24 04.7**	**+0.4**
LL05	**Los Muermos**	**17.89**	**196**	P		**P**	**18 24 08.5**	**-1.3**
SPB	**Sao Paulo**	**18.09**	**92**	P		**P**	**18 24 10.0**	**-2.1**
LL01	**San Ignacio de**	**18.59**	**192**	P		**P**	**18 24 16.1**	**-1.2**
LL06	**Loncomilla**	**18.69**	**195**	P		**P**	**18 24 18.6**	**+0.1**
LL07	**Hotel Espejo d**	**19.25**	**194**	P		**P**	**18 24 24.9**	**+0.5**
LL02	**Futaleuf**	**19.27**	**190**	P		**P**	**18 24 25.4**	**+0.6**
GO07	**Milladeo Hill,**	**19.55**	**194**	P		**P**	**18 24 28.0**	**+0.2**
BDFB	**Brasilia**	**19.95**	**68**	P		**P**	**18 24 30.5**	**-2.0**
BDFB	**Brasilia**	**19.95**	**68**	P		**P**	**18 24 30.9**	**-1.6**
	comp=Z,192nm,0.8s,baz=247,slow=9.8,SNR=141							
BDFB					S	**S**	**18 28 05.5**	**-1.9**
	comp=Z,5.3nm,0.7s,baz=159,slow=27,SNR=2.0							
ATAH	**Atahualpa**	**20.12**	**326**	P		Pn	18 24 37.5	-1.1
	comp=Z,2.4nm,0.5s,baz=148,slow=8.1,SNR=5.3							
AY01	**Puyuhuapi**	**20.61**	**191**	P		**P**	**18 24 38.6**	**-0.3**
COYC	**Coyhaique**	**21.64**	**189**	P		**P**	**18 24 49.3**	**-0.7**
MACA	**Manacapuru-AM**	**21.89**	**18**	P		**P**	**18 24 49.5**	**-3.3**
AY02	**Valle Explorad**	**22.70**	**191**	P		**P**	**18 24 59.4**	**-0.7**
MCRA	**Macar, Loja**	**23.27**	**326**	P		**P**	**18 25 05.5**	**-0.1**
AY03	**Cochrane**	**23.35**	**189**	P		**P**	**18 25 05.0**	**-1.0**
AY03					IAmb	IAmb	18 25 08.9	
	comp=Z,31nm,0.8s							
BOSC	**San Juan Bosco**	**23.64**	**331**	P		**P**	**18 25 08.5**	**-0.7**
GO08	**Villa O'Higgin**	**24.53**	**189**	P		**P**	**18 25 16.5**	**-0.2**
COHC	**Cochancay**	**24.59**	**330**	P		**P**	**18 25 18.1**	**+0.5**
GO09	**Cerro Castillo**	**27.26**	**187**	P		**P**	**18 25 40.7**	**-0.6**
BOAV	**Boa Vista**	**27.27**	**15**	P		**P**	**18 25 40.0**	**-1.7**
BOAV					IAmb	IAmb	18 25 42.6	
	comp=Z,31nm,1.6s							
MG02	**Cerro Sombrero**	**28.53**	**183**	P		**P**	**18 25 51.2**	**-1.2**
GO10	**Punta Arenas**	**29.01**	**185**	P		**P**	**18 25 55.8**	**-1.0**
MPGF	**Montagnes des**	**32.45**	**28**	P		**P**	**18 26 26.1**	**-1.2**

X48A Hartselle 61.34 341 P **P** 18 30 10.2 -0.5
X48A IAmb IAmb 18 30 11.9
comp=Z,27nm,1.1s
V53A Saluda 61.40 346 P **P** 18 30 10.4 -0.6
U56A King 61.54 348 P **P** 18 30 11.8 -0.1
U56A IAmb IAmb 18 30 14.1
comp=Z,26nm,1.1s
W50A Signal Mountai 61.57 343 P **P** 18 30 11.8 -0.3
W50A IAmb IAmb 18 30 13.4
comp=Z,16nm,0.9s
NATX Nacogdoches 61.57 333 P **P** 18 30 13.2 +1.0
baz=151
Y45A Yeager Farm, C 61.58 339 P **P** 18 30 11.5 -0.7
CPCT Cooper Cave 61.60 344 P **P** 18 30 11.3 -1.0
CPCT IAmb IAmb 18 30 13.6
comp=Z,15nm,1.1s
TKL Tuckaleechee C 61.61 345 P **P** 18 30 11.3 -1.1
TKL IAmb IAmb 18 30 13.4
comp=Z,7.9nm,0.7s
HNDO Hondo 61.72 328 P **P** 18 30 13.2 -0.1
HNDO IAmb IAmb 18 30 15.5
comp=Z,13nm,0.7s
V52A Sevierville 61.74 345 P **P** 18 30 12.8 -0.5
V52A IAmb IAmb 18 30 14.3
comp=Z,10nm,0.8s
SWET Sewanee 61.75 343 P **P** 18 30 12.6 -0.8
SWET IAmb IAmb 18 30 14.5
comp=Z,15nm,0.7s
435B Jarrell 61.98 330 P **P** 18 30 15.6 +0.6
baz=148
U54A Nelsons Funny 62.00 347 P **P** 18 30 14.6 -0.5
U54A IAmb IAmb 18 30 17.0
comp=Z,17nm,0.8s
OXF Oxford 62.13 339 P **P** 18 30 15.3 -0.5
OXF Oxford 62.13 339 P **P** 18 30 15.3 -0.5
baz=157
PLAL Pickwick Lake 62.15 341 P **P** 18 30 15.4 -0.6
PLAL IAmb IAmb 18 30 16.7
comp=Z,19nm,1.1s
237A Washetta, Mont 62.26 333 P **P** 18 30 17.1 +0.3
DRIO Del Rio 62.28 327 P **P** 18 30 16.5 -0.6
DRIO IAmb IAmb 18 30 18.9
comp=Z,17nm,1.2s
DRIO PcP **PcP** 18 30 56.6 +1.5
BLA Blacksburg 62.39 348 P **P** 18 30 18.7 +1.1
baz=166
TZTN Tazewell 62.40 345 P **P** 18 30 17.9 +0.3
baz=163
V48A Smith Brothers 62.49 342 P **P** 18 30 18.0 -0.2
V48A IAmb IAmb 18 30 19.4
comp=Z,13nm,0.8s
CLTN Cedars of Leba 62.68 343 P **P** 18 30 19.1 -0.4
CLTN IAmb IAmb 18 30 20.5
comp=Z,30nm,1.3s
JCT Junction City 62.76 328 P **P** 18 30 20.3 +0.1
JCT IAmb IAmb 18 30 22.3
comp=Z,26nm,1.2s
JCT Junction City 62.76 328 P **P** 18 30 20.2 0.0
baz=146
WHTX Lake Whitney, 62.96 331 IAmb IAmb 18 30 23.4
comp=Z,13nm,0.7s
WHTX Lake Whitney, 62.96 331 P **P** 18 30 22.0 +0.6
baz=149
BRDY Brady 63.05 330 P **P** 18 30 22.1 0.0
BRDY IAmb IAmb 18 30 23.9
comp=Z,9.4nm,0.7s
BRDY PcP **PcP** 18 30 59.6 +1.3
WVT Waverly 63.14 341 P **P** 18 30 21.7 -0.8
WVT IAmb IAmb 18 30 23.3
comp=Z,23nm,0.9s
WVT Waverly 63.14 341 P **P** 18 30 21.6 -0.8
baz=159
WVT Waverly 63.14 341 P **P** 18 30 22.1 -0.4
WVT pP **pP** 18 31 06.4 +0.8
SAND Sanderson 63.47 326 P **P** 18 30 24.9 0.0
SAND IAmb IAmb 18 30 27.5
comp=Z,31nm,1.2s
T47A Sharon Grove 63.73 342 IAmb IAmb 18 30 27.2
comp=Z,24nm,1.1s
OZNA Ozona 63.76 328 P **P** 18 30 26.4 -0.4
OZNA IAmb IAmb 18 30 28.7
comp=Z,14nm,1.1s
TX31 Lajitas Ar. Si 63.77 325 IAmb IAmb 18 30 29.4
comp=Z,15nm,1.2s
TXAR Lajitas Array 63.77 325 P **P** 18 30 28.2 +1.3
comp=Z,1.1nm,0.4s,baz=150,slow=7.7,SNR=13
comp=Z,1.1nm,0.4s
Z35A Perchaven, San 64.02 332 P **P** 18 30 28.2 -0.1
PLPT Palo Pinto 64.03 331 IAmb IAmb 18 30 30.5
comp=Z,26nm,1.2s
FW03 Perrin-Whitt E 64.12 331 IAmb IAmb 18 30 31.1
comp=Z,28nm,1.2s
LCAR Lake Charles 64.12 339 P **P** 18 30 28.7 -0.2
FCAR Ozark Folk Cen 64.29 338 P **P** 18 30 29.9 -0.1
FCAR IAmb IAmb 18 30 31.0
comp=Z,15nm,1.3s
ALPN Alpine 64.58 325 P **P** 18 30 32.7 +0.4
ALPN IAmb IAmb 18 30 34.7
comp=Z,41nm,1.7s
MCWV Mont Chateau 64.66 349 P **P** 18 30 31.9 -0.5
baz=167
WCI Wyandotte Cave 64.68 343 P **P** 18 30 32.0 -0.5
baz=161
WCI Wyandotte Cave 64.68 343 P **P** 18 30 32.2 -0.3
CGM3 Cape Girardeau 64.77 340 IAmb IAmb 18 30 34.1
comp=Z,8.5nm,0.6s
P53A Whipple 64.78 348 IAmb IAmb 18 30 35.3
comp=Z,22nm,0.9s
WTFS Witchita Falls 64.91 331 IAmb IAmb 18 30 36.0
comp=Z,25nm,0.6s
MNHN Monahans 64.91 327 IAmb IAmb 18 30 36.7
comp=Z,20nm,0.6s
P52A Corning 65.06 347 P **P** 18 30 34.6 -0.4
baz=165
SN01 Snyder 1 65.25 329 P **P** 18 30 37.1 +0.7
SN01 IAmb IAmb 18 30 38.4
comp=Z,19nm,0.6s
APMT Aspermont 65.28 330 P **P** 18 30 37.1 +0.6
APMT IAmb IAmb 18 30 38.6
comp=Z,27nm,1.0s
HHAR Hobbs 65.29 336 IAmb IAmb 18 30 38.1
comp=Z,18nm,1.2s
ODSA Odessa 65.44 327 IAmb IAmb 18 30 39.6
comp=Z,19nm,0.6s
MGMO Mountain Grove 65.48 338 P **P** 18 30 36.6 -1.2
MGMO IAmb IAmb 18 30 39.3
comp=Z,16nm,1.1s
O53A New Philadelph 65.48 348 P **P** 18 30 37.9 +0.2
baz=166
PECS Pecos 65.50 326 IAmb IAmb 18 30 40.8
comp=Z,8.9nm,0.8s
P49A Miami Univ. Ec 65.53 345 P **P** 18 30 37.1 -0.8
baz=162
425A Indio Mountain 65.62 325 P **P** 18 30 39.6 +0.7
425A IAmb IAmb 18 30 41.4
comp=Z,18nm,1.0s
FVM French Village 65.64 340 IAmb IAmb 18 30 39.9
comp=Z,21nm,1.1s
TUL3 Leonard 65.66 335 P **P** 18 30 38.2 -0.7
baz=151
ACSO Alum Creek Sta 65.81 347 P **P** 18 30 40.0 +0.2
baz=164
WMOK Wichita Mounta 65.87 332 IAmb IAmb 18 30 41.7
comp=Z,30nm,2.0s
WMOK Wichita Mounta 65.87 332 P **P** 18 30 40.5 +0.2
baz=148
DKNS Dickens 65.93 330 P **P** 18 30 40.4 -0.4
DKNS IAmb IAmb 18 30 42.5
comp=Z,9.5nm,0.9s
QSPA South Pole Qui 65.95 180 P **P** 18 30 42.4 +1.8
comp=Z,23nm,0.7s,baz=162,slow=2.3,SNR=68
comp=Z,23nm,0.7s
QSPA South Pole Qui 65.95 180 P **P** 18 30 42.4 +1.8
CCM Cathedral Cave 65.96 339 P **P** 18 30 40.4 -0.3
CCM IAmb IAmb 18 30 42.0
comp=Z,17nm,0.7s
CCM Cathedral Cave 65.96 339 P **P** 18 30 40.6 -0.2
baz=156
CCM Cathedral Cave 65.96 339 P **P** 18 30 41.5 +0.7
OK029 Liberty Lake 66.22 333 IAmb IAmb 18 30 44.0
comp=Z,20nm,0.8s
O48B Farmland 66.32 345 P **P** 18 30 43.1 +0.1
baz=162
R40A Maddies Statio 66.51 339 IAmb IAmb 18 30 46.3
comp=Z,18nm,1.1s

M53A WI Miller and 66.54 349 P **P** 18 30 44.6 +0.2
baz=166
MNTX Cornudas Mount 66.54 325 P **P** 18 30 45.3 +0.6
baz=142
L61B Northampton 66.56 356 P **P** 18 30 45.7 +1.2
baz=174
OK051 E0350 and S346 66.59 334 P **P** 18 30 45.2 +0.4
BINY Binghamton 66.61 353 P **P** 18 30 45.7 +0.9
baz=171
N49A Columbus Grove 66.73 346 IAmb IAmb 18 30 47.1
comp=Z,28nm,1.1s
SMWD Samnorwood 66.82 331 P **P** 18 30 46.4 0.0
SMWD IAmb IAmb 18 30 48.9
comp=Z,44nm,1.1s
SFIN Lafayette 66.91 344 P **P** 18 30 47.5 +0.8
baz=160
CROK Carrier 67.05 333 IAmb IAmb 18 30 49.4
comp=Z,20nm,0.7s
MSTX Muleshoe 67.05 328 P **P** 18 30 48.6 +0.7
baz=145
KAN13 South Haven SW 67.28 334 P **P** 18 30 49.5 +0.3
KAN13 IAmb IAmb 18 30 51.2
comp=Z,22nm,0.9s
AMTX Amarillo 67.29 330 IAmb IAmb 18 30 51.3
comp=Z,22nm,1.3s
AMTX Amarillo 67.29 330 P **P** 18 30 49.8 +0.4
baz=146
P40A Paris 67.56 339 P **P** 18 30 50.8 -0.1
P40A IAmb IAmb 18 30 52.2
comp=Z,34nm,1.2s
HSIG 67.64 319 IAmb IAmb 18 30 54.9
comp=Z,17nm,1.1s
HDIL Hopedale 67.67 342 P **P** 18 30 52.3 +0.8
baz=158
DBIC Dimbokro 68.06 72 P **P** 18 30 54.4 -0.1
comp=Z,2.3nm,0.4s,baz=241,slow=2.7,SNR=8.4
comp=Z,2.3nm,0.4s
LBNH Lisbon 68.29 356 P **P** 18 30 57.3 +2.0
baz=175
319A Douglas 68.41 322 P **P** 18 30 57.4 +0.9
319A IAmb IAmb 18 30 60.0
comp=Z,15nm,0.6s
121A Cookes Peak, D 68.47 324 IAmb IAmb 18 31 00.6
comp=Z,16nm,0.8s
121A Cookes Peak, D 68.47 324 P **P** 18 30 58.3 +1.4
baz=140
KSU1 Kansas State U 68.77 336 P **P** 18 30 58.6 +0.2
baz=151
L44A Lake County Fo 68.81 344 P **P** 18 30 59.1 +0.6
baz=160
RTBA Rita Blanca 69.06 330 IAmb IAmb 18 31 04.3
comp=Z,9.7nm,0.9s
ANMO Albuquerque 69.65 326 P **P** 18 31 04.7 +0.6
ANMO IAmb IAmb 18 31 07.4
comp=Z,15nm,1.0s
ANMO Albuquerque 69.65 326 P **P** 18 31 05.3 +1.1
baz=142
ANMO Albuquerque 69.65 326 P **P** 18 31 05.9 +1.8
ANMO pP **pP** 18 31 51.1 +3.0
CBKS Cedar Bluff 69.74 333 P **P** 18 31 05.1 +0.6
CBKS IAmb IAmb 18 31 07.0
comp=Z,24nm,0.8s
CBKS Cedar Bluff 69.74 333 P **P** 18 31 05.9 +1.5
baz=148
TUC Tucson 69.96 322 P **P** 18 31 07.7 +1.7
TUC IAmb IAmb 18 31 10.1
comp=Z,16nm,1.2s
TUC Tucson 69.96 322 P **P** 18 31 07.5 +1.6
baz=138
TUC Tucson 69.96 322 P **P** 18 31 08.6 +2.6
SCIA State Center 70.09 340 P **P** 18 31 07.1 +0.7
baz=155
JFWS Jewell Farm 70.12 342 IAmb IAmb 18 31 08.0
comp=Z,17nm,0.7s
JFWS Jewell Farm 70.12 342 P **P** 18 31 07.1 +0.5
baz=158
T25A Trinidad 70.40 329 IAmb IAmb 18 31 11.9
comp=Z,15nm,1.0s
T25A Trinidad 70.40 329 P **P** 18 31 10.3 +1.6
baz=144
214A Organ Pipe Nat 70.87 320 IAmb IAmb 18 31 15.2
comp=Z,16nm,1.1s
214A Organ Pipe Nat 70.87 320 P **P** 18 31 13.2 +1.8
baz=136
BGNE Belgrade 71.35 336 P **P** 18 31 14.5 +0.4
BGNE Belgrade 71.35 336 P **P** 18 31 14.8 +0.7
baz=150
SDCO Great Sand Dun 71.40 329 P **P** 18 31 15.9 +1.1
SDCO IAmb IAmb 18 31 18.0
comp=Z,16nm,1.1s
SDCO Great Sand Dun 71.40 329 P **P** 18 31 16.3 +1.5
baz=143
W18A Petrified Fore 71.49 324 P **P** 18 31 16.9 +1.6
baz=139
S22A 4UR Ranch, Cre 72.04 328 P **P** 18 31 20.6 +1.9
baz=142
Q24A Divide 72.22 330 P **P** 18 31 21.1 +1.4
baz=144
MVCO Mesa Verde 72.45 326 IAmb IAmb 18 31 25.0
comp=Z,53nm,1.6s
MVCO Mesa Verde 72.45 326 P **P** 18 31 23.2 +2.2
baz=141
WUAZ Wupatki 72.67 323 IAmb IAmb 18 31 26.0
comp=Z,16nm,0.9s
WUAZ Wupatki 72.67 323 P **P** 18 31 24.2 +2.0
baz=138
ESJX Sierra Juarez 72.78 318 P **P** 18 31 23.5 +0.5
ECSD EROS Data Cent 72.84 338 IAmb IAmb 18 31 24.5
comp=Z,19nm,1.1s
ECSD EROS Data Cent 72.84 338 P **P** 18 31 23.3 +0.4
baz=152
SPMN Marine on St. 72.97 341 IAmb IAmb 18 31 25.4
comp=Z,30nm,1.2s
ISCO Idaho Springs 73.10 330 P **P** 18 31 26.2 +1.3
ISCO Idaho Springs 73.10 330 P **P** 18 31 26.5 +1.6
baz=144,SNR=8.0
IKP In-Ko-Pah, Jac 73.33 318 P **P** 18 31 27.6 +1.5
baz=134,SNR=6.2
PDMCI Parker Dam,Lak 73.33 321 P **P** 18 31 28.2 +2.2
baz=136
SWSC Sam W. Stewart 73.35 319 P **P** 18 31 28.2 +2.2
baz=134
BC3 Big Chuckawall 73.64 320 P **P** 18 31 29.7 +1.8
baz=135,SNR=9.0
MONP2 Monument Peak 73.69 318 P **P** 18 31 30.2 +1.9
baz=134,SNR=5.6
BAR Barrett 73.69 318 P **P** 18 31 28.4 +0.3
BAR IAmb IAmb 18 31 31.6
comp=Z,14nm,1.0s
IRM Iron Mountain 73.81 320 P **P** 18 31 30.6 +1.8
baz=135,SNR=8.6
U15A North Rim 73.84 324 IAmb IAmb 18 31 33.2
comp=Z,15nm,1.0s
N23A Red Feather La 74.13 330 P **P** 18 31 32.6 +1.8
baz=144,SNR=6.9
TPFO Pinon Flats 74.20 319 P **P** 18 31 32.7 +1.5
baz=134
BELC Belle Mtn. Jos 74.20 319 P **P** 18 31 33.2 +2.0
baz=134,SNR=5.6
PFO Pinyon Flats O 74.21 319 P **P** 18 31 32.9 +1.7
PFO Pinyon Flats O 74.21 319 P **P** 18 31 33.1 +1.9
baz=134
VNDA Vanda 74.42 190 IAmb IAmb 18 31 35.7
comp=Z,15nm,1.1s
GMRC Granite Mounta 74.55 320 P **P** 18 31 35.1 +1.9
baz=135,SNR=16
O20A White River Ci 74.60 329 P **P** 18 31 33.9 +0.5
O20A IAmb IAmb 18 31 36.8
comp=Z,22nm,0.9s
O20A White River Ci 74.60 329 P **P** 18 31 35.1 +1.7
baz=142,SNR=8.2
MURC Murrieta 74.64 318 P **P** 18 31 35.9 +2.3
baz=134
ELS Elsinore Mount 74.82 318 P **P** 18 31 34.7 0.0
ELS IAmb IAmb 18 31 38.2
comp=Z,13nm,0.9s
SRU San Rafael Swe 74.93 326 IAmb IAmb 18 31 38.4
comp=Z,13nm,0.7s
HEC Hector,Ludlow 74.98 320 P **P** 18 31 37.9 +2.3
baz=134,SNR=9.2
SZCU Shurtz Canyon 75.13 324 IAmb IAmb 18 31 40.3
comp=Z,25nm,1.6s
TUQ Turquoise Moun 75.17 321 P **P** 18 31 38.7 +2.0
baz=135,SNR=6.2
CCUT Cedar City 75.25 324 IAmb IAmb 18 31 41.5
comp=Z,21nm,0.9s
P17A Butcher Ranch, 75.31 327 IAmb IAmb 18 31 40.7

comp=Z,20nm,1.1s
MVU Marysvale 75.34 325 P **P** 18 31 38.9 +1.1
BFSC Mount Baldy Ra 75.36 319 P **P** 18 31 39.6 +1.7
baz=133
TMUT Trail Mountain 75.41 326 IAmb IAmb 18 31 41.6
comp=Z,34nm,2.0s
RDMU Red Mountain 75.57 328 P **P** 18 31 39.5 +0.5
RDMU IAmb IAmb 18 31 42.0
comp=Z,13nm,0.8s
GSC Goldstone, Bar 75.59 320 P **P** 18 31 40.8 +1.7
baz=134,SNR=6.2
SHOC Shoshone, Teco 75.69 321 P **P** 18 31 41.5 +1.9
baz=135
K22A Casper 75.80 331 IAmb IAmb 18 31 43.4
comp=Z,23nm,1.2s
K22A Casper 75.80 331 P **P** 18 31 41.9 +1.7
baz=143
SNCC San Nicolas Is 75.84 317 P **P** 18 31 42.1 +1.7
baz=132
RSSD Black Hills 75.95 334 P **P** 18 31 41.1 0.0
RSSD Black Hills 75.95 334 P **P** 18 31 42.5 +1.4
baz=146
EDW2 Edwards Air Fo 76.00 319 P **P** 18 31 42.8 +1.4
baz=133
PRN Pahroc Range 76.07 323 P **P** 18 31 43.1 +1.3
PRN IAmb IAmb 18 31 45.8
comp=Z,15nm,1.0s
GWY Greenwater Val 76.12 321 P **P** 18 31 43.3 +1.1
GWY IAmb IAmb 18 31 45.4
comp=Z,14nm,1.0s
BSUT Blindstream Ca 76.13 327 IAmb IAmb 18 31 45.9
comp=Z,14nm,0.9s
LRMC Laurel Mtn Rad 76.22 320 P **P** 18 31 44.7 +2.0
baz=134
PSUT Pine Spring 76.23 324 P **P** 18 31 44.2 +1.4
SCZ2 Santa Cruz Isl 76.40 317 P **P** 18 31 46.2 +2.6
baz=132
TPNV Topopah Spring 76.42 322 P **P** 18 31 44.7 +0.9
TPNV IAmb IAmb 18 31 47.7
comp=Z,14nm,0.9s
TPNV Topopah Spring 76.42 322 P **P** 18 31 45.9 +2.1
baz=135,SNR=15
FURC Furnace Creek, 76.43 321 P **P** 18 31 45.9 +2.2
baz=134
MPMC Manual Prospec 76.51 320 P **P** 18 31 46.3 +1.9
baz=134,SNR=8.8
WCT Wildcat Mounta 76.52 321 IAmb IAmb 18 31 48.3
comp=Z,14nm,1.0s
AGMN Agassiz Nation 76.66 341 P **P** 18 31 46.0 +1.4
baz=153
SBC Santa Barbara 76.75 318 P **P** 18 31 46.8 +1.3
baz=132
ISA Isabella, Lake 76.82 319 P **P** 18 31 47.0 +1.0
ISA Isabella, Lake 76.82 319 P **P** 18 31 48.3 +2.3
baz=133,SNR=6.5
TOA0 Torodi Ar. Sit 76.83 69 P **P** 18 31 45.8 -0.6
TOA0 IAmb IAmb 18 31 47.5
comp=Z,25nm,1.5s
TORD Torodi Ar. Bea 76.83 69 P **P** 18 31 46.2 -0.2
comp=Z,3.8nm,0.4s,baz=266,slow=5.7,SNR=32
comp=Z,3.8nm,0.4s
BCW Bitter Crk WRg 76.90 318 IAmb IAmb 18 31 50.2
comp=Z,25nm,1.1s
DUG Dugway, Tooele 76.91 326 P **P** 18 31 48.8 +2.3
baz=138,SNR=10
R11B Troy Canyon, C 77.04 323 IAmb IAmb 18 31 51.1
comp=Z,18nm,1.2s
R11B Troy Canyon, C 77.04 323 P **P** 18 31 49.9 +2.6
baz=136,SNR=20
GRAC Grapevine Rang 77.09 321 P **P** 18 31 49.9 +2.5
baz=134
PKM Mcpherson Peak 77.11 318 P **P** 18 31 49.5 +1.7
baz=132,SNR=10
CWC Cottonwood Cre 77.12 320 P **P** 18 31 49.7 +1.9
baz=134
Q12A Willow Creek R 77.12 324 IAmb IAmb 18 31 51.2
comp=Z,14nm,0.9s
GMN Gold Mountain 77.24 321 P **P** 18 31 49.1 +0.6
BW06 Boulder Array 77.27 329 P **P** 18 31 50.1 +1.6
baz=141,SNR=6.3
PDAR Pinedale Array 77.27 329 P **P** 18 31 49.8 +1.2
comp=Z,1.5nm,0.5s,baz=131,slow=7.9,SNR=27
comp=Z,1.5nm,0.5s
VES Vestal, Richgr 77.31 319 P **P** 18 31 50.0 +1.5
baz=133
MDND Maddock 77.45 338 P **P** 18 31 50.6 +1.4
baz=150
SMMC Simmler 77.50 318 P **P** 18 31 52.1 +2.4
baz=132
SPUT South Promonto 77.55 327 P **P** 18 31 50.2 +0.2
SPUT IAmb IAmb 18 31 53.1
comp=Z,13nm,0.8s
TIN Tinemaha, Big 77.63 320 P **P** 18 31 53.0 +2.5
baz=134
AHID Auburn Hatcher 77.99 329 IAmb IAmb 18 31 55.4
comp=Z,16nm,0.8s
REDW Red Top Meadow 78.33 329 P **P** 18 31 54.3 -0.1
MLAC Mammoth, Mammo 78.37 321 P **P** 18 31 57.2 +2.4
baz=133
ULM Lac du Bonnet 78.41 342 IAmb IAmb 18 31 55.8
comp=Z,12nm,0.8s
ULM Lac du Bonnet 78.41 342 P **P** 18 31 55.0 +0.7
comp=Z,6.2nm,0.5s,baz=154,slow=5.8,SNR=12
comp=Z,6.2nm,0.5s
OMMB Old Mammoth Mi 78.46 320 P **P** 18 31 55.7 +0.3
OMMB IAmb IAmb 18 31 58.6
comp=Z,15nm,1.0s
TPAW Teton Pass 78.47 329 IAmb IAmb 18 31 58.4
comp=Z,17nm,1.1s
NVAR Mina Array Bea 78.61 321 P **P** 18 31 57.7 +1.6
comp=Z,3.7nm,0.8s,baz=152,slow=6.3,SNR=24
comp=Z,3.7nm,0.8s
SCHQ Schefferville 78.76 0 P **P** 18 31 56.5 +0.3
comp=Z,3.1nm,0.6s,baz=217,slow=3.4,SNR=11
comp=Z,3.1nm,0.6s
IMW Indian Meadow 78.78 329 P **P** 18 31 57.4 +0.5
IMW IAmb IAmb 18 32 00.1
comp=Z,14nm,1.0s
FLWY Flagg Ranch 78.81 330 P **P** 18 31 58.4 +1.4
FLWY IAmb IAmb 18 32 00.5
comp=Z,23nm,1.1s
KVN Kaiserville 78.93 322 IAmb IAmb 18 32 00.7
comp=Z,13nm,0.8s
LAO LASA Array 78.93 334 IAmb IAmb 18 31 59.9
comp=Z,18nm,0.9s
LAO LASA Array 78.93 334 P **P** 18 31 58.9 +1.5
baz=144
RLMT Red Lodge 78.97 331 P **P** 18 31 58.1 +0.3
RLMT IAmb IAmb 18 32 00.9
comp=Z,64nm,1.9s
RLMT Red Lodge 78.97 331 P **P** 18 31 58.9 +1.1
baz=142
YMR Madison River 79.38 330 P **P** 18 32 01.3 +1.2
YMR IAmb IAmb 18 32 03.9
comp=Z,29nm,1.1s
DGMT Dagmar 79.61 336 P **P** 18 32 01.4 +0.4
DGMT Dagmar 79.61 336 P **P** 18 32 03.1 +2.1
baz=146
PNTR Pine Nut 79.81 321 IAmb IAmb 18 32 06.1
comp=Z,20nm,0.9s
PAHR Pah Rah Range 80.10 322 IAmb IAmb 18 32 07.5
comp=Z,31nm,1.1s
HLID Hailey 80.19 327 IAmb IAmb 18 32 08.1
comp=Z,23nm,1.0s
HLID Hailey 80.19 327 P **P** 18 32 06.6 +2.2
baz=137
BOZ Bozeman (W) 80.39 330 P **P** 18 32 07.1 +1.7
baz=140
AFDM Forest Hills D 80.50 320 P **P** 18 32 06.7 +0.7
BOSA Boshof 80.79 117 P **P** 18 32 08.0 0.0
comp=Z,14nm,1.1s,baz=251,slow=3.1,SNR=11
comp=Z,14nm,1.1s
ORV Oroville 81.21 321 IAmb IAmb 18 32 13.0
comp=Z,21nm,1.1s
MAW Mawson 81.25 163 P **P** 18 32 10.2 +0.7
comp=Z,20nm,0.9s,baz=235,slow=8.6,SNR=22
comp=Z,20nm,0.9s
EGMT Eagleton 81.45 333 IAmb IAmb 18 32 13.1
comp=Z,20nm,1.1s
EGMT Eagleton 81.45 333 P **P** 18 32 11.9 +1.0
baz=141
ELMT Elliston 81.49 330 P **P** 18 32 11.1 -0.1
PLID Pearl Lake 82.09 327 P **P** 18 32 15.0 +0.5
PLID IAmb IAmb 18 32 17.3
comp=Z,17nm,0.8s
J08A Circle Bar Ran 82.12 325 P **P** 18 32 15.2 +0.7
J08A IAmb IAmb 18 32 17.7
comp=Z,17nm,0.9s

MDT	**Midelt**	82.33	49	P		**P**	18 32 16.0	+0.2
	comp=Z,2.9nm,0.7s,baz=273,slow=3.7,SNR=5.1							
	comp=Z,2.9nm,0.7s							
MSO	**Missoula**	82.38	330	P		**P**	18 32 17.3	+1.6
	baz=138							
LBTB	**Lobatse**	82.46	114	P		**P**	18 32 15.4	-1.4
BMO	**Blue Mountains**	82.57	327	IAmb		IAmb	18 32 20.4	
	comp=Z,1.8nm,1.4s							
FFC	**Flin Flon**	84.13	341	P		**P**	18 32 25.3	+0.9
HAWA	**Hanford**	84.76	327	IAmb		IAmb	18 32 30.6	
	comp=Z,20nm,1.1s							
NEW	**Newport**	84.90	329	P		**P**	18 32 30.0	+1.6
	baz=136							
C09A	**Chrisman Ranch**	85.12	328	IAmb		IAmb	18 32 32.1	
	comp=Z,22nm,0.8s							
FCC	**Fort Churchill**	85.66	346	P		**P**	18 32 32.4	+0.6
ESDC	**Sonseca Array**	86.71	44	P		**P**	18 32 37.6	0.0
	comp=Z,3.6nm,1.1s,baz=237,slow=5.7,SNR=9.9							
	comp=Z,3.6nm,1.1s							
EDM	**Edmonton**	86.91	334	P		**P**	18 32 37.4	-0.8
OZB	**Mount Ozzard**	89.48	326	P		**P**	18 32 50.3	-0.1
CASY	**Casey**	89.74	179	P		**P**	18 32 51.6	+0.2
YKA	**Yellowknife Ar**	94.29	340	P		**P**	18 33 13.2	+0.9
	comp=Z,3.5nm,0.7s,baz=132,slow=4.3,SNR=52							
	comp=Z,3.5nm,0.7s							
KOTAN	**Kotaneelee Air**	95.95	335	P		**P**	18 33 21.8	+1.9
	baz=130							
DLBC	**Dease Lake**	97.36	332	P		Pdif	18 33 27.9	+1.4
	baz=125							
R33M	**Jennings River**	98.31	332	P		Pdif	18 33 32.3	+1.5
	baz=124							
SIT	**Sitka**	98.99	329	P		Pdif	18 33 35.1	+1.5
	baz=121							
R32K	**Eaglecrest**	99.25	330	P		**Pdif**	18 33 36.1	+1.3
	baz=121							
P33M	**Teslin, Yukon**	99.54	333	P		**Pdif**	18 33 36.9	+0.8
	baz=122							
P32M	**Atlin**	99.59	332	P		**Pdif**	18 33 37.5	+1.2
	baz=122							
N32M	**Quiet Lake**	100.15	333	P		**Pdif**	18 33 40.2	+1.4
	baz=122							
SKAG	**Skagway**	100.22	331	P		**Pdif**	18 33 40.5	+1.5
	baz=121							
WHY	**Whitehorse**	100.64	332	P		**Pdif**	18 33 42.6	+1.5
	baz=121							
FARO	**Faro, Yukon**	100.83	334	P		**Pdif**	18 33 42.8	+1.0
	baz=122							
O30N	**Mendenhall**	101.21	332	P		**Pdif**	18 33 44.6	+1.0
	baz=120							
HYT	**Haines Junctio**	101.84	332	P		**Pdif**	18 33 47.2	+0.8
	baz=118							
O29M	**Mount Kennedy**	102.06	331	P		**Pdif**	18 33 48.5	+1.1
	baz=118							
M30M	**Minto, Yukon**	102.39	334	P		**Pdif**	18 33 50.2	+1.5
	baz=119							
CLL	**Collin**	102.74	39	*i* PP		**PKiKP**	18 38 08.4	-1.8
M29M	**Somme Creek**	103.01	333	P		**Pdif**	18 33 52.5	+0.9
	baz=117							
YUK8	**Steele Glacier**	103.03	332	P		**Pdif**	18 33 52.3	+0.4
	baz=117							
H31M	**Peel River**	103.06	337	P		**Pdif**	18 33 53.1	+1.5
	baz=120							
J30M	**Hart River**	103.18	336	P		**Pdif**	18 33 53.3	+1.0
	baz=119							
L29M	**L29M**	103.19	334	P		**Pdif**	18 33 53.5	+1.2
	baz=118							
K29M	**Barlow Dome**	103.29	335	P		**Pdif**	18 33 54.1	+1.3
	baz=118							
I30M	**Mount Dempster**	103.51	336	P		**Pdif**	18 33 54.7	+0.9
	baz=119							
MESA	**MESA**	103.52	330	P		**Pdif**	18 33 54.8	+0.9
	baz=115							
YUK3	**Moose Creek**	103.55	332	P		**Pdif**	18 33 55.0	+0.9
	baz=116							
CTG	**Chitna Glacier**	103.58	331	P		**Pdif**	18 33 55.0	+0.8
	baz=115							
G31M	**Satah River**	103.60	338	P		**Pdif**	18 33 55.4	+1.5
	baz=120							
A36M	**Sachs Harbour**	103.76	344	P		**Pdif**	18 33 56.1	+1.6
	baz=127							
INK	**Inuvik**	104.06	339	P		**Pdif**	18 33 57.9	+2.0
	baz=120							
F30M	**Barrier River**	104.45	338	P		**Pdif**	18 33 59.5	+1.8
	baz=119							
L27K	**Beaver Creek,**	104.68	333	P		**Pdif**	18 34 00.1	+1.2
	baz=114							
G29M	**Pine Creek**	104.89	337	P		**PKiKP**	18 38 14.6	+0.8
	baz=117							
Q23K	**Middleton Isla**	105.26	329	P		**PKiKP**	18 38 15.1	+0.6
	baz=112							
N25K	**Chitina, Valde**	105.28	331	P		**PKiKP**	18 38 15.3	+0.6
	baz=112							
EYAK	**Cordova Ski Ar**	105.39	330	P		**PKiKP**	18 38 15.4	+0.6
	baz=112							
E29M	**Blow River**	105.52	339	P		**PKiKP**	18 38 15.0	+0.2
	baz=116							
HARP	**HAARP**	105.82	332	P		**PKiKP**	18 38 16.2	+0.6
	baz=112							
F28M	**Old Crow**	105.85	338	P		**PKiKP**	18 38 16.0	+0.5
	baz=115							
G26K	**Porcupine Rive**	106.98	336	P		**PKiKP**	18 38 17.6	+0.1
	baz=112							
WAT6	**Susitna Watana**	107.01	331	P		**PKiKP**	18 38 17.8	-0.2
	baz=110							
SML	**Sawmill**	107.01	331	P		**PKiKP**	18 38 17.2	-0.6
	baz=109							
CHUM	**Lake Minchumin**	109.38	332	P		**PKiKP**	18 38 22.1	0.0
	baz=105							
E23K	**Chandalar**	109.46	337	P		**PKiKP**	18 38 21.9	-0.4
	baz=106							
N19K	**Bonanza Creek**	109.56	329	P		**PKiKP**	18 38 22.4	-0.2
	baz=105							
L20K	**Farewell, AK**	109.70	330	P		**PKiKP**	18 38 22.9	+0.1
	baz=104							
C23K	**Itkillik River**	110.29	338	P		**PKiKP**	18 38 23.8	+0.1
	baz=105							
C19K	**Lookout Ridge**	113.26	337	P		**PKiKP**	18 38 30.3	+0.9
	baz=97							
B18K	**Kokolik River**	114.07	337	P		**PKiKP**	18 38 31.2	+0.3
	baz=95							
KBZ	**Khabaz**	120.58	52	PKP		**PKiKP**	18 38 45.4	+1.1
	comp=Z,2.3nm,0.8s,baz=300,slow=1.3,SNR=5.0							
ASAR	**Alice Springs**	128.15	205	PKP		**PKiKP**	18 39 00.2	+0.2
	comp=Z,9.4nm,0.9s,baz=146,slow=2.3,SNR=59							
WRA	**Warramunga Arr**	131.32	207	PKhKP	PKPpre		18 38 54.2	
	comp=Z,0.3nm,0.5s,baz=124,slow=2.2,SNR=6.5							
WRA				PKP		**PKiKP**	18 39 06.5	0.0
	comp=Z,4.9nm,0.5s,baz=161,slow=1.7,SNR=57							
PETK	**Petropavlovsk-**	135.69	322	PKhKP	PKPpre		18 39 06.1	
	comp=Z,0.9nm,0.5s,baz=37,slow=4.3,SNR=5.4							
PETK				PKP		**PKiKP**	18 39 14.1	-0.2
	comp=Z,2.4nm,0.5s,baz=72,slow=1.2,SNR=7.7							
BVAR	**Borovoye Array**	137.11	37	PKP		**PKPdf**	18 39 16.3	+1.0
	comp=Z,2.6nm,0.7s,baz=270,slow=4.3,SNR=8.9							
KURBB	**Kurchatov Arra**	142.69	36	PKhKP	PKPpre		18 39 23.1	
	comp=Z,2.2nm,0.8s,baz=305,slow=2.5,SNR=3.7							
SGDS	**Sogindy**	143.38	49	*e*PKP		**PKPdf**	18 39 27.6	+0.6
	baz=49							
ZALV	**Zalesovo Beam**	143.70	28	PKP	PKPbc		18 39 26.2	+1.0
	comp=Z,7.8nm,0.6s,baz=297,slow=4.1,SNR=36							
SEM	**Semipalatinsk**	143.73	36	*e*PKP		**PKPdf**	18 39 28.0	+0.4
	baz=36							
KUU	**Kurty**	144.39	48	*e*PKP	PKPbc		18 39 28.0	+0.4
	baz=48							
CHKK	**Chushkaly**	144.84	47	*e*PKP		**PKPab**	18 39 29.3	+0.3
	baz=47							
AAA	**Alma-Ata**	145.03	48	*e*PKP		**PKPdf**	18 39 30.6	+0.8
	baz=48							
TNSS	**Tian-Shan**	145.11	49	*e*PKP		**PKPab**	18 39 30.8	+0.2
	baz=49							
MDOK	**Medeo**	145.13	48	*e*PKP		**PKPab**	18 39 30.6	+0.2
	baz=48							
MDOK				*i* PP		**PP**	18 42 51.5	+0.6
	baz=48							
TDK	**Taldyqorghan**	145.31	45	*e*PKP		**PKPab**	18 39 31.1	+0.3
	baz=45							
KSH	**Kashi**	145.50	55	PKPbc		**PKPab**	18 39 31.8	0.0
KSH				sPKP			18 40 21.3	
ZHN	**Zhinishke**	146.07	48	*e*PKP		**PKPdf**	18 39 31.3	-0.4
	baz=48							
SATY	**Saty**	146.09	48	*e*PKP		**PKPdf**	18 39 32.5	+0.7
	baz=48							
KPKS	**Kokpek**	146.12	47	*e*PKP		**PKPbc**	18 39 32.9	-0.2
	baz=47							
UZB	**Uzynbulak**	146.48	47	*e*PKP		**PKPdf**	18 39 33.4	+0.9
	baz=48							
SHLS	**Shalkode**	146.77	47	*e*PKP		**PKPbc**	18 39 34.4	-0.6
	baz=47							
MKAR	**Makanchi Array**	146.84	40	PKPbc		**PKPbc**	18 39 34.1	-0.8
	comp=Z,9.2nm,0.6s,baz=301,slow=1.7,SNR=68							
ZSN	**Zaisan**	147.92	37	*e*PKP		**PKPdf**	18 39 35.6	+1.1
	baz=37							
WMQ	**Urumqi**	151.66	40	*e*P		**PKPdf**	18 39 40.0	-0.6
HEH	**HeiHe**	151.66	340	PKPbc		**PKPdf**	18 39 41.1	+0.8
HEH				PKPab		**PKPab**	18 39 56.8	+0.7
MJAR	**Matsushiro Arr**	154.97	305	PKPbc		**PKPbc**	18 39 55.7	+1.2
	comp=Z,1.2nm,0.5s,baz=54,slow=2.1,SNR=4.6							
MJAR				PKPab		**PKPab**	18 40 11.9	+1.2
	comp=Z,10nm,0.9s,baz=61,slow=2.4,SNR=12							
SONM	**Songino Array**	155.92	11	PKP		**PKPdf**	18 39 47.5	+0.8
	comp=Z,1.2nm,0.8s,baz=200,slow=2.5,SNR=7.0							
SONM				PKPab		**PKPab**	18 40 15.3	+0.9
	comp=Z,0.7nm,0.5s,baz=326,slow=4.5,SNR=3.8							
GTA	**Gaotai**	161.32	33	⇑P		**PKPdf**	18 39 54.9	+1.6
GTA				pP		PKPab	18 40 39.6	+1.4
GTA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
KSRS	**Korea Array**	161.54	319	PKP		**PKPdf**	18 39 54.6	+1.2
	comp=Z,3.1nm,1.0s,baz=90,slow=1.5,SNR=7.5							
KSRS				PKPab		**pPKPdf**	18 40 40.7	-1.1
	comp=Z,1.8nm,0.9s,baz=35,slow=5.7,SNR=4.9							
HHC	**Hu-ho-hao-te**	163.42	3	*e*P		**PKPdf**	18 39 56.3	+1.0
CMAR	**Chiang Mai Arr**	165.87	111	PKP		**PKPdf**	18 39 58.7	+0.8
	comp=Z,0.8nm,0.3s,baz=315,slow=3.1,SNR=5.9							
CMAR				PKPab		**PKPab**	18 40 58.8	+0.1
	comp=Z,1.0nm,0.8s,baz=243,slow=5.0,SNR=5.4							
LZH	**Lanzhou**	165.90	31	*e*P		**PKPdf**	18 39 59.6	+1.9
LZH				pmax		pmax		
	comp=Z,13nm,1.3s							
PZH	**PanZhiHua**	169.76	75	PKP		**PKPdf**	18 39 59.1	-1.5
NJ2	**Nanjing**	170.57	327	*e*P		**PKPdf**	18 39 59.9	-0.8
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
KMI	**Kunming**	170.82	82	⇑PKP		**PKPdf**	18 40 01.5	+0.1
WHN	**Wuhan**	173.58	348	PKPbc		**PKPdf**	18 40 00.9	-1.2

*ISN **19** 18:47:26.3±1.4,34˚.76N×45˚.83E,h10km±709km,ML3.4*
*TEH **19** 18:47:29.1,34˚.72N×45˚.86E,h9km±28km,ML3.4*
ISC 19 18:47:29.4±0.9,**34˚.70N**±0˚.03×**45˚.85E**±0˚.03,**h10**km,**n31,**
σ1§39/35,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	0.29	229	Pg	**Pg**	18 47 35.3	0.0
IDHR	**Dehrash**	0.44	90	Pg	**Pg**	18 47 37.9	-0.2
IDHR				Sg	**Sb**	18 47 45.0	-1.2
IGHG	**Ghaleghazi**	0.70	122	Pg	**Pb**	18 47 43.3	-0.5
ILIN	**Lien**	0.94	76	Pg	**Pg**	18 47 46.6	-0.9
KCHF	**Cheshme Sefid,**	1.07	113	Pg	**Pg**	18 47 49.7	-0.2
ILBA	**Ilam Banvizeh**	1.11	165	Pg	**Pg**	18 47 50.8	0.0
IKOM	**Komasi**	1.47	110	Pg	**Pb**	18 47 56.9	0.0
SDS1	**Sardasht. Az.**	1.48	348	Pg	**Pg**	18 47 57.4	-0.4
IBDR	**Badra**	1.59	178	*e*Pn	**Pn**	18 47 58.0	+0.5
IBDR				*e*Sn	**Sg**	18 48 21.0	+0.6
IBZA	**Bozab**	1.67	97	Pg	**Pb**	18 48 00.6	+0.1
BHD	**Baghdad**	1.88	221	*e*Pn	**Pn**	18 48 02.0	+0.4
BHD				*e*Sn	**Sb**	18 48 28.0	+0.7
BHD				AML	AML	18 48 39.1	
	comp=E,422nm,0.5s						
IALM	**Almabolaq**	1.91	85	Pn	**Pb**	18 48 04.7	+0.1
IKFM	**Kafar-mosalman**	2.03	125	Pn	**Pb**	18 48 05.8	-0.5
MAHB	**Mahabad**	2.07	357	Pn	**Pb**	18 48 05.7	-1.4
HAGD	**Aghdareh**	2.71	86	Pn	**Pb**	18 48 15.4	-2.7
IAZR	**Azarshahr**	2.98	2	Pn	**Pn**	18 48 18.1	+1.2
RAFI	**Al-Rafai**	2.98	176	*e*Pn	**Pn**	18 48 18.0	+1.3
RAFI				*e*Sn	**Sb**	18 48 56.0	-2.9
QSDN	**Sirdan**	3.25	55	Pn	**Pn**	18 48 23.1	+2.4
ISRB	**Sarab**	3.45	25	Pn	**Pn**	18 48 25.0	+1.6
ISHB	**Shabestar**	3.58	357	Pn	**Pn**	18 48 25.8	+0.5
IHRS	**Heris**	3.74	15	Pn	**Pn**	18 48 29.2	+1.9
AMIS	**Naft Sefid**	4.18	135	Pn	**Pn**	18 48 34.6	+1.4
GRMI	**Germi**	4.42	21	Pn	**Pn**	18 48 38.0	+1.4
QAMS	**Qamsar**	4.69	100	Pn	**Pn**	18 48 42.3	+1.7
JHBN	**Jahan bin**	4.71	120	Pn	**Pn**	18 48 42.0	+1.1
MAKU	**Maku**	4.74	349	Pn	**Pn**	18 48 43.2	+2.1
IVRN	**Varamin**	4.84	85	Pn	**Pn**	18 48 44.1	+1.7
ZNGN	**Zangian**	4.91	120	Pn	**Pn**	18 48 44.9	+1.3
IKLH	**Kolahrood**	4.95	105	Pn	**Pn**	18 48 46.2	+2.1
KRSH	**Karshahi**	5.25	96	Pn	**Pn**	18 48 49.0	+0.9
IZEF	**Zefreh**	5.68	107	Pn	**Pn**	18 48 55.5	+1.3

*ISK **19** 18:54:06.0,39˚.54N×28˚.21E,h5km,ML3.5/33*
*AFAD **19** 18:54:06.5±0.0,39˚.55N×28˚.19E,h7km±3km,MW3.5*
*BEO **19** 18:54:07.9±0.9,39˚.68N×28˚.38E,h0km,ML3.2/3*
*THE **19** 18:54:09.6,39˚.49N×28˚.26E,h24km±3km,ML3.3/9, Error ellipse: s-maj=3.7km s-min=0.9km az=88.0*
ISC 19 18:54:07.2±1.0,**39˚.52N**±0˚.02×**28˚.22E**±0˚.02,**h8**km±8km,
n104,σ1§02/134,11C-4D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DURS	**Dursunbey**	0.21	68	P	**Pg**	18 54 11.0	-0.5
DURS				S	**Sg**	18 54 14.8	+0.4
DURS				*i* AML	AML	18 54 15.0	
	comp=N,2μm,0.3s						
DST	**Dursunbey**	0.32	75	Pg	**Pg**	18 54 13.0	-0.5
STEP	**BALIKESIR_Sava**	0.42	250	P	**Pg**	18 54 15.1	-0.2
STEP				S	**Sg**	18 54 20.6	-0.2
STEP				*i* AML	AML	18 54 22.0	
	comp=E,6μm,0.3s						
BALY	**Balya**	0.51	295	P	**Pg**	18 54 16.9	-0.3
BALY				S	**Sg**	18 54 23.4	-0.6
BALY				*i* AML	AML	18 54 25.0	
	comp=N,2μm,0.5s						
DEMI	**Demirci**	0.61	141	P	**Pg**	18 54 19.2	+0.2
GONE	**Gonen-Balikesi**	0.67	322	Pg	**Pg**	18 54 19.6	-0.4
AKHS	**Akhisar**	0.72	206	P	**Pg**	18 54 20.0	-1.0
AKS	**Akhisar**	0.72	206	Pg	**Pg**	18 54 21.4	+0.4
AKS				Sg	**Sg**	18 54 31.9	+1.5
ORLT	**Orhaneli**	0.73	45	Pg	**Pg**	18 54 20.9	-0.5
SIMA	**Simav-Kutahya**	0.73	127	Pg	**Pg**	18 54 21.8	+0.4
KCTX	**Karacabey (Bur**	0.75	8	Pg	**Pg**	18 54 21.2	-0.4
GOMA	**Golmarmara-Man**	0.85	196	Pg	**Pg**	18 54 23.7	+0.2
GOMA				Sg	**Sg**	18 54 36.9	+2.4
EDC	**Edincik**	0.87	342	Pg	**Pg**	18 54 23.5	-0.4
BUHA	**Balikesir, Bur**	0.89	269	P	**Pg**	18 54 23.8	-0.4
BUHA				S	**Sg**	18 54 35.5	-0.3
BUHA				*i* AML	AML	18 54 38.0	
	comp=N,2μm,0.5s						
ULDT	**Uludag**	0.94	48	P	**Pg**	18 54 24.5	-0.7
TVSB	**Tavsanli**	0.96	94	Pg	**Pg**	18 54 25.6	-0.1
MDNY	**Mudanya-Bursa**	0.98	31	Pg	**Pg**	18 54 25.6	-0.5
CANM	**Can-anakkale**	1.02	299	Pg	**Pg**	18 54 26.3	-0.6
GEDZ	**Gediz**	1.04	117	Pg	**Pg**	18 54 27.5	+0.4
ZEDA	**zmir-Bergama**	1.05	238	P	**Pg**	18 54 27.2	-0.2
ZEDA				S	**Sg**	18 54 41.0	0.0
ZEDA				*i* AML	AML	18 54 43.0	
	comp=N,941nm,0.5s						
IGD	**Bursa**	1.05	45	P	**Pg**	18 54 26.8	-0.6
KULA	**Kula-Manisa**	1.06	161	Pn	**Pg**	18 54 28.1	+0.5
KULA	**Kula-Manisa**	1.06	161	P	**Pg**	18 54 27.7	+0.1
KULA				S	**Sg**	18 54 40.5	-0.9
MANT	**Manisa**	1.06	166	P	**Pg**	18 54 27.7	+0.1
MANT				S	**Sg**	18 54 41.3	-0.2
MANT				*i* AML	AML	18 54 44.0	
	comp=N,765nm,0.3s						
MANT				*i* AML	AML	18 54 44.0	
	comp=E,1μm,0.4s						
GDZ	**Gediz**	1.07	114	P	**Pg**	18 54 27.6	-0.1
GDZ				S	**Sg**	18 54 40.8	-0.8
GDZ				*i* AML	AML	18 54 43.0	
	comp=N,199nm,0.6s						
GDZ				*i* AML	AML	18 54 45.0	
	comp=E,710nm,0.3s						
DKL	**Dikili**	1.12	247	Pn	**Pg**	18 54 28.6	0.0
KRBG	**Karabiga-Canak**	1.12	321	Pn	**Pg**	18 54 28.4	-0.3
ARMT	**Armutlu**	1.15	25	Pn	**Pg**	18 54 28.8	-0.5
RFT7	**Candarli**	1.16	241	Pn	**Pg**	18 54 29.4	0.0
GEMT	**Gemlik**	1.17	39	Pn	**Pg**	18 54 29.6	-0.1
AYVA	**Ayvalik**	1.21	260	P	**Pb**	18 54 29.8	-0.5
AYVA				S	**Sg**	18 54 44.6	-1.4
AYVA				*i* AML	AML	18 54 47.0	
	comp=N,1μm,0.3s						
AYVA				*i* AML	AML	18 54 48.0	
	comp=E,1μm,0.3s						
KURT	**Yalova, Merkez**	1.31	35	P	**Pn**	18 54 30.2	-1.4
KURT				S	**Sb**	18 54 48.6	-0.2
KURT				*i* AML	AML	18 54 52.0	
	comp=N,719nm,0.4s						
KURT				*i* AML	AML	18 54 53.0	
	comp=E,576nm,0.6s						
KIRA	**zmir-Kiraz**	1.33	174	P	**Pn**	18 54 31.9	-0.3
KIRA				S	**Sb**	18 54 47.9	-1.8
KIRA				*i* AML	AML	18 54 54.0	
	comp=E,271nm,0.3s						
IZMR	**zmir-demi**	1.40	189	P	**Pn**	18 54 33.1	+0.1
LPK	**Lapseki**	1.41	307	Pn	**Pn**	18 54 32.9	-0.2
RKY	**Sarkoy-Tekirda**	1.41	326	Pn	**Pn**	18 54 33.5	+0.3
SART	**Tekirdag**	1.41	326	P	**Pn**	18 54 32.5	-0.8
SART				S	**Sb**	18 54 51.6	-0.4
SART				*i* AML	AML	18 54 54.0	
	comp=N,842nm,0.3s						
SART				*i* AML	AML	18 54 54.0	
	comp=E,977nm,0.3s						
CAVI	**Cavuskoy**	1.42	61	Pn	**Pb**	18 54 33.9	0.0
AUBOZ	**BOZOYUK**	1.45	74	P	**Pn**	18 54 34.1	+0.4
COMU	**Canakkale**	1.47	294	Pn	**Pn**	18 54 34.3	+0.4
ADVT	**Abdulvahap**	1.48	52	Pn	**Pn**	18 54 34.5	+0.5
EZN	**Ezine**	1.50	282	Pn	**Pn**	18 54 35.1	+0.8
EZN	**Ezine**	1.50	282	P	**Pn**	18 54 34.2	-0.1
EZN				S	**Sn**	18 54 54.2	+0.3
	962nm,0.4s						
AVCI	**Avcilar-stanb**	1.52	14	Pn	**Pn**	18 54 35.1	+0.5
PASA	**Karahalli, USA**	1.53	140	P	**Pn**	18 54 32.9	-2.0
PRK	**Paraskevi**	1.54	260	P	**Pn**	18 54 34.9	0.0
PRK				S	**Sn**	18 54 53.9	-1.1
	1μm,0.6s						
BNAZ	**Uak-Banaz**	1.54	123	P	**Pn**	18 54 35.0	0.0
OSMT	**Osmaniye**	1.56	46	Pn	**Pn**	18 54 35.9	+0.6
KOCA	**Canakkale, Ayv**	1.61	270	P	**Pn**	18 54 35.9	0.0
ELBA	**Catalca**	1.63	6	P	**Pn**	18 54 34.9	-1.3
CRLT	**Corlu**	1.65	347	Pn	**Pn**	18 54 36.7	+0.3
KARB	**zmir-Karabur**	1.65	239	P	**Pn**	18 54 36.0	-0.4
KAVV	**Kandilli-Istan**	1.67	22	Pn	**Pn**	18 54 37.6	+1.0
ISK	**Istanbul-Kandi**	1.67	22	Pn	**Pn**	18 54 37.0	+0.3
ISK	**Istanbul-Kandi**	1.67	22	P	**Pn**	18 54 35.9	-0.8
ISK				S	**Sn**	18 54 57.9	-0.3
	475nm,0.6s						
SLVT	**Silivri**	1.70	360	Pn	**Pn**	18 54 37.6	+0.4
HRT	**Hereke**	1.71	40	Pn	**Pn**	18 54 37.6	+0.4
BGKT	**Bogazkoy**	1.71	14	Pn	**Pn**	18 54 37.9	+0.7
CTKS	**Kestanelik-??a**	1.72	7	Pn	**Pn**	18 54 38.1	+0.7
BORA	**Eskisehir**	1.76	78	P	**Pb**	18 54 39.5	-0.1
BORA				S	**Sb**	18 55 01.9	0.0
BORA				*i* AML	AML	18 55 07.0	
	comp=N,374nm,0.3s						
SEMS	**Kocaeli-K¶rfe**	1.78	40	P	**Pb**	18 54 39.6	-0.4
KLYT	**Kilyos**	1.84	20	Pn	**Pn**	18 54 39.5	+0.5
ZEYE	**Izmir, Urla-Ze**	1.86	227	P	**Pn**	18 54 38.5	-0.8
SIGR	**SIGRI**	1.86	261	P	**Pn**	18 54 39.0	-0.3
SIGR				S	**Sn**	18 55 02.9	-0.1
	628nm,0.4s						
SRCK	**Saricakaya, Es**	1.92	74	Pn	**Pn**	18 54 41.2	+1.0
SILT	**Sile**	1.96	33	Pn	**Pn**	18 54 39.7	-0.9
GULT	**Gulveren**	1.98	62	Pn	**Pn**	18 54 41.8	+0.7
ENEZ	**Enez**	2.00	308	P	**Pn**	18 54 41.6	+0.4
ENEZ				S	**Sn**	18 55 06.6	+0.3
	520nm,0.4s						
SAUV	**Serdivan-Sakar**	2.02	52	Pn	**Pn**	18 54 42.5	+1.0
CHOS	**Chios island**	2.04	237	P	**Pn**	18 54 41.4	-0.4
CHOS				S	**Sn**	18 55 06.3	-1.1
	435nm,0.3s						
SMG	**Samos**	2.11	211	P	**Pn**	18 54 42.8	0.0
SMG				S	**Sn**	18 55 08.0	-1.2
	315nm,0.5s						
ALN	**Alexandroupoli**	2.16	310	P	**Pn**	18 54 43.2	-0.2
ALN				S	**Sn**	18 55 09.1	-1.2
	235nm,0.4s						
SMTH	**Samothraki Isl**	2.27	295	P	**Pn**	18 54 45.4	+0.4
SMTH				S	**Sn**	18 55 12.8	-0.4
	510nm,0.4s						
LIA	**Limnos Island**	2.38

PB09 IAML 18 57 29.7
comp=N,246nm,0.5s
PB06 IPOC Station P 2.84 274 Pn 18 56 50.7 +1.4
PB06 Sn **S** **18 57 28.8 -0.5**
PB06 IPOC Station P 2.84 274 *eP* **Pn 18 56 50.7 +1.4**
PB06 *eS* **S** **18 57 29.9 +0.6**
PB06 IAML 18 57 30.7
comp=Z,336nm,0.8s
PB01 IPOC Station P 3.36 304 Pn 18 56 55.7 +0.7
PB01 Sn **S** **18 57 38.6 -0.9**
PB01 IPOC Station P 3.36 304 *eP* **Pn 18 56 55.8 +0.8**
PB01 *eS* **S** **18 57 38.8 -0.7**
PB01 IAML 18 57 41.1
comp=Z,277nm,0.2s
PB07 IPOC Station P 3.36 291 Pn 18 56 55.9 +0.9
PB07 Sn **S** **18 57 37.8 -1.9**
PB07 IPOC Station P 3.36 291 *eP* **Pn 18 56 55.9 +0.9**
PB07 *eS* **S** **18 57 38.6 -1.0**
PB07 IAML 18 57 43.0
comp=Z,300nm,0.5s
PB05 IPOC Station P 3.41 271 Pn 18 56 56.6 +1.1
PB05 Sn **S** **18 57 38.9 -1.6**
PB04 IPOC Station P 3.42 280 Pn 18 56 56.6 +0.9
PB04 Sn **S** **18 57 39.6 -1.3**
PB04 IPOC Station P 3.42 280 *eP* **Pn 18 56 57.0 +1.3**
PB04 *eS* **S** **18 57 40.1 -0.7**
PB04 IAML 18 57 41.6
comp=Z,256nm,0.7s
PB02 IPOC Station P 3.54 297 Pn 18 56 57.7 +0.7
PB02 Sn **S** **18 57 41.1 -2.2**
PB02 IPOC Station P 3.54 297 *eP* **Pn 18 56 57.8 +0.7**
PB02 *eS* **S** **18 57 41.6 -1.7**
PB02 IAML 18 57 44.6
comp=Z,523nm,0.2s
GO02 Mina Guanaco 3.57 231 Pn 18 56 59.1 +1.6
GO02 Sn **S** **18 57 44.4 +0.2**
GO02 Mina Guanaco 3.57 231 *eP* **Pn 18 56 59.3 +1.8**
GO02 *eS* **S** **18 57 45.2 +1.0**
GO02 Mina Guanaco 3.57 231⇑ *iP* **Pn 18 56 59.2 +1.6**
GO02 *iS* **S** **18 57 44.7 +0.5**
PB08 IPOC Station P 3.73 318 Pn 18 57 00.9 +1.4
PB08 Sn **S** **18 57 46.8 -1.0**
PB08 IPOC Station P 3.73 318 *eP* **Pn 18 57 00.6 +1.0**
PB08 *eS* **S** **18 57 48.3 +0.6**
PB08 IAML 18 57 49.9
comp=Z,216nm,0.6s
PB14 IPOC Station P 3.93 244 Pn 18 57 03.0 +1.2
PB14 Sn **S** **18 57 50.3 -1.6**
PB14 IPOC Station P 3.93 244 *eP* **Pn 18 57 03.1 +1.3**
PB14 *eS* **S** **18 57 50.3 -1.6**
PB14 IAML 18 57 53.2
comp=Z,301nm,0.6s
PATCX Punta Patache 4.00 301 Pn 18 57 02.7 +0.3
PATCX Sn **S** **18 57 50.2 -2.6**
PATCX Punta Patache 4.00 301 *eP* **Pn 18 57 02.7 +0.3**
PATCX *eS* **S** **18 57 51.0 -1.9**
PATCX IAML 18 57 55.6
comp=Z,172nm,0.4s
GO01 Chusmiza 4.12 322 Pn 18 57 05.0 +0.8
GO01 Sn **S** **18 57 54.3 -1.9**
GO01 Chusmiza 4.12 322 *eP* **Pn 18 57 05.7 +1.5**
GO01 *eS* **S** **18 57 57.4 +1.2**
HMBC Humberstone 4.12 310 *eP* **Pn 18 57 03.8 -0.1**
HMBC *eS* **S** **18 57 53.3 -2.3**
HMBC IAML 18 57 55.8
comp=Z,316nm,0.4s
TA01 Diego Aracena 4.16 304 Pn 18 57 04.1 -0.1
TA02 Huaiquique 4.30 308 Pn 18 57 06.0 +0.1
PB11 IPOC Station P 4.33 317 Pn 18 57 06.3 -0.1
PB11 IPOC Station P 4.33 317 *eP* **Pn 18 57 05.8 -0.5**
PB11 *eS* **S** **18 57 57.9 -2.2**
PB11 IAML 18 58 01.1
comp=Z,167nm,0.1s
AC01 Pan de Azucar 4.89 229 Pn 18 57 13.2 +0.2
AC01 Pan de Azucar 4.89 229 *eP* **Pn 18 57 13.4 +0.4**
AC01 *eS* **S** **18 58 09.4 -2.8**
AC01 IAML 18 58 13.0
comp=Z,102nm,0.6s
PB16 IPOC Station P 5.39 328 Pn 18 57 20.1 +0.4
AC06 Mina Casimiro 5.60 218 Pn **Pn 18 57 22.1 +0.5**
PB12 IPOC Station P 5.61 320 Pn 18 57 20.4 -1.5
GO03 Copiap 5.72 215 Pn 18 57 23.3 +0.2
AP01 Chacalluta 5.80 321 Pn **Pn 18 57 23.3 -0.9**
PB18 Visviri 6.02 332 Pn **Pn 18 57 29.4 +1.8**
AC04 Llanos de Chal 6.65 217 Pn **Pn 18 57 34.3 -0.5**
AC05 El Transito 6.76 209 Pn **Pn 18 57 36.6 +0.2**
LPAZ La Paz 6.81 347 Pn 18 57 38.0 +0.5
CO01 Juntas del Tor 7.69 204 Pn **Pn 18 57 48.5 +0.3**
GO04 Tololo Observa 8.15 207 Pn **Pn 18 57 54.1 +0.1**
SIV San Ignacio 8.62 37 P **Pn 18 57 58.8 -1.1**
comp=Z,8.6nm,0.5s,baz=215,slow=11,SNR=43
SIV S **S** **18 59 34.4 -3.3**
comp=Z,0.7nm,0.3s,baz=203,slow=18,SNR=1.0
CO03 El Pedregal 8.69 205 Pn **Pn 18 57 59.3 -1.3**
CO06 Fray Jorge 8.94 210 Pn **Pn 18 58 03.8 0.0**
CPUP Villa Florida 9.00 114 P **Pn 18 58 05.1 +0.5**
comp=Z,1.8nm,0.8s,baz=294,slow=10.0,SNR=2.6
CO02 Combarbal 9.13 205 Pn **Pn 18 58 06.7 +0.4**
BDQN Bodoquena, MS 9.41 76 *eP* **Pn 18 58 12.3 +2.4**
ANTJ Antonio Joao (9.76 86 *eP* **P 18 58 17.3 -3.3**
AQDB Aquidauana 10.35 78 Pn 18 58 21.5 -0.2
AQDB Aquidauana 10.35 78 *eP* **Pn 18 58 23.1 +1.5**
AMBA Amambai (Brazi 10.62 92 *eP* **P 18 58 28.3 -1.8**
MT02 Curacav 11.04 201 Pn **Pn 18 58 28.1 -2.2**
BO04 La Punta 11.56 197 Pn **Pn 18 58 35.3 -1.6**
BO01 Tunca 12.08 198 P **Pn 18 58 44.6 +1.5**
CRSM Crissiumal (Br 12.15 114 *eP* **P 18 58 49.3 +2.2**
RPRD Ribas do Rio P 12.16 81 *eP* **P 18 58 49.0 +1.8**
SALV Santo Antonio 12.38 57 *eP* **P 18 58 51.3 +1.6**
RODS Rosario do Sul 12.51 128 *eP* **P 18 58 50.4 -0.6**
FRBT Francisco Belt 12.61 106 *eP* **P 18 58 54.1 +1.9**
ETMB Extrema 13.07 1 P **Pn 18 58 54.0 -1.6**
PTGB Pitanga 13.34 100 *eP* **P 18 59 00.1 -0.3**
ALGR Alto Alegre (B 13.45 118 *eP* **P 18 59 01.3 -0.3**
ML02 Panimavida 13.46 197 Pn 18 58 59.0 -1.1
ITAB Concordia 13.70 111 Pn 18 59 01.5 -1.8
ITAB Concordia 13.70 111 *eP* **P 18 59 05.5 +1.2**
CPSB Cacapava Do Su 13.83 125 *eP* **P 18 59 06.2 +0.5**
LDASE Londrina, Braz 14.16 95 *eP* **P 18 59 09.7 +0.2**
PCMB Pacaembu 14.18 87 *eP* **P 18 59 12.3 +2.6**
SAML Samuel 14.29 13 *eP* **P 18 59 10.9 0.0**
PLTB Pedras Altas 14.43 130 *eP* **P 18 59 13.3 +1.1**
PDRB Porto dos Gac 14.64 41 *eP* **Pn 18 59 15.0 +0.3**
ITRB Iturama 15.39 81 *eP* **Pn 18 59 24.4 +0.6**
CNLB Canela 15.41 118 *eP* **Pn 18 59 23.9 0.0**
TRQA Tornquist 15.54 167 P **P 18 59 21.6 -2.9**
TRQA IAmb IAmb 18 59 32.9
comp=Z,14nm,1.5s
FRTB Fartura 15.59 95 *eP* **Pn 18 59 26.5 +0.4**
BB19B Bebedouro 16.78 87 *eP* **Pn 18 59 39.5 -0.7**
GO06 Curarrehue 17.10 193 P **P 18 59 38.6 -3.2**
GO06 IAmb IAmb 19 00 10.2
comp=Z,5.1nm,1.1s
RCLB Rio Claro- Sao 17.52 92 *eP* **P 18 59 47.1 +0.7**
SPB Sao Paulo 17.54 96 *eP* **Pn 18 59 47.8 -1.2**
PET01 Itanhaem-SP 17.68 98 *eP* **Pn 18 59 49.0 -1.6**
IPMB Ipameri, GO 17.84 77 *eP* **Pn 18 59 51.0 -1.6**
VAO Valinhos 18.00 94 *eP* **P 18 59 52.4 +0.8**
PLCA Paso Flores 18.05 190 P **P 18 59 47.7 -4.2**
PLCA Paso Flores 18.05 190 P **Pn 18 59 55.4 +0.5**
comp=Z,0.7nm,0.4s,baz=33,slow=20,SNR=5.7
SNDB Serra Nova Dou 18.15 56 *eP* **P 18 59 53.1 0.0**
BDFB Brasilia 18.90 71 P **P 18 59 57.2 -4.2**
BDFB Brasilia 18.90 71 P **P 19 00 01.6 +0.2**
comp=Z,15nm,0.6s,baz=247,slow=11,SNR=26
NPGB Novo Progresso 19.12 36 *eP* **P 19 00 01.9 -1.7**
PARB Paraibuna 19.21 95 *eP* **P 19 00 05.1 +0.4**
PMNB Patos De Minas 19.28 81 *eP* **P 19 00 06.0 +0.7**
ITTB Itaituba 21.22 31 *eP* **P 19 00 24.5 -1.2**
DUB01 Friburgo-RJ 22.31 92 *eP* **P 19 00 36.9 +1.0**
JANB Januaria 22.39 73 *eP* **P 19 00 36.6 -0.1**
SDBA SAO DESIDERIO 23.07 67 *eP* **P 19 00 42.5 -0.4**
PRPB Paraiapebas 23.18 47 *eP* **P 19 00 43.7 -0.2**
SJMB Sao Joao De Ma 24.03 85 *eP* **P 19 00 51.5 -0.1**
MALB Monte Alegre 24.11 31 *eP* **P 19 00 51.5 -0.7**
RIB01 Linhares ES 24.61 86 *eP* **P 19 00 57.1 +0.3**
GUA01 Guaratinga, BA 25.89 81 *eP* **P 19 01 08.8 +0.5**
TXAR Lajitas Array 63.10 324 P **P 19 06 02.9 +2.6**
comp=Z,0.5nm,0.6s,baz=145,slow=9.8,SNR=2.1
comp=Z,0.5nm,0.6s
TORD Torodi Ar. Bea 75.78 69 P **P 19 07 18.2 +0.3**
comp=Z,1.6nm,0.4s,baz=261,slow=5.9,SNR=27
comp=Z,1.6nm,0.4s
PDAR Pinedale Array 76.49 329 P **P 19 07 24.1 +2.5**
comp=Z,0.2nm,0.4s,baz=119,slow=7.3,SNR=3.3
comp=Z,0.2nm,0.4s
NVAR Mina Array Bea 78.01 321 P **P 19 07 33.2 +3.0**
comp=Z,0.7nm,0.8s,baz=186,slow=5.2,SNR=4.7
comp=Z,0.7nm,0.8s
ESDC Sonseca Array 85.33 43 P **P 19 08 09.9 +1.8**
comp=Z,0.7nm,0.8s,baz=261,slow=4.6,SNR=2.9
comp=Z,0.7nm,0.8s
MKAR Makanchi Array 145.44 39 PKPbc **PKiKP 19 15 09.5 -1.7**
comp=Z,0.4nm,0.4s,baz=354,slow=2.6,SNR=5.9

*IDC **19** 18:58:36.7±0.5, 42°.76S×83°.63W, h0km, mb4.6/14, mbtmp4.5/15, ML3.8/1, MS4.2/39, Error ellipse: s-maj=20.1km s-min=16.1km az=94.0*
*GCMT **19** 18:58:37.0±0.3, 42°.57S±0°.02×83°.73W±0°.02, h13km, MW5.0/98, Moment Tensor Solution. s33,c40; s98,c131; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.32±.19; Mθθ 0.18±.10; Mϕϕ 3.14±.13; Mrθ 1.04±.38; Mϕθ -1.14±.07; Mϕr 0.40±.27; Best double couple: M0 3.60300×10^16 NP1: ϕs 178.00000°, δ 48.00000°, λ -66.00000°. NP2: ϕs 324.00000°, δ 47.00000°, λ -115.00000°. Principal axes: T 3.5290, Plg 0.0000°, Azm 251.0000°; N 0.1500, Plg 18.0000°, Azm 341.0000°; P -3.6770, Plg 72.0000°, Azm 160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **19** 18:58:38.3, 42°.87S×83°.70W, h20km, mB 4.9/1, Ms5.3/1, Ms7 5.3/1*
*NEIC **19** 18:58:39.0±1.5, 42°.61S±0°.09×83°.3W±0°.1, h10km±1km, mb5.0/158, Error ellipse: s-maj=16.3km s-min=14.4km az=262.0*

ISC 19 18:58:38.6±0.3, **42°.67S**±0°.06×**83°.27W**±0°.06, **h10**km, **n390**, σ 1§**15**/325, **mb5.0**/89, **MS4.2**/38, **6D**, **West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**7.07**	**97**	Pn	**Pn**		**Pn**	**19 00 19.6**	**-2.5**
AY01	**Puyuhuapi**	**7.91**	**106**	Pn	**Pn**		**Pn**	**19 00 35.3**	**+1.6**
AY01	**Puyuhuapi**	**7.91**	**106**	*i* P	**Pn**		**Pn**	**19 00 37.5**	**+3.9**
AY02	**Valle Explorad**	**8.14**	**121**	Pn	**Pn**		**Pn**	**19 00 39.9**	**+3.1**
AY02	**Valle Explorad**	**8.14**	**121**	*i* P	**Pn**		**Pn**	**19 00 39.5**	**+2.8**
LL02	**Futaleuf**	**8.40**	**97**	Pn	**Pn**		**Pn**	**19 00 42.8**	**+2.5**
COYC	**Coyhaique**	**8.55**	**114**	Pn	**Pn**		**Pn**	**19 00 43.6**	**+1.1**
GO06	**Curarrehue**	**9.42**	**75**	Pn	**Pn**		**Pn**	**19 00 54.8**	**+0.3**
GO06					**Sn**		**Sn**	**19 02 41.3**	**+0.9**
GO06	**Curarrehue**	**9.42**	**75**	*i* P	**Pn**		**Pn**	**19 00 55.0**	**+0.5**
GO06				*e*S	**Sn**		**Sn**	**19 02 41.4**	**+0.9**
H03S1	**Juan Fernandez**	**9.45**	**23**	T	T		19 10 48.6		
	baz=199,slow=73,SNR=489								
H03S2	**Juan Fernandez**	**9.45**	**23**	T	T		19 10 47.3		
	baz=199,slow=73,SNR=239								
H03S3	**Juan Fernandez**	**9.47**	**23**	T	T		19 10 42.6		
	baz=199,slow=73,SNR=1296								
GO08	**Villa O'Higgin**	**9.48**	**131**	Pn	**Pn**		**19 00 57.7**	**+2.5**	
PLCA	**Paso Flores**	**9.71**	**83**	Pn	**Pn**		**19 00 59.1**	**+0.7**	
PLCA	**Paso Flores**	**9.71**	**83**	Pn	Pn		19 01 03.3	+4.9	
	0.2nm,0.3s,baz=262,slow=13,SNR=4.0								
PLCA				LR	LR		19 04 13.2		
	comp=Z,4μm,18.6s,baz=222,slow=34								
	3.5nm,1.1s								
GO09	**Cerro Castillo**	**11.38**	**143**	Pn	**Pn**		**19 01 23.2**	**+2.1**	
ML02	**Panimavida**	**11.48**	**57**	Pn	**Pn**		**19 01 21.9**	**-0.8**	
GO05	**Huala**	**11.68**	**53**	Pn	**Pn**		**19 01 24.6**	**-0.8**	
MG04	**Isla Riesco**	**12.86**	**146**	Pn	**Pn**		**19 01 40.5**	**-0.8**	
MT09	**Talagante**	**13.10**	**51**	Pn	**Pn**		**19 01 42.2**	**-2.7**	
GO10	**Punta Arenas**	**13.29**	**146**	Pn	**Pn**		**19 01 45.4**	**-1.8**	
VA01	**Torpederas**	**13.29**	**47**	Pn	**Pn**		**19 01 43.2**	**-4.2**	
MT02	**Curacav**	**13.40**	**49**	Pn	**Pn**		**19 01 46.0**	**-2.8**	
LMEL	**Las Melosas**	**13.51**	**54**	Pn	**Pn**		**19 01 50.0**	**-0.5**	
MT13	**San Alfonso**	**13.54**	**53**	Pn	**Pn**		**19 01 49.7**	**-1.1**	
MG02	**Cerro Sombrero**	**13.82**	**142**	Pn	**Pn**		**19 01 53.0**	**-1.4**	
CO02	**Combarbal**	**15.05**	**45**	Pn	**Pn**		**19 02 10.0**	**-1.5**	
CO02				IAmb	IAmb		19 02 17.1		
	comp=Z,91nm,1.8s								
CO06	**Fray Jorge**	**15.16**	**42**	Pn	**Pn**		**19 02 13.6**	**+0.8**	
CO03	**El Pedregal**	**15.50**	**44**		**Pn**		**19 02 16.4**	**-1.0**	
MG01	**Puerto William**	**15.97**	**146**	P	**P**		**19 02 26.7**	**-0.1**	
MG01				IAmb	IAmb		19 02 32.6		
	comp=Z,132nm,1.2s								
CO05	**La Serena**	**15.98**	**41**		**Pn**		**19 02 22.6**	**-0.8**	
GO04	**Tololo Observa**	**15.98**	**43**	P	**Pn**		**19 02 25.3**	**+1.5**	
ZON	**Zonda**	**16.06**	**51**	P	**Pn**		**19 02 25.8**	**+1.2**	
CFA	**Coronel Fontan**	**16.27**	**52**	LR	LR		19 08 20.5		
	comp=Z,946nm,19.0s,slow=35								
CO01	**Juntas del Tor**	**16.50**	**44**	P	**P**		**19 02 32.0**	**-1.1**	
TRQA	**Tornquist**	**16.86**	**81**	P	**P**		**19 02 35.7**	**-1.0**	
LCO	**Las Campanas**	**16.99**	**41**	P	**Pn**		**19 02 37.0**	**+0.3**	
AC05	**El Transito**	**17.34**	**41**	P	**P**		**19 02 41.7**	**-0.6**	
GO03	**Copiap**	**18.40**	**39**	P	**Pn**		**19 02 53.3**	**-0.6**	
AC06	**Mina Casimiro**	**18.55**	**39**	P	**P**		**19 02 55.0**	**-0.5**	
AC01	**Pan de Azucar**	**19.48**	**36**	P	**P**		**19 03 06.1**	**+0.4**	
GO02	**Mina Guanaco**	**20.78**	**37**	P	**P**		**19 03 20.2**	**+0.1**	
PB14	**IPOC Station P**	**20.90**	**35**	P	**P**		**19 03 20.6**	**-0.8**	
PB14				IAmb	IAmb		19 03 32.6		
	comp=Z,106nm,1.5s								
PB15	**IPOC Station P**	**22.54**	**35**	P	**P**		**19 03 38.0**	**-1.0**	
PB15				IAmb	IAmb		19 03 50.7		
	comp=Z,52nm,1.2s								
PB04	**IPOC Station P**	**23.05**	**32**	P	**P**		**19 03 44.4**	**+0.1**	
LVC	**Limon Verde**	**23.31**	**35**	P	**P**		**19 03 46.6**	**-0.6**	
LVC	**Limon Verde**	**23.31**	**35**	LR	LR		19 10 42.2		
	comp=Z,668nm,19.9s,baz=210,slow=31								
PB09	**IPOC Station P**	**23.89**	**34**	P	**P**		**19 03 52.6**	**-0.1**	
PB09				IAmb	IAmb		19 04 11.4		
	comp=Z,77nm,1.5s								
PATCX	**Punta Patache**	**24.41**	**31**	P	**P**		**19 03 57.3**	**-0.1**	
PB01	**IPOC Station P**	**24.47**	**32**	P	**P**		**19 03 57.9**	**-0.1**	
ITQB	**Itaqui**	**25.00**	**67**	P	**P**		**19 04 02.9**	**+0.4**	
PB08	**IPOC Station P**	**25.41**	**32**	P	**P**		**19 04 06.4**	**-0.4**	
GO01	**Chusmiza**	**25.83**	**32**	P	**P**		**19 04 09.9**	**-0.8**	
PLTB	**Pedras Altas**	**25.89**	**75**	P	**P**		**19 04 11.6**	**+1.0**	
PLTB				IAmb	IAmb		19 04 20.1		
	comp=Z,34nm,1.1s								
RPN	**Rapa Nui**	**26.27**	**298**	LR	LR		19 11 44.2		
	comp=Z,1μm,20.4s,baz=105,slow=30								
PB12	**IPOC Station P**	**26.37**	**29**	P	**P**		**19 04 14.9**	**-0.3**	
CPUP	**Villa Florida**	**26.73**	**61**	P	**P**		**19 04 18.9**	**+0.7**	
CPUP	**Villa Florida**	**26.73**	**61**	P	**P**		**19 04 20.8**	**+2.5**	
	comp=Z,6.5nm,1.1s,baz=232,slow=10.0,SNR=6.0								
CPUP				LR	LR		19 14 49.6		
	comp=Z,2μm,18.8s,baz=234,slow=36								
	comp=Z,6.5nm,1.1s								
PB16	**IPOC Station P**	**26.92**	**30**	P	**P**		**19 04 21.0**	**+0.3**	
PB18	**Visviri**	**27.62**	**29**	P	**P**		**19 04 27.5**	**+0.6**	
PB18				IAmb	IAmb		19 04 36.4		
	comp=Z,41nm,0.9s								
LPAZ	**La Paz**	**29.31**	**31**	P	**P**		**19 04 41.6**	**-0.5**	
NNA	**Nana**	**31.08**	**12**	P	**P**		**19 04 57.6**	**+0.6**	
	comp=Z,4.0nm,0.3s,baz=205,slow=10,SNR=4.2								
NNA				LR	LR		19 14 02.0		
	comp=Z,410nm,20.0s,baz=188,slow=30								
	comp=Z,4.0nm,0.3s								
AQDB	**Aquidauana**	**32.02**	**55**	P	**P**		**19 05 05.8**	**+0.5**	
SIV	**San Ignacio**	**32.68**	**42**	P	**P**		**19 05 12.6**	**+1.4**	
	comp=Z,3.4nm,0.8s,baz=228,slow=8.9,SNR=7.4								
SIV				LR	LR		19 17 55.3		
	comp=Z,627nm,20.7s,baz=271,slow=35								
	comp=Z,3.4nm,0.8s								
PTLB	**Pontes e Lacer**	**34.12**	**45**	P	**P**		**19 05 23.9**	**+0.3**	
PTLB				IAmb	IAmb		19 05 31.5		
	comp=Z,21nm,1.2s								
ATAH	**Atahualpa**	**35.65**	**8**	P	**P**		**19 05 39.1**	**+1.8**	
	comp=Z,15nm,1.0s,baz=200,slow=7.2,SNR=11								
ATAH				LR	LR		19 16 33.8		
	comp=Z,226nm,20.7s,baz=202,slow=30								
	comp=Z,15nm,1.0s								
VILB	**Vilhena**	**35.72**	**41**	P	**P**		**19 05 37.3**	**-0.2**	
VILB				IAmb	IAmb		19 05 44.8		
	comp=Z,24nm,1.0s								
ETMB	**Extrema**	**35.97**	**29**	P	**P**		**19 05 39.9**	**+0.2**	
CZSB	**Cruzeiro do Su**	**36.02**	**18**	P	**P**		**19 05 39.9**	**-0.2**	
CZSB				IAmb	IAmb		19 05 47.9		
	comp=Z,62nm,1.9s								
SAML	**Samuel**	**37.93**	**33**	P	**P**		**19 05 56.4**	**+0.1**	
MCRA	**Macar, Loja**	**38.25**	**5**	P	**P**		**19 05 59.1**	**+0.1**	
ARNL	**Arenillas**	**39.06**	**5**	P	**P**		**19 06 05.5**	**-0.3**	
BOSC	**San Juan Bosco**	**39.58**	**7**	P	**P**		**19 06 08.2**	**-2.1**	
COHC	**Cochancay**	**40.19**	**6**	P	**P**		**19 06 14.6**	**-0.5**	
BELA	**Belgrano 2**	**40.26**	**166**	P	**P**		**19 06 16.0**	**+0.8**	
BDFB	**Brasilia**	**40.43**	**59**	P	**P**		**19 06 17.9**	**+0.5**	
BDFB	**Brasilia**	**40.43**	**59**	P	**P**		**19 06 19.3**	**+2.0**	
	comp=Z,6.5nm,0.8s,baz=214,slow=7.1,SNR=6.3								
BDFB				LR	LR		19 23 21.9		
	comp=Z,1μm,19.6s,baz=207,slow=36								
	comp=Z,6.5nm,0.8s								
CHSH	**Refugio Sur-Vo**	**41.18**	**7**	P	**P**		**19 06 23.6**	**-0.5**	
SLOR	**San Lorenzo -**	**41.97**	**7**	P	**P**		**19 06 29.4**	**-1.0**	
SLOR				IAmb	IAmb		19 07 10.3		
	comp=Z,41nm,1.1s								
OTAV	**Otavalo**	**42.93**	**7**	P	**P**		**19 06 38.5**	**+0.3**	
OTAV				IAmb	IAmb		19 06 41.5		
	comp=Z,24nm,1.1s								
OTAV	**Otavalo**	**42.93**	**7**	*e*P	**P**		**19 06 38.8**	**+0.6**	
TULM	**Tulcn-Chalpat**	**43.47**	**8**	P	**P**		**19 06 41.3**	**-1.2**	
GCUF	**Volcan Galeras**	**44.02**	**9**	*e*P	**P**		**19 06 44.5**	**-2.5**	
FLOC	**Florencia**	**44.58**	**11**	*e*P	**P**		**19 06 52.3**	**+1.3**	
VNA3	**Neumayer Olymp**	**45.06**	**154**	⇓P	**P**		**19 06 55.2**	**+1.0**	
	comp=Z,12nm,0.9s								
VNA1	**Neumayer--Stat**	**45.55**	**153**	P	**P**		**19 06 57.7**	**-0.3**	
	comp=Z,13nm,1.3s								
VNA2	**Neumayer--Watz**	**45.82**	**154**	⇓P	**P**		**19 07 01.3**	**+1.1**	
	comp=Z,11nm,0.6s,baz=275,slow=7.0								
JAMC	**Jamundi, Valle**	**46.06**	**9**	*e*P	**P**		**19 07 04.9**	**+2.0**	
PRAC	**Prado**	**46.79**	**12**	*e*P	**P**		**19 07 08.4**	**0.0**	
YOTC	**Yotoco, Valle**	**46.86**	**9**	*e*P	**P**		**19 07 10.6**	**+1.5**	
ORTC	**Ortega, Tolima**	**46.93**	**11**	*e*P	**P**		**19 07 10.8**	**+1.2**	
SNAA	**Sanae**	**47.20**	**155**	P	**P**		**19 07 11.7**	**+0.6**	
SNAA	**Sanae**	**47.20**	**155**	⇓P	**P**		**19 07 09.7**	**-1.4**	
	comp=Z,133nm,1.1s								
SNAA	**Sanae**	**47.20**	**155**	P	**P**		**19 07 10.8**	**-0.3**	
	comp=Z,5.6nm,1.0s,baz=267,slow=6.8,SNR=5.0								
SNAA				LR	LR		19 23 20.5		
	comp=Z,62nm,18.9s,baz=181,slow=31								
	comp=Z,5.6nm,1.0s								
QSPA	**South Pole Qui**	**47.57**	**180**	P	**P**		**19 07 14.3**	**+0.1**	
	comp=Z,11nm,1.1s,baz=135,slow=5.9,SNR=15								
QSPA				LR	LR		19 25 05.8		
	comp=Z,222nm,18.9s,baz=144,slow=34								
	comp=Z,11nm,1.1s								
ROSC	**El Rosal**	**47.98**	**12**	P	**P**		**19 07 17.7**	**-0.4**	
ROSC	**El Rosal**	**47.98**	**12**	LR	LR		19 24 51.2		
	comp=Z,510nm,21.6s,baz=236,slow=33								
GUY2C	**Guyana, Caldas**	**48.21**	**11**	*e*P	**P**		**19 07 19.1**	**-0.9**	
TROLL	**Troll, Antarti**	**48.80**	**156**	⇓P	**P**		**19 07 24.3**	**+0.8**	
	comp=Z,334nm,0.9s								
SPBC	**San Pablo de B**	**48.81**	**12**	*e*P	**P**		**19 07 25.5**	**+1.3**	
BOAV	**Boa Vista**	**49.34**	**31**	P	**P**		**19 07 28.2**	**+0.1**	
BOAV				IAmb	IAmb		19 07 34.8		
	comp=Z,20nm,1.3s								
BOAV	**Boa Vista**	**49.34**	**31**	*e*P	**P**		**19 07 26.6**	**-1.5**	
PTBC	**PUERTO BERRIO,**	**49.63**	**12**	*e*P	**P**		**19 07 29.1**	**-1.3**	
DBBC	**Dabeiba**	**49.87**	**9**	*e*P	P		19 07 40.3	+8.1	
BARC	**Barichara**	**49.88**	**13**	*e*P	**P**		**19 07 30.8**	**-1.7**	
ZARC	**Zaragoza, Cauc**	**50.51**	**11**	*e*P	**P**		**19 07 37.2**	**+0.2**	
UREC	**San Jos de Ur**	**50.67**	**10**	*e*P	**P**		**19 07 38.8**	**+0.5**	
SDV	**Santo Domingo**	**52.59**	**16**	P	**P**		**19 07 51.0**	**-1.8**	
SDV				IAmb	IAmb		19 07 54.4		
	comp=Z,18nm,1.1s								
SDV	**Santo Domingo**	**52.59**	**16**	*e*P	**P**		**19 07 52.8**	**0.0**	
SDV	**Santo Domingo**	**52.59**	**16**	LR	LR		19 28 12.5		
	comp=Z,170nm,21.0s,baz=120,slow=34								
JTS	**Las Juntas de**	**52.72**	**358**	LR	LR		19 25 05.8		
	comp=Z,152nm,18.6s,baz=156,slow=30								
ARGC	**Ariguani, Magd**	**52.92**	**11**	*e*P	P		19 07 47.6	-7.4	
BAUV	**El Baul**	**53.22**	**19**	P	**P**		**19 07 56.4**	**-0.7**	
ELIB	**Princess Elisa**	**54.84**	**159**	*d*P	**P**		**19 08 09.3**	**+0.7**	
ELIB				*dx*	x		19 08 14.6		
PCRV	**Puerto La Cruz**	**55.28**	**22**	LR	LR		19 31 32.0		
	comp=Z,195nm,18.4s,slow=36								
RCBR	**Riachuelo**	**55.59**	**63**	LR	LR		19 32 23.8		
	comp=Z,2μm,19.4s,baz=235,slow=36								
TBI	**Tubuai**	**57.33**	**267**	*e*LR	LR		19 25 02.0		
	comp=Z,2μm,29.8s								
TAOE	**Nuku Hiva Isla**	**59.90**	**287**	*e*LR	LR		19 26 11.3		
	comp=Z,520nm,25.3s								
CMIG	**Matias Romero**	**60.42**	**347**	LR	LR		19 28 28.6		
	comp=Z,92nm,21.1s,baz=162,slow=30								
PPT2	**Papeete2**	**60.95**	**272**	*e*S	**S**		**19 17 18.2**	**+7.6**	
	comp=Z,140nm,26.2s								
PPT2				*e*SS	**SS**		**19 21 07.8**	**-2.0**	
	comp=Z,76nm,28.0s								
PPT2				*e*LR	LR		19 26 39.2		
	comp=Z,462nm,28.2s								
PPT2				*e*LR	LR		19 26 46.5		
	comp=Z,271nm,32.8s								
PPT	**Papeete**	**60.97**	**272**	LR	LR		19 28 55.3		
	comp=Z,84nm,21.6s,baz=172,slow=30

WMOK **Wichita Mounta** 78.33 347 P P 19 10 39.5 +0.7
baz=168
MSTX **Muleshoe** 78.34 344 P P 19 10 38.3 -0.6
MSTX IAmb IAmb 19 10 40.0
comp=Z,19nm,1.3s
MSTX **Muleshoe** 78.34 344 P P 19 10 39.6 +0.7
baz=166
DUN6 **Lazy B Ranch** 78.52 338 P P 19 10 39.6 -0.3
WVT **Waverly** 78.53 356 P P 19 10 40.2 +0.4
baz=177
TUC **Tucson** 78.78 336 P P 19 10 41.0 -0.3
TUC IAmb IAmb 19 13 06.5
comp=Z,15nm,0.7s
TUC **Tucson** 78.78 336 P P 19 10 41.5 +0.2
baz=160
SFX **San Felipe** 78.88 333 P P 19 10 42.0 +0.1
SFX IAmb IAmb 19 10 43.9
comp=Z,12nm,1.1s
PIX **Pinacate** 78.90 334 P P 19 10 42.1 +0.2
PIX IAmb IAmb 19 10 44.7
comp=Z,13nm,1.1s
AMTX **Amarillo** 79.00 345 P P 19 10 42.6 0.0
baz=166
TUL3 **Leonard** 79.04 350 P P 19 10 42.3 -0.3
baz=171
214A **Organ Pipe Nat** 79.06 335 P P 19 10 42.2 -0.7
baz=158
VTX **Valle De La Tr** 79.53 332 P P 19 10 45.6 +0.1
ANMO **Albuquerque** 80.10 341 P P 19 10 48.8 +0.1
ANMO IAmb IAmb 19 10 51.3
comp=Z,20nm,1.1s
ANMO **Albuquerque** 80.10 341 P P 19 10 48.5 -0.2
baz=163
ANMO **Albuquerque** 80.10 341 LR LR 19 40 35.0
comp=Z,113nm,19.6s,baz=240,slow=31
CCM **Cathedral Cave** 80.67 354 P P 19 10 50.2 -1.2
CCM IAmb IAmb 19 10 52.6
comp=Z,12nm,0.8s
CCM **Cathedral Cave** 80.67 354 P P 19 10 51.6 +0.2
baz=174
YUH **Yuha Desert** 80.72 333 P P 19 10 51.9 +0.1
IKP **In-Ko-Pah, Jac** 80.78 332 P P 19 10 52.7 +0.4
baz=156
X16A **Lo Mia Camp, P** 80.94 337 IAmb IAmb 19 13 29.0
comp=Z,6.9nm,0.6s
SWSC **Sam W. Stewart** 80.95 333 P P 19 10 53.6 +0.6
baz=156
BAR **Barrett** 81.00 332 IAmb IAmb 19 10 55.4
comp=Z,12nm,1.2s
MONP2 **Monument Peak** 81.11 332 P P 19 10 54.4 +0.3
baz=156
W18A **Petrified Fore** 81.11 338 P P 19 10 54.2 +0.1
baz=161
BC3 **Big Chuckawall** 81.48 333 P P 19 10 56.7 +0.8
baz=157,SNR=5.0
PDMCI **Parker Dam,Lak** 81.65 335 P P 19 10 58.1 +1.4
baz=158
T25A **Trinidad** 81.74 343 P P 19 10 58.5 +1.1
baz=164
TPFO **Pinon Flats** 81.77 333 P P 19 10 58.5 +1.0
baz=156,SNR=5.3
PFO **Pinyon Flats O** 81.78 333 P P 19 10 58.4 +0.8
PFO IAmb IAmb 19 11 00.8
comp=Z,22nm,1.4s
PFO **Pinyon Flats O** 81.78 333 P P 19 10 58.8 +1.2
baz=156,SNR=5.5
PFO **Pinyon Flats O** 81.78 333 LR LR 19 39 27.4
comp=Z,98nm,18.3s,baz=171,slow=30
PMD **Palm Desert** 81.78 333 IAmb IAmb 19 10 60.0
comp=Z,20nm,1.3s
P49A **Miami Univ. Ec** 81.83 359 P P 19 10 58.9 +1.4
baz=179
IRM **Iron Mountain** 81.84 334 P P 19 10 59.0 +1.2
baz=157,SNR=7.3
WUAZ **Wupatki** 81.94 337 IAmb IAmb 19 13 55.7
comp=Z,7.5nm,0.8s
WUAZ **Wupatki** 81.94 337 P P 19 10 59.4 +0.9
baz=160
BELC **Belle Mtn. Jos** 81.98 333 P P 19 11 00.0 +1.4
baz=156,SNR=6.9
MURC **Murrieta** 82.02 332 P P 19 10 59.9 +1.2
baz=156
P40A **Paris** 82.21 353 IAmb IAmb 19 13 59.1
comp=Z,14nm,0.9s
CIS **Catalina Islan** 82.27 331 P P 19 11 01.1 +1.0
baz=155
KSU1 **Kansas State U** 82.29 350 P P 19 11 01.0 +1.0
baz=170
CBKS **Cedar Bluff** 82.47 347 P P 19 11 01.7 +0.7
baz=168
FMP **Fort Macarthur** 82.51 331 P P 19 11 02.0 +0.8
baz=155
SNCC **San Nicolas Is** 82.54 330 P P 19 11 02.6 +1.2
baz=154
SDCO **Great Sand Dun** 82.56 342 P P 19 11 02.4 +0.7
baz=164
O53A **New Philadelph** 82.56 2 P P 19 11 01.7 +0.3
baz=182
O48B **Farmland** 82.56 359 P P 19 11 02.1 +0.8
baz=179
GMRC **Granite Mounta** 82.58 334 P P 19 11 02.2 +0.4
baz=157,SNR=9.7
MVCO **Mesa Verde** 82.76 340 P P 19 11 03.2 +0.4
MVCO IAmb IAmb 19 11 04.8
comp=Z,13nm,1.2s
MVCO **Mesa Verde** 82.76 340 P P 19 11 03.9 +1.2
baz=162
BFSC **Mount Baldy Ra** 82.76 332 P P 19 11 03.9 +1.2
baz=155
HEC **Hector,Ludlow** 82.85 333 P P 19 11 04.7 +1.6
baz=156,SNR=11
S22A **4UR Ranch, Cre** 82.86 341 IAmb IAmb 19 11 06.3
comp=Z,17nm,1.4s
S22A **4UR Ranch, Cre** 82.86 341 P P 19 11 05.1 +1.8
baz=163
U15A **North Rim** 83.06 337 IAmb IAmb 19 11 07.3
comp=Z,9.7nm,1.1s
V12A **Nelson** 83.19 335 IAmb IAmb 19 11 06.9
comp=Z,11nm,1.2s
TUQ **Turquoise Moun** 83.27 334 P P 19 11 07.1 +1.8
baz=156,SNR=11
BOSA **Boshof** 83.35 123 P P 19 11 05.8 -0.4
BOSA **Boshof** 83.35 123 P P 19 11 06.2 0.0
comp=Z,10nm,1.0s,baz=174,slow=5.2,SNR=6.4
BOSA LR LR 19 41 29.9
comp=Z,96nm,21.1s,baz=206,slow=31
comp=Z,10nm,1.0s
GSC **Goldstone, Bar** 83.44 333 P P 19 11 07.4 +1.2
baz=156,SNR=8.1
EDW2 **Edwards Air Fo** 83.46 332 P P 19 11 07.2 +1.0
baz=155,SNR=6.9
Q24A **Divide** 83.65 343 P P 19 11 07.7 +0.3
baz=164
KNB **Kanab** 83.76 337 IAmb IAmb 19 11 10.2
comp=Z,20nm,1.3s
SHOC **Shoshone, Teco** 83.80 334 P P 19 11 09.6 +1.7
baz=156
LRMC **Laurel Mtn Rad** 83.89 332 P P 19 11 10.1 +1.6
baz=155
SHPR **Sheep Range** 84.00 335 IAmb IAmb 19 11 11.7
comp=Z,13nm,1.3s
PKCU **Pink Cliffs** 84.01 337 IAmb IAmb 19 11 13.0
comp=Z,8.1nm,1.1s
HMU **Henry Mountain** 84.03 338 P P 19 11 10.2 +0.8
PKM **Mcpherson Peak** 84.11 331 P P 19 11 10.7 +0.9
baz=154
GWY **Greenwater Val** 84.19 333 IAmb IAmb 19 11 12.1
comp=Z,16nm,1.3s
SMCO **Snowmass** 84.26 342 IAmb IAmb 19 11 15.9
comp=Z,10nm,1.1s
ISA **Isabella, Lake** 84.33 332 IAmb IAmb 19 11 13.6
comp=Z,17nm,1.2s
ISA **Isabella, Lake** 84.33 332 P P 19 11 12.4 +1.7
baz=155
MPMC **Manual Prospec** 84.35 333 P P 19 11 11.8 +0.9
baz=156
SZCU **Shurtz Canyon** 84.38 337 IAmb IAmb 19 11 13.6
comp=Z,17nm,1.5s
CCUT **Cedar City** 84.42 336 P P 19 11 12.2 +1.0
CCUT IAmb IAmb 19 11 13.9
comp=Z,12nm,1.3s
FURC **Furnace Creek,** 84.52 333 P P 19 11 13.6 +2.2
baz=156
MTPU **Mount Pierson** 84.53 337 IAmb IAmb 19 11 19.1
comp=Z,8.9nm,1.3s
ISCO **Idaho Springs** 84.55 343 P P 19 11 13.5 +1.5
baz=164
SMMC **Simmler** 84.56 331 P P 19 11 12.9 +1.1
baz=154
TPNV **Topopah Spring** 84.75 334 P P 19 11 13.8 +0.9
TPNV IAmb IAmb 19 11 15.5
comp=Z,16nm,1.2s
TPNV **Topopah Spring** 84.75 334 P P 19 11 14.3 +1.4
baz=156,SNR=13
TSUM **Tsumeb** 84.86 111 LR LR 19 43 24.8
comp=Z,65nm,19.9s,baz=204,slow=32
CWC **Cottonwood Cre** 84.90 332 P P 19 11 14.4 +0.8
baz=155
Q16A **Castle Valley** 85.07 339 IAmb IAmb 19 11 16.6
comp=Z,10.0nm,1.0s
SRU **San Rafael Swe** 85.08 339 P P 19 11 14.6 +0.1
SRU IAmb IAmb 19 11 16.5
comp=Z,9.8nm,1.3s
GRAC **Grapevine Rang** 85.16 333 P P 19 11 16.3 +1.5
baz=156
GMN **Gold Mountain** 85.40 333 P P 19 11 16.4 +0.2
GMN IAmb IAmb 19 11 19.2
comp=Z,15nm,1.2s
JFWS **Jewell Farm** 85.43 355 P P 19 11 16.9 +1.0
baz=175
TMUT **Trail Mountain** 85.43 339 IAmb IAmb 19 11 19.4
comp=Z,8.1nm,1.0s
HRV **Adam Dziewonsk** 85.44 9 P P 19 11 16.9 +0.9
baz=189
O20A **White River Ci** 85.47 341 P P 19 11 17.3 +0.8
baz=161
PSUT **Pine Spring** 85.47 336 IAmb IAmb 19 11 18.9
comp=Z,14nm,1.7s
P17A **Butcher Ranch,** 85.47 339 IAmb IAmb 19 11 18.0
comp=Z,21nm,1.5s
N23A **Red Feather La** 85.67 343 IAmb IAmb 19 11 20.1
comp=Z,19nm,1.4s
N23A **Red Feather La** 85.67 343 P P 19 11 17.4 -0.1
baz=164
R11B **Troy Canyon, C** 85.83 335 P P 19 11 18.3 +0.1
R11B IAmb IAmb 19 11 20.7
comp=Z,13nm,1.2s
R11B **Troy Canyon, C** 85.83 335 P P 19 11 19.5 +1.2
baz=157,SNR=15
DBIC **Dimbokro** 86.03 77 P P 19 11 20.6 +1.0
comp=Z,7.5nm,0.9s,baz=192,slow=6.1,SNR=4.2
DBIC LR LR 19 46 47.4
comp=Z,149nm,18.5s,baz=198,slow=34
comp=Z,7.5nm,0.9s
SPR3 **Spring Creek 3** 86.04 336 IAmb IAmb 19 11 22.0
comp=Z,16nm,1.3s
LBTB **Lobatse** 86.12 121 LR LR 19 43 46.4
comp=Z,82nm,20.1s,baz=216,slow=31
RDMU **Red Mountain** 86.21 340 P P 19 11 19.9 -0.2
RDMU IAmb IAmb 19 11 22.2
comp=Z,9.3nm,1.0s
NLU **North Lily Min** 86.28 338 IAmb IAmb 19 11 24.6
comp=Z,12nm,1.2s
LHV **Little Huntoon** 86.68 333 P P 19 11 23.0 +0.8
LHV IAmb IAmb 19 11 25.8
comp=Z,16nm,1.2s
DUG **Dugway, Tooele** 86.71 338 P P 19 11 23.1 +0.6
baz=159,SNR=10
NV11 **Mina Array Sit** 86.73 333 IAmb IAmb 19 11 24.8
comp=Z,12nm,1.3s
NVAR **Mina Array Bea** 86.77 333 P P 19 11 22.6 -0.4
comp=Z,5.2nm,1.0s,baz=162,slow=5.9,SNR=24
comp=Z,5.2nm,1.0s
I37A **Lemond, Waseca** 86.78 353 P P 19 11 22.2 -0.3
ECSD **EROS Data Cent** 86.85 350 P P 19 11 23.8 +0.9
baz=170
RYN **Ryan** 87.03 333 IAmb IAmb 19 11 27.1
comp=Z,16nm,1.5s
WAKR **Walker** 87.22 332 P P 19 11 26.0 +0.9
WAKR IAmb IAmb 19 11 28.7
comp=Z,28nm,2.0s
KVN **Kaiserville** 87.27 334 IAmb IAmb 19 11 27.9
comp=Z,5.5nm,1.2s
BGU **Big Grassy Mou** 87.45 338 IAmb IAmb 19 11 27.6
comp=Z,8.2nm,1.3s
K22A **Casper** 87.48 343 P P 19 11 26.4 +0.3
K22A **Casper** 87.48 343 P P 19 11 27.4 +1.2
baz=163,SNR=5.5
ELK **Elko** 87.92 336 P P 19 11 27.7 -0.7
ELK IAmb IAmb 19 11 30.3
comp=Z,12nm,1.2s
ELK **Elko** 87.92 336 LR LR 19 44 31.9
comp=Z,55nm,18.9s,baz=106,slow=31
BW06 **Boulder Array** 88.28 341 IAmb IAmb 19 14 52.5
comp=Z,6.6nm,0.8s
BW06 **Boulder Array** 88.28 341 P P 19 11 30.3 +0.2
baz=161,SNR=6.7
PD31 **Pinedale Array** 88.28 341 IAmb IAmb 19 14 52.5
comp=Z,5.7nm,0.8s
PDAR **Pinedale Array** 88.28 341 P P 19 11 29.8 -0.3
comp=Z,0.8nm,0.6s,baz=174,slow=6.0,SNR=9.2
PDAR LR LR 19 45 01.4
comp=Z,76nm,21.6s,baz=135,slow=32
comp=Z,0.8nm,0.6s
RSSD **Black Hills** 88.39 345 P P 19 11 29.4 -1.1
RSSD IAmb IAmb 19 11 32.1
comp=Z,10nm,1.1s
RSSD **Black Hills** 88.39 345 P P 19 11 30.6 +0.1
baz=165
DZM **Mont Dzumac** 89.14 240 eLR LR 19 40 14.3
comp=Z,353nm,24.3s
DZM **Mont Dzumac** 89.14 240 LR LR 19 41 49.0
comp=Z,148nm,21.4s,baz=121,slow=29
REDW **Red Top Meadow** 89.16 340 P P 19 11 33.7 -0.5
LOHW **Long Hollow** 89.33 341 IAmb IAmb 19 14 29.7
comp=Z,7.4nm,0.6s
IMW **Indian Meadow** 89.68 340 P P 19 11 36.4 -0.3
IMW IAmb IAmb 19 14 46.6
comp=Z,13nm,0.9s
FLWY **Flagg Ranch** 89.80 341 IAmb IAmb 19 14 59.2
comp=Z,13nm,0.9s
HLID **Hailey** 90.28 338 IAmb IAmb 19 11 41.6
comp=Z,14nm,1.4s
HLID **Hailey** 90.28 338 P P 19 11 40.2 +0.8
baz=158
RLMT **Red Lodge** 90.44 342 P P 19 11 40.8 +0.7
baz=161
YHH **Holmes Hill** 90.50 341 P P 19 11 40.7 +0.2
MFID **Camas Ranch** 90.55 337 P P 19 11 40.3 -0.3
YHL **Hebgen Lake** 90.64 341 P P 19 11 40.7 -0.5
YHL IAmb IAmb 19 11 49.1
comp=Z,13nm,1.3s
BOZ **Bozeman (W)** 91.44 341 P P 19 11 46.1 +1.3
baz=160
DGMT **Dagmar** 92.61 346 P P 19 11 51.0 +1.1
baz=165
LSZ **Lusaka** 94.79 116 LR LR 19 50 00.2
comp=Z,135nm,20.9s,baz=228,slow=32
TORD **Torodi Ar. Bea** 95.14 77 P P 19 12 01.1 -1.2
TORD IAmb IAmb 19 12 09.2
comp=Z,11nm,1.8s
TORD **Torodi Ar. Bea** 95.14 77 P P 19 12 02.1 -0.2
comp=Z,1.8nm,1.1s,baz=254,slow=3.0,SNR=5.2
comp=Z,1.8nm,1.1s
STKA **Stephens Creek** 95.16 217 LR LR 19 45 29.3
comp=Z,119nm,20.6s,baz=197,slow=30
NEW **Newport** 95.35 338 LR LR 19 51 20.4
comp=Z,53nm,18.1s,baz=108,slow=33
SCHQ **Schefferville** 98.14 10 LR LR 19 52 50.5
comp=Z,89nm,19.5s,baz=204,slow=33
P29M **Windy Craggy** 111.34 334 P PKiKP 19 17 12.4 +0.5
baz=140
O30N **Mendenhall** 111.69 335 P PKiKP 19 17 13.3 +0.8
baz=141
YUK6 **Outpost Mounta** 112.54 334 P PKiKP 19 17 14.3 0.0
baz=139
MCARA **McCarthy VSAT** 114.40 333 P PKPdf 19 17 17.5 -0.1
baz=136
BVCY **Beaver Creek** 114.44 334 P PKiKP 19 17 18.5 +0.8
baz=137
GLI **Glacier Island** 115.46 331 P PKiKP 19 17 19.8 +0.1
baz=133
CHIR **Chirikof Islan** 115.55 323 P PKiKP 19 17 20.8 +0.9
baz=129
C36M **Paulatuk** 115.68 345 P PKiKP 19 17 20.2 +0.4
baz=148
G31M **Satah River** 115.95 340 P PKiKP 19 17 21.1 +0.7
baz=140
M23K **Glacier View** 116.30 331 P PKiKP 19 17 22.3 +1.0
baz=132
KNK **Knik Glacier** 116.31 331 P PKiKP 19 17 22.0 +0.7
baz=132
PAX **Paxson** 116.33 333 P PKiKP 19 17 21.9 +0.5
baz=133
SCRK **Sand Creek** 116.55 335 P PKiKP 19 17 22.4 +0.6
baz=134
F30M **Barrier River** 116.86 340 P PKiKP 19 17 23.0 +0.9
baz=139
H11S2 **WAKE ISLAND Hyl** 116.91 271 T T 21 24 36.7
baz=130,slow=76,SNR=24
H11S1 **WAKE ISLAND Hyl** 116.92 271 T T 21 24 43.9
baz=130,slow=76,SNR=11
H11S3 **WAKE ISLAND Hyl** 116.93 271 T T 21 24 35.7
baz=130,slow=76,SNR=26
ILAR **Eielson Array** 118.02 334 PKP PKPdf 19 17 23.2 -1.2
comp=Z,0.7nm,0.9s,baz=192,slow=2.3,SNR=5.2
UNV **Unalaska Valle** 119.51 317 P PKiKP 19 17 28.6 +0.9
baz=123
F25K **Christian Rive** 119.51 337 P PKiKP 19 17 28.5 +1.1
baz=131
NIKH **Nikolski High** 120.23 316 P PKiKP 19 17 30.3 +1.2
baz=122
L17K **Donlin** 120.44 328 P PKiKP 19 17 29.6 +0.3
baz=124
H21K **Melozitna Rive** 120.51 333 P PKiKP 19 17 30.2 +0.8
baz=127
N14K **Kuskokwak Cree** 120.58 325 P PKiKP 19 17 30.5 +1.0
baz=123
M15K **Kasigluk River** 120.59 326 P PKiKP 19 17 31.1 +1.5
baz=123
COLD **Coldfoot** 120.63 335 P PKiKP 19 17 30.8 +1.2
baz=128
K17K **Iditarod** 120.77 329 P PKiKP 19 17 30.9 +1.0
baz=124
H20K **Anotleneega Mo** 121.11 332 P PKiKP 19 17 31.7 +1.1
baz=125
G21K **Allakaket** 121.25 334 P PKiKP 19 17 31.8 +1.1
baz=126
TOLK **Toolik Lake Re** 121.32 337 P PKiKP 19 17 32.0 +1.1
baz=128
DAVA **Damuels** 121.48 53 ePKP PKPdf 19 17 31.7 -0.2
comp=Z,8.7nm,1.2s
F21K **Alatna River** 121.66 335 P PKiKP 19 17 32.1 +0.6
baz=125
H19K **Roundabout Mou** 121.67 332 P PKiKP 19 17 31.7 +0.1
baz=124
E22K **Anaktuvuk Pass** 121.67 336 P PKiKP 19 17 32.2 +0.6
baz=126
FETA **Feichten** 121.85 53 ePKP PKiKP 19 17 33.1 +0.4
comp=Z,5.1nm,1.3s
RETA **Reutte** 122.10 53 ePKP PKPdf 19 17 32.5 -0.4
comp=Z,3.5nm,0.9s
G19K **Purcell Mounta** 122.23 332 P PKPdf 19 17 32.2 -0.3
baz=123
MOTA **Moosalm** 122.23 53 ePKP PKPdf 19 17 32.9 -0.4
comp=Z,7.1nm,1.1s
SQTA **Sankt Quirin** 122.23 53 ePKP PKiKP 19 17 33.7 +0.2
comp=Z,4.8nm,0.8s
I17K **Unalakleet** 122.31 329 P PKiKP 19 17 33.3 +0.4
baz=122
WTTA **Wattenberg** 122.51 54 ePKP PKPdf 19 17 33.7 -0.2
comp=Z,6.9nm,1.5s
G18K **Tagagawik** 122.64 332 P PKPdf 19 17 33.3 0.0
baz=122
ABTA **Abfaltersbach** 122.78 54 ePKP PKPdf 19 17 33.7 -0.5
comp=Z,5.3nm,1.2s
F19K **Shaleruckik Mo** 122.84 333 P PKPdf 19 17 32.8 -0.8
baz=122
CLUD **Cludinico** 122.86 55 PKPdf 19 17 33.6 -0.8
E19K **Redstone River** 122.99 334 P PKPdf 19 17 33.7 -0.3
baz=122
SPIA **Saint Paul Isl** 123.04 320 P PKPdf 19 17 33.6 -0.7
baz=119
E20K **Nigu River** 123.09 335 P PKPdf 19 17 34.3 +0.1
baz=123
G17K **Kiwalik Mounta** 123.14 331 P PKPdf 19 17 34.3 0.0
baz=121
LESA **Schwarzleotal** 123.20 54 ePKP PKPdf 19 17 34.4 -0.7
comp=Z,4.1nm,0.9s
B22K **Teshekpuk Lake** 123.42 338 P PKiKP 19 17 34.9 0.0
baz=124
D20K **Etivluk River** 123.47 335 P PKPdf 19 17 35.0 +0.1
baz=122
G16K **Koyuk River** 123.70 330 P PKiKP 19 17 35.5 0.0
baz=120
F17K **Baldwin Pennin** 123.82 332 P PKiKP 19 17 36.2 +0.5
baz=120
OBKA **Obir** 123.89 56 ePKP PKPdf 19 17 35.8 -0.6
comp=Z,4.9nm,0.9s
BIOA **Bad Ischl, Aus** 123.90 54 ePKP PKPdf 19 17 35.6 -0.8
comp=Z,4.2nm,1.0s
ANM **Nome** 124.43 329 P PKiKP 19 17 37.3 +0.2
baz=118
GEC2 **GERESS Array S** 124.48 53 PKPdf PKPdf 19 17 35.8 -1.7
GERES **GERESS Array B** 124.48 53 PKPdf 19 17 36.2 -1.3
GERES **GERESS Array B** 124.48 53 PKP PKPdf 19 17 37.0 -0.5
comp=Z,4.6nm,0.9s,baz=164,slow=1.0,SNR=12
ARSA **Arzberg** 124.83 55 ePKP PKPdf 19 17 37.9 -0.3
comp=Z,3.5nm,1.0s
CLL **Collm** 125.19 50 i PKPdf PKPdf 19 17 38.2 -0.4
comp=Z,7.0nm,1.2s
CLL AMS AMS 20 06 00.0
comp=Z,200nm,21.2s
F14K **Arctic Creek** 125.20 330 P PKiKP 19 17 39.0 +0.4
baz=116
CONA **Conrad Observa** 125.34 54 ePKP PKPdf 19 17 38.1 -1.0
comp=Z,3.8nm,1.4s
C17K **DeLong Mountai** 125.45 334 P PKiKP 19 17 39.0 -0.1
baz=117
RONA **Rosalia, Austr** 125.50 55 ePKP PKPdf 19 17 38.5 -0.9
comp=Z,7.5nm,1.5s
MODS **Modra-Piesok** 126.39 55 ePKP PKPdf 19 17 40.6 -0.5
VYHS **Vyhne** 127.38 55 ePKP PKPdf 19 17 42.8 -0.2
NOA **NORSAR Array B** 128.17 38 PKP PKPdf 19 17 44.2 +0.1
comp=Z,0.7nm,0.8s,baz=252,slow=2.0,SNR=3.6
MLR **Muntele Rosu** 130.59 61 PKPdf 19 17 48.8 -0.6
AKASG **Malin Array Be** 134.47 55 PKP PKPdf 19 17 55.3 -1.0
comp=Z,1.2nm,0.7s,baz=275,slow=2.5,SNR=4.3
KLMR **Klimovskoe** 141.66 42 ePKPdf PKPdf 19 18 05.9 -3.2
KLMR AMP 19 18 19.8
comp=Z,47nm,1.7s
MJAR **Matsushiro Arr** 147.71 273 PKPbc PKPdf 19 18 21.4 +0.9
comp=Z,7.3nm,0.9s,baz=160,slow=2.3,SNR=13
GEYT **Alibeck** 150.35 86 PKPbc PKPbc 19 18 30.2 +0.3
comp=Z,5.6nm,1.1s,baz=30,slow=3.5,SNR=6.3
HYB **Hyderabad** 150.45 143 ePKiKP PKiKP 19 18 31.6 +0.2
ABKAR **Akbulak array** 153.79 63 PKPdf PKPdf 19 18 28.9 -0.5
USRK **Ussuriysk Ar.** 154.47 286 PKPbc PKPbc 19 18 37.9 -1.0
comp=Z,4.5nm,1.0s,baz=112,slow=6.4,SNR=5.2
KSRS **Korea Array** 155.65 268 PKPab PKPab 19 18 56.6 -2.1
comp=Z,2.9nm,1.0s,baz=114,slow=3.5,SNR=5.6
CMAR **Chiang Mai Arr** 155.79 185 PKPab PKPab 19 18 58.4 -1.1
comp=Z,1.0nm,0.9s,baz=194,slow=5.1,SNR=4.7
NJ2 **Nanjing** 159.53 246 ePKP PKPdf 19 18 37.4 0.0
TNCH **TengChong** 162.34 185 PKP PKPdf 19 18 38.0 -2.9
TNCH PKPab PKPab 19 19 27.8 -0.2
PZH **PanZhiHua** 163.36 196 PKP PKPdf 19 18 41.5 -0.2
KSH **Kashi** 164.04 94 PKP PKPdf 19 18 42.3 +0.3
KURBB **Kurchatov Arra** 165.21 51 PKP PKPdf 19 18 41.5 -0.9
comp=Z,2.2nm,1.0s,baz=288,slow=1.2,SNR=13
XLT **XiLinHaoTe** 165.85 282 ePKP PKPdf 19 18 45.0 +1.7
ZALV **Zalesovo Beam** 166.23 31 PKP PKPdf 19 18 42.2 -0.9
comp=Z,4.4nm,1.1s,baz=243,slow=2.7,SNR=11
HHC **Hu-ho-hao-te** 168.77 266 ePKP PKPdf 19 18 41.6 -4.0
MKAR **Makanchi Array** 168.93 63 PKP PKPdf 19 18 44.6 -0.8
comp=Z,1.0nm,0.9s,baz=318,slow=6.2,SNR=3.5
MKAR PKPab PKPab 19 19 56.6 0.0
comp=Z,1.4nm,0.8s,baz=285,slow=4.8,SNR=5.1
LZH **Lanzhou** 171.43 222 ePKP PKPdf 19 18 44.6 -2.7
LZH pPKP sPKPdf 19 18 54.3 +3.6
SONM **Songino Array** 171.45 310 PKP PKPdf 19 18 45.7 -1.2
comp=Z,0.4nm,0.8s,baz=160,slow=4.7,SNR=3.6
SONM PKPab PKPab 19 20 06.5 -1.3
comp=Z,2.8nm,1.2s,baz=94,slow=3.4,SNR=8.8
WMQ **Urumqi** 173.30 77 ePKP PKPdf 19 18 48.4 +0.6
GTA **Gaotai** 176.00 217 ePKP PKPdf 19 18 48.9 +0.1
GTA pPKP sPKPdf 19 18 54.3 +2.1
GTA PKPab PKPab 19 20 27.8 -0.3

IDC 19 18:59:05.4±2.2,1.67N×125.26E,h0km,mb3.3/3,mbtmp3.3/3,Error ellipse: s-maj=201.4km s-min=28.2km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	23.25	158	P	P	19 04 13.7	-0.9
	0.3nm,0.4s,baz=336,slow=11,SNR=6.0						
	0.3nm,0.4s						
ASAR	**Alice Springs**	26.55	162	P	P	19 04 45.9	+0.8
	0.1nm,0.4s,baz=347,slow=12,SNR=5.9						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	58.43	327	P	P	19 09 02.9	-0.1

0.9nm,1.0s,baz=122,slow=7.0,SNR=2.6
0.9nm,1.0s

*NEIC **19** 18:59:49.5±0.9,36.97N±0.02×99.41W±0.04, h5km±2km, Error ellipse: s-maj=5.1km s-min=3.0km az=280.0*
TUL 19 18:59:50±1.1,**36.964N**±0.007×**99.37W**±0.04,**h3**km±5km, **ML2.5**,**mb_Lg2.5**/51(NEIC),**ML2.9**/12(NEIC),**Error ellipse: s-maj=4.2km s-min=1.0km az=88.0**,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.59**	**116**		**Pg**	19 00 01.5	+0.3
OK035				Sg	Sg	19 00 10.0	+1.1
OK035				IAML		19 00 12.8	
	630nm,0.2s						
U32A	**Winter Ranch,**	**0.65**	**153**		**Pg**	19 00 03.0	+0.5
U32A				Sg	Sg	19 00 12.0	+1.0
OK038	**West end E0370**	**0.70**	**134**		**Pg**	19 00 02.6	-0.7
OK038				Sg	Sg	19 00 13.6	+1.2
ELIS	**Ellis County**	**0.90**	**183**		**Pg**	19 00 07.2	0.0
ELIS				IAML		19 00 26.6	
	comp=N,494nm,0.3s						
ELIS				IAML		19 00 35.5	
	comp=E,368nm,0.3s						
OK032	**Salt Plains WL**	**0.94**	**99**		**Pg**	19 00 07.8	-0.3
OK032				Sg	Sg	19 00 20.9	+0.6
OK032				IAML		19 00 28.5	
	comp=E,310nm,0.2s						
OK032				IAML		19 00 31.3	
	comp=E,398nm,0.2s						
KAN10	**Anthony SW Sta**	**1.03**	**81**	Pg	Pb	19 00 10.2	-0.4
KAN14	**Manchester OK**	**1.12**	**90**		Pg	19 00 11.2	-0.4
KAN12	**Harper NE Stat**	**1.14**	**73**	Pg	Pg	19 00 12.1	+0.2
KAN08	**Anthony NE Sta**	**1.15**	**76**	Pg	Pg	19 00 10.5	-1.5
CROK	**Carrier**	**1.20**	**112**		Pg	19 00 12.7	-0.3
CROK				IAML		19 00 38.2	
	comp=E,307nm,0.2s						
KAN05	**Bluff City Nor**	**1.21**	**83**	Pg	Pg	19 00 13.3	+0.2
GC02	**Grant County #**	**1.21**	**95**		Pg	19 00 12.6	-0.7
KAN17	**Caldwell West**	**1.28**	**86**		Pg	19 00 14.0	-0.7
KAN01	**Argonia South**	**1.30**	**81**	Pg	Pg	19 00 14.5	-0.4
KS21	**Milan North St**	**1.40**	**76**		Pn	19 00 16.1	-0.4
KAN09	**Caldwell North**	**1.41**	**82**		Pn	19 00 15.9	-0.8
KAN13	**South Haven SW**	**1.51**	**88**		Pn	19 00 17.8	-0.3
R32A	**Long Quarter,**	**1.55**	**19**		Pn	19 00 18.0	-0.6
BLOK	**Blackwell**	**1.74**	**96**		Pn	19 00 20.9	-0.2
CBKS	**Cedar Bluff**	**1.87**	**351**	Pn	Pn	19 00 22.9	-0.1
OK029	**Liberty Lake**	**1.93**	**126**		Pn	19 00 22.5	-1.4
SMWD	**Samnorwood**	**1.99**	**201**	Pn	Pn	19 00 25.0	+0.4
SMWD				IAmb_Lg		19 00 56.3	
	comp=Z,57nm,0.8s						
OK048	**Pawnee Station**	**2.02**	**105**		Pn	19 00 24.7	-0.4
ADOK	**Arcadia Dam**	**2.08**	**128**	Pn	Pn	19 00 24.6	-1.2
OK051	**E0350 and S346**	**2.08**	**102**		Pn	19 00 25.6	-0.3
OK033	**Mehan**	**2.16**	**114**		Pn	19 00 27.1	+0.1
WMOK	**Wichita Mounta**	**2.27**	**168**		Pn	19 00 28.4	-0.1
OK052	**Battle Ridge R**	**2.28**	**114**	Pn	Pn	19 00 27.5	-1.2
QUOK	**Quay**	**2.28**	**109**		Pn	19 00 27.4	-1.2
T35A	**Sooner Cattle**	**2.29**	**90**		Pn	19 00 27.2	-1.5
FNO	**Franklin**	**2.33**	**136**	Pn	Pn	19 00 29.0	-0.3
DEOK	**Depew**	**2.57**	**115**		Pn	19 00 32.3	-0.3
W35A	**Tecumseh**	**2.71**	**131**		Pn	19 00 32.4	-2.1
RTBA	**Rita Blanca**	**2.76**	**260**	Pn	Pn	19 00 35.2	-0.1
RTBA				IAmb_Lg		19 01 24.4	
	comp=Z,8.4nm,0.7s						
AMTX	**Amarillo**	**2.80**	**223**		Pn	19 00 33.7	-2.2
AMTX				IAmb_Lg		19 01 23.2	
	comp=Z,14nm,0.7s						
KSU1	**Kansas State U**	**3.05**	**45**		Pn	19 00 37.6	-1.5
KSU1				IAmb_Lg		19 01 33.1	
	comp=Z,11nm,0.7s						
TUL3	**Leonard**	**3.07**	**109**	Pn	Pn	19 00 39.2	-0.2
TUL3				IAmb_Lg		19 01 33.6	
	comp=Z,18nm,1.0s						
KSCO	**Kaye Shedlock'**	**3.29**	**309**		Pn	19 00 41.6	-1.0
KSCO				IAmb_Lg		19 01 40.3	
	comp=Z,11nm,0.7s						
LOOK	**Love County**	**3.46**	**148**		Pn	19 00 44.6	-0.3
DKNS	**Dickens**	**3.53**	**202**		Pn	19 00 45.8	0.0
DKNS				IAmb_Lg		19 01 50.9	
	comp=Z,7.7nm,0.8s						
RLO	**Rose Lookout**	**3.59**	**102**	Pn	Pn	19 00 45.4	-1.1
RLO				IAmb_Lg		19 01 42.9	
	comp=Z,9.6nm,0.7s						
APMT	**Aspermont**	**3.68**	**190**		Pn	19 00 47.4	-0.6
APMT				IAmb_Lg		19 01 52.8	
	comp=Z,12nm,1.1s						
Z35A	**Perchaven, San**	**4.02**	**154**	Pn	Pn	19 00 51.2	-1.3
U38A	**Gravette**	**4.04**	**96**	IAmb_Lg		19 02 08.1	
	comp=Z,10.0nm,0.7s						
T25A	**Trinidad**	**4.04**	**274**		Pn	19 00 52.1	-0.9
FW03	**Perrin-Whitt E**	**4.06**	**164**	Pn	Pn	19 00 52.0	-1.1
FW03				IAmb_Lg		19 02 02.2	
	comp=Z,7.9nm,0.9s						
MSTX	**Muleshoe**	**4.08**	**224**		Pn	19 00 52.0	-1.5
PLPT	**Palo Pinto**	**4.23**	**168**	IAmb_Lg		19 02 06.4	
	comp=Z,6.7nm,0.7s						
FW06	**Azle**	**4.25**	**159**	Pn	Pn	19 00 54.2	-1.5
POST	**Post**	**4.26**	**205**	IAmb_Lg		19 02 11.4	
	comp=Z,9.9nm,0.9s						
SN01	**Snyder 1**	**4.28**	**197**	Pn	Pn	19 00 54.2	-2.0
SN01				IAmb_Lg		19 02 08.3	
	comp=Z,13nm,0.9s						
ABTX	**Abilene, Hawle**	**4.33**	**183**		Pn	19 00 55.1	-1.8
ABTX				IAmb_Lg		19 02 15.5	
	comp=Z,9.4nm,0.9s						
HHAR	**Hobbs**	**4.42**	**97**		Pn	19 00 55.2	-2.8
OGNE	**Ogallala**	**4.49**	**333**	Pn	Pn	19 00 56.5	-2.5
BGNE	**Belgrade**	**4.54**	**12**	Pn	Pn	19 00 59.2	-0.5
N35A	**Tabor**	**4.86**	**36**	Pn	Pn	19 01 01.9	-2.2
S39A	**Bolivar**	**4.87**	**80**		Pn	19 01 02.5	-1.8
S39A				IAmb_Lg		19 02 33.3	
	comp=Z,11nm,0.8s						
SDCO	**Great Sand Dun**	**4.95**	**281**		Pn	19 01 03.9	-1.7
SDCO				IAmb_Lg		19 02 30.7	
	comp=Z,7.5nm,0.8s						
Q24A	**Divide**	**4.99**	**295**		Pn	19 01 04.2	-1.9
Q24A				IAmb_Lg		19 02 29.0	
	comp=Z,8.2nm,0.8s						
Z38A	**Mt. Pleasant**	**5.15**	**135**	Pn	Pn	19 01 06.9	-1.2
Z38A				IAmb_Lg		19 02 43.9	
	comp=Z,8.9nm,0.8s						
SGCY	**Sterling City**	**5.24**	**197**	IAmb_Lg		19 02 40.2	
	comp=Z,7.0nm,0.8s						
P38A	**Dawn**	**5.30**	**58**	Pn	Pn	19 01 08.3	-1.9
L34A	**Svendsen Farm,**	**5.51**	**24**	Pn	Pn	19 01 10.3	-2.7
ISCO	**Idaho Springs**	**5.67**	**302**		Pn	19 01 13.3	-2.2
ISCO				IAmb_Lg		19 02 53.2	
	comp=Z,5.7nm,0.8s						
BRDY	**Brady**	**5.67**	**177**	Pn	Pn	19 01 12.8	-2.4
BRDY				IAmb_Lg		19 03 00.2	
	comp=Z,5.3nm,0.7s						
MGMO	**Mountain Grove**	**5.68**	**86**	Pn	Pn	19 01 13.7	-1.7
R40A	**Maddies Statio**	**5.79**	**75**	Pn	Pn	19 01 14.0	-2.8
X40A	**Basin Creek Fa**	**5.86**	**113**	Pn	Pn	19 01 15.8	-2.1
X40A				IAmb_Lg		19 03 08.7	
	comp=Z,6.3nm,0.9s						
WHAR	**Wooly Hollow**	**5.97**	**104**	Pn	Pn	19 01 17.3	-2.0
S22A	**4UR Ranch, Cre**	**6.00**	**280**	Pn	Pn	19 01 15.8	-4.2
ANMO	**Albuquerque**	**6.09**	**253**	Pn	Pn	19 01 18.6	-2.6
ANMO				IAmb_Lg		19 03 09.4	
	comp=Z,7.1nm,1.2s						
OZNA	**Ozona**	**6.20**	**194**	Pn	Pn	19 01 19.4	-3.2
OZNA				IAmb_Lg		19 03 11.4	
	comp=Z,7.0nm,0.9s						
P40A	**Paris**	**6.30**	**64**	Pn	Pn	19 01 22.3	-1.6
Z41A	**Richland Creek**	**6.53**	**123**	Pn	Pn	19 01 25.0	-2.0
CCM	**Cathedral Cave**	**6.55**	**78**	Pn	Pn	19 01 25.2	-2.1
CCM				IAmb_Lg		19 03 29.3	
	comp=Z,8.5nm,0.8s						
LCAR	**Lake Charles**	**6.67**	**95**	IAmb_Lg		19 03 34.9	
	comp=Z,8.3nm,1.2s						
ECSD	**EROS Data Cent**	**7.08**	**16**	Pn	Pn	19 01 32.5	-2.1
ECSD				IAmb_Lg		19 03 38.2	
	comp=Z,7.2nm,1.1s						
PBMO	**Poplar Bluff**	**7.17**	**89**	IAmb_Lg		19 03 49.4	
	comp=Z,6.6nm,0.8s						

*NEIC **19** 19:13:48.4±2.0,5.68S±0.05×152.00E±0.07, h53km±10km, mb4.4/15, Error ellipse: s-maj=12.4km s-min=3.4km az=120.0*

*IDC **19** 19:13:50.6±1.4,5.45S×151.63E, h63km±10km, mb3.9/9, mbtmp4.2/10, MS3.4/5, Error ellipse: s-maj=35.2km s-min=9.7km az=122.0*
ISC 19 19:13:47.8±0.6,**5.64S**±0.05×**151.95E**±0.08,**h45**km,**n38, σ1s17/37,mb4.4/17,MS3.1/3,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.33**	**3**	P	**Pn**	**19 14 10.6**	**+0.6**
	2μm,0.4s,baz=220,slow=16,SNR=159						
KRVT				S	**Sn**	**19 14 27.1**	**+0.5**
	3μm,0.3s,baz=7.9,slow=22,SNR=12						
RABL	**Rabaul**	**1.46**	**9**		**Pn**	**19 14 12.6**	**+0.8**
RABL				Sn	**Sn**	**19 14 31.7**	**+2.0**
MANU	**Manus Island**	**5.80**	**308**		**Pn**	**19 15 12.9**	**+1.4**
PMG	**Port Moresby**	**6.04**	**231**		**Pn**	**19 15 15.0**	**+0.3**
PMG					**Sn**	**19 16 23.1**	**+0.5**
PMG	**Port Moresby**	**6.04**	**231**	P	**Pn**	**19 15 15.5**	**+0.8**
	29nm,0.7s,baz=36,slow=9.6,SNR=16						
PMG				S	**Sn**	**19 16 23.7**	**+1.1**
	29nm,0.7s,baz=302,slow=21,SNR=9.4						
HNR	**Honiara**	**8.78**	**116**	Pn	**Pn**	**19 15 50.3**	**-2.0**
HNR	**Honiara**	**8.78**	**116**	LR	LR	19 19 52.5	
	comp=Z,1μm,19.0s,baz=332,slow=40						
CTA	**Charters Tower**	**15.39**	**201**	LR	LR	19 22 47.8	
	comp=Z,76nm,20.8s,baz=48,slow=35						
EIDS	**Eidsvold**	**19.63**	**182**	Pn	**Pn**	**19 18 16.4**	**+2.0**
DZM	**Mont Dzumac**	**21.52**	**141**	LR	LR	19 25 38.7	
	comp=Z,111nm,21.3s,baz=268,slow=32						
WB0	**Warramunga Arr**	**22.11**	**229**	P	**P**	**19 18 39.5**	**-0.1**
WB0				IAmb	IAmb	19 18 42.4	
	comp=Z,19nm,0.8s						
WR0	**Warramunga Arr**	**22.11**	**228**	P	**P**	**19 18 39.6**	**-0.1**
WR0				IAmb	IAmb	19 18 42.5	
	comp=Z,19nm,0.9s						
WRAB	**Tennant Creek**	**22.24**	**229**	P	**P**	**19 18 41.9**	**+0.9**
WRAB				IAmb	IAmb	19 18 43.6	
	comp=Z,20nm,0.8s						
WB2	**Warramunga Arr**	**22.24**	**229**	P	**P**	**19 18 41.0**	**-0.1**
WB2				IAmb	IAmb	19 18 43.7	
	comp=Z,19nm,0.8s						
WRA	**Warramunga Arr**	**22.25**	**229**	P	**P**	**19 18 40.3**	**-0.8**
WRA	**Warramunga Arr**	**22.25**	**229**	P	**P**	**19 18 40.9**	**-0.2**
	comp=Z,20nm,0.8s,baz=52,slow=9.9,SNR=112						
	comp=Z,20nm,0.8s						
ARMA	**Armidale**	**24.65**	**181**	P	**P**	**19 19 04.5**	**0.0**
ARMA				IAmb	IAmb	19 19 20.7	
	comp=Z,18nm,1.4s						
KNRA	**Kununurra**	**24.84**	**245**	P	**P**	**19 19 05.2**	**-1.1**
AS31	**Alice Springs**	**24.95**	**222**	P	**P**	**19 19 07.0**	**-0.3**
AS31				IAmb	IAmb	19 19 10.6	
	comp=Z,5.4nm,0.8s						
ASAR	**Alice Springs**	**24.96**	**222**	P	**P**	**19 19 07.0**	**-0.3**
ASAR	**Alice Springs**	**24.96**	**222**	P	**P**	**19 19 07.8**	**+0.4**
	comp=Z,17nm,0.8s,baz=57,slow=8.3,SNR=111						
	comp=Z,17nm,0.8s						
STKA	**Stephens Creek**	**27.84**	**199**	LR	LR	19 29 57.0	
	comp=Z,40nm,19.3s,baz=26,slow=35						
FITZ	**Fitzroy Crossi**	**28.51**	**242**	P	**P**	**19 19 38.3**	**-1.1**
DAV	**Davao City (W)**	**29.19**	**295**	LR	LR	19 30 45.5	
	comp=Z,46nm,18.0s,baz=309,slow=35						
TOLI2	**Tolitoli**	**31.84**	**281**	P	**P**	**19 20 08.1**	**-0.7**
MBWA	**Marble Bar**	**34.82**	**241**	P	**P**	**19 20 33.0**	**-1.7**
SONM	**Songino Array**	**66.59**	**328**	P	**P**	**19 24 32.5**	**-1.1**
SONM				IAmb	IAmb	19 24 44.5	
	comp=Z,1.5nm,0.9s						
SONM	**Songino Array**	**66.59**	**328**	P	**P**	**19 24 32.8**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=145,slow=5.4,SNR=6.3						
	comp=Z,0.6nm,0.5s						
VNDA	**Vanda**	**72.02**	**178**	P	**P**	**19 25 08.6**	**+2.0**
VNDA				IAmb	IAmb	19 25 33.4	
	comp=Z,7.6nm,1.4s						
MK31	**Makanchi Array**	**80.40**	**319**	P	**P**	**19 25 53.9**	**-0.9**
MK31				IAmb	IAmb	19 26 10.5	
	comp=Z,6.6nm,1.3s						
MKAR	**Makanchi Array**	**80.40**	**319**	P	**P**	**19 25 53.2**	**-1.6**
ZALV	**Zalesovo Beam**	**81.38**	**327**	P	**P**	**19 25 57.8**	**-1.9**
	comp=Z,0.6nm,0.4s,baz=111,slow=4.9,SNR=4.4						
	comp=Z,0.6nm,0.4s						
ILAR	**Eielson Array**	**83.26**	**22**	P	**P**	**19 26 09.6**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=249,slow=5.3,SNR=7.5						
	comp=Z,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**83.94**	**322**	P	**P**	**19 26 12.4**	**-0.8**
	comp=Z,1.1nm,1.1s,baz=99,slow=5.0,SNR=3.6						
	comp=Z,1.1nm,1.1s						
QSPA	**South Pole Qui**	**84.32**	**180**	P	**P**	**19 26 16.8**	**+1.8**
	comp=Z,2.8nm,0.6s,baz=261,slow=0.3,SNR=11						
	comp=Z,2.8nm,0.6s						
BVAR	**Borovoye Array**	**89.40**	**323**	P	**P**	**19 26 38.1**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=99,slow=7.4,SNR=2.3						
	comp=Z,0.4nm,0.5s						
NVAR	**Mina Array Bea**	**93.27**	**52**	P	**P**	**19 26 59.7**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=247,slow=7.0,SNR=6.9						
	comp=Z,1.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.74**	**286**	PKPbc	**PKPbc**	**19 33 33.2**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=60,slow=4.0,SNR=5.5						

*IDC **19** 19:29:07.7±2.7,35.26N×25.79E, h0km, mb3.5/3, mbtmp3.5/5, ML4.1/2, MS3.2/2, Error ellipse: s-maj=57.2km s-min=28.2km az=180.0*
*ISK **19** 19:29:25.5,36.37N×25.49E, h106km±1km, ML2.9/18*
*AFAD **19** 19:29:28.0±0.0,36.70N×25.79E, h94km±27km, ML2.8*
*THE **19** 19:29:28.5,36.36N×25.47E, h90km±1km, ML2.9/11, Error ellipse: s-maj=1.8km s-min=0.9km az=3.0*
ISC 19 19:29:25.4±0.8,**36.43N**±0.03×**25.51E**±0.03,**h110**km±6km, **n54,σ1s47/71,mb3.2/3,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THT2	**Imerovigli**	**0.07**	**275**	P	**Pn**	**19 29 41.4**	**+0.8**
THT2				S	**Sn**	**19 29 50.3**	**-1.7**
THR3	**Thira Island,**	**0.09**	**257**	P	**Pn**	**19 29 40.9**	**+0.3**
CMBO	**Columbo, Santo**	**0.09**	**296**	P	**Pn**	**19 29 41.3**	**+0.7**
CMBO				S	**Sn**	**19 29 50.9**	**-1.1**
	752nm,0.6s						
THR9	**Santorini-Faro**	**0.14**	**240**	P	**Pn**	**19 29 40.7**	**+0.1**
APE	**Apeiranthos**	**0.64**	**1**	Pg	**Pn**	**19 29 44.1**	**+0.8**
APE				Sg	**Sn**	**19 29 57.7**	**+0.8**
APE	**Apeiranthos**	**0.64**	**1**	P	**Pn**	**19 29 43.6**	**+0.2**
APE	**Apeiranthos**	**0.64**	**1**	P	**Pn**	**19 29 44.9**	**+1.6**
APE				S	**Sn**	**19 29 56.7**	**-0.2**
	288nm,0.5s						
HRKL	**Herakleio**	**1.16**	**197**	Pn	**Pn**	**19 29 48.2**	**-0.1**
HRKL				Sn	**Sn**	**19 30 04.9**	**-0.8**
HRKL	**Herakleio**	**1.16**	**197**	P	**Pn**	**19 29 49.0**	**+0.7**
HRKL				S	**Sn**	**19 30 04.8**	**-0.9**
	2μm,0.4s						
IDI	**Anoyia**	**1.25**	**204**	Pn	**Pn**	**19 29 48.9**	**-0.4**
IDI	**Anoyia**	**1.25**	**204**	P	**Pn**	**19 29 49.5**	**+0.2**
IDI				S	**Sn**	**19 30 05.9**	**-1.5**
	645nm,0.1s						
PRNS	**Prines Rethymn**	**1.34**	**218**	P	**Pn**	**19 29 51.3**	**+1.0**
PRNS				S	**Sn**	**19 30 09.0**	**-0.2**
	292nm,0.2s						
FRMA	**Ierapetra Chan**	**1.42**	**173**	P	**Pn**	**19 29 52.8**	**+1.5**
FRMA				S	**Sn**	**19 30 10.7**	**-0.2**
	345nm,0.3s						
ZKR	**Zakros**	**1.43**	**156**	Pn	**Pn**	**19 29 51.4**	**0.0**
ZKR				Sn	**Sn**	**19 30 10.9**	**-0.2**
ZKR	**Zakros**	**1.43**	**156**	P	**Pn**	**19 29 52.6**	**+1.2**
ZKR				S	**Sn**	**19 30 11.0**	**-0.2**
	248nm,0.2s						
IMMV	**Iera Moni Meta**	**1.57**	**233**	Pn	**Pn**	**19 29 53.2**	**+0.1**
IMMV				Sn	**Sn**	**19 30 13.5**	**-0.6**
IMMV	**Iera Moni Meta**	**1.57**	**233**	P	**Pn**	**19 29 54.0**	**+0.9**
IMMV				S	**Sn**	**19 30 13.3**	**-0.8**
	582nm,0.2s						
BODT	**Bodrum**	**1.58**	**66**	Pn	**Pn**	**19 29 54.4**	**+1.3**
KARP	**Karpathos**	**1.60**	**123**	Pn	**Pn**	**19 29 53.9**	**+0.4**
KARP				Sn	**Sn**	**19 30 14.6**	**-0.2**
KARP	**Karpathos**	**1.60**	**123**	P	**Pn**	**19 29 54.5**	**+1.0**
KARP				S	**Sn**	**19 30 14.3**	**-0.5**
	500nm,0.2s						
SMG	**Samos**	**1.66**	**39**	P	**Pn**	**19 29 56.1**	**+2.0**
RODP	**Rodopos**	**1.66**	**239**	Pn	**Pn**	**19 29 54.4**	**+0.2**
RODP				Sn	**Sn**	**19 30 15.7**	**-0.4**
RODP	**Rodopos**	**1.66**	**239**	P	**Pn**	**19 29 55.2**	**+1.0**
RODP				S	**Sn**	**19 30 15.5**	**-0.6**
	72nm,0.2s						
DAT	**Datca**	**1.69**	**79**	Pn	**Pn**	**19 29 55.5**	**+0.9**
ANKY	**Antikythira Is**	**1.87**	**253**	P	**Pn**	**19 29 57.4**	**+0.7**
ANKY				S	**Sn**	**19 30 20.6**	**-0.1**
	100nm,0.2s						
GCAM	**G?zelcaml?**	**1.87**	**47**	Pn	**Pn**	**19 29 58.4**	**+1.7**
GCAM	**G?zelcaml?**	**1.87**	**47**	P	**Pn**	**19 29 55.6**	**-1.1**
DGB	**zmir**	**1.96**	**34**	P	**Pn**	**19 29 56.1**	**-1.6**
GVD	**Gavdhos**	**1.96**	**217**	Pn	**Pn**	**19 29 58.2**	**+0.3**
ZEYE	**Izmir, Urla-Ze**	**1.97**	**23**	P	**Pn**	**19 29 58.9**	**+0.9**
CHOS	**Chios island**	**2.00**	**12**	Pn	**Pn**	**19 29 59.9**	**+1.5**
URLA	**Izmir**	**2.11**	**24**	Pn	**Pn**	**19 30 01.8**	**+2.0**
URLA	**Izmir**	**2.11**	**24**	P	**Pn**	**19 30 02.1**	**+2.3**
ARG	**Arkhangelos**	**2.12**	**95**	Pn	**Pn**	**19 30 01.2**	**+1.3**
TURN	**Turunc**	**2.23**	**80**	Pn	**Pn**	**19 30 02.5**	**+1.3**
KARB	**zmir-Karabur**	**2.34**	**18**	P	**Pn**	**19 30 02.1**	**-0.6**
DALY	**Dalyan (Mula)**	**2.56**	**80**	Pn	**Pn**	**19 30 07.4**	**+1.9**
ESEN	**Aydn-Nazilli**	**2.65**	**58**	P	**Pn**	**19 30 06.0**	**-0.7**
FETY	**Fethiye**	**2.88**	**85**	Pn	**Pn**	**19 30 11.5**	**+1.6**
KIRA	**zmir-Kiraz**	**2.90**	**52**	P	**Pn**	**19 30 10.3**	**+0.2**
IZZE	**Mula-Seydike**	**3.00**	**89**	P	**Pn**	**19 30 14.7**	**+3.4**
CAME	**Cameli-Denizli**	**3.09**	**79**	Pn	**Pn**	**19 30 13.2**	**+0.5**
KNIK	**Mula-Seydike**	**3.29**	**82**	P	**Pn**	**19 30 18.0**	**+2.6**
BUHA	**Balikesir, Bur**	**3.31**	**22**	P	**Pn**	**19 30 14.2**	**-1.2**
AKAS	**Kas**	**3.31**	**92**	P	**Pn**	**19 30 16.9**	**+1.3**
AKAS				S	**Sn**	**19 30 48.0**	**-6.4**
AKAS				*i* AML	AML	19 30 57.0	
	comp=E,38nm,0.8s						
AKAS				*i* AML	AML	19 31 03.0	
	comp=N,44nm,0.4s						
GOLH	**Golhisar**	**3.35**	**75**	P	**Pn**	**19 30 20.2**	**+4.1**
BAYC	**CANAKKALE_Bayr**	**3.41**	**14**	P	**Pn**	**19 30 17.4**	**+0.7**
BAYC				*i* AML	AML	19 31 06.0	
	comp=E,15nm,1.7s						
BRTR	**Keskin Array B**	**7.21**	**60**	LR	LR	19 34 14.2	
	comp=Z,73nm,20.1s,baz=22,slow=40						
AKASG	**Malin Array Be**	**14.52**	**9**	Pn	**P**	**19 32 49.1**	**+0.4**
	1.6nm,0.3s,baz=200,slow=11,SNR=13						
	0.4nm,0.3s						
GERES	**GERESS Array B**	**15.12**	**329**	Pn	**P**	**19 32 57.1**	**+1.5**
	0.2nm,0.3s,baz=139,slow=9.1,SNR=2.1						
	0.2nm,0.7s						
ESDC	**Sonseca Array**	**23.39**	**287**	P	**P**	**19 34 23.9**	**-0.3**
	0.3nm,0.4s,baz=82,slow=9.6,SNR=7.1						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**42.85**	**58**	P	**P**	**19 37 11.3**	**-1.1**
	0.2nm,0.5s,baz=267,slow=8.3,SNR=5.7						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**43.93**	**47**	P	**P**	**19 37 20.4**	**-0.6**
	0.7nm,0.5s,baz=273,slow=8.4,SNR=4.2						
	0.7nm,0.5s						
INK	**Inuvik**	**74.40**	**352**	LR	LR	20 17 34.9	
	comp=Z,40nm,18.2s,baz=345,slow=38						

*JMA **19** 19:35:29.5±0.3,29.2N±0.5×129.9E±°, h5km±2km, MV3.5/19, NEAR TOKARA ISLANDS*
JMA Felt I J1 at NEAR TOKARA ISLANDS .
*NIED **19** 19:35:29.5,29.23N×129.10E, h5km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.18; $M_{\theta\theta}$1.95; $M_{\phi\phi}$0.23; $M_{r\theta}$-0.12; $M_{\theta\phi}$-0.08; $M_{r\phi}$-2.45; Fault plane solution: $M_0$2.83000×10^{15} NP1: ϕ_s301.00000°,δ53.00000°,λ-49.00000°. NP2:ϕ_s65.00000°, δ53.00000°,λ-132.00000°.*
*IDC **19** 19:35:30.0±0.9,29.18N×129.17E, h0km, mb3.7/10, mbtmp3.7/11, MLb3.5/1, MS3.5/13 Error ellipse: s-maj=31.4km s-min=15.7km az=83.0*
ISC 19 19:35:30.8±0.9,**29.17N**±0.03×**129.25E**±0.06,**h7**km±6km, **n37,σ0s86/33,mb3.7/9,MS3.5/9,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.04**	**253**	P	**Pg**	**19 35 32.0**	**-0.3**
JTAJ				S	**Sg**	**19 35 33.8**	**+0.4**
JAM	**Amami Oshima**	**0.81**	**158**	*e*P	**Pg**	**19 35 46.9**	**+0.4**
JNN	**Nakanoshima**	**0.86**	**39**	*e*P	**Pg**	**19 35 47.4**	**0.0**
JNN				S	**Sg**	**19 35 58.5**	**-0.2**
JAMN	**Amaminishikomi**	**0.92**	**184**	*e*P	**Pg**	**19 35 48.5**	**-0.1**
JAMN				S	**Sb**	**19 36 01.8**	**+0.2**
JZK	**Kikaishima**	**1.06**	**143**	P	**Pn**	**19 35 53.2**	**+1.1**
JTK	**Tokunoshima**	**1.40**	**191**	*e*P	**Pn**	**19 35 55.9**	**-0.9**
JTK				*e*S	**Sg**	**19 36 14.9**	**-1.0**
JKC	**Kuchinoerabu**	**1.53**	**32**	*e*P	**Pn**	**19 35 57.4**	**-1.2**
JYAK	**Yakushimahirau**	**1.53**	**45**	P	**Pn**	**19 35 57.0**	**-1.5**
JMTN	**Minamitane**	**1.89**	**49**

JAYA				*i* S	**Sn**	**19 43 51.9**	**-0.2**		
JAYA				IAML		19 43 53.4			
	comp=Z,10μm,1.0s								
PANCS	**Alcalda de**	**0.58**	**37**	*i* P	**Pb**	**19 43 45.2**	**+0.1**		
PANCS				*i* S	**Sn**	**19 43 53.5**	**-0.1**		
PANCS				IAML		19 43 54.1			
	comp=Z,8μm,1.0s								
ITCA	**Escuela Especi**	**0.59**	**26**	*i* P	**Pb**	**19 43 45.2**	**0.0**		
ITCA				IAML		19 43 56.3			
	comp=Z,3μm,1.0s								
PMON	**Piamonte**	**0.61**	**21**	*i* P	**Pb**	**19 43 45.5**	**0.0**		
PMON				*i* S	**Sn**	**19 43 54.7**	**+0.5**		
PMON				IAML		19 43 58.4			
	comp=Z,3μm,1.0s								
LOMA	**Loma Larga**	**0.61**	**36**	*e*P	**Pb**	**19 43 45.6**	**0.0**		
LOMA				*e*S	**Sn**	**19 43 54.9**	**+0.4**		
LOMA	**Loma Larga**	**0.61**	**36**	*i* P	**Pb**	**19 43 45.7**	**0.0**		
LOMA				*i* S	**Sn**	**19 43 54.9**	**+0.4**		
LOMA				IAML		19 43 57.3			
	comp=Z,3μm,1.0s								
UEES	**Universidad Ev**	**0.64**	**27**	*i* P	**Pb**	**19 43 45.9**	**-0.2**		
UEES				*i* S	**Sb**	**19 43 55.3**	**+0.4**		
UEES				IAML		19 43 56.1			
	comp=Z,1μm,1.0s								
LFRS	**El Faro**	**0.67**	**44**	*e*P	**Pb**	**19 43 46.6**	**+0.1**		
CEVE	**Cerro Verde**	**0.69**	**353**	*e*P	**Pb**	**19 43 47.0**	**0.0**		
CEVE				*e*S	**Sb**	**19 43 57.0**	**+0.7**		
CEVE	**Cerro Verde**	**0.69**	**353**	*i* P	**Pb**	**19 43 46.9**	**0.0**		
CEVE				*i* S	**Sb**	**19 43 56.3**	**0.0**		
CEVE				IAML		19 43 58.2			
	comp=Z,2μm,1.0s								
SBLS	**San Blas**	**0.70**	**354**	*e*P	**Pb**	**19 43 47.1**	**0.0**		
SJTE	**Alcalda de S**	**0.70**	**48**	*e*P	**Pb**	**19 43 46.8**	**-0.3**		
SJTE				*e*S	**Sb**	**19 43 56.6**	**+0.1**		
SJTE	**Alcalda de S**	**0.70**	**48**	*i* P	**Pb**	**19 43 46.8**	**-0.3**		
SJTE				*i* S	**Sb**	**19 43 56.7**	**+0.2**		
SJTE				IAML		19 43 57.6			
	comp=Z,2μm,1.0s								
SNJE	**San Jose**	**0.72**	**355**	*e*P	**Pb**	**19 43 47.4**	**-0.1**		
LFU	**La Fuente**	**0.73**	**35**	*e*P	**Pb**	**19 43 47.5**	**0.0**		
QUEZ	**Alcaldia de Qu**	**0.73**	**21**	*i* P	**Pb**	**19 43 47.1**	**-0.5**		
QUEZ				*i* S	**Sb**	**19 43 57.8**	**+0.3**		
QUEZ				IAML		19 44 00.7			
	comp=Z,4μm,1.0s								
RTR	**El Retiro**	**0.76**	**352**	*e*P	**Pb**	**19 43 48.0**	**0.0**		
NUBE	**Las Nubes**	**0.79**	**343**	*e*P	**Pn**	**19 43 48.1**	**0.0**		
NUBE	**Las Nubes**	**0.79**	**343**	*i* P	**Pn**	**19 43 48.0**	**-0.1**		
NUBE				*i* S	**Sb**	**19 43 58.6**	**-0.5**		
NUBE				IAML		19 43 59.1			
	comp=Z,2μm,1.0s								
COEG	**Centro de Oper**	**0.80**	**54**	*e*P	**Pn**	**19 43 47.9**	**-0.2**		
COEG				*e*S	**Sb**	**19 43 58.7**	**-0.6**		
COEG	**Centro de Oper**	**0.80**	**54**	*i* P	**Pn**	**19 43 48.0**	**-0.2**		
COEG				*i* S	**Sb**	**19 43 58.7**	**-0.6**		
COEG				IAML		19 44 00.5			
	comp=Z,680nm,1.0s								
PAVA	**Las Pavas**	**0.82**	**46**	*i* P	**Pb**	**19 43 48.6**	**-0.4**		
PAVA				*i* S	**Sb**	**19 44 00.0**	**+0.2**		
PAVA				IAML		19 44 01.2			
	comp=Z,3μm,1.0s								
UNIC	**Universidad Ca**	**0.83**	**360**	*i* P	**Pn**	**19 43 48.5**	**-0.1**		
UNIC				IAML		19 43 48.9			
	comp=Z,340nm,1.0s								
UNIC				*i* S	**Sb**	**19 43 59.4**	**-0.8**		
TECO	**Alcaldia de Te**	**0.84**	**62**	*i* S	**Sb**	**19 43 59.2**	**-1.1**		
LOAL	**Lomas de Alarc**	**0.88**	**345**	*i* P	**Pb**	**19 43 49.7**	**-0.4**		
LOAL				*i* S	**Sb**	**19 44 01.8**	**+0.2**		
LOAL				IAML		19 44 24.4			
	comp=Z,2μm,1.0s								
UESV	**Universidad de**	**0.88**	**56**	*i* P	**Pn**	**19 43 48.6**	**-0.6**		
UESV				*i* S	**Sb**	**19 44 01.0**	**-0.6**		
UESV				IAML		19 44 08.0			
	comp=Z,1μm,1.0s								
PACA	**Pacayal**	**1.23**	**75**	*i* P	**Pn**	**19 43 54.8**	**+0.7**		
PACA				IAML		19 44 12.4			
	comp=Z,3μm,1.0s								
MTO3	**Montecristo**	**1.26**	**8**	*e*P	**Pn**	**19 43 54.2**	**-0.5**		
MTO3	**Montecristo**	**1.26**	**8**	*i* P	**Pn**	**19 43 54.1**	**-0.5**		
MTO3				IAML		19 43 54.4			
	comp=Z,300nm,1.0s								
ESQI	**Esquipulas**	**1.42**	**8**	*i* P	**Pn**	**19 43 56.4**	**-0.3**		
ESQI				IAML		19 43 57.3			
	comp=Z,230nm,1.0s								
CNCH	**Conchagua**	**1.67**	**85**	*e*P	**Pn**	**19 44 00.4**	**+0.3**		

MOS ***19*** *19:49:23.4±1.1,40˚.97N×141˚.97E,h62km,mb4.9/36,Error ellipse: s-maj=6.8km s-min=4.7km az=105.5*

NIED ***19*** *19:49:24.8,40˚.98N×142˚.01E,h57km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.21; Mθθ0.28; Mφφ-2.48; Mrθ1.46; Mθφ0.06; Mφr2.52; Fault plane solution: M₀3.74000×10¹⁵ NP1:φs22.00000°, δ72.00000°,λ107.00000°. NP2:φs158.00000°,δ25.00000°, λ49.00000°.*

JMA ***19*** *19:49:24.8±0.1,41˚.0N±0˚.3×142˚.0E±0˚.9,h57km±1km, MD4.1/40,MV4.2/40,E OFF AOMORI PREF*

JMA Felt III J1 at E OFF AOMORI PREF .

NEIC ***19*** *19:49:25.3±1.4,40˚.97N±0˚.06×141˚.92E±0˚.07,h61km±6km, mb4.6/118,Error ellipse: s-maj=9.9km s-min=5.5km az=137.0*

IDC ***19*** *19:49:26.4±1.6,40˚.96N×142˚.00E,h73km±13km,mb4.1/21, mbtmp4.3/28,MS3.4/16,Error ellipse: s-maj=15.5km s-min=10.2km az=118.0*

ISC 19 19:49:24.5±0.5,40˚.94N±0˚.03×142˚.01E±0˚.03,h60km±3km, h60km:pP-P,n364,σ1s21/383,mb4.6/126,19C-21D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JARK	**Aomorirokkasho**	**0.49**	**279**	⇓*i* P		**Pn**	**19 49 36.5**	**+0.2**
JARK				⇓S		**Sn**	**19 49 44.7**	**-0.2**
JARK	**Aomorirokkasho**	**0.49**	**279**	A		A	19 49 36.5	
	comp=E,63nm,0.6s,comp=N,47nm,0.6s							
JAHD	**Aomorihigashid**	**0.60**	**303**	*i* P		**Pn**	**19 49 37.5**	**0.0**
JAHD				*e*S		**Sn**	**19 49 47.0**	**-0.1**
JAHD	**Aomorihigashid**	**0.60**	**303**	A		A	19 49 37.5	
	comp=E,50nm,1.2s,comp=N,36nm,1.1s							
JANG	**Nango**	**0.67**	**214**	*i* P		**Pn**	**19 49 38.8**	**+0.4**
JANG				S		**Sn**	**19 49 49.0**	**+0.4**
JANG	**Nango**	**0.67**	**214**	A		A	19 49 38.8	
	comp=E,14nm,2.0s,comp=N,10.0nm,1.6s							
JTM	**Tenmabayashi**	**0.73**	**259**			**Pn**	**19 49 39.1**	**+0.1**
JTM					Sn	**Sn**	**19 49 49.5**	**-0.1**
JTM	**Tenmabayashi**	**0.73**	**259**	⇓*i* P		**Pn**	**19 49 39.4**	**+0.3**
JTM				⇓S		**Sn**	**19 49 49.9**	**+0.2**
JTM	**Tenmabayashi**	**0.73**	**259**	A		A	19 49 39.4	
	comp=E,9.0nm,2.0s,comp=N,17nm,2.1s							
JKEN	**Kujiedanarisaw**	**0.76**	**197**	A		A	19 49 40.3	
	comp=E,37nm,0.3s,comp=N,27nm,0.2s							
JOT	**Ohata**	**0.85**	**302**	⇓*i* P		**Pn**	**19 49 40.3**	**-0.2**
JOT				⇓*e*S		**Sn**	**19 49 51.8**	**-0.6**
JOT	**Ohata**	**0.85**	**302**	A		A	19 49 40.3	
	comp=E,6.0nm,2.2s,comp=N,7.0nm,2.3s							
JKB	**Kayabe**	**1.20**	**323**	⇓*i* P		**Pn**	**19 49 45.0**	**-0.1**
JKB				⇓S		**Sn**	**19 49 59.6**	**-0.9**
JKB	**Kayabe**	**1.20**	**323**	A		A	19 49 45.0	
	comp=E,6.0nm,3.1s,comp=N,5.0nm,0.6s							
JSI2	**Shiura 2**	**1.21**	**276**	A		A	19 49 45.9	
	comp=E,22nm,0.7s,comp=N,16nm,1.4s							
JHHS	**Hirosakihyakuz**	**1.28**	**258**	A		A	19 49 47.0	
	comp=E,15nm,0.9s,comp=N,16nm,5.4s							
JAH	**Hinai**	**1.28**	**235**	⇓*i* P		**Pn**	**19 49 47.2**	**+0.9**
JAH				⇓S		**Sn**	**19 50 04.4**	**+1.9**
JAH	**Hinai**	**1.28**	**235**	A		A	19 49 47.2	
	comp=E,5.0nm,1.6s,comp=N,8.0nm,2.1s							
JSR	**Shiriuchi**	**1.34**	**297**	⇓*i* P		**Pn**	**19 49 47.2**	**+0.2**
JSR				⇓*e*S		**Sn**	**19 50 04.0**	**+0.2**
JSR	**Shiriuchi**	**1.34**	**297**	A		A	19 49 47.2	
	comp=E,3.0nm,1.7s,comp=N,4.0nm,4.1s							
ERM	**Erimo**	**1.38**	**38**			**Pn**	**19 49 48.8**	**+1.2**
ERM					Sn	**Sn**	**19 50 06.2**	**+1.3**
ERM	**Erimo**	**1.38**	**38**	P		**Pn**	**19 49 48.8**	**+1.2**
ERM							19 50 06.2	
JEM	**Erimo**	**1.38**	**38**	P		**Pn**	**19 49 48.6**	**+1.0**
JEM					*e*S	**Sn**	**19 50 06.5**	**+1.6**
JNBK	**Urakawa-nobuka**	**1.46**	**22**	P		**Pn**	**19 49 49.5**	**+1.0**
JNBK					*e*S	**Sn**	**19 50 08.2**	**+1.6**
JNBK	**Urakawa-nobuka**	**1.46**	**22**	A		A	19 49 49.5	
	comp=E,5.0nm,1.6s,comp=N,5.0nm,2.3s							
JSHD	**Hidakashinhida**	**1.51**	**13**	A		A	19 49 49.5	
	comp=E,8.0nm,3.7s,comp=N,8.0nm,2.8s							
JIW	**Iwasaki**	**1.56**	**258**	*i* P		**Pn**	**19 49 50.5**	**+0.6**
JIW	**Iwasaki**	**1.56**	**258**	A		A	19 49 50.5	
	comp=E,6.0nm,4.9s,comp=N,5.0nm,1.6s							
JOM	**Ohasama**	**1.56**	**201**	*i* P		**Pn**	**19 49 51.0**	**+1.0**
JOM				*e*S		**Sn**	**19 50 10.1**	**+1.0**
JOM	**Ohasama**	**1.56**	**201**	A		A	19 49 51.0	
	comp=E,5.0nm,0.2s,comp=N,4.0nm,0.5s							
JOMM	**Oshimamatsumae**	**1.62**	**292**	P		**Pn**	**19 49 50.9**	**+0.1**
JIAM	**Iburiatsuma**	**1.69**	**358**	P		**Pn**	**19 49 52.7**	**+1.1**
JIAM				*e*S		**Sn**	**19 50 14.1**	**+1.9**
JNB	**Noboribetsu**	**1.69**	**335**	*i* P		**Pn**	**19 49 51.4**	**-0.4**
JYM2	**Yakumo 2**	**1.70**	**314**	⇓*i* P		**Pn**	**19 49 52.2**	**+0.3**
JYM2				⇓*e*S		**Sn**	**19 50 13.5**	**+0.9**
JMM	**Marumori**	**3.21**	**197**			**Pn**	**19 50 13.8**	**+1.5**
JMM					Sn	**Sn**	**19 50 50.5**	**+1.2**
ASAJ	**Asahikawa**	**3.21**	**8**	P		**Pn**	**19 50 13.6**	**+1.2**
	comp=N,24nm,0.3s,baz=225,slow=9.1,SNR=53							
ASAJ					S	**Sn**	**19 50 51.7**	**+2.3**
	comp=N,192nm,0.8s,baz=354,slow=28,SNR=8.7							
ASAJ					LR	LR	19 51 07.1	
	comp=N,114nm,18.4s,baz=74,slow=32							
JKA	**Kamikawa-asahi**	**3.21**	**8**	Pn		**Pn**	**19 50 13.3**	**+0.9**
JKA				Sn		**Sn**	**19 50 50.7**	**+1.3**
NMR	**Nemuro--Hokkai**	**3.68**	**47**	*e*P		**Pn**	**19 50 18.2**	**-0.7**
NMR				*e*S		**Sn**	**19 50 56.9**	**-4.1**
RUSJ	**Misakicho**	**3.97**	**36**	*e*P		**Pn**	**19 50 25.5**	**+2.7**
RUSJ				*e*S		**Sn**	**19 51 09.3**	**+1.3**
YUK	**Yuzh-Kuril'sk**	**4.21**	**41**	*e*P		**Pn**	**19 50 27.1**	**+1.1**
YUK				*e*S		**Sn**	**19 51 11.7**	**-2.2**
YUK					pmax	pmax		
	comp=Z,204nm,0.2s							
YUK					pmax	pmax		
	comp=N,54nm,0.1s							
YUK					pmax	pmax		
	comp=E,101nm,0.1s							
YUK					smax	smax		
	comp=N,664nm,0.3s							
YUK					smax	smax		
	comp=E,364nm,0.3s							
SHO	**Shikotan**	**4.62**	**49**	*e*P		**Pn**	**19 50 30.8**	**-0.9**
SHO				*e*S		**Sn**	**19 51 19.1**	**-4.9**
SHO					pmax	pmax		
	comp=N,47nm,0.2s							
SHO					pmax	pmax		
	comp=E,35nm,0.2s							
SHO					pmax	pmax		
	comp=Z,63nm,0.2s							
SHO					smax	smax		
	comp=N,246nm,0.3s							
SHO					smax	smax		
	comp=E,257nm,0.3s							
MJB9	**Matsu-Tunnel**	**5.29**	**215**			**Pn**	**19 50 41.3**	**+0.3**
MJAR	**Matsushiro Arr**	**5.30**	**215**	P		**Pn**	**19 50 43.9**	**+2.9**
	comp=E,4.3nm,0.6s,baz=20,slow=14,SNR=18							
MJAR					LR	LR	19 52 36.1	
	comp=E,86nm,18.6s,baz=42,slow=36							
MAJO	**Matsushiro**	**5.30**	**215**			**Pn**	**19 50 41.0**	**0.0**
MAJO	**Matsushiro**	**5.30**	**215**	P		**Pn**	**19 50 41.0**	**0.0**
YSS	**Yuzh-Sakhalins**	**6.04**	**5**	*e*P		**Pn**	**19 50 50.4**	**-0.7**
YSS				*e*S		**Sn**	**19 51 56.2**	**-2.6**
YSS					pmax	pmax		
	comp=Z,20nm,1.0s							
YSS					smax	smax		
	comp=N,40nm,1.1s							
YSS					smax	smax		
	comp=E,10.0nm,1.1s							
YSS					MLR	MLR		
	comp=Z,400nm,13.0s							
KUR	**Kuril'sk**	**6.07**	**43**	*e*P		**Pn**	**19 50 51.8**	**+0.3**
KUR				*e*S		**Sn**	**19 51 56.1**	**-3.4**
KUR					pmax	pmax		
	comp=Z,107nm,0.5s							
KUR					smax	smax		
	comp=N,113nm,0.3s							
KUR					smax	smax		
	comp=E,93nm,0.5s							
USA0B	**Ussuriysk Arra**	**8.08**	**297**	Pn		**Pn**	**19 51 16.8**	**-2.2**
USA0B	**Ussuriysk Arra**	**8.08**	**297**	P		**Pn**	**19 51 16.8**	**-2.2**
USRK	**Ussuriysk Ar.**	**8.08**	**297**			**Pn**	**19 51 16.3**	**-2.7**
USRK	**Ussuriysk Ar.**	**8.08**	**297**	P		**Pn**	**19 51 21.2**	**+2.2**
	comp=E,30nm,0.7s,baz=100,slow=19,SNR=36							
MSHR	**Mys Shultsa**	**8.28**	**285**	*i* P		**Pn**	**19 51 22.6**	**+0.9**
MSHR					pmax	pmax		
	comp=Z,21nm,1.2s							
JMN	**Monobe**	**9.67**	**225**	Pn		**Pn**	**19 51 39.6**	**-1.4**
MDJ	**Mudanjiang**	**9.84**	**296**	Pn		**Pn**	**19 51 40.9**	**-2.3**
MDJ	**Mudanjiang**	**9.84**	**296**	P		**Pn**	**19 51 47.3**	**+4.2**
MDJ				sP			19 52 05.1	
MDJ				S		Sn	19 53 08.8	-23
KLR	**Kul'dur**	**11.01**	**322**	⇑*e*P		**Pn**	**19 52 01.4**	**+2.4**
KLR					pmax	pmax		
	comp=Z,3.0nm,1.0s							
KLR	**Kul'dur**	**11.01**	**322**	P		**Pn**	**19 52 01.1**	**+2.1**
	comp=E,2.5nm,0.8s,baz=137,slow=12,SNR=7.9							
KLR					LR	LR	19 56 12.4	
	comp=Z,200nm,20.1s,baz=138,slow=37							
KSRS	**Korea Array**	**11.47**	**257**	P		**Pn**	**19 52 08.6**	**+3.2**
	comp=E,3.6nm,0.7s,baz=63,slow=14,SNR=9.3							
KSRS					LR	LR	19 56 07.1	
	comp=E,125nm,21.0s,baz=70,slow=35							
KSAR	**Wonju Array Be**	**11.50**	**257**	Pn		**Pn**	**19 52 03.0**	**-2.7**
KSAR	**Wonju Array Be**	**11.50**	**257**	P		**Pn**	**19 52 03.1**	**-2.7**
BNX	**BinXian**	**11.66**	**299**	⇑P		**Pn**	**19 52 10.9**	**+2.9**
BNX					pmax	pmax		
	comp=Z,8.0nm,0.9s							
BNX					pmax	pmax		
	comp=Z,53nm,3.5s							
JNU	**Nakatsue**	**11.82**	**232**	Pn		**Pn**	**19 52 09.8**	**-0.4**
JNU	**Nakatsue**	**11.82**	**232**	LR		LR	19 56 14.5	
	comp=Z,108nm,22.0s,baz=122,slow=34							
HEH	**HeiHe**	**13.81**	**317**	*e*P		**Pn**	**19 52 38.6**	**+1.5**
HEH					pmax	pmax		
	comp=Z,4.0nm,0.8s							
PETK	**Petropavlovsk-**	**16.16**	**36**	P		**Pn**	**19 53 06.7**	**-0.8**
	comp=E,6.9nm,1.1s,baz=209,slow=12,SNR=2.5							
ZEA	**Zeya**	**16.20**	**327**	*e*P		**Pn**	**19 53 08.5**	**+0.5**
ZEA					pmax	pmax		
	comp=N,10.0nm,0.6s							
ZEA					pmax	pmax		
	comp=Z,10.0nm,0.8s							
ZEA					MLR	MLR		
	comp=Z,100nm,13.0s							
HIA	**Hailar**	**17.74**	**305**	P		**P**	**19 53 27.5**	**+0.2**
HIA	**Hailar**	**17.74**	**305**	P		**P**	**19 53 27.5**	**+0.2**
HIA					pmax	pmax		
	comp=Z,10.0nm,0.7s							
JOW	**Kunigami**	**18.07**	**223**	LR		LR	20 00 19.9	
	comp=Z,138nm,21.1s,baz=107,slow=36							
XLT	**XiLinHaoTe**	**19.34**	**287**	*e*P		**P**	**19 53 45.3**	**+0.3**
XLT				pP		pP	19 53 57.1	-0.8
XLT				PP		**PnPn**	**19 54 03.8**	**+2.6**
XLT				sP		sP	19 54 05.5	0.0
XLT				PcP		**PcP**	**19 58 01.8**	**-3.0**
XLT					pmax	pmax		
	comp=Z,7.0nm,0.8s							
XLT					pmax	pmax		
	comp=Z,130nm,4.7s							
MA2	**Magadan**	**19.45**	**13**	P		**P**	**19 53 45.8**	**-0.1**
	comp=Z,3.6nm,0.8s,baz=165,slow=12,SNR=1.7							
MA2					LR	LR	20 02 12.7	
	comp=Z,39nm,21.4s,baz=144,slow=39							
BJI	**Beijing**	**19.65**	**276**	Pn		**P**	**19 53 47.3**	**-0.9**
BJI				pP		**pP**	**19 54 00.9**	**-0.3**
NJ2	**Nanjing**	**20.57**	**252**	*e*P		**P**	**19 53 56.8**	**-1.4**
NJ2				pP		**pP**	**19 54 11.1**	**-0.2**
NJ2				sP		**sP**	**19 54 17.9**	**-0.9**
NJ2					pmax	pmax		
	comp=Z,14nm,0.5s							
YAK	**Yakutsk**	**22.40**	**345**	P		**P**	**19 54 14.9**	**-2.7**
YAK				IAmb		IAmb	19 54 18.0	
	comp=Z,26nm,0.7s							
YAK	**Yakutsk**	**22.40**	**345**	*e*P		**P**	**19 54 14.7**	**-2.9**
YAK				*e**PP		**pP**	**19 54 28.2**	**-2.3**
YAK				*e*			19 54 39.9	
YAK				*e*			19 58 07.0	
YAK				*e*S		**S**	**19 58 16.8**	**-2.6**
YAK				*e**SS		**sS**	**19 58 40.1**	**-1.5**
YAK				*e*SS		**SnSn**	**19 58 51.2**	**-0.8**
YAK				*e*			20 05 31.7	
YAK					pmax	pmax		
	comp=N,7.0nm,1.0s							
YAK					pmax	pmax		
	comp=Z,32nm,1.0s							
YAK					pmax	pmax		
	comp=E,5.0nm,1.3s							
YAK					pmax	pmax		
	comp=Z,76nm,3.8s							
YAK					smax	smax		
	comp=N,162nm,5.6s							
YAK					smax	smax		
	comp=E,92nm,5.6s							
SEY	**Seymchan**	**22.88**	**12**	*i* P		**P**	**19 54 22.2**	**-0.5**
SEY					pmax	pmax		
	comp=Z,5.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**22.96**	**280**	*e*P		**P**	**19 54 23.8**	**0.0**
HHC					pmax	pmax		
	comp=Z,21nm,0.5s							
HHC					pmax	pmax		
	comp=Z,250nm,5.5s							
TATO	**Taipei**	**23.36**	**233**	P		**P**	**19 54 26.1**	**-1.6**
SHEM	**Shemya Is, Ala**	**24.71**	**51**	LR		LR	20 06 50.6	
	comp=Z,48nm,18.2s,baz=170,slow=42							
TWG	**Pinlang**	**25.23**	**231**	P		**P**	**19 54 42.1**	**-2.7**
ULN	**Ulaanbaatar**	**25.75**	**297**	P		**P**	**19 54 48.8**	**-0.7**
ULN	**Ulaanbaatar**	**25.75**	**297**	P		**P**	**19 54 48.8**	**-0.7**
ULN					pmax	pmax		
	comp=Z,4.0nm,0.7s							
SONM	**Songino Array**	**26.20**	**297**	P		**P**	**19 54 52.4**	**-1.1**
SONM	**Songino Array**	**26.20**	**297**	P		**P**	**19 54 53.4**	**0.0**
	comp=Z,3.3nm,0.6s,baz=85,slow=8.2,SNR=25							
	comp=Z,3.3nm,0.6s							
ZAK	**Zakamensk**	**28.38**	**303**	*e*P		**P**	**19 55 12.6**	**-0.4**
ZAK					pmax	pmax		
	comp=Z,4.0nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**29.95**	**127**	T		T	20 26 40.4	
	baz=318,slow=75,SNR=96							
H11N1	**WAKE ISLAND Hy**	**29.96**	**127**	T		T	20 26 31.3	
	baz=318,slow=75,SNR=122							
H11N3	**WAKE ISLAND Hy**	**29.97**	**127**	T		T	20 26 36.5	
	baz=318,slow=75,SNR=80							
LZH	**Lanzhou**	**30.09**	**273**	*e*P		**P**	**19 55 29.4**	**+1.1**
LZH					pP	pP	19 55 39.4	-3.6
LZH					pmax	pmax		
	comp=Z,17nm,1.3s							
BILL	**Bilibino**	**30.17**	**18**	*i* P		**P**	**19 55 29.5**	**+1.1**
H11S1	**WAKE ISLAND Hy**	**30.78**	**129**	T		T	20 28 06.6	
	baz=322,slow=76,SNR=57							
H11S3	**WAKE ISLAND Hy**	**30.79**	**129**	T		T	20 28 00.7	
	baz=322,slow=76,SNR=34							
H11S2	**WAKE ISLAND Hy**	**30.80**	**129**	T		T	20 28 08.6	
	baz=322,slow=76,SNR=50							
GTA	**Gaotai**	**32.05**	**281**	*e*P		**P**	**19 55 45.3**	**-0.2**
GTA					sP	pP	19 56 01.8	+1.5
GTA					pmax	pmax		
	comp=Z,3.0nm,0.9s							
GOMU	**GeErMu**	**36.85**	**278**	P		**P**	**19 56 27.8**	**+0.5**
GOMU					pmax	pmax		
	comp=Z,7.0nm,0.7s							
DGZ	**Jazzator, Alta**	**38.60**	**302**	*i* P		**P**	**19 56 42.0**	**+0.4**
DGZ					pmax	pmax		
	comp=Z,8.0nm,0.7s							
TNCH	**TengChong**	**39.35**	**260**	P		**P**	**19 56 49.0**	**+0.8**
TNCH					pP	pP	19 57 02.8	-0.6
TNCH					sP	sP	19 57 10.8	+0.5
TNCH					S	**S**	**20 02 43.0**	**-2.4**
TNCH					sS	sS	20 03 07.1	-3.5
TNCH					pmax	pmax		
	comp=Z,20nm,0.9s							
TNCH					pmax	pmax		
	comp=Z,150nm,4.2s							
TNCH					LR	LR		
	comp=N,430nm,6.2s							
TNCH					LR	LR		
	comp=E,430nm,4.8s							
TNCH					LR	LR		
	comp=Z,230nm,5.7s							
WMQ	**Urumqi**	**39.62**	**293**	*e*P		**P**	**19 56 51.1**	**+0.9**
WMQ					pmax	pmax		
	comp=Z,26nm,0.9s							
ZAA0	**Zalesovo Array**	**39.72**	**309**	P		**P**	**19 56 50.4**	**-0.3**
ZAA0					IAmb	IAmb	19 56 54.9	
	comp=Z,6.0nm,0.8s							
ZALV	**Zalesovo Beam**	**39.72**	**309**	P		**P**	**19 56 50.5**	**-0.3**
ZALV	**Zalesovo Beam**	**39.72**	**309**	P		**P**	**19 56 51.0**	**+0.3**
	comp=Z,4.7nm,0.6s,baz=91,slow=8.7,SNR=27							
ZALV					PcP	**PcP**	**19 58 56.1**	**0.0**
	comp=Z,1.2nm,0.6s,baz=100,slow=3.6,SNR=3.7							
	comp=Z,4.7nm,0.6s							
L16K	**Owhat River**	**40.33**	**39**	P		**P**	**19 56 56.7**	**+1.0**
L16K					IAmb	IAmb	19 57 32.9	
	comp=Z,17nm,1.4s							
E18K	**Tukpahlearik C**	**40.56**	**30**	P		**P**	**19 56 57.0**	**-0.5**
E18K					IAmb	IAmb	19 57 15.4	
	comp=Z,13nm,1.5s							
C18K	**Utukok River**	**40.60**	**28**	P		**P**	**19 56 57.0**	**-0.8**
C18K					IAmb	IAmb	19 57 13.5	
	comp=Z,14nm,1.4s							
CRAI	**Chiangrai**	**40.88**	**252**	P		**P**	**19 57 01.5**	**+0.8**
CHGN	**Chignik**	**40.91**	**47**	P		**P**	**19 57 01.9**	**+1.4**
K17K	**Iditarod**	**40.94**	**37**	P		**P**	**19 57 01.2**	**+0.6**
K17K					IAmb	IAmb	19 57 33.4	
	comp=Z,16nm,1.2s							
O16K	**Kokwok River B**	**40

E22K Anaktuvuk Pass 43.96 30 P **P** **19 57 26.0 +0.8**
E22K IAmb IAmb 19 57 29.6
comp=Z,14nm,1.5s
KURK Kurchatov 43.98 305 P **P** **19 57 24.3 -1.2**
KURK IAmb IAmb 19 57 29.3
comp=Z,10nm,0.7s
KURK Kurchatov 43.98 305 P **P** **19 57 26.4 +0.9**
KURK 19 59 11.0
SHL Shillong 44.04 266 P **P** **19 57 26.6 +0.1**
SHL Shillong 44.04 266 P **P** **19 57 26.6 +0.1**
SHL pmax pmax
comp=Z,15nm,0.3s
KURBB Kurchatov Arra 44.06 305 P **P** **19 57 26.4 +0.3**
comp=Z,10nm,0.6s,baz=79,slow=8.8,SNR=25
KURBB PcP **PcP** **19 59 11.0 +0.5**
comp=Z,2.6nm,0.2s,baz=75,slow=3.3,SNR=4.1
comp=Z,10nm,0.6s
KTH Kantishna Hill 44.29 36 P **P** **19 57 29.4 +1.4**
KTH IAmb IAmb 19 57 52.9
comp=Z,12nm,1.0s
C23K Itkillik River 44.50 27 P **P** **19 57 30.0 +0.6**
TRF Thorofare Moun 44.58 36 P **P** **19 57 31.4 +1.0**
TRF IAmb IAmb 19 57 52.4
comp=Z,11nm,1.3s
G23K Bananza Creek 44.61 32 P **P** **19 57 31.3 +0.9**
FIS Fire Island 44.78 40 P **P** **19 57 32.6 +0.8**
TOLK Toolik Lake Re 44.81 29 P **P** **19 57 33.6 +1.6**
D24K Happy Valley 45.10 28 P **P** **19 57 34.0 -0.2**
E24K Your Creek 45.21 30 P **P** **19 57 36.2 +1.1**
GHO Glory Hole Cre 45.34 39 P **P** **19 57 37.2 +0.9**
F24K Squaw Lake 45.44 30 P **P** **19 57 38.2 +1.3**
H24K Noodor Dome 45.50 33 P **P** **19 57 38.3 +0.8**
H24K IAmb IAmb 19 58 04.3
comp=Z,9.0nm,1.1s
G24K Hadweenzic Riv 45.63 32 P **P** **19 57 39.1 +0.7**
G24K IAmb IAmb 19 57 44.2
comp=Z,8.9nm,1.3s
POKR Poker Plat Res 45.73 34 P **P** **19 57 39.9 +0.7**
POKR IAmb IAmb 19 58 06.1
comp=Z,16nm,1.4s
IL31 45.98 34 P **P** **19 57 41.6 +0.4**
IL31 IAmb IAmb 19 58 07.8
comp=Z,7.9nm,1.1s
ILAR Eielson Array 45.98 34 P **P** **19 57 41.5 +0.3**
ILAR Eielson Array 45.98 34 P **P** **19 57 42.4 +1.2**
comp=Z,1.1nm,0.7s,baz=269,slow=6.0,SNR=16
comp=Z,1.1nm,0.7s
SCM Sheep Creek Mo 46.09 38 P **P** **19 57 42.7 +0.5**
SCM Sheep Creek Mo 46.09 38 P **P** **19 57 42.7 +0.5**
SCM pmax pmax
comp=Z,27nm,1.4s
TAPN Taplejung 46.25 271 *e*P **P** **19 57 44.8 +0.6**
comp=Z,19nm,0.7s
PRP Porcupine Dome 46.49 33 P **P** **19 57 46.3 +0.9**
PRP IAmb IAmb 19 58 12.4
comp=Z,14nm,1.2s
FYU Fort Yukon 46.53 32 P **P** **19 57 47.0 +1.6**
FYU IAmb IAmb 19 57 49.1
comp=Z,8.2nm,1.0s
BMAR Burnt Mountain 46.72 31 P **P** **19 57 49.1 +2.1**
ODAN Odare 46.75 270 *e*P **P** **19 57 48.5 +0.5**
TARG Taragay, Kyrgy 47.19 293 P **P** **19 57 52.1 +0.6**
TARG Taragay, Kyrgy 47.19 293 P **P** **19 57 52.1 +0.6**
TARG pmax pmax
comp=Z,9.0nm,0.7s
JIRN Jiri 47.24 272 *e*P **P** **19 57 52.8 +0.8**
comp=Z,34nm,0.9s
RAMN Ramite 47.30 271 *e*P **P** **19 57 53.0 +0.7**
comp=Z,34nm,0.7s
SCRK Sand Creek 47.33 35 P **P** **19 57 52.7 +0.9**
SCRK IAmb IAmb 19 58 16.0
comp=Z,5.6nm,0.9s
GUN Gumba 47.34 272 *e*P **P** **19 57 53.5 +0.7**
comp=Z,129nm,0.8s
J26L Joseph Creek 47.44 34 P **P** **19 57 53.4 +0.7**
KKN Kakani 47.86 273 *e*P **P** **19 57 57.4 +0.8**
KKN Kakani 47.86 273 *e*P **P** **19 57 57.8 +1.2**
PKI Pulchoki 47.88 272 *e*P **P** **19 57 57.2 +0.3**
comp=Z,18nm,0.5s
PKIN Phulchoki 47.88 272 *e*P **P** **19 57 57.1 +0.2**
comp=Z,17nm,0.5s
D27M Malcolm River 47.90 28 P **P** **19 57 57.0 +0.9**
G27K Doyon Strip 47.92 31 P **P** **19 57 58.6 +2.3**
DMN Daman 48.08 273 *e*P **P** **19 57 58.8 +0.4**
K27K Chicken 48.15 35 P **P** **19 57 59.5 +1.4**
K27K IAmb IAmb 19 58 24.2
comp=Z,7.0nm,1.2s
GKN Gorkha 48.23 273 *e*P **P** **19 57 59.8 +0.3**
comp=Z,25nm,0.6s
CRQM Cirque 48.26 39 P **P** **19 58 01.8 +2.6**
CRQM IAmb IAmb 19 58 22.4
comp=Z,12nm,1.1s
BVAR Borovoye Array 48.36 310 P **P** **19 58 00.2 +0.4**
comp=Z,5.9nm,0.5s,baz=68,slow=8.3,SNR=45
comp=Z,5.9nm,0.5s
BRVK Borovoye 48.41 310 P **P** **19 57 59.9 -0.4**
BRVK IAmb IAmb 19 58 01.6
comp=Z,4.3nm,0.8s
BRVK Borovoye 48.41 310 P **P** **19 57 59.9 -0.4**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
L27K Beaver Creek, 48.43 36 P **P** **19 58 01.4 +1.1**
L27K IAmb IAmb 19 58 22.6
comp=Z,5.4nm,1.2s
BCAR Beaver Creek A 48.45 36 P **P** **19 58 01.2 +0.7**
E28M Babbage River 48.49 29 P **P** **19 58 01.0 +0.4**
F28M Old Crow 48.50 30 P **P** **19 58 02.0 +1.2**
DANN Dangsing 48.72 274 *e*P **P** **19 58 04.3 +1.0**
comp=Z,174nm,0.6s
I28M Miner Creek 48.81 33 P **P** **19 58 03.8 +0.5**
I28M IAmb IAmb 19 58 30.4
comp=Z,7.8nm,1.1s
E29M Blow River 49.12 29 P **P** **19 58 06.9 +1.5**
E29M IAmb IAmb 19 58 08.6
comp=Z,5.3nm,0.9s
AAK Ala-Archa 49.13 296 P **P** **19 58 05.7 -0.5**
AAK IAmb IAmb 19 58 09.5
comp=Z,4.4nm,0.6s
AAK Ala-Archa 49.13 296 P **P** **19 58 05.7 -0.5**
AAK pmax pmax
comp=Z,4.0nm,0.6s
KOLN Koldanda 49.14 274 *e*P **P** **19 58 06.5 0.0**
H29M Whitestone 49.31 32 P **P** **19 58 08.6 +1.6**
H29M IAmb IAmb 19 58 34.4
comp=Z,12nm,1.4s
G29M Pine Creek 49.32 31 P **P** **19 58 08.9 +1.8**
KSH Kashi 49.33 291 P **P** **19 58 12.0 +4.3**
KSH pmax pmax
comp=Z,4.0nm,1.0s
PYUN Piuthan 49.43 274 *e*P **P** **19 58 09.2 +0.5**
comp=Z,67nm,0.9s
EPYK Eagle Plains 49.94 31 P **P** **19 58 13.1 +1.3**
G30M tAoh Zraii Nji 50.00 31 P **P** **19 58 12.9 +0.6**
L29M L29M 50.06 36 P **P** **19 58 13.2 +0.4**
L29M IAmb IAmb 19 58 35.6
comp=Z,7.8nm,1.4s
I30M Mount Dempster 50.32 33 P **P** **19 58 15.8 +1.0**
INK Inuvik 50.72 29 P **P** **19 58 18.4 +0.8**
comp=Z,3.4nm,0.7s,baz=311,slow=4.0,SNR=6.7
comp=Z,3.4nm,0.7s
KK31 Karatay Array 51.65 298 P **P** **19 58 24.4 -0.5**
KK31 IAmb IAmb 19 58 25.7
comp=Z,3.2nm,0.8s
KK31 Karatay Array 51.65 298 P **P** **19 58 24.4 -0.5**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 51.65 298 P **P** **19 58 24.3 -0.7**
KKAR Karatay Array 51.65 298 P **P** **19 58 24.5 -0.5**
KKAR IAmb IAmb 19 58 25.7
comp=Z,3.2nm,0.8s
KKAR Karatay Array 51.65 298 P **P** **19 58 24.5 -0.5**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
PBA Port Blair 52.02 250 P **P** **19 58 28.1 +0.1**
SVE Sverdlovsk 52.58 317⇑ *e*P **P** **19 58 32.7 +1.1**
SVE pmax pmax
comp=Z,21nm,0.9s
BTK Batken 52.71 294 P **P** **19 58 32.1 -0.8**
BTK Batken 52.71 294 P **P** **19 58 32.1 -0.8**
BTK pmax pmax
comp=Z,3.0nm,0.9s
HNR Honiara 52.78 158 LR LR 20 19 01.9
comp=Z,424nm,20.8s,baz=334,slow=34
C36M Paulatuk 53.71 26 P **P** **19 58 40.1 +0.4**
C36M IAmb IAmb 19 58 41.7
comp=Z,6.6nm,1.1s
ARU Arti 53.79 317 P **P** **19 58 40.1 -0.4**
ARU Arti 53.79 317 *c i* P **P** **19 58 40.6 +0.1**
ARU 19 59 41.8
ARU 20 00 39.8
ARU S **S** **20 06 13.3 +2.9**
ARU SS **SS** **20 09 52.1 +0.8**
ARU pmax pmax
comp=Z,15nm,0.8s
ARU Arti 53.79 317 LR LR 20 22 34.2
comp=Z,149nm,20.7s,baz=271,slow=37
NIL Nilore 53.91 286 P **P** **19 58 41.5 -0.3**
NIL Nilore 53.91 286 P **P** **19 58 41.5 -0.3**
NIL pmax pmax
comp=Z,12nm,0.8s
MTN Manton Dam 54.45 193 P **P** **19 58 46.9 +1.2**
MTN IAmb IAmb 19 59 12.5
comp=Z,8.8nm,1.2s
CHGR Chuyangaron 54.48 293 P **P** **19 58 45.4 -0.6**
CHGR Chuyangaron 54.48 293 P **P** **19 58 45.4 -0.6**
CHGR pmax pmax
comp=Z,17nm,0.8s
ABKAR Akbulak array 55.83 308 P **P** **19 58 55.0 -0.4**
ABKAR Akbulak array 55.83 308 P **P** **19 58 55.2 -0.2**
AKTO Aktyubinsk 56.46 310 LR LR 20 23 37.5
comp=Z,109nm,20.1s,baz=31,slow=36
KBL Kabul 56.52 289 P **P** **19 58 59.7 -1.1**
KBL Kabul 56.52 289 P **P** **19 58 59.7 -1.1**
KBL pmax pmax
comp=Z,8.0nm,0.9s
KIRV Kirov 57.45 322⇑ *e*P **P** **19 59 07.0 +0.3**
KNRA Kununurra 57.65 195 P **P** **19 59 08.1 -0.4**
PRGR Permogore 57.77 326 *e*P **P** **19 59 08.7 -0.2**
PRGR pmax pmax
comp=Z,15nm,0.7s
RES Resolute Bay 58.72 15 P **P** **19 59 14.9 -0.4**
RES IAmb IAmb 19 59 16.8
comp=Z,5.8nm,1.2s
RES Resolute Bay 58.72 15 P **P** **19 59 14.9 -0.4**
RES pmax pmax
comp=Z,6.0nm,1.2s
BBB Bella Bella 58.98 46 LR LR 20 27 08.0
comp=Z,20nm,18.6s,baz=134,slow=38
YKA Yellowknife Ar 60.22 31⇑ *e*P **P** **19 59 28.6 +2.7**
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 60.22 31 P **P** **19 59 26.7 +0.8**
comp=Z,0.1nm,0.5s,baz=298,slow=7.4,SNR=4.8
ARCES ARCESS Array B 60.52 339 P **P** **19 59 28.9 +1.0**
comp=Z,4.9nm,0.9s,baz=46,slow=10,SNR=4.8
comp=Z,4.9nm,0.9s
KLMR Klimovskoe 60.73 327 *e*P **P** **19 59 27.5 -1.8**
KLMR AMP 19 59 30.6
comp=Z,24nm,1.4s
KLMR Klimovskoe 60.73 327 *e*P **P** **19 59 27.5 -1.8**
KLMR pmax pmax
comp=Z,24nm,1.4s
WB0 Warramunga Arr 60.80 188 P **P** **19 59 29.7 -0.5**
WB0 IAmb IAmb 19 59 31.6
comp=Z,6.3nm,1.2s
WR0 Warramunga Arr 60.98 188 P **P** **19 59 29.9 -1.6**
WR0 IAmb IAmb 19 59 42.5
comp=Z,7.5nm,1.3s
WRA Warramunga Arr 60.98 188 P **P** **19 59 30.8 -0.7**
WRA Warramunga Arr 60.98 188 *i* P **P** **19 59 32.1 +0.6**
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 60.98 188 P **P** **19 59 31.4 -0.1**
comp=Z,1.0nm,0.5s,baz=4.4,slow=7.1,SNR=23
comp=Z,1.0nm,0.5s
BELG Belogornoye 61.30 316 *i* P **P** **19 59 34.3 +1.0**
BELG pmax pmax
comp=Z,3.0nm,0.7s
HRA Herat 61.43 292 P **P** **19 59 34.1 -0.7**
HRA IAmb IAmb 19 59 35.8
comp=Z,2.9nm,0.8s
GEYT Alibeck 62.40 297 P **P** **19 59 41.4 +0.3**
comp=Z,4.0nm,0.7s,baz=53,slow=7.9,SNR=3.6
comp=Z,4.0nm,0.7s
ASAR Alice Springs 64.71 188 P **P** **19 59 55.9 -0.3**
ASAR Alice Springs 64.71 188 P **P** **19 59 56.9 +0.7**
comp=Z,0.7nm,0.5s,baz=2.9,slow=7.3,SNR=9.2
ASAR LR LR 20 25 34.2
comp=Z,28nm,20.7s,baz=233,slow=34
comp=Z,0.7nm,0.5s
VRH Novokhopyorsk 65.02 317 *e*P **P** **19 59 56.1 -1.9**
VRH pmax pmax
comp=Z,20nm,1.1s
OBN Obninsk 65.27 322 *c e*P **P** **19 59 59.3 -0.2**
OBN *e* 20 00 36.4
OBN *e* 20 02 25.3
OBN *e*S S 20 08 28.0 -10
OBN pmax pmax
comp=Z,45nm,2.5s
OBN MLR MLR
comp=Z,55nm,16.0s
FINES FINESS Array B 65.59 332 P **P** **20 00 01.0 -0.5**
FINES FINESS Array B 65.59 332 P **P** **20 00 01.6 +0.1**
comp=Z,15nm,0.7s,baz=42,slow=8.8,SNR=66
FINES LR LR 20 30 18.4
comp=Z,86nm,18.9s,baz=287,slow=37
comp=Z,15nm,0.7s
LPSR Galich'ya Gora 65.63 319 *e*P **P** **20 00 00.5 -1.4**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VORR Voronezh 66.03 318 *e*P **P** **20 00 03.5 -1.0**
VORR pmax pmax
comp=Z,20nm,0.4s
VSR Storozhevoye 66.33 318 *e*P **P** **20 00 05.1 -1.3**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VORD Divnogorie 66.41 318 *e*P **P** **20 00 05.3 -1.6**
VORD pmax pmax
comp=Z,10.0nm,0.9s
DZM Mont Dzumac 66.67 155 LR LR 20 27 58.7
comp=Z,23nm,19.6s,baz=79,slow=35
MEF Metsahovi 67.03 331 *e*P **P** **20 00 11.0 +0.3**
VSU Vasula 67.34 329 *e*P **P** **20 00 13.4 +0.7**
RAF Rauma 67.40 333 *e*P **P** **20 00 13.1 +0.1**
GOF Gofitskoye 67.87 311 *c e*P **P** **20 00 17.2 +0.9**
MTSE Matsula 68.28 330 *e*P **P** **20 00 19.5 +0.9**
ZEI Tsey 68.71 309 *e*P **P** **20 00 21.0 -0.9**
ZEI pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 68.72 310⇑ P **P** **20 00 23.3 +1.5**
KIV Kislovodsk 68.72 310 P **P** **20 00 22.2 +0.4**
KIV Kislovodsk 68.72 310 *e*P **P** **20 00 22.2 +0.4**
KIV pmax pmax
comp=Z,18nm,1.0s
KBZ Khabaz 68.74 310⇑ *e*P **P** **20 00 22.6 +0.9**
KBZ pmax pmax
comp=Z,6.0nm,0.8s
KBZ Khabaz 68.74 310 P **P** **20 00 22.9 +1.2**
comp=Z,5.8nm,0.8s,baz=40,slow=5.8,SNR=14
comp=Z,5.8nm,0.8s
SHA1 Shidzhatmaz 68.87 310 *i* P **P** **20 00 23.5 +0.6**
ONI Oni 69.09 309 P **P** **20 00 25.6 +1.5**
ONI IAmb IAmb 20 00 26.3
comp=Z,6.1nm,0.9s
ONI Oni 69.09 309 P **P** **20 00 25.6 +1.5**
ONI pmax pmax
comp=Z,6.0nm,0.9s
NEUR Neytrino 69.13 310 *i* P **P** **20 00 24.2 -0.3**
NEUR pmax pmax
comp=Z,3.0nm,1.1s
MNK Minsk 69.54 325 *i* P **P** **20 00 26.2 -0.3**
comp=E,4.0nm,0.9s
MNK *i* P **P** **20 00 26.2 -0.3**
comp=N,11nm,0.8s
MNK *i* P **P** **20 00 26.2 -0.3**
comp=Z,20nm,0.8s,baz=48
MNK *i* pP **pP** **20 00 42.6 -0.1**
MNK *i* PP **PP** **20 03 00.2 -0.1**
MNK *i* PPP PPP 20 04 41.6
MNK *i* S **S** **20 09 29.6 +0.1**
MNK *i* sS **sS** **20 09 57.8 +0.8**
MNK *i* SS **SS** **20 13 58.8 +1.8**
MNK pmax pmax
comp=Z,420nm,17.8s
MNK *i* LRM MLR 20 33 06.5
comp=Z,82nm,17.0s
MNK *i* LRM MLR 20 33 36.2
comp=E,121nm,17.8s
MNK Minsk 69.54 325 *i* P **P** **20 00 26.2 -0.3**
MNK *i* *PP **pP** **20 00 42.6 -0.1**
MNK *i* 20 03 00.1
MNK *i* PPP PPP 20 04 41.6
MNK *i* S **S** **20 09 29.5 +0.1**
MNK *i* *SS **sS** **20 09 57.8 +0.8**
MNK *i* SS **SS** **20 13 58.8 +1.8**
MNK pmax pmax
comp=Z,20nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=N,11nm,0.9s
MNK MLR MLR
comp=N,420nm,18.0s
MNK MLR MLR
comp=Z,82nm,17.0s
MNK MLR MLR
comp=E,121nm,18.0s
ISAL Salakas 69.55 327 *e*P **P** **20 00 27.1 +0.5**
NACGM Naroch 69.73 326 *e*P **P** **20 00 27.9 +0.2**
comp=E,1µm,0.8s
AKH Akhalkalaki 69.77 308 P **P** **20 00 28.8 +0.4**
AKH Akhalkalaki 69.77 308 P **P** **20 00 28.8 +0.4**
AKH pmax pmax
comp=Z,16nm,0.9s
OVMT Ovando 69.98 45 P **P** **20 00 31.0 +1.4**
PABE Paberze 70.48 328 *e*P **P** **20 00 33.1 +0.8**
NC204 NORSAR Array S 70.72 337 P **P** **20 00 33.4 -0.3**
HFS Hagfors 70.73 335 P **P** **20 00 34.1 +0.4**
comp=Z,4.1nm,0.5s,baz=35,slow=6.6,SNR=23
comp=Z,4.1nm,0.5s
NB2 NORSAR Subarra 70.78 337 P **P** **20 00 34.4 +0.4**
comp=Z,2.8nm,0.7s,baz=37,slow=6.2
NB2 NORSAR Subarra 70.78 337 P **P** **20 00 34.4 +0.4**
NB2 pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 70.78 337 P **P** **20 00 34.4 +0.4**
comp=Z,4.5nm,0.8s,baz=38,slow=6.1,SNR=19
NOA LR LR 20 34 24.0
comp=Z,27nm,20.1s,baz=250,slow=38
comp=Z,4.5nm,0.8s
NORES NORESS Array B 70.92 337 P **P** **20 00 35.7 +0.8**
VIKU Vikbolandet 71.00 333 *e*P **P** **20 00 35.3 -0.1**
UOSS Minazif 71.09 287 P **P** **20 00 35.8 -0.7**
UOSS IAmb IAmb 20 00 37.9
comp=Z,9.2nm,0.8s
AKASG Malin Array Be 71.51 322 P **P** **20 00 38.8 +0.3**
comp=Z,6.1nm,0.7s,baz=44,slow=6.0,SNR=34
comp=Z,6.1nm,0.7s
AKBB Malin Array Si 71.51 322 P **P** **20 00 38.2 -0.3**
AKBB IAmb IAmb 20 00 39.6
comp=Z,9.1nm,0.8s
AKBB Malin Array Si 71.51 322 P **P** **20 00 38.3 -0.3**
AKBB pmax pmax
comp=Z,9.0nm,0.8s
KIEV Kiev 71.52 322⇓ P **P** **20 00 39.1 +0.4**
KIEV Kiev 71.52 322 P **P** **20 00 38.4 -0.2**
KIEV IAmb IAmb 20 00 39.6
comp=Z,8.1nm,0.8s
KIEV Kiev 71.52 322 P **P** **20 00 38.4 -0.2**
KIEV pmax pmax
comp=Z,8.0nm,0.8s
GURO Guroymak-BITLI 72.41 306 P **P** **20 00 45.3 +0.9**
GURO IAmb IAmb 20 00 47.0
comp=Z,8.6nm,1.0s
SORM Soroca 73.68 320⇓ P **P** **20 00 52.0 +0.5**
ARPR Arapgir-MALATY 74.30 308 P **P** **20 00 55.8 +0.3**
ARPR IAmb IAmb 20 00 58.8
comp=Z,11nm,1.0s
PDAR Pinedale Array 74.62 46 P **P** **20 00 58.0 +0.5**
comp=Z,0.8nm,0.8s,baz=259,slow=1.2,SNR=6.6
comp=Z,0.8nm,0.8s
BUR08 Bucovina Ar. S 75.53 321 P **P** **20 01 02.7 +0.3**
BUR08 IAmb IAmb 20 01 04.2
comp=Z,4.7nm,0.8s
BURAR Bucovina Array 75.55 321⇓ P **P** **20 01 03.2 +0.7**
BURAR Bucovina Array 75.55 321 P **P** **20 01 02.9 +0.4**
BURAR IAmb IAmb 20 01 04.5
comp=Z,3.7nm,0.8s
BURAR Bucovina Array 75.55 321⇓ P **P** **20 01 03.2 +0.7**
VRI Vrincioaia 76.06 319⇑ P **P** **20 01 07.5 +2.2**
VRI Vrincioaia 76.06 319⇑ P **P** **20 01 07.5 +2.2**
OJC Ojcow 76.07 326 P **P** **20 01 05.9 +0.6**
OJC Ojcow 76.07 326 P **P** **20 01 05.9 +0.6**
OJC pmax pmax
comp=Z,85nm,1.0s
TURR Turia 76.28 320⇑ P **P** **20 01 07.5 +0.9**
BRTR Keskin Array B 76.62 311 P **P** **20 01 09.4 +0.6**
comp=Z,0.5nm,0.6s,baz=90,slow=2.4,SNR=2.4
comp=Z,0.5nm,0.6s
DOPR Dopca 76.65 320⇑ P **P** **20 01 10.9 +2.3**
LANS Liptovska Anna 77.01 325 *e*P **P** **20 01 11.8 +1.1**
LANS Liptovska Anna 77.01 325 *e*P **P** **20 01 11.8 +1.1**
VOIR 77.19 320⇑ P **P** **20 01 12.8 +1.0**
VOIR 77.19 320⇑ P **P** **20 01 12.8 +1.0**
CHVC Chvalec 77.33 328 *e*P **P** **20 01 13.6 +1.2**
CHVC Chvalec 77.33 328 *e*P **P** **20 01 13.6 +1.2**
MORC Moravsky Berou 77.35 327 P **P** **20 01 12.7 +0.1**
MORC Moravsky Berou 77.35 327 *e*P **P** **20 01 13.5 +0.9**
MORC Moravsky Berou 77.35 327 P **P** **20 01 12.7 +0.1**
MORC pmax pmax
comp=Z,7.0nm,0.5s
DPC Dobruska-Polom 77.41 328 *e*P **P** **20 01 14.4 +1.5**
DPC Dobruska-Polom 77.41 328 *e*P **P** **20 01 14.4 +1.5**
UPC Upice 77.41 328 *e*P **P** **20 01 14.5 +1.7**
UPC Upice 77.41 328 *e*P **P** **20 01 14.5 +1.7**
VYHS Vyhne 77.78 325 *e*P **P** **20 01 16.0 +1.0**
VYHS Vyhne 77.78 325 *e*P **P** **20 01 16.0 +1.0**
CLL Collm 77.95 330 P **P** **20 01 15.8 0.0**
CLL IAmb IAmb 20 01 16.7
comp=Z,3.7nm,0.8s
CLL Collm 77.95 330 *i* P **P** **20 01 16.0 +0.2**
comp=Z,4.0nm,0.8s
CLL *e*PcP **PcP** **20 01 26.0 +0.6**
CLL *e*sP **sP** **20 01 40.0 +1.2**
CLL Collm 77.95 330 *i* P **P** **20 01 16.0 +0.2**
CLL *e**SP **sP** **20 01 40.0 +1.2**
CLL pmax pmax
comp=Z,4.0nm,0.8s
VRAC Vranov 78.10 327⇑ P **P** **20 01 18.7 +1.9**
VRAC Vranov 78.10 327 *e*P **P** **20 01 18.1 +1.4**
VRAC Vranov 78.10 327⇑ P **P** **20 01 18.7 +1.9**
VRAC Vranov 78.10 327 LR LR 20 40 24.1
comp=Z,56nm,19.3s,baz=355,slow=39
GZR Gura Zlata 78.32 321⇓ P **P** **20 01 18.9 +0.9**
SURR Surduc 78.36 322⇑ P **P** **20 01 19.8 +1.6**
CKRC Cesky Krumlov 79.42 328 *e*P **P** **20 01 24.6 +0.6**
CKRC Cesky Krumlov 79.42 328 *e*P **P** **20 01 24.6 +0.6**
KHC Kasperske Hory 79.46 328 P **P** **20 01 24.1 -0.1**
KHC Kasperske Hory 79.46 328 *e*P **P** **20 01 25.1 +0.9**
KHC *ex* x 20 01 29.3
KHC Kasperske Hory 79.46 328 *e*P **P** **20 01 25.1 +0.9**
KHC *e* 20 01 29.3
RONA Rosalia, Austr 79.48 326 *e*P **P** **20 01 25.8 +1.4**
comp=Z,5.9nm,0.9s
CONA Conrad Observa 79.48 326 *i* P **P** **20 01 25.9 +1.5**
comp=Z,3.5nm,1.0s
EKA Eskdalemuir Ar 79.61 341 P **P** **20 01 25.5 +0.7**
comp=Z,2.6nm,0.7s,baz=27,slow=4.8,SNR=5.3
comp=Z,2.6nm,0.7s
GERES GERESS Array B 79.64 328 P **P** **20 01 25.7 +0.4**
comp=Z,1.4nm,0.7s,baz=25,slow=7.3,SNR=5.2
comp=Z,1.4nm,0.7s
BIOA Bad Ischl, Aus 80.59 328 *e*P **P** **20 01 31.3 +1.0**
comp=Z,4.3nm,0.8s
SOKA Soboth 80.82 326 *e*P **P** **20 01 32.2 +0.6**
comp=Z,3.5nm,0.8s
OBKA Obir 81.15 326 *e*P **P** **20 01 33.9 +0.4**
comp=Z,5.0nm,0.9s
LESA Schwarzleotal 81.19 328 *e*P **P** **20 01 34.0 +0.3**
comp=Z,4.9nm,1.0s
BGES Gesves 81.54 334 *d*P **P** **20 01 35.4 +0.1**
BMRD Maredsous 81.71 334 *d*P **P** **20 01 36.1 -0.1**
WTTA Wattenberg 81.74 328 *e*P **P** **20 01 37.3 +0.6**
comp=Z,5.0nm,0.9s
MOTA Moosalm 81.88 329 *e*P **P** **20 01 38.0 +0.6**
comp=Z,3.9nm,0.7s
CLUD Cludinico 81.89 327 P **P** **20 01 36.9 -0.4**
CLUD IAmb IAmb 20 01 38.1
comp=Z,8.5nm,0.9s
RETA Reutte 81.90 329 *e*P **P** **20 01 38.2 +0.8**
comp=Z,5.0nm,0.9s
FETA Feichten 82.30 329 *e*P **P** **20 01 39.9 +0.3**
comp=Z,2.4nm,0.8s

DAVA	**Damuels**		**82.41**	**329**	*e*P		**P**		**20 01 40.6**	**+0.5**
	comp=Z,3.3nm,0.7s									
FUORN	**Ofenpass-Fuorn**		**82.81**	**329**	P		**P**		**20 01 43.0**	**+0.7**
FUORN					IAmb		IAmb		20 01 44.1	
	comp=Z,5.4nm,0.7s									
H03N2	**Juan Fernandez**	**146.78**		**90**	T		T		22 53 49.4	
	baz=300,slow=77,SNR=13									
H03N3	**Juan Fernandez**	**146.79**		**90**	T		T		22 53 55.1	
	baz=300,slow=77,SNR=20									
H03N1	**Juan Fernandez**	**146.79**		**90**	T		T		22 53 55.8	
	baz=300,slow=77,SNR=13									

*IDC **19** 19:58:51.0±1.5,6˚.25S×151˚.88E,h0km,mb3.7/4, mbtmp3.7/5,ML1.7/1,MS2.9/1,Error ellipse: s-maj=62.1km s-min=18.2km az=118.0*

ISC 19 19:58:56.2±1.4,**6˚.3S**±0˚.2×**151˚.8E**±0˚.2,**h35**km,**n7**,σ1§**29**/9, **mb3.7/4,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.95**	**8**	Pn	**Pn**	**19 59 27.0**	**+0.2**
	52nm,0.3s,baz=243,slow=6.3,SNR=30						
KRVT				Sn	**Sn**	**19 59 50.7**	**+0.6**
	121nm,0.3s,baz=174,slow=22,SNR=7.2						
PMG	**Port Moresby**	**5.54**	**235**	Pn	**Pn**	**20 00 18.0**	**+1.9**
	1.4nm,0.3s,baz=36,slow=16,SNR=2.6						
PMG				Sn	**Sn**	**20 01 16.4**	**-2.3**
	3.6nm,0.3s,baz=122,slow=16,SNR=8.4						
PMG				LR	LR	20 02 44.9	
	comp=Z,96nm,18.7s,baz=112,slow=42 4.3nm,0.3s						
WRA	**Warramunga Arr**	**21.72**	**230**	P	**P**	**20 03 44.3**	**-0.3**
	0.7nm,0.4s,baz=53,slow=10,SNR=8.7 0.7nm,0.4s						
ASAR	**Alice Springs**	**24.39**	**223**	P	**P**	**20 04 12.1**	**+0.7**
	1.9nm,0.8s,baz=55,slow=8.5,SNR=13 1.9nm,0.8s						
ILAR	**Eielson Array**	**83.88**	**22**	P	**P**	**20 11 21.8**	**-0.3**
	0.7nm,0.8s,baz=252,slow=5.2,SNR=7.2 0.7nm,0.8s						
YKA	**Yellowknife Ar**	**97.18**	**28**	P	**P**	**20 12 24.2**	**-0.6**
	0.1nm,0.3s,baz=277,slow=5.6,SNR=4.0 0.1nm,0.3s						
TORD	**Torodi Ar. Bea**	**149.74**	**285**	PKPbc	**PKPbc**	**20 18 43.5**	**0.0**
	1.1nm,0.6s,baz=106,slow=1.7,SNR=5.0						

*SCB **19** 19:59:30.0±1.5,22˚.20S×67˚.46W,h168km±14km,ML3.4/5, MW3.5,Error ellipse: s-maj=5.7km s-min=4.7km az=0.0*
*GUC **19** 19:59:30.8±0.6,22˚.20S×67˚.63W,h190km±6km,ML3.4*

ISC 19 19:59:29.2±2.3,**22˚.21S**±0˚.06×**67˚.48W**±0˚.06, **h182**km±19km,**n25**,σ0§**99**/41,**2C,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.38**	**253**	Pg	**Pn**	**20 00 01.2**	**+0.5**
LVC	**Limon Verde**	**1.38**	**253**	*i* P	**Pn**	**20 00 01.1**	**+0.5**
LVC				*e*S	**Sn**	**20 00 24.4**	**-0.6**
PB09	**IPOC Station P**	**1.69**	**284**	Pg	**Pn**	**20 00 04.8**	**+1.4**
PB09	**IPOC Station P**	**1.69**	**284**	*i* P	**Pn**	**20 00 04.3**	**+0.9**
PB09				*e*S	**Sn**	**20 00 29.7**	**-0.1**
MOCB	**Mochara**	**1.96**	**61**	Pg	**Pn**	**20 00 06.9**	**+0.4**
MOCB				Sg	**Sn**	**20 00 33.8**	**-1.5**
MOCB				IAML		20 00 35.8	
	103nm,0.4s						
PB06	**IPOC Station P**	**2.00**	**255**	Pg	**Pn**	**20 00 07.3**	**+0.7**
PB06	**IPOC Station P**	**2.00**	**255**	*i* P	**Pn**	**20 00 07.2**	**+0.7**
PB06				⇑*e*S	**Sn**	**20 00 35.1**	**-0.4**
PB06				IAML		20 00 37.2	
	comp=E,76nm,0.2s						
PB15	**IPOC Station P**	**2.09**	**241**	Pg	**Pn**	**20 00 08.9**	**+1.3**
PB15				Sg	**Sn**	**20 00 37.4**	**-0.1**
PB15				IAML		20 00 40.4	
	comp=E,243nm,0.3s						
PB15	**IPOC Station P**	**2.09**	**241**	*i* P	**Pn**	**20 00 08.4**	**+0.8**
PB15				*e*S	**Sn**	**20 00 37.4**	**-0.1**
PB01	**IPOC Station P**	**2.20**	**302**	Pg	**Pn**	**20 00 09.5**	**+0.8**
PB01				Sg	**Sn**	**20 00 39.2**	**-0.2**
PB01				IAML		20 00 40.3	
	comp=E,109nm,0.2s						
PB01	**IPOC Station P**	**2.20**	**302**	⇑*i* P	**Pn**	**20 00 09.3**	**+0.6**
PB01				*e*S	**Sn**	**20 00 38.9**	**-0.5**
PB01				IAML		20 00 40.9	
	comp=E,185nm,0.2s						
PB07	**IPOC Station P**	**2.29**	**282**	Pg	**Pn**	**20 00 10.3**	**+0.5**
PB07	**IPOC Station P**	**2.29**	**282**	*i* P	**Pn**	**20 00 10.4**	**+0.7**
PB07				*e*S	**Sn**	**20 00 40.0**	**-1.3**
PB02	**IPOC Station P**	**2.42**	**291**	Pg	**Pn**	**20 00 11.8**	**+0.6**
PB02				Sg	**Sn**	**20 00 42.9**	**-0.9**
PB02				IAML		20 00 43.2	
	comp=E,139nm,1.1s						
PB02	**IPOC Station P**	**2.42**	**291**	*i* P	**Pn**	**20 00 11.6**	**+0.5**
PB02				*e*S	**Sn**	**20 00 42.6**	**-1.1**
PB02				IAML		20 00 43.6	
	comp=E,197nm,0.4s						
PB04	**IPOC Station P**	**2.48**	**267**	*i* P	**Pn**	**20 00 12.2**	**+0.2**
PB04				*e*S	**Sn**	**20 00 43.9**	**-1.3**
PB04				IAML		20 00 46.4	
	comp=E,155nm,0.1s						
PB08	**IPOC Station P**	**2.59**	**323**	Pg	**Pn**	**20 00 15.0**	**+1.5**
PB08	**IPOC Station P**	**2.59**	**323**	*i* P	**Pn**	**20 00 15.0**	**+1.5**
PB08				*e*S	**Sn**	**20 00 48.4**	**+0.5**
PB08				IAML		20 00 51.8	
	comp=E,38nm,0.2s						
PATCX	**Punta Patache**	**2.85**	**299**	*i* P	**Pn**	**20 00 16.6**	**+0.3**
PATCX				*e*S	**Sn**	**20 00 51.1**	**-1.7**
HMBC	**Humberstone**	**2.96**	**310**	Pg	**Pn**	**20 00 17.8**	**+0.2**
HMBC				Sg	**Sn**	**20 00 53.8**	**-1.5**
HMBC				IAML		20 00 55.3	
	comp=E,98nm,0.3s						
GO01	**Chusmiza**	**3.00**	**327**	Pg	**Pn**	**20 00 19.8**	**+1.4**
TA01	**Diego Aracena**	**3.00**	**303**	*i* P	**Pn**	**20 00 18.9**	**+0.9**
TA01				*e*S	**Sn**	**20 00 54.0**	**-2.1**
TA01				IAML		20 00 56.0	
	comp=E,139nm,0.3s						
PB11	**IPOC Station P**	**3.18**	**320**	Pg	**Pn**	**20 00 20.4**	**+0.1**
GO02	**Mina Guanaco**	**3.52**	**213**	Pg	**Pn**	**20 00 24.9**	**+0.3**
PB16	**IPOC Station P**	**4.30**	**333**	Pg	**Pn**	**20 00 36.0**	**+1.2**

IDC 19 19:59:36.1±3.3,**13˚.92N**×**93˚.53E**,**h0**km,**mb3.3**/2, **mbtmp3.4**/3,**ML4.2**/1,**Error ellipse: s-maj=60.0km s-min=34.4km az=100.0,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.89**	**48**	Pn	Pn	20 01 19.6	+1.2
	1.1nm,0.3s,baz=237,slow=15,SNR=25						
CMAR				Sn	Sn	20 02 36.3	-1.3
	0.3nm,0.3s,baz=238,slow=29,SNR=1.0 4.2nm,0.5s						
WRA	**Warramunga Arr**	**52.38**	**129**	P	P	20 08 50.3	-0.2
	0.2nm,0.6s,baz=305,slow=10,SNR=1.3 0.2nm,0.6s						
ASAR	**Alice Springs**	**54.34**	**133**	P	P	20 09 04.8	-0.1
	0.2nm,0.4s,baz=311,slow=7.0,SNR=5.6 0.2nm,0.4s						

IDC 19 20:08:39.0±4.2,**29˚.62N**×**95˚.44E**,**h0**km,**mb3.6**/4, **mbtmp3.6**/5,**ML3.4**/1,**Error ellipse: s-maj=82.8km s-min=48.7km az=127.0,Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**19.97**	**333**	P	P	20 13 12.7	-0.2
	0.1nm,0.3s,baz=141,slow=12,SNR=7.0 0.4nm,0.7s						
SONM	**Songino Array**	**20.06**	**22**	P	P	20 13 13.9	-0.1
	0.6nm,0.7s,baz=196,slow=9.9,SNR=6.0 0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**24.53**	**334**	P	P	20 14 00.1	-0.1
	0.8nm,0.2s,baz=146,slow=10,SNR=6.1 0.8nm,0.2s						
ZALV	**Zalesovo Beam**	**25.51**	**345**	P	P	20 14 09.3	+0.3
	1.5nm,0.9s,baz=153,slow=9.7,SNR=5.7 1.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**86.80**	**283**	P	P	20 21 25.8	0.0
	0.9nm,1.0s,baz=46,slow=6.2,SNR=2.9 0.9nm,1.0s						

*OTT **19** 20:09:42.5±0.5,73˚.82N×72˚.33W,h18km,ML3.9/3,221km northeast from Pond Inlet, Nu Baffin Bay Seismic Zone.*
*DNK **19** 20:09:43.0±2.0,73˚.99N×72˚.40W,h36km±49km,ML2.4*

ISC 19 20:09:36.1±0.9,**73˚.81N**±0˚.06×**72˚.05W**±0˚.05,**h10**km,**n14**, σ4§**35**/20,**1D,Baffin Bay**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TULEG	**Thule**	**2.86**	**15**	*i* S	**Sn**	**20 10 53.3**	**-2.8**
TULEG				IAML		20 10 55.7	
	comp=Z,48nm,0.3s						
UPNV	**Upernavik**	**4.70**	**95**	*e*	**Pn**	**20 10 50.7**	**+3.8**
	baz=283,slow=22						
UPNV				⇓*i* P	**Pn**	**20 10 50.9**	**+4.0**
UPNV				*i* S	**Sn**	**20 11 40.3**	**-1.1**
UPNV				IAML		20 11 42.2	
	comp=Z,19nm,0.3s						
ILON	**Igloolik, Nuna**	**5.43**	**220**	PN	Pn	20 11 02.1	+5.2
ILON				SN	**Sn**	**20 11 59.3**	**+0.1**
ILON				Trac		20 12 03.0	
	comp=Z,49nm,0.3s						
RES	**Resolute Bay**	**6.26**	**289**	PN	**Pn**	**20 11 11.9**	**+3.6**
RES				SN	**Sn**	**20 12 18.6**	**-1.2**
RES				Trac		20 12 30.5	
	comp=Z,11nm,0.3s						
NEEM	**North Greenlan**	**6.33**	**45**	*e*P	**Pn**	**20 11 12.3**	**+2.7**
NEEM				*i* S	**Sn**	**20 12 18.1**	**-3.8**
NEEM				IAML		20 12 36.3	
	comp=Z,11nm,0.3s						
UMMG	**Uummannaq**	**6.83**	**108**	*i* P	Pn	20 11 21.5	+5.3
UMMG				IAML		20 12 34.1	
	comp=Z,6.1nm,0.3s						
ILULI	**Ilulissat**	**8.06**	**114**	SN	**Sn**	**20 13 03.9**	**0.0**
SUMG	**Summit**	**9.72**	**81**	*e*P	**Pn**	**20 11 57.4**	**+1.4**
SUMG				*i* S	**Sn**	**20 13 37.7**	**-7.5**
SUMG				IAML		20 13 43.4	
	comp=Z,9.2nm,0.3s						
FRB	**Frobisher Bay**	**10.19**	**171**	PN	**Pn**	**20 12 06.3**	**+4.1**
FRB				SN	**Sn**	**20 13 54.0**	**-2.3**
FRB				Trac		20 14 10.5	
	comp=Z,4.0nm,0.2s						
ICESG	**Greenland Ices**	**11.22**	**99**	*i* P	**Pn**	**20 12 19.0**	**+2.5**
ICESG				*e*S	**Sn**	**20 14 14.7**	**-7.2**
BLKN	**Baker Lake**	**12.68**	**234**	SN	**Sn**	**20 14 49.7**	**-7.2**
BLKN				SN	**Sn**	**20 14 49.8**	**-7.2**
BLKN				Trac		20 14 57.9	
	comp=Z,0.4nm,0.0s						
DAG	**Danmarks Havn**	**13.45**	**53**	*e*S	Sn	20 15 01.5	-14
DBG	**Daneborg**	**13.88**	**63**	*e*P	**Pn**	**20 12 50.7**	**-1.8**
DBG				*e*S	Sn	20 15 10.5	-16
SCO	**Scoresbysund**	**15.31**	**77**	*e*P	**Pn**	**20 13 10.8**	**-1.1**
SCO				*e*S	Sn	20 15 42.5	-19

IDC 19 20:14:32.7±2.0,**6˚.00S**×**130˚.37E**,**h0**km,**mb3.8**/1, **mbtmp3.6**/3,**ML3.8**/2,**Error ellipse: s-maj=102.5km s-min=30.5km az=70.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.38**	**165**	Pn	Pn	20 17 57.9	0.0
	0.4nm,0.3s,baz=345,slow=11,SNR=9.3						
WRA				Sn	Sn	20 20 25.3	-13
	0.9nm,0.3s,baz=331,slow=23,SNR=9.0 0.3nm,0.3s						
ASAR	**Alice Springs**	**17.89**	**169**	P	Pn	20 18 43.1	0.0
	0.3nm,0.3s,baz=336,slow=9.4,SNR=23						
ASAR				S	Sn	20 21 50.8	-13
	0.4nm,0.6s,baz=315,slow=17,SNR=2.3 1.3nm,0.6s						
MKAR	**Makanchi Array**	**67.60**	**326**	P	P	20 25 31.4	0.0
	0.4nm,0.4s,baz=114,slow=8.2,SNR=10.0 0.4nm,0.4s						

IDC 19 20:31:36.3±2.1,**8˚.70S**×**125˚.22E**,**h0**km,**mb3.7**/1, **mbtmp3.5**/3,**ML3.5**/2,**MS4.5**/1,**Error ellipse: s-maj=172.0km s-min=33.8km az=58.0,Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.24**	**143**	Pn	Pn	20 34 58.3	-1.1
	0.2nm,0.3s,baz=316,slow=14,SNR=6.0						
WRA				Sn	Sn	20 37 31.1	-7.1
	0.3nm,0.3s,baz=318,slow=26,SNR=6.8						
WRA				LR	LR	20 41 34.1	
	comp=Z,2μm,18.4s,baz=260,slow=42 0.3nm,0.4s						
ASAR	**Alice Springs**	**17.05**	**152**	P	Pn	20 35 37.0	+0.8
	0.2nm,0.3s,baz=323,slow=11,SNR=5.4						
ASAR				S	Sn	20 38 41.4	-5.1
	0.6nm,0.5s,baz=316,slow=18,SNR=6.9 0.6nm,0.7s						
MKAR	**Makanchi Array**	**67.16**	**329**	P	P	20 42 32.1	0.0
	0.8nm,0.9s,baz=118,slow=9.0,SNR=3.3 0.8nm,0.9s						

*EAF **19** 20:40:53.1±1.7,21˚.44S×33˚.00E,h1km±55km,MD3.6*

BUL 19 20:40:52.9±0.3,**21˚.46S**×**33˚.25E**,**h10**km±9km,**MD3.9, Mozambique**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOPA	**Mopani**	**2.67**	**220**	*i* P	Pn	20 41 35.7	-0.3
MOPA				*i* S	Sn	20 42 06.9	-1.7
MOPA	**Mopani**	**2.67**	**220**	*i* P	Pn	20 41 35.7	-0.3
MOPA				*i* S	Sn	20 42 06.9	-1.7
MUSN	**Musina, Limpop**	**3.26**	**255**	*i* P	Pn	20 41 41.9	-2.2
MUSN				*i* S	Sn	20 42 17.7	-5.3
MUSN	**Musina, Limpop**	**3.26**	**255**	*i* P	Pn	20 41 41.9	-2.2
MUSN				*i* S	Sn	20 42 17.7	-5.3
MATP	**Matopo**	**4.56**	**282**	*i* P	Pn	20 41 59.5	-2.6
MATP				*i* S	Sn	20 42 48.3	-6.9
MATP	**Matopo**	**4.56**	**282**	*i* P	Pn	20 41 59.5	-2.6
MATP				*i* S	Sn	20 42 48.3	-6.9
LBTB	**Lobatse**	**7.88**	**242**	*i* P	Pn	20 42 44.2	-3.5
LBTB				*i* S	Sn	20 44 05.5	-12
LBTB	**Lobatse**	**7.88**	**242**	*i* P	Pn	20 42 44.2	-3.5
LBTB				*i* S	Sn	20 44 05.5	-12
BOSA	**Boshof**	**10.16**	**224**	*i* P	Pn	20 43 14.4	-4.7
BOSA				*i* S	Sn	20 44 57.9	-15
BOSA	**Boshof**	**10.16**	**224**	*i* P	Pn	20 43 14.4	-4.7
BOSA				*i* S	Sn	20 44 57.9	-15

*IDC **19** 21:05:18.8±1.2,1˚.68N×126˚.13E,h0km,mb4.0/6, mbtmp4.0/6,MS2.8/1,Error ellipse: s-maj=126.4km s-min=18.0km az=67.0*
*NEIC **19** 21:05:18.7±1.9,2˚.00N±0˚.06×126˚.73E±0˚.05,h11km±6km, mb4.2/14,Error ellipse: s-maj=9.3km s-min=7.4km az=178.0*
*DJA **19** 21:05:24.4±1.5,2˚.1N±3˚×12˚.6E±˚,h27km±14km,M4.0/9, mb3.9/1,MLv4.0/9*

ISC 19 21:05:20.1±0.8,**1˚.89N**±0˚.06×**126˚.59E**±0˚.08,**h10**km,**n41**, σ1§**43**/35,**mb4.2**/13,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.35**	**145**		**Pn**	**21 05 45.3**	**+0.2**
TNTI				Sn	**Sb**	**21 06 01.8**	**-1.2**
TNTI	**Ternate**	**1.35**	**145**	P	**Pn**	**21 05 45.6**	**+0.5**
TNTI				S	**Sb**	**21 06 06.4**	**+3.5**
SGSI	**Sangihe**	**2.08**	**329**	P	**Pn**	**21 05 58.6**	**+3.5**
SGSI				S	**Sn**	**21 06 22.5**	**+1.5**
LBMI	**Labuha**	**2.67**	**160**	P	**Pn**	**21 06 05.0**	**+1.8**
KMSI	**Cibinong**	**2.92**	**243**	P	**Pn**	**21 06 07.6**	**+1.0**
SANI	**Sanana**	**3.96**	**189**	P	**Pn**	**21 06 21.4**	**+0.5**
LUWI	**Luwuk**	**4.80**	**233**		**Pn**	**21 06 32.9**	**+0.4**
LUWI				Sn	**Sn**	**21 07 30.7**	**+2.5**
LUWI	**Luwuk**	**4.80**	**233**	P	**Pn**	**21 06 32.5**	**0.0**
MRSI	**Marisa**	**4.86**	**253**	P	**Pn**	**21 06 34.4**	**+1.1**
NLAI	**Namlea**	**5.12**	**174**	P	**Pn**	**21 06 38.1**	**+1.2**
TOLI2	**Tolitoli**	**5.86**	**263**		**Pn**	**21 06 45.1**	**-2.0**
FAKI	**Fak Fak**	**7.40**	**130**	Pn	Pn	21 07 04.2	-4.1
SPSI	**Sidrap Palu**	**8.96**	**230**	P	**Pn**	**21 07 29.9**	**+0.2**
KAPI	**Kappang**	**9.68**	**225**	Pn	**Pn**	**21 07 40.3**	**+0.7**
BKB	**Balikpapan**	**10.18**	**252**	Pn	**Pn**	**21 07 45.2**	**-1.3**
SOEI	**Soe**	**11.79**	**191**	Pn	**Pn**	**21 08 08.6**	**-0.1**
MTN	**Manton Dam**	**15.31**	**163**	Pn	**Pn**	**21 08 55.9**	**-0.7**
KNRA	**Kununurra**	**17.58**	**173**		**Pn**	**21 09 24.2**	**-1.3**
KNRA				IAmb	IAmb	21 09 34.2	
	comp=Z,21nm,1.2s						
FITZ	**Fitzroy Crossi**	**19.88**	**183**	P	**P**	**21 09 49.7**	**-2.1**

TPUB	**Ta-pu**		**22.06**	**345**	P		**P**		21 10 12.1	-3.1
WB0	**Warramunga Arr**		**22.84**	**161**	P		**P**		**21 10 22.6**	**-1.1**
WB0					IAmb		IAmb		21 10 26.2	
	comp=Z,7.0nm,0.8s									
WRA	**Warramunga Arr**		**22.99**	**161**	P		**P**		**21 10 23.3**	**-1.9**
WRA	**Warramunga Arr**		**22.99**	**161**	P		**P**		**21 10 24.4**	**-0.8**
	comp=Z,6.1nm,0.7s,baz=338,slow=11,SNR=34 comp=Z,6.1nm,0.7s									
WR0	**Warramunga Arr**		**23.07**	**161**	P		**P**		**21 10 24.8**	**-1.3**
MBWA	**Marble Bar**		**23.87**	**196**	P		**P**		**21 10 32.7**	**-1.2**
MBWA					IAmb		IAmb		21 10 57.6	
	comp=Z,20nm,1.4s									
AS31	**Alice Springs**		**26.38**	**165**	P		**P**		**21 10 56.0**	**-0.8**
AS31					IAmb		IAmb		21 11 00.3	
	comp=Z,1.6nm,0.6s									
ASAR	**Alice Springs**		**26.38**	**165**	P		**P**		**21 10 55.8**	**-1.1**
ASAR	**Alice Springs**		**26.38**	**165**	P		**P**		**21 10 56.8**	**0.0**
	comp=Z,2.1nm,0.7s,baz=350,slow=14,SNR=24 comp=Z,2.1nm,0.7s									
CMAR	**Chiang Mai Arr**		**31.72**	**303**	LR		LR		21 24 00.9	
	comp=Z,20nm,21.0s,baz=120,slow=36									
FORT	**Forrest**		**32.51**	**178**	P		**P**		**21 11 51.4**	**+0.2**
SONM	**Songino Array**		**48.99**	**342**	P		**P**		**21 14 07.4**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=160,slow=6.8,SNR=5.4 comp=Z,0.8nm,0.8s									
MK31	**Makanchi Array**		**58.99**	**326**	P		P		21 15 19.2	-0.9
MK31					IAmb		IAmb		21 15 21.6	
	comp=Z,2.5nm,0.9s									
MKAR	**Makanchi Array**		**58.99**	**326**	P		P		21 15 19.4	-0.7
MKAR	**Makanchi Array**		**58.99**	**326**	P		**P**		**21 15 19.9**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=122,slow=7.8,SNR=16 comp=Z,1.3nm,0.6s									
KURBB	**Kurchatov Arra**		**63.21**	**328**	P		**P**		**21 15 48.3**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=128,slow=6.2,SNR=25 comp=Z,1.5nm,0.6s									
KKAR	**Karatay Array**		**64.48**	**318**	P		P		21 15 54.3	-2.9
KKAR	**Karatay Array**		**64.48**	**318**	P		P		21 15 54.9	-2.3
KKAR					IAmb		IAmb		21 15 57.0	
	comp=Z,1.9nm,1.1s									
BVAR	**Borovoye Array**		**68.78**	**327**	P		**P**		**21 16 24.4**	**0.0**
	comp=Z,0.6nm,0.6s,baz=134,slow=8.5,SNR=4.7 comp=Z,0.6nm,0.6s									
BRVK	**Borovoye**		**68.86**	**327**	P		P		21 16 22.9	-2.0
BRVK					IAmb		IAmb		21 16 26.4	
	comp=Z,1.2nm,0.8s									
ABKAR	**Akbulak array**		**73.48**	**321**	P		P		21 16 51.2	-1.8
ABKAR	**Akbulak array**		**73.48**	**321**	P		P		21 16 50.1	-2.8
ABKAR					IAmb		IAmb		21 17 10.2	
	comp=Z,3.1nm,1.4s									

*IDC **19** 21:10:10.0±1.6,36˚.40N×141˚.16E,h0km,mb3.3/3, mbtmp3.2/4,ML2.1/1,Error ellipse: s-maj=38.0km s-min=28.4km az=176.0*
*JMA **19** 21:10:09.1±0.1,37˚.1N±0˚.3×141˚.2E±0˚.7,h32km,MV3.3/39, E OFF FUKUSHIMA PREF*

ISC 19 21:10:07.2±1.9,**37˚.10N**±0˚.05×**141˚.33E**±0˚.08,**h10**km±12km, **n22**,σ0§**80**/18,**mb3.3**/3,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.42**	**270**	*i* P	**Pb**	**21 10 17.3**	**+0.6**
ONAJ				S	**Sb**	**21 10 23.2**	**+0.1**
JFK	**Kawauchi**	**0.45**	**306**	*i* P	**Pb**	**21 10 18.1**	**+1.0**
JFFD	**Fukushimafurud**	**0.61**	**269**	*i* P	**Pb**	**21 10 20.0**	**+0.1**
JFFD				S	**Sb**	**21 10 27.9**	**-0.7**
JHO	**Hitachi**	**0.78**	**231**	*i* P	**Pg**	**21 10 21.9**	**-0.3**
JMM	**Marumori**	**0.87**	**331**	*i* P	**Pb**	**21 10 24.9**	**+0.5**
JOTO	**OTAMA OYAMA**	**0.91**	**300**	*i* P	**Pn**	**21 10 25.9**	**-0.1**
JOTO				S	**Sn**	**21 10 37.7**	**-1.5**
JFY	**Yanaizu**	**1.33**	**284**	P	**Pg**	**21 10 32.2**	**-0.5**
JFY				S	**Sn**	**21 10 49.3**	**-0.1**
JIO	**Ouri**	**1.35**	**1**	*i* P	**Pn**	**21 10 32.3**	**+0.4**
JIO				S	**Sb**	**21 10 49.1**	**-0.7**
JOU	**Okura**	**1.36**	**338**	*i* P	**Pg**	**21 10 33.3**	**0.0**
JOU				S	**Sn**	**21 10 51.0**	**+0.7**
MJAR	**Matsushiro Arr**	**2.56**	**258**	Pn	**Pn**	**21 10 49.5**	**+0.8**
	0.4nm,0.3s,baz=81,slow=16,SNR=19						
MJAR				Sn	**Sn**	**21 11 21.3**	**+1.4**
	0.7nm,0.3s,baz=107,slow=18,SNR=7.2 2.8nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	21 45 30.4	
	baz=313,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	21 45 33.2	
	baz=313,slow=75,SNR=31						
H11N3	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	21 45 33.0	
	baz=313,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	21 46 16.8	
	baz=315,slow=75,SNR=24						
H11S3	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	21 46 26.1	
	baz=315,slow=75,SNR=21						
H11S2	**WAKE ISLAND Hy**	**28.97**	**123**	T	T	21 46 28.4	
	baz=315,slow=75,SNR=15						
MKAR	**Makanchi Array**	**44.02**	**302**	P	P	21 18 21.3	+6.6
	0.3nm,0.7s,baz=87,slow=8.5,SNR=2.2 0.3nm,0.7s						
ILAR	**Eielson Array**	**49.47**	**32**	P	P	21 19 06.6	+9.4
	0.3nm,0.8s,baz=259,slow=7.2,SNR=1.9 0.3nm,0.8s						
WRA	**Warramunga Arr**	**57.12**	**188**	P	**P**	**21 19 53.1**	**-0.7**
	0.2nm,0.4s,baz=4.2,slow=7.0,SNR=2.0 0.2nm,0.4s						
H03N2	**Juan Fernandez**	**147.10**	**96**	T	T	00 14 14.8	
	baz=291,slow=76,SNR=6.7						
H03N3	**Juan Fernandez**	**147.11**	**96**	T	T	00 14 17.3	
	baz=291,slow=76,SNR=4.6						
H03N1	**Juan Fernandez**	**147.12**	**96**	T	T	00 14 16.3	
	baz=291,slow=76,SNR=4.7						

*IDC **19** 21:17:18.2

LBMI	**Labuha**	**3.41**	**194**	P	**Pn**	**21 39 52.8**	**+0.2**
LBMI				S	**Sn**	**21 40 34.1**	**+0.7**
SWI	**Sorong**	**4.59**	**140**	P	**Pn**	**21 40 08.2**	**+0.3**
KMSI	**Cibinong**	**4.83**	**244**	P	**Pn**	**21 40 10.7**	**-0.4**
SANI	**Sanana**	**5.26**	**206**	P	**Pn**	**21 40 15.0**	**-1.8**
WRA	**Warramunga Arr**	**23.26**	**166**	P	**P**	**21 43 52.6**	**-1.5**
	1.8nm,0.6s,baz=344,slow=9.9,SNR=14 1.8nm,0.6s						
ASAR	**Alice Springs**	**26.76**	**169**	P	**P**	**21 44 24.4**	**-1.4**
	0.3nm,0.6s,baz=357,slow=7.9,SNR=5.9 0.3nm,0.6s						
STKA	**Stephens Creek**	**36.62**	**161**	P	**P**	**21 45 51.0**	**-0.8**
	2.3nm,0.4s,baz=343,slow=8.1,SNR=11 2.3nm,0.4s						
SONM	**Songino Array**	**48.79**	**340**	P	**P**	**21 47 30.0**	**+0.2**
	0.2nm,0.6s,baz=147,slow=6.0,SNR=1.8 0.2nm,0.6s						
MKAR	**Makanchi Array**	**59.31**	**325**	P	**P**	**21 48 46.9**	**+0.9**
	0.5nm,0.4s,baz=116,slow=8.3,SNR=11 0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**63.47**	**327**	P	**P**	**21 49 14.5**	**+0.7**
	1.0nm,0.2s,baz=118,slow=5.8,SNR=1.4 1.0nm,0.2s						

IDC 19 22:15:13.3±2.4, 5.°19S×128.°16E, h0km, mb3.3/1, mbtmp3.3/3, ML3.3/2, MS2.8/1, Error ellipse: s-maj=179.7km s-min=31.6km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.85**	**158**	Pn	Pn	22 18 59.3	+1.3
	0.1nm,0.3s,baz=340,slow=12,SNR=5.8 0.2nm,0.4s						
ASAR	**Alice Springs**	**19.19**	**164**	P	P	22 19 38.3	-0.5
	0.2nm,0.3s,baz=345,slow=12,SNR=8.1 0.6nm,0.3s						
GUMO	**Guam**	**24.96**	**41**	LR	LR	22 31 48.2	
	comp=Z,21nm,19.0s,baz=86,slow=40						
MKAR	**Makanchi Array**	**65.72**	**327**	P	P	22 25 59.9	0.0
	0.2nm,0.7s,baz=118,slow=6.8,SNR=1.3 0.2nm,0.7s						

IDC 19 22:28:42.9±3.3, 6.°83S×148.°18E, h260km±19km, mb2.7/2, mbtmp3.3/4, Error ellipse: s-maj=85.2km s-min=34.5km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.75**	**201**	P	Pn	22 29 33.7	+0.3
	5.1nm,0.3s,baz=355,slow=19,SNR=2.6						
PMG				S	S	22 30 13.9	+0.4
	15nm,0.5s,baz=30,slow=16,SNR=9.2						
WRA	**Warramunga Arr**	**18.71**	**225**	P	P	22 32 42.2	-0.6
	0.4nm,0.3s,baz=48,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**21.64**	**218**	P	P	22 33 13.3	+0.3
	0.5nm,0.5s,baz=54,slow=8.7,SNR=12 0.5nm,0.5s						
MKAR	**Makanchi Array**	**78.88**	**320**	P	P	22 40 17.6	0.0
	0.2nm,0.7s,baz=120,slow=5.7,SNR=1.6 0.2nm,0.7s						

AEIC 19 22:34:01.2±1.3, 54.°48N±0.°05×161.°38W±0.°07, h13km±3km, Error ellipse: s-maj=7.5km s-min=5.3km az=148.0

NEIC 19 22:34:00.3±1.1, 54.°46N±0.°08×161.°34W±0.°09, h15km±10km, mb3.5/9, ML3.4/14, ML3.4(AEIC), Error ellipse: s-maj=12.8km s-min=5.1km az=152.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DT1	**Dutton Round H**	**0.85**	**320**		Pb	22 34 16.3	-0.4
PS4A	**Pavlof South-4**	**0.94**	**342**		Pg	22 34 18.3	-0.1
PVV	**Pavlof Volcano**	**0.95**	**344**		Pb	22 34 18.4	0.0
PVV					Sn	22 34 32.3	-0.1
PS1A	**Pavlof South-1**	**0.99**	**347**		Pb	22 34 19.2	+0.1
PS1A					Sn	22 34 34.0	+0.7
SDPT	**Sand Point**	**1.02**	**29**		Pb	22 34 19.6	0.0
SDPT					Sn	22 34 33.8	-0.3
SDPT				IAML		22 34 34.5	
	comp=N,1μm,0.5s						
SDPT				IAML		22 34 37.5	
	comp=E,711nm,0.9s						
PN7A	**Pavlof North-7**	**1.05**	**339**		Pg	22 34 20.5	+0.1
CNBA	**Chernabura Isl**	**1.08**	**70**		Pg	22 34 19.7	-0.9
FALS	**False Pass**	**1.27**	**289**		Pn	22 34 22.6	-0.9
ISLZ	**Isanotski Laza**	**1.41**	**282**		Pn	22 34 25.5	+0.1
ISLZ					Sn	22 34 43.1	-0.6
BRPK	**Brown Peak**	**1.41**	**279**		Pn	22 34 25.4	0.0
ISNN	**Isanotski Nort**	**1.47**	**286**		Pn	22 34 26.5	+0.4
SSLS	**Shishaldin Sou**	**1.57**	**280**		Pb	22 34 28.4	-0.6
SSLS					Sb	22 34 48.6	0.0
SSBA	**Shishaldin**	**1.65**	**282**		Pn	22 34 29.2	+0.4
SSBA					Sb	22 34 51.0	0.0
VNFG	**Fog Glacier, M**	**2.09**	**28**		Pn	22 34 35.9	+1.0
CHGN	**Chignik**	**2.49**	**41**	Pn	Pn	22 34 40.0	-0.1
CHGN				IAML		22 35 23.4	
	comp=E,139nm,0.9s						
AKSA	**Akutan Strait**	**2.58**	**265**		Pn	22 34 41.8	+0.5
AKUT	**Akutan**	**2.62**	**265**	Pn	Pn	22 34 42.3	+0.3
AKUT				IAML		22 35 14.6	
	comp=N,230nm,3.6s						
AKUT				IAML		22 35 18.4	
	comp=E,130nm,0.6s						
R17K	**Ugashik Creek**	**4.23**	**39**	Pn	Pn	22 35 04.8	+0.7
R17K				IAML		22 35 51.7	
	comp=N,51nm,3.5s						
R17K				IAML		22 37 06.0	
	comp=E,53nm,4.6s						
O14K	**Tigyukauivet M**	**4.81**	**0**	Pn	Pn	22 35 11.5	-0.5
O14K				IAML		22 36 27.8	
	comp=E,40nm,2.8s						
O16K	**Kokwok River B**	**5.44**	**18**	Pn	Pn	22 35 21.8	+1.0
N15K	**Kwethluk River**	**5.76**	**6**	Pn	Pn	22 35 25.4	+0.2
KDAK	**Kodiak Island**	**5.92**	**52**	Pn	Pn	22 35 26.1	-1.2
M13K	**Dall Lake**	**6.07**	**351**	Pn	Pn	22 35 29.1	-0.2
Q19K	**Cape Douglas,**	**6.16**	**40**	Pn	Pn	22 35 30.1	-0.6
M14K	**Bethel**	**6.32**	**357**	Pn	Pn	22 35 32.6	-0.1
O18K	**Koktuh Hills**	**6.35**	**29**	Pn	Pn	22 35 33.7	+0.5
M16K	**Timber Creek**	**6.70**	**10**	Pn	Pn	22 35 38.2	+0.1
L14K	**Kuka Creek**	**6.94**	**355**	Pn	Pn	22 35 41.5	+0.3
M17K	**Holitna River**	**7.26**	**15**	Pn	Pn	22 35 45.6	-0.1
N19K	**Bonanza Creek**	**7.35**	**27**	Pn	Pn	22 35 47.2	+0.1
L18K	**Granite Mounta**	**8.15**	**16**	Pn	Pn	22 35 57.9	0.0
K17K	**Iditarod**	**8.43**	**10**	Pn	Pn	22 36 01.6	-0.1
K20K	**Telida**	**9.67**	**20**	Pn	Pn	22 36 18.8	0.0
GHO	**Glory Hole Cre**	**9.83**	**37**	Pn	Pn	22 36 21.9	+1.0
J20K	**Nowinta River**	**10.41**	**18**	Pn	Pn	22 36 28.6	-0.2
GLB	**Gilahina Butte**	**11.62**	**46**	Pn	Pn	22 36 45.4	0.0
H21K	**Melozitna Rive**	**12.00**	**17**	Pn	Pn	22 36 51.3	+0.8
GRNC	**Granite Creek**	**12.21**	**51**	Pn	Pn	22 36 53.2	-0.5
P29M	**Windy Craggy**	**13.81**	**58**	Pn	Pn	22 37 15.4	+0.1
M29M	**Somme Creek**	**14.33**	**47**	Pn	Pn	22 37 22.2	-0.3
I28M	**Miner Creek**	**15.26**	**35**	Pn	Pn	22 37 36.0	+0.9
I28M				IAmb	IAmb	22 37 51.4	
	comp=Z,2.8nm,1.1s						
B21K	**Ikpikpuk River**	**15.52**	**9**	Pn	Pn	22 37 38.2	0.0
I29M	**Ogilvie Camp,**	**15.78**	**37**		P	22 37 43.8	-1.7
J30M	**Hart River**	**16.11**	**41**	P	P	22 37 47.7	-1.6
J30M				IAmb	IAmb	22 37 59.4	
	comp=Z,6.8nm,1.4s						
H29M	**Whitestone**	**16.24**	**34**	Pn	Pn	22 37 47.2	-0.4
H29M				IAmb	IAmb	22 38 12.1	
	comp=Z,6.9nm,1.3s						
G29M	**Pine Creek**	**16.76**	**33**	Pn	Pn	22 37 54.5	+0.3
G30M	**tAoh Zraii Nji**	**17.38**	**34**	Pn	Pn	22 38 00.6	-1.4
H31M	**Peel River**	**17.43**	**39**	Pn	Pn	22 38 01.6	-0.9
H31M				IAmb	IAmb	22 38 22.8	
	comp=Z,6.0nm,1.2s						
G31M	**Satah River**	**18.00**	**35**		Pn	22 38 09.2	-0.3
G31M				IAmb	IAmb	22 38 34.4	
	comp=Z,4.4nm,1.3s						

IDC 19 22:45:23.0±0.9, 30.°70N×131.°96E, h0km, mb3.7/9, mbtmp3.6/11, ML3.2/2, MS3.6/4, Error ellipse: s-maj=29.5km s-min=21.5km az=73.0

JMA 19 22:45:26.4±0.2, 30.°7N±0.°5×13.°2E±.°, h55km±3km, MV3.4/37, E OFF TANEGASHIMA ISLAND

ISC 19 22:45:26.9±2.8, 30.°70N±0.°06×132.°10E±0.°07, h26km±20km, n29, σ1s01/34, mb3.5/9, MS3.4/5, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.96**	**268**	P	**Pn**	**22 45 44.2**	**-0.5**
JTN				*e*S	**Sb**	**22 45 58.1**	**+0.9**
JMTN	**Minamitane**	**1.07**	**254**	P	**Pn**	**22 45 46.0**	**-0.2**
JMTN				*e*S	**Sn**	**22 45 59.5**	**-0.8**
JNAR	**Kushima--Naru**	**1.09**	**320**	P	**Pn**	**22 45 46.4**	**0.0**
JNAR				S	**Sn**	**22 46 00.6**	**0.0**
JTSR	**Tashiro 2**	**1.11**	**295**	P	**Pn**	**22 45 46.0**	**-0.8**
JTSR				S	**Sn**	**22 46 00.9**	**-0.3**
JNKG	**Nichinankitago**	**1.14**	**328**	P	**Pn**	**22 45 47.1**	**-0.1**
JNKG				S	**Sn**	**22 46 02.5**	**+0.6**
JYAK	**Yakushimahirau**	**1.44**	**252**	P	**Pn**	**22 45 51.0**	**-0.3**
JYAK				S	**Sn**	**22 46 09.1**	**-0.3**
JTZ	**Takazaki**	**1.48**	**325**	P	**Pn**	**22 45 51.8**	**0.0**
JTZ				*e*S	**Sn**	**22 46 10.8**	**+0.5**
JSU	**Suzuyama**	**1.62**	**300**	P	**Pn**	**22 45 53.8**	**0.0**
JTSN	**Tsuno**	**1.62**	**342**	*i* P	**Pn**	**22 45 54.0**	**+0.2**
JTSN				S	**Sn**	**22 46 14.0**	**+0.1**
JKC	**Kuchinoerabu**	**1.66**	**262**	*e*P	**Pn**	**22 45 54.3**	**+0.1**
JKC				*e*S	**Sn**	**22 46 16.1**	**+1.5**
JIU3	**Izumi3**	**2.15**	**330**	P	**Pn**	**22 46 01.6**	**+0.6**
JIU3				S	**Sn**	**22 46 27.6**	**+0.8**
JTO	**Tosashimizu**	**2.24**	**15**	P	**Pn**	**22 46 01.0**	**-1.2**
JSJ	**Shimokoshiki**	**2.26**	**296**	P	**Pn**	**22 46 01.5**	**-1.0**
KSRS	**Korea Array**	**7.58**	**334**	Pn	**Pn**	**22 47 12.0**	**-3.5**
	0.3nm,0.3s,baz=152,slow=16,SNR=1.5 0.4nm,0.4s						
MJAR	**Matsushiro Arr**	**7.74**	**40**	Pn	**Pn**	**22 47 19.7**	**+1.8**
	0.5nm,0.3s,baz=243,slow=14,SNR=16 2.4nm,0.3s						
USRK	**Ussuriysk Ar.**	**13.48**	**360**	LR	LR	22 53 53.8	
	comp=Z,127nm,19.1s,baz=178,slow=38						
SONM	**Songino Array**	**26.06**	**318**	P	**P**	**22 50 57.1**	**-1.2**
	0.6nm,0.8s,baz=129,slow=11,SNR=4.1						
SONM				LR	LR	23 03 00.1	
	comp=Z,202nm,19.3s,baz=141,slow=41 0.6nm,0.8s						
YAK	**Yakutsk**	**31.38**	**358**	LR	LR	23 04 29.0	
	comp=Z,4.3nm,18.8s,baz=92,slow=36						
CMAR	**Chiang Mai Arr**	**32.40**	**256**	LR	LR	23 05 51.3	
	comp=Z,78nm,19.0s,baz=60,slow=38						
TIXI	**Tiksi**	**41.04**	**358**	LR	LR	23 11 02.5	
	comp=Z,5.8nm,20.4s,baz=188,slow=38						
MKAR	**Makanchi Array**	**41.32**	**307**	P	**P**	**22 53 09.4**	**-0.9**
	0.6nm,0.8s,baz=102,slow=11,SNR=3.8 0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**44.16**	**313**	LR	LR	23 14 07.0	
	comp=Z,158nm,19.8s,baz=168,slow=39						
WRA	**Warramunga Arr**	**50.39**	**177**	P	**P**	**22 54 22.7**	**+0.7**
	0.3nm,0.8s,baz=353,slow=8.4,SNR=2.4 0.3nm,0.8s						
ILAR	**Eielson Array**	**58.90**	**30**	P	**P**	**22 55 22.1**	**-1.1**
	0.3nm,0.7s,baz=258,slow=4.5,SNR=2.3 0.3nm,0.7s						
STKA	**Stephens Creek**	**62.88**	**171**	P	**P**	**22 55 50.1**	**-0.4**
	2.0nm,0.6s,baz=322,slow=9.5,SNR=3.8 2.0nm,0.6s						
FINES	**FINESS Array B**	**70.65**	**331**	P	**P**	**22 56 40.2**	**+0.4**
	1.2nm,0.6s,baz=48,slow=5.7,SNR=8.8 1.2nm,0.6s						
YKA	**Yellowknife Ar**	**73.04**	**26**	P	**P**	**22 56 54.9**	**+0.8**
	0.4nm,0.8s,baz=300,slow=5.6,SNR=3.7 0.4nm,0.9s						
AKASG	**Malin Array Be**	**74.33**	**320**	P	**P**	**22 57 02.7**	**+0.8**
	0.3nm,0.5s,baz=57,slow=6.1,SNR=2.2 0.3nm,0.5s						
NVAR	**Mina Array Bea**	**84.98**	**48**	P	**P**	**22 58 01.3**	**+1.0**
	0.7nm,0.7s,baz=295,slow=5.7,SNR=5.3 0.7nm,0.7s						

JMA 19 22:50:27.9±0.2, 30.°7N±0.°5×13.°2E±.°, h57km±3km, MV2.8/32, E OFF TANEGASHIMA ISLAND

IDC 19 22:50:34.1±1.5, 30.°88N×131.°89E, h0km, mb3.7/4, mbtmp3.6/5, ML2.6/1, Error ellipse: s-maj=47.0km s-min=27.7km az=73.0

ISC 19 22:50:27.1±2.1, 30.°64N±0.°08×132.°23E±0.°10, h50km, n16, σ0s70/20, mb3.5/4, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.08**	**271**	P	**Pn**	**22 50 45.8**	**-0.2**
JMTN	**Minamitane**	**1.18**	**259**	P	**Pn**	**22 50 47.5**	**+0.3**
JMTN				S	**Sn**	**22 51 02.3**	**+0.1**
JNAR	**Kushima--Naru**	**1.21**	**317**	P	**Pn**	**22 50 48.0**	**+0.3**
JNAR				*e*S	**Sn**	**22 51 02.7**	**-0.4**
JTSR	**Tashiro 2**	**1.25**	**295**	*e*P	**Pn**	**22 50 47.6**	**-0.6**
JNKG	**Nichinankitago**	**1.26**	**324**	P	**Pn**	**22 50 48.7**	**+0.3**
JNKG				S	**Sn**	**22 51 04.1**	**-0.1**
JYAK	**Yakushimahirau**	**1.54**	**255**	P	**Pn**	**22 50 52.6**	**+0.4**
JYAK				S	**Sn**	**22 51 10.7**	**-0.4**
JTZ	**Takazaki**	**1.60**	**322**	P	**Pn**	**22 50 53.4**	**+0.4**
JTZ				S	**Sn**	**22 51 12.8**	**+0.3**
JTSN	**Tsuno**	**1.72**	**339**	P	**Pn**	**22 50 55.4**	**+0.8**
JTSN				S	**Sn**	**22 51 15.3**	**-0.2**
JIU3	**Izumi3**	**2.26**	**328**	*e*P	**Pn**	**22 51 03.1**	**+1.0**
JIU3				*e*S	**Sn**	**22 51 28.0**	**-0.7**
JTO	**Tosashimizu**	**2.27**	**12**	P	**Pn**	**22 51 02.5**	**+0.4**
JTO				S	**Sn**	**22 51 27.7**	**-1.2**
UWA2	**Uwa jima 2**	**2.59**	**7**	P	**Pn**	**22 51 07.6**	**+1.0**
UWA2				S	**Sn**	**22 51 35.3**	**-1.6**
MJAR	**Matsushiro Arr**	**7.71**	**39**	Pn	Pn	22 52 28.4	+12
	0.1nm,0.3s,baz=225,slow=14,SNR=2.1 0.7nm,0.4s						
SONM	**Songino Array**	**26.19**	**318**	P	P	22 56 06.2	+9.1
	0.2nm,0.3s,baz=116,slow=9.8,SNR=1.6 0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**44.28**	**313**	P	P	22 58 42.2	+10
	0.6nm,0.6s,baz=97,slow=8.4,SNR=5.4 0.6nm,0.6s						
WRA	**Warramunga Arr**	**50.33**	**177**	P	P	22 59 34.6	+16
	0.4nm,1.0s,baz=5.2,slow=12,SNR=6.3 0.4nm,1.0s						
FINES	**FINESS Array B**	**70.77**	**331**	P	P	23 01 50.2	+12
	5.9nm,1.2s,baz=49,slow=5.2,SNR=5.0 5.9nm,1.2s						

IDC 19 22:52:51.0±0.4, 20.°71S×174.°11W, h0km, mb4.7/20, mbtmp4.7/22, ML5.1/2, MS4.6/52, Error ellipse: s-maj=18.4km s-min=14.4km az=127.0

MOS 19 22:52:51.1±1.1, 20.°63S×174.°13W, h10km, mb5.2/35, MS4.9/15, Error ellipse: s-maj=10.5km s-min=8.7km az=66.6

BJI 19 22:52:51.2, 20.°38S×173.°84W, h11km, mb5.2/40, mB5.8/21, Ms5.3/16, Ms7 4.9/16

NEIC 19 22:52:52.4±1.8, 20.°50S±0.°07×173.°94W±0.°09, h10km±1km, mb5.2/105, Ms_20 5.1/153, Mww5.3/13, Error ellipse: s-maj=15.2km s-min=10.4km az=118.0

NEIC 19 22:52:52, 20.°92S×173.°95W, h26km, Moment Tension Solution. Duration: 28 Moment tensor: Scale 10^17 Nm; Mrr 0.86; Mθθ -0.29; Mφφ -0.57; Mrθ -0.15; Mθφ -0.36; Mφr -0.72; Fault plane solution: M0 1.11000×10^17 NP1: φs200.32000°, δ65.65000°, λ79.01000°. NP2: φs45.55000°, δ26.58000°, λ112.85000°. Principal axes: T 1.1596, Plg68.0000°, Azm90.0000°; N -0.0915, Plg10.0000°, Azm205.0000°; P -1.0681, Plg20.0000°, Azm299.0000°;

NEIC 19 22:52:52, 20.°52S×173.°95W, h26km

NOU 19 22:52:52.4, 20.°52S×173.°52W, h0km, mb5.2/20, Tonga Islands

BGR 19 22:52:57.2, 20.°63S×173.°10W, h33km, Ms5.0

GCMT 19 22:52:58.4±0.1, 20.°64S±0.°01×173.°70W±0.°01, h22km, MW5.3/138, Moment Tension Solution. s103,c154; s138,c221; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr 0.92±.02; Mθθ -0.14±.01; Mφφ -0.77±.01; Mrθ 0.23±.03; Mθφ -0.36±.01; Mφr 0.34±.02; Best double couple: M0 1.02000×10^17 NP1: φs28.00000°, δ57.00000°, λ94.00000°. NP2: φs200.00000°, δ33.00000°, λ83.00000°. Principal axes: T 1.0130, Plg78.0000°, Azm313.0000°; N 0.0140, Plg4.0000°, Azm206.0000°; P -1.0270, Plg12.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 19 22:52:52.6±0.4, 20.°66S±0.°05×173.°88W±0.°04, h15km±2km, h15km:pP-P, n912, σ1s65/835, mb5.2/115, MS5.0/143, 51C-35D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.04**	**68**	P	**Pn**	**22 53 50.0**	**-3.8**
	baz=3.9,SNR=102						
NIUE				S	**Sn**	**22 54 33.1**	**-7.8**
	baz=3.9						
NIUE	**Niue**	**4.04**	**68**	Pn	Pn	22 53 47.9	-5.9
NIUE	**Niue**	**4.04**	**68**	P	**Pn**	**22 53 50.6**	**-3.3**
TAVE	**Taveuni**	**6.93**	**304**	P	**Pn**	**22 54 38.1**	**+4.5**
AFI	**Afiamalu**	**7.00**	**17**	Pn	**Pn**	**22 54 31.4**	**-3.3**
AFI	**Afiamalu**	**7.00**	**17**	P	**Pn**	**22 54 32.3**	**-2.4**
AFI	**Afiamalu**	**7.00**	**17**	P	**Pn**	**22 54 31.4**	**-3.3**
DGTI	**Dagotuki**	**7.45**	**305**	P	Pn	22 54 45.6	+4.9
RAO	**Raoul Island**	**9.31**	**202**	Pn	**Pn**	**22 55 06.5**	**+0.3**
RAO	**Raoul Island**	**9.31**	**202**	Pn	**Pn**	**22 55 06.7**	**+0.5**
	68nm,0.3s,baz=97,slow=22,SNR=3.9						
RAO				Sn	**Sn**	**22 56 44.4**	**-6.4**
	55nm,0.3s,baz=270,slow=23,SNR=6.7						
RAO				LR	LR	22 58 42.2	
	comp=Z,3μm,19.0s,baz=14,slow=38 141nm,0.3s						
RAR	**Rarotonga**	**13.19**	**95**	Pn	**Pn**	**22 55 57.2**	**-2.3**
RAR	**Rarotonga**	**13.19**	**95**	P	**Pn**	**22 55 57.0**	**-2.5**
RAR	**Rarotonga**	**13.19**	**95**	P	**Pn**	**22 55 57.2**	**-2.3**
RAR	**Rarotonga**	**13.19**	**95**	Pn	**Pn**	**22 55 55.9**	**-3.6**
	20nm,0.3s,baz=245,slow=5.4,SNR=17						
RAR				Sn	Sn	22 58 09.5	-16
	3.5nm,0.3s,baz=36,slow=13,SNR=1.6						
RAR				LR	LR	23 01 49.2	
	comp=Z,2μm,18.1s,baz=202,slow=40						
MARNC	**Mare, Loyalty**	**16.91**	**264**	Pn	**Pn**	**22 56 47.5**	**-1.2**
PINNC	**Pines Island,**	**17.47**	**260**	Pn	**Pn**	**22 56 53.7**	**-2.1**
PINNC				IAmb	IAmb	22 57 03.2	
	comp=Z,253nm,1.7s						
LIFNC	**LIFOU**	**17.66**	**266**		**Pn**	**22 56 56.1**	**-2.1**
LIFNC				IAmb	IAmb	22 57 03.3	
	comp=Z,224nm,1.1s						
YATNC	**Mamie plateau,**	**17.97**	**262**	P	**P**	**22 57 06.6**	**+4.1**
OUENC	**Ouen Island, N**	**18.02**	**261**		**Pn**	**22 56 59.8**	**-2.9**
ONTNC	**Ouen Toro**	**18.38**	**261**	Pn	**Pn**	**22 57 03.4**	**-3.6**
DZM	**Mont Dzumac**	**18.38**	**262**		**Pn**	**22 57 04.2**	**-3.0**
DZM	**Mont Dzumac**	**18.38**	**262**	P	**P**	**22 57 12.1**	**+5.0**
DZM	**Mont Dzumac**	**18.38**	**262**	*e*P	**Pn**	**22 57 04.9**	**-2.2**
	comp=Z,304nm,1.5s						
DZM				*e*S	**Sn**	**23 00 22.7**	**-10**
	comp=Z,993nm,25.4s						
DZM				*e*LR	LR	23 01 31.1	
	comp=Z,4μm,22.4s						
DZM	**Mont Dzumac**	**18.38**	**262**	P	**P**	**22 57 07.7**	**+0.6**
	comp=Z,43nm,0.9s,baz=83,slow=17,SNR=16						
DZM				LR	LR	23 03 21.0	
	comp=Z,5μm,18.7s,baz=90,slow=35						
NOUC	**Port Laguerre**	**18.51**	**262**	P	**Pn**	**22 57 15.3**	**+6.7**
URZ	**Urewera**	**19.20**	**202**	P	**P**	**22 57 15.8**	**0.0**
	comp=Z,1.5nm,0.3s,baz=109,slow=6.7,SNR=2.4						
URZ				S	Sn	23 00 39.3	-12
	comp=Z,18nm,1.0s,baz=306,slow=19,SNR=2.5						
URZ				LR	LR	23 04 02.2	
	comp=Z,2μm,21.9s,baz=92,slow=35 comp=Z,11nm,0.6s						
BKZ	**Black Stump Fm**	**20.22**	**202**	P	Pn	22 57 31.7	+2.6
KOUNC	**Koumac, New Ca**	**20.44**	**266**	P	**P**	**22 57 26.7**	**-2.8**
KOUNC				IAmb	IAmb	22 57 44.8	
	comp=Z,113nm,1.2s						
BFZ	**Birch Farm**	**21.66**	**201**	P	**P**	**22 57 46.6**	**+4.0**
TBI	**Tubuai**	**22.79**	**101**	*e*P	P	22 57 43.0	-12
	comp=Z,2μm,28.2s						
TBI				*e*S	S	23 01 53.0	-11
	comp=Z,3μm,25.8s						
TBI				*e*LR	LR	23 03 22.2	
	comp=Z,16μm,27.8s						
TBI				*e*LR	LR	23 03 25.4	
	comp=Z,3μm,25.8s						
TBI	**Tubuai**	**22.79**	**101**	*e*T	T	23 21 28.0	
	comp=Z,5.6nm,0.2s						
CTZ	**Chatham Island**	**23.13**	**185**	P	**P**	**22 58 01.7**	**+3.6**
PPT2	**Papeete2**	**23.16**	**87**	*e*P	P	22 57 43.8	-15
	comp=Z,388nm,25.8s						
PPT2				*e*S	S	23 01 55.4	-15
	comp=Z,679nm,24.8s						
PPT2				*e*LR	LR	23 03 29.2	
	comp=Z,4μm,26.0s						
PPT2				*e*LR	LR	23 03 36.2	
	comp=Z,2μm,25.8s						
PPT	**Papeete**	**23.16**	**87**	LR	LR	23 06 24.5	
	comp=Z,1μm,18.1s,baz=250,slow=35						
PPTF	**Pamatai, Papee**	**23.17**	**87**	P	**P**	**22 57 57.5**	**-1.3**
PPTF				IAmb	IAmb	22 58 13.3	
	comp=Z,113nm,1.2s						
NNZ	**Nelson**	**23.18**	**205**	P	**P**	**22 58 05.1**	**+6.5**
TKNZ	**Takaka Hill**	**23.19**	**206**	P	**P**	**22 58 05.2**	**+6.3**
QRZ	**Quartz Range**	**23.20**	**207**	P	**P**	**22 58 03.0**	**+4.2**
QRZ	**Quartz Range**	**23.20**	**207**	P	**P**	**22 58 03.5**	**+4.7**
MRNZ	**Matariki Terra**	**23.58**	**206**	P	**P**	**22 58 06.6**	**+4.0**
THZ	**Tophouse**	**23.83**	**205**	P	**P**	**22 58 08.3**	**+3.2**
KHZ	**Kahutara**	**24.15**	**203**	P	**P**	**22 58 10.4**	**+2.4**
DSZ	**Denniston Nort**	**24.27**	**207**	P	**P**	**22 58 12.9**	**+3.7**
MEH	**Mehetia**	**24.52**	**88**	*e*T	T	23 23 39.7	
	comp=Z,20nm,0.2s						
LTZ	**Lake Taylor**	**24.94**	**205**	P	**P**	**22 58 14.8**	**-0.5**
LTZ				IAmb	IAmb	22 58 35.7	
	comp=Z,49nm,0.9s						
LTZ	**Lake Taylor**	**24.94**	**205**	P	**P**	**22 58 17.5**	**+2.2**
INZ	**Inchbonnie**	**25.23**	**206**	P	**P**	**22 58 21.2**	**+3.4**
OXZ	**Oxford**	**25.49**	**204**	P	P	22 58 27.5	+7.3
WVZ	**Waitaha Valley**	**25.81**	**207**	P	**P**	**22 58 26.7**	**+3.6**
GCSZ	**Gaunt Creek Bo**	**26.18**	**207**	P	**P**	**22 58 31.0**	**+4.6**
RPZ	**Rata Peaks**	**26.21**	**205**	LR	LR	23 08 23.7	
	comp=Z,3μm,19.7s,baz=25,slow=36						
RPZ

comp=Z,1µm,19.0s,baz=76,slow=34
comp=Z,10.0nm,0.7s
MANU Manus Island 42.07 291 P **P** **23 00 41.9 -2.3**
MANU IAmb IAmb 23 00 44.8
comp=Z,112nm,1.5s
HTT Hallett 43.58 243 P **P** **23 00 53.0 -3.3**
baz=44,SNR=4.1
BBOO Buckleboo 45.94 244 P **P** **23 01 12.8 -2.3**
BBOO IAmb IAmb 23 02 05.9
comp=Z,89nm,1.7s
JAY Jayapura 47.77 286 P **P** **23 01 27.6 -2.1**
comp=Z,79nm,1.0s,comp=Z,819nm
WR0 Warramunga Arr 48.21 261 P **P** **23 01 30.4 -2.5**
WR0 IAmb IAmb 23 01 45.3
comp=Z,19nm,1.3s
GENI Genyem 48.23 286 P **P** **23 01 30.7 -2.4**
comp=Z,56nm,0.8s,comp=Z,3µm
AS31 Alice Springs 48.24 256 P **P** **23 01 30.9 -2.3**
ASAR Alice Springs 48.24 256 P **P** **23 01 30.4 -2.8**
ASAR Alice Springs 48.24 256 P **P** **23 01 31.1 -2.1**
comp=Z,7.7nm,0.6s,baz=100,slow=7.9,SNR=69
ASAR PcP **PcP** **23 02 59.3 -1.0**
comp=Z,2.3nm,0.8s,baz=104,slow=4.1,SNR=1.2
comp=Z,7.7nm,0.6s
WRAB Tennant Creek 48.39 261 IAMs_20 IAMs_20 23 22 14.0
comp=Z,1µm,18.0s
WRA Warramunga Arr 48.40 261 P **P** **23 01 32.2 -2.2**
WRA Warramunga Arr 48.40 261 P **P** **23 01 32.2 -2.2**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 48.40 261 P **P** **23 01 31.9 -2.6**
comp=Z,5.2nm,0.8s,baz=96,slow=7.5,SNR=51
WRA PcP **PcP** **23 03 01.3 +0.5**
comp=Z,2.4nm,1.0s,baz=101,slow=3.3,SNR=1.8
comp=Z,5.2nm,0.8s
KDU Kakadu 51.81 270 P **P** **23 01 57.8 -2.5**
baz=52,SNR=7.1
FORT Forrest 52.78 247 P **P** **23 02 05.5 -1.8**
FORT IAmb IAmb 23 02 13.3
comp=Z,40nm,0.8s
GUMO Guam 52.93 307 LR LR 23 23 07.1
comp=Z,351nm,19.3s,baz=110,slow=34
MTN Manton Dam 53.02 269 P **P** **23 02 07.2 -2.1**
baz=53,SNR=9.0
MTN Manton Dam 53.02 269 P **P** **23 02 06.7 -2.6**
MTN IAmb IAmb 23 02 12.0
comp=Z,15nm,0.7s
WRKA Warakurna 53.13 254 P **P** **23 02 07.9 -2.2**
baz=53,SNR=20
SAUI Saumlaki 54.35 275 P **P** **23 02 17.5 -1.7**
KNRA Kununurra 54.50 265 P **P** **23 02 17.8 -2.3**
baz=54,SNR=7.0
KNRA Kununurra 54.50 265 P **P** **23 02 16.8 -3.3**
KNRA IAmb IAmb 23 02 37.7
comp=Z,37nm,1.3s
FITZ Fitzroy Crossi 56.83 261 P **P** **23 02 34.9 -2.0**
baz=57,SNR=3.2
FITZ Fitzroy Crossi 56.83 261 P **P** **23 02 34.5 -2.3**
SWI Sorong 57.03 283 P **P** **23 02 37.5 -0.8**
comp=Z,56nm,0.9s,comp=Z,2µm
SBA Scott Base 58.00 185 P **P** **23 02 46.6 +2.4**
SBA Scott Base 58.00 185 P **P** **23 02 46.6 +2.4**
SBA pmax pmax
comp=Z,171nm,2.0s
SBA MLR MLR
comp=Z,600nm,21.0s
VNDA Vanda 58.13 186 P **P** **23 02 47.8 +2.7**
VNDA Vanda 58.13 186 P **P** **23 02 47.8 +2.7**
VNDA pmax pmax
comp=Z,17nm,1.4s
RPN Rapa Nui 58.82 110 LR LR 23 24 16.5
comp=Z,494nm,18.3s,baz=256,slow=32
NLAI Namlea 59.94 278 P **P** **23 02 57.7 -0.9**
comp=Z,12nm,1.1s
SOEI Soe 60.36 270 P **P** **23 03 00.5 -1.3**
SOEI Soe 60.36 270 P **P** **23 03 01.6 -0.1**
comp=Z,66nm,0.8s
LBMI Labuha 60.56 281 P **P** **23 03 02.2 -0.7**
comp=Z,54nm,1.2s
TNTI Ternate 61.25 283 P **P** **23 03 05.8 -1.8**
PSA00 Pilbara Seismi 61.39 256 P **P** **23 03 06.2 -2.3**
PSA00 IAmb IAmb 23 03 07.8
comp=Z,45nm,2.0s
SANI Sanana 61.41 279 P **P** **23 03 07.5 -1.2**
comp=Z,30nm,1.0s
KLBR Kellerberrin 61.48 245 P **P** **23 03 07.7 -1.3**
baz=62,SNR=6.6
MEEK Meekatharra 61.51 250 P **P** **23 03 08.1 -1.2**
baz=62,SNR=3.8
NWAO Narrogin (SRO) 61.74 243 P **P** **23 03 08.8 -1.8**
NWAO Narrogin (SRO) 61.74 243 P **P** **23 03 08.9 -1.8**
NWAO pmax pmax
comp=Z,85nm,1.5s
BLDU Ballidu 62.51 245 P **P** **23 03 15.5 -0.4**
baz=63,SNR=6.2
MORW Morawa 63.33 247 P **P** **23 03 21.6 +0.2**
baz=63,SNR=4.1
MORW Morawa 63.33 247 P **P** **23 03 20.1 -1.3**
MORW IAmb IAmb 23 03 32.3
comp=Z,55nm,1.6s
JCJ Chichijima 63.75 316 LR LR 23 27 25.4
comp=Z,419nm,19.4s,baz=110,slow=33
LUWI Luwuk 64.77 279 P **P** **23 03 28.8 -2.2**
DAV Davao City (W) 65.53 288 LR LR 23 31 38.0
comp=Z,262nm,18.4s,baz=111,slow=36
KAPI Kappang 66.14 274 LR LR 23 32 01.8
comp=Z,331nm,20.0s,baz=110,slow=36
TOLI2 Tolitoli 67.42 280 P **P** **23 03 46.0 -2.1**
TOLI2 IAmb IAmb 23 04 21.9
comp=Z,26nm,1.1s
JHJ Hachijo jima 2 69.40 320 LR LR 23 33 48.3
comp=Z,337nm,18.2s,baz=21,slow=36
QSPA South Pole Qui 69.42 180 P **P** **23 04 01.6 +1.8**
QSPA IAmb IAmb 23 04 04.2
comp=Z,34nm,1.0s
QSPA South Pole Qui 69.42 180 P **P** **23 04 01.9 +2.0**
comp=Z,24nm,0.9s,baz=39,slow=2.9,SNR=44
comp=Z,24nm,0.9s
MJAR Matsushiro Arr 72.68 321 P **P** **23 04 19.9 0.0**
comp=Z,15nm,1.0s,baz=158,slow=5.9,SNR=14
MJAR LR LR 23 29 57.9
comp=Z,249nm,22.0s,baz=133,slow=31
comp=Z,15nm,1.0s
MAJO Matsushiro 72.69 321 P **P** **23 04 18.9 -1.0**
MAJO Matsushiro 72.69 321 P **P** **23 04 18.9 -1.0**
MAJO pmax pmax
comp=Z,45nm,1.0s
H06S1 SOCORRO T 73.02 62 T T 00 24 44.3
JOW Kunigami 73.27 308 LR LR 23 29 43.1
comp=Z,260nm,21.3s,baz=208,slow=30
NIKH Nikolski High 73.44 3 P **P** **23 04 25.7 +1.7**
baz=185
JMN Monobe 73.49 317 P **P** **23 04 23.9 -0.9**
SHEM Shemya Is, Ala 73.82 352 LR LR 23 32 52.5
comp=Z,851nm,18.6s,baz=138,slow=32
SCZ2 Santa Cruz Isl 74.96 44 P **P** **23 04 34.3 +1.0**
baz=232
JNU Nakatsue 75.09 314 LR LR 23 32 33.0
comp=Z,149nm,21.5s,baz=99,slow=32
PKM Mcpherson Peak 75.40 43 P **P** **23 04 37.2 +1.1**
baz=232
CIS Catalina Islan 75.41 45 P **P** **23 04 37.3 +1.4**
baz=233
BBGB Big Mountain B 75.68 41 P **P** **23 04 37.1 -0.4**
BBGB IAmb IAmb 23 05 01.7
comp=Z,37nm,1.3s
ASAJ Asahikawa 75.77 329 LR LR 23 35 41.6
comp=Z,481nm,18.5s,baz=156,slow=34
PASC Pasadena Art C 76.02 45 IAMs_20 IAMs_20 23 40 53.1
comp=Z,636nm,18.0s
CHNA Chernabura Isl 76.17 8 P **P** **23 04 41.4 +1.7**
baz=194
ARVC Arvin 76.18 44 P **P** **23 04 41.7 +1.5**
baz=232
LPIG La Paz 76.20 57 LR LR 23 33 15.1
comp=Z,689nm,18.0s,baz=226,slow=32
ELS Elsinore Mount 76.21 46 P **P** **23 04 40.4 -0.2**
ELS IAmb IAmb 23 04 56.1
comp=Z,43nm,2.0s
ESJX Sierra Juarez 76.26 48 P **P** **23 04 40.3 -0.7**
MURC Murrieta 76.34 46 P **P** **23 04 42.3 +1.0**
baz=234
BFSC Mount Baldy Ra 76.41 45 P **P** **23 04 42.8 +1.0**
baz=233
MONP2 Monument Peak 76.45 47 P **P** **23 04 43.6 +1.5**
baz=234,SNR=6.6
VES Vestal, Richgr 76.45 43 P **P** **23 04 43.6 +1.9**
baz=232
IKP In-Ko-Pah, Jac 76.52 47 P **P** **23 04 44.5 +2.1**
baz=235
EDW2 Edwards Air Fo 76.57 44 P **P** **23 04 44.9 +2.3**
baz=233,SNR=6.9
ISA Isabella, Lake 76.74 44 P **P** **23 04 45.8 +2.3**
baz=232,SNR=5.2
PFO Pinyon Flats O 76.84 46 P **P** **23 04 44.1 -0.1**
PFO IAmb IAmb 23 04 59.8
comp=Z,20nm,1.4s
PFO Pinyon Flats O 76.84 46 P **P** **23 04 46.6 +2.4**
baz=234
PFO Pinyon Flats O 76.84 46 P **P** **23 04 44.1 -0.1**
PFO pmax pmax
comp=Z,20nm,1.5s
PFO MLR MLR
comp=Z,600nm,19.0s
TPFO Pinon Flats 76.84 46 P **P** **23 04 46.8 +2.6**
baz=234
LEM Lembang 76.89 268 LR LR 23 38 49.0
comp=Z,352nm,19.0s,baz=134,slow=36
SWSC Sam W. Stewart 76.91 47 P **P** **23 04 46.0 +1.6**
baz=235
CMB Columbia Colle 77.01 41 P **P** **23 04 45.3 +0.3**
CMB IAMs_20 IAMs_20 23 35 59.8
comp=Z,721nm,19.0s
CMB Columbia Colle 77.01 41 P **P** **23 04 45.3 +0.3**
CMB pmax pmax
comp=Z,16nm,1.5s
CMB MLR MLR
comp=Z,700nm,19.0s
LRMC Laurel Mtn Rad 77.14 44 P **P** **23 04 47.3 +1.4**
baz=233
PET Petropavlovsk 77.15 343 *e*P **P** **23 04 49.0 +3.8**
PET *e*S **S** **23 14 37.8 +4.1**
PET *e*PS **PnS** **23 15 10.7 -3.0**
PET pmax pmax
comp=Z,100nm,11.9s
PET MLR MLR
comp=Z,500nm,16.0s
BELC Belle Mtn. Jos 77.38 46 P **P** **23 04 49.3 +2.0**
baz=234,SNR=6.8
CWC Cottonwood Cre 77.46 43 P **P** **23 04 49.3 +1.6**
baz=232
PETK Petropavlovsk- 77.48 343 P **P** **23 04 46.9 -0.3**
PETK Petropavlovsk- 77.48 343 P **P** **23 04 47.2 0.0**
comp=Z,8.8nm,0.8s,baz=108,slow=7.6,SNR=7.8
PETK LR LR 23 31 15.4
comp=Z,494nm,21.8s,baz=156,slow=30
comp=Z,8.8nm,0.8s
BC3 Big Chuckawall 77.55 47 P **P** **23 04 49.8 +1.6**
baz=235
GSC Goldstone, Bar 77.61 45 P **P** **23 04 50.4 +2.0**
baz=234
MPMC Manual Prospec 77.61 44 P **P** **23 04 50.7 +2.1**
baz=233,SNR=16
HEC Hector Ludlow 77.64 45 P **P** **23 04 50.5 +1.9**
baz=234
MLAC Mammoth, Mammo 77.71 42 P **P** **23 04 51.2 +2.0**
baz=232
CHIR Chirikof Islan 77.73 10 P **P** **23 04 51.1 +2.6**
baz=198
PIX Pinacate 77.76 49 P **P** **23 04 49.1 -0.1**
CHGN Chignik 77.76 9 P **P** **23 04 51.7 +3.1**
baz=195
YSS Yuzh-Sakhalins 77.82 331 *e*P **P** **23 04 50.1 +0.9**
YSS *e*S **S** **23 14 41.3 0.0**
YSS *e*PS PnS 23 15 03.8 -19
YSS *e*PPS PPS 23 15 30.8
YSS pmax pmax
comp=Z,30nm,1.5s
YSS MLR MLR
comp=Z,700nm,16.0s
QSM Queen of Sheba 77.96 44 P **P** **23 04 51.0 +0.7**
QSM IAmb IAmb 23 05 05.7
comp=Z,26nm,1.4s
IRM Iron Mountain 78.05 46 P **P** **23 04 53.0 +2.2**
baz=235,SNR=8.2
YBH Yreka Blue Hor 78.06 37 LR LR 23 35 33.9
comp=Z,381nm,18.4s,baz=253,slow=33
GMRC Granite Mounta 78.06 46 P **P** **23 04 53.7 +2.6**
baz=234,SNR=5.5
113A Mohawk Valley, 78.21 48 P **P** **23 04 51.9 +0.1**
113A IAmb IAmb 23 05 06.8
comp=Z,19nm,1.3s
HSIG 78.23 53 P **P** **23 04 51.1 -0.8**
GRAC Grapevine Rang 78.25 43 P **P** **23 04 54.7 +2.8**
baz=233,SNR=5.1
FURC Furnace Creek, 78.26 44 P **P** **23 04 54.7 +2.8**
baz=233
TUQ Turquoise Moun 78.27 45 P **P** **23 04 54.5 +2.3**
baz=234
SHOC Shoshone, Teco 78.31 44 P **P** **23 04 54.6 +2.3**
baz=234
214A Organ Pipe Nat 78.44 49 P **P** **23 04 55.2 +2.2**
baz=237
NVAR Mina Array Bea 78.54 41 P **P** **23 04 53.7 +0.1**
NVAR Mina Array Bea 78.54 41 P **P** **23 04 56.1 +2.5**
comp=Z,12nm,0.9s,baz=224,slow=8.4,SNR=48
NVAR LR LR 23 35 16.5
comp=Z,664nm,18.0s,baz=239,slow=32
comp=Z,12nm,0.9s
NV11 Mina Array Sit 78.63 41 P **P** **23 04 54.2 +0.1**
NV11 IAmb IAmb 23 05 08.9
comp=Z,19nm,0.9s
SII Sitkinak Islan 78.69 11 P **P** **23 04 56.5 +2.7**
baz=199
PDMCI Parker Dam,Lak 78.81 47 P **P** **23 04 56.7 +1.6**
baz=236
BELA Belgrano 2 78.89 172 P **P** **23 04 55.5 +0.7**
BELA IAmb IAmb 23 05 16.6
comp=Z,15nm,1.0s
TPNV Topopah Spring 78.94 44 P **P** **23 04 55.5 -0.4**
TPNV IAmb IAmb 23 05 10.9
comp=Z,16nm,1.1s
TPNV IAMs_20 IAMs_20 23 38 05.3
comp=Z,701nm,20.0s
TPNV Topopah Spring 78.94 44 P **P** **23 04 57.6 +1.7**
baz=234,SNR=6.5
TPNV Topopah Spring 78.94 44 P **P** **23 04 55.5 -0.4**
TPNV pmax pmax
comp=Z,16nm,1.1s
TPNV MLR MLR
comp=Z,700nm,20.0s
TPH Tonopah 79.00 42 P **P** **23 04 56.2 0.0**
TPH Tonopah 79.00 42 P **P** **23 04 56.2 0.0**
TPH pmax pmax
comp=Z,309nm,1.9s
OHAK Old Harbor 79.48 11 P **P** **23 05 00.1 +2.0**
baz=200
PMSA Palmer Station 79.59 156 LR LR 23 36 32.1
comp=Z,216nm,18.8s,baz=263,slow=33
R18K Karluk 79.60 10 P **P** **23 05 00.3 +1.6**
baz=198
KSRS Korea Array 79.61 317 P **P** **23 05 00.7 +1.5**
comp=Z,7.1nm,1.0s,baz=131,slow=5.9,SNR=15
KSRS LR LR 23 34 27.0
comp=Z,251nm,21.7s,baz=105,slow=31
comp=Z,7.1nm,1.0s
KSAR Wonju Array Be 79.62 317 P **P** **23 04 59.0 -0.3**
KSAR Wonju Array Be 79.62 317 P **P** **23 04 59.0 -0.3**
Q17K Contact Creek 80.03 10 P **P** **23 05 03.5 +2.3**
baz=197
TUC Tucson 80.08 50 P **P** **23 05 01.9 -0.2**
TUC Tucson 80.08 50 IAMs_20 IAMs_20 23 36 09.0
comp=Z,635nm,19.0s
TUC Tucson 80.08 50 P **P** **23 05 04.4 +2.3**
baz=238
TUC Tucson 80.08 50 P **P** **23 05 01.9 -0.2**
TUC pmax pmax
comp=Z,19nm,1.4s
TUC MLR MLR
comp=Z,600nm,19.0s
KDAK Kodiak Island 80.14 11 P **P** **23 05 03.5 +1.9**
baz=200
KDAK Kodiak Island 80.14 11 LR LR 23 32 34.2
comp=Z,521nm,21.9s,baz=230,slow=30
R11B Troy Canyon, C 80.19 43 P **P** **23 05 02.4 -0.3**
R11B Troy Canyon, C 80.19 43 P **P** **23 05 03.9 +1.2**
baz=234,SNR=9.2
Q16K King Salmon 80.31 9 P **P** **23 05 04.2 +1.7**
baz=196
O15K Ungalikthiuk R 80.38 7 P **P** **23 05 04.3 +1.4**
baz=193
BMN Battle Mountai 80.42 40 P **P** **23 05 04.2 +0.4**
BMN Battle Mountai 80.42 40 P **P** **23 05 04.2 +0.4**
BMN pmax pmax
comp=Z,12nm,1.1s
P16K Nushagak River 80.47 8 P **P** **23 05 05.1 +1.7**
baz=195
Q18K Katmai Hardscr 80.54 10 P **P** **23 05 05.1 +1.1**
baz=198
TYV Tymovskoe 80.82 334 *e*P P 23 05 13.4 +7.9
TYV pmax pmax
comp=Z,100nm,3.3s
TYV pmax pmax
comp=Z,26nm,1.4s
P17K Kvichak River 80.84 9 P **P** **23 05 06.8 +1.5**
baz=197
LCMT Little Creek M 80.94 45 P **P** **23 05 07.0 +0.3**
Q20K Shuyak Island 80.95 11 P **P** **23 05 06.0 +0.1**
baz=200
M11K Mekoryuk 80.99 4 P **P** **23 05 07.1 +1.0**
baz=187
O16K Kokuk River B 81.00 8 P **P** **23 05 07.5 +1.3**
baz=195
PSTR Posyet 81.00 322 *i*P **P** **23 05 07.1 +0.5**
Q19K Cape Douglas, 81.03 10 P **P** **23 05 07.6 +1.1**
baz=199
P18K Big Mountain, 81.21 10 P **P** **23 05 08.7 +1.2**
baz=198
M13K Dall Lake 81.23 5 P **P** **23 05 09.2 +1.8**
baz=190
O17K Koliganek Bris 81.31 8 P **P** **23 05 09.3 +1.4**
baz=196
N15K Kwethluk River 81.31 7 P **P** **23 05 08.4 +0.5**
baz=193
USA0B Ussuriysk Arra 81.31 324 P **P** **23 05 07.4 -0.9**
USA0B IAmb IAmb 23 05 19.8
comp=Z,43nm,1.5s
USA0B Ussuriysk Arra 81.31 324 P **P** **23 05 07.4 -0.9**
USA0B pmax pmax
comp=Z,43nm,1.5s
USRK Ussuriysk Ar. 81.31 324 P **P** **23 05 07.2 -1.0**
USRK Ussuriysk Ar. 81.31 324 P **P** **23 05 09.6 +1.3**
comp=Z,3.4nm,0.7s,baz=96,slow=3.8,SNR=8.4
USRK LR LR 23 35 56.7
comp=Z,546nm,21.2s,baz=132,slow=32
comp=Z,3.4nm,0.7s
WUAZ Wupatki 81.38 47 P **P** **23 05 08.5 -0.6**
WUAZ Wupatki 81.38 47 P **P** **23 05 08.1 -1.0**
baz=237
O18K Koktuh Hills 81.66 9 P **P** **23 05 11.3 +1.5**
baz=198
M14K Bethel 81.69 6 P **P** **23 05 11.2 +1.3**
baz=191
M15K Kasigluk River 81.76 7 P **P** **23 05 10.4 +0.2**
baz=192
N16K Nishlik Lake 81.77 7 P **P** **23 05 10.6 +0.2**
baz=194
P19K Oil Pt 81.78 10 P **P** **23 05 11.2 +0.8**
baz=200
ELK Elko 81.82 41 P **P** **23 05 11.2 -0.1**
ELK IAMs_20 IAMs_20 23 39 14.2
comp=Z,915nm,19.0s
ELK Elko 81.82 41 P **P** **23 05 13.3 +1.9**
comp=Z,2.8nm,1.0s,baz=230,slow=5.7,SNR=5.7
comp=Z,2.8nm,1.0s
N17K Nushagak Hills 82.02 8 P **P** **23 05 13.0 +1.4**
baz=196
O19K Port Alsworth 82.12 10 P **P** **23 05 13.6 +1.4**
baz=198
L14K Kuka Creek 82.20 5 P **P** **23 05 13.5 +1.0**
baz=191
M16K Timber Creek 82.28 7 P **P** **23 05 14.0 +1.0**
baz=194
O20K Slope Mountain 82.29 11 P **P** **23 05 14.5 +1.3**
baz=200
BRSE Bradley Lake S 82.31 12 P **P** **23 05 14.1 +0.9**
baz=202
N18K Kilae Creek 82.35 9 P **P** **23 05 14.4 +1.0**
baz=197
121A Cookes Peak, D 82.36 51 P **P** **23 05 13.1 -1.2**
121A Cookes Peak, D 82.36 51 P **P** **23 05 14.4 +0.1**
baz=240
K13K Kusilvak Mount 82.63 4 P **P** **23 05 15.9 +1.1**
baz=189
L15K Ungalak Mounta 82.65 6 P **P** **23 05 15.4 +0.5**
baz=192
N19K Bonanza Creek 82.69 9 P **P** **23 05 15.9 +0.7**
baz=198
MAW Mawson 82.70 199 P **P** **23 05 16.1 +0.8**
MAW Mawson 82.70 199 P **P** **23 05 16.1 +0.8**
MAW pmax pmax
comp=Z,7.0nm,1.3s
MAW Mawson 82.70 199 P **P** **23 05 15.9 +0.6**
comp=Z,7.7nm,1.0s,baz=156,slow=5.1,SNR=6.1
MAW LR LR 23 41 10.9
comp=Z,384nm,19.0s,baz=115,slow=35
comp=Z,7.7nm,1.0s
H03S2 Juan Fernandez 82.70 123 T T 00 37 42.2
baz=248,slow=75,SNR=32
H03S1 Juan Fernandez 82.71 123 T T 00 37 39.9
baz=248,slow=75,SNR=34
H03S3 Juan Fernandez 82.72 123 T T 00 37 42.2
baz=248,slow=75,SNR=34
BBB Bella Bella 82.77 26 LR LR 23 39 49.0
comp=Z,267nm,18.2s,baz=290,slow=34
H03N2 Juan Fernandez 82.83 123 T T 00 37 37.9
baz=257,slow=72,SNR=20
H03N3 Juan Fernandez 82.83 123 T T 00 37 41.8
baz=257,slow=72,SNR=12
M17K Holitna River 82.83 8 P **P** **23 05 16.8 +0.9**
baz=196
H03N1 Juan Fernandez 82.85 123 T T 00 37 42.1
baz=257,slow=72,SNR=12
L16K Owhat River 82.89 7 P **P** **23 05 17.3 +1.2**
baz=194
SEW Seward 82.90 12 P **P** **23 05 17.6 +1.4**
baz=203
MDJ Mudanjiang 82.91 323 P **P** **23 05 16.5 -0.2**
MDJ IAmb IAmb 23 05 29.1
comp=Z,44nm,1.2s
MDJ Mudanjiang 82.91 323 P **P** **23 05 17.8 +1.1**
MDJ PP **PP** **23 08 26.9 -0.6**
MDJ S **S** **23 15 29.3 -5.6**
MDJ pmax pmax
comp=Z,19nm,1.4s
MDJ pmax pmax
comp=Z,540nm,4.6s
MDJ LR LR
comp=Z,370nm,19.2s
MDJ LR LR
comp=Z,400nm,20.3s
MDJ LR LR
comp=Z,710nm,18.2s
EPT El Paso 82.93 52 IAMs_20 IAMs_20 23 39 02.7
comp=Z,739nm,18.0s
NJ2 Nanjing 82.98 308 *e*P **P** **23 05 18.8 +1.5**
NJ2 pP **pwP** **23 05 26.3 -0.2**
NJ2 pmax pmax
comp=Z,20nm,0.7s
NJ2 pmax pmax
comp=Z,390nm,5.3s
DUG Dugway, Tooele 83.01 42 P **P** **23 05 17.1 -0.4**
DUG IAmb IAmb 23 05 42.9
comp=Z,14nm,1.4s
DUG IAMs_20 IAMs_20 23 38 51.0
comp=Z,606nm,18.0s
DUG Dugway, Tooele 83.01 42 P **P** **23 05 18.0 +0.5**
baz=236
DUG Dugway, Tooele 83.01 42 P **P** **23 05 19.5 +2.0**
DUG pmax pmax
comp=Z,10.0nm,1.3s
BMO Blue Mountains 83.08 37 IAMs_20 IAMs_20 23 39 23.2
comp=Z,613nm,19.0s
M18K Stony River 83.14 9 P **P** **23 05 18.4 +0.9**
baz=197
O22K Cooper Landing 83.19 12 P **P** **23 05 18.7 +0.9**
baz=203
P23K Montague Islan 83.22 13 P **P** **23 05 18.8 +0.9**
baz=205
UNM Universidad Na 83.22 67 IAMs_20 IAMs_20 23 42 54.9
comp=Z,749nm,18.0s
K15K Wolf Creek Mou 83.25 6 P **P** **23 05 18.3 +0.4**
baz=192,SNR=8.4
CRAG Craig 83.36 22 P **P** **23 05 18.7 0.0**
baz=218
N20K Mount Spurr 83.42 10 P **P** **23 05 19.9 +0.9**
baz=200
L17K Donlin 83.44 7 P **P** **23 05 19.4 +0.5**
baz=195
GRNR Gornyy 83.47 331 ⇑*i*P **P** **23 05 20.0 +0.6**
GRNR pmax pmax
comp=Z,5.0nm,0.9s

J14K	**Nanvaranak Lak**	**83.52**	**5**	P	**P**	**23 05 20.1 +0.7**	
	baz=190						
425A	**Indio Mountain**	**83.59**	**54**	P	**P**	**23 05 20.8 +0.1**	
Y22A	**Socorro**	**83.66**	**50**	P	**P**	**23 05 24.0 +3.0**	
	baz=240						
L18K	**Granite Mounta**	**83.72**	**8**	P	**P**	**23 05 21.1 +0.7**	
	baz=196						
MNTX	**Cornudas Mount**	**83.73**	**53**	P	**P**	**23 05 21.1 -0.1**	
	baz=241						
MNTX	**Cornudas Mount**	**83.73**	**53**	P	**P**	**23 05 23.7 +2.5**	
	baz=241						
RC01	**Rabbit Creek A**	**83.75**	**12**	P	**P**	**23 05 21.2 +0.5**	
	baz=203						
V35K	**Ketchikan**	**83.78**	**23**	P	**P**	**23 05 21.2 +0.3**	
	baz=219						
F10A	**Beach Ranch, E**	**83.82**	**36**	P	**P**	**23 05 21.6 +0.1**	
F10A				IAmb	IAmb	23 05 25.5	
	comp=Z,28nm,1.1s						
KAIM	**Kayak Island**	**83.82**	**14**	P	**P**	**23 05 21.3 +0.3**	
	baz=208						
U33K	**Whale Pass**	**83.87**	**22**	P	**P**	**23 05 21.2 -0.1**	
	baz=218						
SIT	**Sitka**	**83.89**	**20**	P	**P**	**23 05 21.7 +0.4**	
	baz=216						
M20K	**Styx River**	**83.91**	**10**	P	**P**	**23 05 21.8 +0.3**	
	baz=200						
SUA	**Susitna One**	**83.92**	**11**	IAMs_20	IAMs_20	23 34 46.0	
	comp=Z,819nm,19.0s						
SUA	**Susitna One**	**83.92**	**11**	P	**P**	**23 05 22.0 +0.4**	
	baz=202						
TX31	**Lajitas Ar. Si**	**83.92**	**56**	P	**P**	**23 05 21.9 -0.5**	
TX31				IAmb	IAmb	23 05 42.4	
	comp=Z,52nm,1.7s						
TX31	**Lajitas Ar. Si**	**83.92**	**56**	P	**P**	**23 05 24.9 +2.6**	
	baz=242						
TXAR	**Lajitas Array**	**83.92**	**56**	P	**P**	**23 05 22.0 -0.4**	
TXAR	**Lajitas Array**	**83.92**	**56**	P	**P**	**23 05 25.1 +2.7**	
	comp=Z,1.4nm,0.9s,baz=224,slow=5.2,SNR=7.0						
TXAR				LR	LR	23 37 59.7	
	comp=Z,250nm,18.2s,baz=233,slow=32						
	comp=Z,1.4nm,0.9s						
L19K	**White Mountain**	**83.94**	**9**	P	**P**	**23 05 21.7 +0.2**	
	baz=198						
HLID	**Hailey**	**83.97**	**39**	P	**P**	**23 05 21.7 -0.7**	
HLID				IAmb	IAmb	23 05 25.9	
	comp=Z,16nm,1.1s						
HLID	**Hailey**	**83.97**	**39**	P	**P**	**23 05 22.5 +0.2**	
	baz=234,SNR=18						
EYAK	**Cordova Ski Ar**	**84.07**	**14**	P	**P**	**23 05 23.5 +1.2**	
	baz=206						
GLI	**Glacier Island**	**84.08**	**13**	P	**P**	**23 05 23.3 +1.0**	
	baz=205						
GAMB	**Gambell**	**84.17**	**1**	P	**P**	**23 05 23.5 +0.8**	
	baz=182						
MVCO	**Mesa Verde**	**84.24**	**47**	P	**P**	**23 05 24.3 +0.3**	
	baz=239						
BGLC	**Bering Glacier**	**84.26**	**15**	P	**P**	**23 05 24.4 +1.2**	
	baz=209						
SKT	**Skwentna**	**84.26**	**10**	P	**P**	**23 05 23.9 +0.6**	
	baz=201						
KNK	**Knik Glacier**	**84.30**	**12**	P	**P**	**23 05 24.0 +0.6**	
	baz=204						
M22K	**Willow**	**84.30**	**11**	P	**P**	**23 05 24.2 +0.8**	
	baz=202						
J16K	**Anvik River**	**84.31**	**6**	P	**P**	**23 05 24.4 +1.0**	
	baz=192						
PMR	**Palmer**	**84.33**	**12**	P	**P**	**23 05 24.0 +0.5**	
	baz=203						
S31K	**Pelican**	**84.34**	**19**	P	**P**	**23 05 24.5 +0.8**	
	baz=215						
L20K	**Farewell, AK**	**84.36**	**9**	P	**P**	**23 05 24.4 +0.6**	
	baz=199						
TTA	**Tatalina**	**84.49**	**8**	P	**P**	**23 05 24.4 0.0**	
TTA				IAmb	IAmb	23 05 42.4	
	comp=Z,28nm,1.4s						
TTA	**Tatalina**	**84.49**	**8**	P	**P**	**23 05 25.2 +0.8**	
	baz=197,SNR=7.3						
TTA	**Tatalina**	**84.49**	**8**	P	**P**	**23 05 24.4 0.0**	
TTA				pmax	pmax		
	comp=Z,29nm,1.4s						
ANMO	**Albuquerque**	**84.52**	**50**	P	**P**	**23 05 25.6 +0.2**	
ANMO				IAmb	IAmb	23 05 41.5	
	comp=Z,30nm,1.4s						
ANMO	**Albuquerque**	**84.52**	**50**	P	**P**	**23 05 25.2 -0.3**	
	baz=240						
ANMO	**Albuquerque**	**84.52**	**50**	P	**P**	**23 05 28.4 +2.9**	
	baz=240						
ANMO	**Albuquerque**	**84.52**	**50**	P	**P**	**23 05 25.7 +0.2**	
ANMO				pmax	pmax		
	comp=Z,30nm,1.4s						
ANMO				MLR	MLR		
	comp=Z,500nm,18.0s						
GHO	**Glory Hole Cre**	**84.54**	**12**	P	**P**	**23 05 24.5 -0.2**	
GHO				IAmb	IAmb	23 05 39.2	
	comp=Z,21nm,0.9s						
HWUT	**Hardware Ranch**	**84.59**	**42**	P	**P**	**23 05 24.8 -0.8**	
HWUT				IAMs_20	IAMs_20	23 40 43.5	
	comp=Z,806nm,18.0s						
MESA	**MESA**	**84.63**	**15**	P	**P**	**23 05 25.6 +0.2**	
	baz=210						
WAX	**Waxell Ridge**	**84.65**	**15**	P	**P**	**23 05 25.2 -0.1**	
KLR	**Kul'dur**	**84.67**	**328⇑**	*e*P	**P**	**23 05 26.5 +0.9**	
KLR				pmax	pmax		
	comp=Z,19nm,2.5s						
KLR	**Kul'dur**	**84.67**	**328**	LR	LR	23 38 04.8	
	comp=Z,406nm,21.0s,baz=135,slow=32						
BMRM	**Bremner River**	**84.70**	**14**	P	**P**	**23 05 26.2 +0.7**	
	baz=207						
M23K	**Glacier View**	**84.79**	**12**	P	**P**	**23 05 27.2 +1.3**	
	baz=204						
BNX	**BinXian**	**84.82**	**323**	⇑P	**P**	**23 05 26.6 +0.2**	
BNX				pmax	pmax		
	comp=Z,11nm,1.4s						
BNX				pmax	pmax		
	comp=Z,200nm,3.7s						
CRQM	**Cirque**	**84.85**	**15**	IAMs_20	IAMs_20	23 38 29.1	
	comp=Z,817nm,19.0s						
PNL	**Peninsula**	**84.86**	**17**	P	**P**	**23 05 26.5 +0.2**	
	baz=212						
CRQE	**Cirque**	**84.86**	**15**	P	**P**	**23 05 26.4 0.0**	
	baz=209						
KLU	**Klutina**	**84.88**	**13**	P	**P**	**23 05 26.5 +0.1**	
	baz=206						
I17K	**Unalakleet**	**84.89**	**6**	P	**P**	**23 05 27.3 +1.0**	
	baz=192						
SCM	**Sheep Creek Mo**	**84.90**	**12**	P	**P**	**23 05 27.0 +0.4**	
SCM	**Sheep Creek Mo**	**84.90**	**12**	P	**P**	**23 05 27.0 +0.4**	
	baz=205						
SCM	**Sheep Creek Mo**	**84.90**	**12**	P	**P**	**23 05 27.0 +0.4**	
SCM				pmax	pmax		
	comp=Z,81nm,1.5s						
ISLE	**Juniper Island**	**84.91**	**15**	IAMs_20	IAMs_20	23 35 22.4	
	comp=Z,834nm,20.0s						
J18K	**Innoko River**	**84.92**	**8**	P	**P**	**23 05 26.7 +0.2**	
	baz=196						
TGL	**Tana Glacier**	**84.92**	**15**	IAMs_20	IAMs_20	23 38 13.8	
	comp=Z,798nm,19.0s						
PINM	**Pinnacle**	**84.99**	**16**	P	**P**	**23 05 27.8 +0.7**	
	baz=211						
MA2	**Magadan**	**85.02**	**343**	IAMs_20	IAMs_20	23 37 41.4	
	comp=Z,558nm,19.0s						
MA2	**Magadan**	**85.02**	**343⇑**	*e*P	**P**	**23 05 28.3 +1.2**	
MA2				pmax	pmax		
	comp=Z,16nm,1.7s						
MA2	**Magadan**	**85.02**	**343**	LR	LR	23 38 34.1	
	comp=Z,437nm,20.3s,baz=156,slow=32						
PPLA	**Purkeypile**	**85.02**	**10**	P	**P**	**23 05 27.6 +0.5**	
	baz=200						
TABL	**Table Mountain**	**85.06**	**16**	IAMs_20	IAMs_20	23 40 27.5	
	comp=Z,746nm,19.0s						
R32K	**Eaglecrest**	**85.13**	**20**	P	**P**	**23 05 29.5 +1.8**	
	baz=217						
GRNC	**Granite Creek**	**85.16**	**15**	P	**P**	**23 05 27.4 -0.6**	
GRNC				IAmb	IAmb	23 05 42.5	
	comp=Z,24nm,1.0s						
K20K	**Telida**	**85.17**	**9**	P	**P**	**23 05 29.0 +1.2**	
	baz=199						
ANM	**Nome**	**85.20**	**4**	P	**P**	**23 05 29.1 +1.2**	
	baz=188						
N25K	**Chitina, Valde**	**85.27**	**14**	P	**P**	**23 05 29.4 +0.9**	
	baz=207						
P29M	**Windy Craggy**	**85.28**	**17**	P	**P**	**23 05 29.2 +0.7**	
	baz=214						
NEW	**Newport**	**85.29**	**34**	IAMs_20	IAMs_20	23 39 48.3	
	comp=Z,841nm,19.0s						
NEW	**Newport**	**85.29**	**34**	P	**P**	**23 05 29.3 +0.5**	
	baz=232						
NEW	**Newport**	**85.29**	**34**	LR	LR	23 40 26.3	
	comp=Z,534nm,18.0s,baz=234,slow=33						
M24K	**Tolsona, Glenn**	**85.39**	**13**	P	**P**	**23 05 30.0 +1.1**	
	baz=206						
LOGN	**Logan Glacier**	**85.43**	**15**	P	**P**	**23 05 29.3 0.0**	
LOGN				IAmb	IAmb	23 05 43.8	
	comp=Z,34nm,1.2s						
LOGN				IAMs_20	IAMs_20	23 40 04.2	
	comp=Z,634nm,19.0s						
MCARA	**McCarthy VSAT**	**85.43**	**14**	P	**P**	**23 05 30.4 +1.3**	
	baz=209						
CTG	**Chitna Glacier**	**85.47**	**15**	P	**P**	**23 05 30.4 +1.0**	
	baz=210						
CTGM	**Chitina Glacie**	**85.47**	**15**	IAMs_20	IAMs_20	23 35 41.2	
	comp=Z,725nm,21.0s						
BARN	**Barnard Glacie**	**85.47**	**15**	IAMs_20	IAMs_20	23 35 50.3	
	comp=Z,634nm,22.0s						
H16K	**Elim**	**85.49**	**5**	P	**P**	**23 05 29.5 +0.2**	
	baz=191						
WAT6	**Susitna Watana**	**85.50**	**12**	P	**P**	**23 05 29.5 -0.2**	
	baz=204,SNR=7.0						
AHID	**Auburn Hatcher**	**85.51**	**41**	P	**P**	**23 05 30.5 +0.3**	
AHID				IAmb	IAmb	23 05 45.5	
	comp=Z,19nm,1.2s						
AHID				IAMs_20	IAMs_20	23 41 13.0	
	comp=Z,776nm,18.0s						
CAST	**Castle Rocks**	**85.53**	**10**	P	**P**	**23 05 30.2 +0.6**	
CAST				IAmb	IAmb	23 05 42.3	
	comp=Z,48nm,1.8s						
CAST	**Castle Rocks**	**85.53**	**10**	P	**P**	**23 05 30.2 +0.6**	
	baz=200						
T35M	**Bob Quinn**	**85.55**	**22**	P	**P**	**23 05 30.1 +0.3**	
	baz=220						
J19K	**Poorman**	**85.56**	**8**	P	**P**	**23 05 29.3 -0.4**	
	baz=197						
WAT1	**Susitna Watana**	**85.58**	**11**	P	**P**	**23 05 29.6 -0.2**	
	baz=204						
O29M	**Mount Kennedy**	**85.61**	**17**	P	**P**	**23 05 29.8 -0.4**	
	baz=213						
S22A	**4UR Ranch, Cre**	**85.66**	**47**	P	**P**	**23 05 30.9 -0.3**	
	baz=240						
WHN	**Wuhan**	**85.67**	**305**	P	**P**	**23 05 31.8 +0.8**	
WHN				sP	**pwP**	**23 05 41.9 +1.7**	
WHN				pmax	pmax		
	comp=Z,200nm,1.9s						
G15K	**Niukluk**	**85.71**	**4**	P	**P**	**23 05 30.4 0.0**	
	baz=189						
KTH	**Kantishna Hill**	**85.84**	**10**	IAMs_20	IAMs_20	23 35 35.7	
	comp=Z,760nm,22.0s						
SKAG	**Skagway**	**85.84**	**19**	P	**P**	**23 05 32.3 +1.2**	
	baz=216						
TRF	**Thorofare Moun**	**85.85**	**10**	P	**P**	**23 05 32.5 +1.1**	
	baz=202,SNR=11						
HARP	**HAARP**	**85.86**	**13**	P	**P**	**23 05 32.7 +1.5**	
	baz=207						
CHUM	**Lake Minchumin**	**85.93**	**9**	P	**P**	**23 05 32.3 +0.8**	
	baz=200,SNR=5.4						
O20A	**White River Ci**	**85.93**	**44**	P	**P**	**23 05 32.5 +0.2**	
	baz=239						
J20K	**Nowinta River**	**85.94**	**9**	P	**P**	**23 05 32.4 +0.9**	
	baz=198,SNR=10						
S34M	**Telegraph Cree**	**85.95**	**21**	P	**P**	**23 05 32.8 +1.1**	
	baz=220						
H17K	**Granite Mounta**	**86.00**	**6**	P	**P**	**23 05 30.9 -1.0**	
	baz=193						
TPAW	**Teton Pass**	**86.00**	**41**	P	**P**	**23 05 32.4 -0.3**	
TPAW				IAmb	IAmb	23 06 32.9	
	comp=Z,23nm,1.7s						
TPAW				IAMs_20	IAMs_20	23 42 39.8	
	comp=Z,676nm,18.0s						
DHY	**Denali Highway**	**86.03**	**12**	P	**P**	**23 05 31.3 -1.0**	
	baz=205						
F14K	**Arctic Creek**	**86.05**	**3**	P	**P**	**23 05 31.6 -0.5**	
	baz=187						
RND	**Reindeer**	**86.06**	**11**	P	**P**	**23 05 32.7 +0.4**	
RND	**Reindeer**	**86.06**	**11**	P	**P**	**23 05 32.7 +0.4**	
RND				pmax	pmax		
	comp=Z,42nm,1.1s						
TNA	**Tin City**	**86.06**	**2**	P	**P**	**23 05 32.1 0.0**	
	baz=186						
CMIG	**Matias Romero**	**86.07**	**70**	LR	LR	23 37 00.5	
	comp=Z,317nm,18.9s,baz=247,slow=31						
SNOW	**Snow King Moun**	**86.11**	**41**	IAMs_20	IAMs_20	23 43 50.6	
	comp=Z,723nm,18.0s						
YUK8	**Steele Glacier**	**86.14**	**16**	P	**P**	**23 05 33.4 +0.5**	
	baz=212,SNR=6.0						
MSO	**Missoula**	**86.15**	**37**	P	**P**	**23 05 33.7 +0.5**	
	baz=234						
YUK6	**Outpost Mounta**	**86.21**	**17**	P	**P**	**23 05 34.0 +0.7**	
	baz=213						
G16K	**Koyuk River**	**86.23**	**5**	P	**P**	**23 05 34.1 +1.1**	
	baz=191						
TIA	**Tai'an**	**86.26**	**311**	P	**P**	**23 05 31.8 -2.0**	
TIA				pmax	pmax		
	comp=Z,26nm,1.9s						
MOOW	**Moose Ponds**	**86.27**	**40**	IAMs_20	IAMs_20	23 40 54.7	
	comp=Z,613nm,20.0s						
LOHW	**Long Hollow**	**86.28**	**41**	IAMs_20	IAMs_20	23 43 57.2	
	comp=Z,633nm,18.0s						
PAX	**Paxson**	**86.31**	**13**	P	**P**	**23 05 34.2 +0.7**	
	baz=207						
M26K	**Nabesna, AK**	**86.33**	**14**	P	**P**	**23 05 34.7 +1.1**	
	baz=209						
BPAW	**Bear Paw Mtn.**	**86.34**	**10**	P	**P**	**23 05 34.9 +1.4**	
	baz=202						
PLCA	**Paso Flores**	**86.34**	**132**	P	**P**	**23 05 35.3 +0.9**	
	comp=Z,1.6nm,0.9s,baz=52,slow=11,SNR=2.3						
PLCA				LR	LR	23 38 59.4	
	comp=Z,263nm,18.1s,baz=255,slow=32						
	comp=Z,1.6nm,0.9s						
MCK	**McKinley**	**86.34**	**11**	P	**P**	**23 05 34.3 +0.7**	
	baz=203,SNR=16						
HYT	**Haines Junctio**	**86.34**	**17**	P	**P**	**23 05 34.2 +0.4**	
HYT				IAmb	IAmb	23 05 49.0	
	comp=Z,32nm,1.4s						
HYT	**Haines Junctio**	**86.34**	**17**	P	**P**	**23 05 34.8 +0.9**	
	baz=214						
H18K	**Honhosa River**	**86.36**	**7**	P	**P**	**23 05 34.4 +0.7**	
	baz=195						
F15K	**North Star Dit**	**86.38**	**4**	P	**P**	**23 05 34.7 +1.0**	
	baz=189						
YUK3	**Moose Creek**	**86.38**	**15**	P	**P**	**23 05 34.7 +0.6**	
	baz=211,SNR=7.6						
Q32M	**Nakina River**	**86.39**	**20**	P	**P**	**23 05 35.0 +0.8**	
	baz=219						
P32M	**Atlin**	**86.44**	**19**	P	**P**	**23 05 35.4 +1.2**	
	baz=217						
BW06	**Boulder Array**	**86.47**	**42**	IAMs_20	IAMs_20	23 39 51.3	
	comp=Z,589nm,20.0s						
BW06	**Boulder Array**	**86.47**	**42**	P	**P**	**23 05 35.2 +0.2**	
	baz=238						
PD31	**Pinedale Array**	**86.47**	**42**	P	**P**	**23 05 35.3 +0.3**	
PDAR	**Pinedale Array**	**86.47**	**42**	P	**P**	**23 05 35.2 +0.2**	
PDAR	**Pinedale Array**	**86.47**	**42**	P	**P**	**23 05 36.4 +1.4**	
	comp=Z,3.8nm,0.9s,baz=217,slow=2.9,SNR=20						
PDAR				LR	LR	23 41 13.8	
	comp=Z,402nm,18.0s,baz=252,slow=34						
	comp=Z,3.8nm,0.9s						
YUK4	**Talbot Arm**	**86.47**	**16**	P	**P**	**23 05 36.1 +1.6**	
	baz=213						
G17K	**Kiwalik Mounta**	**86.48**	**5**	P	**P**	**23 05 35.5 +1.3**	
	baz=192						
I20K	**Naaghedeneel**	**86.48**	**8**	P	**P**	**23 05 35.5 +1.4**	
	baz=198						
M27K	**Edge Creek, AK**	**86.55**	**14**	IAMs_20	IAMs_20	23 41 01.7	
	comp=Z,648nm,21.0s						
M27K	**Edge Creek, AK**	**86.55**	**14**	P	**P**	**23 05 36.3 +1.5**	
	baz=210,SNR=11						
SDCO	**Great Sand Dun**	**86.57**	**48**	P	**P**	**23 05 35.9 +0.2**	
	baz=241						
SDCO	**Great Sand Dun**	**86.57**	**48**	P	**P**	**23 05 37.4 +1.7**	
	baz=241						
MENT	**Mentasta**	**86.64**	**13**	P	**P**	**23 05 33.4 -1.7**	
MENT				IAmb	IAmb	23 05 49.9	
	comp=Z,34nm,1.3s						
O30N	**Mendenhall**	**86.69**	**18**	P	**P**	**23 05 36.7 +1.3**	
	baz=215,SNR=6.2						
H17A	**Grant Village**	**86.72**	**40**	P	**P**	**23 05 37.0 +0.8**	
	baz=237						
DLBC	**Dease Lake**	**86.73**	**21**	P	**P**	**23 05 37.2 +1.5**	
	baz=221						
DLBC	**Dease Lake**	**86.73**	**21**	LR	LR	23 38 10.9	
	comp=Z,236nm,18.9s,baz=248,slow=31						
MSTX	**Muleshoe**	**86.73**	**52**	P	**P**	**23 05 36.1 -0.3**	
MSTX				IAmb	IAmb	23 05 50.4	
	comp=Z,16nm,1.0s						
MSTX	**Muleshoe**	**86.73**	**52**	P	**P**	**23 05 36.7 +0.3**	
	baz=243						
BOZ	**Bozeman (W)**	**86.76**	**38**	P	**P**	**23 05 36.3 0.0**	
BOZ				IAmb	IAmb	23 05 51.0	
	comp=Z,15nm,1.4s						
BOZ	**Bozeman (W)**	**86.76**	**38**	P	**P**	**23 05 37.5 +1.2**	
	baz=236						
BOZ	**Bozeman (W)**	**86.76**	**38**	P	**P**	**23 05 36.3 0.0**	
BOZ				pmax	pmax		
	comp=Z,15nm,1.4s						
BOZ				MLR	MLR		
	comp=Z,500nm,20.0s						
L26K	**Log Cabin Wild**	**86.80**	**13**	IAMs_20	IAMs_20	23 47 00.4	
	comp=Z,740nm,20.0s						
L26K	**Log Cabin Wild**	**86.80**	**13**	P	**P**	**23 05 37.2 +1.3**	
	baz=208						
OVMT	**Ovando**	**86.81**	**37**	P	**P**	**23 05 36.6 +0.2**	
833A	**Chaparral WMA,**	**86.83**	**58**	P	**P**	**23 05 37.8 +1.0**	
	baz=245						
BVCY	**Beaver Creek**	**86.84**	**15**	P	**P**	**23 05 37.6 +1.5**	
	baz=211,SNR=10						
ELIB	**Princess Elisa**	**86.89**	**185**	*d*P	**P**	**23 05 38.2 +1.6**	
	comp=Z,11nm,1.2s						
H19K	**Roundabout Mou**	**86.94**	**7**	P	**P**	**23 05 38.0 +1.6**	
	baz=196						
WHY	**Whitehorse**	**86.95**	**18**	P	**P**	**23 05 37.2 +0.4**	
WHY				IAmb	IAmb	23 05 51.1	
	comp=Z,19nm,1.3s						
WHY	**Whitehorse**	**86.95**	**18**	P	**P**	**23 05 38.5 +1.7**	
	baz=216						
N30M	**Aishikik Lake**	**86.98**	**17**	P	**P**	**23 05 38.4 +1.6**	
	baz=214						
G18K	**Tagagawik**	**87.05**	**6**	P	**P**	**23 05 38.1 +1.0**	
	baz=194						
H20K	**Anotleneega Mo**	**87.10**	**8**	P	**P**	**23 05 38.4 +1.1**	
	baz=198						
NEA2	**Nenana**	**87.11**	**10**	P	**P**	**23 05 38.1 +0.8**	
	baz=203						
RIDG	**Independent Ri**	**87.12**	**12**	P	**P**	**23 05 38.6 +1.2**	
	baz=207						
R33M	**Jennings River**	**87.15**	**20**	P	**P**	**23 05 38.8 +1.0**	
	baz=220						
L27K	**Beaver Creek,**	**87.17**	**14**	P	**P**	**23 05 38.3 +0.6**	
	baz=210						
BCAR	**Beaver Creek A**	**87.19**	**14**	P	**P**	**23 05 37.6 -0.2**	
P33M	**Teslin, Yukon**	**87.20**	**19**	P	**P**	**23 05 38.8 +0.8**	
	baz=218						
MLY	**Manley**	**87.25**	**10**	P	**P**	**23 05 37.1 -1.0**	
MLY	**Manley**	**87.25**	**10**	P	**P**	**23 05 39.0 +1.0**	
	baz=202						
HDA	**Harding Lake**	**87.32**	**11**	P	**P**	**23 05 38.0 -0.3**	
HDA	**Harding Lake**	**87.32**	**11**	P	**P**	**23 05 39.6 +1.3**	
	baz=205,SNR=8.9						
HDA				P	**P**	**23 05 39.6 +1.3**	
	baz=205,SNR=8.9						
F17K	**Baldwin Pennin**	**87.35**	**5**	P	**P**	**23 05 39.5 +1.1**	
	baz=192						
N31M	**Braeburn, Yuko**	**87.36**	**17**	P	**P**	**23 05 39.7 +1.0**	
	baz=215						
CCB	**Clear Creek Bu**	**87.38**	**11**	P	**P**	**23 05 38.2 -0.4**	
Q24A	**Divide**	**87.41**	**47**	P	**P**	**23 05 40.1 +0.3**	
	baz=241						
JCT	**Junction City**	**87.43**	**56**	IAMs_20	IAMs_20	23 40 29.3	
	comp=Z,625nm,19.0s						
JCT	**Junction City**	**87.43**	**56**	P	**P**	**23 05 40.1 +0.4**	
	baz=244						
M29M	**Somme Creek**	**87.45**	**16**	P	**P**	**23 05 40.2 +1.1**	
	baz=213						
SEY	**Seymchan**	**87.45**	**345⇑**	*e*P	**P**	**23 05 39.1 +0.1**	
SEY				pmax	pmax		
	comp=Z,26nm,1.2s						
SEY	**Seymchan**	**87.45**	**345**	LR	LR	23 40 36.2	
	comp=Z,472nm,19.9s,baz=156,slow=33						
G19K	**Purcell Mounta**	**87.46**	**7**	P	**P**	**23 05 40.2 +1.3**	
	baz=196						
ISCO	**Idaho Springs**	**87.50**	**46**	P	**P**	**23 05 40.2 0.0**	
	baz=241						
SCRK	**Sand Creek**	**87.51**	**13**	P	**P**	**23 05 39.4 0.0**	
SCRK				IAmb	IAmb	23 05 53.2	
	comp=Z,25nm,1.4s						
SCRK	**Sand Creek**	**87.51**	**13**	P	**P**	**23 05 40.0 +0.6**	
	baz=208						
HEH	**HeiHe**	**87.51**	**327**	*e*P	**P**	**23 05 40.0 +0.4**	
HEH				sP	**pwP**	**23 05 50.0 +1.4**	
HEH				S	**S**	**23 16 19.3 -0.9**	
HEH				pmax	pmax		
	comp=Z,22nm,1.5s						
HEH				pmax	pmax		
	comp=Z,350nm,5.8s						
HEH				LR	LR		
	comp=Z,440nm,18.8s						
HEH				LR	LR		
	comp=Z,540nm,19.7s						
HEH				LR	LR		
	comp=Z,940nm,20.3s						
H21K	**Melozitna Rive**	**87.53**	**9**	P	**P**	**23 05 40.1 +0.8**	
	baz=200						
TROLL	**Troll, Antarti**	**87.54**	**179**	P	**P**	**23 05 41.9 +2.1**	
	comp=Z,407nm,1.1s						
I23K	**Minto, Yukon-K**	**87.58**	**10**	P	**P**	**23 05 40.7 +1.2**	
	baz=203						
COLA	**College**	**87.58**	**11**	P	**P**	**23 05 39.5 -0.1**	
COLA	**College**	**87.58**	**11**	P	**P**	**23 05 40.6 +1.1**	
	baz=204						
COLA	**College**	**87.58**	**11**	P	**P**	**23 05 39.5 -0.1**	
COLA				pmax	pmax		
	comp=Z,26nm,0.3s						
ILAR	**Eielson Array**	**87.66**	**11**	P	**P**	**23 05 40.1 +0.1**	
ILAR	**Eielson Array**	**87.66**	**11**	P	**P**	**23 05 40.8 +0.8**	
	comp=Z,2.6nm,0.7s,baz=218,slow=4.5,SNR=18						
ILAR				LR	LR	23 38 56.5	
	comp=Z,217nm,20.1s,baz=186,slow=32						
	comp=Z,2.6nm,0.7s						
SNAA	**Sanae**	**87.71**	**177**	P	**P**	**23 05 41.1 +0.7**	
SNAA				IAmb	IAmb	23 05 56.6	
	comp=Z,14nm,1.0s						
SNAA	**Sanae**	**87.71**	**177**	P	**P**	**23 05 42.5 +2.1**	
	comp=Z,150nm,0.9s						
SNAA	**Sanae**	**87.71**	**177**	P	**P**	**23 05 42.3 +1.8**	
	comp=Z,6.8nm,0.9s,baz=135,slow=2.5,SNR=7.4						
SNAA				LR	LR	23 43 30.9	
	comp=Z,269nm,18.0s,baz=178,slow=35						
	comp=Z,6.8nm,0.9s						
IMAR	**Indian Mountai**	**87.71**	**8**	P	**P**	**23 05 40.0 -0.2**	
J25K	**Salcha River,**	**87.80**	**12**	P	**P**	**23 05 41.5 +0.8**	
	baz=207						
N23A	**Red Feather La**	**87.82**	**45**	P	**P**	**23 05 41.6 -0.1**	
	baz=240						
N32M	**Quiet Lake**	**87.87**	**18**	P	**P**	**23 05 41.6 +0.5**	
	baz=218						
POKR	**Poker Plat Res**	**87.88**	**11**	P	**P**	**23 05 40.6 -0.4**	
POKR	**Poker Plat Res**	**87.88**	**11**	P	**P**	**23 05 41.7 +0.7**	
	baz=205,SNR=6.7						
RLMT	**Red Lodge**	**87.90**	**40**	P	**P**	**23 05 42.2 +0.3**	
	baz=238						
E17K	**Hotham Inlet**	**87.94**	**5**	P	**P

PSI pmax pmax
comp=Z,20nm,1.2s
E18K Tukpahlearik C 88.37 5 P **P** **23 05 43.4 +0.1**
baz=192
VNA1 Neumayer--Stat 88.38 175 P **P** **23 05 44.8 +1.3**
comp=Z,14nm,1.0s
WTLY Watson Lake, Y 88.42 21 P **P** **23 05 44.5 +0.8**
baz=222
H24K Noodor Dome 88.46 10 IAMs_20 IAMs_20 23 41 45.0
comp=Z,804nm,20.0s
ABTX Abilene, Hawle 88.48 54 P **P** **23 05 44.8 +0.1**
baz=244
F20K Avaraart Lake 88.49 7 P **P** **23 05 45.2 +1.4**
baz=197
HNS HongShan 88.53 311 ⇑P **P** **23 05 46.0 +1.3**
HNS S **S** **23 16 33.0 +2.6**
HNS pmax pmax
comp=Z,30nm,1.6s
HNS LR LR
comp=Z,510nm,19.4s
HNS LR LR
comp=Z,460nm,19.6s
PRP Porcupine Dome 88.59 11 P **P** **23 05 44.8 +0.3**
PRP Porcupine Dome 88.59 11 P **P** **23 05 45.6 +1.0**
baz=206
DAWY Dawson 88.60 14 P **P** **23 05 44.8 +0.3**
DAWY IAmb IAmb 23 05 59.4
comp=Z,32nm,1.3s
DAWY Dawson 88.60 14 P **P** **23 05 45.3 +0.8**
baz=212,SNR=13
FARO Faro, Yukon 88.65 18 P **P** **23 05 46.1 +1.3**
baz=218
E19K Redstone River 88.72 6 P **P** **23 05 46.3 +1.3**
baz=196
BJT Baijiatuau 88.74 314 P **P** **23 05 45.6 -0.1**
BJT Baijiatuau 88.74 314 P **P** **23 05 45.6 -0.1**
BJT pmax pmax
comp=Z,69nm,1.7s
BJI Beijing 88.75 314 P **P** **23 05 46.4 +0.7**
BJI pmax pmax
comp=Z,9.0nm,2.0s
BJI pmax pmax
comp=Z,170nm,4.4s
BJI LR LR
comp=Z,93nm,17.1s
BJI LR LR
comp=Z,150nm,21.0s
BJI LR LR
comp=Z,170nm,16.7s
BRLDA Berland Lookou 88.78 29 P **P** **23 05 45.4 -0.3**
EGAK Eagle 88.81 13 P **P** **23 05 45.2 -0.2**
EGAK Eagle 88.81 13 P **P** **23 05 46.6 +1.2**
baz=210
RDOG Red Dog Mine 88.82 4 P **P** **23 05 46.4 +1.0**
baz=190
I26K Coal Creek Min 88.86 12 P **P** **23 05 47.4 +1.8**
baz=209
K29M Barlow Dome 88.86 15 IAMs_20 IAMs_20 23 39 50.9
comp=Z,706nm,22.0s
K29M Barlow Dome 88.86 15 P **P** **23 05 47.2 +1.4**
baz=214
LYN LuoYang 88.88 308 ⇓P **P** **23 05 48.1 +1.7**
LYN pmax pmax
comp=Z,36nm,1.3s
LYN pmax pmax
comp=Z,580nm,3.6s
F21K Alatna River 88.92 8 P **P** **23 05 46.5 +0.6**
F21K IAmb IAmb 23 05 59.1
comp=Z,13nm,1.4s
F21K Alatna River 88.92 8 P **P** **23 05 47.2 +1.3**
baz=199
G23K Bananza Creek 88.92 9 P **P** **23 05 47.0 +1.1**
baz=202
GSI Gunungsitoli 89.09 272 P **P** **23 05 47.1 -0.9**
KSCO Kaye Shedlock' 89.16 48 P **P** **23 05 48.1 +0.2**
baz=242
EGMT Eagleton 89.17 37 IAMs_20 IAMs_20 23 42 31.3
comp=Z,505nm,19.0s
C17K DeLong Mountai 89.22 4 P **P** **23 05 47.8 +0.5**
baz=190
G24K Hadweenzic Riv 89.32 10 IAMs_20 IAMs_20 23 42 21.6
comp=Z,622nm,19.0s
G24K Hadweenzic Riv 89.32 10 P **P** **23 05 48.3 +0.5**
baz=205
ENH Enshi 89.35 303 P **P** **23 05 48.7 -0.1**
F22K John River 89.36 8 P **P** **23 05 48.8 +0.9**
baz=200
COLD Coldfoot 89.38 9 P **P** **23 05 48.8 +0.8**
baz=202
I27K Kandik River 89.43 13 P **P** **23 05 49.3 +0.9**
baz=210
C18K Utukok River 89.53 5 P **P** **23 05 49.7 +0.9**
baz=192
E20K Nigu River 89.60 7 P **P** **23 05 50.2 +1.0**
baz=197
G25K Bearman Lake 89.61 11 P **P** **23 05 50.3 +1.2**
baz=206
BILL Bilibino 89.63 353 *i* P **P** **23 05 50.2 +1.0**
D19K Kuna River 89.64 6 P **P** **23 05 50.5 +1.3**
baz=195
TGTN Hyland Airport 89.64 20 P **P** **23 05 50.2 +0.7**
baz=222
I28M Miner Creek 89.66 13 IAMs_20 IAMs_20 23 42 03.8
comp=Z,619nm,20.0s
I28M Miner Creek 89.66 13 P **P** **23 05 50.3 +0.8**
baz=212
ZEA Zeya 89.68 329 *e*P **P** **23 05 50.9 +1.2**
ZEA pmax pmax
comp=N,10.0nm,1.4s
ZEA pmax pmax
comp=Z,20nm,1.6s
J30M Hart River 89.76 15 IAMs_20 IAMs_20 23 41 07.7
comp=Z,739nm,19.0s
J30M Hart River 89.76 15 P **P** **23 05 50.7 +0.7**
baz=215
SNET Serv Nac Est T 89.86 75 IAMs_20 IAMs_20 23 40 39.4
comp=Z,544nm,18.0s
I29M Ogilvie Camp, 89.94 14 P **P** **23 05 51.8 +1.0**
baz=213,SNR=5.2
D20K Etivluk River 89.99 6 P **P** **23 05 51.4 +0.5**
baz=196
H27K Steamboat Moun 89.99 13 P **P** **23 05 51.3 +0.3**
baz=210
F24K Squaw Lake 90.00 10 IAMs_20 IAMs_20 23 39 15.6
comp=Z,634nm,21.0s
F24K Squaw Lake 90.00 10 P **P** **23 05 51.6 +0.6**
baz=204
E22K Anaktuvuk Pass 90.00 8 P **P** **23 05 51.9 +0.9**
baz=201
E21K Killik River 90.02 7 P **P** **23 05 51.9 +0.8**
baz=199
KOTAN Kotaneelee Air 90.07 22 P **P** **23 05 52.7 +1.3**
baz=226
C19K Lookout Ridge 90.10 5 P **P** **23 05 52.8 +1.4**
baz=193
B18K Kokolik River 90.19 4 P **P** **23 05 53.2 +1.5**
baz=191
G26K Porcupine Rive 90.19 11 P **P** **23 05 53.4 +1.6**
baz=208
E23K Chandalar 90.23 9 P **P** **23 05 53.1 +1.0**
baz=203
I30M Mount Dempster 90.28 15 P **P** **23 05 54.0 +1.6**
baz=215,SNR=12
HKT Hockley 90.33 58 IAMs_20 IAMs_20 23 43 30.4
comp=Z,542nm,19.0s
HKT Hockley 90.33 58 *i* P **P** **23 05 54.0 +0.7**
HKT pmax pmax
comp=Z,12nm,1.9s
E24K Your Creek 90.42 9 P **P** **23 05 54.4 +1.5**
baz=204
F25K Christian Rive 90.43 10 P **P** **23 05 53.8 +0.8**
baz=206
OGNE Ogallala 90.45 46 P **P** **23 05 54.1 +0.3**
baz=243
BMAR Burnt Mountain 90.47 11 P **P** **23 05 54.3 +1.1**
G27K Doyon Strip 90.47 12 P **P** **23 05 54.3 +1.1**
baz=210
LAO LASA Array 90.53 40 P **P** **23 05 54.7 +0.7**
baz=240
D22K Ayikyak River 90.59 8 P **P** **23 05 54.9 +1.2**
baz=200
C21K Knifeblade Rid 90.61 7 P **P** **23 05 55.0 +1.2**
baz=198
RSSD Black Hills 90.62 43 P **P** **23 05 54.7 0.0**
RSSD IAmb IAmb 23 06 09.2
comp=Z,17nm,1.5s
RSSD Black Hills 90.62 43 IAMs_20 IAMs_20 23 46 42.3
comp=Z,713nm,18.0s
RSSD Black Hills 90.62 43 P **P** **23 05 55.1 +0.5**
baz=242
RSSD Black Hills 90.62 43 P **P** **23 05 56.5 +1.8**
baz=242
RSSD Black Hills 90.62 43 P **P** **23 05 54.7 0.0**
RSSD pmax pmax
comp=Z,17nm,1.5s
RSSD MLR MLR
comp=Z,700nm,18.0s
XLT XiLinHaoTe 90.64 317 *e*P P 23 06 05.9 +11
XLT pP pwP 23 06 10.8 +7.1
XLT sP sP 23 06 14.9 +15
XLT PP PP 23 09 43.3 +13
XLT XiLinHaoTe 90.64 317 S **S** **23 16 57.3 +7.3**
XLT XiLinHaoTe 90.64 317 sS sS 23 17 06.9 +10
XLT pmax pmax
comp=Z,15nm,0.9s
XLT pmax pmax
comp=Z,170nm,6.6s
XLT LR LR
comp=N,18nm,11.9s
XLT LR LR
comp=E,270nm,16.2s
XLT LR LR
comp=Z,260nm,20.0s
H29M Whitestone 90.65 14 P **P** **23 05 55.6 +1.6**
baz=213
TOLK Toolik Lake Re 90.78 9 P **P** **23 05 55.9 +1.2**
baz=203
F26K Sheenjek River 90.78 11 P **P** **23 05 56.5 +1.8**
baz=208
E25K Arctic Village 90.92 10 IAMs_20 IAMs_20 23 39 07.1
comp=Z,809nm,22.0s
E25K Arctic Village 90.92 10 P **P** **23 05 57.1 +1.8**
baz=206
D23K Nanushuk River 90.93 8 P **P** **23 05 57.2 +2.0**
baz=202
B21K Ikpikpuk River 91.08 7 P **P** **23 05 57.2 +1.4**
baz=198
HIA Hailar 91.10 323 IAMs_20 IAMs_20 23 42 23.1
comp=Z,608nm,21.0s
EPYK Eagle Plains 91.15 14 P **P** **23 05 56.5 +0.2**
EPYK Eagle Plains 91.15 14 P **P** **23 05 58.3 +1.9**
baz=214,SNR=6.2
B20K Meade River 91.19 6 P **P** **23 05 58.1 +1.7**
baz=196
H31M Peel River 91.25 15 IAMs_20 IAMs_20 23 43 04.1
comp=Z,744nm,18.0s
H31M Peel River 91.25 15 P **P** **23 05 58.3 +1.4**
baz=217
G29M Pine Creek 91.31 13 IAMs_20 IAMs_20 23 39 59.6
comp=Z,530nm,20.0s
G29M Pine Creek 91.31 13 P **P** **23 05 58.3 +1.2**
baz=213
XAN Xi'an 91.32 306 ⇑P **P** **23 05 58.9 +0.9**
XAN pmax pmax
comp=Z,32nm,1.5s
D24K Happy Valley 91.36 9 P **P** **23 05 58.4 +1.2**
baz=203
OK029 Liberty Lake 91.46 52 IAMs_20 IAMs_20 23 44 09.6
comp=Z,614nm,18.0s
F28M Old Crow 91.52 12 P **P** **23 05 59.5 +1.5**
baz=212,SNR=5.3
E27K Coleen River 91.68 12 P **P** **23 06 00.1 +1.3**
baz=210
C23K Itkillik River 91.75 8 P **P** **23 06 00.1 +1.1**
baz=202
G30M tAoh Zraii Nji 91.77 14 P **P** **23 06 00.3 +1.1**
baz=215
CFA Coronel Fontan 91.87 125 LR LR 23 40 39.6
comp=Z,157nm,19.3s,baz=271,slow=31
D25K Kavik River 91.88 9 IAMs_20 IAMs_20 23 40 28.3
comp=Z,591nm,21.0s
D25K Kavik River 91.88 9 P **P** **23 06 01.4 +1.7**
baz=206
OK033 Mehan 91.94 52 IAMs_20 IAMs_20 23 44 40.4
comp=Z,617nm,18.0s
OK052 Battle Ridge R 92.02 52 IAMs_20 IAMs_20 23 43 59.5
comp=Z,590nm,18.0s
G31M Satah River 92.17 15 IAMs_20 IAMs_20 23 42 54.3
comp=Z,563nm,20.0s
G31M Satah River 92.17 15 P **P** **23 06 02.5 +1.5**
baz=217
HHC Hu-ho-hao-te 92.25 313 *e*P **P** **23 06 03.3 +1.1**
HHC sP pwP 23 06 14.1 +2.8
HHC PP **PP** **23 09 48.8 +5.8**
HHC *e*S **S** **23 17 05.0 +0.2**
HHC pmax pmax
comp=Z,27nm,0.9s
HHC pmax pmax
comp=Z,310nm,5.5s
HHC LR LR
comp=Z,310nm,13.5s
HHC LR LR
comp=Z,490nm,13.7s
HHC LR LR
comp=Z,580nm,13.7s
NNA Nana 92.29 104 LR LR 23 36 58.7
comp=Z,216nm,21.9s,baz=234,slow=29
A22K Sinclair Lake 92.36 6 P **P** **23 06 03.5 +1.7**
baz=198
F30M Barrier River 92.38 14 P **P** **23 06 03.7 +1.7**
baz=215
E28M Babbage River 92.44 12 IAMs_20 IAMs_20 23 44 24.2
comp=Z,512nm,20.0s
E28M Babbage River 92.44 12 P **P** **23 06 03.7 +1.5**
baz=212
E29M Blow River 92.58 13 P **P** **23 06 04.4 +1.5**
baz=214
JTS Las Juntas de 92.58 80 LR LR 23 37 44.4
comp=Z,242nm,20.9s,baz=292,slow=29
DGMT Dagmar 92.60 39 IAMs_20 IAMs_20 23 43 20.2
comp=Z,506nm,20.0s
DGMT Dagmar 92.60 39 P **P** **23 06 04.6 +1.1**
baz=242
DGMT Dagmar 92.60 39 P **P** **23 06 05.8 +2.4**
baz=242
ATAH Atahualpa 92.61 99 LR LR 23 37 52.3
comp=Z,275nm,20.1s,baz=248,slow=29
T35A Sooner Cattle 92.61 52 P **P** **23 06 03.0 -0.8**
T35A IAmb IAmb 23 06 06.5
comp=Z,11nm,1.0s
T35B Sooner Cattle 92.61 52 P **P** **23 06 05.7 +1.9**
baz=246
C26K Camden Bay 92.64 10 P **P** **23 06 04.4 +1.3**
baz=207
F31M Tsiigehtchic 92.71 14 P **P** **23 06 04.6 +1.2**
baz=217
D27M Malcolm River 92.72 11 P **P** **23 06 04.3 +0.7**
baz=211
TUL3 Leonard 92.74 53 IAMs_20 IAMs_20 23 45 17.6
comp=Z,532nm,18.0s
TUL3 Leonard 92.74 53 P **P** **23 06 04.9 +0.5**
baz=247
KMI Kunming 92.88 296 ⇑P **P** **23 06 06.8 +1.2**
KMI sP pwP 23 06 17.3 +2.6
KMI pmax pmax
comp=Z,13nm,1.4s
KMI LR LR
comp=Z,310nm,16.1s
KMI LR LR
comp=Z,340nm,13.0s
KMI LR LR
comp=Z,500nm,22.3s
TEIG Tepich 93.04 70 LR LR 23 38 59.2
comp=Z,2μm,21.8s,baz=4.5,slow=30
D28M Stokes Point 93.20 12 P **P** **23 06 06.8 +1.1**
baz=213
BTO Baotou 93.21 312 *e*P **P** **23 06 08.0 +1.4**
BTO pP **sP** **23 06 12.5 +0.9**
BTO sP **pwP** **23 06 15.0 -0.7**
BTO PP **PP** **23 09 54.8 +4.3**
BTO pmax pmax
comp=Z,16nm,1.7s
BTO pmax pmax
comp=Z,670nm,9.5s
KSU1 Kansas State U 93.42 49 IAMs_20 IAMs_20 23 46 22.2
comp=Z,557nm,18.0s
INK Inuvik 93.45 14 P **P** **23 06 08.4 +1.5**
baz=218
INK Inuvik 93.45 14 LR LR 23 45 21.2
comp=Z,228nm,18.1s,baz=180,slow=34
YAK Yakutsk 93.74 337 *i* P **P** **23 06 08.4 +0.1**
YAK pmax pmax
comp=Z,5.0nm,1.0s
YAK Yakutsk 93.74 337 LR LR 23 46 49.6
comp=Z,7,6nm,19.1s,baz=118,slow=35
CMAR Chiang Mai Arr 93.82 288 P **P** **23 06 11.2 +1.4**
comp=Z,4.2nm,0.9s,baz=114,slow=2.6,SNR=22
CMAR LR LR 23 48 06.0
comp=Z,126nm,19.1s,baz=105,slow=35
comp=Z,4.2nm,0.9s
CHTO Chiang Mai 93.94 288 P **P** **23 06 10.1 -0.2**
CHTO Chiang Mai 93.94 288 P **P** **23 06 10.1 -0.2**
CHTO pmax pmax
comp=Z,45nm,1.8s
PZH PanZhiHua 94.21 297 P **P** **23 06 12.0 +0.4**
PZH pmax pmax
comp=Z,10.0nm,1.4s
PZH pmax pmax
comp=Z,250nm,6.5s
YKA Yellowknife Ar 95.07 24 P **P** **23 06 15.9 +1.5**
comp=Z,2.4nm,0.9s,baz=237,slow=4.5,SNR=22
YKA PP **PP** **23 10 02.3 -2.0**
baz=243,slow=8.1,SNR=1.5
YKA LR LR 23 41 53.2
comp=Z,223nm,21.9s,baz=251,slow=31
comp=Z,2.4nm,0.9s
LVC Limon Verde 95.13 116 LR LR 23 39 41.5
comp=Z,346nm,20.8s,baz=228,slow=30
ECSD EROS Data Cent 95.27 45 P **P** **23 06 15.9 +0.1**
ECSD IAmb IAmb 23 06 30.5
comp=Z,20nm,1.4s
ECSD EROS Data Cent 95.27 45 P **P** **23 06 16.2 +0.3**
baz=247
ECSD EROS Data Cent 95.27 45 P **P** **23 06 17.2 +1.3**
baz=247
VBMS Vicksburg 95.41 58 IAMs_20 IAMs_20 23 46 32.8
comp=Z,637nm,18.0s
LZH Lanzhou 95.95 306 *e*P **P** **23 06 21.4 +2.0**
LZH sP pwP 23 06 30.5 +2.0
LZH pmax pmax
comp=Z,14nm,1.2s
LZH LR LR
comp=Z,390nm,12.0s
LZH LR LR
comp=Z,440nm,14.8s
LZH LR LR
comp=Z,480nm,14.4s
TNCH TengChong 96.43 294 *e*P **P** **23 06 21.0 -0.8**
TNCH pmax pmax
comp=Z,17nm,0.5s
C36M Paulatuk 96.51 16 P **P** **23 06 21.6 +0.8**
baz=226
CCM Cathedral Cave 96.92 52 IAMs_20 IAMs_20 23 47 12.1
comp=Z,538nm,18.0s
AGMN Agassiz Nation 97.54 41 P **P** **23 06 25.7 -0.3**
baz=248
ULN Ulaanbaatar 98.03 318 ⇑*e*P Pdif 23 06 28.9 +0.4
ULN pmax pmax
comp=Z,4.0nm,1.2s
A36M Sachs Harbour 98.09 14 P Pdif 23 06 28.9 +0.9
baz=225
PLAL Pickwick Lake 98.27 56 IAMs_20 IAMs_20 23 48 45.2
comp=Z,608nm,18.0s
ULM Lac du Bonnet 98.27 39 LR LR 23 47 25.5
comp=Z,392nm,18.7s,baz=256,slow=33
SONM Songino Array 98.43 318 P Pdif 23 06 30.7 +0.5
comp=Z,0.3nm,0.5s,baz=90,slow=2.9,SNR=3.5
SONM PP **PP** **23 10 28.9 -1.9**
comp=Z,1.4nm,1.2s,baz=96,slow=3.0,SNR=4.0
SONM LR LR 23 52 51.4
comp=Z,128nm,18.0s,baz=98,slow=37
comp=Z,0.3nm,0.5s
LRAL Lakeview Retre 98.48 58 IAMs_20 IAMs_20 23 48 57.1
comp=Z,631nm,18.0s
WVT Waverly 98.84 55 P **P** **23 06 32.2 0.0**
baz=251
HDIL Hopedale 99.19 50 P **Pdif** **23 06 33.7 +0.1**
baz=251
JFWS Jewell Farm 99.30 48 P **Pdif** **23 06 34.3 +0.2**
baz=251
TIXI Tiksi 99.91 344 LR LR 23 46 32.4
comp=Z,12nm,21.0s,baz=114,slow=32
GTA Gaotai 100.08 308 *e*P **Pdif** **23 06 47.8 +10**
GTA sP pwP 23 06 58.8 +12
GTA pmax pmax
comp=Z,3.0nm,1.4s
GTA LR LR
comp=N,130nm,18.2s
GTA LR LR
comp=E,160nm,18.5s
GTA LR LR
comp=Z,170nm,18.5s
EYMN Ely 100.14 43 IAMs_20 IAMs_20 23 50 15.3
comp=Z,603nm,19.0s
HQIL Hanson Quary C 100.62 49 IAMs_20 IAMs_20 23 53 15.7
comp=Z,581nm,18.0s
O48B Farmland 102.11 51 P **Pdif** **23 06 47.0 +0.3**
baz=253
P49A Miami Univ. Ec 102.22 52 IAMs_20 IAMs_20 23 50 25.5
comp=Z,583nm,19.0s
P49A Miami Univ. Ec 102.22 52 P **Pdif** **23 06 46.6 -0.6**
baz=254
TZTN Tazewell 102.25 55 IAMs_20 IAMs_20 00 00 35.7
comp=Z,680nm,20.0s
TZTN Tazewell 102.25 55 P **Pdif** **23 06 47.0 -0.4**
baz=254
ACSO Alum Creek Sta 103.70 52 IAMs_20 IAMs_20 23 52 02.5
comp=Z,528nm,18.0s
NHSC New Hope 103.97 60 IAMs_20 IAMs_20 23 52 47.6
comp=Z,569nm,18.0s
M53A WI Miller and 105.70 51 IAMs_20 IAMs_20 23 53 16.3
comp=Z,569nm,19.0s
MCWV Mont Chateau 105.89 53 IAMs_20 IAMs_20 23 51 59.5
comp=Z,524nm,19.0s
SSPA Standing Stone 107.57 53 IAMs_20 IAMs_20 23 53 16.1
comp=Z,531nm,18.0s
BINY Binghamton 109.28 51 IAMs_20 IAMs_20 23 56 12.2
comp=Z,570nm,19.0s
ZALV Zalesovo Beam 113.04 321 PKiKP **PKiKP** **23 11 29.4 +0.4**
comp=Z,0.6nm,0.5s,baz=46,slow=2.7,SNR=3.9
ZALV PP **PP** **23 12 16.9 -1.4**
comp=Z,0.6nm,0.6s,baz=87,slow=6.2,SNR=3.7
MKAR Makanchi Array 114.12 313 PKP **PKiKP** **23 11 31.5 +0.2**
comp=Z,0.7nm,0.7s,baz=57,slow=4.5,SNR=5.5
SABA Saba 114.85 80 IAMs_20 IAMs_20 23 56 31.0
comp=Z,520nm,20.0s
SMRT St. Maarten 115.12 79 IAMs_20 IAMs_20 23 51 54.0
comp=Z,368nm,18.0s
KURK Kurchatov 116.72 317 ⇑*e*PKiKP **PKiKP** **23 11 36.8 +0.7**
KURK pmax pmax
comp=Z,8.0nm,2.5s
KURBB Kurchatov Arra 116.78 317 PKP **PKPdf** **23 11 36.2 0.0**
comp=Z,1.0nm,0.8s,baz=94,slow=1.9,SNR=6.8
KURBB PP **PP** **23 12 39.7 -5.1**
comp=Z,1.1nm,1.0s,baz=84,slow=6.2,SNR=4.5
KSH Kashi 118.15 305 PKP **PKiKP** **23 11 41.3 +1.9**
AAK Ala-Archa 119.43 308 *i* PKiKP **PKiKP** **23 11 42.3 +0.4**
BVAR Borovoye Array 121.67 320 PKP **PKiKP** **23 11 45.9 +0.1**
comp=Z,0.8nm,0.4s,baz=122,slow=2.2,SNR=11
BVAR PP **PP** **23 13 21.1 +2.7**
comp=Z,2.1nm,0.9s,baz=58,slow=5.6,SNR=2.9
BRVK Borovoye 121.73 320 **PKPdf** **23 11 45.6 -0.1**
BRVK IAMs_20 IAMs_20 00 01 38.5
comp=Z,396nm,20.0s
BRVK Borovoye 121.73 320 ⇑*e*PKiKP **PKiKP** **23 11 46.8 +1.0**
BRVK pmax pmax
comp=Z,7.0nm,1.7s
BTK Batken 122.14 305 **PKPdf** **23 11 47.0 0.0**
BTK Batken 122.14 305 PKiKP **PKPdf** **23 11 47.0 0.0**
KKAR Karatay Array 122.36 309 PKPdf PKiKP **PKPdf** **23 11 46.6 -0.7**
KKAR Karatay Array 122.36 309 PKiKP **PKPdf** **23 11 46.6 -0.7**
KBL Kabul 123.36 298 PKPdf **PKPdf** **23 11 49.6 -0.1**
KBL Kabul 123.36 298 PKiKP **PKPdf** **23 11 49.6 -0.1**
CHGR Chuyangaron 123.41 303 PKPdf **PKiKP** **23 11 49.9 +0.2**
CHGR Chuyangaron 123.41 303 PKiKP **PKiKP** **23 11 49.9 +0.2**
ARU Arti 127.50 326 *i* PKiKP **PKiKP** **23 11 57.0 -0.2**
ARU 23 13 57.1
ARU 23 19 03.8
ARU SP SP 23 24 05.0 +5.0
ARU SS **SS** **23 31 07.4 +0.3**
ARU MLR MLR
comp=Z,462nm,20.0s
ABKAR Akbulak array 128.84 317 **PKPdf** **23 11 59.4 0.0**
ARCES ARCESS Array B 129.71 351 PKP **PKPdf** **23 12 00.9 +0.4**
comp=Z,11nm,1.1s,baz=31,slow=2.6,SNR=9.3
KIRV Kirov 130.97 332 ⇑*e*PKiKP **PKiKP** **23 12 04.7 +0.7**
FINES FINESS Array B 136.93 346 PKiKP **PKPdf** **23 12 13.0 -1.3**
FINES FINESS Array B 136.93 346 PKhKP PKPpre 23 12 06.7
comp=Z,1.2nm,0.8s,baz=68,slow=3.7,SNR=1.4
FINES PKP **PKPdf** **23 12 13.0 -1.3**
comp=Z,2.8nm,0.9s,baz=45,slow=3.0,SNR=4.2

OBN	**Obninsk**	**138.66**	**334**	⇑*e*PKIKP	**PKPdf**	**23 12 16.6**	**-1.0**
OBN				*e*		23 15 13.6	
OBN				*e*PPP	PPP	23 18 12.6	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,222nm,19.0s						
MAK	**Makhachkala**	**138.93**	**312**	*e*P	**Pdif**	**23 09 28.2**	**-2.1**
MAK				*e*		23 19 31.3	
MAK				*e*SSS	SSS	23 38 29.0	
HFS	**Hagfors**	**140.19**	**354**	PKhKP	PKPpre	23 12 13.8	
	comp=Z,2.8nm,0.9s,baz=141,slow=3.1,SNR=6.5						
KBZ	**Khabaz**	**141.75**	**315**	*i* PKIKP	**PKPdf**	**23 12 23.9**	**+0.3**
KIV	**Kislovodsk**	**141.79**	**316**	*i* PKIKP	**PKPdf**	**23 12 23.5**	**-0.3**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MNK	**Minsk**	**142.38**	**339**	*i* PKP	**PKPdf**	**23 12 21.7**	**-2.7**
MNK				*i* PKP	**PKPdf**	**23 12 21.7**	**-2.7**
MNK				*i* PKP	**PKPdf**	**23 12 21.7**	**-2.7**
	comp=Z,19nm,0.7s,baz=35						
MNK				*i* PP	**PP**	**23 15 29.1**	**-1.9**
MNK				*i* PPP	PPP	23 18 36.8	
MNK				*i* SKS	**SKSdf**	**23 19 31.6**	**-2.1**
MNK				*i* SKKS	**SKKSdf**	**23 28 50.0**	**-4.2**
MNK				*i* SS	**SS**	**23 34 05.6**	**+0.5**
MNK				*i* SSS	SSS	23 39 24.6	
MNK				*i* LQ	LQ	00 08 12.0	
MNK				*i* LR	LR	00 12 20.0	
MNK				*i* LRM	MLR	00 14 00.5	
	comp=Z,322nm,20.6s						
MNK				*i* LRM	MLR	00 15 18.4	
	comp=E,116nm,20.6s						
MNK				*i* LRM	MLR	00 15 34.6	
	comp=N,321nm,20.6s						
MNK	**Minsk**	**142.38**	**339**	*i* PKIKP	**PKPdf**	**23 12 21.7**	**-2.7**
MNK				*i*		23 15 29.0	
MNK				*i* PPP	PPP	23 18 36.7	
MNK				*i*		23 19 31.5	
MNK				*i* SS	SS	23 34 05.6	+0.5
MNK				*i* SSS	SSS	23 39 24.6	
MNK				pmax	pmax		
	comp=Z,19nm,0.7s						
MNK				MLR	MLR		
	comp=Z,322nm,21.0s						
MNK				MLR	MLR		
	comp=E,116nm,21.0s						
MNK				MLR	MLR		
	comp=N,321nm,21.0s						
NACGM	**Naroch**	**142.41**	**340**	LQ	LQ	00 08 01.2	
KMBO	**Kilima Mbogo**	**142.62**	**238**	PKP	**PKPdf**	**23 12 27.6**	**+1.2**
	comp=N,2.8nm,1.0s,baz=129,slow=2.7,SNR=4.4						
SIRT	**Sirnak**	**144.36**	**306**	PKPdf	**PKPab**	**23 12 26.2**	**-0.4**
ANN	**Anapa**	**144.67**	**320**	*i* PKIKP	**PKPab**	**23 12 27.3**	**-0.1**
ANN				*e*		23 19 36.1	
ANN				pmax	pmax		
	comp=Z,107nm,1.7s						
EKA	**Eskdalemuir Ar**	**144.68**	**9**	PKP	PKPbc	23 12 27.8	+0.6
	comp=Z,3.1nm,0.7s,baz=329,slow=3.3,SNR=7.8						
AKASG	**Malin Array Be**	**144.93**	**334**		**PKPab**	**23 12 28.0**	**-0.1**
AKASG	**Malin Array Be**	**144.93**	**334**	PKIKP	**PKPab**	**23 12 28.0**	**-0.1**
AKASG	**Malin Array Be**	**144.93**	**334**	PKP	**PKPab**	**23 12 27.9**	**-0.2**
	comp=Z,4.9nm,0.5s,baz=35,slow=3.9,SNR=23						
AKBB	**Malin Array Si**	**144.93**	**334**	PKPdf	**PKPab**	**23 12 27.6**	**-0.6**
AKBB	**Malin Array Si**	**144.93**	**334**	PKIKP	**PKPab**	**23 12 27.6**	**-0.6**
KIEV	**Kiev**	**144.94**	**334**		**PKPab**	**23 12 27.4**	**-0.7**
KIEV	**Kiev**	**144.94**	**334**	PKIKP	**PKPab**	**23 12 27.4**	**-0.7**
SIM	**Simferopol'**	**146.52**	**323**	*e*PKP2	PKiKP	23 12 48.0	+12
SIM				pmax	pmax		
	comp=Z,73nm,1.0s						
BSEG	**Bad Segeberg**	**146.62**	**355**	*e*PKPbc	**PKPab**	**23 12 34.9**	**+0.5**
	baz=8.3,slow=2.5						
SORM	**Soroca**	**147.25**	**332**	⇑P	**PKPbc**	**23 12 35.6**	**+0.3**
SORM	**Soroca**	**147.25**	**332**	⇑PKP2	**PKPbc**	**23 12 35.6**	**+0.3**
GORT1	**Trebel**	**147.47**	**354**	*e*PKPbc	**PKPab**	**23 12 37.5**	**-0.2**
	baz=8.3,slow=2.5						
LVV	**L'vov**	**147.60**	**338**	*e*PKP2	**PKiKP**	**23 12 37.7**	**-0.6**
RUE	**Ruedersdorf**	**147.68**	**351**	*e*PKPbc	**PKiKP**	**23 12 37.6**	**-0.8**
	baz=8.3,slow=2.5						
PURM	**Purcari**	**147.72**	**329**	⇓P	**PKiKP**	**23 12 38.0**	**-0.6**
RETH	**Rethem/Aller,**	**147.88**	**356**	*e*PKPbc	**PKiKP**	**23 12 38.6**	**-0.1**
	baz=8.3,slow=2.5						
MILM	**Milestii Mici**	**147.95**	**330**	*e*PKP	**PKPbc**	**23 12 36.0**	**-1.2**
	comp=Z,140nm,2.2s						
MILM				*e*L	L	00 11 57.0	
MILM				LRM	MLR	00 17 30.0	
	comp=Z,400nm,22.0s						
MILM	**Milestii Mici**	**147.95**	**330**	⇑P	**PKiKP**	**23 12 38.4**	**-0.7**
MILM	**Milestii Mici**	**147.95**	**330**	⇑PKP2	**PKiKP**	**23 12 38.4**	**-0.7**
MBAR	**Mbarara**	**147.96**	**232**		**PKPdf**	**23 12 34.2**	**-1.2**
MBAR	**Mbarara**	**147.96**	**232**	IAMs_20	IAMs_20	00 17 57.6	
	comp=Z,339nm,19.0s						
MBAR	**Mbarara**	**147.96**	**232**	PKIKP	**PKPdf**	**23 12 34.3**	**-1.2**
MBAR				MLR	MLR		
	comp=Z,300nm,19.0s						
NRDL	**Niedersach Rie**	**148.07**	**355**	*e*PKPbc	**PKiKP**	**23 12 38.9**	**-0.2**
	baz=8.3,slow=2.5						
NRDL				*e*PKPab	**pPKPbc**	**23 12 41.6**	**+0.6**
	baz=9.6,slow=4.1						
FLTG	**Flechtingen**	**148.13**	**354**	*e*PKPbc	**PKiKP**	**23 12 38.8**	**-0.5**
	baz=8.3,slow=2.5						
FLTG				*e*PKPab	**pPKPbc**	**23 12 41.5**	**+0.2**
	baz=9.6,slow=4.1						
KWP	**Kalwaria Pacla**	**148.21**	**339**		**PKPbc**	**23 12 37.6**	**-0.3**
KWP	**Kalwaria Pacla**	**148.21**	**339**	PKP2	**PKPbc**	**23 12 37.6**	**-0.3**
IBBN	**Ibbenburen**	**148.38**	**358**	*e*PKPbc	**PKiKP**	**23 12 39.8**	**0.0**
	baz=8.3,slow=2.5						
GAZ	**Gaziantep**	**148.38**	**308**		**PKPbc**	**23 12 39.0**	**+0.2**
ASSE	**Asse, Remlinge**	**148.38**	**355**	*e*PKPbc	**PKiKP**	**23 12 39.8**	**0.0**
	baz=8.3,slow=2.5						
OJC	**Ojcow**	**148.57**	**343**	*e*PKP	**PKiKP**	**23 12 39.9**	**-0.4**
OJC	**Ojcow**	**148.57**	**343**		**PKPbc**	**23 12 39.0**	**+0.2**
OJC	**Ojcow**	**148.57**	**343**	PKP2	**PKPbc**	**23 12 39.0**	**+0.2**
VASR	**Vaslui**	**148.63**	**331**	⇑P	**PKPab**	**23 12 42.6**	**0.0**
BNN	**Bunyan**	**148.66**	**312**		**PKPbc**	**23 12 38.9**	**-0.7**
CLZ	**Clausthal**	**148.70**	**355**	*e*PKPbc	**PKiKP**	**23 12 40.8**	**+0.2**
	baz=8.3,slow=2.5						
KSP	**Ksiaz**	**148.82**	**348**	*e*PKP	**PKiKP**	**23 12 40.8**	**0.0**
CLL	**Collm**	**148.94**	**352**		**PKPbc**	**23 12 40.0**	**+0.3**
CLL	**Collm**	**148.94**	**352**	*e*PKPdf	**PKPdf**	**23 12 37.0**	**+1.3**
CLL	comp=Z,9.0nm,1.6s			⇑*i*PKPbc	**sPKPdf**	**23 12 40.6**	**-0.2**
	comp=Z,57nm,1.6s						
CLL				*i* x	x	23 12 50.1	
	comp=Z,29nm,1.2s						
CLL				AMS	AMS	00 30 00.0	
	comp=Z,200nm,18.1s						
CLL	**Collm**	**148.94**	**352**	⇑*e*PKIKP	**PKPdf**	**23 12 37.0**	**+1.3**
CLL				*i*		23 12 40.6	
CLL				pmax	pmax		
	comp=Z,9.0nm,1.6s						
CLL				pmax	pmax		
	comp=Z,57nm,1.6s						
CLL	**Collm**	**148.94**	**352**	*e*PKPbc	**PKiKP**	**23 12 41.1**	**+0.1**
	baz=8.3,slow=2.5						
KOLS	**Kolonicke sedl**	**148.96**	**339**	*e*PKP	**PKiKP**	**23 12 42.0**	**+0.8**
KOLS	**Kolonicke sedl**	**148.96**	**339**	*e*PKP2	**PKiKP**	**23 12 42.0**	**+0.8**
BUR08	**Bucovina Ar. S**	**148.96**	**335**		**PKPbc**	**23 12 39.9**	**-0.2**
BURAR	**Bucovina Array**	**148.98**	**335**	⇑P	**PKiKP**	**23 12 42.2**	**+0.8**
BURAR	**Bucovina Array**	**148.98**	**335**	PKPdf	**PKPdf**	**23 12 35.4**	**-0.7**
BURAR	**Bucovina Array**	**148.98**	**335**	⇑PKP2	**PKiKP**	**23 12 42.2**	**+0.8**
GTTG	**Gottingen**	**149.02**	**355**	*e*PKPbc	**PKiKP**	**23 12 41.5**	**+0.3**
	baz=8.3,slow=2.5						
CHVC	**Chvalec**	**149.12**	**348**	*e*PKP	**PKiKP**	**23 12 41.8**	**+0.3**
CHVC	**Chvalec**	**149.12**	**348**	*e*PKP2	**PKiKP**	**23 12 41.8**	**+0.3**
NEUB	**Neuenburg**	**149.19**	**353**	*e*PKPbc	**PKiKP**	**23 12 41.9**	**+0.4**
	baz=8.3,slow=2.5						
UPC	**Upice**	**149.20**	**348**	*e*PKP	**PKiKP**	**23 12 42.0**	**+0.4**
UPC	**Upice**	**149.20**	**348**	*e*PKP2	**PKiKP**	**23 12 42.0**	**+0.4**
BRG	**Berggiesshubel**	**149.22**	**350**	P	PKPdf	23 12 24.4	-12
BRG				Amp		23 12 28.2	
	comp=Z,10nm,0.8s						
BRG	**Berggiesshubel**	**149.22**	**350**	P	**PKPdf**	**23 12 35.8**	**-0.4**
BRG				Amp		23 12 38.6	
	comp=Z,13nm,0.9s						
GHRR		**149.24**	**330**	⇑P	**PKiKP**	**23 12 43.0**	**+1.2**
TESR	**Tescani**	**149.24**	**332**	⇓P	**PKiKP**	**23 12 41.6**	**-0.2**
SCTR	**Scanteiesti**	**149.25**	**329**	⇑P	**PKiKP**	**23 12 42.7**	**+0.9**
CRVS	**Cervenica-Dubn**	**149.25**	**340**	*e*PKP	**PKiKP**	**23 12 42.8**	**+1.0**
CRVS	**Cervenica-Dubn**	**149.25**	**340**	*e*PKP2	**PKiKP**	**23 12 42.8**	**+1.0**
BUG	**Bochum--Univer**	**149.26**	**359**	*e*PKPbc	**PKiKP**	**23 12 41.8**	**+0.2**
	baz=8.3,slow=2.5						
FBE	**Freiberg**	**149.26**	**351**	*e*PKPbc	**PKiKP**	**23 12 42.4**	**+0.7**
	baz=8.3,slow=2.5						
FBE				*e*PKPab	**sPKPbc**	**23 12 46.6**	**+1.0**
	baz=9.6,slow=4.1						
DPC	**Dobruska-Polom**	**149.29**	**347**	*e*PKP	**PKiKP**	**23 12 42.0**	**+0.1**
DPC	**Dobruska-Polom**	**149.29**	**347**	*e*PKP2	**PKiKP**	**23 12 42.0**	**+0.1**
OKC	**Ostrava-Krasne**	**149.35**	**345**	*e*PKP	**PKPab**	**23 12 45.2**	**-0.2**
OKC	**Ostrava-Krasne**	**149.35**	**345**	*e*PKP2	**PKPab**	**23 12 45.2**	**-0.2**
PVCC	**Panska Ves**	**149.45**	**349**	*e*PKP	**PKiKP**	**23 12 42.7**	**+0.6**
PVCC	**Panska Ves**	**149.45**	**349**	*e*PKP2	**PKiKP**	**23 12 42.7**	**+0.6**
KASTN	**Kahler Asten**	**149.46**	**357**	*e*PKPbc	**PKiKP**	**23 12 42.6**	**+0.4**
	baz=8.3,slow=2.5						
CFR	**Carcaliu**	**149.54**	**328**	⇓P	**PKiKP**	**23 12 42.6**	**+0.2**
CFR	**Carcaliu**	**149.54**	**328**	⇓PKP2	**PKiKP**	**23 12 42.6**	**+0.2**
MORC	**Moravsky Berou**	**149.55**	**345**	⇓P	**PKiKP**	**23 12 43.2**	**+0.8**
MORC	**Moravsky Berou**	**149.55**	**345**		**PKiKP**	**23 12 42.0**	**-0.5**
MORC	**Moravsky Berou**	**149.55**	**345**	*e*PKP	**PKiKP**	**23 12 42.3**	**-0.1**
MORC	**Moravsky Berou**	**149.55**	**345**	⇓PKP2	**PKiKP**	**23 12 43.2**	**+0.8**
HSKC	**Hora Svate Kat**	**149.56**	**351**	*e*PKP	**PKPbc**	**23 12 41.3**	**0.0**
BMR	**Baia Mare**	**149.60**	**336**	⇓P	**PKiKP**	**23 12 43.4**	**+0.9**
BMR	**Baia Mare**	**149.60**	**336**	⇓PKP2	**PKiKP**	**23 12 43.4**	**+0.9**
TPGR	**Topolog**	**149.63**	**328**	⇑P	**PKiKP**	**23 12 42.8**	**+0.1**
LANS	**Liptovska Anna**	**149.63**	**343**	*e*PKP	**PKiKP**	**23 12 44.0**	**+1.4**
LANS	**Liptovska Anna**	**149.63**	**343**	*e*PKP2	**PKiKP**	**23 12 44.1**	**+1.4**
VRI	**Vrincioaia**	**149.70**	**331**	⇑P	**PKiKP**	**23 12 42.6**	**-0.2**
VRI	**Vrincioaia**	**149.70**	**331**	⇑PKP2	**PKiKP**	**23 12 42.6**	**-0.2**
BRTR	**Keskin Array B**	**149.74**	**315**	PKPdf	**PKPdf**	**23 12 36.6**	**-1.0**
BRTR	**Keskin Array B**	**149.74**	**315**	PKP	**PKPdf**	**23 12 37.6**	**+0.1**
	comp=Z,1.8nm,1.0s,baz=114,slow=1.7,SNR=4.6						
BRTR				PKPbc	**PKiKP**	**23 12 43.2**	**0.0**
	comp=Z,3.2nm,0.6s,baz=93,slow=2.9,SNR=11						
BRTR				PP	**PP**	**23 16 18.2**	**+2.7**
	comp=Z,2.5nm,1.1s,baz=117,slow=1.4,SNR=4.0						
PLOR	**Plostina**	**149.74**	**331**	⇑P	**PKiKP**	**23 12 43.3**	**+0.4**
PLOR	**Plostina**	**149.74**	**331**	⇑PKP2	**PKiKP**	**23 12 43.3**	**+0.4**
UBBA	**Unterbreizbach**	**149.74**	**355**	*e*PKPbc	**PKiKP**	**23 12 43.2**	**+0.7**
	baz=8.3,slow=2.5						
ARCR	**ARCALIA**	**149.75**	**335**	⇓P	**PKiKP**	**23 12 42.8**	**0.0**
MOX	**Moxa**	**149.76**	**353**	*e*PKPbc	**PKiKP**	**23 12 43.4**	**+0.6**
	baz=8.3,slow=2.5						
MOX				*e*L	L	00 33 05.8	
	comp=Z,217nm,19.2s						
PLN	**Plauen**	**149.85**	**352**	*e*PKPbc	**PKiKP**	**23 12 43.6**	**+0.7**
	baz=8.3,slow=2.5						
MAUC	**Maruska**	**149.87**	**345**	*e*PKP	**PKiKP**	**23 12 44.0**	**+0.9**
WERD	**Werda**	**149.87**	**352**	*e*PKPbc	**PKiKP**	**23 12 43.7**	**+0.7**
	baz=8.3,slow=2.5						
TURR	**Turia**	**149.87**	**332**	⇓P	**PKiKP**	**23 12 44.2**	**+1.0**
TANN	**Tannenbergstha**	**149.88**	**352**	*e*PKPbc	**PKiKP**	**23 12 43.9**	**+0.8**
	baz=8.3,slow=2.5						
TANN				*e*PKPab	**PKPab**	**23 12 49.0**	**+1.4**
	baz=9.6,slow=4.1						
BEBN	**Eben Emael**	**149.92**	**1**	*d*PKP	**PKiKP**	**23 12 42.8**	**-0.2**
OZUR		**149.94**	**332**	⇓P	**PKiKP**	**23 12 44.1**	**+0.8**
GUNZ	**Gunzen**	**149.95**	**352**	*e*PKPbc	**PKiKP**	**23 12 44.0**	**+0.8**
	baz=8.3,slow=2.5						
PRU	**Pruhonice**	**149.97**	**349**	*e*PKP	**PKiKP**	**23 12 44.0**	**+0.8**
PRU				*ep*PKP	**sPKPab**	**23 12 52.4**	**-0.6**
PRU	**Pruhonice**	**149.97**	**349**	*e*PKP2	**PKiKP**	**23 12 44.0**	**+0.8**
HARR	**Harsova**	**149.99**	**328**	⇓P	**PKiKP**	**23 12 44.8**	**+1.4**
HARR	**Harsova**	**149.99**	**328**	⇓PKP2	**PKiKP**	**23 12 44.8**	**+1.4**
BOSR	**Bodos**	**150.01**	**332**	⇑P	**PKiKP**	**23 12 43.9**	**+0.4**
WERN	**Wernitzgruen**	**150.02**	**352**	*e*PKPbc	**PKiKP**	**23 12 44.3**	**+0.9**
	baz=8.3,slow=2.5						
NKC	**Novy Kostel**	**150.06**	**352**	*e*PKP	**PKPab**	**23 12 48.4**	**+0.1**
MEM	**Membach**	**150.11**	**0**	*d*PKP	**PKiKP**	**23 12 43.9**	**+0.4**
BSTI	**Sart Tilman**	**150.13**	**1**	*d*PKP	**PKiKP**	**23 12 43.9**	**+0.4**
BTNL	**Ternell**	**150.13**	**360**	*d*PKP	**PKiKP**	**23 12 43.5**	**0.0**
AHRW	**Bad Neuenahr-A**	**150.17**	**359**	*e*PKPbc	**PKiKP**	**23 12 44.6**	**+1.0**
	baz=8.3,slow=2.5						
AHRW				*e*PKPab	**pPKPab**	**23 12 50.8**	**-1.6**
	baz=9.6,slow=4.1						
VRAC	**Vranov**	**150.21**	**346**	⇑P	**PKiKP**	**23 12 44.2**	**+0.4**
VRAC	**Vranov**	**150.21**	**346**	*e*PKP	**PKiKP**	**23 12 43.8**	**0.0**
VRAC	**Vranov**	**150.21**	**346**	⇑PKIKP	**PKiKP**	**23 12 44.2**	**+0.4**
DOPP	**Dopca**	**150.21**	**322**	⇓P	**PKiKP**	**23 12 45.2**	**+1.3**
ANTO	**Ankara**	**150.22**	**316**	⇑P	**PKiKP**	**23 12 45.3**	**+1.1**
ANTO	**Ankara**	**150.22**	**316**	⇑PKIKP	**PKiKP**	**23 12 45.3**	**+1.1**
BCLA	**Clavier**	**150.29**	**1**	*d*PKPdf	**PKPdf**	**23 12 35.7**	**-2.2**
BCLA				*d*PKP	**PKPab**	**23 12 49.9**	**+0.7**
BGES	**Gesves**	**150.32**	**1**	*d*PKPdf	**PKPdf**	**23 12 39.7**	**+1.8**
MLR	**Muntele Rosu**	**150.34**	**331**	⇑P	**PKiKP**	**23 12 45.1**	**+0.8**
MLR	**Muntele Rosu**	**150.34**	**331**	⇑PKIKP	**PKiKP**	**23 12 45.1**	**+0.8**
ISR	**Istrita**	**150.34**	**330**	⇑P	**PKiKP**	**23 12 46.8**	**+2.5**
MANZ	**Manzenberg**	**150.35**	**352**	*e*PKPbc	**PKiKP**	**23 12 45.0**	**+0.9**
	baz=8.3,slow=2.5						
MANZ				*e*PKPab	**PKPab**	**23 12 51.2**	**+1.7**
	baz=9.6,slow=4.1						
BHOU	**Houvegnez**	**150.36**	**0**	*d*PKP	**PKiKP**	**23 12 45.1**	**+1.1**
JAVC	**Velka Javorina**	**150.37**	**344**	*e*PKP	**PKiKP**	**23 12 45.9**	**+1.7**
BMRD	**Maredsous**	**150.40**	**2**	*d*PKP	**PKiKP**	**23 12 44.1**	**+0.1**
VYHS	**Vyhne**	**150.40**	**343**	*e*PKP	**PKPdf**	**23 12 40.1**	**+1.9**
VYHS				*e*		23 12 44.5	
VYHS	**Vyhne**	**150.40**	**343**	*e*PKIKP	**PKPdf**	**23 12 40.1**	**+1.9**
VYHS				*e*		23 12 44.5	
LTVH	**Ltavrtes, Hu**	**150.42**	**338**	⇑P	**PKiKP**	**23 12 46.1**	**+1.9**
TNS	**Taunus Mts**	**150.44**	**357**	*e*PKPbc	**PKiKP**	**23 12 45.2**	**+0.9**
	baz=8.3,slow=2.5						
TNS				*e*PKPab	**PKPab**	**23 12 51.3**	**+1.4**
	baz=9.6,slow=4.1						
TREC	**Trest**	**150.46**	**348**	*e*PKP	**PKiKP**	**23 12 44.1**	**-0.2**
TREC	**Trest**	**150.46**	**348**	*e*PKIKP	**PKiKP**	**23 12 44.1**	**-0.2**
KRUC	**Moravsky**	**150.49**	**346**	*e*PKP	**PKiKP**	**23 12 44.7**	**+0.4**
ROTZ	**Rotzenmuhle**	**150.55**	**352**	*e*PKPbc	**PKiKP**	**23 12 45.4**	**+1.0**
	baz=8.3,slow=2.5						
ROTZ				*e*PKPab	**PKPab**	**23 12 51.6**	**+1.3**
	baz=9.6,slow=4.1						
RCHB	**Rochefort**	**150.55**	**1**	*d*PKP	**PKiKP**	**23 12 45.1**	**+0.7**
ZVC	**Zvikov**	**150.56**	**349**	*e*PKP	**PKiKP**	**23 12 44.7**	**+0.2**
MARR	**Marisel-Cluj**	**150.57**	**336**	⇑P	**PKiKP**	**23 12 44.9**	**+0.2**
DOU	**Dourbes**	**150.60**	**2**	*d*PKPdf	**PKPdf**	**23 12 37.2**	**-1.1**
DOU				*d*PKP	**PKiKP**	**23 12 45.2**	**+0.8**
PSZ	**Piszkesteto**	**150.61**	**341**	⇓P	**PKiKP**	**23 12 45.0**	**+0.3**
PSZ	**Piszkesteto**	**150.61**	**341**	⇓PKIKP	**PKiKP**	**23 12 45.0**	**+0.3**
KALB	**Balgarevo**	**150.65**	**326**	⇑P	**PKiKP**	**23 12 46.6**	**+1.8**
GRF	**Grafenberg Arr**	**150.74**	**353**	*e*PKPbc	**PKiKP**	**23 12 46.1**	**+1.2**
	baz=8.3,slow=2.5						
GRF				*e*L	L	00 19 03.3	
	comp=Z,244nm,20.6s						
VOIR		**150.78**	**332**	⇑P	**PKiKP**	**23 12 46.8**	**+1.6**
MODS	**Modra-Piesok**	**150.92**	**345**	*e*PKP	**PKiKP**	**23 12 46.2**	**+0.9**
KHC	**Kasperske Hory**	**150.97**	**350**	*e*PKP	**PKiKP**	**23 12 45.7**	**+0.3**
KHC				*ep*PKP	**pPKPbc**	**23 12 47.7**	**-0.9**
KHC				*ex*	x	23 12 53.2	
KHC	**Kasperske Hory**	**150.97**	**350**	*e*PKIKP	**PKiKP**	**23 12 45.7**	**+0.3**
KHC				*e*		23 12 47.7	
KHC				*e*		23 12 53.2	
ARR	**Arges**	**151.01**	**332**	⇓P	**PKiKP**	**23 12 46.7**	**+1.1**
WLF	**Walferdange**	**151.05**	**360**	*d*PKP	**PKiKP**	**23 12 46.8**	**+1.4**
WLF	**Walferdange**	**151.05**	**360**	*e*PKPbc	**PKiKP**	**23 12 46.9**	**+1.5**
	baz=8.3,slow=2.5						
WET	**Wettzell**	**151.06**	**351**	*e*PKPbc	**PKiKP**	**23 12 46.6**	**+1.0**
	baz=8.3,slow=2.5						
CKRC	**Cesky Krumlov**	**151.14**	**349**	*e*PKP	**PKiKP**	**23 12 46.2**	**+0.5**
MMAI	**Mount Meron Ar**	**151.22**	**301**	PKPbc	**PKiKP**	**23 12 47.5**	**+1.0**
	comp=Z,6.4nm,0.7s,baz=96,slow=6.0,SNR=13						
GEC2	**GERESS Array S**	**151.22**	**350**	*e*PKPbc	**PKiKP**	**23 12 46.8**	**+0.9**
	baz=8.3,slow=2.5						
GERES	**GERESS Array B**	**151.22**	**350**	PKP	**PKPdf**	**23 12 40.3**	**+0.8**
	comp=Z,8.0nm,1.1s,baz=354,slow=2.7,SNR=3.8						
GERES				PKPbc	**PKiKP**	**23 12 46.7**	**+0.7**
	comp=Z,5.3nm,1.0s,baz=29,slow=3.0,SNR=19						
DEV	**Deva**	**151.31**	**335**	⇑P	**PKiKP**	**23 12 47.4**	**+1.2**
SIRR	**Siria**	**151.46**	**337**	⇑P	**PKiKP**	**23 12 47.9**	**+1.5**
CONA	**Conrad Observa**	**151.67**	**346**	*e*PKiKP	**PKiKP**	**23 12 47.6**	**+0.7**
	comp=Z,17nm,1.2s,SNR=6.9						
SURR	**Surduc**	**151.72**	**336**	⇑P	**PKiKP**	**23 12 48.0**	**+1.1**
GZR	**Gura Zlata**	**151.76**	**335**	⇑P	**PKiKP**	**23 12 48.2**	**+1.0**
GZR	**Gura Zlata**	**151.76**	**335**	⇑PKIKP	**PKiKP**	**23 12 48.2**	**+1.0**
RONA	**Rosalia, Austr**	**151.79**	**345**	*e*PKiKP	**PKiKP**	**23 12 47.7**	**+0.6**
	comp=Z,7.1nm,0.5s,SNR=6.7						
STU	**Stuttgart**	**151.84**	**356**	*e*PKPbc	**PKiKP**	**23 12 48.3**	**+1.2**
	baz=8.3,slow=2.5						
BZS	**Buzias**	**152.03**	**336**	⇓P	**PKiKP**	**23 12 48.6**	**+1.0**
MOA	**Molln**	**152.08**	**348**	*e*PKiKP	**PKiKP**	**23 12 48.0**	**+0.3**
	comp=Z,3.5nm,0.6s						
FUR	**Furstenfeldbru**	**152.24**	**353**	*e*PKPbc	**PKiKP**	**23 12 49.0**	**+1.0**
	baz=8.3,slow=2.5						
ELND	**Elena**	**152.29**	**328**	⇓P	**PKiKP**	**23 12 51.1**	**+2.8**
BFO	**Black Forest**	**152.33**	**357**	*e*PKPbc	**PKiKP**	**23 12 49.3**	**+1.1**
	baz=8.3,slow=2.5						
BFO				*e*PKPab	**PKPab**	**23 12 59.1**	**+1.3**
	baz=9.6,slow=4.1						
HERR	**Herculane**	**152.33**	**335**	⇑P	**PKiKP**	**23 12 49.4**	**+1.1**
BIOA	**Bad Ischl, Aus**	**152.35**	**349**	*e*PKP	**PKPbc**	**23 12 47.4**	**-0.6**
	comp=Z,8.2nm,1.2s						
ARSA	**Arzberg**	**152.39**	**346**	*e*PKiKP	**PKPbc**	**23 12 48.1**	**0.0**
	comp=Z,12nm,1.4s						
MORH	**Mrgy, Hungar**	**152.52**	**341**	⇓P	**PKiKP**	**23 12 49.5**	**+0.9**
PLVB	**Pleven**	**152.56**	**330**	⇑P	**PKiKP**	**23 12 50.3**	**+1.6**
MDVR	**Moldovita**	**152.69**	**335**	⇑P	**PKiKP**	**23 12 49.8**	**+0.8**
LESA	**Schwarzleotal**	**152.77**	**350**	*e*PKP	**PKPbc**	**23 12 48.4**	**-0.5**
	comp=Z,5.8nm,1.1s						
UBR	**Ueberruh**	**152.85**	**354**	*e*PKPbc	**PKiKP**	**23 12 50.2**	**+0.9**
	baz=8.3,slow=2.5						
RETA	**Reutte**	**152.97**	**353**	*e*PKiKP	**PKiKP**	**23 12 49.7**	**+0.1**
	comp=Z,7.9nm,1.3s						
WATA	**Walderalm**	**153.02**	**352**	*e*PKiKP	**PKiKP**	**23 12 50.1**	**+0.3**
	comp=Z,4.5nm,0.7s						
SOKA	**Soboth**	**153.04**	**346**	*e*PKP	**PKPbc**	**23 12 48.9**	**-0.7**
	comp=Z,6.5nm,1.1s						
MOTA	**Moosalm**	**153.07**	**353**	*e*PKiKP	**PKiKP**	**23 12 50.3**	**+0.4**
	comp=Z,9.7nm,1.2s						
FRGS	**Fruska Gora**	**153.07**	**338**	⇑P	**PKiKP**	**23 12 50.7**	**+0.9**
WTTA	**Wattenberg**	**153.08**	**352**	*e*PKiKP	**PKPbc**	**23 12 49.8**	**0.0**
	comp=Z,6.6nm,0.6s						
SQTA	**Sankt Quirin**	**153.18**	**352**	*e*PKiKP	**PKiKP**	**23 12 50.8**	**+0.7**
	comp=Z,3.3nm,0.8s						
DAVA	**Damuels**	**153.26**	**354**	*e*PKiKP	**PKiKP**	**23 12 50.8**	**+0.5**
	comp=Z,14nm,1.

JACO	**JACO, Garabito**	**0.46**	**17**	*i* P		**Pb**	**23 19 35.8**	**-0.7**
JACO				*i* S		**Sb**	**23 19 42.8**	**-1.0**
JACO				IAML			23 19 43.9	
	comp=Z,2μm,1.0s							
CBL1	**Cabuya**	**0.47**	**322**	*eP*		**Pb**	**23 19 36.9**	**+0.3**
CBL1				*eS*		**Sb**	**23 19 45.3**	**+1.3**
LLNJ	**Naranjito**	**0.73**	**70**	*eP*		**Pb**	**23 19 41.1**	**0.0**
TRB2	**Turrubares**	**0.77**	**26**	*eP*		**Pb**	**23 19 41.8**	**0.0**
ACOS	**Acosta**	**0.85**	**47**	*eP*		**Pb**	**23 19 43.2**	**+0.1**
ABE2	**San Pablo**	**0.88**	**57**	*eP*		**Pb**	**23 19 43.9**	**+0.2**
LCR2	**La Lucha 2**	**0.94**	**56**	*eP*		**Pb**	**23 19 44.6**	**-0.1**
LCR2	**La Lucha 2**	**0.94**	**56**	*i* P		**Pg**	**23 19 43.9**	**+0.3**
LCR2				IAML			23 19 45.0	
	comp=Z,2μm,1.0s							
LCR2				*i* S		**Sb**	**23 19 58.6**	**+0.9**
INDI	**Punta indio, G**	**0.95**	**313**	*i* P		**Pn**	**23 19 45.0**	**-1.0**
INDI				*i* S		**Sn**	**23 20 01.4**	**+1.3**
INDI				IAML			23 20 04.9	
	comp=Z,810nm,1.0s							
TCS1	**Tacares**	**0.95**	**31**	*eP*		**Pb**	**23 19 45.1**	**+0.2**
TCS1	**Tacares**	**0.95**	**31**	*i* P		**Pb**	**23 19 44.6**	**-0.3**
TCS1				IAML			23 19 45.6	
	comp=Z,6μm,1.0s							
BELE	**Belen**	**0.96**	**39**	*eP*		**Pn**	**23 19 46.1**	**-0.2**
HDC	**Heredia**	**1.03**	**41**	*eP*		**Pb**	**23 19 46.4**	**+0.1**
HDC3	**Heredia 3**	**1.03**	**41**	*i* P		**Pg**	**23 19 45.9**	**+0.5**
HDC3				IAML			23 19 46.7	
	comp=Z,970nm,1.0s							
HDC3				*i* S		**Sn**	**23 20 01.9**	**-0.4**
OCM	**Ochomogo**	**1.06**	**51**	*i* P		**Pg**	**23 19 45.9**	**-0.1**
OCM				IAML			23 19 46.8	
	comp=Z,530nm,1.0s							
RIMA	**Rio Macho**	**1.07**	**59**	*eP*		**Pg**	**23 19 46.4**	**+0.3**
RIMA	**Rio Macho**	**1.07**	**59**	*i* P		**Pg**	**23 19 46.3**	**+0.2**
RIMA				IAML			23 19 47.0	
	comp=Z,850nm,1.0s							
RIMA				*i* S		**Sb**	**23 20 01.6**	**+0.1**
CDM	**Cerro de Muert**	**1.07**	**72**	*eP*		**Pn**	**23 19 47.4**	**-0.7**
CDM	**Cerro de Muert**	**1.07**	**72**	*i* P		**Pg**	**23 19 46.7**	**+0.5**
CDM				*i* S		**Sn**	**23 20 02.9**	**-0.9**
CDM				IAML			23 20 05.9	
	comp=Z,470nm,1.0s							
JTS	**Las Juntas de**	**1.08**	**352**	*eP*		**Pn**	**23 19 46.9**	**-0.9**
MONTE	**Monteverde**	**1.08**	**359**	*eP*		**Pn**	**23 19 47.2**	**-0.7**
BUS1	**Rivas**	**1.09**	**72**	*eP*		**Pg**	**23 19 47.1**	**+0.6**
VPTE	**Poasito**	**1.11**	**32**	*i* P		**Pg**	**23 19 47.4**	**+0.4**
VPTE				IAML			23 19 50.6	
	comp=Z,2μm,1.0s							
CPMI	**Catarata Coope**	**1.13**	**21**	*eP*		**Pn**	**23 19 48.2**	**-0.5**
CPMI	**Catarata Coope**	**1.13**	**21**	*i* P		**Pg**	**23 19 47.6**	**+0.3**
CPMI				*i* S		**Sn**	**23 20 04.7**	**-0.3**
CPMI				IAML			23 20 11.9	
	comp=Z,870nm,1.0s							
CVIMO	**Finca Echandi**	**1.16**	**46**	*eP*		**Pn**	**23 19 48.6**	**-0.4**
SOCE	**Pocosol**	**1.17**	**9**	*eP*		**Pn**	**23 19 48.8**	**-0.3**
SOCE	**Pocosol**	**1.17**	**9**	*i* P		**Pn**	**23 19 48.9**	**-0.2**
SOCE				IAML			23 19 50.9	
	comp=Z,2μm,1.0s							
SOCE				*i* S		**Sb**	**23 20 04.0**	**-0.2**
HAYA	**Volcan Irazu**	**1.21**	**51**	*i* P		**Pn**	**23 19 50.9**	**+1.0**
CASO	**Castillo**	**1.21**	**3**	*eP*		**Pg**	**23 19 49.0**	**+0.2**
ARE1	**Arenal 1**	**1.24**	**4**	*eP*		**Pg**	**23 19 50.2**	**+0.8**
FORC	**Fortuna**	**1.25**	**6**	*eP*		**Pg**	**23 19 50.3**	**+0.8**
CEDE	**Laguna Cedeo**	**1.26**	**4**	*eP*		**Pg**	**23 19 50.6**	**+0.8**
TABAC	**Tabacon**	**1.27**	**1**	*eP*		**Pg**	**23 19 50.8**	**+0.8**
VERB	**Verbena**	**1.30**	**56**	*eP*		**Pg**	**23 19 51.0**	**+0.4**
ORTG	**Ortega, Santa**	**1.31**	**330**	*i* P		**Pg**	**23 19 50.9**	**+0.2**
ORTG				*i* S		**Sn**	**23 20 12.3**	**+3.1**
ORTG				IAML			23 20 16.7	
	comp=Z,350nm,1.0s							
COTE	**Lago Cote**	**1.35**	**355**	*eP*		**Pg**	**23 19 51.5**	**-0.1**
RVSTA	**Santa Teresita**	**1.36**	**56**	*eP*		**Pb**	**23 19 51.9**	**0.0**
RIFO	**Rio Frio, Sara**	**1.39**	**38**	*i* P		**Pb**	**23 19 51.9**	**-0.4**
RIFO				*i* S		**Sb**	**23 20 10.8**	**+0.3**
RIFO				IAML			23 20 15.2	
	comp=Z,1μm,1.0s							
ACAL	**Aguas Claras**	**1.43**	**351**	*eP*		**Pg**	**23 19 52.8**	**-0.2**
CUI	**Cuipilapa**	**1.48**	**346**	*eP*		**Pb**	**23 19 53.3**	**-0.5**
MOTZ	**Rio Naranjo**	**1.48**	**349**	*i* P		**Pg**	**23 19 54.3**	**+0.3**
COLC	**Colonia**	**1.49**	**344**	*eP*		**Pb**	**23 19 53.1**	**-0.9**
PTEN	**Parque Tenorio**	**1.50**	**353**	*eP*		**Pg**	**23 19 54.2**	**-0.1**
EDBA	**Buenos Aires**	**1.50**	**92**	*eP*		**Pn**	**23 19 52.3**	**-1.3**
HORNC	**Hornillas**	**1.53**	**346**	*eP*		**Pb**	**23 19 54.5**	**-0.3**
COVE	**Coope Vega, Sa**	**1.54**	**15**	*i* P		**Pn**	**23 19 53.6**	**-0.5**
COVE				*i* S		**Sg**	**23 20 15.3**	**+0.1**
COVE				IAML			23 20 20.3	
	comp=Z,910nm,1.0s							
MESS	**Mesas**	**1.56**	**345**	*eP*		**Pb**	**23 19 54.9**	**-0.4**
CLARA	**Aguas Claras**	**1.60**	**347**	*eP*		**Pb**	**23 19 55.6**	**-0.4**
GPS2	**Hotel Rincn d**	**1.62**	**340**	*eP*		**Pn**	**23 19 54.9**	**-0.4**
CANAL	**Canalete**	**1.62**	**351**	*eP*		**Pg**	**23 19 57.2**	**+0.5**
GPS3	**Bodega del ICE**	**1.63**	**340**	*eP*		**Pg**	**23 19 56.4**	**-0.3**
VRLE	**La Escondida,**	**1.66**	**340**	*i* P		**Pg**	**23 19 57.0**	**-0.4**
VRLE				IAML			23 20 00.8	
	comp=Z,160nm,1.0s							
LAPC	**Finca la Perla**	**1.66**	**338**	*eP*		**Pg**	**23 19 56.9**	**-0.6**
BUEV	**Buena Vista**	**1.68**	**339**	*eP*		**Pb**	**23 19 57.2**	**-0.2**
HZTE	**Horizontes, Gu**	**1.68**	**332**	*i* P		**Pb**	**23 19 56.7**	**-0.6**
HZTE				*i* S		**Sg**	**23 20 19.8**	**+0.1**
HZTE				IAML			23 20 34.0	
	comp=Z,340nm,1.0s							
GBS3	**Finca Las Img**	**1.68**	**337**	*eP*		**Pg**	**23 19 57.2**	**-0.7**
TRT2	**Tortugero**	**1.69**	**38**	*i* P		**Pb**	**23 19 56.7**	**-0.8**
TRT2				*i* S		**Sb**	**23 20 19.8**	**+0.6**
TRT2				IAML			23 20 26.2	
	comp=Z,400nm,1.0s							
GB1A	**Borinquen Arri**	**1.70**	**340**	*eP*		**Pb**	**23 19 56.9**	**-0.7**

*IDC **19** 23:49:20.2±1.3,5˚.65S×127˚.47E, h0km, mb3.6/4, mbtmp3.9/6, ML4.4/2, MS3.9/5, Error ellipse: s-maj=56.5km s-min=23.1km az=62.0*
*DJA **19** 23:49:22.6±0.2, 6˚S±2˚×12˚8E±˚, h10km, M4.6/16, mB5.4/6, mb4.7/11, MLv4.4/16, Mw(mB)4.8/6*

ISC 19 23:49:24.8±0.8, 5˚.81S±0˚.07×127˚.51E±0˚.07, h35km, n23, σ1§46/22, mb3.5/4, MS4.2/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**2.58**	**351**	P	**Pn**	**23 50 04.3**	**+0.2**
NLAI				S	**Sn**	**23 50 34.0**	**-0.3**
BNDI	**Bandanaira**	**2.71**	**62**	P	**Pn**	**23 50 05.3**	**-0.5**
BNDI				S	**Sn**	**23 50 37.0**	**-0.4**
SANI	**Sanana**	**4.03**	**338**	P	**Pn**	**23 50 22.9**	**-1.1**
SANI				S	**Sn**	**23 51 07.5**	**-2.5**
BBSI	**Bau Bau**	**4.92**	**273**	P	**Pn**	**23 50 38.1**	**+1.7**
SOEI	**Soe**	**5.07**	**219**	P	**Pn**	**23 50 37.9**	**-0.6**
	40nm,0.9s,0.2nm						
LBMI	**Labuha**	**5.13**	**360**	P	**Pn**	**23 50 40.2**	**+0.9**
	67nm,0.5s,3μm0.4nm						
SWI	**Sorong**	**6.18**	**37**	P	**Pn**	**23 50 54.4**	**+0.8**
	94nm,0.9s,2μm0.3nm						
EDFI	**Ende, Flores**	**6.47**	**243**	P	**Pn**	**23 50 59.1**	**+1.4**
	34nm,0.8s,0.1nm						
KMPI	**Kaimana, Papua**	**6.53**	**71**	P	**Pn**	**23 50 59.5**	**+1.0**
LUWI	**Luwuk**	**6.69**	**315**	P	**Pn**	**23 51 01.9**	**+1.3**
	44nm,0.7s,3μm0.3nm						
BKSI	**Bulukumba**	**7.37**	**273**	P	**Pn**	**23 51 10.4**	**+0.5**
	57nm,0.6s,0.3nm						
KAPI	**Kappang**	**7.76**	**275**	Pn	**Pn**	**23 51 14.1**	**-1.3**
	6.7nm,0.3s,baz=120,slow=7.7,SNR=8.2						
KAPI				LR	LR	23 54 16.8	
	comp=Z,193nm,20.9s,baz=70,slow=38						
	32nm,0.5s						
SPSI	**Sidrap Palu**	**7.92**	**283**	P	**Pn**	**23 51 19.3**	**+1.7**
	46nm,0.6s,3μm0.2nm						
WRA	**Warramunga Arr**	**15.54**	**155**	Pn	**Pn**	**23 52 58.5**	**-3.0**
	0.6nm,0.3s,baz=344,slow=13,SNR=30						
WRA				Sn	Sn	23 55 43.5	-9.2
	0.1nm,0.3s,baz=336,slow=23,SNR=4.3						
ASAR	**Alice Springs**	**18.80**	**162**	P	**P**	**23 53 42.4**	**+1.0**
	0.8nm,0.3s,baz=340,slow=10,SNR=62						
	10.0nm,0.7s						
STKA	**Stephens Creek**	**29.09**	**155**	P	**P**	**23 55 24.7**	**+2.4**
	2.5nm,0.9s,baz=318,slow=12,SNR=3.1						
	2.5nm,0.9s						
HNR	**Honiara**	**32.34**	**98**	LR	LR	00 09 31.4	
	comp=Z,560nm,19.1s,baz=122,slow=37						
JNU	**Nakatsue**	**38.85**	**5**	LR	LR	00 11 01.6	
	comp=Z,392nm,21.0s,baz=258,slow=34						
KSRS	**Korea Array**	**43.04**	**0**	LR	LR	00 14 16.7	
	comp=Z,100nm,21.9s,baz=140,slow=35						
SONM	**Songino Array**	**56.56**	**343**	P	**P**	**23 59 03.7**	**-0.2**
	0.4nm,0.6s,baz=156,slow=7.4,SNR=3.1						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**65.89**	**328**	P	**P**	**00 00 07.6**	**+0.5**
	0.3nm,0.7s,baz=111,slow=7.8,SNR=4.0						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**70.22**	**329**	P	**P**	**00 00 33.0**	**-1.1**
	0.3nm,0.8s,baz=128,slow=6.0,SNR=2.2						
	0.3nm,0.8s						
GNI	**Garni**	**88.20**	**310**	LR	LR	00 49 00.8	
	comp=Z,66nm,18.0s,baz=258,slow=41						

*TUL **19** 23:58:02.5±0.5,36˚.15N±0˚.01×97˚.67W±0˚.01, h5km±3km, ML3.0, mb_Lg3.1/108(NEIC), ML3.3/62(NEIC), Error ellipse: s-maj=1.7km s-min=1.5km az=214.0*
*ANF **19** 23:58:02.7±0.3,36˚.16N×97˚.66W, h5km, ML3.8/9, Error ellipse: s-maj=4.2km s-min=2.6km az=141.0*
*NEIC **19** 23:58:03.1±0.6,36˚.15N±0˚.01×97˚.67W±0˚.01, h3km±4km, Error ellipse: s-maj=1.7km s-min=1.6km az=57.0*

ISC 19 23:58:02.7±1.0, 36˚.16N±0˚.02×97˚.68W±0˚.02, h9km±10km, n121, σ0§61/103, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.40**	**153**	Pg	**Pg**	**23 58 10.5**	**0.0**
OK029				Sg	**Sg**	**23 58 16.1**	**+0.3**
CROK	**Carrier**	**0.43**	**324**	Pg	**Pg**	**23 58 11.3**	**+0.2**
CROK				Sg	**Sg**	**23 58 17.3**	**+0.6**
CROK				IAML		23 58 22.5	
	comp=N,2μm,0.3s						
CROK				IAML		23 58 26.2	
	comp=E,2μm,0.3s						
ADOK	**Arcadia Dam**	**0.56**	**154**	Pg	**Pg**	**23 58 13.4**	**-0.1**
ADOK				Sg	**Sg**	**23 58 21.4**	**+0.5**
OK033	**Mehan**	**0.61**	**100**	Pg	**Pg**	**23 58 14.3**	**-0.1**
OK033				Sg	**Sg**	**23 58 22.7**	**+0.3**
OK033				IAML		23 58 25.2	
	comp=E,2μm,0.5s						
OK048	**Pawnee Station**	**0.65**	**66**	Pg	**Pg**	**23 58 15.1**	**0.0**
OK048				Sg	**Sg**	**23 58 23.8**	**+0.2**
BLOK	**Blackwell**	**0.71**	**31**	Pg	**Pg**	**23 58 16.3**	**0.0**
BLOK				Sg	**Sg**	**23 58 25.6**	**0.0**
GC02	**Grant County #**	**0.71**	**348**	Pg	**Pg**	**23 58 16.1**	**-0.3**
OK052	**Battle Ridge R**	**0.72**	**103**	Pg	**Pg**	**23 58 16.4**	**-0.2**
OK052				Sg	**Sg**	**23 58 26.1**	**0.0**
OK052				IAML		23 58 28.9	
	comp=E,2μm,0.5s						
OK051	**E0350 and S346**	**0.76**	**63**	Pg	**Pg**	**23 58 17.1**	**-0.2**
OK051				Sg	**Sg**	**23 58 27.4**	**+0.1**
OK051				IAML		23 58 31.4	
	comp=E,1μm,0.2s						
OK051				IAML		23 58 32.3	
	comp=E,1μm,0.1s						
OKCSW	**OKLAHOMA CITY**	**0.77**	**166**	Pg	**Pg**	**23 58 17.3**	**-0.3**
OKCSW				Sg	**Sg**	**23 58 27.8**	**+0.2**
OKCSW				IAML		23 58 30.4	
	comp=N,1μm,0.3s						
OKCSW				IAML		23 58 35.7	
	comp=E,1μm,0.4s						
OK032	**Salt Plains WL**	**0.78**	**326**	Pg	**Pg**	**23 58 17.3**	**-0.4**
OK032				Sg	**Sg**	**23 58 27.8**	**0.0**
OK032				IAML		23 58 30.5	
	comp=E,1μm,0.3s						
OK032				IAML		23 58 36.7	
	comp=E,1μm,0.2s						
QUOK	**Quay**	**0.78**	**89**	Pg	**Pg**	**23 58 17.5**	**-0.3**
QUOK				Sg	**Sg**	**23 58 28.1**	**+0.1**
QUOK				IAML		23 58 28.4	
	comp=N,1μm,0.4s						
QUOK				IAML		23 58 31.7	
	comp=E,1μm,0.2s						
KAN14	**Manchester OK**	**0.83**	**344**	Pg	**Pg**	**23 58 18.3**	**-0.4**
KAN14				Sg	**Sg**	**23 58 29.8**	**+0.2**
KAN14				IAML		23 58 32.3	
	comp=E,1μm,0.2s						
KAN14				IAML		23 58 33.3	
	comp=N,774nm,0.1s						
KAN13	**South Haven SW**	**0.87**	**10**	Pg	**Pg**	**23 58 19.1**	**-0.3**
KAN17	**Caldwell West**	**0.89**	**355**	Pg	**Pg**	**23 58 19.5**	**-0.3**
KAN17				IAML		23 58 35.6	
	comp=N,1μm,0.3s						
KAN17				IAML		23 58 41.4	
	comp=E,1μm,0.3s						
OK038	**West end E0370**	**0.92**	**291**	Pg	**Pg**	**23 58 19.7**	**-0.7**
OK038				Sg	**Sg**	**23 58 32.9**	**+0.5**
FNO	**Franklin**	**0.92**	**166**	Pg	**Pg**	**23 58 19.9**	**-0.6**
FNO				IAmb_Lg		23 58 31.7	
	comp=Z,115nm,1.0s						
FNO				Sg	**Sg**	**23 58 32.3**	**-0.1**
KAN05	**Bluff City Nor**	**0.96**	**351**	Pg	**Pg**	**23 58 20.8**	**-0.4**
KAN05				Sg	**Sg**	**23 58 34.2**	**+0.5**
KAN05				IAML		23 58 39.8	
	comp=E,1μm,0.2s						
KAN05				IAML		23 58 41.8	
	comp=N,912nm,0.2s						
KAN09	**Caldwell North**	**0.98**	**3**	Pg	**Pg**	**23 58 21.1**	**-0.4**
KAN09				Sg	**Sg**	**23 58 34.5**	**+0.3**
KAN01	**Argonia South**	**1.00**	**356**	Pg	**Pg**	**23 58 21.4**	**-0.4**
KAN01				IAML		23 58 36.3	
	comp=N,573nm,0.1s						
KAN01				IAML		23 58 39.6	
	comp=E,638nm,0.3s						
OK035	**E0210 Rd and N**	**1.00**	**304**	Pg	**Pg**	**23 58 21.3**	**-0.6**
OK035				Sg	**Sg**	**23 58 35.1**	**+0.2**
OK035				IAML		23 58 37.9	
	comp=E,1μm,0.4s						
DEOK	**Depew**	**1.00**	**108**	Pg	**Pg**	**23 58 21.1**	**-0.9**
DEOK				Sg	**Sg**	**23 58 34.6**	**-0.5**
DEOK				IAML		23 58 38.7	
	comp=E,836nm,0.1s						
DEOK				IAML		23 58 38.0	
	comp=N,1μm,0.2s						
KAN10	**Anthony SW Sta**	**1.02**	**341**	Pg	**Pg**	**23 58 21.7**	**-0.7**
KAN08	**Anthony NE Sta**	**1.09**	**348**	Pg	**Pg**	**23 58 23.1**	**-0.6**
U32A	**Winter Ranch,**	**1.09**	**282**	Pg	**Pg**	**23 58 22.8**	**-0.9**
U32A				Sg	**Sg**	**23 58 38.2**	**+0.3**
U32A				IAML		23 58 46.0	
	comp=N,865nm,0.8s						
U32A	**Winter Ranch,**	**1.09**	**282**	P	**Pg**	**23 58 23.0**	**-0.7**
	baz=102						
KAN06	**Argonia West S**	**1.10**	**352**	Pg	**Pg**	**23 58 23.3**	**-0.5**
KAN06				Sg	**Sg**	**23 58 37.8**	**-0.3**
KAN06				IAML		23 58 41.6	
	comp=N,661nm,0.2s						
KAN06				IAML		23 58 42.1	
	comp=E,597nm,0.2s						
KS21	**Milan North St**	**1.13**	**0**	IAML		23 58 39.9	
	comp=E,894nm,0.2s						
KS21	**Milan North St**	**1.13**	**0**	Pg	**Pg**	**23 58 23.8**	**-0.6**
KS21				Sg	**Sg**	**23 58 38.9**	**-0.1**
KAN12	**Harper NE Stat**	**1.17**	**347**	Pg	**Pg**	**23 58 24.4**	**-0.8**
W35A	**Tecumseh**	**1.19**	**147**	Pg	**Pg**	**23 58 24.4**	**-1.2**
W35A				IAML		23 58 42.7	
	comp=N,826nm,0.3s						
T35A	**Sooner Cattle**	**1.21**	**51**	Pg	**Pg**	**23 58 25.0**	**-0.9**
T35A				IAML		23 58 45.3	
	comp=E,909nm,0.4s						
T35B	**Sooner Cattle**	**1.21**	**51**	P	**Pg**	**23 58 25.2**	**-0.6**
	baz=231,SNR=358						
T35B				S	**Sb**	**23 58 41.8**	**+0.4**
	baz=231						
ELIS	**Ellis County**	**1.42**	**267**		**Pn**	**23 58 28.6**	**0.0**
TUL3	**Leonard**	**1.55**	**99**		**Pn**	**23 58 30.3**	**-0.2**
TUL3				IAmb_Lg		23 58 53.3	
	comp=Z,108nm,0.7s						
TUL3	**Leonard**	**1.55**	**99**	P	**Pn**	**23 58 30.3**	**-0.2**
	baz=280,SNR=247						
TUL3				S	**Sn**	**23 58 51.3**	**+0.7**
	baz=280						
WMOK	**Wichita Mounta**	**1.68**	**213**	Pn	**Pn**	**23 58 32.5**	**+0.2**
WMOK	**Wichita Mounta**	**1.68**	**213**	S	**Sb**	**23 58 55.4**	**+0.3**
	baz=32						
RLO	**Rose Lookout**	**2.15**	**89**	Pn	**Pn**	**23 58 39.2**	**+0.5**
LOOK	**Love County**	**2.20**	**169**	Pn	**Pn**	**23 58 40.3**	**+0.9**
SMWD	**Samnorwood**	**2.34**	**244**	Pn	**Pn**	**23 58 42.2**	**+0.8**
SMWD				IAmb_Lg		23 59 22.5	
	comp=Z,74nm,0.7s						
R32A	**Long Quarter,**	**2.41**	**340**	Pn	**Pn**	**23 58 43.7**	**+1.4**
R32A	**Long Quarter,**	**2.41**	**340**	P	**Pn**	**23 58 43.6**	**+1.2**
	baz=160,SNR=7.3						
WTFS	**Witchita Falls**	**2.47**	**195**	Pn	**Pn**	**23 58 43.9**	**+0.7**
U38A	**Gravette**	**2.67**	**83**	Pn	**Pn**	**23 58 46.5**	**+0.5**
Z35A	**Perchaven, San**	**2.84**	**173**	Pn	**Pn**	**23 58 48.9**	**+0.6**
Z35A	**Perchaven, San**	**2.84**	**173**	P	**Pn**	**23 58 49.4**	**+1.2**
	baz=353						
HHAR	**Hobbs**	**3.02**	**87**	Pn	**Pn**	**23 58 51.1**	**+0.3**
HHAR	**Hobbs**	**3.02**	**87**	P	**Pn**	**23 58 51.8**	**+1.1**
	baz=269						
KSU1	**Kansas State U**	**3.06**	**16**	Pn	**Pn**	**23 58 51.6**	**+0.3**
KSU1				IAmb_Lg		23 59 46.0	
	comp=Z,39nm,0.7s						
CBKS	**Cedar Bluff**	**3.12**	**329**	Pn	**Pn**	**23 58 53.0**	**+0.9**
FW03	**Perrin-Whitt E**	**3.12**	**186**	Pn	**Pn**	**23 58 52.8**	**+0.6**
FW06	**Azle**	**3.18**	**178**	Pn	**Pn**	**23 58 53.6**	**+0.7**
PLPT	**Palo Pinto**	**3.38**	**189**	Pn	**Pn**	**23 58 55.9**	**+0.3**
PLPT				IAmb_Lg		23 59 56.8	
	comp=Z,26nm,0.9s						
FW07	**Weatherford**	**3.45**	**182**	Pn	**Pn**	**23 58 57.6**	**+1.0**
FW07				IAmb_Lg		23 59 56.3	
	comp=Z,23nm,0.7s						
APMT	**Aspermont**	**3.47**	**216**	Pn	**Pn**	**23 58 58.1**	**+1.2**
AMTX	**Amarillo**	**3.50**	**250**	Pn	**Pn**	**23 58 58.0**	**+0.5**
AMTX				IAmb_Lg		00 00 02.6	
	comp=Z,42nm,0.8s						
Z38A	**Mt. Pleasant**	**3.64**	**142**	Pn	**Pn**	**23 58 59.4**	**+0.2**
Z38A				IAmb_Lg		00 00 06.0	
	comp=Z,49nm,0.7s						
DKNS	**Dickens**	**3.65**	**228**	Pn	**Pn**	**23 59 00.4**	**+1.0**
DKNS				IAmb_Lg		00 00 06.7	
	comp=Z,29nm,0.7s						
TREL	**Terrell**	**3.66**	**159**	IAmb_Lg		00 00 01.8	
	comp=Z,28nm,0.7s						
FW16	**Waxahatchie**	**3.72**	**170**	IAmb_Lg		00 00 09.7	
	comp=Z,41nm,0.9s						
FW14	**Alvarado**	**3.77**	**174**	Pn	**Pn**	**23 59 00.6**	**-0.4**
FW14				IAmb_Lg		00 00 08.9	
	comp=Z,24nm,0.7s						
FW13	**Cleburne**	**3.80**	**177**	IAmb_Lg		00 00 11.8	
	comp=Z,15nm,0.8s						
S39A	**Bolivar**	**3.81**	**65**	Pn	**Pn**	**23 59 01.9**	**+0.3**
S39A				IAmb_Lg		00 00 04.6	
	comp=Z,36nm,0.8s						
S39A	**Bolivar**	**3.81**	**65**	P	**Pn**	**23 59 02.5**	**+0.9**
	baz=247,SNR=25						
ABTX	**Abilene, Hawle**	**3.88**	**205**	IAmb_Lg		00 00 08.1	
	comp=Z,29nm,0.7s						
RTBA	**Rita Blanca**	**4.10**	**275**	Pn	**Pn**	**23 59 06.2**	**+0.6**
RTBA				IAmb_Lg		00 00 14.9	
	comp=Z,22nm,0.8s						
WHTX	**Lake Whitney,**	**4.16**	**177**	Pn	**Pn**	**23 59 06.0**	**-0.4**
WHTX	**Lake Whitney,**	**4.16**	**177**	P	**Pn**	**23 59 06.8**	**+0.5**
	baz=358,SNR=11						
SN01	**Snyder 1**	**4.22**	**220**	IAmb_Lg		00 00 19.4	
	comp=Z,44nm,0.8s						
X40A	**Basin Creek Fa**	**4.29**	**111**	Pn	**Pn**	**23 59 09.4**	**+1.2**
X40A				IAmb_Lg		00 00 22.6	
	comp=Z,46nm,0.9s						
POST	**Post**	**4.41**	**227**	IAmb_Lg		00 00 27.4	
	comp=Z,31nm,0.8s						
MGMO	**Mountain Grove**	**4.46**	**75**	Pn	**Pn**	**23 59 10.6**	**+0.1**
MGMO				IAmb_Lg		00 00 23.6	
	comp=Z,43nm,0.8s						
WHAR	**Wooly Hollow**	**4.47**	**100**	IAmb_Lg		00 00 36.0	
	comp=Z,33nm,0.8s						
WLAR	**White Oak Lake**	**4.49**	**122**	IAmb_Lg		00 00 33.1	
	comp=Z,31nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.51**	**92**	Pn	**Pn**	**23 59 10.8**	**-0.3**
FCAR				IAmb_Lg		00 00 31.6	
	comp=Z,29nm,0.7s						
UALR	**University of**	**4.56**	**106**	IAmb_Lg		00 00 35.0	
	comp=Z,41nm,0.8s						
MSTX	**Muleshoe**	**4.71**	**244**	Pn	**Pn**	**23 59 13.2**	**-1.0**
P38A	**Dawn**	**4.77**	**42**	IAmb_Lg		00 00 39.2	
	comp=Z,34nm,0.8s						
R40A	**Maddies Statio**	**4.81**	**62**	Pn	**Pn**	**23 59 15.3**	**0.0**
R40A	**Maddies Statio**	**4.81**	**62**	P	**Pn**	**23 59 15.8**	**+0.5**
	baz=245,SNR=18						
Z41A	**Richland Creek**	**4.95**	**124**	IAmb_Lg		00 00 51.5	
	comp=Z,45nm,0.8s						
N35A	**Tabor**	**4.96**	**18**	Pn	**Pn**	**23 59 17.4**	**0.0**
BRDY	**Brady**	**4.98**	**193**	Pn	**Pn**	**23 59 17.0**	**-0.7**
BRDY				IAmb_Lg		00 00 54.2	
	comp=Z,26nm,1.0s						
SGCY	**Sterling City**	**5.11**	**215**	IAmb_Lg		00 00 54.4	
	comp=Z,46nm,0.7s						
LCAR	**Lake Charles**	**5.28**	**89**	Pn	**Pn**	**23 59 20.9**	**-0.9**
LCAR

KVN	**Kaiserville**	**0.55**	**89**	Pg	Pg	00 00 12.8	0.0
KVN				Sg	Sg	00 00 20.5	+0.4
KVN				IAML		00 00 21.2	
	comp=E,611nm,0.3s						
PNTR	**Pine Nut**	**0.62**	**275**	Pg	Pg	00 00 14.1	+0.1
PNTR				Sg	Sg	00 00 22.8	+0.6
NV09	**Mina Array Sit**	**0.71**	**148**		Pg	00 00 16.1	+0.2
WAKR	**Walker**	**0.73**	**223**	Pg	Pg	00 00 16.1	0.0
WAKR				Sg	Sg	00 00 25.8	+0.2
NVAR	**Mina Array Bea**	**0.73**	**147**	Pg	Pg	00 00 16.3	+0.1
NV08	**Mina Array Sit**	**0.74**	**149**		Pg	00 00 16.6	+0.1
NV11	**Mina Array Sit**	**0.80**	**140**	Sg	Sg	00 00 27.9	+0.1
PAHR	**Pah Rah Range**	**0.80**	**326**	Pg	Pg	00 00 17.4	-0.1
PAHR				Sg	Sg	00 00 28.3	+0.3
PAHR				IAML		00 00 29.1	
	comp=N,405nm,0.3s						
PAHR				IAML		00 00 32.0	
	comp=E,229nm,0.4s						
LHV	**Little Huntoon**	**0.82**	**163**	Pg	Pg	00 00 17.9	-0.1
LHV				Sg	Sb	00 00 29.6	-0.4
LHV				IAML		00 00 35.4	
	comp=E,494nm,0.6s						
LHV				IAML		00 00 36.4	
	comp=N,458nm,0.7s						
MPK	**Martis Peak**	**0.98**	**285**	Pg	Pg	00 00 20.5	-0.6
PEAR	**Peavine Mounta**	**1.06**	**303**		Pg	00 00 22.4	0.0
DONR	**Donner Summit**	**1.21**	**285**		Pg	00 00 25.0	-0.5
LOY	**Loyalton**	**1.27**	**300**		Pn	00 00 25.9	-0.4
Q09A	**Carvers**	**1.29**	**99**		Pn	00 00 26.4	-0.2
MDYM	**Dry Creek**	**1.39**	**187**		Pg	00 00 29.4	+0.6
MCBM	**Casa Benchmark**	**1.40**	**183**		Pg	00 00 28.8	-0.1
MDPB	**Devils Postpil**	**1.42**	**189**	Pn	Pn	00 00 27.6	-0.9
OMMB	**Old Mammoth Mi**	**1.43**	**186**	Pn	Pn	00 00 28.4	-0.4
BEKR	**Beckworth**	**1.46**	**305**		Pn	00 00 29.0	+0.1
BMRR	**Black Mountain**	**1.56**	**313**		Pn	00 00 30.8	+0.3
TPH	**Tonopah**	**1.57**	**127**	Pn	Pn	00 00 30.3	-0.2
CMB	**Columbia Colle**	**1.59**	**231**		Pn	00 00 31.2	+0.5
CMB	**Columbia Colle**	**1.59**	**231**	Pn	Pn	00 00 31.0	+0.3
CMB	**Columbia Colle**	**1.59**	**231**	IAML		00 00 55.8	
	comp=N,70nm,0.6s						
AFDM	**Forest Hills D**	**1.69**	**268**	Pn	Pn	00 00 32.0	0.0
PLTX	**Planet X, Gerl**	**1.74**	**343**	Pn	Pn	00 00 32.8	0.0
MZP	**Montezuma Peak**	**1.75**	**140**	Pn	Pn	00 00 31.7	-1.3
BMN	**Battle Mountai**	**1.85**	**41**	Pn	Pn	00 00 33.3	-1.1
KPK	**Kanaka Peak**	**2.01**	**286**		Pb	00 00 38.7	-0.2
GMN	**Gold Mountain**	**2.12**	**144**	Pn	Pn	00 00 38.0	-0.2
ORV	**Oroville**	**2.15**	**285**	Pn	Pn	00 00 38.5	+0.2
GRAC	**Grapevine Rang**	**2.34**	**150**	Pn	Pn	00 00 39.3	-1.7
GRAC				IAML		00 01 20.1	
	comp=E,70nm,0.9s						
GRAC				IAML		00 01 21.1	
	comp=N,66nm,0.5s						
SGV	**South Grapevin**	**2.49**	**145**		Pn	00 00 43.5	+0.3
R11B	**Troy Canyon, C**	**2.62**	**104**		Pn	00 00 44.6	-0.3
R11B	**Troy Canyon, C**	**2.62**	**104**	Pn	Pn	00 00 43.6	-1.3
R11B	**Troy Canyon, C**	**2.62**	**104**	IAML		00 01 26.1	
	comp=N,39nm,0.3s						
R11B				IAML		00 01 26.5	
	comp=E,26nm,0.2s						
S11A	**Rachel**	**2.78**	**119**	Pn	Pn	00 00 45.8	-1.3
WCT	**Wildcat Mounta**	**2.83**	**142**	Pn	Pn	00 00 47.1	-0.6
TPNV	**Topopah Spring**	**2.91**	**135**	Pn	Pn	00 00 49.1	+0.3
BBGB	**Big Mountain B**	**3.03**	**216**	Pn	Pn	00 00 49.3	-1.2
CPY	**CP-1**	**3.03**	**133**		Pn	00 00 51.3	+0.8
Q12A	**Willow Creek R**	**3.10**	**89**	Pn	Pn	00 00 48.9	-2.6
ELK	**Elko**	**3.23**	**57**	Pn	Pn	00 00 52.5	-0.9
AMDNV	**Amargosa**	**3.27**	**141**		Pn	00 00 54.7	+1.0
GWY	**Greenwater Val**	**3.32**	**149**	Pn	Pn	00 00 51.8	-2.7
PRN	**Pahroc Range**	**3.38**	**118**	Pn	Pn	00 00 54.7	-0.7
SHPR	**Sheep Range**	**3.84**	**130**	Pn	Pn	00 01 01.4	-0.4
BGU	**Big Grassy Mou**	**4.82**	**65**	Pn	Pn	00 01 14.6	-0.6
MSU	**Marysvale**	**5.21**	**94**	Pn	Pn	00 01 19.2	-1.4

*IDC **20** 00:08:13.9±1.1,30°.69N×131°.87E,h0km,mb3.6/7, mbtmp3.6/11,ML3.2/4,MS4.1/2,Error ellipse: s-maj=28.9km s-min=22.3km az=94.0*
*JMA **20** 00:08:16.7±0.1,30°.7N±0°.4×132°.1E±0°.8,h54km±3km, MV3.3/35,E OFF TANEGASHIMA ISLAND*
ISC 20 00:08:17.0±2.9,30°.65N±0°.05×132°.10E±0°.07,h25km±21km, n25,σ1°26/31,mb3.7/7,MS4.0/3,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.96**	**271**	P	**Pn**	**00 08 34.5**	**-0.4**
JTN				S	**Sb**	**00 08 47.9**	**+0.5**
JMTN	**Minamitane**	**1.06**	**257**	P	**Pn**	**00 08 36.3**	**0.0**
JMTN				*e*S	**Sn**	**00 08 51.2**	**+0.9**
JNAR	**Kushima--Naru**	**1.12**	**321**	P	**Pn**	**00 08 36.8**	**-0.4**
JNAR				S	**Sn**	**00 08 51.1**	**-0.7**
JTSR	**Tashiro 2**	**1.13**	**297**	*e*P	**Pn**	**00 08 37.0**	**-0.4**
JNKG	**Nichinankitago**	**1.18**	**329**	*e*P	**Pn**	**00 08 37.5**	**-0.5**
JNKG				S	**Sn**	**00 08 52.5**	**-0.8**
JYAK	**Yakushimahirau**	**1.43**	**254**	P	**Pn**	**00 08 41.3**	**-0.1**
JYAK				S	**Sn**	**00 08 59.8**	**+0.4**
JTZ	**Takazaki**	**1.52**	**326**	P	**Pn**	**00 08 42.3**	**-0.3**
JTZ				S	**Sn**	**00 09 00.8**	**-0.8**
JSU	**Suzuyama**	**1.65**	**302**	*e*P	**Pn**	**00 08 44.2**	**-0.2**
JTSN	**Tsuno**	**1.67**	**343**	*i* P	**Pn**	**00 08 44.1**	**-0.5**
JTSN				S	**Sn**	**00 09 04.8**	**-0.5**
JIU3	**Izumi3**	**2.19**	**330**	P	**Pn**	**00 08 52.1**	**+0.3**
JTO	**Tosashimizu**	**2.29**	**15**	P	**Pn**	**00 08 51.2**	**-1.9**
JNU	**Nakatsue**	**2.67**	**338**	Pn	**Pn**	**00 08 58.4**	**-0.2**
	5.8nm,0.3s,baz=191,slow=13,SNR=24						
JNU				Sn	**Sn**	**00 09 28.4**	**-1.7**
	9.6nm,0.3s,baz=146,slow=11,SNR=7.0						
	14nm,0.3s						
JOW	**Kunigami**	**5.07**	**222**	Pn	**Pn**	**00 09 31.5**	**0.0**
	3.8nm,0.3s,baz=113,slow=24,SNR=9.9						
JOW				Sn	**Sn**	**00 10 24.8**	**-4.5**
	2.5nm,0.3s,baz=30,slow=20,SNR=1.4						
	7.4nm,0.3s						
MJAR	**Matsushiro Arr**	**7.78**	**39**	Pn	**Pn**	**00 10 10.1**	**+1.4**
	0.3nm,0.3s,baz=243,slow=14,SNR=4.2						
	1.4nm,0.3s						
KLR	**Kul'dur**	**18.56**	**359**	P	**P**	**00 12 32.5**	**+0.6**
	0.1nm,0.3s,baz=151,slow=9.7,SNR=5.4						
	1.3nm,0.7s						
SONM	**Songino Array**	**26.10**	**318**	P	**P**	**00 13 48.2**	**-0.6**
	0.5nm,0.8s,baz=128,slow=9.5,SNR=3.8						
	0.5nm,0.8s						
TIXI	**Tiksi**	**41.09**	**358**	LR	LR	00 33 52.1	
	comp=Z,4.5nm,19.3s,baz=192,slow=38						
KURBB	**Kurchatov Arra**	**44.19**	**313**	P	**P**	**00 16 22.7**	**-1.0**
	0.8nm,0.7s,baz=97,slow=8.9,SNR=6.6						
	0.8nm,0.7s						
BVAR	**Borovoye Array**	**49.38**	**316**	P	**P**	**00 17 03.1**	**-1.3**
	0.7nm,0.8s,baz=60,slow=8.8,SNR=4.3						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**50.35**	**177**	P	**P**	**00 17 12.8**	**+0.8**
	0.2nm,0.6s,baz=349,slow=8.1,SNR=2.4						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**67.15**	**339**	LR	LR	00 51 42.2	
	comp=Z,104nm,21.1s,baz=234,slow=39						
FINES	**FINESS Array B**	**70.70**	**331**	P	**P**	**00 19 29.9**	**-0.5**
	1.5nm,0.7s,baz=66,slow=4.7,SNR=6.1						
	1.5nm,0.7s						
YKA	**Yellowknife Ar**	**73.08**	**26**	P	**P**	**00 19 45.6**	**+0.9**
	0.3nm,0.6s,baz=303,slow=6.6,SNR=5.9						
	0.3nm,0.6s						
GERES	**GERESS Array B**	**83.68**	**324**	LR	LR	01 02 57.5	
	comp=Z,123nm,18.9s,baz=277,slow=39						
NVAR	**Mina Array Bea**	**85.02**	**48**	P	**P**	**00 20 52.9**	**+2.1**
	0.4nm,0.6s,baz=310,slow=7.0,SNR=3.1						
	0.4nm,0.6s						

*NOU **20** 00:27:16.1,18°.99S×169°.47E,h159km,MLv3.9/11, Vanuatu Islands*
*IDC **20** 00:27:20.0±7.9,18°.94S×168°.80E,h181km±49km,mb3.7/3, mbtmp4.1/4,Error ellipse: s-maj=114.7km s-min=70.5km az=114.0*
ISC 20 00:27:14.8±2.6,19°.02S±0°.09×169°.4E±0°.3,h150km,n12, σ2°69/13,mb4.1/3,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.73**	**318**	P	**Pn**	**00 27 49.9**	**+3.0**
LIFNC	**LIFOU**	**2.69**	**229**	P	**Pn**	**00 27 59.2**	**+1.0**
MARNC	**Mare, Loyalty**	**2.77**	**208**	P	**Pn**	**00 28 01.8**	**+2.5**
YATNC	**Mamie plateau,**	**3.84**	**218**	P	**Pn**	**00 28 14.4**	**+1.5**
DZM	**Mont Dzumac**	**4.12**	**222**	P	**Pn**	**00 28 19.9**	**+3.2**
DZM	**Mont Dzumac**	**4.12**	**222**	P	**Pn**	**00 28 19.1**	**+2.4**
	5.3nm,0.3s,baz=52,slow=6.5,SNR=32						
DZM				S	**Sn**	**00 29 05.3**	**+0.5**
	9.4nm,0.4s,baz=145,slow=20,SNR=5.8						
NOUC	**Port Laguerre**	**4.23**	**223**	P	**Pn**	**00 28 20.9**	**+2.9**
ONTNC	**Ouen Toro**	**4.29**	**220**	P	**Pn**	**00 28 21.6**	**+2.8**
KOUNC	**Koumac, New Ca**	**5.06**	**252**	P	**Pn**	**00 28 31.4**	**+2.4**
STKA	**Stephens Creek**	**28.10**	**237**	P	**P**	**00 32 51.3**	**-1.2**
	2.5nm,0.6s,baz=68,slow=9.1,SNR=6.0						
	2.5nm,0.6s						
WRA	**Warramunga Arr**	**33.04**	**262**	P	**P**	**00 33 33.1**	**-3.1**
	0.3nm,0.3s,baz=101,slow=7.7,SNR=20						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**33.34**	**256**	P	**P**	**00 33 36.6**	**-2.1**
	5.0nm,0.4s,baz=83,slow=8.8,SNR=66						
	5.0nm,0.4s						

*IDC **20** 00:28:01.4±1.9,18°.95N×145°.67E,h158km±18km, mb3.8/16,mbtmp4.3/20,Error ellipse: s-maj=18.5km s-min=9.8km az=84.0*
*NEIC **20** 00:28:04.8±1.4,18°.84N±0°.07×145°.8E±0°.1,h179km±7km, mb4.4/63,Error ellipse: s-maj=17.4km s-min=8.3km az=66.0*
ISC 20 00:28:01.3±0.5,18°.91N±0°.06×145°.8E±0°.1,h150km,n100, σ0°98/86,mb4.4/45,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.36**	**190**	Pn	**Pn**	**00 29 20.9**	**+1.4**
GUMO	**Guam**	**5.36**	**190**	P	**Pn**	**00 29 21.4**	**+1.8**
	82nm,0.3s,baz=79,slow=3.6,SNR=4.3						
GUMO				S	**Sn**	**00 30 22.9**	**+2.3**
	111nm,0.4s,baz=198,slow=19,SNR=1.8						
JCJ	**Chichijima**	**8.80**	**339**	Pn	**Pn**	**00 30 05.6**	**+0.2**
JCJ	**Chichijima**	**8.80**	**339**	P	Pn	00 30 02.4	-2.9
	28nm,0.4s,baz=293,slow=21,SNR=7.7						
JCJ				S	Sn	00 31 36.7	-6.4
	115nm,0.5s,baz=95,slow=23,SNR=7.7						
JOW	**Kunigami**	**17.95**	**299**	P	**P**	**00 31 57.6**	**-2.5**
	12nm,0.7s,baz=73,slow=19,SNR=1.4						
MJAR	**Matsushiro Arr**	**18.79**	**341**	P	**P**	**00 32 07.6**	**-1.6**
	0.8nm,0.3s,baz=102,slow=11,SNR=1.8						
MAJO	**Matsushiro**	**18.80**	**341**	P	**P**	**00 32 10.0**	**+0.8**
MAJO				IAmb	IAmb	00 32 42.3	
	comp=Z,14nm,1.1s						
MJB9	**Matsu-Tunnel**	**18.80**	**341**	P	**P**	**00 32 10.5**	**+1.3**
MJB9				IAmb	IAmb	00 32 43.2	
	comp=Z,14nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**19.80**	**88**	T	T	00 53 21.1	
	baz=275,slow=74						
H11S1	**WAKE ISLAND Hy**	**19.81**	**88**	T	T	00 53 23.2	
	baz=275,slow=74						
H11S2	**WAKE ISLAND Hy**	**19.82**	**88**	T	T	00 53 26.9	
	baz=275,slow=74						
H11N1	**WAKE ISLAND Hy**	**19.93**	**84**	T	T	00 54 14.9	
	baz=274						
H11N2	**WAKE ISLAND Hy**	**19.94**	**84**	T	T	00 53 47.7	
	baz=274						
H11N3	**WAKE ISLAND Hy**	**19.95**	**84**	T	T	00 54 03.8	
	baz=274						
YOJ	**Yonaguni jima**	**21.87**	**289**	P	**P**	**00 32 45.0**	**+2.8**
MTN	**Manton Dam**	**34.70**	**206**	P	**P**	**00 34 36.9**	**-0.1**
PETK	**Petropavlovsk-**	**35.37**	**12**	P	P	00 34 41.3	-1.0
	comp=Z,1.7nm,0.7s,baz=211,slow=8.1,SNR=1.4						
	comp=Z,1.7nm,0.7s						
SBUM	**Sibu**	**36.70**	**248**	P	**P**	**00 34 54.4**	**+0.3**
KNRA	**Kununurra**	**38.23**	**207**	P	**P**	**00 35 05.8**	**-1.1**
WB0	**Warramunga Arr**	**40.02**	**197**	P	**P**	**00 35 22.1**	**+0.3**
WB0				IAmb	IAmb	00 35 22.2	
	comp=Z,6.4nm,0.8s						
WR0	**Warramunga Arr**	**40.17**	**197**	P	**P**	**00 35 22.8**	**-0.2**
WR0				IAmb	IAmb	00 35 42.3	
	comp=Z,8.0nm,1.2s						
WRAB	**Tennant Creek**	**40.20**	**197**	P	**P**	**00 35 23.4**	**+0.3**
WRAB				IAmb	IAmb	00 35 24.5	
	comp=Z,7.3nm,0.6s						
WB2	**Warramunga Arr**	**40.20**	**197**	P	**P**	**00 35 23.3**	**+0.1**
WB2				IAmb	IAmb	00 35 24.6	
	comp=Z,8.0nm,0.7s						
WRA	**Warramunga Arr**	**40.21**	**197**	P	**P**	**00 35 22.4**	**-0.8**
WRA	**Warramunga Arr**	**40.21**	**197**	P	**P**	**00 35 22.9**	**-0.3**
	comp=Z,4.5nm,0.4s,baz=15,slow=8.7,SNR=62						
WRA				PcP	**PcP**	**00 37 22.7**	**-1.8**
	comp=Z,1.0nm,0.3s,baz=11,slow=3.2,SNR=5.5						
	comp=Z,4.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**41.76**	**209**	P	**P**	**00 35 36.1**	**+0.1**
SONM	**Songino Array**	**43.04**	**321**	P	**P**	**00 35 47.0**	**+0.9**
SONM	**Songino Array**	**43.04**	**321**	P	**P**	**00 35 45.6**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=142,slow=9.6,SNR=4.9						
	comp=Z,0.5nm,0.6s						
AS31	**Alice Springs**	**43.87**	**196**	P	**P**	**00 35 54.0**	**+1.1**
ASAR	**Alice Springs**	**43.87**	**196**	P	**P**	**00 35 53.1**	**+0.1**
ASAR	**Alice Springs**	**43.87**	**196**	P	**P**	**00 35 52.9**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=11,slow=8.2,SNR=14						
	comp=Z,1.1nm,0.4s						
DZM	**Mont Dzumac**	**45.46**	**153**	P	**P**	**00 36 05.3**	**-0.3**
DZM				IAmb	IAmb	00 36 07.1	
	comp=Z,15nm,1.0s						
DZM	**Mont Dzumac**	**45.46**	**153**	P	**P**	**00 36 04.8**	**-0.8**
	comp=Z,7.9nm,0.5s,baz=230,slow=3.7,SNR=13						
	comp=Z,7.9nm,0.5s						
PSA00	**Pilbara Seismi**	**47.57**	**213**	P	**P**	**00 36 21.5**	**-0.5**
PSA00				IAmb	IAmb	00 36 35.3	
	comp=Z,21nm,1.3s						
STKA	**Stephens Creek**	**50.65**	**185**	P	**P**	**00 36 43.5**	**-1.7**
STKA	**Stephens Creek**	**50.65**	**185**	P	**P**	**00 36 43.4**	**-1.8**
	comp=Z,4.9nm,1.0s,baz=67,slow=8.5,SNR=3.2						
	comp=Z,4.9nm,1.0s						
FORT	**Forrest**	**52.26**	**199**	P	**P**	**00 36 56.0**	**-1.2**
TIXI	**Tiksi**	**53.67**	**353**	P	**P**	**00 37 09.3**	**+2.3**
MORW	**Morawa**	**55.67**	**212**	P	**P**	**00 37 21.7**	**-0.3**
ZALV	**Zalesovo Beam**	**57.91**	**322**	P	P	00 37 36.1	-1.4
	comp=Z,0.3nm,0.4s,baz=104,slow=15,SNR=1.9						
	comp=Z,0.3nm,0.4s						
NWAO	**Narrogin (SRO)**	**58.32**	**208**	P	**P**	**00 37 39.9**	**-0.7**
MKAR	**Makanchi Array**	**58.38**	**314**	P	**P**	**00 37 40.2**	**-0.7**
MKAR	**Makanchi Array**	**58.38**	**314**	P	P	00 37 39.3	-1.7
	comp=Z,0.4nm,0.6s,baz=81,slow=7.5,SNR=5.0						
	comp=Z,0.4nm,0.6s						
F17K	**Baldwin Pennin**	**58.39**	**22**	P	**P**	**00 37 41.8**	**+1.2**
F17K				IAmb	IAmb	00 37 52.7	
	comp=Z,9.8nm,1.1s						
MAKZ	**Makanchi**	**58.60**	**314**	P	**P**	**00 37 42.0**	**-0.5**
MAKZ				IAmb	IAmb	00 38 25.9	
	comp=Z,10nm,1.3s						
H18K	**Honhosa River**	**58.90**	**24**	P	**P**	**00 37 44.4**	**+0.1**
G18K	**Tagagawik**	**59.10**	**23**	P	**P**	**00 37 46.3**	**+0.7**
G18K				IAmb	IAmb	00 38 02.7	
	comp=Z,12nm,1.4s						
C18K	**Utukok River**	**59.45**	**20**	P	**P**	**00 37 49.0**	**+0.9**
C18K				IAmb	IAmb	00 38 11.6	
	comp=Z,8.2nm,1.4s						
J19K	**Poorman**	**59.56**	**26**	P	**P**	**00 37 49.2**	**+0.4**
J19K				IAmb	IAmb	00 38 00.3	
	comp=Z,6.5nm,1.2s						
G19K	**Purcell Mounta**	**59.79**	**23**	P	**P**	**00 37 51.0**	**+0.7**
G19K				IAmb	IAmb	00 38 27.5	
	comp=Z,6.2nm,1.4s						
H19K	**Roundabout Mou**	**59.79**	**24**	P	**P**	**00 37 51.1**	**+0.9**
H19K				IAmb	IAmb	00 38 17.7	
	comp=Z,12nm,1.4s						
C19K	**Lookout Ridge**	**60.18**	**20**	P	**P**	**00 37 53.8**	**+0.8**
J20K	**Nowinta River**	**60.23**	**26**	P	**P**	**00 37 54.9**	**+1.5**
J20K				IAmb	IAmb	00 38 30.0	
	comp=Z,10nm,1.5s						
D19K	**Kuna River**	**60.39**	**21**	P	**P**	**00 37 54.7**	**+0.3**
CAST	**Castle Rocks**	**60.87**	**27**	P	**P**	**00 37 58.3**	**+0.6**
CAST				IAmb	IAmb	00 37 59.1	
	comp=Z,3.9nm,0.6s						
IMAR	**Indian Mountai**	**60.99**	**24**	P	**P**	**00 37 59.9**	**+1.4**
KURBB	**Kurchatov Arra**	**61.23**	**318**	P	P	00 37 58.9	-1.4
	comp=Z,0.7nm,0.4s,baz=95,slow=7.5,SNR=6.2						
	comp=Z,0.7nm,0.4s						
B20K	**Meade River**	**61.35**	**19**	P	**P**	**00 38 01.4**	**+0.7**
SML	**Sawmill**	**62.15**	**29**	P	**P**	**00 38 06.3**	**0.0**
SCM	**Sheep Creek Mo**	**62.62**	**29**	P	**P**	**00 38 09.5**	**0.0**
CCB	**Clear Creek Bu**	**63.01**	**26**	P	**P**	**00 38 11.5**	**-0.4**
CCB				IAmb	IAmb	00 38 20.8	
	comp=Z,6.8nm,1.4s						
H24K	**Noodor Dome**	**63.26**	**25**	P	**P**	**00 38 14.4**	**+0.7**
H24K				IAmb	IAmb	00 38 24.0	
	comp=Z,5.7nm,1.2s						
TOLK	**Toolik Lake Re**	**63.37**	**22**	P	**P**	**00 38 15.4**	**+1.1**
TOLK				IAmb	IAmb	00 38 16.5	
	comp=Z,7.1nm,1.2s						
C23K	**Itkillik River**	**63.38**	**20**	P	**P**	**00 38 14.7**	**+0.5**
ILAR	**Eielson Array**	**63.42**	**26**	P	**P**	**00 38 14.1**	**-0.6**
ILAR	**Eielson Array**	**63.42**	**26**	P	P	00 38 13.6	-1.0
	comp=Z,1.0nm,0.4s,baz=250,slow=5.7,SNR=19						
	comp=Z,1.0nm,0.4s						
F24K	**Squaw Lake**	**63.67**	**23**	P	**P**	**00 38 17.2**	**+0.9**
D24K	**Happy Valley**	**63.78**	**21**	P	**P**	**00 38 17.8**	**+0.9**
D24K				IAmb	IAmb	00 38 18.9	
	comp=Z,4.4nm,0.8s						
J25K	**Salcha River,**	**64.03**	**27**	P	**P**	**00 38 17.9**	**-0.8**
J25K				IAmb	IAmb	00 38 46.6	
	comp=Z,4.8nm,1.4s						
RTZ	**Ruatahuna**	**64.26**	**153**	P	P	00 38 18.7	-1.8
SCRK	**Sand Creek**	**64.51**	**27**	P	**P**	**00 38 21.7**	**-0.2**
SCRK				IAmb	IAmb	00 38 22.1	
	comp=Z,6.5nm,1.3s						
MCARA	**McCarthy VSAT**	**64.58**	**30**	P	**P**	**00 38 22.9**	**+0.7**
E25K	**Arctic Village**	**64.67**	**23**	P	**P**	**00 38 24.0**	**+1.2**
E25K				IAmb	IAmb	00 38 38.6	
	comp=Z,7.2nm,1.5s						
BMAR	**Burnt Mountain**	**64.89**	**24**	P	**P**	**00 38 25.6**	**+1.3**
GRNC	**Granite Creek**	**65.12**	**31**	P	**P**	**00 38 26.7**	**+0.7**
GRNC				IAmb	IAmb	00 38 35.7	
	comp=Z,5.6nm,1.0s						
L27K	**Beaver Creek,**	**65.34**	**29**	P	**P**	**00 38 27.7**	**+0.5**
L27K				IAmb	IAmb	00 38 49.1	
	comp=Z,7.0nm,1.4s						
BCAR	**Beaver Creek A**	**65.36**	**29**	P	**P**	**00 38 28.0**	**+0.6**
E27K	**Coleen River**	**66.14**	**23**	P	**P**	**00 38 33.3**	**+1.1**
BVAR	**Borovoye Array**	**66.37**	**320**	P	**P**	**00 38 33.1**	**-0.8**
	comp=Z,3.4nm,0.5s,baz=93,slow=7.4,SNR=43						
	comp=Z,3.4nm,0.5s						
I28M	**Miner Creek**	**66.43**	**26**	P	**P**	**00 38 34.4**	**+0.2**
BRVK	**Borovoye**	**66.44**	**320**	P	**P**	**00 38 34.1**	**-0.2**
F28M	**Old Crow**	**66.71**	**24**	P	**P**	**00 38 36.2**	**+0.4**
L29M	**L29M**	**67.02**	**29**	P	**P**	**00 38 39.1**	**+1.2**
L29M				IAmb	IAmb	00 38 39.6	
	comp=Z,2.4nm,0.6s						
K29M	**Barlow Dome**	**67.34**	**28**	P	**P**	**00 38 40.4**	**+0.4**
K29M				IAmb	IAmb	00 38 43.4	
	comp=Z,7.9nm,1.4s						
N30M	**Aishikik Lake**	**67.43**	**30**	P	**P**	**00 38 40.8**	**+0.3**
N30M				IAmb	IAmb	00 38 53.5	
	comp=Z,6.7nm,1.5s						
M30M	**Minto, Yukon**	**67.61**	**29**	P	**P**	**00 38 42.2**	**+0.6**
G31M	**Satah River**	**68.83**	**25**	P	**P**	**00 38 49.1**	**+0.1**
G31M				IAmb	IAmb	00 39 33.6	
	comp=Z,8.5nm,1.5s						
S34M	**Telegraph Cree**	**70.53**	**34**	P	**P**	**00 39 00.6**	**+1.0**
S34M				IAmb	IAmb	00 39 22.4	
	comp=Z,8.8nm,1.4s						
DLBC	**Dease Lake**	**71.07**	**34**	P	**P**	**00 39 03.5**	**+0.5**
DLBC				IAmb	IAmb	00 39 46.7	
	comp=Z,11nm,1.4s						
DLBC	**Dease Lake**	**71.07**	**34**	P	**P**	**00 39 04.0**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=241,slow=2.8,SNR=5.2						
	comp=Z,2.0nm,0.7s						
A36M	**Sachs Harbour**	**71.86**	**19**	P	**P**	**00 39 07.2**	**-0.1**
ABKAR	**Akbulak array**	**73.25**	**317**	P	P	00 39 14.4	-1.6
YKA	**Yellowknife Ar**	**77.77**	**28**	P	**P**	**00 39 40.9**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=288,slow=5.7,SNR=16						
	comp=Z,1.0nm,0.6s						
PNTR	**Pine Nut**	**81.78**	**52**	P	P	00 40 02.5	-1.5
PNTR				IAmb	IAmb	00 40 07.0	
	comp=Z,7.0nm,0.7s						
ARCES	**ARCESS Array B**	**82.32**	**342**	P	**P**	**00 40 04.9**	**-0.9**
	comp=Z,6.0nm,1.0s,baz=54,slow=6.2,SNR=5.6						
	comp=Z,6.0nm,1.0s						
NVAR	**Mina Array Bea**	**82.94**	**52**	P	**P**	**00 40 10.2**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=270,slow=5.8,SNR=20						
	comp=Z,2.6nm,0.7s						
GMN	**Gold Mountain**	**84.09**	**53**	P	**P**	**00 40 15.6**	**-0.3**
LRM	**Limekiln Ridge**	**84.53**	**43**	P	**P**	**00 40 17.9**	**0.0**
MCMT	**McKenzie Canyo**	**84.63**	**44**	P	**P**	**00 40 18.

	comp=Z,460nm,1.0s								
MTO3				*i*	S		**Sn**	**00 31 26.8**	**-1.2**
LFRS	**El Faro**	**1.73**	**87**	*eP*			**Pb**	**00 31 07.4**	**-0.3**
ESQI	**Esquipulas**	**1.77**	**55**	*i*	P		**Pn**	**00 31 07.5**	**+0.5**
ESQI					IAML			00 31 41.5	
	comp=Z,810nm,1.0s								
SJTE	**Alcalda de S**	**1.78**	**87**	*eP*			**Pb**	**00 31 08.1**	**-0.5**
SJTE				*eS*			**Sn**	**00 31 30.1**	**-0.4**
SJTE	**Alcalda de S**	**1.78**	**87**	*i*	P		**Pb**	**00 31 08.3**	**-0.3**
SJTE				*i*	S		**Sn**	**00 31 29.5**	**-1.0**
SJTE					IAML			00 31 33.1	
	comp=Z,710nm,1.0s								
PAVA	**Las Pavas**	**1.85**	**84**	*eP*			**Pn**	**00 31 09.2**	**+1.1**
PAVA				*eS*			**Sb**	**00 31 33.5**	**-0.2**
PAVA	**Las Pavas**	**1.85**	**84**	*i*	P		**Pn**	**00 31 09.1**	**+0.9**
PAVA				*i*	S		**Sn**	**00 31 32.0**	**-0.4**
PAVA					IAML			00 31 39.8	
	comp=Z,920nm,1.0s								
COEG	**Centro de Oper**	**1.90**	**87**	*eP*			**Pb**	**00 31 10.6**	**-0.1**
COEG				*eS*			**Sg**	**00 31 36.0**	**-0.2**
COEG	**Centro de Oper**	**1.90**	**87**	*i*	P		**Pb**	**00 31 10.0**	**-0.7**
COEG				*i*	S		**Sn**	**00 31 31.6**	**-1.9**
COEG					IAML			00 31 37.3	
	comp=Z,530nm,1.0s								
LLGN	**La Laguna**	**1.94**	**71**	*i*	P		**Pn**	**00 31 09.3**	**0.0**
LLGN					IAML			00 31 27.2	
	comp=Z,310nm,1.0s								
TECO	**Alcaldia de Te**	**2.00**	**90**	*i*	P		**Pb**	**00 31 11.6**	**-0.6**
TECO				*i*	S		**Sb**	**00 31 36.6**	**-1.1**
TECO					IAML			00 31 44.0	
	comp=Z,270nm,1.0s								
SCLA	**Alcaldia de Sa**	**2.05**	**85**	*eP*			**Pn**	**00 31 11.9**	**+1.0**
ALJI	**Alcalda de J**	**2.21**	**95**		IAML			00 31 48.3	
	comp=Z,1µm,0.1s								
SARH	**Santa Rosa de**	**2.36**	**58**	*i*	P		**Pn**	**00 31 15.4**	**+0.3**
LCND	**La Caada**	**2.87**	**94**	*i*	P		**Pn**	**00 31 23.3**	**+1.2**
LCND				*i*	S		**Sn**	**00 31 57.0**	**-0.4**
LCND					IAML			00 32 01.2	
	comp=Z,390nm,1.0s								
CNCH	**Conchagua**	**2.93**	**95**	*i*	P		**Pn**	**00 31 25.4**	**+2.4**
CNCH				*i*	S		**Sn**	**00 31 59.1**	**+0.1**
CNCH					IAML			00 32 04.2	
	comp=Z,730nm,1.0s								
COMHN	**El Horno**	**3.31**	**74**	*i*	P		**Pn**	**00 31 28.8**	**+0.5**
NISHN	**Nisperales Com**	**3.62**	**52**	*i*	P		**Pn**	**00 31 32.2**	**-0.3**
NISHN				*i*	S		**Sb**	**00 32 27.4**	**+2.8**
YUSH	**Yuscaran**	**3.90**	**83**	*i*	P		**Pn**	**00 31 38.5**	**+2.2**
JUTIH	**Juticalpa Olan**	**4.62**	**75**	*i*	P		**Pn**	**00 31 46.8**	**+0.7**

*JMA **20** 00:30:44.3±0.2,30°.7N±0°.4×13°.2E±°, h58km±4km, MV2.5/27, E OFF TANEGASHIMA ISLAND*
*IDC **20** 00:30:47.3±8.7,30°.63N×130°.26E, h74km±58km, mb3.2/4, mbtmp3.5/5, ML2.5/1, Error ellipse: s-maj=72.8km s-min=40.3km az=164.0*
ISC 20 00:30:40.6±1.9,30°.59N±0°.09×132°.2E±0°.1, h97km±12km, n14, σ1s60/21, mb3.5/4, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.04**	**274**	*eP*		**Pn**	**00 31 02.0**	**+0.8**
JTN				*eS*		**Sn**	**00 31 15.3**	**-1.5**
JMTN	**Minamitane**	**1.12**	**260**	*eP*		**Pn**	**00 31 03.6**	**+1.4**
JMTN				*eS*		**Sn**	**00 31 18.2**	**-0.2**
JNAR	**Kushima--Naru**	**1.22**	**320**	*eP*		**Pn**	**00 31 03.7**	**+0.4**
JNAR				*eS*		**Sn**	**00 31 18.8**	**-1.6**
JTSR	**Tashiro 2**	**1.22**	**298**	*S*		**Sn**	**00 31 19.4**	**-1.7**
JNKG	**Nichinankitago**	**1.27**	**327**	*eP*		**Pn**	**00 31 05.2**	**+1.3**
JNKG				*eS*		**Sn**	**00 31 20.3**	**-1.2**
JYAK	**Yakushimahirau**	**1.48**	**257**	*eP*		**Pn**	**00 31 08.4**	**+1.9**
JYAK				*S*		**Sn**	**00 31 27.0**	**+0.8**
JTZ	**Takazaki**	**1.61**	**325**	*eP*		**Pn**	**00 31 09.8**	**+1.7**
JTZ				*S*		**Sn**	**00 31 28.4**	**-0.5**
JTO	**Tosashimizu**	**2.32**	**13**	*eP*		**Pn**	**00 31 18.5**	**+1.2**
JTO				*eS*		**Sn**	**00 31 44.0**	**-1.4**
UWA2	**Uwa jima 2**	**2.64**	**8**	*P*		**Pn**	**00 31 23.6**	**+2.0**
JNU	**Nakatsue**	**2.75**	**337**	*P*		**Pn**	**00 31 26.2**	**+3.1**
	1.7nm,0.3s,baz=225,slow=7.1,SNR=2.7							
JNU				*S*		**Sn**	**00 31 57.0**	**+1.3**
	20nm,0.6s,baz=143,slow=11,SNR=4.6 4.3nm,0.3s							
ZALV	**Zalesovo Beam**	**41.09**	**319**	*P*		**P**	**00 38 13.1**	**-1.5**
	0.4nm,0.5s,baz=112,slow=9.8,SNR=2.6 0.4nm,0.5s							
MKAR	**Makanchi Array**	**41.44**	**307**	*P*		**P**	**00 38 16.3**	**-1.3**
	0.6nm,0.8s,baz=92,slow=8.7,SNR=1.7 0.6nm,0.8s							
KURBB	**Kurchatov Arra**	**44.28**	**313**	*P*		**P**	**00 38 39.6**	**-0.9**
	0.6nm,0.4s,baz=91,slow=7.7,SNR=2.0 0.6nm,0.4s							
ILAR	**Eielson Array**	**58.95**	**30**	*P*		P	00 40 44.0	+15
	0.3nm,0.8s,baz=282,slow=4.5,SNR=2.6 0.3nm,0.8s							

GUC 20 00:44:31.7±0.4,36°.93S×74°.08W, h31km±5km, ML3.6, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**0.74**	**76**	*iP*		Pn	00 44 44.9	-1.1
BI05				*eS*		Sb	00 44 55.1	-0.8
BI05					IAML		00 44 57.1	
	comp=E,8µm,0.3s							
CCSP	**San Pedro de C**	**0.78**	**84**	*eP*		Pn	00 44 45.4	-1.2
CCSP				*eS*		Sb	00 44 55.8	-1.4
CCSP					IAML		00 44 59.5	
	comp=N,3µm,0.2s							
LC02	**Puerto Saavedr**	**1.94**	**164**	*eS*		Sn	00 45 22.8	-3.0
LC02					IAML		00 45 38.6	
	comp=E,1µm,0.5s							
GO05	**Huala**	**2.59**	**43**	*eP*		Pn	00 45 12.4	+0.9
GO05				*i*	S	Sb	00 45 55.4	+6.5
GO05					IAML		00 46 00.7	
	comp=E,142nm,0.5s							
BO03	**Pichilemu**	**2.98**	**36**	*eP*		Pn	00 45 17.5	+0.7
BO03				*eS*		Sb	00 46 08.4	+8.3
LR04	**Corral**	**2.99**	**170**	*eP*		Pn	00 45 16.1	-0.8
LR04				*eS*		Sn	00 46 14.7	-4.9
LR04					IAML		00 45 50.0	
	comp=E,372nm,0.4s							
LR03	**Panguipulli**	**3.02**	**154**	*eP*		Pn	00 45 18.5	+1.1
LR03				*eS*		Sn	00 45 50.6	-1.9
GO06	**Curarrehue**	**3.35**	**143**	*eP*		Pn	00 45 22.9	+0.9
GO06				*eS*		Sb	00 46 10.0	-0.8
GO06					IAML		00 46 24.2	
	comp=N,48nm,0.5s							
BO02	**Sierra Bellavi**	**3.43**	**52**	*eP*		Pn	00 45 24.0	+1.0
BO02					IAML		00 46 27.8	
	comp=N,134nm,0.4s							
BO01	**Tunca**	**3.52**	**45**	*eP*		Pn	00 45 25.4	+1.2
BO01				*eS*		Sb	00 46 21.6	+6.1
BO01					IAML		00 46 30.2	
	comp=N,46nm,0.3s							
MT01	**Popeta**	**3.84**	**38**	*eP*		Pn	00 45 29.2	+0.6
MT09	**Talagante**	**4.04**	**40**	*eP*		Pn	00 45 32.6	+1.1
BO04	**La Punta**	**4.08**	**45**	*eP*		Pn	00 45 33.1	+1.1
BO04				*eS*		Sb	00 46 42.7	+11
MT12	**Pirque**	**4.30**	**43**	*eP*		Pn	00 45 36.2	+1.2
MT02	**Curacav**	**4.39**	**34**	*eP*		Pn	00 45 36.4	+0.2
MT03	**Universidad Ad**	**4.51**	**41**	*eP*		Pn	00 45 38.8	+0.9
MT10	**Hacienda Santa**	**4.67**	**40**	*eP*		Pn	00 45 41.6	+1.4
ROCH	**El Roble**	**4.69**	**33**	*eP*		Pn	00 45 41.0	+0.6
ROCH				*eP*		Pb	00 45 41.1	-12
ROCH				*eS*		Sb	00 47 01.0	+12
PEL	**Peldehue**	**4.70**	**37**	*eP*		Pn	00 45 41.7	+1.3
FCH	**Farellones**	**4.75**	**42**	*eP*		Pn	00 45 42.3	+0.8
FCH				*eS*		Sn	00 46 36.1	+0.4

*IDC **20** 01:10:37.3±1.0,30°.66N×132°.23E, h0km, mb3.5/7, mbtmp3.5/9, ML3.2/2, MS3.3/2, Error ellipse: s-maj=32.8km s-min=21.2km az=95.0*
*JMA **20** 01:10:41.1±0.1,30°.7N±0°.3×132°.1E±0°.8, h53km±2km, MV3.1/30, E OFF TANEGASHIMA ISLAND*
ISC 20 01:10:41.9±2.9,30°.68N±0°.05×132°.07E±0°.09, h30km±20km, n21, σ0s79/29, mb3.6/7, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.94**	**269**	*eP*		**Pn**	**01 10 58.4**	**-0.6**
JTN				*S*		**Sn**	**01 11 11.8**	**+0.3**
JMTN	**Minamitane**	**1.05**	**255**	*eP*		**Pn**	**01 11 00.4**	**-0.1**
JMTN				*S*		**Sb**	**01 11 15.0**	**+0.2**
JNAR	**Kushima--Naru**	**1.09**	**321**	*eP*		**Pn**	**01 11 00.7**	**-0.4**
JNAR				*S*		**Sn**	**01 11 15.1**	**0.0**
JNKG	**Nichinankitago**	**1.15**	**329**	*eP*		**Pn**	**01 11 01.4**	**-0.5**
JNKG				*S*		**Sn**	**01 11 16.3**	**-0.3**
JYAK	**Yakushimahirau**	**1.42**	**252**	*P*		**Pn**	**01 11 05.2**	**-0.4**
JYAK				*S*		**Sn**	**01 11 23.4**	**+0.2**
JTZ	**Takazaki**	**1.48**	**326**	*P*		**Pn**	**01 11 06.2**	**-0.2**
JTZ				*S*		**Sn**	**01 11 24.2**	**-0.6**
JSU	**Suzuyama**	**1.61**	**301**	*eP*		**Pn**	**01 11 08.3**	**-0.1**
JSU				*S*		**Sn**	**01 11 28.3**	**+0.2**
JTSN	**Tsuno**	**1.64**	**343**	*i*	P	**Pn**	**01 11 08.2**	**-0.4**
JTSN				*S*		**Sn**	**01 11 28.0**	**-0.6**
JNN	**Nakanoshima**	**2.08**	**247**	*eS*		**Sn**	**01 11 39.8**	**+0.2**
JIU3	**Izumi3**	**2.15**	**330**	*P*		**Pn**	**01 11 15.8**	**+0.1**
JNU	**Nakatsue**	**2.64**	**338**	Pn		**Pn**	**01 11 23.0**	**+0.6**
	4.6nm,0.3s,baz=4.7,slow=2.3,SNR=15							
JNU					Sn	**Sn**	**01 11 54.0**	**+0.6**
	11nm,0.3s,baz=106,slow=11,SNR=12 8.2nm,0.3s							
JOW	**Kunigami**	**5.08**	**222**	Pn		**Pn**	**01 11 57.0**	**+1.1**
	3.1nm,0.3s,baz=107,slow=21,SNR=6.1							
JOW					Sn	**Sn**	**01 12 51.9**	**-1.8**
	2.3nm,0.3s,baz=180,slow=20,SNR=2.2 7.0nm,0.3s							
SONM	**Songino Array**	**26.06**	**318**	LR		LR	01 27 59.0	
	comp=Z,50nm,18.5s,baz=348,slow=40							
KURBB	**Kurchatov Arra**	**44.15**	**313**	*P*		**P**	**01 18 46.9**	**-0.7**
	0.4nm,0.7s,baz=100,slow=9.2,SNR=1.9 0.4nm,0.7s							
WRA	**Warramunga Arr**	**50.38**	**177**	*P*		**P**	**01 19 36.7**	**+0.4**
	0.5nm,0.8s,baz=352,slow=8.0,SNR=2.9 0.5nm,0.8s							
ASAR	**Alice Springs**	**54.06**	**178**	*P*		**P**	**01 20 02.3**	**-1.4**
	0.2nm,0.3s,baz=6.6,slow=10,SNR=2.2 0.2nm,0.3s							
ILAR	**Eielson Array**	**58.92**	**30**	*P*		**P**	**01 20 36.4**	**-1.5**
	0.4nm,0.7s,baz=278,slow=5.2,SNR=6.1 0.4nm,0.7s							
DZM	**Mont Dzumac**	**61.97**	**144**	LR		LR	01 42 17.1	
	comp=Z,37nm,20.3s,baz=208,slow=31							
YKA	**Yellowknife Ar**	**73.06**	**26**	*P*		**P**	**01 22 09.7**	**+0.9**
	0.2nm,0.6s,baz=300,slow=6.3,SNR=5.0 0.2nm,0.6s							
BRTR	**Keskin Array B**	**76.95**	**308**	*P*		**P**	**01 22 33.3**	**+1.4**
	0.2nm,0.4s,baz=79,slow=7.8,SNR=2.4 0.2nm,0.4s							
NVAR	**Mina Array Bea**	**85.01**	**48**	*P*		**P**	**01 23 15.5**	**+0.7**
	0.3nm,0.5s,baz=293,slow=5.8,SNR=2.5 0.3nm,0.5s							

*IDC **20** 01:23:07.2±1.1,34°.90N×26°.16E, h0km, mb3.7/6, mbtmp3.6/11, ML3.1/5, MS3.4/1, Error ellipse: s-maj=28.0km s-min=17.5km az=172.0*
*ISK **20** 01:23:07.9,34°.88N×26°.13E, h2km, ML3.3/21*
*THE **20** 01:23:08.3,34°.86N×26°.13E, h0km±1km, ML3.6/4, Error ellipse: s-maj=3.6km s-min=0.9km az=168.0*
*ATH **20** 01:23:09.6,34°.90N×26°.14E, h3km±1km, ML3.4/7, Error ellipse: s-maj=3.1km s-min=0.9km az=345.0*
ISC 20 01:23:07.4±1.4,34°.80N±0°.06×26°.10E±0°.02, h4km±9km, n64, σ1s57/79, mb3.6/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.33**	**17**	Pg		**Pg**	**01 23 13.9**	**+0.2**
ZKR				Sg		**Sg**	**01 23 17.9**	**-0.1**
ZKR	**Zakros**	**0.33**	**17**	*P*		**Pg**	**01 23 14.2**	**+0.5**
ZKR				*S*		**Sg**	**01 23 18.2**	**+0.2**
	30µm,0.3s							
ZKR	**Zakros**	**0.33**	**17**	*P*		**Pg**	**01 23 14.2**	**+0.5**
ZKR				*S*		**Sg**	**01 23 17.0**	**-1.0**
ZKR					AML	AML	01 23 18.3	
	comp=N,32025µm,0.3s							
ZKR					AML	AML	01 23 18.5	
	comp=E,69952µm,0.1s							
FRMA	**Ierapetra Chan**	**0.37**	**305**	*P*		**Pg**	**01 23 14.4**	**0.0**
FRMA				*S*		**Sg**	**01 23 18.9**	**-0.4**
	comp=E,42µm,0.1s							
FRMA	**Ierapetra Chan**	**0.37**	**305**	*P*		**Pg**	**01 23 14.5**	**0.0**
FRMA				*S*		**Sg**	**01 23 18.7**	**-0.6**
HRKL	**Herakleio**	**0.96**	**302**	Pg		**Pg**	**01 23 26.9**	**+1.0**
HRKL				Sg		**Sb**	**01 23 40.9**	**+1.2**
HRKL	**Herakleio**	**0.96**	**302**	*P*		**Pg**	**01 23 26.7**	**+0.8**
HRKL				*S*		**Sn**	**01 23 41.9**	**+0.1**
	comp=E,3µm,0.6s							
HRKL	**Herakleio**	**0.96**	**302**	*P*		**Pb**	**01 23 27.0**	**+0.4**
KSTL	**Kastelli Herak**	**0.98**	**301**	*P*		**Pg**	**01 23 22.1**	**-4.1**
KSTL				*S*		**Sg**	**01 23 34.0**	**-4.9**
KSTL	**Kastelli Herak**	**0.98**	**301**	*P*		**Pg**	**01 23 22.6**	**-3.6**
KSTL				*S*		**Sg**	**01 23 33.0**	**-5.9**
KSTL					AML	AML	01 23 36.1	
	comp=N,10256µm,0.4s							
KSTL					AML	AML	01 23 36.5	
	comp=E,4012µm,0.3s							
IACM	**Heraklion**	**0.98**	**301**	*P*		**Pb**	**01 23 27.6**	**+0.7**
IACM					AML	AML	01 23 45.7	
	comp=N,13363µm,0.5s							
IACM					AML	AML	01 23 48.1	
	comp=Z,11100µm,0.7s							
IDI	**Anoyia**	**1.10**	**296**	Pn		**Pg**	**01 23 28.9**	**+0.3**
IDI				Sn		**Sn**	**01 23 45.5**	**+0.1**
IDI	**Anoyia**	**1.10**	**296**	*P*		**Pg**	**01 23 28.7**	**+0.1**
IDI				*S*		**Sn**	**01 23 46.3**	**+0.9**
TMBK	**Timbaki Herakl**	**1.13**	**284**	*P*		**Pb**	**01 23 30.6**	**+1.1**
KARP	**Karpathos**	**1.14**	**49**	Pg		**Pg**	**01 23 29.1**	**-0.3**
KARP	**Karpathos**	**1.14**	**49**	*P*		**Pg**	**01 23 28.8**	**-0.6**
KARP				*S*		**Sb**	**01 23 45.5**	**+0.5**
	comp=Z,2µm,0.6s							
KARP	**Karpathos**	**1.14**	**49**	*P*		**Pg**	**01 23 29.0**	**-0.3**
KARP				*S*		**Sg**	**01 23 43.8**	**-0.4**
KARP					AML	AML	01 23 52.3	
	comp=E,2592µm,0.5s							
KARP					AML	AML	01 23 53.7	
	comp=N,3256µm,0.5s							
THR6	**Thira Island,**	**1.65**	**340**	*P*		**Pn**	**01 23 37.9**	**+0.7**
GVD	**Gavdhos**	**1.66**	**272**	Pn		**Pb**	**01 23 39.2**	**+0.7**
GVD	**Gavdhos**	**1.66**	**272**	*P*		**Pg**	**01 23 40.2**	**+1.1**
GVD				*S*		**Sn**	**01 23 59.9**	**+1.0**
GVD					AML	AML	01 24 13.2	
	comp=E,1676µm,0.6s							
GVD					AML	AML	01 24 13.3	
	comp=N,1623µm,0.3s							
SNT5	**Nea Kammeni, S**	**1.70**	**340**	*P*		**Pn**	**01 23 37.9**	**+0.1**
THT2	**Imerovigli**	**1.72**	**341**	*P*		**Pn**	**01 23 38.3**	**+0.2**
THR2	**Thira island,**	**1.73**	**342**	*P*		**Pn**	**01 23 38.4**	**+0.2**
CMBO	**Columbo, Santo**	**1.76**	**341**	*P*		**Pn**	**01 23 39.2**	**+0.6**
IMMV	**Iera Moni Meta**	**1.85**	**291**	Pn		**Pn**	**01 23 41.7**	**+1.7**
IMMV	**Iera Moni Meta**	**1.85**	**291**	*P*		**Pb**	**01 23 42.8**	**+0.9**
IMMV					AML	AML	01 24 18.3	
	comp=N,1081µm,0.3s							
IMMV					AML	AML	01 24 20.5	
	comp=E,1338µm,0.6s							
RODP	**Rodopos**	**2.06**	**292**	Pn		**Pn**	**01 23 44.9**	**+2.1**
ARG	**Arkhangelos**	**2.17**	**49**	Pn		**Pn**	**01 23 45.3**	**+1.0**
ARG	**Arkhangelos**	**2.17**	**49**	*P*		**Pn**	**01 23 45.4**	**+1.0**
ARG					AML	AML	01 24 23.8	
	comp=N,520µm,1.0s							
ARG					AML	AML	01 24 25.9	
	comp=E,670µm,0.4s							
DAT	**Datca**	**2.27**	**32**	Pn		**Pn**	**01 23 46.6**	**+0.8**
DAT	**Datca**	**2.27**	**32**	*P*		**Pn**	**01 23 45.8**	**0.0**
APE	**Apeiranthos**	**2.31**	**349**	Pn		**Pn**	**01 23 46.2**	**-0.1**
APE	**Apeiranthos**	**2.31**	**349**	*P*		**Pn**	**01 23 45.9**	**-0.3**
APE	**Apeiranthos**	**2.31**	**349**	*P*		**Pn**	**01 23 46.2**	**-0.1**
MHLO	**Agia Marina, M**	**2.33**	**324**	*P*		**Pn**	**01 23 47.6**	**+1.0**
RFTB	**Kemer-Bodrum**	**2.36**	**24**	Pn		**Pn**	**01 23 47.9**	**+1.0**
BODT	**Bodrum**	**2.46**	**23**	Pn		**Pn**	**01 23 49.2**	**+0.9**
ANKY	**Antikythira Is**	**2.52**	**296**	*P*		**Pn**	**01 23 50.8**	**+1.7**
MRSB	**Marmaris-Mugla**	**2.56**	**41**	Pn		**Pn**	**01 23 50.7**	**+1.0**
RFTAA	**Mazikoy-Bodrum**	**2.57**	**31**	Pn		**Pn**	**01 23 50.8**	**+1.1**
TURN	**Turunc**	**2.63**	**41**	Pn		**Pn**	**01 23 51.8**	**+1.2**
MLSB	**Milas**	**2.83**	**28**	Pn		**Pn**	**01 23 54.6**	**+1.1**
DALY	**Dalyan (Mula)**	**2.89**	**45**	Pn		**Pn**	**01 23 55.7**	**+1.5**
YER	**Yerkesik**	**2.92**	**37**	Pn		**Pn**	**01 23 55.9**	**+1.2**
FETY	**Fethiye**	**3.04**	**52**	Pn		**Pn**	**01 23 57.4**	**+1.1**
AKAS	**Kas**	**3.20**	**63**	Pn		**Pn**	**01 24 00.3**	**+1.7**
VLI	**Veliai**	**3.20**	**308**	*P*		**Pn**	**01 23 59.9**	**+1.4**
CAME	**Cameli-Denizli**	**3.37**	**50**	Pn		**Pn**	**01 24 02.5**	**+1.6**
KRND	**KRANIDI**	**3.51**	**318**	*P*		**Pn**	**01 24 04.2**	**+1.5**
LTK	**Loutraki**	**4.09**	**323**	*P*		**Pn**	**01 24 11.4**	**+0.7**
PYL	**PYLOS**	**4.11**	**302**	*P*		**Pn**	**01 24 11.8**	**+0.8**
GUR	**Goura**	**4.35**	**317**	*P*		**Pn**	**01 24 16.4**	**+2.0**
BRTR	**Keskin Array B**	**7.76**	**49**	Pn		**Pn**	**01 25 00.9**	**-0.4**
	comp=E,0.1nm,0.3s,baz=228,slow=16,SNR=2.4 comp=E,0.2nm,0.3s							
MMAI	**Mount Meron Ar**	**7.94**	**100**	Pn		**Pn**	**01 25 03.2**	**-0.5**
	comp=E,0.9nm,0.3s,baz=284,slow=12,SNR=2.8							
MMAI					Sn	**Sn**	**01 26 31.0**	**-3.0**
	comp=E,0.5nm,0.3s,baz=295,slow=27,SNR=2.0 comp=E,0.8nm,0.3s							
EIL	**Elat**	**9.08**	**122**	Pn		**Pn**	**01 25 19.6**	**+0.4**
	comp=E,0.4nm,0.3s,baz=234,slow=2.9,SNR=8.0							
EIL					Sn	**Sn**	**01 26 56.8**	**-5.0**
	comp=E,0.4nm,0.3s,baz=324,slow=19,SNR=2.3 comp=E,1.3nm,0.3s							
ASF	**Jabal al Asfar**	**9.39**	**103**	Pn		**Pn**	**01 25 23.7**	**+0.1**
	comp=E,0.3nm,0.3s,baz=36,slow=8.7,SNR=1.8 comp=E,1.0nm,0.5s							
VAE	**Valguarnera**	**9.82**	**289**	Pn		**Pn**	**01 25 31.1**	**+1.7**
	comp=E,0.6nm,0.3s,baz=0.2,slow=11,SNR=1.2 comp=E,2.4nm,0.4s							
ESDC	**Sonseca Array**	**24.36**	**290**	*P*		**P**	**01 28 26.0**	**-0.5**
	comp=E,0.4nm,0.6s,baz=78,slow=9.1,SNR=8.6 comp=E,0.4nm,0.6s							
TORD	**Torodi Ar. Bea**	**30.86**	**232**	*P*		**P**	**01 29 26.5**	**+1.6**
	comp=E,1.0nm,0.6s,baz=37,slow=9.0,SNR=7.4 comp=E,1.0nm,0.6s							
ARCES	**ARCESS Array B**	**34.79**	**360**	*P*		**P**	**01 29 59.1**	**+0.4**
	comp=E,5.2nm,1.0s,baz=191,slow=9.0,SNR=1.7 comp=E,5.2nm,1.0s							
KURBB	**Kurchatov Arra**	**40.75**	**51**	*P*		**P**	**01 30 48.6**	**-0.7**
	comp=E,0.5nm,0.5s,baz=276,slow=8.7,SNR=5.7 comp=E,0.5nm,0.5s							
MKAR	**Makanchi Array**	**43.33**	**56**	*P*		**P**	**01 31 09.9**	**-0.5**
	comp=E,0.9nm,0.8s,baz=268,slow=9.3,SNR=7.5 comp=E,0.9nm,0.8s							
ZALV	**Zalesovo Beam**	**44.70**	**46**	*P*		**P**	**01 31 21.6**	**+0.3**
	comp=E,0.5nm,0.4s,baz=268,slow=10,SNR=3.1 comp=E,0.5nm,0.4s							
TSUM	**Tsumeb**	**54.31**	**190**	LR		LR	01 56 31.4	
	comp=E,34nm,18.1s,baz=359,slow=37							

*WEL **20** 01:52:43.8±0.4,42°.S±2°×17°.4E±°, h5km±4km, M3.0/12, ML3.2/12, MLv3.0/12, Error ellipse: s-maj=0.0km s-min=0.0km az=112.0, confirmed*
*NOU **20** 01:52:43.7,42°.19S×173°.57E, h14km, MLv3.5/7, South Island, New Zealand*
ISC 20 01:52:42.4±1.2,42°.14S±0°.03×173°.61E±0°.03, h10km±11km, n53, σ0s91/63, South Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.28**	**191**	*P*		**Pb**	**01 52 49.8**	**+0.3**
KHZ	**Kahutara**	**0.28**	**191**	*P*		**Pb**	**01 52 49.9**	**+0.3**
KHZ				*S*		**Sb**	**01 52 54.7**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.47**	**25**	*P*		**Pb**	**01 52 53.1**	**+0.3**
BSWZ				*S*		**Sb**	**01 53 00.9**	**+1.2**
CMWZ	**Cape Campbell**	**0.60**	**49**	*P*		**Pn**	**01 52 56.9**	**-0.1**
THZ	**Tophouse**	**0.65**	**305**	*P*		**Pg**	**01 52 55.1**	**+0.1**
THZ				*S*		**Sg**	**01 53 03.6**	**0.0**
TUWZ	**Tuamarina**	**0.75**	**19**	*P*		**Pn**	**01 52 58.2**	**-0.9**
TUWZ				*S*		**Sn**	**01 53 09.1**	**-1.4**
GVZ	**Greta Valley S**	**0.93**	**207**	*P*		**Pn**	**01 53 01.8**	**+0.2**
GVZ				*S*		**Sn**	**01 53 15.6**	**+0.6**
NNZ	**Nelson**	**0.94**	**349**	*P*		**Pb**	**01 53 00.9**	**+0.1**
NNZ				*S*		**Sb**	**01 53 13.8**	**+0.5**
MRNZ	**Matariki Terra**	**0.98**	**319**	*P*		**Pb**	**01 53 01.3**	**-0.2**
TCW	**Tory Channel**	**1.05**	**28**	*P*		**Pn**	**01 53 03.4**	**+0.1**
TCW				*S*		**Sn**	**01 53 18.7**	**+0.7**
SNZO	**South Karori**	**1.17**	**45**	*P*		**Pn**	**01 53 05.9**	**+1.1**
LTZ	**Lake Taylor**	**1.18**	**237**	*P*		**Pb**	**01 53 04.5**	**-0.5**
LTZ				*S*		**Sb**	**01 53 20.2**	**-0.2**
TKNZ	**Takaka Hill**	**1.21**	**336**	*P*		**Pg**	**01 53 05.4**	**-0.2**
TKNZ				*S*		**Sn**	**01 53 21.5**	**-0.4**
WEL	**Wellington**	**1.22**	**46**	*P*		**Pg**	**01 53 07.4**	**+1.6**
AMCZ	**Amberley**	**1.25**	**214**	*P*		**Pg**	**01 53 06.5**	**+0.3**
DUWZ	**D'Urville Isla**

TPAW	**Teton Pass**	**3.72**	**159**	Pn	Pn	02 20 18.1	+1.5
TPAW				IAML		02 21 09.2	
	comp=N,9.9nm,4.3s						
TPAW				IAML		02 21 11.9	
	comp=N,5.7nm,3.9s						
BMO	**Blue Mountains**	**3.79**	**238**	Pn	Pn	02 20 18.4	+0.8
BMO				IAML		02 21 57.2	
	comp=N,9.9nm,4.3s						
MFID	**Camas Ranch**	**4.15**	**212**	Pn	Pn	02 20 24.5	+2.0

*IDC **20** 02:26:41.4±1.0, 19°.68N×146°.75E, h0km, mb3.5/7, mbtmp3.5/7, Error ellipse: s-maj=50.3km s-min=24.2km az=114.0*
ISC 20 02:26:42.9±1.0, 19°.7N±0°.2×146°.8E±0°.3, h10km, n7, σ1§44/7, mb3.6/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.20**	**198**	P	**P**	**02 34 27.0**	**-0.9**
	0.5nm,0.8s,baz=18,slow=8.8,SNR=2.5						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**44.86**	**197**	P	**P**	**02 34 58.3**	**+0.8**
	0.2nm,0.6s,baz=12,slow=5.1,SNR=2.3						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**58.52**	**313**	P	**P**	**02 36 39.9**	**+0.4**
	0.3nm,0.6s,baz=90,slow=8.8,SNR=2.3						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**62.34**	**26**	P	**P**	**02 37 04.3**	**-0.9**
	0.4nm,0.7s,baz=259,slow=5.3,SNR=6.0						
	0.4nm,0.7s						
YKA	**Yellowknife Ar**	**76.67**	**28**	P	**P**	**02 38 34.2**	**+0.5**
	0.5nm,0.8s,baz=290,slow=5.2,SNR=5.2						
	0.5nm,0.8s						
NVAR	**Mina Array Bea**	**81.76**	**52**	P	**P**	**02 39 04.2**	**+1.8**
	0.9nm,0.7s,baz=271,slow=6.2,SNR=6.6						
	0.9nm,0.7s						
PDAR	**Pinedale Array**	**86.44**	**46**	P	**P**	**02 39 24.7**	**-1.5**
	0.2nm,0.6s,baz=247,slow=0.7,SNR=2.6						
	0.2nm,0.6s						

*IDC **20** 02:35:08.4±2.9, 2°.41S×101°.46E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=135.3km s-min=20.6km az=54.0*
*DJA **20** 02:35:14.2±0.6, 3°.3S±3°.1×10°.1E±°, h30km±7km, M4.0/8, MLv4.0/8*
ISC 20 02:35:13.7±0.8, 2°.81S±0°.07×100°.97E±0°.06, h50km, n23, σ1§20/16, mb4.0/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**0.87**	**35**	P	**Pn**	**02 35 31.1**	**+1.3**
PPSI	**Pulau Pagai**	**0.96**	**273**	P	**Pn**	**02 35 31.8**	**+0.9**
PPSI				S	**Sn**	**02 35 44.8**	**+1.3**
PDSI	**Padang**	**1.95**	**345**	P	**Pn**	**02 35 45.5**	**+1.0**
PDSI				S	**Sn**	**02 36 09.1**	**+1.3**
MNAI	**Manna**	**2.51**	**128**	P	**Pn**	**02 35 53.3**	**+1.1**
LHSI	**Lahat**	**2.75**	**112**	P	**Pn**	**02 35 56.9**	**+1.6**
PBSI	**Pulau Batu**	**3.83**	**315**	P	**Pn**	**02 36 11.3**	**+1.0**
KASI	**Kota Agung**	**4.44**	**128**	P	**Pn**	**02 36 19.6**	**+1.1**
H08S2	**Diego Garcia H**	**28.75**	**259**	T	T	03 10 18.6	
	baz=82,slow=75						
H08S3	**Diego Garcia H**	**28.76**	**259**	T	T	03 10 22.7	
	baz=82,slow=75						
H08S1	**Diego Garcia H**	**28.77**	**259**	T	T	03 10 26.8	
	baz=82,slow=75						
WRA	**Warramunga Arr**	**36.75**	**120**	P	**P**	**02 42 16.2**	**-0.6**
	0.7nm,0.4s,baz=305,slow=8.9,SNR=22						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**38.00**	**126**	P	**P**	**02 42 27.1**	**-0.2**
	0.3nm,0.5s,baz=300,slow=7.4,SNR=1.5						
	0.3nm,0.5s						
SONM	**Songino Array**	**50.66**	**5**	P	**P**	**02 44 05.9**	**-2.3**
	0.8nm,0.5s,baz=188,slow=9.8,SNR=7.3						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**52.06**	**344**	P	**P**	**02 44 18.7**	**+0.2**
	0.6nm,0.4s,baz=157,slow=8.7,SNR=10						
	0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**58.14**	**349**	P	**P**	**02 45 02.0**	**-0.1**
	0.9nm,0.3s,baz=151,slow=3.4,SNR=8.1						
	0.9nm,0.3s						
H04N2	**CROZET ISLANDS**	**60.73**	**217**	T	T	03 50 28.1	
	baz=60,slow=75,SNR=78						
H04N1	**CROZET ISLANDS**	**60.74**	**217**	T	T	03 50 27.0	
	baz=60,slow=75,SNR=80						
H04N3	**CROZET ISLANDS**	**60.75**	**217**	T	T	03 50 27.9	
	baz=60,slow=75,SNR=82						
H04S1	**CROZET ISLANDS**	**61.01**	**216**	T	T	03 50 46.5	
	baz=58,slow=76,SNR=14						
H04S3	**CROZET ISLANDS**	**61.02**	**216**	T	T	03 50 45.4	
	baz=58,slow=76,SNR=19						
H04S2	**CROZET ISLANDS**	**61.02**	**216**	T	T	03 50 46.3	
	baz=58,slow=76,SNR=14						
BVAR	**Borovoye Array**	**61.27**	**339**	P	**P**	**02 45 23.5**	**-0.3**
	0.6nm,0.6s,baz=132,slow=8.2,SNR=3.7						
	0.6nm,0.6s						
TXAR	**Lajitas Array**	**144.73**	**39**	PKP	**PKPdf**	**02 54 45.6**	**-0.3**
	0.4nm,0.5s,baz=259,slow=0.9,SNR=12						

*SNET **20** 02:40:26.9±0.8, 13°.53N×90°.38W, h67km±28km, ML2.7*
*CATAC **20** 02:40:27.2±1.0, 13°.55N×90°.44W, h46km±13km, ML2.9*
*GCG **20** 02:40:28.8±0.8, 13°.64N×90°.48W, h74km±25km, MD3.2*
ISC 20 02:40:27.8±2.0, 13°.5N±0°.1×90°.37W±0°.07, h66km±20km, n25, σ0§74/37, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.68**	**58**	*eP*	**Pn**	**02 40 41.6**	**-0.8**
NUBE				*eS*	**Sn**	**02 40 53.1**	**+0.1**
NUBE				IAML		02 40 56.9	
	comp=Z,95nm,0.2s						
NUBE	**Las Nubes**	**0.68**	**58**	*i* P	**Pn**	**02 40 41.6**	**-0.8**
NUBE				*i* S	**Sn**	**02 40 52.8**	**-0.3**
NUBE				IAML		02 40 56.8	
	comp=Z,250nm,1.0s						
LOAL	**Lomas de Alarc**	**0.73**	**51**	*i* P	**Pn**	**02 40 42.6**	**-0.3**
LOAL				IAML		02 40 51.9	
	comp=Z,2μm,1.0s						
LOAL				*i* S	**Sn**	**02 40 54.4**	**+0.4**
SLOZ	**Alcaldia de Sa**	**0.75**	**49**	*eP*	**Pn**	**02 40 42.6**	**-0.5**
SLOZ				*eS*	**Sn**	**02 40 54.9**	**+0.6**
CEVE	**Cerro Verde**	**0.78**	**68**	*eP*	**Pn**	**02 40 43.2**	**-0.5**
CEVE				*eS*	**Sn**	**02 40 56.3**	**+1.0**
CEVE				IAML		02 40 59.2	
	comp=Z,470nm,0.2s						
CEVE	**Cerro Verde**	**0.78**	**68**	*i* P	**Pn**	**02 40 43.2**	**-0.5**
CEVE				*i* S	**Sn**	**02 40 55.2**	**-0.1**
CEVE				IAML		02 41 00.7	
	comp=Z,600nm,1.0s						
SBLS	**San Blas**	**0.78**	**67**	*eS*	**Sn**	**02 40 56.0**	**+0.7**
RTR	**El Retiro**	**0.79**	**63**	*eP*	**Pn**	**02 40 43.6**	**-0.1**
PCG	**Pacaya**	**0.88**	**345**	*i* P	**Pn**	**02 40 43.7**	**-1.2**
PCG				*i* S	**Sn**	**02 40 59.0**	**+1.5**
JAYA	**Jayaque - finc**	**0.90**	**82**	*eS*	**Sn**	**02 40 58.1**	**+0.3**
JAYA	**Jayaque - finc**	**0.90**	**82**	*i* P	**Pn**	**02 40 44.6**	**-0.5**
JAYA				*i* S	**Sn**	**02 40 58.1**	**+0.3**
JAYA				IAML		02 40 58.7	
	comp=Z,2μm,1.0s						
UNIC	**Universidad Ca**	**0.91**	**61**	*i* P	**Pn**	**02 40 44.4**	**-0.7**
UNIC				IAML		02 40 44.9	
	comp=Z,240nm,1.0s						
FUG	**Fuego 3**	**1.02**	**333**	*i* P	**Pn**	**02 40 46.8**	**+0.3**
FUG				*i* S	**Sn**	**02 41 00.0**	**-0.4**
LALI	**Alcalda de L**	**1.02**	**93**	*i* P	**Pn**	**02 40 46.1**	**-0.3**
LALI				IAML		02 41 03.5	
	comp=Z,110nm,1.0s						
PMON	**Piamonte**	**1.04**	**80**	*eP*	**Pn**	**02 40 46.5**	**-0.3**
PMON				*eS*	**Sn**	**02 41 01.7**	**+0.9**
PMON	**Piamonte**	**1.04**	**80**	*i* P	**Pn**	**02 40 46.7**	**-0.1**
PMON				IAML		02 41 03.4	
	comp=Z,320nm,1.0s						
NBG	**Las Nubes**	**1.04**	**1**	*i* P	**Pn**	**02 40 47.5**	**+0.5**
NBG				*i* S	**Sn**	**02 41 03.0**	**+1.8**
GUNB	**GUNB**	**1.05**	**1**	*i* P	**Pn**	**02 40 45.7**	**-1.4**
GUNB				IAML		02 41 04.3	
	comp=Z,250nm,1.0s						
MTO3	**Montecristo**	**1.30**	**49**	*i* P	**Pn**	**02 40 49.3**	**-1.0**
MTO3				IAML		02 40 49.4	
	comp=Z,110nm,1.0s						
SJTE	**Alcalda de S**	**1.32**	**87**	*eS*	**Sn**	**02 41 08.1**	**+0.6**
SJTE	**Alcalda de S**	**1.32**	**87**	*i* P	**Pn**	**02 40 50.0**	**-0.5**
SJTE				IAML		02 41 10.5	
	comp=Z,120nm,1.0s						

ESQI	**Esquipulas**	**1.42**	**44**	*i* P	**Pn**	**02 40 51.0**	**-0.8**
ESQI				IAML		02 41 04.0	
	comp=Z,86nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.60**	**84**	*i* P	**Pn**	**02 40 53.9**	**-0.2**
SCLA				IAML		02 41 16.5	
	comp=Z,20nm,1.0s						
STG3	**Santiaguito 3,**	**1.65**	**315**	*i* P	**Pn**	**02 40 54.9**	**0.0**
STG3				*i* S	**Sn**	**02 41 14.9**	**-0.4**
SARH	**Santa Rosa de**	**1.99**	**52**	*i* P	**Pn**	**02 40 58.9**	**-0.4**

*SJA **20** 02:58:17.7±0.7, 20°.51S×68°.99W, h121km±5km, ML3.7, MW3.8*
*IDC **20** 02:58:18.8±2.8, 20°.51S×68°.71W, h107km±26km, mb3.4/3, mbtmp3.7/5, MS3.1/1, Error ellipse: s-maj=49.8km s-min=20.9km az=119.0*
*GUC **20** 02:58:19.9±0.7, 20°.55S×68°.91W, h105km±3km, ML3.8*
ISC 20 02:58:19.0±0.8, 20°.56S±0°.03×69°.00W±0°.06, h112km±6km, n49, σ1§21/80, 9C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.44**	**341**	*eP*	**Pn**	**02 58 36.2**	**0.0**
PB08				IAML		02 58 53.0	
	comp=Z,2μm,0.4s						
PB08	**IPOC Station P**	**0.44**	**341**	⇓*iP*	**Pn**	**02 58 36.3**	**0.0**
PB08				*eS*	**Sn**	**02 58 48.9**	**-0.2**
PB08				IAML		02 58 49.7	
	comp=E,9μm,0.2s						
PX03	**IPOC Station P**	**0.61**	**285**	*eP*	**Pn**	**02 58 36.4**	**-0.6**
PX03				*eS*	**Sn**	**02 58 50.5**	**0.0**
PB01	**IPOC Station P**	**0.66**	**223**	*eP*	**Pn**	**02 58 37.5**	**+0.1**
PB01				IAML		02 58 53.8	
	comp=Z,2μm,0.2s						
PB01	**IPOC Station P**	**0.66**	**223**	⇑*iP*	**Pn**	**02 58 37.5**	**+0.1**
PB01				*eS*	**Sn**	**02 58 51.4**	**+0.1**
PB01				IAML		02 58 52.4	
	comp=N,3μm,0.2s						
HMBC	**Humberstone**	**0.88**	**288**	*eP*	**Pn**	**02 58 39.4**	**+0.1**
HMBC				*eS*	**Sn**	**02 58 55.4**	**+0.7**
HMBC	**Humberstone**	**0.88**	**288**	⇑*iP*	**Pn**	**02 58 39.4**	**+0.1**
HMBC				*eS*	**Sn**	**02 58 54.8**	**+0.2**
HMBC				IAML		02 58 55.6	
	comp=N,4μm,0.3s						
GO01	**Chusmiza**	**0.91**	**348**	*eP*	**Pn**	**02 58 40.1**	**+0.1**
GO01	**Chusmiza**	**0.91**	**348**	*i* P	**Pn**	**02 58 40.2**	**+0.2**
GO01				*eS*	**Sn**	**02 58 55.9**	**+0.1**
GO01				IAML		02 58 57.3	
	comp=E,4μm,0.5s						
PB11	**IPOC Station P**	**1.01**	**322**	*eP*	**Pn**	**02 58 40.6**	**0.0**
PB11				IAML		02 59 00.9	
	comp=Z,1μm,0.2s						
PB11	**IPOC Station P**	**1.01**	**322**	⇑*iP*	**Pn**	**02 58 40.8**	**+0.2**
PB11				*eS*	**Sn**	**02 58 57.0**	**+0.1**
PB11				IAML		02 58 59.4	
	comp=N,3μm,0.3s						
TA02	**Huaiquique**	**1.10**	**285**	*eP*	**Pn**	**02 58 41.9**	**+0.5**
TA02				IAML		02 59 01.9	
	comp=Z,1μm,0.7s						
TA02	**Huaiquique**	**1.10**	**285**	⇑*iP*	**Pn**	**02 58 42.0**	**+0.5**
TA02				*eS*	**Sn**	**02 58 59.4**	**+1.0**
TA02				IAML		02 59 04.0	
	comp=N,2μm,0.2s						
TA01	**Diego Aracena**	**1.11**	**270**	*eP*	**Pn**	**02 58 41.7**	**+0.3**
TA01				*eS*	**Sn**	**02 59 00.5**	**+2.0**
TA01	**Diego Aracena**	**1.11**	**270**	⇑*iP*	**Pn**	**02 58 41.8**	**+0.3**
TA01				*eS*	**Sn**	**02 58 58.8**	**+0.4**
PATCX	**Punta Patache**	**1.11**	**256**	*eP*	**Pn**	**02 58 42.1**	**+0.5**
PATCX				*eS*	**Sn**	**02 59 00.4**	**+1.6**
PATCX	**Punta Patache**	**1.11**	**256**	⇑*iP*	**Pn**	**02 58 42.1**	**+0.5**
PATCX				*eS*	**Sn**	**02 58 59.9**	**+1.1**
PATCX				IAML		02 59 03.7	
	comp=N,2μm,0.3s						
PB02	**IPOC Station P**	**1.13**	**228**	*eP*	**Pn**	**02 58 42.3**	**+0.5**
PB02				*eS*	**Sn**	**02 59 00.4**	**+1.3**
PB02				IAML		02 59 05.7	
	comp=Z,3μm,0.3s						
PB02	**IPOC Station P**	**1.13**	**228**	⇑*iP*	**Pn**	**02 58 42.3**	**+0.5**
PB02				*i* S	**Sn**	**02 58 60.0**	**+0.9**
PB09	**IPOC Station P**	**1.25**	**190**	*eP*	**Pn**	**02 58 43.8**	**+0.6**
PB09				*eS*	**Sn**	**02 59 03.5**	**+1.9**
PB09				IAML		02 59 05.3	
	comp=Z,582nm,0.8s						
PB09	**IPOC Station P**	**1.25**	**190**	⇑*iP*	**Pn**	**02 58 43.9**	**+0.6**
PB09				*eS*	**Sn**	**02 59 02.6**	**+0.9**
PB07	**IPOC Station P**	**1.43**	**215**	*eP*	**Pn**	**02 58 45.6**	**+0.3**
PB07				*eS*	**Sn**	**02 59 05.7**	**+0.5**
PB07				IAML		02 59 08.1	
	comp=Z,766nm,0.6s						
PB07	**IPOC Station P**	**1.43**	**215**	⇑*iP*	**Pn**	**02 58 45.6**	**+0.3**
PB07				*eS*	**Sn**	**02 59 05.2**	**+0.1**
PB07				IAML		02 59 07.0	
	comp=N,1μm,0.3s						
LVC	**Limon Verde**	**2.04**	**178**	*eP*	**Pn**	**02 58 54.0**	**+1.0**
LVC				*eS*	**Sn**	**02 59 21.9**	**+3.0**
LVC	**Limon Verde**	**2.04**	**178**	P	**Pn**	**02 58 54.0**	**+1.0**
	comp=N,33nm,0.4s,baz=5.8,slow=11,SNR=67						
LVC				S	**Sn**	**02 59 19.9**	**+1.0**
	comp=N,104nm,0.4s,baz=111,slow=22,SNR=30						
LVC	**Limon Verde**	**2.04**	**178**	*eP*	**Pn**	**02 58 54.0**	**+1.0**
LVC				*eS*	**Sn**	**02 59 20.0**	**+1.1**
LVC				IAML		02 59 24.2	
	comp=N,968nm,0.2s						
PB04	**IPOC Station P**	**2.06**	**211**	*eP*	**Pn**	**02 58 54.1**	**+1.0**
PB04				*eS*	**Sn**	**02 59 18.7**	**-0.4**
PB04				IAML		02 59 23.5	
	comp=Z,317nm,0.6s						
PB04	**IPOC Station P**	**2.06**	**211**	*eP*	**Pn**	**02 58 53.9**	**+0.9**
PB04				*eS*	**Sn**	**02 59 17.9**	**-1.2**
PB04				IAML		02 59 26.2	
	comp=E,437nm,0.2s						
PB06	**IPOC Station P**	**2.20**	**194**	*eP*	**Pn**	**02 58 55.4**	**+0.6**
PB06				*eS*	**Sn**	**02 59 21.0**	**-1.2**
PB06				IAML		02 59 26.1	
	comp=Z,257nm,0.3s						
PB06	**IPOC Station P**	**2.20**	**194**	*eP*	**Pn**	**02 58 55.5**	**+0.7**
PB06				*eS*	**Sn**	**02 59 21.9**	**-0.3**
PB06				IAML		02 59 26.5	
	comp=E,291nm,0.2s						
PB16	**IPOC Station P**	**2.27**	**348**	*eP*	**Pn**	**02 58 57.4**	**+1.4**
PB16	**IPOC Station P**	**2.27**	**348**	*eP*	**Pn**	**02 58 57.6**	**+1.6**
PB16				*eS*	**Sn**	**02 59 26.0**	**+1.7**
PB12	**IPOC Station P**	**2.31**	**327**	*eP*	**Pn**	**02 58 55.7**	**-0.4**
PB12				*eS*	**Sn**	**02 59 23.3**	**-1.2**
PB12				IAML		02 59 30.2	
	comp=Z,201nm,0.4s						
PB12	**IPOC Station P**	**2.31**	**327**	*eP*	**Pn**	**02 58 55.9**	**-0.2**
PB12				*eS*	**Sn**	**02 59 23.5**	**-1.0**
PB12				IAML		02 59 32.6	
	comp=N,382nm,0.7s						
AP01	**Chacalluta**	**2.52**	**330**	*eP*	**Pn**	**02 59 00.5**	**+1.7**
AP01				IAML		02 59 42.4	
	comp=Z,337nm,1.2s						
PB05	**IPOC Station P**	**2.54**	**206**	*eP*	**Pn**	**02 58 59.6**	**+0.4**
PB05				*eS*	**Sn**	**02 59 28.3**	**-1.7**
PB05				IAML		02 59 38.7	
	comp=Z,144nm,0.4s						
PB05	**IPOC Station P**	**2.54**	**206**	*eP*	**Pn**	**02 58 59.8**	**+0.6**
PB05				*eS*	**Sn**	**02 59 26.9**	**-3.1**
PB05				IAML		02 59 37.1	
	comp=E,212nm,0.3s						
PB15	**IPOC Station P**	**2.67**	**189**	*eP*	**Pn**	**02 59 02.7**	**+1.7**
PB15				*eS*	**Sn**	**02 59 34.4**	**+1.2**
PB15				IAML		02 59 42.9	
	comp=Z,731nm,0.3s						
PB15	**IPOC Station P**	**2.67**	**189**	*eP*	**Pn**	**02 59 01.8**	**+0.8**
PB15				*eS*	**Sn**	**02 59 31.1**	**-2.1**
PB14	**IPOC Station P**	**4.25**	**198**	*eP*	Pn	02 59 27.5	+5.5
LPAZ	**La Paz**	**4.33**	**11**	*eP*	**Pn**	**02 59 26.2**	**+2.8**
GO02	**Mina Guanaco**	**4.61**	**187**	*eP*	**Pn**	**02 59 26.2**	**-0.7**
GO02	**Mina Guanaco**	**4.61**	**187**	*eP*	**Pn**	**02 59 27.3**	**+0.4**
SIV	**San Ignacio**	**8.79**	**60**	P	**Pn**	**03 00 19.4**	**-3.9**
	comp=Z,2.3nm,0.4s,baz=244,slow=12,SNR=20						
CFA	**Coronel Fontan**	**11.02**	**177**	P	**Pn**	**03 00 50.5**	**-2.9**
	comp=Z,0.8nm,0.3s,baz=356,slow=15,SNR=1.3						
PLCA	**Paso Flores**	**20.15**	**183**	P	**P**	**03 02 45.5**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=21,slow=9.6,SNR=4.2						
PLCA				LR	LR	03 12 39.9	
	comp=Z,56nm,21.3s,baz=330,slow=43						
	comp=Z,1.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**77.12**	**71**	P	**P**	**03 09 59.5**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=254,slow=4.9,SNR=5.6						
	comp=Z,0.6nm,0.6s						

YKA	**Yellowknife Ar**	**90.28**	**341**	P	**P**	**03 11 06.9**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=134,slow=4.5,SNR=7.7						
	comp=Z,0.6nm,0.9s						
MKAR	**Makanchi Array**	**144.92**	**35**	PKP	**PKPdf**	**03 17 42.9**	**0.0**
	comp=Z,0.2nm,0.5s,baz=308,slow=3.8,SNR=4.1						

IDC 20 03:38:52.2±7.1, 0°.89S×133°.04E, h0km, mb3.2/2, mbtmp3.1/3, ML2.9/1, Error ellipse: s-maj=428.6km s-min=30.8km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.98**	**176**	P	P	03 43 15.4	0.0
	baz=357,slow=13,SNR=1.3						
WRA				S	Sn	03 46 40.0	-9.3
	0.5nm,1.1s,baz=208,slow=3.8,SNR=1.5						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**22.66**	**178**	P	P	03 43 55.4	+0.2
	0.2nm,0.7s,baz=359,slow=12,SNR=2.1						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**64.95**	**324**	P	P	03 49 33.7	-0.1
	0.3nm,0.6s,baz=117,slow=7.4,SNR=2.1						
	0.3nm,0.6s						

*NEIC **20** 03:45:59.8±1.0, 6°.11S±0°.04×151°.7E±0°.1, h10km±1km, mb4.6/34, Error ellipse: s-maj=22.0km s-min=3.3km az=104.0*
*IDC **20** 03:46:06.7±1.3, 5°.87S×151°.09E, h58km±11km, mb3.8/12, mbtmp4.1/14, MS3.5/4, Error ellipse: s-maj=28.1km s-min=7.8km az=126.0*
ISC 20 03:46:03.6±0.5, 6°.08S±0°.07×151°.45E±0°.10, h35km, n70, σ1§04/71, mb4.5/30, MS3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.85**	**18**	P	**Pn**	**03 46 34.1**	**+1.3**
	617nm,0.3s,baz=193,slow=3.7,SNR=57						
KRVT				S	**Sn**	**03 46 58.0**	**+3.0**
	2μm,0.4s,baz=26,slow=15,SNR=8.5						
RABL	**Rabaul**	**2.00**	**21**		**Pn**	**03 46 32.8**	**-2.3**
PMG	**Port Moresby**	**5.38**	**232**		**Pn**	**03 47 22.5**	**+1.0**
PMG	**Port Moresby**	**5.38**	**232**	P	**Pn**	**03 47 22.6**	**+1.1**
	24nm,0.5s,baz=42,slow=8.5,SNR=8.3						
PMG				S	**Sn**	**03 48 22.7**	**+0.4**
	93nm,0.5s,baz=3.7,slow=17,SNR=3.6						
MANU	**Manus Island**	**5.71**	**314**	Pn	**Pn**	**03 47 27.2**	**+1.2**
CTA	**Charters Tower**	**14.81**	**199**	P	**P**	**03 49 35.9**	**-0.2**
	3.3nm,0.5s,baz=14,slow=9.9,SNR=6.6						
CTAO	**Charters Tower**	**14.81**	**199**	Pn	**Pn**	**03 49 29.2**	**-1.5**
EIDS	**Eidsvold**	**19.19**	**181**	P	**P**	**03 50 25.5**	**+1.0**
MTN	**Manton Dam**	**21.12**	**250**	P	**P**	**03 50 45.4**	**-0.2**
WB0	**Warramunga Arr**	**21.45**	**229**		**P**	**03 50 49.4**	**+0.3**
WB0				IAmb	IAmb	03 50 54.7	
	comp=Z,34nm,1.4s						
WR0	**Warramunga Arr**	**21.45**	**228**		**P**	**03 50 49.4**	**+0.3**
WRAB	**Tennant Creek**	**21.58**	**229**	P	**P**	**03 50 51.1**	**+0.6**
WRAB				IAmb	IAmb	03 51 07.1	
	comp=Z,11nm,0.7s						
WB2	**Warramunga Arr**	**21.59**	**229**		**P**	**03 50 51.0**	**+0.4**
WRA	**Warramunga Arr**	**21.59**	**229**	P	**P**	**03 50 49.3**	**-1.3**
WRA	**Warramunga Arr**	**21.59**	**229**	P	**P**	**03 50 50.1**	**-0.5**
	comp=Z,5.9nm,0.5s,baz=54,slow=11,SNR=72						
WRA				S	**S**	**03 54 45.7**	**-2.5**
	comp=Z,0.6nm,0.7s,baz=54,slow=20,SNR=4.6						
WRA				PcP	**PcP**	**03 54 52.5**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=52,slow=2.3,SNR=4.1						
	comp=Z,5.9nm,0.5s						
KNRA	**Kununurra**	**24.21**	**245**	P	**P**	**03 51 17.6**	**+0.5**
KNRA				IAmb	IAmb	03 51 43.3	
	comp=Z,16nm,0.9s						
AS31	**Alice Springs**	**24.30**	**222**		**P**	**03 51 19.1**	**+1.1**
ASAR	**Alice Springs**	**24.30**	**222**		**P**	**03 51 19.4**	**+1.3**
ASAR	**Alice Springs**	**24.30**	**222**	P	**P**	**03 51 18.6**	**+0.5**
	comp=Z,4.2nm,0.6s,baz=58,slow=8.7,SNR=53						
	comp=Z,4.2nm,0.6s						
STKA	**Stephens Creek**	**27.27**	**199**	P	**P**	**03 51 46.7**	**+1.9**
	comp=Z,3.2nm,0.7s,baz=7.8,slow=8.7,SNR=3.5						
	comp=Z,3.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**27.87**	**242**	P	**P**	**03 51 50.0**	**-0.3**
MBWA	**Marble Bar**	**34.17**	**241**	P	**P**	**03 52 46.2**	**+0.3**
PSA00	**Pilbara Seismi**	**34.23**	**240**	P	**P**	**03 52 46.4**	**+0.1**
JOW	**Kunigami**	**39.67**	**327**	LR	LR	04 07 34.4	
	comp=Z,50nm,20.4s,baz=83,slow=33						
MORW	**Morawa**	**40.50**	**231**	P	**P**	**03 53 39.2**	**-0.2**
MORW				IAmb	IAmb	03 54 04.3	
	comp=Z,15nm,1.2s						
RPZ	**Rata Peaks**	**41.27**	**158**	LR	LR	04 09 57.5	
	comp=Z,132nm,18.5s,baz=296,slow=34						
KSRS	**Korea Array**	**48.55**	**335**	LR	LR	04 13 20.4	
	comp=Z,21nm,21.6s,baz=190,slow=34						
SONM	**Songino Array**	**66.69**	**329**	P	**P**	**03 56 50.4**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=127,slow=3.3,SNR=4.9						
SONM				LR	LR	04 25 14.4	
	comp=Z,46nm,20.6s,baz=96,slow=35						
	comp=Z,0.8nm,0.5s						
ILSW	**Iliamna Southw**	**78.88**	**25**	P	**P**	**03 58 02.9**	**-0.3**
**L19

NVAR Mina Array Bea 93.93 52 P **P** **03 59 20.0 +1.7**
comp=Z,0.8nm,0.7s,baz=271,slow=5.8,SNR=5.5
comp=Z,0.8nm,0.7s
YKA Yellowknife Ar 97.18 28 P **P** **03 59 32.6 +0.4**
comp=Z,0.4nm,0.6s,baz=271,slow=4.8,SNR=8.9
comp=Z,0.4nm,0.6s
CLL Collm 123.29 330 *e*PKPdf **PKPdf** **04 04 57.0 +0.1**
CONA Conrad Observa 123.75 326 *e*PKP **PKPdf** **04 04 58.1 +0.1**
comp=Z,1.3nm,0.8s
GERES GERESS Array B 124.41 327 PKP **PKPdf** **04 04 58.8 -0.5**
comp=Z,1.3nm,0.6s,baz=52,slow=2.4,SNR=7.4
ABTA Abfaltersbach 126.29 326 *e*PKP **PKPdf** **04 05 02.9 0.0**
comp=Z,4.9nm,1.1s
MOTA Moosalm 126.71 327 *e*PKP **PKPdf** **04 05 03.4 -0.4**
comp=Z,5.1nm,1.3s
SQTA Sankt Quirin 126.73 327 *e*PKP **PKPdf** **04 05 04.0 +0.2**
comp=Z,3.0nm,0.9s
EKA Eskdalemuir Ar 126.84 342 PKP **PKPdf** **04 05 03.2 -0.4**
comp=Z,0.9nm,0.6s,baz=0.0,slow=2.8,SNR=2.0
FETA Feichten 127.11 327 *e*PKP **PKPdf** **04 05 04.5 -0.1**
comp=Z,5.3nm,1.1s
TORD Torodi Ar. Bea 149.38 286 PKPbc **PKPbc** **04 05 49.6 -0.4**
comp=Z,4.1nm,0.6s,baz=53,slow=3.3,SNR=42
BDFB Brasilia 151.07 138 PKPbc **PKiKP** **04 05 55.0 +0.3**
comp=Z,2.8nm,0.5s,baz=180,slow=11,SNR=5.6
DBIC Dimbokro 156.44 273 PKPab **PKPab** **04 06 23.8 -0.8**
comp=Z,2.4nm,0.7s,baz=62,slow=10,SNR=3.6

IDC 20 03:46:17.2±273.0, 56°32N×161°53E, h0km, Error ellipse: s-maj=108.0km s-min=89.3km az=35.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	**PETROPAVLOVSK-**	**3.90**	**216**	I	I	04 10 40.0	
	0.3nm,4.9s,baz=32,slow=332,SNR=2.9						
I53US	**FAIRBANKS INFR**	**25.60**	**50**	I	I	06 20 25.0	
	0.1nm,1.4s,baz=274,slow=320,SNR=3.9						
I18DK	**QAANAAQ INFRAS**	**42.82**	**14**	I	I	08 12 30.0	
	0.1nm,2.5s,baz=316,slow=338,SNR=3.6						

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*NEIC **20** 03:51:09.8±1.7, 6°09S±0°08×151°8E±0°1, h10km±1km, mb4.6/34, Error ellipse: s-maj=20.1km s-min=11.7km az=117.0*
*IDC **20** 03:51:17.1±1.4, 5°82S×151°19E, h64km±13km, mb3.8/11, mbtmp4.1/13, MS3.7/3, Error ellipse: s-maj=31.4km s-min=10.8km az=120.0*
ISC 20 03:51:13.9±0.5, 6°11S±0°07×151°61E±0°09, h41km, n67, σ1°17/69, mb4.4/29, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.84**	**13**	P	**Pn**	**03 51 44.1**	**+1.1**
	902nm,0.5s,baz=198,slow=4.6,SNR=19						
KRVT				S	**Sn**	**03 52 06.1**	**+1.1**
	2µm,0.7s,baz=173,slow=24,SNR=7.9						
RABL	**Rabaul**	**1.98**	**16**		**Pn**	**03 51 42.4**	**-2.7**
PMG	**Port Moresby**	**5.49**	**233**		**Pn**	**03 52 33.0**	**-0.3**
PMG	**Port Moresby**	**5.49**	**233**	P	**Pn**	**03 52 35.4**	**+2.1**
	35nm,0.8s,baz=32,slow=9.0,SNR=4.7						
PMG				S	**Sn**	**03 53 32.0**	**-3.2**
	148nm,0.8s,baz=349,slow=22,SNR=4.1						
MANU	**Manus Island**	**5.85**	**314**	Pn	**Pn**	**03 52 39.2**	**+1.1**
CTA	**Charters Tower**	**14.84**	**200**	P	**P**	**03 54 45.9**	**-0.3**
	1.4nm,0.2s,baz=0.0,slow=12,SNR=2.3						
CTA				LR	LR	04 00 46.1	
	comp=Z,190nm,18.1s,baz=52,slow=38						
KOUNC	**Koumac, New Ca**	**18.91**	**141**	P	**P**	**03 55 28.9**	**-2.3**
EIDS	**Eidsvold**	**19.16**	**181**	P	**P**	**03 55 33.7**	**-0.2**
MTN	**Manton Dam**	**21.26**	**250**	P	**P**	**03 55 57.5**	**+0.6**
WB0	**Warramunga Arr**	**21.55**	**229**		**P**	**03 55 59.7**	**-0.3**
WB0				IAmb	IAmb	03 56 04.9	
	comp=Z,33nm,1.4s						
WR0	**Warramunga Arr**	**21.55**	**229**		**P**	**03 55 59.7**	**-0.3**
WB2	**Warramunga Arr**	**21.68**	**229**	P	**P**	**03 56 01.3**	**-0.1**
WB2				IAmb	IAmb	03 56 34.0	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**21.69**	**229**	P	**P**	**03 56 00.1**	**-1.5**
WRA	**Warramunga Arr**	**21.69**	**229**	P	**P**	**03 56 01.0**	**-0.5**
	comp=Z,6.8nm,0.9s,baz=54,slow=10,SNR=24						
WRA				PcP	**PcP**	**04 00 02.5**	**+0.8**
	comp=Z,0.9nm,0.9s,baz=53,slow=2.0,SNR=4.6						
	comp=Z,6.8nm,0.9s						
KNRA	**Kununurra**	**24.34**	**245**	P	**P**	**03 56 27.5**	**-0.6**
KNRA				IAmb	IAmb	03 56 38.1	
	comp=Z,37nm,1.5s						
AS31	**Alice Springs**	**24.39**	**222**	P	**P**	**03 56 29.1**	**+0.6**
ASAR	**Alice Springs**	**24.39**	**222**	P	**P**	**03 56 29.7**	**+1.1**
ASAR	**Alice Springs**	**24.39**	**222**	P	**P**	**03 56 29.2**	**+0.7**
	comp=Z,7.8nm,0.8s,baz=56,slow=9.1,SNR=28						
ASAR				LR	LR	04 07 39.8	
	comp=Z,166nm,18.5s,baz=46,slow=40						
	comp=Z,7.8nm,0.8s						
STKA	**Stephens Creek**	**27.29**	**199**	P	**P**	**03 56 56.7**	**+2.0**
	comp=Z,1.4nm,0.6s,baz=355,slow=11,SNR=1.9						
	comp=Z,1.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**28.00**	**243**	P	**P**	**03 57 00.7**	**-0.5**
MBWA	**Marble Bar**	**34.30**	**241**	P	**P**	**03 57 56.1**	**-0.5**
RAO	**Raoul Island**	**36.84**	**132**	LR	LR	04 11 19.0	
	comp=Z,184nm,19.3s,baz=228,slow=32						
PETK	**Petropavlovsk-**	**59.22**	**4**	P	**P**	**04 01 11.2**	**+0.4**
SONM	**Songino Array**	**66.81**	**329**	P	**P**	**04 02 01.2**	**-0.3**
SONM	**Songino Array**	**66.81**	**329**	P	**P**	**04 01 59.4**	**-2.1**
	comp=Z,0.7nm,0.6s,baz=123,slow=5.3,SNR=4.3						
	comp=Z,0.7nm,0.6s						
P18K	**Big Mountain,**	**77.63**	**25**	P	**P**	**04 03 04.7**	**-1.1**
L19K	**White Mountain**	**79.41**	**23**	P	**P**	**04 03 17.1**	**+1.6**
TTA	**Tatalina**	**79.42**	**22**	P	**P**	**04 03 15.0**	**-0.7**
TTA				IAmb	IAmb	04 03 37.1	
	comp=Z,7.8nm,1.2s						
H18K	**Honhosa River**	**79.97**	**19**	P	**P**	**04 03 16.9**	**-1.6**
G18K	**Tagagawik**	**80.36**	**19**	P	**P**	**04 03 20.3**	**-0.2**
G18K				IAmb	IAmb	04 03 25.0	
	comp=Z,12nm,1.4s						
K20K	**Telida**	**80.38**	**22**	P	**P**	**04 03 21.7**	**+0.9**
K20K				IAmb	IAmb	04 04 02.4	
	comp=Z,15nm,1.4s						
SKT	**Skwentna**	**80.59**	**24**	P	**P**	**04 03 22.0**	**+0.1**
SKT				IAmb	IAmb	04 03 40.3	
	comp=Z,10nm,1.4s						
J20K	**Nowinta River**	**80.83**	**21**	P	**P**	**04 03 22.4**	**-0.7**
J20K				IAmb	IAmb	04 03 24.2	
	comp=Z,9.9nm,1.4s						
ZALV	**Zalesovo Beam**	**81.58**	**327**	P	**P**	**04 03 24.6**	**-2.7**
	comp=Z,0.5nm,0.5s,baz=98,slow=6.0,SNR=2.1						
	comp=Z,0.5nm,0.5s						
E19K	**Redstone River**	**81.78**	**18**	P	**P**	**04 03 28.8**	**+0.7**
E19K				IAmb	IAmb	04 04 03.3	
	comp=Z,11nm,1.4s						
F20K	**Avaraart Lake**	**82.00**	**18**	P	**P**	**04 03 29.8**	**+0.5**
F20K				IAmb	IAmb	04 03 33.6	
	comp=Z,4.2nm,1.2s						
IMAR	**Indian Mountai**	**82.01**	**20**	P	**P**	**04 03 29.2**	**-0.1**
H21K	**Melozitna Rive**	**82.14**	**20**	P	**P**	**04 03 31.0**	**+0.9**
H21K				IAmb	IAmb	04 03 57.1	
	comp=Z,5.1nm,1.3s						
D19K	**Kuna River**	**82.18**	**17**	P	**P**	**04 03 30.7**	**+0.4**
RND	**Reindeer**	**82.39**	**23**	P	**P**	**04 03 30.1**	**-1.4**
MLY	**Manley**	**82.52**	**21**	P	**P**	**04 03 32.8**	**+0.7**
MLY				IAmb	IAmb	04 03 34.4	
	comp=Z,3.6nm,0.6s						
I23K	**Minto, Yukon-K**	**83.08**	**21**	P	**P**	**04 03 35.1**	**+0.2**
I23K				IAmb	IAmb	04 03 46.6	
	comp=Z,2.7nm,1.0s						
CCB	**Clear Creek Bu**	**83.41**	**22**	P	**P**	**04 03 36.1**	**-0.5**
CCB				IAmb	IAmb	04 04 08.5	
	comp=Z,5.3nm,1.4s						
HDA	**Harding Lake**	**83.61**	**23**	P	**P**	**04 03 37.6**	**-0.2**
HDA				IAmb	IAmb	04 04 03.0	
	comp=Z,6.8nm,1.5s						
G23K	**Bananza Creek**	**83.66**	**20**	P	**P**	**04 03 38.8**	**+0.8**
G23K				IAmb	IAmb	04 03 45.8	
	comp=Z,2.4nm,0.9s						
IL31		**83.81**	**22**	P	**P**	**04 03 38.8**	**+0.1**
IL31				IAmb	IAmb	04 03 40.5	
	comp=Z,9.1nm,1.4s						
ILAR	**Eielson Array**	**83.81**	**22**	P	**P**	**04 03 38.2**	**-0.5**
ILAR	**Eielson Array**	**83.81**	**22**	P	**P**	**04 03 38.0**	**-0.7**
	comp=Z,2.4nm,0.8s,baz=250,slow=4.9,SNR=29						
	comp=Z,2.4nm,0.8s						
E22K	**Anaktuvuk Pass**	**83.85**	**18**	P	**P**	**04 03 40.5**	**+1.6**
E22K				IAmb	IAmb	04 04 04.7	
	comp=Z,6.9nm,1.5s						
QSPA	**South Pole Qui**	**83.86**	**180**	P	**P**	**04 03 40.7**	**+1.6**
	comp=Z,4.8nm,1.1s,baz=345,slow=1.8,SNR=6.0						
	comp=Z,4.8nm,1.1s						
H24K	**Noodor Dome**	**83.97**	**21**	P	**P**	**04 03 40.0**	**+0.4**
KURBB	**Kurchatov Arra**	**84.09**	**322**	P	**P**	**04 03 38.7**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=112,slow=3.7,SNR=4.9						
	comp=Z,0.4nm,0.6s						
BVAR	**Borovoye Array**	**89.57**	**323**	P	**P**	**04 04 04.3**	**-2.7**
	comp=Z,0.3nm,0.4s,baz=104,slow=6.1,SNR=2.1						
	comp=Z,0.3nm,0.4s						
NVAR	**Mina Array Bea**	**93.82**	**52**	P	**P**	**04 04 29.2**	**+1.8**
	comp=Z,1.0nm,0.8s,baz=252,slow=7.1,SNR=5.7						
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**97.13**	**28**	P	**P**	**04 04 41.9**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=269,slow=5.0,SNR=8.3						
	comp=Z,0.6nm,0.8s						
CLL	**Collm**	**123.40**	**330**	*e*PKPdf	**PKPdf**	**04 10 07.0**	**+0.3**
RONA	**Rosalia, Austr**	**123.74**	**325**	*e*PKiKP	**PKiKP**	**04 10 08.6**	**+0.8**
	comp=Z,3.4nm,1.0s						
GERES	**GERESS Array B**	**124.53**	**327**	PKP	**PKiKP**	**04 10 09.8**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=64,slow=3.1,SNR=6.9						
SOKA	**Soboth**	**125.03**	**325**	*i* PKiKP	**PKiKP**	**04 10 11.0**	**+0.6**
	comp=Z,3.2nm,1.2s						
OBKA	**Obir**	**125.40**	**325**	*i* PKP	**PKPdf**	**04 10 10.9**	**+0.1**
	comp=Z,6.8nm,1.1s						
ABTA	**Abfaltersbach**	**126.41**	**326**	*e*PKP	**PKPdf**	**04 10 12.6**	**-0.1**
	comp=Z,4.6nm,1.0s						
WTTA	**Wattenberg**	**126.58**	**327**	*i* PKiKP	**PKiKP**	**04 10 14.2**	**+0.6**
	comp=Z,2.6nm,0.7s						
MOTA	**Moosalm**	**126.82**	**327**	*i* PKP	**PKPdf**	**04 10 14.1**	**+0.5**
	comp=Z,5.8nm,1.0s						
SQTA	**Sankt Quirin**	**126.84**	**327**	*e*PKP	**PKPdf**	**04 10 14.2**	**+0.6**
	comp=Z,5.3nm,1.2s						
FETA	**Feichten**	**127.22**	**327**	*e*PKP	**PKiKP**	**04 10 15.3**	**+0.4**
	comp=Z,3.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**149.55**	**286**	PKPbc	**PKPbc**	**04 10 59.1**	**-0.9**
	comp=Z,3.5nm,0.6s,baz=66,slow=2.5,SNR=28						
BDFB	**Brasilia**	**150.94**	**138**	PKPbc	**PKPbc**	**04 11 04.2**	**+0.8**
	comp=Z,3.6nm,0.6s,baz=134,slow=1.9,SNR=7.1						

IDC 20 03:56:20.4±1.9, 6°35S×151°91E, h0km, mb3.4/3, mbtmp3.5/4, ML4.3/1, Error ellipse: s-maj=77.7km s-min=20.7km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.04**	**3**	Pn	Pn	03 56 57.1	+1.1
	118nm,0.3s,baz=63,slow=6.1,SNR=7.3						
KRVT				Sn	Sb	03 57 24.8	+0.6
	79nm,0.3s,baz=131,slow=20,SNR=3.7						
	221nm,0.4s						
WRA	**Warramunga Arr**	**21.76**	**230**	P	P	04 01 14.1	+0.3
	0.5nm,0.5s,baz=54,slow=11,SNR=5.9						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**24.41**	**223**	P	P	04 01 41.4	+0.5
	0.6nm,0.6s,baz=58,slow=8.8,SNR=7.2						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**83.92**	**22**	P	P	04 08 51.4	-0.6
	0.3nm,0.6s,baz=243,slow=4.9,SNR=6.1						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.90**	**285**	PKPbc	PKPbc	04 16 12.7	-1.0
	0.5nm,0.6s,baz=87,slow=3.0,SNR=5.2						

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*IDC **20** 04:05:15.8±4.3, 34°52N×23°55E, h0km, mb3.9/4, mbtmp3.6/6, ML3.5/2, Error ellipse: s-maj=83.0km s-min=31.0km az=14.0*
*ISK **20** 04:05:20.9, 34°62N×23°46E, h19km, ML2.8/8*
*THE **20** 04:05:22.6, 34°72N×23°49E, h8km±1km, ML2.9/1, Error ellipse: s-maj=3.6km s-min=0.8km az=30.0*
*ATH **20** 04:05:23.3, 34°74N×23°50E, h19km±4km, ML2.9/2, Error ellipse: s-maj=8.3km s-min=1.7km az=33.0*
ISC 20 04:05:20.0±1.7, 34°6N±0°1×23°40E±0°06, h18km±5km, n42, σ1°09/47, mb3.7/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.61**	**68**	Pg	**Pg**	**04 05 32.4**	**+0.3**
GVD				Sg	**Sb**	**04 05 40.9**	**+0.7**
GVD	**Gavdhos**	**0.61**	**68**	P	**Pg**	**04 05 32.3**	**+0.2**
GVD				S	**Sb**	**04 05 40.1**	**-0.1**
	2µm,0.4s						
GVD	**Gavdhos**	**0.61**	**68**	P	**Pg**	**04 05 32.5**	**+0.4**
GVD				S	**Sb**	**04 05 40.1**	**-0.1**
GVD				AML	AML	04 05 46.7	
	comp=N,3385µm,0.4s						
GVD				AML	AML	04 05 49.9	
	comp=E,4249µm,0.5s						
IMMV	**Iera Moni Meta**	**0.97**	**29**	Pg	**Pn**	**04 05 39.6**	**+0.8**
IMMV				Sg	**Sn**	**04 05 53.2**	**+1.1**
IMMV	**Iera Moni Meta**	**0.97**	**29**	P	**Pn**	**04 05 38.4**	**+0.1**
IMMV	**Iera Moni Meta**	**0.97**	**29**	P	**Pb**	**04 05 38.2**	**-0.1**
IMMV				AML	AML	04 05 59.9	
	comp=N,1318µm,0.4s						
IMMV				AML	AML	04 06 00.4	
	comp=E,1242µm,0.5s						
RODP	**Rodopos**	**0.99**	**17**	Pg	**Pn**	**04 05 40.0**	**+1.0**
RODP				Sg	**Sn**	**04 05 53.8**	**+1.2**
RODP	**Rodopos**	**0.99**	**17**	P	**Pb**	**04 05 39.0**	**+0.4**
CHAN	**Chania**	**1.04**	**30**	P	**Pn**	**04 05 40.6**	**+0.8**
TMBK	**Timbaki Herakl**	**1.21**	**67**	P	**Pb**	**04 05 43.4**	**+1.0**
ANKY	**Antikythira Is**	**1.25**	**356**	P	**Pb**	**04 05 44.0**	**+0.8**
ANKY	**Antikythira Is**	**1.25**	**356**	P	**Pn**	**04 05 43.6**	**+1.0**
IDI	**Anoyia**	**1.39**	**61**	Pn	**Pn**	**04 05 45.5**	**+0.8**
IDI	**Anoyia**	**1.39**	**61**	P	**Pb**	**04 05 45.8**	**+0.2**
HRKL	**Herakleio**	**1.56**	**63**	Pn	**Pn**	**04 05 47.5**	**+0.7**
HRKL	**Herakleio**	**1.56**	**63**	P	**Pn**	**04 05 48.2**	**+1.3**
VLI	**Veliai**	**2.13**	**350**	P	**Pn**	**04 05 56.3**	**+1.6**
MHLO	**Agia Marina, M**	**2.23**	**21**	P	**Pn**	**04 05 56.3**	**+0.3**
ZKR	**Zakros**	**2.37**	**77**	Pn	**Pn**	**04 05 59.0**	**+1.0**
ZKR	**Zakros**	**2.37**	**77**	P	**Pn**	**04 05 59.8**	**+1.8**
ZKR	**Zakros**	**2.37**	**77**	P	**Pn**	**04 05 59.5**	**+1.5**
THR6	**Thira Island,**	**2.38**	**43**	P	**Pn**	**04 05 58.6**	**+0.4**
SNT5	**Nea Kammeni, S**	**2.41**	**42**	P	**Pn**	**04 05 58.7**	**0.0**
PYL	**PYLOS**	**2.65**	**330**	P	**Pn**	**04 06 03.0**	**+1.2**
KRND	**KRANIDI**	**2.77**	**356**	P	**Pn**	**04 06 05.2**	**+1.7**
APE	**Apeiranthos**	**3.00**	**35**	Pn	**Pn**	**04 06 07.5**	**+0.8**
APE	**Apeiranthos**	**3.00**	**35**	P	**Pn**	**04 06 06.5**	**-0.2**
KARP	**Karpathos**	**3.22**	**72**	Pn	**Pn**	**04 06 11.3**	**+1.6**
VLY	**Voula,Athens**	**3.25**	**5**	P	**Pn**	**04 06 10.4**	**+0.3**
LTK	**Loutraki**	**3.42**	**354**	P	**Pn**	**04 06 13.6**	**+1.2**
GUR	**Goura**	**3.42**	**346**	P	**Pn**	**04 06 14.6**	**+2.0**
PTL	**Pentieli**	**3.45**	**6**	P	**Pn**	**04 06 13.9**	**+1.0**
DION	**Dionisos Attik**	**3.48**	**7**	P	**Pn**	**04 06 14.6**	**+1.3**
KLV	**Kalavryta, Ach**	**3.57**	**344**	P	**Pn**	**04 06 15.8**	**+1.2**
VIL2	**Platees**	**3.59**	**358**	P	**Pn**	**04 06 14.8**	**-0.1**
ANX	**Ano Chora**	**4.15**	**344**	P	**Pn**	**04 06 23.9**	**+1.3**
BRTR	**Keskin Array B**	**9.63**	**55**	Pn	**Pn**	**04 07 37.5**	**-0.3**
	comp=E,0.1nm,0.3s,baz=240,slow=14,SNR=1.8						
	comp=E,0.2nm,0.3s						
AKASG	**Malin Array Be**	**16.63**	**13**	Pn	**Pn**	**04 09 11.4**	**-0.6**
	comp=E,0.9nm,0.3s,baz=195,slow=13,SNR=4.4						
	comp=E,0.1nm,0.3s						
HFS	**Hafras**	**26.31**	**349**	P	**P**	**04 10 52.5**	**-1.9**
	comp=E,1.6nm,0.6s,baz=158,slow=9.3,SNR=7.1						
	comp=E,1.6nm,0.6s						
EKA	**Eskdalemuir Ar**	**27.68**	**327**	P	**P**	**04 11 07.5**	**+0.7**
	comp=E,0.5nm,0.4s,baz=123,slow=7.9,SNR=6.5						
	comp=E,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**42.58**	**51**	P	**P**	**04 13 12.7**	**-2.1**
	comp=E,0.4nm,0.4s,baz=267,slow=8.8,SNR=4.9						
	comp=E,0.4nm,0.4s						
MKAR	**Makanchi Array**	**45.28**	**56**	P	**P**	**04 13 34.9**	**-1.6**
	comp=E,0.9nm,0.4s,baz=267,slow=7.8,SNR=11						
	comp=E,0.9nm,0.4s						

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*NEIC **20** 04:13:21.5±0.6, 19°74N±0°02×155°06W±0°05, h45km±2km, Error ellipse: s-maj=6.7km s-min=3.1km az=71.0*
HVO 20 04:13:22.7±0.8, 19°75N±0°02×155°02W±0°06, h41km±4km, ML2.3/12, ML2.5/48(NEIC), Error ellipse: s-maj=8.0km s-min=2.6km az=78.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.32**	**178**		Pn	04 13 30.2	-1.0
NPOC	**North of Pu'u**	**0.37**	**194**	IAML		04 13 37.7	
NPOC	comp=N,332nm,0.7s						
	comp=E,299nm,0.8s			IAML		04 13 39.3	
NPOC	**North of Pu'u**	**0.37**	**194**		Pn	04 13 30.8	-1.1
NPOC					Sn	04 13 36.8	-1.5
JCUZ	**Jacuzzi**	**0.37**	**192**	IAML		04 13 36.9	
	comp=N,415nm,0.9s						
JCUZ				IAML		04 13 37.7	
	comp=E,448nm,0.5s						
JCUZ	**Jacuzzi**	**0.37**	**192**		Pn	04 13 30.9	-1.1
JCUZ					Sn	04 13 36.8	-1.6
RSD	**Rainshed**	**0.38**	**221**		Pn	04 13 31.2	-0.9
RSD					Sn	04 13 37.4	-1.2
RSD	**Rainshed**	**0.38**	**221**	IAML		04 13 37.9	
	comp=N,490nm,0.2s						
RSD				IAML		04 13 38.3	
	comp=E,406nm,0.1s						
STCH	**Steam Cracks**	**0.38**	**196**		Pn	04 13 30.9	-1.1
STCH					Sn	04 13 37.0	-1.6
STCH	**Steam Cracks**	**0.38**	**196**	IAML		04 13 37.2	
	comp=E,692nm,0.1s						
STCH				IAML		04 13 37.5	
	comp=N,465nm,0.1s						
KNHH	**Kane Nui o Ham**	**0.40**	**201**		Pn	04 13 31.1	-1.2
HATHI	**Halema'uma'u T**	**0.40**	**215**		Pn	04 13 31.1	-1.2
HATHI					Sn	04 13 37.4	-1.7
HATHI	**Halema'uma'u T**	**0.40**	**215**	IAML		04 13 37.5	
	comp=N,272nm,1.0s						
HATHI				IAML		04 13 46.7	
	comp=E,278nm,0.8s						
SBLHI	**Steaming Bluff**	**0.40**	**217**		Pn	04 13 31.0	-1.3
SBLHI					Sn	04 13 37.6	-1.5
SBLHI	**Steaming Bluff**	**0.40**	**217**	IAML		04 13 41.0	
	comp=N,213nm,2.9s						
SBLHI				IAML		04 13 50.1	
	comp=E,166nm,3.5s						
BYL	**Byron's Ledge**	**0.41**	**214**		Pn	04 13 31.2	-1.3
BYL					Sn	04 13 37.4	-1.8
BYL	**Byron's Ledge**	**0.41**	**214**	IAML		04 13 38.2	
	comp=N,238nm,1.0s						
BYL				IAML		04 13 39.7	
	comp=E,244nm,1.6s						
UWB	**Uwekahuna B**	**0.41**	**217**		Pn	04 13 37.4	-1.8
UWB	**Uwekahuna B**	**0.41**	**217**		Pn	04 13 31.0	-1.4
UWB				IAML		04 13 40.8	
	comp=N,180nm,3.4s						
UWB	**Uwekahuna B**	**0.41**	**217**	IAML		04 13 35.1	
	comp=E,125nm,4.3s						
OBL	**Observatory Le**	**0.42**	**217**		Pn	04 13 31.3	-1.3
OBL					Sn	04 13 37.9	-1.5
OBL	**Observatory Le**	**0.42**	**217**	IAML		04 13 39.4	
	comp=N,422nm,1.8s						
OBL				IAML		04 13 41.0	
	comp=E,472nm,1.0s						
UWE	**Uwekahuna**	**0.42**	**219**		Pn	04 13 31.3	-1.3
UWE					Sn	04 13 37.8	-1.7
PUH	**Pauahi**	**0.42**	**207**		Pn	04 13 31.4	-1.2
PUH					Sn	04 13 37.6	-1.9
PUH	**Pauahi**	**0.42**	**207**	IAML		04 13 37.7	
	comp=E,150nm,0.3s						
PUH				IAML		04 13 45.0	
	comp=N,307nm,3.9s						
KKO	**Keanakako`i**	**0.42**	**214**		Pn	04 13 31.4	-1.2
KKO					Sn	04 13 37.8	-1.8
KKO	**Keanakako`i**	**0.42**	**214**	IAML		04 13 40.5	
	comp=E,260nm,1.1s						
KKO				IAML		04 13 42.7	
	comp=N,504nm,1.5s						
RIM	**Rim**	**0.43**	**215**		Pn	04 13 31.4	-1.3
RIM	**Rim**	**0.43**	**215**	IAML		04 13 37.4	
	comp=N,351nm,2.8s						
RIM				IAML		04 13 38.2	
	comp=E,301nm,1.2s						
RIM	**Rim**	**0.43**	**215**		Sn	04 13 38.6	-1.0
MLH	**Mauna Loa**	**0.43**	**234**		Pn	04 13 31.7	-1.2
MLH					Sn	04 13 38.3	-1.6
MLH	**Mauna Loa**	**0.43**	**234**	IAML		04 13 44.6	
	comp=E,248nm,4.1s						
MLH				IAML		04 13 47.7	
	comp=N,284nm,3.4s						
WRMHI	**West Rim**	**0.43**	**218**		Pn	04 13 31.3	-1.4
WRMHI					Sn	04 13 38.4	-1.4
WRMHI	**West Rim**	**0.43**	**218**	IAML		04 13 43.4	
	comp=E,415nm,1.9s						
HMH	**Humu'ula Sheep**	**0.46**	**252**		Sn	04 13 39.4	-1.3
HMH	**Humu'ula Sheep**	**0.46**	**252**		Pn	04 13 32.2	-1.1
HMH				IAML		04 13 45.9	
	comp=E,199nm,3.3s						
HMH	**Humu'ula Sheep**	**0.46**	**252**	IAML		04 13 38.5	
	comp=N,251nm,3.6s						
POHA	**Pohakuloa**	**0.49**	**271**		Pn	04 13 31.9	-1.6
POHA	**Pohakuloa**	**0.49**	**271**	IAML		04 13 38.7	
	comp=N,170nm,4.5s						
POHA				IAML		04 13 51.2	
	comp=N,208nm,4.2s						
HLP	**Hilina Pali**	**0.53**	**211**		Sn	04 13 39.8	-2.1
AIN	**Ainahou**	**0.56**	**228**		Sn	04 13 41.1	-1.7
AIN	**Ainahou**	**0.56**	**228**		Pn	04 13 33.2	-1.3
AIN				IAML		04 13 54.0	
	comp=N,365nm,4.5s						
AIN	**Ainahou**	**0.56**	**228**	IAML		04 13 39.1	
	comp=E,270nm,4.2s						
MLOA	**Mauna Loa Obse**	**0.57**	**248**	IAML		04 13 41.7	
	comp=E,297nm,0.8s						
MLOA	**Mauna Loa Obse**	**0.57

BCHC	Barbados, Cave	2.10	48	eP		Pn	04 14 09.6	+0.4
BBGH	Gun Hill	2.15	49			Pn	04 14 10.1	+0.1
BBGH	Gun Hill	2.15	49	eP		Pn	04 14 10.2	+0.2
SLCP	Castries, St.	2.27	6	eP		Pn	04 14 12.1	+0.6
SLCP				eS		Sn	04 14 38.5	+0.1
SLBI	Saint Lucia, B	2.29	6	eP		Pn	04 14 11.7	0.0
SLBI				eS		Sn	04 14 39.1	+0.3
H05S1	Guadeloupe/Mar	2.70	8	P		Pn	04 14 17.1	-0.3
H05S1				S		Sn	04 14 48.3	-0.5
	SNR=2343							
MPOM	Morne Pois Mar	2.71	8	Pn		Pn	04 14 17.3	-0.3
MPOM	Morne Pois Mar	2.71	8	eP		Pn	04 14 17.8	+0.3
MPOM				eS		Sn	04 14 49.3	+0.1
BIM	Bigot	2.77	3	Pn		Pn	04 14 18.7	+0.4
BIM	Bigot	2.77	3	eP		Pn	04 14 19.0	+0.7
BIM				eS		Sn	04 14 52.0	+1.4
TRMF	Trois Ilets	2.79	4	eP		Pn	04 14 20.3	+1.7
MVM	Montagne Vaucl	2.82	7	eP		Pn	04 14 18.9	-0.1
ZAM	Aeronautique	2.82	4	eP		Pn	04 14 20.6	+1.6
LPMF	Morne Lapointe	2.83	5	eP		Pn	04 14 20.7	+1.6
FDF	Fort de France	2.98	2			Pn	04 14 21.8	+0.6
FDF	Fort de France	2.98	2	eP		Pn	04 14 21.9	+0.6
FDF				eS		Sn	04 14 56.8	+1.0
PML	Morne Lenard	3.02	1	eP		Pn	04 14 22.9	+1.1
ILAM	Ilet Lapin Mar	3.04	7			Pn	04 14 22.2	+0.2
ILAM	Ilet Lapin Mar	3.04	7	eP		Pn	04 14 22.4	+0.4
ILAM				eS		Sn	04 14 57.1	-0.1
GBMF	Grand Be	3.04	1	eP		Pn	04 14 23.2	+1.1
CXM	Morne La Croix	3.05	1	eP		Pn	04 14 24.6	+2.3
PCM	Pelee Case Pet	3.06	1	eP		Pn	04 14 23.1	+0.8
BAMF	Morne Balai	3.06	2	eP		Pn	04 14 23.2	+0.9
SVN	Savane Anatole	3.08	1	eP		Pn	04 14 23.4	+0.7
SVN				eS		Sn	04 14 58.9	+0.4
PCRV	Puerto La Cruz	3.68	245	P		Pn	04 14 32.7	+1.9
	337nm,0.3s,baz=55,slow=3.2,SNR=271							
PCRV				S		Sn	04 15 14.4	+1.4
	84nm,0.5s,baz=117,slow=2.3,SNR=1.0							
PCRV				LR		LR	04 16 38.3	
	comp=Z,432nm,19.9s,slow=49							
TDBA	Terre de Bas,	4.10	355	eP		Pn	04 14 38.7	+2.1
MAGL	Barre de l'Ile	4.18	359	Pn		Pn	04 14 39.6	+1.9
MAGL	Barre de l'Ile	4.18	359	eP		Pn	04 14 39.5	+1.8
CBE	Ff, Capester	4.32	355	Pn		Pn	04 14 41.3	+1.7
CBE	Ff, Capester	4.32	355	eP		Pn	04 14 41.7	+2.2
CBE	Ff, Capester	4.32	355	eS		Sn	04 15 30.4	+1.7
GDHS	Morne Mazeau,	4.54	354			Pn	04 14 45.6	+3.1
GDSD	La Dsirade Is	4.55	2			Pn	04 14 42.9	+0.2
H05N1	Guadeloupe/Mar	4.55	2	P		Pn	04 14 43.0	+0.3
H05N1				S		Sn	04 15 29.9	-4.5
	SNR=134							
ABD	La Joyeuse, An	4.71	357			Pn	04 14 47.5	+2.6
ABD	La Joyeuse, An	4.71	357	eP		Pn	04 14 46.1	+1.3
ABD	La Joyeuse, An	4.71	357	eS		Sn	04 15 39.1	+0.9
MLYT	Lee's Yard	5.04	350	eP		Pn	04 14 51.4	+2.0
MLYT	Lee's Yard	5.04	350	eS		Sn	04 15 46.5	+0.2
MBFL	Flemmings, Mon	5.07	349	eP		Pn	04 14 52.2	+2.4
MBFL	Flemmings, Mon	5.07	349	eS		Sn	04 15 47.2	+0.2
ANBD	Bethesda, Anti	5.30	355	eP		Pn	04 14 55.8	+2.9
ANBD	Bethesda, Anti	5.30	355	eS		Sn	04 15 53.4	+0.7
SABA	Saba	6.16	342	Pn		Pn	04 15 07.0	+2.3
SABA	Saba	6.16	342	eP		Pn	04 15 06.2	+1.5
SMRT	St. Maarten	6.52	344			Pn	04 15 11.8	+2.2
BAUV	El Baul	7.25	248	Pn		Pn	04 15 20.4	+0.8
BAUV	El Baul	7.25	248	eP		Pn	04 15 23.0	+3.4
BAUV	El Baul	7.25	248	eS		Sn	04 16 41.8	+1.3
SJG	San Juan	7.92	324	eP		Pn	04 15 24.6	-4.1
SJG	San Juan	7.92	324	eP		Pn	04 15 30.0	+1.3
SJG	San Juan	7.92	324	P		Pn	04 15 23.1	-5.6
	4.0nm,0.2s,baz=327,slow=16,SNR=2.1							
SJG				S		Sn	04 16 50.7	-6.1
	17nm,0.3s,baz=229,slow=20,SNR=3.5							
SJG				LR		LR	04 18 35.3	
	comp=Z,72nm,19.5s,baz=54,slow=38							
BOAV	Boa Vista	9.31	176	Pn		Pn	04 15 44.2	-3.6
BOAV	Boa Vista	9.31	176	eP		Pn	04 15 45.8	-2.1
SDV	Santo Domingo	9.67	254	Pn		Pn	04 15 53.4	+0.5
SDV	Santo Domingo	9.67	254	eP		Pn	04 15 54.1	+1.2
SDV	Santo Domingo	9.67	254	eP		Pn	04 15 54.2	+1.3
SDV	Santo Domingo	9.67	254	P		Pn	04 15 53.5	+0.6
	16nm,0.5s,baz=56,slow=5.5,SNR=17							
SDV				S		Sn	04 17 39.9	-0.2
	25nm,0.4s,baz=53,slow=19,SNR=8.1							
SDV				LR		LR	04 20 53.1	
	comp=Z,166nm,18.1s,baz=86,slow=45							
MDP	Montagnes des	10.76	127	P		Pn	04 16 00.8	-6.9
	33nm,0.4s,baz=315,slow=15,SNR=174							
CRJC	Cerrejon, Guaj	11.44	268	eP		Pn	04 16 17.8	+0.8
TAMC	Tame, Arauca	11.68	244	eP		Pn	04 16 18.9	-1.2
LL6C	La Loma 6 Bece	11.99	262	eP		Pn	04 16 27.2	+2.8
SDDR	Presa de Saban	12.07	308			Pn	04 16 27.9	+2.4
SDDR	Presa de Saban	12.07	308	eP		Pn	04 16 27.9	+2.4
SDDR	Presa de Saban	12.07	308	eP		Pn	04 16 27.7	+2.2
PAMC	Pamplona, Colo	12.12	250	eP		Pn	04 16 25.4	-1.2
OCAC	Ocana	12.39	255	eP		P	04 16 39.8	0.0
PAPH	Port-au-Prince	12.62	304			Pn	04 16 33.6	+0.5
BARC	Barichara	12.85	248	eP		Pn	04 16 38.1	+1.7
SJCC	San Jacinto, C	13.82	264	eP		Pn	04 16 50.5	+1.3
PTBC	PUERTO BERRIO,	14.02	250	eP		Pn	04 16 53.0	+0.3
SPBC	San Pablo de B	14.05	246	eP		Pn	04 16 53.0	+0.7
ZARC	Zaragoza, Cauc	14.07	254	eP		Pn	04 16 51.8	-0.8
VILC	Villavicencio,	14.47	239	eP		P	04 17 00.7	-2.2
CVER	Cruz Verde, Cu	14.58	242	eP		Pn	04 17 01.2	+1.5
UREC	San Jos de Ur	14.63	256	eP		Pn	04 17 00.2	+0.3
ROSC	El Rosal	14.64	243	P		Pn	04 17 02.2	+1.8
ROSC	El Rosal	14.64	243	eP		P	04 17 03.0	-2.0
ROSC	El Rosal	14.64	243	P		Pn	04 17 01.9	+1.6
	8.2nm,0.3s,baz=35,slow=20,SNR=5.5							
ROSC				S		Sn	04 19 38.4	-3.3
	5.1nm,0.5s,baz=134,slow=17,SNR=1.4							
ROSC				LR		LR	04 23 54.2	
	comp=Z,432nm,19.4s,baz=59,slow=42							
MACA	Manacapuru-AM	14.81	178			Pn	04 17 00.2	-2.1
MACA	Manacapuru-AM	14.81	178	eP		Pn	04 17 00.3	-1.9
GUY2C	Guyana, Caldas	15.39	246	eP		Pn	04 17 11.0	+0.9
TEFE	Tefe	15.52	193	eP		Pn	04 17 09.5	-1.8
PRAC	Prado	15.69	241	eP		Pn	04 17 14.3	+0.7
CBOC	Ciudad Bolivar	15.72	249	eP		Pn	04 17 13.7	-0.3
ORTC	Ortega, Tolima	15.90	242	eP		Pn	04 17 16.9	+0.7
PLMC	San Jos del P	16.35	247	eP		Pn	04 17 22.8	+0.9
YOTC	Yotoco, Valle	16.82	244	eP		Pn	04 17 28.2	+0.4
JAMC	Jamundi, Valle	17.48	242	eP		P	04 17 38.5	+2.2
FLOC	Florencia	17.50	236	eP		Pn	04 17 36.2	+0.2
TBTG	Tabatinga, AM	18.02	209	eP		P	04 17 41.9	-0.2
CRUC	La Cruz	18.57	238	eP		Pn	04 17 51.4	+1.9
BBAC	Balboa, Cauca	18.58	240	eP		P	04 17 48.5	0.0
GCUF	Volcan Galeras	19.09	238	eP		Pn	04 17 57.7	+1.9
NPGB	Novo Progresso	19.56	162	eP		P	04 17 59.2	+0.2
TULM	Tulcn-Chalpat	19.74	237	P		P	04 18 02.0	+0.6
OTAV	Otavalo	20.56	237	P		P	04 18 11.2	+0.9
OTAV	Otavalo	20.56	237	eP		Pn	04 18 12.5	-0.5
OTAV	Otavalo	20.56	237	eP		Pn	04 18 12.2	-0.8
SAML	Samuel	20.64	185	P		P	04 18 10.2	-0.4
SAML	Samuel	20.64	185	eP		P	04 18 10.8	+0.1
SAML	Samuel	20.64	185	eP		P	04 18 11.6	+1.0
PIAT	Ana Tenorio	21.12	234	eP		P	04 18 17.7	+1.4
SLOR	San Lorenzo -	21.15	235	P		P	04 18 17.7	+1.0
CHSH	Refugio Sur-Vo	21.91	234	P		P	04 18 25.2	+0.3
CHSH				IAmb		IAmb	04 19 04.4	
	comp=Z,16nm,0.7s							
ETMB	Extrema	21.98	193	P		P	04 18 25.1	+0.2
ETMB	Extrema	21.98	193	eP		P	04 18 26.4	+1.4
CZSB	Cruzeiro do Su	22.45	211	P		P	04 18 30.5	+0.4
CZSB				IAmb		IAmb	04 18 36.2	
	comp=Z,33nm,1.0s							
CZSB	Cruzeiro do Su	22.45	211	eP		P	04 18 31.9	+1.8
BOSC	San Juan Bosco	22.66	230	P		P	04 18 31.4	-1.0
BOSC				IAmb		IAmb	04 18 34.4	
	comp=Z,6.4nm,0.3s							
JTS	Las Juntas de	23.32	269	LR		LR	04 30 57.5	
	comp=Z,28nm,18.8s,baz=52,slow=45							
PDRB	Porto dos Gac	23.63	169	eP		P	04 18 42.5	+0.7
ARNL	Arenillas	24.11	232	P		P	04 18 46.5	+0.4
ARNL				IAmb		IAmb	04 18 49.1	
	comp=Z,32nm,0.9s							
MCRA	Macar, Loja	24.55	230	P		P	04 18 49.6	-0.6
MCRA	Macar, Loja	24.55	230	eP		P	04 18 49.2	-0.9
VILB	Vilhena	24.55	178	eP		P	04 18 52.2	+2.1
ATAH	Atahualpa	25.35	223	LR		LR	04 31 44.9	
	comp=Z,36nm,18.4s,baz=32,slow=43							
SIV	San Ignacio	27.55	180	LR		LR	04 31 04.5	
	comp=Z,84nm,18.5s,baz=313,slow=38							
NNA	Nana	28.21	214	P		P	04 19 24.2	+1.1
NNA	Nana	28.21	214	LR		LR	04 31 55.1	
	comp=Z,61nm,19.3s,baz=27,slow=39							
BBSD	Serra de San D	28.75	179	eP		P	04 19 29.7	+1.9
BBRB	Robore, Bolivi	29.86	177	eP		P	04 19 39.4	+1.7
152A	Waverly Hall	29.98	318	P		P	04 19 39.3	+0.6
152A				IAmb		IAmb	04 19 40.4	
	comp=Z,6.5nm,0.8s							
BDFB	Brasilia	30.19	154	P		P	04 19 40.8	0.0
	comp=Z,2.8nm,1.1s,baz=319,slow=20,SNR=2.3							
BDFB				PcP		PcP	04 22 41.9	+1.2
	comp=Z,1.7nm,0.8s,baz=0.0,slow=10,SNR=1.9							
	comp=Z,2.8nm,1.1s							
PB16	IPOC Station P	30.98	195	P		P	04 19 47.1	-1.1
V51A	Loudon	31.79	323	P		P	04 19 55.5	+0.9
V51A				IAmb		IAmb	04 19 56.3	
	comp=Z,8.8nm,0.9s							
W50A	Signal Mountai	31.97	321	P		P	04 19 57.4	+1.2
W50A				IAmb		IAmb	04 19 58.4	
	comp=Z,7.6nm,0.9s							
X48A	Hartselle	32.60	318	P		P	04 20 01.8	+0.1
X48A				IAmb		IAmb	04 20 04.1	
	comp=Z,5.7nm,0.9s							
S51A	Beattyville	32.65	326	P		P	04 20 02.8	+0.7
S51A				IAmb		IAmb	04 20 06.8	
	comp=Z,8.1nm,0.8s							
T50A	Nancy	32.91	324	P		P	04 20 05.3	+0.9
T50A				IAmb		IAmb	04 20 06.3	
	comp=Z,5.6nm,0.9s							
CMIG	Matias Romero	32.99	283	LR		LR	04 36 57.4	
	comp=Z,22nm,18.0s,baz=94,slow=42							
PB01	IPOC Station P	33.57	194	P		P	04 20 10.7	+0.3
PB01				IAmb		IAmb	04 20 11.2	
	comp=Z,4.8nm,0.9s							
PLAL	Pickwick Lake	33.60	318	P		P	04 20 11.3	+0.9
WVT	Waverly	34.14	320	P		P	04 20 15.8	+0.8
WVT				IAmb		IAmb	04 20 16.5	
	comp=Z,4.9nm,0.6s							
T47A	Sharon Grove	34.24	322	P		P	04 20 17.2	+1.2
T47A				IAmb		IAmb	04 20 18.6	
	comp=Z,6.1nm,0.8s							
PB07	IPOC Station P	34.32	194	P		P	04 20 17.1	+0.2
PB07				IAmb		IAmb	04 20 17.6	
	comp=Z,7.2nm,0.8s							
LVC	Limon Verde	34.95	192	eP		P	04 20 25.1	+2.5
LVC	Limon Verde	34.95	192	P		P	04 20 23.5	+0.8
	comp=Z,4.3nm,0.8s,baz=345,slow=9.4,SNR=3.2							
LVC				LR		LR	04 36 42.8	
	comp=Z,74nm,21.0s,baz=240,slow=40							
	comp=Z,4.3nm,0.8s							
PARMO	Parma	35.69	319	P		P	04 20 29.6	+1.1
SIUC	Southern Illin	36.00	321	P		P	04 20 32.0	+0.9
S44A	Carbondale	36.01	321	P		P	04 20 31.9	+0.8
CGM3	Cape Girardeau	36.02	320	P		P	04 20 32.1	+0.9
CGM3				IAmb		IAmb	04 20 32.7	
	comp=Z,6.2nm,0.6s							
PBMO	Poplar Bluff	36.20	318	P		P	04 20 33.3	+0.5
PBMO				IAmb		IAmb	04 20 34.5	
	comp=Z,6.6nm,0.8s							
FCAR	Ozark Folk Cen	36.83	316	P		P	04 20 38.4	+0.3
FCAR				IAmb		IAmb	04 20 39.1	
	comp=Z,5.3nm,0.5s							
O44A	Mansfield	37.13	324	P		P	04 20 40.8	+0.2
P43A	Skaggs, Pawnee	37.40	323	P		P	04 20 44.0	+1.0
CCM	Cathedral Cave	37.48	320			P	04 20 43.8	+0.2
CCM				IAmb		IAmb	04 20 44.5	
	comp=Z,4.7nm,0.6s							
CPUP	Villa Florida	38.03	174	P		P	04 20 47.6	-0.7
	comp=Z,1.5nm,0.8s,baz=325,slow=2.7,SNR=4.2							
CPUP				LR		LR	04 37 17.1	
	comp=Z,32nm,19.3s,baz=230,slow=37							
	comp=Z,1.5nm,0.8s							
S39A	Bolivar	38.62	318			P	04 20 53.4	+0.1
S39A				IAmb		IAmb	04 20 53.9	
	comp=Z,7.3nm,0.6s							
P40A	Paris	38.86	321	P		P	04 20 55.7	+0.4
P40A				IAmb		IAmb	04 20 56.1	
	comp=Z,13nm,0.9s							
BRDY	Brady	39.88	305	P		P	04 21 03.1	-0.9
BRDY				IAmb		IAmb	04 21 03.5	
	comp=Z,2.9nm,0.5s							
SAND	Sanderson	42.01	302	P		P	04 21 20.0	-1.5
SAND				IAmb		IAmb	04 21 21.9	
	comp=Z,3.0nm,0.7s							
TXAR	Lajitas Array	43.13	301	P		P	04 21 29.6	-1.1
	comp=Z,0.6nm,0.4s,baz=114,slow=9.6,SNR=24							
TXAR				PcP		PcP	04 23 20.1	+0.6
	comp=Z,0.7nm,0.5s,baz=123,slow=5.7,SNR=6.9							
TXAR				ScP		ScP	04 27 04.5	-0.7
	comp=Z,0.2nm,0.6s,baz=101,slow=4.7,SNR=2.4							
	comp=Z,0.6nm,0.4s							
TX31	Lajitas Ar. Si	43.14	301	P		P	04 21 30.3	-0.4
SCHQ	Schefferville	43.21	355	P		P	04 21 29.9	-0.9
	comp=Z,4.7nm,0.9s,baz=159,slow=11,SNR=3.2							
	comp=Z,4.7nm,0.9s							
ECSD	EROS Data Cent	44.10	323	P		P	04 21 38.1	0.0
K30B	Basset	45.35	320	P		P	04 21 48.4	+0.3
ANMO	Albuquerque	47.00	307	LR		LR	04 46 47.6	
	comp=Z,44nm,18.2s,baz=184,slow=42							
ULM	Lac du Bonnet	47.76	330	P		P	04 22 06.0	-0.8
ULM	Lac du Bonnet	47.76	330	P		P	04 22 06.0	-0.8
	comp=Z,16nm,0.3s,baz=130,slow=8.0,SNR=52							
ULM				pP		pP	04 22 22.3	-0.7
	comp=Z,7.8nm,0.5s,baz=121,slow=6.7,SNR=5.6							
H10N3	ASCENSION HYDR	50.39	111	T		T	05 17 27.2	
	baz=293,slow=75,SNR=77							
H10N2	ASCENSION HYDR	50.40	110	T		T	05 17 29.4	
	baz=293,slow=75,SNR=135							
H10N1	ASCENSION HYDR	50.41	111	T		T	05 17 30.9	
	baz=293,slow=75,SNR=82							
H10S3	ASCENSION HYDR	50.66	112	T		T	05 17 53.0	
	baz=292,slow=74,SNR=74							
H10S2	ASCENSION HYDR	50.68	112	T		T	05 17 53.0	
	baz=288,slow=74,SNR=56							
BW06	Boulder Array	51.95	316	P		P	04 22 38.6	-0.4
PD31	Pinedale Array	51.95	316	P		P	04 22 38.5	-0.5
PDAR	Pinedale Array	51.95	316	P		P	04 22 38.0	-1.1
	comp=Z,1.3nm,0.4s,baz=115,slow=10,SNR=31							
PDAR				ScP		ScP	04 27 41.7	-0.4
	comp=Z,0.1nm,0.5s,baz=132,slow=6.2,SNR=1.7							
	comp=Z,1.3nm,0.4s							
PLCA	Paso Flores	52.91	189	P		P	04 22 45.7	-0.1
	comp=Z,5.4nm,1.1s,baz=12,slow=7.7,SNR=12							
	comp=Z,5.4nm,1.1s							
FCC	Fort Churchill	53.04	339	P		P	04 22 46.4	0.0
FFC	Flin Flon	53.48	332	P		P	04 22 49.7	-0.1
FFC				IAmb		IAmb	04 23 07.9	
	comp=Z,3.9nm,0.7s							
MDT	Midelt	55.76	58	P		P	04 23 06.5	-0.3
	comp=Z,2.7nm,0.8s,baz=319,slow=5.5,SNR=4.1							
	comp=Z,2.7nm,0.8s							
DBIC	Dimbokro	55.81	90	P		P	04 23 07.0	-0.3
	comp=Z,2.1nm,0.4s,baz=283,slow=6.2,SNR=8.5							
	comp=Z,2.1nm,0.4s							
ESDC	Sonseca Array	57.51	50	P		P	04 23 19.5	+0.4
ESBB	Sonseca Array	57.51	50	P		P	04 23 19.0	-0.1
TORD	Torodi Ar. Bea	61.33	81	P		P	04 23 45.8	+0.1
	comp=Z,1.9nm,0.5s,baz=292,slow=6.7,SNR=47							
	comp=Z,1.9nm,0.5s							
YKA	Yellowknife Ar	63.23	335	P		P	04 23 57.1	-0.4
	comp=Z,1.4nm,0.4s,baz=131,slow=8.3,SNR=44							
YKA				pP		pP	04 24 13.6	-1.0
	comp=Z,3.6nm,0.6s,baz=109,slow=7.3,SNR=17							
	comp=Z,1.4nm,0.4s							
RES	Resolute Bay	65.70	351	P		P	04 24 15.0	+1.6
RES				IAmb		IAmb	04 24 16.0	
	comp=Z,4.1nm,0.6s							
TUE	Stuetta	68.22	45	P		P	04 24 29.9	-0.4
G31M	Satah River	72.64	337	P		P	04 24 56.4	-0.1
G31M				IAmb		IAmb	04 25 15.4	
	comp=Z,3.9nm,0.7s							
DAWY	Dawson	74.34	333	P		P	04 25 07.8	+1.2
DAWY				IAmb		IAmb	04 25 26.0	
	comp=Z,4.6nm,0.9s							
EGAK	Eagle	75.16	334	P		P	04 25 12.2	+0.9
EGAK				IAmb		IAmb	04 25 30.6	
	comp=Z,9.6nm,1.1s							
D25K	Kavik River	77.38	339	P		P	04 25 24.9	+1.0
D25K				IAmb		IAmb	04 25 43.6	
	comp=Z,5.4nm,0.7s							
ILAR	Eielson Array	77.61	334	P		P	04 25 25.4	+0.1
	comp=Z,0.6nm,0.5s,baz=92,slow=4.3,SNR=25							
ILAR				pP		pP	04 25 43.1	+0.3
	comp=Z,1.0nm,0.5s,baz=87,slow=4.7,SNR=7.2							
	comp=Z,0.6nm,0.5s							
C23K	Itkillik River	78.85	339	P		P	04 25 33.2	+1.2
C23K				IAmb		IAmb	04 25 52.2	
	comp=Z,5.9nm,0.7s							
PPT	Papeete	91.92	253	LR		LR	05 01 15.2	
	comp=Z,44nm,20.7s,baz=87,slow=31							
KURBB	Kurchatov Arra	108.69	26	PKKPbc		PKKPbc	04 43 08.6	0.0
	comp=Z,0.5nm,0.7s,baz=58,slow=5.3,SNR=2.1							
MKAR	Makanchi Array	113.22	26	PKiKP		PKiKP	04 32 06.4	-0.3
	comp=Z,0.5nm,0.8s,baz=352,slow=5.8,SNR=1.7							
SONM	Songino Array	119.68	10	PKP		PKPdf	04 32 19.0	-0.2
	comp=Z,0.7nm,0.4s,baz=312,slow=1.1,SNR=7.4							
MJAR	Matsushiro Arr	128.60	340	PKP		PKPdf	04 32 35.1	-1.4
	comp=Z,1.0nm,0.3s,baz=51,slow=1.6,SNR=1.7							
XAN	Xi'an	133.52	11	PKP		PKPdf	04 32 32.8	-13
STKA	Stephens Creek	150.94	223	PKP		PKPdf	04 33 16.5	0.0
	comp=Z,1.2nm,0.5s,baz=96,slow=4.7,SNR=4.3							
STKA				PKPbc		PKiKP	04 33 23.2	+0.4
	comp=Z,7.4nm,0.6s,baz=44,slow=1.2,SNR=16							
ASAR	Alice Springs	161.35	228	PKP		PKPdf	04 33 30.6	+0.2
	comp=Z,0.8nm,0.7s,baz=126,slow=1.6,SNR=6.9							
ASAR				PKPab		PKPab	04 34 14.6	+0.1
	comp=Z,0.2nm,0.3s,baz=115,slow=3.6,SNR=1.4							
WRA	Warramunga Arr	162.95	239	PKP		PKPdf	04 33 32.2	+0.2
	comp=Z,1.2nm,0.7s,baz=92,slow=0.4,SNR=22							
WRA				PKPab		PKPab	04 34 21.9	+0.2
	comp=Z,0.3nm,0.6s,baz=116,slow=4.0,SNR=4.7							

IDC **20** 04:18:17.6±0.5, 34.62°N×23.46°E, *h0km*, *mb4.7/26, mbtmp4.7/38, ML4.6/10, MS4.1/71, Error ellipse: s-maj=12.5km s-min=10.7km az=169.0*

MOS **20** 04:18:18.3±1.0, 34.61°N×23.45°E, *h13km*, *mb5.1/47, MS4.1/16, Error ellipse: s-maj=4.4km s-min=2.3km az=94.5*

ATH **20** 04:18:18.1, 34.30°N×23.18°E, *h7km±2km*, *ML4.7/8, Error ellipse: s-maj=4.3km s-min=2.2km az=23.0*

PDG **20** 04:18:18.7±0.9, 34.49°N×23.40°E, *h18km±6km*, *ML4.9/12, Error ellipse: s-maj=3.2km s-min=1.8km az=90.0*

ISK **20** 04:18:18.3, 34.50°N×23.12°E, *h81km*, *ML4.7/19*

THE **20** 04:18:19.8, 34.37°N×23.28°E, *h10km±2km*, *ML4.6/6, Error ellipse: s-maj=3.5km s-min=1.5km az=164.0*

MED_RC **20** 04:18:19.0±0.6, 34.61°N×23.37°E, *h15km*, *MW5.0/9, Moment Tensor Solution.Mantle waves: s9,c15; Duration: 1s1 Moment tensor: Scale 10^16Nm; Mrr-0.15±.15; Mθθ-0.47±.06; Mφφ0.63±.14; Mrθ2.30±.17; Mrφ0.03±.07; Mθφ-2.36±.28; Best double couple: Mo3.34000×10^16 NP1:φs316.00000°, δ89.00000°, λ-99.00000°. NP2: φs220.00000°, δ10.00000°, λ-6.00000°. Principal axes: T 3.3000, Plg43.0000°, Azm55.0000°; N 0.0900, Plg9.0000°, Azm316.0000°; P -3.3900, Plg45.0000°, Azm217.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

BGR **20** 04:18:22.6, 34.64°N×23.79°E, *h33km*, *mb4.4, Ms3.9*

NEIC **20** 04:18:22.8±1.3, 34.70°N±0.08×23.45°E±0.07, *h26km±5km*, *mb4.9/160, Error ellipse: s-maj=11.6km s-min=8.0km az=206.0*

BEO **20** 04:18:22.0±0.5, 34.70°N×22.52°E, *h0km*, *ML4.9/7*

NAO **20** 04:18:25.2, 35.08°N×24.47°E, *h33km*, *mb4.4*

GII **20** 04:18:27.0±0.5, 34.46°N×24.02°E, *h40km*, *mb4.8/4, MD4.8/4, Mm4.9/2*

TIR **20** 04:18:40.9, 36.25°N×18.66°E, *h52km±99km*, *Ml4.6*

ISC 20 04:18:22.3±0.3, 34.62°N±0.03×23.42°E±0.03, h33km, n1023, σ1s92/971, mb4.9/187, MS4.1/71, 54C-27D, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
GVD	Gavdhos	0.60	68	Pg	Pb	04 18	34.8	+0.3
GVD				Sg	Sn	04 18	49.7	+6.7
GVD	G

AGG Agios Georgios 4.48 349 Pn **Pn** **04 19 29.1 +1.1**
AGG Agios Georgios 4.48 349 P **Pn** **04 19 29.1 +1.1**
TURN Turunc 4.48 60 Pn **Pn** **04 19 29.1 +1.2**
YER Yerkesik 4.68 56 Pn **Pn** **04 19 31.8 +1.1**
YER Yerkesik 4.68 56 P **Pn** **04 19 32.0 +1.2**
LKD2 Lefkada island 4.71 333 P **Pn** **04 19 31.9 +0.8**
baz=31
LKD2 S Sn 04 20 00.9 -24
baz=31
DALY Dalyan (Mula) 4.79 61 Pn **Pn** **04 19 33.3 +1.1**
FETY Fethiye 5.04 65 Pn **Pn** **04 19 36.5 +0.9**
AKAS Kas 5.30 71 Pn **Pn** **04 19 40.1 +0.7**
AKAS Kas 5.30 71 Pn **Pn** **04 19 39.9 +0.5**
IGT Igoumenitsa 5.49 334 P **Pn** **04 19 40.4 -1.4**
baz=21
IGT Igoumenitsa 5.49 334 P **Pn** **04 19 41.7 -0.1**
IGT pmax pmax
comp=Z,89nm,0.9s
KEK Kerkira 5.85 331 Pn **Pn** **04 19 46.6 0.0**
SRN Sarande 5.92 334 P **Pn** **04 19 45.9 -1.7**
baz=15
SRN S Sn 04 20 20.2 -34
baz=15
THE Thessaloniki 6.01 357 P **Pn** **04 19 47.4 -1.6**
baz=36
THE S **Sb** **04 21 13.1 -4.7**
baz=36
THE Thessaloniki 6.01 357 P **Pn** **04 19 50.3 +1.4**
THE pmax pmax
comp=Z,69nm,0.9s
SOH Sokhos 6.19 360 P **Pn** **04 19 52.0 +0.5**
SOH pmax pmax
comp=Z,65nm,1.8s
KBN Korca 6.35 342 **Pn** **04 19 55.1 +1.5**
KBN Korca 6.35 342 P **Pn** **04 19 53.4 -0.2**
baz=20
KBN Korca 6.35 342 P **Pn** **04 19 55.1 +1.5**
FNA Florina 6.36 346 Pn **Pn** **04 19 54.4 +0.6**
FNA Florina 6.36 346 P **Pn** **04 19 53.2 -0.6**
baz=24
FNA S **Sn** **04 21 01.8 -3.5**
baz=24
FNA AMP
comp=E,1.3nm,0.5s,baz=24
FNA Florina 6.36 346 *e*Pn **Pn** **04 19 54.2 +0.4**
FNA *e*Sn **Sn** **04 21 02.5 -2.8**
FNA Florina 6.36 346 P **Pn** **04 19 54.4 +0.6**
GRG Griva 6.38 353 P **Pn** **04 19 54.4 +0.4**
SRS Serrai 6.49 1 *e*Pn **Pn** **04 19 56.6 +1.1**
SRS Serrai 6.49 1 P **Pn** **04 19 56.3 +0.8**
SRS pmax pmax
comp=Z,112nm,0.8s
KNT Kendrikon 6.54 357 P **Pn** **04 19 57.8 +1.5**
KNT pmax pmax
comp=Z,106nm,1.3s
ALN Alexandroupoli 6.61 18 P **Pn** **04 19 58.8 +1.7**
ALN pmax pmax
comp=Z,64nm,0.7s
VLO Vlora 6.62 333 P **Pn** **04 19 57.9 +0.6**
baz=8.0
VLO S Sn 04 20 43.7 -28
baz=8.0
VLO Vlora 6.62 333 P **Pn** **04 19 58.8 +1.6**
VLO pmax pmax
comp=Z,175nm,0.7s
SCTE Santa Cesarea 6.72 326 **Pn** **04 19 57.4 -1.2**
VAY Valandovo 6.72 355 *e*Pn **Pn** **04 19 59.7 +1.0**
VAY *e*Sn **Sn** **04 21 13.4 -0.7**
VAY Valandovo 6.72 355 *i* Pn **Pn** **04 20 01.0 +2.3**
VAY *i* Sn **Sn** **04 21 13.3 -0.8**
VAY Valandovo 6.72 355 P **Pn** **04 20 01.4 +2.7**
VAY pmax pmax
comp=Z,60nm,1.1s
RDO Rodhopi 6.73 14 **Pn** **04 19 56.0 -2.8**
OHR Ohrid 6.80 343 *e*Pn **Pn** **04 20 00.6 +0.7**
OHR *e*Sn **Sn** **04 21 12.8 -3.4**
OHR Ohrid 6.80 343 *i* Pn **Pn** **04 20 00.7 +0.8**
OHR *i* Sn **Sn** **04 21 13.1 -3.1**
OHR Ohrid 6.80 343 P **Pn** **04 20 00.7 +0.8**
OHR pmax pmax
comp=Z,64nm,0.5s
MMB Musomishta 6.92 2 P **Pn** **04 20 02.3 +0.8**
CEL Celeste 7.07 303 **Pn** **04 20 02.9 -0.6**
STIP Stip 7.13 353 *i* Pn **Pn** **04 20 04.7 +0.4**
STIP *i* Sn **Sn** **04 21 23.6 -0.5**
RZN Rozhen 7.14 8 P **Pn** **04 20 05.4 +0.8**
KKB Krupnik 7.21 358 P **Pn** **04 20 05.7 +0.2**
TIR Tirane 7.28 338 ⇑P **Pn** **04 20 07.9 +1.5**
TIR Tirane 7.28 338 **Pn** **04 20 06.5 +0.2**
TIR Tirane 7.28 338 P Pn 04 20 00.1 -6.3
baz=10.0
TIR S Sn 04 20 58.7 -29
baz=10.0
TIR Tirane 7.28 338 P **Pn** **04 20 06.5 +0.2**
WDD Wied Dalam 7.38 282 Pn **Pn** **04 20 08.0 +0.3**
PHP Peshkopia 7.43 343 P **Pn** **04 20 04.5 -4.0**
baz=13
PHP S Sn 04 21 13.9 -18
baz=13
PHP Peshkopia 7.43 343 P **Pn** **04 20 08.3 -0.2**
PHP pmax pmax
comp=Z,60nm,0.9s
SKO Skopje 7.50 349 *e*Pn **Pn** **04 20 09.6 +0.2**
SKO *e*Sn **Sn** **04 21 28.7 -4.6**
SKO Skopje 7.50 349 *i* Pn **Pn** **04 20 09.2 -0.2**
SKO *i* Sn **Sn** **04 21 30.8 -2.5**
PLD Plovdiv 7.59 8 *e*Pn **Pn** **04 20 12.2 +1.6**
PLD Plovdiv 7.59 8 P **Pn** **04 20 11.6 +1.0**
PLD Plovdiv 7.59 8 P **Pn** **04 20 11.8 +1.2**
PLD pmax pmax
comp=Z,31nm,0.9s
RAFF Raffo Rosso 7.79 292 Pn **Pn** **04 20 13.5 +0.2**
VAE Valguarnera 7.83 294 Pn **Pn** **04 20 12.9 -1.0**
comp=Z,6.5nm,0.3s,baz=217,slow=18,SNR=8.8
VAE Sn **Sn** **04 21 37.1 -4.4**
comp=Z,17nm,0.3s,baz=143,slow=6.3,SNR=6.7
VAE LR LR 04 24 13.4
comp=Z,248nm,19.6s,baz=120,slow=45
comp=Z,12nm,0.4s
PRVS Prvonek 7.95 353 *e*Pn **Pn** **04 20 15.7 +0.2**
PRVS *e*Sn **Sn** **04 21 43.2 -1.1**
VTS Vitosha 7.99 359 *e*Pn **Pn** **04 20 17.5 +1.2**
VTS Vitosha 7.99 359 P **Pn** **04 20 17.4 +1.2**
ULC Ulcinj 8.03 337 ⇓*i*Pn **Pn** **04 20 15.8 -0.9**
ULC *i* Sn **Sn** **04 21 42.5 -3.8**
MATE Matera 8.03 320 ⇑P **Pn** **04 20 14.9 -1.8**
CUC Castrocucco 8.09 314 Pn **Pn** **04 20 18.8 +1.3**
CSS Mathiatis 8.16 85 **Pn** **04 20 17.4 -1.2**
CSS Mathiatis 8.16 85 Pn **Pn** **04 20 17.1 -1.4**
CSS Sn **Sn** **04 21 44.5 -5.2**
CSS Mathiatis 8.16 85 P **Pn** **04 20 18.5 0.0**
BCI Bajram Curri 8.17 342 P **Pn** **04 20 16.1 -2.4**
baz=9.0
BCI S Sn 04 21 29.2 -20
baz=9.0
DRME Dracevica, Mon 8.25 338 *e*Pn **Pn** **04 20 18.0 -1.7**
DRME Dracevica, Mon 8.25 338 ⇓*i*Pn **Pn** **04 20 18.6 -1.1**
DRME *i* Sn **Sn** **04 21 49.0 -2.7**
BARS Barje 8.28 352 *e*Pn **Pn** **04 20 20.1 0.0**
PVY Plav 8.41 342 ⇓*i*Pn **Pn** **04 20 21.6 -0.4**
PVY *i* Sn **Sn** **04 21 53.2 -2.6**
BUM Brajici-Budva 8.45 337 ⇓*i*Pn **Pn** **04 20 20.8 -1.6**
BUM *i* Sn **Sn** **04 21 53.5 -3.1**
PDG Podgorica 8.45 339 ⇓P **Pn** **04 20 22.3 -0.1**
PDG Podgorica 8.45 339 Pn **Pn** **04 20 21.1 -1.3**
PDG Podgorica 8.45 339 *e*Pn **Pn** **04 20 21.2 -1.2**
PDG *e*Sn **Sn** **04 21 50.1 -6.5**
PDG Podgorica 8.45 339 *e*Pn **Pn** **04 20 20.7 -1.7**
PDG Podgorica 8.45 339 ⇓*i*Pn **Pn** **04 20 22.1 -0.3**
PDG *i* Sn **Sn** **04 21 53.6 -3.0**
CEME Cevo 8.66 337 ⇑*i*Pn **Pn** **04 20 23.3 -2.1**
CEME *i* Sn **Sn** **04 21 58.3 -3.6**
ZAPS Zavoj 8.66 356 *e*Pn **Pn** **04 20 26.2 +0.8**
IVA Berane 8.69 343 ⇓*i*Pn **Pn** **04 20 25.2 -0.5**
IVA *i* Sn **Sn** **04 21 59.5 -3.0**
KOME Kolasin 8.77 341 ⇓*i*Pn **Pn** **04 20 26.2 -0.6**
KOME *i* Sn **Sn** **04 22 01.0 -3.5**
CLTB Caltabellotta 8.77 293 **Pn** **04 20 27.9 +1.1**
SELS Selova 8.77 349 *e*Pn **Pn** **04 20 25.3 -1.5**
SELS *e*Sn **Sn** **04 21 59.2 -5.3**
PLVB Pleven 8.81 6 ⇑P **Pn** **04 20 24.1 -3.2**
NKME Niksic 8.85 338 ⇓*i*Pn **Pn** **04 20 27.7 -0.2**
NKME *i* Sn **Sn** **04 22 03.3 -3.2**

TREB Trebinje 9.00 335 *e*Pn **Pn** **04 20 27.6 -2.4**
TREB *e*Sn Sn 04 22 00.9 -9.2
TREB Trebinje 9.00 335 *e*Pn **Pn** **04 20 27.2 -2.8**
BLKB Belogradchik 9.01 357 ⇑P **Pn** **04 20 30.4 +0.3**
SJES Sjenica 9.04 344 *e*Pn **Pn** **04 20 29.3 -1.2**
SJES *e*Sn **Sn** **04 22 04.9 -6.2**
SJES Sjenica 9.04 344 *e*Pn **Pn** **04 20 29.0 -1.5**
PRD Provadia 9.08 19 P **Pn** **04 20 29.8 -1.2**
BOVS Bovan 9.10 352 *e*Pn **Pn** **04 20 30.1 -1.2**
BRY Bratogost 9.10 337 *e*Pn **Pn** **04 20 29.0 -2.5**
BRY Bratogost 9.10 337 ⇑*i*Pn **Pn** **04 20 29.6 -1.9**
BRY *i* Sn **Sn** **04 22 09.1 -3.7**
ZAGS Zajecar 9.23 355 *e*Pn **Pn** **04 20 33.2 +0.2**
PLE Pljevlja 9.24 341 ⇑*i*Pn **Pn** **04 20 32.3 -1.1**
PLE *i* Sn **Sn** **04 22 12.3 -4.0**
UPM Unac-Piva 9.26 339 *e*Pn **Pn** **04 20 31.9 -1.8**
UPM Unac-Piva 9.26 339 ⇑*i*Pn **Pn** **04 20 32.6 -1.1**
UPM *i* Sn **Sn** **04 22 12.5 -4.3**
IVAS Ivanjica 9.30 345 *e*Pn **Pn** **04 20 31.8 -2.3**
IVAS *e*Sn **Sn** **04 22 09.8 -7.7**
SGRT San Giovanni R 9.34 322 Pn **Pn** **04 20 33.3 -1.3**
STON Ston 9.37 333 *e*Pn **Pn** **04 20 32.3 -2.7**
STON *e*Sn Sn 04 22 09.8 -9.3
STON Ston 9.37 333 *e*Pn **Pn** **04 20 32.0 -3.0**
PAOL Paolisi 9.48 315 **Pn** **04 20 36.4 -0.2**
GRUS Gruza 9.49 348 *e*Pn **Pn** **04 20 35.1 -1.5**
GRUS *e*Sn **Sn** **04 22 17.2 -4.9**
RUDO Rudo 9.52 342 *e*Pn **Pn** **04 20 34.2 -2.9**
NEVS Nevesinje 9.60 336 *e*Pn **Pn** **04 20 36.0 -2.2**
BRTR Keskin Array B 9.62 55 *ce*P **Pn** **04 20 41.4 +2.8**
BRTR pmax pmax
comp=Z,32nm,0.8s
BRTR Keskin Array B 9.62 55 Pn **Pn** **04 20 39.0 +0.4**
comp=Z,32nm,0.8s,baz=228,slow=15,SNR=6.4
BRTR LR LR 04 25 32.8
comp=Z,2µm,20.4s,baz=241,slow=45
DIVS Divibare 9.83 345 Pn **Pn** **04 20 39.3 -2.1**
DIVS Divibare 9.83 345 *e*Pn **Pn** **04 20 39.1 -2.3**
DIVS *e*Sn **Sn** **04 22 22.8 -7.8**
DIVS Divibare 9.83 345 ⇑*i*Pn **Pn** **04 20 38.8 -2.6**
TRUS Trudelj 9.87 347 *e*Pn **Pn** **04 20 39.4 -2.4**
TRUS *e*Sn **Sn** **04 22 26.8 -4.6**
KUBS Kucevo 9.87 353 *e*Pn **Pn** **04 20 40.1 -1.8**
KZIT Kziot 9.96 109 Pn **Pn** **04 20 40.6 -2.5**
KZIT Sn **Sn** **04 22 25.5 -8.3**
KZIT Kziot 9.96 109 P **Pn** **04 20 41.9 -1.2**
SLTI Sal'it 10.00 100 Pn **Pn** **04 20 42.6 -1.1**
SLTI Sal'it 10.00 100 P **Pn** **04 20 45.4 +1.7**
HAPS Han Pijesak,Bl 10.06 341 *e*Pn **Pn** **04 20 42.3 -2.3**
HAPS *e*Sn Sn 04 22 26.2 -10
HAPS Han Pijesak,Bl 10.06 341 *e*Pn **Pn** **04 20 42.1 -2.5**
MMAI Mount Meron Ar 10.10 96 Pn **Pn** **04 20 40.7 -4.4**
comp=Z,2.9nm,0.3s,baz=266,slow=11,SNR=13
MMAI Sn Sn 04 22 27.1 -10
comp=Z,2.4nm,0.3s,baz=275,slow=17,SNR=1.6
AMAZ Amatzia 10.13 104 Pn **Pn** **04 20 43.4 -2.1**
AMAZ Sn **Sn** **04 22 30.0 -7.9**
AMAZ Amatzia 10.13 104 P **Pn** **04 20 44.6 -0.9**
SALP Salfit 10.17 101 Pn **Pn** **04 20 43.7 -2.4**
SALP Sn **Sn** **04 22 31.7 -7.3**
MDVR Moldovita 10.23 353 ⇑P **Pn** **04 20 46.1 -0.8**
GEM Giv'at Ha'Em 10.28 94 Pn **Pn** **04 20 44.4 -3.1**
HERR Herculane 10.28 356 ⇑P **Pn** **04 20 47.0 -0.4**
NATI Neve Ativ 10.33 94 P **Pn** **04 20 48.7 +0.6**
YTIR Yattir 10.35 105 Pn **Pn** **04 20 46.3 -2.2**
YTIR Sn **Sn** **04 22 35.2 -8.2**
YTIR Yattir 10.35 105 P **Pn** **04 20 47.6 -0.9**
TEKS Tekeris 10.36 344 *e*Pn **Pn** **04 20 46.3 -2.3**
TEKS *e*Sn Sn 04 22 34.1 -9.4
TEKS Tekeris 10.36 344 *e*Pn **Pn** **04 20 45.3 -3.3**
HMDT Nahal Hemdat 10.39 100 Pn **Pn** **04 20 47.4 -1.6**
HMDT Sn **Sn** **04 22 37.3 -7.0**
HMDT Nahal Hemdat 10.39 100 P Pn 04 20 53.9 +4.9
QRNJ Al-Qirein 10.41 99 P **Pn** **04 20 48.5 -0.7**
UJAP Al Uja 10.43 101 P **Pn** **04 20 47.7 -1.8**
SHMJ Saham 10.46 97 P **Pn** **04 20 48.9 -1.1**
DSI Dead Sea 10.49 104 Pn **Pn** **04 20 48.1 -2.2**
DSI Dead Sea 10.49 104 P **Pn** **04 20 48.4 -1.9**
INTR Introdacqua 10.50 317 Pn **Pn** **04 20 51.8 +1.3**
TIRR Tirgusor 10.55 20 P **Pn** **04 20 50.3 -0.9**
MSBI Mazada 10.56 105 Pn **Pn** **04 20 49.1 -2.2**
HARR Harsova 10.64 18 P **Pn** **04 20 51.4 -1.0**
PRNI Paran 10.67 110 Pn **Pn** **04 20 51.1 -1.8**
PRNI Sn **Sn** **04 22 42.5 -8.7**
PRNI Paran 10.67 110 P **Pn** **04 20 51.4 -1.5**
ZFRI Zfri 10.72 109 P **Pn** **04 20 52.2 -1.3**
GHAJ Ghor Haditha 10.73 105 **Pn** **04 20 52.5 -1.2**
GHAJ Ghor Haditha 10.73 105 Pn **Pn** **04 20 52.6 -1.0**
ISR Istrita 10.76 12 P **Pn** **04 20 54.2 +0.1**
GZR Gura Zlata 10.77 358 ⇑P **Pn** **04 20 54.2 -0.1**
ARR Arges 10.78 5 ⇑P **Pn** **04 20 51.6 -2.8**
HRFI Mount Harif 10.84 112 Pn **Pn** **04 20 53.6 -1.6**
HRFI Sn **Sn** **04 22 46.7 -8.7**
MBRI Mt Berech 10.86 113 Pn **Pn** **04 20 53.5 -2.1**
MBRI Mt Berech 10.86 113 P **Pn** **04 20 53.9 -1.7**
KARJ KARJ 10.87 105 P Pn 04 20 48.7 -6.8
VOIR 10.88 6 P **Pn** **04 20 55.4 -0.3**
FRGS Fruska Gora 10.88 346 *e*Pn **Pn** **04 20 53.9 -1.8**
FRGS *e*Sn **Sn** **04 22 49.4 -6.9**
FRGS Fruska Gora 10.88 346 *e*Pn **Pn** **04 20 52.2 -3.5**
MGRS Mrkonjic Grad 10.93 335 *e*Pn **Pn** **04 20 54.6 -1.8**
EIL Elat 10.95 114 Pn **Pn** **04 20 54.3 -2.4**
EIL Elat 10.95 114 P **Pn** **04 20 55.9 -0.8**
EIL Elat 10.95 114 Pn **Pn** **04 20 54.4 -2.4**
comp=Z,1.8nm,0.3s,baz=275,slow=0.9,SNR=16
EIL Sn Sn 04 22 46.8 -11
comp=Z,1.9nm,0.3s,baz=288,slow=3.5,SNR=3.3
comp=Z,16nm,0.7s
AQBJ Aqaba 11.00 113 P **Pn** **04 20 56.7 -0.6**
MLR Muntele Rosu 11.03 9 ⇑P **Pn** **04 20 57.8 0.0**
MLR Muntele Rosu 11.03 9 Pn **Pn** **04 20 57.5 -0.3**
MLR Muntele Rosu 11.03 9 Pn **Pn** **04 20 59.0 +1.2**
comp=Z,1.6nm,0.3s,baz=284,slow=10,SNR=15
MLR LR LR 04 26 11.4
comp=Z,2µm,18.3s,baz=190,slow=43
comp=Z,6.6nm,0.5s
BZS Buzias 11.07 353 ⇑P **Pn** **04 20 57.1 -1.2**
BZS Buzias 11.07 353 *e*Pn **Pn** **04 20 57.0 -1.2**
BZS Buzias 11.07 353 P **Pn** **04 20 57.0 -1.2**
CAMP Campotosto 11.12 318 **Pn** **04 20 59.1 0.0**
SWQJ Swaqa 11.14 104 P **Pn** **04 20 58.4 -1.1**
CFR Carcaliu 11.15 18 P **Pn** **04 20 59.0 -0.3**
SURR Surduc 11.17 355 ⇑P **Pn** **04 20 59.2 -0.4**
A050A Klekovaca 11.19 334 *e*Pn **Pn** **04 20 58.0 -1.9**
BLY Banja Luka 11.19 337 *e*Pn **Pn** **04 20 57.8 -2.2**
BLY *e*Sn Sn 04 22 53.3 -11
BLY Banja Luka 11.19 337 *e*Pn **Pn** **04 20 57.0 -3.0**
NRCA Norcia 11.48 319 **Pn** **04 21 04.5 +0.5**
VRI Vrincioaia 11.51 12 P **Pn** **04 21 04.2 -0.2**
GUMA Gualdo di Mace 11.52 320 **Pn** **04 21 05.3 +0.9**
ASF Jabal al Asfar 11.53 98 P **Pn** **04 21 04.3 -0.4**
ASF Jabal al Asfar 11.53 98 Pn **Pn** **04 21 02.0 -2.7**
comp=Z,1.2nm,0.3s,baz=281,slow=8.2,SNR=13
ASF Sn **Sn** **04 23 04.7 -7.7**
comp=Z,0.5nm,0.3s,baz=349,slow=13,SNR=1.4
comp=Z,5.8nm,0.5s
PRIJ Prijedor 11.55 336 *e*Pn Pn 04 20 58.6 -6.2
KEST Kesra 11.57 280 Pn **Pn** **04 21 05.8 +0.5**
KEST Kesra 11.57 280 Pn **Pn** **04 21 04.6 -0.6**
comp=Z,0.6nm,0.3s,baz=47,slow=4.6,SNR=17
KEST Sn **Sn** **04 23 06.8 -6.5**
comp=Z,0.9nm,0.3s,baz=62,slow=24,SNR=8.6
comp=Z,11nm,0.7s
FDMO Fordimonte 11.63 319 **Pn** **04 21 06.2 +0.2**
SIRR Siria 11.71 354 ⇓P **Pn** **04 21 06.7 -0.4**
MARR Marisel-Cluj 12.05 359 ⇑P Pn 04 21 04.8 -6.9
TESR Tescani 12.13 11 ⇓P **Pn** **04 21 13.2 +0.4**
MORH Mrgy, Hungar 12.14 344 ⇓P **Pn** **04 21 11.1 -1.7**
MORH Mrgy, Hungar 12.14 344 *e*Pn **Pn** **04 21 10.0 -2.8**
MORH *e*Sn Sn 04 23 15.9 -11
VSL Villasalto 12.22 298 Pn **Pn** **04 21 14.1 0.0**
BOJS Bojanci 12.53 333 *e*Pn **Pn** **04 21 15.3 -3.0**
PTJ Puntijarka 12.62 336 P **Pn** **04 21 18.3 -1.2**
CRES Cresnjev 12.73 334 *e*Pn **Pn** **04 21 18.3 -2.7**
MILM Milestii Mici 12.95 17 ⇑P **P** **04 21 30.7 -3.3**
MILM Milestii Mici 12.95 17 P **Pn** **04 21 24.5 +0.6**
CEY Cerknica 13.05 331 *e*Pn **Pn** **04 21 22.9 -2.5**
CEY Cerknica 13.05 331 *i* Pn **Pn** **04 21 23.5 -1.9**
BURAR Bucovina Array 13.05 5 ⇓P Pn 04 21 30.3 +4.8
BURAR Bucovina Array 13.05 5 Pn **Pn** **04 21 25.7 +0.2**
BURAR Bucovina Array 13.05 5 P **Pn** **04 21 25.9 +0.4**

GROS Grobnik 13.26 335 *i* Pn **Pn** **04 21 25.4 -2.9**
BUD Budapest 13.27 347 P **Pn** **04 21 29.0 +0.7**
BUD pmax pmax
comp=Z,19nm,1.0s
TRI Trieste 13.30 329 P **Pn** **04 21 25.7 -3.0**
PSZ Piszkesteto 13.55 350 Pn **Pn** **04 21 30.6 -1.6**
PSZ Piszkesteto 13.55 350 P **Pn** **04 21 30.6 -1.6**
SOKA Soboth 13.61 335 *e*Pn **Pn** **04 21 29.9 -3.2**
comp=Z,16nm,0.9s
OBKA Obir 13.64 333 *e*Pn **Pn** **04 21 30.8 -2.7**
comp=Z,10nm,0.6s
OBKA Obir 13.64 333 *e*Pn **Pn** **04 21 29.7 -3.8**
SRO Srobarova 13.72 345 *e*PN **Pn** **04 21 34.9 +0.4**
SRO Srobarova 13.72 345 *e*SN **Sn** **04 23 59.9 -5.8**
SRO Srobarova 13.72 345 *e*P **Pn** **04 21 34.9 +0.4**
SRO *e* 04 24 00.0
VLC Villacollemand 13.85 317 P **Pn** **04 21 38.6 +2.3**
ARSA Arzberg 13.95 337 *e*Pn **Pn** **04 21 34.1 -3.5**
comp=Z,24nm,0.9s
SORM Soroca 14.00 14 ⇑P **Pn** **04 21 38.8 +0.5**
SORM Soroca 14.00 14 P **Pn** **04 21 38.1 -0.1**
KECS Kecovo 14.02 352 *e*PN **Pn** **04 21 39.0 +0.4**
KECS Kecovo 14.02 352 *e*P **Pn** **04 21 39.0 +0.4**
SOP Sopron 14.03 341 P **Pn** **04 21 40.6 +1.9**
SOP pmax pmax
comp=Z,50nm,0.7s
MYKA Terra Mystica 14.09 331 *e*Pn **Pn** **04 21 37.4 -2.3**
comp=Z,11nm,0.6s
RONA Rosalia, Austr 14.12 340 *e*Pn **Pn** **04 21 37.2 -2.7**
comp=Z,22nm,0.6s,SNR=5.3
VYHS Vyhne 14.28 348 *e*PN **Pn** **04 21 39.2 -2.9**
VYHS *e* 04 21 49.8
VYHS Vyhne 14.28 348 *e*SN Sn 04 24 08.7 -10
VYHS Vyhne 14.28 348 *e*P **Pn** **04 21 39.2 -2.9**
KOLS Kolonicke sedl 14.33 357 *e* **Pn** **04 21 45.3 +2.5**
KOLS Kolonicke sedl 14.33 357 *e*P **Pn** **04 21 45.3 +2.5**
CRVS Cervenica-Dubn 14.35 355 *e*PN **Pn** **04 21 42.4 -0.6**
CRVS Cervenica-Dubn 14.35 355 *e*P **Pn** **04 21 42.4 -0.6**
CONA Conrad Observa 14.45 339 *e*Pn **Pn** **04 21 42.4 -2.1**
comp=Z,10nm,0.7s
MODS Modra-Piesok 14.48 343 *e*PN **Pn** **04 21 41.2 -3.7**
MODS *e* 04 21 52.3
MODS Modra-Piesok 14.48 343 *e*SN **Sn** **04 24 15.4 -8.8**
MODS Modra-Piesok 14.48 343 *e*P **Pn** **04 21 41.2 -3.7**
KBA Koelnbreinsper 14.58 332 *e*Pn **Pn** **04 21 45.5 -0.8**
comp=Z,18nm,0.6s
SMOL Smolenice 14.58 344 *e*P **P** **04 21 53.5 +1.3**
ABTA Abfaltersbach 14.58 329 *e*Pn **Pn** **04 21 46.1 -1.2**
comp=Z,32nm,0.6s,SNR=8.0
ANN Anapa 14.80 42 *e*P **P** **04 21 53.6 -1.1**
ANN pmax pmax
comp=Z,83nm,0.8s
JAVC Velka Javorina 14.85 345 *e*PN **Pn** **04 21 50.1 +0.2**
STHS Stebnicka Huta 14.87 354 *e* **P** **04 21 55.8 +0.3**
STHS Stebnicka Huta 14.87 354 *e*P **P** **04 21 55.8 +0.3**
MOA Molln 14.89 335 *i* Pn **Pn** **04 21 49.6 -0.7**
comp=Z,7.1nm,0.4s,SNR=15
BIOA Bad Ischl, Aus 14.97 334 *e*Pn **Pn** **04 21 49.9 -1.7**
comp=Z,11nm,0.5s
LESA Schwarzleotal 15.12 331 *e*Pn **Pn** **04 21 51.9 -1.7**
comp=Z,41nm,0.6s
LVV L'vov 15.20 2 *e*P **P** **04 21 59.1 0.0**
LVV MLR MLR
comp=N,500nm,16.0s
LVV MLR MLR
comp=E,200nm,16.0s
LVV MLR MLR
comp=Z,800nm,16.0s
MAUC Maruska 15.30 346 *e*P **P** **04 21 59.8 -0.5**
MAUC *ex* x 04 22 02.8
MAUC AMS AMS 04 29 50.0
comp=Z,2µm,17.2s
KRUC Moravsky 15.34 342 *e*PN **Pn** **04 21 56.6 +0.3**
KRUC *e* 04 22 01.6
WTTA Wattenberg 15.43 328 *e*Pn **Pn** **04 21 57.2 -0.5**
comp=Z,22nm,1.0s
WTTA Wattenberg 15.43 328 P **Pn** **04 21 59.5 +1.9**
WTTA pmax pmax
comp=Z,29nm,0.9s
WATA Walderalm 15.51 329 *e*Pn **Pn** **04 21 58.5 -0.2**
comp=Z,12nm,0.7s
VRAC Vranov 15.52 343 ⇑P **Pn** **04 21 59.2 +0.6**
VRAC Vranov 15.52 343 *e*PN **Pn** **04 21 58.7 +0.1**
VRAC *e* 04 22 03.4
VRAC Vranov 15.52 343 Pn **Pn** **04 22 00.3 +1.7**
comp=Z,4.2nm,0.3s,baz=156,slow=11,SNR=6.3
VRAC LR LR 04 29 35.8
comp=Z,2µm,20.5s,baz=166,slow=44
comp=Z,36nm,0.5s
SQTA Sankt Quirin 15.58 328 *e*Pn **Pn** **04 21 59.2 -0.3**
comp=Z,11nm,0.5s
FETA Feichten 15.65 326 *i* Pn **Pn** **04 22 00.5 +0.1**
comp=Z,27nm,1.5s,SNR=17
OKC Ostrava-Krasne 15.69 347 *e*P **P** **04 22 02.8 -1.8**
OKC *ex* x 04 22 05.3
OKC AMS AMS 04 29 30.0
comp=Z,1µm,13.4s
OKC Ostrava-Krasne 15.69 347 *e*P **P** **04 22 02.8 -1.8**
OKC MLR MLR
comp=Z,1µm,13.4s
CKRC Cesky Krumlov 15.72 337 *e*P **Pn** **04 22 01.9 +0.7**
CKRC *ex* x 04 22 06.8
CKRC Cesky Krumlov 15.72 337 *e*P **Pn** **04 22 01.9 +0.7**
MOTA Moosalm 15.72 328 *e*Pn **Pn** **04 22 01.0 -0.4**
comp=Z,11nm,0.6s
MORC Moravsky Berou 15.75 346 ⇑P **Pn** **04 22 01.4 -0.3**
MORC Moravsky Berou 15.75 346 *e*PN **Pn** **04 22 02.7 +1.0**
MORC *e* 04 22 06.5
MORC Moravsky Berou 15.75 346 P **Pn** **04 22 01.4 -0.3**
TREC Trest 15.79 341 *e*P **Pn** **04 22 00.9 -1.3**
TREC *ex* x 04 22 06.5
TREC AMS AMS 04 29 10.0
comp=Z,2µm,19.6s
TREC Trest 15.79 341 *e*P **Pn** **04 22 00.9 -1.3**
TREC MLR MLR
comp=Z,2µm,19.6s
OJC Ojcow 15.81 351 *e*P **P** **04 22 06.4 +0.5**
OJC Ojcow 15.81 351 P **P** **04 22 06.6 +0.7**
OJC pmax pmax
comp=Z,16nm,1.3s
DAVOX Davos/Dischmat 15.88 324 Pn **Pn** **04 22 04.1 +0.7**
comp=Z,2.8nm,0.5s,baz=60,slow=13,SNR=1.7
DAVOX Sn **Sn** **04 24 48.5 -10**
comp=Z,0.7nm,0.3s,baz=142,slow=23,SNR=3.1
DAVOX LR LR 04 30 07.9
comp=Z,804nm,18.3s,baz=85,slow=45
GEC2 GERESS Array S 15.94 336 P **Pn** **04 22 04.2 +0.1**
GEC2 pmax pmax
comp=Z,45nm,0.7s
GEC2 GERESS Array S 15.94 336 *e*P **P** **04 22 09.7 +2.3**
comp=Z,33nm,0.6s,baz=144,slow=11
GERES GERESS Array B 15.94 336 Pn **Pn** **04 22 03.3 -0.8**
comp=Z,1.2nm,0.3s,baz=150,slow=14,SNR=17
GERES Sn Sn 04 24 47.9 -12
comp=Z,0.6nm,0.3s,baz=146,slow=18,SNR=2.6
GERES LR LR 04 30 00.6
comp=Z,1µm,19.6s,baz=146,slow=44
comp=Z,4.2nm,0.5s
RETA Reutte 15.98 327 *i* Pn **Pn** **04 22 04.3 -0.4**
comp=Z,13nm,0.5s,SNR=7.5
KHC Kasperske Hory 16.22 336 IAmb IAmb 04 22 13.4
comp=Z,87nm,0.6s
KHC Kasperske Hory 16.22 336 *e*P **Pn** **04 22 07.0 -0.7**
KHC *ex* x 04 22 11.7
KHC AMS AMS 04 29 40.0
comp=Z,2µm,14.4s
KHC Kasperske Hory 16.22 336 *ce*P **Pn** **04 22 07.3 -0.4**
KHC pmax pmax
comp=Z,260nm,1.0s
DAVA Damuels 16.24 325 *e*Pn **Pn** **04 22 08.0 0.0**
comp=Z,15nm,0.5s
MBDF Montbardon 16.28 313 *e*P **Pn** **04 22 09.3 +0.7**
MBDF pmax pmax
comp=Z,22nm,1.0s
ZVC Zvikov 16.30 338 *e*P **Pn** **04 22 08.6 0.0**
ZVC *ex* x 04 22 13.3
ZVC AMS AMS 04 29 40.0
comp=Z,2µm,16.3s
UBR Ueberruh 16.42 327 *e*P **P** **04 22 15.1 +2.4**
comp=Z,28nm,0.8s,baz=144,slow=11
WET Wettzell 16.47 335 P **P** **04 22 14.8 +1.5**
WET pmax pmax
comp=Z,68nm,0.7s
WET Wettzell 16.47 335 *e*P **P** **04 22 15.4 +2.2**
comp=Z,34nm,0.6s,baz=144,slow=11

BNI Bardonecchia 16.52 314 Pn **Pn** **04 22 12.2 +0.7**
BNI Bardonecchia 16.52 314 P **Pn** **04 22 12.2 +0.7**
BNI pmax pmax
comp=Z,18nm,1.5s
GOPC GO Pecny, Ondr 16.55 340 *e*P **P** **04 22 13.3 -0.8**
GOPC AMS AMS 04 29 20.0
comp=Z,2µm,22.5s
GOPC GO Pecny, Ondr 16.55 340 *e*P **P** **04 22 13.3 -0.8**
GOPC MLR MLR
comp=Z,2µm,22.5s
DPC Dobruska-Polom 16.56 344 *e*P **Pn** **04 22 12.0 +0.1**
DPC *ex* x 04 22 15.5
DPC AMS AMS 04 29 30.0
comp=Z,1µm,16.9s
DPC Dobruska-Polom 16.56 344 *e*P **Pn** **04 22 12.0 +0.1**
DPC MLR MLR
comp=Z,1µm,16.9s
KIEV Kiev 16.61 13 Pn **Pn** **04 22 09.6 -2.9**
KIEV Kiev 16.61 13 P **Pn** **04 22 09.3 -3.2**
KIEV Kiev 16.61 13 P **Pn** **04 22 09.6 -2.9**
KIEV pmax pmax
comp=Z,35nm,0.6s
AKASG Malin Array Be 16.62 13 IAmb IAmb 04 22 15.4
comp=Z,62nm,0.6s
AKASG Malin Array Be 16.62 13 Pn **Pn** **04 22 09.9 -2.8**
comp=Z,4.3nm,0.3s,baz=205,slow=10.0,SNR=62
AKASG LR LR 04 29 19.9
comp=Z,608nm,18.6s,baz=202,slow=40
comp=Z,11nm,0.5s
AKBB Malin Array Si 16.62 13 Pn **Pn** **04 22 09.9 -2.8**
AKBB Malin Array Si 16.62 13 *i* P **Pn** **04 22 10.9 -1.8**
AKBB pmax pmax
comp=Z,21nm,0.7s
PRU Pruhonice 16.68 340 *e*P **Pn** **04 22 14.2 +0.7**
PRU *ex* x 04 22 16.4
PRU AMS AMS 04 30 00.0
comp=Z,2µm,25.0s
PRU Pruhonice 16.68 340 *e*P **Pn** **04 22 14.2 +0.7**
PRU MLR MLR
comp=Z,2µm,25.0s
LPG La Plagne 16.72 315 *e*P **P** **04 22 18.2 +1.9**
LPG pmax pmax
comp=Z,5.0nm,0.6s
LPL La Plagne 16.74 316 *e*P **P** **04 22 17.6 +1.1**
LPL pmax pmax
comp=Z,6.0nm,0.6s
UPC Upice 16.77 343 *e*P **Pn** **04 22 14.9 +0.3**
UPC *ex* x 04 22 17.9
UPC AMS AMS 04 30 20.0
comp=Z,1µm,12.4s
UPC Upice 16.77 343 *e*P **Pn** **04 22 14.9 +0.3**
UPC MLR MLR
comp=Z,1µm,12.4s
PRA Prague 16.79 340 *e*P **P** **04 22 17.2 +0.5**
PRA AMS AMS 04 29 50.0
comp=Z,2µm,20.4s
PRA Prague 16.79 340 *e*P **P** **04 22 17.2 +0.5**
PRA MLR MLR
comp=Z,2µm,20.4s
CHVC Chvalec 16.84 344 *e*P **Pn** **04 22 15.3 -0.2**
CHVC *ex* x 04 22 19.4
CHVC AMS AMS 04 30 30.0
comp=Z,1µm,19.5s
CHVC Chvalec 16.84 344 *e*P **Pn** **04 22 15.3 -0.2**
CHVC MLR MLR
comp=Z,1µm,19.5s
ORIF Oris-en-Rattie 16.92 313 *e*P **P** **04 22 17.8 -0.5**
ORIF pmax pmax
comp=Z,68nm,2.2s
SENIN Lac Senin/Sane 16.93 319 Pn **Pn** **04 22 17.4 +0.6**
KSP Ksiaz 17.02 344 *e*P **P** **04 22 21.3 +2.0**
KSP Ksiaz 17.02 344 P **Pn** **04 22 18.3 +0.6**
KSP pmax pmax
comp=Z,60nm,0.9s
PVCC Panska Ves 17.16 341 *e*P **P** **04 22 21.5 +0.7**
PVCC AMS AMS 04 29 50.0
comp=Z,1µm,24.1s
PVCC Panska Ves 17.16 341 *e*P **P** **04 22 21.5 +0.7**
PVCC MLR MLR
comp=Z,1µm,24.1s
AKH Akhalkalaki 17.20 61 Pn **Pn** **04 22 19.9 -0.2**
AKH Akhalkalaki 17.20 61 P **Pn** **04 22 19.9 -0.2**
AKH pmax pmax
comp=Z,53nm,0.8s
ROTZ Rotzenmuhle 17.23 335 *e*P **P** **04 22 24.0 +2.3**
comp=Z,6.3nm,0.7s,baz=144,slow=11
SLE Schleitheim 17.24 324 P **P** **04 22 21.4 -0.4**
SLE pmax pmax
comp=Z,45nm,0.9s
NEUR Neytrino 17.28 54 *i* P **P** **04 22 22.2 -0.2**
NEUR pmax pmax
comp=Z,22nm,1.0s
RICC Richard 17.31 340 *e*P **P** **04 22 22.5 +0.1**
RICC AMS AMS 04 30 00.0
comp=Z,1µm,22.1s
SHA1 Shidzhatmaz 17.45 53 *i* P **Pn** **04 22 22.7 -0.6**
MANZ Manzenberg 17.45 335 *e*P **P** **04 22 26.1 +2.0**
comp=Z,8.2nm,0.7s,baz=144,slow=11
GRA1 Grafenberg Arr 17.53 333 Pn **P** **04 22 24.8 -0.1**
GRF Grafenberg Arr 17.53 333 P **P** **04 22 24.8 -0.1**
GRF pmax pmax
comp=Z,325nm,1.9s
GRF Grafenberg Arr 17.53 333 *e*P **P** **04 22 27.1 +2.2**
comp=Z,99nm,1.3s,baz=144,slow=11
GRF *e*L L 04 31 05.8
comp=Z,632nm,18.7s
GRFO Grafenberg 17.53 333 **P** **04 22 24.5 -0.4**
GRFO IAmb IAmb 04 22 33.4
comp=Z,265nm,1.8s
GRFO Grafenberg 17.53 333 P **P** **04 22 24.5 -0.4**
GRFO pmax pmax
comp=Z,265nm,1.8s
NKC Novy Kostel 17.55 336 *e*P **P** **04 22 25.0 -0.1**
NKC AMS AMS 04 30 30.0
comp=Z,2µm,16.1s
NKC Novy Kostel 17.55 336 *e*P **P** **04 22 25.0 -0.1**
NKC MLR MLR
comp=Z,2µm,16.1s
KIV Kislovodsk 17.56 52 **P** **04 22 25.2 -0.2**
KIV IAmb IAmb 04 22 34.4
comp=Z,82nm,0.8s
KIV Kislovodsk 17.56 52 *i* P **P** **04 22 25.0 -0.4**
SNR=7.0
KIV Kislovodsk 17.56 52 *e*P **P** **04 22 25.5 +0.1**
KIV *e*S **S** **04 25 42.8 -3.3**
KIV pmax pmax
comp=Z,93nm,1.1s
KIV MLR MLR
comp=Z,360nm,14.0s
HSKC Hora Svate Kat 17.56 339 *e*P **P** **04 22 26.9 +1.6**
HSKC AMS AMS 04 30 20.0
comp=Z,2µm,17.0s
KBZ Khabaz 17.60 53*ce*P **P** **04 22 26.2 +0.5**
KBZ pmax pmax
comp=Z,36nm,0.9s
KBZ Khabaz 17.60 53 P **P** **04 22 25.4 -0.3**
comp=Z,1.6nm,0.3s,baz=256,slow=9.6,SNR=48
KBZ LR LR 04 31 05.3
comp=Z,661nm,21.5s,baz=268,slow=44
comp=Z,34nm,0.9s
WERN Wernitzgruen 17.62 336 *e*P **P** **04 22 27.9 +2.0**
comp=Z,18nm,0.7s,baz=144,slow=11
STU Stuttgart 17.64 328 P **P** **04 22 28.5 +2.4**
STU pmax pmax
comp=Z,23nm,0.7s
STU Stuttgart 17.64 328 *e*P **P** **04 22 28.7 +2.5**
comp=Z,39nm,0.7s,baz=144,slow=11
GUNZ Gunzen 17.70 336 *e*P **P** **04 22 29.0 +2.2**
comp=Z,27nm,0.7s,baz=144,slow=11
TANN Tannenbergstha 17.70 336 *e*P **P** **04 22 28.9 +2.1**
comp=Z,15nm,0.8s,baz=144,slow=11
BFO Black Forest 17.71 325 **P** **04 22 27.2 +0.2**
BFO Black Forest 17.71 325 P **P** **04 22 27.2 +0.2**
BFO pmax pmax
comp=Z,13nm,0.7s
BFO Black Forest 17.71 325 *e*P **P** **04 22 27.9 +0.9**
comp=Z,14nm,1.2s,baz=144,slow=11
WERD Werda 17.78 336 *e*P **P** **04 22 29.9 +2.2**
comp=Z,21nm,0.7s,baz=144,slow=11
GNI Garni 17.81 66 **Pn** **04 22 27.8 0.0**
GNI Garni 17.81 66 P **P** **04 22 28.6 +0.3**
GNI Garni 17.81 66*ce*P **P** **04 22 28.6 +0.3**
GNI pmax pmax
comp=Z,47nm,1.7s
GNI Garni 17.81 66 P **Pn** **04 22 26.4 -1.3**
comp=Z,0.8nm,0.3s,baz=180,slow=4.3,SNR=3.8
GNI LR LR 04 30 40.8
comp=Z,2µm,18.4s,baz=266,slow=42
comp=Z,7.7nm,0.6s
FBE Freiberg 17.86 339 *e*P **P** **04 22 30.9 +2.4**
comp=Z,40nm,0.7s,baz=144,slow=11
PLN Plauen 17.86 336 *e*P **P** **04 22 30.7 +2.1**
comp=Z,11nm,0.8s,baz=144,slow=11
PYA1 Pyatigorsk 17.87 52 *i* P **Pn** **04 22 28.0 -0.3**
NCK Nalchik 17.97 54 *i* P **Pn** **04 22 29.2 -0.4**
NCK pmax pmax
comp=Z,34nm,0.8s
HINF Hinteralfeld 18.09 322 *e*P **Pn** **04 22 30.4 -0.6**
HINF pmax pmax
comp=Z,20nm,1.0s
MOX Moxa 18.18 335 P **P** **04 22 33.2 +1.2**
MOX pmax pmax
comp=Z,19nm,0.8s
MOX Moxa 18.18 335 *e*P **P** **04 22 33.3 +1.2**
comp=Z,14nm,0.8s,baz=144,slow=11
MOX *e*L L 04 31 19.5
comp=Z,799nm,21.7s
CDF Champ du Feu 18.28 324 *e*P **Pn** **04 22 34.5 +1.2**
CDF pmax pmax
comp=Z,12nm,0.8s
GOF Gofitskoye 18.28 49*ce*P **Pn** **04 22 34.6 +1.3**
CLL Collm 18.31 339 P **P** **04 22 32.9 -0.5**
CLL Collm 18.31 339 *e*P **P** **04 22 33.0 -0.5**
CLL ⇑*i*Pmax 04 22 34.6
comp=Z,35nm,0.6s
CLL *i* x x 04 22 36.2
CLL *i* PP **PnPn** **04 22 47.9 +2.7**
CLL *e*pPP 04 22 51.0
CLL AMS AMS 04 30 00.0
comp=Z,1µm,21.1s
CLL Collm 18.31 339 *e*P **P** **04 22 33.0 -0.5**
CLL pmax pmax
comp=Z,35nm,0.6s
CLL MLR MLR
comp=Z,1µm,21.1s
CLL Collm 18.31 339 *e*P **Pn** **04 22 35.3 +1.8**
comp=Z,34nm,0.6s,baz=144,slow=11
HAU Haudompre 18.47 322 *e*P **Pn** **04 22 35.5 -0.1**
HAU pmax pmax
comp=Z,15nm,0.6s
NEUB Neuenburg 18.60 337 *e*P **Pn** **04 22 39.3 +2.1**
comp=Z,34nm,0.7s,baz=144,slow=11
UBBA Unterbreizbach 18.90 333 *e*P **Pn** **04 22 42.1 +1.4**
comp=Z,11nm,0.7s,baz=144,slow=11
SMF Signal de Mont 19.05 315 *e*P **P** **04 22 41.8 +0.2**
SMF pmax pmax
comp=Z,5.0nm,0.7s
TNS Taunus Mts 19.05 329 P **Pn** **04 22 43.6 +0.9**
TNS pmax pmax
comp=Z,30nm,0.7s
TNS Taunus Mts 19.05 329 *e*P **Pn** **04 22 43.9 +1.3**
comp=Z,20nm,0.6s,baz=144,slow=11
RUE Ruedersdorf 19.14 342 *e*P **Pn** **04 22 45.4 +1.8**
GKP Gorka Klasztor 19.16 349 *e*P **Pn** **04 22 43.8 0.0**
CAF Calviac 19.32 309 *e*P **Pn** **04 22 46.5 +0.6**
CAF pmax pmax
comp=Z,7.0nm,0.7s
LOR Lormes 19.37 317 *e*P **Pn** **04 22 45.9 -0.6**
LOR pmax pmax
comp=Z,5.0nm,0.5s
SUW Suwalki 19.39 360 *e*P **P** **04 22 44.0 -1.3**
SUW Suwalki 19.39 360 *e*P **P** **04 22 44.9 -0.4**
SUW Suwalki 19.39 360 P **P** **04 22 44.4 -0.9**
SUW pmax pmax
comp=Z,128nm,0.9s
AVF Avril sur Loir 19.41 315 *e*P **Pn** **04 22 47.6 +0.7**
AVF pmax pmax
comp=Z,3.0nm,0.6s
SSF Saint Saulge 19.46 316 *e*P **P** **04 22 46.6 +0.4**
SSF pmax pmax
comp=Z,12nm,1.0s
GTTG Gottingen 19.51 334 *e*P **Pn** **04 22 49.3 +1.3**
comp=Z,14nm,0.8s,baz=144,slow=11
BGF Bois d'Agland 19.59 314 *e*P **Pn** **04 22 48.7 -0.3**
BGF pmax pmax
comp=Z,5.0nm,0.6s
TAM Tamanrasset 19.59 238 P **Pn** **04 22 48.9 -0.5**
TAM Tamanrasset 19.59 238 P **Pn** **04 22 48.9 -0.5**
TAM pmax pmax
comp=Z,5.0nm,0.8s
CLZ Clausthal 19.61 335 *e*P **Pn** **04 22 49.7 +0.4**
comp=Z,12nm,0.7s,baz=144,slow=11
WLF Walferdange 19.67 325 IAmb IAmb 04 23 00.1
comp=Z,85nm,1.3s
WLF Walferdange 19.67 325 *d*P **Pn** **04 22 49.4 -0.6**
WLF Walferdange 19.67 325 P **Pn** **04 22 49.4 -0.6**
WLF Walferdange 19.67 325 *e*P **Pn** **04 22 51.2 +1.2**
comp=Z,36nm,0.9s,baz=144,slow=11
FLTG Flechtingen 19.74 337 *e*P **Pn** **04 22 50.2 -0.5**
comp=Z,15nm,0.6s,baz=144,slow=11
KASTN Kahler Asten 19.82 331 *e*P **Pn** **04 22 52.5 +0.7**
comp=Z,11nm,0.7s,baz=144,slow=11
RJF Les Rejaudoux 19.83 309 *e*P **P** **04 22 51.0 +0.8**
RJF pmax pmax
comp=Z,32nm,1.6s
TCF Toulx Ste Croi 19.84 312 *e*P **Pn** **04 22 51.8 -0.2**
TCF pmax pmax
comp=Z,7.0nm,1.0s
AHRW Bad Neuenahr-A 19.88 328 *e*P **Pn** **04 22 53.6 +1.2**
comp=Z,15nm,0.6s,baz=144,slow=11
VORD Divnogorie 20.00 30 *e*P **P** **04 22 50.2 -1.7**
VORD pmax pmax
comp=Z,30nm,0.8s
ECHE Chera 20.05 291 P Pn 04 22 53.8 -0.8
MNK Minsk 20.13 8 *i* P **P** **04 22 50.9 -2.4**
comp=E,4.0nm,0.8s
MNK *i* P **P** **04 22 50.9 -2.4**
comp=N,39nm,0.8s
MNK *i* P **P** **04 22 50.9 -2.4**
comp=Z,55nm,0.8s,baz=191
MNK *i* PP **pwP** **04 23 03.1 -1.9**
MNK *i* S **S** **04 26 30.1 -7.3**
MNK *i* SS **SnSn** **04 26 58.0 +2.7**
MNK *i* LR LR 04 29 16.7
MNK *i* LRM MLR 04 31 14.1
comp=Z,292nm,15.7s
MNK *i* LRM MLR 04 31 18.6
comp=N,368nm,15.7s
MNK *i* LRM MLR 04 32 25.2
comp=E,121nm,15.9s
MNK Minsk 20.13 8 *i* P **P** **04 22 50.8 -2.4**
MNK *i* S **S** **04 26 30.1 -7.3**
MNK *i* 04 27 00.4
MNK pmax pmax
comp=N,39nm,0.8s
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK pmax pmax
comp=Z,55nm,0.8s
MNK MLR MLR
comp=Z,292nm,16.0s
MNK MLR MLR
comp=N,368nm,16.0s
MNK MLR MLR
comp=E,121nm,16.0s
VSR Storozhevoye 20.13 30 *e*P **P** **04 22 51.0 -2.4**
VSR pmax pmax
comp=Z,20nm,0.6s
LFF La Frestale 20.18 307 *e*P **P** **04 22 54.9 +0.9**
LFF pmax pmax
comp=Z,14nm,0.6s
BHOU Houvegnez 20.22 326 *d*P Pn 04 22 57.5 +1.0
NRDL Niedersach Rie 20.25 336 *e*P Pn 04 22 56.5 -0.1
comp=Z,31nm,1.2s,baz=144,slow=11
BTNL Ternell 20.33 327 *d*P Pn 04 22 57.2 -0.5
ETSF Etsaut 20.39 301 *e*P Pn 04 22 57.7 -0.9
ETSF pmax pmax
comp=Z,3.0nm,0.5s
MEM Membach 20.40 327 *d*P Pn 04 22 58.3 -0.3
NACGM Naroch 20.42 6‖*i*P **P** **04 22 55.7 -0.8**
comp=Z,111nm,0.8s,baz=189
RCHB Rochefort 20.45 325 *d*P **P** **04 22 57.5 +0.7**
BUG Bochum--Univer 20.46 330 P Pn 04 23 01.1 +1.8
BUG pmax pmax
comp=Z,30nm,1.0s
MAK Makhachkala 20.49 59 *e*P **P** **04 22 56.6 -0.8**
MAK *e*S Sn 04 26 47.7 -2.0
MAK pmax pmax
comp=Z,195nm,1.0s
MAK MLR MLR
comp=Z,137nm,15.0s
VORR Voronezh 20.50 29 *e*P **P** **04 22 55.9 -1.5**
VORR *e*S **S** **04 26 40.5 -4.3**
VORR pmax pmax
comp=Z,33nm,0.7s
VORR smax smax
comp=E,76nm,1.2s
BSTI Sart Tilman 20.58 326 *d*P Pn 04 23 00.0 -0.6
BCLA Clavier 20.59 326 *d*P Pn 04 23 00.8 0.0
GIVF Givet 20.60 324 *e*P Pn 04 22 59.8 -1.1
GIVF pmax pmax
comp=Z,13nm,0.4s
BGES Gesves 20.67 325 *d*P Pn 04 23 01.0 -0.7
CLF Chambon-Foret 20.69 317 P **P** **04 23 00.2 +0.7**
CLF IAmb IAmb 04 23 07.1
comp=Z,102nm,1.7s
RETH Rethem/Aller, 20.70 335 *e*P Pn 04 23 01.8 -0.1
comp=Z,25nm,0.8s,baz=144,slow=11
DOU Dourbes 20.71 324 *d*P **P** **04 23 00.9 +1.2**
DOU Dourbes 20.71 324 P **P** **04 23 00.1 +0.4**
BMRD Maredsous 20.76 325 *d*P Pn 04 23 01.5 -1.3
PABE Paberze 20.89 1 P **P** **04 23 00.1 -1.4**
PABE Paberze 20.89 1 *e*P **P** **04 23 00.3 -1.2**
ENIJ Nijar 20.90 284 P Pn 04 23 04.4 -0.1
ISAL Salakas 21.04 4 *e*P **P** **04 23 03.8 +0.7**
LPSR Galich'ya Gora 21.11 27 *e*P **P** **04 23 00.9 -3.1**
LPSR pmax pmax
comp=Z,80nm,0.6s
RGN Rugen 21.14 344 P **P** **04 23 04.5 +0.2**
RGN Rugen 21.14 344 *e*P **P** **04 23 04.6 +0.4**
RGN Rugen 21.14 344 *e*P **P** **04 23 05.0 +0.7**
comp=Z,192nm,0.6s,baz=144,slow=11
IZAR Zarasai 21.22 4 *e*P **P** **04 23 05.3 +0.2**
VRH Novokhopyorsk 21.22 33 *e*P **P** **04 23 03.8 -1.4**
VRH *e*S **S** **04 26 53.6 -5.6**
VRH pmax pmax
comp=Z,62nm,0.6s
VRH smax smax
comp=N,200nm,1.9s
BSD Bornholm Skovb 21.33 346 *e*P **P** **04 23 05.5 -0.8**
BSD Bornholm Skovb 21.33 346 P **P** **04 23 05.3 -1.0**
BSD pmax pmax
comp=Z,73nm,0.6s
BSD Bornholm Skovb 21.33 346 *i* P **P** **04 23 05.3 -1.0**
VSVD Vaisvydziai 21.37 1 *e*P **P** **04 23 05.6 -1.0**
BSEG Bad Segeberg 21.40 338 P **P** **04 23 07.1 0.0**
BSEG pmax pmax
comp=Z,66nm,0.9s
BSEG Bad Segeberg 21.40 338 *e*P **P** **04 23 07.9 +0.8**
comp=Z,37nm,0.8s,baz=144,slow=11
LUNU Lund 22.11 345 *i* P **P** **04 23 14.1 -0.6**
BLEU Blekinge 22.30 349 *i* P **P** **04 23 14.4 -2.3**
LDF La Druitiere 22.35 316 *e*P **P** **04 23 17.3 0.0**
LDF pmax pmax
comp=Z,18nm,0.7s
ESDC Sonseca Array 22.36 291 P **P** **04 23 18.1 +0.5**
comp=Z,6.4nm,1.0s,baz=89,slow=9.8,SNR=21
ESDC LR LR 04 33 16.4
comp=Z,186nm,20.9s,baz=96,slow=40
comp=Z,6.4nm,1.0s
OBN Obninsk 22.44 20 P **P** **04 23 18.3 +0.1**
OBN IAmb IAmb 04 23 23.1
comp=Z,42nm,0.6s
OBN Obninsk 22.44 20‖*e*P **P** **04 23 18.0 -0.2**
OBN *e* 04 23 41.6
OBN *e*S **S** **04 27 19.6 -2.8**
OBN *e*SS **SnSn** **04 27 54.7 +2.7**
OBN pmax pmax
comp=Z,142nm,1.7s
OBN MLR MLR
comp=Z,655nm,16.0s
OBN Obninsk 22.44 20 LR LR 04 32 41.5
comp=Z,706nm,19.3s,baz=183,slow=38
BJUU Bjuv 22.61 345 *i* P **P** **04 23 19.4 -0.6**
FLN La Foliniere 22.64 316 *e*P **P** **04 23 21.7 +1.3**
FLN pmax pmax
comp=Z,24nm,0.6s
PAB San Pablo 22.64 291 P **P** **04 23 21.6 +1.0**
PAB San Pablo 22.64 291 P **P** **04 23 21.6 +1.0**
PAB pmax pmax
comp=Z,41nm,1.6s
GRR Gorron 22.68 315 *e*P **P** **04 23 21.2 +0.4**
GRR pmax pmax
comp=Z,17nm,0.8s
DEL Delary 22.81 346 *e*P **P** **04 23 21.0 -1.1**
DEL Delary 22.81 346 *i* P **P** **04 23 21.0 -1.1**
SLIT Slitere, Latvi 23.03 358 *e*P **P** **04 23 24.1 -0.2**
MOS Moscow 23.28 21 *e*P **P** **04 23 25.3 -1.6**
MOS *e* 04 23 53.2
MOS *e*S **S** **04 27 34.4 -2.5**
MOS pmax pmax
comp=Z,57nm,0.7s
MDT Midelt 23.35 274 P **P** **04 23 28.3 +0.4**
comp=Z,4.2nm,0.8s,baz=84,slow=15,SNR=5.9
MDT LR LR 04 34 17.0
comp=Z,344nm,21.0s,baz=89,slow=41
comp=Z,4.2nm,0.8s
SGMF Saint Gilles 23.62 313 *e*P **P** **04 23 30.4 +0.1**
SGMF pmax pmax
comp=Z,5.0nm,0.8s
ELMS Elmsett, Ipswi 23.74 324 *e*P **P** **04 23 31.9 +0.6**
ELMS IAmb IAmb 04 23 33.4
comp=Z,60nm,0.6s
QUIF Quistinic 23.85 312 *e*P **P** **04 23 32.1 -0.4**
QUIF pmax pmax
comp=Z,69nm,1.6s
MUD Monsted U'grnd 23.91 340 P **P** **04 23 30.5 -2.4**
MUD pmax pmax
comp=Z,19nm,0.8s
VSU Vasula 23.95 4 *e*P **P** **04 23 31.6 -1.7**
ROSF Rostrenen 24.09 313 *e*P **P** **04 23 34.6 -0.1**
ROSF pmax pmax
comp=Z,91nm,1.5s
MTSE Matsula 24.11 1 *e*P **P** **04 23 32.6 -2.0**
VIKU Vikbolandet 24.31 351 *e*P **P** **04 23 36.0 -0.5**
PBRG Braganca 24.67 296 *e*P **P** **04 23 41.0 +0.9**
comp=Z,32nm,1.7s
PBAR Barrancos 24.71 287 *e*P **P** **04 23 41.0 +0.5**
comp=Z,37nm,1.7s
BELG Belogornoye 24.79 37 *i* P **P** **04 23 41.0 0.0**
BELG pmax pmax
comp=Z,18nm,0.6s
BELG Belogornoye 24.79 37 LR LR 04 34 41.8
comp=Z,185nm,18.5s,baz=198,slow=40
MVO Moncorvo 24.82 294 *e*P **P** **04 23 43.1 +1.6**
comp=Z,38nm,1.5s
PMRV Marv??o 24.99 290 *e*P **P** **04 23 44.0 +1.0**
comp=Z,29nm,1.4s
PCBR Castelo Branco 25.07 291 *e*P **P** **04 23 46.3 +2.6**
comp=Z,23nm,1.6s
STRD Stroud 25.13 321 *e*P **P** **04 23 44.9 +0.7**
STRD IAmb IAmb 04 23 47.1
comp=Z,38nm,0.7s
PESTR Estremoz 25.14 289 *e*P **P** **04 23 44.9 +0.5**
comp=Z,30nm,1.4s
CWF Charnwood Fore 25.25 323 *e*P **P** **04 23 44.9 -0.3**
CWF IAmb IAmb 04 23 47.5
comp=Z,26nm,0.5s
PBEJ Beja 25.37 287 *e*P **P** **04 23 48.6 +2.1**
comp=Z,34nm,2.2s
POLO Lamas de Olo 25.41 295 *e*P **P** **04 23 48.5 +1.6**
comp=Z,18nm,1.6s
PVIS Viseu 25.43 293 *e*P **P** **04 23 49.0 +1.9**
EVO Evora 25.47 288 *e*P **P** **04 23 48.5 +1.1**
comp=Z,34nm,1.9s
PCVE Castro Verde 25.52 286 *e*P **P** **04 23 47.6 -0.2**
comp=Z,44nm,1.2s
UPP Uppsala 25.54 353 *e*P **P** **04 23 48.1 +0.5**
PUL Pulkovo 25.57 8*ce*P **P** **04 23 49.2 +1.2**
PUL pmax pmax
comp=Z,159nm,0.6s
MEF Metsahovi 25.62 1 *e*P **P** **04 23 48.2 -0.2**
MESJ Messejana 25.66 286 *e*P **P** **04 23 53.8 +4.7**
comp=Z,33nm,1.6s
MCH1 Michaelchurch 25.69 321 *e*P **P** **04 23 50.4 +1.2**
LWR Ladybower, Pea 25.84 324 *e*P **P** **04 23 50.6 0.0**
LBWR IAmb IAmb 04 23 53.9
comp=Z,45nm,1.0s
PCAS Casmilo, Conde 25.86 292 *e*P **P** **04 23 49.4 -1.5**
comp=Z,30nm,1.4s
PNCL Nicolau / Gran 25.89 287 *e*P **P** **04 23 54.8 +3.7**
comp=Z,41nm,1.5s
STNC Stoke 25.89 323 *e*P **P** **04 23 52.0 +0.9**
STNC IAmb IAmb 04 23 54.8
comp=Z,198nm,1.7s
HLM1 Long Mynd 25.91 322 *e*P **P** **04 23 52.0 +0.8**

HLM1 IAmb IAmb 04 23 56.7
comp=Z,17nm,0.9s
PTO Porto 26.00 294 *e*P **P 04 23 54.3 +2.2**
comp=Z,66nm,1.6s
GDLE Glaisdale, N Y 26.05 327 *e*P **P 04 23 52.5 +0.1**
PTEO Sao Teotonio 26.07 286 *e*P **P 04 23 51.5 -1.3**
comp=Z,80nm,1.4s
SNART Snartemo 26.08 340 *e*P **P 04 23 54.0 +1.4**
HPK Haverah Park 26.13 325 *e*P **P 04 23 54.2 +1.0**
HPK IAmb IAmb 04 23 56.2
comp=Z,44nm,0.7s
FOEL Foel Wylfa 26.28 322 *e*P **P 04 23 55.8 +1.3**
FOEL IAmb IAmb 04 23 58.3
comp=Z,71nm,0.7s
HFS Hagfors 26.30 349 P **P 04 23 54.6 0.0**
comp=Z,36nm,0.5s,baz=147,slow=8.7,SNR=133
HFS LR LR 04 36 03.2
comp=Z,567nm,20.1s,baz=168,slow=40
comp=Z,36nm,0.5s
KONO Kongsberg 26.64 344 *e*P **P 04 23 58.6 +0.9**
OSL Oslo 26.66 346 *e*P **P 04 23 57.5 -0.4**
EDMD Edmundbyers 26.83 327 *e*P **P 04 24 00.5 +1.0**
EDMD IAmb IAmb 04 24 03.1
comp=Z,22nm,0.6s
FINES FINESS Array B 26.90 3 P **P 04 23 58.9 -1.1**
comp=Z,8.1nm,0.7s,baz=151,slow=12,SNR=25
FINES LR LR 04 36 15.2
comp=Z,1µm,18.3s,baz=190,slow=40
comp=Z,8.1nm,0.7s
KESW Keswick, Cumbr 27.20 325 *e*P **P 04 24 03.6 +0.8**
KESW IAmb IAmb 04 24 06.9
comp=Z,48nm,0.6s
BLS5 Blasjo 27.21 341 *e*P **P 04 24 05.1 +2.2**
NC602 NORSAR Array S 27.24 347 P **P 04 24 03.9 +0.8**
NC602 IAmb IAmb 04 24 07.1
comp=Z,33nm,0.7s
NC602 NORSAR Array S 27.24 347 *e*P **P 04 24 04.4 +1.3**
NAO01 NORSAR Array S 27.46 347 IAmb IAmb 04 24 11.0
comp=Z,20nm,0.8s
NC405 NORSAR Array S 27.56 348 IAmb IAmb 04 24 20.5
comp=Z,52nm,1.6s
NB201 NORSAR Array S 27.58 347 IAmb IAmb 04 24 10.2
comp=Z,19nm,0.6s
NB2 NORSAR Subarra 27.58 347 P **P 04 24 06.5 +0.3**
comp=Z,3.1nm,0.6s,baz=156,slow=9.3
NB2 NORSAR Subarra 27.58 347 P **P 04 24 06.5 +0.3**
baz=156,slow=9.3
NOA NORSAR Array B 27.58 347 P **P 04 24 06.0 -0.2**
comp=Z,4.2nm,0.5s,baz=147,slow=8.7,SNR=60
NOA LR LR 04 36 48.0
comp=Z,495nm,21.0s,baz=165,slow=40
comp=Z,4.2nm,0.5s
ODD1 Odda 27.58 342 *e*P **P 04 24 07.2 +1.0**
NBO00 NORSAR Array S 27.65 347 IAmb IAmb 04 24 47.0
comp=Z,30nm,1.2s
EKA Eskdalemuir Ar 27.68 327 P **P 04 24 07.8 +0.7**
comp=Z,28nm,0.5s,baz=125,slow=8.1,SNR=85
comp=Z,28nm,0.5s
ESK Eskdalemuir 27.69 327 *e*P **P 04 24 07.7 +0.5**
ESK IAmb IAmb 04 24 11.9
comp=Z,32nm,0.6s
ESK Eskdalemuir 27.69 327 P **P 04 24 08.0 +0.8**
ESK Eskdalemuir 27.69 327 P **P 04 24 08.0 +0.8**
ESK pmax pmax
comp=Z,32nm,0.6s
NC303 NORSAR Array S 27.73 347 IAmb IAmb 04 24 16.8
comp=Z,15nm,0.8s
NC204 NORSAR Array S 27.88 347 IAmb IAmb 04 24 47.0
comp=Z,31nm,1.2s
EDI Edinburgh 28.05 328 *e*P **P 04 24 11.1 +0.7**
GEYT Alibeck 28.07 73 P **P 04 24 10.2 -0.6**
comp=Z,3.8nm,0.5s,baz=260,slow=8.9,SNR=5.0
comp=Z,3.8nm,0.5s
KLMR Klimovskoe 28.23 17 *e*P **P 04 24 08.4 -3.5**
KLMR AMP 04 24 12.1
comp=Z,61nm,2.1s
KLMR LR LR 04 34 37.5
KLMR LRM MLR 04 36 06.6
KLMR AMP 04 36 17.2
comp=Z,643nm,13.7s
KLMR Klimovskoe 28.23 17 *e*P **P 04 24 08.3 -3.6**
KLMR pmax pmax
comp=Z,61nm,2.1s
KLMR MLR MLR
comp=Z,643nm,14.0s
INVG Invergeldie, C 28.74 328 *e*P **P 04 24 17.2 +0.7**
INVG IAmb IAmb 04 24 21.8
comp=Z,16nm,0.6s
TOA0 Torodi Ar. Sit 29.05 228 P **P 04 24 20.4 +0.8**
TOA0 IAmb IAmb 04 24 23.0
comp=Z,13nm,0.8s
TORD Torodi Ar. Bea 29.05 228 P **P 04 24 20.4 +0.8**
TORD Torodi Ar. Bea 29.05 228 P **P 04 24 20.0 +0.4**
comp=Z,11nm,0.7s,baz=34,slow=9.8,SNR=71
comp=Z,11nm,0.7s
ASUD Al Ashush, Dub 29.37 101 P **P 04 24 23.8 +1.4**
NAZ Nazwa, Dubai 29.48 100 *i*P **P 04 24 24.3 +0.9**
SNR=6.1
KIRV Kirov 29.54 28*ce*P **P 04 24 22.0 -1.5**
KIRV Kirov 29.54 28 LR LR 04 37 16.6
comp=Z,420nm,19.1s,baz=246,slow=39
HATD Hatta, Dubai 29.93 100 *i*P **P 04 24 27.8 +0.4**
SNR=6.2
ASHO Ashiyiah 29.93 100 *i*P **P 04 24 27.7 +0.2**
SNR=6.2
UOSS Minazif 29.93 100 P **P 04 24 28.4 +0.9**
UOSS IAmb IAmb 04 24 29.4
comp=Z,18nm,0.9s
UOSS Minazif 29.93 100 *i*P **P 04 24 27.5 0.0**
SNR=6.1
KPL Plockton 30.00 328 *e*P **P 04 24 28.3 +0.7**
PRGR Permogore 30.52 21 *e*P **P 04 24 29.0 -3.1**
PRGR pmax pmax
comp=Z,29nm,0.6s
ABKAR Akbulak array 30.52 50 P **P 04 24 32.2 -0.1**
SOHO SOHO 30.57 101 *i*P **P 04 24 33.4 +0.3**
SNR=7.2
NSS Namsos 30.75 350 *e*P **P 04 24 34.4 +0.3**
ARU Arti 32.34 37 P **P 04 24 47.3 -1.1**
ARU Arti 32.34 37*c i*P **P 04 24 47.2 -1.1**
ARU 04 25 51.9
ARU S **S 04 30 03.4 +3.5**
ARU SS **SnSn 04 31 51.8 -1.6**
ARU pmax pmax
comp=Z,23nm,0.6s
STOK Stokkvaagen 32.34 352 *e*P **P 04 24 47.0 -1.1**
KONS Konsvik 32.49 352 *e*P **P 04 24 49.8 +0.4**
FAUS Fauske 33.14 354 *e*P **P 04 24 54.0 -1.1**
SVE Sverdlovsk 33.55 37*ce*P **P 04 24 58.8 0.0**
SVE pmax pmax
comp=Z,78nm,0.6s
STEI Steigen 33.69 354 *e*P **P 04 24 59.2 -0.7**
KTK1 Kautokeino 34.44 360 *e*P **P 04 25 05.8 -0.7**
ARA0 ARCESS Array S 34.99 1 *e*P **P 04 25 10.0 -1.2**
ARCES ARCESS Array B 34.99 1 P **P 04 25 10.2 -1.0**
comp=Z,10nm,0.6s,baz=179,slow=8.7,SNR=57
ARCES LR LR 04 40 48.2
comp=Z,926nm,20.3s,baz=202,slow=39
comp=Z,10nm,0.6s
KK31 Karatay Array 37.23 62 IAmb IAmb 04 25 33.1
comp=Z,21nm,0.8s
KKAR Karatay Array 37.23 62 P **P 04 25 31.2 +0.5**
KKAR Karatay Array 37.23 62 IAmb IAmb 04 25 33.1
comp=Z,21nm,0.8s
KKAR Karatay Array 37.23 62 P **P 04 25 31.2 +0.5**
BRVK Borovoye 37.70 46 P **P 04 25 34.1 -0.4**
BRVK IAmb IAmb 04 25 36.1
comp=Z,10nm,0.7s
BRVK Borovoye 37.70 46*ce*P **P 04 25 34.7 +0.2**
BRVK pmax pmax
comp=Z,9.0nm,0.6s
BVAR Borovoye Array 37.76 46 P **P 04 25 35.2 +0.2**
comp=Z,6.7nm,0.6s,baz=262,slow=5.8,SNR=42
comp=Z,6.7nm,0.6s
DZA Taraz 37.84 63 *e*P **P 04 25 36.0 +0.1**
baz=63
DZA Taraz 37.84 63 *e*P **P 04 25 36.0 +0.1**
KMBO Kilima Mbogo 37.85 157 LR LR 04 41 56.2
comp=Z,267nm,20.0s,baz=72,slow=38
DBIC Dimbokro 38.12 230 P **P 04 25 38.5 +0.1**
comp=Z,6.6nm,0.6s,baz=45,slow=10,SNR=19
comp=Z,6.6nm,0.6s
TIC Toumodi 38.24 230⇑*i*P **P 04 25 39.8 +0.3**
comp=Z,14nm,0.7s
KIC Kosan Boka 38.28 229⇑*e*P **P 04 25 39.4 -0.4**
comp=Z,17nm,0.7s
LIC Lamto 38.57 229⇑*i*P **P 04 25 42.6 +0.4**
comp=Z,45nm,0.8s
BRZS Berezniki 38.80 51 *e*P **P 04 25 43.5 -0.3**
baz=51
BRZS Berezniki 38.80 51 *e*P **P 04 25 43.5 -0.3**
EKS2 Erkin-Say 39.65 63 P **P 04 25 52.3 +1.1**
SNR=15
BTLS Baital 39.67 59⇑*i*P **P 04 25 51.5 +0.4**
baz=59
BTLS Baital 39.67 59*c i*P **P 04 25 51.5 +0.4**
USP Ospenovka 40.12 62 P **P 04 25 55.6 +0.6**
SNR=5.8
AAK Ala-Archa 40.18 63 P **P 04 25 56.2 +0.6**
AAK Ala-Archa 40.18 63*ce*P **P 04 25 56.6 +1.0**
AAK pmax pmax
comp=Z,13nm,0.8s
AAK Ala-Archa 40.18 63 LR LR 04 44 53.8
comp=Z,193nm,20.8s,baz=294,slow=40
SGDS Sogindy 40.20 62 *e*P **P 04 25 56.4 +0.7**
baz=62
SGDS Sogindy 40.20 62 *e*P **P 04 25 56.3 +0.7**
JMIC Jan Mayen 40.21 344 LR LR 04 43 33.0
comp=Z,194nm,20.5s,baz=202,slow=38
CHMS Chumysh 40.33 62 P **P 04 25 57.9 +1.2**
SNR=8.1
NIL Nilore 40.92 77 P **P 04 26 02.6 +0.9**
NIL Nilore 40.92 77 P **P 04 26 02.6 +0.9**
NIL pmax pmax
comp=Z,43nm,1.0s
TKM2 Tokmak 2 40.96 62 P **P 04 26 02.9 +0.8**
SNR=20
KUU Kurty 41.39 61⇑*i*P **P 04 26 06.3 +0.8**
baz=61
KUU Kurty 41.39 61*c i*P **P 04 26 06.2 +0.8**
ULHL Ulahol 41.51 63 P **P 04 26 08.5 +1.8**
SNR=9.5
KSH Kashi 41.73 67 P **P 04 26 07.4 -1.0**
KSH sP sP 04 26 20.8 -0.1
KSH ScP **ScP 04 31 52.9 +0.7**
KSH pmax pmax
comp=Z,7.0nm,0.9s
KSH LR LR
comp=E,220nm,12.4s
CHKK Chushkaly 41.87 61 *e*P **P 04 26 09.7 +0.3**
baz=61
CHKK Chushkaly 41.87 61 *e*P **P 04 26 09.6 +0.3**
TNSS Tian-Shan 41.93 62 *e*P **P 04 26 10.4 +0.1**
baz=62
TNSS Tian-Shan 41.93 62 *e*P **P 04 26 10.4 +0.1**
MDOK Medeo 41.99 62 *e*P **P 04 26 11.3 +0.8**
baz=62
MDOK Medeo 41.99 62 *e*P **P 04 26 11.3 +0.8**
KURBB Kurchatov Arra 42.57 51 P **P 04 26 14.7 -0.2**
comp=E,18nm,0.8s,baz=279,slow=8.5,SNR=136
KURBB LR LR 04 47 15.0
comp=E,261nm,19.2s,baz=157,slow=41
comp=E,18nm,0.8s
KURK Kurchatov 42.63 50 P **P 04 26 15.3 -0.1**
KURK IAmb IAmb 04 26 16.8
comp=Z,13nm,0.8s
KURK Kurchatov 42.63 50*ce*P **P 04 26 15.1 -0.3**
KURK pmax pmax
comp=Z,12nm,0.7s
TDK Taldyqorghan 42.76 59 *e*P **P 04 26 17.4 +0.9**
baz=59
TDK Taldyqorghan 42.76 59 *e*P **P 04 26 17.4 +0.9**
SATY Saty 42.99 62⇑*i*P **P 04 26 19.5 +0.9**
comp=Z,6.3nm,0.5s,baz=62
SATY Saty 42.99 62*c i*P **P 04 26 19.4 +0.9**
SATY pmax pmax
comp=Z,6.0nm,0.5s
ZHN Zhinishke 42.99 62 *e*P **P 04 26 18.3 -0.3**
KPKS Kokpek 43.13 61 *e*P **P 04 26 19.4 -0.3**
baz=61
KPKS Kokpek 43.13 61 *e*P **P 04 26 19.4 -0.3**
SCO Scoresbysund 43.33 340 *i*P **P 04 26 20.3 -0.5**
SCO IAmb IAmb 04 26 24.1
comp=Z,7.0nm,0.7s
UZB Uzunbulak 43.42 61 *e*P **P 04 26 22.3 +0.2**
baz=62
UZB Uzunbulak 43.42 61 *e*P **P 04 26 22.3 +0.2**
SEM Semipalatinsk 43.67 51 *e*P **P 04 26 24.6 +0.5**
baz=51
SEM Semipalatinsk 43.67 51 *e*P **P 04 26 24.6 +0.5**
SHLS Shalkode 43.74 61 *e*P **P 04 26 27.5 +2.8**
comp=Z,4.2nm,0.6s,baz=61
SHLS Shalkode 43.74 61 *e*P **P 04 26 27.4 +2.8**
SHLS pmax pmax
comp=Z,4.0nm,0.6s
SPITS Spitsbergen Ar 43.77 358 P **P 04 26 24.4 +0.2**
comp=Z,13nm,0.8s,baz=148,slow=14,SNR=2.2
SPITS LR LR 04 46 48.5
comp=Z,496nm,18.6s,baz=144,slow=39
comp=Z,13nm,0.8s
KBS Kingsbay 44.67 357 *i*P **P 04 26 32.5 +1.0**
DBG Daneborg 45.04 345 *i*P **P 04 26 35.2 +0.8**
DBG IAmb IAmb 04 26 58.2
comp=Z,2.3nm,0.8s
MAKZ Makanchi 45.05 56 P **P 04 26 34.7 -0.2**
MAKZ IAmb IAmb 04 26 36.0
comp=Z,14nm,0.6s
MAKZ Makanchi 45.05 56 P **P 04 26 34.7 -0.2**
MAKZ pmax pmax
comp=Z,14nm,0.6s
MK31 Makanchi Array 45.27 56 P **P 04 26 36.9 +0.2**
MK31 Makanchi Array 45.27 56*ce*P **P 04 26 37.0 +0.3**
MKAR Makanchi Array 45.27 56 P **P 04 26 37.0 +0.3**
comp=Z,32nm,0.6s,baz=270,slow=8.0,SNR=252
MKAR PcP **PcP 04 28 16.2 +0.1**
comp=Z,2.9nm,0.7s,baz=259,slow=4.3,SNR=1.7
MKAR LR LR 04 49 29.4
comp=Z,172nm,19.6s,baz=280,slow=41
comp=Z,32nm,0.6s
DAG Danmarks Havn 46.27 348 *i*P **P 04 26 44.0 -0.1**
DAG IAmb IAmb 04 26 45.9
comp=Z,8.6nm,0.5s
ZAA0 Zalesovo Array 46.41 46 IAmb IAmb 04 26 45.6
comp=Z,14nm,0.6s
ZALV Zalesovo Beam 46.41 46 P **P 04 26 44.8 -0.7**
comp=Z,15nm,0.5s,baz=268,slow=8.8,SNR=58
ZALV LR LR 04 50 17.8
comp=Z,131nm,19.0s,baz=262,slow=41
comp=Z,15nm,0.5s
ZSN Zaisan 46.93 55 *e*P **P 04 26 50.1 +0.3**
comp=Z,3.8nm,0.5s,baz=55
ZSN Zaisan 46.93 55 *e*P **P 04 26 50.0 +0.3**
ZSN pmax pmax
comp=Z,4.0nm,0.5s
DGZ Jazzator, Alta 48.34 51*c i*P **P 04 27 00.5 -0.3**
DGZ pmax pmax
comp=Z,6.0nm,0.6s
ICESG Greenland Ices 48.55 335 *i*P **P 04 27 03.7 +1.3**
ICESG IAmb IAmb 04 27 06.2
comp=Z,6.6nm,0.6s
SUMG Summit 48.97 339 P **P 04 27 06.0 +0.4**
SUMG IAmb IAmb 04 28 31.6
comp=Z,7.0nm,0.8s
SUMG Summit 48.97 339 P **P 04 27 06.0 +0.4**
SUMG pmax pmax
comp=Z,7.0nm,0.8s
SUMG Summit 48.97 339 *i*P **P 04 27 06.0 +0.4**
WMQ Urumqi 49.51 59 *e*P **P 04 27 10.9 +1.1**
WMQ pP pP 04 27 17.6 -1.2
WMQ pmax pmax
comp=Z,32nm,0.7s
WMQ LR LR
comp=E,450nm,20.9s
WMQ LR LR
comp=Z,160nm,27.7s
LSZ Lusaka 49.83 174 LR LR 04 50 38.3
comp=Z,161nm,19.3s,baz=359,slow=39
NRS Narsarsuaq 50.28 324 *i*P **P 04 27 16.2 +1.0**
NRS IAmb IAmb 04 27 42.6
comp=Z,11nm,0.8s
PYUN Piuthan 50.66 80 *e*P **P 04 27 19.5 +0.7**
comp=Z,104nm,0.6s
DY2G Dye2 50.73 331 *i*P **P 04 27 19.9 +1.0**
DY2G IAmb IAmb 04 27 21.9
comp=Z,19nm,0.7s
DANN Dangsing 51.19 79 *e*P **P 04 27 23.7 +0.8**
comp=Z,188nm,0.7s
KOLN Koldanda 51.28 80 *e*P **P 04 27 23.4 -0.1**
comp=Z,46nm,0.8s
GKN Gorkha 52.03 79 *e*P **P 04 27 29.2 +0.1**
comp=Z,75nm,0.7s
SFJD Kangerlussuaq 52.47 332 LR LR 04 51 25.5
comp=Z,204nm,19.7s,baz=88,slow=38
DMN Daman 52.57 80 *e*P **P 04 27 33.4 +0.2**
comp=Z,93nm,0.7s
KKN Kakani 52.64 79 *e*P **P 04 27 33.7 0.0**
comp=Z,68nm,0.7s
PKIN Phulchoki 52.82 80 *e*P **P 04 27 35.1 0.0**
comp=Z,59nm,0.7s
PKI Pulchoki 52.83 80 *e*P **P 04 27 35.2 0.0**
comp=Z,64nm,0.7s
NUUK Nuuk 53.06 328 *i*P **P 04 27 37.4 +1.5**
NUUK IAmb IAmb 04 27 44.8
comp=Z,6.6nm,0.7s
GUN Gumba 53.08 79 *e*P **P 04 27 37.2 +0.2**
comp=Z,61nm,0.7s
NEEM North Greenlan 53.12 345 *i*P **P 04 27 37.0 +0.4**
NEEM IAmb IAmb 04 27 38.4
comp=Z,15nm,0.6s
JIRN Jiri 53.43 79 *e*P **P 04 27 39.8 +0.1**
comp=Z,56nm,0.8s
TSUM Tsumeb 53.81 187 LR LR 04 53 54.1
comp=Z,449nm,18.2s,baz=348,slow=40
RAMN Ramite 54.05 80 *e*P **P 04 27 43.8 -0.3**
UPNV Upernavik 54.24 339 *i*P **P 04 27 44.9 +0.4**
UPNV IAmb IAmb 04 27 46.3
comp=Z,8.5nm,0.6s
MOY Mondy 56.43 47 *e*P **P 04 28 01.6 +0.9**
LSA Lhasa 56.59 75 IAmb IAmb 04 28 21.7
comp=Z,11nm,0.7s
GOMU GeÉrMu 56.95 66 P **P 04 28 05.6 +0.6**
GOMU sP PcP 04 28 51.8 -8.3
GOMU pmax pmax
comp=Z,5.0nm,0.8s
OPO Ambohidratompo 57.53 153 LR LR 04 52 25.0
comp=Z,129nm,21.7s,baz=175,slow=36
ZAK Zakamensk 58.17 48 *e*P **P 04 28 12.9 -0.1**
ZAK pmax pmax
comp=Z,11nm,0.9s
PALK Pallekele 59.12 103 LR LR 04 56 53.8
comp=Z,117nm,20.5s,baz=49,slow=39
LBTB Lobatse 59.34 178 LR LR 04 56 08.1
comp=Z,116nm,18.1s,baz=2.5,slow=38
GTA Gaotai 59.48 61 *e*P **P 04 28 22.6 +0.3**
GTA sP pwP 04 28 36.5 +1.2
GTA pmax pmax
comp=Z,10.0nm,0.9s
GTA LR LR
comp=N,120nm,17.1s
GTA LR LR
comp=E,160nm,17.4s
GTA LR LR
comp=Z,210nm,17.8s
FRB Frobisher Bay 60.40 329 LR LR 04 56 41.3
comp=Z,160nm,19.1s,baz=32,slow=38
SONM Songino Array 60.93 50 P **P 04 28 32.7 +0.6**
SONM Songino Array 60.93 50 P **P 04 28 32.7 +0.6**
SONM pmax pmax
comp=Z,14nm,0.6s
SONM Songino Array 60.93 50 P **P 04 28 32.4 +0.3**
comp=Z,13nm,0.6s,baz=284,slow=7.7,SNR=118
SONM LR LR 04 59 47.3
comp=Z,148nm,18.1s,baz=309,slow=41
comp=Z,13nm,0.6s
ULN Ulaanbaatar 61.34 50 P **P 04 28 35.5 +0.5**
ULN Ulaanbaatar 61.34 50*ce*P **P 04 28 35.4 +0.5**
ULN pmax pmax
comp=Z,13nm,0.7s
BOD Bodaibo 61.76 37 *e*P **P 04 28 36.5 -0.8**
BOD pmax pmax
comp=Z,12nm,1.8s
TIXI Tiksi 62.17 20 LR LR 04 58 47.3
comp=Z,15nm,19.9s,baz=343,slow=39
SCHQ Schefferville 62.66 319 P **P 04 28 44.3 +0.8**
comp=Z,6.6nm,0.6s,baz=58,slow=6.9,SNR=7.2
SCHQ LR LR 04 56 39.2
comp=Z,111nm,18.5s,baz=74,slow=37
comp=Z,6.6nm,0.6s
BOSA Boshof 62.91 178 P **P 04 28 46.0 +0.6**
comp=Z,1.9nm,0.6s,baz=353,slow=4.0,SNR=5.7
BOSA LR LR 04 57 36.4
comp=Z,222nm,21.6s,baz=0.0,slow=38
comp=Z,1.9nm,0.6s
LZH Lanzhou 63.72 63⇑P **P 04 28 52.0 +1.0**
LZH sP sP 04 29 02.3 -1.5
LZH pmax pmax
comp=Z,42nm,1.4s
RES Resolute Bay 63.82 345 P **P 04 28 52.1 +1.4**
RES IAmb IAmb 04 28 53.2
comp=Z,6.1nm,0.7s
RES Resolute Bay 63.82 345 P **P 04 28 52.1 +1.4**
RES pmax pmax
comp=Z,6.0nm,0.7s
RES Resolute Bay 63.82 345 LR LR 04 59 24.8
comp=Z,112nm,18.0s,baz=15,slow=39
CD2 Chengdu 65.92 68 P **P 04 29 06.1 +0.8**
CD2 pmax pmax
comp=Z,60nm,0.6s
PZH PanZhiHua 66.39 73 P **P 04 29 08.6 +0.2**
PZH pmax pmax
comp=Z,50nm,0.7s
PZH pmax pmax
comp=Z,180nm,5.3s
SUR Sutherland 66.69 182 LR LR 05 00 31.7
comp=Z,289nm,20.2s,baz=1.0,slow=38
YAK Yakutsk 67.06 29 *e*P **P 04 29 11.7 -0.2**
YAK pmax pmax
comp=Z,12nm,0.8s
YAK Yakutsk 67.06 29 LR LR 05 00 38.0
comp=Z,5.4nm,21.4s,baz=303,slow=38
HHC Hu-ho-hao-te 67.13 55 *e*P **P 04 29 13.8 +0.9**
HHC pmax pmax
comp=Z,41nm,0.6s
HHC pmax pmax
comp=Z,210nm,5.1s
KMI Kunming 67.83 74⇓P **P 04 29 18.3 +0.5**
KMI pmax pmax
comp=Z,21nm,0.8s
CHTO Chiang Mai 67.88 82 P **P 04 29 18.3 +0.4**
CHTO IAmb IAmb 04 29 26.8
comp=Z,9.3nm,0.9s
CHTO Chiang Mai 67.88 82 P **P 04 29 18.3 +0.4**
CHTO pmax pmax
comp=Z,9.0nm,1.0s
CMAR Chiang Mai Arr 68.06 82 P **P 04 29 19.5 +0.5**
comp=Z,5.4nm,0.8s,baz=301,slow=8.2,SNR=22
CMAR LR LR 05 05 23.4
comp=Z,73nm,18.6s,baz=295,slow=42
comp=Z,5.4nm,0.8s
XAN Xi'an 68.36 63⇑P **P 04 29 21.0 +0.3**
XAN pP pP 04 29 26.6 -3.4
XAN pmax pmax
comp=Z,14nm,0.7s
XAN pmax pmax
comp=Z,300nm,4.6s
HIA Hailar 68.42 44 IAmb IAmb 04 29 22.4
comp=Z,14nm,0.9s
HIA Hailar 68.42 44 *i*P **P 04 29 21.6 +0.8**
HIA pmax pmax
comp=Z,14nm,0.9s
GYA Guiyang 70.27 71⇓*i*P **P 04 29 33.1 +0.4**
GYA pmax pmax
comp=Z,19nm,0.8s
BJI Beijing 70.62 54 P **P 04 29 34.8 +0.4**
BJI PcP **PcP 04 29 54.3 -1.1**
A36M Sachs Harbour 71.44 350 P **P 04 29 40.0 +1.2**
baz=27
HEH HeiHe 72.21 41 *e*P **P 04 29 44.0 +0.1**
HEH pmax pmax
comp=Z,28nm,0.8s
FCC Fort Churchill 73.49 331 IAmb IAmb 04 30 10.1
comp=Z,38nm,2.0s
C36M Paulatuk 73.62 349 P **P 04 29 52.6 +0.7**
baz=28,SNR=8.8
BILL Bilibino 73.94 14 *i*P **P 04 29 53.6 -0.2**
A21K Barrow 74.36 0 P **P 04 29 57.1 +1.0**
baz=360
SADO Sadowa 74.38 314 LR LR 05 02 10.5
comp=Z,55nm,20.9s,baz=117,slow=35
SEY Seymchan 74.60 22*ce*P **P 04 29 58.8 +1.1**
SEY pmax pmax
comp=Z,26nm,2.5s
SEY Seymchan 74.60 22 LR LR 05 05 37.6
comp=Z,164nm,21.8s,baz=323,slow=38
BNX BinXian 74.69 45⇑P **P 04 29 58.5 -0.1**
BNX pmax pmax
comp=Z,15nm,0.7s
BNX pmax pmax
comp=Z,100nm,7.1s

KLR	Kul'dur	75.11	40	*ce*P	P	04 30 01.8	+0.9
KLR	comp=Z,7.0nm,0.7s			pmax	pmax		
KLR	Kul'dur	75.11	40	LR	LR	05 09 26.8	
	comp=Z,76nm,18.4s,baz=308,slow=41						
B22K	Teshekpuk Lake	75.32	359	IAmb	IAmb	04 30 04.5	
	comp=Z,12nm,0.8s						
B22K	Teshekpuk Lake	75.32	359	P	P	04 30 03.4	+1.7
	baz=2.7						
C26K	Camden Bay	75.42	356	P	P	04 30 03.8	+1.5
	baz=9.9						
D28M	Stokes Point	75.53	354	P	P	04 30 04.1	+1.2
	baz=15						
MDP	Montagnes des	75.65	266	LR	LR	05 01 00.7	
	comp=Z,53nm,21.7s,baz=28,slow=34						
B20K	Meade River	75.68	0	P	P	04 30 05.7	+1.9
	baz=360						
C23K	Itkillik River	75.76	358	IAmb	IAmb	04 30 07.8	
	comp=Z,13nm,0.7s						
C23K	Itkillik River	75.76	358	P	P	04 30 06.2	+1.9
	baz=5.0						
D27M	Malcolm River	75.81	354	P	P	04 30 06.6	+1.9
	baz=13						
C24K	Franklin Bluff	75.81	357	P	P	04 30 06.6	+2.1
	baz=6.7						
INK	Inuvik	75.94	351	P	P	04 30 06.1	+0.8
	baz=19,SNR=5.4						
INK	Inuvik	75.94	351	LR	LR	05 05 38.5	
	comp=Z,73nm,20.8s,baz=4.0,slow=37						
B21K	Ikpikpuk River	76.06	359	IAmb	IAmb	04 30 08.9	
	comp=Z,11nm,0.8s						
B21K	Ikpikpuk River	76.06	359	P	P	04 30 07.7	+1.7
	baz=1.6						
D25K	Kavik River	76.09	356	P	P	04 30 07.8	+1.5
	baz=8.6,SNR=5.5						
B18K	Kokolik River	76.25	2	P	P	04 30 09.2	+2.1
	baz=356,SNR=5.7						
E28M	Babbage River	76.31	354	IAmb	IAmb	04 30 09.7	
	comp=Z,5.8nm,0.7s						
E28M	Babbage River	76.31	354	P	P	04 30 08.8	+1.3
	baz=14						
E29M	Blow River	76.36	353	P	P	04 30 09.1	+1.4
	baz=16,SNR=46						
D24K	Happy Valley	76.38	357	P	P	04 30 09.2	+1.4
	baz=6.5						
C21K	Knifeblade Rid	76.52	359	P	P	04 30 10.6	+1.9
	baz=1.5						
C19K	Lookout Ridge	76.56	1	P	P	04 30 10.6	+1.7
	baz=357						
MA2	Magadan	76.58	25	P	P	04 30 09.9	+0.8
MA2	Magadan	76.58	25	*ce*P	P	04 30 10.2	+1.1
MA2	comp=Z,19nm,0.8s			pmax	pmax		
MA2	Magadan	76.58	25	LR	LR	05 07 57.9	
	comp=Z,124nm,18.4s,baz=316,slow=39						
MDJ	Mudanjiang	76.60	45	P	P	04 30 09.4	-0.1
MDJ				pP	pwP	04 30 26.4	+3.5
MDJ				PP	PP	04 33 02.6	+1.2
MDJ				S	S	04 39 50.8	-2.7
MDJ	Mudanjiang	76.60	45	SS	SS	04 44 38.4	-10
MDJ	comp=Z,11nm,2.0s			pmax	pmax		
MDJ	comp=Z,140nm,4.4s			pmax	pmax		
D23K	Nanushuk River	76.63	358	P	P	04 30 11.4	+2.1
	baz=5.0						
D22K	Ayikyak River	76.77	359	IAmb	IAmb	04 31 21.9	
	comp=Z,18nm,1.4s						
D22K	Ayikyak River	76.77	359	P	P	04 30 11.7	+1.6
	baz=3.3						
F31M	Tsiigehtchic	76.79	351	P	P	04 30 11.1	+1.0
	baz=19,SNR=18						
F30M	Barrier River	76.88	352	P	P	04 30 12.0	+1.3
	baz=17,SNR=8.4						
E27K	Coleen River	76.89	354	IAmb	IAmb	04 30 14.5	
	comp=Z,22nm,1.8s						
E27K	Coleen River	76.89	354	P	P	04 30 12.3	+1.5
	baz=13						
TOLK	Toolik Lake Re	76.92	357	P	P	04 30 12.4	+1.5
	baz=5.9						
D20K	Etivluk River	76.98	0	P	P	04 30 12.7	+1.4
	baz=360						
C18K	Utukok River	76.99	2	P	P	04 30 12.7	+1.3
C18K	Utukok River	76.99	2	P	P	04 30 12.3	+1.0
	baz=356						
C17K	DeLong Mountai	77.10	2	P	P	04 30 13.0	+1.0
	baz=354						
D19K	Kuna River	77.19	1	IAmb	IAmb	04 30 14.8	
	comp=Z,8.6nm,0.8s						
D19K	Kuna River	77.19	1	P	P	04 30 13.5	+1.0
	baz=359						
E21K	Killik River	77.23	359	IAmb	IAmb	04 30 15.3	
	comp=Z,8.9nm,0.8s						
E21K	Killik River	77.23	359	P	P	04 30 13.7	+1.0
	baz=2.2						
E25K	Arctic Village	77.24	356	IAmb	IAmb	04 30 15.4	
	comp=Z,6.1nm,0.7s						
E25K	Arctic Village	77.24	356	P	P	04 30 14.1	+1.3
	baz=9.3,SNR=8.5						
F28M	Old Crow	77.30	354	P	P	04 30 14.1	+1.0
	baz=14,SNR=6.8						
G31M	Satah River	77.35	351	P	P	04 30 13.8	+0.5
	baz=19,SNR=13						
E20K	Nigu River	77.44	360	P	P	04 30 15.2	+1.3
	baz=0.3						
E24K	Your Creek	77.44	357	IAmb	IAmb	04 30 16.5	
	comp=Z,5.7nm,0.7s						
E24K	Your Creek	77.44	357	P	P	04 30 15.1	+1.2
	baz=6.8						
E22K	Anaktuvuk Pass	77.50	358	IAmb	IAmb	04 30 16.4	
	comp=Z,8.3nm,0.7s						
E22K	Anaktuvuk Pass	77.50	358	P	P	04 30 15.5	+1.3
	baz=4.0						
E23K	Chandalar	77.50	357	P	P	04 30 16.0	+1.7
	baz=5.8,SNR=8.5						
YKA	Yellowknife Ar	77.51	341	P	P	04 30 15.2	+0.9
	comp=Z,1.6nm,0.6s,baz=31,slow=5.4,SNR=31						
YKA	comp=Z,88nm,18.6s,baz=94,slow=38			LR	LR	05 07 04.1	
	comp=Z,1.6nm,0.6s						
G30M	tAoh Zrail Nji	77.53	352	IAmb	IAmb	04 30 25.6	
	comp=Z,8.5nm,0.6s						
G30M	tAoh Zrail Nji	77.53	352	P	P	04 30 15.5	+1.0
	baz=17						
F26K	Sheenjek River	77.57	355	P	P	04 30 16.4	+1.8
	baz=10						
F25K	Christian Rive	77.77	356	P	P	04 30 17.7	+2.0
	baz=9.2,SNR=5.8						
G29M	Pine Creek	77.80	353	P	P	04 30 17.0	+1.1
	baz=16						
F24K	Squaw Lake	77.97	357	IAmb	IAmb	04 30 20.1	
	comp=Z,11nm,0.7s						
F24K	Squaw Lake	77.97	357	P	P	04 30 18.9	+2.1
	baz=7.3						
F22K	John River	78.14	358	P	P	04 30 19.7	+2.0
	baz=3.7						
EPYK	Eagle Plains	78.18	352	IAmb	IAmb	04 30 19.6	
	comp=Z,8.0nm,0.7s						
EPYK	Eagle Plains	78.18	352	P	P	04 30 18.5	+0.5
	baz=17,SNR=7.6						
E18K	Tukpahlearik C	78.23	2	P	P	04 30 19.3	+1.1
	baz=357						
USA0B	Ussuriysk Arra	78.23	44	*i* P	P	04 30 18.7	+0.1
USRK	Ussuriysk Ar.	78.23	44	P	P	04 30 18.8	+0.1
	comp=Z,16nm,0.6s,baz=291,slow=4.8,SNR=45						
USRK	comp=Z,93nm,19.3s,baz=319,slow=39			LR	LR	05 09 38.7	
	comp=Z,16nm,0.6s						
E19K	Redstone River	78.24	0	P	P	04 30 19.6	+1.4
E19K	comp=Z,13nm,0.8s			IAmb	IAmb	04 30 20.5	
E19K	Redstone River	78.24	0	P	P	04 30 19.7	+1.4
	baz=359						
G27K	Doyon Strip	78.25	354	IAmb	IAmb	04 30 20.9	
	comp=Z,5.6nm,0.6s						
G27K	Doyon Strip	78.25	354	P	P	04 30 20.1	+1.7
	baz=12,SNR=9.5						
G26K	Porcupine Rive	78.28	355	P	P	04 30 20.5	+2.0
	baz=11						
COLD	Coldfoot	78.36	357	P	P	04 30 20.1	+1.2
	baz=5.3,SNR=6.8						
H31M	Peel River	78.42	351	IAmb	IAmb	04 30 40.9	
	comp=Z,6.8nm,0.8s						
H31M	Peel River	78.42	351	P	P	04 30 19.8	+0.5
	baz=18						
F21K	Alatna River	78.45	359	IAmb	IAmb	04 30 55.6	
	comp=Z,11nm,1.1s						
F21K	Alatna River	78.45	359	P	P	04 30 21.1	+1.6
	baz=2.6						
H29M	Whitestone	78.51	353	IAmb	IAmb	04 30 21.6	
	comp=Z,8.2nm,0.7s						
H29M	Whitestone	78.51	353	P	P	04 30 20.7	+0.9
	baz=15						
G25K	Bearman Lake	78.62	356	P	P	04 30 22.6	+2.3
	baz=8.8						
F20K	Avaraart Lake	78.65	360	P	P	04 30 22.1	+1.6
	baz=0.7						
FYU	Fort Yukon	78.76	355	IAmb	IAmb	04 30 34.5	
	comp=Z,27nm,1.4s						
G24K	Hadweenzic Riv	78.76	356	P	P	04 30 22.8	+1.6
	baz=7.6						
H27K	Steamboat Moun	78.80	354	P	P	04 30 23.1	+1.6
	baz=13,SNR=7.3						
F19K	Shaleruckik Mo	78.86	0	IAmb	IAmb	04 30 58.6	
	comp=Z,16nm,1.4s						
F19K	Shaleruckik Mo	78.86	0	P	P	04 30 22.4	+0.7
	baz=359						
G23K	Bananza Creek	78.86	357	P	P	04 30 23.4	+1.6
	baz=5.5						
WRGLY	Wrigley	78.96	345	IAmb	IAmb	04 30 24.9	
	comp=Z,12nm,0.7s						
WRGLY	Wrigley	78.96	345	P	P	04 30 24.1	+1.8
	baz=27						
G21K	Allakaket	79.16	359	P	P	04 30 24.7	+1.3
	baz=2.5						
I30M	Mount Dempster	79.24	351	IAmb	IAmb	04 30 25.9	
	comp=Z,9.4nm,0.6s						
I30M	Mount Dempster	79.24	351	P	P	04 30 24.6	+0.6
	baz=17						
I29M	Ogilvie Camp,	79.33	352	IAmb	IAmb	04 30 26.1	
	comp=Z,6.3nm,0.7s						
I29M	Ogilvie Camp,	79.33	352	P	P	04 30 25.5	+1.2
	baz=15,SNR=9.9						
I28M	Miner Creek	79.42	353	IAmb	IAmb	04 30 51.9	
	comp=Z,22nm,1.8s						
I28M	Miner Creek	79.42	353	P	P	04 30 25.7	+0.7
	baz=14						
FFC	Flin Flon	79.42	331	P	P	04 30 26.3	+1.3
FFC	Flin Flon	79.42	331	P	P	04 30 26.3	+1.3
FFC	comp=Z,5.0nm,0.7s			pmax	pmax		
I27K	Kandik River	79.43	354	P	P	04 30 25.8	+0.9
	baz=12						
G19K	Purcell Mounta	79.56	0	P	P	04 30 27.2	+1.6
	baz=360						
H24K	Noodor Dome	79.64	356	P	P	04 30 27.3	+1.2
	baz=7.2						
H22K	Ishtalitna Cre	79.73	358	P	P	04 30 28.2	+1.7
	baz=4.3						
KSRS	Korea Array	79.75	52	P	P	04 30 27.7	+0.7
	comp=Z,10.0nm,0.7s,baz=306,slow=5.2,SNR=31						
KSRS	comp=Z,179nm,19.1s,baz=315,slow=40			LR	LR	05 10 47.9	
	comp=Z,10.0nm,0.7s						
G18K	Tagagawik	79.80	1	P	P	04 30 28.1	+1.2
	baz=358						
I26K	Coal Creek Min	79.85	354	IAmb	IAmb	04 30 29.5	
	comp=Z,6.4nm,0.6s						
I26K	Coal Creek Min	79.85	354	P	P	04 30 28.6	+1.5
	baz=11						
J30M	Hart River	79.86	351	IAmb	IAmb	04 30 29.8	
	comp=Z,12nm,0.6s						
J30M	Hart River	79.86	351	P	P	04 30 28.7	+1.3
	baz=17						
ULM	Lac du Bonnet	79.95	325	P	P	04 30 28.2	+0.3
	comp=Z,3.1nm,0.8s,baz=45,slow=8.0,SNR=4.4						
ULM	comp=Z,6.8nm,0.8s,baz=151,slow=8.5,SNR=7.2			PKKPbc	PKKPbc	04 49 17.4	+4.8
ULM	comp=Z,90nm,20.9s,baz=50,slow=37			LR	LR	05 07 06.0	
	comp=Z,3.1nm,0.8s						
H21K	Melozitna Rive	80.01	358	IAmb	IAmb	04 30 31.0	
	comp=Z,9.7nm,0.7s						
H21K	Melozitna Rive	80.01	358	P	P	04 30 30.1	+2.1
	baz=3.1,SNR=8.9						
H19K	Roundabout Mou	80.18	360	P	P	04 30 30.3	+1.4
	baz=0.1						
EGAK	Eagle	80.19	353	P	P	04 30 30.4	+1.4
	baz=13						
H20K	Antleneega Mo	80.20	359	P	P	04 30 30.3	+1.2
	baz=1.4						
POKR	Poker Plat Res	80.33	356	P	P	04 30 31.1	+1.3
	baz=7.6,SNR=5.1						
I23K	Minto, Yukon-K	80.40	357	P	P	04 30 31.8	+1.8
	baz=6.0						
G15K	Niukluk	80.54	3	P	P	04 30 33.1	+2.3
	baz=354						
MLY	Manley	80.57	357	IAmb	IAmb	04 30 33.5	
	comp=Z,7.1nm,0.7s						
MLY	Manley	80.57	357	P	P	04 30 32.5	+1.4
	baz=4.8,SNR=8.7						
IL31	comp=Z,18nm,1.7s	80.64	356	IAmb	IAmb	04 32 55.8	
ILAR	Eielson Array	80.64	356	P	P	04 30 32.3	+0.9
	comp=Z,1.3nm,0.7s,baz=346,slow=3.8,SNR=29						
ILAR	comp=Z,0.5nm,0.8s,baz=244,slow=2.1,SNR=5.4			PKKPbc	PKKPbc	04 49 07.8	-3.6
ILAR	comp=Z,91nm,20.7s,baz=328,slow=37			LR	LR	05 07 37.3	
	comp=Z,1.3nm,0.7s						
J26L	Joseph Creek	80.68	354	IAmb	IAmb	04 30 33.6	
	comp=Z,7.0nm,0.6s						
J26L	Joseph Creek	80.68	354	P	P	04 30 32.5	+0.7
	baz=11						
J25K	Salcha River,	80.70	355	P	P	04 30 33.2	+1.4
	baz=9.3						
DAWY	Dawson	80.71	352	P	P	04 30 33.3	+1.5
DAWY	Dawson	80.71	352	P	P	04 30 33.0	+1.2
	baz=14						
K29M	Barlow Dome	80.71	352	IAmb	IAmb	04 31 16.6	
	comp=Z,17nm,1.6s						
K29M	Barlow Dome	80.71	352	P	P	04 30 33.4	+1.4
	baz=16						
MAYO	Mayo, Yukon	80.74	351	P	P	04 30 33.9	+2.0
	baz=17						
P49A	Mint Univ. Ec	80.79	312	P	P	04 30 34.7	+2.0
	baz=52						
CCB	Clear Creek Bu	80.82	356	IAmb	IAmb	04 31 06.4	
	comp=Z,14nm,1.5s						
NEA2	Nenana	80.94	357	P	P	04 30 34.3	+1.3
	baz=6.2						
GCSA	Galena City Sc	80.96	0	P	P	04 30 34.7	+1.6
	baz=360						
H16K	Elim	80.97	2	P	P	04 30 34.2	+1.1
	baz=355						
HDA	Harding Lake	81.01	356	IAmb	IAmb	04 30 35.0	
	comp=Z,6.5nm,0.6s						
HDA	Harding Lake	81.01	356	P	P	04 30 34.4	+1.0
	baz=8.0						
HDA	baz=8.0			P	P	04 30 34.4	+1.0
K27K	Chicken	81.01	354	IAmb	IAmb	04 30 47.0	
	comp=Z,8.1nm,0.9s						
K27K	Chicken	81.01	354	P	P	04 30 35.0	+1.6
	baz=12						
GAMB	Gambell	81.20	7	P	P	04 30 35.8	+1.4
	baz=347						
SCRK	Sand Creek	81.23	354	P	P	04 30 36.1	+1.3
	baz=10						
KMSC	Kings Mountain	81.26	307	P	P	04 30 36.7	+1.5
	baz=54						
AGMN	Agassiz Nation	81.28	324	P	P	04 30 35.5	+0.4
	baz=47						
L29M	L29M	81.49	352	IAmb	IAmb	04 30 52.1	
	comp=Z,11nm,1.2s						
L29M	L29M	81.49	352	P	P	04 30 37.2	+1.2
	baz=15						
BPAW	Bear Paw Mtn.	81.51	358	IAmb	IAmb	04 30 37.5	
	comp=Z,6.5nm,0.7s						
BPAW	Bear Paw Mtn.	81.51	358	P	P	04 30 36.8	+0.7
	baz=4.6						
J20K	Nowinta River	81.52	359	IAmb	IAmb	04 31 03.4	
	comp=Z,29nm,1.6s						
J20K	Nowinta River	81.52	359	P	P	04 30 37.4	+1.3
	baz=2.0						
RIDG	Independent Ri	81.53	355	P	P	04 30 37.6	+1.4
	baz=9.7						
K24K	Donnelly Dome	81.53	355	P	P	04 30 37.3	+1.1
	baz=8.9						
FARO	Faro, Yukon	81.68	349	P	P	04 30 39.0	+2.0
	baz=19						
J19K	Poorman	81.72	360	IAmb	IAmb	04 31 03.9	
	comp=Z,28nm,1.6s						
J19K	Poorman	81.72	360	P	P	04 30 38.7	+1.6
	baz=0.8						
CHUM	Lake Minchumin	81.77	358	P	P	04 30 38.8	+1.4
	baz=3.5						
MCK	McKinley	81.79	357	P	P	04 30 38.4	+0.8
	baz=6.3						
M31M	Drury Creek, Y	81.86	350	IAmb	IAmb	04 30 49.9	
	comp=Z,22nm,1.6s						
M31M	Drury Creek, Y	81.86	350	P	P	04 30 39.3	+1.4
	baz=18						
L27K	Beaver Creek,	81.94	353	P	P	04 30 40.2	+1.8
	baz=12						
TRF	Thorofare Moun	82.14	357	P	P	04 30 39.9	+0.3
	baz=5.2						
M29M	Somme Creek	82.18	352	IAmb	IAmb	04 30 42.4	
	comp=Z,9.8nm,0.6s						
M29M	Somme Creek	82.18	352	P	P	04 30 40.9	+1.2
	baz=15						
CAST	Castle Rocks	82.23	358	IAmb	IAmb	04 33 43.7	
	comp=Z,27nm,1.8s						
CAST	Castle Rocks	82.23	358	P	P	04 30 41.2	+1.3
	baz=3.7						
YSS	Yuzh-Sakhalins	82.23	37	*e*P	P	04 30 41.0	+0.9
YSS	comp=Z,30nm,0.7s			pmax	pmax		
J18K	Innoko River	82.25	0	P	P	04 30 42.1	+2.1
	baz=360						
K20K	Telida	82.34	359	P	P	04 30 42.0	+1.6
	baz=2.1						
PAX	Paxson	82.34	355	P	P	04 30 41.7	+1.2
	baz=9.2						
DHY	Denali Highway	82.36	356	IAmb	IAmb	04 30 42.9	
	comp=Z,9.9nm,0.7s						
DHY	Denali Highway	82.36	356	P	P	04 30 41.7	+0.9
	baz=7.6						
BVCY	Beaver Creek	82.48	353	P	P	04 30 42.9	+1.7
	baz=13						
TKL	Tuckaleechee C	82.55	308	LR	LR	05 07 29.4	
	comp=Z,52nm,18.9s,baz=14,slow=36						
M27K	Edge Creek, AK	82.63	353	P	P	04 30 43.9	+1.8
	baz=12						
N32M	Quiet Lake	82.66	349	P	P	04 30 44.2	+2.0
	baz=19						
M26K	Nabesna, AK	82.70	354	P	P	04 30 43.4	+1.1
	baz=11						
N31M	Braeburn, Yuko	82.75	350	P	P	04 30 43.7	+1.0
	baz=17						
PPLA	Purkeypile	82.76	358	P	P	04 30 43.9	+1.1
	baz=3.6						
TTA	Tatalina	82.79	360	P	P	04 30 44.4	+1.5
	baz=0.5						
WAT6	Susitna Watana	82.88	356	P	P	04 30 44.2	+0.8
	baz=7.3						
N30M	Aishikik Lake	82.95	351	P	P	04 30 45.0	+1.2
	baz=16						
K17K	Iditarod	82.99	1	P	P	04 30 45.3	+1.5
	baz=359						
YUK3	Moose Creek	83.06	352	P	P	04 30 45.8	+1.3
	baz=13						
YUK4	Talbot Arm	83.27	351	P	P	04 30 46.0	+0.5
	baz=15						
K15K	Wolf Creek Mou	83.34	2	P	P	04 30 47.2	+1.6
	baz=356						
O30N	Mendenhall	83.48	350	P	P	04 30 47.9	+1.4
	baz=17						
L18K	Granite Mounta	83.50	0	P	P	04 30 48.0	+1.5
	baz=360						
P33M	Teslin, Yukon	83.51	348	P	P	04 30 48.5	+1.8
	baz=20						
L19K	White Mountain	83.53	359	P	P	04 30 48.3	+1.6
	baz=1.4						
L17K	Donlin	83.58	1	P	P	04 30 48.1	+1.2
	baz=359						
SCM	Sheep Creek Mo	83.59	356	P	P	04 30 48.5	+1.4
	baz=7.6						
YUK6	Outpost Mounta	83.62	351	P	P	04 30 49.0	+1.6
	baz=15						
N25K	Chitina, Valde	83.62	354	P	P	04 30 48.1	+0.9
	baz=9.9						
HYT	Haines Junctio	83.62	351	IAmb	IAmb	04 31 02.0	
	comp=Z,5.3nm,0.8s						
HYT	Haines Junctio	83.62	351	P	P	04 30 48.3	+1.1
	baz=16						
SKT	Skwentna	83.65	358	P	P	04 30 47.7	+0.4
	baz=4.2						
M23K	Glacier View	83.66	356	P	P	04 30 48.1	+0.8
	baz=7.3						
SML	Sawmill	83.68	356	P	P	04 30 48.0	+0.6
	baz=6.8						
GOGA	Godfrey	83.71	306	P	P	04 30 48.6	+0.6
	baz=52						
M20K	Styx River	83.80	358	P	P	04 30 48.2	+0.1
	baz=2.8						
KLU	Klutina	83.84	355	P	P	04 30 49.4	+1.1
	baz=8.8						
CTG	Chitna Glacier	83.94	353	P	P	04 30 50.2	+1.3
	baz=12						
R33M	Jennings River	83.95	347	P	P	04 30 51.0	+2.0
	baz=21						
L16K	Owhat River	83.98	1	P	P	04 30 50.6	+1.7
	baz=358						
PETK	Petropavlovsk-	84.03	26	LR	LR	05 11 10.8	
	comp=Z,119nm,21.3s,baz=320,slow=38						
KNK	Knik Glacier	84.08	356	P	P	04 30 50.6	+1.2
	baz=6.7						
ASAJ	Asahikawa	84.11	39	LR	LR	05 12 38.9	
	comp=Z,130nm,18.1s,baz=30,slow=39						
SUA	Susitna One	84.14	357	P	P	04 30 50.9	+1.1
	baz=4.8						
BDFB	Brasilia	84.17	247	LR	LR	05 09 18.7	
	comp=Z,176nm,19.6s,baz=57,slow=36						
M18K	Stony River	84.23	360	P	P	04 30 51.4	+1.2
	baz=0.6						
SCIA	State Center	84.24	318	P	P	04 30 53.1	+2.4
	baz=48						
P32M	Atlin	84.24	349	P	P	04 30 51.3	+1.0
	baz=19						
BMRM	Bremner River	84.25	354	P	P	04 30 51.4	+1.0
	baz=9.9						
O29M	Mount Kennedy	84.27	351	P	P	04 30 51.5	+1.0
	baz=15						
JNU	Nakatsue	84.27	54	LR	LR	05 12 29.3	
	comp=Z,74nm,18.7s,baz=335,slow=39						
M17K	Holitna River	84.32	0	P	P	04 30 51.8	+1.1
	baz=359						
N20K	Mount Spurr	84.46	358	P	P	04 30 52.3	+0.9
	baz=3.6						
RC01	Rabbit Creek A	84.47	357	P	P	04 30 52.6	+1.2
	baz=5.6						
Q32M	Nakina River	84.59	348	P	P	04 30 54.3	+2.0
	baz=20						
DLBC	Dease Lake	84.67	346	P	P	04 30 54.3	+1.8
	baz=22						
DLBC	Dease Lake	84.67	346	LR	LR	05 10 48.1	
	comp=Z,254nm,21.6s,baz=14,slow=37						
PINM	Pinnacle	84.67	352	P	P	04 30 54.0	+1.4
	baz=13						
M16K	Timber Creek	84.68	1	P	P	04 30 54.3	+1.8
	baz=358						
MESA	MESA	84.78	353	P	P	04 30 54.0	+0.8
	baz=12						
P29M	Windy Craggy	84.81	351	P	P	04 30 54.3	+1.1
	baz=15						
ECSD	EROS Data Cent	84.81	321	IAmb	IAmb	04 30 56.0	
	comp=Z,8.5nm,0.8s						
ECSD	EROS Data Cent	84.81	321	P	P	04 30 54.3	+0.8
	baz=46						
WVT	Waverly	84.83	311	P	P	04 30 54.2	+0.5
	baz=50						
N19K	Bonanza Creek	84.90	359	P	P	04 30 55.1	+1.4
	baz=1.7						
DGMT	Dagmar	85.00	328	P	P	04 30 55.8	+1.4
	baz=41						
N18K	Kilae Creek	85.04	360	P	P	04 30 55.5	+1.2
	baz=0.6						
N16K	Nishlik Lake	85.23	1	P	P	04 30 57.2	+1.9
	baz=358						
S34M	Telegraph Cree	85.37	347	P	P	04 30 57.8	+1.8
	baz=21						
P23K	Montague Islan	85.42	355	P	P	04 30 56.8	+0.6
	baz=7.5						
SEW	Seward	85.44	356	P	P	04 30 57.0	+0.8
	baz=5.9						
DWPF	Disney Wildern	85.50	301	P	P	04 30 58.9	+1.7
	baz=53						
O20K	Slope Mountain	85.59	358	P	P	04 30 58.1	+1.0
	baz=3.2						
R32K	Eaglecrest	85.63	349	P	P	04 30 58.5	+1.3
	baz=18						
CCM	Cathedral Cave	85.67	314	P	P	04 30 59.2	+1.3
CCM	Cathedral Cave	85.67	314	P	P	04 30 59.7	+1.8
	baz=48						

CCM	**Cathedral Cave**	**85.67**	**314**	P	**P**	**04 30 59.2**	**+1.3**
CCM	comp=Z,37nm,2.0s			pmax	pmax			
N14K	**Kuskokwak Cree**	**85.71**	**3**	P	**P**	**04 30 58.9**	**+1.3**
	baz=356							
BRSE	**Bradley Lake S**	**85.86**	**357**	P	**P**	**04 30 59.5**	**+1.1**
	baz=4.8							
O18K	**Koktuh Hills**	**85.87**	**359**	P	**P**	**04 30 59.6**	**+1.2**
	baz=1.1							
R40A	**Maddies Statio**	**86.12**	**315**	IAmb	IAmb	04 31 02.9		
	comp=Z,9.4nm,0.8s							
LRAL	**Lakeview Retre**	**86.26**	**308**	P	**P**	**04 31 01.1**	**+0.2**
LRAL				IAmb	IAmb	04 31 03.5		
	comp=Z,15nm,1.4s							
LRAL	**Lakeview Retre**	**86.26**	**308**	P	**P**	**04 31 02.4**	**+1.5**
	baz=51							
JOW	**Kunigami**	**86.28**	**60**	LR	LR	05 15 05.3		
	comp=Z,78nm,19.8s,baz=77,slow=40							
MJAR	**Matsushiro Arr**	**86.75**	**47**	P	**P**	**04 31 03.3**	**0.0**
	comp=Z,2.2nm,0.5s,baz=322,slow=5.1,SNR=7.0							
MJAR				LR	LR	05 15 52.0		
	comp=Z,77nm,18.6s,baz=332,slow=40							
	comp=Z,2.2nm,0.5s							
MGMO	**Mountain Grove**	**86.88**	**314**	IAmb	IAmb	04 31 06.3		
	comp=Z,8.2nm,0.7s							
Y45A	**Yeager Farm, C**	**87.36**	**310**	P	**P**	**04 31 07.0**	**+0.8**
FCAR	**Ozark Folk Cen**	**87.63**	**313**	IAmb	IAmb	04 31 16.1		
	comp=Z,20nm,1.8s							
EGMT	**Eagleton**	**87.69**	**331**	IAmb	IAmb	04 31 35.5		
	comp=Z,8.7nm,0.8s							
EGMT	**Eagleton**	**87.69**	**331**	P	**P**	**04 31 08.8**	**+1.2**
	baz=37							
KDAK	**Kodiak Island**	**87.89**	**358**	LR	LR	05 12 08.8		
	comp=Z,61nm,19.7s,baz=25,slow=37							
R18K	**Karluk**	**88.15**	**359**	P	**P**	**04 31 10.6**	**+1.1**
	baz=1.7							
RSSD	**Black Hills**	**88.21**	**325**	P	**P**	**04 31 11.1**	**+0.7**
	baz=41							
SDV	**Santo Domingo**	**88.32**	**280**	LR	LR	05 12 20.0		
	comp=Z,19nm,18.5s,baz=77,slow=37							
RLMT	**Red Lodge**	**89.80**	**329**	P	**P**	**04 31 18.9**	**+1.1**
	baz=37							
TUL3	**Leonard**	**89.80**	**315**	P	**P**	**04 31 18.7**	**+1.0**
	baz=46							
CBKS	**Cedar Bluff**	**89.96**	**319**	P	**P**	**04 31 19.1**	**+0.6**
	baz=44							
JHJ	**Hachijo jima 2**	**89.99**	**49**	LR	LR	05 19 07.9		
	comp=Z,40nm,18.2s,baz=72,slow=41							
BBB	**Bella Bella**	**90.04**	**343**	LR	LR	05 14 16.8		
	comp=Z,78nm,19.3s,baz=24,slow=37							
NEW	**Newport**	**90.27**	**335**	P	**P**	**04 31 21.4**	**+1.6**
	baz=32							
NEW	**Newport**	**90.27**	**335**	LR	LR	05 14 30.4		
	comp=Z,89nm,20.5s,baz=25,slow=37							
MSO	**Missoula**	**90.31**	**332**	P	**P**	**04 31 21.0**	**+1.0**
	baz=34							
BOZ	**Bozeman (W)**	**90.40**	**330**	P	**P**	**04 31 21.7**	**+1.2**
	baz=36							
K22A	**Casper**	**90.51**	**326**	P	**P**	**04 31 21.3**	**+0.2**
	baz=39							
CHNA	**Chernabura Isl**	**90.87**	**2**	P	**P**	**04 31 23.6**	**+1.3**
	baz=358							
BW06	**Boulder Array**	**91.80**	**327**	P	**P**	**04 31 27.7**	**+0.5**
	baz=37							
PDAR	**Pinedale Array**	**91.80**	**327**	LR	LR	05 15 05.7		
	comp=Z,85nm,18.6s,baz=32,slow=37							
ISCO	**Idaho Springs**	**92.27**	**323**	P	**P**	**04 31 30.5**	**+1.0**
	baz=40							
BMO	**Blue Mountains**	**93.24**	**333**	IAmb	IAmb	04 32 22.8		
	comp=Z,9.9nm,1.6s							
O20A	**White River Ci**	**93.28**	**325**	P	**P**	**04 31 34.1**	**+0.1**
	baz=38							
SDCO	**Great Sand Dun**	**93.78**	**322**	P	**P**	**04 31 37.1**	**+0.5**
	baz=40							
S22A	**4UR Ranch, Cre**	**94.45**	**323**	P	**P**	**04 31 40.2**	**+0.6**
	baz=39							
SIV	**San Ignacio**	**94.51**	**254**	LR	LR	05 16 04.5		
	comp=Z,77nm,19.2s,baz=60,slow=37							
TEIG	**Tepich**	**95.27**	**299**	LR	LR	05 10 23.0		
	comp=Z,174nm,21.5s,baz=156,slow=33							
ELK	**Elko**	**95.90**	**330**	LR	LR	05 17 59.2		
	comp=Z,82nm,18.2s,baz=35,slow=37							
ANMO	**Albuquerque**	**96.42**	**321**	P	**P**	**04 31 49.1**	**+0.6**
	baz=39							
ANMO	**Albuquerque**	**96.42**	**321**	LR	LR	05 18 05.7		
	comp=Z,62nm,18.4s,baz=124,slow=37							
CPUP	**Villa Florida**	**97.50**	**243**	LR	LR	05 16 33.6		
	comp=Z,109nm,20.6s,baz=44,slow=36							
YBH	**Yreka Blue Hor**	**97.90**	**335**	LR	LR	05 19 14.3		
	comp=Z,84nm,20.3s,baz=32,slow=37							
NVAR	**Mina Array Bea**	**99.11**	**330**	LR	LR	05 20 19.1		
	comp=Z,91nm,18.6s,baz=48,slow=38							
TXAR	**Lajitas Array**	**99.12**	**315**	P	**Pdif**	**04 32 00.1**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=85,slow=4.1,SNR=4.4							
	comp=Z,0.3nm,0.7s							
CWC	**Cottonwood Cre**	**100.72**	**329**	P	**Pdif**	**04 32 07.3**	**-0.4**
	baz=31							
MPMC	**Manual Prospec**	**100.79**	**329**	P	**Pdif**	**04 32 07.4**	**-0.7**
	baz=32							
IRM	**Iron Mountain**	**101.34**	**326**	P	**Pdif**	**04 32 10.7**	**+0.4**
	baz=34							
VES	**Vestal, Richgr**	**101.65**	**330**	P	**Pdif**	**04 32 11.3**	**-0.3**
	baz=31							
MAW	**Mawson**	**106.16**	**165**	Pdiff	**Pdif**	**04 32 26.7**	**-3.9**
	comp=Z,2.0nm,0.9s,baz=285,slow=16,SNR=2.3							
WRA	**Warramunga Arr**	**117.96**	**96***c*	*i* PKIKP	**PKiKP**	**04 37 06.9**	**+0.9**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**117.96**	**96**	PKP	**PKPdf**	**04 37 05.4**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=308,slow=1.5,SNR=8.5							
ASAR	**Alice Springs**	**119.37**	**100**	PKP	**PKPdf**	**04 37 08.5**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=325,slow=1.8,SNR=12							
QSPA	**South Pole Qui**	**124.48**	**180**	PKP	**PKiKP**	**04 37 17.4**	**0.0**
	comp=Z,3.4nm,0.8s,baz=276,slow=2.5,SNR=8.2							
STKA	**Stephens Creek**	**128.94**	**105**	PKP	**PKiKP**	**04 37 27.4**	**0.0**
	comp=Z,0.8nm,0.4s,baz=338,slow=11,SNR=3.0							
DZM	**Mont Dzumac**	**145.33**	**79**	eLR	LR	05 25 33.0		
	comp=Z,80nm,25.5s							
TAOE	**Nuku Hiva Isla**	**150.25**	**326**	eLR	LR	05 28 02.0		
	comp=Z,85nm,27.3s							
PPT2	**Papeete2**	**161.92**	**338**	eLR	LR	05 33 18.6		
	comp=Z,96nm,27.5s							

*ISK **20** 04:18:49.3, 39˚.28N×30˚.52E, h6km, ML3.3/28*
ISC 20 04:18:50.2±0.9, **39˚.26N**±0˚.03×**30˚.54E**±0˚.03, **h11**km, **n36,**
s0°98/38, **10C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CIFT	**Cifteler, Eski**	**0.42**	**75**	Pg	**Pg**	**04 18 57.4**	**-1.0**
CIFT				Sg	**Sg**	**04 19 04.2**	**+0.2**
SHUT	**Suhut-Afyon**	**0.70**	**179**	Pg	**Pg**	**04 19 03.9**	**+0.1**
SVRH	**Sivrihisar-ESK**	**0.78**	**76**	Pg	**Pg**	**04 19 04.8**	**-0.5**
SVRH				Sg	**Sb**	**04 19 17.3**	**+0.8**
SRCK	**Saricakaya, Es**	**0.79**	**5**	Pg	**Pg**	**04 19 04.5**	**-0.9**
SRCK				Sg	**Sg**	**04 19 15.5**	**-0.1**
TVSB	**Tavsanli**	**0.86**	**283**	Pg	**Pg**	**04 19 05.8**	**-1.0**
GEDZ	**Gediz**	**0.91**	**257**	Pg	**Pg**	**04 19 06.9**	**-0.7**
GPA	**Golpazari**	**1.04**	**350**	Pg	**Pg**	**04 19 09.3**	**-1.0**
CAVI	**Cavuskoy**	**1.09**	**330**	Pg	**Pb**	**04 19 10.1**	**-0.9**
KIZT	**Kizilcal**	**1.11**	**110**	Pg	**Pb**	**04 19 09.4**	**-2.0**
GULT	**Gulveren**	**1.17**	**359**	Pn	**Pb**	**04 19 11.8**	**-0.7**
SIMA	**Simav-Kutahya**	**1.23**	**262**	Pn	**Pn**	**04 19 13.1**	**-0.2**
MDUB	**Mudurnu**	**1.31**	**22**	Pn	**Pb**	**04 19 14.9**	**0.0**
ADVT	**Abdulvahap**	**1.33**	**332**	Pn	**Pn**	**04 19 14.7**	**0.0**
BASM	**Basmaki-Afyon**	**1.39**	**196**	Pn	**Pb**	**04 19 16.0**	**-0.2**
ISP	**Isparta**	**1.43**	**181**	Pn	**Pb**	**04 19 16.9**	**-0.1**
YUVA	**Yuva-Kibriscik**	**1.43**	**38**	Pn	**Pn**	**04 19 16.6**	**+0.4**
SAUV	**Serdivan-Sakar**	**1.49**	**354**	Pn	**Pn**	**04 19 17.0**	**+0.1**
OSMT	**Osmaniye**	**1.49**	**335**	Pn	**Pn**	**04 19 16.9**	**-0.1**
ORLT	**Orhaneli**	**1.50**	**302**	Pn	**Pn**	**04 19 16.9**	**-0.1**
DST	**Dursunbey**	**1.53**	**284**	Pn	**Pn**	**04 19 17.2**	**-0.3**
GEMT	**Gemlik**	**1.57**	**319**	Pn	**Pn**	**04 19 18.0**	**0.0**
MDNY	**Mudanya-Bursa**	**1.69**	**312**	Pn	**Pn**	**04 19 19.9**	**+0.2**
HRT	**Hereke**	**1.70**	**337**	Pn	**Pn**	**04 19 19.3**	**-0.5**
LADK	**Ladik-KONYA**	**1.77**	**126**	Pn	**Pn**	**04 19 21.7**	**+0.8**
KULU	**Kulu**	**1.93**	**96**	Pn	**Pb**	**04 19 24.4**	**-0.9**
AFSR	**Afar-Bala (An**	**1.97**	**84**	Pn	**Pn**	**04 19 24.3**	**+0.7**
ELND	**Elena**	**5.09**	**318**	⇑P	**Pn**	**04 20 07.2**	**+0.8**
TIRR	**Tirgusor**	**5.43**	**344**	⇑P	**Pn**	**04 20 10.6**	**-0.4**
TIRR				⇑P	**Pn**	**04 20 10.6**	**-0.4**
TPGR	**Topolog**	**5.81**	**345**	⇑P	**Pn**	**04 20 18.7**	**+2.4**
CFR	**Carcaliu**	**6.18**	**344**	⇑P	Pn	04 20 14.8	-6.5
ISR	**Istrita**	**6.57**	**334**	⇑P	**Pg**	**04 20 55.3**	**-0.6**
BISRR	**Bisoca**	**6.89**	**337**	⇓P	**Pn**	**04 20 33.5**	**+2.3**
VRI	**Vrincioaia**	**7.18**	**338**	⇑P	**Pg**	**04 21 09.3**	**+1.8**
VOIR		**7.39**	**328**	⇑P	**Pn**	**04 20 38.9**	**+0.8**
TURR	**Turia**	**7.57**	**335**	⇑P	**Pn**	**04 20 42.5**	**+2.1**
DOPR	**Dopca**	**7.71**	**332**	⇑P	Pn	04 20 33.9	-8.4

ROM 20 04:22:52.6±0.1, **42˚.607N**±0˚.003×**13˚.236E**±0˚.004,
h10km, **ML1.8**/11, **2C, Error ellipse: s-maj=0.3km**
s-min=0.3km az=52.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.08**	**72**	⇑P	Pg	04 22 55.6	+0.5
SMA1				S	Sg	04 22 57.3	+0.3
SMA1				AML	AML		
	comp=N,1510μm,0.2s						
SMA1				AML	AML		
	comp=E,1630μm,0.5s						
SMA1				AML	AML		
	comp=N,1509μm,0.2s						
SMA1				AML	AML		
	comp=E,1229μm,0.3s						
RM33	**Pellescritta (**	**0.10**	**189**	⇑P	Pg	04 22 55.8	+0.5
RM33				S	Sg	04 22 57.7	+0.4
RM33				AML	AML		
	comp=N,608μm,0.2s						
RM33				AML	AML		
	comp=E,858μm,0.7s						
RM33				AML	AML		
	comp=N,618μm,0.3s						
RM33				AML	AML		
	comp=E,858μm,0.9s						
RM33				AML	AML		
	comp=N,608μm,0.2s						
RM33				AML	AML		
	comp=N,618μm,0.2s						
RM33				AML	AML		
	comp=E,840μm,0.2s						
RM33				AML	AML		
	comp=E,848μm,0.2s						
LNSS	**Leonessa**	**0.14**	**269**	P	Pg	04 22 56.5	+0.5
LNSS				S	Sg	04 22 59.1	+0.7
LNSS				AML	AML		
	comp=E,477μm,0.6s						
LNSS				AML	AML		
	comp=N,341μm,0.1s						
CAMP	**Campotosto**	**0.15**	**119**	P	Pg	04 22 56.6	+0.5
CAMP				S	Sg	04 22 59.1	+0.6
CAMP				AML	AML		
	comp=E,156μm,0.3s						
CAMP				AML	AML		
	comp=N,184μm,0.4s						
NRCA	**Norcia**	**0.24**	**339**	P	Pg	04 22 58.2	+0.5
NRCA				S	Sg	04 23 01.9	+0.8
GAVE	**Gavelli**	**0.27**	**289**	P	Pg	04 22 58.5	+0.4
GAVE				S	Sg	04 23 02.7	+0.9
GAVE				AML	AML		
	comp=E,230μm,0.2s						
GAVE				AML	AML		
	comp=N,183μm,0.3s						
TERO	**Teramo**	**0.27**	**86**	P	Pg	04 22 58.7	+0.5
TERO				S	Sg	04 23 02.8	+0.9
AQU	**L'Aquila**	**0.28**	**154**	S	Sg	04 22 59.1	-3.1
AQU	**L'Aquila**	**0.28**	**154**	P	Pb	04 22 59.3	-0.4
AQU				S	Sb	04 23 03.4	-1.1
MMO1	**Montemonaco**	**0.30**	**13**	P	Pg	04 22 59.2	+0.5
MMO1				S	Sg	04 23 03.8	+1.0
MC2	**Monte Cornacci**	**0.31**	**354**	P	Pg	04 22 59.4	+0.5
MC2				S	Sb	04 23 04.6	-0.9
ARRO	**Arrone**	**0.35**	**266**	P	Pg	04 23 00.1	+0.6
ARRO				S	Sg	04 23 05.1	+0.9
FIAM	**Fiamignano**	**0.35**	**195**	P	Pg	04 23 00.2	+0.7
FIAM				S	Sb	04 23 05.5	-1.0
FIAM				AML	AML		
	comp=E,75μm,1.2s						
FIAM				AML	AML		
	comp=N,73μm,0.8s						
FIAM				AML	AML		
	comp=E,74μm,0.3s						
MF5	**Montefalcone A**	**0.42**	**23**	P	Pb	04 23 01.7	-0.4
MF5				AML	AML		
	comp=E,198μm,0.5s						
MF5				AML	AML		
	comp=N,248μm,0.7s						
FDMO	**Fiordimonte**	**0.44**	**346**	P	Pg	04 23 01.8	+0.5
GUMA	**Gualdo di Mace**	**0.46**	**9**	P	Pb	04 23 02.4	-0.4
GUMA				S	Sb	04 23 08.9	-0.8
MOMA	**Monte Martano**	**0.53**	**292**	P	Pg	04 23 03.4	+0.4
MOMA				S	Sb	04 23 11.1	-0.6
MOMA				AML	AML		
	comp=E,51μm,1.1s						
MOMA				AML	AML		
	comp=N,56μm,1.5s						
MOMA				AML	AML		
	comp=N,50μm,0.2s						
MOMA				AML	AML		
	comp=E,42μm,0.2s						

*LDG **20** 04:28:10.7±0.1, 40˚.33N×2˚.96W, h10km, Md1.7/1, Ml3.3/30, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*IGIL **20** 04:28:11.4, 40˚.34N×2˚.97W, h5km, ML3.0*
*SFS **20** 04:28:12.8, 40˚.39N×3˚.05W, h20km, mb4.1/5, ML4.0/23, ML4.0/23, MLv4.0/20*
*MDD **20** 04:28:12.2±0.1, 40˚.34N×2˚.98W, h11km, mb_Lg3.7/43, Error ellipse: s-maj=1.0km s-min=0.8km az=129.0*
*STR **20** 04:28:13.1±1.5, 40˚N±13˚×±1˚, 0, h10km, MLv3.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=160.6, preliminary*
*INMG **20** 04:28:13.3±2.4, 40˚.32N×3˚.01W, h22km±3km, ML3.3, Error ellipse: s-maj=2.0km s-min=1.9km az=63.0*
*CNRM **20** 04:28:26.2, 39˚.54N×3˚.87W, h62km, ml3.5*
ISC 20 04:28:10.3±0.8, **40˚.37N**±0˚.01×**2˚.96W**±0˚.01, **h19**km±2km,
n171, **σ2°25**/353, **3C-2D, Spain**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UCM	**Universidad Co**	**0.23**	**254**	Sg	**Sb**	**04 28 19.2**	**+0.4**
UCM				Pg	**Pb**	**04 28 16.0**	**+0.5**
ETOR	**Torete**	**0.82**	**57**	Pg	**Pb**	**04 28 27.0**	**+0.9**
ETOR				Sg	**Sg**	**04 28 39.0**	**+1.6**
ETOR				*i* Vmb_Lg		04 28 40.9	
GUD	**Guadarrama**	**0.95**	**287**	⇑Pg	**Pb**	**04 28 29.3**	**+1.0**
GUD				Sg	**Sb**	**04 28 41.9**	**+1.3**
ESDC	**Sonseca Array**	**1.04**	**228**	⇑Pg	**Pb**	**04 28 30.3**	**+0.5**
ESDC				Sg	**Sb**	**04 28 43.3**	**+0.3**
ESDC				*i* Vmb_Lg		04 28 45.2	
PAB	**San Pablo**	**1.35**	**233**	⇓Pn	**Pn**	**04 28 35.2**	**+1.0**
PAB				Pg	**Pb**	**04 28 36.0**	**+0.9**
PAB				Sg	**Sb**	**04 28 53.1**	**+1.1**
PAB				*i* Vmb_Lg		04 28 53.9	
ECHE	**Chera**	**1.72**	**116**	Pn	**Pg**	**04 28 44.2**	**+0.8**
ECHE				Sn	**Sb**	**04 29 03.7**	**+1.1**
ECHE				Sg	**Sg**	**04 29 06.4**	**+0.6**
ECHE				*i* Vmb_Lg		04 29 08.3	
ECHE	**Chera**	**1.72**	**116**	Pn	**Pb**	**04 28 43.2**	**+1.8**
ECHE				Sn	**Sb**	**04 29 03.9**	**+1.3**
EVIV	**Cofrentes, Val**	**1.80**	**127**	Pn	**Pg**	**04 28 45.2**	**+0.3**
EVIV				Sg	**Sg**	**04 29 08.7**	**+0.4**
EVIV				*i* Vmb_Lg		04 29 10.9	
EMOS	**Mosqueruela**	**1.90**	**89**	Pn	**Pb**	**04 28 44.4**	**-0.2**
EMOS				Sn	**Sn**	**04 29 06.8**	**+1.3**
EMOS				Sg	**Sg**	**04 29 12.0**	**+0.3**
ETOB	**Tobarra**	**2.04**	**147**	Pn	**Pn**	**04 28 45.2**	**+1.4**
ETOB				Pg	**Pg**	**04 28 49.4**	**-0.2**
ETOB				Sn	**Sn**	**04 29 08.8**	**0.0**
ETOB				Sg	**Sg**	**04 29 15.2**	**-0.9**
ETOB	**Tobarra**	**2.04**	**147**	Pg	**Pb**	**04 28 49.1**	**+2.2**
ETOB				Pn	**Pn**	**04 28 44.4**	**+0.6**
ESAC	**San Caprasio**	**2.32**	**54**	Pn	**Pn**	**04 28 49.9**	**+2.3**
ESAC				Pg	**Pg**	**04 28 55.0**	**+0.2**
ESAC				Sn	**Sn**	**04 29 17.8**	**+2.2**
ESAC				Sg	**Sg**	**04 29 25.8**	**+0.9**
ESAC				*i* Vmb_Lg		04 29 28.7	
EJUZ	**Juzbado, Salam**	**2.34**	**289**	Pg	**Pb**	**04 28 54.1**	**+2.2**
EJUZ				Sg	**Sb**	**04 29 24.0**	**+3.6**
EPLA	**Plasencia**	**2.41**	**264**	Pn	**Pn**	**04 28 50.3**	**+1.5**
EPLA				Pg	**Pg**	**04 28 56.9**	**+0.3**
EPLA				Sg	**Sb**	**04 29 25.4**	**+3.0**
EPLA				*i* Vmb_Lg		04 29 30.6	
AFON	**Font Roja**	**2.53**	**132**	Pn	**Pn**	**04 28 52.5**	**+2.0**
AFON				Pg	**Pb**	**04 28 55.6**	**+0.4**
AFON				Sg	**Sg**	**04 29 30.5**	**-1.3**
AFON				*i* Vmb_Lg		04 29 35.7	
EADA	**Adamuz**	**2.53**	**210**	Pn	**Pn**	**04 28 51.0**	**+0.5**
EADA				Pg	**Pb**	**04 28 58.2**	**+3.0**
EADA				Sg	**Sb**	**04 29 28.1**	**+2.1**
EADA				*i* Vmb_Lg		04 29 34.7	
EADA	**Adamuz**	**2.53**	**210**	Pg	**Pb**	**04 28 58.0**	**+2.8**
EADA				Pn	**Pn**	**04 28 50.9**	**+0.4**
EADA				Sg	**Sb**	**04 29 29.5**	**+3.4**
EQES	**Quesada**	**2.57**	**182**	Pn	**Pn**	**04 28 51.1**	**+0.1**
EQES				Pg	**Pb**	**04 28 58.8**	**+2.9**
EQES				Sg	**Sb**	**04 29 29.7**	**+2.6**
EQES				*i* Vmb_Lg		04 29 33.6	
ERTA	**Horta de San J**	**2.57**	**76**	Pn	**Pn**	**04 28 52.8**	**+1.8**
ERTA				Sg	**Sg**	**04 29 33.2**	**+0.1**
ERTA				*i* Vmb_Lg		04 29 34.8	
EARA	**Aranguren**	**2.61**	**23**	Pn	**Pn**	**04 28 54.6**	**+3.0**
EARA				Pg	**Pg**	**04 29 01.3**	**+0.8**
EARA				Sg	**Sg**	**04 29 34.5**	**+0.1**
EARA				*i* Vmb_Lg		04 29 38.3	
EARA	**Aranguren**	**2.61**	**23**	P	**Pg**	**04 29 00.9**	**+0.5**
EARA				S	**Sg**	**04 29 33.6**	**-0.8**
EZAR	**Zarzadilla de**	**2.68**	**158**	Pn	**Pn**	**04 28 54.3**	**+1.7**
EZAR				Pg	**Pg**	**04 29 01.5**	**-0.3**
EZAR				Sn	**Sn**	**04 29 23.7**	**-0.9**
EZAR				Sg	**Sg**	**04 29 35.0**	**-1.6**
EZAR				*i* Vmb_Lg		04 29 40.5	
EBEN2	**Beniarda presa**	**2.73**	**127**	Pn	**Pn**	**04 28 54.6**	**+1.4**
EBEN2				Pg	**Pg**	**04 29 02.6**	**-0.2**
EBEN2				Sg	**Sg**	**04 29 37.9**	**-0.2**
EBEN2				*i* Vmb_Lg		04 29 38.7	
EORO	**Oroz-Betelu**	**2.81**	**26**	Pg	**Pg**	**04 29 04.1**	**-0.1**
EORO				*i* Vmb_Lg		04 29 50.3	
EMUR	**La Murta**	**2.86**	**152**	Pn	**Pn**	**04 28 56.3**	**+1.4**
EMUR				Pg	**Pg**	**04 29 04.6**	**-0.5**
EMUR				Sg	**Sg**	**04 29 41.1**	**-1.2**
EMUR				*i* Vmb_Lg		04 29 44.0	
EMUR	**La Murta**	**2.86**	**152**	Pn	**Pn**	**04 28 56.1**	**+1.1**
EMUR				Pg	**Pg**	**04 29 04.4**	**-0.8**
EMUR				Sg	**Sg**	**04 29 41.0**	**-1.2**
ELAN	**Lanestosa**	**2.88**	**353**	Pn	**Pn**	**04 28 56.2**	**+0.9**
ELAN				Sg	**Sg**	**04 29 43.2**	**+0.3**
ELAN				*i* Vmb_Lg		04 29 46.6	
TLOR	**Lorca, Murcia**	**2.89**	**160**	Pg	**Pg**	**04 29 07.0**	**+1.3**
TLOR				Sg	**Sg**	**04 29 41.7**	**-1.4**
TLOR	**Lorca, Murcia**	**2.89**	**160**	Pg	**Pg**	**04 29 05.0**	**-0.7**
TLOR				Sg	**Sg**	**04 29 42.3**	**-0.8**
ECAB	**El Cabril**	**2.98**	**221**	Pn	**Pn**	**04 28 58.1**	**+1.4**
ECAB				Sg	**Sg**	**04 29 43.7**	**-2.5**
ECAB				*i* Vmb_Lg		04 29 50.2	
ECAB	**El Cabril**	**2.98**	**221**	Sg	**Sb**	**04 29 42.6**	**+3.6**
ECAB				Pn	**Pn**	**04 28 57.4**	**+0.7**
CANF	**Canfranc**	**3.01**	**37**	P	**Pn**	**04 28 59.0**	**+1.8**
SJPF	**Ste Jean**	**3.03**	**25**	*e*P	**Pn**	**04 28 59.5**	**+2.2**
SJPF	**Ste Jean**	**3.03**	**25**	*e*Pg	**Pb**	**04 29 07.2**	**+3.5**
SJPF				*e*Sg	**Sb**	**04 29 44.9**	**+4.6**
	43nm,0.3s						
EALK	**Alkurruntz**	**3.05**	**20**	Pn	**Pn**	**04 28 59.6**	**+2.0**
EALK				Pg	**Pg**	**04 29 09.3**	**+0.6**
EALK				Sn	**Sn**	**04 29 35.6**	**+2.0**
EALK				*i* Vmb_Lg		04 29 54.1	
EALK	**Alkurruntz**	**3.05**	**20**	P	**Pn**	**04 28 59.6**	**+2.0**
ETSF	**Etsaut**	**3.10**	**35**	*e*P	**Pn**	**04 29 00.1**	**+1.8**
ETSF	**Etsaut**	**3.10**	**35**	*e*Pg	**Pb**	**04 29 08.0**	**+3.1**
ETSF				*e*Sn	**Sn**	**04 29 34.5**	**-0.4**
ETSF				*e*Sg	**Sg**	**04 29 48.5**	**-1.5**
	43nm,0.3s						
OSSF	**Osses**	**3.15**	**23**	P	**Pn**	**04 29 00.7**	**+1.8**
CART	**Cartagena**	**3.17**	**151**	P	**Pg**	**04 29 10.7**	**-0.4**
CART				S	**Sb**	**04 29 45.2**	**+0.8**
CART	**Cartagena**	**3.17**	**151**	Pn	**Pn**	**04 29 02.3**	**+3.1**
EQTA	**Presa de Quent**	**3.18**	**187**	Pn	**Pn**	**04 29 00.9**	**+1.4**
EQTA				Sg	**Sg**	**04 29 50.2**	**-2.4**
EQUE	**Quentar**	**3.19**	**187**	Pg	**Pg**	**04 29 10.6**	**-0.8**
EQUE				Sg	**Sg**	**04 29 51.0**	**-1.7**
EQUE				*i* Vmb_Lg		04 29 56.2	
MVO	**Moncorvo**	**3.19**	**286**	*e*Pn	**Pn**	**04 29 01.3**	**+1.8**
MVO	**Moncorvo**	**3.19**	**286**	*e*Pg	**Pg**	**04 29 13.7**	**+2.2**
MVO				*e*Sn	**Sb**	**04 29 42.7**	**-2.2**
MVO				*e*Sg	**Sg**	**04 29 52.0**	**-0.8**
MVO				A	A	04 29 55.0	
	71nm,0.7s						
PBRG	**Braganca**	**3.19**	**298**	*e*Pn	**Pn**	**04 29 01.9**	**+2.3**
PBRG	**Braganca**	**3.19**	**298**	*e*Pg	**Pg**	**04 29 11.3**	**-0.3**
PBRG				*e*Sg	**Sg**	**04 29 51.3**	**-1.7**
PBRG				A	A	04 29 55.2	
	67nm,0.6s						
ATE	**Arette**	**3.20**	**31**	P	**Pn**	**04 29 01.6**	**+2.0**
EPOB	**Poblet**	**3.22**	**71**	Pn	**Pn**	**04 29 01.0**	**+1.1**
EPOB				Sn	**Sn**	**04 29 38

POLO	**Lamas de Olo**	**3.80**	**287**	*e*Pn	**Pn**	**04 29 09.5**	**+1.6**
POLO	**Lamas de Olo**	**3.80**	**287**	*e*Pg	**Pg**	**04 29 25.0**	**+1.9**
POLO				*e*Sn	**Sn**	**04 29 51.1**	**-1.1**
POLO				*e*Sg	**Sg**	**04 30 10.2**	**-2.1**
POLO				A	A	04 30 18.4	
	18nm,0.8s						
PBAR	**Barrancos**	**3.85**	**237**⍐	*e*Pn	**Pn**	**04 29 09.3**	**+0.7**
PBAR				*e*Sn	**Sn**	**04 29 53.5**	**+0.2**
PBAR				*e*Sg	**Sb**	**04 30 09.8**	**+5.9**
PBAR				A	A	04 30 17.8	
	90nm,0.5s						
PBAR	**Barrancos**	**3.85**	**237**	Pn	**Pn**	**04 29 08.8**	**+0.2**
PESTR	**Estremoz**	**3.88**	**249**	*e*Pn	**Pn**	**04 29 09.5**	**+0.5**
PESTR				*e*Sn	**Sn**	**04 29 55.0**	**+1.0**
PESTR				*e*Sg	**Sb**	**04 30 09.8**	**+5.1**
PESTR				A	A	04 30 13.2	
	32nm,0.5s						
PESTR	**Estremoz**	**3.88**	**249**	P	**Pn**	**04 29 09.9**	**+0.9**
PESTR				S	**Sn**	**04 29 46.4**	**-7.6**
PESTR	**Estremoz**	**3.88**	**249**	Pn	**Pn**	**04 29 09.5**	**+0.5**
PESTR				Sn	**Sn**	**04 29 53.1**	**-0.9**
PESTR				Sg	**Sb**	**04 30 08.4**	**+3.7**
SALF	**Salau**	**3.92**	**51**	P	**Pn**	**04 29 11.9**	**+2.2**
MLS	**Moulis**	**3.99**	**48**	P	**Pn**	**04 29 13.4**	**+3.0**
MLS				S	**Sn**	**04 29 57.7**	**+1.0**
PAND	**Andorre**	**4.01**	**56**	P	**Pn**	**04 29 12.6**	**+1.7**
PCAB	**Cabril**	**4.06**	**291**	*e*Pn	**Pn**	**04 29 13.1**	**+1.7**
PCAB				*e*Sn	**Sn**	**04 29 59.3**	**+0.8**
PCAB				*e*Sg	**Sg**	**04 30 19.3**	**-1.3**
PCAB				A	A	04 30 26.3	
	42nm,0.6s						
EMIJ	**Mijas**	**4.06**	**201**	Pn	**Pn**	**04 29 13.4**	**+2.0**
EMIJ				Sn	**Sn**	**04 29 58.0**	**-0.5**
EMIJ				Sg	**Sg**	**04 30 18.4**	**-2.3**
EMIJ				*i* Vmb_Lg		04 30 41.9	
EMIJ	**Mijas**	**4.06**	**201**	Pn	**Pn**	**04 29 12.7**	**+1.2**
ELOB	**Lobios**	**4.13**	**293**	Pn	**Pn**	**04 29 14.1**	**+1.6**
ELOB				Sn	**Sn**	**04 29 59.3**	**-1.1**
ELOB				Sg	**Sg**	**04 30 21.4**	**-1.6**
ELOB				*i* Vmb_Lg		04 30 30.2	
ESPR	**Espera**	**4.17**	**214**	Pn	**Pn**	**04 29 15.1**	**+2.1**
ESPR				Sn	**Sn**	**04 29 58.9**	**-2.2**
ESPR				Sg	**Sg**	**04 30 21.8**	**-2.4**
ESPR				*i* Vmb_Lg		04 30 31.3	
COI	**Coimbra**	**4.17**	**270**	*e*Pn	**Pn**	**04 29 14.6**	**+1.6**
COI				*e*Sn	**Sn**	**04 30 00.6**	**-0.6**
COI				*e*Sg	**Sg**	**04 30 24.8**	**+0.5**
COI				A	A	04 30 33.0	
	65nm,0.5s						
PCAS	**Casmilo, Conde**	**4.25**	**267**	*e*Pn	**Pn**	**04 29 15.4**	**+1.3**
PCAS				*e*Sn	**Sn**	**04 30 03.4**	**+0.2**
PCAS				*e*Sg	**Sg**	**04 30 25.8**	**-1.0**
PCAS				A	A	04 30 37.3	
	34nm,0.7s						
PMTG	**Montargil**	**4.26**	**254**	*e*Pn	**Pn**	**04 29 14.6**	**+0.4**
PMTG				*e*Sn	**Sn**	**04 30 02.4**	**-1.1**
PMTG				*e*Sg	**Sg**	**04 30 22.7**	**-4.5**
PMTG				A	A	04 30 28.5	
	32nm,0.4s						
VALC	**Valcebollere**	**4.27**	**60**	P	**Pn**	**04 29 14.4**	**-0.1**
VALC				S	**Sn**	**04 30 04.0**	**+0.2**
EPON	**Pontenova**	**4.30**	**315**	Pn	**Pn**	**04 29 16.3**	**+1.5**
EPON				Sn	**Sn**	**04 30 03.8**	**-0.7**
EPON				Sg	**Sg**	**04 30 26.8**	**-1.6**
EPON				*i* Vmb_Lg		04 30 31.4	
PGAV	**Gavieira, Arco**	**4.31**	**293**	*e*Pn	**Pn**	**04 29 15.3**	**+0.3**
PGAV				*e*Sn	**Sn**	**04 30 02.2**	**-2.6**
PGAV				*e*Sg	**Sg**	**04 30 25.7**	**-3.0**
PGAV				A	A	04 30 41.1	
	36nm,0.5s						
EVO	**Evora**	**4.32**	**246**	*e*Pn	**Pn**	**04 29 15.7**	**+0.7**
EVO				*e*Sn	**Sn**	**04 30 04.1**	**-0.8**
EVO				*e*Sg	**Sg**	**04 30 25.5**	**-3.5**
EVO				A	A	04 30 30.6	
	45nm,0.6s						
EVO	**Evora**	**4.32**	**246**	Pn	**Pn**	**04 29 15.8**	**+0.7**
EVO				Sn	**Sn**	**04 30 02.8**	**-2.1**
EVO				Sg	**Sb**	**04 30 23.5**	**+6.1**
PTO	**Porto**	**4.35**	**282**	*e*Sg	**Sg**	**04 30 27.3**	**-2.7**
PTO				A	A	04 30 32.4	
	43nm,0.8s						
DUNF	**Dun**	**4.45**	**52**	P	**Pn**	**04 29 19.6**	**+2.8**
CARF	**Carcanieres**	**4.46**	**57**	P	**Pn**	**04 29 19.6**	**+2.5**
CARF				S	**Sn**	**04 30 10.2**	**+1.6**
ETOS	**Mallorca**	**4.47**	**96**	Pn	**Pn**	**04 29 18.4**	**+1.2**
ETOS				Sn	**Sn**	**04 30 08.0**	**-0.7**
ETOS	**Mallorca**	**4.47**	**96**	Pn	**Pn**	**04 29 18.5**	**+1.4**
PBEJ	**Beja**	**4.47**	**240**	*e*Pn	**Pn**	**04 29 18.2**	**+1.1**
PBEJ				*e*Sn	**Sn**	**04 30 07.2**	**-1.5**
PBEJ				*e*Sg	**Sg**	**04 30 29.9**	**-4.0**
PBEJ				A	A	04 30 36.9	
	28nm,0.6s						
EGRO	**El Granado**	**4.52**	**233**	Pn	**Pn**	**04 29 18.1**	**+0.4**
EGRO				Sn	**Sn**	**04 30 06.2**	**-3.6**
EGRO				Sg	**Sg**	**04 30 32.4**	**-3.1**
EGRO				*i* Vmb_Lg		04 30 37.5	
EGRO	**El Granado**	**4.52**	**233**	Pn	**Pn**	**04 29 18.2**	**+0.4**
EGRO				Sn	**Sn**	**04 30 07.6**	**-2.3**
EAGO	**Agolada(Pontev**	**4.55**	**304**	Pn	**Pn**	**04 29 19.4**	**+1.3**
EAGO				Sg	**Sg**	**04 30 32.4**	**-2.0**
EAGO				*i* Vmb_Lg		04 30 42.0	
FNEB	**Nbias**	**4.56**	**55**	P	**Pn**	**04 29 22.1**	**+3.7**
FNEB				S	**Sn**	**04 30 14.0**	**+3.0**
PSBE	**So Bento**	**4.56**	**261**	*e*Pn	**Pn**	**04 29 19.9**	**+1.5**
PSBE				*e*Sn	**Sn**	**04 30 12.7**	**+1.7**
PSBE				*e*Sg	**Sg**	**04 30 35.6**	**-1.3**
PSBE				A	A	04 30 48.2	
	35nm,0.5s						
FILF	**Fillols**	**4.69**	**60**	P	**Pn**	**04 29 21.2**	**+1.0**
FILF				S	**Sn**	**04 30 11.8**	**-2.3**
PVAQ	**Vaqueiros**	**4.75**	**233**	*e*Pn	**Pn**	**04 29 21.8**	**+0.9**
PVAQ				*e*Sn	**Sn**	**04 30 12.8**	**-2.6**
PVAQ				*e*Sg	**Sg**	**04 30 38.9**	**-3.9**
MESJ	**Messejana**	**4.81**	**240**	*e*Pn	**Pn**	**04 29 22.4**	**+0.7**
MESJ				*e*Sn	**Sn**	**04 30 14.8**	**-2.1**
MESJ				*e*Sg	**Sg**	**04 30 42.3**	**-2.4**
MESJ				A	A	04 30 45.5	
	29nm,0.5s						
MESJ	**Messejana**	**4.81**	**240**	*e*P	**Pn**	**04 29 22.1**	**+0.4**
MESJ				*e*S	**Sn**	**04 30 13.7**	**-3.2**
MESJ				IAML		04 30 48.0	
	comp=N,26nm,0.6s						
PCVE	**Castro Verde**	**4.81**	**237**	*e*Pn	**Pn**	**04 29 21.9**	**+0.2**
PCVE				*e*Sn	**Sn**	**04 30 14.7**	**-2.2**
PCVE				*e*Sg	**Sg**	**04 30 42.5**	**-2.2**
PCVE				A	A	04 30 49.5	
	comp=N,28nm,0.6s						
PCVE	**Castro Verde**	**4.81**	**237**	Pn	**Pn**	**04 29 21.6**	**-0.1**
EJON	**La Jonquera**	**4.86**	**63**	Sn	**Sn**	**04 30 19.3**	**+1.0**
EJON				Sg	**Sg**	**04 30 41.9**	**-4.5**
EJON	**La Jonquera**	**4.86**	**63**	Pn	**Pn**	**04 29 24.1**	**+1.5**
SJAF	**Saint Jean de**	**4.87**	**62**	S	**Sn**	**04 30 18.1**	**-0.5**
MTLF	**Montolieu**	**4.87**	**51**	*e*P	**Pn**	**04 29 26.2**	**+3.6**
MTLF	**Montolieu**	**4.87**	**51**	*e*Pg	**Pg**	**04 29 40.7**	**-2.9**
MTLF				*e*Sn	**Sn**	**04 30 17.1**	**-1.4**
MTLF				*e*Sg	**Sg**	**04 30 44.8**	**-1.9**
	comp=N,12nm,0.4s						
PNCL	**Nicolau / Gran**	**4.88**	**244**	*e*Pn	**Pn**	**04 29 23.0**	**+0.3**
PNCL				*e*Sn	**Sn**	**04 30 16.9**	**-1.7**
PNCL				*e*Sg	**Sg**	**04 30 45.0**	**-1.8**
PNCL				A	A	04 30 55.1	
	comp=N,25nm,0.4s						
PNCL	**Nicolau / Gran**	**4.88**	**244**	Pn	**Pn**	**04 29 22.9**	**+0.2**
PBDV	**Barranco-do-Ve**	**4.98**	**233**	*e*Pn	**Pn**	**04 29 25.1**	**+0.9**
PBDV				*e*Sn	**Sn**	**04 30 18.3**	**-3.0**
PBDV				*e*Sg	**Sg**	**04 30 47.0**	**-3.3**
PBDV				A	A	04 30 55.3	
	comp=N,46nm,0.6s						
MONQ	**Montcuq**	**5.04**	**36**	P	**Pn**	**04 29 26.2**	**+1.3**
MONQ				S	**Sn**	**04 30 22.6**	**0.0**
SMIR	**Smir Dam**	**5.06**	**203**	P	**Pn**	**04 29 26.7**	**+1.5**
SMIR				S	Sn	04 30 12.5	-10
PMAFR	**Mafra**	**5.08**	**256**	*e*Pn	**Pn**	**04 29 26.3**	**+0.8**
PMAFR				*e*Sn	**Sn**	**04 30 21.9**	**-1.7**
PMAFR				*e*Sg	**Sg**	**04 30 49.8**	**-3.5**
PMAFR				A	A	04 31 09.2	
	comp=N,34nm,0.5s						
PMAFR	**Mafra**	**5.08**	**256**	Pn	**Pn**	**04 29 26.2**	**+0.7**
PMAFR				Sn	**Sn**	**04 30 20.3**	**-3.3**
GOG	**Mont Gurugu**	**5.14**	**180**	P	**Pn**	**04 29 30.8**	**+4.4**
GOG				S	**Sn**	**04 30 21.0**	**-4.3**
EMAZ	**Mazaricos**	**5.19**	**302**	Pn	**Pn**	**04 29 29.3**	**+2.3**
EMAZ				Sn	**Sn**	**04 30 22.5**	**-3.9**
EMAZ				Sg	**Sg**	**04 30 55.0**	**-1.8**
PTEO	**Sao Teotonio**	**5.30**	**240**	*e*Pn	**Pn**	**04 29 29.4**	**+0.9**
PTEO				*e*Sn	**Sn**	**04 30 27.6**	**-1.5**
PTEO				*e*Sg	**Sg**	**04 30 59.1**	**-1.5**
PTEO				A	A	04 31 08.0	
	comp=N,28nm,0.6s						
LFF	**La Frestale**	**5.32**	**30**	*e*P	**Pn**	**04 29 31.8**	**+3.1**
LFF				*e*Sn	**Sn**	**04 30 27.4**	**-2.0**
	comp=N,17nm,0.4s						
MORF	**Marmelete**	**5.40**	**237**	*e*Pn	**Pn**	**04 29 30.7**	**+0.8**
MORF				*e*Sn	**Sn**	**04 30 28.9**	**-2.6**
MORF				*e*Sg	**Sg**	**04 31 03.5**	**0.0**
MORF				A	A	04 31 09.7	
	comp=N,18nm,0.9s						
MORF	**Marmelete**	**5.40**	**237**	*e*P	**Pn**	**04 29 30.1**	**+0.2**
MORF				*e*S	**Sn**	**04 30 27.6**	**-3.9**
MORF				IAML		04 30 31.3	
	comp=N,23nm,0.3s						
TAF	**Taforalt**	**5.56**	**175**	P	Pn	04 29 37.4	+5.2
CHEFC	**Chefchaouen**	**5.58**	**200**	P	**Pn**	**04 29 34.1**	**+1.6**
PFVI	**Vila Bisbo**	**5.61**	**237**	*e*Pn	**Pn**	**04 29 33.4**	**+0.6**
PFVI				*e*Sn	**Sn**	**04 30 35.2**	**-1.5**
PFVI				*e*Sg	**Sg**	**04 31 08.7**	**-1.7**
PFVI				A	A	04 31 21.8	
	comp=N,22nm,0.8s						
PFVI	**Vila Bisbo**	**5.61**	**237**	P	**Pn**	**04 29 33.3**	**+0.6**
PFVI				S	Sn	04 30 23.8	-13
PFVI	**Vila Bisbo**	**5.61**	**237**	Pn	**Pn**	**04 29 33.1**	**+0.4**
CAF	**Calviac**	**5.87**	**37**	*e*Pn	**Pn**	**04 29 35.6**	**-0.7**
CAF	**Calviac**	**5.87**	**37**	*e*P	**Pn**	**04 29 40.5**	**+4.2**
CAF				*e*Sn	**Sn**	**04 30 40.3**	**-2.8**
	comp=N,7.1nm,0.4s						
AKLM	**AKL**	**5.89**	**187**	P	**Pn**	**04 29 38.8**	**+2.1**
RJF	**Les Rejaudoux**	**5.93**	**32**	*e*Pn	**Pn**	**04 29 37.2**	**+0.1**
RJF	**Les Rejaudoux**	**5.93**	**32**	*e*P	**Pn**	**04 29 41.7**	**+4.6**
RJF				*e*Sn	**Sn**	**04 30 41.3**	**-3.2**
	comp=N,5.6nm,0.3s						
LASF	**Ste Croix**	**6.27**	**52**	*e*P	**Pn**	**04 29 45.3**	**+3.5**
LASF				*e*Sn	**Sn**	**04 30 49.9**	**-3.0**
LASF				*e*Sg	**Sg**	**04 31 27.4**	**-4.0**
	comp=N,5.7nm,0.4s						
MFF	**Saint Martin d**	**6.55**	**17**	*e*Pn	**Pn**	**04 29 45.5**	**-0.2**
MFF				*e*Sn	**Sn**	**04 30 56.7**	**-3.2**
	comp=N,4.2nm,0.4s						
LCRM	**LCR**	**6.84**	**193**	P	**Pn**	**04 29 51.6**	**+1.7**
TCF	**Toulx Ste Croi**	**7.01**	**31**	*e*Pn	**Pn**	**04 29 52.2**	**+0.2**
TCF				*e*Sn	**Sn**	**04 31 06.5**	**-4.7**
	comp=N,4.7nm,0.4s						
IFR	**Ifrane**	**7.06**	**195**	Pn	**Pn**	**04 29 53.3**	**+0.5**
IFR				Sn	**Sn**	**04 31 08.3**	**-4.4**
VIVF	**Saint-Julien-l**	**7.20**	**49**	*e*Pn	**Pn**	**04 29 53.6**	**-0.9**
VIVF				*e*Sg	**Sg**	**04 31 56.3**	**-4.8**
	comp=N,0.8nm,0.2s						
SMRF	**Simiane la Rot**	**7.29**	**58**	*e*P	**Pn**	**04 29 59.3**	**+3.4**
SMRF				*e*Sn	**Sn**	**04 31 15.5**	**-2.6**
	comp=N,2.2nm,0.4s						
BGF	**Bois d'Agland**	**7.49**	**32**	*e*Pn	**Pn**	**04 29 58.6**	**+0.1**
BGF				*e*Sn	**Sn**	**04 31 19.4**	**-3.4**
	comp=N,11nm,0.5s						
ZHG	**ZHG**	**7.51**	**204**	P	**Pn**	**04 30 00.9**	**+2.0**
QUIF	**Quistinic**	**7.54**	**359**	*e*Pn	**Pn**	**04 29 59.3**	**+0.1**
QUIF				*e*Sn	**Sn**	**04 31 20.4**	**-3.8**
	comp=N,9.9nm,0.4s						
MD31	**MD31**	**7.63**	**191**	P	**Pn**	**04 30 02.2**	**+1.6**
MDT	**Midelt**	**7.66**	**190**	P	**Pn**	**04 30 02.8**	**+1.8**
LMR	**La Mourre**	**7.66**	**64**	*e*P	**Pn**	**04 30 04.3**	**+3.4**
LMR				*e*Sn	**Sn**	**04 31 23.7**	**-3.5**
	comp=N,0.8nm,0.2s						
AVF	**Avril sur Loir**	**7.88**	**33**	*e*Pn	**Pn**	**04 30 03.9**	**0.0**
AVF	**Avril sur Loir**	**7.88**	**33**	*e*P	Pn	04 30 10.9	+7.0
AVF				*e*Sn	**Sn**	**04 31 28.9**	**-3.6**
	comp=N,0.9nm,0.3s						
SGMF	**Saint Gilles**	**7.89**	**2**	*e*Pn	**Pn**	**04 30 03.2**	**-0.7**
SGMF				*e*Sn	**Sn**	**04 31 27.9**	**-4.7**
	comp=N,2.5nm,0.4s						
AVE	**Averroes**	**7.91**	**208**	Pn	**Pn**	**04 30 04.5**	**+0.1**
ORIF	**Oris-en-Rattie**	**7.94**	**52**	*e*Pn	**Pn**	**04 30 04.1**	**-0.7**
ORIF	**Oris-en-Rattie**	**7.94**	**52**	*e*P	Pn	04 30 10.2	+5.4
ROSF	**Rostrenen**	**7.97**	**358**	*e*Pn	**Pn**	**04 30 05.2**	**+0.2**
ROSF				*e*Sn	**Sn**	**04 31 29.9**	**-4.7**
	comp=N,8.2nm,0.3s						
SMF	**Signal de Mont**	**7.98**	**36**	*e*Pn	**Pn**	**04 30 04.8**	**-0.5**
SMF				*e*Sn	**Sn**	**04 31 30.8**	**-4.2**
	comp=N,0.9nm,0.3s						
GRR	**Gorron**	**8.15**	**10**	*e*Pn	**Pn**	**04 30 07.0**	**-0.6**
GRR				*e*Sn	**Sn**	**04 31 34.6**	**-4.6**
	comp=N,3.4nm,0.3s						
SSF	**Saint Saulge**	**8.16**	**33**	*e*P	**Pn**	**04 30 10.2**	**+2.5**
SSF				*e*Sn	**Sn**	**04 31 36.1**	**-3.3**
	comp=N,1.2nm,0.3s						
LDF	**La Druitiere**	**8.47**	**13**	*e*Pn	**Pn**	**04 30 11.6**	**-0.3**
LDF				*e*Sn	**Sn**	**04 31 41.2**	**-5.7**
	comp=N,1.4nm,0.3s						
LOR	**Lormes**	**8.47**	**33**	*e*Pn	Pn	04 30 08.0	-4.0
LOR				*e*Sn	**Sn**	**04 31 43.1**	**-4.0**
	comp=N,2.2nm,0.4s						
SBF	**Sospel**	**8.48**	**62**	*e*P	Pn	04 30 17.3	+5.1
SBF				*e*Sn	**Sn**	**04 31 42.3**	**-5.0**
	comp=N,1.4nm,0.2s						
FLN	**La Foliniere**	**8.57**	**11**	*e*Pn	**Pn**	**04 30 12.8**	**-0.6**
FLN				*e*Sn	**Sn**	**04 31 44.7**	**-4.8**
	comp=N,1.7nm,0.3s						
LPG	**La Plagne**	**8.77**	**51**	*e*P	**Pn**	**04 30 21.0**	**+4.6**
LPG				*e*Sn	**Sn**	**04 31 50.0**	**-4.9**
	comp=N,0.5nm,0.3s						
JSA	**Saint Aubin**	**8.83**	**3**	Sn	**Sn**	**04 31 49.3**	**-6.6**
TIO	**Tiouine**	**10.05**	**202**	Pn	**Pn**	**04 30 34.0**	**+0.1**
TIO				Sn	Sn	04 32 18.0	-8.1

*UUSS **20** 04:30:38.7±1.1,42°.61N±0°.02×111°.44W±0°.01, h-3km, Error ellipse: s-maj=3.0km s-min=1.5km az=140.0*
NEIC 20 04:30:38.7±0.8,**42°.608N**±0°.009×**111°.44W**±0°.01, **h5**km±2km,**ML2.0**/44,**ML2.1**/7(UUSS),**Error ellipse: s-maj=3.0km s-min=1.9km az=242.0,Eastern Idaho**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHID	**Auburn Hatcher**	**0.29**	**58**		Pg	04 30 45.1	+0.6
AHID	**Auburn Hatcher**	**0.29**	**58**		Sg	04 30 48.9	+0.4
AHID				IAML		04 30 50.1	
	1μm,0.2s						
AHID				IAML		04 30 52.2	
	716nm,0.4s						
REDW	**Red Top Meadow**	**0.87**	**29**		Pg	04 30 55.5	+0.1
NPI	**North Pocatell**	**0.92**	**240**		Pg	04 30 56.6	+0.1
TPAW	**Teton Pass**	**0.95**	**22**		Pg	04 30 57.2	+0.2
TPAW	**Teton Pass**	**0.95**	**22**	IAML		04 31 13.0	
	42nm,0.3s						
SNOW	**Snow King Moun**	**0.99**	**30**		Pb	04 30 58.2	-0.3
SNOW	**Snow King Moun**	**0.99**	**30**	IAML		04 31 16.5	
	27nm,0.8s						
SNOW				IAML		04 31 17.6	
	30nm,0.8s						
HWUT	**Hardware Ranch**	**1.00**	**185**		Pg	04 30 57.6	-0.4
MCU	**Monte Cristo P**	**1.15**	**183**		Pb	04 31 01.2	-0.1
LOHW	**Long Hollow**	**1.18**	**31**		Pg	04 31 01.3	+0.1
LOHW	**Long Hollow**	**1.18**	**31**	IAML		04 31 20.5	
	23nm,0.6s						
MOOW	**Moose Ponds**	**1.25**	**24**		Pg	04 31 02.1	-0.5
HVU	**Hansel Valley**	**1.29**	**231**		Pg	04 31 02.9	-0.7
HVU	**Hansel Valley**	**1.29**	**231**	IAML		04 31 23.3	
	comp=E,53nm,0.3s						
IMW	**Indian Meadow**	**1.34**	**16**		Pn	04 31 04.0	-0.4
IMW	**Indian Meadow**	**1.34**	**16**	IAML		04 31 25.4	
	comp=E,46nm,0.5s						
BW06	**Boulder Array**	**1.40**	**83**		Pg	04 31 05.5	0.0
BW06	**Boulder Array**	**1.40**	**83**	IAML		04 31 28.4	
	comp=E,15nm,0.8s						
PD31	**Pinedale Array**	**1.40**	**83**		Pb	04 31 05.3	-0.1
PDAR	**Pinedale Array**	**1.40**	**83**		Pn	04 31 05.1	0.0
TCUT	**Toone Canyon**	**1.49**	**179**		Pn	04 31 06.4	0.0
SPUT	**South Promonto**	**1.50**	**210**		Pn	04 31 06.5	+0.1
SPUT				IAML		04 31 28.9	
	comp=N,36nm,0.3s						
SPUT				IAML		04 31 32.5	
	comp=E,17nm,0.6s						
FLWY	**Flagg Ranch**	**1.57**	**20**		Pn	04 31 07.7	+0.2
FLWY				IAML		04 31 30.4	
	comp=E,14nm,3.5s						
MCID	**Moose Creek**	**1.59**	**7**		Pn	04 31 08.2	+0.4
H17A	**Grant Village**	**1.89**	**19**		Pb	04 31 13.8	-0.1
YFT	**Old Faithful**	**1.89**	**13**	Pn	Pn	04 31 12.5	+0.5
SNUT	**Stansbury Nort**	**1.90**	**205**		Pb	04 31 13.0	-0.9
CTU	**Camp Tracy**	**1.93**	**187**	Pn	Pn	04 31 12.1	-0.2
CTU				IAML		04 31 45.0	
	comp=E,14nm,0.7s						
CTU				IAML		04 31 47.4	
	comp=N,13nm,0.6s						
BGU	**Big Grassy Mou**	**2.06**	**216**	Pn	Pn	04 31 15.0	+0.8
BGU				IAML		04 31 41.8	
	comp=E,9.0nm,4.4s						
BGU				IAML		04 31 50.2	
	comp=N,7.5nm,3.3s						
BSUT	**Blindstream Ca**	**2.13**	**166**	Pn	Pn	04 31 15.6	+0.3
HLID	**Hailey**	**2.38**	**295**		Pn	04 31 18.8	+0.2
HLID				IAML		04 31 56.9	
	comp=N,6.0nm,0.7s						
HLID				IAML		04 32 05.0	
	comp=N,8.7nm,4.2s						
NLU	**North Lily Min**	**2.69**	**190**		Pn	04 31 22.8	-0.1
NLU				IAML		04 31 46.4	
	comp=N,5.3nm,4.1s						
NLU				IAML		04 31 59.9	
	comp=E,5.1nm,3.4s						
TMUT	**Trail Mountain**	**3.31**	**177**	Pn	Pn	04 31 32.1	+0.5
TMUT				IAML		04 32 36.5	
	comp=N,7.0nm,3.5s						
SRU	**San Rafael Swe**	**3.56**	**168**	Pn	Pn	04 31 36.3	+1.5
SRU				IAML		04 32 46.7	
	comp=E,5.9nm,0.9s						
SRU				IAML		04 32 56.8	
	comp=N,5.8nm,4.2s						

*FUNV **20** 04:39:17.4,9°.22N×70°.28W,h5km,MW3.7*
ISC 20 04:39:16.2±1.2,**9°.22N**±0°.03×**70°.25W**±0°.02,**h5**km±10km, **n33,σ1°34/51,1C,Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.50**	**229**⍐	*i*P	**Pg**	**04 39 25.2**	**-0.7**
SDV				*e*S	**Sg**	**04 39 30.6**	**-1.9**
SDV				*i*		04 39 34.2	
	comp=Z,780nm,0.5s						
SANV	**Sanarito**	**0.76**	**68**	*e*P	**Pg**	**04 39 31.9**	**+1.1**
SANV				*e*S	**Sg**	**04 39 42.6**	**+2.0**
CURV	**Curarigua**	**0.84**	**20**	*e*P	**Pg**	**04 39 32.0**	**-0.4**
CURV				*e*S	**Sg**	**04 39 43.5**	**+0.3**
SOCV	**Socops**	**1.11**	**213**	*e*P	**Pb**	**04 39 36.6**	**-1.3**
SOCV				*e*S	**Sb**	**04 39 52.2**	**-0.5**
TEPV	**Terepaima**	**1.28**	**55**	*e*P	**Pn**	**04 39 40.8**	**0.0**
TEPV				*e*S	**Sb**	**04 39 58.3**	**+0.6**
SIQV	**Siquisique**	**1.49**	**17**	*e*P	**Pn**	**04 39 44.5**	**+0.9**
SIQV				*e*S	**Sg**	**04 40 05.1**	**+1.1**
BAUV	**El Baul**	**2.20**	**97**	*e*P	**Pn**	**04 39 54.1**	**+0.7**
BAUV				*e*S	**Sn**	**04 40 22.0**	**+1.0**
MCQV	**Machiques**	**2.40**	**290**	*e*P	**Pn**	**04 39 56.9**	**+0.6**
MCQV				*e*S	**Sn**	**04 40 26.6**	**+0.4**
CAPV	**Capacho**	**2.45**	**237**	*e*P	**Pn**	**04 39 58.5**	**+1.5**
CAPV				*e*S	**Sn**	**04 40 28.0**	**+0.5**
TURV	**Turiamo**	**2.67**	**63**	*e*P	**Pn**	**04 40 00.6**	**+0.7**
TURV				*e*S	**Sn**	**04 40 33.0**	**+0.3**
BENV	**Beln**	**2.71**	**74**	*e*P	**Pn**	**04 40 02.6**	**+2.0**
BENV				*e*S	**Sn**	**04 40 34.0**	**0.0**
LL6C	**La Loma 6 Bece**	**3.02**	**280**	*e*P	**Pn**	**04 40 06.3**	**+1.4**
LL6C				*e*S	**Sb**	**04 40 47.1**	**-0.8**
LL6C				*i*		04 40 52.8	
	comp=Z,51nm,0.4s						
PAMC	**Pamplona, Colo**	**3.06**	**233**	*e*P	**Pn**	**04 40 06.5**	**+0.7**
CRJC	**Cerrejon, Guaj**	**3.15**	**305**	*e*P	**Pn**	**04 40 05.4**	**-1.3**
CRJC				*e*S	**Sn**	**04 40 43.8**	**-1.0**
CRJC				*i*		04 40 56.1	
	comp=Z,111nm,0.5s						
TAMC	**Tame, Arauca**	**3.16**	**209**	*e*P	**Pn**	**04 40 08.5**	**+1.7**
OCAC	**Ocana**	**3.19**	**252**	*e*P	**Pn**	**04 40 08.0**	**+0.8**
OCAC				*e*S	**Sn**	**04 40 48.5**	**+2.7**
OCAC				*i*		04 40 57.6	
	comp=Z,580nm,0.5s						
TACV	**Tcata**	**3.31**	**74**	*e*P	**Pn**	**04 40 09.2**	**+0.4**
TACV				*e*S	**Sn**	**04 40 48.2**	**-0.4**
FUNV	**FUNVISIS**	**3.61**	**70**	*e*P	**Pn**	**04 40 15.0**	**+2.0**
FUNV				*e*S	**Sn**	**04 40 54.9**	**-1.2**
**B

SMCO	**Snowmass**	**2.46**	**318**			**Pb**	**04 42 22.9**	**-2.6**
ISCO	**Idaho Springs**	**2.49**	**346**			**Pb**	**04 42 24.2**	**-1.8**
ISCO	**Idaho Springs**	**2.49**	**346**	Pb		**Pb**	**04 42 24.4**	**-1.7**
	baz=168,SNR=41							
ISCO				Sb		**Sb**	**04 42 58.1**	**+1.2**
	baz=168							
ISCO	**Idaho Springs**	**2.49**	**346**	P		**Pb**	**04 42 24.3**	**-1.7**
	baz=168							
ISCO				S		**Sg**	**04 42 59.0**	**-2.0**
	baz=168							
ANMO	**Albuquerque**	**2.76**	**209**			**Pn**	**04 42 24.8**	**-0.7**
ANMO	**Albuquerque**	**2.76**	**209**	P		**Pn**	**04 42 25.0**	**-0.5**
	baz=28							
ANMO				Sb		**Sb**	**04 43 04.3**	**-0.2**
	baz=28							
ANMO	**Albuquerque**	**2.76**	**209**	P		**Pn**	**04 42 25.2**	**-0.3**
	baz=28							
ANMO	**Albuquerque**	**2.76**	**209**	Pn		**Pn**	**04 42 25.2**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=26,slow=1.2,SNR=42							
ANMO				Lg		Lg	04 43 02.1	
	comp=Z,5.7nm,0.3s,baz=26,slow=18,SNR=7.3							
	comp=Z,9.3nm,0.5s							
MVCO	**Mesa Verde**	**2.92**	**268**			**Pn**	**04 42 28.5**	**+0.7**
MVCO	**Mesa Verde**	**2.92**	**268**	Pb		**Pb**	**04 42 32.8**	**-0.6**
	baz=87,SNR=194							
MVCO				Sb		**Sb**	**04 43 10.0**	**+0.7**
	baz=87							
BRIGG	**Briggsdale**	**3.22**	**7**			**Pb**	**04 42 34.5**	**-3.9**
BRIGG				IAmb_Lg			04 43 34.4	
	comp=Z,105nm,1.1s							
AMTX	**Amarillo**	**3.57**	**133**			**Pn**	**04 42 36.7**	**+0.1**
AMTX	**Amarillo**	**3.57**	**133**	Pb		**Pb**	**04 42 44.0**	**-0.3**
	baz=314							
AMTX				Sb		**Sb**	**04 43 29.4**	**+1.6**
	baz=314							
AMTX	**Amarillo**	**3.57**	**133**	S		**Sb**	**04 43 29.4**	**+1.6**
	baz=314							
N23A	**Red Feather La**	**3.61**	**347**			**Pn**	**04 42 39.8**	**+2.5**
MSTX	**Muleshoe**	**3.80**	**153**			**Pn**	**04 42 39.8**	**+0.1**
MSTX	**Muleshoe**	**3.80**	**153**	Pb		**Pb**	**04 42 47.8**	**-0.4**
	baz=333							
MSTX				Sb		**Sb**	**04 43 34.5**	**+0.1**
	baz=333							
MSTX	**Muleshoe**	**3.80**	**153**	S		**Sb**	**04 43 35.6**	**+1.3**
	baz=333							
O20A	**White River Ci**	**3.82**	**317**			**Pn**	**04 42 41.9**	**+1.8**
O20A	**White River Ci**	**3.82**	**317**	P		**Pn**	**04 42 40.5**	**+0.4**
	baz=137							
PHWY	**Pilot Hill**	**3.94**	**353**			**Pn**	**04 42 43.6**	**+1.8**
OGNE	**Ogallala**	**4.17**	**31**			**Pn**	**04 42 47.3**	**+2.5**
OGNE				IAmb_Lg			04 44 06.4	
	comp=Z,85nm,0.8s							
OGNE	**Ogallala**	**4.17**	**31**	Pg		**Pg**	**04 42 58.7**	**-2.3**
	baz=212,SNR=8.7							
OGNE				Sb		**Sb**	**04 43 47.6**	**+2.5**
	baz=212							
CBKS	**Cedar Bluff**	**4.27**	**69**			**Pn**	**04 42 47.0**	**+0.8**
CBKS				IAmb_Lg			04 44 11.5	
	comp=Z,77nm,0.8s							
CBKS	**Cedar Bluff**	**4.27**	**69**	P		**Pn**	**04 42 46.3**	**+0.2**
	baz=251,SNR=15							
CBKS				Sb		**Sb**	**04 43 50.1**	**+2.3**
	baz=251							
CBKS	**Cedar Bluff**	**4.27**	**69**	P		**Pn**	**04 42 47.2**	**+1.0**
	baz=251							
SMWD	**Samnorwood**	**4.36**	**120**	Pn		**Pn**	**04 42 47.7**	**+0.4**
SMWD				IAmb_Lg			04 44 06.7	
	comp=Z,147nm,0.9s							
ELIS	**Ellis County**	**4.55**	**105**	Pn		**Pn**	**04 42 50.6**	**+0.7**
W18A	**Petrified Fore**	**4.55**	**242**	Sb		**Sb**	**04 43 58.3**	**+2.1**
	baz=59							
HMU	**Henry Mountain**	**4.72**	**279**			**Pn**	**04 42 53.9**	**+1.5**
U32A	**Winter Ranch,**	**4.79**	**100**			**Pn**	**04 42 53.7**	**+0.4**
U32A	**Winter Ranch,**	**4.79**	**100**	P		**Pn**	**04 42 53.6**	**+0.4**
	baz=283							
SRU	**San Rafael Swe**	**4.79**	**293**			**Pn**	**04 42 53.7**	**+0.2**
DKNS	**Dickens**	**4.89**	**138**	Pn		**Pn**	**04 42 54.7**	**-0.1**
DKNS				IAmb_Lg			04 44 14.7	
	comp=Z,74nm,0.9s							
R32A	**Long Quarter,**	**4.96**	**76**			**Pn**	**04 42 56.4**	**+0.8**
R32A				IAmb_Lg			04 44 19.9	
	comp=Z,80nm,0.8s							
OK038	**West end E0370**	**4.97**	**99**			**Pn**	**04 42 56.5**	**+0.8**
OK038				IAmb_Lg			04 44 17.7	
	comp=Z,84nm,0.9s							
P17A	**Butcher Ranch,**	**5.08**	**296**	Pn		**Pn**	**04 42 57.8**	**+0.4**
POST	**Post**	**5.10**	**147**			**Pn**	**04 42 56.4**	**-1.1**
POST				IAmb_Lg			04 44 22.4	
	comp=Z,40nm,0.9s							
OK032	**Salt Plains WL**	**5.33**	**94**	IAmb_Lg			04 44 40.1	
	comp=Z,57nm,0.8s							
121A	**Cookes Peak, D**	**5.41**	**207**			**Pn**	**04 43 01.3**	**-0.6**
121A	**Cookes Peak, D**	**5.41**	**207**	P		**Pn**	**04 43 01.5**	**-0.3**
	baz=26,SNR=7.1							
121A	**Cookes Peak, D**	**5.41**	**207**	P		**Pn**	**04 43 01.6**	**-0.3**
	baz=26							
K22A	**Casper**	**5.42**	**347**			**Pn**	**04 43 05.0**	**+3.0**
KAN08	**Anthony NE Sta**	**5.48**	**90**	IAmb_Lg			04 44 43.6	
	comp=Z,72nm,0.9s							
KAN14	**Manchester OK**	**5.51**	**92**	IAmb_Lg			04 44 44.3	
	comp=Z,62nm,0.9s							
SN05	**Snyder 5**	**5.54**	**143**	IAmb_Lg			04 44 41.3	
	comp=Z,38nm,0.8s							
SN01	**Snyder 1**	**5.55**	**143**	IAmb_Lg			04 44 38.3	
	comp=Z,50nm,0.9s							
CROK	**Carrier**	**5.56**	**97**	Pn		**Pn**	**04 43 03.6**	**-0.3**
CROK				IAmb_Lg			04 44 48.5	
	comp=Z,51nm,0.8s							
KAN05	**Bluff City Nor**	**5.57**	**91**	IAmb_Lg			04 44 37.2	
	comp=Z,67nm,0.8s							
WMOK	**Wichita Mounta**	**5.57**	**116**			**Pn**	**04 43 04.5**	**+0.5**
WMOK				IAmb_Lg			04 44 47.5	
	comp=Z,52nm,1.0s							
WMOK	**Wichita Mounta**	**5.57**	**116**	Pb		**Pb**	**04 43 18.1**	**-0.3**
	baz=299							
ODSA	**Odessa**	**5.58**	**160**	IAmb_Lg			04 44 45.1	
	comp=Z,46nm,1.1s							
WUAZ	**Wupatki**	**5.58**	**252**	Pn		**Pn**	**04 43 04.8**	**+0.5**
WUAZ	**Wupatki**	**5.58**	**252**	P		**Pn**	**04 43 04.8**	**+0.5**
	baz=69							
APMT	**Aspermont**	**5.59**	**135**	Pn		**Pn**	**04 43 04.2**	**0.0**
APMT				IAmb_Lg			04 44 47.3	
	comp=Z,57nm,0.9s							
GC02	**Grant County #**	**5.60**	**93**			**Pn**	**04 43 04.2**	**-0.2**
KAN01	**Argonia South**	**5.65**	**90**	IAmb_Lg			04 44 53.0	
	comp=Z,48nm,0.9s							
KAN17	**Caldwell West**	**5.66**	**91**	IAmb_Lg			04 44 46.1	
	comp=Z,53nm,0.8s							
MNTX	**Cornudas Mount**	**5.69**	**185**	Pb		**Pb**	**04 43 21.1**	**+0.8**
	baz=3.8							
KAN09	**Caldwell North**	**5.77**	**90**			**Pn**	**04 43 06.8**	**+0.2**
KAN09				IAmb_Lg			04 44 43.9	
	comp=Z,71nm,1.0s							
KAN13	**South Haven SW**	**5.89**	**91**	Pn		**Pn**	**04 43 09.0**	**+0.7**
KAN13				IAmb_Lg			04 44 48.0	
	comp=Z,52nm,0.9s							
PECS	**Pecos**	**6.05**	**172**	IAmb_Lg			04 44 59.0	
	comp=Z,54nm,1.1s							
TCRU	**Three Creeks R**	**6.13**	**284**			**Pn**	**04 43 10.6**	**-1.3**
OK029	**Liberty Lake**	**6.15**	**103**	Pn		**Pn**	**04 43 11.8**	**-0.1**
SGCY	**Sterling City**	**6.25**	**150**	IAmb_Lg			04 45 10.5	
	comp=Z,55nm,0.8s							
MNHN	**Monahans**	**6.27**	**163**	IAmb_Lg			04 45 02.0	
	comp=Z,60nm,0.9s							
OKCSW	**OKLAHOMA CITY**	**6.29**	**106**	IAmb_Lg			04 45 01.8	
	comp=Z,54nm,0.7s							
TCUT	**Toone Canyon**	**6.32**	**308**	Pn		**Pn**	**04 43 15.6**	**+1.2**
WTFS	**Witchita Falls**	**6.32**	**123**			**Pn**	**04 43 15.3**	**+1.0**
WTFS				IAmb_Lg			04 45 03.7	
	comp=Z,33nm,1.0s							
FNO	**Franklin**	**6.37**	**107**	IAmb_Lg			04 45 08.1	
	comp=Z,61nm,0.8s							
ABTX	**Abilene, Hawle**	**6.38**	**137**	IAmb_Lg			04 45 19.2	
	comp=Z,48nm,0.9s							
OK048	**Pawnee Station**	**6.40**	**96**			**Pn**	**04 43 14.9**	**-0.4**
OK048				IAmb_Lg			04 45 10.5	
	comp=Z,57nm,0.9s							
OK051	**E0350 and S346**	**6.47**	**95**			**Pn**	**04 43 17.0**	**+0.7**
OK051				IAmb_Lg			04 45 13.0	
	comp=Z,42nm,0.7s							
PDAR	**Pinedale Array**	**6.48**	**328**	Pn		**Pn**	**04 43 18.9**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=132,slow=13,SNR=8.4							
PDAR				Pg		**Pb**	**04 43 36.6**	**+2.6**
	comp=Z,0.6nm,0.3s,baz=132,slow=17,SNR=18							
PDAR				Lg	Lg		04 45 01.3	
	comp=Z,0.4nm,0.3s,baz=146,slow=31,SNR=2.5							
	comp=Z,0.6nm,0.5s							
BGNE	**Belgrade**	**6.56**	**50**	Pn		**Pn**	**04 43 18.8**	**+1.3**
BGNE	**Belgrade**	**6.56**	**50**	S		**Sn**	**04 44 33.3**	**+0.9**
	baz=234							
QUOK	**Quay**	**6.64**	**98**			**Pn**	**04 43 19.6**	**+0.9**
T35A	**Sooner Cattle**	**6.67**	**91**	Pn		**Pn**	**04 43 19.2**	**+0.2**
T35A				IAmb_Lg			04 45 15.9	
	comp=Z,50nm,0.8s							
KSU1	**Kansas State U**	**6.70**	**73**	IAmb_Lg			04 45 16.8	
	comp=Z,52nm,0.9s							
RSSD	**Black Hills**	**6.76**	**5**	Pn		**Pn**	**04 43 22.3**	**+1.8**
PLPT	**Palo Pinto**	**7.03**	**129**	IAmb_Lg			04 45 24.8	
	comp=Z,23nm,0.9s							
TUC	**Tucson**	**7.03**	**226**	IAmb_Lg			04 45 40.0	
	comp=Z,4.8nm,1.1s							
TUC	**Tucson**	**7.03**	**226**	IAmb_Lg			04 45 40.0	
	comp=Z,5.0nm,1.1s							
FW03	**Perrin-Whitt E**	**7.04**	**126**	IAmb_Lg			04 45 40.2	
	comp=Z,28nm,0.8s							
ALPN	**Alpine**	**7.06**	**172**	IAmb_Lg			04 45 24.5	
	comp=Z,43nm,1.2s							
LOOK	**Love County**	**7.09**	**116**	IAmb_Lg			04 45 46.6	
	comp=Z,38nm,0.7s							
OZNA	**Ozona**	**7.14**	**153**	IAmb_Lg			04 45 37.1	
	comp=Z,42nm,1.1s							
Z35A	**Perchaven, San**	**7.40**	**121**	IAmb_Lg			04 45 44.3	
	comp=Z,49nm,1.1s							
FW06	**Azle**	**7.41**	**124**	IAmb_Lg			04 45 44.4	
	comp=Z,33nm,0.9s							
TUL3	**Leonard**	**7.42**	**99**	Pn		**Pn**	**04 43 29.4**	**0.0**
TUL3	**Leonard**	**7.42**	**99**	P		**Pn**	**04 43 29.1**	**-0.2**
	baz=283							
FW07	**Weatherford**	**7.43**	**127**	IAmb_Lg			04 45 47.2	
	comp=Z,60nm,1.2s							
SAND	**Sanderson**	**7.75**	**162**			**Pn**	**04 43 33.6**	**-0.2**
SAND				IAmb_Lg			04 45 56.1	
	comp=Z,43nm,1.1s							
BRDY	**Brady**	**7.76**	**140**	IAmb_Lg			04 45 56.2	
	comp=Z,31nm,0.7s							
FW13	**Cleburne**	**7.89**	**127**	IAmb_Lg			04 46 06.0	
	comp=Z,57nm,1.2s							
RLO	**Rose Lookout**	**7.97**	**96**	IAmb_Lg			04 46 02.0	
	comp=Z,29nm,0.9s							
FW14	**Alvarado**	**8.01**	**126**	IAmb_Lg			04 46 15.7	
	comp=Z,31nm,0.8s							
JCT	**Junction City**	**8.06**	**147**	IAmb_Lg			04 46 11.9	
	comp=Z,42nm,0.9s							
TX31	**Lajitas Ar. Si**	**8.09**	**173**	Pn		**Pn**	**04 43 38.2**	**-0.4**
TXAR	**Lajitas Array**	**8.09**	**173**	Pn		**Pn**	**04 43 39.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=359,slow=14,SNR=18							
TXAR				Lg		Lg	04 45 46.1	
	comp=Z,1.0nm,0.3s,baz=351,slow=24,SNR=5.4							
	comp=Z,0.3nm,0.4s							
WHTX	**Lake Whitney,**	**8.12**	**129**	IAmb_Lg			04 46 06.2	
	comp=Z,38nm,1.1s							
WHTX	**Lake Whitney,**	**8.12**	**129**	P		**Pn**	**04 43 38.9**	**0.0**
	baz=313							
FW16	**Waxahatchie**	**8.15**	**125**	IAmb_Lg			04 46 10.6	
	comp=Z,72nm,1.1s							
TREL	**Terrell**	**8.54**	**120**	IAmb_Lg			04 46 19.3	
	comp=Z,42nm,0.8s							
DRIO	**Del Rio**	**8.69**	**155**	IAmb_Lg			04 46 18.1	
	comp=Z,30nm,0.8s							
ELK	**Elko**	**8.76**	**296**	Pn		**Pn**	**04 43 46.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=167,slow=12,SNR=1.6							
ELK				Lg		Lg	04 46 08.2	
	comp=Z,0.1nm,0.3s,baz=192,slow=20,SNR=1.6							
	comp=Z,0.4nm,0.3s							
ECSD	**EROS Data Cent**	**8.91**	**42**	Pn		**Pn**	**04 43 51.9**	**+2.1**
ECSD	**EROS Data Cent**	**8.91**	**42**	P		**Pn**	**04 43 50.8**	**+1.0**
	baz=227							
HNDO	**Hondo**	**9.10**	**148**	IAmb_Lg			04 46 37.6	
	comp=Z,42nm,1.0s							
E28A	**Huff**	**9.69**	**17**	IAmb_Lg			04 46 51.5	
	comp=Z,25nm,0.8s							
EF01	**Eagle Ford 01**	**9.85**	**145**	IAmb_Lg			04 46 57.0	
	comp=Z,24nm,0.8s							
ULM	**Lac du Bonnet**	**14.38**	**24**	Pn		**Pn**	**04 45 05.4**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=207,slow=11,SNR=1.6							
	comp=Z,0.6nm,0.3s							
TKL	**Tuckaleechee C**	**17.02**	**89**	Lg		Lg	04 50 28.6	
	comp=Z,0.2nm,0.3s,baz=248,slow=19,SNR=4.4							
YKA	**Yellowknife Ar**	**25.85**	**350**	P		**P**	**04 47 14.1**	**+1.7**
	comp=Z,0.3nm,0.8s,baz=165,slow=9.5,SNR=3.5							
	comp=Z,0.3nm,0.8s							
ILAR	**Eielson Array**	**36.90**	**331**	P		**P**	**04 48 51.5**	**+2.0**
	comp=Z,0.2nm,0.9s,baz=131,slow=7.5,SNR=2.2							
	comp=Z,0.2nm,0.9s							

*RSPR **20** 04:53:07.1, 18°.08N×66°.14W, h27km, MD3.0/8*
*NEIC **20** 04:53:07.5±0.8, 18°.13N±0°.04×66°.21W±0°.03, h21km±12km, ML2.7/14, Md3.0/8(RSPR), Error ellipse: s-maj=5.3km s-min=3.9km az=208.0*
*OSPL **20** 04:53:09.3±0.9, 18°.23N×66°.23W, h0km±12km, ML2.5*
ISC 20 04:53:07.6±1.0, 18°.11N±0°.06×66°.22W±0°.04, h24km±7km, n39,σ0s80/47, 10C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**0.06**	**86**	*e*	P	**Pb**	**04 53 11.2**		**-0.6**
SJG	**San Juan**	**0.06**	**86**	*e*	P	**Pb**	**04 53 11.3**		**-0.6**
SJG				*e*	S	**Sb**	**04 53 14.9**		**+0.2**
OBIP	**Obispado Ponce**	**0.38**	**260**	*e*	P	**Pb**	**04 53 15.6**		**-0.1**
OBIP	**Obispado Ponce**	**0.38**	**260**	*e*	S	**Sb**	**04 53 22.1**		**+0.9**
OBIP	**Obispado Ponce**	**0.38**	**260**			**Pb**	**04 53 15.6**		**-0.1**
OBIP						**Sb**	**04 53 22.1**		**+0.9**
OBIP	**Obispado Ponce**	**0.38**	**260**	IAML			04 53 22.6		
	comp=E,239nm,0.3s								
OBIP				IAML			04 53 22.9		
	comp=N,260nm,0.3s								
EMPR	**Esperanza - Ma**	**0.47**	**321**	*e*	P	**Pb**	**04 53 17.1**		**-0.2**
EMPR	**Esperanza - Ma**	**0.47**	**321**	*e*	S	**Sb**	**04 53 24.5**		**+0.6**
EMPR	**Esperanza - Ma**	**0.47**	**321**			**Pb**	**04 53 17.1**		**-0.2**
EMPR						**Sb**	**04 53 24.5**		**+0.6**
EMPR	**Esperanza - Ma**	**0.47**	**321**	IAML			04 53 25.1		
	comp=E,761nm,0.5s								
EMPR				IAML			04 53 28.1		
	comp=N,593nm,0.3s								
AOPR	**Arecibo Observ**	**0.56**	**295**	*e*	P	**Pb**	**04 53 18.3**		**-0.6**
AOPR	**Arecibo Observ**	**0.56**	**295**	*e*	S	**Sb**	**04 53 26.4**		**-0.1**
AOPR	**Arecibo Observ**	**0.56**	**295**			**Pb**	**04 53 18.1**		**-0.8**
AOPR						**Sb**	**04 53 26.0**		**-0.6**
AOPR				IAML			04 53 28.4		
	comp=N,476nm,0.3s								
GBPR	**Guanica, Bosqu**	**0.64**	**258**	*e*	P	**Pn**	**04 53 21.0**		**-0.2**
GBPR	**Guanica, Bosqu**	**0.64**	**258**	*e*	S	**Sn**	**04 53 30.3**		**-0.3**
GBPR	**Guanica, Bosqu**	**0.64**	**258**			**Pn**	**04 53 21.0**		**-0.2**
GBPR						**Sn**	**04 53 30.3**		**-0.3**
LSP	**Las Mesas**	**0.83**	**275**	*e*	P	**Pn**	**04 53 24.0**		**+0.2**
LSP	**Las Mesas**	**0.83**	**275**	*e*	S	**Sn**	**04 53 36.2**		**+0.9**
LSP	**Las Mesas**	**0.83**	**275**			**Pn**	**04 53 24.0**		**+0.2**
LSP						**Sn**	**04 53 36.2**		**+0.9**
CRPR	**Cabo Rojo, PR**	**0.85**	**263**	*e*	P	**Pn**	**04 53 24.3**		**+0.2**
CRPR	**Cabo Rojo, PR**	**0.85**	**263**	*e*	S	**Sn**	**04 53 37.3**		**+1.5**
CRPR	**Cabo Rojo, PR**	**0.85**	**263**			**Pn**	**04 53 24.3**		**+0.2**
CRPR	**Cabo Rojo, PR**	**0.85**	**263**			**Sn**	**04 53 36.2**		**+0.4**
CRPR	**Cabo Rojo, PR**	**0.85**	**263**	*i*	P	**Pn**	**04 53 24.7**		**+0.6**
CRPR				*e*	S	**Sn**	**04 53 36.3**		**+0.4**
CRPR				IAML			04 53 39.0		
	comp=Z,100nm,0.8s								
PRSN	**Puerto Rico Se**	**0.89**	**277**	*e*	P	**Pn**	**04 53 24.6**		**0.0**
PRSN	**Puerto Rico Se**	**0.89**	**277**	*e*	S	**Sn**	**04 53 36.8**		**+0.1**
PRSN	**Puerto Rico Se**	**0.89**	**277**			**Pn**	**04 53 24.6**		**0.0**
PRSN						**Sn**	**04 53 36.8**		**+0.1**
PRSN	**Puerto Rico Se**	**0.89**	**277**	IAML			04 53 40.9		
	comp=N,364nm,0.3s								
PRSN				IAML			04 53 42.3		
	comp=E,255nm,0.3s								
AGPR	**Aguadilla, PR**	**0.92**	**293**	*e*	P	**Pb**	**04 53 24.4**		**-0.5**
AGPR	**Aguadilla, PR**	**0.92**	**293**			**Pb**	**04 53 24.4**		**-0.5**
AGPR						**Sb**	**04 53 36.7**		**-0.1**
AGPR	**Aguadilla, PR**	**0.92**	**293**	IAML			04 53 38.4		
	comp=E,210nm,0.4s								
AGPR				IAML			04 53 39.3		
	comp=N,177nm,0.4s								
AGPR	**Aguadilla, PR**	**0.92**	**293**	*i*	P	**Pb**	**04 53 24.4**		**-0.5**
AGPR				*e*	S	**Sb**	**04 53 36.6**		**-0.1**
AGPR				IAML			04 53 41.9		
	comp=Z,215nm,1.6s								
IDE	**Isla Desecheo**	**1.23**	**283**	*e*	P	**Pn**	**04 53 29.3**		**+0.1**
IDE	**Isla Desecheo**	**1.23**	**283**	*e*	S	**Sn**	**04 53 46.2**		**+1.2**
IDE	**Isla Desecheo**	**1.23**	**283**			**Pn**	**04 53 29.3**		**+0.1**
IDE						**Sn**	**04 53 46.2**		**+1.2**
PCDR	**Punta Cana, DR**	**2.10**	**281**			**Pb**	**04 53 43.3**		**-1.6**
PCDR						**Sb**	**04 54 09.9**		**-0.6**
PCDR	**Punta Cana, DR**	**2.10**	**281**	*i*	P	**Pb**	**04 53 43.8**		**-1.1**
ANBD	**Bethesda, Anti**	**4.38**	**103**	*e*	P	**Pn**	**04 54 11.0**		**-1.5**
ANBD	**Bethesda, Anti**	**4.38**	**103**	*e*	S	**Sn**	**04 55 05.7**		**+2.9**

*IDC **20** 04:57:43.8±1.1, 64°.49N×17°.68W, h0km, mb3.6/7, mbtmp3.7/10, ML3.1/3, MS3.2/1, Error ellipse: s-maj=27.4km s-min=20.2km az=42.0*
*REY **20** 04:57:43.2, 64°.67N×17°.46W, h2km*
ISC 20 04:57:43.2±0.7, 64°.68N±0°.02×17°.52W±0°.02, h8km±4km, n55,σ1s42/81, mb3.6/7, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IKIS	**Kista**	**0.02**	**249**	P		**Pg**	**04 57 44.3**		**-0.6**
	baz=276								
IKIS				S		**Sg**	**04 57 45.6**		**-0.6**
	baz=276								
IURH	**Urdarhals**	**0.21**	**49**	P		**Pb**	**04 57 47.6**		**+0.1**
	baz=42								
IURH				S		**Sg**	**04 57 51.3**		**+0.7**
	baz=42								
IDJK	**Dyngjujokull**	**0.22**	**145**	P		**Pg**	**04 57 47.5**		**-0.2**
	baz=149								
IGRF	**Grimsfjall**	**0.30**	**158**	P		**Pg**	**04 57 48.9**		**-0.2**
	baz=162								
IGRF				S		**Sg**	**04 57 53.6**		**+0.6**
	baz=162								
IHUS	**Husbondi**	**0.39**	**189**	P		**Pg**	**04 57 50.6**		**-0.2**
	baz=193								
IHUS				S		**Sg**	**04 57 56.4**		**+0.4**
	baz=193								
ISKR	**Skrokkalda**	**0.39**	**252**	P		**Pb**	**04 57 50.9**		**-1.5**
	baz=255								
ISKR				S		**Sb**	**04 57 57.4**		**-1.2**
	baz=255								
IBJK	**Bruarjokull**	**0.39**	**122**	P		**Pg**	**04 57 50.4**		**-0.6**
	baz=123								
IBJK				S		**Sg**	**04 57 56.1**		**0.0**
	baz=123								
THOR	**Thorvaldshraun**	**0.44**	**55**	P		**Pg**	**04 57 51.3**		**-0.5**
	baz=51								
THOR				S		**Sb**	**04 57 58.0**		**-2.0**
	baz=51								
IJOK	**Jokulheimar**	**0.48**	**220**	P		**Pg**	**04 57 52.2**		**-0.2**
	baz=223								
IJOK				S		**Sb**	**04 57 59.6**		**-1.4**
	baz=223								
IKRE	**Kreppuhraun**	**0.50**	**78**	P		**Pg**	**04 57 52.0**		**-0.9**
	baz=76								
IKRE				S		**Sg**	**04 57 59.2**		**-0.2**
	baz=76								
IASK	**Askja**	**0.53**	**45**	P		**Pg**	**04 57 52.9**		**-0.5**
	baz=42								
IASK				S		**Sg**	**04 58 00.3**		**-0.1**
	baz=42								
IMKO	**Mokollar**	**0.59**	**59**	P		**Pg**	**04 57 53.8**		**-0.8**
	baz=57								
IMKO				S		**Sb**	**04 58 02.1**		**-2.1**
	baz=57								
IIEY	**Innrieyrar**	**0.64**	**204**	P		**Pg**	**04 57 54.8**		**-0.8**
	baz=207								
IIEY				S		**Sb**	**04 58 04.2**		**-1.5**
	baz=207								
ISVA	**Svartarkot**	**0.67**	**10**	P		**Pg**	**04 57 55.5**		**-0.7**
	baz=7.4								
ISVA				S		**Sb**	**04 58 04.9**		**-1.6**
	baz=7.4								
IKSK	**Karasker**	**0.69**	**138**	P		**Pg**	**04 57 54.8**		**-1.8**
	baz=140								
IKSK				S		**Sg**	**04 58 04.7**		**-0.9**
	baz=140								
IKAL	**Kalfafell**	**0.74**	**186**	P		**Pg**	**04 57 56.3**		**-1.1**
	baz=188								
IKAL				S		**Sg**	**04 58 05.9**		**-1.1**
	baz=188								
IVSH	**V-Sauoahnukur**	**0.78**	**80**	P		**Pg**	**04 57 56.6**		**-1.6**
	baz=79								
IVSH				S		**Sg**	**04 58 07.2**		**-1.2**
	baz=79								
IVAT	**Vatnsfell**	**0.78**	**231**	P		**Pg**	**04 57 57.6**		**-0.7**
	baz=233								
IVAT				S		**Sb**	**04 58 08.4**		**-1.4**
	baz=233								
IFAL	**Falljokull**	**0.79**	**157**	P		**Pg**	**04 57 57.0**		**-1.4**
	baz=158								
IFAL				S		**Sg**	**04 58 07.

GERES GERESS Array B 22.97 119 P **P** 05 02 50.1 +2.2
0.7nm,0.9s,baz=331,slow=7.9,SNR=2.1
0.7nm,0.9s
ESDC Sonseca Array 26.27 156 P **P** 05 03 18.6 -0.1
1.1nm,0.9s,baz=355,slow=7.9,SNR=6.8
1.1nm,0.9s
MDT Midelt 32.87 160 LR LR 05 16 36.7
comp=Z,35nm,18.8s,baz=22,slow=35
BVAR Borovoye Array 43.20 62 P **P** 05 05 46.9 +2.8
2.4nm,0.9s,baz=324,slow=7.3,SNR=7.1
2.4nm,0.9s
ILAR Eielson Array 45.67 332 P P 05 06 07.2 +3.5
0.5nm,0.9s,baz=7.0,slow=9.9,SNR=4.5
0.5nm,0.9s
KURBB Kurchatov Arra 48.16 58 P **P** 05 06 25.2 +2.0
1.3nm,0.9s,baz=323,slow=7.5,SNR=9.2
1.3nm,0.9s
TORD Torodi Ar. Bea 53.16 156 P **P** 05 07 02.2 +0.9
0.7nm,0.8s,baz=353,slow=10,SNR=3.5
0.7nm,0.8s
PDAR Pinedale Array 53.16 293 P **P** 05 07 03.4 +1.9
0.6nm,0.8s,baz=58,slow=8.9,SNR=4.6
0.6nm,0.8s

MOS ***20*** *05:16:19.3±1.0,44°.24N×141°.03E,h240km,mb4.0/3,Error ellipse: s-maj=11.1km s-min=9.5km az=83.7*
JMA ***20*** *05:16:19.5±0.3,44°.N±1°×14°.1E±°,h248km±2km,MV3.6/30, NW OFF HOKKAIDO*
IDC ***20*** *05:16:20.1±0.6,44°.28N×141°.12E,h233km±6km,mb3.1/12, mbtmp3.7/16,Error ellipse: s-maj=13.4km s-min=11.8km az=174.0*
SKHL ***20*** *05:16:20.2±0.1,44°.30N×141°.10E,h226km±5km,mb4.6/6, msh5.0/3*
ISC 20 05:16:20.4±0.6,44°26N±0°.05×141°14E±0°.06,h238km±6km, n59,σ1s04/73,mb3.5/14,1D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JYG	**Yagishiri**	**0.27**	**52**	*e*P		**Pn**	**05 16 51.6**	**+0.3**
JSS	**Shosan**	**0.53**	**75**	*e*P		**Pn**	**05 16 52.8**	**+0.8**
JHR	**Hokuryu**	**0.67**	**140**	*e*P		**Pn**	**05 16 53.4**	**+0.8**
JHR				*e*S		**S**	**05 17 18.9**	**+1.2**
ASAJ	**Asahikawa**	**1.06**	**97**	P		**Pn**	**05 16 54.6**	**+0.1**
ASAJ	**Asahikawa**	**1.06**	**97**	P		**Pn**	**05 16 54.6**	**+0.1**
	82nm,0.3s,baz=248,slow=9.3,SNR=59							
ASAJ				S		**S**	**05 17 19.9**	**-1.3**
	11nm,0.4s,baz=210,slow=20,SNR=1.4							
JKA	**Kamikawa-asahi**	**1.06**	**97**	*e*P		**Pn**	**05 16 54.6**	**+0.1**
JAB	**Ashibetsu**	**1.09**	**134**	P		**Pn**	**05 16 55.5**	**+0.8**
JAB				*e*S		**S**	**05 17 23.1**	**+1.5**
JRBN	**Rebuntou**	**1.16**	**358**	P		**Pn**	**05 16 54.7**	**-0.3**
JRBN				*e*S		**S**	**05 17 22.2**	**-0.1**
JWK2	**Keihoku**	**1.19**	**27**	P		**Pn**	**05 16 55.5**	**+0.3**
JKK2	**Kamakawa 2**	**1.23**	**108**	P		**Pn**	**05 16 56.0**	**+0.4**
JKK2				*e*S		**S**	**05 17 23.7**	**+0.5**
JSE	**Soyaes**	**1.25**	**56**	P		**Pn**	**05 16 55.6**	**0.0**
JSE				*e*S		**S**	**05 17 23.3**	**0.0**
JTKR	**Abashiri--Toko**	**2.02**	**97**	*e*P		**Pn**	**05 17 02.9**	**+0.9**
JTKR				*e*S		**S**	**05 17 36.0**	**+1.4**
JAR	**Ashorobuto**	**2.14**	**116**	*e*P		**Pn**	**05 17 04.2**	**+1.1**
JAR				*e*S		**S**	**05 17 38.2**	**+1.5**
JCH	**Churui**	**2.31**	**135**	*e*P		**Pn**	**05 17 04.2**	**-0.7**
JCH				*e*S		**S**	**05 17 37.0**	**-2.8**
JAK	**Akkeshi**	**2.88**	**115**	*e*S		**S**	**05 17 48.6**	**-1.8**
JOT	**Ohata**	**2.88**	**181**	*e*S		**S**	**05 17 49.2**	**-1.3**
YSS	**Yuzh-Sakhalins**	**2.92**	**22**	*e*P		**Pn**	**05 17 11.0**	**-0.1**
YSS				AMB		AMB	05 17 15.6	
	90nm,0.6s							
YSS				*e*S		**S**	**05 17 50.5**	**-0.8**
YSS				A		A	05 17 54.7	
	40nm,0.4s							
YSS				A		A	05 17 54.7	
	20nm,0.4s							
YSS	**Yuzh-Sakhalins**	**2.92**	**22**	*e*PN		**Pn**	**05 17 11.0**	**-0.1**
YSS				*e*S		**S**	**05 17 50.1**	**-1.2**
YSS				pmax		pmax		
	comp=Z,170nm,0.9s							
YSS				smax		smax		
	comp=N,50nm,0.9s							
YSS				smax		smax		
	comp=E,20nm,0.7s							
AKK	**Akkeshi**	**2.96**	**114**	*e*P		**Pn**	**05 17 11.2**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**3.41**	**92**	*e*P		**Pn**	**05 17 17.3**	**+0.6**
YUK				AMB		AMB	05 17 18.0	
	comp=E,60nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**3.41**	**92**	*i* PN		**Pn**	**05 17 15.0**	**-1.7**
SHO	**Shikotan**	**4.12**	**93**	*e*P		**Pn**	**05 17 27.0**	**+2.0**
SHO				AMB		AMB	05 17 30.3	
	comp=E,30nm,0.4s							
SHO				*e*S		**S**	**05 18 14.7**	**-1.5**
SHO				A		A	05 18 15.3	
	comp=E,60nm,0.4s							
SHO				A		A	05 18 15.3	
	comp=E,70nm,0.4s							
SHO	**Shikotan**	**4.12**	**93**	PN		**Pn**	**05 17 27.5**	**+2.5**
SHO				*e*S		**S**	**05 18 14.4**	**-1.8**
SHO				smax		smax		
	comp=E,70nm,0.4s							
SHO				smax		smax		
	comp=N,50nm,0.3s							
UGL	**Uglegorsk**	**4.86**	**7**	*e*P		**Pn**	**05 17 34.4**	**+0.5**
UGL				AMB		AMB	05 17 35.0	
	comp=N,160nm,0.8s							
UGL				*e*S		**S**	**05 18 32.0**	**-0.4**
UGL				A		A	05 18 32.3	
	comp=N,70nm,0.8s							
UGL				A		A	05 18 32.3	
	comp=N,100nm,0.8s							
UGL	**Uglegorsk**	**4.86**	**7**	*e*PN		**Pn**	**05 17 34.4**	**+0.5**
UGL				pmax		pmax		
	comp=Z,158nm,1.0s							
USA0B	**Ussuriysk Arra**	**6.57**	**273**	*i* PN		**Pn**	**05 17 54.5**	**-0.9**
USRK	**Ussuriysk Ar.**	**6.57**	**273**	P		**Pn**	**05 17 54.6**	**-0.8**
	comp=Z,17nm,0.8s,baz=88,slow=13,SNR=20							
TYV	**Tymovskoe**	**6.68**	**8**	*e*P		**Pn**	**05 17 57.4**	**+0.7**
TYV				AMB		AMB	05 17 58.3	
	comp=Z,20nm,0.8s							
TYV	**Tymovskoe**	**6.68**	**8**	*e*PN		**Pn**	**05 17 58.0**	**+1.3**
TYV				pmax		pmax		
	comp=Z,16nm,0.8s							
TYV				pmax		pmax		
	comp=Z,200nm,4.1s							
MSHR	**Mys Shultsa**	**7.46**	**260**	*i* PN		**Pn**	**05 18 04.2**	**-2.4**
MSHR				pmax		pmax		
	comp=Z,8.0nm,1.2s							
MJAR	**Matsushiro Arr**	**8.03**	**197**	P		**Pn**	**05 18 13.5**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=9.4,slow=13,SNR=2.1							
KLR	**Kul'dur**	**8.14**	**311**	*e*P		**Pn**	**05 18 13.9**	**-1.3**
KLR	**Kul'dur**	**8.14**	**311**	*i* PN		**Pn**	**05 18 13.9**	**-1.3**
KLR				pmax		pmax		
	comp=Z,10.0nm,2.0s							
KLR	**Kul'dur**	**8.14**	**311**	P		**Pn**	**05 18 14.2**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=126,slow=13,SNR=9.0							
SKR	**Severo-Kuril's**	**11.99**	**52**	*e*P		**Pn**	**05 19 04.8**	**+0.9**
SKR				AMB		AMB	05 19 08.1	
	comp=Z,40nm,0.5s							
SKR	**Severo-Kuril's**	**11.99**	**52**	*i* PN		**P**	**05 19 05.7**	**-1.6**
PAU	**Pauzhetka**	**12.74**	**50**	*e*P		**Pn**	**05 19 13.9**	**+0.7**
PAU				AMB		AMB	05 19 16.2	
	comp=Z,30nm,0.5s							
PETK	**Petropavlovsk-**	**14.04**	**45**	P		**Pn**	**05 19 29.0**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=208,slow=9.3,SNR=3.6							
SONM	**Songino Array**	**24.25**	**291**	P		**P**	**05 21 16.0**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=74,slow=8.6,SNR=7.0							
	comp=Z,1.7nm,0.7s							
DGZ	**Jazzator, Alta**	**36.38**	**298**	*i* P		**P**	**05 23 03.8**	**+1.9**
ZALV	**Zalesovo Beam**	**37.20**	**306**	P		**P**	**05 23 08.4**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=62,slow=3.4,SNR=2.5							
	comp=Z,0.4nm,0.3s							
MKAR	**Makanchi Array**	**40.47**	**295**	P		**P**	**05 23 35.9**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=84,slow=12,SNR=1.9							
	comp=Z,0.4nm,0.6s							
KURK	**Kurchatov**	**41.61**	**302**	*e*P		**P**	**05 23 44.6**	**-0.3**
KURK	**Kurchatov**	**41.61**	**302**	*i* P		**P**	**05 23 44.6**	**-0.3**
KURBB	**Kurchatov Arra**	**41.69**	**302**	P		**P**	**05 23 45.6**	**0.0**
	comp=Z,1.2nm,0.5s,baz=74,slow=8.8,SNR=7.1							
	comp=Z,1.2nm,0.5s							
ILAR	**Eielson Array**	**43.64**	**36**	*e*P		**P**	**05 24 01.0**	**0.0**
ILAR	**Eielson Array**	**43.64**	**36**	P		**P**	**05 24 00.4**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=257,slow=5.9,SNR=7.5							
	comp=Z,0.4nm,0.8s							
BVAR	**Borovoye Array**	**45.78**	**307**	P		**P**	**05 24 17.8**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=76,slow=8.7,SNR=7.5							
	comp=Z,1.0nm,0.4s							
ARU	**Arti**	**50.96**	**315**	*e*P		**P**	**05 24 57.6**	**+0.3**
ARU	**Arti**	**50.96**	**315**	*i* P		**P**	**05 24 57.6**	**+0.3**
ARU				pmax		pmax		
	comp=Z,4.0nm,1.3s							
YKA	**Yellowknife Ar**	**57.73**	**32**	P		**P**	**05 25 46.4**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=304,slow=7.0,SNR=9.0							
	comp=Z,0.3nm,0.5s							
WRA	**Warramunga Arr**	**64.19**	**187**	*e*P		**P**	**05 26 29.8**	**+0.1**
WRA	**Warramunga Arr**	**64.19**	**187**	P		**P**	**05 26 29.6**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=0.5,slow=6.8,SNR=18							
	comp=Z,0.3nm,0.3s							
KIV	**Kislovodsk**	**66.12**	**309**	*e*P		**P**	**05 26 41.6**	**-0.4**
KIV	**Kislovodsk**	**66.12**	**309**	*e*P		**P**	**05 26 41.6**	**-0.4**
KIV				pmax		pmax		
	comp=Z,5.0nm,1.1s							
ASAR	**Alice Springs**	**67.92**	**187**	P		**P**	**05 26 54.5**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=5.0,slow=5.7,SNR=8.3							
	comp=Z,0.6nm,0.5s							
NVAR	**Mina Array Bea**	**70.91**	**55**	P		**P**	**05 27 11.7**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=277,slow=5.8,SNR=3.7							
	comp=Z,0.2nm,0.3s							
PDAR	**Pinedale Array**	**72.81**	**47**	P		**P**	**05 27 23.5**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=318,slow=1.8,SNR=7.9							
	comp=Z,0.7nm,0.7s							
TXAR	**Lajitas Array**	**85.88**	**52**	P		**P**	**05 28 34.0**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=305,slow=4.4,SNR=4.7							
	comp=Z,0.1nm,0.5s							

REY ***20*** *05:29:06.8,64°.66N×17°.40W,h1km*
IDC ***20*** *05:29:08.2±0.6,64°.58N×17°.59W,h0km,mb4.0/17, mbtmp4.0/21,ML2.8/3,MS3.7/61,Error ellipse: s-maj=18.1km s-min=10.5km az=16.0*
MOS ***20*** *05:29:09.3±1.3,64°.71N×17°.63W,h10km,mb4.5/32,Error ellipse: s-maj=12.7km s-min=7.5km az=116.9*
NEIC ***20*** *05:29:10.8±2.3,64°.58N±0°.09×17°.7W±0°.2,h10km±1km, mb4.5/45,Error ellipse: s-maj=15.9km s-min=11.1km az=193.0*
ISC 20 05:29:09.6±0.4,64°67N±0°.02×17°44W±0°.02,h10km,n266, σ2s63/228,mb4.3/75,MS3.6/58,9C,Iceland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
IKIS	**Kista**	**0.05**	**271**	P		**Pg**	**05 29 08.6**	**-3.2**
	baz=278							
IKIS				S		**Sg**	**05 29 10.1**	**-3.3**
	baz=278							
IDJK	**Dyngjujokull**	**0.19**	**153**	P		**Pg**	**05 29 10.8**	**-2.9**
	baz=156							
IDJK				S		**Sg**	**05 29 13.9**	**-2.6**
	baz=156							
IURH	**Urdarhals**	**0.19**	**40**	P		**Pg**	**05 29 11.1**	**-2.6**
	baz=34							
IURH				S		**Sg**	**05 29 14.6**	**-1.9**
	baz=34							
IGRF	**Grimsfjall**	**0.28**	**165**	P		**Pg**	**05 29 12.3**	**-2.9**
	baz=168							
IGRF				S		**Sg**	**05 29 16.8**	**-2.2**
	baz=168							
IBJK	**Bruarjokull**	**0.36**	**125**	P		**Pg**	**05 29 13.7**	**-3.1**
	baz=125							
IBJK				S		**Sg**	**05 29 18.8**	**-2.7**
	baz=125							
IHUS	**Husbondi**	**0.39**	**194**	P		**Pg**	**05 29 14.5**	**-2.8**
	baz=197							
IHUS				S		**Sg**	**05 29 19.7**	**-2.8**
	baz=197							
THOR	**Thorvaldshraun**	**0.42**	**51**	P		**Pg**	**05 29 14.8**	**-3.0**
	baz=48							
THOR				S		**Sg**	**05 29 21.1**	**-2.2**
	baz=48							
ISKR	**Skrokkalda**	**0.42**	**255**	P		**Pg**	**05 29 15.2**	**-2.7**
	baz=257							
ISKR				S		**Sg**	**05 29 21.4**	**-2.1**
	baz=257							
IKRE	**Kreppuhraun**	**0.47**	**76**	P		**Pg**	**05 29 15.4**	**-3.2**
	baz=74							
IKRE				S		**Sg**	**05 29 22.3**	**-2.5**
	baz=74							
IJOK	**Jokulheimar**	**0.50**	**224**	P		**Pg**	**05 29 16.2**	**-3.1**
	baz=226							
IJOK				S		**Sg**	**05 29 23.9**	**-1.9**
	baz=226							
IASK	**Askja**	**0.51**	**41**	P		**Pg**	**05 29 16.2**	**-3.2**
	baz=39							
IASK				S		**Sg**	**05 29 23.5**	**-2.6**
	baz=39							
IMKO	**Mokollar**	**0.56**	**56**	P		**Pg**	**05 29 17.2**	**-3.2**
	baz=55							
IMKO				S		**Sg**	**05 29 25.4**	**-2.4**
	baz=55							
IIEY	**Innrieyrar**	**0.65**	**208**	P		**Pg**	**05 29 18.8**	**-3.3**
	baz=209							
IIEY				S		**Sg**	**05 29 28.8**	**-1.9**
	baz=209							
IKSK	**Karasker**	**0.66**	**141**	P		**Pg**	**05 29 18.2**	**-4.1**
	baz=141							
ISVA	**Svartarkot**	**0.67**	**6**	P		**Pg**	**05 29 19.1**	**-3.4**
	baz=5.1							
ISVA				S		**Sg**	**05 29 28.8**	**-2.5**
	baz=5.1							
IKAL	**Kalfafell**	**0.74**	**189**	P		**Pg**	**05 29 20.1**	**-3.7**
	baz=190							
IKAL				S		**Sg**	**05 29 29.9**	**-3.5**
	baz=190							
IVSH	**V-Sauoahnukur**	**0.74**	**79**	P		**Pg**	**05 29 20.1**	**-3.8**
	baz=78							
IVSH				S		**Sg**	**05 29 30.4**	**-3.3**
	baz=78							
IFAL	**Falljokull**	**0.77**	**159**	P		**Pg**	**05 29 20.3**	**-4.0**
	baz=160							
IFAL				S		**Sg**	**05 29 31.2**	**-3.1**
	baz=160							
IKVI	**Kvisker**	**0.82**	**147**	P		**Pg**	**05 29 21.0**	**-4.3**
	baz=148							
IKVI				S		**Sg**	**05 29 32.5**	**-3.4**
	baz=148							
IHOX	**Haoxl**	**0.84**	**155**	P		**Pg**	**05 29 22.0**	**-3.8**
	baz=155							
IADA	**Aoalbol**	**0.87**	**66**	P		**Pg**	**05 29 22.1**	**-4.2**
	baz=65							
IADA				S		**Sg**	**05 29 34.2**	**-3.3**
	baz=65							
IFAG	**Fagurholsmyri**	**0.87**	**157**	P		**Pg**	**05 29 22.2**	**-4.1**
	baz=157							
IFAG				S		**Sg**	**05 29 34.2**	**-3.4**
	baz=157							
ISTE	**Stelbrattur**	**0.96**	**282**	P		**Pg**	**05 29 23.8**	**-4.1**
	baz=282							
IMEL	**Melhnausar**	**0.96**	**20**	P		**Pg**	**05 29 23.8**	**-4.2**
	baz=19							
IKVO	**Krokottuvotn**	**1.07**	**12**	P		**Pg**	**05 29 25.7**	**-4.4**
	baz=11							
ISNB	**Snabyli**	**1.08**	**210**	P		**Pg**	**05 29 26.1**	**-4.1**
	baz=211							
ISNB				S		**Sg**	**05 29 40.7**	**-3.5**
	baz=211							
ILOD	**Lodmugiljahaus**	**1.11**	**213**	P		**Pb**	**05 29 26.9**	**-4.0**
	baz=214							
IGRS	**Grimsstaoir**	**1.12**	**29**	P		**Pb**	**05 29 26.5**	**-4.5**
	baz=28							
IGRS				S		**Sg**	**05 29 42.1**	**-3.4**
	baz=28							
IHES	**Hestalda**	**1.12**	**237**	P		**Pg**	**05 29 27.0**	**-4.0**
	baz=238							
ISLY	**Slysaalda**	**1.13**	**222**	P		**Pb**	**05 29 26.9**	**-4.2**
	baz=222							
IRJU	**Rjupnafell**	**1.19**	**208**	P		**Pb**	**05 29 28.0**	**-4.2**
	baz=209							
ISKI	**Skildingahlsh**	**1.21**	**8**	P		**Pb**	**05 29 28.1**	**-4.5**
	baz=7.2							
IGHA	**Grjothals**	**1.22**	**15**	P		**Pn**	**05 29 28.0**	**-4.6**
	baz=14							
IMJO	**Mjoaskard**	**1.23**	**234**	P		**Pb**	**05 29 28.8**	**-4.0**
	baz=234							
IAUS	**Austmannsbunga**	**1.24**	**216**	P		**Pn**	**05 29 29.2**	**-3.8**
	baz=217							
IGRA	**Granastaoir**	**1.25**	**357**	P		**Pn**	**05 29 28.5**	**-4.5**
	baz=357							
IGRA				S		**Sb**	**05 29 45.9**	**-3.5**
	baz=357							
IGYG	**Gygjarholskot**	**1.27**	**253**	P		**Pn**	**05 29 29.4**	**-3.9**
	baz=254							
IHVO	**Lagu-Hvolar**	**1.31**	**209**	P		**Pn**	**05 29 30.2**	**-3.6**
	baz=210							
IHAU	**Haukadalur**	**1.31**	**238**	P		**Pn**	**05 29 29.9**	**-3.9**
	baz=239							
IDIM	**Dimmadalss**	**1.31**	**9**	P		**Pn**	**05 29 29.5**	**-4.4**
	baz=8.3							
IHLA	**Hella**	**1.34**	**343**	P		**Pn**	**05 29 30.2**	**-4.0**
	baz=342							
IHLA				S		**Sb**	**05 29 48.6**	**-3.2**
	baz=342							
IHED	**Heoinshofoi**	**1.42**	**2**	P		**Pn**	**05 29 31.3**	**-4.0**
	baz=1.4							
IESK	**Eystri-Skogar**	**1.45**	**218**	P		**Pn**	**05 29 32.0**	**-3.8**
	baz=219							
ISAU	**Saurbar**	**1.47**	**243**	P		**Pn**	**05 29 32.4**	**-3.7**
	baz=244							
IBRE	**Brettingsstaoi**	**1.47**	**352**	P		**Pn**	**05 29 32.2**	**-3.9**
	baz=352							
IGIL	**Gilhagi**	**1.48**	**17**	P		**Pn**	**05 29 32.3**	**-3.9**
	baz=17							
IMID	**Miomork**	**1.48**	**228**	P		**Pn**	**05 29 32.9**	**-3.3**
	baz=228							
ISIG	**Siglufjorour**	**1.59**	**338**	P		**Pn**	**05 29 34.0**	**-3.7**
	baz=337							
BORG	**Borgarnes**	**1.67**	**274**			**Pn**	**05 29 36.1**	**-2.7**
BORG	**Borgarnes**	**1.67**	**274**	P		**Pn**	**05 29 36.2**	**-2.7**
BORG	**Borgarnes**	**1.67**	**274**	Pn		**Pn**	**05 29 35.7**	**-3.1**
	134nm,0.3s,baz=92,slow=7.8,SNR=190							
BORG				Sn		**Sg**	**05 29 59.8**	**-3.4**
	57nm,0.3s,baz=62,slow=22,SNR=10.0							
BORG				LR		LR	05 30 24.0	
	comp=Z,2μm,21.7s,baz=138,slow=47							
IKRO	**Krokur**	**1.70**	**252**	P		**Pn**	**05 29 35.7**	**-3.5**
	baz=252							
ISOL	**Solvholt**	**1.70**	**246**	P		**Pn**	**05 29 36.1**	**-3.2**
	baz=246							
IHEI	**Heioarbar**	**1.72**	**256**	P		**Pn**	**05 29 36.4**	**-3.0**
	baz=256							
SCO	**Scoresbysund**	**6.08**	**346**			**Pn**	**05 30 38.6**	**-0.8**
SCO	**Scoresbysund**	**6.08**	**346**	P		**Pn**	**05 30 38.6**	**-0.8**
SCO	**Scoresbysund**	**6.08**	**346**	*e*		**Pn**	**05 30 35.6**	**-3.8**
	baz=150,slow=12							
SCO				*i* P		**Pn**	**05 30 38.0**	**-1.4**
SCO				*e*S		**Sn**	**05 31 47.7**	**-1.2**
SOEG	**Soedalen**	**6.61**	**309**	*i* P		**Pn**	**05 30 48.0**	**+1.5**
DBG	**Daneborg**	**9.73**	**356**	*e*P		Pn	05 31 33.0	+3.7
SUMG	**Summit**	**10.95**	**325**	Pn		**Pn**	**05 31 46.9**	**+0.5**
SUMG	**Summit**	**10.95**	**325**	P		**Pn**	**05 31 46.9**	**+0.5**
SUMG	**Summit**	**10.95**	**325**	*e*P		**Pn**	**05 31 47.5**	**+1.1**
EKB	**Eskdalemuir**	**11.73**	**136**	Pn		**Pn**	**05 31 57.0**	**+0.2**
EKA	**Eskdalemuir Ar**	**11.74**	**136**	Pn		**Pn**	**05 31 55.6**	**-1.3**
	8.1nm,0.7s,baz=319,slow=13,SNR=15							
ESK	**Eskdalemuir**	**11.74**	**136**	Pn		**Pn**	**05 31 57.7**	**+0.8**
ESK	**Eskdalemuir**	**11.74**	**136**	P		**Pn**	**05 31 57.7**	**+0.8**
NOA	**NORSAR Array B**	**13.51**	**92**	Pn		**Pn**	**05 32 17.2**	**-3.8**
	baz=299,slow=13,SNR=2.9							
NOA				LR		LR	05 37 08.4	
	comp=Z,246nm,19.0s,baz=300,slow=35							
SFJD	**Kangerlussuaq**	**13.69**	**295**	LR		LR	05 37 20.0	
	comp=Z,357nm,19.9s,baz=88,slow=36							
HFS	**Hagfors**	**15.02**	**93**	Pn		**Pn**	**05 32 41.8**	**+0.2**
	0.1nm,0.3s,baz=277,slow=12,SNR=2.5							
HFS				LR		LR	05 38 33.3	
	comp=Z,180nm,19.8s,baz=301,slow=38							
	3.7nm,1.0s							
ARCES	**ARCESS Array B**	**17.09**	**55**	P		**P**	**05 33 10.1**	**+0.2**
	0.1nm,0.3s,baz=279,slow=7.2,SNR=1.1							
ARCES				LR		LR	05 38 17.8	
	comp=Z,274nm,18.8s,baz=277,slow=32							
	4.6nm,1.1s							
FINES	**FINESS Array B**	**19.68**	**79**	P		**Pn**	**05 33 41.5**	**+1.8**
FINES	**FINESS Array B**	**19.68**	**79**	P		**Pn**	**05 33 41.5**	**+1.8**
FINES	**FINESS Array B**	**19.68**	**79**	P		**Pn**	**05 33 40.0**	**+0.3**
	0.1nm,0.3s,baz=322,slow=8.8,SNR=3.9							
FINES				LR		LR	05 40 03.2	
	comp=Z,245nm,20.0s,baz=285,slow=33							
	5.1nm,1.0s							
MOX	**Moxa**	**20.68**	**119**	P		Pn	05 33 50.2	-1.5
MOX				pmax		pmax		
	comp=Z,10.0nm,1.0s							
CLL	**Collm**	**20.68**	**116**	*e*Px		Px	05 33 54.0	
	comp=Z,15nm,1.1s							
CLL				*i* x		x	05 33 58.1	
	comp=Z,35nm,1.7s							
CLL				AMS		AMS	05 42 00.0	
	comp=Z,200nm,19.2s							
CLL	**Collm**	**20.68**	**116**	*e*P		Pn	05 33 54.0	+2.3
CLL				*i*			05 33 58.1	
CLL				pmax		pmax		
	comp=Z,15nm,1.1s							
LOR	**Lormes**	**20.93**	**136**	P		**P**	**05 33 51.0**	**-1.1**
LOR				pmax		pmax		
	comp=Z,10.0nm,1.1s							
ECH	**Echery**	**21.14**	**129**	P		**P**	**05 33 56.8**	**+2.5**
ECH	**Echery**	**21.14**	**129**	P		**P**	**05 33 56.8**	**+2.5**
ECH				pmax		pmax		
	comp=Z,14nm,1.1s							
NKC	**Novy Kostel**	**21.33**	**118**	*e*P		**P**	**05 33 57.3**	**+0.9**
NKC	**Novy Kostel**	**21.33**	**118**	*e*P		**P**	**05 33 57.3**	**+0.9**
STU	**Stuttgart**	**21.35**	**125**	P		**P**	**05 33 59.6**	**+3.0**
STU				pmax		pmax		
	comp=Z,26nm,1.1s							
HSKC	**Hora Svate Kat**	**21.40**	**116**	*e*P		P	05 34 02.9	+5.7
BFO	**Black Forest**	**21.43**	**127**			**P**	**05 33 58.6**	**+1.1**
BFO				IAmb		IAmb	05 34 12.4	
	comp=Z,19nm,1.2s							
BFO	**Black Forest**	**21.43**	**127**	P		**P**	**05 33 58.6**	**+1.1**
BFO				pmax		pmax		
	comp=Z,19nm,1.2s							
FRB	**Frobisher Bay**	**21.77**	**291**	P		**P**	**05 34 02.0**	**+1.1**
	comp=Z,3.4nm,0.9s,baz=69,slow=11,SNR=5.8							
FRB				LR		LR	05 41 40.5	
	comp=Z,220nm,20.8s,baz=36,slow=35							
	comp=Z,3.4nm,0.9s							
PVCC	**Panska Ves**	**21.91**	**115**	P		P	05 34 09.5	+7.0
PVCC				pmax		pmax		
	comp=Z,12nm,1.0s							
PRU	**Pruhonice**	**22.33**	**116**	*e*P		**P**	**05 34 08.7**	**+1.7**
PRU	**Pruhonice**	**22

WTTA pmax pmax
comp=Z,11nm,1.2s
VRAC Vranov 23.67 114 *eP* **P 05 34 22.4 +1.5**
VRAC Vranov 23.67 114 LR LR 05 44 54.4
comp=Z,238nm,18.6s,baz=334,slow=40
MORC Moravsky Berou 23.68 112 P **P 05 34 23.1 +2.1**
MORC IAmb IAmb 05 34 45.3
comp=Z,15nm,1.4s
MORC Moravsky Berou 23.68 112 *eP* **P 05 34 21.7 +0.7**
MORC Moravsky Berou 23.68 112 P **P 05 34 23.1 +2.1**
MORC pmax pmax
comp=Z,15nm,1.4s
LESA Schwarzleotal 23.74 122 *eP* **P 05 34 23.8 +2.2**
comp=Z,6.9nm,1.1s
NACGM Naroch 23.79 93 *eP* P 05 34 28.8 +6.8
comp=Z,15nm,0.7s,baz=313
KRUC Moravsky 23.79 115 *eP* **P 05 34 21.8 -0.3**
KRUC Moravsky 23.79 115 P **P 05 34 24.0 +1.9**
KRUC pmax pmax
comp=Z,8.0nm,2.9s
BIOA Bad Ischl, Aus 23.87 120 *eP* **P 05 34 25.3 +2.5**
comp=Z,4.3nm,0.8s
MOA Molln 23.97 119 *eP* **P 05 34 26.3 +2.5**
comp=Z,6.8nm,1.3s
MAUC Maruska 24.11 113 *eP* **P 05 34 24.0 -1.1**
ABTA Abfaltersbach 24.25 123 *eP* **P 05 34 27.9 +1.4**
comp=Z,4.3nm,1.0s
JAVC Velka Javorina 24.46 113 *eP* **P 05 34 29.3 +1.0**
CONA Conrad Observa 24.51 117 *eP* **P 05 34 30.4 +1.5**
comp=Z,5.6nm,0.9s
CTI Castel Tesino 24.55 125 **P 05 34 31.0 +1.8**
CTI IAmb IAmb 05 34 32.9
comp=Z,6.9nm,0.8s
CTI Castel Tesino 24.55 125 P **P 05 34 31.0 +1.8**
CTI pmax pmax
comp=Z,7.0nm,0.8s
CLUD Cludinico 24.64 123 P **P 05 34 31.6 +1.7**
SMOL Smolenice 24.64 114 *eP* **P 05 34 31.9 +2.0**
SMOL pmax pmax
comp=Z,4.0nm,0.8s
MODS Modra-Piesok 24.69 115 *eP* **P 05 34 34.9 +4.5**
MODS Modra-Piesok 24.69 115 *eP* **P 05 34 34.9 +4.5**
RONA Rosalia, Austr 24.86 117 *eP* **P 05 34 33.2 +1.2**
comp=Z,5.2nm,1.0s
PRED Cave del Predi 24.89 122 P **P 05 34 36.3 +4.0**
PRED IAmb IAmb 05 34 47.4
comp=Z,17nm,1.2s
ARSA Arzberg 24.94 118 *eP* **P 05 34 33.6 +0.9**
comp=Z,3.0nm,0.8s
NIE Niedzica 25.07 109 P **P 05 34 39.0 +5.2**
NIE pmax pmax
comp=Z,5.0nm,1.8s
OBKA Obir 25.20 121 *eP* **P 05 34 36.6 +1.6**
comp=Z,5.1nm,1.1s
VYHS Vyhne 25.21 112 *eP* **P 05 34 37.0 +1.9**
VYHS Vyhne 25.21 112 *eP* **P 05 34 37.0 +1.9**
KLMR Klimovskoe 25.57 72 *eP* **P 05 34 40.8 +2.6**
comp=Z,38nm,1.7s
KLMR Klimovskoe 25.57 72 *eP* **P 05 34 40.8 +2.6**
KLMR AMP 05 34 42.4
comp=Z,40nm,1.8s
KLMR Klimovskoe 25.57 72 *eP* **P 05 34 40.8 +2.6**
KLMR pmax pmax
comp=Z,40nm,1.8s
KWP Kalwaria Pacla 25.89 106 P **P 05 34 41.7 +0.5**
KWP pmax pmax
comp=Z,25nm,1.2s
CRVS Cervenica-Dubn 25.94 109 *eP* P 05 34 47.5 +5.8
CRVS Cervenica-Dubn 25.94 109 *eP* P 05 34 47.5 +5.8
SCHQ Schefferville 26.07 271 P **P 05 34 43.4 +0.6**
SCHQ LR LR 05 43 24.6
comp=Z,3.6nm,0.7s,baz=66,slow=12,SNR=3.4
comp=Z,103nm,20.2s,baz=65,slow=33
comp=Z,3.6nm,0.7s
PSZ Piszkesteto 26.09 112 P **P 05 34 43.6 +0.5**
PSZ IAmb IAmb 05 34 49.7
comp=Z,12nm,1.1s
PSZ Piszkesteto 26.09 112 P **P 05 34 43.6 +0.5**
PSZ pmax pmax
comp=Z,12nm,1.1s
PTJ Puntijarka 26.23 120 P **P 05 34 47.4 +2.9**
ESDC Sonseca Array 26.25 156 P **P 05 34 45.3 +0.7**
ESDC Sonseca Array 26.25 156 P **P 05 34 44.4 -0.2**
comp=Z,2.4nm,0.8s,baz=352,slow=9.3,SNR=17
ESDC LR LR 05 44 52.7
comp=Z,141nm,18.0s,baz=2.0,slow=36
comp=Z,2.4nm,0.8s
KOLS Kolonicke sedl 26.25 108 *eP* **P 05 34 49.5 +5.0**
KOLS Kolonicke sedl 26.25 108 *eP* **P 05 34 49.5 +5.0**
RES Resolute Bay 26.48 324 P **P 05 34 48.5 +2.2**
RES pmax pmax
comp=Z,13nm,0.6s
RES Resolute Bay 26.48 324 LR LR 05 45 18.3
comp=Z,176nm,19.2s,baz=26,slow=37
AKASG Malin Array Be 27.82 98 P **P 05 34 59.4 +0.9**
comp=Z,1.2nm,0.7s,baz=323,slow=9.6,SNR=2.6
AKASG LR LR 05 45 54.6
comp=Z,194nm,18.8s,baz=6.5,slow=36
comp=Z,1.2nm,0.7s
AKBB Malin Array Si 27.82 98 *i P* **P 05 35 01.9 +3.4**
AKBB pmax pmax
comp=Z,9.0nm,1.5s
OBN Obninsk 27.85 84 *eP* **P 05 35 02.7 +3.9**
OBN *e* 05 35 48.6
OBN pmax pmax
comp=Z,9.0nm,1.0s
GZR Gura Zlata 29.30 112 P **P 05 35 14.8 +2.9**
MLR Muntele Rosu 30.51 108 LR LR 05 47 10.2
comp=Z,174nm,18.8s,baz=328,slow=35
KIRV Kirov 30.95 69 *i P* P 05 35 29.4 +3.2
KIRV Kirov 30.95 69 LR LR 05 46 45.8
comp=Z,154nm,18.8s,baz=315,slow=34
MDT Midelt 32.85 160 LR LR 05 48 47.4
comp=Z,76nm,20.2s,baz=12,slow=36
KEST Kesra 33.15 138 LR LR 05 48 55.9
comp=Z,129nm,18.5s,baz=336,slow=36
BELG Belogornoye 34.46 79 LR LR 05 49 39.3
comp=Z,111nm,18.3s,baz=305,slow=36
ARU Arti 36.05 66 *i P* **P 05 36 13.7 +3.1**
ARU pmax pmax
comp=Z,4.0nm,1.1s
ARU Arti 36.05 66 LR LR 05 50 28.3
comp=Z,190nm,18.4s,baz=310,slow=35
BRTR Keskin Array B 38.45 105 *ceP* **P 05 36 34.2 +2.8**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 38.45 105 P **P 05 36 32.5 +1.1**
comp=Z,1.6nm,0.8s,baz=323,slow=7.8,SNR=5.2
comp=Z,1.6nm,0.8s
IDI Anoyia 38.80 118 LR LR 05 53 33.7
comp=Z,77nm,20.0s,baz=320,slow=38
KIV Kislovodsk 38.81 92 *eP* **P 05 36 35.4 +1.1**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,62nm,16.0s
SADO Sadowa 38.84 270 LR LR 05 51 30.4
comp=Z,82nm,18.2s,baz=249,slow=35
KBZ Khabaz 39.09 93 *ceP* **P 05 36 39.2 +2.8**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 39.09 93 P **P 05 36 37.1 +0.8**
comp=Z,2.5nm,0.8s,baz=320,slow=11,SNR=6.8
KBZ LR LR 05 52 51.8
comp=Z,160nm,18.6s,baz=337,slow=36
comp=Z,2.5nm,0.8s
YKA Yellowknife Ar 39.23 313 *ceP* **P 05 36 38.7 +1.3**
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 39.23 313 P **P 05 36 37.6 +0.2**
comp=Z,0.6nm,0.9s,baz=43,slow=8.8,SNR=7.5
YKA PcP **PcP 05 38 46.5 +0.4**
comp=Z,0.6nm,0.9s,baz=35,slow=3.3,SNR=3.7
YKA LR LR 05 51 30.9
comp=Z,88nm,18.2s,baz=340,slow=34
comp=Z,0.6nm,0.9s
NCK Nalchik 39.58 92 *i P* **P 05 36 43.4 +2.9**
NCK pmax pmax
comp=Z,8.0nm,0.7s
INK Inuvik 39.85 329 LR LR 05 54 40.1
comp=Z,86nm,20.0s,baz=270,slow=38
AKTO Aktyubinsk 40.26 73 LR LR 05 53 29.2
comp=Z,228nm,18.2s,baz=298,slow=36
D25K Kavik River 41.59 335 IAmb IAmb 05 37 04.0
comp=Z,12nm,0.9s
ULM Lac du Bonnet 41.62 289 LR LR 05 52 47.7
comp=Z,66nm,21.7s,baz=23,slow=34
C23K Itkillik River 41.87 338 IAmb IAmb 05 37 06.4
comp=Z,12nm,1.2s
ABKAR Akbulak array 41.96 73 P P 05 37 03.5 +3.4
D24K Happy Valley 42.17 336 IAmb IAmb 05 37 09.3
comp=Z,20nm,1.4s
TOLK Toolik Lake Re 42.75 336 P **P 05 37 08.8 +2.4**
GNI Garni 42.80 94 LR LR 05 55 51.6
comp=Z,75nm,18.5s,baz=322,slow=37
BMAR Burnt Mountain 42.90 333 P **P 05 37 08.1 +0.5**
BRVK Borovoye 43.10 62 P **P 05 37 11.5 +2.2**
BRVK Borovoye 43.10 62 *ceP* **P 05 37 10.7 +1.3**
BRVK pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 43.17 62 P **P 05 37 10.7 +0.8**
comp=Z,4.1nm,0.9s,baz=324,slow=7.3,SNR=11
BVAR LR LR 05 54 31.2
comp=Z,81nm,18.8s,baz=326,slow=35
comp=Z,4.1nm,0.9s
F24K Squaw Lake 43.45 335 IAmb IAmb 05 37 17.8
comp=Z,11nm,1.5s
P53A Whipple 44.12 267 P **P 05 37 17.5 -0.2**
MMAI Mount Meron Ar 44.94 109 LR LR 05 59 45.4
comp=Z,41nm,18.2s,baz=281,slow=41
F20K Avaraart Lake 45.21 338 IAmb IAmb 05 37 32.1
comp=Z,10nm,1.4s
IL31 45.69 332 P **P 05 37 32.3 +2.4**
IL31 IAmb IAmb 05 37 37.4
comp=Z,5.3nm,1.1s
ILAR Eielson Array 45.69 332 P P 05 37 33.4 +3.5
ILAR Eielson Array 45.69 332 P P 05 37 33.4 +3.5
ILAR Eielson Array 45.69 332 P **P 05 37 30.4 +0.5**
comp=Z,1.5nm,1.0s,baz=28,slow=7.9,SNR=8.1
ILAR PcP **PcP 05 39 07.1 -0.5**
comp=Z,0.8nm,0.8s,baz=353,slow=1.9,SNR=7.6
ILAR LR LR 05 59 07.4
comp=Z,77nm,19.6s,baz=34,slow=39
comp=Z,1.5nm,1.0s
DLBC Dease Lake 47.09 318 LR LR 05 55 57.3
comp=Z,83nm,18.1s,baz=99,slow=34
BILL Bilibino 47.54 358 *i P* **P 05 37 46.7 +2.3**
ZALV Zalesovo Beam 47.61 51 P P 05 37 48.4 +3.3
ZALV Zalesovo Beam 47.61 51 P P 05 37 48.4 +3.4
ZALV Zalesovo Beam 47.61 51 P **P 05 37 42.7 -2.3**
comp=Z,0.5nm,0.6s,baz=330,slow=8.3,SNR=4.1
ZALV PcP **PcP 05 39 13.5 -1.0**
comp=Z,0.4nm,0.3s,baz=296,slow=4.0,SNR=1.9
ZALV LR LR 05 59 34.3
comp=Z,46nm,18.3s,baz=337,slow=38
KURK Kurchatov 48.09 58 P **P 05 37 48.7 -0.1**
KURK IAmb IAmb 05 37 51.4
comp=Z,4.4nm,0.8s
KURK Kurchatov 48.09 58 *i P* **P 05 37 49.8 +1.0**
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURBB Kurchatov Arra 48.13 58 P **P 05 37 49.3 +0.2**
comp=Z,2.6nm,0.8s,baz=323,slow=7.3,SNR=16
comp=Z,2.6nm,0.8s
TKL Tuckaleechee C 48.35 267 LR LR 05 56 17.8
comp=Z,76nm,18.5s,baz=21,slow=34
GEYT Alibeck 50.40 84 LR LR 05 59 23.1
comp=Z,61nm,21.9s,baz=356,slow=36
KK31 Karatay Array 51.25 70 IAmb IAmb 05 38 17.9
comp=Z,6.1nm,1.4s
KKAR Karatay Array 51.25 70 P **P 05 38 15.2 +2.2**
KKAR Karatay Array 51.25 70 P **P 05 38 15.2 +2.2**
KKAR pmax pmax
comp=Z,6.0nm,1.4s
NEW Newport 51.44 303 LR LR 05 59 49.9
comp=Z,74nm,18.6s,baz=14,slow=36
BBB Bella Bella 51.84 313 LR LR 05 59 35.9
comp=Z,50nm,18.9s,baz=356,slow=35
SEY Seymchan 52.48 6 *ceP* P 05 38 26.2 +4.4
SEY pmax pmax
comp=Z,9.0nm,2.5s
MKAR Makanchi Array 52.70 58 P **P 05 38 23.6 -0.2**
comp=Z,1.4nm,0.8s,baz=340,slow=6.6,SNR=5.1
MKAR LR LR 06 01 17.3
comp=Z,37nm,18.1s,baz=360,slow=36
comp=Z,1.4nm,0.8s
TOA0 Torodi Ar. Sit 53.14 156 P **P 05 38 27.6 +0.3**
TOA0 IAmb IAmb 05 38 32.3
comp=Z,5.0nm,1.0s
TORD Torodi Ar. Bea 53.14 156 P **P 05 38 27.6 +0.4**
TORD Torodi Ar. Bea 53.14 156 P **P 05 38 27.0 -0.2**
comp=Z,4.1nm,1.0s,baz=355,slow=8.5,SNR=11
TORD LR LR 06 03 06.5
comp=Z,47nm,18.7s,baz=326,slow=38
comp=Z,4.1nm,1.0s
BW06 Boulder Array 53.20 293 P **P 05 38 28.2 +0.5**
BW06 IAmb IAmb 05 38 32.7
comp=Z,4.3nm,0.9s
PD31 Pinedale Array 53.20 293 P **P 05 38 27.6 -0.2**
PD31 IAmb IAmb 05 38 32.7
comp=Z,4.2nm,0.9s
PDAR Pinedale Array 53.20 293 P **P 05 38 27.9 +0.2**
comp=Z,2.2nm,0.8s,baz=54,slow=6.3,SNR=13
PDAR LR LR 06 00 56.2
comp=Z,76nm,20.8s,baz=36,slow=36
comp=Z,2.2nm,0.8s
KDAK Kodiak Island 53.20 332 LR LR 06 02 39.0
comp=Z,84nm,18.8s,baz=16,slow=38
AAK Ala-Archa 53.23 67 P P 05 38 31.2 +3.2
AAK Ala-Archa 53.23 67 *ceP* P 05 38 31.0 +3.1
AAK pmax pmax
comp=Z,6.0nm,2.5s
AAK Ala-Archa 53.23 67 LR LR 06 00 43.5
comp=Z,94nm,19.1s,baz=332,slow=36
KSH Kashi 56.47 68 P P 05 38 56.4 +5.0
DUG Dugway, Tooele 56.67 294 P **P 05 38 55.0 +2.2**
DUG IAmb IAmb 05 38 56.3
comp=Z,7.0nm,1.4s
DUG Dugway, Tooele 56.67 294 P **P 05 38 55.0 +2.2**
DUG pmax pmax
comp=Z,7.0nm,1.5s
SJG San Juan 56.71 239 LR LR 05 59 24.0
comp=Z,21nm,21.8s,baz=32,slow=32
PLPT Palo Pinto 57.02 278 P **P 05 38 56.5 +1.3**
PLPT IAmb IAmb 05 38 59.1
comp=Z,14nm,1.4s
ELK Elko 57.14 296 LR LR 06 02 47.6
comp=Z,136nm,21.5s,baz=35,slow=35
DBIC Dimbokro 58.59 165 P **P 05 39 04.0 -2.3**
DBIC Dimbokro 58.59 165 P **P 05 39 04.0 -2.3**
comp=Z,3.3nm,0.8s,baz=18,slow=6.2,SNR=3.3
DBIC LR LR 06 04 53.7
comp=Z,59nm,19.3s,baz=16,slow=37
comp=Z,3.3nm,0.8s
ANMO Albuquerque 58.61 286 LR LR 06 04 05.0
comp=Z,91nm,19.3s,baz=132,slow=36
SONM Songino Array 59.62 40 P **P 05 39 14.1 +0.8**
comp=Z,0.2nm,0.3s,baz=328,slow=5.3,SNR=4.4
SONM LR LR 06 07 10.2
comp=Z,106nm,18.4s,baz=339,slow=38
comp=Z,0.2nm,0.3s
JCT Junction City 59.67 278 P **P 05 39 14.7 +0.9**
JCT IAmb IAmb 05 39 19.1
comp=Z,5.9nm,1.1s
JCT Junction City 59.67 278 P **P 05 39 14.7 +0.9**
JCT pmax pmax
comp=Z,6.0nm,1.1s
U15A North Rim 59.71 291 IAmb IAmb 05 39 19.3
comp=Z,3.7nm,1.1s
ULN Ulaanbaatar 59.77 40 *ceP* **P 05 39 14.6 +0.2**
ULN pmax pmax
comp=Z,7.0nm,2.5s
WUAZ Wupatki 60.13 290 P **P 05 39 18.2 +1.2**
NVAR Mina Array Bea 60.32 297 LR LR 06 05 37.4
comp=Z,152nm,19.2s,baz=60,slow=36
X16A Lo Mia Camp, P 61.11 290 P **P 05 39 25.2 +1.4**
GWY Greenwater Val 61.65 295 P **P 05 39 28.5 +1.1**
GWY IAmb IAmb 05 39 30.1
comp=Z,3.6nm,1.0s
TXAR Lajitas Array 62.31 280 P **P 05 39 32.6 +0.8**
comp=Z,0.7nm,0.9s,baz=45,slow=3.7,SNR=5.6
TXAR LR LR 06 04 57.7
comp=Z,68nm,20.6s,baz=31,slow=34
comp=Z,0.7nm,0.9s
TEIG Tepich 63.72 262 LR LR 06 06 37.6
comp=Z,249nm,18.5s,baz=13,slow=35
PFO Pinyon Flats O 63.83 293 LR LR 06 06 50.3
comp=Z,113nm,19.9s,baz=28,slow=36
KLR Kul'dur 63.92 22 LR LR 06 09 08.8
comp=Z,42nm,19.4s,baz=350,slow=38
MDP Montagnes des 64.54 219 LR LR 06 01 57.1
comp=Z,34nm,20.3s,baz=54,slow=31
XLT XiLinHaoTe 65.81 35 *eP* **P 05 39 55.6 +1.0**
XLT sP sP 05 40 08.8 +9.1
XLT pmax pmax
comp=Z,8.0nm,0.7s
XLT pmax pmax
comp=Z,160nm,5.9s
CMIG Matias Romero 69.32 266 LR LR 06 11 38.1
comp=Z,19nm,19.0s,baz=30,slow=37
LPIG La Paz 69.70 283 LR LR 06 13 28.6
comp=Z,24nm,19.8s,baz=18,slow=38
ROSC El Rosal 71.95 241 LR LR 06 12 10.2
comp=Z,38nm,18.1s,baz=234,slow=36
KSRS Korea Array 74.63 28 LR LR 06 14 55.3
comp=Z,26nm,18.1s,baz=335,slow=37
JHJ Hachijo jima 2 80.90 19 LR LR 06 18 34.4
comp=Z,25nm,18.4s,baz=98,slow=37
ATAH Atahualpa 84.50 241 LR LR 06 21 15.5
comp=Z,25nm,18.5s,baz=348,slow=37
TSUM Tsumeb 87.84 147 LR LR 06 20 40.6
comp=Z,53nm,18.2s,baz=168,slow=35
LBTB Lobatse 95.42 142 LR LR 06 28 55.4
comp=Z,31nm,18.3s,baz=340,slow=38
BOSA Boshof 98.75 143 LR LR 06 28 58.7
comp=Z,48nm,19.0s,baz=6.5,slow=36

IDC ***20*** *05:49:49.4±0.7, 15°.05S×173°.71W, h0km, mb4.2/9, mbtmp4.2/9, MS3.7/18, Error ellipse: s-maj=37.8km s-min=19.4km az=136.0*
NEIC ***20*** *05:49:50.4±1.1, 15°.1S±0°.1×173°.48W±0°.06, h10km±1km, mb4.7/14, Error ellipse: s-maj=18.6km s-min=6.6km az=335.0*
NOU ***20*** *05:49:51.0, 15°.16S×173°.53W, h16km, MLv5.2/13, Tonga Islands*
ISC 20 05:49:53.3±0.6, 15°.09S±0°.09×173°.56W±0°.09, h30km, n56, σ1.8 10/37, mb4.6/16, MS3.8/18, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.09**	**56**			**Pn**	**05 50 24.4**	**-1.9**
AFI	**Afiamalu**	**2.09**	**56**	P		**Pn**	**05 50 24.7**	**-1.6**
NIUE	**Niue**	**5.27**	**139**			**Pn**	**05 51 08.5**	**-1.5**
NIUE	**Niue**	**5.27**	**139**	P		**Pn**	**05 51 08.5**	**-1.5**
TAVE	**Taveuni**	**6.32**	**254**	P		**Pn**	**05 51 23.5**	**-0.9**
DZM	**Mont Dzumac**	**20.18**	**247**	LR		LR	06 01 12.3	
	comp=Z,138nm,18.8s,baz=33,slow=34							
URZ	**Urewera**	**24.50**	**198**	P		**P**	**05 55 08.3**	**-1.7**
RTZ	**Ruatahuna**	**24.87**	**198**	P		**P**	**05 55 12.4**	**-1.0**
RTZ				IAmb		IAmb	05 55 34.5	
	comp=Z,47nm,1.3s							
QRZ	**Quartz Range**	**28.35**	**203**	P		**P**	**05 55 44.1**	**-0.6**
QRZ	**Quartz Range**	**28.35**	**203**	P		**P**	**05 55 43.9**	**-0.8**
INZ	**Inchbonnie**	**30.41**	**202**	P		**P**	**05 56 01.7**	**-1.1**
RPZ	**Rata Peaks**	**31.41**	**202**	LR		LR	06 07 38.3	
	comp=Z,155nm,19.6s,baz=48,slow=34							
JCZ	**Jackson Bay**	**32.56**	**204**	P		**P**	**05 56 21.9**	**0.0**
CTA	**Charters Tower**	**38.56**	**257**	LR		LR	06 10 31.0	
	comp=Z,44nm,21.5s,baz=80,slow=32							
H11S2	**WAKE ISLAND Hy**	**38.62**	**329**	T		T	06 38 01.2	
	baz=146,slow=75,SNR=36							
H11S3	**WAKE ISLAND Hy**	**38.64**	**329**	T		T	06 38 01.7	
	baz=146,slow=75,SNR=9.7							
H11S1	**WAKE ISLAND Hy**	**38.64**	**329**	T		T	06 38 02.5	
	baz=146,slow=75,SNR=13							
H11N3	**WAKE ISLAND Hy**	**39.57**	**330**	T		T	06 39 07.5	
	baz=147,SNR=30							
H11N1	**WAKE ISLAND Hy**	**39.58**	**330**	T		T	06 39 06.7	
	baz=147,slow=74							
H11N2	**WAKE ISLAND Hy**	**39.59**	**330**	T		T	06 39 06.7	
	baz=147,slow=74,SNR=10							
STKA	**Stephens Creek**	**44.06**	**240**	P		**P**	**05 57 58.8**	**+0.1**
STKA	**Stephens Creek**	**44.06**	**240**	P		**P**	**05 57 56.6**	**-2.0**
	comp=Z,1.7nm,0.5s,baz=110,slow=8.6,SNR=4.5							
STKA				LR		LR	06 13 58.1	
	comp=Z,45nm,18.3s,baz=27,slow=33							
	comp=Z,1.7nm,0.5s							
INKA	**Innaminka**	**44.13**	**246**	P		**P**	**05 57 58.7**	**-0.6**
LCRK	**Leigh Creek**	**46.67**	**242**	P		**P**	**05 58 19.4**	**0.0**
BBOO	**Buckleboo**	**48.84**	**240**	P		**P**	**05 58 35.1**	**-1.1**
WR0	**Warramunga Arr**	**49.58**	**257**	P		**P**	**05 58 41.8**	**-0.2**
WR0				IAmb		IAmb	05 58 48.0	
	comp=Z,8.7nm,1.4s							
WB0	**Warramunga Arr**	**49.73**	**257**	P		**P**	**05 58 42.8**	**-0.4**
WB0				IAmb		IAmb	05 59 01.5	
	comp=Z,11nm,1.5s							
WB2	**Warramunga Arr**	**49.76**	**257**	P		**P**	**05 58 43.3**	**-0.1**
WB2				IAmb		IAmb	05 58 56.0	
	comp=Z,6.1nm,1.1s							
WRAB	**Tennant Creek**	**49.76**	**257**	P		**P**	**05 58 43.8**	**+0.4**
WRAB				IAmb		IAmb	05 59 01.9	
	comp=Z,3.3nm,0.9s							
WRA	**Warramunga Arr**	**49.77**	**257**	P		**P**	**05 58 42.4**	**-1.1**
WRA	**Warramunga Arr**	**49.77**	**257**	P		**P**	**05 58 43.5**	**0.0**
	comp=Z,1.5nm,0.6s,baz=91,slow=7.2,SNR=21							
WRA				PcP		**PcP**	**06 00 03.9**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=96,slow=3.6,SNR=2.4							
	comp=Z,1.5nm,0.6s							
AS31	**Alice Springs**	**50.06**	**252**	P		**P**	**05 58 45.7**	**0.0**
ASAR	**Alice Springs**	**50.06**	**252**	P		**P**	**05 58 45.2**	**-0.5**
ASAR	**Alice Springs**	**50.06**	**252**	P		**P**	**05 58 45.6**	**-0.1**
	comp=Z,5.6nm,0.6s,baz=86,slow=8.2,SNR=80							
ASAR				LR		LR	06 18 26.9	
	comp=Z,96nm,20.1s,baz=104,slow=34							
	comp=Z,5.6nm,0.6s							
MULG	**Mulgathing**	**50.22**	**243**	P		**P**	**05 58 46.2**	**-0.6**
FORT	**Forrest**	**55.42**	**243**	P		**P**	**05 59 25.9**	**+0.7**
FORT				IAmb		IAmb	05 59 39.1	
	comp=Z,21nm,1.1s							
VNDA	**Vanda**	**63.66**	**186**	P		**P**	**06 00 23.1**	**+1.8**
VNDA				IAmb		IAmb	06 00 23.9	
	comp=Z,6.4nm,1.1s							
PFO	**Pinyon Flats O**	**72.82**	**47**	LR		LR	06 24 47.1	
	comp=Z,61nm,20.6s,baz=262,slow=29							
LPIG	**La Paz**	**73.01**	**59**	LR		LR	06 25 52.6	
	comp=Z,49nm,19.1s,baz=258,slow=30							
YBH	**Yreka Blue Hor**	**73.45**	**37**	LR		LR	06 24 33.1	
	comp=Z,78nm,21.7s,baz=202,slow=28							
NVAR	**Mina Array Bea**	**74.20**	**42**	P		**P**	**06 01 28.7**	**+1.1**
	comp=Z,2.0nm,0.8s,baz=228,slow=10,SNR=10							
NVAR				LR		LR	06 26 00.9	
	comp=Z,60nm,20.3s,baz=272,slow=29							
	comp=Z,2.0nm,0.8s							
KDAK	**Kodiak Island**	**74.65**	**11**	LR		LR	06 26 29.9	
	comp=Z,73nm,19.6s,baz=222,slow=30							
QSPA	**South Pole Qui**	**74.95**	**180**	P		**P**	**06 01 32.3**	**+0.9**
QSPA				IAmb		IAmb	06 01 33.7	
	comp=Z,8.5nm,0.8s							
QSPA	**South Pole Qui**	**74.95**	**180**	P		**P**	**06 01 32.9**	**+1.5**
	comp=Z,6.1nm,0.7s,baz=36,slow=1.4,SNR=30							
	comp=Z,6.1nm,0.7s							
USRK	**Ussuriysk Ar.**	**77.05**	**323**	LR		LR	06 29 53.3	
	comp=Z,16nm,19.5s,baz=40,slow=31							
ELK	**Elko**	**77.45**	**41**	LR		LR	06 28 44.2	
	comp=Z,47nm,20.3s,baz=264,slow=30							
NEW	**Newport**	**80.54**	**34**	LR		LR	06 30 22.7	
	comp=Z,36nm,19.5s,baz=239,slow=30							
ANMO	**Albuquerque**	**80.72**	**50**	LR		LR	06 32 28.5	
	comp=Z,36nm,20.4s,baz=351,slow=32							
PDAR	**Pinedale Array**	**82.14**	**42**	P		**P**	**06 02 12.9**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=270,slow=1.5,SNR=4.1							
PDAR				LR		LR	06 34 15.5	
	comp=Z,41nm,18.7s,baz=308,slow=32							
	comp=Z,0.4nm,0.7s							
ILAR	**Eielson Array**	**82.18**	**11**	P		**P**	**06 02 10.7**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=232,slow=7.0,SNR=5.6							
	comp=Z,0.4nm,0.8s							
INK	**Inuvik**	**88.01**	**14**	LR		LR	06 35 17.5	
	comp=Z,30nm,20.2s,baz=268,slow=31							
MAW	**Mawson**	**88.03**	**199**	P		**P**	**06 02 41.1**	**+0.8**
	comp=Z,3.5nm,0.7s,baz=158,slow=4.6,SNR=5.8							
	comp=Z,3.5nm,0.7s							
YKA	**Yellowknife Ar**	**89.88**	**23**	P		**P**	**06 02 50.2**	**+1.2**
	comp=Z,0.5nm,1.0s,baz=243,slow=4.8,SNR=4.8							
	comp=Z,0.5nm,1.0s							
ULM	**Lac du Bonnet**	**93.79**	**39**	LR		LR	06 39 45.2	
	comp=Z,43nm,18.1s,baz=7.0,slow=32							
TKL	**Tuckaleechee C**	**98.47**	**55**	LR		LR	06 45 24.9	
	comp=Z,29nm,18.4s,baz=330,slow=34							
BRTR	**Keskin Array B**	**145.82**	**321**	PKPbc		**PKiKP**	**06 09 31.7**	**-1.9**
	comp=Z,1.6nm,0.8s,baz=128,slow=3.9,SNR=7.9							

ANF ***20*** *06:00:02.0±0.2, 36°.19N×97°.68W, h5km, ML4.0/18, Error ellipse: s-maj=2.6km s-min=2.2km az=131.0*
NEIC ***20*** *06:00:02.1±0.2, 36°.146N±0°.009×97°.67W±0°.02, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.8km az=289.0*

*TUL **20** 06:00:02.2±0.3,36°.150N±0°.004×97°.67W±0°.02,h5km±2km, ML3.5,mb_Lg3.3/128(NEIC),ML3.5/56(NEIC), Error ellipse: s-maj=1.8km s-min=0.6km az=82.0*

ISC 20 06:00:02.1±1.2,**36°.17N**±0°.02×**97°.67W**±0°.02,**h5**km±11km, **n122,**σ0**58/66,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.41**	**155**		**Pg**	**06 00 10.2**	**+0.2**
OK029				Sg	**Sg**	**06 00 15.7**	**+0.4**
CROK	**Carrier**	**0.42**	**323**	Pg	**Pg**	**06 00 11.0**	**+0.8**
CROK				IAML		06 00 17.4	
	comp=E,5μm,0.3s						
CROK				IAML		06 00 17.6	
	comp=N,4μm,0.3s						
ADOK	**Arcadia Dam**	**0.57**	**155**	Pg	**Pg**	**06 00 13.1**	**+0.1**
OK033	**Mehan**	**0.61**	**101**	Pg	**Pg**	**06 00 14.0**	**+0.2**
OK033				IAML		06 00 24.9	
	comp=N,2μm,0.6s						
OK048	**Pawnee Station**	**0.64**	**67**		**Pg**	**06 00 14.7**	**+0.4**
BLOK	**Blackwell**	**0.70**	**32**	Pg	**Pg**	**06 00 16.0**	**+0.5**
GC02	**Grant County #**	**0.70**	**348**	Pg	**Pg**	**06 00 16.0**	**+0.4**
OK052	**Battle Ridge R**	**0.72**	**104**	Pg	**Pg**	**06 00 16.1**	**+0.1**
OK052				IAML		06 00 28.5	
	comp=N,2μm,0.5s						
OK051	**E0350 and S346**	**0.75**	**63**		**Pg**	**06 00 16.9**	**+0.3**
OK051				IAML		06 00 32.1	
	comp=N,2μm,0.1s						
OK051				IAML		06 00 33.9	
	comp=N,2μm,0.2s						
OK032	**Salt Plains WL**	**0.77**	**326**	Pg	**Pg**	**06 00 17.2**	**+0.3**
QUOK	**Quay**	**0.78**	**89**	Pg	**Pg**	**06 00 17.2**	**+0.1**
QUOK				IAML		06 00 34.2	
	comp=N,1μm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.78**	**166**	Pg	**Pg**	**06 00 17.0**	**-0.1**
OKCSW				IAML		06 00 31.6	
	comp=E,2μm,0.3s						
KAN14	**Manchester OK**	**0.82**	**343**	Pg	**Pg**	**06 00 18.2**	**+0.3**
KAN14				IAML		06 00 32.6	
	comp=N,2μm,0.1s						
KAN14				IAML		06 00 36.0	
	comp=E,3μm,0.1s						
KAN13	**South Haven SW**	**0.86**	**10**		**Pg**	**06 00 19.0**	**+0.4**
KAN17	**Caldwell West**	**0.88**	**355**	Pg	**Pg**	**06 00 19.3**	**+0.3**
KAN17				IAML		06 00 36.6	
	comp=E,2μm,0.3s						
OK038	**West end E0370**	**0.92**	**290**		**Pg**	**06 00 19.7**	**0.0**
FNO	**Franklin**	**0.93**	**166**	Pg	**Pg**	**06 00 19.6**	**-0.4**
KAN05	**Bluff City Nor**	**0.95**	**350**		**Pg**	**06 00 20.6**	**+0.2**
KAN05				IAML		06 00 37.4	
	comp=E,2μm,0.2s						
KAN05				IAML		06 00 39.1	
	comp=N,2μm,0.2s						
KAN09	**Caldwell North**	**0.97**	**2**		**Pg**	**06 00 20.9**	**+0.2**
KAN01	**Argonia South**	**0.99**	**356**		**Pg**	**06 00 21.3**	**+0.2**
KAN01				IAML		06 00 38.4	
	comp=E,1μm,0.2s						
KAN01				IAML		06 00 42.3	
	comp=N,1μm,0.2s						
DEOK	**Depew**	**1.00**	**108**	Pg	**Pg**	**06 00 20.9**	**-0.5**
DEOK				IAML		06 00 34.8	
	comp=N,1μm,0.5s						
KAN10	**Anthony SW Sta**	**1.01**	**340**		**Pg**	**06 00 21.5**	**-0.1**
KAN10				IAML		06 00 42.6	
	comp=E,1μm,0.1s						
KAN10				IAML		06 00 44.8	
	comp=N,1μm,0.1s						
KAN08	**Anthony NE Sta**	**1.08**	**347**	Pg	**Pg**	**06 00 22.9**	**0.0**
KAN08				IAML		06 00 39.3	
	comp=E,995nm,0.1s						
KAN08				IAML		06 00 43.7	
	comp=N,1μm,0.1s						
KAN06	**Argonia West S**	**1.09**	**352**		**Pg**	**06 00 23.1**	**0.0**
KAN06				IAML		06 00 39.2	
	comp=E,1μm,0.1s						
KAN06				IAML		06 00 41.7	
	comp=N,1μm,0.1s						
U32A	**Winter Ranch,**	**1.10**	**282**	Pg	**Pg**	**06 00 22.7**	**-0.4**
U32A				IAML		06 00 40.1	
	comp=E,1μm,0.1s						
U32A				IAML		06 00 45.8	
	comp=N,2μm,0.8s						
U32A	**Winter Ranch,**	**1.10**	**282**	P	**Pg**	**06 00 22.7**	**-0.4**
	baz=102,SNR=204						
KS21	**Milan North St**	**1.12**	**0**	IAML		06 00 39.3	
	comp=N,2μm,0.1s						
KS21	**Milan North St**	**1.12**	**0**		**Pg**	**06 00 23.6**	**0.0**
KAN12	**Harper NE Stat**	**1.16**	**347**		**Pg**	**06 00 24.2**	**-0.1**
T35A	**Sooner Cattle**	**1.20**	**51**	Pg	**Pg**	**06 00 24.9**	**-0.2**
T35A				IAML		06 00 44.9	
	comp=E,1μm,0.5s						
T35B	**Sooner Cattle**	**1.20**	**51**	P	**Pg**	**06 00 24.9**	**-0.2**
	baz=231,SNR=457						
T35B				S	**Sg**	**06 00 41.0**	**+0.4**
	baz=231						
ELIS	**Ellis County**	**1.42**	**266**		**Pn**	**06 00 28.5**	**-0.1**
TUL3	**Leonard**	**1.54**	**99**		**Pn**	**06 00 30.0**	**-0.3**
TUL3				IAmb_Lg		06 00 52.5	
	comp=Z,174nm,0.8s						
TUL3	**Leonard**	**1.54**	**99**	P	**Pn**	**06 00 30.0**	**-0.3**
	baz=280,SNR=571						
TUL3				S	**Sb**	**06 00 50.9**	**-0.2**
	baz=280						
WMOK	**Wichita Mounta**	**1.69**	**213**		**Pn**	**06 00 32.0**	**-0.3**
WMOK	**Wichita Mounta**	**1.69**	**213**	P	**Pn**	**06 00 32.2**	**-0.1**
	baz=32,SNR=35						
WMOK				S	**Sb**	**06 00 54.7**	**-0.5**
	baz=32						
RLO	**Rose Lookout**	**2.14**	**89**		**Pn**	**06 00 38.9**	**+0.4**
LOOK	**Love County**	**2.21**	**169**		**Pn**	**06 00 39.5**	**+0.1**
SMWD	**Samnorwood**	**2.35**	**244**	Pn	**Pn**	**06 00 41.9**	**+0.5**
SMWD				IAmb_Lg		06 01 21.5	
	comp=Z,122nm,0.8s						
R32A	**Long Quarter,**	**2.40**	**340**		**Pn**	**06 00 43.1**	**+1.0**
R32A	**Long Quarter,**	**2.40**	**340**	Pb	**Pb**	**06 00 44.8**	**-1.0**
	baz=160						
U38A	**Gravette**	**2.67**	**83**	P	**Pn**	**06 00 46.3**	**+0.5**
	baz=265,SNR=115						
Z35A	**Perchaven, San**	**2.85**	**173**	P	**Pn**	**06 00 48.9**	**+0.6**
	baz=353,SNR=37						
Z35A				S	**Sn**	**06 01 25.1**	**+2.2**
	baz=353						
KSU1	**Kansas State U**	**3.05**	**16**	IAmb_Lg		06 01 41.1	
	comp=Z,74nm,0.8s						
KSU1	**Kansas State U**	**3.05**	**16**	P	**Pn**	**06 00 50.0**	**-1.0**
	baz=196						
CBKS	**Cedar Bluff**	**3.11**	**329**	IAmb_Lg		06 01 44.5	
	comp=Z,80nm,0.8s						
CBKS	**Cedar Bluff**	**3.11**	**329**	P	**Pn**	**06 00 52.8**	**+0.8**
	baz=148						
FW06	**Azle**	**3.19**	**178**		**Pn**	**06 00 54.3**	**+1.4**
PLPT	**Palo Pinto**	**3.39**	**189**	IAmb_Lg		06 01 58.1	
	comp=Z,46nm,0.8s						
FW07	**Weatherford**	**3.46**	**182**	IAmb_Lg		06 01 56.3	
	comp=Z,36nm,0.7s						
AMTX	**Amarillo**	**3.51**	**250**	IAmb_Lg		06 01 58.9	
	comp=Z,53nm,0.9s						
AMTX	**Amarillo**	**3.51**	**250**	P	**Pn**	**06 00 58.3**	**+0.9**
	baz=68						
Z38A	**Mt. Pleasant**	**3.65**	**142**	IAmb_Lg		06 02 00.2	
	comp=Z,89nm,0.7s						
Z38A	**Mt. Pleasant**	**3.65**	**142**	P	**Pn**	**06 00 59.4**	**+0.2**
	baz=323,SNR=5.4						
DKNS	**Dickens**	**3.66**	**228**		**Pn**	**06 01 00.7**	**+1.3**
DKNS				IAmb_Lg		06 02 07.9	
	comp=Z,55nm,0.7s						
TREL	**Terrell**	**3.67**	**159**	IAmb_Lg		06 02 01.4	
	comp=Z,45nm,0.8s						
FW16	**Waxahatchie**	**3.73**	**170**	IAmb_Lg		06 02 09.7	
	comp=Z,49nm,0.7s						
FW14	**Alvarado**	**3.78**	**174**	IAmb_Lg		06 02 04.4	
	comp=Z,42nm,0.9s						
S39A	**Bolivar**	**3.80**	**65**	IAmb_Lg		06 02 01.9	
	comp=Z,66nm,0.9s						
S39A	**Bolivar**	**3.80**	**65**	P	**Pn**	**06 01 01.9**	**+0.5**
	baz=248,SNR=34						
S39A				S	**Sn**	**06 01 47.1**	**+0.6**
	baz=248						
FW13	**Cleburne**	**3.81**	**177**	IAmb_Lg		06 02 06.6	
	comp=Z,20nm,0.8s						
ABTX	**Abilene, Hawle**	**3.89**	**205**	IAmb_Lg		06 02 08.7	
	comp=Z,50nm,0.9s						
U40A	**Yellville**	**3.90**	**86**	P	**Pn**	**06 01 02.6**	**-0.1**
	baz=268,SNR=12						
U40A				P	**Pn**	**06 01 02.6**	**-0.1**
	baz=268,SNR=12						
RTBA	**Rita Blanca**	**4.10**	**275**	IAmb_Lg		06 02 14.6	
	comp=Z,57nm,0.9s						
WHTX	**Lake Whitney,**	**4.17**	**177**	P	**Pn**	**06 01 06.4**	**+0.1**
	baz=358,SNR=16						
SN01	**Snyder 1**	**4.23**	**220**	IAmb_Lg		06 02 19.1	
	comp=Z,96nm,0.8s						
X40A	**Basin Creek Fa**	**4.29**	**112**	IAmb_Lg		06 02 22.9	
	comp=Z,87nm,0.8s						
POST	**Post**	**4.42**	**227**	IAmb_Lg		06 02 26.7	
	comp=Z,62nm,0.9s						
237A	**Washetta, Mont**	**4.43**	**159**	P	**Pn**	**06 01 09.7**	**-0.3**
	baz=340,SNR=9.1						
MGMO	**Mountain Grove**	**4.45**	**76**	IAmb_Lg		06 02 23.6	
	comp=Z,63nm,0.8s						
WHAR	**Wooly Hollow**	**4.46**	**100**	IAmb_Lg		06 02 26.5	
	comp=Z,53nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.50**	**92**	IAmb_Lg		06 02 31.6	
	comp=Z,41nm,0.8s						
UALR	**University of**	**4.56**	**106**	IAmb_Lg		06 02 34.7	
	comp=Z,70nm,0.8s						
N33B	**J Bar K, Exete**	**4.57**	**2**	S	**Sn**	**06 02 04.9**	**-0.5**
	baz=182						
N33A	**J Bar K, Exete**	**4.57**	**2**	IAmb_Lg		06 02 37.5	
	comp=Z,58nm,0.9s						
MSTX	**Muleshoe**	**4.72**	**244**	P	**Pn**	**06 01 14.3**	**+0.2**
	baz=61						
P38A	**Dawn**	**4.76**	**42**	IAmb_Lg		06 02 32.5	
	comp=Z,44nm,0.7s						
R40A	**Maddies Statio**	**4.80**	**62**	IAmb_Lg		06 02 31.8	
	comp=Z,48nm,0.7s						
R40A	**Maddies Statio**	**4.80**	**62**	P	**Pn**	**06 01 15.4**	**+0.3**
	baz=245,SNR=20						
KSCO	**Kaye Shedlock'**	**4.85**	**307**	IAmb_Lg		06 02 41.9	
	comp=Z,38nm,0.7s						
Z41A	**Richland Creek**	**4.95**	**124**	IAmb_Lg		06 02 51.1	
	comp=Z,88nm,0.9s						
BRDY	**Brady**	**4.99**	**193**	IAmb_Lg		06 02 53.9	
	comp=Z,47nm,1.0s						
SGCY	**Sterling City**	**5.12**	**215**	IAmb_Lg		06 02 54.1	
	comp=Z,76nm,0.7s						
BGNE	**Belgrade**	**5.25**	**356**	P	**Pn**	**06 01 21.0**	**-0.3**
	baz=176,SNR=10.0						
LCAR	**Lake Charles**	**5.28**	**89**	IAmb_Lg		06 02 52.8	
	comp=Z,36nm,0.9s						
CCM	**Cathedral Cave**	**5.47**	**68**	IAmb_Lg		06 03 02.9	
	comp=Z,44nm,0.7s						
CCM	**Cathedral Cave**	**5.47**	**68**	P	**Pn**	**06 01 24.9**	**+0.7**
	baz=252,SNR=9.3						
T25A	**Trinidad**	**5.50**	**282**	IAmb_Lg		06 03 00.3	
	comp=Z,63nm,0.8s						
ODSA	**Odessa**	**5.71**	**226**	IAmb_Lg		06 03 09.0	
	comp=Z,27nm,1.0s						
OZNA	**Ozona**	**5.97**	**210**	IAmb_Lg		06 03 20.6	
	comp=Z,45nm,0.9s						
FVM	**French Village**	**6.07**	**70**	IAmb_Lg		06 03 13.9	
	comp=Z,35nm,0.7s						
143A	**Socs Landing,**	**6.22**	**122**	IAmb_Lg		06 03 35.0	
	comp=Z,34nm,0.7s						
SLM	**Saint Louis**	**6.41**	**65**	IAmb_Lg		06 03 23.6	
	comp=Z,29nm,0.7s						
MNHN	**Monahans**	**6.41**	**223**	IAmb_Lg		06 03 24.7	
	comp=Z,26nm,0.8s						
Q24A	**Divide**	**6.56**	**297**	IAmb_Lg		06 03 40.0	
	comp=Z,34nm,0.8s						
K30B	**Basset**	**6.67**	**348**	IAmb_Lg		06 03 51.3	
	comp=Z,39nm,0.7s						
HALT	**Halls**	**6.75**	**90**	IAmb_Lg		06 03 51.4	
	comp=Z,47nm,1.0s						
HNDO	**Hondo**	**6.76**	**192**	IAmb_Lg		06 03 36.7	
	comp=Z,55nm,0.9s						
GLAT	**Glass**	**6.78**	**87**	IAmb_Lg		06 03 38.5	
	comp=Z,54nm,0.7s						
BRIGG	**Briggsdale**	**6.83**	**312**	IAmb_Lg		06 03 53.0	
	comp=Z,46nm,0.9s						
S44A	**Carbondale**	**6.91**	**75**	IAmb_Lg		06 03 38.9	
	comp=Z,49nm,0.7s						
PECS	**Pecos**	**7.03**	**229**	IAmb_Lg		06 03 52.7	
	comp=Z,58nm,1.3s						
EF01	**Eagle Ford 01**	**7.04**	**185**	IAmb_Lg		06 03 47.1	
	comp=Z,28nm,0.9s						
Y45A	**Yeager Farm, C**	**7.05**	**107**	IAmb_Lg		06 03 49.5	
	comp=Z,26nm,0.7s						
VBMS	**Vicksburg**	**7.12**	**122**	IAmb_Lg		06 03 59.6	
	comp=Z,23nm,0.9s						
DRIO	**Del Rio**	**7.17**	**201**	IAmb_Lg		06 03 50.2	
	comp=Z,34nm,1.0s						
SAND	**Sanderson**	**7.23**	**212**	IAmb_Lg		06 04 02.9	
	comp=Z,57nm,1.1s						
ISCO	**Idaho Springs**	**7.25**	**302**	IAmb_Lg		06 04 02.5	
	comp=Z,23nm,0.8s						
735A	**Kedy**	**7.29**	**181**	IAmb_Lg		06 04 12.7	
	comp=Z,37nm,0.8s						
T45A	**Paducah**	**7.31**	**81**	IAmb_Lg		06 04 03.5	
	comp=Z,48nm,0.8s						
ECSD	**EROS Data Cent**	**7.60**	**6**	P	**Pn**	**06 01 52.4**	**-1.1**
	baz=186,SNR=31						
ALPN	**Alpine**	**7.64**	**223**	IAmb_Lg		06 04 18.2	
	comp=Z,28nm,1.0s						
146A	**Union**	**7.94**	**114**	IAmb_Lg		06 04 28.7	
	comp=Z,29nm,1.0s						
833A	**Chaparral WMA,**	**7.96**	**191**	IAmb_Lg		06 04 18.7	
	comp=Z,26nm,0.9s						
PHWY	**Pilot Hill**	**7.96**	**312**	IAmb_Lg		06 04 20.8	
	comp=Z,22nm,0.8s						
OLIL	**Olney**	**8.03**	**69**	IAmb_Lg		06 04 35.5	
	comp=Z,33nm,1.0s						
425A	**Indio Mountain**	**8.13**	**231**	Pn	**Pn**	**06 02 01.2**	**+0.3**
425A				IAmb_Lg		06 04 25.2	
	comp=Z,25nm,1.2s						
O44A	**Mansfield**	**8.27**	**58**	IAmb_Lg		06 04 31.2	
	comp=Z,40nm,0.8s						
I37A	**Lemond, Waseca**	**8.49**	**21**	IAmb_Lg		06 04 41.1	
	comp=Z,31nm,0.7s						
RWWY	**Rawlins**	**9.25**	**309**	IAmb_Lg		06 05 12.1	
	comp=Z,22nm,0.9s						
K22A	**Casper**	**9.42**	**316**	IAmb_Lg		06 05 14.3	
	comp=Z,33nm,0.9s						
SPMN	**Marine on St.**	**9.77**	**21**	IAmb_Lg		06 05 11.9	
	comp=Z,22nm,0.8s						

*IDC **20** 06:08:13.9±0.7,32°.43S×71°.59W,h0km,mb4.2/8, mbtmp4.1/12,ML4.0/4,MS3.3/7, Error ellipse: s-maj=20.4km s-min=16.2km az=141.0*

*SJA **20** 06:08:17.3±0.7,32°.51S×71°.65W,h32km±2km,ML4.2, MW4.3*

*NEIC **20** 06:08:18.1±1.9,32°.51S±0°.04×71°.80W±0°.05,h25km±9km, mb4.4/6, Error ellipse: s-maj=7.7km s-min=2.4km az=130.0*

*GUC **20** 06:08:18.1±0.6,32°.49S×71°.71W,h33km±2km, ML4.3*

ISC 20 06:08:15.6±1.2,**32°.49S**±0°.02×**71°.76W**±0°.04,**h12**km±7km, **n122,**σ1$**34**/149,**mb4.2**/11,**MS3.5**/4,**5C-15D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.54**	**170**		**Pb**	**06 08 28.7**	**+1.6**
VA01	**Torpederas**	**0.54**	**170**	eP	**Pn**	**06 08 28.8**	**-0.4**
VA01				eS	**Sb**	**06 08 36.7**	**+1.9**
VA01	**Torpederas**	**0.54**	**170**	eP	**Pn**	**06 08 28.8**	**-0.4**
VA01				*i* S	**Sb**	**06 08 36.4**	**+1.5**
	comp=E,21μm,0.1s			IAML		06 08 39.0	
ROC1	**El Roble**	**0.79**	**128**		**Pb**	**06 08 32.9**	**+1.4**
ROC1	**El Roble**	**0.79**	**128**	eS	**Sb**	**06 08 43.4**	**+1.1**
ROCH	**El Roble**	**0.80**	**128**	⇓*i* P	**Pb**	**06 08 32.6**	**+1.1**
ROCH				*i* S	**Sb**	**06 08 43.1**	**+0.8**
ROCH				IAML		06 08 44.1	
	comp=N,18μm,0.3s						
MT02	**Curacav**	**0.93**	**146**		**Pn**	**06 08 35.0**	**+0.5**
MT02	**Curacav**	**0.93**	**146**	eP	**Pb**	**06 08 34.6**	**+0.9**
MT02				eS	**Sb**	**06 08 46.8**	**+0.8**
MT02				IAML		06 08 48.5	
	comp=Z,10μm,0.2s						
MT02	**Curacav**	**0.93**	**146**	⇓*i* P	**Pb**	**06 08 34.6**	**+0.9**
MT02				*i* S	**Sg**	**06 08 46.2**	**+0.4**
VA03	**San Esteban**	**1.06**	**105**		**Pb**	**06 08 36.5**	**+0.6**
VA03	**San Esteban**	**1.06**	**105**	eP	**Pg**	**06 08 36.2**	**+0.3**
VA03				eS	**Sg**	**06 08 50.2**	**+0.4**
VA03				IAML		06 08 55.1	
	comp=Z,6μm,0.5s						
VA03	**San Esteban**	**1.06**	**105**	⇓*i* P	**Pg**	**06 08 36.3**	**+0.3**
VA03				*i* S	**Sg**	**06 08 47.3**	**-2.5**
VA03				IAML		06 08 51.6	
	comp=E,10μm,0.3s						
PEL	**Peldehue**	**1.12**	**126**		**Pn**	**06 08 37.9**	**+0.8**
PEL	**Peldehue**	**1.12**	**126**	*e*P	**Pb**	**06 08 37.6**	**+0.7**
PEL				*e*S	**Sb**	**06 08 52.6**	**+1.2**
PEL	**Peldehue**	**1.12**	**126**	*e*P	**Pg**	**06 08 37.4**	**+0.2**
PEL				*i* S	**Sg**	**06 08 52.1**	**+0.4**
PEL				IAML		06 08 53.2	
	comp=N,12μm,0.4s						
VA05	**Santo Domingo**	**1.17**	**174**		**Pn**	**06 08 39.5**	**+1.6**
VA05	**Santo Domingo**	**1.17**	**174**	⇓*i* P	**Pn**	**06 08 38.5**	**+0.7**
VA05				*i* S	**Sb**	**06 08 54.0**	**+1.0**
VA05				IAML		06 08 59.9	
	comp=E,14μm,0.3s						
MT05	**Renca**	**1.25**	**137**		**Pn**	**06 08 40.0**	**+1.1**
MT05	**Renca**	**1.25**	**137**	*e*P	**Pg**	**06 08 39.0**	**-0.6**
MT05				IAML		06 08 57.9	
	comp=Z,5μm,0.3s						
MT05	**Renca**	**1.25**	**137**	⇓*i* P	**Pg**	**06 08 39.6**	**0.0**
MT05				*i* S	**Sg**	**06 08 56.0**	**+0.1**
MT05				IAML		06 08 58.5	
	comp=E,27μm,0.3s						
MT10	**Hacienda Santa**	**1.29**	**128**	⇓*i* P	**Pg**	**06 08 40.4**	**-0.2**
MT10				*i* S	**Sg**	**06 08 57.1**	**-0.3**
MT10				IAML		06 08 58.6	
	comp=E,14μm,0.3s						
MT14	**Cerro Calן**	**1.37**	**132**	⇓*i* P	**Pn**	**06 08 41.5**	**+0.8**
MT14				*i* S	**Sb**	**06 08 58.3**	**-0.5**
MT14				IAML		06 09 02.7	
	comp=E,8μm,0.4s						
CO02	**Combarbal**	**1.43**	**27**		**Pn**	**06 08 42.9**	**+1.4**
CO02	**Combarbal**	**1.43**	**27**	*e*P	**Pn**	**06 08 42.7**	**+1.2**
CO02				*e*S	**Sb**	**06 09 01.8**	**+1.2**
CO02				IAML		06 09 05.1	
	comp=Z,5μm,0.2s						
CO02	**Combarbal**	**1.43**	**27**	⇓*i* P	**Pn**	**06 08 42.7**	**+1.2**
CO02				*i* S	**Sb**	**06 09 01.1**	**+0.5**
CO02				IAML		06 09 06.0	
	comp=E,17μm,0.3s						
MT01	**Popeta**	**1.44**	**163**		**Pg**	**06 08 43.1**	**-0.2**
MT01	**Popeta**	**1.44**	**163**	*e*P	**Pb**	**06 08 42.8**	**+0.3**
MT01				*e*S	**Sb**	**06 09 00.7**	**0.0**
MT01				IAML		06 09 08.5	
	comp=Z,3μm,0.4s						
MT01	**Popeta**	**1.44**	**163**	*e*P	**Pb**	**06 08 42.7**	**+0.3**
MT01				*i* S	**Sb**	**06 08 60.0**	**-0.7**
MT01				IAML		06 09 08.2	
	comp=E,4μm,0.5s						
MT09	**Talagante**	**1.44**	**154**		**Pb**	**06 08 43.1**	**+0.5**
MT09	**Talagante**	**1.44**	**154**	⇓*i* P	**Pb**	**06 08 43.0**	**+0.5**
MT09				*i* S	**Sb**	**06 09 01.1**	**+0.3**
MT09				IAML		06 09 06.3	
	comp=N,7μm,0.3s						
MT03	**Universidad Ad**	**1.45**	**134**		**Pb**	**06 08 43.1**	**+0.4**
MT03	**Universidad Ad**	**1.45**	**134**	*e*P	**Pn**	**06 08 42.8**	**+0.9**
MT03				IAML		06 09 04.7	
	comp=Z,3μm,0.7s						
MT03	**Universidad Ad**	**1.45**	**134**	⇓*i* P	**Pn**	**06 08 42.7**	**+0.9**
MT03				*i* S	**Sb**	**06 09 01.5**	**+0.3**
MT03				IAML		06 09 08.1	
	comp=N,8μm,0.2s						
FCH	**Farellones**	**1.49**	**125**	⇓*i* P	**Pn**	**06 08 43.3**	**+0.8**
FCH				*i* S	**Sb**	**06 09 02.7**	**+0.1**
FCH				IAML		06 09 03.3	
	comp=N,4μm,0.4s						
MT15	**Las Vizcachas**	**1.53**	**137**	*e*P	**Pn**	**06 08 43.7**	**+0.9**
MT15				*i* S	**Sn**	**06 09 03.5**	**+0.8**
MT15				IAML		06 09 08.0	
	comp=N,10μm,0.3s						
MT12	**Pirque**	**1.60**	**141**	⇓*i* P	**Pn**	**06 08 45.2**	**+1.3**
MT12				*i* S	**Sn**	**06 09 05.5**	**+1.0**
MT12				IAML		06 09 09.6	
	comp=E,14μm,0.4s						
MT04	**Ro Olivares**	**1.64**	**124**	⇓*i* P	**Pn**	**06 08 45.6**	**+1.0**
MT04				*i* S	**Sn**	**06 09 06.6**	**+0.9**
MT13	**San Alfonso**	**1.76**	**136**		**Pb**	**06 08 47.5**	**+1.8**
MT13	**San Alfonso**	**1.76**	**136**	*e*P	**Pn**	**06 08 47.5**	**+1.5**
MT13				*i* S	**Sn**	**06 09 10.2**	**+1.8**
MT13				IAML		06 09 14.3	
	comp=E,5μm,0.5s						
BO04	**La Punta**	**1.78**	**148**		**Pb**	**06 08 48.7**	**+0.4**
BO04	**La Punta**	**1.78**	**148**	⇑*i* P	**Pb**	**06 08 48.1**	**-0.1**
BO04				*i* S	**Sb**	**06 09 11.0**	**+0.4**
BO04				IAML		06 09 14.9	
	comp=N,5μm,0.4s						
CO06	**Fray Jorge**	**1.81**	**3**		**Pn**	**06 08 47.5**	**+0.9**
CO06	**Fray Jorge**	**1.81**	**3**	⇑*i* P	**Pn**	**06 08 47.2**	**+0.6**
CO06				*i* S	**Sn**	**06 09 09.3**	**-0.2**
CO06				IAML		06 09 21.2	
	comp=E,2μm,0.4s						
CO03	**El Pedregal**	**1.88**	**29**		**Pn**	**06 08 49.6**	**+2.0**
CO03	**El Pedregal**	**1.88**	**29**	*e*P	**Pn**	**06 08 49.5**	**+1.8**
CO03				*e*S	**Sb**	**06 09 15.2**	**+1.8**
CO03				IAML		06 09 16.4	
	comp=Z,2μm,1.2s						
CO03	**El Pedregal**	**1.88**	**29**	⇑*i* P	**Pn**	**06 08 49.5**	**+1.8**
CO03				*i* S	**Sn**	**06 09 13.8**	**+2.4**
CO03				IAML		06 09 22.5	
	comp=E,3μm,0.4s						
LMEL	**Las Melosas**	**1.88**	**137**		**Pb**	**06 08 50.0**	**0.0**
LMEL	**Las Melosas**	**1.88**	**137**	⇑*i* P	**Pn**	**06 08 49.7**	**+1.9**
LMEL				*i* S	**Sn**	**06 09 13.7**	**+2.2**
LMEL				IAML		06 09 17.1	
	comp=N,6μm,0.2s						
BO01	**Tunca**	**1.98**	**164**		**Pn**	**06 08 50.9**	**+1.9**
BO01	**Tunca**	**1.98**	**164**	*e*P	**Pn**	**06 08 50.3**	**+1.3**
BO01				*e*S	**Sg**	**06 09 18.2**	**-1.2**
BO01				IAML		06 09 22.1	
	comp=Z,1μm,0.5s						
BO01	**Tunca**	**1.98**	**164**	*e*P	**Pn**	**06 08 50.3**	**+1.3**
BO01				*e*S	**Sn**	**06 09 13.7**	**-0.1**
BO01				IAML		06 09 22.9	
	comp=E,2μm,0.3s						
BO03	**Pichilemu**	**2.01**	**185**

AC05					IAML			06 10 20.6	
	comp=Z,486nm,0.7s								
AC04	**Llanos de Chal**	**4.31**	**8**	*eP*		**Pn**		**06 09 21.0**	**0.0**
AC04					IAML			06 10 35.5	
	comp=Z,350nm,0.7s								
BI05	**Punta Hualpn**	**4.41**	**195**	Pn		**Pn**		**06 09 22.0**	**-0.4**
GO03	**Copiap**	**5.05**	**16**	*eP*		**Pn**		**06 09 32.4**	**+1.1**
H03N1	**Juan Fernandez**	**6.09**	**259**	T		T		06 16 18.1	
	baz=88,slow=73,SNR=2889								
H03N3	**Juan Fernandez**	**6.10**	**259**	T		T		06 16 15.3	
	baz=88,slow=73,SNR=3597								
H03N2	**Juan Fernandez**	**6.10**	**259**	T		T		06 16 18.7	
	baz=88,slow=73,SNR=3734								
H03S1	**Juan Fernandez**	**6.14**	**255**	T		T		06 16 07.9	
	baz=83,slow=75,SNR=58								
H03S3	**Juan Fernandez**	**6.14**	**256**	T		T		06 16 09.2	
	baz=83,slow=75,SNR=67								
H03S2	**Juan Fernandez**	**6.16**	**255**	T		T		06 16 08.8	
	baz=83,slow=75,SNR=110								
GO06	**Curarrehue**	**7.09**	**178**	Pn		**Pn**		**06 09 59.0**	**-0.2**
LR05	**Currie**	**7.73**	**181**	Pn		**Pn**		**06 10 08.8**	**+0.8**
PLCA	**Paso Flores**	**8.29**	**174**			**Pn**		**06 10 17.3**	**+1.6**
PLCA	**Paso Flores**	**8.29**	**174**	Pn		**Pn**		**06 10 17.1**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=334,slow=11,SNR=45								
PLCA					Lg	Lg		06 12 31.6	
	comp=Z,0.2nm,0.3s,baz=292,slow=20,SNR=2.2								
PLCA					LR	LR		06 13 08.9	
	comp=Z,52nm,19.7s,baz=310,slow=35								
	comp=Z,2.9nm,0.4s								
TRQA	**Tornquist**	**9.73**	**128**	Pn		**Pn**		**06 10 37.0**	**+1.5**
LVC	**Limon Verde**	**10.16**	**15**	Pn		**Pn**		**06 10 39.6**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=268,slow=14,SNR=2.1								
LVC					Sn	Sn		06 12 27.4	-8.3
	comp=Z,1.5nm,0.3s,baz=185,slow=11,SNR=3.6								
LVC					Lg	Lg		06 13 20.3	
	comp=Z,4.6nm,0.3s,baz=238,slow=9.5,SNR=7.7								
	comp=Z,2.3nm,0.7s								
ITQB	**Itaqui**	**13.27**	**82**			**Pn**		**06 11 24.1**	**+0.2**
PB12	**IPOC Station P**	**13.87**	**6**	Pn		**Pn**		**06 11 32.7**	**+0.4**
CPUP	**Villa Florida**	**13.99**	**68**	Pn		**Pn**		**06 11 32.2**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=234,slow=8.7,SNR=2.0								
CPUP					Sn	**Sn**		**06 14 04.0**	**-4.9**
	comp=Z,0.2nm,0.3s,baz=211,slow=16,SNR=2.1								
CPUP					LR	LR		06 17 30.5	
	comp=Z,164nm,20.1s,baz=243,slow=40								
	comp=Z,0.9nm,0.4s								
LPAZ	**La Paz**	**16.46**	**12**	P		**Pn**		**06 12 07.6**	**+0.5**
AQDB	**Aquidauana**	**18.67**	**54**			**P**		**06 12 33.0**	**-0.6**
SIV	**San Ignacio**	**19.07**	**33**	P		**P**		**06 12 37.0**	**-1.1**
	baz=220,slow=9.4,SNR=14								
SIV					LR	LR		06 19 58.4	
	comp=Z,51nm,18.5s,baz=193,slow=37								
	comp=Z,2.5nm,0.7s								
NNA	**Nana**	**20.93**	**346**	LR		LR		06 19 33.2	
	comp=Z,42nm,18.6s,baz=92,slow=32								
VILB	**Vilhena**	**22.14**	**31**	P		**P**		**06 13 11.5**	**+0.2**
VILB					IAmb	IAmb		06 13 13.6	
	comp=Z,24nm,0.9s								
ETMB	**Extrema**	**23.14**	**14**	P		**P**		**06 13 22.6**	**+0.9**
ETMB					IAmb	IAmb		06 13 24.5	
	comp=Z,10nm,0.8s								
SAML	**Samuel**	**24.73**	**21**	P		**P**		**06 13 37.1**	**+0.1**
SAML					IAmb	IAmb		06 13 38.4	
	comp=Z,4.6nm,0.8s								
BDFB	**Brasilia**	**27.31**	**58**	P		**P**		**06 13 59.6**	**-0.9**
BDFB					IAmb	IAmb		06 13 59.9	
	comp=Z,9.5nm,1.0s								
BDFB	**Brasilia**	**27.31**	**58**	P		**P**		**06 13 59.0**	**-1.5**
	comp=Z,5.8nm,0.9s,baz=239,slow=7.1,SNR=8.3								
BDFB					LR	LR		06 25 57.6	
	comp=Z,251nm,18.7s,baz=286,slow=39								
	comp=Z,5.8nm,0.9s								
MDP	**Montagnes des**	**41.56**	**29**	LR		LR		06 35 07.2	
	comp=Z,72nm,20.1s,baz=162,slow=39								
RCBR	**Riachuelo**	**42.66**	**59**	LR		LR		06 35 23.7	
	comp=Z,65nm,19.0s,baz=299,slow=38								
SNAA	**Sanae**	**52.90**	**158**	P		**P**		**06 17 31.7**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=291,slow=9.9,SNR=6.3								
	comp=Z,2.2nm,0.8s								
QSPA	**South Pole Qui**	**57.75**	**180**	P		**P**		**06 18 06.4**	**+0.2**
	comp=Z,2.8nm,1.0s,baz=155,slow=4.4,SNR=6.0								
	comp=Z,2.8nm,1.0s								
TXAR	**Lajitas Array**	**68.53**	**330**	P		**P**		**06 19 18.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=158,slow=9.9,SNR=5.0								
	comp=Z,0.4nm,0.7s								
WVT	**Waverly**	**69.90**	**346**	P		**P**		**06 19 26.4**	**+0.1**
DBIC	**Dimbokro**	**74.48**	**71**	P		**P**		**06 19 53.5**	**-0.7**
	comp=Z,5.8nm,0.9s,baz=231,slow=6.8,SNR=6.8								
	comp=Z,5.8nm,0.9s								
BOSA	**Boshof**	**80.57**	**118**	P		**P**		**06 20 27.8**	**-0.6**
	comp=Z,2.9nm,1.0s,baz=317,slow=5.0,SNR=5.5								
	comp=Z,2.9nm,1.0s								
PDAR	**Pinedale Array**	**82.52**	**333**	P		**P**		**06 20 39.3**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=126,slow=9.1,SNR=2.5								
	comp=Z,0.3nm,0.8s								
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P		**P**		**06 20 42.9**	**-0.6**
	comp=Z,3.3nm,0.8s,baz=276,slow=3.9,SNR=20								
	comp=Z,3.3nm,0.8s								
H11S2	**WAKE ISLAND Hyl**	**126.02**	**270**	T		T		08 46 16.0	
	baz=118,slow=75,SNR=184								
H11S1	**WAKE ISLAND Hyl**	**126.03**	**270**	T		T		08 46 16.0	
	baz=118,slow=75,SNR=229								
H11S3	**WAKE ISLAND Hyl**	**126.03**	**270**	T		T		08 46 16.4	
	baz=118,slow=75,SNR=125								
H11N3	**WAKE ISLAND Hyl**	**126.39**	**272**	T		T		08 46 44.5	
	baz=119								
H11N1	**WAKE ISLAND Hyl**	**126.40**	**272**	T		T		08 46 44.5	
	baz=119								
H11N2	**WAKE ISLAND Hyl**	**126.41**	**272**	T		T		08 46 43.4	
	baz=119								
BVAR	**Borovoye Array**	**146.01**	**42**	PKPbc		**PKPdf**		**06 27 55.2**	**+1.2**
	comp=Z,1.7nm,0.4s,baz=306,slow=2.0,SNR=14								
KURBB	**Kurchatov Arra**	**151.60**	**42**	PKPbc		**PKPbc**		**06 28 09.3**	**0.0**
	comp=Z,2.0nm,0.5s,baz=298,slow=3.1,SNR=17								
ZALV	**Zalesovo Beam**	**152.82**	**31**	PKPbc		**PKPbc**		**06 28 10.9**	**-1.1**
	comp=Z,2.3nm,0.5s,baz=274,slow=1.7,SNR=12								
MKAR	**Makanchi Array**	**155.58**	**47**	PKPab		**PKPab**		**06 28 34.4**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=318,slow=4.9,SNR=4.4								

IDC 20 06:20:34.6±5.6, 5.12S×133.26E, h0km, mb3.9/1, mbtmp3.6/3, ML3.3/2, Error ellipse: s-maj=334.3km s-min=32.1km az=77.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.77**	**176**	Pn	Pn	06 24 03.1	-1.9
	0.1nm,0.3s,baz=353,slow=13,SNR=3.0						
WRA				Sn	Sn	06 26 39.5	-10
	0.1nm,0.3s,baz=3.9,slow=23,SNR=1.6						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**18.45**	**178**	P	P	06 24 52.6	+0.6
	0.2nm,0.3s,baz=5.0,slow=12,SNR=16						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**68.49**	**325**	P	P	06 31 38.9	0.0
	0.7nm,0.5s,baz=110,slow=8.1,SNR=4.9						
	0.7nm,0.5s						

IDC 20 06:36:21.4±2.5, 54.15N×86.36E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=19.8km s-min=12.1km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**258**	I	I	06 41 54.6	
	baz=75,slow=345,SNR=2.6						
ZALV	**Zalesovo Beam**	**0.93**	**258**	Pg	Pg	06 36 38.4	-0.9
	2.1nm,0.3s,baz=74,slow=18,SNR=15						
ZALV				Lg	Lg	06 36 53.2	
	12nm,0.3s,baz=79,slow=32,SNR=12						
KURBB	**Kurchatov Arra**	**5.96**	**237**	Pn	Pn	06 37 51.6	+0.8
	0.1nm,0.3s,baz=53,slow=13,SNR=8.1						
KURBB				Lg	Lg	06 39 26.7	
	baz=56,slow=28						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**7.81**	**201**	Pn	Pn	06 38 17.4	+1.1
	0.3nm,0.3s,baz=24,slow=13,SNR=7.1						
	0.3nm,0.3s						

*IDC **20** 06:43:42.7±2.2, 21.56N×143.24E, h271km±19km, mb3.3/8, mbtmp3.9/9, Error ellipse: s-maj=29.8km s-min=15.7km az=93.0*

ISC 20 06:43:45.6±1.0, 21.7N±0.1×143.1E±0.3, h300km, n9, σ1§48/10, mb3.4/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.44**	**352**	*eP*	**Pn**	**06 45 07.0**	**-1.2**
	56nm,0.7s,baz=289,slow=24,SNR=12						
JCJ				S	**S**	**06 46 13.1**	**-1.6**
	33nm,0.6s,baz=311,slow=23,SNR=1.4						
WRA	**Warramunga Arr**	**42.25**	**192**	P	**P**	**06 51 09.5**	**-0.8**
	0.6nm,0.7s,baz=18,slow=8.8,SNR=6.3						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**45.96**	**192**	P	**P**	**06 51 37.6**	**-1.8**
	0.1nm,0.3s,baz=9.9,slow=7.5,SNR=1.6						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**57.46**	**317**	P	**P**	**06 53 04.9**	**+1.3**
	0.9nm,0.5s,baz=92,slow=7.8,SNR=7.5						
	0.9nm,0.5s						
ILAR	**Eielson Array**	**62.09**	**27**	P	**P**	**06 53 34.8**	**0.0**
	0.3nm,0.8s,baz=256,slow=5.5,SNR=6.1						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**62.61**	**319**	P	**P**	**06 53 40.1**	**+1.7**
	2.0nm,0.4s,baz=96,slow=7.9,SNR=12						
	2.0nm,0.4s						
YKA	**Yellowknife Ar**	**76.51**	**28**	P	**P**	**06 55 03.5**	**+0.9**
	0.5nm,0.7s,baz=292,slow=6.1,SNR=9.8						
	0.5nm,0.7s						
ARCES	**ARCESS Array B**	**78.90**	**341**	P	**P**	**06 55 16.8**	**+1.2**
	9.1nm,1.1s,baz=64,slow=8.2,SNR=5.9						
	9.1nm,1.1s						
FINES	**FINESS Array B**	**83.15**	**334**	P	**P**	**06 55 38.0**	**0.0**
	0.9nm,0.6s,baz=67,slow=3.3,SNR=6.0						
	0.9nm,0.6s						

*SSNC **20** 06:54:20.8±1.2, 18.14N×73.87W, h25km±19km, MD3.0, ML2.6, MW2.9*
*OSPL **20** 06:54:22.1±2.6, 18.60N×73.68W, h0km±39km, ML2.3*

ISC 20 06:54:17.1±2.5, 18.42N±0.10×73.80W±0.05, h2km±18km, n13, σ1§67/25, 1D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAPH	**Port-au-Prince**	**1.42**	**86**	*i* P	**Pn**	**06 54 44.6**	**+0.5**
PAPH				*eS*	**Sb**	**06 55 03.6**	**+0.5**
PAPH				IAML		06 55 06.5	
	comp=Z,62nm,0.2s						
PAPH	**Port-au-Prince**	**1.42**	**86**	*eP*	**Pn**	**06 54 44.3**	**+0.2**
PAPH				*eS*	**Sg**	**06 55 02.9**	**0.0**
PAPH				IAML		06 55 05.4	
	comp=E,82nm,0.5s						
PAPH				IAML		06 55 06.6	
	comp=N,128nm,0.2s						
MASC	**Masc**	**1.79**	**347**	*i* P	**Pn**	**06 54 49.9**	**+0.7**
MASC				*eS*	**Sn**	**06 55 10.4**	**-2.1**
MASC				IAML		06 55 14.3	
	comp=Z,34nm,1.1s						
MASC	**Masc**	**1.79**	**347**	*eP*	**Pn**	**06 54 49.5**	**+0.4**
MASC				*eS*	**Sn**	**06 55 10.2**	**-2.3**
MASC				IAML		06 55 12.4	
	comp=N,23nm,0.2s						
MASC				IAML		06 55 12.6	
	comp=E,54nm,0.5s						
GTBY	**Guantanamo Bay**	**1.95**	**321**	*i* P	**Pb**	**06 54 53.5**	**+0.1**
GTBY				*eS*	**Sb**	**06 55 18.4**	**+0.2**
GTBY				IAML		06 55 22.3	
	comp=Z,22nm,1.8s						
GTBY	**Guantanamo Bay**	**1.95**	**321**	*eP*	**Pb**	**06 54 53.3**	**-0.1**
GTBY				*eS*	**Sn**	**06 55 17.3**	**+0.9**
GTBY				IAML		06 55 29.5	
	comp=Z,40nm,0.6s						
GTBY				IAML		06 55 32.6	
	comp=Z,42nm,0.9s						
LOPE2	**Hotel El Peder**	**1.99**	**101**	*i* P	**Pn**	**06 54 53.2**	**+1.4**
RCC	**Rio Carpintero**	**2.38**	**311**	*eP*	**Pn**	**06 54 59.1**	**+1.8**
RCC				*eS*	**Sn**	**06 55 25.7**	**-1.4**
RCC				*eSg*	**Sb**	**06 55 28.2**	**-2.5**
RCC				IAML		06 55 33.9	
	comp=N,15nm,0.2s						
RCC				IAML		06 55 35.4	
	comp=E,20nm,0.4s						
NMDO	**Nuevo Mundo**	**2.40**	**332**	*eP*	**Pb**	**06 55 00.5**	**-0.7**
NMDO				*eS*	**Sn**	**06 55 29.3**	**+1.7**
SDDR	**Presa de Saban**	**2.44**	**76**	*i* P	**Pb**	**06 55 01.1**	**-0.8**
SDDR				IAML		06 55 34.2	
	comp=Z,20nm,1.9s						
MOAC	**Moa**	**2.48**	**334**	*eP*	**Pn**	**06 55 01.1**	**+2.5**
MOAC				*eS*	**Sn**	**06 55 32.2**	**+2.6**
MOAC				IAML		06 55 34.5	
	comp=E,13nm,0.6s						
MOAC				IAML		06 55 38.5	
	comp=N,13nm,0.5s						
MARVS	**Santiago de Cu**	**2.53**	**309**	*eP*	**Pb**	**06 55 02.5**	**-0.9**
MARVS				*eS*	**Sn**	**06 55 32.5**	**+1.6**
MARVS				IAML		06 55 38.5	
	comp=E,22nm,0.5s						
MARVS				IAML		06 55 38.7	
	comp=N,21nm,0.4s						
LMGC	**Las Mercedes**	**3.44**	**299**	*eP*	**Pn**	**06 55 12.9**	**+1.1**
LMGC				*eS*	**Sn**	**06 55 49.9**	**-3.4**
LMGC				IAML		06 55 54.2	
	comp=E,14nm,0.2s						
LMGC				IAML		06 55 55.0	
	comp=N,11nm,0.3s						

*IDC **20** 06:58:50.0±1.6, 5.72N×128.37E, h0km, mb4.1/9, mbtmp4.1/9, MS2.9/1, Error ellipse: s-maj=180.1km s-min=16.2km az=69.0*
*DJA **20** 06:59:01.8±0.5, 5.N±4×12.7E±.°, h83km±8km, M4.3/9, mb4.1/7, mB4.6/2, MLv4.4/9, Mw(mB)3.8/2*
*NEIC **20** 06:59:02.5±2.1, 5.12N±0.09×126.7E±0.2, h81km±10km, mb4.2/13, Error ellipse: s-maj=26.6km s-min=9.9km az=71.0*

ISC 20 06:59:01.1±0.7, 5.01N±0.07×126.70E±0.10, h71km, n39, σ1§45/40, mb4.2/14, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.76**	**222**	P	**Pn**	**06 59 30.4**	**+0.8**
SGSI				S	**Sn**	**06 59 50.9**	**-0.3**
DAV	**Davao City (W)**	**2.33**	**331**	Pn	**Pn**	**06 59 37.1**	**-0.1**
TNTI	**Ternate**	**4.27**	**171**	Pn	**Pn**	**07 00 06.9**	**+3.2**
TNTI	**Ternate**	**4.27**	**171**	P	**Pn**	**07 00 06.5**	**+2.8**
MRSI	**Marisa**	**6.55**	**227**	P	**Pn**	**07 00 35.9**	**+1.0**
	49nm,0.6s,821nm0.2nm						
SANI	**Sanana**	**7.05**	**186**	P	**Pn**	**07 00 40.8**	**-1.0**
	15nm,0.8s,0.2nm						
TOLI2	**Tolitoli**	**7.07**	**237**	Pn	**Pn**	**07 00 42.2**	**+0.3**
LUWI	**Luwuk**	**7.18**	**213**	Pn	**Pn**	**07 00 45.5**	**+1.9**
SWI	**Sorong**	**7.41**	**142**	P	**Pn**	**07 00 48.5**	**+1.9**
	20nm,0.7s,0.2nm						
MYLDM	**Lahad Datu**	**8.17**	**272**	Pn	**Pn**	**07 01 00.3**	**+3.3**
NLAI	**Namlea**	**8.21**	**177**	P	**Pn**	**07 00 56.4**	**-1.2**
BKB	**Balikpapan**	**11.61**	**238**	Pn	**Pn**	**07 01 42.9**	**-1.1**
KAPI	**Kappang**	**12.14**	**215**	LR	LR	07 08 36.7	
	comp=Z,41nm,18.2s,baz=14,slow=43						
KNRA	**Kununurra**	**20.66**	**174**	P	**P**	**07 03 35.7**	**+0.4**
KNRA				IAmb	IAmb	07 03 56.6	
	comp=Z,8.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**22.99**	**183**	P	**P**	**07 04 00.4**	**+0.3**
WB0	**Warramunga Arr**	**25.76**	**163**	P	**P**	**07 04 25.9**	**+0.5**
WB0				IAmb	IAmb	07 04 47.9	
	comp=Z,5.3nm,0.8s						
WRAB	**Tennant Creek**	**25.91**	**163**	P	**P**	**07 04 28.7**	**+2.0**
WRAB				IAmb	IAmb	07 04 45.8	
	comp=Z,3.6nm,0.7s						
WRA	**Warramunga Arr**	**25.91**	**163**	P	**P**	**07 04 28.1**	**+1.3**
WRA	**Warramunga Arr**	**25.91**	**163**	P	**P**	**07 04 27.3**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=343,slow=10,SNR=16						
	comp=Z,1.0nm,0.7s						
WB2	**Warramunga Arr**	**25.92**	**163**	P	**P**	**07 04 29.2**	**+2.4**
WB2				IAmb	IAmb	07 05 04.6	
	comp=Z,7.5nm,0.8s						
WR0	**Warramunga Arr**	**25.99**	**163**	P	**P**	**07 04 28.8**	**+1.3**
MBWA	**Marble Bar**	**26.89**	**194**	P	**P**	**07 04 35.8**	**+0.2**
MBWA				IAmb	IAmb	07 04 52.3	
	comp=Z,15nm,1.2s						
ASAR	**Alice Springs**	**29.36**	**166**	P	**P**	**07 04 57.7**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=344,slow=7.2,SNR=11						
ASAR				PcP	**PcP**	**07 08 00.6**	**-2.0**
	comp=Z,0.3nm,0.7s,baz=3.3,slow=3.2,SNR=1.6						
	comp=Z,0.4nm,0.6s						
FORT	**Forrest**	**35.62**	**178**	P	**P**	**07 05 51.9**	**-0.2**
STKA	**Stephens Creek**	**39.34**	**160**	P	**P**	**07 06 22.3**	**-1.2**
STKA				IAmb	IAmb	07 06 55.2	
	comp=Z,3.4nm,1.3s						
STKA	**Stephens Creek**	**39.34**	**160**	P	**P**	**07 06 22.2**	**-1.4**
	comp=Z,3.0nm,0.9s,baz=329,slow=12,SNR=3.0						
	comp=Z,3.0nm,0.9s						
ARMA	**Armidale**	**42.55**	**147**	P	**P**	**07 06 48.0**	**-2.2**
MK31	**Makanchi Array**	**56.49**	**325**		**P**	**07 08 35.0**	**-0.9**
MK31				IAmb	IAmb	07 09 04.7	
	comp=Z,3.5nm,1.2s						
MKAR	**Makanchi Array**	**56.49**	**325**		**P**	**07 08 36.4**	**+0.4**
MKAR	**Makanchi Array**	**56.49**	**325**	P	**P**	**07 08 37.0**	**+1.0**
	comp=Z,1.7nm,0.5s,baz=123,slow=7.6,SNR=25						
	comp=Z,1.7nm,0.5s						
ZALV	**Zalesovo Beam**	**59.44**	**333**	P	**P**	**07 08 54.4**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=133,slow=10,SNR=1.9						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**60.65**	**327**	P	**P**	**07 09 04.8**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=127,slow=6.2,SNR=12						
	comp=Z,1.4nm,0.6s						
KURK	**Kurchatov**	**60.65**	**327**		**P**	**07 09 04.2**	**-0.5**
KKAR	**Karatay Array**	**62.28**	**317**	P	**P**	**07 09 16.4**	**+0.4**
BVAR	**Borovoye Array**	**66.23**	**327**	P	**P**	**07 09 42.8**	**+1.2**
	comp=Z,1.2nm,0.5s,baz=146,slow=6.4,SNR=6.2						
	comp=Z,1.2nm,0.5s						
ABKAR	**Akbulak array**	**71.14**	**320**	P	**P**	**07 10 11.6**	**-0.6**
ARCES	**ARCESS Array B**	**89.24**	**340**	P	**P**	**07 11 47.5**	**-1.4**
	comp=Z,4.8nm,1.0s,baz=356,slow=4.9,SNR=3.5						
	comp=Z,4.8nm,1.0s						
FINES	**FINESS Array B**	**90.69**	**332**	P	**P**	**07 11 56.1**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=65,slow=5.4,SNR=13						
	comp=Z,1.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**122.48**	**289**	PKP	**PKiKP**	**07 17 49.6**	**0.0**
	comp=Z,0.4nm,0.6s,baz=63,slow=2.7,SNR=2.5						

IDC 20 07:05:47.2±2.4, 5.12N×125.85E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=212.9km s-min=26.9km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.27**	**162**	P	P	07 11 25.1	+0.7
	0.9nm,0.8s,baz=341,slow=10,SNR=9.7						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**29.67**	**165**	P	P	07 11 53.9	-0.9
	0.2nm,0.6s,baz=350,slow=8.4,SNR=1.6						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**55.92**	**325**	P	P	07 15 27.0	-0.1
	0.4nm,0.5s,baz=122,slow=6.9,SNR=6.0						
	0.4nm,0.5s						

IDC 20 07:27:59.9±1.3, 15.53S×177.13W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=43.0km s-min=33.8km az=131.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.31**	**257**	P	P	07 36 27.5	-0.4
	0.2nm,0.4s,baz=96,slow=6.8,SNR=5.9						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**46.65**	**252**	P	P	07 36 30.6	0.0
	1.3nm,0.3s,baz=85,slow=8.1,SNR=24						
	1.3nm,0.3s						
QSPA	**South Pole Qui**	**74.51**	**180**	P	P	07 39 40.5	+0.2
	1.8nm,0.7s,baz=338,slow=1.4,SNR=13						
	1.8nm,0.7s						
ILAR	**Eielson Array**	**83.31**	**13**	P	P	07 40 28.1	0.0
	0.3nm,0.5s,baz=222,slow=5.4,SNR=10						
	0.3nm,0.5s						

KRSC 20 07:34:05.4±1.0, 50.96N×157.88E, h49km±16km, Ml3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.84**	**307**	*eP*	Pn	07 34 23.5	+2.5
PAU				*eS*	Sn	07 34 34.7	+2.3
KDTR	**Khodutka, Kamc**	**0.86**	**8**	*i* P	Pn	07 34 22.4	+1.3
KDTR				*eS*	Sn	07 34 33.5	+0.8
SKR	**Severo-Kuril's**	**1.16**	**257**	*eP*	Pn	07 34 26.1	+1.0
SKR				*eS*	Sn	07 34 40.5	+0.7
ASAK	**Asacha**	**1.43**	**0**	*eP*	Pn	07 34 30.4	+1.4
ASAK				*eS*	Sn	07 34 47.5	+0.9
GRL	**Gorelyy**	**1.60**	**4**	*eP*	Pn	07 34 33.4	+2.0
GRL				*eS*	Sn	07 34 52.2	+1.4
KRMR	**Karymshinskiy**	**1.88**	**5**	*eP*	Pn	07 34 37.5	+2.5
KRMR				*eS*	Sn	07 35 01.3	+3.7
UGLR	**Uglovaya**	**2.33**	**14**	*eP*	Pn	07 34 44.5	+3.2
AVH	**Avacha**	**2.37**	**13**	*eP*	Pn	07 34 45.0	+3.2
SMAR	**Somma**	**2.38**	**13**	*eP*	Pn	07 34 44.7	+2.7
KOK	**Koryaka**	**2.38**	**11**	*eP*	Pn	07 34 45.3	+3.2
KRX	**Arik**	**2.45**	**11**	*eP*	Pn	07 34 45.8	+2.8
SPN	**Mys Shipunski**	**2.52**	**31**	*eP*	Pn	07 34 46.9	+3.2
SPN				*eS*	Sn	07 35 15.9	+2.7
KBTR	**Krutoberegovo**	**6.02**	**27**	*eP*	Pn	07 35 35.5	+3.7

*NNC **20** 07:39:24.2±1.6, 49.66N×81.79E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=22.3km s-min=7.6km az=48.0, Suspected Mining explosion.*
*IDC **20** 07:39:25.3±1.3, 49.79N×81.70E, h0km, mbtmp2.5/3, ML2.0/2, Error ellipse: s-maj=18.3km s-min=11.6km az=57.0*

ISC 20 07:39:22.7±1.2, 49.51N±0.09×81.5E±0.1, h0km, n7, σ0§55/8, 4C-1D, Eastern Kazakhstan

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time

IDC 20 08:04:06.7±6.2, 4°49S×153°77E, **h138**km±41km, **mb3.2**/2, mbtmp3.6/2, Error ellipse: s-maj=80.0km s-min=46.9km az=114.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.75**	**276**	P		Pn	08 04 37.1	-1.1
	68nm,0.3s,baz=168,slow=4.8,SNR=9.1						
KRVT				S		Sn	08 05 03.0	+0.7
	130nm,0.6s,baz=7.9,slow=20,SNR=1.7						
WRA	**Warramunga Arr**	**24.38**	**229**	P		P	08 09 11.7	-0.6
	1.4nm,0.5s,baz=52,slow=9.7,SNR=35						
	1.4nm,0.5s						
ASAR	**Alice Springs**	**27.04**	**223**	P		P	08 09 36.5	+0.3
	0.2nm,0.4s,baz=52,slow=8.8,SNR=6.0						
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**151.13**	**289**	PKPbc		PKiKP	08 23 45.0	-0.2
	0.2nm,0.4s,baz=61,slow=2.5,SNR=2.0						

*IDC **20** 08:05:56.5±2.1, 0°48N×125°97E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=179.6km s-min=28.2km az=65.0*
*DJA **20** 08:06:02.1±0.3, 0°S×3°×12°5E±°, h10km, M4.1/12, mb4.2/4, mB5.2/1, MLv4.0/12, Mw(mB)4.5/1*
ISC 20 08:06:04.3±1.2, **0°21S**±0°10×**124°67E**±0°06, **h50**km, **n16**, σ0°**86**/16, **mb3.5/3**, **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.03**	**319**	P		Pn	08 06 21.3	-1.2
GTOI	**Gorontalo**	**1.85**	**297**	P		Pn	08 06 34.7	+1.0
LUWI	**Luwuk**	**2.07**	**246**	P		Pn	08 06 36.4	-0.2
SANI	**Sanana**	**2.26**	**144**	P		Pn	08 06 37.8	-1.4
MRSI	**Marisa**	**2.81**	**284**	P		Pn	08 06 47.4	+0.6
LBMI	**Labuha**	**2.87**	**99**	P		Pn	08 06 48.3	+0.7
TNTI	**Ternate**	**2.87**	**70**	P		Pn	08 06 48.9	+1.3
NLAI	**Namlea**	**3.87**	**141**	P		Pn	08 07 01.6	+0.2
MPSI	**Mapaga**	**4.80**	**276**	P		Pn	08 07 14.2	+0.1
TTSI	**Tana Toraja**	**5.61**	**240**	P		Pn	08 07 25.6	+0.4
	33nm,0.6s,2um0.3nm						
SPSI	**Sidrap Palu**	**6.16**	**233**	P		Pn	08 07 32.7	0.0
	30nm,1.0s,0.2nm						
BKSI	**Bulukumba**	**6.81**	**222**	P		Pn	08 07 41.5	-0.2
	14nm,1.4s,0.1nm						
EDFI	**Ende, Flores**	**8.99**	**199**	P		Pn	08 08 12.1	+0.4
WRA	**Warramunga Arr**	**21.78**	**155**	P		P	08 10 50.9	-1.2
	2.2nm,1.0s,baz=338,slow=12,SNR=5.8						
	2.2nm,1.0s						
ASAR	**Alice Springs**	**24.99**	**160**	P		P	08 11 24.3	+0.7
	1.1nm,0.8s,baz=333,slow=7.2,SNR=14						
	1.1nm,0.8s						
MKAR	**Makanchi Array**	**59.67**	**328**	P		P	08 16 03.6	0.0
	0.3nm,0.5s,baz=142,slow=7.3,SNR=2.2						
	0.3nm,0.5s						

*JMA **20** 08:30:17.8±0.2, 24°N±2°×122°8E±0°5, h94km±1km, MV2.4/13, NW OFF ISHIGAKIJIMA IS*
*TAP **20** 08:30:17.9, 24°53N×122°85E, h93km, ML3.5, D*
ISC 20 08:30:18.2±1.3, **24°47N**±0°04×**122°84E**±0°03, **h93**km±7km, **n91**, σ0°**80**/151, **7C-1D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.10**	**99**	P		Pn	08 30 31.1	0.0
JYNG				S		Sn	08 30 40.7	-0.2
YOJ	**Yonaguni jima**	**0.16**	**92**	P		Pn	08 30 31.5	+0.2
YOJ				S		Sn	08 30 41.2	+0.1
YOJ	**Yonaguni jima**	**0.16**	**92**	⇓*i*	P	Pn	08 30 31.4	0.0
	baz=122						
YOJ				*i*	S	Sn	08 30 41.2	+0.1
	baz=122						
EOS3	**EOS3**	**0.51**	**249**	P		Pn	08 30 33.8	+0.7
	baz=246						
EOS2	**EOS2**	**0.56**	**265**	*i*	P	Pn	08 30 34.8	+1.3
	baz=266						
EOS2				*i*	S	Sn	08 30 45.8	+0.9
	baz=266						
EOS4	**EOS4**	**0.59**	**234**	*i*	P	Pn	08 30 34.1	+0.6
	baz=232						
EOS4				S		Sn	08 30 45.9	+1.0
	baz=232						
ESAO	**Su ao**	**0.91**	**277**	S		Sn	08 30 50.2	-1.0
	baz=277						
TWC	**Suao**	**0.91**	**279**	*i*	P	Pn	08 30 36.8	-0.3
	baz=278						
TWC				*i*	S	Sn	08 30 50.1	-1.2
	baz=278						
TWB1	**Santiao Chiao**	**0.94**	**305**	*i*	P	Pn	08 30 37.4	0.0
	baz=296						
TWB1				S		Sn	08 30 50.5	-1.3
	baz=296						
EWUT	**Wuta**	**0.97**	**269**	S		Sn	08 30 51.9	-0.4
	baz=264						
ENA	**Nanau**	**1.00**	**268**	*i*	P	Pn	08 30 38.4	+0.4
	baz=258						
ENA				S		Sn	08 30 52.9	-0.2
	baz=258						
EAHA	**Aohua**	**1.01**	**262**	*e*	P	Pn	08 30 36.7	-1.5
	baz=258						
EAHA				*e*	S	Sn	08 30 53.7	+0.5
	baz=258						
NDS	**Dongshan**	**1.04**	**279**	P		Pn	08 30 38.8	+0.4
	baz=275						
NDS				*i*	S	Sn	08 30 53.0	-0.7
	baz=275						
TIPB	**Shuangxi**	**1.05**	**299**	P		Pn	08 30 38.0	-0.7
	baz=290						
TIPB				*e*	S	Sn	08 30 53.1	-1.0
	baz=290						
SXI1	**Grass Mountain**	**1.08**	**306**	*i*	P	Pn	08 30 38.5	-0.5
	baz=301						
SXI1				*i*	S	Sn	08 30 53.8	-0.8
	baz=301						
JKRS	**Kuro-shima**	**1.09**	**102**	P		Pn	08 30 39.3	+0.2
JKRS				S		Sn	08 30 55.4	+0.6
NWF	**Wu-fen Shan**	**1.13**	**302**	*i*	P	Pn	08 30 39.8	+0.1
	baz=291						
NWF				*i*	S	Sn	08 30 55.8	-0.1
	baz=291						
WFSB	**Wu-fen Shan**	**1.13**	**302**	P		Pn	08 30 39.7	+0.1
	baz=291						
WFSB				S		Sn	08 30 55.7	0.0
	baz=291						
ETL	**Fush Village**	**1.15**	**255**	P		Pn	08 30 39.7	-0.2
	baz=252						
ENTT	**Nioudou**	**1.17**	**279**	*i*	P	Pn	08 30 40.6	+0.6
	baz=274						
ENTT				S		Sn	08 30 55.6	-0.9
	baz=274						
NACB	**Ninganchiao**	**1.17**	**256**	⇑*i*	P	Pn	08 30 39.6	-0.4
	baz=245						
NACB				*i*	S	Sn	08 30 55.6	-0.9
	baz=245						
FUSB	**Fushanzhiwuyua**	**1.18**	**285**	S		Sn	08 30 56.0	-0.7
	baz=280						
JIJ	**Ishigaki jima**	**1.19**	**95**	P		Pn	08 30 40.4	+0.1
JIJ				S		Sn	08 30 56.1	-0.8
LATG	**Datong**	**1.20**	**274**	⇑*i*	P	Pn	08 30 40.7	+0.2
	baz=269						
LATG				*i*	S	Sn	08 30 57.1	-0.1
	baz=269						
TWD	**Chiawan**	**1.20**	**252**	*i*	P	Pn	08 30 40.1	-0.3
	baz=248						
TWD				*i*	S	Sn	08 30 56.0	-1.0
	baz=248						
NDT	**Datong Townshi**	**1.22**	**277**	P		Pn	08 30 40.9	+0.4
	baz=276						
NDT				S		Sn	08 30 57.4	0.0
	baz=276						
HWA	**Hwalien**	**1.23**	**247**	*e*	S	Sn	08 30 58.6	+0.9
	baz=243						
TWA	**Mucha**	**1.25**	**294**	S		Sn	08 30 57.5	-0.7
	baz=282						
NWLT	**Wulai**	**1.25**	**285**	P		Pn	08 30 41.8	+0.7
	baz=280						
NWLT				S		Sn	08 30 57.4	-0.9
	baz=280						
ETLH	**Xiulin Townshi**	**1.27**	**258**	*i*	P	Pn	08 30 41.2	-0.1
	baz=249						
ETLH				S		Sn	08 30 58.3	-0.4
	baz=249						
NHDH	**Xindian Distri**	**1.29**	**293**	*e*	S	Sn	08 30 59.1	+0.1
	baz=281						
ETM	**Tongmen**	**1.33**	**248**	*i*	P	Pn	08 30 41.7	-0.2
	baz=242						
ETM				S		Sn	08 30 59.5	-0.3
	baz=242						
NNSB	**Datong**	**1.33**	**269**	*e*	P	Pn	08 30 42.1	+0.1
	baz=258						
NNSB				*e*	S	Sn	08 30 59.7	-0.4
	baz=258						
NNS	**Nan Shan**	**1.34**	**269**	P		Pn	08 30 42.4	+0.3
	baz=258						
NNS				S		Sn	08 30 59.8	-0.5
	baz=258						
YM01	**YM01**	**1.34**	**301**	*e*	P	Pn	08 30 41.7	-0.4
	baz=290						
YM01				*e*	S	Sn	08 30 59.5	-0.7
	baz=290						
JISG	**Ishigakijimahi**	**1.35**	**85**	P		Pn	08 30 42.3	+0.2
JISG				S		Sn	08 30 59.4	-0.8
YHNB	**Yeheng**	**1.35**	**279**	P		Pn	08 30 42.6	+0.4
	baz=275						
YHNB				S		Sn	08 31 00.3	-0.1
	baz=275						
SHUL	**Shoufeng**	**1.35**	**240**	P		Pn	08 30 42.2	0.0
	baz=234						
SHUL				S		Sn	08 31 00.6	+0.4
	baz=234						
NSK	**Sanguang**	**1.36**	**279**	P		Pn	08 30 41.9	-0.5
	baz=275						
NSK				S		Sn	08 31 00.9	+0.1
	baz=275						
LXIB	**Xiulin Townshi**	**1.38**	**251**	*i*	P	Pn	08 30 42.2	-0.5
	baz=242						
LXIB				*i*	S	Sn	08 31 00.1	-1.0
	baz=242						
TEGC	**Jichi Village**	**1.41**	**238**	P		Pn	08 30 43.0	+0.1
	baz=232						
TEGC				S		Sn	08 31 02.0	+0.5
	baz=232						
ESL	**Shilin**	**1.44**	**243**	*e*	P	Pn	08 30 42.5	-0.8
	baz=246						
ESL				*e*	S	Sn	08 31 01.7	-0.6
	baz=246						
NTST	**Danshui**	**1.44**	**299**	*e*	P	Pn	08 30 43.0	-0.3
	baz=288						
NTST				*e*	S	Sn	08 31 01.5	-0.8
	baz=288						
FUSS	**Fushou**	**1.47**	**262**	*i*	P	Pn	08 30 44.5	+0.5
	baz=258						
FUSS				S		Sn	08 31 03.5	+0.1
	baz=258						
WHF	**Hehuan Shan**	**1.47**	**258**	*i*	P	Pn	08 30 44.2	+0.1
	baz=260						
WHF				*i*	S	Sn	08 31 02.9	-0.8
	baz=260						
EGFH	**Guangfu**	**1.52**	**239**	P		Pn	08 30 44.0	-0.3
	baz=232						
EGFH				*e*	S	Sn	08 31 03.2	-0.8
	baz=232						
WARBT	**Fenglin Townsh**	**1.52**	**241**	⇑*i*	P	Pn	08 30 44.0	-0.4
	baz=244						
WARBT				S		Sn	08 31 03.2	-1.0
	baz=244						
TWT	**Tachien**	**1.53**	**262**	*i*	S	Sn	08 31 04.6	-0.1
	baz=259						
TDCB	**Techi**	**1.55**	**262**	*i*	P	Pn	08 30 45.5	+0.7
	baz=259						
TDCB				*i*	S	Sn	08 31 04.7	-0.3
	baz=259						
CHGB	**Renai**	**1.57**	**255**	*i*	P	Pn	08 30 45.6	+0.4
	baz=246						
CHGB				*i*	S	Sn	08 31 05.2	-0.5
	baz=246						
NFF	**Wufeng Townshi**	**1.58**	**276**	P		Pn	08 30 45.8	+0.8
	baz=272						
NFF				S		Sn	08 31 05.5	0.0
	baz=272						
OWD	**Renai**	**1.60**	**252**	*i*	P	Pn	08 30 45.6	+0.1
	baz=243						
OWD				*i*	S	Sn	08 31 05.3	-0.9
	baz=243						
HGSD	**Ruisui**	**1.62**	**233**	*i*	P	Pn	08 30 45.3	-0.2
	baz=228						
HGSD				*e*	S	Sn	08 31 05.9	-0.4
	baz=228						
WUSB	**Renai**	**1.64**	**254**	⇑*i*	P	Pn	08 30 46.3	+0.3
	baz=246						
WUSB				*i*	S	Sn	08 31 06.7	-0.3
	baz=246						
LIOB	**Emei**	**1.67**	**277**	P		Pn	08 30 47.4	+1.2
	baz=273						
LIOB				S		Sn	08 31 07.8	+0.3
	baz=273						
NSTT	**Nanjuang**	**1.68**	**276**	*i*	S	Sn	08 31 07.5	-0.2
	baz=272						
EHY	**Hungye**	**1.69**	**236**	*i*	P	Pn	08 30 46.1	-0.3
	baz=243						
JTJ	**Tarama**	**1.71**	**84**	P		Pn	08 30 47.1	+0.4
JTJ				S		Sn	08 31 08.2	-0.1
VWDT	**VWDT**	**1.71**	**246**	⇑*i*	P	Pn	08 30 47.2	+0.5
	baz=243						
VWDT				*i*	S	Sn	08 31 08.1	-0.2
	baz=243						
ECBN	**Changbin**	**1.71**	**228**	*e*	P	Pn	08 30 46.5	-0.3
	baz=221						
ECBN				*e*	S	Sn	08 31 08.1	-0.3
	baz=221						
WHP	**Taichung City**	**1.74**	**264**	*i*	P	Pn	08 30 48.4	+1.2
	baz=257						
WHP				*i*	S	Sn	08 31 09.5	+0.3
	baz=257						
YULB	**Yu-li**	**1.77**	**233**	⇑*i*	P	Pn	08 30 47.3	-0.2
	baz=240						
YULB				S		Sn	08 31 08.9	-1.0
	baz=240						
EYUL	**Yuli**	**1.78**	**232**	*e*	P	Pn	08 30 47.8	+0.2
	baz=227						
TWF1	**Yuli**	**1.79**	**232**	⇑*i*	P	Pn	08 30 47.8	-0.1
	baz=239						
TWF1				*i*	S	Sn	08 31 09.4	-1.0
	baz=239						
WCS	**Beigang Elemen**	**1.81**	**257**	*e*	P	Pn	08 30 49.0	+1.1
	baz=252						
SSLB	**Suanglung**	**1.85**	**249**	*i*	P	Pn	08 30 48.9	+0.3
	baz=246						
SSLB				*i*	S	Sn	08 31 12.0	+0.3
	baz=246						
SMLT	**Sun Moon Lake**	**1.86**	**252**	*i*	P	Pn	08 30 49.5	+0.7
	baz=244						
TYC	**Yuchr**	**1.89**	**253**	*i*	P	Pn	08 30 50.2	+1.1
	baz=245						
FULB	**Fuli**	**1.90**	**229**	P		Pn	08 30 48.8	-0.3
	baz=221						
FULB				*e*	S	Sn	08 31 11.7	-1.1
	baz=221						
WHYT	**Xinyi Township**	**1.97**	**247**	P		Pn	08 30 51.3	+1.1
	baz=246						
EHD	**Haiduan**	**1.99**	**229**	P		Pn	08 30 50.2	-0.1
	baz=228						
WJS	**Zhushan**	**2.03**	**252**	P		Pn	08 30 52.8	+1.9
	baz=243						
WNT	**Mingjian**	**2.05**	**254**	*i*	P	Pn	08 30 53.2	+2.1
	baz=262						
ALS	**Alishan**	**2.09**	**243**	*i*	P	Pn	08 30 52.9	+1.0
	baz=236						
ELDTW	**Lidau**	**2.10**	**233**	*i*	P	Pn	08 30 51.9	0.0
	baz=227						
ELDTW				*i*	S	Sn	08 31 16.9	-0.7
	baz=227						
CHN5	**Tsauling**	**2.16**	**247**	P		Pn	08 30 53.8	+1.1
	baz=245						
LDUT	**Ludao**	**2.18**	**215**	P		Pn	08 30 52.4	-0.5
	baz=211						
LDUT				*e*	S	Sn	08 31 18.2	-1.2
	baz=211						
WDLH	**Douliu**	**2.24**	**250**	*e*	P	Pn	08 30 55.5	+1.9
	baz=260						
JMJ2	**Miyako jima3**	**2.28**	**83**	*e*	P	Pn	08 30 54.9	+0.7
JMJ2				*e*	S	Sn	08 31 21.6	-0.1
WCKO	**Fanlu**	**2.29**	**244**	*e*	P	Pn	08 30 56.0	+1.7
	baz=242						
STYH	**Taoyuan**	**2.29**	**236**	*e*	P	Pn	08 30 55.3	+1.0
	baz=230						
STYH				*e*	S	Sn	08 31 23.2	+1.3
	baz=230						
WRL	**Guolierlin Hig**	**2.32**	**256**	*e*	P	Pn	08 30 55.3	+0.6
	baz=253						
WRL				*e*	S	Sn	08 31 22.8	+0.2
	baz=253						
TPUB	**Ta-pu**	**2.33**	**241**	P		Pn	08 30 56.7	+1.8
	baz=232						
CHN4	**Tsaushan**	**2.34**	**242**	*i*	P	Pn	08 30 56.8	+1.9
	baz=241						
WTK	**Tuku**	**2.37**	**251**	*e*	P	Pn	08 30 55.9	+0.5
	baz=250						
WTP	**Ta-pu**	**2.37**	**240**	*i*	P	Pn	08 30 57.2	+1.8
	baz=238						
CHN1	**Nanshi**	**2.47**	**239**	P		Pn	08 30 58.6	+1.9
	baz=247						
SGST	**Jiashian**	**2.48**	**237**	P		Pn	08 30 57.7	+0.8
	baz=235						
SLGT	**Liugui**	**2.49**	**234**	P		Pn	08 30 59.5	+2.5
	baz=240						
LYUB	**Lan-yu**	**2.71**	**205**	*e*	P	Pn	08 30 59.0	-0.9
	baz=199						
LYUB				*e*	S	Sn	08 31 30.1	-1.9
	baz=199						
VWUC	**VWUC**	**3.13**	**280**	*e*	P	Pn	08 31 05.1	-0.4
	baz=278						

*ANF **20** 08:35:09.3±0.1, 36°01N×118°39W, h7km±1km, ML3.0/29, Error ellipse: s-maj=1.0km s-min=0.8km az=120.0*
*NEIC **20** 08:35:09.9±0.8, 36°01N±0°01×118°40W±0°01, h6km±5km, Error ellipse: s-maj=1.8km s-min=1.1km az=217.0*
*PAS **20** 08:35:09.9±0.9, 36°00N±0°01×118°40W±0°01, h3km, ML3.0/122, ML2.6/58(NEIC), Error ellipse: s-maj=1.9km s-min=1.4km az=194.0*
ISC 20 08:35:09.7±0.9, **36°00N**±0°01×**118°39W**±0°01, **h10**km±8km, **n89**, σ0°**63**/130, **Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WASM	**Alta Sierra Ca**	**0.30**	**208**			Pg	08 35 15.8	+0.1
WASM						Sg	08 35 20.0	+0.3
WHFM	**Hanning Flat**	**0.31**	**174**			Pg	08 35 15.9	+0.1
WHFM						Sg	08 35 20.3	+0.3
WORM	**Onyx Ranch**	**0.33**	**159**			Pg	08 35 16.3	+0.1
WORM						Sg	08 35 20.9	+0.3
ISA	**Isabella, Lake**	**0.35**	**192**			Pg	08 35 16.6	0.0
ISA				IAML			08 35 21.7	
	comp=E,879nm,0.3s						
ISA				IAML			08 35 22.8	
	comp=N,784nm,0.2s						
ISA	**Isabella, Lake**	**0.35**	**192**			Sg	08 35 21.2	0.0
ISA	**Isabella, Lake**	**0.35**	**192**	P		Pg	08 35 16.6	0.0
	baz=10,SNR=654						
ISA				S		Sg	08 35 21.1	0.0
	baz=10						
SPG2	**Springville 2**	**0.36**	**303**			Pg	08 35 16.8	-0.1
SPG2						Sg	08 35 21.6	-0.2
WRVM	**Rose V. Centra**	**0.40**	**89**			Pg	08 35 17.7	0.0
WRVM						Sg	08 35 23.4	+0.4
WNMM	**Nine Mile Cany**	**0.42**	**112**			Pg	08 35 18.0	0.0
WVPM	**Volcano Peak E**	**0.47**	**96**			Pg	08 35 18.9	+0.1
WVPM						Sg	08 35 25.2	+0.2
JRC2	**Joshua Ridge**	**0.47**	**92**			Pg	08 35 19.1	+0.2
JRC2						Sg	08 35 26.0	+0.9
CWC	**Cottonwood Cre**	**0.50**	**30**			Pg	08 35 19.3	-0.2
CWC						Sg	08 35 25.8	-0.4
CWC	**Cottonwood Cre**	**0.50**	**30**	P		Pg	08 35 19.3	-0.2
	baz=210						
CWC				S		Sg	08 35 26.0	-0.2
	baz=210						
WCSM	**Coso Springs S**	**0.50**	**87**			Pg	08 35 19.6	0.0
WCSM						Sg	08 35 26.3	+0.1
WBSM	**Bird Springs**	**0.51**	**156**			Pg	08 35 19.7	+0.1
WBSM						Sg	08 35 26.8	+0.5
TOW	**Tower One**	**0.54**	**111**			Pb	08 35 20.8	-0.6
TOW						Sb	08 35 28.9	-0.4
VES	**Vestal, Richgr**	**0.59**	**254**			Sg	08 35 28.9	+0.1
VES	**Vestal, Richgr**	**0.59**	**254**	P		Pb	08 35 21.3	-0.8
	baz=74,SNR=176						
VES				S		Sg	08 35 28.9	+0.1
	baz=74						
SRTC	**Snort**	**0.60**	**121**			Pb	08 35 22.0	-0.4
SRTC						Sb	08 35 30.5	-0.6
CGO	**Cerro Gordo**	**0.72**	**41**			Pg	08 35 23.8	+0.1
CGO						Sg	08 35 33.6	+0.4
MPMC	**Manual Prospec**	**0.73**	**85**	P		Pg	08 35 23.7	-0.1
	baz=266,SNR=105						
RCTC	**Rector, Farmer**	**0.76**	**294**			Pg	08 35 23.8	-0.5
RCTC						Sg	08 35 33.9	-0.3
MAGC	**SCE Magundon P**	**0.77**	**214**			Pg	08 35 24.0	-0.6
MAGC						Sg	08 35 34.5	-0.2
LRMC	**Laurel Mtn Rad**	**0.78**	**132**			Pg	08 35 24.4	-0.3
LRMC						Sg	08 35 35.0	+0.2
LRMC	**Laurel Mtn Rad**	**0.78**	**132**	P		Pg	08 35 24.5	-0.2
	baz=312,SNR=7.4						
LRMC				S		Sb	08 35 35.4	-0.7
	baz=312						
TEJ	**El Tejon**	**0.81**	**198**			Pg	08 35 24.9	-0.4
TEJ						Sg	08 35 35.8	-0.1
DTP	**Desert Tortois**	**0.86**	**149**			Pg	08 35 26.1	-0.1
DTP						Sb	08 35 37.7	-0.7
VOG	**Valley Oaks Go**	**0.86**	**292**			Pg	08 35 26.0	-0.3
VOG						Sb	08 35 37.7	-0.8
VOG	**Valley Oaks Go**	**0.86**	**292**	P		Pg	08 35 26.0	-0.3
	baz=112,SNR=8.2						
VOG				S		Sb	08 35 37.7	-0.8
	baz=112						
BAKC	**Calstate**	**0.88**	**222**			Pb	08 35 27.0	0.0
BAKC						Sg	08 35 39.2	+1.2
CCAC	**Calif City Air**	**0.90**	**160**	Pg		Pg	08 35 26.9	-0.1
CCAC	**Calif City Air**	**0.90**	**160**			Sb	08 35 39.4	-0.2
ARVC	**Arvin**	**0.95**	**203**	P		Pb	08 35 27.7	-0.5
	baz=22,SNR=51						
ARVC				S		Sb	08 35 40.8	0.0
	baz=22						
TIN	**Tinemaha, Big**	**1.06**	**7**	P		Pg	08 35 29.7	-0.3
	baz=187,SNR=12						
TIN				S		Sb	08 35 44.0	-0.1
	baz=187						
EDW2	**Edwards Air Fo**	**1.17**	**164**	P		Pg	08 35 31.3	-0.8
	baz=344,SNR=32						
EDW2				S		Sg	08 35 46.5	-0.7
	baz=344						
QSM	**Queen of Sheba**	**1.23**	**91**	Pn		Pb	08 35 32.9	-0.2
QSM				IAML			08 35 53.7	
	comp=N,85nm,0.6s						
QSM				IAML			08 35 56.4	
	comp=E,88nm,0.6s						
GRAC	**Grapevine Rang**	**1.29**	**39**			Pg	08 35 34.2	-0.2
GRAC	**Grapevine Rang**	**1.29**	**39**	Pg		Pg	08 35 34.2	-0.2
	baz=220,SNR=46						
GRAC				S		Sn	08 35 51.6	+0.3
	baz=220						
FURC	**Furnace Creek,**	**1.32**	**69**	Pg		Pg	08 35 34.9	-0.1
	baz=250,SNR=47						
FURC				S		Sn	08 35 52.8	+1.0
	baz=250						
HYS	**Haystack Butte**	**1.32**	**149**			Pg	08 35 34.6	-0.4
BCW	**Bitter Crk WRg**	**1.35**	**219**			Pb	08 35 34.9	-0.2
MTUM	**Tungsten Hills**	**1.35**	**354**			Pg	08 35 35.3	-0.4
PKEM	**Kettleman Hill**	**1.40**	**273**			Pg	08 35 36.2	-0.3
GWY	**Greenwater Val**	**1.40**	**82**	Pn		Pn	08 35 35.1	-0.4
GWY				IAML			08 35 58.5	
	comp=E,77nm,0.5s						
OSI	**Osito Audit: C**	**1.41**	**191**	Pg		Pg	08 35 36.5	-0.3
	baz=11,SNR=6.2						
OSI				Sg		Sg	08 35 56.2	+1.1
	baz=11						
GSC	**Goldstone, Bar**	**1.47**	**118**			Pn	08 35 36.4	+0.1
GSC				IAML			08 35 58.8	
	comp=E,146nm,0.5s						
GSC				IAML			08 36 02.0	
	comp=N,93nm,0.6s						
GSC	**Goldstone, Bar**	**1.47**	**118**	P		Pn	08 35 36.4	+0.1
	baz=299,SNR=145						
GSC				S		Sg	08 35 56.5	-0.4
	baz=299						
SMMC	**Simmler**	**1.48**	**243**	P		Pn	08 35 36.5	0.0
	baz=62,SNR=16						
SMMC				S		Sb	08 35 56.2

PKM	**Mcpherson Peak**	**1.61**	**227**	S		**Sb**	**08 35 59.9**	**-0.2**
	baz=46							
WCT	**Wildcat Mounta**	**1.63**	**60**			**Pn**	**08 35 38.9**	**+0.4**
OMMB	**Old Mammoth Mi**	**1.68**	**343**			**Pb**	**08 35 40.6**	**-0.3**
OMMB					IAML		08 36 03.3	
	comp=E,89nm,0.3s							
OMMB					IAML		08 36 03.5	
	comp=N,78nm,0.2s							
SHOC	**Shoshone, Teco**	**1.72**	**93**	P		**Pn**	**08 35 39.6**	**-0.2**
	baz=274,SNR=21							
MDPB	**Devils Postpil**	**1.72**	**341**			**Pb**	**08 35 41.4**	**-0.2**
MDPB					IAML		08 36 12.6	
	comp=N,109nm,0.5s							
DECC	**Green Verdugo**	**1.75**	**179**	Sb		**Sg**	**08 36 06.3**	**+0.4**
	baz=358							
PASC	**Pasadena Art C**	**1.83**	**175**			**Pb**	**08 35 42.2**	**-1.2**
PASC	**Pasadena Art C**	**1.83**	**175**	IAML			08 36 12.9	
	comp=E,39nm,0.8s							
BFSC	**Mount Baldy Ra**	**1.86**	**161**	P		**Pn**	**08 35 42.1**	**+0.3**
	baz=341							
BFSC				Sb		**Sg**	**08 36 08.7**	**-0.7**
	baz=341							
SBC	**Santa Barbara**	**1.90**	**215**	Sb		**Sg**	**08 36 10.2**	**-0.5**
	baz=34							
SS2	**San Sevaine**	**1.93**	**158**			**Pg**	**08 35 46.8**	**0.0**
TPNV	**Topopah Spring**	**1.96**	**61**	Pn		**Pn**	**08 35 43.5**	**+0.2**
TPNV					IAML		08 35 54.5	
	comp=E,43nm,0.6s							
TPNV					IAML		08 35 54.9	
	comp=E,37nm,0.4s							
TPNV	**Topopah Spring**	**1.96**	**61**	Pg		**Pg**	**08 35 46.9**	**-0.5**
	baz=242,SNR=55							
TPNV				Sb		**Sg**	**08 36 12.6**	**-0.3**
	baz=242							
PMPB	**Monarch Peak**	**1.97**	**277**	Pn		**Pn**	**08 35 43.9**	**+0.7**
HEC	**Hector,Ludlow**	**2.04**	**124**	P		**Pn**	**08 35 44.1**	**-0.1**
	baz=306,SNR=11							
HEC				S		**Sn**	**08 36 10.5**	**+0.6**
	baz=306							
RAMR	**Ramage Ranch**	**2.05**	**260**			**Pn**	**08 35 45.0**	**+0.7**
PANM	**San Antonio Re**	**2.06**	**265**			**Pn**	**08 35 45.4**	**+1.0**
TUQ	**Turquoise Moun**	**2.08**	**105**	P		**Pn**	**08 35 44.7**	**-0.2**
	baz=286,SNR=6.8							
TUQ				Sb		**Sg**	**08 36 16.1**	**-0.5**
	baz=286							
BBRC	**Big Bear Solar**	**2.11**	**145**	Pg		**Pg**	**08 35 50.0**	**-0.1**
	baz=326							
BBRC				Sb		**Sg**	**08 36 17.0**	**-0.6**
	baz=326							
BBGB	**Big Mountain B**	**2.22**	**286**	Pn		**Pn**	**08 35 47.2**	**+0.5**
ELS	**Elsinore Mount**	**2.48**	**161**	Pn		**Pn**	**08 35 50.6**	**+0.4**
GMRC	**Granite Mounta**	**2.54**	**118**	P		**Pn**	**08 35 50.4**	**-0.7**
	baz=299,SNR=12							
GMRC				Sb		**Sg**	**08 36 29.7**	**-1.6**
	baz=299							
CMB	**Columbia Colle**	**2.58**	**322**			**Pn**	**08 35 53.6**	**+1.9**
CMB					IAML		08 36 32.1	
	comp=E,36nm,0.7s							
CMB					IAML		08 36 33.2	
	comp=N,38nm,0.3s							
MURC	**Murrieta**	**2.59**	**157**	S		**Sn**	**08 36 24.2**	**+0.9**
	baz=338							
CIS	**Catalina Islan**	**2.59**	**181**	Pg		**Pg**	**08 35 59.2**	**-0.3**
	baz=0.3							
CIS				Sb		**Sg**	**08 36 32.1**	**-0.9**
	baz=0.3							
RYN	**Ryan**	**2.62**	**358**	Pn		**Pn**	**08 35 52.9**	**+0.6**
RYN					IAML		08 36 33.6	
	comp=N,24nm,0.3s							
RYN					IAML		08 36 33.8	
	comp=E,28nm,0.5s							
WAKR	**Walker**	**2.63**	**342**	Pn		**Pb**	**08 35 55.0**	**-2.1**
WAKR					IAML		08 36 37.2	
	comp=N,35nm,0.4s							
WAKR					IAML		08 36 39.7	
	comp=E,32nm,0.8s							
SHPR	**Sheep Range**	**2.66**	**78**			**Pn**	**08 35 53.6**	**+0.8**
S11A	**Rachel**	**2.68**	**52**	Pn		**Pn**	**08 35 54.5**	**+1.5**
S11A					IAML		08 36 40.7	
	comp=N,39nm,0.8s							
TPC	**Twentynine Pal**	**2.69**	**134**			**Pn**	**08 35 53.7**	**+0.5**
WTNK	**Soaring Height**	**2.74**	**85**	Pn		**Pn**	**08 35 55.8**	**+2.0**
BELC	**Belle Mtn. Jos**	**2.80**	**135**	P		**Pn**	**08 35 55.0**	**+0.2**
	baz=316,SNR=7.5							
PFO	**Pinyon Flats O**	**2.87**	**146**	Pn		**Pn**	**08 35 57.6**	**+2.0**
PFO					IAML		08 36 43.6	
	comp=N,17nm,0.7s							
PFO					IAML		08 36 43.9	
	comp=N,16nm,0.8s							
PFO	**Pinyon Flats O**	**2.87**	**146**	P		**Pn**	**08 35 56.0**	**+0.4**
	baz=327,SNR=7.9							
PFO				S		**Sn**	**08 36 31.2**	**+1.0**
	baz=327							
PMD	**Palm Desert**	**2.87**	**144**	Pn		**Pn**	**08 35 55.5**	**-0.1**
PMD					IAML		08 36 41.6	
	comp=E,20nm,0.5s							
PMD					IAML		08 36 45.3	
	comp=N,14nm,0.7s							
V12A	**Nelson**	**2.89**	**94**	Pn		**Pn**	**08 35 57.7**	**+1.8**
PRN	**Pahroc Range**	**3.02**	**61**	Pn		**Pn**	**08 35 58.6**	**+0.8**
PRN					IAML		08 36 52.5	
	comp=N,18nm,0.5s							
PRN					IAML		08 36 57.3	
	comp=E,21nm,1.0s							

*IDC **20** 08:49:46.0±5.6, 17.°84S×178.°55W, h576km±62km, mb3.0/8, mbtmp3.9/8, Error ellipse: s-maj=73.4km s-min=23.5km az=148.0*

ISC 20 08:49:47.8±1.4, 17.°7S±0.°5×178.°8W±0.°3, h600km, n12, σ0.94/14, mb3.5/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**08 56 18.9**	**-0.9**
	0.9nm,0.4s,baz=311,slow=5.1,SNR=4.1						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**44.35**	**259**	P	**P**	**08 57 07.8**	**+1.3**
	0.5nm,0.4s,baz=96,slow=7.3,SNR=16						
WRA				PcP	**PcP**	**08 58 37.5**	**+0.4**
	0.3nm,0.3s,baz=89,slow=3.7,SNR=7.3						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**44.53**	**254**	P	**P**	**08 57 09.1**	**+1.2**
	2.3nm,0.6s,baz=87,slow=8.7,SNR=54						
ASAR				PcP	**PcP**	**08 58 37.9**	**+0.1**
	0.8nm,0.5s,baz=102,slow=3.8,SNR=9.6						
	2.3nm,0.6s						
ILAR	**Eielson Array**	**85.75**	**13**	P	**P**	**09 01 24.0**	**0.0**
	0.5nm,0.4s,baz=222,slow=5.2,SNR=7.8						
	0.5nm,0.4s						
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**09 01 27.9**	**+0.9**
	0.6nm,0.7s,baz=217,slow=6.1,SNR=9.3						
	0.6nm,0.7s						
PDAR	**Pinedale Array**	**87.42**	**44**	P	**P**	**09 01 33.0**	**+0.3**
	0.4nm,0.5s,baz=224,slow=2.5,SNR=5.3						
	0.4nm,0.5s						
INK	**Inuvik**	**91.76**	**15**	P	**P**	**09 01 52.0**	**+0.1**
	0.5nm,0.7s,baz=177,slow=5.9,SNR=3.7						
	0.5nm,0.7s						
YKA	**Yellowknife Ar**	**94.27**	**25**	P	**P**	**09 02 03.3**	**-0.2**
	0.1nm,0.5s,baz=216,slow=4.3,SNR=2.6						
	0.1nm,0.5s						
BRTR	**Keskin Array B**	**144.39**	**315**	PKP	**PKPab**	**09 08 17.6**	**-0.1**
	0.6nm,0.4s,baz=68,slow=3.7,SNR=5.0						
MAUC	**Maruska**	**145.67**	**341**	*e*PKP	**PKiKP**	**09 08 21.6**	**-1.6**
MMAI	**Mount Meron Ar**	**145.75**	**303**	PKPbc	**PKiKP**	**09 08 22.7**	**-1.2**
	1.0nm,0.3s,baz=74,slow=5.1,SNR=2.2						
GERES	**GERESS Array B**	**147.31**	**345**	PKPbc	**PKiKP**	**09 08 25.7**	**-0.9**
	1.3nm,0.5s,baz=25,slow=2.6,SNR=6.0						

LJU 20 08:50:16.7, 46.°00N×14.°87E, h0km, ML0.7, 1C, Suspected explosion, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDKS	**Podkum**	**0.10**	**56**	*i* Pg	Pg	08 50 18.4	-0.3
PDKS				*i* Sg	Sg	08 50 20.5	+0.5
PDKS				IAML		08 50 21.4	
	comp=Z,51nm,0.3s						
VNDS	**Vrh nad Dolski**	**0.15**	**310**	*i* Pg	Pg	08 50 19.9	+0.2
VISS	**Visnje**	**0.20**	**187**	*i* Sg	Sg	08 50 23.5	+0.4
VISS				IAML		08 50 26.1	
	comp=Z,49nm,0.5s						
LEGS	**Legarje**	**0.32**	**100**	*i* Pg	Pg	08 50 23.1	+0.4
LEGS				*e*Sg	Sg	08 50 27.4	+0.7

VIE 20 08:51:07.0±0.2, 47.°53N×14.°92E, h0km, mb1.7/3, ml1.3/5, Error ellipse: s-maj=2.4km s-min=1.5km az=19.0 2 km NNE of Erzberg Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSA	**Arzberg**	**0.50**	**124**	*e*Pg	Pg	08 51 16.1	-0.3
	0.9nm,0.1s						
ARSA				Sg	Sg	08 51 22.6	-0.3
	2.0nm,0.2s						
MOA	**Molln**	**0.55**	**306**	*e*Pg	Pg	08 51 17.7	+0.3
	0.9nm,0.1s						
CONA	**Conrad Observa**	**0.75**	**58**	*e*Pg	Pg	08 51 21.7	+0.4
	0.2nm,0.1s						
CONA				Sg	Sg	08 51 30.6	-0.3
	2.1nm,0.3s						
RONA	**Rosalia, Austr**	**0.94**	**79**	*e*Pg	Pg	08 51 25.2	+0.2
	0.7nm,0.1s						
RONA				Sg	Sb	08 51 38.8	-0.5
	3.7nm,0.4s						
LESA	**Schwarzleotal**	**1.53**	**267**	*e*Pg	Pg	08 51 36.6	+0.4
	0.7nm,0.1s						
KRUC	**Moravsky**	**1.82**	**32**	*e*PN	Pn	08 51 39.3	-0.2
KRUC				*e*SG	Sn	08 52 02.5	-0.8

*IDC **20** 08:56:41.6±2.1, 60.°18N×152.°67W, h81km±34km, mb3.2/1, mbtmp3.2/5, Error ellipse: s-maj=43.9km s-min=15.5km az=107.0*

*NEIC **20** 08:56:42.0±1.0, 60.°22N±0.°04×152.°78W±0.°08, h114km±3km, Error ellipse: s-maj=5.9km s-min=5.3km az=123.0*

*AEIC **20** 08:56:43.1±0.9, 60.°21N±0.°04×152.°76W±0.°02, h109km±3km, ML2.5, ML3.0/140(NEIC), Error ellipse: s-maj=5.7km s-min=1.1km az=187.0*

ISC 20 08:56:42.4±1.0, 60.°22N±0.°03×152.°73W±0.°03, h113km±6km, n148, σ0.94/134, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
O20K	**Slope Mountain**	**0.15**	**159**		**Pn**	**08 56 57.9**	**-0.2**
O20K					**Sn**	**08 57 10.0**	**+0.1**
RED	**Redoubt Volcan**	**0.20**	**354**		**Pn**	**08 56 57.7**	**-0.6**
RDSO	**Redoubt South**	**0.24**	**358**		**Pn**	**08 56 57.8**	**-0.6**
RDSO					**Sn**	**08 57 09.6**	**-0.9**
RSO	**Redoubt South**	**0.25**	**357**		**Pn**	**08 56 58.1**	**-0.4**
IVE	**Iliamna Volcan**	**0.25**	**216**		**Pn**	**08 56 58.0**	**-0.4**
IVE					**Sn**	**08 57 09.9**	**-0.6**
ILW	**Iliamna West**	**0.26**	**232**		**Pn**	**08 56 58.1**	**-0.5**
RDWB	**Redoubt West**	**0.28**	**349**		**Pn**	**08 56 58.0**	**-0.6**
ILSW	**Iliamna Southw**	**0.31**	**222**		**Pn**	**08 56 57.8**	**-0.9**
NCT	**North Crescent**	**0.36**	**344**		**Pn**	**08 56 58.4**	**-0.5**
NCT					**Sn**	**08 57 10.7**	**-0.6**
DFR	**Drift River**	**0.38**	**3**		**Pn**	**08 56 58.4**	**-0.6**
RDJH	**Redoubt Jeurge**	**0.38**	**354**		**Pn**	**08 56 58.4**	**-0.6**
P19K	**Oil Pt**	**0.62**	**204**		**Pn**	**08 57 00.2**	**-0.2**
P19K	**Oil Pt**	**0.62**	**204**		**Sn**	**08 57 14.0**	**0.0**
HOM	**Homer**	**0.78**	**135**		**Sn**	**08 57 17.1**	**+0.9**
HOM	**Homer**	**0.78**	**135**		**Pn**	**08 57 01.6**	**-0.1**
O19K	**Port Alsworth**	**0.79**	**269**		**Pn**	**08 57 01.2**	**-0.6**
O19K	**Port Alsworth**	**0.79**	**269**		**Sn**	**08 57 15.4**	**-1.1**
CAPN	**Captain Cook N**	**0.96**	**54**	Pn	**Pn**	**08 57 04.6**	**+1.3**
SPCR	**Spurr Chakacha**	**1.02**	**14**		**Pn**	**08 57 03.8**	**-0.3**
CNPM	**China Poot**	**1.02**	**132**		**Pn**	**08 57 04.1**	**0.0**
CNPM	**China Poot**	**1.02**	**132**		**Sn**	**08 57 20.4**	**-0.1**
BRLK	**Bradley Lake**	**1.03**	**115**		**Pn**	**08 57 03.8**	**-0.4**
BRLK				IAML		08 57 20.5	
	comp=N,348nm,0.6s						
BRLK				IAML		08 57 20.9	
	comp=E,220nm,0.5s						
N19K	**Bonanza Creek**	**1.05**	**305**		**Pn**	**08 57 03.9**	**-0.5**
SPBG	**Spurr Blockage**	**1.06**	**9**		**Pn**	**08 57 04.6**	**+0.1**
BRSE	**Bradley Lake S**	**1.11**	**115**		**Pn**	**08 57 04.5**	**-0.4**
SLKM	**Skilak Lake**	**1.28**	**76**		**Pn**	**08 57 06.5**	**-0.3**
O18K	**Koktuh Hills**	**1.30**	**255**		**Pn**	**08 57 06.3**	**-0.7**
O18K	**Koktuh Hills**	**1.30**	**255**		**Sn**	**08 57 24.5**	**-1.1**
Q19K	**Cape Douglas,**	**1.37**	**200**		**Pn**	**08 57 07.2**	**-0.8**
Q19K	**Cape Douglas,**	**1.37**	**200**	IAML		08 57 56.5	
	comp=E,124nm,1.6s						
P18K	**Big Mountain,**	**1.51**	**238**		**Pn**	**08 57 08.6**	**-0.9**
P18K					**Sn**	**08 57 28.8**	**-1.3**
O22K	**Cooper Landing**	**1.52**	**79**		**Pn**	**08 57 09.3**	**-0.2**
O22K				IAML		08 57 31.4	
	comp=E,184nm,0.5s						
O22K				IAML		08 57 35.8	
	comp=N,183nm,0.4s						
SUA	**Susitna One**	**1.58**	**37**		**Pn**	**08 57 10.9**	**+0.5**
SUA				IAML		08 57 33.6	
	comp=E,151nm,0.5s						
SUA				IAML		08 57 33.0	
	comp=N,112nm,0.8s						
SYI	**Shuyak Island**	**1.62**	**174**		**Pn**	**08 57 10.5**	**-0.2**
SYI					**Sn**	**08 57 32.3**	**0.0**
SYI				IAML		08 57 33.4	
	comp=E,112nm,0.3s						
SYI				IAML		08 57 33.5	
	comp=N,91nm,0.4s						
N18K	**Kilae Creek**	**1.63**	**288**		**Pn**	**08 57 10.2**	**-0.8**
SEW	**Seward**	**1.64**	**93**		**Pn**	**08 57 10.3**	**-0.7**
SVW2	**Sparrevohn**	**1.66**	**303**		**Pn**	**08 57 10.4**	**-0.8**
M20K	**Styx River**	**1.68**	**354**		**Pn**	**08 57 11.7**	**+0.1**
RC01	**Rabbit Creek A**	**1.71**	**58**		**Pn**	**08 57 11.9**	**0.0**
KAPH	**Katmai Pasha**	**1.82**	**208**		**Pn**	**08 57 13.3**	**0.0**
SKT	**Skwentna**	**1.86**	**18**		**Pn**	**08 57 13.8**	**+0.1**
M18K	**Stony River**	**1.98**	**312**		**Pn**	**08 57 14.6**	**-0.6**
M22K	**Willow**	**2.00**	**38**		**Pn**	**08 57 15.8**	**+0.4**
L19K	**White Mountain**	**2.22**	**333**		**Pn**	**08 57 17.9**	**-0.4**
PMR	**Palmer**	**2.23**	**50**	Pn	**Pn**	**08 57 18.9**	**+0.5**
PMR				IAML		08 57 45.6	
	comp=E,55nm,0.4s						
N17K	**Nushagak Hills**	**2.24**	**280**		**Pn**	**08 57 17.8**	**-0.6**
O17K	**Koliganek Bris**	**2.24**	**260**		**Pn**	**08 57 18.0**	**-0.5**
L20K	**Farewell, AK**	**2.34**	**347**		**Pn**	**08 57 19.8**	**0.0**
KABU	**Katmai Buttres**	**2.35**	**215**		**Pn**	**08 57 19.9**	**-0.2**
KNK	**Knik Glacier**	**2.41**	**58**		**Pn**	**08 57 20.8**	**+0.1**
KNK				IAML		08 57 55.4	
	comp=N,91nm,0.4s						
KNK				IAML		08 57 55.7	
	comp=E,85nm,0.5s						
GHO	**Glory Hole Cre**	**2.42**	**48**		**Sn**	**08 57 48.7**	**-1.8**
GHO				IAML		08 57 51.4	
	comp=E,85nm,0.4s						
GHO				IAML		08 57 52.5	
	comp=N,64nm,0.4s						
KDAK	**Kodiak Island**	**2.44**	**178**	IAML		08 58 40.0	
	comp=N,44nm,2.9s						
KDAK				IAML		08 58 42.4	
	comp=N,35nm,2.4s						
KDAK	**Kodiak Island**	**2.44**	**178**	P	**Pn**	**08 57 19.4**	**-1.7**
	comp=N,11nm,0.4s,baz=8.1,slow=14,SNR=114						
KDAK				S	**Sn**	**08 57 48.1**	**-2.7**
	comp=N,12nm,0.4s,baz=300,slow=20,SNR=15						
ANCK	**Angle Creek**	**2.47**	**216**		**Pn**	**08 57 21.3**	**-0.3**
CUT	**Chulitna**	**2.50**	**27**		**Sn**	**08 57 52.5**	**+0.5**
CUT				IAML		08 57 56.8	
	comp=N,90nm,0.4s						
CUT				IAML		08 57 57.8	
	comp=E,89nm,0.4s						
CUT	**Chulitna**	**2.50**	**27**		**Pn**	**08 57 21.9**	**+0.1**
CNTC	**Contact Creek**	**2.54**	**221**		**Pn**	**08 57 22.2**	**-0.4**
M17K	**Holitna River**	**2.59**	**299**		**Pn**	**08 57 22.4**	**-0.7**
M17K	**Holitna River**	**2.59**	**299**	IAML		08 58 10.8	
	comp=N,31nm,2.8s						
SML	**Sawmill**	**2.67**	**51**		**Sn**	**08 57 53.8**	**-2.4**
SML				IAML		08 57 56.5	
	comp=E,37nm,0.5s						
SML				IAML		08 58 03.9	
	comp=N,33nm,0.7s						
SML	**Sawmill**	**2.67**	**51**		**Pn**	**08 57 23.1**	**-1.1**
P23K	**Montague Islan**	**2.68**	**92**		**Pn**	**08 57 23.4**	**-0.7**
PPLA	**Purkeypile**	**2.70**	**5**		**Pn**	**08 57 24.5**	**-0.1**
O16K	**Kokwok River B**	**2.77**	**259**		**Pn**	**08 57 25.0**	**-0.4**
L18K	**Granite Mounta**	**2.78**	**318**		**Pn**	**08 57 24.9**	**-0.6**
R18K	**Karluk**	**2.81**	**199**		**Pn**	**08 57 24.6**	**-1.3**
R18K	**Karluk**	**2.81**	**199**	IAML		08 57 59.1	
	comp=E,46nm,1.4s						
R18K				IAML		08 58 02.0	
	comp=N,40nm,0.5s						
GLI	**Glacier Island**	**2.86**	**74**		**Pn**	**08 57 25.9**	**-0.6**
GLI	**Glacier Island**	**2.86**	**74**	IAML		08 58 24.0	
	comp=N,42nm,2.4s						
GLI				IAML		08 58 39.1	
	comp=E,55nm,2.0s						
N16K	**Nishlik Lake**	**3.01**	**278**		**Pn**	**08 57 27.9**	**-0.7**
OHAK	**Old Harbor**	**3.02**	**186**		**Pn**	**08 57 26.7**	**-1.9**
SCM	**Sheep Creek Mo**	**3.09**	**56**	Pn	**Pn**	**08 57 28.6**	**-1.0**
SCM				IAML		08 58 16.2	
	comp=E,37nm,1.1s						
SCM				IAML		08 58 16.6	
	comp=N,37nm,1.0s						
HIN	**Hinchinbrook I**	**3.10**	**84**		**Pn**	**08 57 28.5**	**-1.3**
FID	**Port Fidalgo**	**3.14**	**77**		**Pn**	**08 57 27.8**	**-2.4**
FID	**Port Fidalgo**	**3.14**	**77**	IAML		08 58 24.2	
	comp=N,59nm,1.7s						
FID				IAML		08 59 00.6	
	comp=E,49nm,1.9s						
TTA	**Tatalina**	**3.14**	**331**		**Pn**	**08 57 29.4**	**-0.9**
M16K	**Timber Creek**	**3.17**	**287**		**Pn**	**08 57 30.0**	**-0.7**
M16K	**Timber Creek**	**3.17**	**287**	IAML		08 58 05.5	
	comp=E,28nm,2.9s						
M16K				IAML		08 59 43.0	
	comp=N,35nm,3.0s						
R17K	**Ugashik Creek**	**3.21**	**218**		**Pn**	**08 57 31.0**	**-0.2**
R17K	**Ugashik Creek**	**3.21**	**218**	IAML		08 58 43.2	
	comp=N,31nm,4.5s						
R17K				IAML		08 58 58.7	
	comp=E,32nm,4.0s						
K20K	**Telida**	**3.21**	**349**		**Pn**	**08 57 31.4**	**+0.1**
WAT7	**Susitna Watana**	**3.22**	**34**		**Pn**	**08 57 31.2**	**-0.2**
CAST	**Castle Rocks**	**3.23**	**5**	Pn	**Pn**	**08 57 31.3**	**-0.2**
L17K	**Donlin**	**3.31**	**308**		**Pn**	**08 57 31.9**	**-0.6**
TRF	**Thorofare Moun**	**3.44**	**19**		**Pn**	**08 57 34.4**	**0.0**
TRF				IAML		08 58 16.9	
	comp=N,30nm,0.4s						
TRF				IAML		08 58 38.4	
	comp=E,27nm,4.8s						
KTH	**Kantishna Hill**	**3.46**	**14**		**Pn**	**08 57 34.1**	**-0.4**
KTH	**Kantishna Hill**	**3.46**	**14**	IAML		08 58 15.7	
	comp=E,18nm,1.9s						
KTH				IAML		08 58 16.4	
	comp=N,16nm,1.0s						
EYAK	**Cordova Ski Ar**	**3.48**	**81**		**Pn**	**08 57 34.3**	**-0.4**
KLU	**Klutina**	**3.57**	**66**		**Pn**	**08 57 34.8**	**-1.2**
KLU	**Klutina**	**3.57**	**66**	IAML		08 58 16.8	
	comp=E,39nm,0.2s						
KLU				IAML		08 58 17.4	
	comp=N,49nm,0.4s						
L16K	**Owhat River**	**3.61**	**297**		**Pn**	**08 57 36.0**	**-0.5**
L16K	**Owhat River**	**3.61**	**297**	IAML		08 58 38.8	
	comp=E,18nm,4.7s						
L16K				IAML		08 59 47.9	
	comp=N,20nm,4.4s						
K17K	**Iditarod**	**3.67**	**316**		**Pn**	**08 57 36.9**	**-0.3**
K17K	**Iditarod**	**3.67**	**316**	IAML		08 58 15.9	
	comp=N,28nm,3.1s						
K17K				IAML		08 59 29.2	
	comp=E,28nm,3.2s						
CHUM	**Lake Minchumin**	**3.69**	**3**		**Pn**	**08 57 37.3**	**-0.1**
RND	**Reindeer**	**3.69**	**28**		**Pn**	**08 57 37.5**	**-0.1**
RND	**Reindeer**	**3.69**	**28**	IAML		08 58 19.1	
	comp=E,14nm,0.3s						
RND				IAML		08 58 26.5	
	comp=N,23nm,3.7s						
M24K	**Tolsona, Glenn**	**3.70**	**56**		**Pn**	**08 57 37.3**	**-0.4**
DHY	**Denali Highway**	**3.84**	**39**	IAML		08 58 24.7	
	comp=E,17nm,0.4s						
DHY				IAML		08 58 25.6	
	comp=N,24nm,0.5s						
MCK	**McKinley**	**3.96**	**25**		**Pn**	**08 57 41.4**	**+0.3**
BPAW	**Bear Paw Mtn.**	**3.98**	**11**		**Pn**	**08 57 40.9**	**-0.6**
BPAW	**Bear Paw Mtn.**	**3.98**	**11**	IAML		08 59 37.1	
	comp=N,14nm,4.0s						
BPAW				IAML		09 00 28.4	
	comp=E,16nm,3.8s						
GOAT	**Goat Mountain**	**3.99**	**81**		**Pn**	**08 57 40.9**	**-0.7**
J19K	**Poorman**	**4.03**	**342**		**Pn**	**08 57 41.9**	**-0.1**
J19K	**Poorman**	**4.03**	**342**	IAML		08 59 00.7	
	comp=N,16nm,4.4s						
J19K				IAML		08 59 59.9	
	comp=E,13nm,4.9s						
J20K	**Nowinta River**	**4.03**	**351**		**Pn**	**08 57 42.0**	**-0.1**
J20K	**Nowinta River**	**4.03**	**351**	IAML		08 58 35.4	
	comp=N,15nm,4.7s						
J20K				IAML		08 58 36.3	
	comp=E,12nm,4.1s						
BMRM	**Bremner River**	**4.08**	**76**		**Pn**	**08 57 41.6**	**-1.2**
N25K	**Chitina, Valde**	**4.21**	**67**		**Pn**	**08 57 43.5**	**-1.1**
N25K	**Chitina, Valde**	**4.21**	**67**	IAML		08 58 21.3	
	comp=N,22nm,3.8s						
N25K				IAML		08 58 30.8	
	comp=E,15nm,2.6s						
GLB	**Gilahina Butte**	**4.54**	**70**	Pn	**Pn**	**08 57 48.4**	**-0.5**
GLB				IAML		08 58 32.5	
	comp=N,23nm,3.0s						
GLB				IAML		08 59 43.3	
	comp=E,15nm,2.8s						
VRDI	**Verde Repeater**	**4.67**	**73**	Pn	**Pn**	**08 57 51.1**	**+0.3**
VRDI				IAML		09 00 26.4	
	comp=E,20nm,4.7s						
NEA2	**Nenana**	**4.71**	**20**		**Pn**	**08 57 50.8**	**-0.4**
NEA2				IAML		08 58 54.2	
	comp=E,12nm,3.3s						
NEA2				IAML		09 00 42.3	
	comp=N,12nm,3.7s						
K15K	**Wolf Creek Mou**	**4.73**	**300**	Pn	**Pn**	**08 57 50.5**	**-1.0**
CRQM	**Cirque**	**4.78**	**79**	Pn	**Pn**	**08 57 51.6**	**-0.7**
K24K	**Donnelly Dome**	**4.87**	**39**		**Pn**	**08 57 53.8**	**+0.4**
MCARA	**McCarthy VSAT**	**4.90**	**72**	Pn	**Pn**	**08 57 54.4**	**+0.7**
WAX	**Waxell Ridge**	**4.92**	**83**	Pn	**Pn**	**08 57 53.5**	**-0.5**
MLY	**Manley**	**4.92**	**10**	Pn	**Pn**	**08 57 54.2**	**+0.2**
MLY				IAML		08 59 07.2	
	comp=N,12nm,3.4s						

s-min=60.5km az=161.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.12**	**261**	P	P	09 57 20.8	0.0
	0.2nm,0.3s,baz=95,slow=6.7,SNR=9.6						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**41.53**	**267**	P	P	09 57 24.0	+0.1
	0.6nm,0.4s,baz=104,slow=8.0,SNR=28						
	0.6nm,0.4s						
TXAR	**Lajitas Array**	**91.37**	**58**	P	P	10 02 28.7	0.0
	0.3nm,0.8s,baz=224,slow=6.3,SNR=4.6						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**92.63**	**14**	P	P	10 02 33.5	0.0
	0.6nm,1.1s,baz=224,slow=6.3,SNR=2.5						
	0.6nm,1.1s						
HFS	**Hagfors**	**142.77**	**348**	PKP	PKPdf	10 08 49.9	-0.4
	2.3nm,0.4s,baz=7.6,slow=2.2,SNR=15						

TEH ***20*** *10:04:07.2, 34.°88N×46.°21E, h6km±16km, ML3.4*
ISN ***20*** *10:04:09.4±0.5, 34.°83N×46.°24E, h14km±3km, ML3.4*
ISC 20 10:04:08.7±1.4, 34.°87N±0.°04×46.°18E±0.°03, h5km±12km, n23, σ0s97/30, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.24**	**136**	Pg	**Pg**	**10 04 13.3**	**-0.2**
IDHR				Sg	**Sg**	**10 04 17.7**	**+1.0**
KGS1	**Ghasr-e-Shirin**	**0.61**	**233**	Pg	**Pg**	**10 04 20.4**	**0.0**
KGS1				Sg	**Sb**	**10 04 30.1**	**-0.7**
IGHG	**Ghaleghazi**	**0.63**	**149**	Pg	**Pg**	**10 04 20.7**	**-0.1**
IGHG				Sg	**Sb**	**10 04 30.5**	**-1.0**
ILIN	**Lien**	**0.64**	**86**	Pg	**Pg**	**10 04 20.6**	**-0.5**
KCHF	**Cheshme Sefid,**	**0.93**	**130**	Pg	**Pg**	**10 04 25.8**	**-0.7**
KCHF				Sg	**Sg**	**10 04 39.1**	**+0.6**
ILBA	**Ilam Banvizeh**	**1.25**	**179**	Pg	**Pg**	**10 04 32.3**	**-0.3**
IKOM	**Komasi**	**1.30**	**122**	Pg	**Pg**	**10 04 32.8**	**-0.8**
SDS1	**Sardasht. Az.**	**1.39**	**336**	Pg	**Pn**	**10 04 34.5**	**-0.6**
IALM	**Almabolaq**	**1.63**	**90**	Pg	**Pn**	**10 04 38.3**	**-0.1**
IBDR	**Badra**	**1.77**	**187**	*e*Pg	**Pb**	**10 04 41.0**	**-0.7**
IBDR				*e*Sg	**Sb**	**10 05 04.0**	**-0.2**
IKFM	**Kafar-mosalman**	**1.93**	**134**	Pn	**Pb**	**10 04 43.5**	**-0.8**
MAHB	**Mahabad**	**1.93**	**349**	Pn	**Pn**	**10 04 43.3**	**+0.9**
BHD	**Baghdad**	**2.19**	**224**	*e*Pn	**Pn**	**10 04 47.0**	**+1.2**
BHD				*e*Sn	**Sb**	**10 05 15.0**	**-1.2**
BHD				AML	AML	10 05 24.4	
	comp=E,333nm,0.3s						
HAGD	**Aghdareh**	**2.43**	**90**	Pn	**Pn**	**10 04 51.0**	**+1.6**
RAFI	**Al-Rafai**	**3.14**	**181**	*e*Pn	**Pn**	**10 05 00.0**	**+1.1**
RAFI				*e*Sn	**Sn**	**10 05 37.0**	**+0.2**
ISHB	**Shabestar**	**3.43**	**353**	Pn	**Pn**	**10 05 03.7**	**+0.6**
IHRS	**Heris**	**3.51**	**11**	Pn	**Pn**	**10 05 05.5**	**+1.4**
AMIS	**Naft Sefid**	**4.12**	**140**	Pn	**Pn**	**10 05 12.9**	**+0.5**
GRMI	**Germi**	**4.16**	**19**	Pn	**Pn**	**10 05 14.8**	**+1.8**
QAMS	**Qamsar**	**4.46**	**103**	Pn	**Pn**	**10 05 18.9**	**+1.6**
JHBN	**Jahan bin**	**4.58**	**124**	Pn	**Pn**	**10 05 20.1**	**+1.2**
ISFB	**Sefidab**	**5.02**	**94**	Pn	**Pn**	**10 05 25.4**	**+0.5**
KLNJ	**Kolanjah**	**5.96**	**129**	Pn	**Pn**	**10 05 38.8**	**+0.8**

CATAC 20 10:05:27.8±0.4, 11.°58N×86.°20W, h0km, ML4.5, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADN	**Granada**	**0.23**	**44**	*i* P	Pg	10 05 32.1	-0.2
NADN				IAML		10 05 35.6	
	comp=Z,860nm,1.0s						
MSHP	**Masachapa**	**0.41**	**307**	*i* P	Pg	10 05 32.2	-3.6
RCPN	**Sur Rio San Ju**	**1.94**	**3**	*i* P	Pb	10 06 04.3	+0.2
MRVA	**Moravia de Chi**	**3.22**	**123**	*i* P	Pn	10 06 22.2	+2.4
MRVA				IAML		10 06 22.3	
	comp=Z,380µm,1.0s						
JAYA	**Jayaque - finc**	**3.79**	**303**	*i* P	Pn	10 06 28.9	+1.3
JAYA				IAML		10 06 30.2	
	comp=Z,340nm,1.0s						
RIOS	**Rincon, Osa**	**3.89**	**137**	*i* P	Pn	10 06 28.0	-0.9
RIOS				IAML		10 06 39.7	
	comp=Z,510nm,1.0s						
ESQI	**Esquipulas**	**4.26**	**314**	*i* P	Pb	10 06 41.3	-2.4
CDITO	**Canoas**	**4.43**	**132**	*i* P	Pn	10 06 34.6	-1.7
CDITO				IAML		10 06 43.5	
	comp=Z,280nm,1.0s						

IDC 20 10:14:33.2±1.4, 0.°32S×122.°56E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=154.3km s-min=23.2km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.66**	**150**	P	P	10 19 36.0	-0.3
	0.4nm,0.8s,baz=326,slow=11,SNR=2.7						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**25.69**	**155**	P	P	10 20 05.4	+0.1
	0.2nm,0.5s,baz=345,slow=14,SNR=6.4						
	0.2nm,0.5s						
SONM	**Songino Array**	**49.98**	**346**	P	P	10 23 28.9	-0.4
	0.4nm,0.6s,baz=150,slow=9.5,SNR=3.0						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**58.65**	**329**	P	P	10 24 32.6	+0.2
	0.3nm,0.3s,baz=130,slow=8.9,SNR=4.3						
	0.3nm,0.3s						

IDC ***20*** *10:23:48.5±2.4, 52.°75N×62.°97E, h0km, mb3.5/1, mbtmp3.2/3, ML2.1/2, MS3.6/1, Error ellipse: s-maj=54.0km s-min=16.9km az=10.0*
NNC ***20*** *10:23:56.6±1.8, 52.°00N×62.°35E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=40.1km s-min=7.9km az=150.0, Suspected Mining explosion.*
ISC 20 10:23:46.4±1.1, 52.°4N±0.°1×62.°92E±0.°07, h0km, n10, σ1s12/11, 6C-2D, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**3.62**	**240**	⇑Pg	**Pg**	**10 24 54.6**	**-1.2**
	1.0nm,0.5s						
AKTO				⇓Lg	Lg	10 25 37.5	
	5.0nm,0.7s						
I31KZ	**AKTYUBINSK INF**	**3.63**	**239**	I	I	10 44 24.9	
	0.2nm,0.6s,baz=52,slow=340,SNR=149						
AB31	**Akbulak array**	**3.63**	**212**	Pn	**Pn**	**10 24 45.0**	**+1.2**
	0.4nm,0.5s,baz=50,slow=9.7,SNR=12						
AB31				⇑Pg	**Pg**	**10 24 54.9**	**-1.1**
	0.7nm,0.4s,baz=24,slow=16,SNR=15						
AB31				⇑Lg	Lg	10 25 38.7	
	3.5nm,0.4s,baz=22,slow=26,SNR=9.6						
BRVK	**Borovoye**	**4.53**	**78**	⇑Pn	**Pg**	**10 25 12.2**	**-1.0**
	4.3nm,1.5s						
BRVK				⇓Sn	**Sg**	**10 26 11.8**	**-0.1**
	3.7nm,0.5s						
BVA0	**Borovoye Array**	**4.59**	**79**	⇑Pn	**Pg**	**10 25 13.6**	**-0.7**
	1.0nm,0.5s,baz=270,slow=11,SNR=8.2						
BVA0				⇑Sn	**Sg**	**10 26 12.8**	**-1.1**
	3.0nm,0.6s,baz=272,slow=28,SNR=4.1						
BVAR	**Borovoye Array**	**4.59**	**79**	Pn	**Pn**	**10 24 58.6**	**+1.5**
	0.1nm,0.3s,baz=275,slow=13,SNR=5.7						
BVAR				Sn	**Sn**	**10 25 50.3**	**-0.8**
	0.1nm,0.3s,baz=226,slow=38,SNR=3.2						
BVAR				Lg	Lg	10 26 12.5	
	0.2nm,0.3s,baz=274,slow=30,SNR=6.9						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**9.89**	**94**	Pn	**Pn**	**10 26 10.2**	**+0.5**
	baz=291,slow=14,SNR=2.9						
	0.2nm,0.4s						
I46RU	**ZALESOVO INFRA**	**13.23**	**74**	I	I	11 42 40.0	
	baz=272,slow=325,SNR=2.0						
FINES	**FINESS Array B**	**21.79**	**309**	P	**P**	**10 28 39.4**	**-0.2**
	0.7nm,0.3s,baz=100,slow=11,SNR=9.8						
	0.7nm,0.3s						
VRAC	**Vranov**	**29.03**	**283**	LR	LR	10 40 50.4	
	comp=Z,121nm,18.7s,baz=359,slow=35						

PRU 20 10:33:36.0, 50.°29N×19.°28E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**1.23**	**246**	*e*Pg	Pg	10 33 58.4	-1.2
MORC				*e*Sg	Sg	10 34 14.2	-1.4
KRLC	**Kraliky**	**1.62**	**263**	*e*Pg	Pn	10 34 04.7	-1.2
KRLC				*e*Sg	Sn	10 34 26.8	-0.7
	comp=Z,1.2nm,0.2s						
VYHS	**Vyhne**	**1.82**	**189**	*e*PN	Pn	10 34 06.1	-2.5
VYHS				*e*SN	Sn	10 34 29.6	-2.8
DPC	**Dobruska-Polom**	**1.90**	**273**	*e*Pg	Pn	10 34 10.3	+0.6
DPC				*e*Sg	Sg	10 34 36.5	-0.4

KRSZO 20 10:35:55.0±0.9, 48.°53N×20.°80E, h0km, ML1.8/8, Error ellipse: s-maj=5.2km s-min=3.4km az=157.0, Explosion., Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KECS	**Kecovo**	**0.21**	**259**	Pg	Pg	10 35 59.6	+0.5
	comp=Z,223nm,SNR=58						
KECS				Lg	Lg	10 36 03.5	
KECS	**Kecovo**	**0.21**	**259**	*e*Pg	Pg	10 35 59.5	+0.5
KECS				*e*Sg	Sg	10 36 03.5	+1.7
ABAH	**Abaujker**	**0.38**	**128**	Pg	Pg	10 36 02.4	+0.2
	comp=Z,10nm,SNR=2.8						
ABAH				Lg	Lg	10 36 10.1	
CRVS	**Cervenica-Dubn**	**0.58**	**49**	Pg	Pg	10 36 06.7	+0.6
	comp=Z,2.1nm,SNR=1.9						
CRVS				Lg	Lg	10 36 15.1	
CRVS	**Cervenica-Dubn**	**0.58**	**49**	*e*PG	Pg	10 36 06.6	+0.5
CRVS				*e*SG	Sg	10 36 14.5	+0.8
CRVS				*e*		10 56 50.4	
PSZ	**Piszkesteto**	**0.86**	**225**	Pn	Pn	10 36 13.8	-0.6
	comp=Z,8.1nm,SNR=2.9						
PSZ				Lg	Lg	10 36 26.6	
STHS	**Stebnicka Huta**	**0.94**	**18**	Pg	Pg	10 36 13.2	+0.2
	comp=Z,7.9nm,SNR=2.4						
STHS				Lg	Lg	10 36 25.6	
STHS	**Stebnicka Huta**	**0.94**	**18**	*e*PG	Pg	10 36 13.4	+0.4
STHS				*e*		10 56 36.0	
NIE	**Niedzica**	**0.95**	**340**	Pn	Pn	10 36 15.8	+0.1
	comp=Z,4.8nm,SNR=1.5						
NIE				Lg	Lg	10 36 26.0	
KOLS	**Kolonicke sedl**	**1.06**	**67**	Lg	Lg	10 36 32.6	
KOLS	**Kolonicke sedl**	**1.06**	**67**	*e*SG	Sn	10 36 32.5	-0.1
KOLS				*e*		10 56 56.5	
TRPA	**Tarpa**	**1.23**	**108**	Sn	Sn	10 36 37.1	+0.4
A336A	**Medovarce**	**1.23**	**257**	Pg	Pn	10 36 19.6	+0.1
	comp=Z,9.1nm,SNR=4.0						
A336A				Sn	Sn	10 36 37.3	+0.5
VYHS	**Vyhne**	**1.30**	**269**	Pn	Pb	10 36 20.3	-0.1
	comp=Z,1.9nm,SNR=2.8						
VYHS				Sn	Sg	10 36 37.2	+0.4
VYHS	**Vyhne**	**1.30**	**269**	*e*PG	Pb	10 36 20.2	-0.2

IDC ***20*** *11:00:54.1±1.1, 30.°59N×131.°79E, h0km, mb3.5/7, mbtmp3.6/11, ML3.2/4, MS3.5/2, Error ellipse: s-maj=27.6km s-min=19.0km az=103.0*
JMA ***20*** *11:00:56.7±0.1, 30.°6N±0.°3×132.°1E±0.°8, h57km±2km, MV3.2/31, E OFF TANEGASHIMA ISLAND*
ISC 20 11:00:56.8±1.5, 30.°60N±0.°05×131.°99E±0.°06, h19km±5km, n27, σ0s91/37, mb3.5/7, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.87**	**274**	*i* P	**Pg**	**11 01 13.9**	**0.0**
JTN				*e*S	**Sn**	**11 01 27.1**	**+0.9**
JMTN	**Minamitane**	**0.96**	**258**	P	**Pn**	**11 01 15.3**	**+0.1**
JMTN				*e*S	**Sn**	**11 01 29.3**	**+0.9**
JTSR	**Tashiro 2**	**1.08**	**302**	*e*P	**Pb**	**11 01 16.3**	**-0.6**
JTSR				*e*S	**Sn**	**11 01 31.2**	**-0.1**
JNAR	**Kushima--Naru**	**1.11**	**326**	*e*P	**Pn**	**11 01 17.0**	**-0.3**
JNAR				*e*S	**Sn**	**11 01 31.6**	**-0.3**
JNKG	**Nichinankitago**	**1.18**	**334**	*e*P	**Pn**	**11 01 17.8**	**-0.4**
JNKG				*e*S	**Sb**	**11 01 33.5**	**0.0**
JYAK	**Yakushimahirau**	**1.33**	**254**	*i* P	**Pn**	**11 01 20.2**	**-0.1**
JYAK				*e*S	**Sb**	**11 01 38.4**	**+0.7**
JTZ	**Takazaki**	**1.51**	**329**	*e*P	**Pn**	**11 01 22.3**	**-0.4**
JTZ				*e*S	**Sn**	**11 01 41.1**	**-0.8**
JKC	**Kuchinoerabu**	**1.56**	**265**	*e*P	**Pn**	**11 01 23.7**	**+0.3**
JKC				*e*S	**Sb**	**11 01 43.7**	**-0.5**
JSU	**Suzuyama**	**1.59**	**305**	*e*P	**Pn**	**11 01 23.9**	**-0.1**
JSU				*e*S	**Sn**	**11 01 44.5**	**+0.4**
JTSN	**Tsuno**	**1.69**	**346**	*i* P	**Pn**	**11 01 24.9**	**-0.4**
JTSN				*e*S	**Sn**	**11 01 45.0**	**-1.3**
JZO	**Okuchi**	**1.94**	**323**	*e*P	**Pn**	**11 01 29.3**	**+0.5**
JZO				*e*S	**Sn**	**11 01 52.5**	**-0.1**
JNN	**Nakanoshima**	**1.98**	**248**	*e*P	**Pn**	**11 01 29.6**	**+0.3**
JNN				*e*S	**Sn**	**11 01 54.3**	**+0.7**
JNU	**Nakatsue**	**2.68**	**340**	Pn	**Pn**	**11 01 39.6**	**+0.6**
	4.3nm,0.3s,baz=347,slow=12,SNR=46						
JNU				Sn	**Sn**	**11 02 10.9**	**0.0**
	4.2nm,0.3s,baz=189,slow=12,SNR=4.6						
	11nm,0.4s						
JOW	**Kunigami**	**4.98**	**222**	Pn	**Pn**	**11 02 10.3**	**-0.2**
	2.9nm,0.3s,baz=105,slow=27,SNR=7.4						
JOW				Sn	**Sn**	**11 03 04.9**	**-2.6**
	1.2nm,0.3s,baz=332,slow=29,SNR=1.6						
	21nm,0.7s						
MJAR	**Matsushiro Arr**	**7.87**	**40**	Pn	**Pn**	**11 02 50.9**	**+0.7**
	0.2nm,0.3s,baz=242,slow=14,SNR=8.3						
	0.9nm,0.4s						
KLR	**Kul'dur**	**18.61**	**360**	P	**Pn**	**11 05 13.3**	**+0.1**
	0.1nm,0.3s,baz=181,slow=10,SNR=4.7						
	4.8nm,1.3s						
SONM	**Songino Array**	**26.07**	**319**	P	**P**	**11 06 27.1**	**-2.1**
	0.4nm,0.5s,baz=134,slow=8.3,SNR=1.6						
SONM				LR	LR	11 17 58.8	
	comp=Z,85nm,19.4s,baz=202,slow=40						
	0.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**33.27**	**101**	T	T	11 42 37.2	
	baz=296						
H11N1	**WAKE ISLAND Hy**	**33.27**	**101**	T	T	11 42 33.5	
	baz=296						
H11N3	**WAKE ISLAND Hy**	**33.29**	**101**	T	T	11 42 38.7	
	baz=296						
MKAR	**Makanchi Array**	**41.30**	**307**	P	**P**	**11 08 39.2**	**-1.8**
	0.2nm,0.6s,baz=101,slow=7.8,SNR=2.2						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**44.15**	**313**	P	**P**	**11 09 03.0**	**-1.0**
	0.5nm,0.7s,baz=98,slow=9.1,SNR=4.1						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**50.31**	**177**	P	**P**	**11 09 52.1**	**-0.1**
	0.7nm,0.9s,baz=353,slow=7.8,SNR=3.4						
	0.7nm,0.9s						
ILAR	**Eielson Array**	**59.02**	**30**	P	**P**	**11 10 56.3**	**+1.3**
	0.3nm,0.8s,baz=285,slow=7.0,SNR=4.2						
	0.3nm,0.8s						
GNI	**Garni**	**69.08**	**305**	LR	LR	11 47 02.1	
	comp=Z,42nm,18.3s,baz=14,slow=40						
FINES	**FINESS Array B**	**70.69**	**331**	P	**P**	**11 12 12.4**	**+1.4**
	4.7nm,1.1s,baz=56,slow=15,SNR=2.1						
	4.7nm,1.1s						
YKA	**Yellowknife Ar**	**73.16**	**26**	P	**P**	**11 12 26.6**	**+0.8**
	0.3nm,0.8s,baz=298,slow=5.9,SNR=6.0						
	0.3nm,0.8s						

SNET ***20*** *11:05:19.9±0.9, 12.°25N×89.°50W, h20km±4km, ML3.7*
CATAC ***20*** *11:05:24.1±0.6, 12.°32N×89.°40W, h41km±67km, ML3.6*
GCG ***20*** *11:05:35.5±0.3, 12.°72N×90.°91W, h50km, MD3.7*
ISC 20 11:05:22.1±1.9, 12.°28N±0.°06×89.°51W±0.°05, h29km±16km, n62, σ0s91/74, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.22**	**9**	*e*P	**Pn**	**11 05 41.8**	**-1.4**
LALI				*e*S	**Sn**	**11 05 58.7**	**0.0**
LALI	**Alcalda de L**	**1.22**	**9**	*i* P	**Pn**	**11 05 44.1**	**+0.9**
LALI				IAML		11 06 04.1	
	comp=Z,210nm,1.0s						
PANCS	**Alcalda de**	**1.37**	**14**	*i* P	**Pn**	**11 05 46.1**	**+0.8**
PANCS				IAML		11 06 05.5	
	comp=Z,2µm,1.0s						
JAYA	**Jayaque - finc**	**1.37**	**3**	*e*P	**Pn**	**11 05 44.5**	**-0.9**
JAYA				*e*S	**Sn**	**11 06 02.6**	**-0.1**
JAYA	**Jayaque - finc**	**1.37**	**3**	*i* P	**Pn**	**11 05 46.5**	**+1.1**
JAYA				*i* S	**Sn**	**11 06 02.7**	**0.0**
JAYA				IAML		11 06 03.0	
	comp=Z,4µm,1.0s						
ALJI	**Alcalda de J**	**1.39**	**41**	*i* P	**Pn**	**11 05 45.7**	**+0.2**
ALJI				IAML		11 05 59.6	
	comp=Z,470nm,1.0s						
LOMA	**Loma Larga**	**1.40**	**14**	*e*P	**Pn**	**11 05 44.8**	**-1.1**
LOMA	**Loma Larga**	**1.40**	**14**	*i* P	**Pn**	**11 05 46.1**	**+0.3**
LOMA				*i* S	**Sn**	**11 06 03.8**	**+0.4**
LOMA				IAML		11 06 06.5	
	comp=Z,1µm,1.0s						
ITCA	**Escuela Especi**	**1.41**	**9**	*i* P	**Pn**	**11 05 46.8**	**+0.9**
ITCA				IAML		11 06 06.1	
	comp=Z,2µm,1.0s						
LFRS	**El Faro**	**1.41**	**18**	*e*S	**Sn**	**11 06 04.2**	**+0.7**
MAGS	**Ministerio de**	**1.42**	**9**	*i* P	**Pn**	**11 05 47.0**	**+1.0**
MAGS				IAML		11 06 08.2	
	comp=Z,820nm,1.0s						
SJTE	**Alcalda de S**	**1.42**	**20**	*e*P	**Pn**	**11 05 44.8**	**-1.2**
SJTE	**Alcalda de S**	**1.42**	**20**	*i* P	**Pn**	**11 05 46.7**	**+0.7**
SJTE				IAML		11 06 05.0	
	comp=Z,790nm,1.0s						
PMON	**Piamonte**	**1.44**	**8**	*i* P	**Pn**	**11 05 47.0**	**+0.7**
PMON				IAML		11 06 11.4	
	comp=Z,1µm,1.0s						
TECO	**Alcaldia de Te**	**1.44**	**30**	*e*P	**Pn**	**11 05 44.2**	**-2.0**
TECO	**Alcaldia de Te**	**1.44**	**30**	*i* P	**Pn**	**11 05 46.3**	**0.0**
TECO				IAML		11 06 07.9	
	comp=Z,440nm,1.0s						
UTEC	**Universidad Te**	**1.45**	**12**	*i* P	**Pn**	**11 05 47.4**	**+1.0**
UTEC				IAML		11 06 06.4	
	comp=Z,800nm,1.0s						
UEES	**Universidad Ev**	**1.46**	**10**	*i* P	**Pn**	**11 05 47.5**	**+1.0**
UEES				*i* S	**Sn**	**11 06 05.1**	**+0.4**
UEES				IAML		11 06 11.6	
	comp=Z,790nm,1.0s						
BOQS	**Boqueron**	**1.47**	**9**	*e*P	**Pn**	**11 05 46.2**	**-0.6**
COEG	**Centro de Oper**	**1.47**	**25**	*e*P	**Pn**	**11 05 45.7**	**-1.0**
COEG				*e*S	**Sn**	**11 06 05.4**	**+0.4**
COEG	**Centro de Oper**	**1.47**	**25**	*i* P	**Pn**	**11 05 47.4**	**+0.7**
COEG				IAML		11 06 10.2	
	comp=Z,430nm,1.0s						
UESV	**Universidad de**	**1.53**	**27**	*i* P	**Pn**	**11 05 48.0**	**+0.6**
UESV				IAML		11 06 09.2	
	comp=Z,360nm,1.0s						
PAVA	**Las Pavas**	**1.53**	**21**	*e*S	**Sn**	**11 06 07.2**	**+0.5**
PAVA	**Las Pavas**	**1.53**	**21**	*i* P	**Pn**	**11 05 47.2**	**-0.4**
PAVA				IAML		11 06 08.8	
	comp=Z,1µm,1.0s						
CEVE	**Cerro Verde**	**1.55**	**356**	*e*P	**Pn**	**11 05 47.1**	**-0.8**
CEVE				IAML		11 06 08.9	
	comp=Z,1µm,0.2s						
CEVE				*e*S	**Sb**	**11 06 09.0**	**-0.6**
SBLS	**San Blas**	**1.56**	**356**	*e*P	**Pn**	**11 05 47.0**	**-1.1**
SNJE	**San Jose**	**1.59**	**357**	*e*P	**Pn**	**11 05 47.3**	**-1.1**
SCLA	**Alcaldia de Sa**	**1.61**	**28**	*e*P	**Pn**	**11 05 48.1**	**-0.5**
SCLA	**Alcaldia de Sa**	**1.61**	**28**	*i* P	**Pn**	**11 05 48.9**	**+0.3**
SCLA				IAML		11 06 11.3	
	comp=Z,170nm,1.0s						
RTR	**El Retiro**	**1.62**	**355**	*e*P	**Pn**	**11 05 47.9**	**-0.9**
PQSS	**Presa 15 de Se**	**1.63**	**35**	*e*P	**Pn**	**11 05 48.1**	**-0.8**
PQSS	**Presa 15 de Se**	**1.63**	**35**	*i* P	**Pn**	**11 05 48.4**	**-0.4**
PQSS				IAML		11 06 12.0	
	comp=Z,1µm,1.0s						
NUBE	**Las Nubes**	**1.64**	**351**	*e*P	**Pn**	**11 05 48.0**	**-1.1**
NUBE				*e*S	**Sn**	**11 06 09.4**	**+0.1**
NUBE	**Las Nubes**	**1.64**	**351**	*i* P	**Pn**	**11 05 50.2**	**+1.1**
NUBE				*i* S	**Sn**	**11 06 08.9**	**-0.4**
NUBE				IAML		11 06 10.2	
	comp=Z,920nm,1.0s						
PACA	**Pacayal**	**1.66**	**44**	*e*P	**Pn**	**11 05 48.4**	**-1.0**
PACA	**Pacayal**	**1.66**	**44**	*i* P	**Pn**	**11 05 49.2**	**-0.1**
PACA				IAML		11 06 17.4	
	comp=Z,4µm,1.0s						
LCND	**La Caada**	**1.89**	**57**	*e*P	**Pn**	**11 05 50.5**	**-1.8**
LCND				*e*S	**Sn**	**11 06 15.5**	**+0.4**
LCND	**La Caada**	**1.89**	**57**	*i* P	**Pn**	**11 05 52.2**	**-0.1**
LCND				IAML		11 05 53.7	
	comp=Z,510nm,1.0s						
CNCH	**Conchagua**	**1.92**	**59**	*e*P	**Pn**	**11 05 51.4**	**-1.5**
CNCH	**Conchagua**	**1.92**	**59**	*i* P	**Pn**	**11 05 52.6**	**-0.3**
CNCH				IAML		11 05 54.1	
	comp=Z,670nm,1.0s						
LLGN	**La Laguna**	**1.96**	**16**	*i* P	**Pn**	**11 05 54.0**	**+0.6**
LLGN				IAML		11 06 21.3	
	comp=Z,280nm,1.0s						
AMPH	**Amapala**	**2.07**	**61**	*i* P	**Pn**	**11 05 54.0**	**-0.8**
MTO3	**Montecristo**	**2.12**	**4**	*i* P	**Pn**	**11 05 55.5**	**-0.3**
MTO3	**Montecristo**	**2.12**	**4**	*i* P	**Pn**	**11 05 55.7**	**0.0**
MTO3				IAML		11 06 23.3	
	comp=Z,190nm,1.0s						
ESQI	**Esquipulas**	**2.28**	**4**	*i* P	**Pn**	**11 05 58.9**	**+1.1**
ESQI				IAML		11 06 31.3	
	comp=Z,230nm,1.0s						
NBG	**Las Nubes**	**2.44**	**341**	*i* P	**Pb**	**11 06 07.1**	**+1.7**
NBG				*i* S	**Sn**	**11 06 31.7**	**+2.5**
FUG	**Fuego 3**	**2.52**	**329**	*i* P	**Pn**	**11 06 01.0**	**-0.3**
FUG				*i* S	**Sn**	**11 06 28.1**	**-2.9**
SARH	**Santa Rosa de**	**2.59**	**16**	*i* P	**Pn**	**11 06 02.7**	**+0.6**
ROCN	**Rota Cerro Neg**	**2.71**	**85**	*i* P	**Pn**	**11 06 03.6**	**-0.2**
ROCN				IAML		11 06 40.1	
	comp=Z,77nm,1.0s						
TGUH	**Tegucigalpa,Un**	**2.81**	**51**	IAML		11 06 05.0	
	comp=Z,180nm,1.0s						
TGUH				*i* P	**Pn**	**11 06 05.3**	**+0.1**
COMHN	**El Horno**	**2.87**	**41**	*i* P	**Pn**	**11 06 06.0**	**-0.1**
MOM2	**El Cardon**	**2.96**	**87**	*i* P	**Pn**	**11 06 07.0**	**-0.1**
MOM2				IAML		11 06 43.7	
	comp=Z,100nm,1.0s						
YUSH	**Yuscaran**	**3.09**	**57**	*i* P	**Pn**	**11 06 08.6**	**-0.4**
STG3	**

AAK	**Ala-Archa**	**18.16**	**45**	LR	LR	11 18 17.9		
	comp=Z,58nm,19.9s,baz=332,slow=41							
BRTR	**Keskin Array B**	**21.17**	**301**	P	**P**	**11 10 28.2**	**-2.7**	
	0.4nm,0.3s,baz=98,slow=12,SNR=1.8							
	0.4nm,0.3s							
BVAR	**Borovoye Array**	**24.19**	**20**	P	**P**	**11 11 02.9**	**+1.1**	
	0.5nm,0.4s,baz=218,slow=9.1,SNR=2.1							
	0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**25.39**	**33**	P	**P**	**11 11 14.8**	**+2.2**	
	0.4nm,0.6s,baz=233,slow=9.1,SNR=4.2							
	0.4nm,0.6s							
TORD	**Torodi Ar. Bea**	**53.88**	**264**	P	**P**	**11 15 08.2**	**-0.8**	
	0.6nm,0.6s,baz=56,slow=7.6,SNR=5.8							
	0.6nm,0.6s							

*SNET **20** 11:11:49.2±1.3, 13°.35N×90°.12W, h32km, ML4.2*
*GCG **20** 11:11:52.5±0.3, 13°.48N×90°.20W, h26km±2km, MD4.0*
*CATAC **20** 11:11:52.0±0.5, 13°.47N×89°.96W, h28km±3km, ML4.2*

ISC 20 11:11:48.0±1.4, **13°.36N**±0°.05×**90°.12W**±0°.03, **h13**km±10km, **n91**, σ**0°95**/109, **7D**, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.63**	**31**	⇓*i*	*P*		**Pn**	**11 12 02.8**	**-0.1**
NUBE					*eS*		**Sn**	**11 12 12.8**	**-0.1**
NUBE	**Las Nubes**	**0.63**	**31**	*i*	*P*		**Pn**	**11 12 02.8**	**-0.1**
NUBE					IAML			11 12 03.4	
	comp=Z,6μm,1.0s								
CEVE	**Cerro Verde**	**0.67**	**46**	⇓*i*	*P*		**Pn**	**11 12 03.4**	**0.0**
CEVE					*eS*		**Sn**	**11 12 14.6**	**+0.7**
CEVE	**Cerro Verde**	**0.67**	**46**	*i*	*P*		**Pn**	**11 12 03.5**	**+0.1**
CEVE					IAML			11 12 16.5	
	comp=Z,21μm,1.0s								
SBLS	**San Blas**	**0.68**	**45**	⇓*i*	*P*		**Pn**	**11 12 03.4**	**-0.1**
RTR	**El Retiro**	**0.70**	**40**	⇓*i*	*P*		**Pn**	**11 12 03.8**	**0.0**
SNJE	**San Jose**	**0.71**	**44**	⇓*i*	*P*		**Pn**	**11 12 03.8**	**-0.1**
JAYA	**Jayaque - finc**	**0.71**	**65**	*eP*			**Pb**	**11 12 03.3**	**+0.9**
JAYA					*eS*		**Sn**	**11 12 14.5**	**-0.3**
JAYA	**Jayaque - finc**	**0.71**	**65**	*i*	*P*		**Pb**	**11 12 03.5**	**+1.1**
JAYA					*i S*		**Sn**	**11 12 13.8**	**-1.1**
JAYA					IAML			11 12 16.1	
	comp=Z,24μm,1.0s								
LOAL	**Lomas de Alarc**	**0.71**	**27**	*i*	*P*		**Pn**	**11 12 04.2**	**+0.3**
LOAL					IAML			11 12 05.5	
	comp=Z,16μm,1.0s								
SLOZ	**Alcaldia de Sa**	**0.74**	**26**	⇓*i*	*P*		**Pn**	**11 12 04.3**	**+0.1**
SLOZ					*eS*		**Sn**	**11 12 15.3**	**0.0**
LALI	**Alcalda de L**	**0.78**	**80**	*eP*			**Pg**	**11 12 03.9**	**+0.7**
LALI					*eS*		**Sb**	**11 12 15.7**	**+1.6**
LALI	**Alcalda de L**	**0.78**	**80**	*i*	*P*		**Pb**	**11 12 04.2**	**+0.7**
LALI					*i S*		**Sb**	**11 12 14.4**	**+0.4**
LALI					IAML			11 12 18.8	
	comp=Z,1μm,1.0s								
CEDA	**San Andres**	**0.83**	**58**	*eP*			**Pn**	**11 12 05.0**	**-0.4**
CEDA					*eS*		**Sn**	**11 12 16.9**	**-0.7**
CEDA	**San Andres**	**0.83**	**58**	*i*	*P*		**Pn**	**11 12 05.2**	**-0.2**
CEDA					IAML			11 12 23.7	
	comp=Z,35μm,1.0s								
UNIC	**Universidad Ca**	**0.83**	**42**	*eP*			**Pn**	**11 12 05.2**	**-0.3**
UNIC	**Universidad Ca**	**0.83**	**42**	*i*	*P*		**Pn**	**11 12 05.3**	**-0.2**
UNIC					IAML			11 12 05.6	
	comp=Z,4μm,1.0s								
PMON	**Piamonte**	**0.85**	**66**	*i*	*P*		**Pb**	**11 12 05.3**	**+0.5**
PMON	**Piamonte**	**0.85**	**66**	*i*	*P*		**Pn**	**11 12 05.8**	**-0.1**
PMON					*i S*		**Sb**	**11 12 15.8**	**-0.4**
PMON					IAML			11 12 23.6	
	comp=Z,14μm,1.0s								
MAGS	**Ministerio de**	**0.87**	**68**	*eP*			**Pb**	**11 12 05.5**	**+0.5**
MAGS	**Ministerio de**	**0.87**	**68**	*i*	*P*		**Pn**	**11 12 06.4**	**+0.3**
MAGS					IAML			11 12 32.6	
	comp=Z,4μm,1.0s								
ITCA	**Escuela Especi**	**0.87**	**69**	*eP*			**Pb**	**11 12 05.3**	**+0.2**
ITCA	**Escuela Especi**	**0.87**	**69**	*i*	*P*		**Pb**	**11 12 05.9**	**+0.8**
ITCA					IAML			11 12 23.9	
	comp=Z,17μm,1.0s								
BOQS	**Boqueron**	**0.89**	**65**	*i*	*P*		**Pb**	**11 12 06.0**	**+0.5**
SNET	**Serv Nac Est T**	**0.92**	**69**	*eP*			**Pg**	**11 12 06.1**	**+0.3**
SNET					*eS*		**Sb**	**11 12 18.9**	**+0.8**
SNET	**Serv Nac Est T**	**0.92**	**69**	*i*	*P*		**Pb**	**11 12 06.5**	**+0.6**
SNET					IAML			11 12 21.2	
	comp=Z,16μm,1.0s								
UEES	**Universidad Ev**	**0.92**	**67**	*eP*			**Pb**	**11 12 06.3**	**+0.3**
UEES	**Universidad Ev**	**0.92**	**67**	*i*	*P*		**Pb**	**11 12 06.5**	**+0.6**
UEES					IAML			11 12 21.2	
	comp=Z,7μm,1.0s								
SEMO	**Seminario San**	**0.93**	**68**	*eP*			**Pg**	**11 12 06.2**	**+0.2**
SEMO	**Seminario San**	**0.93**	**68**	*i*	*P*		**Pb**	**11 12 06.7**	**+0.6**
SEMO					*i S*		**Sg**	**11 12 17.4**	**-0.8**
SEMO					IAML			11 12 20.4	
	comp=Z,16μm,1.0s								
PANCS	**Alcalda de**	**0.94**	**74**	*i*	*P*		**Pg**	**11 12 06.3**	**0.0**
PANCS					IAML			11 12 19.8	
	comp=Z,16μm,1.0s								
QUEZ	**Alcaldia de Qu**	**0.95**	**60**	*eP*			**Pb**	**11 12 06.6**	**+0.3**
QUEZ	**Alcaldia de Qu**	**0.95**	**60**	*i*	*P*		**Pn**	**11 12 07.1**	**0.0**
QUEZ					IAML			11 12 22.4	
	comp=Z,24μm,1.0s								
UTEC	**Universidad Te**	**0.95**	**69**	*i*	*P*		**Pb**	**11 12 07.0**	**+0.6**
UTEC					IAML			11 12 21.6	
	comp=Z,4μm,1.0s								
LOMA	**Loma Larga**	**0.96**	**73**	*eP*			**Pg**	**11 12 06.6**	**0.0**
LOMA	**Loma Larga**	**0.96**	**73**	*i*	*P*		**Pg**	**11 12 06.9**	**+0.3**
LOMA					IAML			11 12 25.2	
	comp=Z,7μm,1.0s								
IGN	**Direccin Gen**	**0.98**	**69**	*i*	*P*		**Pn**	**11 12 08.3**	**+0.7**
IGN					IAML			11 12 22.7	
	comp=Z,21μm,1.0s								
UDBS	**Universidad Do**	**1.00**	**69**	*i*	*P*		**Pn**	**11 12 08.3**	**+0.5**
UDBS					IAML			11 12 22.6	
	comp=Z,6μm,1.0s								
AEIL	**Aeropuerto Ilo**	**1.03**	**71**	*eP*			**Pg**	**11 12 08.0**	**+0.2**
AEIL					*eS*		**Sb**	**11 12 21.5**	**+0.3**
LFU	**La Fuente**	**1.05**	**68**	*eP*			**Pg**	**11 12 08.1**	**-0.2**
SJTE	**Alcalda de S**	**1.11**	**77**	*eP*			**Pb**	**11 12 08.6**	**-0.4**
SJTE	**Alcalda de S**	**1.11**	**77**	*i*	*P*		**Pb**	**11 12 08.9**	**-0.2**
SJTE					IAML			11 12 25.3	
	comp=Z,4μm,1.0s								
LBRS	**Las Brisas**	**1.11**	**70**	*eP*			**Pb**	**11 12 09.2**	**+0.1**
PCG	**Pacaya**	**1.13**	**335**	*i*	*P*		**Pn**	**11 12 11.4**	**+1.6**
PCG					*i S*		**Sn**	**11 12 25.9**	**+0.5**
PAVA	**Las Pavas**	**1.20**	**73**	*eP*			**Pb**	**11 12 10.6**	**0.0**
PAVA	**Las Pavas**	**1.20**	**73**	*i*	*P*		**Pb**	**11 12 11.0**	**+0.3**
PAVA					IAML			11 12 29.5	
	comp=Z,5μm,1.0s								
COEG	**Centro de Oper**	**1.23**	**78**	*eP*			**Pn**	**11 12 10.0**	**-1.0**
COEG	**Centro de Oper**	**1.23**	**78**	*i*	*P*		**Pn**	**11 12 10.9**	**-0.1**
COEG					IAML			11 12 35.8	
	comp=Z,3μm,1.0s								
NBG	**Las Nubes**	**1.24**	**350**	*i*	*P*		**Pn**	**11 12 13.2**	**+1.8**
NBG					*i S*		**Sn**	**11 12 29.4**	**+1.3**
GUNB	**GUNB**	**1.25**	**350**	*i*	*P*		**Pn**	**11 12 12.5**	**+1.0**
GUNB					IAML			11 12 30.7	
	comp=Z,3μm,1.0s								
MTO3	**Montecristo**	**1.27**	**35**	⇓*i*	*P*		**Pb**	**11 12 11.1**	**-0.8**
MTO3	**Montecristo**	**1.27**	**35**	*i*	*P*		**Pb**	**11 12 11.2**	**-0.8**
MTO3					IAML			11 12 23.2	
	comp=Z,1μm,1.0s								
SNVI	**San Vicente**	**1.27**	**78**	*eP*			**Pn**	**11 12 11.2**	**-0.4**
GCG4	**OSOP**	**1.29**	**342**	IAML				11 12 13.8	
	comp=Z,5μm,1.0s								
GCG4					*i P*		**Pg**	**11 12 13.9**	**+1.1**
FUG	**Fuego 3**	**1.29**	**327**	*i*	*P*		**Pg**	**11 12 13.3**	**+0.4**
FUG					*i S*		**Sn**	**11 12 32.4**	**+3.2**
TECO	**Alcaldia de Te**	**1.31**	**82**	*eP*			**Pn**	**11 12 11.4**	**-0.6**
TECO					*eS*		**Sb**	**11 12 27.6**	**-1.7**
TECO	**Alcaldia de Te**	**1.31**	**82**	*i*	*P*		**Pn**	**11 12 11.8**	**-0.3**
TECO					IAML			11 12 30.5	
	comp=Z,2μm,1.0s								
UESV	**Universidad de**	**1.32**	**78**	*eP*			**Pn**	**11 12 11.1**	**-1.1**
UESV	**Universidad de**	**1.32**	**78**	*i*	*P*		**Pn**	**11 12 12.4**	**+0.2**
UESV					IAML			11 12 32.9	
	comp=Z,2μm,1.0s								
LLGN	**La Laguna**	**1.39**	**55**	*i*	*P*		**Pn**	**11 12 12.8**	**-0.4**
LLGN					IAML			11 12 32.4	
	comp=Z,820nm,1.0s								
SCLA	**Alcaldia de Sa**	**1.39**	**76**	*eP*			**Pn**	**11 12 12.8**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.39**	**76**	*i*	*P*		**Pn**	**11 12 13.7**	**+0.5**
SCLA					IAML			11 12 40.7	
	comp=Z,890nm,1.0s								
ESQI	**Esquipulas**	**1.41**	**32**	*i*	*P*		**Pb**	**11 12 13.4**	**-0.9**
ESQI					IAML			11 12 31.4	
	comp=Z,2μm,1.0s								
ALJI	**Alcalda de J**	**1.50**	**91**	*eP*			**Pn**	**11 12 13.2**	**-1.5**
ALJI					*eS*		**Sn**	**11 12 32.7**	**-1.4**
PQSS	**Presa 15 de Se**	**1.54**	**80**	*i*	*S*		**Sn**	**11 12 33.0**	**-2.0**
TECA	**Tecapa**	**1.57**	**85**	*eP*			**Pn**	**11 12 15.4**	**-0.4**
SULM	**Suchitepequez,**	**1.69**	**304**	*i*	*P*		**Pg**	**11 12 19.6**	**-0.9**
PACA	**Pacayal**	**1.75**	**86**	*i*	*P*		**Pn**	**11 12 18.8**	**+0.6**
PACA					IAML			11 12 49.4	
	comp=Z,13μm,1.0s								
SOKI	**Kika Raxquin**	**1.92**	**319**	*i*	*P*		**Pb**	**11 12 23.1**	**0.0**
SOKI					IAML			11 12 50.3	
	comp=Z,1μm,1.0s								
RTAL	**Retalhuleu**	**1.92**	**307**	*i*	*P*		**Pg**	**11 12 24.4**	**-0.5**
RTAL					IAML			11 13 04.1	
	comp=Z,1μm,1.0s								
SARH	**Santa Rosa de**	**1.93**	**43**	*i*	*P*		**Pn**	**11 12 20.7**	**+0.1**
STG3	**Santiaguito 3,**	**1.95**	**314**	*i*	*P*		**Pb**	**11 12 22.6**	**-0.9**
STG3					*i S*		**Sn**	**11 12 42.0**	**-3.5**
LCND	**La Caada**	**2.17**	**91**	*i*	*P*		**Pn**	**11 12 23.6**	**-0.2**
LCND					IAML			11 12 53.8	
	comp=Z,2μm,1.0s								
CNCH	**Conchagua**	**2.22**	**92**	*eP*			**Pn**	**11 12 23.3**	**-1.4**
CNCH	**Conchagua**	**2.22**	**92**	*i*	*P*		**Pn**	**11 12 24.9**	**+0.2**
CNCH					IAML			11 12 55.7	
	comp=Z,4μm,1.0s								
AMPH	**Amapala**	**2.39**	**91**	*i*	*P*		**Pn**	**11 12 27.4**	**+0.5**
SMCA	**Catarina**	**2.42**	**308**	*i*	*P*		**Pb**	**11 12 30.1**	**-1.3**
SMCA					IAML			11 13 09.2	
	comp=Z,850nm,1.0s								
COMHN	**El Horno**	**2.71**	**66**	*i*	*P*		**Pn**	**11 12 30.7**	**-0.8**
TGUH	**Tegucigalpa,Un**	**2.85**	**76**	*i*	*P*		**Pn**	**11 12 32.8**	**-0.5**
TGUH					IAML			11 13 33.1	
	comp=Z,230nm,1.0s								
CRIN	**San Cristobal**	**3.06**	**102**	*i*	*P*		**Pn**	**11 12 37.1**	**+0.9**
CRIN					IAML			11 13 30.4	
	comp=Z,2μm,1.0s								
NISHN	**Nisperales Com**	**3.23**	**42**	*i*	*P*		**Pn**	**11 12 38.3**	**-0.2**
YUSH	**Yuscaran**	**3.23**	**79**	*i*	*P*		**Pn**	**11 12 38.9**	**+0.3**
ROCN	**Rota Cerro Neg**	**3.39**	**104**	*i*	*P*		**Pn**	**11 12 41.6**	**+0.9**
ROCN					IAML			11 13 36.7	
	comp=Z,240nm,1.0s								
CNGA	**Al SSO del Vol**	**3.44**	**104**	*i*	*P*		**Pn**	**11 12 42.4**	**+1.1**
CNGA					IAML			11 13 34.8	
	comp=Z,420nm,1.0s								
CNGN	**Cerro Negro**	**3.44**	**104**	*i*	*P*		**Pn**	**11 12 42.4**	**+1.0**
CNGN					IAML			11 13 32.0	
	comp=Z,430nm,1.0s								
MOM2	**El Cardon**	**3.66**	**104**	*i*	*P*		**Pn**	**11 12 45.2**	**+0.9**
MOM2					IAML			11 13 34.2	
	comp=Z,150nm,1.0s								
LIMN	**Finca el Limon**	**3.66**	**94**	*i*	*P*		**Pn**	**11 12 44.8**	**+0.3**
LIMN					IAML			11 13 36.4	
	comp=Z,130nm,1.0s								
RCPN	**Sur Rio San Ju**	**3.92**	**87**	*i*	*P*		**Pn**	**11 12 48.3**	**+0.3**
RCPN					IAML			11 13 46.6	
	comp=Z,0.3nm,1.0s								
TISN	**Laguna Tiscapa**	**3.94**	**107**	*i*	*P*		**Pn**	**11 12 52.6**	**+4.3**
HUEN		**3.98**	**104**	*i*	*P*		**Pn**	**11 12 49.7**	**+1.0**
HUEN					IAML			11 13 50.2	
	comp=Z,99nm,1.0s								
JUTIH	**Juticalpa Olan**	**4.00**	**70**	*i*	*P*		**Pn**	**11 12 49.4**	**+0.3**

*IDC **20** 11:13:10.3±0.8, 30°.62N×131°.84E, h0km, mb3.5/9, mbtmp3.6/14, ML3.1/5, MS3.4/1, Error ellipse: s-maj=23.4km s-min=14.9km az=86.0*
*JMA **20** 11:13:13.3±0.1, 30°.6N±0°.3×132°.1E±0°.7, h56km±2km, MV3.1/30, E OFF TANEGASHIMA ISLAND*

ISC 20 11:13:14.3±2.4, **30°.61N**±0°.05×**131°.98E**±0°.07, **h29**km±16km, **n30**, σ**0°73**/39, **mb3.6**/9, **Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.86**	**273**	*eP*			**Pn**	**11 13 30.4**	**-0.1**
JTN					*S*		**Sn**	**11 13 43.3**	**+1.1**
JMTN	**Minamitane**	**0.96**	**257**	*eP*			**Pn**	**11 13 31.9**	**+0.1**
JMTN					*eS*		**Sb**	**11 13 45.5**	**+0.8**
JTSR	**Tashiro 2**	**1.06**	**301**	*eP*			**Pn**	**11 13 32.7**	**-0.6**
JTSR					*eS*		**Sb**	**11 13 47.8**	**+0.1**
JNAR	**Kushima--Naru**	**1.09**	**326**	*eP*			**Pn**	**11 13 33.4**	**-0.3**
JNAR					*eS*		**Sn**	**11 13 48.3**	**+0.5**
JNKG	**Nichinankitago**	**1.17**	**334**	*eP*			**Pn**	**11 13 34.4**	**-0.3**
JNKG					*eS*		**Sn**	**11 13 49.7**	**0.0**
JYAK	**Yakushimahirau**	**1.33**	**254**	*i*	*P*		**Pn**	**11 13 36.7**	**-0.1**
JYAK					*eS*		**Sn**	**11 13 54.4**	**+0.9**
JTZ	**Takazaki**	**1.50**	**329**	*eP*			**Pn**	**11 13 39.1**	**-0.1**
JTZ					*eS*		**Sn**	**11 13 57.6**	**-0.1**
JKC	**Kuchinoerabu**	**1.55**	**265**	*eP*			**Pn**	**11 13 40.1**	**+0.2**
JKC					*eS*		**Sb**	**11 14 00.5**	**-1.0**
JSU	**Suzuyama**	**1.58**	**305**	*eP*			**Pn**	**11 13 40.5**	**+0.1**
JTSN	**Tsuno**	**1.68**	**346**	*eP*			**Pn**	**11 13 41.3**	**-0.4**
JTSN					*eS*		**Sn**	**11 14 01.6**	**-0.7**
JZO	**Okuchi**	**1.93**	**322**	*eP*			**Pn**	**11 13 45.4**	**+0.3**
JZO					*eS*		**Sn**	**11 14 09.1**	**+0.7**
JNN	**Nakanoshima**	**1.98**	**248**	*eP*			**Pn**	**11 13 46.0**	**+0.2**
JNN					*eS*		**Sn**	**11 14 10.3**	**+0.6**
JNU	**Nakatsue**	**2.67**	**340**	Pn			**Pn**	**11 13 55.4**	**0.0**
	2.7nm,0.3s,baz=194,slow=13,SNR=39								
JNU						Sn	**Sn**	**11 14 27.4**	**+0.6**
	2.1nm,0.3s,baz=9.3,slow=18,SNR=5.9								
	6.1nm,0.3s								
JOW	**Kunigami**	**4.98**	**222**	Pn			**Pn**	**11 14 26.5**	**-0.6**
	2.1nm,0.3s,baz=128,slow=24,SNR=17								
JOW						Sn	**Sn**	**11 15 22.3**	**-1.5**
	2.0nm,0.3s,baz=154,slow=30,SNR=2.5								
	18nm,0.7s								
JHJ	**Hachijo jima 2**	**7.09**	**67**	Pn			**Pn**	**11 14 56.4**	**+0.3**
	3.0nm,0.3s,baz=233,slow=20,SNR=1.6								
	128nm,0.9s								
MJAR	**Matsushiro Arr**	**7.87**	**40**	Pn			**Pn**	**11 15 07.0**	**+0.2**
	0.1nm,0.3s,baz=242,slow=14,SNR=6.1								
	0.7nm,0.3s								
KLR	**Kul'dur**	**18.59**	**360**	P			**Pn**	**11 17 29.7**	**+0.2**
	0.1nm,0.3s,baz=181,slow=9.4,SNR=2.5								
	0.9nm,0.6s								
TGY	**Tagaytay City**	**19.33**	**214**	LR		LR		11 25 18.1	
	comp=Z,119nm,20.9s,baz=106,slow=38								
SONM	**Songino Array**	**26.06**	**319**	P			**P**	**11 18 45.0**	**-0.3**
	0.1nm,0.3s,baz=124,slow=13,SNR=1.6								
	0.1nm,0.3s								
H11N2	**WAKE ISLAND Hy**	**33.28**	**101**	T		T		11 54 51.3	
	baz=296,slow=74,SNR=5.3								
H11N1	**WAKE ISLAND Hy**	**33.28**	**101**	T		T		11 54 52.0	
	baz=296								
H11N3	**WAKE ISLAND Hy**	**33.30**	**101**	T		T		11 54 52.4	
	baz=296,slow=74,SNR=4.9								
MKAR	**Makanchi Array**	**41.29**	**307**	P			**P**	**11 20 55.5**	**-1.6**
	0.2nm,0.5s,baz=86,slow=12,SNR=2.3								
	0.5nm,0.5s								
KURBB	**Kurchatov Arra**	**44.14**	**313**	P			**P**	**11 21 19.5**	**-0.6**
	0.6nm,0.7s,baz=98,slow=8.7,SNR=4.2								
	0.6nm,0.7s								
BVAR	**Borovoye Array**	**49.34**	**316**	P			**P**	**11 22 01.4**	**+0.6**
	0.4nm,0.5s,baz=100,slow=6.0,SNR=2.2								
	0.4nm,0.5s								
WRA	**Warramunga Arr**	**50.32**	**177**	P			**P**	**11 22 08.1**	**-0.4**
	0.4nm,0.6s,baz=354,slow=8.4,SNR=5.1								
	0.4nm,0.6s								
ILAR	**Eielson Array**	**59.02**	**30**	P			**P**	**11 23 12.4**	**+1.3**
	0.2nm,0.6s,baz=274,slow=5.7,SNR=5.1								
	0.2nm,0.6s								
STKA	**Stephens Creek**	**62.81**	**171**	P			**P**	**11 23 37.8**	**+0.6**
	1.3nm,0.5s,baz=339,slow=5.3,SNR=4.0								
	1.3nm,0.5s								
FINES	**FINESS Array B**	**70.68**	**331**	P			**P**	**11 24 25.5**	**-1.5**
	1.6nm,0.8s,baz=54,slow=7.1,SNR=1.6								
	1.6nm,0.8s								

*NEIC **20** 11:14:53.3±1.3, 30°.59N±0°.07×131°.98E±0°.06, h10km±1km, mb4.3/17, Error ellipse: s-maj=13.3km s-min=5.5km az=145.0*
*JMA **20** 11:14:54.4±0.1, 30°.6N±0°.4×132°.1E±0°.9, h58km±2km, MV3.5/31, E OFF TANEGASHIMA ISLAND*
*IDC **20** 11:14:56.6±3.0, 30°.64N×131°.86E, h36km±25km, mb3.7/12, mbtmp3.8/18, ML3.1/6, MS3.4/11, Error ellipse: s-maj=20.7km s-min=13.5km az=95.0*

ISC 20 11:14:54.4±1.2, **30°.60N**±0°.04×**131°.99E**±0°.05, **h22**km±9km, **n63**, σ**0°83**/70, **mb4.0**/20, **MS3.5**/9, **Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.87**	**274**	*i*	*P*		**Pb**	**11 15 11.4**	**+0.5**
JTN						*eS*	**Sn**	**11 15 24.0**	**+0.7**
JMTN	**Minamitane**	**0.96**	**258**			P	**Pb**	**11 15 12.8**	**+0.4**
JMTN						*eS*	**Sn**	**11 15 26.6**	**+1.1**
JTSR	**Tashiro 2**	**1.07**	**302**			P	**Pn**	**11 15 13.7**	**-0.5**
JNAR	**Kushima--Naru**	**1.11**	**326**	*i*	*P*		**Pn**	**11 15 14.4**	**-0.1**
JNAR						*eS*	**Sn**	**11 15 29.0**	**-0.1**
JNKG	**Nichinankitago**	**1.18**	**334**	*eP*			**Pn**	**11 15 15.3**	**-0.3**
JNKG						*eS*	**Sb**	**11 15 30.4**	**-0.5**
JYAK	**Yakushimahirau**	**1.33**	**254**			P	**Pn**	**11 15 17.7**	**+0.1**
JYAK						*eS*	**Sn**	**11 15 35.9**	**+1.2**
JTZ	**Takazaki**	**1.50**	**329**	*eP*			**Pn**	**11 15 19.9**	**-0.2**
JTZ						*eS*	**Sn**	**11 15 38.5**	**-0.5**
JKC	**Kuchinoerabu**	**1.55**	**265**	*eP*			**Pn**	**11 15 20.9**	**+0.2**
JKC						*eS*	**Sn**	**11 15 41.2**	**+1.1**
JSU	**Suzuyama**	**1.59**	**305**	*eP*			**Pn**	**11 15 21.3**	**0.0**
JSU						*eS*	**Sn**	**11 15 41.9**	**+0.6**
JTSN	**Tsuno**	**1.69**	**346**	*eP*			**Pn**	**11 15 22.1**	**-0.5**
JTSN						*eS*	**Sn**	**11 15 42.6**	**-0.9**
JZO	**Okuchi**	**1.94**	**323**	*eP*			**Pn**	**11 15 26.3**	**+0.2**
JZO						*eS*	**Sn**	**11 15 49.4**	**-0.4**
JNN	**Nakanoshima**	**1.98**	**248**	*eP*			**Pn**	**11 15 27.0**	**+0.4**
JNU	**Nakatsue**	**2.68**	**340**	Pn			**Pn**	**11 15 37.0**	**+0.7**
JNU	**Nakatsue**	**2.68**	**340**	Pn			**Pn**	**11 15 36.8**	**+0.5**
	8.1nm,0.3s,baz=192,slow=9.7,SNR=15								
JNU						Sn	**Sn**	**11 16 07.7**	**-0.4**
	4.5nm,0.3s,baz=151,slow=8.2,SNR=5.2								
	18nm,0.3s								
JMN	**Monobe**	**3.50**	**27**	Pn			**Pn**	**11 15 48.0**	**+0.4**
JTU	**Tsushima**	**4.48**	**331**	Pn			**Pn**	**11 16 00.9**	**-0.1**
JOW	**Kunigami**	**4.97**	**222**	Pn			**Pn**	**11 16 07.6**	**-0.2**
JOW	**Kunigami**	**4.97**	**222**	Pn			**Pn**	**11 16 08.4**	**+0.6**
	4.1nm,0.3s,baz=125,slow=27,SNR=6.9								
JOW						Sn	**Sn**	**11 17 03.0**	**-1.7**
	4.3nm,0.3s,baz=146,slow=28,SNR=7.1								
	7.6nm,0.3s								
INU	**Inuyama**	**6.34**	**40**	Pn			**Pn**	**11 16 27.0**	**+0.5**
JHJ2	**Mitsune**	**7.11**	**67**	Pn			**Pn**	**11 16 37.6**	**+0.5**
KSRS	**Korea Array**	**7.62**	**335**	Pn			**Pn**	**11 16 44.9**	**+0.8**
	0.1nm,0.3s,baz=141,slow=14,SNR=2.2								
	1.2nm,0.8s								
MJAR	**Matsushiro Arr**	**7.87**	**40**	Pn			**Pn**	**11 16 48.7**	**+1.1**
	0.1nm,0.3s,baz=240,slow=15,SNR=4.2								
	1.1nm,0.4s								
JCJ	**Chichijima**	**9.60**	**109**	LR		LR		11 20 32.9	
	comp=Z,59nm,19.5s,baz=120,slow=35								
USRK	**Ussuriysk Ar.**	**13.57**	**0**	Pn			**Pn**	**11 18 04.9**	**-0.6**
	baz=182,slow=13,SNR=1.5								
USRK						LR	LR	11 22 29.6	
	comp=Z,108nm,19.8s,baz=188,slow=34								
	1.0nm,0.7s								
KLR	**Kul'dur**	**18.61**	**360**	P			**Pn**	**11 19 10.1**	**-0.4**
	0.2nm,0.3s,baz=185,slow=7.9,SNR=8.3								
	2.5nm,0.7s								
ULN	**Ulaanbaatar**	**25.71**	**319**	P			**P**	**11 20 22.4**	**-0.8**
ULN						IA

KOK	**Koryaka**	**4.37**	**5**	*eP*	Pn	11 30 11.3	+4.7
KRX	**Arik**	**4.44**	**5**	*eP*	Pn	11 30 11.8	+4.2

*NNC **20** 11:33:18.1±0.5,44.35N×81.55E,h0km,mb2.8,mpv2.4, Error ellipse: s-maj=8.4km s-min=1.1km az=124.0*
*SOME **20** 11:33:19.8,44.25N×81.45E,h15km*
ISC 20 11:33:18.3±1.8,**44.30N**±0.09×**81.6E**±0.1,**h33**km,**n9,**
σ1§07/12,5C-1D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.30**	**272**	*eP*	**Pb**	**11 33 42.2**	**0.0**
	4.5nm,0.1s						
DJR				*eS*	**Sb**	**11 33 58.2**	**-0.4**
	4.1nm,0.3s						
PDGK	**Podgornoye**	**1.81**	**238**	⇑P	**Pb**	**11 33 50.5**	**-0.4**
	1.3nm,0.3s						
PDGK				⇑S	**Sb**	**11 34 15.0**	**+1.8**
	6.3nm,0.5s						
SHLS	**Shalkode**	**1.93**	**234**	*eP*	**Pn**	**11 33 49.0**	**+0.1**
	4.0nm,0.1s						
SHLS				*eS*	**Sn**	**11 34 09.8**	**-2.2**
	7.3nm,0.2s						
UZB	**Uzynbulak**	**2.19**	**239**	*e*Pg	**Pb**	**11 33 57.9**	**+0.5**
	3.0nm,0.3s						
UZB				*e*Lg	Lg	11 34 25.0	
	4.6nm,0.3s						
KPKS	**Kokpek**	**2.27**	**249**	*e*Pg	**Pb**	**11 33 59.4**	**+0.7**
	2.2nm,0.1s						
KPKS				*e*Lg	Lg	11 34 27.7	
	17nm,0.3s						
MAKZ	**Makanchi**	**2.52**	**6**	⇑Pg	**Pb**	**11 34 03.0**	**+0.1**
	4.7nm,1.2s						
MAKZ				⇑Lg	Lg	11 34 36.9	
	2.6nm,0.7s						
MK31	**Makanchi Array**	**2.54**	**11**	⇑Pg	**Pb**	**11 34 03.6**	**+0.4**
	0.6nm,0.4s,baz=198,slow=14,SNR=30						
MK31				⇓Lg	Lg	11 34 37.3	
	1.9nm,0.5s,baz=192,slow=28,SNR=7.1						
SATY	**Saty**	**2.63**	**243**	*e*Pg	**Pb**	**11 34 05.2**	**+0.4**
	1.6nm,0.2s						
SATY				*e*Lg	Lg	11 34 37.5	
	8.2nm,0.3s						
ARXS	**Arharly**	**2.71**	**269**	*e*Pg	**Pb**	**11 34 07.0**	**+0.8**
	1.6nm,0.2s						
ARXS				*e*Lg	Lg	11 34 40.6	
	5.7nm,0.3s						

HEL 20 11:35:30.6±0.3,**60.91N**×**29.23E,h0km,ML1.8,**
Suspected explosion,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUF	**Ruokolahti**	**0.53**	**345**	PG	Pg	11 35 40.5	-0.3
RUF				SG	Sg	11 35 46.7	-0.9
RUF				MSG		11 35 47.7	
	comp=Z,13nm,0.2s						
VJF	**Virojoki**	**0.91**	**246**	PG	Pg	11 35 47.4	-0.5
	baz=63						
VJF				MSG		11 35 58.6	
	comp=Z,33nm,0.2s						
VJF				SB	Sg	11 35 59.2	-0.5
PVF	**Pernaja**	**1.70**	**259**	PG	Pn	11 36 00.8	-0.6
PVF				MSG		11 36 21.4	
	comp=Z,7.4nm,0.2s						
PVF				SN	Sg	11 36 25.1	+0.1
KAF	**Kangasniemi**	**1.85**	**312**	PG	Pn	11 36 04.2	+0.7
KAF				MSG		11 36 25.6	
	comp=Z,8.6nm,0.2s						
KAF				SG	Sb	11 36 28.4	-0.4
JOF	**Joensuu**	**2.24**	**25**	PG	Pb	11 36 10.7	-1.2
JOF				SG	Sb	11 36 39.5	-0.6
HEL1	**Helsinki**	**2.27**	**253**	PG	Pb	11 36 11.0	-1.4
NUR	**Nurmijrvi**	**2.29**	**262**	PB	Pn	11 36 10.4	+0.8
	baz=81						
NUR				MSG		11 36 38.2	
	comp=Z,2.4nm,0.2s						
NUR				SG	Sb	11 36 40.5	-1.0
KEF	**Keuruu**	**2.44**	**303**	PG	Pn	11 36 13.0	+1.4
KEF				MSG		11 36 42.6	
	comp=Z,2.3nm,0.2s						
KEF				SG	Sb	11 36 45.8	0.0
MEF	**Metsahovi**	**2.49**	**256**	PG	Pb	11 36 14.9	-1.2
	baz=76						
MEF				MSG		11 36 43.9	
	comp=Z,3.3nm,0.2s						
NIF	**Nilsia**	**2.57**	**346**	PG	Pb	11 36 15.7	-1.9
NIF				SG	Sb	11 36 49.0	-0.7
RMF	**Romuvaara**	**3.33**	**5**	PN	Pn	11 36 25.5	+1.6
AAL	**Aland**	**4.62**	**265**	PG	Pb	11 36 55.0	+2.6

*IDC **20** 11:38:18.3±5.3,16.91N×101.96W,h0km,mb3.3/3, mbtmp3.3/5,ML3.3/2,MS3.2/2, Error ellipse: s-maj=106.2km s-min=31.9km az=22.0*
*MEX **20** 11:38:30.1±1.3,17.75N×101.50W,h36km±10km,MD4.3*
ISC 20 11:38:26.8±0.9,**17.61N**±0.04×**101.61W**±0.03,**h30**km±7km,
n59,σ2§08/101,mb3.3/3,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.14**	**93**	*i* P	**Pn**	**11 38 34.8**	**+1.9**
ZIIG				*i* S	**Sb**	**11 38 39.3**	**+3.0**
PET2	**Petatlan**	**0.34**	**103**	*e*P	**Pn**	**11 38 35.7**	**+0.1**
PET2				*i* S	**Sb**	**11 38 41.6**	**+1.3**
ATYC	**Atoyac**	**1.19**	**109**	*e*P	**Pn**	**11 38 47.6**	**+0.3**
ATYC				*e*S	**Sn**	**11 39 02.0**	**-0.5**
ARIG	**Puente Sto Nin**	**1.37**	**61**	*e*P	**Pn**	**11 38 48.2**	**-1.7**
ARIG				*e*S	**Sn**	**11 39 03.6**	**-3.4**
CAIG	**El Cayaco**	**1.40**	**114**	*e*P	**Pn**	**11 38 49.8**	**-0.4**
CAIG				*i* S	**Sn**	**11 39 07.9**	**+0.2**
MMIG	**Aquila**	**1.78**	**292**	*i* P	**Pb**	**11 38 58.0**	**-0.9**
MMIG				*e*S	**Sn**	**11 39 18.1**	**+1.0**
ACP2	**Acapulco**	**1.80**	**114**	*e*P	**Pb**	**11 38 57.2**	**-1.9**
ACP2				*i* S	**Sb**	**11 39 20.1**	**-1.3**
TEJU	**Tejupilco**	**1.88**	**47**	*e*P	**Pn**	**11 38 56.6**	**-0.4**
TEJU				*i* S	**Sn**	**11 39 17.7**	**-2.1**
MEIG	**Mezcala**	**1.92**	**80**	*e*P	**Pn**	**11 38 57.8**	**+0.3**
MEIG				*e*S	**Sn**	**11 39 20.6**	**-0.1**
DAIG	**Los Arroyos**	**1.96**	**107**	*e*P	**Pn**	**11 38 59.4**	**+1.4**
DAIG				*e*S	**Sn**	**11 39 23.1**	**+1.5**
MOIG	**Morelia**	**2.09**	**11**	*e*P	**Pn**	**11 38 59.7**	**-0.3**
PLIG	**Platanillo**	**2.15**	**69**	*e*P	**Pn**	**11 39 00.1**	**-0.6**
PLIG				*i* S	Sn	11 39 11.2	-1.5
COIG	**Colima**	**2.52**	**309**	*e*P	**Pb**	**11 39 09.0**	**-2.4**
COIG				*i* S	**Sn**	**11 39 38.1**	**+2.7**
CRIG	**Cruz Grande**	**2.52**	**110**	*e*P	**Pn**	**11 39 06.0**	**+0.3**
CRIG				*e*S	**Sb**	**11 39 41.7**	**-0.4**
CDAR	**Ciudad de Arme**	**2.63**	**300**	*e*P	**Pb**	**11 39 09.9**	**-3.4**
CDAR				*i* S	**Sn**	**11 39 38.9**	**+0.7**
EZ5V		**2.65**	**315**	*e*P	**Pb**	**11 39 11.4**	**-2.3**
EZ5V				*e*S	**Sb**	**11 39 48.1**	**+2.2**
JUBC	**Volcan de Coli**	**2.65**	**316**	*e*P	**Pb**	**11 39 11.0**	**-2.8**
JUBC				*i* S	**Sb**	**11 39 49.3**	**+3.3**
MNGA	**Volcan de Coli**	**2.65**	**314**	*e*P	**Pb**	**11 39 11.2**	**-2.5**
MNGA				*i* S	**Sb**	**11 39 47.0**	**+1.0**
INCO	**Volcan de Coli**	**2.68**	**315**	*e*P	**Pb**	**11 39 12.3**	**-2.0**
INCO				*i* S	**Sb**	**11 39 47.6**	**+0.6**
INVM	**La Marquesa**	**2.69**	**51**	*e*P	**Pn**	**11 39 08.2**	**-0.2**
INVM				*e*S	**Sn**	**11 39 40.1**	**-0.1**
SOMAC	**Volcano de Col**	**2.70**	**315**	*e*P	**Pb**	**11 39 12.8**	**-1.8**
SOMAC				*e*S	**Sb**	**11 39 50.8**	**+3.3**
ATVM	**ATLACOMULCO**	**2.71**	**38**	*e*P	**Pn**	**11 39 06.0**	**-2.7**
ATVM				*e*S	**Sn**	**11 39 40.1**	**-0.5**
YAIG	**Yautepec**	**2.72**	**62**	*e*P	**Pn**	**11 39 07.3**	**-1.2**
YAIG				*i* S	**Sn**	**11 39 36.5**	**-4.0**
AOVM	**Tlapan**	**2.72**	**53**	*e*P	**Pn**	**11 39 07.1**	**-1.8**
AOVM				*e*S	**Sn**	**11 39 40.2**	**-0.8**
CEGR	**Campo Tres**	**2.77**	**310**	*e*P	**Pb**	**11 39 12.7**	**-3.0**
CEGR				*i* S	**Sb**	**11 39 50.5**	**+1.2**
MGIG	**Malinaltepec**	**2.87**	**97**	*e*P	**Pn**	**11 39 11.6**	**+1.1**
MGIG				*e*S	**Sn**	**11 39 47.0**	**+2.9**
UNM	**Universidad Na**	**2.87**	**53**	*e*P	**Pn**	**11 39 14.0**	**+3.3**
UNM				*e*S	**Sn**	**11 39 43.9**	**-0.5**
XCVM	**Xochimilco**	**2.87**	**55**	*e*P	**Pn**	**11 39 13.1**	**+2.3**
XCVM				*e*S	**Sn**	**11 39 45.5**	**+1.0**
TLIG	**Tlapa**	**2.90**	**91**	*e*P	**Pn**	**11 39 12.0**	**+0.9**
TLIG				*e*S	**Sn**	**11 39 47.1**	**+2.1**
MPVM	**San Francisco**	**2.93**	**57**	*e*P	**Pn**	**11 39 11.6**	**+0.1**
MPVM				*e*S	**Sn**	**11 39 45.5**	**-0.3**
PBVM	**Pinon**	**3.01**	**52**	*e*P	**Pn**	**11 39 11.3**	**-1.0**
PBVM				*e*S	**Sn**	**11 39 45.9**	**-1.5**
THVM	**De Xico**	**3.02**	**56**	*e*P	**Pn**	**11 39 12.0**	**-0.8**
THVM				*e*S	**Sn**	**11 39 47.1**	**-0.9**
AMVM	**AMECAMECA**	**3.08**	**60**	*e*P	**Pn**	**11 39 12.8**	**-0.8**
AMVM				*e*S	**Sn**	**11 39 48.1**	**-1.4**
PTVM	**Pico Tres Padr**	**3.08**	**50**	*e*P	**Pn**	**11 39 16.2**	**+2.6**
PTVM				*e*S	**Sn**	**11 39 44.7**	**-4.8**
PPM	**Popocatepetl**	**3.18**	**63**	*e*P	**Pn**	**11 39 15.2**	**0.0**
PPM				*e*S	**Sn**	**11 39 56.0**	**+3.6**
ZUVM	**ZUMPANGO**	**3.26**	**47**	*e*P	**Pn**	**11 39 15.2**	**-0.8**
ZUVM				*e*S	**Sn**	**11 39 54.3**	**+0.4**
JRQG	**Juriquilla Cam**	**3.26**	**19**	*e*P	**Pb**	**11 39 24.2**	**0.0**
JRQG				*e*S	**Sb**	**11 40 03.5**	**-0.1**
FTIG	**Fresnillo de T**	**3.33**	**84**	*e*P	**Pn**	**11 39 17.2**	**+0.3**
FTIG				*e*S	**Sn**	**11 39 52.7**	**-2.8**
DEIG	**Demacu**	**3.62**	**42**	*e*P	**Pn**	**11 39 18.9**	**-2.1**
DEIG				*i* S	**Sn**	**11 40 07.4**	**+4.6**
HLIG	**Huajuapan de L**	**3.63**	**86**	*e*P	**Pn**	**11 39 21.7**	**+0.5**
HLIG				*e*S	**Sn**	**11 40 01.0**	**-2.2**
TXIG	**Tlaxiaco**	**3.69**	**95**	*e*P	**Pn**	**11 39 23.0**	**+1.0**
TXIG				*i* S	**Sn**	**11 40 04.1**	**-0.4**
CJM	**Chamela**	**3.76**	**300**	*e*P	**Pb**	**11 39 29.9**	**-2.5**
CJM				*e*S	**Sb**	**11 40 17.8**	**+0.2**
YOIG	**Yosondua**	**3.96**	**100**	*e*P	**Pn**	**11 39 27.4**	**+1.8**
YOIG				*e*S	**Sb**	**11 40 19.2**	**-4.4**
TPIG	**Tehuac#an**	**4.12**	**78**	*e*P	**Pn**	**11 39 28.8**	**+1.0**
TPIG				*e*S	**Sn**	**11 40 16.7**	**+1.6**
TOIG	**Toxpalan**	**4.36**	**83**	*e*P	**Pn**	**11 39 31.6**	**+0.6**
TOIG				*i* S	**Sn**	**11 40 18.4**	**-2.4**
RPIG	**Rio Verde**	**4.52**	**20**	*e*P	**Pb**	**11 39 46.5**	**+1.1**
RPIG				*e*S	**Sb**	**11 40 41.0**	**+1.5**
PEIG	**Puerto Escondi**	**4.57**	**110**	*e*P	**Pn**	**11 39 35.3**	**+1.5**
PEIG				*e*S	**Sb**	**11 40 41.2**	**+0.4**
JAUV	**Jalcomulco**	**4.88**	**68**	*e*P	Pn	11 39 44.9	+6.7
JAUV				*e*S	**Sn**	**11 40 41.6**	**+7.8**
CTUV	**Llano Grande**	**4.91**	**38**	*e*P	**Pb**	**11 39 54.3**	**+2.2**
CTUV				*e*S	Sn	11 40 45.5	+11
NEUV	**Arroyo Zacate**	**5.54**	**88**	*e*P	**Pn**	**11 39 45.6**	**-1.5**
NEUV				*i* S	**Sn**	**11 40 50.5**	**+0.6**
CMIG	**Matias Romero**	**6.44**	**94**	Pn	**Pn**	**11 40 00.1**	**+0.5**
	0.5nm,0.3s,baz=276,slow=8.6,SNR=1.9						
CMIG				Sn	**Sn**	**11 41 16.3**	**+4.1**
	1.1nm,0.3s,baz=270,slow=20,SNR=2.2						
CMIG				LR	LR	11 42 30.9	
	comp=Z,78nm,18.0s,baz=282,slow=37						
	1.0nm,0.3s						
TXAR	**Lajitas Array**	**11.82**	**351**	Pn	Pn	11 41 20.6	+7.3
	0.1nm,0.3s,baz=176,slow=13,SNR=3.4						
	0.6nm,1.0s						
PDAR	**Pinedale Array**	**25.97**	**347**	P	**P**	**11 43 58.5**	**+1.6**
	0.6nm,0.8s,baz=164,slow=10,SNR=4.6						
	0.6nm,0.8s						
NEW	**Newport**	**33.09**	**341**	LR	LR	12 00 47.5	
	comp=Z,69nm,18.6s,baz=352,slow=40						
YKA	**Yellowknife Ar**	**45.75**	**352**	P	**P**	**11 46 44.4**	**-0.7**
	0.1nm,0.6s,baz=163,slow=7.2,SNR=1.8						
	0.1nm,0.6s						
H03N2	**Juan Fernandez**	**55.19**	**157**	T	T	12 47 25.5	
	baz=334,slow=77,SNR=25						
H03N1	**Juan Fernandez**	**55.20**	**157**	T	T	12 47 28.2	
	baz=334,slow=77,SNR=35						
H03N3	**Juan Fernandez**	**55.21**	**157**	T	T	12 47 36.8	
	baz=334,slow=77,SNR=36						
ILAR	**Eielson Array**	**55.99**	**338**	P	**P**	**11 48 02.9**	**+0.7**
	0.7nm,1.0s,baz=142,slow=6.5,SNR=3.8						
	0.7nm,1.0s						

*IDC **20** 11:50:31.1±2.0,21.61N×143.26E,h260km±19km,mb3.1/8, mbtmp3.9/11,Error ellipse: s-maj=35.3km s-min=13.8km az=91.0*
ISC 20 11:50:29.8±0.9,**21.55N**±0.10×**143.3E**±0.3,**h250**km,**n12,**
σ1§02/13,mb3.1/8,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.62**	**349**	P	**Pn**	**11 51 53.6**	**+0.4**
	23nm,0.3s,baz=145,slow=22,SNR=13						
JCJ				S	**S**	**11 53 00.3**	**+0.4**
	39nm,0.3s,baz=254,slow=23,SNR=11						
JHJ	**Hachijo jima 2**	**11.95**	**345**	P	**Pn**	**11 53 13.7**	**+1.0**
	70nm,0.8s,baz=151,slow=19,SNR=8.1						
MJAR	**Matsushiro Arr**	**15.59**	**344**	P	**P**	**11 53 56.4**	**+0.2**
	1.0nm,0.3s,baz=63,slow=17,SNR=7.2						
WRA	**Warramunga Arr**	**42.16**	**193**	P	**P**	**11 57 59.0**	**+0.8**
	1.5nm,0.6s,baz=12,slow=8.2,SNR=33						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**45.87**	**192**	P	**P**	**11 58 27.6**	**0.0**
	0.3nm,0.7s,baz=16,slow=12,SNR=11						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**54.90**	**313**	P	**P**	**11 59 35.9**	**+1.1**
	0.1nm,0.3s,baz=97,slow=7.3,SNR=2.0						
	0.1nm,0.3s						
ILAR	**Eielson Array**	**62.11**	**27**	P	**P**	**12 00 24.0**	**-0.1**
	0.6nm,1.2s,baz=269,slow=7.1,SNR=2.3						
	0.6nm,1.2s						
BVAR	**Borovoye Array**	**62.88**	**320**	P	**P**	**12 00 28.5**	**-0.9**
	0.5nm,0.4s,baz=98,slow=8.2,SNR=2.9						
	0.5nm,0.4s						
YKA	**Yellowknife Ar**	**76.52**	**28**	P	**P**	**12 01 52.1**	**0.0**
	0.1nm,0.5s,baz=307,slow=6.2,SNR=2.6						
	0.1nm,0.5s						
FINES	**FINESS Array B**	**83.38**	**335**	P	**P**	**12 02 26.6**	**-2.2**
	4.5nm,1.0s,baz=64,slow=6.3,SNR=3.9						
	4.5nm,1.0s						
AKASG	**Malin Array Be**	**87.71**	**324**	P	**P**	**12 02 49.7**	**-0.5**
	0.1nm,0.3s,baz=79,slow=0.9,SNR=1.4						
	0.1nm,0.3s						
PLCA	**Paso Flores**	**145.55**	**131**	PKPbc	**PKPdf**	**12 09 39.8**	**+1.3**
	1.8nm,0.7s,baz=256,slow=2.8,SNR=5.2						

IDC 20 12:34:14.3±5.1,**5.24S**×**132.84E,h0km,mb3.4/1, mbtmp3.2/3,ML3.2/2,MS3.2/1,Error ellipse: s-maj=309.6km s-min=33.3km az=76.0,Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.69**	**174**	Pn	Pn	12 37 43.1	-0.5
	0.1nm,0.3s,baz=355,slow=14,SNR=8.4						
WRA				Sn	Sn	12 40 19.4	-7.9
	0.1nm,0.3s,baz=360,slow=23,SNR=2.6						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**18.35**	**177**	P	P	12 38 30.7	+0.1
	0.1nm,0.3s,baz=358,slow=14,SNR=11						
ASAR				S	Sn	12 41 50.4	-5.8
	0.2nm,0.6s,baz=0.8,slow=28,SNR=1.6						
	0.1nm,0.4s						
CTA	**Charters Tower**	**19.71**	**140**	LR	LR	12 47 28.7	
	comp=Z,72nm,18.4s,baz=82,slow=40						
MKAR	**Makanchi Array**	**68.35**	**325**	P	P	12 45 17.5	-0.1
	0.3nm,0.6s,baz=139,slow=6.8,SNR=2.4						
	0.3nm,0.6s						

HEL 20 12:36:42.2±0.2,**63.91N**×**24.49E,h0km,ML1.0, Explosion,Finland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUF	**Merijarvi**	**0.47**	**13**	PG	Pg	12 36 50.2	-1.0
	baz=196						
OUF				SG	Sg	12 36 56.6	-0.6
OUF				MSG		12 36 57.5	
	comp=Z,5.2nm,0.2s						
OBF0	**Syolatti, Pyha**	**0.60**	**349**	PG	Pg	12 36 53.8	+0.2
OBF0				MSG		12 37 01.1	
	comp=Z,2.6nm,0.2s						
OBF0				SG	Sg	12 37 01.5	+0.2
OBF4	**Vikkela, Lumij**	**0.94**	**16**	PB	Pg	12 36 59.4	-0.8
	baz=201						
OBF4				MSG		12 37 11.2	
	comp=Z,1.0nm,0.2s						
OBF4				SB	Sg	12 37 12.1	-0.3
VAF	**Ylistaro**	**1.20**	**224**	PG	Pg	12 37 04.1	-1.0
	baz=41						
VAF				MSG		12 37 18.5	
	comp=Z,2.2nm,0.2s						
VAF				SB	Sg	12 37 20.3	-0.3
OUL	**Oulu**	**1.32**	**27**	SN	Sn	12 37 27.1	+0.9
BURU	**Burvik**	**1.52**	**298**	PN	Pn	12 37 09.3	-1.2
BURU				SN	Sg	12 37 29.8	-1.1
NIF	**Nilsia**	**1.57**	**108**	PG	Pn	12 37 10.7	-0.6
UMAU	**Umeaa**	**1.69**	**271**	PG	Pn	12 37 12.5	-0.4
	baz=91						
UMAU				SN	Sn	12 37 34.0	-1.1
KEF	**Keuruu**	**1.76**	**174**	PG	Pn	12 37 13.6	-0.3
KEF				MSG		12 37 34.8	
	comp=Z,1.6nm,0.2s						
KEF				SG	Sn	12 37 36.2	-0.8
KAF	**Kangasniemi**	**1.99**	**155**	PG	Pn	12 37 17.5	+0.5
KAF				MSG		12 37 41.3	
	comp=Z,3.3nm,0.2s						
KAF				SG	Sn	12 37 43.3	+0.7
TOF	**Tornio**	**2.18**	**358**	PG	Pn	12 37 20.4	+0.8
TOF				MSG		12 37 46.7	
	comp=Z,0.4nm,0.2s						
TOF				SG	Sb	12 37 49.8	-0.1
RMF	**Romuvaara**	**2.41**	**80**	MSG		12 37 53.5	
	comp=Z,0.8nm,0.2s						
RMF				SG	Sb	12 37 55.7	-0.9
MSF	**Maaselka**	**2.79**	**42**	SN	Sn	12 38 01.7	-0.7
ERTU	**Ertsjaerv**	**2.82**	**341**	SG	Sb	12 38 09.9	+1.5
JOF	**Joensuu**	**3.23**	**105**	SB	Sn	12 38 15.2	+2.2
AAL	**Aland**	**4.30**	**211**	SN	Sn	12 38 37.5	-2.1

*JMA **20** 12:39:08.7±0.3,44.1×14.8E,h24km,MV3.6/28,E OFF HOKKAIDO*
*SKHL **20** 12:39:09.5±0.1,43.70N×147.80E,h55km±4km,mb4.5/2*
ISC 20 12:39:07.5±2.4,**43.6N**±0.1×**147.9E**±0.1,**h49**km±41km,**n17,**
σ1§07/32,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.79**	**289**	*i* P	**Pn**	**12 39 23.1**	**+0.7**
SHO				AMB	AMB	12 39 23.9	
	230nm,0.4s						
SHO				*e*S	**Sn**	**12 39 33.4**	**+0.1**
SHO				A	A	12 39 35.7	
	340nm,0.2s						
SHO				A	A	12 39 35.7	
	580nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.51**	**287**	*e*P	**Pn**	**12 39 32.1**	**0.0**
YUK				AMB	AMB	12 39 32.8	
	210nm,0.3s						
YUK				*e*S	**Sn**	**12 39 49.1**	**-1.5**
YUK				A	A	12 39 52.6	
	440nm,0.2s						
YUK				A	A	12 39 52.6	
	310nm,0.2s						
NEM2	**Nemuro 2**	**1.56**	**262**	*e*P	**Pn**	**12 39 33.2**	**+0.4**
NEM2				*e*S	**Sn**	**12 39 51.0**	**-0.9**
NMR	**Nemuro--Hokkai**	**1.57**	**262**	*i* P	**Pn**	**12 39 33.2**	**+0.2**
NMR				*e*S	**Sn**	**12 39 51.0**	**-1.2**
KUR	**Kuril'sk**	**1.62**	**0**	*e*P	**Pn**	**12 39 34.0**	**+0.4**
KUR				*i* S	**Sn**	**12 39 52.3**	**-1.0**
KUR				A	A	12 39 53.9	
	310nm,0.3s						
KUR				A	A	12 39 53.9	
	130nm,0.3s						
JRA	**Rausu**	**2.01**	**280**	*e*P	**Pn**	**12 39 39.7**	**+0.7**
JRA				*e*S	**Sn**	**12 40 02.7**	**-0.3**
JKHN	**Kushirohamanak**	**2.04**	**256**	*e*P	**Pn**	**12 39 40.4**	**+1.0**
JKHN				*e*S	**Sn**	**12 40 03.6**	**0.0**
JNSB	**Nemuroshibetsu**	**2.08**	**276**	*e*P	**Pn**	**12 39 41.0**	**+1.1**
JNSB				*e*S	**Sn**	**12 40 04.6**	**0.0**
AKK	**Akkeshi**	**2.29**	**256**	*e*P	**Pn**	**12 39 43.6**	**+0.9**
AKK				*e*S	**Sn**	**12 40 08.6**	**-1.0**
JNK	**Nakash**	**2.29**	**270**	*e*P	**Pn**	**12 39 43.2**	**+0.4**
JNK				*e*S	**Sn**	**12 40 08.7**	**-1.0**
JAK	**Akkeshi**	**2.39**	**256**	*e*P	**Pn**	**12 39 44.8**	**+0.6**
JAK				*e*S	**Sn**	**12 40 10.8**	**-1.5**
JTKR	**Abashiri--Toko**	**2.89**	**279**	*e*P	**Pn**	**12 39 52.4**	**+1.4**
JAR	**Ashorobuto**	**3.00**	**265**	*e*P	**Pn**	**12 39 53.9**	**+1.4**
JAR				*e*S	**Sn**	**12 40 27.4**	**+0.2**
JOB	**Onbets**	**3.03**	**258**	*e*P	**Pn**	**12 39 54.1**	**+1.2**
JOB				*e*S	**Sn**	**12 40 26.9**	**-1.0**
JMP	**Maruseppu**	**3.29**	**278**	*e*P	**Pn**	**12 39 57.9**	**+1.4**
JCH	**Churui**	**3.44**	**255**	*e*P	**Pn**	**12 39 59.7**	**+1.1**
JCH				*e*S	**Sn**	**12 40 36.4**	**-1.7**
JNBK	**Urakawa-nobuka**	**3.98**	**252**	*e*P	**Pn**	**12 40 06.7**	**+0.7**
JNBK				*e*S	**Sn**	**12 40 49.4**	**-2.0**

DNK 20 12:40:39.9±0.4,**58.39N**×**13.79E,h0km,ML1.2**(UPP), **Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FKPU	**Falk**	**0.23**	**188**	P	Pg	12 40 44.2	-0.2
FKPU				S	Sg	12 40 47.4	0.0
NASU	**Vaermlandsnaes**	**0.62**	**330**	P	Pg	12 40 51.5	-0.4
ASKU	**Askersund**	**0.74**	**47**	P	Pg	12 40 53.7	-0.4
VANU	**Vaenersborg**	**0.91**	**277**	P	Pg	12 40 56.6	-0.7
LNKU	**Linkoeping**	**0.92**	**100**	P	Pg	12 40 56.9	-0.6
BORU	**Boraas**	**0.93**	**216**	P	Pg	12 40 57.1	-0.6
FINU	**Finntorp**	**1.22**	**327**	P	Pg	12 41 02.1	-1.2
VSTU	**Vaestervik**	**1.64**	**115**	P	Pn	12 41 09.0	-0.8

*UCC **20** 12:40:56.0,49.64N×0.53W,h0km,ML3.3,Suspected Explosion.*
*STR **20** 12:40:56.5±0.4,50.1×4.2,h0km,MLv3.5/12,Error ellipse: s-maj=0.0km s-min=0.0km az=138.3,preliminary*
ISC 20 12:40:55.1±1.2,**49.58N**±0.05×**0.58W**±0.04,**h0**km,**n29,**
σ0§45/29,12D,France

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

JTNC	**Tanabenakahech**	**1.46**	**310**	P	Pn	12 44 33.2	0.0
JTNC				S	Sn	12 44 49.9	-1.4
JKN2	**Miekihoku**	**1.47**	**338**	⇓*i*P	Pn	12 44 33.2	-0.1
JKN2				⇓S	Sn	12 44 49.0	-2.5
TTO5	**TONANKAI O.B.S**	**1.51**	**25**	*i* P	Pn	12 44 33.7	0.0
TTO5				S	Sn	12 44 50.9	-1.4
JIE	**Ise**	**1.52**	**352**	⇓*i*P	Pn	12 44 34.1	+0.1
JIE				⇓S	Sn	12 44 51.6	-1.1

NEIC ***20*** *13:33:38.5±0.4, 19°.404N±0°.009×155°.415W±0°.008, h13km, Error ellipse: s-maj=1.3km s-min=1.0km az=175.0*
HVO 20 13:33:38.7±0.5, 19°.405N±0°.008×155°.405W±0°.007, h11km±1km, ML2.6/32, ML2.5/48(NEIC), Error ellipse: s-maj=1.2km s-min=0.8km az=164.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIN	**Ainahou**	**0.06**	**237**		Pg	13 33 41.2	+0.2
MLH	**Mauna Loa**	**0.09**	**11**		Pg	13 33 41.6	+0.1
MLH				IAML		13 33 43.6	
	comp=E,3μm,0.3s						
MLH				IAML		13 33 43.8	
	comp=N,3μm,0.3s						
WRMHI	**West Rim**	**0.10**	**89**		Pg	13 33 41.6	+0.1
WRMHI				IAML		13 33 43.9	
	comp=N,2μm,0.4s						
SDHHI	**Sand Hill**	**0.11**	**98**		Pg	13 33 41.8	+0.2
UWE	**Uwekahuna**	**0.11**	**81**		Pg	13 33 41.8	+0.2
UWE				IAML		13 33 44.8	
	comp=N,1μm,0.3s						
UWE				IAML		13 33 45.4	
	comp=E,2μm,0.4s						
OBL	**Observatory Le**	**0.12**	**84**		Pg	13 33 41.8	+0.1
OBL				IAML		13 33 44.9	
	comp=E,2μm,0.7s						
OBL				IAML		13 33 46.0	
	comp=N,2μm,0.5s						
NPH	**North Pit**	**0.12**	**87**	Pg	Pg	13 33 41.8	+0.1
UWB	**Uwekahuna B**	**0.12**	**81**		Pg	13 33 41.8	+0.1
RIM	**Rim**	**0.12**	**95**		Pg	13 33 42.0	+0.2
RIM				IAML		13 33 45.9	
	comp=E,911nm,0.3s						
RIM				IAML		13 33 46.2	
	comp=N,2μm,0.4s						
KKO	**Keanakako`i**	**0.13**	**93**		Pg	13 33 42.1	+0.2
KKO				IAML		13 33 46.6	
	comp=E,941nm,0.2s						
KKO				IAML		13 33 47.0	
	comp=N,1μm,0.5s						
SBLHI	**Steaming Bluff**	**0.13**	**80**		Sg	13 33 44.3	+0.1
RSD	**Rainshed**	**0.13**	**64**		Pg	13 33 42.2	+0.2
RSD				IAML		13 33 46.8	
	comp=E,1μm,0.2s						
RSD				IAML		13 33 46.8	
	comp=N,1μm,0.2s						
BYL	**Byron's Ledge**	**0.14**	**87**		Pg	13 33 42.2	+0.3
HATHI	**Halema`uma`u T**	**0.14**	**83**		Pg	13 33 42.1	+0.2
HATHI				IAML		13 33 44.6	
	comp=N,864nm,0.4s						
HLP	**Hilina Pali**	**0.14**	**140**		Pg	13 33 42.4	+0.4
HTC	**Hot Caves**	**0.17**	**178**		Pg	13 33 42.7	+0.3
PUH	**Pauahi**	**0.18**	**100**		Pg	13 33 42.8	+0.2
MWH	**Moku`aweowe**	**0.20**	**294**		Pg	13 33 43.2	0.0
MWH				IAML		13 33 47.1	
	comp=E,1μm,0.5s						
MWH				IAML		13 33 47.1	
	comp=N,1μm,0.3s						
MLOA	**Mauna Loa Obse**	**0.21**	**309**		Pg	13 33 43.4	+0.1
MLOA				IAML		13 33 47.7	
	comp=E,1μm,0.1s						
HMH	**Humu`ula Sheep**	**0.21**	**339**		Pg	13 33 43.4	+0.1
KNHH	**Kane Nui o Ham**	**0.22**	**97**		Pg	13 33 43.4	0.0
KHU	**Kahuku**	**0.25**	**231**		Pg	13 33 43.9	-0.1
KHU				IAML		13 33 47.9	
	comp=N,625nm,1.0s						
KHU				IAML		13 33 48.0	
	comp=E,1μm,0.7s						
ALEP	**Alea Permanent**	**0.26**	**301**		Pg	13 33 44.2	-0.1
ALEP					Sg	13 33 48.0	+0.1
STCH	**Steam Cracks**	**0.27**	**94**		Pg	13 33 44.0	-0.1
STCH				IAML		13 33 49.9	
	comp=E,451nm,0.3s						
NPOC	**North of Pu`u**	**0.28**	**92**		Pg	13 33 44.3	-0.1
NPOC	**North of Pu`u**	**0.28**	**92**	IAML		13 33 50.3	
	comp=N,439nm,0.6s						
NPOC				IAML		13 33 53.4	
	comp=E,366nm,0.9s						
JCUZ	**Jacuzzi**	**0.29**	**94**		Pg	13 33 44.4	-0.2
JCUZ	**Jacuzzi**	**0.29**	**94**	IAML		13 33 53.4	
	comp=E,456nm,1.1s						
JCUZ				IAML		13 33 55.0	
	comp=N,346nm,0.8s						
HPO	**Honuapo**	**0.34**	**204**		Pg	13 33 45.0	-0.6
POHA	**Pohakuloa**	**0.37**	**341**		Sg	13 33 52.2	+1.0
JOKA	**Jonika Flow**	**0.38**	**86**		Pg	13 33 45.9	-0.4
CPH	**Captain Cook**	**0.49**	**280**		Pg	13 33 47.8	-0.5
HUH	**Hualalai**	**0.49**	**304**		Pg	13 33 48.8	+0.4
KHLU	**Kahalu`u**	**0.50**	**292**		Pg	13 33 48.3	-0.2
KHLU				IAML		13 33 56.5	
	comp=E,447nm,0.2s						
KHLU				IAML		13 33 57.4	
	comp=N,459nm,0.1s						
KHLU	**Kahalu`u**	**0.50**	**292**		Sg	13 33 55.2	+0.2
HPAH	**Hawaii Prepara**	**0.68**	**336**		Pg	13 33 50.7	-1.2

IDC ***20*** *13:40:51.9±0.4, 30°.63N×132°.05E, h0km, mb5.0/41, mbtmp4.9/48, ML4.1/7, MS5.0/66, Error ellipse: s-maj=12.8km s-min=10.8km az=69.0*
MOS ***20*** *13:40:53.9±1.3, 30°.65N×131°.92E, h17km, mb5.5/64, MS5.4/40, Error ellipse: s-maj=6.2km s-min=3.3km az=114.1*
BJI ***20*** *13:40:53.5, 30°.60N×132°.10E, h10km, mb5.0/73, mB5.4/68, Ms5.6/90, Ms7 5.5/85*
JMA ***20*** *13:40:54.8±0.2, 30°.6N±0°.5×13°.2E±°, h61km±3km, MD5.2/34, MW5.5/34, E OFF TANEGASHIMA ISLAND*
JMA Felt I J1 at E OFF TANEGASHIMA ISLAND.
NIED ***20*** *13:40:54.8, 30°.61N×132°.07E, h61km, MW5.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁷Nm; Mrr-2.32; Mθθ 0.74; Mϕϕ 1.58; Mrθ 1.30; Mθϕ 0.20; Mϕr-0.52; Fault plane solution: Mo2.26000×10¹⁷ NP1: ϕs346.00000°, δ54.00000°, λ-115.00000°. NP2: ϕs205.00000°, δ43.00000°, λ-59.00000°.*
NEIC ***20*** *13:40:54.6±1.4, 30°.62N±0°.05×132°.08E±0°.07, h10km±1km, mb5.5/114, Ms_20 5.2/613, Mwb5.3/42, Mww5.5/49 Error ellipse: s-maj=10.5km s-min=9.0km az=292.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.87; Mθθ-0.06; Mϕϕ 0.93; Mrθ 0.34; Mθϕ 0.07; Mϕr-0.37; Fault plane solution: Mo1.03000×10¹⁷ NP1: ϕs344.61000°, δ58.75000°, λ-111.96000°. NP2: ϕs202.47000°, δ37.54000°, λ-58.35000°. Principal axes: T 1.0007, Plg11.0000°, Azm90.0000°; N 0.0587, Plg19.0000°, Azm356.0000°; P -1.0594, Plg68.0000°, Azm210.0000°;*
NEIC ***20*** *13:40:54.7, 30°.63N×132°.04E, h10km*
NEIC ***20*** *13:40:54.7, 30°.63N×132°.27E, h12km, Moment Tensor Solution. Duration: 2≌9 Moment tensor: Scale 10¹⁷Nm; Mrr-1.89; Mθθ-0.06; Mϕϕ 1.95; Mrθ-0.33; Mθϕ 0.20; Mϕr-0.69; Fault plane solution: Mo2.08000×10¹⁷ NP1:ϕs13.04000°, δ55.74000°, λ-81.34000°. NP2:ϕs177.90000°, δ35.21000°, λ-102.47000°. Principal axes: T 2.0972, Plg10.0000°, Azm97.0000°; N -0.0444, Plg7.0000°, Azm188.0000°; P -2.0529, Plg77.0000°, Azm312.0000°;*
IPGP ***20*** *13:40:54.0, 30°.63N×132°.07E, h21km, Mw5.5, Fault plane solution: NP1:ϕs4.00000°, δ53.00000°, λ-88.00000°. NP2:ϕs181.00000°, δ37.00000°, λ-92.00000°.*
NEIC ***20*** *13:40:54.7, 30°.63N×132°.04E, h12km*
BGR ***20*** *13:40:55.1, 31°.40N×133°.35E, h16km, mb5.9, mB_BB6.3, Ms5.4*
GCMT ***20*** *13:40:57.6±0.1, 30°.77N±0°.01×132°.14E±0°.01, h12km, MW5.5/154, Moment Tensor Solution. s128,c216; s154,c303; Duration: 1≌4 Moment tensor: Scale 10¹⁷ Nm; Mrr-2.14±.02; Mθθ-0.02±.02; Mϕϕ 2.17±.02; Mrθ 0.92±.06; Mθϕ 0.40±.02; Mϕr 0.31±.05; Best double couple: Mo2.39100×10¹⁷ NP1:ϕs209.00000°, δ54.00000°, λ-66.00000°. NP2:ϕs352.00000°, δ42.00000°, λ-119.00000°. Principal axes: T 2.2930, Plg6.0000°, Azm282.0000°; N 0.2020, Plg19.0000°, Azm15.0000°; P -2.4880, Plg70.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 13:40:54.9±0.4, 30°.62N±0°.03×132°.08E±0°.03, h14km±2km, h14km:pP-P, n1477, σ1°58/1227, mb5.5/261, MS5.2/416, 62C-41D, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.95**	**272**	⇓*i*P	**Pb**	**13 41 12.2**	**-1.0**
JTN				⇓*e*S	**Sg**	**13 41 25.6**	**-0.1**
JTN	**Tanegashima 3**	**0.95**	**272**	A	A	13 41 12.2	
	comp=E,178nm,4.9s,comp=N,149nm,5.3s						
JMTN	**Minamitane**	**1.04**	**258**	⇓*i*P	**Pb**	**13 41 13.6**	**-1.1**
JMTN				⇓*e*S	**Sb**	**13 41 27.2**	**-1.1**
JMTN	**Minamitane**	**1.04**	**258**	A	A	13 41 13.6	
	comp=E,108nm,3.8s,comp=N,123nm,3.6s						
JTSR	**Tashiro 2**	**1.13**	**299**	⇓*e*P	**Pb**	**13 41 14.3**	**-2.0**
JTSR				⇓S	**Sb**	**13 41 29.6**	**-1.4**
JTSR	**Tashiro 2**	**1.13**	**299**	A	A	13 41 14.3	
	comp=E,113nm,3.4s,comp=N,133nm,3.2s						
JNAR	**Kushima--Naru**	**1.14**	**323**	*i* P	**Pb**	**13 41 15.1**	**-1.3**
JNAR				*e*S	**Sb**	**13 41 30.1**	**-1.0**
JNAR	**Kushima--Naru**	**1.14**	**323**	A	A	13 41 15.1	
	comp=E,156nm,4.5s,comp=N,149nm,4.3s						
JNKG	**Nichinankitago**	**1.20**	**330**	*i* P	**Pn**	**13 41 15.9**	**-1.4**
JNKG				*e*S	**Sb**	**13 41 31.4**	**-1.4**
JNKG	**Nichinankitago**	**1.20**	**330**	A	A	13 41 15.9	
	comp=E,161nm,2.8s,comp=N,127nm,2.3s						
JYAK	**Yakushimahirau**	**1.41**	**255**	⇓*i*P	**Pn**	**13 41 18.5**	**-1.7**
JYAK	**Yakushimahirau**	**1.41**	**255**	A	A	13 41 18.5	
	comp=E,59nm,3.8s,comp=N,55nm,4.3s						
JTZ	**Takazaki**	**1.53**	**327**	*i* P	**Pn**	**13 41 20.6**	**-1.3**
JTZ				*e*S	**Sn**	**13 41 40.0**	**-1.6**
JTZ	**Takazaki**	**1.53**	**327**	A	A	13 41 20.6	
	comp=E,85nm,3.1s,comp=N,78nm,3.6s						
JKC	**Kuchinoerabu**	**1.63**	**265**	⇓P	**Pn**	**13 41 21.8**	**-1.5**
JKC	**Kuchinoerabu**	**1.63**	**265**	A	A	13 41 21.8	
	comp=E,68nm,4.2s,comp=N,69nm,4.7s						
JSU	**Suzuyama**	**1.65**	**303**	P	**Pn**	**13 41 21.8**	**-1.7**
JSU	**Suzuyama**	**1.65**	**303**	A	A	13 41 21.8	
	comp=E,59nm,3.8s,comp=N,58nm,3.9s						
JTSN	**Tsuno**	**1.69**	**343**	⇓P	**Pn**	**13 41 22.8**	**-1.3**
JTSN				⇓*e*S	**Sn**	**13 41 43.5**	**-2.0**
JTSN	**Tsuno**	**1.69**	**343**	A	A	13 41 22.8	
	comp=E,70nm,4.0s,comp=N,59nm,3.0s						
JHHC	**Hyugahichiya**	**1.85**	**348**	A	A	13 41 25.1	
	comp=E,35nm,3.6s,comp=N,64nm,2.3s						
JZO	**Okuchi**	**1.97**	**320**	A	A	13 41 26.6	
	comp=E,58nm,3.2s,comp=N,53nm,4.0s						
JNN	**Nakanoshima**	**2.06**	**248**	*e*P	**Pn**	**13 41 27.7**	**-1.5**
JNN	**Nakanoshima**	**2.06**	**248**	A	A	13 41 27.7	
	comp=E,61nm,3.4s,comp=N,61nm,3.8s						
JKIT	**Kitakata**	**2.07**	**345**	A	A	13 41 28.1	
	comp=E,35nm,4.3s,comp=N,41nm,3.3s						
JSKE	**Saikikamae**	**2.17**	**356**	A	A	13 41 29.6	
	comp=E,25nm,3.1s,comp=N,28nm,2.7s						
JIU3	**Izumi3**	**2.20**	**331**	P	**Pn**	**13 41 30.3**	**-0.9**
JIU3	**Izumi3**	**2.20**	**331**	A	A	13 41 30.3	
	comp=N,42nm,2.2s						
JSJ	**Shimokoshiki**	**2.28**	**298**	A	A	13 41 31.0	
	comp=E,28nm,3.3s,comp=N,28nm,2.9s						
JHD	**Hondo**	**2.48**	**318**	A	A	13 41 33.8	
	comp=E,54nm,3.8s,comp=N,45nm,3.9s						
JNU	**Nakatsue**	**2.69**	**338**	Pn	**Pn**	**13 41 37.0**	**-0.9**
JNU	**Nakatsue**	**2.69**	**338**	P	**Pn**	**13 41 38.3**	**+0.4**
JNU	**Nakatsue**	**2.69**	**338**	A	A	13 41 36.9	
	comp=E,31nm,7.3s,comp=N,32nm,3.7s						
JNU	**Nakatsue**	**2.69**	**338**	Pn	**Pn**	**13 41 37.2**	**-0.7**
	comp=N,106nm,0.3s,baz=185,slow=5.6,SNR=383						
JNU				Sn	**Sn**	**13 42 10.5**	**+0.2**
	comp=N,196nm,0.3s,baz=185,slow=8.0,SNR=4.7 comp=N,556nm,0.4s						
JBEP	**Beppuamama**	**2.77**	**348**	A	A	13 41 37.9	
	comp=E,55nm,2.2s,comp=N,62nm,2.2s						
NGSJ	**Nagasakinomoza**	**2.79**	**316**	A	A	13 41 38.2	
	comp=E,27nm,3.6s,comp=N,25nm,3.0s						
JTAJ	**Takarajima**	**2.90**	**240**	A	A	13 41 39.4	
	comp=E,21nm,4.4s,comp=N,23nm,4.1s						
JZK	**Kikaishima**	**2.94**	**219**	A	A	13 41 40.0	
	comp=E,78nm,4.0s,comp=N,80nm,4.3s						
JKI	**Kunimi**	**3.03**	**352**	A	A	13 41 41.7	
	comp=E,47nm,3.0s,comp=N,38nm,2.9s						
JAM	**Amami Oshima**	**3.08**	**225**	A	A	13 41 42.0	
	comp=E,16nm,4.7s,comp=N,14nm,4.1s						
JFA	**Akaike**	**3.27**	**341**	A	A	13 41 45.0	
	comp=E,28nm,3.1s,comp=N,19nm,3.3s						
JKD	**Kudamatsu**	**3.43**	**357**	A	A	13 41 47.2	
	comp=E,16nm,4.5s,comp=N,16nm,3.9s						
JMN	**Monobe**	**3.45**	**26**	Pn	**Pn**	**13 41 47.3**	**-1.0**
JMN	**Monobe**	**3.45**	**26**	P	**Pn**	**13 41 48.3**	**0.0**
JAMN	**Amaminishikomi**	**3.47**	**228**	A	A	13 41 47.4	
	comp=E,15nm,4.6s,comp=N,8.0nm,4.9s						
JTU	**Tsushima**	**4.50**	**331**	Pn	**Pn**	**13 42 02.8**	**+0.1**
JTU	**Tsushima**	**4.50**	**331**	P	**Pn**	**13 42 03.0**	**+0.3**
JMZ	**Minamidaito 2**	**4.84**	**189**		**Pn**	**13 42 06.0**	**-1.4**
JMZ	**Minamidaito 2**	**4.84**	**189**	P	**Pn**	**13 42 06.5**	**-0.9**
JOW	**Kunigami**	**5.04**	**222**	Pn	**Pn**	**13 42 08.4**	**-1.8**
JOW	**Kunigami**	**5.04**	**222**	P	**Pn**	**13 42 09.0**	**-1.2**
JOW	**Kunigami**	**5.04**	**222**	Pn	**Pn**	**13 42 09.4**	**-0.8**
	comp=N,24nm,0.3s,baz=87,slow=12,SNR=47						
JOW				Sn	**Sn**	**13 43 03.6**	**-4.7**
	comp=N,41nm,0.3s,baz=186,slow=29,SNR=6.9 comp=N,68nm,0.3s						
INU	**Inuyama**	**6.28**	**40**		**Pn**	**13 42 27.2**	**+0.1**
INU	**Inuyama**	**6.28**	**40**	P	**Pn**	**13 42 28.8**	**+1.7**
JSG	**Sagara**	**6.54**	**50**	Pn	**Pn**	**13 42 31.4**	**+0.7**
JSG	**Sagara**	**6.54**	**50**	P	**Pn**	**13 42 31.6**	**+0.8**
TJN	**Taejon**	**6.96**	**327**	Pn	**Pn**	**13 42 36.6**	**+0.2**
TJN	**Taejon**	**6.96**	**327**	P	**Pn**	**13 42 37.5**	**+1.0**
TJN	**Taejon**	**6.96**	**327**	*ce*P	**Pn**	**13 42 37.0**	**+0.5**
JHJ	**Hachijo jima 2**	**7.01**	**67**	Pn	**Pn**	**13 42 37.0**	**-0.2**
	comp=N,39nm,0.3s,baz=266,slow=14,SNR=13						
JHJ				Sn	**Sn**	**13 43 56.2**	**-0.4**
	baz=302,slow=12 comp=N,69nm,0.3s						
JHJ2	**Mitsune**	**7.03**	**67**	Pn	**Pn**	**13 42 36.3**	**-1.2**
KSRS	**Korea Array**	**7.64**	**334**	Pn	**Pn**	**13 42 46.0**	**+0.2**
	comp=E,21nm,0.3s,baz=154,slow=14,SNR=26 comp=N,10nm,0.8s						
KSAR	**Wonju Array Be**	**7.64**	**334**	Pn	**Pn**	**13 42 46.4**	**+0.6**
KSAR	**Wonju Array Be**	**7.64**	**334**	P	**Pn**	**13 42 46.4**	**+0.6**
KS19	**Wonju Array Si**	**7.70**	**334**		**Pn**	**13 42 46.2**	**-0.5**
MAJO	**Matsushiro**	**7.81**	**39**	Pn	**Pn**	**13 42 48.8**	**+0.6**
MAJO	**Matsushiro**	**7.81**	**39**	P	**Pn**	**13 42 49.1**	**+0.9**
MAJO	**Matsushiro**	**7.81**	**39**	*ce*P	**Pn**	**13 42 48.8**	**+0.6**
MJAR	**Matsushiro Arr**	**7.81**	**39**	Pn	**Pn**	**13 42 48.2**	**+0.1**
	comp=N,2.9nm,0.3s,baz=242,slow=14,SNR=140 comp=N,21nm,0.4s						
MJB9	**Matsu-Tunnel**	**7.81**	**39**		**Pn**	**13 42 49.3**	**+1.2**
INCN	**Inchon**	**8.20**	**328**	Pn	**Pn**	**13 42 54.6**	**+1.1**
INCN	**Inchon**	**8.20**	**328**	P	**Pn**	**13 42 55.1**	**+1.6**
INCN	**Inchon**	**8.20**	**328**	P	**Pn**	**13 42 54.6**	**+1.1**
SSE	**Sheshan**	**9.38**	**276**	P	**Pn**	**13 43 10.6**	**+1.0**
SSE				S	**Sn**	**13 44 56.1**	**+1.2**
SSE				pmax	pmax		
	comp=N,24nm,0.8s						
SSE				pmax	pmax		
	comp=N,410nm,3.8s						
SSE				LR	LR		
	comp=N,7μm,12.5s						
SSE				LR	LR		
	comp=N,6μm,12.7s						
JCJ	**Chichijima**	**9.53**	**109**	Pn	**Pn**	**13 43 09.8**	**-2.0**
JCJ	**Chichijima**	**9.53**	**109**	Pn	Pn	13 43 04.4	-7.4
	comp=N,7.0nm,0.3s,baz=178,slow=12,SNR=2.7						
JCJ				Sn	Sn	13 44 48.0	-11
	comp=N,4.1nm,0.3s,baz=279,slow=22,SNR=1.6						
JMM	**Marumori**	**10.20**	**43**		**Pn**	**13 43 22.0**	**+1.0**
JMM	**Marumori**	**10.20**	**43**	P	**Pn**	**13 43 24.8**	**+3.8**
YHNB	**Yeheng**	**11.19**	**241**		**Pn**	**13 43 34.6**	**0.0**
YHNB	**Yeheng**	**11.19**	**241**	P	**Pn**	**13 43 36.8**	**+2.2**
NACB	**Ninganchiao**	**11.31**	**238**	Pn	**Pn**	**13 43 34.9**	**-1.3**
DL2	**Dalian**	**11.91**	**317**	P	**Pn**	**13 43 46.4**	**+2.0**
DL2				S	**Sn**	**13 45 59.4**	**+2.3**
DL2				pmax	pmax		
	comp=N,52nm,1.2s						
DL2				pmax	pmax		
	comp=N,850nm,8.8s						
DL2				LR	LR		
	comp=N,6μm,9.8s						
DL2				LR	LR		
	comp=N,14μm,14.7s						
DL2				LR	LR		
	comp=N,12μm,14.2s						
MSHR	**Mys Shultsa**	**11.96**	**357**	⇑*e*P	**Pn**	**13 43 46.5**	**+1.6**
YULB	**Yu-li**	**12.01**	**236**		**Pn**	**13 43 43.8**	**-1.9**
SSLB	**Suanglung**	**12.01**	**238**		**Pn**	**13 43 45.0**	**-0.8**
SSLB	**Suanglung**	**12.01**	**238**	P	**Pn**	**13 43 48.2**	**+2.4**
JTM	**Tenmabayashi**	**12.49**	**33**		**Pn**	**13 43 52.3**	**+0.1**
TWGBT	**Beinan**	**12.53**	**234**	P	**Pn**	**13 43 53.7**	**+0.9**
TWG	**Pinlang**	**12.53**	**234**		**Pn**	**13 43 50.5**	**-2.3**
SNY	**Shenyang**	**13.11**	**331**	⇓P	**Pn**	**13 44 04.3**	**+3.6**
SNY				S	**Sn**	**13 46 34.1**	**+7.8**
SNY				pmax	pmax		
	comp=N,69nm,1.6s						
SNY				LR	LR		
	comp=N,7μm,14.7s						
SNY				LR	LR		
	comp=N,10μm,13.1s						
SNY				LR	LR		
	comp=N,15μm,13.5s						
QZH	**Quanzhou**	**13.21**	**248**	P	**Pn**	**13 44 03.8**	**+1.7**
QZH				LR	LR		
	comp=N,16μm,13.2s						
QZH				LR	LR		
	comp=N,22μm,12.8s						
QZH				LR	LR		
	comp=N,18μm,11.8s						
USA0B	**Ussuriysk Arra**	**13.55**	**360**		**Pn**	**13 44 08.8**	**+2.1**
USA0B	**Ussuriysk Arra**	**13.55**	**360**	P	**Pn**	**13 44 08.8**	**+2.1**
USRK	**Ussuriysk Ar.**	**13.55**	**360**		**Pn**	**13 44 08.6**	**+1.9**
USRK	**Ussuriysk Ar.**	**13.55**	**360**	P	**Pn**	**13 44 08.6**	**+1.9**
USRK	**Ussuriysk Ar.**	**13.55**	**360**	Pn	**Pn**	**13 44 09.5**	**+2.8**
	comp=N,0.4nm,0.3s,baz=188,slow=12,SNR=13						
TIA	**Tai'an**	**13.68**	**298**	P	**Pn**	**13 44 09.8**	**+1.4**
TIA				pmax	pmax		
	comp=N,59nm,2.6s						
TIA				pmax	pmax		
	comp=N,1μm,3.5s						
TIA				LR	LR		
	comp=N,16μm,10.2s						
TIA				LR	LR		
	comp=N,13μm,12.2s						
TIA				LR	LR		
	comp=N,16μm,10.8s						
MDJ	**Mudanjiang**	**14.11**	**353**	P	**Pn**	**13 44 16.6**	**+2.3**
MDJ	**Mudanjiang**	**14.11**	**353**	P	**Pn**	**13 44 15.5**	**+1.2**
MDJ				pP	P	13 44 24.5	+2.5
MDJ				S	**Sn**	**13 46 52.0**	**+1.4**
MDJ				SS	**SnSn**	**13 47 07.0**	**+3.7**
MDJ				PcS	**PcS**	**13 53 07.3**	**-1.0**
MDJ				ScS	**ScS**	**13 56 38.4**	**-5.6**
MDJ				pmax	pmax		
	comp=N,15nm,2.3s						
MDJ				pmax	pmax		
	comp=N,730nm,4.0s						
MDJ				LR	LR		
	comp=N,15μm,11.2s						
MDJ				LR	LR		
	comp=N,17μm,11.4s						
MDJ				LR	LR		
	comp=N,15μm,11.2s						
CN2	**Changchun**	**14.17**	**340**	*e*P	**Pn**	**13 44 18.1**	**+2.9**
CN2				*es*P	P	13 44 24.0	+1.4
CN2				*e*S	**Sn**	**13 46 56.6**	**+4.5**
CN2				pmax	pmax		
	comp=N,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=N,400nm,4.0s						
CN2				LR	LR		
	comp=N,24μm,15.0s						
CN2				LR	LR		
	comp=N,19μm,15.0s						
CN2				LR	LR		
	comp=N,23μm,13.0s						
ERM	**Erimo**	**14.44**	**35**	Pn	**Pn**	**13 44 19.0**	**+0.2**
ERM	**Erimo**	**14.44**	**35**	*de*P	**Pn**	**13 44 19.7**	**+0.8**
ERM				pmax	pmax		
	comp=Z,193nm,1.5s						
TEY	**Ternei**	**14.82**	**13**	⇑*e*P	**P**	**13 44 29.6**	**-0.3**
TEY						13 47 18.9	
TEY				pmax	pmax		
	comp=E,100nm,2.5s						
TEY				pmax	pmax		
	comp=N,300nm,2.3s						
TEY				pmax	pmax		
	comp=Z,300nm,2.4s						
TEY				pmax	pmax		
	comp=E,10.0nm,2.6s						
TEY				pmax	pmax		
	comp=N,30nm,2.0s						
TEY				pmax	pmax		
	comp=Z,50nm,1.3s						
WHN	**Wuhan**	**15.28**	**274**	P	**P**	**13 44 33.6**	**-1.4**
WHN				S	**S**	**13 47 30.8**	**-5.0**
WHN				LR	LR		
	comp=Z,16μm,12.3s						
WHN				LR	LR		
	comp=Z,18μm,10.9s						
WHN				LR	LR		
	comp=Z,19μm,13.1s						
BNX	**BinXian**	**15.53**	**348**	⇓P	**P**	**13 44 35.6**	**-2.1**
BNX				S	**S**	**13 47 32.8**	**-8.0**
BNX				pmax	pmax		
	comp=Z,31nm,1.0s						
BNX				pmax	pmax		
	comp=Z,1μm,11.1s						
BNX				LR	LR		
	comp=Z,15μm,11.9s						
BNX				LR	LR		
	comp=Z,5μm,11.6s						
BNX				LR	LR		
	comp=Z,16μm,11.5s						
ASAJ	**Asahikawa**	**15.83**	**29**	P	**Pn**	**13 44 37.0**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,120nm,1.9s						
ASAJ	**Asahikawa**	**15.83**	**29**	Pn	**Pn**	**13 44 35.6**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=223,slow=27,SNR=2.3						
ASAJ				LR	LR	13 50 50.3	
	comp=Z,5μm,21.1s,baz=202,slow=38 comp=Z,20nm,1.1s						
JKA	**Kamikawa-asahi**	**15.83**	**29**		**Pn**	**13 44 37.0**	**-0.4**
HNS	**HongShan**	**15.90**	**300**	⇑P	**Pn**	**13 44 38.4**	**+0.1**
HNS				S	**Sn**	**13 47 40.8**	**+6.4**
HNS				SS	**S**	**13 47 54.4**	**+5.9**
HNS				pmax	pmax		
	comp=Z,280nm,1.2s						
HNS				LR	LR		
	comp=Z,1μm,9.9s

LYN LR LR
comp=Z,13μm,18.9s
LYN LR LR
comp=Z,10μm,23.8s
LYN LR LR
comp=Z,18μm,21.2s
YUK Yuzh-Kuril'sk 17.27 35 *e*P **Pn 13 44 54.6 -1.0**
YUK S **Sn 13 48 08.7 +1.3**
YUK pmax pmax
comp=Z,320nm,2.0s
YUK pmax pmax
comp=N,217nm,1.3s
YUK pmax pmax
comp=E,167nm,1.3s
TIY Taiyuan 17.71 299 ⇑P **P 13 45 04.3 +2.2**
TIY S **S 13 48 25.8 +0.2**
TIY SS **SnSn 13 48 40.5 +8.6**
TIY pmax pmax
comp=E,53nm,0.6s
TIY pmax pmax
comp=E,3μm,3.5s
TIY LR LR
comp=E,8μm,16.4s
TIY LR LR
comp=E,6μm,13.2s
TIY LR LR
comp=E,5μm,17.6s
YSS Yuzh-Sakhalins 18.28 24 P **Pn 13 45 07.5 -0.5**
YSS Yuzh-Sakhalins 18.28 24 P **P 13 45 12.8 +4.7**
YSS Yuzh-Sakhalins 18.28 24 *e*P **P 13 45 07.9 -0.2**
YSS *e*S **Sn 13 48 23.4 -8.4**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS pmax pmax
comp=Z,600nm,5.4s
YSS MLR MLR
comp=N,7μm,15.0s
YSS MLR MLR
comp=Z,10μm,15.0s
YSS MLR MLR
comp=E,4μm,16.0s
GZH Guangzhou 18.31 250 P **Pn 13 45 02.0 -6.6**
GZH S Sn 13 48 21.1 -12
GZH pmax pmax
comp=E,73nm,0.9s
GZH LR LR
comp=E,8μm,13.7s
GZH LR LR
comp=E,6μm,11.8s
GZH LR LR
comp=E,6μm,11.5s
XLT XiLinHaoTe 18.34 321 *e*P **P 13 45 09.6 +0.7**
XLT S **S 13 48 37.3 -0.9**
XLT sS sS 13 48 44.0 +0.5
XLT pmax pmax
comp=E,130nm,2.7s
XLT pmax pmax
comp=E,2μm,4.0s
XLT LR LR
comp=E,13μm,13.8s
XLT LR LR
comp=E,16μm,14.0s
KLR Kul'dur 18.59 359 *ce*P **Pn 13 45 11.7 -0.1**
KLR pmax pmax
comp=Z,558nm,2.5s
KLR MLR MLR
comp=Z,6μm,16.0s
KLR Kul'dur 18.59 359 P **P 13 45 10.5 -1.0**
comp=Z,1.2nm,0.3s,baz=169,slow=7.0,SNR=62
comp=Z,53nm,0.9s
ENH Enshi 19.48 275 P **P 13 45 21.9 +0.3**
HHC Hu-ho-hao-te 19.49 307 *e*P **P 13 45 21.8 +0.1**
HHC sP pwP 13 45 29.3 +1.7
HHC S **Sn 13 48 57.3 -4.1**
HHC pmax pmax
comp=Z,73nm,1.3s
HHC pmax pmax
comp=Z,2μm,7.7s
HHC LR LR
comp=Z,23μm,11.5s
HHC LR LR
comp=Z,27μm,11.5s
HHC LR LR
comp=Z,40μm,12.2s
XAN Xi'an 19.86 286 ⇓P **P 13 45 24.0 -1.6**
XAN pP pP 13 45 28.5 -0.5
XAN S **S 13 49 03.3 -5.6**
XAN pmax pmax
comp=Z,73nm,0.7s
XAN pmax pmax
comp=Z,2μm,3.5s
XAN LR LR
comp=Z,23μm,12.7s
XAN LR LR
comp=Z,14μm,11.7s
XAN LR LR
comp=Z,16μm,13.3s
GULI GuiLin 19.89 260 ⇑P Pn 13 45 34.8 +7.1
GULI S Sn 13 49 23.8 +13
GULI pmax pmax
comp=Z,50nm,1.6s
GULI LR LR
comp=N,11μm,21.7s
GULI LR LR
comp=E,4μm,21.7s
GULI LR LR
comp=Z,5μm,23.9s
HEH HeiHe 19.92 351 *e*P **P 13 45 25.6 -0.5**
HEH pP **pP 13 45 29.0 -0.5**
HEH S **S 13 49 06.4 -3.4**
HEH pmax pmax
comp=Z,40nm,1.1s
HEH pmax pmax
comp=Z,2μm,4.0s
HEH LR LR
comp=Z,6μm,22.9s
HEH LR LR
comp=Z,8μm,20.4s
HEH LR LR
comp=Z,8μm,20.8s
UGL Uglegorsk 19.93 20 *e*P **Pn 13 45 27.5 -0.4**
UGL pmax pmax
comp=Z,90nm,1.6s
UGL MLR MLR
comp=Z,9μm,12.0s
UGL MLR MLR
comp=N,4μm,12.0s
UGL MLR MLR
comp=E,12μm,14.0s
GRNR Gornyy 20.39 8 ⇓*i*P **P 13 45 29.0 -2.2**
GRNR pmax pmax
comp=N,20nm,1.1s
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=N,7μm,14.0s
GRNR MLR MLR
comp=Z,9μm,14.0s
BTO Baotou 20.47 305 *e*P Pn 13 45 34.5 +0.1
BTO pP pwP 13 45 39.1 +0.8
BTO sP sP 13 45 42.3 +5.2
BTO PP **PnPn 13 45 57.0 +7.4**
BTO S **S 13 49 22.6 +1.5**
BTO sS pS 13 49 32.5 +1.1
BTO SS **SnSn 13 49 49.8 +10**
BTO pmax pmax
comp=Z,160nm,2.2s
BTO pmax pmax
comp=Z,3μm,3.4s
BTO LR LR
comp=Z,21μm,13.9s
BTO LR LR
comp=Z,17μm,13.6s
BTO LR LR
comp=Z,22μm,14.3s
GUMO Guam 20.65 142 LR LR 13 53 02.1
comp=Z,2μm,18.5s,baz=332,slow=35
HIA Hailar 20.84 337 P **P 13 45 35.0 -1.1**
HIA Hailar 20.84 337 IAMs_20 IAMs_20 13 54 58.2
comp=Z,8μm,18.0s
HIA Hailar 20.84 337 P **P 13 45 36.6 +0.5**
HIA Hailar 20.84 337 *ce*P **P 13 45 35.9 -0.2**
HIA pmax pmax
comp=Z,82nm,1.1s
TYV Tymovskoe 21.71 18 *e*P **P 13 45 48.9 +3.5**
TYV *e*S Sn 13 49 54.2 -0.2
TYV pmax pmax
comp=Z,35nm,1.3s
TYV pmax pmax
comp=Z,700nm,3.0s
TYV MLR MLR
comp=Z,8μm,13.0s
TYV MLR MLR
comp=E,11μm,15.0s
GYA Guiyang 22.69 266 ⇓*i*P **P 13 45 56.4 0.0**
GYA pP pwP 13 46 05.0 +2.4
GYA PP **PnPn 13 46 23.6 +3.4**
GYA S **S 13 49 58.8 -5.7**
GYA pmax pmax
comp=E,68nm,1.3s
GYA pmax pmax
comp=E,1μm,3.8s
GYA LR LR
comp=E,13μm,13.6s
GYA LR LR
comp=E,4μm,13.0s
GYA LR LR
comp=E,7μm,16.9s
QIZ Qiongzhong 23.20 245 P **P 13 46 00.5 -1.0**
QIZ PcP **PcP 13 49 48.3 -1.3**
QIZ S **S 13 50 12.3 -0.8**
QIZ pmax pmax
comp=E,31nm,1.9s
QIZ pmax pmax
comp=E,1μm,4.9s
QIZ LR LR
comp=E,9μm,15.0s
QIZ LR LR
comp=E,7μm,14.0s
QIZ LR LR
comp=E,6μm,15.7s
ZEA Zeya 23.36 353 *e*P **P 13 46 00.3 -2.6**
ZEA *e*S **S 13 50 04.8 -10**
ZEA pmax pmax
comp=N,200nm,1.8s
ZEA pmax pmax
comp=Z,400nm,2.0s
ZEA pmax pmax
comp=N,50nm,1.2s
ZEA pmax pmax
comp=Z,100nm,1.2s
ZEA smax smax
comp=N,800nm,13.5s
ZEA MLR MLR
comp=E,3μm,12.0s
ZEA MLR MLR
comp=N,5μm,11.0s
ZEA MLR MLR
comp=Z,4μm,11.0s
NKL Nikolayevsk 23.37 13 *e*P **P 13 46 01.3 -1.6**
NKL *e*S **S 13 50 17.6 +2.4**
NKL pmax pmax
comp=N,308nm,1.5s
NKL pmax pmax
comp=E,147nm,1.5s
NKL pmax pmax
comp=Z,555nm,1.5s
NKL smax smax
comp=E,503nm,3.0s
NKL smax smax
comp=N,557nm,4.0s
NKL MLR MLR
comp=N,27μm,13.0s
NKL MLR MLR
comp=E,19μm,13.0s
NKL MLR MLR
comp=Z,38μm,13.0s
LZH Lanzhou 24.16 291 ⇑P **P 13 46 09.8 -1.1**
LZH pP sP 13 46 15.3 -0.6
LZH sP pwP 13 46 19.3 +1.7
LZH sS sS 13 50 34.6 -0.2
LZH pmax pmax
comp=Z,52nm,1.5s
LZH pmax pmax
comp=Z,1μm,5.2s
LZH LR LR
comp=Z,6μm,15.5s
LZH LR LR
comp=Z,6μm,14.8s
LZH LR LR
comp=Z,10μm,15.1s
DAV Davao City (W) 24.21 196 LR LR 13 57 19.6
comp=Z,2μm,18.9s,baz=38,slow=41
CD2 Chengdu 24.32 278 P **P 13 46 10.3 -2.0**
CD2 S **S 13 50 30.8 -0.2**
CD2 SS **SnSn 13 51 20.1 +6.2**
CD2 pmax pmax
comp=Z,100nm,1.2s
CD2 pmax pmax
comp=Z,710nm,3.5s
CD2 LR LR
comp=Z,11μm,12.9s
CD2 LR LR
comp=Z,15μm,11.0s
CD2 LR LR
comp=Z,25μm,11.4s
CIT Chita 25.37 333 *e*P **P 13 46 21.2 -0.4**
CIT *e* 13 46 31.4
CIT *e* 13 47 16.4
CIT pmax pmax
comp=Z,177nm,3.0s
ULN Ulaanbaatar 25.75 319 P **P 13 46 23.1 -2.1**
ULN IAmb IAmb 13 46 29.2
comp=Z,122nm,1.1s
ULN Ulaanbaatar 25.75 319 IAMs_20 IAMs_20 13 57 38.0
comp=Z,10μm,20.0s
ULN Ulaanbaatar 25.75 319 *di*P **P 13 46 22.9 -2.3**
ULN pmax pmax
comp=Z,35nm,0.8s
SONM Songino Array 26.11 318 P **P 13 46 27.0 -1.5**
SONM Songino Array 26.11 318 P **P 13 46 27.0 -1.5**
SONM pmax pmax
comp=Z,60nm,1.3s
SONM Songino Array 26.11 318 P **P 13 46 26.4 -2.1**
comp=Z,16nm,0.8s,baz=134,slow=8.7,SNR=51
SONM LR LR 13 58 01.2
comp=Z,11μm,20.9s,baz=120,slow=40
comp=Z,16nm,0.8s
KMI Kunming 26.47 265 ⇑P **P 13 46 32.9 +0.9**
KMI PP **PnPn 13 47 15.4 +3.5**
KMI S **S 13 51 07.4 +1.7**
KMI pmax pmax
comp=Z,30nm,0.9s
KMI pmax pmax
comp=Z,460nm,8.6s
KMI LR LR
comp=Z,8μm,13.5s
KMI LR LR
comp=Z,4μm,12.7s
KMI LR LR
comp=Z,6μm,13.5s
PZH PanZhiHua 26.92 269 P **P 13 46 35.6 -0.4**
PZH S **S 13 51 11.9 -0.7**
PZH pmax pmax
comp=Z,40nm,1.2s
PZH pmax pmax
comp=Z,350nm,4.1s
PZH LR LR
comp=Z,6μm,12.9s
PZH LR LR
comp=Z,4μm,13.9s
PZH LR LR
comp=Z,5μm,13.7s
GTA Gaotai 27.73 297 ⇑P **P 13 46 41.6 -1.5**
GTA pP pP 13 46 47.1 +0.5
GTA pmax pmax
comp=Z,430nm,3.5s
GTA LR LR
comp=Z,5μm,21.1s
GTA LR LR
comp=Z,3μm,21.8s
GTA LR LR
comp=Z,5μm,24.0s
MYLDM Lahad Datu 28.36 209 P **P 13 46 50.0 +1.3**
MYLDM IAmb IAmb 13 46 56.8
comp=Z,159nm,1.3s
UBPT Khong Chiam 28.77 244 P **P 13 46 53.1 +0.7**
UBPT IAmb IAmb 13 46 58.6
comp=Z,209nm,1.9s
UBPT Khong Chiam 28.77 244 P **P 13 46 54.2 +1.8**
NONG Nongkai 29.08 251 P **P 13 46 56.9 +1.7**
PEA0B Petropavlovsk- 29.19 32 P **P 13 46 55.3 -0.6**
PEA0B IAmb IAmb 13 47 43.0
comp=Z,98nm,1.2s
PEA0B IAMs_20 IAMs_20 13 59 58.4
comp=Z,5μm,19.0s
PEA0B Petropavlovsk- 29.19 32 ⇑*e*P **P 13 46 55.9 +0.1**
PETK Petropavlovsk- 29.19 32 P **P 13 46 55.7 -0.1**
PETK Petropavlovsk- 29.19 32 P **P 13 46 55.7 -0.1**
PETK Petropavlovsk- 29.19 32 P **P 13 46 55.5 -0.3**
comp=Z,21nm,1.0s,baz=221,slow=6.5,SNR=7.9
PETK LR LR 14 00 18.4
comp=Z,4μm,18.3s,baz=228,slow=40
comp=Z,21nm,1.0s
ZAK Zakamensk 29.19 321 *e*P **P 13 46 53.8 -2.2**
ZAK *e* 13 50 01.0
ZAK pmax pmax
comp=Z,18nm,1.3s
PET pmax pmax
comp=Z,77nm,1.8s
PET pmax pmax
comp=Z,700nm,9.0s
PET MLR MLR
comp=Z,3μm,16.0s
PET MLR MLR
comp=Z,3μm,15.0s
BOD Bodaibo 29.92 341 *e*P **P 13 47 01.6 -0.6**
BOD pmax pmax
comp=Z,51nm,1.9s
TNTI Ternate 30.02 189 P **P 13 47 06.2 +2.7**
comp=Z,48nm,1.0s
TNCH TengChong 30.13 268 ⇓P **P 13 47 04.3 -0.3**
TNCH pP pP 13 47 08.5 +0.3
TNCH sP pwP 13 47 11.1 -0.2
TNCH PP **PnPn 13 48 04.8 +3.0**
TNCH S **S 13 52 00.8 -2.5**
TNCH pmax pmax
comp=Z,19nm,1.5s
TNCH pmax pmax
comp=Z,230nm,3.5s
TNCH LR LR
comp=Z,6μm,13.5s
TNCH LR LR
comp=Z,3μm,15.7s
TNCH LR LR
comp=Z,4μm,20.5s
CRAI Chiangrai 30.36 258 P **P 13 47 05.7 -0.8**
CRAI IAmb IAmb 13 47 11.8
comp=Z,162nm,2.0s
KMSI Cibinong 30.86 196 P **P 13 47 13.1 +2.2**
comp=Z,265nm,1.1s,comp=Z,3μm
TOLI2 Tolitoli 31.25 202 P **P 13 47 14.3 0.0**
TOLI2 Tolitoli 31.25 202 P **P 13 47 16.5 +2.2**
LBMI Labuha 31.39 189 P **P 13 47 18.3 +2.7**
comp=Z,62nm,0.9s,comp=Z,3μm
YAK Yakutsk 31.46 358 P **P 13 47 15.3 -0.4**
YAK Yakutsk 31.46 358 IAMs_20 IAMs_20 14 00 53.1
comp=Z,5μm,18.0s
YAK Yakutsk 31.46 358 *e*P **P 13 47 14.2 -1.5**
YAK *e* 13 48 13.9
YAK *e* 13 50 08.7
YAK *e*S **S 13 52 20.5 -2.4**
YAK *e*SSS SSS 13 54 28.2
YAK pmax pmax
comp=Z,92nm,1.1s
YAK pmax pmax
comp=N,61nm,1.1s
YAK pmax pmax
comp=E,11nm,0.9s
YAK pmax pmax
comp=Z,122nm,2.0s
YAK pmax pmax
comp=N,71nm,1.8s
YAK pmax pmax
comp=E,54nm,2.0s
YAK smax smax
comp=E,388nm,2.8s
YAK smax smax
comp=N,436nm,3.3s
YAK MLR MLR
comp=Z,4μm,17.0s
YAK MLR MLR
comp=N,3μm,15.0s
YAK MLR MLR
comp=E,4μm,16.0s
YAK Yakutsk 31.46 358 LR LR 14 01 01.3
comp=E,228nm,18.7s,baz=170,slow=38
GOMU GeErMu 31.47 290 P **P 13 47 15.1 -1.5**
GOMU PcP **PcP 13 50 09.3 -0.3**
GOMU S S 13 52 14.8 -10
GOMU pmax pmax
comp=E,11nm,0.8s
GOMU pmax pmax
comp=E,420nm,4.1s
GOMU LR LR
comp=E,2μm,17.3s
GOMU LR LR
comp=E,3μm,20.5s
GOMU LR LR
comp=E,5μm,21.1s
MA2 Magadan 31.58 18 P **P 13 47 17.7 +0.8**
MA2 Magadan 31.58 18 P **P 13 47 19.2 +2.3**
MA2 Magadan 31.58 18 *c*P **P 13 47 19.1 +2.2**
MA2 pmax pmax
comp=Z,114nm,2.5s
MA2 Magadan 31.58 18 LR LR 14 01 06.9
comp=Z,3μm,19.6s,baz=218,slow=38
CHTO Chiang Mai 32.20 256 P **P 13 47 21.3 -1.4**
CHTO IAmb IAmb 13 47 25.0
comp=Z,43nm,0.9s
CHTO Chiang Mai 32.20 256 P **P 13 47 21.9 -0.8**
CHTO Chiang Mai 32.20 256 P **P 13 47 21.3 -1.4**
CHTO pmax pmax
comp=Z,43nm,1.0s
CHTO MLR MLR
comp=Z,4μm,21.0s
CM31 Chiang Mai Arr 32.36 256 P **P 13 47 23.4 -0.8**
CMAR Chiang Mai Arr 32.36 256 P **P 13 47 25.0 +0.8**
CMAR Chiang Mai Arr 32.36 256 *ce*P **P 13 47 23.7 -0.5**
CMAR pmax pmax
comp=Z,13nm,1.0s
CMAR Chiang Mai Arr 32.36 256 P **P 13 47 23.5 -0.6**
comp=Z,10.0nm,0.9s,baz=52,slow=6.8,SNR=28
CMAR PcP **PcP 13 50 11.5 -0.4**
comp=Z,4.6nm,0.8s,baz=30,slow=1.7,SNR=5.3
CMAR LR LR 14 03 17.4
comp=Z,3μm,18.5s,baz=60,slow=42
comp=Z,10.0nm,0.9s
NAYO Nakonayok 32.59 247 P **P 13 47 27.9 +1.8**
SANI Sanana 33.01 191 P **P 13 47 28.7 -1.0**
SANI Sanana 33.01 191 P **P 13 47 25.7 -4.0**
comp=Z,34nm,1.0s,comp=Z,833nm
H11N2 WAKE ISLAND Hy 33.20 101 T T 14 22 38.0
baz=296,slow=75,SNR=83
H11N1 WAKE ISLAND Hy 33.20 101 T T 14 22 39.3
baz=296,slow=75,SNR=21
H11N3 WAKE ISLAND Hy 33.22 101 T T 14 22 39.3
baz=296,slow=75,SNR=23
MND Mandalay 33.24 264 P **P 13 47 32.1 +0.3**
FAKI Fak Fak 33.35 180 P **P 13 47 32.4 -0.3**
FAKI Fak Fak 33.35 180 P **P 13 47 32.8 0.0**
FAKI Fak Fak 33.35 180 P **P 13 47 30.1 -2.7**
comp=Z,184nm,1.2s,comp=Z,2μm
H11S3 WAKE ISLAND Hy 33.58 103 T T 14 24 07.2
baz=304,slow=75,SNR=14
H11S1 WAKE ISLAND Hy 33.58 103 T T 14 24 30.1
baz=304,slow=75,SNR=16
H11S2 WAKE ISLAND Hy 33.59 103 T T 14 24 27.0
baz=304,slow=75,SNR=11
JAY Jayapura 33.96 164 P **P 13 47 40.2 +2.1**
JAY pmax pmax
comp=Z,26nm,0.9s
SRDT SRDT 34.33 249 P **P 13 47 44.0 +2.7**
SEY Seymchan 34.86 16 *ce*P **P 13 47 47.9 +2.5**
SEY pmax pmax
comp=Z,49nm,2.5s
SEY Seymchan 34.86 16 LR LR 14 02 44.1
comp=Z,3μm,21.4s,baz=210,slow=38
LSA Lhasa 35.26 279 IAMs_20 IAMs_20 14 03 12.8
comp=Z,6μm,21.0s
SHL Shillong 35.68 272 P **P 13 47 51.4 -1.8**
SHL IAMs_20 IAMs_20 14 04 12.1
comp=Z,3μm,20.0s
SHL Shillong 35.68 272 P **P 13 47 51.4 -1.8**
SHL pmax pmax

SHL — MLR MLR
comp=Z,21nm,0.7s

WMQ Urumqi 37.28 303 *e*P **P 13 48 06.3 -0.2**
WMQ — PP **PnPn 13 49 33.9 +1.9**
WMQ — pmax pmax
comp=Z,34nm,1.5s
WMQ — pmax pmax
comp=Z,260nm,4.5s
WMQ — LR LR
comp=Z,4µm,16.7s
WMQ — LR LR
comp=Z,5µm,19.5s
WMQ — LR LR
comp=Z,6µm,25.5s

KAPI Kappang 37.35 201 LR LR 14 03 23.2
comp=Z,1µm,21.9s,baz=9.5,slow=36
SRIT Nakonsritamara 37.40 241 P **P 13 48 08.5 +0.9**
SRIT Nakonsritamara 37.40 241 P **P 13 48 10.2 +2.5**
SHEM Shemya Is, Ala 37.64 42 LR LR 14 01 44.0
comp=Z,714nm,20.8s,baz=274,slow=33

SAUI Saumlaki 38.39 181 P **P 13 48 16.3 +0.4**
SAUI — IAmb IAmb 13 48 54.0
comp=Z,88nm,0.9s
SAUI Saumlaki 38.39 181 P **P 13 48 19.0 +3.1**
DGZ Jazzator, Alta 38.40 313‖ *e*P **P 13 48 15.0 -1.0**
DGZ — pmax pmax
comp=Z,13nm,0.7s
DGZ — MLR MLR
comp=Z,6µm,23.0s

TAPN Taplejung 38.76 277 *e*P **P 13 48 19.0 -0.5**
KULM Kulim 38.84 236 P **P 13 48 21.0 +1.1**
KULM — IAmb IAmb 13 48 26.3
comp=Z,304nm,2.0s
ODAN Odare 39.17 276 *e*P **P 13 48 23.8 +1.0**
ZSN Zaisan 39.68 309 *e*P **P 13 48 25.1 -1.4**
baz=309
ZSN — *e*S **S 13 54 29.4 -0.1**
baz=309
ZSN Zaisan 39.68 309 *e*P **P 13 48 25.1 -1.4**
ZSN — *e*S **S 13 54 29.4 -0.1**
RAMN Ramite 39.83 276 *e*P **P 13 48 29.3 +1.0**
comp=Z,18nm,0.5s
JIRN Jiri 39.98 278 *e*P **P 13 48 29.8 +0.1**
MMRI Maumere 40.16 195 P **P 13 48 31.5 +0.8**
MMRI — IAmb IAmb 13 48 36.2
comp=Z,107nm,1.1s
MMRI Maumere 40.16 195 P **P 13 48 31.6 +0.8**
comp=Z,90nm,1.2s,comp=Z,2µm
GUN Gumba 40.18 278 *e*P **P 13 48 29.7 -1.6**
EDFI Ende, Flores 40.40 196 P **P 13 48 30.4 -2.4**
comp=Z,42nm,0.9s,comp=Z,834nm
PKI Pulchoki 40.67 278 *e*P **P 13 48 35.9 +0.5**
PKIN Phulchoki 40.68 278 *e*P **P 13 48 35.9 +0.5**
SOEI Soe 40.84 192 P **P 13 48 35.1 -1.5**
SOEI — IAmb IAmb 13 48 56.5
comp=Z,168nm,1.0s
SOEI Soe 40.84 192 P **P 13 48 38.1 +1.6**
SOEI Soe 40.84 192 P **P 13 48 35.0 -1.5**
comp=Z,180nm,1.1s,comp=Z,2µm
DMN Daman 40.92 278 *e*P **P 13 48 37.4 0.0**
PBA Port Blair 40.98 251 IAMs_20 IAMs_20 14 07 46.2
comp=Z,3µm,20.0s
ZAA0 Zalesovo Array 41.01 319 P **P 13 48 36.5 -0.9**
ZALV Zalesovo Beam 41.01 319 P **P 13 48 36.0 -1.4**
ZALV Zalesovo Beam 41.01 319 *i* P **P 13 48 38.5 +1.1**
ZALV — pmax pmax
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 41.01 319 P **P 13 48 35.3 -2.0**
comp=Z,3.3nm,0.6s,baz=103,slow=7.4,SNR=10
ZALV — PcP **PcP 13 50 36.6 -0.7**
comp=Z,13nm,0.8s,baz=102,slow=3.5,SNR=6.3
ZALV — LR LR 14 07 56.1
comp=Z,6µm,18.1s,baz=106,slow=40
comp=Z,3.3nm,0.6s
TIXI Tiksi 41.12 358 P **P 13 48 37.2 -0.8**
TIXI — IAmb IAmb 13 48 45.0
comp=Z,259nm,1.6s
TIXI Tiksi 41.12 358 *ce*P **P 13 48 38.7 +0.7**
TIXI Tiksi 41.12 358 LR LR 14 06 22.6
comp=Z,360nm,21.9s,baz=182,slow=37
GKN Gorkha 41.22 279 *e*P **P 13 48 39.5 -0.2**
MK31 Makanchi Array 41.35 307 P **P 13 48 39.3 -1.1**
MK31 Makanchi Array 41.35 307 *de*P **P 13 48 39.5 -0.9**
MKAR Makanchi Array 41.35 307 P **P 13 48 39.0 -1.4**
MKAR Makanchi Array 41.35 307 *i* P **P 13 48 38.2 -2.2**
MKAR — pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 41.35 307 P **P 13 48 38.0 -2.4**
comp=Z,6.6nm,0.7s,baz=95,slow=9.7,SNR=36
MKAR — PcP **PcP 13 50 38.6 0.0**
comp=Z,8.8nm,0.9s,baz=77,slow=3.4,SNR=5.4
MKAR — LR LR 14 08 51.1
comp=Z,4µm,18.7s,baz=100,slow=41
comp=Z,6.6nm,0.7s
PLAI Plampang 41.56 202 P **P 13 48 44.9 +2.6**
PLAI Plampang 41.56 202 P **P 13 48 41.0 -1.3**
comp=Z,113nm,1.1s,comp=Z,2µm
MAKZ Makanchi 41.57 307 IAMs_20 IAMs_20 14 07 38.7
comp=Z,4µm,20.0s
LHMI Lhok Sumawe 41.58 240 IAMs_20 IAMs_20 14 06 11.3
comp=Z,3µm,22.0s
TWSI Taliwang, Sumb 41.77 203 P **P 13 48 42.2 -1.8**
comp=Z,186nm,1.1s
PSI Prapat 41.80 235 P **P 13 48 48.0 +3.5**
DANN Dangsing 41.87 280 *e*P **P 13 48 44.3 -0.9**
BKNI Bangkinang 42.15 230 P **P 13 48 47.7 +0.6**
BKNI Bangkinang 42.15 230 P **P 13 48 49.5 +2.4**
KOLN Koldanda 42.16 279 *e*P **P 13 48 48.2 +0.7**
PMG Port Moresby 42.35 158 P **P 13 48 48.1 -0.7**
PMG Port Moresby 42.35 158‖ *e*P **P 13 48 47.6 -1.2**
PMG — pmax pmax
comp=Z,18nm,1.1s
PMG Port Moresby 42.35 158 LR LR 14 06 03.2
comp=Z,1µm,19.1s,baz=342,slow=36
BILL Bilibino 42.45 18 IAMs_20 IAMs_20 14 08 57.5
comp=Z,3µm,19.0s
BILL Bilibino 42.45 18‖ *e*P **P 13 48 49.8 +0.8**
PYUN Piuthan 42.59 279 *e*P **P 13 48 50.5 -0.5**
MLSI Meulaboh, Aceh 42.62 239 P **P 13 48 51.7 +0.6**
comp=Z,88nm,0.6s
KDU Kakadu 43.06 179 P **P 13 48 53.5 -1.0**
SEM Semipalatinsk 43.08 313 *e*P **P 13 48 53.3 -1.4**
baz=313
SEM — LR LR 14 07 01.9
comp=Z,1µm,12.1s,baz=313
SEM Semipalatinsk 43.08 313 *e*P **P 13 48 53.3 -1.4**
SEM — MLR MLR
comp=Z,1µm,12.0s
PDGK Podgornoye 43.22 302 P **P 13 48 54.0 -1.8**
MTN Manton Dam 43.22 181 P **P 13 48 54.5 -1.3**
MTN — IAmb IAmb 13 49 00.6
comp=Z,68nm,0.8s
MTN Manton Dam 43.22 181 P **P 13 48 54.9 -0.9**
SHLS Shalkode 43.25 302 *e*P P 13 48 51.2 -4.9
baz=302
SHLS Shalkode 43.25 302 *e*P P 13 48 51.1 -4.9
PDSI Padang 43.45 230 P **P 13 48 57.7 -0.1**
comp=Z,37nm,1.1s,comp=Z,1µm
UZB Uzynbulak 43.57 302 *e*P **P 13 48 56.3 -2.4**
baz=302
UZB — *e*PP **PP 13 50 38.1 -1.8**
baz=302
UZB Uzynbulak 43.57 302 *e*P **P 13 48 56.2 -2.4**
UZB — *e* 13 50 38.1
KPKS Kokpek 43.81 302 *e*P **P 13 48 58.3 -2.2**
baz=302
KPKS — *e*PP **PP 13 50 42.2 -0.2**
baz=302
KPKS — *e*S **S 13 55 30.4 -0.5**
baz=302
KPKS Kokpek 43.81 302 *e*P **P 13 48 58.3 -2.2**
KPKS — *e* 13 50 42.1
KPKS — *e*S **S 13 55 30.3 -0.5**
TDK Taldyqorghan 43.99 305 *e*P **P 13 49 00.5 -1.4**
comp=Z,117nm,1.9s,baz=305
TDK — LR LR 14 07 49.9
comp=Z,3µm,13.0s,baz=305
TDK Taldyqorghan 43.99 305 *e*P **P 13 49 00.4 -1.4**
TDK — pmax pmax
comp=Z,117nm,1.9s
TDK — MLR MLR
comp=Z,3µm,13.0s
ZHN Zhinishke 44.00 302 *e*P **P 13 49 00.3 -1.8**
baz=302
ZHN Zhinishke 44.00 302 *e*P **P 13 49 00.2 -1.8**

LEM Lembang 44.00 216 LR LR 14 08 40.6
comp=Z,952nm,21.6s,baz=12,slow=38
SATY Saty 44.02 302 *e*P **P 13 49 00.9 -1.4**
comp=Z,55nm,2.3s,baz=302
SATY — *e*PP **PP 13 50 44.3 -0.4**
baz=302
SATY Saty 44.02 302 *e*P **P 13 49 00.9 -1.4**
SATY — *e* 13 50 44.3
SATY — pmax pmax
comp=Z,55nm,2.3s
PRZ Przheval'sk 44.05 301 P **P 13 49 02.3 -0.2**
PRZ — IAmb IAmb 13 49 32.9
comp=Z,149nm,1.7s
PRZ Przheval'sk 44.05 301 P **P 13 49 02.3 -0.2**
PRZ — pmax pmax
comp=Z,149nm,1.7s
PRZ — MLR MLR
comp=Z,2µm,21.0s
KURK Kurchatov 44.15 313 P **P 13 49 02.0 -0.9**
KURK — IAmb IAmb 13 49 05.9
comp=Z,61nm,0.8s
KURK Kurchatov 44.15 313 *ce*P **P 13 49 01.5 -1.5**
KURK — pmax pmax
comp=Z,32nm,0.9s
KURBB Kurchatov Arra 44.20 313 P **P 13 49 00.8 -2.6**
KURBB Kurchatov Arra 44.20 313 P **P 13 49 01.1 -2.3**
comp=Z,29nm,0.7s,baz=98,slow=8.8,SNR=84
KURBB — PcP **PcP 13 50 47.8 -0.1**
comp=Z,4.0nm,0.8s,baz=94,slow=4.2,SNR=2.5
KURBB — LR LR 14 09 41.8
comp=Z,6µm,18.6s,baz=106,slow=39
comp=Z,29nm,0.7s
DBJI Dramaga 44.22 218 P **P 13 49 05.9 +2.0**
comp=Z,159nm,1.0s,comp=Z,7µm
PBSI Pulau Batu 44.29 233 P **P 13 49 03.6 -0.9**
comp=Z,224nm,1.4s,comp=Z,3µm
ARXS Arharly 44.41 303 *e*P **P 13 49 03.6 -1.7**
TARG Taragay, Kyrgy 44.53 300 P **P 13 49 05.6 -1.1**
TARG Taragay, Kyrgy 44.53 300 P **P 13 49 05.6 -1.1**
TARG — pmax pmax
comp=Z,24nm,0.8s
TARG — MLR MLR
comp=Z,2µm,21.0s
CGJI Cibinong 44.83 219 P **P 13 49 09.6 +0.8**
comp=Z,66nm,1.1s
MDOK Medeo 45.01 302 *e*P **P 13 49 08.0 -2.2**
baz=302
MDOK — *e*PP **PcP 13 50 52.7 +1.6**
baz=302
MDOK — *e*S **S 13 55 47.1 -1.4**
baz=302
MDOK — LR LR 14 08 16.3
comp=Z,2µm,13.4s,baz=302
MDOK Medeo 45.01 302 P **P 13 49 08.2 -2.0**
CHKK Chushkaly 45.02 303 *e*P **P 13 49 08.6 -1.6**
baz=303
CHKK Chushkaly 45.02 303 *e*P **P 13 49 08.5 -1.6**
TNSS Tian-Shan 45.09 302 *e*P **P 13 49 09.6 -1.5**
baz=302
TNSS Tian-Shan 45.09 302 *e*P **P 13 49 09.6 -1.5**
AAA Alma-Ata 45.11 302 *e*P **P 13 49 09.8 -1.0**
baz=302
AAA Alma-Ata 45.11 302 *e*P **P 13 49 09.8 -1.0**
KUU Kurty 45.49 303 *i* P **P 13 49 12.2 -1.7**
comp=Z,48nm,1.1s,baz=303
KUU — LR LR 14 09 45.3
comp=Z,3µm,13.0s,baz=303
KUU Kurty 45.49 303 *i* P **P 13 49 12.1 -1.7**
KUU — pmax pmax
comp=Z,48nm,1.1s
KUU — MLR MLR
comp=Z,3µm,13.0s
BOOM Boomskoye usch 45.87 301 IAMs_20 IAMs_20 14 10 48.5
comp=Z,3µm,21.0s
TKM2 Tokmak 2 46.09 302 P **P 13 49 17.6 -1.2**
SNR=24
TKM2 Tokmak 2 46.09 302 *i* P **P 13 49 17.4 -1.4**
TKM2 — pmax pmax
comp=Z,41nm,1.0s
KSH Kashi 46.13 297 P **P 13 49 22.3 +3.3**
KSH — pP pwP 13 49 25.3 -0.6
KSH — PP **PP 13 51 12.3 +5.1**
KSH — pmax pmax
comp=Z,20nm,1.1s
KSH — pmax pmax
comp=Z,370nm,3.6s
KSH — LR LR
comp=Z,3µm,15.8s
KSH — LR LR
comp=Z,3µm,16.5s
KSH — LR LR
comp=Z,4µm,22.7s
KNRA Kununurra 46.14 184 P **P 13 49 18.5 -0.5**
KNRA Kununurra 46.14 184 P **P 13 49 19.0 -0.1**
KBK Karagaybulak 46.58 301 P **P 13 49 22.6 0.0**
SNR=15
CHMS Chumysh 46.70 302 P **P 13 49 23.1 -0.3**
SNR=12
SGDS Sogindy 46.76 303 *e*P **P 13 49 22.2 -1.7**
baz=303
SGDS Sogindy 46.76 303 *e*P **P 13 49 22.1 -1.7**
FRU1 Bishkek 46.80 302 IAMs_20 IAMs_20 14 11 03.4
comp=Z,2µm,20.0s
USP Ospenovka 46.86 302 P **P 13 49 22.8 -1.9**
SNR=14
AAK Ala-Archa 46.92 301 P **P 13 49 24.6 -0.7**
SNR=9.8
AAK Ala-Archa 46.92 301 P **P 13 49 24.4 -0.9**
AAK Ala-Archa 46.92 301 IAMs_20 IAMs_20 14 12 16.4
comp=Z,3µm,19.0s
AAK Ala-Archa 46.92 301 *i* P **P 13 49 22.5 -2.7**
SNR=16
AAK Ala-Archa 46.92 301 *ce*P **P 13 49 24.2 -1.1**
AAK — pmax pmax
comp=Z,25nm,1.8s
AAK Ala-Archa 46.92 301 LR LR 14 12 27.5
comp=Z,3µm,19.0s,baz=76,slow=40
UCH Uchtor 46.94 301 P **P 13 49 25.0 -0.8**
SNR=26
BTLS Baital 47.08 305 *e*P **P 13 49 24.2 -2.1**
baz=305
BTLS Baital 47.08 305 *e*P **P 13 49 24.1 -2.1**
SPIA Saint Paul Isl 47.46 39 P **P 13 49 27.3 -1.7**
baz=261
AML Almayashu 47.56 301 P **P 13 49 29.3 -1.3**
SNR=11
AML Almayashu 47.56 301 *i* P **P 13 49 29.6 -0.9**
AML — pmax pmax
comp=Z,6.0nm,1.1s
NIKH Nikolski High 47.80 44 P **P 13 49 29.5 -2.3**
baz=266
BRZS Berezniki 47.91 312 *e*P **P 13 49 30.6 -2.1**
comp=Z,35nm,1.9s,baz=312
BRZS Berezniki 47.91 312 *e*P **P 13 49 30.5 -2.1**
BRZS — pmax pmax
comp=Z,35nm,1.9s
HNR Honiara 47.98 142 LR LR 14 06 36.0
comp=Z,6µm,21.0s,baz=326,slow=32
OTUK Ortayu 48.14 309 P **P 13 49 31.6 -2.9**
GAMB Gambell 48.16 30 P **P 13 49 33.6 -0.7**
baz=254
FITZ Fitzroy Crossi 48.83 188 P **P 13 49 39.6 -0.4**
FITZ Fitzroy Crossi 48.83 188 P **P 13 49 39.7 -0.3**
DZA Taraz 49.21 302 *e*P **P 13 49 41.2 -1.6**
baz=302
DZA Taraz 49.21 302 *e*P **P 13 49 41.2 -1.6**
UNV Unalaska Valle 49.26 43 P **P 13 49 42.1 -0.8**
baz=268
NIL Nilore 49.33 290 P **P 13 49 42.8 -1.1**
NIL — IAmb IAmb 13 49 47.8
comp=Z,44nm,0.8s
NIL Nilore 49.33 290 P **P 13 49 42.8 -1.1**
NIL — pmax pmax
comp=Z,44nm,0.8s
NIL — MLR MLR
comp=Z,2µm,22.0s
BVA0 Borovoye Array 49.39 316 P **P 13 49 41.8 -2.2**
BVAR Borovoye Array 49.39 316 P **P 13 49 42.4 -1.7**
comp=Z,16nm,0.6s,baz=93,slow=8.0,SNR=54
BVAR — PcP **PcP 13 51 05.8 -0.5**
comp=Z,16nm,0.7s,baz=106,slow=3.2,SNR=6.3
BVAR — LR LR 14 12 36.7
comp=Z,5µm,18.1s,baz=96,slow=39
comp=Z,16nm,0.6s
BRVK Borovoye 49.46 316 P **P 13 49 43.8 -0.7**
BRVK — IAmb IAmb 13 49 47.9
comp=Z,40nm,0.9s

BRVK Borovoye 49.46 316 *ce*P **P 13 49 43.6 -0.9**
BRVK — pmax pmax
comp=Z,19nm,0.7s
KK31 Karatay Array 49.78 302 P **P 13 49 46.0 -1.1**
KK31 — IAmb IAmb 13 50 16.1
comp=Z,147nm,1.8s
KK31 Karatay Array 49.78 302 P **P 13 49 46.7 -0.5**
KKAR Karatay Array 49.78 302 P **P 13 49 45.4 -1.8**
KKAR Karatay Array 49.78 302 P **P 13 49 45.9 -1.3**
KKAR — IAmb IAmb 13 50 16.1
comp=Z,146nm,1.8s
KKAR Karatay Array 49.78 302 P **P 13 49 45.9 -1.3**
KKAR — pmax pmax
comp=Z,146nm,1.8s
M11K Mekoryuk 50.00 35 P **P 13 49 47.8 -0.7**
baz=262
WB0 Warramunga Arr 50.15 177 P **P 13 49 49.0 -1.0**
TNA Tin City 50.19 28 P **P 13 49 49.6 -0.3**
baz=256
HYB Hyderabad 50.21 268 *e*P **P 13 49 51.9 +1.2**
HYB — *e*PcP **PcP 13 51 09.5 -0.4**
HYB — *e*PP **PP 13 51 46.0 -0.1**
HYB — *e*ScP **ScP 13 55 05.7 +0.4**
HYB — *e*S **S 13 57 04.7 +2.0**
WRA Warramunga Arr 50.32 177 P **P 13 49 50.4 -1.0**
WRA Warramunga Arr 50.32 177 *i* P **P 13 49 50.5 -0.8**
WRA — pmax pmax
comp=Z,16nm,1.0s
WRA Warramunga Arr 50.32 177 P **P 13 49 50.3 -1.0**
comp=Z,14nm,0.9s,baz=354,slow=7.9,SNR=63
WRA — PcP **PcP 13 51 07.2 -2.8**
comp=Z,6.2nm,1.2s,baz=348,slow=4.3,SNR=1.0
comp=Z,14nm,0.9s
WB1 Warramunga Ar. 50.34 177 P **P 13 49 51.2 -0.3**
CHM Chimkent 50.55 302 *e*P **P 13 49 51.2 -1.8**
baz=302
CHM — LR LR 14 11 46.9
baz=302
CHM Chimkent 50.55 302 *e*P **P 13 49 51.2 -1.8**
F14K Arctic Creek 50.82 28 P **P 13 49 53.0 -1.6**
baz=258
ANM Nome 51.04 30 P **P 13 49 55.7 -0.6**
baz=260
FALS False Pass 51.09 42 P **P 13 49 55.3 -1.5**
baz=269
QIS Mount Isa 51.40 171 P **P 13 50 00.0 +0.5**
M13K Dall Lake 51.41 35 P **P 13 49 57.9 -1.2**
baz=265
CHGR Chuyangaron 51.50 297 P **P 13 49 58.8 -1.5**
F15K North Star Dit 51.55 28 P **P 13 50 00.6 +0.5**
F15K — IAmb IAmb 13 50 07.2
comp=Z,139nm,1.4s
F15K North Star Dit 51.55 28 P **P 13 49 57.7 -2.4**
baz=259
J14K Nanvaranak Lak 51.56 32 P **P 13 49 59.2 -1.0**
baz=263
G15K Niukluk 51.68 29 P **P 13 49 59.4 -1.7**
baz=261
C16K Lisburne Hills 51.81 25 IAMs_20 IAMs_20 14 14 47.3
comp=Z,2µm,19.0s
C16K Lisburne Hills 51.81 25 P **P 13 50 00.8 -1.2**
baz=257
L14K Kuka Creek 51.82 34 P **P 13 50 03.3 +1.2**
L14K — IAmb IAmb 13 50 09.4
comp=Z,100nm,1.1s
L14K Kuka Creek 51.82 34 P **P 13 50 01.2 -0.9**
baz=265
AUAYR Ayr State High 52.05 162 P **P 13 50 05.0 +0.8**
M14K Bethel 52.12 35 P **P 13 50 05.5 +1.1**
M14K — IAmb IAmb 13 50 11.3
comp=Z,108nm,1.2s
M14K Bethel 52.12 35 P **P 13 50 03.8 -0.6**
baz=266
N14K Kuskokwak Cree 52.20 36 P **P 13 50 03.7 -1.3**
baz=267
CTA Charters Tower 52.23 163 P **P 13 50 06.6 +0.9**
CTAO Charters Tower 52.23 163 P **P 13 50 05.3 -0.4**
CTAO Charters Tower 52.23 163 P **P 13 50 06.6 +0.9**
CTAO Charters Tower 52.23 163 P **P 13 50 05.3 -0.4**
CTAO — pmax pmax
comp=Z,27nm,1.0s
O14K Tigyukauivet M 52.39 37 P **P 13 50 05.3 -1.1**
baz=268
H16K Elim 52.39 30 P **P 13 50 04.3 -2.0**
baz=263
L15K Ungalak Mounta 52.42 33 P **P 13 50 05.5 -1.1**
baz=266
G16K Koyuk River 52.44 29 P **P 13 50 06.1 -0.7**
baz=262
K15K Wolf Creek Mou 52.45 33 P **P 13 50 07.7 +0.8**
K15K Wolf Creek Mou 52.45 33 P **P 13 50 05.9 -0.9**
baz=265
C17K DeLong Mountai 52.64 25 P **P 13 50 07.2 -1.1**
baz=259
RDOG Red Dog Mine 52.66 25 P **P 13 50 08.6 +0.2**
RDOG — IAmb IAmb 13 50 15.0
comp=Z,106nm,1.3s
RDOG — IAMs_20 IAMs_20 14 15 44.6
comp=Z,2µm,20.0s
RDOG Red Dog Mine 52.66 25 P **P 13 50 06.7 -1.6**
baz=259
M15K Kasigluk River 52.74 35 P **P 13 50 07.5 -1.5**
baz=267
SDPT Sand Point 52.78 41 P **P 13 50 08.4 -1.0**
baz=271
MBWA Marble Bar 52.83 195 P **P 13 50 09.3 -0.8**
MBWA — IAmb IAmb 13 50 15.5
comp=Z,96nm,1.6s
MBWA Marble Bar 52.83 195 P **P 13 50 09.8 -0.3**
J16K Anvik River 52.96 31 P **P 13 50 11.1 +0.5**
J16K — IAmb IAmb 13 50 40.7
comp=Z,111nm,1.7s
J16K Anvik River 52.96 31 P **P 13 50 10.0 -0.6**
baz=265
I17K Unalakleet 52.97 31 P **P 13 50 10.2 -0.5**
I17K — IAmb IAmb 13 50 17.7
comp=Z,63nm,1.2s
I17K Unalakleet 52.97 31 P **P 13 50 10.2 -0.5**
baz=265
N15K Kwethluk River 53.02 35 P **P 13 50 11.4 +0.3**
N15K — IAmb IAmb 13 50 17.2
comp=Z,50nm,1.1s
N15K Kwethluk River 53.02 35 P **P 13 50 09.9 -1.2**
baz=268
F17K Baldwin Pennin 53.03 28 P **P 13 50 11.5 +0.4**
F17K Baldwin Pennin 53.03 28 P **P 13 50 10.1 -1.0**
baz=262
O15K Ungalikthiuk R 53.12 37 P **P 13 50 09.9 -2.0**
baz=269
G17K Kiwalik Mounta 53.16 29 P **P 13 50 11.0 -1.1**
baz=263,SNR=5.6
PSA00 Pilbara Seismi 53.21 194 P **P 13 50 12.1 -0.8**
PSA00 — IAmb IAmb 13 50 18.3
comp=Z,54nm,0.9s
PSA00 Pilbara Seismi 53.21 194 P **P 13 50 12.4 -0.5**
PSA00 — IAmb IAmb 13 50 18.3
comp=Z,40nm,0.9s
PSA00 Pilbara Seismi 53.21 194 P **P 13 50 12.9 0.0**
B18K Kokolik River 53.30 24 P **P 13 50 12.6 -0.4**
baz=259
CHNA Chernabura Isl 53.30 42 P **P 13 50 12.6 -0.6**
baz=272
PALK Pallekele 53.31 255 IAMs_20 IAMs_20 14 13 38.7
comp=Z,2µm,22.0s
L16K Owhat River 53.38 34 P **P 13 50 13.9 +0.2**
L16K Owhat River 53.38 34 P **P 13 50 13.6 -0.2**
baz=267
C18K Utukok River 53.39 25 P **P 13 50 13.7 -0.1**
C18K — IAmb IAmb 13 50 28.6
comp=Z,85nm,1.1s
C18K — IAMs_20 IAMs_20 14 16 17.0
comp=Z,2µm,20.0s
C18K Utukok River 53.39 25 P **P 13 50 13.2 -0.6**
baz=261,SNR=12
H17K Granite Mounta 53.41 29 P **P 13 50 12.6 -1.3**
baz=265
E18K Tukpahlearik C 53.42 26 P **P 13 50 14.7 +0.8**
E18K — IAmb IAmb 13 50 20.3
comp=Z,80nm,1.1s
E18K Tukpahlearik C 53.42 26 P **P 13 50 13.5 -0.5**
baz=262
M16K Timber Creek 53.60 34 P **P 13 50 15.0 -0.4**
M16K — IAmb IAmb 13 50 22.0
comp=Z,44nm,1.1s
M16K Timber Creek 53.60 34 P **P 13 50 13.8 -1.6**
baz=268

N16K Nishlik Lake 53.68 35 P P 13 50 14.0 -2.0
baz=269
A19K Wainwright 53.70 23 P P 13 50 14.8 -1.1
baz=260
CHGN Chignik 53.91 40 P P 13 50 18.5 +0.9
baz=272
L17K Donlin 53.95 33 P P 13 50 16.4 -1.5
baz=268
K17K Iditarod 53.97 32 P P 13 50 18.1 0.0
K17K IAmb IAmb 13 50 24.4
comp=Z,68nm,1.2s
K17K Iditarod 53.97 32 P P 13 50 17.3 -0.8
baz=268
AS01 Alice Springs 54.01 178 P P 13 50 19.1 +0.4
comp=Z,26nm,0.7s
ASAR Alice Springs 54.01 178 P P 13 50 18.0 -0.7
ASAR Alice Springs 54.01 178 P P 13 50 18.0 -0.7
ASAR Alice Springs 54.01 178 P P 13 50 17.8 -1.0
comp=Z,13nm,0.9s,baz=8.6,slow=15,SNR=71
ASAR LR LR 14 13 23.3
comp=Z,510nm,20.9s,baz=2.5,slow=36
ASAR PKP2bc **P'P'bc** **14 20 48.5 +5.7**
comp=Z,1.0nm,0.9s,baz=26,slow=1.9,SNR=4.5
comp=Z,13nm,0.9s
O16K Kokwok River B 54.01 36 P P 13 50 17.6 -0.8
baz=270,SNR=12
G18K Tagagawik 54.02 28 P P 13 50 17.1 -1.3
baz=265
C19K Lookout Ridge 54.03 24 IAMs_20 IAMs_20 14 14 38.1
comp=Z,3µm,19.0s
C19K Lookout Ridge 54.03 24 P P 13 50 17.2 -1.3
baz=262
P16K Nushagak River 54.07 37 P P 13 50 17.2 -1.5
baz=271
H18K Honhosa River 54.08 29 P P 13 50 17.1 -1.7
baz=266
R16K Pilot Point 54.32 39 P P 13 50 19.3 -1.4
baz=272
M17K Holitna River 54.35 34 P P 13 50 18.5 -2.3
baz=269,SNR=9.3
F19K Shaleruckik Mo 54.46 27 P P 13 50 21.0 -0.5
baz=265
N17K Nushagak Hills 54.47 35 P P 13 50 19.7 -2.0
baz=270
D19K Kuna River 54.49 25 P P 13 50 20.1 -1.7
baz=264
O17K Koliganek Bris 54.52 36 P P 13 50 20.2 -1.8
baz=271
G19K Purcell Mounta 54.68 28 P P 13 50 21.7 -1.5
baz=266
GCSA Galena City Sc 54.69 30 P P 13 50 20.6 -2.7
baz=268
L18K Granite Mounta 54.71 33 P P 13 50 21.8 -1.7
baz=270
J18K Innoko River 54.72 31 P P 13 50 21.1 -2.4
baz=269
E19K Redstone River 54.72 26 P P 13 50 22.6 -0.9
baz=265,SNR=28
Q16K King Salmon 54.77 37 P P 13 50 22.7 -1.2
baz=272,SNR=9.3
P17K Kvichak River 54.87 37 P P 13 50 24.1 -0.5
baz=272
H19K Roundabout Mou 54.91 29 P P 13 50 23.6 -1.2
baz=267,SNR=25
SVE Sverdlovsk 54.96 320 *e*P P 13 50 25.1 -0.2
SVE pmax pmax
comp=Z,40nm,0.9s
SVE MLR MLR
comp=Z,3µm,14.0s
R17K Ugashik Creek 54.96 39 P P 13 50 24.3 -1.0
baz=273
B20K Meade River 55.00 23 P P 13 50 25.8 +0.4
B20K IAmb IAmb 13 50 31.1
comp=Z,55nm,1.1s
B20K Meade River 55.00 23 P P 13 50 23.8 -1.5
baz=264
TTA Tatalina 55.03 32 P P 13 50 30.0 +4.2
TTA Tatalina 55.03 32 P P 13 50 25.6 -0.2
baz=270,SNR=6.7
D20K Etivluk River 55.06 25 P P 13 50 25.0 -0.9
baz=265
N18K Kilae Creek 55.10 35 P P 13 50 24.6 -1.7
baz=271,SNR=6.0
M18K Stony River 55.12 34 P P 13 50 26.3 -0.1
baz=271,SNR=11
E20K Nigu River 55.18 26 P P 13 50 26.7 -0.2
baz=266
Q17K Contact Creek 55.19 38 P P 13 50 27.2 0.0
baz=273
J19K Poorman 55.22 31 P P 13 50 26.9 -0.1
baz=269
SVW2 Sparrevohn 55.24 34 P P 13 50 28.0 +0.7
SVW2 IAmb IAmb 13 50 34.4
comp=Z,66nm,1.2s
SVW2 Sparrevohn 55.24 34 P P 13 50 30.7 +3.3
F20K Avaraart Lake 55.28 27 P P 13 50 26.2 -1.2
baz=267
A21K Barrow 55.33 22 P P 13 50 26.6 -1.1
baz=263
WRKA Warakurna 55.46 184 P P 13 50 29.1 -0.2
O18K Koktuh Hills 55.47 36 P P 13 50 29.2 +0.2
O18K Koktuh Hills 55.47 36 P P 13 50 27.8 -1.2
baz=272,SNR=15
P18K Big Mountain, 55.48 36 P P 13 50 29.7 +0.6
P18K Big Mountain, 55.48 36 P P 13 50 28.5 -0.6
baz=273,SNR=13
CHIR Chirikof Islan 55.50 41 P P 13 50 26.9 -2.4
baz=275
H20K Anotleneega Mo 55.56 29 P P 13 50 27.9 -1.7
baz=269
L19K White Mountain 55.57 33 P P 13 50 28.3 -1.4
baz=271
Q18K Katmai Hardscr 55.63 37 P P 13 50 28.4 -1.9
baz=273
I20K Naaghedeneel 55.72 30 P P 13 50 29.7 -1.0
baz=270
C21K Knifeblade Rid 55.75 24 P P 13 50 30.4 -0.5
baz=266,SNR=29
N19K Bonanza Creek 55.79 35 P P 13 50 31.7 +0.3
N19K IAmb IAmb 13 50 37.5
comp=Z,42nm,1.1s
N19K Bonanza Creek 55.79 35 P P 13 50 30.7 -0.7
baz=272
A22K Sinclair Lake 55.83 22 P P 13 50 31.3 0.0
baz=265
B21K Ikpikpuk River 55.84 24 P P 13 50 31.6 +0.1
B21K Ikpikpuk River 55.84 24 P P 13 50 30.3 -1.2
baz=266,SNR=22
J20K Nowinta River 55.87 31 P P 13 50 32.2 +0.5
J20K IAmb IAmb 13 50 38.7
comp=Z,91nm,1.1s
J20K Nowinta River 55.87 31 P P 13 50 29.7 -2.0
baz=270,SNR=37
O19K Port Alsworth 55.90 35 P P 13 50 31.5 -0.5
baz=273,SNR=13
K20K Telida 55.91 32 P P 13 50 32.6 +0.6
K20K IAmb IAmb 13 50 39.1
comp=Z,74nm,1.1s
K20K Telida 55.91 32 P P 13 50 30.0 -2.1
baz=271,SNR=36
R18K Karluk 56.00 39 P P 13 50 31.8 -1.0
baz=275
E21K Killik River 56.01 25 IAMs_20 IAMs_20 14 17 56.7
comp=Z,2µm,18.0s
E21K Killik River 56.01 25 P P 13 50 32.0 -0.8
baz=268
L20K Farewell, AK 56.02 33 P P 13 50 32.3 -0.6
baz=272,SNR=9.6
IMAR Indian Mountai 56.03 28 P P 13 50 33.1 +0.2
ARU Arti 56.13 320 P P 13 50 32.7 -1.1
ARU IAmb IAmb 13 51 03.1
comp=Z,50nm,1.1s
ARU Arti 56.13 320 ⇓ *e*P P 13 50 32.9 -0.9
ARU pmax pmax
comp=Z,31nm,0.7s
ARU MLR MLR
comp=Z,2µm,13.0s
ARU Arti 56.13 320 P P 13 50 32.5 -1.3
comp=Z,23nm,0.7s,baz=96,slow=4.4,SNR=17
ARU LR LR 14 16 51.7
comp=Z,4µm,21.9s,baz=82,slow=38
comp=Z,23nm,0.7s
G21K Allakaket 56.14 28 P P 13 50 33.0 -0.7
baz=269
F21K Alatna River 56.16 27 P P 13 50 33.7 -0.1
baz=269
AB31 Akbulak array 56.21 311 P P 13 50 32.3 -2.1

ABKAR Akbulak array 56.21 311 P P 13 50 33.3 -1.2
SII Sitkinak Islan 56.24 40 P P 13 50 33.5 -1.1
baz=276
B22K Teshekpuk Lake 56.30 23 IAMs_20 IAMs_20 14 15 41.6
comp=Z,2µm,21.0s
B22K Teshekpuk Lake 56.30 23 P P 13 50 33.5 -1.2
baz=267,SNR=17
Q19K Cape Douglas, 56.32 37 P P 13 50 33.8 -1.4
baz=274
M20K Styx River 56.39 33 P P 13 50 34.5 -1.2
baz=273
H21K Melozitna Rive 56.42 29 P P 13 50 34.6 -1.2
baz=271,SNR=30
P19K Oil Pt 56.48 36 P P 13 50 35.3 -0.9
baz=274
D22K Ayikyak River 56.50 25 P P 13 50 36.5 +0.3
D22K Ayikyak River 56.50 25 P P 13 50 34.9 -1.3
baz=269
OHAK Old Harbor 56.66 39 P P 13 50 37.0 -0.5
OHAK IAmb IAmb 13 50 51.8
comp=Z,68nm,1.3s
OHAK Old Harbor 56.66 39 P P 13 50 40.1 +2.6
OHAK Old Harbor 56.66 39 P P 13 50 36.9 -0.6
baz=276
F22K John River 56.67 27 P P 13 50 36.2 -1.3
baz=270
CHUM Lake Minchumin 56.68 31 P P 13 50 37.2 -0.4
baz=272,SNR=35
O20K Slope Mountain 56.75 35 P P 13 50 36.8 -1.4
baz=274
I21K Tanana 56.78 29 P P 13 50 38.6 +0.3
I21K Tanana 56.78 29 P P 13 50 37.8 -0.5
baz=272
PPLA Purkeypile 56.78 32 P P 13 50 37.3 -1.1
baz=273,SNR=8.9
CAST Castle Rocks 56.80 31 P P 13 50 37.5 -1.0
baz=273,SNR=34
E22K Anaktuvuk Pass 56.81 26 P P 13 50 38.3 -0.2
baz=270,SNR=39
N20K Mount Spurr 56.87 34 P P 13 50 39.2 +0.2
baz=274
KDAK Kodiak Island 56.98 38 P P 13 50 39.9 +0.1
baz=276
KDAK Kodiak Island 56.98 38 LR LR 14 15 09.9
comp=Z,1µm,21.9s,baz=271,slow=36
Q20K Shuyak Island 57.00 37 P P 13 50 40.5 +0.6
baz=276
H22K Ishtalitna Cre 57.01 28 P P 13 50 40.4 +0.5
baz=272,SNR=53
SKT Skwentna 57.14 33 P P 13 50 40.3 -0.6
SKT IAmb IAmb 13 50 55.3
comp=Z,42nm,1.2s
SKT Skwentna 57.14 33 P P 13 50 40.9 0.0
baz=274
D23K Nanushuk River 57.22 25 P P 13 50 41.6 +0.2
baz=270,SNR=31
C23K Itkillik River 57.24 24 P P 13 50 41.4 0.0
C23K IAmb IAmb 13 50 55.8
comp=Z,110nm,1.4s
C23K IAMs_20 IAMs_20 14 16 45.8
comp=Z,2µm,22.0s
C23K Itkillik River 57.24 24 P P 13 50 40.5 -1.0
baz=270
AKTO Aktyubinsk 57.25 313 P P 13 50 41.9 +0.1
AKTO Aktyubinsk 57.25 313 P P 13 50 41.1 -0.7
comp=Z,7.7nm,0.7s,baz=86,slow=5.2,SNR=20
AKTO LR LR 14 16 50.7
comp=Z,4µm,21.2s,baz=84,slow=38
comp=Z,7.7nm,0.7s
BPAW Bear Paw Mtn. 57.25 31 P P 13 50 41.8 +0.1
BPAW IAmb IAmb 13 50 47.6
comp=Z,78nm,1.3s
BPAW Bear Paw Mtn. 57.25 31 P P 13 50 40.7 -1.0
baz=273,SNR=12
MLY Manley 57.31 29 P P 13 50 42.7 +0.7
MLY IAmb IAmb 13 50 48.9
comp=Z,78nm,1.2s
MLY Manley 57.31 29 P P 13 50 41.4 -0.6
baz=273,SNR=31
KTH Kantishna Hill 57.31 31 P P 13 50 41.8 -0.3
COLD Coldfoot 57.44 27 P P 13 50 42.6 -0.2
baz=272,SNR=9.2
G23K Bananza Creek 57.52 27 P P 13 50 43.9 +0.3
G23K IAmb IAmb 13 50 50.2
comp=Z,57nm,1.1s
G23K Bananza Creek 57.52 27 P P 13 50 42.6 -1.0
baz=272
SUA Susitna One 57.55 34 P P 13 50 44.2 +0.3
SUA Susitna One 57.55 34 P P 13 50 42.4 -1.5
baz=275
TRF Thorofare Moun 57.60 31 P P 13 50 44.1 -0.2
TRF Thorofare Moun 57.60 31 P P 13 50 43.9 -0.4
baz=274
TOLK Toolik Lake Re 57.63 25 P P 13 50 44.3 +0.1
baz=272,SNR=23
E23K Chandalar 57.63 26 P P 13 50 44.5 +0.1
baz=272,SNR=91
BRLK Bradley Lake 57.65 36 P P 13 50 44.7 +0.1
CUT Chulitna 57.70 33 P P 13 50 44.5 -0.2
baz=275
BRSE Bradley Lake S 57.73 36 P P 13 50 45.2 +0.1
baz=276,SNR=6.1
M22K Willow 57.83 33 P P 13 50 46.5 +0.9
M22K Willow 57.83 33 P P 13 50 45.5 -0.2
baz=276
D24K Happy Valley 57.88 25 P P 13 50 46.1 +0.1
D24K IAmb IAmb 13 50 52.6
comp=Z,77nm,1.0s
D24K IAMs_20 IAMs_20 14 19 30.8
comp=Z,2µm,19.0s
D24K Happy Valley 57.88 25 P P 13 50 46.3 +0.3
baz=272
I23K Minto, Yukon-K 57.88 29 P P 13 50 46.4 +0.4
I23K IAmb IAmb 13 50 52.1
comp=Z,55nm,1.2s
I23K Minto, Yukon-K 57.88 29 P P 13 50 46.0 0.0
baz=274,SNR=7.6
C24K Franklin Bluff 57.91 24 P P 13 50 45.7 -0.5
baz=272
NEA2 Nenana 58.05 30 P P 13 50 47.9 +0.7
baz=275,SNR=41
E24K Your Creek 58.05 26 IAMs_20 IAMs_20 14 19 14.2
comp=Z,1µm,20.0s
E24K Your Creek 58.05 26 P P 13 50 47.2 -0.1
baz=273,SNR=36
QLP Quilpie 58.06 167 P P 13 50 51.1 +3.5
RC01 Rabbit Creek A 58.08 34 P P 13 50 47.4 0.0
RC01 Rabbit Creek A 58.08 34 P P 13 50 46.7 -0.8
baz=276
MCK McKinley 58.18 31 P P 13 50 47.5 -0.7
baz=275,SNR=40
OOD Oodnadatta 58.19 176 P P 13 50 48.7 +0.2
RND Reindeer 58.25 31 P P 13 50 48.8 0.0
RND Reindeer 58.25 31 P P 13 50 48.8 0.0
RND pmax pmax
comp=Z,71nm,0.8s
PMR Palmer 58.31 33 P P 13 50 52.0 +2.9
PMR Palmer 58.31 33 P P 13 50 48.2 -0.8
baz=276,SNR=22
F24K Squaw Lake 58.31 26 P P 13 50 49.1 0.0
baz=274,SNR=26
SEW Seward 58.33 35 P P 13 50 49.0 -0.2
baz=277,SNR=7.4
MEEK Meekatharra 58.38 194 P P 13 50 54.1 +4.2
WAT1 Susitna Watana 58.45 32 P P 13 50 50.3 +0.2
baz=276
H24K Noodor Dome 58.45 28 P P 13 50 50.7 +0.7
H24K Noodor Dome 58.45 28 P P 13 50 50.1 0.0
baz=275
G24K Hadweenzic Riv 58.54 27 P P 13 50 51.4 +0.7
G24K IAmb IAmb 13 50 57.1
comp=Z,83nm,1.2s
G24K Hadweenzic Riv 58.54 27 P P 13 50 50.6 -0.1
baz=275,SNR=11
COLA College 58.55 30 P P 13 50 54.1 +3.5
COLA College 58.55 30 P P 13 50 49.5 -1.2
baz=276
EIDS Eidsvold 58.57 160 P P 13 50 50.7 -0.6
EIDS Eidsvold 58.57 160 P P 13 50 51.3 0.0
INKA Innaminka 58.62 171 P P 13 50 53.4 +1.9
KNK Knik Glacier 58.65 34 P P 13 50 50.9 -0.6
baz=277,SNR=16
SML Sawmill 58.67 33 P P 13 50 51.6 -0.1
SML IAmb IAmb 13 51 06.5
comp=Z,61nm,1.0s
SML Sawmill 58.67 33 P P 13 50 51.0 -0.6
baz=277

POKR Poker Plat Res 58.70 29 P P 13 50 51.2 -0.6
baz=276,SNR=39
D25K Kavik River 58.75 24 P P 13 50 52.1 0.0
D25K IAmb IAmb 13 50 57.7
comp=Z,64nm,1.2s
D25K IAMs_20 IAMs_20 14 19 50.5
comp=Z,2µm,18.0s
D25K Kavik River 58.75 24 P P 13 50 52.3 +0.2
baz=274
WAT6 Susitna Watana 58.85 32 P P 13 50 52.7 -0.3
baz=277,SNR=22
DHY Denali Highway 58.95 32 P P 13 50 53.1 -0.6
baz=277,SNR=7.1
M23K Glacier View 58.95 33 P P 13 50 52.8 -0.8
baz=278,SNR=7.5
ILAR Eielson Array 58.97 30 P P 13 50 53.0 -0.6
ILAR Eielson Array 58.97 30 P P 13 50 53.0 -0.6
ILAR Eielson Array 58.97 30 P P 13 50 52.7 -0.9
comp=Z,9.8nm,0.8s,baz=265,slow=5.7,SNR=48
ILAR LR LR 14 15 56.2
comp=Z,517nm,21.7s,baz=274,slow=36
comp=Z,9.8nm,0.8s
HDA Harding Lake 58.98 30 P P 13 50 53.2 -0.5
baz=277,SNR=32
HDA P P 13 50 53.2 -0.5
baz=277,SNR=32
G25K Bearman Lake 59.08 27 P P 13 50 55.1 +0.8
baz=276
SCM Sheep Creek Mo 59.13 33 P P 13 50 54.2 -0.7
baz=278,SNR=14
E25K Arctic Village 59.14 26 IAMs_20 IAMs_20 14 19 60.0
comp=Z,2µm,20.0s
E25K Arctic Village 59.14 26 P P 13 50 54.5 -0.3
baz=276,SNR=34
F25K Christian Rive 59.17 26 P P 13 50 54.8 -0.2
baz=276,SNR=36
C26K Camden Bay 59.21 24 P P 13 50 55.0 -0.2
baz=275
P23K Montague Islan 59.37 35 P P 13 50 55.8 -0.6
baz=279
GLI Glacier Island 59.38 34 P P 13 50 56.1 -0.5
baz=279
PRP Porcupine Dome 59.45 29 P P 13 50 55.6 -1.5
baz=277,SNR=16
KOUNC Koumac, New Ca 59.56 145 P P 13 51 03.3 +5.1
K24K Donnelly Dome 59.57 31 P P 13 50 57.3 -0.5
baz=278,SNR=11
BMAR Burnt Mountain 59.59 26 P P 13 50 58.9 +1.0
J25K Salcha River, 59.63 30 P P 13 50 57.6 -0.7
baz=278,SNR=5.4
M24K Tolsona, Glenn 59.63 33 P P 13 50 57.3 -1.1
baz=279
FID Port Fidalgo 59.70 34 P P 13 50 58.9 +0.1
FID IAmb IAmb 13 51 17.4
comp=Z,60nm,1.0s
F26K Sheenjek River 59.73 26 P P 13 50 59.6 +0.7
baz=277
PAX Paxson 59.83 32 P P 13 50 59.5 -0.2
baz=279,SNR=12
KLU Klutina 59.85 33 P P 13 51 00.4 +0.6
KLU IAmb IAmb 13 51 05.4
comp=Z,48nm,1.0s
KLU Klutina 59.85 33 P P 13 51 00.1 +0.2
baz=279,SNR=9.8
G26K Porcupine Rive 59.96 27 P P 13 51 00.8 +0.4
baz=278
RIDG Independent Ri 59.99 31 P P 13 51 00.1 -0.6
baz=279,SNR=6.0
HARP HAARP 60.06 32 P P 13 51 01.7 +0.4
baz=279,SNR=16
EYAK Cordova Ski Ar 60.09 34 P P 13 51 01.7 +0.4
baz=280
GEYT Alibeck 60.09 299 P P 13 51 01.6 -0.3
comp=Z,6.0nm,0.7s,baz=72,slow=6.4,SNR=10
GEYT LR LR 14 20 53.1
comp=Z,2µm,18.7s,baz=86,slow=40
comp=Z,6.0nm,0.7s
GYA0B ALIBECK ARRAY 60.09 299 IAMs_20 IAMs_20 14 21 23.3
comp=Z,2µm,20.0s
SCRK Sand Creek 60.33 30 P P 13 51 02.9 -0.2
baz=279,SNR=38
J26L Joseph Creek 60.42 30 P P 13 51 03.5 -0.3
baz=280,SNR=27
N25K Chitina, Valde 60.45 33 P P 13 51 03.9 -0.1
baz=280
I26K Coal Creek Min 60.46 29 P P 13 51 02.9 -1.0
baz=279
BMRM Bremner River 60.57 34 P P 13 51 04.3 -0.4
baz=281,SNR=9.5
MULG Mulgathing 60.60 178 P P 13 51 04.9 -0.2
E27K Coleen River 60.61 25 IAMs_20 IAMs_20 14 21 26.9
comp=Z,2µm,18.0s
E27K Coleen River 60.61 25 P P 13 51 04.9 0.0
baz=279,SNR=34
MENT Mentasta 60.62 31 P P 13 51 06.6 +1.5
D27M Malcolm River 60.67 24 P P 13 51 05.9 +0.6
baz=279
KIRV Kirov 60.70 323 P P 13 51 05.5 0.0
comp=Z,14nm,0.5s,baz=58,slow=6.3,SNR=9.8
comp=Z,14nm,0.5s
L26K Log Cabin Wild 60.77 31 P P 13 51 05.8 -0.3
baz=280,SNR=22
G27K Doyon Strip 60.81 27 P P 13 51 06.8 +0.5
baz=280
GLB Gilahina Butte 60.86 33 P P 13 51 07.0 +0.3
GLB IAmb IAmb 13 51 21.6
comp=Z,47nm,1.1s
H27K Steamboat Moun 60.97 28 P P 13 51 08.3 +0.9
baz=280
I27K Kandik River 61.04 28 P P 13 51 08.7 +0.7
baz=280,SNR=94
M26K Nabesna, AK 61.05 32 P P 13 51 07.7 -0.3
baz=281
K27K Chicken 61.15 30 P P 13 51 09.6 +1.0
baz=281
FORT Forrest 61.18 184 P P 13 51 10.1 +1.0
MCARA McCarthy VSAT 61.24 33 P P 13 51 09.1 -0.1
MCARA McCarthy VSAT 61.24 33 P P 13 51 08.6 -0.7
baz=282,SNR=5.4
E28M Babbage River 61.29 25 IAMs_20 IAMs_20 14 19 14.8
comp=Z,2µm,22.0s
E28M Babbage River 61.29 25 P P 13 51 10.1 +0.6
baz=281
MORW Morawa 61.30 196 P P 13 51 12.8 +2.9
CRQE Cirque 61.34 34 P P 13 51 09.3 -0.8
baz=282
F28M Old Crow 61.35 26 P P 13 51 10.4 +0.5
baz=281,SNR=42
EGAK Eagle 61.39 29 P P 13 51 09.6 -0.6
baz=281,SNR=7.7
D28M Stokes Point 61.43 24 P P 13 51 10.6 +0.3
baz=281
L27K Beaver Creek, 61.45 31 P P 13 51 10.4 -0.3
baz=282,SNR=21
M27K Edge Creek, AK 61.57 32 P P 13 51 11.2 -0.4
baz=282
I28M Miner Creek 61.76 28 P P 13 51 12.7 -0.1
baz=282
NOUC Port Laguerre 61.87 144 P P 13 51 18.2 +4.3
PRGR Permogore 61.91 327 *e*P P 13 51 11.6 -2.2
PRGR pmax pmax
comp=Z,67nm,1.0s
DZM Mont Dzumac 61.92 144 *e*P P 13 51 14.8 +0.4
comp=Z,124nm,1.1s
DZM *e*S S 13 59 38.5 +0.4
comp=Z,894nm,27.7s
DZM *e*LR LR 14 09 36.7
comp=Z,2µm,26.4s
DZM Mont Dzumac 61.92 144 P P 13 51 14.7 +0.3
DZM Mont Dzumac 61.92 144 P P 13 51 18.1 +3.7
DZM Mont Dzumac 61.92 144 LR LR 14 14 03.6
comp=Z,465nm,21.5s,baz=332,slow=32
E29M Blow River 61.92 25 IAMs_20 IAMs_20 14 22 01.4
comp=Z,2µm,19.0s
E29M Blow River 61.92 25 P P 13 51 12.8 -1.0
baz=282
MESA MESA 62.01 34 P P 13 51 14.2 -0.5
baz=283
BVCY Beaver Creek 62.02 32 P P 13 51 13.1 -1.5
baz=283
CTG Chitna Glacier 62.13 33 P P 13 51 15.4 0.0
baz=283
G29M Pine Creek 62.20 26 IAMs_20 IAMs_20 14 21 45.8
comp=Z,1µm,20.0s
G29M Pine Creek 62.20 26 P P 13 51 15.4 -0.2
baz=283
H29M Whitestone 62.22 27 P P 13 51 16.3 +0.5
H29M Whitestone 62.22 27 P P 13 51 15.8 0.0

baz=283
DAWY **Dawson** 62.29 30 P P 13 51 16.6 +0.3
baz=283
YUK3 **Moose Creek** 62.35 32 P P 13 51 16.9 -0.1
baz=284
I29M **Ogilvie Camp,** 62.45 28 IAMs_20 IAMs_20 14 22 47.3
comp=Z,1µm,18.0s
I29M **Ogilvie Camp,** 62.45 28 P P 13 51 16.3 -1.0
baz=284,SNR=18
BLDU **Ballidu** 62.63 195 P P 13 51 18.8 -0.1
YUK8 **Steele Glacier** 62.79 33 P P 13 51 20.0 0.0
baz=284
STKA **Stephens Creek** 62.81 171 P P 13 51 19.7 -0.3
STKA **Stephens Creek** 62.81 171 P P 13 51 20.1 +0.1
STKA **Stephens Creek** 62.81 171 P P 13 51 19.7 -0.3
STKA pmax pmax
comp=Z,7.0nm,0.8s
STKA **Stephens Creek** 62.81 171 P P 13 51 19.3 -0.7
comp=Z,19nm,0.7s,baz=343,slow=6.3,SNR=29
STKA LR LR 14 18 43.4
comp=Z,509nm,21.2s,baz=347,slow=36
comp=Z,19nm,0.7s
EPYK **Eagle Plains** 62.83 27 P P 13 51 20.0 +0.1
baz=284,SNR=52
PINM **Pinnacle** 62.86 34 P P 13 51 19.1 -1.2
baz=285
G30M **tAoh Zraii Nji** 62.87 26 IAMs_20 IAMs_20 14 22 16.7
comp=Z,1µm,19.0s
G30M **tAoh Zraii Nji** 62.87 26 P P 13 51 20.3 +0.1
baz=284,SNR=31
F30M **Barrier River** 62.88 25 P P 13 51 19.9 -0.2
baz=285,SNR=32
L29M **L29M** 63.07 31 P P 13 51 22.1 +0.5
baz=285,SNR=29
M29M **Somme Creek** 63.10 31 P P 13 51 22.6 +0.7
baz=285
K29M **Barlow Dome** 63.15 30 P P 13 51 22.8 +0.6
baz=285,SNR=28
BELG **Belogornoye** 63.16 317 *de*P P 13 51 22.2 0.0
BELG pmax pmax
comp=Z,6.0nm,0.9s
BELG **Belogornoye** 63.16 317 P P 13 51 21.6 -0.5
comp=Z,33nm,0.9s,baz=103,slow=0.1,SNR=7.8
BELG LR LR 14 21 20.6
comp=Z,4µm,19.5s,baz=69,slow=38
comp=Z,33nm,0.9s
I30M **Mount Dempster** 63.27 28 P P 13 51 23.0 0.0
I30M IAMs_20 IAMs_20 14 24 08.9
comp=Z,1µm,18.0s
I30M **Mount Dempster** 63.27 28 P P 13 51 22.8 -0.2
baz=285,SNR=64
YUK4 **Talbot Arm** 63.30 33 P P 13 51 22.5 -0.8
baz=285
KLBR **Kellerberrin** 63.35 194 P P 13 51 26.7 +3.1
comp=Z,48nm,1.0s
PNL **Peninsula** 63.38 35 P P 13 51 28.0 +4.3
PNL **Peninsula** 63.38 35 P P 13 51 23.3 -0.3
baz=286
J30M **Hart River** 63.46 29 P P 13 51 24.5 +0.3
J30M IAmb IAmb 13 51 30.1
comp=Z,44nm,1.2s
J30M **Hart River** 63.46 29 P P 13 51 23.4 -0.8
baz=286
INK **Inuvik** 63.52 24 P P 13 51 24.4 +0.1
baz=286,SNR=25
INK **Inuvik** 63.52 24 LR LR 14 21 09.8
comp=Z,964nm,21.7s,baz=314,slow=38
YUK6 **Outpost Mounta** 63.54 33 P P 13 51 25.6 +0.6
baz=286
O29M **Mount Kennedy** 63.61 34 P P 13 51 25.1 -0.2
baz=286,SNR=7.4
G31M **Satah River** 63.63 26 IAMs_20 IAMs_20 14 22 47.6
comp=Z,1µm,21.0s
G31M **Satah River** 63.63 26 P P 13 51 24.5 -0.6
baz=286,SNR=16
F31M **Tsiigehtchic** 63.68 25 IAMs_20 IAMs_20 14 23 04.9
comp=Z,1µm,19.0s
F31M **Tsiigehtchic** 63.68 25 P P 13 51 25.5 +0.1
baz=286,SNR=25
M30M **Minto, Yukon** 63.81 31 P P 13 51 26.8 +0.4
M30M **Minto, Yukon** 63.81 31 P P 13 51 26.1 -0.3
baz=286,SNR=14
MAYO **Mayo, Yukon** 63.91 30 P P 13 51 28.0 +0.9
baz=286,SNR=6.1
H31M **Peel River** 63.92 27 P P 13 51 27.4 +0.3
baz=287
HYT **Haines Junctio** 63.98 33 P P 13 51 28.4 +0.7
baz=286
N30M **Aishikik Lake** 63.99 32 P P 13 51 28.5 +0.8
baz=286
HTT **Hallett** 64.03 174 P P 13 51 28.6 +0.4
P29M **Windy Craggy** 64.20 34 P P 13 51 29.0 -0.1
baz=287
P30M **Million Dollar** 64.44 34 P P 13 51 31.3 +0.6
baz=287
N31M **Braeburn, Yuko** 64.58 32 P P 13 51 32.6 +1.1
baz=288,SNR=15
O30N **Mendenhall** 64.65 33 P P 13 51 33.6 +1.6
baz=288
NWAO **Narrogin (SRO)** 64.75 194 P P 13 51 35.0 +2.2
NWAO **Narrogin (SRO)** 64.75 194 P P 13 51 33.2 +0.4
NWAO **Narrogin (SRO)** 64.75 194 LR LR 14 22 11.9
comp=Z,306nm,19.6s,baz=40,slow=38
KLMR **Klimovskoe** 64.97 327 *e*P P 13 51 33.0 -1.0
KLMR AMP 13 51 38.4
comp=Z,180nm,1.7s
KLMR *e*PP PP 13 53 50.6 -5.9
KLMR LQ LQ 14 15 00.1
KLMR LQ LQ 14 15 00.1
KLMR LR LR 14 16 40.0
KLMR AMP 14 24 47.9
comp=Z,5µm,13.1s
KLMR **Klimovskoe** 64.97 327 *e*P P 13 51 33.0 -1.0
KLMR pmax pmax
comp=Z,180nm,1.7s
KLMR MLR MLR
comp=Z,5µm,13.0s
A36M **Sachs Harbour** 64.98 20 P P 13 51 34.1 +0.2
baz=292,SNR=56
M31M **Drury Creek, Y** 64.99 31 P P 13 51 33.9 -0.2
baz=288,SNR=16
SPA0 **Spitsbergen Ar** 65.24 348 *e*P P 13 51 32.4 -3.2
SPITS **Spitsbergen Ar** 65.24 348 P P 13 51 34.2 -1.3
comp=Z,13nm,0.7s,baz=62,slow=13,SNR=1.5
SPITS LR LR 14 23 25.7
comp=Z,2µm,19.0s,baz=11,slow=39
comp=Z,13nm,0.7s
WHY **Whitehorse** 65.25 33 P P 13 51 35.6 -0.5
baz=289
APA **Apatity** 65.28 335 ‖ *i*P P 13 51 34.9 -1.0
APA *i* S S 14 00 26.0 +7.2
APA *i* PS PnS 14 00 45.0 +7.4
APA pmax pmax
comp=Z,19nm,1.0s
DQTI **Dogotuki** 65.40 129 P P 13 51 41.7 +4.3
SKAG **Skagway** 65.43 34 P P 13 51 38.6 +1.6
SKAG **Skagway** 65.43 34 P P 13 51 35.5 -1.4
baz=289
FARO **Faro, Yukon** 65.44 31 P P 13 51 37.1 0.0
FARO **Faro, Yukon** 65.44 31 P P 13 51 37.2 +0.1
baz=289,SNR=49
S31K **Pelican** 65.46 36 P P 13 51 36.1 -1.1
baz=289
KBS **Kingsbay** 65.57 349 *e*P P 13 51 38.1 +0.5
VADS **Vadso** 65.71 339 *e*P P 13 51 40.0 +1.4
SHME **Shamm** 65.81 287 *i*P P 13 51 38.2 -1.8
SNR=6.5
N32M **Quiet Lake** 65.92 32 P P 13 51 40.2 0.0
baz=290
P32M **Atlin** 66.16 34 P P 13 51 40.6 -1.2
baz=290
MAK **Makhachkala** 66.17 307 *e*P P 13 51 41.1 -1.0
MAK *e*S S 14 00 31.3 +0.9
MAK *e*SS SS 14 04 43.9 -1.9
MAK pmax pmax
comp=Z,357nm,1.9s
UOSS **Minazif** 66.20 286 P P 13 51 40.9 -1.7
R32K **Eaglecrest** 66.22 35 P P 13 51 40.4 -1.7
baz=290
SIT **Sitka** 66.22 37 P P 13 51 41.4 -0.7
baz=290
SOHO **SOHO** 66.26 285 *i*P P 13 51 40.9 -2.0
SNR=9.8
JIS **Juneau Island** 66.28 35 P P 13 51 47.2 +4.7
HATD **Hatta, Dubai** 66.31 286 *i*P P 13 51 42.5 -0.8
SNR=14
P33M **Teslin, Yukon** 66.37 33 P P 13 51 43.1 -0.1
baz=290,SNR=22
C36M **Paulatuk** 66.38 22 IAMs_20 IAMs_20 14 25 11.1
comp=Z,1µm,20.0s
C36M **Paulatuk** 66.38 22 P P 13 51 42.8 -0.2
baz=294,SNR=91
ASHO **Ashiyiah** 66.43 286 *i*P P 13 51 44.7 +0.7
SNR=6.3
S32K **Kiilisnoo** 66.46 36 P P 13 51 43.3 -0.4
baz=290
NAZ **Nazwa, Dubai** 66.63 286 *i*P P 13 51 45.5 +0.1
SNR=5.7
ALE **Alert** 66.87 2 IAMs_20 IAMs_20 14 22 23.7
comp=Z,1µm,19.0s
ALNE **Al Ain** 66.94 285 *i*P P 13 51 47.8 +0.5
SNR=8.9
VRH **Novokhopyorsk** 67.01 317 *e*P P 13 51 47.4 +0.1
VRH pmax pmax
comp=Z,10.0nm,0.6s
VRH MLR MLR
comp=Z,4µm,16.0s
ASUD **Al Ashush, Dub** 67.06 286 P P 13 51 48.3 +0.2
Q32M **Nakina River** 67.08 34 P P 13 51 46.5 -1.4
baz=291
ARA0 **ARCESS Array S** 67.17 339 *e*P P 13 51 49.0 +0.9
ARCES **ARCESS Array B** 67.17 339 P P 13 51 47.5 -0.5
comp=Z,5.0nm,0.7s,baz=64,slow=7.7,SNR=14
ARCES LR LR 14 26 07.9
comp=Z,3µm,19.6s,baz=64,slow=40
comp=Z,5.0nm,0.7s
HAMF **Hammerfest** 67.22 340 *e*P P 13 51 49.2 +0.8
HAMF IAmb IAmb 13 51 51.3
comp=Z,180nm,1.6s
T33K **Petersburg** 67.53 36 P P 13 51 50.4 -0.1
baz=292
R33M **Jennings River** 67.54 33 P P 13 51 50.2 -0.5
baz=292
MOS **Moscow** 67.66 322 *e*P P 13 51 52.6 +1.3
MOS *e* 13 52 16.8
MOS *e* 13 54 24.3
MOS *e*S S 14 00 54.3 +6.4
MOS pmax pmax
comp=Z,80nm,0.9s
MOS MLR MLR
comp=Z,4µm,14.0s
MOS MLR MLR
comp=E,3µm,15.0s
U33K **Whale Pass** 67.70 37 P P 13 51 49.9 -1.7
baz=292
CRAG **Craig** 67.94 38 P P 13 51 52.4 -0.7
baz=292
WRAK **Wrangell Islan** 67.98 37 P P 13 51 53.9 +0.5
baz=292
S34M **Telegraph Cree** 68.02 35 P P 13 51 54.2 +0.6
baz=293,SNR=14
LPSR **Galich'ya Gora** 68.11 319 *e*P P 13 51 53.5 -0.7
LPSR pmax pmax
comp=Z,30nm,0.9s
LPSR MLR MLR
comp=Z,1µm,10.0s
KTK1 **Kautokeino** 68.13 338 *e*P P 13 51 54.9 +0.8
KTK1 IAmb IAmb 13 51 58.5
comp=Z,22nm,0.8s
WTLY **Watson Lake, Y** 68.27 32 P P 13 51 55.8 +0.6
baz=294,SNR=25
VORR **Voronezh** 68.30 318 *e*P P 13 51 55.1 -0.3
VORR pmax pmax
comp=Z,86nm,2.2s
DLBC **Dease Lake** 68.36 34 P P 13 51 56.3 +0.6
DLBC IAmb IAmb 13 52 10.7
comp=Z,80nm,1.4s
DLBC **Dease Lake** 68.36 34 P P 13 51 56.1 +0.3
baz=293,SNR=8.9
DLBC **Dease Lake** 68.36 34 LR LR 14 25 36.3
comp=Z,383nm,18.1s,baz=321,slow=39
GOF **Gofitskoye** 68.42 310 *ce*P P 13 51 56.1 -0.2
OBN **Obninsk** 68.45 322 ‖ *e*P P 13 51 57.2 +0.9
OBN *e* 13 54 35.5
OBN *e*S S 14 00 54.1 -3.3
OBN pmax pmax
comp=Z,27nm,1.0s
OBN MLR MLR
comp=Z,3µm,15.0s
OBN **Obninsk** 68.45 322 LR LR 14 25 24.6
comp=Z,3µm,18.2s,baz=61,slow=39
VSR **Storozhevoye** 68.50 318 *e*P P 13 51 54.0 -2.7
VSR pmax pmax
comp=Z,30nm,1.2s
VSR MLR MLR
comp=Z,5µm,16.0s
VORD **Divnogorie** 68.52 317 *e*P P 13 51 55.9 -0.9
VORD pmax pmax
comp=Z,10.0nm,0.9s
ZEI **Tsey** 68.70 308 *e*P P 13 51 57.4 -1.0
ZEI pmax pmax
comp=Z,22nm,0.9s
BRAT **Ballarat** 68.72 170 P P 13 51 59.9 +1.9
comp=Z,36nm,0.9s
V35K **Ketchikan** 68.79 38 P P 13 51 59.8 +1.4
baz=293
T35M **Bob Quinn** 68.83 36 P P 13 51 59.7 +1.0
baz=294,SNR=12
TOO **Toolangi** 68.99 169 P P 13 52 00.2 +0.4
TOO IAmb IAmb 13 52 06.2
comp=Z,31nm,0.9s
TOO **Toolangi** 68.99 169 P P 13 52 00.8 +1.0
TOO **Toolangi** 68.99 169 P P 13 52 00.2 +0.4
TOO pmax pmax
comp=Z,31nm,0.9s
KBZ **Khabaz** 69.02 309 *c* iP P 13 52 00.1 +0.1
KBZ pmax pmax
comp=Z,115nm,2.4s
KBZ MLR MLR
comp=Z,3µm,21.0s
KBZ **Khabaz** 69.02 309 P P 13 51 59.5 -0.5
comp=Z,24nm,0.8s,baz=81,slow=3.8,SNR=27
KBZ LR LR 14 23 34.3
comp=Z,2µm,21.4s,baz=66,slow=37
comp=Z,24nm,0.8s
TRLG **Trieti** 69.04 307 P P 13 51 59.8 -0.7
KVAR **Kislovodsk Arr** 69.07 309 P P 13 52 00.3 -0.2
comp=Z,2.0nm,0.4s,baz=83,slow=19,SNR=2.0
KVAR LR LR 14 25 24.1
comp=Z,2µm,19.1s,baz=294,slow=39
comp=Z,2.0nm,0.4s
KIV **Kislovodsk** 69.07 309 *i*P P 13 51 59.1 -1.5
SNR=22
KIV **Kislovodsk** 69.07 309 *e*P P 13 52 00.6 +0.1
KIV *e* 13 54 32.8
KIV *e*S S 14 01 06.3 +0.8
KIV pmax pmax
comp=Z,47nm,3.5s
KIV pmax pmax
comp=Z,40nm,1.1s
KIV MLR MLR
comp=Z,2µm,17.0s
ONI **Oni** 69.08 308 P P 13 51 59.9 -0.7
GNI **Garni** 69.13 305 IAMs_20 IAMs_20 14 26 58.2
comp=Z,2µm,20.0s
GNI **Garni** 69.13 305 *ce*P P 13 52 02.2 +1.1
GNI pmax pmax
comp=Z,11nm,0.7s
GNI **Garni** 69.13 305 P P 13 52 00.9 -0.2
comp=Z,12nm,0.7s,baz=84,slow=9.2,SNR=2.4
GNI LR LR 14 25 55.6
comp=Z,1µm,19.9s,baz=68,slow=39
comp=Z,12nm,0.7s
WRGLY **Wrigley** 69.24 28 P P 13 52 01.6 +0.5
baz=297,SNR=21
U35K **Hyder** 69.38 37 P P 13 52 02.5 +0.5
baz=294
AKH **Akhalkalaki** 69.52 307 P P 13 52 03.5 +0.1
KOTAN **Kotaneelee Air** 70.41 31 P P 13 52 08.4 +0.1
baz=297
RES **Resolute Bay** 70.59 12 P P 13 52 08.9 -0.3
RES IAMs_20 IAMs_20 14 25 53.1
comp=Z,1µm,20.0s
RES **Resolute Bay** 70.59 12 P P 13 52 08.9 -0.3
RES pmax pmax
comp=Z,73nm,1.1s
RES MLR MLR
comp=Z,1µm,20.0s
FLDN **Fort Liard** 70.61 31 P P 13 52 09.6 0.0
baz=298
FINES **FINESS Array B** 70.71 331 P P 13 52 08.6 -1.6
comp=Z,48nm,0.7s,baz=72,slow=6.2,SNR=46
FINES LR LR 14 26 36.0
comp=Z,2µm,20.5s,baz=64,slow=39
comp=Z,48nm,0.7s
STEI **Steigen** 71.20 339 *e*P P 13 52 14.4 +1.4
DAG **Danmarks Havn** 71.33 353 P P 13 52 14.1 +0.4
DAG **Danmarks Havn** 71.33 353 *i*P P 13 52 12.8 -0.9
DAG IAmb IAmb 13 52 18.4
comp=Z,13nm,0.9s
FAUS **Fauske** 71.51 339 *e*P P 13 52 15.8 +0.9
LOF **Lofoten** 71.60 340 *e*P P 13 52 15.1 -0.3
VSU **Vasula** 71.86 328 *e*P P 13 52 17.9 +0.7
BBB **Bella Bella** 72.00 40 LR LR 14 20 23.3
comp=Z,334nm,21.8s,baz=312,slow=33
MEF **Metsahovi** 72.03 330 *e*P P 13 52 18.2 +0.1
NEEM **North Greenlan** 72.17 1 *i*P P 13 52 17.4 -1.7
NEEM IAmb IAmb 13 52 26.4
comp=Z,9.6nm,0.8s
ANN **Anapa** 72.17 312 *e*P P 13 52 21.5 +2.3
ANN *e* 13 52 37.3
ANN pmax pmax
comp=Z,115nm,2.2s
ANN MLR MLR
comp=N,4µm,24.0s
ANN MLR MLR
comp=Z,4µm,23.0s
ANN MLR MLR
comp=E,3µm,22.0s
MOR8 **Moi Rana** 72.50 338 *e*P P 13 52 20.1 -0.8
RAF **Rauma** 72.73 331 *e*P P 13 52 22.6 +0.4
STOK **Stokkvaagen** 72.86 338 *e*P P 13 52 24.0 +1.0
MTSE **Matsula** 73.06 329 *e*P P 13 52 25.0 +0.7
YKA **Yellowknife Ar** 73.11 26 P P 13 52 23.8 -0.8
YKA **Yellowknife Ar** 73.11 26 *ce*P P 13 52 24.1 -0.4
YKA pmax pmax
comp=Z,7.0nm,0.8s
YKA **Yellowknife Ar** 73.11 26 P P 13 52 23.9 -0.6
comp=Z,7.3nm,0.8s,baz=301,slow=5.8,SNR=62
comp=Z,7.3nm,0.8s
MNK **Minsk** 73.24 324 *i*P P 13 52 28.9 +3.5
comp=E,4.0nm,0.9s
MNK *i*P P 13 52 28.9 +3.5
comp=N,16nm,0.8s
MNK *i*P P 13 52 28.9 +3.5
comp=Z,24nm,0.9s,baz=61
MNK *i* PcP PcP 13 52 45.1 +3.2
MNK *i* PP PP 13 55 36.7 +29
MNK *i* PPP PPP 13 57 16.2
MNK *i* S SKiKP 14 01 58.0 +1.2
MNK *i* SS SS 14 07 53.7 +80
MNK *i* SSS SSS 14 09 41.5
MNK *i* LQ LQ 14 19 44.7
MNK *i* LR LR 14 22 20.7
MNK *i* LRM MLR 14 27 04.0
comp=N,2µm,18.3s
MNK *i* LRM MLR 14 27 18.8
comp=Z,2µm,18.4s
MNK *i* LRM MLR 14 27 24.1
comp=E,592nm,18.4s
MNK **Minsk** 73.24 324 *i*P P 13 52 28.9 +3.5
MNK *i* 13 52 45.1
MNK *i* S SKiKP 14 01 57.9 +1.2
MNK *i* SSS SSS 14 09 41.5
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,24nm,0.9s
MNK pmax pmax
comp=N,16nm,0.9s
MNK MLR MLR
comp=N,2µm,18.0s
MNK MLR MLR
comp=Z,2µm,18.0s
MNK MLR MLR
comp=E,592nm,18.0s
NACGM **Naroch** 73.59 324 ⇑ *i*P P 13 52 30.3 +2.8
comp=Z,45nm,1.1s,baz=60
DBG **Daneborg** 73.74 352 *i*P P 13 52 27.4 -0.7
DBG IAmb IAmb 13 52 45.2
comp=Z,6.7nm,0.9s
ARPR **Arapgir-MALATY** 74.07 306 IAMs_20 IAMs_20 14 28 45.8
comp=Z,2µm,22.0s
SLIT **Slitere, Latvi** 74.32 328 *e*P P 13 52 33.1 +1.4
NSS **Namsos** 74.33 337 *e*P P 13 52 31.6 -0.1
AKASG **Malin Array Be** 74.38 320 *ce*P P 13 52 30.7 -1.5
AKASG pmax pmax
comp=Z,14nm,0.7s
AKASG **Malin Array Be** 74.38 320 P P 13 52 30.5 -1.8
comp=Z,21nm,0.7s,baz=53,slow=6.0,SNR=41
AKASG LR LR 14 29 00.9
comp=Z,2µm,18.1s,baz=58,slow=39
comp=Z,21nm,0.7s
AKBB **Malin Array Si** 74.38 320 ‖ *e*P P 13 52 30.2 -2.0
KIEV **Kiev** 74.40 320 *i*P P 13 52 29.7 -2.6
SNR=17
KIEV **Kiev** 74.40 320 P P 13 52 32.0 -0.3
PABE **Paberze** 74.67 326 *e*P P 13 52 34.4 +0.7
JMIC **Jan Mayen** 74.90 348 LR LR 14 27 42.2
comp=Z,478nm,19.2s,baz=49,slow=38
UPP **Uppsala** 75.08 332 *e*P P 13 52 36.1 +0.1
GAZ **Gaziantep** 75.73 305 IAMs_20 IAMs_20 14 30 13.9
comp=Z,2µm,22.0s
SUW **Suwalki** 75.86 325 *e*P P 13 52 42.0 +1.4
SUW **Suwalki** 75.86 325 *e*P P 13 52 42.8 +2.2
RAO **Raoul Island** 76.24 136 LR LR 14 21 55.5
comp=Z,217nm,21.8s,baz=265,slow=32
VIKU **Vikbolandet** 76.27 331 *e*P P 13 52 43.0 +0.1
HFS **Hagfors** 76.49 333 P P 13 52 42.5 -1.6
comp=Z,52nm,1.0s,baz=61,slow=7.6,SNR=14
HFS LR LR 14 29 20.1
comp=Z,2µm,21.7s,baz=44,slow=38
comp=Z,52nm,1.0s
NB2 **NORSAR Subarra** 76.85 335 P P 13 52 44.8 -1.4
comp=Z,348nm,2.5s,baz=48,slow=5.9
NB2 **NORSAR Subarra** 76.85 335 P P 13 52 44.8 -1.4
baz=48,slow=5.9
NB2 **NORSAR Subarra** 76.85 335 P P 13 52 43.5 -2.7
NB2 pmax pmax
comp=Z,559nm,2.4s
NOA **NORSAR Array B** 76.85 335 P P 13 52 44.8 -1.4
comp=Z,30nm,1.0s,baz=50,slow=5.6,SNR=23
NOA LR LR 14 30 22.0
comp=Z,2µm,19.8s,baz=40,slow=39
comp=Z,30nm,1.0s
SUMG **Summit** 76.87 357 P P 13 52 49.7 +3.1
SUMG **Summit** 76.87 357 *i*P P 13 52 46.0 -0.6
SUMG IAmb IAmb 13 52 52.5
comp=Z,32nm,0.9s
NC602 **NORSAR Array S** 76.92 334 *e*P P 13 52 47.3 +0.7
NC602 IAmb IAmb 13 52 49.5
comp=Z,87nm,1.4s
NORES **NORESS Array B** 76.92 334 P P 13 52 49.1 +2.5
DOMB **Dombas** 76.96 336 *e*P P 13 52 46.7 -0.1
DOMB IAmb IAmb 13 52 50.4
comp=Z,104nm,1.1s
KLNR **Kaliningrad** 76.97 326 ⇑ *e*P P 13 52 47.8 +0.9
KLNR pmax pmax
comp=Z,63nm,1.1s
BR131 **Keskin Array S** 76.99 308 ⇑ *e*P P 13 52 46.7 -0.9
BRTR **Keskin Array B** 76.99 308 *ce*P P 13 52 46.7 -0.9
BRTR pmax pmax
comp=Z,12nm,0.7s
BRTR **Keskin Array B** 76.99 308 P P 13 52 46.5 -1.1
comp=Z,7.5nm,0.7s,baz=85,slow=4.8,SNR=30
BRTR LR LR 14 32 45.0
comp=Z,730nm,18.2s,baz=60,slow=40
comp=Z,7.5nm,0.7s
MOL **Molde** 77.12 337 *e*P P 13 52 47.9 +0.3
MOL IAmb IAmb 13 52 51.7
comp=Z,40nm,0.9s
SCO **Scoresbysund** 77.47 351 *i*P P 13 52 48.3 -1.2
SCO IAmb IAmb 13 52 54.7
comp=Z,8.2nm,1.0s
ANTO **Ankara** 77.49 309 IAMs_20 IAMs_20 14 31 33.3
comp=Z,1µm,21.0s
AKN **Aaknes** 77.58 337 *e*P P 13 52 50.2 0.0
LVV **L'vov** 77.69 321 *e*P P 13 52 52.8 +1.7
TPGR **Topolog** 77.79 315 ⇑P P 13 52 52.4 +0.7
CFR **Carcaliu** 77.80 315 ⇑P P 13 52 51.9 +0.1
CFR **Carcaliu** 77.80 315 P P 13 52 51.8 +0.1
TESR **Tescani** 77.99 317 ⇑P P 13 52 53.2 +0.4
TIRR **Tirgusor** 78.00 315 ⇑P P 13 52 53.3 +0.4
TIRR **Tirgusor** 78.00 315 P P 13 52 53.3 +0.4
SKAR **Skarslia** 78.15 335 *e*P P 13 52 54.5 +1.0
SKAR IAmb IAmb 13 52 58.3
comp=Z,75nm,1.1s
BURAR **Bucovina Array** 78.23 319 ‖ P P 13 52 53.9 -0.4
BURAR **Bucovina Array** 78.23 319 P P 13 52 53.9 -0.4

VRI	**Vrincioaia**	**78.28**	**317**	⇑P		**P**		**13 52 55.3**	**+0.8**
VRI	**Vrincioaia**	**78.28**	**317**	P		**P**		**13 52 55.2**	**+0.8**
ASF	**Jabal al Asfar**	**78.31**	**300**	P		**P**		**13 52 54.2**	**-0.8**
	comp=Z,8.6nm,0.7s,baz=40,slow=3.5,SNR=10								
ASF				LR		LR		14 30 51.6	
	comp=Z,747nm,19.9s,baz=102,slow=38								
	comp=Z,8.6nm,0.7s								
PLOR	**Plostina**	**78.33**	**317**	⇑P		**P**		**13 52 55.5**	**+0.7**
PLOR	**Plostina**	**78.33**	**317**	P		**P**		**13 52 55.5**	**+0.7**
BISRR	**Bisoca**	**78.46**	**316**	⇑P		**P**		**13 52 56.2**	**+0.6**
TURR	**Turia**	**78.60**	**317**	⇑P		**P**		**13 52 56.3**	**+0.1**
OZUR		**78.71**	**317**	⇑P		**P**		**13 52 56.9**	**0.0**
DEL	**Delary**	**78.73**	**330**	*e*P		**P**		**13 52 55.5**	**-1.2**
MLR	**Muntele Rosu**	**78.95**	**316**	⇑P		**P**		**13 52 58.1**	**-0.3**
MLR	**Muntele Rosu**	**78.95**	**316**	P		**P**		**13 52 58.0**	**-0.3**
MLR	**Muntele Rosu**	**78.95**	**316**	P		**P**		**13 52 57.5**	**-0.8**
	comp=Z,12nm,1.0s,baz=86,slow=6.4,SNR=4.4								
MLR				LR		LR		14 31 08.9	
	comp=Z,5µm,21.5s,baz=60,slow=38								
	comp=Z,12nm,1.0s								
MMAI	**Mount Meron Ar**	**79.01**	**302**	P		**P**		**13 52 58.8**	**0.0**
	comp=Z,7.3nm,0.7s,baz=71,slow=8.0,SNR=6.8								
MMAI				LR		LR		14 31 36.3	
	comp=Z,803nm,21.6s,baz=34,slow=38								
	comp=Z,7.3nm,0.7s								
BSD	**Bornholm Skovb**	**79.12**	**329**	*e*P		**P**		**13 52 58.9**	**0.0**
BSD	**Bornholm Skovb**	**79.12**	**329**	*i* P		**P**		**13 53 00.7**	**+1.8**
BSD				IAmb		IAmb		13 53 03.5	
	comp=Z,38nm,0.8s								
KOLS	**Kolonicke sedl**	**79.14**	**321**	*e*P		**P**		**13 52 59.0**	**-0.2**
KOLS	**Kolonicke sedl**	**79.14**	**321**	*e*P		**P**		**13 52 59.0**	**-0.2**
KOLS				pmax		pmax			
	comp=Z,14nm,0.9s								
BMR	**Baia Mare**	**79.17**	**319**	P		**P**		**13 53 00.7**	**+1.4**
ODD1	**Odda**	**79.29**	**335**	*e*P		**P**		**13 53 01.2**	**+1.4**
STHS	**Stebnicka Huta**	**79.42**	**322**	*e*P		**P**		**13 53 00.8**	**+0.1**
STHS	**Stebnicka Huta**	**79.42**	**322**	*e*P		**P**		**13 53 00.8**	**+0.1**
VOIR		**79.50**	**317**	⇑P		**P**		**13 53 01.6**	**+0.3**
VOIR		**79.50**	**317**	P		**P**		**13 53 01.6**	**+0.3**
CRVS	**Cervenica-Dubn**	**79.60**	**321**	*e*P		**P**		**13 53 02.9**	**+1.2**
CRVS	**Cervenica-Dubn**	**79.60**	**321**	*e*P		**P**		**13 53 02.9**	**+1.2**
CRVS				pmax		pmax			
	comp=Z,519nm,2.6s								
LOZB	**Loznitsa**	**79.69**	**314**	⇑P		**P**		**13 53 03.0**	**+0.8**
OJC	**Ojcow**	**79.72**	**323**	*e*P		**P**		**13 53 02.8**	**+0.5**
GHAJ	**Ghor Haditha**	**79.73**	**300**	IAMs_20		IAMs_20		14 34 57.0	
	comp=Z,1µm,20.0s								
ARR	**Arges**	**79.79**	**317**	⇑P		**P**		**13 53 03.3**	**+0.4**
COP	**Copenhagen**	**79.85**	**330**	*i* P		**P**		**13 53 05.7**	**+2.9**
COP				IAmb		IAmb		13 53 08.3	
	comp=Z,83nm,0.8s								
NIE	**Niedzica**	**79.92**	**322**	*e*P		**P**		**13 53 05.0**	**+1.6**
MARR	**Marisel-Cluj**	**79.94**	**319**	⇑P		**P**		**13 53 03.2**	**-0.4**
ISP	**Isparta**	**80.05**	**308**	IAMs_20		IAMs_20		14 31 27.1	
	comp=Z,1µm,22.0s								
NEW	**Newport**	**80.06**	**39**	P		**P**		**13 53 05.1**	**+0.9**
	baz=305,SNR=7.9								
NEW	**Newport**	**80.06**	**39**	P		**P**		**13 53 06.0**	**+1.8**
NEW	**Newport**	**80.06**	**39**	LR		LR		14 28 47.6	
	comp=Z,196nm,20.9s,baz=313,slow=36								
ELND	**Elena**	**80.37**	**314**	⇑P		**P**		**13 53 05.4**	**-0.5**
URZ	**Urewera**	**80.38**	**146**	LR		LR		14 23 50.0	
	comp=Z,270nm,21.8s,baz=136,slow=32								
YBH	**Yreka Blue Hor**	**80.40**	**47**	LR		LR		14 22 01.1	
	comp=Z,369nm,21.5s,baz=318,slow=31								
ICESG	**Greenland Ices**	**80.40**	**357**	*i* P		**P**		**13 53 06.2**	**+0.2**
ICESG				IAmb		IAmb		13 53 20.6	
	comp=Z,17nm,0.9s								
OKC	**Ostrava-Krasne**	**80.80**	**323**	AMS		AMS		14 34 10.0	
	comp=Z,3µm,13.9s								
GZR	**Gura Zlata**	**80.86**	**318**	⇑P		**P**		**13 53 08.1**	**-0.5**
PSZ	**Piszkesteto**	**81.02**	**321**	P		**P**		**13 53 10.9**	**+1.5**
SURR	**Surduc**	**81.03**	**318**	⇑P		**P**		**13 53 09.0**	**-0.4**
KSP	**Ksiaz**	**81.13**	**325**	*e*P		**P**		**13 53 11.1**	**+1.3**
MORC	**Moravsky Berou**	**81.15**	**323**	⇑P		**P**		**13 53 09.9**	**-0.1**
MORC	**Moravsky Berou**	**81.15**	**323**	*e*P		**P**		**13 53 09.8**	**-0.2**
MORC	**Moravsky Berou**	**81.15**	**323**	P		**P**		**13 53 09.9**	**-0.1**
SSRD	**Sdr. Stenderup**	**81.18**	**331**	*i* P		**P**		**13 53 12.4**	**+2.4**
SSRD				IAmb		IAmb		13 53 14.8	
	comp=Z,72nm,0.9s								
VYHS	**Vyhne**	**81.25**	**322**	*e*P		**P**		**13 53 11.9**	**+1.4**
VYHS	**Vyhne**	**81.25**	**322**	*e*P		**P**		**13 53 11.9**	**+1.4**
VYHS				pmax		pmax			
	comp=Z,154nm,1.8s								
MAUC	**Maruska**	**81.25**	**323**	*e*P		**P**		**13 53 11.8**	**+1.2**
MAUC				AMS		AMS		14 34 20.0	
	comp=Z,4µm,13.7s								
RUE	**Ruedersdorf**	**81.31**	**327**	*e*P		**P**		**13 53 12.2**	**+1.5**
OSTC	**Ostas**	**81.35**	**325**	*e*P		**P**		**13 53 10.8**	**-0.2**
OSTC				AMS		AMS		14 34 10.0	
	comp=Z,3µm,14.4s								
OSTC	**Ostas**	**81.35**	**325**	*e*P		**P**		**13 53 10.8**	**-0.2**
OSTC				MLR		MLR			
	comp=Z,3µm,14.4s								
KRLC	**Kraliky**	**81.36**	**324**	*e*P		**P**		**13 53 10.6**	**-0.5**
KRLC				AMS		AMS		14 33 50.0	
	comp=Z,4µm,16.9s								
KRLC	**Kraliky**	**81.36**	**324**	*e*P		**P**		**13 53 10.6**	**-0.5**
KRLC				MLR		MLR			
	comp=Z,4µm,16.9s								
ALN	**Alexandroupoli**	**81.37**	**313**	IAMs_20		IAMs_20		14 34 19.6	
	comp=Z,2µm,21.0s								
BZS	**Buzias**	**81.40**	**318**	⇑P		**P**		**13 53 11.7**	**+0.3**
BZS	**Buzias**	**81.40**	**318**	P		**P**		**13 53 11.6**	**+0.3**
CHVC	**Chvalec**	**81.41**	**325**	*e*P		**P**		**13 53 11.0**	**-0.3**
CHVC				AMS		AMS		14 34 20.0	
	comp=Z,4µm,14.6s								
CHVC	**Chvalec**	**81.41**	**325**	*e*P		**P**		**13 53 11.0**	**-0.3**
CHVC				MLR		MLR			
	comp=Z,4µm,14.6s								
DPC	**Dobruska-Polom**	**81.42**	**324**	*e*P		**P**		**13 53 11.1**	**-0.3**
DPC				*e*pP		**pP**		**13 53 15.9**	**+0.6**
DPC				AMS		AMS		14 33 40.0	
	comp=Z,3µm,14.2s								
DPC	**Dobruska-Polom**	**81.42**	**324**	*e*P		**P**		**13 53 11.1**	**-0.3**
DPC				*e*				13 53 15.9	
DPC				MLR		MLR			
	comp=Z,3µm,14.2s								
UPC	**Upice**	**81.48**	**325**	*e*P		**P**		**13 53 11.6**	**-0.1**
UPC				AMS		AMS		14 34 20.0	
	comp=Z,4µm,14.4s								
UPC	**Upice**	**81.48**	**325**	*e*P		**P**		**13 53 11.6**	**-0.1**
UPC				MLR		MLR			
	comp=Z,4µm,14.4s								
JAVC	**Velka Javorina**	**81.64**	**323**	*e*P		**P**		**13 53 14.3**	**+1.6**
MDVR	**Moldovita**	**81.83**	**318**	⇓P		**P**		**13 53 12.9**	**-0.8**
BLKB	**Belogradchik**	**81.93**	**316**	⇓P		**P**		**13 53 14.0**	**-0.2**
BSEG	**Bad Segeberg**	**81.93**	**329**	*e*P		**P**		**13 53 13.5**	**-0.5**
	comp=Z,76nm,1.0s,baz=47,slow=5.1								
BSEG				*e*pP		**pP**		**13 53 18.2**	**+0.4**
	baz=47,slow=5.0								
VRAC	**Vranov**	**81.93**	**323**	⇓P		**P**		**13 53 13.4**	**-0.7**
VRAC	**Vranov**	**81.93**	**323**	*e*P		**P**		**13 53 14.9**	**+0.8**
VRAC	**Vranov**	**81.93**	**323**	P		**P**		**13 53 14.4**	**+0.3**
	comp=Z,26nm,0.9s,baz=67,slow=6.0,SNR=14								
	comp=Z,26nm,0.9s								
YER	**Yerkesik**	**81.93**	**308**	P		**P**		**13 53 14.1**	**-0.3**
SRO	**Srobarova**	**81.94**	**321**	*e*P		**P**		**13 53 16.0**	**+1.9**
SRO	**Srobarova**	**81.94**	**321**	*e*P		**P**		**13 53 16.0**	**+1.9**
SRO				pmax		pmax			
	comp=Z,439nm,2.9s								
SMOL	**Smolenice**	**81.98**	**322**	*e*P		**P**		**13 53 16.3**	**+1.9**
SMOL				pmax		pmax			
	comp=Z,36nm,1.2s								
GORT1	**Trebel**	**82.12**	**328**	*e*P		**P**		**13 53 15.0**	**+0.1**
	comp=Z,155nm,1.3s,baz=47,slow=5.1								
GORT1				*e*pP		**PcP**		**13 53 19.7**	**-0.6**
	baz=47,slow=5.0								
RPZ	**Rata Peaks**	**82.13**	**153**	LR		LR		14 26 00.6	
	comp=Z,265nm,20.4s,baz=327,slow=33								
MODS	**Modra-Piesok**	**82.15**	**322**	*e*P		**P**		**13 53 17.0**	**+1.7**
MODS	**Modra-Piesok**	**82.15**	**322**	*e*P		**P**		**13 53 17.0**	**+1.7**
MODS				pmax		pmax			
	comp=Z,195nm,1.4s								
PVCC	**Panska Ves**	**82.18**	**325**	*e*P		**P**		**13 53 16.1**	**+0.7**
PVCC				*ex*		x		13 53 19.9	
PVCC				AMS		AMS		14 35 20.0	
	comp=Z,4µm,14.9s								
PVCC	**Panska Ves**	**82.18**	**325**	*e*P		**P**		**13 53 16.1**	**+0.7**
PVCC				*e*				13 53 19.9	
PVCC				MLR		MLR			
	comp=Z,4µm,14.9s								
KRUC	**Moravsky**	**82.18**	**323**	*e*P		**P**		**13 53 16.0**	**+0.6**
BRG	**Berggiesshubel**	**82.27**	**326**	P		P		13 53 24.7	+8.9
BRG				Amp				13 53 25.6	
	comp=Z,12nm,0.9s								
BRG	**Berggiesshubel**	**82.27**	**326**	S		S		14 03 20.0	-11
ZST	**Bratislava**	**82.35**	**322**	*e*P		**P**		**13 53 18.5**	**+2.2**
ZST	**Bratislava**	**82.35**	**322**	*e*P		**P**		**13 53 18.5**	**+2.2**
RICC	**Richard**	**82.40**	**325**	*e*P		P		13 53 21.3	+4.8
RICC				AMS		AMS		14 35 40.0	
	comp=Z,4µm,15.2s								
CLL	**Collm**	**82.44**	**326**	*e*P		**P**		**13 53 16.0**	**-0.7**
	comp=Z,56nm,0.8s								
CLL				*i* Pmax				13 53 20.3	
	comp=Z,123nm,0.9s								
CLL				*e*Pmax				13 53 22.0	
CLL				*i* x		x		13 53 28.4	
CLL				*e*S		**SKSac**		**14 03 36.0**	**-1.3**
CLL				*e*PS		**PnS**		**14 04 25.0**	**+3.1**
CLL				*e*SS		**SS**		**14 08 54.0**	**+1.6**
CLL				*e*SSS		SSS		14 12 24.0	
CLL				*ex*		x		14 13 48.0	
CLL				AMS		AMS		14 30 00.0	
	comp=N,3µm,21.6s								
CLL				AMS		AMS		14 30 00.0	
	comp=E,3µm,21.3s								
CLL				AMS		AMS		14 37 00.0	
CLL	**Collm**	**82.44**	**326**	*e*P		**P**		**13 53 16.0**	**-0.7**
CLL				*i*				13 53 20.3	
CLL				*e*S		**SKSac**		**14 03 36.0**	**-1.3**
CLL				pmax		pmax			
	comp=Z,123nm,0.9s								
CLL	**Collm**	**82.44**	**326**	*e*P		**P**		**13 53 16.2**	**-0.5**
	comp=Z,101nm,0.9s,baz=47,slow=5.1								
CLL				*e*pP		**pP**		**13 53 21.1**	**+0.5**
	baz=47,slow=5.0								
GOPC	**GO Pecny, Ondr**	**82.46**	**325**	*e*P		**P**		**13 53 16.6**	**-0.3**
GOPC				AMS		AMS		14 33 50.0	
	comp=Z,3µm,17.4s								
GOPC	**GO Pecny, Ondr**	**82.46**	**325**	*e*P		**P**		**13 53 16.6**	**-0.3**
GOPC				MLR		MLR			
	comp=Z,3µm,17.4s								
BOVS	**Bovan**	**82.50**	**317**	⇑P		**P**		**13 53 17.1**	**0.0**
TREC	**Trest**	**82.50**	**324**	*e*P		**P**		**13 53 16.7**	**-0.4**
TREC				AMS		AMS		14 34 30.0	
	comp=Z,4µm,15.7s								
TREC	**Trest**	**82.50**	**324**	*e*P		**P**		**13 53 16.7**	**-0.4**
TREC				MLR		MLR			
	comp=Z,4µm,15.7s								
FBE	**Freiberg**	**82.52**	**326**	*e*P		**P**		**13 53 17.2**	**+0.1**
	comp=Z,84nm,1.0s,baz=47,slow=5.1								
FBE				*e*pP		**PcP**		**13 53 21.8**	**-0.4**
	baz=47,slow=5.0								
WVOR	**Wild Horse Val**	**82.53**	**45**	P		**P**		**13 53 18.6**	**+1.0**
PRU	**Pruhonice**	**82.54**	**325**	*e*P		**P**		**13 53 16.9**	**-0.4**
PRU				*e*pP		**pP**		**13 53 21.0**	**-0.1**
PRU				AMS		AMS		14 34 00.0	
	comp=Z,3µm,19.1s								
PRU	**Pruhonice**	**82.54**	**325**	*e*P		**P**		**13 53 16.9**	**-0.4**
PRU				*e*				13 53 21.0	
PRU				MLR		MLR			
	comp=Z,3µm,19.1s								
PRA	**Prague**	**82.54**	**325**	*e*P		**P**		**13 53 18.0**	**+0.7**
PRA				AMS		AMS		14 34 00.0	
	comp=Z,3µm,14.9s								
PRA	**Prague**	**82.54**	**325**	*e*P		**P**		**13 53 18.0**	**+0.7**
PRA				MLR		MLR			
	comp=Z,3µm,14.9s								
FLTG	**Flechtingen**	**82.59**	**328**	*e*P		**P**		**13 53 16.7**	**-0.8**
	comp=Z,85nm,0.9s,baz=47,slow=5.1								
FLTG				*e*pP		**pP**		**13 53 21.4**	**+0.1**
	baz=47,slow=5.0								
MSO	**Missoula**	**82.65**	**39**	P		**P**		**13 53 19.3**	**+1.2**
	baz=308,SNR=6.8								
HSKC	**Hora Svate Kat**	**82.69**	**326**	*e*P		**P**		**13 53 18.4**	**+0.3**
HSKC				*ex*		x		13 53 21.9	
HSKC				AMS		AMS		14 35 30.0	
	comp=Z,5µm,14.6s								
FRGS	**Fruska Gora**	**82.70**	**319**	⇑P		**P**		**13 53 18.4**	**+0.2**
MORH	**Mrgy, Hungar**	**82.72**	**320**	⇑P		**P**		**13 53 18.5**	**+0.2**
MQZ	**McQueen's Vall**	**82.77**	**152**	IAMs_20		IAMs_20		14 32 33.5	
	comp=Z,819nm,18.0s								
SOP	**Sopron**	**82.95**	**322**	P		**P**		**13 53 21.2**	**+1.7**
ASSE	**Asse, Remlinge**	**82.98**	**328**	*e*P		**P**		**13 53 19.3**	**-0.2**
	comp=Z,126nm,1.7s,baz=47,slow=5.1								
ASSE				*e*pP		**PcP**		**13 53 23.9**	**-0.2**
	baz=47,slow=5.0								
NRDL	**Niedersach Rie**	**82.99**	**328**	*e*P		**P**		**13 53 19.4**	**-0.1**
	comp=Z,62nm,1.2s,baz=47,slow=5.1								
NRDL				*e*pP		**PcP**		**13 53 23.9**	**-0.2**
	baz=47,slow=5.0								
ZVC	**Zvikov**	**83.06**	**324**	*e*P		**P**		**13 53 18.8**	**-1.2**
ZVC				*e*pP		**PcP**		**13 53 24.2**	**-0.5**
ZVC				AMS		AMS		14 31 20.0	
	comp=Z,3µm,24.4s								
RONA	**Rosalia, Austr**	**83.08**	**322**	*i* pP		pP		13 53 22.4	-1.7
	comp=Z,83nm,1.8s,SNR=8.8								
NEUB	**Neuenburg**	**83.09**	**327**	*e*P		**P**		**13 53 19.9**	**-0.2**
	comp=Z,164nm,1.1s,baz=47,slow=5.1								
NEUB				*e*pP		**PcP**		**13 53 24.8**	**+0.1**
	baz=47,slow=5.0								
RETH	**Rethem/Aller,**	**83.16**	**329**	*e*P		**P**		**13 53 20.0**	**-0.4**
	comp=Z,73nm,1.2s,baz=47,slow=5.1								
RETH				*e*pP		**PcP**		**13 53 24.8**	**-0.1**
	baz=47,slow=5.0								
CONA	**Conrad Observa**	**83.17**	**323**	*i* P		**P**		**13 53 20.8**	**+0.1**
	comp=Z,70nm,1.2s,SNR=45								
DY2G	**Dye2**	**83.20**	**359**	*i* P		**P**		**13 53 20.1**	**-0.6**
DY2G				IAmb		IAmb		13 53 21.9	
	comp=Z,11nm,0.8s								
RAR	**Rarotonga**	**83.28**	**119**	LR		LR		14 22 00.3	
	comp=Z,638nm,22.0s,baz=336,slow=30								
TANN	**Tannenbergstha**	**83.28**	**326**	*e*P		**P**		**13 53 21.1**	**-0.1**
	comp=Z,91nm,1.3s,baz=47,slow=5.1								
TANN				*e*pP		**PcP**		**13 53 25.8**	**+0.2**
	baz=47,slow=5.0								
VAY	**Valandovo**	**83.31**	**314**	*i* P		**P**		**13 53 21.8**	**+0.3**
CLZ	**Clausthal**	**83.31**	**328**	*e*P		**P**		**13 53 21.3**	**-0.1**
	comp=Z,130nm,1.0s,baz=47,slow=5.1								
CLZ				*e*pP		**sP**		**13 53 26.2**	**-0.4**
	baz=47,slow=5.0								
STIP	**Stip**	**83.33**	**315**	*i* P		**P**		**13 53 20.9**	**-0.6**
WERD	**Werda**	**83.33**	**326**	*e*P		**P**		**13 53 21.2**	**-0.2**
	comp=Z,88nm,1.2s,baz=47,slow=5.1								
WERD				*e*pP		**PcP**		**13 53 26.0**	**+0.1**
	baz=47,slow=5.0								
GUNZ	**Gunzen**	**83.38**	**326**	*e*P		**P**		**13 53 21.6**	**-0.1**
	comp=Z,87nm,1.2s,baz=47,slow=5.1								
GUNZ				*e*pP		**PcP**		**13 53 26.3**	**+0.2**
	baz=47,slow=5.0								
PLN	**Plauen**	**83.38**	**326**	*e*P		**P**		**13 53 21.5**	**-0.1**
	comp=Z,86nm,1.2s,baz=47,slow=5.1								
PLN				*e*pP		**PcP**		**13 53 26.3**	**+0.3**
	baz=47,slow=5.0								
CKRC	**Cesky Krumlov**	**83.40**	**324**	*e*P		**P**		**13 53 21.6**	**-0.2**
CKRC				*ex*		x		13 53 25.8	
CKRC	**Cesky Krumlov**	**83.40**	**324**	*e*P		**P**		**13 53 21.6**	**-0.2**
CKRC				*e*				13 53 25.8	
WERN	**Wernitzgruen**	**83.41**	**326**	*e*P		**P**		**13 53 21.8**	**-0.1**
	comp=Z,155nm,1.3s,baz=47,slow=5.1								
WERN				*e*pP		**PcP**		**13 53 26.6**	**+0.4**
	baz=47,slow=5.0								
NKC	**Novy Kostel**	**83.41**	**326**	*e*P		**P**		**13 53 22.4**	**+0.6**
NKC				*ex*		x		13 53 25.1	
NKC				AMS		AMS		14 36 30.0	
	comp=Z,6µm,13.7s								
NKC	**Novy Kostel**	**83.41**	**326**	*e*P		**P**		**13 53 22.4**	**+0.6**
NKC				*e*				13 53 25.1	
NKC				MLR		MLR			
	comp=Z,6µm,13.7s								
MOX	**Moxa**	**83.54**	**326**	*e*P		**P**		**13 53 22.3**	**-0.1**
	comp=Z,96nm,1.2s,baz=47,slow=5.1								
MOX				*e*pP		**PcP**		**13 53 27.1**	**+0.4**
	baz=47,slow=5.0								
MOX				*e*L		L		14 35 22.5	
	comp=Z,1µm,21.7s								
KARP	**Karpathos**	**83.55**	**308**	IAMs_20		IAMs_20		14 33 18.7	
	comp=Z,1µm,22.0s								
KHC	**Kasperske Hory**	**83.57**	**324**	*e*P		**P**		**13 53 22.2**	**-0.5**
KHC				*e*pP		**pP**		**13 53 26.4**	**-0.2**
KHC				*ex*		x		13 56 50.5	
KHC				AMS		AMS		14 35 00.0	
	comp=Z,4µm,15.6s								
KHC	**Kasperske Hory**	**83.57**	**324**	*ce*P		**P**		**13 53 22.5**	**-0.2**
KHC				pmax		pmax			
	comp=Z,116nm,1.0s								
ATD	**Arta Tunnel**	**83.57**	**280**	LR		LR		14 31 07.3	
	comp=Z,31nm,21.9s,baz=68,slow=36								
SKO	**Skopje**	**83.62**	**315**	*i* P		**P**		**13 53 22.9**	**-0.2**
ELMT	**Elliston**	**83.62**	**39**	P		**P**		**13 53 23.3**	**0.0**
GEC2	**GERESS Array S**	**83.69**	**324**	*e*P		**P**		**13 53 23.0**	**-0.4**
	comp=Z,50nm,1.1s,baz=47,slow=5.1								
GEC2				*e*pP		**PcP**		**13 53 27.6**	**+0.1**
	baz=47,slow=5.0								
GERES	**GERESS Array B**	**83.69**	**324**	P		**P**		**13 53 22.4**	**-1.1**
	comp=Z,9.8nm,0.8s,baz=45,slow=4.0,SNR=34								
GERES				LR		LR		14 34 03.4	
	comp=Z,4µm,20.0s,baz=55,slow=38								
	comp=Z,9.8nm,0.8s								
GTTG	**Gottingen**	**83.70**	**328**	*e*P		**P**		**13 53 23.1**	**-0.2**
	comp=Z,95nm,1.0s,baz=47,slow=5.1								
GTTG				*e*pP		**PcP**		**13 53 27.9**	**+0.5**
	baz=47,slow=5.0								
MANZ	**Manzenberg**	**83.74**	**326**	*e*P		**P**		**13 53 23.4**	**-0.1**
	comp=Z,21nm,1.1s,baz=47,slow=5.1								
MANZ				*e*pP		**sP**		**13 53 28.2**	**-0.6**
	baz=47,slow=5.0								
ARSA	**Arzberg**	**83.77**	**322**	*i* P		**P**		**13 53 23.7**	**0.0**
	comp=Z,100nm,2.1s,SNR=20								
ROTZ	**Rotzenmuhle**	**83.83**	**326**	*e*P		**P**		**13 53 24.2**	**+0.2**
	comp=Z,30nm,1.2s,baz=47,slow=5.1								
ROTZ				*e*pP		**sP**		**13 53 28.8**	**-0.4**
	baz=47,slow=5.0								
WET	**Wettzell**	**83.91**	**325**	*e*P		**P**		**13 53 24.4**	**0.0**
	comp=Z,65nm,1.2s,baz=47,slow=5.1								
WET				*e*pP		**sP**		**13 53 29.2**	**-0.5**
	baz=47,slow=5.0								
MOA	**Molln**	**84.05**	**323**	*i* pP		**P**		**13 53 26.1**	**+0.9**
	comp=Z,56nm,1.0s,SNR=7.5								
EGMT	**Eagleton**	**84.12**	**37**	P		**P**		**13 53 27.2**	**+1.7**
	baz=310,SNR=19								
IBBN	**Ibbenburen**	**84.17**	**329**	*e*P		**P**		**13 53 24.9**	**-0.7**
	comp=Z,138nm,1.1s,baz=47,slow=5.1								
IBBN				*e*pP		**pP**		**13 53 29.8**	**+0.3**
	baz=47,slow=5.0								
UBBA	**Unterbreizbach**	**84.18**	**327**	*e*P		**P**		**13 53 25.6**	**0.0**
	comp=Z,140nm,1.4s,baz=47,slow=5.1								
UBBA				*e*pP		**pP**		**13 53 30.2**	**+0.7**
	baz=47,slow=5.0								
GRF	**Grafenberg Arr**	**84.36**	**326**	*e*P		**P**		**13 53 27.0**	**+0.3**
	comp=Z,605nm,1.7s,baz=47,slow=5.1								
GRF				*e*pP		**sP**		**13 53 31.7**	**-0.2**
	baz=47,slow=5.0								
GRF				*e*L		L		14 33 24.1	
	comp=Z,2µm,21.9s								
HLID	**Hailey**	**84.37**	**42**	P		**P**		**13 53 27.5**	**+0.4**
	baz=308,SNR=32								
SOKA	**Soboth**	**84.39**	**322**	*i* P		**P**		**13 53 26.4**	**-0.6**
	comp=Z,45nm,0.8s,SNR=46								
BIOA	**Bad Ischl, Aus**	**84.47**	**323**	*i* P		**P**		**13 53 27.4**	**+0.1**
	comp=Z,69nm,1.1s,SNR=16								
OHR	**Ohrid**	**84.52**	**315**	*i* P		**P**		**13 53 28.1**	**+0.4**
KASTN	**Kahler Asten**	**84.64**	**328**	*e*P		**P**		**13 53 27.7**	**-0.4**
	comp=Z,64nm,1.1s,baz=47,slow=5.1								
KASTN				*e*pP		**pP**		**13 53 32.6**	**+0.6**
	baz=47,slow=5.0								
PDG	**Podgorica**	**84.66**	**317**	⇑P		**P**		**13 53 28.9**	**+0.7**
CRES	**Cresnjev**	**84.71**	**321**	*i* P		**P**		**13 53 27.4**	**-1.1**
OBKA	**Obir**	**84.76**	**322**	*i* P		**P**		**13 53 28.6**	**-0.2**
	comp=Z,23nm,0.8s								
PDKS	**Podkum**	**84.81**	**322**	*i* P		**P**		**13 53 28.3**	**-0.7**
RJOB	**Jochberg**	**84.88**	**324**	*e*P		**P**		**13 53 29.5**	**+0.1**
	comp=Z,81nm,1.1s,baz=47,slow=5.1

BFO ep **pP** **13 53 42.3 +0.1**
baz=47,slow=5.0
SCZ2 Santa Cruz Isl 86.71 52 P **P** **13 53 40.1 +1.4**
baz=305
BGES Gesves 86.71 329 dP **P** **13 53 42.2 +3.8**
WLF Walferdange 86.76 328 dP **P** **13 53 39.5 +0.9**
WLF Walferdange 86.76 328 eP **P** **13 53 38.4 -0.2**
comp=Z,90nm,1.2s,baz=47,slow=5.1
WLF epP **pP** **13 53 43.1 +0.6**
baz=47,slow=5.0
LAO LASA Array 86.80 36 IAMs_20 IAMs_20 14 39 36.7
comp=Z,894nm,19.0s
LAO LASA Array 86.80 36 P **P** **13 53 39.4 +0.4**
baz=313,SNR=14
LAO LASA Array 86.80 36 P **P** **13 53 39.8 +0.9**
baz=313
R11B Troy Canyon, C 86.81 47 P **P** **13 53 39.2 -0.1**
R11B IAmb IAmb 13 53 53.2
comp=Z,53nm,1.8s
R11B Troy Canyon, C 86.81 47 P **P** **13 53 40.1 +0.7**
baz=307,SNR=10
RCHB Rochefort 86.82 329 dP **P** **13 53 39.1 +0.3**
comp=Z,18nm,1.2s
BMRD Maredsous 86.92 329 dP **P** **13 53 38.7 -0.6**
comp=Z,20nm,1.1s
MPMC Manual Prospec 86.95 50 P **P** **13 53 38.8 -1.2**
baz=306,SNR=14
OSI Oeito Audit: C 86.97 51 P **P** **13 53 40.1 +0.1**
baz=306
DAVOX Davos/Dischmat 86.99 324 P **P** **13 53 39.5 -0.5**
comp=Z,6.9nm,0.7s,baz=74,slow=5.4,SNR=8.3
DAVOX LR LR 14 37 57.7
comp=Z,4µm,18.0s,baz=42,slow=39
comp=Z,6.9nm,0.7s
TEOL Teolo 87.03 322 IAMs_20 IAMs_20 14 32 47.7
comp=Z,990nm,20.0s
GIVF Givet 87.04 329 eP **P** **13 53 43.5 +3.6**
GIVF pmax pmax
comp=Z,68nm,1.5s
FURC Furnace Creek, 87.12 49 P **P** **13 53 40.3 -0.3**
baz=306
CDF Champ du Feu 87.13 327 eP **P** **13 53 40.3 -0.2**
CDF pmax pmax
comp=Z,129nm,1.6s
CCAC Calif City Air 87.13 50 IAMs_20 IAMs_20 14 23 48.6
comp=Z,881nm,20.0s
DOU Dourbes 87.14 329 dPcP **PcP** **13 53 41.4 -1.1**
comp=Z,9.9nm,1.3s
SNCC San Nicolas Is 87.21 53 P **P** **13 53 40.2 -0.9**
baz=305
TPNV Topopah Spring 87.23 48 P **P** **13 53 41.9 +0.6**
baz=307
EDW2 Edwards Air Fo 87.31 51 P **P** **13 53 40.6 -1.0**
baz=306
ECH Echery 87.32 327 IAMs_20 IAMs_20 14 37 17.1
comp=Z,1µm,19.0s
ECH Echery 87.32 327 P **P** **13 53 42.2 +0.8**
DUG Dugway, Tooele 87.38 44 P **P** **13 53 40.8 -1.2**
baz=309,SNR=7.5
BW06 Boulder Array 87.63 40 P **P** **13 53 41.2 -2.1**
baz=311,SNR=15
PDAR Pinedale Array 87.63 40 P **P** **13 53 43.1 -0.2**
PDAR Pinedale Array 87.63 40 P **P** **13 53 42.4 -0.9**
comp=Z,6.4nm,0.9s,baz=313,slow=0.7,SNR=28
PDAR PKKPbc **PKKPbc** **14 11 30.0 -1.1**
comp=Z,0.3nm,0.7s,baz=123,slow=3.3,SNR=2.5
comp=Z,6.4nm,0.9s
GUMA Gualdo di Mace 87.65 320 IAMs_20 IAMs_20 14 37 54.3
comp=Z,3µm,20.0s
HINF Hinteralfeld 87.75 327 eP **P** **13 53 43.5 0.0**
HINF pmax pmax
comp=Z,54nm,1.4s
GSC Goldstone, Bar 87.85 50 P **P** **13 53 42.9 -1.4**
baz=306,SNR=6.3
HAU Haudompre 87.85 327 eP **P** **13 53 44.3 +0.3**
HAU pmax pmax
comp=Z,118nm,1.8s
CIS Catalina Islan 87.88 52 P **P** **13 53 43.8 -0.6**
baz=306
BFSC Mount Baldy Ra 87.91 51 P **P** **13 53 44.7 0.0**
baz=306
CAMP Campotosto 87.95 320 P **P** **13 53 45.1 +0.4**
SCI2 San Clemente I 88.04 53 P **P** **13 53 42.8 -2.3**
baz=306
AQU L'Aquila 88.08 319 P **P** **13 53 46.4 +1.2**
TUQ Turquoise Moun 88.34 49 P **P** **13 53 45.6 -1.0**
baz=307
HEC Hector,Ludlow 88.44 50 P **P** **13 53 47.5 +0.4**
baz=307,SNR=6.1
GMRC Granite Mounta 88.91 50 P **P** **13 53 48.8 -0.5**
baz=307,SNR=6.2
ULM Lac du Bonnet 88.97 28 P **P** **13 53 47.8 -1.4**
comp=Z,7.5nm,0.7s,baz=311,slow=3.9,SNR=11
comp=Z,7.5nm,0.7s
CABF La Chapelle 88.97 326 eP **P** **13 53 51.6 +2.2**
CABF pmax pmax
comp=Z,23nm,1.0s
PFO Pinyon Flats O 89.08 51 IAMs_20 IAMs_20 14 28 58.3
comp=Z,744nm,20.0s
PFO Pinyon Flats O 89.08 51 P **P** **13 53 50.1 -0.1**
baz=307
PFO Pinyon Flats O 89.08 51 LR LR 14 27 46.8
comp=Z,430nm,21.2s,baz=282,slow=32
TPFO Pinon Flats 89.09 51 P **P** **13 53 49.9 -0.3**
baz=307
BELC Belle Mtn. Jos 89.16 50 P **P** **13 53 50.4 -0.1**
baz=307
MDND Maddock 89.16 32 IAMs_20 IAMs_20 14 40 58.0
comp=Z,658nm,18.0s
MDND Maddock 89.16 32 P **P** **13 53 49.7 -0.5**
baz=318
PPT Papeete 89.19 111 LR LR 14 26 18.2
comp=Z,471nm,21.1s,baz=288,slow=31
PMOR Pomariorio Ree 89.20 108 eT T 15 32 31.0
comp=Z,3.9nm,0.2s
PPT2 Papeete2 89.20 111 eP **P** **13 53 53.4 +2.6**
comp=Z,62nm,25.8s
PPT2 Papeete2 89.20 111 ePP **PP** **13 57 26.1 +4.6**
comp=Z,51nm,26.2s
PPT2 eS **S** **14 04 41.1 +1.1**
comp=Z,393nm,24.0s
PPT2 eSS **SS** **14 10 32.0 -2.6**
comp=Z,428nm,25.2s
PPT2 Papeete2 89.20 111 eLR LR 14 21 54.2
comp=Z,2µm,27.2s
PPT2 eLR LR 14 22 05.4
comp=Z,1µm,28.5s
K22A Casper 89.38 39 P **P** **13 53 51.1 -0.4**
baz=313
SRU San Rafael Swe 89.44 44 P **P** **13 53 52.2 +0.4**
SRU IAmb IAmb 13 54 06.5
comp=Z,31nm,1.3s
SRU San Rafael Swe 89.44 44 P **P** **13 53 52.2 +0.4**
LPL La Plagne 89.44 325 eP **P** **13 53 52.2 +0.4**
LPL pmax pmax
comp=Z,21nm,1.0s
LPG La Plagne 89.44 325 eP **P** **13 53 52.3 +0.4**
LPG pmax pmax
comp=Z,28nm,1.0s
LOR Lormes 89.55 328 eP **P** **13 53 53.1 +1.2**
LOR pmax pmax
comp=Z,46nm,1.4s
E28A Huff 89.59 33 IAMs_20 IAMs_20 14 39 19.3
comp=Z,815nm,20.0s
IRM Iron Mountain 89.62 50 P **P** **13 53 52.3 -0.3**
baz=308
RSSD Black Hills 89.69 37 P **P** **13 53 52.4 -0.5**
RSSD IAmb IAmb 13 53 59.0
comp=Z,41nm,1.2s
RSSD Black Hills 89.69 37 IAMs_20 IAMs_20 14 41 29.1
comp=Z,798nm,19.0s
RSSD Black Hills 89.69 37 P **P** **13 53 52.5 -0.4**
baz=314
RSSD Black Hills 89.69 37 P **P** **13 53 52.4 -0.5**
baz=314
RSSD Black Hills 89.69 37 P **P** **13 53 52.4 -0.5**
RSSD pmax pmax
comp=Z,41nm,1.2s
BC3 Big Chuckawall 89.72 50 P **P** **13 53 53.2 0.0**
baz=307
SSF Saint Saulge 89.86 328 eP **P** **13 53 53.7 +0.3**
SSF pmax pmax
comp=Z,58nm,1.5s
IKP In-Ko-Pah, Jac 89.89 52 P **P** **13 53 55.0 +1.0**
baz=307
SWSC Sam W. Stewart 89.92 51 P **P** **13 53 54.1 +0.2**
baz=307

MBDF Montbardon 89.98 324 eP **P** **13 53 56.9 +2.7**
MBDF pmax pmax
comp=Z,11nm,1.0s
O20A White River Ci 90.10 42 P **P** **13 53 53.6 -1.3**
baz=312
AVF Avril sur Loir 90.13 328 eP **P** **13 53 55.0 +0.3**
AVF pmax pmax
comp=Z,57nm,1.3s
PDMCI Parker Dam,Lak 90.19 49 P **P** **13 53 55.1 -0.1**
baz=308
AGMN Agassiz Nation 90.48 30 IAMs_20 IAMs_20 14 41 13.1
comp=Z,806nm,18.0s
AGMN Agassiz Nation 90.48 30 P **P** **13 53 55.5 -0.7**
baz=320
BGF Bois d'Agland 90.54 328 eP **P** **13 53 57.1 +0.5**
BGF pmax pmax
comp=Z,28nm,1.2s
VAE Valguarnera 90.65 315 LR LR 14 40 27.9
comp=Z,1µm,18.2s,baz=28,slow=39
SSB Saint Sauveur 90.68 326 IAMs_20 IAMs_20 14 40 34.1
comp=Z,1µm,20.0s
GRR Gorron 90.78 331 eP **P** **13 54 00.2 +2.6**
GRR pmax pmax
comp=Z,91nm,1.9s
RAFF Raffo Rosso 90.85 315 P **P** **13 53 57.8 -0.4**
RAFF IAMs_20 IAMs_20 14 35 51.3
comp=Z,1µm,20.0s
D32A Dogwood Acres, 90.86 31 IAMs_20 IAMs_20 14 38 01.8
comp=Z,1µm,20.0s
N23A Red Feather La 90.89 40 P **P** **13 53 58.8 +0.1**
baz=313,SNR=16
WUAZ Wupatki 91.21 47 P **P** **13 53 59.6 -0.5**
baz=310,SNR=7.0
ROSF Rostrenen 91.82 332 eP **P** **13 54 02.7 +0.3**
ROSF pmax pmax
comp=Z,62nm,1.3s
ISCO Idaho Springs 91.82 41 P **P** **13 54 02.3 -0.8**
baz=313,SNR=5.2
ISCO Idaho Springs 91.82 41 P **P** **13 54 03.0 -0.1**
baz=313
MFF Saint Martin d 91.85 329 eP **P** **13 54 03.5 +0.8**
MFF pmax pmax
comp=Z,81nm,1.4s
MVCO Mesa Verde 91.88 44 P **P** **13 54 02.7 -0.6**
baz=311,SNR=10.0
SUSD Miller 91.98 34 IAMs_20 IAMs_20 14 41 06.7
comp=Z,848nm,21.0s
SUSD Miller 91.98 34 P **P** **13 54 02.9 -0.5**
baz=318
RJF Les Rejaudoux 92.09 328 eP **P** **13 54 04.6 +0.8**
RJF pmax pmax
comp=Z,69nm,1.4s
CAF Calviac 92.12 327 eP **P** **13 54 05.9 +1.9**
CAF pmax pmax
comp=Z,48nm,1.4s
F33A 5 Mile Ranch, 92.17 32 P **P** **13 54 04.2 0.0**
baz=320
TBI Tubuai 92.36 116 ePP **PP** **13 57 49.8 +3.4**
comp=Z,664nm,42.8s
TBI eS S 14 04 58.8 -10
comp=Z,2µm,27.2s
TBI eSS **SS** **14 11 21.6 +1.6**
comp=Z,976nm,26.2s
TBI Tubuai 92.36 116 eLR LR 14 23 32.9
comp=Z,12µm,34.0s
TBI eLR LR 14 23 37.1
comp=Z,2µm,31.8s
W18A Petrified Fore 92.49 46 P **P** **13 54 06.8 +0.6**
baz=311
S22A 4UR Ranch, Cre 92.52 43 IAMs_20 IAMs_20 14 43 50.5
comp=Z,678nm,19.0s
S22A 4UR Ranch, Cre 92.52 43 P **P** **13 54 05.3 -1.0**
baz=312,SNR=7.7
214A Organ Pipe Nat 92.52 50 P **P** **13 54 05.8 -0.3**
baz=309,SNR=6.4
TAOE Nuku Hiva Isla 92.54 99 eS **S** **14 05 12.1 +1.3**
comp=Z,532nm,24.9s
TAOE Nuku Hiva Isla 92.54 99 eLR LR 14 23 53.1
comp=Z,1µm,24.6s
EYMN Ely 92.56 28 IAMs_20 IAMs_20 14 37 45.5
comp=Z,900nm,21.0s
EYMN Ely 92.56 28 P **P** **13 54 04.4 -1.5**
baz=324
Q24A Divide 92.66 41 P **P** **13 54 06.2 -0.8**
baz=314,SNR=5.8
LFF La Frestale 92.73 328 eP **P** **13 54 07.7 +1.0**
LFF pmax pmax
comp=Z,37nm,1.3s
OGNE Ogallala 92.97 38 IAMs_20 IAMs_20 14 39 46.3
comp=Z,688nm,18.0s
OGNE Ogallala 92.97 38 P **P** **13 54 08.0 -0.1**
baz=316
SDCO Great Sand Dun 93.29 42 P **P** **13 54 11.1 +1.2**
baz=313
SCHQ Schefferville 93.35 11 P **P** **13 54 08.9 -0.5**
comp=Z,5.5nm,0.9s,baz=342,slow=6.4,SNR=4.2
SCHQ LR LR 14 37 25.4
comp=Z,1µm,21.5s,baz=356,slow=36
comp=Z,5.5nm,0.9s
F36A Milaca 93.38 30 IAMs_20 IAMs_20 14 43 58.3
comp=Z,886nm,18.0s
E38A The Farm, Brul 93.61 28 IAMs_20 IAMs_20 14 42 07.5
comp=Z,802nm,20.0s
E38A The Farm, Brul 93.61 28 P **P** **13 54 12.1 +1.3**
baz=312
ECSD EROS Data Cent 93.63 33 IAMs_20 IAMs_20 14 41 33.2
comp=Z,765nm,20.0s
ECSD EROS Data Cent 93.63 33 P **P** **13 54 11.7 +0.8**
baz=320
TUC Tucson 93.63 49 P **P** **13 54 12.2 +1.0**
baz=310
TUC Tucson 93.63 49 P **P** **13 54 12.6 +1.3**
T25A Trinidad 94.34 42 P **P** **13 54 14.1 -0.5**
baz=314,SNR=6.2
ANMO Albuquerque 94.62 45 P **P** **13 54 15.5 -0.5**
baz=313
ANMO Albuquerque 94.62 45 P **P** **13 54 17.3 +1.4**
baz=313
ANMO Albuquerque 94.62 45 eP **P** **13 54 16.3 +0.4**
ANMO pmax pmax
comp=Z,16nm,1.5s
ANMO Albuquerque 94.62 45 LR LR 14 37 01.5
comp=Z,220nm,18.6s,baz=70,slow=36
BGNE Bengale 94.64 35 IAMs_20 IAMs_20 14 44 30.1
comp=Z,815nm,19.0s
KMBO Kilima Mbogo 94.73 271 IAMs_20 IAMs_20 14 36 37.2
comp=Z,761nm,22.0s
KMBO Kilima Mbogo 94.73 271 eP **P** **13 54 16.8 0.0**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 94.73 271 P **P** **13 54 16.3 -0.5**
comp=Z,0.9nm,0.3s,baz=35,slow=9.7,SNR=1.8
KMBO LR LR 14 37 11.6
comp=Z,558nm,21.9s,baz=82,slow=36
comp=Z,0.9nm,0.3s
KEST Kesra 94.85 317 IAMs_20 IAMs_20 14 43 08.2
comp=Z,1µm,20.0s
KEST Kesra 94.85 317 P **P** **13 54 17.0 +0.2**
comp=Z,5.3nm,0.8s,baz=16,slow=7.4,SNR=2.5
comp=Z,5.3nm,0.8s
I37A Lemond, Waseca 94.88 31 IAMs_20 IAMs_20 14 43 54.3
comp=Z,1µm,19.0s
SJPF Ste Jean 95.04 328 eP **P** **13 54 21.5 +4.1**
SJPF pmax pmax
comp=Z,22nm,1.6s
ABPO Ambohimpanom 95.22 251 IAMs_20 IAMs_20 14 35 58.0
comp=Z,817nm,21.0s
G40A Rib Lake 95.25 28 IAMs_20 IAMs_20 14 40 28.8
comp=Z,750nm,21.0s
121A Cookes Peak, D 95.41 47 P **P** **13 54 19.1 -0.4**
baz=312,SNR=5.4
N33A J Bar K, Exete 95.49 36 IAMs_20 IAMs_20 14 43 35.6
comp=Z,782nm,20.0s
E43A Lone Tree Farm 95.60 26 IAMs_20 IAMs_20 14 41 54.9
comp=Z,765nm,20.0s
F42A Maple Grove Fa 95.68 27 IAMs_20 IAMs_20 14 44 39.0
comp=Z,774nm,19.0s
CBKS Cedar Bluff 95.73 38 P **P** **13 54 18.7 -2.0**
baz=317
I40A Norwalk 96.19 30 IAMs_20 IAMs_20 14 40 01.8
comp=Z,665nm,20.0s
K38A Parkersburg 96.24 32 IAMs_20 IAMs_20 14 44 22.3
comp=Z,1µm,19.0s
N35A Tabor 96.29 34 IAMs_20 IAMs_20 14 43 32.7
comp=Z,587nm,18.0s
R32A Long Quarter, 96.57 38 IAMs_20 IAMs_20 14 45 39.3
comp=Z,936nm,18.0s
E46A Sault Ste Mari 96.60 24 IAMs_20 IAMs_20 14 39 39.2
comp=Z,711nm,20.0s
SCIA State Center 96.62 32 P **P** **13 54 22.6 -2.0**
baz=322
H43A Windswept, Lux 96.89 28 IAMs_20 IAMs_20 14 45 09.1
comp=Z,820nm,20.0s
I42A Draeger Farm, 96.91 29 IAMs_20 IAMs_20 14 41 04.6
comp=Z,868nm,22.0s
VOI Vohitsoka 97.02 249 IAMs_20 IAMs_20 14 39 17.4
comp=Z,738nm,20.0s
JFWS Jewell Farm 97.14 30 IAMs_20 IAMs_20 14 37 08.1
comp=Z,754nm,22.0s
JFWS Jewell Farm 97.14 30 P **P** **13 54 25.6 -1.4**
baz=324
KSU1 Kansas State U 97.15 36 IAMs_20 IAMs_20 14 45 00.6
comp=Z,714nm,20.0s
KSU1 Kansas State U 97.15 36 P **P** **13 54 25.3 -1.8**
baz=319
L40A Anamosa 97.40 31 IAMs_20 IAMs_20 14 46 24.9
comp=Z,747nm,19.0s
MNTX Cornudas Mount 97.48 46 P Pdif 13 54 29.8 +1.0
baz=313
AMTX Amarillo 97.49 42 P **P** **13 54 26.7 -2.2**
baz=316
MSTX Muleshoe 97.50 43 P Pdif 13 54 29.3 +0.3
baz=315
GLMI Grayling 97.80 25 IAMs_20 IAMs_20 14 45 19.1
comp=Z,719nm,18.0s
GLMI Grayling 97.80 25 P Pdif 13 54 30.7 +0.7
baz=329
U32A Winter Ranch, 97.92 39 IAMs_20 IAMs_20 14 45 04.2
comp=Z,644nm,19.0s
OK032 Salt Plains WL 98.03 39 IAMs_20 IAMs_20 14 46 51.2
comp=Z,863nm,21.0s
K43A Burlington 98.12 29 IAMs_20 IAMs_20 14 42 35.9
comp=Z,965nm,21.0s
L42A Oliver, Polo 98.13 30 IAMs_20 IAMs_20 14 42 07.1
comp=Z,864nm,21.0s
P38A Dawn 98.27 34 IAMs_20 IAMs_20 14 46 21.0
comp=Z,771nm,19.0s
L44A Lake County Fo 98.73 29 IAMs_20 IAMs_20 14 43 04.0
comp=Z,784nm,19.0s
T35A Sooner Cattle 98.85 37 IAMs_20 IAMs_20 14 46 06.7
comp=Z,732nm,20.0s
OK051 EO350 and S346 98.99 38 IAMs_20 IAMs_20 14 48 00.4
comp=Z,797nm,19.0s
ES07 SONSECA Array 99.00 327 IAMs_20 IAMs_20 14 43 18.1
comp=Z,1µm,20.0s
OK048 Pawnee Station 99.00 38 IAMs_20 IAMs_20 14 47 38.7
comp=Z,837nm,18.0s
ESDC Sonseca Array 99.01 327 IAMs_20 IAMs_20 14 47 44.5
comp=Z,914nm,21.0s
ESDC Sonseca Array 99.01 327 P **Pdif** **13 54 35.5 0.0**
comp=Z,3.1nm,1.0s,baz=22,slow=4.2,SNR=11
comp=Z,3.1nm,1.0s
ES16 SONSECA Array 99.02 327 IAMs_20 IAMs_20 14 43 15.6
comp=Z,1µm,20.0s
P40A Paris 99.05 33 IAMs_20 IAMs_20 14 44 42.6
comp=Z,758nm,21.0s
PGAV Gavieira, Arco 99.05 331 eLQ LQ 14 30 45.4
PGAV eLR LR 14 36 03.3
comp=Z,1µm,20.0s
HQIL Hanson Quary C 99.07 29 IAMs_20 IAMs_20 14 42 53.9
comp=Z,743nm,20.0s
J47A Sunmer 99.08 26 IAMs_20 IAMs_20 14 44 08.0
comp=Z,796nm,19.0s
LPIG La Paz 99.17 55 LR LR 14 38 03.6
comp=Z,189nm,18.1s,baz=318,slow=35
MVO Moncorvo 99.19 330 eLQ LQ 14 29 54.5
MVO eLR LR 14 37 24.2
comp=Z,2µm,20.0s
I49A Point Hope 99.22 25 IAMs_20 IAMs_20 14 46 39.6
comp=Z,799nm,18.0s
OK033 Mehan 99.28 38 IAMs_20 IAMs_20 14 47 50.2
comp=Z,764nm,18.0s
M44A Midewin, Midew 99.33 29 IAMs_20 IAMs_20 14 46 42.9
comp=Z,688nm,19.0s
OK052 Battle Ridge R 99.39 38 IAMs_20 IAMs_20 14 48 16.1
comp=Z,635nm,19.0s
HDIL Hopedale 99.47 31 IAMs_20 IAMs_20 14 46 02.9
comp=Z,758nm,18.0s
L46A Eue Claire 99.53 28 IAMs_20 IAMs_20 14 46 49.1
comp=Z,747nm,19.0s
LMQ La Malbaie 99.62 15 IAMs_20 IAMs_20 14 43 41.5
comp=Z,1µm,19.0s
FNO Franklin 99.62 39 IAMs_20 IAMs_20 14 48 02.2
comp=Z,676nm,20.0s
SADO Sadowa 99.75 22 IAMs_20 IAMs_20 14 46 11.5
comp=Z,703nm,18.0s
SADO Sadowa 99.75 22 LR LR 14 43 14.0
comp=Z,494nm,20.3s,baz=354,slow=38
TRQ Mont Tremblant 99.80 18 IAMs_20 IAMs_20 14 43 48.7
comp=Z,1µm,20.0s
S39A Bolivar 99.88 35 IAMs_20 IAMs_20 14 47 28.8
comp=Z,708nm,18.0s
R40A Maddies Statio 99.92 34 IAMs_20 IAMs_20 14 48 29.8
comp=Z,773nm,18.0s
TUL3 Leonard 99.99 38 IAMs_20 IAMs_20 14 46 40.2
comp=Z,708nm,20.0s
MTE Manteigas 100.04 330 eLQ LQ 14 30 21.7
MTE eLR LR 14 37 00.3
comp=Z,2µm,20.0s
MBAR Mbarara 100.07 275 IAMs_20 IAMs_20 14 47 34.5
comp=Z,694nm,21.0s
P43A Skaggs, Pawnee 100.12 31 IAMs_20 IAMs_20 14 44 02.8
comp=Z,571nm,19.0s
O44A Mansfield 100.17 30 IAMs_20 IAMs_20 14 43 30.0
comp=Z,840nm,20.0s
TXAR Lajitas Array 100.17 47 P **Pdif** **13 54 40.7 -0.2**
comp=Z,0.3nm,0.6s,baz=294,slow=2.9,SNR=4.1
ABTX Abilene, Hawle 100.29 42 IAMs_20 IAMs_20 14 48 33.4
comp=Z,693nm,20.0s
K50A Casco 100.30 25 IAMs_20 IAMs_20 14 44 50.3
comp=Z,889nm,19.0s
U38A Gravette 100.31 36 IAMs_20 IAMs_20 14 47 53.4
comp=Z,625nm,19.0s
AAM Ann Arbor 100.33 26 IAMs_20 IAMs_20 14 47 20.1
comp=Z,899nm,19.0s
L48A N Adams 100.33 27 IAMs_20 IAMs_20 14 41 53.2
comp=Z,768nm,21.0s
D62A Allapoint, All 100.34 15 IAMs_20 IAMs_20 14 43 27.7
comp=Z,1µm,21.0s
SFIN Lafayette 100.57 29 IAMs_20 IAMs_20 14 44 09.6
comp=Z,847nm,21.0s
CCM Cathedral Cave 100.60 33 IAMs_20 IAMs_20 14 47 25.7
comp=Z,572nm,19.0s
SLM Saint Louis 100.61 32 IAMs_20 IAMs_20 14 47 26.8
comp=Z,831nm,18.0s
MNTQ Montreal, Saleb 100.72 18 IAMs_20 IAMs_20 14 45 39.8
comp=Z,918nm,19.0s
N47A Urbana 100.73 28 IAMs_20 IAMs_20 14 47 27.8
comp=Z,782nm,19.0s
PMRV Marv??o 100.77 329 eLQ LQ 14 30 16.8
PMRV eLR LR 14 36 27.7
comp=Z,2µm,20.0s
MGMO Mountain Grove 100.82 35 IAMs_20 IAMs_20 14 48 10.6
comp=Z,790nm,18.0s
FW03 Perrin-Whitt E 100.89 41 IAMs_20 IAMs_20 14 42 59.2
comp=Z,369nm,19.0s
FVM French Village 101.04 33 IAMs_20 IAMs_20 14 47 34.4
comp=Z,836nm,20.0s
Z35A Perchaven, San 101.13 40 IAMs_20 IAMs_20 14 49 03.5
comp=Z,873nm,18.0s
P46A Rosedale 101.15 30 IAMs_20 IAMs_20 14 49 56.1
comp=Z,765nm,19.0s
FW06 Azle 101.23 41 IAMs_20 IAMs_20 14 49 11.0
comp=Z,754nm,19.0s
F62A Pittston Farm, 101.26 16 IAMs_20 IAMs_20 14 44 02.0
comp=Z,1µm,20.0s
LONY Lake Ozonia 101.27 19 IAMs_20 IAMs_20 14 44 46.5
comp=Z,1µm,21.0s
FW07 Weatherford 101.30 41 IAMs_20 IAMs_20 14 49 08.9
comp=Z,768nm,18.0s
N49A Columbus Grove 101.30 27 IAMs_20 IAMs_20 14 42 23.8
comp=Z,822nm,22.0s
M50A Fremont 101.33 26 IAMs_20 IAMs_20 14 48 06.5
comp=Z,1µm,18.0s
FRNY Flat Rock 101.34 18 IAMs_20 IAMs_20 14 43 53.3
comp=Z,844nm,20.0s
O48B Farmland 101.48 28 IAMs_20 IAMs_20 14 48 14.6
comp=Z,729nm,18.0s
OLIL Olney 101.50 31 IAMs_20 IAMs_20 14 47 35.2
comp=Z,1µm,18.0s
J55A Hilton 101.52 22 IAMs_20 IAMs_20 14 43 15.3
comp=Z,925nm,21.0s
F63A Nahmakanta, Br 101.64 15 IAMs_20 IAMs_20 14 44 49.0
comp=Z,1µm,20.0s
ERPA Erie 101.82 24 IAMs_20 IAMs_20 14 45 39.3
comp=Z,932nm,21.0s

S44A	**Carbondale** comp=Z,752nm,20.0s	**101.82**	**32**	IAMs_20	IAMs_20	14 46 27.0	
SIUC	**Southern Illin** comp=Z,720nm,20.0s	**101.82**	**32**	IAMs_20	IAMs_20	14 46 27.0	
M52A	**Chesterland** comp=Z,910nm,18.0s	**101.84**	**25**	IAMs_20	IAMs_20	14 48 07.9	
O49A	**Covington** comp=Z,793nm,22.0s	**101.87**	**28**	IAMs_20	IAMs_20	14 42 31.8	
FCAR	**Ozark Folk Cen** comp=Z,804nm,18.0s	**101.89**	**35**	IAMs_20	IAMs_20	14 48 56.9	
CGM3	**Cape Girardeau** comp=Z,695nm,20.0s	**101.95**	**33**	IAMs_20	IAMs_20	14 47 33.5	
J57A	**Williamstown** comp=Z,1µm,20.0s	**101.96**	**21**	IAMs_20	IAMs_20	14 44 12.8	
N51A	**Ashland** comp=Z,660nm,18.0s	**102.00**	**26**	IAMs_20	IAMs_20	14 49 15.3	
PBMO	**Poplar Bluff** comp=Z,606nm,19.0s	**102.01**	**34**	IAMs_20	IAMs_20	14 48 18.0	
WHTX	**Lake Whitney,** comp=Z,891nm,18.0s	**102.01**	**41**	IAMs_20	IAMs_20	14 49 42.8	
VT1	**Waterbury** comp=Z,1µm,21.0s	**102.03**	**18**	IAMs_20	IAMs_20	14 46 08.9	
WVNY	**West Valley, N** comp=Z,973nm,19.0s	**102.03**	**23**	IAMs_20	IAMs_20	14 45 24.9	
P48A	**Milroy** comp=Z,621nm,20.0s	**102.04**	**29**	IAMs_20	IAMs_20	14 48 38.6	
M53A	**Wi Miller and** comp=Z,583nm,20.0s	**102.17**	**25**	IAMs_20	IAMs_20	14 44 57.8	
P49A	**Miami Univ. Ec** comp=Z,618nm,18.0s	**102.27**	**28**	IAMs_20	IAMs_20	14 48 39.5	
WHAR	**Wooly Hollow** comp=Z,703nm,20.0s	**102.28**	**36**	IAMs_20	IAMs_20	14 49 13.3	
USIN	**University of** comp=Z,876nm,19.0s	**102.32**	**31**	IAMs_20	IAMs_20	14 48 09.1	
ACSO	**Alum Creek Sta** comp=Z,638nm,20.0s	**102.36**	**27**	IAMs_20	IAMs_20	14 45 58.1	
PARMO	**Parma** comp=Z,735nm,20.0s	**102.42**	**33**	IAMs_20	IAMs_20	14 48 10.0	
Z38A	**Mt. Pleasant** comp=Z,922nm,18.0s	**102.43**	**39**	IAMs_20	IAMs_20	14 48 35.1	
PVAQ	**Vaqueiros**	**102.58**	**328**	*e*LQ	LQ	14 31 25.9	
L56A	**Greenwood** comp=Z,845nm,20.0s	**102.62**	**22**	IAMs_20	IAMs_20	14 43 50.4	
T45A	**Paducah** comp=Z,693nm,21.0s	**102.65**	**32**	IAMs_20	IAMs_20	14 45 15.2	
UALR	**University of** comp=Z,731nm,19.0s	**102.65**	**36**	IAMs_20	IAMs_20	14 49 23.3	
N53A	**Lisbon** comp=Z,759nm,21.0s	**102.67**	**25**	IAMs_20	IAMs_20	14 41 30.9	
WCI	**Wyandotte Cave** comp=Z,640nm,18.0s	**102.70**	**30**	IAMs_20	IAMs_20	14 48 48.2	
HNH	**Hanover** comp=Z,1µm,20.0s	**102.74**	**18**	IAMs_20	IAMs_20	14 45 38.3	
HICK	**Hickman** comp=Z,707nm,18.0s	**102.77**	**33**	IAMs_20	IAMs_20	14 48 18.1	
I63A	**Otisfield** comp=Z,1µm,20.0s	**102.85**	**17**	IAMs_20	IAMs_20	14 42 31.2	
O52A	**Adamsville** comp=Z,722nm,19.0s	**102.90**	**26**	IAMs_20	IAMs_20	14 48 54.1	
GLAT	**Glass** comp=Z,849nm,19.0s	**102.96**	**33**	IAMs_20	IAMs_20	14 48 34.2	
P51A	**Williamsport** comp=Z,652nm,21.0s	**102.98**	**27**	IAMs_20	IAMs_20	14 46 21.2	
LNXT	**Lenox** comp=Z,890nm,20.0s	**103.00**	**33**	IAMs_20	IAMs_20	14 48 55.3	
J61A	**Chester** comp=Z,896nm,20.0s	**103.00**	**18**	IAMs_20	IAMs_20	14 46 27.4	
O53A	**New Philadelph** comp=Z,714nm,19.0s	**103.02**	**26**	IAMs_20	IAMs_20	14 48 55.4	
UTMT	**University of** comp=Z,767nm,19.0s	**103.10**	**33**	IAMs_20	IAMs_20	14 48 34.7	
WLAR	**White Oak Lake** comp=Z,545nm,18.0s	**103.10**	**37**	IAMs_20	IAMs_20	14 49 59.3	
R49A	**Shelbyville** comp=Z,692nm,19.0s	**103.13**	**29**	IAMs_20	IAMs_20	14 49 26.6	
P52A	**Corning** comp=Z,640nm,20.0s	**103.21**	**26**	IAMs_20	IAMs_20	14 46 58.4	
HALT	**Halls** comp=Z,807nm,20.0s	**103.23**	**33**	IAMs_20	IAMs_20	14 48 33.3	
Q51A	**Peebles** comp=Z,928nm,18.0s	**103.26**	**28**	IAMs_20	IAMs_20	14 49 20.8	
TRY	**Troy** comp=Z,991nm,19.0s	**103.26**	**19**	IAMs_20	IAMs_20	14 49 00.2	
T47A	**Sharon Grove** comp=Z,713nm,18.0s	**103.38**	**31**	IAMs_20	IAMs_20	14 51 36.3	
O54A	**Avella** comp=Z,944nm,19.0s	**103.39**	**25**	IAMs_20	IAMs_20	14 48 33.0	
M57A	**Sunshine Farm,** comp=Z,899nm,20.0s	**103.48**	**22**	IAMs_20	IAMs_20	14 49 09.3	
R50A	**Paris** comp=Z,739nm,21.0s	**103.49**	**29**	IAMs_20	IAMs_20	14 44 40.1	
MET	**Memphis--Engin** comp=Z,614nm,20.0s	**103.58**	**34**	IAMs_20	IAMs_20	14 50 04.6	
Z41A	**Richland Creek** comp=Z,684nm,18.0s	**103.60**	**37**	IAMs_20	IAMs_20	14 48 09.8	
P53A	**Whipple** comp=Z,719nm,19.0s	**103.62**	**26**	IAMs_20	IAMs_20	14 49 22.3	
Q52A	**Bidwell** comp=Z,662nm,19.0s	**103.74**	**27**	IAMs_20	IAMs_20	14 46 57.5	
NATX	**Nacogdoches** comp=Z,622nm,20.0s	**103.75**	**40**	IAMs_20	IAMs_20	14 49 43.0	
WVT	**Waverly** comp=Z,880nm,20.0s	**103.75**	**32**	IAMs_20	IAMs_20	14 46 17.2	
SSPA	**Standing Stone** comp=Z,1µm,20.0s	**103.86**	**23**	IAMs_20	IAMs_20	14 46 30.4	
QUA2	**Belchertown** comp=Z,998nm,20.0s	**104.05**	**18**	IAMs_20	IAMs_20	14 48 41.1	
HRV	**Adam Dziewonsk** comp=Z,816nm,18.0s	**104.05**	**18**	IAMs_20	IAMs_20	14 48 04.0	
N58A	**Sunbury** comp=Z,750nm,20.0s	**104.06**	**22**	IAMs_20	IAMs_20	14 48 36.7	
Q54A	**Coxs Mills** comp=Z,635nm,21.0s	**104.27**	**26**	IAMs_20	IAMs_20	14 47 38.4	
OXF	**Oxford** comp=Z,595nm,21.0s	**104.32**	**34**	IAMs_20	IAMs_20	14 46 02.6	
S51A	**Beattyville** comp=Z,650nm,20.0s	**104.34**	**29**	IAMs_20	IAMs_20	14 46 38.6	
T50A	**Nancy** comp=Z,693nm,19.0s	**104.34**	**30**	IAMs_20	IAMs_20	14 48 26.7	
U49A	**Red Boiling Sp** comp=Z,675nm,20.0s	**104.36**	**31**	IAMs_20	IAMs_20	14 50 21.3	
R53A	**Hurricane** comp=Z,685nm,21.0s	**104.41**	**27**	IAMs_20	IAMs_20	14 41 14.2	
HKT	**Hockley** comp=Z,873nm,18.0s	**104.46**	**42**	IAMs_20	IAMs_20	14 51 50.6	
UCCT	**U. Connecticut** comp=Z,887nm,21.0s	**104.53**	**19**	IAMs_20	IAMs_20	14 46 24.9	
V48A	**Smith Brothers** comp=Z,780nm,20.0s	**104.54**	**32**	IAMs_20	IAMs_20	14 47 06.1	
BRYW	**Bryant College** comp=Z,834nm,20.0s	**104.60**	**18**	IAMs_20	IAMs_20	14 49 06.8	
WSPT	**Westport, CT** comp=Z,906nm,20.0s	**104.80**	**20**	IAMs_20	IAMs_20	14 46 25.0	
P57A	**Homestead Farm** comp=Z,970nm,19.0s	**104.85**	**24**	IAMs_20	IAMs_20	14 47 13.5	
MVL	**Millersville** comp=Z,920nm,21.0s	**104.94**	**22**	IAMs_20	IAMs_20	14 44 16.0	
M63A	**Gales Ferry** comp=Z,944nm,19.0s	**104.94**	**19**	IAMs_20	IAMs_20	14 47 56.8	
N62A	**Caumsett State** comp=Z,840nm,18.0s	**104.98**	**20**	IAMs_20	IAMs_20	14 51 28.8	
S54A	**Dingess, Beckl** comp=Z,670nm,18.0s	**105.12**	**27**	IAMs_20	IAMs_20	14 50 30.0	
R55A	**Marlinton** comp=Z,696nm,20.0s	**105.15**	**26**	IAMs_20	IAMs_20	14 46 33.8	
WUPA	**West Chester U** comp=Z,806nm,22.0s	**105.24**	**22**	IAMs_20	IAMs_20	14 47 00.9	
SDMD	**Soldier's Deli** comp=Z,630nm,20.0s	**105.31**	**23**	IAMs_20	IAMs_20	14 46 53.8	
X48A	**Hartselle** comp=Z,709nm,20.0s	**105.50**	**33**	IAMs_20	IAMs_20	14 49 34.6	
VBMS	**Vicksburg** comp=Z,767nm,19.0s	**105.60**	**37**	IAMs_20	IAMs_20	14 51 19.7	
AVE	**Averroes** comp=Z,1µm,22.0s	**105.78**	**326**	IAMs_20	IAMs_20	14 42 55.5	
CPCT	**Cooper Cave** comp=Z,775nm,20.0s	**105.81**	**30**	IAMs_20	IAMs_20	14 49 25.5	
V52A	**Sevierville** comp=Z,760nm,22.0s	**105.87**	**30**	IAMs_20	IAMs_20	14 46 16.2	
TKL	**Tuckaleechee C** comp=Z,562nm,20.0s	**105.95**	**30**	IAMs_20	IAMs_20	14 45 47.3	
BLA	**Blacksburg** comp=Z,597nm,20.0s	**105.97**	**26**	IAMs_20	IAMs_20	14 45 30.7	
146A	**Union** comp=Z,753nm,19.0s	**106.01**	**35**	IAMs_20	IAMs_20	14 50 35.3	
U54A	**Nelsons Funny** comp=Z,805nm,18.0s	**106.02**	**28**	IAMs_20	IAMs_20	14 50 54.1	
Z47A	**Carrollton**	**106.04**	**34**	IAMs_20	IAMs_20	14 50 21.0	
	comp=Z,613nm,20.0s						
FPAL	**Fort Paine** comp=Z,604nm,18.0s	**106.08**	**32**	IAMs_20	IAMs_20	14 50 33.0	
TAM	**Tamanrasset** comp=Z,686nm,22.0s	**106.18**	**309**	IAMs_20	IAMs_20	14 44 58.2	
CBN	**Corbin Frederi** comp=Z,1µm,20.0s	**106.21**	**24**	IAMs_20	IAMs_20	14 48 13.7	
R58B	**Mineral** comp=Z,726nm,22.0s	**106.25**	**24**	IAMs_20	IAMs_20	14 45 35.8	
Y49A	**Blount Mountai** comp=Z,828nm,20.0s	**106.28**	**33**	IAMs_20	IAMs_20	14 49 56.4	
V53A	**Saluda** comp=Z,775nm,18.0s	**106.35**	**29**	IAMs_20	IAMs_20	14 51 24.8	
X51A	**Calhoun** comp=Z,651nm,18.0s	**106.40**	**31**	IAMs_20	IAMs_20	14 52 01.3	
LRAL	**Lakeview Retre** comp=Z,741nm,21.0s	**106.69**	**34**	IAMs_20	IAMs_20	14 47 40.0	
U56A	**King** comp=Z,879nm,21.0s	**106.75**	**27**	IAMs_20	IAMs_20	14 46 17.1	
V55A	**Taylorsville** comp=Z,774nm,20.0s	**106.85**	**28**	IAMs_20	IAMs_20	14 49 26.9	
BG3	**Lake Jocassee** comp=Z,702nm,18.0s	**106.88**	**29**	IAMs_20	IAMs_20	14 49 07.8	
T59A	**Double "B" Far** comp=Z,666nm,20.0s	**107.25**	**24**	IAMs_20	IAMs_20	14 48 50.3	
Z51A	**Franklin** comp=Z,622nm,18.0s	**107.30**	**32**	IAMs_20	IAMs_20	14 52 28.4	
Y52A	**Lilburn** comp=Z,636nm,22.0s	**107.34**	**31**	IAMs_20	IAMs_20	14 47 16.3	
KMSC	**Kings Mountain** comp=Z,883nm,21.0s	**107.41**	**28**	IAMs_20	IAMs_20	14 45 18.9	
PAULI	**Pauline** comp=Z,826nm,19.0s	**107.49**	**29**	IAMs_20	IAMs_20	14 52 05.1	
U59A	**Littleton** comp=Z,629nm,18.0s	**107.72**	**25**	IAMs_20	IAMs_20	14 52 41.7	
V58A	**Windy Hill, Pi** comp=Z,707nm,20.0s	**107.72**	**26**	IAMs_20	IAMs_20	14 51 09.8	
HODGE	**Hodges** comp=Z,901nm,19.0s	**107.81**	**29**	IAMs_20	IAMs_20	14 52 21.6	
250A	**Grady** comp=Z,793nm,22.0s	**107.90**	**34**	IAMs_20	IAMs_20	14 48 29.4	
W57A	**Gilead** comp=Z,739nm,21.0s	**107.94**	**27**	IAMs_20	IAMs_20	14 47 02.8	
GOGA	**Godfrey** comp=Z,714nm,19.0s	**107.99**	**31**	IAMs_20	IAMs_20	14 51 16.4	
152A	**Waverly Hall** comp=Z,750nm,18.0s	**108.06**	**32**	IAMs_20	IAMs_20	14 52 59.2	
JSC	**Jenkinsville** comp=Z,883nm,19.0s	**108.19**	**29**	IAMs_20	IAMs_20	14 49 35.4	
BRAL	**Brewton** comp=Z,718nm,20.0s	**108.19**	**35**	IAMs_20	IAMs_20	14 51 51.0	
BIRD	**Birdtown, Kers** comp=Z,740nm,18.0s	**108.20**	**28**	IAMs_20	IAMs_20	14 53 54.6	
MOIG	**Melia** comp=Z,535nm,20.0s	**108.43**	**53**	IAMs_20	IAMs_20	14 32 08.2	
W59A	**Clinton** comp=Z,825nm,20.0s	**108.53**	**26**	IAMs_20	IAMs_20	14 51 19.2	
V61A	**Roper** comp=Z,848nm,20.0s	**108.66**	**24**	IAMs_20	IAMs_20	14 50 41.5	
CNNC	**Cliffs of the** comp=Z,890nm,18.0s	**108.67**	**26**	IAMs_20	IAMs_20	14 53 15.0	
X58A	**Rowland** comp=Z,802nm,20.0s	**108.72**	**27**	IAMs_20	IAMs_20	14 47 03.5	
Y57A	**Sumter** comp=Z,956nm,18.0s	**108.77**	**28**	IAMs_20	IAMs_20	14 54 12.9	
154A	**Montrose** comp=Z,626nm,21.0s	**108.83**	**31**	IAMs_20	IAMs_20	14 50 52.6	
352A	**Blakely** comp=Z,617nm,20.0s	**108.95**	**33**	IAMs_20	IAMs_20	14 50 15.0	
Y58A	**Scranton** comp=Z,741nm,20.0s	**109.16**	**28**	IAMs_20	IAMs_20	14 49 18.1	
LSZ	**Luka** comp=Z,816nm,21.0s	**109.42**	**263**	IAMs_20	IAMs_20	14 42 51.2	
TIGA	**Tifton** comp=Z,679nm,21.0s	**109.60**	**32**	IAMs_20	IAMs_20	14 52 00.2	
Y60A	**Bolivia** comp=Z,489nm,19.0s	**109.64**	**26**	IAMs_20	IAMs_20	14 54 39.8	
NHSC	**New Hope** comp=Z,762nm,20.0s	**109.65**	**28**	IAMs_20	IAMs_20	14 51 32.2	
255A	**Hazlehurst** comp=Z,532nm,19.0s	**109.69**	**31**	IAMs_20	IAMs_20	14 52 42.4	
UNM	**Universidad Na** comp=Z,568nm,20.0s	**110.04**	**52**	IAMs_20	IAMs_20	14 39 34.8	
553A	**Crawfordville** comp=Z,693nm,20.0s	**110.26**	**33**	IAMs_20	IAMs_20	14 50 57.8	
257A	**Skidaway Islan** comp=Z,735nm,18.0s	**110.28**	**30**	IAMs_20	IAMs_20	14 54 11.9	
DWPF	**Disney Wildern** comp=Z,906nm,20.0s	**113.41**	**32**	IAMs_20	IAMs_20	14 53 54.1	
MACI	**Morro de la Ar** comp=Z,862nm,19.0s	**114.23**	**330**	IAMs_20	IAMs_20	14 51 24.9	
060A	**Indiantown** comp=Z,575nm,19.0s	**114.82**	**32**	IAMs_20	IAMs_20	14 52 57.3	
BBSR	**BB Station** comp=Z,846nm,19.0s	**115.36**	**16**	IAMs_20	IAMs_20	14 52 58.4	
TORD	**Torodi Ar. Bea** comp=Z,790nm,20.0s	**115.44**	**305**	IAMs_20	IAMs_20	14 57 36.5	
TORD	**Torodi Ar. Bea** comp=Z,1.2nm,0.7s,baz=67,slow=3.2,SNR=4.2	**115.44**	**305**	PKP	**PKiKP**	**13 59 35.3**	**-1.8**
TORD				PKKPbc	**PKKPbc**	**14 10 08.6**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=199,slow=3.1,SNR=3.1						
061Z	**Ochoppi** comp=Z,596nm,21.0s	**115.57**	**33**	IAMs_20	IAMs_20	14 54 20.2	
LBTB	**Lobatse** comp=Z,738nm,22.0s	**115.79**	**255**	IAMs_20	IAMs_20	14 45 29.1	
SOR	**Soroa** comp=Z,739nm,20.0s	**117.11**	**37**	IAMs_20	IAMs_20	14 55 34.5	
BOSA	**Boshof** comp=Z,2.2nm,0.8s,baz=54,slow=2.6,SNR=3.6	**117.44**	**251**	PKP	**PKPdf**	**13 59 39.2**	**-1.5**
CAMR	**Camarioca** comp=Z,889nm,18.0s	**117.71**	**35**	IAMs_20	IAMs_20	14 59 41.3	
GRHM	**Grahamstown, E** comp=Z,555nm,19.0s	**118.18**	**246**	IAMs_20	IAMs_20	14 33 22.3	
MTO3	**Montecristo** comp=Z,531nm,22.0s	**120.06**	**48**	IAMs_20	IAMs_20	14 59 15.9	
TSUM	**Tsumeb** comp=Z,839nm,21.0s	**120.23**	**264**	IAMs_20	IAMs_20	14 49 48.5	
QSPA	**Sosh Pole Qui** comp=Z,5.7nm,0.8s,baz=329,slow=3.6,SNR=5.7	**120.38**	**180**	PKP	**PKPdf**	**13 59 43.7**	**-1.3**
DBIC	**Dimbokro** comp=Z,775nm,20.0s	**124.55**	**305**	IAMs_20	IAMs_20	15 03 46.6	
DBIC	**Dimbokro** comp=Z,6.8nm,0.7s,baz=46,slow=2.1,SNR=6.9	**124.55**	**305**	PKP	**PKPdf**	**13 59 53.2**	**-1.4**
ELIB	**Princess Elisa**	**124.60**	**201**	*d*PKPdf	**PKPdf**	**13 59 52.5**	**-0.7**
KIC	**Kosan Boka** comp=Z,7.8nm,0.7s	**124.68**	**304⇑**	*e*P	**PKPdf**	**13 59 53.8**	**-1.1**
TIC	**Toumodi** comp=Z,13nm,0.8s	**124.68**	**305⇑**	*e*P	**PKiKP**	**13 59 55.1**	**-0.1**
LIC	**Lamto** comp=Z,26nm,0.8s	**124.98**	**304⇑**	*e*P	**PKiKP**	**13 59 55.6**	**-0.2**
HZTE	**Horizontes, Gu** comp=Z,466nm,19.0s	**125.23**	**47**	IAMs_20	IAMs_20	14 57 48.0	
SDDR	**Presa de Saban** comp=Z,790nm,20.0s	**125.80**	**28**	IAMs_20	IAMs_20	15 06 30.6	
ARE1	**Arenal 1** comp=Z,685nm,19.0s	**125.98**	**47**	IAMs_20	IAMs_20	14 48 22.3	
LCR2	**La Lucha 2** comp=Z,570nm,21.0s	**126.98**	**47**	IAMs_20	IAMs_20	15 04 55.8	
SJG	**San Juan** comp=Z,637nm,21.0s	**128.47**	**22**	IAMs_20	IAMs_20	15 00 52.9	
NVL	**N'lazarevskaya**	**128.47**	**201**	*e*PKIKP	**PKiKP**	**14 00 01.9**	**+0.9**
NVL	comp=Z,14nm,1.1s			pmax	pmax		
TROLL	**Troll, Antarti** comp=Z,286nm,0.7s	**130.72**	**198**	⇓PKPdf	**PKPdf**	**14 00 04.5**	**-0.3**
BELA	**Belgrano 2** comp=Z,472nm,20.0s	**132.28**	**184**	IAMs_20	IAMs_20	14 59 38.5	
VNA2	**Neumayer--Watz** comp=Z,9.7nm,0.7s,baz=120,slow=1.0	**133.96**	**197**	PKPdf	**PKPdf**	**14 00 10.3**	**-0.4**
VNA3	**Neumayer Olymp** comp=Z,4.5nm,0.6s	**134.31**	**196**	PKPdf	**PKPdf**	**14 00 09.5**	**-2.0**
VNA1	**Neumayer--Stat** comp=Z,14nm,1.0s	**134.35**	**197**	PKPdf	**PKiKP**	**14 00 12.5**	**-0.3**
PTBC	**PUERTO BERRIO**	**135.15**	**39**	*e*P	**PKPdf**	**14 00 14.8**	**0.0**
PLMC	**San Jos del P**	**135.46**	**42**	*e*P	**PKPdf**	**14 00 15.0**	**-0.5**
GUY2C	**Guyana, Caldas**	**135.73**	**41**	*e*P	**PKPdf**	**14 00 14.8**	**-1.7**
SPBC	**San Pablo de B**	**136.09**	**39**	*e*P	**PKiKP**	**14 00 19.6**	**+1.3**
ROSC	**El Rosal** comp=Z,641nm,21.0s	**136.63**	**40**	IAMs_20	IAMs_20	15 09 31.7	
ORTC	**Ortega, Tolima**	**136.87**	**42**	*e*P	**PKiKP**	**14 00 20.2**	**+0.4**
POPC	**Popayan, Colom**	**137.11**	**45**	*e*P	**PKiKP**	**14 00 20.1**	**-0.4**
IMBA	**Imbabura, San** comp=Z,390nm,19.0s	**137.90**	**49**	IAMs_20	IAMs_20	15 11 06.5	
MCRA	**Macar, Loja**	**140.09**	**56**	*e*P	**PKPdf**	**14 00 22.6**	**-1.4**
BOAV	**Boa Vista** comp=Z,645nm,22.0s	**145.03**	**22**	IAMs_20	IAMs_20	15 06 14.9	
BOAV	**Boa Vista**	**145.03**	**22**	*e*P	**PKPbc**	**14 00 29.3**	**-2.7**
MACA	**Manacapuru-AM**	**150.14**	**26**	IAMs_20	IAMs_20	15 06 31.7	
	comp=Z,516nm,20.0s						
ETMB	**Extrema** comp=Z,451nm,22.0s	**153.19**	**43**	IAMs_20	IAMs_20	15 13 06.4	
SAML	**Samuel** comp=Z,478nm,20.0s	**154.15**	**37**	IAMs_20	IAMs_20	15 10 40.2	
SAML	**Samuel**	**154.15**	**37**	*e*P	**PKPdf**	**14 00 46.8**	**-0.2**
PLCA	**Paso Flores** comp=Z,4.4nm,1.1s,baz=262,slow=5.8,SNR=3.5	**159.08**	**125**	PKP	**PKPdf**	**14 00 52.7**	**0.0**
PLCA				PKPab	**PKPab**	**14 01 28.9**	**-0.5**
	comp=Z,3.5nm,1.0s,baz=220,slow=5.8,SNR=2.5						
BDFB	**Brasilia** comp=Z,1.8nm,0.6s,baz=0.4,slow=1.9,SNR=1.6	**165.09**	**0**	PKP	**PKPdf**	**14 00 57.6**	**-2.0**
BDFB				PKPab	**PKPab**	**14 01 56.3**	**+0.2**
	comp=Z,5.0nm,0.8s,baz=35,slow=4.3,SNR=2.5						
CPUP	**Villa Florida** comp=Z,0.7nm,0.5s,baz=272,slow=0.8,SNR=2.3	**170.68**	**65**	PKP	**PKPdf**	**14 01 02.2**	**-0.8**

IDC 20 13:41:30.5±753.0, 51.72N×33.13E, h0km, Error ellipse: s-maj=382.7km s-min=121.5km az=28.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON** 0.2nm,0.8s,baz=206,slow=324,SNR=1.9	**5.56**	**24**	I	I	14 11 50.0	
I31KZ	**AKTYUBINSK INF** baz=287,slow=315,SNR=1.4	**15.69**	**85**	I	I	15 15 20.0	
I46RU	**ZALESOVO INFRA** baz=280,slow=238	**30.74**	**65**	I	I	16 53 13.2	

*JMA **20** 13:44:23.7±0.1, 30.7°N±0.3°×132.1°E±0.8, h60km±2km, MV3.9/31, E OFF TANEGASHIMA ISLAND*
*NEIC **20** 13:44:23.4±1.4, 30.78°N±0.06°×131.8°E±0.1, h10km±1km, mb4.9/43, Error ellipse: s-maj=15.0km s-min=10.9km az=88.0*
*IDC **20** 13:44:26.3±2.5, 30.70°N×131.96°E, h38km±20km, mb4.1/23, mbtmp4.3/29, ML3.6/5, Error ellipse: s-maj=18.3km s-min=15.1km az=88.0*

ISC 20 13:44:25.7±1.8, 30.68N±0.04°×131.96E±0.06, h33km±12km, n100, σ0.94/112, mb4.7/46, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.84**	**268**	*e*P	**Pn**	**13 44 40.7**	**-0.6**
JTN				*e*S	**Sb**	**13 44 53.9**	**+0.8**
JMTN	**Minamitane**	**0.96**	**253**	*e*P	**Pn**	**13 44 42.4**	**-0.5**
JTSR	**Tashiro 2**	**1.01**	**299**	*e*S	**Sb**	**13 44 57.5**	**-0.4**
JNAR	**Kushima--Naru**	**1.03**	**325**	*e*P	**Pn**	**13 44 43.4**	**-0.5**
JNAR				*e*S	**Sb**	**13 44 57.5**	**-0.8**
JNKG	**Nichinankitago**	**1.10**	**333**	*e*P	**Pn**	**13 44 44.3**	**-0.5**
JNKG				*e*S	**Sb**	**13 44 59.1**	**-1.2**
JYAK	**Yakushimahirau**	**1.33**	**251**	*e*P	**Pn**	**13 44 47.2**	**-0.8**
JYAK				*e*S	**Sn**	**13 45 05.2**	**+0.7**
JTZ	**Takazaki**	**1.43**	**329**	*e*P	**Pn**	**13 44 48.9**	**-0.4**
JTZ				*e*S	**Sn**	**13 45 07.7**	**+0.8**
JSU	**Suzuyama**	**1.53**	**303**	*e*P	**Pn**	**13 44 50.8**	**0.0**
JKC	**Kuchinoerabu**	**1.54**	**262**	*e*P	**Pn**	**13 44 50.6**	**-0.2**
JKC				*e*S	**Sn**	**13 45 10.6**	**+1.0**
JTSN	**Tsuno**	**1.61**	**346**	*e*P	**Pn**	**13 44 50.5**	**-1.3**
JTSN				*e*S	**Sn**	**13 45 11.0**	**-0.4**
JNN	**Nakanoshima**	**1.99**	**246**	*e*S	**Sn**	**13 45 21.0**	**+0.2**
JNU	**Nakatsue**	**2.60**	**340**	Pn	**Pn**	**13 45 04.1**	**-1.4**
JNU	**Nakatsue** 14nm,0.3s,baz=197,slow=12,SNR=6.5	**2.60**	**340**	Pn	**Pn**	**13 45 05.5**	**-0.1**
JNU				Sn	**Sn**	**13 45 36.6**	**+0.6**
	14nm,0.3s,baz=184,slow=11,SNR=2.4						
	326nm,0.8s						
JMN	**Monobe**	**3.45**	**28**	Pn	**Pn**	**13 45 15.1**	**-2.1**
JTU	**Tsushima**	**4.40**	**331**	Pn	**Pn**	**13 45 27.0**	**-3.1**
JMZ	**Minamidaito 2**	**4.89**	**188**	Pn	**Pn**	**13 45 37.6**	**+0.7**
JOW	**Kunigami** 10nm,0.3s,baz=43,slow=18,SNR=1.8	**5.02**	**221**	Pn	**Pn**	**13 45 38.8**	**0.0**
JOW				Sn	**Sn**	**13 46 32.3**	**-3.3**
	9.8nm,0.3s,baz=7.5,slow=18,SNR=2.3						
	22nm,0.3s						
INU	**Inuyama**	**6.30**	**41**	Pn	**Pn**	**13 45 56.4**	**+0.1**
KSRS	**Korea Array** 7.4nm,0.8s,baz=145,slow=13,SNR=3.4	**7.54**	**335**	Pn	**Pn**	**13 46 15.2**	**+1.9**
MAJO	**Matsushiro**	**7.83**	**40**	Pn	**Pn**	**13 46 16.5**	**-0.8**
MJAR	**Matsushiro Arr** 0.6nm,0.3s,baz=244,slow=14,SNR=11	**7.83**	**40**	Pn	**Pn**	**13 46 16.9**	**-0.4**
	3.2nm,0.3s						
MJB9	**Matsu-Tunnel**	**7.83**	**40**	Pn	**Pn**	**13 46 17.6**	**+0.3**
JMM	**Marumori**	**10.23**	**43**	Pn	**Pn**	**13 46 50.6**	**+0.4**
USRK	**Ussuriysk Ar.** 0.1nm,0.3s,baz=181,slow=8.6,SNR=3.6	**13.49**	**0**	Pn	**Pn**	**13 47 36.6**	**+1.9**
	3.5nm,0.8s						
KLR	**Kul'dur** 0.6nm,0.3s,baz=188,slow=5.2,SNR=7.2	**18.53**	**360**	P	**Pn**	**13 48 39.8**	**+0.1**
	18nm,0.7s						
ULN	**Ulaanbaatar**	**25.64**	**319**	P	**P**	**13 49 51.9**	**-0.5**
ULN	comp=Z,15nm,0.8s			IAmb	IAmb	13 49 53.0	
SONM	**Songino Array**	**26.00**	**318**	P	**P**	**13 49 54.2**	**-1.4**
SONM	**Songino Array** comp=Z,4.4nm,0.8s,baz=138,slow=8.4,SNR=3.8	**26.00**	**318**	P	**P**	**13 49 54.4**	**-1.2**
	comp=Z,4.4nm,0.8s						
CMAR	**Chiang Mai Arr** comp=Z,1.9nm,0.8s,baz=61,slow=5.6,SNR=1.8	**32.28**	**256**	P	**P**	**13 50 52.4**	**+0.9**
	comp=Z,1.9nm,0.8s						
ZALV	**Zalesovo Beam** comp=Z,1.6nm,0.7s,baz=102,slow=4.7,SNR=3.8	**40.89**	**319**	PcP	**PcP**	**13 54 04.0**	**-0.7**
MK31	**Makanchi Array**	**41.23**	**307**	P	**P**	**13 52 06.0**	**-1.6**
MKAR	**Makanchi Array**	**41.23**	**307**	P	**P**	**13 52 06.2**	**-1.3**
MKAR	**Makanchi Array** comp=Z,3.3nm,0.9s,baz=95,slow=8.8,SNR=3.1	**41.23**	**307**	P	**P**	**13 52 07.1**	**-0.5**
MKAR				PcP	**PcP**	**13 54 05.5**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=112,slow=3.4,SNR=3.7						
	comp=Z,3.3nm,0.9s						
KURK	**Kurchatov**	**44.03**	**313**	P	**P**	**13 52 29.0**	**-1.1**
KURK	comp=Z,11nm,0.8s			IAmb	IAmb	13 52 30.5	
KURBB	**Kurchatov Arra** comp=Z,7.2nm,0.8s,baz=97,slow=8.9,SNR=6.4	**44.08**	**313**	P	**P**

L19K	**White Mountain**	**55.58**	**33**	P	**P**	**13 53 58.2**	**+0.4**
K20K	**Telida**	**55.91**	**32**	P	**P**	**13 54 01.4**	**+1.3**
K20K				IAmb	IAmb	13 54 02.7	
	comp=Z,13nm,0.8s						
ABKAR	**Akbulak array**	**56.09**	**311**	P	**P**	**13 54 01.2**	**-0.4**
B22K	**Teshekpuk Lake**	**56.28**	**23**	P	**P**	**13 54 03.0**	**+0.4**
B22K				IAmb	IAmb	13 54 04.6	
	comp=Z,11nm,0.9s						
I21K	**Tanana**	**56.78**	**29**	P	**P**	**13 54 07.6**	**+1.4**
G23K	**Bananza Creek**	**57.52**	**27**	P	**P**	**13 54 11.8**	**+0.3**
G23K				IAmb	IAmb	13 54 13.8	
	comp=Z,9.4nm,1.0s						
SUA	**Susitna One**	**57.56**	**34**	P	**P**	**13 54 11.7**	**-0.3**
SUA				IAmb	IAmb	13 54 13.9	
	comp=Z,14nm,0.8s						
F24K	**Squaw Lake**	**58.31**	**26**	P	**P**	**13 54 17.9**	**+0.9**
F24K				IAmb	IAmb	13 54 19.4	
	comp=Z,8.0nm,0.9s						
KNK	**Knik Glacier**	**58.66**	**34**	P	**P**	**13 54 20.0**	**+0.5**
IL31		**58.97**	**30**	P	**P**	**13 54 21.7**	**+0.1**
ILAR	**Eielson Array**	**58.97**	**30**	P	**P**	**13 54 21.4**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=266,slow=6.1,SNR=10						
	comp=Z,2.2nm,0.7s						
HDA	**Harding Lake**	**58.98**	**30**	P	**P**	**13 54 22.0**	**+0.2**
HDA				IAmb	IAmb	13 54 22.6	
	comp=Z,13nm,0.8s						
BMAR	**Burnt Mountain**	**59.59**	**26**	P	**P**	**13 54 27.2**	**+1.3**
GEYT	**Alibeck**	**59.98**	**299**	P	**P**	**13 54 28.2**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=78,slow=13,SNR=1.9						
	comp=Z,1.4nm,0.6s						
M26K	**Nabesna, AK**	**61.05**	**32**	P	**P**	**13 54 36.9**	**+0.8**
M26K				IAmb	IAmb	13 54 38.5	
	comp=Z,14nm,1.0s						
K27K	**Chicken**	**61.15**	**30**	P	**P**	**13 54 37.4**	**+0.8**
K27K				IAmb	IAmb	13 54 38.8	
	comp=Z,7.6nm,1.0s						
STKA	**Stephens Creek**	**62.88**	**171**	P	**P**	**13 54 48.0**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=346,slow=12,SNR=2.0						
	comp=Z,2.4nm,0.7s						
I30M	**Mount Dempster**	**63.26**	**28**	P	**P**	**13 54 51.6**	**+0.8**
I30M				IAmb	IAmb	13 54 53.0	
	comp=Z,11nm,0.9s						
H31M	**Peel River**	**63.91**	**27**	P	**P**	**13 54 55.4**	**+0.3**
A36M	**Sachs Harbour**	**64.96**	**20**	P	**P**	**13 55 03.0**	**+1.3**
FARO	**Faro, Yukon**	**65.44**	**31**	P	**P**	**13 55 05.7**	**+0.6**
FARO				IAmb	IAmb	13 55 07.6	
	comp=Z,11nm,0.8s						
KBZ	**Khabaz**	**68.90**	**309**	P	**P**	**13 55 28.1**	**+0.8**
	comp=Z,4.7nm,0.8s,baz=52,slow=4.6,SNR=3.9						
	comp=Z,4.7nm,0.8s						
FIA1	**FINESS Array S**	**70.61**	**331**	P	**P**	**13 55 36.5**	**-1.0**
FINES	**FINESS Array B**	**70.61**	**331**	P	**P**	**13 55 36.8**	**-0.7**
	comp=Z,9.8nm,0.8s,baz=54,slow=3.3,SNR=8.1						
	comp=Z,9.8nm,0.8s						
YKA	**Yellowknife Ar**	**73.11**	**26**	P	**P**	**13 55 52.3**	**-0.1**
YKA	**Yellowknife Ar**	**73.11**	**26**	P	**P**	**13 55 52.0**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=301,slow=5.8,SNR=7.3						
	comp=Z,2.3nm,0.8s						
AKASG	**Malin Array Be**	**74.27**	**320**	P	**P**	**13 55 59.2**	**-0.3**
	comp=Z,3.4nm,0.7s,baz=53,slow=6.1,SNR=7.6						
	comp=Z,3.4nm,0.7s						
HFS	**Hagfors**	**76.39**	**333**	P	**P**	**13 56 10.5**	**-1.0**
	comp=Z,5.5nm,0.9s,baz=43,slow=11,SNR=2.6						
	comp=Z,5.5nm,0.9s						
NB201	**NORSAR Array S**	**76.71**	**335**	P	**P**	**13 56 12.8**	**-0.6**
NB201				IAmb	IAmb	13 56 13.8	
	comp=Z,15nm,1.1s						
NB2	**NORSAR Subarra**	**76.75**	**335**	P	**P**	**13 56 12.9**	**-0.7**
	comp=Z,7.6nm,1.0s,baz=51,slow=5.9						
NOA	**NORSAR Array B**	**76.75**	**335**	P	**P**	**13 56 13.1**	**-0.5**
	comp=Z,4.5nm,0.9s,baz=47,slow=5.6,SNR=5.3						
	comp=Z,4.5nm,0.9s						
BRTR	**Keskin Array B**	**76.88**	**308**	P	**P**	**13 56 15.5**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=55,slow=4.3,SNR=4.0						
	comp=Z,1.6nm,0.8s						
BUR08	**Bucovina Ar. S**	**78.11**	**319**	P	**P**	**13 56 22.2**	**+0.7**
BURAR	**Bucovina Array**	**78.11**	**319**	P	**P**	**13 56 21.8**	**+0.3**
MMAI	**Mount Meron Ar**	**78.89**	**302**	P	**P**	**13 56 27.7**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=52,slow=7.9,SNR=3.7						
	comp=Z,0.5nm,0.3s						
CLL	**Collm**	**82.33**	**326**	*i* P	**P**	**13 56 44.7**	**+0.7**
	comp=Z,22nm,0.9s						
GEC2	**GERESS Array S**	**83.58**	**324**	P	**P**	**13 56 51.0**	**+0.3**
GEC2				IAmb	IAmb	13 56 52.0	
	comp=Z,7.9nm,1.0s						
GERES	**GERESS Array B**	**83.58**	**324**	P	**P**	**13 56 51.0**	**+0.3**
GERES	**GERESS Array B**	**83.58**	**324**	P	**P**	**13 56 50.9**	**+0.2**
	comp=Z,3.4nm,0.8s,baz=48,slow=4.0,SNR=5.8						
	comp=Z,3.4nm,0.8s						
GRA1	**Grafenberg Arr**	**84.25**	**326**	P	**P**	**13 56 53.9**	**-0.1**
GRFO	**Grafenberg**	**84.25**	**326**	P	**P**	**13 56 53.6**	**-0.4**
NVAR	**Mina Array Bea**	**85.08**	**48**	P	**P**	**13 56 58.9**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=313,slow=5.6,SNR=4.3						
	comp=Z,1.7nm,0.6s						
EKA	**Eskdalemuir Ar**	**86.11**	**336**	P	**P**	**13 57 02.4**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=34,slow=6.1,SNR=4.1						
	comp=Z,1.9nm,0.7s						
PDAR	**Pinedale Array**	**87.65**	**40**	P	**P**	**13 57 11.4**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=293,slow=1.3,SNR=4.8						
	comp=Z,1.0nm,0.8s						
ULM	**Lac du Bonnet**	**88.97**	**28**	P	**P**	**13 57 17.1**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=331,slow=8.1,SNR=3.1						
	comp=Z,3.2nm,0.7s						

*IDC **20** 14:02:25.4±0.8, 30°.65N×131°.92E, h0km, mb3.7/9, mbtmp3.7/13, ML3.2/4, Error ellipse: s-maj=27.6km s-min=15.7km az=86.0*
*JMA **20** 14:02:28.3±0.1, 30°.6N±0°.4×132°.1E±0°.9, h59km±2km, MV3.2/32, E OFF TANEGASHIMA ISLAND*
ISC 20 14:02:28.7±2.1, 30°.63N±0°.05×131°.98E±0°.08, h23km±14km, n24, σ0°63/36, mb3.7/9, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.86**	**272**	P		P	**Pn**	**14 02 45.4**	**-0.1**
JTN				*e*S			**Sn**	**14 02 58.6**	**+1.2**
JMTN	**Minamitane**	**0.96**	**257**	P		P	**Pb**	**14 02 46.8**	**+0.1**
JMTN				*e*S			**Sn**	**14 03 00.4**	**+0.6**
JTSR	**Tashiro 2**	**1.06**	**301**	*e*P		P	**Pn**	**14 02 47.4**	**-0.8**
JTSR				*e*S			**Sb**	**14 03 02.0**	**+0.2**
JNAR	**Kushima--Naru**	**1.09**	**326**	P		P	**Pn**	**14 02 48.4**	**-0.1**
JNAR				*e*S			**Sb**	**14 03 03.0**	**+0.5**
JNKG	**Nichinankitago**	**1.16**	**334**	P		P	**Pn**	**14 02 49.2**	**-0.3**
JNKG				*e*S			**Sn**	**14 03 04.3**	**-0.4**
JYAK	**Yakushimahirau**	**1.33**	**253**	*i* P		P	**Pn**	**14 02 51.7**	**-0.1**
JYAK				*e*S			**Sb**	**14 03 09.9**	**+0.4**
JTZ	**Takazaki**	**1.48**	**329**	P		P	**Pn**	**14 02 53.8**	**-0.2**
JTZ				*e*S			**Sn**	**14 03 12.7**	**0.0**
JKC	**Kuchinoerabu**	**1.55**	**264**	P		P	**Pn**	**14 02 55.0**	**+0.1**
JKC				*e*S			**Sb**	**14 03 15.0**	**-0.8**
JSU	**Suzuyama**	**1.58**	**304**	*e*P		P	**Pn**	**14 02 55.2**	**-0.2**
JTSN	**Tsuno**	**1.67**	**346**	*i* P		P	**Pn**	**14 02 56.1**	**-0.4**
JTSN				S			**Sn**	**14 03 16.5**	**-0.7**
JNN	**Nakanoshima**	**1.98**	**247**	*e*P		P	**Pn**	**14 03 00.9**	**+0.1**
JNN				*e*S			**Sn**	**14 03 25.6**	**+0.5**
JNU	**Nakatsue**	**2.66**	**340**	Pn		P	**Pn**	**14 03 10.5**	**+0.3**
	7.5nm,0.3s,baz=196,slow=10,SNR=54								
JNU				Sn			**Sn**	**14 03 42.4**	**+0.6**
	6.9nm,0.3s,baz=100,slow=20,SNR=9.2								
	20nm,0.3s								
JOW	**Kunigami**	**4.99**	**222**	Pn		P	**Pn**	**14 03 42.3**	**+0.1**
	2.9nm,0.3s,baz=111,slow=24,SNR=9.6								
JOW				Sn			**Sn**	**14 04 37.1**	**-2.0**
	3.0nm,0.3s,baz=120,slow=27,SNR=6.1								
	6.1nm,0.3s								
MJAR	**Matsushiro Arr**	**7.86**	**40**	Pn		P	**Pn**	**14 04 21.8**	**+0.1**
	0.2nm,0.3s,baz=242,slow=14,SNR=11								
	1.1nm,0.4s								
KLR	**Kul'dur**	**18.58**	**360**	P		P	**P**	**14 06 43.3**	**-0.8**
	0.1nm,0.3s,baz=168,slow=8.6,SNR=7.1								
	1.5nm,0.7s								
SONM	**Songino Array**	**26.05**	**319**	P		P	**P**	**14 07 59.8**	**-0.7**
	0.3nm,0.3s,baz=148,slow=11,SNR=1.7								
	0.3nm,0.3s								
KURBB	**Kurchatov Arra**	**44.13**	**313**	P		P	**P**	**14 10 34.9**	**-0.4**
	0.9nm,0.2s,baz=95,slow=9.4,SNR=1.8								
	0.9nm,0.2s								
BVAR	**Borovoye Array**	**49.33**	**316**	P		P	**P**	**14 11 15.5**	**-0.5**
	0.3nm,0.4s,baz=76,slow=12,SNR=2.7								
	0.3nm,0.4s								
WRA	**Warramunga Arr**	**50.33**	**177**	P		P	**P**	**14 11 24.0**	**+0.1**
	0.5nm,0.8s,baz=354,slow=8.2,SNR=2.4								
	0.5nm,0.8s								
ASAR	**Alice Springs**	**54.01**	**178**	P		P	**P**	**14 11 51.5**	**+0.3**
	0.4nm,0.7s,baz=10,slow=13,SNR=4.5								
	0.4nm,0.7s								
ILAR	**Eielson Array**	**59.01**	**30**	P		P	**P**	**14 12 26.3**	**0.0**
	0.4nm,0.6s,baz=273,slow=6.1,SNR=8.2								
	0.4nm,0.6s								
STKA	**Stephens Creek**	**62.83**	**171**	P		P	**P**	**14 12 53.4**	**+0.8**
	1.8nm,0.7s,baz=339,slow=14,SNR=2.9								
	1.8nm,0.7s								
FINES	**FINESS Array B**	**70.67**	**331**	P		P	**P**	**14 13 42.0**	**-0.2**
	1.9nm,0.7s,baz=72,slow=8.2,SNR=5.0								
	1.9nm,0.7s								
YKA	**Yellowknife Ar**	**73.15**	**26**	P		P	**P**	**14 13 57.9**	**+0.8**
	0.3nm,0.7s,baz=299,slow=6.1,SNR=5.4								
	0.3nm,0.7s								

IDC 20 14:05:05.0±11.0, 4°.95N×95°.82E, h0km, mb3.9/2, mbtmp3.8/3, ML2.9/1, Error ellipse: s-maj=294.1km s-min=45.4km az=80.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.77**	**13**	Pn		Pn	**Pn**	**14 08 21.7**	**+0.1**
	baz=206,slow=11,SNR=5.7								
	0.7nm,0.7s								
H08S2	**Diego Garcia H**	**26.42**	**242**	T		T	T	14 36 08.9	
	baz=60,slow=74,SNR=7.9								
H08S3	**Diego Garcia H**	**26.42**	**242**	T		T	T	14 36 11.9	
	baz=60								
H08S1	**Diego Carcia H**	**26.44**	**242**	T		T	T	14 36 11.6	
	baz=60,slow=74,SNR=5.4								
WRA	**Warramunga Arr**	**45.23**	**124**	P		P	P	14 13 24.3	-0.2
	0.8nm,0.5s,baz=304,slow=9.0,SNR=30								
	0.8nm,0.5s								
ASAR	**Alice Springs**	**46.78**	**129**	P		P	P	14 13 36.7	0.0
	1.5nm,0.6s,baz=302,slow=7.9,SNR=60								
	1.5nm,0.6s								
H04N2	**CROZET ISLANDS**	**64.13**	**212**	T		T	T	15 23 42.9	
	baz=50,slow=75,SNR=11								
H04N1	**CROZET ISLANDS**	**64.14**	**212**	T		T	T	15 23 47.6	
	baz=50,slow=75,SNR=9.7								
H04N3	**CROZET ISLANDS**	**64.15**	**212**	T		T	T	15 23 25.3	
	baz=50,slow=75,SNR=8.7								

*IDC **20** 14:06:58.7±1.1, 20°.72N×146°.45E, h0km, mb3.6/9, mbtmp3.6/9, Error ellipse: s-maj=35.6km s-min=22.0km az=87.0*
ISC 20 14:07:03.8±1.1, 20°.7N±0°.2×146°.4E±0°.2, h34km, n10, σ0°43/10, mb3.7/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**23.17**	**320**	P		P	**P**	**14 12 07.4**	**0.0**
	2.0nm,0.8s,baz=147,slow=8.5,SNR=7.6								
	2.0nm,0.8s								
SONM	**Songino Array**	**42.04**	**320**	P		P	**P**	**14 14 52.9**	**+0.6**
	0.3nm,0.4s,baz=119,slow=5.1,SNR=1.9								
	0.3nm,0.4s								
WRA	**Warramunga Arr**	**42.09**	**197**	P		P	**P**	**14 14 52.6**	**-0.2**
	0.4nm,0.7s,baz=22,slow=9.4,SNR=5.4								
	0.4nm,0.7s								
ASAR	**Alice Springs**	**45.76**	**196**	P		P	**P**	**14 15 22.4**	**+0.3**
	0.2nm,0.6s,baz=14,slow=7.0,SNR=1.7								
	0.2nm,0.6s								
ZALV	**Zalesovo Beam**	**56.86**	**322**	P		P	**P**	**14 16 44.7**	**-0.3**
	0.3nm,0.4s,baz=87,slow=7.5,SNR=1.5								
	0.3nm,0.4s								
MKAR	**Makanchi Array**	**57.59**	**313**	P		P	**P**	**14 16 50.2**	**-0.1**
	0.4nm,0.5s,baz=97,slow=7.2,SNR=4.2								
	0.4nm,0.5s								
ILAR	**Eielson Array**	**61.55**	**27**	P		P	**P**	**14 17 17.1**	**-0.2**
	0.6nm,0.8s,baz=279,slow=6.5,SNR=5.4								
	0.6nm,0.8s								
BVAR	**Borovoye Array**	**65.38**	**320**	P		P	**P**	**14 17 42.7**	**-0.1**
	1.4nm,0.5s,baz=83,slow=7.7,SNR=9.3								
	1.4nm,0.5s								
YKA	**Yellowknife Ar**	**75.91**	**28**	P		P	**P**	**14 18 47.2**	**+0.5**
	0.2nm,0.7s,baz=292,slow=6.2,SNR=4.3								
	0.2nm,0.7s								
FINES	**FINESS Array B**	**85.36**	**335**	P		P	**P**	**14 19 36.8**	**-0.6**
	6.1nm,1.1s,baz=48,slow=2.8,SNR=4.5								

*IDC **20** 14:10:07.4±0.8, 30°.62N×131°.96E, h0km, mb3.9/10, mbtmp3.8/14, ML3.2/4, MS3.7/1, Error ellipse: s-maj=2.1km s-min=14.6km az=89.0*
*JMA **20** 14:10:10.5±0.1, 30°.6N±0°.3×132°.0E±0°.7, h57km±2km, MV3.4/31, E OFF TANEGASHIMA ISLAND*
ISC 20 14:10:08.9±1.7, 30°.60N±0°.04×132°.00E±0°.06, h11km±10km, n28, σ0°68/40, mb3.9/10, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.88**	**274**	P		P	**Pn**	**14 10 27.4**	**+0.2**
JTN				*e*S			**Sn**	**14 10 40.0**	**0.0**
JMTN	**Minamitane**	**0.97**	**258**	P		P	**Pn**	**14 10 28.8**	**+0.4**
JTSR	**Tashiro 2**	**1.09**	**302**	*e*P		P	**Pg**	**14 10 29.8**	**0.0**
JTSR				*e*S			**Sb**	**14 10 44.2**	**+0.3**
JNAR	**Kushima--Naru**	**1.12**	**326**	P		P	**Pn**	**14 10 30.6**	**+0.1**
JNAR				*e*S			**Sg**	**14 10 45.1**	**+0.2**
JNKG	**Nichinankitago**	**1.19**	**333**	P		P	**Pg**	**14 10 31.5**	**-0.3**
JNKG				*e*S			**Sb**	**14 10 46.6**	**-0.2**
JYAK	**Yakushimahirau**	**1.34**	**255**	*i* P		P	**Pb**	**14 10 33.7**	**-0.2**
JYAK				*e*S			**Sg**	**14 10 51.7**	**-0.2**
JTZ	**Takazaki**	**1.52**	**329**	*e*P		P	**Pn**	**14 10 36.0**	**+0.1**
JTZ				*e*S			**Sn**	**14 10 54.8**	**-0.9**
JKC	**Kuchinoerabu**	**1.56**	**265**	*e*P		P	**Pn**	**14 10 37.1**	**+0.5**
JKC				*e*S			**Sn**	**14 10 57.2**	**+0.4**
JSU	**Suzuyama**	**1.60**	**305**	*e*P		P	**Pn**	**14 10 37.5**	**+0.3**
JSU				*e*S			**Sn**	**14 10 58.0**	**+0.1**
JTSN	**Tsuno**	**1.70**	**346**	*e*P		P	**Pn**	**14 10 38.3**	**-0.2**
JTSN				*e*S			**Sn**	**14 10 58.6**	**-1.5**
JZO	**Okuchi**	**1.95**	**322**	P		P	**Pn**	**14 10 42.4**	**+0.4**
JZO				*e*S			**Sn**	**14 11 05.6**	**-0.9**
JNN	**Nakanoshima**	**1.99**	**248**	*e*P		P	**Pn**	**14 10 42.8**	**+0.4**
JNN				*e*S			**Sn**	**14 11 07.2**	**-0.1**
JNU	**Nakatsue**	**2.69**	**340**	Pn		P	**Pn**	**14 10 52.6**	**+0.4**
	5.4nm,0.3s,baz=193,slow=14,SNR=23								
JNU				Sn			**Sn**	**14 11 25.1**	**+0.3**
	7.1nm,0.3s,baz=4.3,slow=21,SNR=4.7								
	12nm,0.3s								
JOW	**Kunigami**	**4.98**	**222**	Pn		P	**Pn**	**14 11 23.8**	**+0.2**
	4.1nm,0.3s,baz=99,slow=24,SNR=13								
JOW				Sn			**Sn**	**14 12 18.6**	**-2.6**
	4.9nm,0.3s,baz=134,slow=24,SNR=7.2								
	10nm,0.2s								
MJAR	**Matsushiro Arr**	**7.87**	**39**	Pn		P	**Pn**	**14 12 04.1**	**+0.7**
	0.1nm,0.3s,baz=232,slow=14,SNR=5.2								
	1.0nm,0.5s								
KLR	**Kul'dur**	**18.61**	**359**	P		P	**Pn**	**14 14 27.1**	**+0.6**
	0.1nm,0.3s,baz=190,slow=5.8,SNR=5.8								
	2.4nm,0.8s								
SONM	**Songino Array**	**26.08**	**319**	P		P	**P**	**14 15 41.6**	**-1.0**
	0.6nm,0.6s,baz=32,slow=42,SNR=2.7								
	0.6nm,0.6s								
CMAR	**Chiang Mai Arr**	**32.29**	**256**	P		P	**P**	**14 16 38.8**	**+0.8**
	0.6nm,0.5s,baz=48,slow=8.5,SNR=4.7								
	0.6nm,0.5s								
SHEM	**Shemya Is, Ala**	**37.71**	**42**	LR		LR		14 37 04.0	
	comp=Z,110nm,18.6s,baz=302,slow=43								
KURBB	**Kurchatov Arra**	**44.16**	**313**	P		P	**P**	**14 18 16.6**	**-0.9**
	2.3nm,0.2s,baz=96,slow=8.8,SNR=3.1								
	2.3nm,0.2s								
BVAR	**Borovoye Array**	**49.36**	**316**	P		P	**P**	**14 18 57.7**	**-0.5**
	0.6nm,0.5s,baz=88,slow=12,SNR=1.9								
	0.6nm,0.5s								
WRA	**Warramunga Arr**	**50.30**	**177**	P		P	**P**	**14 19 05.7**	**+0.1**
	0.6nm,0.6s,baz=353,slow=8.1,SNR=6.9								
	0.6nm,0.6s								
ASAR	**Alice Springs**	**53.98**	**178**	P		P	**P**	**14 19 33.3**	**+0.3**
	1.2nm,1.0s,baz=13,slow=12,SNR=9.2								
	1.2nm,1.0s								
ILAR	**Eielsn Array**	**59.02**	**30**	P		P	**P**	**14 20 08.5**	**+0.1**
	0.6nm,0.7s,baz=266,slow=5.9,SNR=10								
	0.6nm,0.7s								
STKA	**Stephens Creek**	**62.80**	**171**	P		P	**P**	**14 20 34.9**	**+0.5**
	2.0nm,0.8s,baz=355,slow=12,SNR=4.0								
	2.0nm,0.8s								
FINES	**FINESS Array B**	**70.70**	**331**	P		P	**P**	**14 21 24.3**	**-0.2**
	1.8nm,0.6s,baz=98,slow=7.9,SNR=6.9								
	1.8nm,0.6s								
YKA	**Yellowknife Ar**	**73.17**	**26**	P		P	**P**	**14 21 39.7**	**+0.4**
YKA	**Yellowknife Ar**	**73.17**	**26**	P		P	**P**	**14 21 39.6**	**+0.4**
	0.5nm,0.8s,baz=299,slow=5.7,SNR=7.8								
	0.5nm,0.8s								

*IDC **20** 14:10:13.9±1.9, 43°.15N×45°.89E, h0km, mb3.4/3, mbtmp3.5/6, ML3.1/3, Error ellipse: s-maj=51.9km s-min=12.8km az=4.0*
*NORS **20** 14:10:16.9, 43°.32N×46°.09E, h12km, MPVA4.2*
*MOS **20** 14:10:16.8, 43°.31N×46°.06E, h11km, MPVA4.3*
*AZER **20** 14:10:16.9±0.8, 43°.49N×45°.88E, h10km, Error ellipse: s-maj=12.0km s-min=5.2km az=80.0*
*TIF **20** 14:10:16.6, 43°.41N×45°.93E, h3km±2km*
*DRS **20** 14:10:18.4, 43°.36N×45°.93E, h19km*
ISC 20 14:10:17.6±1.0, 43°.36N±0°.02×46°.01E±0°.01, h11km±8km, n130, σ1°33/222, mb3.6/4, 13C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.41**	**168**	*e*Pg		**Pg**	**Pg**	**14 10 25.9**	**+0.1**
DVE				*e*S		**Sb**	**Sb**	**14 10 32.4**	**-0.8**
DVE	**Vedeno**	**0.41**	**168**	*e*Pg		**Pg**	**Pg**	**14 10 25.9**	**+0.1**
DVE				*e*Sg		**Sb**	**Sb**	**14 10 32.5**	**-0.8**
DLMR	**Dylym**	**0.54**	**122**	*e*Pg		**Pg**	**Pg**	**14 10 27.9**	**-0.2**
DLMR				*i* S		**Sb**	**Sb**	**14 10 36.5**	**-0.4**
DLMR				pmax		pmax			
	comp=Z,319nm,0.3s								
DLMR				smax		smax			
	comp=N,2μm,0.4s								
DLMR	**Dylym**	**0.54**	**122**	*e*Pg		**Pg**	**Pg**	**14 10 28.0**	**-0.2**
DLMR				*e*Sg		**Sg**	**Sg**	**14 10 35.2**	**-0.1**
DBC	**Dubki**	**0.69**	**119**	*d i*Pg		**Pg**	**Pg**	**14 10 30.6**	**-0.4**
DBC				*e*S		**Sb**	**Sb**	**14 10 40.9**	**-0.4**
DBC				pmax		pmax			
	comp=Z,168nm,0.3s								
DBC	**Dubki**	**0.69**	**119**	*e*Pg		**Pg**	**Pg**	**14 10 30.7**	**-0.3**
DBC				*e*Sg		**Sg**	**Sg**	**14 10 40.4**	**+0.3**
BTLR	**Botlikh**	**0.72**	**167**	*c i*Pg		**Pg**	**Pg**	**14 10 31.1**	**-0.4**
BTLR				*e*S		**Sb**	**Sb**	**14 10 41.3**	**-0.7**
BTLR				pmax		pmax			
	comp=Z,190nm,0.3s								
BTLR	**Botlikh**	**0.72**	**167**	*e*Pg		**Pg**	**Pg**	**14 10 31.1**	**-0.4**
BTLR				*e*Sg		**Sb**	**Sb**	**14 10 41.2**	**-0.7**
KRNR	**Karanay**	**0.85**	**129**	*e*PG		**Pg**	**Pg**	**14 10 33.5**	**-0.5**
KRNR				*i* S		**Sb**	**Sb**	**14 10 46.3**	**+0.5**
KRNR				pmax		pmax			
	comp=Z,69nm,0.3s								
KRNR				smax		smax			
	comp=E,192nm,0.2s								
KRNR	**Karanay**	**0.85**	**129**	*e*Pg		**Pg**	**Pg**	**14 10 33.5**	**-0.5**
KRNR				*e*Sg		**Sg**	**Sg**	**14 10 45.2**	**+0.1**
UNCR	**Uncukul**	**0.87**	**138**	*i*PG		**Pg**	**Pg**	**14 10 33.7**	**-0.6**
UNCR				*i* S		**Sb**	**Sb**	**14 10 47.0**	**+0.7**
UNCR				pmax		pmax			
	comp=Z,134nm,0.4s								
UNCR				smax		smax			
	comp=N,535nm,0.4s								
UNCR	**Uncukul**	**0.87**	**138**	*e*Pg		**Pg**	**Pg**	**14 10 33.7**	**-0.6**
UNCR				*e*Sg		**Sg**	**Sg**	**14 10 45.7**	**0.0**
KMGR	**Komgaron**	**0.89**	**250**	*e*PG		**Pn**	**Pn**	**14 10 36.2**	**+0.1**
KMGR				*e*S		**Sn**	**Sn**	**14 10 48.9**	**0.0**
KMGR	**Komgaron**	**0.89**	**250**	*e*Pg		**Pn**	**Pn**	**14 10 36.2**	**+0.1**
KMGR				*e*Sg		**Sn**	**Sn**	**14 10 48.9**	**0.0**
SHTL	**Shatili**	**0.94**	**222**	P		**Pb**	**Pb**	**14 10 35.7**	**-0.3**
SHTL	**Shatili**	**0.94**	**222**	*e*PG		**Pb**	**Pb**	**14 10 35.7**	**-0.3**
HNZR	**Khunzah**	**0.96**	**147**	*e*PG		**Pg**	**Pg**	**14 10 36.0**	**-0.1**
HNZR				*i* S		**Sn**	**Sn**	**14 10 49.9**	**-0.9**
HNZR				pmax		pmax			
	comp=Z,132nm,0.5s								
HNZR				smax		smax			
	comp=N,168nm,0.4s								
XNZR	**Khunzakh**	**0.97**	**148**	*e*Pg		**Pg**	**Pg**	**14 10 35.2**	**-1.0**
XNZR				*e*Sg		**Sb**	**Sb**	**14 10 49.3**	**0.0**
BUJR	**

KMKR				smax	smax			
	comp=N,744nm,0.4s							
KMKR	**Kumukh**	**1.47**	**146**	*e*Pg	**Pb**	**14 10 45.1**	**+0.1**
KMKR				*e*Sg	**Sg**	**14 11 05.1**	**+0.2**
SGKR	**Sergokala**	**1.51**	**126**	*e*PG	**Pb**	**14 10 45.7**	**+0.1**
SGKR				*i* S	**Sg**	**14 11 07.0**	**+0.8**
SGKR				pmax	pmax			
	comp=Z,151nm,0.4s							
SGKR				smax	smax			
	comp=N,312nm,0.5s							
SGKR	**Sergokala**	**1.51**	**126**	*e*Pg	**Pb**	**14 10 45.7**	**+0.1**
SGKR				*e*Sg	**Sg**	**14 11 06.3**	**+0.1**
LGD	**Lagodekhi**	**1.54**	**173**	P	**Pb**	**14 10 45.9**	**-0.1**
LGD				S	**Sg**	**14 11 07.3**	**+0.2**
LGD	**Lagodekhi**	**1.54**	**173**	*e*PN	**Pb**	**14 10 45.9**	**-0.1**
LGD				*e*S	**Sg**	**14 11 07.2**	**+0.2**
ZEI	**Tsey**	**1.65**	**250**	*e*PN	**Pb**	**14 10 47.7**	**-0.3**
ZEI				*e*S	**Sg**	**14 11 10.4**	**-0.1**
ZEI				pmax	pmax			
	comp=Z,106nm,0.2s							
ZEI	**Tsey**	**1.65**	**250**	*e*Pg	**Pb**	**14 10 47.8**	**-0.3**
ZEI				*e*Sg	**Sg**	**14 11 10.5**	**-0.1**
URKR	**Urkarakh**	**1.69**	**134**	*e*PN	**Pn**	**14 10 47.0**	**-0.1**
URKR				*i* S	**Sb**	**14 11 10.6**	**+0.5**
URKR				pmax	pmax			
	comp=Z,114nm,0.4s							
URKR				smax	smax			
	comp=N,223nm,0.7s							
URKR	**Urkarakh**	**1.69**	**134**	*e*Pg	**Pn**	**14 10 47.1**	**-0.1**
URKR				*e*Sg	**Sb**	**14 11 09.6**	**-0.5**
NCK	**Nalchik**	**1.76**	**275**⇑	*e*PN	**Pg**	**14 10 50.5**	**-0.9**
NCK	**Nalchik**	**1.76**	**275**	*e*Pg	**Pg**	**14 10 52.3**	**+0.9**
NCK				*e*Sg	**Sg**	**14 11 15.3**	**+1.1**
ZKTA	**Zakatala**	**1.78**	**165**	P	**Pg**	**14 10 50.9**	**-0.9**
	SNR=12							
ZKTA				S	**Sg**	**14 11 14.0**	**-0.9**
ZKTA	**Zakatala**	**1.78**	**165**	PN	**Pg**	**14 10 50.8**	**-0.9**
DIGR	**Digorskoe uzhe**	**1.84**	**256**	*e*PN	**Pb**	**14 10 50.9**	**-0.4**
DIGR				pmax	pmax			
	comp=Z,15nm,0.3s							
DIGR	**Digorskoe uzhe**	**1.84**	**256**	*e*Pg	**Pb**	**14 10 50.9**	**-0.4**
DIGR				*e*Sg	**Sg**	**14 11 15.8**	**-0.9**
KBTC	**Kuba-Taba**	**1.94**	**284**	*e*PN	**Pb**	**14 10 51.5**	**-1.5**
KBTC	**Kuba-Taba**	**1.94**	**284**	*e*Pg	**Pb**	**14 10 51.5**	**-1.5**
KBTC				*e*Sg	**Sg**	**14 11 19.4**	**-0.6**
ONI	**Oni**	**2.03**	**249**	P	**Pb**	**14 10 54.8**	**+0.3**
ONI				S	**Sg**	**14 11 22.9**	**+0.2**
ONI	**Oni**	**2.03**	**249**	*e*PN	**Pb**	**14 10 54.7**	**+0.3**
ONI				*e*S	**Sg**	**14 11 22.9**	**+0.2**
ALIG	**Mtskhetisjvari**	**2.15**	**235**	P	**Pb**	**14 10 57.0**	**+0.6**
ALIG	**Mtskhetisjvari**	**2.15**	**235**	*e*PN	**Pb**	**14 10 57.0**	**+0.6**
DRN	**Derbent**	**2.17**	**127**⇑	*e*PN	**Pn**	**14 10 53.9**	**+0.3**
PYA1	**Pyatigorsk**	**2.22**	**289**⇑	*e*PN	**Pn**	**14 10 54.1**	**-0.3**
PYA1	**Pyatigorsk**	**2.22**	**289**	*e*Pn	**Pb**	**14 10 56.7**	**-1.1**
PYA1				*e*Sn	**Sb**	**14 11 23.9**	**-1.5**
AKT	**Akhty**	**2.27**	**145**	*ce*PN	**Pn**	**14 10 55.5**	**+0.4**
AKT	**Akhty**	**2.27**	**145**	*e*Pg	**Pb**	**14 10 58.2**	**-0.5**
AKT				*e*Sg	**Sb**	**14 11 27.2**	**+0.4**
KBZ	**Khabaz**	**2.29**	**280**	*i* PN	**Pn**	**14 10 55.0**	**-0.3**
KBZ	**Khabaz**	**2.29**	**280**	*e*Pn	**Pn**	**14 10 55.0**	**-0.3**
KBZ				*e*Sn	**Sb**	**14 11 26.7**	**-0.4**
KBZ	**Khabaz**	**2.29**	**280**	Pn	**Pn**	**14 10 54.9**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=139,slow=1.8,SNR=26							
KBZ				Sn	**Sb**	**14 11 24.9**	**-2.2**
	comp=Z,3.6nm,0.3s,baz=120,slow=15,SNR=6.6							
	comp=Z,6.9nm,0.3s							
TRLG	**Trialeti**	**2.30**	**218**	P	**Pb**	**14 10 57.3**	**-2.0**
TRLG	**Trialeti**	**2.30**	**218**	*e*PN	**Pb**	**14 10 57.2**	**-2.0**
SEKA	**Sheki**	**2.33**	**157**	P	**Pb**	**14 10 57.8**	**-1.8**
	SNR=7.9							
SEKA				S	**Sb**	**14 11 29.6**	**+1.3**
SEKA	**Sheki**	**2.33**	**157**	PN	**Pb**	**14 10 57.7**	**-1.8**
QZX	**Qazax, Azerbai**	**2.35**	**192**	P	**Pn**	**14 10 57.5**	**+1.4**
	SNR=6.1							
QZX				S	**Sb**	**14 11 29.9**	**+0.9**
KSMR	**Kasumkent**	**2.36**	**138**	*e*PN	**Pn**	**14 10 56.6**	**+0.3**
KSMR				*i* S	**Sb**	**14 11 27.6**	**-1.6**
KSMR				pmax	pmax			
	comp=Z,85nm,0.2s							
KSMR				smax	smax			
	comp=E,524nm,0.4s							
KSMR	**Kasumkent**	**2.36**	**138**	*e*Pn	**Pb**	**14 10 59.7**	**-0.4**
KSMR				*e*Sn	**Sb**	**14 11 29.1**	**-0.1**
BRNG	**Burnasheti**	**2.37**	**224**	P	**Pb**	**14 11 00.8**	**+0.3**
BRNG				S	**Sg**	**14 11 33.1**	**-0.7**
BRNG	**Burnasheti**	**2.37**	**224**	*e*PN	**Pb**	**14 11 00.7**	**+0.3**
BRNG				*e*S	**Sg**	**14 11 33.0**	**-0.7**
BEYR	**Belyy Ugol+**	**2.40**	**287**	*e*PN	**Pn**	**14 10 56.9**	**0.0**
BEYR				*e*S	**Sn**	**14 11 26.5**	**+0.2**
BEYR	**Belyy Ugol+**	**2.40**	**287**	*e*Pn	**Pn**	**14 10 56.9**	**0.0**
BEYR				*e*Sn	**Sn**	**14 11 26.5**	**+0.2**
NEUR	**Neytrino**	**2.42**	**269**⇓	*e*PN	**Pb**	**14 10 58.7**	**-2.4**
NEUR	**Neytrino**	**2.42**	**269**	*e*Pn	**Pn**	**14 10 58.5**	**+1.3**
NEUR				*e*Sn	**Sb**	**14 11 28.9**	**-2.0**
DMNI	**Dmanisi**	**2.44**	**214**	P	**Pb**	**14 10 59.1**	**-2.5**
DMNI	**Dmanisi**	**2.44**	**214**	*e*PN	**Pb**	**14 10 59.0**	**-2.5**
SHA1	**Shidzhatmaz**	**2.46**	**280**	*ce*PN	**Pn**	**14 10 57.4**	**-0.5**
SHA1	**Shidzhatmaz**	**2.46**	**280**	*e*Pn	**Pn**	**14 10 57.7**	**-0.2**
SHA1				*e*Sn	**Sb**	**14 11 31.6**	**-0.9**
KIV0	**Kislovodsk Arr**	**2.48**	**285**	*e*Pn	**Pn**	**14 10 57.8**	**-0.2**
KIV0				*e*Sn	**Sn**	**14 11 28.5**	**+0.3**
KIV	**Kislovodsk**	**2.48**	**285**	*i* PN	**Pn**	**14 10 57.8**	**-0.3**
KIV	**Kislovodsk**	**2.48**	**285**	*e*Pn	**Pn**	**14 10 57.7**	**-0.3**
KIV				*e*Sn	**Sn**	**14 11 28.2**	**-0.1**
QSAR	**Qusar**	**2.49**	**137**	P	**Pb**	**14 11 00.7**	**-1.7**
	SNR=6.7							
QSAR				S	**Sb**	**14 11 34.3**	**+1.3**
ALER	**Alexandrovskoy**	**2.63**	**303**	*e*PN	**Pb**	**14 11 05.0**	**+0.2**
ALER				*e*S	**Sb**	**14 11 34.1**	**-3.0**
ALER	**Alexandrovskoy**	**2.63**	**303**	*e*Pn	**Pb**	**14 11 05.0**	**+0.2**
ALER				*e*Sn	**Sb**	**14 11 34.1**	**-3.0**
GDB	**GEDABAY**	**2.65**	**184**	P	**Pn**	**14 11 02.1**	**+1.8**
	SNR=6.7							
GDB				S	**Sb**	**14 11 35.6**	**-2.0**
XNQ	**Khinaliq**	**2.70**	**143**	P	**Pb**	**14 11 03.6**	**-2.5**
	SNR=4.6							
XNQ				S	**Sb**	**14 11 39.6**	**+0.3**
GOF	**Gofitskoye**	**2.72**	**310**	*ce*PN	**Pn**	**14 11 00.4**	**-0.8**
GOF				*e*S	**Sg**	**14 11 44.8**	**-0.3**
QUBA	**Quba, Azerbaij**	**2.72**	**137**	P	**Pb**	**14 11 04.1**	**-2.2**
	SNR=7.2							
QUBA				S	**Sb**	**14 11 38.4**	**-1.3**
GANJ	**Ganja**	**2.73**	**175**	P	**Pn**	**14 11 02.7**	**+1.4**
	SNR=6.4							
GANJ				S	**Sn**	**14 11 36.1**	**+1.9**
GANJ	**Ganja**	**2.73**	**175**	PN	**Pn**	**14 11 02.7**	**+1.4**
QBL	**Gabala**	**2.77**	**150**	P	**Pb**	**14 11 04.5**	**-2.6**
QBL				S	**Sb**	**14 11 41.4**	**+0.3**
SIZA	**Siyzn**	**3.14**	**136**	P	**Pn**	**14 11 09.1**	**+2.2**
SIZA				S	**Sb**	**14 11 53.7**	**+2.1**
PQL	**Pirkuli**	**3.21**	**142**	P	**Pn**	**14 11 09.7**	**+1.6**
PQL				S	**Sb**	**14 11 56.9**	**+3.0**
ATGJ	**Altiaghaj**	**3.32**	**138**	P	**Pn**	**14 11 12.2**	**+2.8**
ATGJ				S	**Sb**	**14 11 55.3**	**-1.5**
GNI	**Garni**	**3.35**	**197**	*e*PN	**Pb**	**14 11 17.7**	**+0.7**
GNI	**Garni**	**3.35**	**197**	*e*Pn	**Pn**	**14 11 17.7**	**+0.7**
GNI				*e*Sn	**Sn**	**14 11 50.9**	**+1.2**
SBZ	**Shahbuz**	**3.98**	**185**	P	**Pn**	**14 11 20.9**	**+2.4**
SBZ				S	**Sn**	**14 12 07.2**	**+2.0**
GUZR	**Guzeripl'**	**4.32**	**280**⇓	*e*PN	**Pn**	**14 11 24.7**	**+1.5**
YRD	**Yardimli**	**4.75**	**158**	P	**Pn**	**14 11 30.5**	**+1.2**
	SNR=10.0							
YRD				S	**Sn**	**14 12 24.8**	**+0.4**
LRK	**Lerik**	**5.03**	**159**	P	**Pn**	**14 11 34.6**	**+1.4**
	SNR=6.7							
LRK				S	**Sn**	**14 12 33.0**	**+1.7**
GEYT	**Alibeck**	**10.68**	**116**	Pn	**Pn**	**14 12 48.5**	**-2.0**
	comp=E,0.6nm,0.3s,baz=312,slow=15,SNR=2.8							
	comp=E,1.2nm,0.3s							
AKTO	**Aktyubinsk**	**10.83**	**45**	P	**Pn**	**14 12 52.2**	**-0.3**
AKTO	**Aktyubinsk**	**10.83**	**45**	⇓P	**Pn**	**14 12 52.2**	**-0.3**
	comp=E,5.5nm,1.5s							
AKTO				⇑S	Sn	14 14 44.0	-10
	comp=E,2.2nm,0.8s							
AB31	**Akbulak array**	**11.29**	**54**	P	**Pn**	**14 12 56.7**	**-2.0**
AB31	**Akbulak array**	**11.29**	**54**	⇓P	**Pn**	**14 12 56.7**	**-2.0**
	comp=E,0.4nm,0.4s,baz=242,slow=12,SNR=26							
AB31				⇑S	Sn	14 14 54.4	-10
	comp=E,0.7nm,0.3s,baz=231,slow=19,SNR=4.9							
BRVK	**Borovoye**	**18.78**	**50**⇑	*eP*	**Pn**	**14 14 37.3**	**+0.3**
BRVK				pmax	pmax			
	comp=Z,6.0nm,3.1s							
BVAR	**Borovoye Array**	**18.83**	**51**	P	**P**	**14 14 37.0**	**-0.1**
	baz=234,slow=11,SNR=4.6							
	comp=Z,0.7nm,0.5s							
AAK	**Ala-Archa**	**20.81**	**82**⇑	*e*P	**P**	**14 14 59.6**	**+0.6**
FINES	**FINESS Array B**	**21.65**	**334**	P	**P**	**14 15 07.1**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=132,slow=11,SNR=4.6							
	comp=Z,2.3nm,0.8s							
KURBB	**Kurchatov Arra**	**23.20**	**60**	P	**P**	**14 15 24.5**	**+0.2**
	comp=Z,0.4nm,0.2s,baz=269,slow=12,SNR=4.7							
	comp=Z,0.4nm,0.2s							
KURK	**Kurchatov**	**23.27**	**60**⇑	*e*P	**P**	**14 15 26.0**	**+1.1**
KURK				pmax	pmax			
	comp=Z,4.0nm,1.6s							
MKAR	**Makanchi Array**	**25.70**	**70**	P	**P**	**14 15 46.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=265,slow=12,SNR=1.8							
	comp=Z,0.1nm,0.3s							

*IDC **20** 14:14:32.8±0.7,30.64N×131.99E,h0km,mb3.9/12, mbtmp3.8/17,ML3.4/5,MS3.6/4,Error ellipse: s-maj=22.9km s-min=14.0km az=88.0*
*JMA **20** 14:14:34.8±0.2,30.6N±0.4×132.1E±0.9,h54km±3km, MV3.6/30,E OFF TANEGASHIMA ISLAND*

ISC 20 14:14:34.7±2.7,30.60N±0.04×131.99E±0.06,h13km±16km, n35,σ0s73/40,mb3.9/12,MS4.0/3,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.87**	**274**	*e*P		**Pn**		**14 14 52.4**	**-0.3**
JTN				*e*S		**Sn**		**14 15 06.1**	**+0.7**
JMTN	**Minamitane**	**0.96**	**258**	*e*P		**Pn**		**14 14 53.8**	**-0.2**
JMTN				S		**Sn**		**14 15 08.6**	**+1.0**
JTSR	**Tashiro 2**	**1.08**	**302**	*e*P		**Pn**		**14 14 55.1**	**-0.5**
JNAR	**Kushima--Naru**	**1.11**	**326**	*e*P		**Pn**		**14 14 55.6**	**-0.4**
JNAR				S		**Sb**		**14 15 10.3**	**+0.2**
JNKG	**Nichinankitago**	**1.18**	**334**	P		**Pn**		**14 14 56.7**	**-0.3**
JNKG				*e*S		**Sb**		**14 15 12.0**	**-0.2**
JYAK	**Yakushimahirau**	**1.33**	**254**	*e*P		**Pn**		**14 14 59.0**	**0.0**
JYAK				*e*S		**Sg**		**14 15 17.3**	**-0.3**
JTZ	**Takazaki**	**1.51**	**329**	*e*P		**Pn**		**14 15 01.2**	**-0.3**
JTZ				S		**Sn**		**14 15 20.4**	**-0.7**
JKC	**Kuchinoerabu**	**1.56**	**265**	*e*P		**Pn**		**14 15 02.4**	**+0.3**
JKC				*e*S		**Sb**		**14 15 22.7**	**-0.3**
JSU	**Suzuyama**	**1.60**	**305**	*e*P		**Pn**		**14 15 02.7**	**0.0**
JTSN	**Tsuno**	**1.69**	**346**	*e*P		**Pn**		**14 15 03.2**	**-0.7**
JTSN				*e*S		**Sn**		**14 15 24.2**	**-1.3**
JNN	**Nakanoshima**	**1.98**	**248**	*e*P		**Pn**		**14 15 08.1**	**+0.1**
JNN				*e*S		**Sn**		**14 15 32.7**	**0.0**
JNU	**Nakatsue**	**2.68**	**340**	Pn		**Pn**		**14 15 17.9**	**+0.2**
	7.2nm,0.3s,baz=200,slow=8.6,SNR=27								
JNU				Sn		**Sn**		**14 15 51.1**	**+1.0**
	6.2nm,0.3s,baz=133,slow=23,SNR=8.4								
JNU				LR		LR		14 16 15.6	
	comp=Z,437nm,18.3s,baz=154,slow=39								
	22nm,0.4s								
JOW	**Kunigami**	**4.98**	**222**	Pn		**Pn**		**14 15 49.6**	**+0.4**
	5.1nm,0.3s,baz=113,slow=22,SNR=13								
JOW				Sn		**Sn**		**14 16 44.2**	**-2.4**
	5.1nm,0.3s,baz=138,slow=24,SNR=6.0								
	13nm,0.3s								
MJAR	**Matsushiro Arr**	**7.87**	**40**	Pn		**Pn**		**14 16 29.8**	**+0.9**
	0.2nm,0.3s,baz=242,slow=14,SNR=12								
	1.2nm,0.3s								
USRK	**Ussuriysk Ar.**	**13.57**	**360**	Pn		**Pn**		**14 17 47.6**	**+0.7**
	0.1nm,0.3s,baz=170,slow=11,SNR=2.3								
	1.2nm,0.7s								
KLR	**Kul'dur**	**18.61**	**360**	P		**P**		**14 18 51.4**	**-0.3**
	0.2nm,0.3s,baz=136,slow=5.0,SNR=8.6								
	2.1nm,0.7s								
SONM	**Songino Array**	**26.07**	**319**	P		**P**		**14 20 07.1**	**-0.9**
	1.2nm,0.8s,baz=136,slow=11,SNR=4.5								
	1.2nm,0.8s								
CMAR	**Chiang Mai Arr**	**32.28**	**256**	P		**P**		**14 21 05.0**	**+1.5**
	0.8nm,0.8s,baz=60,slow=7.0,SNR=4.4								
	0.8nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**33.27**	**101**	T		T		14 56 16.0	
	baz=294,slow=74								
H11N1	**WAKE ISLAND Hy**	**33.27**	**101**	T		T		14 56 14.5	
	baz=294								
H11N3	**WAKE ISLAND Hy**	**33.29**	**101**	T		T		14 56 14.7	
	baz=294,slow=74								
TIXI	**Tiksi**	**41.13**	**358**	LR		LR		14 38 59.0	
	comp=Z,16nm,19.4s,baz=234,slow=36								
MKAR	**Makanchi Array**	**41.30**	**307**	P		**P**		**14 22 19.7**	**-0.2**
	0.5nm,0.7s,baz=90,slow=8.5,SNR=4.3								
	0.5nm,0.7s								
BVAR	**Borovoye Array**	**49.35**	**316**	P		**P**		**14 23 22.8**	**-0.9**
	0.8nm,0.6s,baz=104,slow=9.2,SNR=4.6								
	0.8nm,0.6s								
WRA	**Warramunga Arr**	**50.30**	**177**	P		**P**		**14 23 31.1**	**0.0**
	1.1nm,0.8s,baz=353,slow=8.2,SNR=7.8								
	1.1nm,0.8s								
CTA	**Charters Tower**	**52.23**	**163**	LR		LR		14 43 42.8	
	comp=Z,138nm,21.7s,baz=297,slow=34								
ASAR	**Alice Springs**	**53.99**	**178**	P		**P**		**14 23 58.9**	**+0.3**
	0.9nm,0.8s,baz=8.4,slow=9.4,SNR=8.5								
	0.9nm,0.8s								
ILAR	**Eielson Array**	**59.02**	**30**	P		**P**		**14 24 33.6**	**-0.3**
	0.7nm,0.7s,baz=280,slow=5.3,SNR=11								
	0.7nm,0.7s								
STKA	**Stephens Creek**	**62.80**	**171**	P		**P**		**14 25 00.4**	**+0.4**
STKA	**Stephens Creek**	**62.80**	**171**	P		**P**		**14 25 00.4**	**+0.4**
	1.4nm,0.7s,baz=329,slow=5.7,SNR=4.5								
	1.4nm,0.7s								
FINES	**FINESS Array B**	**70.69**	**331**	P		**P**		**14 25 49.2**	**-0.8**
	1.4nm,0.5s,baz=71,slow=4.1,SNR=8.8								
	1.4nm,0.5s								
YKA	**Yellowknife Ar**	**73.16**	**26**	P		**P**		**14 26 05.1**	**+0.3**
	0.6nm,0.8s,baz=299,slow=6.1,SNR=9.2								
	0.6nm,0.8s								
AKASG	**Malin Array Be**	**74.35**	**320**	P		**P**		**14 26 11.9**	**-0.1**
	0.3nm,0.4s,baz=53,slow=5.5,SNR=4.1								
	0.3nm,0.4s								
HFS	**Hagfors**	**76.47**	**333**	P		**P**		**14 26 24.6**	**+0.6**
	2.8nm,0.8s,baz=46,slow=8.3,SNR=2.6								
	2.8nm,0.8s								
RPZ	**Rata Peaks**	**82.15**	**153**	LR		LR		14 58 06.6	
	comp=Z,162nm,19.4s,baz=292,slow=32								

IDC 20 14:20:31.3±1.6,34.34N×26.41E,h0km,mb3.5/5, mbtmp3.5/5,Error ellipse: s-maj=68.4km s-min=23.6km az=153.0,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**24.77**	**291**	P		P	P	14 25 54.9	+0.1
	0.3nm,0.6s,baz=84,slow=9.5,SNR=2.4								
	0.3nm,0.6s								
TORD	**Torodi Ar. Bea**	**30.79**	**233**	P		P	P	14 26 48.7	-0.1
	0.6nm,0.7s,baz=30,slow=10,SNR=4.3								
	0.6nm,0.7s								
KURBB	**Kurchatov Arra**	**40.84**	**50**	P		P	P	14 28 14.7	+0.1
	0.8nm,0.9s,baz=275,slow=8.6,SNR=5.4								
	0.8nm,0.9s								
MKAR	**Makanchi Array**	**43.37**	**56**	P		P	P	14 28 35.1	-0.2
	0.3nm,0.6s,baz=279,slow=7.0,SNR=2.8								
	0.3nm,0.6s								
ZALV	**Zalesovo Beam**	**44.83**	**46**	P		P	P	14 28 46.6	-0.3
	0.7nm,0.4s,baz=270,slow=10,SNR=2.9								
	0.7nm,0.4s								

VIE 20 14:28:51.4±0.2,47.51N×14.29E,h0km,mb0.7/1,ml1.6/8, Error ellipse: s-maj=2.5km s-min=1.3km az=172.0 8 km SSE of Liezen Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MOA	**Molln**	**0.34**	**357**	*e*Pg		Pg		14 28 58.3	+0.3
	0.8nm,0.1s								
MOA				*i* Sg		Sg		14 29 02.5	0.0
	4.8nm,0.3s								
BIOA	**Bad Ischl, Aus**	**0.48**	**293**	*e*Pg		Pg		14 29 00.9	+0.3
	1.1nm,0.2s								
BIOA				*e*Sg		Sg		14 29 06.8	-0.1
	6.2nm,0.3s								
KBA	**Koelnbreinsper**	**0.77**	**237**	*e*Pg		Pg		14 29 06.5	+0.2
	0.8nm,0.1s								
KBA				*e*Sg		Sg		14 29 16.4	+0.1
	2.0nm,0.2s								
ARSA	**Arzberg**	**0.88**	**107**	*e*Pg		Pg		14 29 08.0	-0.2
	1.5nm,0.2s								
ARSA				*e*Sg		Sb		14 29 20.7	-1.0
	1.1nm,0.2s								
LESA	**Schwarzleotal**	**1.10**	**266**	*e*Pg		Pg		14 29 12.1	-0.3
	0.3nm,0.1s								
LESA				*e*Sg		Sb		14 29 28.5	+0.3
	4.9nm,0.4s								
CONA	**Conrad Observa**	**1.14**	**68**	*i* Pg		Pg		14 29 13.3	0.0
	0.3nm,0.1s								
CONA				*i* Sg		Sb		14 29 29.8	+0.3
	2.6nm,0.3s								
RONA	**Rosalia, Austr**	**1.37**	**81**	*e*Pg		Pg		14 29 17.7	0.0
	1.0nm,0.2s								
RONA				*e*Sg		Sb		14 29 35.9	-0.1
	1.0nm,0.2s								
WTTA	**Wattenberg**	**1.82**	**263**	*i* Pn		Pn		14 29 24.7	+0.5
	1.6nm,0.2s								
WTTA				*i* Sg		Sg		14 29 52.6	+2.7
	1.7nm,0.3s								

LJU 20 14:29:29.9,46.04N×14.94E,h6km,ML0.9,1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PDKS	**Podkum**	**0.04**	**64**⇑	*i* Pg		Pg		14 29 31.4	0.0
PDKS				*i* Sg		Sg		14 29 32.4	+0.1
PDKS				IAML				14 29 32.6	
	comp=Z,88nm,0.1s								
VNDS	**Vrh nad Dolski**	**0.18**	**290**	*i* Pg		Pg		14 29 33.6	+0.1
VNDS				*i* Sg		Sg		14 29 36.2	+0.4
VNDS				IAML				14 29 37.0	
	comp=Z,7.3nm,0.1s								
VISS	**Visnje**	**0.25**	**197**	*i* Pg		Pg		14 29 34.8	0.0
VISS				*e*Sg		Sg		14 29 38.6	+0.6
VISS				IAML				14 29 40.1	
	comp=Z,2.4nm,0.1s								
LEGS	**Legarje**	**0.28**	**109**	*i* Pg		Pg		14 29 35.5	+0.1
LEGS				*i* Sg		Sg		14 29 39.5	+0.5

*ISN **20** 14:30:01.9±0.6,34.38N×45.84E,h0km±288km,ML3.1*
*TEH **20** 14:30:02.2,34.50N×45.91E,h8km±29km,ML3.0*

ISC 20 14:30:02.9±1.3,34.47N±0.03×45.92E±0.03,h3km±12km, n18,σ0s65/24,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.28**	**277**	Pg		**Pg**		**14 30 07.7**	**-0.5**
IDHR	**Dehrash**	**0.44**	**59**	Pg		**Pg**		**14 30 11.2**	**-0.3**
IDHR				Sg		**Sg**		**14 30 17.6**	**+0.4**
IGHG	**Ghaleghazi**	**0.55**	**105**	Pg		**Pg**		**14 30 14.0**	**+0.6**
IGHG				Sg		**Sb**		**14 30 22.7**	**-1.0**
ILBA	**Ilam Banvizeh**	**0.88**	**164**	Pg		**Pg**		**14 30 19.6**	**-0.1**
ILBA				Sg		**Sb**		**14 30 32.9**	**0.0**
KCHF	**Cheshme Sefid,**	**0.94**	**102**	Pg		**Pg**		**14 30 20.8**	**-0.2**
ILIN	**Lien**	**0.96**	**62**	Pg		**Pg**		**14 30 20.7**	**-0.7**
IKOM	**Komasi**	**1.35**	**102**	Pg		**Pn**		**14 30 28.6**	**-0.1**
IBDR	**Badra**	**1.36**	**180**	*e*Pn		**Pn**		**14 30 28.5**	**-0.2**
IBDR				*e*Sn		**Sg**		**14 30 48.0**	**+1.5**
IBDR				AML		AML		14 30 53.0	
	comp=N,180nm,0.5s								
IBDR				AML		AML		14 31 02.1	
	comp=E,399nm,0.5s								
IBZA	**Bozab**	**1.60**	**90**	Pg		**Pb**		**14 30 32.8**	**-0.4**
SDS1	**Sardasht. Az.**	**1.71**	**348**	Pg		**Pn**		**14 30 34.2**	**+0.5**
BHD	**Baghdad**	**1.76**	**227**	*e*Pn		**Pn**		**14 30 34.0**	**-0.2**
BHD				*e*Sn		**Sn**		**14 30 57.0**	**-0.1**
IKFM	**Kafar-mosalman**	**1.86**	**120**	Pn		**Pn**		**14 30 36.7**	**-0.7**
IALM	**Almabolaq**	**1.89**	**78**	Pn		**Pn**		**14 30 37.6**	**-0.6**
MAHB	**Mahabad**	**2.30**	**356**	Pn		**Pn**		**14 30 42.5**	**+0.7**
HAGD	**Aghdareh**	**2.67**	**82**	Pn		**Pn**		**14 30 47.1**	**+0.1**
RAFI	**Al-Rafai**	**2.75**	**177**	*e*Pn		**Pn**		**14 30 48.0**	**+0.2**
RAFI				*e*Sn		**Sn**		**14 31 22.0**	**+0.5**
RAFI				AML		AML	

comp=E,3.2nm,0.5s,baz=104,slow=13,SNR=16
ERM Erimo 7.92 35 Pn **Pn 14 36 11.1 -1.5**
ERM Erimo 7.92 35⇑ *e*P **Pn 14 36 10.9 -1.6**
MSHR Mys Shultsa 8.32 328 *ce*P **Pn 14 36 17.7 +0.4**
MSHR pmax pmax
comp=Z,22nm,1.7s
USRK Ussuriysk Ar. 9.39 337 Pn 14 36 29.9 -0.8
USRK Ussuriysk Ar. 9.39 337 P **Pn 14 36 31.4 +0.7**
comp=Z,3.9nm,0.6s,baz=146,slow=11,SNR=10.0
ASAJ Asahikawa 9.46 25 P **Pn 14 36 29.9 -1.6**
comp=Z,20nm,0.4s,baz=231,slow=9.7,SNR=58
ASAJ S **S 14 38 10.0 -8.3**
comp=Z,11nm,0.7s,baz=323,slow=30,SNR=2.1
JKA Kamikawa-asahi 9.46 25 Pn 14 36 29.9 -1.5
JCJ Chichijima 9.57 152 P Pn 14 36 23.0 -10
comp=Z,54nm,0.3s,baz=271,slow=17,SNR=22
JCJ S S 14 38 04.1 -17
comp=Z,100nm,0.3s,baz=286,slow=23,SNR=11
NMR Nemuro--Hokkai 10.19 38 *e*P **Pn 14 36 37.5 -3.0**
NMR *e*S S 14 38 24.0 -11
RUSJ Misakicho 10.51 34 *e*P **Pn 14 36 44.0 -0.4**
RUSJ *e*S **S 14 38 35.9 -6.5**
YUK Yuzh-Kuril'sk 10.75 36 *e*P **Pn 14 36 45.8 -1.5**
YUK *e*S S 14 38 38.4 -9.3
YUK pmax pmax
comp=Z,112nm,0.6s
YUK pmax pmax
comp=E,31nm,0.4s
SHO Shikotan 11.11 39 *e*P **Pn 14 36 50.5 -1.3**
SHO *e*S S 14 38 47.3 -8.7
SHO pmax pmax
comp=Z,32nm,0.3s
SHO pmax pmax
comp=N,10.0nm,0.4s
YSS Yuzh-Sakhalins 12.07 19 Pn 14 37 02.5 -1.0
YSS Yuzh-Sakhalins 12.07 19 P **Pn 14 37 03.0 -0.4**
YSS Yuzh-Sakhalins 12.07 19⇑ *e*P **Pn 14 37 02.7 -0.7**
YSS *e*S S 14 39 08.4 -9.2
YSS pmax pmax
comp=Z,70nm,0.5s
YSS smax smax
comp=N,20nm,0.9s
BNX BinXian 12.46 327 ⇓ P **Pn 14 37 08.4 +0.1**
BNX pmax pmax
comp=Z,14nm,0.8s
BNX pmax pmax
comp=Z,350nm,9.9s
KLR Kul'dur 14.13 346 *de*P **P 14 37 27.0 -0.9**
KLR pmax pmax
comp=Z,6.0nm,0.7s
KLR Kul'dur 14.13 346 P **P 14 37 27.2 -0.7**
comp=Z,8.3nm,0.5s,baz=153,slow=11,SNR=40
TYV Tymovskoe 15.73 13 *e*P **Pn 14 37 53.0 +5.8**
TYV pmax pmax
comp=Z,19nm,0.8s
TYV pmax pmax
comp=Z,300nm,4.1s
YHNB Yeheng 17.42 235 P **P 14 38 02.5 -1.7**
SSLB Suanglung 18.30 234 P **P 14 38 10.9 -2.8**
TPUB Ta-pu 18.86 234 P **P 14 38 16.8 -2.8**
ZEA Zeya 19.36 342 *e*P **P 14 38 24.7 +0.1**
PEA0B Petropavlovsk- 22.70 33 P **P 14 38 57.8 +0.8**
PEA0B Petropavlovsk- 22.70 33 P **P 14 38 57.8 +0.8**
PEA0B pmax pmax
comp=Z,69nm,1.5s
PETK Petropavlovsk- 22.70 33 P **P 14 38 57.3 +0.2**
PETK Petropavlovsk- 22.70 33 P **P 14 38 57.6 +0.6**
comp=Z,6.8nm,0.7s,baz=209,slow=7.6,SNR=26
comp=Z,6.8nm,0.7s
GUMO Guam 23.05 160 P **P 14 39 01.2 +0.6**
GUMO Guam 23.05 160 P **P 14 39 01.2 +0.6**
GUMO pmax pmax
comp=Z,157nm,0.6s
PET Petropavlovsk 23.08 34 P **P 14 39 00.8 +0.4**
ULN Ulaanbaatar 25.35 308 *ce*P **P 14 39 22.3 +1.1**
ULN pmax pmax
comp=Z,3.0nm,0.7s
SONM Songino Array 25.76 308 *e*P **P 14 39 25.8 +0.9**
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 25.76 308 P **P 14 39 25.0 +0.2**
comp=Z,1.2nm,0.5s,baz=115,slow=9.2,SNR=9.3
comp=Z,1.2nm,0.5s
YAK Yakutsk 26.82 352⇓ *e*P **P 14 39 33.9 +0.1**
YAK pmax pmax
comp=Z,9.0nm,1.0s
TIXI Tiksi 36.33 356 P **P 14 40 56.0 -0.2**
TIXI IAmb IAmb 14 40 57.1
comp=Z,8.6nm,0.8s
TIXI Tiksi 36.33 356 *ce*P **P 14 40 56.5 +0.3**
BILL Bilibino 36.38 18 P **P 14 40 58.2 +1.4**
BILL IAmb IAmb 14 40 58.7
comp=Z,11nm,1.0s
BILL Bilibino 36.38 18⇑ *e*P **P 14 40 58.9 +2.1**
TOLI2 Tolitoli 37.56 207 P **P 14 41 05.2 -2.0**
TOLI2 IAmb IAmb 14 41 31.2
comp=Z,20nm,1.1s
DGZ Jazzator, Alta 38.41 307⇓ *e*P **P 14 41 14.9 +0.7**
DGZ pmax pmax
comp=Z,9.0nm,1.6s
FAKI Fak Fak 38.63 188 P **P 14 41 15.0 -1.2**
ZALV Zalesovo Beam 40.31 314 P **P 14 41 29.4 -0.1**
ZALV Zalesovo Beam 40.31 314 *e*P **P 14 41 29.9 +0.4**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 40.31 314 P **P 14 41 29.6 +0.2**
comp=Z,1.0nm,0.3s,baz=89,slow=8.8,SNR=7.5
ZALV PcP **PcP 14 43 26.2 -0.5**
comp=Z,2.2nm,0.6s,baz=114,slow=2.8,SNR=9.3
comp=Z,1.0nm,0.3s
MK31 Makanchi Array 41.91 303 P **P 14 41 42.7 0.0**
MK31 Makanchi Array 41.91 303 *d* P **P 14 41 42.9 +0.2**
MKAR Makanchi Array 41.91 303 *e*P **P 14 41 43.0 +0.3**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 41.91 303 P **P 14 41 42.8 +0.1**
comp=Z,2.8nm,0.6s,baz=89,slow=10,SNR=34
MKAR PcP **PcP 14 43 31.7 -0.5**
comp=Z,0.6nm,0.7s,baz=87,slow=6.2,SNR=3.9
MKAR ScP **ScP 14 46 53.7 -0.7**
comp=Z,0.4nm,0.6s,baz=91,slow=5.6,SNR=4.0
comp=Z,2.8nm,0.6s
MAKZ Makanchi 42.13 303 P **P 14 41 44.6 +0.3**
MAKZ Makanchi 42.13 303 P **P 14 41 44.7 +0.3**
TAPN Taplejung 42.54 273 *e*P **P 14 41 47.6 -0.7**
comp=Z,5.7nm,0.4s
JIRN Jiri 43.65 274 *e*P **P 14 41 56.9 -0.3**
comp=Z,5.5nm,0.4s
KURK Kurchatov 44.06 309 P **P 14 41 59.3 -0.3**
KURK IAmb IAmb 14 42 00.4
comp=Z,11nm,0.7s
KURK Kurchatov 44.06 309 *de*P **P 14 41 59.3 -0.3**
KURK pmax pmax
comp=Z,36nm,2.5s
KURBB Kurchatov Arra 44.12 309 P **P 14 42 00.1 0.0**
comp=Z,4.5nm,0.6s,baz=86,slow=8.1,SNR=53
KURBB PcP **PcP 14 43 38.9 -0.6**
comp=Z,0.6nm,0.6s,baz=88,slow=3.5,SNR=6.0
comp=Z,4.5nm,0.6s
PKIN Phulchoki 44.33 275 *e*P **P 14 42 02.1 -0.3**
comp=Z,4.8nm,0.4s
GKN Gorkha 44.77 276 *e*P **P 14 42 05.3 -0.5**
comp=Z,4.3nm,0.3s
F15K North Star Dit 45.13 30 P **P 14 42 09.7 +1.9**
DANN Dangsing 45.35 276 *e*P **P 14 42 10.4 0.0**
comp=Z,13nm,0.5s
C16K Lisburne Hills 45.48 26 P **P 14 42 11.4 +0.9**
M14K Bethel 45.60 37 P **P 14 42 13.3 +1.8**
M14K IAmb IAmb 14 42 25.9
comp=Z,40nm,1.2s
PMG Port Moresby 45.81 166⇑ *e*P **P 14 42 13.0 -0.7**
PMG pmax pmax
comp=Z,7.0nm,0.7s
PYUN Piuthan 46.07 276 *e*P **P 14 42 15.8 -0.2**
comp=Z,7.7nm,0.6s
J16K Anvik River 46.48 33 P **P 14 42 19.2 +0.9**
J16K IAmb IAmb 14 42 55.8
comp=Z,26nm,1.4s
L16K Owhat River 46.87 36 P **P 14 42 22.4 +1.1**
L16K IAmb IAmb 14 42 35.1
comp=Z,19nm,1.4s
C18K Utukok River 47.06 26 P **P 14 42 24.1 +1.3**
C18K IAmb IAmb 14 42 24.9
comp=Z,9.1nm,0.8s
K17K Iditarod 47.48 34 P **P 14 42 27.9 +1.9**
K17K IAmb IAmb 14 42 29.2
comp=Z,17nm,0.7s
M17K Holitna River 47.83 36 P **P 14 42 30.7 +2.0**
M17K IAmb IAmb 14 43 01.5
comp=Z,27nm,1.4s
AAK Ala-Archa 48.07 298⇑ *e*P **P 14 42 31.7 +0.6**
D19K Kuna River 48.15 27 P **P 14 42 32.1 +1.1**
D19K IAmb IAmb 14 42 33.5
comp=Z,7.8nm,0.6s
E19K Redstone River 48.34 28 P **P 14 42 34.0 +1.5**
B20K Meade River 48.71 25 P **P 14 42 36.5 +1.3**
B20K IAmb IAmb 14 42 38.9
comp=Z,12nm,0.8s
BVAR Borovoye Array 48.93 313 P **P 14 42 37.2 0.0**
comp=Z,2.4nm,0.3s,baz=109,slow=9.6,SNR=11
BVAR PcP **PcP 14 43 56.3 -0.3**
comp=Z,2.0nm,0.6s,baz=80,slow=4.1,SNR=4.2
comp=Z,2.4nm,0.3s
BRVK Borovoye 48.99 313 P **P 14 42 37.3 -0.4**
BRVK Borovoye 48.99 313 *de*P **P 14 42 37.7 +0.1**
J20K Nowinta River 49.40 33 P **P 14 42 41.8 +1.2**
J20K IAmb IAmb 14 42 43.6
comp=Z,12nm,0.9s
H21K Melozitna Rive 49.99 31 P **P 14 42 46.6 +1.6**
B22K Teshekpuk Lake 50.02 24 P **P 14 42 46.3 +1.3**
B22K IAmb IAmb 14 42 47.7
comp=Z,11nm,0.9s
D22K Ayikyak River 50.16 26 P **P 14 42 48.0 +1.7**
D22K IAmb IAmb 14 42 48.8
comp=Z,13nm,0.6s
CAST Castle Rocks 50.32 34 P **P 14 42 48.9 +1.5**
I21K Tanana 50.33 31 P **P 14 42 49.8 +2.3**
KKAR Karatay Array 50.79 300 P **P 14 42 52.2 +0.9**
KKAR Karatay Array 50.79 300 P **P 14 42 52.2 +0.9**
E24K Your Creek 51.69 27 P **P 14 42 59.3 +1.7**
RND Reindeer 51.77 33 P **P 14 42 58.9 +0.6**
RND IAmb IAmb 14 42 59.9
comp=Z,8.1nm,0.6s
RND Reindeer 51.77 33 P **P 14 42 58.9 +0.6**
RND pmax pmax
comp=Z,8.0nm,0.6s
POKR Poker Plat Res 52.26 31 P **P 14 43 02.9 +1.2**
POKR IAmb IAmb 14 43 05.1
comp=Z,10nm,0.8s
ILAR Eielson Array 52.52 32 P **P 14 43 04.1 +0.5**
comp=Z,2.3nm,0.7s,baz=260,slow=5.7,SNR=43
ILAR PcP **PcP 14 44 09.2 -0.5**
comp=Z,0.7nm,0.6s,baz=268,slow=4.1,SNR=7.4
comp=Z,2.3nm,0.7s
SCRK Sand Creek 53.86 32 P **P 14 43 14.3 +0.7**
SCRK IAmb IAmb 14 43 15.2
comp=Z,8.5nm,0.9s
D27M Malcolm River 54.35 26 P **P 14 43 18.4 +1.5**
D27M IAmb IAmb 14 43 19.2
comp=Z,6.2nm,0.5s
M26K Nabesna, AK 54.56 34 P **P 14 43 20.0 +1.5**
M26K IAmb IAmb 14 43 21.7
comp=Z,28nm,1.5s
ARU Arti 55.08 318 *c i* P **P 14 43 21.9 -0.3**
ARU S **S 14 50 44.8 +3.4**
ARU SS **SS 14 54 30.0 +0.6**
ARU pmax pmax
comp=Z,5.0nm,0.6s
WB0 Warramunga Arr 55.17 183 P **P 14 43 21.6 -1.6**
WB0 IAmb IAmb 14 43 26.7
comp=Z,12nm,1.0s
WRA Warramunga Arr 55.35 183 P **P 14 43 23.0 -1.4**
WRA Warramunga Arr 55.35 183 *i* P **P 14 43 23.3 -1.2**
WRA pmax pmax
comp=Z,7.0nm,0.4s
WRA Warramunga Arr 55.35 183 P **P 14 43 23.5 -1.0**
comp=Z,6.6nm,0.6s,baz=359,slow=7.6,SNR=128
WRA PcP **PcP 14 44 20.8 -0.3**
comp=Z,0.4nm,0.4s,baz=358,slow=4.5,SNR=1.2
comp=Z,6.6nm,0.6s
ABKAR Akbulak array 56.15 310 P **P 14 43 29.2 -0.7**
K29M Barlow Dome 56.69 32 P **P 14 43 35.0 +1.4**
K29M IAmb IAmb 14 43 36.2
comp=Z,11nm,1.4s
H31M Peel River 57.52 29 P **P 14 43 40.2 +1.0**
H31M IAmb IAmb 14 43 41.6
comp=Z,11nm,0.9s
A36M Sachs Harbour 58.83 21 P **P 14 43 49.1 +1.1**
AS31 Alice Springs 59.07 183 P **P 14 43 49.5 -0.8**
ASAR Alice Springs 59.07 183 P **P 14 43 49.2 -1.2**
ASAR Alice Springs 59.07 183 P **P 14 43 49.6 -0.7**
comp=Z,2.9nm,0.8s,baz=14,slow=11,SNR=41
comp=Z,2.9nm,0.8s
SPITS Spitsbergen Ar 61.19 348 P **P 14 44 05.1 +1.1**
comp=Z,2.4nm,0.4s,baz=95,slow=9.3,SNR=5.1
comp=Z,2.4nm,0.4s
GEYT Alibeck 61.42 298 P **P 14 44 06.8 +0.6**
comp=Z,2.3nm,0.5s,baz=83,slow=12,SNR=3.7
comp=Z,2.3nm,0.5s
BELG Belogornoye 62.41 316⇓ *e*P **P 14 44 13.1 +0.7**
BELG pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 64.04 339 *e*P **P 14 44 23.3 +0.5**
ARCES pmax pmax
comp=Z,2.0nm,0.4s
ARCES ARCESS Array B 64.04 339 P **P 14 44 22.8 -0.1**
comp=Z,2.1nm,0.5s,baz=58,slow=7.8,SNR=17
comp=Z,2.1nm,0.5s
YKA Yellowknife Ar 66.73 29 P **P 14 44 40.5 +0.5**
comp=Z,1.7nm,0.9s,baz=298,slow=6.9,SNR=16
comp=Z,1.7nm,0.9s
DAG Danmarks Havn 66.82 354 *i* P **P 14 44 39.0 -1.4**
DAG IAmb IAmb 14 44 42.0
comp=Z,3.8nm,0.7s
NEEM North Greenlan 67.06 2 *i* P **P 14 44 40.4 -1.9**
NEEM IAmb IAmb 14 44 43.7
comp=Z,10nm,0.5s
OBN Obninsk 67.08 322⇓ *e*P **P 14 44 42.3 0.0**
OBN pmax pmax
comp=Z,5.0nm,0.8s
STKA Stephens Creek 67.30 176 *e*P **P 14 44 44.3 +0.4**
STKA pmax pmax
comp=Z,2.0nm,0.5s
STKA Stephens Creek 67.30 176 P **P 14 44 43.7 -0.2**
comp=Z,1.8nm,0.4s,baz=354,slow=5.8,SNR=7.1
comp=Z,1.8nm,0.4s
FINES FINESS Array B 68.38 331 P **P 14 44 50.3 0.0**
comp=Z,3.6nm,0.4s,baz=70,slow=5.9,SNR=37
comp=Z,3.6nm,0.4s
KBZ Khabaz 69.11 309 P **P 14 44 55.8 +0.6**
comp=Z,2.7nm,0.8s,baz=51,slow=4.6,SNR=6.1
comp=Z,2.7nm,0.8s
SUMG Summit 72.02 359 *i* P **P 14 45 13.0 +0.4**
SUMG IAmb IAmb 14 45 14.9
comp=Z,7.9nm,0.6s
AKASG Malin Array Be 73.21 321 P **P 14 45 19.0 -0.4**
comp=Z,0.8nm,0.3s,baz=49,slow=5.9,SNR=18
comp=Z,0.8nm,0.3s
AKBB Malin Array Si 73.21 321⇑ *e*P **P 14 45 19.2 -0.2**
HFS Hagfors 73.86 334 P **P 14 45 22.9 -0.2**
comp=Z,3.9nm,0.7s,baz=142,slow=3.5,SNR=11
comp=Z,3.9nm,0.7s
NB2 NORSAR Subarra 74.06 336 P **P 14 45 24.0 -0.3**
comp=Z,0.9nm,0.5s,baz=42,slow=5.6
NB2 NORSAR Subarra 74.06 336 P **P 14 45 24.3 0.0**
NOA NORSAR Array B 74.06 336 P **P 14 45 24.3 0.0**
comp=Z,2.7nm,0.8s,baz=55,slow=7.1,SNR=8.1
comp=Z,2.7nm,0.8s
NORES NORESS Array B 74.18 335 P **P 14 45 24.2 -0.7**
ICESG Greenland Ices 75.55 359 *i* P **P 14 45 32.2 -0.7**
ICESG IAmb IAmb 14 45 35.0
comp=Z,6.6nm,0.6s
BR131 Keskin Array S 77.10 310⇓ *e*P **P 14 45 42.7 +0.8**
BRTR Keskin Array B 77.10 310 P **P 14 45 42.8 +0.8**
comp=Z,2.4nm,0.9s,baz=115,slow=5.6,SNR=8.5
comp=Z,2.4nm,0.9s
NVAR Mina Array Bea 78.59 51 P **P 14 45 51.4 +1.1**
comp=Z,2.0nm,0.7s,baz=301,slow=5.7,SNR=7.9
comp=Z,2.0nm,0.7s
MMAI Mount Meron Ar 79.86 303 P **P 14 45 58.3 +1.2**
comp=Z,1.5nm,0.6s,baz=39,slow=8.2,SNR=2.0
comp=Z,1.5nm,0.6s
CLL Collm 80.49 328 *e*P **P 14 46 00.0 +0.1**
PDAR Pinedale Array 81.09 43 P **P 14 46 04.2 +0.7**
comp=Z,1.5nm,0.7s,baz=289,slow=1.8,SNR=11
comp=Z,1.5nm,0.7s
CONA Conrad Observa 81.64 324 *i* P **P 14 46 05.7 -0.4**
comp=Z,5.7nm,1.5s
GERES GERESS Array B 81.98 326 *e*P **P 14 46 07.7 -0.2**
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES GERESS Array B 81.98 326 P **P 14 46 07.8 -0.1**
comp=Z,1.6nm,0.5s,baz=41,slow=5.6,SNR=7.3
comp=Z,1.6nm,0.5s
ULM Lac du Bonnet 82.53 31 P **P 14 46 09.2 -1.3**
comp=Z,3.8nm,0.9s,baz=302,slow=6.3,SNR=5.0
comp=Z,3.8nm,0.9s
SOKA Soboth 82.93 324 *i* P **P 14 46 13.2 +0.4**
comp=Z,4.6nm,0.4s
EKA Eskdalemuir Ar 83.20 338 P **P 14 46 14.0 +0.1**
EKA Eskdalemuir Ar 83.20 338 P **P 14 46 14.0 +0.1**
comp=Z,1.2nm,0.4s,baz=37,slow=4.7,SNR=13
comp=Z,1.2nm,0.4s
KBA Koelnbreinsper 83.44 325 *i* PcP **P 14 46 16.1 +0.6**
comp=Z,3.2nm,0.5s
LESA Schwarzleotal 83.49 326 *i* P **P 14 46 15.9 +0.3**
comp=Z,5.2nm,0.5s
MYKA Terra Mystica 83.62 325 *i* P **P 14 46 15.7 -0.6**
comp=Z,3.6nm,0.5s
WTTA Wattenberg 84.08 326 *i* P **P 14 46 18.7 -0.1**
comp=Z,1.5nm,0.3s
MOTA Moosalm 84.26 326 *i* PcP **P 14 46 20.2 +0.6**
comp=Z,1.0nm,0.3s
FETA Feichten 84.68 326 *i* P **P 14 46 21.6 0.0**
comp=Z,1.5nm,0.5s
TXAR Lajitas Array 93.70 50 P **P 14 47 05.7 +1.2**
comp=Z,3.4nm,0.6s,baz=297,slow=2.9,SNR=30
TORD Torodi Ar. Bea 115.70 311 PKP **PKPdf 14 52 27.7 -0.9**
comp=Z,0.5nm,0.6s,baz=32,slow=3.0,SNR=3.0

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*BJI **20** 14:44:53.4,30˚.39N×132˚.42E,h15km,mb4.5/67,mB5.0/41, Ms4.9/66,Ms7 4.7/63*
*IDC **20** 14:44:57.5±0.4,30˚.73N×131˚.87E,h0km,mb4.7/29, mbtmp4.7/35,ML4.0/6,MS4.2/24,Error ellipse: s-maj=12.9km s-min=10.7km az=76.0*
*MOS **20** 14:44:59.3±1.0,30˚.76N×131˚.89E,h23km,mb5.1/49, MS4.8/12,Error ellipse: s-maj=7.0km s-min=4.3km az=113.1*
*NIED **20** 14:45:00.0,30˚.70N×132˚.09E,h54km,MW4.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.56; $M_{\theta\theta}$1.09; $M_{\phi\phi}$1.47; $M_{r\theta}$0.75; $M_{\theta\phi}$0.05; $M_{\phi r}$0.93; Fault plane solution: $M_0$2.32000×10^{16} NP1: ϕ_s206.00000°,δ60.00000°,λ-84.00000°. NP2:ϕ_s15.00000°, δ30.00000°,λ-100.00000°.*
*GCMT **20** 14:45:00.3±0.4,30˚.95N±0˚.04×131˚.80E±0˚.04,h17km±1km, MW5.0/71,Moment Tensor Solution. s16,c19; s71,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.71±.23; $M_{\theta\theta}$0.85±.13; $M_{\phi\phi}$1.86±.13; $M_{r\theta}$2.62±.47; $M_{\theta\phi}$0.40±.09; $M_{\phi r}$3.06±.39; Best double couple: $M_0$4.64800×10^{16} NP1:ϕ_s217.00000°,δ75.00000°,λ-85.00000°. NP2: ϕ_s17.00000°,δ16.00000°,λ-109.00000°. Principal axes: T 4.2210, Plg30.0000°, Azm303.0000°; N 0.8500, Plg5.0000°, Azm36.0000°; P -5.0740, Plg60.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*JMA **20** 14:45:00.0±0.1,30˚.7N±0˚.3×132˚.1E±0˚.8,h54km±2km, MD4.5/32,MW4.9/32,E OFF TANEGASHIMA ISLAND*
*NEIC **20** 14:45:00.3±1.4,30˚.75N±0˚.06×131˚.93E±0˚.02,h15km±4km, mb5.0/76,Error ellipse: s-maj=8.6km s-min=0.7km az=165.0*
*BGR **20** 14:45:03.1,31˚.66N×133˚.30E,h31km±1km,mb5.2,Ms5.1*
ISC 20 14:45:00.4±0.4,30˚.70N±0˚.03×132˚.03E±0˚.04,h21km±3km, h21km:pP-P,n723,σ1§28/747,mb5.0/155,MS4.7/52, 23C-28D,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.91**	**267**	P	**Pb**	**14 45 17.5**	**0.0**
JTN				S	**Sn**	**14 45 30.7**	**+0.2**
JTN	**Tanegashima 3**	**0.91**	**267**	A	A	14 45 17.5	
	comp=E,42nm,1.1s,comp=N,27nm,3.0s						
JMTN	**Minamitane**	**1.02**	**253**	P	**Pb**	**14 45 19.2**	**-0.1**
JMTN				*e*S	**Sn**	**14 45 33.3**	**+0.1**
JMTN	**Minamitane**	**1.02**	**253**	A	A	14 45 19.2	
	comp=E,30nm,1.9s,comp=N,27nm,3.1s						
JNAR	**Kushima--Naru**	**1.05**	**322**	*i* P	**Pb**	**14 45 19.5**	**-0.4**
JNAR				*e*S	**Sn**	**14 45 33.6**	**-0.3**
JNAR	**Kushima--Naru**	**1.05**	**322**	A	A	14 45 19.5	
	comp=E,25nm,3.2s,comp=N,25nm,2.3s						
JTSR	**Tashiro 2**	**1.06**	**296**	*e*P	**Pb**	**14 45 19.2**	**-0.8**
JTSR	**Tashiro 2**	**1.06**	**296**	A	A	14 45 19.2	
	comp=E,19nm,2.9s,comp=N,20nm,1.3s						
JNKG	**Nichinankitago**	**1.11**	**330**	*i* P	**Pn**	**14 45 20.2**	**-0.6**
JNKG				*e*S	**Sb**	**14 45 34.8**	**-0.1**
JNKG	**Nichinankitago**	**1.11**	**330**	A	A	14 45 20.2	
	comp=E,14nm,4.2s,comp=N,16nm,2.9s						
JYAK	**Yakushimahirau**	**1.39**	**251**	*i* P	**Pn**	**14 45 24.2**	**-0.4**
JYAK				*e*S	**Sn**	**14 45 42.6**	**+0.2**
JYAK	**Yakushimahirau**	**1.39**	**251**	A	A	14 45 24.2	
	comp=E,10.0nm,2.3s,comp=N,10.0nm,2.5s						
JTZ	**Takazaki**	**1.44**	**326**	*i* P	**Pn**	**14 45 24.8**	**-0.6**
JTZ				*e*S	**Sn**	**14 45 43.4**	**-0.3**
JTZ	**Takazaki**	**1.44**	**326**	A	A	14 45 24.8	
	comp=E,13nm,3.9s,comp=N,12nm,2.8s						
JSU	**Suzuyama**	**1.57**	**301**	P	**Pn**	**14 45 26.7**	**-0.4**
JSU				*e*S	**Sn**	**14 45 46.7**	**-0.2**
JSU	**Suzuyama**	**1.57**	**301**	A	A	14 45 26.7	
	comp=E,9.0nm,1.8s,comp=N,13nm,1.3s						
JKC	**Kuchinoerabu**	**1.60**	**262**	P	**Pn**	**14 45 27.4**	**-0.1**
JKC				*e*S	**Sn**	**14 45 47.7**	**+0.2**
JKC	**Kuchinoerabu**	**1.60**	**262**	A	A	14 45 27.4	
	comp=E,10.0nm,3.5s,comp=N,9.0nm,4.3s						
JTSN	**Tsuno**	**1.60**	**344**	*i* P	**Pn**	**14 45 26.9**	**-0.6**
JTSN				*e*S	**Sn**	**14 45 46.8**	**-0.9**
JTSN	**Tsuno**	**1.60**	**344**	A	A	14 45 26.9	
	comp=E,18nm,1.1s,comp=N,13nm,0.9s						
JHHC	**Hyugahichiya**	**1.77**	**349**	A	A	14 45 29.1	
	comp=E,8.0nm,4.7s,comp=N,10.0nm,4.9s						
JZO	**Okuchi**	**1.89**	**320**	A	A	14 45 31.1	
	comp=E,7.0nm,2.6s,comp=N,7.0nm,4.4s						
JNN	**Nakanoshima**	**2.05**	**246**	*e*P	**Pn**	**14 45 33.5**	**-0.2**
JNN	**Nakanoshima**	**2.05**	**246**	A	A	14 45 33.5	
	comp=E,10.0nm,1.6s,comp=N,10.0nm,4.5s						
JIU3	**Izumi3**	**2.11**	**331**	*i* P	**Pn**	**14 45 34.6**	**0.0**
JIU3	**Izumi3**	**2.11**	**331**	A	A	14 45 34.6	
	comp=E,6.0nm,4.7s,comp=N,6.0nm,1.9s						
JSJ	**Shimokoshiki**	**2.21**	**297**	A	A	14 45 35.9	
	comp=E,4.0nm,4.9s,comp=N,5.0nm,1.7s						
JHD	**Hondo**	**2.39**	**318**	A	A	14 45 38.3	
	comp=E,7.0nm,5.7s,comp=N,5.0nm,3.7s						
JNU	**Nakatsue**	**2.60**	**338**	P	**Pn**	**14 45 41.6**	**+0.3**
JNU	**Nakatsue**	**2.60**	**338**	Pn	**Pn**	**14 45 41.5**	**+0.1**
JNU	comp=N,49nm,0.3s,baz=172,slow=3.8,SNR=399			Sn	**Sn**	**14 46 12.4**	**+0.1**
	comp=N,66nm,0.3s,baz=160,slow=9.7,SNR=13						
	comp=N,256nm,0.6s						
JBEP	**Beppuamama**	**2.68**	**349**	A	A	14 45 42.0	
	comp=E,11nm,1.7s,comp=N,10.0nm,1.6s						
JMN	**Monobe**	**3.40**	**27**	Pn	**Pn**	**14 45 52.0**	**-0.2**
JMN	**Monobe**	**3.40**	**27**	P	**Pn**	**14 45 51.5**	**-0.8**
JTU	**Tsushima**	**4.41**	**330**	Pn	**Pn**	**14 46 05.8**	**-0.3**
JTU	**Tsushima**	**4.41**	**330**	P	**Pn**	**14 46 06.0**	**-0.1**
JMZ	**Minamidaito 2**	**4.92**	**189**	Pn	**Pn**	**14 46 13.0**	**-0.1**
JMZ	**Minamidaito 2**	**4.92**	**189**	P	**Pn**	**14 46 13.6**	**+0.5**
JOW	**Kunigami**	**5.07**	**221**	Pn	**Pn**	**14 46 14.8**	**-0.5**
JOW	**Kunigami**	**5.07**	**221**	P	**Pn**	**14 46 16.1**	**+0.8**
JOW	**Kunigami**	**5.07**	**221**	Pn	**Pn**	**14 46 14.9**	**-0.4**
JOW	comp=N,16nm,0.3s,baz=88,slow=21,SNR=33			Sn	**Sn**	**14 47 10.3**	**-3.0**
	comp=N,15nm,0.3s,baz=203,slow=29,SNR=8.9						
	comp=N,47nm,0.3s						
INU	**Inuyama**	**6.25**	**41**		**Pn**	**14 46 31.6**	**+0.3**
INU	**Inuyama**	**6.25**	**41**	P	**Pn**	**14 46 32.9**	**+1.6**
TJN	**Taejon**	**6.87**	**327**	Pn	**Pn**	**14 46 38.8**	**-1.2**
TJN	**Taejon**	**6.87**	**327**	P	**Pn**	**14 46 41.3**	**+1.4**
TJN	**Taejon**	**6.87**	**327**	*ce*P	**Pn**	**14 46 41.0**	**+1.1**
JHJ	**Hachijo jima 2**	**7.02**	**68**	Pn	**Pn**	**14 46 43.3**	**+1.4**
JHJ	comp=N,15nm,0.3s,baz=92,slow=11,SNR=6.9			LR	LR	14 48 57.0	
	comp=N,990nm,21.7s,baz=246,slow=34						
	comp=N,36nm,0.3s						
JHJ2	**Mitsune**	**7.04**	**68**	Pn	**Pn**	**14 46 40.9**	**-1.4**
JHJ2	**Mitsune**	**7.04**	**68**	P	**Pn**	**14 46 43.8**	**+1.5**
KSRS	**Korea Array**	**7.55**	**334**	Pn	**Pn**	**14 46 49.1**	**-0.1**
KSRS	comp=N,0.7nm,0.3s,baz=155,slow=15,SNR=26			Lg	Lg	14 48 52.9	
	comp=N,0.1nm,0.3s,baz=153,slow=30,SNR=4.2						
	comp=N,11nm,0.7s						
KS19	**Wonju Array Si**	**7.61**	**334**		**Pn**	**14 46 48.9**	**-1.2**
MAJO	**Matsushiro**	**7.77**	**40**	Pn	**Pn**	**14 46 51.8**	**-0.6**
MAJO	**Matsushiro**	**7.77**	**40**	P	**Pn**	**14 46 53.2**	**+0.8**

MAJO	**Matsushiro**	**7.77**	**40**	*ce*P		**Pn**	**14 46 53.0**	**+0.6**
MJAR	**Matsushiro Arr**	**7.77**	**40**	Pn		**Pn**	**14 46 53.6**	**+1.2**
	comp=N,1.0nm,0.3s,baz=244,slow=14,SNR=52							
	comp=N,6.3nm,0.4s							
MJB9	**Matsu-Tunnel**	**7.77**	**40**	Pn		**Pn**	**14 46 52.7**	**+0.3**
SSE	**Sheshan**	**9.33**	**275**	P		**Pn**	**14 47 12.8**	**-0.8**
SSE				S		**Sn**	**14 48 58.5**	**+0.6**
SSE				pmax	pmax			
	comp=N,8.0nm,0.7s							
SSE				pmax	pmax			
	comp=N,190nm,7.5s							
SSE				LR	LR			
	comp=N,1μm,12.5s							
SSE				LR	LR			
	comp=N,1μm,12.7s							
JCJ	**Chichijima**	**9.60**	**109**	LR	LR		14 50 03.8	
	comp=N,287nm,20.2s,baz=69,slow=32							
JMM	**Marumori**	**10.17**	**43**			**Pn**	**14 47 26.4**	**+1.2**
YHNB	**Yeheng**	**11.19**	**240**	P		**Pn**	**14 47 39.7**	**+0.4**
DL2	**Dalian**	**11.83**	**317**	P		**Pn**	**14 47 46.1**	**-1.7**
DL2				S		**Sn**	**14 49 58.3**	**-0.9**
DL2				pmax	pmax			
	comp=Z,32nm,1.5s							
DL2				pmax	pmax			
	comp=Z,310nm,8.2s							
DL2				LR	LR			
	comp=N,3μm,18.0s							
DL2				LR	LR			
	comp=E,2μm,14.9s							
DL2				LR	LR			
	comp=Z,2μm,13.3s							
SSLB	**Suanglung**	**12.02**	**238**	Pn		**Pn**	**14 47 47.6**	**-2.9**
SSLB	**Suanglung**	**12.02**	**238**	P		**Pn**	**14 47 49.7**	**-0.9**
TPUB	**Ta-pu**	**12.55**	**237**	P		**Pn**	**14 47 54.9**	**-2.9**
USRK	**Ussuriysk Ar.**	**13.47**	**360**	Pn		**Pn**	**14 48 12.7**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=208,slow=11,SNR=5.9							
USRK				LR	LR		14 53 29.8	
	comp=Z,868nm,20.8s,baz=172,slow=38							
TIA	**Tai'an**	**13.60**	**298**	P		**P**	**14 48 22.3**	**+1.4**
TIA				pmax	pmax			
	comp=Z,34nm,1.0s							
TIA				pmax	pmax			
	comp=Z,230nm,3.5s							
TIA				LR	LR			
	comp=N,2μm,11.2s							
TIA				LR	LR			
	comp=E,2μm,11.0s							
TIA				LR	LR			
	comp=Z,4μm,12.8s							
MDJ	**Mudanjiang**	**14.02**	**353**	P		**Pn**	**14 48 18.6**	**+0.8**
MDJ				pP		P	14 48 27.5	+1.9
MDJ				S		**Sn**	**14 50 55.5**	**+2.7**
MDJ				PcP		**PcP**	**14 53 31.5**	**-6.3**
MDJ				PcS		**PcS**	**14 57 07.4**	**-5.1**
MDJ				pmax	pmax			
	comp=Z,15nm,1.9s							
MDJ				pmax	pmax			
	comp=Z,360nm,7.0s							
MDJ				LR	LR			
	comp=Z,2μm,14.3s							
MDJ				LR	LR			
	comp=Z,3μm,14.0s							
MDJ				LR	LR			
	comp=Z,2μm,14.2s							
CN2	**Changchun**	**14.08**	**340**	*e*P		**Pn**	**14 48 19.8**	**+1.2**
CN2				*es*P		P	14 48 26.0	-0.2
CN2				*e*S		**Sn**	**14 50 56.1**	**+1.9**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CN2				pmax	pmax			
	comp=Z,100nm,3.0s							
CN2				LR	LR			
	comp=Z,3μm,13.0s							
CN2				LR	LR			
	comp=Z,3μm,13.0s							
CN2				LR	LR			
	comp=Z,3μm,13.0s							
ERM	**Erimo**	**14.40**	**35**⇑	*e*P		**Pn**	**14 48 22.3**	**-0.7**
ERM				pmax	pmax			
	comp=Z,36nm,1.3s							
TEY	**Ternei**	**14.75**	**13**	*e*P		**P**	**14 48 37.6**	**+3.9**
BNX	**BinXian**	**15.44**	**348**	⇓P		**P**	**14 48 41.8**	**+0.5**
BNX				pmax	pmax			
	comp=Z,23nm,0.9s							
BNX				pmax	pmax			
	comp=Z,480nm,11.8s							
ASAJ	**Asahikawa**	**15.78**	**29**	LR		LR	14 54 45.2	
	comp=Z,898nm,21.4s,baz=11,slow=37							
HNS	**HongShan**	**15.82**	**300**	⇑P		**P**	**14 48 47.0**	**+1.4**
HNS				S		**S**	**14 51 50.1**	**-0.8**
HNS				pmax	pmax			
	comp=Z,70nm,1.1s							
HNS				LR	LR			
	comp=Z,880nm,12.8s							
HNS				LR	LR			
	comp=Z,2μm,13.3s							
HNS				LR	LR			
	comp=Z,2μm,13.1s							
BJT	**Baijiatuau**	**15.91**	**310**			**Pn**	**14 48 41.5**	**-1.6**
BJT	**Baijiatuau**	**15.91**	**310**	P		**Pn**	**14 48 41.5**	**-1.6**
BJT				pmax	pmax			
	comp=Z,34nm,0.9s							
BJI	**Beijing**	**15.92**	**310**	Pn		**P**	**14 48 47.8**	**+1.2**
BJI				pP		**pP**	**14 48 50.4**	**-1.5**
BJI				LR	LR			
	comp=Z,1μm,13.0s							
BJI				LR	LR			
	comp=Z,2μm,12.9s							
BJI				LR	LR			
	comp=Z,2μm,12.8s							
CNSH	**ChangSha**	**16.83**	**266**	⇑P		P	14 49 05.0	+8.2
CNSH				S		S	14 52 30.0	+18
CNSH				LR	LR			
	comp=N,2μm,13.0s							
CNSH				LR	LR			
	comp=E,2μm,12.2s							
CNSH				LR	LR			
	comp=Z,2μm,11.8s							
LYN	**LuoYang**	**16.92**	**288**	*e*P		**P**	**14 48 58.8**	**+1.0**
LYN				pP		pP	14 49 02.3	-0.7
LYN				sP		pwP	14 49 09.5	+3.9
LYN				S		**S**	**14 52 09.0**	**-4.3**
LYN				pmax	pmax			
	comp=Z,23nm,0.9s							
LYN				pmax	pmax			
	comp=Z,660nm,10.1s							
LYN				LR	LR			
	comp=Z,2μm,13.4s							
LYN				LR	LR			
	comp=Z,2μm,21.4s							
LYN				LR	LR			
	comp=Z,3μm,19.4s							
YUK	**Yuzh-Kuril'sk**	**17.23**	**36**⇑	*e*P		**P**	**14 49 00.5**	**-0.6**
TIY	**Taiyuan**	**17.64**	**299**	*e*P		**P**	**14 49 08.3**	**+2.5**
TIY				S		**Sn**	**14 52 18.3**	**-2.5**
TIY				pmax	pmax			
	comp=Z,20nm,0.7s							
TIY				pmax	pmax			
	comp=Z,610nm,9.8s							
TIY				LR	LR			
	comp=Z,1μm,12.6s							
TIY				LR	LR			
	comp=Z,1μm,13.9s							
TIY				LR	LR			
	comp=Z,1μm,15.1s							
YSS	**Yuzh-Sakhalins**	**18.22**	**24**	*e*P		**Pn**	**14 49 10.1**	**-1.8**
YSS				*e*S		**Sn**	**14 52 25.3**	**-9.4**
YSS				pmax	pmax			
	comp=Z,30nm,0.9s							
YSS				MLR	MLR			
	comp=Z,2μm,13.0s							
YSS				MLR	MLR			
	comp=N,1μm,12.0s							
XLT	**XiLinHaoTe**	**18.25**	**321**	*e*P		**P**	**14 49 12.9**	**+0.4**
XLT				pmax	pmax			
	comp=N,10.0nm,0.7s							
XLT				pmax	pmax			
	comp=N,260nm,3.7s							
XLT				LR	LR			
	comp=N,160nm,13.0s							
XLT				LR	LR			
	comp=N,2μm,13.0s							
XLT				LR	LR			
	comp=N,2μm,13.1s							
KLR	**Kul'dur**	**18.51**	**359**	*d i*P		**Pn**	**14 49 15.9**	**+0.5**
KLR				pmax	pmax			
	comp=Z,88nm,1.3s							
KLR	**Kul'dur**	**18.51**	**359**	P		**Pn**	**14 49 15.6**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=172,slow=7.5,SNR=158							
KLR				LR	LR		14 56 39.1	
	comp=Z,641nm,19.2s,baz=182,slow=38							
	comp=Z,40nm,0.7s							
HHC	**Hu-ho-hao-te**	**19.41**	**307**	*e*P		**Pn**	**14 49 26.8**	**+0.3**
HHC				sP		pwP	14 49 32.9	0.0
HHC				S		**Sn**	**14 53 00.3**	**-3.3**
HHC				pmax	pmax			
	comp=Z,46nm,0.8s							
HHC				pmax	pmax			
	comp=Z,720nm,6.2s							
HHC				LR	LR			
	comp=Z,4μm,13.0s							
HHC				LR	LR			
	comp=Z,4μm,12.2s							
HHC				LR	LR			
	comp=Z,6μm,12.3s							
ENH	**Enshi**	**19.43**	**274**			**P**	**14 49 24.7**	**-0.8**
XAN	**Xi'an**	**19.79**	**286**	⇑P		**P**	**14 49 29.4**	**-0.1**
XAN				pP		pP	14 49 33.6	-1.2
XAN				S		**S**	**14 53 11.9**	**+0.3**
XAN				SS		**SnSn**	**14 53 38.6**	**+11**
XAN				pmax	pmax			
	comp=Z,47nm,1.1s							
XAN				pmax	pmax			
	comp=Z,630nm,5.1s							
XAN				LR	LR			
	comp=Z,2μm,11.4s							
XAN				LR	LR			
	comp=Z,5μm,12.2s							
XAN				LR	LR			
	comp=Z,6μm,12.8s							
HEH	**HeiHe**	**19.84**	**351**	*e*P		**P**	**14 49 29.5**	**-0.2**
HEH				pP		**pP**	**14 49 33.4**	**-1.5**
HEH				S		**Sn**	**14 53 13.8**	**+0.2**
HEH				pmax	pmax			
	comp=Z,27nm,1.0s							
HEH				LR	LR			
	comp=Z,1μm,14.6s							
HEH				LR	LR			
	comp=Z,2μm,14.9s							
HEH				LR	LR			
	comp=Z,2μm,14.1s							
GRNR	**Gornyy**	**20.31**	**8**⇓	*i*P		**P**	**14 49 33.5**	**-1.4**
GRNR				MLR	MLR			
	comp=E,1μm,12.0s							
GRNR				MLR	MLR			
	comp=N,1μm,15.0s							
GRNR				MLR	MLR			
	comp=Z,2μm,14.0s							
BTO	**Baotou**	**20.39**	**305**	*e*P		Pn	14 49 39.3	+1.2
BTO				pP		pwP	14 49 43.3	-0.3
BTO				sP		sP	14 49 46.3	+2.5
BTO				PP		**PnPn**	**14 50 00.1**	**+7.0**
BTO				S		Sn	14 53 30.0	+2.8
BTO				SS		**SnSn**	**14 53 51.6**	**+10**
BTO				pmax	pmax			
	comp=Z,22nm,0.6s							
BTO				pmax	pmax			
	comp=Z,980nm,11.5s							
BTO				LR	LR			
	comp=Z,3μm,14.3s							
BTO				LR	LR			
	comp=Z,3μm,13.7s							
BTO				LR	LR			
	comp=Z,4μm,13.2s							
GUMO	**Guam**	**20.74**	**142**	LR		LR	14 56 58.6	
	comp=Z,382nm,19.0s,baz=302,slow=35							
HIA	**Hailar**	**20.75**	**337**	P		**P**	**14 49 38.2**	**-1.4**
HIA	**Hailar**	**20.75**	**337**	*ce*P		**P**	**14 49 39.2**	**-0.5**
HIA				pmax	pmax			
	comp=Z,14nm,1.0s							
TYV	**Tymovskoe**	**21.64**	**18**	*e*P		**P**	**14 49 51.0**	**+1.7**
TYV				*e*S		Sn	14 53 53.4	-3.7
TYV				pmax	pmax			
	comp=Z,300nm,5.1s							
TYV				pmax	pmax			
	comp=Z,13nm,1.1s							
GYA	**Guiyang**	**22.66**	**266**⇓	*i*P		**P**	**14 50 00.0**	**-0.5**
GYA				pP		pP	14 50 06.5	+0.7
GYA				S		**S**	**14 54 05.8**	**-1.9**
GYA				pmax	pmax			
	comp=Z,32nm,0.9s							
GYA				LR	LR			
	comp=Z,2μm,14.2s							
GYA				LR	LR			
	comp=Z,1μm,15.0s							
GYA				LR	LR			
	comp=Z,1μm,17.9s							
QIZ	**Qiongzhong**	**23.20**	**245**	P		**P**	**14 50 06.5**	**+0.5**
QIZ				PcP		**PcP**	**14 53 54.8**	**+0.9**
QIZ				S		**S**	**14 54 18.1**	**+1.3**
QIZ				pmax	pmax			
	comp=Z,46nm,2.0s							
QIZ				pmax	pmax			
	comp=Z,1μm,4.1s							
QIZ				LR	LR			
	comp=Z,1μm,13.1s							
QIZ				LR	LR			
	comp=Z,2μm,12.6s							
QIZ				LR	LR			
	comp=Z,2μm,11.3s							
ZEA	**Zeya**	**23.28**	**353**	*e*P		**P**	**14 50 04.8**	**-1.7**
ZEA				pmax	pmax			
	comp=N,10.0nm,0.7s							
ZEA				pmax	pmax			
	comp=Z,30nm,0.7s							
ZEA				MLR	MLR			
	comp=E,500nm,14.0s							
ZEA				MLR	MLR			
	comp=Z,500nm,14.0s							
ZEA				MLR	MLR			
	comp=N,500nm,13.0s							
LZH	**Lanzhou**	**24.09**	**290**	*e*P		**P**	**14 50 13.4**	**-1.4**
LZH				sP		pP	14 50 20.3	0.0
LZH				pmax	pmax			
	comp=N,17nm,1.4s							
LZH				pmax	pmax			
	comp=N,190nm,5.8s							
LZH				LR	LR			
	comp=N,1μm,13.1s							
LZH				LR	LR			
	comp=N,2μm,13.1s							
LZH				LR	LR			
	comp=N,2μm,14.1s							
CD2	**Chengdu**	**24.26**	**278**	P		**P**	**14 50 14.9**	**-1.3**
CD2				pmax	pmax			
	comp=N,20nm,0.6s							
CD2				LR	LR			
	comp=N,2μm,11.1s							
CD2				LR	LR			
	comp=N,2μm,11.1s							
CD2				LR	LR			
	comp=N,3μm,11.4s							
ULN	**Ulaanbaatar**	**25.66**	**319**	P		**P**	**14 50 27.6**	**-1.3**
ULN				IAmb	IAmb		14 50 29.8	
	comp=Z,38nm,1.1s							
ULN	**Ulaanbaatar**	**25.66**	**319**	*de*P		**P**	**14 50 27.8**	**-1.1**
ULN				pmax	pmax			
	comp=Z,47nm,1.3s							
SONM	**Songino Array**	**26.02**	**318**	P		**P**	**14 50 30.6**	**-1.5**
SONM	**Songino Array**	**26.02**	**318**	P		**P**	**14 50 31.0**	**-1.1**
	comp=Z,5.5nm,0.8s,baz=130,slow=9.5,SNR=22							
SONM				LR	LR		15 02 34.3	
	comp=Z,2μm,20.9s,baz=124,slow=41							
	comp=Z,5.5nm,0.8s							
KMI	**Kunming**	**26.43**	**265**	⇑P		**P**	**14 50 35.3**	**-0.8**
KMI				sP		pwP	14 50 43.8	-0.4
KMI				pmax	pmax			
	comp=Z,13nm,1.1s							
KMI				LR	LR			
	comp=Z,2μm,12.0s							
KMI				LR	LR			
	comp=Z,650nm,17.5s							
KMI				LR	LR			
	comp=Z,1μm,14.9s							
PZH	**PanZhiHua**	**26.88**	**269**	P		**P**	**14 50 38.5**	**-1.5**
PZH				S		**S**	**14 55 14.5**	**-1.3**
PZH				pmax	pmax			
	comp=Z,10.0nm,1.0s							
PZH				pmax	pmax			
	comp=Z,260nm,5.3s							
PZH				LR	LR			
	comp=Z,870nm,15.2s							
PZH				LR	LR			
	comp=Z,620nm,14.2s							
PZH				LR	LR			
	comp=Z,690nm,13.3s							
GTA	**Gaotai**	**27.65**	**297**	⇑P		**P**	**14 50 45.8**	**-1.1**
GTA				pP		pP	14 50 52.4	-0.1
GTA				sP		pwP	14 50 56.3	+0.9
GTA				pmax	pmax			
	comp=Z,7.0nm,1.0s							
GTA				LR	LR			
	comp=Z,1μm,13.4s							
GTA				LR	LR			
	comp=Z,1μm,13.4s							
GTA				LR	LR			
	comp=Z,2μm,13.1s							
UBPT	**Khong Chiam**	**28.77**	**244**	P		**P**	**14 50 57.4**	**+0.5**
PEA0B	**Petropavlovsk-**	**29.15**	**32**⇑	*e*P		**P**	**14 51 00.4**	**+0.5**
PETK	**Petropavlovsk-**	**29.15**	**32**	P		**P**	**14 50 59.6**	**-0.3**
PETK	**Petropavlovsk-**	**29.15**	**32**	P		**P**	**14 51 00.6**	**+0.7**
	comp=Z,8.8nm,1.0s,baz=212,slow=5.3,SNR=5.0							
PETK				LR	LR		15 02 50.6	
	comp=Z,277nm,22.0s,baz=236,slow=37							
	comp=Z,8.8nm,1.0s							
CRAI	**Chiangrai**	**30.33**	**257**	P		**P**	**14 51 10.6**	**-0.2**
YAK	**Yakutsk**	**31.38**	**358**	P		**P**	**14 51 18.2**	**-1.2**
YAK				IAmb	IAmb		14 51 21.8	
	comp=Z,20nm,0.8s							
YAK	**Yakutsk**	**31.38**	**358**	*e*P		**P**	**14 51 18.5**	**-0.9**
YAK				*e**PP		**sP**	**14 51 27.2**	**-0.2**
YAK				*e*			14 52 18.0	
YAK				*e*			14 52 12.4	
YAK				*e*S		**S**	**14 56 25.6**	**+0.2**
YAK				*e*SS		**SnSn**	**14 58 13.8**	**+4.2**
YAK				*e*SSS		SSS	14 58 31.1	
YAK				pmax	pmax			
	comp=Z,21nm,0.9s							
YAK				pmax	pmax			
	comp=N,13nm,1.0s							
YAK				pmax	pmax			
	comp=E,2.0nm,0.9s							
YAK				pmax	pmax			
	comp=Z,56nm,2.6s							
YAK				pmax	pmax			
	comp=N,65nm,3.0s							
YAK				smax	smax			
	comp=E,56nm,2.3s							
YAK				MLR	MLR			
	comp=Z,686nm,16.0s							
YAK				MLR	MLR			
	comp=N,363nm,14.0s							
YAK				MLR	MLR			
	comp=E,338nm,15.0s							
YAK	**Yakutsk**	**31.38**	**358**	LR		LR	15 04 31.6	
	comp=E,12nm,18.6s,baz=106,slow=38							
GOMU	**GeErMu**	**31.40**	**290**	P		**P**	**14 51 19.3**	**-1.1**
GOMU				PcP		**PcP**	**14 54 14.3**	**+0.5**
GOMU				pmax	pmax			
	comp=E,5.0nm,1.0s							
GOMU				LR	LR			
	comp=E,350nm,14.2s							
GOMU				LR	LR			
	comp=E,680nm,14.6s							
GOMU				LR	LR			
	comp=E,800nm,14.0s							
MA2	**Magadan**	**31.52**	**18**⇑	*e*P		**P**	**14 51 21.0**	**+0.2**
MA2				pmax	pmax			
	comp=Z,41nm,2.5s							
MA2	**Magadan**	**31.52**	**18**	LR		LR	15 05 42.7	
	comp=Z,409nm,18.6s,baz=202,slow=40							
CHTO	**Chiang Mai**	**32.17**	**256**	P		**P**	**14 51 26.5**	**-0.5**
CHTO				IAmb	IAmb		14 51 38.3	
	comp=Z,14nm,0.8s							
CHTO	**Chiang Mai**	**32.17**	**256**	P		**P**	**14 51 26.5**	**-0.5**
CHTO				pmax	pmax			
	comp=Z,14nm,0.8s							
CMAR	**Chiang Mai Arr**	**32.34**	**256**	P		**P**	**14 51 28.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**32.34**	**256**	*i* P		**P**	**14 51 29.0**	**+0.6**
CMAR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**32.34**	**256**	P		**P**	**14 51 28.5**	**0.0**
	comp=Z,4.4nm,1.0s,baz=56,slow=5.8,SNR=12							
CMAR				PcP		**PcP**	**14 54 16.3**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=18,slow=1.0,SNR=8.5							
CMAR				LR	LR		15 07 16.5	
	comp=Z,504nm,18.8s,baz=55,slow=42							
	comp=Z,4.4nm,1.0s							
SANI	**Sanana**	**33.08**	**191**	P		**P**	**14 51 34.3**	**-0.5**
	comp=Z,29nm,1.2s							
H11N2	**WAKE ISLAND Hy**	**33.26**	**101**	T		T	15 26 45.7	
	baz=296,slow=74,SNR=16							
H11N1	**WAKE ISLAND Hy**	**33.26**	**101**	T		T	15 26 45.8	
	baz=296,slow=74,SNR=12							
H11N3	**WAKE ISLAND Hy**	**33.27**	**101**	T		T	15 26 47.0	
	baz=296,slow=74,SNR=12							
FAKI	**Fak Fak**	**33.43**	**180**	P		**P**	**14 51 38.2**	**+0.2**
FAKI	**Fak Fak**	**33.43**	**180**	P		**P**	**14 51 38.8**	**+0.9**
FAKI	**Fak Fak**	**33.43**	**180**	P		**P**	**14 51 37.4**	**-0.5**
	comp=Z,104nm,0.9s							
SEY	**Seymchan**	**34.80**	**16**	*ce*P		**P**	**14 51 51.6**	**+2.3**
SEY				pmax	pmax			
	comp=Z,17nm,2.5s							
SEY	**Seymchan**	**34.80**	**16**	LR		LR	15 07 32.0	
	comp=Z,340nm,19.6s,baz=233,slow=39							
WMQ	**Urumqi**	**37.20**	**303**	*e*P		**P**	**14 52 10.4**	**+0.1**
WMQ				sP		pwP	14 52 20.1	+1.4
WMQ				pmax	pmax			
	comp=Z,14nm,0.7s							
WMQ				LR	LR			
	comp=Z,600nm,19.1s							
WMQ				LR	LR			
	comp=Z,1μm,13.5s							
WMQ				LR	LR			
	comp=Z,560nm,19.9s							
SHEM	**Shemya Is, Ala**	**37.61**	**42**	LR		LR	15 07 47.7	
	comp=Z,64nm,21.7s,baz=174,slow=36							
DGZ	**Jazzator, Alta**	**38.32**	**313**⇑	*e*P		**P**	**14 52 17.9**	**-1.8**
DGZ				pmax	pmax			
	comp=Z,4.0nm,0.8s							
TAPN	**Taplejung**	**38.71**	**276**	*e*P		P	14 52 31.7	+8.2
	comp=Z,28nm,1.2s							
ZSN	**Zaisan**	**39.59**	**309**	*e*P		**P**	**14 52 29.1**	**-1.2**
	baz=309							
ZSN	**Zaisan**	**39.59**	**309**	*e*P		**P**	**14 52 29.0**	**-1.2**
GUN	**Gumba**	**40.13**	**278**	*e*P		**P**	**14 52 34.6**	**-0.7**
	comp=Z,16nm,0.6s							
MMRI	**Maumere**	**40.23**	**195**	P		**P**	**14 52 35.6**	**-0.2**
MMRI				IAmb	IAmb		14 52 36.9	
	comp=Z,58nm,1.0s							
PKI	**Pulchoki**	**40.62**	**278**	*e*P		**P**	**14 52 38.6**	**-0.8**
SOEI	**Soe**	**40.91**	**192**	P		**P**	**14 52 40.8**	**-0.7**
ZALV	**Zalesovo Beam**	**40.92**	**319**	*i* P		**P**	**14 52 39.7**	**-1.4**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ZALV	**Zalesovo Beam**	**40.92**	**319**	P		**P**	**14 52 39.5**	**-1.6**
	comp=Z,1.2nm,0.6s,baz=97,slow=7.6,SNR=5.9							
ZALV				PcP		**PcP**	**14 54 41.3**	**0.0**
	comp=Z,3.0nm,0.8s,baz=108,slow=3.3,SNR=6.6							
ZALV				LR	LR		15 11 55.9	
	comp=Z,896nm,18.2s,baz=106,slow=40							
	comp=Z,1.2nm,0.6s							
TIXI	**Tiksi**	**41.04**	**358**	P		**P**	**14 52 40.8**	**-1.0**
TIXI				IAmb	IAmb		14 52 56.7	
	comp=Z,26nm,1.1s							
TIXI	**Tiksi**	**41.04**	**358**	*ce*P		**P**	**14 52 42.2**	**+0.4**
MK31	**Makanchi Array**	**41.27**	**307**	*d i*P		**P**	**14 52 42.6**	**-1.6**
MKAR	**Makanchi Array**	**41.27**	**307**	P		**P**	**14 52 42.5**	**-1.7**
MKAR	**Makanchi Array**	**41.27**	**307**	P		**P**	**14 52 43.3**	**-0.9**
	comp=Z,6.3nm,0.9s,baz=94,slow=9.8,SNR=41							
MKAR				PcP		**PcP**	**14 54 42.7**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=85,slow=2.7,SNR=4.0							
MKAR				LR	LR		15 11 50.8	
	comp=Z,760nm,18.1s,baz=103,slow=39							
	comp=Z,6.3nm,0.9s							
MAKZ	**Makanchi**	**41.49**	**307**	P		**P**	**14 52 44.9**	**-1.1**
MAKZ	**Makanchi**	**41.49**	**307**	P		**P**	**14 52 44.9**	**-1.1**
MAKZ				pmax	pmax			
	comp=Z,6.0nm,0.9s							
DANN	**Dangsing**	**41.81**	**279**	*e*P		**P**	**14 52 48.4**	**-0.8**
	comp=Z,16nm,0.7s							
BILL	**Bilibino**	**42.39**	**18**	P		**P**	**14 52 54.1**	**+1.2**
BILL	**Bilibino**	**42.39**	**18**⇑	*e*P		**P**	**14 52 55.0**	**+2.0**
PMG	**Port Moresby**	**42.44**	**158**⇑	*e*P		**P**	**14 52 53.7**	**-0.2**
PMG				pmax	pmax			
	comp=Z,5.0nm,0.8s							
PMG	**Port Moresby**	**42.44**	**158**	LR		LR	15 08 47.3	
	comp=Z,305nm,20.6s,baz=310,slow=34							

PYUN Piuthan 42.54 279 *e*P P 14 52 54.6 -0.4
comp=Z,25nm,1.0s
SEM Semipalatinsk 43.00 313 *e*P P 14 52 57.6 -0.8
comp=Z,10.0nm,0.6s,baz=313
SEM Semipalatinsk 43.00 313 *e*P P 14 52 57.6 -0.8
SEM pmax pmax
comp=Z,10.0nm,0.6s
SHLS Shalkode 43.17 302 *e*P P 14 52 54.1 -5.7
baz=302
SHLS Shalkode 43.17 302 *e*P P 14 52 54.9 -4.9
MTN Manton Dam 43.30 181 P P 14 53 00.5 -0.4
UZB Uzynbulak 43.49 302 *e*P P 14 53 00.6 -1.9
baz=302
UZB Uzynbulak 43.49 302 *e*P P 14 53 00.5 -1.9
KPKS Kokpek 43.73 302 *e*P P 14 53 02.7 -1.6
baz=302
KPKS Kokpek 43.73 302 *e*P P 14 53 02.6 -1.6
TDK Taldyqorghan 43.91 305 *e*P P 14 53 04.2 -1.5
baz=305
TDK Taldyqorghan 43.91 305 *e*P P 14 53 04.1 -1.5
SATY Saty 43.94 302 *e*P P 14 53 05.0 -1.1
baz=302
SATY Saty 43.94 302 *e*P P 14 53 05.0 -1.1
PRZ Przheval'sk 43.97 301 P P 14 53 05.3 -1.1
PRZ IAmb IAmb 14 53 18.6
comp=Z,28nm,1.3s
PRZ Przheval'sk 43.97 301 P P 14 53 05.3 -1.1
PRZ pmax pmax
comp=Z,28nm,1.3s
LEM Lembang 44.04 216 LR LR 15 12 50.2
comp=Z,126nm,21.8s,baz=44,slow=38
KURK Kurchatov 44.06 313 P P 14 53 05.4 -1.3
KURK IAmb IAmb 14 53 06.4
comp=Z,19nm,0.8s
KURK Kurchatov 44.06 313 *de*P P 14 53 05.3 -1.4
KURK pmax pmax
comp=Z,33nm,1.3s
KURBB Kurchatov Arra 44.11 313 P P 14 53 06.1 -1.0
comp=Z,16nm,0.9s,baz=98,slow=8.9,SNR=91
KURBB LR LR 15 13 51.6
comp=Z,2µm,19.2s,baz=110,slow=39
comp=Z,16nm,0.9s
ARXS Arharly 44.33 303 *e*P P 14 53 07.1 -2.0
TARG Taragay, Kyrgy 44.46 300 P P 14 53 10.5 0.0
TARG pmax pmax
comp=Z,12nm,0.8s
MDOK Medeo 44.93 302 *e*P P 14 53 13.2 -0.8
baz=302
MDOK Medeo 44.93 302 *e*P P 14 53 13.2 -0.8
CHKK Chushkaly 44.95 303 *e*P P 14 53 12.6 -1.4
baz=303
CHKK Chushkaly 44.95 303 *e*P P 14 53 12.5 -1.4
TNSS Tian-Shan 45.01 302 *e*P P 14 53 13.3 -1.6
baz=302
TNSS Tian-Shan 45.01 302 *e*P P 14 53 13.3 -1.6
KUU Kurty 45.41 303 *e*P P 14 53 16.8 -0.9
comp=Z,13nm,0.9s,baz=303
KUU Kurty 45.41 303 *e*P P 14 53 16.7 -0.9
KUU pmax pmax
comp=Z,13nm,0.9s
KSH Kashi 46.05 297 P P 14 53 26.3 +3.4
KSH sP pwP 14 53 34.4 +2.8
KSH pmax pmax
comp=Z,4.0nm,0.7s
KSH LR LR
comp=Z,730nm,13.1s
KSH LR LR
comp=Z,700nm,14.4s
KSH LR LR
comp=Z,710nm,13.1s
KNRA Kununurra 46.22 184 P P 14 53 24.2 +0.1
KNRA Kununurra 46.22 184 P P 14 53 24.7 +0.6
SGDS Sogindy 46.68 303 *e*P P 14 53 26.6 -1.1
baz=303
SGDS Sogindy 46.68 303 *e*P P 14 53 26.5 -1.1
AAK Ala-Archa 46.84 301 P P 14 53 28.0 -1.1
AAK Ala-Archa 46.84 301 *de*P P 14 53 28.2 -0.9
AAK pmax pmax
comp=Z,3.0nm,0.8s
BTLS Baital 47.00 305 *e*P P 14 53 29.1 -1.0
comp=Z,5.7nm,0.6s,baz=305
BTLS Baital 47.00 305 *e*P P 14 53 29.0 -1.0
BTLS pmax pmax
comp=Z,6.0nm,0.6s
BRZS Berezniki 47.82 311 *e*P P 14 53 35.2 -1.2
baz=312
BRZS Berezniki 47.82 311 *e*P P 14 53 35.2 -1.2
ARSB Arslanbob 48.10 300 P P 14 53 38.4 -0.4
ARSB Arslanbob 48.10 300 P P 14 53 38.4 -0.4
ARSB pmax pmax
comp=Z,8.0nm,1.6s
FITZ Fitzroy Crossi 48.91 188 P P 14 53 45.2 +0.3
FITZ Fitzroy Crossi 48.91 188 P P 14 53 46.0 +1.0
DZA Taraz 49.13 302 *e*P P 14 53 45.0 -1.6
baz=302
DZA Taraz 49.13 302 *e*P P 14 53 45.0 -1.6
UNV Unalaska Valle 49.23 43 P P 14 53 47.7 +0.6
baz=268
NIL Nilore 49.26 290 P P 14 53 47.8 0.0
NIL pmax pmax
comp=Z,17nm,0.8s
BVAR Borovoye Array 49.31 315 P P 14 53 47.1 -0.7
comp=Z,8.9nm,0.8s,baz=94,slow=9.2,SNR=40
BVAR PcP PcP 14 55 10.2 -0.1
comp=Z,3.8nm,0.7s,baz=92,slow=3.5,SNR=3.6
comp=Z,8.9nm,0.8s
BRVK Borovoye 49.37 316 P P 14 53 47.2 -1.0
BRVK IAmb IAmb 14 53 56.7
comp=Z,13nm,0.8s
BRVK Borovoye 49.37 316 *d i*P P 14 53 47.2 -1.0
BRVK pmax pmax
comp=Z,12nm,0.8s
KK31 Karatay Array 49.70 302 P P 14 53 50.3 -0.7
KK31 IAmb IAmb 14 54 02.5
comp=Z,18nm,1.2s
KK31 Karatay Array 49.70 302 P P 14 53 50.3 -0.7
KK31 pmax pmax
comp=Z,19nm,1.2s
KKAR Karatay Array 49.70 302 P P 14 53 50.5 -0.5
KKAR IAmb IAmb 14 54 02.5
comp=Z,18nm,1.2s
KKAR Karatay Array 49.70 302 P P 14 53 50.5 -0.5
KKAR pmax pmax
comp=Z,18nm,1.2s
HYB Hyderabad 50.17 268 *e*P P 14 53 54.4 -0.4
HYB *es*P *p*P 14 54 01.0 +0.4
WB0 Warramunga Arr 50.23 177 P P 14 53 54.7 -0.4
WB0 IAmb IAmb 14 55 20.6
comp=Z,18nm,1.1s
WRAB Tennant Creek 50.39 177 P P 14 53 56.3 0.0
WRAB Tennant Creek 50.39 177 P P 14 53 56.3 0.0
WRAB pmax pmax
comp=Z,10.0nm,0.9s
WRA Warramunga Arr 50.40 177 P P 14 53 55.5 -0.9
WRA Warramunga Arr 50.40 177 *i* P P 14 53 56.2 -0.2
WRA pmax pmax
comp=Z,8.0nm,0.8s
WRA Warramunga Arr 50.40 177 P P 14 53 56.4 0.0
comp=Z,7.3nm,0.8s,baz=353,slow=8.4,SNR=52
comp=Z,7.3nm,0.8s
WR0 Warramunga Arr 50.43 177 P P 14 53 56.3 -0.2
WR0 IAmb IAmb 14 53 57.8
comp=Z,19nm,0.8s
F14K Arctic Creek 50.77 28 P P 14 53 59.6 +0.9
baz=258
CHGR Chuyangaron 51.42 297 P P 14 54 03.5 -0.6
CHGR IAmb IAmb 14 54 14.3
comp=Z,28nm,0.9s
CHGR Chuyangaron 51.42 297 P P 14 54 03.5 -0.6
CHGR pmax pmax
comp=Z,28nm,0.9s
F15K North Star Dit 51.50 28 P P 14 54 04.7 +0.6
baz=260
G15K Niukluk 51.63 29 P P 14 54 06.0 +0.9
baz=261
C16K Lisburne Hills 51.76 25 P P 14 54 06.7 +0.7
baz=257
L14K Kuka Creek 51.78 34 P P 14 54 06.8 +0.6
baz=265
M14K Bethel 52.08 35 P P 14 54 09.7 +1.1
baz=266
N14K Kuskokwak Cree 52.17 36 P P 14 54 09.6 +0.4
baz=267
H16K Elim 52.34 30 P P 14 54 11.4 +1.0
baz=263
O14K Tigyukauivet M 52.35 37 P P 14 54 10.3 -0.3
baz=268
KBL Kabul 52.43 292 P P 14 54 11.9 0.0
KBL pmax pmax
comp=Z,10.0nm,0.9s
C17K DeLong Mountai 52.59 25 P P 14 54 12.6 +0.4
baz=259
RDOG Red Dog Mine 52.60 25 P P 14 54 13.0 +0.6
baz=260
M15K Kasigluk River 52.70 35 P P 14 54 13.4 +0.3
baz=267
J16K Anvik River 52.91 32 P P 14 54 15.4 +0.7
baz=265
I17K Unalakleet 52.93 31 P P 14 54 15.2 +0.4
baz=265
N15K Kwethluk River 52.98 35 P P 14 54 16.6 +1.4
baz=268
F17K Baldwin Pennin 52.98 28 P P 14 54 15.2 +0.1
baz=262
O15K Ungalikthiuk R 53.09 37 P P 14 54 16.1 0.0
baz=269
G17K Kiwalik Mounta 53.11 29 P P 14 54 16.9 +0.7
baz=264
B18K Kokolik River 53.24 24 P P 14 54 18.0 +1.0
baz=260
C18K Utukok River 53.34 25 P P 14 54 18.9 +1.1
C18K IAmb IAmb 14 54 20.1
comp=Z,22nm,0.8s
C18K Utukok River 53.34 25 P P 14 54 18.5 +0.7
baz=261,SNR=7.9
L16K Owhat River 53.34 34 P P 14 54 19.0 +1.2
baz=268
E18K Tukpahlearik C 53.37 26 P P 14 54 19.4 +1.4
baz=262
M16K Timber Creek 53.56 34 P P 14 54 21.1 +1.6
baz=268
N16K Nishlik Lake 53.64 35 P P 14 54 21.1 +1.0
baz=269
A19K Wainwright 53.65 23 P P 14 54 20.6 +0.7
baz=260
CHGN Chignik 53.88 40 P P 14 54 21.8 -0.1
baz=272
L17K Donlin 53.91 33 P P 14 54 22.6 +0.6
baz=268
K17K Iditarod 53.93 32 P P 14 54 22.8 +0.6
baz=268
G18K Tagagawik 53.97 28 P P 14 54 22.7 +0.2
baz=265,SNR=6.6
O16K Kokwok River B 53.98 36 P P 14 54 23.1 +0.6
baz=270
C19K Lookout Ridge 53.98 24 P P 14 54 23.2 +0.7
C19K IAmb IAmb 14 54 24.8
comp=Z,16nm,0.8s
C19K Lookout Ridge 53.98 24 P P 14 54 23.2 +0.7
baz=262,SNR=5.9
P16K Nushagak River 54.03 37 P P 14 54 23.3 +0.4
baz=271
H18K Honhosa River 54.03 29 P P 14 54 22.6 -0.3
baz=266
AS31 Alice Springs 54.09 178 P P 14 54 23.6 -0.1
ASAR Alice Springs 54.09 178 P P 14 54 23.2 -0.5
ASAR Alice Springs 54.09 178 P P 14 54 24.1 +0.4
comp=Z,7.4nm,0.8s,baz=0.2,slow=6.4,SNR=66
ASAR LR LR 15 16 39.9
comp=Z,67nm,21.9s,baz=356,slow=35
ASAR PKP2bc **P'P'bc** **15 24 53.1 +5.8**
comp=Z,0.5nm,0.8s,baz=177,slow=0.8,SNR=5.9
comp=Z,7.4nm,0.8s
M17K Holitna River 54.30 34 P P 14 54 23.9 -1.0
baz=270
F19K Shaleruckik Mo 54.41 27 P P 14 54 24.1 -1.4
baz=265
N17K Nushagak Hills 54.42 35 P P 14 54 27.2 +1.4
N17K IAmb IAmb 14 54 28.8
comp=Z,24nm,0.8s
N17K Nushagak Hills 54.42 35 P P 14 54 25.4 -0.4
baz=270
D19K Kuna River 54.44 25 P P 14 54 26.9 +1.1
D19K Kuna River 54.44 25 P P 14 54 24.8 -1.0
baz=264
O17K Koliganek Bris 54.48 36 P P 14 54 26.4 +0.2
baz=271
G19K Purcell Mounta 54.63 28 P P 14 54 26.3 -0.9
baz=266
GCSA Galena City Sc 54.64 30 P P 14 54 26.9 -0.4
baz=268
L18K Granite Mounta 54.67 33 P P 14 54 28.8 +1.3
L18K Granite Mounta 54.67 33 P P 14 54 27.5 0.0
baz=270
E19K Redstone River 54.67 26 P P 14 54 28.2 +0.7
E19K IAmb IAmb 14 54 30.1
comp=Z,20nm,0.8s
E19K Redstone River 54.67 26 P P 14 54 26.9 -0.6
baz=265,SNR=7.2
J18K Innoko River 54.67 31 P P 14 54 27.4 -0.2
baz=269
Q16K King Salmon 54.73 37 P P 14 54 27.1 -0.9
baz=272,SNR=11
P17K Kvichak River 54.83 37 P P 14 54 27.6 -1.1
baz=272,SNR=6.7
H19K Roundabout Mou 54.86 29 P P 14 54 30.3 +1.4
H19K Roundabout Mou 54.86 29 P P 14 54 28.4 -0.4
baz=268
SVE Sverdlovsk 54.87 320 *e*P P 14 54 28.5 -0.6
SVE pmax pmax
comp=Z,12nm,0.8s
R17K Ugashik Creek 54.92 39 P P 14 54 28.8 -0.6
baz=273
B20K Meade River 54.94 23 P P 14 54 30.4 +1.0
B20K IAmb IAmb 14 54 31.7
comp=Z,21nm,0.8s
B20K Meade River 54.94 23 P P 14 54 29.3 -0.1
baz=264
TTA Tatalina 54.98 32 P P 14 54 30.0 0.0
baz=270
D20K Etivluk River 55.01 25 P P 14 54 29.3 -0.6
baz=265
N18K Kilae Creek 55.06 35 P P 14 54 32.1 +1.6
N18K IAmb IAmb 14 54 59.5
comp=Z,21nm,1.2s
N18K Kilae Creek 55.06 35 P P 14 54 30.7 +0.2
baz=272
M18K Stony River 55.08 34 P P 14 54 30.8 +0.3
baz=271
E20K Nigu River 55.12 26 P P 14 54 30.6 -0.2
baz=266
Q17K Contact Creek 55.16 38 P P 14 54 30.8 -0.5
baz=273
J19K Poorman 55.17 31 P P 14 54 32.1 +1.0
J19K IAmb IAmb 14 54 33.6
comp=Z,21nm,0.8s
J19K Poorman 55.17 31 P P 14 54 31.3 +0.1
baz=269
A21K Barrow 55.27 22 P P 14 54 32.3 +0.5
baz=263
O18K Koktuh Hills 55.43 36 P P 14 54 33.8 +0.7
baz=273,SNR=7.7
P18K Big Mountain, 55.44 36 P P 14 54 33.1 -0.1
baz=273,SNR=5.2
H20K Anotleneega Mo 55.51 29 P P 14 54 33.9 +0.3
baz=269
L19K White Mountain 55.53 33 P P 14 54 32.9 -0.8
baz=271
WRKA Warakurna 55.54 184 P P 14 54 35.0 +0.8
Q18K Katmai Hardscr 55.59 37 P P 14 54 33.8 -0.7
baz=274
I20K Naaghedeneel 55.67 30 P P 14 54 35.3 +0.6
baz=270
C21K Knifeblade Rid 55.70 25 P P 14 54 35.0 +0.1
baz=267
N19K Bonanza Creek 55.75 35 P P 14 54 36.6 +1.1
N19K IAmb IAmb 14 54 38.2
comp=Z,12nm,0.8s
N19K Bonanza Creek 55.75 35 P P 14 54 35.2 -0.3
baz=273
A22K Sinclair Lake 55.77 22 P P 14 54 35.1 -0.3
baz=265,SNR=7.4
B21K Ikpikpuk River 55.79 24 P P 14 54 36.5 +1.1
B21K IAmb IAmb 14 54 38.1
comp=Z,18nm,0.8s
B21K Ikpikpuk River 55.79 24 P P 14 54 35.5 0.0
baz=266,SNR=13
J20K Nowinta River 55.82 31 P P 14 54 37.1 +1.3
J20K Nowinta River 55.82 31 P P 14 54 35.5 -0.3
baz=271,SNR=15
O19K Port Alsworth 55.86 35 P P 14 54 35.2 -0.9
baz=273,SNR=10
K20K Telida 55.86 32 P P 14 54 35.2 -1.0
baz=271,SNR=14
E21K Killik River 55.96 25 P P 14 54 36.7 -0.1
baz=268
R18K Karluk 55.97 39 P P 14 54 36.2 -0.8
baz=275
L20K Farewell, AK 55.97 33 P P 14 54 36.7 -0.2
baz=272,SNR=5.5
ARU Arti 56.04 320 P P 14 54 36.2 -1.3
ARU IAmb IAmb 14 55 13.7
comp=Z,18nm,1.2s
ARU Arti 56.04 320 *c i*P P 14 54 36.8 -0.7
ARU 14 55 33.8
ARU 14 56 37.6
ARU S S 15 02 25.6 +0.8
ARU SS SS 15 06 10.6 0.0
ARU pmax pmax
comp=Z,10.0nm,0.8s
G21K Allakaket 56.09 28 P P 14 54 37.4 -0.4
baz=270
F21K Alatna River 56.11 27 P P 14 54 37.0 -0.8
baz=269
B22K Teshekpuk Lake 56.24 23 P P 14 54 38.3 -0.4
baz=267
Q19K Cape Douglas, 56.28 37 P P 14 54 39.0 -0.3
baz=275
M20K Styx River 56.35 33 P P 14 54 40.9 +1.1
baz=273
H21K Melozitna Rive 56.38 29 P P 14 54 39.9 +0.1
baz=271
P19K Oil Pt 56.44 36 P P 14 54 40.9 +0.5
baz=274
D22K Ayikyak River 56.44 25 P P 14 54 39.9 -0.4
baz=269,SNR=13
F22K John River 56.61 27 P P 14 54 42.7 +1.2
baz=270
OHAK Old Harbor 56.63 39 P P 14 54 42.5 +0.8
OHAK Old Harbor 56.63 39 P P 14 54 41.6 0.0
baz=276
CHUM Lake Minchumin 56.63 31 P P 14 54 42.9 +1.3
baz=272,SNR=13
O20K Slope Mountain 56.71 35 P P 14 54 42.6 +0.3
baz=275
I21K Tanana 56.73 29 P P 14 54 42.7 +0.4
baz=272
PPLA Purkeypile 56.73 32 P P 14 54 42.8 +0.2
baz=273,SNR=5.7
E22K Anaktuvuk Pass 56.75 26 P P 14 54 42.8 +0.4
baz=270,SNR=19
CAST Castle Rocks 56.76 31 P P 14 54 42.1 -0.4
baz=273,SNR=11
N20K Mount Spurr 56.83 34 P P 14 54 43.5 +0.3
baz=274
KDAK Kodiak Island 56.95 38 P P 14 54 44.6 +0.7
KDAK Kodiak Island 56.95 38 P P 14 54 43.9 -0.1
baz=276
KDAK Kodiak Island 56.95 38 P P 14 54 44.6 +0.7
comp=Z,39nm,0.8s,baz=294,slow=5.8,SNR=22
KDAK LR LR 15 20 01.5
comp=Z,118nm,20.5s,baz=340,slow=37
comp=Z,39nm,0.8s
H22K Ishtalitna Cre 56.96 28 P P 14 54 44.2 +0.2
baz=272
Q20K Shuyak Island 56.96 37 P P 14 54 43.5 -0.5
baz=276
SKT Skwentna 57.10 33 P P 14 54 44.7 -0.3
baz=274
D23K Nanushuk River 57.17 25 P P 14 54 45.6 +0.3
baz=271
C23K Itkillik River 57.19 24 P P 14 54 45.6 +0.1
baz=270
MLY Manley 57.26 29 P P 14 54 46.0 -0.1
baz=273,SNR=10
COLD Coldfoot 57.38 27 P P 14 54 47.5 +0.5
baz=272,SNR=6.5
G23K Bananza Creek 57.47 27 P P 14 54 47.5 -0.1
baz=273
SUA Susitna One 57.51 34 P P 14 54 48.4 +0.4
baz=275
TRF Thorofare Moun 57.56 31 P P 14 54 48.6 +0.2
baz=274
TOLK Toolik Lake Re 57.58 25 P P 14 54 48.8 +0.5
baz=272,SNR=8.3
E23K Chandalar 57.58 26 P P 14 54 49.0 +0.6
baz=272
CUT Chulitna 57.65 33 P P 14 54 49.1 +0.3
baz=275
BRSE Bradley Lake S 57.69 36 P P 14 54 49.2 0.0
baz=276
M22K Willow 57.78 33 P P 14 54 49.9 +0.2
baz=276
D24K Happy Valley 57.83 25 P P 14 54 50.4 +0.4
baz=272
I23K Minto, Yukon-K 57.84 29 P P 14 54 49.7 -0.3
baz=274,SNR=5.1
C24K Franklin Bluff 57.85 24 P P 14 54 50.4 +0.3
baz=272
E24K Your Creek 58.00 26 P P 14 54 52.4 +1.1
baz=273
NEA2 Nenana 58.00 30 P P 14 54 51.8 +0.5
baz=275,SNR=24
RC01 Rabbit Creek A 58.04 34 P P 14 54 52.1 +0.5
baz=276
MCK McKinley 58.14 31 P P 14 54 53.5 +1.2
baz=276,SNR=13
F24K Squaw Lake 58.26 26 P P 14 54 54.2 +1.1
baz=274,SNR=9.2
PMR Palmer 58.27 33 P P 14 54 53.8 +0.7
baz=277,SNR=8.7
OOD Oodnadatta 58.27 176 P P 14 54 54.0 +0.5
SEW Seward 58.29 35 P P 14 54 53.7 +0.4
baz=277,SNR=5.0
H24K Noodor Dome 58.40 28 P P 14 54 55.5 +1.4
baz=275
WAT1 Susitna Watana 58.40 32 P P 14 54 54.6 +0.5
baz=276
G24K Hadweenzic Riv 58.49 27 P P 14 54 55.5 +0.8
baz=275
COLA College 58.50 30 P P 14 54 56.1 +1.5
COLA IAmb IAmb 14 54 57.5
comp=Z,9.8nm,0.7s
COLA College 58.50 30 P P 14 54 56.3 +1.6
COLA College 58.50 30 P P 14 54 55.1 +0.4
baz=276
COLA College 58.50 30 P P 14 54 56.2 +1.5
COLA pmax pmax
comp=Z,10.0nm,0.7s
KNK Knik Glacier 58.61 34 P P 14 54 56.6 +0.9
KNK Knik Glacier 58.61 34 P P 14 54 55.0 -0.6
baz=277
SML Sawmill 58.62 33 P P 14 54 56.0 +0.3
baz=277
POKR Poker Plat Res 58.65 29 P P 14 54 56.8 +1.0
POKR Poker Plat Res 58.65 29 P P 14 54 56.0 +0.2
baz=276,SNR=21
D25K Kavik River 58.69 24 P P 14 54 57.2 +1.1
baz=274
WAT6 Susitna Watana 58.80 32 P P 14 54 57.3 +0.1
baz=277,SNR=8.9
DHY Denali Highway 58.91 32 P P 14 54 57.7 -0.1
baz=277,SNR=5.7
M23K Glacier View 58.91 33 P P 14 54 57.9 +0.2
baz=278
ILAR Eielson Array 58.92 30 P P 14 54 58.0 +0.3
ILAR Eielson Array 58.92 30 P P 14 54 58.0 +0.3
comp=Z,3.6nm,0.7s,baz=265,slow=6.3,SNR=68
comp=Z,3.6nm,0.7s
HDA Harding Lake 58.94 30 P P 14 54 58.2 +0.4
HDA Harding Lake 58.94 30 P P 14 54 57.9 +0.1
baz=277,SNR=25
HDA P P 14 54 57.9 +0.1
baz=277,SNR=25
G25K Bearman Lake 59.02 27 P P 14 54 58.4 +0.1
baz=276
E25K Arctic Village 59.09 26 P P 14 54 58.9 0.0
baz=276,SNR=8.2
SCM Sheep Creek Mo 59.09 33 P P 14 54 59.0 -0.1
baz=278,SNR=5.3
F25K Christian Rive 59.12 26 P P 14 54 60.0 +0.9
baz=276
C26K Camden Bay 59.15 24 P P 14 55 01.3 +2.1
baz=275
P23K Montague Islan 59.32 35 P P 14 55 00.9 +0.4
baz=279
GLI Glacier Island 59.34 34 P P 14 54 59.9 -0.7
baz=279
PRP Porcupine Dome 59.40 29 P P 14 55 00.6 -0.6
baz=277,SNR=7.5
K24K Donnelly Dome 59.52 31 P P 14 55 02.1 +0.1
baz=278,SNR=7.7

J25K **Salcha River,** 59.59 30 P P 14 55 02.7 +0.3
baz=278
M24K **Tolsona, Glenn** 59.59 33 P P 14 55 03.6 +1.2
baz=279
F26K **Sheenjek River** 59.67 26 P P 14 55 03.8 +0.9
baz=277
PAX **Paxson** 59.78 32 P P 14 55 04.0 +0.2
baz=279
KLU **Klutina** 59.81 33 P P 14 55 05.4 +1.4
baz=279
G26K **Porcupine Rive** 59.91 27 P P 14 55 05.6 +1.1
baz=278
RIDG **Independent Ri** 59.94 31 P P 14 55 05.1 +0.3
baz=279
HARP **HAARP** 60.02 32 P P 14 55 05.9 +0.6
baz=280,SNR=6.0
EYAK **Cordova Ski Ar** 60.05 34 P P 14 55 07.1 +1.6
EYAK **Cordova Ski Ar** 60.05 34 P P 14 55 06.2 +0.7
baz=280
SCRK **Sand Creek** 60.28 30 P P 14 55 07.7 +0.4
SCRK IAmb IAmb 14 55 08.8
comp=Z,17nm,0.8s
SCRK **Sand Creek** 60.28 30 P P 14 55 07.9 +0.7
baz=280,SNR=18
J26L **Joseph Creek** 60.38 30 P P 14 55 08.1 +0.2
baz=280,SNR=19
N25K **Chitina, Valde** 60.41 33 P P 14 55 08.8 +0.7
baz=280
I26K **Coal Creek Min** 60.41 29 P P 14 55 08.1 +0.1
baz=280
BMRM **Bremner River** 60.52 34 P P 14 55 09.4 +0.6
baz=281,SNR=6.2
E27K **Coleen River** 60.55 25 P P 14 55 10.0 +1.1
baz=279,SNR=9.7
KIRV **Kirov** 60.61 323⇑ *e*P P 14 55 09.6 +0.3
D27M **Malcolm River** 60.61 24 P P 14 55 10.4 +1.0
baz=279,SNR=12
L26K **Log Cabin Wild** 60.73 31 P P 14 55 11.8 +1.7
baz=281,SNR=11
G27K **Doyon Strip** 60.76 27 P P 14 55 11.4 +1.1
baz=280
H27K **Steamboat Moun** 60.91 28 P P 14 55 12.5 +1.0
baz=280
I27K **Kandik River** 60.99 28 P P 14 55 13.2 +1.2
baz=281,SNR=21
M26K **Nabesna, AK** 61.01 32 P P 14 55 13.4 +1.3
baz=281
VRDI **Verde Repeater** 61.02 33 P P 14 55 13.4 +0.9
K27K **Chicken** 61.10 30 P P 14 55 13.3 +0.6
baz=281
MCARA **McCarthy VSAT** 61.20 33 P P 14 55 14.8 +1.5
baz=282
E28M **Babbage River** 61.23 25 P P 14 55 14.8 +1.2
baz=281,SNR=11
FORT **Forrest** 61.26 184 P P 14 55 14.6 +0.6
CRQE **Cirque** 61.29 34 P P 14 55 14.9 +0.8
baz=282
F28M **Old Crow** 61.30 26 P P 14 55 15.5 +1.5
baz=281,SNR=8.8
BGLC **Bering Glacier** 61.33 35 P P 14 55 14.5 +0.2
baz=282
EGAK **Eagle** 61.34 29 P P 14 55 15.0 +0.7
baz=282
D28M **Stokes Point** 61.38 24 P P 14 55 15.9 +1.4
baz=281
L27K **Beaver Creek,** 61.40 31 P P 14 55 16.4 +1.7
baz=282,SNR=7.8
M27K **Edge Creek, AK** 61.52 32 P P 14 55 16.7 +0.9
M27K IAmb IAmb 14 55 18.0
comp=Z,16nm,0.8s
M27K **Edge Creek, AK** 61.52 32 P P 14 55 16.6 +0.9
baz=282,SNR=9.6
I28M **Miner Creek** 61.71 28 P P 14 55 17.9 +1.0
I28M **Miner Creek** 61.71 28 P P 14 55 19.2 +2.3
baz=282
PRGR **Permogore** 61.82 327 *e*P P 14 55 16.6 -0.9
PRGR pmax pmax
comp=Z,12nm,0.6s
E29M **Blow River** 61.87 25 P P 14 55 19.3 +1.6
baz=282
BVCY **Beaver Creek** 61.98 32 P P 14 55 20.3 +1.7
baz=283
DZM **Mont Dzumac** 62.01 144 P P 14 55 20.3 +0.9
comp=Z,11nm,0.9s,baz=322,slow=8.5,SNR=5.3
comp=Z,11nm,0.9s
CTG **Chitna Glacier** 62.08 33 P P 14 55 21.0 +1.5
baz=283
G29M **Pine Creek** 62.15 26 P P 14 55 21.1 +1.4
baz=283,SNR=10
H29M **Whitestone** 62.17 27 P P 14 55 21.1 +1.3
H29M **Whitestone** 62.17 27 P P 14 55 21.7 +1.8
baz=283
DAWY **Dawson** 62.24 30 P P 14 55 21.2 +0.7
DAWY IAmb IAmb 14 55 22.4
comp=Z,7.0nm,0.8s
DAWY **Dawson** 62.24 30 P P 14 55 21.4 +1.0
baz=284,SNR=6.5
YUK3 **Moose Creek** 62.31 32 P P 14 55 21.9 +0.8
baz=284
I29M **Ogilvie Camp,** 62.40 28 P P 14 55 22.9 +1.5
baz=284,SNR=16
YUK8 **Steele Glacier** 62.75 33 P P 14 55 24.8 +0.7
baz=285
EPYK **Eagle Plains** 62.78 27 P P 14 55 25.2 +1.2
baz=285,SNR=21
PINM **Pinnacle** 62.81 34 P P 14 55 26.2 +1.8
baz=285
G30M **tAoh Zraii Nji** 62.82 26 P P 14 55 25.3 +1.0
baz=285,SNR=14
F30M **Barrier River** 62.83 25 P P 14 55 25.6 +1.4
baz=285
STKA **Stephens Creek** 62.90 171 P P 14 55 25.7 +0.7
STKA **Stephens Creek** 62.90 171 P P 14 55 26.0 +1.0
STKA **Stephens Creek** 62.90 171 P P 14 55 25.9 +0.9
comp=Z,18nm,0.7s,baz=341,slow=7.4,SNR=28
comp=Z,18nm,0.7s
L29M **L29M** 63.03 31 P P 14 55 27.1 +1.4
baz=285
M29M **Somme Creek** 63.05 31 P P 14 55 27.8 +1.9
baz=285
BELG **Belogornoye** 63.07 317⇑ *e*P P 14 55 24.9 -1.1
BELG pmax pmax
comp=Z,2.0nm,0.9s
K29M **Barlow Dome** 63.10 30 P P 14 55 27.8 +1.5
baz=285,SNR=12
I30M **Mount Dempster** 63.22 28 P P 14 55 28.5 +1.5
baz=285,SNR=20
YUK4 **Talbot Arm** 63.25 33 P P 14 55 29.4 +2.0
baz=286,SNR=5.3
PNL **Peninsula** 63.34 35 P P 14 55 29.5 +1.8
baz=286
J30M **Hart River** 63.41 29 P P 14 55 29.6 +1.3
baz=286
INK **Inuvik** 63.46 24 P P 14 55 30.0 +1.7
baz=286,SNR=8.3
INK **Inuvik** 63.46 24 P P 14 55 29.0 +0.6
INK **Inuvik** 63.46 24 P P 14 55 29.0 +0.6
comp=Z,6.5nm,0.8s,baz=307,slow=6.5,SNR=23
comp=Z,6.5nm,0.8s
YUK6 **Outpost Mounta** 63.49 33 P P 14 55 29.9 +0.9
baz=286,SNR=5.6
O29M **Mount Kennedy** 63.57 34 P P 14 55 30.1 +0.7
baz=286
G31M **Satah River** 63.58 26 P P 14 55 28.9 -0.3
baz=286,SNR=10
F31M **Tsiigehtchic** 63.63 25 P P 14 55 30.4 +0.9
baz=287,SNR=11
M30M **Minto, Yukon** 63.76 31 P P 14 55 32.0 +1.4
baz=286,SNR=8.5
MAYO **Mayo, Yukon** 63.87 30 P P 14 55 33.1 +1.9
baz=287
H31M **Peel River** 63.87 27 P P 14 55 32.6 +1.4
baz=287
HYT **Haines Junctio** 63.93 33 P P 14 55 33.0 +1.2
baz=287,SNR=5.8
N30M **Aishikik Lake** 63.94 32 P P 14 55 33.7 +1.9
baz=287
P29M **Windy Craggy** 64.16 34 P P 14 55 34.8 +1.6
baz=287
P30M **Million Dollar** 64.39 34 P P 14 55 35.5 +0.7
baz=287
N31M **Braeburn, Yuko** 64.54 32 P P 14 55 36.5 +0.8
baz=288,SNR=7.0
O30N **Mendenhall** 64.61 33 P P 14 55 37.1 +1.0
baz=288
KLMR **Klimovskoe** 64.88 327 *e*P P 14 55 36.2 -1.6
KLMR AMP 14 55 53.9
comp=Z,27nm,1.3s
KLMR LQ LQ 15 21 08.8
KLMR LQ LQ 15 21 08.8
KLMR LR LR 15 25 09.4
KLMR AMP 15 28 46.3
comp=Z,1μm,16.9s
KLMR **Klimovskoe** 64.88 327 *e*P P 14 55 36.2 -1.6
KLMR pmax pmax
comp=Z,27nm,1.3s
KLMR MLR MLR
comp=Z,1μm,17.0s
A36M **Sachs Harbour** 64.92 20 P P 14 55 38.7 +0.8
baz=292,SNR=34
M31M **Drury Creek, Y** 64.94 31 P P 14 55 39.8 +1.5
baz=288,SNR=6.3
WHY **Whitehorse** 65.21 33 P P 14 55 41.0 +0.9
baz=289,SNR=8.0
SKAG **Skagway** 65.38 34 P P 14 55 42.3 +1.2
baz=289
FARO **Faro, Yukon** 65.39 31 P P 14 55 42.2 +1.0
FARO **Faro, Yukon** 65.39 31 P P 14 55 42.0 +0.8
baz=289,SNR=27
S31K **Pelican** 65.42 36 P P 14 55 43.5 +2.2
baz=289
N32M **Quiet Lake** 65.88 32 P P 14 55 45.9 +1.6
baz=290
P32M **Atlin** 66.12 34 P P 14 55 47.5 +1.6
baz=290
C36M **Paulatuk** 66.32 22 P P 14 55 47.6 +0.7
baz=294,SNR=30
P33M **Teslin, Yukon** 66.32 33 P P 14 55 48.7 +1.4
baz=291,SNR=8.1
S32K **Killisnoo** 66.42 36 P P 14 55 49.5 +1.7
baz=290
YNG **Young** 66.47 165 P P 14 55 49.6 +1.3
Q32M **Nakina River** 67.03 34 P P 14 55 53.6 +1.7
baz=292
ARCES **ARCESS Array B** 67.08 339 P P 14 55 51.4 -0.5
comp=Z,4.6nm,0.7s,baz=48,slow=5.4,SNR=4.8
comp=Z,4.6nm,0.7s
R33M **Jennings River** 67.49 33 P P 14 55 56.8 +2.0
baz=292
MOS **Moscow** 67.57 322 *e*P P 14 56 00.9 +5.8
U33K **Whale Pass** 67.66 37 P P 14 55 57.6 +2.0
baz=292
WRAK **Wrangell Islan** 67.95 37 P P 14 55 59.8 +2.3
baz=292
S34M **Telegraph Cree** 67.98 35 P P 14 55 59.5 +1.8
baz=292
LPSR **Galich'ya Gora** 68.03 319 *e*P P 14 55 56.5 -1.6
LPSR pmax pmax
comp=Z,10.0nm,1.0s
WTLY **Watson Lake, Y** 68.22 32 P P 14 56 01.2 +1.9
baz=294,SNR=6.1
DLBC **Dease Lake** 68.32 34 P P 14 56 01.6 +1.7
baz=294,SNR=6.3
DLBC **Dease Lake** 68.32 34 P P 14 56 01.4 +1.5
comp=Z,8.4nm,0.7s,baz=281,slow=7.1,SNR=15
comp=Z,8.4nm,0.7s
VSR **Storozhevoye** 68.41 318 *e*P P 14 55 59.4 -1.1
VSR pmax pmax
comp=Z,8.0nm,0.9s
ZEI **Tsey** 68.62 308 *e*P P 14 56 00.4 -1.9
ZEI pmax pmax
comp=Z,8.0nm,0.9s
T35M **Bob Quinn** 68.79 36 P P 14 56 04.7 +1.8
baz=294,SNR=5.7
KBZ **Khabaz** 68.94 309 *c*eP P 14 56 04.7 +0.8
KBZ pmax pmax
comp=Z,10.0nm,0.9s
KBZ **Khabaz** 68.94 309 P P 14 56 03.8 -0.1
comp=Z,8.2nm,0.8s,baz=69,slow=3.2,SNR=19
comp=Z,8.2nm,0.8s
KIV **Kislovodsk** 68.99 309 *e*P P 14 56 05.3 +0.9
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,190nm,17.0s
GNI **Garni** 69.05 305⇓ *e*P P 14 56 05.1 +0.1
GNI pmax pmax
comp=Z,6.0nm,1.0s
WRGLY **Wrigley** 69.19 28 P P 14 56 05.7 +0.5
baz=297,SNR=7.2
RES **Resolute Bay** 70.52 12 P P 14 56 13.8 +0.6
RES **Resolute Bay** 70.52 12 P P 14 56 13.8 +0.6
RES pmax pmax
comp=Z,20nm,0.8s
RES **Resolute Bay** 70.52 12 LR LR 15 29 09.9
comp=Z,12nm,19.2s,baz=358,slow=38
FINES **FINESS Array B** 70.62 331 P P 14 56 13.5 -0.5
FINES **FINESS Array B** 70.62 331 P P 14 56 13.7 -0.3
comp=Z,22nm,0.6s,baz=70,slow=6.2,SNR=84
comp=Z,22nm,0.6s
DAG **Danmarks Havn** 71.25 353 *e*P P 14 56 16.4 -1.1
DAG IAmb IAmb 14 56 18.3
comp=Z,5.3nm,0.7s
VSU **Vasula** 71.77 328 *e*P P 14 56 20.6 -0.4
MEF **Metsahovi** 71.94 330 *e*P P 14 56 21.5 -0.5
ANN **Anapa** 72.08 312 *e*P P 14 56 22.7 -0.4
ANN pmax pmax
comp=Z,37nm,1.0s
ANN MLR MLR
comp=Z,752nm,20.0s
NEEM **North Greenlan** 72.09 1 *e*P P 14 56 22.4 -0.6
NEEM IAmb IAmb 14 56 23.9
comp=Z,8.9nm,0.7s
RAF **Rauma** 72.64 331 *e*P P 14 56 25.9 -0.1
MTSE **Matsula** 72.97 329 *e*P P 14 56 28.7 +0.6
YKA **Yellowknife Ar** 73.06 26 P P 14 56 29.2 +0.6
comp=Z,5.1nm,0.8s,baz=300,slow=5.9,SNR=85
comp=Z,5.1nm,0.8s
NACGM **Naroch** 73.50 324 *e*P P 14 56 32.8 +1.5
comp=Z,19nm,1.3s,baz=60
AKASG **Malin Array Be** 74.30 320 P P 14 56 35.7 -0.4
comp=Z,5.9nm,0.7s,baz=53,slow=6.3,SNR=40
comp=Z,5.9nm,0.7s
AKBB **Malin Array Si** 74.30 320⇑ *e*P P 14 56 35.7 -0.4
KIEV **Kiev** 74.31 320 P P 14 56 35.8 -0.4
KIEV IAmb IAmb 14 56 37.1
comp=Z,9.7nm,0.9s
KIEV **Kiev** 74.31 320 P P 14 56 35.8 -0.4
KIEV pmax pmax
comp=Z,10.0nm,0.9s
VSVD **Vaisvydziai** 74.35 326 *e*P P 14 56 36.0 -0.2
PABE **Paberze** 74.58 326 *e*P P 14 56 37.9 +0.3
JMIC **Jan Mayen** 74.81 348 LR LR 15 32 20.7
comp=Z,144nm,18.0s,baz=64,slow=38
UPP **Uppsala** 74.99 332 *e*P P 14 56 39.8 -0.1
SUW **Suwalki** 75.77 325 *e*P P 14 56 45.1 +0.6
VIKU **Vikbolandet** 76.18 331 *e*P P 14 56 46.5 -0.3
HFS **Hagfors** 76.39 333 P P 14 56 47.5 -0.5
comp=Z,12nm,0.7s,baz=66,slow=7.3,SNR=15
comp=Z,12nm,0.7s
NC405 **NORSAR Array S** 76.53 334 P P 14 56 48.7 0.0
NC303 **NORSAR Array S** 76.58 335 P P 14 56 49.0 0.0
NC303 IAmb IAmb 14 56 50.0
comp=Z,27nm,1.1s
NB2 **NORSAR Subarra** 76.76 335 P P 14 56 49.3 -0.8
comp=Z,25nm,1.1s,baz=50,slow=5.9
NB2 **NORSAR Subarra** 76.76 335 P P 14 56 49.3 -0.8
baz=50,slow=5.9
NB2 **NORSAR Subarra** 76.76 335 P P 14 56 47.7 -2.4
NOA **NORSAR Array B** 76.76 335 P P 14 56 49.6 -0.5
comp=Z,8.3nm,0.8s,baz=49,slow=5.5,SNR=26
comp=Z,8.3nm,0.8s
SUMG **Summit** 76.79 357 P P 14 56 50.6 +0.1
SUMG IAmb IAmb 14 57 00.7
comp=Z,19nm,1.0s
SUMG **Summit** 76.79 357 P P 14 56 50.6 +0.1
SUMG pmax pmax
comp=Z,19nm,1.0s
SUMG **Summit** 76.79 357 *e*P P 14 56 50.3 -0.2
SUMG IAmb IAmb 14 56 52.3
comp=Z,20nm,1.1s
BR131 **Keskin Array S** 76.91 308 P P 14 56 50.9 -0.6
BR131 IAmb IAmb 14 57 18.7
comp=Z,9.7nm,0.9s
BR131 **Keskin Array S** 76.91 308 *c*eP P 14 56 50.9 -0.6
BRTR **Keskin Array B** 76.91 308 P P 14 56 51.3 -0.2
BRTR **Keskin Array B** 76.91 308 *i* P P 14 56 52.9 +1.4
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR **Keskin Array B** 76.91 308 P P 14 56 51.5 0.0
comp=Z,5.1nm,1.0s,baz=90,slow=4.9,SNR=12
comp=Z,5.1nm,1.0s
BURAR **Bucovina Array** 78.14 319 P P 14 56 58.2 +0.1
BURAR IAmb IAmb 14 57 03.8
comp=Z,8.2nm,0.8s
BURAR **Bucovina Array** 78.14 319 P P 14 56 58.2 +0.1
BURAR pmax pmax
comp=Z,8.0nm,0.8s
KOLS **Kolonicke sedl** 79.05 321 *e*P P 14 57 04.1 +1.1
KOLS **Kolonicke sedl** 79.05 321 *e*P P 14 57 04.1 +1.1
KOLS pmax pmax
comp=Z,5.0nm,0.7s
NEW **Newport** 80.03 39 P P 14 57 08.6 +0.2
baz=305
ICESG **Greenland Ices** 80.32 357 *i* P P 14 57 10.2 +0.3
OKC **Ostrava-Krasne** 80.71 323 AMS AMS 15 39 10.0
comp=Z,700nm,15.6s
KSP **Ksiaz** 81.04 325 *e*P P 14 57 14.8 +1.1
MORC **Moravsky Berou** 81.06 323 *e*P P 14 57 14.6 +0.7
VYHS **Vyhne** 81.16 322 *e*P P 14 57 15.5 +1.1
VYHS **Vyhne** 81.16 322 *e*P P 14 57 15.5 +1.1
VYHS pmax pmax
comp=Z,6.0nm,0.8s
OSTC **Ostas** 81.26 324 AMS AMS 15 38 10.0
comp=Z,800nm,17.7s
KRLC **Kraliky** 81.27 324 *e*P P 14 57 15.7 +0.7
KRLC *ex* x 14 57 23.8
KRLC AMS AMS 15 38 40.0
comp=Z,700nm,16.8s
KRLC **Kraliky** 81.27 324 *e*P P 14 57 15.7 +0.7
KRLC *e* 14 57 23.8
KRLC MLR MLR
comp=Z,700nm,16.8s
CHVC **Chvalec** 81.32 325 AMS AMS 15 38 30.0
comp=Z,800nm,19.2s
DPC **Dobruska-Polom** 81.33 324 *e*P P 14 57 14.9 -0.4
DPC AMS AMS 15 37 50.0
comp=Z,600nm,19.4s
DPC **Dobruska-Polom** 81.33 324 *e*P P 14 57 14.9 -0.4
DPC MLR MLR
comp=Z,600nm,19.4s
UPC **Upice** 81.39 325 *e*P P 14 57 15.7 +0.1
UPC AMS AMS 15 37 20.0
comp=Z,800nm,19.0s
UPC **Upice** 81.39 325 *e*P P 14 57 15.7 +0.1
UPC MLR MLR
comp=Z,800nm,19.0s
JAVC **Velka Javorina** 81.56 323 *e*P P 14 57 18.5 +1.9
VRAC **Vranov** 81.84 323 *e*P P 14 57 18.8 +0.8
SMOL **Smolenice** 81.89 322 *e*P P 14 57 20.0 +1.7
SMOL pmax pmax
comp=Z,6.0nm,0.9s
BMO **Blue Mountains** 81.90 42 P P 14 57 19.4 +0.9
BMO **Blue Mountains** 81.90 42 P P 14 57 19.4 +0.9
BMO pmax pmax
comp=Z,7.0nm,1.0s
MODS **Modra-Piesok** 82.06 322 *e*P P 14 57 20.6 +1.4
MODS **Modra-Piesok** 82.06 322 *e*P P 14 57 20.6 +1.4
MODS pmax pmax
comp=Z,25nm,1.3s
PVCC **Panska Ves** 82.09 325 *e*P P 14 57 20.5 +1.2
PVCC AMS AMS 15 37 50.0
comp=Z,800nm,12.2s
PVCC **Panska Ves** 82.09 325 *e*P P 14 57 20.5 +1.2
PVCC MLR MLR
comp=Z,800nm,12.2s
KRUC **Moravsky** 82.09 323 *e*P P 14 57 20.3 +1.0
BRG **Berggiesshubel** 82.18 326 P P 14 57 18.9 -0.9
BRG Amp 14 57 19.8
comp=Z,8.1nm,1.1s
RICC **Richard** 82.31 325 AMS AMS 15 39 40.0
comp=Z,900nm,17.8s
CLL **Collm** 82.35 326⇓ *i* P P 14 57 20.7 +0.1
comp=Z,33nm,0.8s
CLL *es*P **sP** 14 57 29.0 0.0
CLL AMS AMS 15 37 00.0
comp=N,600nm,20.0s
CLL AMS AMS 15 37 00.0
comp=E,400nm,18.6s
CLL AMS AMS 15 37 00.0
comp=Z,700nm,21.2s
CLL **Collm** 82.35 326⇓ *i* P P 14 57 20.7 +0.1
CLL *e* 14 57 29.0
CLL pmax pmax
comp=Z,33nm,0.8s
CLL MLR MLR
comp=Z,700nm,21.2s
CLL **Collm** 82.35 326 *e*P P 14 57 21.0 +0.4
comp=Z,29nm,0.8s,baz=47,slow=5.1
CLL *ep*P **pwP** 14 57 30.0 +0.5
baz=47,slow=5.2
GOPC **GO Pecny, Ondr** 82.37 325 AMS AMS 15 39 30.0
comp=Z,800nm,18.0s
TREC **Trest** 82.41 324 AMS AMS 15 39 30.0
comp=Z,700nm,16.2s
FBE **Freiberg** 82.43 326 *e*P P 14 57 22.0 +0.9
comp=Z,22nm,0.9s,baz=47,slow=5.1
FBE *ep*P **pwP** 14 57 31.1 +1.1
baz=47,slow=5.2
PRU **Pruhonice** 82.45 325 *e*P P 14 57 21.8 +0.6
PRU AMS AMS 15 39 20.0
comp=Z,700nm,17.6s
PRU **Pruhonice** 82.45 325 *e*P P 14 57 21.8 +0.6
PRU MLR MLR
comp=Z,700nm,17.6s
PRA **Prague** 82.45 325 AMS AMS 15 40 10.0
comp=Z,900nm,19.2s
FLTG **Flechtingen** 82.50 328 *e*P P 14 57 21.5 +0.1
comp=Z,25nm,0.9s,baz=47,slow=5.1
FLTG *ep*P **pwP** 14 57 30.6 +0.1
baz=47,slow=5.2
HSKC **Hora Svate Kat** 82.60 326 *e*P P 14 57 22.6 +0.6
HSKC *ex* x 14 57 35.1
HSKC AMS AMS 15 39 40.0
comp=Z,1μm,16.0s
MSO **Missoula** 82.61 39 P P 14 57 22.6 +0.3
baz=308
ASSE **Asse, Remlinge** 82.89 328 *e*P P 14 57 24.0 +0.7
comp=Z,6.4nm,0.8s,baz=47,slow=5.1
ASSE *ep*P **pwP** 14 57 32.7 +0.2
baz=47,slow=5.2
NRDL **Niedersach Rie** 82.90 328 *e*P P 14 57 24.1 +0.8
comp=Z,105nm,2.6s,baz=47,slow=5.1
NRDL *ep*P **pwP** 14 57 33.0 +0.5
baz=47,slow=5.2
ZVC **Zvikov** 82.97 324 *e*P P 14 57 24.4 +0.5
ZVC *ex* x 14 57 31.4
ZVC AMS AMS 15 38 10.0
comp=Z,700nm,17.9s
RONA **Rosalia, Austr** 82.99 322 *e*PcP P 14 57 25.7 +1.6
comp=Z,6.5nm,1.0s
NEUB **Neuenburg** 83.00 327 *e*P P 14 57 24.7 +0.7
comp=Z,32nm,0.9s,baz=47,slow=5.1
NEUB *ep*P **pwP** 14 57 33.7 +0.8
baz=47,slow=5.2
RETH **Rethem/Aller,** 83.07 329 *e*P P 14 57 24.8 +0.5
comp=Z,12nm,1.0s,baz=47,slow=5.1
RETH *ep*P **pwP** 14 57 33.7 +0.3
baz=47,slow=5.2
CONA **Conrad Observa** 83.08 323 *e*PcP P 14 57 26.2 +1.6
comp=Z,14nm,1.1s,SNR=6.9
TANN **Tannenbergstha** 83.19 326 *e*P P 14 57 25.8 +0.7
comp=Z,11nm,1.2s,baz=47,slow=5.1
TANN *ep*P **pwP** 14 57 34.6 +0.6
baz=47,slow=5.2
CLZ **Clausthal** 83.22 328 *e*P P 14 57 26.1 +0.9
comp=Z,32nm,1.0s,baz=47,slow=5.1
CLZ *ep*P **pwP** 14 57 35.2 +0.9
baz=47,slow=5.2
WERD **Werda** 83.25 326 *e*P P 14 57 26.0 +0.6
comp=Z,16nm,1.0s,baz=47,slow=5.1
WERD *ep*P **pwP** 14 57 35.0 +0.8
baz=47,slow=5.2
GUNZ **Gunzen** 83.29 326 *e*P P 14 57 26.4 +0.8
comp=Z,18nm,1.0s,baz=47,slow=5.1
GUNZ *ep*P **pwP** 14 57 35.2 +0.8
baz=47,slow=5.2
PLN **Plauen** 83.29 326 *e*P P 14 57 26.3 +0.7
comp=Z,17nm,1.0s,baz=47,slow=5.1
PLN *ep*P **pwP** 14 57 35.3 +0.8
baz=47,slow=5.2
CKRC **Cesky Krumlov** 83.31 324 *e*P P 14 57 24.3 -1.4
CKRC **Cesky Krumlov** 83.31 324 *e*P P 14 57 24.3 -1.4
WERN **Wernitzgruen** 83.32 326 *e*P P 14 57 26.5 +0.8
comp=Z,33nm,1.2s,baz=47,slow=5.1
WERN *ep*P **pwP** 14 57 35.4 +0.8
baz=47,slow=5.2
NKC **Novy Kostel** 83.32 326 *e*P P 14 57 26.6 +0.9
NKC AMS AMS 15 41 30.0
comp=Z,900nm,9.1s
NKC **Novy Kostel** 83.32 326 *e*P P 14 57 26.6 +0.9

NKC MLR MLR
comp=Z,900nm,9.1s
MOX Moxa 83.45 326 *e*P **P 14 57 27.1 +0.7**
comp=Z,13nm,0.9s,baz=47,slow=5.1
MOX *e*pP **pwP 14 57 35.9 +0.6**
baz=47,slow=5.2
MOX *e*L L 15 38 57.3
comp=Z,820nm,20.1s
KHC Kasperske Hory 83.48 324 *e*P **P 14 57 26.9 +0.3**
KHC *ex* x 14 57 39.8
KHC AMS AMS 15 38 10.0
comp=Z,800nm,20.4s
KHC Kasperske Hory 83.48 324 *de*P **P 14 57 26.9 +0.3**
KHC pmax pmax
comp=Z,30nm,1.3s
GEC2 GERESS Array S 83.60 324 *e*P **P 14 57 27.7 +0.4**
comp=Z,10nm,0.9s,baz=47,slow=5.1
GEC2 *e*pP **pwP 14 57 36.5 +0.3**
baz=47,slow=5.2
GERES GERESS Array B 83.60 324 P **P 14 57 27.6 +0.2**
comp=Z,7.2nm,0.8s,baz=46,slow=5.8,SNR=28
GERES LR LR 15 39 40.4
comp=Z,732nm,18.4s,baz=50,slow=39
comp=Z,7.2nm,0.8s
GTTG Gottingen 83.61 328 *e*P **P 14 57 27.9 +0.7**
comp=Z,21nm,0.8s,baz=47,slow=5.1
GTTG *e*pP **pwP 14 57 36.9 +0.6**
baz=47,slow=5.2
MANZ Manzenberg 83.64 326 *e*P **P 14 57 28.2 +0.8**
comp=Z,3.8nm,1.0s,baz=47,slow=5.1
MANZ *e*pP **pwP 14 57 37.2 +0.9**
baz=47,slow=5.2
ARSA Arzberg 83.68 322 *i* P **P 14 57 28.6 +0.9**
comp=Z,11nm,0.9s
ROTZ Rotzenmuhle 83.74 326 *e*P **P 14 57 29.0 +1.1**
comp=Z,6.0nm,1.0s,baz=47,slow=5.1
ROTZ *e*pP **pwP 14 57 37.9 +1.1**
baz=47,slow=5.2
WET Wettzell 83.82 325 *e*P **P 14 57 29.2 +0.9**
comp=Z,9.1nm,0.9s,baz=47,slow=5.1
WET *e*pP **pwP 14 57 38.3 +1.1**
baz=47,slow=5.2
MOA Molln 83.96 323 *e*PcP **P 14 57 30.3 +1.2**
comp=Z,11nm,1.0s,SNR=6.0
EGMT Eagleton 84.08 36 P **P 14 57 30.2 +0.5**
baz=310,SNR=6.5
IBBN Ibbenburen 84.08 329 *e*P **P 14 57 29.7 +0.2**
comp=Z,33nm,0.9s,baz=47,slow=5.1
IBBN *e*pP **pwP 14 57 38.4 -0.2**
baz=47,slow=5.2
UBBA Unterbreizbach 84.09 327 *e*P **P 14 57 30.3 +0.8**
comp=Z,56nm,1.7s,baz=47,slow=5.1
GRF Grafenberg Arr 84.27 326 *e*P **P 14 57 31.7 +1.1**
comp=Z,36nm,0.9s,baz=47,slow=5.1
GRF *e*L L 15 39 15.3
comp=Z,798nm,20.8s
GRFO Grafenberg 84.27 326 P **P 14 57 29.6 -0.9**
GRFO Grafenberg 84.27 326 P **P 14 57 29.6 -0.9**
GRFO pmax pmax
comp=Z,33nm,0.9s
SOKA Soboth 84.31 322 *i* P **P 14 57 31.5 +0.6**
comp=Z,23nm,0.8s,SNR=12
HLID Hailey 84.34 42 P **P 14 57 31.7 +0.4**
baz=308,SNR=12
BIOA Bad Ischl, Aus 84.38 323 *i* PcP **P 14 57 32.2 +1.0**
comp=Z,18nm,1.1s,SNR=5.8
KASTN Kahler Asten 84.55 328 *e*P **P 14 57 32.5 +0.5**
KASTN comp=Z,12nm,0.9s,baz=47,slow=5.1
*e*pP **pwP 14 57 41.4 +0.3**
baz=47,slow=5.2
BOZ Bozeman (W) 84.64 39 P **P 14 57 33.6 +0.9**
baz=309,SNR=7.7
OBKA Obir 84.67 322 *e*PcP **P 14 57 33.3 +0.6**
comp=Z,10nm,0.8s
PDKS Podkum 84.72 321 *i* P **P 14 57 33.1 +0.2**
KVN Kaiserville 84.79 47 P **P 14 57 34.2 +0.5**
KVN Kaiserville 84.79 47 P **P 14 57 34.2 +0.5**
KVN pmax pmax
comp=Z,15nm,0.8s
BUG Bochum--Univer 84.90 329 *e*P **P 14 57 33.8 +0.2**
comp=Z,23nm,1.1s,baz=47,slow=5.1
BUG *e*pP **pwP 14 57 42.8 0.0**
baz=47,slow=5.2
KBA Koelnbreinsper 84.93 323 *i* PcP **P 14 57 35.1 +0.9**
comp=Z,4.1nm,0.7s
NVAR Mina Array Bea 85.02 48 P **P 14 57 35.8 +0.9**
NVAR Mina Array Bea 85.02 48 P **P 14 57 35.9 +1.0**
comp=Z,7.0nm,0.7s,baz=293,slow=4.9,SNR=30
comp=Z,7.0nm,0.7s
LESA Schwarzleotal 85.05 324 *i* PcP **P 14 57 35.2 +0.5**
comp=Z,15nm,1.1s
MYKA Terra Mystica 85.07 323 *e*PcP **P 14 57 35.2 +0.5**
comp=Z,7.5nm,1.0s
GBAS Gorenja Brezov 85.10 322 *i* P **P 14 57 34.6 -0.3**
IDI Anoyia 85.15 308 LR LR 15 41 06.4
comp=Z,114nm,20.8s,baz=4.0,slow=40
TNS Taunus Mts 85.22 328 *e*P **P 14 57 36.0 +0.6**
comp=Z,12nm,0.8s,baz=47,slow=5.1
TNS *e*pP **pwP 14 57 44.9 +0.3**
baz=47,slow=5.2
ELK Elko 85.56 45 P **P 14 57 38.9 +1.4**
comp=Z,4.2nm,0.9s,baz=310,slow=5.8,SNR=18
comp=Z,4.2nm,0.9s
ABTA Abfaltersbach 85.58 323 *i* P **P 14 57 36.8 -0.6**
comp=Z,9.4nm,1.1s
AHRW Bad Neuenahr-A 85.62 328 *e*pP pP 14 57 47.3 +3.9
baz=47,slow=5.2
WTTA Wattenberg 85.69 324 *e*PcP **P 14 57 38.1 +0.2**
comp=Z,7.6nm,1.3s
MOTA Moosalm 85.90 324 *i* P **P 14 57 39.1 +0.1**
comp=Z,2.9nm,0.7s
SQTA Sankt Quirin 85.93 324 *e*P **P 14 57 38.5 -0.6**
comp=Z,2.3nm,0.5s
RETA Reutte 85.98 324 *i* PcP **PcP 14 57 40.9 -1.0**
comp=Z,1.3nm,0.4s
H17A Grant Village 85.98 40 P **P 14 57 41.5 +1.9**
baz=310,SNR=12
MEM Membach 86.05 329 *d*P **P 14 57 39.3 -0.1**
PKM Mcpherson Peak 86.06 52 P **P 14 57 41.2 +1.1**
baz=305
FLWY Flagg Ranch 86.11 40 P **P 14 57 42.4 +2.2**
FLWY IAmb IAmb 14 57 43.3
comp=Z,9.5nm,0.8s
EKA Eskdalemuir Ar 86.11 336 P **P 14 57 39.5 -0.2**
comp=Z,2.2nm,0.6s,baz=37,slow=5.0,SNR=7.2
comp=Z,2.2nm,0.6s
RLMT Red Lodge 86.22 38 P **P 14 57 41.3 +0.6**
baz=311,SNR=6.8
BHOU Houvegnez 86.24 329 *d*P **P 14 57 40.5 +0.1**
FETA Feichten 86.31 324 *e*PcP **P 14 57 42.0 +1.0**
comp=Z,6.8nm,1.5s
CWC Cottonwood Cre 86.32 49 P **P 14 57 41.8 +0.5**
baz=306
SBC Santa Barbara 86.39 52 P **P 14 57 41.8 +0.4**
baz=305
GRAC Grapevine Rang 86.46 49 P **P 14 57 42.5 +0.7**
baz=306
BCLA Clavier 86.50 329 *d*P **P 14 57 42.0 +0.3**
comp=Z,5.2nm,1.2s
DGMT Dagmar 86.53 34 P **P 14 57 41.9 0.0**
baz=314
DAVA Damuels 86.56 325 *e*PcP **P 14 57 43.1 +0.9**
comp=Z,6.1nm,0.9s
ARVC Arvin 86.59 51 P **P 14 57 42.8 +0.4**
baz=306
BFO Black Forest 86.59 326 *e*P **P 14 57 42.4 +0.2**
comp=Z,18nm,1.2s,baz=47,slow=5.1
BGES Gesves 86.62 329 *d*P **P 14 57 40.7 -1.6**
WLF Walferdange 86.67 328 *d*P **P 14 57 43.5 +1.0**
WLF Walferdange 86.67 328 *e*P **P 14 57 43.2 +0.7**
comp=Z,17nm,1.1s,baz=47,slow=5.1
WLF *e*pP **pwP 14 57 52.2 +0.5**
baz=47,slow=5.2
RCHB Rochefort 86.73 329 *d*P **P 14 57 42.5 -0.3**
LAO LASA Array 86.76 36 P **P 14 57 43.0 -0.2**
baz=313
R11B Troy Canyon, C 86.79 47 P **P 14 57 44.1 +0.5**
baz=307,SNR=5.4
FUORN Ofenpass-Fuorn 86.82 324 P **P 14 57 43.7 +0.1**
FUORN IAmb IAmb 14 58 11.2
comp=Z,19nm,1.4s
BMRD Maredsous 86.82 329 *d*P **P 14 57 41.4 -1.8**
MPMC Manual Prospec 86.93 49 P **P 14 57 44.6 +0.2**
baz=306
DOU Dourbes 87.05 329 *d*P **P 14 57 44.2 -0.2**
FURC Furnace Creek, 87.10 49 P **P 14 57 45.7 +0.9**
baz=307
SNCC San Nicolas Is 87.20 53 P **P 14 57 47.1 +1.7**
baz=305
TPNV Topopah Spring 87.21 48 P **P 14 57 46.7 +1.1**
baz=307,SNR=5.6
EDW2 Edwards Air Fo 87.29 51 P **P 14 57 46.3 +0.4**
baz=306
DUG Dugway, Tooele 87.36 44 P **P 14 57 47.0 +0.7**
baz=309
BW06 Boulder Array 87.60 40 P **P 14 57 48.5 +1.0**
BW06 Boulder Array 87.60 40 P **P 14 57 48.0 +0.5**
baz=311,SNR=6.7
PDAR Pinedale Array 87.60 40 P **P 14 57 48.2 +0.8**
PDAR Pinedale Array 87.60 40 P **P 14 57 48.0 +0.6**
comp=Z,3.6nm,0.8s,baz=333,slow=1.1,SNR=32
comp=Z,3.6nm,0.8s
GSC Goldstone, Bar 87.83 50 P **P 14 57 49.5 +1.0**
baz=307
HEC Hector,Ludlow 88.42 50 P **P 14 57 52.2 +0.8**
baz=307
GMRC Granite Mounta 88.89 50 P **P 14 57 54.5 +0.9**
baz=307
ULM Lac du Bonnet 88.92 28 P **P 14 57 53.7 +0.4**
comp=Z,6.0nm,0.7s,baz=302,slow=5.2,SNR=11
comp=Z,6.0nm,0.7s
MDND Maddock 89.12 32 P **P 14 57 55.6 +1.4**
baz=318
BELC Belle Mtn. Jos 89.14 50 P **P 14 57 55.8 +1.0**
baz=307
K22A Casper 89.34 39 P **P 14 57 56.3 +0.6**
baz=313
IRM Iron Mountain 89.61 50 P **P 14 57 57.3 +0.4**
baz=308
RSSD Black Hills 89.65 37 P **P 14 57 57.3 +0.2**
RSSD IAmb IAmb 14 57 59.7
comp=Z,11nm,0.8s
RSSD Black Hills 89.65 37 P **P 14 57 57.8 +0.7**
baz=315
RSSD Black Hills 89.65 37 P **P 14 57 57.3 +0.2**
RSSD pmax pmax
comp=Z,11nm,0.8s
BC3 Big Chuckawall 89.71 50 P **P 14 57 59.1 +1.6**
baz=308
O20A White River Ci 90.07 42 P **P 14 57 59.9 +0.7**
baz=312
PDMCI Parker Dam,Lak 90.17 49 P **P 14 58 00.1 +0.6**
baz=308
AGMN Agassiz Nation 90.43 30 P **P 14 58 00.7 +0.3**
baz=320
N23A Red Feather La 90.86 40 P **P 14 58 03.8 +0.9**
baz=313,SNR=5.2
WUAZ Wupatki 91.19 47 P **P 14 58 05.5 +1.1**
baz=310
ISCO Idaho Springs 91.79 41 P **P 14 58 08.1 +0.9**
baz=314
MVCO Mesa Verde 91.86 44 P **P 14 58 09.0 +1.5**
baz=312
S22A 4UR Ranch, Cre 92.49 43 P **P 14 58 11.8 +1.2**
baz=313
214A Organ Pipe Nat 92.50 50 P **P 14 58 11.8 +1.4**
baz=309
EYMN Ely 92.51 28 P **P 14 58 09.6 -0.4**
baz=324
Q24A Divide 92.62 41 P **P 14 58 12.1 +1.0**
baz=314
OGNE Ogdala 92.94 38 P **P 14 58 13.5 +1.2**
baz=316
SDCO Great Sand Dun 93.26 42 P **P 14 58 15.1 +1.0**
baz=314
ECSD EROS Data Cent 93.59 33 P **P 14 58 16.4 +1.3**
baz=320
TUC Tucson 93.61 49 P **P 14 58 15.4 -0.1**
TUC IAmb IAmb 14 59 34.9
comp=Z,4.7nm,1.0s
TUC Tucson 93.61 49 P **P 14 58 16.4 +0.9**
baz=310
TUC Tucson 93.61 49 P **P 14 58 15.5 -0.1**
TUC pmax pmax
comp=Z,5.0nm,1.0s
T25A Trinidad 94.31 42 P **P 14 58 18.8 0.0**
baz=314
ANMO Albuquerque 94.60 45 P **P 14 58 20.0 -0.1**
baz=313
121A Cookes Peak, D 95.39 47 P **P 14 58 24.5 +0.7**
baz=312
LPIG La Paz 99.16 55 LR LR 15 33 25.0
comp=Z,59nm,21.3s,baz=34,slow=29
TXAR Lajitas Array 100.15 47 P **Pdif 14 58 46.1 +0.9**
comp=Z,0.5nm,0.7s,baz=299,slow=4.0,SNR=6.1
O53A New Philadelph 102.97 26 P **Pdif 14 58 55.4 -2.0**
baz=331
HRV Adam Dziewonsk 103.99 18 P **Pdif 14 59 00.7 -1.2**
baz=339
OXF Oxford 104.28 34 P **Pdif 14 59 02.4 -0.9**
baz=324
PAL Palisades 104.72 20 P **Pdif 14 59 04.2 -0.9**
baz=337
QSPA South Pole Qui 120.46 180 PKP **PKiKP 15 03 49.9 +0.2**
comp=Z,2.8nm,0.6s,baz=308,slow=1.7,SNR=13
DBIC Dimbokro 124.47 305 PKP **PKPdf 15 03 58.9 +0.1**
comp=Z,2.4nm,0.7s,baz=252,slow=3.2,SNR=3.8
SAML Samuel 154.12 36 PKIKP **PKPbc 15 04 59.1 -0.3**

JMA 20 14:45:36.2±0.0, 36.80N±0.06×140.5E±0.2, h8km, MV-0.1/8, NORTHERN IBARAKI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.19**	**173**	P	Pg	14 45 40.1	0.0
JFFD	**Fukushimafurud**	**0.29**	**3**	*e*S	Sg	14 45 42.1	+0.1
JFFD				*e*S	Sg	14 45 46.3	+0.3

*NEIC **20** 14:47:14.2±1.1, 23.2S±0.1×177.1W±0.1, h109km±11km, mb4.7/21, Error ellipse: s-maj=18.4km s-min=16.5km az=87.0*
*IDC **20** 14:47:16.7±3.0, 23.15S×177.13W, h131km±25km, mb4.0/10, mbtmp4.3/10, Error ellipse: s-maj=24.9km s-min=17.7km az=139.0*

ISC 20 14:47:12.9±0.5, 23.17S±0.08×177.09W±0.08, h100km, n67, σ1.919/68, mb4.5/20, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.10**	**187**	Pn	**Pn**	**14 48 41.2**	**+0.6**
NIUE	**Niue**	**7.83**	**60**	Pn	**Pn**	**14 49 05.1**	**+1.0**
AFI	**Afiamalu**	**10.49**	**30**	Pn	**Pn**	**14 49 40.7**	**+0.3**
PINNC	**Pines Island,**	**14.26**	**269**		**Pn**	**14 50 30.2**	**0.0**
LIFNC	**LIFOU**	**14.73**	**276**		**Pn**	**14 50 36.9**	**+0.6**
OUENC	**Ouen Island, N**	**14.84**	**270**		**Pn**	**14 50 36.9**	**-0.8**
DZM	**Mont Dzumac**	**15.24**	**271**		**Pn**	**14 50 42.9**	**0.0**
DZM	**Mont Dzumac**	**15.24**	**271**	P	**P**	**14 50 51.4**	**+5.9**
	12nm,0.8s,baz=87,slow=19,SNR=5.1						
URZ	**Urewera**	**15.84**	**197**	P	**Pn**	**14 50 49.2**	**-0.9**
	4.0nm,0.3s,baz=95,slow=3.2,SNR=14						
URZ				S	Sn	14 53 34.3	-11
	11nm,1.0s,baz=251,slow=23,SNR=2.6						
TCW	**Tory Channel**	**19.40**	**200**	P	**P**	**14 51 32.2**	**+1.3**
WKZ	**Wanaka**	**24.41**	**204**	P	**P**	**14 52 20.5**	**-1.5**
WKZ				IAmb	IAmb	14 52 35.3	
	comp=Z,47nm,1.3s						
MLZ	**Mavora Lakes**	**25.21**	**205**	P	**P**	**14 52 29.8**	**+0.6**
MLZ				IAmb	IAmb	14 52 43.7	
	comp=Z,34nm,1.4s						
EIDS	**Eidsvold**	**29.06**	**259**	P	**P**	**14 53 04.4**	**+0.5**
CTAO	**Charters Tower**	**34.16**	**268**	P	**P**	**14 53 48.5**	**-0.2**
PMG	**Port Moresby**	**36.82**	**286**	P	**P**	**14 54 10.7**	**-0.9**
STKA	**Stephens Creek**	**37.47**	**247**	P	**P**	**14 54 16.2**	**-0.6**
STKA	**Stephens Creek**	**37.47**	**247**	P	**P**	**14 54 17.4**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=80,slow=8.3,SNR=11						
	comp=Z,1.4nm,0.3s						
MULG	**Mulgathing**	**43.94**	**250**	P	**P**	**14 55 09.7**	**-0.3**
AS31	**Alice Springs**	**44.79**	**259**	P	**P**	**14 55 17.1**	**+0.1**
ASAR	**Alice Springs**	**44.79**	**259**	P	**P**	**14 55 16.7**	**-0.3**
ASAR	**Alice Springs**	**44.79**	**259**	P	**P**	**14 55 17.4**	**+0.5**
	comp=Z,3.0nm,0.3s,baz=94,slow=6.8,SNR=39						
ASAR				PcP	**PcP**	**14 56 57.1**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=114,slow=3.8,SNR=2.5						
ASAR				ScP	**ScP**	**15 00 37.4**	**-3.4**
	comp=Z,0.4nm,0.8s,baz=113,slow=2.9,SNR=4.1						
	comp=Z,3.0nm,0.3s						
WR0	**Warramunga Arr**	**44.94**	**264**	P	**P**	**14 55 17.8**	**-0.3**
WR0				IAmb	IAmb	14 55 24.5	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**45.13**	**264**	P	**P**	**14 55 19.4**	**-0.2**
WRA	**Warramunga Arr**	**45.13**	**264**	P	**P**	**14 55 19.6**	**-0.1**
	comp=Z,5.5nm,0.6s,baz=90,slow=5.9,SNR=181						
WRA				PcP	**PcP**	**14 56 58.0**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=100,slow=3.0,SNR=2.9						
WRA				ScP	**ScP**	**15 00 38.3**	**-3.9**
	comp=Z,0.2nm,0.7s,baz=92,slow=3.8,SNR=1.9						
	comp=Z,5.5nm,0.6s						
FORT	**Forrest**	**49.06**	**249**	P	**P**	**14 55 49.6**	**-0.5**
FORT				IAmb	IAmb	14 56 06.1	
	comp=Z,21nm,0.9s						
MTN	**Manton Dam**	**50.08**	**272**	P	**P**	**14 55 57.8**	**-0.1**
KNRA	**Kununurra**	**51.37**	**268**	P	**P**	**14 56 07.7**	**0.0**
FITZ	**Fitzroy Crossi**	**53.55**	**264**	P	**P**	**14 56 23.4**	**-0.4**
FITZ				IAmb	IAmb	14 56 25.9	
	comp=Z,5.8nm,1.4s						
VNDA	**Vanda**	**55.34**	**185**	P	**P**	**14 56 35.9**	**+0.1**
VNDA				IAmb	IAmb	14 57 00.6	
	comp=Z,6.9nm,1.4s						
SOEI	**Soe**	**57.46**	**273**	P	**P**	**14 56 52.0**	**0.0**
PSA00	**Pilbara Seismi**	**57.92**	**258**	P	**P**	**14 56 54.3**	**-0.7**
PSA00				IAmb	IAmb	14 57 04.9	
	comp=Z,8.0nm,1.4s						
MBWA	**Marble Bar**	**58.13**	**259**	P	**P**	**14 56 55.4**	**-1.1**
MBWA				IAmb	IAmb	14 57 10.2	
	comp=Z,11nm,1.1s						
MORW	**Morawa**	**59.63**	**249**	P	**P**	**14 57 06.2**	**-0.6**
MORW				IAmb	IAmb	14 57 16.9	
	comp=Z,15nm,1.2s						
CASY	**Casey**	**61.93**	**206**	P	**P**	**14 57 21.1**	**-0.6**
CASY				IAmb	IAmb	14 57 49.5	
	comp=Z,19nm,1.4s						
QSPA	**South Pole Qui**	**66.91**	**180**	P	**P**	**14 57 54.5**	**+0.1**
QSPA				IAmb	IAmb	14 57 56.3	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**66.91**	**180**	P	**P**	**14 57 54.7**	**+0.4**
	comp=Z,2.4nm,0.6s,baz=134,slow=0.7,SNR=14						
	comp=Z,2.4nm,0.6s						
PETK	**Petropavlovsk-**	**79.05**	**345**	P	**P**	**14 59 05.7**	**0.0**
	comp=Z,8.6nm,1.1s,baz=154,slow=3.0,SNR=4.5						
	comp=Z,8.6nm,1.1s						
MAW	**Mawson**	**79.35**	**200**	P	**P**	**14 59 07.7**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=134,slow=7.4,SNR=2.4						
	comp=Z,2.4nm,0.8s						
H03S2	**Juan Fernandez**	**83.80**	**124**	T	T	16 31 49.9	
	baz=246,slow=75,SNR=6.3						
H03S1	**Juan Fernandez**	**83.81**	**124**	T	T	16 31 56.4	
	baz=246,slow=75,SNR=6.2						
H03S3	**Juan Fernandez**	**83.81**	**124**	T	T	16 31 54.0	
	baz=246,slow=75,SNR=6.2						
TXAR	**Lajitas Array**	**87.79**	**57**	P	**P**	**14 59 51.8**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=214,slow=8.4,SNR=7.0						
	comp=Z,1.0nm,0.9s						
PDAR	**Pinedale Array**	**90.33**	**43**	P	**P**	**15 00 03.4**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=195,slow=4.6,SNR=3.9						
	comp=Z,0.7nm,0.8s						
ILAR	**Eielson Array**	**90.72**	**12**	P	**P**	**15 00 03.9**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=220,slow=5.8,SNR=13						
	comp=Z,0.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**91.79**	**289**	P	**P**	**15 00 10.6**	**+0.6**
	comp=Z,2.1nm,0.9s,baz=137,slow=3.4,SNR=9.8						
	comp=Z,2.1nm,0.9s						
BVAR	**Borovoye Array**	**121.65**	**319**	PKP	**PKPdf**	**15 05 53.5**	**-1.2**
	comp=Z,1.1nm,0.4s,baz=101,slow=2.6,SNR=7.7						
ARCES	**ARCESS Array B**	**131.69**	**350**	PKP	**PKPdf**	**15 06 13.2**	**-0.2**
	comp=Z,5.2nm,0.9s,baz=330,slow=1.7,SNR=6.7						
HFS	**Hagfors**	**142.29**	**351**	PKhKP	PKPpre	15 06 27.5	
	comp=Z,1.4nm,0.5s,baz=67,slow=5.0,SNR=8.9						
AKASG	**Malin Array Be**	**145.74**	**330**	PKPbc	**PKPdf**	**15 06 38.9**	**-0.5**
	comp=Z,2.2nm,0.4s,baz=42,slow=4.0,SNR=20						
EKA	**Eskdalemuir Ar**	**147.56**	**6**	PKPbc	**PKPdf**	**15 06 44.5**	**+2.1**
	comp=Z,0.8nm,0.4s,baz=343,slow=2.6,SNR=7.8						
BRTR	**Keskin Array B**	**149.22**	**310**	PKPbc	**PKPbc**	**15 06 49.4**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=148,slow=5.1,SNR=16						
MMAI	**Mount Meron Ar**	**149.81**	**296**	PKPbc	**PKPbc**	**15 06 51.7**	**0.0**
	comp=Z,2.7nm,0.4s,baz=54,slow=4.2,SNR=9.1						
OSTC	**Ostas**	**150.76**	**343**	*e*PKP	**PKPbc**	**15 06 53.8**	**+0.5**
CLL	**Collm**	**150.84**	**347**	*i* PKPbc	**PKPbc**	**15 06 52.0**	**-1.5**
	comp=Z,11nm,0.9s						
CLL				*e*PKPab	**PKPab**	**15 06 59.0**	**-1.9**
UPC	**Upice**	**150.86**	**343**	*e*PKP	**PKPbc**	**15 06 53.8**	**+0.2**
DPC	**Dobruska-Polom**	**150.91**	**342**	*e*PKP	**PKPbc**	**15 06 53.4**	**-0.3**
KRLC	**Kraliky**	**151.03**	**341**	*e*PKP	**PKPbc**	**15 06 54.4**	**+0.4**
MORC	**Moravsky Berou**	**151.06**	**340**	*e*PKP	**PKPbc**	**15 06 53.2**	**-0.9**
PVCC	**Panska Ves**	**151.21**	**344**	*e*PKP	**PKPbc**	**15 06 54.2**	**-0.2**
MAUC	**Maruska**	**151.33**	**339**	*e*PKP	**PKPbc**	**15 06 55.5**	**+0.8**
PRU	**Pruhonice**	**151.72**	**344**	*e*PKP	**PKPbc**	**15 06 56.2**	**+0.7**
VRAC	**Vranov**	**151.76**	**341**	*e*PKP	**PKPbc**	**15 06 55.8**	**+0.1**
JAVC	**Velka Javorina**	**151.82**	**339**	*e*PKP	**PKPbc**	**15 06 56.3**	**+0.4**
KRUC	**Moravsky**	**152.04**	**341**	*e*PKP	**PKPbc**	**15 06 56.1**	**-0.2**
KHC	**Kasperske Hory**	**152.75**	**345**	*e*PKP	**PKPbc**	**15 06 56.9**	**-1.1**
CKRC	**Cesky Krumlov**	**152.85**	**343**	*e*PKP	**PKPbc**	**15 06 57.9**	**-0.3**
GERES	**GERESS Array B**	**152.99**	**344**	PKPbc	**PKPbc**	**15 06 58.2**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=100,slow=3.0,SNR=2.8						

*IDC **20** 14:47:14.0±0.9, 30.62N×131.97E, h0km, mb4.0/6, mbtmp4.1/10, ML3.6/4, MS4.5/2, Error ellipse: s-maj=28.5km s-min=17.2km az=89.0*
*NEIC **20** 14:47:15.7±1.1, 30.63N±0.06×131.98E±0.10, h10km±1km, mb4.6/19, Error ellipse: s-maj=14.0km s-min=10.1km az=105.0*
*JMA **20** 14:47:16.2±0.1, 30.6N±0.4×132.1E±0.8, h57km±2km, MV3.6/32, E OFF TANEGASHIMA ISLAND*

ISC 20 14:47:15.5±2.2, 30.63N±0.04×132.00E±0.05, h13km±13km, n54, σ0.970/64, mb4.5/16, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.88**	**272**	*e*P	**Pn**	**14 47 33.3**	**-0.3**
JTN				S	Sn	14 47 46.7	+0.4
JMTN	**Minamitane**	**0.98**	**257**	*e*P	**Pn**	**14 47 35.0**	**+0.1**
JMTN				*e*S	**Sn**	**14 47 49.2**	**+0.5**
JTSR	**Tashiro 2**	**1.07**	**300**	*e*P	**Pb**	**14 47 35.7**	**-0.3**
JTSR				S	**Sg**	**14 47 50.4**	**+0.2**
JNAR	**Kushima--Naru**	**1.09**	**325**	*e*P	**Pb**	**14 47 36.1**	**-0.2**
JNAR				*e*S	**Sg**	**14 47 50.8**	**0.0**
JNKG	**Nichinankitago**	**1.16**	**333**	*e*P	**Pn**	**14 47 36.9**	**-0.6**
JNKG				*e*S	**Sb**	**14 47 52.3**	**-0.2**
JYAK	**Yakushimahirau**	**1.34**	**254**	*e*P	**Pn**	**14 47 40.0**	**0.0**
JYAK				*e*S	**Sn**	**14 47 57.5**	**-0.2**
JTZ	**Takazaki**	**1.49**	**329**	*e*P	**Pn**	**14 47 41.6**	**-0.5**
JTZ				*e*S	**Sn**	**14 48 00.4**	**-1.0**
JKC	**Kuchinoerabu**	**1.56**	**264**	*e*P	**Pn**	**14 47 43.0**	**0.0**
JKC				*e*S	**Sn**	**14 48 03.2**	**0.0**
JSU	**Suzuyama**	**1.59**	**304**	*e*P	**Pn**	**14 47 43.0**	**-0.4**
JTSN	**Tsuno**	**1.67**	**345**	P	**Pn**	**14 47 44.0**	**-0.5**
JTSN				*e*S	**Sn**	**14 48 04.0**	**-1.8**
JZO	**Okuchi**	**1.93**	**322**	*e*P	**Pn**	**14 47 47.9**	**-0.2**
JZO				*e*S	**Sn**	**14 48 11.1**	**-1.1**
JNU	**Nakatsue**	**2.66**	**339**	Pn	**Pn**	**14 47 58.1**	**-0.1**
JNU	**Nakatsue**	**2.66**	**339**	Pn	**Pn**	**14 47 58.5**	**+0.3**
	6.2nm,0.3s,baz=280,slow=3.9,SNR=6.9						
JNU				Sn	**Sn**	**14 48 30.8**	**+0.4**
	26nm,0.3s,baz=341,slow=20,SNR=1.8						
	41nm,0.3s						
JMN	**Monobe**	**3.48**	**27**	Pn	**Pn**	**14 48 08.5**	**-0.9**
JTU	**Tsushima**	**4.46**	**331**	Pn	**Pn**	**14 48 23.6**	**+0.8**
JMZ	**Minamidaito 2**	**4.84**	**188**	Pn	**Pn**	**14 48 28.1**	**0.0**
JOW	**Kunigami**	**5.00**	**222**	Pn	**Pn**	**14 48 29.8**	**-0.5**
JOW	**Kunigami**	**5.00**	**222**	Pn	**Pn**	**14 48 30.6**	**+0.3**
	11nm,0.3s,baz=104,slow=24,SNR=5.4						
JOW				Sn	**Sn**	**14 49 25.0**	**-3.0**
	9.6nm,0.3s,baz=128,slow=28,SNR=6.5						
	23nm,0.3s						
INU	**Inuyama**	**6.32**	**41**	Pn	**Pn**	**14 48 48.4**	**0.0**
JHJ	**Hachijo jima 2**	**7.07**	**67**	Pn	**Pn**	**14 48 59.8**	**+1.0**
	11nm,0.3s,baz=37,slow=16,SNR=1.2						
	38nm,0.4s						
JHJ2	**Mitsune**	**7.09**	**68**	Pn	**Pn**	**14 48 59.7**	**+0.6**
MAJO	**Matsushiro**	**7.85**	**40**	Pn	**Pn**	**14 49 08.7**	**-0.7**
MJAR	**Matsushiro Arr**	**7.85**	**40**	Pn	**Pn**	**14 49 09.8**	**+0.4**
	0.6nm,0.3s,baz=243,slow=14,SNR=14						
	2.4nm,0.3s						
MJB9	**Matsu-Tunnel**	**7.85**	**40**	Pn	**Pn**	**14 49 10.2**	**+0.8**
SONM	**Songino Array**	**26.06**	**318**	P	**P**	**14 52 49.1**	**+0.3**
	0.9nm,0.9s,baz=133,slow=10,SNR=1.1						
	0.9nm,0.9s						
FAKI	**Fak Fak**	**33.36**	**180**	P	**P**	**14 53 53.5**	**-

PALK	**Pallekele**	**53.24**	**255**	LR	LR	15 20 29.2		
	comp=Z,275nm,20.7s,baz=148,slow=38							
ASAR	**Alice Springs**	**54.02**	**178**	P	**P**	**14 56 40.2**	**+0.6**	
	1.6nm,0.8s,baz=14,slow=13,SNR=2.7							
	1.6nm,0.8s							
K20K	**Telida**	**55.94**	**32**	P	**P**	**14 56 53.9**	**+0.8**	
K20K				IAmb	IAmb	14 57 19.3		
	comp=Z,11nm,1.4s							
ABKAR	**Akbulak array**	**56.16**	**311**	P	**P**	**14 56 54.3**	**-0.5**	
RND	**Reindeer**	**58.28**	**31**	P	**P**	**14 57 09.9**	**+0.1**	
RND				IAmb	IAmb	14 57 12.2		
	comp=Z,5.3nm,1.0s							
F24K	**Squaw Lake**	**58.34**	**26**	P	**P**	**14 57 10.7**	**+0.7**	
F24K				IAmb	IAmb	14 57 35.3		
	comp=Z,6.0nm,1.4s							
H24K	**Noodor Dome**	**58.48**	**28**	P	**P**	**14 57 11.9**	**+0.9**	
H24K				IAmb	IAmb	14 57 20.0		
	comp=Z,7.5nm,1.4s							
ILAR	**Eielson Array**	**59.00**	**30**	P	**P**	**14 57 15.4**	**+0.8**	
	comp=Z,0.5nm,0.8s,baz=281,slow=5.9,SNR=4.3							
	comp=Z,0.5nm,0.8s							
SCRK	**Sand Creek**	**60.36**	**30**	P	**P**	**14 57 23.9**	**-0.2**	
SCRK				IAmb	IAmb	14 57 24.4		
	comp=Z,4.3nm,1.2s							
D27M	**Malcolm River**	**60.69**	**24**	P	**P**	**14 57 26.8**	**+0.5**	
M26K	**Nabesna, AK**	**61.08**	**32**	P	**P**	**14 57 29.7**	**+0.7**	
M26K				IAmb	IAmb	14 57 32.3		
	comp=Z,5.7nm,1.1s							
BCAR	**Beaver Creek A**	**61.50**	**31**	P	**P**	**14 57 32.2**	**+0.5**	
M27K	**Edge Creek, AK**	**61.60**	**32**	P	**P**	**14 57 33.0**	**+0.3**	
M27K				IAmb	IAmb	14 57 35.8		
	comp=Z,9.0nm,1.4s							
I28M	**Miner Creek**	**61.79**	**28**	P	**P**	**14 57 34.8**	**+1.0**	
I28M				IAmb	IAmb	14 57 52.4		
	comp=Z,7.5nm,1.4s							
STKA	**Stephens Creek**	**62.83**	**171**	P	**P**	**14 57 40.8**	**-0.1**	
STKA	**Stephens Creek**	**62.83**	**171**	P	**P**	**14 57 41.3**	**+0.4**	
	comp=Z,5.1nm,0.8s,baz=347,slow=6.8,SNR=4.9							
	comp=Z,5.1nm,0.8s							
L29M	**L29M**	**63.10**	**31**	P	**P**	**14 57 43.7**	**+1.1**	
L29M				IAmb	IAmb	14 57 55.6		
	comp=Z,4.6nm,1.0s							
I30M	**Mount Dempster**	**63.29**	**28**	P	**P**	**14 57 44.0**	**+0.1**	
I30M				IAmb	IAmb	14 57 56.8		
	comp=Z,3.0nm,0.9s							
FIA1	**FINESS Array S**	**70.67**	**331**	P	**P**	**14 58 31.2**	**+0.6**	
FINES	**FINESS Array B**	**70.67**	**331**	P	**P**	**14 58 30.8**	**+0.1**	
FINES	**FINESS Array B**	**70.67**	**331**	P	**P**	**14 58 31.3**	**+0.6**	
	comp=Z,4.5nm,1.0s,baz=51,slow=7.5,SNR=2.2							
	comp=Z,4.5nm,1.0s							
ESDC	**Sonseca Array**	**98.97**	**327**	LR	LR	15 51 22.6		
	comp=Z,276nm,18.9s,baz=37,slow=39							

*IDC **20** 15:05:41.3±1.1,28.°67N×62.°04E,h0km,mb3.7/11, mbtmp3.7/13,ML3.4/2,Error ellipse: s-maj=25.3km s-min=20.2km az=11.0*
*TEH **20** 15:05:42.4,28.°97N×62.°13E,h12km,ML3.9*
ISC 20 15:05:43.4±0.7,28.°86N±0.°05×62.°11E±0.°08,h10km,n40, σ1s28/42,mb3.8/11,Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZHDN	**Zahedan**	**1.26**	**296**	Pg	**Pn**	**15 06 04.7**	**-2.5**
ZHDN				Sg	**Sn**	**15 06 23.2**	**-1.1**
SRVN	**Saravan**	**1.48**	**170**	Pg	**Pb**	**15 06 11.5**	**+0.4**
NHDN	**Nehbandan**	**3.09**	**325**	Pn	**Pn**	**15 06 32.0**	**-0.4**
KBAM	**BAM**	**3.21**	**276**	Pn	**Pn**	**15 06 34.6**	**+0.5**
CHBR	**Chabahar**	**3.56**	**204**	Pn	**Pn**	**15 06 40.5**	**+1.7**
NGCH	**Negor - Chabah**	**3.59**	**194**	Pn	**Pn**	**15 06 40.8**	**+1.6**
KHNJ	**Kahnooj**	**3.98**	**258**	Pn	**Pn**	**15 06 46.5**	**+1.9**
BSRN	**Basiran**	**4.03**	**321**	Pn	**Pn**	**15 06 44.5**	**-0.7**
CHMN	**Cheshme madani**	**4.11**	**285**	Pn	**Pn**	**15 06 47.0**	**+0.4**
IDAH	**Dahanechah**	**4.32**	**334**	Pn	**Pn**	**15 06 48.2**	**-1.2**
IKOO	**Kooshah**	**4.45**	**324**	Pn	**Pn**	**15 06 50.4**	**-0.7**
KRM1	**Kerman Provinc**	**4.52**	**292**	Pn	**Pn**	**15 06 51.7**	**-0.4**
NGRK	**Negar Kerman**	**4.76**	**281**	Pn	**Pn**	**15 06 57.0**	**+1.4**
TVBK	**TV Kerman**	**4.80**	**285**	Pn	**Pn**	**15 06 57.5**	**+1.5**
JASK	**Jask - Hormozg**	**4.81**	**233**	Pn	**Pn**	**15 06 58.7**	**+2.8**
ITEG	**Tejag**	**4.95**	**325**	Pn	**Pn**	**15 06 57.7**	**-0.4**
SHRT	**Shahrakht**	**5.02**	**342**	Pn	**Pn**	**15 06 58.1**	**-0.7**
KHGB	**Koh Gabri**	**5.13**	**288**	Pn	**Pn**	**15 07 01.7**	**+1.2**
AFRZ	**Afriz**	**5.27**	**331**	Pn	**Pn**	**15 07 01.6**	**-0.7**
TPRV	**Parvadeh(Tabas**	**6.24**	**313**	Pn	**Pn**	**15 07 14.8**	**-0.9**
TKDS	**Koohdasht(Taba**	**6.38**	**319**	Pn	**Pn**	**15 07 17.5**	**-0.1**
WSAR	**Wadi Sarin**	**6.41**	**210**	Pn	**Pn**	**15 07 18.2**	**+0.2**
	1.3nm,0.3s,baz=73,slow=3.6,SNR=17						
WSAR				Sn	**Sn**	**15 08 27.6**	**-3.7**
	0.4nm,0.3s,baz=44,slow=20,SNR=1.9						
TBJM	**Torbat-e-JAM**	**6.56**	**347**	Pn	**Pn**	**15 07 19.4**	**-0.8**
TNSJ	**Nastanj**	**6.92**	**319**	Pn	**Pn**	**15 07 24.6**	**-0.5**
JRKH	**Jarkhoshk**	**7.18**	**349**	Pn	**Pn**	**15 07 28.6**	**0.0**
IKRD	**Kardeh**	**8.19**	**345**	Pn	**Pn**	**15 07 42.2**	**-0.4**
SBZV	**Sabzevar**	**8.41**	**334**	Pn	**Pn**	**15 07 45.9**	**+0.3**
GEYT	**Alibeck**	**9.64**	**341**	Pn	**Pn**	**15 08 02.7**	**+0.5**
	0.5nm,0.3s,baz=179,slow=16,SNR=3.9						
	2.4nm,0.8s						
AAK	**Ala-Archa**	**17.00**	**33**	P	**P**	**15 09 43.6**	**+0.3**
	0.1nm,0.3s,baz=214,slow=18,SNR=2.0						
	0.9nm,0.6s						
KBZ	**Khabaz**	**21.37**	**319**	P	**P**	**15 10 32.3**	**+1.4**
	2.1nm,0.9s,baz=118,slow=9.3,SNR=2.7						
	2.1nm,0.9s						
MKAR	**Makanchi Array**	**23.85**	**36**	P	**P**	**15 10 56.9**	**0.0**
	0.4nm,0.5s,baz=218,slow=7.8,SNR=8.3						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**24.90**	**12**	P	**P**	**15 11 07.0**	**+0.7**
	1.8nm,0.7s,baz=182,slow=7.4,SNR=6.4						
	1.8nm,0.7s						
KURBB	**Kurchatov Arra**	**25.03**	**25**	P	**P**	**15 11 08.8**	**+1.3**
	1.3nm,0.2s,baz=220,slow=9.1,SNR=5.1						
	1.3nm,0.2s						
BRTR	**Keskin Array B**	**25.80**	**302**	P	**P**	**15 11 15.6**	**+0.8**
	1.7nm,0.8s,baz=106,slow=9.1,SNR=8.4						
	1.7nm,0.8s						
AKASG	**Malin Array Be**	**32.96**	**321**	P	**P**	**15 12 17.8**	**-0.3**
	0.7nm,0.6s,baz=123,slow=8.1,SNR=2.5						
	0.7nm,0.6s						
FINES	**FINESS Array B**	**40.36**	**334**	P	**P**	**15 13 22.8**	**+1.7**
	3.4nm,1.0s,baz=130,slow=7.6,SNR=2.1						
	3.4nm,1.0s						
KSRS	**Korea Array**	**54.78**	**63**	P	**P**	**15 15 14.1**	**+0.7**
	0.8nm,0.7s,baz=275,slow=8.0,SNR=3.2						
	0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**57.97**	**268**	P	**P**	**15 15 34.3**	**-2.2**
	0.3nm,0.4s,baz=59,slow=6.8,SNR=7.3						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**84.89**	**116**	P	**P**	**15 18 18.6**	**-0.3**
	0.3nm,0.8s,baz=322,slow=4.2,SNR=1.5						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**86.58**	**119**	P	**P**	**15 18 27.0**	**-0.3**
	0.3nm,0.8s,baz=301,slow=5.1,SNR=6.1						
	0.3nm,0.8s						

*ATH **20** 15:31:56.4,39.°61N×20.°45E,h18km±1km,ML1.7/4,Error ellipse: s-maj=2.1km s-min=1.1km az=316.0*
*TIR **20** 15:31:56.1,39.°63N×20.°48E,h0km±3km,Md2.5,MI1.8*
ISC 20 15:31:56.5±0.9,39.°60N±0.°03×20.°47E±0.°03,h12km±7km, n12,σ0s90/22,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.13**	**237**	P	**Pg**	**15 31 59.7**	**0.0**
	baz=231						
IGT				S	**Sg**	**15 32 02.3**	**+0.2**
	baz=231						
IGT				AMP			
	comp=E,1.5nm,0.1s,baz=231						
IGT	**Igoumenitsa**	**0.13**	**237**	P	**Pg**	**15 31 59.7**	**0.0**
IGT				S	**Sg**	**15 32 02.4**	**+0.3**
IGT				AML	AML	15 32 04.8	
	comp=E,687μm,0.2s						
IGT				AML	AML	15 32 05.4	
	comp=N,701μm,0.2s						
JAN	**Janina**	**0.30**	**79**	P	**Pb**	**15 32 03.2**	**-0.6**
JAN				S	**Sb**	**15 32 07.9**	**-0.7**
JAN				AML	AML	15 32 08.8	
	comp=N,1125μm,0.2s						
JAN				AML	AML	15 32 09.0	
	comp=E,733μm,0.2s						
SRN	**Sarande**	**0.46**	**308**	P	**Pb**	**15 32 05.7**	**-0.7**
	baz=305						
SRN				S	**Sb**	**15 32 13.9**	**+0.7**
	baz=305						
KEK	**Kerkira**	**0.53**	**282**	P	**Pg**	**15 32 06.1**	**-0.8**
KEK				S	**Sb**	**15 32 14.6**	**-0.8**
KEK				AML	AML	15 32 18.6	
	comp=N,146μm,0.3s						
KEK				AML	AML	15 32 19.4	
	comp=E,186μm,0.4s						
LSK	**Leskovik**	**0.56**	**10**	P	**Pb**	**15 32 07.8**	**-0.4**
	baz=9.0						
LSK				S	**Sb**	**15 32 15.4**	**-0.8**
	baz=9.0						
KPRO	**Kipourio**	**0.77**	**63**	P	**Pg**	**15 32 10.4**	**-1.0**
KPRO				S	**Sg**	**15 32 21.5**	**-0.2**
KPRO				AML	AML	15 32 23.4	
	comp=N,96μm,0.5s						
KPRO				AML	AML	15 32 23.6	
	comp=E,105μm,0.4s						
TSLK	**Tsoukalades, L**	**0.79**	**170**	P	**Pg**	**15 32 10.8**	**-1.0**
LKD2	**Lefkada island**	**0.82**	**170**	P	**Pb**	**15 32 12.9**	**+0.2**
LKD2	baz=170			S	**Sn**	**15 32 27.4**	**+1.4**
LKD2	baz=170			AMP			
	comp=N,0.1nm,0.3s,baz=170						
LKD2	**Lefkada island**	**0.82**	**170**	P	**Pg**	**15 32 12.2**	**-0.2**
LKD2				S	**Sg**	**15 32 23.8**	**+0.6**
NEST	**Nestorio**	**0.93**	**28**	P	**Pg**	**15 32 13.8**	**-0.6**
FNA	**Florina**	**1.37**	**30**	P	**Pg**	**15 32 23.8**	**+1.0**
	baz=30						
FNA				S	**Sg**	**15 32 42.8**	**+2.2**
	baz=30						

IDC 20 15:34:06.0±728.0,52.°62N×33.°79E,h0km,Error ellipse: s-maj=302.8km s-min=101.0km az=31.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**4.56**	**24**	I	I	15 59 10.0	
	baz=206,slow=316,SNR=1.7						
I31KZ	**AKTYUBINSK INF**	**15.24**	**89**	I	I	17 05 40.0	
	baz=287,slow=331,SNR=1.7						
I46RU	**ZALESOVO INFRA**	**30.00**	**67**	I	I	18 41 30.0	
	baz=285,slow=312						

*BJI **20** 15:39:47.8,30.°37N×132.°32E,h10km,mb4.5/60,mB4.9/32, Ms4.6/57,Ms7.4/55*
*IDC **20** 15:39:51.8±0.5,30.°65N×131.°93E,h0km,mb4.5/26, mbtmp4.5/33,ML3.6/7,MS4.3/31,Error ellipse: s-maj=15.1km s-min=11.2km az=74.0*
*BGR **20** 15:39:53.2,30.°93N×133.°94E,h31km±1km,mb5.1,Ms4.7*
*MOS **20** 15:39:53.2±1.1,30.°65N×131.°92E,h21km,mb5.0/32, MS4.2/7,Error ellipse: s-maj=9.0km s-min=5.1km az=105.7*
*NEIC **20** 15:39:53.5±0.9,30.°67N±0.°05×131.°89E±0.°08,h10km±1km, mb5.0/153,Error ellipse: s-maj=11.9km s-min=9.0km az=104.0*
*NIED **20** 15:39:54.1,30.°64N×132.°10E,h53km,MW4.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.55; $M_{\theta\theta}$0.68; $M_{\phi\phi}$0.87; $M_{r\theta}$0.87; $M_{\theta\phi}$0.31; $M_{r\phi}$0.70; Fault plane solution: $M_0$1.73000×10^{16} NP1: ϕ_s225.00000°,δ65.00000°,λ-85.00000°. NP2:ϕ_s35.00000°, δ25.00000°,λ-100.00000°.*
*JMA **20** 15:39:54.1±0.1,30.°6N±0.°4×132.°1E±0.°8,h53km±3km, MD4.2/39,MW4.8/39,E OFF TANEGASHIMA ISLAND*
ISC 20 15:39:55.9±0.6,30.°63N±0.°03×131.°98E±0.°04,h30km±4km, h30km:pP-P,n609,σ1s31/586,mb4.9/172,MS4.4/45, 22C-10D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.86**	**272**	*e*P	**Pn**	**15 40 11.6**	**-0.5**
JTN				S	**Sb**	**15 40 24.9**	**+1.3**
JTN	**Tanegashima 3**	**0.86**	**272**	A	A	15 40 11.6	
	comp=E,30nm,1.1s,comp=N,14nm,1.7s						
JMTN	**Minamitane**	**0.96**	**256**	*e*P	**Pn**	**15 40 13.1**	**-0.3**
JMTN				S	**Sb**	**15 40 27.6**	**+1.3**
JMTN	**Minamitane**	**0.96**	**256**	A	A	15 40 13.1	
	comp=E,17nm,1.5s,comp=N,14nm,3.3s						
JTSR	**Tashiro 2**	**1.05**	**301**	P	**Pn**	**15 40 13.8**	**-0.9**
JTSR				S	**Sn**	**15 40 27.7**	**-0.7**
JTSR	**Tashiro 2**	**1.05**	**301**	A	A	15 40 13.8	
	comp=E,10.0nm,2.3s,comp=N,11nm,2.0s						
JNAR	**Kushima--Naru**	**1.08**	**326**	*i* P	**Pn**	**15 40 14.2**	**-0.9**
JNAR				S	**Sn**	**15 40 28.4**	**-0.6**
JNAR	**Kushima--Naru**	**1.08**	**326**	A	A	15 40 14.2	
	comp=E,13nm,2.5s,comp=N,12nm,3.5s						
JNKG	**Nichinankitago**	**1.15**	**334**	P	**Pn**	**15 40 14.9**	**-1.1**
JNKG				S	**Sn**	**15 40 29.9**	**-0.9**
JYAK	**Yakushimahirau**	**1.33**	**253**	P	**Pn**	**15 40 18.3**	**-0.1**
JYAK				S	**Sb**	**15 40 36.6**	**-0.2**
JYAK	**Yakushimahirau**	**1.33**	**253**	A	A	15 40 18.3	
	comp=E,8.0nm,2.9s,comp=N,6.0nm,4.1s						
JTZ	**Takazaki**	**1.48**	**329**	*i* P	**Pn**	**15 40 19.6**	**-1.0**
JTZ				*i* S	**Sn**	**15 40 38.5**	**-0.4**
JKC	**Kuchinoerabu**	**1.55**	**264**	*i* P	**Pn**	**15 40 21.4**	**0.0**
JKC				S	**Sn**	**15 40 42.2**	**+1.8**
JKC	**Kuchinoerabu**	**1.55**	**264**	A	A	15 40 21.4	
	comp=E,5.0nm,4.1s,comp=N,7.0nm,3.7s						
JSU	**Suzuyama**	**1.57**	**304**	P	**Pn**	**15 40 21.4**	**-0.4**
JSU				S	**Sn**	**15 40 41.6**	**+0.4**
JSU	**Suzuyama**	**1.57**	**304**	A	A	15 40 21.4	
	comp=E,4.0nm,4.0s,comp=N,7.0nm,1.0s						
JTSN	**Tsuno**	**1.66**	**346**	P	**Pn**	**15 40 21.9**	**-1.2**
JTSN				S	**Sn**	**15 40 43.0**	**-0.4**
JTSN	**Tsuno**	**1.66**	**346**	A	A	15 40 21.9	
	comp=E,5.0nm,1.0s,comp=N,3.0nm,1.8s						
JZO	**Okuchi**	**1.92**	**322**	P	**Pn**	**15 40 26.0**	**-0.6**
JZO				S	**Sn**	**15 40 49.7**	**+0.1**
JNN	**Nakanoshima**	**1.98**	**247**	P	**Pn**	**15 40 27.6**	**+0.2**
JNN	**Nakanoshima**	**1.98**	**247**	A	A	15 40 27.6	
	comp=E,7.0nm,2.7s,comp=N,7.0nm,2.9s						
JIU3	**Izumi3**	**2.16**	**333**	P	**Pn**	**15 40 29.4**	**-0.5**
JTO	**Tosashimizu**	**2.33**	**17**	P	**Pn**	**15 40 29.6**	**-2.7**
JTO				S	**Sn**	**15 40 54.1**	**-5.8**
JNU	**Nakatsue**	**2.66**	**340**	Pn	**Pn**	**15 40 35.0**	**-1.8**
JNU	**Nakatsue**	**2.66**	**340**	Pn	**Pn**	**15 40 36.2**	**-0.6**
	comp=N,17nm,0.3s,baz=266,slow=2.4,SNR=80						
JNU				Sn	**Sn**	**15 41 08.8**	**+0.8**
	comp=N,17nm,0.3s,baz=45,slow=19,SNR=6.3						
	comp=N,163nm,0.7s						
JMN	**Monobe**	**3.49**	**27**	Pn	**Pn**	**15 40 46.1**	**-2.0**
JTU	**Tsushima**	**4.46**	**331**	Pn	**Pn**	**15 40 60.0**	**-1.5**
JMZ	**Minamidaito 2**	**4.83**	**188**	Pn	**Pn**	**15 41 06.3**	**-0.4**
JOW	**Kunigami**	**4.99**	**222**	Pn	**Pn**	**15 41 06.7**	**-2.1**
JOW	**Kunigami**	**4.99**	**222**	Pn	**Pn**	**15 41 07.9**	**-0.9**
	comp=N,7.8nm,0.3s,baz=93,slow=21,SNR=21						
JOW				Sn	**Sn**	**15 42 03.2**	**-2.2**
	comp=N,10nm,0.3s,baz=165,slow=23,SNR=6.9						
	comp=N,26nm,0.5s						
INU	**Inuyama**	**6.33**	**41**		**Pn**	**15 41 26.7**	**-0.5**
TJN	**Taejon**	**6.91**	**327**	Pn	**Pn**	**15 41 36.2**	**+1.1**
TJN	**Taejon**	**6.91**	**327**	*e*P	**Pn**	**15 41 35.8**	**+0.7**
JHJ	**Hachijo jima 2**	**7.09**	**67**	Pn	**Pn**	**15 41 37.9**	**+0.2**
	comp=N,8.1nm,0.3s,baz=98,slow=5.5,SNR=1.9						
	comp=N,175nm,0.9s						
KSRS	**Korea Array**	**7.59**	**335**	Pn	**Pn**	**15 41 45.1**	**+0.6**
	comp=N,0.3nm,0.3s,baz=153,slow=14,SNR=15						
	comp=N,5.7nm,0.8s						
KS19	**Wonju Array Si**	**7.66**	**335**	Pn	**Pn**	**15 41 43.8**	**-1.6**
MAJO	**Matsushiro**	**7.86**	**40**	Pn	**Pn**	**15 41 48.0**	**-0.3**
MAJO	**Matsushiro**	**7.86**	**40**	*ce*P	**Pn**	**15 41 47.8**	**-0.4**
MJAR	**Matsushiro Arr**	**7.86**	**40**	Pn	**Pn**	**15 41 48.2**	**0.0**
	comp=N,1.1nm,0.3s,baz=242,slow=14,SNR=57						
	comp=N,5.6nm,0.4s						
MJB9	**Matsu-Tunnel**	**7.86**	**40**	Pn	**Pn**	**15 41 48.8**	**+0.5**
SSE	**Sheshan**	**9.29**	**276**	P	**Pn**	**15 42 06.6**	**-1.2**
SSE				S	**Sn**	**15 43 49.3**	**-1.9**
SSE				pmax	pmax		
	comp=N,13nm,0.8s						
SSE				pmax	pmax		
	comp=N,120nm,4.7s						
SSE				LR	LR		
	comp=N,540nm,15.5s						
SSE				LR	LR		
	comp=N,430nm,15.7s						
JMM	**Marumori**	**10.26**	**43**	Pn	**Pn**	**15 42 20.0**	**-1.0**
DL2	**Dalian**	**11.85**	**317**	P	**Pn**	**15 42 43.8**	**+1.0**
DL2				S	**Sn**	**15 44 55.4**	**+1.4**
DL2				pmax	pmax		
	comp=N,25nm,1.4s						
DL2				pmax	pmax		
	comp=N,170nm,6.0s						
DL2				LR	LR		
	comp=N,2μm,17.5s						
DL2				LR	LR		
	comp=N,770nm,17.2s						
DL2				LR	LR		
	comp=N,1μm,14.1s						
USA0B	**Ussuriysk Arra**	**13.55**	**0**	Pn	**Pn**	**15 43 03.8**	**-2.2**
USA0B	**Ussuriysk Arra**	**13.55**	**0**	P	**Pn**	**15 43 03.8**	**-2.2**
USRK	**Ussuriysk Ar.**	**13.55**	**0**	Pn	**Pn**	**15 43 03.8**	**-2.2**
USRK	**Ussuriysk Ar.**	**13.55**	**0**	P	**Pn**	**15 43 03.8**	**-2.2**
USRK	**Ussuriysk Ar.**	**13.55**	**0**	Pn	**Pn**	**15 43 06.8**	**+0.8**
	comp=N,0.1nm,0.3s,baz=188,slow=14,SNR=4.2						
USRK				LR	LR	15 48 27.8	
	comp=N,578nm,20.5s,baz=178,slow=38						
	comp=N,2.3nm,0.8s						
TIA	**Tai'an**	**13.60**	**298**	P	**P**	**15 43 16.4**	**+1.1**
TIA				S	S	15 46 52.3	+53
TIA				pmax	pmax		
	comp=Z,14nm,0.8s						
TIA				pmax	pmax		
	comp=Z,210nm,4.1s						
TIA				LR	LR		
	comp=N,1μm,14.7s						
TIA				LR	LR		
	comp=E,970nm,11.6s						
TIA				LR	LR		
	comp=Z,2μm,11.8s						
MDJ	**Mudanjiang**	**14.09**	**353**	P	**Pn**	**15 43 15.0**	**+1.6**
MDJ				S	**Sn**	**15 45 46.6**	**-2.1**
MDJ				ScP	**ScP**	**15 51 59.8**	**-3.6**
MDJ				PcS	**PcS**	**15 52 04.6**	**-2.1**
MDJ				ScS	**ScS**	**15 55 39.8**	**-0.8**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,160nm,6.9s						
MDJ				LR	LR		
	comp=Z,970nm,11.7s						
MDJ				LR	LR		
	comp=Z,660nm,14.5s						
MDJ				LR	LR		
	comp=Z,810nm,11.5s						
BNX	**BinXian**	**15.51**	**348**	⇑P	**P**	**15 43 37.3**	**+0.8**
BNX				pmax	pmax		
	comp=Z,15nm,0.9s						
BNX				pmax	pmax		
	comp=Z,130nm,5.6s						
HNS	**HongShan**	**15.82**	**300**	⇑P	**P**	**15 43 39.3**	**-0.7**
HNS				S	**S**	**15 46 38.4**	**-6.3**
HNS				pmax	pmax		
	comp=Z,44nm,0.9s						
HNS				LR	LR		
	comp=Z,1μm,18.8s						
HNS				LR	LR		
	comp=Z,410nm,19.8s						
HNS				LR	LR		
	comp=Z,700nm,20.4s						
BJT	**Baijiatuan**	**15.93**	**310**	P	**P**	**15 43 41.7**	**+0.6**
BJT	**Baijiatuan**	**15.93**	**310**	P	**P**	**15 43 41.7**	**+0.6**
BJT				pmax	pmax		
	comp=Z,26nm,0.9s						
BJI	**Beijing**	**15.93**	**310**	Pn	**P**	**15 43 42.4**	**+1.2**
BJI				Pn	**pwP**	**15 43 50.6**	**-0.4**
BJI				LR	LR		
	comp=N,540nm,15.3s						
BJI				LR	LR		
	comp=E,460nm,17.2s						
BJI				LR	LR		
	comp=Z,720nm,12.2s						
LYN	**LuoYang**	**16.90**	**289**	⇓P	**P**	**15 43 54.4**	**+2.4**
LYN				pmax	pmax		
	comp=Z,19nm,0.8s						
LYN				LR	LR		
	comp=Z,2μm,16.5s						
LYN				LR	LR		
	comp=Z,2μm,18.7s						
LYN				LR	LR		
	comp=Z,2μm,16.3s						
YSS	**Yuzh-Sakhalins**	**18.31**	**24**	*e*P	**P**	**15 44 03.4**	**-4.0**
YSS				MLR	MLR		
	comp=Z,900nm,12.0s						
YSS				MLR	MLR		
	comp=N,700nm,11.0s						
KLR	**Kul'dur**	**18.58**	**360**	*d* iP	**Pn**	**15 44 11.0**	**+0.2**
KLR				pmax	pmax		
	comp=Z,33nm,1.3s						
KLR	**Kul'dur**	**18.58**	**360**	P	**P**	**15 44 10.1**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=175,slow=6.5,SNR=42						
KLR				LR	LR	15 51 15.9	
	comp=Z,359nm,21.6s,baz=182,slow=37						
	comp=Z,13nm,0.8s						
ENH	**Enshi**	**19.39**	**275**	P	**P**	**15 44 18.5**	**-1.0**
HHC	**Hu-ho-hao-te**	**19.42**	**307**	*e*P	**Pn**	**15 44 21.6**	**+0.5**
HHC				S	**S**	**15 47 52.3**	**-5.4**
HHC				pmax	pmax		
	comp=Z,52nm,0.6s						
HHC				pmax	pmax		
	comp=Z,520nm,6.3s						
HHC				LR	LR		
	comp=Z,2μm,11.5s						
HHC				LR	LR		
	comp=Z,1μm,11.5s						
HHC				LR	LR		
	comp=Z,3μm,12.4s						
XAN	**Xi'an**	**19.77**	**286**	⇑P	**P**	**15 44 24.0**	**+0.4**
XAN				pP	pP	15 44 29.4	-1.8
XAN				pmax	pmax		
	comp=Z,37nm,1.4s						
XAN				pmax	pmax		
	comp=Z,400nm,5.5s						
XAN				LR	LR		
	comp=Z,2μm,12.2s						
XAN				LR	LR		
	comp=Z,2μm,12.2s						
XAN				LR	LR		
	comp=Z,2μm,12.7s						
HEH	**HeiHe**	**19.90**	**351**	*e*P	**P**	**15 44 25.6**	**+0.7**
HEH				pP	**Pn**	**15 44 29.6**	**+3.0**
HEH				S	**Sn**	**15 48 12.3**	**+2.9**
HEH				pmax	pmax		
	comp=Z,31nm,1.3s						
HEH				pmax	pmax		
	comp=Z,240nm,5.1s						
HEH				LR	L

ZEA pmax pmax
comp=Z,20nm,0.7s
ZEA MLR MLR
comp=N,300nm,11.0s
ZEA MLR MLR
comp=Z,300nm,12.0s
LZH Lanzhou 24.08 291 ⇑P **P** **15 45 08.6 -0.3**
LZH sP pP 15 45 18.3 +1.2
LZH pmax pmax
comp=Z,23nm,1.5s
LZH pmax pmax
comp=Z,250nm,5.5s
LZH LR LR
comp=Z,740nm,15.1s
LZH LR LR
comp=Z,710nm,14.4s
LZH LR LR
comp=Z,960nm,13.7s
CD2 Chengdu 24.23 278 P **P** **15 45 09.4 -0.8**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 LR LR
comp=Z,1μm,12.7s
CD2 LR LR
comp=Z,1μm,11.4s
CD2 LR LR
comp=Z,2μm,11.6s
ULN Ulaanbaatar 25.69 319 P **P** **15 45 22.4 -1.0**
ULN IAmb IAmb 15 45 24.6
comp=Z,24nm,1.0s
ULN Ulaanbaatar 25.69 319*c i* P **P** **15 45 23.0 -0.4**
ULN pmax pmax
comp=Z,25nm,1.0s
SONM Songino Array 26.05 319 P **P** **15 45 24.8 -1.8**
SONM Songino Array 26.05 319 P **P** **15 45 24.8 -1.8**
SONM pmax pmax
comp=Z,12nm,1.4s
SONM Songino Array 26.05 319 P **P** **15 45 26.1 -0.5**
comp=Z,4.3nm,0.8s,baz=136,slow=9.1,SNR=20
SONM LR LR 15 57 19.0
comp=Z,1μm,20.4s,baz=122,slow=40
comp=Z,4.3nm,0.8s
KMI Kunming 26.38 265 ⇓P **P** **15 45 30.8 +0.8**
KMI pP pwP 15 45 40.1 -0.5
KMI pmax pmax
comp=Z,14nm,0.9s
KMI LR LR
comp=Z,700nm,11.1s
KMI LR LR
comp=Z,770nm,11.2s
KMI LR LR
comp=Z,700nm,14.8s
PZH PanZhiHua 26.83 269 P **P** **15 45 34.8 +0.9**
PZH S **S** **15 50 05.4 -3.1**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,250nm,5.3s
PZH LR LR
comp=Z,490nm,11.8s
PZH LR LR
comp=Z,350nm,10.5s
PZH LR LR
comp=Z,430nm,13.2s
SKR Severo-Kuril's 26.93 35⇑*eP* **P** **15 45 36.2 +1.8**
GTA Gaotai 27.64 297 ⇑P **P** **15 45 40.3 -0.8**
GTA pP pP 15 45 46.1 -3.3
GTA pmax pmax
comp=Z,5.0nm,0.7s
GTA LR LR
comp=Z,570nm,16.4s
GTA LR LR
comp=Z,680nm,14.5s
GTA LR LR
comp=Z,1μm,14.9s
PETK Petropavlovsk- 29.24 32 P **P** **15 45 55.3 +0.3**
comp=Z,7.9nm,1.0s,baz=230,slow=3.7,SNR=4.1
PETK LR LR 15 59 13.4
comp=Z,315nm,18.7s,baz=243,slow=40
comp=Z,7.9nm,1.0s
PET Petropavlovsk 29.63 33⇓*eP* **P** **15 45 57.5 -0.9**
PET pmax pmax
comp=Z,32nm,1.1s
TNCH TengChong 30.04 268 P **P** **15 46 01.1 -1.5**
TNCH S **S** **15 51 00.5 +1.3**
TNCH pmax pmax
comp=Z,8.0nm,1.6s
TNCH pmax pmax
comp=Z,130nm,6.6s
TNCH LR LR
comp=Z,450nm,10.6s
TNCH LR LR
comp=Z,440nm,14.6s
TNCH LR LR
comp=Z,470nm,24.6s
CRAI Chiangrai 30.27 257 P **P** **15 46 04.4 0.0**
GOMU GeErMu 31.38 290 P **P** **15 46 13.8 -0.8**
GOMU PcP **PcP** **15 49 09.1 +1.3**
GOMU pmax pmax
comp=Z,3.0nm,1.0s
GOMU LR LR
comp=Z,190nm,16.8s
GOMU LR LR
comp=Z,330nm,17.0s
GOMU LR LR
comp=Z,470nm,17.1s
YAK Yakutsk 31.45 358 P **P** **15 46 13.3 -1.0**
YAK IAmb IAmb 15 46 24.3
comp=Z,21nm,0.9s
YAK Yakutsk 31.45 358 *eP* **P** **15 46 14.3 -0.1**
YAK *e* 15 47 13.1
YAK *e* 15 49 06.7
YAK *eS* **S** **15 51 24.1 +4.0**
YAK *eSS* **SnSn** **15 53 06.1 +0.4**
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,98nm,3.3s
YAK pmax pmax
comp=N,88nm,3.4s
YAK smax smax
comp=E,67nm,2.5s
YAK smax smax
comp=N,41nm,2.8s
YAK MLR MLR
comp=Z,336nm,16.0s
YAK MLR MLR
comp=N,298nm,17.0s
YAK Yakutsk 31.45 358 LR LR 16 00 21.6
comp=N,14nm,20.0s,baz=132,slow=39
MA2 Magadan 31.61 18⇓*eP* **P** **15 46 16.9 +1.1**
MA2 pmax pmax
comp=Z,43nm,2.5s
MA2 Magadan 31.61 18 LR LR 16 01 04.6
comp=Z,272nm,18.6s,baz=206,slow=40
CHTO Chiang Mai 32.11 256 P **P** **15 46 20.5 -0.2**
CHTO IAmb IAmb 15 46 22.5
comp=Z,14nm,0.9s
CHTO Chiang Mai 32.11 256 P **P** **15 46 20.5 -0.2**
CHTO pmax pmax
comp=Z,14nm,0.9s
CM31 Chiang Mai Arr 32.28 256 P **P** **15 46 21.0 -1.2**
CMAR Chiang Mai Arr 32.28 256 P **P** **15 46 22.0 -0.2**
CMAR Chiang Mai Arr 32.28 256 *i* P **P** **15 46 20.7 -1.5**
CMAR Chiang Mai Arr 32.28 256 P **P** **15 46 22.9 +0.7**
comp=Z,3.9nm,0.9s,baz=53,slow=8.3,SNR=4.6
CMAR PcP **PcP** **15 49 11.4 +1.4**
comp=Z,1.0nm,0.7s,baz=304,slow=0.8,SNR=5.2
CMAR LR LR 16 01 59.2
comp=Z,247nm,18.4s,baz=55,slow=41
comp=Z,3.9nm,0.9s
H11N2 WAKE ISLAND Hy 33.29 101 T T 16 21 36.7
baz=296,slow=74,SNR=23
H11N1 WAKE ISLAND Hy 33.29 101 T T 16 21 36.9
baz=296,slow=74,SNR=15
H11N3 WAKE ISLAND Hy 33.30 101 T T 16 21 38.0
baz=296,slow=74,SNR=18
FAKI Fak Fak 33.36 180 P **P** **15 46 31.8 +0.2**
SEY Seymchan 34.88 16 LR LR 16 01 39.5
comp=Z,200nm,20.6s,baz=206,slow=38
WMQ Urumqi 37.21 303 *eP* **P** **15 47 03.1 -1.5**
WMQ pP pP 15 47 10.3 -2.6
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ LR LR
comp=Z,320nm,17.9s
WMQ LR LR
comp=Z,630nm,13.1s
WMQ LR LR
comp=Z,430nm,18.7s
DGZ Jazzator, Alta 38.33 313⇑*eP* **P** **15 47 13.6 -0.5**
DGZ pmax pmax
comp=Z,2.0nm,0.8s
GUN Gumba 40.09 278 *eP* **P** **15 47 29.1 -0.2**
comp=Z,26nm,0.8s
MMRI Maumere 40.14 195 P **P** **15 47 28.9 -0.4**
MMRI IAmb IAmb 15 47 30.8
comp=Z,39nm,0.9s
PKI Pulchoki 40.58 278 *eP* **P** **15 47 32.1 -1.3**
SOEI Soe 40.83 192 P **P** **15 47 33.8 -1.3**
SOEI IAmb IAmb 15 47 48.6
comp=Z,31nm,1.1s
ZALV Zalesovo Beam 40.95 319 *i* P **P** **15 47 35.2 -0.4**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 40.95 319 P **P** **15 47 35.0 -0.6**
comp=Z,0.6nm,0.5s,baz=97,slow=9.3,SNR=4.1
ZALV PcP **PcP** **15 49 35.8 +0.4**
comp=Z,2.4nm,0.8s,baz=94,slow=4.9,SNR=6.9
ZALV LR LR 16 06 10.3
comp=Z,589nm,19.5s,baz=106,slow=39
comp=Z,0.6nm,0.5s
TIXI Tiksi 41.11 359 P **P** **15 47 36.5 -0.2**
TIXI IAmb IAmb 15 47 47.9
comp=Z,41nm,1.6s
TIXI Tiksi 41.11 359*ce* P **P** **15 47 37.2 +0.5**
TIXI Tiksi 41.11 359 LR LR 16 06 38.9
comp=Z,25nm,19.1s,baz=193,slow=39
MK31 Makanchi Array 41.28 307 P **P** **15 47 37.5 -1.0**
MK31 Makanchi Array 41.28 307*ce* P **P** **15 47 37.8 -0.7**
MKAR Makanchi Array 41.28 307 P **P** **15 47 37.5 -1.0**
MKAR Makanchi Array 41.28 307 P **P** **15 47 38.0 -0.5**
comp=Z,3.6nm,0.9s,baz=95,slow=9.7,SNR=19
MKAR PcP **PcP** **15 49 37.1 +0.3**
comp=Z,2.1nm,0.9s,baz=90,slow=4.9,SNR=5.0
MKAR LR LR 16 06 47.2
comp=Z,400nm,18.4s,baz=105,slow=39
comp=Z,3.6nm,0.9s
DANN Dangsing 41.78 279 *eP* **P** **15 47 42.4 -0.8**
comp=Z,12nm,0.7s
BILL Bilibino 42.48 18 P **P** **15 47 48.6 +0.7**
BILL Bilibino 42.48 18⇑*eP* **P** **15 47 50.0 +2.1**
PYUN Piuthan 42.50 279 *eP* **P** **15 47 49.0 +0.1**
comp=Z,28nm,1.1s
MTN Manton Dam 43.23 181 P **P** **15 47 54.3 -0.2**
KURK Kurchatov 44.08 313 P **P** **15 47 59.8 -1.3**
KURK IAmb IAmb 15 48 01.2
comp=Z,14nm,0.8s
KURK Kurchatov 44.08 313*c i* P **P** **15 48 00.4 -0.7**
KURK pmax pmax
comp=Z,18nm,1.3s
KURBB Kurchatov Arra 44.13 313 P **P** **15 48 01.1 -0.4**
comp=Z,9.1nm,0.8s,baz=97,slow=8.7,SNR=24
KURBB LR LR 16 08 37.6
comp=Z,764nm,19.8s,baz=153,slow=39
comp=Z,9.1nm,0.8s
TARG Taragay, Kyrgy 44.45 300 P **P** **15 48 04.1 -0.6**
TARG Taragay, Kyrgy 44.45 300 P **P** **15 48 04.1 -0.6**
TARG pmax pmax
comp=Z,6.0nm,0.9s
KSH Kashi 46.05 297 P **P** **15 48 20.6 +3.5**
KSH pmax pmax
comp=Z,3.0nm,0.6s
KSH LR LR
comp=Z,520nm,15.8s
KSH LR LR
comp=Z,600nm,17.2s
KSH LR LR
comp=Z,470nm,13.7s
KNRA Kununurra 46.14 184 P **P** **15 48 17.6 -0.1**
AAK Ala-Archa 46.84 301⇑*eP* **P** **15 48 23.4 +0.1**
AAK pmax pmax
comp=Z,9.0nm,2.5s
AAK Ala-Archa 46.84 301 LR LR 16 11 33.1
comp=Z,409nm,19.1s,baz=96,slow=41
ARSB Arslanbob 48.10 300 P **P** **15 48 32.5 -0.6**
ARSB Arslanbob 48.10 300 P **P** **15 48 32.5 -0.6**
ARSB pmax pmax
comp=Z,6.0nm,1.6s
FITZ Fitzroy Crossi 48.83 188 P **P** **15 48 38.6 0.0**
NIL Nilore 49.24 290 P **P** **15 48 40.6 -1.2**
NIL Nilore 49.24 290 P **P** **15 48 40.6 -1.2**
NIL pmax pmax
comp=Z,58nm,1.9s
BVAR Borovoye Array 49.33 316 P **P** **15 48 42.0 -0.2**
comp=Z,5.6nm,0.8s,baz=96,slow=9.4,SNR=22
BVAR PcP **PcP** **15 50 04.8 +0.3**
comp=Z,2.9nm,0.7s,baz=104,slow=3.4,SNR=5.6
comp=Z,5.6nm,0.8s
BRVK Borovoye 49.39 316 P **P** **15 48 42.0 -0.7**
BRVK Borovoye 49.39 316*ce* P **P** **15 48 42.6 0.0**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
KK31 Karatay Array 49.71 302 P **P** **15 48 44.8 -0.4**
KK31 IAmb IAmb 15 49 11.1
comp=Z,14nm,1.3s
KK31 Karatay Array 49.71 302 P **P** **15 48 44.8 -0.4**
KK31 pmax pmax
comp=Z,14nm,1.3s
KKAR Karatay Array 49.71 302 P **P** **15 48 44.4 -0.8**
KKAR IAmb IAmb 15 49 11.1
comp=Z,14nm,1.3s
KKAR Karatay Array 49.71 302 P **P** **15 48 44.7 -0.5**
KKAR Karatay Array 49.71 302 P **P** **15 48 44.7 -0.5**
KKAR pmax pmax
comp=Z,14nm,1.3s
HYB Hyderabad 50.12 268 *eP* **P** **15 48 48.4 -0.3**
HYB *es*P **pP** **15 48 52.7 -4.5**
WB0 Warramunga Arr 50.16 177 P **P** **15 48 47.7 -1.0**
WRAB Tennant Creek 50.32 177 P **P** **15 48 48.7 -1.3**
WRAB Tennant Creek 50.32 177 P **P** **15 48 48.7 -1.3**
WRAB pmax pmax
comp=Z,8.0nm,1.0s
WRA Warramunga Arr 50.33 177 P **P** **15 48 48.3 -1.7**
WRA Warramunga Arr 50.33 177 P **P** **15 48 50.4 +0.3**
comp=Z,4.5nm,0.8s,baz=353,slow=8.2,SNR=31
comp=Z,4.5nm,0.8s
WR0 Warramunga Arr 50.35 177 P **P** **15 48 50.0 -0.2**
WR0 IAmb IAmb 15 48 51.7
comp=Z,14nm,0.9s
F14K Arctic Creek 50.86 28 P **P** **15 48 54.1 +0.5**
baz=258
CHGR Chuyangaron 51.42 297 P **P** **15 48 56.4 -1.9**
CHGR IAmb IAmb 15 50 14.2
comp=Z,12nm,0.9s
CHGR Chuyangaron 51.42 297 P **P** **15 48 56.4 -1.9**
CHGR pmax pmax
comp=Z,12nm,0.9s
L14K Kuka Creek 51.87 34 P **P** **15 49 02.0 +0.8**
baz=265
M14K Bethel 52.17 35 P **P** **15 49 03.8 +0.4**
baz=266
N14K Kuskokwak Cree 52.25 36 P **P** **15 49 04.6 +0.6**
baz=267
KBL Kabul 52.42 292 P **P** **15 49 05.4 -0.6**
KBL IAmb IAmb 15 49 32.2
comp=Z,28nm,1.8s
KBL Kabul 52.42 292 P **P** **15 49 05.4 -0.6**
KBL pmax pmax
comp=Z,28nm,1.8s
H16K Elim 52.43 30 P **P** **15 49 04.8 -0.4**
baz=263
O14K Tigyukauivet M 52.44 37 P **P** **15 49 05.3 -0.1**
baz=268
K15K Wolf Creek Mou 52.49 33 P **P** **15 49 05.6 -0.2**
baz=265
C17K DeLong Mountai 52.67 25 P **P** **15 49 07.4 +0.3**
baz=259
RDOG Red Dog Mine 52.69 25 P **P** **15 49 07.7 +0.5**
baz=260
M15K Kasigluk River 52.79 35 P **P** **15 49 08.6 +0.6**
baz=267
J16K Anvik River 53.00 32 P **P** **15 49 10.1 +0.6**
baz=265
I17K Unalakleet 53.02 31 P **P** **15 49 10.5 +0.9**
baz=265
N15K Kwethluk River 53.06 35 P **P** **15 49 10.5 +0.4**
baz=268
F17K Baldwin Pennin 53.07 28 P **P** **15 49 11.4 +1.4**
baz=262
PSA00 Pilbara Seismi 53.19 194 P **P** **15 49 11.6 +0.2**
PSA00 IAmb IAmb 15 49 13.0
comp=Z,14nm,0.9s
G17K Kiwalik Mounta 53.20 29 P **P** **15 49 12.1 +1.1**
baz=264
B18K Kokolik River 53.33 24 P **P** **15 49 13.4 +1.5**
baz=260
CHNA Chernabura Isl 53.36 42 P **P** **15 49 13.1 +0.8**
baz=273
C18K Utukok River 53.42 25 P **P** **15 49 13.4 +0.8**
baz=261
L16K Owhat River 53.42 34 P **P** **15 49 13.5 +0.8**
baz=268
H17K Granite Mounta 53.45 29 P **P** **15 49 13.9 +1.1**
baz=265
E18K Tukpahlearik C 53.46 26 P **P** **15 49 13.3 +0.5**
baz=262
M16K Timber Creek 53.65 34 P **P** **15 49 13.8 -0.5**
baz=268
N16K Nishlik Lake 53.73 35 P **P** **15 49 15.6 +0.6**
baz=269
A19K Wainwright 53.73 23 P **P** **15 49 14.7 -0.1**
baz=260
L17K Donlin 54.00 33 P **P** **15 49 17.5 +0.6**
baz=268
AS31 Alice Springs 54.01 178 P **P** **15 49 17.4 0.0**
ASAR Alice Springs 54.02 178 P **P** **15 49 17.6 +0.2**
ASAR Alice Springs 54.02 178 P **P** **15 49 17.6 +0.2**
ASAR Alice Springs 54.02 178 P **P** **15 49 17.7 +0.3**
comp=Z,6.6nm,1.0s,baz=10,slow=13,SNR=40
comp=Z,6.6nm,1.0s
K17K Iditarod 54.02 32 P **P** **15 49 17.8 +0.8**
baz=268
G18K Tagagawik 54.06 28 P **P** **15 49 17.2 -0.1**
G18K Tagagawik 54.06 28 P **P** **15 49 17.3 -0.1**
baz=265
O16K Kokwok River B 54.06 36 P **P** **15 49 17.7 +0.3**
baz=270
C19K Lookout Ridge 54.07 24 IAmb IAmb 15 49 20.0
comp=Z,15nm,1.0s
C19K Lookout Ridge 54.07 24 P **P** **15 49 17.6 +0.3**
baz=262
P16K Nushagak River 54.12 37 P **P** **15 49 17.1 -0.7**
baz=271
H18K Honhosa River 54.12 29 P **P** **15 49 18.0 +0.2**
baz=266
M17K Holitna River 54.39 34 P **P** **15 49 20.3 +0.5**
baz=270
N17K Nushagak Hills 54.51 35 P **P** **15 49 21.3 +0.6**
baz=270
D19K Kuna River 54.52 25 IAmb IAmb 15 49 23.0
comp=Z,20nm,1.1s
D19K Kuna River 54.52 25 P **P** **15 49 20.8 +0.2**
baz=264
G19K Purcell Mounta 54.72 28 P **P** **15 49 22.5 +0.4**
baz=266
L18K Granite Mounta 54.75 33 P **P** **15 49 23.2 +0.9**
baz=270
E19K Redstone River 54.76 26 P **P** **15 49 21.9 -0.5**
E19K IAmb IAmb 15 49 24.8
comp=Z,10nm,0.8s
E19K Redstone River 54.76 26 P **P** **15 49 23.4 +1.1**
baz=265
J18K Innoko River 54.76 31 P **P** **15 49 23.4 +0.9**
baz=269
Q16K King Salmon 54.82 37 P **P** **15 49 23.9 +1.0**
baz=272
P17K Kvichak River 54.92 37 P **P** **15 49 24.1 +0.5**
baz=272
H19K Roundabout Mou 54.95 29 P **P** **15 49 25.3 +1.6**
H19K Roundabout Mou 54.95 29 P **P** **15 49 24.9 +1.2**
baz=268,SNR=7.4
R17K Ugashik Creek 55.01 39 P **P** **15 49 25.6 +1.3**
baz=273
TTA Tatalina 55.07 32 P **P** **15 49 26.1 +1.3**
baz=270
D20K Etivluk River 55.09 25 P **P** **15 49 25.4 +0.6**
baz=265
N18K Kilae Creek 55.15 35 P **P** **15 49 26.2 +0.9**
baz=271
M18K Stony River 55.17 34 P **P** **15 49 26.4 +1.0**
baz=271
E20K Nigu River 55.21 26 P **P** **15 49 26.5 +0.8**
baz=266
Q17K Contact Creek 55.24 38 P **P** **15 49 27.0 +0.9**
baz=273
J19K Poorman 55.26 31 IAmb IAmb 15 49 28.3
comp=Z,9.6nm,0.7s
J19K Poorman 55.26 31 P **P** **15 49 27.0 +1.0**
baz=269
F20K Avaraart Lake 55.31 27 P **P** **15 49 27.0 +0.7**
baz=267
O18K Koktuh Hills 55.52 36 P **P** **15 49 29.1 +1.2**
O18K Koktuh Hills 55.52 36 P **P** **15 49 28.5 +0.6**
baz=273
P18K Big Mountain, 55.53 36 P **P** **15 49 29.1 +1.0**
baz=273
CHIR Chirikof Islan 55.56 41 P **P** **15 49 29.1 +0.8**
baz=275
H20K Anotleneega Mo 55.60 29 P **P** **15 49 29.3 +0.8**
baz=269
L19K White Mountain 55.62 33 P **P** **15 49 29.5 +0.9**
baz=271
Q18K Katmai Hardscr 55.68 37 P **P** **15 49 30.4 +1.1**
baz=274
C21K Knifeblade Rid 55.78 24 P **P** **15 49 31.1 +1.4**
baz=267,SNR=5.9
N19K Bonanza Creek 55.84 35 P **P** **15 49 31.4 +1.0**
baz=273
A22K Sinclair Lake 55.86 22 P **P** **15 49 31.4 +1.3**
baz=265
B21K Ikpikpuk River 55.88 24 P **P** **15 49 31.4 +1.1**
baz=266
J20K Nowinta River 55.91 31 IAmb IAmb 15 49 33.4
comp=Z,16nm,0.8s
J20K Nowinta River 55.91 31 P **P** **15 49 31.8 +1.2**
baz=271
O19K Port Alsworth 55.95 35 P **P** **15 49 31.5 +0.6**
O19K Port Alsworth 55.95 35 P **P** **15 49 32.0 +1.1**
baz=273
K20K Telida 55.95 32 IAmb IAmb 15 49 33.8
comp=Z,15nm,0.8s
K20K Telida 55.95 32 P **P** **15 49 32.2 +1.1**
baz=271,SNR=7.2
E21K Killik River 56.04 25 P **P** **15 49 32.8 +1.2**
baz=268
L20K Farewell, AK 56.06 33 P **P** **15 49 33.6 +1.7**
baz=272
ARU Arti 56.07 320*d i* P **P** **15 49 29.5 -2.4**
ARU S **S** **15 57 17.1 -1.4**
ARU SS **SS** **16 01 01.4 -3.1**
ARU pmax pmax
comp=Z,7.0nm,0.9s
ARU MLR MLR
comp=Z,352nm,14.0s
ARU Arti 56.07 320 LR LR 16 15 57.1
comp=Z,480nm,18.7s,baz=83,slow=39
IMAR Indian Mountai 56.07 28 P **P** **15 49 32.5 +0.6**
ABKAR Akbulak array 56.14 311 P **P** **15 49 32.0 -0.6**
G21K Allakaket 56.18 28 P **P** **15 49 34.0 +1.4**
baz=270
F21K Alatna River 56.20 27 P **P** **15 49 34.0 +1.3**
baz=269
SII Sitkinak Islan 56.29 40 P **P** **15 49 34.3 +0.8**
baz=276
B22K Teshekpuk Lake 56.33 23 P **P** **15 49 35.0 +1.5**
baz=267
Q19K Cape Douglas, 56.37 37 P **P** **15 49 34.5 +0.4**
baz=274
M20K Styx River 56.44 33 P **P** **15 49 35.8 +1.2**
baz=273
H21K Melozitna River 56.46 29 IAmb IAmb 15 49 37.3
comp=Z,18nm,1.2s
H21K Melozitna Rive 56.46 29 P **P** **15 49 35.5 +0.9**
baz=271
P19K Oil Pt 56.53 36 P **P** **15 49 35.6 +0.4**
baz=274
D22K Ayikyak River 56.53 25 IAmb IAmb 15 49 37.7
comp=Z,22nm,1.1s
D22K Ayikyak River 56.53 25 P **P** **15 49 37.0 +2.0**
baz=269
F22K John River 56.70 27 P **P** **15 49 38.2 +1.9**
baz=270
RSO Redoubt South 56.71 35 P **P** **15 49 37.0 +0.4**
CHUM Lake Minchumin 56.72 31 P **P** **15 49 37.3 +0.8**
baz=272,SNR=5.5
I21K Tanana 56.82 29 IAmb IAmb 15 49 40.1

comp=Z,16nm,0.9s
I21K **Tanana** 56.82 29 P P 15 49 38.4 +1.3
baz=272
PPLA **Purkeypile** 56.82 32 P P 15 49 38.2 +0.9
baz=273
E22K **Anaktuvuk Pass** 56.84 26 P P 15 49 38.3 +1.0
E22K IAmb IAmb 15 49 39.9
comp=Z,18nm,1.1s
E22K **Anaktuvuk Pass** 56.84 26 P P 15 49 38.3 +1.0
baz=270,SNR=13
CAST **Castle Rocks** 56.84 31 P P 15 49 37.8 +0.4
CAST IAmb IAmb 15 49 40.5
comp=Z,31nm,1.6s
CAST **Castle Rocks** 56.84 31 P P 15 49 38.5 +1.1
baz=273,SNR=8.0
N20K **Mount Spurr** 56.92 34 P P 15 49 39.6 +1.6
baz=274
KDAK **Kodiak Island** 57.03 38 P P 15 49 39.3 +0.6
baz=276
H22K **Ishtalitna Cre** 57.05 28 P P 15 49 39.1 +0.3
baz=272,SNR=12
Q20K **Shuyak Island** 57.05 37 P P 15 49 38.9 0.0
baz=276
AKTO **Aktyubinsk** 57.18 313 LR LR 16 15 46.2
comp=Z,372nm,20.6s,baz=34,slow=38
SKT **Skwentna** 57.19 33 P P 15 49 40.3 +0.5
SKT **Skwentna** 57.19 33 P P 15 49 40.8 +0.9
baz=274
D23K **Nanushuk River** 57.25 25 P P 15 49 41.6 +1.4
baz=271
C23K **Itkillik River** 57.27 24 IAmb IAmb 15 49 51.7
comp=Z,20nm,1.4s
C23K **Itkillik River** 57.27 24 P P 15 49 41.6 +1.3
baz=270
HOM **Homer** 57.33 36 P P 15 49 41.4 +0.6
baz=276
MLY **Manley** 57.35 29 P P 15 49 41.8 +0.8
MLY IAmb IAmb 15 49 43.6
comp=Z,11nm,0.8s
MLY **Manley** 57.35 29 P P 15 49 40.9 -0.1
baz=273,SNR=9.3
CAPN **Captain Cook N** 57.47 35 P P 15 49 43.0 +1.3
baz=275
COLD **Coldfoot** 57.47 27 P P 15 49 42.6 +0.9
baz=272
G23K **Bananza Creek** 57.56 27 P P 15 49 43.9 +1.4
baz=273
SUA **Susitna One** 57.60 34 P P 15 49 43.8 +1.0
baz=275
TRF **Thorofare Moun** 57.65 31 P P 15 49 44.9 +1.7
baz=274
TOLK **Toolik Lake Re** 57.66 25 P P 15 49 44.3 +1.2
TOLK IAmb IAmb 15 49 46.2
comp=Z,20nm,1.2s
TOLK **Toolik Lake Re** 57.66 25 P P 15 49 44.6 +1.4
baz=272,SNR=5.3
E23K **Chandalar** 57.67 26 P P 15 49 44.4 +1.2
baz=272
BRSE **Bradley Lake S** 57.78 36 P P 15 49 45.1 +1.1
baz=276
M22K **Willow** 57.87 33 P P 15 49 45.2 +0.6
baz=276
D24K **Happy Valley** 57.92 25 IAmb IAmb 15 49 47.8
comp=Z,23nm,1.2s
D24K **Happy Valley** 57.92 25 P P 15 49 46.6 +1.8
baz=272
I23K **Minto, Yukon-K** 57.92 29 P P 15 49 45.8 +0.9
I23K **Minto, Yukon-K** 57.92 29 P P 15 49 46.4 +1.5
baz=274
C24K **Franklin Bluff** 57.94 24 P P 15 49 46.2 +1.3
baz=272
E24K **Your Creek** 58.09 26 P P 15 49 47.8 +1.6
baz=273
NEA2 **Nenana** 58.09 30 P P 15 49 47.0 +0.9
NEA2 **Nenana** 58.09 30 P P 15 49 47.9 +1.8
baz=275,SNR=16
MCK **McKinley** 58.23 31 P P 15 49 48.3 +1.2
baz=276,SNR=8.8
RND **Reindeer** 58.29 31 P P 15 49 48.1 +0.4
RND **Reindeer** 58.29 31 P P 15 49 48.1 +0.4
RND pmax pmax
comp=Z,19nm,0.7s
F24K **Squaw Lake** 58.35 26 P P 15 49 48.4 +0.4
F24K **Squaw Lake** 58.35 26 P P 15 49 49.3 +1.3
baz=274
PMR **Palmer** 58.36 33 P P 15 49 48.6 +0.6
PMR IAmb IAmb 15 49 49.9
comp=Z,22nm,1.1s
PMR **Palmer** 58.36 33 P P 15 49 49.2 +1.2
baz=277,SNR=5.8
PMR **Palmer** 58.36 33 P P 15 49 48.6 +0.6
PMR pmax pmax
comp=Z,22nm,1.1s
SEW **Seward** 58.38 35 P P 15 49 49.2 +1.0
baz=277
GHO **Glory Hole Cre** 58.44 33 P P 15 49 49.7 +1.0
H24K **Noodor Dome** 58.49 28 IAmb IAmb 15 49 51.8
comp=Z,8.0nm,0.8s
H24K **Noodor Dome** 58.49 28 P P 15 49 50.4 +1.5
baz=275
WAT1 **Susitna Watana** 58.49 32 P P 15 49 49.6 +0.6
baz=276
G24K **Hadweenzic Riv** 58.58 27 P P 15 49 50.9 +1.5
baz=275
KNK **Knik Glacier** 58.70 34 IAmb IAmb 15 49 52.2
comp=Z,12nm,0.8s
KNK **Knik Glacier** 58.70 34 P P 15 49 51.3 +0.8
baz=277
SML **Sawmill** 58.71 33 P P 15 49 50.6 +0.1
baz=277
POKR **Poker Plat Res** 58.74 29 P P 15 49 52.3 +1.7
baz=276,SNR=14
D25K **Kavik River** 58.78 24 P P 15 49 52.0 +1.1
baz=274
WAT6 **Susitna Watana** 58.89 32 P P 15 49 52.4 +0.5
baz=277
DHY **Denali Highway** 58.99 32 P P 15 49 53.6 +1.0
baz=277
M23K **Glacier View** 59.00 33 P P 15 49 52.6 +0.1
baz=278
IL31 59.01 30 IAmb IAmb 15 49 56.4
comp=Z,19nm,1.6s
ILAR **Eielson Array** 59.01 30 P P 15 49 52.8 +0.2
comp=Z,2.0nm,0.7s,baz=262,slow=5.9,SNR=43
ILAR LR LR 16 17 59.5
comp=Z,74nm,18.6s,baz=282,slow=39
comp=Z,2.0nm,0.7s
HDA **Harding Lake** 59.02 30 P P 15 49 52.7 +0.1
HDA IAmb IAmb 15 49 53.7
comp=Z,12nm,0.8s
HDA **Harding Lake** 59.02 30 P P 15 49 53.2 +0.6
baz=277,SNR=9.5
HDA P P 15 49 53.2 +0.6
baz=277,SNR=9.5
G25K **Bearman Lake** 59.11 27 P P 15 49 55.2 +2.0
baz=276
E25K **Arctic Village** 59.18 26 IAmb IAmb 15 49 57.2
comp=Z,15nm,1.3s
E25K **Arctic Village** 59.18 26 P P 15 49 55.3 +1.7
baz=276,SNR=9.3
SCM **Sheep Creek Mo** 59.18 33 P P 15 49 55.4 +1.6
baz=278
F25K **Christian Rive** 59.20 26 P P 15 49 54.7 +0.8
baz=276
C26K **Camden Bay** 59.24 24 P P 15 49 55.9 +1.9
baz=275
P23K **Montague Islan** 59.41 35 P P 15 49 56.3 +0.9
baz=279
GLI **Glacier Island** 59.43 34 P P 15 49 56.7 +1.2
baz=279
PRP **Porcupine Dome** 59.49 29 P P 15 49 57.0 +1.0
PRP IAmb IAmb 15 49 58.2
comp=Z,7.3nm,0.8s
PRP **Porcupine Dome** 59.49 29 P P 15 49 57.6 +1.6
baz=277
K24K **Donnelly Dome** 59.61 31 P P 15 49 57.6 +0.9
baz=278
J25K **Salcha River,** 59.67 30 P P 15 49 57.3 +0.1
baz=278
M24K **Tolsona, Glenn** 59.68 33 P P 15 49 57.5 +0.2
baz=279
F26K **Sheenjek River** 59.76 26 P P 15 49 59.7 +2.0
baz=277
PAX **Paxson** 59.87 32 P P 15 49 59.7 +1.1
baz=279
KLU **Klutina** 59.89 33 P P 15 49 59.8 +1.1
baz=279
G26K **Porcupine Rive** 60.00 27 P P 15 50 00.9 +1.6
baz=278
GEYT **Alibeck** 60.02 299 P P 15 50 00.1 +0.2
comp=Z,1.7nm,0.7s,baz=251,slow=4.5,SNR=3.6
comp=Z,1.7nm,0.7s
Q23K **Middleton Isla** 60.03 36 P P 15 50 00.9 +1.3
baz=280
HARP **HAARP** 60.10 32 P P 15 50 00.8 +0.7
baz=280
SCRK **Sand Creek** 60.37 30 P P 15 50 02.3 +0.3
SCRK IAmb IAmb 15 50 03.5
comp=Z,8.3nm,0.8s
SCRK **Sand Creek** 60.37 30 P P 15 50 02.9 +0.9
baz=280,SNR=10.0
J26L **Joseph Creek** 60.46 30 IAmb IAmb 15 50 03.8
comp=Z,9.0nm,0.8s
J26L **Joseph Creek** 60.46 30 P P 15 50 02.9 +0.3
baz=280
N25K **Chitina, Valde** 60.50 33 P P 15 50 04.2 +1.3
baz=280
I26K **Coal Creek Min** 60.50 29 P P 15 50 03.9 +1.1
baz=280
BMRM **Bremner River** 60.61 34 P P 15 50 04.8 +1.1
baz=281
E27K **Coleen River** 60.64 25 IAmb IAmb 15 50 06.5
comp=Z,18nm,1.4s
E27K **Coleen River** 60.64 25 P P 15 50 05.4 +1.6
baz=279,SNR=9.7
MENT **Mentasta** 60.66 31 IAmb IAmb 15 50 06.3
comp=Z,11nm,0.7s
D27M **Malcolm River** 60.70 24 IAmb IAmb 15 50 06.7
comp=Z,12nm,1.2s
D27M **Malcolm River** 60.70 24 P P 15 50 05.3 +1.1
baz=279
L26K **Log Cabin Wild** 60.82 31 IAmb IAmb 15 50 07.4
comp=Z,8.4nm,0.9s
L26K **Log Cabin Wild** 60.82 31 P P 15 50 06.8 +1.8
baz=281,SNR=5.9
G27K **Doyon Strip** 60.85 27 IAmb IAmb 15 50 08.6
comp=Z,13nm,1.6s
G27K **Doyon Strip** 60.85 27 P P 15 50 06.6 +1.4
baz=280
H27K **Steamboat Moun** 61.00 28 P P 15 50 08.1 +1.9
baz=280
I27K **Kandik River** 61.08 28 P P 15 50 08.5 +1.7
baz=281
M26K **Nabesna, AK** 61.09 32 P P 15 50 07.3 +0.4
M26K IAmb IAmb 15 50 09.2
comp=Z,13nm,0.8s
M26K **Nabesna, AK** 61.09 32 P P 15 50 08.8 +1.9
baz=281
K27K **Chicken** 61.19 30 IAmb IAmb 15 50 10.4
comp=Z,17nm,1.3s
K27K **Chicken** 61.19 30 P P 15 50 08.6 +1.2
baz=281
E28M **Babbage River** 61.32 25 IAmb IAmb 15 50 11.0
comp=Z,11nm,1.2s
E28M **Babbage River** 61.32 25 P P 15 50 10.4 +2.1
baz=281,SNR=9.2
CRQE **Cirque** 61.38 34 P P 15 50 10.2 +1.3
baz=282
F28M **Old Crow** 61.39 26 P P 15 50 11.0 +2.2
baz=281,SNR=7.6
EGAK **Eagle** 61.43 29 P P 15 50 10.2 +1.2
baz=282
D28M **Stokes Point** 61.47 24 P P 15 50 10.7 +1.5
baz=281
L27K **Beaver Creek,** 61.49 31 IAmb IAmb 15 50 12.0
comp=Z,16nm,1.5s
L27K **Beaver Creek,** 61.49 31 P P 15 50 10.9 +1.4
baz=282,SNR=5.5
M27K **Edge Creek, AK** 61.61 32 P P 15 50 11.8 +1.2
baz=282
I28M **Miner Creek** 61.80 28 IAmb IAmb 15 50 14.4
comp=Z,13nm,0.9s
I28M **Miner Creek** 61.80 28 P P 15 50 13.4 +1.7
baz=282
PRGR **Permogore** 61.86 327 eP P 15 50 08.2 -3.8
PRGR pmax pmax
comp=Z,45nm,1.6s
E29M **Blow River** 61.96 25 P P 15 50 13.7 +1.2
baz=282
DZM **Mont Dzumac** 61.98 144 P P 15 50 14.0 +0.7
DZM **Mont Dzumac** 61.98 144 P P 15 50 14.4 +1.1
comp=Z,22nm,1.1s,baz=215,slow=9.0,SNR=5.6
comp=Z,22nm,1.1s
CTG **Chitna Glacier** 62.17 33 P P 15 50 14.7 +0.4
baz=283
G29M **Pine Creek** 62.24 26 P P 15 50 16.3 +1.8
baz=283
H29M **Whitestone** 62.26 27 IAmb IAmb 15 50 17.4
comp=Z,11nm,0.9s
H29M **Whitestone** 62.26 27 P P 15 50 16.3 +1.6
baz=283
DAWY **Dawson** 62.33 30 P P 15 50 16.3 +1.1
baz=283
YUK3 **Moose Creek** 62.39 32 P P 15 50 16.9 +1.0
baz=284
I29M **Ogilvie Camp,** 62.48 28 IAmb IAmb 15 50 18.5
comp=Z,7.5nm,0.9s
I29M **Ogilvie Camp,** 62.48 28 P P 15 50 17.2 +1.0
baz=284,SNR=6.9
STKA **Stephens Creek** 62.83 171 P P 15 50 19.3 +0.6
STKA **Stephens Creek** 62.83 171 P P 15 50 19.3 +0.6
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA **Stephens Creek** 62.83 171 P P 15 50 19.5 +0.8
comp=Z,10nm,0.8s,baz=346,slow=7.4,SNR=16
comp=Z,10nm,0.8s
YUK8 **Steele Glacier** 62.84 33 P P 15 50 19.7 +0.8
baz=285
EPYK **Eagle Plains** 62.87 27 P P 15 50 20.2 +1.5
baz=285,SNR=12
PINM **Pinnacle** 62.90 34 P P 15 50 20.2 +1.1
baz=285
G30M **tAoh Zraii Nji** 62.91 26 P P 15 50 20.4 +1.4
baz=285
F30M **Barrier River** 62.91 25 P P 15 50 20.6 +1.7
baz=285
BELG **Belogornoye** 63.09 317⇑ eP P 15 50 21.2 +0.8
BELG pmax pmax
comp=Z,3.0nm,1.2s
BELG **Belogornoye** 63.09 317 LR LR 16 20 47.5
comp=Z,371nm,19.2s,baz=27,slow=39
L29M **L29M** 63.12 31 P P 15 50 22.3 +1.8
baz=285
M29M **Somme Creek** 63.14 31 P P 15 50 21.9 +1.3
baz=285
K29M **Barlow Dome** 63.19 30 IAmb IAmb 15 50 23.5
comp=Z,6.3nm,0.7s
K29M **Barlow Dome** 63.19 30 P P 15 50 22.0 +1.0
baz=285
I30M **Mount Dempster** 63.30 28 P P 15 50 23.0 +1.2
baz=285
YUK4 **Talbot Arm** 63.34 33 P P 15 50 23.7 +1.5
baz=286
PNL **Peninsula** 63.43 35 P P 15 50 24.2 +1.6
baz=286
J30M **Hart River** 63.50 29 P P 15 50 24.5 +1.5
baz=286
INK **Inuvik** 63.55 24 IAmb IAmb 15 50 25.0
comp=Z,8.3nm,1.1s
INK **Inuvik** 63.55 24 P P 15 50 24.4 +1.3
baz=286,SNR=6.7
INK **Inuvik** 63.55 24 P P 15 50 24.4 +1.3
INK pmax pmax
comp=Z,8.0nm,1.3s
INK **Inuvik** 63.55 24 LR LR 16 22 27.9
comp=Z,90nm,18.2s,baz=7.0,slow=40
YUK6 **Outpost Mounta** 63.58 33 P P 15 50 24.1 +0.3
baz=286
O29M **Mount Kennedy** 63.66 34 P P 15 50 25.4 +1.2
baz=286
G31M **Satah River** 63.66 26 P P 15 50 23.1 -0.8
G31M IAmb IAmb 15 50 25.3
comp=Z,6.9nm,0.8s
G31M **Satah River** 63.66 26 P P 15 50 24.8 +0.9
baz=286,SNR=5.4
F31M **Tsiigehtchic** 63.72 25 IAmb IAmb 15 50 34.8
comp=Z,22nm,1.5s
F31M **Tsiigehtchic** 63.72 25 P P 15 50 25.2 +1.0
baz=287,SNR=6.3
M30M **Minto, Yukon** 63.85 31 P P 15 50 25.3 0.0
M30M **Minto, Yukon** 63.85 31 P P 15 50 26.8 +1.5
baz=286,SNR=5.1
MAYO **Mayo, Yukon** 63.95 30 P P 15 50 27.6 +1.7
baz=287
H31M **Peel River** 63.96 27 P P 15 50 27.5 +1.6
baz=287
HYT **Haines Junctio** 64.02 33 P P 15 50 27.2 +0.6
baz=287
N30M **Aishikik Lake** 64.03 32 P P 15 50 28.1 +1.6
baz=287
P29M **Windy Craggy** 64.25 34 P P 15 50 29.3 +1.3
baz=287
P30M **Million Dollar** 64.48 34 P P 15 50 31.0 +1.5
baz=287
N31M **Braeburn, Yuko** 64.62 32 P P 15 50 32.0 +1.6
baz=288
O30N **Mendenhall** 64.70 33 P P 15 50 31.9 +1.0
baz=288
KLMR **Klimovskoe** 64.92 327 eP P 15 50 24.6 -7.6
KLMR AMP 15 50 33.7
comp=Z,36nm,1.8s
KLMR LQ LQ 16 15 38.8
KLMR LQ LQ 16 15 38.8
KLMR LR LR 16 20 09.8
KLMR **Klimovskoe** 64.92 327 eP P 15 50 24.5 -7.7
KLMR pmax pmax
comp=Z,36nm,1.8s
A36M **Sachs Harbour** 65.01 20 P P 15 50 34.0 +1.3
baz=292,SNR=17
M31M **Drury Creek, Y** 65.03 31 P P 15 50 34.1 +1.1
baz=288
WHY **Whitehorse** 65.30 33 P P 15 50 35.7 +0.9
baz=289
FARO **Faro, Yukon** 65.48 31 P P 15 50 37.5 +1.5
baz=289,SNR=14
N32M **Quiet Lake** 65.97 32 P P 15 50 39.0 -0.1
baz=290
P32M **Atlin** 66.20 34 P P 15 50 41.2 +0.5
baz=290
C36M **Paulatuk** 66.41 22 P P 15 50 42.9 +1.2
baz=294,SNR=12
P33M **Teslin, Yukon** 66.41 33 P P 15 50 41.6 -0.4
P33M IAmb IAmb 15 50 53.4
comp=Z,8.0nm,1.1s
P33M **Teslin, Yukon** 66.41 33 P P 15 50 43.3 +1.2
baz=291
S32K **Killisnoo** 66.51 36 P P 15 50 43.2 +0.6
baz=290
Q32M **Nakina River** 67.12 34 P P 15 50 47.2 +0.5
baz=292
ARCES **ARCESS Array B** 67.14 339 LR LR 16 23 37.7
comp=Z,340nm,21.9s,baz=68,slow=39
R33M **Jennings River** 67.58 33 P P 15 50 50.6 +1.0
baz=292
CRAG **Craig** 67.99 38 P P 15 50 52.4 +0.4
baz=292
WRAK **Wrangell Islan** 68.03 37 P P 15 50 53.2 +1.0
baz=292
S34M **Telegraph Cree** 68.07 35 P P 15 50 53.5 +1.1
baz=293
WTLY **Watson Lake, Y** 68.31 32 IAmb IAmb 15 50 56.8
comp=Z,18nm,1.3s
WTLY **Watson Lake, Y** 68.31 32 P P 15 50 54.7 +0.7
baz=294
OBN **Obninsk** 68.39 322⇓ eP P 15 50 55.1 +0.6
OBN pmax pmax
comp=Z,3.0nm,0.5s
DLBC **Dease Lake** 68.41 34 P P 15 50 55.3 +0.6
baz=294
ZEI **Tsey** 68.63 308 eP P 15 50 56.4 -0.1
ZEI pmax pmax
comp=Z,5.0nm,1.0s
KBZ **Khabaz** 68.95 309⇓ eP P 15 50 59.6 +1.4
KBZ pmax pmax
comp=Z,10.0nm,1.0s
KBZ **Khabaz** 68.95 309 P P 15 50 59.5 +1.4
comp=Z,5.4nm,0.8s,baz=85,slow=4.2,SNR=12
comp=Z,5.4nm,0.8s
KVAR **Kislovodsk Arr** 69.00 309 LR LR 16 22 27.7
comp=Z,184nm,18.5s,baz=229,slow=37
KIV **Kislovodsk** 69.00 309 eP P 15 51 00.1 +1.4
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,127nm,17.0s
GNI **Garni** 69.06 305 LR LR 16 25 10.8
comp=Z,128nm,18.8s,baz=68,slow=39
WRGLY **Wrigley** 69.28 28 IAmb IAmb 15 51 02.0
comp=Z,14nm,1.0s
WRGLY **Wrigley** 69.28 28 P P 15 51 01.2 +1.3
baz=297
RES **Resolute Bay** 70.61 12 P P 15 51 08.6 +0.8
RES IAmb IAmb 15 51 09.6
comp=Z,14nm,0.9s
RES **Resolute Bay** 70.61 12 P P 15 51 08.6 +0.8
RES pmax pmax
comp=Z,14nm,1.0s
RES **Resolute Bay** 70.61 12 LR LR 16 24 48.4
comp=Z,93nm,20.3s,baz=340,slow=38
FINES **FINESS Array B** 70.67 331 P P 15 51 08.4 0.0
comp=Z,12nm,0.7s,baz=68,slow=6.9,SNR=41
FINES LR LR 16 24 45.4
comp=Z,390nm,21.9s,baz=58,slow=38
comp=Z,12nm,0.7s
DAG **Danmarks Havn** 71.32 353 iP P 15 51 12.0 -0.1
YKA **Yellowknife Ar** 73.15 26 iP P 15 51 24.1 +0.8
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA **Yellowknife Ar** 73.15 26 P P 15 51 23.7 +0.5
comp=Z,2.5nm,0.8s,baz=300,slow=5.8,SNR=31
comp=Z,2.5nm,0.8s
AKASG **Malin Array Be** 74.32 320 iP P 15 51 30.3 -0.1
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG **Malin Array Be** 74.32 320 P P 15 51 30.4 0.0
comp=Z,4.7nm,0.8s,baz=54,slow=5.9,SNR=28
AKASG LR LR 16 27 07.1
comp=Z,289nm,19.6s,baz=61,slow=38
comp=Z,4.7nm,0.8s
AKBB **Malin Array Si** 74.32 320⇑ eP P 15 51 30.3 -0.1
KIEV **Kiev** 74.34 320 P P 15 51 30.4 -0.1
KIEV **Kiev** 74.34 320 P P 15 51 30.4 -0.1
KIEV pmax pmax
comp=Z,6.0nm,0.8s
HFS **Hagfors** 76.44 333 P P 15 51 42.1 -0.3
comp=Z,4.1nm,0.6s,baz=78,slow=9.2,SNR=8.3
HFS LR LR 16 26 46.3
comp=Z,307nm,21.8s,baz=46,slow=37
comp=Z,4.1nm,0.6s
NC405 **NORSAR Array S** 76.57 334 P P 15 51 42.8 -0.3
NB2 **NORSAR Subarra** 76.81 335 P P 15 51 44.0 -0.5
comp=Z,1.5nm,0.7s,baz=47,slow=5.6
NB2 **NORSAR Subarra** 76.81 335 P P 15 51 44.7 +0.2
NOA **NORSAR Array B** 76.81 335 P P 15 51 44.3 -0.2
comp=Z,5.0nm,0.9s,baz=49,slow=5.6,SNR=9.8
NOA LR LR 16 29 23.8
comp=Z,258nm,18.3s,baz=30,slow=39
comp=Z,5.0nm,0.9s
SUMG **Summit** 76.86 357 IAmb IAmb 15 51 46.9
comp=Z,9.3nm,0.9s
SUMG **Summit** 76.86 357 iP P 15 51 45.0 -0.1
BR131 **Keskin Array S** 76.92 308⇑ eP P 15 51 46.2 +0.5
BRTR **Keskin Array B** 76.92 308 P P 15 51 45.2 -0.5
BRTR **Keskin Array B** 76.92 308 P P 15 51 45.2 -0.5
BRTR **Keskin Array B** 76.92 308 P P 15 51 46.6 +0.9
comp=Z,2.5nm,0.8s,baz=92,slow=5.9,SNR=12
BRTR LR LR 16 28 43.6
comp=Z,174nm,20.3s,baz=50,slow=38
comp=Z,2.5nm,0.8s
BUR08 **Bucovina Ar. S** 78.16 319 IAmb IAmb 15 53 18.9
comp=Z,23nm,1.8s
BURAR **Bucovina Array** 78.17 319 P P 15 51 51.0 -1.4
BURAR **Bucovina Array** 78.17 319 P P 15 51 51.0 -1.4
BURAR pmax pmax
comp=Z,5.0nm,0.8s
MMAI **Mount Meron Ar** 78.93 302 LR LR 16 30 18.3
comp=Z,90nm,19.7s,baz=22,slow=38
EDM **Edmonton** 79.12 34 IAmb IAmb 15 52 00.0
comp=Z,24nm,1.2s
NEW **Newport** 80.11 39 P P 15 52 04.0 +1.0
baz=305
MORC **Moravsky Berou** 81.10 323 eP P 15 52 09.4 +1.2
VYHS **Vyhne** 81.19 322 eP P 15 52 10.2 +1.5
VYHS **Vyhne** 81.19 322 eP P 15 52 10.2 +1.5
VYHS pmax pmax
comp=Z,12nm,1.4s
KRLC **Kraliky** 81.30 324 eP P 15 52 10.0 +0.7
KRLC **Kraliky** 81.30 324 eP P 15 52 10.0 +0.7
DPC **Dobruska-Polom** 81.36 324 eP P 15 52 09.4 -0.3
DPC **Dobruska-Polom** 81.36 324 eP P 15 52 09.4 -0.3
UPC **Upice** 81.42 325 eP P 15 52 10.8 +0.9
UPC **Upice** 81.42 325 eP P 15 52 10.8 +0.9
JAVC **Velka Javorina** 81.59 323 eP P 15 52 13.3 +2.4

VRAC Vranov 81.87 323 *e*P **P** **15 52 13.6 +1.3**
VRAC Vranov 81.87 323 P **P** **15 52 13.9 +1.6**
comp=Z,6.6nm,0.9s,baz=38,slow=5.5,SNR=4.7
comp=Z,6.6nm,0.9s
BSEG Bad Segeberg 81.88 329 *e*P **P** **15 52 13.2 +1.0**
comp=Z,20nm,1.1s,baz=46,slow=5.0
MODS Modra-Piesok 82.09 322 *e*P **P** **15 52 15.3 +1.8**
MODS Modra-Piesok 82.09 322 *e*P **P** **15 52 15.3 +1.8**
MODS pmax pmax
comp=Z,16nm,1.1s
KRUC Moravsky 82.13 323 *e*P **P** **15 52 14.8 +1.2**
CLL Collm 82.39 326 P **P** **15 52 15.2 +0.2**
CLL Collm 82.39 326 ⇓ *i*P **P** **15 52 15.5 +0.6**
comp=Z,22nm,0.9s
CLL *i* x x 15 52 23.7
CLL AMS AMS 16 32 00.0
comp=Z,300nm,20.1s
CLL Collm 82.39 326 ⇓ *i*P **P** **15 52 15.5 +0.6**
CLL *i* *PP **pP** **15 52 23.7 -0.2**
CLL pmax pmax
comp=Z,22nm,0.9s
CLL MLR MLR
comp=Z,300nm,20.1s
CLL Collm 82.39 326 *e*P **P** **15 52 15.9 +1.0**
comp=Z,18nm,0.8s,baz=46,slow=5.0
CLL *e*pP **pP** **15 52 24.6 +0.8**
baz=47,slow=5.1
FBE Freiberg 82.47 326 *e*P **P** **15 52 16.7 +1.3**
comp=Z,23nm,1.1s,baz=46,slow=5.0
FBE *e*pP **pP** **15 52 25.8 +1.5**
baz=47,slow=5.1
PRU Pruhonice 82.48 325 *e*P **P** **15 52 16.3 +0.8**
PRU Pruhonice 82.48 325 *e*P **P** **15 52 16.3 +0.8**
FLTG Flechtingen 82.54 328 *e*P **P** **15 52 16.2 +0.5**
comp=Z,20nm,1.0s,baz=46,slow=5.0
FLTG *e*pP **pP** **15 52 25.0 +0.4**
baz=47,slow=5.1
HSKC Hora Svate Kat 82.63 326 *e*P **P** **15 52 16.4 +0.1**
MSO Missoula 82.70 39 P **P** **15 52 17.2 +0.4**
baz=308
ASSE Asse, Remlinge 82.93 328 *e*P **P** **15 52 18.7 +1.0**
comp=Z,8.8nm,1.2s,baz=46,slow=5.0
ZVC Zvikov 83.01 324 *e*P **P** **15 52 18.6 +0.4**
RONA Rosalia, Austr 83.03 322 *i* PcP **P** **15 52 19.9 +1.5**
comp=Z,5.9nm,1.2s
NEUB Neuenburg 83.03 327 *e*P **P** **15 52 19.4 +1.1**
comp=Z,42nm,1.2s,baz=46,slow=5.0
NEUB *e*pP **pP** **15 52 28.3 +1.1**
baz=47,slow=5.1
FCC Fort Churchill 83.05 22 IAmb IAmb 15 52 19.8
comp=Z,12nm,1.1s
CONA Conrad Observa 83.11 323 *e*P **P** **15 52 17.1 -1.9**
comp=Z,11nm,1.0s
RETH Rethem/Aller, 83.11 329 *e*P **P** **15 52 19.5 +0.9**
comp=Z,20nm,1.3s,baz=46,slow=5.0
DIVS Divibare 83.17 318 IAmb IAmb 15 52 30.0
comp=Z,9.5nm,1.0s
BPMT Black Pine Rid 83.21 39 P **P** **15 52 19.2 -0.5**
TANN Tannenbergstha 83.23 326 *e*P **P** **15 52 20.5 +1.1**
comp=Z,12nm,1.3s,baz=46,slow=5.0
TANN *e*pP **pP** **15 52 29.3 +0.9**
baz=47,slow=5.1
CLZ Clausthal 83.26 328 *e*P **P** **15 52 20.8 +1.3**
comp=Z,29nm,1.1s,baz=46,slow=5.0
CLZ *e*pP **pP** **15 52 29.9 +1.4**
baz=47,slow=5.1
WERD Werda 83.28 326 *e*P **P** **15 52 20.7 +1.0**
comp=Z,13nm,1.1s,baz=46,slow=5.0
WERD *e*pP **pP** **15 52 29.6 +1.0**
baz=47,slow=5.1
GUNZ Gunzen 83.33 326 *e*P **P** **15 52 21.1 +1.2**
comp=Z,15nm,1.1s,baz=46,slow=5.0
GUNZ *e*pP **pP** **15 52 30.0 +1.2**
baz=47,slow=5.1
PLN Plauen 83.33 326 *e*P **P** **15 52 21.0 +1.1**
comp=Z,15nm,1.2s,baz=46,slow=5.0
PLN *e*pP **pP** **15 52 30.1 +1.3**
baz=47,slow=5.1
CKRC Cesky Krumlov 83.35 324 *e*P **P** **15 52 20.9 +0.9**
CKRC Cesky Krumlov 83.35 324 *e*P **P** **15 52 20.9 +0.9**
WERN Wernitzgruen 83.35 326 *e*P **P** **15 52 21.2 +1.2**
comp=Z,23nm,1.2s,baz=46,slow=5.0
WERN *e*pP **pP** **15 52 30.2 +1.2**
baz=47,slow=5.1
NKC Novy Kostel 83.36 326 *e*P **P** **15 52 21.1 +1.1**
NKC Novy Kostel 83.36 326 *e*P **P** **15 52 21.1 +1.1**
MOX Moxa 83.48 326 P **P** **15 52 21.0 +0.3**
MOX pmax pmax
comp=Z,10.0nm,1.3s
MOX Moxa 83.48 326 *e*P **P** **15 52 21.7 +1.0**
comp=Z,12nm,1.1s,baz=46,slow=5.0
MOX *e*pP **pP** **15 52 30.7 +1.1**
baz=47,slow=5.1
MOX *e*L L 16 33 43.6
comp=Z,332nm,20.7s
KHC Kasperske Hory 83.52 324 IAmb IAmb 15 52 22.8
comp=Z,11nm,1.1s
KHC Kasperske Hory 83.52 324 *e*P **P** **15 52 21.7 +0.8**
KHC Kasperske Hory 83.52 324 *ce*P **P** **15 52 22.0 +1.1**
KHC pmax pmax
comp=Z,18nm,1.1s
GEC2 GERESS Array S 83.64 324 IAmb IAmb 15 52 23.2
comp=Z,5.9nm,0.9s
GEC2 GERESS Array S 83.64 324 *e*P **P** **15 52 22.4 +0.8**
comp=Z,7.4nm,1.1s,baz=46,slow=5.0
GEC2 *e*pP **pP** **15 52 31.5 +0.9**
baz=47,slow=5.1
GERES GERESS Array B 83.64 324 P **P** **15 52 22.5 +0.8**
comp=Z,4.5nm,0.9s,baz=38,slow=5.0,SNR=15
comp=Z,4.5nm,0.9s
GTTG Gottingen 83.65 328 *e*P **P** **15 52 22.5 +1.0**
comp=Z,19nm,1.0s,baz=46,slow=5.0
GTTG *e*pP **pP** **15 52 31.6 +1.2**
baz=47,slow=5.1
MANZ Manzenberg 83.68 326 *e*P **P** **15 52 22.9 +1.2**
comp=Z,3.0nm,1.1s,baz=46,slow=5.0
MANZ *e*pP **pP** **15 52 32.0 +1.3**
baz=47,slow=5.1
MFID Camas Ranch 83.69 43 IAmb IAmb 15 52 24.2
comp=Z,16nm,1.6s
ARSA Arzberg 83.72 322 *i* PcP **P** **15 52 23.6 +1.6**
comp=Z,11nm,1.4s
ROTZ Rotzenmuhle 83.78 326 *e*P **P** **15 52 23.7 +1.5**
comp=Z,6.1nm,1.2s,baz=46,slow=5.0
ROTZ *e*pP **pP** **15 52 32.5 +1.4**
baz=47,slow=5.1
WET Wettzell 83.86 325 *e*P **P** **15 52 24.0 +1.3**
comp=Z,7.5nm,1.1s,baz=46,slow=5.0
WET *e*pP **pP** **15 52 32.8 +1.2**
baz=47,slow=5.1
MOA Molln 83.99 323 *i* PcP **P** **15 52 24.7 +1.3**
comp=Z,11nm,1.2s
IBBN Ibbenburen 84.12 329 *e*P **P** **15 52 24.4 +0.6**
comp=Z,31nm,1.1s,baz=46,slow=5.0
UBBA Unterbreizbach 84.13 327 *e*P **P** **15 52 25.0 +1.2**
comp=Z,28nm,1.5s,baz=46,slow=5.0
UBBA *e*pP **pP** **15 52 33.7 +0.9**
baz=47,slow=5.1
EGMT Eagleton 84.17 36 IAmb IAmb 15 52 26.6
comp=Z,10nm,1.1s
EGMT Eagleton 84.17 36 P **P** **15 52 25.8 +1.5**
baz=310
GRF Grafenberg Arr 84.31 326 *e*P **P** **15 52 26.4 +1.5**
comp=Z,32nm,1.1s,baz=46,slow=5.0
GRF *e*L L 16 34 33.9
comp=Z,350nm,20.4s
GRFO Grafenberg 84.31 326 P **P** **15 52 26.0 +1.1**
GRFO Grafenberg 84.31 326 P **P** **15 52 26.0 +1.1**
GRFO pmax pmax
comp=Z,27nm,1.0s
SOKA Soboth 84.34 322 *i* PcP **P** **15 52 26.2 +1.0**
comp=Z,20nm,0.8s
BIOA Bad Ischl, Aus 84.42 323 *i* PcP **P** **15 52 26.9 +1.4**
comp=Z,15nm,1.3s
HLID Hailey 84.42 42 P **P** **15 52 26.7 +0.8**
HLID IAmb IAmb 15 52 28.3
comp=Z,10nm,1.4s
HLID Hailey 84.42 42 P **P** **15 52 27.2 +1.4**
baz=308
FRB Frobisher Bay 84.55 9 P **P** **15 52 25.7 -0.1**
FRB pmax pmax
comp=Z,17nm,1.4s
FRB Frobisher Bay 84.55 9 LR LR 16 33 46.7
comp=Z,134nm,18.1s,baz=9.0,slow=38
KASTN Kahler Asten 84.59 328 *e*P **P** **15 52 27.3 +0.9**
comp=Z,9.5nm,1.0s,baz=46,slow=5.0
KASTN *e*pP **pP** **15 52 36.2 +0.9**
baz=47,slow=5.1
BMN Battle Mountai 84.62 46 IAmb IAmb 15 52 29.8
comp=Z,7.2nm,1.2s
OBKA Obir 84.70 322 *i* P **P** **15 52 27.3 +0.3**
comp=Z,25nm,1.9s
BOZ Bozeman (W) 84.72 39 P **P** **15 52 28.4 +1.1**
baz=309
KVN Kaiserville 84.87 47 IAmb IAmb 15 52 30.1
comp=Z,7.5nm,0.8s
BUG Bochum--Univer 84.94 329 *e*P **P** **15 52 28.4 +0.4**
comp=Z,17nm,1.1s,baz=46,slow=5.0
KBA Koelnbreinsper 84.97 323 *e*PcP **P** **15 52 29.3 +0.8**
comp=Z,8.9nm,0.9s
LESA Schwarzleotal 85.08 324 *i* PcP **P** **15 52 29.9 +1.0**
comp=Z,12nm,1.2s
MYKA Terra Mystica 85.10 322 *i* PcP **P** **15 52 29.6 +0.5**
comp=Z,4.4nm,0.8s
NVAR Mina Array Bea 85.11 48 P **P** **15 52 30.0 +0.6**
NVAR Mina Array Bea 85.11 48 P **P** **15 52 30.6 +1.2**
comp=Z,2.3nm,0.6s,baz=301,slow=5.0,SNR=9.3
comp=Z,2.3nm,0.6s
IDI Anoyia 85.16 308 LR LR 16 36 22.7
comp=Z,92nm,19.4s,baz=50,slow=40
TNS Taunus Mts 85.26 328 *e*P **P** **15 52 30.6 +0.8**
comp=Z,11nm,1.0s,baz=46,slow=5.0
TNS *e*pP **pP** **15 52 39.6 +0.9**
baz=47,slow=5.1
CLUD Cludinico 85.61 323 IAmb IAmb 15 52 33.0
comp=Z,12nm,0.9s
ABTA Abfaltersbach 85.61 323 *i* P **P** **15 52 31.8 +0.2**
comp=Z,11nm,1.4s
ELK Elko 85.64 45 P **P** **15 52 32.5 +0.4**
ELK Elko 85.64 45 P **P** **15 52 32.5 +0.4**
ELK pmax pmax
comp=Z,3.0nm,1.1s
MOTA Moosalm 85.94 324 *e*P **P** **15 52 32.1 -1.2**
comp=Z,5.1nm,1.1s
TIN Tinemaha, Big 85.95 49 P **P** **15 52 34.8 +1.2**
baz=306
RETA Reutte 86.01 324 *i* PcP **P** **15 52 34.7 +1.2**
comp=Z,9.4nm,1.4s
H17A Grant Village 86.07 40 IAmb IAmb 15 52 38.1
comp=Z,10nm,1.1s
H17A Grant Village 86.07 40 P **P** **15 52 36.0 +1.8**
baz=310
PKM Mcpherson Peak 86.15 52 P **P** **15 52 36.8 +2.2**
baz=305
EKA Eskdalemuir Ar 86.16 336 P **P** **15 52 33.9 -0.2**
comp=Z,2.9nm,0.8s,baz=44,slow=5.8,SNR=7.6
comp=Z,2.9nm,0.8s
RLMT Red Lodge 86.31 38 P **P** **15 52 36.3 +1.0**
baz=311
FETA Feichten 86.34 324 *i* pP pP 15 52 40.4 -3.9
comp=Z,6.1nm,1.3s
GRAC Grapevine Rang 86.54 49 P **P** **15 52 37.7 +1.3**
baz=306
DAVA Damuels 86.59 325 *i* PcP **P** **15 52 37.3 +0.8**
comp=Z,10nm,1.5s
DGMT Dagmar 86.62 34 P **P** **15 52 36.8 +0.3**
baz=314
BFO Black Forest 86.63 326 P **P** **15 52 36.5 0.0**
BFO IAmb IAmb 15 52 37.8
comp=Z,16nm,1.3s
BFO Black Forest 86.63 326 P **P** **15 52 36.5 0.0**
BFO pmax pmax
comp=Z,16nm,1.3s
BFO Black Forest 86.63 326 *e*P **P** **15 52 37.1 +0.5**
comp=Z,18nm,1.3s,baz=46,slow=5.0
WLF Walferdange 86.71 328 *e*pP pP 15 52 46.7 +0.9
baz=47,slow=5.1
LAO LASA Array 86.85 36 IAmb IAmb 15 52 40.3
comp=Z,10nm,1.0s
LAO LASA Array 86.85 36 P **P** **15 52 38.3 +0.6**
baz=313
R11B Troy Canyon, C 86.87 47 P **P** **15 52 39.1 +0.9**
R11B Troy Canyon, C 86.87 47 P **P** **15 52 39.5 +1.4**
baz=307
MPMC Manual Prospec 87.02 49 P **P** **15 52 39.5 +0.6**
baz=306
HWUT Hardware Ranch 87.29 42 IAmb IAmb 15 52 42.5
comp=Z,13nm,1.5s
DUG Dugway, Tooele 87.44 44 P **P** **15 52 41.9 +1.1**
baz=309
BW06 Boulder Array 87.68 40 P **P** **15 52 42.8 +0.7**
baz=311
PDAR Pinedale Array 87.68 40 P **P** **15 52 42.7 +0.7**
comp=Z,1.2nm,0.8s,baz=5.0,slow=1.3,SNR=9.6
comp=Z,1.2nm,0.8s
ULM Lac du Bonnet 89.01 28 P **P** **15 52 48.4 +0.6**
comp=Z,4.1nm,1.0s,baz=287,slow=5.2,SNR=4.6
comp=Z,4.1nm,1.0s
P17A Butcher Ranch, 89.13 43 IAmb IAmb 15 52 51.3
comp=Z,6.9nm,0.9s
IRM Iron Mountain 89.69 50 P **P** **15 52 51.7 +0.3**
baz=308
RSSD Black Hills 89.73 37 P **P** **15 52 51.3 -0.3**
baz=315
RSSD Black Hills 89.73 37 P **P** **15 52 52.4 +0.8**
RSSD pmax pmax
comp=Z,10.0nm,1.6s
O20A White River Ci 90.16 42 P **P** **15 52 54.2 +0.5**
baz=312
ISCO Idaho Springs 91.88 41 P **P** **15 53 01.8 0.0**
baz=314
MVCO Mesa Verde 91.94 44 P **P** **15 53 02.6 +0.6**
baz=312
S22A 4UR Ranch, Cre 92.57 43 P **P** **15 53 05.5 +0.5**
baz=313
214A Organ Pipe Nat 92.59 50 P **P** **15 53 05.4 +0.5**
baz=309
SCHQ Schefferville 93.36 11 LR LR 16 37 52.1
comp=Z,145nm,20.2s,baz=22,slow=37
KEST Kesra 94.79 317 LR LR 16 41 18.6
comp=Z,116nm,19.3s,baz=313,slow=39
ESDC Sonseca Array 98.96 327 LR LR 16 45 19.7
comp=Z,154nm,18.7s,baz=40,slow=40
SFIN Lafayette 100.61 29 P **Pdif** **15 53 40.3 -0.7**
baz=327
QSPA South Pole Qui 120.39 180 PKP **PKiKP** **15 58 43.8 +0.2**
comp=Z,1.1nm,0.2s,baz=255,slow=2.7,SNR=4.8
DBIC Dimbokro 124.47 304 PKP **PKiKP** **15 58 53.0 -0.1**
comp=Z,2.7nm,0.8s,baz=116,slow=4.7,SNR=3.2

*NNC **20** 15:40:41.9±0.1, 43°.37N×77°.90E, h0km, mb3.6, mpv3.9, Error ellipse: s-maj=2.2km s-min=0.8km az=170.0*
*KNET **20** 15:40:42.1±0.5, 43°.36N×77°.79E, h7km±4km, ml2.9, Error ellipse: s-maj=7.0km s-min=4.6km az=112.0*
*KRNET **20** 15:40:42.2±0.1, 43°.38N×77°.89E, h22km, mb3.7*
*SOME **20** 15:40:42.5, 43°.37N×77°.88E, h15km*
ISC 20 15:40:42.5±0.9, **43°.37N**±0°.02×**77°.86E**±0°.01, **h7**km±8km,
n109,σ1s42/205, 45C-29D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
KURS	**Kuram** baz=61	**0.25**	**62**	*e*P	**Pg**	**15 40 47.9**	**+0.3**
KURS				*e*S	**Sg**	**15 40 51.7**	**+0.7**
KURS	**Kuram** 102nm,0.1s	**0.25**	**62**	*e*P	**Pg**	**15 40 47.9**	**+0.3**
KURS	332nm,0.3s			*e*S	**Sg**	**15 40 51.7**	**+0.7**
KURS	**Kuram** 102nm,0.1s	**0.25**	**62**	P	**Pg**	**15 40 47.9**	**+0.3**
KURS	332nm,0.3s			S	**Sg**	**15 40 51.7**	**+0.7**
ZHN	**Zhinishke** baz=18	**0.46**	**115**	*e*P	**Pg**	**15 40 51.2**	**-0.3**
ZHN				*e*S	**Sg**	**15 40 57.2**	**-0.4**
ZHN	**Zhinishke** 156nm,0.1s	**0.46**	**115**	*e*P	**Pg**	**15 40 51.2**	**-0.3**
ZHN	2μm,0.2s			*e*S	**Sg**	**15 40 57.1**	**-0.4**
ZHN	**Zhinishke** 156nm,0.1s	**0.46**	**115**	P	**Pg**	**15 40 51.2**	**-0.3**
ZHN	2μm,0.2s			S	**Sg**	**15 40 57.1**	**-0.4**
SATY	**Saty** baz=30	**0.50**	**128**	*e*P	**Pg**	**15 40 52.0**	**-0.2**
SATY				*e*S	**Sg**	**15 40 58.6**	**-0.2**
SATY	**Saty** 271nm,0.1s	**0.50**	**128**	*e*P	**Pg**	**15 40 52.0**	**-0.2**
SATY	4μm,0.1s			*e*S	**Sg**	**15 40 58.7**	**-0.2**
KOTS	**Kotyrbulak** baz=56	**0.56**	**256**	*e*P	**Pg**	**15 40 54.1**	**+0.7**
KOTS	baz=56			*e*S	**Sb**	**15 41 02.4**	**-0.7**
KOTS	**Kotyrbulak** 175nm,0.1s	**0.56**	**256**	*e*P	**Pg**	**15 40 54.1**	**+0.7**
KOTS	378nm,0.2s			*e*S	**Sb**	**15 41 02.4**	**-0.7**
KOTS	**Kotyrbulak** 175nm,0.1s	**0.56**	**256**	P	**Pg**	**15 40 54.1**	**+0.7**
KOTS	378nm,0.2s			S	**Sb**	**15 41 02.4**	**-0.7**
ANVS	**Anan'yevo** baz=96	**0.60**	**194**	⇑ *e*P	**Pg**	**15 40 53.9**	**-0.2**
ANVS	baz=96			⇑ *e*S	**Sg**	**15 41 02.3**	**+0.3**
KPKS	**Kokpek** baz=81	**0.61**	**80**	*e*P	**Pg**	**15 40 53.9**	**-0.3**
KPKS	baz=81			*e*S	**Sg**	**15 41 02.0**	**-0.2**
KPKS	**Kokpek** 328nm,0.1s	**0.61**	**80**	*e*P	**Pg**	**15 40 53.9**	**-0.3**
KPKS	766nm,0.2s			*e*S	**Sg**	**15 41 02.0**	**-0.2**
KPKS	**Kokpek** 328nm,0.1s	**0.61**	**80**	P	**Pg**	**15 40 53.9**	**-0.3**
KPKS	766nm,0.2s			S	**Sg**	**15 41 02.0**	**-0.2**
MDOK	**Medeo** baz=51	**0.63**	**251**	*e*P	**Pg**	**15 40 54.9**	**+0.2**
MDOK	baz=51			*e*S	**Sg**	**15 41 03.8**	**+0.9**
MDOK	**Medeo** 43nm,0.1s	**0.63**	**251**	*e*P	**Pg**	**15 40 54.9**	**+0.2**
MDOK	137nm,0.3s			*e*S	**Sg**	**15 41 03.8**	**+0.9**
MDOK	**Medeo** 32nm,0.4s	**0.63**	**251**	⇓ P	**Pg**	**15 40 54.8**	**+0.2**
MDOK	43nm,0.1s			Pg	**Pg**	**15 40 54.9**	**+0.2**
MDOK	172nm,0.6s			S	**Sg**	**15 41 03.6**	**+0.7**
MDOK	137nm,0.3s			Lg	Lg	15 41 03.8	
KNDC	**Almaty** 45nm,0.5s	**0.67**	**257**	⇑ P	**Pg**	**15 40 56.0**	**+0.6**
KNDC	89nm,0.4s			⇓ S	**Sb**	**15 41 05.7**	**-0.4**
AAA	**Alma-Ata** 290nm,0.1s	**0.71**	**257**	*e*P	**Pg**	**15 40 56.8**	**+0.6**
AAA	408nm,0.1s			*e*S	**Sb**	**15 41 07.0**	**-0.2**
AAA	**Alma-Ata** 290nm,0.1s	**0.71**	**257**	P	**Pg**	**15 40 56.8**	**+0.6**
AAA	408nm,0.1s			S	**Sb**	**15 41 07.0**	**-0.2**
TNSS	**Tian-Shan** baz=45	**0.75**	**244**	*e*P	**Pg**	**15 40 56.8**	**-0.1**
TNSS	baz=45			*e*S	**Sg**	**15 41 07.3**	**+0.7**
TNSS	**Tian-Shan** 10nm,0.1s	**0.75**	**244**	*e*P	**Pg**	**15 40 56.8**	**-0.1**
TNSS	232nm,0.2s			*e*S	**Sg**	**15 41 07.4**	**+0.7**
TNSS	**Tian-Shan** 10nm,0.1s	**0.75**	**244**	P	**Pg**	**15 40 56.8**	**-0.1**
TNSS	232nm,0.2s			S	**Sg**	**15 41 07.4**	**+0.7**
CHKK	**Chushkaly** baz=7.0	**0.80**	**308**	*e*P	**Pg**	**15 40 57.9**	**0.0**
CHKK	baz=7.0			*e*S	**Sg**	**15 41 08.7**	**+0.4**
CHKK	**Chushkaly** 31nm,0.1s	**0.80**	**308**	*e*P	**Pg**	**15 40 57.9**	**0.0**
CHKK	228nm,0.1s			*e*S	**Sg**	**15 41 08.7**	**+0.4**
CHKK	**Chushkaly** 31nm,0.1s	**0.80**	**308**	P	**Pg**	**15 40 57.9**	**0.0**
CHKK	228nm,0.1s			S	**Sg**	**15 41 08.7**	**+0.4**
ARXS	**Arharly** 86nm,0.3s	**0.84**	**358**	*e*P	**Pb**	**15 40 58.6**	**-0.9**
ARXS	166nm,0.1s			*e*S	**Sg**	**15 41 10.1**	**+0.3**
ARXS	**Arharly** 86nm,0.3s	**0.84**	**358**	P	**Pb**	**15 40 58.6**	**-0.9**
ARXS	166nm,0.1s			S	**Sg**	**15 41 10.1**	**+0.3**
UZB	**Uzynbulak** baz=5.0	**0.88**	**104**	*e*P	**Pb**	**15 40 58.4**	**-1.7**
UZB	baz=5.0			*e*S	**Sb**	**15 41 09.6**	**-2.4**
UZB	**Uzynbulak** 152nm,0.1s	**0.88**	**104**	*e*P	**Pb**	**15 40 58.4**	**-1.7**
UZB	486nm,0.2s			*e*S	**Sb**	**15 41 09.6**	**-2.4**
UZB	**Uzynbulak** 152nm,0.1s	**0.88**	**104**	P	**Pb**	**15 40 58.4**	**-1.7**
UZB	486nm,0.2s			S	**Sb**	**15 41 09.6**	**-2.4**
KASK	**Kaskelen**	**0.90**	**261**	⇓ P	**Pb**	**15 41 00.2**	**-0.3**
KASK				⇑ S	**Sg**	**15 41 12.9**	**+1.3**
KTBS	**Karatobe** baz=91	**0.93**	**292**	*e*P	**Pb**	**15 41 00.3**	**-0.6**
KTBS	baz=91			*e*S	**Sb**	**15 41 12.9**	**-0.5**
KTBS	**Karatobe** 111nm,0.1s	**0.93**	**292**	*e*P	**Pb**	**15 41 00.2**	**-0.6**
KTBS	521nm,0.2s			*e*S	**Sb**	**15 41 12.9**	**-0.5**
KTBS	**Karatobe** 111nm,0.1s	**0.93**	**292**	P	**Pb**	**15 41 00.3**	**-0.6**
KTBS	521nm,0.2s			S	**Sb**	**15 41 12.9**	**-0.5**
PRZ	**Przheval'sk** baz=57	**0.97**	**156**	⇓ *i*P	**Pb**	**15 41 00.8**	**-0.9**
PRZ	baz=57			⇓ *i*S	**Sb**	**15 41 13.6**	**-1.1**
IZV	**Izvestkoviy** baz=50	**0.97**	**250**	*e*P	**Pb**	**15 41 01.1**	**-0.6**
IZV	baz=50			*e*S	**Sb**	**15 41 14.3**	**-0.5**
IZV	**Izvestkoviy** 49nm,0.2s	**0.97**	**250**	*e*P	**Pb**	**15 41 01.1**	**-0.6**
IZV	240nm,0.1s			*e*S	**Sb**	**15 41 14.3**	**-0.5**
IZV	**Izvestkoviy** 49nm,0.2s	**0.97**	**250**	P	**Pb**	**15 41 01.1**	**-0.6**
IZV	240nm,0.1s			S	**Sb**	**15 41 14.3**	**-0.5**
MTBS	**Maitube** baz=58	**1.07**	**258**	*e*P	**Pb**	**15 41 03.0**	**-0.5**
MTBS	baz=58			*e*S	**Sb**	**15 41 17.5**	**-0.2**
MTBS	**Maitube** 298nm,0.2s	**1.07**	**258**	*e*P	**Pb**	**15 41 03.0**	**-0.5**
MTBS	169nm,0.3s			*e*S	**Sb**	**15 41 17.5**	**-0.2**
MTBS	**Maitube** 298nm,0.2s	**1.07**	**258**	P	**Pb**	**15 41 03.0**	**-0.5**
MTBS	169nm,0.3s			S	**Sb**	**15 41 17.5**	**-0.2**
SHLS	**Shalkode** baz=98	**1.19**	**100**	*e*P	**Pg**	**15 41 09.3**	**+4.0**
SHLS	baz=98			*e*S	**Sg**	**15 41 28.6**	**+7.9**
SHLS	**Shalkode** 18nm,0.1s	**1.19**	**100**	*e*P	**Pg**	**15 41 09.3**	**+4.0**
SHLS	130nm,0.3s			*e*S	**Sg**	**15 41 28.5**	**+7.9**
SHLS	**Shalkode** 18nm,0.1s	**1.19**	**100**	P	**Pg**	**15 41 09.3**	**+4.0**
SHLS	130nm,0.3s			S	**Sg**	**15 41 28.5**	**+7.9**
PDGK	**Podgornoye** 16nm,0.1s	**1.19**	**91**	P	**Pn**	**15 41 03.7**	**-1.9**
PDGK	42nm,0.2s			S	**Sb**	**15 41 19.0**	**-2.0**
PDGK	**Podgornoye** 18nm,0.5s	**1.19**	**91**	⇑ P	**Pn**	**15 41 03.6**	**-1.9**
PDGK	24nm,0.3s			⇓ S	**Sb**	**15 41 19.0**	**-2.0**
KUU	**Kurty** baz=95	**1.22**	**296**	*e*P	**Pn**	**15 41 05.3**	**-0.7**

KUU				*e*S	Sn	15 41 21.7	-1.1	
	baz=95							
KUU	**Kurty**	**1.22**	**296**	*e*P	Pn	15 41 05.3	-0.7	
	64nm,0.1s							
KUU				*e*S	Sn	15 41 21.6	-1.1	
	161nm,0.1s							
KUU	**Kurty**	**1.22**	**296**	P	Pn	15 41 05.3	-0.7	
	64nm,0.1s							
KUU				S	Sn	15 41 21.7	-1.1	
	161nm,0.1s							
KNOS	**Konyrlen**	**1.37**	**43**	P	Pn	15 41 07.4	-0.8	
	45nm,0.2s							
KNOS				S	Sb	15 41 25.2	-1.2	
	125nm,0.5s							
KST	**Kastek**	**1.43**	**257**	*e*P	Pb	15 41 08.8	-0.7	
	baz=57							
KST				*e*S	Sb	15 41 27.9	0.0	
	baz=57							
KST	**Kastek**	**1.43**	**257**	*e*P	Pb	15 41 08.8	-0.7	
	116nm,0.2s							
KST				*e*S	Sb	15 41 27.8	0.0	
	127nm,0.2s							
KST	**Kastek**	**1.43**	**257**	P	Pb	15 41 08.8	-0.7	
	116nm,0.2s							
KST				S	Sb	15 41 27.8	0.0	
	127nm,0.2s							
DGS	**Degeres**	**1.53**	**266**	*e*P	Pb	15 41 10.5	-0.8	
	baz=66							
DGS				*e*S	Sb	15 41 30.7	-0.2	
	baz=66							
DGS	**Degeres**	**1.53**	**266**	*e*P	Pb	15 41 10.5	-0.8	
	34nm,0.2s							
DGS				*e*S	Sb	15 41 30.7	-0.2	
	289nm,0.4s							
DGS	**Degeres**	**1.53**	**266**	P	Pb	15 41 10.5	-0.8	
	34nm,0.2s							
DGS				S	Sb	15 41 30.7	-0.2	
	289nm,0.4s							
KRBS	**Karabastau**	**1.62**	**282**	*e*P	Pb	15 41 11.8	-1.0	
	baz=82							
KRBS				*e*S	Sb	15 41 33.5	0.0	
	baz=82							
KRBS	**Karabastau**	**1.62**	**282**	*e*P	Pb	15 41 11.8	-1.0	
	40nm,0.2s							
KRBS				*e*S	Sb	15 41 33.5	0.0	
	89nm,0.2s							
KRBS	**Karabastau**	**1.62**	**282**	P	Pb	15 41 11.8	-1.0	
	40nm,0.2s							
KRBS				S	Sb	15 41 33.5	0.0	
	89nm,0.2s							
ULHL	**Ulahol**	**1.64**	**227**	⇑P	Pb	15 41 12.5	-0.6	
	37nm,0.2s,SNR=6.1							
ULHL				⇑S	Sb	15 41 34.5	+0.5	
	57nm,0.1s							
ULHL	**Ulahol**	**1.64**	**227**	⇓*i*P	Pb	15 41 12.7	-0.4	
	baz=28							
ULHL				⇓*i*S	Sb	15 41 34.5	+0.5	
	baz=28							
TARG	**Taragay, Kyrgy**	**1.64**	**182**	⇑*i*P	Pb	15 41 12.4	-0.8	
	baz=82							
TARG				⇑*i*S	Sb	15 41 33.9	-0.3	
	baz=82							
TDK	**Taldyqorghan**	**1.68**	**13**	*e*P	Pb	15 41 12.7	-1.0	
	121nm,0.4s							
TDK				*e*S	Sb	15 41 34.6	-0.4	
	463nm,0.4s							
TDK	**Taldyqorghan**	**1.68**	**13**	P	Pb	15 41 12.7	-1.0	
	121nm,0.4s							
TDK				S	Sb	15 41 34.6	-0.4	
	463nm,0.4s							
DJR	**Jarkent**	**1.69**	**55**	*e*P	Pb	15 41 12.8	-1.2	
	31nm,0.3s							
DJR				*e*S	Sb	15 41 35.0	-0.6	
	115nm,0.3s							
DJR	**Jarkent**	**1.69**	**55**	P	Pb	15 41 12.8	-1.2	
	31nm,0.3s							
DJR				S	Sb	15 41 35.0	-0.6	
	115nm,0.3s							
TKM2	**Tokmak 2**	**1.72**	**256**	⇓P	Pb	15 41 13.6	-0.9	
	53nm,0.2s,SNR=319							
TKM2				⇓S	Sg	15 41 37.3	-0.5	
	207nm,0.1s							
TKM2	**Tokmak 2**	**1.72**	**256**	⇑*i*P	Pb	15 41 13.6	-0.9	
	baz=56							
TKM2				⇑*i*S	Sb	15 41 36.2	-0.1	
	baz=56							
TKM2	**Tokmak 2**	**1.72**	**256**	⇑P	Pb	15 41 13.8	-0.7	
	18nm,0.2s							
TKM2				⇑S	Sg	15 41 37.2	-0.5	
	58nm,0.3s							
KTMS	**Ketmen**	**1.82**	**87**	*e*P	Pb	15 41 14.4	-1.7	
	baz=87							
KTMS				*e*S	Sb	15 41 37.6	-1.5	
	baz=87							
KTMS	**Ketmen**	**1.82**	**87**	*e*P	Pb	15 41 14.4	-1.7	
	11nm,0.2s							
KTMS				*e*S	Sb	15 41 37.6	-1.5	
	96nm,0.2s							
KTMS	**Ketmen**	**1.82**	**87**	P	Pb	15 41 14.4	-1.7	
	11nm,0.2s							
KTMS				S	Sb	15 41 37.6	-1.5	
	96nm,0.2s							
KAPS	**Kapalarasan**	**2.20**	**29**	*e*Pg	Pb	15 41 21.8	-0.7	
	34nm,0.2s							
KAPS				*e*Lg	Lg	15 41 50.2		
	30nm,0.1s							
KAPS	**Kapalarasan**	**2.20**	**29**	Pg	Pb	15 41 21.8	-0.7	
	34nm,0.2s							
KAPS				Lg	Lg	15 41 50.2		
	30nm,0.1s							
KBK	**Karagaybulak**	**2.25**	**253**	⇑P	Pb	15 41 22.1	-1.5	
	45nm,0.3s,SNR=47							
KBK				⇑S	Sg	15 41 53.4	-1.5	
	69nm,0.2s							
KBK	**Karagaybulak**	**2.25**	**253**	⇑*i*P	Pn	15 41 21.1	+0.8	
	baz=53							
KBK				⇑*i*S	Sn	15 41 49.0	+0.6	
	baz=53							
CHMS	**Chumysh**	**2.31**	**262**	⇑P	Pn	15 41 21.9	+1.0	
	18nm,0.1s,SNR=6.2							
CHMS				⇓S	Sb	15 41 54.2	+1.1	
	71nm,0.2s							
CHMS	**Chumysh**	**2.31**	**262**	⇑*i*P	Pn	15 41 21.6	+0.7	
	baz=62							
CHMS				⇑*i*S	Sn	15 41 49.8	+0.3	
	baz=62							
CHMS	**Chumysh**	**2.31**	**262**	⇑Pg	Pb	15 41 23.2	-1.2	
	2.6nm,0.2s							
CHMS				⇓Lg	Lg	15 41 54.3		
	16nm,0.2s							
KZA	**Kyzart**	**2.32**	**237**	⇓P	Pb	15 41 23.9	-1.0	
	30nm,0.3s,SNR=19							
KZA	**Kyzart**	**2.32**	**237**	⇑*i*P	Pn	15 41 22.2	+0.8	
	baz=37							
KZA				⇑*i*S	Sn	15 41 51.1	+0.8	
	baz=37							
SGDS	**Sogindy**	**2.36**	**273**	Pg	Pb	15 41 25.3	0.0	
	7.5nm,0.1s							
SGDS				Lg	Lg	15 41 55.9		
	27nm,0.1s							
NRN	**Naryn**	**2.38**	**216**	⇓*e*P	Pb	15 41 23.5	-2.3	
	baz=17							
NRN				⇓*i*S	Sn	15 41 52.6	+1.0	
	baz=17							
FRU1	**Bishkek**	**2.43**	**258**	⇑*i*P	Pn	15 41 23.5	+0.8	
	baz=58							
FRU1				⇑*i*S	Sn	15 41 53.4	+0.7	
	baz=58							
USP	**Ospenovka**	**2.46**	**269**	⇓P	Pn	15 41 24.1	+1.1	
	13nm,0.1s,SNR=11							
USP				⇑S	Sb	15 41 58.0	+0.6	
	44nm,0.2s							
USP	**Ospenovka**	**2.46**	**269**	⇑*i*P	Pn	15 41 23.5	+0.5	
	baz=69							
USP				⇑*i*S	Sn	15 41 53.9	+0.7	
	baz=69							
AAK	**Ala-Archa**	**2.58**	**255**	⇑P	Pb	15 41 26.8	-2.3	
	8.8nm,0.2s,SNR=10							
AAK				⇓S	Sb	15 42 01.1	+0.1	
	22nm,0.2s							
AAK	**Ala-Archa**	**2.58**	**255**	⇑*i*P	Pn	15 41 25.5	+0.8	
	baz=55							
AAK				⇑*i*S	Sn	15 41 56.7	+0.3	
	baz=55							
UCH	**Uchtor**	**2.72**	**246**	⇓*i*P	Pn	15 41 27.9	+1.0	
	baz=46							
UCH				⇓*i*S	Sn	15 42 00.6	+0.4	
	baz=46							

ARLS	**Aral**	**3.02**	**241**	⇓*e*P	Pn	15 41 31.6	+0.8	
	baz=41							
ARLS				⇓*i*S	Sn	15 42 07.5	+0.3	
	baz=41							
EKS2	**Erkin-Say**	**3.08**	**258**	⇓P	Pn	15 41 32.9	+1.3	
	7.4nm,0.2s,SNR=19							
EKS2	**Erkin-Say**	**3.08**	**258**	⇑*i*P	Pn	15 41 32.4	+0.8	
	baz=58							
EKS2				⇑*i*S	Sn	15 42 08.8	+0.1	
	baz=58							
BTLS	**Baital**	**3.21**	**303**	*e*Pg	Pb	15 41 40.7	+0.8	
	1.8nm,0.2s							
BTLS				*e*Lg	Lg	15 42 21.4		
	12nm,0.3s							
BTLS	**Baital**	**3.21**	**303**	Pg	Pb	15 41 40.7	+0.8	
	1.8nm,0.2s							
BTLS				Lg	Lg	15 42 21.4		
	12nm,0.3s							
AML	**Almayashu**	**3.31**	**249**	⇑*i*P	Pn	15 41 36.0	+1.0	
	baz=50							
AML				⇑*i*S	Sn	15 42 14.9	+0.1	
	baz=50							
AML	**Almayashu**	**3.31**	**249**	⇑Pg	Pb	15 41 41.8	+0.1	
	0.3nm,0.5s							
AML				⇓Lg	Lg	15 42 25.2		
	3.0nm,0.7s							
MRKS	**Merke**	**3.46**	**261**	*e*Pg	Pb	15 41 44.5	+0.5	
	12nm,0.3s							
MRKS				*e*Lg	Lg	15 42 28.7		
	25nm,0.3s							
MRKS	**Merke**	**3.46**	**261**	Pg	Pb	15 41 44.5	+0.5	
	12nm,0.3s							
MRKS				Lg	Lg	15 42 28.7		
	25nm,0.3s							
ARSB	**Arslanbob**	**4.15**	**242**	⇓*e*P	Pn	15 41 47.5	+1.1	
	baz=42							
ARSB				⇓*i*S	Sn	15 42 34.8	-0.5	
	baz=42							
MAKZ	**Makanchi**	**4.51**	**39**	⇓Pn	Pn	15 41 52.5	+1.4	
	4.4nm,1.4s							
MAKZ				⇓Pg	Pb	15 42 03.0	+1.1	
	2.8nm,1.1s							
MAKZ				⇑Lg	Lg	15 43 02.8		
	5.6nm,0.8s							
ARK	**Arkit**	**4.63**	**252**	⇑*i*P	Pn	15 41 54.0	+1.1	
	baz=52							
ARK				⇑*i*S	Sn	15 42 46.2	-0.7	
	baz=52							
MK31	**Makanchi Array**	**4.64**	**41**	⇑Pn	Pn	15 41 53.3	+0.3	
	0.1nm,0.2s,baz=59,slow=34,SNR=19							
MK31				Pg	Pb	15 42 06.4	+2.2	
	0.6nm,0.3s,baz=220,slow=15,SNR=8.1							
MK31				⇓Lg	Lg	15 43 07.1		
	3.3nm,0.5s,baz=221,slow=28,SNR=6.5							
TRKS	**Terek-Say**	**5.30**	**252**	⇑*e*P	Pn	15 42 03.5	+1.3	
	baz=51							
TRKS				⇑*e*S	Sn	15 43 02.5	-1.1	
	baz=51							
KK31	**Karatay Array**	**5.38**	**270**	Pg	Pg	15 42 21.5	-4.0	
	0.6nm,0.3s,baz=86,slow=15,SNR=9.2							
KK31				⇓Lg	Lg	15 43 32.5		
	1.7nm,0.4s,baz=86,slow=32,SNR=5.8							
KKAR	**Karatay Array**	**5.38**	**270**	⇑*i*P	Pn	15 42 03.9	+0.8	
	baz=70							
KKAR				⇑*i*S	Sn	15 43 03.8	-1.4	
	baz=70							
KURBB	**Kurchatov Arra**	**7.27**	**3**	⇑Lg	Lg	15 44 35.0		
	4.1nm,0.6s							

*IDC **20** 15:43:57.8±0.8,22.˚64S×69.˚47E,h0km,mb3.8/12, mbtmp3.9/12,MS4.0/29,Error ellipse: s-maj=24.4km s-min=20.9km az=11.0*

*NEIC **20** 15:43:59.6±1.8,22.˚5S±0.˚1×69.˚6E±0.˚1,h10km±1km, mb4.6/15,Error ellipse: s-maj=28.2km s-min=5.6km az=213.0*

*GCMT **20** 15:44:01.6±0.3,22.˚29S±0.˚03×69.˚29E±0.˚03,h18km±1km, MW4.9/87,Moment Tensor Solution. s14,c16; s87,c119; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.45±.23; Mθθ 0.86±.13; Mϕϕ 1.60±.14; Mrθ 1.42±.36; Mrϕ -1.27±.07; Mθϕ 1.30±.36; Best double couple: M0 3.04400×10¹⁶ NP1:ϕs 170.00000°,δ55.00000°,λ -53.00000°. NP2: ϕs 298.00000°,δ 49.00000°,λ -130.00000°. Principal axes: T 2.5620, Plg3.0000°, Azm235.0000°; N 0.9710, Plg29.0000°, Azm327.0000°; P -3.5260, Plg61.0000°, Azm140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 15:43:58.9±0.8,22.˚6S±0.˚1×69.˚50E±0.˚10,h10km,n63, σ0s87/33,mb4.2/19,MS4.1/29,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
ROCAM	**Rodrigues Isla**	**6.36**	**295**	Pn	**Pn**	**15**	**45 32.7**	**-0.1**
H08S1	**Diego Carcia H**	**15.10**	**11**	T	T	16	03 02.4	
	baz=192,slow=76,SNR=83							
H08S2	**Diego Garcia H**	**15.10**	**11**	T	T	16	03 01.6	
	baz=192,slow=76,SNR=114							
H08S3	**Diego Garcia H**	**15.12**	**11**	T	T	16	02 60.0	
	baz=192,slow=76,SNR=145							
ABPO	**Ambohimpanom**	**21.11**	**275**	P	**P**	**15**	**48 43.9**	**-0.3**
OPO	**Ambohidratompo**	**21.26**	**277**	P	**P**	**15**	**48 47.8**	**+2.1**
	1.1nm,0.6s,baz=102,slow=19,SNR=1.8							
	1.1nm,0.6s							
H04N2	**CROZET ISLANDS**	**27.59**	**207**	T	T	16	18 37.1	
	baz=38,slow=75,SNR=193							
H04N1	**CROZET ISLANDS**	**27.60**	**207**	T	T	16	18 38.0	
	baz=38,slow=75,SNR=166							
H04N3	**CROZET ISLANDS**	**27.61**	**207**	T	T	16	18 40.5	
	baz=38,slow=75,SNR=179							
PALK	**Pallekele**	**31.61**	**22**	LR	LR	16	00 04.8	
	comp=Z,472nm,20.7s,baz=274,slow=30							
KMBO	**Kilima Mbogo**	**37.90**	**300**	LR	LR	16	03 54.2	
	comp=Z,68nm,18.2s,baz=268,slow=32							
LSZ	**Lusaka**	**39.65**	**273**	LR	LR	16	05 41.7	
	comp=Z,201nm,19.8s,baz=98,slow=33							
LEM	**Lembang**	**39.90**	**73**	LR	LR	16	04 09.6	
	comp=Z,190nm,20.5s,baz=273,slow=30							
LBTB	**Lobatse**	**40.12**	**258**	LR	LR	16	05 04.4	
	comp=Z,144nm,19.4s,baz=128,slow=32							
BOSA	**Boshof**	**40.19**	**252**	P	**P**	**15**	**51 35.5**	**-0.4**
	5.1nm,1.0s,baz=130,slow=7.3,SNR=4.1							
BOSA				LR	LR	16	04 36.6	
	comp=Z,275nm,21.7s,baz=72,slow=31							
	5.1nm,1.0s							
LODK	**Lodwar**	**42.17**	**303**	P	**P**	**15**	**51 50.3**	**-1.9**
NWAO	**Narrogin (SRO)**	**43.18**	**115**	LR	LR	16	06 59.3	
	comp=Z,120nm,19.2s,baz=172,slow=32							
MBAR	**Mbarara**	**43.55**	**295**	P	**P**	**15**	**52 03.2**	**-0.3**
SUR	**Sutherland**	**43.98**	**246**	LR	LR	16	06 31.6	
	comp=Z,235nm,21.6s,baz=116,slow=31							
MAW	**Mawson**	**45.24**	**184**	LR	LR	16	08 30.5	
	comp=Z,97nm,19.6s,baz=292,slow=33							
TSUM	**Tsumeb**	**48.43**	**264**	LR	LR	16	10 32.1	
	comp=Z,321nm,20.5s,baz=142,slow=33							
CM31	**Chiang Mai Arr**	**49.90**	**38**	P	**P**	**15**	**52 52.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**49.90**	**38**	P	**P**	**15**	**52 51.9**	**-1.1**
CMAR	**Chiang Mai Arr**	**49.90**	**38**	LR	LR	16	13 06.0	
	comp=Z,114nm,18.1s,baz=225,slow=35							
KAPI	**Kappang**	**51.54**	**78**	LR	LR	16	14 22.1	
	comp=Z,62nm,18.2s,baz=302,slow=35							
SHL	**Shillong**	**52.53**	**26**	P	**P**	**15**	**53 13.3**	**+0.5**
LSA	**Lhasa**	**55.98**	**23**	P	**P**	**15**	**53 38.1**	**0.0**
LSA				IAmb	IAmb	15	53 52.8	
	comp=Z,8.2nm,1.1s							
ASAR	**Alice Springs**	**58.77**	**105**	P	**P**	**15**	**53 57.2**	**-0.6**
ASAR	**Alice Springs**	**58.77**	**105**	P	**P**	**15**	**53 58.8**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=268,slow=6.4,SNR=8.2							
ASAR				LR	LR	16	15 34.6	
	comp=Z,240nm,21.6s,baz=262,slow=32							
	comp=Z,0.9nm,0.8s							
WRA	**Warramunga Arr**	**60.06**	**101**	P	**P**	**15**	**54 06.9**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=255,slow=6.7,SNR=6.5							
	comp=Z,1.0nm,0.7s							
WRAB	**Tennant Creek**	**60.08**	**101**	P	**P**	**15**	**54 06.1**	**-0.6**
WRAB				IAmb	IAmb	15	54 14.9	
	comp=Z,5.1nm,0.9s							
DAV	**Davao City (W)**	**62.27**	**69**	LR	LR	16	18 14.8	
	comp=Z,63nm,21.7s,baz=280,slow=33							
BTK	**Batken**	**62.30**	**1**	P	**P**	**15**	**54 22.0**	**+0.6**
SNAA	**Sanae**	**63.22**	**200**	LR	LR	16	19 48.4	
	comp=Z,60nm,18.1s,baz=5.0,slow=34							
STKA	**Stephens Creek**	**63.76**	**115**	LR	LR	16	19 01.9	
	comp=Z,86nm,20.0s,baz=219,slow=33							
AAK	**Ala-Archa**	**65.03**	**4**	P	**P**	**15**	**54 38.5**	**-1.0**
AAK				IAmb	IAmb	15	54 53.0	
	comp=Z,5.1nm,1.2s							
KK31	**Karatay Array**	**65.34**	**1**	P	**P**	**15**	**54 41.5**	**+0.3**
KK31				IAmb	IAmb	15	55 08.8	
	comp=Z,5.2nm,1.4s							
KKAR	**Karatay Array**	**65.34**	**1**	P	**P**	**15**	**54 41.4**	**+0.1**
QSPA	**South Pole Qui**	**67.56**	**180**	P	**P**	**15**	**54 55.6**	**+0.2**
	comp=Z,2.0nm,1.0s,baz=299,slow=1.2,SNR=3.6							
	comp=Z,2.0nm,1.0s							
MK31	**Makanchi Array**	**69.98**	**9**	P	**P**	**15**	**55 10.9**	**+0.3**
MK31				IAmb	IAmb	15	55 23.1	
	comp=Z,6.3nm,1.3s							
MKAR	**Makanchi Array**	**69.98**	**9**	P	**P**	**15**	**55 10.2**	**-0.3**
MKAR	**Makanchi Array**	**69.98**	**9**	P	**P**	**15**	**55 11.8**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=190,slow=4.9,SNR=7.2							
MKAR				LR	LR	16	24 37.4	
	comp=Z,114nm,19.3s,baz=221,slow=35							
	comp=Z,0.8nm,0.7s							
BRTR	**Keskin Array B**	**70.43**	**331**	P	**P**	**15**	**55 15.0**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=123,slow=5.3,SNR=1.8							
	comp=Z,0.5nm,0.8s							
CTA	**Charters Tower**	**70.77**	**104**	LR	LR	16	22 54.2	
	comp=Z,141nm,20.9s,baz=245,slow=33							
ABKAR	**Akbulak array**	**71.99**	**353**	P	**P**	**15**	**55 23.0**	**+0.4**
KURBB	**Kurchatov Arra**	**73.29**	**6**	P	**P**	**15**	**55 31.5**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=202,slow=6.4,SNR=6.3							
	comp=Z,0.4nm,0.8s							
BVAR	**Borovoye Array**	**75.26**	**1**	P	**P**	**15**	**55 42.6**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=163,slow=5.4,SNR=3.3							
	comp=Z,0.5nm,0.6s							
TORD	**Torodi Ar. Bea**	**75.29**	**291**	P	**P**	**15**	**55 42.2**	**-0.6**
	comp=Z,1.2nm,1.0s,baz=87,slow=5.0,SNR=6.2							
TORD				LR	LR	16	29 00.8	
	comp=Z,63nm,18.1s,baz=127,slow=36							
	comp=Z,1.2nm,1.0s							
ZAA0	**Zalesovo Array**	**77.33**	**9**	P	**P**	**15**	**55 53.0**	**-0.4**
ZAA0				IAmb	IAmb	15	56 06.1	
	comp=Z,6.0nm,1.1s							
ZALV	**Zalesovo Beam**	**77.33**	**9**	P	**P**	**15**	**55 53.0**	**-0.4**
ZALV	**Zalesovo Beam**	**77.33**	**9**	P	**P**	**15**	**55 54.4**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=183,slow=3.0,SNR=4.1							
	comp=Z,1.1nm,0.7s							
SONM	**Songino Array**	**77.51**	**24**	P	**P**	**15**	**55 53.7**	**-1.1**
SONM				IAmb	IAmb	15	56 07.5	
	comp=Z,7.7nm,1.4s							
SONM	**Songino Array**	**77.51**	**24**	P	**P**	**15**	**55 55.6**	**+0.8**
	comp=Z,1.2nm,1.0s,baz=242,slow=3.2,SNR=6.2							
SONM				LR	LR	16	28 35.5	
	comp=Z,119nm,21.8s,baz=174,slow=34							
	comp=Z,1.2nm,1.0s							
ULN	**Ulaanbaatar**	**77.79**	**25**	P	**P**	**15**	**55 56.0**	**-0.5**
ULN				IAmb	IAmb	15	56 08.9	
	comp=Z,6.8nm,1.3s							
DBIC	**Dimbokro**	**78.25**	**282**	LR	LR	16	28 42.7	
	comp=Z,133nm,18.4s,baz=111,slow=34							
JNU	**Nakatsue**	**80.55**	**48**	LR	LR	16	29 04.7	
	comp=Z,121nm,21.0s,baz=170,slow=34							
KSRS	**Korea Array**	**81.12**	**43**	LR	LR	16	32 39.2	
	comp=Z,51nm,18.2s,baz=260,slow=36							
PMSA	**Palmer Station**	**85.89**	**198**	LR	LR	16	26 56.1	
	comp=Z,133nm,21.8s,baz=98,slow=30							
HNR	**Honiara**	**86.85**	**99**	LR	LR	16	33 05.2	
	comp=Z,391nm,20.0s,baz=160,slow=34							
MJAR	**Matsushiro Arr**	**87.47**	**49**	LR	LR	16	34 19.7	
	comp=Z,70nm,20.4s,baz=224,slow=34							
DZM	**Mont Dzumac**	**87.78**	**113**	LR	LR	16	35 08.6	
	comp=Z,74nm,18.1s,baz=217,slow=35							
KLR	**Kul'dur**	**90.33**	**35**	LR	LR	16	39 48.9	
	comp=Z,98nm,18.0s,baz=214,slow=37							
ASAJ	**Asahikawa**	**94.07**	**44**	LR	LR	16	37 35.0	
	comp=Z,54nm,20.6s,baz=78,slow=34							

*NEIC **20** 15:50:05.2±2.5,23.˚9S±0.˚1×179.˚6W±0.˚1,h506km±7km, mb4.5/46,Error ellipse: s-maj=17.2km s-min=14.9km az=148.0*

*NOU **20** 15:50:07.2,23.˚84S×179.˚48W,h551km,mb4.5/51,South of Fiji Islands*

*IDC **20** 15:50:08.1±1.2,23.˚92S×179.˚81W,h534km±12km, mb3.6/18,mbtmp4.5/19,Error ellipse: s-maj=13.1km s-min=11.3km az=146.0*

ISC 20 15:50:05.8±0.3,23.˚96S±0.˚05×179.˚71W±0.˚06,h512km, n280,σ1s70/306,mb4.5/46,28C-10D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
RIZ	**Raoul Island**	**5.50**	**164**	S	**S**	**15**	**52 55.6**	**+2.5**
RIZ	**Raoul Island**	**5.50**	**164**	P	**P**	**15**	**51 40.8**	**+3.0**
RAO	**Raoul Island**	**5.51**	**164**	P	**P**	**15**	**51 38.2**	**+0.3**
RAO	**Raoul Island**	**5.51**	**164**	P	**P**	**15**	**51 41.1**	**+3.2**
RAO	**Raoul Island**	**5.51**	**164**	P	**P**	**15**	**51 41.1**	**+3.2**
	384nm,0.3s,baz=91,slow=11,SNR=13							
RAO				S	**S**	**15**	**52 54.7**	**+1.4**
	170nm,0.3s,baz=96,slow=21,SNR=2.0							
GLKZ	**Green Lake**	**5.52**	**164**	P	**P**	**15**	**51 40.1**	**+2.1**
GLKZ				S	**S**	**15**	**52 56.1**	**+2.7**
TAVE	**Taveuni**	**7.22**	**358**	P	**P**	**15**	**51 57.1**	**+2.4**
DGTI	**Dogotuki**	**7.64**	**356**	P	**P**	**15**	**52 01.4**	**+2.5**
YSA	**Yasawairara**	**7.66**	**340**	P	**P**	**15**	**52 01.6**	**+2.5**
NIUE	**Niue**	**10.31**	**64**	P	**P**	**15**	**52 25.8**	**-0.9**
NIUE	**Niue**	**10.31**	**64**	P	**P**	**15**	**52 27.6**	**+1.0**
MARNC	**Mare, Loyalty**	**11.59**	**280**	P	**P**	**15**	**52 40.9**	**+0.9**
PINNC	**Pines Island,**	**11.88**	**274**	P	**P**	**15**	**52 45.0**	**+1.9**
PINNC	**Pines Island,**	**11.88**	**274**	P	**P**	**15**	**52 46.9**	**+3.8**
OUENC	**Ouen Island, N**	**12.47**	**274**	P	**P**	**15**	**52 51.3**	**+2.0**
OUENC	**Ouen Island, N**	**12.47**	**274**	P	**P**	**15**	**52 53.1**	**+3.8**
LIFNC	**LIFOU**	**12.49**	**282**	P	**P**	**15**	**52 51.2**	**+1.7**
LIFNC	**LIFOU**	**12.49**	**282**	P	**P**	**15**	**52 52.2**	**+2.7**
YATNC	**Mamie plateau,**	**12.49**	**276**	P	**P**	**15**	**52 53.0**	**+3.5**
AFI	**Afiamalu**	**12.49**	**38**	P	**P**

POWZ S S 15 56 21.5 -3.6
BFZ Birch Farm 17.02 191 P P 15 53 37.4 +1.1
BFZ Birch Farm 17.02 191 P P 15 53 35.3 -1.0
BFZ Birch Farm 17.02 191 P P 15 53 35.3 -1.0
BFZ S S 15 56 25.3 -3.2
MRZ Mangatainoka R 17.12 192 P P 15 53 34.7 -2.5
MRZ Mangatainoka R 17.12 192 P P 15 53 34.0 -3.2
MRZ S S 15 56 27.1 -3.0
OGWZ Otaki Gorge 17.35 193 P P 15 53 37.9 -1.5
OGWZ Otaki Gorge 17.35 193 P P 15 53 36.2 -3.2
OGWZ S S 15 56 28.0 -5.9
HOWZ Holdsworth Sta 17.36 192 P P 15 53 38.0 -1.5
HOWZ Holdsworth Sta 17.36 192 P P 15 53 36.8 -2.8
HOWZ S S 15 56 29.8 -4.3
KIW Kapiti Island 17.45 194 P P 15 53 38.6 -1.8
TMWZ Te Maipa 17.49 191 P P 15 53 40.8 0.0
MTW Mount Morrison 17.61 192 P P 15 53 40.6 -1.3
MTW Mount Morrison 17.61 192 P P 15 53 40.1 -1.8
MTW S S 15 56 36.4 -1.7
DUWZ D'Urville Isla 17.63 196 P P 15 53 41.8 -0.2
DUWZ D'Urville Isla 17.63 196 P P 15 53 40.5 -1.4
DUWZ S S 15 56 40.3 +1.9
CAW Cannon Point 17.65 193 P P 15 53 41.3 -0.9
SNZO South Karori 17.92 194 P P 15 53 44.4 -0.2
TCW Tory Channel 17.93 195 P P 15 53 44.0 -0.7
QRZ Quartz Range 18.04 199 P P 15 53 46.6 +1.0
QRZ Quartz Range 18.04 199 P P 15 53 46.7 +1.0
NNZ Nelson 18.16 197 P P 15 53 47.1 +0.4
NNZ Nelson 18.16 197 P P 15 53 47.6 +0.8
TUWZ Tuamarina 18.21 195 P P 15 53 46.7 -0.6
TUWZ S S 15 56 47.7 -0.1
MRNZ Matariki Terra 18.50 198 P P 15 53 49.7 -0.2
MRNZ S S 15 56 51.6 -0.9
THZ Tophouse 18.79 197 P P 15 53 52.7 0.0
THZ Tophouse 18.79 197 P P 15 53 52.9 +0.2
THZ S S 15 56 53.0 -4.4
KHZ Kahutara 19.24 195 P P 15 53 57.7 +1.1
KHZ Kahutara 19.24 195 P P 15 53 55.5 -1.2
KHZ S S 15 57 00.3 -4.2
INZ Inchbonnie 20.10 199 P P 15 54 04.6 +0.1
RPZ Rata Peaks 21.12 199 P P 15 54 15.4 +1.6
RPZ Rata Peaks 21.12 199 P P 15 54 15.2 +1.4
20nm,0.4s,baz=21,slow=4.2,SNR=25
20nm,0.4s
FOZ Fox Glacier 21.35 201 P P 15 54 14.7 -1.1
JCZ Jackson Bay 22.17 202 P P 15 54 24.0 +0.7
ARMA Armidale 26.25 250 P P 15 55 01.5 +1.7
ARMA Armidale 26.25 250 P P 15 55 01.7 +1.9
EIDS Eidsvold 26.56 261 P P 15 55 03.2 +0.7
EIDS IAmb IAmb 15 55 04.1
comp=Z,8.0nm,0.6s
EIDS Eidsvold 26.56 261 P P 15 55 04.0 +1.5
PPT Papeete 28.84 83 P P 15 55 24.1 +1.6
comp=Z,9.7nm,0.6s,baz=263,slow=17,SNR=3.1
comp=Z,9.7nm,0.6s
PPTF Pamatai, Papee 28.85 83 P P 15 55 22.6 0.0
PPTF IAmb IAmb 15 55 31.7
comp=Z,16nm,0.9s
CNB Canberra Magne 29.06 240 P P 15 55 26.4 +2.1
CAN Canberra 29.35 240 P P 15 55 27.6 +0.8
CAN IAmb IAmb 15 55 29.1
comp=Z,17nm,0.9s
CAN Canberra 29.35 240 P P 15 55 28.4 +1.6
YNG Young 29.60 242 P P 15 55 30.7 +1.7
MILA Mila 29.69 237 P P 15 55 31.5 +1.7
CMSA Cobar Meteorol 31.44 248 P P 15 55 45.8 +0.9
CTAO Charters Tower 31.75 270 P P 15 55 47.8 +0.2
CTAO IAmb IAmb 15 55 48.8
comp=Z,9.2nm,0.5s
CTAO Charters Tower 31.75 270 P P 15 55 48.6 +1.0
TOO Toolangi 32.64 237 P P 15 55 56.2 +1.2
TOO IAmb IAmb 15 55 56.5
comp=Z,9.4nm,0.7s
TOO Toolangi 32.64 237 P P 15 55 56.4 +1.3
TAU Tasmania Unive 33.09 227 P P 15 55 59.2 +0.5
TAU IAmb IAmb 15 56 00.6
comp=Z,21nm,0.8s
TAU Tasmania Unive 33.09 227 P P 15 56 00.3 +1.6
RABL Rabaul 33.49 302 P P 15 56 01.1 -1.4
PMG Port Moresby 34.77 289 P P 15 56 12.9 -0.3
PMG Port Moresby 34.77 289 P P 15 56 13.3 +0.1
STKA Stephens Creek 34.95 248 P P 15 56 15.3 +0.8
STKA Stephens Creek 34.95 248 P P 15 56 15.2 +0.7
comp=Z,9.9nm,0.5s,baz=84,slow=9.8,SNR=8.6
comp=Z,2.9nm,0.5s
HTT Hallett 37.30 246 P P 15 56 34.7 +0.7
LCRK Leigh Creek 37.81 251 P P 15 56 39.0 +0.8
MANU Manus Island 38.58 299 P P 15 56 43.7 -1.0
MANU IAmb IAmb 15 56 53.3
comp=Z,31nm,1.1s
BBOO Buckleboo 39.67 247 P P 15 56 52.7 -0.6
BBOO IAmb IAmb 15 57 03.3
comp=Z,16nm,1.1s
BBOO Buckleboo 39.67 247 P P 15 56 53.0 -0.3
OOD Oodnadatta 40.15 255 P P 15 56 58.1 +0.9
MULG Mulgathing 41.41 251 P P 15 57 07.3 +0.1
AS31 Alice Springs 42.29 261 P P 15 57 14.0 -0.3
ASAR Alice Springs 42.29 261 P P 15 57 13.1 -1.3
ASAR Alice Springs 42.29 261 P P 15 57 14.3 0.0
comp=Z,1.4nm,0.4s,baz=85,slow=6.9,SNR=55
ASAR S S 16 02 54.7 -3.2
comp=Z,1.0nm,0.7s,baz=100,slow=15,SNR=7.1
comp=Z,1.4nm,0.4s
WR0 Warramunga Arr 42.48 266 P P 15 57 15.2 -0.7
WB2 Warramunga Arr 42.66 266 P P 15 57 16.3 -1.0
WB2 IAmb IAmb 15 57 17.2
comp=Z,8.3nm,0.5s
WRAB Tennant Creek 42.66 266 P P 15 57 16.5 -0.8
WRAB IAmb IAmb 15 57 17.1
comp=Z,6.8nm,0.5s
WB0 Warramunga Arr 42.66 266 P P 15 57 16.6 -0.7
WB0 IAmb IAmb 15 57 17.5
comp=Z,10nm,0.7s
WRA Warramunga Arr 42.67 266 P P 15 57 16.9 -0.5
WRA Warramunga Arr 42.67 266 P P 15 57 16.9 -0.5
comp=Z,8.9nm,0.6s,baz=96,slow=8.3,SNR=353
WRA PcP PcP 15 58 57.3 -0.4
comp=Z,1.9nm,0.8s,baz=100,slow=3.4,SNR=7.2
WRA S S 16 02 57.6 -5.8
comp=Z,1.4nm,0.8s,baz=97,slow=14,SNR=8.8
comp=Z,8.9nm,0.6s
FORT Forrest 46.54 250 P P 15 57 45.9 -1.1
FORT IAmb IAmb 15 57 47.5
comp=Z,14nm,0.7s
FORT Forrest 46.54 250 P P 15 57 47.1 +0.1
KDU Kakadu 46.56 275 P P 15 57 46.9 -0.4
WRKA Warakurna 47.09 257 P P 15 57 51.1 -0.2
MTN Manton Dam 47.73 274 P P 15 57 55.2 -0.9
MTN IAmb IAmb 15 57 55.8
comp=Z,10nm,0.7s
KNRA Kununurra 48.96 270 P P 15 58 05.1 -0.2
FAKI Fak Fak 50.86 287 P P 15 58 18.4 -0.9
FAKI IAmb IAmb 15 58 27.4
comp=Z,7.7nm,0.8s
FAKI Fak Fak 50.86 287 P P 15 58 19.0 -0.3
FITZ Fitzroy Crossi 51.09 266 P P 15 58 20.6 -0.3
VNDA Vanda 54.34 185 PcP PcP 15 59 39.5 +0.1
comp=Z,1.0nm,0.6s,baz=38,slow=2.5,SNR=2.6
SOEI Soe 55.12 275 P P 15 58 50.8 +0.9
SOEI IAmb IAmb 15 59 00.8
comp=Z,32nm,0.9s
MEEK Meekatharra 55.35 253 P P 15 58 50.7 -0.6
PSA00 Pilbara Seismi 55.42 260 P P 15 58 50.3 -1.4
PSA00 Pilbara Seismi 55.42 260 P P 15 58 51.3 -0.5
PSA00 IAmb IAmb 15 59 03.2
comp=Z,13nm,1.1s
MBWA Marble Bar 55.63 260 P P 15 58 52.0 -1.2
MBWA IAmb IAmb 15 58 53.5
comp=Z,14nm,0.8s
MORW Morawa 57.11 250 P P 15 59 03.1 -0.2
MORW IAmb IAmb 15 59 25.1
comp=Z,15nm,1.1s
MORW Morawa 57.11 250 P P 15 59 03.2 -0.2
MMRI Maumere 57.40 275 P P 15 59 04.7 -0.8
GIRL Giralia 60.16 257 P P 15 59 25.0 +0.9
GIRL Giralia 60.16 257 P P 15 59 24.3 +0.3
PLAI Plampang 61.39 273 P P 15 59 32.5 +0.2
TOLI2 Tolitoli 62.85 284 P P 15 59 42.0 +0.3
TOLI2 Tolitoli 62.85 284 P P 15 59 40.7 -1.0
JAGI Jajag, Banyuwa 64.84 272 P P 15 59 52.9 -1.6
JAGI IAmb IAmb 15 59 53.4
comp=Z,20nm,0.9s
QSPA South Pole Qui 66.12 180 P P 16 00 03.3 +1.5
comp=Z,1.8nm,0.6s,baz=314,slow=0.8,SNR=7.5
comp=Z,1.8nm,0.6s
KKM Kota Kinabalu 69.18 287 P P 16 00 20.6 -0.7
MJAR Matsushiro Arr 72.10 325 P P 16 00 37.5 -0.5
comp=Z,5.5nm,0.8s,baz=161,slow=5.7,SNR=12
comp=Z,5.5nm,0.8s
MJB9 Matsu-Tunnel 72.10 325 P P 16 00 38.1 +0.1
MJB9 IAmb IAmb 16 00 39.0
comp=Z,16nm,1.0s
KSM Kuching 72.38 280 P P 16 00 39.0 -1.2
KSM IAmb IAmb 16 00 40.5
comp=Z,21nm,0.8s
JMN Monobe 72.39 321 P P 16 00 39.7 -0.1
JMN IAmb IAmb 16 00 47.4
comp=Z,13nm,1.0s
ASAJ Asahikawa 76.04 333 P P 16 01 01.0 +0.9
comp=Z,10nm,0.8s,baz=277,slow=6.5,SNR=4.7
comp=Z,10nm,0.8s
BELA Belgrano 2 76.34 173 P P 16 01 01.4 0.0
KSRS Korea Array 78.46 320 P P 16 01 13.7 +0.3
comp=Z,3.4nm,0.7s,baz=127,slow=5.4,SNR=15
comp=Z,3.4nm,0.7s
PEA0B Petropavlovsk- 79.22 346 P P 16 01 16.5 -0.6
PEA0B IAmb IAmb 16 01 17.5
comp=Z,18nm,0.9s
PETK Petropavlovsk- 79.22 346 P P 16 01 16.1 -1.0
PETK Petropavlovsk- 79.22 346 P P 16 01 17.1 0.0
comp=Z,6.4nm,0.7s,baz=115,slow=6.5,SNR=9.4
comp=Z,6.4nm,0.7s
USRK Ussuriysk Ar. 80.96 327 P P 16 01 26.8 +0.4
comp=Z,4.7nm,0.6s,baz=154,slow=3.7,SNR=12
comp=Z,4.7nm,0.6s
MDJ Mudanjiang 82.46 326 P P 16 01 33.6 -0.5
ELIB Princess Elisa 83.04 187 dP P 16 01 36.9 +0.1
R17K Ugashik Creek 83.60 12 P P 16 01 39.0 -0.6
R17K IAmb IAmb 16 02 01.4
comp=Z,14nm,1.1s
OHAK Old Harbor 83.87 14 P P 16 01 40.6 -0.1
OHAK IAmb IAmb 16 01 58.6
comp=Z,8.0nm,1.1s
BNX BinXian 84.36 326 ⇑P P 16 01 43.3 -0.2
BNX pmax pmax
comp=Z,9.0nm,1.0s
BNX pmax pmax
comp=Z,130nm,4.8s
SNAA Sanae 84.60 179 P P 16 01 43.9 -0.7
SNAA Sanae 84.60 179 P P 16 01 44.4 -0.1
comp=Z,1.2nm,0.6s,baz=197,slow=12,SNR=6.3
comp=Z,1.2nm,0.6s
KLR Kul'dur 84.72 330 P P 16 01 45.6 +0.4
comp=Z,1.8nm,0.8s,baz=40,slow=3.6,SNR=5.4
comp=Z,1.8nm,0.8s
HEH HeiHe 87.43 329 eP P 16 01 58.4 +0.3
XAN Xi'an 88.99 308 ⇑P P 16 02 06.4 +0.5
XAN pmax pmax
comp=Z,15nm,0.7s
K20K Telida 89.34 11 P P 16 02 05.9 -0.9
SEY Seymchan 89.38 348 P P 16 02 06.9 0.0
comp=Z,2.9nm,0.6s,baz=154,slow=5.9,SNR=16
comp=Z,2.9nm,0.6s
CMAR Chiang Mai Arr 89.80 290 P P 16 02 10.9 +1.0
comp=Z,3.7nm,0.8s,baz=132,slow=3.4,SNR=16
comp=Z,3.7nm,0.8s
TXAR Lajitas Array 90.23 58 P P 16 02 13.1 +1.2
comp=Z,0.6nm,0.7s,baz=211,slow=5.5,SNR=8.6
comp=Z,0.6nm,0.7s
HHC Hu-ho-hao-te 90.65 315 eP P 16 02 15.5 +2.0
HHC pmax pmax
comp=Z,24nm,0.6s
HHC pmax pmax
comp=Z,110nm,6.3s
PZH PanZhiHua 90.95 299 P P 16 02 15.5 +0.3
PZH pmax pmax
comp=Z,10.0nm,0.6s
ILAR Eielson Array 92.03 13 P P 16 02 18.0 -1.1
comp=Z,0.6nm,0.8s,baz=226,slow=5.5,SNR=14
comp=Z,0.6nm,0.8s
PDAR Pinedale Array 92.55 44 P P 16 02 22.8 +0.4
comp=Z,0.3nm,0.6s,baz=243,slow=6.0,SNR=2.8
comp=Z,0.3nm,0.6s
ZALV Zalesovo Beam 112.17 321 PKiKP PKiKP 16 07 41.1 -1.4
comp=Z,0.7nm,0.4s,baz=177,slow=0.4,SNR=4.1
MKAR Makanchi Array 112.39 313 PKiKP PKiKP 16 07 41.8 -1.4
comp=Z,1.1nm,0.8s,baz=221,slow=1.7,SNR=11
KURBB **Kurchatov Arra 115.47 316** PKP PKPdf 16 07 47.6 -1.3
BVAR Borovoye Array 120.66 319 PKP PKPdf 16 07 57.9 -1.0
comp=Z,1.6nm,0.6s,baz=107,slow=1.6,SNR=17
ARU Arti 127.09 324 PKP PKPdf 16 08 10.7 -0.4
comp=Z,3.1nm,0.4s,baz=118,slow=1.9,SNR=28
AKTO Aktyubinsk 128.53 316 PKP PKPdf 16 08 13.8 -0.2
comp=Z,5.1nm,0.4s,baz=73,slow=0.2,SNR=8.1
GEYT Ailbeck 129.23 300 PKP PKPdf 16 08 16.0 +0.2
comp=Z,2.7nm,0.6s,baz=138,slow=4.0,SNR=6.5
ARCES ARCESS Array B 132.00 348 PKP PKPdf 16 08 19.2 -0.9
comp=Z,2.0nm,0.7s,baz=180,slow=1.5,SNR=4.6
comp=Z,6.3nm,0.8s,baz=65,slow=1.2,SNR=12
FINES FINESS Array B 138.59 342 PKhKP PKPpre 16 08 22.8
comp=Z,1.7nm,0.7s,baz=32,slow=4.0,SNR=8.8
FINES PKP PKPdf 16 08 32.6 +0.1
comp=Z,1.6nm,0.4s,baz=49,slow=1.3,SNR=8.5
FINES SKPbc SKPbc 16 11 16.2 -2.6
comp=Z,3.1nm,0.9s,baz=0.0,slow=1.9,SNR=5.1
NB2 NORSAR Subarra 142.18 351 PKP PKPpre 16 08 34.5
comp=Z,1.0nm,0.6s,baz=9.3,slow=3.1
NOA NORSAR Array B 142.18 351 PKhKP PKPpre 16 08 34.5
comp=Z,1.9nm,0.8s,baz=5.3,slow=2.3,SNR=7.2
HFS Hagfors 142.66 349 PKhKP PKPpre 16 08 35.8
comp=Z,11nm,0.5s,baz=64,slow=3.4,SNR=74
PABE Paberze 143.97 337 PKPbc 16 08 40.8 -0.7
ARPR Arapgir-MALATY 144.52 304 PKPbc PKPbc 16 08 44.2 +0.2
AKASG **Malin Array Be 145.16 327** PKPdf PKPdf 16 08 43.4 -1.1
AKASG **Malin Array Be 145.16 327** PKPbc PKPdf 16 08 44.0 -0.4
comp=Z,2.7nm,0.3s,baz=43,slow=4.0,SNR=42
AKASG SKPbc SKPbc 16 11 34.1 -1.4
comp=Z,1.3nm,0.5s,baz=44,slow=2.9,SNR=6.3
KIEV Kiev 145.18 327 ⇓P PKPdf 16 08 44.4 -0.1
KIEV Kiev 145.18 327 PKPdf PKPdf 16 08 43.9 -0.6
SUW Suwalki 145.43 336 PKPdf PKPdf 16 08 44.2 -0.6
GAZ Gaziantep 145.81 301 PKPbc PKPbc 16 08 47.7 -0.1
BNN Bunyan 146.46 305 PKPbc PKPbc 16 08 48.6 -1.0
ASF Jabal al Asfar 146.81 293 PKPbc PKPbc 16 08 51.1 +0.4
comp=Z,5.9nm,0.6s,baz=118,slow=4.1,SNR=8.5
SORM Soroca 147.21 324 ⇑P PKPbc 16 08 50.5 -0.6
BRTR Keskin Array B 147.83 307 PKPdf PKPdf 16 08 47.6 -1.9
BRTR PKPbc PKPbc 16 08 52.0 -1.3
BRTR PKPab PKPab 16 08 57.3 -0.3
BRTR Keskin Array B 147.83 307 PKPbc PKPbc 16 08 52.3 -0.9
comp=Z,3.1nm,0.7s,baz=135,slow=5.0,SNR=15
MMAI Mount Meron Ar 147.97 294 PKPbc PKPbc 16 08 53.9 +0.2
comp=Z,8.2nm,0.4s,baz=77,slow=5.5,SNR=27
EKA Eskdalemuir Ar 148.56 4 PKPbc PKPbc 16 08 53.1 -1.2
comp=Z,1.1nm,0.4s,baz=334,slow=2.6,SNR=16
EIL Elat 148.63 288 PKPbc PKPbc 16 08 55.1 -0.3
comp=Z,7.3nm,0.7s,baz=360,slow=5.0,SNR=7.3
SCTR Scanteiesti 148.85 321 ⇑P PKPbc 16 08 54.9 -0.4
GHRR 148.96 322 ⇑P PKPbc 16 08 55.6 0.0
CFR Carcaliu 149.05 320 ⇑P PKPbc 16 08 55.3 -0.6
TPGR Topolog 149.06 319 ⇓P PKPbc 16 08 56.3 +0.3
TESR Tescani 149.11 323 ⇑P PKPbc 16 08 55.1 -0.9
BURAR **Bucovina Array 149.17 326** PKPbc PKiKP 16 08 57.1 0.0
TIRR Tirgusor 149.28 319 ⇑P PKPbc 16 08 56.2 -0.2
HARR Harsova 149.44 319 ⇓P PKPbc 16 08 56.8 -0.1
VRI Vrincioaia 149.46 322 ⇑P PKPbc 16 08 55.0 -1.8
PLOR Plostina 149.51 322 ⇓P PKPbc 16 08 55.0 -2.1
KOLS Kolonicke sedl 149.66 331 ePKP PKiKP 16 08 57.7 -0.3
OJC Ojcow 149.70 335 ePKP PKPbc 16 08 57.0 -0.3
OJC Ojcow 149.70 335 PKPbc PKPbc 16 08 56.5 -0.8
STHS Stebnicka Huta 149.74 332 ePKP PKPbc 16 08 56.9 -0.5
OZUR 149.84 323 ⇑P PKPbc 16 08 55.4 -2.4
BOSR Bodos 149.92 323 ⇑P PKPdf 16 08 55.1 +2.6
CRVS Cervenica-Dubn 150.04 332 ePKP PKPbc 16 08 58.4 +0.3
CRVS e 16 09 06.2
MLR Muntele Rosu 150.12 322 ⇑P PKPdf 16 08 54.9 +1.9
MLR Muntele Rosu 150.12 322 PKPbc PKPbc 16 08 58.4 -0.2
comp=Z,2.8nm,0.6s,baz=289,slow=7.6,SNR=5.2
DOPR Dopca 150.14 324 ⇑P PKPdf 16 08 55.2 +2.4
KSP Ksiaz 150.44 339 ePKP PKPbc 16 08 59.1 +0.1
VOIR 150.65 323 ⇑P PKPdf 16 08 55.9 +2.2
OSTC Ostas 150.71 339⇑ePKP PKPbc 16 08 59.8 +0.1
CHVC Chvalec 150.73 339⇑ePKP PKPbc 16 08 59.3 -0.4
UPC Upice 150.82 339⇑ePKP PKPbc 16 08 59.5 -0.4
DPC Dobruska-Polom 150.85 339⇑ePKP PKPbc 16 08 59.7 -0.3
DPC ePKPAB PKPab 16 09 13.4 +3.8
MARR Marisel-Cluj 150.86 327 ⇑P PKiKP 16 09 01.0 +0.4
MORC Moravsky Berou 150.91 337 PKPbc PKPbc 16 08 59.3 -0.8
MORC Moravsky Berou 150.91 337 ePKP PKPbc 16 09 00.1 -0.1
MORC e 16 09 09.7
ARR Arges 150.93 323 ⇑P PKPdf 16 08 56.9 +2.8
KRLC Kraliky 150.93 338⇑ePKP PKPbc 16 08 59.9 -0.3
CLL Collm 150.99 343 PKPbc PKPbc 16 08 59.2 -1.0
CLL Collm 150.99 343 ⇓iPKPbc PKPbc 16 08 59.8 -0.4
comp=Z,17nm,0.7s
CLL ePKPab PKPab 16 09 10.0 0.0
BRG Berggiesshubel 151.12 342 i PKP PKPdf 16 08 41.6 -12
BRG Amp 16 08 43.0
comp=Z,12nm,0.5s
MAUC Maruska 151.15 336⇑ePKP PKiKP 16 09 01.1 0.0
PVCC Panska Ves 151.25 341⇑ePKP PKPbc 16 09 00.9 +0.1
VYHS Vyhne 151.46 334 ePKP PKPbc 16 09 01.1 -0.3
VYHS e 16 09 12.2
JAVC Velka Javorina 151.62 335 ePKP PKiKP 16 09 02.4 +0.3
VRAC Vranov 151.64 337 ePKP PKPbc 16 09 01.4 -0.4
VRAC e 16 09 12.8
VRAC Vranov 151.64 337 PKPab PKPab 16 09 13.0 +0.2
comp=Z,1.7nm,0.3s,baz=24,slow=3.6,SNR=3.7
SIRR Siria 151.87 328 ⇑P PKPbc 16 09 02.3 -0.2
GZR Gura Zlata 151.90 325 ⇓P PKPbc 16 09 01.9 -0.7
KRUC Moravsky 151.92 337 ePKP PKPbc 16 09 01.7 -0.7
KRUC e 16 09 14.0
SURR Surduc 152.00 326 ⇓P PKPbc 16 09 02.4 -0.2
MODS Modra-Piesok 152.17 335 ePKP PKiKP 16 09 03.2 0.0
MODS e 16 09 15.7
BZS Buzias 152.35 327 ⇑P PKPbc 16 09 03.1 -0.4
HERR Herculane 152.44 325 ⇓P PKPbc 16 09 02.9 -0.8
KHC Kasperske Hory 152.79 341⇑ePKP PKPbc 16 09 03.8 -0.6
KHC ePKPAB PKPab 16 09 17.3 -0.5
CKRC Cesky Krumlov 152.83 339⇑ePKP PKPbc 16 09 03.8 -0.7
CKRC ePKPAB PKPab 16 09 17.1 -0.9
GERES GERESS Array B 153.00 340 PKPbc PKPbc 16 09 04.4 -0.5
comp=Z,1.1nm,0.6s,baz=69,slow=4.4,SNR=6.4
CONA Conrad Observa 153.07 337 i PKP PKPab 16 09 19.7 +0.6
comp=Z,5.8nm,0.7s
RONA Rosalia, Austr 153.10 336 ePKP PKPab 16 09 19.7 +0.5
comp=Z,4.4nm,0.7s
BLKB Belogradchik 153.12 322 ⇑P PKPbc 16 09 05.1 -0.2
MORH Mrgy. Hungar 153.32 331 ⇓P PKPbc 16 09 05.3 -0.2
SOKA Soboth 154.42 336 ePKP PKPbc 16 09 24.7 -0.2
comp=Z,5.9nm,1.1s
LESA Schwarzleotal 154.58 340 ePKP PKPab 16 09 28.6 +3.1
comp=Z,4.0nm,1.0s
WTTA Wattenberg 155.04 341 i PKP PKPab 16 09 27.5 -0.1
comp=Z,3.6nm,0.5s
MOTA Moosalm 155.12 342 i PKP PKPab 16 09 23.9 -4.0
comp=Z,6.8nm,1.2s
DAVA Damuels 155.49 344 ePKP PKPab 16 09 29.2 -0.3
comp=Z,3.8nm,0.7s
DAVOX **Davos/Dischmat 155.96 344** PKPab PKPab 16 09 31.5 -0.2
baz=7.1,slow=8.1
FUORN **Ofenpass-Fuorn 156.01 343** PKPab PKPab 16 09 30.3 -1.6
ESDC Sonseca Array 163.92 12 PKPab PKPab 16 10 05.9 -0.5
comp=Z,0.9nm,0.9s,baz=355,slow=5.0,SNR=5.8
TORD Torodi Ar. Bea 169.17 187 PKP PKPdf 16 09 13.4 -1.3
comp=Z,1.4nm,1.1s,baz=263,slow=0.3,SNR=4.6
TORD PKPab PKPab 16 10 29.6 -0.4
comp=Z,0.6nm,0.6s,baz=158,slow=2.1,SNR=4.5

*NNC **20** 15:55:25.5±0.5, 47.68N×81.63E, h0km, mb3.2, mpv2.5, Error ellipse: s-maj=7.4km s-min=2.4km az=66.0*
*SOME **20** 15:55:26.0, 47.72N×81.32E, h5km*
ISC 20 15:55:27.4±1.6, 47.66N±0.05×81.71E±0.06, h13km, n9, σ1s26/10, 3C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
MAKZ	**Makanchi** 3.6nm,0.6s	**0.88**	**168**	⇑P		**Pb**	**15 55 43.0**	**-1.5**
MAKZ	1.1nm,0.2s			⇑S		**Sg**	**15 55 55.7**	**-0.1**
MK31	**Makanchi Array** 1.1nm,0.2s,baz=357,slow=4.4,SNR=244	**0.96**	**155**	⇓P		**Pb**	**15 55 44.8**	**-1.1**
MK31	0.8nm,0.2s,baz=333,slow=28,SNR=6.8			⇑S		**Sb**	**15 55 58.4**	**-0.1**
ZSN	**Zaisan** 4.7nm,0.3s	**2.15**	**95**	*e*Pg		**Pb**	**15 56 07.2**	**+0.9**
ZSN	7.0nm,0.3s			*e*Lg		Lg	15 56 36.0	
KAPS	**Kapalarasan** 0.3nm,0.1s	**2.88**	**215**	*e*Pg		**Pb**	**15 56 18.1**	**-0.6**
KAPS	5.9nm,0.2s			*e*Lg		Lg	15 56 55.6	
DJR	**Jarkent** 0.5nm,0.1s	**3.59**	**203**	*e*Pg		**Pb**	**15 56 31.2**	**+0.4**
DJR	1.4nm,0.1s			*e*Lg		Lg	15 57 17.6	
KURBB	**Kurchatov Arra** 2.3nm,0.7s	**3.62**	**326**	⇓Pg		**Pb**	**15 56 30.6**	**-0.7**
KURBB	6.3nm,0.5s			⇓Lg		Lg	15 57 19.5	
KURK	**Kurchatov** 2.9nm,0.4s	**3.66**	**328**	⇓Lg		Lg	15 57 19.0	
ARXS	**Arharly** 1.1nm,0.3s	**4.39**	**220**	*e*Pg		**Pb**	**15 56 44.6**	**+0.3**
ARXS	2.4nm,0.3s			*e*Lg		Lg	15 57 41.1	
KPKS	**Kokpek** 0.5nm,0.1s	**4.71**	**208**	*e*Pg		**Pb**	**15 56 52.2**	**+2.4**
KPKS	4.5nm,0.2s			*e*Lg		Lg	15 57 53.8	

*KRNET **20** 15:59:42.9±0.1, 43.37N×77.89E, h21km, mb3.6*
*NNC **20** 15:59:42.5±0.2, 43.37N×77.90E, h0km, mb3.6, mpv3.9, Error ellipse: s-maj=2.4km s-min=0.9km az=170.0*
*KNET **20** 15:59:43.4±0.5, 43.33N×77.80E, h11km±4km, ml2.8, Error ellipse: s-maj=6.7km s-min=4.0km az=101.0*
*SOME **20** 15:59:43.9, 43.35N×77.88E, h20km*
ISC 20 15:59:43.3±0.9, 43.36N±0.02×77.86E±0.01, h8km±8km, n104, σ1s19/196, 50C-18D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
KURS	**Kuram** baz=59	**0.26**	**61**	*e*P		**Pg**	**15 59 48.6**	**+0.1**
KURS	baz=59			*e*S		**Sg**	**15 59 52.4**	**+0.4**
KURS	**Kuram** 154nm,0.1s	**0.26**	**61**	*e*P		**Pg**	**15 59 48.6**	**+0.1**
KURS	327nm,0.3s			*e*S		**Sg**	**15 59 52.4**	**+0.4**
KURS	**Kuram** 154nm,0.1s	**0.26**	**61**	P		**Pg**	**15 59 48.6**	**+0.1**
KURS	327nm,0.3s			S		**Sg**	**15 59 52.4**	**+0.4**
ZHN	**Zhinishke** baz=16	**0.46**	**115**	*e*P		**Pg**	**15 59 51.9**	**-0.5**
ZHN	baz=16			*e*S		**Sg**	**15 59 57.9**	**-0.6**
ZHN	**Zhinishke** 154nm,0.1s	**0.46**	**115**	*e*P		**Pg**	**15 59 51.9**	**-0.5**
ZHN	2μm,0.2s			*e*S		**Sg**	**15 59 57.8**	**-0.6**
ZHN	**Zhinishke** 154nm,0.1s	**0.46**	**115**	P		**Pg**	**15 59 51.9**	**-0.5**
ZHN	2μm,0.2s			S		**Sg**	**15 59 57.8**	**-0.6**
SATY	**Saty** baz=29	**0.50**	**127**	*e*P		**Pg**	**15 59 52.7**	**-0.4**
SATY	baz=29			*e*S		**Sg**	**15 59 59.3**	**-0.3**
SATY	**Saty** 154nm,0.1s	**0.50**	**127**	*e*P		**Pg**	**15 59 52.7**	**-0.4**
SATY	4μm,0.1s			*e*S		**Sg**	**15 59 59.4**	**-0.3**
SATY	**Saty** 154nm,0.1s	**0.50**	**127**	P		**Pg**	**15 59 52.7**	**-0.4**
SATY	5μm,0.1s			S		**Sg**	**15 59 59.4**	**-0.3**
KOTS	**Kotyrbulak** 239nm,0.1s	**0.56**	**257**	*e*P		**Pg**	**15 59 54.8**	**+0.6**
KOTS	362nm,0.2s			*e*S		**Sb**	**16 00 02.9**	**-1.0**
KOTS	**Kotyrbulak** 239nm,0.1s	**0.56**	**257**	P		**Pg**	**15 59 54.8**	**+0.6**
KOTS	362nm,0.2s			S		**Sb**	**16 00 02.8**	**-1.0**
ANVS	**Anan'yevo** baz=96	**0.60**	**194**⇑	*e*P		**Pg**	**15 59 54.7**	**-0.2**
ANVS	baz=96			⇑*e*S		**Sg**	**16 00 03.2**	**+0.4**
KPKS	**Kokpek** baz=80	**0.61**	**80**	*e*P		**Pg**	**15 59 54.6**	**-0.6**

KPKS eS Sg 16 00 02.7 -0.4
baz=80
KPKS Kokpek 0.61 80 eP Pg 15 59 54.5 -0.6
402nm,0.1s
KPKS eS Sg 16 00 02.6 -0.4
479nm,0.2s
KPKS Kokpek 0.61 80 P Pg 15 59 54.5 -0.6
402nm,0.1s
KPKS S Sg 16 00 02.6 -0.4
479nm,0.2s
MDOK Medeo 0.63 252 eP Pg 15 59 55.6 +0.1
baz=52
MDOK eS Sg 16 00 04.2 +0.5
baz=52
MDOK Medeo 0.63 252 eP Pg 15 59 55.6 +0.1
58nm,0.2s
MDOK eS Sg 16 00 04.2 +0.5
145nm,0.3s
MDOK Medeo 0.63 252 ⇑P Pg 15 59 55.4 0.0
32nm,0.4s
MDOK Pg Pg 15 59 55.6 +0.1
58nm,0.2s
MDOK Lg Lg 16 00 04.2
145nm,0.3s
MDOK S Sg 16 00 04.4 +0.8
71nm,0.4s
KNDC Almaty 0.67 258 ⇓P Pg 15 59 56.6 +0.4
46nm,0.4s
KNDC ⇓S Sb 16 00 06.4 -0.4
82nm,0.4s
AAA Alma-Ata 0.71 258 eP Pb 15 59 57.6 -0.4
285nm,0.1s
AAA eS Sb 16 00 07.9 0.0
406nm,0.1s
AAA Alma-Ata 0.71 258 P Pb 15 59 57.6 -0.4
285nm,0.1s
AAA S Sb 16 00 07.9 0.0
406nm,0.1s
TNSS Tian-Shan 0.74 244 eP Pg 15 59 57.5 -0.2
baz=45
TNSS eS Sg 16 00 07.6 +0.2
baz=45
TNSS Tian-Shan 0.74 244 eP Pg 15 59 57.5 -0.2
70nm,0.2s
TNSS eS Sg 16 00 07.7 +0.2
116nm,0.2s
TNSS Tian-Shan 0.74 244 P Pg 15 59 57.5 -0.2
70nm,0.2s
TNSS S Sg 16 00 07.7 +0.2
116nm,0.2s
CHKK Chushkaly 0.80 308 eP Pg 15 59 58.6 -0.2
baz=7.0
CHKK eS Sg 16 00 09.1 -0.1
baz=7.0
CHKK Chushkaly 0.80 308 eP Pg 15 59 58.6 -0.2
11nm,0.1s
CHKK eS Sg 16 00 09.1 -0.1
230nm,0.1s
CHKK Chushkaly 0.80 308 P Pg 15 59 58.6 -0.2
11nm,0.1s
CHKK S Sg 16 00 09.1 -0.1
230nm,0.1s
ARXS Arharly 0.85 358 eP Pg 15 59 59.3 -0.4
97nm,0.2s
ARXS eS Sg 16 00 10.8 0.0
215nm,0.2s
ARXS Arharly 0.85 358 P Pg 15 59 59.3 -0.4
97nm,0.2s
ARXS S Sg 16 00 10.8 0.0
215nm,0.2s
UZB Uzynbulak 0.88 104 eP Pg 15 59 59.1 -1.1
baz=5.0
UZB eS Sg 16 00 10.3 -1.3
baz=5.0
UZB Uzynbulak 0.88 104 eP Pg 15 59 59.1 -1.1
161nm,0.1s
UZB eS Sg 16 00 10.3 -1.3
400nm,0.2s
UZB Uzynbulak 0.88 104 P Pg 15 59 59.1 -1.1
161nm,0.1s
UZB S Sg 16 00 10.3 -1.3
400nm,0.2s
KTBS Karatobe 0.93 292 eP Pg 16 00 00.9 -0.2
109nm,0.2s
KTBS eS Sg 16 00 13.4 +0.2
3.6nm,0.2s
KTBS Karatobe 0.93 292 P Pg 16 00 00.9 -0.2
109nm,0.2s
KTBS S Sg 16 00 13.4 +0.2
3.6nm,0.2s
PRZ Przheval'sk 0.96 156 ⇑iP Pg 16 00 00.7 -1.2
baz=57
PRZ ⇑iS Sg 16 00 12.9 -1.5
baz=57
IZV Izvestkoviy 0.97 251 eP Pg 16 00 01.8 -0.2
baz=51
IZV eS Sg 16 00 14.7 +0.1
baz=51
IZV Izvestkoviy 0.97 251 eP Pg 16 00 01.8 -0.2
60nm,0.2s
IZV eS Sg 16 00 14.6 +0.1
226nm,0.2s
IZV Izvestkoviy 0.97 251 P Pg 16 00 01.8 -0.2
60nm,0.2s
IZV S Sg 16 00 14.6 +0.1
226nm,0.2s
MTBS Maitube 1.07 258 eP Pg 16 00 03.7 -0.2
baz=58
MTBS eS Sg 16 00 18.2 +0.4
baz=58
MTBS Maitube 1.07 258 eP Pg 16 00 03.7 -0.2
249nm,0.2s
MTBS eS Sg 16 00 18.2 +0.4
221nm,0.2s
MTBS Maitube 1.07 258 P Pg 16 00 03.7 -0.2
249nm,0.2s
MTBS S Sg 16 00 18.2 +0.4
221nm,0.2s
SHLS Shalkode 1.19 99 eP Pn 16 00 09.9 +3.4
baz=98
SHLS eS Sn 16 00 29.2 +6.3
baz=98
SHLS Shalkode 1.19 99 eP Pn 16 00 09.8 +3.4
24nm,0.1s
SHLS eS Sn 16 00 29.1 +6.3
120nm,0.3s
SHLS Shalkode 1.19 99 P Pn 16 00 09.9 +3.4
24nm,0.1s
SHLS S Sn 16 00 29.1 +6.3
120nm,0.3s
PDGK Podgornoye 1.19 91 P Pb 16 00 04.4 -1.8
17nm,0.1s
PDGK S Sg 16 00 19.6 -2.0
38nm,0.2s
PDGK Podgornoye 1.19 91 P Pb 16 00 04.2 -2.0
24nm,0.5s
PDGK ⇓S Sg 16 00 19.7 -1.9
42nm,0.6s
KUU Kurty 1.23 296 eP Pb 16 00 06.0 -0.8
baz=96
KUU eS Sb 16 00 22.3 -0.5
baz=96
KUU Kurty 1.23 296 eP Pb 16 00 06.0 -0.8
41nm,0.1s
KUU eS Sb 16 00 22.2 -0.5
180nm,0.2s
KUU Kurty 1.23 296 P Pb 16 00 06.0 -0.8
41nm,0.1s
KUU S Sb 16 00 22.2 -0.5
180nm,0.2s
KNOS Konyrlen 1.38 43 P Pn 16 00 08.1 -1.0
32nm,0.2s
KNOS S Sb 16 00 25.5 -1.8
140nm,0.4s
KST Kastek 1.42 258 eP Pn 16 00 09.5 -0.2
baz=58
KST eS Sb 16 00 28.1 -0.5
baz=58
KST Kastek 1.42 258 eP Pn 16 00 09.5 -0.2
122nm,0.2s
KST eS Sb 16 00 28.1 -0.5
91nm,0.3s
KST Kastek 1.42 258 P Pn 16 00 09.5 -0.2
122nm,0.2s
KST S Sb 16 00 28.1 -0.5
91nm,0.3s
DGS Degeres 1.53 266 eP Pn 16 00 11.5 +0.4
baz=66
DGS eS Sb 16 00 32.0 +0.3
baz=66
DGS Degeres 1.53 266 eP Pn 16 00 11.5 +0.4
45nm,0.2s
DGS eS Sb 16 00 31.9 +0.3
256nm,0.5s
DGS Degeres 1.53 266 P Pn 16 00 11.1 0.0
45nm,0.2s
DGS S Sb 16 00 31.5 -0.1
256nm,0.5s
KRBS Karabastau 1.62 283 eP Pb 16 00 13.4 -0.2
34nm,0.1s
KRBS eS Sb 16 00 34.7 +0.4
95nm,0.1s
KRBS Karabastau 1.62 283 P Pb 16 00 13.4 -0.2
34nm,0.1s
KRBS S Sb 16 00 34.7 +0.4
95nm,0.1s
ULHL Ulahol 1.63 227 ⇓P Pn 16 00 13.2 +0.5
18nm,0.1s,SNR=5.1
ULHL ⇑S Sb 16 00 35.2 +0.5
52nm,0.1s
ULHL Ulahol 1.63 227 ⇓iP Pn 16 00 13.3 +0.7
baz=28
ULHL ⇓iS Sb 16 00 35.3 +0.6
baz=28
TARG Taragay, Kyrgy 1.64 181 ⇑iP Pn 16 00 13.0 +0.2
baz=82
TARG ⇑iS Sn 16 00 34.3 0.0
baz=82
TDK Taldyqorghan 1.68 13 eP Pn 16 00 13.4 +0.2
82nm,0.4s
TDK eS Sn 16 00 34.7 -0.3
549nm,0.4s
TDK Taldyqorghan 1.68 13 P Pn 16 00 13.4 +0.2
82nm,0.4s
TDK S Sn 16 00 34.7 -0.3
549nm,0.4s
DJR Jarkent 1.70 55 eP Pn 16 00 13.4 0.0
16nm,0.1s
DJR eS Sn 16 00 35.5 +0.1
109nm,0.4s
DJR Jarkent 1.70 55 P Pn 16 00 13.4 0.0
16nm,0.1s
DJR S Sn 16 00 35.5 +0.1
109nm,0.4s
TKM2 Tokmak 2 1.71 256 P Pn 16 00 14.5 +0.7
59nm,0.2s,SNR=78
TKM2 ⇓S Sg 16 00 38.0 -0.5
185nm,0.1s
TKM2 Tokmak 2 1.71 256 ⇑iP Pn 16 00 14.3 +0.5
baz=56
TKM2 ⇑iS Sb 16 00 36.9 -0.2
baz=56
TKM2 Tokmak 2 1.71 256 ⇑P Pn 16 00 14.4 +0.7
18nm,0.2s
TKM2 ⇓S Sb 16 00 37.8 +0.7
40nm,0.3s
KTMS Ketmen 1.82 87 eP Pn 16 00 15.2 +0.1
baz=87
KTMS eS Sn 16 00 38.0 -0.4
baz=87
KTMS Ketmen 1.82 87 eP Pn 16 00 15.2 +0.1
22nm,0.3s
KTMS eS Sn 16 00 38.0 -0.4
76nm,0.2s
KTMS Ketmen 1.82 87 P Pn 16 00 15.2 +0.1
22nm,0.3s
KTMS S Sn 16 00 38.0 -0.4
76nm,0.2s
KAPS Kapalarasan 2.20 29 ePg Pb 16 00 22.9 -0.6
13nm,0.2s
KAPS eLg Lg 16 00 51.2
64nm,0.2s
KAPS Kapalarasan 2.20 29 Pg Pb 16 00 22.9 -0.6
13nm,0.2s
KAPS Lg Lg 16 00 51.2
64nm,0.2s
KBK Karagaybulak 2.25 253 ⇓P Pb 16 00 22.9 -1.4
40nm,0.3s,SNR=51
KBK ⇓S Sb 16 00 54.0 +1.5
86nm,0.2s
KBK Karagaybulak 2.25 253 ⇓iP Pn 16 00 21.8 +0.7
baz=53
KBK ⇓iS Sn 16 00 49.7 +0.6
baz=53
CHMS Chumysh 2.30 262 ⇑P Pn 16 00 22.6 +0.9
17nm,0.1s,SNR=20
CHMS ⇑S Sb 16 00 55.0 +1.2
53nm,0.2s
CHMS Chumysh 2.30 262 ⇑iP Pn 16 00 22.3 +0.6
baz=62
CHMS ⇑iS Sn 16 00 50.4 +0.2
baz=62
CHMS Chumysh 2.30 262 ⇓Pg Pb 16 00 24.0 -1.2
2.6nm,0.2s
CHMS ⇑Lg Lg 16 00 55.0
12nm,0.2s
KZA Kyzart 2.31 237 ⇑P Pb 16 00 24.0 -1.6
34nm,0.4s,SNR=13
KZA ⇑S Sb 16 00 55.7 +1.2
39nm,0.4s
KZA Kyzart 2.31 237 ⇑iP Pn 16 00 22.5 +0.3
baz=37
KZA ⇑iS Sn 16 00 50.9 -0.1
baz=37
SGDS Sogindy 2.36 273 Pg Pb 16 00 26.2 +0.1
8.5nm,0.2s
SGDS Lg Lg 16 00 56.6
23nm,0.3s
NRN Naryn 2.37 216 ⇓eP Pn 16 00 23.6 +0.7
baz=17
NRN ⇓iS Sn 16 00 53.4 +1.1
baz=17
FRU1 Bishkek 2.43 258 ⇑eP Pn 16 00 24.0 +0.5
baz=58
FRU1 ⇑eS Sn 16 00 54.2 +0.8
baz=58
USP Ospenovka 2.46 269 ⇑P Pn 16 00 24.7 +0.9
12nm,0.1s,SNR=16
USP ⇑S Sb 16 00 59.2 +1.0
43nm,0.3s
USP Ospenovka 2.46 269 ⇑iP Pn 16 00 24.3 +0.5
baz=69
USP ⇑iS Sn 16 00 54.5 +0.5
baz=69
AAK Ala-Archa 2.57 255 ⇑P Pn 16 00 27.3 +1.8
12nm,0.3s,SNR=16
AAK Ala-Archa 2.57 255 ⇑eP Pn 16 00 26.4 +0.9
baz=55
AAK ⇑iS Sn 16 00 57.5 +0.4
baz=55
UCH Uchtor 2.71 246 ⇑iP Pn 16 00 28.5 +0.8
baz=47
UCH ⇑iS Sn 16 01 01.2 +0.3
baz=47
ARLS Aral 3.01 241 ⇑iP Pn 16 00 32.4 +0.9
baz=41
ARLS ⇑iS Sn 16 01 08.2 +0.3
baz=41
EKS2 Erkin-Say 3.08 258 ⇑eP Pn 16 00 33.2 +0.8
baz=58
EKS2 ⇑iS Sn 16 01 09.8 +0.4
baz=58
BTLS Baital 3.21 303 ePg Pb 16 00 41.5 +0.8
2.4nm,0.2s
BTLS eLg Lg 16 01 22.1
14nm,0.3s
BTLS Baital 3.21 303 Pg Pb 16 00 41.5 +0.8
2.4nm,0.2s
BTLS Lg Lg 16 01 22.1
14nm,0.3s
AML Almayashu 3.31 250 ⇑iP Pn 16 00 36.7 +0.9
baz=50
AML ⇑iS Sn 16 01 15.5 0.0
baz=50
AML Almayashu 3.31 250 ⇑Pg Pb 16 00 42.6 +0.1
0.4nm,0.5s
AML ⇑Lg Lg 16 01 27.5
2.2nm,0.6s
MRKS Merke 3.45 261 ePg Pb 16 00 45.9 +1.1
6.0nm,0.4s
MRKS eLg Lg 16 01 30.5
22nm,0.3s
MRKS Merke 3.45 261 Pg Pb 16 00 45.9 +1.1
6.0nm,0.4s
MRKS Lg Lg 16 01 30.5
22nm,0.3s
ARSB Arslanbob 4.15 242 ⇓eP Pn 16 00 48.3 +1.1
baz=42
ARSB ⇓iS Sn 16 01 35.5 -0.5
baz=42
MAKZ Makanchi 4.51 39 ⇓Lg Lg 16 02 03.8
8.0nm,0.8s
ARK Arkit 4.63 252 ⇑iP Pn 16 00 54.6 +0.9
baz=52
ARK ⇑iS Sn 16 01 46.6 -1.1
baz=52
MK31 Makanchi Array 4.65 41 Pn Pn 16 00 54.2 +0.3
0.1nm,0.2s,baz=127,slow=9.9,SNR=19
MK31 ⇑Pg Pb 16 01 08.1 +3.0
0.5nm,0.3s,baz=222,slow=15,SNR=7.9
MK31 ⇑Lg Lg 16 02 07.4
4.3nm,0.6s,baz=222,slow=29,SNR=6.8
SFK Sufi-Kurgan 4.67 226 ⇑iP Pn 16 00 55.2 +0.7
baz=26
SFK ⇑iS Sn 16 01 47.7 -1.3
baz=26
TRKS Terek-Say 5.30 252 ⇑iP Pn 16 01 03.9 +0.9
baz=51
TRKS ⇑iS Sn 16 02 02.7 -1.6
baz=51
KK31 Karatay Array 5.38 270 Pg Pg 16 01 22.2 -4.1
0.7nm,0.4s,baz=87,slow=16,SNR=9.3
KK31 ⇑Lg Lg 16 02 30.5
1.7nm,0.4s,baz=77,slow=28,SNR=5.5
KKAR Karatay Array 5.38 270 ⇑eP Pn 16 01 04.6 +0.7
baz=70
KKAR ⇑iS Sn 16 02 04.7 -1.3
baz=70

SJA ***20*** *16:11:51.9±2.0,20°.95S×68°.56W,h100km,ML3.9,MW3.8*
GUC ***20*** *16:11:52.4±0.7,20°.95S×68°.61W,h115km±4km,ML3.8*
ISC 20 16:11:52.3±1.7,20°.95S±0°.03×68°.69W±0°.07,
h122km±12km,n35,σ0s87/66,6C-3D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.75**	**262**	**eP**	**Pn**	**16 12 11.6**	**-0.7**
PB01				eS	Sn	16 12 27.6	+0.1
PB01				IAML		16 12 27.9	
	comp=Z,2μm,0.2s						
PB01	**IPOC Station P**	**0.75**	**262**	**⇑iP**	**Pn**	**16 12 11.6**	**-0.7**
PB01				eS	Sn	16 12 26.6	-0.9
PB01				IAML		16 12 29.3	
	comp=E,3μm,0.2s						
PB08	**IPOC Station P**	**0.91**	**331**	**eP**	**Pn**	**16 12 13.9**	**-0.1**
PB08				eS	Sn	16 12 31.2	+0.7
PB08				IAML		16 12 32.8	
	comp=Z,2μm,0.4s						
PB08	**IPOC Station P**	**0.91**	**331**	**⇓iP**	**Pn**	**16 12 14.0**	**-0.1**
PB08				eS	Sn	16 12 30.2	-0.3
PB08				IAML		16 12 31.9	
	comp=E,2μm,0.2s						
PB09	**IPOC Station P**	**0.99**	**211**	**eP**	**Pn**	**16 12 14.5**	**-0.1**
PB09				eS	Sn	16 12 32.3	+0.9
PB09	**IPOC Station P**	**0.99**	**211**	**⇑iP**	**Pn**	**16 12 14.3**	**-0.3**
PB09				eS	Sn	16 12 31.3	-0.1
PB02	**IPOC Station P**	**1.19**	**252**	**eP**	**Pn**	**16 12 16.3**	**-0.2**
PB02				eS	Sn	16 12 35.7	+0.9
PB02				IAML		16 12 41.4	
	comp=Z,2μm,0.3s						
PB02	**IPOC Station P**	**1.19**	**252**	**⇑iP**	**Pn**	**16 12 16.1**	**-0.4**
PB02				eS	Sn	16 12 34.9	0.0
PB02				IAML		16 12 39.0	
	comp=E,2μm,0.4s						
HMBC	**Humberstone**	**1.30**	**300**	**eP**	**Pn**	**16 12 17.4**	**-0.4**
HMBC				eS	Sn	16 12 38.2	+1.1
HMBC				IAML		16 12 40.0	
	comp=Z,2μm,0.3s						
HMBC	**Humberstone**	**1.30**	**300**	**iP**	**Pn**	**16 12 17.3**	**-0.5**
HMBC				eS	Sn	16 12 36.8	-0.3
HMBC				IAML		16 12 38.4	
	comp=E,3μm,0.2s						
GO01	**Chusmiza**	**1.36**	**339**	**eP**	**Pn**	**16 12 18.6**	**-0.2**
GO01				eS	Sn	16 12 39.4	+0.7
GO01				IAML		16 12 41.7	
	comp=Z,813nm,0.3s						
GO01	**Chusmiza**	**1.36**	**339**	**⇓iP**	**Pn**	**16 12 18.6**	**-0.2**
GO01				eS	Sn	16 12 38.4	-0.4
GO01				IAML		16 12 42.9	
	comp=N,3μm,0.2s						
PB07	**IPOC Station P**	**1.36**	**235**	**eP**	**Pn**	**16 12 18.0**	**-0.4**
PB07				eS	Sn	16 12 41.9	+3.6
PB07	**IPOC Station P**	**1.36**	**235**	**iP**	**Pn**	**16 12 18.0**	**-0.4**
PB07				eS	Sn	16 12 38.4	+0.2
PATCX	**Punta Patache**	**1.37**	**275**	**eP**	**Pn**	**16 12 18.4**	**-0.1**
PATCX				eS	Sn	16 12 40.4	+2.0
PATCX				IAML		16 12 42.8	
	comp=Z,641nm,0.4s						
PATCX	**Punta Patache**	**1.37**	**275**	**⇑iP**	**Pn**	**16 12 18.3**	**-0.2**
PATCX				eS	Sn	16 12 38.0	-0.4
PATCX				IAML		16 12 43.8	
	comp=N,1μm,0.3s						
TA01	**Diego Aracena**	**1.45**	**285**	**eP**	**Pn**	**16 12 18.8**	**-0.4**
TA01				eS	Sn	16 12 40.5	+0.8
TA01	**Diego Aracena**	**1.45**	**285**	**iP**	**Pn**	**16 12 18.6**	**-0.6**
TA01				eS	Sn	16 12 39.0	-0.7
TA01				IAML		16 12 43.0	
	comp=N,800nm,0.3s						
PB11	**IPOC Station P**	**1.49**	**322**	**eP**	**Pn**	**16 12 19.5**	**-0.4**
PB11				eS	Sn	16 12 41.1	+0.2
PB11				IAML		16 12 44.7	
	comp=Z,1μm,0.2s						
PB11	**IPOC Station P**	**1.49**	**322**	**⇓iP**	**Pn**	**16 12 19.5**	**-0.4**
PB11				eS	Sn	16 12 40.3	-0.5
PB11				IAML		16 12 42.4	
	comp=E,2μm,0.2s						
TA02	**Huaiquique**	**1.51**	**296**	**eP**	**Pn**	**16 12 19.8**	**-0.1**
TA02				eS	Sn	16 12 41.8	+0.9
TA02				IAML		16 12 46.4	
	comp=Z,1μm,0.1s						
TA02	**Huaiquique**	**1.51**	**296**	**iP**	**Pn**	**16 12 19.7**	**-0.2**
TA02				eS	Sn	16 12 40.9	0.0
LVC	**Limon Verde**	**1.67**	**187**	**eP**	**Pn**	**16 12 22.0**	**-0.2**
LVC				eS	Sn	16 12 45.2	+0.3
LVC	**Limon Verde**	**1.67**	**187**	**⇑iP**	**Pn**	**16 12 22.1**	**-0.1**
LVC				eS	Sn	16 12 44.5	-0.4
PB06	**IPOC Station P**	**1.93**	**205**	**eP**	**Pn**	**16 12 24.8**	**-0.4**
PB06				eS	Sn	16 12 50.6	+0.3
PB06	**IPOC Station P**	**1.93**	**205**	**⇑iP**	**Pn**	**16 12 24.8**	**-0.4**
PB06				eS	Sn	16 12 49.8	-0.5
PB06				IAML		16 12 50.9	
	comp=E,665nm,0.7s						
PB04	**IPOC Station P**	**1.94**	**224**	**eP**	**Pn**	**16 12 25.2**	**-0.1**
PB04				eS	Sn	16 12 52.7	+2.3
PB04				IAML		16 12 55.3	
	comp=Z,398nm,0.4s						
PB04	**IPOC Station P**	**1.94**	**224**	**iP**	**Pn**	**16 12 24.9**	**-0.3**
PB04				eS	Sn	16 12 50.6	+0.2
PB04				IAML		16 12 59.5	
	comp=N,467nm,0.6s						
PB05	**IPOC Station P**	**2.36**	**216**	**eP**	**Pn**	**16 12 30.2**	**-0.3**
PB05				eS	Sn	16 12 56.7	-3.1
PB05	**IPOC Station P**	**2.36**	**216**	**iP**	**Pn**	**16 12 29.7**	**-0.8**
PB15	**IPOC Station P**	**2.37**	**198**	**eP**	**Pn**	**16 12 31.4**	**+0.7**
PB15				eS	Sn	16 13 00.3	+0.2
PB15				IAML		16 13 07.1	
	comp=Z,1μm,0.3s						
PB15	**IPOC Station P**	**2.37**	**198**	**iP**	**Pn**	**16 12 30.7**	**0.0**
PB15				eS	Sn	16 13 00.5	+0.4
PB16	**IPOC Station P**	**2.71**	**343**	**iP**	**Pn**	**16 12 36.5**	**+1.0**
PB12	**IPOC Station P**	**2.79**	**326**	**eS**	**Sn**	16 13 00.0	-10
PB12	**IPOC Station P**	**2.79**	**326**	**iP**	**Pn**	**16 12 35.3**	**-0.7**
PB12				eS	Sn	**16 13 09.1**	**-0.4**
PB12				IAML		16 13 14.6	
	comp=N,395nm,0.3s						

IDC ***20*** *16:23:59.6±1.2,30°.73N×131°.95E,h0km,mb3.5/3,*
mbtmp3.6/7,ML3.2/4,MS3.5/1,Error ellipse: s-maj=38.5km
s-min=19.9km az=94.0
JMA ***20*** *16:24:02.2±0.1,30°.7N±0°.4×132°.1E±0°.8,h55km±3km,*
MV3.1/39,E OFF TANEGASHIMA ISLAND
ISC 20 16:24:01.2±1.7,30°.71N±0°.04×132°.09E±0°.05,h15km±11km,
n28,σ1s29/42,mb3.5/3,Southeast of Shikoku

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

JTN	**Tanegashima 3**	**0.96**	**267**	P	**Pg**	16 24 19.7	**0.0**	
JTN				S	**Sn**	16 24 33.4	**-0.1**	
JMTN	**Minamitane**	**1.07**	**253**	P	**Pb**	16 24 21.4	**-0.1**	
JMTN				S	**Sn**	16 24 36.0	**-0.2**	
JNAR	**Kushima--Naru**	**1.07**	**320**	P	**Pn**	16 24 21.4	**-0.3**	
JNAR				S	**Sb**	16 24 35.2	**-0.2**	
JTSR	**Tashiro 2**	**1.10**	**295**	S	**Sg**	16 24 36.2	**-0.7**	
JNKG	**Nichinankitago**	**1.13**	**327**	P	**Pb**	16 24 22.1	**-0.3**	
JNKG				S	**Sb**	16 24 36.6	**-0.3**	
JYAK	**Yakushimahirau**	**1.44**	**251**	P	**Pn**	16 24 26.5	**-0.3**	
JYAK				S	**Sn**	16 24 44.5	**-0.9**	
JTZ	**Takazaki**	**1.46**	**324**	P	**Pn**	16 24 26.8	**-0.3**	
JTZ				S	**Sn**	16 24 45.2	**-0.8**	
JSU	**Suzuyama**	**1.61**	**300**	P	**Pn**	16 24 29.0	**-0.1**	
JSU				S	**Sn**	16 24 48.9	**-0.7**	
JTSN	**Tsuno**	**1.61**	**342**	P	**Pn**	16 24 28.8	**-0.3**	
JTSN				S	**Sn**	16 24 48.5	**-1.1**	
JKC	**Kuchinoerabu**	**1.65**	**262**	*e*P	**Pn**	16 24 29.5	**-0.2**	
JKC				S	**Sn**	16 24 50.1	**-0.5**	
JNN	**Nakanoshima**	**2.10**	**246**	P	**Pn**	16 24 36.1	**+0.2**	
JNN				S	**Sn**	16 25 01.0	**-0.8**	
JIU3	**Izumi3**	**2.13**	**330**	P	**Pn**	16 24 36.5	**+0.2**	
JIU3				S	**Sn**	16 25 02.1	**-0.4**	
JTO	**Tosashimizu**	**2.23**	**16**	P	**Pn**	16 24 36.3	**-1.3**	
JTO				S	**Sn**	16 25 01.8	**-3.1**	
JSJ	**Shimokoshiki**	**2.25**	**296**	S	**Sn**	16 25 03.3	**-2.1**	
UWA2	**Uwa jima 2**	**2.54**	**10**	P	**Pn**	16 24 41.2	**-0.7**	
UWA2				S	**Sn**	16 25 09.4	**-3.2**	
JNU	**Nakatsue**	**2.62**	**337**	P	**Pn**	16 24 43.7	**+0.7**	
JNU	**Nakatsue**	**2.62**	**337**	Pn	**Pn**	16 24 43.3	**+0.3**	
	6.7nm,0.3s,baz=194,slow=9.9,SNR=54							
JNU				Sn	**Sn**	**16 25 15.1**	**+0.6**	
	5.1nm,0.3s,baz=128,slow=17,SNR=9.7							
	14nm,0.3s							
JMN	**Monobe**	**3.37**	**26**	P	**Pn**	16 24 53.4	**0.0**	
JTU	**Tsushima**	**4.43**	**330**	P	**Pn**	16 25 08.3	**+0.4**	
JOW	**Kunigami**	**5.11**	**222**	Pn	**Pn**	16 25 18.0	**+0.7**	
	3.3nm,0.3s,baz=110,slow=22,SNR=12							
JOW				Sn	**Sn**	**16 26 12.7**	**-3.4**	
	1.4nm,0.3s,baz=158,slow=26,SNR=1.5							
	6.5nm,0.3s							
INU	**Inuyama**	**6.21**	**41**	P	**Pn**	**16 25 35.0**	**+2.7**	
	25nm,0.5s							
MAJO	**Matsushiro**	**7.74**	**40**	P	**Pn**	16 25 55.5	**+2.2**	
MJAR	**Matsushiro Arr**	**7.74**	**40**	Pn	**Pn**	16 25 55.1	**+1.8**	
	0.2nm,0.3s,baz=245,slow=14,SNR=5.4							
	1.1nm,0.5s							
KLR	**Kul'dur**	**18.50**	**359**	P	**Pn**	**16 28 17.9**	**+1.0**	
	0.1nm,0.3s,baz=183,slow=7.9,SNR=6.0							
	1.7nm,0.7s							
SONM	**Songino Array**	**26.05**	**318**	LR	LR	16 41 25.8		
	comp=Z,93nm,19.4s,baz=182,slow=40							
ASAR	**Alice Springs**	**54.09**	**178**	P	**P**	**16 33 26.3**	**+0.8**	
	0.2nm,0.6s,baz=11,slow=13,SNR=6.0							
	0.2nm,0.6s							
ILAR	**Eielson Array**	**58.89**	**30**	P	**P**	**16 34 00.4**	**+1.2**	
	0.2nm,0.5s,baz=273,slow=5.2,SNR=2.3							
	0.2nm,0.5s							
FINES	**FINES Array B**	**70.64**	**331**	P	**P**	**16 35 15.4**	**-0.4**	
	2.1nm,0.9s,baz=46,slow=4.0,SNR=7.7							
	2.1nm,0.9s							

*IDC **20** 16:55:08.1±2.7,37.02N×140.82E, h0km, mb3.3/2, mbtmp3.2/3, ML2.1/1, MS3.3/1, Error ellipse: s-maj=51.0km s-min=36.8km az=22.0*
*JMA **20** 16:55:08.8±0.2,35.28N±0.6×140.7E±0.8, h50km±1km, MV2.4/35, NEAR CHOSHI CITY*
ISC 20 16:55:09.0±1.7**, 35.78N**±0.06×**140.8E**±0.1**, h44**km±10km**, n18**, σ1**944/15, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.32**	**306**	*i* P	**Pn**	**16 55 18.0**	**+0.3**
JIHU				S	**Sn**	**16 55 25.2**	**+1.2**
JSMT	**Sammumatsuo**	**0.35**	**247**	*i* P	**Pn**	**16 55 17.5**	**-0.5**
JSMT				*e*S	**Sn**	**16 55 24.9**	**+0.4**
JCN	**Nagara**	**0.63**	**236**	P	**Pn**	**16 55 20.9**	**-0.7**
JCN				*e*S	**Sn**	**16 55 30.0**	**-0.7**
JYT	**Yasato**	**0.69**	**311**	*i* P	**Pn**	**16 55 21.4**	**-0.9**
JYT				*e*S	**Sn**	**16 55 30.1**	**-2.0**
BSO4	**Boso 4**	**0.89**	**208**	*e*P	**Pn**	**16 55 24.5**	**-0.4**
BSO3	**Boso 3**	**1.01**	**196**	P	**Pn**	**16 55 26.1**	**-0.3**
BSO1	**Boso 1**	**1.13**	**174**	P	**Pn**	**16 55 28.3**	**+0.5**
JAG	**Ashikaga**	**1.30**	**300**	P	**Pn**	**16 55 29.7**	**-0.9**
MJAR	**Matsushiro Arr**	**2.26**	**290**	Pn	**Pn**	**16 55 44.5**	**+0.6**
	0.6nm,0.3s,baz=95,slow=14,SNR=37						
MJAR				Sn	**Sn**	**16 56 14.2**	**+3.6**
	0.3nm,0.3s,baz=152,slow=14,SNR=7.3						
	3.0nm,0.4s						
JNU	**Nakatsue**	**8.64**	**255**	LR	LR	17 00 53.5	
	comp=Z,191nm,18.2s,baz=155,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.93**	**118**	T	T	17 30 06.9	
	baz=310,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.94**	**118**	T	T	17 30 10.5	
	baz=310						
H11N3	**WAKE ISLAND Hy**	**27.95**	**118**	T	T	17 30 08.1	
	baz=310,slow=75						
H11S3	**WAKE ISLAND Hy**	**28.60**	**120**	T	T	17 30 54.1	
	baz=312,slow=74,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	17 30 53.6	
	baz=312,slow=74,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	17 30 54.1	
	baz=312						
MKAR	**Makanchi Array**	**44.41**	**303**	P	**P**	**17 03 14.9**	**-0.3**
	0.2nm,0.5s,baz=80,slow=13,SNR=1.9						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**55.76**	**187**	P	P	17 04 55.4	+14
	0.4nm,0.7s,baz=2.2,slow=7.7,SNR=2.3						
	0.4nm,0.7s						

IDC 20 16:58:04.5±1.9**, 2.94S**×**142.23E, h0**km**, mb3.5**/3, **mbtmp3.5**/4**, ML3.7**/1**, MS4.0**/1**, Error ellipse: s-maj=101.1km s-min=28.2km az=104.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.57**	**204**	P	P	17 02 23.0	-0.3
	0.3nm,0.3s,baz=26,slow=11,SNR=9.5						
	0.5nm,0.4s						
HNR	**Honiara**	**18.75**	**111**	LR	LR	17 08 52.8	
	comp=Z,540nm,21.2s,baz=319,slow=35						
ASAR	**Alice Springs**	**22.12**	**201**	P	P	17 03 01.9	0.0
	0.3nm,0.5s,baz=30,slow=11,SNR=10						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**81.53**	**325**	P	P	17 10 23.9	0.0
	0.7nm,0.6s,baz=116,slow=6.8,SNR=4.0						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**84.60**	**24**	P	P	17 10 39.7	+0.1
	0.3nm,0.7s,baz=254,slow=5.0,SNR=2.4						
	0.3nm,0.7s						

*EAF **20** 17:12:55.1±2.2,22.16S×30.20E, h0km±31km, MD2.7*
BUL 20 17:12:51.9±0.8**, 22.74S**×**29.86E, h10**km±8km**, MD2.5, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUSN	**Musina, Limpop**	**0.45**	**0**	*i* P	Pg	17 13 00.0	-0.6
MUSN				*i* S	Sg	17 13 06.4	-0.1
MUSN	**Musina, Limpop**	**0.45**	**0**	*i* P	Pg	17 13 00.0	-0.6
MUSN				*i* S	Sg	17 13 06.4	-0.1
MOPA	**Mopani**	**1.61**	**119**	*i* P	Pg	17 13 24.8	+1.9
MOPA				*i* S	Sg	17 13 49.6	+5.8
MOPA	**Mopani**	**1.61**	**119**	*i* P	Pg	17 13 24.8	+1.9
MOPA				*i* S	Sg	17 13 49.6	+5.8
MATP	**Matopo**	**2.62**	**331**	*i* P	Pn	17 13 34.5	0.0
MATP				*i* S	Sn	17 14 04.1	-2.4
MATP	**Matopo**	**2.62**	**331**	*i* P	Pn	17 13 34.5	0.0
MATP				*i* S	Sn	17 14 04.1	-2.4

TAP 20 17:20:01.6, 23.03N×120.90E, h7km±1km**, ML0.9, C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	**Taoyuan**	**0.18**	**320**	P	Pg	17 20 06.2	+0.9
	baz=320						
STYH				*e*S	Sg	17 20 08.0	+0.3
	baz=320						
STYT	**Tauyuan**	**0.19**	**315**	*i* P	Pg	17 20 05.8	+0.5
	baz=316						
STYT				*i* S	Sg	17 20 08.6	+0.6
	baz=316						
ELDTW	**Lidau**	**0.19**	**34**	P	Pg	17 20 05.5	0.0
	baz=36						
ELDTW				*i* S	Sg	17 20 09.0	+0.9
	baz=36						
SLGT	**Liugui**	**0.24**	**261**	*i* P	Pg	17 20 07.0	+0.8
	baz=260						
SLGT				S	Sg	17 20 10.8	+1.3
	baz=260						
LONT	**Longtian**	**0.24**	**120**	*e*P	Pg	17 20 07.3	+0.8
	baz=122						
LONT				S	Sg	17 20 11.7	+2.0
	baz=122						
TWG	**Pinlang**	**0.26**	**143**	*i* P	Pb	17 20 07.7	-0.9
	baz=142						
TWGBT	**Beinan**	**0.27**	**142**	*i* P	Pg	17 20 07.8	+0.9
	baz=142						
SGST	**Jiashian**	**0.30**	**280**	P	Pb	17 20 08.5	-0.7
	baz=280						
EHD	**Haiduan**	**0.30**	**67**	*e*S	Sb	17 20 14.3	-0.3
	baz=63						
WTP	**Ta-pu**	**0.34**	**309**	*e*P	Pb	17 20 09.5	-0.5
	baz=309						
WTP				*e*S	Sb	17 20 14.8	-0.9
	baz=309						
TTN	**Taitung**	**0.36**	**141**	*e*P	Pg	17 20 08.5	0.0
	baz=141						
TTN				*i* S	Sb	17 20 15.8	-0.2
	baz=141						
TPUB	**Ta-pu**	**0.37**	**317**	*e*P	Pb	17 20 10.3	-0.1
	baz=317						
TPUB				*e*S	Sg	17 20 14.8	+1.2
	baz=317						
CHN1	**Nanshi**	**0.38**	**294**	*e*P	Pg	17 20 09.4	+0.5
	baz=295						
SCST	**Cishan**	**0.40**	**249**	*i* P	Pb	17 20 10.3	-0.7
	baz=248						
TWF1	**Yuli**	**0.48**	**49**	P	Pg	17 20 11.4	+0.4
	baz=62						
YULB	**Yu-li**	**0.51**	**45**	*e*P	Pb	17 20 12.5	-0.4
	baz=43						

*IDC **20** 17:20:25.3±9.2,20.16S×177.90W, h487km±98km, mb3.4/5, mbtmp4.2/5, Error ellipse: s-maj=41.8km s-min=25.0km az=79.0*
*NEIC **20** 17:20:26.4±1.3,20.2S±0.1×177.9W±0.1, h502km±6km, mb4.3/18, Error ellipse: s-maj=20.5km s-min=19.8km az=133.0*
ISC 20 17:20:26.0±0.7**, 20.2S**±0.1×**177.9W**±0.1**, h500**km**, n32, σ0**894/**32, mb4.1**/14**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.62**	**83**	P	**P**	**17 22 17.6**	**-0.9**
PINNC	**Pines Island,**	**13.83**	**258**	P	**P**	**17 23 23.8**	**-0.1**
DZM	**Mont Dzumac**	**14.70**	**260**	P	**P**	**17 23 31.1**	**-2.0**
MXZ	**Matakaoa Point**	**17.58**	**190**	P	**P**	**17 24 01.4**	**-0.9**
RTZ	**Ruatahuna**	**18.85**	**192**	P	**P**	**17 24 12.3**	**-1.7**
CTAO	**Charters Tower**	**33.59**	**264**	P	**P**	**17 26 25.5**	**+1.3**
CTAO				IAmb	IAmb	17 27 07.3	
	comp=Z,14nm,1.4s						
PMG	**Port Moresby**	**35.35**	**283**	P	**P**	**17 26 39.6**	**+0.6**
PMG				IAmb	IAmb	17 27 14.6	
	comp=Z,15nm,1.2s						
WR0	**Warramunga Arr**	**44.52**	**262**	P	**P**	**17 27 52.9**	**+0.1**
WR0				IAmb	IAmb	17 28 02.9	
	comp=Z,8.4nm,1.4s						
AS31	**Alice Springs**	**44.65**	**256**	P	**P**	**17 27 53.9**	**+0.1**
ASAR	**Alice Springs**	**44.65**	**256**	P	**P**	**17 27 53.3**	**-0.5**
ASAR	**Alice Springs**	**44.65**	**256**	P	**P**	**17 27 54.4**	**+0.6**
	comp=Z,3.6nm,0.7s,baz=88,slow=8.2,SNR=107						
ASAR				PcP	**pP**	**17 29 25.8**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=105,slow=4.7,SNR=1.9						
	comp=Z,3.6nm,0.7s						
WB0	**Warramunga Arr**	**44.69**	**262**	P	**P**	**17 27 53.9**	**-0.2**
WB0				IAmb	IAmb	17 28 36.6	
	comp=Z,9.8nm,1.4s						
WB2	**Warramunga Arr**	**44.70**	**262**	P	**P**	**17 27 53.7**	**-0.5**
WB2				IAmb	IAmb	17 28 06.3	
	comp=Z,10nm,1.4s						
WRAB	**Tennant Creek**	**44.70**	**262**	P	**P**	**17 27 53.9**	**-0.2**
WRAB				IAmb	IAmb	17 27 55.4	
	comp=Z,6.1nm,1.2s						
WRA	**Warramunga Arr**	**44.71**	**262**	P	**P**	**17 27 53.9**	**-0.3**
WRA	**Warramunga Arr**	**44.71**	**262**	P	**P**	**17 27 54.5**	**+0.2**
	comp=Z,2.1nm,0.5s,baz=97,slow=7.6,SNR=72						
	comp=Z,2.1nm,0.5s						
MTN	**Manton Dam**	**49.23**	**270**	P	**P**	**17 28 28.8**	**+0.4**
MTN				IAmb	IAmb	17 28 31.8	
	comp=Z,22nm,1.2s						
KNRA	**Kununurra**	**50.75**	**266**	P	**P**	**17 28 39.1**	**-0.5**
KNRA				IAmb	IAmb	17 29 16.0	
	comp=Z,39nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.13**	**262**	P	**P**	**17 28 56.8**	**0.0**
NWAO	**Narrogin (SRO)**	**58.55**	**243**	P	**P**	**17 29 34.3**	**+0.1**
QSPA	**South Pole Qui**	**69.84**	**180**	P	**P**	**17 30 46.7**	**+1.1**
QSPA				IAmb	IAmb	17 30 47.7	
	comp=Z,3.6nm,0.9s						
QSPA	**South Pole Qui**	**69.84**	**180**	P	**P**	**17 30 46.6**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=350,slow=0.4,SNR=9.7						
	comp=Z,2.3nm,0.7s						
JMN	**Monobe**	**70.63**	**319**	P	**P**	**17 30 48.1**	**-2.6**
PETK	**Petropavlovsk-**	**76.03**	**345**	P	**P**	**17 31 21.6**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=120,slow=5.7,SNR=5.3						
	comp=Z,2.4nm,0.7s						
BELA	**Belgrano 2**	**79.82**	**173**	P	**P**	**17 31 41.9**	**+0.5**
L18K	**Granite Mounta**	**83.89**	**10**	P	**P**	**17 32 03.4**	**+1.2**
L18K				IAmb	IAmb	17 32 16.9	
	comp=Z,18nm,1.5s						
ILAR	**Eielson Array**	**88.03**	**13**	P	**P**	**17 32 21.9**	**0.0**
	comp=Z,0.5nm,0.6s,baz=218,slow=5.2,SNR=8.7						
	comp=Z,0.5nm,0.6s						
AKASG	**Malin Array Be**	**142.81**	**331**	PKhKP	PKPpre	17 38 58.5	
	comp=Z,1.5nm,0.6s,baz=44,slow=4.0,SNR=11						
BRTR	**Keskin Array B**	**146.71**	**313**	PKPbc	**PKPbc**	**17 39 11.6**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=127,slow=4.9,SNR=2.4						
BUR08	**Bucovina Ar. S**	**146.84**	**331**	PKPab	**PKPbc**	**17 39 12.9**	**+1.1**
BURAR	**Bucovina Array**	**146.86**	**331**	PKPab	**PKPbc**	**17 39 13.2**	**+1.4**
MMAI	**Mount Meron Ar**	**147.74**	**300**	PKPbc	**PKPbc**	**17 39 14.9**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=72,slow=6.2,SNR=2.7						

*IDC **20** 17:32:27.6±1.9,3.16S×130.58E, h0km, mb4.0/3, mbtmp4.1/4, ML4.1/1, MS3.5/2, Error ellipse: s-maj=114.1km s-min=25.0km az=71.0*
*NEIC **20** 17:32:32.8±1.9,3.43S±0.07×130.31E±0.07, h39km±11km, mb4.1/13, Error ellipse: s-maj=10.6km s-min=10.2km az=56.0*
*DJA **20** 17:32:33.9±0.3,3°S±3°×13°0E±°, h55km±9km, M4.4/11, mb4.6/6, mB4.9/2, MLv4.2/11, Mw(mB)4.1/2*
ISC 20 17:32:33.1±0.7**, 3.27S**±0.06×**130.45E**±0.06**, h50**km**, n41, σ2**801/**39, mb4.0**/3**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.36**	**204**	P	**Pn**	**17 33 00.1**	**+4.4**
FAKI	**Fak Fak**	**1.83**	**79**	Pn	**Pn**	**17 33 03.6**	**+1.5**
FAKI				Sn	**Sn**	**17 33 23.8**	**-0.4**
FAKI	**Fak Fak**	**1.83**	**79**	P	**Pn**	**17 33 03.8**	**+1.7**
SWI	**Sorong**	**2.52**	**19**	P	**Pn**	**17 33 10.7**	**-0.9**
KMPI	**Kaimana, Papua**	**3.27**	**97**	P	**Pn**	**17 33 24.4**	**+2.5**
NLAI	**Namlea**	**3.34**	**270**	P	**Pn**	**17 33 24.7**	**+1.8**
LBMI	**Labuha**	**3.94**	**311**	P	**Pn**	**17 33 30.5**	**-0.6**
SANI	**Sanana**	**4.62**	**285**	P	**Pn**	**17 33 38.6**	**-1.8**
SAUI	**Saumlaki**	**4.76**	**170**	Pn	**Pn**	17 33 39.8	-2.5
SAUI				Sn	**Sn**	**17 34 33.4**	**-2.8**
SAUI	**Saumlaki**	**4.76**	**170**	P	**Pn**	**17 33 45.5**	**+3.2**
KMSI	**Cibinong**	**7.51**	**300**	P	**Pn**	**17 34 19.6**	**-0.5**
	68nm,0.6s,0.3nm						
LUWI	**Luwuk**	**7.98**	**286**	Pn	**Pn**	**17 34 26.0**	**-0.6**
LUWI	**Luwuk**	**7.98**	**286**	P	**Pn**	**17 34 26.3**	**-0.3**
	23nm,0.6s,828nm0.1nm						
SOEI	**Soe**	**8.90**	**223**	Pn	Pn	17 34 33.9	-5.3
MRSI	**Marisa**	**9.28**	**293**	P	**Pn**	**17 34 43.2**	**-1.2**
	28nm,0.6s						
MTN	**Manton Dam**	**9.54**	**176**		**Pn**	**17 34 48.1**	**+0.3**
MTN					Sn	17 36 28.6	-5.1
MMRI	**Maumere**	**9.75**	**236**	Pn	Pn	17 34 47.0	-3.9
TOLI2	**Tolitoli**	**10.60**	**294**	Pn	**Pn**	**17 35 01.5**	**-0.9**
KNRA	**Kununurra**	**12.44**	**188**	Pn	**Pn**	**17 35 25.5**	**-2.1**
KNRA					Sn	17 37 38.2	-6.6
MYLDM	**Lahad Datu**	**14.59**	**305**		**Pn**	**17 35 55.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**15.47**	**197**	Pn	**Pn**	**17 36 05.9**	**-2.3**
WB0	**Warramunga Arr**	**16.84**	**167**	Pn	**Pn**	**17 36 22.0**	**-3.5**
WB0				IAmb	IAmb	17 36 29.3	
	comp=Z,12nm,1.1s						
WRAB	**Tennant Creek**	**17.00**	**167**	Pn	**Pn**	**17 36 24.4**	**-3.0**
WRAB				IAmb	IAmb	17 36 31.7	
	comp=Z,5.5nm,0.5s						
WRA	**Warramunga Arr**	**17.00**	**167**	Pn	**Pn**	**17 36 24.3**	**-3.2**
WRA	**Warramunga Arr**	**17.00**	**167**	P	**Pn**	**17 36 26.3**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=348,slow=11,SNR=33						
WRA				S	Sn	17 39 22.9	-13
	comp=Z,0.8nm,0.3s,baz=340,slow=25,SNR=7.8						
	comp=Z,4.8nm,0.9s						
WB2	**Warramunga Arr**	**17.01**	**167**	Pn	**Pn**	**17 36 25.8**	**-1.8**
WB2				IAmb	IAmb	17 36 31.8	
	comp=Z,6.6nm,0.5s						
JAGI	**Jajag, Banyuwa**	**17.01**	**252**		**Pn**	**17 36 28.8**	**+1.1**
JAGI				IAmb	IAmb	17 36 46.6	
	comp=Z,28nm,1.1s						
WR0	**Warramunga Arr**	**17.06**	**167**	Pn	**Pn**	**17 36 26.4**	**-1.9**
AS31	**Alice Springs**	**20.55**	**171**		**P**	**17 37 09.9**	**+2.2**
AS31				IAmb	IAmb	17 37 11.2	
	comp=Z,4.7nm,0.5s						
ASAR	**Alice Springs**	**20.55**	**171**		**P**	**17 37 09.4**	**+1.7**
ASAR	**Alice Springs**	**20.55**	**171**	P	**P**	**17 37 09.7**	**+2.0**
	comp=Z,6.8nm,0.4s,baz=351,slow=11,SNR=410						
ASAR				S	**S**	**17 40 52.0**	**-3.0**
	comp=Z,1.6nm,0.9s,baz=349,slow=22,SNR=9.2						
	comp=Z,6.8nm,0.4s						
KSM	**Kuching**	**20.68**	**283**	Pn	**P**	**17 37 10.4**	**+1.3**
PSA00	**Pilbara Seismi**	**20.91**	**209**	P	**P**	**17 37 09.5**	**-2.1**
PSA00				IAmb	IAmb	17 37 13.0	
	comp=Z,8.7nm,0.9s						
LEM	**Lembang**	**23.01**	**260**	LR	LR	17 48 53.7	
	comp=Z,105nm,18.6s,baz=312,slow=43						
NWAO	**Narrogin (SRO)**	**32.00**	**201**	P	**P**	**17 38 55.3**	**+0.6**
SONM	**Songino Array**	**55.08**	**340**	LR	LR	18 08 11.0	
	comp=Z,36nm,19.2s,baz=85,slow=39						
MK31	**Makanchi Array**	**65.39**	**326**	P	**P**	**17 43 11.3**	**+0.7**
MK31				IAmb	IAmb	17 43 33.6	
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**65.39**	**326**	P	**P**	**17 43 11.2**	**+0.6**
MKAR	**Makanchi Array**	**65.39**	**326**	P	**P**	**17 43 12.0**	**+1.5**
	comp=Z,0.7nm,0.4s,baz=116,slow=8.5,SNR=16						
	comp=Z,0.7nm,0.4s						
MAKZ	**Makanchi**	**65.58**	**326**	P	**P**	**17 43 13.0**	**+1.3**
KURBB	**Kurchatov Arra**	**69.60**	**328**	P	**P**	**17 43 38.3**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=128,slow=5.6,SNR=5.0						
	comp=Z,0.5nm,0.6s						

PGC 20 17:40:35.4±1.7**, 50.43N**×**130.31W, h10**km**, MLSn3.0**/19**, Mw3.7**/19**, 206km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.41**	**81**	Pn	Pn	17 40 59.0	-2.0
HOLB				Sn	Sn	17 41 14.9	-4.8
PHC	**Port Hardy**	**1.85**	**80**	Pn	Pn	17 41 05.6	-1.6
PHC				Sn	Sn	17 41 26.1	-4.6
HG4B	**Hotspring**	**1.94**	**344**	Pn	Pn	17 41 06.0	-2.5
HG4B				Sn	Sn	17 41 28.7	-4.2
MAYB	**Maynard**	**2.01**	**90**	Pn	Pn	17 41 07.7	-1.7
MAYB				Sn	Sn	17 41 29.7	-5.0
EDB	**Eliza Dome**	**2.13**	**104**	Pn	Pn	17 41 09.0	-2.0
EDB				Sn	Sn	17 41 33.9	-3.5
BBB	**Bella Bella**	**2.23**	**37**	Pn	Pn	17 41 10.7	-1.6
BBB				Sn	Sn	17 41 35.0	-4.9
BAIB	**Barry Inlet**	**2.33**	**338**	Pn	Pn	17 41 11.4	-2.4
BAIB				Sn	Sn	17 41 39.0	-3.4
BNB	**Barry Inlet**	**2.33**	**338**	Pn	Pn	17 41 11.5	-2.3
BNB				Sn	Sn	17 41 38.7	-3.8
WOSB	**Woss**	**2.41**	**95**	Pn	Pn	17 41 13.8	-1.2
WOSB				Sn	Sn	17 41 41.0	-3.6
NCRB	**Newcastle Ridg**	**2.72**	**89**	Pn	Pn	17 41 17.9	-1.4
NCRB				Sn	Sn	17 41 49.4	-2.9
NCSB	**Newcastle Ridg**	**2.72**	**89**	Pn	Pn	17 41 17.8	-1.5
NCSB				Sn	Sn	17 41 48.6	-3.6
HG1B	**Mitchell Dam**	**2.75**	**336**	Pn	Pn	17 41 18.1	-1.4
HG1B				Sn	Sn	17 41 50.0	-2.7
BUTB	**Butedale**	**2.87**	**23**	Pn	Pn	17 41 20.2	-1.2
BUTB				Sn	Sn	17 41 52.2	-3.8
BNKB	**Banks Island**	**2.91**	**5**	Pn	Pn	17 41 19.9	-1.9
BNKB				Sn	Sn	17 41 52.3	-4.5
GRIB	**Gribbell Islan**	**3.00**	**14**	Pn	Pn	17 41 21.3	-1.7
GRIB				Sn	Sn	17 41 53.8	-5.1
BNAB	**Bonilla**	**3.07**	**356**	Pn	Pn	17 41 22.9	-1.0
BNAB				Sn	Sn	17 41 56.3	-4.4
DIB	**Dawson Inlet,**	**3.08**	**335**	Pn	Pn	17 41 22.4	-1.7
DIB				Sn	Sn	17 41 57.9	-3.1
CBB	**Campbell River**	**3.20**	**95**	Pn	Pn	17 41 25.2	-0.6
CBB				Sn	Sn	17 41 59.8	-4.1
GRNB	**Grenville Isla**	**3.42**	**3**	Pn	Pn	17 41 27.4

EADA	**Adamuz**	**1.43 348**	P		**Pn**	**17 46 22.4**	**+0.5**
SMIR	**Smir Dam**	**1.44 222**	P		**Pn**	**17 46 22.0**	**0.0**
SMIR			S		**Sn**	**17 46 38.6**	**-1.5**
ECAB	**El Cabril**	**1.63 324**	P		**Pn**	**17 46 25.2**	**+0.7**
ECAB			⇑*iVmb_V*			17 46 28.7	
	81nm,SNR=1.4						
ECAB			S		**Sn**	**17 46 44.8**	**+0.2**
ECAB	**El Cabril**	**1.63 324**	P		**Pn**	**17 46 25.9**	**+1.4**
EMIN	**Mina Concepcio**	**2.21 298**	P		**Pn**	**17 46 32.5**	**+0.2**
EMIN			⇑*iVmb_V*			17 46 34.5	
	121nm,SNR=2.0						
EMIN			S		**Sn**	**17 46 57.8**	**-0.8**
EZAR	**Zarzadilla de**	**2.29 60**	P		**Pn**	**17 46 34.1**	**+0.6**
EZAR			⇑*iVmb_V*			17 46 35.0	
	115nm,SNR=1.0						
EZAR			S		**Sn**	**17 47 01.2**	**+0.6**
TAF	**Taforalt**	**2.43 143**	P		**Pn**	**17 46 36.6**	**+1.2**
PBAR	**Barrancos**	**2.66 303**	*eP*		**Pn**	**17 46 40.0**	**+1.5**
PBAR			*eS*		**Sn**	**17 47 08.6**	**-1.0**
PBAR			A		A	17 47 33.5	
	1.3nm,0.1s						
PBAR	**Barrancos**	**2.66 303**	P		**Pn**	**17 46 40.0**	**+1.5**
EGRO	**El Granado**	**2.73 287**	P		**Pn**	**17 46 41.0**	**+1.5**
EGRO			⇑*iVmb_V*			17 46 45.6	
	130nm,SNR=1.7						
EGRO			S		**Sn**	**17 47 10.5**	**-0.8**
EGRO	**El Granado**	**2.73 287**	P		**Pn**	**17 46 39.5**	**+0.1**
EGRO			S		**Sn**	**17 47 09.0**	**-2.3**
JBK	**JBK**	**2.77 151**	P		**Pn**	**17 46 40.4**	**+0.2**
JBK			S		**Sn**	**17 47 11.6**	**-0.9**
PAB	**San Pablo**	**2.78 358**	P		**Pn**	**17 46 41.5**	**+1.3**
PAB			⇑*iVmb_V*			17 46 46.6	
	66nm,SNR=1.2						
PAB			S		**Sn**	**17 47 09.5**	**-3.1**
ETOB	**Tobarra**	**2.82 47**	P		**Pn**	**17 46 41.7**	**+1.0**
ETOB			⇑*iVmb_V*			17 46 42.7	
	154nm,SNR=1.7						
ETOB			S		**Sn**	**17 47 11.6**	**-2.0**
ETOB	**Tobarra**	**2.82 47**	P		**Pn**	**17 46 41.7**	**+1.0**
PVAQ	**Vaqueiros**	**2.88 284**	*eP*		**Pn**	**17 46 43.0**	**+1.5**
PVAQ			*eS*		**Sn**	**17 47 13.2**	**-1.8**
EBAD	**Badajoz**	**2.98 313**	P		**Pn**	**17 46 44.2**	**+1.3**
EBAD			⇑*iVmb_V*			17 46 47.1	
	138nm,SNR=2.3						
EBAD			S		**Sn**	**17 47 16.4**	**-1.2**
EBAD	**Badajoz**	**2.98 313**	P		**Pn**	**17 46 44.7**	**+1.8**
PBDV	**Barranco-do-Ve**	**3.02 280**	*eS*		**Sn**	**17 47 16.7**	**-1.8**
PBDV			A		A	17 47 34.5	
	2.9nm,0.6s						
PCVE	**Castro Verde**	**3.18 287**	*eP*		**Pn**	**17 46 46.9**	**+1.3**
PCVE			*eS*		**Sn**	**17 47 21.9**	**-0.5**
PCVE			A		A	17 47 23.9	
	1.8nm,0.2s						
IFR	**Ifrane**	**3.33 193**	P		**Pn**	**17 46 47.0**	**-0.8**
MESJ	**Messejana**	**3.38 290**	*eP*		**Pn**	**17 46 49.6**	**+1.3**
MESJ			*eS*		**Sn**	**17 47 26.1**	**-1.1**
MESJ			A		A	17 47 38.5	
	2.4nm,0.8s						
MESJ	**Messejana**	**3.38 290**	*eP*		**Pn**	**17 46 49.3**	**+1.0**
MESJ			*eS*		**Sn**	**17 47 25.1**	**-2.0**
MESJ			IAML			17 47 26.7	
	comp=E,0.7nm,0.1s						
PESTR	**Estremoz**	**3.41 309**	*eP*		**Pn**	**17 46 50.2**	**+1.5**
PESTR			*eS*		**Sn**	**17 47 26.5**	**-1.4**
PESTR			A		A	17 47 52.2	
	comp=E,2.3nm,0.4s						
EVIV	**Cofrentes, Val**	**3.49 43**	P		**Pn**	**17 46 50.3**	**+0.5**
EVIV			⇑*iVmb_V*			17 46 51.8	
	comp=E,126nm,SNR=1.3						
EVIV			S		**Sn**	**17 47 27.2**	**-2.7**
EVO	**Evora**	**3.50 301**	*eS*		**Sn**	**17 47 30.1**	**-0.1**
MORF	**Marmelete**	**3.60 280**	*eP*		**Pn**	**17 46 53.4**	**+2.0**
MORF			*eS*		**Sn**	**17 47 30.0**	**-2.7**
MORF			A		A	17 47 33.9	
	comp=E,1.5nm,0.5s						
PMRV	**Marv?2o**	**3.66 318**	*eP*		**Pn**	**17 46 53.6**	**+1.5**
PTEO	**Sao Teotonio**	**3.70 284**	*eS*		**Sn**	**17 47 34.5**	**-0.4**
PNCL	**Nicolau / Gran**	**3.70 293**	*eP*		**Pn**	**17 46 53.9**	**+1.3**
PNCL			*eS*		**Sn**	**17 47 32.4**	**-2.5**
PNCL			A		A	17 47 35.8	
	comp=E,1.4nm,0.5s						
PFVI	**Vila Bisbo**	**3.72 277**	*eP*		**Pn**	**17 46 54.8**	**+1.8**
PFVI			*eS*		**Sn**	**17 47 33.2**	**-2.4**
MD31	**MD31**	**3.92 187**	P		**Pn**	**17 46 58.1**	**+2.4**
MD31			S		**Sn**	**17 47 39.3**	**-1.1**
PMTG	**Montargil**	**3.93 307**	*eP*		**Pn**	**17 46 57.0**	**+1.3**
PMTG			*eS*		**Sn**	**17 47 38.4**	**-2.1**
PMTG			A		A	17 48 04.9	
	comp=E,1.2nm,0.7s						
MDT	**Midelt**	**3.96 185**	P		**Pn**	**17 46 58.4**	**+2.1**
MDT			S		**Sn**	**17 47 40.2**	**-1.3**

*IDC **20** 17:51:23.0±1.8, 7°.33S×123°.47E, h0km, mb3.6/2, mbtmp3.9/4, ML4.2/2, Error ellipse: s-maj=90.4km s-min=26.7km az=65.0*
ISC 20 17:51:44.0±0.8, **7.75S**±0°.09×**123°.74E**±0°.08, **h200**km, **n19, σ2§10/21, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.73 239**		P	**Pn**	**17 52 24.0**	**+4.2**
SOEI	**Soe**	**2.06 165**		P	**Pn**	**17 52 27.1**	**+3.8**
PLAI	**Plampang**	**5.99 259**		P	**Pn**	**17 53 11.7**	**+0.5**
SAUI	**Saumlaki**	**7.50 92**		P	**Pn**	**17 53 33.1**	**+2.3**
MTN	**Manton Dam**	**8.87 125**		P	**Pn**	**17 53 49.6**	**+1.0**
KNRA	**Kununurra**	**9.29 148**		P	**Pn**	**17 53 54.3**	**+0.2**
JAGI	**Jajag, Banyuwa**	**9.52 265**		P	**Pn**	**17 53 57.3**	**+0.3**
FAKI	**Fak Fak**	**9.74 61**		P	**Pn**	**17 54 01.6**	**+1.7**
KDU	**Kakadu**	**9.90 120**		P	**Pn**	**17 54 02.6**	**+0.6**
FITZ	**Fitzroy Crossi**	**10.46 170**		P	**Pn**	**17 54 10.0**	**+0.8**
UGM	**Wanagama**	**13.09 268**		P	**Pn**	**17 54 42.0**	**-0.8**
WRA	**Warramunga Arr**	**15.89 141**		Pn	**P**	**17 55 15.8**	**-1.0**
	1.1nm,0.3s,baz=312,slow=13,SNR=76						
WRA				Sn	**S**	**17 58 07.9**	**-5.5**
	0.6nm,0.3s,baz=319,slow=24,SNR=6.3						
	2.4nm,0.4s						
BBJI	**Bungbulang**	**15.95 270**		P	**P**	**17 55 17.2**	**-0.3**
WRKA	**Warakurna**	**17.74 166**		P	**P**	**17 55 37.2**	**+0.1**
ASAR	**Alice Springs**	**18.59 149**		P	**P**	**17 55 47.0**	**+0.6**
	0.5nm,0.3s,baz=330,slow=12,SNR=31						
ASAR				S	**S**	**17 59 08.1**	**+0.2**
	0.8nm,0.9s,baz=321,slow=18,SNR=4.5						
	3.2nm,0.5s						
MEEK	**Meekatharra**	**19.41 194**		P	**P**	**17 55 54.6**	**-0.5**
QIS	**Mount Isa**	**19.95 131**		P	**P**	**17 56 02.1**	**+1.1**
USRK	**Ussuriysk Ar.**	**52.24 8**		P	**P**	**18 00 33.3**	**-1.2**
	0.8nm,0.4s,baz=198,slow=7.2,SNR=7.7						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**65.60 330**		P	**P**	**18 02 05.3**	**-1.1**
	0.1nm,0.4s,baz=116,slow=7.3,SNR=4.7						
	0.1nm,0.4s						

*NEIC **20** 18:00:04.8±1.8, 47°.44N±0°.05×93°.01W±0°.05, h0km±2km, mb_Lg3.0/23, ML2.8/4, Error ellipse: s-maj=8.5km s-min=4.6km az=340.0*
*IDC **20** 18:00:06.1±3.3, 47°.47N×93°.23W, h0km, mbtmp3.2/2, ML0.8/1, Error ellipse: s-maj=34.8km s-min=15.8km az=90.0*
ISC 20 18:00:02.7±0.9, **47°.44N**±0°.05×**92°.97W**±0°.04, **h0**km, **n27, σ1§51/19, Minnesota**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EYMN	**Ely**	**1.12 63**		Pg	**Pn**	**18 00 26.8**	**+1.2**
EYMN				IAML		18 00 49.4	
	157nm,1.7s						
E38A	**The Farm, Brul**	**1.28 130**		Pn	**Pn**	**18 00 30.0**	**+2.2**
E38A				IAML		18 00 53.2	
	comp=E,177nm,0.7s						
F36A	**Milaca**	**1.62 194**			**Pg**	**18 00 34.4**	**+0.6**
F36A				IAmb_Lg		18 00 58.2	
	comp=Z,87nm,1.1s						
AGMN	**Agassiz Nation**	**2.12 295**			**Pb**	**18 00 41.8**	**-0.2**
SPMN	**Marine on St.**	**2.22 177**			**Pb**	**18 00 43.2**	**-0.4**
SPMN					**Sb**	**18 01 11.9**	**+0.2**
SPMN				IAmb_Lg		18 01 16.9	
	comp=Z,32nm,0.9s						
D32A	**Dogwood Acres,**	**2.77 265**		Pn	**Pn**	**18 00 49.4**	**+1.2**
F33A	**5 Mile Ranch,**	**2.79 236**			**Pn**	**18 00 50.4**	**+1.8**
G40A	**Rib Lake**	**2.90 138**			**Pb**	**18 00 53.2**	**-2.0**
D41A	**Chassel**	**3.03 96**		Pn	**Pn**	**18 00 53.7**	**+1.9**
ULM	**Lac du Bonnet**	**3.40 327**		Pn	**Pn**	**18 00 57.9**	**+0.9**
ULM	**Lac du Bonnet**	**3.40 327**		Pn	**Pn**	**18 00 58.7**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=155,slow=12,SNR=2.1						
ULM				Sn	**Sn**	**18 01 36.8**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=117,slow=14,SNR=5.3						
ULM				Lg	Lg	18 01 47.5	
	comp=Z,2.4nm,0.3s,baz=62,slow=21,SNR=17						
I10CA	**LAC DU BONNET**	**3.42 325**		I	I	18 19 40.0	
	comp=Z,0.1nm,0.9s,baz=141,slow=341,SNR=1.5						
I40A	**Norwalk**	**3.92 154**		IAmb_Lg		18 02 14.1	
	comp=Z,18nm,0.9s						
E43A	**Lone Tree Farm**	**4.23 102**		Pn	**Pn**	**18 01 11.2**	**+2.8**
MDND	**Maddock**	**4.50 278**		IAmb_Lg		18 02 33.1	
	comp=Z,20nm,0.7s						
ECSD	**EROS Data Cent**	**4.50 216**			**Pn**	**18 01 13.6**	**+1.5**
ECSD				IAmb_Lg		18 02 24.1	
	comp=Z,21nm,0.8s						
I42A	**Draeger Farm,**	**4.55 140**		Pn	**Pn**	**18 01 12.6**	**-0.1**
I42A				IAmb_Lg		18 02 29.0	
	comp=Z,27nm,0.9s						
H43A	**Windswept, Lux**	**4.69 127**		Pn	**Pn**	**18 01 15.2**	**+0.6**
JFWS	**Jewell Farm**	**4.92 156**		IAmb_Lg		18 02 39.6	
	comp=Z,20nm,0.9s						
L42A	**Oliver, Polo**	**5.92 155**		IAmb_Lg		18 03 11.2	
	comp=Z,28nm,0.8s						
N38A	**Joes South For**	**6.65 182**		IAmb_Lg		18 03 50.2	
	comp=Z,30nm,1.2s						
K30B	**Basset**	**6.69 227**		IAmb_Lg		18 03 48.9	
	comp=Z,32nm,1.1s						
N35A	**Tabor**	**6.85 197**		IAmb_Lg		18 03 49.8	
	comp=Z,27nm,0.9s						
N33A	**J Bar K, Exete**	**7.43 207**		IAmb_Lg		18 04 00.1	
	comp=Z,12nm,0.8s						
P46A	**Rosedale**	**8.87 150**		IAmb_Lg		18 04 40.5	
	comp=Z,18nm,0.8s						
PDAR	**Pinedale Array**	**12.61 254**		Pn	**Pn**	**18 03 02.3**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=70,slow=13,SNR=4.7						
PDAR				Lg	Lg	18 06 28.8	
	baz=58,slow=25,SNR=1.7						
YKA	**Yellowknife Ar**	**19.38 329**		P	**Pn**	**18 04 30.3**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=130,slow=12,SNR=8.3						

*VAO **20** 18:16:06.4±1.1, 18°.08S×69°.71W, h10km, mb4.4*
*IDC **20** 18:16:10.7±2.0, 17°.90S×69°.62W, h97km±19km, mb3.8/9, mbtmp4.2/13, MS2.9/1, Error ellipse: s-maj=20.8km s-min=15.5km az=22.0*
*NEIC **20** 18:16:11.2±1.7, 18°.03S±0°.05×69°.87W±0°.06, h110km±5km, mb4.9/20, Error ellipse: s-maj=8.5km s-min=6.5km az=74.0*
*GUC **20** 18:16:12.8±0.8, 18°.12S×69°.77W, h101km±3km, ML4.1*
ISC 20 18:16:10.5±0.5, **18°.03S**±0°.04×**69°.80W**±0°.05, **h107**km±4km, **n103, σ1§42/112, mb4.7/18, 3C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB16	**IPOC Station P**	**0.41 138**		Sn	**Sn**	**18 16 40.7**	**+1.0**
PB16	**IPOC Station P**	**0.41 138**		⇓*iP*	**Pn**	**18 16 28.6**	**+1.4**
PB16				*eS*	**Sn**	**18 16 40.8**	**+1.1**
PB16				IAML		18 16 43.2	
	comp=N,6μm,0.3s						
PB18	**Visviri**	**0.53 35**			**Pn**	**18 16 29.9**	**+2.0**
PB18	**Visviri**	**0.53 35**		⇓*iP*	**Pn**	**18 16 30.2**	**+2.2**
PB18				*eS*	**Sn**	**18 16 44.1**	**+3.2**
AP01	**Chacalluta**	**0.62 236**			**Pn**	**18 16 28.7**	**+0.8**
AP01	**Chacalluta**	**0.62 236**		⇑*iP*	**Pn**	**18 16 28.8**	**+0.9**
AP01				*eS*	**Sn**	**18 16 41.7**	**+0.7**
PB12	**IPOC Station P**	**0.77 221**		Sn	**Sn**	**18 16 43.6**	**+0.2**
PB12	**IPOC Station P**	**0.77 221**		⇑*iP*	**Pn**	**18 16 30.1**	**+0.8**
PB12				*eS*	**Sn**	**18 16 43.6**	**+0.2**
PB12				IAML		18 16 45.4	
	comp=N,13μm,0.2s						
PX02	**IPOC Station P**	**1.00 202**		*iP*	**Pn**	**18 16 31.6**	**0.0**
PX02				*eS*	**Sn**	**18 16 47.2**	**-0.4**
PX02				IAML		18 16 58.8	
	comp=N,3μm,0.4s						
PB11	**IPOC Station P**	**1.73 175**			**Pn**	**18 16 41.4**	**+1.2**
PB11	**IPOC Station P**	**1.73 175**		*iP*	**Pn**	**18 16 41.7**	**+1.5**
PB11				*eS*	**Sn**	**18 17 03.1**	**+0.5**
PB11				IAML		18 17 07.9	
	comp=E,2μm,0.6s						
GO01	**Chusmiza**	**1.73 161**			**Pn**	**18 16 42.4**	**+1.9**
GO01	**Chusmiza**	**1.73 161**		⇓*iP*	**Pn**	**18 16 42.8**	**+2.3**
GO01				*eS*	**Sn**	**18 17 05.9**	**+2.7**
PB08	**IPOC Station P**	**2.19 164**			**Pn**	**18 16 48.3**	**+2.1**
PB08	**IPOC Station P**	**2.19 164**		*iP*	**Pn**	**18 16 48.4**	**+2.2**
PB08				*eS*	**Sn**	**18 17 15.5**	**+2.1**
PB08				IAML		18 17 21.1	
	comp=E,1μm,0.4s						
HMBC	**Humberstone**	**2.24 182**		*iP*	**Pn**	**18 16 47.3**	**+0.7**
HMBC				IAML		18 17 32.1	
	comp=N,2μm,0.4s						
TA02	**Huaiquique**	**2.25 188**			**Pn**	**18 16 47.7**	**+1.1**
TA02	**Huaiquique**	**2.25 188**		*iP*	**Pn**	**18 16 46.8**	**+0.2**
TA02				IAML		18 17 25.4	
	comp=N,2μm,0.4s						
LPAZ	**La Paz**	**2.35 43**		Pn	**Pn**	**18 16 51.4**	**+2.8**
TA01	**Diego Aracena**	**2.55 188**			**Pn**	**18 16 51.0**	**+0.5**
TA01	**Diego Aracena**	**2.55 188**		*iP*	**Pn**	**18 16 50.7**	**+0.2**
TA01				*eS*	**Sn**	**18 17 21.4**	**+0.2**
TA01				IAML		18 17 31.6	
	comp=N,1μm,0.4s						
PATCX	**Punta Patache**	**2.80 187**		Pn	**Pn**	**18 16 54.3**	**+0.4**
PATCX	**Punta Patache**	**2.80 187**		*iP*	**Pn**	**18 16 54.2**	**+0.4**
PB01	**IPOC Station P**	**3.01 174**			**Pn**	**18 16 57.5**	**+0.8**
PB01	**IPOC Station P**	**3.01 174**		⇑*iP*	**Pn**	**18 16 58.0**	**+1.3**
PB02	**IPOC Station P**	**3.28 182**			**Pn**	**18 17 00.9**	**+0.7**
PB02	**IPOC Station P**	**3.28 182**		*iP*	**Pn**	**18 17 01.1**	**+0.8**
PB07	**IPOC Station P**	**3.68 181**			**Pn**	**18 17 06.0**	**+0.3**
PB07	**IPOC Station P**	**3.68 181**		*iP*	**Pn**	**18 17 06.6**	**+0.9**
PB09	**IPOC Station P**	**3.79 172**			**Pn**	**18 17 07.9**	**+0.8**
PB04	**IPOC Station P**	**4.30 184**		Pn	**Pn**	**18 17 14.4**	**+0.4**
PB04	**IPOC Station P**	**4.30 184**		*iP*	**Pn**	**18 17 14.5**	**+0.5**
LVC	**Limon Verde**	**4.63 170**		Pn	**Pn**	**18 17 19.9**	**+1.2**
LVC	**Limon Verde**	**4.63 170**		*eS*	**Sn**	**18 18 10.6**	**-1.0**
LVC	**Limon Verde**	**4.63 170**		P	**Pn**	**18 17 20.8**	**+2.1**
	comp=N,30nm,0.3s,baz=37,slow=8.6,SNR=39						
LVC				S	**Sn**	**18 18 11.0**	**-0.6**
	comp=N,56nm,0.3s,baz=128,slow=19,SNR=8.6						
PB06	**IPOC Station P**	**4.66 177**		Pn	**Pn**	**18 17 19.0**	**+0.2**
PB05	**IPOC Station P**	**4.81 184**		Pn	**Pn**	**18 17 21.1**	**+0.1**
PB05	**IPOC Station P**	**4.81 184**		*iP*	**Pn**	**18 17 20.7**	**-0.2**
PB15	**IPOC Station P**	**5.16 177**		Pn	**Pn**	**18 17 26.0**	**+0.3**
PB14	**IPOC Station P**	**6.59 185**		Pn	**Pn**	**18 17 43.3**	**-1.8**
GO02	**Mina Guanaco**	**7.10 178**		Pn	**Pn**	**18 17 51.4**	**-0.7**
AC01	**Pan de Azucar**	**8.11 185**		Pn	**Pn**	**18 18 03.3**	**-2.2**
SIV	**San Ignacio**	**8.59 78**		P	**Pn**	**18 18 10.8**	**-1.3**
	comp=N,23nm,0.4s,baz=266,slow=10,SNR=77						
SIV				S	**Sn**	**18 19 42.9**	**-4.5**
	comp=N,5.7nm,0.6s,baz=350,slow=21,SNR=3.3						
BBSD	**Serra de San D**	**8.80 86**		*eP*	**Pn**	**18 18 13.7**	**-1.3**
ETMB	**Extrema**	**8.87 24**		Pn	**Pn**	**18 18 14.1**	**-1.9**
ETMB	**Extrema**	**8.87 24**		*eP*	**Pn**	**18 18 15.4**	**-0.5**
NNA	**Nana**	**9.07 310**		P	**Pn**	**18 18 18.1**	**-0.5**
	comp=N,10nm,0.4s,baz=142,slow=11,SNR=4.5						
NNA				S	**Sn**	**18 19 54.0**	**-5.0**
	comp=N,11nm,0.4s,baz=239,slow=17,SNR=1.3						
BBRB	**Robore, Bolivi**	**9.50 93**		*eP*	**Pn**	**18 18 22.5**	**-2.0**
PTLB	**Pontes e Lacer**	**10.53 77**		*eP*	**Pn**	**18 18 36.7**	**-1.8**
VILB	**Vilhena**	**10.54 63**			**Pn**	**18 18 38.4**	**-0.2**
VILB	**Vilhena**	**10.54 63**		*eP*	**Pn**	**18 18 37.1**	**-1.5**
SAML	**Samuel**	**11.08 36**			**Pn**	**18 18 44.0**	**-1.8**
MURT	**Porto Murtinho**	**12.03 109**		*eP*	**Pn**	**18 18 56.7**	**-1.7**
AQDB	**Aquidauana**	**13.54 103**		*eP*	**Pn**	**18 19 17.3**	**-1.0**
SALV	**Santo Antonio**	**13.66 83**		*eP*	**Pn**	**18 19 19.5**	**-0.4**
CPUP	**Villa Florida**	**14.20 128**		P	**Pn**	**18 19 26.4**	**-0.2**
	comp=N,1.2nm,0.6s,baz=320,slow=14,SNR=3.1						
CPUP				LR	LR	18 25 34.7	
	comp=N,56nm,21.1s,baz=280,slow=40						
AMBA	**Amambai (Brazi**	**14.71 112**		*eP*	**Pn**	**18 19 33.5**	**+0.2**
CLDB	**Colider**	**15.31 64**		*eP*	**Pn**	**18 19 41.9**	**-1.4**
MCRA	**Macae, Loja**	**16.82 323**			**Pn**	**18 20 00.4**	**+0.7**
BOSC	**San Juan Bosco**	**17.06 329**		P	**Pn**	**18 20 03.2**	**+0.5**
CRSM	**Crissiumal (Br**	**17.30 126**		*eP*	**Pn**	**18 20 07.2**	**+1.8**
UNIS	**Unistalda (Bra**	**17.39 132**		*eP*	**Pn**	**18 20 09.3**	**+2.9**
FRBT	**Francisco Belt**	**17.41 120**		*eP*	**Pn**	**18 20 08.4**	**+1.6**
COHC	**Cochancay**	**18.03 328**		P	**P**	**18 20 14.0**	**+0.7**
RODS	**Rosario do Sul**	**18.09 135**		*eP*	**Pn**	**18 20 15.5**	**+0.7**
LDASE	**Londrina, Braz**	**18.27 110**		*eP*	**Pn**	**18 20 17.3**	**+0.1**
ITAB	**Concordia**	**18.69 122**		P	**P**	**18 20 20.2**	**-0.3**
ITAB	**Concordia**	**18.69 122**		*eP*	**Pn**	**18 20 21.4**	**-0.6**
PLTB	**Pedras Altas**	**20.04 136**		P	**P**	**18 20 34.4**	**-0.7**
BDFB	**Brasilia**	**20.99 87**		P	**P**	**18 20 45.7**	**+0.1**
TRQA	**Tornquist**	**21.10 163**		P	**P**	**18 20 46.9**	**+0.5**
PLCA	**Paso Flores**	**22.64 181**		P	**P**	**18 21 04.4**	**+1.8**
	comp=N,4.6nm,1.1s,baz=13,slow=8.4,SNR=3.5						
	comp=N,4.6nm,1.1s						
TEIG	**Tepich**	**42.12 334**		P	**P**	**18 23 53.6**	**+1.3**
X48A	**Hartselle**	**54.71 343**		IAmb	IAmb	18 25 30.1	
	comp=Z,7.7nm,0.7s						
HNDO	**Hondo**	**55.17 329**		IAmb	IAmb	18 25 34.7	
	comp=Z,13nm,0.6s						
V48A	**Smith Brothers**	**55.85 343**		IAmb	IAmb	18 25 37.9	
	comp=Z,9.3nm,0.6s						
CLTN	**Cedars of Leba**	**56.05 344**		IAmb	IAmb	18 25 39.3	
	comp=Z,10nm,1.1s						
WVT	**Waverly**	**56.50 343**		P	**P**	**18 25 41.5**	**0.0**
WVT				IAmb	IAmb	18 25 42.0	
	comp=Z,9.0nm,0.6s						
WVT	**Waverly**	**56.50 343**		P	**P**	**18 25 41.5**	**0.0**
TXAR	**Lajitas Array**	**57.32 325**		P	**P**	**18 25 48.7**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=150,slow=9.2,SNR=8.2						
	comp=Z,0.4nm,0.5s						
CGM3	**Cape Girardeau**	**58.12 341**		IAmb	IAmb	18 25 54.2	
	comp=Z,15nm,0.9s						
FVM	**French Village**	**58.99 341**			**P**	**18 25 59.5**	**+0.6**
CCM	**Cathedral Cave**	**59.31 340**		P	**P**	**18 26 02.5**	**+1.4**
S39A	**Bolivar**	**59.68 338**			**P**	**18 26 04.0**	**+0.3**
S39A				IAmb	IAmb	18 26 05.3	
	comp=Z,5.0nm,0.8s						
R40A	**Maddies Statio**	**59.86 340**			**P**	**18 26 04.7**	**-0.2**
R40A				IAmb	IAmb	18 26 06.5	
	comp=Z,7.3nm,0.7s						
SDCO	**Great Sand Dun**	**64.85 329**		P	**P**	**18 26 40.5**	**+2.0**
F36A	**Milaca**	**67.13 342**		P	**P**	**18 26 52.5**	**-0.1**
F36A				IAmb	IAmb	18 28 59.5	
	comp=Z,21nm,1.8s						
DBIC	**Dimbokro**	**68.61 75**		P	**P**	**18 27 02.2**	**-0.3**
	comp=Z,3.8nm,0.6s,baz=225,slow=7.0,SNR=11						
	comp=Z,3.8nm,0.6s						
DBIC	**Dimbokro**	**68.61 75**		P	**P**	**18 27 02.7**	**+0.2**
DBIC				pP	**pP**	**18 27 30.6**	**-0.3**
DBIC				sP	**sP**	**18 27 42.7**	**-0.4**
PDAR	**Pinedale Array**	**70.70 330**		P	**P**	**18 27 16.2**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=125,slow=8.7,SNR=5.1						
	comp=Z,0.3nm,0.4s						
MZP	**Montezuma Peak**	**71.23 322**		P	**P**	**18 27 15.6**	**-2.8**
MZP				IAmb	IAmb	18 29 04.0	
	comp=Z,7.4nm,0.6s						
ULM	**Lac du Bonnet**	**71.77 343**		P	**P**	**18 27 21.3**	**+0.3**
	comp=Z,2.5nm,0.5s,baz=143,slow=5.8,SNR=6.9						
	comp=Z,2.5nm,0.5s						
NVAR	**Mina Array Bea**	**72.26 322**		P	**P**	**18 27 26.6**	**+2.2**
	comp=Z,0.9nm,0.7s,baz=151,slow=6.1,SNR=3.8						
	comp=Z,0.9nm,0.7s						
TOA0	**Torodi Ar. Sit**	**77.02 71**		P	**P**	**18 27 51.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**77.02 71**		P	**P**	**18 27 50.8**	**-1.5**
TORD	**Torodi Ar. Bea**	**77.02 71**		P	**P**	**18 27 51.6**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=255,slow=5.2,SNR=14						
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**87.65 341**		P	**P**	**18 28 47.9**	**+1.5**
	comp=Z,2.6nm,0.7s,baz=136,slow=4.7,SNR=50						
	comp=Z,2.6nm,0.7s						
ASAR	**Alice Springs**	**132.53 210**		PKP	**PKPdf**	**18 35 14.0**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=115,slow=1.8,SNR=5.8						
WRA	**Warramunga Arr**	**135.44 213**		PKP	**PKPdf**	**18 35 19.9**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=157,slow=1.8,SNR=11						
ZALV	**Zalesovo Beam**	**139.14 23**		PKP	**PKiKP**	**18 35 26.0**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=284,slow=5.8,SNR=2.4						
USRK	**Ussuriysk Ar.**	**148.12 330**		PKPbc	**PKiKP**	**18 35 45.9**	**+0

SJG					*e*S		**Sn**	**18 25 47.7**	**-0.3**
SMRT	**St. Maarten**	**1.68**	**119**		Pn		**Pn**	**18 25 29.3**	**+0.8**
SMRT					Sn		**Sn**	**18 25 49.2**	**+0.3**
SABA	**Saba**	**1.81**	**134**		Pn		**Pn**	**18 25 30.2**	**-0.2**
SABA					IAML			18 25 56.5	
	comp=N,898nm,0.4s								
EMPR	**Esperanza - Ma**	**1.86**	**258**⇓	*e*P			**Pn**	**18 25 31.7**	**+0.8**
EMPR	**Esperanza - Ma**	**1.86**	**258**	*e*S			**Sn**	**18 25 53.0**	**-0.3**
EMPR	**Esperanza - Ma**	**1.86**	**258**				**Pn**	**18 25 31.7**	**+0.8**
EMPR							**Sn**	**18 25 53.0**	**-0.3**
EMPR	**Esperanza - Ma**	**1.86**	**258**	IAML				18 25 56.1	
	comp=E,648nm,0.6s								
EMPR				IAML				18 25 57.0	
	comp=N,684nm,0.4s								
CELP	**Cerrillos**	**2.03**	**247**	Pn			**Pn**	**18 25 33.5**	**+0.1**
CELP				IAML				18 25 58.7	
	comp=N,252nm,0.3s								
OBIP	**Obispado Ponce**	**2.07**	**246**⇑	*e*P			**Pn**	**18 25 34.3**	**+0.5**
OBIP	**Obispado Ponce**	**2.07**	**246**				**Pn**	**18 25 34.3**	**+0.5**
OBIP							**Sn**	**18 25 58.0**	**-0.4**
OBIP	**Obispado Ponce**	**2.07**	**246**	IAML				18 26 03.4	
	comp=E,233nm,0.5s								
OBIP	**Obispado Ponce**	**2.07**	**246**⇑	*e*P			**Pn**	**18 25 34.3**	**+0.5**
OBIP				*e*S			**Sn**	**18 25 58.0**	**-0.4**
AOPR	**Arecibo Observ**	**2.10**	**256**⇑	*e*P			**Pn**	**18 25 35.1**	**+0.9**
AOPR	**Arecibo Observ**	**2.10**	**256**				**Pn**	**18 25 35.1**	**+0.9**
AOPR							**Sn**	**18 25 58.8**	**-0.4**
AOPR	**Arecibo Observ**	**2.10**	**256**	IAML				18 26 02.7	
	comp=N,683nm,0.2s								
AOPR				IAML				18 26 03.2	
	comp=E,871nm,0.3s								
AOPR	**Arecibo Observ**	**2.10**	**256**	*e*P			**Pn**	**18 25 34.9**	**+0.7**
AOPR				*e*S			**Sn**	**18 25 59.0**	**-0.2**
GBPR	**Guanica, Bosqu**	**2.33**	**248**⇑	*e*P			**Pn**	**18 25 38.8**	**+1.4**
GBPR	**Guanica, Bosqu**	**2.33**	**248**				**Pn**	**18 25 38.8**	**+1.4**
GBPR							**Sn**	**18 26 06.3**	**+1.4**
GBPR	**Guanica, Bosqu**	**2.33**	**248**⇓	*e*P			**Pn**	**18 25 38.8**	**+1.4**
GBPR				*e*S			**Sn**	**18 26 06.3**	**+1.4**
AGPR	**Aguadilla, PR**	**2.40**	**260**⇑	*e*P			**Pn**	**18 25 39.0**	**+0.6**
AGPR							**Sn**	**18 26 06.1**	**-0.6**
AGPR	**Aguadilla, PR**	**2.40**	**260**				**Pn**	**18 25 39.0**	**+0.6**
AGPR							**Sn**	**18 26 06.1**	**-0.6**
AGPR	**Aguadilla, PR**	**2.40**	**260**	IAML				18 26 06.8	
	comp=E,290nm,0.5s								
AGPR				IAML				18 26 07.3	
	comp=N,331nm,0.6s								
AGPR	**Aguadilla, PR**	**2.40**	**260**⇑	*e*P			**Pn**	**18 25 39.0**	**+0.6**
AGPR				*e*S			**Sn**	**18 26 06.1**	**-0.6**
AGPR	**Aguadilla, PR**	**2.40**	**260**	*i* P			**Pn**	**18 25 38.9**	**+0.6**
AGPR				*e*S			**Sn**	**18 26 05.8**	**-0.8**
AGPR				IAML				18 26 11.3	
	comp=Z,142nm,0.3s								
LSP	**Las Mesas**	**2.45**	**254**⇑	*e*P			**Pn**	**18 25 40.1**	**+1.0**
LSP	**Las Mesas**	**2.45**	**254**				**Pn**	**18 25 40.1**	**+1.0**
LSP							**Sn**	**18 26 07.1**	**-0.7**
LSP	**Las Mesas**	**2.45**	**254**⇑	*e*P			**Pn**	**18 25 40.1**	**+1.0**
LSP				*e*S			**Sn**	**18 26 07.1**	**-0.7**
MLPR	**Magueyes Islan**	**2.48**	**249**⇓	*e*P			**Pn**	**18 25 40.1**	**+0.6**
MLPR	**Magueyes Islan**	**2.48**	**249**	*e*S			**Sn**	**18 26 08.9**	**+0.4**
MLPR	**Magueyes Islan**	**2.48**	**249**				**Pn**	**18 25 40.1**	**+0.6**
MLPR							**Sn**	**18 26 08.9**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.52**	**250**⇑	*e*P			**Pn**	**18 25 40.5**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.52**	**250**				**Pn**	**18 25 40.5**	**+0.4**
CRPR							**Sn**	**18 26 09.4**	**-0.3**
CRPR	**Cabo Rojo, PR**	**2.52**	**250**⇓	*e*P			**Pn**	**18 25 40.5**	**+0.4**
CRPR				*e*S			**Sn**	**18 26 09.4**	**-0.3**
CRPR	**Cabo Rojo, PR**	**2.52**	**250**	*i* P			**Pn**	**18 25 40.6**	**+0.6**
CRPR				*e*S			**Sn**	**18 26 09.3**	**-0.3**
CRPR				IAML				18 26 12.6	
	comp=Z,228nm,0.3s								
MBFL	**Flemmings, Mon**	**3.12**	**132**	*e*P			**Pn**	**18 25 49.5**	**+1.2**
MBFL				*e*S			**Sn**	**18 26 24.0**	**-0.4**
MLYT	**Lee's Yard**	**3.15**	**133**	*e*S			**Sn**	**18 26 25.6**	**+0.3**
ANBD	**Bethesda, Anti**	**3.27**	**123**	*e*P			**Pn**	**18 25 49.8**	**-0.5**
ANBD				*e*S			**Sn**	**18 26 26.0**	**-2.0**
PCDR	**Punta Cana, DR**	**3.59**	**265**	*i* P			**Pn**	**18 25 55.0**	**+0.3**
PCDR				*e*S			**Sn**	**18 26 34.1**	**-1.7**
PCDR				IAML				18 26 37.8	
	comp=Z,114nm,0.9s								
GDHS	**Morne Mazeau,**	**3.76**	**133**	Pn			**Pn**	**18 25 57.6**	**+0.5**
GDHS				IAML				18 26 48.2	
	comp=N,226nm,0.5s								
ABD	**La Joyeuse, An**	**3.82**	**128**	*e*P			**Pn**	**18 25 58.2**	**+0.3**
ABD				*e*S			**Sn**	**18 26 39.8**	**-1.9**
CBE	**Ff, Capester**	**4.01**	**134**	Pn			**Pn**	**18 26 00.8**	**+0.2**
CBE	**Ff, Capester**	**4.01**	**134**	*e*P			**Pn**	**18 26 01.0**	**+0.4**
CBE	**Ff, Capester**	**4.01**	**134**	*e*S			**Sn**	**18 26 46.0**	**-0.3**
MAGL	**Barre de l'ile**	**4.32**	**132**	Pn			**Pn**	**18 26 05.0**	**+0.3**
MAGL				IAML				18 28 38.8	
	comp=N,168nm,1.6s								
BIM	**Bigot**	**5.51**	**141**	Pn			**Pn**	**18 26 21.1**	**-0.1**
MPOM	**Morne Pois Mar**	**5.70**	**140**	Pn			**Pn**	**18 26 24.2**	**+0.5**
MPOM	**Morne Pois Mar**	**5.70**	**140**	*e*P			**Pn**	**18 26 24.1**	**+0.5**
MPOM	**Morne Pois Mar**	**5.70**	**140**	*e*S			**Sn**	**18 27 25.8**	**-2.0**
SDDR	**Presa de Saban**	**6.32**	**272**	Pn			**Pn**	**18 26 33.2**	**+0.9**
SDDR	**Presa de Saban**	**6.32**	**272**	*i* P			**Pn**	**18 26 33.4**	**+1.1**
SDDR				*e*S			**Sn**	**18 27 39.9**	**-3.3**
SDDR				IAML				18 27 46.5	
	comp=Z,18nm,0.3s								

*ISN **20** 18:28:07.8±0.8,34˚.65N×45˚.49E, h24km±5km, ML2.7*
*TEH **20** 18:28:08.0,34˚.57N×45˚.47E, h18km±17km, ML2.8*
ISC 20 18:28:09.1±1.5,**34˚.7N**±0˚.1×**45˚.54E**±0˚.08,**h19**km±6km,**n10,**
σ0°70/15,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.15**	**165**	Pg	**Pb**		**18 28 11.8**	**-0.4**
KGS1				Sg	**Sb**		**18 28 15.1**	**+0.9**
IDHR	**Dehrash**	**0.70**	**86**	Pg	**Pb**		**18 28 22.6**	**-0.2**
IDHR				Sg	**Sn**		**18 28 34.1**	**-0.5**
IGHG	**Ghaleghazi**	**0.91**	**111**	Pg	**Pb**		**18 28 26.4**	**0.0**
ILBA	**Ilam Banvizeh**	**1.17**	**152**	Pg	**Pn**		**18 28 29.0**	**-1.5**
ILIN	**Lien**	**1.20**	**77**	Pg	**Pg**		**18 28 32.5**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.30**	**107**	Pg	**Pb**		**18 28 33.5**	**+0.5**
IBDR	**Badra**	**1.58**	**168**	*e*Pg	**Pn**		**18 28 36.0**	**-0.1**
IBDR				*e*Sg	**Sb**		**18 28 57.0**	**-0.2**
IBDR				AML	AML		18 29 00.9	
	comp=E,116nm,0.4s							
IBDR				AML	AML		18 29 10.3	
	comp=N,112nm,0.6s							
BHD	**Baghdad**	**1.69**	**215**	*e*Pn	**Pn**		**18 28 37.0**	**-0.6**
BHD				*e*Sn	**Sn**		**18 28 59.0**	**+0.4**
IKOM	**Komasi**	**1.70**	**106**	Pg	**Pb**		**18 28 40.3**	**+0.5**
RAFI	**Al-Rafai**	**2.96**	**171**	*e*Pn	**Pn**		**18 28 56.0**	**+0.9**
RAFI				*e*Sn	**Sn**		**18 29 30.0**	**-0.2**

*IDC **20** 18:29:31.7±0.9,49˚.08S×117˚.38E, h0km, mb4.0/6, mbtmp4.0/6, Error ellipse: s-maj=45.3km s-min=19.5km az=102.0*
ISC 20 18:29:33.9±0.8,**49˚.1S**±0˚.1×**117˚.4E**±0˚.3,**h10**km,**n15,**
σ0°75/9,mb4.0/6,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
H01W2	**Cape Leeuwin H**	**14.41**	**349**	T	T		18 48 08.5	
	baz=171,slow=74,SNR=46							
H01W1	**Cape Leeuwin H**	**14.41**	**349**	T	T		18 48 08.5	
	baz=171,slow=74,SNR=30							
H01W3	**Cape Leeuwin H**	**14.42**	**349**	T	T		18 48 10.2	
	baz=171,slow=74,SNR=40							
NWAO	**Narrogin (SRO)**	**16.17**	**360**	Pn	**P**		**18 33 25.1**	**+0.7**
	baz=158,slow=12,SNR=1.6							
ASAR	**Alice Springs**	**28.55**	**33**	P	**P**		**18 35 29.9**	**+0.1**
	0.7nm,0.8s,baz=200,slow=8.5,SNR=7.2							
	0.7nm,0.8s							
WRA	**Warramunga Arr**	**32.13**	**31**	P	**P**		**18 36 01.1**	**-0.4**
	1.0nm,0.9s,baz=198,slow=11,SNR=3.9							
	1.0nm,0.9s							
MAW	**Mawson**	**32.59**	**215**	P	**P**		**18 36 05.2**	**+0.2**
	3.2nm,0.7s,baz=99,slow=10,SNR=4.6							
	3.2nm,0.7s							
VNDA	**Vanda**	**33.10**	**164**	P	**P**		**18 36 09.2**	**-0.1**
	2.9nm,0.8s,baz=297,slow=8.7,SNR=8.1							
	2.9nm,0.8s							
QSPA	**South Pole Qui**	**41.01**	**180**	P	**P**		**18 37 16.8**	**-0.1**
	2.2nm,0.9s,baz=356,slow=5.9,SNR=3.8							
	2.2nm,0.9s							
H08S2	**Diego Garcia H**	**55.86**	**302**	T	T		19 39 34.8	
	baz=147,slow=76							
H08S1	**Diego Garcia H**	**55.87**	**302**	T	T		19 39 30.1	
	baz=147,slow=76							
H08S3	**Diego Garcia H**	**55.88**	**302**	T	T		19 39 37.7	
	baz=147,slow=76							
CMAR	**Chiang Mai Arr**	**69.24**	**341**	P	**P**		**18 40 40.0**	**-0.8**
	1.2nm,0.8s,baz=180,slow=5.6,SNR=7.1							
	1.2nm,0.8s							
PDAR	**Pinedale Array**	**147.19**	**83**	PKPbc	**PKPdf**		**18 49 14.5**	**-0.3**
	0.2nm,0.7s,baz=243,slow=2.9,SNR=4.1							
YKA	**Yellowknife Ar**	**148.83**	**45**	PKPbc	**PKPdf**		**18 49 17.8**	**+1.4**
	0.4nm,0.8s,baz=274,slow=2.5,SNR=5.9							

*IDC **20** 18:33:13.9±0.7,30˚.68N×131˚.88E, h0km, mb3.9/13, mbtmp3.8/16, ML2.9/4, MS3.7/10, Error ellipse: s-maj=25.6km s-min=14.8km az=76.0*
*NEIC **20** 18:33:16.0±2.3,30˚.66N±0˚.06×131˚.86E±0˚.10, h10km±1km, mb4.5/31, Error ellipse: s-maj=13.8km s-min=10.2km az=94.0*
*JMA **20** 18:33:17.4±0.2,30˚.7N±0˚.6×13˚.2E±˚, h59km±3km, MV3.3/30, E OFF TANEGASHIMA ISLAND*
ISC 20 18:33:15.1±1.7,**30˚.67N**±0˚.05×**131˚.95E**±0˚.05,**h9**km±10km,
n87,σ1°33/83,mb4.5/30,MS3.8/10,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
JTN	**Tanegashima 3**	**0.84**	**269**	P	**Pn**		**18 33 34.5**	**+1.4**
JTN				S	**Sn**		**18 33 47.5**	**+2.0**
JMTN	**Minamitane**	**0.94**	**254**	P	**Pn**		**18 33 36.1**	**+1.5**
JMTN				*e*S	**Sn**		**18 33 49.0**	**+0.8**
JTSR	**Tashiro 2**	**1.01**	**300**	P	**Pn**		**18 33 36.5**	**+1.0**
JNAR	**Kushima--Naru**	**1.04**	**326**	P	**Pn**		**18 33 37.1**	**+1.3**
JNAR				S	**Sn**		**18 33 52.6**	**+2.1**
JNKG	**Nichinankitago**	**1.11**	**334**	P	**Pn**		**18 33 37.8**	**+1.0**
JYAK	**Yakushimahirau**	**1.32**	**251**	P	**Pg**		**18 33 41.0**	**+0.7**
JTZ	**Takazaki**	**1.44**	**329**	P	**Pb**		**18 33 42.4**	**+0.4**
JKC	**Kuchinoerabu**	**1.53**	**263**	P	**Pg**		**18 33 44.1**	**-0.3**
JKC				S	**Sg**		**18 34 03.2**	**-1.0**
JSU	**Suzuyama**	**1.53**	**303**	P	**Pb**		**18 33 44.0**	**+0.3**
JTSN	**Tsuno**	**1.62**	**346**	P	**Pn**		**18 33 44.5**	**+0.7**
JTSN				*e*S	**Sn**		**18 34 04.3**	**-0.5**
JNU	**Nakatsue**	**2.61**	**340**		**Pn**		**18 33 58.7**	**+1.2**
JNU	**Nakatsue**	**2.61**	**340**	Pn	**Pn**		**18 33 58.8**	**+1.3**
	4.3nm,0.3s,baz=124,slow=2.4,SNR=75							
JNU				Sn	**Sn**		**18 34 29.2**	**-0.2**
	4.8nm,0.3s,baz=167,slow=4.2,SNR=9.5							
	29nm,0.3s							
JMN	**Monobe**	**3.46**	**28**	Pn	**Pn**		**18 34 08.9**	**-0.3**
JTU	**Tsushima**	**4.41**	**331**	Pn	**Pn**		**18 34 21.8**	**-0.3**
JMZ	**Minamidaito 2**	**4.87**	**188**	Pn	**Pn**		**18 34 27.8**	**-0.7**
JOW	**Kunigami**	**5.00**	**221**	Pn	**Pn**		**18 34 31.4**	**+1.1**
JOW	**Kunigami**	**5.00**	**221**	Pn	**Pn**		**18 34 32.3**	**+2.0**
	3.2nm,0.3s,baz=116,slow=28,SNR=12							
JOW				Sn	**Sn**		**18 35 27.1**	**-1.2**
	2.2nm,0.3s,baz=182,slow=18,SNR=1.7							
INU	**Inuyama**	**6.32**	**41**	Pn	**Pn**		**18 34 50.4**	**+2.1**
JSG	**Sagara**	**6.60**	**51**	Pn	**Pn**		**18 34 53.6**	**+1.3**
KSRS	**Korea Array**	**7.55**	**335**	Pn	**Pn**		**18 35 05.3**	**0.0**
	0.1nm,0.3s,baz=156,slow=14,SNR=4.9							
MAJO	**Matsushiro**	**7.84**	**40**	Pn	**Pn**		**18 35 10.6**	**+1.2**
MJAR	**Matsushiro Arr**	**7.84**	**40**	Pn	**Pn**		**18 35 10.0**	**+0.6**
	0.1nm,0.3s,baz=243,slow=13,SNR=9.8							
	0.9nm,0.5s							
MJB9	**Matsu-Tunnel**	**7.84**	**40**	Pn	**Pn**		**18 35 11.4**	**+2.0**
KLR	**Kul'dur**	**18.54**	**360**	P	**P**		**18 37 32.6**	**+0.8**
	0.1nm,0.3s,baz=192,slow=3.8,SNR=12							
KLR				LR	LR		18 44 37.4	
	comp=Z,103nm,21.6s,baz=187,slow=37							
	4.1nm,0.9s							
ULN	**Ulaanbaatar**	**25.65**	**319**	P	**P**		**18 38 44.8**	**-0.4**
SONM	**Songino Array**	**26.00**	**318**	P	**P**		**18 38 48.0**	**-0.4**
SONM	**Songino Array**	**26.00**	**318**	P	**P**		**18 38 48.0**	**-0.4**
	1.4nm,0.8s,baz=139,slow=8.9,SNR=7.8							
SONM				LR	LR		18 50 20.6	
	comp=Z,159nm,21.1s,baz=110,slow=40							
	1.4nm,0.8s							
PETK	**Petropavlovsk-**	**29.21**	**32**	LR	LR		18 52 53.2	
	comp=Z,86nm,18.1s,baz=235,slow=40							
YAK	**Yakutsk**	**31.41**	**358**	P	**P**		**18 39 34.8**	**-1.4**
YAK				IAmb	IAmb		18 39 50.5	
	comp=Z,9.1nm,1.2s							
H11N2	**WAKE ISLAND Hy**	**33.32**	**101**	T	T		19 14 56.7	
	baz=296,slow=74,SNR=5.3							
H11N1	**WAKE ISLAND Hy**	**33.32**	**101**	T	T		19 14 59.4	
	baz=296,slow=74,SNR=4.0							
H11N3	**WAKE ISLAND Hy**	**33.33**	**101**	T	T		19 14 56.4	
	baz=296,slow=74,SNR=4.5							
ZALV	**Zalesovo Beam**	**40.90**	**319**	LR	LR		18 58 34.0	
	comp=Z,79nm,20.0s,baz=78,slow=37							
TIXI	**Tiksi**	**41.07**	**359**	LR	LR		18 58 58.7	
	comp=Z,5.4nm,21.5s,baz=196,slow=38							
MKAR	**Makanchi Array**	**41.24**	**307**	P	**P**		**18 40 57.9**	**-2.5**
MKAR	**Makanchi Array**	**41.24**	**307**	LR	LR		19 00 00.7	
	comp=Z,99nm,18.5s,baz=98,slow=39							
KURBB	**Kurchatov Arra**	**44.09**	**313**	P	**P**		**18 41 22.9**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=98,slow=8.9,SNR=15							
KURBB				LR	LR		19 01 50.1	
	comp=Z,147nm,18.3s,baz=177,slow=39							
	comp=Z,2.0nm,0.8s							
FITZ	**Fitzroy Crossi**	**48.86**	**188**	P	P		18 41 56.2	-4.9
KKAR	**Karatay Array**	**49.66**	**302**	P	**P**		**18 42 06.7**	**-0.5**
WRA	**Warramunga Arr**	**50.37**	**177**	P	**P**		**18 42 12.9**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=352,slow=8.8,SNR=3.7							
	comp=Z,0.6nm,0.7s							
WB2	**Warramunga Arr**	**50.37**	**177**	P	**P**		**18 42 12.3**	**-0.3**
WB2				IAmb	IAmb		18 42 51.4	
	comp=Z,11nm,1.4s							
WR0	**Warramunga Arr**	**50.40**	**177**	P	**P**		**18 42 12.8**	**0.0**
WR0				IAmb	IAmb		18 42 35.3	
	comp=Z,7.0nm,1.2s							
ASAR	**Alice Springs**	**54.06**	**178**	P	**P**		**18 42 39.0**	**-1.1**
ASAR	**Alice Springs**	**54.06**	**178**	P	**P**		**18 42 40.1**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=2.5,slow=7.1,SNR=7.0							
	comp=Z,0.8nm,0.8s							
B20K	**Meade River**	**55.00**	**23**	P	**P**		**18 42 47.7**	**+1.4**
J19K	**Poorman**	**55.23**	**31**	P	**P**		**18 42 45.6**	**-2.5**
J19K				IAmb	IAmb		18 42 50.9	
	comp=Z,3.9nm,0.8s							
J20K	**Nowinta River**	**55.88**	**31**	P	**P**		**18 42 54.5**	**+1.7**
J20K				IAmb	IAmb		18 42 56.5	
	comp=Z,4.7nm,0.9s							
K20K	**Telida**	**55.93**	**32**	P	**P**		**18 42 54.7**	**+1.5**
K20K				IAmb	IAmb		18 43 24.4	
	comp=Z,8.4nm,1.4s							
ABKAR	**Akbulak array**	**56.10**	**311**	P	**P**		**18 42 55.2**	**+0.7**
CAST	**Castle Rocks**	**56.82**	**31**	P	**P**		**18 42 58.1**	**-1.5**
HRA	**Herat**	**57.83**	**294**	P	**P**		**18 43 08.9**	**-3.5**
RND	**Reindeer**	**58.27**	**31**	P	**P**		**18 43 10.2**	**+0.4**
F24K	**Squaw Lake**	**58.33**	**26**	P	**P**		**18 43 11.7**	**+1.6**
MDM	**Murphy Dome**	**58.39**	**29**	P	**P**		**18 43 12.7**	**+2.0**
H24K	**Noodor Dome**	**58.46**	**28**	P	**P**		**18 43 11.9**	**+0.9**
H24K				IAmb	IAmb		18 43 15.4	
	comp=Z,4.6nm,1.2s							
KNK	**Knik Glacier**	**58.68**	**34**	P	**P**		**18 43 12.3**	**-0.3**
ILAR	**Eielson Array**	**58.98**	**30**	P	**P**		**18 43 14.2**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=266,slow=5.3,SNR=11							
	comp=Z,0.6nm,0.8s							
BMAR	**Burnt Mountain**	**59.60**	**26**	P	**P**		**18 43 19.8**	**+0.8**
SCRK	**Sand Creek**	**60.34**	**30**	P	**P**		**18 43 24.1**	**-0.1**
SCRK				IAmb	IAmb		18 43 40.7	
	comp=Z,5.0nm,1.4s							
J26L	**Joseph Creek**	**60.44**	**30**	P	**P**		**18 43 25.2**	**+0.4**
J26L				IAmb	IAmb		18 43 50.5	
	comp=Z,8.1nm,1.4s							
M26K	**Nabesna, AK**	**61.07**	**32**	P	**P**		**18 43 30.4**	**+1.3**
M26K				IAmb	IAmb		18 43 31.8	
	comp=Z,3.5nm,0.9s							
K27K	**Chicken**	**61.16**	**30**	P	**P**		**18 43 31.3**	**+1.6**
K27K				IAmb	IAmb		18 43 32.9	
	comp=Z,5.2nm,1.2s							
L27K	**Beaver Creek,**	**61.47**	**31**	P	**P**		**18 43 33.7**	**+2.0**
L27K				IAmb	IAmb		18 43 36.8	
	comp=Z,3.9nm,1.2s							
BCAR	**Beaver Creek A**	**61.48**	**31**	P	**P**		**18 43 33.7**	**+1.8**
M27K	**Edge Creek, AK**	**61.59**	**32**	P	**P**		**18 43 34.2**	**+1.4**
I28M	**Miner Creek**	**61.77**	**28**	P	**P**		**18 43 35.2**	**+1.3**
I28M				IAmb	IAmb		18 43 37.1	
	comp=Z,3.2nm,0.9s							
STKA	**Stephens Creek**	**62.87**	**171**	P	**P**		**18 43 42.0**	**+0.6**
STKA	**Stephens Creek**	**62.87**	**171**	P	**P**		**18 43 42.3**	**+0.9**
	comp=Z,2.3nm,0.7s,baz=331,slow=5.0,SNR=5.8							
	comp=Z,2.3nm,0.7s							
L29M	**L29M**	**63.09**	**31**	P	**P**		**18 43 44.6**	**+1.9**
L29M				IAmb	IAmb		18 43 46.5	
	comp=Z,3.0nm,0.8s							
K29M	**Barlow Dome**	**63.16**	**30**	P	**P**		**18 43 45.1**	**+1.8**
K29M				IAmb	IAmb		18 43 46.1	
	comp=Z,3.3nm,0.9s							
I30M	**Mount Dempster**	**63.28**	**28**	P	**P**		**18 43 45.8**	**+1.8**
J30M	**Hart River**	**63.47**	**29**	P	**P**		**18 43 47.2**	**+2.0**
M30M	**Minto, Yukon**	**63.83**	**31**	P	**P**		**18 43 48.9**	**+1.4**
M30M				IAmb	IAmb		18 44 01.1	
	comp=Z,5.9nm,1.4s							
H31M	**Peel River**	**63.93**	**27**	P	**P**		**18 43 50.0**	**+1.8**
H31M				IAmb	IAmb		18 43 50.4	
	comp=Z,2.8nm,0.8s							
P29M	**Windy Craggy**	**64.23**	**34**	P	**P**		**18 43 52.9**	**+2.6**
ARCES	**ARCESS Array B**	**67.09**	**339**	LR	LR		19 20 17.5	
	comp=Z,108nm,19.0s,baz=56,slow=42							
KBZ	**Khabaz**	**68.91**	**309**	LR	LR		19 17 11.1	
	comp=Z,55nm,18.9s,baz=108,slow=38							
FINES	**FINESS Array B**	**70.62**	**331**	P	**P**		**18 44 29.6**	**-0.9**
FINES	**FINESS Array B**	**70.62**	**331**	P	**P**		**18 44 30.6**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=102,slow=4.7,SNR=13							
	comp=Z,2.4nm,0.6s							
YKA	**Yellowknife Ar**	**73.12**	**26**	P	**P**		**18 44 45.6**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=298,slow=6.0,SNR=8.5							
	comp=Z,0.6nm,0.8s							
AKASG	**Malin Array Be**	**74.28**	**320**	P	**P**		**18 44 52.7**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=49,slow=6.6,SNR=5.1							
AKASG				LR	LR		19 17 52.9	
	comp=Z,76nm,18.2s,baz=38,slow=36							
	comp=Z,0.2nm,0.3s							
NOA	**NORSAR Array B**	**76.76**	**335**	P	**P**		**18 45 05.2**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=48,slow=5.6,SNR=4.3							
	comp=Z,1.8nm,0.9s							
BRTR	**Keskin Array B**	**76.88**	**308**	LR	LR		19 23 48.8	
	comp=Z,42nm,18.4s,baz=44,slow=40							
CLL	**Collm**	**82.34**	**326**	*i* P	**P**		**18 45 38.2**	**+1.0**
GERES	**GERESS Array B**	**83.59**	**324**	P	**P**		**18 45 44.4**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=111,slow=2.2,SNR=4.0							
	comp=Z,0.7nm,0.7s							
NVAR	**Mina Array Bea**	**85.09**	**48**	P	**P**		**18 45 53.0**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=311,slow=5.9,SNR=1.8							
	comp=Z,0.6nm,0.5s							
PDAR	**Pinedale Array**	**87.67**	**40**	P	**P**		**18 46 05.5**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=284,slow=3.6,SNR=2.3							
	comp=Z,0.3nm,0.7s							

*IDC **20** 18:33:29.3±0.8,49˚.54S×117˚.41E, h0km, mb4.3/7, mbtmp4.3/8, ML2.8/1, MS4.1/32, Error ellipse: s-maj=36.5km s-min=17.7km az=106.0*
*NEIC **20** 18:33:30.0±2.1,49˚.66S±0˚.09×117˚.5E±0˚.2, h10km±1km, mb4.7/27, Error ellipse: s-maj=26.4km s-min=12.3km az=109.0*
*GCMT **20** 18:33:33.0±0.2,49˚.61S±0˚.02×117˚.45E±0˚.04, h19km, MW5.0/102, Moment Tensor Solution. s37,c44; s102,c149; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.05±.21; $M_{\theta\theta}$2.72±.14; $M_{\phi\phi}$1.33±.13; $M_{r\theta}$-0.78±.30; $M_{r\phi}$-1.59±.07; $M_{\theta\phi}$0.23±.30; Best double couple: M_o3.98900×10^{16} NP1:ϕ120.00000°, δ51.00000°

STKI	Sintang	49.76	352	P		P	18 42 23.5	+0.3
	comp=Z,45nm,1.3s,comp=Z,3µm							
BELA	Belgrano 2	51.61	187	P		P	18 42 36.6	0.0
BELA				IAmb		IAmb	18 43 02.1	
	comp=Z,6.3nm,0.6s							
BKNI	Bangkinang	51.71	339	P		P	18 42 38.4	+0.5
SNAA	Sanae	51.91	200	P		P	18 42 37.5	-1.4
SNAA				IAmb		IAmb	18 42 47.4	
	comp=Z,17nm,1.4s							
SNAA	Sanae	51.91	200	LR		LR	19 03 44.7	
	comp=Z,672nm,18.6s,baz=179,slow=35							
HNR	Honiara	53.37	56	P		P	18 42 47.7	-2.5
HNR	Honiara	53.37	56	LR		LR	19 04 24.8	
	comp=Z,4µm,18.1s,baz=191,slow=35							
H08S2	Diego Garcia H	56.17	303	T		T	19 43 39.6	
	baz=147,slow=76							
H08S1	Diego Carcia H	56.18	303	T		T	19 43 40.6	
	baz=147,slow=76							
H08S3	Diego Garcia H	56.19	303	T		T	19 43 41.3	
	baz=147,slow=76							
DAV	Davao City (W)	56.90	10	LR		LR	19 08 06.8	
	comp=Z,68nm,19.4s,baz=188,slow=37							
PALK	Pallekele	65.06	319	LR		LR	19 06 29.4	
	comp=Z,93nm,21.6s,baz=207,slow=30							
PMSA	Palmer Station	65.94	179	LR		LR	19 12 47.1	
	comp=Z,185nm,19.4s,baz=204,slow=36							
GUMO	Guam	67.42	29	LR		LR	19 14 09.5	
	comp=Z,100nm,18.7s,baz=192,slow=36							
RAR	Rarotonga	69.55	99	LR		LR	19 11 41.9	
	comp=Z,18nm,21.2s,baz=160,slow=33							
CMAR	Chiang Mai Arr	69.73	341	P		P	18 44 40.1	-0.5
CMAR	Chiang Mai Arr	69.73	341	P		P	18 44 40.5	0.0
	comp=Z,2.3nm,0.7s,baz=188,slow=5.5,SNR=16							
CMAR				LR		LR	19 11 40.9	
	comp=Z,47nm,21.4s,baz=170,slow=33							
	comp=Z,2.3nm,0.7s							
SUR	Sutherland	70.04	243	LR		LR	19 08 11.3	
	comp=Z,147nm,19.5s,baz=154,slow=30							
BOSA	Boshof	70.11	249	LR		LR	19 10 09.6	
	comp=Z,152nm,19.0s,baz=184,slow=31							
CRAI	Chiangrai	71.17	343	P		P	18 44 46.7	-2.7
CRAI				IAmb		IAmb	18 44 58.2	
	comp=Z,11nm,1.1s							
LBTB	Lobatse	72.51	252	LR		LR	19 10 06.4	
	comp=Z,345nm,21.7s,baz=147,slow=30							
TBI	Tubuai	74.52	108	eLR		LR	19 07 54.0	
	comp=Z,704nm,32.2s							
KMI	Kunming	75.55	346	⇑P		P	18 45 17.3	+2.0
KMI				sP		pwP	18 45 23.1	-0.6
KMI				pmax		pmax		
	comp=Z,18nm,1.4s							
KMI				LR		LR		
	comp=Z,150nm,22.2s							
PZH	PanZhiHua	77.06	346	P		P	18 45 24.4	+0.6
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,160nm,4.5s							
LSZ	Lusaka	78.04	261	P		P	18 45 30.1	+0.4
LSZ				IAmb		IAmb	18 45 37.9	
	comp=Z,6.3nm,0.8s							
LSZ	Lusaka	78.04	261	LR		LR	19 15 51.3	
	comp=Z,205nm,18.8s,baz=141,slow=33							
SHL	Shillong	78.23	337	P		P	18 45 29.9	-0.5
PPT2	Papeete2	78.71	104	eLR		LR	19 09 58.2	
	comp=Z,141nm,28.8s							
JCJ	Chichijima	79.49	22	LR		LR	19 18 44.4	
	comp=Z,83nm,21.3s,baz=90,slow=34							
ENH	Enshi	79.85	353	P		P	18 45 37.8	-1.2
ENH				IAmb		IAmb	18 45 45.9	
	comp=Z,20nm,1.3s							
RAMN	Ramite	81.02	332	eP		P	18 45 45.7	+0.1
TAPN	Taplejung	81.07	333	eP		P	18 45 45.8	-0.1
	comp=Z,40nm,1.3s							
TSUM	Tsumeb	81.77	250	LR		LR	19 17 19.7	
	comp=Z,272nm,18.3s,baz=151,slow=32							
JIRN	Jiri	81.81	332	eP		P	18 45 49.6	-0.4
PKI	Pulchoki	81.96	332	eP		P	18 45 50.0	-0.7
	comp=Z,43nm,1.5s							
PKIN	Phulchoki	81.97	332	eP		P	18 45 50.1	-0.6
GUN	Gumba	82.14	332	eP		P	18 45 51.5	-0.2
	comp=Z,74nm,1.5s							
LSA	Lhasa	82.36	337	P		P	18 45 52.6	-0.3
LSA				IAmb		IAmb	18 46 00.8	
	comp=Z,14nm,1.4s							
GKN	Gorkha	82.61	331	eP		P	18 45 53.2	-0.7
KOLN	Koldanda	82.72	330	eP		P	18 45 53.7	-0.8
	comp=Z,100nm,1.9s							
KMBO	Kilima Mbogo	82.78	277	P		P	18 45 54.2	-1.1
KMBO				IAmb		IAmb	18 46 00.4	
	comp=Z,6.6nm,1.4s							
KMBO	Kilima Mbogo	82.78	277	LR		LR	19 14 56.5	
	comp=Z,54nm,21.4s,baz=94,slow=30							
DANN	Dangsing	83.21	331	eP		P	18 45 56.5	-0.7
PYUN	Piuthan	83.22	330	eP		P	18 45 56.2	-0.9
	comp=Z,45nm,1.4s							
XAN	Xi'an	83.63	353	⇓P		P	18 45 58.5	-0.4
XAN				sP		pwP	18 46 05.1	-2.1
XAN				pmax		pmax		
	comp=Z,7.0nm,0.5s							
JHJ	Hachijo jima 2	84.74	19	LR		LR	19 22 11.4	
	comp=Z,71nm,20.2s,baz=154,slow=34							
KSAR	Wonju Array Be	87.18	8	P		P	18 46 15.9	-0.5
KSRS	Korea Array	87.19	8	LR		LR	19 23 34.8	
	comp=Z,35nm,21.9s,baz=180,slow=34							
WSAR	Wadi Sarin	89.32	308	LR		LR	19 20 00.9	
	comp=Z,35nm,19.5s,baz=202,slow=31							
PLCA	Paso Flores	89.75	174	LR		LR	19 25 04.0	
	comp=Z,63nm,18.8s,baz=192,slow=34							
GTA	Gaotai	90.00	346	⇓P		P	18 46 30.4	+0.5
GTA				pP		pwP	18 46 36.6	-1.7
GTA				pmax		pmax		
	comp=Z,4.0nm,1.6s							
HHC	Hu-ho-hao-te	90.23	356	eP		P	18 46 31.8	+0.9
HHC				pmax		pmax		
	comp=Z,41nm,1.0s							
HHC				pmax		pmax		
	comp=Z,310nm,5.0s							
MDJ	Mudanjiang	94.45	9	P		P	18 46 51.6	+1.4
MDJ				pmax		pmax		
	comp=Z,7.0nm,1.5s							
MDJ				pmax		pmax		
	comp=Z,140nm,5.5s							
WMQ	Urumqi	96.62	339	eP		P	18 47 01.8	+1.6
WMQ				LR		LR		
	comp=Z,100nm,13.9s							
SONM	Songino Array	97.54	353	LR		LR	19 33 27.7	
	comp=Z,44nm,19.2s,baz=147,slow=37							
AAK	Ala-Archa	99.28	329	LR		LR	19 26 46.9	
	comp=Z,55nm,20.4s,baz=139,slow=32							
ILAR	Eielson Array	135.55	38	PKP		PKPdf	18 52 49.0	-0.6
	comp=Z,1.2nm,1.2s,baz=240,slow=6.8,SNR=2.9							
NVAR	Mina Array Bea	139.27	84	PKP		PKPdf	18 52 58.1	+0.5
	comp=Z,0.4nm,0.3s,baz=222,slow=3.4,SNR=2.6							
TXAR	Lajitas Array	142.96	108	PKP		PKPdf	18 53 04.5	+0.1
	comp=Z,0.8nm,0.7s,baz=199,slow=2.7,SNR=6.2							
EKA	Eskdalemuir Ar	144.34	302	PKP		PKPbc	18 53 04.2	-0.1
	comp=Z,1.4nm,0.7s,baz=134,slow=2.4,SNR=8.3							
PDAR	Pinedale Array	147.21	84	PKPbc		PKPbc	18 53 13.3	-0.4
	comp=Z,1.1nm,0.7s,baz=222,slow=2.0,SNR=8.8							
YKA	Yellowknife Ar	149.15	46	PKPbc		PKPbc	18 53 17.3	-0.6
	comp=Z,1.4nm,0.7s,baz=275,slow=2.2,SNR=19							

*JMA **20** 18:36:47.6±0.2,30.7°N±0.6×13.2°E±°, h53km±4km, MV3.0/30,E OFF TANEGASHIMA ISLAND*
*IDC **20** 18:36:50.3±2.2,30.7°N×131.9°E, h41km±19km, mb3.5/12, mbtmp3.8/16,ML3.1/4,Error ellipse: s-maj=25.3km s-min=14.3km az=80.0*
ISC 20 18:36:49.5±0.9,30.68N±0.06×132.0E±0.1,h36km±2km, n25,σ0.82/34,mb3.6/12,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTN	Tanegashima 3	0.88	268	P	Pn	18 37 04.8	-0.6
JTN				S	Sn	18 37 17.7	+0.6
JMTN	Minamitane	0.99	254	P	Pn	18 37 06.4	-0.5
JNAR	Kushima--Naru	1.05	323	P	Pn	18 37 07.2	-0.5
JNAR				S	Sn	18 37 21.6	+0.6
JNKG	Nichinankitago	1.12	331	eP	Pn	18 37 07.3	-1.2
JNKG				eS	Sn	18 37 22.2	-0.5
JYAK	Yakushimahirau	1.36	251	P	Pn	18 37 11.3	-0.7
JYAK				eS	Sn	18 37 29.8	+1.0
JTZ	Takazaki	1.45	327	P	Pn	18 37 12.6	-0.5
JTZ				eS	Sn	18 37 30.9	0.0
JSU	Suzuyama	1.56	302	P	Pn	18 37 14.4	-0.3
JKC	Kuchinoerabu	1.57	262	P	Pn	18 37 14.6	-0.3
JKC				eS	Sn	18 37 35.2	+1.2
JTSN	Tsuno	1.62	345	P	Pn	18 37 14.3	-1.2
JTSN				eS	Sn	18 37 34.6	-0.5
JNU	Nakatsue	2.62	339	P	Pn	18 37 29.2	0.0
	2.4nm,0.3s,baz=196,slow=9.0,SNR=14						
JNU				S	Sn	18 37 59.7	0.0
	71nm,0.9s,baz=194,slow=8.0,SNR=5.0						
	32nm,0.7s						
JOW	Songjiang	5.04	221	P	Pn	18 38 03.3	+0.7
	2.1nm,0.3s,baz=109,slow=21,SNR=5.1						
JOW				S	Sn	18 38 57.0	-2.6
	8.9nm,0.4s,baz=322,slow=17,SNR=1.8						
	9.5nm,0.4s						
MJAR	Matsushiro Arr	7.80	40	P	Pn	18 38 42.0	+1.5
	0.5nm,0.3s,baz=99,slow=23,SNR=33						
	2.4nm,0.3s						
KLR	Kul'dur	18.53	359	P	P	18 41 02.5	-0.2
	0.1nm,0.3s,baz=182,slow=8.8,SNR=6.9						
	2.7nm,0.7s						
SONM	Songino Array	26.02	318	P	P	18 42 18.2	-1.0
	0.6nm,0.7s,baz=124,slow=7.9,SNR=5.1						
	0.6nm,0.7s						
MKAR	Makanchi Array	41.27	307	P	P	18 44 30.9	-0.2
	0.5nm,0.8s,baz=97,slow=8.8,SNR=3.8						
	0.5nm,0.8s						
KURBB	Kurchatov Arra	44.11	313	P	P	18 44 53.5	-0.6
	1.2nm,0.7s,baz=99,slow=9.0,SNR=7.9						
	1.2nm,0.7s						
WRA	Warramunga Arr	50.38	177	P	P	18 45 42.9	-0.2
	0.4nm,0.7s,baz=351,slow=7.9,SNR=3.2						
	0.4nm,0.7s						
ASAR	Alice Springs	54.07	178	P	P	18 46 10.9	+0.4
	0.5nm,0.8s,baz=9.7,slow=12,SNR=4.9						
	0.5nm,0.8s						
ILAR	Eielson Array	58.95	30	P	P	18 46 45.1	+0.3
	0.3nm,0.7s,baz=268,slow=6.9,SNR=2.7						
	0.3nm,0.7s						
FINES	FINESS Array B	70.63	331	P	P	18 48 00.8	-0.1
	1.9nm,0.6s,baz=69,slow=11,SNR=8.8						
	1.9nm,0.6s						
YKA	Yellowknife Ar	73.09	26	P	P	18 48 16.2	+0.6
	0.3nm,0.7s,baz=302,slow=5.8,SNR=4.5						
	0.3nm,0.7s						
AKASG	Malin Array Be	74.30	320	P	P	18 48 23.2	+0.2
	0.4nm,0.5s,baz=66,slow=1.2,SNR=1.6						
	0.4nm,0.5s						
HFS	Hagfors	76.40	333	P	P	18 48 34.4	-0.5
	2.0nm,0.7s,baz=87,slow=8.8,SNR=2.0						
	2.0nm,0.7s						
NOA	NORSAR Array B	76.77	335	P	P	18 48 36.7	-0.3
	1.0nm,0.8s,baz=48,slow=5.8,SNR=3.3						
	1.0nm,0.8s						
GERES	GERESS Array B	83.61	324	P	P	18 49 14.3	+0.2
	1.1nm,0.8s,baz=72,slow=6.4,SNR=4.2						
	1.1nm,0.8s						

*IDC **20** 18:37:08.2±1.2,2.2°N×126.8°E, h0km, mb3.8/6, mbtmp3.9/6,MS3.8/1,Error ellipse: s-maj=133.4km s-min=16.7km az=67.0*
ISC 20 18:37:12.8±1.2,3.0N±0.1×128.8E±0.4,h50km,n25, σ1.9/10/18,mb3.8/7,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	Tagaytay City	13.45	325	LR	LR	18 46 09.3	
	comp=Z,436nm,20.4s,baz=118,slow=41						
KNRA	Kununurra	18.58	180	P	Pn	18 41 29.6	+3.0
WRA	Warramunga Arr	23.47	167	P	P	18 42 18.9	+0.8
	1.0nm,0.3s,baz=337,slow=10,SNR=27						
	1.0nm,0.3s						
ASAR	Alice Springs	27.00	170	P	P	18 42 49.9	-0.3
	0.4nm,0.3s,baz=352,slow=7.4,SNR=27						
	0.4nm,0.3s						
AS01	Alice Springs	27.01	169	P	P	18 42 49.6	-0.7
	2.9nm,1.2s						
WRKA	Warakurna	27.90	181	P	P	18 42 57.9	-0.4
MEEK	Meekatharra	31.08	198	P	P	18 43 25.2	-1.2
OOD	Oodnadatta	31.36	168	P	P	18 43 29.3	+0.5
MULG	Mulgathing	33.51	172	P	P	18 43 47.5	-0.1
FORT	Forrest	33.62	181	P	P	18 43 47.8	-0.8
LCRK	Leigh Creek	34.49	165	P	P	18 43 56.3	+0.1
BLDU	Ballidu	35.38	198	P	P	18 44 02.7	-1.1
BBOO	Buckleboo	36.30	170	P	P	18 44 11.5	-0.2
STKA	Stephens Creek	36.79	162	P	P	18 44 15.0	-0.9
STKA	Stephens Creek	36.79	162	P	P	18 44 15.8	-0.1
	0.6nm,0.3s,baz=332,slow=12,SNR=8.7						
	0.6nm,0.3s						
CMSA	Cobar Meteorol	37.96	156	P	P	18 44 24.3	-1.5
H11S3	WAKE ISLAND Hy	40.18	65	T	T	19 29 50.3	
	baz=255,slow=75						
H11S2	WAKE ISLAND Hy	40.19	65	T	T	19 29 51.0	
	baz=255,slow=75						
H11S1	WAKE ISLAND Hy	40.19	65	T	T	19 29 51.4	
	baz=255,slow=75						
H11N1	WAKE ISLAND Hy	40.74	63	T	T	19 30 28.8	
	baz=247,slow=75						
H11N2	WAKE ISLAND Hy	40.76	63	T	T	19 30 29.8	
	baz=247,slow=75						
H11N3	WAKE ISLAND Hy	40.76	63	T	T	19 30 31.6	
	baz=247,slow=75						
SONM	Songino Array	48.63	340	P	P	18 45 52.6	+0.9
	0.5nm,0.7s,baz=143,slow=6.0,SNR=2.7						
	0.5nm,0.7s						
MKAR	Makanchi Array	59.29	325	P	P	18 47 09.2	-0.3
	0.7nm,0.4s,baz=110,slow=7.5,SNR=13						
	0.7nm,0.4s						
KURBB	Kurchatov Arra	63.43	327	P	P	18 47 37.1	-0.2
	1.5nm,0.5s,baz=127,slow=5.7,SNR=13						
	1.5nm,0.5s						

IDC 20 18:38:06.9±2.9,22.21S×177.36W,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=164.5km s-min=55.5km az=157.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	37.61	246	P	P	18 45 23.1	-0.5
	0.7nm,0.3s,baz=76,slow=11,SNR=4.6						
	0.7nm,0.3s						
ASAR	Alice Springs	44.73	258	P	P	18 46 22.0	-0.3
	0.4nm,0.7s,baz=93,slow=7.0,SNR=8.2						
ASAR				PcP	PcP	18 48 03.4	-1.4
	0.3nm,0.6s,baz=114,slow=3.9,SNR=5.5						
	0.4nm,0.7s						
WRA	Warramunga Arr	44.98	264	P	P	18 46 25.0	+0.7
	0.5nm,0.6s,baz=96,slow=8.4,SNR=15						
WRA				PcP	PcP	18 48 04.7	-1.0
	0.2nm,0.5s,baz=109,slow=2.7,SNR=1.8						
	0.5nm,0.6s						
AKASG	Malin Array Be	144.79	330	PKP	PKPdf	18 57 46.8	+1.1
	0.3nm,0.4s,baz=40,slow=4.0,SNR=4.6						

*VAO **20** 18:53:41.0±0.4, 17.83S×69.21W, h113km±3km, mb5.1*
*NEIC **20** 18:53:43.4±1.3, 17.99S±0.05×69.41W±0.08, h142km±6km, mb4.8/61, Error ellipse: s-maj=11.5km s-min=7.9km az=92.0*
*IDC **20** 18:53:44.5±0.5, 17.81S×69.14W, h145km±3km, mb4.3/19, mbtmp4.8/21,MS3.9/4, Error ellipse: s-maj=14.3km s-min=9.6km az=66.0*
*GUC **20** 18:53:44.6±0.7, 17.98S×69.45W, h133km±3km, ML4.7*
ISC 20 18:53:42.8±0.3, 17.94S±0.04×69.29W±0.05, h140km±2km, h140km:pP-P,n248,σ1.9/47/263,mb4.8/46,5C-8D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB18	Visviri	0.39	332		Pn	18 54 04.4	+1.1
PB18	Visviri	0.39	332	⇓P	Pn	18 54 04.3	+1.1
PB18				eS	Sn	18 54 19.4	+0.8
PB18				IAML		18 54 21.8	
	comp=E,21µm,0.9s						
PB16	IPOC Station P	0.45	207		Pn	18 54 04.0	+0.5
PB16	IPOC Station P	0.45	207	⇓P	Pn	18 54 03.9	+0.4
PB16				eS	Sn	18 54 19.0	-0.2
AP01	Chacalluta	1.09	246		Pn	18 54 06.7	-0.7
AP01	Chacalluta	1.09	246	⇑P	Pn	18 54 06.8	-0.6
AP01				eS	Sn	18 54 24.6	-1.6
AP01				IAML		18 54 26.0	
	comp=N,42µm,0.3s						
PB12	IPOC Station P	1.19	235		Pn	18 54 08.1	-0.5
PB12	IPOC Station P	1.19	235	⇑P	Pn	18 54 07.6	-0.9
PB12				eS	Sn	18 54 25.7	-2.5
PB12				IAML		18 54 27.2	
	comp=N,21µm,0.3s						
PX02	IPOC Station P	1.34	220	eP	Pn	18 54 09.6	-0.5
PX02				eS	Sn	18 54 28.1	-2.7
PX02				IAML		18 54 29.1	
	comp=N,6µm,0.3s						
GO01	Chusmiza	1.73	177		Pn	18 54 15.6	+1.0
GO01	Chusmiza	1.73	177	⇑P	Pn	18 54 15.8	+1.1
GO01				eS	Sn	18 54 39.6	+0.6
GO01				IAML		18 54 42.0	
	comp=N,7µm,0.2s						
PB11	IPOC Station P	1.85	191		Pn	18 54 15.7	-0.1
PB11	IPOC Station P	1.85	191	P	Pn	18 54 15.7	-0.1
PB11				eS	Sn	18 54 39.8	-1.2
PB11				IAML		18 54 41.5	
	comp=E,5µm,0.4s						
LPAZ	La Paz	1.98	34	Pn	Pn	18 54 19.7	+1.9
PB08	IPOC Station P	2.20	177		Pn	18 54 21.1	+1.0
PB08	IPOC Station P	2.20	177	⇑P	Pn	18 54 21.1	+1.0
PB08				eS	Sn	18 54 49.1	+0.4
PB08				IAML		18 54 51.5	
	comp=E,3µm,0.4s						
HMBC	Humberstone	2.40	194	⇓P	Pn	18 54 21.7	-0.7
HMBC				eS	Sn	18 54 50.0	-2.8
HMBC				IAML		18 55 00.2	
	comp=N,7µm,0.6s						
TA02	Huaiquique	2.45	199		Pn	18 54 22.4	-0.5
TA02	Huaiquique	2.45	199	P	Pn	18 54 22.5	-0.5
TA02				eS	Sn	18 54 51.0	-2.7
PX03	IPOC Station P	2.48	187	P	Pn	18 54 23.2	0.0
PX03				eS	Sn	18 54 53.0	-1.5
TA01	Diego Aracena	2.75	198		Pn	18 54 25.9	-0.6
TA01	Diego Aracena	2.75	198	P	Pn	18 54 25.8	-0.7
PATCX	Punta Patache	2.98	196	Pn	Pn	18 54 28.8	-0.9
PATCX	Punta Patache	2.98	196	P	Pn	18 54 29.1	-0.6
PATCX				IAML		18 55 11.5	
	comp=E,3µm,0.5s						
PB01	IPOC Station P	3.10	183		Pn	18 54 31.0	-0.1
PB01	IPOC Station P	3.10	183	⇓P	Pn	18 54 31.0	-0.1
PB02	IPOC Station P	3.41	190		Pn	18 54 34.9	-0.3
PB02	IPOC Station P	3.41	190	P	Pn	18 54 35.3	0.0
PB07	IPOC Station P	3.81	188		Pn	18 54 40.2	-0.3
PB07	IPOC Station P	3.81	188	P	Pn	18 54 40.2	-0.3
PB09	IPOC Station P	3.84	179		Pn	18 54 41.4	+0.5
PB04	IPOC Station P	4.45	190	Pn	Pn	18 54 48.4	-0.6
PB04	IPOC Station P	4.45	190	P	Pn	18 54 48.3	-0.6
LVC	Limon Verde	4.66	176	Pn	Pn	18 54 52.8	+0.8
LVC	Limon Verde	4.66	176	eP	Pn	18 54 52.5	+0.5
LVC	Limon Verde	4.66	176	P	Pn	18 54 53.4	+1.5
	comp=E,196nm,0.4s,baz=358,slow=8.3,SNR=225						
LVC				S	Sn	18 55 44.0	-1.7
	comp=E,937nm,0.4s,baz=135,slow=22,SNR=16						
PB06	IPOC Station P	4.75	183	Pn	Pn	18 54 52.6	-0.3
PB06	IPOC Station P	4.75	183	P	Pn	18 54 52.4	-0.5
PB05	IPOC Station P	4.96	190	Pn	Pn	18 54 54.7	-1.0
PB05	IPOC Station P	4.96	190	P	Pn	18 54 54.7	-1.0
PB15	IPOC Station P	5.25	182	Pn	Pn	18 54 59.2	-0.4
PB14	IPOC Station P	6.74	189	Pn	Pn	18 55 17.1	-2.6
GO02	Mina Guanaco	7.20	182	Pn	Pn	18 55 24.1	-1.7
SIV	San Ignacio	8.10	77	P	Pn	18 55 35.7	-1.9
	comp=E,184nm,0.5s,baz=261,slow=10,SNR=166						
SIV				S	Sn	18 57 03.5	-4.4
	comp=E,73nm,0.7s,baz=339,slow=20,SNR=11						
AC01	Pan de Azucar	8.26	188	Pn	Pn	18 55 36.5	-3.2
BBSD	Serra de San D	8.31	86	eP	Pn	18 55 38.5	-2.1
ETMB	Extrema	8.61	21	Pn	Pn	18 55 43.0	-1.4
ETMB	Extrema	8.61	21	eP	Pn	18 55 42.8	-1.6
BBRB	Robore, Bolivi	9.02	94	eP	Pn	18 55 47.1	-3.0
NNA	Nana	9.39	308	P	Pn	18 55 53.0	-2.0
	comp=E,152nm,0.4s,baz=138,slow=11,SNR=49						
NNA				S	Sn	18 57 35.9	-3.2
	comp=E,36nm,0.3s,baz=238,slow=18,SNR=2.3						
AC06	Mina Casimiro	9.43	186		Pn	18 55 50.9	-4.5
GO03	Copiap	9.65	185	Pn	Pn	18 55 54.2	-4.2
PTLB	Pontes e Lacer	10.04	77	Pn	Pn	18 56 01.3	-2.3
PTLB	Pontes e Lacer	10.04	77	eP	Pn	18 56 01.1	-2.5
VILB	Vilhena	10.07	62	Pn	Pn	18 56 03.5	-0.5
VILB	Vilhena	10.07	62	eP	Pn	18 56 02.2	-1.8
CZSB	Cruzeiro do Su	10.68	341	Pn	Pn	18 56 08.9	-3.2
CZSB	Cruzeiro do Su	10.68	341	eP	Pn	18 56 08.3	-3.8
SAML	Samuel	10.73	34	Pn	Pn	18 56 10.1	-2.7
SAML	Samuel	10.73	34	eP	Pn	18 56 10.0	-2.8
AC05	El Transito	10.89	185	Pn	Pn	18 56 11.3	-3.6
LCO	Las Campanas	11.10	186	Pn	Pn	18 56 12.5	-5.3
MURT	Porto Murtinho	11.60	111	eP	Pn	18 56 22.0	-2.2
TICA	Tres Isletas	11.78	137	eP	Pn	18 56 26.1	-0.4
PANT	Pantanal (Braz	12.07	97	eP	Pn	18 56 29.1	-1.3
BDQN	Bodoquena, MS	12.11	104	eP	Pn	18 56 28.9	-2.0
ESFA	Espinillo Form	12.24	127	eP	Pn	18 56 32.2	-0.4
VACA	Villa Angela C	12.48	142	eP	Pn	18 56 35.2	-0.5
AQDB	Aquidauana	13.09	103	Pn	Pn	18 56 41.8	-1.8
AQDB	Aquidauana	13.09	103	eP	Pn	18 56 41.5	-2.1
ANTJ	Antonio Joao (	13.13	110	eP	Pn	18 56 41.7	-2.4
SALV	Santo Antonio	13.17	83	eP	Pn	18 56 41.3	-3.4
RVDE	Rio Verde (Bra	13.66	97	eP	Pn	18 56 48.3	-2.7
PDRB	Porto dos Gac	13.67	64	eP	Pn	18 56 46.8	-4.4
SCLA	San Cayetano,	13.72	136	eP	Pn	18 56 51.0	-0.3
CPUP	Villa Florida	13.87	129		P	18 56 52.0	-1.6
CPUP	Villa Florida	13.87	129	P	Pn	18 56 51.8	-1.8
CPUP	Villa Florida	13.87	129	P	Pn	18 56 51.4	-2.1
	comp=E,24nm,0.8s,baz=305,slow=12,SNR=

BOAV	**Boa Vista**	**21.97**	**24**	*e*P		**P**	**18 58 25.1**	**-0.7**
BOAV	**Boa Vista**	**21.97**	**24**	*e*P		**P**	**18 58 25.3**	**-0.4**
PRAC	**Prado**	**22.21**	**345**	*e*P		**P**	**18 58 32.2**	**+4.0**
PRPB	**Parauapebas**	**22.32**	**61**	*e*P		**P**	**18 58 27.8**	**-1.4**
LR05	**Currie**	**22.34**	**185**	P		**P**	**18 58 29.5**	**+0.4**
LR05				IAmb		IAmb	18 58 30.9	
	comp=Z,43nm,0.7s							
ORTC	**Ortega, Tolima**	**22.49**	**344**	*e*P		**P**	**18 58 27.7**	**-3.2**
PLCA	**Paso Flores**	**22.74**	**182**	*e*P		**P**	**18 58 34.3**	**+1.2**
PLCA	**Paso Flores**	**22.74**	**182**	P		**P**	**18 58 34.2**	**+1.1**
	comp=Z,16nm,0.7s,baz=1.1,slow=10,SNR=33							
	comp=Z,16nm,0.7s							
PARB	**Paraibuna**	**22.78**	**108**	*e*P		**P**	**18 58 32.7**	**-0.9**
GUY2C	**Guyana, Caldas**	**23.78**	**345**	*e*P		**P**	**18 58 44.6**	**+1.3**
JANB	**Januaria**	**24.12**	**87**	*e*P		**P**	**18 58 46.1**	**+0.2**
SDBA	**SAO DESIDERIO**	**24.16**	**80**	*e*P		**P**	**18 58 46.0**	**-0.3**
MAN01	**Angra dos Reis**	**24.23**	**106**	*e*P		**P**	**18 58 47.3**	**+0.5**
MCPB	**Macapa, AP**	**24.34**	**46**	*e*P		**P**	**18 58 47.5**	**-0.3**
TAMC	**Tame, Arauca**	**24.34**	**354**	*e*P		**P**	**18 58 45.5**	**-2.4**
DIAM	**Diamantina, MG**	**24.35**	**95**	*e*P		**P**	**18 58 48.5**	**+0.4**
BARC	**Barichara**	**24.67**	**351**	*e*P		**P**	**18 58 50.8**	**-0.3**
PTBC	**PUERTO BERRIO,**	**24.85**	**348**	*e*P		**P**	**18 58 48.1**	**-4.4**
DUB01	**Friburgo-RJ**	**25.61**	**104**	*e*P		**P**	**18 58 60.0**	**+0.5**
ZARC	**Zaragoza, Cauc**	**25.86**	**347**	*e*P		**P**	**18 58 59.6**	**-2.0**
CAM01	**Campos-RJ**	**26.26**	**103**	*e*P		**P**	**18 59 06.0**	**+0.8**
SJMB	**Sao Joao De Ma**	**26.68**	**96**	*e*P		**P**	**18 59 09.0**	**-0.1**
SDV	**Santo Domingo**	**26.68**	**357**	P		**P**	**18 59 09.0**	**-0.3**
SDV	**Santo Domingo**	**26.68**	**357**	*e*P		**P**	**18 59 09.1**	**-0.1**
BAUV	**El Baul**	**26.74**	**3**	P		**P**	**18 59 08.4**	**-1.1**
BAUV				IAmb		IAmb	18 59 47.1	
	comp=Z,56nm,1.3s							
ALF01	**Guarapari-ES**	**27.08**	**100**	*e*P		**P**	**18 59 13.2**	**+0.6**
COYC	**Coyhaique**	**27.65**	**184**	P		**P**	**18 59 16.4**	**-1.0**
COYC				IAmb		IAmb	18 59 19.4	
	comp=Z,17nm,0.8s							
NAN01	**Guarapari, ES**	**27.74**	**94**	*e*P		**P**	**18 59 18.4**	**-0.1**
GUA01	**Guaratinga, BA**	**28.18**	**92**	*e*P		**P**	**18 59 22.2**	**-0.2**
MDP	**Montagnes des**	**28.18**	**37**	LR		LR	19 10 21.0	
	comp=Z,46nm,21.8s,baz=228,slow=36							
CMC01	**Camacan, BA**	**28.62**	**89**	*e*P		**P**	**18 59 25.5**	**-0.9**
GDU01	**Guandu, BA**	**28.88**	**86**	*e*P		**P**	**18 59 27.4**	**-1.2**
RCBR	**Riachuelo**	**34.75**	**74**	P		**P**	**19 00 20.6**	**+0.6**
MTO3	**Montecristo**	**37.74**	**327**	IAmb		IAmb	19 00 49.8	
	comp=Z,25nm,1.2s							
TEIG	**Tepich**	**42.25**	**333**	P		**P**	**19 01 22.0**	**-0.5**
	comp=Z,61nm,0.6s,baz=11,slow=2.2,SNR=6.3							
TEIG				pP		**pP**	**19 01 56.4**	**+1.3**
	comp=Z,59nm,0.9s,baz=59,slow=9.2,SNR=2.2							
	comp=Z,61nm,0.6s							
TEIG	**Tepich**	**42.25**	**333**	P		**P**	**19 01 23.6**	**+1.1**
TEIG				pP		**pP**	**19 01 57.1**	**+2.0**
CMIG	**Matias Romero**	**42.97**	**323**	P		**P**	**19 01 29.1**	**+0.8**
	comp=Z,4.0nm,0.5s,baz=116,slow=6.8,SNR=10							
CMIG				pP		**pP**	**19 02 01.3**	**+0.3**
	comp=Z,3.8nm,0.8s,baz=96,slow=4.9,SNR=3.2							
	comp=Z,4.0nm,0.5s							
HNDO	**Hondo**	**55.35**	**328**	IAmb		IAmb	19 03 04.5	
	comp=Z,9.5nm,0.6s							
WVT	**Waverly**	**56.56**	**342**	P		**P**	**19 03 09.3**	**-1.5**
WVT				IAmb		IAmb	19 03 54.0	
	comp=Z,6.6nm,1.0s							
WVT	**Waverly**	**56.56**	**342**	P		**P**	**19 03 10.0**	**-0.8**
WVT				pP		**pP**	**19 03 45.0**	**0.0**
WVT				sP		**sP**	**19 04 01.2**	**+0.3**
T47A	**Sharon Grove**	**57.16**	**343**	IAmb		IAmb	19 03 17.4	
	comp=Z,8.8nm,0.8s							
TXAR	**Lajitas Array**	**57.53**	**324**	P		**P**	**19 03 17.6**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=152,slow=7.5,SNR=7.0							
TXAR				pP		**pP**	**19 03 52.7**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=150,slow=9.6,SNR=3.3							
	comp=Z,0.7nm,0.7s							
LCAR	**Lake Charles**	**57.56**	**339**	IAmb		IAmb	19 03 21.6	
	comp=Z,8.3nm,1.1s							
FCAR	**Ozark Folk Cen**	**57.74**	**338**	IAmb		IAmb	19 04 11.1	
	comp=Z,7.9nm,1.0s							
PBMO	**Poplar Bluff**	**57.97**	**340**	IAmb		IAmb	19 04 12.8	
	comp=Z,15nm,0.9s							
ABTX	**Abilene, Hawle**	**58.06**	**330**	IAmb		IAmb	19 04 13.7	
	comp=Z,19nm,1.1s							
WTFS	**Witchita Falls**	**58.46**	**332**	P		**P**	**19 03 24.4**	**+0.2**
WTFS				IAmb		IAmb	19 04 17.2	
	comp=Z,41nm,1.3s							
MNHN	**Monahans**	**58.60**	**326**	IAmb		IAmb	19 04 17.4	
	comp=Z,9.8nm,1.1s							
HHAR	**Hobbs**	**58.75**	**337**	IAmb		IAmb	19 03 28.0	
	comp=Z,5.0nm,0.7s							
APMT	**Aspermont**	**58.87**	**330**	IAmb		IAmb	19 04 19.9	
	comp=Z,22nm,1.2s							
MGMO	**Mountain Grove**	**58.92**	**339**	IAmb		IAmb	19 04 19.2	
	comp=Z,10.0nm,1.0s							
CCM	**Cathedral Cave**	**59.39**	**340**	P		**P**	**19 03 30.0**	**-0.5**
CCM				IAmb		IAmb	19 04 22.9	
	comp=Z,12nm,1.0s							
CCM	**Cathedral Cave**	**59.39**	**340**	P		**P**	**19 03 31.7**	**+1.2**
CCM				pP		**pP**	**19 04 05.9**	**+0.9**
CCM				sP		**sP**	**19 04 21.8**	**+1.0**
S39A	**Bolivar**	**59.77**	**338**	IAmb		IAmb	19 03 35.0	
	comp=Z,9.1nm,0.6s							
R40A	**Maddies Statio**	**59.95**	**339**	P		**P**	**19 03 34.1**	**-0.1**
R40A				IAmb		IAmb	19 03 35.8	
	comp=Z,9.1nm,0.6s							
SMWD	**Samnorwood**	**60.38**	**331**	P		**P**	**19 03 35.7**	**-1.7**
SMWD				IAmb		IAmb	19 04 30.1	
	comp=Z,21nm,0.9s							
BLOK	**Blackwell**	**60.45**	**334**	P		**P**	**19 03 37.4**	**-0.4**
ANMO	**Albuquerque**	**63.34**	**326**	P		**P**	**19 03 58.6**	**+1.2**
ANMO				pP		**PcP**	**19 04 33.9**	**+0.7**
ANMO				sP		**sP**	**19 04 49.0**	**+0.9**
VNA3	**Neumayer Olymp**	**63.55**	**162**	⇓P		**P**	**19 03 59.7**	**+1.7**
	comp=Z,10nm,0.9s							
VNA2	**Neumayer--Watz**	**64.12**	**161**	⇓P		**P**	**19 04 03.4**	**+1.7**
	comp=Z,7.5nm,0.5s,baz=291,slow=7.0							
SNAA	**Sanae**	**65.75**	**161**	P		**P**	**19 04 13.6**	**+1.2**
SNAA				IAmb		IAmb	19 04 14.4	
	comp=Z,10.0nm,0.8s							
SNAA	**Sanae**	**65.75**	**161**	⇓P		**P**	**19 04 13.9**	**+1.5**
	comp=Z,203nm,0.6s							
SNAA	**Sanae**	**65.75**	**161**	P		**P**	**19 04 13.6**	**+1.2**
	comp=Z,7.7nm,0.6s,baz=282,slow=7.1,SNR=27							
	comp=Z,7.7nm,0.6s							
ECSD	**EROS Data Cent**	**66.28**	**339**	P		**P**	**19 04 16.2**	**+0.2**
ECSD				IAmb		IAmb	19 05 09.7	
	comp=Z,19nm,1.2s							
SPMN	**Marine on St.**	**66.40**	**342**	IAmb		IAmb	19 04 18.4	
	comp=Z,13nm,0.7s							
F36A	**Milaca**	**67.19**	**342**	IAmb		IAmb	19 04 23.6	
	comp=Z,8.4nm,0.8s							
TROLL	**Troll, Antarti**	**67.47**	**161**	⇓P		**P**	**19 04 25.2**	**+1.9**
	comp=Z,691nm,0.6s							
F33A	**5 Mile Ranch,**	**68.03**	**340**	IAmb		IAmb	19 04 31.2	
	comp=Z,19nm,1.4s							
DBIC	**Dimbokro**	**68.11**	**75**	P		**P**	**19 04 28.2**	**0.0**
DBIC				IAmb		IAmb	19 04 29.1	
	comp=Z,17nm,0.7s							
DBIC	**Dimbokro**	**68.11**	**75**	P		**P**	**19 04 27.9**	**-0.3**
	comp=Z,22nm,0.8s,baz=235,slow=5.9,SNR=29							
DBIC				LR		LR	19 35 45.0	
	comp=Z,118nm,18.1s,baz=138,slow=37							
	comp=Z,22nm,0.8s							
DBIC	**Dimbokro**	**68.11**	**75**	P		**P**	**19 04 28.5**	**+0.3**
RSSD	**Black Hills**	**69.45**	**334**	P		**P**	**19 04 37.6**	**+1.5**
RSSD				sP		**sP**	**19 05 28.6**	**+1.5**
BSUT	**Blindstream Ca**	**69.79**	**327**	IAmb		IAmb	19 04 46.4	
	comp=Z,13nm,1.5s							
PDAR	**Pinedale Array**	**70.86**	**330**	P		**P**	**19 04 44.7**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=127,slow=8.3,SNR=10							
PDAR				pP		**pP**	**19 05 20.5**	**0.0**
	comp=Z,0.9nm,0.7s,baz=144,slow=8.6,SNR=3.0							
	comp=Z,0.6nm,0.5s							
ULM	**Lac du Bonnet**	**71.83**	**342**	IAmb		IAmb	19 05 27.6	
	comp=Z,15nm,1.2s							
ULM	**Lac du Bonnet**	**71.83**	**342**	P		**P**	**19 04 50.1**	**0.0**
	comp=Z,5.0nm,0.4s,baz=154,slow=6.3,SNR=14							
ULM				pP		**pP**	**19 05 25.9**	**+0.1**
	comp=Z,4.5nm,0.6s,baz=145,slow=3.4,SNR=2.8							
	comp=Z,5.0nm,0.4s							
QSPA	**South Pole Qui**	**72.24**	**180**	P		**P**	**19 04 54.4**	**+1.8**
	comp=Z,13nm,0.6s,baz=157,slow=1.6,SNR=42							
	comp=Z,13nm,0.6s							
ELK	**Elko**	**72.31**	**325**	P		**P**	**19 04 53.9**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=157,slow=3.1,SNR=6.1							
	comp=Z,1.1nm,0.6s							
NVAR	**Mina Array Bea**	**72.49**	**322**	P		**P**	**19 04 55.8**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=150,slow=5.9,SNR=5.9							
NVAR				pP		**pP**	**19 05 32.1**	**+1.7**
	comp=Z,0.5nm,0.4s,baz=138,slow=6.0,SNR=2.5							
	comp=Z,1.7nm,0.7s							
SCHQ	**Schefferville**	**72.50**	**1**	P		**P**	**19 04 54.0**	**0.0**
	comp=Z,5.3nm,0.8s,baz=255,slow=5.5,SNR=4.0							
	comp=Z,5.3nm,0.8s							
TOA0	**Torodi Ar. Sit**	**76.53**	**71**	P		**P**	**19 05 17.8**	**-0.3**
TOA0				IAmb		IAmb	19 05 20.8	
	comp=Z,12nm,0.7s							
TORD	**Torodi Ar. Bea**	**76.53**	**71**	P		**P**	**19 05 17.7**	**-0.4**
TORD				IAmb		IAmb	19 05 20.8	
	comp=Z,8.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**76.53**	**71**	P		**P**	**19 05 18.1**	**0.0**
	comp=Z,9.3nm,0.5s,baz=256,slow=5.2,SNR=70							
TORD				LR		LR	19 38 22.3	
	comp=Z,161nm,18.8s,baz=146,slow=35							
	comp=Z,9.3nm,0.5s							
C09A	**Chrisman Ranch**	**78.75**	**329**	IAmb		IAmb	19 05 32.6	
	comp=Z,8.0nm,0.6s							
VNDA	**Vanda**	**80.28**	**190**	P		**P**	**19 05 40.3**	**+2.7**
	comp=Z,4.0nm,0.6s,baz=126,slow=6.1,SNR=24							
	comp=Z,4.0nm,0.6s							
EDM	**Edmonton**	**80.40**	**335**	IAmb		IAmb	19 05 39.8	
	comp=Z,31nm,1.3s							
ESDC	**Sonseca Array**	**83.57**	**45**	P		**P**	**19 05 56.2**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=262,slow=4.9,SNR=6.6							
ESDC				pP		**pP**	**19 06 33.1**	**+1.0**
	comp=Z,1.3nm,1.0s,baz=239,slow=4.8,SNR=3.0							
	comp=Z,1.1nm,0.8s							
BOSA	**Boshof**	**85.44**	**118**	P		**P**	**19 06 05.7**	**+0.3**
	comp=Z,4.5nm,1.0s,baz=243,slow=6.1,SNR=3.4							
	comp=Z,4.5nm,1.0s							
YKA	**Yellowknife Ar**	**87.72**	**341**	P		**P**	**19 06 16.4**	**+1.1**
	comp=Z,11nm,0.7s,baz=134,slow=4.7,SNR=165							
YKA				pP		**pP**	**19 06 53.1**	**+0.8**
	comp=Z,4.6nm,0.8s,baz=135,slow=4.8,SNR=6.3							
	comp=Z,11nm,0.7s							
MAW	**Mawson**	**87.83**	**163**	P		**P**	**19 06 17.8**	**+1.8**
	comp=Z,16nm,0.7s,baz=207,slow=5.4,SNR=26							
	comp=Z,16nm,0.7s							
INK	**Inuvik**	**97.49**	**340**	LR		LR	19 56 14.1	
	comp=Z,102nm,18.1s,baz=187,slow=38							
FINES	**FINESS Array B**	**108.13**	**30**	PKKPbc		PKKPbc	19 23 07.8	-0.4
	comp=Z,3nm,1.3s,baz=147,slow=8.3,SNR=3.3							
STKA	**Stephens Creek**	**122.29**	**211**	PKP		**PKiKP**	**19 12 22.8**	**+0.8**
	comp=Z,1.8nm,0.4s,baz=110,slow=3.6,SNR=9.3							
PETK	**Petropavlovsk-**	**129.47**	**325**	SKP		**SKPdf**	**19 15 57.2**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=293,slow=7.7,SNR=3.7							
ASAR	**Alice Springs**	**132.85**	**210**	PKhKP		PKPpre	19 12 26.6	
	comp=Z,0.3nm,0.5s,baz=146,slow=2.9,SNR=5.9							
ASAR				PKP		**PKiKP**	**19 12 42.8**	**-0.6**
	comp=Z,2.3nm,0.5s,baz=134,slow=1.9,SNR=33							
ASAR				SKPbc		**SKPbc**	**19 15 57.4**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=152,slow=4.5,SNR=7.7							
ASAR				PKKP		**PKKPdf**	**19 22 33.4**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=345,slow=0.9,SNR=4.8							
BVAR	**Borovoye Array**	**133.03**	**32**	PKP		**PKiKP**	**19 12 42.5**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=297,slow=4.9,SNR=7.5							
WRA	**Warramunga Arr**	**135.78**	**213**	PKhKP		PKPpre	19 12 34.8	
	comp=Z,0.4nm,0.6s,baz=135,slow=2.9,SNR=12							
WRA				PKP		**PKPdf**	**19 12 48.1**	**+0.3**
	comp=Z,2.8nm,0.4s,baz=146,slow=1.7,SNR=18							
WRA				SKPbc		**SKPbc**	**19 16 07.4**	**+0.9**
	comp=Z,2.0nm,1.0s,baz=140,slow=2.8,SNR=7.3							
KURBB	**Kurchatov Arra**	**138.52**	**31**	PKP		**PKPdf**	**19 12 52.7**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=303,slow=2.9,SNR=7.9							
ZALV	**Zalesovo Beam**	**138.86**	**23**	PKP		**PKPdf**	**19 12 53.1**	**+0.8**
	comp=Z,6.6nm,0.7s,baz=297,slow=2.6,SNR=29							
ZALV				pPKP		**pPKPdf**	**19 13 32.5**	**+1.3**
	comp=Z,2.5nm,0.7s,baz=288,slow=3.4,SNR=3.3							
ZALV				SKP		**SKPdf**	**19 16 15.6**	**+1.4**
	comp=Z,1.9nm,0.6s,baz=304,slow=3.3,SNR=8.3							
MKAR	**Makanchi Array**	**142.91**	**33**	PKhKP		PKPpre	19 12 54.5	
	comp=Z,0.2nm,0.8s,baz=211,slow=30,SNR=4.5							
MKAR				PKP		**PKPdf**	**19 13 00.3**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=305,slow=4.3,SNR=8.2							
MKAR				SKPbc		**SKPbc**	**19 16 24.4**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=286,slow=2.4,SNR=3.8							
HEH	**HeiHe**	**145.09**	**341**	PKPbc		**PKPdf**	**19 13 04.1**	**+0.6**
HEH				pPKP		**pPKPdf**	**19 13 42.5**	**+0.1**
WMQ	**Urumqi**	**147.72**	**32**	*e*P		**PKPdf**	**19 13 07.8**	**-0.5**
WMQ				LR		LR		
	comp=N,420nm,18.3s							
WMQ				LR		LR		
	comp=E,310nm,17.1s							
WMQ				LR		LR		
	comp=Z,230nm,25.5s							
USRK	**Ussuriysk Ar.**	**148.29**	**330**	PKPbc		**PKiKP**	**19 13 13.8**	**-0.5**
	comp=Z,11nm,0.8s,baz=48,slow=1.8,SNR=23							
BNX	**BinXian**	**148.99**	**337**	⇑P		**PKiKP**	**19 13 15.4**	**-0.2**
BNX				pmax		pmax		
	comp=Z,13nm,1.0s							
BNX				pmax		pmax		
	comp=Z,220nm,6.9s							
MDJ	**Mudanjiang**	**149.04**	**333**	P		**PKPdf**	**19 13 10.8**	**+0.5**
MDJ				pmax		pmax		
	comp=Z,7.0nm,1.9s							
MDJ				pmax		pmax		
	comp=Z,130nm,5.8s							
MJAR	**Matsushiro Arr**	**149.49**	**313**	PKPbc		**PKiKP**	**19 13 17.5**	**+0.5**
	comp=Z,3.4nm,0.5s,baz=79,slow=1.7,SNR=12							
SONM	**Songjno Array**	**149.97**	**6**	PKP		**PKPdf**	**19 13 12.5**	**+0.7**
	comp=Z,8.3nm,0.6s,baz=296,slow=1.0,SNR=7.2							
SONM				PKPbc		**PKiKP**	**19 13 18.3**	**+0.6**
	comp=Z,8.3nm,0.6s,baz=311,slow=1.4,SNR=54							
SONM				pPKPbc		**pPKPbc**	**19 13 56.4**	**+1.0**
	comp=Z,6.4nm,0.9s,baz=332,slow=2.1,SNR=6.6							
KAPI	**Kappang**	**155.51**	**202**	PKPab		**PKPab**	**19 13 48.6**	**+1.7**
	comp=Z,26nm,0.8s,baz=204,slow=9.3,SNR=5.6							
GTA	**Gaotai**	**156.60**	**22**	*e*PKPbc		**PKPdf**	**19 13 23.8**	**+2.1**
HHC	**Hu-ho-hao-te**	**157.15**	**358**	*e*P		**PKPdf**	**19 13 18.6**	**-3.7**
LZH	**Lanzhou**	**160.93**	**17**	*e*P		**PKPdf**	**19 13 24.8**	**-2.1**
LZH				pmax		pmax		
	comp=Z,19nm,1.5s							
PZH	**PanZhiHua**	**168.10**	**43**	PKP		**PKPdf**	**19 13 32.0**	**-1.5**

*IDC **20** 19:02:25.5±4.2,22.°59S×112.°32W,h0km,mb3.4/2, mbtmp3.4/2,MS3.6/9,Error ellipse: s-maj=326.8km s-min=64.5km az=111.0*

ISC 20 19:02:26.6±4.4,22.°7S±0.°9×11.°2W±.°,h10km,n22,σ0s25/7, MS3.7/9,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03N2	**Juan Fernandez**	**31.30**	**117**	T	T	19 44 08.4	
	baz=286,slow=75,SNR=80						
H03N3	**Juan Fernandez**	**31.31**	**117**	T	T	19 44 09.6	
	baz=286,slow=75,SNR=55						
H03N1	**Juan Fernandez**	**31.31**	**117**	T	T	19 44 03.6	
	baz=286,slow=75,SNR=103						
PPT	**Papeete**	**35.20**	**271**	LR	LR	19 20 10.1	
	comp=Z,96nm,21.4s,baz=160,slow=30						
NNA	**Nana**	**35.50**	**79**	LR	LR	19 20 54.4	
	comp=Z,83nm,18.8s,baz=226,slow=31						
JTS	**Las Juntas de**	**42.42**	**42**	LR	LR	19 22 04.0	
	comp=Z,19nm,21.9s,baz=94,slow=28						
CMIG	**Matias Romero**	**43.11**	**25**	LR	LR	19 24 36.2	
	comp=Z,98nm,18.7s,baz=196,slow=31						
RAR	**Rarotonga**	**43.80**	**263**	LR	LR	19 23 49.0	
	comp=Z,89nm,19.0s,baz=146,slow=29						
PMSA	**Palmer Station**	**52.44**	**156**	LR	LR	19 28 50.8	
	comp=Z,112nm,21.1s,baz=258,slow=30						
URZ	**Urewera**	**61.34**	**238**	LR	LR	19 33 41.4	
	comp=Z,90nm,20.1s,baz=347,slow=30						
RPZ	**Rata Peaks**	**65.15**	**231**	LR	LR	19 36 24.2	
	comp=Z,66nm,18.2s,baz=90,slow=31						
PDAR	**Pinedale Array**	**65.19**	**2**	P	**P**	**19 13 08.0**	**-0.3**
	0.2nm,0.4s,baz=155,slow=6.6,SNR=2.3						
	0.2nm,0.4s						
QSPA	**South Pole Qui**	**67.45**	**180**	LR	LR	19 38 36.7	
	comp=Z,31nm,18.4s,baz=238,slow=32						
YKA	**Yellowknife Ar**	**84.92**	**359**	P	**P**	**19 15 01.7**	**+0.4**
	0.3nm,0.9s,baz=176,slow=5.1,SNR=5.3						
	0.3nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**88.97**	**290**	T	T	20 51 31.3	
	baz=115,slow=75						
H11S1	**WAKE ISLAND Hy**	**88.98**	**290**	T	T	20 51 32.0	
	baz=115,slow=75						
H11S3	**WAKE ISLAND Hy**	**88.99**	**290**	T	T	20 51 30.3	
	baz=115,slow=75						
ZALV	**Zalesovo Beam**	**146.19**	**342**	PKPbc	**PKPdf**	**19 22 05.7**	**-0.2**
	2.0nm,0.8s,baz=28,slow=3.5,SNR=8.9						
BVAR	**Borovoye Array**	**149.65**	**357**	PKPbc	**PKPbc**	**19 22 16.3**	**0.0**
	1.3nm,0.6s,baz=346,slow=3.1,SNR=7.5						
CMAR	**Chiang Mai Arr**	**150.37**	**268**	PKPbc	**PKiKP**	**19 22 19.9**	**0.0**
	0.6nm,0.7s,baz=104,slow=3.8,SNR=4.2						
KURBB	**Kurchatov Arra**	**150.85**	**346**	PKPbc	**PKPbc**	**19 22 19.3**	**0.0**
	0.5nm,0.2s,baz=23,slow=2.2,SNR=6.4						
MKAR	**Makanchi Array**	**153.19**	**337**	PKPbc	**PKPbc**	**19 22 24.8**	**0.0**
	1.4nm,0.8s,baz=46,slow=1.8,SNR=8.3						

*KRNET **20** 19:18:54.5±0.1,39.°77N×70.°32E,h12km,mb3.2*
*NNC **20** 19:18:55.2±3.7,39.°42N×70.°63E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=27.2km s-min=19.6km az=15.0*
*ISU **20** 19:18:56.9,39.°90N×70.°27E,h11km*
*SOME **20** 19:18:57.2,39.°82N×70.°58E,h5km*

ISC 20 19:18:55.9±0.8,39.°81N±0.°03×70.°34E±0.°02,h10km,n64, σ2s20/96,35C-10D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.45**	**56**	⇑*i*P	**Pg**	**19 19 03.8**	**-0.8**
	baz=53						
BTK				⇑*i*S	**Sb**	**19 19 10.7**	**-1.9**
	baz=53						
BTK	**Batken**	**0.45**	**56**	P	**Pg**	**19 19 03.8**	**-0.8**
BTK				S	**Sb**	**19 19 10.7**	**-1.9**
CHMI	**Chimion**	**1.02**	**63**	P	**Pg**	**19 19 14.6**	**-0.9**
CHMI				P	**Pg**	**19 19 14.6**	**-0.9**
CHMI				S	**Sn**	**19 19 29.5**	**-1.2**
CHMI				S	**Sn**	**19 19 29.5**	**-1.2**
DRK	**Karamyk**	**1.17**	**106**	⇓*e*P	**Pb**	**19 19 17.2**	**-1.2**
	baz=4.0						
DRK				⇓*e*S	**Sb**	**19 19 33.5**	**-0.3**
	baz=4.0						
CHGR	**Chuyangaron**	**1.47**	**219**	⇑*i*P	**Pn**	**19 19 21.5**	**-1.0**
	baz=19						
CHGR				⇑*i*S	**Sn**	**19 19 41.3**	**-0.6**
	baz=19						
NAM	**Namangan**	**1.55**	**40**	P	**Pg**	**19 19 26.4**	**+0.7**
NAM				S	**Sg**	**19 19 47.5**	**+1.7**
KSNS	**Kasansay**	**1.62**	**33**	P	**Pg**	**19 19 26.8**	**-0.2**
KSNS				S	**Sg**	**19 19 48.3**	**+0.2**
YNGY	**Yangiyul**	**1.64**	**323**	P	**Sg**	**19 19 48.9**	**+0.4**
KUMR	**Kumaryk**	**1.65**	**330**	P	**Pg**	**19 19 26.6**	**-0.9**
KUMR				S	**Sg**	**19 19 48.0**	**-0.9**
NZBK	**Nazarbek**	**1.69**	**327**	P	**Pg**	**19 19 28.5**	**+0.2**
TAS	**Tashkent**	**1.71**	**333**	P	**Pg**	**19 19 27.6**	**-1.1**
TAS				S	**Sg**	**19 19 49.6**	**-1.3**
TGS	**TashGRES**	**1.73**	**339**	P	**Sg**	**19 19 51.7**	**+0.2**
CHMG	**Chimgan**	**1.76**	**352**	P	**Pb**	**19 19 27.3**	**-1.0**
BXML	**Bakhmal**	**1.78**	**267**	P	**Pg**	**19 19 31.3**	**+1.2**
BXML				S	**Sg**	**19 19 57.3**	**+4.1**
ANR	**Andizhan**	**1.81**	**58**	P	**Pg**	**19 19 30.9**	**+0.3**
ANR				S	**Sg**	**19 19 55.6**	**+1.5**
TRKS	**Terek-Say**	**1.82**	**19**	⇑*i*P	**Pb**	**19 19 28.2**	**-1.3**
	baz=21						
TRKS				⇑*i*S	**Sg**	**19 19 53.0**	**-1.6**
	baz=21						
CHRV	**Charvak**	**1.85**	**351**	P	**Pb**	**19 19 29.8**	**-0.1**
DZI	**Dzhizak**	**1.96**	**280**	P	**Sg**	**19 19 58.0**	**-0.8**
OHH	**Osh**	**2.01**	**68**	⇑*i*P	**Pb**	**19 19 31.9**	**-0.6**

ULHL				⇑*i*S		**Sn**	**19 21 13.4**	**+2.2**
	baz=59								
KST	**Kastek**	**5.32**	**51**	*e*Pg		**Pg**	**19 20 34.5**	**-3.3**
	3.2nm,1.0s								
KST				*e*Lg		Lg	19 21 44.9		
	8.3nm,0.6s								
KST	**Kastek**	**5.32**	**51**	Pg		**Pg**	**19 20 36.9**	**-0.9**
	3.2nm,1.0s								
KST				Lg		Lg	19 21 44.9		
	8.3nm,0.6s								
DGS	**Degeres**	**5.33**	**48**	*e*Pg		**Pb**	**19 20 32.2**	**+3.1**
	3.4nm,0.6s								
DGS				*e*Lg		Lg	19 21 40.9		
	7.8nm,0.8s								
DGS	**Degeres**	**5.33**	**48**	Pg		**Pg**	**19 20 36.6**	**-1.3**
	3.4nm,0.6s								
DGS				Lg		Lg	19 21 44.4		
	7.8nm,0.8s								
KRBS	**Karabastau**	**5.57**	**44**	*e*Pg		**Pg**	**19 20 37.8**	**-4.7**
	1.9nm,0.4s								
KRBS				*e*Lg		Lg	19 21 50.1		
	2.5nm,0.6s								
KRBS	**Karabastau**	**5.57**	**44**	Pg		**Pg**	**19 20 40.1**	**-2.4**
	1.9nm,0.4s								
KRBS				Lg		Lg	19 21 50.7		
	2.5nm,0.6s								
BTLS	**Baital**	**5.91**	**26**	*e*Pg		Pg	19 20 43.5	-5.4	
	1.3nm,0.3s								
BTLS				*e*Lg		Lg	19 21 60.0		
	4.0nm,0.6s								
BTLS	**Baital**	**5.91**	**26**	Pg		**Pg**	**19 20 46.3**	**-2.6**
	1.3nm,0.3s								
BTLS				Lg		Lg	19 22 01.2		
	4.0nm,0.6s								
KUU	**Kurty**	**6.06**	**46**	*e*Pg		Pg	19 20 45.9	-6.0	
	1.5nm,0.2s								
KUU				*e*Lg		Lg	19 22 04.2		
	4.3nm,0.6s								
KTBS	**Karatobe**	**6.14**	**48**	*e*Pg		Pg	19 20 47.9	-5.6	
	0.9nm,0.4s								
KTBS				*e*Lg		Lg	19 22 07.5		
	5.6nm,0.7s								
KTBS	**Karatobe**	**6.14**	**48**	Pg		**Pg**	**19 20 50.5**	**-3.0**
	0.9nm,0.4s								
KTBS				Lg		Lg	19 22 08.3		
	5.6nm,0.7s								

IDC 20 19:19:14.7±1.4,5˚43N×124˚59E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=45.8km s-min=21.6km az=94.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.91**	**31**	Pn	Pb	19 19 49.6	-0.7
	56nm,0.3s,baz=150,slow=20,SNR=1.9						
DAV				Sn	Sn	19 20 13.3	0.0
	122nm,0.3s,baz=165,slow=21,SNR=6.9						
WRA	**Warramunga Arr**	**26.97**	**159**	P	P	19 24 59.1	+0.9
	0.3nm,0.7s,baz=342,slow=9.7,SNR=1.8						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**30.31**	**163**	P	P	19 25 28.1	+0.1
	0.2nm,0.3s,baz=344,slow=7.3,SNR=8.6						
ASAR				PcP	PcP	19 28 26.6	-2.0
	0.1nm,0.4s,baz=338,slow=2.6,SNR=1.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**54.96**	**326**	P	P	19 28 47.7	+0.1
	0.2nm,0.6s,baz=115,slow=9.7,SNR=2.0						
	0.2nm,0.6s						

*IDC **20** 19:22:56.1±1.0,3˚79N×118˚32E,h0km,mb3.5/7, mbtmp3.5/7,MS3.2/4,Error ellipse: s-maj=156.9km s-min=19.6km az=62.0*
*DJA **20** 19:22:59.6±2.6,3˚N±4˚×11˚8E±˚,h20km±23km,M4.1/7, mb4.3/5,MLv4.1/7*

ISC 20 19:23:00.7±0.9,3˚4N±0˚1×117˚6E±0˚1,h35km,n15, σ0s71/12,mb3.6/7,MS3.2/3,Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**3.76**	**143**	P	**Pn**	**19 23 55.6**	**-0.6**
MRSI	**Marisa**	**5.16**	**124**	P	**Pn**	**19 24 15.1**	**-0.4**
	28nm,0.5s,0.3nm						
TTSI	**Tana Toraja**	**6.73**	**161**	P	**Pn**	**19 24 36.6**	**-0.4**
	26nm,0.7s,0.1nm						
BBKI	**Banjar Baru**	**7.34**	**202**	P	**Pn**	**19 24 44.9**	**-0.5**
KAPI	**Kappang**	**8.58**	**166**	LR	LR	19 29 14.1	
	comp=Z,108nm,19.2s,baz=352,slow=43						
CMAR	**Chiang Mai Arr**	**23.67**	**311**	LR	LR	19 37 15.3	
	comp=Z,50nm,19.3s,baz=135,slow=36						
WRA	**Warramunga Arr**	**28.38**	**145**	P	**P**	**19 28 52.0**	**+0.1**
	0.7nm,0.9s,baz=332,slow=9.5,SNR=4.0						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**31.19**	**150**	P	**P**	**19 29 17.8**	**+1.0**
	0.7nm,0.7s,baz=330,slow=8.1,SNR=8.4						
	0.7nm,0.7s						
STKA	**Stephens Creek**	**41.79**	**149**	LR	LR	19 50 42.9	
	comp=Z,36nm,21.5s,baz=213,slow=40						
SONM	**Songino Array**	**45.35**	**349**	P	**P**	**19 31 15.0**	**-0.6**
	0.2nm,0.6s,baz=165,slow=7.2,SNR=1.7						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**53.00**	**330**	P	**P**	**19 32 14.6**	**+0.5**
	0.4nm,0.6s,baz=128,slow=7.9,SNR=3.5						
MKAR				PcP	**PcP**	**19 33 23.8**	**+1.3**
	0.6nm,0.6s,baz=143,slow=3.5,SNR=5.9						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**57.12**	**338**	P	**P**	**19 32 43.0**	**-0.6**
	0.3nm,0.4s,baz=134,slow=6.2,SNR=1.6						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**57.43**	**332**	P	**P**	**19 32 45.7**	**-0.2**
	0.3nm,0.3s,baz=130,slow=7.7,SNR=4.9						
	0.3nm,0.3s						
MA2	**Magadan**	**61.60**	**18**	LR	LR	19 57 49.3	
	comp=Z,23nm,21.9s,baz=111,slow=34						
BVAR	**Borovoye Array**	**62.89**	**330**	P	**P**	**19 33 23.2**	**0.0**
	0.4nm,0.7s,baz=152,slow=6.5,SNR=1.9						
	0.4nm,0.7s						

IDC 20 19:35:49.2±2.3,3˚00N×126˚02E,h0km,mb3.2/3, mbtmp3.3/3,MS3.1/1,Error ellipse: s-maj=199.2km s-min=29.5km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.22**	**161**	P	P	19 41 06.7	-1.2
	0.5nm,0.8s,baz=339,slow=10,SNR=4.9						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**27.60**	**164**	P	P	19 41 40.0	+1.6
	0.4nm,0.9s,baz=344,slow=12,SNR=2.5						
	0.4nm,0.9s						
KLR	**Kul'dur**	**46.32**	**5**	LR	LR	20 04 01.7	
	comp=Z,24nm,20.8s,baz=143,slow=36						
MKAR	**Makanchi Array**	**57.75**	**326**	P	P	19 45 41.8	-0.3
	0.1nm,0.4s,baz=115,slow=7.2,SNR=1.6						
	0.1nm,0.4s						

*IDC **20** 19:57:35.3±0.6,35˚56N×50˚92E,h0km,mb4.5/23, mbtmp4.4/33,ML3.8/10,MS4.0/40,Error ellipse: s-maj=13.4km s-min=8.9km az=1.0*
*MOS **20** 19:57:35.9±1.2,35˚55N×50˚96E,h14km,mb5.0/53,Error ellipse: s-maj=4.1km s-min=2.7km az=129.5*
*BGR **20** 19:57:37.0,35˚71N×51˚72E,h33km,mb4.8,Ms3.8*
*TEH **20** 19:57:37.3,35˚68N×50˚95E,h13km±20km,ML5.2*
*BJI **20** 19:57:37.0,35˚70N×51˚00E,h7km,mb4.4/41,mB5.2/16, Ms4.6/29,Ms7 4.4/29*
*THR **20** 19:57:37.5±0.7,35˚69N×50˚94E,h16km±2km,ML5.1*
*NEIC **20** 19:57:38.1±2.3,35˚65N±0˚09×50˚96E±0˚08,h10km±1km, mb4.9/90,Error ellipse: s-maj=14.5km s-min=10.6km az=188.0*
*GCMT **20** 19:57:40.1±0.2,35˚65N±0˚01×50˚86E±0˚02,h30km±1km, MW4.9/98,Moment Tensor Solution. s36,c40; s98,c141; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.43±.13; $M_{\theta\theta}$-2.08±.11; $M_{\phi\phi}$1.65±.10; $M_{r\theta}$0.95±.15; $M_{r\phi}$1.99±.08; $M_{\theta\phi}$0.87±.14; Best double couple: $M_0$3.03800×10^{16} NP1:ϕ_c71.00000°,δ80.00000°,λ24.00000°. NP2: ϕ_s336.00000°,δ66.00000°,λ169.00000°. Principal axes: T 3.0490, Plg25.0000°, Azm296.0000°; N -0.0200, Plg64.0000°, Azm92.0000°; P -3.0280, Plg9.0000°, Azm201.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*GII **20** 19:57:40.0±0.0,35˚69N×50˚96E,h7km*
*DSN **20** 19:57:40.8±1.4,35˚50N×51˚35E,h10km,mb5.3/1,Error ellipse: s-maj=61.8km s-min=12.1km az=62.0*
*AZER **20** 19:57:41.6±0.8,35˚60N×50˚56E,h10km,Error ellipse: s-maj=9.2km s-min=5.2km az=57.0*

ISC 20 19:57:37.9±0.4,35˚63N±0˚02×50˚96E±0˚02,h12km±2km, h13km:pP-P,n785,σ1s97/821,mb4.8/162,MS4.1/52, 60C-60D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMHD	**Mahdasht**	**0.25**	**282**	Pg	**Pg**	**19 57 42.5**	**-0.6**
IMHD				*e*Sg	**Sg**	**19 57 46.4**	**-0.3**
THKV	**Tehran--Karaj**	**0.29**	**346**	⇓*i*Pg	**Pg**	**19 57 43.2**	**-0.8**
THKV				*e*Sg	**Sg**	**19 57 47.5**	**-0.6**
THKV				IAML		19 57 48.4	
	comp=E,201μm,0.5s						
CHTH	**Charan**	**0.30**	**25**	⇓*i*Pg	**Pg**	**19 57 43.2**	**-1.1**
CHTH				*e*Sg	**Sg**	**19 57 47.5**	**-1.0**
IHSB	**Hasanabad**	**0.32**	**127**	Pg	**Pg**	**19 57 44.6**	**+0.2**
IHSB				Sg	**Sb**	**19 57 50.2**	**-0.6**
TEH	**Tehran**	**0.35**	**73**	Pg	**Pg**	**19 57 44.9**	**-0.3**
TEH				Sg	**Sb**	**19 57 50.5**	**-1.3**
TEH	**Tehran**	**0.35**	**73**	P	**Pg**	**19 57 44.8**	**-0.3**
IQOM	**Qom**	**0.79**	**174**	Pg	**Pg**	**19 57 53.4**	**+0.1**
DAMV	**Damavand**	**0.82**	**90**	⇑*i*Pg	**Pb**	**19 57 53.9**	**-0.4**
IDMV	**Damavand**	**0.87**	**93**	Pg	**Pg**	**19 57 54.0**	**-0.9**
IRAZ	**Razeghan**	**0.88**	**255**	Pg	**Pg**	**19 57 54.0**	**-0.9**
IRAZ				Sg	**Sg**	**19 58 06.1**	**-0.2**
KLST	**Kelardasht - M**	**0.89**	**5**	Pg	**Pg**	**19 57 53.4**	**-1.7**
IVRN	**Varamin**	**0.89**	**135**	Pg	**Pg**	**19 57 54.9**	**-0.3**
MZPU	**Pul - Mazandar**	**0.94**	**31**	Pg	**Pg**	**19 57 54.5**	**-1.6**
GHVR	**GHOM**	**1.18**	**167**	⇓*i*Pg	**Pb**	**19 58 00.2**	**0.0**
GHVR				*e*Sg	**Sn**	**19 58 17.4**	**+1.1**
GHVR				IAML		19 58 22.6	
	comp=E,91μm,0.6s						
GHVR				IAML		19 58 23.0	
	comp=N,68μm,0.4s						
IPRN	**Peran**	**1.27**	**61**	Pg	**Pn**	**19 58 01.0**	**-0.6**
ASAO	**Ashtian**	**1.33**	**216**	⇓*i*Pg	**Pn**	**19 58 02.5**	**0.0**
ASAO				*e*Sg	**Sg**	**19 58 21.2**	**+0.4**
ASAO				IAML		19 58 22.4	
	comp=N,23μm,0.3s						
ASAO				IAML		19 58 22.5	
	comp=E,21μm,0.6s						
JIR1	**Jirandeh**	**1.43**	**319**	Pg	**Pn**	**19 58 02.8**	**-1.0**
IFIR	**Firoozkooh**	**1.46**	**89**	Pg	**Pn**	**19 58 03.9**	**-0.4**
GIDE	**GILAN DEYLAMAN**	**1.54**	**327**	⇑*i*Pg	**Pn**	**19 58 05.0**	**-0.4**
GIDE				IAML		19 58 34.8	
	comp=N,66μm,0.6s						
GIDE				IAML		19 58 37.4	
	comp=E,48μm,0.7s						
IALA	**Alasht**	**1.56**	**73**	Pg	**Pn**	**19 58 06.1**	**+0.3**
ILAS	**Lasjerd**	**1.65**	**98**	Pg	**Pb**	**19 58 07.6**	**-0.7**
ISFB	**Sefidab**	**1.65**	**140**	Pg	**Pb**	**19 58 07.9**	**-0.5**
QSDN	**Sirdan**	**1.69**	**301**	Pg	**Pn**	**19 58 07.3**	**-0.2**
LHJ2	**Lahijan - Gila**	**1.69**	**335**	Pg	**Pb**	**19 58 08.1**	**-0.9**
HAGD	**Aghdareh**	**1.70**	**242**	Pg	**Pb**	**19 58 08.6**	**-0.6**
KRSH	**Karshahi**	**1.92**	**150**	Pn	**Pn**	**19 58 11.6**	**+1.1**
QAMS	**Qamsar**	**1.93**	**169**	Pn	**Pb**	**19 58 12.1**	**-1.0**
KHMZ	**Khomeyn**	**2.06**	**204**	⇓*i*Pn	**Pb**	**19 58 14.2**	**-1.2**
KHMZ				IAML		19 58 46.8	
	comp=E,12μm,0.3s						
KHMZ				IAML		19 58 47.5	
	comp=N,9μm,0.6s						
ZNJK	**Zanjan**	**2.12**	**300**	⇑*i*Pn	**Pn**	**19 58 13.5**	**+0.2**
ZNJK				*e*Sg	**Sb**	**19 58 42.8**	**+0.2**
IKLH	**Kolahrood**	**2.36**	**167**	Pn	**Pn**	**19 58 18.5**	**+1.8**
IANJ	**Anjilo**	**2.41**	**93**	Pn	**Pn**	**19 58 18.6**	**+1.2**
IALM	**Almabolaq**	**2.42**	**252**	Pn	**Pn**	**19 58 18.8**	**+1.4**
CSN1	**Caspian**	**2.44**	**323**	Pn	**Pn**	**19 58 18.1**	**+0.5**
IGLO	**Ghaloghah**	**2.48**	**69**	Pn	**Pb**	**19 58 20.6**	**-1.9**
IBZA	**Bozab**	**2.80**	**246**	Pn	**Pn**	**19 58 24.8**	**+2.1**
IPIR	**Pirpir**	**2.94**	**181**	Pn	**Pb**	**19 58 28.0**	**-2.5**
IZEF	**Zefreh**	**2.96**	**157**	Pn	**Pn**	**19 58 27.0**	**+2.2**
SNGE	**Sanandaj**	**3.00**	**261**	⇑*i*Pn	**Pn**	**19 58 26.9**	**+1.4**
SNGE				IAML		19 59 14.2	
	comp=N,3μm,0.6s						
SNGE				IAML		19 59 22.7	
	comp=E,3μm,0.7s						
IKOM	**Komasi**	**3.19**	**244**	Pn	**Pn**	**19 58 30.7**	**+2.7**
NASN	**Na'in**	**3.21**	**151**	⇓*i*Pn	**Pn**	**19 58 30.4**	**+2.0**
NASN				IAML		19 59 19.6	
	comp=N,2μm,0.7s						
GAS1	**Astara - Iran**	**3.23**	**329**	Pn	**Pn**	**19 58 28.4**	**0.0**
IKFM	**Kafar-mosalman**	**3.32**	**232**	Pn	**Pn**	**19 58 32.6**	**+3.0**
ANAR	**Anarak**	**3.34**	**136**	Pn	**Pn**	**19 58 32.0**	**+1.9**
IGAR	**Gharneh**	**3.34**	**164**	Pn	**Pn**	**19 58 33.4**	**+3.3**
ILIN	**Lien**	**3.35**	**259**	Pn	**Pn**	**19 58 32.0**	**+1.7**
ASTR	**Astara**	**3.40**	**330**	P	**Pn**	**19 58 30.9**	**+0.2**
	SNR=160						
ASTR				S	**Sn**	**19 59 13.8**	**+2.8**
JHBN	**Jahan bin**	**3.40**	**184**	Pn	**Pn**	**19 58 33.9**	**+2.8**
IHSH	**Hashtrud**	**3.42**	**300**	Pn	**Pn**	**19 58 31.2**	**-0.1**
ISRB	**Sarab**	**3.44**	**311**	Pn	**Pn**	**19 58 32.0**	**+0.6**
KCHF	**Cheshme Sefid,**	**3.50**	**248**	Pn	**Pn**	**19 58 34.5**	**+2.3**
ZNGN	**Zangian**	**3.51**	**182**	Pn	**Pn**	**19 58 35.0**	**+2.5**
LKRN	**Lenkeran, Azer**	**3.53**	**331**	P	**Pn**	**19 58 32.5**	**0.0**
	SNR=140						
LKRN				S	**Sn**	**19 59 14.8**	**+0.6**
LKRN	**Lenkeran, Azer**	**3.53**	**331**	P	**Pn**	**19 58 32.5**	**0.0**
LRK	**Lerik**	**3.66**	**326**	P	**Pn**	**19 58 34.8**	**+0.3**
	SNR=394						
LRK				S	**Sn**	**19 59 18.7**	**+1.0**
IBRJ	**Brojen**	**3.72**	**176**	Pn	**Pn**	**19 58 38.3**	**+2.9**
IGHG	**Ghaleghazi**	**3.84**	**251**	Pn	**Pn**	**19 58 39.0**	**+2.0**
IDHR	**Dehrash**	**3.86**	**257**	Pn	**Pn**	**19 58 39.0**	**+1.7**
IMND	**Minoodasht**	**3.93**	**64**	Pn	**Pn**	**19 58 38.4**	**+0.3**
YRD	**Yardimli**	**3.93**	**327**	P	**Pn**	**19 58 38.5**	**+0.3**
	SNR=1022						
YRD				S	**Sn**	**19 59 25.7**	**+1.3**
IRAM	**Ramesheh**	**3.99**	**162**	Pn	**Pn**	**19 58 41.7**	**+2.6**
GRMI	**Germi**	**4.01**	**323**	*i* Pn	**Pn**	**19 58 40.0**	**+0.8**
GRMI				IAML		19 59 44.6	
	comp=E,1μm,0.7s						
GRMI				IAML		19 59 46.6	
	comp=N,1μm,0.4s						
GRMI	**Germi**	**4.01**	**323**	Pn	**Pn**	**19 58 39.8**	**+0.6**
SHRO	**Shahrood**	**4.12**	**84**	⇓*e*Pn	**Pn**	**19 58 42.1**	**+1.4**
IHRS	**Heris**	**4.13**	**312**	Pn	**Pn**	**19 58 41.1**	**+0.1**
GLBA	**Ollabad**	**4.14**	**331**	P	**Pn**	**19 58 41.3**	**+0.4**
	SNR=177						
GLBA				S	**Sn**	**19 59 30.7**	**+1.5**
AMIS	**Naft Sefid**	**4.20**	**200**	Pn	**Pn**	**19 58 44.3**	**+2.6**
ISAD	**Sadrabad**	**4.35**	**148**	Pn	**Pn**	**19 58 46.8**	**+2.8**
MAHB	**Mahabad**	**4.40**	**286**	Pn	**Pn**	**19 58 45.0**	**+0.3**
ILBA	**Ilam Banvizeh**	**4.40**	**244**	*e*Pn	**Pn**	**19 58 45.9**	**+1.2**
ILBA				IAML		20 00 10.6	
	comp=N,894nm,0.7s						
ILBA	**Ilam Banvizeh**	**4.40**	**244**	Pn	**Pn**	**19 58 44.9**	**+0.3**
YZKH	**Yazd**	**4.42**	**136**	⇑*i*Pn	**Pn**	**19 58 47.0**	**+2.2**
YZKH				IAML		20 00 18.6	
	comp=E,903nm,0.6s						
YZKH				IAML		20 00 27.2	
	comp=N,2μm,0.8s						
ICHK	**Chekchek**	**4.43**	**139**	Pn	**Pn**	**19 58 47.2**	**+2.1**
SDS1	**Sardasht. Az.**	**4.48**	**278**	Pn	**Pn**	**19 58 47.1**	**+1.4**
IAZR	**Azarshahr**	**4.50**	**298**	Pn	**Pn**	**19 58 46.6**	**+0.6**
KGS1	**Ghasr-e-Shirin**	**4.55**	**257**	Pn	**Pn**	**19 58 47.7**	**+1.1**
ALIB	**Äli-Bayra**	**4.59**	**341**	P	**Pn**	**19 58 49.5**	**+2.5**
	SNR=21						
ALIB				S	**Sn**	**19 59 44.4**	**+4.1**
MRVT	**Maraveh tapeh**	**4.59**	**62**	⇓*i*Pn	**Pn**	**19 58 48.1**	**+0.9**
MRVT	**Maraveh tapeh**	**4.59**	**62**	Pn	**Pn**	**19 58 48.0**	**+0.8**
KLNJ	**Kolanjah**	**4.64**	**173**	Pn	**Pn**	**19 58 49.5**	**+1.3**
ITBZ	**Tabriz**	**4.65**	**305**	Pn	**Pn**	**19 58 47.3**	**-0.8**
SAAT	**Saatly**	**4.68**	**335**	P	**Pn**	**19 58 51.7**	**+3.5**
	SNR=9.7						
SAAT				S	**Sn**	**19 59 46.2**	**+3.7**
QRD	**Qoradiz**	**4.79**	**324**	P	**Pn**	**19 58 51.2**	**+1.3**
	SNR=66						
QRD				S	**Sn**	**19 59 47.8**	**+2.5**
GALA	**Gala**	**4.81**	**353**	P	**Pn**	**19 58 54.0**	**+3.9**
	SNR=6.5						
GALA				S	**Sn**	**19 59 50.9**	**+5.1**
GOBA	**Gobu**	**4.86**	**349**	P	**Pn**	**19 58 55.0**	**+4.2**
	SNR=49						
GOBA				S	**Sn**	**19 59 51.3**	**+4.3**
BLQ	**Beylaqan**	**4.89**	**328**	P	**Pn**	**19 58 52.6**	**+1.3**
	SNR=131						
BLQ				S	**Sn**	**19 59 49.3**	**+1.5**
TNSJ	**Nastanj**	**4.93**	**108**	Pn	**Pn**	**19 58 53.0**	**+1.1**
NDR	**Nardaran**	**5.00**	**351**	P	**Pn**	**19 58 55.9**	**+3.2**
	SNR=21						
NDR				S	**Sn**	**19 59 53.7**	**+3.3**
ISHB	**Shabestar**	**5.03**	**303**	Pn	**Pn**	**19 58 52.3**	**-1.1**
GBS	**Qobustan**	**5.15**	**343**	P	**Pn**	**19 58 58.4**	**+3.5**
	SNR=97						
GBS				S	**Sn**	**19 59 57.2**	**+3.0**
ORD	**Ordubad**	**5.15**	**311**	P	**Pn**	**19 58 55.9**	**+1.0**
	SNR=36						
ORD				S	**Sb**	**20 00 09.6**	**-0.2**
IMRD	**Marand**	**5.21**	**308**	Pn	**Pn**	**19 58 57.2**	**+1.4**
IMEH	**Mehriz**	**5.21**	**143**	Pn	**Pn**	**19 58 57.5**	**+1.6**
KDMR	**Kurdemir**	**5.22**	**336**	P	**Pn**	**19 58 57.0**	**+1.3**
	SNR=35						
KDMR				S	**Sn**	**19 59 57.4**	**+1.6**
ZRD	**Zardab**	**5.31**	**332**	P	**Pn**	**19 58 58.7**	**+1.7**
	SNR=64						
ZRD				S	**Sn**	**20 00 01.6**	**+3.5**
TPRV	**Parvadeh(Tabas**	**5.40**	**117**	Pn	**Pn**	**19 59 00.3**	**+2.0**
AGDM	**Agdam**	**5.41**	**327**	P	**Pn**	**19 59 00.3**	**+1.9**
	SNR=30						
AGDM				P	**Pn**	**19 59 00.3**	**+1.9**
	SNR=30						
AGDM				S	**Sn**	**20 00 03.8**	**+3.2**
AGDM				S	**Sn**	**20 00 03.8**	**+3.2**
SBZV	**Sabzevar**	**5.44**	**80**	Pn	**Pn**	**19 59 00.3**	**+1.3**
TABS	**Tabas**	**5.45**	**110**	⇑*i*Pn	**Pn**	**19 59 00.7**	**+1.7**
ATGJ	**Altiaghaj**	**5.46**	**344**	P	**Pn**	**19 59 01.3**	**+2.1**
	SNR=136						
ATGJ				S	**Sn**	**20 00 03.6**	**+1.7**
TKDS	**Koohdasht(Taba**	**5.46**	**110**	Pn	**Pn**	**19 59 00.7**	**+1.5**
PQL	**Pirkuli**	**5.48**	**341**	P	**Pn**	**19 59 01.2**	**+1.8**
	SNR=274						
PQL				S	**Sn**	**20 00 04.5**	**+2.1**
BRDA	**Brd**	**5.51**	**328**	P	**Pn**	**19 59 01.3**	**+1.6**
	SNR=24						
BRDA				S	**Sn**	**20 00 04.2**	**+1.4**
IBAF	**Bafgh**	**5.57**	**135**	Pn	**Pn**	**19 59 03.0**	**+2.3**
BJRD	**Bojnurd**	**5.58**	**66**	⇓*e*Pn	**Pn**	**19 59 02.4**	**+1.6**
IML	**Ismayilli**	**5.60**	**338**	P	**Pn**	**19 59 01.9**	**+0.9**
	SNR=36						
IML				S	**Sn**	**20 00 09.3**	**+4.0**
NAX	**Nakhchivan**	**5.61**	**311**	P	**Pn**	**19 59 02.6**	**+1.5**
	SNR=26						
NAX				S	**Sb**	**20 00 19.1**	**-3.8**
NAX	**Nakhchivan**	**5.61**	**311**	P	**Pn**	**19 59 02.6**	**+1.5**
SIZA	**Siyzn**	**5.67**	**344**	P	**Pn**	**19 59 04.6**	**+2.6**
	SNR=169						
SIZA				S	**Sn**	**20 00 09.2**	**+2.1**
SBZ	**Shahbuz**	**5.71**	**313**	P	**Pn**	**19 59 03.8**	**+1.2**
	SNR=63						
SBZ				S	**Sg**	**20 00 34.7**	**-6.5**
QBL	**Gabala**	**5.85**	**336**	P	**Pn**	**19 59 05.6**	**+1.2**
	SNR=161						
QBL				P	**Pn**	**19 59 05.6**	**+1.2**
	SNR=161						
QBL				S	**Sn**	**20 00 12.2**	**+0.8**
QBL				S	**Sn**	**20 00 12.2**	**+0.8**
XNQ	**Khinaliq**	**5.96**	**339**	P	**Pn**	**19 59 07.0**	**+0.9**
	SNR=68						
XNQ				P	**Pn**	**19 59 07.0**	**+0.9**
	SNR=68						
XNQ				S	**Sn**	**20 00 13.8**	**-0.6**
XNQ				S	**Sn**	**20 00 13.8**	**-0.6**
MNGR	**Mingechevir, A**	**5.97**	**330**	P	**Pn**	**19 59 08.3**	**+2.2**
	SNR=18						
MNGR				S	**Sn**	**20 00 16.9**	**+2.5**
MNGR	**Mingechevir, A**	**5.97**	**330**	P	**Pn**	**19 59 08.2**	**+2.2**
QUBA	**Quba, Azerbaij**	**6.03**	**342**	P	**Pn**	**19 59 08.6**	**+1.6**
	SNR=125						
QUBA				P	**Pn**	**19 59 08.6**	**+1.6**
	SNR=125						
QUBA				S	**Sn**	**20 00 16.4**	**+0.5**
QUBA				S	**Sn**	**20 00 16.4**	**+0.5**
SHI	**Shiraz**	**6.12**	**167**	Pn	**Pn**	**19 59 10.2**	**+1.9**
GEYT	**Alibeck**	**6.18**	**66**	Pn	**Pn**	**19 59 09.7**	**+0.7**
	comp=N,4.3nm,0.3s,baz=43,slow=20,SNR=39						
GEYT				Pg	**Pb**	**19 59 28.6**	**+3.1**
	comp=N,10nm,0.3s,baz=252,slow=18,SNR=12						
GEYT				Lg	Lg	20 00 52.6	
	comp=N,2.6nm,0.3s,baz=339,slow=15,SNR=3.8						
GEYT				LR	LR	20 02 05.1	
	comp=N,2μm,19.9s,baz=260,slow=43						
	comp=N,16nm,0.5s						
GYA0	**ALIBECK ARRAY**	**6.18**	**66**	P	**Pn**	**19 59 09.7**	**+0.7**
GYA0B	**ALIBECK ARRAY**	**6.18**	**66**		**Pn**	**19 59 09.7**	**+0.7**
GANJ	**Ganja**	**6.20**	**325**	P	**Pn**	**19 59 10.2**	**+1.0**
	SNR=43						
GANJ				P	**Pn**	**19 59 10.2**	**+1.0**
	SNR=43						
GANJ				S	**Sn**	**20 00 20.6**	**+0.5**
GANJ				S	**Sn**	**20 00 20.6**	**+0.5**
GANJ	**Ganja**	**6.20**	**325**	P	**Pn**	**19 59 10.2**	**+1.0**
MAKU	**Maku**	**6.22**	**309**	⇑*i*Pn	**Pn**	**19 59 10.5**	**+0.8**
MAKU	**Maku**	**6.22**	**309**	Pn	**Pn**	**19 59 09.5**	**-0.2**
**QS

comp=Z,852nm,13.0s
IDAH Dahanechah 7.92 109 Pn Pn 19 59 34.5 +1.4
BTLR Botlikh 7.93 334 eP Pn 19 59 34.9 +1.9
BTLR pmax pmax
comp=Z,92nm,0.7s
SHRT Shahrakht 7.94 102⇑ iPn Pn 19 59 34.9 +1.7
SHRT Shahrakht 7.94 102 Pn Pn 19 59 34.8 +1.6
KARS Kars 7.97 311 Pn Pn 19 59 34.0 +0.4
KARS Kars 7.97 311 P Pn 19 59 34.0 +0.4
CHMN Cheshme madani 7.99 134 Pn Pn 19 59 36.8 +2.7
DBC Dubki 8.04 338 eP Pn 19 59 36.5 +1.9
DBC pmax pmax
comp=Z,107nm,0.5s
AKH Akhalkalaki 8.22 317 Pn Pn 19 59 38.8 +1.7
AKH Akhalkalaki 8.22 317 P Pn 19 59 38.8 +1.7
NHDN Nehbandan 8.68 117 Pn Pn 19 59 46.2 +2.7
ZEI Tsey 9.00 325 eP Pn 19 59 48.7 +0.9
ZEI pmax pmax
comp=Z,40nm,0.7s
KBAM BAM 9.05 134 Pn Pn 19 59 52.7 +4.2
ONI Oni 9.07 322 Pn Pn 19 59 50.1 +1.4
ONI Oni 9.07 322 P Pn 19 59 50.1 +1.4
BNDS Bandar-Abbas 9.33 150 ePn Pn 19 59 55.0 +2.6
GENO Geno 9.33 150 Pn Pn 19 59 54.8 +2.4
HRA Herat 9.34 94 Pn Pn 19 59 52.2 -0.3
KHNJ Kahmooj 9.57 141 Pn Pn 19 59 58.6 +3.1
SAKB Bahrain 9.63 182 P Pn 19 59 57.5 +1.2
SHMA Al-Shehemyia 9.74 180 P Pn 19 59 59.0 +1.1
SNR=11
KBZ Khabaz 10.19 325 deP Pn 20 00 08.2 +4.3
KBZ Khabaz 10.19 325 Pn Pn 20 00 07.3 +3.3
comp=Z,0.4nm,0.3s,baz=160,slow=8.4,SNR=14
KBZ Sn Sn 20 02 00.1 +2.0
baz=270,slow=20
comp=Z,6.2nm,0.8s
ZHSF Zahedan 10.22 123 ePn Pn 20 00 07.0 +2.4
SHA1 Shidzhatmaz 10.31 324 eP Pn 20 00 09.8 +4.0
PYA1 Pyatigorsk 10.36 327 di P Pn 20 00 09.6 +3.3
ZHDN Zahedan 10.38 124 Pn Pn 20 00 09.1 +2.4
KVAR Kislovodsk Arr 10.46 325 Pn Pn 20 00 08.8 +1.1
baz=253,slow=20
comp=Z,2.6nm,0.6s
KIV Kislovodsk 10.47 325 Pn Pn 20 00 09.0 +1.2
KIV Kislovodsk 10.47 325 P Pn 20 00 13.3 +5.5
KIV Kislovodsk 10.47 325 eP Pn 20 00 08.6 +0.8
KIV eS Sn 20 02 08.3 +3.3
KIV pmax pmax
comp=Z,39nm,1.1s
KIV MLR MLR
comp=Z,154nm,12.0s
SHME Shamm 10.53 154 P Pn 20 00 08.9 +0.2
ARPR Arapgir-MALATY 10.63 293 Pn Pn 20 00 11.2 +1.1
JRN Qarnain Island 10.78 171 P Pn 20 00 11.5 -0.5
SMRA Abu-Samra 10.85 181 P Pn 20 00 12.9 -0.1
SNR=14
TRNA Turayna 10.86 179 P Pn 20 00 14.0 +0.8
SNR=10
TRNA S Sn 20 02 12.7 -2.0
MASF Masafi 11.16 155 P Pn 20 00 17.7 +0.4
MASF S Sn 20 02 19.4 -2.7
MSFE Esma-Masafi 11.17 155 P Pn 20 00 17.3 -0.2
MSFE S Sn 20 02 21.4 -0.9
GOF Gofitskoye 11.18 330 ceP Pn 20 00 18.3 +0.8
GAZ Gaziantep 11.19 282 Pn Pn 20 00 13.8 -3.9
NAZ Nazwa, Dubai 11.36 158 P Pn 20 00 20.0 +0.1
JASK Jask - Hormozg 11.40 147 P Pn 20 00 22.2 +1.7
JASK Jask - Hormozg 11.40 147 Pn Pn 20 00 23.0 +2.5
FAQ Al Faqa, Dubai 11.56 159 P Pn 20 00 22.5 -0.3
FAQ Al Faqa, Dubai 11.56 159 P Pn 20 00 23.5 +0.7
FAQ P Pn 20 00 23.5 +0.7
AJN Ajban 11.57 161 P Pn 20 00 23.7 +0.9
UOSS Minazif 11.57 156 Pn Pn 20 00 22.7 -0.2
UOSS Minazif 11.57 156 P Pn 20 00 22.8 -0.1
UOSS Minazif 11.57 156 P Pn 20 00 23.0 +0.1
UOSS S Sn 20 02 30.6 -1.5
ASUD Al Ashush, Dub 11.60 160 P Pn 20 00 22.8 -0.5
ASUD Al Ashush, Dub 11.60 160 P Pn 20 00 23.8 +0.5
ASUD S Sn 20 02 34.8 +2.0
HATD Hatta, Dubai 11.66 156 P Pn 20 00 25.2 +1.1
HATD Hatta, Dubai 11.66 156 P Pn 20 00 25.4 +1.3
HATD S Sn 20 02 34.7 +0.5
ASHO Ashiyiah 11.77 157 P Pn 20 00 25.2 -0.4
ASHO Ashiyiah 11.77 157 P Pn 20 00 25.7 +0.1
ASF Jabal al Asfar 12.19 258 Pn Pn 20 00 30.2 -1.2
comp=Z,1.4nm,0.3s,baz=247,slow=23,SNR=9.7
comp=Z,3.6nm,0.4s
ASF Jabal al Asfar 12.19 258 P Pn 20 00 36.4 +5.0
ALNE Al Ain 12.26 159 P Pn 20 00 31.3 -1.1
SOHO SOHO 12.43 156 P Pn 20 00 35.4 +0.7
SOHO SOHO 12.43 156 P Pn 20 00 35.4 +0.7
SOHO P Pn 20 00 35.4 +0.7
BNN Bunyan 12.47 289 Pn Pn 20 00 38.7 +3.5
MZR Muzera 12.78 169 P Pn 20 00 39.9 +0.5
NATI Neve Ativ 12.79 264 Pn Pn 20 00 43.8 +4.3
NATI Neve Ativ 12.79 264 P Pn 20 00 44.3 +4.8
GEM Giv'at Ha'Em 12.86 264 Pn Pn 20 00 44.6 +4.1
GEM Giv'at Ha'Em 12.86 264 P Pn 20 00 46.7 +6.2
SHMJ Saham 12.92 261 P Pn 20 00 47.4 +6.1
MMAI Mount Meron Ar 13.13 263 Pn Pn 20 00 42.9 -1.3
comp=Z,0.6nm,0.3s,baz=92,slow=13,SNR=2.8
MMAI LR LR 20 06 39.2
comp=Z,848nm,18.9s,baz=44,slow=42
comp=Z,0.5nm,0.4s
ARQ Aragi 13.17 157 P Pn 20 00 44.1 -0.6
QRNJ Al-Qirein 13.19 260 P P 20 00 53.5 -1.4
SWQJ Swaqa 13.19 255 P P 20 00 51.1 -4.1
HMDT Nahal Hemdat 13.25 260 Pn Pn 20 00 48.9 +3.0
HMDT Nahal Hemdat 13.25 260 P P 20 00 51.5 -4.2
BLGI Bet Lehem HaGe 13.38 262 Pn Pn 20 00 50.9 +3.4
BLGI Bet Lehem HaGe 13.38 262 P P 20 00 53.7 -3.4
UJAP Al Uja 13.40 259 P P 20 00 58.8 +1.5
KARJ KARJ 13.56 255 P Pn 20 00 53.3 +3.2
OFRI `Ofer 13.57 262 Pn Pn 20 00 53.8 +3.5
BIDO Bidbid 13.58 151 P Pn 20 00 51.9 +1.6
SALP Salfit 13.58 259 Pn Pn 20 00 52.9 +2.5
DSI Dead Sea 13.61 257 Pn Pn 20 00 52.4 +1.7
DSI Dead Sea 13.61 257 P P 20 01 02.3 +2.7
SLTI Sal'it 13.65 260 Pn Pn 20 00 53.7 +2.5
SLTI Sal'it 13.65 260 P Pn 20 00 54.6 +3.4
MSBI Mazada 13.72 256 Pn Pn 20 00 53.2 +1.0
ANN Anapa 13.79 316 eP P 20 01 01.4 -0.2
ANN pmax pmax
comp=Z,87nm,1.2s
ANN MLR MLR
comp=E,366nm,16.0s
ANN MLR MLR
comp=Z,588nm,15.0s
ANN MLR MLR
comp=N,823nm,12.0s
BSY Bisya 13.94 155 P Pn 20 00 58.0 +2.7
BSY P Pn 20 00 58.0 +2.7
SMDO Samad 13.96 152 P Pn 20 00 57.8 +2.1
SMDO P Pn 20 00 57.8 +2.1
AMAZ Amatzia 13.99 258 P P 20 01 06.9 +3.0
WSAR Wadi Sarin 14.03 150 P Pn 20 00 59.1 +2.5
WSAR Wadi Sarin 14.03 150 Pn Pn 20 00 55.5 -1.1
comp=N,0.9nm,0.3s,baz=338,slow=13,SNR=9.9
comp=N,4.7nm,0.7s
ZFRI Zfri 14.17 254 P P 20 01 17.2 +11
BR131 Keskin Array S 14.31 292 Pn Pn 20 01 01.8 +1.3
BR131 Keskin Array S 14.31 292 P Pn 20 01 02.6 +2.1
SNR=11
BR131 Keskin Array S 14.31 292 ci P Pn 20 01 01.9 +1.5
BRTR Keskin Array B 14.31 292 P Pn 20 01 01.7 +1.3
BRTR Keskin Array B 14.31 292 i P Pn 20 01 02.5 +2.1
BRTR pmax pmax
comp=Z,9.0nm,1.0s
BRTR Keskin Array B 14.31 292 Pn Pn 20 01 02.0 +1.5
comp=Z,0.1nm,0.3s,baz=108,slow=12,SNR=30
comp=Z,9.7nm,1.0s
PRNI Paran 14.39 253 P Pn 20 01 02.9 +1.5
CSS Mathiatis 14.42 272 Pn Pn 20 01 02.2 +0.3
CSS Mathiatis 14.42 272 Pn Pn 20 01 04.4 +2.6
CSS Mathiatis 14.42 272 P P 20 01 16.4 +7.7
JMDO Jabal Madar 14.61 153 P Pn 20 01 03.4 -1.1
AQBJ Aqaba 14.63 251 P P 20 01 10.2 -0.9
KZIT Kziot 14.64 256 Pn P 20 01 08.2 -2.9
KZIT Kziot 14.64 256 P P 20 01 08.5 -2.6
MBRI Mt Berech 14.71 251 Pn Pn 20 01 07.4 +1.6
MBRI Mt Berech 14.71 251 P P 20 01 08.9 -3.1
WBK Wadi Bani Khal 14.73 150 P Pn 20 01 07.4 +1.2
EIL Elat 14.73 251 Pn Pn 20 01 07.8 +1.7
EIL Elat 14.73 251 P Pn 20 01 07.6 +1.5
EIL Elat 14.73 251 Pn Pn 20 01 03.8 -2.3
comp=Z,1.2nm,0.3s,baz=82,slow=4.4,SNR=7.1
EIL Sn Sn 20 03 47.9 -1.4
comp=Z,0.8nm,0.3s,baz=78,slow=13,SNR=2.5
comp=Z,3.8nm,0.5s
CHGR Chuyangaron 14.82 73 Pn Pn 20 01 06.6 -0.7
CHGR Chuyangaron 14.82 73 P Pn 20 01 06.6 -0.7
KBL Kabul 14.85 89 Pn Pn 20 01 07.4 -0.4
KBL Kabul 14.85 89 P P 20 01 13.4 -0.2
KBL pmax pmax
comp=Z,19nm,1.1s
KBU Kabul Universi 14.92 89 P Pn 20 01 08.0 -0.9
ANTO Ankara 14.98 292 ⇓P Pn 20 01 11.7 +2.2
ANTO Ankara 14.98 292 Pn Pn 20 01 10.1 +0.6
ANTO Ankara 14.98 292 P Pn 20 01 11.2 +1.7
ANTO Ankara 14.98 292 P Pn 20 01 11.6 +2.2
BR231 Keskin MP Arra 14.99 292 Pn 20 01 11.2 +1.5
ABKAR Akbulak array 15.12 23 Pn Pn 20 01 06.9 -4.3
JLN Jalan Bani Buh 15.32 149 P Pn 20 01 14.9 +0.8
JLN P Pn 20 01 14.9 +0.8
AKTO Aktyubinsk 15.65 17 Pn Pn 20 01 14.7 -3.5
comp=Z,8.1nm,0.3s,baz=209,slow=10,SNR=167
AKTO Sn Sn 20 04 00.4 -11
comp=Z,0.6nm,0.3s,baz=53,slow=20,SNR=0.9
MHTO MHTO 15.83 155 P Pn 20 01 22.4 +1.8
SIM Simferopol' 15.84 311 eP P 20 01 22.3 -2.1
SIM e 20 04 19.0
SIM pmax pmax
comp=Z,34nm,0.9s
SIM smax smax
comp=N,260nm,11.0s
SIM MLR MLR
comp=Z,300nm,12.0s
BTK Batken 16.29 68 IAmb IAmb 20 01 34.0
comp=Z,125nm,1.8s
ISP Isparta 16.54 284 P 20 01 30.9 -1.4
ISP IAmb IAmb 20 01 38.1
comp=Z,53nm,0.9s
ISP Isparta 16.54 284 ⇓eP P 20 01 31.7 -0.6
ISP pmax pmax
comp=Z,49nm,0.8s
TRKS Terek-Say 16.82 63 P Pn 20 01 34.3 +0.9
KK31 Karatay Array 16.83 58 Pn 20 01 32.1 -1.3
KK31 Karatay Array 16.83 58 P Pn 20 01 32.1 -1.3
KK31 pmax pmax
comp=Z,25nm,1.0s
KKAR Karatay Array 16.83 58 Pn 20 01 32.1 -1.3
KKAR Karatay Array 16.83 58 P Pn 20 01 32.1 -1.3
KKAR pmax pmax
comp=Z,25nm,1.0s
BELG Belogornoye 16.93 353 i P Pn 20 01 31.8 -2.6
BELG Belogornoye 16.93 353 Pn Pn 20 01 31.6 -2.7
comp=Z,5.6nm,0.3s,baz=332,slow=1.1,SNR=23
BELG Sn Sn 20 04 31.3 -11
comp=Z,1.9nm,0.3s,baz=324,slow=19,SNR=1.9
BELG LR LR 20 10 32.8
comp=Z,418nm,19.7s,baz=164,slow=46
VRH Novokhopyorsk 16.93 340 eP Pn 20 01 32.5 -1.9
VRH pmax pmax
comp=Z,130nm,0.8s
ELL Elmali 17.04 280 Pn Pn 20 01 36.3 +0.3
ELL IAmb IAmb 20 01 43.1
comp=Z,138nm,0.9s
ELL Elmali 17.04 280 P Pn 20 01 36.3 +0.3
ELL pmax pmax
comp=Z,138nm,0.9s
DZA Taraz 17.34 59 eP Pn 20 01 39.5 -0.2
baz=59
DZA Taraz 17.34 59 eP Pn 20 01 39.5 -0.2
VORD Divnogorie 17.49 335 eP Pn 20 01 38.3 -3.1
VORD pmax pmax
comp=Z,60nm,1.0s
VSR Storozhevoye 17.74 335 eP Pn 20 01 42.6 -2.0
VSR pmax pmax
comp=Z,60nm,0.8s
WHFO Wadi Hawf 17.82 171 P Pn 20 01 43.3 -2.5
SNR=7.1
OHH Osh 17.85 68 P P 20 01 46.8 +0.1
SHAO Shalim 18.02 166 P P 20 01 50.3 +1.6
SHAO Shalim 18.02 166 P P 20 01 50.6 +1.9
SHAO P P 20 01 50.6 +1.9
VORR Voronezh 18.11 336 eP Pn 20 01 47.1 -2.0
VORR pmax pmax
comp=Z,139nm,0.9s
RBK Rabkut 18.29 170 P P 20 01 52.3 +0.6
RBK P P 20 01 52.3 +0.6
ABTO Aybut 18.32 173 P Pn 20 01 49.4 -2.6
SNR=18
NIL Nilore 18.44 90 P Pn 20 01 53.7 +0.3
NIL Nilore 18.44 90 P Pn 20 01 53.7 +0.3
NIL pmax pmax
comp=Z,26nm,1.0s
ARG Arkhangelos 18.50 279 P P 20 01 53.6 -0.3
ARG IAmb IAmb 20 01 54.6
comp=Z,140nm,1.1s
ARG Arkhangelos 18.50 279 P P 20 01 53.6 -0.3
ARG pmax pmax
comp=Z,140nm,1.1s
LPSR Galich'ya Gora 18.99 337 eP P 20 01 57.4 -1.7
LPSR pmax pmax
comp=Z,130nm,0.9s
MANR Mangalia 19.01 302 ⇑P Pn 20 02 00.6 +0.4
PURM Purcari 19.21 311 ⇑P Pn 20 02 02.0 -0.5
ARLS Aral 19.22 64 P Pn 20 02 03.7 +0.8
MFTR Murfatlar 19.24 303 ⇑P Pn 20 02 03.8 +0.9
PSN Preselentsi 19.27 301 P Pn 20 02 02.7 -0.6
TLCR 19.33 306 ⇓P Pn 20 02 03.5 -0.4
TLCR 19.33 306 P Pn 20 02 03.5 -0.4
TIRR Tirgusor 19.34 304 ⇑P Pn 20 02 04.8 +0.7
TIRR Tirgusor 19.34 304 IAmb IAmb 20 02 05.9
comp=Z,81nm,0.9s
TIRR Tirgusor 19.34 304 P Pn 20 02 05.2 +1.1
KARP Karpathos 19.35 277 P P 20 02 03.3 0.0
KARP Karpathos 19.35 277 P Pn 20 02 06.5 +2.1
TPGR Topolog 19.47 305 ⇑P Pn 20 02 05.3 -0.4
AAK Ala-Archa 19.51 62 P Pn 20 02 06.0 -0.4
AAK Ala-Archa 19.51 62⇑ eP Pn 20 02 06.8 +0.4
AAK pmax pmax
comp=Z,15nm,1.3s
AAK Ala-Archa 19.51 62 P Pn 20 02 05.9 -0.4
comp=Z,0.2nm,0.3s,baz=251,slow=1.8,SNR=9.3
AAK LR LR 20 10 34.9
comp=Z,460nm,21.9s,baz=262,slow=40
comp=Z,2.1nm,0.6s
ICOR Ion Corvin 19.65 303 ⇑P Pn 20 02 07.7 -0.1
FRU1 Bishkek 19.65 61 P Pn 20 02 10.8 +2.9
PRD Provadia 19.65 300 P Pn 20 02 07.6 -0.3
HARR Harsova 19.74 304 ⇓P Pn 20 02 09.0 +0.1
HARR Harsova 19.74 304 P Pn 20 02 09.0 +0.1
CFR Carcaliu 19.77 306 ⇓P Pn 20 02 08.5 -0.7
CFR Carcaliu 19.77 306 P Pn 20 02 08.5 -0.7
SGDS Sogindy 19.81 60 eP P 20 02 08.4 +0.2
comp=Z,72nm,2.6s,baz=59
SGDS Sogindy 19.81 60 eP P 20 02 08.4 +0.2
SGDS pmax pmax
comp=Z,72nm,2.6s
BTLS Baital 19.89 55 eP P 20 02 09.3 +0.3
BTLS Baital 19.89 55 eP P 20 02 09.3 +0.3
EZN Ezine 19.91 289 P Pn 20 02 11.1 +0.1
MILM Milestii Mici 20.04 311⇑ iP P 20 02 10.0 -0.6
comp=Z,200nm,0.9s
MILM Milestii Mici 20.04 311 ⇑P P 20 02 10.8 +0.2
MILM Milestii Mici 20.04 311 P P 20 02 10.8 +0.2
SCTR Scanteiesti 20.04 307 ⇓P Pn 20 02 11.5 -0.9
VLDR Vladesti 20.05 308 ⇑P Pn 20 02 11.5 -1.0
KIS Kishinev 20.07 311⇑ iP P 20 02 10.6 -0.3
comp=Z,150nm,0.8s
KIS Kishinev 20.07 311 ⇓P P 20 02 11.0 +0.1
KIS Kishinev 20.07 311 ci P P 20 02 10.6 -0.3
KIS pmax pmax
comp=Z,150nm,0.8s
JMB Yambol 20.13 297 P Pn 20 02 13.1 -0.5
KSH Kashi 20.18 71 P P 20 02 11.8 -0.6
KSH pP pP 20 02 15.6 -0.6
KSH pmax pmax
comp=Z,22nm,1.6s
KSH pmax pmax
comp=Z,360nm,4.0s
KSH LR LR
comp=Z,2μm,16.8s
KSH LR LR
comp=Z,910nm,15.1s
KSH LR LR
comp=Z,670nm,17.8s
LEOM Leova 20.20 309 ⇓P Pn 20 02 13.2 -1.0
LEOM Leova 20.20 309 P Pn 20 02 13.2 -1.1
VARL Varlezi 20.22 308 ⇑P Pn 20 02 13.6 -1.0
ALN Alexandroupoli 20.23 293 P P 20 02 13.5 +0.7
ALN IAmb IAmb 20 02 15.4
comp=Z,37nm,0.8s
ALN Alexandroupoli 20.23 293 P Pn 20 02 13.6 -1.1
ALN Alexandroupoli 20.23 293 P P 20 02 13.5 +0.7
ALN pmax pmax
comp=Z,37nm,0.8s
LOZB Loznitsa 20.28 300 ⇑P Pn 20 02 14.9 -0.4
RAZG Razgrad 20.39 300 ⇓P Pn 20 02 15.4 -1.2
APE Apeiranthos 20.52 282 ⇑P Pn 20 02 18.4 +0.1
APE Apeiranthos 20.52 282 P Pn 20 02 18.7 +0.5
APE Apeiranthos 20.52 282 deP Pn 20 02 19.8 +1.6
APE pmax pmax
comp=Z,136nm,0.9s
VASR Vaslui 20.55 309 ⇓P Pn 20 02 17.5 -1.0
GHRR 20.57 308 ⇓P Pn 20 02 18.5 -0.2
RDO Rodhopi 20.64 293 IAmb IAmb 20 02 19.4
comp=Z,61nm,1.2s
RDO Rodhopi 20.64 293 P P 20 02 16.3 -0.9
PANC Panciu 20.67 307 ⇑P Pn 20 02 18.6 -1.2
ODBI Odobesti 20.69 307 ⇑P Pn 20 02 19.4 -0.7
ELND Elena 20.70 298 ⇑P Pn 20 02 19.0 -1.2
SZH Strazhitsa 20.70 299 P Pn 20 02 19.1 -1.1
DIM Dimitrovgrad 20.75 296 P Pn 20 02 19.4 -1.3
ISR Istrita 20.81 305 ⇑P Pn 20 02 21.0 -0.6
ISR Istrita 20.81 305 P Pn 20 02 20.9 -0.7
BISRR Bisoca 20.84 306 ⇓P Pn 20 02 21.3 -0.6
SULR 20.87 303 ⇓P Pn 20 02 20.7 -1.5
SORM Soroca 20.87 314 ⇓P P 20 02 19.8 +0.2
SORM Soroca 20.87 314 P P 20 02 19.8 +0.2
IAS Iasi 20.93 311 ⇓P P 20 02 20.3 -0.1
IAS Iasi 20.93 311 P P 20 02 20.2 -0.1
SGRR Singureni 20.94 302 ⇑P P 20 02 21.2 +0.8
VRI Vrincioaia 20.94 307 ⇓P P 20 02 21.0 +0.6
VRI Vrincioaia 20.94 307 P P 20 02 21.0 +0.6
PLOR Plostina 20.99 307 ⇑P Pn 20 02 22.5 -1.0
PLOR Plostina 20.99 307 P Pn 20 02 22.5 -1.1
NEHR Nehoiu 21.08 305 ⇓P P 20 02 23.7 +1.7
KUU Kurty 21.12 59 eP P 20 02 22.6 +0.1
comp=Z,70nm,1.4s,baz=59
KUU Kurty 21.12 59 eP P 20 02 22.5 +0.1
KUU pmax pmax
comp=Z,70nm,1.4s
IDI Anoyia 21.23 277 P P 20 02 23.9 +0.2
IDI Anoyia 21.23 277 P P 20 02 23.7 +0.1
TESR Tescani 21.23 308 ⇓P P 20 02 24.1 +0.6
PVL Pavlikeni 21.24 298 P P 20 02 24.4 +0.7
RZN Rozhen 21.31 294 P P 20 02 26.0 +1.3
BRZS Berezniki 21.33 41 eP P 20 02 24.6 0.0
comp=Z,42nm,1.2s,baz=41
BRZS Berezniki 21.33 41 eP P 20 02 24.6 0.0
BRZS pmax pmax
comp=Z,42nm,1.2s
MLR Muntele Rosu 21.33 305 ⇓P P 20 02 26.6 +1.8
MLR Muntele Rosu 21.33 305 P P 20 02 25.8 +1.0
MLR IAmb IAmb 20 02 31.5
comp=Z,74nm,0.9s
MLR Muntele Rosu 21.33 305 P P 20 02 26.5 +1.8
MLR Muntele Rosu 21.33 305 P P 20 02 25.8 +1.0
comp=Z,52nm,0.8s,baz=137,slow=5.3,SNR=65
AAA Alma-Ata 21.37 61 eP P 20 02 25.6 +0.4
comp=Z,43nm,1.3s,baz=61
AAA Alma-Ata 21.37 61 eP P 20 02 25.5 +0.4
AAA pmax pmax
comp=Z,43nm,1.3s
PLD Plovdiv 21.37 296 P P 20 02 26.3 +1.2
PLD Plovdiv 21.37 296 P P 20 02 27.3 +2.2
PLD pmax pmax
comp=Z,110nm,1.0s
ARU Arti 21.43 12 P P 20 02 25.5 -0.1
ARU Arti 21.43 12 deP P 20 02 25.6 0.0
ARU pmax pmax
comp=Z,121nm,1.0s
ARU Arti 21.43 12 P P 20 02 25.5 -0.1
comp=Z,117nm,0.9s,baz=204,slow=5.4,SNR=89
ARU S S 20 06 13.1 -10
comp=Z,3.3nm,0.5s,baz=3.6,slow=19,SNR=1.3
ARU LR LR 20 14 05.2
comp=Z,468nm,19.9s,baz=192,slow=46
comp=Z,117nm,0.9s
COPA Copaceanca 21.44 301 ⇓P P 20 02 27.1 +1.4
MDOK Medeo 21.46 62 eP P 20 02 26.3 0.0
baz=61
MDOK Medeo 21.46 62 eP P 20 02 26.2 0.0
TURR Turia 21.47 307 ⇑P P 20 02 27.9 +1.7
CHKK Chushkaly 21.57 60 eP P 20 02 27.3 +0.1
baz=60
CHKK Chushkaly 21.57 60 eP P 20 02 27.3 +0.1
OZUR 21.64 307 ⇑P P 20 02 29.3 +1.3
PLVB Pleven 21.69 299 ⇓P P 20 02 30.3 +1.8
HUMR Humele 21.70 302 ⇓P P 20 02 30.8 +2.2
BOSR Bodos 21.71 306 ⇑P P 20 02 29.8 +1.1
AKASG Malin Array Be 21.75 321 IAmb IAmb 20 02 46.3
comp=Z,64nm,1.1s
AKASG Malin Array Be 21.75 321 P P 20 02 27.4 -1.7
comp=Z,11nm,0.8s,baz=131,slow=9.9,SNR=29
comp=Z,11nm,0.8s
AKBB Malin Array Si 21.75 321 P P 20 02 26.9 -2.2
AKBB IAmb IAmb 20 02 46.3
comp=Z,57nm,1.1s
AKBB Malin Array Si 21.75 321 i P P 20 02 27.9 -1.2
KIEV Kiev 21.76 321 P P 20 02 26.9 -2.2
KIEV IAmb IAmb 20 02 46.4
comp=Z,51nm,1.1s
KIEV Kiev 21.76 321 P P 20 02 26.9 -2.2
KIEV pmax pmax
comp=Z,51nm,1.1s
MTUR Matau 21.84 304 ⇑P P 20 02 31.9 +1.7
MTUR Matau 21.84 304 P P 20 02 31.9 +1.7
PGB Panagyurishte 21.85 296 P P 20 02 31.8 +1.5
DOPR Dopca 21.85 306 ⇑P P 20 02 31.6 +1.3
ATHU Athens Univers 21.86 284 P P 20 02 32.5 +2.1
OBN Obninsk 21.87 337 ⇓P P 20 02 31.3 +1.1
OBN Obninsk 21.87 337 P P 20 02 28.6 -1.7
OBN IAmb IAmb 20 02 37.5
comp=Z,58nm,0.8s
OBN Obninsk 21.87 337 deP P 20 02 30.2 -0.1
OBN i 20 02 37.2
OBN e 20 02 54.0
OBN eS S 20 06 28.5 -3.0
OBN eSS SnSn 20 07 10.7 +14
OBN pmax pmax
comp=Z,147nm,2.5s
OBN MLR MLR
comp=Z,290nm,16.0s
OBN Obninsk 21.87 337 P P 20 02 29.1 -1.2
comp=Z,22nm,0.6s,baz=142,slow=13,SNR=7.7
comp=Z,22nm,0.6s
VOIR 21.91 304 ⇓P P 20 02 32.8 +1.8
VOIR 21.91 304 P P 20 02 32.8 +1.8
ATH Athens Observa 21.92 284 P P 20 02 27.8 -3.2
NVR Nevrokopi 21.92 293 P P 20 02 31.8 +0.7
IMMV Iera Moni Meta 21.94 277 P P 20 02 31.2 0.0
MMB Musomishta 22.03 294 P P 20 02 33.7 +1.5
MOS Moscow 22.09 340 eP P 20 02 32.1 -0.5
MOS e 20 02 56.5
MOS eS S 20 06 37.2 +1.5
MOS eSS SnSn 20 07 15.7 +14
MOS pmax pmax
comp=Z,85nm,1.2s
SRS Serrai 22.10 293 P P 20 02 32.4 -0.6
SRS Serrai 22.10 293 P P 20 02 33.9 +0.9
SRS pmax pmax
comp=Z,54nm,1.3s
BRVK Borovoye 22.11 32 P P 20 02 32.9 0.0
BRVK Borovoye 22.11 32 deP P 20 02 33.0 0.0
BRVK pmax pmax
comp=Z,66nm,1.3s
BVAR Borovoye Array 22.14 32 P P 20 02 33.5 +0.3
comp=Z,24nm,0.7s,baz=218,slow=9.8,SNR=103
BVAR LR LR 20 12 41.6
comp=Z,595nm,18.7s,baz=228,slow=41
comp=Z,24nm,0.7s
ARR Arges 22.17 304 ⇓P P 20 02 34.9 +1.1
SVE Sverdlovsk 22.19 14⇓ eP P 20 02 34.2 +0.5
SVE eS S 20 06 41.9 +4.2
SVE pmax pmax
comp=Z,58nm,1.1s

ARXS **Arharly** 22.24 59 *eP* **P** **20 02 34.5 0.0**
MPEP **Malo Peshtene** 22.31 298 P **P** **20 02 35.6 +0.4**
PRZ **Przheval'sk** 22.32 64 P **P** **20 02 38.4 +2.9**
SATY **Saty** 22.41 62 *eP* **P** **20 02 36.7 +0.2**
baz=62
SATY **Saty** 22.41 62 *eP* **P** **20 02 36.6 +0.2**
ZHN **Zhinishke** 22.45 62 *eP* **P** **20 02 36.6 -0.3**
baz=62
ZHN **Zhinishke** 22.45 62 *eP* **P** **20 02 36.6 -0.3**
KKB **Krupnik** 22.52 294 P **P** **20 02 37.7 +0.2**
VTS **Vitosha** 22.55 296 P **P** **20 02 40.0 +2.1**
BURAR **Bucovina Array** 22.55 310 ⇑P **P** **20 02 39.1 +1.2**
BURAR **Bucovina Array** 22.55 310 P **P** **20 02 36.9 -0.9**
BURAR IAmb IAmb 20 02 54.3
comp=Z,31nm,0.8s
BURAR **Bucovina Array** 22.55 310 P **P** **20 02 39.0 +1.2**
BUR08 **Bucovina Ar. S** 22.57 310 IAmb IAmb 20 02 48.0
comp=Z,47nm,0.9s
KNT **Kendrikon** 22.63 293 P **P** **20 02 39.3 +0.7**
KNT pmax pmax
comp=Z,20nm,1.2s
KPKS **Kokpek** 22.69 61 *eP* **P** **20 02 39.4 +0.1**
baz=61
KPKS **Kokpek** 22.69 61 *eP* **P** **20 02 39.4 +0.1**
BAIL **Bailesti** 22.73 300 ⇓P **P** **20 02 41.5 +2.0**
TDK **Taldyqorghan** 22.83 57 *eP* **P** **20 02 40.4 -0.4**
comp=Z,20nm,1.0s,baz=57
TDK **Taldyqorghan** 22.83 57 *eP* **P** **20 02 40.3 -0.4**
TDK pmax pmax
comp=Z,20nm,1.0s
UZB **Uzynbulak** 22.87 62 *eP* **P** **20 02 41.2 -0.1**
baz=62
UZB **Uzynbulak** 22.87 62 *eP* **P** **20 02 41.2 -0.1**
VAY **Valandovo** 22.89 293 *i* P **P** **20 02 37.9 -3.4**
ARCR **ARCALIA** 22.91 308 ⇑P **P** **20 02 42.6 +1.1**
SRE **Strehaia** 22.97 302 ⇓P **P** **20 02 43.3 +1.2**
SRE **Strehaia** 22.97 302 P **P** **20 02 43.3 +1.2**
AGG **Agios Georgios** 22.98 287 IAmb IAmb 20 02 43.7
comp=Z,46nm,1.6s
KIRV **Kirov** 22.99 358 *ceP* **P** **20 02 43.2 +1.1**
KIRV **Kirov** 22.99 358 P **P** **20 02 42.8 +0.7**
comp=Z,50nm,0.8s,baz=66,slow=0.5,SNR=21
comp=Z,50nm,0.8s
PUNG **Punghina** 23.07 301 ⇓P **P** **20 02 44.5 +1.3**
SHLS **Shalkode** 23.19 62 *eP* **P** **20 02 47.0 +2.4**
baz=62
SHLS **Shalkode** 23.19 62 *eP* **P** **20 02 47.0 +2.4**
STIP **Stip** 23.21 294 *i* P **P** **20 02 42.8 -1.8**
CJR **Cluj-Napoca** 23.27 307 ⇑P **P** **20 02 46.8 +1.6**
CJR **Cluj-Napoca** 23.27 307 P **P** **20 02 46.8 +1.6**
GZR **Gura Zlata** 23.44 303 ⇓P **P** **20 02 47.2 +0.2**
DEV **Deva** 23.48 304 ⇓P **P** **20 02 48.9 +1.5**
DEV **Deva** 23.48 304 P **P** **20 02 48.8 +1.5**
MARR **Marisel-Cluj** 23.57 306 ⇓P **P** **20 02 49.6 +1.3**
BMR **Baia Mare** 23.66 309 P **P** **20 02 49.5 +0.5**
BMR pmax pmax
comp=Z,65nm,0.9s
FNA **Florina** 23.75 291 P **P** **20 02 50.7 +0.6**
FNA pmax pmax
comp=Z,11nm,1.4s
SKO **Skopje** 23.79 294 *i* P **P** **20 02 50.8 +0.4**
BOVS **Bovan** 23.82 299 ⇓P **P** **20 02 51.0 +0.4**
SURR **Surduc** 23.97 304 ⇑P **P** **20 02 52.3 +0.3**
MDVR **Moldovita** 24.03 301 ⇓P **P** **20 02 53.0 +0.3**
LVV **L'vov** 24.17 314 *eP* **P** **20 02 51.9 -2.0**
KBN **Korca** 24.19 291 IAmb IAmb 20 03 13.7
comp=Z,42nm,1.0s
KBN **Korca** 24.19 291 P **P** **20 02 54.8 +0.6**
OHR **Ohrid** 24.20 292 *i* P **P** **20 02 57.4 +3.0**
BZS **Buzias** 24.29 303 ⇑P **P** **20 02 55.2 +0.3**
BZS **Buzias** 24.29 303 P **P** **20 02 55.2 +0.3**
SIRR **Siria** 24.42 305 ⇑P **P** **20 02 57.5 +1.3**
KEF4 **Livadi, Kephal** 24.51 285 P **P** **20 03 02.2 +5.3**
PHP **Peshkopia** 24.51 294 P **P** **20 02 57.4 +0.3**
IGT **Igoumenitsa** 24.52 288 P **P** **20 02 56.4 -0.8**
IGT **Igoumenitsa** 24.52 288 P **P** **20 02 56.1 -1.1**
IGT pmax pmax
comp=Z,47nm,0.9s
BANR **Banloc** 24.56 302 ⇑P **P** **20 02 58.6 +1.2**
MNK **Minsk** 24.74 327 *iP* **P** **20 02 58.1 -0.9**
comp=E,7.0nm,0.8s
MNK *i* P **P** **20 02 58.1 -0.9**
comp=N,10.0nm,0.8s
MNK *i* P **P** **20 02 58.1 -0.9**
comp=Z,28nm,0.8s,baz=130
MNK *i* PP **PnPn** **20 03 24.4 -6.5**
MNK *i* S **S** **20 07 20.8 +0.2**
MNK *i* SS **SnSn** **20 08 08.1 +1.1**
MNK *i* LR LR 20 12 34.1
MNK *i* LRM MLR 20 13 26.2
comp=E,52nm,15.2s
MNK *i* LRM MLR 20 13 26.2
comp=N,131nm,15.2s
MNK *i* LRM MLR 20 13 29.6
comp=Z,108nm,15.2s
MNK **Minsk** 24.74 327 *c iP* **P** **20 02 58.0 -0.9**
KOLS **Kolonicke sedl** 24.87 311 *eP* **P** **20 03 01.7 +1.4**
KOLS *e* 20 06 09.2
KOLS **Kolonicke sedl** 24.87 311 *eP* **P** **20 03 01.7 +1.4**
KOLS pmax pmax
comp=Z,83nm,0.9s
KURBB **Kurchatov Arra** 24.89 44 P **P** **20 03 01.2 +0.8**
comp=Z,17nm,0.9s,baz=247,slow=9.8,SNR=39
KURBB LR LR 20 14 06.7
comp=Z,698nm,18.4s,baz=136,slow=40
comp=Z,17nm,0.9s
KEK **Kerkira** 24.93 289 P **P** **20 02 58.4 -2.5**
KURK **Kurchatov** 24.98 44 P **P** **20 03 02.0 +0.8**
KURK **Kurchatov** 24.98 44 *d iP* **P** **20 03 02.1 +0.8**
KURK pmax pmax
comp=Z,42nm,1.3s
SJES **Sjenica** 25.01 297 *eP* **P** **20 03 01.0 -0.7**
ATD **Arta Tunnel** 25.10 199 LR LR 20 13 38.7
comp=Z,13nm,20.3s,baz=15,slow=38
DIVS **Divibare** 25.12 299 *eP* **P** **20 03 02.8 +0.2**
CRVS **Cervenica-Dubn** 25.36 311 *eP* **P** **20 03 05.4 +0.7**
CRVS *e* 20 06 11.4
CRVS **Cervenica-Dubn** 25.36 311 *eP* **P** **20 03 05.4 +0.7**
CRVS pmax pmax
comp=Z,245nm,2.0s
FRGS **Fruska Gora** 25.43 302 *eP* **P** **20 03 05.0 -0.4**
NACGM **Naroch** 25.49 327 *eP* **P** **20 03 06.6 +0.9**
RUDO **Rudo** 25.49 298 *eP* **P** **20 03 04.6 -1.3**
TEKS **Tekeris** 25.52 300 *eP* **P** **20 03 03.7 -2.5**
MAKZ **Makanchi** 25.70 55 P **P** **20 03 08.0 +0.2**
MAKZ IAmb IAmb 20 03 29.2
comp=Z,39nm,1.1s
MAKZ **Makanchi** 25.70 55 P **P** **20 03 08.0 +0.2**
MAKZ pmax pmax
comp=Z,39nm,1.1s
SEM **Semipalatinsk** 25.80 46 *eP* **P** **20 03 09.2 +0.3**
baz=46
SEM **Semipalatinsk** 25.80 46 *eP* **P** **20 03 09.2 +0.3**
KECS **Kecovo** 25.83 309 *eP* **P** **20 03 11.4 +2.5**
KECS **Kecovo** 25.83 309 *eP* **P** **20 03 11.4 +2.5**
KECS pmax pmax
comp=Z,25nm,1.0s
HAPS **Han Pijesak,BI** 25.86 299 *eP* **P** **20 03 09.4 0.0**
MK31 **Makanchi Array** 25.90 55 P **P** **20 03 10.1 +0.4**
MK31 **Makanchi Array** 25.90 55 *ceP* **P** **20 03 10.7 +1.0**
MKAR **Makanchi Array** 25.90 55 P **P** **20 03 10.0 +0.4**
comp=Z,13nm,0.9s,baz=247,slow=8.3,SNR=73
MKAR LR LR 20 14 10.4
comp=Z,295nm,20.6s,baz=257,slow=38
comp=Z,13nm,0.9s
BRY **Bratogost** 26.02 296 *eP* **P** **20 03 09.2 -1.7**
PSZ **Piszkesteto** 26.04 308 ⇑P **P** **20 03 12.1 +1.1**
PSZ **Piszkesteto** 26.04 308 IAmb IAmb 20 03 41.2
comp=Z,22nm,1.0s
PSZ **Piszkesteto** 26.04 308 P **P** **20 03 12.0 +1.1**
PRGR **Permogore** 26.24 354 *eP* **P** **20 03 14.8 +2.3**
PRGR *eS* **S** **20 07 50.9 +6.6**
PRGR pmax pmax
comp=Z,49nm,0.9s
NIE **Niedzica** 26.25 311 P **P** **20 03 14.0 +1.2**
KLMR **Klimovskoe** 26.29 347 *eP* **P** **20 03 13.5 +0.6**
KLMR *eP* **P** **20 03 13.5 +0.6**
KLMR *eP* **P** **20 03 13.5 +0.6**
KLMR AMP 20 03 27.2
comp=Z,70nm,1.0s
KLMR *eS* **S** **20 07 51.7 +6.7**
KLMR *eS* **S** **20 07 51.7 +6.7**
KLMR LQ LQ 20 12 30.6
KLMR LQ LQ 20 12 30.6
KLMR LR LR 20 14 03.8
KLMR Klimovskoe 26.29 347 *eP* **P** **20 03 13.5 +0.6**
KLMR *eS* **S** **20 07 51.7 +6.7**
KLMR pmax pmax
comp=Z,70nm,1.0s
MORH **Mrgy, Hungar** 26.44 304 ⇑P **P** **20 03 15.8 +1.3**
SUW **Suwalki** 26.68 322 *eP* **P** **20 03 16.9 +0.4**
SUW **Suwalki** 26.68 322 P **P** **20 03 17.4 +0.9**
OJC **Ojcow** 26.84 313 *eP* **P** **20 03 18.5 +0.5**
OJC **Ojcow** 26.84 313 IAmb IAmb 20 03 19.2
comp=Z,24nm,1.0s
OJC **Ojcow** 26.84 313 P **P** **20 03 18.7 +0.6**
VYHS **Vyhne** 26.88 309 *eP* **P** **20 03 18.7 +0.3**
VYHS **Vyhne** 26.88 309 *eP* **P** **20 03 18.7 +0.3**
VYHS pmax pmax
comp=Z,23nm,1.3s
BLY **Banja Luka** 27.20 300 *eP* **P** **20 03 20.5 -0.9**
MGRS **Mrkonjic Grad** 27.23 299 *eP* **P** **20 03 21.8 +0.1**
A050A **Klekovaca** 27.63 299 *eP* **P** **20 03 23.7 -1.6**
JAVC **Velka Javorina** 27.72 309 *eP* **P** **20 03 27.2 +1.1**
ZSN **Zaisan** 27.77 54 *eP* **P** **20 03 27.1 +0.6**
baz=54
ZSN **Zaisan** 27.77 54 *eP* **P** **20 03 27.0 +0.6**
MODS **Modra-Piesok** 27.85 308 *eP* **P** **20 03 27.4 +0.3**
MODS **Modra-Piesok** 27.85 308 *eP* **P** **20 03 27.4 +0.3**
MODS pmax pmax
comp=Z,33nm,1.4s
MORC **Moravsky Berou** 28.07 311 *eP* P 20 03 24.3 -4.8
KOGS **Kog** 28.11 303 *i* P **P** **20 03 29.6 +0.1**
RONA **Rosalia, Austr** 28.33 306 *eP* **P** **20 03 31.1 -0.3**
comp=Z,15nm,1.6s
RONA *ePcP* **PcP** **20 06 41.7 -2.4**
VRAC **Vranov** 28.53 309 *eP* **P** **20 03 32.6 -0.6**
VRAC **Vranov** 28.53 309 P **P** **20 03 33.0 -0.2**
VRAC **Vranov** 28.53 309 P **P** **20 03 33.0 -0.2**
comp=Z,1.8nm,0.4s,baz=80,slow=7.4,SNR=4.5
comp=Z,1.8nm,0.4s
CRES **Cresnjev** 28.56 302 *eP* **P** **20 03 33.7 +0.2**
KRUC **Moravsky** 28.59 309 *eP* **P** **20 03 33.1 -0.6**
KRUC **Moravsky** 28.59 309 P **P** **20 03 34.3 +0.6**
KRLC **Kraliky** 28.63 311 *eP* **P** **20 03 34.1 0.0**
KRLC **Kraliky** 28.63 311 *eP* **P** **20 03 34.1 0.0**
DANN **Dangsing** 28.65 95 *eP* **P** **20 03 35.8 +1.0**
comp=Z,77nm,1.1s
BOJS **Bojanci** 28.66 301 *eP* **P** **20 03 32.4 -2.0**
CONA **Conrad Observa** 28.66 306 *eP* **P** **20 03 34.7 +0.2**
comp=Z,3.7nm,1.0s
CONA *ePcP* **PcP** **20 06 41.0 -4.0**
comp=Z,6.1nm,0.9s
ARSA **Arzberg** 28.75 305 *eP* **P** **20 03 35.6 +0.3**
comp=Z,16nm,0.8s,SNR=6.2
ARSA *i* PcP **PcP** **20 06 39.5 -5.6**
comp=Z,11nm,1.5s
PDKS **Podkum** 28.91 302 *i* P **P** **20 03 36.8 +0.1**
SOKA **Soboth** 28.98 303 *eP* **P** **20 03 37.5 +0.2**
comp=Z,10nm,1.6s
SOKA *ePcP* **PcP** **20 06 40.2 -5.6**
comp=Z,2.6nm,0.8s
DPC **Dobruska-Polom** 28.99 311 *eP* **P** **20 03 37.1 -0.2**
DPC **Dobruska-Polom** 28.99 311 *eP* **P** **20 03 37.1 -0.2**
VNDS **Vrh nad Dolski** 29.12 302 *i* P **P** **20 03 38.8 +0.3**
KSP **Ksiaz** 29.16 312 *eP* **P** **20 03 39.2 +0.5**
KSP **Ksiaz** 29.16 312 P **P** **20 03 39.3 +0.6**
WMQ **Urumqi** 29.22 62 *eP* **P** **20 03 41.9 +2.4**
WMQ LR LR
comp=Z,450nm,14.7s
WMQ LR LR
comp=Z,360nm,13.9s
WMQ LR LR
comp=Z,260nm,19.5s
CHVC **Chvalec** 29.22 312 *eP* **P** **20 03 39.1 -0.3**
CHVC **Chvalec** 29.22 312 *eP* **P** **20 03 39.1 -0.3**
UPC **Upice** 29.23 311 *eP* **P** **20 03 39.5 +0.1**
UPC **Upice** 29.23 311 *eP* **P** **20 03 39.5 +0.1**
CEY **Cerknica** 29.26 301 *eP* **P** **20 03 38.6 -1.2**
OBKA **Obir** 29.28 303 *eP* **P** **20 03 40.3 +0.3**
comp=Z,23nm,2.3s
OBKA *ePcP* **PcP** **20 06 46.2 -0.4**
GKN **Gorkha** 29.50 95 *eP* **P** **20 03 42.7 +0.5**
MOA **Molln** 29.70 306 *eP* **P** **20 03 43.6 0.0**
comp=Z,6.7nm,0.8s,SNR=4.5
MOA *i* PcP **PcP** **20 06 48.0 +0.5**
comp=Z,4.8nm,0.8s
AQU **L'Aquila** 29.78 295 P **P** **20 03 44.0 -0.4**
AQU **L'Aquila** 29.78 295 P **P** **20 03 45.4 +1.0**
ZALV **Zalesovo Beam** 29.81 41 *iP* **P** **20 03 44.5 +0.1**
ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV Zalesovo Beam 29.81 41 P **P** **20 03 44.4 -0.1**
comp=Z,5.4nm,0.7s,baz=253,slow=9.3,SNR=27
ZALV LR LR 20 17 14.7
comp=Z,431nm,18.8s,baz=236,slow=40
comp=Z,5.4nm,0.7s
CKRC **Cesky Krumlov** 29.87 308 *eP* **P** **20 03 44.6 -0.5**
CKRC **Cesky Krumlov** 29.87 308 *eP* **P** **20 03 44.6 -0.5**
MYKA **Terra Mystica** 29.92 303 *iP* **P** **20 03 46.0 +0.3**
comp=Z,12nm,1.3s
PRED **Cave del Predi** 29.95 303 IAmb IAmb 20 03 46.9
comp=Z,11nm,0.9s
DGZ **Jazzator, Alta** 29.95 51 ⇓*eP* **P** **20 03 46.5 +0.5**
DGZ pmax pmax
comp=Z,3.0nm,0.9s
ZVC **Zvikov** 30.08 309 *eP* **P** **20 03 46.5 -0.4**
BIOA **Bad Ischl, Aus** 30.09 305 *iP* **P** **20 03 47.4 +0.3**
comp=Z,12nm,1.0s
BIOA *ePcP* **PcP** **20 06 55.2 +6.7**
comp=Z,0.9nm,0.2s
PVCC **Panska Ves** 30.12 311 *eP* **P** **20 03 46.9 -0.3**
PVCC **Panska Ves** 30.12 311 *eP* **P** **20 03 46.9 -0.3**
KBA **Koelnbreinsper** 30.19 304 *iP* **P** **20 03 48.6 +0.5**
comp=Z,27nm,1.5s
KBA *ePcP* **PcP** **20 06 53.6 +4.7**
comp=Z,3.3nm,0.5s
KBA **Koelnbreinsper** 30.19 304 P **P** **20 03 48.4 +0.3**
GEC2 **GERESS Array S** 30.26 307 IAmb IAmb 20 03 49.6
comp=Z,23nm,1.2s
GERES **GERESS Array B** 30.26 307 P **P** **20 03 48.4 -0.3**
comp=Z,7.4nm,0.7s,baz=103,slow=9.7,SNR=35
comp=Z,7.4nm,0.7s
PKIN **Phulchoki** 30.29 96 *eP* **P** **20 03 50.0 +0.7**
PKI **Pulchoki** 30.30 96 *eP* **P** **20 03 50.0 +0.5**
comp=Z,30nm,1.2s
CESX **Cesi** 30.39 295 IAmb IAmb 20 03 50.8
comp=Z,28nm,1.3s
KHC **Kasperske Hory** 30.40 308 *eP* **P** **20 03 49.2 -0.6**
KHC **Kasperske Hory** 30.40 308 ⇑*eP* **P** **20 03 50.4 +0.6**
KHC pmax pmax
comp=Z,22nm,1.3s
CLUD **Cludinico** 30.42 303 IAmb IAmb 20 03 53.4
comp=Z,12nm,0.9s
STAL **STALIGIAL** 30.51 302 IAmb IAmb 20 03 51.1
comp=Z,15nm,1.0s
GUN **Gumba** 30.55 95 *eP* **P** **20 03 51.6 -0.1**
comp=Z,34nm,0.9s
BRG **Berggiesshubel** 30.59 311 P **P** **20 03 48.6 -2.8**
BRG Amp 20 03 49.1
comp=Z,3.7nm,1.0s
LESA **Schwarzleotal** 30.69 304 *i* P **P** **20 03 52.1 -0.3**
comp=Z,9.6nm,0.6s
LESA *ePcP* **PcP** **20 06 55.9 +5.7**
comp=Z,6.1nm,1.0s
ABTA **Abfaltersbach** 30.71 303 *i* P **P** **20 03 52.6 0.0**
comp=Z,14nm,0.8s,SNR=9.2
WET **Wettzell** 30.86 308 P **P** **20 03 54.0 +0.2**
JIRN **Jiri** 30.90 95 *eP* **P** **20 03 55.1 +0.3**
comp=Z,14nm,0.7s
CTI **Castel Tesino** 31.22 302 IAmb IAmb 20 03 57.8
comp=Z,14nm,0.8s
CLL **Collm** 31.28 312 IAmb IAmb 20 04 15.3
comp=Z,9.9nm,0.9s
CLL **Collm** 31.28 312 *eP* **P** **20 03 57.0 -0.5**
comp=Z,17nm,1.2s
CLL *eS* **S** **20 09 10.0 +6.2**
CLL *eSS* **SnSn** **20 10 54.0 +7.5**
CLL AMS AMS 20 21 00.0
comp=Z,300nm,21.0s
CLL Collm 31.28 312 *eP* **P** **20 03 57.0 -0.5**
CLL *eS* **S** **20 09 10.0 +6.2**
CLL pmax pmax
comp=Z,17nm,1.2s
CLL MLR MLR
comp=Z,300nm,21.0s
NKC **Novy Kostel** 31.36 310 *eP* **P** **20 03 57.9 -0.4**
NKC **Novy Kostel** 31.36 310 *eP* **P** **20 03 57.9 -0.4**
WTTA **Wattenberg** 31.37 304 *i* P **P** **20 03 58.0 -0.5**
comp=Z,46nm,0.9s,SNR=14
WTTA *i* PcP **PcP** **20 06 52.0 -0.1**
comp=Z,2.4nm,0.5s
WTTA Wattenberg 31.37 304 P **P** **20 03 58.1 -0.5**
OSSC **Osservatorio P** 31.37 297 IAmb IAmb 20 04 00.6
comp=Z,15nm,0.9s
WATA **Walderalm** 31.42 304 *i* P **P** **20 03 58.2 -0.8**
comp=Z,40nm,1.2s,SNR=12
WATA *ePcP* **PcP** **20 06 49.2 -3.0**
RAMN **Ramite** 31.52 96 *eP* **P** **20 04 00.6 +0.4**
comp=Z,22nm,0.8s
SQTA **Sankt Quirin** 31.65 304 *i* P **P** **20 04 00.3 -0.6**
comp=Z,36nm,0.6s,SNR=17
SQTA *ePcP* **PcP** **20 06 56.1 +3.4**
comp=Z,3.8nm,0.5s
MOTA **Moosalm** 31.74 304 *i* P **P** **20 04 00.6 -1.2**
comp=Z,38nm,0.8s,SNR=13
MOTA *ePcP* **PcP** **20 06 57.0 +3.9**
comp=Z,4.9nm,0.8s
FETA **Feichten** 31.95 303 *i* P **P** **20 04 03.1 -0.5**
comp=Z,31nm,0.7s,SNR=21
FETA *ePcP* **PcP** **20 06 54.7 +1.1**
comp=Z,7.7nm,1.1s
RETA **Reutte** 31.98 304 *i* P **P** **20 04 02.9 -1.0**
comp=Z,20nm,0.7s,SNR=8.8
GRF **Grafenberg Arr** 32.02 308 *eP* **P** **20 04 03.9 -0.2**
comp=Z,18nm,1.5s,baz=106,slow=8.8
GRF *eL* L 20 22 00.3
comp=Z,233nm,21.3s
ODAN **Odare** 32.20 95 *eP* **P** **20 04 06.8 +0.7**
ODAN **Odare** 32.20 95 *eP* **P** **20 04 07.1 +1.0**
FUORN **Ofenpass-Fuorn** 32.23 303 IAmb IAmb 20 04 14.0
comp=Z,15nm,0.8s
TAPN **Taplejung** 32.26 94 *eP* **P** **20 04 06.7 0.0**
comp=Z,18nm,1.0s
DAVOX **Davos/Dischmat** 32.51 303 LR LR 20 18 39.0
comp=Z,251nm,20.0s,baz=85,slow=39
DAVA **Damuels** 32.56 304 *i* P **P** **20 04 08.3 -0.7**
comp=Z,87nm,1.1s
DAVA *ePcP* **PcP** **20 06 53.5 -1.8**
comp=Z,3.4nm,0.4s
TUE **Stuetta** 32.85 302 IAmb IAmb 20 04 12.0
comp=Z,16nm,0.8s
PGF **Pioggiola** 33.03 295 *eP* **P** **20 04 11.6 -1.5**
PGF pmax pmax
comp=Z,34nm,1.0s
KEST **Kesra** 33.62 283 P **P** **20 04 17.8 -0.5**
comp=Z,9.1nm,0.9s,baz=10,slow=0.9,SNR=6.3
KEST LR LR 20 19 41.2
comp=Z,154nm,20.7s,baz=223,slow=40
comp=Z,9.1nm,0.9s
SBF **Sospel** 34.14 297 *eP* **P** **20 04 21.6 -1.1**
SBF pmax pmax
comp=Z,72nm,1.0s
LSA **Lhasa** 34.17 88 P **P** **20 04 24.6 +1.0**
LSA IAmb IAmb 20 04 48.2
comp=Z,10nm,1.0s
LSA **Lhasa** 34.17 88 P **P** **20 04 24.6 +1.0**
LSA pmax pmax
comp=Z,10.0nm,1.0s
HFS **Hagfors** 34.25 327 P **P** **20 04 22.9 -0.5**
comp=Z,7.4nm,0.9s,baz=132,slow=8.6,SNR=12
comp=Z,7.4nm,0.9s
ISO **Isola** 34.41 298 P **P** **20 04 25.2 +0.2**
CDF **Champ du Feu** 34.41 305 *eP* **P** **20 04 23.4 -1.6**
CDF pmax pmax
comp=Z,13nm,1.3s
ECH **Echery** 34.47 305 IAmb IAmb 20 04 25.3
comp=Z,17nm,1.0s
ECH **Echery** 34.47 305 P **P** **20 04 24.7 -0.8**
MBDF **Montbardon** 34.60 299 *eP* **P** **20 04 25.3 -1.5**
MBDF pmax pmax
comp=Z,27nm,0.8s
LPG **La Plagne** 34.62 300 *eP* **P** **20 04 25.4 -1.7**
LPG pmax pmax
comp=Z,22nm,1.0s
LPL **La Plagne** 34.63 300 *eP* **P** **20 04 25.4 -1.7**
LPL pmax pmax
comp=Z,17nm,0.9s
BUG **Bochum--Univer** 34.82 311 P **P** **20 04 28.8 +0.5**
HAU **Haudompre** 35.00 305 *eP* **P** **20 04 29.0 -1.0**
HAU pmax pmax
comp=Z,17nm,1.2s
CABF **La Chapelle** 35.10 302 *eP* **P** **20 04 29.9 -1.1**
CABF pmax pmax
comp=Z,65nm,1.0s
LODK **Lodwar** 35.15 208 P **P** **20 04 33.4 +1.8**
LODK IAmb IAmb 20 04 40.6
comp=Z,11nm,1.0s
ORIF **Oris-en-Rattie** 35.23 299 *eP* **P** **20 04 30.2 -2.0**
ORIF pmax pmax
comp=Z,7.0nm,0.7s
WLF **Walferdange** 35.28 308 *dP* **P** **20 04 32.4 +0.1**
WLF **Walferdange** 35.28 308 P **P** **20 04 30.9 -1.4**
GOMU **GeErMu** 35.29 76 P **P** **20 04 35.1 +2.0**
GOMU S **S** **20 10 03.4 -3.7**
GOMU pmax pmax
comp=Z,5.0nm,1.0s
GOMU LR LR
comp=Z,350nm,20.0s
GOMU LR LR
comp=Z,210nm,22.3s
GOMU LR LR
comp=Z,310nm,21.8s
BTNL **Ternell** 35.40 309 *dP* **P** **20 04 32.5 -0.9**
MEM **Membach** 35.48 309 *dP* **P** **20 04 35.0 +0.9**
comp=Z,6.9nm,0.8s
NB2 **NORSAR Subarra** 35.76 328 P **P** **20 04 35.4 -1.0**
comp=Z,12nm,1.2s,baz=120,slow=8.6
NB2 **NORSAR Subarra** 35.76 328 P **P** **20 04 36.0 -0.4**
NOA **NORSAR Array B** 35.76 328 P **P** **20 04 35.8 -0.6**
comp=Z,3.3nm,1.0s,baz=118,slow=8.1,SNR=7.5
comp=Z,3.3nm,1.0s
BCLA **Clavier** 35.90 309 *dP* **P** **20 04 38.4 +0.7**
comp=Z,5.3nm,1.2s
RCHB **Rochefort** 35.92 308 *dP* **P** **20 04 38.8 +0.9**
comp=Z,6.6nm,1.1s
BGES **Gesves** 36.04 309 *dP* **P** **20 04 37.6 -1.2**
comp=Z,4.4nm,1.1s
VIVF **Saint-Julien-l** 36.09 299 *eP* **P** **20 04 37.4 -2.1**
VIVF pmax pmax
comp=Z,37nm,1.2s
BMRD **Maredsous** 36.23 308 *dP* **P** **20 04 41.2 +0.7**
BAIF **Baives** 36.57 308 *eP* **P** **20 04 44.0 +0.6**
BAIF pmax pmax
comp=Z,29nm,1.4s
LOR **Lormes** 36.65 303 *eP* **P** **20 04 42.2 -2.0**
LOR pmax pmax
comp=Z,13nm,1.1s
ARCES **ARCESS Array B** 36.71 345 LR LR 20 20 55.3
comp=Z,256nm,18.3s,baz=144,slow=38
AVF **Avril sur Loir** 36.99 302 *eP* **P** **20 04 45.3 -1.7**
AVF pmax pmax
comp=Z,36nm,1.0s
BGF **Bois d'Agland** 37.34 302 *eP* **P** **20 04 48.4 -1.6**
BGF pmax pmax
comp=Z,21nm,1.4s
CLF **Chambon-Foret** 37.74 305 IAmb IAmb 20 04 53.8
comp=Z,45nm,1.3s
TCF **Toulx Ste Croi** 37.78 302 *eP* **P** **20 04 52.5 -1.4**
TCF pmax pmax
comp=Z,21nm,1.0s
CAF **Calviac** 37.94 299 *eP* **P** **20 04 53.7 -1.5**
CAF pmax pmax
comp=Z,9.0nm,0.8s
MTLF **Montolieu** 37.95 297 *eP* **P** **20 04 54.6 -0.7**
MTLF pmax pmax
comp=Z,67nm,1.7s
GTA **Gaotai** 38.55 69 ⇑P **P** **20 05 02.1 +1.6**
GTA sP sP 20 05 12.8 +6.4
GTA pmax pmax
comp=Z,3.0nm,1.3s
GTA LR LR
comp=Z,380nm,18.2s
GTA LR LR
comp=Z,190nm,19.6s
GTA LR LR
comp=Z,330nm,17.1s
KMBO **Kilima Mbogo** 38.75 202 ⇑*eP* **P** **20 04 59.2 -3.2**
KMBO **Kilima Mbogo** 38.75 202 LR LR 20 21 32.0
comp=Z,195nm,21.2s,baz=88,slow=37
PALK **Pallekele** 39.23 129 LR LR 20 22 54.7
comp=Z,108nm,19.1s,baz=73,slow=39
LDF **La Druitiere** 39.34 305 *eP* **P** **20 05 06.4 -0.4**
LDF pmax pmax
comp=Z,9.0nm,0.8s

KIBK	**Kibwezi**	**39.66**	**200**	P	**P**	**20 05 10.9**	**+1.0**
KIBK				IAmb	IAmb	20 05 21.2	
	comp=Z,15nm,0.8s						
GRR	**Gorron**	**39.83**	**305**	*e*P	**P**	**20 05 10.0**	**-0.9**
GRR				pmax	pmax		
	comp=Z,35nm,1.0s						
ECHE	**Chera**	**40.86**	**292**	P	**P**	**20 05 19.0**	**-0.7**
TAM	**Tamanrasset**	**41.33**	**265**	P	**P**	**20 05 24.0**	**+0.2**
TAM	**Tamanrasset**	**41.33**	**265**	P	**P**	**20 05 24.0**	**+0.2**
TAM				pmax	pmax		
	comp=Z,21nm,1.5s						
QUIF	**Quistinic**	**41.39**	**304**	*e*P	**P**	**20 05 22.9**	**-0.9**
QUIF				pmax	pmax		
	comp=Z,24nm,1.1s						
ROSF	**Rostrenen**	**41.44**	**305**	*e*P	**P**	**20 05 23.5**	**-0.7**
ROSF				pmax	pmax		
	comp=Z,24nm,1.1s						
ETOB	**Tobarra**	**41.50**	**290**	P	**P**	**20 05 24.0**	**-0.9**
EKA	**Eskdalemuir Ar**	**41.52**	**316**	P	**P**	**20 05 23.6**	**-1.1**
	comp=Z,2.8nm,0.6s,baz=107,slow=7.9,SNR=20						
	comp=Z,2.8nm,0.6s						
TNCH	**TengChong**	**42.03**	**91**	P	**P**	**20 05 30.0**	**+0.4**
TNCH				pP	pP	20 05 33.5	-0.3
TNCH				PP	**PP**	**20 07 11.0**	**+4.2**
TNCH				S	**S**	**20 11 41.3**	**-7.3**
TNCH				SS	**SS**	**20 14 46.4**	**-9.3**
TNCH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TNCH				pmax	pmax		
	comp=Z,53nm,4.4s						
TNCH				LR	LR		
	comp=Z,490nm,5.6s						
TNCH				LR	LR		
	comp=Z,460nm,5.2s						
TNCH				LR	LR		
	comp=Z,270nm,5.3s						
SONM	**Songino Array**	**42.27**	**56**	P	**P**	**20 05 31.1**	**-0.1**
	comp=Z,2.1nm,1.0s,baz=277,slow=11,SNR=10						
SONM				LR	LR	20 24 30.4	
	comp=Z,372nm,18.9s,baz=279,slow=38						
	comp=Z,2.1nm,1.0s						
LZH	**Lanzhou**	**42.41**	**73**	*e*P	**P**	**20 05 34.4**	**+1.9**
LZH				pP	sP	20 05 45.1	+6.7
LZH				pmax	pmax		
	comp=Z,13nm,1.3s						
LZH				LR	LR		
	comp=Z,730nm,18.2s						
LZH				LR	LR		
	comp=Z,450nm,16.6s						
LZH				LR	LR		
	comp=Z,600nm,17.3s						
UCM	**Universidad Co**	**42.43**	**293**	P	**P**	**20 05 31.4**	**-1.1**
ULN	**Ulaanbaatar**	**42.71**	**55**	P	**P**	**20 05 35.0**	**+0.2**
ULN	**Ulaanbaatar**	**42.71**	**55**	*de*P	**P**	**20 05 35.6**	**+0.8**
ESBB	**Sonseca Array**	**43.11**	**292**	P	**P**	**20 05 36.7**	**-1.3**
ESBB				IAmb	IAmb	20 05 38.0	
	comp=Z,15nm,0.9s						
ESDC	**Sonseca Array**	**43.11**	**292**	P	**P**	**20 05 36.6**	**-1.5**
ESDC	**Sonseca Array**	**43.11**	**292**	P	**P**	**20 05 36.7**	**-1.3**
	comp=Z,12nm,0.9s,baz=64,slow=8.0,SNR=78						
	comp=Z,12nm,0.9s						
CD2	**Chengdu**	**43.96**	**80**	P	**P**	**20 05 46.1**	**+1.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH	**PanZhiHua**	**44.03**	**87**	P	P	20 05 51.0	+5.3
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,210nm,4.3s						
PBRG	**Braganca**	**44.72**	**296**	*e*P	**P**	**20 05 49.6**	**-1.3**
	comp=Z,19nm,2.0s						
PBRG				*ep*P	**sP**	**20 05 59.2**	**+2.4**
MVO	**Moncorvo**	**45.07**	**295**	*e*P	**P**	**20 05 53.1**	**-0.6**
	comp=Z,32nm,1.1s						
MVO				*ep*P	**sP**	**20 06 01.2**	**+1.6**
SPITS	**Spitsbergen Ar**	**45.10**	**350**	LR	LR	20 28 37.8	
	comp=Z,228nm,18.6s,baz=114,slow=41						
KMI	**Kunming**	**45.43**	**88** ⇑	P	**P**	**20 05 57.0**	**0.0**
KMI				pmax	pmax		
	comp=Z,13nm,0.9s						
KMI				LR	LR		
	comp=Z,420nm,24.7s						
KMI				LR	LR		
	comp=Z,380nm,17.3s						
KMI				LR	LR		
	comp=Z,330nm,15.5s						
PVRL	**Vila Real**	**45.55**	**296**	*e*P	**P**	**20 05 57.0**	**-0.5**
	comp=Z,39nm,1.1s						
CM31	**Chiang Mai Arr**	**45.56**	**99**	P	**P**	**20 05 57.5**	**-0.3**
CM31				IAmb	IAmb	20 06 21.7	
	comp=Z,12nm,1.0s						
CMAR	**Chiang Mai Arr**	**45.56**	**99**	P	**P**	**20 05 57.5**	**-0.3**
	comp=Z,3.5nm,0.7s,baz=300,slow=8.5,SNR=24						
CMAR				LR	LR	20 27 44.0	
	comp=Z,123nm,19.2s,baz=280,slow=40						
	comp=Z,3.5nm,0.7s						
POLO	**Lamas de Olo**	**45.58**	**296**	*e*P	**P**	**20 05 57.1**	**-0.7**
	comp=Z,14nm,1.1s						
POLO				*ep*P	**sP**	**20 06 02.8**	**-0.9**
MTE	**Manteigas**	**45.62**	**294**	*e*P	**P**	**20 05 57.9**	**-0.2**
	comp=Z,62nm,1.0s						
MTE				*ep*P	**sP**	**20 06 06.8**	**+2.8**
MTE	**Manteigas**	**45.62**	**294**	P	**P**	**20 05 57.4**	**-0.8**
PCBR	**Castelo Branco**	**45.70**	**294**	*e*P	**P**	**20 05 58.2**	**-0.5**
	comp=Z,47nm,1.5s						
PMRV	**Marv??o**	**45.74**	**293**	*e*P	**P**	**20 05 58.5**	**-0.5**
	comp=Z,25nm,1.4s						
PMRV				*ep*P	**pP**	**20 06 02.9**	**-0.4**
PBAR	**Barrancos**	**45.80**	**291**	*e*P	**P**	**20 05 58.6**	**-0.9**
	comp=Z,23nm,1.7s						
PGAV	**Gavieira, Arco**	**45.80**	**297**	*e*P	**P**	**20 05 58.2**	**-1.4**
	comp=Z,70nm,1.2s						
PVIS	**Viseu**	**45.81**	**295**	*e*P	**P**	**20 05 59.5**	**-0.1**
BTO	**Baotou**	**45.98**	**65**	*e*P	**P**	**20 06 01.3**	**+0.3**
BTO				pP	**sP**	**20 06 05.9**	**-1.0**
BTO				sP	**pP**	**20 06 08.4**	**+3.2**
BTO				PP	**PP**	**20 07 48.5**	**-0.1**
BTO				S	**S**	**20 12 45.4**	**-0.3**
BTO				sS	**sS**	**20 12 51.5**	**-1.1**
BTO				SS	**ScS**	**20 15 58.3**	**+1.5**
BTO				pmax	pmax		
	comp=Z,25nm,0.9s						
BTO				pmax	pmax		
	comp=Z,230nm,5.0s						
BTO				LR	LR		
	comp=Z,610nm,12.5s						
BTO				LR	LR		
	comp=Z,690nm,17.8s						
BTO				LR	LR		
	comp=Z,820nm,15.9s						
PESTR	**Estremoz**	**46.03**	**292**	*e*P	**P**	**20 06 00.5**	**-0.8**
	comp=Z,23nm,1.5s						
PCAS	**Casmilo, Conde**	**46.41**	**294**	*e*P	**P**	**20 06 04.1**	**-0.2**
	comp=Z,37nm,1.4s						
PMTG	**Montargil**	**46.46**	**293**	*e*P	**P**	**20 06 04.1**	**-0.6**
	comp=Z,25nm,1.6s						
PBEJ	**Beja**	**46.47**	**291**	*e*P	**P**	**20 06 04.3**	**-0.4**
	comp=Z,23nm,1.8s						
BOD	**Bodaibo**	**46.56**	**41**	*e*P	**P**	**20 06 05.0**	**-0.2**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.5s						
PCVE	**Castro Verde**	**46.71**	**291**	*e*P	**P**	**20 06 06.0**	**-0.6**
	comp=Z,25nm,1.8s						
XAN	**Xi'an**	**46.99**	**74**	P	**P**	**20 06 09.0**	**0.0**
XAN				pP	pP	20 06 12.9	-0.3
XAN				sP	sP	20 06 15.9	+1.0
XAN				pmax	pmax		
	comp=Z,13nm,1.1s						
XAN				LR	LR		
	comp=Z,870nm,9.8s						
XAN				LR	LR		
	comp=Z,870nm,13.1s						
XAN				LR	LR		
	comp=Z,520nm,8.8s						
HHC	**Hu-ho-hao-te**	**47.06**	**65**	*e*P	**P**	**20 06 08.9**	**-0.6**
HHC				pmax	pmax		
	comp=Z,23nm,0.8s						
HHC				pmax	pmax		
	comp=Z,100nm,4.2s						
HHC				LR	LR		
	comp=Z,420nm,13.0s						
HHC				LR	LR		
	comp=Z,460nm,13.8s						
HHC				LR	LR		
	comp=Z,480nm,11.6s						
MORF	**Marmelete**	**47.27**	**291**	*e*P	**P**	**20 06 08.8**	**-2.3**
	comp=Z,48nm,1.7s						
PMAFR	**Mafra**	**47.28**	**293**	*e*P	**P**	**20 06 11.2**	**+0.1**
	comp=Z,83nm,2.0s						
TOA0	**Torodi Ar. Sit**	**49.54**	**256**	P	**P**	**20 06 27.3**	**-1.5**
TOA0				IAmb	IAmb	20 06 34.6	
	comp=Z,10nm,1.0s						
TORD	**Torodi Ar. Bea**	**49.54**	**256**	P	**P**	**20 06 27.1**	**-1.7**
TORD	**Torodi Ar. Bea**	**49.54**	**256**	P	**P**	**20 06 27.4**	**-1.4**
	comp=Z,6.3nm,0.9s,baz=42,slow=9.6,SNR=29						
	comp=Z,6.3nm,0.9s						
LYN	**LuoYang**	**49.59**	**72**	*e*P	**P**	**20 06 30.0**	**+1.0**
LYN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJI	**Beijing**	**50.66**	**64**	P	**P**	**20 06 37.9**	**+0.9**
DAG	**Danmarks Havn**	**50.97**	**344**	*i* P	P	20 06 48.0	+9.2
TIXI	**Tiksi**	**52.83**	**23**	P	**P**	**20 06 52.8**	**+0.1**
TIXI	**Tiksi**	**52.83**	**23**	*ce*P	**P**	**20 06 53.9**	**+1.2**
TIXI	**Tiksi**	**52.83**	**23**	LR	LR	20 33 09.5	
	comp=Z,20nm,18.3s,baz=306,slow=40						
OPO	**Ambidratompo**	**54.02**	**184**	LR	LR	20 30 40.4	
	comp=Z,73nm,19.1s,baz=181,slow=37						
YAK	**Yakutsk**	**54.08**	**35**	*ce*P	**P**	**20 07 01.5**	**-0.5**
YAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
HEH	**HeiHe**	**55.44**	**49**	*e*P	**P**	**20 07 12.4**	**+0.3**
HEH				pmax	pmax		
	comp=Z,13nm,0.9s						
HEH				LR	LR		
	comp=Z,210nm,12.6s						
HEH				LR	LR		
	comp=Z,400nm,12.0s						
HEH				LR	LR		
	comp=Z,460nm,12.9s						
CN2	**Changchun**	**56.09**	**57**	*e*P	**P**	**20 07 17.5**	**+0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KLR	**Kul'dur**	**58.43**	**49** ⇑	*e*P	**P**	**20 07 33.5**	**+0.2**
KLR				pmax	pmax		
	comp=Z,11nm,2.5s						
KLR	**Kul'dur**	**58.43**	**49**	LR	LR	20 36 44.3	
	comp=Z,163nm,18.3s,baz=286,slow=40						
DBIC	**Dimbokro**	**58.57**	**254**	P	**P**	**20 07 32.8**	**-1.9**
	comp=Z,3.0nm,0.6s,baz=32,slow=8.9,SNR=4.5						
	comp=Z,3.0nm,0.6s						
MDJ	**Mudanjiang**	**58.62**	**55**	P	**P**	**20 07 31.9**	**-2.8**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,230nm,7.0s						
KSRS	**Korea Array**	**60.16**	**63**	P	**P**	**20 07 44.8**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=280,slow=6.7,SNR=12						
KSRS				LR	LR	20 37 13.4	
	comp=Z,210nm,18.2s,baz=245,slow=40						
	comp=Z,2.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**60.37**	**55**	P	**P**	**20 07 44.7**	**-2.1**
	comp=Z,4.0nm,1.0s,baz=251,slow=5.8,SNR=5.3						
USRK				LR	LR	20 36 00.8	
	comp=Z,291nm,18.4s,baz=299,slow=38						
	comp=Z,4.0nm,1.0s						
TSUM	**Tsumeb**	**63.05**	**216**	LR	LR	20 36 16.3	
	comp=Z,68nm,19.6s,baz=36,slow=37						
SEY	**Seymchan**	**63.77**	**30**	*ce*P	**P**	**20 08 11.5**	**+2.2**
SEY				pmax	pmax		
	comp=Z,11nm,1.7s						
JOW	**Kunigami**	**65.15**	**74**	LR	LR	20 42 03.6	
	comp=Z,161nm,18.5s,baz=80,slow=41						
BILL	**Bilibino**	**66.02**	**22**	P	**P**	**20 08 24.4**	**+0.6**
BILL				IAmb	IAmb	20 08 39.5	
	comp=Z,9.0nm,1.1s						
BILL	**Bilibino**	**66.02**	**22** ⇑	*e*P	**P**	**20 08 25.3**	**+1.4**
ASAJ	**Asahikawa**	**67.32**	**51**	LR	LR	20 40 21.9	
	comp=Z,306nm,18.6s,baz=60,slow=38						
RES	**Resolute Bay**	**67.67**	**351**	LR	LR	20 40 14.4	
	comp=Z,85nm,20.5s,baz=10.0,slow=38						
LEM	**Lembang**	**67.90**	**116**	LR	LR	20 42 04.5	
	comp=Z,71nm,18.5s,baz=280,slow=39						
MJAR	**Matsushiro Arr**	**67.95**	**60**	LR	LR	20 40 30.3	
	comp=Z,95nm,19.5s,baz=283,slow=38						
BOSA	**Boshof**	**68.35**	**204**	P	**P**	**20 08 38.8**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=20,slow=4.2,SNR=4.3						
	comp=Z,1.9nm,0.7s						
JHJ	**Hachijo jima 2**	**70.76**	**63**	LR	LR	20 43 48.1	
	comp=Z,86nm,19.6s,baz=90,slow=39						
PETK	**Petropavlovsk-**	**71.26**	**38**	LR	LR	20 43 23.2	
	comp=Z,184nm,19.3s,baz=312,slow=38						
A36M	**Sachs Harbour**	**72.64**	**359**	P	**P**	**20 09 04.6**	**-0.2**
A36M				IAmb	IAmb	20 09 24.6	
	comp=Z,8.5nm,0.8s						
DAV	**Davao City (W)**	**73.42**	**93**	LR	LR	20 45 40.4	
	comp=Z,150nm,19.8s,baz=316,slow=39						
TOLK	**Toolik Lake Re**	**74.92**	**8**	IAmb	IAmb	20 09 25.3	
	comp=Z,6.8nm,0.8s						
E19K	**Redstone River**	**75.03**	**11**	IAmb	IAmb	20 09 36.6	
	comp=Z,9.1nm,0.9s						
KAPI	**Kappang**	**75.92**	**107**	LR	LR	20 46 04.4	
	comp=Z,59nm,22.0s,baz=309,slow=38						
INK	**Inuvik**	**76.32**	**2**	LR	LR	20 50 41.9	
	comp=Z,38nm,18.3s,baz=156,slow=42						
G27K	**Doyon Strip**	**77.42**	**5**	IAmb	IAmb	20 09 55.9	
	comp=Z,11nm,1.6s						
G31M	**Satah River**	**77.69**	**2**	IAmb	IAmb	20 09 34.7	
	comp=Z,11nm,0.7s						
H31M	**Peel River**	**78.81**	**2**	IAmb	IAmb	20 09 57.5	
	comp=Z,8.5nm,1.1s						
I28M	**Miner Creek**	**78.89**	**5**	P	**P**	**20 09 40.6**	**-0.1**
ILAR	**Eielson Array**	**78.95**	**8**	P	**P**	**20 09 40.0**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=328,slow=3.6,SNR=14						
	comp=Z,1.1nm,0.8s						
SHEM	**Shemya Is, Ala**	**79.07**	**31**	LR	LR	20 47 18.9	
	comp=Z,96nm,20.3s,baz=316,slow=38						
CAST	**Castle Rocks**	**79.58**	**10**	P	**P**	**20 09 45.0**	**+0.5**
CAST				IAmb	IAmb	20 10 02.2	
	comp=Z,8.9nm,0.9s						
SCRK	**Sand Creek**	**80.02**	**7**	P	**P**	**20 09 46.9**	**0.0**
WRGLY	**Wrigley**	**81.38**	**357**	P	**P**	**20 09 53.9**	**-0.1**
WRGLY				IAmb	IAmb	20 10 08.3	
	comp=Z,9.9nm,1.1s						
YKA	**Yellowknife Ar**	**81.52**	**353**	LR	LR	20 52 19.7	
	comp=Z,91nm,19.3s,baz=51,slow=40						
TGL	**Tana Glacier**	**83.29**	**7**	P	**P**	**20 10 02.4**	**-1.9**
KDAK	**Kodiak Island**	**84.85**	**12**	LR	LR	20 53 57.4	
	comp=Z,45nm,18.0s,baz=7.4,slow=40						
GUMO	**Guam**	**85.33**	**77**	LR	LR	20 50 49.6	
	comp=Z,33nm,20.1s,baz=314,slow=37						
BBB	**Bella Bella**	**92.55**	**359**	LR	LR	21 01 42.8	
	comp=Z,28nm,18.2s,baz=18,slow=42						
ASAR	**Alice Springs**	**98.03**	**113**	LR	LR	20 58 09.3	
	comp=Z,38nm,21.9s,baz=328,slow=37						
DZM	**Mont Dzumac**	**122.80**	**95**	*e*LR	LR	20 54 28.6	
	comp=Z,78nm,24.5s						
PPT2	**Papeete2**	**154.40**	**51**	*e*LR	LR	21 09 14.5	
	comp=Z,87nm,27.0s						
TBI	**Tubuai**	**158.47**	**61**	*e*LR	LR	21 10 55.8	
	comp=Z,644nm,33.2s						

NEIC ***20*** *20:00:28.0±1.3,5°.72S±0°.06×131°.80E±0°.03,h68km±8km, mb4.6/30, Error ellipse: s-maj=9.5km s-min=4.8km az=170.0*

DJA ***20*** *20:00:27.7±0.2,6°S±2°×13°2E±°,h78km±6km,M5.0/23, mb5.0/23,mB5.3/9,MLv5.4/8,Mw(mB)4.7/9*

IDC ***20*** *20:00:29.3±3.6,5°.64S×131°.85E,h78km±34km, mb4.1/12, mbtmp4.5/14,MS3.3/5, Error ellipse: s-maj=26.1km s-min=13.3km az=65.0*

ISC 20 20:00:26.1±0.4,5°.78S±0°.04×131°.78E±0°.05,h50km,n163, σ1°**85**/165,**mb4.5**/24,**MS3.3**/5,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
SAUI	**Saumlaki**	**2.24**	**192**		**Pn**	**20 01 04.0**	**+3.2**
SAUI	**Saumlaki**	**2.24**	**192**	P	**Pn**	**20 01 03.6**	**+2.8**
SAUI	**Saumlaki**	**2.24**	**192**	S	**Sn**	**20 01 32.6**	**+5.4**
BNDI	**Bandanaira**	**2.25**	**304**	P	**Pn**	**20 01 03.4**	**+2.5**
BNDI	**Bandanaira**	**2.25**	**304**	S	**Sn**	**20 01 30.1**	**+2.6**
KMPI	**Kaimana, Papua**	**2.85**	**42**	P	**Pn**	**20 01 12.0**	**+2.9**
KMPI				S	**Sn**	**20 01 44.1**	**+1.9**
FAKI	**Fak Fak**	**2.88**	**9**	Pn	**Pn**	**20 01 11.3**	**+1.6**
FAKI	**Fak Fak**	**2.88**	**9**	P	**Pn**	**20 01 11.5**	**+1.9**
FAKI	**Fak Fak**	**2.88**	**9**	S	**Sn**	**20 01 43.2**	**+0.1**
SWI	**Sorong**	**4.92**	**354**	P	**Pn**	**20 01 37.6**	**+0.1**
NLAI	**Namlea**	**5.31**	**298**	P	**Pn**	**20 01 44.9**	**+2.0**
	149nm,0.7s,0.7nm						
LBMI	**Labuha**	**6.66**	**320**	P	**Pn**	**20 02 01.6**	**+0.1**
	261nm,1.0s,2μm2.2nm						
LBMI				S	**Sn**	**20 03 11.0**	**-5.1**
	261nm,1.0s,2μm2.2nm						
SANI	**Sanana**	**6.87**	**302**	P	**Pn**	**20 02 05.0**	**+0.7**
KDU	**Kakadu**	**6.89**	**174**	P	**Pn**	**20 02 05.8**	**+1.2**
	baz=6.9,SNR=48						
MTN	**Manton Dam**	**7.04**	**185**	P	**Pn**	**20 02 07.4**	**+0.6**
	baz=7.0,SNR=1000						
MTN				S	**Sn**	**20 03 23.5**	**-2.0**
	baz=7.0						
MTN	**Manton Dam**	**7.04**	**185**	Pn	**Pn**	**20 02 07.3**	**+0.6**
MTN				Sn	**Sn**	**20 03 22.8**	**-2.7**
MTN	**Manton Dam**	**7.04**	**185**	P	**Pn**	**20 02 07.9**	**+1.2**
TNTI	**Ternate**	**7.86**	**326**	Pn	**Pn**	**20 02 17.8**	**-0.2**
TNTI	**Ternate**	**7.86**	**326**	P	**Pn**	**20 02 19.5**	**+1.5**
SOEI	**Soe**	**8.43**	**242**		**Pn**	**20 02 27.3**	**+1.5**
SOEI	**Soe**	**8.43**	**242**	P	**Pn**	**20 02 27.7**	**+1.9**
SOEI	**Soe**	**8.43**	**242**	P	**Pn**	**20 02 27.4**	**+1.6**
	225nm,0.8s,2μm						
TABU	**Tabubil**	**9.41**	**87**	P	**Pn**	**20 02 41.5**	**+2.3**
MMRI	**Maumere**	**9.88**	**253**		**Pn**	**20 02 48.0**	**+2.3**
KMSI	**Cibinong**	**10.03**	**309**	P	**Pn**	**20 02 47.1**	**-0.5**
	143nm,0.7s						
LUWI	**Luwuk**	**10.15**	**297**	Pn	**Pn**	**20 02 48.9**	**-0.5**
KNRA	**Kununurra**	**10.27**	**197**	P	**Pn**	**20 02 50.6**	**-0.3**
	baz=10,SNR=723						
KNRA	**Kununurra**	**10.27**	**197**	Pn	**Pn**	**20 02 50.3**	**-0.6**
KNRA	**Kununurra**	**10.27**	**197**	P	**Pn**	**20 02 51.1**	**+0.2**
EDFI	**Ende, Flores**	**10.44**	**253**	P	**Pn**	**20 02 55.8**	**+2.5**
	21nm,0.7s						
BKSI	**Bulukumba**	**11.61**	**272**	P	Pn	20 03 15.0	+5.7
MRSI	**Marisa**	**11.63**	**302**	P	**Pn**	**20 03 10.1**	**+0.6**
	86nm,0.8s,664nm						
BASI	**Baing, Sumba**	**11.94**	**248**	P	**Pn**	**20 03 14.7**	**+1.0**
	114nm,0.7s						
KAPI	**Kappang**	**12.00**	**273**	Pn	**Pn**	**20 03 15.7**	**+1.1**
KAPI	**Kappang**	**12.00**	**273**	P	**Pn**	**20 03 18.8**	**+4.2**
	41nm,0.7s,baz=104,slow=6.7,SNR=10						
SPSI	**Sidrap Palu**	**12.11**	**278**	P	**Pn**	**20 03 18.4**	**+2.4**
	74nm,0.7s,789nm						
TTSI	**Tana Toraja**	**12.23**	**282**	P	**Pn**	**20 03 20.1**	**+2.3**
	48nm,1.1s						
TOLI2	**Tolitoli**	**12.95**	**302**	Pn	**Pn**	**20 03 26.9**	**-0.6**
TOLI2	**Tolitoli**	**12.95**	**302**	P	**Pn**	**20 03 30.4**	**+2.9**
MPSI	**Mapaga**	**13.33**	**297**	P	**Pn**	**20 03 32.9**	**+0.1**
	31nm,1.1s,542nm						
FITZ	**Fitzroy Crossi**	**13.63**	**206**	P	**Pn**	**20 03 33.1**	**-3.7**
	baz=14,SNR=280						
FITZ	**Fitzroy Crossi**	**13.63**	**206**	Pn	**Pn**	**20 03 34.0**	**-2.8**
WB0	**Warramunga Arr**	**14.13**	**170**	Pn	**Pn**	**20 03 39.5**	**-4.1**
PLAI	**Plampang**	**14.22**	**257**	P	**Pn**	**20 03 44.4**	**-0.4**
PLAI	**Plampang**	**14.22**	**257**	P	**Pn**	**20 03 44.1**	**-0.7**
	43nm,0.8s						
WRAB	**Tennant Creek**	**14.29**	**170**		**Pn**	**20 03 41.4**	**-4.3**
WRA	**Warramunga Arr**	**14.29**	**170**	P	**Pn**	**20 03 41.9**	**-4.0**
	34nm,0.4s,baz=352,slow=13,SNR=131						
WRA				S	Sn	20 06 12.4	-11
	14nm,0.6s,baz=359,slow=18,SNR=6.6						
WB2	**Warramunga Arr**	**14.29**	**170**	Pn	**Pn**	**20 03 41.8**	**-4.0**
WR0	**Warramunga Arr**	**14.35**	**169**	Pn	**Pn**	**20 03 42.8**	**-3.7**
TWSI	**Taliwang, Sumb**	**15.07**	**258**	P	**Pn**	**20 03 56.2**	**+0.2**
	27nm,0.8s						
PMG	**Port Moresby**	**15.66**	**104**	P	**Pn**	**20 04 04.9**	**+1.3**
PMG				IAmb	IAmb	20 04 15.3	
	comp=Z,52nm,1.0s						
PMG	**Port Moresby**	**15.66**	**104**	P	**P**	**20 04 06.3**	**-0.7**
PMG	**Port Moresby**	**15.66**	**104**	P	**P**	**20 04 06.2**	**-0.7**
PMG	**Port Moresby**	**15.66**	**104**	P	**Pn**	**20 04 04.0**	**+0.3**
	comp=Z,39nm,0.8s,baz=301,slow=11,SNR=15						
PMG				S	Sn	20 06 44.5	-12
	comp=Z,4.5nm,0.5s,baz=21,slow=22,SNR=1.0						
QIS	**Mount Isa**	**16.53**	**153**	P	**Pn**	**20 04 13.6**	**-1.1**
	baz=17,SNR=103						
SRBI	**Singaraja**	**16.61**	**261**	P	**Pn**	**20 04 16.3**	**+0.7**
	comp=Z,61nm,1.1s						
BBKI	**Banjar Baru**	**17.04**	**277**	P	**Pn**	**20 04 22.0**	**+0.9**
	comp=Z,76nm,1.0s						
MTSU	**Mount Surprise**	**17.33**	**136**	P	**P**	**20 04 26.2**	**+0.6**
	baz=17,SNR=60						
JAGI	**Jajag, Banyuwa**	**17.70**	**260**		**Pn**	**20 04 26.5**	**-2.7**
JAGI				IAmb	IAmb	20 04 31.6	
	comp=Z,67nm,1.2s						
JAGI	**Jajag, Banyuwa**	**17.70**	**260**	P	**Pn**	**20 04 30.2**	**+1.0**
JAGI	**Jajag, Banyuwa**	**17.70**	**260**	P	**Pn**	**20 04 27.8**	**-1.4**
	comp=Z,60nm,1.5s						
AS31	**Alice Springs**	**17.90**	**174**		**Pn**	**20 04 29.0**	**-2.6**
ASAR	**Alice Springs**	**17.90**	**174**		**Pn**	**20 04 28.6**	**-3.0**
ASAR	**Alice Springs**	**17.90**	**174**	P	**Pn**	**20 04 29.0**	**-2.6**
	comp=Z,34nm,0.6s,baz=353,slow=13,SNR=261						
ASAR				S	**Sn**	**20 07 40.5**	**-10**
	comp=Z,8.5nm,0.6s,baz=348,slow=26,SNR=3.8						
ASAR				LR	LR	20 12 17.4	
	comp=Z,89nm,19.0s,baz=354,slow=39						
BLJI	**Banyuglugur**	**18.16**	**263**	P	**Pn**	**20 04 36.6**	**+1.7**
	comp=Z,179nm,0.7s						
MBWA	**Marble Bar**	**19.24**	**216**	P	**P**	**20 04 46.8**	**+0.4**
MBWA				IAmb	IAmb	20 04 47.6	
	comp=Z,28nm,0.6s						
MBWA	**Marble Bar**	**19.24**	**216**	P	**P**	**20 04 47.1**	**+0.7**
WRKA	**Warakurna**	**19.43**	**190**	P	**P**	**20 04 48.6**	**0.0**
	baz=20,SNR=377						
WRKA	**Warakurna**	**19.43**	**190**	P	**P**	**20 04 49.1**	**+0.5**
KKM	**Kota Kinabalu**	**19.48**	**307**	P	**P**	**20 04 48.9**	**-0.3**
KKM				IAmb	IAmb	20 04 52.1	
	comp=Z,29nm,0.8s						
KKM	**Kota Kinabalu**	**19.48**	**307**	P	**P**

baz=28,SNR=4.1
HTT Hallett 28.30 167 P **P** **20 06 16.8 +1.7**
BLDU Ballidu 28.48 208 P **P** **20 06 17.1 +0.4**
baz=28,SNR=7.2
BLDU Ballidu 28.48 208 P **P** **20 06 17.9 +1.2**
KLBR Kellerberrin 28.84 205 P **P** **20 06 20.6 +0.7**
baz=29,SNR=29
NWAO Narrogin (SRO) 30.22 205 P **P** **20 06 33.0 +0.9**
baz=30,SNR=5.8
NWAO P **P** **20 06 33.0 +0.9**
baz=30,SNR=5.8
NWAO Narrogin (SRO) 30.22 205 P **P** **20 06 32.2 +0.2**
NWAO IAmb IAmb 20 06 35.2
comp=Z,15nm,0.8s
NWAO Narrogin (SRO) 30.22 205 P **P** **20 06 33.0 +0.9**
NWAO Narrogin (SRO) 30.22 205 LR LR 20 19 14.7
comp=Z,88nm,19.4s,baz=77,slow=37
TWGBT Beinan 30.29 340 P **P** **20 06 33.6 +0.8**
YULB Yu-li 30.75 341 P **P** **20 06 36.6 -0.3**
RKGY Rocky Gully 31.79 204 P **P** **20 06 48.1 +2.3**
baz=32,SNR=8.4
IPM Ipoh 32.36 288 P **P** **20 06 52.3 +1.1**
CAN Canberra 33.41 154 P **P** **20 06 59.9 -0.3**
UBPT Khong Chiam 33.43 309 P **P** **20 07 00.1 -0.4**
CMAR Chiang Mai Arr 40.36 307 P **P** **20 07 59.0 -0.4**
comp=Z,3.3nm,0.5s,baz=133,slow=6.8,SNR=21
comp=Z,3.3nm,0.5s
CHTO Chiang Mai 40.55 308 P **P** **20 08 00.6 -0.4**
CHTO IAmb IAmb 20 08 02.3
comp=Z,9.7nm,0.8s
MJAR Matsushiro Arr 42.53 8 P **P** **20 08 16.2 -0.7**
comp=Z,4.9nm,0.9s,baz=202,slow=9.1,SNR=6.6
comp=Z,4.9nm,0.9s
PZH PanZhiHua 43.33 319 P **P** **20 08 25.9 +2.2**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,220nm,5.5s
SHL Shillong 49.72 311 P **P** **20 09 12.5 -1.4**
SHL IAmb IAmb 20 09 13.9
comp=Z,7.9nm,0.7s
HHC Hu-ho-hao-te 49.98 340 *e*P **P** **20 09 17.1 +1.6**
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,160nm,4.3s
HHC LR LR
comp=N,420nm,16.8s
HHC LR LR
comp=E,460nm,16.5s
HHC LR LR
comp=Z,480nm,16.0s
MDJ Mudanjiang 50.21 358 P **P** **20 09 19.3 +2.3**
MDJ pmax pmax
comp=Z,7.0nm,1.9s
MDJ pmax pmax
comp=Z,150nm,6.3s
LSA Lhasa 52.58 314 P **P** **20 09 34.0 -1.6**
TAPN Taplejung 53.84 310 *e*P **P** **20 09 43.8 -0.9**
comp=Z,10nm,0.4s
RAMN Ramite 54.49 309 *e*P **P** **20 09 49.4 0.0**
comp=Z,39nm,0.8s
JIRN Jiri 55.16 309 *e*P **P** **20 09 53.5 -0.8**
comp=Z,12nm,0.6s
GUN Gumba 55.52 310 *e*P **P** **20 09 56.1 -0.8**
comp=Z,25nm,0.7s
PKI Pulchoki 55.71 309 *e*P **P** **20 09 57.3 -1.0**
comp=Z,10nm,0.7s
GKN Gorkha 56.52 309 *e*P **P** **20 10 03.2 -0.7**
comp=Z,23nm,0.6s
KOLN Koldanda 57.22 308 *e*P **P** **20 10 08.3 -0.6**
DANN Dangsing 57.37 309 *e*P **P** **20 10 09.3 -0.7**
comp=Z,23nm,1.0s
PYUN Piuthan 57.85 308 *e*P **P** **20 10 12.7 -0.6**
comp=Z,44nm,0.8s
SONM Songino Array 57.88 340 P **P** **20 10 12.2 -0.9**
comp=Z,0.4nm,0.6s,baz=165,slow=6.0,SNR=2.1
PETK Petropavlovsk- 62.63 17 P **P** **20 10 44.2 -1.0**
comp=Z,8.1nm,1.1s,baz=181,slow=4.8,SNR=1.3
comp=Z,8.1nm,1.1s
WMQ Urumqi 63.37 326 *e*P **P** **20 10 51.5 +1.1**
WMQ pmax pmax
comp=Z,15nm,0.7s
MK31 Makanchi Array 68.20 326 P **P** **20 11 21.9 +0.5**
MK31 IAmb IAmb 20 11 31.3
comp=Z,4.7nm,0.9s
MKAR Makanchi Array 68.20 326 P **P** **20 11 21.7 +0.2**
MKAR Makanchi Array 68.20 326 P **P** **20 11 21.3 -0.2**
comp=Z,4.2nm,0.7s,baz=117,slow=8.0,SNR=20
comp=Z,4.2nm,0.7s
MAKZ Makanchi 68.39 326 P **P** **20 11 22.5 -0.1**
MAKZ IAmb IAmb 20 11 50.2
comp=Z,5.4nm,0.9s
ARSB Arslanbob 71.19 317 P **P** **20 11 40.6 +0.4**
ZAA0 Zalesovo Array 71.30 333 P **P** **20 11 39.2 -1.1**
ZAA0 IAmb IAmb 20 12 10.3
comp=Z,7.5nm,1.1s
ZALV Zalesovo Beam 71.30 333 P **P** **20 11 39.4 -0.9**
ZALV Zalesovo Beam 71.30 333 P **P** **20 11 39.8 -0.5**
comp=Z,1.3nm,0.6s,baz=126,slow=6.5,SNR=5.9
comp=Z,1.3nm,0.6s
KBL Kabul 71.35 309 P **P** **20 11 39.9 -1.4**
KURBB Kurchatov Arra 72.42 328 P **P** **20 11 45.6 -1.5**
comp=Z,1.3nm,0.2s,baz=126,slow=4.6,SNR=5.4
comp=Z,1.3nm,0.2s
CHGR Chuyangaron 72.79 313 **P** **20 11 49.0 -0.7**
CHGR IAmb IAmb 20 11 58.3
comp=Z,17nm,1.3s
VNDA Vanda 73.44 173 P **P** **20 11 53.9 +1.2**
VNDA IAmb IAmb 20 12 05.8
comp=Z,6.7nm,1.1s
VNDA Vanda 73.44 173 P **P** **20 11 53.6 +0.9**
comp=Z,2.1nm,0.8s,baz=322,slow=8.3,SNR=6.9
comp=Z,2.1nm,0.8s
KK31 Karatay Array 73.61 318 P **P** **20 11 53.4 -0.9**
KKAR Karatay Array 73.61 318 P **P** **20 11 53.4 -0.9**
KKAR Karatay Array 73.61 318 P **P** **20 11 54.3 -0.1**
HLP Hilina Pali 75.92 69 P **P** **20 12 06.1 -2.2**
MAW Mawson 76.72 202 P **P** **20 12 13.0 +1.2**
comp=Z,4.2nm,0.8s,baz=82,slow=7.7,SNR=4.5
comp=Z,4.2nm,0.8s
BVAR Borovoye Array 78.00 327 P **P** **20 12 18.9 -0.3**
comp=Z,1.3nm,0.7s,baz=139,slow=9.9,SNR=5.1
comp=Z,1.3nm,0.7s
ABKAR Akbulak array 82.67 321 P **P** **20 12 42.8 -1.6**
QSPA South Pole Qui 84.18 180 P **P** **20 12 52.3 +0.3**
comp=Z,3.2nm,0.7s,baz=36,slow=0.6,SNR=7.1
comp=Z,3.2nm,0.7s
TORD Torodi Ar. Bea 130.30 282 PKP **PKPdf** **20 19 32.9 +1.0**
comp=Z,0.6nm,0.7s,baz=95,slow=2.8,SNR=3.2

*IDC **20** 20:01:03.3±0.7,34˚.38N×45˚.79E,h0km,mb4.3/24, mbtmp4.3/28,ML4.1/4,MS3.8/7,Error ellipse: s-maj=16.9km s-min=10.8km az=161.0*
*NEIC **20** 20:01:05.3±1.4,34˚.43N±0˚.05×45˚.80E±0˚.07,h10km±1km, mb4.7/122,Error ellipse: s-maj=9.9km s-min=8.0km az=130.0*
*TEH **20** 20:01:05.9,34˚.47N×45˚.79E,h8km±41km,ML4.5*
*ISN **20** 20:01:08.8±2.4,34˚.45N×45˚.81E,h25km,ML4.5*
*OMAN **20** 20:01:13.8±0.9,33˚.85N×46˚.40E,h10km,mb4.7/24, ms3.8/5,Error ellipse: s-maj=14.6km s-min=6.8km az=59.0*
*DSN **20** 20:01:15.3±1.7,33˚.50N×46˚.18E,h10km,mb5.2/1,Error ellipse: s-maj=48.2km s-min=12.4km az=29.0*

ISC 20 20:01:04.8±0.3,34˚.41N±0˚.03×45˚.82E±0˚.03,h10km, h10km:pP-P,n265,σ1s75/272,mb4.7/85,MS4.0/7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.21**	**297**	Pg	**Pg**	**20 01 09.8**	**+0.6**
IDHR	**Dehrash**	**0.55**	**58**	Pg	**Pg**	**20 01 16.5**	**+0.9**
IGHG	**Ghaleghazi**	**0.63**	**97**	Pg	**Pb**	**20 01 19.3**	**+1.3**
IGHG				Sg	**Sb**	**20 01 29.2**	**+2.3**
ILBA	**Ilam Banvizeh**	**0.85**	**157**	Pg	**Pg**	**20 01 23.3**	**+2.2**
KCHF	**Cheshme Sefid,**	**1.02**	**97**	Pg	**Pg**	**20 01 25.7**	**+1.2**
ILIN	**Lien**	**1.07**	**61**	Pg	**Pg**	**20 01 26.0**	**+0.6**
IKOM	**Komasi**	**1.42**	**99**	Pg	**Pg**	**20 01 33.5**	**+1.4**
BHD	**Baghdad** baz=45	**1.65**	**227**	*e*Pg	**Pb**	**20 01 37.0**	**+1.7**
BHD				*e*Sg	**Sg**	**20 02 02.0**	**+4.2**
BHD	comp=E,7μm,0.5s			AML	AML	20 02 09.4	
IBZA	**Bozab**	**1.69**	**87**	Pg	**Pb**	**20 01 38.0**	**+1.9**
SDS1	**Sardasht. Az.**	**1.76**	**351**	Pg	**Pg**	**20 01 38.0**	**-0.5**
IKFM	**Kafar-mosalman**	**1.90**	**117**	Pn	**Pb**	**20 01 41.2**	**+1.6**
IALM	**Almabolaq**	**1.99**	**76**	Pn	**Pb**	**20 01 42.6**	**+1.3**
MAHB	**Mahabad**	**2.35**	**358**	Pn	**Pb**	**20 01 46.5**	**-0.9**
HAGD	**Aghdareh**	**2.77**	**81**	Pn	**Pb**	**20 01 53.4**	**-1.2**
IHSH	**Hashtrud**	**3.12**	**22**	Pn	**Pn**	**20 01 57.8**	**+3.4**
ISRB	**Sarab**	**3.72**	**23**	Pn	**Pn**	**20 02 06.0**	**+3.5**
ITBZ	**Tabriz**	**3.83**	**4**	Pn	**Pn**	**20 02 07.3**	**+3.4**
ISHB	**Shabestar**	**3.87**	**358**	Pn	**Pn**	**20 02 06.9**	**+2.3**
AHWZ	**Ahwaz**	**3.88**	**141**	Pn	**Pn**	**20 02 08.7**	**+4.2**
AMIS	**Naft Sefid**	**4.00**	**132**	Pn	**Pn**	**20 02 09.1**	**+3.0**
GEVA	**Gevas**	**4.49**	**331**	Pn	**Pn**	**20 02 14.5**	**+1.5**
IPIR	**Pirpir**	**4.57**	**111**	Pn	**Pn**	**20 02 18.0**	**+3.7**
JHBN	**Jahan bin**	**4.60**	**117**	Pn	**Pn**	**20 02 18.6**	**+3.9**
MARD	**Mardin**	**5.01**	**307**	Pn	**Pn**	**20 02 21.2**	**+1.0**
GURO	**Guroymak-BITLI**	**5.14**	**325**	Pn	**Pn**	**20 02 23.2**	**+1.3**
IGAR	**Gharneh**	**5.58**	**109**	Pn	**Pn**	**20 02 30.7**	**+2.7**
GNI	**Garni** comp=E,74nm,1.0s,baz=148,slow=22,SNR=0.8	**5.79**	**352**	Pn	**Pn**	**20 02 35.4**	**+4.5**
GNI	baz=207,slow=20			Lg	Lg	20 04 14.8	
ARPR	**Arapgir-MALATY**	**7.61**	**310**	Pn	**Pn**	**20 02 58.0**	**+2.2**
ASF	**Jabal al Asfar** comp=E,1.2nm,0.3s,baz=81,slow=4.9,SNR=7.7	**7.79**	**256**	Pn	**Pn**	**20 02 58.9**	**+0.5**
ASF	comp=E,1.2nm,0.3s,baz=113,slow=23,SNR=3.5			Sn	**Sn**	**20 04 28.8**	**+2.1**
ASF	comp=E,1.7nm,0.3s,baz=135,slow=18,SNR=1.2 comp=E,7.6nm,0.4s			Lg	Lg	20 05 06.2	
MMAI	**Mount Meron Ar** comp=E,1.5nm,0.3s,baz=90,slow=16,SNR=2.5	**8.79**	**264**	Pn	**Pn**	**20 03 13.2**	**+1.2**
MMAI	baz=104,slow=28			Sn	**Sn**	**20 04 44.7**	**-6.4**
MMAI	comp=E,1.9nm,0.3s,baz=86,slow=39,SNR=1.8			Lg	Lg	20 05 36.7	
SAKB	**Bahrain**	**9.34**	**153**	P	**Pn**	**20 03 20.1**	**+0.7**
SAKB				S	**Sn**	**20 04 58.6**	**-6.0**
SHMA	**Al-Shehemyia**	**9.62**	**151**	P	**Pn**	**20 03 24.5**	**+1.3**
SHMA				S	Sn	20 05 03.6	-7.8
EIL	**Elat** comp=E,0.8nm,0.3s,baz=155,slow=17,SNR=2.5	**10.36**	**246**	Pn	**Pn**	**20 03 34.0**	**+0.6**
EIL	comp=E,0.6nm,0.3s,baz=358,slow=17,SNR=1.5 comp=E,14nm,0.8s			Lg	Lg	20 06 35.0	
SMRA	**Abu-Samra**	**10.57**	**154**	P	**Pn**	**20 03 35.7**	**-0.6**
SMRA				S	**Sn**	**20 05 30.7**	**-4.0**
TRNA	**Turayna** SNR=16	**10.72**	**153**	P	**Pn**	**20 03 38.5**	**+0.1**
TRNA				S	Sn	20 05 31.9	-6.5
BRTR	**Keskin Array B** comp=E,0.1nm,0.3s,baz=112,slow=16,SNR=1.1	**11.08**	**302**	Pn	**Pn**	**20 03 40.5**	**-3.0**
JRN	**Qarnain Island**	**11.24**	**145**	P	**Pn**	**20 03 44.2**	**-1.2**
JRN				S	Sn	20 05 43.2	-8.0
SHME	**Shamm** SNR=5.8	**12.20**	**130**	*i* P	**Pn**	**20 03 57.2**	**-1.5**
SHME				S	Sn	20 06 06.8	-8.0
SHME	**Shamm** SNR=5.8	**12.20**	**130**	P	**Pn**	**20 03 58.0**	**-0.7**
SHME				S	**Sn**	**20 06 08.5**	**-6.3**
UMQ	**Umm Al-Quwin**	**12.29**	**133**	P	**Pn**	**20 04 01.7**	**+1.8**
BANOM	**Banah**	**12.39**	**130**	P	**Pn**	**20 04 00.2**	**-1.2**
BANOM	**Banah**	**12.39**	**130**	P	**Pn**	**20 04 00.9**	**-0.4**
AJN	**Ajban** SNR=9.6	**12.64**	**138**	*i* P	**Pn**	**20 04 03.6**	**-1.1**
AJN	**Ajban** SNR=9.7	**12.64**	**138**	P	**Pn**	**20 04 04.5**	**-0.2**
AJN				S	Sn	20 06 18.1	-7.5
NAZ	**Nazwa, Dubai**	**12.69**	**135**	P	**Pn**	**20 04 05.5**	**+0.1**
NAZ				S	**Sn**	**20 06 21.4**	**-5.4**
MASF	**Masafi**	**12.71**	**132**	P	**Pn**	**20 04 05.7**	**-0.1**
MASF				S	Sn	20 06 19.3	-7.9
MSFE	**Esma-Masafi** SNR=8.7	**12.71**	**132**	*i* P	**Pn**	**20 04 05.1**	**-0.6**
ASUD	**Al Ashush, Dub** SNR=24	**12.78**	**137**	*i* P	**Pn**	**20 04 06.6**	**0.0**
ASUD	**Al Ashush, Dub** SNR=24	**12.78**	**137**	P	**Pn**	**20 04 07.1**	**+0.5**
ASUD				S	Sn	20 06 22.4	-6.6
FAQ	**Al Faqa, Dubai**	**12.84**	**136**	P	**Pn**	**20 04 07.1**	**-0.3**
FAQ	**Al Faqa, Dubai**	**12.84**	**136**	P	**Pn**	**20 04 07.9**	**+0.5**
FAQ				S	**Sn**	**20 06 24.1**	**-6.3**
UOSS	**Minazif**	**13.05**	**134**	Pn	**Pn**	**20 04 08.2**	**-2.1**
UOSS	**Minazif**	**13.05**	**134**	P	**Pn**	**20 04 09.9**	**-0.4**
UOSS	**Minazif**	**13.05**	**134**	P	**Pn**	**20 04 09.8**	**-0.4**
UOSS				S	Sn	20 06 26.2	-9.3
HATD	**Hatta, Dubai** SNR=11	**13.09**	**134**	*i* P	**Pn**	**20 04 10.8**	**-0.1**
HATD	**Hatta, Dubai** SNR=11	**13.09**	**134**	P	**Pn**	**20 04 11.1**	**+0.2**
HATD				S	Sn	20 06 29.7	-7.0
ASHO	**Ashiyiah** SNR=37	**13.16**	**135**	*i* P	**Pn**	**20 04 10.9**	**-0.9**
ASHO	**Ashiyiah** SNR=37	**13.16**	**135**	P	**Pn**	**20 04 11.5**	**-0.3**
ASHO				S	Sn	20 06 30.8	-7.5
MZR	**Muzera**	**13.20**	**147**	P	**Pn**	**20 04 11.7**	**-0.6**
MZR				S	Sn	20 06 32.0	-7.2
JASK	**Jask - Hormozg**	**13.45**	**126**	P	**Pn**	**20 04 14.7**	**-1.1**
JASK				S	Sn	20 06 38.7	-6.7
ALNE	**Al Ain**	**13.47**	**137**	P	**Pn**	**20 04 15.7**	**-0.3**
ALNE				S	Sn	20 06 38.7	-7.1
SOHO	**SOHO** SNR=12	**13.86**	**135**	*i* P	**Pn**	**20 04 19.3**	**-1.9**
SOHO	**SOHO**	**13.86**	**135**	P	**Pn**	**20 04 20.3**	**-1.0**
SOHO				S	Sn	20 06 45.6	-10
ARQ	**Araqi** SNR=9.9	**14.47**	**137**	P	**Pn**	**20 04 29.0**	**-0.7**
ARQ				S	Sn	20 06 59.7	-11
HOQ	**Hoqain**	**14.73**	**134**	P	**Pn**	**20 04 31.6**	**-1.7**
HOQ				S	Sn	20 07 08.5	-8.2
BIDO	**Bidbid**	**15.27**	**132**	P	**Pn**	**20 04 39.1**	**-1.4**
BIDO				S	Sn	20 07 20.7	-9.1
BSY	**Bisya** SNR=7.1	**15.31**	**136**	P	**Pn**	**20 04 40.3**	**-0.9**
BSY				S	**Sn**	**20 07 23.3**	**-7.6**
KARP	**Karpathos**	**15.34**	**280**	P	**P**	**20 04 45.1**	**-1.1**
SMDO	**Samad** SNR=8.3	**15.57**	**133**	P	**Pn**	**20 04 43.3**	**-1.2**
SMDO				S	Sn	20 07 28.0	-9.3
WSAR	**Wadi Sarin**	**15.79**	**131**	P	**Pn**	**20 04 45.7**	**-1.7**
WSAR	**Wadi Sarin** comp=E,3.9nm,0.3s,baz=321,slow=6.8,SNR=22	**15.79**	**131**	Pn	**Pn**	**20 04 44.7**	**-2.7**
WSAR	comp=E,1.0nm,0.3s,baz=127,slow=17,SNR=2.2			Sn	Sn	20 07 33.0	-9.5
NGCH	**Negor - Chabah**	**16.04**	**120**	P	**Pn**	**20 04 47.9**	**-2.6**
JMDO	**Jabal Madar** SNR=12	**16.13**	**135**	P	**Pn**	**20 04 49.1**	**-2.6**
WBK	**Wadi Bani Khal** SNR=6.0	**16.47**	**132**	P	**Pn**	**20 04 54.8**	**-1.2**
JLN	**Jalan Bani Buh**	**17.08**	**132**	P	**Pn**	**20 05 03.6**	**-0.1**
MHTO	**MHTO**	**17.14**	**138**	P	**Pn**	**20 05 02.8**	**-1.7**
IDI	**Anoyia** comp=E,240nm,19.8s,baz=122,slow=47	**17.20**	**279**	LR	LR	20 14 36.6	
WHFO	**Wadi Hawf** SNR=13	**17.89**	**155**	P	**Pn**	**20 05 10.9**	**-3.0**
ABKAR	**Akbulak array**	**18.14**	**31**		**P**	**20 05 17.7**	**+0.6**
ABKAR	**Akbulak array**	**18.14**	**31**		**Pn**	**20 05 17.0**	**+0.3**
ABKAR	comp=Z,25nm,0.9s			IAmb	IAmb	20 05 22.0	
ABTO	**Aybut** SNR=15	**18.26**	**157**	P	**Pn**	**20 05 15.1**	**-3.3**
RBK	**Rabkut** SNR=5.9	**18.43**	**154**	P	**P**	**20 05 16.9**	**-3.6**
DMTO	**DMTO** SNR=21	**18.52**	**152**	P	**P**	**20 05 17.4**	**-4.0**
SHAO	**Shalim** SNR=16	**18.52**	**149**	*i* P	**P**	**20 05 19.9**	**-1.5**
SHAO	**Shalim** SNR=16	**18.52**	**149**	P	**P**	20 05 15.4	-6.1
MLR	**Muntele Rosu** comp=Z,0.3nm,0.3s,baz=152,slow=15,SNR=1.1 comp=Z,2.5nm,0.6s	**18.78**	**312**	P	**P**	**20 05 24.8**	**+0.5**
AGG	**Agios Georgios**	**19.37**	**291**	P	**Pn**	**20 05 31.9**	**+0.2**
AKASG	**Malin Array Be** comp=Z,0.7nm,0.3s,baz=124,slow=6.8,SNR=9.7 comp=Z,0.7nm,0.3s	**20.28**	**328**	P	**P**	**20 05 40.6**	**+0.2**
AKBB	**Malin Array Si**	**20.28**	**328**	P	**P**	**20 05 41.2**	**+0.7**
KIEV	**Kiev**	**20.28**	**328**	P	**P**	**20 05 40.6**	**+0.1**
BURAR	**Bucovina Array**	**20.31**	**317**		**P**	**20 05 40.4**	**-0.5**
BUR08	**Bucovina Ar. S**	**20.33**	**317**	P	**P**	**20 05 41.1**	**-0.1**
FNA	**Florina**	**20.35**	**295**	P	**P**	**20 05 41.5**	**+0.1**
LKD2	**Lefkada island**	**20.64**	**290**	P	Pn	20 05 47.8	+1.0
FSK	**Fiskardo**	**20.70**	**289**	P	**P**	**20 05 44.3**	**-0.7**
DRAG	**Dragano-Lefkad**	**20.70**	**289**	P	Pn	20 05 48.6	+1.1
KEF4	**Livadi, Kephal**	**20.79**	**288**	P	Pn	20 05 49.1	+0.6
DMLN	**Damoulianata-K**	**20.83**	**288**	P	**P**	**20 05 46.3**	**-0.3**
IGT	**Igoumenitsa**	**20.96**	**292**	P	**P**	**20 05 47.2**	**-0.8**
IGT				S	**pP**	**20 05 57.7**	**+6.8**
KK31	**Karatay Array**	**21.07**	**58**	P	**P**	**20 05 50.5**	**+1.4**
KKAR	**Karatay Array**	**21.07**	**58**	P	**P**	**20 05 51.1**	**+2.0**
KKAR	**Karatay Array**	**21.07**	**58**	P	**P**	**20 05 50.1**	**+1.0**
KKAR	comp=Z,15nm,1.1s			IAmb	IAmb	20 06 08.4	
KEK	**Kerkira**	**21.39**	**292**	P	**P**	**20 05 52.7**	**+0.1**
KEK	comp=Z,25nm,1.0s			IAmb	IAmb	20 06 10.8	
KEK	**Kerkira**	**21.39**	**292**	P	**P**	**20 05 48.2**	**-4.4**
KEK				S	**pP**	**20 05 56.5**	**+0.9**
DIVS	**Divibare**	**22.14**	**304**	P	**P**	**20 06 02.2**	**+1.6**
KWP	**Kalwaria Pacla**	**22.81**	**319**	P	**P**	**20 06 05.7**	**-1.9**
KWP	comp=Z,25nm,1.2s			IAmb	IAmb	20 06 24.2	
PSZ	**Piszkesteto**	**23.59**	**313**	P	**P**	**20 06 14.7**	**-1.0**
ARU	**Arti**	**23.69**	**18**	P	**P**	**20 06 16.5**	**+0.1**
ARU	comp=Z,35nm,1.2s			IAmb	IAmb	20 06 37.1	
AAK	**Ala-Archa**	**23.81**	**61**	P	**P**	**20 06 18.2**	**+0.2**
KIRV	**Kirov** comp=Z,17nm,0.6s,baz=184,slow=14,SNR=4.3 comp=Z,17nm,0.6s	**24.30**	**5**	P	**P**	**20 06 22.5**	**+0.3**
CEL	**Celeste**	**24.36**	**288**	P	**P**	**20 06 23.3**	**+0.3**
CEL	comp=Z,18nm,1.1s			IAmb	IAmb	20 06 56.2	
KSH	**Kashi**	**24.57**	**69**	P	**P**	**20 06 26.0**	**+1.0**
OJC	**Ojcow**	**24.72**	**318**	P	**P**	**20 06 25.2**	**-0.8**
SUW	**Suwalki**	**25.25**	**328**	P	**P**	**20 06 30.8**	**0.0**
JAVC	**Velka Javorina**	**25.33**	**313**	*e*P	**P**	**20 06 32.9**	**+1.2**
MAUC	**Maruska**	**25.45**	**314**	*e*P	**P**	**20 06 33.9**	**+1.1**
BRVK	**Borovoye**	**25.48**	**36**	P	**P**	**20 06 34.1**	**+1.2**
BRVK	comp=Z,13nm,0.9s			IAmb	IAmb	20 07 09.0	
BVAR	**Borovoye Array** comp=Z,4.0nm,0.5s,baz=240,slow=7.7,SNR=9.9	**25.51**	**36**	P	**P**	**20 06 34.1**	**+0.8**
BVAR	comp=Z,1.4nm,0.6s,baz=208,slow=2.8,SNR=4.4 comp=Z,4.0nm,0.5s			PcP	**PcP**	**20 10 04.2**	**-0.3**
VAE	**Valguarnera** comp=Z,68nm,20.4s,baz=338,slow=37	**25.55**	**286**	LR	LR	20 16 42.5	
RAFF	**Raffo Rosso**	**25.60**	**285**	P	**P**	**20 06 34.7**	**+0.4**
MORC	**Moravsky Berou**	**25.80**	**315**	P	**P**	**20 06 36.9**	**+0.9**
MORC	**Moravsky Berou**	**25.80**	**315**	*e*P	**P**	**20 06 32.4**	**-3.5**
PABE	**Paberze**	**25.95**	**331**	P	**P**	**20 06 37.3**	**+0.2**
PABE	comp=Z,15nm,0.7s			IAmb	IAmb	20 06 38.3	
VRAC	**Vranov**	**26.16**	**314**	*e*P	**P**	**20 06 39.2**	**0.0**
KRUC	**Moravsky**	**26.18**	**313**	*e*P	**P**	**20 06 39.8**	**+0.4**
KRLC	**Kraliky**	**26.37**	**315**	*e*P	**P**	**20 06 40.7**	**-0.4**
CLTB	**Caltabellotta**	**26.49**	**286**	P	**P**	**20 06 43.5**	**+1.1**
DPC	**Dobruska-Polom**	**26.75**	**316**	*e*P	**P**	**20 06 44.4**	**-0.2**
FDMO	**Fiordimonte**	**26.82**	**299**	P	**P**	**20 06 45.5**	**+0.3**
FDMO	comp=Z,38nm,1.4s			IAmb	IAmb	20 06 57.0	
UPC	**Upice**	**27.00**	**316**	*e*P	**P**	**20 06 52.9**	**+6.2**
SABO	**M.te Sabotino**	**27.01**	**305**	P	**P**	**20 06 46.0**	**-0.8**
SABO	comp=Z,61nm,1.4s			IAmb	IAmb	20 07 16.4	
CHVC	**Chvalec**	**27.01**	**316**	*e*P	**P**	**20 06 45.9**	**-1.0**
MURB	**Monte Urbino**	**27.25**	**299**	P	**P**	**20 06 49.9**	**+0.7**
MURB	comp=Z,35nm,1.3s			IAmb	IAmb	20 06 58.4	
CKRC	**Cesky Krumlov**	**27.37**	**311**	*e*P	**P**	**20 06 53.3**	**+3.2**
GERES	**GERESS Array B** comp=Z,0.7nm,0.6s,baz=140,slow=14,SNR=1.6	**27.76**	**311**	P	**P**	**20 06 55.3**	**+1.6**
GERES	comp=Z,0.4nm,0.5s,baz=130,slow=3.1,SNR=3.2 comp=Z,0.7nm,0.6s			PcP	**PcP**	**20 10 08.3**	**-1.8**
KHC	**Kasperske Hory**	**27.93**	**312**	*e*P	**P**	**20 06 56.7**	**+1.5**
CTI	**Castel Tesino**	**28.35**	**305**	P	**P**	**20 06 58.1**	**-0.9**
KURBB	**Kurchatov Arra** comp=Z,8.8nm,0.7s,baz=252,slow=9.0,SNR=9.2 comp=Z,8.8nm,0.7s	**28.75**	**46**	P	**P**	**20 07 04.1**	**+1.8**
KURK	**Kurchatov**	**28.84**	**46**	P	**P**	**20 07 03.5**	**+0.4**
KURK	comp=Z,11nm,0.9s			IAmb	IAmb	20 07 06.0	
MSSA	**Maissana**	**29.55**	**300**	P	**P**	**20 07 08.9**	**-0.7**
MAKZ	**Makanchi**	**29.85**	**55**	P	**P**	**20 07 12.0**	**-0.2**
FIA1	**FINESS Array S**	**29.86**	**341**	P	**P**	**20 07 10.9**	**-1.1**
FINES	**FINESS Array B**	**29.86**	**341**	P	**P**	**20 07 11.9**	**-0.1**
FINES	**FINESS Array B** comp=Z,1.5nm,0.4s,baz=142,slow=8.0,SNR=8.6 comp=Z,1.5nm,0.4s	**29.86**	**341**	P	**P**	**20 07 12.2**	**+0.2**
MK31	**Makanchi Array**	**30.06**	**55**	P	**P**	**20 07 15.4**	**+1.3**
MKAR	**Makanchi Array**	**30.06**	**55**	P	**P**	**20 07 15.5**	**+1.5**
MKAR	**Makanchi Array** comp=Z,3.4nm,0.7s,baz=253,slow=9.8,SNR=13 comp=Z,3.4nm,0.7s	**30.06**	**55**	P	**P**	**20 07 15.7**	**+1.6**
SENIN	**Lac Senin/Sane**	**31.38**	**304**	P	**P**	**20 07 24.8**	**-1.1**
HFS	**Hagfors** comp=Z,6.4nm,0.5s,baz=123,slow=10,SNR=29 comp=Z,6.4nm,0.5s	**33.13**	**331**	P	**P**	**20 07 40.6**	**-0.2**
ZAA0	**Zalesovo Array**	**33.54**	**42**	P	**P**	**20 07 45.0**	**+0.5**
ZAA0	comp=Z,6.5nm,0.7s			IAmb	IAmb	20 07 47.9	
ZALV	**Zalesovo Beam**	**33.54**	**42**	P	**P**	**20 07 44.8**	**+0.3**
ZALV	**Zalesovo Beam** comp=Z,6.7nm,0.6s,baz=257,slow=8.1,SNR=11 comp=Z,6.7nm,0.6s	**33.54**	**42**	P	**P**	**20 07 45.4**	**+0.9**
NOA	**NORSAR Array B** comp=Z,0.9nm,0.7s,baz=124,slow=8.8,SNR=1.9 comp=Z,0.9nm,0.7s	**34.65**	**331**	P	**P**	**20 07 53.5**	**-0.6**
NBO00	**NORSAR Array S**	**34.82**	**331**	P	**P**	**20 07 55.0**	**-0.6**
NBO00	comp=Z,15nm,1.1s			IAmb	IAmb	20 07 55.3	
KEV	**Kevo**	**36.89**	**349**	P	**P**	**20 08 13.8**	**+0.6**
ARCES	**ARCESS Array B** comp=Z,9.9nm,1.0s,baz=163,slow=6.6,SNR=6.5 comp=Z,9.9nm,1.0s	**36.94**	**348**	P	**P**	**20 08 13.6**	**0.0**
EKA	**Eskdalemuir Ar** comp=Z,1.3nm,0.5s,baz=103,slow=9.2,SNR=7.4 comp=Z,1.3nm,0.5s	**39.49**	**317**	P	**P**	**20 08 34.2**	**-1.0**
EKB	**Eskdalemuir**	**39.51**	**317**	P	**P**	**20 08 33.5**	**-2.0**
EKB	comp=Z,27nm,1.4s			IAmb	IAmb	20 08 59.7	
ESK	**Eskdalemuir**	**39.51**	**317**	P	**P**	**20 08 34.8**	**-0.7**
ESK	comp=Z,16nm,1.2s			IAmb	IAmb	20 08 35.4	
ESDC	**Sonseca Array** comp=Z,1.3nm,0.7s,baz=79,slow=8.2,SNR=5.9 comp=Z,1.3nm,0.7s	**39.67**	**

BTO				sS	**pS**	**20 17 18.3**	**-0.5**	
DAG	**Danmarks Havn**	**50.99**	**344**	*i* P	**P**	**20 10 06.0**	**-0.2**	
DBIC	**Dimbokro**	**54.17**	**251**	P	**P**	**20 10 29.7**	**-0.9**	
DBIC				IAmb	IAmb	20 10 29.9		
	comp=Z,13nm,1.4s							
DBIC	**Dimbokro**	**54.17**	**251**	P	**P**	**20 10 30.6**	**0.0**	
	comp=Z,3.3nm,0.5s,baz=31,slow=5.8,SNR=8.2							
	comp=Z,3.3nm,0.5s							
SUMG	**Summit**	**55.86**	**339**	P	**P**	**20 10 42.5**	**0.0**	
GSI	**Gunungsitoli**	**58.38**	**113**	P	**P**	**20 10 59.8**	**-0.8**	
GSI				IAmb	IAmb	20 11 40.3		
	comp=Z,13nm,1.3s							
HEH	**HeiHe**	**59.41**	**48**	*e*P	**P**	**20 11 07.6**	**+0.3**	
HEH				pmax	pmax			
	comp=Z,8.0nm,0.8s							
SFJD	**Kangerlussuaq**	**61.26**	**334**	LR	LR	20 38 40.7		
	comp=Z,129nm,18.4s,baz=63,slow=37							
KSRS	**Korea Array**	**64.47**	**61**	P	**P**	**20 11 41.5**	**-0.1**	
	comp=Z,2.8nm,0.6s,baz=283,slow=6.7,SNR=10							
	comp=Z,2.8nm,0.6s							
USRK	**Ussuriysk Ar.**	**64.50**	**53**	P	**P**	**20 11 40.8**	**-0.9**	
	comp=Z,1.6nm,0.7s,baz=283,slow=4.9,SNR=5.5							
	comp=Z,1.6nm,0.7s							
BOSA	**Boshof**	**65.63**	**200**	P	**P**	**20 11 49.5**	**+0.3**	
BOSA	**Boshof**	**65.63**	**200**	P	**P**	**20 11 49.5**	**+0.3**	
	comp=Z,4.6nm,1.0s,baz=52,slow=12,SNR=3.5							
	comp=Z,4.6nm,1.0s							
A36M	**Sachs Harbour**	**73.71**	**357**	P	**P**	**20 12 38.7**	**+0.4**	
SCHQ	**Schefferville**	**74.06**	**326**	P	**P**	**20 12 39.4**	**-1.3**	
SCHQ				IAmb	IAmb	20 13 14.9		
	comp=Z,8.6nm,1.1s							
SCHQ	**Schefferville**	**74.06**	**326**	P	**P**	**20 12 40.3**	**-0.5**	
	comp=Z,2.6nm,0.6s,baz=40,slow=6.1,SNR=7.1							
	comp=Z,2.6nm,0.6s							
B20K	**Meade River**	**74.55**	**8**	P	**P**	**20 12 43.7**	**+0.4**	
B20K				IAmb	IAmb	20 12 45.0		
	comp=Z,12nm,0.9s							
B22K	**Teshekpuk Lake**	**74.63**	**7**	P	**P**	**20 12 43.6**	**-0.1**	
B21K	**Ikpikpuk River**	**75.20**	**7**	P	**P**	**20 12 47.9**	**+0.9**	
B21K				IAmb	IAmb	20 12 47.9		
	comp=Z,12nm,1.4s							
C18K	**Utukok River**	**75.31**	**10**	P	**P**	**20 12 48.4**	**+0.6**	
C18K				IAmb	IAmb	20 12 49.7		
	comp=Z,9.5nm,0.9s							
C23K	**Itkillik River**	**75.37**	**6**	P	**P**	**20 12 48.7**	**+0.7**	
C23K				IAmb	IAmb	20 12 50.4		
	comp=Z,11nm,1.5s							
D19K	**Kuna River**	**75.86**	**9**	P	**P**	**20 12 51.4**	**+0.5**	
D19K				IAmb	IAmb	20 12 52.7		
	comp=Z,5.6nm,0.8s							
D22K	**Ayikyak River**	**76.11**	**7**	P	**P**	**20 12 53.4**	**+1.1**	
D22K				IAmb	IAmb	20 13 01.6		
	comp=Z,5.7nm,1.1s							
D25K	**Kavik River**	**76.19**	**4**	P	**P**	**20 12 53.0**	**+0.2**	
D25K				IAmb	IAmb	20 12 54.7		
	comp=Z,4.4nm,0.8s							
E18K	**Tukpahlearik C**	**76.53**	**10**	P	**P**	**20 12 54.8**	**+0.1**	
E18K				IAmb	IAmb	20 12 56.3		
	comp=Z,6.3nm,0.8s							
D27M	**Malcolm River**	**76.53**	**2**	P	**P**	**20 12 54.9**	**+0.1**	
TOLK	**Toolik Lake Re**	**76.62**	**6**	P	**P**	**20 12 56.1**	**+0.9**	
TOLK				IAmb	IAmb	20 12 57.3		
	comp=Z,7.1nm,0.8s							
E22K	**Anaktuvuk Pass**	**76.92**	**7**	P	**P**	**20 12 56.8**	**-0.1**	
E19K	**Redstone River**	**76.96**	**9**	P	**P**	**20 12 57.4**	**+0.2**	
E19K				IAmb	IAmb	20 12 58.8		
	comp=Z,6.9nm,0.9s							
E28M	**Babbage River**	**77.22**	**2**	P	**P**	**20 12 58.8**	**+0.2**	
E28M				IAmb	IAmb	20 13 00.4		
	comp=Z,4.4nm,1.0s							
E24K	**Your Creek**	**77.27**	**5**	P	**P**	**20 12 59.5**	**+0.6**	
E25K	**Arctic Village**	**77.43**	**4**	P	**P**	**20 13 00.5**	**+0.7**	
E29M	**Blow River**	**77.48**	**1**	P	**P**	**20 13 00.2**	**+0.2**	
E29M				IAmb	IAmb	20 13 01.9		
	comp=Z,8.6nm,0.9s							
F20K	**Avaraart Lake**	**77.53**	**8**	P	**P**	**20 13 00.7**	**+0.4**	
F20K				IAmb	IAmb	20 13 02.0		
	comp=Z,4.1nm,0.8s							
E27K	**Coleen River**	**77.57**	**3**	P	**P**	**20 13 01.3**	**+0.7**	
E27K				IAmb	IAmb	20 13 02.4		
	comp=Z,6.2nm,1.1s							
INK	**Inuvik**	**77.59**	**360**	P	**P**	**20 13 00.2**	**-0.4**	
F21K	**Alatna River**	**77.63**	**8**	P	**P**	**20 13 01.0**	**0.0**	
F21K				IAmb	IAmb	20 13 02.9		
	comp=Z,9.1nm,1.2s							
F24K	**Squaw Lake**	**77.86**	**5**	P	**P**	**20 13 02.9**	**+0.7**	
BMAR	**Burnt Mountain**	**78.17**	**4**	P	**P**	**20 13 04.8**	**+0.9**	
F28M	**Old Crow**	**78.20**	**2**	P	**P**	**20 13 04.4**	**+0.3**	
F28M				IAmb	IAmb	20 13 35.0		
	comp=Z,6.6nm,1.3s							
G19K	**Purcell Mounta**	**78.22**	**9**	P	**P**	**20 13 04.7**	**+0.5**	
G19K				IAmb	IAmb	20 13 05.8		
	comp=Z,9.2nm,0.8s							
G18K	**Tagagawik**	**78.24**	**10**	P	**P**	**20 13 04.1**	**-0.2**	
G18K				IAmb	IAmb	20 13 17.3		
	comp=Z,7.6nm,1.2s							
F31M	**Tsiigehtchic**	**78.47**	**360**	P	**P**	**20 13 05.0**	**-0.5**	
F31M				IAmb	IAmb	20 13 06.6		
	comp=Z,8.4nm,0.7s							
IMAR	**Indian Mountai**	**78.79**	**8**	P	**P**	**20 13 07.7**	**+0.4**	
G30M	**tAoh Zraii Nji**	**78.92**	**1**	P	**P**	**20 13 07.9**	**-0.1**	
G30M				IAmb	IAmb	20 13 09.2		
	comp=Z,7.0nm,0.8s							
G27K	**Doyon Strip**	**78.94**	**3**		**P**	**20 13 09.3**	**+1.1**	
G27K				IAmb	IAmb	20 13 11.0		
	comp=Z,4.5nm,0.8s							
G29M	**Pine Creek**	**78.96**	**2**	P	**P**	**20 13 08.4**	**+0.2**	
G29M				IAmb	IAmb	20 13 09.8		
	comp=Z,9.0nm,0.9s							
H18K	**Honhosa River**	**78.98**	**10**	P	**P**	**20 13 07.9**	**-0.5**	
G31M	**Satah River**	**78.99**	**0**	P	**P**	**20 13 08.0**	**-0.3**	
H21K	**Melozitna Rive**	**79.21**	**8**	P	**P**	**20 13 09.9**	**+0.2**	
H21K				IAmb	IAmb	20 13 12.4		
	comp=Z,13nm,1.4s							
EPYK	**Eagle Plains**	**79.52**	**1**	P	**P**	**20 13 11.5**	**+0.1**	
EPYK				IAmb	IAmb	20 13 12.5		
	comp=Z,7.2nm,0.8s							
H29M	**Whitestone**	**79.64**	**2**	P	**P**	**20 13 12.9**	**+0.9**	
H29M				IAmb	IAmb	20 13 17.8		
	comp=Z,5.1nm,0.8s							
I21K	**Tanana**	**79.77**	**8**	P	**P**	**20 13 14.2**	**+1.5**	
I21K				IAmb	IAmb	20 13 15.5		
	comp=Z,7.5nm,0.9s							
D62A	**Allapoint, All**	**80.03**	**321**	P	**P**	**20 13 14.5**	**0.0**	
MLY	**Manley**	**80.04**	**7**	P	**P**	**20 13 14.8**	**+0.5**	
H31M	**Peel River**	**80.11**	**0**	P	**P**	**20 13 14.7**	**+0.1**	
H31M				IAmb	IAmb	20 13 27.5		
	comp=Z,9.4nm,1.4s							
I26K	**Coal Creek Min**	**80.36**	**4**	P	**P**	**20 13 15.5**	**-0.4**	
I26K				IAmb	IAmb	20 13 18.1		
	comp=Z,5.6nm,0.8s							
I28M	**Miner Creek**	**80.37**	**2**		**P**	**20 13 16.0**	**-0.1**	
LMQ	**La Malbaie**	**80.39**	**322**	P	**P**	**20 13 16.4**	**0.0**	
J19K	**Poorman**	**80.47**	**9**	P	**P**	**20 13 17.7**	**+1.2**	
J19K				IAmb	IAmb	20 13 27.1		
	comp=Z,12nm,1.3s							
J20K	**Nowinta River**	**80.48**	**9**	P	**P**	**20 13 17.6**	**+1.0**	
J20K				IAmb	IAmb	20 13 45.3		
	comp=Z,10nm,1.3s							
E62A	**Clayton Lake**	**80.58**	**321**	P	**P**	**20 13 16.4**	**-1.0**	
E62A				IAmb	IAmb	20 13 30.7		
	comp=Z,14nm,1.1s							
ILAR	**Eielson Array**	**80.64**	**5**	P	**P**	**20 13 17.8**	**+0.3**	
	comp=Z,1.8nm,0.8s,baz=331,slow=4.0,SNR=11							
	comp=Z,1.8nm,0.8s							
I30M	**Mount Dempster**	**80.68**	**1**	P	**P**	**20 13 17.4**	**-0.4**	
I30M				IAmb	IAmb	20 13 19.1		
	comp=Z,5.4nm,0.7s							
J30M	**Hart River**	**81.33**	**1**	P	**P**	**20 13 19.8**	**-1.5**	
J30M				IAmb	IAmb	20 13 23.1		
	comp=Z,7.8nm,1.1s							
SCRK	**Sand Creek**	**81.64**	**4**	P	**P**	**20 13 22.4**	**-0.5**	
SCRK				IAmb	IAmb	20 13 24.8		
	comp=Z,4.4nm,0.8s							
K27K	**Chicken**	**81.69**	**4**	P	**P**	**20 13 23.4**	**+0.3**	
K27K				IAmb	IAmb	20 13 24.9		
	comp=Z,6.2nm,1.1s							
K29M	**Barlow Dome**	**82.04**	**1**	P	**P**	**20 13 26.1**	**+1.1**	
K29M				IAmb	IAmb	20 13 26.4		
	comp=Z,3.1nm,0.7s							
YKA	**Yellowknife Ar**	**82.15**	**351**	P	**P**	**20 13 23.9**	**-1.6**	
YKA	**Yellowknife Ar**	**82.15**	**351**	P	**P**	**20 13 25.4**	**-0.1**	
	comp=Z,2.4nm,0.7s,baz=13,slow=5.4,SNR=15							
	comp=Z,2.4nm,0.7s							
DHY	**Denali Highway**	**82.28**	**6**	P	**P**	**20 13 26.0**	**-0.3**	
DHY				IAmb	IAmb	20 13 34.9		
	comp=Z,5.7nm,1.1s							
M17K	**Holitna River**	**82.67**	**11**	P	**P**	**20 13 28.9**	**+0.7**	
BCAR	**Beaver Creek A**	**82.67**	**3**	P	**P**	**20 13 29.0**	**+0.8**	
L29M	**L29M**	**82.77**	**2**	P	**P**	**20 13 29.1**	**+0.3**	
SKT	**Skwentna**	**82.93**	**8**	P	**P**	**20 13 29.5**	**0.0**	
SKT				IAmb	IAmb	20 13 30.9		
	comp=Z,3.3nm,0.6s							
M24K	**Tolsona, Glenn**	**83.33**	**6**	P	**P**	**20 13 32.6**	**+0.9**	
M27K	**Edge Creek, AK**	**83.37**	**4**	P	**P**	**20 13 31.8**	**-0.2**	
M27K				IAmb	IAmb	20 13 34.3		
	comp=Z,5.7nm,0.9s							
M29M	**Somme Creek**	**83.42**	**2**	P	**P**	**20 13 32.3**	**+0.1**	
M29M				IAmb	IAmb	20 14 13.5		
	comp=Z,4.0nm,1.2s							
SML	**Sawmill**	**83.44**	**7**	P	**P**	**20 13 31.9**	**-0.4**	
SCM	**Sheep Creek Mo**	**83.50**	**6**	P	**P**	**20 13 33.4**	**+0.7**	
SUA	**Susitna One**	**83.52**	**8**	P	**P**	**20 13 33.1**	**+0.4**	
N19K	**Bonanza Creek**	**83.67**	**10**	P	**P**	**20 13 34.2**	**+0.7**	
FARO	**Faro, Yukon**	**83.70**	**360**	P	**P**	**20 13 33.9**	**+0.3**	
FARO				IAmb	IAmb	20 13 35.4		
	comp=Z,3.6nm,0.9s							
M31M	**Drury Creek, Y**	**83.73**	**0**	P	**P**	**20 13 33.9**	**+0.2**	
M31M				IAmb	IAmb	20 13 58.2		
	comp=Z,4.6nm,1.3s							
KLU	**Klutina**	**83.96**	**6**	P	**P**	**20 13 35.8**	**+0.9**	
O30N	**Mendenhall**	**85.15**	**1**	P	**P**	**20 13 40.1**	**-0.9**	
O30N				IAmb	IAmb	20 14 17.9		
	comp=Z,10nm,1.3s							
R33M	**Jennings River**	**86.51**	**358**	P	**P**	**20 13 47.4**	**-0.4**	
R33M				IAmb	IAmb	20 14 31.3		
	comp=Z,10nm,1.5s							
SADO	**Sadowa**	**86.71**	**324**	LR	LR	20 52 51.5		
	comp=Z,52nm,19.5s,baz=70,slow=36							
KDAK	**Kodiak Island**	**86.86**	**10**	P	**P**	**20 13 49.8**	**+0.5**	
Q32M	**Nakina River**	**86.97**	**359**	P	**P**	**20 13 50.9**	**+0.7**	
T35M	**Bob Quinn**	**88.91**	**358**	P	**P**	**20 13 59.8**	**+0.6**	
SJG	**San Juan**	**96.91**	**297**	LR	LR	20 57 52.5		
	comp=Z,24nm,20.7s,baz=123,slow=35							
PDAR	**Pinedale Array**	**99.96**	**342**	LR	LR	21 00 28.7		
	comp=Z,77nm,18.2s,baz=22,slow=36							

*SJA **20** 20:08:15.2±1.7, 29.82S×72.17W, h10km, ML3.6, MW3.9*
*GUC **20** 20:08:19.6±0.6, 29.84S×72.11W, h29km±5km, ML3.5*

ISC 20 20:08:15.7±1.6, **29.74S**±0.03×**72.15W**±0.06, **h4**km±11km, **n22**, σ0.96/38, **6C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.81**	**103**	*i* P	**Pn**	**20 08 33.7**	**-0.3**
CO05				IAML		20 08 47.6	
	comp=E,4μm,0.3s						
CO06	**Fray Jorge**	**1.03**	**155**	*i* P	**Pb**	**20 08 36.4**	**+0.2**
CO06				*e*S	**Sg**	**20 08 48.5**	**-0.5**
CO06				IAML		20 08 50.6	
	comp=E,3μm,0.2s						
GO04	**Tololo Observa**	**1.25**	**111**	*e*P	**Pn**	**20 08 40.7**	**+0.4**
GO04				*e*S	**Sb**	**20 08 56.2**	**-0.4**
GO04				IAML		20 09 01.2	
	comp=Z,3μm,0.3s						
GO04	**Tololo Observa**	**1.25**	**111**	*i* P	**Pn**	**20 08 40.6**	**+0.4**
LCO	**Las Campanas**	**1.46**	**61**	*e*P	**Pg**	**20 08 44.6**	**+1.0**
LCO				*e*S	**Sn**	**20 09 04.8**	**+2.1**
LCO				IAML		20 09 16.4	
	comp=Z,596nm,0.4s						
LCO	**Las Campanas**	**1.46**	**61**	*i* P	**Pg**	**20 08 45.3**	**+1.7**
CO03	**El Pedregal**	**1.67**	**131**	*e*P	**Pb**	**20 08 46.9**	**-0.3**
CO03				*e*S	**Sg**	**20 09 09.5**	**0.0**
CO03				IAML		20 09 14.2	
	comp=Z,609nm,0.3s						
CO03	**El Pedregal**	**1.67**	**131**	*i* P	**Pb**	**20 08 46.9**	**-0.3**
CO03				*e*S	**Sn**	**20 09 07.6**	**-0.3**
CO03				IAML		20 09 13.0	
	comp=E,1μm,0.4s						
CO02	**Combarbal**	**1.77**	**146**	*e*P	**Pb**	**20 08 48.3**	**-0.5**
CO02				*e*S	**Sn**	**20 09 10.4**	**+0.1**
CO02				IAML		20 09 17.7	
	comp=Z,826nm,0.6s						
CO02	**Combarbal**	**1.77**	**146**	*i* P	**Pb**	**20 08 48.4**	**-0.5**
CO02				*e*S	**Sn**	**20 09 09.9**	**-0.3**
AC04	**Llanos de Chal**	**1.79**	**32**	*i* P	**Pg**	**20 08 49.8**	**-0.3**
CO01	**Juntas del Tor**	**1.80**	**98**	*e*P	**Pb**	**20 08 49.5**	**+0.1**
CO01				*e*S	**Sg**	**20 09 13.4**	**-0.2**
CO01				IAML		20 09 16.3	
	comp=Z,773nm,0.8s						
CO01	**Juntas del Tor**	**1.80**	**98**	*i* P	**Pg**	**20 08 50.1**	**-0.2**
CO01				*e*S	**Sn**	**20 09 10.9**	**-0.4**
CO01				IAML		20 09 16.3	
	comp=N,1μm,0.3s						
AC05	**El Transito**	**1.87**	**62**	*e*P	**Pg**	**20 08 51.0**	**-0.5**
AC05				*e*S	**Sg**	**20 09 14.8**	**-0.9**
AC05				IAML		20 09 25.2	
	comp=Z,542nm,0.8s						
AC05	**El Transito**	**1.87**	**62**	*i* P	**Pg**	**20 08 51.4**	**-0.1**
AC05				*e*S	**Sg**	**20 09 16.2**	**+0.5**
AC05				IAML		20 09 26.3	
	comp=N,710nm,0.5s						
GO03	**Copiap**	**2.72**	**39**	*e*P	**Pb**	**20 09 03.1**	**-1.8**
GO03				*e*S	**Sg**	**20 09 42.8**	**-0.2**
GO03				IAML		20 09 53.3	
	comp=Z,161nm,0.6s						
GO03	**Copiap**	**2.72**	**39**	*i* P	**Pb**	**20 09 03.6**	**-1.4**
GO03				IAML		20 09 51.9	
	comp=E,197nm,0.7s						
AC06	**Mina Casimiro**	**2.85**	**34**	*i* P	**Pb**	**20 09 05.2**	**-2.0**
AC06				IAML		20 10 01.1	
	comp=E,170nm,0.5s						
AC01	**Pan de Azucar**	**3.83**	**21**	*e*P	**Pn**	**20 09 16.9**	**+1.4**
AC01				*e*S	**Sg**	**20 10 19.8**	**+1.1**
AC01				IAML		20 10 31.2	
	comp=Z,52nm,0.7s						
MT03	**Universidad Ad**	**4.00**	**160**	*e*P	**Pn**	**20 09 19.2**	**+1.3**
MT03				*e*S	**Sn**	**20 10 05.5**	**+0.2**
MT03				IAML		20 10 38.3	
	comp=Z,155nm,1.1s						
MT01	**Popeta**	**4.19**	**170**	*e*P	**Pn**	**20 09 21.0**	**+0.6**
MT01				*e*S	**Sn**	**20 10 08.3**	**-1.5**
MT01				IAML		20 10 36.6	
	comp=Z,57nm,0.7s						
BO01	**Tunca**	**4.73**	**169**	*e*P	**Pn**	**20 09 29.0**	**+1.1**
BO01				*e*S	**Sn**	**20 10 21.9**	**-1.3**
BO01				IAML		20 10 51.5	
	comp=Z,33nm,0.7s						

*IDC **20** 20:09:16.7±4.1, 2.91N×128.79E, h299km±32km, mb3.0/6, mbtmp3.8/7, Error ellipse: s-maj=168.0km s-min=17.1km az=68.0*

ISC 20 20:09:16.4±2.4, **3.0N**±0.5×**12.9E**±°, **h300**km, **n7**, σ0.66/7, **mb3.3/6, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**5.25**	**321**	P	**Pn**	**20 10 36.8**	**-0.1**
	139nm,0.4s,baz=85,slow=23,SNR=1.9						
DAV				S	S	20 11 29.8	-12
	212nm,0.5s,baz=43,slow=23,SNR=2.0						
WRA	**Warramunga Arr**	**23.39**	**167**	P	**P**	**20 13 59.5**	**+0.3**
	0.3nm,0.3s,baz=346,slow=10,SNR=1.9						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**26.92**	**170**	P	**P**	**20 14 30.5**	**-0.4**
	0.5nm,0.5s,baz=354,slow=7.5,SNR=2.6						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**59.42**	**325**	P	**P**	**20 18 48.7**	**+0.6**
	0.2nm,0.4s,baz=115,slow=7.7,SNR=7.4						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**62.25**	**332**	P	**P**	**20 19 06.1**	**-0.7**
	0.5nm,0.5s,baz=132,slow=6.4,SNR=1.8						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**63.55**	**327**	P	**P**	**20 19 15.3**	**-0.1**
	0.5nm,0.3s,baz=127,slow=5.9,SNR=1.5						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**69.14**	**327**	P	**P**	**20 19 51.4**	**+0.8**
	0.4nm,0.4s,baz=101,slow=7.5,SNR=1.9						
	0.4nm,0.4s						

*NAO **20** 20:21:55.4, 32.94N×46.89E, h33km, mb3.9*
*TEH **20** 20:22:06.6, 34.65N×46.25E, h6km±56km, ML4.6*
*ISN **20** 20:22:06.5±3.1, 34.65N×46.25E, h25km, ML4.6*
*MOS **20** 20:22:07.1±1.5, 34.62N×46.20E, h13km, mb4.8/66, Error ellipse: s-maj=4.9km s-min=2.7km az=123.1*
*NEIC **20** 20:22:08.8±1.9, 34.77N±0.05×46.18E±0.06, h10km±1km, mb4.7/127, Error ellipse: s-maj=9.1km s-min=7.9km az=41.0*
*GII **20** 20:22:08.2±0.0, 34.48N×46.37E, h10km*
*AZER **20** 20:22:09.1±0.1, 34.52N×46.23E, h10km, Error ellipse: s-maj=1.1km s-min=0.8km az=101.0*
*IDC **20** 20:22:12.1±3.0, 34.75N×46.06E, h33km±23km, mb4.1/26, mbtmp4.3/34, ML4.1/8, MS3.7/31, Error ellipse: s-maj=13.9km s-min=9.9km az=145.0*
*DSN **20** 20:22:20.1±1.1, 34.48N×47.29E, h114km±22km, mb5.5/1, Error ellipse: s-maj=37.9km s-min=7.7km az=44.0*
*BGR **20** 20:22:22.7, 35.97N×45.46E, h33km, mb4.4*

ISC 20 20:22:08.0±1.0, **34.54N**±0.03×**46.23E**±0.03, **h11**km±6km, **n703**, σ1.89/756, **mb4.6**/171, **MS3.6**/26, **43C-27D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.20**	**40**	Pg	**Pg**	**20 22 10.5**	**-2.0**
IGHG	**Ghaleghazi**	**0.35**	**127**	Pg	**Pb**	**20 22 16.0**	**-0.5**
KGS1	**Ghasr-e-Shirin**	**0.53**	**266**	Pg	**Pg**	**20 22 18.6**	**+0.2**
ILIN	**Lien**	**0.71**	**58**	Pg	**Pg**	**20 22 20.2**	**-1.6**
ILIN				Sg	**Sg**	**20 22 30.1**	**-1.1**
KCHF	**Cheshme Sefid,**	**0.72**	**112**	Pg	**Pg**	**20 22 22.0**	**0.0**
ILBA	**Ilam Banvizeh**	**0.92**	**181**	Pg	**Pn**	**20 22 27.1**	**+0.2**
IKOM	**Komasi**	**1.12**	**109**	Pg	**Pn**	**20 22 29.2**	**-0.4**
IBZA	**Bozab**	**1.35**	**93**	Pg	**Pn**	**20 22 33.2**	**+0.1**
IALM	**Almabolaq**	**1.63**	**78**	Pg	**Pn**	**20 22 36.9**	**-0.1**
IKFM	**Kafar-mosalman**	**1.68**	**127**	Pg	**Pg**	**20 22 39.8**	**-0.6**
SDS1	**Sardasht. Az.**	**1.71**	**339**	Pg	**Pn**	**20 22 37.4**	**-0.7**
BHD	**Baghdad**	**2.00**	**231**	*e*Pg	**Pn**	**20 22 41.0**	**-0.7**
	baz=48						
BHD				*e*Sg	**Sg**	**20 23 12.0**	**-0.2**
BHD				AML	AML	20 23 25.9	
	comp=E,5μm,0.6s						
MAHB	**Mahabad**	**2.26**	**349**	Pn	**Pn**	**20 22 46.1**	**+0.6**
HAGD	**Aghdareh**	**2.41**	**83**	Pn	**Pn**	**20 22 49.5**	**+1.7**
IHSH	**Hashtrud**	**2.88**	**17**	Pn	**Pn**	**20 22 54.9**	**+0.7**
QSDN	**Sirdan**	**3.10**	**50**	Pn	**Pn**	**20 22 58.0**	**+1.8**
IAZR	**Azarshahr**	**3.13**	**356**	Pn	**Pn**	**20 22 58.3**	**+0.7**
IRAZ	**Razeghan**	**3.16**	**73**	Pn	**Pn**	**20 23 00.1**	**+2.1**
CUKT	**Cukurca**	**3.44**	**322**	*e*P	**Pn**	**20 23 01.9**	**+0.2**
ISRB	**Sarab**	**3.48**	**19**	Pn	**Pn**	**20 23 03.5**	**+1.1**
JIR1	**Jirandeh**	**3.62**	**52**	Pn	**Pn**	**20 23 05.7**	**+1.4**
ITBZ	**Tabriz**	**3.68**	**359**	Pn	**Pn**	**20 23 05.3**	**+0.2**
ISHB	**Shabestar**	**3.77**	**353**	Pn	**Pn**	**20 23 05.6**	**-0.7**
IMHD	**Mahdasht**	**3.81**	**71**	Pn	**Pn**	**20 23 09.0**	**+2.1**
IHRS	**Heris**	**3.82**	**10**	Pn	**Pn**	**20 23 07.6**	**+0.5**
AMIS	**Naft Sefid**	**3.85**	**137**	Pn	**Pn**	**20 23 10.0**	**+2.7**
IQOM	**Qom**	**4.00**	**84**	Pn	**Pn**	**20 23 10.1**	**+0.6**
LHJ2	**Lahijan - Gila**	**4.07**	**49**	Pn	**Pn**	**20 23 10.7**	**+0.4**
IMRD	**Marand**	**4.18**	**354**	Pn	**Pn**	**20 23 13.8**	**+1.8**
QAMS	**Qamsar**	**4.36**	**99**	Pn	**Pn**	**20 23 17.1**	**+2.6**
JHBN	**Jahan bin**	**4.37**	**121**	Pn	**Pn**	**20 23 17.3**	**+2.6**
GAS1	**Astara - Iran**	**4.37**	**28**	Pn	**Pn**	**20 23 15.2**	**+0.8**
ORD	**Ordubad**	**4.38**	**358**	P	**Pn**	**20 23 16.3**	**+1.6**
	SNR=65						
ORD				S	**Sn**	**20 24 08.8**	**+3.0**
KLST	**Kelardasht - M**	**4.40**	**62**	Pn	**Pn**	**20 23 17.2**	**+2.0**
LRK	**Lerik**	**4.43**	**22**	P	**Pn**	**20 23 16.8**	**+1.4**
	SNR=7.9						
LRK				S	**Sn**	**20 24 09.7**	**+2.6**
GRMI	**Germi**	**4.46**	**17**	Pn	**Pn**	**20 23 16.6**	**+0.8**
ASTR	**Astara**	**4.51**	**26**	P	**Pn**	**20 23 17.8**	**+1.5**
	SNR=144						
ASTR				S	**Sn**	**20 24 11.6**	**+2.8**
GEVA	**Gevas**	**4.55**	**327**	Pn	**Pn**	**20 23 16.8**	**-0.2**
IVRN	**Karamin**	**4.55**	**83**	Pn	**Pn**	**20 23 18.8**	**+1.9**
ZNGN	**Zangian**	**4.56**	**121**	Pn	**Pn**	**20 23 19.5**	**+2.1**
AKDM	**Akdamar-Van**	**4.60**	**326**	*e*P	**Pn**	**20 23 18.9**	**+1.2**
IKLH	**Kolahrood**	**4.61**	**104**	Pn	**Pn**	**20 23 20.2**	**+2.2**
LKRN	**Lenkeran, Azer**	**4.64**	**25**	P	**Pn**	**20 23 19.6**	**+1.6**
	SNR=126						
LKRN				S	**Sn**	**20 24 14.6**	**+2.8**
LKRN	**Lenkeran, Azer**	**4.64**	**25**	P	**Pn**	**20 23 19.6**	**+1.6**
VANB	**Van**	**4.64**	**331**	*e*P	**Pn**	**20 23 18.9**	**+0.6**
YRD	**Yardimli**	**4.65**	**20**	P	**Pn**	**20 23 19.9**	**+1.4**
	SNR=101						
YRD				S	**Sn**	**20 24 15.3**	**+2.7**
NAX	**Nakhchivan**	**4.66**	**353**	P	**Pn**	**20 23 20.1**	**+1.6**
	SNR=11						
NAX				S	**Sn**	**20 24 15.6**	**+3.0**
NAX	**Nakh

BNGB **Bingl** 6.29 317 *e*P Pn **20 23 40.8 -0.1**
KARO **Karliova-Bingo** 6.31 320 *e*P Pn **20 23 42.7 +1.4**
GBS **Qobustan** 6.36 19 P Pn **20 23 43.3 +1.6**
SNR=28
GBS S Sn **20 24 57.4 +3.0**
ANAR **Anarak** 6.38 100 Pn Pn **20 23 44.2 +2.0**
IML **Ismayilli** 6.43 13 P Pn **20 23 44.3 +1.6**
SNR=13
IML S Sn **20 24 59.3 +3.1**
KOPR **Koprukoy-ERZUR** 6.46 329 *e*P Pn **20 23 45.4 +2.1**
QOBA **Gobu** 6.48 24 P Pn **20 23 44.9 +1.6**
GOBA S Sn **20 25 00.3 +3.1**
IGLO **Ghaloghah** 6.50 70 Pn Pn **20 23 45.7 +1.9**
PQL **Pirkuli** 6.51 16 P Pn **20 23 45.5 +1.5**
SNR=26
PQL S Sn **20 25 01.3 +3.0**
QBL **Gabala** 6.52 11 P Pn **20 23 45.5 +1.6**
SNR=22
QBL S Sn **20 25 01.5 +3.2**
QZX **Qazax, Azerbai** 6.54 354 P Pn **20 23 45.8 +1.6**
SNR=5.7
QZX S Sn **20 25 01.9 +3.0**
KARS **Kars** 6.57 339 *e*P Pn **20 23 47.5 +2.8**
KARS **Kars** 6.57 339 Pn Pn **20 23 45.1 +0.4**
KARS **Kars** 6.57 339 P Pn **20 23 45.1 +0.4**
GALA **Gala** 6.63 27 P Pn **20 23 47.1 +1.6**
GALA S Sn **20 25 04.2 +3.1**
ATGJ **Altiaghaj** 6.66 18 P Pn **20 23 47.5 +1.5**
SNR=7.1
ATGJ S Sn **20 25 05.0 +3.0**
URFA **Urfa** 6.67 298 *e*P Pn **20 23 44.8 -1.2**
YEDI **Yedisu-Bingol** 6.67 319 *e*P Pn **20 23 47.1 +0.9**
SEKA **Sheki** 6.70 6 P Pn **20 23 48.2 +1.7**
SEKA P Pn **20 23 48.2 +1.7**
SEKA S Sn **20 25 06.3 +3.5**
SEKA S Sn **20 25 06.3 +3.5**
SEKA **Sheki** 6.70 6 P Pn **20 23 48.1 +1.7**
NDR **Nardaran** 6.72 25 P Pn **20 23 48.3 +1.6**
NDR S Sn **20 25 06.4 +3.1**
SENK **Senkaya-Erzuru** 6.75 334 *e*P Pn **20 23 49.8 +2.5**
ISAD **Sadrabad** 6.78 111 Pn Pn **20 23 48.9 +1.1**
XNQ **Khinaliq** 6.79 12 P Pn **20 23 49.4 +1.6**
SNR=7.4
XNQ S Sn **20 25 08.4 +3.1**
SIZA **Siyzn** 6.86 17 P Pn **20 23 50.2 +1.6**
SNR=8.9
SIZA S Sn **20 25 09.7 +3.0**
PTK **Pertek** 7.00 310 *e*P Pn **20 23 50.6 -0.1**
QUBA **Quba, Azerbaij** 7.03 14 P Pn **20 23 52.6 +1.6**
SNR=11
QUBA S Sn **20 25 14.1 +3.1**
ZKTA **Zakatala** 7.09 2 P Pn **20 23 53.6 +1.7**
SNR=4.7
ZKTA S Sn **20 25 15.7 +3.4**
ZKTA **Zakatala** 7.09 2 P Pn **20 23 53.5 +1.7**
AHBU **AHRAM** 7.12 141 Pn Pn **20 23 54.7 +2.6**
KOPT **Kop Dagi** 7.12 322 Pn Pn **20 23 51.6 -0.9**
QSAR **Qusar** 7.14 12 P Pn **20 23 54.1 +1.6**
SNR=8.6
QSAR S Sn **20 25 16.8 +3.1**
AKH **Akhalkalaki** 7.19 343 Pn Pn **20 23 48.8 -4.5**
AKH **Akhalkalaki** 7.19 343 P Pn **20 23 48.8 -4.5**
ICHK **Chekchek** 7.21 106 Pn Pn **20 23 56.5 +2.8**
ERZN **Erzincan** 7.24 316 *e*P Pn **20 23 54.6 +0.7**
DSBU **Dashti - Bushe** 7.51 144 Pn Pn **20 23 59.2 +1.6**
IMEH **Mehriz** 7.71 112 Pn Pn **20 24 01.6 +1.1**
GAZ **Gaziantep** 7.78 292 Pn Pn **20 24 00.5 -0.7**
ARPR **Arapgir-MALATY** 7.79 308 Pn Pn **20 24 00.3 -1.2**
GUDG **Gudauri** 8.03 351 P Pn 20 24 11.1 +6.3
GUDG pmax pmax
comp=Z,18nm,0.6s
ASF **Jabal al Asfar** 8.16 256 P Pn **20 24 07.2 +0.7**
ASF **Jabal al Asfar** 8.16 256 Pn Pn **20 24 07.1 +0.6**
comp=Z,2.0nm,0.3s,baz=53,slow=18,SNR=21
ASF Sn **Sn** **20 25 36.5 -2.2**
comp=Z,1.7nm,0.3s,baz=323,slow=18,SNR=7.7
ASF Lg Lg 20 26 33.4
comp=Z,5.5nm,0.3s,baz=118,slow=17,SNR=4.2
comp=Z,9.1nm,0.5s
ONI **Oni** 8.32 346 Pn Pn **20 24 07.2 -1.6**
ONI **Oni** 8.32 346 P Pn **20 24 07.2 -1.6**
IBAF **Bafgh** 8.37 108 Pn Pn **20 24 11.7 +2.1**
ZEI **Tsey** 8.43 348 *e*P Pn 20 24 15.5 +5.1
ZEI pmax pmax
comp=Z,24nm,1.2s
MAK **Makhachkala** 8.46 6 *e*P Pn 20 24 04.4 -6.2
MAK pmax pmax
comp=Z,150nm,1.1s
MAK MLR MLR
comp=Z,791nm,16.0s
NATI **Neve Ativ** 8.82 265 Pn Pn **20 24 16.3 +0.9**
NATI **Neve Ativ** 8.82 265 P Pn **20 24 16.6 +1.2**
TPRV **Parvadeh(Tabas** 8.83 97 Pn Pn **20 24 17.9 +2.1**
GEM **Giv'at Ha'Em** 8.89 264 Pn Pn **20 24 19.1 +2.7**
MMAI **Mount Meron Ar** 9.14 263 Pn Pn **20 24 20.5 +0.5**
comp=Z,2.0nm,0.3s,baz=83,slow=16,SNR=18
MMAI Sn **Sn** **20 25 59.2 -3.7**
baz=93,slow=16
MMAI Lg Lg 20 27 00.4
comp=Z,4.8nm,0.3s,baz=91,slow=22,SNR=4.2
MMAI LR LR 20 28 29.4
comp=Z,380nm,18.6s,baz=50,slow=42
comp=Z,7.2nm,0.7s
NCK **Nalchik** 9.17 348↑ *e*P Pn **20 24 18.0 -2.3**
NCK pmax pmax
comp=Z,3.0nm,0.8s
SAKB **Bahrain** 9.31 155 P Pn **20 24 21.2 -1.0**
SAKB S Sn **20 26 04.0 -3.0**
BNN **Bunyan** 9.38 300 Pn Pn **20 24 24.7 +1.4**
KBZ **Khabaz** 9.53 345 *e*P Pn 20 24 31.9 +6.7
KBZ **Khabaz** 9.53 345 Pn Pn **20 24 29.2 +4.0**
comp=Z,0.2nm,0.3s,baz=161,slow=11,SNR=10
KBZ LR LR 20 28 53.8
comp=Z,317nm,19.4s,baz=152,slow=43
SHMA **Al-Shehemyia** 9.57 153 P Pn **20 24 24.7 -1.2**
SNR=6.7
SHMA S Sn **20 26 11.4 -2.1**
DSI **Dead Sea** 9.58 255 Pn Pn **20 24 27.5 +1.6**
SLTI **Sal'it** 9.63 259 Pn Pn **20 24 28.9 +2.2**
TOKA **Tokat** 9.66 310 Pn Pn **20 24 25.8 -1.3**
MSBI **Mazada** 9.69 254 Pn Pn **20 24 29.1 +1.7**
KIV **Kislovodsk** 9.79 345 Pn Pn **20 24 27.1 -1.8**
KIV **Kislovodsk** 9.79 345 P Pn 20 24 35.7 +6.8
KIV **Kislovodsk** 9.79 345 *e*P Pn **20 24 24.9 -4.0**
KIV pmax pmax
comp=Z,18nm,1.1s
KIV MLR MLR
comp=Z,105nm,12.0s
GEYT **Alibeck** 10.18 67 Pn Pn **20 24 34.3 +0.1**
GEYT **Alibeck** 10.18 67 P Pn **20 24 34.3 +0.1**
GEYT **Alibeck** 10.18 67 Pn Pn 20 24 39.4 +5.3
comp=Z,0.4nm,0.3s,baz=243,slow=18,SNR=6.5
GEYT Lg Lg 20 27 44.9
baz=53,slow=37
GEYT LR LR 20 29 46.5
comp=Z,179nm,19.5s,baz=224,slow=44
GYA0 **ALIBECK ARRAY** 10.18 67 P Pn **20 24 33.9 -0.3**
GYA0B **ALIBECK ARRAY** 10.18 67 Pn Pn **20 24 33.9 -0.2**
PRNI **Paran** 10.36 249 Pn Pn **20 24 37.8 +1.1**
KVT **Kavak** 10.36 312 P Pn 20 24 43.1 +6.4
HRFI **Mount Harif** 10.48 248 Pn Pn **20 24 40.0 +1.7**
SMRA **Abu-Samra** 10.55 157 P Pn **20 24 38.3 -0.9**
SNR=13
SMRA S Sn **20 26 34.7 -2.6**
KZIT **Kziot** 10.61 253 Pn Pn **20 24 42.5 +2.5**
KZIT **Kziot** 10.61 253 P Pn **20 24 43.6 +3.6**
AQBJ **Aqaba** 10.62 246 P Pn **20 24 44.4 +4.2**
CSS **Mathiatis** 10.62 276 Pn 20 24 45.0 +4.7
CSS **Mathiatis** 10.62 276 Pn Pn **20 24 42.9 +2.7**
KRMI **Paran Flat** 10.68 249 Pn Pn **20 24 42.3 +1.2**
TRNA **Turayna** 10.69 155 P Pn **20 24 40.0 -1.1**
SNR=32
TRNA S Sn **20 26 38.1 -2.7**
SNR=10
MBRI **Mt Berech** 10.69 247 Pn Pn **20 24 43.1 +1.8**
EIL **Elat** 10.72 246 Pn Pn **20 24 42.2 +0.5**
EIL **Elat** 10.72 246 Pn Pn **20 24 42.1 +0.5**
comp=Z,1.7nm,0.3s,baz=83,slow=4.5,SNR=8.5
EIL Lg Lg 20 27 53.2
comp=Z,1.3nm,0.3s,baz=259,slow=20,SNR=4.5
EIL LR LR 20 29 32.9
comp=Z,227nm,18.1s,baz=67,slow=41
comp=Z,4.6nm,0.4s
JRN **Qarnain Island** 11.16 147 P Pn **20 24 46.3 -1.3**
JRN S Sn **20 26 46.2 -6.2**
BR131 **Keskin Array S** 11.30 301 Pn **20 24 52.3 +2.7**
BR131 **Keskin Array S** 11.30 301 P Pn 20 24 54.6 +5.1
SNR=9.5
BR131 **Keskin Array S** 11.30 301 P Pn **20 24 52.3 +2.7**
BRTR **Keskin Array B** 11.30 301 Pn **20 24 52.4 +2.8**
BRTR **Keskin Array B** 11.30 301 Pn Pn **20 24 51.1 +1.6**
comp=Z,0.3nm,0.3s,baz=119,slow=10,SNR=61
BRTR Lg Lg 20 28 11.2
comp=Z,0.1nm,0.3s,baz=128,slow=38,SNR=1.1
BRTR LR LR 20 30 03.6
comp=Z,677nm,18.3s,baz=119,slow=43
comp=Z,18nm,0.9s
ILGA **Ilgaz** 11.83 307 Pn Pn **20 24 56.6 -0.4**
ANTO **Ankara** 11.96 300 Pn Pn **20 25 02.5 +4.1**
ANTO **Ankara** 11.96 300 P Pn 20 25 04.7 +6.2
ANTO **Ankara** 11.96 300 P Pn **20 25 02.6 +4.1**
BR231 **Keskin MP Arra** 11.96 300 Pn **20 25 01.2 +2.6**
SHME **Shamm** 12.04 132 *i* P Pn **20 24 58.8 -0.7**
SNR=12
SHME S Sn 20 27 04.8 -9.1
SHME **Shamm** 12.04 132 P Pn **20 24 58.4 -1.2**
SNR=12
SHME P Pn **20 24 58.4 -1.2**
SNR=12
SHME S Sn **20 27 11.2 -2.6**
SHME S Sn **20 27 11.2 -2.6**
UMQ **Umm Al-Quwin** 12.14 135 P Pn **20 24 59.9 -1.1**
BANOM **Banah** 12.22 132 P Pn **20 25 02.1 -0.1**
BANOM **Banah** 12.22 132 P Pn **20 25 00.8 -1.4**
BANOM S Sn **20 27 15.1 -3.4**
ANN **Anapa** 12.27 329‖ *e*P Pn **20 24 59.2 -3.5**
AJN **Ajban** 12.52 140 *i* P Pn **20 25 06.9 +0.6**
SNR=12
AJN **Ajban** 12.52 140 P Pn **20 25 04.9 -1.4**
SNR=14
AJN S Sn **20 27 22.3 -3.5**
MASF **Masafi** 12.55 134 P Pn **20 25 05.1 -1.5**
SNR=8.5
MASF P Pn **20 25 05.1 -1.5**
SNR=8.5
MASF S Sn **20 27 23.2 -3.2**
MASF S Sn **20 27 23.2 -3.2**
NAZ **Nazwa, Dubai** 12.55 137 *i* P Pn **20 25 07.1 +0.4**
SNR=8.2
NAZ **Nazwa, Dubai** 12.55 137 P Pn **20 25 05.5 -1.2**
SNR=8.1
NAZ S Sn **20 27 23.4 -3.1**
MSFE **Esma-Masafi** 12.56 134 *i* P Pn **20 25 05.9 -0.8**
SNR=8.1
ASUD **Al Ashush, Dub** 12.65 139 *i* P Pn **20 25 08.5 +0.4**
SNR=53
ASUD **Al Ashush, Dub** 12.65 139 P Pn **20 25 06.9 -1.1**
SNR=53
ASUD S Sn **20 27 26.7 -2.3**
FAQ **Al Faqa, Dubai** 12.71 138 *i* P Pn **20 25 09.1 +0.3**
SNR=12
FAQ **Al Faqa, Dubai** 12.71 138 P Pn **20 25 07.5 -1.2**
SNR=12
FAQ S Sn **20 27 26.9 -3.4**
UOSS **Minazif** 12.90 135 Pn Pn **20 25 09.7 -1.7**
UOSS **Minazif** 12.90 135 *i* P Pn **20 25 10.5 -0.9**
SNR=7.7
UOSS **Minazif** 12.90 135 P Pn **20 25 10.1 -1.3**
UOSS P Pn **20 25 10.1 -1.3**
HATD **Hatta, Dubai** 12.95 136 *i* P Pn **20 25 11.3 -0.8**
SNR=54
HATD **Hatta, Dubai** 12.95 136 P Pn **20 25 11.0 -1.1**
SNR=23
HATD S Sn **20 27 32.3 -3.9**
ASHO **Ashiyiah** 13.02 136 *i* P Pn **20 25 12.6 -0.4**
SNR=80
ASHO **Ashiyiah** 13.02 136 P Pn **20 25 11.9 -1.1**
SNR=80
ASHO S Sn **20 27 34.2 -3.7**
ISP **Isparta** 13.11 289 Pn Pn **20 25 17.0 +2.8**
ISP **Isparta** 13.11 289 P Pn **20 25 17.0 +2.8**
MZR **Muzera** 13.13 149 P Pn **20 25 13.6 -1.0**
MZR S Sn **20 27 37.8 -3.0**
HRA **Herat** 13.22 86 Pn Pn **20 25 18.4 +2.5**
JASK **Jask - Hormozg** 13.26 128 P Pn **20 25 15.3 -1.0**
JASK S Sn **20 27 39.0 -4.7**
MDUB **Mudurnu** 13.31 301 Pn Pn **20 25 21.1 +4.0**
ALNE **Al Ain** 13.34 139 *i* P Pn **20 25 16.9 -0.6**
SNR=12
ALNE **Al Ain** 13.34 139 P Pn **20 25 17.6 +0.2**
SNR=34
ALNE S Sn **20 27 39.6 -6.2**
ELL **Elmali** 13.46 284 Pn Pn **20 25 16.5 -2.6**
ELL **Elmali** 13.46 284 P Pn **20 25 16.5 -2.6**
SOHO **SOHO** 13.71 136 *i* P Pn **20 25 21.0 -1.5**
SNR=19
SOHO **SOHO** 13.71 136 P Pn **20 25 21.3 -1.2**
SOHO S Sn **20 27 50.9 -4.0**
SIM **Simferopol'** 13.94 322 *e*P Pn **20 25 27.2 +1.7**
SIM pmax pmax
comp=Z,18nm,0.9s
ARQ **Araqi** 14.34 138 P Pn **20 25 30.2 -0.9**
SNR=15
ARQ P Pn **20 25 30.2 -0.9**
SNR=15
ARQ S Sn **20 28 06.0 -4.1**
ARQ S Sn **20 28 06.0 -4.1**
HOQ **Hoqain** 14.59 136 P Pn **20 25 33.8 -0.8**
HOQ P Pn **20 25 33.8 -0.8**
BIDO **Bidbid** 15.11 133 P Pn **20 25 40.7 -0.9**
BIDO S Sn **20 28 20.0 -9.1**
BSY **Bisya** 15.18 138 P Pn **20 25 41.6 -0.9**
SNR=19
BSY S Sn **20 28 27.1 -3.7**
SMDO **Samad** 15.42 135 P Pn **20 25 44.4 -1.4**
SNR=15
SMDO S Sn **20 28 33.7 -3.0**
SNR=6.0
WSAR **Wadi Sarin** 15.63 133 P Pn **20 25 47.7 -0.7**
SNR=9.3
WSAR S Sn **20 28 37.2 -4.4**
WSAR **Wadi Sarin** 15.63 133 Pn Pn **20 25 47.1 -1.3**
comp=Z,8.7nm,0.3s,baz=324,slow=11,SNR=34
WSAR Sn **Sn** **20 28 31.7 -10**
comp=Z,0.3nm,0.3s,baz=152,slow=20,SNR=2.5
WSAR LR LR 20 33 01.5
comp=Z,360nm,20.1s,baz=345,slow=41
KARP **Karpathos** 15.65 279 Pn Pn **20 25 48.4 -0.3**
NGCH **Negor - Chabah** 15.82 121 P Pn **20 25 49.7 -1.1**
JMDO **Jabal Madar** 15.99 136 P Pn **20 25 52.0 -1.0**
SNR=21
JMDO P Pn **20 25 52.0 -1.0**
SNR=21
WBK **Wadi Bani Khal** 16.31 133 P Pn **20 25 57.0 -0.1**
SNR=13
WBK S Sn **20 28 54.8 -3.4**
MFTR **Murfatlar** 16.77 310 ⇑P P **20 26 04.8 -0.3**
JURR **Jurilovca** 16.78 313 ⇑P P **20 26 04.2 -1.0**
TIRR **Tirgusor** 16.91 311 ⇓P P **20 26 05.7 -0.9**
TIRR **Tirgusor** 16.91 311 P **20 26 05.6 -1.0**
TIRR lAmb lAmb 20 26 09.8
comp=Z,86nm,1.1s
TIRR **Tirgusor** 16.91 311 P P **20 26 05.6 -1.0**
TIRR pmax pmax
comp=Z,86nm,1.1s
JLN **Jalan Bani Buh** 16.92 133 P Pn **20 26 04.7 -0.2**
JLN P Pn **20 26 04.7 -0.2**
JLN S Sn **20 29 09.4 -3.6**
JLN S Sn **20 29 09.4 -3.6**
VRH **Novokhopyorsk** 16.97 350 *e*P Pn **20 26 03.6 -1.7**
VRH pmax pmax
comp=Z,10.0nm,0.6s
MHTO **MHTO** 17.02 139 P Pn **20 26 05.8 -0.3**
SNR=16
MHTO S Sn **20 29 12.4 -2.9**
TLCR 17.04 314 ⇑P P **20 26 07.9 -0.3**
TLCR 17.04 314 P P **20 26 07.8 -0.3**
TPGR **Topolog** 17.11 312 ⇓P P **20 26 08.1 -0.8**
ICOR **Ion Corvin** 17.13 309 ⇑P P **20 26 08.4 -0.7**
ALN **Alexandroupoli** 17.17 298 P P **20 26 09.6 +0.1**
ALN lAmb lAmb 20 26 12.1
comp=Z,68nm,1.0s
ALN **Alexandroupoli** 17.17 298 P P **20 26 10.3 +0.8**
ALN **Alexandroupoli** 17.17 298 P P **20 26 09.6 +0.1**
ALN pmax pmax
comp=Z,68nm,1.0s
VORD **Divnogorie** 17.17 345 *e*P Pn **20 26 07.7 -0.1**
VORD pmax pmax
comp=Z,30nm,0.7s
PURM **Purcari** 17.22 319 ⇓P Pn **20 26 09.0 +0.6**
HARR **Harsova** 17.33 311 ⇓P P **20 26 11.4 +0.2**
HARR **Harsova** 17.33 311 P P **20 26 11.4 +0.2**
VSR **Storozhevoye** 17.43 345 *e*P Pn **20 26 10.5 -0.6**
VSR pmax pmax
comp=Z,40nm,0.8s
CFR **Carcaliu** 17.45 313 ⇓P P **20 26 11.9 -0.6**
CFR **Carcaliu** 17.45 313 P P **20 26 11.8 -0.7**
LOZB **Loznitsa** 17.60 306 ⇑P P **20 26 14.3 0.0**
RDO **Rodhopi** 17.60 298 P Pn **20 26 12.8 -0.5**
RDO lAmb lAmb 20 26 17.4
comp=Z,42nm,1.0s
RDO **Rodhopi** 17.60 298 P P **20 26 15.2 +0.9**
RAZG **Razgrad** 17.74 306 ⇓P P **20 26 15.8 0.0**
ABKAR **Akbulak array** 17.85 30 Pn **20 26 16.0 -0.4**
ABKAR **Akbulak array** 17.85 30 Pn **20 26 15.5 -0.8**
VORR **Voronezh** 17.86 346 *e*P Pn **20 26 14.0 -2.3**
VORR pmax pmax
comp=Z,43nm,1.0s
BELG **Belogornoye** 17.87 3⇓ *e*P Pn **20 26 13.9 -2.6**
BELG pmax pmax
comp=Z,3.0nm,0.8s
BELG **Belogornoye** 17.87 3 P Pn **20 26 14.3 -2.2**
comp=Z,0.7nm,0.3s,baz=5.6,slow=2.3,SNR=5.0
BELG LR LR 20 34 19.3
comp=Z,202nm,19.9s,baz=111,slow=41
comp=Z,16nm,0.7s
WHFO **Wadi Hawf** 17.87 156 P Pn **20 26 16.7 -0.1**
SNR=45
WHFO S Sn **20 29 30.9 -5.2**
ELND **Elena** 17.92 304 ⇓P P **20 26 18.5 +0.7**
MILM **Milestii Mici** 18.04 318 ⇑P Pn **20 26 18.5 -0.1**
MILM **Milestii Mici** 18.04 318 P Pn **20 26 18.4 -0.1**
AKTO **Aktyubinsk** 18.07 25 P Pn **20 26 18.2 -0.8**
comp=Z,0.5nm,0.3s,baz=205,slow=8.4,SNR=13
AKTO LR LR 20 35 26.6
comp=Z,157nm,18.2s,baz=172,slow=44
comp=Z,5.8nm,0.7s
ABTO **Aybut** 18.25 158 P Pn **20 26 21.4 0.0**
SNR=26
ABTO P Pn **20 26 21.4 0.0**
SNR=26
ISR **Istrita** 18.40 311 ⇑P P **20 26 23.2 +0.1**
ISR **Istrita** 18.40 311 P P **20 26 23.2 +0.1**
ODBI **Odobesti** 18.40 313 ⇓P P **20 26 23.9 +0.8**
PANC **Panciu** 18.40 314 ⇓P P **20 26 24.0 +0.9**
RBK **Rabkut** 18.41 155 P P **20 26 22.2 -1.1**
SNR=20
SHAO **Shalim** 18.47 151 *i* P P **20 26 22.8 -1.2**
SNR=20
SHAO **Shalim** 18.47 151 P P **20 26 23.9 -0.1**
SNR=20
DMTO **DMTO** 18.48 153 P P **20 26 23.8 -0.3**
SNR=34
VRI **Vrincioaia** 18.65 313 ⇑P P **20 26 25.8 -0.1**
VRI **Vrincioaia** 18.65 313 P P **20 26 25.7 -0.1**
PLOR **Plostina** 18.69 313 ⇑P Pn **20 26 27.5 +0.8**
PLOR **Plostina** 18.69 313 P Pn **20 26 27.5 +0.8**
KBL **Kabul** 18.79 84 P Pn **20 26 28.9 +0.7**
KBL lAmb lAmb 20 26 51.5
comp=Z,109nm,1.4s
KBL **Kabul** 18.79 84 P Pn **20 26 28.9 +0.7**
KBL pmax pmax
comp=Z,109nm,1.5s
LPSR **Galich'ya Gora** 18.79 346 *e*P P **20 26 25.5 -1.8**
LPSR pmax pmax
comp=Z,100nm,0.7s
NVR **Nevrokopi** 18.88 298 P Pn **20 26 29.7 +0.7**
PLVB **Pleven** 18.94 304 ⇑P Pn **20 26 29.5 -0.2**
MLR **Muntele Rosu** 18.95 311 ⇑P Pn **20 26 30.6 +0.8**
MLR **Muntele Rosu** 18.95 311 Pn **20 26 29.5 -0.4**
MLR **Muntele Rosu** 18.95 311 P Pn **20 26 29.5 -0.4**
MLR pmax pmax
comp=Z,23nm,1.1s
MLR **Muntele Rosu** 18.95 311 P P **20 26 28.9 -0.3**
comp=Z,0.4nm,0.3s,baz=75,slow=9.1,SNR=9.8
comp=Z,15nm,1.2s
SRS **Serrai** 19.02 297 P Pn **20 26 30.9 +0.3**
SRS **Serrai** 19.02 297 P Pn **20 26 31.0 +0.3**
SRS pmax pmax
comp=Z,47nm,0.8s
SORM **Soroca** 19.03 321 P Pn **20 26 30.4 -0.3**
TESR **Tescani** 19.03 315 ⇑P P **20 26 30.2 +0.1**
HUMR **Humele** 19.14 308 ⇓P Pn **20 26 31.5 -0.5**
TURR **Turia** 19.18 313 ⇓P Pn **20 26 32.7 +0.2**
OZUR 19.33 313 ⇓P P **20 26 33.5 +0.2**
MTUR **Matau** 19.38 310 ⇑P Pn **20 26 35.1 +0.1**
MTUR **Matau** 19.38 310 P Pn **20 26 35.1 +0.1**
THE **Thessaloniki** 19.39 295 P P **20 26 34.4 +0.5**
THE pmax pmax
comp=Z,46nm,1.0s
BOSR **Bodos** 19.40 313 ⇑P Pn **20 26 34.6 -0.7**
VOIR 19.48 310 ⇑P Pn **20 26 36.2 0.0**
VOIR 19.48 310 P Pn **20 26 36.2 0.0**
DOPR **Dopca** 19.51 312 ⇓P P **20 26 35.7 +0.3**
KNT **Kendrikon** 19.54 297 P Pn **20 26 37.4 +0.4**
KNT **Kendrikon** 19.54 297 P P **20 26 36.2 +0.5**
KNT pmax pmax
comp=Z,31nm,1.2s
AGG **Agios Georgios** 19.64 290 Pn **20 26 37.7 -0.4**
AGG **Agios Georgios** 19.64 290 P Pn **20 26 37.7 -0.4**
AGG pmax pmax
comp=Z,26nm,1.1s
ARR **Arges** 19.71 310 ⇑P Pn **20 26 38.5 -0.5**
VAY **Valandovo** 19.82 297 *i* P P **20 26 38.4 -0.2**
GRG **Griva** 19.87 296 P P **20 26 39.5 +0.2**
GRG pmax pmax
comp=Z,17nm,1.0s
BAIL **Bailesti** 20.03 305 ⇑P Pn 20 26 42.5 -0.2
STIP **Stip** 20.18 298 *i* P P **20 26 40.6 -2.0**
MDB **Medias** 20.22 312 ⇑P Pn 20 26 44.2 -0.7
MDB **Medias** 20.22 312 P Pn 20 26 44.1 -0.8
KMPD **K-Podol'skiy** 20.29 320 P P **20 26 42.0 -1.7**
LOT **Lotru** 20.30 309 ⇓P P **20 26 44.4 +0.4**
AKASG **Malin Array Be** 20.35 328 P P **20 26 41.7 -2.7**
AKASG **Malin Array Be** 20.35 328 *i* P P **20 26 42.5 -1.8**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG **Malin Array Be** 20.35 328 P P **20 26 42.3 -2.1**
comp=Z,4.9nm,0.5s,baz=138,slow=9.1,SNR=39
AKASG LR LR 20 36 05.5
comp=Z,265nm,19.1s,baz=123,slow=42
comp=Z,4.9nm,0.5s
AKBB **Malin Array Si** 20.35 328 P P **20 26 41.7 -2.7**
AKBB **Malin Array Si** 20.35 328↑ *e*P P **20 26 42.6 -1.7**
KIEV **Kiev** 20.35 328 P P **20 26 41.7 -2.7**
KIEV **Kiev** 20.35 328 P P **20 26 41.7 -2.7**
KIEV pmax pmax
comp=Z,15nm,0.8s
SRE **Strehaia** 20.36 307 ⇓P Pn 20 26 46.0 -0.5
SRE **Strehaia** 20.36 307 P Pn 20 26 46.0 -0.5
BURAR **Bucovina Array** 20.45 316 ⇓P P **20 26 46.2 +0.6**
BURAR **Bucovina Array** 20.45 316 P P **20 26 44.4 -1.2**
BURAR lAmb lAmb 20 26 49.0
comp=Z,31nm,1.1s
BURAR **Bucovina Array** 20.45 316 P P **20 26 46.2 +0.6**
BUR08 **Bucovina Ar. S** 20.47 316 P P **20 26 42.5 -3.3**
BUR08 lAmb lAmb 20 26 56.9
comp=Z,21nm,0.9s
FNA **Florina** 20.60 295 P P **20 26 46.6 -0.7**
FNA lAmb lAmb 20 26 48.8
comp=Z,28nm,1.0s
FNA **Florina** 20.60 295 P P **20 26 46.6 -0.7**
FNA pmax pmax
comp=Z,28nm,1.0s
ARCR **ARCALIA** 20.68 314 ⇓P P **20 26 48.8 +0.8**
HORU **Horodok** 20.70 321 P P **20 26 46.9 -1.3**
KK31 **Karatay Array** 20.71 58 P **20 26 46.9 -1.4**
KK31 **Karatay Array** 20.71 58 P P **20 26 46.9 -1.4**
KK31 pmax pmax
comp=Z,8.0nm,1.0s
KKAR **Karatay Array** 20.71 58 P **20 26 47.6 -0.8**
KKAR **Karatay Array** 20.71 58 P **20 26 46.6 -1.7**
KKAR **Karatay Array** 20.71 58 P P **20 26 46.7 -1.7**
KKAR pmax pmax
comp=Z,8.0nm,1.0s
SKO **Skopje** 20.79 298 *i* P P **20 26 49.9 +0.7**
DJES **Djerdap** 20.81 306 ⇓P P **20 26 50.4 +1.0**
DJES **Djerdap** 20.81 306 P P **20 26 48.8 -0.6**
KSV **Kosov** 20.91 318 P P **20 26 49.1 -1.4**
GZR **Gura Zlata** 20.91 308 ⇑P P **20 26 50.8 +0.2**
HERR **Herculane** 20.96 307 ⇓P P **20 26 51.6 +0.6**
CJR **Cluj-Napoca** 20.96 312 ⇑P P **20 26 52.1 +1.0**

CJR Cluj-Napoca 20.96 312 P **P** **20 26 52.1 +1.0**
KBN Korca 21.02 294 P **P** **20 26 51.4 -0.4**
KBN IAmb IAmb 20 27 01.9
comp=Z,22nm,0.8s
KBN Korca 21.02 294 P **P** **20 26 51.4 -0.4**
KBN pmax pmax
comp=Z,22nm,0.8s
BOVS Bovan 21.03 303 ⇑P **P** **20 26 52.5 +0.7**
DEV Deva 21.03 310 ⇑P **P** **20 26 52.0 +0.2**
DEV Deva 21.03 310 P **P** **20 26 51.9 +0.2**
IGT Igoumenitsa 21.23 291 P **P** **20 26 52.2 -1.8**
IGT pmax pmax
comp=Z,35nm,0.9s
MARR Marisel-Cluj 21.24 312 ⇓P **P** **20 26 54.4 +0.2**
MDVR Moldovita 21.39 306 ⇑P **P** **20 26 56.5 +0.8**
PHP Peshkopia 21.46 297 P **P** **20 26 58.1 +1.6**
BMR Baia Mare 21.48 314 ⇓P **P** **20 26 57.7 +1.1**
BMR Baia Mare 21.48 314 P **P** **20 26 57.7 +1.1**
SURR Surduc 21.48 309 ⇓P **P** **20 26 56.5 0.0**
MESR Meseseni 21.55 313 ⇓P **P** **20 26 57.0 -0.4**
OBN Obninsk 21.64 345 P **P** **20 26 55.9 -2.3**
OBN IAmb IAmb 20 27 03.4
comp=Z,34nm,0.7s
OBN Obninsk 21.64 345⇑ *e*P **P** **20 26 56.7 -1.5**
OBN *e* 20 27 16.2
OBN *e*S **S** **20 30 49.6 -8.0**
OBN pmax pmax
comp=Z,52nm,1.0s
OBN MLR MLR
comp=Z,198nm,19.0s
OBN Obninsk 21.64 345 P **P** **20 26 56.3 -1.9**
comp=Z,12nm,0.5s,baz=204,slow=11,SNR=7.3
comp=Z,12nm,0.5s
BZS Buzias 21.75 308 ⇑P **P** **20 26 59.4 -0.1**
BZS Buzias 21.75 308 P **P** **20 26 59.4 -0.1**
SIRR Siria 21.98 310 ⇓P **P** **20 27 03.0 +1.0**
TRSU Trosnyk 22.00 315 P **P** **20 27 02.4 +0.2**
MORS Morshin 22.01 318 P **P** **20 27 01.8 -0.5**
MOS Moscow 22.01 347 *e*P **P** **20 27 02.2 0.0**
MOS *e* 20 27 31.2
MOS pmax pmax
comp=Z,32nm,0.7s
ARSB Arslanbob 22.11 64 P **P** **20 27 03.3 -0.3**
ARSB Arslanbob 22.11 64 P **P** **20 27 03.3 -0.3**
ARSB pmax pmax
comp=Z,3.0nm,1.0s
LVV L'vov 22.32 320 *e*P **P** **20 27 02.6 -3.0**
DIVS Divibare 22.35 303 P **P** **20 27 04.0 -2.1**
DIVS IAmb IAmb 20 27 08.4
comp=Z,32nm,1.0s
NIL Nilore 22.38 85 P **P** **20 27 06.4 0.0**
NIL IAmb IAmb 20 27 14.4
comp=Z,19nm,0.8s
NIL Nilore 22.38 85 P **P** **20 27 06.4 0.0**
NIL pmax pmax
comp=Z,19nm,0.9s
UZH Uzhgorod 22.65 316 P **P** **20 27 10.0 +0.9**
KOLS Kolonicke sedl 22.81 316 *e*P **P** **20 27 11.5 +0.7**
KOLS Kolonicke sedl 22.81 316 *e*P **P** **20 27 11.6 +0.7**
KOLS pmax pmax
comp=Z,56nm,1.1s
KWP Kalwaria Pacla 22.93 318 *e*P **P** **20 27 12.5 +0.4**
KWP Kalwaria Pacla 22.93 318 P **P** **20 27 10.9 -1.2**
KWP Kalwaria Pacla 22.93 318 P **P** **20 27 10.9 -1.2**
KWP pmax pmax
comp=Z,47nm,1.0s
ATD Arta Tunnel 23.11 188 P **P** **20 27 17.7 +3.4**
comp=Z,0.5nm,0.7s,baz=356,slow=14,SNR=2.1
ATD LR LR 20 36 57.8
comp=Z,5.0nm,18.3s,baz=96,slow=38
CRVS Cervenica-Dubn 23.26 316 *e*P **P** **20 27 15.8 +0.3**
CRVS Cervenica-Dubn 23.26 316 *e*P **P** **20 27 15.8 +0.3**
CRVS pmax pmax
comp=Z,67nm,1.2s
AAK Ala-Archa 23.45 61 P **P** **20 27 12.4 -5.1**
AAK Ala-Archa 23.45 61*ce*P P 20 27 25.9 +8.3
AAK pmax pmax
comp=Z,8.0nm,1.7s
AAK Ala-Archa 23.45 61 LR LR 20 37 27.5
comp=Z,135nm,19.1s,baz=256,slow=39
ARU Arti 23.46 17 P **P** **20 27 14.9 -2.5**
ARU IAmb IAmb 20 27 46.8
comp=Z,15nm,0.9s
ARU Arti 23.46 17*ce*P **P** **20 27 19.2 +1.8**
ARU pmax pmax
comp=Z,25nm,1.7s
STHS Stebnicka Huta 23.64 317 *e*P **P** **20 27 19.2 0.0**
STHS Stebnicka Huta 23.64 317 *e*P **P** **20 27 19.2 0.0**
PSZ Piszkesteto 23.75 312 P **P** **20 27 19.4 -1.0**
PSZ IAmb IAmb 20 27 22.4
comp=Z,22nm,1.1s
PSZ Piszkesteto 23.75 312 P **P** **20 27 19.4 -1.0**
PSZ pmax pmax
comp=Z,22nm,1.1s
MORH Mrgy, Hungar 23.91 307 ⇓P **P** **20 27 21.5 -0.3**
BUD Budapest 24.12 311 P **P** **20 27 24.0 +0.2**
BUD pmax pmax
comp=Z,40nm,0.7s
KIRV Kirov 24.14 4*ce*P **P** **20 27 25.2 +1.3**
KIRV Kirov 24.14 4 LR LR 20 38 15.6
comp=Z,356nm,18.3s,baz=185,slow=40
NIE Niedzica 24.18 316 P **P** **20 27 26.0 +1.6**
KSH Kashi 24.20 69 P **P** **20 27 27.4 +2.6**
KSH LR LR
comp=N,190nm,9.3s
KSH LR LR
comp=E,360nm,15.5s
KSH LR LR
comp=Z,320nm,11.0s
SVE Sverdlovsk 24.35 19 *e*P **P** **20 27 27.1 +1.3**
SVE pmax pmax
comp=Z,26nm,1.3s
NACGM Naroch 24.45 332 *e*P **P** **20 27 25.6 -1.1**
VYHS Vyhne 24.64 313 *e*P **P** **20 27 29.7 +1.2**
VYHS Vyhne 24.64 313 *e*P **P** **20 27 29.7 +1.2**
VYHS pmax pmax
comp=Z,12nm,1.0s
CEL Celeste 24.64 288 P **P** **20 27 26.1 -2.7**
SRO Srobarova 24.69 311 *e*P **P** **20 27 30.0 +1.0**
SRO Srobarova 24.69 311 *e*P **P** **20 27 30.0 +1.0**
SRO pmax pmax
comp=Z,17nm,1.0s
OJC Ojcow 24.85 317 *e*P **P** **20 27 29.9 -0.5**
OJC Ojcow 24.85 317 P **P** **20 27 28.4 -2.0**
OJC Ojcow 24.85 317 P **P** **20 27 28.4 -2.0**
OJC pmax pmax
comp=Z,27nm,0.8s
BRVK Borovoye 25.18 35 P **P** **20 27 32.4 -0.9**
BRVK IAmb IAmb 20 27 43.1
comp=Z,8.0nm,0.8s
BRVK Borovoye 25.18 35 P **P** **20 27 36.5 +3.1**
BRVK Borovoye 25.18 35*ce*P **P** **20 27 34.8 +1.5**
BRVK pmax pmax
comp=Z,20nm,1.7s
BVAR Borovoye Array 25.21 35 P **P** **20 27 33.3 -0.3**
comp=Z,3.5nm,0.7s,baz=233,slow=7.8,SNR=22
comp=Z,3.5nm,0.7s
SUW Suwalki 25.32 327 *e*P **P** **20 27 35.3 +0.8**
SUW Suwalki 25.32 327 P **P** **20 27 32.7 -1.9**
SUW Suwalki 25.32 327 P **P** **20 27 32.7 -1.9**
SUW pmax pmax
comp=Z,114nm,1.1s
JAVC Velka Javorina 25.49 313 *e*P **P** **20 27 36.8 +0.5**
SMOL Smolenice 25.50 312 *e*P **P** **20 27 37.2 +0.8**
SMOL pmax pmax
comp=Z,14nm,1.4s
MODS Modra-Piesok 25.54 312 *e*P **P** **20 27 37.2 +0.5**
MODS Modra-Piesok 25.54 312 *e*P **P** **20 27 37.2 +0.5**
MODS pmax pmax
comp=Z,64nm,1.3s
PTJ Puntijarka 25.59 305 P **P** **20 27 38.4 +1.1**
MAUC Maruska 25.60 314 *e*P **P** **20 27 37.3 0.0**
MAUC *e*P **P** **20 27 37.6 +0.3**
OKC Ostrava-Krasne 25.62 315 *e*P **P** **20 27 36.8 -0.6**
OKC Ostrava-Krasne 25.62 315 *e*P **P** **20 27 36.8 -0.6**
SOP Sopron 25.75 310 P **P** **20 27 40.7 +2.1**
SOP pmax pmax
comp=Z,40nm,1.4s
RAFF Raffo Rosso 25.89 285 P **P** **20 27 42.7 +2.6**
RONA Rosalia, Austr 25.92 310 *e*P **P** **20 27 40.8 +0.6**
comp=Z,6.9nm,0.7s,SNR=9.2
MORC Moravsky Berou 25.94 315 P **P** **20 27 38.6 -1.8**
MORC IAmb IAmb 20 27 42.9
comp=Z,26nm,1.1s
MORC Moravsky Berou 25.94 315 *e*P **P** **20 27 38.0 -2.4**
MORC Moravsky Berou 25.94 315 P **P** **20 27 40.3 -0.1**
PABE Paberze 26.00 331 P **P** **20 27 37.4 -3.3**
ARSA Arzberg 26.27 308 *i*P **P** **20 27 44.5 +1.2**
comp=Z,17nm,1.1s,SNR=5.1
CONA Conrad Observa 26.27 310 *i*P **P** **20 27 42.2 -1.2**
comp=Z,30nm,1.1s,SNR=9.9
VRAC Vranov 26.32 313 *e*P **P** **20 27 43.4 -0.4**
VRAC Vranov 26.32 313 LR LR 20 39 34.5
comp=Z,98nm,20.1s,baz=112,slow=40
KRUC Moravsky 26.34 312 *e*P **P** **20 27 43.2 -0.8**
SOKA Soboth 26.43 307 *i*P **P** **20 27 45.0 +0.1**
comp=Z,10.0nm,1.5s
KRLC Kraliky 26.52 315 *e*P **P** **20 27 44.8 -0.8**
KRLC Kraliky 26.52 315 *e*P **P** **20 27 44.8 -0.8**
KLMR Klimovskoe 26.68 353 *e*P **P** **20 27 41.6 -5.3**
KLMR AMP 20 27 50.9
comp=Z,23nm,1.0s
KLMR Klimovskoe 26.68 353 *e*P **P** **20 27 41.6 -5.3**
KLMR pmax pmax
comp=Z,23nm,1.0s
OBKA Obir 26.70 306 *i*P **P** **20 27 50.5 +3.1**
comp=Z,18nm,1.3s
CAMP Campotosto 26.76 297 P **P** **20 27 48.0 +0.1**
CLTB Caltabellotta 26.78 286 P **P** **20 27 51.1 +2.9**
DPC Dobruska-Polom 26.90 315 *e*P **P** **20 27 47.6 -1.4**
DPC Dobruska-Polom 26.90 315 *e*P **P** **20 27 47.6 -1.4**
OSTC Ostas 27.05 315 *e*P **P** **20 27 49.5 -0.8**
OSTC Ostas 27.05 315 *e*P **P** **20 27 49.5 -0.8**
FDMO Fiordimonte 27.05 298 P **P** **20 27 48.4 -2.1**
FDMO IAmb IAmb 20 27 54.1
comp=Z,17nm,0.9s
PRGR Permogore 27.11 359 *e*P **P** **20 27 48.5 -2.2**
PRGR pmax pmax
comp=Z,20nm,0.8s
KSP Ksiaz 27.12 316 P **P** **20 27 53.9 +2.9**
UPC Upice 27.14 315 *e*P **P** **20 27 49.7 -1.5**
UPC Upice 27.14 315 *e*P **P** **20 27 49.7 -1.5**
CHVC Chvalec 27.15 315 *e*P **P** **20 27 51.0 -0.3**
CHVC Chvalec 27.15 315 *e*P **P** **20 27 51.0 -0.3**
SABO M.te Sabotino 27.21 305 P **P** **20 27 49.9 -1.9**
SABO IAmb IAmb 20 28 08.4
comp=Z,58nm,1.5s
MOA Molln 27.27 309 *i*P **P** **20 27 52.1 -0.3**
comp=Z,7.1nm,0.7s
MYKA Terra Mystica 27.34 306 *ep*P **P** **20 27 53.9 +0.9**
comp=Z,7.5nm,1.5s
CESX Cesi 27.37 297 **P** **20 27 52.0 -1.4**
CESX IAmb IAmb 20 27 56.8
comp=Z,14nm,0.8s
CKRC Cesky Krumlov 27.54 311 *e*P **P** **20 27 54.0 -0.8**
CKRC Cesky Krumlov 27.54 311 *e*P **P** **20 27 54.0 -0.8**
BIOA Bad Ischl, Aus 27.62 308 *i*P **P** **20 27 55.2 -0.4**
comp=Z,3.9nm,0.5s
KBA Koelnbreinsper 27.65 307 *i*P **P** **20 27 55.8 -0.2**
comp=Z,19nm,1.0s
KBA Koelnbreinsper 27.65 307 P **P** **20 27 57.9 +1.9**
KBA pmax pmax
comp=Z,24nm,1.3s
ZVC Zvikov 27.82 312 *e*P **P** **20 27 56.6 -0.7**
STAL STALIGIAL 27.88 305 **P** **20 27 55.6 -2.2**
STAL IAmb IAmb 20 28 05.0
comp=Z,12nm,1.1s
GEC2 GERESS Array S 27.93 311 P **P** **20 27 55.3 -3.0**
GERES GERESS Array B 27.93 311 P **P** **20 27 54.1 -4.3**
GERES GERESS Array B 27.93 311 P **P** **20 27 56.4 -1.9**
comp=Z,0.7nm,0.5s,baz=108,slow=6.3,SNR=5.4
GERES LR LR 20 41 02.8
comp=Z,81nm,18.2s,baz=129,slow=41
comp=Z,0.7nm,0.5s
KHC Kasperske Hory 28.10 311 P **P** **20 27 58.2 -1.6**
KHC Kasperske Hory 28.10 311 *e*P **P** **20 27 59.1 -0.7**
KHC Kasperske Hory 28.10 311*ce*P **P** **20 28 01.2 +1.4**
KHC pmax pmax
comp=Z,20nm,1.7s
ABTA Abfaltersbach 28.12 306 *e*P **P** **20 27 59.7 -0.4**
comp=Z,8.5nm,1.2s
LESA Schwarzleotal 28.18 307 *i*P **P** **20 27 59.6 -1.0**
comp=Z,2.3nm,0.6s
TEOL Teolo 28.41 303 **P** **20 27 58.4 -4.2**
TEOL IAmb IAmb 20 28 20.7
comp=Z,13nm,0.8s
KURBB Kurchatov Arra 28.41 46 P **P** **20 28 03.5 +1.1**
comp=Z,1.3nm,0.5s,baz=253,slow=8.9,SNR=8.7
comp=Z,1.3nm,0.5s
KURK Kurchatov 28.50 46 P P 20 27 58.2 -5.1
KURK Kurchatov 28.50 46*ce*P **P** **20 28 05.9 +2.6**
KURK pmax pmax
comp=Z,6.0nm,1.7s
CTI Castel Tesino 28.55 304 P **P** **20 28 02.8 -1.1**
CTI IAmb IAmb 20 28 08.5
comp=Z,9.0nm,0.8s
CTI Castel Tesino 28.55 304 P **P** **20 28 02.8 -1.1**
CTI pmax pmax
comp=Z,9.0nm,0.8s
ZCCA Zocca 28.74 301 P **P** **20 28 05.8 +0.2**
WTTA Wattenberg 28.82 307 *e*P **P** **20 28 05.3 -1.2**
comp=Z,5.7nm,0.7s
WATA Walderalm 28.88 307 *e*P **P** **20 28 05.6 -1.3**
comp=Z,4.8nm,0.5s
SQTA Sankt Quirin 29.10 306 *i*P **P** **20 28 07.4 -1.4**
comp=Z,5.5nm,0.6s
MOTA Moosalm 29.20 307 *i*P **P** **20 28 08.2 -1.5**
comp=Z,12nm,1.1s
CLL Collm 29.21 315 *e*P **P** **20 28 10.0 +0.4**
comp=Z,26nm,1.7s
CLL *i* x x 20 28 17.7
CLL *e*PPP PPP 20 29 09.0
CLL Collm 29.21 315 *e*P **P** **20 28 10.0 +0.4**
CLL *i* 20 28 17.7
CLL pmax pmax
comp=Z,26nm,1.7s
FETA Feichten 29.37 306 *i*P **P** **20 28 09.9 -1.4**
comp=Z,3.7nm,0.9s
RETA Reutte 29.45 307 *i*P **P** **20 28 10.6 -1.3**
comp=Z,0.3nm,0.3s
FUORN Ofenpass-Fuorn 29.61 305 P **P** **20 28 13.3 -0.1**
MK31 Makanchi Array 29.70 55 P **P** **20 28 14.6 +0.5**
MK31 Makanchi Array 29.70 55 P **P** **20 28 14.6 +0.5**
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 29.70 55 P **P** **20 28 14.4 +0.3**
MKAR Makanchi Array 29.70 55*ce*P **P** **20 28 15.3 +1.2**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 29.70 55 P **P** **20 28 15.1 +1.0**
comp=Z,1.9nm,0.6s,baz=252,slow=10.0,SNR=22
comp=Z,1.9nm,0.6s
GRA1 Grafenberg Arr 29.74 311 P **P** **20 28 13.2 -1.1**
GRA1 IAmb IAmb 20 28 27.6
comp=Z,19nm,1.4s
GRF Grafenberg Arr 29.74 311 P **P** **20 28 13.2 -1.1**
GRF pmax pmax
comp=Z,19nm,1.4s
GRF Grafenberg Arr 29.74 311 *e*P **P** **20 28 13.4 -0.9**
comp=Z,4.4nm,0.8s,baz=112,slow=9.8
GRFO Grafenberg 29.74 311 P **P** **20 28 14.3 0.0**
GRFO IAmb IAmb 20 28 15.5
comp=Z,23nm,1.4s
GRFO Grafenberg 29.74 311 P **P** **20 28 14.3 0.0**
GRFO pmax pmax
comp=Z,23nm,1.4s
MSSA Maissana 29.77 300 P **P** **20 28 13.3 -1.5**
FINES FINESS Array B 29.85 341 P **P** **20 28 13.3 -1.7**
FINES FINESS Array B 29.85 341 *i*P **P** **20 28 14.1 -1.0**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 29.85 341 P **P** **20 28 13.2 -1.9**
comp=Z,3.1nm,0.7s,baz=140,slow=11,SNR=13
FINES LR LR 20 40 55.4
comp=Z,201nm,18.3s,baz=125,slow=38
comp=Z,3.1nm,0.7s
DAVOX Davos/Dischmat 29.90 305 LR LR 20 42 19.5
comp=Z,135nm,19.1s,baz=83,slow=41
DAVA Damuels 30.00 306 *i*P **P** **20 28 15.8 -1.0**
comp=Z,4.4nm,0.7s
KEST Kesra 30.08 283 P **P** **20 28 16.6 -0.9**
comp=Z,5.9nm,0.9s,baz=111,slow=15,SNR=3.3
comp=Z,5.9nm,0.9s
SBF Sospel 31.23 299 *e*P **P** **20 28 27.1 -0.5**
SBF pmax pmax
comp=Z,38nm,0.7s
SENIN Lac Senin/Sane 31.58 304 P **P** **20 28 29.4 -1.5**
LPG La Plagne 31.86 302 *e*P **P** **20 28 33.5 +0.1**
LPG pmax pmax
comp=Z,7.0nm,0.6s
LPL La Plagne 31.87 302 *e*P **P** **20 28 33.6 +0.1**
LPL pmax pmax
comp=Z,8.0nm,0.7s
PYUN Piuthan 31.93 91 *e*P **P** **20 28 37.9 +3.8**
ECH Echery 31.98 307 P **P** **20 28 32.4 -1.7**
ECH IAmb IAmb 20 28 39.9
comp=Z,5.8nm,1.0s
ECH Echery 31.98 307 P **P** **20 28 32.4 -1.7**
ECH pmax pmax
comp=Z,6.0nm,1.0s
HINF Hinteralfeld 32.11 306 *e*P **P** **20 28 33.8 -1.5**
HINF pmax pmax
comp=Z,3.0nm,0.6s
ORIF Oris-en-Rattie 32.42 301 *e*P **P** **20 28 36.7 -1.4**
ORIF pmax pmax
comp=Z,10.0nm,0.6s
CABF La Chapelle 32.45 304 *e*P **P** **20 28 37.3 -1.0**
CABF pmax pmax
comp=Z,8.0nm,0.6s
DANN Dangsing 32.48 90 *e*P **P** **20 28 42.0 +3.0**
HAU Haudompre 32.48 307 *e*P **P** **20 28 39.2 +0.7**
HAU pmax pmax
comp=Z,18nm,1.4s
WMQ Urumqi 33.16 61 *e*P **P** **20 28 46.3 +1.8**
WMQ pP sP 20 28 52.4 +2.7
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ LR LR
comp=Z,46nm,27.9s
HFS Hagfors 33.18 331 P **P** **20 28 43.0 -1.4**
comp=Z,6.5nm,0.6s,baz=116,slow=6.6,SNR=27
HFS LR LR 20 44 18.6
comp=Z,121nm,18.9s,baz=117,slow=40
comp=Z,6.5nm,0.6s
ZAA0 Zalesovo Array 33.21 42 P **P** **20 28 45.1 +0.4**
ZALV Zalesovo Beam 33.21 42 P **P** **20 28 44.5 -0.3**
ZALV Zalesovo Beam 33.21 42 P **P** **20 28 45.6 +0.8**
comp=Z,1.9nm,0.6s,baz=248,slow=7.2,SNR=7.4
comp=Z,1.9nm,0.6s
VIVF Saint-Julien-l 33.27 301 *e*P **P** **20 28 44.5 -1.0**
VIVF pmax pmax
comp=Z,104nm,2.2s
GKN Gorkha 33.32 91 *e*P **P** **20 28 48.6 +2.3**
comp=Z,34nm,0.9s
SSB Saint Sauveur 33.39 301 P **P** **20 28 44.9 -1.6**
SSB IAmb IAmb 20 28 58.8
comp=Z,23nm,1.4s
SSB Saint Sauveur 33.39 301 P **P** **20 28 44.9 -1.6**
SSB pmax pmax
comp=Z,23nm,1.4s
DGZ Jazzator, Alta 33.64 51⇓ *e*P **P** **20 28 49.7 +0.9**
DGZ pmax pmax
comp=Z,4.0nm,1.4s
GIVF Givet 33.85 310 *e*P **P** **20 28 49.3 -1.1**
GIVF pmax pmax
comp=Z,4.0nm,0.6s
LOR Lormes 34.04 305 *e*P **P** **20 28 52.6 +0.5**
LOR pmax pmax
comp=Z,6.0nm,1.0s
LVZ Lovozero 34.06 352 P **P** **20 28 52.7 +0.6**
LVZ Lovozero 34.06 352 P **P** **20 28 52.7 +0.6**
LVZ pmax pmax
comp=Z,46nm,1.2s
PKIN Phulchoki 34.10 91 *e*P **P** **20 28 56.1 +2.9**
PKI Pulchoki 34.12 91 *e*P **P** **20 28 55.7 +2.3**
SSF Saint Saulge 34.26 305 *e*P **P** **20 28 53.9 -0.1**
SSF pmax pmax
comp=Z,14nm,1.2s
AVF Avril sur Loir 34.34 304 *e*P **P** **20 28 53.1 -1.6**
AVF pmax pmax
comp=Z,15nm,1.0s
GUN Gumba 34.38 90 *e*P **P** **20 28 57.8 +2.1**
comp=Z,51nm,1.0s
NC602 NORSAR Array S 34.40 330 P **P** **20 28 52.3 -2.8**
NC602 IAmb IAmb 20 29 07.2
comp=Z,14nm,1.2s
NORES NORESS Array B 34.40 330 P **P** **20 28 56.9 +1.8**
NC405 NORSAR Array S 34.54 331 P **P** **20 28 55.5 -0.9**
BGF Bois d'Agland 34.66 304 *e*P **P** **20 28 59.4 +1.9**
BGF pmax pmax
comp=Z,47nm,1.8s
NB2 NORSAR Subarra 34.70 331 P **P** **20 28 56.0 -1.7**
comp=Z,1.5nm,0.7s,baz=124,slow=8.6
NB2 NORSAR Subarra 34.70 331 P **P** **20 29 01.1 +3.4**
NOA NORSAR Array B 34.70 331 P **P** **20 28 55.7 -2.0**
comp=Z,1.2nm,0.6s,baz=125,slow=8.7,SNR=6.6
NOA LR LR 20 44 43.9
comp=Z,97nm,18.9s,baz=135,slow=39
comp=Z,1.2nm,0.6s
JIRN Jiri 34.73 90 *e*P **P** **20 29 00.3 +1.6**
comp=Z,11nm,0.5s
NBO00 NORSAR Array S 34.88 330 P **P** **20 28 58.8 -0.4**
NC204 NORSAR Array S 35.02 331 P **P** **20 28 59.0 -1.5**
NC204 IAmb IAmb 20 29 18.0
comp=Z,18nm,1.2s
TCF Toulx Ste Croi 35.08 303 *e*P **P** **20 29 00.2 -1.0**
TCF pmax pmax
comp=Z,17nm,1.2s
CAF Calviac 35.12 301 *e*P **P** **20 29 03.5 +1.9**
CAF pmax pmax
comp=Z,70nm,2.0s
RAMN Ramite 35.33 91 *e*P **P** **20 29 05.5 +1.7**
comp=Z,54nm,0.7s
RJF Les Rejaudoux 35.52 301 *e*P **P** **20 29 04.4 -0.6**
RJF pmax pmax
comp=Z,69nm,2.0s
TAPN Taplejung 36.10 90 *e*P **P** **20 29 12.2 +1.8**
comp=Z,16nm,0.6s
EPF Esparros 36.38 297 *e*P **P** **20 29 11.2 -1.2**
EPF pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 36.47 195⇑ *e*P **P** **20 29 15.6 +2.1**
KMBO Kilima Mbogo 36.47 195 LR LR 20 43 51.5
comp=Z,79nm,20.0s,baz=84,slow=36
MFF Saint Martin d 36.73 303 *e*P **P** **20 29 13.3 -1.9**
MFF pmax pmax
comp=Z,61nm,1.8s
ARCES ARCESS Array B 36.88 348 P **P** **20 29 15.2 -1.0**
comp=Z,3.2nm,0.8s,baz=158,slow=7.3,SNR=7.7
comp=Z,3.2nm,0.8s
ETSF Etsaut 37.05 297 *e*P **P** **20 29 20.9 +2.8**
ETSF pmax pmax
comp=Z,4.0nm,0.9s
GRR Gorron 37.31 306 *e*P **P** **20 29 18.2 -1.9**
GRR pmax pmax
comp=Z,14nm,0.7s
TAM Tamanrasset 37.36 263 P **P** **20 29 23.2 +2.2**
TAM Tamanrasset 37.36 263 P **P** **20 29 23.2 +2.2**
TAM pmax pmax
comp=Z,5.0nm,1.0s
SJPF Ste Jean 37.52 298 *e*P **P** **20 29 22.7 +0.6**
SJPF pmax pmax
comp=Z,19nm,1.2s
LSA Lhasa 38.11 84 P **P** **20 29 29.6 +1.9**
LSA Lhasa 38.11 84 P **P** **20 29 29.6 +1.9**
LSA pmax pmax
comp=Z,5.0nm,0.8s
QUIF Quistinic 38.83 305 *e*P **P** **20 29 32.2 -0.7**
QUIF pmax pmax
comp=Z,12nm,0.7s
EKA Eskdalemuir Ar 39.62 317 P **P** **20 29 37.8 -1.7**
comp=Z,6.2nm,0.5s,baz=104,slow=8.9,SNR=53
comp=Z,6.2nm,0.5s
ESBB Sonseca Array 39.93 293 P **P** **20 29 41.5 -0.9**
ESDC Sonseca Array 39.93 293 P **P** **20 29 41.4 -1.0**
ESDC Sonseca Array 39.93 293 P **P** **20 29 41.1 -1.3**
comp=Z,4.6nm,0.9s,baz=67,slow=8.0,SNR=36
comp=Z,4.6nm,0.9s
SHL Shillong 40.23 90 P **P** **20 29 43.6 -1.6**
SHL Shillong 40.23 90 P **P** **20 29 43.6 -1.6**
SHL pmax pmax
comp=Z,8.0nm,0.9s
PAB San Pablo 40.25 292 P **P** **20 29 43.7 -1.3**
PAB San Pablo 40.25 292 P **P** **20 29 43.7 -1.3**
PAB pmax pmax
comp=Z,12nm,1.3s
DSB Dublin 41.20 314 P **P** **20 29 51.5 -1.1**
PBRG Braganca 41.71 296 *e*P **P** **20 29 58.8 +1.8**
comp=Z,17nm,2.0s
PALK Pallekele 41.75 123 LR LR 20 48 03.5
comp=Z,111nm,18.1s,baz=67,slow=37
MVO Moncorvo 42.02 295 *e*P **P** **20 29 59.1 -0.5**
comp=Z,36nm,1.7s
PVRL Vila Real 42.51 296 *e*P **P** **20 30 03.3 -0.3**
comp=Z,20nm,1.6s

MTE	**Manteigas**	**42.53**	**294**	*eP*		**P**		**20 30 04.0**	**+0.3**
	comp=Z,30nm,1.7s									
MTE	**Manteigas**	**42.53**	**294**	P		**P**		**20 30 03.4**	**-0.4**
MTE				IAmb		IAmb		20 30 07.9		
	comp=Z,11nm,0.9s									
POLO	**Lamas de Olo**	**42.56**	**296**	*eP*		**P**		**20 30 03.7**	**-0.3**
	comp=Z,7.5nm,1.7s									
PBAR	**Barrancos**	**42.57**	**291**	*eP*		**P**		**20 30 03.4**	**-0.6**
	comp=Z,26nm,1.4s									
PCBR	**Castelo Branco**	**42.58**	**293**	*eP*		**P**		**20 30 04.1**	**+0.1**
	comp=Z,28nm,0.9s									
PMRV	**Marv??o**	**42.59**	**293**	*eP*		**P**		**20 30 04.0**	**-0.2**
	comp=Z,14nm,1.4s									
PVIS	**Viseu**	**42.74**	**295**	*eP*		**P**		**20 30 07.7**	**+2.3**
PESTR	**Estremoz**	**42.85**	**292**	*eP*		**P**		**20 30 06.0**	**-0.3**
	comp=Z,21nm,1.7s									
PESTR	**Estremoz**	**42.85**	**292**	P		**P**		**20 30 05.3**	**-1.0**
PESTR				IAmb		IAmb		20 30 06.5		
	comp=Z,18nm,1.1s									
COI	**Coimbra**	**43.22**	**294**	*eP*		**P**		**20 30 12.1**	**+2.9**
COI	**Coimbra**	**43.22**	**294**	P		**P**		**20 30 08.8**	**-0.4**
COI	**Coimbra**	**43.22**	**294**	P		**P**		**20 30 08.8**	**-0.4**
COI				pmax		pmax				
	comp=Z,33nm,1.0s									
PBEJ	**Beja**	**43.23**	**291**	*eP*		**P**		**20 30 09.7**	**+0.3**
	comp=Z,27nm,1.4s									
EVO	**Evora**	**43.24**	**292**	*eP*		**P**		**20 30 11.2**	**+1.8**
	comp=Z,21nm,1.8s									
PVAQ	**Vaqueiros**	**43.26**	**290**	*eP*		**P**		**20 30 11.4**	**+1.8**
	comp=Z,4.7nm,1.6s									
PMTG	**Montargil**	**43.29**	**293**	*eP*		**P**		**20 30 11.4**	**+1.6**
	comp=Z,14nm,1.5s									
PCAS	**Casmilo, Conde**	**43.31**	**294**	*eP*		**P**		**20 30 11.7**	**+1.7**
	comp=Z,32nm,1.6s									
PCVE	**Castro Verde**	**43.45**	**290**	*eP*		**P**		**20 30 11.2**	**0.0**
	comp=Z,22nm,1.8s									
MESJ	**Messejana**	**43.55**	**291**	*eP*		**P**		**20 30 13.2**	**+1.3**
	comp=Z,24nm,2.4s									
TOA0	**Torodi Ar. Sit**	**45.51**	**253**	P		**P**		**20 30 28.1**	**+0.2**
TOA0				IAmb		IAmb		20 30 31.5		
	comp=Z,15nm,1.4s									
TOA0	**Torodi Ar. Sit**	**45.51**	**253**	P		**P**		**20 30 31.1**	**+3.2**
TORD	**Torodi Ar. Bea**	**45.51**	**253**	P		**P**		**20 30 27.8**	**-0.1**
TORD				IAmb		IAmb		20 30 31.5		
	comp=Z,9.1nm,1.4s									
TORD	**Torodi Ar. Bea**	**45.51**	**253**	P		**P**		**20 30 28.2**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=49,slow=8.5,SNR=13									
	comp=Z,1.9nm,0.6s									
SPITS	**Spitsbergen Ar**	**45.58**	**352**	P		**P**		**20 30 26.9**	**-0.7**
	comp=Z,24nm,1.1s,baz=142,slow=12,SNR=5.8									
	comp=Z,24nm,1.1s									
SONM	**Songino Array**	**46.07**	**54**	P		**P**		**20 30 33.8**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=282,slow=8.7,SNR=3.7									
	comp=Z,0.3nm,0.5s									
JMIC	**Jan Mayen**	**46.41**	**338**	LR		LR		20 49 22.9		
	comp=Z,113nm,19.8s,baz=194,slow=35									
ULN	**Ulaanbaatar**	**46.51**	**54**⛰	*eP*		**P**		**20 30 37.8**	**+2.3**
ULN				pmax		pmax				
	comp=Z,6.0nm,1.7s									
PZH	**PanZhiHua**	**47.98**	**84**	P		**P**		**20 30 48.5**	**+1.2**
PZH				pmax		pmax				
	comp=Z,10.0nm,1.0s									
PZH				pmax		pmax				
	comp=Z,280nm,5.1s									
CHTO	**Chiang Mai**	**49.11**	**94**	P		**P**		**20 30 55.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**49.28**	**95**	P		**P**		**20 30 56.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**49.28**	**95**	*ceP*		**P**		**20 30 59.7**	**+2.5**
CMAR				pmax		pmax				
	comp=Z,3.0nm,0.6s									
CMAR	**Chiang Mai Arr**	**49.28**	**95**	P		**P**		**20 30 58.8**	**+1.5**
	comp=Z,3.1nm,0.8s,baz=297,slow=8.7,SNR=12									
CMAR				LR		LR		20 56 07.8		
	comp=Z,80nm,19.1s,baz=320,slow=41									
	comp=Z,3.1nm,0.8s									
BORG	**Borgarnes**	**49.83**	**329**	LR		LR		20 52 06.6		
	comp=Z,55nm,21.2s,baz=83,slow=36									
DAG	**Danmarks Havn**	**50.95**	**344**	*i* P		**P**		**20 31 05.0**	**-4.1**
HHC	**Hu-ho-hao-te**	**51.02**	**62**	*eP*		**P**		**20 31 09.4**	**-0.8**
HHC				pmax		pmax				
	comp=Z,27nm,0.6s									
HHC				pmax		pmax				
	comp=Z,240nm,5.0s									
ENH	**Enshi**	**52.81**	**76**	P		**P**		**20 31 23.9**	**+0.2**
DBIC	**Dimbokro**	**54.54**	**252**	P		**P**		**20 31 36.4**	**0.0**
	comp=Z,3.5nm,0.7s,baz=65,slow=6.2,SNR=5.7									
DBIC				LR		LR		20 55 22.8		
	comp=Z,108nm,18.7s,baz=12,slow=37									
	comp=Z,3.5nm,0.7s									
TIXI	**Tiksi**	**55.33**	**22**	P		**P**		**20 31 39.8**	**-1.6**
TIXI				IAmb		IAmb		20 31 45.8		
	comp=Z,5.5nm,1.1s									
TIXI	**Tiksi**	**55.33**	**22**	*ceP*		**P**		**20 31 43.3**	**+2.0**
SUMG	**Summit**	**55.86**	**339**	P		**P**		**20 31 42.6**	**-3.0**
SUMG				IAmb		IAmb		20 31 48.9		
	comp=Z,8.6nm,1.0s									
SUMG	**Summit**	**55.86**	**339**	P		**P**		**20 31 42.6**	**-3.0**
SUMG				pmax		pmax				
	comp=Z,9.0nm,1.0s									
SUMG	**Summit**	**55.86**	**339**	*i* P		**P**		**20 31 44.0**	**-1.6**
YAK	**Yakutsk**	**57.17**	**34**⛰	*eP*		**P**		**20 31 53.6**	**-1.0**
YAK				pmax		pmax				
	comp=Z,3.0nm,1.0s									
ZEA	**Zeya**	**57.95**	**44**	*eP*		**P**		**20 32 00.9**	**+0.6**
HEH	**HeiHe**	**59.07**	**48**	*eP*		**P**		**20 32 10.9**	**+2.8**
HEH				pmax		pmax				
	comp=Z,7.0nm,0.9s									
SFJD	**Kangerlussuaq**	**61.29**	**334**	LR		LR		20 59 44.4		
	comp=Z,81nm,18.3s,baz=60,slow=37									
KLR	**Kul'dur**	**62.06**	**48**⛰	*eP*		**P**		**20 32 31.2**	**+2.6**
KLR				pmax		pmax				
	comp=Z,2.0nm,1.0s									
LBTB	**Lobatse**	**62.38**	**201**	P		**P**		**20 32 31.4**	**+0.4**
LBTB	**Lobatse**	**62.38**	**201**	P		**P**		**20 32 31.4**	**+0.4**
LBTB	**Lobatse**	**62.38**	**201**	LR		LR		21 01 26.0		
	comp=Z,67nm,19.1s,baz=358,slow=38									
KSRS	**Korea Array**	**64.11**	**61**	P		**P**		**20 32 44.0**	**+1.7**
	comp=Z,1.6nm,0.6s,baz=286,slow=6.8,SNR=7.7									
	comp=Z,1.6nm,0.6s									
USRK	**Ussuriysk Ar.**	**64.15**	**53**	P		**P**		**20 32 43.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**64.15**	**53**	P		**P**		**20 32 43.0**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=281,slow=3.1,SNR=6.4									
USRK				LR		LR		21 02 53.6		
	comp=Z,93nm,18.5s,baz=332,slow=38									
	comp=Z,1.8nm,0.6s									
BOSA	**Boshof**	**65.87**	**200**	P		**P**		**20 32 55.5**	**+1.6**
BOSA	**Boshof**	**65.87**	**200**	P		**P**		**20 32 55.5**	**+1.6**
BOSA				pmax		pmax				
	comp=Z,14nm,1.4s									
BOSA	**Boshof**	**65.87**	**200**	P		**P**		**20 32 55.7**	**+1.8**
	comp=Z,3.5nm,0.8s,baz=17,slow=7.9,SNR=7.9									
	comp=Z,3.5nm,0.8s									
SEY	**Seymchan**	**66.62**	**29**	P		**P**		**20 32 58.9**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=292,slow=12,SNR=5.8									
	comp=Z,1.4nm,0.5s									
BILL	**Bilibino**	**68.44**	**20**⛰	*eP*		**P**		**20 33 12.3**	**+2.7**
FRB	**Frobisher Bay**	**69.41**	**334**	LR		LR		21 04 08.4		
	comp=Z,67nm,18.3s,baz=30,slow=36									
SCHQ	**Schefferville**	**74.14**	**326**	P		**P**		**20 33 41.9**	**-2.5**
SCHQ	**Schefferville**	**74.14**	**326**	P		**P**		**20 33 42.7**	**-1.7**
	comp=Z,6.3nm,0.8s,baz=39,slow=10.0,SNR=13									
	comp=Z,6.3nm,0.8s									
B22K	**Teshekpuk Lake**	**74.45**	**7**	P		**P**		**20 33 46.4**	**+0.6**
B22K				IAmb		IAmb		20 33 55.7		
	comp=Z,16nm,1.4s									
C18K	**Utukok River**	**75.11**	**10**	P		**P**		**20 33 50.3**	**+0.4**
C18K				IAmb		IAmb		20 33 59.2		
	comp=Z,11nm,0.8s									
C23K	**Itkillik River**	**75.20**	**6**	P		**P**		**20 33 51.0**	**+0.8**
C23K				IAmb		IAmb		20 34 10.7		
	comp=Z,5.7nm,1.2s									
D19K	**Kuna River**	**75.68**	**9**	P		**P**		**20 33 53.9**	**+0.9**
D19K				IAmb		IAmb		20 34 04.9		
	comp=Z,6.2nm,0.8s									
D22K	**Ayikyak River**	**75.93**	**7**	P		**P**		**20 33 54.4**	**-0.1**
D22K				IAmb		IAmb		20 34 01.3		
	comp=Z,5.0nm,1.1s									
D25K	**Kavik River**	**76.03**	**5**	P		**P**		**20 33 53.7**	**-1.4**
C36M	**Paulatuk**	**76.17**	**356**	P		**P**		**20 33 53.4**	**-2.3**
E18K	**Tukpahlearik C**	**76.34**	**10**	P		**P**		**20 33 55.4**	**-1.4**
D27M	**Malcolm River**	**76.39**	**3**	P		**P**		**20 33 59.0**	**+1.9**
D27M				IAmb		IAmb		20 34 00.9		
	comp=Z,5.4nm,1.1s									
TOLK	**Toolik Lake Re**	**76.45**	**6**	P		**P**		**20 33 56.8**	**-0.7**
TOLK				IAmb		IAmb		20 34 01.4		
	comp=Z,7.5nm,0.9s									
E22K	**Anaktuvuk Pass**	**76.74**	**7**	P		**P**		**20 33 57.9**	**-1.2**
E22K				IAmb		IAmb		20 34 07.7		
	comp=Z,14nm,1.5s									
E19K	**Redstone River**	**76.77**	**9**	P		**P**		**20 33 59.0**	**-0.2**
E19K				IAmb		IAmb		20 34 02.9		
	comp=Z,6.8nm,0.8s									
E28M	**Babbage River**	**77.07**	**2**	P		**P**		**20 34 01.6**	**+0.7**
E25K	**Arctic Village**	**77.27**	**5**	P		**P**		**20 34 03.0**	**+0.9**
E29M	**Blow River**	**77.33**	**2**	P		**P**		**20 34 01.0**	**-1.3**
E29M				IAmb		IAmb		20 34 06.0		
	comp=Z,5.5nm,0.8s									
E27K	**Coleen River**	**77.42**	**3**	P		**P**		**20 34 02.6**	**-0.2**
E27K				IAmb		IAmb		20 34 05.3		
	comp=Z,5.8nm,1.1s									
F21K	**Alatna River**	**77.45**	**8**	P		**P**		**20 34 01.4**	**-1.6**
F21K				IAmb		IAmb		20 34 05.0		
	comp=Z,10nm,1.3s									
INK	**Inuvik**	**77.46**	**360**	P		**P**		**20 34 00.8**	**-2.2**
INK	**Inuvik**	**77.46**	**360**	P		**P**		**20 34 00.8**	**-2.2**
INK				pmax		pmax				
	comp=Z,3.0nm,1.0s									
F24K	**Squaw Lake**	**77.69**	**6**	P		**P**		**20 34 05.1**	**+0.7**
F24K				IAmb		IAmb		20 34 13.8		
	comp=Z,7.8nm,1.4s									
BMAR	**Burnt Mountain**	**78.01**	**4**	P		**P**		**20 34 06.0**	**-0.2**
G19K	**Purcell Mounta**	**78.03**	**9**	P		**P**		**20 34 06.1**	**-0.2**
G19K				IAmb		IAmb		20 34 10.3		
	comp=Z,5.2nm,0.7s									
F28M	**Old Crow**	**78.05**	**2**	P		**P**		**20 34 06.5**	**+0.1**
F31M	**Tsiigehtchic**	**78.33**	**360**	P		**P**		**20 34 06.7**	**-1.2**
IMAR	**Indian Mountai**	**78.61**	**8**	P		**P**		**20 34 09.4**	**-0.1**
G30M	**tAoh Zraii Nji**	**78.78**	**1**	P		**P**		**20 34 09.8**	**-0.7**
G30M				IAmb		IAmb		20 34 18.8		
	comp=Z,5.6nm,0.8s									
G27K	**Doyon Strip**	**78.79**	**3**	P		**P**		**20 34 10.0**	**-0.5**
H18K	**Honhosa River**	**78.79**	**10**	P		**P**		**20 34 10.2**	**-0.4**
G29M	**Pine Creek**	**78.81**	**2**	P		**P**		**20 34 10.3**	**-0.3**
G29M				IAmb		IAmb		20 34 13.0		
	comp=Z,10nm,1.1s									
G31M	**Satah River**	**78.85**	**0**	P		**P**		**20 34 10.1**	**-0.7**
H21K	**Melozitna River**	**79.03**	**8**	P		**P**		**20 34 13.3**	**+1.5**
H21K				IAmb		IAmb		20 34 16.0		
	comp=Z,5.7nm,0.8s									
EPYK	**Eagle Plains**	**79.38**	**1**	P		**P**		**20 34 14.0**	**+0.2**
EPYK				IAmb		IAmb		20 34 16.8		
	comp=Z,8.3nm,1.1s									
KAPI	**Kappang**	**79.38**	**104**	LR		LR		21 13 23.2		
	comp=Z,26nm,19.2s,baz=319,slow=39									
H29M	**Whitestone**	**79.50**	**2**	P		**P**		**20 34 12.6**	**-1.7**
H29M				IAmb		IAmb		20 34 17.6		
	comp=Z,6.0nm,1.0s									
I23K	**Minto, Yukon-K**	**79.89**	**7**	P		**P**		**20 34 17.0**	**+0.5**
I23K				IAmb		IAmb		20 34 56.9		
	comp=Z,9.9nm,1.5s									
H31M	**Peel River**	**79.97**	**0**	P		**P**		**20 34 17.3**	**+0.3**
H31M				IAmb		IAmb		20 34 19.2		
	comp=Z,15nm,1.5s									
POKR	**Poker Plat Res**	**80.09**	**6**	P		**P**		**20 34 16.9**	**-0.8**
POKR				IAmb		IAmb		20 34 21.7		
	comp=Z,7.8nm,1.0s									
I28M	**Miner Creek**	**80.22**	**3**	P		**P**		**20 34 17.1**	**-1.3**
ILAR	**Eielson Array**	**80.48**	**6**	P		**P**		**20 34 19.2**	**-0.4**
ILAR	**Eielson Array**	**80.48**	**6**	P		**P**		**20 34 19.4**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=334,slow=4.4,SNR=9.3									
	comp=Z,1.1nm,0.8s									
CCB	**Clear Creek Bu**	**80.52**	**6**	P		**P**		**20 34 18.1**	**-1.8**
I30M	**Mount Dempster**	**80.54**	**1**	P		**P**		**20 34 19.3**	**-0.8**
I30M				IAmb		IAmb		20 34 23.8		
	comp=Z,4.2nm,0.8s									
EGAK	**Eagle**	**80.84**	**3**	P		**P**		**20 34 20.7**	**-0.9**
EGAK				IAmb		IAmb		20 34 21.4		
	comp=Z,11nm,1.5s									
J30M	**Hart River**	**81.19**	**1**	P		**P**		**20 34 23.3**	**-0.4**
J30M				IAmb		IAmb		20 34 27.3		
	comp=Z,15nm,1.4s									
FCC	**Fort Churchill**	**81.33**	**340**	P		**P**		**20 34 23.7**	**-0.6**
FCC				IAmb		IAmb		20 34 31.4		
	comp=Z,7.9nm,1.2s									
FCC	**Fort Churchill**	**81.33**	**340**	P		**P**		**20 34 23.7**	**-0.6**
FCC				pmax		pmax				
	comp=Z,8.0nm,1.3s									
SCRK	**Sand Creek**	**81.48**	**5**	P		**P**		**20 34 24.4**	**-0.8**
SCRK				IAmb		IAmb		20 34 38.3		
	comp=Z,7.1nm,1.3s									
K29M	**Barlow Dome**	**81.90**	**2**	P		**P**		**20 34 26.4**	**-1.1**
K29M				IAmb		IAmb		20 34 29.5		
	comp=Z,9.7nm,1.4s									
SHEM	**Shemya Is, Ala**	**81.96**	**29**	LR		LR		21 14 03.4		
	comp=Z,35nm,19.5s,baz=112,slow=38									
YKA	**Yellowknife Ar**	**82.07**	**351**	P		**P**		**20 34 26.6**	**-1.6**
YKA	**Yellowknife Ar**	**82.07**	**351**	P		**P**		**20 34 27.2**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=9.4,slow=5.5,SNR=14									
	comp=Z,0.9nm,0.6s									
WRGLY	**Wrigley**	**82.21**	**355**	P		**P**		**20 34 29.2**	**+0.3**
BCAR	**Beaver Creek A**	**82.51**	**4**	P		**P**		**20 34 30.5**	**-0.1**
L29M	**L29M**	**82.62**	**2**	P		**P**		**20 34 30.8**	**-0.3**
L29M				IAmb		IAmb		20 34 34.9		
	comp=Z,7.2nm,1.2s									
SKT	**Skwentna**	**82.74**	**8**	P		**P**		**20 34 30.3**	**-1.4**
SKT				IAmb		IAmb		20 34 40.6		
	comp=Z,5.2nm,0.9s									
SML	**Sawmill**	**83.26**	**7**	P		**P**		**20 34 34.4**	**-0.1**
SML	**Sawmill**	**83.26**	**7**	P		**P**		**20 34 34.4**	**-0.1**
SML				pmax		pmax				
	comp=Z,16nm,1.3s									
N19K	**Bonanza Creek**	**83.48**	**10**	P		**P**		**20 34 35.5**	**-0.2**
N19K				IAmb		IAmb		20 34 45.4		
	comp=Z,5.1nm,0.7s									
KLU	**Klutina**	**83.80**	**6**	P		**P**		**20 34 37.1**	**-0.2**
SADO	**Sadowa**	**86.80**	**324**	LR		LR		21 15 09.3		
	comp=Z,20nm,18.0s,baz=71,slow=37									
WRA	**Warramunga Arr**	**99.54**	**108**	*i* P		**Pdif**		**20 35 54.4**	**+2.8**

NIED ***20*** *20:26:55.8, 30.72N×132.09E, h55km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.10; $M_{\theta\theta}$0.29; $M_{\phi\phi}$0.80; $M_{r\theta}$0.22; $M_{\theta\phi}$0.29; $M_{r\phi}$0.78; Fault plane solution: $M_0$1.30000×10^{15} NP1: ϕ_s199.00000°, δ64.00000°, λ-94.00000°. NP2:ϕ_s28.00000°, δ26.00000°, λ-82.00000°.*

JMA ***20*** *20:26:55.6±1.8, 30.7N±0.4×132.1E±0.8, h55km±3km, MV3.5/35, E OFF TANEGASHIMA ISLAND*

NEIC ***20*** *20:26:55.6±1.8, 30.70N±0.4×132.08E±0.08, h10km±1km, mb4.6/31, Error ellipse: s-maj=12.7km s-min=2.9km az=240.0*

IDC ***20*** *20:26:58.9±1.7, 30.76N×131.78E, h42km±15km, mb3.6/13, mbtmp3.8/18, ML3.3/5, Error ellipse: s-maj=19.9km s-min=9.4km az=93.0*

ISC 20 20:26:55.1±1.5, **30.74N**±0.04×**132.06E**±0.04, **h15**km±9km, **n76**,σ1**s43**/**88**, **mb4.5**/30, **Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.94**	**265**	P		**Pg**	**20 27 13.4**	**+0.2**
JTN				S		**Sb**	**20 27 26.4**	**+1.3**
JNAR	**Kushima--Naru**	**1.04**	**319**	*i* P		**Pg**	**20 27 15.0**	**-0.1**
JNAR				S		**Sb**	**20 27 28.9**	**+0.9**
JMTN	**Minamitane**	**1.06**	**252**	P		**Pg**	**20 27 15.1**	**-0.4**
JMTN				S		**Sg**	**20 27 29.5**	**+0.1**
JTSR	**Tashiro 2**	**1.07**	**294**	*eP*		**Pg**	**20 27 14.9**	**-0.8**
JTSR				S		**Sg**	**20 27 29.5**	**-0.2**
JNKG	**Nichinankitago**	**1.09**	**328**	P		**Pg**	**20 27 15.7**	**-0.5**
JNKG				S		**Sb**	**20 27 30.5**	**+0.8**
JTZ	**Takazaki**	**1.43**	**325**	P		**Pn**	**20 27 20.4**	**0.0**
JTZ				S		**Sb**	**20 27 39.9**	**+0.5**
JYAK	**Yakushimahirau**	**1.43**	**250**	P		**Pn**	**20 27 20.0**	**-0.4**
JYAK				S		**Sn**	**20 27 38.6**	**-0.3**
JSU	**Suzuyama**	**1.58**	**299**	P		**Pn**	**20 27 22.6**	**+0.1**
JSU				S		**Sn**	**20 27 42.2**	**-0.3**
JTSN	**Tsuno**	**1.58**	**343**	*i* P		**Pn**	**20 27 22.4**	**0.0**
JTSN				S		**Sn**	**20 27 42.3**	**-0.3**
JNN	**Nakanoshima**	**2.09**	**245**	S		**Sn**	**20 27 54.8**	**-0.5**
JIU3	**Izumi3**	**2.10**	**330**	P		**Pn**	**20 27 30.1**	**+0.5**
JTO	**Tosashimizu**	**2.21**	**16**	P		**Pn**	**20 27 29.8**	**-1.3**
JTO				S		**Sn**	**20 27 54.7**	**-3.4**
JSJ	**Shimokoshiki**	**2.22**	**296**	*eP*		**Pn**	**20 27 30.9**	**-0.3**
JSJ				S		**Sn**	**20 27 56.5**	**-1.9**
JNU	**Nakatsue**	**2.58**	**337**	P		**Pn**	**20 27 36.8**	**+0.5**
	4.9nm,0.3s,baz=167,slow=16,SNR=36							
JNU				S		**Sn**	**20 28 06.5**	**-0.9**
	42nm,0.3s,baz=301,slow=22,SNR=13							
	29nm,0.6s							
JMN	**Monobe**	**3.35**	**27**			**Pn**	**20 27 47.0**	**0.0**
JMN						Sn		
JTU	**Tsushima**	**4.39**	**330**			Pn		
JMZ	**Minamidaito 2**	**4.96**	**189**			Pn		
JOW	**Kunigami**	**5.12**	**221**	P		**Pn**	**20 28 11.6**	**+0.4**
	7.9nm,0.3s,baz=45,slow=8.4,SNR=15							
JOW				S		**Sn**	**20 29 07.1**	**-2.9**
	16nm,0.4s,baz=70,slow=29,SNR=2.0							
	14nm,0.3s							
INU	**Inuyama**	**6.20**	**41**			**Pn**	**20 28 27.1**	**+1.2**
KSRS	**Korea Array**	**7.53**	**334**	P		**Pn**	**20 28 45.7**	**+1.5**
	0.2nm,0.3s,baz=148,slow=14,SNR=2.9							
	0.7nm,0.7s							
MAJO	**Matsushiro**	**7.73**	**40**			**Pn**	**20 28 46.6**	**-0.4**
MJAR	**Matsushiro Arr**	**7.73**	**40**	P		**Pn**	**20 28 49.3**	**+2.3**
	0.4nm,0.3s,baz=245,slow=14,SNR=16							
	1.3nm,0.3s							
MJB9	**Matsu-Tunnel**	**7.73**	**40**			**Pn**	**20 28 47.7**	**+0.7**
KLR	**Kul'dur**	**18.47**	**359**	P		**Pn**	**20 31 11.2**	**+0.9**
	0.2nm,0.3s,baz=194,slow=8.7,SNR=20							
	4.3nm,0.8s							
SONM	**Songino Array**	**26.01**	**318**	P		**P**	**20 32 26.1**	**-1.4**
	0.7nm,0.9s,baz=136,slow=9.7,SNR=2.9							
	0.7nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**33.24**	**101**	T		T	21 08 41.6	
	baz=297							
H11N1	**WAKE ISLAND Hy**	**33.24**	**101**	T		T	21 08 47.8	
	baz=297							
H11N3	**WAKE ISLAND Hy**	**33.25**	**101**	T		T	21 08 47.6	
	baz=297							
MKAR	**Makanchi Array**	**41.27**	**307**	P		**P**	**20 34 38.1**	**-1.5**
	0.8nm,0.9s,baz=88,slow=14,SNR=4.2							
MKAR				PcP		**PcP**	**20 36 36.2**	**-2.0**
	0.2nm,0.7s,baz=101,slow=7.5,SNR=1.5							
	0.8nm,0.9s							
KURBB	**Kurchatov Arra**	**44.11**	**313**	P		**P**	**20 35 00.1**	**-2.4**
	1.1nm,0.8s,baz=98,slow=8.6,SNR=5.9							
	1.1nm,0.8s							
BVAR	**Borovoye Array**	**49.30**	**315**	P		**P**	**20 35 42.1**	**-1.1**
	0.7nm,0.6s,baz=85,slow=6.4,SNR=5.2							
	0.7nm,0.6s							
KKAR	**Karatay Array**	**49.71**	**302**	P		**P**	**20 35 46.0**	**-0.4**
WB0	**Warramunga Arr**	**50.27**	**177**	P		**P**	**20 35 49.5**	**-1.3**
WB0				IAmb		IAmb	20 35 59.5	
	comp=Z,9.4nm,1.5s							
WRA	**Warramunga Arr**	**50.44**	**177**	P		**P**	**20 35 52.3**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=351,slow=8.1,SNR=6.8							
	comp=Z,0.5nm,0.7s							
CTA	**Charters Tower**	**52.34**	**163**	P		**P**	**20 36 07.9**	**+1.5**
	comp=Z,2.6nm,0.8s,baz=11,slow=10,SNR=2.0							
	comp=Z,2.6nm,0.8s							
C18K	**Utukok River**	**53.29**	**25**	P		**P**	**20 36 12.4**	**-0.5**
ASAR	**Alice Springs**	**54.12**	**178**	P		**P**	**20 36 20.1**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=9.6,slow=13,SNR=9.7							
	comp=Z,0.6nm,0.7s							
N17K	**Nushagak Hills**	**54.38**	**35**	P		**P**	**20 36 22.6**	**+1.6**
D19K	**Kuna River**	**54.39**	**25**	P		**P**	**20 36 22.4**	**+1.5**
D19K				IAmb		IAmb	20 36 47.7	
	comp=Z,6.5nm,1.1s							
L18K	**Granite Mounta**	**54.62**	**33**	P		**P**	**20 36 24.9**	**+2.2**
B20K	**Meade River**	**54.90**	**23**	P		**P**	**20 36 26.6**	**+2.0**
B20K				IAmb		IAmb	20 36 27.4	
	comp=Z,10nm,1.1s							
O18K	**Koktuh Hills**	**55.38**	**36**	P		**P**	**20 36 31.4**	**+3.1**
B21K	**Ikpikpuk River**	**55.74**	**24**	P		**P**	**20 36 32.2**	**+1.6**
B21K		

PB06				*e*S	**Sn**	**20 38 14.7**	**-0.5**	
PB06				IAML		20 38 17.6		
	comp=Z,789nm,0.2s							
ALOL	**LOMAS DE OLMED**	**2.90**	**83**	*e*P	**Pn**	**20 37 41.7**	**-0.5**	
PB14	**IPOC Station P**	**3.02**	**261**	*e*P	**Pn**	**20 37 43.2**	**-0.7**	
PB14				IAML		20 38 25.9		
	comp=Z,224nm,0.2s							
PB09	**IPOC Station P**	**3.08**	**320**	*e*P	**Pn**	**20 37 45.5**	**+1.0**	
PB09				*e*S	**Sn**	**20 38 24.3**	**+0.7**	
PB09				IAML		20 38 29.1		
	comp=Z,213nm,0.5s							
PB05	**IPOC Station P**	**3.12**	**295**	*e*P	**Pn**	**20 37 44.8**	**-0.1**	
PB05				*e*S	**Sn**	**20 38 23.8**	**-0.6**	
PB05				IAML		20 38 25.9		
	comp=Z,210nm,0.4s							
PB04	**IPOC Station P**	**3.34**	**303**	*e*P	**Pn**	**20 37 47.5**	**-0.2**	
PB04				*e*S	**Sn**	**20 38 28.5**	**-0.8**	
PB04				IAML		20 38 33.8		
	comp=Z,439nm,0.2s							
PB07	**IPOC Station P**	**3.53**	**313**	*e*P	**Pn**	**20 37 49.8**	**-0.3**	
PB07				*e*S	**Sn**	**20 38 31.8**	**-1.8**	
PB07				IAML		20 38 33.1		
	comp=Z,443nm,0.2s							
AC01	**Pan de Azucar**	**3.70**	**237**	*e*P	**Pn**	**20 37 50.8**	**-1.3**	
AC01				*e*S	**Sn**	**20 38 34.1**	**-3.1**	
AC01				IAML		20 38 35.5		
	comp=Z,141nm,0.1s							
PB01	**IPOC Station P**	**3.81**	**325**	*e*P	**Pn**	**20 37 52.9**	**-0.6**	
PB01				IAML		20 38 43.8		
	comp=Z,167nm,0.2s							
PB02	**IPOC Station P**	**3.83**	**318**	*e*P	**Pn**	**20 37 53.1**	**-0.7**	
PB02				*e*S	**Sn**	**20 38 37.8**	**-2.4**	
PB02				IAML		20 38 43.3		
	comp=Z,442nm,0.1s							
PATCX	**Punta Patache**	**4.37**	**320**	*e*P	**Pn**	**20 38 00.2**	**-0.3**	
GO03	**Copiap**	**4.40**	**219**	*e*P	**Pn**	**20 37 59.6**	**-1.2**	
PB08	**IPOC Station P**	**4.44**	**335**	*e*P	**Pn**	**20 38 01.5**	**-0.3**	
PB08				IAML		20 39 00.1		
	comp=Z,56nm,0.6s							
TA01	**Diego Aracena**	**4.58**	**321**	*e*P	**Pn**	**20 38 02.0**	**-1.2**	
TA01				IAML		20 38 59.0		
	comp=Z,46nm,0.4s							
GO01	**Chusmiza**	**4.89**	**336**	*e*P	**Pn**	**20 38 07.3**	**-0.3**	
PB11	**IPOC Station P**	**4.99**	**331**	*e*P	**Pn**	**20 38 06.9**	**-1.7**	
PB11				*e*S	**Sn**	**20 39 03.5**	**-3.4**	
PB11				IAML		20 39 06.3		
	comp=Z,55nm,0.5s							
AC05	**El Transito**	**5.42**	**211**	*e*P	**Pn**	**20 38 13.4**	**-0.6**	
CPUP	**Villa Florida**	**9.12**	**106**	P	**Pn**	**20 38 58.9**	**-3.5**	
	comp=Z,0.8nm,0.4s,baz=288,slow=12,SNR=1.6							
SIV	**San Ignacio**	**9.94**	**36**	P	**Pn**	**20 39 10.4**	**-2.7**	
	comp=Z,0.8nm,0.5s,baz=220,slow=18,SNR=3.6							
PLCA	**Paso Flores**	**16.75**	**189**	P	**Pn**	**20 40 41.7**	**+3.4**	
	comp=Z,2.1nm,1.0s,baz=7.1,slow=16,SNR=1.6							
TORD	**Torodi Ar. Bea**	**76.74**	**69**	P	**P**	**20 48 25.0**	**-0.5**	
	comp=Z,0.3nm,0.6s,baz=257,slow=4.1,SNR=4.1							
	comp=Z,0.3nm,0.6s							
PDAR	**Pinedale Array**	**77.25**	**329**	P	**P**	**20 48 29.1**	**+1.1**	
	comp=Z,0.3nm,0.8s,baz=135,slow=9.0,SNR=2.1							
	comp=Z,0.3nm,0.8s							
BOSA	**Boshof**	**80.75**	**117**	P	**P**	**20 48 47.4**	**-0.1**	
	comp=Z,4.7nm,1.2s,baz=247,slow=5.7,SNR=3.7							
	comp=Z,4.7nm,1.2s							
YKA	**Yellowknife Ar**	**94.26**	**340**	P	**P**	**20 49 51.9**	**+0.2**	
	comp=Z,0.2nm,0.5s,baz=123,slow=4.5,SNR=5.1							
	comp=Z,0.2nm,0.5s							
ASAR	**Alice Springs**	**128.24**	**205**	PKP	**PKPdf**	**20 55 39.2**	**+0.1**	
	comp=Z,0.3nm,0.5s,baz=126,slow=1.6,SNR=5.1							
WRA	**Warramunga Arr**	**131.41**	**207**	PKP	**PKPdf**	**20 55 45.6**	**+0.4**	
	comp=Z,0.2nm,0.4s,baz=159,slow=1.6,SNR=8.4							
ZALV	**Zalesovo Beam**	**143.61**	**28**	PKP	PKPbc	20 56 05.3	+0.8	
	comp=Z,0.3nm,0.5s,baz=290,slow=4.3,SNR=3.9							
MKAR	**Makanchi Array**	**146.74**	**40**	PKPbc	**PKPdf**	**20 56 12.9**	**+0.8**	
	comp=Z,0.9nm,0.5s,baz=319,slow=2.7,SNR=14							

KRSC 20 21:28:58.5±1.6, 48.80N×156.29E, h40km±17km, Ml4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.89**	**357**	*e*P	Pn	21 29 29.5	+1.2
SKR				*e*S	Sn	21 29 53.1	+2.2
PAU	**Pauzhetka**	**2.69**	**7**	*e*P	Pn	21 29 43.5	+4.2
PAU				*e*S	Sn	21 30 15.7	+5.0
KDTR	**Khodutka, Kamc**	**3.23**	**20**	*e*P	Pn	21 29 49.4	+2.8
KDTR				*e*S	Sn	21 30 28.7	+5.0
ASAK	**Asacha**	**3.74**	**15**	*e*P	Pn	21 29 57.6	+3.9
GRL	**Gorelyy**	**3.93**	**16**	*e*P	Pn	21 30 00.5	+4.2
KRMR	**Karymshinskiy**	**4.21**	**15**	*e*P	Pn	21 30 03.3	+3.3
KRMR				*e*S	Sn	21 30 52.7	+4.9
AVH	**Avacha**	**4.73**	**18**	*e*P	Pn	21 30 12.2	+4.8
KOK	**Koryaka**	**4.74**	**17**	*e*P	Pn	21 30 11.7	+4.2
SMAR	**Somma**	**4.75**	**19**	*e*P	Pn	21 30 13.7	+6.1
KRX	**Arik**	**4.80**	**17**	*e*P	Pn	21 30 12.8	+4.5
SPN	**Mys Shipunski**	**4.91**	**27**	*e*P	Pn	21 30 14.4	+4.7
SPN				*e*S	Sn	21 31 10.4	+5.2

GUC 20 21:37:14.9±0.6, 27.79S×69.26W, h124km±7km, ML2.6, 1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO03	**Copiap**	**0.89**	**282**	*i* P	Pn	21 37 36.0	-0.3
GO03				*e*S	Sn	21 37 52.1	-0.3
AC06	**Mina Casimiro**	**1.06**	**294**	*i* P	Pn	21 37 37.8	-0.1
AC06				*e*S	Sn	21 37 54.6	-0.7
AC06				IAML		21 37 56.7	
	comp=E,139nm,0.1s						
AC05	**El Transito**	**1.38**	**220**	⇓*i* P	Pn	21 37 41.1	-0.2
AC05				*e*S	Sn	21 38 00.9	-0.5
AC05				IAML		21 38 03.0	
	comp=E,120nm,0.2s						
AC04	**Llanos de Chal**	**1.66**	**255**	*i* P	Pn	21 37 44.3	-0.1
AC04				*e*S	Sn	21 38 06.8	-0.1
LCO	**Las Campanas**	**1.76**	**226**	*i* P	Pn	21 37 45.5	-0.4
LCO				*e*S	Sn	21 38 09.7	+0.1
AC01	**Pan de Azucar**	**2.02**	**323**	*i* P	Pn	21 37 49.4	+0.5
CO01	**Juntas del Tor**	**2.30**	**198**	*i* P	Pn	21 37 53.0	+0.5
CO01				*e*S	Sn	21 38 21.6	+0.2
CO01				IAML		21 38 25.8	
	comp=E,25nm,0.3s						
GO02	**Mina Guanaco**	**2.63**	**353**	*i* P	Pn	21 37 57.4	+0.5
GO02				*e*S	Sn	21 38 29.5	+0.5
GO04	**Tololo Observa**	**2.73**	**209**	*i* P	Pn	21 37 57.0	-1.0
GO04				*e*S	Sn	21 38 30.4	-0.9

*IDC **20** 21:39:07.2±0.8, 21.44N×143.73E, h0km, mb4.0/11, mbtmp4.0/12, ML4.0/1, MS3.0/9, Error ellipse: s-maj=30.7km s-min=18.6km az=89.0*

ISC 20 21:39:12.7±0.9, 21.5N±0.1×143.6E±0.2, h35km, n27, σ0s86/14, mb3.8/11, MS2.9/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.70**	**347**	Pn	**Pn**	**21 40 34.8**	**-0.2**
	4.0nm,0.3s,baz=122,slow=13,SNR=2.3						
JCJ				Sn	**Sn**	**21 41 38.0**	**-1.2**
	5.9nm,0.3s,baz=289,slow=21,SNR=2.0						
	106nm,1.0s						
GUMO	**Guam**	**7.97**	**171**	LR	LR	21 43 36.0	
	comp=Z,93nm,18.7s,baz=68,slow=34						
JHJ	**Hachijo jima 2**	**12.05**	**344**	LR	LR	21 46 39.8	
	comp=Z,72nm,19.9s,baz=243,slow=37						
MJAR	**Matsushiro Arr**	**15.69**	**344**	LR	LR	21 48 42.3	
	comp=Z,39nm,19.5s,baz=190,slow=36						
KSRS	**Korea Array**	**20.90**	**323**	P	Pn	21 43 56.5	+1.8
	0.9nm,0.8s,baz=149,slow=9.3,SNR=2.3						
KSRS				LR	LR	21 52 22.9	
	comp=Z,30nm,18.0s,baz=190,slow=38						
H11N1	**WAKE ISLAND Hy 21.86**	**91**		T	T	22 06 24.7	
	baz=277,slow=75,SNR=26						
H11N2	**WAKE ISLAND Hy 21.86**	**90**		T	T	22 06 18.1	
	baz=277,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy 21.87**	**90**		T	T	22 06 26.0	
	baz=277,slow=75,SNR=21						
H11S3	**WAKE ISLAND Hy 21.88**	**94**		T	T	22 06 21.5	
	baz=281,slow=75,SNR=37						
H11S1	**WAKE ISLAND Hy 21.89**	**94**		T	T	22 06 26.2	
	baz=281,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy 21.90**	**94**		T	T	22 06 23.4	
	baz=281,slow=75,SNR=18						
DAV	**Davao City (W)**	**22.58**	**233**	LR	LR	21 51 27.4	
	comp=Z,33nm,21.1s,baz=42,slow=33						
PETK	**Petropavlovsk-**	**33.34**	**15**	LR	LR	21 56 32.5	
	comp=Z,42nm,21.2s,baz=229,slow=31						
MA2	**Magadan**	**38.36**	**6**	LR	LR	22 02 03.9	
	comp=Z,17nm,19.3s,baz=220,slow=36						
SHEM	**Shemya Is, Ala**	**38.97**	**29**	LR	LR	22 01 25.7	
	comp=Z,20nm,19.2s,baz=329,slow=34						
WRA	**Warramunga Arr**	**42.19**	**193**	P	**P**	**21 47 01.3**	**-1.1**
	1.0nm,0.6s,baz=16,slow=8.8,SNR=11						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**45.90**	**192**	P	**P**	**21 47 31.3**	**-0.8**
	0.6nm,0.6s,baz=14,slow=9.3,SNR=13						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**54.60**	**322**	P	**P**	**21 48 37.8**	**+0.2**
	0.4nm,0.4s,baz=93,slow=8.7,SNR=2.0						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**55.11**	**313**	P	**P**	**21 48 43.0**	**+1.4**
	0.4nm,0.6s,baz=100,slow=7.8,SNR=5.5						
MKAR				PcP	**PcP**	**21 49 43.1**	**+0.5**
	0.3nm,0.6s,baz=90,slow=3.5,SNR=2.0						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**57.93**	**317**	P	**P**	**21 49 02.5**	**+1.1**
	1.9nm,0.6s,baz=94,slow=7.5,SNR=17						
	1.9nm,0.6s						
KDAK	**Kodiak Island**	**58.12**	**34**	LR	LR	22 13 20.3	
	comp=Z,20nm,19.7s,baz=240,slow=35						
ILAR	**Eielson Array**	**62.02**	**27**	P	**P**	**21 49 28.8**	**-0.4**
	0.7nm,0.9s,baz=260,slow=6.5,SNR=5.0						
	0.7nm,0.9s						
BVAR	**Borovoye Array**	**63.07**	**320**	P	**P**	**21 49 37.3**	**+0.8**
	2.1nm,0.5s,baz=83,slow=7.2,SNR=12						
	2.1nm,0.5s						
YKA	**Yellowknife Ar**	**76.42**	**28**	P	**P**	**21 50 59.0**	**+0.6**
	0.4nm,0.5s,baz=291,slow=6.0,SNR=7.1						
	0.4nm,0.5s						
ARCES	**ARCESS Array B**	**79.22**	**342**	P	**P**	**21 51 13.8**	**-0.1**
	2.7nm,0.9s,baz=45,slow=9.0,SNR=3.9						
	2.7nm,0.9s						
NVAR	**Mina Array Bea**	**82.94**	**52**	P	**P**	**21 51 35.0**	**+0.4**
	1.4nm,0.7s,baz=290,slow=5.3,SNR=4.2						
	1.4nm,0.7s						
FINES	**FINESS Array B**	**83.52**	**335**	P	**P**	**21 51 36.5**	**-0.3**
	1.4nm,0.5s,baz=71,slow=6.0,SNR=12						
	1.4nm,0.5s						

*TIF **20** 21:40:45.4, 40.38N×44.84E, h1km*
*ISK **20** 21:40:47.5, 40.29N×44.81E, h14km, ML2.5/7*
*TEH **20** 21:40:50.0, 39.00N×43.83E, h10km±990km, ML2.6*

ISC 20 21:40:46.7±1.4, 40.31N±0.03×44.82E±0.04, h4km±12km, n24, σ0s92/37, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GNI	**Garni**	**0.17**	**200**	Pg	**Pg**	**21 40 51.3**	**+1.2**
TASB	**TASBURUN-IGDIR**	**0.55**	**234**	Pg	**Pg**	**21 40 58.3**	**+1.0**
TASB				Sg	**Sb**	**21 41 06.6**	**-0.6**
MAKU	**Maku**	**0.96**	**186**	Pg	**Pg**	**21 41 04.9**	**-0.2**
DMNI	**Dmanisi**	**1.12**	**335**	P	**Pb**	**21 41 07.3**	**-1.6**
DMNI				S	**Sg**	**21 41 22.0**	**-0.9**
BGD	**Bogdanovka**	**1.33**	**316**	P	**Pn**	**21 41 11.8**	**-0.5**
BGD				S	**Sb**	**21 41 30.3**	**+0.5**
TRLG	**Trialeti**	**1.34**	**336**	P	**Pn**	**21 41 10.8**	**-1.6**
TRLG				S	**Sb**	**21 41 28.5**	**-1.6**
CLDR	**Caldiran**	**1.36**	**211**	Pn	**Pn**	**21 41 12.5**	**-0.1**
CLDR				Sn	**Sb**	**21 41 30.1**	**-0.5**
KARS	**Kars**	**1.36**	**284**	Pn	**Pn**	**21 41 12.2**	**-0.5**
KARS				Sn	**Sb**	**21 41 30.6**	**-0.1**
AKH	**Akhalkalaki**	**1.49**	**318**	Pn	**Pn**	**21 41 14.3**	**-0.1**
AKH	**Akhalkalaki**	**1.49**	**318**	P	**Pn**	**21 41 14.7**	**+0.2**
AKH				S	**Sn**	**21 41 34.6**	**+0.2**
BRNG	**Burnasheti**	**1.51**	**331**	P	**Pn**	**21 41 14.4**	**-0.3**
BRNG				S	**Sb**	**21 41 35.5**	**+0.4**
VSHL	**Vashlovani**	**1.51**	**52**	P	**Pn**	**21 41 14.2**	**-0.4**
VSHL				S	**Sn**	**21 41 34.7**	**-0.1**
AGRB	**Hanur-Agry**	**1.58**	**243**	Pn	**Pn**	**21 41 15.9**	**+0.2**
IMRD	**Marand**	**1.73**	**156**	Pg	**Pn**	**21 41 17.9**	**+0.1**
LGD	**Lagodekhi**	**1.87**	**35**	P	**Pn**	**21 41 19.5**	**0.0**
LGD				S	**Sn**	**21 41 44.4**	**+0.9**
SENK	**Senkaya-Erzuru**	**1.90**	**278**	Pn	**Pn**	**21 41 21.1**	**+1.0**
CHRG	**Chargali**	**2.02**	**2**	P	**Pn**	**21 41 22.2**	**+0.5**
CHRG				S	**Sn**	**21 41 48.6**	**+1.2**
GUDG	**Gudauri**	**2.17**	**353**	P	**Pn**	**21 41 24.8**	**+1.0**
GUDG				S	**Sb**	**21 41 53.6**	**-0.4**
KOPR	**Koprukoy-ERZUR**	**2.29**	**263**	Pn	**Pn**	**21 41 26.3**	**+0.8**
ITBZ	**Tabriz**	**2.32**	**153**	Pn	**Pn**	**21 41 26.2**	**+0.4**
MTEO	**Meteo**	**2.38**	**355**	P	**Pn**	**21 41 29.1**	**+2.2**
MTEO				S	**Sb**	**21 42 01.3**	**+1.1**
ONI	**Oni**	**2.50**	**336**	Pn	**Pn**	**21 41 29.8**	**+1.6**
IHRS	**Heris**	**2.63**	**138**	Pn	**Pb**	**21 41 33.7**	**-0.9**
ISRB	**Sarab**	**3.33**	**137**	Pn	**Pb**	**21 41 46.0**	**-0.4**

*CATAC **20** 22:01:54.8±1.6, 13.56N×91.29W, h7km±24km, ML3.4*
*MEX **20** 22:01:57.0±0.3, 13.37N×91.73W, h25km±999km, MD3.8*
*GCG **20** 22:01:58.1±0.5, 13.71N×91.37W, h21km±3km, MD3.4*

ISC 20 22:01:52.9±2.7, 13.4N±0.1×91.44W±0.05, h30km±14km, n16, σ1s61/27, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**1.15**	**348**	*i* S	**Sb**	**22 02 28.7**	**-0.2**
FUG	**Fuego 3**	**1.20**	**29**	*i* P	**Pb**	**22 02 15.2**	**+0.1**
FUG				*i* S	**Sn**	**22 02 28.2**	**-1.0**
PCG	**Pacaya**	**1.28**	**39**	*i* P	**Pb**	**22 02 16.7**	**+0.1**
STG3	**Santiaguito 3,**	**1.32**	**354**	*i* P	**Pb**	**22 02 17.0**	**-0.2**
STG3				*i* S	**Sn**	**22 02 31.6**	**-0.5**
NBG	**Las Nubes**	**1.59**	**42**	*i* P	**Pb**	**22 02 22.2**	**+0.4**
NBG				*i* S	**Sb**	**22 02 40.8**	**-0.9**
GUNB	**GUNB**	**1.60**	**41**	*i* P	**Pb**	**22 02 20.6**	**-1.4**
GUNB				*i* S	**Sn**	**22 02 38.7**	**-0.5**
GUNB				IAML		22 02 44.0	
	comp=Z,350nm,1.0s						
NUBE	**Las Nubes**	**1.69**	**72**	*i* P	**Pn**	**22 02 21.1**	**+0.6**
NUBE				IAML		22 02 24.2	
	comp=Z,150nm,1.0s						
NUBE				*i* S	**Sn**	**22 02 38.8**	**-2.5**
LOAL	**Lomas de Alarc**	**1.72**	**69**	*i* P	**Pn**	**22 02 22.3**	**+1.4**
LOAL				IAML		22 02 39.6	
	comp=Z,2μm,1.0s						
LOAL				*i* S	**Sn**	**22 02 42.3**	**+0.4**
CHUJ	**Union Juarez**	**1.81**	**339**	*e*P	**Pn**	**22 02 23.6**	**+1.3**
CHUJ				*i* S	**Sn**	**22 02 44.2**	**-0.2**
PATR	**El Naranjo**	**1.88**	**336**	*e*P	**Pn**	**22 02 24.4**	**+1.2**
PATR				*i* S	**Sn**	**22 02 45.7**	**-0.4**
PAVE	**Pavencul**	**1.93**	**338**	*e*P	**Pn**	**22 02 25.2**	**+1.3**
PAVE				*e*S	**Sn**	**22 02 47.4**	**+0.1**
MTO3	**Montecristo**	**2.25**	**63**	*i* P	**Pn**	**22 02 30.0**	**+1.7**
MTO3				IAML		22 02 56.8	
	comp=Z,240nm,1.0s						
PCIG		**2.87**	**323**	*e*P	**Pn**	**22 02 37.2**	**+0.5**
PCIG				*e*S	**Sn**	**22 03 10.5**	**+0.3**
CARR	**Arriaga**	**3.71**	**320**	*i* S	**Sn**	**22 03 30.4**	**-0.6**
UXUV	**UXUV**	**4.70**	**327**	*e*P	**Pn**	**22 03 03.7**	**+1.9**
UXUV				*e*S	**Sn**	**22 03 55.6**	**+0.3**
CMIG	**Matias Romero**	**4.96**	**318**	*e*P	Pb	22 03 13.0	-6.0
CMIG				*i* S	**Sn**	**22 03 55.9**	**-5.9**

TEH 20 22:31:07.1, 30.71N×57.30E, h8km±38km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRM1	**Kerman Provinc**	**0.21**	**186**	Pg	Pg	22 31 11.5	+0.1
ZRDN	**Zarand Kerman**	**0.70**	**291**	Pg	Pg	22 31 21.0	+0.3
KHGB	**Koh Gabri**	**0.78**	**245**	Pg	Pg	22 31 22.3	0.0
KHGB				Sg	Sg	22 31 32.8	+0.4
TVBK	**TV Kerman**	**0.86**	**213**	Pg	Pb	22 31 24.2	-0.2
CHMN	**Cheshme madani**	**0.88**	**166**	Pg	Pg	22 31 23.4	-0.6
NGRK	**Negar Kerman**	**1.17**	**205**	Pg	Pg	22 31 29.5	-0.1
NGRK				Sg	Sb	22 31 45.8	+0.5
IBAF	**Bafgh**	**1.72**	**301**	Pg	Pb	22 31 39.3	+0.3
KBAM	**BAM**	**1.86**	**147**	Pn	Pb	22 31 40.6	-0.8
BSRN	**Basiran**	**2.00**	**51**	Pn	Pn	22 31 42.0	+0.6
IKOO	**Kooshah**	**2.24**	**40**	Pn	Pn	22 31 46.1	+1.4
TPRV	**Parvadeh(Tabas**	**2.37**	**347**	Pn	Pb	22 31 48.3	-1.8
IMEH	**Mehriz**	**2.40**	**287**	Pn	Pn	22 31 48.7	+1.8
NHDN	**Nehbandan**	**2.46**	**73**	Pn	Pn	22 31 48.7	+1.1
ITEG	**Tejag**	**2.50**	**29**	Pn	Pn	22 31 49.8	+1.5
KHNJ	**Kahnooj**	**2.78**	**173**	Pn	Pn	22 31 54.2	+2.3
TKDS	**Koohdasht(Taba**	**2.90**	**357**	Pn	Pn	22 31 54.9	+1.3
ICHK	**Chekchek**	**2.90**	**302**	Pn	Pn	22 31 56.0	+2.2
IDAH	**Dahanechah**	**2.98**	**47**	Pn	Pn	22 31 56.0	+1.1
AFRZ	**Afriz**	**3.07**	**28**	Pn	Pn	22 31 58.1	+2.0
TNSJ	**Nastanj**	**3.29**	**350**	Pn	Pn	22 32 00.6	+1.5
ISAD	**Sadrabad**	**3.31**	**292**	Pn	Pn	22 32 01.7	+2.2
ZHDN	**Zahedan**	**3.31**	**112**	Pn	Pn	22 32 00.9	+1.5
SHRT	**Shahrakht**	**3.87**	**40**	Pn	Pn	22 32 08.3	+1.4
ANAR	**Anarak**	**3.91**	**310**	Pn	Pn	22 32 09.1	+1.5
IZEF	**Zefreh**	**4.76**	**299**	Pn	Pn	22 32 21.6	+2.3
TBJM	**Torbat-e-JAM**	**5.21**	**28**	Pn	Pn	22 32 27.1	+1.6
SRVN	**Saravan**	**5.55**	**125**	Pn	Pn	22 32 32.4	+2.3

*IDC **20** 22:34:16.5±1.0, 31.84N×142.67E, h0km, mb3.4/7, mbtmp3.5/10, ML3.5/3, MS2.6/1, Error ellipse: s-maj=27.3km s-min=21.5km az=71.0*
*JMA **20** 22:34:20.0±0.4, 32°N±1°×14°3E±°, h95km, MV3.5/14, FAR E OFF IZU ISLANDS*

ISC 20 22:34:22.2±0.8, 31.84N±0.06×142.5E±0.1, h44km, n18, σ1s75/24, mb3.4/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.55**	**299**	P	**Pn**	**22 35 00.9**	**-0.2**
JHJ2	**Mitsune**	**2.56**	**300**	P	**Pn**	**22 35 00.8**	**-0.3**
JHJ	**Hachijo jima 2**	**2.58**	**300**	Pn	**Pn**	**22 35 01.0**	**-0.6**
	24nm,0.3s,baz=360,slow=20,SNR=23						
JHJ				Sn	**Sn**	**22 35 29.9**	**-1.8**
	29nm,0.3s,baz=261,slow=23,SNR=5.0						
	48nm,0.3s						
BSO1	**Boso 1**	**3.06**	**337**	P	**Pn**	**22 35 06.4**	**-1.2**
BSO1				*e*S	**Sn**	**22 35 41.6**	**-1.1**
BSO3	**Boso 3**	**3.37**	**332**	*e*P	**Pn**	**22 35 10.7**	**-1.3**
BSO3				*e*S	**Sn**	**22 35 48.8**	**-1.8**
JOD2	**Odawara 2**	**4.41**	**321**	*e*P	**Pn**	**22 35 25.2**	**-1.5**
JOD2				*e*S	**Sn**	**22 36 14.7**	**-2.2**
CBIJ	**Chichi jima**	**4.74**	**183**	*e*P	**Pn**	**22 35 31.7**	**+0.6**
CBIJ				*e*S	**Sn**	**22 36 22.2**	**-2.6**
JCJ	**Chichijima**	**4.74**	**183**	Pn	**Pn**	**22 35 27.6**	**-3.5**
	3.3nm,0.3s,baz=82,slow=23,SNR=6.9						
JCJ				Sn	Sn	22 36 16.0	-8.8
	11nm,0.3s,baz=300,slow=23,SNR=5.1						
	56nm,0.7s						
JRY	**Ryogami san**	**5.10**	**326**	*e*P	**Pn**	**22 35 35.0**	**-1.1**
JRY				*e*S	**Sn**	**22 36 32.1**	**-1.7**
MJAR	**Matsushiro Arr**	**5.86**	**324**	Pn	**Pn**	**22 35 45.7**	**-0.8**
	0.6nm,0.3s,baz=146,slow=11,SNR=24						
MJAR				Sn	**Sn**	**22 36 49.6**	**-2.7**
	0.3nm,0.3s,baz=134,slow=17,SNR=3.5						
	4.2nm,0.3s						
KSRS	**Korea Array**	**13.20**	**299**	LR	LR	22 44 14.3	
	comp=Z,24nm,18.1s,baz=145,slow=45						
SONM	**Songino Array**	**31.61**	**311**	P	**P**	**22 40 44.2**	**+3.2**
	0.3nm,0.5s,baz=106,slow=11,SNR=2.9						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**47.74**	**306**	P	**P**	**22 42 55.6**	**+0.8**
	0.3nm,0.6s,baz=89,slow=9.5,SNR=4.4						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**49.98**	**312**	P	**P**	**22 43 12.8**	**+1.0**
	0.4nm,0.7s,baz=91,slow=7.6,SNR=2.8						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**52.07**	**190**	P	**P**	**22 43 29.1**	**+1.3**
	0.3nm,0.4s,baz=6.5,slow=7.6,SNR=8.0						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**53.48**	**30**	P	**P**	**22 43 37.9**	**+0.2**
	0.3nm,0.7s,baz=255,slow=5.9,SNR=2.4						
	0.3nm,0.7s						
YKA	**Yellowknife Ar**	**67.89**	**29**	P	**P**	**22 45 15.1**	**-0.7**
	0.2nm,0.6s,baz=298,slow=6.9,SNR=3.2						
	0.2nm,0.6s						
PDAR	**Pinedale Array**	**80.70**	**45**	P	**P**	**22 46 31.2**	**+0.1**
	0.2nm,0.6s,baz=270,slow=6.3,SNR=2.3						
	0.2nm,0.6s						

*JMA **20** 22:40:09.6±0.2, 25°N±1°×122.5E±0.4, h109km±1km, MV3.5/19, NW OFF ISHIGAKIJIMA IS*
*TAP **20** 22:40:09.5, 24.82N×122.50E, h107km, ML4.0, B*

**ISC 20 22:40:09.6±1.3, 24.79N±0.03×122.49E±0.02

NWLT				S		Sn	22 40 45.0	+0.1	
	baz=267								
YM01	**YM01**	**0.91**	**293**	⇑	*i*	P	Pn	22 40 30.1	+0.3
	baz=282								
YM01					*i*	S	Sn	22 40 44.8	-0.3
	baz=282								
NDT	**Datong Townshi**	**0.91**	**258**	⇑	*e*	P	Pn	22 40 30.6	+0.8
	baz=257								
NDT					*e*	S	Sn	22 40 46.0	+0.9
	baz=257								
LATG	**Datong**	**0.91**	**254**	⇑	*i*	P	Pn	22 40 30.6	+0.6
	baz=245								
LATG						S	Sn	22 40 45.8	+0.5
	baz=245								
PCYT	**Pengchaiyu**	**0.92**	**336**			P	Pn	22 40 30.3	+0.4
	baz=336								
TATO	**Taipei**	**0.93**	**282**			P	Pn	22 40 30.0	0.0
	baz=279								
TATO						S	Sn	22 40 44.3	-1.0
	baz=279								
TWY	**Chenhua**	**0.94**	**301**		*e*	P	Pn	22 40 30.5	+0.4
	baz=298								
TWY					*e*	S	Sn	22 40 45.3	-0.3
	baz=298								
NSM	**Shimen**	**0.95**	**301**		*e*	P	Pn	22 40 30.6	+0.3
	baz=298								
ANP	**Anpu**	**0.96**	**294**		*e*	P	Pn	22 40 30.9	+0.5
	baz=291								
ETL	**Fush Village**	**1.01**	**232**		*e*	P	Pn	22 40 30.8	-0.1
	baz=225								
NTST	**Danshui**	**1.01**	**292**	⇑		P	Pn	22 40 31.4	+0.6
	baz=282								
NTST					*e*	S	Sn	22 40 47.1	+0.2
	baz=282								
TWS1	**Kuangyinshan**	**1.02**	**288**	⇑	*i*	P	Pn	22 40 31.4	+0.5
	baz=278								
TWS1					*e*	S	Sn	22 40 47.0	-0.1
	baz=278								
YHNB	**Yeheng**	**1.02**	**263**		*e*	P	Pn	22 40 31.3	+0.2
	baz=266								
YHNB					*i*	S	Sn	22 40 47.3	+0.1
	baz=266								
NACB	**Ninganchiao**	**1.02**	**233**	⇑		P	Pn	22 40 30.6	-0.4
	baz=226								
NACB					*e*	S	Sn	22 40 46.0	-1.1
	baz=226								
NSK	**Sanguang**	**1.03**	**264**	⇑	*i*	P	Pn	22 40 31.4	+0.2
	baz=266								
NSK					*i*	S	Sn	22 40 47.5	0.0
	baz=266								
NNSB	**Datong**	**1.07**	**250**	⇑	*i*	P	Pn	22 40 32.1	+0.5
	baz=242								
NNSB						S	Sn	22 40 48.1	-0.1
	baz=242								
NNS	**Nan Shan**	**1.07**	**251**	⇑	*i*	P	Pn	22 40 32.2	+0.5
	baz=243								
NNS						S	Sn	22 40 48.0	-0.3
	baz=243								
TWD	**Chiawan**	**1.08**	**229**	⇑	*i*	P	Pn	22 40 31.2	-0.3
	baz=223								
TWD					*i*	S	Sn	22 40 47.8	-0.3
	baz=223								
ETLH	**Xiulin Townshi**	**1.09**	**238**	⇑	*i*	P	Pn	22 40 31.8	0.0
	baz=236								
NTY	**Taoyuan**	**1.10**	**281**			P	Pn	22 40 32.2	+0.4
	baz=278								
NTY					*e*	S	Sn	22 40 49.2	+0.6
	baz=278								
HWA	**Hwalien**	**1.14**	**225**	⇑	*i*	P	Pn	22 40 32.5	+0.2
	baz=218								
HWA						S	Sn	22 40 50.2	+0.8
	baz=218								
NCU	**National Centr**	**1.20**	**279**			P	Pn	22 40 33.3	+0.5
	baz=276								
NCU					*e*	S	Sn	22 40 50.9	+0.5
	baz=276								
NCUH	**Zhongli**	**1.20**	**279**		*e*	P	Pn	22 40 33.0	+0.2
	baz=276								
NCUH					*e*	S	Sn	22 40 51.6	+1.1
	baz=276								
IRIF	**Iriomote-Funau**	**1.22**	**112**			P	Pn	22 40 33.0	-0.1
IRIF						S	Sn	22 40 50.8	-0.1
ETM	**Tongmen**	**1.23**	**228**	⇑	*i*	P	Pn	22 40 33.0	-0.2
	baz=227								
ETM					*e*	S	Sn	22 40 50.2	-0.8
	baz=227								
LXIB	**Xiulin Townshi**	**1.25**	**232**		*i*	P	Pn	22 40 33.3	-0.3
	baz=223								
FUSS	**Fushou**	**1.26**	**245**	⇑	*i*	P	Pn	22 40 34.3	+0.5
	baz=239								
NFF	**Wufeng Townshi**	**1.26**	**263**	⇑	*i*	P	Pn	22 40 33.9	+0.3
	baz=261								
NFF						S	Sn	22 40 52.2	+0.4
	baz=261								
NJD	**Zhudong**	**1.27**	**268**		*e*	P	Pn	22 40 33.6	-0.1
	baz=265								
NJD					*e*	S	Sn	22 40 51.8	-0.2
	baz=265								
WHF	**Hehuan Shan**	**1.29**	**240**	⇓	*i*	P	Pn	22 40 34.7	+0.4
	baz=238								
WHF					*e*	S	Sn	22 40 52.2	-0.8
	baz=238								
SHUL	**Shoufeng**	**1.31**	**220**	⇈	*e*	P	Pn	22 40 34.1	0.0
	baz=212								
SHUL					*e*	S	Sn	22 40 53.0	+0.3
	baz=212								
TWT	**Tachien**	**1.31**	**246**	⇑	*i*	P	Pn	22 40 35.3	+1.0
	baz=238								
TWT					*e*	S	Sn	22 40 53.5	+0.5
	baz=238								
TDCB	**Techi**	**1.32**	**246**	⇑	*i*	P	Pn	22 40 35.4	+0.9
	baz=238								
TDCB						S	Sn	22 40 53.4	+0.1
	baz=238								
NHW	**Xinwu Township**	**1.33**	**280**		*e*	P	Pn	22 40 34.8	+0.5
	baz=280								
NHW					*e*	S	Sn	22 40 53.8	+0.7
	baz=280								
HSN1	**Hsinchu**	**1.34**	**270**	⇑	*i*	P	Pn	22 40 35.1	+0.7
	baz=260								
HSN1						S	Sn	22 40 53.7	+0.4
	baz=260								
LIOB	**Emei**	**1.35**	**264**	⇑	*i*	P	Pn	22 40 35.0	+0.5
	baz=262								
LIOB						S	Sn	22 40 53.2	-0.3
	baz=262								
NSTT	**Nanjuang**	**1.36**	**264**	⇑	*i*	P	Pn	22 40 35.0	+0.3
	baz=261								
NSTT					*i*	S	Sn	22 40 53.8	0.0
	baz=261								
SBCB	**Hsinchu**	**1.37**	**270**	⇑		P	Pn	22 40 35.4	+0.7
	baz=260								
SBCB						S	Sn	22 40 54.1	+0.2
	baz=260								
ESL	**Shilin**	**1.37**	**225**	⇈	*e*	P	Pn	22 40 34.3	-0.6
	baz=231								
ESL					*e*	S	Sn	22 40 52.2	-1.8
	baz=231								
HSN	**Hsinchu**	**1.38**	**271**			P	Pn	22 40 35.1	+0.2
	baz=261								
HSN					*e*	S	Sn	22 40 53.6	-0.6
	baz=261								
TEGC	**Jichi Village**	**1.38**	**219**			P	Pn	22 40 35.1	+0.1
	baz=218								
TEGC						S	Sn	22 40 54.1	-0.1
	baz=218								
CHGB	**Renai**	**1.40**	**239**	⇑	*i*	P	Pn	22 40 36.1	+0.7
	baz=231								
CHGB						S	Sn	22 40 54.6	-0.4
	baz=231								
HATJ	**Hateruma jima**	**1.41**	**121**			P	Pn	22 40 36.0	+0.8
HATJ					*e*	S	Sn	22 40 54.9	+0.2
OWD	**Renai**	**1.46**	**235**	⇑		P	Pn	22 40 36.3	+0.3
	baz=229								
OWD					*e*	S	Sn	22 40 56.3	+0.3
	baz=229								
WARBT	**Fenglin Townsh**	**1.47**	**223**	⇈	*e*	P	Pn	22 40 35.4	-0.7
	baz=229								
WARBT					*e*	S	Sn	22 40 54.0	-2.0
	baz=229								
NJN	**Zhunan**	**1.48**	**266**		*e*	P	Pn	22 40 36.7	+0.6
	baz=257								
NJN						S	Sn	22 40 56.5	+0.3
	baz=257								
WUSB	**Renai**	**1.48**	**238**	⇑		P	Pn	22 40 37.0	+0.7
	baz=230								
WUSB						S	Sn	22 40 56.1	-0.4
	baz=230								
JKRS	**Kuro-shima**	**1.49**	**111**			P	Pn	22 40 36.5	+0.3
JKRS						S	Sn	22 40 56.2	-0.3
WHP	**Taichung City**	**1.50**	**250**	⇑		P	Pn	22 40 37.6	+1.2
	baz=257								
WHP					*e*	S	Sn	22 40 57.5	+0.7
	baz=257								
JIJ	**Ishigaki jima**	**1.57**	**105**		*i*	P	Pn	22 40 37.1	-0.1
JIJ						S	Sn	22 40 57.3	-0.8
WPL	**Puli Township**	**1.60**	**241**		*e*	P	Pn	22 40 38.9	+1.3
	baz=237								
VWDT	**VWDT**	**1.61**	**230**	⇑		P	Pn	22 40 38.2	+0.6
	baz=224								
VWDT						S	Sn	22 40 58.2	-0.7
	baz=224								
DPDB	**Guoxing**	**1.61**	**242**		*e*	P	Pn	22 40 39.0	+1.2
	baz=241								
WCS	**Beigang Elemen**	**1.61**	**243**		*e*	P	Pn	22 40 38.9	+1.1
	baz=251								
NSY	**Sanyi**	**1.62**	**257**	⇑		P	Pn	22 40 38.6	+0.8
	baz=255								
NSY					*e*	S	Sn	22 40 59.9	+0.7
	baz=255								
HGSD	**Ruisui**	**1.62**	**217**	⇑		P	Pn	22 40 37.7	-0.1
	baz=211								
HGSD					*e*	S	Sn	22 40 58.6	-0.6
	baz=211								
TWQ1	**Liyutan**	**1.62**	**255**	⇑		P	Pn	22 40 38.4	+0.6
	baz=252								
TWQ1						S	Sn	22 40 59.7	+0.3
	baz=252								
EHY	**Hungye**	**1.67**	**220**		*e*	P	Pn	22 40 37.4	-1.0
	baz=227								
JISG	**Ishigakijimahi**	**1.67**	**97**			P	Pn	22 40 38.7	+0.3
JISG						S	Sn	22 40 59.8	-0.6
SMLT	**Sun Moon Lake**	**1.71**	**238**			P	Pn	22 40 40.1	+1.1
	baz=231								
SMLT					*e*	S	Sn	22 41 03.1	+1.7
	baz=231								
SSLB	**Suanglung**	**1.72**	**235**		*e*	P	Pn	22 40 39.7	+0.6
	baz=230								
SSLB					*e*	S	Sn	22 41 02.4	+0.9
	baz=230								
TYC	**Yuchr**	**1.73**	**240**	⇑		P	Pn	22 40 40.3	+1.1
	baz=234								
TYC					*e*	S	Sn	22 41 03.4	+1.7
	baz=234								
WDJ	**Dajia District**	**1.74**	**256**			P	Pn	22 40 40.0	+0.7
	baz=253								
WDJ					*e*	S	Sn	22 41 02.4	+0.5
	baz=253								
ECBN	**Changbin**	**1.75**	**213**		*e*	P	Pn	22 40 39.2	-0.3
	baz=207								
ECBN					*e*	S	Sn	22 41 01.2	-0.9
	baz=207								
YULB	**Yu-li**	**1.77**	**218**	⇈	*e*	P	Pn	22 40 38.8	-0.9
	baz=225								
TCU	**Taichung**	**1.77**	**249**		*e*	P	Pn	22 40 40.5	+0.8
	baz=247								
EYUL	**Yuli**	**1.79**	**217**		*e*	P	Pn	22 40 39.8	-0.2
	baz=223								
WWF	**Wufeng**	**1.79**	**246**		*e*	P	Pn	22 40 40.8	+0.9
	baz=252								
TWF1	**Yuli**	**1.80**	**217**		*e*	P	Pn	22 40 39.3	-0.7
	baz=223								
TWF1					*e*	S	Sn	22 41 01.4	-1.9
	baz=223								
WHYT	**Xinyi Township**	**1.85**	**234**	⇑		P	Pn	22 40 42.2	+1.5
	baz=227								
WHYT					*e*	S	Sn	22 41 06.3	+1.9
	baz=227								
WJS	**Zhushan**	**1.87**	**239**		*e*	P	Pn	22 40 42.3	+1.3
	baz=246								
WJS					*e*	S	Sn	22 41 06.6	+1.6
	baz=246								
CHKH	**Chenggong**	**1.88**	**212**		*e*	P	Pn	22 40 41.2	+0.2
	baz=212								
WNT	**Mingjian**	**1.88**	**241**		*e*	P	Pn	22 40 42.0	+0.9
	baz=240								
WCHH	**Zhanghua**	**1.90**	**248**		*e*	P	Pn	22 40 41.8	+0.6
	baz=246								
FULB	**Fuli**	**1.93**	**215**		*e*	P	Pn	22 40 41.7	0.0
	baz=208								
WYL	**Yuanlin Townsh**	**1.93**	**245**		*e*	P	Pn	22 40 42.2	+0.6
	baz=250								
CHKT	**Chengkung**	**1.97**	**212**		*e*	P	Pn	22 40 41.5	-0.7
	baz=205								
CHKT					*e*	S	Sn	22 41 05.3	-1.9
	baz=205								
ALS	**Alishan**	**2.00**	**231**	⇑		P	Pn	22 40 44.0	+1.2
	baz=223								
ALS					*e*	S	Sn	22 41 08.4	+0.3
	baz=223								
EHD	**Haiduan**	**2.01**	**216**		*e*	P	Pn	22 40 43.0	+0.3
	baz=221								
JTJ	**Tarama**	**2.02**	**94**			P	Pn	22 40 43.5	+0.7
JTJ						S	Sn	22 41 07.9	-0.2
CHN5	**Tsauling**	**2.04**	**235**	⇑	*i*	P	Pn	22 40 44.1	+1.0
	baz=242								
CHN5					*e*	S	Sn	22 41 10.2	+1.4
	baz=242								
ECS	**Chishang**	**2.05**	**215**		*e*	P	Pn	22 40 43.6	+0.4
	baz=214								
WGK	**Gukeng**	**2.08**	**238**		*e*	P	Pn	22 40 44.8	+1.3
	baz=244								
ELDTW	**Lidau**	**2.09**	**220**	⇈	*e*	P	Pn	22 40 43.3	-0.5
	baz=219								
ELDTW					*e*	S	Sn	22 41 08.6	-1.3
	baz=219								
WDLH	**Douliu**	**2.09**	**239**		*e*	P	Pn	22 40 45.2	+1.4
	baz=237								
EDH	**Donghe**	**2.11**	**211**		*e*	P	Pn	22 40 43.5	-0.5
	baz=206								
WRL	**Guolierlin Hig**	**2.12**	**246**		*e*	P	Pn	22 40 44.2	+0.1
	baz=249								
RLNB	**Erlin**	**2.14**	**246**			P	Pn	22 40 44.7	+0.4
	baz=251								
RLNB					*e*	S	Sn	22 41 11.3	+0.4
	baz=251								
WCKO	**Fanlu**	**2.19**	**232**		*e*	P	Pn	22 40 46.1	+1.2
	baz=231								
WCKO					*e*	S	Sn	22 41 14.5	+2.5
	baz=231								
WTK	**Tuku**	**2.21**	**241**		*e*	P	Pn	22 40 45.8	+0.6
	baz=239								
WTK					*e*	S	Sn	22 41 14.6	+2.1
	baz=239								
CHN4	**Tsaushan**	**2.25**	**231**	⇑	*i*	P	Pn	22 40 47.0	+1.2
	baz=229								
CHN4					*e*	S	Sn	22 41 14.6	+1.1
	baz=229								
STYH	**Taoyuan**	**2.25**	**224**		*e*	P	Pn	22 40 47.0	+1.3
	baz=217								
LONT	**Longtian**	**2.25**	**214**		*e*	P	Pn	22 40 44.6	-1.2
	baz=213								
TPUB	**Ta-pu**	**2.26**	**229**	⇑		P	Pn	22 40 46.8	+0.9
	baz=228								
TPUB					*e*	S	Sn	22 41 15.3	+1.7
	baz=228								
STYT	**Tauyuan**	**2.27**	**225**		*e*	P	Pn	22 40 47.3	+1.3
	baz=217								
STYT					*e*	S	Sn	22 41 15.5	+1.6
	baz=217								
CHY	**Chiayi**	**2.28**	**236**		*e*	P	Pn	22 40 46.9	+0.7
	baz=244								
WTP	**Ta-pu**	**2.30**	**228**		*e*	P	Pn	22 40 47.4	+0.9
	baz=227								
LDUT	**Ludao**	**2.31**	**204**		*e*	P	Pn	22 40 45.8	-0.7
	baz=207								
LDUT					*e*	S	Sn	22 41 13.1	-1.7
	baz=207								
TWGBT	**Beinan**	**2.35**	**214**		*e*	P	Pn	22 40 45.9	-1.2
	baz=213								
TWGBT					*e*	S	Sn	22 41 14.4	-1.5
	baz=213								
TWG	**Pinlang**	**2.35**	**214**		*e*	P	Pn	22 40 46.1	-1.0
	baz=213								
TWG					*e*	S	Sn	22 41 14.2	-1.7
	baz=213								
WSF	**Szhu**	**2.37**	**241**		*e*	P	Pn	22 40 48.5	+1.2
	baz=239								
TWK	**Hsinying**	**2.38**	**231**			P	Pn	22 40 48.0	+0.6
	baz=229								
TWK					*e*	S	Sn	22 41 18.0	+1.5
	baz=229								
SNST	**Tainan City**	**2.40**	**230**		*e*	P	Pn	22 40 48.3	+0.6
	baz=238								
CHN1	**Nanshi**	**2.40**	**229**		*e*	P	Pn	22 40 48.6	+0.8
	baz=227								
CHN1					*e*	S	Sn	22 41 18.4	+1.4
	baz=227								
WSL	**Shuilin Townsh**	**2.42**	**239**		*e*	P	Pn	22 40 48.6	+0.7
	baz=237								
SGST	**Jiashian**	**2.44**	**226**		*e*	P	Pn	22 40 48.4	+0.2
	baz=224								
SGST					*e*	S	Sn	22 41 17.7	-0.1
	baz=224								
JIRB	**Irabujima**	**2.44**	**89**			S	Sn	22 41 18.3	+0.4
SLGT	**Liugui**	**2.46**	**224**			P	Pn	22 40 50.0	+1.4
	baz=230								
SLGT					*e*	S	Sn	22 41 20.7	+2.3
	baz=230								
ICHU	**Yijhu**	**2.47**	**235**		*e*	P	Pn	22 40 49.4	+0.7
	baz=233								
ICHU					*e*	S	Sn	22 41 20.3	+1.7
	baz=233								
JIKM	**Ikemajima**	**2.51**	**86**		*e*	S	Sn	22 41 20.3	+0.9
JMJ	**Miyako jima 2**	**2.55**	**89**		*e*	P	Pn	22 40 50.9	+1.3
	baz=91								
JMJ2	**Miyako jima3**	**2.58**	**91**			P	Pn	22 40 50.9	+0.8
JMJ2						S	Sn	22 41 21.9	+0.7
ECL	**Taimali**	**2.60**	**213**		*e*	P	Pn	22 40 49.5	-0.8
	baz=207								
SCST	**Cishan**	**2.63**	**224**		*e*	P	Pn	22 40 51.9	+1.1
	baz=230								
SHHT	**Tainan City**	**2.63**	**228**		*e*	P	Pn	22 40 52.3	+1.5
	baz=227								
JOGS	**Gusukube**	**2.65**	**90**		*e*	S	Sn	22 41 23.2	+0.4
MATB	**Ma-tsu**	**2.67**	**301**		*e*	P	Pn	22 40 50.7	-0.5
	baz=298								
TSMG	**Majia**	**2.68**	**219**		*e*	P	Pn	22 40 52.2	+0.9
	baz=218								
MSUT	**Lienchiang**	**2.69**	**301**		*e*	P	Pn	22 40 50.6	-0.9
	baz=298								
TSCK	**Chigu Township**	**2.74**	**234**		*e*	P	Pn	22 40 52.3	+0.1
	baz=240								
MASBT	**Mashibuluo**	**2.76**	**218**			P	Pn	22 40 53.4	+1.0
	baz=217								
MASBT					*e*	S	Sn	22 41 26.7	+1.4
	baz=217								
VWUC	**VWUC**	**2.77**	**275**		*e*	P	Pn	22 40 52.0	-0.5
	baz=272								
EAST	**Anshuo**	**2.83**	**212**		*e*	P	Pn	22 40 53.0	-0.4
	baz=208								
LYUB	**Lan-yu**	**2.90**	**197**		*e*	P	Pn	22 40 53.1	-1.2
	baz=201								
PNG	**Penghu**	**2.94**	**246**		*e*	P	Pn	22 40 54.4	-0.5
	baz=244								
PHUB	**P'eng-hu**	**2.95**	**245**		*e*	P	Pn	22 40 54.1	-0.9
	baz=243								
PHUB					*e*	S	Sn	22 41 28.0	-1.9
	baz=243								
SCZT	**Fangliau**	**2.96**	**216**		*e*	P	Pn	22 40 56.0	+0.9
	baz=214								
WSSB	**Gushan**	**2.96**	**224**		*e*	P	Pn	22 40 56.3	+1.2
	baz=222								
XPSS	**Dashiqiu**	**2.97**	**316**		*e*	P	Pn	22 40 54.7	-0.5
	baz=314								
SLIU	**Shizi**	**3.00**	**212**		*e*	P	Pn	22 40 56.0	+0.4
	baz=209								
LYJJ	**Jianjiangzhen**	**3.02**	**306**			P	Pn	22 40 55.4	-0.5
	baz=295								
VCHM	**Qimei**	**3.21**	**241**		*e*	P	Pn	22 40 57.9	-0.5
	baz=239								
MHZQ	**Yeshan**	**3.39**	**293**		*e*	P	Pn	22 41 00.3	-0.4
	baz=291								
KNM	**Kinmen**	**3.71**	**265**		*e*	P	Pn	22 41 06.1	+1.1
	baz=263								
KNMB	**Chin-men Tao**	**3.75**	**266**		*e*	P	Pn	22 41 04.9	-0.6
	baz=263								
AXDP	**Jialang**	**4.11**	**272**		*e*	P	Pn	22 41 10.2	-0.2
	baz=269								
AXDP					*e*	S	Sn	22 41 54.5	-3.0
	baz=269								
ZPLA	**Ao Xicun**	**4.41**	**260**		*e*	P	Pn	22 41 14.3	-0.1
	baz=257								
DSXP	**Dongshan**	**4.75**	**258**		*e*	P	Pn	22 41 18.9	-0.1
	baz=256								
JOW	**Kunigami**	**5.60**	**67**		*e*	P	Pn	22 41 29.0	-1.5
	baz=70								

WEL 20 22:50:45.2±1.0,35°S±6'×17°9E±1'3,h12km,M4.0/12,ML4.2/15,MLv4.0/12,Error ellipse: s-maj=0.0km s-min=0.0km az=101.2,confirmed,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.67**	**195**	P	Pn	22 51 29.0	+1.0
MXZ				S	Sn	22 52 02.9	+2.7
WMGZ	**Waiomatatini S**	**2.90**	**192**	P	Pn	22 51 32.2	+1.1
WMGZ				S	Sb	22 52 09.4	-2.8
HAZ	**Te Kaha**	**2.98**	**202**	P	Pn	22 51 32.7	+0.3
HAZ				S	Sn	22 52 11.2	+3.1
PKGZ	**Pakihiroa**	**3.03**	**197**	P	Pn	22 51 33.3	+0.2
PKGZ				S	Sn	22 52 09.9	+0.6
PUZ	**Puketiti**	**3.17**	**193**	P	Pn	22 51 36.3	+1.4
PUZ				S	Sn	22 52 13.1	+0.4
RUGZ	**Raukumara Rang**	**3.21**	**202**	P	Pn	22 51 35.3	-0.3
RUGZ				S	Sn	22 52 13.0	-0.8
KUZ	**Kuaotunu**	**3.31**	**237**	P	Pn	22 51 36.7	-0.1
TWGZ	**Tauwhareparae**	**3.33**	**196**	P	Pn	22 51 37.6	+0.4
TWGZ				S	Sn	22 52 18.2	+1.5
WHRZ	**Whale Island**	**3.37**	**211**	P	Pn	22 51 39.9	+2.2
WHRZ				S	Sn	22 52 20.4	+2.8
OPRZ	**Ohinepanea**	**3.55**	**216**	P	Pn	22 51 39.1	-1.0
CNGZ	**Carnagh Statio**	**3.58**	**192**	P	Pn	22 51 40.2	-0.4
MWZ	**Matawai**	**3.60**	**201**	P	Pn	22 51 39.6	-1.2
MWZ				S	Sn	22 52 22.9	-0.3
MARZ	**Manawahe**	**3.61**	**213**	P	Pn	22 51 42.3	+1.3
TKGZ	**Te Karaka**	**3.61**	**197**	P	Pn	22 51 40.8	-0.2
TKGZ				S	Sn	22 52 21.9	-1.6
URZ	**Urewera**	**3.67**	**206**	P	Pn	22 51 39.9	-1.8
URZ				S	Sn	22 52 24.9	0.0
RAGZ	**Rawiri**	**3.78**	**201**	S	Sn	22 52 28.4	+0.6
KARZ	**Kaharoa**	**3.84**	**217**	P	Pn	22 51 45.0	+0.9
RIGZ	**Rimuhau**	**3.88**	**196**	P	Pn	22 51 43.5	-1.3
RIGZ				S	Sn	22 52 28.2	-2.2
RTZ	**Ruatahuna**	**4.03**	**205**	P	Pn	22 51 43.8	-3.1
WCZ	**Waipu Caves**	**4.05**	**255**	P	Pn	22 51 48.7	+1.7
PRGZ	**Paritu Road**	**4.07**	**194**	P	Pn	22 51 46.5	-0.8
PRGZ				S	Sn	22 52 30.5	-4.3
SNGZ	**Shannon Statio**	**4.07**	**201**	P	Pn	22 51 44.2	-3.1
SNGZ				S	Sn	22 52 32.5	-2.3
KNZ	**Kokohu**	**4.21**	**196**	P	Pn	22 51 47.6	-1.6
ALRZ	**Allen Road**	**4.23**	**212**	P	Pn	22 51 47.6	-2.0
RAHZ	**Arahi**	**4.27**	**202**	P	Pn	22 51 47.7	-2.4
MHGZ	**Mahia Peninsul**	**4.28**	**193**	P	Pn	22 51 49.3	-1.0
MTHZ	**Maungataniwha**	**4.29**	**205**	P	Pn	22 51 48.0	-2.4
NMHZ	**Naumai**	**4.52**	**204**	P	Pn	22 51 50.9	-2.7
ARHZ	**Aropaoanui**	**4.61**	**201**	P	Pn	22 51 52.2	-2.5
BKZ	**Black Stump Fm**	**4.69**	**206**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.48**	**176**	*e*Pg	**Pg**	**22 56 48.1**	**+0.3**
DVE				*e*S	**Sg**	**22 56 54.4**	**+0.3**
DVE	**Vedeno**	**0.48**	**176**	*e*Pg	**Pg**	**22 56 48.1**	**+0.3**
DVE				*e*Sg	**Sg**	**22 56 54.4**	**+0.3**
DLMR	**Dylym**	**0.55**	**132**	*e*PG	**Pb**	**22 56 51.0**	**+0.5**
DLMR				*i* S	**Sb**	**22 56 59.4**	**+0.8**
DLMR				pmax	pmax		
	comp=Z,194nm,0.3s						
DLMR				smax	smax		
	comp=E,999nm,0.3s						
DLMR	**Dylym**	**0.55**	**132**	*e*Pg	**Pb**	**22 56 50.1**	**-0.5**
DLMR				*e*Sg	**Sb**	**22 56 58.6**	**0.0**
DBC	**Dubki**	**0.69**	**127**	*c i*PG	**Pb**	**22 56 52.9**	**-0.1**
DBC				*e*S	**Sb**	**22 57 03.1**	**+0.3**
DBC				pmax	pmax		
	comp=Z,84nm,0.3s						
DBC	**Dubki**	**0.69**	**127**	*i* Pg	**Pb**	**22 56 52.9**	**-0.1**
DBC				*e*Sg	**Sb**	**22 57 03.2**	**+0.3**
BTLR	**Botlikh**	**0.78**	**172**	*c i*PG	**Pg**	**22 56 53.2**	**-0.3**
BTLR				*e*S	**Sg**	**22 57 03.6**	**-0.1**
BTLR				pmax	pmax		
	comp=Z,90nm,0.3s						
BTLR	**Botlikh**	**0.78**	**172**	*i* Pg	**Pg**	**22 56 53.3**	**-0.2**
BTLR				*e*Sg	**Sg**	**22 57 03.6**	**-0.1**
KRNR	**Karanay**	**0.86**	**135**	*e*PG	**Pb**	**22 56 55.6**	**-0.3**
KRNR				*i* S	**Sb**	**22 57 07.9**	**+0.1**
KRNR				pmax	pmax		
	comp=Z,44nm,0.2s						
KRNR				smax	smax		
	comp=N,135nm,0.2s						
KRNR	**Karanay**	**0.86**	**135**	*e*Pg	**Pb**	**22 56 55.7**	**-0.3**
KRNR				*e*Sg	**Sb**	**22 57 07.1**	**-0.7**
UNCR	**Uncukul**	**0.89**	**144**	⇓*i*PG	**Pb**	**22 56 56.2**	**-0.3**
UNCR				*i* S	**Sb**	**22 57 09.5**	**+0.9**
UNCR				pmax	pmax		
	comp=Z,83nm,0.3s						
UNCR				smax	smax		
	comp=N,342nm,0.4s						
UNCR	**Uncukul**	**0.89**	**144**	*e*Pg	**Pb**	**22 56 56.0**	**-0.5**
UNCR				*e*Sg	**Sb**	**22 57 08.3**	**-0.3**
KMGR	**Komgaron**	**0.96**	**247**	*e*PG	**Pg**	**22 56 57.0**	**-0.1**
KMGR				*e*S	**Sn**	**22 57 12.8**	**+0.2**
KMGR	**Komgaron**	**0.96**	**247**	*e*Pg	**Pg**	**22 56 57.0**	**-0.1**
KMGR				*e*Sg	**Sn**	**22 57 12.8**	**+0.2**
BUJR	**Buynaksk**	**0.97**	**129**	*e*PG	**Pn**	**22 56 58.8**	**+0.1**
BUJR				*i* S	**Sn**	**22 57 13.3**	**+0.5**
BUJR				pmax	pmax		
	comp=Z,173nm,0.4s						
BUJR				smax	smax		
	comp=N,600nm,0.3s						
BUJR	**Buynaksk**	**0.97**	**129**	*e*Pg	**Pn**	**22 56 58.9**	**+0.1**
BUJR				*e*Sg	**Sn**	**22 57 12.5**	**-0.3**
HNZR	**Khunzah**	**0.99**	**152**	*e*PG	**Pb**	**22 56 58.1**	**-0.2**
HNZR				*i* S	**Sb**	**22 57 11.8**	**+0.1**
HNZR				pmax	pmax		
	comp=Z,60nm,0.4s						
HNZR				smax	smax		
	comp=N,133nm,0.8s						
XNZR	**Khunzakh**	**1.01**	**152**	*e*Pg	**Pb**	**22 56 58.1**	**-0.4**
XNZR				*e*Sg	**Sb**	**22 57 11.4**	**-0.7**
TRKR	**Terskaya**	**1.02**	**287**	*e*PG	**Pn**	**22 57 00.2**	**+0.8**
TRKR				*e*S	**Sn**	**22 57 16.9**	**+3.0**
TRKR				pmax	pmax		
	comp=Z,99nm,0.3s						
TRKR	**Terskaya**	**1.02**	**287**	*e*Pg	**Pn**	**22 57 00.2**	**+0.8**
TRKR				*e*Sg	**Sn**	**22 57 16.5**	**+2.6**
KANR	**Karaman**	**1.06**	**103**	*e*PG	**Pn**	**22 57 01.7**	**+1.8**
KANR				*e*S	**Sn**	**22 57 18.4**	**+3.5**
KANR	**Karaman**	**1.06**	**103**	*e*Pg	**Pn**	**22 57 01.7**	**+1.8**
KANR				*e*Sg	**Sn**	**22 57 18.4**	**+3.5**
ARKR	**Arakani**	**1.07**	**141**	*e*PG	**Pb**	**22 56 59.5**	**0.0**
ARKR				*i* S	**Sb**	**22 57 14.2**	**+0.4**
ARKR				pmax	pmax		
	comp=Z,36nm,0.4s						
ARKR				smax	smax		
	comp=N,118nm,0.4s						
ARKR	**Arakani**	**1.07**	**141**	*e*Pg	**Pb**	**22 56 59.5**	**0.0**
ARKR				*e*Sg	**Sb**	**22 57 13.4**	**-0.4**
VLKR	**Vladikavkaz**	**1.09**	**250**	*e*PG	**Pn**	**22 57 00.9**	**+0.4**
VLKR				*e*S	**Sn**	**22 57 16.3**	**+0.4**
VLKR	**Vladikavkaz**	**1.09**	**250**	*e*Pg	**Pn**	**22 57 00.9**	**+0.4**
VLKR				*e*Sg	**Sn**	**22 57 16.4**	**+0.4**
BTKR	**Batakoyurt**	**1.12**	**267**	*i* PG	**Pn**	**22 57 02.3**	**+1.5**
BTKR				*e*S	**Sn**	**22 57 19.5**	**+3.0**
BTKR	**Batakoyurt**	**1.12**	**267**	*i* Pg	**Pn**	**22 57 02.3**	**+1.5**
BTKR				*e*Sg	**Sn**	**22 57 18.9**	**+2.4**
MAK	**Makhachkala**	**1.15**	**114**	*e*PG	**Pn**	**22 57 02.7**	**+1.6**
MAK				*e*		22 57 21.0	
MAK				pmax	pmax		
	comp=Z,70nm,0.5s						
MAK				smax	smax		
	comp=E,298nm,0.3s						
MAK				smax	smax		
	comp=E,353nm,0.4s						
MAK	**Makhachkala**	**1.15**	**114**	*e*Pg	**Pn**	**22 57 01.2**	**0.0**
MAK				*e*Sg	**Sn**	**22 57 19.6**	**+2.5**
GNBR	**Gunib**	**1.23**	**148**	*e*PG	**Pn**	**22 57 02.9**	**+0.6**
GNBR				*e*S	**Sn**	**22 57 19.9**	**+0.6**
GNBR				pmax	pmax		
	comp=Z,85nm,0.3s						
GNBR	**Gunib**	**1.23**	**148**	*e*Pg	**Pn**	**22 57 03.0**	**+0.6**
GNBR				*e*Sg	**Sn**	**22 57 20.0**	**+0.6**
ARNR	**Ardon**	**1.33**	**260**	*e*PG	**Pb**	**22 57 04.9**	**+1.0**
ARNR				*e*S	**Sn**	**22 57 24.6**	**+2.9**
ARNR				pmax	pmax		
	comp=Z,47nm,0.3s						
ARNR	**Ardon**	**1.33**	**260**	*e*Pg	**Pb**	**22 57 05.0**	**+1.0**
ARNR				*e*Sg	**Sn**	**22 57 24.6**	**+2.9**
PRTR	**Priterechnaya**	**1.34**	**284**	*e*PG	**Pb**	**22 57 05.2**	**+1.1**
PRTR				*e*S	**Sn**	**22 57 25.7**	**+3.8**
PRTR				pmax	pmax		
	comp=Z,104nm,0.2s						
PRTR	**Priterechnaya**	**1.34**	**284**	*e*Pg	**Pb**	**22 57 04.8**	**+0.7**
PRTR				*e*Sg	**Sn**	**22 57 25.3**	**+3.4**
MTEO	**Meteo**	**1.36**	**237**	P	**Pg**	**22 57 04.0**	**-0.7**
MTEO				S	**Sg**	**22 57 22.2**	**-0.2**
MTEO	**Meteo**	**1.36**	**237**	*e*PG	**Pg**	**22 57 04.0**	**-0.7**
MTEO				*e*S	**Sg**	**22 57 22.1**	**-0.2**
CHRG	**Chargali**	**1.39**	**218**	P	**Pn**	**22 57 04.5**	**-0.1**
CHRG				S	**Sb**	**22 57 23.4**	**+0.3**
LACR	**Lac**	**1.44**	**246**	*e*PG	**Pb**	**22 57 05.9**	**+0.1**
LACR				*e*S	**Sb**	**22 57 24.7**	**+0.3**
LACR	**Lac**	**1.44**	**246**	*e*Pg	**Pn**	**22 57 04.9**	**-0.3**
LACR				*e*Sg	**Sb**	**22 57 24.7**	**+0.3**
STDR	**Stavd-Durt**	**1.47**	**268**	*i* PG	**Pg**	**22 57 07.7**	**+1.0**
STDR				*e*S	**Sn**	**22 57 29.3**	**+4.2**
STDR	**Stavd-Durt**	**1.47**	**268**	*i* Pg	**Pg**	**22 57 07.7**	**+1.0**
STDR				*e*Sg	**Sn**	**22 57 28.7**	**+3.6**
KMKR	**Kumukh**	**1.51**	**150**	*e*PG	**Pg**	**22 57 07.3**	**-0.1**
KMKR				*i* S	**Sn**	**22 57 28.7**	**+2.4**
KMKR				pmax	pmax		
	comp=Z,138nm,0.5s						
KMKR				smax	smax		
	comp=E,411nm,0.4s						
KMKR	**Kumukh**	**1.51**	**150**	*e*Pg	**Pg**	**22 57 07.3**	**-0.1**
KMKR				*e*Sg	**Sn**	**22 57 27.7**	**+1.4**
KORR	**Kora**	**1.51**	**257**	*e*PG	**Pg**	**22 57 07.5**	**0.0**
KORR				*e*S	**Sg**	**22 57 29.8**	**+2.7**
KORR				pmax	pmax		
	comp=Z,28nm,0.2s						
KORR	**Kora**	**1.51**	**257**	*e*Pg	**Pg**	**22 57 07.5**	**0.0**
KORR				*e*Sg	**Sg**	**22 57 27.7**	**+0.7**
SGKR	**Sergokala**	**1.52**	**129**	*e*PG	**Pg**	**22 57 08.0**	**+0.3**
SGKR				*i* S	**Sg**	**22 57 29.2**	**+1.9**
SGKR				pmax	pmax		
	comp=Z,55nm,0.3s						
SGKR				smax	smax		
	comp=N,147nm,0.4s						
SGKR	**Sergokala**	**1.52**	**129**	*e*Pg	**Pg**	**22 57 08.0**	**+0.3**
SGKR				*e*Sg	**Sg**	**22 57 28.6**	**+1.3**
GUDG	**Gudauri**	**1.52**	**231**	P	**Pn**	**22 57 06.7**	**+0.2**
GUDG				S	**Sg**	**22 57 26.7**	**-0.9**
GUDG	**Gudauri**	**1.52**	**231**	*e*PG	**Pn**	**22 57 06.7**	**+0.2**
GUDG				*e*S	**Sg**	**22 57 26.6**	**-0.9**
LGD	**Lagodekhi**	**1.60**	**176**	P	**Pb**	**22 57 08.1**	**-0.5**
LGD				S	**Sb**	**22 57 29.4**	**+0.3**
LGD	**Lagodekhi**	**1.60**	**176**	*e*PG	**Pb**	**22 57 08.1**	**-0.5**
LGD				*e*S	**Sb**	**22 57 29.4**	**+0.3**
URKR	**Urkarakh**	**1.71**	**137**	*e*PN	**Pg**	**22 57 10.8**	**-0.5**
URKR				*i* S	**Sg**	**22 57 35.0**	**+1.5**
URKR				pmax	pmax		
	comp=Z,53nm,0.3s						
URKR				smax	smax		
	comp=N,93nm,0.4s						
URKR	**Urkarakh**	**1.71**	**137**	*e*Pg	**Pg**	**22 57 10.9**	**-0.5**
URKR				*e*Sg	**Sg**	**22 57 34.7**	**+1.2**
ZEI	**Tsey**	**1.72**	**249**	*e*PN	**Pb**	**22 57 10.1**	**-0.6**
ZEI				*e*S	**Sb**	**22 57 32.8**	**+0.2**
ZEI				pmax	pmax		
	comp=Z,70nm,0.2s						
ZEI				smax	smax		
	comp=E,457nm,0.3s						
ZEI	**Tsey**	**1.72**	**249**	*e*Pg	**Pb**	**22 57 10.1**	**-0.6**
ZEI				*e*Sg	**Sb**	**22 57 32.8**	**+0.2**
NCK	**Nalchik**	**1.81**	**273**	⇑*e*PN	**Pg**	**22 57 13.2**	**0.0**
NCK	**Nalchik**	**1.81**	**273**	*e*Pg	**Pn**	**22 57 10.9**	**+0.7**
NCK				*e*Sg	**Sb**	**22 57 34.6**	**-0.3**
ZKTA	**Zakatala**	**1.84**	**167**	P	**Pb**	**22 57 13.0**	**+0.3**
	SNR=15						
ZKTA				S	**Sg**	**22 57 39.0**	**+1.3**
ZKTA	**Zakatala**	**1.84**	**167**	PN	**Pb**	**22 57 12.9**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.90**	**254**	*e*PN	**Pb**	**22 57 13.1**	**-0.7**
DIGR				*e*S	**Sb**	**22 57 38.0**	**+0.1**
DIGR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
DIGR				smax	smax		
	comp=E,58nm,0.3s						
DIGR	**Digorskoe uzhe**	**1.90**	**254**	*e*Pg	**Pb**	**22 57 13.2**	**-0.7**
DIGR				*e*Sg	**Sb**	**22 57 38.0**	**+0.1**
KBTC	**Kuba-Taba**	**1.97**	**282**	*e*PN	**Pb**	**22 57 14.1**	**-0.8**
KBTC				*e*S	**Sb**	**22 57 40.6**	**+0.8**
KBTC	**Kuba-Taba**	**1.97**	**282**	*e*Pg	**Pb**	**22 57 14.2**	**-0.8**
KBTC				*e*Sg	**Sb**	**22 57 40.6**	**+0.8**
ONI	**Oni**	**2.10**	**247**	*e*P	**Pn**	**22 57 14.1**	**-0.2**
ONI				*e*S	**Sn**	**22 57 40.7**	**-0.1**
ONI	**Oni**	**2.10**	**247**	P	**Pn**	**22 57 15.7**	**+1.3**
ONI	**Oni**	**2.10**	**247**	*e*PN	**Pn**	**22 57 15.6**	**+1.3**
DRN	**Derbent**	**2.17**	**129**	*e*PN	**Pb**	**22 57 17.1**	**-1.2**
DRN				*e*S	**Sb**	**22 57 45.3**	**-0.2**
DRN				*i* S	**Sg**	**22 57 45.9**	**-2.5**
DRN				pmax	pmax		
	comp=Z,41nm,0.6s						
DRN				smax	smax		
	comp=E,129nm,0.3s						
DRN				smax	smax		
	comp=N,150nm,0.2s						
DRN				smax	smax		
	comp=N,119nm,0.2s						
VSHL	**Vashlovani**	**2.22**	**174**	P	**Pb**	**22 57 18.8**	**-0.2**
VSHL				S	**Sg**	**22 57 51.1**	**+1.4**
ALIG	**Mtskhetisjvari**	**2.23**	**234**	P	**Pn**	**22 57 16.5**	**+0.4**
ALIG	**Mtskhetisjvari**	**2.23**	**234**	*e*PN	**Pn**	**22 57 16.5**	**+0.4**
PYA1	**Pyatigorsk**	**2.25**	**287**	*ce*PN	**Pn**	**22 57 16.6**	**+0.3**
AKT	**Akhty**	**2.31**	**147**	*e*PN	**Pn**	**22 57 18.3**	**+1.1**
AKT				*e*S	**Sn**	**22 57 47.8**	**+1.9**
AKT				*i* S	**Sb**	**22 57 48.4**	**-1.0**
AKT				pmax	pmax		
	comp=Z,36nm,0.2s						
AKT				smax	smax		
	comp=E,139nm,0.4s						
AKT				smax	smax		
	comp=N,95nm,0.3s						
AKT				smax	smax		
	comp=E,105nm,0.4s						
KBZ	**Khabaz**	**2.33**	**278**	*c i*PN	**Pn**	**22 57 17.0**	**-0.3**
KBZ	**Khabaz**	**2.33**	**278**	*e*Pn	**Pn**	**22 57 17.0**	**-0.3**
KBZ				*e*Sn	**Sb**	**22 57 48.9**	**-1.0**
KBZ	**Khabaz**	**2.33**	**278**	Pn	**Pn**	**22 57 17.1**	**-0.2**
	comp=E,0.7nm,0.3s,baz=100,slow=1.9,SNR=21						
KBZ				Sn	**Sb**	**22 57 49.1**	**-0.7**
	comp=E,2.3nm,0.3s,baz=116,slow=17,SNR=5.8						
	comp=E,3.8nm,0.3s						
SEKA	**Sheki**	**2.38**	**159**	P	**Pb**	**22 57 20.6**	**-1.2**
	SNR=17						
SEKA				S	**Sb**	**22 57 51.8**	**+0.4**
SEKA	**Sheki**	**2.38**	**159**	PN	**Pb**	**22 57 20.6**	**-1.2**
KSMR	**Kasumkent**	**2.38**	**140**	*e*PN	**Pn**	**22 57 19.6**	**+1.5**
KSMR				*e*S	**Sb**	**22 57 50.1**	**-1.3**
KSMR				*i* S	**Sn**	**22 57 50.6**	**+3.0**
KSMR				pmax	pmax		
	comp=Z,39nm,0.3s						
KSMR				smax	smax		
	comp=E,279nm,0.3s						
KSMR				smax	smax		
	comp=N,225nm,0.4s						
KSMR				smax	smax		
	comp=E,247nm,0.4s						
TRLG	**Trialeti**	**2.39**	**218**	P	**Pn**	**22 57 20.1**	**+1.6**
TRLG				S	**Sb**	**22 57 52.8**	**+0.9**
TRLG	**Trialeti**	**2.39**	**218**	*e*PN	**Pn**	**22 57 20.0**	**+1.6**
TRLG				*e*S	**Sb**	**22 57 52.8**	**+0.9**
BEYR	**Belyy Ugol+**	**2.43**	**285**	*e*PN	**Pn**	**22 57 18.8**	**-0.1**
BEYR				*e*S	**Sn**	**22 57 48.9**	**0.0**
QZX	**Qazax, Azerbai**	**2.43**	**193**	P	**Pn**	**22 57 19.0**	**+0.1**
	SNR=5.9						
QZX				S	**Sn**	**22 57 46.2**	**-2.7**
BRNG	**Burnasheti**	**2.46**	**223**	P	**Pb**	**22 57 22.8**	**-0.5**
BRNG				S	**Sb**	**22 57 55.4**	**+1.6**
BRNG	**Burnasheti**	**2.46**	**223**	*e*PN	**Pb**	**22 57 22.7**	**-0.5**
BRNG				*e*S	**Sb**	**22 57 55.4**	**+1.6**
NEUR	**Neytrino**	**2.47**	**267**	⇑*e*PN	**Pn**	**22 57 20.5**	**+1.0**
NEUR	**Neytrino**	**2.47**	**267**	*e*Pn	**Pn**	**22 57 20.5**	**+1.0**
NEUR				*e*Sn	**Sn**	**22 57 51.0**	**+1.0**
SHA1	**Shidzhatmaz**	**2.50**	**278**	*e*PN	**Pn**	**22 57 19.8**	**-0.2**
SHA1				*e*S	**Sn**	**22 57 50.5**	**-0.4**
KVAR	**Kislovodsk Arr**	**2.51**	**283**	Pn	**Pn**	**22 57 20.4**	**+0.4**
	baz=90,slow=20						
KVAR				Sn	**Sn**	**22 57 51.3**	**+0.5**
	baz=197,slow=10						
	comp=E,2.3nm,0.3s						
QSAR	**Qusar**	**2.51**	**139**	P	**Pb**	**22 57 24.1**	**+0.1**
QSAR				S	**Sg**	**22 57 59.7**	**+0.5**
KIV	**Kislovodsk**	**2.51**	**283**	*e*P	**Pn**	**22 57 20.1**	**+0.1**
KIV	**Kislovodsk**	**2.51**	**283**	PN	**Pn**	**22 57 20.2**	**+0.2**
KIV				*e*S	**Sn**	**22 57 50.4**	**-0.6**
DMNI	**Dmanisi**	**2.53**	**214**	P	**Pn**	**22 57 21.0**	**+0.7**
DMNI	**Dmanisi**	**2.53**	**214**	*e*PN	**Pn**	**22 57 20.9**	**+0.7**
GOF	**Gofitskoye**	**2.72**	**308**	*e*PN	**Pn**	**22 57 23.8**	**+1.1**
GOF				*e*S	**Sb**	**22 57 59.7**	**-1.4**
GOF	**Gofitskoye**	**2.72**	**308**	*e*Sn	**Sb**	**22 57 59.7**	**-1.4**
GDB	**GEDABAY**	**2.72**	**185**	P	**Pn**	**22 57 24.1**	**+1.1**
	SNR=6.4						
GDB				S	**Sn**	**22 57 57.8**	**+1.5**
XNQ	**Khinaliq**	**2.73**	**145**	P	**Pb**	**22 57 25.8**	**-2.1**
XNQ				S	**Sb**	**22 58 03.0**	**+1.3**
QUBA	**Quba, Azerbaij**	**2.74**	**138**	P	**Pb**	**22 57 26.3**	**-1.7**
QUBA				S	**Sg**	**22 58 05.8**	**-0.9**
AKH	**Akhalkalaki**	**2.79**	**224**	*e*P	**Pn**	**22 57 23.2**	**-0.6**
GANJ	**Ganja**	**2.79**	**176**	P	**Pn**	**22 57 25.6**	**+1.7**
	SNR=6.0						
GANJ				S	**Sn**	**22 58 00.4**	**+2.6**
GANJ	**Ganja**	**2.79**	**176**	PN	**Pn**	**22 57 25.5**	**+1.7**
QBL	**Gabala**	**2.81**	**152**	P	**Pb**	**22 57 27.5**	**-1.7**
	SNR=8.7						
QBL				S	**Sb**	**22 58 05.7**	**+1.8**
IML	**Ismayilli**	**3.07**	**149**	P	**Pb**	**22 57 31.4**	**-2.2**
IML				S	**Sb**	**22 58 12.6**	**+1.2**
SIZA	**Siyzn**	**3.15**	**137**	P	**Pb**	**22 57 33.3**	**-1.8**
SIZA				S	**Sb**	**22 58 14.8**	**+1.0**
PQL	**Pirkuli**	**3.24**	**144**	P	**Pb**	**22 57 34.8**	**-1.8**
PQL				S	**Sb**	**22 58 15.4**	**-0.9**
ATGJ	**Altiaghaj**	**3.34**	**139**	P	**Pb**	**22 57 36.6**	**-1.6**
ATGJ				S	**Sb**	**22 58 18.5**	**-0.6**
AGDM	**Agdam**	**3.41**	**167**	P	**Pn**	**22 57 34.1**	**+1.7**
AGDM				S	**Sn**	**22 58 16.9**	**+3.8**
GNI	**Garni**	**3.43**	**197**	*e*P	**Pn**	**22 57 32.3**	**-0.4**
GNI	**Garni**	**3.43**	**197**	⇑*e*PN	**Pn**	**22 57 34.7**	**+2.0**
GNI	**Garni**	**3.43**	**197**	*e*Pn	**Pn**	**22 57 34.4**	**+1.6**
GNI				*e*Sn	**Sn**	**22 58 15.1**	**+1.3**
GNI	**Garni**	**3.43**	**197**	Pn	**Pn**	**22 57 33.8**	**+1.1**
	comp=E,1.0nm,0.3s,baz=346,slow=4.2,SNR=7.9						
GNI				Sn	**Sn**	**22 58 16.6**	**+2.9**
	comp=E,1.0nm,0.3s,baz=336,slow=18,SNR=2.3						
	comp=E,3.1nm,0.5s						
TASB	**TASBURUN-IGDIR**	**3.71**	**202**	*e*P	**Pn**	**22 57 36.3**	**-0.2**
SENK	**Senkaya-Erzuru**	**3.99**	**225**	*e*P	**Pn**	**22 57 40.5**	**0.0**
SBZ	**Shahbuz**	**4.05**	**186**	P	**Pn**	**22 57 43.7**	**+2.5**
SBZ				S	**Sn**	**22 58 27.1**	**-1.9**
GUZR	**Guzeripl'**	**4.36**	**279**	⇓*e*PN	**Pn**	**22 57 46.9**	**+1.6**
YRD	**Yardimli**	**4.80**	**159**	P	**Pn**	**22 57 52.6**	**+1.0**
	SNR=5.8						
YRD				S	**Sn**	**22 58 46.7**	**-0.8**
LRK	**Lerik**	**5.08**	**160**	P	**Pn**	**22 57 56.7**	**+1.2**
	SNR=5.8						
LRK				S	**Sn**	**22 58 56.6**	**+2.1**
BELG	**Belogornoye**	**9.02**	**6**	Pn	**Pn**	**22 58 46.6**	**-2.6**
	comp=E,0.4nm,0.3s,baz=42,slow=9.3,SNR=2.5						
BELG				Sn	**Sn**	**23 00 26.5**	**-4.6**
	comp=E,0.4nm,0.3s,baz=181,slow=0.7,SNR=1.6						
	comp=E,2.2nm,0.5s						
GEYT	**Alibeck**	**10.67**	**117**	Pn	**Pn**	**22 59 10.1**	**-1.8**
	comp=E,0.2nm,0.3s,baz=303,slow=15,SNR=2.2						
	comp=E,0.5nm,0.3s						
BRVK	**Borovoye**	**18.69**	**51**	⇑*e*P	**Pn**	**23 01 00.2**	**+2.5**
BRVK				pmax	pmax		
	comp=Z,12nm,3.9s						
AAK	**Ala-Archa**	**20.75**	**82**	⇑*e*P	Pn	23 01 22.6	+0.2
AAK				pmax	pmax		
	comp=Z,3.0nm,1.5s						
NOA	**NORSAR Array B**	**27.20**	**323**	P	**P**	**23 02 18.1**	**-4.6**
	comp=Z,0.9nm,1.0s,baz=117,slow=8.3,SNR=3.3						
	comp=Z,0.9nm,1.0s						

*IDC **20**23:11:43.7±1.0,6°.62N×72°.81W,h170km±11km,mb2.9/3, mbtmp3.6/5,Error ellipse: s-maj=40.0km s-min=8.2km az=132.0*

*RSNC **20**23:11:45.5±1.2,6°.84N×73°.16W,h145km±5km,ML3.4, Mw3.7*

ISC 20 23:11:44.0±0.8,6°.87N±0°.03×73°.14W±0°.04,h155km±6km, n43,σ1§61/79,mb3.2/3,3C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**188**	⇑*i*P	**Pn**	**23 12 05.3**	**-0.2**
BARC				*e*S	**Sn**	**23 12 20.0**	**-1.8**
BARC				*i*		23 12 21.3	
	comp=Z,1μm,0.3s						
PAMC	**Pamplona, Colo**	**0.64**	**43**	*e*P	**Pn**	**23 12 08.2**	**+0.8**
PAMC				*e*S	**Sn**	**23 12 25.4**	**+0.3**
PAMC				*i*		23 12 27.9	
	comp=Z,256nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.34**	**256**	⇑*i*P	**Pn**	**23 12 11.6**	**-0.8**
PTBC				*e*S	**Sn**	**23 12 33.1**	**-1.1**
PTBC				*i*		23 12 38.2	
	comp=Z,294nm,0.5s						
OCAC	**Ocana**	**1.38**	**353**	*e*P	**Pn**	**23 12 13.8**	**+0.9**
OCAC				*e*S	**Sn**	**23 12 36.0**	**+0.9**
OCAC				*i*		23 12 39.2	
	comp=Z,915nm,0.2s						
TAMC	**Tame, Arauca**	**1.41**	**108**	⇓*i*P	**Pn**	**23 12 13.7**	**+0.6**
TAMC				*e*S	**Sn**	**23 12 34.1**	**-1.3**
TAMC				*i*		23 12 34.7	
	comp=Z,215nm,0.3s						
SPBC	**San Pablo de B**	**1.52**	**217**	*e*P	**Pn**	**23 12 14.1**	**-0.2**
SPBC				*e*S	**Sn**	**23 12 36.4**	**-1.1**
SPBC				*i*		23 12 41.0	
	comp=Z,628nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.81**	**290**	*e*P	**Pn**	**23 12 17.6**	**+0.3**
ZARC				*e*S	**Sn**	**23 12 42.7**	**-0.3**
ZARC				*i*		23 12 49.5	
	comp=Z,328nm,0.3s						
ROSC	**El Rosal**	**2.33**	**210**	*e*P	**Pn**	**23 12 25.3**	**+1.5**
ROSC				*e*S	**Sn**	**23 12 55.6**	**+1.2**
ROSC	**El Rosal**	**2.33**	**210**	P	**Pn**	**23 12 25.0**	**+1.2**
	comp=Z,69nm,0.3s,baz=67,slow=19,SNR=103						
ROSC				S	**Sn**	**23 12 55.5**	**+1.1**
	comp=Z,352nm,0.3s,baz=358,slow=23,SNR=5.7						
CVER	**Cruz Verde, Cu**	**2.51**	**202**	*e*P	**Pn**	**23 12 26.8**	**+0.8**
CVER				*e*S	**Sn**	**23 12 58.4**	**0.0**
CVER				*i*		23 13 08.6	
	comp=Z,186nm,0.4s						
UREC	**San Jos de Ur**	**2.53**	**291**	*e*P	**Pn**	**23 12 24.9**	**-0.8**
UREC				*e*S	**Sn**	**23 12 55.7**	**-2.3**
UREC				*i*		23 13 07.4	
	comp=Z,327nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.75**	**234**	*e*P	**Pn**	**23 12 29.6**	**+0.7**
GUY2C				*e*S	**Sn**	**23 13 03.3**	**-0.3**
GUY2C				*i*		23 13 11.7	
	comp=Z,175nm,0.6s						
VILC	**Villavicencio,**	**2.79**	**191**	*e*P	**Pn**	**23 12 29.1**	**-0.1**
VILC				*e*S	**Sn**	**23 13 03.2**	**-0.8**
VILC				*i*		23 13 06.1	
	comp=Z,273nm,0.3s						
PTGC	**Puerto Gaitan,**	**2.83**	**159**	⇓*i*P	**Pn**	**23 12 28.4**	**-1.1**
PTGC				*e*S	**Sn**	**23 13 01.9**	**-2.9**
PTGC				*i*		23 13 04.8	
	comp=Z,108nm,0.2s						
RECRC	**Villamaria, Ca**	**2.90**	**229**	*e*P	**Pn**	**23 12 32.9**	**+2.0**
RECRC				*e*S	**Sn**	**23 13 10.1**	**+3.1**
NIZA	**Niza - Manizal**	**2.93**	**232**	*e*P	**Pn**	**23 12 33.6**	**+2.6**
NIZA				*e*S	**Sn**	**23 13 09.3**	**+1.9**
CBOC	**Ciudad Bolivar**	**3.02**	**251**	*e*P	**Pn**	**23

comp=Z,6.9nm,0.4s
BCIP Isla Barro Col 7.01 289 *e*P **Pn 23 13 24.0 -0.3**
BCIP *e*S **Sn 23 14 44.3 +1.3**
TXAR Lajitas Array 36.42 312 P **P 23 18 35.5 +1.6**
comp=Z,0.3nm,0.6s,baz=120,slow=8.2,SNR=3.8
comp=Z,0.3nm,0.6s
PDAR Pinedale Array 48.03 324 P **P 23 20 08.6 +0.8**
comp=Z,0.4nm,0.8s,baz=123,slow=9.2,SNR=2.5
comp=Z,0.4nm,0.8s
YKA Yellowknife Ar 63.21 340 P **P 23 21 56.0 +0.5**
comp=Z,0.3nm,0.6s,baz=134,slow=6.2,SNR=7.8
comp=Z,0.3nm,0.6s
WRA Warramunga Arr 150.34 241 PKPbc **PKPbc 23 31 15.8 -2.1**
comp=Z,0.2nm,0.4s,baz=109,slow=2.5,SNR=6.5

UPA ***20*** *23:24:34.3± 1.3, 8.48N× 84.01W, h15km± 13km, MW5.3*
IDC ***20*** *23:24:35.0± 0.7, 8.83N× 83.80W, h0km, mb4.2/14, mbtmp4.3/19, ML4.1/4, MS3.4/7, Error ellipse: s-maj=25.3km s-min=14.1km az=50.0*
CATAC ***20*** *23:24:35.8± 0.7, 8.64N× 83.85W, h5km± 4km, mb5.2, ML5.0*
UCR ***20*** *23:24:35.6± 1.0, 8.68N× 83.89W, h11km± 36km, MW5.2, MB4.7(NEIC)*
NEIC ***20*** *23:24:36.1± 1.8, 8.77N± 0.05× 83.88W± 0.04, h10km± 1km, mb4.7/69, Error ellipse: s-maj=8.0km s-min=6.6km az=190.0*
ISC 20 23:24:35.8± 1.1, 8.70N± 0.03× 83.87W± 0.03, h12km± 7km, n310, σ1s 29/330, mb4.7/58, MS3.4/4, 3C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCHAL	**Ojochal**	**0.45**	**30**	*i* P	**Pg**	**23 24 44.5**	**-0.3**
OCHAL				*i* S	**Sb**	**23 24 52.3**	**-0.2**
OCHAL				IAML		23 24 52.9	
	comp=Z,800nm,1.0s						
EDPN	**Palmar Norte**	**0.49**	**58**	*e*P	**Pg**	**23 24 45.2**	**-0.2**
JIME	**Puerto Jimenez**	**0.57**	**107**	*e*P	**Pg**	**23 24 47.0**	**+0.1**
PTJ1	**Puerto Jimnez**	**0.59**	**106**	*e*P	**Pg**	**23 24 47.1**	**-0.2**
PIRO	**Carate, Puerto**	**0.61**	**119**	*e*P	**Pg**	**23 24 47.3**	**-0.4**
PIRO	**Carate, Puerto**	**0.61**	**119**	*i* P	**Pg**	**23 24 47.1**	**-0.5**
PIRO				*i* S	**Sb**	**23 24 57.5**	**+0.6**
PIRO				IAML		23 24 57.8	
	comp=Z,57μm,1.0s						
EDAD	**Golfito**	**0.70**	**94**	*e*P	**Pg**	**23 24 48.6**	**-0.8**
BURE	**Buenos Aires**	**0.71**	**48**	*e*P	**Pg**	**23 24 49.0**	**-0.5**
FITO	**Golfito**	**0.72**	**96**	*e*P	**Pg**	**23 24 48.7**	**-1.0**
EDBA	**Buenos Aires**	**0.75**	**52**	*e*P	**Pg**	**23 24 49.3**	**-1.0**
SVQ2	**Quepos**	**0.78**	**338**	*e*P	**Pg**	**23 24 50.2**	**-0.8**
LLNJ	**Naranjito**	**0.80**	**344**	*e*P	**Pg**	**23 24 50.4**	**-0.9**
POTG	**Potrero Grande**	**0.82**	**65**	*e*P	**Pg**	**23 24 51.0**	**-0.8**
POTG	**Potrero Grande**	**0.82**	**65**	*i* P	**Pg**	**23 24 51.2**	**-0.6**
POTG				*i* S	**Sb**	**23 25 04.2**	**+1.0**
POTG				IAML		23 25 10.0	
	comp=Z,49μm,1.0s						
DRK0	**Durika**	**0.84**	**48**		**Pg**	**23 24 51.1**	**-0.9**
DRK0				Sg	**Sb**	**23 25 04.7**	**+1.0**
CDM	**Cerro de Muert**	**0.85**	**7**	*e*P	**Pg**	**23 24 51.1**	**-1.3**
CDM	**Cerro de Muert**	**0.85**	**7**	*i* P	**Pg**	**23 24 51.3**	**-1.1**
BUS1	**Rivas**	**0.86**	**8**	*e*P	**Pg**	**23 24 51.1**	**-1.4**
RAZU	**San Marcos de**	**0.96**	**351**	*e*P	**Pg**	**23 24 53.0**	**-1.4**
CDITO	**Canoas**	**1.00**	**97**		**Pg**	**23 24 53.7**	**-1.4**
CDITO	**Canoas**	**1.00**	**97**	*e*P	**Pg**	**23 24 53.6**	**-1.4**
CDITO	**Canoas**	**1.00**	**97**	*i* P	**Pg**	**23 24 54.0**	**-1.0**
CDITO				*i* S	**Sn**	**23 25 09.3**	**-0.4**
CDITO				IAML		23 25 25.2	
	comp=Z,20μm,1.0s						
ABE2	**San Pablo**	**1.01**	**350**	*e*P	**Pg**	**23 24 54.1**	**-1.3**
LCR2	**La Lucha 2**	**1.04**	**353**		**Pg**	**23 24 54.2**	**-1.7**
LCR2					**Sb**	**23 25 10.2**	**+0.5**
LCR2	**La Lucha 2**	**1.04**	**353**	*e*P	**Pg**	**23 24 54.2**	**-1.7**
LCR2	**La Lucha 2**	**1.04**	**353**	*i* P	**Pg**	**23 24 55.3**	**-0.6**
LCR2				*i* S	**Sn**	**23 25 12.3**	**+1.2**
RIMA	**Rio Macho**	**1.06**	**1**		**Pg**	**23 24 54.3**	**-1.9**
RIMA	**Rio Macho**	**1.06**	**1**	*e*P	**Pg**	**23 24 54.1**	**-2.1**
RIMA	**Rio Macho**	**1.06**	**1**	*i* P	**Pg**	**23 24 54.6**	**-1.6**
RIMA				*i* S	**Sn**	**23 25 11.9**	**+0.4**
PTPM	**Petroterminale**	**1.10**	**117**	*e*P	**Pb**	**23 24 55.6**	**-1.2**
CTCR	**Cotoan**	**1.12**	**80**	*e*P	**Pg**	**23 24 56.0**	**-1.3**
REPA	**Paraso**	**1.12**	**0**	*e*P	**Pb**	**23 24 56.7**	**-0.5**
TBLN	**Tablon, Guarco**	**1.12**	**354**	*i* P	**Pb**	**23 24 56.0**	**-1.3**
TBLN				*i* S	**Sn**	**23 25 13.5**	**+0.4**
ACOS	**Acosta**	**1.12**	**345**	*e*P	**Pb**	**23 24 55.7**	**-1.6**
BRU2	**Volcan**	**1.17**	**85**	Pn	**Pb**	**23 24 57.1**	**-1.1**
BRU2	**Volcan**	**1.17**	**85**	*e*P	**Pb**	**23 24 57.5**	**-0.6**
BRU2				*e*S	**Sn**	**23 25 15.4**	**+1.2**
BRU2	**Volcan**	**1.17**	**85**	*e*P	**Pb**	**23 24 57.0**	**-1.1**
BRU2	**Volcan**	**1.17**	**85**	*i* P	**Pb**	**23 24 57.6**	**-0.5**
BRU2				*i* S	**Sn**	**23 25 15.8**	**+1.6**
BRU2				IAML		23 25 19.4	
	comp=Z,37μm,1.0s						
OCM	**Ochomogo**	**1.19**	**356**	*e*P	**Pb**	**23 24 56.6**	**-1.8**
OCM	**Ochomogo**	**1.19**	**356**	*i* P	**Pb**	**23 24 56.8**	**-1.6**
OCM				*i* S	**Sn**	**23 25 16.3**	**+1.6**
VINA	**Juan Vinas**	**1.19**	**6**	*e*P	**Pb**	**23 24 57.2**	**-1.3**
AMPA	**Desamparados**	**1.20**	**351**	*e*P	**Pn**	**23 24 56.9**	**-1.7**
TRIO	**Tres Rios**	**1.20**	**354**	*e*P	**Pb**	**23 24 57.1**	**-1.5**
PCAYA	**Pacayas**	**1.21**	**3**	*e*P	**Pn**	**23 24 58.8**	**0.0**
TURIB	**Turrialba**	**1.21**	**9**	*e*P	**Pn**	**23 24 58.4**	**-0.3**
JACO	**JACO, Garabito**	**1.23**	**321**		**Pn**	**23 24 57.1**	**-1.8**
JACO	**JACO, Garabito**	**1.23**	**321**	*e*P	**Pn**	**23 24 56.6**	**-2.2**
JACO	**JACO, Garabito**	**1.23**	**321**	*i* P	**Pn**	**23 24 57.7**	**-1.2**
JACO				*i* S	**Sn**	**23 25 19.0**	**+3.6**
LUJA	**Lujan**	**1.23**	**351**	*e*P	**Pn**	**23 24 58.6**	**-0.4**
SJS3	**Mercedes San J**	**1.24**	**352**	*e*P	**Pn**	**23 24 58.1**	**-1.0**
SJS	**Escuela Geolog**	**1.24**	**352**	*e*P	**Pn**	**23 24 58.3**	**-0.9**
VERB	**Verbena**	**1.25**	**8**	*e*P	**Pn**	**23 24 58.2**	**-1.0**
MEXI	**Barrio Mexico**	**1.25**	**350**	*e*P	**Pn**	**23 24 58.2**	**-1.0**
LUPE	**Guadalupe**	**1.25**	**352**	*e*P	**Pn**	**23 24 58.6**	**-0.7**
BC3P	**Paso Ancho**	**1.25**	**85**	*e*P	**Pn**	**23 24 58.1**	**-1.3**
ICR3	**Volcano Irazu**	**1.27**	**2**	*e*P	**Pn**	**23 24 58.5**	**-1.2**
CORON	**Coronado**	**1.27**	**354**	*e*P	**Pn**	**23 24 59.0**	**-0.6**
VICA	**Volcano Irazu**	**1.28**	**1**	*e*P	**Pn**	**23 24 58.5**	**-1.3**
VTCV	**VTCV, Calle Va**	**1.28**	**7**	*e*P	**Pn**	**23 24 58.7**	**-1.1**
RVSTA	**Santa Teresita**	**1.29**	**10**	*e*P	**Pn**	**23 24 59.1**	**-0.6**
DOMI	**Santo Domingo**	**1.29**	**350**	*e*P	**Pn**	**23 24 59.4**	**-0.5**
VTLA	**Turrialba Volc**	**1.30**	**4**	*e*P	**Pn**	**23 24 59.0**	**-1.1**
BELE	**Belen**	**1.30**	**346**	*e*P	**Pn**	**23 24 59.7**	**-0.2**
HDC	**Heredia**	**1.31**	**350**		**Pn**	**23 24 59.1**	**-1.1**
HDC	**Heredia**	**1.31**	**350**	*e*P	**Pn**	**23 24 59.5**	**-0.6**
HDC	**Heredia**	**1.31**	**350**	*e*P	**Pn**	**23 24 59.0**	**-1.1**
HDC3	**Heredia 3**	**1.31**	**350**	*e*P	**Pn**	**23 24 58.8**	**-1.4**
HDC3	**Heredia 3**	**1.31**	**350**	*i* P	**Pn**	**23 24 59.5**	**-0.6**
CVTR	**Volcan Turrial**	**1.32**	**5**	*e*P	**Pn**	**23 24 59.2**	**-1.2**
CVIMO	**Finca Echandi**	**1.32**	**357**	*e*P	**Pn**	**23 24 59.1**	**-1.2**
BCO2	**Palmira**	**1.33**	**89**	*e*P	**Pn**	**23 24 59.8**	**-0.6**
BCO2				*e*S	**Sg**	**23 25 19.4**	**+0.7**
TRB2	**Turrubares**	**1.33**	**335**	*e*P	**Pn**	**23 24 58.2**	**-2.1**
BRIBI	**Bribri**	**1.36**	**48**	*e*P	**Pg**	**23 25 02.8**	**+0.8**
TCS1	**Tacares**	**1.40**	**343**	*e*P	**Pn**	**23 25 00.6**	**-0.7**
TCS1	**Tacares**	**1.40**	**343**	*i* P	**Pn**	**23 25 01.1**	**-0.2**
TCS1				IAML		23 25 27.0	
	comp=Z,100μm,1.0s						
LCOCO	**El Coco**	**1.41**	**13**	*e*P	**Pn**	**23 25 01.1**	**-0.2**
LNBQ3	**Los Naranjos,**	**1.42**	**86**	*e*P	**Pn**	**23 25 00.7**	**-0.9**
DVD	**David**	**1.43**	**100**	*e*P	**Pn**	**23 25 00.4**	**-1.2**
DVD				*e*S	**Sn**	**23 25 19.2**	**-1.2**
IRES	**Siquirres**	**1.43**	**15**	*e*P	**Pn**	**23 25 01.9**	**+0.3**
PEDE3	**Pedregal, Chir**	**1.47**	**102**	*e*P	**Pn**	**23 25 01.6**	**-0.6**
TAAN	**Batan**	**1.47**	**21**	*e*P	**Pn**	**23 25 02.6**	**+0.5**
VPTE	**Poasito**	**1.50**	**348**	*i* S	**Sg**	**23 25 26.0**	**+1.9**
RAMO	**San Ramon**	**1.50**	**337**	*e*P	**Pn**	**23 25 02.9**	**+0.2**
VPS6	**Volcano Poas**	**1.52**	**347**	*e*P	**Pn**	**23 25 03.2**	**0.0**
RGM0	**Gandoca**	**1.53**	**55**		**Pn**	**23 25 03.4**	**+0.4**
RGM0	**Gandoca**	**1.53**	**55**	*e*P	**Pb**	**23 25 04.4**	**+0.2**
POA5	**Crater Von Fra**	**1.54**	**347**	*e*P	**Pn**	**23 25 01.2**	**-2.1**
CNI2	**El Empalme, Bo**	**1.56**	**62**	*e*P	**Pn**	**23 25 03.0**	**-0.3**
CNI2				*e*S	**Sb**	**23 25 25.1**	**+0.8**
RIFO	**Rio Frio, Sara**	**1.61**	**358**	*e*P	**Pn**	**23 25 04.1**	**+0.1**
RIFO	**Rio Frio, Sara**	**1.61**	**358**	*i* P	**Pn**	**23 25 04.5**	**+0.5**
RIFO				IAML		23 25 39.9	
	comp=Z,18μm,1.0s						
CPMI	**Catarata Coope**	**1.65**	**342**	*e*P	**Pn**	**23 25 04.0**	**-0.8**
CPMI	**Catarata Coope**	**1.65**	**342**	*i* P	**Pn**	**23 25 05.1**	**+0.3**
CPMI				*i* S	**Sg**	**23 25 29.5**	**+0.6**
CPMI				IAML		23 25 31.1	
	comp=Z,8μm,1.0s						
CHGR2	**Aguacate**	**1.73**	**82**	*e*P	**Pn**	**23 25 05.5**	**-0.2**
CHGR2				*e*S	**Sb**	**23 25 29.2**	**0.0**
SOCE	**Pocosol**	**1.82**	**336**		**Pn**	**23 25 06.6**	**-0.5**
SOCE	**Pocosol**	**1.82**	**336**	*i* P	**Pb**	**23 25 08.4**	**-0.8**
SOCE				IAML		23 25 09.6	
	comp=Z,16μm,1.0s						
TRT2	**Tortugero**	**1.85**	**4**	*i* P	**Pn**	**23 25 08.2**	**+0.8**
TRT2				IAML		23 25 10.0	
	comp=Z,12μm,1.0s						
TRT2				*i* S	**Sg**	**23 25 35.9**	**+0.6**
JTS	**Las Juntas de**	**1.91**	**326**		**Pn**	**23 25 06.5**	**-1.7**
JTS	**Las Juntas de**	**1.91**	**326**	*e*P	**Pn**	**23 25 07.1**	**-1.0**
JTS	**Las Juntas de**	**1.91**	**326**	Pn	**Pn**	**23 25 08.8**	**+0.7**
	comp=Z,194nm,0.3s,baz=136,slow=5.0,SNR=108						
JTS				Sn	**Sg**	**23 25 40.7**	**+3.6**
	comp=Z,224nm,0.3s,baz=132,slow=21,SNR=11						
VACR	**Volcan Arenal**	**1.93**	**336**	*e*P	**Pn**	**23 25 08.2**	**-0.3**
VACR	**Volcan Arenal**	**1.93**	**336**	*i* P	**Pb**	**23 25 10.1**	**-0.9**
VACR				*i* S	**Sg**	**23 25 37.9**	**-0.1**
VACR				IAML		23 25 42.6	
	comp=Z,13μm,1.0s						
ARE1	**Arenal 1**	**1.94**	**335**		**Pn**	**23 25 08.8**	**+0.1**
INDI	**Punta indio, G**	**1.98**	**306**	*i* P	**Pn**	**23 25 08.0**	**-1.2**
COVE	**Coope Vega, Sa**	**2.07**	**346**		**Pn**	**23 25 10.3**	**-0.2**
COVE	**Coope Vega, Sa**	**2.07**	**346**	*i* P	**Pn**	**23 25 12.0**	**+1.5**
DUNO	**Dulce Nombre,**	**2.10**	**311**		**Pn**	**23 25 09.6**	**-1.3**
DUNO	**Dulce Nombre,**	**2.10**	**311**	*i* P	**Pn**	**23 25 10.3**	**-0.6**
NANC3	**Nancito, Chiri**	**2.17**	**102**	*e*P	**Pn**	**23 25 10.0**	**-1.8**
ORTG	**Ortega, Santa**	**2.27**	**317**		**Pn**	**23 25 13.4**	**+0.1**
ORTG	**Ortega, Santa**	**2.27**	**317**	*i* P	**Pn**	**23 25 13.8**	**+0.5**
VMAR	**Armenia, Volca**	**2.43**	**330**	*i* P	**Pb**	**23 25 17.7**	**-1.8**
VMAR				IAML		23 26 05.5	
	comp=Z,7μm,1.0s						
VRLE	**La Escondida,**	**2.54**	**325**	*i* P	**Pn**	**23 25 18.8**	**+1.8**
VRLE				IAML		23 26 08.9	
	comp=Z,2μm,1.0s						
HZTE	**Horizontes, Gu**	**2.62**	**320**	Pn	**Pn**	**23 25 18.2**	**+0.2**
HZTE	**Horizontes, Gu**	**2.62**	**320**	*i* P	**Pn**	**23 25 19.4**	**+1.4**
HZTE				IAML		23 26 27.1	
	comp=Z,3μm,1.0s						
RSUS3	**Rio de Jesus,**	**2.78**	**105**	*e*P	**Pn**	**23 25 19.9**	**-0.2**
SFRA3	**San Francisco,**	**2.91**	**99**	*e*P	**Pn**	**23 25 21.0**	**-0.9**
STIA3	**Santiago, Vera**	**2.93**	**102**	*e*P	**Pn**	**23 25 21.5**	**-0.8**
CALO3	**Calobre, Verag**	**3.02**	**97**	*e*P	**Pn**	**23 25 24.1**	**+0.6**
MARI3	**Mariato, Verag**	**3.04**	**110**	*e*P	**Pn**	**23 25 22.2**	**-1.6**
CRIS3	**El Cristo, Coc**	**3.25**	**98**	*e*P	**Pn**	**23 25 26.1**	**-0.5**
BLUN	**Bluefields**	**3.29**	**2**	*i* P	**Pn**	**23 25 28.2**	**+1.1**
BLUN				IAML		23 25 37.0	
	comp=Z,3μm,1.0s						
CONN	**Concepcion**	**3.33**	**329**	*i* P	**Pb**	**23 25 37.0**	**+2.2**
ACON	**Acoyapa**	**3.49**	**339**		**Pn**	**23 25 29.7**	**-0.2**
ACON	**Acoyapa**	**3.49**	**339**	*i* P	**Pn**	**23 25 32.0**	**+2.0**
ACON				IAML		23 25 44.3	
	comp=Z,1μm,1.0s						
ESPN	**Las Esperanzas**	**3.50**	**353**		**Pn**	**23 25 30.4**	**+0.4**
PNME	**Penonome**	**3.51**	**93**	*e*P	**Pn**	**23 25 29.8**	**-0.5**
AZU	**Azuero**	**3.68**	**104**	*e*P	**Pn**	**23 25 30.4**	**-2.1**
AZU				*e*S	**Sn**	**23 26 14.0**	**-1.8**
ACHO3	**Achotines, Los**	**3.88**	**109**	*e*P	**Pn**	**23 25 33.5**	**-1.8**
BCIP	**Isla Barro Col**	**4.01**	**83**	Pn	**Pn**	**23 25 38.6**	**+1.4**
BCIP	**Isla Barro Col**	**4.01**	**83**	*e*P	**Pn**	**23 25 37.5**	**+0.3**
BCIP	**Isla Barro Col**	**4.01**	**83**	*i* P	**Pn**	**23 25 39.2**	**+2.0**
BOAB	**BOACO BROADBAN**	**4.12**	**335**	Pn	**Pn**	**23 25 38.0**	**-0.7**
BOAB	**BOACO BROADBAN**	**4.12**	**335**	*i* P	**Pn**	**23 25 38.2**	**-0.4**
UPA	**Univ. de Panam**	**4.30**	**86**	*e*P	**Pn**	**23 25 40.7**	**-0.3**
UPA				*e*S	**Sn**	**23 26 31.7**	**+0.5**
COPN	**Copaltepe**	**4.37**	**323**	*i* P	**Pn**	**23 25 43.6**	**+1.5**
COPN				IAML		23 26 00.9	
	comp=Z,620nm,1.0s						
MOMN	**Momotombo**	**4.52**	**325**	*i* P	**Pn**	**23 25 47.7**	**+3.5**
MATN	**Matagalpa**	**4.66**	**335**		**Pn**	**23 25 46.6**	**+0.5**
MATN	**Matagalpa**	**4.66**	**335**	*i* P	**Pn**	**23 25 48.8**	**+2.6**
MATN				IAML		23 26 07.0	
	comp=Z,260nm,1.0s						
CNGA	**Al SSO del Vol**	**4.68**	**324**	*i* P	**Pn**	**23 25 49.4**	**+3.0**
CNGN	**Cerro Negro**	**4.69**	**324**		**Pn**	**23 25 46.4**	**-0.1**
CNGN	**Cerro Negro**	**4.69**	**324**	*i* P	**Pn**	**23 25 49.4**	**+2.9**
LIMN	**Finca el Limon**	**4.98**	**331**	*i* P	**Pn**	**23 25 53.0**	**+2.5**
LIMN				IAML		23 26 13.4	
	comp=Z,400nm,1.0s						
LIMN				IAmb	IAmb	23 26 15.6	
	comp=Z,380nm,1.2s						
CRIN	**San Cristobal**	**5.05**	**322**		**Pn**	**23 25 51.9**	**+0.4**
RCPN	**Sur Rio San Ju**	**5.27**	**336**	*i* P	**Pn**	**23 25 58.2**	**+3.7**
CSGN	**Cosiguina Volc**	**5.58**	**320**	*i* P	**Pn**	**23 26 00.5**	**+1.7**
CNCH	**Conchagua**	**5.98**	**320**	*i* P	**Pn**	**23 26 08.0**	**+3.7**
LCND	**La Caada**	**6.04**	**320**	*i* P	**Pn**	**23 26 08.2**	**+3.1**
TGUH	**Tegucigalpa,Un**	**6.28**	**328**	Pn	**Pn**	**23 26 09.3**	**+0.9**
PACA	**Pacayal**	**6.44**	**318**	*i* P	**Pn**	**23 26 13.9**	**+3.2**
SNET	**Serv Nac Est T**	**7.22**	**314**	Pn	**Pn**	**23 26 21.6**	**+0.3**
MTO3	**Montecristo**	**7.81**	**317**		**Pn**	**23 26 29.6**	**0.0**
ESQI	**Esquipulas**	**7.91**	**318**	Pn	**Pn**	**23 26 32.4**	**+1.6**
TULM	**Tulcn-Chalpat**	**9.98**	**142**		**Pn**	**23 27 00.7**	**+1.0**
OTAV	**Otavalo**	**9.99**	**147**	Pn	**Pn**	**23 27 00.9**	**+1.2**
OTAV	**Otavalo**	**9.99**	**147**	*e*P	**Pn**	**23 27 01.7**	**+1.9**
PETF	**Flores**	**10.04**	**325**	Pn	**Pn**	**23 27 01.4**	**+1.4**
IMBA	**Imbabura, San**	**10.10**	**146**	Pn	**Pn**	**23 27 02.5**	**+1.3**
PULU	**Pululahua**	**10.15**	**148**		**Pn**	**23 27 03.0**	**+1.2**
PRAC	**Pululahua**	**10.21**	**118**	Pn	**Pn**	**23 27 03.0**	**+0.5**
ROSC	**El Rosal**	**10.23**	**111**		**Pn**	**23 27 04.8**	**+1.8**
ROSC	**El Rosal**	**10.23**	**111**	Pn	**Pn**	**23 27 06.7**	**+3.7**
	baz=307,slow=14						
SLOR	**San Lorenzo -**	**10.79**	**150**		**Pn**	**23 27 12.8**	**+2.1**
CCIG	**Comitan**	**11.04**	**314**		**Pn**	**23 27 15.0**	**+1.2**
CHSH	**Refugio Sur-Vo**	**11.29**	**154**	Pn	**Pn**	**23 27 19.4**	**+1.8**
COHC	**Cochancay**	**12.01**	**157**		**Pn**	**23 27 28.2**	**+1.2**
TEIG	**Tepich**	**12.22**	**340**	Pn	**Pn**	**23 27 29.9**	**+0.1**
	comp=Z,2.5nm,0.3s,baz=92,slow=8.3,SNR=2.9						
	comp=Z,70nm,1.0s						
ARNL	**Arenillas**	**12.75**	**163**	Pn	**Pn**	**23 27 35.3**	**-1.7**
SDV	**Santo Domingo**	**13.09**	**88**	Pn	**Pn**	**23 27 41.4**	**-0.5**
SDV	**Santo Domingo**	**13.09**	**88**	*e*P	**Pn**	**23 27 46.6**	**+4.8**
SDV	**Santo Domingo**	**13.09**	**88**	Pn	**Pn**	**23 27 43.1**	**+1.3**
	comp=Z,5.3nm,0.8s,baz=278,slow=8.6,SNR=7.0						
SDV				LR	LR	23 34 41.6	
	comp=Z,165nm,18.3s,baz=261,slow=47						
CMIG	**Matias Romero**	**13.59**	**309**	Pn	**Pn**	**23 27 50.5**	**+2.1**
	comp=Z,1.1nm,0.3s,baz=111,slow=9.4,SNR=12						
	comp=Z,7.7nm,0.6s						
GTBY	**Guantanamo Bay**	**14.02**	**36**	Pn	**Pn**	**23 27 53.7**	**-0.7**
SOR	**Soroa**	**14.04**	**3**		**Pn**	**23 27 54.0**	**-0.7**
BAUV	**El Baul**	**15.65**	**88**		**Pn**	**23 28 16.6**	**+0.2**
ATAH	**Atahualpa**	**16.65**	**161**	Pn	**P**	**23 28 31.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=333,slow=5.3,SNR=9.8						
	comp=Z,18nm,1.0s						
TLIG	**Tlapa**	**16.79**	**303**		**Pn**	**23 28 29.0**	**-2.1**
TBTG	**Tabatinga, AM**	**18.92**	**132**	P	**P**	**23 28 56.5**	**-0.2**
PCRV	**Puerto La Cruz**	**19.04**	**84**	LR	LR	23 38 17.2	
	comp=Z,106nm,19.2s,slow=43						
SJG	**San Juan**	**19.60**	**60**	P	**P**	**23 29 03.1**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=16,slow=21,SNR=2.0						
SJG				LR	LR	23 36 33.7	
	comp=Z,79nm,18.7s,baz=238,slow=37						
	comp=Z,3.3nm,0.3s						
CZSB	**Cruzeiro do Su**	**19.76**	**145**	P	**P**	**23 29 04.5**	**-1.4**
CZSB				IAmb	IAmb	23 29 14.9	
	comp=Z,75nm,1.4s						
NNA	**Nana**	**21.71**	**161**	P	**P**	**23 29 26.8**	**-0.2**
NNA				IAmb	IAmb	23 29 30.2	
	comp=Z,41nm,1.1s						
NNA	**Nana**	**21.71**	**161**	P	**P**	**23 29 28.5**	**+1.5**
	comp=Z,13nm,0.6s,baz=352,slow=9.6,SNR=7.2						
	comp=Z,13nm,0.6s						
TEFE	**Tefe**	**22.70**	**122**	*e*P	**P**	**23 29 39.0**	**+1.5**
ZAIG	**Zacatecas**	**22.75**	**310**	P	**P**	**23 29 38.3**	**-0.1**
250A	**Grady**	**23.27**	**355**	P	**P**	**23 29 42.6**	**-0.7**
250A				IAmb	IAmb	23 29 46.5	
	comp=Z,60nm,1.3s						
152A	**Waverly Hall**	**23.86**	**358**	P	**P**	**23 29 48.0**	**-1.2**
HKT	**Hockley**	**23.93**	**334**	P	**P**	**23 29 48.3**	**-1.4**
BOAV	**Boa Vista**	**24.06**	**104**	P	**P**	**23 29 50.0**	**-1.2**
VBMS	**Vicksburg**	**24.20**	**346**	P	**P**	**23 29 51.4**	**-1.0**
146A	**Union**	**24.30**	**349**	P	**P**	**23 29 51.8**	**-1.5**
LRAL	**Lakeview Retre**	**24.39**	**354**	P	**P**	**23 29 52.7**	**-1.3**
LRAL				IAmb	IAmb	23 29 56.6	
	comp=Z,30nm,1.1s						
833A	**Chaparral WMA,**	**24.39**	**325**	P	**P**	**23 29 52.8**	**-1.3**
833A				IAmb	IAmb	23 29 57.8	
	comp=Z,18nm,1.2s						
435B	**Jarrell**	**25.43**	**332**	P	**P**	**23 30 01.6**	**-1.9**
435B				IAmb	IAmb	23 30 12.4	
	comp=Z,36nm,1.2s						
ETMB	**Extrema**	**25.45**	**136**	P	**P**	**23 30 03.5**	**-0.3**
ETMB				IAmb	IAmb	23 30 05.9	
	comp=Z,28nm,0.9s						
ETMB	**Extrema**	**25.45**	**136**	*e*P	**P**	**23 30 04.3**	**+0.5**
Y45A	**Yeager Farm, C**	**25.58**	**349**	P	**P**	**23 30 04.3**	**-0.6**
DRIO	**Del Rio**	**25.92**	**325**	P	**P**	**23 30 06.1**	**-1.9**
DRIO				IAmb	IAmb	23 30 16.7	
	comp=Z,8.1nm,1.1s						
BRDY	**Brady**	**26.52**	**330**	P	**P**	**23 30 11.8**	**-1.7**
BRDY				IAmb	IAmb	23 30 23.1	
	comp=Z,6.1nm,1.0s						
SAML	**Samuel**	**27.06**	**130**	P	**P**	**23 30 18.4**	**0.0**
SAML				IAmb	IAmb	23 30 21.2	
	comp=Z,12nm,1.0s						
SAML	**Samuel**	**27.06**	**130**	*e*P	**P**	**23 30 19.2**	**+0.8**
WVT	**Waverly**	**27.54**	**353**	P	**P**	**23 30 20.7**	**-1.9**
TXAR	**Lajitas Array**	**27.68**	**320**	P	**P**	**23 30 23.2**	**-0.9**
TXAR	**Lajitas Array**	**27.68**	**320**	P	**P**	**23 30 24.7**	**+0.7**
	comp=Z,1.0nm,1.1s,baz=130,slow=12,SNR=7.2						
	comp=Z,1.0nm,1.1s						
LCAR	**Lake Charles**	**28.04**	**347**	P	**P**	**23 30 25.2**	**-1.8**
LCAR				IAmb	IAmb	23 30 27.1	
	comp=Z,12nm,1.0s						
FCAR	**Ozark Folk Cen**	**28.09**	**346**	P	**P**	**23 30 25.9**	**-1.6**
FCAR				IAmb	IAmb	23 30 27.3	
	comp=Z,12nm,1.2s						
PBMO	**Poplar Bluff**	**28.58**	**349**	P	**P**	**23 30 30.4**	**-1.4**
PBMO				IAmb	IAmb	23 30 32.2	
	comp=Z,8.4nm,0.9s						
CGM3	**Cape Girardeau**	**28.95**	**350**	P	**P**	**23 30 33.3**	**-1.8**
CGM3				IAmb	IAmb	23 30 35.7	
	comp=Z,19nm,1.3s						
MGMO	**Mountain Grove**	**29.33**	**346**	P	**P**	**23 30 36.9**	**-1.6**
WCI	**Wyandotte Cave**	**29.48**	**356**	P	**P**	**23 30 38.5**	**-1.3**
WCI				IAmb	IAmb	23 30 41.3	
	comp=Z,26nm,1.1s						
CCM	**Cathedral Cave**	**29.97**	**348**	P	**P**	**23 30 42.0**	**-2.1**
CCM				IAmb	IAmb	23 30 44.1	
	comp=Z,7.2nm,0.8s						
OLIL	**Olney**

	comp=Z,15nm,1.0s							
LIC	**Lamto**	**78.09**	**85**	*e*P		**P**	**23 36 35.8**	**+0.4**
	comp=Z,20nm,1.0s							
DBIC	**Dimbokro**	**78.20**	**85**	P		**P**	**23 36 37.6**	**+1.6**
	comp=Z,5.3nm,0.9s,baz=269,slow=4.0,SNR=5.2							
	comp=Z,5.3nm,0.9s							
KIC	**Kosan Boka**	**78.36**	**85**	*e*P		**P**	**23 36 37.4**	**+0.5**
	comp=Z,6.4nm,0.9s							
BGES	**Gesves**	**82.71**	**40**	*d*P		**P**	**23 36 59.5**	**-0.1**
TOA0	**Torodi Ar. Sit**	**83.78**	**78**	P		**P**	**23 37 05.6**	**-0.1**
TOA0				IAmb		IAmb	23 37 16.6	
	comp=Z,8.5nm,1.4s							
TORD	**Torodi Ar. Bea**	**83.78**	**78**	P		**P**	**23 37 04.9**	**-0.9**
TORD				IAmb		IAmb	23 37 16.6	
	comp=Z,5.3nm,1.4s							
TORD	**Torodi Ar. Bea**	**83.78**	**78**	P		**P**	**23 37 06.8**	**+1.0**
	comp=Z,2.6nm,1.3s,baz=328,slow=5.3,SNR=5.2							
	comp=Z,2.6nm,1.3s							
NOA	**NORSAR Array B**	**84.92**	**29**	P		**P**	**23 37 12.2**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=277,slow=4.9,SNR=3.5							
	comp=Z,0.7nm,0.8s							
DAVA	**Damuels**	**86.22**	**43**	*e*P		**P**	**23 37 17.3**	**-0.3**
	comp=Z,5.1nm,1.0s							
RETA	**Reutte**	**86.78**	**43**	*e*P		**P**	**23 37 18.4**	**-1.9**
	comp=Z,4.8nm,1.3s							
FETA	**Feichten**	**86.83**	**43**	*e*P		**P**	**23 37 19.3**	**-1.4**
	comp=Z,5.4nm,1.1s							
MOTA	**Moosalm**	**87.03**	**43**	*e*P		**P**	**23 37 22.4**	**+0.8**
	comp=Z,9.7nm,1.6s							
SQTA	**Sankt Quirin**	**87.12**	**43**	*i* P		**P**	**23 37 22.3**	**+0.3**
	comp=Z,9.1nm,1.3s							
WATA	**Walderalm**	**87.35**	**43**	*e*P		**P**	**23 37 23.8**	**+0.7**
	comp=Z,7.6nm,1.5s							
WTTA	**Wattenberg**	**87.40**	**43**	*e*PcP		**P**	**23 37 24.4**	**+0.9**
	comp=Z,7.7nm,1.7s							
LESA	**Schwarzkopf**	**88.07**	**42**	*i* P		**P**	**23 37 25.0**	**-1.5**
	comp=Z,7.7nm,1.4s							
ABTA	**Abfaltersbach**	**88.08**	**43**	*i* P		**P**	**23 37 26.1**	**-0.5**
	comp=Z,7.6nm,1.7s							
BILL	**Bilibino**	**89.26**	**339**	P		**P**	**23 37 32.0**	**+0.4**
OBKA	**Obir**	**89.50**	**43**	*e*P		**P**	**23 37 33.4**	**+0.1**
	comp=Z,11nm,1.5s							
ARSA	**Arzberg**	**90.00**	**42**	*e*PcP		**PcP**	**23 37 36.7**	**-0.1**
	comp=Z,6.3nm,1.5s							
CONA	**Conrad Observa**	**90.07**	**42**	*i* pP		pP	23 37 39.0	-0.8
	comp=Z,6.2nm,1.4s							
RONA	**Rosalia, Austr**	**90.41**	**42**	*e*P		**P**	**23 37 37.1**	**-0.3**
	comp=Z,2.7nm,1.1s							
WMQ	**Urumqi**	**127.17**	**8**	*e*P		**PKiKP**	**23 43 41.8**	**+0.7**
HHC	**Hu-ho-hao-te**	**128.68**	**345**	*e*P		**PKPdf**	**23 43 39.6**	**-4.0**
GTA	**Gaotai**	**132.01**	**356**	*e*P		**PKiKP**	**23 43 51.0**	**-0.1**
GTA				pP		sPKPdf	23 43 59.6	+4.2
GTA				sP		pPKPdf	23 44 03.9	+10
GTA				pmax		pmax		
	comp=Z,3.0nm,1.1s							
ASAR	**Alice Springs**	**140.94**	**243**	PKP		**PKPdf**	**23 44 06.0**	**-0.9**
	comp=Z,0.5nm,1.0s,baz=157,slow=4.9,SNR=2.0							
WRA	**Warramunga Arr**	**141.42**	**249**	PKhKP		PKPpre	23 44 05.4	
	comp=Z,1.1nm,1.2s,baz=110,slow=2.5,SNR=3.5							
CMAR	**Chiang Mai Arr**	**152.87**	**354**	PKP		**PKPdf**	**23 44 28.1**	**+1.4**
	comp=Z,1.1nm,0.4s,baz=350,slow=1.1,SNR=4.4							
CMAR				PKPbc		**PKiKP**	**23 44 35.1**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=330,slow=2.9,SNR=8.4							
CMAR				PKPab		**PKPab**	**23 44 44.2**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=350,slow=3.7,SNR=8.4							

AEIC ***20*** *23:49:00.6±1.9,54°.48N±0°.07×161°.63W±0°.05,h22km±7km, Error ellipse: s-maj=10.2km s-min=3.8km az=173.0*

NEIC 20 23:48:59.8±2.2,54°.47N±0°.06×161°.61W±0°.04, h21km±11km,mb3.5/6,ML3.6/14,ML3.3(AEIC)**,Error ellipse: s-maj=9.3km s-min=3.4km az=173.0,Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DT1	**Dutton Round H**	**0.75**	**329**		Pb	23 49 14.0	-0.2
HAG	**Hague Volcano**	**0.87**	**349**		Pb	23 49 16.6	+0.3
PS4A	**Pavlof South-4**	**0.89**	**351**		Pb	23 49 16.8	+0.2
PVV	**Pavlof Volcano**	**0.92**	**354**		Pb	23 49 17.1	+0.1
PVV					Sn	23 49 30.2	+0.1
PS1A	**Pavlof South-1**	**0.96**	**356**		Pn	23 49 18.0	-0.1
PS1A					Sn	23 49 32.1	+1.0
PN7A	**Pavlof North-7**	**0.99**	**347**		Pn	23 49 19.1	+0.4
SDPT	**Sand Point**	**1.10**	**36**		Pn	23 49 19.5	-0.5
SDPT					Sn	23 49 34.7	+0.1
SDPT				IAML		23 49 36.8	
	comp=N,1μm,0.8s						
SDPT				IAML		23 49 36.9	
	comp=E,1μm,0.3s						
FALS	**False Pass**	**1.12**	**291**		Sn	23 49 35.2	+0.2
CNBA	**Chernabura Isl**	**1.23**	**72**		Pn	23 49 20.1	-1.6
CNBA					Sn	23 49 38.4	+0.7
ISLZ	**Isanotski Laza**	**1.25**	**283**		Pn	23 49 21.7	-0.4
ISLZ					Sn	23 49 38.3	0.0
SSLS	**Shishaldin Sou**	**1.41**	**281**		Pn	23 49 24.7	+0.4
SSLN	**Shishaldin Nor**	**1.43**	**285**		Pb	23 49 25.5	-0.3
WESE	**West Dahl East**	**1.73**	**271**		Pn	23 49 29.9	+1.1
VNKR	**Veniaminof 5**	**2.03**	**38**		Pn	23 49 33.7	+0.9
VNWF	**Veniaminof 8**	**2.06**	**34**		Pn	23 49 34.2	+1.0
VNFG	**Fog Glacier, M**	**2.17**	**32**		Pn	23 49 36.1	+1.3
VNFG				IAML		23 50 21.8	
	comp=N,468nm,1.1s						
VNFG				IAML		23 50 24.0	
	comp=E,462nm,0.7s						
VNSG	**Veniaminof 6**	**2.20**	**40**		Pn	23 49 36.4	+1.1
AKBBA	**Akutan Broad B**	**2.56**	**263**		Pn	23 49 41.1	+1.0
CHGN	**Chignik**	**2.59**	**43**		Pn	23 49 41.2	+0.7
CHGN				IAML		23 50 22.1	
	comp=E,163nm,0.3s						
CHIR	**Chirikof Islan**	**3.70**	**66**	Pn	Pn	23 49 54.9	-0.8
CHIR				IAML		23 50 22.7	
	comp=E,94nm,1.9s						
CHIR				IAML		23 52 01.5	
	comp=N,125nm,3.7s						
SII	**Sitkinak Islan**	**4.71**	**61**	Pn	Pn	23 50 08.7	-1.0
O14K	**Tigyukauivet M**	**4.80**	**2**	Pn	Pn	23 50 11.4	+0.5
O14K				IAML		23 53 05.3	
	comp=E,52nm,2.9s						
OHAK	**Old Harbor**	**5.44**	**56**	Pn	Pn	23 50 18.6	-1.1
O16K	**Kokwok River B**	**5.49**	**19**	Pn	Pn	23 50 21.3	+1.1
N15K	**Kwethluk River**	**5.78**	**8**	Pn	Pn	23 50 24.5	+0.2
KDAK	**Kodiak Island**	**6.04**	**53**	Pn	Pn	23 50 26.5	-1.4
M14K	**Bethel**	**6.31**	**358**	Pn	Pn	23 50 31.4	-0.1
O18K	**Koktuh Hills**	**6.43**	**30**	Pn	Pn	23 50 33.9	+0.7
N18K	**Kilae Creek**	**6.95**	**24**	Pn	Pn	23 50 40.1	-0.3
M17K	**Holitna River**	**7.30**	**16**	Pn	Pn	23 50 45.3	+0.1
TTA	**Tatalina**	**8.97**	**17**	Pn	Pn	23 51 07.9	-0.2
SUA	**Susitna One**	**9.08**	**35**	Pn	Pn	23 51 09.3	-0.2
SKT	**Skwentna**	**9.21**	**31**	Pn	Pn	23 51 12.0	+0.6
K20K	**Telida**	**9.72**	**21**	Pn	Pn	23 51 17.9	-0.4
KNK	**Knik Glacier**	**9.85**	**40**	Pn	Pn	23 51 19.6	-0.5
HIN	**Hinchinbrook I**	**10.07**	**48**	Pn	Pn	23 51 22.2	-0.9
J20K	**Nowinta River**	**10.45**	**18**	Pn	Pn	23 51 28.2	0.0
SCM	**Sheep Creek Mo**	**10.54**	**40**	Pn	Pn	23 51 28.4	-1.1
KLU	**Klutina**	**10.88**	**43**	Pn	Pn	23 51 32.9	-1.4
H21K	**Melozitna Rive**	**12.04**	**18**	Pn	Pn	23 51 49.2	-0.8
M26K	**Nabesna, AK**	**12.54**	**43**	Pn	Pn	23 51 56.3	-0.6
BCAR	**Beaver Creek A**	**13.36**	**42**	Pn	Pn	23 52 05.9	-2.2
O29M	**Mount Kennedy**	**13.69**	**55**	Pn	Pn	23 52 12.0	-0.6
M29M	**Somme Creek**	**14.44**	**47**	Pn	Pn	23 52 21.5	-1.4
L29M	**L29M**	**14.85**	**45**	Pn	Pn	23 52 28.2	-0.2
E24K	**Your Creek**	**14.98**	**19**	Pn	Pn	23 52 31.0	+0.9
M30M	**Minto, Yukon**	**15.21**	**48**	Pn	Pn	23 52 34.0	+0.9
M30M				IAmb	IAmb	23 53 03.6	
	comp=Z,5.1nm,1.4s						
I28M	**Miner Creek**	**15.35**	**36**	Pn	Pn	23 52 36.9	+1.8
I28M				IAmb	IAmb	23 52 46.5	
	comp=Z,3.8nm,1.4s						
B20K	**Meade River**	**15.73**	**6**	Pn	Pn	23 52 40.7	+0.9
H29M	**Whitestone**	**16.33**	**35**	Pn	Pn	23 52 47.7	+0.2
H29M				IAmb	IAmb	23 52 52.9	
	comp=Z,5.8nm,1.2s						
E29M	**Blow River**	**17.80**	**29**		Pn	23 53 05.4	-0.5
G31M	**Satah River**	**18.09**	**36**	Pn	Pn	23 53 07.6	-1.8
G31M				IAmb	IAmb	23 53 20.9	
	comp=Z,5.1nm,1.4s						

JMA ***20*** *23:49:16.9±0.3,44°.N±1°×14°.8E±°,h13km,MV4.0/27,E OFF HOKKAIDO*

SKHL ***20*** *23:49:18.3±0.2,44°.10N×147°.60E,h54km±4km,mb4.6/3*

ISC 20 23:49:18.6±3.8,44°.0N±0°.1×147°.6E±0°.2,h34km±3km,n18,σ1s00/29,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.57**	**254**	*i* P	**Pb**	**23 49 30.0**	**-0.4**
SHO				AMB	AMB	23 49 30.3	
	180nm,0.2s						
SHO				*i* S	**Sb**	**23 49 38.8**	**+0.3**
SHO				A	A	23 49 40.1	
	1μm,0.2s						
SHO				A	A	23 49 40.1	
	1μm,0.2s						
KUR	**Kuril'sk**	**1.22**	**9**	*e*P	Pn	23 49 36.8	-2.5
KUR				AMB	AMB	23 49 39.3	
	100nm,0.3s						
KUR				*e*S	Sn	23 49 50.3	-4.3
KUR				A	A	23 49 52.5	
	280nm,0.2s						
KUR				A	A	23 49 52.5	
	260nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.25**	**271**	*i* P	**Pn**	**23 49 38.5**	**-1.2**
YUK				AMB	AMB	23 49 39.4	
	370nm,0.3s						
YUK				*e*S	**Sn**	**23 49 53.6**	**-1.7**
YUK				A	A	23 49 56.9	
	660nm,0.3s						
YUK				A	A	23 49 56.9	
	1μm,0.3s						
NEM2	**Nemuro 2**	**1.50**	**244**	*e*P	**Pn**	**23 49 42.3**	**-0.8**
NEM2				*e*S	**Sn**	**23 50 00.7**	**-0.8**
NMR	**Nemuro--Hokkai**	**1.50**	**245**	*i* P	**Pn**	**23 49 42.3**	**-0.9**
NMR				*e*S	**Sn**	**23 50 00.3**	**-1.3**
JRA	**Rausu**	**1.79**	**268**	*e*P	**Pn**	**23 49 47.2**	**+0.1**
JRA				*e*S	**Sn**	**23 50 09.7**	**+1.1**
JNSB	**Nemuroshibetsu**	**1.89**	**263**	*e*P	**Pn**	**23 49 48.7**	**+0.2**
JKHN	**Kushirohamanak**	**2.01**	**243**	*e*P	**Pn**	**23 49 49.6**	**-0.4**
JKHN				*e*S	**Sn**	**23 50 14.3**	**+0.3**
JNK	**Nakash**	**2.13**	**259**	*e*P	**Pn**	**23 49 51.9**	**+0.1**
JNK				*e*S	**Sn**	**23 50 17.1**	**+0.1**
AKK	**Akkeshi**	**2.24**	**244**	*e*P	**Pn**	**23 49 52.6**	**-0.8**
AKK				*e*S	**Sn**	**23 50 18.5**	**-1.3**
JAK	**Akkeshi**	**2.35**	**245**	*e*P	**Pn**	**23 49 54.3**	**-0.5**
JAK				*e*S	**Sn**	**23 50 22.2**	**-0.2**
JTKR	**Abashiri--Toko**	**2.66**	**270**	*e*P	**Pn**	**23 49 59.2**	**+0.1**
JAR	**Ashorobuto**	**2.87**	**257**	*e*P	**Pn**	**23 50 02.3**	**+0.3**
JAR				*e*S	**Sn**	**23 50 37.0**	**+1.7**
JOB	**Onbets**	**2.96**	**249**	*e*P	**Pn**	**23 50 03.6**	**+0.4**
JOB				*e*S	**Sn**	**23 50 37.7**	**+0.2**
JMP	**Maruseppu**	**3.05**	**271**	*e*P	**Pn**	**23 50 05.4**	**+0.9**
JCH	**Churui**	**3.40**	**247**	*e*P	**Pn**	**23 50 09.0**	**-0.2**
JCH				*e*S	**Sn**	**23 50 48.8**	**+0.5**
JEM	**Erimo**	**3.83**	**240**	*e*P	**Pn**	**23 50 17.7**	**+2.6**
JNBK	**Urakawa-nobuka**	**3.95**	**245**	*e*P	**Pn**	**23 50 18.0**	**+1.2**

IDC 20 23:56:55.3±2.4,6°.89S×127°.79E,h0km,mb3.6/1, mbtmp3.3/3,ML3.4/2,Error ellipse: s-maj=292.0km s-min=31.6km az=65.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.45**	**155**	Pn	Pn	00 00 20.2	-1.1
	0.2nm,0.3s,baz=330,slow=14,SNR=9.3						
WRA				Sn	Sn	00 02 48.1	-14
	0.4nm,0.3s,baz=337,slow=22,SNR=8.9						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**17.69**	**161**	P	P	00 01 04.1	-0.2
	0.1nm,0.3s,baz=349,slow=9.6,SNR=2.7						
ASAR				S	Sn	00 04 13.1	-8.0
	0.3nm,0.6s,baz=347,slow=25,SNR=1.6						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**66.95**	**328**	P	P	00 07 49.7	0.0
	0.3nm,0.4s,baz=113,slow=7.2,SNR=8.3						
	0.3nm,0.4s						

IDC ***21*** *00:09:14.8±0.8,59°.85S×27°.69W,h104km±6km,mb4.0/8, mbtmp4.3/8,Error ellipse: s-maj=21.3km s-min=17.1km az=70.0*

NEIC ***21*** *00:09:15.1±1.2,59°.9S±0°.1×27°.7W±0°.2,h103km±8km, mb4.7/35,Error ellipse: s-maj=18.3km s-min=14.5km az=217.0*

ISC 21 00:09:13.7±0.5,60°.03S±0°.07×27°.57W±0°.09,h100km,n65, σ1s68/70,mb4.5/24,7C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORCD	**Orcadas**	**8.54**	**258**		**Pn**	**00 11 14.2**	**0.0**
VNA1	**Neumayer--Stat**	**13.27**	**151**	⇑P	**P**	**00 12 23.6**	**-0.2**
	comp=Z,6.4nm,0.3s						
VNA3	**Neumayer Olymp**	**13.38**	**155**	⇑P	**P**	**00 12 23.5**	**-1.5**
	comp=Z,14nm,0.6s						
VNA3				⇑S	**Sn**	**00 14 41.9**	**-4.2**
	comp=Z,3.4nm,0.8s						
VNA2	**Neumayer--Watz**	**13.67**	**151**	⇑P	**P**	**00 12 28.1**	**-0.2**
	comp=Z,2.9nm,0.5s,baz=309,slow=17						
SNAA	**Sanae**	**15.28**	**150**	Pn	**P**	**00 12 46.6**	**+0.5**
SNAA	**Sanae**	**15.28**	**150**	⇑P	**P**	**00 12 50.2**	**+4.1**
	comp=Z,95nm,0.7s						
SNAA				⇑S	**Sn**	**00 15 27.5**	**-4.5**
	comp=Z,59nm,0.8s						
SNAA	**Sanae**	**15.28**	**150**	P	**P**	**00 12 49.2**	**+3.1**
	comp=Z,2.5nm,0.6s,baz=344,slow=16,SNR=13						
SNAA				S	**Sn**	**00 15 27.4**	**-4.5**
	comp=Z,2.0nm,0.7s,baz=320,slow=23,SNR=1.8						
TROLL	**Troll, Antarti**	**16.87**	**148**	⇑P	**P**	**00 13 09.9**	**+6.1**
	comp=Z,25nm,0.2s						
BELA	**Belgrano 2**	**18.09**	**185**	P	**Pn**	**00 13 19.2**	**+1.3**
EFI	**East Falkland**	**18.90**	**283**	P	**Pn**	**00 13 27.5**	**-0.3**
QSPA	**South Pole Qui**	**30.21**	**180**	P	**P**	**00 15 16.8**	**+2.4**
	comp=Z,2.6nm,0.5s,baz=220,slow=1.9,SNR=3.0						
	comp=Z,2.6nm,0.5s						
TRQA	**Tornquist**	**30.92**	**300**	P	**P**	**00 15 21.3**	**+0.6**
PLCA	**Paso Flores**	**32.73**	**287**	P	**P**	**00 15 36.5**	**-0.1**
PLCA				IAmb	IAmb	00 15 57.2	
	comp=Z,15nm,1.5s						
PLCA	**Paso Flores**	**32.73**	**287**	P	**P**	**00 15 36.1**	**-0.4**
	comp=Z,2.9nm,0.6s,baz=148,slow=7.0,SNR=12						
	comp=Z,2.9nm,0.6s						
PLTB	**Pedras Altas**	**33.14**	**317**	P	**P**	**00 15 40.8**	**+0.6**
PLTB				IAmb	IAmb	00 15 41.9	
	comp=Z,12nm,0.7s						
GO06	**Curarrehue**	**34.06**	**287**	P	**P**	**00 15 47.2**	**-1.0**
GO06				IAmb	IAmb	00 15 50.3	
	comp=Z,15nm,1.3s						
ITQB	**Itaqui**	**36.11**	**314**	P	**P**	**00 16 05.1**	**-0.6**
ITQB				IAmb	IAmb	00 16 15.3	
	comp=Z,21nm,1.2s						
ITAB	**Concordia**	**36.84**	**322**	P	**P**	**00 16 12.5**	**+0.5**
ITAB				IAmb	IAmb	00 16 14.2	
	comp=Z,12nm,1.0s						
BI05	**Punta Hualpn**	**37.13**	**288**	P	**P**	**00 16 14.7**	**+0.3**
BO02	**Sierra Bellavi**	**37.59**	**293**	P	**P**	**00 16 17.7**	**-0.6**
BO02				IAmb	IAmb	00 16 23.2	
	comp=Z,10.0nm,0.8s						
GO05	**Huala**	**37.95**	**291**	P	**P**	**00 16 21.3**	**0.0**
MT09	**Talagante**	**38.53**	**293**	P	**P**	**00 16 26.3**	**0.0**
MT03	**Universidad Ad**	**38.54**	**294**	P	**P**	**00 16 26.6**	**+0.2**
MT01	**Popeta**	**38.58**	**293**	P	**P**	**00 16 26.3**	**-0.3**
PEL	**Peldehue**	**38.91**	**294**	P	**P**	**00 16 29.8**	**+0.4**
VA03	**San Esteban**	**39.17**	**295**	P	**P**	**00 16 32.6**	**+1.0**
VA03				IAmb	IAmb	00 16 33.5	
	comp=Z,21nm,0.8s						
CPUP	**Villa Florida**	**39.40**	**315**	P	**P**	**00 16 33.3**	**-0.2**
CPUP	**Villa Florida**	**39.40**	**315**	P	**P**	**00 16 33.5**	**+0.1**
	comp=Z,2.4nm,0.5s,baz=165,slow=9.0,SNR=8.1						
	comp=Z,2.4nm,0.5s						
CO01	**Juntas del Tor**	**41.32**	**297**	P	**P**	**00 16 51.0**	**+1.5**
CO01				IAmb	IAmb	00 16 52.2	
	comp=Z,12nm,1.0s						
SBA	**Scott Base**	**42.09**	**184**	P	**P**	**00 16 56.6**	**+1.7**
SBA				IAmb	IAmb	00 17 08.4	
	comp=Z,12nm,1.2s						
AC05	**El Transito**	**42.38**	**298**	P	**P**	**00 16 58.5**	**+0.5**
VNDA	**Vanda**	**42.58**	**183**	P	**P**	**00 17 01.5**	**+2.6**
VNDA	**Vanda**	**42.58**	**183**	P	**P**	**00 17 02.3**	**+3.3**
	comp=Z,2.5nm,0.6s,baz=184,slow=7.5,SNR=20						
	comp=Z,2.5nm,0.6s						
GO02	**Mina Guanaco**	**45.27**	**301**	P	**P**	**00 17 21.6**	**+0.2**
GO02				IAmb	IAmb	00 17 22.5	
	comp=Z,37nm,1.5s						
BDFB	**Brasilia**	**46.76**	**332**	P	**P**	**00 17 33.4**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=153,slow=11,SNR=2.0						
	comp=Z,1.0nm,0.4s						
LVC	**Limon Verde**	**47.24**	**304**	P	**P**	**00 17 36.7**	**-0.2**
BOSA	**Boshof**	**47.25**	**73**	P	**P**	**00 17 37.5**	**+0.9**
BOSA				IAmb	IAmb	00 17 39.2	
	comp=Z,11nm,1.3s						
BOSA	**Boshof**	**47.25**	**73**	P	**P**	**00 17 37.9**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=154,slow=14,SNR=2.1						
	comp=Z,1.9nm,0.8s						
PB07	**IPOC Station P**	**48.43**	**303**	P	**P**	**00 17 45.7**	**-0.2**
PB07				IAmb	IAmb	00 17 47.8	
	comp=Z,7.7nm,0.7s						
GO01	**Chusmiza**	**49.98**	**305**	P	**P**	**00 17 57.1**	**-1.0**
GO01				IAmb	IAmb	00 17 59.0	
	comp=Z,3.2nm,0.6s						
PTLB	**Pontes e Lacer**	**50.10**	**319**	P	**P**	**00 17 58.1**	**-0.2**
PTLB				IAmb	IAmb	00 17 59.1	
	comp=Z,5.9nm,0.7s						
LPAZ	**La Paz**	**52.60**	**308**	P	**P**	**00 18 17.3**	**-0.5**
VILB	**Vilhena**	**52.78**	**319**	P	**P**	**00 18 17.9**	**-0.5**
VILB				IAmb	IAmb	00 18 18.9	
	comp=Z,12nm,0.8s						
SAML	**Samuel**	**57.52**	**317**	P	**P**	**00 18 51.6**	**-0.8**
SAML				IAmb	IAmb	00 18 52.8	
	comp=Z,3.7nm,0.8s						
ETMB	**Extrema**	**57.79**	**313**	P	**P**	**00 18 53.2**	**-1.1**
ETMB				IAmb	IAmb	00 18 54.3	
	comp=Z,3.6nm,0.8s						
BOAV	**Boa Vista**	**67.35**	**324**	*e*P	**P**	**00 19 56.4**	**-1.5**
PRAC	**Prado**	**73.50**	**310**	*e*P	**P**	**00 20 34.9**	**-0.4**
JAMC	**Jamundi, Valle**	**73.74**	**308**	*e*P	**P**	**00 20 36.4**	**-0.5**
ORTC	**Ortega, Tolima**	**73.82**	**310**	*e*P	**P**	**00 20 36.5**	**-0.7**
PTBC	**PUERTO BERRIO,**	**75.93**	**312**	*e*P	**P**	**00 20 46.0**	**-3.3**
TOA0	**Torodi Ar. Sit**	**76.63**	**29**	P	**P**	**00 20 53.7**	**+0.5**
TORD	**Torodi Ar. Bea**	**76.63**	**29**	P	**P**	**00 20 53.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**76.63**	**29**	P	**P**	**00 20 53.7**	**+0.6**
	comp=Z,2.3nm,0.3s,baz=198,slow=6.2,SNR=60						
TORD				pP	**pP**	**00 21 18.8**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=199,slow=6.0,SNR=3.5						
	comp=Z,2.3nm,0.3s						
SDV	**Santo Domingo**	**76.72**	**316**	P	**P**	**00 20 53.0**	**-0.9**
SDV				IAmb	IAmb	00 20 54.0	
	comp=Z,4.9nm,0.7s						
TKNZ	**Takaka Hill**	**77.89**	**196**	P	**P**	**00 21 00.2**	**+0.2**
ASAR	**Alice Springs**	**95.24**	**163**	P	**P**	**00 22 26.5**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=183,slow=3.9,SNR=11						
	comp=Z,0.9nm,0.7s						
FINES	**FINESS Array B**	**127.98**	**29**	PKP	**PKPdf**	**00 28 05.4**	**-0.7**
	comp=Z,4.0nm,0.9s,baz=232,slow=1.6,SNR=2.2						
ARCES	**ARCESS Array B**	**134.70**	**23**	PKP	**PKPdf**	**00 28 18.6**	**0.0**
	comp=Z,3.1nm,0.9s,baz=198,slow=2.6,SNR=1.2						
BVAR	**Borovoye Array**	**136.98**	**61**	PKP	**PKiKP**	**00 28 25.0**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=192,slow=2.5,SNR=6.5						
BVAR				SKPbc	**SKPbc**	**00 31 45.8**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=253,slow=1.5,SNR=8.5						
MKAR	**Makanchi Array**	**138.21**	**76**	PKP	**PKiKP**	**00 28 27.5**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=218,slow=4.7,SNR=1.4						
YKA	**Yellowknife Ar**	**138.93**	**315**	PKP	**PKPdf**	**00 28 25.8**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=128,slow=2.5,SNR=4.0						
ZALV	**Zalesovo Beam**	**144.15**	**69**	PKP	PKPbc	00 28 34.3	-0.4
	comp=Z,1.9nm,0.4s,baz=220,slow=4.4,SNR=15						
ZALV				pPKP	pPKPdf	00 29 03.8	+0.6
	comp=Z,0.6nm,0.4s,baz=204,slow=3.5,SNR=2.2						
SONM	**Songino Array**	**150.91**	**94**	PKPbc	**PKiKP**	**00 28 53.9**	**-0.3**
	comp=Z,2.2nm,0.3s,baz=216,slow=3.4,SNR=25						
SONM				pPKPbc	**sPKPdf**	**00 29 23.0**	**-2.0**
	comp=Z,0.7nm,0.5s,baz=232,slow=1.6,SNR=5.3						
KDAK	**Kodiak Island**	**152.20**	**290**	PKPbc	**PKPbc**	**00 28 55.3**	**-0.7**
	comp=Z,1.7nm,0.4s,baz=85,slow=3.8,SNR=15						
ILAR	**Eielson Array**	**152.47**	**306**	PKPbc	**PKPbc**	**00 28 55.6**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=153,slow=1.9,SNR=19						

AEIC ***21*** *00:10:49.1±2.0,52°.0N±0°.1×171°.01W±0°.09,h27km±7km, Error ellipse: s-maj=17.4km s-min=3.8km az=154.0*

NEIC 21 00:10:51.3±2.1,52°.1N±0°.1×170°.99W±0°.07,h45km±15km, mb3.7/10,ML3.2(AEIC)**,Error ellipse: s-maj=20.6km s-min=4.0km az=164.0,Fox Islands**

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

*GII **21** 00:30:35.0±1.0, 35˚.55N×26˚.00E, h40km, MD3.4/1, Mm3.2/3*
*ATH **21** 00:30:35.8, 35˚.70N×25˚.57E, h68km±3km, ML3.2/10, Error ellipse: s-maj=3.7km s-min=1.3km az=174.0*
*THE **21** 00:30:36.6, 35˚.72N×25˚.57E, h55km±4km, ML3.1/10, Error ellipse: s-maj=4.1km s-min=0.8km az=196.0*
*IDC **21** 00:30:43.8±23.0, 36˚.07N×26˚.92E, h80km±47km, mb3.4/3, mbtmp3.6/5, ML4.1/2, Error ellipse: s-maj=405.0km s-min=49.3km az=57.0*

ISC 21 00:30:33.9±0.8, 35˚.60N±0˚.04×25˚.72E±0˚.04, h78km±8km, n106, σ1§89/137, mb3.7/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HRKL	**Herakleio**	**0.58**	**241**	P	**Pn**	**00 30 48.8**	**+0.6**
HRKL				S	**Sn**	**00 30 57.6**	**-1.1**
	2μm,0.4s						
HRKL	**Herakleio**	**0.58**	**241**	P	**Pn**	**00 30 48.8**	**+0.6**
HRKL				S	**Sn**	**00 30 58.6**	**-0.1**
HRKL				AML	AML	00 31 01.3	
	comp=N,10681μm,0.4s						
HRKL				AML	AML	00 31 03.6	
	comp=E,9257μm,0.3s						
FRMA	**Ierapetra Chan**	**0.58**	**179**	P	**Pn**	**00 30 51.2**	**+3.0**
FRMA				S	**Sn**	**00 31 02.4**	**+3.6**
	comp=E,530nm,0.2s						
FRMA	**Ierapetra Chan**	**0.58**	**179**	P	**Pn**	**00 30 51.2**	**+3.0**
FRMA				AML	AML	00 31 03.1	
	comp=N,2656μm,0.2s						
FRMA				AML	AML	00 31 03.8	
	comp=E,3620μm,0.3s						
IACM	**Heraklion**	**0.60**	**241**	P	**Pn**	**00 30 48.7**	**+0.3**
IACM				S	**Sn**	**00 30 57.2**	**-2.0**
IACM	**Heraklion**	**0.60**	**241**	P	**Pn**	**00 30 49.0**	**+0.6**
IACM				S	**Sn**	**00 30 58.4**	**-0.8**
ZKR	**Zakros**	**0.63**	**140**	P	**Pn**	**00 30 51.6**	**+2.9**
ZKR				S	**Sn**	**00 31 02.9**	**+3.2**
	comp=E,2μm,0.3s						
ZKR	**Zakros**	**0.63**	**140**	P	**Pn**	**00 30 51.6**	**+2.9**
ZKR				S	**Sn**	**00 31 03.0**	**+3.2**
ZKR				AML	AML	00 31 03.6	
	comp=E,4961μm,0.3s						
ZKR				AML	AML	00 31 03.7	
	comp=N,1304μm,0.4s						
IDI	**Anoyia**	**0.74**	**246**	P	**Pn**	**00 30 50.0**	**+0.1**
IDI				S	**Sn**	**00 31 00.4**	**-1.5**
	comp=N,2μm,0.4s						
IDI	**Anoyia**	**0.74**	**246**	P	**Pn**	**00 30 50.1**	**+0.1**
IDI				S	**Sn**	**00 31 00.4**	**-1.5**
IDI				AML	AML	00 31 00.6	
	comp=N,2624μm,0.3s						
IDI				AML	AML	00 31 00.7	
	comp=E,2210μm,0.2s						
THR6	**Thira Island,**	**0.80**	**341**	P	**Pn**	**00 30 50.3**	**-0.2**
THR6	**Thira Island,**	**0.80**	**341**	P	**Pn**	**00 30 50.5**	**0.0**
THR9	**Santorini-Faro**	**0.81**	**339**	P	**Pn**	**00 30 49.5**	**-1.1**
THR9	**Santorini-Faro**	**0.81**	**339**	P	**Pn**	**00 30 49.4**	**-1.1**
THR8	**Santorini-Mono**	**0.83**	**347**	P	**Pn**	**00 30 49.5**	**-1.3**
THR8	**Santorini-Mono**	**0.83**	**347**	P	**Pn**	**00 30 49.5**	**-1.3**
SNT5	**Nea Kammeni, S**	**0.84**	**342**	P	**Pn**	**00 30 51.0**	**0.0**
SNT5				S	**Sn**	**00 31 02.6**	**-1.1**
THR3	**Thira Island,**	**0.85**	**342**	P	**Pn**	**00 30 49.8**	**-1.2**
THR3	**Thira Island,**	**0.85**	**342**	P	**Pn**	**00 30 49.8**	**-1.2**
THT2	**Imerovigli**	**0.87**	**344**	P	**Pn**	**00 30 51.3**	**0.0**
THR2	**Thira island,**	**0.88**	**345**	P	**Pn**	**00 30 51.3**	**0.0**
CMBO	**Columbo, Santo**	**0.91**	**344**	P	**Pn**	**00 30 52.0**	**+0.3**
CMBO				S	**Sn**	**00 31 02.5**	**-2.5**
	comp=E,1μm,0.3s						
CMBO	**Columbo, Santo**	**0.91**	**344**	P	**Pn**	**00 30 51.9**	**+0.3**
CMBO				AML	AML	00 31 06.1	
	comp=N,3852μm,0.4s						
CMBO				AML	AML	00 31 07.4	
	comp=E,2415μm,0.3s						
TMBK	**Timbaki Herakl**	**0.94**	**236**	P	**Pn**	**00 30 53.3**	**+1.3**
TMBK	**Timbaki Herakl**	**0.94**	**236**	P	**Pn**	**00 30 53.3**	**+1.3**
KARP	**Karpathos**	**1.18**	**92**	P	**Pn**	**00 30 57.5**	**+2.5**
KARP				S	**Sn**	**00 31 14.3**	**+3.4**
	comp=E,840nm,0.4s						
KARP	**Karpathos**	**1.18**	**92**	P	**Pn**	**00 30 57.5**	**+2.5**
KARP				AML	AML	00 31 15.4	
	comp=E,1586μm,0.3s						
KARP				AML	AML	00 31 15.7	
	comp=N,1400μm,0.3s						
CHAN	**Chania**	**1.37**	**267**	P	**Pn**	**00 30 57.4**	**0.0**
IMMV	**Iera Moni Meta**	**1.42**	**265**	P	**Pn**	**00 30 58.4**	**+0.3**
IMMV				S	**Sn**	**00 31 14.7**	**-1.7**
	comp=N,518nm,0.4s						
IMMV	**Iera Moni Meta**	**1.42**	**265**	P	**Pn**	**00 30 58.5**	**+0.3**
IMMV				AML	AML	00 31 16.8	
	comp=N,1157μm,0.2s						
IMMV				AML	AML	00 31 18.2	
	comp=E,1425μm,0.3s						
APE	**Apeiranthos**	**1.48**	**354**	Pn	**Pn**	**00 30 59.1**	**+0.2**
APE	**Apeiranthos**	**1.48**	**354**	P	**Pn**	**00 30 59.1**	**+0.2**
APE				S	**Sn**	**00 31 16.2**	**-1.5**
	comp=E,455nm,0.2s						
APE	**Apeiranthos**	**1.48**	**354**	P	**Pn**	**00 30 59.1**	**+0.2**
APE				AML	AML	00 31 17.2	
	comp=E,1053μm,0.3s						
APE				AML	AML	00 31 17.7	
	comp=N,758μm,0.2s						
MHLO	**Agia Marina, M**	**1.52**	**316**	P	**Pn**	**00 30 59.4**	**0.0**
MHLO				S	**Sn**	**00 31 15.6**	**-3.1**
	comp=N,948nm,0.3s						
MHLO	**Agia Marina, M**	**1.52**	**316**	P	**Pn**	**00 30 59.3**	**0.0**
NISR	**Nísiros**	**1.52**	**48**	P	**Pn**	**00 31 00.7**	**+1.3**
GVD	**Gavdhos**	**1.54**	**241**	P	Pn	00 31 01.2	+1.6
GVD				S	**Sn**	**00 31 19.9**	**+0.9**
	comp=N,445nm,0.5s						
GVD	**Gavdhos**	**1.54**	**241**	P	Pn	00 31 01.2	+1.6
GVD				AML	AML	00 31 21.3	
	comp=E,980μm,0.5s						
GVD				AML	AML	00 31 22.0	
	comp=N,796μm,0.5s						
RODP	**Rodopos**	**1.60**	**269**	P	**Pn**	**00 31 00.3**	**-0.1**
YAZI	**Mula-Datşa-**	**1.77**	**52**	P	**Pn**	**00 31 04.6**	**+1.9**
YAZI				*i* AML	AML	00 31 26.0	
	comp=N,29nm,0.7s						
YAZI				S	**Sn**	**00 31 26.4**	**+1.8**
YAZI				*i* AML	AML	00 31 27.0	
	comp=N,41nm,0.9s						
DAT	**Datca**	**1.88**	**53**	P	**Pn**	**00 31 06.4**	**+2.2**
DAT				S	**Sn**	**00 31 29.1**	**+1.8**
DAT				*i* AML	AML	00 31 30.0	
	comp=N,56nm,0.3s						
DAT				*i* AML	AML	00 31 33.0	
	comp=N,47nm,0.2s						
ANKY	**Antikythira Is**	**1.98**	**278**	P	**Pn**	**00 31 04.9**	**-0.6**
ANKY	**Antikythira Is**	**1.98**	**278**	P	**Pn**	**00 31 04.7**	**-0.8**
BDRM	**Kayabasi**	**2.02**	**43**	P	**Pn**	**00 31 08.4**	**+2.4**
BDRM				S	**Sn**	**00 31 31.6**	**+1.1**
BDRM				*i* AML	AML	00 31 51.0	
	comp=N,15nm,1.0s						
ARG	**Arkhangelos**	**2.05**	**72**	P	**Pn**	**00 31 09.3**	**+3.0**
ARG	**Arkhangelos**	**2.05**	**72**	P	**Pn**	**00 31 09.3**	**+3.0**
ARG				AML	AML	00 31 34.9	
	comp=E,887μm,0.3s						
ARG				AML	AML	00 31 37.3	
	comp=N,487μm,0.2s						
SMG	**Samos**	**2.29**	**23**	P	**Pn**	**00 31 10.7**	**+1.1**
TURN	**Turunc**	**2.36**	**59**	P	**Pn**	**00 31 13.4**	**+3.0**
TURN				S	**Sn**	**00 31 41.4**	**+2.9**
TURN				*i* AML	AML	00 31 42.0	
	comp=N,69nm,0.3s						
TURN				*i* AML	AML	00 31 43.0	
	comp=N,67nm,0.4s						
GCAM	**G?zelcaml?**	**2.43**	**30**	P	**Pn**	**00 31 15.0**	**+3.6**
GCAM				S	**Sn**	**00 31 41.9**	**+1.7**
GCAM				*i* AML	AML	00 31 46.0	
	comp=N,22nm,0.7s						
GCAM				*i* AML	AML	00 32 16.0	
	comp=N,36nm,1.9s						
VLI	**Veliai**	**2.51**	**297**	P	**Pn**	**00 31 12.0**	**-0.5**
MULA	**Mugla, Merkez-**	**2.67**	**51**	P	**Pn**	**00 31 18.1**	**+3.3**
MULA				S	**Sn**	**00 31 50.9**	**+4.6**
MULA				*i* AML	AML	00 31 54.0	
	comp=N,22nm,0.9s						
MULA				*i* AML	AML	00 31 55.0	
	comp=N,22nm,0.4s						
VLY	**Voula,Athens**	**2.73**	**326**	P	**Pn**	**00 31 15.7**	**+0.2**
KRND	**KRANIDI**	**2.73**	**311**	P	**Pn**	**00 31 15.8**	**+0.3**
KRND				S	**Sn**	**00 31 45.9**	**-1.6**
KRND	**KRANIDI**	**2.73**	**311**	P	**Pn**	**00 31 15.8**	**+0.3**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATHU	**Athens Univers**	**2.83**	**327**	P	**Pn**	**00 31 17.5**	**+0.6**
DION	**Dionisos Attik**	**2.86**	**330**	P	**Pn**	**00 31 19.0**	**+1.7**
ATH	**Athens Observa**	**2.86**	**326**	P	**Pn**	**00 31 18.0**	**+0.8**
SABU	**Mula-Dalaman**	**2.90**	**64**	P	**Pn**	**00 31 20.8**	**+3.0**
SABU				S	**Sn**	**00 31 55.0**	**+3.3**
SABU				*i* AML	AML	00 31 59.0	
	comp=N,33nm,0.7s						
SABU				*i* AML	AML	00 32 02.0	
	comp=N,34nm,0.3s						
EPID	**Epidavros**	**2.90**	**315**	P	**Pn**	**00 31 18.1**	**+0.2**
FETY	**Fethiye**	**2.91**	**68**	P	**Pn**	**00 31 22.0**	**+4.0**
IZZE	**Mula-Seydike**	**2.96**	**73**	P	**Pn**	**00 31 21.4**	**+2.7**
IZZE				S	**Sn**	**00 31 54.6**	**+1.4**
IZZE				*i* AML	AML	00 31 57.0	
	comp=N,52nm,0.3s						
IZZE				*i* AML	AML	00 32 09.0	
	comp=N,64nm,0.4s						
ESEN	**Aydn-Nazilli**	**3.05**	**43**	P	**Pn**	**00 31 22.7**	**+2.9**
ESEN				*i* AML	AML	00 32 13.0	
	comp=N,7.3nm,0.8s						
ESEN				*i* AML	AML	00 32 28.0	
	comp=N,6.3nm,0.9s						
TAVA	**DENIZLI_Tavas**	**3.18**	**53**	P	**Pn**	**00 31 25.1**	**+3.4**
TAVA				*i* AML	AML	00 32 05.0	
	comp=N,10nm,0.2s						
TAVA				*i* AML	AML	00 32 07.0	
	comp=N,10nm,0.5s						
VIL2	**Platees**	**3.27**	**324**	P	**Pn**	**00 31 22.5**	**-0.3**
LTK	**Loutraki**	**3.27**	**318**	P	**Pn**	**00 31 23.4**	**+0.5**
PYL	**PYLOS**	**3.46**	**293**	P	**Pn**	**00 31 24.9**	**-0.6**
GUR	**Goura**	**3.58**	**312**	P	**Pn**	**00 31 26.6**	**-0.5**
GUR	**Goura**	**3.58**	**312**	P	**Pn**	**00 31 26.6**	**-0.5**
SIGR	**SIGRI**	**3.61**	**2**	P	**Pn**	**00 31 28.3**	**+0.9**
LAKA	**Lakka**	**3.99**	**312**	P	**Pn**	**00 31 32.1**	**-0.6**
AGG	**Agios Georgios**	**4.36**	**323**	P	**Pn**	**00 31 38.1**	**+0.5**
CSS	**Mathiatis**	**6.26**	**94**	Pn	**Pn**	**00 32 02.5**	**-1.1**
MMA0B	**Mount Meron ar**	**8.42**	**105**	Pn	**Pn**	**00 32 32.1**	**-1.0**
MMA0B				Sn	**Sn**	**00 34 02.7**	**-3.9**
MMAI	**Mount Meron Ar**	**8.42**	**105**	P	**Pn**	**00 32 32.1**	**-1.0**
	comp=N,2.4nm,0.3s,baz=305,slow=12,SNR=16						
	comp=N,0.8nm,0.3s						
SLTI	**Sal'it**	**8.44**	**111**	P	**Pn**	**00 32 33.1**	**-0.3**
GEM	**Giv'at Ha'Em**	**8.56**	**103**	Pn	**Pn**	**00 32 34.5**	**-0.4**
GEM				Sn	**Sn**	**00 34 07.0**	**-2.9**
GEM	**Giv'at Ha'Em**	**8.56**	**103**	P	**Pn**	**00 32 34.2**	**-0.7**
NATI	**Neve Ativ**	**8.60**	**103**	Pn	**Pn**	**00 32 34.8**	**-0.7**
NATI				Sn	**Sn**	**00 34 08.0**	**-2.8**
NATI	**Neve Ativ**	**8.60**	**103**	P	**Pn**	**00 32 34.7**	**-0.7**
SALP	**Salfit**	**8.63**	**111**	Pn	**Pn**	**00 32 34.1**	**-1.9**
SALP				Sn	**Sn**	**00 34 08.5**	**-3.2**
KZIT	**Kziot**	**8.64**	**120**	Pn	**Pn**	**00 32 34.6**	**-1.5**
KZIT				Sn	**Sn**	**00 34 07.7**	**-4.3**
AMAZ	**Amatzia**	**8.68**	**115**	Pn	**Pn**	**00 32 35.8**	**-0.9**
AMAZ				Sn	**Sn**	**00 34 08.5**	**-4.4**
HMDT	**Nahal Hemdat**	**8.81**	**109**	P	**Pn**	**00 32 37.6**	**-0.8**
UJAP	**Al Uja**	**8.89**	**111**	Pn	**Pn**	**00 32 38.3**	**-1.2**
YTIR	**Yattir**	**8.91**	**116**	Pn	**Pn**	**00 32 39.2**	**-0.7**
YTIR				Sn	**Sn**	**00 34 15.5**	**-3.2**
YTIR	**Yattir**	**8.91**	**116**	P	**Pn**	**00 32 38.6**	**-1.3**
DSI	**Dead Sea**	**9.01**	**114**	Pn	**Pn**	**00 32 40.2**	**-0.9**
DSI	**Dead Sea**	**9.01**	**114**	P	**Pn**	**00 32 40.5**	**-0.6**
MSBI	**Mazada**	**9.12**	**115**	Pn	**Pn**	**00 32 42.0**	**-0.5**
KRMI	**Paran Flat**	**9.34**	**123**	Pn	**Pn**	**00 32 44.0**	**-1.7**
KRMI	**Paran Flat**	**9.34**	**123**	P	**Pn**	**00 32 44.0**	**-1.7**
PRNI	**Paran**	**9.39**	**121**	Pn	**Pn**	**00 32 45.1**	**-1.3**
PRNI	**Paran**	**9.39**	**121**	P	**Pn**	**00 32 45.1**	**-1.3**
ZFRI	**Zfrı**	**9.39**	**120**	Pn	**Pn**	**00 32 45.4**	**-1.0**
ZFRI	**Zfrı**	**9.39**	**120**	P	**Pn**	**00 32 44.2**	**-2.2**
KARJ	**KARJ**	**9.43**	**115**	P	Pn	00 32 40.0	-6.9
HRFI	**Mount Harif**	**9.60**	**123**	Pn	**Pn**	**00 32 48.4**	**-0.9**
HRFI				Sn	**Sn**	**00 34 32.0**	**-3.5**
HRFI	**Mount Harif**	**9.60**	**123**	P	**Pn**	**00 32 48.4**	**-0.9**
MBRI	**Mt Berech**	**9.67**	**124**	Pn	**Pn**	**00 32 49.4**	**-0.8**
MBRI	**Mt Berech**	**9.67**	**124**	P	**Pn**	**00 32 49.3**	**-0.9**
EIL	**Elat**	**9.77**	**125**	Pn	**Pn**	**00 32 50.8**	**-0.8**
EIL				Sn	**Sn**	**00 34 36.2**	**-3.4**
AQBJ	**Aqaba**	**9.80**	**124**	P	**Pn**	**00 32 52.5**	**+0.5**
AKASG	**Malin Array Be**	**15.31**	**8**	P	**P**	**00 34 08.2**	**-0.2**
	comp=N,1.1nm,0.3s,baz=200,slow=11,SNR=7.1						
	comp=N,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**40.49**	**51**	P	**P**	**00 38 05.9**	**+1.1**
	comp=N,0.4nm,0.3s,baz=278,slow=8.6,SNR=1.9						
	comp=N,0.4nm,0.3s						
MKAR	**Makanchi Array**	**43.15**	**57**	P	**P**	**00 38 28.1**	**+1.4**
	comp=N,0.2nm,0.3s,baz=263,slow=8.2,SNR=6.7						
	comp=N,0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**44.37**	**46**	P	**P**	**00 38 36.8**	**+0.5**
	comp=N,0.7nm,0.4s,baz=281,slow=6.9,SNR=6.3						
	comp=N,0.7nm,0.4s						

*JMA **21** 00:35:02.3±0.1, 30˚.7N±0˚.2×132˚.0E±0˚.5, h57km±1km, MV3.3/39, E OFF TANEGASHIMA ISLAND*
*IDC **21** 00:35:05.9±2.1, 30˚.65N×131˚.60E, h49km±18km, mb3.1/5, mbtmp3.5/8, ML3.3/3, Error ellipse: s-maj=32.1km s-min=10.3km az=98.0*

ISC 21 00:35:01.6±2.5, 30˚.64N±0˚.04×132˚.09E±0˚.06, h23km±18km, n23, σ1§34/38, mb3.5/6, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.96**	**271**	P	**Pn**	**00 35 19.1**	**-0.5**
JTN				*e*S	**Sb**	**00 35 32.0**	**+0.2**
JMTN	**Minamitane**	**1.06**	**257**	P	**Pn**	**00 35 20.5**	**-0.4**
JMTN				*e*S	**Sb**	**00 35 34.6**	**0.0**
JNAR	**Kushima--Naru**	**1.13**	**322**	*e*P	**Pn**	**00 35 21.7**	**-0.3**
JNAR				*e*S	**Sn**	**00 35 35.9**	**-0.9**
JTSR	**Tashiro 2**	**1.14**	**298**	*e*P	**Pn**	**00 35 21.3**	**-0.8**
JTSR				*e*S	**Sn**	**00 35 35.3**	**-1.7**
JNKG	**Nichinankitago**	**1.19**	**329**	*e*P	**Pn**	**00 35 22.6**	**-0.2**
JNKG				*e*S	**Sn**	**00 35 37.3**	**-0.9**
JYAK	**Yakushimahirau**	**1.43**	**254**	*e*P	**Pn**	**00 35 25.6**	**-0.4**
JYAK				*e*S	**Sn**	**00 35 42.9**	**-1.1**
JTZ	**Takazaki**	**1.52**	**326**	*e*P	**Pn**	**00 35 27.2**	**-0.2**
JTZ				*e*S	**Sn**	**00 35 45.8**	**-0.7**
JSU	**Suzuyama**	**1.65**	**302**	*e*P	**Pn**	**00 35 28.8**	**-0.3**
JSU				*e*S	**Sn**	**00 35 48.7**	**-0.9**
JTSN	**Tsuno**	**1.68**	**343**	*i* P	**Pn**	**00 35 29.5**	**0.0**
JTSN				S	**Sn**	**00 35 50.0**	**-0.3**
JNN	**Nakanoshima**	**2.08**	**248**	*e*P	**Pn**	**00 35 34.9**	**-0.1**
JNN				*e*S	**Sn**	**00 35 59.0**	**-1.2**
JIU3	**Izumi3**	**2.20**	**330**	*e*P	**Pn**	**00 35 37.0**	**+0.4**
JSJ	**Shimokoshiki**	**2.29**	**298**	*e*P	**Pn**	**00 35 37.5**	**-0.4**
JSJ				*e*S	**Sn**	**00 36 03.7**	**-1.6**
JTO	**Tosashimizu**	**2.29**	**15**	P	**Pn**	**00 35 36.8**	**-1.2**
JTO				*e*S	**Sn**	**00 36 02.2**	**-3.2**
UWA2	**Uwa jima 2**	**2.61**	**10**	*e*P	**Pn**	**00 35 41.7**	**-0.6**
UWA2				*e*S	**Sn**	**00 36 09.9**	**-3.3**
JNU	**Nakatsue**	**2.68**	**338**	P	**Pn**	**00 35 44.1**	**+0.8**
	4.2nm,0.3s,baz=190,slow=12,SNR=21						
JNU				S	**Sn**	**00 36 15.1**	**0.0**
	26nm,0.3s,baz=168,slow=20,SNR=7.1						
	9.5nm,0.3s						
JOW	**Kunigami**	**5.06**	**222**	P	**Pn**	**00 36 16.2**	**+0.2**
	4.8nm,0.3s,baz=111,slow=23,SNR=9.2						
JOW				S	**Sn**	**00 37 10.3**	**-3.5**
	21nm,0.6s,baz=228,slow=30,SNR=1.8						
	13nm,0.2s						
KLR	**Kul'dur**	**18.57**	**359**	P	**Pn**	**00 39 18.3**	**+1.3**
	0.1nm,0.3s,baz=156,slow=8.3,SNR=5.6						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**41.35**	**307**	P	**P**	**00 42 44.8**	**-0.8**
	0.5nm,0.9s,baz=77,slow=7.0,SNR=3.6						
	0.5nm,0.9s						
KURBB	**Kurchatov Arra**	**44.20**	**313**	P	**P**	**00 43 07.8**	**-0.7**
	0.6nm,0.8s,baz=96,slow=8.7,SNR=4.0						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**50.34**	**177**	P	**P**	**00 43 57.5**	**+0.9**
	0.3nm,0.5s,baz=353,slow=8.1,SNR=5.3						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**54.02**	**178**	P	**P**	**00 44 25.8**	**+1.8**
	0.3nm,0.6s,baz=8.0,slow=14,SNR=4.7						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**70.70**	**331**	P	**P**	**00 46 14.2**	**-1.0**
	4.8nm,1.0s,baz=77,slow=8.8,SNR=6.4						
YKA	**Yellowknife Ar**	**73.09**	**26**	P	**P**	**00 46 31.8**	**+2.2**
	0.1nm,0.6s,baz=297,slow=6.1,SNR=1.7						
	0.1nm,0.6s						

*BJI **21** 00:40:09.1, 29˚.20N×142˚.56E, h11km, mb4.7/68, mB5.0/38, Ms4.8/63, Ms7 4.5/62*
*IDC **21** 00:40:10.7±0.5, 29˚.23N×142˚.50E, h0km, mb4.6/30, mbtmp4.6/34, ML3.9/4, Error ellipse: s-maj=16.4km s-min=12.6km az=66.0*
*MOS **21** 00:40:11.4±0.9, 29˚.21N×142˚.43E, h17km, mb5.1/43, MS4.6/4, Error ellipse: s-maj=10.4km s-min=4.5km az=123.9*
*NEIC **21** 00:40:12.6±1.0, 29˚.23N±0˚.03×142˚.5E±0˚.1, h10km±1km, mb5.0/102, Error ellipse: s-maj=15.5km s-min=4.7km az=80.0*
*NIED **21** 00:40:13.6, 29˚.27N×142˚.40E, h51km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.94; $M_{\theta\theta}$-0.16; $M_{\phi\phi}$-1.78; $M_{r\theta}$-1.11; $M_{\theta\phi}$0.35; $M_{\phi r}$0.96; Fault plane solution: M_o2.38000×10^{16} NP1: ϕ_s328.00000°, δ64.00000°, λ73.00000°. NP2: ϕ_s183.00000°, δ31.00000°, λ121.00000°.*
*JMA **21** 00:40:13.6±0.3, 29˚.3N±0˚.9×14˚.2E±˚, h51km, MV4.6/39, MW4.8/39, NEAR TORISHIMA IS*
*GCMT **21** 00:40:15.6±0.4, 29˚.10N±0˚.04×142˚.59E±0˚.03, h28km, MW5.0/82, Moment Tensor Solution. s21,c23; s82,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.84±.27; $M_{\theta\theta}$-0.80±.16; $M_{\phi\phi}$-4.04±.18; $M_{r\theta}$0.51±.28; $M_{\theta\phi}$0.46±.14; $M_{\phi r}$-0.39±.25; Best double couple: M_o4.51300×10^{16} NP1:ϕ_s167.00000°, δ48.00000°, λ84.00000°. NP2: ϕ_s356.00000°, δ42.00000°, λ97.00000°. Principal axes: T 4.8980, Plg85.0000°, Azm25.0000°; N -0.7670, Plg4.0000°, Azm171.0000°; P -4.1280, Plg3.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 00:40:13.9±0.5, 29˚.22N±0˚.04×142˚.51E±0˚.05, h23km±3km, h23km:pP-P, n457, σ1§26/494, mb4.9/129, MS4.6/27, 19C-9D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.14**	**188**	P	**Pn**	**00 40 48.5**	**+0.3**
CBIJ				S	**Sn**	**00 41 12.5**	**-1.5**
CBIJ	**Chichi jima**	**2.14**	**188**	A	A	00 40 48.5	
	comp=E,20nm,5.9s,comp=N,17nm,7.0s						
JCJ	**Chichijima**	**2.14**	**188**	Pn	**Pn**	**00 40 47.5**	**-0.7**
JCJ				Sn	**Sn**	**00 41 10.4**	**-3.6**
JCJ	**Chichijima**	**2.14**	**188**	Pn	**Pn**	**00 40 44.6**	**-3.5**
	comp=N,37nm,0.3s,baz=1.9,slow=21,SNR=5.6						
JCJ				Sn	**Sn**	**00 41 06.5**	**-7.4**
	comp=N,203nm,0.3s,baz=304,slow=23,SNR=22						
JHH2	**Haha-jima-NKT2**	**2.60**	**187**	A	A	00 40 54.6	
	comp=E,19nm,5.2s,comp=N,10.0nm,4.9s						
JHCJ	**Hachijojimakas**	**4.49**	**329**	P	**Pn**	**00 41 19.6**	**-0.9**
JHJ2	**Mitsune**	**4.51**	**330**	Pn	**Pn**	**00 41 19.7**	**-1.2**
JHJ2	**Mitsune**	**4.51**	**330**	*e*P	**Pn**	**00 41 20.1**	**-0.7**
JHJ2				*e*S	**Sn**	**00 42 09.2**	**-3.4**
JHJ	**Hachijo jima 2**	**4.54**	**330**	Pn	**Pn**	**00 41 19.3**	**-1.9**
	comp=N,18nm,0.3s,baz=79,slow=16,SNR=2.1						
JHJ				Sn	**Sn**	**00 42 05.2**	**-7.9**
	comp=N,24nm,0.3s,baz=62,slow=23,SNR=1.4						
	comp=N,153nm,0.7s						
JMKN	**Mikurajimanish**	**5.28**	**333**	*e*P	**Pn**	**00 41 31.1**	**-0.3**
BSO1	**Boso 1**	**5.57**	**347**	P	**Pn**	**00 41 33.5**	**-1.4**
BSO3	**Boso 3**	**5.82**	**344**	P	**Pn**	**00 41 37.3**	**-1.2**
BSO3				*e*S	**Sn**	**00 42 42.8**	**-1.6**
BSO4	**Boso 4**	**6.04**	**343**	*e*P	**Pn**	**00 41 42.1**	**+0.4**
BSO4				*e*S	**Sn**	**00 42 49.3**	**-0.8**
JOD2	**Odawara 2**	**6.69**	**335**	P	**Pn**	**00 41 50.7**	**0.0**
JOD2				S	**Sn**	**00 43 02.1**	**-4.1**
HMMJ	**Hamamatsu 2**	**6.93**	**325**	*e*P	**Pn**	**00 41 53.9**	**-0.3**
JHU	**Hanno**	**7.15**	**338**	*e*P	**Pn**	**00 41 55.9**	**-1.2**
JHU				*e*S	**Sn**	**00 43 12.2**	**-5.4**
JNY	**Yasuok**	**7.28**	**328**	*e*P	**Pn**	**00 41 59.3**	**+0.5**
JRY	**Ryogami san**	**7.43**	**337**	P	**Pn**	**00 42 00.5**	**-0.4**
JRY				S	**Sn**	**00 43 21.1**	**-3.3**
INU	**Inuyama**	**7.68**	**324**	Pn	**Pn**	**00 42 02.3**	**-2.0**
MJAR	**Matsushiro Arr**	**8.15**	**335**	Pn	**Pn**	**00 42 09.7**	**-1.1**
	comp=N,1.4nm,0.3s,baz=157,slow=10,SNR=43						
MJAR				Sn	**Sn**	**00 43 37.9**	**-4.3**
	comp=N,0.3nm,0.3s,baz=155,slow=17,SNR=4.6						
	comp=N,14nm,0.5s						
MAJO	**Matsushiro**	**8.15**	**335**	Pn	**Pn**	**00 42 10.0**	**-0.8**
MAJO	**Matsushiro**	**8.15**	**335**c	*i*P	**Pn**	**00 42 10.0**	**-0.

YULB IAmb IAmb 00 44 55.8
comp=Z,100nm,1.3s
CN2 Changchun 19.94 321 P P 00 44 42.8 -1.3
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 LR LR
comp=Z,2µm,14.0s
CN2 LR LR
comp=Z,2µm,14.0s
CN2 LR LR
comp=Z,1µm,14.0s
SSLB Suanglung 20.03 259 P P 00 44 45.5 +0.2
BNX BinXian 20.33 328 ⇑P P 00 44 47.6 -0.8
BNX S Sn 00 48 40.1 +1.4
BNX pmax pmax
comp=Z,150nm,0.6s
BNX pmax pmax
comp=Z,330nm,4.4s
BNX LR LR
comp=Z,970nm,15.9s
BNX LR LR
comp=Z,920nm,14.5s
BNX LR LR
comp=Z,1µm,17.2s
NJ2 Nanjing 20.54 284 ⇓P P 00 44 50.5 -0.3
NJ2 pP **pP 00 44 55.5 -0.1**
NJ2 sP **sP 00 44 57.8 -0.4**
NJ2 pmax pmax
comp=Z,41nm,1.0s
NJ2 pmax pmax
comp=Z,340nm,4.1s
NJ2 LR LR
comp=Z,880nm,8.1s
NJ2 LR LR
comp=Z,650nm,9.9s
NJ2 LR LR
comp=Z,1µm,13.3s
KLR Kul'dur 21.61 341⇑*e*P P 00 45 02.8 +0.7
KLR pmax pmax
comp=Z,25nm,1.3s
KLR Kul'dur 21.61 341 P P 00 45 01.4 -0.7
comp=Z,25nm,1.1s,baz=143,slow=8.8,SNR=18
comp=Z,25nm,1.1s
TYV Tymovskoe 21.62 0 *e*P P 00 45 16.9 +15
TYV *e*S Sn 00 49 28.9 +19
TYV pmax pmax
comp=Z,24nm,1.3s
TYV pmax pmax
comp=Z,200nm,3.5s
TYV smax smax
comp=N,300nm,5.3s
TYV smax smax
comp=E,400nm,5.3s
GRNR Gornyy 22.01 350⇓*i*P P 00 45 07.5 +1.1
GRNR pmax pmax
comp=N,4.0nm,0.7s
GRNR pmax pmax
comp=Z,6.0nm,0.9s
KNMB Chin-men Tao 22.02 263 P P 00 45 07.5 +0.6
TIA Tai'an 22.43 295 P P 00 45 08.9 -2.2
TIA S S 00 49 04.0 -12
TIA pmax pmax
comp=Z,14nm,1.4s
TIA LR LR
comp=Z,1µm,14.7s
TIA LR LR
comp=Z,1µm,14.2s
TIA LR LR
comp=Z,1µm,14.7s
HEH HeiHe 23.91 336 *e*P P 00 45 25.9 0.0
HEH pP **pP 00 45 30.3 -0.6**
HEH S **S 00 49 40.6 -0.2**
HEH pmax pmax
comp=Z,32nm,1.1s
HEH pmax pmax
comp=Z,270nm,3.6s
HEH LR LR
comp=Z,1µm,15.3s
HEH LR LR
comp=Z,2µm,15.5s
HEH LR LR
comp=Z,850nm,14.9s
H11N2 WAKE ISLAND Hy 24.08 108 T T 01 10 36.3
baz=304
H11N1 WAKE ISLAND Hy 24.08 108 T T 01 10 35.1
baz=304
H11N3 WAKE ISLAND Hy 24.10 108 T T 01 10 38.0
baz=304
BJT Baijiatuau 24.12 304 P P 00 45 26.8 -1.2
BJT Baijiatuau 24.12 304 P **P 00 45 26.8 -1.2**
BJT pmax pmax
comp=Z,11nm,0.7s
BJI Beijing 24.12 304 P P 00 45 26.9 -1.1
BJI S **S 00 49 46.6 +2.2**
BJI pmax pmax
comp=Z,8.0nm,0.7s
BJI LR LR
comp=Z,320nm,16.4s
BJI LR LR
comp=Z,610nm,17.7s
BJI LR LR
comp=Z,840nm,17.7s
WHN Wuhan 24.43 280 P P 00 45 31.1 +0.2
WHN pmax pmax
comp=Z,40nm,1.2s
WHN LR LR
comp=Z,2µm,13.3s
WHN LR LR
comp=Z,940nm,5.9s
WHN LR LR
comp=Z,1µm,16.7s
H11S3 WAKE ISLAND Hy 24.50 110 T T 01 11 08.8
baz=304
H11S1 WAKE ISLAND Hy 24.51 110 T T 01 11 08.8
baz=304
H11S2 WAKE ISLAND Hy 24.52 110 T T 01 11 21.2
baz=304
HNS HongShan 24.56 297 ⇓P P 00 45 30.4 -1.6
HNS S **S 00 49 54.1 +2.6**
HNS pmax pmax
comp=Z,14nm,1.5s
HNS LR LR
comp=Z,1µm,16.7s
HNS LR LR
comp=Z,750nm,14.3s
HNS LR LR
comp=Z,610nm,15.9s
XLT XiLinHaoTe 25.65 312⇓*i*P P 00 45 41.9 -0.1
XLT sP pP 00 45 48.3 +1.1
XLT pmax pmax
comp=Z,16nm,1.0s
XLT pmax pmax
comp=Z,220nm,5.8s
XLT LR LR
comp=Z,450nm,14.9s
XLT LR LR
comp=Z,550nm,20.8s
LYN LuoYang 26.00 290 *e*P P 00 45 44.5 -0.6
LYN PP **PnPn 00 46 26.8 +3.6**
LYN pmax pmax
comp=Z,19nm,0.5s
LYN pmax pmax
comp=Z,390nm,4.8s
LYN LR LR
comp=Z,760nm,9.8s
LYN LR LR
comp=Z,590nm,11.0s
LYN LR LR
comp=Z,1µm,14.8s
HIA Hailar 26.50 325 P P 00 45 49.4 -0.1
HIA IAmb IAmb 00 45 52.4
comp=Z,46nm,0.9s
HIA Hailar 26.50 325*c i*P P 00 45 49.9 +0.4
HIA pmax pmax
comp=Z,45nm,0.9s
ZEA Zeya 26.92 340 *e*P P 00 45 53.7 +0.6
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,30nm,1.1s
HHC Hu-ho-hao-te 27.73 303 *e*P P 00 46 00.5 -0.2
HHC pP pP 00 46 05.6 -0.4
HHC S **S 00 50 43.4 +1.5**
HHC pmax pmax
comp=Z,37nm,0.9s
HHC pmax pmax
comp=Z,330nm,5.3s
HHC LR LR
comp=Z,1µm,18.6s
HHC LR LR
comp=Z,2µm,19.1s
HHC LR LR
comp=Z,2µm,18.6s
BTO Baotou 28.81 302 *e*P P 00 46 10.8 +0.5
BTO pP **pP 00 46 15.4 -0.2**
BTO sP **sP 00 46 17.9 +0.4**
BTO PP **PnPn 00 47 03.8 +2.3**
BTO S **S 00 51 01.0 +2.1**
BTO sS **sS 00 51 08.9 +0.9**
BTO SS **SnSn 00 52 24.8 +3.8**
BTO pmax pmax
comp=Z,28nm,0.9s
BTO pmax pmax
comp=Z,330nm,5.5s
BTO LR LR
comp=Z,2µm,16.5s
BTO LR LR
comp=Z,2µm,18.6s
BTO LR LR
comp=Z,3µm,17.7s
XAN Xi'an 28.92 288 ⇑P P 00 46 10.3 -1.1
XAN pmax pmax
comp=Z,32nm,1.2s
XAN LR LR
comp=Z,2µm,16.2s
XAN LR LR
comp=Z,1µm,17.1s
XAN LR LR
comp=Z,1µm,18.4s
GYA Guiyang 31.74 274 *e*P P 00 46 36.0 -0.5
GYA pmax pmax
comp=Z,24nm,0.9s
ULN Ulaanbaatar 33.02 314 P P 00 46 47.3 -0.1
ULN IAmb IAmb 00 46 49.7
comp=Z,16nm,0.8s
ULN Ulaanbaatar 33.02 314⇓*e*P P 00 46 48.5 +1.1
ULN pmax pmax
comp=Z,30nm,1.3s
LZH Lanzhou 33.11 292 ⇑P P 00 46 48.3 -0.1
LZH pP pP 00 46 52.6 -1.0
LZH pmax pmax
comp=Z,24nm,1.5s
LZH LR LR
comp=Z,640nm,12.4s
LZH LR LR
comp=Z,470nm,12.7s
LZH LR LR
comp=Z,380nm,12.0s
SONM Songino Array 33.42 314 P P 00 46 51.6 +0.6
SONM IAmb IAmb 00 46 53.2
comp=Z,17nm,0.8s
SONM Songino Array 33.42 314 P P 00 46 51.6 +0.6
SONM pmax pmax
comp=Z,17nm,0.8s
SONM Songino Array 33.42 314 P P 00 46 51.5 +0.6
comp=Z,17nm,0.9s,baz=113,slow=7.1,SNR=68
comp=Z,17nm,0.9s
FAKI Fak Fak 33.44 199 P P 00 46 50.8 -0.4
FAKI IAmb IAmb 00 47 05.2
comp=Z,15nm,0.8s
CD2 Chengdu 33.47 283 P P 00 46 50.6 -0.9
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 LR LR
comp=Z,550nm,15.3s
CD2 LR LR
comp=Z,700nm,11.9s
CD2 LR LR
comp=Z,1µm,11.5s
YAK Yakutsk 33.89 349 P P 00 46 54.5 0.0
YAK IAmb IAmb 00 47 09.9
comp=Z,16nm,0.8s
YAK Yakutsk 33.89 349⇑*e*P P 00 46 54.8 +0.2
YAK pmax pmax
comp=Z,7.0nm,0.8s
BOD Bodaibo 34.78 333 *e*P P 00 47 02.7 +0.3
BOD pmax pmax
comp=Z,14nm,1.4s
TOLI2 Tolitoli 34.79 220 P P 00 47 02.5 -0.5
TOLI2 IAmb IAmb 00 47 20.7
comp=Z,42nm,1.4s
KMI Kunming 35.50 273 ⇑P P 00 47 08.8 -0.5
KMI pP pP 00 47 12.6 -2.2
KMI S **S 00 52 47.3 +3.6**
KMI pmax pmax
comp=Z,11nm,0.8s
KMI LR LR
comp=Z,500nm,16.0s
KMI LR LR
comp=Z,460nm,14.8s
KMI LR LR
comp=Z,690nm,25.3s
SLVN Son La 35.66 266 P P 00 47 10.1 -0.4
SLVN IAmb IAmb 00 47 11.7
comp=Z,16nm,0.9s
PZH PanZhiHua 36.02 276 P P 00 47 12.4 -1.2
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,330nm,5.6s
ZAK Zakamensk 36.23 317 *e*P P 00 47 15.8 +0.6
ZAK pmax pmax
comp=Z,30nm,1.2s
GTA Gaotai 36.41 298 *e*P P 00 47 16.1 -0.7
GTA sP pwP 00 47 28.6 -1.1
GTA pmax pmax
comp=Z,13nm,1.1s
GTA LR LR
comp=Z,550nm,16.7s
GTA LR LR
comp=Z,380nm,18.2s
GTA LR LR
comp=Z,370nm,19.6s
MOY Mondy 38.04 318 *e*P P 00 47 31.6 +1.1
MOY pmax pmax
comp=Z,23nm,1.6s
CRAI Chiangrai 39.14 267 P P 00 47 39.9 0.0
CRAI IAmb IAmb 00 47 41.3
comp=Z,30nm,0.8s
GOMU GeErMu 40.41 293 P P 00 47 50.5 -0.3
GOMU PP **PnPn 00 49 26.3 -1.4**
GOMU S **S 00 53 59.0 +0.9**
GOMU pmax pmax
comp=Z,8.0nm,1.3s
GOMU LR LR
comp=Z,250nm,15.4s
GOMU LR LR
comp=Z,310nm,15.6s
GOMU LR LR
comp=Z,410nm,16.6s
CHTO Chiang Mai 40.92 265 P P 00 47 54.1 -0.6
CHTO IAmb IAmb 00 47 55.5
comp=Z,19nm,0.8s
CHTO Chiang Mai 40.92 265 P P 00 47 54.2 -0.6
CHTO pmax pmax
comp=Z,19nm,0.8s
CMAR Chiang Mai Arr 41.06 265 P P 00 47 55.5 -0.4
CMAR Chiang Mai Arr 41.06 265*ce*P P 00 47 56.0 +0.1
CMAR pmax pmax
comp=Z,4.0nm,0.7s
CMAR Chiang Mai Arr 41.06 265 P P 00 47 56.0 +0.1
comp=Z,4.6nm,0.9s,baz=59,slow=6.4,SNR=19
comp=Z,4.6nm,0.9s
BILL Bilibino 41.33 13 P P 00 47 58.1 +0.6
TIXI Tiksi 43.13 354 P P 00 48 12.4 +0.2
TIXI Tiksi 43.13 354*ce*P P 00 48 12.5 +0.4
MTN Manton Dam 43.24 196 P P 00 48 13.3 -0.2
MTN IAmb IAmb 00 48 27.5
comp=Z,35nm,0.9s
WMQ Urumqi 45.60 304 *e*P P 00 48 32.8 +0.5
WMQ pP pP 00 48 37.9 +0.4
WMQ sP sP 00 48 40.1 +0.4
WMQ PcP **PcP 00 50 12.0 +1.5**
WMQ PP **PP 00 50 21.6 +2.5**
WMQ pmax pmax
comp=Z,19nm,1.3s
WMQ LR LR
comp=Z,570nm,14.9s
WMQ LR LR
comp=Z,580nm,17.7s
WMQ LR LR
comp=Z,450nm,20.7s
DGZ Jazzator, Alta 46.03 312*c i*P P 00 48 36.8 +1.0
DGZ pmax pmax
comp=Z,50nm,1.0s
KULM Kulim 46.15 247 P P 00 48 36.6 -0.3
KNRA Kununurra 46.57 198 P P 00 48 39.9 -0.2
ZSN Zaisan 47.61 309 *e*P P 00 48 47.7 -0.3
baz=309
ZSN Zaisan 47.61 309 *e*P P 00 48 47.7 -0.3
TAPN Taplejung 47.92 282 *e*P P 00 48 49.7 -1.4
UGM Wanagama 48.09 225 P P 00 48 51.7 -0.3
ZAA0 Zalesovo Array 48.09 318 P P 00 48 51.5 -0.1
ZAA0 IAmb IAmb 00 48 53.6
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 48.09 318 P P 00 48 51.5 -0.1
ZALV Zalesovo Beam 48.09 318 P P 00 48 52.0 +0.4
comp=Z,12nm,0.8s,baz=98,slow=7.2,SNR=45
ZALV PcP **PcP 00 50 19.7 +0.6**
comp=Z,1.4nm,0.5s,baz=116,slow=3.4,SNR=1.6
comp=Z,12nm,0.8s
RAMN Ramite 48.98 282 *e*P P 00 48 58.7 -0.5
comp=Z,45nm,0.9s
JIRN Jiri 49.14 283 *e*P P 00 48 59.7 -0.8
CTAO Charters Tower 49.16 175 P P 00 48 60.0 -0.1
CTAO Charters Tower 49.16 175 P P 00 49 00.0 -0.1
CTAO pmax pmax
comp=Z,16nm,1.4s
WB0 Warramunga Arr 49.33 190 P P 00 49 01.3 -0.1
GUN Gumba 49.34 283 *e*P P 00 49 01.5 -0.5
comp=Z,43nm,0.9s
MK31 Makanchi Array 49.37 308 P P 00 49 01.5 0.0
MK31 Makanchi Array 49.37 308*ce*P P 00 49 02.2 +0.6
MKAR Makanchi Array 49.37 308 P P 00 49 01.6 0.0
MKAR Makanchi Array 49.37 308 P P 00 49 01.9 +0.3
comp=Z,8.1nm,0.7s,baz=91,slow=9.5,SNR=81
MKAR PcP **PcP 00 50 25.4 +1.5**
comp=Z,1.9nm,0.7s,baz=81,slow=4.5,SNR=2.2
comp=Z,8.1nm,0.7s
WR0 Warramunga Arr 49.49 190 P P 00 49 02.8 +0.2
WR0 IAmb IAmb 00 49 16.8
comp=Z,29nm,0.9s
WRA Warramunga Arr 49.51 190 P P 00 49 02.5 -0.3
WRA Warramunga Arr 49.51 190 *i* P P 00 49 03.0 +0.2
WRA pmax pmax
comp=Z,16nm,0.6s
WRA Warramunga Arr 49.51 190 P P 00 49 03.0 +0.2
comp=Z,15nm,0.6s,baz=9.3,slow=8.0,SNR=129
WRA PcP **PcP 00 50 24.9 +0.3**
comp=Z,2.8nm,0.6s,baz=4.0,slow=3.8,SNR=5.4
comp=Z,15nm,0.6s
MAKZ Makanchi 49.58 308 P P 00 49 03.7 +0.5
MAKZ Makanchi 49.58 308 P P 00 49 03.7 +0.5
MAKZ pmax pmax
comp=Z,66nm,2.0s
N16K Nishlik Lake 49.70 34 P P 00 49 04.7 +0.8
baz=258
FITZ Fitzroy Crossi 49.78 201 P P 00 49 05.3 +0.4
PKI Pulchoki 49.83 283 *e*P P 00 49 04.6 -1.1
PKIN Phulchoki 49.84 283 *e*P P 00 49 05.0 -0.7
RDOG Red Dog Mine 50.17 24 P P 00 49 07.7 +0.4
baz=248
GKN Gorkha 50.37 284 *e*P P 00 49 08.5 -1.1
N17K Nushagak Hills 50.48 34 P P 00 49 10.6 +0.9
baz=260
M17K Holitna River 50.52 33 P P 00 49 10.9 +0.8
M17K Holitna River 50.52 33 P P 00 49 11.3 +1.2
baz=259
P17K Kvichak River 50.64 36 P P 00 49 12.4 +1.4
baz=262
GSI Gunungsitoli 50.98 245 P P 00 49 13.4 -0.7
GSI IAmb IAmb 00 49 14.8
comp=Z,22nm,0.8s
C18K Utukok River 50.98 23 P P 00 49 13.7 +0.2
baz=249
DANN Dangsing 51.02 284 *e*P P 00 49 14.2 -0.4
comp=Z,19nm,0.5s
P18K Big Mountain, 51.28 35 P P 00 49 16.8 +0.9
baz=263
M18K Stony River 51.30 33 P P 00 49 15.7 -0.2
baz=260
Q18K Katmai Hardscr 51.30 36 P P 00 49 14.9 -1.3
baz=263
KOLN Koldanda 51.31 284 *e*P P 00 49 16.2 -0.6
comp=Z,74nm,1.1s
Q18K Koktuh Hills 51.35 35 P P 00 49 17.0 +0.7
O18K IAmb IAmb 00 49 33.2
comp=Z,23nm,0.8s
O18K Koktuh Hills 51.35 35 P P 00 49 17.1 +0.7
baz=262
SVW2 Sparrevohn 51.35 33 P P 00 49 16.3 -0.1
SVW2 IAmb IAmb 00 50 53.8
comp=Z,47nm,1.7s
R18K Karluk 51.48 38 P P 00 49 17.5 +0.2
baz=265
SII Sitkinak Islan 51.55 39 P P 00 49 18.3 +0.5
baz=266
SHLS Shalkode 51.62 304 *e*P P 00 49 16.2 -2.6
baz=304
SHLS Shalkode 51.62 304 *e*P P 00 49 16.1 -2.6
C19K Lookout Ridge 51.68 23 P P 00 49 19.6 +0.9
baz=251
KURK Kurchatov 51.72 313 P P 00 49 19.5 +0.3
KURK Kurchatov 51.72 313*ce*P P 00 49 21.2 +2.0
KURK pmax pmax
comp=Z,56nm,1.3s
PYUN Piuthan 51.74 284 *e*P P 00 49 19.6 -0.4
comp=Z,60nm,0.6s
KURBB Kurchatov Arra 51.78 313 P P 00 49 20.0 +0.4
comp=Z,26nm,0.8s,baz=92,slow=6.1,SNR=225
comp=Z,26nm,0.8s
H19K Roundabout Mou 51.84 28 P P 00 49 21.0 +1.1
baz=257
J19K Poorman 51.86 30 P P 00 49 21.7 +1.7
baz=259
UZB Uzynbulak 51.94 304 *e*P P 00 49 20.9 -0.3
baz=304
UZB Uzynbulak 51.94 304 *e*P P 00 49 20.8 -0.3
E19K Redstone River 52.02 25 P P 00 49 22.7 +1.5
baz=254
OHAK Old Harbor 52.09 38 P P 00 49 21.1 -0.7
OHAK IAmb IAmb 00 50 27.4
comp=Z,42nm,1.6s
KPKS Kokpek 52.15 304 *e*P P 00 49 22.4 -0.2
baz=304
KPKS Kokpek 52.15 304 *e*P P 00 49 22.3 -0.3
TDK Taldyqorghan 52.18 306 *e*P P 00 49 22.1 -0.7
baz=306
TDK Taldyqorghan 52.18 306 *e*P P 00 49 22.1 -0.7
L20K Farewell, AK 52.37 32 P P 00 49 24.9 +1.0
baz=261
SATY Saty 52.40 304 *e*P P 00 49 24.6 0.0
baz=304
SATY Saty 52.40 304 *e*P P 00 49 24.5 0.0
K20K Telida 52.42 31 P P 00 49 25.5 +1.2
baz=260
H20K Anotleneega Mo 52.47 28 P P 00 49 25.4 +0.8
baz=258
PRZ Przheval'sk 52.47 303 P P 00 49 25.0 -0.2
PRZ Przheval'sk 52.47 303 P P 00 49 25.0 -0.2
PRZ pmax pmax
comp=Z,70nm,1.6s
F20K Avaraart Lake 52.48 26 P P 00 49 25.5 +0.9
baz=256
KDAK Kodiak Island 52.50 38 P P 00 49 24.3 -0.6
KDAK IAmb IAmb 00 49 40.4
comp=Z,32nm,1.2s
KDAK Kodiak Island 52.50 38 P P 00 49 25.2 +0.3
baz=266
KDAK Kodiak Island 52.50 38 P P 00 49 24.3 -0.6
KDAK pmax pmax
comp=Z,32nm,1.3s
J20K Nowinta River 52.53 30 P P 00 49 26.0 +1.0
baz=260
E20K Nigu River 52.62 24 P P 00 49 27.1 +1.4
baz=255
ARXS Arharly 52.68 305 *e*P P 00 49 26.4 -0.2
B20K Meade River 52.78 22 P P 00 49 27.3 +0.5
baz=252
N20K Mount Spurr 52.99 33 P P 00 49 29.7 +1.1
baz=264
TARG Taragay, Kyrgy 53.01 302 P P 00 49 29.8 +0.3
TARG Taragay, Kyrgy 53.01 302 P P 00 49 29.8 +0.3
TARG pmax pmax
comp=Z,11nm,1.0s
IMAR Indian Mountai 53.03 27 P P 00 49 28.9 +0.2
PPLA Purkeypile 53.20 31 P P 00 49 31.4 +1.2
baz=263
G21K Allakaket 53.23 27 P P 00 49 31.2 +1.0

baz=259
AS31 Alice Springs 53.23 190 P **P** **00 49 30.8 +0.1**
ASAR Alice Springs 53.23 190 P **P** **00 49 30.7 +0.1**
ASAR Alice Springs 53.23 190 P **P** **00 49 30.7 +0.1**
ASAR Alice Springs 53.23 190 P **P** **00 49 30.6 -0.1**
comp=Z,2.6nm,0.6s,baz=3.7,slow=5.5,SNR=30
ASAR PcP **PcP** **00 50 38.8 +0.4**
comp=Z,2.8nm,0.9s,baz=12,slow=4.4,SNR=4.1
comp=Z,2.6nm,0.6s
CAST Castle Rocks 53.31 31 P **P** **00 49 31.4 +0.5**
CAST Castle Rocks 53.31 31 P **P** **00 49 32.7 +1.8**
baz=262
CHKK Chushkaly 53.32 305 *e*P **P** **00 49 30.9 -0.3**
baz=305
CHKK Chushkaly 53.32 305 *e*P **P** **00 49 30.9 -0.3**
C21K Knifeblade Rid 53.35 23 P **P** **00 49 31.9 +0.9**
baz=256
H21K Melozitna Rive 53.35 28 P **P** **00 49 32.1 +1.0**
baz=260
MDOK Medeo 53.37 304 *e*P **P** **00 49 31.5 -0.2**
baz=304
MDOK Medeo 53.37 304 *e*P **P** **00 49 31.5 -0.2**
F21K Alatna River 53.38 26 P **P** **00 49 31.5 +0.2**
baz=258
SKT Skwentna 53.40 32 P **P** **00 49 32.0 +0.5**
baz=264
AAA Alma-Ata 53.46 304 *e*P **P** **00 49 32.9 +0.5**
baz=304
AAA Alma-Ata 53.46 304 *e*P **P** **00 49 32.8 +0.5**
TNSS Tian-Shan 53.46 304 *e*P **P** **00 49 33.2 +0.5**
baz=304
TNSS Tian-Shan 53.46 304 *e*P **P** **00 49 33.2 +0.5**
B21K Ikpikpuk River 53.52 23 P **P** **00 49 33.6 +1.3**
baz=255
I21K Tanana 53.61 28 P **P** **00 49 34.2 +1.2**
baz=261
A22K Sinclair Lake 53.77 21 P **P** **00 49 34.8 +0.7**
baz=254
KUU Kurty 53.78 305 *e*P **P** **00 49 34.8 +0.1**
baz=305
KUU Kurty 53.78 305 *e*P **P** **00 49 34.7 +0.1**
D22K Ayikyak River 54.02 24 P **P** **00 49 37.2 +1.2**
baz=258
G22K Bettles 54.08 26 P **P** **00 49 37.7 +1.3**
baz=260
B22K Teshekpuk Lake 54.10 22 P **P** **00 49 36.2 -0.2**
TRF Thorofare Moun 54.12 31 P **P** **00 49 36.9 0.0**
TRF IAmb IAmb 00 49 47.1
comp=Z,16nm,1.2s
TRF Thorofare Moun 54.12 31 P **P** **00 49 37.5 +0.6**
baz=264
E22K Anaktuvuk Pass 54.18 25 P **P** **00 49 38.2 +1.0**
baz=259
TKM2 Tokmak 2 54.46 304 P **P** **00 49 40.8 +1.0**
SNR=9.0
PMR Palmer 54.50 33 P **P** **00 49 39.8 +0.4**
baz=266
G23K Bananza Creek 54.63 27 P **P** **00 49 41.0 +0.5**
baz=262
MBWA Marble Bar 54.69 206 P **P** **00 49 41.0 -0.4**
MBWA IAmb IAmb 00 51 30.1
comp=Z,20nm,1.3s
I23K Minto, Yukon-K 54.70 29 P **P** **00 49 42.2 +1.2**
baz=264
D23K Nanushuk River 54.74 24 P **P** **00 49 42.5 +1.2**
baz=260
KSH Kashi 54.76 300 P **P** **00 49 45.4 +3.5**
KSH sP sP 00 49 52.9 +3.6
KSH pmax pmax
comp=Z,10.0nm,0.8s
KSH LR LR
comp=Z,510nm,16.8s
KSH LR LR
comp=Z,340nm,16.3s
KSH LR LR
comp=Z,470nm,17.5s
NEA2 Nenana 54.77 29 P **P** **00 49 42.4 +1.0**
baz=264
KNK Knik Glacier 54.81 33 P **P** **00 49 41.6 -0.2**
KNK IAmb IAmb 00 49 43.8
comp=Z,36nm,1.6s
KNK Knik Glacier 54.81 33 P **P** **00 49 41.7 -0.2**
baz=267
WAT1 Susitna Watana 54.85 32 P **P** **00 49 42.2 +0.1**
baz=266
SML Sawmill 54.89 33 P **P** **00 49 42.5 0.0**
baz=267
EIDS Eidsvold 54.90 171 P **P** **00 49 43.4 +0.6**
C23K Itkillik River 54.93 23 P **P** **00 49 43.0 +0.5**
baz=259
KBK Karagaybulak 54.97 304 P **P** **00 49 44.3 +0.9**
SNR=11
E23K Chandalar 54.98 25 P **P** **00 49 44.0 +0.9**
baz=261
PSA00 Pilbara Seismi 55.02 206 P **P** **00 49 43.4 -0.3**
PSA00 IAmb IAmb 00 49 44.9
comp=Z,14nm,1.2s
SGDS Sogindy 55.07 305 *e*P **P** **00 49 44.3 +0.2**
baz=305
SGDS Sogindy 55.07 305 *e*P **P** **00 49 44.2 +0.2**
MDM Murphy Dome 55.16 29 P **P** **00 49 44.3 0.0**
MDM IAmb IAmb 00 50 04.1
comp=Z,30nm,1.7s
FRU1 Bishkek 55.17 304 P **P** **00 49 45.0 +0.2**
FRU1 Bishkek 55.17 304 P **P** **00 49 45.0 +0.2**
FRU1 pmax pmax
comp=Z,15nm,0.4s
M23K Glacier View 55.18 33 P **P** **00 49 44.9 +0.5**
baz=268
WAT6 Susitna Watana 55.21 32 P **P** **00 49 43.5 -1.3**
baz=267
BTLS Baital 55.25 307 *e*P **P** **00 49 45.6 +0.3**
comp=Z,12nm,1.0s,baz=307
BTLS Baital 55.25 307 *e*P **P** **00 49 45.5 +0.3**
BTLS pmax pmax
comp=Z,12nm,1.0s
AAK Ala-Archa 55.30 304 P **P** **00 49 46.5 +0.7**
SNR=5.8
AAK Ala-Archa 55.30 304 P **P** **00 49 46.2 +0.3**
AAK Ala-Archa 55.30 304*ce*P **P** **00 49 46.2 +0.3**
AAK pmax pmax
comp=Z,8.0nm,1.3s
AAK Ala-Archa 55.30 304 P **P** **00 49 46.3 +0.4**
comp=Z,3.5nm,0.5s,baz=123,slow=6.3,SNR=17
comp=Z,3.5nm,0.5s
UCH Uchtor 55.36 303 P **P** **00 49 48.0 +1.4**
SNR=9.4
SCM Sheep Creek Mo 55.37 33 P **P** **00 49 46.8 +0.9**
SCM Sheep Creek Mo 55.37 33 P **P** **00 49 46.1 +0.2**
baz=268
SCM Sheep Creek Mo 55.37 33 P **P** **00 49 46.8 +0.9**
SCM pmax pmax
comp=Z,83nm,1.9s
H24K Noodor Dome 55.39 28 P **P** **00 49 46.9 +0.9**
baz=265
E24K Your Creek 55.41 25 P **P** **00 49 46.8 +0.7**
baz=262
D24K Happy Valley 55.44 24 P **P** **00 49 47.0 +0.8**
baz=261
F24K Squaw Lake 55.56 26 P **P** **00 49 48.2 +1.0**
F24K Squaw Lake 55.56 26 P **P** **00 49 48.5 +1.4**
baz=263
BRZS Berezniki 55.56 313 *e*P **P** **00 49 47.9 +0.4**
comp=Z,16nm,1.3s,baz=313
BRZS Berezniki 55.56 313 *e*P **P** **00 49 47.8 +0.4**
BRZS pmax pmax
comp=Z,16nm,1.3s
G24K Hadweenzic Riv 55.63 27 P **P** **00 49 48.4 +0.8**
baz=264
HDA Harding Lake 55.67 30 P **P** **00 49 47.3 -0.6**
HDA IAmb IAmb 00 50 02.3
comp=Z,41nm,2.0s
HDA Harding Lake 55.67 30 P **P** **00 49 47.6 -0.3**
baz=266
HDA P **P** **00 49 47.6 -0.3**
baz=266
IL31 55.72 29 P **P** **00 49 48.2 0.0**
IL31 IAmb IAmb 00 50 03.6
comp=Z,37nm,1.9s
ILAR Eielson Array 55.72 29 P **P** **00 49 48.4 +0.1**
ILAR Eielson Array 55.72 29 P **P** **00 49 48.4 +0.1**
ILAR Eielson Array 55.72 29 P **P** **00 49 47.8 -0.5**
comp=Z,1.7nm,0.8s,baz=260,slow=6.2,SNR=24
comp=Z,1.7nm,0.8s
EKS2 Erkin-Say 55.82 304 P **P** **00 49 50.2 +0.6**
SNR=5.5
DZM Mont Dzumac 55.97 153 *e*LR LR 01 05 51.0
comp=Z,270nm,21.9s
AML Almayashu 55.97 303 P **P** **00 49 52.2 +1.2**
SNR=28
KLU Klutina 56.03 33 P **P** **00 49 51.5 +0.8**
baz=269
D25K Kavik River 56.32 24 P **P** **00 49 54.0 +1.4**
baz=264
F25K Christian Rive 56.43 26 P **P** **00 49 54.7 +1.3**
baz=266
E25K Arctic Village 56.50 25 P **P** **00 49 55.2 +1.4**
baz=265
RIDG Independent Ri 56.56 31 P **P** **00 49 55.1 +0.7**
baz=269
ARSB Arslanbob 56.65 302 P **P** **00 49 55.5 0.0**
ARSB Arslanbob 56.65 302 P **P** **00 49 55.5 0.0**
ARSB pmax pmax
comp=Z,10.0nm,1.6s
BMRM Bremner River 56.67 34 P **P** **00 49 56.4 +1.2**
baz=271
BVAR Borovoye Array 56.69 317 P **P** **00 49 56.0 +0.6**
comp=Z,14nm,0.5s,baz=88,slow=7.5,SNR=88
comp=Z,14nm,0.5s
BRVK Borovoye 56.75 317 P **P** **00 49 56.0 +0.1**
BRVK Borovoye 56.75 317*ce*P **P** **00 49 56.2 +0.4**
BRVK pmax pmax
comp=Z,44nm,1.3s
BMAR Burnt Mountain 56.82 26 P **P** **00 49 57.9 +1.7**
SCRK Sand Creek 56.95 30 P **P** **00 49 57.0 -0.2**
SCRK Sand Creek 56.95 30 P **P** **00 49 56.9 -0.2**
baz=269
F26K Sheenjek River 57.01 26 P **P** **00 49 58.8 +1.4**
baz=267
G26K Porcupine Rive 57.11 27 P **P** **00 49 59.5 +1.4**
baz=268
L26K Log Cabin Wild 57.24 31 P **P** **00 50 01.3 +2.1**
baz=271
MCARA McCarthy VSAT 57.42 33 P **P** **00 50 02.4 +1.9**
baz=272
DZA Taraz 57.55 304 *e*P **P** **00 50 01.9 +0.2**
comp=Z,8.9nm,0.8s,baz=304
DZA Taraz 57.55 304 *e*P **P** **00 50 01.9 +0.2**
DZA pmax pmax
comp=Z,9.0nm,0.8s
K27K Chicken 57.79 30 P **P** **00 50 04.5 +1.5**
baz=271
L27K Beaver Creek, 57.93 31 P **P** **00 50 05.3 +1.3**
baz=272
BCAR Beaver Creek A 57.95 31 P **P** **00 50 05.2 +1.0**
E27K Coleen River 57.99 25 P **P** **00 50 05.9 +1.6**
baz=269
H27K Steamboat Moun 58.00 28 P **P** **00 50 06.0 +1.5**
baz=270
KK31 Karatay Array 58.09 305 P **P** **00 50 06.0 +0.6**
KK31 Karatay Array 58.09 305 P **P** **00 50 06.1 +0.6**
KK31 pmax pmax
comp=Z,37nm,0.9s
KKAR Karatay Array 58.09 305 P **P** **00 50 06.3 +0.8**
KKAR Karatay Array 58.09 305 P **P** **00 50 06.3 +0.8**
D27M Malcolm River 58.24 24 P **P** **00 50 06.9 +0.8**
D27M Malcolm River 58.24 24 P **P** **00 50 07.5 +1.3**
baz=269
NIL Nilore 58.26 293 P **P** **00 50 06.9 +0.1**
NIL IAmb IAmb 00 50 08.1
comp=Z,15nm,0.8s
NIL Nilore 58.26 293 P **P** **00 50 06.9 +0.1**
NIL pmax pmax
comp=Z,15nm,0.8s
BTK Batken 58.53 301 P **P** **00 50 08.4 -0.3**
BTK Batken 58.53 301 P **P** **00 50 08.4 -0.3**
BTK pmax pmax
comp=Z,9.0nm,1.1s
F28M Old Crow 58.64 26 P **P** **00 50 10.2 +1.3**
baz=271
I28M Miner Creek 58.67 29 P **P** **00 50 10.3 +1.0**
baz=272
E28M Babbage River 58.75 25 P **P** **00 50 11.4 +1.8**
baz=271
CHM Chimkent 58.91 304 *e*P **P** **00 50 11.2 0.0**
baz=304
CHM Chimkent 58.91 304 *e*P **P** **00 50 11.2 0.0**
DAWY Dawson 58.97 30 P **P** **00 50 11.6 +0.3**
DAWY Dawson 58.97 30 P **P** **00 50 12.5 +1.2**
baz=274
D28M Stokes Point 59.03 24 P **P** **00 50 12.8 +1.2**
baz=271
HYB Hyderabad 59.28 274 *e*P **P** **00 50 15.0 +0.9**
H29M Whitestone 59.28 28 P **P** **00 50 14.3 +0.9**
baz=273
E29M Blow River 59.36 25 P **P** **00 50 14.6 +0.8**
baz=272
G29M Pine Creek 59.38 27 P **P** **00 50 14.8 +0.7**
baz=273
M29M Somme Creek 59.51 32 P **P** **00 50 15.7 +0.5**
baz=275
YUK4 Talbot Arm 59.53 33 P **P** **00 50 17.7 +2.3**
baz=276
L29M L29M 59.60 31 P **P** **00 50 16.5 +0.8**
baz=275
O29M Mount Kennedy 59.68 34 P **P** **00 50 18.3 +1.9**
baz=276
K29M Barlow Dome 59.81 30 P **P** **00 50 17.7 +0.5**
baz=275
EPYK Eagle Plains 59.93 27 P **P** **00 50 17.9 0.0**
baz=274
G30M tAoh Zraii Nji 60.08 27 P **P** **00 50 19.2 +0.2**
baz=275
CHGR Chuyangaron 60.12 300 P **P** **00 50 19.8 +0.1**
CHGR Chuyangaron 60.12 300 P **P** **00 50 19.8 +0.1**
CHGR pmax pmax
comp=Z,62nm,0.8s
I30M Mount Dempster 60.17 29 P **P** **00 50 21.2 +1.6**
baz=275
M30M Minto, Yukon 60.27 32 P **P** **00 50 22.1 +1.9**
baz=277
STKA Stephens Creek 60.77 181 P **P** **00 50 24.0 +0.1**
STKA Stephens Creek 60.77 181 P **P** **00 50 24.0 +0.1**
STKA pmax pmax
comp=Z,9.0nm,1.9s
STKA Stephens Creek 60.77 181 P **P** **00 50 23.5 -0.4**
comp=Z,3.1nm,0.8s,baz=334,slow=2.8,SNR=4.6
comp=Z,3.1nm,0.8s
G31M Satah River 60.85 27 P **P** **00 50 24.7 +0.6**
G31M IAmb IAmb 00 50 39.3
comp=Z,9.0nm,0.9s
G31M Satah River 60.85 27 P **P** **00 50 24.2 +0.1**
baz=276
H31M Peel River 60.95 28 P **P** **00 50 26.1 +1.3**
baz=277
INK Inuvik 60.98 25 P **P** **00 50 25.3 +0.4**
baz=276
F31M Tsiigehtchic 61.00 26 P **P** **00 50 25.8 +0.8**
baz=277
FORT Forrest 61.23 194 P **P** **00 50 27.4 +0.4**
KBL Kabul 61.35 296 P **P** **00 50 27.7 -0.6**
KBL IAmb IAmb 00 50 31.2
comp=Z,29nm,2.0s
KBL Kabul 61.35 296 P **P** **00 50 27.7 -0.6**
KBL pmax pmax
comp=Z,29nm,2.0s
M31M Drury Creek, Y 61.43 32 P **P** **00 50 29.6 +1.4**
baz=279
SVE Sverdlovsk 61.73 322 *e*P **P** **00 50 31.3 +1.1**
SVE pmax pmax
comp=Z,20nm,1.1s
BBOO Buckleboo 62.00 186 P **P** **00 50 31.9 -0.3**
P33M Teslin, Yukon 62.53 34 P **P** **00 50 36.5 +0.9**
baz=281
ARU Arti 62.93 322 P **P** **00 50 38.6 +0.4**
ARU Arti 62.93 322*c i*P **P** **00 50 38.6 +0.4**
ARU 00 51 19.7
ARU 00 52 56.6
ARU S **S** **00 59 09.1 +2.4**
ARU SS **SS** **01 03 13.7 +2.1**
ARU pmax pmax
comp=Z,28nm,1.1s
ARU Arti 62.93 322 P **P** **00 50 38.4 +0.2**
comp=Z,14nm,0.8s,baz=87,slow=4.1,SNR=23
comp=Z,14nm,0.8s
ABKAR Akbulak array 63.83 314 P **P** **00 50 44.9 +0.6**
ABKAR Akbulak array 63.83 314 P **P** **00 50 45.0 +0.6**
ABKAR IAmb IAmb 00 50 45.8
comp=Z,24nm,1.2s
C36M Paulatuk 64.18 23 P **P** **00 50 46.1 -0.1**
baz=284
AKTO Aktyubinsk 64.72 315 P **P** **00 50 49.8 -0.4**
comp=Z,6.2nm,0.7s,baz=64,slow=2.2,SNR=8.8
comp=Z,6.2nm,0.7s
NWAO Narrogin (SRO) 66.30 203 P **P** **00 51 00.7 +0.3**
NWAO Narrogin (SRO) 66.30 203 P **P** **00 51 00.7 +0.3**
NWAO pmax pmax
comp=Z,83nm,0.9s
TOO Toolangi 66.50 177 P **P** **00 51 02.4 +0.7**
TOO IAmb IAmb 00 53 27.1
comp=Z,12nm,1.0s
TOO Toolangi 66.50 177 P **P** **00 51 02.4 +0.7**
TOO pmax pmax
comp=Z,12nm,1.0s
HRA Herat 66.72 297 P **P** **00 51 03.8 +0.2**
HRA IAmb IAmb 00 53 28.8
comp=Z,8.0nm,0.9s
KIRV Kirov 67.11 325 P **P** **00 51 05.7 +0.4**
comp=Z,12nm,0.7s,baz=75,slow=20,SNR=4.2
comp=Z,12nm,0.7s
PRGR Permogore 67.87 329 *e*P **P** **00 51 08.8 -1.3**
PRGR *e* 00 51 32.9
PRGR pmax pmax
comp=Z,9.0nm,0.8s
GEYT Alibeck 68.60 302 P **P** **00 51 15.8 +0.5**
GEYT IAmb IAmb 00 51 17.5
comp=Z,18nm,0.9s
GEYT Alibeck 68.60 302 P **P** **00 51 16.0 +0.8**
comp=Z,12nm,0.9s,baz=72,slow=6.4,SNR=21
comp=Z,12nm,0.9s
GYA0B ALIBECK ARRAY 68.60 302 P **P** **00 51 15.9 +0.7**
GYA0B IAmb IAmb 00 51 17.4
comp=Z,15nm,0.9s
YKA Yellowknife Ar 70.14 29*ce*P **P** **00 51 25.2 +1.0**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 70.14 29 P **P** **00 51 24.4 +0.2**
comp=Z,1.1nm,0.6s,baz=296,slow=6.6,SNR=18
comp=Z,1.1nm,0.6s
APA Apatity 70.20 337 ||*i*P **P** **00 51 21.8 -2.7**
APA pmax pmax
comp=Z,8.0nm,0.9s
APA MLR MLR
comp=Z,1µm,25.0s
BELG Belogornoye 70.23 320 P **P** **00 51 24.9 -0.1**
comp=Z,17nm,1.0s,baz=212,slow=22,SNR=5.4
comp=Z,17nm,1.0s
CLRS Cowichan Lake 70.69 44 P **P** **00 51 27.9 +0.1**
ARCES ARCESS Array B 71.64 341 P **P** **00 51 33.8 +0.6**
ARCES ARCESS Array B 71.64 341 P **P** **00 51 33.8 +0.6**
ARCES pmax pmax
comp=Z,130nm,1.7s
ARCES ARCESS Array B 71.64 341 P **P** **00 51 33.3 +0.1**
comp=Z,4.6nm,0.9s,baz=70,slow=4.0,SNR=4.2
comp=Z,4.6nm,0.9s
NEEM North Greenlan 73.26 3 *e*P **P** **00 51 43.4 +0.3**
NEEM IAmb IAmb 00 51 45.6
comp=Z,5.1nm,0.6s
NEEM *e*PP PP 00 54 05.9 -20
DAG Danmarks Havn 73.61 356 *i* P **P** **00 51 44.0 -0.8**
DAG IAmb IAmb 00 51 48.0
comp=Z,10nm,1.0s
MAK Makhachkala 74.11 311 *e*P **P** **00 51 43.6 -4.7**
MAK *e*S **SKiKP** **01 01 14.1 -0.7**
MAK *e*SS **SS** **01 06 02.5 -2.1**
MAK pmax pmax
comp=Z,131nm,1.4s
OBN Obninsk 74.95 325 ||*e*P **P** **00 51 55.3 +2.3**
OBN *e**SP **pP** **00 51 59.8 +1.3**
OBN *e* 00 52 05.8
OBN 00 54 47.0
OBN pmax pmax
comp=Z,37nm,2.5s
OBN MLR MLR
comp=Z,464nm,17.0s
NEW Newport 75.15 43 P **P** **00 51 53.9 -0.5**
baz=297
UOSS Minazif 75.24 290 P **P** **00 51 54.7 -0.5**
UOSS IAmb IAmb 00 51 58.5
comp=Z,22nm,1.6s
FINES FINESS Array B 76.17 334 P **P** **00 52 00.2 +0.4**
FINES FINESS Array B 76.17 334 *i* P **P** **00 52 00.4 +0.5**
FINES pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 76.17 334 P **P** **00 51 59.8 -0.1**
comp=Z,3.3nm,0.9s,baz=90,slow=5.7,SNR=9.3
comp=Z,3.3nm,0.9s
ZEI Tsey 76.56 312 *e*P **P** **00 52 01.2 -1.5**
ZEI pmax pmax
comp=Z,2.0nm,0.5s
J08A Circle Bar Ran 76.56 48 P **P** **00 52 03.0 +0.4**
J08A IAmb IAmb 00 52 19.0
comp=Z,9.6nm,0.9s
KBZ Khabaz 76.78 313*de*P **P** **00 52 05.0 +1.4**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 76.78 313 P **P** **00 52 04.8 +1.2**
comp=Z,7.5nm,0.8s,baz=70,slow=5.5,SNR=13
comp=Z,7.5nm,0.8s
KIV Kislovodsk 76.81 313 P **P** **00 52 04.3 +0.3**
KIV IAmb IAmb 00 54 44.0
comp=Z,11nm,0.7s
KIV Kislovodsk 76.81 313 *e*P **P** **00 52 02.4 -1.5**
KIV pmax pmax
comp=Z,12nm,1.1s
CMB Columbia Colle 77.72 53 P **P** **00 52 10.1 +1.0**
CMB IAmb IAmb 00 52 24.6
comp=Z,51nm,2.0s
CMB Columbia Colle 77.72 53 P **P** **00 52 10.1 +1.0**
CMB pmax pmax
comp=Z,51nm,2.0s
MFID Camas Ranch 78.24 47 P **P** **00 52 13.2 +1.2**
MFID IAmb IAmb 00 52 28.3
comp=Z,9.8nm,0.9s
SUMG Summit 78.47 0 P **P** **00 52 14.0 +0.9**
SUMG IAmb IAmb 00 54 38.5
comp=Z,25nm,1.3s
SUMG Summit 78.47 0 P **P** **00 52 14.0 +0.9**
SUMG pmax pmax
comp=Z,25nm,1.3s
SUMG Summit 78.47 0 *i* P **P** **00 52 14.0 +0.9**
SUMG IAmb IAmb 00 52 17.1
comp=Z,33nm,1.5s
ELMT Elliston 78.75 43 P **P** **00 52 15.3 +0.4**
KVN Kaiserville 78.83 52 P **P** **00 52 16.0 +0.6**
KVN IAmb IAmb 00 52 31.5
comp=Z,11nm,0.9s
KVN Kaiserville 78.83 52 P **P** **00 52 16.0 +0.6**
KVN pmax pmax
comp=Z,11nm,0.9s
SOC Sochi 78.87 314 *e*P **P** **00 52 13.3 -2.0**
SOC *e* 00 55 09.1
SOC *e*PPP PPP 00 56 59.8
SOC *e*S **S** **01 02 11.2 -1.0**
SOC *e*SSS SSS 01 10 42.7
SOC MLR MLR
comp=Z,191nm,16.0s
NVAR Mina Array Bea 78.99 52 P **P** **00 52 16.3 0.0**
NVAR Mina Array Bea 78.99 52 P **P** **00 52 17.4 +1.1**
comp=Z,2.1nm,0.6s,baz=299,slow=5.6,SNR=13
comp=Z,2.1nm,0.6s
HLID Hailey 79.06 46 P **P** **00 52 17.2 +0.6**
baz=300
MNK Minsk 79.51 327 *i* P **P** **00 52 16.5 -2.1**
MNK comp=E,8.0nm,1.1s *i* P **P** **00 52 16.5 -2.1**
MNK comp=N,19nm,1.1s *i* P **P** **00 52 16.5 -2.1**
MNK comp=Z,15nm,1.2s,baz=54 *i* PP PP 00 55 03.5 -15
MNK *i* PPP PPP 00 56 47.9
MNK *i* S **S** **01 02 18.2 -0.3**
MNK *i* SS **SS** **01 07 26.4 +1.0**
MNK *i* SSS SSS 01 10 52.0
MNK *i* LQ LQ 01 20 04.6
MNK *i* LR LR 01 25 15.0
MNK *i* LRM MLR 01 30 38.8
MNK comp=E,131nm,15.9s *i* LRM MLR 01 30 42.6
MNK comp=N,296nm,17.8s *i* LRM MLR 01 34 09.9
MNK comp=Z,304nm,18.1s
MNK Minsk 79.51 327 *i* P **P** **00 52 16.4 -2.1**
MNK *i* S **S** **01 02 18.2 -0.3**
MNK *i* SS **SS** **01 07 26.4 +1.0**
MNK *i* SSS SSS 01 10 52.0
MNK pmax pmax
comp=N,19nm,1.1s
MNK pmax pmax
comp=E,8.0nm,1.1s

MNK					pmax	pmax				
	comp=Z,15nm,1.2s									
MNK					MLR	MLR				
	comp=E,131nm,16.0s									
MNK					MLR	MLR				
	comp=N,296nm,18.0s									
EGMT	**Eagleton**	**79.56**	**41**		P	**P**		**00 52 20.4**	**+1.3**	
	baz=302									
BOZ	**Bozeman (W)**	**79.74**	**43**		P	**P**		**00 52 20.4**	**+0.2**	
	baz=301									
NACGM	**Naroch**	**79.78**	**328**	*e*	P	**P**		**00 52 19.8**	**-0.2**	
	comp=Z,24nm,0.8s,baz=53									
FFC	**Flin Flon**	**79.79**	**32**		P	**P**		**00 52 20.5**	**+0.4**	
FFC					IAmb	IAmb		00 52 36.1		
	comp=Z,29nm,1.6s									
FFC	**Flin Flon**	**79.79**	**32**		P	**P**		**00 52 20.5**	**+0.4**	
FFC					pmax	pmax				
	comp=Z,29nm,1.6s									
GURO	**Guroymak-BITLI**	**79.82**	**308**		P	**P**		**00 52 20.9**	**+0.1**	
SCO	**Scoresbysund**	**79.96**	**355**	*e*	P	**P**		**00 52 21.4**	**+0.7**	
PPT2	**Papeete2**	**80.35**	**116**	*e*	LR	LR		01 16 45.3		
	comp=Z,165nm,26.2s									
PPT2				*e*	LR	LR		01 17 09.6		
	comp=Z,219nm,21.2s									
R11B	**Troy Canyon, C**	**80.89**	**51**		P	**P**		**00 52 26.8**	**+0.3**	
R11B					IAmb	IAmb		00 52 42.8		
	comp=Z,16nm,1.3s									
R11B	**Troy Canyon, C**	**80.89**	**51**		P	**P**		**00 52 26.5**	**-0.1**	
	baz=300									
AKASG	**Malin Array Be**	**81.08**	**324**		P	**P**		**00 52 27.0**	**-0.1**	
	comp=Z,1.2nm,0.6s,baz=48,slow=5.9,SNR=9.8									
	comp=Z,1.2nm,0.6s									
GWY	**Greenwater Val**	**81.21**	**54**		P	**P**		**00 52 27.8**	**-0.5**	
GWY					IAmb	IAmb		00 52 44.9		
	comp=Z,26nm,1.5s									
MARD	**Mardin**	**81.29**	**308**		P	**P**		**00 52 28.2**	**-0.4**	
MARD					IAmb	IAmb		00 52 32.3		
	comp=Z,16nm,1.1s									
RLMT	**Red Lodge**	**81.40**	**43**		P	**P**		**00 52 29.3**	**+0.1**	
	baz=303									
HFS	**Hagfors**	**81.59**	**337**		P	**P**		**00 52 30.5**	**+0.9**	
	comp=Z,1.3nm,0.7s,baz=83,slow=3.6,SNR=7.1									
	comp=Z,1.3nm,0.7s									
NB2	**NORSAR Subarra**	**81.75**	**338**		P	**P**		**00 52 30.5**	**0.0**	
	comp=Z,1.2nm,0.7s,baz=41,slow=5.1									
NOA	**NORSAR Array B**	**81.75**	**338**		P	**P**		**00 52 30.4**	**-0.1**	
	comp=Z,4.2nm,1.0s,baz=40,slow=5.0,SNR=6.3									
	comp=Z,4.2nm,1.0s									
DUG	**Dugway, Tooele**	**81.80**	**48**		P	**P**		**00 52 32.2**	**+0.8**	
	baz=301									
ICESG	**Greenland Ices**	**81.97**	**1**	*e*	P	**P**		**00 52 33.5**	**+1.6**	
ICESG					IAmb	IAmb		00 52 38.6		
	comp=Z,29nm,1.3s									
ARPR	**Arappgir-MALATY**	**82.04**	**310**		P	**P**		**00 52 33.3**	**+0.6**	
ARPR					IAmb	IAmb		00 52 42.0		
	comp=Z,12nm,1.1s									
BW06	**Boulder Array**	**82.51**	**45**		P	**P**		**00 52 36.2**	**+1.1**	
	baz=303									
PDAR	**Pinedale Array**	**82.51**	**45**		P	**P**		**00 52 35.3**	**+0.2**	
PDAR	**Pinedale Array**	**82.51**	**45**		P	**P**		**00 52 35.6**	**+0.5**	
	comp=Z,0.5nm,0.5s,baz=298,slow=0.6,SNR=6.6									
	comp=Z,0.5nm,0.5s									
GMRC	**Granite Mounta**	**82.63**	**54**		P	**P**		**00 52 36.2**	**+0.4**	
	baz=300									
TAOE	**Nuku Hiva Isla**	**83.39**	**104**	*e*	LR	LR		01 18 27.5		
	comp=Z,278nm,21.4s									
MILM	**Milestii Mici**	**83.52**	**321**	*e*	P	P		00 52 30.0	-10	
	comp=Z,40nm,2.5s									
MILM	**Milestii Mici**	**83.52**	**321**	*e*	P	P		00 52 30.0	-10	
MILM					pmax	pmax				
	comp=Z,40nm,2.5s									
TBI	**Tubuai**	**83.73**	**121**	*e*	LR	LR		01 18 52.7		
	comp=Z,1μm,33.2s									
GAZ	**Gaziantep**	**83.80**	**309**		P	**P**		**00 52 42.7**	**+1.0**	
GAZ					IAmb	IAmb		00 55 08.3		
	comp=Z,10nm,0.8s									
BNN	**Bunyan**	**83.82**	**311**		P	**P**		**00 52 42.5**	**+0.7**	
SRU	**San Rafael Swe**	**83.88**	**48**		P	**P**		**00 52 42.9**	**+0.7**	
SRU					IAmb	IAmb		00 52 58.2		
	comp=Z,8.8nm,1.0s									
SRU	**San Rafael Swe**	**83.88**	**48**		P	**P**		**00 52 42.9**	**+0.7**	
SRU					pmax	pmax				
	comp=Z,9.0nm,1.0s									
BR131	**Keskin Array S**	**84.77**	**313**		P	**P**		**00 52 46.8**	**+0.1**	
BR131					IAmb	IAmb		00 55 38.2		
	comp=Z,7.9nm,0.9s									
BR131	**Keskin Array S**	**84.77**	**313**		P	**P**		**00 52 46.8**	**+0.1**	
BR131					pmax	pmax				
	comp=Z,8.0nm,1.0s									
BRTR	**Keskin Array B**	**84.77**	**313**		P	**P**		**00 52 46.8**	**+0.1**	
BRTR	**Keskin Array B**	**84.77**	**313**		P	**P**		**00 52 47.5**	**+0.8**	
	comp=Z,4.5nm,0.8s,baz=92,slow=4.2,SNR=26									
	comp=Z,4.5nm,0.8s									
O20A	**White River Ci**	**84.78**	**47**		P	**P**		**00 52 47.9**	**+1.1**	
O20A					IAmb	IAmb		00 55 11.3		
	comp=Z,11nm,1.1s									
O20A	**White River Ci**	**84.78**	**47**		P	**P**		**00 52 47.1**	**+0.3**	
	baz=304									
BURAR	**Bucovina Array**	**85.04**	**323**		P	**P**		**00 52 47.3**	**-0.5**	
ULM	**Lac du Bonnet**	**85.51**	**33**		P	**P**		**00 52 50.7**	**+0.7**	
	comp=Z,1.6nm,0.7s,baz=338,slow=4.9,SNR=3.1									
	comp=Z,1.6nm,0.7s									
KOLS	**Kolonicke sedl**	**85.71**	**325**	*e*	P	**P**		**00 52 50.3**	**-0.7**	
KOLS	**Kolonicke sedl**	**85.71**	**325**	*e*	P	**P**		**00 52 50.3**	**-0.7**	
N23A	**Red Feather La**	**85.79**	**45**		P	**P**		**00 52 52.5**	**+0.6**	
	baz=306									
214A	**Organ Pipe Nat**	**86.13**	**56**		P	**P**		**00 52 53.5**	**+0.1**	
	baz=302									
CRVS	**Cervenica-Dubn**	**86.13**	**325**	*e*	P	**P**		**00 52 52.1**	**-1.0**	
CRVS	**Cervenica-Dubn**	**86.13**	**325**	*e*	P	**P**		**00 52 52.1**	**-1.0**	
ISCO	**Idaho Springs**	**86.63**	**46**		P	**P**		**00 52 56.9**	**+0.7**	
	baz=306									
AGMN	**Agassiz Nation**	**86.82**	**35**		P	**P**		**00 52 56.8**	**+0.3**	
	baz=312									
S22A	**4UR Ranch, Cre**	**87.04**	**48**		P	**P**		**00 52 59.1**	**+1.0**	
	baz=305									
MMAI	**Mount Meron Ar**	**87.29**	**306**		P	**P**		**00 52 59.8**	**+0.6**	
	comp=Z,4.4nm,0.8s,baz=61,slow=6.8,SNR=7.1									
	comp=Z,4.4nm,0.8s									
MNTX	**Cornudas Mount**	**91.52**	**52**		P	**P**		**00 53 19.6**	**+0.7**	
	baz=306									
TX31	**Lajitas Ar. Si**	**94.10**	**53**		P	**P**		**00 53 31.5**	**+0.5**	
TX31					IAmb	IAmb		00 56 10.1		
	comp=Z,12nm,1.1s									
TXAR	**Lajitas Array**	**94.10**	**53**		P	**P**		**00 53 32.9**	**+1.8**	
	comp=Z,1.1nm,0.5s,baz=304,slow=3.0,SNR=13									
	comp=Z,1.1nm,0.5s									
TORD	**Torodi Ar. Bea**	**123.39**	**313**		PKP	**PKPdf**		**00 59 09.9**	**+0.1**	
	comp=Z,0.4nm,0.4s,baz=39,slow=1.7,SNR=11									
SAML	**Samuel**	**148.57**	**55**			**PKPbc**		**00 59 59.0**	**-0.7**	
SAML	**Samuel**	**148.57**	**55**		PKP2	**PKPbc**		**00 59 59.0**	**-0.7**	
LPAZ	**La Paz**	**149.05**	**72**			**PKPbc**		**01 00 01.6**	**0.0**	
LPAZ	**La Paz**	**149.05**	**72**		PKP2	**PKPbc**		**01 00 01.6**	**0.0**	
PLCA	**Paso Flores**	**150.74**	**122**		PKPbc	**PKiKP**		**01 00 05.4**	**+0.4**	
	comp=Z,5.4nm,1.1s,baz=201,slow=3.0,SNR=4.9									

*IDC **21** 00:42:33.0±0.5,29.°26N×142.°54E, h0km, mb4.6/29, mbtmp4.6/33, ML3.4/3, MS4.3/29, Error ellipse: s-maj=17.2km s-min=12.5km az=60.0*

*BJI **21** 00:42:33.3,29.°29N×142.°30E, h7km, mb4.7/56, mB5.1/31, Ms4.8/40, Ms7 4.5/40*

*NEIC **21** 00:42:35.1±1.0,29.°26N±0.°06×142.°5E±0.°1, h10km±1km, mb4.9/96, Error ellipse: s-maj=17.4km s-min=9.4km az=87.0*

*JMA **21** 00:42:36.0±0.2,29.°3N±0.°6×14.°2E±.°, h55km, MV4.6/29, MW4.9/29, NEAR TORISHIMA IS*

*NIED **21** 00:42:36.0,29.°30N×142.°28E, h55km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; Mrr3.41; Mθθ-0.34; Mφφ-3.07; Mrθ-2.05; Mθφ0.94; Mφr2.44; Fault plane solution: Mo4.65000×10^16^ NP1: φs328.00000°, δ67.00000°, λ78.00000°. NP2: φs175.00000°, δ26.00000°, λ115.00000°.*

*GCMT **21** 00:42:36.1±0.2,29.°19N±0.°03×142.°66E±0.°01, h15km, MW5.0/109, Moment Tensor Solution. s41,c48; s109,c159; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.57±.16; Mθθ-0.25±.09; Mφφ-3.32±.11; Mrθ0.04±.23; Mθφ0.49±.07; Mφr0.61±.18; Best double couple: Mo3.53700×10^16^ NP1:φs353.00000°, δ50.00000°, λ93.00000°. NP2:φs169.00000°, δ40.00000°, λ87.00000°. Principal axes: T 3.6260, Plg85.0000°, Azm283.0000°; N -0.1780, Plg2.0000°, Azm171.0000°; P -3.4480,*

Plg5.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 21 00:42:36.5±0.4,29.°26N±0.°04×142.°50E±0.°06, h24km, n205, σ1°23/205, mb4.8/85, MS4.5/40, 2C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
CBIJ	**Chichi jima**	**2.17**	**187**	P		**Pn**	**00**	**43**	**10.9**	**-0.3**
CBIJ				*e*S		**Sn**	**00**	**43**	**37.1**	**-0.2**
CBIJ	**Chichi jima**	**2.17**	**187**	A		A	00	43	10.9	
	comp=E,26nm,4.2s,comp=N,24nm,6.4s									
JCJ	**Chichijima**	**2.17**	**187**	Pn		**Pn**	**00**	**43**	**10.9**	**-0.3**
JCJ	**Chichijima**	**2.17**	**187**	Pn		**Pn**	**00**	**43**	**07.3**	**-3.9**
	comp=N,28nm,0.3s,baz=88,slow=23,SNR=1.0									
JCJ					Sn	**Sn**	**00**	**43**	**31.0**	**-6.3**
	comp=N,144nm,0.3s,baz=278,slow=22,SNR=12									
JHH2	**Haha-jima-NKT2**	**2.63**	**186**	*e*S		**Sn**	**00**	**43**	**48.0**	**-0.7**
JHH2	**Haha-jima-NKT2**	**2.63**	**186**	A		A	00	43	48.0	
	comp=E,37nm,4.7s,comp=N,17nm,4.5s									
JAOM	**Aogashimamukai**	**3.97**	**324**	A		A	00	43	33.9	
	comp=E,11nm,6.2s,comp=N,12nm,9.1s									
JHJ2	**Mitsune**	**4.47**	**330**	Pn		**Pn**	**00**	**43**	**42.2**	**-0.7**
JHJ2	**Mitsune**	**4.47**	**330**	*e*P		**Pn**	**00**	**43**	**41.8**	**-1.1**
JHJ	**Hachijo jima 2**	**4.50**	**330**	Pn		**Pn**	**00**	**43**	**42.0**	**-1.2**
	comp=N,16nm,0.3s,baz=6.7,slow=18,SNR=1.5									
JHJ					Sn	**Sn**	**00**	**44**	**31.4**	**-3.3**
	comp=N,32nm,0.3s,baz=62,slow=21,SNR=2.1									
JHJ					LR	LR	00	45	29.8	
	comp=N,4μm,18.4s,baz=140,slow=39									
	comp=N,102nm,0.7s									
JMKN	**Mikurajimanish**	**5.24**	**333**	*e*S		**Sn**	**00**	**44**	**49.3**	**-3.8**
BSO1	**Boso 1**	**5.53**	**347**	P		**Pn**	**00**	**43**	**56.5**	**-0.4**
JOD2	**Odawara 2**	**6.65**	**335**	*e*P		**Pn**	**00**	**44**	**11.6**	**-1.2**
JOD2				*e*S		**Sn**	**00**	**45**	**25.4**	**-2.3**
JHU	**Hanno**	**7.11**	**338**	P		**Pn**	**00**	**44**	**18.3**	**-0.8**
JHU				*e*S		**Sn**	**00**	**45**	**33.5**	**-5.6**
JRY	**Ryogami san**	**7.39**	**337**	P		**Pn**	**00**	**44**	**20.4**	**-2.6**
JRY				*e*S		**Sn**	**00**	**45**	**43.2**	**-2.9**
JHO	**Hitachi**	**7.51**	**348**	P		**Pn**	**00**	**44**	**22.8**	**-1.8**
INU	**Inuyama**	**7.64**	**324**	Pn		**Pn**	**00**	**44**	**28.2**	**+1.9**
MJAR	**Matsushiro Arr**	**8.11**	**335**	Pn		**Pn**	**00**	**44**	**32.0**	**-0.8**
	comp=N,1.1nm,0.3s,baz=160,slow=11,SNR=9.8									
MJAR					Sn	**Sn**	**00**	**46**	**00.4**	**-3.3**
	baz=126,slow=43									
	comp=N,28nm,0.9s									
MAJO	**Matsushiro**	**8.11**	**335**			**Pn**	**00**	**44**	**33.4**	**+0.6**
JMM	**Marumori**	**8.70**	**351**	Pn		**Pn**	**00**	**44**	**39.7**	**-1.2**
JNU	**Nakatsue**	**10.67**	**294**	LR		LR	00	48	51.9	
	comp=N,2μm,19.8s,baz=142,slow=35									
JOW	**Kunigami**	**12.79**	**263**	LR		LR	00	50	22.3	
	comp=N,1μm,19.8s,baz=118,slow=37									
KSRS	**Korea Array**	**14.65**	**308**	Pn		**Pn**	**00**	**46**	**03.1**	**+0.8**
	comp=N,11nm,0.3s,baz=185,slow=28,SNR=6.4									
KSRS					LR	LR	00	51	36.1	
	comp=N,1μm,19.4s,baz=130,slow=37									
KS19	**Wonju Array Si**	**14.72**	**308**			**Pn**	**00**	**46**	**05.3**	**+2.2**
ASAJ	**Asahikawa**	**14.83**	**0**	LR		LR	00	53	13.0	
	comp=N,2μm,20.8s,baz=162,slow=43									
INCN	**Inchon**	**15.57**	**306**	Pn		**Pn**	**00**	**46**	**14.8**	**+0.3**
USA0B	**Ussuriysk Arra**	**17.10**	**334**	Pn		**Pn**	**00**	**46**	**33.4**	**-0.5**
USRK	**Ussuriysk Ar.**	**17.10**	**334**	Pn		**Pn**	**00**	**46**	**33.3**	**-0.6**
USRK	**Ussuriysk Ar.**	**17.10**	**334**	P		**Pn**	**00**	**46**	**33.6**	**-0.3**
	baz=133,slow=11,SNR=6.7									
	comp=N,7.8nm,0.8s									
YSS	**Yuzh-Sakhalins**	**17.67**	**1**	Pn		**Pn**	**00**	**46**	**39.7**	**-1.2**
MDJ	**Mudanjiang**	**18.44**	**330**	P		**P**	**00**	**46**	**49.5**	**-0.7**
MDJ	**Mudanjiang**	**18.44**	**330**	P		**Pn**	**00**	**46**	**50.3**	**-0.1**
MDJ				*p*P		P	00	46	51.8	+1.6
MDJ				*s*P		pP	00	46	53.4	-1.8
MDJ				PP		**PnPn**	**00**	**47**	**02.4**	**+0.2**
MDJ				SS		S	00	50	37.9	+18
MDJ				PcS		**PcS**	**00**	**54**	**51.8**	**-4.9**
MDJ				ScS		**ScS**	**00**	**58**	**32.3**	**-2.7**
MDJ				pmax		pmax				
	comp=N,51nm,1.0s									
MDJ				pmax		pmax				
	comp=N,410nm,4.7s									
MDJ				LR		LR				
	comp=N,1μm,16.3s									
MDJ				LR		LR				
	comp=N,880nm,15.5s									
MDJ				LR		LR				
	comp=N,2μm,19.6s									
DL2	**Dalian**	**19.75**	**305**	*e*P		**P**	**00**	**47**	**01.1**	**-3.5**
DL2				pmax		pmax				
	comp=N,57nm,1.3s									
DL2				pmax		pmax				
	comp=N,430nm,5.4s									
DL2				LR		LR				
	comp=N,970nm,13.1s									
DL2				LR		LR				
	comp=N,800nm,13.8s									
DL2				LR		LR				
	comp=N,1μm,13.7s									
YULB	**Yu-li**	**19.87**	**258**	P		**P**	**00**	**47**	**06.2**	**+0.2**
CN2	**Changchun**	**19.90**	**321**	P		**P**	**00**	**47**	**06.1**	**-0.2**
CN2				pmax		pmax				
	comp=N,20nm,1.0s									
SSLB	**Suanglung**	**20.02**	**259**	P		**P**	**00**	**47**	**08.3**	**+0.5**
SSLB				IAmb		IAmb	00	47	14.7	
	comp=Z,100nm,1.0s									
BNX	**BinXian**	**20.29**	**328**	⇓P		**P**	**00**	**47**	**10.8**	**+0.3**
BNX				S		Sn	00	51	01.3	+1.0
BNX				pmax		pmax				
	comp=Z,95nm,1.3s									
BNX				pmax		pmax				
	comp=Z,700nm,5.2s									
BNX				LR		LR				
	comp=Z,930nm,13.9s									
BNX				LR		LR				
	comp=Z,930nm,15.1s									
BNX				LR		LR				
	comp=Z,1μm,14.4s									
NJ2	**Nanjing**	**20.52**	**284**	*e*P		**P**	**00**	**47**	**13.6**	**+0.5**
NJ2				*s*P		**pP**	**00**	**47**	**17.5**	**-0.8**
NJ2				pmax		pmax				
	comp=Z,23nm,0.6s									
NJ2				pmax		pmax				
	comp=Z,480nm,3.5s									
NJ2				LR		LR				
	comp=Z,1μm,12.8s									
NJ2				LR		LR				
	comp=Z,940nm,12.8s									
NJ2				LR		LR				
	comp=Z,1μm,13.7s									
KLR	**Kul'dur**	**21.57**	**341**	P		**P**	**00**	**47**	**23.8**	**-0.5**
	comp=Z,14nm,1.1s,baz=153,slow=9.5,SNR=8.4									
	comp=Z,14nm,1.0s									
HEH	**HeiHe**	**23.87**	**336**	*e*P		**P**	**00**	**47**	**48.1**	**+0.1**
HEH				*p*P		**pP**	**00**	**47**	**50.8**	**-2.3**
HEH				S		**S**	**00**	**52**	**03.8**	**+1.1**
HEH				pmax		pmax				
	comp=Z,20nm,1.0s									
HEH				pmax		pmax				
	comp=Z,620nm,3.6s									
HEH				LR		LR				
	comp=Z,1μm,15.1s									
HEH				LR		LR				
	comp=Z,2μm,15.1s									
HEH				LR		LR				
	comp=Z,870nm,18.4s									
BJT	**Baijiatuan**	**24.09**	**303**	P		**P**	**00**	**47**	**48.9**	**-1.3**
BJI	**Beijing**	**24.09**	**304**	P		**P**	**00**	**47**	**51.8**	**+1.6**
BJI				pmax		pmax				
	comp=Z,7.0nm,0.9s									
WHN	**Wuhan**	**24.41**	**280**	P		**P**	**00**	**47**	**53.8**	**+0.6**
HNS	**HongShan**	**24.53**	**297**	⇑P		**P**	**00**	**47**	**53.9**	**-0.4**
HNS				pmax		pmax				
	comp=Z,13nm,1.6s									
XLT	**XiLinHaoTe**	**25.62**	**312**	*e*P		**P**	**00**	**48**	**04.3**	**+0.1**
XLT				*s*P		sP	00	48	11.3	-0.6
XLT				S		**S**	**00**	**52**	**31.3**	**+0.3**
XLT				*s*S		pS	00	52	37.4	+0.6
XLT				pmax		pmax				
	comp=Z,15nm,0.9s									
XLT				pmax		pmax				
	comp=Z,300nm,7.8s									
XLT				LR		LR				
	comp=Z,870nm,13.5s									
XLT				LR		LR				
	comp=Z,800nm,15.8s									
PETK	**Petropavlovsk-**	**26.32**	**21**	LR		LR	00	58	55.0	
	comp=Z,637nm,21.0s,baz=216,slow=37									
HIA	**Hailar**	**26.46**	**325**	P		**P**	**00**	**48**	**11.7**	**+0.1**
HIA				IAmb		IAmb	00	48	15.4	
	comp=Z,32nm,0.9s									
DAV	**Davao City (W)**	**27.23**	**219**	LR		LR	00	57	30.9	
	comp=Z,515nm,21.8s,baz=358,slow=33									
HHC	**Hu-ho-hao-te**	**27.70**	**303**	*e*P		**P**	**00**	**48**	**23.4**	**+0.4**
HHC				pmax		pmax				
	comp=Z,21nm,1.0s									
HHC				pmax		pmax				
	comp=Z,280nm,6.5s									
HHC				LR		LR				
	comp=Z,1μm,18.2s									
HHC				LR		LR				
	comp=Z,2μm,18.0s									
HHC				LR		LR				
	comp=Z,3μm,18.2s									
ENH	**Enshi**	**28.62**	**280**	P		**P**	**00**	**48**	**30.1**	**-1.1**
ENH				IAmb		IAmb	00	48	32.3	
	comp=Z,27nm,1.2s									
BTO	**Baotou**	**28.78**	**302**	*e*P		**P**	**00**	**48**	**32.9**	**+0.3**
BTO				*p*P		**pP**	**00**	**48**	**37.3**	**-0.7**
BTO				*s*P		**sP**	**00**	**48**	**39.9**	**-0.4**
BTO				PP		**PnPn**	**00**	**49**	**26.8**	**+3.1**
BTO				S		**S**	**00**	**53**	**22.0**	**+1.1**
BTO				*s*S		**sS**	**00**	**53**	**31.0**	**+0.7**
BTO				pmax		pmax				
	comp=Z,22nm,1.1s									
BTO				pmax		pmax				
	comp=Z,260nm,5.3s									
BTO				LR		LR				
	comp=Z,2μm,15.7s									
BTO				LR		LR				
	comp=Z,2μm,18.5s									
BTO				LR		LR				
	comp=Z,3μm,17.6s									
XAN	**Xi'an**	**28.90**	**288**	P		**P**	**00**	**48**	**34.4**	**+0.7**
XAN				pmax		pmax				
	comp=Z,20nm,1.0s									
XAN				LR		LR				
	comp=Z,2μm,16.2s									
XAN				LR		LR				
	comp=Z,1μm,17.1s									
XAN				LR		LR				
	comp=Z,1μm,17.8s									
GYA	**Guiyang**	**31.73**	**274**	*e*P		**P**	**00**	**48**	**58.8**	**0.0**
GYA				pmax		pmax				
	comp=Z,26nm,1.0s									
ULN	**Ulaanbaatar**	**32.98**	**314**	P		**P**	**00**	**49**	**09.7**	**+0.1**
ULN				IAmb		IAmb	00	49	13.4	
	comp=Z,17nm,0.9s									
SHEM	**Shemya Is, Ala**	**33.01**	**36**	LR		LR	01	00	00.2	
	comp=Z,386nm,22.0s,baz=114,slow=32									
SONM	**Songino Array**	**33.38**	**314**	P		**P**	**00**	**49**	**13.6**	**+0.5**
SONM				IAmb		IAmb	00	49	16.2	
	comp=Z,16nm,0.9s									
SONM	**Songino Array**	**33.38**	**314**	P		**P**	**00**	**49**	**13.9**	**+0.8**
	comp=Z,15nm,0.8s,baz=116,slow=7.9,SNR=20									
SONM				LR		LR	01	03	07.4	
	comp=Z,505nm,18.6s,baz=104,slow=37									
	comp=Z,15nm,0.8s									
YAK	**Yakutsk**	**33.85**	**349**	LR		LR	01	03	21.6	
	comp=Z,18nm,21.1s,baz=124,slow=37									
TOLI2	**Tolitoli**	**34.81**	**220**	P		**P**	**00**	**49**	**25.5**	**-0.2**
KMI	**Kunming**	**35.48**	**273**	⇑P		**P**	**00**	**49**	**30.8**	**-0.9**
KMI				pmax		pmax				
	comp=Z,13nm,0.8s									
KMI				LR		LR				
	comp=Z,470nm,17.2s									
KMI				LR		LR				
	comp=Z,740nm,20.7s									
KMI				LR		LR				
	comp=Z,700nm,21.0s									
PZH	**PanZhiHua**	**36.00**	**276**	P		**P**	**00**	**49**	**35.0**	**-1.0**
PZH				pmax		pmax				
	comp=Z,10.0nm,0.7s									
PZH				pmax		pmax				
	comp=Z,430nm,6.1s									
GTA	**Gaotai**	**36.38**	**298**	*e*P		**P**	**00**	**49**	**38.8**	**-0.3**
GTA				*s*P		pwP	00	49	51.9	-0.2
GTA				pmax		pmax				
	comp=Z,13nm,1.0s									
GTA				LR		LR				
	comp=Z,270nm,18.9s									
GTA				LR		LR				
	comp=Z,610nm,19.3s									
GTA				LR		LR				
	comp=Z,850nm,20.0s									
CRAI	**Chiangrai**	**39.12**	**267**	P		**P**	**00**	**50**	**02.4**	**+0.1**
CRAI				IAmb		IAmb	00	50	05.4	
	comp=Z,22nm,1.0s									
TNCH	**TengChong**	**39.19**	**275**	P		**P**	**00**	**50**	**04.3**	**+1.2**
TNCH				S		**S**	**00**	**56**	**03.0**	**+0.8**
TNCH				pmax		pmax				
	comp=Z,56nm,1.7s									
TNCH				pmax		pmax				
	comp=Z,220nm,4.4s									
TNCH				LR		LR				
	comp=Z,590nm,15.1s									
TNCH				LR		LR				
	comp=Z,420nm,12.7s									
TNCH				LR		LR				
	comp=Z,540nm,12.0s									
GOMU	**GeErMu**	**40.38**	**293**	P		**P**	**00**	**50**	**14.3**	**+1.2**
GOMU				*p*P		pP	00	50	17.3	-1.3

comp=Z,8.9nm,0.7s
WB0 Warramunga Arr 49.36 190 P P 00 51 23.9 -0.3
WR0 Warramunga Arr 49.53 190 P P 00 51 25.1 -0.4
WRA Warramunga Arr 49.54 190 P P 00 51 25.6 +0.1
WRA Warramunga Arr 49.54 190 P P 00 51 25.7 +0.1
comp=Z,21nm,0.9s,baz=9.1,slow=8.0,SNR=10
WRA PcP **PcP 00 52 48.0 +0.9**
comp=Z,4.0nm,0.9s,baz=358,slow=3.4,SNR=2.4
comp=Z,21nm,0.9s
M16K Timber Creek 49.70 33 P P 00 51 27.0 +0.6
FITZ Fitzroy Crossi 49.81 201 P P 00 51 27.0 -0.6
N17K Nushagak Hills 50.46 34 P P 00 51 32.8 +0.7
GSI Gunungsitoli 50.98 245 P P 00 51 35.9 -0.8
GSI IAmb IAmb 00 51 37.8
comp=Z,21nm,0.9s
KURK Kurchatov 51.69 313 P P 00 51 42.1 +0.6
KURBB Kurchatov Arra 51.75 313 P P 00 51 42.0 +0.1
comp=Z,11nm,0.6s,baz=91,slow=7.8,SNR=17
comp=Z,11nm,0.6s
PRZ Przheval'sk 52.44 303 P P 00 51 48.7 +1.2
KDAK Kodiak Island 52.48 38 LR LR 01 12 31.6
comp=Z,919nm,21.0s,baz=267,slow=34
AS31 Alice Springs 53.26 190 P P 00 51 53.5 +0.1
ASAR Alice Springs 53.26 190 P P 00 51 53.3 -0.1
ASAR Alice Springs 53.26 190 P P 00 51 53.7 +0.3
comp=Z,3.4nm,0.8s,baz=358,slow=4.7,SNR=6.8
ASAR PcP **PcP 00 53 01.5 +0.5**
comp=Z,0.4nm,0.7s,baz=35,slow=3.4,SNR=1.1
ASAR LR LR 01 12 51.3
comp=Z,373nm,21.6s,baz=7.5,slow=34
comp=Z,3.4nm,0.8s
CAST Castle Rocks 53.29 31 P P 00 51 53.4 +0.2
CAST IAmb IAmb 00 52 42.6
comp=Z,24nm,1.5s
SKT Skwentna 53.37 33 P P 00 51 53.3 -0.5
KSH Kashi 54.73 300 P P 00 52 07.8 +3.6
KSH sP pwP 00 52 15.1 -2.2
KSH pmax pmax
comp=Z,5.0nm,0.8s
KSH LR LR
comp=Z,510nm,14.1s
KSH LR LR
comp=Z,370nm,13.9s
KSH LR LR
comp=Z,470nm,12.9s
RND Reindeer 54.73 31 P P 00 52 03.1 -0.7
RND IAmb IAmb 00 52 06.2
comp=Z,14nm,1.2s
NEA2 Nenana 54.74 29 P P 00 52 03.8 +0.1
NEA2 IAmb IAmb 00 52 07.1
comp=Z,10nm,1.0s
EIDS Eidsvold 54.94 171 P P 00 52 06.2 +0.6
EIDS IAmb IAmb 00 52 07.6
comp=Z,13nm,1.1s
FRU1 Bishkek 55.14 304 P P 00 52 07.8 +0.6
AAK Ala-Archa 55.27 304 P P 00 52 08.5 +0.4
AAK Ala-Archa 55.27 304 P P 00 52 07.4 -0.7
comp=Z,2.5nm,0.7s,baz=103,slow=13,SNR=3.7
comp=Z,2.5nm,0.7s
IL31 55.70 29 P P 00 52 10.5 -0.1
ILAR Eielson Array 55.70 29 P P 00 52 10.3 -0.3
ILAR Eielson Array 55.70 29 P P 00 52 09.9 -0.7
comp=Z,2.2nm,0.8s,baz=258,slow=6.4,SNR=7.6
ILAR LR LR 01 13 39.2
comp=Z,243nm,21.3s,baz=262,slow=34
comp=Z,2.2nm,0.8s
E25K Arctic Village 56.47 25 P P 00 52 16.9 +0.8
E25K IAmb IAmb 00 52 31.9
comp=Z,7.7nm,0.9s
ARSB Arslanbob 56.62 302 P P 00 52 18.5 +0.7
BVAR Borovoye Array 56.66 317 P P 00 52 18.4 +0.8
comp=Z,12nm,0.8s,baz=99,slow=9.1,SNR=12
comp=Z,12nm,0.8s
BRVK Borovoye 56.72 317 P P 00 52 18.8 +0.7
BRVK IAmb IAmb 00 52 22.4
comp=Z,23nm,1.1s
BMAR Burnt Mountain 56.80 26 P P 00 52 19.9 +1.3
SCRK Sand Creek 56.93 30 P P 00 52 19.5 -0.1
SCRK IAmb IAmb 00 52 35.4
comp=Z,37nm,2.0s
CRQM Cirque 57.37 34 P P 00 52 23.8 +0.9
E27K Coleen River 57.96 25 P P 00 52 27.6 +0.9
KK31 Karatay Array 58.06 305 P P 00 52 28.2 +0.4
KKAR Karatay Array 58.06 305 P P 00 52 28.3 +0.5
D27M Malcolm River 58.21 24 P P 00 52 29.0 +0.5
D27M IAmb IAmb 00 52 45.7
comp=Z,6.9nm,0.8s
NIL Nilore 58.23 293 P P 00 52 29.2 +0.1
NIL IAmb IAmb 00 52 59.5
comp=Z,10nm,0.9s
BTK Batken 58.50 301 P P 00 52 31.9 +0.9
BTK IAmb IAmb 00 52 33.4
comp=Z,8.8nm,1.0s
F28M Old Crow 58.61 26 P P 00 52 32.2 +1.0
I28M Miner Creek 58.64 29 P P 00 52 32.1 +0.5
I28M IAmb IAmb 00 52 51.6
comp=Z,9.3nm,1.1s
E28M Babbage River 58.73 25 P P 00 52 33.1 +1.1
E28M IAmb IAmb 00 53 01.4
comp=Z,9.2nm,1.0s
DAWY Dawson 58.95 30 P P 00 52 34.9 +1.2
DAWY IAmb IAmb 00 52 35.8
comp=Z,9.7nm,1.1s
E29M Blow River 59.33 25 P P 00 52 37.0 +0.8
E29M IAmb IAmb 00 53 13.5
comp=Z,11nm,1.4s
EPYK Eagle Plains 59.91 27 P P 00 52 40.8 +0.6
G30M tAoh Zraii Nji 60.06 27 P P 00 52 41.6 +0.3
G30M IAmb IAmb 00 53 03.0
comp=Z,16nm,1.1s
CHGR Chuyangaron 60.09 300 P P 00 52 42.0 -0.1
STKA Stephens Creek 60.80 181 P P 00 52 47.0 +0.3
STKA Stephens Creek 60.80 181 P P 00 52 45.9 -0.7
comp=Z,3.6nm,0.9s,baz=351,slow=9.4,SNR=3.4
STKA LR LR 01 17 56.3
comp=Z,344nm,20.9s,baz=12,slow=35
comp=Z,3.6nm,0.9s
G31M Satah River 60.83 27 P P 00 52 46.3 -0.1
G31M IAmb IAmb 00 52 49.6
comp=Z,13nm,1.2s
INK Inuvik 60.96 25 P P 00 52 47.2 0.0
INK IAmb IAmb 00 53 01.2
comp=Z,8.0nm,1.2s
INK Inuvik 60.96 25 LR LR 01 26 07.7
comp=Z,97nm,18.0s,baz=188,slow=43
BBOO Buckleboo 62.03 186 P P 00 52 55.0 +0.1
ARU Arti 62.90 322 P P 00 53 00.9 +0.4
ARU Arti 62.90 322 P P 00 53 00.5 0.0
comp=Z,15nm,0.8s,baz=221,slow=2.4,SNR=8.8
comp=Z,15nm,0.8s
ABKAR Akbulak array 63.80 314 P P 00 53 06.6 0.0
ABKAR Akbulak array 63.80 314 P P 00 53 06.8 +0.2
ABKAR IAmb IAmb 00 53 11.8
comp=Z,7.3nm,0.6s
AKTO Aktyubinsk 64.69 315 P P 00 53 12.2 -0.3
comp=Z,5.2nm,0.8s,baz=75,slow=8.7,SNR=4.4
comp=Z,5.2nm,0.8s
HRA Herat 66.69 297 P P 00 53 26.3 +0.4
KIRV Kirov 67.07 325 P P 00 53 27.1 -0.4
comp=Z,7.7nm,0.6s,baz=58,slow=16,SNR=3.8
comp=Z,7.7nm,0.6s
EUNU Eureka 67.73 8 P P 00 53 32.2 +0.7
GEYT Alibeck 68.57 302 P P 00 53 38.2 +0.7
GEYT IAmb IAmb 00 53 40.5
comp=Z,13nm,0.9s
GEYT Alibeck 68.57 302 P P 00 53 38.2 +0.7
comp=Z,9.0nm,0.8s,baz=52,slow=5.8,SNR=9.2
comp=Z,9.0nm,0.8s
GYA0B ALIBECK ARRAY 68.57 302 P P 00 53 38.2 +0.7
GYA0B IAmb IAmb 00 53 45.5
comp=Z,10nm,0.8s
RAO Raoul Island 69.38 143 P P 00 53 42.6 +0.2
comp=Z,278nm,0.4s,baz=69,slow=20,SNR=4.1
YKA Yellowknife Ar 70.12 29 P P 00 53 46.5 -0.1
YKA Yellowknife Ar 70.12 29 P P 00 53 46.7 +0.2
comp=Z,2.9nm,0.9s,baz=293,slow=5.8,SNR=10
YKA LR LR 01 25 12.5
comp=Z,150nm,20.4s,baz=290,slow=36
comp=Z,2.9nm,0.9s
BELG Belogornoye 70.20 320 P P 00 53 49.1 +1.9
comp=Z,16nm,0.8s,baz=282,slow=2.4,SNR=5.9
comp=Z,16nm,0.8s
URZ Urewera 74.56 152 LR LR 01 23 47.6
comp=Z,215nm,21.8s,baz=332,slow=33
EDM Edmonton 74.93 37 P P 00 54 15.7 +0.2
EDM IAmb IAmb 00 54 17.5
comp=Z,15nm,1.1s
FINES FINESS Array B 76.14 334 P P 00 54 23.0 +0.8
FINES FINESS Array B 76.14 334 P P 00 54 22.4 +0.3
comp=Z,5.1nm,1.0s,baz=157,slow=25,SNR=2.4
comp=Z,5.1nm,1.0s
ORV Oroville 76.25 52 P P 00 54 23.2 0.0
ORV IAmb IAmb 00 54 25.7
comp=Z,16nm,1.4s
J08A Circle Bar Ran 76.55 48 P P 00 54 26.0 +1.0
J08A IAmb IAmb 00 54 27.6
comp=Z,7.8nm,1.0s
BMO Blue Mountains 76.60 46 P P 00 54 25.6 +0.4
KBZ Khabaz 76.74 313 P P 00 54 26.9 +1.0
comp=Z,9.4nm,1.0s,baz=81,slow=4.3,SNR=6.2
comp=Z,9.4nm,1.0s
KVAR Kislovodsk Arr 76.77 313 LR LR 01 30 59.3
comp=Z,244nm,18.0s,baz=244,slow=38
RPZ Rata Peaks 77.19 159 LR LR 01 25 04.8
comp=Z,153nm,20.8s,baz=286,slow=33
YERR Yerington 78.07 52 P P 00 54 33.7 -0.1
YERR IAmb IAmb 00 54 36.0
comp=Z,16nm,1.2s
MFID Camas Ranch 78.22 47 P P 00 54 35.0 +0.6
MFID IAmb IAmb 00 54 36.9
comp=Z,11nm,1.1s
SUMG Summit 78.44 0 P P 00 54 36.6 +1.2
ELMT Elliston 78.73 43 P P 00 54 37.8 +0.6
BMN Battle Mountai 78.75 50 P P 00 54 38.4 +0.9
NVAR Mina Array Bea 78.98 52 P P 00 54 39.1 +0.4
NVAR Mina Array Bea 78.98 52 P P 00 54 39.3 +0.5
comp=Z,4.2nm,0.9s,baz=281,slow=5.2,SNR=9.7
comp=Z,4.2nm,0.9s
FFC Flin Flon 79.77 32 P P 00 54 42.9 +0.4
FFC IAmb IAmb 00 54 44.0
comp=Z,15nm,1.3s
GURO Guroymak-BITLI 79.78 308 P P 00 54 44.0 +0.9
TPH Tonopah 79.89 52 P P 00 54 43.4 -0.3
ELK Elko 79.92 49 P P 00 54 43.8 0.0
YHL Hebgen Lake 80.38 44 P P 00 54 46.8 +0.4
R11B Troy Canyon, C 80.88 51 P P 00 54 49.2 +0.2
HVU Hansel Valley 80.99 47 P P 00 54 49.6 +0.1
HVU IAmb IAmb 00 55 05.4
comp=Z,27nm,2.0s
IMW Indian Meadow 81.03 45 P P 00 54 49.8 -0.1
AKASG Malin Array Be 81.04 324 P P 00 54 49.0 -0.4
comp=Z,2.0nm,0.8s,baz=50,slow=5.9,SNR=5.5
comp=Z,2.0nm,0.8s
NC405 NORSAR Array S 81.49 338 P P 00 54 52.1 +0.5
HFS Hagfors 81.55 337 P P 00 54 52.4 +0.5
comp=Z,2.7nm,0.7s,baz=58,slow=11,SNR=2.5
comp=Z,2.7nm,0.7s
NB2 NORSAR Subarra 81.71 338 P P 00 54 52.7 -0.1
comp=Z,1.2nm,0.8s,baz=40,slow=5.3
NOA NORSAR Array B 81.71 338 P P 00 54 53.0 +0.2
comp=Z,1.8nm,0.8s,baz=41,slow=5.2,SNR=4.4
NOA LR LR 01 36 16.4
comp=Z,290nm,20.1s,baz=45,slow=39
comp=Z,1.8nm,0.8s
HWUT Hardware Ranch 81.86 47 P P 00 54 55.1 +0.9
HWUT IAmb IAmb 00 54 56.7
comp=Z,14nm,1.1s
PD31 Pinedale Array 82.49 45 P P 00 54 57.7 +0.1
PDAR Pinedale Array 82.49 45 P P 00 54 57.6 +0.1
PDAR Pinedale Array 82.49 45 P P 00 54 58.0 +0.5
comp=Z,2.9nm,1.0s,baz=291,slow=2.5,SNR=7.9
comp=Z,2.9nm,1.0s
PFO Pinyon Flats O 82.64 56 LR LR 01 27 55.1
comp=Z,192nm,19.9s,baz=222,slow=33
SFJD Kangerlussuaq 83.53 5 LR LR 01 35 24.2
comp=Z,119nm,20.6s,baz=348,slow=38
GAZ Ganiep 83.77 309 P P 00 55 05.2 +1.2
BR131 Keskin Array S 84.74 313 P P 00 55 09.5 +0.5
BRTR Keskin Array B 84.74 313 P P 00 55 09.3 +0.3
BRTR Keskin Array B 84.74 313 P P 00 55 10.1 +1.1
comp=Z,4.0nm,0.8s,baz=101,slow=4.0,SNR=8.9
comp=Z,4.0nm,0.8s
O20A White River Ci 84.77 47 P P 00 55 09.3 +0.1
Y14A Wickenburg 84.93 54 P P 00 55 10.5 +0.5
Y14A IAmb IAmb 00 55 12.2
comp=Z,9.9nm,1.2s
KWP Kalwaria Pacla 85.00 325 P P 00 55 10.1 +0.2
ULM Lac du Bonnet 85.49 33 P P 00 55 12.3 -0.1
comp=Z,2.5nm,0.9s,baz=293,slow=5.8,SNR=3.1
comp=Z,2.5nm,0.9s
MLR Muntele Rosu 85.94 321 LR LR 01 35 36.6
comp=Z,161nm,20.4s,baz=68,slow=37
AGMN Agassiz Nation 86.80 35 P P 00 55 18.5 -0.4
AGMN IAmb IAmb 00 55 20.4
comp=Z,14nm,1.4s
MMAI Mount Meron Ar 87.25 306 P P 00 55 22.1 +0.7
comp=Z,7nm,0.7s,baz=25,slow=6.5,SNR=5.6
comp=Z,7nm,0.7s
F33A 5 Mile Ranch, 88.22 37 P P 00 55 26.3 +0.6
WMOK Wichita Mounta 94.02 46 P P 00 55 53.2 +0.3
WMOK IAmb IAmb 00 55 54.9
comp=Z,3.9nm,0.9s
TX31 Lajitas Ar. Si 94.09 53 P P 00 55 54.2 +0.7
TXAR Lajitas Array 94.09 53 P P 00 55 54.1 +0.6
TXAR Lajitas Array 94.09 53 P P 00 55 54.6 +1.1
comp=Z,3.8nm,1.0s,baz=310,slow=2.5,SNR=11
TXAR LR LR 01 35 32.2
comp=Z,109nm,19.7s,baz=295,slow=34
comp=Z,3.8nm,1.0s
TORD Torodi Ar. Bea 123.35 313 PKP PKiKP 01 01 32.9 +0.4
comp=Z,0.4nm,0.5s,baz=33,slow=4.7,SNR=1.9
PLCA Paso Flores 150.77 122 PKPbc PKPbc 01 02 25.9 -1.0
comp=Z,5.2nm,0.9s,baz=249,slow=2.9,SNR=6.0

*IDC **21** 00:48:24.8±0.7, 30.66N×131.83E, h0km, mb3.7/13, mbtmp3.8/17, ML3.3/4, Error ellipse: s-maj=24.9km s-min=14.3km az=82.0*
*NEIC **21** 00:48:28.0±1.2, 30.66N±0.06×131.8E±0.1, h15km±5km, mb4.3/13, Error ellipse: s-maj=12.6km s-min=8.2km az=90.0*
*JMA **21** 00:48:27.5±0.1, 30.6N±0.3×132.1E±0.8, h59km±2km, MV3.4/36, E OFF TANEGASHIMA ISLAND*
ISC 21 00:48:25.5±1.7, 30.64N±0.04×131.98E±0.05, h5km±10km, n59, σ1s24/70, mb4.0/20, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.86**	**271**	*eP*		**Pn**	**00 48 44.7**	**+0.4**
JTN				*eS*		**Sn**	**00 48 57.7**	**+0.5**
JMTN	**Minamitane**	**0.96**	**255**	*eP*		**Pn**	**00 48 46.2**	**+0.5**
JMTN				*eS*		**Sn**	**00 49 00.1**	**+0.3**
JTSR	**Tashiro 2**	**1.05**	**300**	*eP*		**Pn**	**00 48 47.0**	**+0.2**
JTSR				*eS*		**Sn**	**00 49 02.0**	**+0.2**
JNAR	**Kushima--Naru**	**1.07**	**326**	P		**Pn**	**00 48 47.5**	**+0.4**
JNAR				*eS*		**Sn**	**00 49 02.0**	**-0.3**
JNKG	**Nichinankitago**	**1.14**	**333**	*eP*		**Pg**	**00 48 48.3**	**+0.9**
JNKG				*eS*		**Sn**	**00 49 03.5**	**-0.6**
JYAK	**Yakushimahirau**	**1.33**	**253**	P		**Pg**	**00 48 51.1**	**0.0**
JYAK				*eS*		**Sg**	**00 49 08.5**	**+0.1**
JTZ	**Takazaki**	**1.47**	**329**	*eP*		**Pb**	**00 48 52.9**	**-0.4**
JTZ				*eS*		**Sb**	**00 49 11.6**	**-0.6**
JSU	**Suzuyama**	**1.56**	**304**	*eP*		**Pb**	**00 48 54.5**	**-0.5**
JSU				*eS*		**Sg**	**00 49 14.7**	**-1.1**
JTSN	**Tsuno**	**1.65**	**346**	*i P*		**Pn**	**00 48 55.2**	**+0.1**
JTSN				*eS*		**Sn**	**00 49 15.3**	**-1.3**
JZO	**Okuchi**	**1.90**	**322**	P		**Pb**	**00 48 59.8**	**-0.9**
JNN	**Nakanoshima**	**1.99**	**247**	*eS*		**Sb**	**00 49 24.3**	**-3.0**
JIU3	**Izumi3**	**2.14**	**333**	*eP*		**Pn**	**00 49 02.5**	**+0.6**
JIU3				*eS*		**Sn**	**00 49 27.8**	**-1.1**
JSJ	**Shimokoshiki**	**2.20**	**299**	*eP*		**Pn**	**00 49 02.5**	**-0.1**
JTO	**Tosashimizu**	**2.32**	**17**	*eP*		**Pn**	**00 49 02.7**	**-1.6**
JTO				*eS*		**Sn**	**00 49 28.0**	**-5.1**
JNU	**Nakatsue**	**2.64**	**340**			**Pn**	**00 49 07.5**	**-1.3**
JNU					Sn	**Sn**	**00 49 40.3**	**-1.0**
JNU	**Nakatsue**	**2.64**	**340**	Pn		**Pn**	**00 49 08.7**	**-0.1**
	6.5nm,0.3s,baz=201,slow=12,SNR=16							
JNU					Sn	**Sn**	**00 49 39.2**	**-2.0**
	10nm,0.3s,baz=203,slow=23,SNR=6.0							
	16nm,0.3s							
JMN	**Monobe**	**3.47**	**27**			**Pn**	**00 49 20.3**	**+0.1**
JTU	**Tsushima**	**4.44**	**331**	Pn		**Pn**	**00 49 32.4**	**-1.0**
JMZ	**Minamidaito 2**	**4.85**	**188**	Pn		**Pn**	**00 49 39.2**	**0.0**
JOW	**Kunigami**	**5.00**	**221**	Pn		**Pn**	**00 49 41.1**	**-0.1**
JOW	**Kunigami**	**5.00**	**221**	Pn		**Pn**	**00 49 41.8**	**+0.6**
	5.5nm,0.3s,baz=182,slow=29,SNR=7.7							
JOW					Sn	**Sn**	**00 50 36.4**	**-3.0**
	7.8nm,0.3s,baz=272,slow=28,SNR=6.6							
	12nm,0.3s							
INU	**Inuyama**	**6.32**	**41**	Pn		**Pn**	**00 50 01.6**	**+2.4**
MJAR	**Matsushiro Arr**	**7.85**	**40**	Pn		**Pn**	**00 50 22.1**	**+1.8**
	0.3nm,0.3s,baz=242,slow=14,SNR=4.9							
	1.1nm,0.4s							
MJB9	**Matsu-Tunnel**	**7.85**	**40**	Pn		**Pn**	**00 50 22.6**	**+2.3**
BJT	**Baijiatuan**	**15.92**	**310**	Pn		**Pn**	**00 52 10.3**	**+0.1**
KLR	**Kul'dur**	**18.57**	**360**	P		**Pn**	**00 52 44.0**	**+0.7**
	0.1nm,0.3s,baz=167,slow=11,SNR=5.0							
	3.5nm,0.9s							
ULN	**Ulaanbaatar**	**25.68**	**319**	P		**P**	**00 53 57.2**	**+0.8**
ULN					IAmb	IAmb	00 54 08.2	
	comp=Z,7.7nm,1.1s							
SONM	**Songino Array**	**26.04**	**318**	P		**P**	**00 53 58.8**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=128,slow=8.9,SNR=2.3							
	comp=Z,0.4nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**33.29**	**101**	T		T	01 30 08.3	
	baz=296,slow=75,SNR=14							
H11N1	**WAKE ISLAND Hy**	**33.29**	**101**	T		T	01 30 07.5	
	baz=296,slow=75,SNR=8.4							
H11N3	**WAKE ISLAND Hy**	**33.31**	**101**	T		T	01 30 08.4	
	baz=296,slow=75,SNR=13							
TIXI	**Tiksi**	**41.09**	**358**	P		**P**	**00 56 11.1**	**+1.4**
TIXI					IAmb	IAmb	00 56 20.5	
	comp=Z,7.8nm,1.4s							
KURBB	**Kurchatov Arra**	**44.12**	**313**	P		**P**	**00 56 33.9**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=101,slow=9.5,SNR=4.2							
	comp=Z,0.7nm,0.8s							
KNRA	**Kununurra**	**46.16**	**184**	P		**P**	**00 56 51.3**	**+0.2**
BVAR	**Borovoye Array**	**49.32**	**316**	P		**P**	**00 57 13.3**	**-2.1**
	comp=Z,0.4nm,0.4s,baz=97,slow=9.6,SNR=4.5							
	comp=Z,0.4nm,0.4s							
BRVK	**Borovoye**	**49.38**	**316**	P		**P**	**00 57 16.1**	**+0.3**
BRVK					IAmb	IAmb	00 57 29.5	
	comp=Z,3.1nm,1.1s							
KKAR	**Karatay Array**	**49.70**	**302**	P		**P**	**00 57 18.4**	**-0.1**
WB0	**Warramunga Arr**	**50.17**	**177**	P		**P**	**00 57 22.5**	**+0.3**
WB0					IAmb	IAmb	00 57 33.8	
	comp=Z,4.9nm,1.1s							
WRA	**Warramunga Arr**	**50.35**	**177**	P		**P**	**00 57 23.2**	**-0.2**
WRA	**Warramunga Arr**	**50.35**	**177**	P		**P**	**00 57 23.1**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=354,slow=8.5,SNR=5.9							
	comp=Z,1.0nm,0.8s							
ASAR	**Alice Springs**	**54.03**	**178**	P		**P**	**00 57 51.6**	**+0.8**
ASAR	**Alice Springs**	**54.03**	**178**	P		**P**	**00 57 51.3**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=11,slow=14,SNR=8.4							
	comp=Z,0.8nm,0.8s							
ABKAR	**Akbulak array**	**56.13**	**311**	P		**P**	**00 58 05.5**	**-0.3**
ABKAR	**Akbulak array**	**56.13**	**311**	P		**P**	**00 58 05.3**	**-0.6**
ABKAR					IAmb	IAmb	00 58 15.3	
	comp=Z,1.1nm,0.8s							
ILAR	**Eielson Array**	**58.99**	**30**	P		**P**	**00 58 25.9**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=262,slow=5.9,SNR=8.1							
	comp=Z,0.4nm,0.6s							
BMAR	**Burnt Mountain**	**59.61**	**26**	P		**P**	**00 58 32.0**	**+2.0**
RIDG	**Independent Ri**	**60.01**	**31**	P		**P**	**00 58 34.4**	**+1.5**
RIDG					IAmb	IAmb	00 58 46.1	
	comp=Z,5.0nm,1.3s							
SCRK	**Sand Creek**	**60.35**	**30**	P		**P**	**00 58 35.9**	**+0.6**
SCRK					IAmb	IAmb	00 58 37.6	
	comp=Z,3.0nm,1.2s							
E27K	**Coleen River**	**60.63**	**25**	P		**P**	**00 58 38.4**	**+1.4**
E27K					IAmb	IAmb	00 58 53.9	
	comp=Z,2.7nm,1.1s							
M26K	**Nabesna, AK**	**61.08**	**32**	P		**P**	**00 58 41.1**	**+0.9**
BCAR	**Beaver Creek A**	**61.49**	**31**	P		**P**	**00 58 44.3**	**+1.4**
I28M	**Miner Creek**	**61.78**	**28**	P		**P**	**00 58 46.0**	**+1.0**
STKA	**Stephens Creek**	**62.85**	**171**	P		**P**	**00 58 52.5**	**+0.2**
	comp=Z,2.7nm,0.6s,baz=344,slow=5.7,SNR=7.2							
	comp=Z,2.7nm,0.6s							
KBZ	**Khabaz**	**68.94**	**309**	P		**P**	**00 59 31.6**	**0.0**
	comp=Z,1.3nm,0.8s,baz=18,slow=9.6,SNR=2.2							
	comp=Z,1.3nm,0.8s							
FINES	**FINESS Array B**	**70.65**	**331**	P		**P**	**00 59 41.5**	**-0.2**
	comp=Z,4.1nm,0.9s,baz=98,slow=5.8,SNR=11							
	comp=Z,4.1nm,0.9s							
YKA	**Yellowknife Ar**	**73.13**	**26**	P		**P**	**00 59 57.3**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=301,slow=5.8,SNR=4.2							
	comp=Z,0.4nm,0.8s							
AKASG	**Malin Array Be**	**74.31**	**320**	P		**P**	**01 00 03.6**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=53,slow=6.5,SNR=2.0							
	comp=Z,0.1nm,0.3s							
NOA	**NORSAR Array B**	**76.79**	**335**	P		**P**	**01 00 17.8**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=47,slow=5.5,SNR=1.0							
	comp=Z,0.5nm,0.8s							
NVAR	**Mina Array Bea**	**85.09**	**48**	P		**P**	**01 01 03.4**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=297,slow=6.0,SNR=2.2							
	comp=Z,0.2nm,0.4s							

*IDC **21** 00:52:04.8±1.5, 30.62N×131.55E, h0km, mb3.6/6, mbtmp3.6/8, ML3.1/2, Error ellipse: s-maj=72.1km s-min=19.3km az=76.0*
*JMA **21** 00:52:07.3±0.2, 30.7N±0.4×132.0E±1.0, h56km±2km, MV2.8/33, E OFF TANEGASHIMA ISLAND*
ISC 21 00:52:07.0±3.0, 30.71N±0.06×132.10E±0.08, h25km±21km, n19, σ1s12/29, mb3.6/6, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.96**	**267**	P		**Pn**	**00 52 24.2**	**-0.7**
JTN				*eS*		**Sb**	**00 52 37.5**	**+0.1**
JMTN	**Minamitane**	**1.08**	**254**	P		**Pn**	**00 52 26.0**	**-0.5**
JMTN				*eS*		**Sn**	**00 52 38.6**	**-2.1**
JNAR	**Kushima--Naru**	**1.08**	**319**	*eP*		**Pn**	**00 52 26.3**	**-0.3**
JNAR				*eS*		**Sn**	**00 52 40.0**	**-0.8**
JTSR	**Tashiro 2**	**1.11**	**295**	*eP*		**Pn**	**00 52 26.0**	**-1.0**
JNKG	**Nichinankitago**	**1.14**	**327**	*eP*		**Pn**	**00 52 26.8**	**-0.5**
JNKG				*eS*		**Sn**	**00 52 41.2**	**-0.9**
JYAK	**Yakushimahirau**	**1.45**	**252**	P		**Pn**	**00 52 30.9**	**-0.7**
JYAK				S		**Sn**	**00 52 49.2**	**-0.6**
JTZ	**Takazaki**	**1.47**	**324**	P		**Pn**	**00 52 31.7**	**-0.3**
JTZ				*eS*		**Sn**	**00 52 49.8**	**-0.7**
JTSN	**Tsuno**	**1.62**	**342**	P		**Pn**	**00 52 33.8**	**-0.1**
JTSN				S		**Sn**	**00 52 53.6**	**-0.4**
JSU	**Suzuyama**	**1.62**	**300**	*eP*		**Pn**	**00 52 33.5**	**-0.5**
JSU				S		**Sn**	**00 52 53.7**	**-0.5**
JIU3	**Izumi3**	**2.14**	**330**	*eP*		**Pn**	**00 52 41.5**	**+0.3**
JTO	**Tosashimizu**	**2.23**	**15**	*eP*		**Pn**	**00 52 41.2**	**-1.2**
JTO				S		**Sn**	**00 53 05.7**	**-3.5**
JNU	**Nakatsue**	**2.62**	**337**	Pn		**Pn**	**00 52 48.6**	**+0.8**
	4.7nm,0.3s,baz=170,slow=12,SNR=6.8							
JNU					Sn	**Sn**	**00 53 18.9**	**0.0**
	2.4nm,0.3s,baz=321,slow=13,SNR=2.5							
	9.9nm,0.3s							
KLR	**Kul'dur**	**18.50**	**359**	P		**Pn**	**00 56 23.3**	**+1.8**
	0.1nm,0.3s,baz=168,slow=5.2,SNR=4.0							
	1.4nm,0.7s							
SONM	**Songino Array**	**26.06**	**318**	P		**P**	**00 57 38.0**	**-0.5**
	0.2nm,0.4s,baz=133,slow=11,SNR=2.9							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**44.15**	**313**	P		**P**	**01 00 12.9**	**-0.5**
	0.6nm,0.7s,baz=101,slow=9.2,SNR=4.0							
	0.6nm,0.7s							
BVAR	**Borovoye Array**	**49.35**	**315**	P		**P**	**01 00 53.7**	**-0.4**
	0.7nm,0.6s,baz=93,slow=10,SNR=2.5							
	0.7nm,0.9s							
WRA	**Warramunga Arr**	**50.40**	**177**	P		**P**	**01 01 03.1**	**+0.7**
	0.5nm,0.8s,baz=354,slow=9.7,SNR=2.6							
	0.5nm,0.8s							
ASAR	**Alice Springs**	**54.09**	**178**	P		**P**	**01 01 31.5**	**+1.7**
	0.3nm,0.6s,baz=350,slow=11,SNR=2.8							
	0.3nm,0.6s							
FINES	**FINESS Array B**	**70.65**	**331**	P		**P**	**01 03 20.4**	**+0.3**
	1.6nm,0.6s,baz=76,slow=7.3,SNR=7.1							
	1.6nm,0.6s							

*IDC **21** 01:00:41.6±1.4, 2.94N×128.56E, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=91.8km s-min=17.2km az=65.0*
*NEIC **21** 01:00:43.6±1.1, 2.95N±0.10×128.8E±0.1, h10km±1km, mb4.4/16, Error ellipse: s-maj=24.6km s-min=12.0km az=123.0*
**ISC 21 01

WB2					IAmb	IAmb	01 06 23.9	
	comp=Z,12nm,1.4s							
WR0	**Warramunga Arr**	**23.45**	**166**	P	**P**		**01 05 52.9**	**+0.3**
WR0					IAmb	IAmb	01 06 12.2	
	comp=Z,10nm,1.4s							
AS31	**Alice Springs**	**26.90**	**169**	P	**P**		**01 06 25.0**	**+0.8**
ASAR	**Alice Springs**	**26.91**	**169**	P	**P**		**01 06 24.8**	**+0.6**
ASAR	**Alice Springs**	**26.91**	**169**	P	**P**		**01 06 25.0**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=354,slow=8.1,SNR=31							
	comp=Z,1.1nm,0.5s							
CMAR	**Chiang Mai Arr**	**32.97**	**300**	P	**P**		**01 07 16.8**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=120,slow=6.4,SNR=1.8							
	comp=Z,0.7nm,0.3s							
FORT	**Forrest**	**33.51**	**181**	P	**P**		**01 07 22.7**	**+0.2**
FORT					IAmb	IAmb	01 07 45.9	
	comp=Z,16nm,1.0s							
MAJO	**Matsushiro**	**34.60**	**14**	P	**P**		**01 07 32.2**	**+0.3**
MAJO					IAmb	IAmb	01 07 35.6	
	comp=Z,11nm,1.1s							
BBOO	**Buckleboo**	**36.21**	**169**	P	**P**		**01 07 45.8**	**0.0**
STKA	**Stephens Creek**	**36.71**	**161**	P	**P**		**01 07 50.2**	**+0.1**
STKA	**Stephens Creek**	**36.71**	**161**	P	**P**		**01 07 50.5**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=337,slow=11,SNR=6.0							
	comp=Z,1.3nm,0.3s							
JTM	**Tenmabayashi**	**39.33**	**15**	P	**P**		**01 08 11.8**	**-0.2**
MIDW	**Midway**	**57.15**	**58**	P	**P**		**01 10 29.6**	**-0.2**
MK31	**Makanchi Array**	**59.34**	**325**	P	**P**		**01 10 45.6**	**+0.8**
MK31					IAmb	IAmb	01 11 28.4	
	comp=Z,5.1nm,1.4s							
MKAR	**Makanchi Array**	**59.34**	**325**	P	**P**		**01 10 45.3**	**+0.5**
MKAR	**Makanchi Array**	**59.34**	**325**	P	**P**		**01 10 45.6**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=115,slow=8.4,SNR=9.3							
	comp=Z,0.6nm,0.5s							
RTZ	**Ruatahuna**	**60.72**	**138**	P	**P**		**01 10 53.5**	**-0.9**
KURBB	**Kurchatov Arra**	**63.48**	**327**	P	**P**		**01 11 12.8**	**+0.1**
	comp=Z,2.0nm,0.2s,baz=118,slow=6.0,SNR=1.7							
	comp=Z,2.0nm,0.2s							
CHGR	**Chuyangaron**	**64.66**	**312**	P	**P**		**01 11 22.0**	**+1.2**
CHGR					IAmb	IAmb	01 11 39.5	
	comp=Z,6.9nm,1.2s							
KKAR	**Karatay Array**	**65.16**	**317**	P	**P**		**01 11 24.1**	**+0.2**
BVAR	**Borovoye Array**	**69.07**	**327**	P	**P**		**01 11 48.6**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=122,slow=5.4,SNR=2.3							
	comp=Z,0.3nm,0.4s							
B21K	**Ikpikpuk River**	**82.66**	**20**	P	**P**		**01 13 05.5**	**-0.2**
B21K					IAmb	IAmb	01 13 06.0	
	comp=Z,3.4nm,1.2s							

MOS ***21*** *01:20:25.5,40˚.18N×44˚.92E,h10km,MPVA3.4*
DRS ***21*** *01:20:26.8,38˚.84N×43˚.27E,h45km*
TIF ***21*** *01:20:26.0,40˚.38N×44˚.83E,h3km*
ISK ***21*** *01:20:27.3,40˚.20N×44˚.90E,h18km,ML2.0/6*
AFAD ***21*** *01:20:27.1±0.0,40˚.29N×44˚.80E,h7km±1km,ML2.1*

ISC 21 01:20:26.4±1.0, **40˚.31N**±0˚.03×**44˚.91E**±0˚.03, **h16**km±8km, **n39**,σ1ˢ**26**/67, **Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GNI	**Garni**	**0.21**	**219**	Pg		**Pb**		**01 20 31.6**	**-0.3**
GNI				Sg		**Sg**		**01 20 34.9**	**+0.2**
GNI	**Garni**	**0.21**	**219**	*e*Pg		**Pg**		**01 20 31.0**	**-0.3**
GNI				*e*Sg		**Sb**		**01 20 35.5**	**-0.1**
TASB	**TASBURUN-IGDIR**	**0.61**	**238**	Pg		**Pg**		**01 20 38.5**	**+0.1**
TASB				Sg		**Sb**		**01 20 47.0**	**-0.2**
IGDI	**IGDIR**	**0.78**	**236**	P		**Pb**		**01 20 40.8**	**-0.8**
IGDI				*i* AML		AML		01 20 51.0	
	comp=E,88nm,0.3s								
IGDI				S		**Sb**		**01 20 51.2**	**-0.7**
IGDI				*i* AML		AML		01 20 52.0	
	comp=N,75nm,0.2s								
EAK	**Akyaka**	**1.06**	**291**	P		**Pb**		**01 20 46.6**	**0.0**
EAK				*i* AML		AML		01 21 01.0	
	comp=N,151nm,0.6s								
EAK				*i* AML		AML		01 21 01.0	
	comp=E,103nm,0.5s								
EAK				S		**Sg**		**01 21 01.3**	**+0.3**
DMNI	**Dmanisi**	**1.16**	**332**	P		**Pn**		**01 20 47.4**	**-0.7**
DMNI				S		**Sb**		**01 21 02.1**	**-0.8**
DIGO	**Kars**	**1.18**	**276**	P		**Pn**		**01 20 47.9**	**-0.7**
DIGO				*i* AML		AML		01 21 03.0	
	comp=N,184nm,0.3s								
DIGO				S		**Sb**		**01 21 03.6**	**-0.1**
DIGO				*i* AML		AML		01 21 05.0	
	comp=E,111nm,0.5s								
TRLG	**Trialeti**	**1.37**	**334**	P		**Pn**		**01 20 51.2**	**+0.1**
TRLG				S		**Sn**		**01 21 08.8**	**-0.3**
BGD	**Bogdanovka**	**1.38**	**314**	P		**Pb**		**01 20 52.3**	**+0.3**
BGD				S		**Sg**		**01 21 10.9**	**-0.1**
CLDR	**Caldiran**	**1.40**	**214**	Pn		**Pn**		**01 20 51.4**	**-0.1**
KOTA	**Agri, Merkez-K**	**1.40**	**249**	S		**Sg**		**01 21 14.8**	**+3.0**
KARS	**Kars**	**1.43**	**283**	Pn		**Pb**		**01 20 53.1**	**+0.2**
BRNG	**Burnasheti**	**1.55**	**328**	P		**Pb**		**01 20 54.8**	**0.0**
BRNG				S		**Sb**		**01 21 15.1**	**+0.9**
AGRB	**Hanur-Agry**	**1.65**	**244**	Pn		**Pn**		**01 20 55.4**	**+0.5**
DORK	**Agr/Tutak/Do**	**1.88**	**241**	P		**Pg**		**01 21 01.7**	**-0.9**
DORK				S		**Sg**		**01 21 28.0**	**+1.0**
DORK				*i* AML		AML		01 21 30.0	
	comp=N,11nm,0.6s								
DORK				*i* AML		AML		01 21 36.0	
	comp=E,7.5nm,0.9s								
SENK	**Senkaya-Erzuru**	**1.97**	**278**	Pn		**Pn**		**01 21 00.7**	**+1.3**
ALIG	**Mtskhetisjvari**	**2.03**	**332**	P		**Pb**		**01 21 02.7**	**-0.3**
ALIG				S		**Sb**		**01 21 29.0**	**+1.0**
ABS	**Abastumani**	**2.15**	**313**	P		**Pb**		**01 21 05.9**	**+0.9**
ABS				S		**Sg**		**01 21 35.5**	**0.0**
ABS	**Abastumani**	**2.15**	**313**	*e*Pg		**Pg**		**01 21 05.9**	**+0.9**
ABS				*e*Sg		**Sg**		**01 21 35.5**	**0.0**
AKT	**Akhty**	**2.44**	**60**	*e*Pn		**Pb**		**01 21 09.4**	**-0.5**
AKT				*e*Sn		**Sb**		**01 21 41.4**	**+1.7**
KMKR	**Kumukh**	**2.46**	**41**	*e*Pn		**Pb**		**01 21 11.2**	**+0.9**
KMKR				*e*Sn		**Sg**		**01 21 43.6**	**-1.8**
ONI	**Oni**	**2.53**	**335**	Pn		**Pb**		**01 21 10.2**	**-1.3**
ONI	**Oni**	**2.53**	**335**	P		**Pb**		**01 21 11.3**	**-0.2**
ONI				S		**Sb**		**01 21 44.4**	**+2.0**
ONI	**Oni**	**2.53**	**335**	*e*Pn		**Pb**		**01 21 11.3**	**-0.2**
ONI				*e*Sn		**Sb**		**01 21 44.4**	**+2.0**
BTLR	**Botlikh**	**2.55**	**22**	*e*Pn		**Pb**		**01 21 11.1**	**-0.7**
BTLR				*e*Sn		**Sb**		**01 21 45.1**	**+2.1**
LACR	**Lac**	**2.56**	**350**	*e*Pn		**Pb**		**01 21 11.9**	**-0.1**
LACR				*e*Sn		**Sb**		**01 21 45.3**	**+2.0**
GNBR	**Gunib**	**2.59**	**36**	*e*Pn		**Pb**		**01 21 11.8**	**-0.7**
GNBR				*e*Sn		**Sb**		**01 21 45.1**	**+1.0**
ZEI	**Tsey**	**2.59**	**343**	*e*Pn		**Pb**		**01 21 12.0**	**-0.6**
XNZR	**Khunzakh**	**2.61**	**31**	*e*Pn		**Pb**		**01 21 14.6**	**+1.8**
XNZR				*e*Sn		**Sb**		**01 21 47.1**	**+2.3**
KMGR	**Komgaron**	**2.75**	**359**	*e*Sn		**Sb**		**01 21 50.1**	**+1.5**
DIGR	**Digorskoe uzhe**	**2.77**	**339**	*e*Pn		**Pb**		**01 21 15.5**	**-0.2**
DIGR				*e*Sn		**Sb**		**01 21 51.1**	**+1.6**
ARKR	**Arakani**	**2.77**	**34**	*e*Pn		**Pb**		**01 21 14.1**	**-1.6**
ARKR				*e*Sn		**Sb**		**01 21 48.9**	**-0.5**
UNCR	**Uncukul**	**2.79**	**30**	*e*Pn		**Pb**		**01 21 15.7**	**-0.2**
UNCR				*e*Sn		**Sb**		**01 21 50.5**	**+0.7**
DVE	**Vedeno**	**2.80**	**19**	*e*Pn		**Pb**		**01 21 15.1**	**-1.0**
ARNR	**Ardon**	**2.91**	**351**	*e*Sn		**Sb**		**01 21 54.8**	**+1.6**
KRNR	**Karanay**	**2.93**	**30**	*e*Pn		**Pb**		**01 21 17.9**	**-0.4**
KRNR				*e*Sn		**Sb**		**01 21 54.0**	**+0.1**
BTKR	**Batakoyurt**	**3.07**	**355**	*e*Pn		**Pb**		**01 21 21.2**	**+0.5**
BTKR				*e*Sn		**Sb**		**01 21 58.5**	**+0.5**
NEUR	**Neytrino**	**3.38**	**331**	*e*Sn		**Sb**		**01 22 05.6**	**-1.4**
KBZ	**Khabaz**	**3.73**	**337**	*i* Pn		**Pb**		**01 21 28.9**	**-3.0**
KBZ				*e*Sn		**Sb**		**01 22 12.4**	**-4.5**

IDC ***21*** *01:23:05.1±0.8,35˚.41N×141˚.77E,h0km,mb3.9/15, mbtmp3.9/18,ML3.3/3,MS3.2/1,Error ellipse: s-maj=20.1km s-min=16.8km az=91.0*
NIED ***21*** *01:23:07.0,35˚.52N×141˚.94E,h37km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.83; Mθθ0.20; Mϕϕ -2.04; Mrθ-0.11; Mθϕ-0.48; Mϕr0.70; Fault plane solution: M₀2.11000×10¹⁵ NP1:ϕs4.00000°, δ55.00000°, λ80.00000°. NP2:ϕs201.00000°, δ36.00000°, λ104.00000°.*
JMA ***21*** *01:23:07.0±0.4,35˚.5N±0˚.9×14˚.2E±˚,h37km,MV3.9/38, FAR E OFF KANTO*

ISC 21 01:23:07.9±3.4, **35˚.49N**±0˚.04×**141˚.80E**±0˚.07, **h17**km±21km, **n41**,σ0ˢ**89**/37, **mb3.9**/15, **Near east coast of eastern Honshu**

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

BSO1	**Boso 1**	**1.08**	**219**	*e*P		**Pb**		**01 23 27.4**	**-0.3**
JSMT	**Sammumatsuo**	**1.12**	**278**	*e*P		**Pb**		**01 23 28.7**	**-0.1**
JIHU	**Itakohorinouch**	**1.14**	**295**	*e*P		**Pb**		**01 23 29.0**	**-0.3**
BSO3	**Boso 3**	**1.27**	**237**	*e*P		**Pn**		**01 23 30.8**	**+0.2**
JHYU	**Hitachinakayam**	**1.30**	**311**	*e*P		**Pn**		**01 23 30.7**	**-0.6**
JFK	**Kawauchi**	**2.02**	**338**	P		Pn		01 23 39.5	-1.7
JIM2	**Oshima 3**	**2.09**	**249**	P		**Pn**		**01 23 41.6**	**-0.7**
JIM2				S		**Sn**		**01 24 07.7**	**-0.2**
JAG	**Ashikaga**	**2.12**	**297**	P		**Pn**		**01 23 42.3**	**-0.3**
JOD2	**Odawara 2**	**2.23**	**265**	P		**Pn**		**01 23 43.7**	**-0.5**
JOD2				*e*S		**Sn**		**01 24 11.3**	**-0.1**
JMYK	**Miyake Tsubota**	**2.34**	**233**	*e*P		**Pn**		**01 23 45.5**	**-0.2**
JMYK				S		**Sn**		**01 24 14.5**	**+0.5**
JOTO	**OTAMA OYAMA**	**2.38**	**331**	P		**Pn**		**01 23 46.0**	**-0.2**
JRY	**Ryogami san**	**2.42**	**283**	P		**Pn**		**01 23 47.1**	**+0.4**
JMKN	**Mikurajimanish**	**2.42**	**229**	P		**Pn**		**01 23 47.4**	**+0.6**
JKT	**Katashina**	**2.43**	**302**	P		**Pn**		**01 23 46.8**	**-0.2**
JMM	**Marumori**	**2.50**	**341**	P		**Pn**		**01 23 47.1**	**-0.8**
JMM				*e*S		**Sn**		**01 24 15.4**	**-2.6**
JHJ	**Hachijo jima 2**	**2.90**	**216**	Pn		**Pn**		**01 23 52.2**	**-1.1**
	34nm,0.3s,baz=75,slow=18,SNR=11								
JHJ				S		**Sn**		**01 24 25.1**	**-2.7**
	92nm,0.3s,baz=62,slow=24,SNR=12								
	74nm,0.3s								
MJAR	**Matsushiro Arr**	**3.10**	**291**	Pn		**Pn**		**01 23 55.6**	**-0.5**
	1.2nm,0.3s,baz=87,slow=13,SNR=27								
	6.9nm,0.5s								
JCJ	**Chichijima**	**8.38**	**178**	Pn		Pn		01 25 02.5	-6.2
	5.0nm,0.3s,baz=258,slow=17,SNR=2.8								
JCJ				S		Sn		01 26 29.1	-14
	4.2nm,0.3s,baz=341,slow=20,SNR=2.2								
KSRS	**Korea Array**	**11.35**	**284**	LR		LR		01 30 32.2	
	comp=Z,112nm,18.7s,baz=100,slow=39								
USRK	**Ussuriysk Ar.**	**11.50**	**322**	Pn		**Pn**		**01 25 51.7**	**+0.3**
	0.2nm,0.3s,baz=134,slow=13,SNR=5.6								
	3.4nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**27.11**	**119**	T		T		01 57 14.3	
	baz=311,slow=75,SNR=29								
H11N1	**WAKE ISLAND Hy**	**27.12**	**119**	T		T		01 57 10.6	
	baz=311,slow=75,SNR=20								
H11N3	**WAKE ISLAND Hy**	**27.13**	**119**	T		T		01 57 14.5	
	baz=311,slow=75,SNR=23								
H11S1	**WAKE ISLAND Hy**	**27.78**	**121**	T		T		01 58 05.5	
	baz=312,slow=76,SNR=24								
H11S3	**WAKE ISLAND Hy**	**27.78**	**121**	T		T		01 58 02.0	
	baz=312,slow=76,SNR=23								
H11S2	**WAKE ISLAND Hy**	**27.79**	**121**	T		T		01 58 03.6	
	baz=312,slow=76,SNR=16								
SONM	**Songino Array**	**28.93**	**306**	P		**P**		**01 29 07.9**	**+1.6**
	1.3nm,0.6s,baz=107,slow=8.9,SNR=7.3								
	1.3nm,0.6s								
ZALV	**Zalesovo Beam**	**43.20**	**314**	P		**P**		**01 31 07.8**	**0.0**
	2.2nm,0.7s,baz=91,slow=7.5,SNR=11								
	2.2nm,0.7s								
MKAR	**Makanchi Array**	**45.22**	**303**	P		**P**		**01 31 23.8**	**-0.4**
	1.0nm,0.7s,baz=86,slow=10,SNR=9.8								
	1.0nm,0.7s								
KURBB	**Kurchatov Arra**	**47.21**	**309**	P		**P**		**01 31 39.2**	**-0.4**
	8.5nm,0.6s,baz=83,slow=7.8,SNR=26								
	8.5nm,0.6s								
ILAR	**Eielson Array**	**50.63**	**32**	P		**P**		**01 32 06.3**	**+0.6**
	0.7nm,0.9s,baz=263,slow=6.5,SNR=6.0								
	0.7nm,0.9s								
BVAR	**Borovoye Array**	**51.85**	**313**	P		**P**		**01 32 14.7**	**-0.3**
	1.7nm,0.6s,baz=72,slow=9.5,SNR=7.4								
	1.7nm,0.6s								
WRA	**Warramunga Arr**	**55.58**	**189**	P		**P**		**01 32 41.9**	**-0.8**
	1.3nm,0.5s,baz=2.2,slow=7.6,SNR=18								
	1.3nm,0.5s								
ASAR	**Alice Springs**	**59.31**	**188**	P		**P**		**01 33 07.9**	**-1.0**
	0.3nm,0.6s,baz=2.8,slow=5.8,SNR=2.4								
	0.3nm,0.6s								
YKA	**Yellowknife Ar**	**64.98**	**30**	P		**P**		**01 33 47.3**	**+0.8**
	0.2nm,0.5s,baz=304,slow=6.6,SNR=4.6								
	0.2nm,0.5s								
HFS	**Hagfors**	**75.62**	**336**	P		**P**		**01 34 51.2**	**-0.4**
	0.8nm,0.6s,baz=77,slow=6.5,SNR=1.0								
	0.8nm,0.6s								
AKASG	**Malin Array Be**	**75.71**	**323**	P		**P**		**01 34 52.0**	**-0.3**
	0.7nm,0.4s,baz=48,slow=6.0,SNR=10								
	0.7nm,0.4s								
NOA	**NORSAR Array B**	**75.73**	**338**	P		**P**		**01 34 52.0**	**-0.3**
	1.6nm,0.9s,baz=39,slow=5.6,SNR=3.6								
	1.6nm,0.9s								
PDAR	**Pinedale Array**	**78.52**	**45**	P		**P**		**01 35 09.1**	**+0.5**
	0.8nm,1.1s,baz=309,slow=1.9,SNR=2.6								
	0.8nm,1.1s								
BRTR	**Keskin Array B**	**80.11**	**312**	P		**P**		**01 35 17.3**	**+0.1**
	0.5nm,0.8s,baz=48,slow=5.6,SNR=2.1								
	0.5nm,0.8s								
TXAR	**Lajitas Array**	**90.81**	**53**	P		**P**		**01 36 11.5**	**+0.8**
	0.3nm,0.8s,baz=339,slow=4.8,SNR=2.1								
	0.3nm,0.8s								

UPA ***21*** *01:24:14.9±0.7,8˚.58N×82˚.94W,h53km±9km,MW3.1*
CATAC ***21*** *01:24:15.1±0.6,8˚.41N×82˚.78W,h29km±5km,mb4.9, MB5.6,ML2.8*

ISC 21 01:24:16.8±1.1, **8˚.52N**±0˚.04×**82˚.87W**±0˚.04, **h29**km±9km, **n13**,σ1ˢ**76**/20, **Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CDITO	**Canoas**	**0.05**	**358**	*e*P		**Pb**		**01 24 22.2**	**+0.4**
PTPM	**Petroterminale**	**0.31**	**182**	*e*P		**Pn**		**01 24 24.9**	**-0.5**
PTPM				*e*S		**Sn**		**01 24 32.5**	**+1.6**
BRU2	**Volcan**	**0.33**	**33**	*e*P		**Pb**		**01 24 25.0**	**+0.3**
BRU2				*e*S		**Sn**		**01 24 32.9**	**+1.4**
BRU2	**Volcan**	**0.33**	**33**	*i* P		**Pn**		**01 24 25.7**	**0.0**
BRU2					IAML			01 24 35.7	
	comp=Z,210nm,1.0s								
BCO2	**Palmira**	**0.39**	**60**	*e*P		**Pn**		**01 24 26.1**	**-0.5**
BCO2				*e*S		**Sn**		**01 24 33.9**	**+0.7**
PIRO	**Carate, Puerto**	**0.47**	**256**	*i* P		**Pb**		**01 24 25.5**	**-1.3**
PIRO				*i* S		**Sn**		**01 24 37.4**	**+2.4**
PIRO					IAML			01 24 39.8	
	comp=Z,410nm,1.0s								
CDM	**Cerro de Muert**	**1.35**	**319**	*i* P		**Pn**		**01 24 38.0**	**-2.1**
CDM				*i* S		**Sn**		**01 24 56.2**	**-1.1**
CDM					IAML			01 25 03.9	
	comp=Z,46nm,1.0s								
RIMA	**Rio Macho**	**1.58**	**322**	*i* P		**Pn**		**01 24 41.7**	**-1.3**
RIMA					IAML			01 24 43.4	
	comp=Z,32nm,1.0s								
LCR2	**La Lucha 2**	**1.65**	**317**	*i* P		**Pn**		**01 24 43.3**	**-0.7**
LCR2					IAML			01 25 05.8	
	comp=Z,27nm,1.0s								
LCR2				*i* S		**Sb**		**01 25 07.3**	**+0.1**
SOCE	**Pocosol**	**2.53**	**317**	*i* P		**Pn**		**01 24 58.9**	**+3.0**
SOCE					IAML			01 24 59.3	
	comp=Z,100nm,1.0s								
SOCE				*i* S		**Sb**		**01 25 30.0**	**-2.3**
VACR	**Volcan Arenal**	**2.64**	**318**	*i* P		**Pn**		**01 24 59.9**	**+2.5**
VACR					IAML			01 26 06.7	
	comp=Z,79nm,1.0s								
BCIP	**Isla Barro Col**	**3.07**	**78**	*i* P		**Pn**		**01 25 00.6**	**-2.7**
BCIP					IAML			01 26 22.4	
	comp=Z,85nm,1.0s								
LALI	**Alcalda de L**	**8.03**	**309**	*i* P		**Pn**		**01 26 12.2**	**+0.7**
LALI					IVmB_BB			01 26 15.7	
	comp=Z,4μm,1.0s								
LALI					IAmb	IAmb		01 26 39.0	
	comp=Z,61nm,0.6s								

UPA ***21*** *01:28:14.0±0.9,8˚.49N×84˚.02W,h10km±59km,MW3.6*
CATAC ***21*** *01:28:14.1±0.8,8˚.54N×83˚.97W,h4km±4km,ML3.0*
UCR ***21*** *01:28:15.8±1.0,8˚.72N×83˚.87W,h0km±7km,MW3.4*

ISC 21 01:28:14.9±1.8, **8˚.62N**±0˚.06×**83˚.92W**±0˚.05, **h5**km±11km, **n35**,σ1ˢ**10**/50, **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OCHAL	**Ojochal**	**0.55**	**30**	*i* P		**Pg**		**01 28 24.5**	**-1.0**
OCHAL					IAML			01 28 33.3	
	comp=Z,12nm,1.0s								
EDPN	**Palmar Norte**	**0.57**	**53**	*e*P		**Pg**		**01 28 25.8**	**-0.1**
EDPN				*e*S		**Sg**		**01 28 33.6**	**+0.1**
PIRO	**Carate, Puerto**	**0.62**	**110**	*i* P		**Pb**		**01 28 27.3**	**-0.8**
PIRO				*i* S		**Sb**		**01 28 37.7**	**+0.6**
PIRO					IAML			01 28 50.9	
	comp=Z,530nm,1.0s								
EDAD	**Golfito**	**0.75**	**87**	*e*P		**Pg**		**01 28 29.5**	**+0.2**
EDBA	**Buenos Aires**	**0.84**	**50**	*e*P		**Pg**		**01 28 29.9**	**-1.1**
LLNJ	**Naranjito**	**0.87**	**348**	*e*P		**Pg**		**01 28 32.0**	**+0.4**
CDM	**Cerro de Muert**	**0.94**	**10**	*i* P		**Pg**		**01 28 31.5**	**-1.5**

CDM				*i* S		**Sg**		**01 28 47.8**	**+2.5**
CDM					IAML			01 28 49.0	
	comp=Z,140nm,1.0s								
BUS1	**Rivas**	**0.95**	**11**	*e*P		**Pg**		**01 28 31.7**	**-1.4**
CDITO	**Canoas**	**1.04**	**92**	*e*P		**Pg**		**01 28 34.7**	**-0.2**
ABE2	**San Pablo**	**1.09**	**353**	*e*P		**Pg**		**01 28 35.1**	**-0.7**
MLIR3	**Monte Lirio, C**	**1.10**	**81**	*e*P		**Pg**		**01 28 36.2**	**+0.1**
PTPM	**Petroterminale**	**1.11**	**112**	*e*P		**Pb**		**01 28 36.1**	**-0.5**
PTPM				*e*S		**Sn**		**01 28 53.4**	**+0.7**
LCR2	**La Lucha 2**	**1.12**	**356**	*e*P		**Pg**		**01 28 35.1**	**-1.3**
LCR2	**La Lucha 2**	**1.12**	**356**	*i* P		**Pg**		**01 28 35.5**	**-0.9**
LCR2					IAML			01 28 37.0	
	comp=Z,180nm,1.0s								
LCR2				*i* S		**Sg**		**01 28 52.5**	**+1.5**
RIMA	**Rio Macho**	**1.14**	**3**	*e*P		**Pg**		**01 28 35.4**	**-1.5**
RIMA	**Rio Macho**	**1.14**	**3**	*i* P		**Pg**		**01 28 34.8**	**-2.1**
RIMA					IAML			01 28 37.2	
	comp=Z,100nm,1.0s								
RIMA				*i* S		**Sg**		**01 28 52.0**	**+0.3**
CTCR	**Cotoan**	**1.18**	**76**	*i* P		**Pg**		**01 28 36.9**	**-0.7**
CTCR				*i* S		**Sg**		**01 28 54.1**	**+1.1**
CTCR					IAML			01 29 02.4	
	comp=Z,1μm,1.0s								
BRU2	**Volcan**	**1.23**	**82**	*e*P		**Pg**		**01 28 38.2**	**-0.3**
BRU2				*e*S		**Sb**		**01 28 56.4**	**+1.5**
OCM	**Ochomogo**	**1.27**	**358**	*i* P		**Pn**		**01 28 38.0**	**-1.4**
OCM					IAML			01 28 39.3	
	comp=Z,120nm,1.0s								
OCM				*i* S		**Sg**		**01 28 56.6**	**+0.8**
BC3P	**Paso Ancho**	**1.31**	**81**	*e*P		**Pn**		**01 28 39.2**	**-0.9**
VICA	**Volcano Irazu**	**1.36**	**3**	*e*P		Pn		01 28 35.9	-5.0
BCO2	**Palmira**	**1.38**	**86**	*e*P		**Pn**		**01 28 40.0**	**-1.0**
BCO2				*e*S		**Sb**		**01 29 00.2**	**+0.8**
DVD	**David**	**1.47**	**97**	*e*P		**Pn**		**01 28 40.3**	**-1.6**
LNBQ3	**Los Naranjos,**	**1.48**	**83**	*e*P		**Pn**		**01 28 41.0**	**-1.2**
VPTE	**Poasito**	**1.57**	**350**	*i* P		**Pn**		**01 28 42.2**	**-1.4**
VPTE					IAML			01 28 45.2	
	comp=Z,400nm,1.0s								
VPTE				*i* S		**Sb**		**01 29 06.0**	**+1.2**
CNI2	**El Empalme, Bo**	**1.64**	**61**	*e*P		**Pn**		**01 28 43.8**	**-0.6**
CNI2				*e*S		**Sn**		**01 29 05.3**	**-0.6**
RIFO	**Rio Frio, Sara**	**1.69**	**0**	*i* P		**Pn**		**01 28 44.6**	**-0.4**
RIFO				*i* S		**Sg**		**01 29 12.1**	**+2.9**
RIFO					IAML			01 29 17.2	
	comp=Z,270nm,1.0s								
CPMI	**Catarata Coope**	**1.71**	**345**	*i* P		**Pn**		**01 28 45.3**	**-0.3**
CPMI				*i* S		**Sg**		**01 29 10.8**	**+0.7**
CPMI					IAML			01 29 12.9	
	comp=Z,120nm,1.0s								
CHGR2	**Aguacate**	**1.79**	**80**	*e*P		**Pn**		**01 28 45.8**	**-0.6**
CHGR2				*e*S		**Sn**		**01 29 10.4**	**+0.9**
SOCE	**Pocosol**	**1.88**	**339**	*e*P		**Pb**		**01 28 49.1**	**-0.6**
SOCE	**Pocosol**	**1.88**	**339**	*i* P		**Pn**		**01 28 48.4**	**+0.7**
SOCE					IAML			01 28 49.7	
	comp=Z,360nm,1.0s								
SOCE				*i* S		**Sg**		**01 29 15.6**	**+0.

HFS	**Hagfors**	**43.14**	**321**	P		**P**	**01 37 41.7**	**+2.8**
	1.5nm,0.7s,baz=88,slow=11,SNR=1.4							
	1.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**68.05**	**270**	P		**P**	**01 40 38.6**	**+1.4**
	0.4nm,0.6s,baz=42,slow=4.6,SNR=2.1							
	0.4nm,0.6s							
YKA	**Yellowknife Ar**	**79.36**	**4**	P		**P**	**01 41 44.2**	**+1.9**
	0.2nm,0.7s,baz=342,slow=5.8,SNR=2.2							
	0.2nm,0.7s							

*IDC **21** 01:35:04.4±1.1,36°.13N×87°.10E,h0km,mb3.5/8, mbtmp3.4/12,ML2.5/3,MS3.2/4,Error ellipse: s-maj=37.1km s-min=16.6km az=61.0*
ISC 21 01:35:09.1±0.9,36°.1N±0°.1×86°.9E±0°.1,h35km,n14, σ1s63/13,mb3.4/6,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**11.22**	**343**	Pn	**Pn**	**01 37 45.9**	**-1.0**
	baz=159,slow=16,SNR=1.8						
MKAR				Lg	Lg	01 41 00.1	
	0.1nm,0.3s,baz=155,slow=28,SNR=2.2						
	0.2nm,0.5s						
AAK	**Ala-Archa**	**11.61**	**308**	Pn	**Pn**	**01 37 50.3**	**-2.2**
	0.1nm,0.3s,baz=38,slow=15,SNR=1.5						
AAK				LR	LR	01 43 07.5	
	comp=Z,110nm,21.2s,baz=116,slow=41						
KURBB	**Kurchatov Arra**	**15.71**	**340**	Pn	**Pn**	**01 38 45.5**	**-2.1**
	baz=155,slow=9.2,SNR=1.0						
KURBB				Lg	Lg	01 43 23.5	
	baz=144,slow=27,SNR=1.9						
	0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**17.89**	**356**	P	**Pn**	**01 39 13.5**	**-1.5**
	0.1nm,0.3s,baz=168,slow=9.1,SNR=5.8						
ZALV				LR	LR	01 47 05.5	
	comp=Z,92nm,19.1s,baz=178,slow=40						
	1.7nm,0.8s						
SONM	**Songino Array**	**18.55**	**45**	P	**P**	**01 39 23.0**	**+0.1**
	0.5nm,0.8s,baz=234,slow=9.9,SNR=2.8						
SONM				LR	LR	01 46 49.4	
	comp=Z,106nm,19.9s,baz=179,slow=38						
	3.6nm,0.8s						
BVAR	**Borovoye Array**	**20.52**	**331**	P	**P**	**01 39 45.0**	**+0.9**
	3.6nm,0.8s,baz=129,slow=12,SNR=11						
	3.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.55**	**146**	P	**P**	**01 39 42.8**	**-1.8**
	0.5nm,0.3s,baz=348,slow=8.3,SNR=1.3						
	0.5nm,0.3s						
PALK	**Pallekele**	**29.27**	**193**	LR	LR	01 54 35.1	
	comp=Z,37nm,20.0s,baz=160,slow=40						
BRTR	**Keskin Array B**	**41.68**	**292**	P	**P**	**01 42 55.8**	**+1.3**
	0.5nm,0.8s,baz=90,slow=7.2,SNR=1.9						
	0.5nm,0.8s						
NOA	**NORSAR Array B**	**52.42**	**323**	P	**P**	**01 44 19.7**	**+1.9**
	0.8nm,0.7s,baz=82,slow=7.2,SNR=2.2						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**71.01**	**21**	P	**P**	**01 46 23.7**	**+0.8**
	0.2nm,0.6s,baz=316,slow=5.1,SNR=2.1						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**71.55**	**133**	P	**P**	**01 46 26.2**	**-0.5**
	0.3nm,0.6s,baz=326,slow=6.5,SNR=3.1						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**74.20**	**136**	P	**P**	**01 46 44.1**	**+1.7**
	0.3nm,0.8s,baz=335,slow=6.4,SNR=2.9						
	0.3nm,0.8s						
YKA	**Yellowknife Ar**	**80.21**	**10**	P	**P**	**01 47 14.5**	**-1.0**
	0.4nm,0.9s,baz=339,slow=4.8,SNR=2.4						
	0.4nm,0.9s						

*IDC **21** 01:47:58.2±1.4,31°.83N×48°.67E,h0km,mb3.9/11, mbtmp3.9/14,ML3.7/3,MS3.3/4,Error ellipse: s-maj=28.3km s-min=17.9km az=168.0*
*TEH **21** 01:48:00.3,31°.83N×48°.70E,h11km±45km,ML3.8*
*OMAN **21** 01:48:09.3±0.2,31°.29N×49°.25E,h10km,mb4.2/10, ms2.5/2,Error ellipse: s-maj=4.3km s-min=3.2km az=24.0*
*GII **21** 01:48:12.1±0.0,31°.90N×48°.77E,h10km*
ISC 21 01:47:59.1±0.5,31°.66N±0°.05×48°.72E±0°.04,h10km,n112, σ2s07/128,mb4.0/14,MS3.5/3,14C-1D,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.34**	**190**	Pg	**Pn**	**01 48 10.9**	**+0.9**
AMIS	**Naft Sefid**	**0.49**	**90**	Pg	**Pg**	**01 48 10.1**	**+1.5**
AMIS				Sg	**Sb**	**01 48 18.5**	**+1.6**
JHBN	**Jahan bin**	**1.75**	**71**	Pg	**Pn**	**01 48 31.7**	**+1.9**
ZNGN	**Zangian**	**1.87**	**75**	Pn	**Pb**	**01 48 34.1**	**+0.5**
IKFM	**Kafar-mosalman**	**2.00**	**339**	Pn	**Pn**	**01 48 33.8**	**+1.0**
IPIR	**Pirpir**	**2.11**	**61**	Pn	**Pn**	**01 48 37.0**	**+2.3**
IBRJ	**Brojen**	**2.18**	**83**	Pn	**Pb**	**01 48 38.6**	**-0.2**
KLNJ	**Kolanjah**	**2.55**	**104**	Pn	**Pb**	**01 48 44.4**	**-0.7**
IKOM	**Komasi**	**2.70**	**338**	Pn	**Pn**	**01 48 44.4**	**+1.6**
ILBA	**Ilam Banvizeh**	**2.88**	**313**	Pn	**Pn**	**01 48 45.9**	**+0.8**
IBZA	**Bozab**	**2.89**	**346**	Pn	**Pn**	**01 48 46.5**	**+1.1**
IGAR	**Gharneh**	**2.92**	**74**	Pn	**Pn**	**01 48 48.6**	**+2.8**
IKLH	**Kolahrood**	**2.93**	**55**	Pn	**Pn**	**01 48 47.8**	**+1.8**
KCHF	**Cheshme Sefid,**	**2.96**	**332**	Pn	**Pn**	**01 48 47.4**	**+1.1**
QAMS	**Qamsar**	**3.06**	**47**	Pn	**Pn**	**01 48 49.5**	**+1.8**
IRAM	**Ramesheh**	**3.13**	**86**	Pn	**Pn**	**01 48 51.8**	**+3.1**
HAGD	**Aghdareh**	**3.17**	**6**	Pn	**Pn**	**01 48 50.8**	**+1.6**
IGHG	**Ghaleghazi**	**3.21**	**326**	Pn	**Pn**	**01 48 50.9**	**+1.1**
IALM	**Almabolaq**	**3.22**	**352**	Pn	**Pn**	**01 48 51.8**	**+1.8**
IZEF	**Zefreh**	**3.30**	**67**	Pn	**Pn**	**01 48 53.4**	**+2.4**
ILIN	**Lien**	**3.56**	**336**	Pn	**Pn**	**01 48 55.7**	**+1.0**
IDHR	**Dehrash**	**3.60**	**328**	Pn	**Pn**	**01 48 56.2**	**+1.1**
KRSH	**Karshahi**	**3.68**	**50**	Pn	**Pn**	**01 48 58.4**	**+2.1**
IQOM	**Qom**	**3.73**	**31**	Pn	**Pn**	**01 48 57.9**	**+0.9**
KGS1	**Ghasr-e-Shirin**	**3.86**	**318**	Pn	**Pn**	**01 48 59.3**	**+0.7**
IRAZ	**Razeghan**	**3.87**	**15**	Pn	**Pn**	**01 49 00.5**	**+1.7**
DSBU	**Dashti - Bushe**	**3.96**	**146**	Pn	**Pn**	**01 49 03.8**	**+3.8**
ISFB	**Sefidab**	**3.99**	**47**	Pn	**Pn**	**01 49 01.7**	**+1.3**
ISAD	**Sadrabad**	**4.24**	**85**	Pn	**Pn**	**01 49 06.5**	**+2.5**
ANAR	**Anarak**	**4.50**	**69**	Pn	**Pn**	**01 49 09.4**	**+1.9**
IDMV	**Damavand**	**4.78**	**34**	Pn	**Pn**	**01 49 12.4**	**+1.0**
QSDN	**Sirdan**	**4.84**	**4**	Pn	**Pn**	**01 49 13.1**	**+0.8**
ICHK	**Chekchek**	**4.87**	**82**	Pn	**Pn**	**01 49 14.4**	**+1.8**
JIR1	**Jirandeh**	**5.11**	**10**	Pn	**Pn**	**01 49 16.9**	**+1.1**
ILAS	**Lasjerd**	**5.13**	**43**	Pn	**Pn**	**01 49 17.7**	**+1.5**
IFIR	**Firoozkooh**	**5.20**	**39**	Pn	**Pn**	**01 49 18.3**	**+1.1**
KLST	**Kelardasht - M**	**5.22**	**21**	Pn	**Pn**	**01 49 19.2**	**+1.7**
MZPU	**Pul - Mazandar**	**5.32**	**26**	Pn	**Pn**	**01 49 20.5**	**+1.7**
LHJ2	**Lahijan - Gila**	**5.60**	**11**	Pn	**Pn**	**01 49 23.6**	**+1.2**
SAKB	**Bahrain**	**5.89**	**164**	P	**Pn**	**01 49 30.4**	**+4.1**
SAKB				S	**Sn**	**01 50 33.4**	**-0.5**
SHMA	**Al-Shehemyia**	**6.11**	**161**	P	**Pn**	**01 49 33.7**	**+4.2**
SHMA				S	**Sn**	**01 50 41.1**	**+1.6**
IGLO	**Ghaloghah**	**6.42**	**40**	Pn	**Pn**	**01 49 35.4**	**+1.5**
TPRV	**Parvadeh(Tabas**	**6.88**	**76**	Pn	**Pn**	**01 49 43.2**	**+3.1**
TNSJ	**Nastanj**	**7.03**	**69**	Pn	**Pn**	**01 49 44.8**	**+2.6**
SMRA	**Abu-Samra**	**7.14**	**164**	P	**Pn**	**01 49 46.8**	**+3.2**
SMRA				S	**Sn**	**01 51 04.4**	**-0.3**
GRMI	**Germi**	**7.16**	**355**	Pn	**Pn**	**01 49 45.3**	**+1.4**
TRNA	**Turayna**	**7.25**	**162**	P	**Pn**	**01 49 49.1**	**+4.1**
	SNR=8.6						
TRNA				S	**Sn**	**01 51 09.0**	**+1.6**
TKDS	**Koohdasht(Taba**	**7.35**	**72**	Pn	**Pn**	**01 49 49.0**	**+2.4**
JRN	**Qarnain Island**	**7.62**	**150**	P	**Pn**	**01 49 53.5**	**+3.3**
JRN				S	**Sn**	**01 51 17.5**	**+0.9**
NAZ	**Nazwa, Dubai**	**9.04**	**136**	P	**Pn**	**01 50 10.2**	**+0.6**
NAZ				S	**Sn**	**01 51 49.6**	**-1.8**
MASF	**Masafi**	**9.06**	**132**	P	**Pn**	**01 50 10.9**	**+0.9**
MASF				S	**Sn**	**01 51 50.8**	**-1.4**
	SNR=17						
ASUD	**Al Ashush, Dub**	**9.12**	**139**	P	**Pn**	**01 50 13.9**	**+3.1**
ASUD				S	**Sn**	**01 51 52.4**	**-1.1**
FAQ	**Al Faqa, Dubai**	**9.18**	**137**	P	**Pn**	**01 50 13.8**	**+2.2**
FAQ				S	**Sn**	**01 51 52.5**	**-2.5**
UOSS	**Minazif**	**9.40**	**134**	P	**Pn**	**01 50 16.3**	**+1.7**
UOSS				S	**Sn**	**01 51 55.1**	**-5.2**
HATD	**Hatta, Dubai**	**9.44**	**134**	P	**Pn**	**01 50 17.8**	**+2.6**
HATD				S	**Sn**	**01 51 58.9**	**-2.5**
	SNR=7.3						
ASHO	**Ashiyiah**	**9.50**	**135**	P	**Pn**	**01 50 18.1**	**+2.1**
ASHO				S	**Sn**	**01 51 59.7**	**-3.2**
ALNE	**Al Ain**	**9.80**	**139**	P	**Pn**	**01 50 22.9**	**+2.7**
	SNR=6.8						
ALNE				S	**Sn**	**01 52 07.2**	**-3.2**
JASK	**Jask - Hormozg**	**9.89**	**123**	P	**Pn**	**01 50 24.6**	**+3.3**
JASK				S	**Sn**	**01 52 09.7**	**-2.7**
GEYT	**Alibeck**	**9.94**	**48**	Pn	**Pn**	**01 50 25.3**	**+3.4**
	0.2nm,0.3s,baz=240,slow=11,SNR=10						
GEYT				LR	LR	01 54 56.2	
	comp=Z,148nm,20.2s,baz=240,slow=42						
ASF	**Jabal al Asfar**	**10.06**	**276**	Pn	**Pn**	**01 50 23.8**	**+0.1**
	0.7nm,0.3s,baz=94,slow=7.8,SNR=14						
ASF				Sn	**Sn**	**01 52 18.6**	**+1.9**
	0.2nm,0.3s,baz=92,slow=6.0,SNR=2.2						
ASF				Lg	Lg	01 53 23.5	
	baz=306,slow=23						
	1.8nm,0.3s						
SOHO	**SOHO**	**10.20**	**135**	P	**Pn**	**01 50 28.4**	**+2.9**
SOHO				S	**Sn**	**01 52 15.6**	**-4.3**
ARQ	**Araqi**	**10.80**	**138**	P	**Pn**	**01 50 34.1**	**+0.2**
ARQ				S	**Sn**	**01 52 32.0**	**-2.9**
HOQ	**Hoqain**	**11.08**	**134**	P	**Pn**	**01 50 39.5**	**+1.8**
HOQ				S	**Sn**	**01 52 38.7**	**-3.0**
GEM	**Giv'at Ha'Em**	**11.14**	**281**	Pn	Pn	01 50 52.3	+14
HMDT	**Nahal Hemdat**	**11.22**	**276**	Pn	Pn	01 50 52.8	+13
MMAI	**Mount Meron Ar**	**11.34**	**280**	Lg	Lg	01 54 04.3	
	baz=152,slow=30						
BSY	**Bisya**	**11.65**	**138**	P	**Pn**	**01 50 47.2**	**+1.7**
BSY				S	**Sn**	**01 52 51.4**	**-4.4**
HRFI	**Mount Harif**	**11.87**	**266**	Pn	Pn	01 51 01.8	+13
SMDO	**Samad**	**11.92**	**134**	P	**Pn**	**01 50 49.4**	**+0.2**
SMDO				S	**Sn**	**01 52 59.4**	**-3.0**
EIL	**Elat**	**12.02**	**264**	Lg	Lg	01 54 33.1	
	0.1nm,0.3s,baz=146,slow=22,SNR=2.4						
EIL				LR	LR	01 56 48.2	
	comp=Z,65nm,19.1s,baz=70,slow=44						
WSAR	**Wadi Sarin**	**12.16**	**131**	P	**Pn**	**01 50 54.3**	**+1.9**
WSAR				S	**Sn**	**01 53 04.8**	**-3.2**
WSAR	**Wadi Sarin**	**12.16**	**131**	Pn	**Pn**	**01 50 54.0**	**+1.6**
	0.6nm,0.3s,baz=315,slow=9.0,SNR=6.3						
WSAR				Sn	**Sn**	**01 53 00.6**	**-7.4**
	0.2nm,0.3s,baz=356,slow=9.0,SNR=1.3						
	2.6nm,0.5s						
MHTO	**MHTO**	**13.48**	**140**	P	**Pn**	**01 51 11.1**	**+0.7**
WHFO	**Wadi Hawf**	**14.43**	**160**	P	**Pn**	**01 51 23.7**	**+0.2**
	SNR=8.9						
BRTR	**Keskin Array B**	**14.64**	**307**	Pn	**P**	**01 51 32.5**	**-0.2**
	baz=110,slow=12,SNR=4.0						
ABTO	**Aybut**	**14.84**	**163**	P	**Pn**	**01 51 29.3**	**+0.1**
RBK	**Rabkut**	**14.95**	**159**	P	**Pn**	**01 51 30.8**	**+0.2**
DMTO	**DMTO**	**14.99**	**156**	P	**Pn**	**01 51 31.2**	**+0.1**
	SNR=5.9						
AKTO	**Aktyubinsk**	**19.99**	**18**	P	**P**	**01 52 30.4**	**-1.1**
	0.1nm,0.3s,baz=218,slow=4.3,SNR=4.7						
	1.1nm,0.6s						
TPGR	**Topolog**	**20.60**	**315**	⇑P	**P**	**01 52 38.7**	**+0.4**
BELG	**Belogornoye**	**20.73**	**358**	P	**P**	**01 52 38.2**	**-1.3**
	11nm,0.9s,baz=54,slow=2.9,SNR=5.1						
	11nm,0.9s						
PURM	**Purcari**	**20.76**	**321**	⇑P	**P**	**01 52 39.3**	**-0.6**
HARR	**Harsova**	**20.81**	**315**	⇑P	**P**	**01 52 41.8**	**+1.3**
CFR	**Carcaliu**	**20.95**	**316**	⇑P	**P**	**01 52 42.1**	**+0.1**
RAZG	**Razgrad**	**21.16**	**310**	⇑P	**P**	**01 52 45.6**	**+1.3**
BISRR	**Bisoca**	**22.00**	**315**	⇑P	**P**	**01 52 53.7**	**+0.4**
VRI	**Vrincioaia**	**22.15**	**316**	⇑P	**P**	**01 52 56.1**	**+1.1**
PLOR	**Plostina**	**22.19**	**316**	⇑P	**P**	**01 52 56.6**	**+1.2**
MLR	**Muntele Rosu**	**22.43**	**314**	P	**P**	**01 52 57.7**	**-0.3**
	4.1nm,0.8s,baz=145,slow=16,SNR=2.0						
	4.1nm,0.8s						
TESR	**Tescani**	**22.55**	**317**	⇓P	**P**	**01 52 59.5**	**+0.3**
TURR	**Turia**	**22.67**	**316**	⇑P	**P**	**01 53 00.3**	**-0.3**
VOIR		**22.95**	**314**	⇑P	**P**	**01 53 04.9**	**+1.4**
DOPR	**Dopca**	**23.00**	**315**	⇑P	**P**	**01 53 04.6**	**+0.6**
ARR	**Arges**	**23.18**	**313**	⇑P	**P**	**01 53 07.0**	**+1.2**
AAK	**Ala-Archa**	**23.20**	**55**	LR	LR	02 03 20.6	
	comp=Z,69nm,18.0s,baz=286,slow=40						
AKASG	**Malin Array Be**	**23.89**	**328**	P	**P**	**01 53 12.1**	**-0.6**
	1.8nm,0.8s,baz=130,slow=9.3,SNR=7.4						
	1.8nm,0.8s						
MARR	**Marisel-Cluj**	**24.72**	**315**	⇑P	**P**	**01 53 19.8**	**-0.7**
SIRR	**Siria**	**25.44**	**313**	⇑P	**P**	**01 53 27.2**	**+0.3**
KOLS	**Kolonicke sedl**	**26.34**	**319**	*e*	**P**	**01 53 37.3**	**+2.2**
BVAR	**Borovoye Array**	**26.49**	**30**	P	**P**	**01 53 36.1**	**-0.3**
	1.8nm,0.5s,baz=227,slow=7.2,SNR=11						
	1.8nm,0.5s						
KURBB	**Kurchatov Arra**	**29.08**	**41**	P	**P**	**01 53 59.7**	**+0.2**
	1.2nm,0.8s,baz=243,slow=9.6,SNR=4.1						
KURBB				LR	LR	02 07 00.4	
	comp=Z,109nm,20.0s,baz=165,slow=39						
	1.2nm,0.8s						
MKAR	**Makanchi Array**	**29.81**	**50**	P	**P**	**01 54 06.0**	**-0.1**
	0.5nm,0.9s,baz=242,slow=9.7,SNR=2.6						
	0.5nm,0.9s						
SQTA	**Sankt Quirin**	**32.51**	**309**	*e*P	**P**	**01 54 29.6**	**-0.4**
	1.7nm,0.4s						
MOTA	**Moosalm**	**32.61**	**310**	*e*P	**P**	**01 54 30.4**	**-0.6**
	1.6nm,0.5s						
FETA	**Feichten**	**32.77**	**309**	*e*P	**P**	**01 54 32.7**	**+0.2**
	1.3nm,0.7s						
FINES	**FINESS Array B**	**33.25**	**340**	P	**P**	**01 54 34.4**	**-1.8**
	1.1nm,0.7s,baz=147,slow=7.9,SNR=3.9						
	1.1nm,0.7s						
DAVA	**Damuels**	**33.40**	**309**	*e*P	**P**	**01 54 37.9**	**0.0**
	2.4nm,0.6s						
ZALV	**Zalesovo Beam**	**34.05**	**38**	P	**P**	**01 54 43.3**	**+0.1**
	0.4nm,0.3s,baz=238,slow=8.3,SNR=4.5						
	0.4nm,0.3s						
HFS	**Hagfors**	**36.70**	**331**	P	**P**	**01 55 05.1**	**-0.8**
	5.0nm,1.0s,baz=115,slow=10.0,SNR=5.2						
	5.0nm,1.0s						
EKA	**Eskdalemuir Ar**	**43.15**	**319**	P	**P**	**01 55 58.0**	**-1.6**
	0.4nm,0.6s,baz=104,slow=8.1,SNR=2.3						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**46.82**	**258**	P	**P**	**01 56 30.0**	**+0.7**
	1.7nm,0.8s,baz=43,slow=8.5,SNR=8.7						
	1.7nm,0.8s						
NWAO	**Narrogin (SRO)**	**91.14**	**128**	LR	LR	02 36 50.1	
	comp=Z,261nm,20.6s,baz=17,slow=32						

*NNC **21** 01:50:36.8±0.6,44°.55N×79°.02E,h0km,mb2.6,mpv3.0, Error ellipse: s-maj=3.9km s-min=3.5km az=167.0*
*SOME **21** 01:50:37.7,44°.55N×79°.05E,h15km*
ISC 21 01:50:37.4±0.9,44°.56N±0°.02×79°.06E±0°.03,h15km±8km, n32,σ0s50/54,1C-2D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNOS	**Konyrlen**	**0.22**	**156**	P	**Pg**	**01 50 42.9**	**+0.5**
	48nm,0.0s						
KNOS				S	**Sg**	**01 50 46.3**	**+0.6**
	59nm,0.1s						
DJR	**Jarkent**	**0.57**	**113**	*e*P	**Pg**	**01 50 48.4**	**-0.3**
	7.0nm,0.1s						
DJR				*e*S	**Sg**	**01 50 55.7**	**-0.7**
	19nm,0.1s						
DJR	**Jarkent**	**0.57**	**113**	P	**Pg**	**01 50 48.4**	**-0.3**
	7.1nm,0.1s						
DJR				S	**Sg**	**01 50 55.6**	**-0.7**
	19nm,0.1s						
BLB	**Baldybastay**	**0.62**	**222**	P	**Pb**	**01 50 49.5**	**-0.5**
	21nm,0.1s						
BLB				S	**Sg**	**01 50 57.7**	**-0.1**
	5.3nm,0.2s						
TDK	**Taldyqorghan**	**0.64**	**314**	*e*P	**Pg**	**01 50 49.8**	**-0.2**
	4.3nm,0.1s						
TDK				*e*S	**Sg**	**01 50 58.5**	**-0.1**
KAPS	**Kapalarasan**	**0.76**	**16**	*e*P	**Pg**	**01 50 51.9**	**-0.3**
	6.1nm,0.1s						
KAPS				*e*S	**Sg**	**01 51 01.9**	**-0.4**
	12nm,0.1s						
KAPS	**Kapalarasan**	**0.76**	**16**	P	**Pg**	**01 50 51.9**	**-0.3**
	6.1nm,0.1s						
KAPS				S	**Sg**	**01 51 01.9**	**-0.4**
	12nm,0.1s						
ARXS	**Arharly**	**0.94**	**249**	*e*P	**Pg**	**01 50 55.2**	**-0.5**
	3.8nm,0.1s						
ARXS				*e*S	**Sg**	**01 51 07.5**	**-0.6**
	14nm,0.1s						
ARXS	**Arharly**	**0.94**	**249**	P	**Pg**	**01 50 55.2**	**-0.5**
	3.8nm,0.1s						
ARXS				S	**Sg**	**01 51 07.5**	**-0.6**
	14nm,0.1s						
KPKS	**Kokpek**	**1.12**	**194**	*e*P	**Pg**	**01 50 58.4**	**-0.7**
	5.2nm,0.1s						
KPKS				*e*S	**Sg**	**01 51 12.7**	**-1.0**
	22nm,0.2s						
KPKS	**Kokpek**	**1.12**	**194**	P	**Pg**	**01 50 58.4**	**-0.7**
	5.2nm,0.1s						
KPKS				S	**Sg**	**01 51 12.7**	**-1.0**
	22nm,0.2s						
KURS	**Kuram**	**1.25**	**211**	*e*P	**Pn**	**01 51 00.5**	**+0.1**
	2.3nm,0.4s						
KURS				*e*S	**Sb**	**01 51 16.4**	**-0.2**
	3.1nm,0.2s						
KURS	**Kuram**	**1.25**	**211**	P	**Pn**	**01 51 00.5**	**+0.1**
	2.3nm,0.4s						
KURS				S	**Sb**	**01 51 16.4**	**-0.2**
	3.1nm,0.2s						
PDGK	**Podgornoye**	**1.27**	**165**	P	**Pn**	**01 51 00.5**	**-0.2**
	0.4nm,0.1s						
PDGK				S	**Sb**	**01 51 16.6**	**-0.7**
	5.6nm,0.1s						
PDGK	**Podgornoye**	**1.27**	**165**	⇓P	**Pg**	**01 51 01.4**	**-0.4**
	0.2nm,0.2s						
PDGK				⇑S	**Sb**	**01 51 17.4**	**+0.1**
	3.2nm,0.3s						
UZB	**Uzynbulak**	**1.41**	**181**	*e*P	**Pb**	**01 51 03.5**	**0.0**
	2.5nm,0.1s						
UZB				*e*S	**Sn**	**01 51 21.9**	**+0.7**
	9.5nm,0.1s						
UZB	**Uzynbulak**	**1.41**	**181**	P	**Pb**	**01 51 03.5**	**0.0**
	2.5nm,0.1s						
UZB				S	**Sn**	**01 51 21.9**	**+0.7**
	9.5nm,0.1s						
SHLS	**Shalkode**	**1.43**	**168**	*e*P	**Pg**	**01 51 05.0**	**+0.1**
	4.1nm,0.1s						
SHLS				*e*S	**Sg**	**01 51 23.8**	**+0.3**
	5.8nm,0.1s						
SHLS	**Shalkode**	**1.43**	**168**	P	**Pg**	**01 51 05.0**	**+0.1**
	4.1nm,0.1s						
SHLS				S	**Sg**	**01 51 23.8**	**+0.3**
	5.8nm,0.1s						
ZHN	**Zhinishke**	**1.46**	**198**	*e*P	**Pb**	**01 51 04.3**	**-0.1**
	5.7nm,0.2s						
ZHN				*e*S	**Sb**	**01 51 23.1**	**+0.3**
	19nm,0.1s						
ZHN	**Zhinishke**	**1.46**	**198**	P	**Pb**	**01 51 04.3**	**-0.1**
	5.7nm,0.2s						
ZHN				S	**Sb**	**01 51 23.1**	**+0.3**
	19nm,0.1s						
KTBS	**Karatobe**	**1.91**	**245**	*e*P	**Pb**	**01 51 11.9**	**-0.1**
	1.6nm,0.3s						
KTBS				*e*S	**Sb**	**01 51 35.8**	**+0.3**
	7.0nm,0.2s						
KTBS	**Karatobe**	**1.91**	**245**	P	**Pb**	**01 51 11.9**	**-0.1**
	1.6nm,0.3s						
KTBS				S	**Sb**	**01 51 35.8**	**+0.3**
	7.0nm,0.2s						
KUU	**Kurty**	**2.06**	**252**	*e*Pg	**Pb**	**01 51 14.9**	**+0.3**
	2.8nm,0.3s						
KUU				*e*Lg	Lg	01 51 40.5	
	6.7nm,0.2s						
KUU	**Kurty**	**2.06**	**252**	Pg	**Pb**	**01 51 14.9**	**+0.3**
	2.8nm,0.3s						
KUU				Lg	Lg	01 51 40.5	
	6.7nm,0.2s						
MTBS	**Maitube**	**2.38**	**234**	*e*Pg	**Pb**	**01 51 20.4**	**+0.4**
	1.2nm,0.1s						
MTBS				*e*Lg	Lg	01 51 50.4	
	20nm,0.3s						
MTBS	**Maitube**	**2.38**	**234**	Pg	**Pb**	**01 51 20.4**	**+0.4**
	1.2nm,0.1s						
MTBS				Lg	Lg	01 51 50.4	
	20nm,0.3s						
KRBS	**Karabastau**	**2.58**	**252**	*e*Pg	**Pb**	**01 51 24.2**	**+0.7**
	0.3nm,0.2s						
KRBS				*e*Lg	Lg	01 51 56.8	
	1.5nm,0.3s						
KRBS	**Karabastau**	**2.58**	**252**	Pg	**Pb**	**01 51 24.2**	**+0.7**
	0.3nm,0.2s						
KRBS				Lg	Lg	01 51 56.8	
	1.5nm,0.3s						
DGS	**Degeres**	**2.71**	**242**	*e*Pg	**Pb**	**01 51 26.7**	**+1.0**
	0.8nm,0.2s						
DGS				*e*Lg	Lg	01 52 01.1	
	1.6nm,0.3s						
DGS	**Degeres**	**2.71**	**242**	Pg	**Pb**	**01 51 26.7**	**+1.0**
	0.8nm,0.2s						
DGS				Lg	Lg	01 52 01.0	
	1.6nm,0.3s						
TKM2	**Tokmak 2**	**2.99**	**238**	⇓Lg	Lg	01 52 09.4	
	0.2nm,0.2s						

*BJI **21** 01:56:50.3,29°.26N×142°.44E,h8km,mb4.9/77,mB5.3/63, Ms5.1/84,Ms7.4/80*
*IDC **21** 01:56:51.5±0.4,29°.23N×142°.47E,h0km,mb4.8/32, mbtmp4.8/37,ML4.2/4,MS4.7/20,Error ellipse: s-maj=12.9km s-min=11.6km az=89.0*
*NEIC **21** 01:56:52.1,29°.09N×143°.14E,h12km,Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^{16}Nm; M_{rr}6.20; $M_{\theta\theta}$1.07; $M_{\phi\phi}$-7.27; $M_{r\theta}$3.11; $M_{\theta\phi}$0.16; $M_{r\phi}$5.69; F

JCN	**Nagara**	**6.42**	**342**	A	A	01 58 27.5			
	comp=E,23nm,9.9s,comp=N,19nm,10.0s								
JSMT	**Sammumatsuo**	**6.57**	**345**	A	A	01 58 29.6			
	comp=E,24nm,6.1s,comp=N,26nm,6.5s								
JOD2	**Odawara 2**	**6.64**	**334**	P	**Pn**	**01 58 30.5**	**-0.2**		
JOD2				*e*S	**Sn**	**01 59 42.6**	**-3.5**		
JHU	**Hanno**	**7.10**	**338**	P	**Pn**	**01 58 37.0**	**0.0**		
JHU				*e*S	**Sn**	**01 59 53.2**	**-4.2**		
JRY	**Ryogami san**	**7.38**	**336**	P	**Pn**	**01 58 40.9**	**0.0**		
JRY				*e*S	**Sn**	**02 00 01.6**	**-2.8**		
INU	**Inuyama**	**7.65**	**323**	P	**Pn**	**01 58 44.5**	**0.0**		
INU	**Inuyama**	**7.65**	**323**	P	**Pn**	**01 58 47.9**	**+3.4**		
	comp=N,69nm,1.3s								
MJAR	**Matsushiro Arr**	**8.10**	**334**	Pn	**Pn**	**01 58 50.9**	**+0.2**		
	comp=N,2.4nm,0.3s,baz=152,slow=10,SNR=69								
MJAR				Sn	**Sn**	**02 00 18.6**	**-3.5**		
	comp=N,0.3nm,0.3s,baz=158,slow=16,SNR=4.9								
	comp=N,32nm,0.7s								
MAJO	**Matsushiro**	**8.10**	**334**	Pn	**Pn**	**01 58 50.1**	**-0.7**		
MAJO	**Matsushiro**	**8.10**	**334**	*c iP*	**Pn**	**01 58 50.5**	**-0.3**		
MJB9	**Matsu-Tunnel**	**8.10**	**334**	Pn	**Pn**	**01 58 51.3**	**+0.5**		
JMN	**Monobe**	**8.64**	**303**	Pn	**Pn**	**01 58 58.6**	**+0.4**		
JMM	**Marumori**	**8.67**	**351**		**Pn**	**01 58 56.7**	**-1.8**		
JMM	**Marumori**	**8.67**	**351**	P	**Pn**	**01 58 57.8**	**-0.7**		
	comp=N,198nm,1.1s								
JMK	**Ichinoseki**	**9.69**	**354**	*e*P	**Pn**	**01 59 09.6**	**-3.0**		
JMK				*e*S	Sn	02 00 50.5	-11		
JNU	**Nakatsue**	**10.72**	**294**	Pn	**Pn**	**01 59 27.8**	**+1.1**		
JNU	**Nakatsue**	**10.72**	**294**	Pn	**Pn**	**01 59 28.4**	**+1.7**		
	comp=N,1.6nm,0.3s,baz=68,slow=8.1,SNR=6.6								
JNU				LR	LR	02 03 10.9			
	comp=N,5μm,20.9s,baz=120,slow=36								
JTM	**Tenmabayashi**	**11.52**	**354**	Pn	**Pn**	**01 59 35.0**	**-2.6**		
JOW	**Kunigami**	**12.88**	**262**	LR	LR	02 04 30.0			
	comp=N,4μm,20.5s,baz=116,slow=36								
TJN	**Taejon**	**14.60**	**303**	P	**P**	**02 00 27.8**	**+1.7**		
	comp=N,226nm,1.1s								
KSRS	**Korea Array**	**14.69**	**307**	Pn	**Pn**	**02 00 21.1**	**+0.2**		
	comp=N,2.8nm,0.3s,baz=115,slow=12,SNR=28								
KSRS				LR	LR	02 06 14.6			
	comp=N,3μm,18.9s,baz=115,slow=38								
	comp=N,7.4nm,0.9s								
KSAR	**Wonju Array Be**	**14.71**	**307**	Pn	**Pn**	**02 00 21.0**	**-0.2**		
KSAR	**Wonju Array Be**	**14.71**	**307**	P	**Pn**	**02 00 21.0**	**-0.2**		
KS19	**Wonju Array Si**	**14.75**	**307**	Pn	**Pn**	**02 00 21.6**	**-0.2**		
KS19				P	P	02 00 21.8	-5.9		
ASAJ	**Asahikawa**	**14.78**	**0**	Pn	**Pn**	**02 00 19.9**	**-2.2**		
	comp=N,3.3nm,0.3s,baz=255,slow=27,SNR=5.2								
ASAJ				LR	LR	02 07 41.5			
	comp=N,4μm,20.9s,baz=178,slow=44								
INCN	**Inchon**	**15.61**	**306**	Pn	**Pn**	**02 00 32.0**	**-1.2**		
INCN	**Inchon**	**15.61**	**306**	P	**P**	**02 00 37.4**	**+0.1**		
	comp=N,95nm,1.3s								
INCN	**Inchon**	**15.61**	**306**	P	**Pn**	**02 00 32.0**	**-1.2**		
INCN				pmax	pmax				
	comp=Z,90nm,1.1s								
GUMO	**Guam**	**15.78**	**172**	Pn	**Pn**	**02 00 32.1**	**-3.4**		
GUMO	**Guam**	**15.78**	**172**	P	**P**	**02 00 41.9**	**+2.6**		
	comp=Z,174nm,1.5s								
GUMO	**Guam**	**15.78**	**172**	Pn	**Pn**	**02 00 32.3**	**-3.2**		
	comp=Z,72nm,0.8s,baz=216,slow=23,SNR=2.0								
MSHR	**Mys Shultsa**	**16.14**	**328**	⇓*e*P	**Pn**	**02 00 37.1**	**-2.8**		
MSHR				pmax	pmax				
	comp=Z,54nm,1.7s								
TEY	**Ternei**	**16.40**	**345**	*e*P	**Pn**	**02 00 40.6**	**-2.6**		
TEY				MLR	MLR				
	comp=E,100nm,13.0s								
TEY				MLR	MLR				
	comp=N,100nm,14.0s								
TEY				MLR	MLR				
	comp=Z,100nm,17.0s								
USA0B	**Ussuriysk Arra**	**17.10**	**333**	Pn	**Pn**	**02 00 49.8**	**-2.3**		
USA0B	**Ussuriysk Arra**	**17.10**	**333**	P	**Pn**	**02 00 49.8**	**-2.3**		
USA0B				pmax	pmax				
	comp=Z,130nm,2.0s								
USRK	**Ussuriysk Ar.**	**17.10**	**333**	Pn	**Pn**	**02 00 49.5**	**-2.5**		
USRK	**Ussuriysk Ar.**	**17.10**	**333**	P	**Pn**	**02 00 51.0**	**-1.0**		
	comp=Z,0.3nm,0.3s,baz=157,slow=10,SNR=17								
	comp=Z,14nm,0.9s								
YSS	**Yuzh-Sakhalins**	**17.62**	**0**	P	**Pn**	**02 00 54.9**	**-3.6**		
YSS	**Yuzh-Sakhalins**	**17.62**	**0**	P	**P**	**02 01 00.6**	**+1.1**		
	comp=Z,151nm,1.4s								
YSS	**Yuzh-Sakhalins**	**17.62**	**0**	*e*P	**Pn**	**02 00 55.4**	**-3.2**		
YSS				*e*S	**Sn**	**02 04 05.8**	**-8.7**		
YSS				pmax	pmax				
	comp=Z,30nm,1.1s								
YSS				pmax	pmax				
	comp=Z,800nm,2.4s								
YSS				pmax	pmax				
	comp=N,1μm,3.1s								
YSS				pmax	pmax				
	comp=E,500nm,2.9s								
YSS				MLR	MLR				
	comp=Z,3μm,15.0s								
YSS				MLR	MLR				
	comp=N,3μm,12.0s								
YSS				MLR	MLR				
	comp=E,900nm,9.0s								
MDJ	**Mudanjiang**	**18.44**	**329**	P	**P**	**02 01 07.7**	**-0.9**		
MDJ	**Mudanjiang**	**18.44**	**329**	P	**P**	**02 01 07.6**	**-0.9**		
MDJ				pmax	pmax				
	comp=E,49nm,1.8s								
MDJ				pmax	pmax				
	comp=E,950nm,5.0s								
MDJ				LR	LR				
	comp=E,3μm,13.5s								
MDJ				LR	LR				
	comp=E,2μm,13.1s								
MDJ				LR	LR				
	comp=E,5μm,14.3s								
SSE	**Sheshan**	**18.58**	**281**	P	**P**	**02 01 08.5**	**-1.7**		
SSE				S	**Sn**	**02 04 36.3**	**-1.7**		
SSE				pmax	pmax				
	comp=E,18nm,0.7s								
SSE				pmax	pmax				
	comp=E,420nm,5.4s								
SSE				LR	LR				
	comp=E,910nm,16.0s								
SSE				LR	LR				
	comp=E,920nm,16.5s								
TATO	**Taipei**	**19.26**	**262**	P	**P**	**02 01 16.9**	**-0.8**		
TATO				IAmb	IAmb	02 01 21.9			
	comp=Z,320nm,1.2s								
TATO	**Taipei**	**19.26**	**262**	P	**Pn**	**02 01 23.0**	**+4.3**		
	comp=Z,320nm,2.3s								
NACB	**Ningan Chiao**	**19.42**	**260**	P	**P**	**02 01 19.9**	**+0.4**		
YHNB	**Yeheng**	**19.45**	**261**	P	**P**	**02 01 19.7**	**-0.2**		
UGL	**Uglegorsk**	**19.75**	**359**	*e*P	**Pn**	**02 01 25.6**	**+1.2**		
UGL				S	**Sn**	**02 05 09.8**	**+3.9**		
UGL				pmax	pmax				
	comp=Z,2μm,3.5s								
UGL				pmax	pmax				
	comp=Z,108nm,1.3s								
UGL				pmax	pmax				
	comp=Z,3μm,5.0s								
UGL				pmax	pmax				
	comp=N,2μm,4.0s								
UGL				smax	smax				
	comp=N,2μm,5.5s								
UGL				smax	smax				
	comp=E,1μm,5.4s								
DL2	**Dalian**	**19.78**	**304**	P	Pn	02 01 32.9	+8.0		
DL2				S	Sn	02 05 26.0	+19		
DL2				pmax	pmax				
	comp=Z,35nm,0.8s								
DL2				pmax	pmax				
	comp=Z,390nm,7.2s								
DL2				LR	LR				
	comp=N,960nm,12.3s								
DL2				LR	LR				
	comp=E,2μm,13.4s								
DL2				LR	LR				
	comp=Z,3μm,19.3s								
SNY	**Shenyang**	**19.83**	**314**	⇑P	**Pn**	**02 01 24.9**	**-0.5**		
SNY				pmax	pmax				
	comp=Z,12nm,1.0s								
SNY				pmax	pmax				
	comp=Z,190nm,3.5s								
SNY				LR	LR				
	comp=Z,3μm,15.3s								
SNY				LR	LR				
	comp=Z,2μm,17.1s								
SNY				LR	LR				
	comp=Z,2μm,18.6s								
CN2	**Changchun**	**19.91**	**321**	P	**P**	**02 01 24.8**	**+0.1**		
CN2				S	S	02 04 53.9	-14		
CN2				pmax	pmax				
	comp=Z,30nm,1.2s								
CN2				pmax	pmax				
	comp=Z,600nm,6.0s								
CN2				LR	LR				
	comp=Z,5μm,16.0s								
CN2				LR	LR				
	comp=Z,4μm,16.0s								
CN2				LR	LR				
	comp=Z,3μm,18.0s								
YULB	**Yu-li**	**19.95**	**258**		**P**	**02 01 23.9**	**-1.5**		
YULB	**Yu-li**	**19.95**	**258**	P	**Pn**	**02 01 28.6**	**+1.6**		
	comp=Z,182nm,1.8s								
SSLB	**Suanglung**	**20.11**	**259**	P	**P**	**02 01 26.6**	**-0.4**		
SSLB				IAmb	IAmb	02 01 32.8			
	comp=Z,295nm,1.4s								
SSLB	**Suanglung**	**20.11**	**259**	P	Pn	02 01 28.6	-0.3		
	comp=Z,171nm,1.1s								
BNX	**BinXian**	**20.29**	**328**	⇑P	**P**	**02 01 28.3**	**-0.5**		
BNX				S	**S**	**02 05 15.9**	**0.0**		
BNX				pmax	pmax				
	comp=Z,220nm,1.4s								
BNX				LR	LR				
	comp=Z,2μm,17.1s								
BNX				LR	LR				
	comp=Z,3μm,15.3s								
BNX				LR	LR				
	comp=Z,2μm,16.8s								
TPUB	**Ta-pu**	**20.56**	**258**	P	**P**	**02 01 31.6**	**-0.3**		
TPUB				IAmb	IAmb	02 01 38.5			
	comp=Z,209nm,1.4s								
TPUB	**Ta-pu**	**20.56**	**258**	P	Pn	02 01 37.7	+3.5		
	comp=Z,156nm,1.6s								
NJ2	**Nanjing**	**20.59**	**284**	*e*P	**P**	**02 01 30.9**	**-1.2**		
NJ2				S	**S**	**02 05 20.1**	**-1.8**		
NJ2				pmax	pmax				
	comp=Z,39nm,1.0s								
NJ2				pmax	pmax				
	comp=Z,840nm,3.5s								
NJ2				LR	LR				
	comp=Z,2μm,11.4s								
NJ2				LR	LR				
	comp=Z,2μm,14.2s								
NJ2				LR	LR				
	comp=Z,3μm,14.2s								
TYV	**Tymovskoe**	**21.53**	**0**	*e*P	**P**	**02 01 43.8**	**+1.6**		
TYV				*e*S	Sn	02 05 46.3	-2.5		
TYV				pmax	pmax				
	comp=Z,40nm,1.5s								
TYV				pmax	pmax				
	comp=Z,500nm,3.0s								
TYV				smax	smax				
	comp=N,1μm,6.9s								
TYV				smax	smax				
	comp=E,2μm,6.9s								
KLR	**Kul'dur**	**21.55**	**340**	*de*P	**P**	**02 01 42.8**	**+0.4**		
KLR				pmax	pmax				
	comp=Z,104nm,1.4s								
KLR	**Kul'dur**	**21.55**	**340**	P	**P**	**02 01 42.4**	**0.0**		
	comp=Z,45nm,1.1s,baz=155,slow=8.7,SNR=39								
	comp=Z,45nm,1.1s								
QZH	**Quanzhou**	**21.78**	**264**	*e*P	**P**	**02 01 48.4**	**+3.4**		
QZH				S	**S**	**02 05 46.6**	**+1.0**		
QZH				pmax	pmax				
	comp=Z,1μm,8.6s								
QZH				LR	LR				
	comp=Z,2μm,10.6s								
QZH				LR	LR				
	comp=Z,2μm,16.5s								
QZH				LR	LR				
	comp=Z,3μm,18.9s								
GRNR	**Gornyy**	**21.94**	**349**	⇑*i*P	**P**	**02 01 47.4**	**+0.9**		
GRNR				pmax	pmax				
	comp=N,10.0nm,0.8s								
GRNR				pmax	pmax				
	comp=Z,20nm,1.1s								
GRNR				MLR	MLR				
	comp=E,1μm,14.0s								
GRNR				MLR	MLR				
	comp=N,1μm,17.0s								
GRNR				MLR	MLR				
	comp=Z,1μm,15.0s								
KNMB	**Chin-men Tao**	**22.10**	**263**	P	**P**	**02 01 49.0**	**+0.5**		
TIA	**Tai'an**	**22.45**	**294**	⇓P	**P**	**02 01 50.3**	**-1.9**		
TIA				S	**S**	**02 05 52.3**	**-6.0**		
TIA				pmax	pmax				
	comp=Z,21nm,1.3s								
TIA				pmax	pmax				
	comp=Z,360nm,4.7s								
TIA				LR	LR				
	comp=Z,2μm,12.4s								
TIA				LR	LR				
	comp=Z,3μm,14.1s								
TIA				LR	LR				
	comp=Z,3μm,13.2s								
HEH	**HeiHe**	**23.86**	**335**	*e*P	**P**	**02 02 06.4**	**0.0**		
HEH				pP	**pP**	**02 02 08.8**	**+0.2**		
HEH				S	**S**	**02 06 21.8**	**0.0**		
HEH				pmax	pmax				
	comp=Z,91nm,2.1s								
HEH				pmax	pmax				
	comp=Z,2μm,3.7s								
HEH				LR	LR				
	comp=Z,3μm,17.5s								
HEH				LR	LR				
	comp=Z,4μm,16.9s								
HEH				LR	LR				
	comp=Z,2μm,18.8s								
H11N2	**WAKE ISLAND Hy**	**24.05**	**108**	T	T	02 27 49.4			
	baz=295,slow=74								
H11N1	**WAKE ISLAND Hy**	**24.05**	**108**	T	T	02 27 52.8			
	baz=295								
H11N3	**WAKE ISLAND Hy**	**24.06**	**108**	T	T	02 27 58.7			
	baz=295,slow=74								
BJT	**Baijiatuau**	**24.13**	**303**	P	**P**	**02 02 08.1**	**-0.9**		
BJT	**Baijiatuau**	**24.13**	**303**	P	**P**	**02 02 08.1**	**-0.9**		
BJT				pmax	pmax				
	comp=Z,106nm,1.7s								
BJI	**Beijing**	**24.13**	**303**	P	**P**	**02 02 06.8**	**-2.2**		
BJI				S	**S**	**02 06 22.5**	**-3.8**		
BJI				pmax	pmax				
	comp=Z,15nm,1.4s								
BJI				pmax	pmax				
	comp=Z,200nm,5.4s								
BJI				LR	LR				
	comp=Z,770nm,18.6s								
BJI				LR	LR				
	comp=Z,2μm,17.8s								
BJI				LR	LR				
	comp=Z,2μm,19.2s								
H11S3	**WAKE ISLAND Hy**	**24.47**	**111**	T	T	02 27 59.3			
	baz=303								
H11S1	**WAKE ISLAND Hy**	**24.48**	**111**	T	T	02 27 59.7			
	baz=303								
WHN	**Wuhan**	**24.48**	**280**	P	**P**	**02 02 09.4**	**-2.9**		
WHN				PP	**PnPn**	**02 02 49.1**	**+6.0**		
WHN				S	**S**	**02 06 31.0**	**-1.1**		
WHN				pmax	pmax				
	comp=Z,850nm,2.5s								
WHN				pmax	pmax				
	comp=Z,1μm,3.0s								
WHN				LR	LR				
	comp=Z,3μm,16.1s								
WHN				LR	LR				
	comp=Z,4μm,16.4s								
WHN				LR	LR				
	comp=Z,3μm,14.9s								
H11S2	**WAKE ISLAND Hy**	**24.49**	**111**	T	T	02 28 00.7			
	baz=303								
HNS	**HongShan**	**24.58**	**296**	⇓P	**P**	**02 02 11.0**	**-2.1**		
HNS				S	**S**	**02 06 34.9**	**+1.3**		
HNS				pmax	pmax				
	comp=Z,28nm,1.9s								
HNS				pmax	pmax				
	comp=Z,270nm,7.7s								
HNS				LR	LR				
	comp=Z,2μm,15.2s								
HNS				LR	LR				
	comp=Z,1μm,15.7s								
HNS				LR	LR				
	comp=Z,2μm,20.1s								
TGY	**Tagaytay City**	**25.10**	**238**	P	**P**	**02 02 18.1**	**0.0**		
	comp=Z,220nm,0.4s,baz=77,slow=2.1,SNR=6.5								
TGY				LR	LR	02 11 09.4			
	comp=Z,2μm,21.0s,baz=112,slow=34								
XLT	**XiLinHaoTe**	**25.64**	**312**	⇓*i*P	**P**	**02 02 22.5**	**-0.3**		
XLT				sP	sP	02 02 29.3	+3.5		
XLT				S	**S**	**02 06 49.1**	**-1.6**		
XLT				sS	pS	02 06 53.8	+0.6		
XLT				SS	**SnSn**	**02 07 51.4**	**+6.5**		
XLT				pmax	pmax				
	comp=Z,32nm,1.5s								
XLT				pmax	pmax				
	comp=Z,580nm,4.3s								
XLT				LR	LR				
	comp=Z,2μm,12.1s								
XLT				LR	LR				
	comp=Z,1μm,13.6s								
CNSH	**ChangSha**	**26.00**	**275**	⇓P	**P**	**02 02 23.3**	**-2.7**		
CNSH				S	**S**	**02 06 52.9**	**-3.4**		
CNSH				LR	LR				
	comp=Z,2μm,14.3s								
CNSH				LR	LR				
	comp=Z,2μm,14.5s								
LYN	**LuoYang**	**26.04**	**289**	*e*P	**P**	**02 02 24.6**	**-1.8**		
LYN				pP	pP	02 02 29.1	+0.5		
LYN				S	**S**	**02 06 49.5**	**-7.4**		
LYN				sS	sS	02 07 01.5	+0.4		
LYN				pmax	pmax				
	comp=Z,14nm,0.9s								
LYN				pmax	pmax				
	comp=Z,770nm,4.8s								
LYN				LR	LR				
	comp=Z,2μm,13.4s								
LYN				LR	LR				
	comp=Z,1μm,12.0s								
LYN				LR	LR				
	comp=Z,3μm,11.3s								
PETK	**Petropavlovsk-**	**26.25**	**21**	LR	LR	02 13 13.4			
	comp=Z,2μm,20.9s,baz=214,slow=37								
TIY	**Taiyuan**	**26.41**	**296**	*e*P	**P**	**02 02 28.8**	**-1.1**		
TIY				PP	**PnPn**	**02 03 10.3**	**+0.7**		
TIY				S	**S**	**02 07 07.9**	**+4.9**		
TIY				SS	**SnSn**	**02 08 09.9**	**+6.1**		
TIY				pmax	pmax				
	comp=Z,18nm,0.6s								
TIY				pmax	pmax				
	comp=Z,370nm,3.6s								
TIY				LR	LR				
	comp=Z,1μm,15.8s								
TIY				LR	LR				
	comp=Z,1μm,17.2s								
TIY				LR	LR				
	comp=Z,2μm,19.9s								
HIA	**Hailar**	**26.46**	**325**	P	**P**	**02 02 30.4**	**+0.2**		
HIA				IAmb	IAmb	02 02 33.5			
	comp=Z,137nm,1.5s								
HIA	**Hailar**	**26.46**	**325**	*c iP*	**P**	**02 02 30.6**	**+0.5**		
HIA				pmax	pmax				
	comp=Z,61nm,1.2s								
PET	**Petropavlovsk**	**26.48**	**22**	*e*P	**P**	**02 02 29.4**	**-0.8**		
PET				*e*S	**S**	**02 06 57.6**	**-5.9**		
PET				pmax	pmax				
	comp=Z,52nm,1.2s								
PET				MLR	MLR				
	comp=Z,3μm,14.0s								
PET				MLR	MLR				
	comp=Z,3μm,13.0s								
ZEA	**Zeya**	**26.86**	**340**	*e*P	**P**	**02 02 34.5**	**+0.9**		
ZEA				*e*S	**S**	**02 07 05.9**	**-3.6**		
ZEA				pmax	pmax				
	comp=N,100nm,1.9s								
ZEA				pmax	pmax				
	comp=Z,300nm,2.2s								
ZEA				pmax	pmax				
	comp=E,10.0nm,1.3s								
ZEA				pmax	pmax				
	comp=N,30nm,1.0s								
ZEA				pmax	pmax				
	comp=Z,60nm,1.1s								
ZEA				smax	smax				
	comp=N,700nm,12.7s								
DAV	**Davao City (W)**	**27.31**	**219**	LR	LR	02 12 11.0			
	comp=N,1μm,21.6s,baz=40,slow=34								
HHC	**Hu-ho-hao-te**	**27.74**	**303**	*e*P	**P**	**02 02 41.4**	**-0.3**		
HHC				S	**S**	**02 07 23.4**	**-0.4**		
HHC				pmax	pmax				
	comp=N,22nm,0.9s								
HHC				pmax	pmax				
	comp=N,320nm,5.7s								
HHC				LR	LR				
	comp=N,3μm,19.1s								
HHC				LR	LR				
	comp=N,7μm,18.2s								
HHC				LR	LR				
	comp=N,9μm,18.7s								
BTO	**Baotou**	**28.82**	**302**	*e*P	**P**	**02 02 51.8**	**+0.4**		
BTO				pP	**sP**	**02 02 56.1**	**+1.8**		
BTO				sP	**pwP**	**02 02 58.8**	**-5.0**		
BTO				PP	**PnPn**	**02 03 44.8**	**+2.5**		
BTO				S	**S**	**02 07 43.3**	**+2.5**		
BTO				sS	**sS**	**02 07 50.3**	**+5.1**		
BTO				SS	**SnSn**	**02 09 06.3**	**+3.9**		
BTO				pmax	pmax				
	comp=N,40nm,1.0s								
BTO				pmax	pmax				
	comp=N,360nm,3.9s								
BTO				LR	LR				
	comp=N,4μm,16.6s								
BTO				LR	LR				
	comp=N,7μm,18.3s								
BTO				LR	LR				
	comp=N,10μm,18.8s								
XAN	**Xi'an**	**28.96**	**288**	⇑P	**P**	**02 02 50.3**	**-2.3**		
XAN				pP	sP	02 02 56.3	+0.5		
XAN				S	**S**	**02 07 44.0**	**+0.9**		
XAN				pmax	pmax				
	comp=N,45nm,1.7s								
XAN				LR	LR				
	comp=N,2μm,15.6s								
XAN				LR	LR				
	comp=N,3μm,15.2s								
XAN				LR	LR				
	comp=N,3μm,16.8s								
MA2	**Magadan**	**30.78**	**8**	⇑*e*P	**P**	**02 03 09.7**	**+1.3**		
MA2				pmax	pmax				
	comp=Z,18nm,1.2s								
MA2	**Magadan**	**30.78**	**8**	LR	LR	02 15 36.6			
	comp=Z,818nm,21.0s,baz=198,slow=36								
CIT	**Chita**	**31.27**	**325**	*e*P	**P**	**02 03 13.4**	**+0.6**		
CIT				*e*		02 04 34.8			
CIT				pmax	pmax				
	comp=Z,181nm,2.5s								
QIZ	**Qiongzhong**	**31.48**	**258**	P	**P**	**02 03 15.8**	**+0.8**		
QIZ				S	**S**	**02 08 25.9**	**+3.1**		
QIZ				pmax	pmax				
	comp=Z,30nm,1.4s								
QIZ				LR	LR				
	comp=Z,1μm,6.7s								
QIZ				LR	LR				
	comp=Z,1μm,15.0s								
QIZ				LR	LR				
	comp=Z,2μm,15.7s								
GYA	**Guiyang**	**31.80**	**274**	⇓P	**P**	**02 03 16.3**	**-1.6**		
GYA				S	**S**	**02 08 28.8**	**+0.9**		
GYA				pmax	pmax				
	comp=Z,28nm,1.0s								
GYA				pmax	pmax				
	comp=Z,600nm,4.7s								
GYA				LR	LR				
	comp=Z,1μm,14.2s								
GYA				LR	LR				
	comp=Z,1μm,10.6s								
GYA				LR	LR				
	comp=Z,2μm,13.6s								
SWI	**Sorong**	**31.89**	**202**	P	**P**	**02 03 16.8**	**-1.8**		
	comp=Z,27nm,0.6s								
SHEM	**Shemya Is, Ala**	**32.92**	**36**	LR	LR	02 14 39.3			
	comp=Z,1μm,21.0s,baz=285,slow=32								
ULN	**Ulaanbaatar**	**33.01**	**314**	P	**P**	**02 03 28.6**	**+0.3**		
ULN				IAmb	IAmb	02 03 58.2			
	comp=Z,59nm,1.2s								
ULN	**Ulaanbaatar**	**33.01**	**314**	P	**P**	**02 03 28.6**	**+0.3**		
ULN	**Ulaanbaatar**	**33.01**	**314**	*ce*P	**P**	**02 03 28.8**	**+0.5**		
ULN				pmax	pmax				
	comp=Z,25nm,1.1s								
LBMI	**Labuha**	**33.08**	**208**	P	**P**	**02 03 27.6**	**-1.4**		
	comp=Z,67nm,2.2s,comp=Z,2μm								
MYLDM	**Lahad Datu**	**33.09**	**228**	P	**P**	**02 03 27.0**	**-2.1**		
LZH	**Lanzhou**	**33.13**	**292**	⇓P	**P**	**02 03 28.0**	**-1.6**		
LZH				pP	sP	02 03 34.3	+1.5		
LZH				pmax	pmax				
	comp=Z,25nm,1.4s								

LZH pmax pmax
comp=Z,160nm,5.5s
LZH LR LR
comp=Z,1µm,11.7s
LZH LR LR
comp=Z,1µm,13.7s
LZH LR LR
comp=Z,2µm,12.7s
SONM Songino Array 33.41 314 P **P** **02 03 31.8 0.0**
SONM Songino Array 33.41 314 P **P** **02 03 32.2 +0.4**
comp=Z,8.5nm,0.7s,baz=121,slow=8.0,SNR=38
SONM PcP **PcP** **02 06 12.4 -0.7**
comp=Z,0.8nm,0.5s,baz=148,slow=4.4,SNR=2.0
SONM LR LR 02 17 56.2
comp=Z,3µm,18.0s,baz=104,slow=38
comp=Z,8.5nm,0.7s
CD2 Chengdu 33.52 283 P **P** **02 03 31.4 -1.4**
CD2 S **S** **02 08 54.6 +0.2**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 LR LR
comp=Z,1µm,11.5s
CD2 LR LR
comp=Z,1µm,12.2s
CD2 LR LR
comp=Z,2µm,14.0s
YAK Yakutsk 33.82 349 P **P** **02 03 34.3 -0.7**
YAK IAmb IAmb 02 03 50.2
comp=Z,39nm,0.9s
YAK Yakutsk 33.82 349 *e*P **P** **02 03 35.4 +0.5**
YAK *e* 02 04 47.4
YAK *e* 02 06 13.5
YAK *e*S **S** **02 09 01.2 +3.0**
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=N,13nm,2.0s
YAK pmax pmax
comp=E,3.0nm,1.9s
YAK pmax pmax
comp=Z,303nm,5.4s
YAK pmax pmax
comp=N,311nm,6.2s
YAK pmax pmax
comp=E,165nm,6.0s
YAK smax smax
comp=E,205nm,4.4s
YAK smax smax
comp=N,192nm,4.7s
YAK MLR MLR
comp=Z,1µm,21.0s
YAK MLR MLR
comp=N,110nm,29.0s
YAK MLR MLR
comp=E,70nm,23.0s
YAK Yakutsk 33.82 349 LR LR 02 17 49.8
comp=E,40nm,20.8s,baz=138,slow=37
SEY Seymchan 34.23 8*c*e**P** **P** **02 03 40.5 +1.9**
SEY pmax pmax
comp=Z,31nm,1.0s
BOD Bodaibo 34.73 333 *e*P **P** **02 03 42.9 -0.1**
BOD pmax pmax
comp=Z,34nm,1.7s
TOLI2 Tolitoli 34.90 220 P **P** **02 03 43.5 -1.3**
SANI Sanana 34.99 210 P **P** **02 03 43.0 -2.6**
comp=Z,30nm,0.9s
KMI Kunming 35.56 273 ⇑P **P** **02 03 49.4 -1.4**
KMI PP **PP** **02 05 13.8 +2.3**
KMI S **S** **02 09 19.0 -7.4**
KMI pmax pmax
comp=Z,33nm,1.5s
KMI pmax pmax
comp=Z,400nm,4.2s
KMI LR LR
comp=Z,1µm,14.4s
KMI LR LR
comp=Z,1µm,17.1s
KMI LR LR
comp=Z,2µm,15.3s
SLVN Son La 35.73 266 P **P** **02 03 48.7 -3.4**
PZH PanZhiHua 36.08 276 P **P** **02 03 53.3 -1.8**
PZH PP **PnPn** **02 05 16.4 +0.3**
PZH S **S** **02 09 30.3 -3.8**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,490nm,6.5s
PZH LR LR
comp=Z,1µm,15.7s
PZH LR LR
comp=Z,970nm,18.3s
PZH LR LR
comp=Z,960nm,15.7s
ZAK Zakamensk 36.22 317 *e*P **P** **02 03 56.2 +0.2**
ZAK pmax pmax
comp=Z,60nm,1.4s
IRK Irkutsk 36.35 320 *e*P **P** **02 03 57.0 0.0**
IRK pmax pmax
comp=Z,195nm,2.6s
GTA Gaotai 36.43 298 *e*P **P** **02 03 56.8 -1.1**
GTA PcP **PcP** **02 06 23.1 +1.1**
GTA S **S** **02 09 38.8 -0.4**
GTA SS **SnSn** **02 12 04.3 -3.0**
GTA pmax pmax
comp=Z,16nm,1.6s
GTA LR LR
comp=Z,1µm,18.2s
GTA LR LR
comp=Z,1µm,21.4s
GTA LR LR
comp=Z,1µm,22.2s
MOY Mondy 38.02 318 *e*P **P** **02 04 11.6 +0.3**
MOY pmax pmax
comp=Z,182nm,3.4s
SAUI Saumlaki 38.63 198 P **P** **02 04 15.6 -1.0**
PMG Port Moresby 38.74 173 P **P** **02 04 15.5 -2.0**
PMG IAmb IAmb 02 04 58.2
comp=Z,90nm,1.6s
PMG Port Moresby 38.74 173*c*e**P** **P** **02 04 16.1 -1.3**
PMG pmax pmax
comp=Z,20nm,1.2s
CRAI Chiangrai 39.20 267 P **P** **02 04 20.7 -0.7**
CRAI IAmb IAmb 02 04 23.8
comp=Z,170nm,1.8s
TNCH TengChong 39.27 275⇓*i*P **P** **02 04 21.6 -0.5**
TNCH S **S** **02 10 23.0 +0.4**
TNCH pmax pmax
comp=Z,110nm,1.1s
TNCH pmax pmax
comp=Z,620nm,4.1s
TNCH LR LR
comp=Z,870nm,12.4s
TNCH LR LR
comp=Z,840nm,13.9s
TNCH LR LR
comp=Z,1µm,19.5s
GOMU GeErMu 40.43 293 P **P** **02 04 31.3 -0.7**
GOMU pP pP 02 04 33.6 -0.7
GOMU sP sP 02 04 37.1 +1.9
GOMU PcP **PcP** **02 06 35.9 +1.1**
GOMU S S 02 10 27.8 -13
GOMU pmax pmax
comp=Z,12nm,0.9s
GOMU LR LR
comp=Z,380nm,15.7s
GOMU LR LR
comp=Z,290nm,16.2s
GOMU LR LR
comp=Z,530nm,16.3s
KAPI Kappang 40.56 216 LR LR 02 20 31.3
comp=Z,520nm,21.4s,baz=38,slow=35
CHTO Chiang Mai 40.99 265 P **P** **02 04 34.4 -1.9**
CHTO IAmb IAmb 02 04 38.1
comp=Z,84nm,1.6s
CHTO Chiang Mai 40.99 265 P **P** **02 04 32.8 -3.5**
CHTO Chiang Mai 40.99 265 P **P** **02 04 34.4 -1.9**
CHTO pmax pmax
comp=Z,84nm,1.6s
CM31 Chiang Mai Arr 41.13 265 P **P** **02 04 35.3 -2.2**
CMAR Chiang Mai Arr 41.13 265 P **P** **02 04 36.0 -1.5**
CMAR Chiang Mai Arr 41.13 265*c*e**P** **P** **02 04 36.9 -0.6**
CMAR pmax pmax
comp=Z,5.0nm,0.6s
CMAR Chiang Mai Arr 41.13 265 P **P** **02 04 36.5 -1.0**
comp=Z,6.2nm,0.8s,baz=56,slow=7.4,SNR=18
CMAR PcP **PcP** **02 06 36.9 0.0**
comp=Z,0.9nm,0.3s,baz=73,slow=3.1,SNR=0.9
CMAR LR LR 02 21 55.1
comp=Z,1µm,21.1s,baz=65,slow=37
comp=Z,6.2nm,0.8s
BILL Bilibino 41.23 13 P **P** **02 04 36.5 -1.1**
BILL Bilibino 41.23 13⇑*e*P **P** **02 04 39.0 +1.3**
HNR Honiara 41.99 154 LR LR 02 20 15.9
comp=Z,19µm,21.9s,baz=318,slow=34
SPIA Saint Paul Isl 42.96 36 P **P** **02 04 52.0 +0.2**
baz=250
TIXI Tiksi 43.06 354 P **P** **02 04 51.4 -1.1**
TIXI Tiksi 43.06 354 P **P** **02 04 51.4 -1.1**
TIXI pmax pmax
comp=Z,16nm,1.1s
MTN Manton Dam 43.34 196 P **P** **02 04 54.6 -0.7**
MTN IAmb IAmb 02 04 56.8
comp=Z,92nm,1.2s
UNV Unalaska Valle 44.06 41 P **P** **02 05 00.9 +0.1**
baz=257
SHL Shillong 44.88 278 P **P** **02 05 06.0 -2.0**
SHL IAmb IAmb 02 05 09.0
comp=Z,77nm,2.0s
SHL Shillong 44.88 278 P **P** **02 05 06.5 -1.5**
SNR=6.0
SHL Shillong 44.88 278 P **P** **02 05 06.0 -2.0**
SHL pmax pmax
comp=Z,77nm,2.0s
GAMB Gambell 44.99 27 P **P** **02 05 07.8 -0.2**
baz=242
WMQ Urumqi 45.60 304 *e*P **P** **02 05 13.8 +0.4**
WMQ PP **PP** **02 06 59.1 -1.0**
WMQ pmax pmax
comp=Z,24nm,1.7s
WMQ pmax pmax
comp=Z,470nm,3.7s
WMQ LR LR
comp=Z,1µm,12.3s
WMQ LR LR
comp=Z,1µm,20.1s
WMQ LR LR
comp=Z,1µm,23.3s
M11K Mekoryuk 46.02 33 P **P** **02 05 15.0 -1.3**
baz=251
DGZ Jazzator, Alta 46.02 312*ce*P **P** **02 05 17.3 +0.6**
DGZ pmax pmax
comp=Z,51nm,1.1s
KNRA Kununurra 46.67 198 P **P** **02 05 21.0 -0.8**
KNRA IAmb IAmb 02 06 43.1
comp=Z,29nm,0.8s
TNA Tin City 47.25 26 P **P** **02 05 26.2 +0.4**
baz=245
ZSN Zaisan 47.61 309 *e*P **P** **02 05 29.6 +0.7**
baz=309
ZSN Zaisan 47.61 309 *e*P **P** **02 05 29.6 +0.7**
F14K Arctic Creek 47.82 26 P **P** **02 05 31.1 +0.8**
baz=246
L14K Kuka Creek 47.95 32 P **P** **02 05 32.5 +1.1**
baz=254
TAPN Taplejung 47.97 282 *e*P **P** **02 05 31.8 -0.6**
J14K Nanvaranak Lak 47.98 30 P **P** **02 05 32.5 +1.0**
baz=252
N14K Kuskokwak Cree 48.06 34 P **P** **02 05 32.7 +0.5**
baz=256
ZAA0 Zalesovo Array 48.08 318 P **P** **02 05 31.2 -1.2**
ZALV Zalesovo Beam 48.08 318 P **P** **02 05 32.0 -0.4**
ZALV Zalesovo Beam 48.08 318 P **P** **02 05 32.5 0.0**
comp=Z,11nm,0.4s,baz=105,slow=8.7,SNR=53
ZALV PcP **PcP** **02 06 60.0 -0.1**
comp=Z,2.6nm,0.6s,baz=91,slow=3.2,SNR=1.4
ZALV LR LR 02 26 43.8
comp=Z,2µm,18.2s,baz=94,slow=37
comp=Z,11nm,0.4s
O14K Tigyukauivet M 48.11 35 P **P** **02 05 33.8 +1.2**
baz=257
M14K Bethel 48.13 33 P **P** **02 05 33.6 +0.9**
baz=255
CHNA Chernabura Isl 48.22 41 P **P** **02 05 33.6 +0.1**
baz=262
ODAN Odare 48.38 281 *e*P **P** **02 05 32.9 -2.6**
S14K Fog Glacier 48.45 39 P **P** **02 05 35.0 -0.4**
baz=261
G15K Niukluk 48.53 27 P **P** **02 05 35.3 -0.5**
baz=249
F15K North Star Dit 48.55 26 P **P** **02 05 36.2 +0.2**
baz=248
L15K Ungalak Mounta 48.60 32 P **P** **02 05 36.9 +0.6**
baz=255
M15K Kasigluk River 48.72 33 P **P** **02 05 38.4 +1.0**
baz=256
K15K Wolf Creek Mou 48.74 31 P **P** **02 05 38.5 +1.1**
baz=254
KPJI Karang Pucung 48.74 227 P **P** **02 05 38.6 +0.6**
comp=Z,71nm,0.8s
O15K Ungalikthiuk R 48.81 35 P **P** **02 05 39.0 +0.9**
baz=258
N15K Kwethluk River 48.89 34 P **P** **02 05 39.9 +1.2**
N15K Kwethluk River 48.89 34 P **P** **02 05 39.5 +0.9**
baz=257
RAMN Ramite 49.03 282 *e*P **P** **02 05 37.9 -2.6**
comp=Z,22nm,0.6s
H16K Elim 49.13 28 P **P** **02 05 41.9 +1.4**
baz=252
JIRN Jiri 49.18 283 *e*P **P** **02 05 40.8 -1.0**
comp=Z,30nm,0.5s
LEM Lembang 49.21 229 LR LR 02 29 12.6
comp=Z,310nm,18.6s,baz=40,slow=40
CTAO Charters Tower 49.23 175 P **P** **02 05 41.7 0.0**
CTAO IAmb IAmb 02 05 44.2
comp=Z,63nm,1.4s
CTAO Charters Tower 49.23 175 P **P** **02 05 41.7 0.0**
CTAO pmax pmax
comp=Z,63nm,1.4s
G16K Koyuk River 49.33 27 P **P** **02 05 43.3 +1.3**
baz=251
MK31 Makanchi Array 49.37 308 P **P** **02 05 43.1 +0.5**
MK31 Makanchi Array 49.37 308 *i* P **P** **02 05 42.6 0.0**
MK31 pmax pmax
comp=Z,12nm,0.8s
MKAR Makanchi Array 49.37 308 P **P** **02 05 43.0 +0.5**
MKAR Makanchi Array 49.37 308 P **P** **02 05 42.5 0.0**
comp=Z,8.9nm,0.7s,baz=88,slow=8.2,SNR=63
comp=Z,8.9nm,0.7s
GUN Gumba 49.38 283 *e*P **P** **02 05 42.2 -1.1**
WB0 Warramunga Arr 49.42 190 P **P** **02 05 42.3 -0.9**
J16K Anvik River 49.42 30 P **P** **02 05 43.7 +1.0**
baz=254
L16K Owhat River 49.53 32 P **P** **02 05 44.8 +1.2**
baz=257
I17K Unalakleet 49.55 29 P **P** **02 05 45.2 +1.5**
baz=254
MAKZ Makanchi 49.58 308 P **P** **02 05 44.6 +0.4**
MAKZ Makanchi 49.58 308 P **P** **02 05 44.6 +0.4**
MAKZ pmax pmax
comp=Z,106nm,1.8s
WR0 Warramunga Arr 49.59 190 P **P** **02 05 43.6 -0.8**
WRAB Tennant Creek 49.59 190 P **P** **02 05 44.3 -0.1**
WRAB Tennant Creek 49.59 190 P **P** **02 05 44.3 -0.1**
WRAB pmax pmax
comp=Z,231nm,1.7s
N16K Nishlik Lake 49.60 34 P **P** **02 05 45.6 +1.5**
baz=258
WB2 Warramunga Arr 49.60 190 P **P** **02 05 43.7 -0.7**
WRA Warramunga Arr 49.60 190 P **P** **02 05 42.8 -1.7**
WRA Warramunga Arr 49.60 190 P **P** **02 05 43.5 -1.0**
comp=Z,36nm,0.8s,baz=9.0,slow=8.1,SNR=169
WRA PcP **PcP** **02 07 06.8 +0.8**
comp=Z,6.4nm,0.7s,baz=2.9,slow=3.7,SNR=7.5
WRA PP **PP** **02 07 40.1 +1.0**
comp=Z,5.9nm,0.7s,baz=6.5,slow=7.6,SNR=2.1
comp=Z,36nm,0.8s
M16K Timber Creek 49.62 33 P **P** **02 05 45.7 +1.5**
baz=258
P16K Nushagak River 49.72 36 P **P** **02 05 46.2 +1.2**
baz=260
O16K Kokwok River B 49.77 35 P **P** **02 05 46.4 +1.1**
baz=260
PKI Pulchoki 49.87 283 *e*P **P** **02 05 45.1 -1.9**
PKIN Phulchoki 49.88 283 *e*P **P** **02 05 45.2 -1.8**
FITZ Fitzroy Crossi 49.88 201 P **P** **02 05 46.5 -0.1**
G17K Kiwalik Mounta 50.04 27 P **P** **02 05 48.7 +1.3**
baz=252
RDOG Red Dog Mine 50.07 24 P **P** **02 05 48.5 +1.0**
RDOG IAmb IAmb 02 06 03.9
comp=Z,38nm,1.0s
RDOG Red Dog Mine 50.07 24 P **P** **02 05 49.4 +1.9**
baz=248
F17K Baldwin Pennin 50.11 26 P **P** **02 05 48.2 +0.4**
baz=251
C17K DeLong Mountai 50.14 23 P **P** **02 05 49.8 +1.8**
baz=247
L17K Donlin 50.17 32 P **P** **02 05 49.5 +1.1**
baz=258
H17K Granite Mounta 50.17 28 P **P** **02 05 50.2 +1.8**
baz=254
O17K Koliganek Bris 50.30 35 P **P** **02 05 51.2 +1.9**
baz=260,SNR=5.5
K17K Iditarod 50.30 31 P **P** **02 05 49.4 +0.1**
K17K IAmb IAmb 02 06 06.1
comp=Z,54nm,1.1s
K17K Iditarod 50.30 31 P **P** **02 05 49.8 +0.5**
baz=257
Q16K King Salmon 50.35 36 P **P** **02 05 50.3 +0.6**
baz=262
R17K Ugashik Creek 50.35 38 P **P** **02 05 51.1 +1.3**
baz=263
N17K Nushagak Hills 50.38 34 P **P** **02 05 50.8 +0.8**
N17K IAmb IAmb 02 06 06.7
comp=Z,51nm,1.1s
N17K Nushagak Hills 50.38 34 P **P** **02 05 51.3 +1.3**
baz=260
GKN Gorkha 50.41 283 *e*P **P** **02 05 49.6 -1.3**
comp=Z,12nm,0.3s
M17K Holitna River 50.42 33 P **P** **02 05 51.1 +0.9**
M17K Holitna River 50.42 33 P **P** **02 05 51.3 +1.0**
baz=259
P17K Kvichak River 50.53 36 P **P** **02 05 51.6 +0.4**
baz=262
CHIR Chirikof Islan 50.58 40 P **P** **02 05 52.5 +0.9**
baz=265
E18K Tukpahlearik C 50.67 25 P **P** **02 05 52.6 +0.5**
baz=251
Q17K Contact Creek 50.69 37 P **P** **02 05 51.3 -1.2**
baz=263
H18K Honhosa River 50.87 28 P **P** **02 05 54.4 +0.8**
H18K IAmb IAmb 02 06 23.7
comp=Z,109nm,1.8s
H18K Honhosa River 50.87 28 P **P** **02 05 53.8 +0.2**
baz=255
C18K Utukok River 50.88 23 P **P** **02 05 53.9 +0.1**
baz=249
L18K Granite Mounta 50.93 32 P **P** **02 05 54.6 +0.5**
L18K IAmb IAmb 02 06 11.0
comp=Z,52nm,1.2s
L18K Granite Mounta 50.93 32 P **P** **02 05 54.5 +0.4**
baz=259
B18K Kokolik River 50.94 22 P **P** **02 05 54.6 +0.6**
baz=248
G18K Tagagawik 50.95 27 P **P** **02 05 54.6 +0.4**
G18K Tagagawik 50.95 27 P **P** **02 05 55.0 +0.8**
baz=254
N18K Kilae Creek 51.03 34 P **P** **02 05 55.7 +0.8**
N18K Kilae Creek 51.03 34 P **P** **02 05 56.1 +1.1**
baz=261
DANN Dangsing 51.06 284 *e*P **P** **02 05 54.8 -1.2**
comp=Z,23nm,0.5s
GSI Gunungsitoli 51.07 245 P **P** **02 05 54.0 -1.8**
J18K Innoko River 51.17 30 P **P** **02 05 56.2 +0.3**
baz=258
P18K Big Mountain, 51.18 36 P **P** **02 05 56.4 +0.4**
P18K IAmb IAmb 02 06 11.8
comp=Z,67nm,1.1s
P18K Big Mountain, 51.18 36 P **P** **02 05 56.7 +0.6**
baz=263,SNR=6.9
M18K Stony River 51.20 33 P **P** **02 05 56.9 +0.7**
baz=260
Q18K Katmai Hardscr 51.20 36 P **P** **02 05 56.0 -0.4**
baz=263,SNR=6.2
O18K Koktuh Hills 51.25 35 P **P** **02 05 57.2 +0.6**
O18K IAmb IAmb 02 06 13.9
comp=Z,48nm,0.9s
O18K Koktuh Hills 51.25 35 P **P** **02 05 57.5 +0.9**
baz=262,SNR=5.5
SVW2 Sparrevohn 51.25 33 P **P** **02 05 57.2 +0.6**
KOLN Koldanda 51.36 284 *e*P **P** **02 05 55.9 -2.2**
TTA Tatalina 51.37 31 P **P** **02 05 58.3 +0.8**
TTA Tatalina 51.37 31 P **P** **02 05 58.4 +0.9**
baz=259
TTA Tatalina 51.37 31 P **P** **02 05 58.3 +0.8**
TTA pmax pmax
comp=Z,28nm,1.3s
R18K Karluk 51.38 38 P **P** **02 05 57.3 -0.2**
baz=265
SII Sitkinak Islan 51.44 39 P **P** **02 05 58.1 0.0**
baz=266
A19K Wainwright 51.48 21 P **P** **02 05 58.4 +0.3**
baz=248
F19K Shaleruckik Mo 51.55 26 P **P** **02 05 58.9 +0.2**
baz=254
C19K Lookout Ridge 51.58 23 P **P** **02 05 59.6 +0.6**
C19K IAmb IAmb 02 06 15.6
comp=Z,36nm,1.1s
C19K Lookout Ridge 51.58 23 P **P** **02 06 00.0 +1.0**
baz=251
PDGK Podgornoye 51.58 304 P **P** **02 05 58.2 -1.3**
SHLS Shalkode 51.62 304⇑*i*P **P** **02 05 56.7 -3.1**
comp=Z,67nm,2.6s,baz=304
SHLS Shalkode 51.62 304*c i*P **P** **02 05 56.6 -3.2**
SHLS pmax pmax
comp=Z,67nm,2.6s
G19K Purcell Mounta 51.63 27 P **P** **02 06 00.3 +1.0**
G19K Purcell Mounta 51.63 27 P **P** **02 06 00.1 +0.8**
baz=256
KURK Kurchatov 51.71 313 P **P** **02 06 00.5 +0.3**
KURK Kurchatov 51.71 313 P **P** **02 06 00.6 +0.5**
O19K Port Alsworth 51.74 35 P **P** **02 05 59.8 -0.4**
O19K Port Alsworth 51.74 35 P **P** **02 06 01.7 +1.6**
baz=263,SNR=7.5
H19K Roundabout Mou 51.74 28 P **P** **02 06 01.3 +1.3**
H19K IAmb IAmb 02 06 16.5
comp=Z,82nm,1.4s
H19K Roundabout Mou 51.74 28 P **P** **02 06 01.2 +1.1**
baz=257
N19K Bonanza Creek 51.74 34 P **P** **02 05 59.9 -0.4**
N19K IAmb IAmb 02 06 28.9
comp=Z,45nm,1.2s
N19K Bonanza Creek 51.74 34 P **P** **02 06 00.3 0.0**
baz=262
J19K Poorman 51.75 30 P **P** **02 06 01.0 +0.7**
J19K Poorman 51.75 30 P **P** **02 06 01.0 +0.7**
baz=259
L19K White Mountain 51.77 32 P **P** **02 06 01.2 +0.8**
L19K White Mountain 51.77 32 P **P** **02 06 01.8 +1.4**
baz=261
KURBB Kurchatov Arra 51.77 313 P **P** **02 06 00.2 -0.4**
KURBB Kurchatov Arra 51.77 313 P **P** **02 06 00.6 0.0**
comp=Z,19nm,0.5s,baz=92,slow=6.4,SNR=125
comp=Z,19nm,0.5s
PYUN Piuthan 51.78 284 *e*P **P** **02 06 00.1 -1.2**
comp=Z,70nm,0.4s
D19K Kuna River 51.90 24 P **P** **02 06 00.9 -0.4**
D19K Kuna River 51.90 24 P **P** **02 06 01.9 +0.6**
baz=253
E19K Redstone River 51.92 25 P **P** **02 06 01.8 +0.3**
E19K IAmb IAmb 02 06 17.9
comp=Z,34nm,0.9s
E19K Redstone River 51.92 25 P **P** **02 06 03.1 +1.6**
baz=254
UZB Uzynbulak 51.94 304 *e*P **P** **02 06 01.6 -0.7**
comp=Z,65nm,2.3s,baz=304
UZB Uzynbulak 51.94 304 *e*P **P** **02 06 01.5 -0.7**
UZB pmax pmax
comp=Z,65nm,2.3s
OHAK Old Harbor 51.98 38 P **P** **02 06 02.2 +0.1**
OHAK IAmb IAmb 02 06 32.2
comp=Z,57nm,1.4s
OHAK Old Harbor 51.98 38 P **P** **02 06 02.1 +0.1**
baz=266
KPKS Kokpek 52.15 304 *e*P **P** **02 06 03.2 -0.6**
comp=Z,45nm,2.0s,baz=304
KPKS Kokpek 52.15 304 *e*P **P** **02 06 03.1 -0.6**
KPKS pmax pmax
comp=Z,45nm,2.0s
TDK Taldyqorghan 52.19 306 *e*P **P** **02 06 04.1 +0.3**
baz=306
TDK LR LR 02 26 46.3
comp=Z,689nm,16.1s,baz=306
TDK Taldyqorghan 52.19 306 *e*P **P** **02 06 04.1 +0.3**
TDK MLR MLR
comp=Z,689nm,16.0s
L20K Farewell, AK 52.26 32 P **P** **02 06 03.3 -0.8**
baz=261
K20K Telida 52.32 31 P **P** **02 06 05.5 +1.0**
K20K IAmb IAmb 02 06 21.2
comp=Z,46nm,1.1s

K20K	**Telida**	**52.32**	**31**	P		**P**	**02 06 04.9**	**+0.4**
	baz=261								
H20K	**Anotleneega Mo**	**52.37**	**28**	P		**P**	**02 06 05.5**	**+0.7**
	baz=258								
ZHN	**Zhinishke**	**52.37**	**304**	*e*P		**P**	**02 06 04.8**	**-0.5**
	comp=Z,57nm,2.8s,baz=304								
ZHN	**Zhinishke**	**52.37**	**304**	*e*P		**P**	**02 06 04.8**	**-0.5**
ZHN				pmax		pmax			
	comp=Z,57nm,2.8s								
F20K	**Avaraart Lake**	**52.38**	**26**	P		**P**	**02 06 06.0**	**+1.1**
F20K	**Avaraart Lake**	**52.38**	**26**	P		**P**	**02 06 05.4**	**+0.5**
	baz=256								
I20K	**Naaghedeneel**	**52.40**	**29**	P		**P**	**02 06 05.5**	**+0.5**
	baz=259								
KDAK	**Kodiak Island**	**52.40**	**38**	P		**P**	**02 06 05.4**	**+0.3**
KDAK	**Kodiak Island**	**52.40**	**38**	P		**P**	**02 06 05.2**	**+0.1**
	baz=266								
KDAK	**Kodiak Island**	**52.40**	**38**	P		**P**	**02 06 05.4**	**+0.3**
	comp=Z,36nm,0.9s,baz=278,slow=2.2,SNR=44								
	comp=Z,36nm,0.9s								
SATY	**Saty**	**52.40**	**304**	*e*P		**P**	**02 06 05.3**	**-0.4**
	comp=Z,88nm,2.6s,baz=304								
SATY	**Saty**	**52.40**	**304**	*e*P		**P**	**02 06 05.2**	**-0.4**
SATY				pmax		pmax			
	comp=Z,88nm,2.6s								
J20K	**Nowinta River**	**52.42**	**30**	P		**P**	**02 06 06.0**	**+0.8**
J20K				IAmb		IAmb	02 06 21.9		
	comp=Z,36nm,1.0s								
J20K	**Nowinta River**	**52.42**	**30**	P		**P**	**02 06 06.5**	**+1.3**
	baz=260,SNR=10								
D20K	**Etivluk River**	**52.49**	**24**	P		**P**	**02 06 06.4**	**+0.7**
	baz=254								
E20K	**Nigu River**	**52.52**	**24**	P		**P**	**02 06 06.9**	**+1.0**
	baz=255								
M20K	**Styx River**	**52.53**	**33**	P		**P**	**02 06 07.0**	**+0.9**
	baz=263								
O20K	**Slope Mountain**	**52.57**	**35**	P		**P**	**02 06 05.8**	**-0.6**
	baz=264								
B20K	**Meade River**	**52.68**	**22**	P		**P**	**02 06 08.1**	**+1.1**
B20K				IAmb		IAmb	02 06 10.7		
	comp=Z,34nm,1.1s								
B20K	**Meade River**	**52.68**	**22**	P		**P**	**02 06 07.5**	**+0.5**
	baz=252								
ARXS	**Arharly**	**52.68**	**305**	*e*P		**P**	**02 06 06.7**	**-0.9**
N20K	**Mount Spurr**	**52.88**	**33**	P		**P**	**02 06 09.4**	**+0.6**
	baz=264								
IMAR	**Indian Mountai**	**52.92**	**27**	P		**P**	**02 06 09.6**	**+0.7**
TARG	**Taragay, Kyrgy**	**53.02**	**302**	P		**P**	**02 06 10.0**	**-0.6**
TARG				IAmb		IAmb	02 06 39.6		
	comp=Z,50nm,1.5s								
TARG	**Taragay, Kyrgy**	**53.02**	**302**	P		**P**	**02 06 10.0**	**-0.6**
TARG				pmax		pmax			
	comp=Z,50nm,1.5s								
PPLA	**Purkeypile**	**53.09**	**31**	P		**P**	**02 06 10.6**	**+0.2**
	baz=263								
G21K	**Allakaket**	**53.12**	**27**	P		**P**	**02 06 11.3**	**+0.9**
G21K	**Allakaket**	**53.12**	**27**	P		**P**	**02 06 11.7**	**+1.3**
	baz=259								
CHUM	**Lake Minchumin**	**53.17**	**30**	P		**P**	**02 06 11.5**	**+0.7**
	baz=262								
CAST	**Castle Rocks**	**53.21**	**31**	P		**P**	**02 06 12.0**	**+0.9**
CAST				IAmb		IAmb	02 06 27.5		
	comp=Z,34nm,1.0s								
CAST	**Castle Rocks**	**53.21**	**31**	P		**P**	**02 06 11.7**	**+0.6**
	baz=262,SNR=13								
CNPM	**China Poot**	**53.22**	**36**	P		**P**	**02 06 11.3**	**+0.1**
CNPM				IAmb		IAmb	02 06 26.0		
	comp=Z,38nm,0.9s								
C21K	**Knifeblade Rid**	**53.24**	**23**	P		**P**	**02 06 13.3**	**+2.1**
	baz=256								
H21K	**Melozitna Rive**	**53.25**	**28**	P		**P**	**02 06 12.1**	**+0.7**
H21K				IAmb		IAmb	02 06 28.0		
	comp=Z,40nm,1.1s								
H21K	**Melozitna Rive**	**53.25**	**28**	P		**P**	**02 06 12.3**	**+1.0**
	baz=260								
F21K	**Alatna River**	**53.27**	**26**	P		**P**	**02 06 11.8**	**+0.2**
F21K	**Alatna River**	**53.27**	**26**	P		**P**	**02 06 12.8**	**+1.3**
	baz=258								
SKT	**Skwentna**	**53.29**	**33**	P		**P**	**02 06 11.7**	**-0.1**
SKT	**Skwentna**	**53.29**	**33**	P		**P**	**02 06 12.6**	**+0.9**
	baz=264,SNR=6.5								
AS31	**Alice Springs**	**53.32**	**190**	P		**P**	**02 06 11.3**	**-1.1**
ASAR	**Alice Springs**	**53.32**	**190**	P		**P**	**02 06 11.4**	**-1.0**
ASAR	**Alice Springs**	**53.32**	**190**	P		**P**	**02 06 11.4**	**-1.0**
ASAR	**Alice Springs**	**53.32**	**190**	P		**P**	**02 06 11.2**	**-1.1**
	comp=Z,8.3nm,0.9s,baz=5.9,slow=5.8,SNR=35								
ASAR				PcP		**PcP**	**02 07 20.4**	**+0.5**
	comp=Z,3.2nm,0.7s,baz=22,slow=4.4,SNR=4.6								
	comp=Z,8.3nm,0.9s								
CHKK	**Chushkaly**	**53.33**	**305**	*e*P		**P**	**02 06 11.5**	**-0.8**
	baz=305								
CHKK	**Chushkaly**	**53.33**	**305**	*e*P		**P**	**02 06 11.4**	**-0.8**
E21K	**Killik River**	**53.36**	**24**	P		**P**	**02 06 13.1**	**+0.9**
E21K				IAmb		IAmb	02 06 28.2		
	comp=Z,35nm,1.1s								
E21K	**Killik River**	**53.36**	**24**	P		**P**	**02 06 12.8**	**+0.7**
	baz=257								
MDOK	**Medeo**	**53.38**	**304**	*i* P		**P**	**02 06 13.0**	**+0.1**
	baz=304								
MDOK				LR		LR	02 27 50.5		
	comp=Z,536nm,15.8s,baz=304								
MDOK	**Medeo**	**53.38**	**304**	*i* P		**P**	**02 06 12.9**	**+0.1**
MDOK				MLR		MLR			
	comp=Z,537nm,16.0s								
B21K	**Ikpikpuk River**	**53.42**	**23**	P		**P**	**02 06 13.1**	**+0.6**
B21K				IAmb		IAmb	02 06 16.3		
	comp=Z,52nm,1.4s								
B21K	**Ikpikpuk River**	**53.42**	**23**	P		**P**	**02 06 13.6**	**+1.1**
	baz=255								
AAA	**Alma-Ata**	**53.47**	**304**	*e*P		**P**	**02 06 13.8**	**+0.4**
	baz=304								
AAA	**Alma-Ata**	**53.47**	**304**	*e*P		**P**	**02 06 13.8**	**+0.4**
TNSS	**Tian-Shan**	**53.47**	**304**	*e*P		**P**	**02 06 13.2**	**-0.7**
	baz=304								
TNSS	**Tian-Shan**	**53.47**	**304**	*e*P		**P**	**02 06 13.1**	**-0.7**
BRSE	**Bradley Lake S**	**53.48**	**35**	P		**P**	**02 06 13.5**	**+0.3**
	baz=266								
I21K	**Tanana**	**53.51**	**29**	P		**P**	**02 06 14.6**	**+1.4**
I21K				IAmb		IAmb	02 06 30.1		
	comp=Z,36nm,1.2s								
I21K	**Tanana**	**53.51**	**29**	P		**P**	**02 06 15.7**	**+2.5**
	baz=261,SNR=9.4								
SUA	**Susitna One**	**53.61**	**33**	P		**P**	**02 06 14.1**	**-0.1**
	baz=265								
A22K	**Sinclair Lake**	**53.67**	**21**	P		**P**	**02 06 15.7**	**+1.4**
	baz=254								
KTH	**Kantishna Hill**	**53.74**	**31**	P		**P**	**02 06 15.6**	**+0.6**
KTH				IAmb		IAmb	02 06 31.4		
	comp=Z,76nm,1.8s								
BPAW	**Bear Paw Mtn.**	**53.78**	**30**	P		**P**	**02 06 15.9**	**+0.6**
BPAW	**Bear Paw Mtn.**	**53.78**	**30**	P		**P**	**02 06 14.4**	**-0.8**
	baz=263								
KUU	**Kurty**	**53.79**	**305**	⇑*i*P		**P**	**02 06 15.2**	**-0.4**
	baz=305								
KUU				LR		LR	02 28 54.6		
	comp=Z,1μm,17.8s,baz=305								
KUU	**Kurty**	**53.79**	**305**	*c i*P		**P**	**02 06 15.2**	**-0.4**
KUU				MLR		MLR			
	comp=Z,1μm,18.0s								
F22K	**John River**	**53.83**	**26**	P		**P**	**02 06 15.7**	**+0.1**
	baz=259								
H22K	**Ishtalitna Cre**	**53.87**	**28**	P		**P**	**02 06 14.8**	**-1.1**
	baz=261								
D22K	**Ayikyak River**	**53.92**	**24**	P		**P**	**02 06 17.1**	**+0.9**
D22K	**Ayikyak River**	**53.92**	**24**	P		**P**	**02 06 16.3**	**+0.1**
	baz=258								
CUT	**Chulitna**	**53.92**	**32**	P		**P**	**02 06 15.5**	**-0.8**
	baz=265								
M22K	**Willow**	**53.94**	**33**	P		**P**	**02 06 16.5**	**+0.1**
M22K				IAmb		IAmb	02 06 31.9		
	comp=Z,49nm,1.0s								
M22K	**Willow**	**53.94**	**33**	P		**P**	**02 06 16.2**	**-0.2**
	baz=265								
G22K	**Bettles**	**53.98**	**26**	P		**P**	**02 06 16.2**	**-0.5**
	baz=260								
B22K	**Teshekpuk Lake**	**54.00**	**22**	P		**P**	**02 06 17.6**	**+0.9**
B22K	**Teshekpuk Lake**	**54.00**	**22**	P		**P**	**02 06 16.9**	**+0.2**
	baz=256								
MLY	**Manley**	**54.01**	**29**	P		**P**	**02 06 16.9**	**-0.1**
MLY	**Manley**	**54.01**	**29**	P		**P**	**02 06 19.0**	**+2.1**
	baz=262,SNR=6.8								
TRF	**Thorofare Moun**	**54.01**	**31**	P		**P**	**02 06 17.7**	**+0.5**
TRF	**Thorofare Moun**	**54.01**	**31**	P		**P**	**02 06 17.9**	**+0.7**
	baz=264,SNR=5.5								
O22K	**Cooper Landing**	**54.04**	**34**	P		**P**	**02 06 16.9**	**-0.2**
O22K	**Cooper Landing**	**54.04**	**34**	P		**P**	**02 06 16.9**	**-0.2**
	baz=267								
RC01	**Rabbit Creek A**	**54.07**	**34**	P		**P**	**02 06 17.4**	**0.0**
	baz=266								
E22K	**Anaktuvuk Pass**	**54.08**	**25**	P		**P**	**02 06 18.4**	**+1.0**
E22K				IAmb		IAmb	02 06 34.0		
	comp=Z,46nm,1.1s								
E22K	**Anaktuvuk Pass**	**54.08**	**25**	P		**P**	**02 06 19.0**	**+1.5**
	baz=259								
SEW	**Seward**	**54.15**	**35**	P		**P**	**02 06 18.9**	**+0.9**
	baz=267								
PMR	**Palmer**	**54.39**	**33**	IAmb		IAmb	02 06 34.7		
	comp=Z,32nm,0.9s								
PMR	**Palmer**	**54.39**	**33**	P		**P**	**02 06 20.4**	**+0.7**
	baz=266,SNR=8.8								
BWN	**Browne**	**54.45**	**30**	P		**P**	**02 06 21.9**	**+1.7**
TKM2	**Tokmak 2**	**54.46**	**304**	P		**P**	**02 06 21.3**	**+0.5**
	SNR=14								
TKM2	**Tokmak 2**	**54.46**	**304**	*i* P		**P**	**02 06 21.3**	**+0.5**
TKM2				pmax		pmax			
	comp=Z,12nm,1.2s								
GHO	**Glory Hole Cre**	**54.50**	**33**	P		**P**	**02 06 20.7**	**+0.1**
GHO				IAmb		IAmb	02 06 36.1		
	comp=Z,34nm,1.1s								
G23K	**Bananza Creek**	**54.53**	**27**	P		**P**	**02 06 21.8**	**+1.1**
G23K				IAmb		IAmb	02 06 37.4		
	comp=Z,42nm,0.9s								
G23K	**Bananza Creek**	**54.53**	**27**	P		**P**	**02 06 21.9**	**+1.2**
	baz=262								
COLD	**Coldfoot**	**54.53**	**26**	P		**P**	**02 06 22.0**	**+1.3**
	baz=261,SNR=11								
I23K	**Minto, Yukon-K**	**54.60**	**29**	P		**P**	**02 06 21.7**	**+0.5**
I23K				IAmb		IAmb	02 06 39.4		
	comp=Z,30nm,1.2s								
I23K	**Minto, Yukon-K**	**54.60**	**29**	P		**P**	**02 06 21.6**	**+0.4**
	baz=264,SNR=6.7								
D23K	**Nanushuk River**	**54.64**	**24**	P		**P**	**02 06 21.9**	**+0.4**
	baz=260								
MCK	**McKinley**	**54.64**	**31**	P		**P**	**02 06 22.2**	**+0.6**
	baz=265,SNR=8.3								
RND	**Reindeer**	**54.65**	**31**	P		**P**	**02 06 21.9**	**+0.2**
RND				IAmb		IAmb	02 06 36.8		
	comp=Z,22nm,0.8s								
RND	**Reindeer**	**54.65**	**31**	P		**P**	**02 06 21.9**	**+0.2**
RND				pmax		pmax			
	comp=Z,23nm,0.8s								
NEA2	**Nenana**	**54.66**	**29**	P		**P**	**02 06 22.5**	**+0.8**
NEA2				IAmb		IAmb	02 06 37.8		
	comp=Z,39nm,1.0s								
NEA2	**Nenana**	**54.66**	**29**	P		**P**	**02 06 22.9**	**+1.2**
	baz=264,SNR=16								
KNK	**Knik Glacier**	**54.71**	**33**	P		**P**	**02 06 22.5**	**+0.4**
KNK	**Knik Glacier**	**54.71**	**33**	P		**P**	**02 06 22.9**	**+0.9**
	baz=267,SNR=6.1								
WAT1	**Susitna Watana**	**54.75**	**32**	P		**P**	**02 06 23.2**	**+0.9**
	baz=266								
KSH	**Kashi**	**54.77**	**300**	P		**P**	**02 06 26.3**	**+3.3**
KSH				sP		pwP	02 06 33.1	-1.6
KSH				PcP		**PcP**	**02 07 27.0**	**+1.5**
KSH				ScP		**ScP**	**02 11 27.4**	**+3.8**
KSH				S		**S**	**02 14 12.0**	**+8.6**
KSH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
KSH				pmax		pmax			
	comp=Z,200nm,6.7s								
KSH				LR		LR			
	comp=Z,1μm,16.1s								
KSH				LR		LR			
	comp=Z,910nm,15.5s								
KSH				LR		LR			
	comp=Z,740nm,18.2s								
SML	**Sawmill**	**54.79**	**33**	P		**P**	**02 06 23.2**	**+0.5**
SML	**Sawmill**	**54.79**	**33**	P		**P**	**02 06 22.6**	**-0.1**
	baz=267,SNR=7.0								
C23K	**Itkillik River**	**54.83**	**23**	P		**P**	**02 06 24.0**	**+1.2**
C23K	**Itkillik River**	**54.83**	**23**	P		**P**	**02 06 23.5**	**+0.7**
	baz=259,SNR=24								
KZA	**Kyzart**	**54.85**	**303**	P		**P**	**02 06 25.4**	**+1.5**
	SNR=8.2								
E23K	**Chandalar**	**54.88**	**25**	P		**P**	**02 06 24.2**	**+0.9**
	baz=261								
EIDS	**Eidsvold**	**54.97**	**171**	P		**P**	**02 06 24.5**	**+0.3**
EIDS				IAmb		IAmb	02 06 26.9		
	comp=Z,30nm,0.8s								
KBK	**Karagaybulak**	**54.98**	**304**	P		**P**	**02 06 24.8**	**+0.2**
	SNR=13								
MDM	**Murphy Dome**	**55.06**	**29**	P		**P**	**02 06 25.4**	**+0.9**
MDM				IAmb		IAmb	02 06 40.8		
	comp=Z,41nm,1.2s								
M23K	**Glacier View**	**55.07**	**33**	P		**P**	**02 06 24.7**	**0.0**
	baz=268								
SGDS	**Sogindy**	**55.08**	**305**	*e*P		**P**	**02 06 25.1**	**-0.1**
	comp=Z,55nm,2.5s,baz=305								
SGDS	**Sogindy**	**55.08**	**305**	*e*P		**P**	**02 06 25.0**	**-0.1**
SGDS				pmax		pmax			
	comp=Z,65nm,2.5s								
WAT6	**Susitna Watana**	**55.10**	**32**	P		**P**	**02 06 26.1**	**+1.0**
	baz=267,SNR=10								
PSA00	**Pilbara Seismi**	**55.12**	**206**	P		**P**	**02 06 24.7**	**-0.8**
P23K	**Montague Islan**	**55.18**	**35**	P		**P**	**02 06 26.0**	**+0.6**
	baz=269								
USP	**Ospenovka**	**55.20**	**304**	P		**P**	**02 06 26.1**	**+0.1**
	SNR=8.3								
BTLS	**Baital**	**55.25**	**307**	⇑*i*P		**P**	**02 06 26.2**	**0.0**
	comp=Z,22nm,1.9s,baz=307								
BTLS	**Baital**	**55.25**	**307**	*c i*P		**P**	**02 06 26.2**	**0.0**
BTLS				pmax		pmax			
	comp=Z,22nm,1.9s								
SCM	**Sheep Creek Mo**	**55.26**	**33**	IAmb		IAmb	02 06 41.9		
	comp=Z,42nm,0.8s								
SCM	**Sheep Creek Mo**	**55.26**	**33**	P		**P**	**02 06 26.7**	**+0.5**
	baz=268,SNR=8.0								
H24K	**Noodor Dome**	**55.29**	**28**	P		**P**	**02 06 26.5**	**+0.3**
	baz=265								
DHY	**Denali Highway**	**55.30**	**31**	P		**P**	**02 06 26.6**	**+0.1**
	baz=267								
E24K	**Your Creek**	**55.30**	**25**	IAmb		IAmb	02 06 43.2		
	comp=Z,38nm,1.1s								
E24K	**Your Creek**	**55.30**	**25**	P		**P**	**02 06 26.9**	**+0.6**
	baz=262								
AAK	**Ala-Archa**	**55.31**	**304**	P		**P**	**02 06 27.0**	**+0.1**
AAK	**Ala-Archa**	**55.31**	**304**	*i* P		**P**	**02 06 26.7**	**-0.2**
	SNR=8.3								
AAK	**Ala-Archa**	**55.31**	**304**	P		**P**	**02 06 27.0**	**+0.1**
AAK	**Ala-Archa**	**55.31**	**304**	*c i*P		**P**	**02 06 26.9**	**+0.1**
AAK				pmax		pmax			
	comp=Z,38nm,2.5s								
D24K	**Happy Valley**	**55.33**	**24**	P		**P**	**02 06 27.1**	**+0.7**
	baz=261								
UCH	**Uchtor**	**55.37**	**303**	P		**P**	**02 06 28.5**	**+0.9**
	SNR=17								
F24K	**Squaw Lake**	**55.46**	**26**	P		**P**	**02 06 28.1**	**+0.6**
	baz=263								
G24K	**Hadweenzic Riv**	**55.53**	**27**	IAmb		IAmb	02 06 32.3		
	comp=Z,41nm,1.3s								
G24K	**Hadweenzic Riv**	**55.53**	**27**	P		**P**	**02 06 28.6**	**+0.6**
	baz=264								
BRZS	**Berezniki**	**55.56**	**313**	⇑*i*P		**P**	**02 06 28.4**	**0.0**
	baz=313								
BRZS	**Berezniki**	**55.56**	**313**	*c i*P		**P**	**02 06 28.4**	**0.0**
HDA	**Harding Lake**	**55.57**	**30**	P		**P**	**02 06 28.5**	**+0.3**
	baz=266,SNR=8.6								
HDA				P		P	**02 06 28.5**	**+0.3**
	baz=266,SNR=8.6								
ILAR	**Eielson Array**	**55.62**	**29**	P		**P**	**02 06 28.4**	**-0.2**
	comp=Z,7.5nm,0.9s,baz=262,slow=6.3,SNR=47								
	comp=Z,7.5nm,0.9s								
Q23K	**Middleton Isla**	**55.71**	**36**	P		**P**	**02 06 29.2**	**0.0**
	baz=270								
M24K	**Tolsona, Glenn**	**55.82**	**33**	IAmb		IAmb	02 07 31.9		
	comp=Z,60nm,1.2s								
M24K	**Tolsona, Glenn**	**55.82**	**33**	P		**P**	**02 06 31.2**	**+1.1**
	baz=269								
KLU	**Klutina**	**55.93**	**33**	IAmb		IAmb	02 06 34.3		
	comp=Z,52nm,1.4s								
KLU	**Klutina**	**55.93**	**33**	P		**P**	**02 06 31.1**	**+0.2**
	baz=269,SNR=7.2								
OTUK	**Ortayu**	**55.98**	**311**	P		**P**	**02 06 31.3**	**-0.2**
AML	**Almayashu**	**55.98**	**303**	P		**P**	**02 06 32.8**	**+0.7**
	SNR=51								
AML	**Almayashu**	**55.98**	**303**	*i* P		**P**	**02 06 32.1**	**+0.1**
AML				pmax		pmax			
	comp=Z,6.0nm,0.8s								
EYAK	**Cordova Ski Ar**	**56.01**	**34**	P		**P**	**02 06 32.7**	**+1.4**
	baz=270								
DZM	**Mont Dzumac**	**56.01**	**153**	*e*P		**P**	**02 06 31.7**	**-0.2**
	comp=Z,70nm,1.3s								
DZM				*e*S		**S**	**02 14 26.6**	**+6.6**
	comp=Z,223nm,26.0s								
DZM				*e*SS		**SS**	**02 18 17.1**	**+10**
	comp=Z,207nm,24.2s								
DZM				*e*LR		LR	02 22 51.3		
	comp=Z,770nm,21.6s								
DZM	**Mont Dzumac**	**56.01**	**153**	P		**P**	**02 06 32.2**	**+0.3**
DZM				IAmb		IAmb	02 06 35.8		
	comp=Z,38nm,1.2s								
DZM	**Mont Dzumac**	**56.01**	**153**	LR		LR	02 28 05.7		
	comp=Z,544nm,20.9s,baz=31,slow=34								
K24K	**Donnelly Dome**	**56.05**	**31**	P		**P**	**02 06 32.0**	**+0.3**
	baz=268								
G25K	**Bearman Lake**	**56.08**	**27**	P		**P**	**02 06 31.3**	**-0.5**
	baz=266								
PAX	**Paxson**	**56.16**	**32**	P		**P**	**02 06 31.6**	**-1.0**
	baz=269,SNR=7.6								
D25K	**Kavik River**	**56.22**	**24**	IAmb		IAmb	02 06 49.3		
	comp=Z,25nm,0.9s								
D25K	**Kavik River**	**56.22**	**24**	P		**P**	**02 06 32.6**	**-0.3**
	baz=264,SNR=15								
PRP	**Porcupine Dome**	**56.23**	**28**	P		**P**	**02 06 33.6**	**+0.5**
	baz=267								
J25K	**Salcha River,**	**56.26**	**30**	P		**P**	**02 06 33.2**	**-0.1**
	baz=268								
HARP	**HAARP**	**56.30**	**32**	P		**P**	**02 06 34.9**	**+1.4**
	baz=269								
F25K	**Christian Rive**	**56.33**	**26**	P		**P**	**02 06 34.2**	**+0.6**
	baz=266								
E25K	**Arctic Village**	**56.40**	**25**	IAmb		IAmb	02 06 51.3		
	comp=Z,44nm,1.1s								
E25K	**Arctic Village**	**56.40**	**25**	P		**P**	**02 06 34.2**	**0.0**
	baz=265,SNR=29								
FYU	**Fort Yukon**	**56.41**	**27**	IAmb		IAmb	02 07 03.4		
	comp=Z,60nm,1.2s								
RIDG	**Independent Ri**	**56.46**	**31**	P		**P**	**02 06 34.9**	**+0.2**
	baz=269								
N25K	**Chitina, Valde**	**56.56**	**33**	P		**P**	**02 06 34.4**	**-1.0**
	baz=270								
BMRM	**Bremner River**	**56.56**	**34**	P		**P**	**02 06 36.5**	**+1.1**
	baz=271,SNR=6.6								
BVA0	**Borovoye Array**	**56.67**	**317**	P		**P**	**02 06 36.3**	**0.0**
BVAR	**Borovoye Array**	**56.67**	**317**	P		**P**	**02 06 36.5**	**+0.2**
	comp=Z,17nm,0.4s,baz=86,slow=6.0,SNR=66								
	comp=Z,17nm,0.4s								
KAIM	**Kayak Island**	**56.68**	**35**	P		**P**	**02 06 36.9**	**+0.7**
	baz=272								
BRVK	**Borovoye**	**56.73**	**317**	P		**P**	**02 06 37.1**	**+0.4**
BRVK	**Borovoye**	**56.73**	**317**	P		**P**	**02 06 36.7**	**0.0**
BRVK	**Borovoye**	**56.73**	**317**	*c e*P		**P**	**02 06 36.9**	**+0.2**
BRVK				pmax		pmax			
	comp=Z,59nm,1.3s								
C26K	**Camden Bay**	**56.79**	**23**	P		**P**	**02 06 37.5**	**+0.7**
	baz=265								
SCRK	**Sand Creek**	**56.84**	**30**	P		**P**	**02 06 38.0**	**+0.5**
SCRK	**Sand Creek**	**56.84**	**30**	P		**P**	**02 06 37.0**	**-0.5**
	baz=269,SNR=15								
F26K	**Sheenjek River**	**56.90**	**26**	P		**P**	**02 06 37.4**	**-0.3**
	baz=267								
GLB	**Gilahina Butte**	**56.94**	**33**	IAmb		IAmb	02 06 54.2		
	comp=Z,30nm,1.2s								
G26K	**Porcupine Rive**	**57.01**	**27**	P		**P**	**02 06 37.9**	**-0.5**
	baz=268								
BERG	**Berg Lake**	**57.02**	**35**	IAmb		IAmb	02 06 42.1		
	comp=Z,40nm,1.1s								
J26L	**Joseph Creek**	**57.03**	**30**	P		**P**	**02 06 39.9**	**+1.1**
	baz=270								
VRDI	**Verde Repeater**	**57.12**	**34**	IAmb		IAmb	02 07 06.9		
	comp=Z,56nm,1.5s								
L26K	**Log Cabin Wild**	**57.13**	**31**	P		**P**	**02 06 41.7**	**+2.3**
	baz=271,SNR=7.9								
I26K	**Coal Creek Min**	**57.22**	**29**	P		**P**	**02 06 41.6**	**+1.7**
	baz=269								
M26K	**Nabesna, AK**	**57.30**	**32**	P		**P**	**02 06 40.9**	**+0.2**
	baz=271								
CRQE	**Cirque**	**57.31**	**34**	P		**P**	**02 06 42.1**	**+1.3**
	baz=272,SNR=7.0								
MCARA	**McCarthy VSAT**	**57.32**	**33**	IAmb		IAmb	02 06 56.8		
	comp=Z,43nm,1.0s								
MCARA	**McCarthy VSAT**	**57.32**	**33**	P		**P**	**02 06 39.2**	**-1.5**
	baz=272,SNR=7.6								
TGL	**Tana Glacier**	**57.44**	**34**	IAmb		IAmb	02 06 57.6		
	comp=Z,40nm,1.0s								
WAX	**Waxell Ridge**	**57.44**	**35**	IAmb		IAmb	02 06 57.7		
	comp=Z,30nm,0.8s								
DZA	**Taraz**	**57.55**	**304**	*e*P		**P**	**02 06 42.6**	**-0.2**
	baz=304								
DZA	**Taraz**	**57.55**	**304**	*e*P		**P**	**02 06 42.5**	**-0.2**
K27K	**Chicken**	**57.69**	**30**	P		**P**	**02 06 43.6**	**+0.3**
	baz=271								
L27K	**Beaver Creek,**	**57.82**	**31**	IAmb		IAmb	02 07 00.6		
	comp=Z,31nm,1.2s								
L27K	**Beaver Creek,**	**57.82**	**31**	P		**P**	**02 06 45.1**	**+0.8**
	baz=272								
M27K	**Edge Creek, AK**	**57.83**	**32**	P		**P**	**02 06 44.5**	**+0.1**
	baz=272								
G27K	**Doyon Strip**	**57.84**	**27**	P		**P**	**02 06 44.1**	**-0.3**
	baz=270								
I27K	**Kandik River**	**57.86**	**28**	P	

HYB esP **sP** **02 06 59.0 +0.1**
HYB ePP **PP** **02 09 08.2 +1.6**
HYB eS **S** **02 15 04.7 +0.7**

M29M Somme Creek 59.41 32 IAmb IAmb 02 07 12.2
comp=Z,21nm,0.9s
M29M Somme Creek 59.41 32 P **P** **02 06 55.2 -0.2**
baz=275
YUK4 Talbot Arm 59.43 33 P **P** **02 06 56.2 +0.5**
baz=276,SNR=13
L29M L29M 59.50 31 IAmb IAmb 02 07 13.0
comp=Z,39nm,1.1s
L29M L29M 59.50 31 P **P** **02 06 56.8 +0.8**
baz=275
O29M Mount Kennedy 59.57 35 P **P** **02 06 56.7 0.0**
baz=276,SNR=8.1
YUK6 Outpost Mounta 59.60 34 P **P** **02 06 56.3 -0.7**
baz=276
K29M Barlow Dome 59.71 30 IAmb IAmb 02 07 14.3
comp=Z,30nm,1.1s
K29M Barlow Dome 59.71 30 P **P** **02 06 55.8 -1.7**
baz=275
EPYK Eagle Plains 59.83 27 P **P** **02 06 57.2 -1.0**
baz=274,SNR=31
G30M tAoh Zraii Nji 59.98 27 P **P** **02 06 58.0 -1.3**
baz=275,SNR=18
ARMA Armidale 60.01 171 IAmb IAmb 02 07 03.0
comp=Z,39nm,1.2s
HYT Haines Junctio 60.03 34 IAmb IAmb 02 07 18.1
comp=Z,36nm,1.2s
HYT Haines Junctio 60.03 34 P **P** **02 07 01.6 +1.8**
baz=277,SNR=7.5
I30M Mount Dempster 60.07 29 IAmb IAmb 02 07 28.0
comp=Z,58nm,1.6s
I30M Mount Dempster 60.07 29 P **P** **02 06 59.8 -0.2**
baz=276,SNR=11
P29M Windy Craggy 60.07 35 IAmb IAmb 02 07 16.8
comp=Z,34nm,1.0s
P29M Windy Craggy 60.07 35 P **P** **02 06 59.2 -0.7**
baz=278
F30M Barrier River 60.10 26 P **P** **02 06 59.7 -0.3**
baz=275
J30M Hart River 60.15 29 P **P** **02 07 00.9 +0.4**
baz=276
N30M Aishikik Lake 60.16 33 P **P** **02 07 00.7 +0.1**
baz=277
M30M Minto, Yukon 60.16 32 P **P** **02 07 00.4 -0.1**
baz=277
P30M Million Dollar 60.39 35 P **P** **02 07 02.3 +0.1**
baz=278
O30N Mendenhall 60.73 34 P **P** **02 07 04.6 +0.1**
baz=278
G31M Satah River 60.75 27 P **P** **02 07 04.7 +0.3**
baz=276,SNR=17
N31M Braeburn, Yuko 60.78 33 P **P** **02 07 05.7 +0.9**
N31M IAmb IAmb 02 07 21.5
comp=Z,30nm,0.9s
N31M Braeburn, Yuko 60.78 33 P **P** **02 07 05.5 +0.7**
baz=278,SNR=6.9
H31M Peel River 60.85 28 P **P** **02 07 05.7 +0.5**
baz=277,SNR=9.8
STKA Stephens Creek 60.85 181 P **P** **02 07 05.8 +0.3**
STKA Stephens Creek 60.85 181 P **P** **02 07 05.8 +0.3**
STKA pmax pmax
comp=Z,8.0nm,1.5s
STKA Stephens Creek 60.85 181 P **P** **02 07 04.7 -0.8**
comp=Z,13nm,1.1s,baz=347,slow=5.2,SNR=7.6
comp=Z,13nm,1.1s
INK Inuvik 60.88 25 P **P** **02 07 06.0 +0.8**
INK Inuvik 60.88 25 P **P** **02 07 06.0 +0.8**
baz=276,SNR=11
INK Inuvik 60.88 25 P **P** **02 07 06.1 +0.8**
INK pmax pmax
comp=Z,19nm,1.2s
F31M Tsiigehtchic 60.90 26 IAmb IAmb 02 07 08.6
comp=Z,36nm,1.3s
F31M Tsiigehtchic 60.90 26 P **P** **02 07 06.9 +1.5**
baz=277,SNR=9.0
S31K Pelican 61.09 37 P **P** **02 07 07.4 +0.5**
baz=280
SKAG Skagway 61.31 35 IAmb IAmb 02 07 25.0
comp=Z,39nm,1.3s
SKAG Skagway 61.31 35 P **P** **02 07 08.5 +0.2**
baz=280
M31M Drury Creek, Y 61.32 32 IAmb IAmb 02 07 38.0
comp=Z,23nm,1.1s
M31M Drury Creek, Y 61.32 32 P **P** **02 07 08.9 +0.5**
baz=279,SNR=9.8
FORT Forrest 61.33 194 P **P** **02 07 08.5 -0.2**
WHY Whitehorse 61.34 34 P **P** **02 07 09.7 +1.1**
WHY IAmb IAmb 02 07 25.2
comp=Z,26nm,1.1s
WHY Whitehorse 61.34 34 P **P** **02 07 08.7 0.0**
baz=279,SNR=7.6
KBL Kabul 61.37 296 P **P** **02 07 09.4 -0.1**
KBL Kabul 61.37 296 P **P** **02 07 08.9 -0.6**
SNR=10
KBL Kabul 61.37 296 P **P** **02 07 09.4 -0.1**
KBL pmax pmax
comp=Z,10.0nm,1.1s
SVE Sverdlovsk 61.70 322⇓ eP **P** **02 07 12.0 +1.0**
SVE eS **S** **02 15 39.6 +6.5**
SVE pmax pmax
comp=Z,65nm,2.0s
SVE MLR MLR
comp=Z,645nm,14.0s
SIT Sitka 61.74 38 P **P** **02 07 09.7 -1.6**
baz=281
FARO Faro, Yukon 61.80 32 IAmb IAmb 02 07 27.9
comp=Z,19nm,1.1s
FARO Faro, Yukon 61.80 32 P **P** **02 07 12.1 +0.4**
baz=280,SNR=8.4
R32K Eaglecrest 61.93 36 P **P** **02 07 11.3 -1.3**
baz=281
PALK Pallekele 61.99 262 LR LR 02 34 07.8
comp=Z,269nm,21.0s,baz=161,slow=36
JIS Juneau Island 62.00 36 IAmb IAmb 02 07 29.7
comp=Z,37nm,1.1s
S32K Killisnoo 62.06 37 P **P** **02 07 13.3 -0.1**
baz=281
BBOO Buckleboo 62.09 186 P **P** **02 07 13.1 -0.6**
P32M Atlin 62.10 35 IAmb IAmb 02 07 17.6
comp=Z,20nm,1.1s
P32M Atlin 62.10 35 P **P** **02 07 14.1 +0.4**
baz=281
N32M Quiet Lake 62.12 33 IAmb IAmb 02 07 30.0
comp=Z,31nm,1.1s
N32M Quiet Lake 62.12 33 P **P** **02 07 13.1 -0.8**
baz=280
P33M Teslin, Yukon 62.42 34 IAmb IAmb 02 07 32.5
comp=Z,25nm,1.1s
P33M Teslin, Yukon 62.42 34 P **P** **02 07 16.0 +0.1**
baz=281,SNR=10
ARU Arti 62.91 322 P **P** **02 07 19.4 +0.3**
ARU Arti 62.91 322 c/ iP **P** **02 07 19.1 0.0**
ARU S **S** **02 15 48.1 -0.2**
ARU SS **SS** **02 19 49.1 -3.9**
ARU pmax pmax
comp=Z,63nm,1.3s
ARU MLR MLR
comp=Z,677nm,17.0s
ARU Arti 62.91 322 LR LR 02 37 14.8
comp=Z,809nm,18.1s,baz=69,slow=38
Q32M Nakina River 62.95 35 P **P** **02 07 19.2 -0.4**
baz=282
A36M Sachs Harbour 63.09 20 P **P** **02 07 20.1 0.0**
baz=282
U33K Whale Pass 63.12 39 P **P** **02 07 18.6 -1.9**
baz=283
CRAG Craig 63.27 39 P **P** **02 07 22.0 +0.5**
baz=283
WRAK Wrangell Islan 63.48 38 P **P** **02 07 22.4 -0.4**
baz=284
R33M Jennings River 63.51 35 IAmb IAmb 02 07 51.7
comp=Z,35nm,1.6s
R33M Jennings River 63.51 35 P **P** **02 07 22.3 -0.9**
baz=283
S34M Telegraph Cree 63.77 36 IAmb IAmb 02 07 41.7
comp=Z,25nm,1.1s
S34M Telegraph Cree 63.77 36 P **P** **02 07 25.2 +0.4**
baz=284,SNR=5.9
AB31 Akbulak array 63.82 314 P **P** **02 07 24.8 -0.5**
ABKAR Akbulak array 63.82 314 P **P** **02 07 25.8 +0.5**
ABKAR IAmb IAmb 02 07 44.5
comp=Z,18nm,0.8s
C36M Paulatuk 64.08 23 P **P** **02 07 26.3 -0.3**
baz=284,SNR=16
V35K Ketchikan 64.14 39 P **P** **02 07 23.9 -3.4**
baz=285
DLBC Dease Lake 64.21 36 IAmb IAmb 02 07 32.1
comp=Z,25nm,1.2s
DLBC Dease Lake 64.21 36 P P 02 07 21.8 -6.0
baz=284,SNR=6.8
DLBC Dease Lake 64.21 36 P **P** **02 07 30.1 +2.3**
comp=Z,7.8nm,1.0s,baz=304,slow=8.1,SNR=11
comp=Z,7.8nm,1.0s
WTLY Watson Lake, Y 64.40 34 IAmb IAmb 02 07 45.6
comp=Z,33nm,1.3s
WTLY Watson Lake, Y 64.40 34 P **P** **02 07 28.8 -0.2**
baz=284,SNR=7.2
T35M Bob Quinn 64.46 37 IAmb IAmb 02 07 46.5
comp=Z,37nm,1.2s
T35M Bob Quinn 64.46 37 P **P** **02 07 26.0 -3.4**
baz=285,SNR=5.5
AKTO Aktyubinsk 64.71 315 P **P** **02 07 31.7 +0.6**
WRGLY Wrigley 65.99 30 P **P** **02 07 36.6 -2.5**
baz=286,SNR=9.8
NWAO Narrogin (SRO) 66.40 203 P **P** **02 07 42.0 -0.1**
NWAO IAmb IAmb 02 07 42.5
comp=Z,25nm,0.9s
NWAO Narrogin (SRO) 66.40 203 P **P** **02 07 42.0 -0.1**
NWAO IAmb IAmb 02 07 42.5
comp=Z,78nm,0.8s
NWAO Narrogin (SRO) 66.40 203 P **P** **02 07 42.0 -0.1**
NWAO pmax pmax
comp=Z,78nm,0.9s
TOO Toolangi 66.58 177 IAmb IAmb 02 07 46.5
comp=Z,28nm,0.9s
HRA Herat 66.74 297 P **P** **02 07 44.4 -0.3**
HRA IAmb IAmb 02 08 13.8
comp=Z,20nm,1.1s
KIRV Kirov 67.08 325 ceP **P** **02 07 46.8 +0.7**
EUNU Eureka 67.67 8 IAmb IAmb 02 07 53.0
comp=Z,29nm,1.1s
PRGR Permogore 67.83 329 eP **P** **02 07 51.0 +0.1**
PRGR pmax pmax
comp=Z,24nm,1.3s
SPITS Spitsbergen Ar 68.28 350 P **P** **02 07 54.2 +0.6**
comp=Z,31nm,1.1s,baz=88,slow=7.8,SNR=9.3
SPITS LR LR 02 40 30.1
comp=Z,651nm,20.8s,baz=10,slow=38
comp=Z,31nm,1.1s
GEYT Alibeck 68.61 302 P **P** **02 07 56.8 +0.5**
comp=Z,12nm,0.9s,baz=60,slow=8.9,SNR=21
comp=Z,12nm,0.9s
YKA Yellowknife Ar 70.04 29 P **P** **02 08 05.1 +0.5**
comp=Z,6.8nm,0.9s,baz=294,slow=6.2,SNR=49
comp=Z,6.8nm,0.9s
APA Apatity 70.15 337⇓ iP **P** **02 08 01.2 -4.0**
APA pmax pmax
comp=Z,14nm,1.1s
APA MLR MLR
comp=Z,2μm,19.0s
KLMR Klimovskoe 70.86 330 eP **P** **02 08 08.5 -1.2**
KLMR AMP 02 08 11.4
comp=Z,37nm,1.6s
KLMR LQ LQ 02 32 43.9
KLMR LQ LQ 02 32 43.9
KLMR LR LR 02 38 54.7
KLMR AMP 02 42 28.6
comp=Z,829nm,17.5s
KLMR Klimovskoe 70.86 330 eP **P** **02 08 08.4 -1.2**
KLMR pmax pmax
comp=Z,37nm,1.6s
KLMR MLR MLR
comp=Z,829nm,18.0s
ARCES ARCESS Array B 71.58 341 P **P** **02 08 14.8 +0.9**
comp=Z,22nm,1.1s,baz=46,slow=5.2,SNR=9.6
comp=Z,22nm,1.1s
GNW Green Mountain 71.88 45 P **P** **02 08 16.2 +0.1**
GNW IAmb IAmb 02 08 33.1
comp=Z,32nm,1.1s
B06A Marblemount 72.32 44 IAmb IAmb 02 08 22.4
comp=Z,50nm,1.5s
NEEM North Greenlan 73.17 3 iP **P** **02 08 23.4 -0.2**
NEEM IAmb IAmb 02 08 28.1
comp=Z,15nm,0.8s
LTY Liberty 73.34 45 IAmb IAmb 02 08 41.1
comp=Z,36nm,1.3s
TOZ Tahuroa Road 73.47 153 P **P** **02 08 26.3 +0.9**
H04A Detroit Lake 73.47 48 P **P** **02 08 26.8 +1.1**
DAG Danmarks Havn 73.54 356 iP **P** **02 08 26.0 +0.6**
DAG IAmb IAmb 02 08 42.7
comp=Z,14nm,1.0s
MXC Moxie City 73.87 45 IAmb IAmb 02 08 44.5
comp=Z,28nm,1.0s
WBK Wadi Bani Khal 73.98 287 P **P** **02 08 29.0 0.0**
WSAR Wadi Sarin 74.00 288 P **P** **02 08 30.3 +1.2**
VRH Novokhopyorsk 74.04 320 eP **P** **02 08 28.7 -0.1**
VRH pmax pmax
comp=Z,50nm,2.5s
MOS Moscow 74.09 325 eP **P** **02 08 26.6 -2.4**
MOS pmax pmax
comp=Z,77nm,2.0s
MOS MLR MLR
comp=Z,700nm,16.0s
MAK Makhachkala 74.10 311 eP P 02 08 23.1 -6.2
MAK e 02 11 09.9
MAK ePPP PPP 02 12 53.6
MAK eS **SKiKP** **02 17 53.4 -3.5**
MAK eSS **SS** **02 22 40.8 -5.5**
MAK eSSS SSS 02 26 04.0
MAK pmax pmax
comp=Z,145nm,1.4s
MAK MLR MLR
comp=Z,2μm,15.0s
E07A Sunnyside 74.15 45 IAmb IAmb 02 08 46.1
comp=Z,32nm,1.1s
YBH Yreka Blue Hor 74.38 51 IAmb IAmb 02 08 35.2
comp=Z,32nm,1.2s
YBH Yreka Blue Hor 74.38 51 P **P** **02 08 33.3 +2.2**
comp=Z,12nm,1.0s,baz=298,slow=3.4,SNR=12
comp=Z,12nm,1.0s
C09A Chrisman Ranch 74.57 44 IAmb IAmb 02 08 35.5
comp=Z,36nm,1.4s
E08A Dider Farm, El 74.67 45 IAmb IAmb 02 08 36.2
comp=Z,34nm,1.3s
J05D Fort Rock, OR 74.69 49 IAmb IAmb 02 08 37.8
comp=Z,62nm,1.3s
RTZ Ruatahuna 74.81 153 P **P** **02 08 34.0 +0.6**
RTZ IAmb IAmb 02 08 35.0
comp=Z,31nm,1.2s
SHME Shamm 74.84 292 iP **P** **02 08 34.2 +0.3**
SNR=12
SHME Shamm 74.84 292 P **P** **02 08 34.3 +0.3**
SNR=8.2
OBN Obninsk 74.92 325⇓ eP **P** **02 08 34.1 +0.3**
OBN e*PP **sP** **02 08 37.8 +0.4**
OBN 02 08 50.0
OBN eS **S** **02 18 05.6 -5.0**
OBN ePS PnS 02 19 04.3 +19
OBN SS **SS** **02 23 04.0 +5.9**
OBN pmax pmax
comp=Z,13nm,1.8s
OBN MLR MLR
comp=Z,990nm,18.0s
NEW Newport 75.05 43 P **P** **02 08 32.8 -2.0**
baz=297,SNR=21
NEW Newport 75.05 43 P **P** **02 08 35.6 +0.8**
comp=Z,11nm,0.9s,baz=297,slow=3.3,SNR=22
NEW LR LR 02 36 38.0
comp=Z,364nm,21.6s,baz=308,slow=32
comp=Z,11nm,0.9s
MASF Masafi 75.12 291 P **P** **02 08 35.9 +0.2**
SNR=5.6
MSFE Esma-Masafi 75.13 291 iP **P** **02 08 35.5 -0.2**
SNR=8.9
VORR Voronezh 75.22 321 eP **P** **02 08 35.4 -0.2**
VORR pmax pmax
comp=Z,12nm,0.4s
UOSS Minazif 75.27 290 P **P** **02 08 36.3 -0.1**
UOSS IAmb IAmb 02 08 39.4
comp=Z,45nm,1.6s
UOSS Minazif 75.27 290 iP **P** **02 08 35.8 -0.6**
SNR=7.0
UOSS Minazif 75.27 290 P **P** **02 08 36.3 -0.1**
G08A Pilot Rock 75.27 46 P **P** **02 08 37.0 +0.7**
SOHO SOHO 75.35 290 iP **P** **02 08 36.4 -0.4**
SNR=5.4
SOHO SOHO 75.35 290 P **P** **02 08 36.7 -0.2**
HATD Hatta, Dubai 75.38 290 iP **P** **02 08 37.1 0.0**
SNR=14
HATD Hatta, Dubai 75.38 290 P **P** **02 08 37.3 +0.2**
SNR=11
BSY Bisya 75.40 288 P **P** **02 08 37.2 0.0**
VSR Storozhevoye 75.46 321 eP **P** **02 08 36.5 -0.5**
VSR pmax pmax
comp=Z,8.0nm,1.0s
ASHO Ashiyiah 75.50 290 iP **P** **02 08 37.7 -0.1**
SNR=7.1
ASHO Ashiyiah 75.50 290 P **P** **02 08 37.7 -0.1**
SNR=7.6
VORD Divnogorie 75.51 321 eP **P** **02 08 34.3 -3.0**
VORD pmax pmax
comp=Z,6.0nm,1.0s
MHTO MHTO 75.53 286 P **P** **02 08 37.5 -0.4**
NAZ Nazwa, Dubai 75.69 291 P **P** **02 08 38.9 0.0**
ARQ Araqi 75.70 289 P **P** **02 08 39.0 0.0**
FAQ Al Faqa, Dubai 75.86 291 iP **P** **02 08 39.5 -0.2**
SNR=5.1
FAQ Al Faqa, Dubai 75.86 291 P **P** **02 08 38.8 -1.0**
ALNE Al Ain 76.03 290 iP **P** **02 08 40.8 0.0**
SNR=8.8
ALNE Al Ain 76.03 290 P **P** **02 08 40.2 -0.6**
SNR=6.4
DBG Daneborg 76.03 355 iP **P** **02 08 39.4 -0.5**
DBG IAmb IAmb 02 08 57.0
comp=Z,4.6nm,1.0s
GOF Gofitskoye 76.06 314 ceP **P** **02 08 42.7 +2.1**
ASUD Al Ashush, Dub 76.12 291 P **P** **02 08 41.5 +0.2**
ASUD Al Ashush, Dub 76.12 291 P **P** **02 08 41.4 +0.2**
FINES FINESS Array B 76.13 334 iP **P** **02 08 41.0 +0.3**
FINES pmax pmax
comp=Z,17nm,1.2s
FINES FINESS Array B 76.13 334 P **P** **02 08 41.0 +0.3**
comp=Z,17nm,1.2s,baz=52,slow=5.7,SNR=24
comp=Z,17nm,1.2s
ORV Oroville 76.16 52 IAmb IAmb 02 08 44.4
comp=Z,43nm,1.3s
J08A Circle Bar Ran 76.46 48 IAmb IAmb 02 08 47.0
comp=Z,38nm,1.1s
BMO Blue Mountains 76.51 46 IAmb IAmb 02 08 47.0
comp=Z,36nm,1.3s
ZEI Tsey 76.56 312 eP **P** **02 08 43.0 -0.7**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 76.77 313 ceP **P** **02 08 45.2 +0.6**
KBZ pmax pmax
comp=Z,13nm,1.0s
KBZ Khabaz 76.77 313 P **P** **02 08 45.1 +0.6**
comp=Z,6.3nm,0.6s,baz=114,slow=4.0,SNR=24
comp=Z,6.3nm,0.6s
WVOR Wild Horse Val 76.78 49 IAmb IAmb 02 08 48.7
comp=Z,43nm,1.4s
AFDM Forest Hills D 76.80 53 IAmb IAmb 02 09 01.1
comp=Z,52nm,1.6s
KIV Kislovodsk 76.80 313 P **P** **02 08 44.1 -0.8**
KIV IAmb IAmb 02 09 26.7
comp=Z,41nm,1.2s
KIV Kislovodsk 76.80 313 iP **P** **02 08 45.6 +0.7**
SNR=6.4
KIV Kislovodsk 76.80 313 P **P** **02 08 45.5 +0.6**
KIV Kislovodsk 76.80 313 eP **P** **02 08 44.9 0.0**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,732nm,18.0s
GNI Garni 77.21 309 P **P** **02 08 48.5 +1.1**
PAHR Pah Rah Range 77.54 51 IAmb IAmb 02 09 05.5
comp=Z,38nm,1.2s
CMB Columbia Colle 77.62 53 IAmb IAmb 02 08 53.1
comp=Z,49nm,1.3s
MSO Missoula 77.63 43 P **P** **02 08 51.0 +1.4**
baz=300,SNR=5.7
PNTR Pine Nut 77.68 52 IAmb IAmb 02 08 54.0
comp=Z,49nm,1.3s
WAKR Walker 78.06 53 IAmb IAmb 02 08 56.2
comp=Z,39nm,1.3s
MFID Camas Ranch 78.13 47 IAmb IAmb 02 09 09.0
comp=Z,42nm,1.1s
SUMG Summit 78.39 0 IAmb IAmb 02 08 58.2
comp=Z,84nm,1.3s
SUMG Summit 78.39 0 iP **P** **02 08 55.0 +1.3**
SUMG IAmb IAmb 02 08 58.5
comp=Z,12nm,0.8s
RYN Ryan 78.64 52 IAmb IAmb 02 08 59.1
comp=Z,37nm,1.2s
BMN Battle Mountai 78.66 50 IAmb IAmb 02 08 59.3
comp=Z,33nm,1.3s
KVN Kaiserville 78.73 52 IAmb IAmb 02 08 59.5
comp=Z,45nm,1.2s
SOC Sochi 78.86 314 eP **P** **02 08 54.7 -1.6**
SOC e 02 11 51.6
SOC ePPP PPP 02 13 39.8
SOC eS **S** **02 18 53.1 -0.9**
SOC eSS **SS** **02 23 54.8 -3.4**
SOC eSSS SSS 02 27 22.8
SOC pmax pmax
comp=Z,12nm,0.5s
SOC MLR MLR
comp=Z,600nm,18.0s
NVAR Mina Array Bea 78.88 52 P **P** **02 08 58.0 +1.2**
comp=Z,20nm,1.1s,baz=281,slow=4.9,SNR=48
comp=Z,20nm,1.1s
HLID Hailey 78.96 46 P **P** **02 08 58.4 +1.3**
baz=300,SNR=14
NV11 Mina Array Sit 78.99 52 IAmb IAmb 02 09 01.0
comp=Z,42nm,1.4s
VOG Valley Oaks Go 79.13 55 P **P** **02 08 58.2 +0.3**
baz=298
SMMC Simmler 79.16 56 P **P** **02 08 59.7 +1.5**
baz=298
EGMT Eagleton 79.45 41 IAmb IAmb 02 09 03.1
comp=Z,43nm,1.2s
EGMT Eagleton 79.45 41 P **P** **02 09 00.3 +0.8**
baz=302,SNR=13
MNK Minsk 79.47 327 iP **P** **02 08 59.5 +0.1**
comp=E,12nm,1.6s
MNK iP **P** **02 08 59.5 +0.1**
comp=N,19nm,1.3s
MNK iP **P** **02 08 59.5 +0.1**
comp=Z,21nm,1.1s,baz=54
MNK iPP **PP** **02 11 59.3 +0.2**
MNK iPPP PPP 02 13 48.0
MNK iS **S** **02 19 01.4 +1.3**
MNK iSS **SS** **02 24 15.0 +8.3**
MNK iSSS SSS 02 27 34.9
MNK iLQ LQ 02 35 33.7
MNK iLR LR 02 40 14.8
MNK iLRM MLR 02 43 05.2
comp=N,754nm,16.2s
MNK iLRM MLR 02 46 59.3
comp=E,279nm,18.2s
MNK iLRM MLR 02 48 23.3
comp=Z,672nm,19.8s
MNK Minsk 79.47 327 iP **P** **02 08 59.5 +0.1**
MNK i 02 11 59.3
MNK iPPP PPP 02 13 48.0
MNK iS **S** **02 19 01.4 +1.3**
MNK iSS **SS** **02 24 15.0 +8.3**
MNK iSSS SSS 02 27 34.9
MNK pmax pmax
comp=N,19nm,1.3s
MNK pmax pmax
comp=E,12nm,1.6s
MNK pmax pmax
comp=Z,21nm,1.1s
MNK MLR MLR
comp=N,754nm,16.0s
MNK MLR MLR
comp=E,279nm,18.0s
MNK MLR MLR
comp=Z,672nm,20.0s
PKM Mcpherson Peak 79.50 56 P **P** **02 09 00.5 +0.3**
baz=298
VES Vestal, Richgr 79.57 55 P **P** **02 09 00.9 +0.6**
baz=299,SNR=12
ANN Anapa 79.66 316 eP **P** **02 09 00.3 -0.3**
ANN eS **S** **02 19 07.3 +4.9**
ANN pmax pmax
comp=Z,43nm,1.8s
ANN MLR MLR
comp=Z,854nm,19.0s
FFC Flin Flon 79.69 32 P **P** **02 09 01.6 +1.0**
FFC IAmb IAmb 02 09 04.0
comp=Z,57nm,1.3s
FFC Flin Flon 79.69 32 P **P** **02 09 01.6 +1.0**
FFC pmax pmax
comp=Z,57nm,1.3s
NACGM Naroch 79.75 328 eP P 02 08 52.5 -8.4
comp=Z,25nm,0.8s,baz=53

SCO	Scoresbysund	79.88	355		IAmb	IAmb	02 09 19.2		
	comp=Z,32nm,1.1s								
ISA	Isabella, Lake	80.09	55		P	P	02 09 03.1	-0.2	
	baz=299								
ARVC	Arvin	80.09	55		P	P	02 09 03.1	-0.1	
	baz=299								
PPT2	Papeete2	80.33	116		ePKP2	P	02 09 02.7	-2.0	
	comp=Z,96nm,24.0s								
PPT2					eS	S	02 19 00.5	-10	
	comp=Z,102nm,26.0s								
PPT2	Papeete2	80.33	116		eLR	LR	02 33 26.6		
	comp=Z,530nm,21.0s								
PPT2					eLR	LR	02 33 48.4		
	comp=Z,619nm,21.0s								
OSI	Osito Audit: C	80.42	56		P	P	02 09 04.9	-0.1	
	baz=299								
WHFO	Wadi Hawf	80.44	285		P	P	02 09 05.6	+0.2	
YMR	Madison River	80.52	44		IAmb	IAmb	02 09 22.7		
	comp=Z,34nm,1.1s								
MPMC	Manual Prospec	80.60	54		P	P	02 09 05.2	-1.0	
	baz=299,SNR=12								
PABE	Paberze	80.65	330		P	P	02 09 05.6	-0.1	
PABE					IAmb	IAmb	02 09 22.0		
	comp=Z,36nm,1.0s								
YNR	Norris Junctio	80.67	44		IAmb	IAmb	02 09 12.0		
	comp=Z,38nm,1.3s								
R11B	Troy Canyon, C	80.79	51		IAmb	IAmb	02 09 23.4		
	comp=Z,39nm,1.2s								
R11B	Troy Canyon, C	80.79	51		P	P	02 09 07.4	+0.3	
	baz=300,SNR=35								
EDW2	Edwards Air Fo	80.81	55		P	P	02 09 06.7	-0.5	
	baz=299,SNR=10.0								
FURC	Furnace Creek,	80.84	53		P	P	02 09 07.7	+0.6	
	baz=300								
WCT	Wildcat Mounta	80.84	53		IAmb	IAmb	02 09 23.4		
	comp=Z,37nm,1.4s								
H17A	Grant Village Ra	80.90	44		P	P	02 09 09.2	+1.5	
	baz=302,SNR=27								
HVU	Hansel Valley	80.90	47		IAmb	IAmb	02 09 11.7		
	comp=Z,37nm,1.3s								
Q12A	Willow Creek R	80.95	50		IAmb	IAmb	02 09 24.4		
	comp=Z,43nm,1.2s								
FLWY	Flagg Ranch	80.99	44		IAmb	IAmb	02 09 13.0		
	comp=Z,45nm,1.2s								
TPNV	Topopah Spring	81.03	53		IAmb	IAmb	02 09 24.5		
	comp=Z,68nm,1.4s								
TPNV	Topopah Spring	81.03	53		P	P	02 09 08.4	0.0	
	baz=300,SNR=6.9								
AKASG	Malin Array Be	81.05	324		P	P	02 09 07.2	-0.8	
	comp=Z,1.2nm,0.5s,baz=44,slow=6.3,SNR=12								
	comp=Z,1.2nm,0.5s								
GWY	Greenwater Val	81.11	54		IAmb	IAmb	02 09 12.1		
	comp=Z,51nm,1.3s								
BGU	Big Grassy Mou	81.18	48		IAmb	IAmb	02 09 12.9		
	comp=Z,51nm,1.8s								
CIS	Catalina Islan	81.23	57		P	P	02 09 08.9	-0.4	
	baz=299								
RLMT	Red Lodge	81.30	43		IAmb	IAmb	02 09 14.0		
	comp=Z,38nm,1.2s								
RLMT	Red Lodge	81.30	43		P	P	02 09 09.7	-0.1	
	baz=303,SNR=22								
SPR3	Spring Creek 3	81.31	50		IAmb	IAmb	02 09 14.0		
	comp=Z,37nm,1.4s								
BFSC	Mount Baldy Ra	81.37	56		P	P	02 09 10.9	+0.7	
	baz=300,SNR=5.5								
AHID	Auburn Hatcher	81.44	46		IAmb	IAmb	02 09 14.3		
	comp=Z,30nm,1.2s								
GSC	Goldstone, Bar	81.45	54		IAmb	IAmb	02 09 13.9		
	comp=Z,30nm,1.2s								
GSC	Goldstone, Bar	81.45	54		P	P	02 09 09.4	-1.2	
	baz=300,SNR=6.0								
HFS	Hagfors	81.54	337		P	P	02 09 10.4	0.0	
	comp=Z,10nm,0.9s,baz=98,slow=3.0,SNR=16								
	comp=Z,10nm,0.9s								
NB2	NORSAR Subarra	81.69	338		P	P	02 09 11.0	-0.3	
	comp=Z,159nm,2.5s,baz=41,slow=5.6								
NB2	NORSAR Subarra	81.69	338		P	P	02 09 11.0	-0.3	
	baz=41,slow=5.6								
NOA	NORSAR Array B	81.69	338		P	P	02 09 11.0	-0.3	
NOA	NORSAR Array B	81.69	338		P	P	02 09 10.9	-0.3	
	comp=Z,9.8nm,1.0s,baz=40,slow=5.2,SNR=8.9								
	comp=Z,9.8nm,1.0s								
DUG	Dugway, Tooele	81.70	49		IAmb	IAmb	02 09 15.5		
	comp=Z,45nm,1.4s								
DUG	Dugway, Tooele	81.70	49		P	P	02 09 10.9	-0.9	
	baz=301,SNR=11								
HWUT	Hardware Ranch	81.77	47		IAmb	IAmb	02 09 28.9		
	comp=Z,42nm,1.1s								
ELS	Elsinore Mount	81.83	56		IAmb	IAmb	02 09 15.8		
	comp=Z,53nm,1.4s								
ICESG	Greenland Ices	81.88	1	*i*	P	P	02 09 12.6	+0.1	
ICESG					IAmb	IAmb	02 09 17.7		
	comp=Z,13nm,0.9s								
SUW	Suwalki	81.95	329		P	P	02 09 13.6	+0.9	
SUW					IAmb	IAmb	02 09 29.4		
	comp=Z,34nm,0.9s								
SUW	Suwalki	81.95	329		P	P	02 09 13.6	+0.9	
SUW					pmax	pmax			
	comp=Z,34nm,0.9s								
MURC	Murrieta	82.02	56		P	P	02 09 13.4	-0.1	
	baz=300,SNR=5.3								
HEC	Hector,Ludlow	82.02	55		P	P	02 09 13.7	+0.1	
	baz=300								
TCUT	Toone Canyon	82.12	47		IAmb	IAmb	02 09 17.9		
	comp=Z,35nm,1.2s								
CTU	Camp Tracy	82.13	48		IAmb	IAmb	02 09 31.8		
	comp=Z,29nm,1.2s								
LAO	LASA Array	82.19	40		P	P	02 09 14.7	+0.4	
	baz=305								
LAO	LASA Array	82.19	40		P	P	02 09 16.0	+1.8	
	baz=305								
DGMT	Dagmar	82.28	38		IAmb	IAmb	02 09 17.8		
	comp=Z,44nm,1.1s								
DGMT	Dagmar	82.28	38		P	P	02 09 14.8	+0.2	
	baz=306,SNR=5.1								
DGMT	Dagmar	82.28	38		P	P	02 09 17.6	+3.0	
	baz=306								
BW06	Boulder Array	82.40	45		P	P	02 09 15.5	-0.1	
	baz=303,SNR=10								
PDAR	Pinedale Array	82.40	45		P	P	02 09 15.9	+0.3	
	comp=Z,7.4nm,1.0s,baz=252,slow=0.9,SNR=29								
	comp=Z,7.4nm,1.0s								
109C	Camp Elliot, M	82.44	57		P	P	02 09 16.2	+0.6	
	baz=300								
GMRC	Granite Mounta	82.53	54		P	P	02 09 17.0	+0.7	
	baz=300,SNR=5.6								
PFO	Pinyon Flats O	82.54	56		P	P	02 09 16.9	+0.5	
PFO					IAmb	IAmb	02 09 19.6		
	comp=Z,38nm,1.2s								
PFO	Pinyon Flats O	82.54	56		P	P	02 09 16.5	+0.1	
	baz=300								
PFO	Pinyon Flats O	82.54	56		P	P	02 09 16.9	+0.5	
PFO					pmax	pmax			
	comp=Z,38nm,1.3s								
TPFO	Pinon Flats	82.55	56		P	P	02 09 17.1	+0.7	
	baz=300								
MPU	Maple Canyon	82.56	48		IAmb	IAmb	02 09 20.1		
	comp=Z,35nm,1.3s								
PMD	Palm Desert	82.58	56		IAmb	IAmb	02 09 19.5		
	comp=Z,32nm,1.2s								
V12A	Nelson	82.62	53		IAmb	IAmb	02 09 20.3		
	comp=Z,40nm,1.3s								
CCUT	Cedar City	82.70	51		IAmb	IAmb	02 09 21.1		
	comp=Z,32nm,1.2s								
BSUT	Blindstream Ca	82.85	47		IAmb	IAmb	02 09 33.9		
	comp=Z,42nm,1.6s								
MONP2	Monument Peak	82.93	56		P	P	02 09 18.5	0.0	
	baz=300								
IRM	Iron Mountain	83.21	55		P	P	02 09 20.2	+0.5	
	baz=301								
MTPU	Mount Pierson	83.24	50		IAmb	IAmb	02 09 24.2		
	comp=Z,38nm,1.4s								
BC3	Big Chuckawall	83.25	55		P	P	02 09 20.7	+0.7	
	baz=301								
IKP	In-Ko-Pah, Jac	83.28	56		P	P	02 09 20.9	+0.8	
	baz=301								
TAOE	Nuku Hiva Isla	83.35	104		eLR	LR	02 35 08.3		
	comp=Z,691nm,21.5s								
SWSC	Sam W. Stewart	83.36	56		P	P	02 09 21.6	+1.2	
	baz=301								
TBI	Tubuai	83.72	121		eP	P	02 09 26.9	+4.6	
	comp=Z,348nm,24.2s								
TBI	Tubuai	83.72	121		eS	S	02 19 40.8	-4.0	
	comp=Z,545nm,27.2s								
TBI	Tubuai	83.72	121		eLR	LR	02 35 31.9		
	comp=Z,4µm,29.2s								
GAZ	Gaziantep	83.80	309		IAmb	IAmb	02 09 58.9		
	comp=Z,33nm,1.1s								
PDMCI	Parker Dam,Lak	83.85	54		P	P	02 09 22.5	-0.4	
	baz=301,SNR=12								
U15A	North Rim	84.02	52		IAmb	IAmb	02 09 42.0		
	comp=Z,26nm,1.3s								
LVV	L'vov	84.23	325		eP	P	02 09 28.3	+3.7	
HMU	Henry Mountain	84.26	50		IAmb	IAmb	02 09 41.2		
	comp=Z,30nm,1.0s								
K22A	Casper	84.32	44		IAmb	IAmb	02 09 28.9		
	comp=Z,29nm,1.0s								
O20A	White River Ci	84.68	47		P	P	02 09 27.9	+0.5	
	baz=304,SNR=14								
BR131	Keskin Array S	84.76	313		IAmb	IAmb	02 09 43.9		
	comp=Z,18nm,1.1s								
BR131	Keskin Array S	84.76	313		P	P	02 09 28.0	+0.4	
	SNR=7.1								
BR131	Keskin Array S	84.76	313		deP	P	02 09 27.9	+0.2	
BRTR	Keskin Array B	84.76	313		P	P	02 09 27.8	+0.1	
	comp=Z,3.2nm,0.7s,baz=116,slow=4.5,SNR=15								
	comp=Z,3.2nm,0.7s								
Y14A	Wickenburg	84.84	54		IAmb	IAmb	02 09 31.5		
	comp=Z,31nm,1.2s								
113A	Mohawk Valley,	84.91	55		IAmb	IAmb	02 09 31.7		
	comp=Z,44nm,1.5s								
RSSD	Black Hills	84.94	42		P	P	02 09 29.0	+0.5	
RSSD	Black Hills	84.94	42		P	P	02 09 29.1	+0.5	
	baz=306								
RSSD	Black Hills	84.94	42		P	P	02 09 30.1	+1.6	
	baz=306								
RSSD	Black Hills	84.94	42		P	P	02 09 29.0	+0.5	
RSSD					pmax	pmax			
	comp=Z,67nm,1.8s								
MDND	Maddock	85.10	37		P	P	02 09 29.8	+0.8	
	baz=309								
WUAZ	Wupatki	85.14	52		P	P	02 09 30.0	+0.3	
	baz=303								
ULM	Lac du Bonnet	85.41	33		IAmb	IAmb	02 09 33.3		
	comp=Z,27nm,1.2s								
ULM	Lac du Bonnet	85.41	33		P	P	02 09 32.2	+1.7	
	comp=Z,9.7nm,1.0s,baz=322,slow=4.9,SNR=12								
	comp=Z,9.7nm,1.0s								
KOLS	Kolonicke sedl	85.68	325		eP	P	02 09 33.8	+1.9	
KOLS	Kolonicke sedl	85.68	325		eP	P	02 09 33.8	+1.9	
N23A	Red Feather La	85.69	45		P	P	02 09 33.5	+1.1	
	baz=306,SNR=16								
PHWY	Pilot Hill	85.75	44		IAmb	IAmb	02 09 36.4		
	comp=Z,41nm,1.4s								
PIX	Pinecate	85.77	56		IAmb	IAmb	02 09 35.9		
	comp=Z,22nm,1.2s								
214A	Organ Pipe Nat	86.03	56		IAmb	IAmb	02 09 37.6		
	comp=Z,29nm,1.1s								
214A	Organ Pipe Nat	86.03	56		P	P	02 09 35.7	+1.7	
	baz=302,SNR=10								
CRVS	Cervenica-Dubn	86.10	326		eP	P	02 09 36.5	+2.5	
CRVS	Cervenica-Dubn	86.10	326		eP	P	02 09 36.5	+2.5	
CRVS					pmax	pmax			
	comp=Z,81nm,1.8s								
MVCO	Mesa Verde	86.15	49		IAmb	IAmb	02 09 38.0		
	comp=Z,33nm,1.4s								
MVCO	Mesa Verde	86.15	49		P	P	02 09 35.9	+1.2	
	baz=304,SNR=9.0								
W18A	Petrified Fore	86.48	51		P	P	02 09 38.1	+1.7	
	baz=304								
ISCO	Idaho Springs	86.53	46		IAmb	IAmb	02 09 40.6		
	comp=Z,22nm,1.3s								
ISCO	Idaho Springs	86.53	46		P	P	02 09 37.7	+1.0	
	baz=306,SNR=14								
ISCO	Idaho Springs	86.53	46		P	P	02 09 37.9	+1.2	
	baz=306								
AGMN	Agassiz Nation	86.72	35		IAmb	IAmb	02 09 39.9		
	comp=Z,45nm,1.4s								
AGMN	Agassiz Nation	86.72	35		P	P	02 09 37.1	+0.1	
	baz=312,SNR=8.9								
AGMN	Agassiz Nation	86.72	35		P	P	02 09 38.7	+1.7	
	baz=312								
S22A	4UR Ranch, Cre	86.94	48		IAmb	IAmb	02 09 55.4		
	comp=Z,23nm,1.2s								
S22A	4UR Ranch, Cre	86.94	48		P	P	02 09 39.1	+0.4	
	baz=305,SNR=11								
TUC	Tucson	87.29	54		P	P	02 09 40.0	-0.2	
TUC	Tucson	87.29	54		P	P	02 09 40.6	+0.4	
	baz=303								
TUC	Tucson	87.29	54		P	P	02 09 40.0	-0.2	
TUC					pmax	pmax			
	comp=Z,18nm,1.3s								
MMAI	Mount Meron Ar	87.29	307		P	P	02 09 40.8	+0.5	
	comp=Z,2.4nm,0.6s,baz=45,slow=6.0,SNR=6.7								
	comp=Z,2.4nm,0.6s								
Q24A	Divide	87.31	46		P	P	02 09 40.2	-0.3	
	baz=306								
MORC	Moravsky Berou	87.38	328		eP	P	02 09 40.1	-0.2	
OSTC	Ostas	87.44	329		eP	P	02 09 40.3	-0.2	
OSTC					AMS	AMS	02 52 50.0		
	comp=Z,1µm,16.8s								
OSTC	Ostas	87.44	329		eP	P	02 09 40.3	-0.2	
OSTC					MLR	MLR			
	comp=Z,1µm,16.8s								
KRLC	Kraliky	87.53	328		AMS	AMS	02 53 20.0		
	comp=Z,1µm,17.0s								
DPC	Dobruska-Polom	87.54	329		eP	P	02 09 43.3	+2.3	
DPC					AMS	AMS	02 52 30.0		
	comp=Z,900nm,17.4s								
DPC	Dobruska-Polom	87.54	329		eP	P	02 09 43.3	+2.3	
DPC					MLR	MLR			
	comp=Z,900nm,17.4s								
UPC	Upice	87.57	329		AMS	AMS	02 53 00.0		
	comp=Z,900nm,17.1s								
SUSD	Miller	87.61	39		P	P	02 09 41.6	+0.2	
	baz=310								
VYHS	Vyhne	87.66	326		eP	P	02 09 41.5	-0.1	
VYHS	Vyhne	87.66	326		eP	P	02 09 41.5	-0.1	
VYHS					pmax	pmax			
	comp=Z,80nm,2.4s								
SDCO	Great Sand Dun	87.80	47		P	P	02 09 43.5	+0.7	
	baz=306,SNR=11								
SDCO	Great Sand Dun	87.80	47		P	P	02 09 44.4	+1.6	
	baz=306								
JAVC	Velka Javorina	87.97	327		eP	P	02 09 43.5	+0.4	
OGNE	Ogallala	88.03	43		P	P	02 09 45.6	+1.9	
	baz=308								
GHAJ	Ghor Haditha	88.11	305		IAmb	IAmb	02 09 55.5		
	comp=Z,31nm,1.6s								
F33A	5 Mile Ranch,	88.13	37		P	P	02 09 44.8	+0.9	
	baz=312								
VRAC	Vranov	88.15	328		eP	P	02 09 43.8	-0.1	
BRG	Berggiesshubel	88.21	330		P	P	02 09 33.6	-11	
BRG					Amp		02 09 35.3		
	comp=Z,3.6nm,1.1s								
CLL	Collm	88.30	331	*i*	P	P	02 09 44.4	-0.1	
CLL					eS	S	02 20 30.0	+1.1	
CLL					ePS	PnS	02 21 30.0	-1.5	
CLL					eSS	SS	02 26 15.0	-1.9	
CLL					eSSS	SSS	02 29 48.0		
CLL					ex	x	02 31 36.0		
CLL					AMS	AMS	02 59 00.0		
	comp=Z,700nm,18.1s								
CLL	Collm	88.30	331	*i*	P	P	02 09 44.4	-0.1	
CLL					eS	S	02 20 30.0	+1.1	
CLL					MLR	MLR			
	comp=Z,700nm,18.1s								
K30B	Basset	88.37	41		P	P	02 09 48.1	+2.9	
	baz=310								
KRUC	Moravsky	88.42	328		eP	P	02 09 44.7	-0.5	
MODS	Modra-Piesok	88.49	327		eP	P	02 09 46.6	+1.0	
MODS	Modra-Piesok	88.49	327		eP	P	02 09 46.6	+1.0	
MODS					pmax	pmax			
	comp=Z,188nm,2.5s								
GOPC	GO Pecny, Ondr	88.54	329		AMS	AMS	02 53 40.0		
	comp=Z,1µm,16.1s								
PRA	Prague	88.58	330		AMS	AMS	02 53 50.0		
	comp=Z,800nm,17.4s								
PRU	Pruhonice	88.60	329		AMS	AMS	02 53 50.0		
	comp=Z,800nm,18.7s								
HSKC	Hora Svate Kat	88.63	330		AMS	AMS	02 53 30.0		
	comp=Z,900nm,18.0s								
TREC	Trest	88.67	329		AMS	AMS	02 54 00.0		
	comp=Z,900nm,18.6s								
ANMO	Albuquerque	88.80	50		P	P	02 09 48.0	+0.5	
ANMO	Albuquerque	88.80	50		P	P	02 09 48.3	+0.8	
	baz=306								
ANMO	Albuquerque	88.80	50		P	P	02 09 50.3	+2.8	
	baz=306								
ANMO	Albuquerque	88.80	50	de	P	P	02 09 48.8	+1.3	
ANMO					pmax	pmax			
	comp=Z,11nm,1.5s								
KSCO	Kaye Shedlock'	88.86	45		P	P	02 09 48.2	+0.5	
	baz=308								
T25A	Trinidad	88.86	47		P	P	02 09 49.5	+1.7	
	baz=307,SNR=5.9								
HSIG		88.96	57		IAmb	IAmb	02 09 51.7		
	comp=Z,20nm,1.3s								
Y22D	IRIS PASSCAL I	88.98	51		P	P	02 09 48.9	+0.6	
	baz=305								
EYMN	Ely	89.08	33		P	P	02 09 48.1	-0.3	
	baz=315,SNR=12								
EYMN	Ely	89.08	33		P	P	02 09 49.6	+1.3	
	baz=315								
ZVC	Zvikov	89.15	329		eP	P	02 09 48.5	-0.1	
121A	Cookes Peak, D	89.27	53		P	P	02 09 50.0	+0.2	
	baz=305								
NKC	Novy Kostel	89.33	331		AMS	AMS	02 54 00.0		
	comp=Z,1µm,19.7s								
ECSD	EROS Data Cent	89.36	39		IAmb	IAmb	02 09 52.8		
	comp=Z,32nm,1.3s								
ECSD	EROS Data Cent	89.36	39		P	P	02 09 50.4	+0.7	
	baz=312,SNR=12								
ECSD	EROS Data Cent	89.36	39		P	P	02 09 50.1	+0.3	
	baz=312								
RONA	Rosalia, Austr	89.43	327		ePcP	P	02 09 50.6	+0.5	
	comp=Z,6.3nm,1.3s								
CONA	Conrad Observa	89.48	327		ePcP	P	02 09 50.4	+0.1	
	comp=Z,10.0nm,1.4s								
F36A	Milaca	89.54	35		IAmb	IAmb	02 09 53.6		
	comp=Z,25nm,1.2s								
F36A	Milaca	89.54	35		P	P	02 09 51.2	+0.6	
	baz=314								
CKRC	Cesky Krumlov	89.55	329		AMS	AMS	02 52 10.0		
	comp=Z,700nm,19.1s								
KHC	Kasperske Hory	89.65	329		eP	P	02 09 49.9	-1.1	
KHC					ex	x	02 10 15.5		
KHC					AMS	AMS	02 53 40.0		
	comp=Z,800nm,17.5s								
KHC	Kasperske Hory	89.65	329	⇑	eP	P	02 09 50.2	-0.8	
KHC					pmax	pmax			
	comp=Z,8.0nm,1.3s								
GERES	GERESS Array B	89.81	329		P	P	02 09 52.0	+0.2	
GERES	GERESS Array B	89.81	329		P	P	02 09 52.0	+0.2	
	comp=Z,0.5nm,0.4s,baz=16,slow=7.5,SNR=2.5								
	comp=Z,0.5nm,0.4s								
BGNE	Belgrade	90.02	41		P	P	02 09 52.9	0.0	
	baz=310								
ARSA	Arzberg	90.12	327		eP	P	02 09 52.3	-0.9	
	comp=Z,6.9nm,1.4s								
RTBA	Rita Blanca	90.35	47		IAmb	IAmb	02 09 58.3		
	comp=Z,74nm,1.7s								
SPMN	Marine on St.	90.35	36		IAmb	IAmb	02 09 57.7		
	comp=Z,32nm,1.2s								
SPMN	Marine on St.	90.35	36		P	P	02 09 54.4	0.0	
	baz=314								
SPMN	Marine on St.	90.35	36		P	P	02 09 56.6	+2.3	
	baz=314								
BIOA	Bad Ischl, Aus	90.68	328		eP	P	02 09 55.1	-0.7	
	comp=Z,4.8nm,1.1s								
EKA	Eskdalemuir Ar	90.74	341		P	P	02 09 55.9	0.0	
	comp=Z,0.5nm,0.6s,baz=326,slow=7.0,SNR=3.6								
	comp=Z,0.5nm,0.6s								
CBKS	Cedar Bluff	90.74	44		P	P	02 09 57.0	+0.6	
	baz=310								
CBKS	Cedar Bluff	90.74	44		P	P	02 09 58.7	+2.4	
	baz=310								
I37A	Lemond, Waseca	90.88	37		IAmb	IAmb	02 10 00.5		
	comp=Z,26nm,1.1s								
LESA	Schwarzleotal	91.32	329		ePcP	P	02 09 59.2	+0.3	
	comp=Z,2.4nm,0.5s								
MNTX	Cornudas Mount	91.41	52		P	P	02 10 00.3	+0.7	
	baz=306,SNR=11								
MNTX	Cornudas Mount	91.41	52		P	P	02 10 01.5	+1.9	
	baz=306								
G40A	Rib Lake	91.62	34		IAmb	IAmb	02 10 03.6		
	comp=Z,35nm,1.4s								
G40A	Rib Lake	91.62	34		P	P	02 10 02.3	+2.1	
	baz=316								
N35A	Tabor	91.80	40		P	P	02 10 04.4	+3.2	
	baz=312								
MSTX	Muleshoe	91.82	49		P	P	02 10 01.4	-0.1	
	baz=308								
WATA	Walderalm	91.88	329		epP	P	02 10 02.9	+1.4	
	comp=Z,10nm,1.8s								
ABTA	Abfaltersbach	91.90	328		epP	P	02 10 03.1	+1.5	
	comp=Z,8.2nm,1.3s								
AMTX	Amarillo	91.98	48		P	P	02 10 02.5	+0.2	
	baz=308								
MOTA	Moosalm	92.09	329		ePcP	P	02 10 02.8	+0.2	
	comp=Z,6.3nm,1.2s								
RETA	Reutte	92.13	330		epP	P	02 10 05.3	+2.7	
	comp=Z,8.4nm,1.4s								
425A	Indio Mountain	92.22	53		IAmb	IAmb	02 10 07.2		
	comp=Z,25nm,1.2s								
KSU1	Kansas State U	92.42	42		P	P	02 10 05.3	+1.2	
	baz=312								
KSU1	Kansas State U	92.42	42		P	P	02 10 04.7	+0.7	
	baz=312								
SCIA	State Center	92.43	38		P	P	02 10 04.7	+0.6	
	baz=314								
FETA	Feichten	92.50	329		eP	P	02 10 02.7	-1.8	
	comp=Z,7.0nm,1.7s								
BFO	Black Forest	92.53	331		P	P	02 10 04.1	-0.3	
BFO	Black Forest	92.53	331		P	P	02 10 04.1	-0.3	
BFO					pmax	pmax			
	comp=Z,8.0nm,1.1s								
PECS	Pecos	92.65	52		IAmb	IAmb	02 10 21.0		
	comp=Z,13nm,1.0s								
DAVA	Damuels	92.67	330		pP	P	02 10 07.7	+2.5	
	comp=Z,11nm,1.3s								
SMWD	Samnorwood	92.77	47		IAmb	IAmb	02 10 09.5		
	comp=Z,32nm,1.1s								
FUORN	Ofenpass-Fuorn	93.01	329		IAmb	IAmb	02 10 10.1		
	comp=Z,17nm,1.2s								
N38A	Joes South For	93.19	39		P	P	02 10 08.5	+0.9	
	baz=314								
POST	Post	93.22	49		IAmb	IAmb	02 10 23.9		
	comp=Z,19nm,1.0s								
DKNS	Dickens	93.22	48		IAmb	IAmb	02 10 11.4		
	comp=Z,14nm,0.8s								
I42A

baz=313
HHAR Hobbs 95.88 43 IAmb IAmb 02 10 22.5
comp=Z,15nm,1.2s
JCT Junction City 95.95 50 IAmb IAmb 02 10 23.6
comp=Z,20nm,1.2s
JCT Junction City 95.95 50 P P 02 10 20.4 -0.1
baz=309
BRDY Brady 95.98 49 IAmb IAmb 02 10 23.8
comp=Z,27nm,1.4s
DRIO Del Rio 96.06 52 IAmb IAmb 02 10 24.3
comp=Z,42nm,1.8s
CCM Cathedral Cave 96.20 40 P P 02 10 21.9 +0.5
CCM Cathedral Cave 96.20 40 P P 02 10 20.0 -1.4
baz=315
CCM Cathedral Cave 96.20 40 P P 02 10 21.6 +0.2
baz=315
CCM Cathedral Cave 96.20 40 P P 02 10 21.9 +0.5
CCM pmax pmax
comp=Z,30nm,1.4s
MGMO Mountain Grove 96.25 41 IAmb IAmb 02 10 24.1
comp=Z,15nm,1.1s
U40A Yellville 96.46 42 P P 02 10 22.3 -0.3
baz=314
U40A P P 02 10 22.3 -0.3
baz=314
WHTX Lake Whitney, 96.54 48 P P 02 10 21.7 -1.4
baz=310
SFIN Lafayette 96.75 36 P P 02 10 23.7 -0.1
baz=318
FCAR Ozark Folk Cen 97.21 42 IAmb IAmb 02 10 28.3
comp=Z,11nm,1.3s
833A Chaparral WMA, 97.58 52 P P 02 10 27.7 -0.1
baz=309
QSPA South Pole Qui 119.07 180 PKiKP PKiKP 02 15 42.4 +1.2
QSPA South Pole Qui 119.07 180 PKP PKPdf 02 15 40.3 -0.8
comp=Z,3.3nm,0.8s,baz=301,slow=1.3,SNR=7.0
TORD Torodi Ar. Bea 123.38 313 PKPdf PKPdf 02 15 50.6 -0.4
TORD Torodi Ar. Bea 123.38 313 PKP PKPdf 02 15 50.5 -0.5
comp=Z,0.9nm,0.5s,baz=28,slow=1.8,SNR=18
ELIB Princess Elisa 126.56 200 *d*PKP PKiKP 02 15 57.4 +1.4
ELIB *d*PP PP 02 17 50.2 -1.8
DBIC Dimbokro 132.46 314 PKP PKPdf 02 16 08.5 +0.2
comp=Z,2.4nm,0.9s,baz=26,slow=2.8,SNR=1.6
PB12 IPOC Station P 148.20 78 PKPdf PKPdf 02 16 36.8 +0.3
SAML Samuel 148.47 55 PKPdf PKPdf 02 16 37.0 0.0
SAML Samuel 148.47 55 PKIKP PKPdf 02 16 37.0 0.0
PB16 IPOC Station P 148.77 77 PKPdf PKPdf 02 16 37.7 -0.4
PATCX Punta Patache 149.25 82 PKPdf PKPdf 02 16 38.7 +0.5
GO06 Curarrehue 150.26 119 PKPdf PKPdf 02 16 39.5 +0.3
PLCA Paso Flores 150.73 122 PKPdf PKPdf 02 16 40.6 +0.7
PLCA Paso Flores 150.73 122 PKIKP PKPdf 02 16 40.6 +0.7
PLCA Paso Flores 150.73 122 PKPbc PKiKP 02 16 46.1 0.0
comp=Z,21nm,1.1s,baz=252,slow=3.0,SNR=12

*IDC **21** 01:58:34.2±0.8,28°.97N×142°.65E,h0km,mb4.2/14, mbtmp4.2/16,ML3.6/2,MS4.5/5,Error ellipse: s-maj=22.7km s-min=18.4km az=101.0*

ISC 21 01:58:38.3±0.7,**28°.95N**±0°.07×**142°.6E**±0°.1,**h27**km,**n24**, σ0.92/19,**mb4.2**/14,**MS4.5**/5,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.88**	**191**	Pn	**Pn**	**01 59 08.5**	**-0.2**
	23nm,0.3s,baz=310,slow=20,SNR=0.5						
JCJ				Sn	**Sb**	**01 59 35.0**	**+0.1**
	50nm,0.3s,baz=102,slow=24,SNR=1.0						
KSRS	**Korea Array**	**14.90**	**308**	Pn	**Pn**	**02 02 06.3**	**-0.9**
	0.5nm,0.3s,baz=110,slow=12,SNR=1.5						
	4.0nm,0.8s						
GUMO	**Guam**	**15.43**	**172**	LR	LR	02 06 45.1	
	comp=Z,4μm,19.6s,baz=6.5,slow=32						
USRK	**Ussuriysk Ar.**	**17.41**	**334**	P	**P**	**02 02 40.2**	**-0.2**
	0.1nm,0.3s,baz=131,slow=12,SNR=1.1						
	2.3nm,0.6s						
SONM	**Songino Array**	**33.65**	**314**	P	**P**	**02 05 16.9**	**0.0**
	4.0nm,0.8s,baz=128,slow=9.1,SNR=1.9						
	4.0nm,0.8s						
PMG	**Port Moresby**	**38.38**	**173**	LR	LR	02 20 52.3	
	comp=Z,723nm,19.9s,baz=335,slow=35						
CMAR	**Chiang Mai Arr**	**41.09**	**265**	P	**P**	**02 06 21.4**	**+1.3**
	0.7nm,0.3s,baz=51,slow=7.2,SNR=1.7						
	0.7nm,0.3s						
ZALV	**Zalesovo Beam**	**48.34**	**318**	P	**P**	**02 07 18.4**	**+1.0**
	2.4nm,0.5s,baz=111,slow=7.2,SNR=2.1						
	2.4nm,0.5s						
CTA	**Charters Tower**	**48.88**	**175**	LR	LR	02 27 16.3	
	comp=Z,392nm,18.9s,baz=341,slow=35						
MKAR	**Makanchi Array**	**49.59**	**308**	P	**P**	**02 07 26.2**	**-0.9**
	2.8nm,0.7s,baz=89,slow=7.9,SNR=1.7						
	2.8nm,0.7s						
KURBB	**Kurchatov Arra**	**52.01**	**313**	P	**P**	**02 07 45.3**	**+0.1**
	5.7nm,0.8s,baz=91,slow=6.0,SNR=5.0						
	5.7nm,0.8s						
KDAK	**Kodiak Island**	**52.69**	**38**	P	**P**	**02 07 49.1**	**-1.0**
	4.3nm,0.5s,baz=282,slow=3.2,SNR=1.4						
	4.3nm,0.5s						
ASAR	**Alice Springs**	**52.97**	**190**	P	**P**	**02 07 51.2**	**-1.4**
	2.0nm,0.9s,baz=19,slow=5.9,SNR=1.6						
	2.0nm,0.9s						
ILAR	**Eielson Array**	**55.93**	**29**	P	**P**	**02 08 12.1**	**-1.6**
	1.0nm,0.8s,baz=246,slow=5.8,SNR=1.0						
	1.0nm,0.8s						
BVAR	**Borovoye Array**	**56.93**	**317**	P	**P**	**02 08 20.8**	**-0.2**
	3.1nm,0.5s,baz=81,slow=8.9,SNR=1.9						
	3.1nm,0.5s						
YKA	**Yellowknife Ar**	**70.36**	**29**	P	**P**	**02 09 49.1**	**-0.3**
	0.5nm,0.7s,baz=296,slow=6.7,SNR=1.0						
	0.5nm,0.7s						
WSAR	**Wadi Sarin**	**74.10**	**288**	LR	LR	02 45 51.0	
	comp=Z,273nm,20.8s,baz=52,slow=38						
NVAR	**Mina Array Bea**	**79.11**	**52**	P	**P**	**02 10 42.1**	**+1.2**
	1.4nm,0.6s,baz=298,slow=5.7,SNR=2.0						
	1.4nm,0.6s						
FRB	**Frobisher Bay**	**84.40**	**13**	LR	LR	02 51 03.1	
	comp=Z,210nm,20.1s,baz=346,slow=37						
BRTR	**Keskin Array B**	**85.00**	**313**	P	**P**	**02 11 12.3**	**+0.7**
	1.0nm,0.8s,baz=54,slow=2.5,SNR=1.1						
	1.0nm,0.8s						
MMAI	**Mount Meron Ar**	**87.50**	**307**	P	**P**	**02 11 24.2**	**+0.2**
	0.5nm,0.4s,baz=54,slow=7.3,SNR=1.2						
	0.5nm,0.4s						
ATD	**Arta Tunnel**	**92.84**	**285**	LR	LR	02 56 26.0	
	comp=Z,7.5nm,18.8s,baz=86,slow=37						
TXAR	**Lajitas Array**	**94.22**	**53**	P	**P**	**02 11 56.5**	**+1.0**
	0.5nm,0.5s,baz=302,slow=4.1,SNR=0.9						
	0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**123.61**	**312**	PKP	**PKiKP**	**02 17 34.9**	**+0.5**
	0.6nm,0.7s,baz=20,slow=3.0,SNR=2.3						

*IDC **21** 02:08:59.4±2.1,7°.71S×125°.00E,h0km,mb3.4/1, mbtmp3.3/3,ML3.2/2,Error ellipse: s-maj=204.4km s-min=33.7km az=59.0*
*DJA **21** 02:09:09.1±2.5,8°.5±13°×12°.5E±1°.6,h10km,M3.0/3, MLv3.0/3*

ISC 21 02:09:10.4±4.4,**8°.5S**±0°.3×**125°.3E**±0°.1,**h10**km,**n4**,σ0.16/5, **Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.61**	**220**	P	**Pg**	**02 09 41.4**	**0.0**
WRA	**Warramunga Arr**	**14.33**	**143**	Pn	**Pn**	**02 12 33.5**	**-0.1**
	0.1nm,0.3s,baz=316,slow=13,SNR=3.8						
WRA				Sn	**Sn**	**02 15 12.9**	**+0.1**
	0.1nm,0.3s,baz=309,slow=25,SNR=2.4						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**17.17**	**152**	P	**P**	**02 13 12.5**	**+0.2**
	0.1nm,0.3s,baz=337,slow=12,SNR=1.9						
ASAR				S	**Sn**	**02 16 21.8**	**0.0**
	0.3nm,0.6s,baz=313,slow=20,SNR=2.6						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**67.05**	**329**	P	P	02 19 49.1	-15
	0.3nm,0.8s,baz=139,slow=6.8,SNR=2.2						
	0.3nm,0.8s						

*MOS **21** 02:50:11.9±1.0,34°.48N×45°.83E,h10km,mb4.5/29,Error ellipse: s-maj=6.1km s-min=3.8km az=109.3*
*IDC **21** 02:50:12.6±0.6,34°.62N×45°.77E,h0km,mb4.2/28, mbtmp4.2/35,ML4.3/6,MS3.6/3,Error ellipse: s-maj=13.0km s-min=10.1km az=147.0*
*GII **21** 02:50:13.0±0.0,34°.55N×45°.92E,h10km*
*TEH **21** 02:50:14.7,34°.56N×45°.78E,h14km±28km,ML4.4*
*NEIC **21** 02:50:14.2±1.8,34°.50N±0°.04×45°.83E±0°.08,h10km±1km, mb4.5/43,Error ellipse: s-maj=11.8km s-min=6.6km az=80.0*
*AZER **21** 02:50:15.0±0.2,34°.64N×45°.78E,h11km±5km,Error ellipse: s-maj=5.4km s-min=1.3km az=11.0*
*ISN **21** 02:50:16.1±1.0,34°.56N×45°.78E,h18km±46km,ML4.6*
*OMAN **21** 02:50:25.0±0.2,33°.85N×46°.57E,h12km,mb4.4/29,Error ellipse: s-maj=4.9km s-min=3.2km az=33.0*
*NAO **21** 02:50:27.2,35°.55N×44°.83E,h33km,mb3.9*

ISC 21 02:50:15.3±0.8,**34°.51N**±0°.03×**45°.82E**±0°.03,**h17**km±5km, **n472**,σ1.59/509,**mb4.4**/83,**MS3.8**/3,**41C-9D,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.19**	**270**	Pg	**Pg**	**02 50 19.0**	**-1.0**
IDHR	**Dehrash**	**0.51**	**67**	Pg	**Pg**	**02 50 24.8**	**-0.7**
IDHR				Sg	**Sg**	**02 50 32.4**	**+0.1**
IGHG	**Ghaleghazi**	**0.64**	**106**	Pg	**Pg**	**02 50 28.3**	**+0.2**
IGHG				Sg	**Sb**	**02 50 40.0**	**+3.0**
ILBA	**Ilam Banvizeh**	**0.94**	**160**	Pg	**Pg**	**02 50 33.3**	**-0.2**
ILIN	**Lien**	**1.03**	**66**	Pg	**Pg**	**02 50 34.0**	**-1.2**
KCHF	**Cheshme Sefid,**	**1.03**	**103**	Pg	**Pg**	**02 50 35.4**	**+0.1**
SLY	**Sulaymaniyah**	**1.12**	**347**	Pg	**Pb**	**02 50 34.9**	**-1.4**
IBDR	**Badra**	**1.40**	**176**	*e*Pn	**Pg**	**02 50 44.0**	**+1.8**
IBDR				*e*Sn	**Sg**	**02 51 03.0**	**+2.6**
IBDR				AML	AML	02 51 08.1	
	comp=N,6μm,0.7s						
IBDR				AML	AML	02 51 12.6	
	comp=E,5μm,0.6s						
IKOM	**Komasi**	**1.44**	**103**	Pg	**Pn**	**02 50 42.8**	**+2.1**
IKRK	**Kirkuk**	**1.51**	**307**	*e*Pg	**Pn**	**02 50 43.0**	**+1.5**
IKRK				*e*Sg	**Sn**	**02 51 02.0**	**+1.2**
IKRK				AML	AML	02 51 05.9	
	comp=E,22μm,0.6s						
IKRK				AML	AML	02 51 13.6	
	comp=N,19μm,0.6s						
SDS1	**Sardasht. Az.**	**1.66**	**351**	Pg	**Pn**	**02 50 44.7**	**+0.9**
IBZA	**Bozab**	**1.69**	**91**	Pg	**Pn**	**02 50 46.6**	**+2.4**
BHD	**Baghdad**	**1.72**	**225**	*e*Pn	**Pn**	**02 50 47.0**	**+2.6**
BHD				*e*Sn	**Sb**	**02 51 10.0**	**+2.3**
BHD				AML	AML	02 51 23.5	
	comp=E,6μm,0.6s						
IKFM	**Kafar-mosalman**	**1.95**	**120**	Pn	**Pn**	**02 50 49.9**	**+2.4**
IALM	**Almabolaq**	**1.97**	**79**	Pn	**Pn**	**02 50 50.6**	**+2.5**
MAHB	**Mahabad**	**2.26**	**358**	Pn	**Pn**	**02 50 52.9**	**+0.9**
HAGD	**Aghdareh**	**2.75**	**83**	Pn	**Pn**	**02 51 01.5**	**+2.7**
RAFI	**Al-Rafai**	**2.79**	**175**	*e*Pn	**Pn**	**02 51 02.0**	**+2.9**
RAFI				*e*Sn	**Sb**	**02 51 37.0**	**-1.4**
IHSH	**Hashtrud**	**3.03**	**22**	Pn	**Pn**	**02 51 03.9**	**+1.2**
IAZR	**Azarshahr**	**3.17**	**2**	Pn	**Pn**	**02 51 05.6**	**+1.0**
CUKT	**Cukurca**	**3.27**	**327**	P	**Pn**	**02 51 06.1**	**+0.2**
QSDN	**Sirdan**	**3.38**	**53**	Pn	**Pn**	**02 51 09.3**	**+1.8**
IRAZ	**Razeghan**	**3.49**	**74**	Pn	**Pn**	**02 51 10.7**	**+1.7**
ISRB	**Sarab**	**3.63**	**24**	Pn	**Pn**	**02 51 12.3**	**+1.4**
ITBZ	**Tabriz**	**3.73**	**4**	Pn	**Pn**	**02 51 12.2**	**0.0**
ISHB	**Shabestar**	**3.77**	**358**	Pn	**Pn**	**02 51 13.2**	**+0.3**
JIR1	**Jirandeh**	**3.92**	**55**	Pn	**Pn**	**02 51 16.6**	**+1.8**
IHRS	**Heris**	**3.93**	**14**	Pn	**Pn**	**02 51 16.1**	**+1.1**
AMIS	**Naft Sefid**	**4.06**	**133**	Pn	**Pn**	**02 51 18.4**	**+1.7**
IMRD	**Marand**	**4.20**	**359**	Pn	**Pn**	**02 51 19.7**	**+1.0**
IQOM	**Qom**	**4.34**	**84**	Pn	**Pn**	**02 51 20.4**	**+1.4**
LHJ2	**Lahijan - Gila**	**4.35**	**51**	Pn	**Pn**	**02 51 22.1**	**+1.5**
ORD	**Ordubad**	**4.42**	**2**	P	**Pn**	**02 51 20.5**	**-1.1**
	SNR=27						
ORD				S	**Sn**	**02 52 11.6**	**-1.0**
AKDM	**Akdamar-Van**	**4.45**	**330**	*e*P	**Pn**	**02 51 23.1**	**+1.0**
VANB	**Van**	**4.53**	**335**	*e*P	**Pn**	**02 51 23.3**	**+0.2**
GAS1	**Astara - Iran**	**4.57**	**31**	Pn	**Pn**	**02 51 25.3**	**+1.6**
LRK	**Lerik**	**4.60**	**25**	P	**Pn**	**02 51 23.2**	**-1.0**
	SNR=38						
LRK				S	**Sn**	**02 52 16.8**	**-0.4**
GRMI	**Germi**	**4.61**	**21**	Pn	**Pn**	**02 51 26.0**	**+1.7**
IPIR	**Pirpir**	**4.61**	**112**	Pn	**Pn**	**02 51 25.8**	**+1.4**
JHBN	**Jahan bin**	**4.64**	**118**	Pn	**Pn**	**02 51 26.4**	**+1.5**
NAX	**Nakhchivan**	**4.67**	**357**	P	**Pn**	**02 51 23.9**	**-1.2**
	SNR=5.7						
NAX				S	**Sn**	**02 52 17.8**	**-1.0**
NAX	**Nakhchivan**	**4.67**	**357**	P	**Pn**	**02 51 23.8**	**-1.2**
QAMS	**Qamsar**	**4.69**	**98**	Pn	**Pn**	**02 51 27.8**	**+2.3**
ASTR	**Astara**	**4.70**	**30**	P	**Pn**	**02 51 24.6**	**-0.7**
	SNR=22						
ASTR				S	**Sn**	**02 52 19.4**	**-0.1**
KLST	**Kelardasht - M**	**4.72**	**63**	Pn	**Pn**	**02 51 27.8**	**+1.9**
YRD	**Yardimli**	**4.81**	**23**	P	**Pn**	**02 51 26.2**	**-0.9**
	SNR=5.4						
YRD				S	**Sn**	**02 52 21.8**	**-0.7**
LKRN	**Lenkeran, Azer**	**4.82**	**29**	P	**Pn**	**02 51 26.3**	**-0.7**
	SNR=11						
LKRN				S	**Sn**	**02 52 22.2**	**-0.3**
LKRN	**Lenkeran, Azer**	**4.82**	**29**	P	**Pn**	**02 51 26.3**	**-0.7**
ZNGN	**Zangian**	**4.84**	**118**	Pn	**Pn**	**02 51 28.8**	**+1.2**
CLDR	**Caldiran**	**4.87**	**342**	*e*P	**Pn**	**02 51 29.2**	**+1.2**
SBZ	**Shahbuz**	**4.89**	**358**	P	**Pn**	**02 51 26.9**	**-1.1**
	SNR=6.6						
SBZ				S	**Sn**	**02 52 23.3**	**-1.0**
MAKU	**Maku**	**4.92**	**350**	Pn	**Pn**	**02 51 30.0**	**+1.3**
IKLH	**Kolahrood**	**4.93**	**102**	Pn	**Pn**	**02 51 30.4**	**+1.6**
GURO	**Guroymak-BITLI**	**5.06**	**324**	*e*P	**Pn**	**02 51 30.9**	**+0.4**
GURO	**Guroymak-BITLI**	**5.06**	**324**		**Pn**	**02 51 30.4**	**-0.1**
GURO	**Guroymak-BITLI**	**5.06**	**324**	Pn	**Pn**	**02 51 30.4**	**-0.1**
MZPU	**Pul - Mazandar**	**5.07**	**66**	Pn	**Pn**	**02 51 32.4**	**+1.7**
QRD	**Qoradiz**	**5.09**	**13**	P	**Pn**	**02 51 29.8**	**-0.9**
	SNR=14						
QRD				S	**Sn**	**02 52 28.5**	**-0.6**
GLBA	**Clilabad**	**5.16**	**23**	P	**Pn**	**02 51 30.8**	**-0.8**
	SNR=29						
GLBA				S	**Sn**	**02 52 30.4**	**-0.4**
IDMV	**Damavand**	**5.21**	**76**	Pn	**Pn**	**02 51 33.9**	**+1.2**
SVAN	**Silvan-Diyarba**	**5.21**	**316**	*e*P	**Pn**	**02 51 32.0**	**-0.5**
IBRJ	**Brojen**	**5.24**	**118**	Pn	**Pn**	**02 51 34.5**	**+1.4**
KRSH	**Karshahi**	**5.26**	**94**	Pn	**Pn**	**02 51 35.2**	**+2.0**
HYR	**Heyderabad**	**5.26**	**352**	P	**Pn**	**02 51 32.0**	**-1.1**
HYR				S	**Sn**	**02 52 32.4**	**-1.0**
MAZI	**Mazidag**	**5.26**	**306**	*e*P	**Pn**	**02 51 32.3**	**-0.9**
ISFB	**Sefidab**	**5.31**	**96**	Pn	**Pn**	**02 51 35.0**	**+1.1**
MLAZ	**Malazgirt-MUS**	**5.32**	**331**	*e*P	**Pn**	**02 51 35.5**	**+1.5**
BLQ	**Beylaqan**	**5.39**	**14**	P	**Pn**	**02 51 34.0**	**-0.8**
	SNR=4.2						
BLQ				S	**Sn**	**02 52 35.8**	**-0.6**
AGRB	**Hanur-Agry**	**5.54**	**337**	*e*P	**Pn**	**02 51 38.9**	**+1.8**
IGAR	**Gharneh**	**5.61**	**110**	Pn	**Pn**	**02 51 39.9**	**+1.8**
IZEF	**Zefreh**	**5.66**	**105**	Pn	**Pn**	**02 51 40.3**	**+1.5**
AGDM	**Agdam**	**5.69**	**10**	P	**Pn**	**02 51 38.0**	**-0.9**
	SNR=10						
AGDM				S	**Sn**	**02 52 43.2**	**-0.7**
GNI	**Garni**	**5.70**	**352**	*e*P	**Pn**	**02 51 41.9**	**+2.6**
GNI	**Garni**	**5.70**	**352**		**Pn**	**02 51 39.5**	**+0.2**
GNI	**Garni**	**5.70**	**352**	*e*P	**Pn**	**02 51 39.2**	**-0.1**
GNI	**Garni**	**5.70**	**352**	Pn	**Pn**	**02 51 42.3**	**+3.1**
	comp=E,0.7nm,0.3s,baz=22,slow=21,SNR=3.7						
GNI				Lg	Lg	02 53 11.0	
	comp=E,0.6nm,0.3s,baz=210,slow=21,SNR=1.1						
SAAT	**Saatly**	**5.73**	**20**	P	**Pn**	**02 51 39.4**	**-0.2**
	SNR=4.0						
SAAT				S	**Sn**	**02 52 45.7**	**+0.7**
DYBB	**Diyarbakir**	**5.74**	**308**	*e*P	**Pn**	**02 51 39.3**	**-0.4**
IFIR	**Firoozkooh**	**5.80**	**77**	Pn	**Pn**	**02 51 42.2**	**+1.5**
VRTB	**Varto-Mus**	**5.81**	**324**	*e*P	**Pn**	**02 51 41.9**	**+1.0**
BRDA	**Brd**	**5.85**	**10**	P	**Pn**	**02 51 40.2**	**-0.9**
BRDA				S	**Sn**	**02 52 47.2**	**-0.5**
ILAS	**Lasjerd**	**5.93**	**80**	Pn	**Pn**	**02 51 43.8**	**+1.3**
IALA	**Alasht**	**5.93**	**73**	Pn	**Pn**	**02 51 44.8**	**+2.2**
ZRD	**Zardab**	**5.95**	**14**	P	**Pn**	**02 51 41.7**	**-0.8**
ZRD				S	**Sn**	**02 52 49.7**	**-0.6**
KLNJ	**Kolanjah**	**5.98**	**124**	Pn	**Pn**	**02 51 44.2**	**+0.8**
ALIB	**Äli-Bayra**	**6.00**	**24**	P	**Pn**	**02 51 42.5**	**-0.8**
ALIB				S	**Sn**	**02 52 51.4**	**-0.2**
BNGB	**Bingl**	**6.09**	**319**	*e*P	**Pn**	**02 51 45.1**	**+0.5**
IRAM	**Ramesheh**	**6.12**	**114**	Pn	**Pn**	**02 51 46.7**	**+1.5**
KARO	**Karliova-Bingo**	**6.13**	**323**	*e*P	**Pn**	**02 51 46.2**	**+1.0**
GANJ	**Ganja**	**6.14**	**4**	P	**Pn**	**02 51 44.3**	**-0.9**
	SNR=4.9						
GANJ				S	**Sn**	**02 52 54.5**	**-0.6**
GANJ	**Ganja**	**6.14**	**4**	P	**Pn**	**02 51 44.3**	**-0.9**
KDMR	**Kurdemir**	**6.15**	**17**	P	**Pn**	**02 51 44.5**	**-0.8**
KDMR				S	**Sn**	**02 52 55.0**	**-0.3**
GDB	**GEDABAY**	**6.20**	**360**	P	**Pn**	**02 51 45.1**	**-1.1**
	SNR=4.5						
GDB				S	**Sn**	**02 52 55.8**	**-1.0**
KOPR	**Koprukoy-ERZUR**	**6.32**	**331**	*e*P	**Pn**	**02 51 49.4**	**+1.6**
MNGR	**Mingechevir, A**	**6.33**	**9**	P	**Pn**	**02 51 46.9**	**-0.9**
MNGR				S	**Sn**	**02 52 59.1**	**-0.7**
MNGR	**Mingechevir, A**	**6.33**	**9**	P	**Pn**	**02 51 46.9**	**-0.9**
URFA	**Urfa**	**6.39**	**299**	*e*P	Pn	02 51 46.9	-1.7
YEDI	**Yedisu-Bingol**	**6.48**	**321**	*e*P	**Pn**	**02 51 50.7**	**+0.6**
KARS	**Kars**	**6.49**	**341**		**Pn**	**02 51 49.9**	**-0.2**
KARS	**Kars**	**6.49**	**341**	P	**Pn**	**02 51 49.9**	**-0.2**
GBS	**Qobustan**	**6.51**	**21**	P	**Pn**	**02 51 49.4**	**-0.9**
GBS				S	**Sn**	**02 53 03.7**	**-0.4**
IML	**Ismayilli**	**6.55**	**16**	P	**Pn**	**02 51 49.9**	**-0.9**
IML				S	**Sn**	**02 53 04.6**	**-0.6**
QZX	**Qazax, Azerbai**	**6.55**	**357**	P	**Pn**	**02 51 49.7**	**-1.1**
QZX				S	**Sn**	**02 53 04.1**	**-1.0**
QBL	**Gabala**	**6.62**	**13**	P	**Pn**	**02 51 50.9**	**-0.9**
QBL				S	**Sn**	**02 53 06.4**	**-0.6**
SENK	**Senkaya-Erzuru**	**6.64**	**337**	*e*P	**Pn**	**02 51 53.8**	**+1.5**
PQL	**Pirkuli**	**6.64**	**19**	P	**Pn**	**02 51 51.3**	**-1.0**
PQL				S	**Sn**	**02 53 07.0**	**-0.6**
GOBA	**Gobu**	**6.66**	**27**	P	**Pn**	**02 51 51.5**	**-0.8**
GOBA				S	**Sn**	**02 53 07.5**	**-0.2**
ANAR	**Anarak**	**6.71**	**99**	Pn	**Pn**	**02 51 54.0**	**+0.9**
PTK	**Pertek**	**6.77**	**312**	*e*P	**Pn**	**02 51 53.6**	**-0.4**
SEKA	**Sheki**	**6.78**	**9**	P	**Pn**	**02 51 53.2**	**-0.8**
SEKA				S	**Sn**	**02 53 10.5**	**-0.3**
SEKA	**Sheki**	**6.78**	**9**	P	**Pn**	**02 51 53.2**	**-0.8**
ATGJ	**Altiaghaj**	**6.81**	**20**	P	**Pn**	**02 51 53.5**	**-0.9**
ATGJ				S	**Sn**	**02 53 11.1**	**-0.5**
GALA	**Gala**	**6.83**	**29**	P	**Pn**	**02 51 53.9**	**-0.7**
GALA				S	**Sn**	**02 53 11.8**	**-0.1**
XNQ	**Khinaliq**	**6.90**	**15**	P	**Pn**	**02 51 54.9**	**-1.0**
XNQ				S	**Sn**	**02 53 13.4**	**-0.6**
NDR	**Nardaran**	**6.91**	**27**	P	**Pn**	**02 51 54.9**	**-0.7**
NDR				S	**Sn**	**02 53 13.6**	**-0.2**
SIZA	**Siyzn**	**7.00**	**19**	P	**Pn**	**02 51 56.1**	**-0.9**
SIZA				S	**Sn**	**02 53 15.7**	**-0.5**
ISAD	**Sadrabad**	**7.08**	**109**	Pn	**Pn**	**02 51 58.8**	**+0.5**
AKT	**Akhty**	**7.12**	**12**	*e*P	**Pn**	**02 52 00.3**	**+1.5**
ZKTA	**Zakatala**	**7.15**	**5**	P	**Pn**	**02 51 58.1**	**-0.9**
ZKTA				S	**Sn**	**02 53 19.2**	**-0.6**
QUBA	**Quba, Azerbaij**	**7.16**	**16**	P	**Pn**	**02 51 58.3**	**-0.9**
QUBA				S	**Sn**	**02 53 19.6**	**-0.5**
QSAR	**Qusar**	**7.26**	**15**	P	**Pn**	**02 51 59.6**	**-1.0**
QSAR				S	**Sn**	**02 53 22.1**	**-0.4**
AHBU	**AHRAM**	**7.31**	**139**	Pn	**Pn**	**02 52 02.8**	**+1.6**
GAZ	**Gaziantep**	**7.48**	**293**	Pn	**Pn**	**02 52 02.9**	**-0.8**
ARPR	**Arapgir-MALATY**	**7.55**	**309**	*e*P	**Pn**	**02 52 03.8**	**-0.9**
ARPR	**Arapgir-MALATY**	**7.55**	**309**	Pn	**Pn**	**02 52 05.8**	**+1.2**
ILIC	**ilic-Erzincan**	**7.62**	**312**	*e*P	**Pn**	**02 52 05.2**	**-0.4**
DSBU	**Dashti - Bushe**	**7.69**	**141**	Pn	**Pn**	**02 52 07.1**	**+0.6**
ASF	**Jabal al Asfar**	**7.82**	**255**	P	**Pn**	**02 52 07.8**	**-0.6**
ASF	**Jabal al Asfar**	**7.82**	**255**	Pn	**Pn**	**02 52 07.4**	**-0.9**
	comp=E,5.3nm,0.3s,baz=59,slow=3.7,SNR=58						
ASF				Sn	**Sn**	**02 53 33.0**	**-3.6**
	comp=E,1.6nm,0.3s,baz=273,slow=8.4,SNR=0.8						
ASF				Lg	Lg	02 54 13.4	
	comp=E,2.3nm,0.3s,baz=79,slow=22,SNR=1.1						
	comp=E,12nm,0.3s						
IMEH	**Mehriz**	**8.02**	**110**	Pn	**Pn**	**02 52 11.7**	**+0.5**
ONI	**Oni**	**8.28**	**348**	Pn	**Pn**	**02 52 14.3**	**-0.3**
ONI	**Oni**	**8.28**	**348**	P	**Pn**	**02 52 14.3**	**-0.3**
ZEI	**Tsey**	**8.40**	**350**	*e*P	**Pn**	**02 52 20.9**	**+4.5**
ZEI				pmax	pmax		
	comp=Z,12nm,1.2s						
HSUJ	**Al Zarqa**	**8.41**	**256**	P	**Pn**	**02 52 15.6**	**-0.8**
NATI	**Neve Ativ**	**8.48**	**264**	Pn	**Pn**	**02 52 17.6**	**+0.4**
NATI	**Neve Ativ**	**8.48**	**264**	P	**Pn**	**02 52 17.3**	**+0.1**
MAK	**Makhachkala**	**8.54**	**8**	*e*P	Pn	02 52 15.2	-2.9
MAK				*e*S	**Sn**	**02 53 49.6**	**-4.5**
MAK				pmax	pmax		
	comp=Z,107nm,1.1s						
MAK				MLR	MLR		
	comp=Z,222nm,16.0s						
GEM	**Giv'at Ha'Em**	**8.55**	**264**	P	**Pn**	**02 52 16.5**	**-1.7**
SHMJ	**Saham**	**8.57**	**261**	P	Pn	02 52 15.4	-3.2
MMAI	**Mount Meron Ar**	**8.80**	**263**	Pn	**Pn**	**02 52 21.4**	**-0.4**
	comp=Z,3.5nm,0.3s,baz=87,slow=17,SNR=23						
MMAI				Lg	Lg	02 54 44.2	
	comp=Z,3.5nm,0.3s,baz=85,slow=40,SNR=2.7						
MMAI				LR	LR	02 56 37.4	
	comp=Z,635nm,18.4s,baz=21,slow=44						
	comp=Z,2.1nm,0.3s						
MMC7	**Mount Meron ar**	**8.81**	**263**	Pn	**Pn**	**02 52 23.1**	**+1.2**
SWQJ	**Swaqa**	**8.83**	**251**	P	**Pn**	**02 52 21.9**	**-0.3**
QRNJ	**KsQirein**	**8.83**	**259**	P	Pn	02 52 20.5	-1.6
M

SNR=17
NAZ Nazwa, Dubai 12.76 135 P Pn 02 53 16.3 +0.3
SNR=17
NAZ S Sn 02 55 29.0 -8.6
MASF Masafi 12.77 133 P Pn 02 53 15.6 -0.6
SNR=20
MASF S Sn 02 55 29.5 -8.4
SNR=10
MSFE Esma-Masafi 12.78 133 *i* Pn **Pn 02 53 15.1 -1.1**
SNR=20
ASUD Al Ashush, Dub 12.85 137 Pn Pn 02 53 15.9 -1.3
ASUD Al Ashush, Dub 12.85 137 P Pn 02 53 16.8 -0.4
SNR=8.0
ASUD S Sn 02 55 30.5 -9.4
FAQ Al Faqa, Dubai 12.91 136 Pn Pn 02 53 17.2 -0.8
FAQ Al Faqa, Dubai 12.91 136 P Pn 02 53 18.6 +0.6
FAQ S Sn 02 55 31.2 -10
SNR=8.0
UOSS Minazif 13.11 134 Pn Pn 02 53 19.1 -1.7
UOSS Minazif 13.11 134 *i* Pn **Pn 02 53 19.1 -1.7**
SNR=12
UOSS Minazif 13.11 134 P Pn 02 53 19.9 -0.8
UOSS S Sn 02 55 34.9 -11
ELL Elmali 13.14 284 Pn 02 53 21.8 +0.6
ELL Elmali 13.14 284 P Pn 02 53 21.8 +0.6
HATD Hatta, Dubai 13.16 134 *i* Pn **Pn 02 53 19.9 -1.5**
SNR=12
HATD Hatta, Dubai 13.16 134 P Pn 02 53 21.0 -0.5
SNR=12
HATD S Sn 02 55 38.5 -8.9
SNR=7.8
ASHO Ashiyiah 13.22 135 *i* Pn **Pn 02 53 20.5 -1.8**
SNR=20
ASHO Ashiyiah 13.22 135 P Pn 02 53 21.1 -1.2
SNR=35
ASHO S Sn 02 55 40.6 -8.4
SNR=18
MZR Muzera 13.28 148 P Pn 02 53 21.6 -1.5
MZR S Sn 02 55 42.6 -7.7
SNR=20
JASK Jask - Hormozg 13.51 126 P Pn 02 53 24.4 -1.8
JASK S **Sn 02 55 48.6 -7.2**
ALNE Al Ain 13.54 138 Pn Pn 02 53 25.4 -1.1
ALNE Al Ain 13.54 138 P Pn 02 53 26.0 -0.6
ALNE S Sn 02 55 45.9 -11
SOHO SOHO 13.92 135 Pn Pn 02 53 30.2 -1.6
SOHO SOHO 13.92 135 P Pn 02 53 30.8 -1.0
SOHO S Sn 02 55 55.7 -10
ARQ Araqi 14.54 137 P Pn 02 53 39.0 -1.2
ARQ S Sn 02 56 10.4 -11
HOQ Hoqain 14.80 134 P Pn 02 53 41.9 -2.0
HOQ S Sn 02 56 16.9 -11
BIDO Bidbid 15.34 132 P Pn 02 53 49.3 -1.6
BIDO S Sn 02 56 30.1 -10
BSY Bisya 15.38 137 P Pn 02 53 50.6 -1.0
BSY S Sn 02 56 30.4 -11
SMDO Samad 15.64 134 P Pn 02 53 53.5 -1.5
SMDO S Sn 02 56 38.0 -10
SNR=8.9
WSAR Wadi Sarin 15.86 132 P Pn 02 53 57.3 -0.4
SNR=8.2
WSAR S Sn 02 56 40.2 -13
WSAR Wadi Sarin 15.86 132 Pn Pn 02 53 55.9 -1.9
comp=Z,3.9nm,0.3s,baz=305,slow=12,SNR=21
WSAR Sn Sn 02 56 40.7 -12
comp=Z,0.3nm,0.3s,baz=143,slow=22,SNR=7.5
WSAR LR LR 03 00 51.0
comp=Z,143nm,20.2s,baz=342,slow=40
NGCH Negor - Chabah 16.09 120 P Pn 02 53 58.2 -2.5
JMDO Jabal Madar 16.20 135 P Pn 02 53 59.5 -2.6
JMDO S Sn 02 56 51.5 -10
WBK Wadi Bani Khal 16.53 132 P Pn 02 54 05.3 -1.1
SNR=6.7
WBK S Sn 02 56 58.1 -11
TLCR 16.83 314 ⇑P Pn 02 54 10.3 +0.4
TLCR 16.83 314 P Pn 02 54 10.3 +0.4
TPGR Topolog 16.89 313 ⇑P Pn 02 54 11.0 +0.2
HARR Harsova 17.10 312 ⇑P Pn 02 54 12.9 -0.4
HARR Harsova 17.10 312 P Pn 02 54 12.9 -0.4
JLN Jalan Bani Buh 17.14 132 P Pn 02 54 12.7 -1.3
MHTO MHTO 17.21 138 P Pn 02 54 14.6 -0.3
CFR Carcaliu 17.23 313 ⇑P Pn 02 54 15.0 +0.1
CFR Carcaliu 17.23 313 P Pn 02 54 15.0 +0.1
RAZG Razgrad 17.49 307 ⇑P Pn 02 54 17.2 -1.0
BELG Belogornoye 17.93 4 P Pn 02 54 21.0 -2.6
comp=Z,1.0nm,0.3s,baz=163,slow=4.4,SNR=9.0
BELG S **Sn 02 57 41.4 -1.5**
comp=Z,4.0nm,0.9s,baz=197,slow=20,SNR=1.2
comp=Z,24nm,0.9s
WHFO Wadi Hawf 17.98 155 P Pn 02 54 21.1 -3.4
SNR=16
ABKAR Akbulak array 18.06 31 P Pn 02 54 25.3 0.0
ABKAR Akbulak array 18.06 31 P Pn 02 54 25.8 +0.5
ABKAR IAmb IAmb 02 54 32.1
comp=Z,11nm,1.4s
AKTO Aktyubinsk 18.24 26 P Pn 02 54 26.9 -0.6
comp=Z,0.3nm,0.3s,baz=222,slow=9.1,SNR=21
comp=Z,7.8nm,0.9s
ABTO Aybut 18.34 157 P Pn 02 54 25.0 -4.0
SNR=15
VRI Vrincioaia 18.43 314 ⇑P P 02 54 29.1 -0.7
VRI Vrincioaia 18.43 314 P P 02 54 29.0 -0.7
PLOR Plostina 18.47 314 ⇑P P 02 54 30.0 -0.3
PLOR Plostina 18.47 314 P P 02 54 29.9 -0.3
NEHR Nehoiu 18.47 312 ⇑P P 02 54 30.0 -0.2
RBK Rabkut 18.52 154 P P 02 54 27.9 -3.0
SHAO Shalim 18.60 149 P P 02 54 30.0 -1.8
SNR=11
DMTO DMTO 18.60 152 P P 02 54 28.5 -3.3
SNR=19
MLR Muntele Rosu 18.72 312 ⇑P P 02 54 33.2 +0.1
MLR Muntele Rosu 18.72 312 P P 02 54 33.1 +0.1
MLR Muntele Rosu 18.72 312 P P 02 54 32.1 -0.9
comp=Z,0.2nm,0.3s,baz=133,slow=12,SNR=3.0
comp=Z,0.9nm,0.3s
TESR Tescani 18.82 315 ⇑P P 02 54 33.6 -0.4
SORM Soroca 18.85 322 ⇑P P 02 54 35.1 +0.8
SORM Soroca 18.85 322 P P 02 54 35.1 +0.8
TURR Turia 18.95 313 ⇑P P 02 54 36.2 +0.6
OZUR 19.11 313 ⇑P P 02 54 37.6 +0.4
KBL Kabul 19.13 83 P 02 54 37.1 -0.7
KBL Kabul 19.13 83 P P 02 54 40.2 +2.4
SNR=6.1
KBL Kabul 19.13 83 P P 02 54 37.1 -0.7
KBL pmax pmax
comp=Z,8.0nm,0.8s
BOSR Bodos 19.18 313 ⇓P P 02 54 38.9 +0.9
VOIR 19.25 311 ⇑P P 02 54 39.0 +0.2
VOIR 19.25 311 P P 02 54 39.0 +0.2
DOPR Dopca 19.29 313 ⇑P P 02 54 39.8 +0.6
ARR Arges 19.48 310 ⇑P P 02 54 41.3 0.0
LOT Lotru 20.06 310 ⇑P P 02 54 48.0 +0.3
BLKB Belogradchik 20.09 304 ⇑P P 02 54 48.3 +0.3
AKASG Malin Array Be 20.20 328 P 02 54 47.7 -1.3
AKASG Malin Array Be 20.20 328 P P 02 54 47.8 -1.3
comp=Z,1.8nm,0.4s,baz=135,slow=9.6,SNR=16
comp=Z,1.8nm,0.4s
AKBB Malin Array Si 20.20 328 P P 02 54 48.3 -0.7
AKBB IAmb IAmb 02 54 52.4
comp=Z,15nm,0.9s
AKBB Malin Array Si 20.20 328⇓ *e*P **P 02 54 48.0 -1.0**
KIEV Kiev 20.20 328 P P 02 54 48.3 -0.8
KIEV Kiev 20.20 328 P P 02 54 48.3 -0.8
KIEV pmax pmax
comp=Z,12nm,0.9s
BURAR Bucovina Array 20.24 317 ⇑P P 02 54 49.1 -0.5
BURAR Bucovina Array 20.24 317 P P 02 54 49.3 -0.3
BURAR IAmb IAmb 02 54 55.5
comp=Z,12nm,0.8s
BURAR Bucovina Array 20.24 317 P P 02 54 49.1 -0.5
BUR08 Bucovina Ar. S 20.27 317 P 02 54 49.6 -0.3
FNA Florina 20.31 295 P P 02 54 50.2 -0.2
FNA Florina 20.31 295 P P 02 54 50.2 -0.2
FNA pmax pmax
comp=Z,12nm,1.4s
DJES Djerdap 20.56 307 ⇑P P 02 54 52.6 -0.4
DJES Djerdap 20.56 307 P 02 54 52.9 -0.1
BTK Batken 20.62 67 P P 02 54 54.2 +0.4
BTK Batken 20.62 67 P P 02 54 54.2 +0.4
BTK pmax pmax
comp=Z,13nm,1.1s
GZR Gura Zlata 20.67 309 ⇓P P 02 54 55.4 +1.0
GZR Gura Zlata 20.67 309 P P 02 54 55.3 +1.0
HERR Herculane 20.71 307 ⇑P P 02 54 54.6 -0.1

CJR Cluj-Napoca 20.73 313 ⇓P P 02 54 55.4 +0.4
CJR Cluj-Napoca 20.73 313 P P 02 54 55.3 +0.4
BOVS Bovan 20.77 303 ⇓P P 02 54 54.3 -0.9
MARR Marisel-Cluj 21.01 312 ⇑P P 02 54 57.5 -0.5
KK31 Karatay Array 21.01 59 P P 02 54 59.2 +1.2
KK31 IAmb IAmb 02 55 08.5
comp=Z,32nm,1.5s
KK31 Karatay Array 21.01 59 P P 02 54 59.2 +1.2
KK31 pmax pmax
comp=Z,32nm,1.5s
KKAR Karatay Array 21.01 59 P P 02 54 58.8 +0.9
KKAR IAmb IAmb 02 55 08.5
comp=Z,32nm,1.5s
KKAR Karatay Array 21.01 59 P P 02 54 59.2 +1.3
KKAR Karatay Array 21.01 59 P P 02 54 58.8 +0.9
KKAR pmax pmax
comp=Z,32nm,1.5s
SURR Surduc 21.24 309 ⇑P P 02 55 00.5 +0.2
BMR Baia Mare 21.26 315 ⇑P P 02 55 01.7 +1.1
BMR Baia Mare 21.26 315 P P 02 55 01.7 +1.1
BZS Buzias 21.51 308 ⇑P P 02 55 03.8 +0.6
BZS Buzias 21.51 308 P P 02 55 03.8 +0.6
OBN Obninsk 21.59 345⇑ *e*P **P 02 55 03.4 -0.5**
OBN *e*PPP **pP 02 55 09.1 +0.1**
OBN *e*PPP PPP 02 55 30.9
OBN *e*S **S 02 58 56.7 -5.6**
OBN 02 59 04.0
OBN *i* 02 59 06.3
OBN SSS SSS 02 59 41.0
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,180nm,16.0s
OBN Obninsk 21.59 345 P P 02 55 02.7 -1.3
comp=Z,7.2nm,0.3s,baz=37,slow=18,SNR=3.1
comp=Z,7.2nm,0.3s
SIRR Siria 21.74 310 ⇑P P 02 55 05.8 0.0
MOS Moscow 21.97 348 *e*P **P 02 55 07.5 -0.6**
MOS *e*S **S 02 59 05.6 -4.2**
MOS pmax pmax
comp=Z,50nm,0.9s
DIVS Divibare 22.09 303 P P 02 55 09.0 -0.5
LVV L'vov 22.13 320 *e*P **P 02 55 12.0 +2.1**
KOLS Kolonicke sedl 22.61 317 *e*P **P 02 55 18.2 +3.2**
KOLS Kolonicke sedl 22.61 317 *e*P **P 02 55 18.2 +3.2**
KOLS pmax pmax
comp=Z,9.0nm,0.7s
NIL Nilore 22.71 84 P P 02 55 17.0 +0.7
NIL IAmb IAmb 02 55 20.3
comp=Z,31nm,1.2s
NIL Nilore 22.71 84 P P 02 55 17.0 +0.7
NIL pmax pmax
comp=Z,31nm,1.3s
KWP Kalwaria Pacla 22.73 319 P P 02 55 15.9 -0.4
KWP IAmb IAmb 02 55 29.2
comp=Z,15nm,0.8s
KWP Kalwaria Pacla 22.73 319 P P 02 55 15.9 -0.4
KWP pmax pmax
comp=Z,15nm,0.8s
CRVS Cervenica-Dubn 23.05 316 *e*P **P 02 55 21.9 +2.2**
CRVS Cervenica-Dubn 23.05 316 *e*P **P 02 55 21.9 +2.2**
PSZ Piszkesteto 23.53 313 P P 02 55 23.8 -0.7
PSZ IAmb IAmb 02 55 37.7
comp=Z,13nm,1.2s
PSZ Piszkesteto 23.53 313 P P 02 55 23.8 -0.7
PSZ pmax pmax
comp=Z,13nm,1.2s
ARU Arti 23.60 18 P P 02 55 25.9 +0.9
ARU IAmb IAmb 02 55 31.4
comp=Z,11nm,0.9s
ARU Arti 23.60 18 *c i*P **P 02 55 30.6 +5.6**
ARU 02 55 57.3
ARU SS **SnSn 03 00 27.3 +12**
ARU pmax pmax
comp=Z,14nm,0.9s
ARU Arti 23.60 18 P P 02 55 25.6 +0.6
comp=Z,1.3nm,0.3s,baz=152,slow=18,SNR=1.9
comp=Z,1.3nm,0.3s
MNK Minsk 23.61 333 *i* P **P 02 55 25.5 +0.5**
comp=E,13nm,1.3s
MNK *i* P **P 02 55 25.5 +0.5**
comp=N,8.0nm,0.9s
MNK *i* P **P 02 55 25.5 +0.5**
comp=Z,14nm,1.0s,baz=141
MNK *i* PP **PnPn 02 55 52.6 +0.4**
MNK *i* S **S 02 59 42.3 +3.7**
MNK *i* SS **SnSn 03 00 19.4 +3.6**
MNK *i* LQ LQ 03 02 44.9
MNK *i* LR LR 03 04 32.8
MNK *i* LRM MLR 03 05 58.1
comp=Z,438nm,21.7s
MNK *i* LRM MLR 03 05 59.4
comp=N,159nm,17.5s
MNK *i* LRM MLR 03 06 09.7
comp=E,92nm,15.2s
MNK Minsk 23.61 333 *i* P **P 02 55 25.5 +0.5**
MNK *i* 02 55 52.5
MNK *i* S **S 02 59 42.3 +3.7**
MNK *i* SS **SnSn 03 00 19.4 +3.6**
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=E,13nm,1.3s
MNK pmax pmax
comp=Z,14nm,1.0s
MNK MLR MLR
comp=Z,438nm,22.0s
MNK MLR MLR
comp=N,159nm,18.0s
MNK MLR MLR
comp=E,92nm,15.0s
MORH Mrgy, Hungar 23.66 308 ⇑P P 02 55 25.8 +0.1
AAK Ala-Archa 23.76 61 P P 02 55 28.1 +1.1
AAK Ala-Archa 23.76 61⇓ *e*P **P 02 55 29.1 +2.2**
AAK pmax pmax
comp=Z,4.0nm,0.8s
KIRV Kirov 24.21 5⇓ *e*P **P 02 55 29.8 -0.9**
KIRV Kirov 24.21 5 P P 02 55 29.2 -1.5
comp=Z,9.9nm,0.6s,baz=60,slow=1.3,SNR=4.9
comp=Z,9.9nm,0.6s
VYHS Vyhne 24.41 313 *e*P **P 02 55 33.3 +0.5**
VYHS Vyhne 24.41 313 *e*P **P 02 55 33.3 +0.5**
SRO Srobarova 24.46 311 *e*P **P 02 55 34.3 +1.2**
SRO Srobarova 24.46 311 *e*P **P 02 55 34.3 +1.2**
SRO pmax pmax
comp=Z,5.0nm,0.7s
SVE Sverdlovsk 24.50 20 *e*P **P 02 55 38.1 +4.7**
SVE pmax pmax
comp=Z,16nm,0.9s
KSH Kashi 24.53 69 P P 02 55 32.8 -1.2
KSH sP pP 02 55 38.3 -1.1
KSH pmax pmax
comp=Z,7.0nm,0.9s
KSH LR LR
comp=N,220nm,12.0s
KSH LR LR
comp=E,390nm,13.4s
KSH LR LR
comp=Z,460nm,15.6s
OJC Ojcow 24.65 317 P P 02 55 34.0 -0.8
OJC IAmb IAmb 02 55 39.8
comp=Z,12nm,0.6s
OJC Ojcow 24.65 317 P P 02 55 34.0 -0.8
OJC pmax pmax
comp=Z,12nm,0.6s
SUW Suwalki 25.17 328 P P 02 55 39.1 -0.4
SUW Suwalki 25.17 328 P P 02 55 39.1 -0.4
SUW pmax pmax
comp=Z,80nm,1.2s
JAVC Velka Javorina 25.27 313 *e*P **P 02 55 41.5 +1.0**
SMOL Smolenice 25.28 312 *e*P **P 02 55 41.2 +0.6**
SMOL pmax pmax
comp=Z,5.0nm,1.2s
MAUC Maruska 25.39 314 *e*P **P 02 55 42.4 +0.8**
BRVK Borovoye 25.40 36 P P 02 55 41.7 +0.1
BRVK IAmb IAmb 02 55 48.3
comp=Z,9.2nm,0.9s
BRVK Borovoye 25.40 36⇑ *e*P **P 02 55 44.6 +3.0**
BRVK pmax pmax
comp=Z,15nm,1.3s
BVAR Borovoye Array 25.43 36 P P 02 55 41.7 -0.3
comp=Z,2.8nm,0.5s,baz=246,slow=7.5,SNR=15
BVAR PcP **PcP 02 59 13.8 +0.2**
comp=Z,1.5nm,0.7s,baz=222,slow=1.9,SNR=2.4
comp=Z,2.8nm,0.5s

RONA Rosalia, Austr 25.68 310 *e*P **P 02 55 46.3 +2.0**
comp=Z,9.5nm,0.7s
MORC Moravsky Berou 25.73 315 ⇑P P 02 55 44.9 +0.1
MORC Moravsky Berou 25.73 315 P P 02 55 44.8 +0.1
MORC IAmb IAmb 02 55 49.2
comp=Z,6.8nm,0.8s
MORC Moravsky Berou 25.73 315 *e*P **P 02 55 44.1 -0.6**
MORC Moravsky Berou 25.73 315 P P 02 55 44.8 +0.1
ARSA Arzberg 26.03 308 P P 02 55 46.9 -0.5
comp=Z,4.1nm,0.8s
CONA Conrad Observa 26.04 310 *e*pP pP 02 55 52.8 -0.1
comp=Z,7.8nm,0.7s
VRAC Vranov 26.10 313 *e*P **P 02 55 48.7 +0.7**
VRAC Vranov 26.10 313 P P 02 55 47.4 -0.6
comp=Z,2.6nm,0.7s,baz=121,slow=11,SNR=3.8
comp=Z,2.6nm,0.7s
KRUC Moravsky 26.12 313 *e*P **P 02 55 48.4 +0.2**
SOKA Soboth 26.18 307 *e*P **P 02 55 51.2 +2.3**
comp=Z,0.5nm,0.4s
KLMR Klimovskoe 26.68 353 *e*P **P 02 55 53.8 +0.7**
KLMR AMP 02 56 00.7
comp=Z,25nm,1.6s
KLMR Klimovskoe 26.68 353 *e*P **P 02 55 53.8 +0.7**
KLMR pmax pmax
comp=Z,25nm,1.6s
DPC Dobruska-Polom 26.69 315 *e*P **P 02 55 53.4 0.0**
DPC Dobruska-Polom 26.69 315 *e*P **P 02 55 53.4 0.0**
OSTC Ostas 26.84 316 *e*P **P 02 55 54.8 +0.1**
OSTC Ostas 26.84 316 *e*P **P 02 55 54.8 +0.1**
CHVC Chvalec 26.94 316 *e*P **P 02 55 55.6 0.0**
CHVC Chvalec 26.94 316 *e*P **P 02 55 55.6 0.0**
BIOA Bad Ischl, Aus 27.38 309 P P 02 56 02.9 +3.3
comp=Z,2.7nm,0.4s
ZVC Zvikov 27.60 312 *e*P **P 02 56 01.8 +0.3**
GERES GERESS Array B 27.70 311 P P 02 56 01.6 -0.9
comp=Z,0.4nm,0.5s,baz=96,slow=8.3,SNR=1.7
comp=Z,0.4nm,0.5s
KHC Kasperske Hory 27.87 311 *e*P **P 02 56 07.6 +3.6**
KHC Kasperske Hory 27.87 311 *e*P **P 02 56 07.6 +3.6**
KURBB Kurchatov Arra 28.68 46 P P 02 56 11.9 +0.8
comp=Z,5.0nm,0.7s,baz=253,slow=9.1,SNR=16
KURBB PcP **PcP 02 59 21.7 +0.3**
comp=Z,0.3nm,0.3s,baz=260,slow=3.0,SNR=2.5
KURBB ScP **ScP 03 03 00.8 -1.1**
comp=Z,1.2nm,0.9s,baz=251,slow=4.0,SNR=6.3
comp=Z,5.0nm,0.7s
KURK Kurchatov 28.77 46 P P 02 56 12.8 +0.9
KURK IAmb IAmb 02 56 17.9
comp=Z,7.8nm,0.9s
KURK Kurchatov 28.77 46 P P 02 56 12.8 +0.9
KURK pmax pmax
comp=Z,8.0nm,1.0s
SQTA Sankt Quirin 28.85 307 *e*P **P 02 56 11.5 -1.3**
comp=Z,2.3nm,0.4s
MOTA Moosalm 28.95 307 *e*P P 02 56 12.1 -1.7
comp=Z,2.2nm,0.4s
FETA Feichten 29.12 306 *e*P **P 02 56 14.1 -1.3**
comp=Z,1.2nm,0.7s
RETA Reutte 29.21 307 *e*P **P 02 56 14.5 -1.4**
comp=Z,0.9nm,0.3s
BSD Bornholm Skovb 29.70 323 *e*P P 02 56 18.2 -1.8
BSD Bornholm Skovb 29.70 323 *e*P P 02 56 18.5 -1.6
DAVA Damuels 29.75 306 *e*P P 02 56 19.3 -1.6
comp=Z,3.5nm,0.4s
KEST Kesra 29.75 283 P P 02 56 22.0 +1.1
comp=Z,4.9nm,1.0s,baz=232,slow=8.2,SNR=2.2
comp=Z,4.9nm,1.0s
FINES FINESS Array B 29.77 341 P P 02 56 19.4 -1.3
FINES FINESS Array B 29.77 341 *i* P **P 02 56 19.7 -0.9**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 29.77 341 P P 02 56 19.0 -1.7
comp=Z,0.9nm,0.3s,baz=147,slow=9.7,SNR=12
comp=Z,0.9nm,0.3s
FIA1 FINESS Array S 29.77 341 P P 02 56 19.8 -0.8
BLEU Blekinge 29.91 326 *e*P **P 02 56 21.0 -0.9**
MK31 Makanchi Array 30.00 55 P P 02 56 23.9 +1.0
MK31 IAmb IAmb 02 56 24.9
comp=Z,10nm,1.4s
MK31 Makanchi Array 30.00 55 *ce*P **P 02 56 24.2 +1.3**
MKAR Makanchi Array 30.00 55 P P 02 56 23.8 +0.9
MKAR Makanchi Array 30.00 55 *ce*P **P 02 56 24.0 +1.1**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 30.00 55 P P 02 56 24.0 +1.1
comp=Z,3.6nm,0.7s,baz=251,slow=7.6,SNR=37
MKAR PcP **PcP 02 59 25.6 +0.8**
comp=Z,0.5nm,0.8s,baz=73,slow=2.0,SNR=2.7
comp=Z,3.6nm,0.7s
LUNU Lund 30.68 323 *e*P **P 02 56 28.4 -0.4**
RAF Rauma 30.71 337 *e*P P 02 56 27.0 -1.9
VIKU Vikbolandet 30.83 330 *e*P **P 02 56 28.7 -1.3**
DEL Delary 30.91 325 *e*P **P 02 56 29.7 -1.1**
DEL Delary 30.91 325 *i* P **P 02 56 30.0 -0.8**
SENIN Lac Senin/Sane 31.32 304 P P 02 56 33.6 -1.2
BNI Bardonecchia 31.59 301 P P 02 56 35.5 -1.6
BNI Bardonecchia 31.59 301 P P 02 56 35.5 -1.6
BNI pmax pmax
comp=Z,12nm,0.9s
BORU Boraas 32.04 326 *e*P **P 02 56 40.0 -0.7**
PYUN Piuthan 32.27 91 *e*P **P 02 56 44.0 +0.7**
ONAU Onsala 32.31 326 *e*P **P 02 56 42.4 -0.6**
DANN Dangsing 32.81 90 *e*P **P 02 56 49.3 +1.1**
comp=Z,29nm,0.8s
HFS Hagfors 33.05 331 P P 02 56 48.4 -1.1
comp=Z,7.0nm,0.4s,baz=121,slow=6.7,SNR=66
comp=Z,7.0nm,0.4s
ZAA0 Zalesovo Array 33.46 42 P P 02 56 51.2 -2.1
ZAA0 IAmb IAmb 02 57 03.2
comp=Z,3.3nm,0.8s
ZALV Zalesovo Beam 33.46 42 P P 02 56 52.9 -0.3
ZALV Zalesovo Beam 33.46 42 P P 02 56 53.2 0.0
comp=Z,0.9nm,0.3s,baz=265,slow=7.4,SNR=6.8
comp=Z,0.9nm,0.3s
WMQ Urumqi 33.47 61 *e*P **P 02 56 55.0 +1.5**
WMQ pP sP 02 57 00.5 -0.7
WMQ sP pP 02 57 05.5 +6.6
WMQ pmax pmax
comp=Z,17nm,0.7s
DGZ Jazzator, Alta 33.92 51 *de*P **P 02 56 58.7 +1.2**
DGZ pmax pmax
comp=Z,5.0nm,0.9s
PKIN Phulchoki 34.44 91 *e*P **P 02 57 02.9 +0.5**
comp=Z,23nm,0.7s
PKI Pulchoki 34.45 91 *e*P **P 02 57 02.7 +0.2**
comp=Z,12nm,0.5s
NB2 NORSAR Subarra 34.57 331 P P 02 57 01.0 -1.8
comp=Z,1.0nm,0.5s,baz=125,slow=9.3
NOA NORSAR Array B 34.57 331 P P 02 57 01.1 -1.7
comp=Z,1.1nm,0.7s,baz=338,slow=17,SNR=2.4
comp=Z,1.1nm,0.7s
GUN Gumba 34.72 90 *e*P **P 02 57 05.3 +0.5**
NBO00 NORSAR Array S 34.74 331 P P 02 57 02.9 -1.4
JIRN Jiri 35.07 90 *e*P **P 02 57 08.5 +0.6**
comp=Z,13nm,0.4s
RAMN Ramite 35.67 91 *e*P **P 02 57 13.2 +0.3**
comp=Z,39nm,0.8s
TAPN Taplejung 36.44 90 *e*P **P 02 57 20.4 +0.9**
comp=Z,26nm,0.6s
ARCES ARCESS Array B 36.84 348 P P 02 57 21.4 -0.8
comp=Z,6.9nm,1.0s,baz=328,slow=4.3,SNR=5.1
comp=Z,6.9nm,1.0s
TAM Tamanrasset 37.02 262 P P 02 57 24.9 +0.5
TAM IAmb IAmb 02 57 26.8
comp=Z,7.0nm,1.2s
TAM Tamanrasset 37.02 262 P P 02 57 24.9 +0.5
TAM pmax pmax
comp=Z,7.0nm,1.2s
EKA Eskdalemuir Ar 39.42 317 P P 02 57 42.6 -1.5
comp=Z,1.0nm,0.3s,baz=104,slow=8.7,SNR=24
comp=Z,1.0nm,0.3s
EKB Eskdalemuir 39.44 317 P P 02 57 42.8 -1.4
EKB IAmb IAmb 02 57 52.6
comp=Z,20nm,1.4s
ESK Eskdalemuir 39.44 317 P P 02 57 42.9 -1.3
ESK IAmb IAmb 02 58 15.9
comp=Z,21nm,1.3s
ESK Eskdalemuir 39.44 317 P P 02 57 42.9 -1.3
ESK pmax pmax
comp=Z,21nm,1.3s
ESDC Sonseca Array 39.64 292 P P 02 57 45.2 -1.0
comp=Z,2.1nm,0.9s,baz=70,slow=7.9,SNR=11
comp=Z,2.1nm,0.9s
PAB San Pablo 39.95 292 P P 02 57 48.4 -0.4
PAB IAmb IAmb 02 57 48.8
comp=Z,12nm,1.4s

PAB	**San Pablo**	**39.95**	**292**	P	**P**	**02 57 48.4**	**-0.4**
PAB				pmax	pmax			
	comp=Z,12nm,1.5s							
DSB	**Dublin**	**40.98**	**314**	P	**P**	**02 57 56.2**	**-0.8**
PVRL	**Vila Real**	**42.22**	**296**	*eP*	**P**	**02 58 10.6**	**+3.2**
	comp=Z,11nm,2.7s							
MTE	**Manteigas**	**42.23**	**294**	*eP*	**P**	**02 58 11.4**	**+3.8**
	comp=Z,12nm,1.6s							
PBAR	**Barrancos**	**42.26**	**291**	*eP*	**P**	**02 58 11.2**	**+3.5**
	comp=Z,12nm,1.5s							
PCBR	**Castelo Branco**	**42.28**	**293**	*eP*	**P**	**02 58 07.1**	**-0.7**
	comp=Z,13nm,1.7s							
PVIS	**Viseu**	**42.45**	**295**	*eP*	**P**	**02 58 13.8**	**+4.5**
GTA	**Gaotai**	**42.89**	**67**	*eP*	**P**	**02 58 14.3**	**+1.3**
GTA				pmax	pmax			
	comp=Z,7.0nm,1.0s							
PCAS	**Casmilo, Conde**	**43.02**	**294**	*eP*	**P**	**02 58 18.0**	**+4.2**
	comp=Z,18nm,1.7s							
TOA0	**Torodi Ar. Sit**	**45.18**	**253**		**P**	**02 58 30.4**	**-1.0**
TOA0				IAmb	IAmb	02 58 32.1		
	comp=Z,4.2nm,0.7s							
TOA0				PcP	**PcP**	**03 00 12.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**45.18**	**253**		**P**	**02 58 30.3**	**-1.1**
TORD				IAmb	IAmb	02 58 32.0		
	comp=Z,13nm,1.5s							
TORD				PcP	**PcP**	**03 00 11.7**	**0.0**
TORD	**Torodi Ar. Bea**	**45.18**	**253**	P	**P**	**02 58 30.9**	**-0.5**
	comp=Z,2.8nm,0.5s,baz=45,slow=5.4,SNR=39							
TORD				PcP	**PcP**	**03 00 11.9**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=68,slow=3.0,SNR=5.9							
	comp=Z,2.8nm,0.5s							
SPITS	**Spitsbergen Ar**	**45.57**	**352**	P	**P**	**02 58 33.2**	**-0.5**
SPITS				pmax	pmax			
	comp=Z,96nm,1.4s							
SPITS	**Spitsbergen Ar**	**45.57**	**352**	P	**P**	**02 58 33.1**	**-0.7**
	comp=Z,12nm,0.9s,baz=138,slow=11,SNR=5.5							
	comp=Z,12nm,0.9s							
SONM	**Songino Array**	**46.36**	**54**	P	**P**	**02 58 39.7**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=268,slow=9.0,SNR=2.6							
SONM				PcP	**PcP**	**03 00 15.4**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=278,slow=2.5,SNR=1.8							
	comp=Z,0.3nm,0.5s							
LZH	**Lanzhou**	**46.77**	**71**	*eP*	**P**	**02 58 45.4**	**+1.4**
LZH				pP	sP	02 58 51.8	0.0	
LZH				pmax	pmax			
	comp=Z,17nm,1.3s							
ULN	**Ulaanbaatar**	**46.80**	**54⇑**	*eP*	**P**	**02 58 44.7**	**+0.7**
ULN				pmax	pmax			
	comp=Z,4.0nm,1.0s							
PZH	**PanZhiHua**	**48.32**	**84**	P	**P**	**02 58 58.3**	**+2.2**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.4s							
PZH				pmax	pmax			
	comp=Z,280nm,5.5s							
DGAR	**Diego Garcia**	**48.71**	**144**	P	**P**	**02 58 57.3**	**-1.6**
DGAR	**Diego Garcia**	**48.71**	**144**	P	**P**	**02 58 57.3**	**-1.6**
DGAR				pmax	pmax			
	comp=Z,326nm,1.5s							
CMAR	**Chiang Mai Arr**	**49.62**	**95**	*iP*	**P**	**02 59 05.5**	**-0.5**
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**49.62**	**95**	P	**P**	**02 59 05.1**	**-0.9**
	comp=Z,1.4nm,0.3s,baz=294,slow=8.5,SNR=7.5							
	comp=Z,1.4nm,0.3s							
HHC	**Hu-ho-hao-te**	**51.33**	**62**	*eP*	**P**	**02 59 19.5**	**+0.7**
HHC				pmax	pmax			
	comp=Z,5.0nm,0.5s							
HHC				pmax	pmax			
	comp=Z,390nm,5.3s							
DBIC	**Dimbokro**	**54.20**	**251**	P	**P**	**02 59 39.7**	**-0.5**
DBIC				IAmb	IAmb	02 59 44.9		
	comp=Z,6.3nm,0.7s							
DBIC	**Dimbokro**	**54.20**	**251**	P	**P**	**02 59 39.7**	**-0.5**
DBIC				pmax	pmax			
	comp=Z,6.0nm,0.7s							
DBIC	**Dimbokro**	**54.20**	**251**	P	**P**	**02 59 39.5**	**-0.7**
	comp=Z,5.8nm,0.7s,baz=32,slow=8.0,SNR=11							
	comp=Z,5.8nm,0.7s							
KIC	**Kosan Boka**	**54.30**	**251⇑**	*iP*	**P**	**02 59 40.6**	**-0.3**
	comp=Z,17nm,0.6s							
TIC	**Toumodi**	**54.35**	**251⇑**	*iP*	**P**	**02 59 41.8**	**+0.5**
	comp=Z,28nm,1.3s							
LIC	**Lamto**	**54.61**	**251⇑**	*iP*	**P**	**02 59 42.7**	**-0.5**
	comp=Z,23nm,0.7s							
TIXI	**Tiksi**	**55.49**	**22**	*ceP*	**P**	**02 59 49.5**	**+0.8**
SUMG	**Summit**	**55.77**	**339**	P	**P**	**02 59 50.7**	**-0.5**
SUMG				IAmb	IAmb	03 00 13.8		
	comp=Z,12nm,1.4s							
SUMG	**Summit**	**55.77**	**339**	P	**P**	**02 59 50.7**	**-0.5**
SUMG				pmax	pmax			
	comp=Z,12nm,1.4s							
LBTB	**Lobatse**	**62.23**	**201**	P	**P**	**03 00 35.7**	**-0.5**
LBTB				IAmb	IAmb	03 01 03.0		
	comp=Z,7.2nm,1.2s							
LBTB	**Lobatse**	**62.23**	**201**	P	**P**	**03 00 35.7**	**-0.5**
LBTB				pmax	pmax			
	comp=Z,7.0nm,1.3s							
KLR	**Kul'dur**	**62.34**	**48**	P	P	03 00 34.6	-2.0	
	comp=Z,0.6nm,0.5s,baz=325,slow=12,SNR=2.2							
	comp=Z,0.6nm,0.5s							
MDJ	**Mudanjiang**	**62.70**	**53**	P	**P**	**03 00 38.8**	**-0.3**
MDJ				pmax	pmax			
	comp=Z,7.0nm,1.3s							
MDJ				pmax	pmax			
	comp=Z,220nm,5.9s							
KSRS	**Korea Array**	**64.42**	**61**	P	**P**	**03 00 48.8**	**-1.8**
	comp=Z,1.4nm,0.7s,baz=285,slow=7.2,SNR=1.9							
	comp=Z,1.4nm,0.7s							
USRK	**Ussuriysk Ar.**	**64.44**	**53**	P	**P**	**03 00 49.7**	**-0.9**
	comp=Z,2.7nm,0.7s,baz=316,slow=7.9,SNR=3.1							
	comp=Z,2.7nm,0.7s							
BOSA	**Boshof**	**65.72**	**200**	P	**P**	**03 00 59.4**	**+0.3**
BOSA	**Boshof**	**65.72**	**200**	P	**P**	**03 00 59.8**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=12,slow=7.2,SNR=8.0							
	comp=Z,2.8nm,0.8s							
ILAR	**Eielson Array**	**80.55**	**5**	P	**P**	**03 02 25.6**	**-0.6**
	comp=Z,0.7nm,1.0s,baz=313,slow=3.7,SNR=4.7							
	comp=Z,0.7nm,1.0s							
YKA	**Yellowknife Ar**	**82.06**	**351**	P	**P**	**03 02 32.9**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=13,slow=5.7,SNR=6.0							
	comp=Z,0.6nm,0.8s							
CHN	**Chinchina**	**112.37**	**293**	PKIKP	**PKiKP**	**03 08 57.9**	**+6.8**
CHN				pmax	pmax			
	comp=Z,274nm,1.8s							
QSPA	**South Pole Qui**	**124.34**	**180**	PKP	**PKPdf**	**03 09 13.8**	**+1.5**
	comp=Z,1.0nm,0.2s,baz=97,slow=3.3,SNR=1.8							

MOS ***21*** *03:00:16.9±1.1,29°.28N×142°.46E,h11km,mb5.6/73, MS5.5/49,Error ellipse: s-maj=7.8km s-min=3.5km az=115.6*

IDC ***21*** *03:00:16.5±0.4,29°.27N×142°.56E,h0km,mb5.0/30, mbtmp5.0/38,ML4.2/8,MS5.5/69,Error ellipse: s-maj=14.2km s-min=10.1km az=71.0*

NIED ***21*** *03:00:17.7,29°.31N×142°.72E,h53km,MW5.8,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁷Nm; Mrr3.46; Mθθ-0.23; Mφφ-3.23; Mrθ-2.14; Mθφ0.24; Mφr2.65; Fault plane solution: M₀4.75000×10¹⁷ NP1: φs333.00000°,δ68.00000°,λ75.00000°. NP2: φs190.00000°,δ26.00000°,λ123.00000°.*

NEIC ***21*** *03:00:17.4,29°.33N×142°.63E,h12km*

JMA ***21*** *03:00:17.7±0.2,29°.3N±0°.3×14°.3E±°,h53km,MD6.0/52, MW5.7/52,NEAR TORISHIMA IS*

BJI ***21*** *03:00:17.1,29°.40N×142°.36E,h9km,mb5.3/84,mB5.6/78, Ms5.7/94,Ms7 5.5/91*

NEIC ***21*** *03:00:17.4,29°.13N×142°.85E,h12km,Moment Tensor Solution. Duration: 3ʂ5 Moment tensor: Scale 10¹⁷Nm; Mrr3.32; Mθθ0.21; Mφφ-3.53; Mrθ1.76; Mθφ-0.06; Mφr3.71; Fault plane solution: M₀5.35000×10¹⁷ NP1:φs19.16000°, δ70.75000°,λ102.96000°. NP2:φs164.23000°,δ23.07000°, λ57.28000°. Principal axes: T 5.4357, Plg62.0000°, Azm309.0000°; N -0.1747, Plg12.0000°, Azm195.0000°; P -5.2610, Plg25.0000°, Azm99.0000°;*

NEIC ***21*** *03:00:18,29°.28N×142°.67E,h6km*

NEIC ***21*** *03:00:18.6±1.3,29°.29N±0°.05×142°.7E±0°.1,h10km±1km, mb5.4/482,Ms_20 5.5/637,Mwb5.6/71,Mww5.8/36,Error ellipse: s-maj=14.8km s-min=9.1km az=84.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr3.09; Mθθ-0.50; Mφφ-2.58; Mrθ0.70; Mθφ-0.65; Mφr1.26; Fault plane solution: M₀3.27000×10¹⁷ NP1: φs191.52000°,δ32.35000°,λ81.77000°. NP2:φs21.23000°, δ58.02000°,λ95.18000°. Principal axes: T 3.4315, Plg76.0000°, Azm307.0000°; N -0.3438, Plg4.0000°, Azm198.0000°; P -3.0876, Plg13.0000°, Azm107.0000°;*

GCMT ***21*** *03:00:20.5±0.1,29°.22N±0°.01×142°.65E,h12km, MW5.7/159,Moment Tensor Solution. s118,c213; s159,c451; Duration: 1ʂ7 Moment tensor: Scale 10¹⁷ Nm; Mrr3.76±.03; Mθθ0.07±.03; Mφφ-3.83±.03; Mrθ-0.22±.10; Mθφ-0.45±.03; Mφr0.85±.09; Best double couple: M₀3.92000×10¹⁷ NP1:φs2.00000°,δ51.00000°, λ84.00000°. NP2:φs191.00000°,δ39.00000°,λ97.00000°. Principal axes: T 3.8730, Plg82.0000°, Azm238.0000°; N 0.0940, Plg5.0000°, Azm6.0000°; P -3.9680, Plg6.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 21 03:00:18.8±0.4,29°.30N±0°.03×142°.60E±0°.03,h14km±2km, h14km:pP-P,n1697,σ1961/1281,mb5.4/385,MS5.5/439, 65C-30D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.22**	**189**	P	**Pn**	**03 00 53.7**	**-1.5**
CBIJ				S	**Sn**	**03 01 19.6**	**-2.8**
CBIJ	**Chichi jima**	**2.22**	**189**	A	A	03 00 53.7	
	comp=Z,114nm,4.9s,comp=E,425nm,9.2s,comp=N,325nm,6.4s						
JCJ	**Chichijima**	**2.22**	**189**	Pn	**Pn**	**03 00 54.0**	**-1.2**
JCJ	**Chichijima**	**2.22**	**189**	P	**Pb**	**03 00 57.7**	**-1.0**
JCJ	**Chichijima**	**2.22**	**189**	Pn	Pn	03 00 49.8	-5.4
	comp=N,73nm,0.3s,baz=3.7,slow=20,SNR=52						
JCJ				Sn	**Sn**	**03 01 14.0**	**-8.4**
	comp=N,532nm,0.3s,baz=293,slow=23,SNR=8.7						
JHH2	**Haha-jima-NKT2**	**2.68**	**188**	P	**Pn**	**03 00 59.9**	**-1.6**
JHH2				*eS*	**Sn**	**03 01 31.4**	**-2.3**
JHH2	**Haha-jima-NKT2**	**2.68**	**188**	A	A	03 00 59.9	
	comp=Z,96nm,6.4s,comp=E,348nm,5.8s,comp=N,219nm,6.6s						
JAOM	**Aogashimamukai**	**3.99**	**323**	A	A	03 01 18.7	
	comp=E,106nm,6.3s,comp=N,95nm,7.2s						
JHCJ	**Hachijojimakas**	**4.46**	**328**	*eP*	**Pn**	**03 01 25.0**	**-1.1**
JHCJ	**Hachijojimakas**	**4.46**	**328**	A	A	03 01 25.0	
	comp=E,44nm,6.3s,comp=N,52nm,7.8s						
JHJ2	**Mitsune**	**4.49**	**329**	Pn	**Pn**	**03 01 25.6**	**-0.7**
JHJ2	**Mitsune**	**4.49**	**329**	P	**Pn**	**03 01 25.4**	**-0.9**
JHJ2				S	**Sn**	**03 02 16.7**	**-1.7**
JHJ2	**Mitsune**	**4.49**	**329**	A	A	03 01 25.4	
	comp=Z,34nm,6.5s,comp=E,61nm,8.9s,comp=N,60nm,10.6s						
JHJ	**Hachijo jima 2**	**4.51**	**328**	Pn	**Pn**	**03 01 25.1**	**-1.5**
	comp=N,102nm,0.3s,baz=170,slow=6.1,SNR=34						
JHJ				Sn	**Sn**	**03 02 16.5**	**-2.4**
	comp=N,134nm,0.3s,baz=72,slow=20,SNR=5.2						
JHJ				LR	LR	03 03 05.2	
	comp=N,49μm,18.7s,baz=174,slow=38						
	comp=N,192nm,0.4s						
JMKN	**Mikurajimanish**	**5.25**	**332**	*eP*	**Pn**	**03 01 36.5**	**-0.4**
JMKN				*eS*	**Sn**	**03 02 33.5**	**-3.7**
JMKN	**Mikurajimanish**	**5.25**	**332**	A	A	03 01 36.5	
	comp=E,68nm,8.9s,comp=N,77nm,8.1s						
JMYK	**Miyake Tsubota**	**5.41**	**332**	*eP*	**Pn**	**03 01 38.5**	**-0.6**
JMYK				*eS*	**Sn**	**03 02 39.4**	**-1.8**
JMYK	**Miyake Tsubota**	**5.41**	**332**	A	A	03 01 38.5	
	comp=E,26nm,5.8s,comp=E,43nm,11.4s,comp=N,48nm,6.3s						
BSO1	**Boso 1**	**5.52**	**346**	P	**Pn**	**03 01 38.6**	**-1.4**
JKO	**Kozu shima**	**5.70**	**330**	A	A	03 01 42.5	
	comp=Z,22nm,9.2s,comp=E,42nm,13.1s,comp=N,35nm,13.1s						
BSO3	**Boso 3**	**5.77**	**343**	P	**Pn**	**03 01 42.5**	**-1.3**
JNIO	**Niijimaoohara**	**5.78**	**332**	A	A	03 01 43.6	
	comp=Z,21nm,7.1s,comp=E,43nm,9.6s,comp=N,41nm,5.3s						
JSKK	**Shikinejimakit**	**5.79**	**331**	A	A	03 01 43.7	
	comp=E,35nm,10.1s,comp=N,27nm,9.1s						
JTHY	**Toshimahigashi**	**5.92**	**333**	A	A	03 01 45.5	
	comp=E,49nm,5.7s,comp=N,47nm,6.3s						
BSO4	**Boso 4**	**5.99**	**342**	*eP*	**Pn**	**03 01 45.9**	**-1.1**
JIM2	**Oshima 3**	**6.04**	**334**	A	A	03 01 47.1	
	comp=Z,14nm,9.7s,comp=E,31nm,6.6s,comp=N,29nm,9.7s						
TATJ	**Tateyama 2**	**6.16**	**339**	A	A	03 01 48.8	
	comp=Z,35nm,7.7s,comp=E,54nm,11.4s,comp=N,51nm,9.3s						
JKUC	**kamogawauchiur**	**6.19**	**341**	A	A	03 01 49.0	
	comp=E,24nm,6.6s,comp=N,24nm,6.3s						
JIZS	**Izushimoda**	**6.26**	**331**	A	A	03 01 50.4	
	comp=Z,18nm,10.3s,comp=E,21nm,9.4s,comp=N,16nm,17.3s						
TTO3	**TONANKAI O.B.S**	**6.36**	**317**	A	A	03 01 51.9	
	comp=Z,37nm,12.8s,comp=E,84nm,9.6s,comp=N,82nm,8.3s						
TTO4	**TONANKAI O.B.S**	**6.38**	**319**	A	A	03 01 52.2	
	comp=Z,36nm,8.1s,comp=E,62nm,14.1s,comp=N,41nm,7.5s						
JYO	**Yokosk**	**6.41**	**338**	A	A	03 01 52.3	
	comp=Z,29nm,6.0s,comp=E,53nm,10.3s,comp=N,35nm,11.5s						
JHTM	**Izuhatsuma**	**6.41**	**333**	A	A	03 01 52.4	
	comp=E,30nm,12.2s,comp=N,22nm,7.5s						
JCN	**Nagara**	**6.43**	**342**	A	A	03 01 52.5	
	comp=Z,30nm,5.9s,comp=E,106nm,9.2s,comp=N,75nm,6.7s						
TTO5	**TONANKAI O.B.S**	**6.46**	**321**	A	A	03 01 53.2	
	comp=Z,26nm,8.6s,comp=E,58nm,6.1s,comp=N,47nm,7.4s						
TTO2	**TONANKAI O.B.S**	**6.49**	**314**	A	A	03 01 53.9	
	comp=Z,36nm,7.9s,comp=E,75nm,13.3s,comp=N,121nm,9.3s						
JSG	**Sagara**	**6.54**	**326**	P	**Pn**	**03 01 56.2**	**+1.6**
JSG	**Sagara**	**6.54**	**326**	A	A	03 01 54.4	
	comp=Z,18nm,7.2s,comp=E,31nm,8.5s,comp=N,39nm,12.7s						
TTO1	**TONANKAI O.B.S**	**6.58**	**312**	A	A	03 01 55.1	
	comp=Z,50nm,7.3s,comp=E,78nm,8.0s,comp=N,155nm,7.8s						
JSMT	**Sammumatsuo**	**6.58**	**345**	A	A	03 01 54.5	
	comp=E,81nm,9.1s,comp=N,104nm,7.8s						
JOD2	**Odawara 2**	**6.65**	**334**	P	**Pn**	**03 01 54.4**	**-1.7**
JOD2				*eS*	**Sn**	**03 03 09.8**	**-1.9**
JOD2	**Odawara 2**	**6.65**	**334**	A	A	03 01 54.4	
	comp=E,20nm,8.7s,comp=N,16nm,15.0s						
JKKS	**Kakegawashinom**	**6.70**	**325**	A	A	03 01 56.6	
	comp=E,28nm,7.2s,comp=N,37nm,8.9s						
JFNN	**Fujinakano**	**6.75**	**332**	A	A	03 01 57.1	
	comp=E,34nm,11.5s,comp=N,25nm,9.6s						
TOK	**Tokyo**	**6.81**	**340**	A	A	03 01 57.7	
	comp=Z,26nm,5.7s,comp=E,72nm,7.8s,comp=N,69nm,8.3s						
SHZ3	**Shizuoka 3**	**6.85**	**328**	A	A	03 01 58.6	
	comp=Z,9.0nm,18.9s,comp=E,20nm,10.4s,comp=N,14nm,25.4s						
JIHU	**Itakohorinouch**	**6.88**	**346**	A	A	03 01 58.5	
	comp=E,73nm,4.2s,comp=N,49nm,4.3s						
JSGW	**Sagamiharawaka**	**6.91**	**336**	A	A	03 01 59.2	
	comp=E,13nm,10.3s,comp=N,14nm,8.6s						
HMMJ	**Hamamatsu 2**	**6.92**	**325**	P	**Pn**	**03 01 59.9**	**+0.2**
HMMJ	**Hamamatsu 2**	**6.92**	**325**	A	A	03 01 59.9	
	comp=Z,12nm,13.4s,comp=E,11nm,14.2s,comp=N,14nm,14.5s						
JAA	**Atsumi**	**7.05**	**320**	A	A	03 02 01.6	
	comp=Z,8.0nm,8.4s,comp=E,12nm,8.9s,comp=N,10.0nm,9.3s						
JYN	**Shimob**	**7.07**	**332**	A	A	03 02 01.6	
	comp=Z,12nm,9.2s,comp=E,21nm,11.0s,comp=N,16nm,10.6s						
JSSY	**Shinshiroyabe**	**7.07**	**324**	A	A	03 02 01.7	
	comp=E,19nm,10.8s,comp=N,12nm,12.2s						
JHU	**Hanno**	**7.11**	**338**	P	**Pn**	**03 02 01.7**	**-0.7**
JHU				*eS*	**Sn**	**03 03 19.5**	**-3.5**
JHU	**Hanno**	**7.11**	**338**	A	A	03 02 01.7	
	comp=Z,10.0nm,9.2s,comp=E,11nm,8.8s,comp=N,10.0nm,9.0s						
JIE	**Ise**	**7.13**	**317**	A	A	03 02 02.8	
	comp=Z,12nm,17.6s,comp=E,7.0nm,11.9s,comp=N,7.0nm,11.7s						
JWKM	**Wakayamakushim**	**7.16**	**307**	A	A	03 02 03.4	
	comp=E,7.0nm,22.8s,comp=N,6.0nm,15.2s						
JMMH	**Miemihama**	**7.19**	**310**	A	A	03 02 03.7	
	comp=E,5.0nm,15.6s,comp=N,7.0nm,8.3s						
JYT	**Yasato**	**7.20**	**344**	P	**Pn**	**03 02 03.3**	**-0.4**
JYT				*eS*	**Sn**	**03 03 21.4**	**-3.8**
JYT	**Yasato**	**7.20**	**344**	A	A	03 02 03.3	
	comp=E,9.0nm,6.2s,comp=N,11nm,8.3s						
JHYU	**Hitachinakayam**	**7.23**	**347**	A	A	03 02 03.3	
	comp=E,14nm,7.8s,comp=N,11nm,4.2s						
JNY	**Yasuok**	**7.25**	**328**	A	A	03 02 04.2	
	comp=E,13nm,8.6s,comp=N,9.0nm,12.9s						
JKN2	**Miekihoku**	**7.30**	**314**	*eP*	**Pn**	**03 02 05.0**	**0.0**
JKN2	**Miekihoku**	**7.30**	**314**	A	A	03 02 05.0	
	comp=E,8.0nm,8.5s,comp=N,10.0nm,12.4s						
JRY	**Ryogami san**	**7.39**	**336**	P	**Pn**	**03 02 05.8**	**-0.5**
JRY				*eS*	**Sn**	**03 03 25.2**	**-4.7**
JRY	**Ryogami san**	**7.39**	**336**	A	A	03 02 05.8	
	comp=E,8.0nm,9.2s,comp=N,7.0nm,6.5s						
JTNC	**Tanabenakahech**	**7.47**	**309**	A	A	03 02 07.6	
	comp=E,7.0nm,11.1s,comp=N,4.0nm,14.6s						
JAO	**Obara**	**7.47**	**324**	A	A	03 02 07.4	
	comp=E,14nm,11.7s,comp=N,11nm,17.5s						
JHO	**Hitachi**	**7.49**	**347**	A	A	03 02 07.0	
	comp=E,8.0nm,13.1s,comp=N,10.0nm,9.3s						
JNT	**Takato**	**7.56**	**331**	A	A	03 02 08.4	
	comp=Z,13nm,8.6s,comp=E,12nm,9.8s,comp=N,9.0nm,5.4s						
JAG	**Ashikaga**	**7.58**	**340**	*eS*	**Sn**	**03 03 29.4**	**-5.3**
JAG	**Ashikaga**	**7.58**	**340**	A	A	03 03 29.4	
	comp=Z,7.0nm,7.3s,comp=E,12nm,9.0s,comp=N,10.0nm,10.8s						
INU	**Inuyama**	**7.66**	**323**		**Pn**	**03 02 10.2**	**+0.2**
INU	**Inuyama**	**7.66**	**323**	P	**Pn**	**03 02 10.8**	**+0.8**
JWM	**Minabe**	**7.67**	**308**	A	A	03 02 10.3	
	comp=Z,9.0nm,10.3s,comp=E,5.0nm,13.4s,comp=N,8.0nm,10.1s						
JGF	**Kuroka**	**7.69**	**326**	A	A	03 02 10.3	
	comp=Z,10.0nm,12.0s,comp=E,11nm,11.7s,comp=N,7.0nm,8.6s						
JICN	**Ichinomiyachia**	**7.72**	**322**	A	A	03 02 10.7	
	comp=E,12nm,14.2s,comp=N,11nm,15.7s						
ONAJ	**Iwakimizuishiy**	**7.93**	**350**	A	A	03 02 13.0	
	comp=Z,11nm,20.5s,comp=E,11nm,6.8s,comp=N,9.0nm,11.5s						
JHE	**Heguri**	**7.94**	**314**	A	A	03 02 13.9	
	comp=E,7.0nm,13.6s,comp=N,6.0nm,9.0s						
JFFD	**Fukushimafurud**	**7.96**	**348**	A	A	03 02 13.4	
	comp=E,8.0nm,7.5s,comp=N,8.0nm,9.1s						
JGK	**Kuni**	**7.97**	**336**	A	A	03 02 14.0	
	comp=Z,9.0nm,6.4s,comp=E,9.0nm,13.1s,comp=N,16nm,4.7s						
JSB	**Shiboa**	**7.97**	**344**	A	A	03 02 13.8	
	comp=E,17nm,7.5s,comp=N,24nm,4.1s						
JYTA	**Yamagatataniai**	**8.00**	**323**	A	A	03 02 14.5	
	comp=E,11nm,17.8s,comp=N,8.0nm,9.7s						
JNG	**Nsakai**	**8.04**	**333**	A	A	03 02 14.9	
	comp=Z,8.0nm,7.6s,comp=E,10.0nm,5.9s,comp=N,9.0nm,5.6s						
MJAR	**Matsushiro Arr**	**8.11**	**334**	Pn	**Pn**	**03 02 15.8**	**-0.3**
	comp=N,3.5nm,0.3s,baz=157,slow=10,SNR=124						
MJAR				Sn	**Sn**	**03 03 45.6**	**-2.0**
	baz=134,slow=14						
	comp=N,41nm,0.6s						
MAJO	**Matsushiro**	**8.11**	**334**	Pn	**Pn**	**03 02 16.0**	**-0.2**
MAJO	**Matsushiro**	**8.11**	**334**	P	**Pn**	**03 02 16.6**	**+0.4**
MAJO	**Matsushiro**	**8.11**	**334**	*cP*	**Pn**	**03 02 16.1**	**-0.1**
MAT	**Matsushiro**	**8.11**	**334**	P	**Pn**	**03 02 15.9**	**-0.3**
MJB9	**Matsu-Tunnel**	**8.12**	**334**	Pn	**Pn**	**03 02 17.2**	**+0.9**
JFK	**Kawauchi**	**8.18**	**350**	A	A	03 02 16.4	
	comp=Z,8.0nm,11.1s,comp=E,11nm,9.4s,comp=N,12nm,8.9s						
JGN	**Niukaw**	**8.21**	**329**	A	A	03 02 17.5	
	comp=Z,7.0nm,6.9s,comp=E,11nm,10.2s,comp=N,5.0nm,6.0s						
JAI	**Aioi**	**8.27**	**305**	A	A	03 02 18.7	
	comp=Z,9.0nm,11.4s,comp=E,7.0nm,12.2s,comp=N,5.0nm,15.1s						
JAWN	**Awajishima-nag**	**8.34**	**310**	A	A	03 02 19.5	
	comp=E,6.0nm,10.5s,comp=N,12nm,10.2s						
JFM	**Mihama**	**8.36**	**320**	A	A	03 02 19.6	
	comp=E,7.0nm,9.0s,comp=N,7.0nm,8.1s						
JMIK	**Miki**	**8.43**	**313**	A	A	03 02 20.9	
	comp=Z,8.0nm,8.7s,comp=E,7.0nm,11.1s,comp=N,9.0nm,10.1s						
JFY	**Yanaizu**	**8.44**	**344**	A	A	03 02 20.2	
	comp=Z,7.0nm,10.7s,comp=E,8.0nm,17.2s,comp=N,8.0nm,11.9s						
JFY	**Yanaizu**	**8.44**	**344**	P	**Pn**	**03 02 19.0**	**-1.7**
JTT	**Ttatey**	**8.52**	**330**	A	A	03 02 21.7	
	comp=Z,10.0nm,7.1s,comp=E,17nm,11.0s,comp=N,11nm,5.0s						
JWT	**Wachi**	**8.53**	**316**	A	A	03 02 22.0	
	comp=Z,5.0nm,9.7s,comp=E,4.0nm,9.8s,comp=N,7.0nm,8.7s						
JMST	**Minamisoumatoc**	**8.53**	**351**	A	A	03 02 21.2	
	comp=E,10.0nm,13.5s,comp=N,6.0nm,9.4s						
JMAF	**Mimaanabuki**	**8.61**	**305**	A	A	03 02 23.4	
	comp=E,7.0nm,13.9s,comp=N,6.0nm,7.5s						
JJN	**Nakama**	**8.62**	**336**	A	A	03 02 23.0	
	comp=Z,9.0nm,15.5s,comp=E,11nm,14.1s,comp=N,10.0nm,7.4s						
JMN	**Monobe**	**8.65**	**303**		**Pn**	**03 02 24.6**	**+1.0**
JMN	**Monobe**	**8.65**	**303**	P	**Pn**	**03 02 26.8**	**+3.2**
JMN	**Monobe**	**8.65**	**303**	A	A	03 02 24.0	
	comp=Z,8.0nm,10.1s,comp=E,6.0nm,8.5s,comp=N,5.0nm,15.6s						
JMM	**Marumori**	**8.68**	**351**		**Pn**	**03 02 21.8**	**-2.1**
JMM	**Marumori**	**8.68**	**351**	A	A	03 02 23.3	
	comp=Z,5.0nm,14.9s,comp=E,7.0nm,7.8s,comp=N,5.0nm,9.4s						
JKG	**Kaga**	**8.73**

GUMO	**Guam**	**15.77**	**172**	Pn	**Pn**	**03 03 59.8**	**-0.8**		
	comp=Z,8.1nm,0.3s,baz=7.8,slow=15,SNR=2.3								
	comp=Z,47nm,0.4s								
MSHR	**Mys Shultsa**	**16.15**	**328**	*de*P	**Pn**	**03 04 04.3**	**-1.0**		
MSHR				pmax	pmax				
	comp=Z,52nm,1.7s								
TEY	**Ternei**	**16.41**	**345**	*e*P	**Pn**	**03 04 08.6**	**0.0**		
TEY				MLR	MLR				
	comp=E,600nm,13.0s								
TEY				MLR	MLR				
	comp=N,500nm,15.0s								
TEY				MLR	MLR				
	comp=Z,600nm,16.0s								
USA0B	**Ussuriysk Arra**	**17.11**	**333**	Pn	**Pn**	**03 04 16.7**	**-0.7**		
USA0B	**Ussuriysk Arra**	**17.11**	**333**	P	**Pn**	**03 04 16.7**	**-0.7**		
USA0B				pmax	pmax				
	comp=Z,125nm,1.6s								
USRK	**Ussuriysk Ar.**	**17.11**	**333**	Pn	**Pn**	**03 04 16.4**	**-1.1**		
USRK	**Ussuriysk Ar.**	**17.11**	**333**	P	**Pn**	**03 04 16.8**	**-0.6**		
	comp=Z,1.1nm,0.3s,baz=148,slow=11,SNR=22								
USRK				S	**Sn**	**03 07 27.8**	**+0.3**		
	comp=Z,2.1nm,0.7s,baz=140,slow=32,SNR=1.4								
	comp=Z,19nm,0.9s								
YSS	**Yuzh-Sakhalins**	**17.63**	**0**	Pn	**Pn**	**03 04 19.4**	**-4.5**		
YSS	**Yuzh-Sakhalins**	**17.63**	**0**	P	**P**	**03 04 25.6**	**+0.8**		
YSS	**Yuzh-Sakhalins**	**17.63**	**0**	*e*P	**Pn**	**03 04 23.2**	**-0.7**		
YSS				*e*S	**Sn**	**03 07 33.0**	**-7.0**		
YSS				pmax	pmax				
	comp=Z,1μm,3.7s								
YSS				pmax	pmax				
	comp=N,1μm,3.8s								
YSS				pmax	pmax				
	comp=E,700nm,4.3s								
YSS				pmax	pmax				
	comp=Z,120nm,1.6s								
YSS				MLR	MLR				
	comp=Z,12μm,16.0s								
YSS				MLR	MLR				
	comp=N,12μm,14.0s								
YSS				MLR	MLR				
	comp=E,5μm,12.0s								
MDJ	**Mudanjiang**	**18.45**	**329**	P	**Pn**	**03 04 34.0**	**0.0**		
MDJ	**Mudanjiang**	**18.45**	**329**	P	**Pn**	**03 04 34.3**	**+0.3**		
MDJ	**Mudanjiang**	**18.45**	**329**	P	**Pn**	**03 04 34.3**	**+0.3**		
MDJ				pP	sP	03 04 36.6	-0.2		
MDJ				sP	pP	03 04 39.0	+3.1		
MDJ				PP	**pwP**	**03 04 44.6**	**-0.9**		
MDJ				pmax	pmax				
	comp=E,120nm,0.8s								
MDJ				pmax	pmax				
	comp=E,4μm,6.8s								
MDJ				LR	LR				
	comp=E,15μm,19.1s								
MDJ				LR	LR				
	comp=E,19μm,16.2s								
MDJ				LR	LR				
	comp=E,14μm,17.2s								
SSE	**Sheshan**	**18.59**	**281**	P	**P**	**03 04 35.4**	**-0.2**		
SSE				S	**Sn**	**03 08 03.1**	**-0.4**		
SSE				pmax	pmax				
	comp=E,15nm,0.8s								
SSE				pmax	pmax				
	comp=E,2μm,6.5s								
SSE				LR	LR				
	comp=E,5μm,14.4s								
SSE				LR	LR				
	comp=E,5μm,15.5s								
TATO	**Taipei**	**19.27**	**262**	P	**P**	**03 04 42.0**	**-1.0**		
TATO	**Taipei**	**19.27**	**262**	P	**Pn**	**03 04 43.9**	**-0.1**		
TATO	**Taipei**	**19.27**	**262**	P	**Pn**	**03 04 44.7**	**+0.7**		
NACB	**Ninganchiao**	**19.43**	**260**	P	**Pn**	**03 04 47.2**	**+1.2**		
YHNB	**Yeheng**	**19.46**	**261**	P	**P**	**03 04 43.8**	**-1.4**		
YHNB				IAmb	IAmb	03 04 50.7			
	comp=Z,189nm,1.0s								
YHNB	**Yeheng**	**19.46**	**261**	P	**Pn**	**03 04 47.3**	**+0.9**		
UGL	**Uglegorsk**	**19.76**	**359**	*e*P	**Pn**	**03 04 50.1**	**+0.4**		
UGL				*e*S	**Sn**	**03 08 33.7**	**+2.3**		
UGL				pmax	pmax				
	comp=Z,5μm,4.5s								
UGL				pmax	pmax				
	comp=Z,214nm,0.8s								
UGL				pmax	pmax				
	comp=N,7μm,5.0s								
UGL				pmax	pmax				
	comp=E,3μm,5.0s								
UGL				pmax	pmax				
	comp=Z,10μm,5.0s								
UGL				smax	smax				
	comp=E,9μm,9.2s								
UGL				smax	smax				
	comp=N,8μm,5.5s								
UGL				MLR	MLR				
	comp=Z,11μm,15.5s								
UGL				MLR	MLR				
	comp=N,17μm,16.0s								
UGL				MLR	MLR				
	comp=E,9μm,16.0s								
DL2	**Dalian**	**19.80**	**304**	P	**P**	**03 04 48.8**	**+0.1**		
DL2				pmax	pmax				
	comp=E,38nm,1.2s								
DL2				pmax	pmax				
	comp=E,1μm,10.5s								
DL2				LR	LR				
	comp=E,3μm,11.8s								
DL2				LR	LR				
	comp=E,14μm,13.9s								
DL2				LR	LR				
	comp=E,14μm,12.9s								
SNY	**Shenyang**	**19.84**	**314**	⇓P	**P**	**03 04 48.9**	**-0.3**		
SNY				S	**S**	**03 08 28.4**	**-3.8**		
SNY				pmax	pmax				
	comp=E,31nm,1.2s								
SNY				pmax	pmax				
	comp=E,2μm,12.0s								
SNY				LR	LR				
	comp=E,14μm,15.3s								
SNY				LR	LR				
	comp=E,9μm,16.5s								
SNY				LR	LR				
	comp=E,14μm,18.8s								
CN2	**Changchun**	**19.93**	**321**	P	**P**	**03 04 50.0**	**-0.1**		
CN2				pmax	pmax				
	comp=E,60nm,0.9s								
CN2				pmax	pmax				
	comp=E,2μm,5.0s								
CN2				LR	LR				
	comp=E,23μm,15.0s								
CN2				LR	LR				
	comp=E,19μm,15.0s								
CN2				LR	LR				
	comp=E,15μm,18.0s								
YULB	**Yu-li**	**19.96**	**258**	P	**P**	**03 04 50.9**	**+0.2**		
YULB	**Yu-li**	**19.96**	**258**	P	**Pn**	**03 04 53.1**	**+0.7**		
SSLB	**Suanglung**	**20.11**	**259**	P	**P**	**03 04 51.2**	**-1.2**		
SSLB	**Suanglung**	**20.11**	**259**	P	**P**	**03 04 52.8**	**+0.5**		
BNX	**BinXian**	**20.30**	**328**	⇑P	**P**	**03 04 52.8**	**-1.4**		
BNX				S	**S**	**03 08 41.6**	**+0.2**		
BNX				pmax	pmax				
	comp=E,350nm,1.4s								
BNX				pmax	pmax				
	comp=E,5μm,5.3s								
BNX				LR	LR				
	comp=E,11μm,16.9s								
BNX				LR	LR				
	comp=E,13μm,16.5s								
BNX				LR	LR				
	comp=E,9μm,16.3s								
TWGBT	**Beinan**	**20.36**	**257**	P	Pn	03 04 57.8	+0.7		
TWG	**Pinlang**	**20.37**	**257**	P	**P**	**03 04 53.6**	**-1.5**		
TWG				IAmb	IAmb	03 05 01.9			
	comp=Z,330nm,1.2s								
TPUB	**Ta-pu**	**20.56**	**258**	P	**P**	**03 04 55.8**	**-1.4**		
TPUB				IAmb	IAmb	03 05 05.5			
	comp=Z,151nm,0.8s								
TPUB	**Ta-pu**	**20.56**	**258**	P	Pn	03 04 59.5	0.0		
NJ2	**Nanjing**	**20.60**	**284**	⇓*i*P	**P**	**03 04 57.3**	**-0.2**		
NJ2				pP	**sP**	**03 05 00.8**	**+0.4**		
NJ2				sP	Pn	03 05 02.4	+2.6		
NJ2				S	**S**	**03 08 45.8**	**-1.6**		
NJ2				pmax	pmax				
	comp=Z,130nm,2.0s								
NJ2				pmax	pmax				
	comp=Z,1μm,3.5s								
NJ2				LR	LR				
	comp=Z,8μm,12.3s								
NJ2				LR	LR				
	comp=Z,10μm,15.2s								
NJ2				LR	LR				
	comp=Z,9μm,13.7s								
TYV	**Tymovskoe**	**21.54**	**0**	*e*P	**P**	**03 05 09.3**	**+1.8**		
TYV				*e*S	Sn	03 09 11.5	-2.8		
TYV				pmax	pmax				
	comp=Z,50nm,1.2s								
TYV				pmax	pmax				
	comp=Z,600nm,4.8s								
TYV				smax	smax				
	comp=N,3μm,8.1s								
TYV				smax	smax				
	comp=E,13μm,8.1s								
TYV				smax	smax				
	comp=N,31nm,2.8s								
TYV				smax	smax				
	comp=E,16nm,2.8s								
TYV				MLR	MLR				
	comp=Z,11μm,17.0s								
KLR	**Kul'dur**	**21.56**	**340**	⇑*e*P	**P**	**03 05 07.1**	**-0.7**		
KLR				pmax	pmax				
	comp=Z,103nm,1.3s								
KLR				MLR	MLR				
	comp=Z,6μm,16.0s								
KLR	**Kul'dur**	**21.56**	**340**	P	**P**	**03 05 07.8**	**0.0**		
	comp=Z,36nm,0.7s,baz=140,slow=8.1,SNR=46								
KLR				S	**S**	**03 09 07.2**	**+0.9**		
	comp=Z,1.8nm,0.7s,baz=172,slow=16,SNR=1.3								
	comp=Z,36nm,0.7s								
QZH	**Quanzhou**	**21.79**	**264**	⇑*i*P	**P**	**03 05 09.0**	**-1.4**		
QZH				PP	**PnPn**	**03 05 32.8**	**+1.3**		
QZH				S	**S**	**03 09 08.8**	**-2.2**		
QZH				pmax	pmax				
	comp=Z,130nm,1.8s								
QZH				pmax	pmax				
	comp=E,6μm,9.6s								
QZH				LR	LR				
	comp=Z,7μm,12.7s								
QZH				LR	LR				
	comp=Z,9μm,13.1s								
QZH				LR	LR				
	comp=Z,14μm,18.2s								
GRNR	**Gornyy**	**21.95**	**349**	⇓*i*P	**P**	**03 05 14.1**	**+2.2**		
GRNR				*e*		03 05 34.0			
GRNR				pmax	pmax				
	comp=E,10.0nm,1.1s								
GRNR				pmax	pmax				
	comp=N,30nm,0.9s								
GRNR				pmax	pmax				
	comp=Z,20nm,0.7s								
GRNR				MLR	MLR				
	comp=E,7μm,15.0s								
GRNR				MLR	MLR				
	comp=N,5μm,17.0s								
GRNR				MLR	MLR				
	comp=Z,6μm,15.0s								
KNMB	**Chin-men Tao**	**22.11**	**263**	P	**P**	**03 05 12.4**	**-1.4**		
KNMB				IAmb	IAmb	03 05 28.2			
	comp=Z,180nm,1.0s								
TIA	**Tai'an**	**22.47**	**294**	⇓P	**P**	**03 05 15.6**	**-2.0**		
TIA				S	**S**	**03 09 22.3**	**-1.5**		
TIA				pmax	pmax				
	comp=Z,53nm,1.4s								
TIA				pmax	pmax				
	comp=Z,2μm,9.2s								
TIA				LR	LR				
	comp=Z,13μm,13.1s								
TIA				LR	LR				
	comp=Z,17μm,13.3s								
TIA				LR	LR				
	comp=Z,18μm,14.2s								
SKR	**Severo-Kuril's**	**23.67**	**22**	*e*P	**P**	**03 05 30.1**	**+0.4**		
SKR				*e*S	**S**	**03 09 43.7**	**-0.2**		
SKR				pmax	pmax				
	comp=Z,1μm,4.6s								
SKR				MLR	MLR				
	comp=Z,12μm,13.0s								
HEH	**HeiHe**	**23.88**	**335**	*e*P	**P**	**03 05 32.4**	**+0.7**		
HEH				S	**S**	**03 09 47.8**	**+0.5**		
HEH				pmax	pmax				
	comp=Z,62nm,1.3s								
HEH				pmax	pmax				
	comp=Z,4μm,8.8s								
HEH				LR	LR				
	comp=Z,17μm,16.2s								
HEH				LR	LR				
	comp=Z,20μm,18.4s								
HEH				LR	LR				
	comp=Z,13μm,19.9s								
H11N2	**WAKE ISLAND Hy**	**24.03**	**108**	T	T	03 31 18.9			
	baz=296,slow=74,SNR=17								
H11N1	**WAKE ISLAND Hy**	**24.04**	**108**	T	T	03 31 16.5			
	baz=296,slow=74,SNR=11								
H11N3	**WAKE ISLAND Hy**	**24.05**	**108**	T	T	03 31 15.5			
	baz=296,slow=74,SNR=15								
BJT	**Baijiatuau**	**24.14**	**303**	P	**P**	**03 05 31.5**	**-2.9**		
BJT	**Baijiatuau**	**24.14**	**303**	IAMs_20	IAMs_20	03 15 20.4			
	comp=Z,20μm,20.0s								
BJT	**Baijiatuau**	**24.14**	**303**	P	**P**	**03 05 34.5**	**+0.1**		
BJT	**Baijiatuau**	**24.14**	**303**	P	**P**	**03 05 31.5**	**-2.9**		
BJT				pmax	pmax				
	comp=Z,38nm,0.9s								
BJT				MLR	MLR				
	comp=Z,20μm,20.0s								
BJI	**Beijing**	**24.15**	**303**	P	**P**	**03 05 31.6**	**-2.8**		
BJI				S	**S**	**03 09 48.6**	**-3.2**		
BJI				pmax	pmax				
	comp=Z,22nm,1.7s								
BJI				pmax	pmax				
	comp=Z,660nm,6.1s								
BJI				LR	LR				
	comp=Z,4μm,17.9s								
BJI				LR	LR				
	comp=Z,9μm,17.7s								
BJI				LR	LR				
	comp=Z,11μm,18.8s								
H11S3	**WAKE ISLAND Hy**	**24.46**	**111**	T	T	03 31 59.1			
	baz=296								
H11S1	**WAKE ISLAND Hy**	**24.47**	**111**	T	T	03 31 28.4			
	baz=296								
H11S2	**WAKE ISLAND Hy**	**24.48**	**111**	T	T	03 31 39.9			
	baz=296								
WHN	**Wuhan**	**24.49**	**280**	⇓*i*P	**P**	**03 05 37.0**	**-0.6**		
WHN				PP	**PnPn**	**03 06 13.8**	**+5.4**		
WHN				S	**S**	**03 09 59.3**	**+1.8**		
WHN				pmax	pmax				
	comp=Z,1μm,2.5s								
WHN				pmax	pmax				
	comp=Z,3μm,3.5s								
WHN				LR	LR				
	comp=Z,10μm,13.3s								
WHN				LR	LR				
	comp=Z,18μm,14.7s								
WHN				LR	LR				
	comp=Z,16μm,13.7s								
HNS	**HongShan**	**24.59**	**296**	⇓P	**P**	**03 05 36.3**	**-2.2**		
HNS				S	**S**	**03 09 54.8**	**-4.3**		
HNS				pmax	pmax				
	comp=Z,65nm,1.7s								
HNS				pmax	pmax				
	comp=Z,1μm,10.8s								
HNS				LR	LR				
	comp=Z,10μm,16.7s								
HNS				LR	LR				
	comp=Z,6μm,15.1s								
HNS				LR	LR				
	comp=Z,9μm,19.6s								
TGY	**Tagaytay City**	**25.10**	**238**	LR	LR	03 14 24.8			
	comp=Z,9μm,20.5s,baz=98,slow=34								
XLT	**XiLinHaoTe**	**25.66**	**312**	⇓*i*P	**P**	**03 05 47.4**	**-0.8**		
XLT				pP	sP	03 05 51.6	+0.2		
XLT				sP	pwP	03 05 55.3	-4.9		
XLT				PP	**PnPn**	**03 06 28.8**	**+4.4**		
XLT				S	**S**	**03 10 11.0**	**-5.2**		
XLT				sS	sS	03 10 20.5	+0.3		
XLT				SS	**SnSn**	**03 11 17.5**	**+7.0**		
XLT				pmax	pmax				
	comp=Z,63nm,1.4s								
XLT				pmax	pmax				
	comp=Z,2μm,6.1s								
XLT				LR	LR				
	comp=Z,9μm,13.4s								
XLT				LR	LR				
	comp=Z,7μm,13.5s								
CNSH	**ChangSha**	**26.00**	**275**	⇓P	**P**	**03 05 50.8**	**-0.6**		
CNSH				S	**S**	**03 10 22.4**	**+0.6**		
CNSH				pmax	pmax				
	comp=Z,52nm,1.4s								
CNSH				pmax	pmax				
	comp=Z,1μm,5.8s								
CNSH				LR	LR				
	comp=Z,4μm,12.9s								
CNSH				LR	LR				
	comp=Z,9μm,14.3s								
CNSH				LR	LR				
	comp=Z,10μm,14.7s								
LYN	**LuoYang**	**26.05**	**289**	*e*P	**P**	**03 05 50.8**	**-0.9**		
LYN				PP	**PnPn**	**03 06 32.4**	**+2.7**		
LYN				S	**S**	**03 10 12.8**	**-10**		
LYN				sS	pS	03 10 22.1	-2.8		
LYN				pmax	pmax				
	comp=Z,42nm,1.1s								
LYN				pmax	pmax				
	comp=Z,1μm,6.3s								
LYN				LR	LR				
	comp=Z,9μm,11.7s								
LYN				LR	LR				
	comp=Z,8μm,12.4s								
LYN				LR	LR				
	comp=Z,12μm,12.4s								
PETK	**Petropavlovsk-**	**26.26**	**21**	P	**P**	**03 05 54.3**	**+0.9**		
	comp=Z,8.5nm,1.0s,baz=153,slow=1.3,SNR=4.5								
PETK				LR	LR	03 16 39.9			
	comp=Z,8μm,20.8s,baz=213,slow=37								
	comp=Z,8.5nm,1.0s								
TIY	**Taiyuan**	**26.43**	**296**	*e*P	**P**	**03 05 54.8**	**-0.4**		
TIY				pP	**pwP**	**03 06 03.6**	**-3.1**		
TIY				sP	sP	03 06 06.6	+8.3		
TIY				PP	**PnPn**	**03 06 38.1**	**+3.1**		
TIY				S	**S**	**03 10 26.5**	**-2.0**		
TIY				sS	**sS**	**03 10 37.9**	**+5.7**		
TIY				pmax	pmax				
	comp=Z,38nm,1.3s								
TIY				pmax	pmax				
	comp=Z,1μm,4.9s								
TIY				LR	LR				
	comp=Z,6μm,15.8s								
TIY				LR	LR				
	comp=Z,7μm,19.2s								
TIY				LR	LR				
	comp=Z,8μm,21.3s								
HIA	**Hailar**	**26.48**	**325**	P	**P**	**03 05 54.9**	**-0.6**		
HIA				IAmb	IAmb	03 05 59.4			
	comp=Z,101nm,0.9s								
HIA	**Hailar**	**26.48**	**325**	P	**P**	**03 05 57.1**	**+1.6**		
HIA	**Hailar**	**26.48**	**325**	*ce*P	**P**	**03 05 56.5**	**+1.0**		
HIA				pmax	pmax				
	comp=Z,93nm,1.0s								
HIA				MLR	MLR				
	comp=Z,7μm,15.0s								
PET	**Petropavlovsk**	**26.49**	**22**	P	**P**	**03 05 58.1**	**+2.6**		
PET	**Petropavlovsk**	**26.49**	**22**	*e*P	**P**	**03 05 56.6**	**+1.1**		
PET				*e*S	**S**	**03 10 24.8**	**-4.1**		
PET				pmax	pmax				
	comp=Z,50nm,0.9s								
PET				MLR	MLR				
	comp=Z,11μm,16.0s								
PET				MLR	MLR				
	comp=Z,11μm,15.0s								
PATS	**Pohnpei**	**26.81**	**143**	IAMs_20	IAMs_20	03 15 43.0			
	comp=Z,17μm,20.0s								
ZEA	**Zeya**	**26.87**	**340**	*e*P	**P**	**03 05 59.4**	**+0.5**		
ZEA				*e*S	**S**	**03 10 31.6**	**-3.4**		
ZEA				pmax	pmax				
	comp=E,30nm,0.7s								
ZEA				pmax	pmax				
	comp=N,70nm,0.8s								
ZEA				pmax	pmax				
	comp=Z,130nm,1.0s								
ZEA				pmax	pmax				
	comp=E,300nm,5.6s								
ZEA				pmax	pmax				
	comp=N,800nm,4.1s								
ZEA				pmax	pmax				
	comp=Z,1μm,9.7s								
ZEA				smax	smax				
	comp=N,4μm,11.8s								
DAV	**Davao City (W)**	**27.31**	**219**	IAMs_20	IAMs_20	03 18 53.8			
	comp=Z,10μm,18.0s								
DAV	**Davao City (W)**	**27.31**	**219**	LR	LR	03 15 36.6			
	comp=Z,7μm,21.7s,baz=64,slow=34								
HHC	**Hu-ho-hao-te**	**27.75**	**303**	*e*P	**P**	**03 06 07.1**	**0.0**		
HHC				pP	sP	03 06 12.0	+1.7		
HHC				S	**S**	**03 10 47.6**	**-1.7**		
HHC				sS	sS	03 10 53.8	+0.6		
HHC				SS	**SnSn**	**03 12 07.0**	**+5.4**		
HHC				pmax	pmax				
	comp=Z,98nm,1.1s								
HHC				pmax	pmax				
	comp=Z,1μm,7.0s								
HHC				LR	LR				
	comp=Z,14μm,16.6s								
HHC				LR	LR				
	comp=Z,34μm,17.9s								
HHC				LR	LR				
	comp=Z,47μm,18.3s								
ENH	**Enshi**	**28.70**	**280**	P	**P**	**03 06 13.9**	**-1.7**		
ENH				IAmb	IAmb	03 06 15.5			
	comp=Z,101nm,1.5s								
ENH	**Enshi**	**28.70**	**280**	P	**P**	**03 06 15.5**	**-0.1**		
BTO	**Baotou**	**28.83**	**302**	*e*P	**P**	**03 06 18.1**	**+1.4**		
BTO				pP	**sP**	**03 06 22.3**	**+2.4**		
BTO				sP	**pwP**	**03 06 25.3**	**-2.9**		
BTO				PP	**PnPn**	**03 07 11.6**	**+3.9**		
BTO				S	**S**	**03 11 08.4**	**+2.1**		
BTO				sS	**sS**	**03 11 15.0**	**+4.8**		
BTO				pmax	pmax				
	comp=Z,96nm,1.3s								
BTO				pmax	pmax				
	comp=Z,3μm,11.8s								
BTO				LR	LR				
	comp=Z,18μm,16.7s								
BTO				LR	LR				
	comp=Z,34μm,18.1s								
BTO				LR	LR				
	comp=Z,49μm,18.6s								
GULI	**GuiLin**	**28.87**	**270**	⇓P	P	03 06 24.3	+7.2		
GULI				S	**S**	**03 11 04.6**	**-2.4**		
GULI				pmax	pmax				
	comp=Z,40nm,1.5s								
GULI				LR	LR				
	comp=N,6μm,15.2s								
GULI				LR	LR				
	comp=E,7μm,20.6s								
GULI				LR	LR				
	comp=Z,18μm,17.3s								
XAN	**Xi'an**	**28.97**	**288**	⇑P	**P**	**03 06 17.8**	**-0.2**		
XAN				pP	sP	03 06 22.3	+1.2		
XAN				sP	pwP	03 06 25.3	-4.2		
XAN				S	S	03 10 59.3	-9.2		
XAN				pmax	pmax				
	comp=Z,99nm,1.5s								
XAN				pmax	pmax				
	comp=Z,1μm,8.3s								
XAN				LR	LR				
	comp=Z,10μm,15.5s								
XAN				LR	LR				
	comp=Z,14μm,15.9s								
XAN				LR	LR				
	comp=Z,17μm,16.5s								
MA2	**Magadan**	**30.79**	**8**	P	**P**	**03 06 35.0**	**+1.3**		
MA2	**Magadan**	**30.79**	**8**	⇑*e*P	**P**	**03 06 34.1**	**+0.4**		
MA2				pmax	pmax				
	comp=Z,111nm,2.5s								
MA2				MLR	MLR				
	comp=Z,4μm,18.0s								
MA2	**Magadan**	**30.79**	**8**	LR	LR	03 18 21.7			
	comp=Z,4μm,21.5s,baz=200,slow=35								
CIT	**Chita**	**31.28**	**325**	*e*P	**P**	**03 06 40.2**	**+2.0**		
CIT				*e*		03 09 29.8			
CIT				pmax	pmax				
	comp=Z,409nm,2.8s								
QIZ	**Qiongzhong**	**31.49**	**258**	P	**P**	**03 06 41.8**	**+1.5**		
QIZ				PcP	**PcP**	**03 09 33.6**	**+0.3**		
QIZ				S	**S**	**03 11 51.0**	**+2.8**		
QIZ				pmax	pmax				
	comp=Z,50nm,1.7s								
QIZ				LR	LR				
	comp=Z,4μm,15.7s								
QIZ				LR	LR				
	comp=Z,6μm,17.3s								
QIZ				LR	LR				
	comp=Z,7μm,18.7s								

GYA	**Guiyang**	**31.81**	**274**	⇓P	**P**	**03**	**06**	**42.5 -0.8**
GYA				S	**S**	**03**	**11**	**55.3 +1.9**
GYA				pmax	pmax			
	comp=Z,55nm,1.5s							
GYA				pmax	pmax			
	comp=Z,980nm,5.4s							
GYA				LR	LR			
	comp=Z,8μm,15.4s							
GYA				LR	LR			
	comp=Z,7μm,18.6s							
GYA				LR	LR			
	comp=Z,8μm,20.0s							
SWI	**Sorong**	**31.89**	**202**	P	**P**	**03**	**06**	**43.4 -0.4**
	comp=Z,133nm,0.8s,comp=Z,3μm							
KAVG	**Kavieng**	**32.66**	**165**	P	**P**	**03**	**06**	**50.6 +0.1**
SHEM	**Shemya Is, Ala**	**32.93**	**36**	LR	LR	03	18	05.5
	comp=Z,5μm,21.4s,baz=236,slow=32							
ULN	**Ulaanbaatar**	**33.02**	**314**	P	**P**	**03**	**06**	**53.1 -0.5**
ULN	**Ulaanbaatar**	**33.02**	**314**	IAMs_20	IAMs_20	03	20	57.1
	comp=Z,13μm,18.0s							
ULN	**Ulaanbaatar**	**33.02**	**314**	P	**P**	**03**	**06**	**54.3 +0.7**
ULN				P	**P**	**03**	**06**	**54.3 +0.7**
ULN	**Ulaanbaatar**	**33.02**	**314**	*ce*P	**P**	**03**	**06**	**54.0 +0.3**
ULN				pmax	pmax			
	comp=Z,141nm,1.7s							
ULN				MLR	MLR			
	comp=Z,11μm,17.0s							
LBMI	**Labuha**	**33.08**	**208**	P	**P**	**03**	**06**	**54.1 -0.1**
	comp=Z,238nm,0.9s,comp=Z,4μm							
MYLDM	**Lahad Datu**	**33.09**	**228**	P	**P**	**03**	**06**	**54.1 -0.2**
MYLDM				IAMs_20	IAMs_20	03	21	41.0
	comp=Z,12μm,18.0s							
LZH	**Lanzhou**	**33.15**	**292**	*e*P	**P**	**03**	**06**	**54.0 -0.9**
LZH				sP	sP	03	07	01.4 +3.3
LZH				PP	**PnPn**	**03**	**08**	**04.3 -0.4**
LZH				S	**S**	**03**	**12**	**08.3 -5.8**
LZH				ScP	**ScP**	**03**	**13**	**24.1 +2.4**
LZH				ScS	**ScS**	**03**	**17**	**24.3 +1.9**
LZH				pmax	pmax			
	comp=Z,46nm,1.5s							
LZH				pmax	pmax			
	comp=Z,550nm,6.5s							
LZH				LR	LR			
	comp=Z,7μm,12.4s							
LZH				LR	LR			
	comp=Z,7μm,10.6s							
LZH				LR	LR			
	comp=Z,12μm,13.7s							
SONM	**Songino Array**	**33.42**	**314**	P	**P**	**03**	**06**	**55.4 -1.8**
SONM	**Songino Array**	**33.42**	**314**	P	**P**	**03**	**06**	**57.1 0.0**
	comp=Z,19nm,0.7s,baz=122,slow=8.6,SNR=66							
SONM				PcP	**PcP**	**03**	**09**	**38.3 -0.1**
	comp=Z,2.4nm,0.9s,baz=99,slow=4.5,SNR=1.2							
SONM				LR	LR	03	21	13.4
	comp=Z,12μm,18.2s,baz=105,slow=38							
	comp=Z,19nm,0.7s							
CD2	**Chengdu**	**33.53**	**283**	P	**P**	**03**	**06**	**57.0 -1.2**
CD2				S	**S**	**03**	**12**	**16.3 -3.5**
CD2				pmax	pmax			
	comp=Z,40nm,0.5s							
CD2				pmax	pmax			
	comp=Z,610nm,8.4s							
CD2				LR	LR			
	comp=Z,6μm,12.4s							
CD2				LR	LR			
	comp=Z,6μm,10.8s							
CD2				LR	LR			
	comp=Z,12μm,13.5s							
FAKI	**Fak Fak**	**33.53**	**199**	IAMs_20	IAMs_20	03	18	10.0
	comp=Z,12μm,20.0s							
FAKI	**Fak Fak**	**33.53**	**199**	P	**P**	**03**	**07**	**00.1 +1.9**
FAKI	**Fak Fak**	**33.53**	**199**	P	**P**	**03**	**07**	**00.3 +2.1**
FAKI	**Fak Fak**	**33.53**	**199**	P	**P**	**03**	**06**	**56.6 -1.6**
	comp=Z,88nm,0.9s,comp=Z,1μm							
FAKI	**Fak Fak**	**33.53**	**199**	P	**P**	**03**	**06**	**56.5 -1.6**
YAK	**Yakutsk**	**33.83**	**349**	*e*P	**P**	**03**	**07**	**01.2 +0.9**
YAK				*e*		03	08	08.2
YAK				*e*		03	09	39.3
YAK				*e*S	**S**	**03**	**12**	**27.1 +3.5**
YAK				pmax	pmax			
	comp=Z,44nm,1.6s							
YAK				pmax	pmax			
	comp=N,10.0nm,1.4s							
YAK				pmax	pmax			
	comp=E,5.0nm,1.5s							
YAK				pmax	pmax			
	comp=Z,303nm,4.6s							
YAK				pmax	pmax			
	comp=N,355nm,7.8s							
YAK				pmax	pmax			
	comp=E,210nm,6.4s							
YAK				smax	smax			
	comp=E,1μm,10.1s							
YAK				smax	smax			
	comp=N,473nm,4.4s							
YAK				MLR	MLR			
	comp=Z,6μm,24.0s							
YAK				MLR	MLR			
	comp=N,6μm,22.0s							
YAK				MLR	MLR			
	comp=E,3μm,18.0s							
YAK	**Yakutsk**	**33.83**	**349**	LR	LR	03	21	15.7
	comp=E,183nm,20.9s,baz=149,slow=37							
KKM	**Kota Kinabalu**	**33.99**	**232**	IAMs_20	IAMs_20	03	20	43.8
	comp=Z,9μm,20.0s							
SEY	**Seymchan**	**34.24**	**8***ce*P		**P**	**03**	**07**	**05.4 +1.5**
SEY				pmax	pmax			
	comp=Z,33nm,1.1s							
SEY	**Seymchan**	**34.24**	**8**	LR	LR	03	20	21.7
	comp=Z,5μm,21.9s,baz=188,slow=35							
TABU	**Tabubil**	**34.39**	**182**	P	**P**	**03**	**07**	**07.4 +1.7**
KRVT	**Keravat (AS076**	**34.62**	**163**	LR	LR	03	20	28.0
	comp=Z,3μm,20.4s,baz=256,slow=35							
BOD	**Bodaibo**	**34.74**	**333**	*e*P	**P**	**03**	**07**	**09.9 +1.6**
BOD				pmax	pmax			
	comp=Z,43nm,1.6s							
TOLI2	**Tolitoli**	**34.90**	**220**	P	**P**	**03**	**07**	**06.7 -3.3**
TOLI2	**Tolitoli**	**34.90**	**220**	P	**P**	**03**	**07**	**11.2 +1.1**
SANI	**Sanana**	**34.99**	**210**	P	**P**	**03**	**07**	**10.4 -0.4**
SANI	**Sanana**	**34.99**	**210**	P	**P**	**03**	**07**	**10.3 -0.5**
	comp=Z,84nm,0.7s,comp=Z,2μm							
SANI	**Sanana**	**34.99**	**210**	S	S	03	12	32.9 -10
SANI				P	**P**	**03**	**07**	**07.2 -3.7**
KMI	**Kunming**	**35.57**	**273**	⇑P	**P**	**03**	**07**	**14.4 -1.7**
KMI				sP	pwP	03	07	27.9 +0.2
KMI				PP	**PP**	**03**	**08**	**38.4 +1.5**
KMI				S	S	03	12	42.8 -9.0
KMI				pmax	pmax			
	comp=Z,36nm,1.8s							
KMI				pmax	pmax			
	comp=Z,910nm,6.7s							
KMI				LR	LR			
	comp=Z,4μm,14.7s							
KMI				LR	LR			
	comp=Z,6μm,21.0s							
KMI				LR	LR			
	comp=Z,8μm,16.7s							
LUWI	**Luwuk**	**35.63**	**216**	P	P	03	07	27.9 +12
LUWI	**Luwuk**	**35.63**	**216**	S	**S**	**03**	**12**	**51.7 -0.6**
LUWI				P	**P**	**03**	**07**	**13.0 -3.4**
SLVN	**Son La**	**35.74**	**266**	P	**P**	**03**	**07**	**16.6 -0.7**
SLVN				IAmb	IAmb	03	07	31.3
	comp=Z,42nm,0.9s							
MPSI	**Mapaga**	**36.03**	**221**	P	**P**	**03**	**07**	**18.5 -1.3**
	comp=Z,39nm,1.6s,comp=Z,2μm							
PZH	**PanZhiHua**	**36.09**	**276**	P	**P**	**03**	**07**	**18.6 -1.8**
PZH				S	**S**	**03**	**12**	**54.9 -4.6**
PZH				SS	**SnSn**	**03**	**15**	**20.3 -4.3**
PZH				pmax	pmax			
	comp=Z,60nm,1.3s							
PZH				pmax	pmax			
	comp=Z,1μm,6.9s							
PZH				LR	LR			
	comp=Z,6μm,16.1s							
PZH				LR	LR			
	comp=Z,5μm,18.6s							
PZH				LR	LR			
	comp=Z,5μm,15.2s							
DLV	**T Lat**	**36.11**	**249**	IAMs_20	IAMs_20	03	19	39.0
	comp=Z,7μm,19.0s							
ZAK	**Zakamensk**	**36.23**	**317**	*e*P	**P**	**03**	**07**	**21.3 0.0**
ZAK				pmax	pmax			
	comp=Z,144nm,1.4s							
IRK	**Irkutsk**	**36.36**	**320**	*e*P	**P**	**03**	**07**	**23.1 +0.8**
IRK				*e*S	**S**	**03**	**13**	**04.7 +1.7**
IRK				pmax	pmax			
	comp=Z,429nm,2.7s							
GTA	**Gaotai**	**36.44**	**298**	⇓P	**P**	**03**	**07**	**22.8 -0.5**
GTA				PP	**PP**	**03**	**08**	**46.0 -0.2**
GTA				PcP	**PcP**	**03**	**09**	**48.5 +1.2**
GTA				S	**S**	**03**	**13**	**01.3 -3.4**
GTA				ScP	**ScP**	**03**	**13**	**34.9 +1.4**
GTA				PcS	**PcS**	**03**	**13**	**37.1 +2.0**
GTA				SS	**SnSn**	**03**	**15**	**25.3 -7.5**
GTA				ScS	**ScS**	**03**	**17**	**40.0 +0.2**
GTA				pmax	pmax			
	comp=Z,38nm,1.6s							
GTA				pmax	pmax			
	comp=Z,750nm,8.0s							
GTA				LR	LR			
	comp=Z,5μm,17.4s							
GTA				LR	LR			
	comp=Z,5μm,20.4s							
GTA				LR	LR			
	comp=Z,5μm,21.8s							
UBPT	**Khong Chiam**	**36.90**	**256**	P	**P**	**03**	**07**	**28.0 +0.7**
UBPT				IAmb	IAmb	03	07	40.8
	comp=Z,150nm,1.4s							
UBPT	**Khong Chiam**	**36.90**	**256**	P	**P**	**03**	**07**	**28.3 +1.0**
NONG	**Nongkai**	**37.65**	**262**	P	**P**	**03**	**07**	**33.9 +0.2**
MOY	**Mondy**	**38.03**	**318**	*e*P	**P**	**03**	**07**	**38.5 +1.9**
MOY				pmax	pmax			
	comp=Z,402nm,2.8s							
SAUI	**Saumlaki**	**38.63**	**198**	P	**P**	**03**	**07**	**43.4 +1.6**
PMG	**Port Moresby**	**38.73**	**173**	P	**P**	**03**	**07**	**41.3 -1.3**
PMG	**Port Moresby**	**38.73**	**173**	P	**P**	**03**	**07**	**44.1 +1.5**
PMG	**Port Moresby**	**38.73**	**173**	P	**P**	**03**	**07**	**44.3 +1.7**
PMG	**Port Moresby**	**38.73**	**173**	P	**P**	**03**	**07**	**42.6 0.0**
	comp=Z,23nm,0.8s,baz=8.2,slow=8.3,SNR=7.9							
	comp=Z,23nm,0.8s							
CRAI	**Chiangrai**	**39.21**	**267**	P	**P**	**03**	**07**	**46.0 -0.8**
CRAI				IAmb	IAmb	03	08	01.0
	comp=Z,106nm,1.0s							
TNCH	**TengChong**	**39.27**	**275**	⇓*i*P	**P**	**03**	**07**	**47.8 +0.3**
TNCH				PP	**PnPn**	**03**	**09**	**24.4 +4.2**
TNCH				S	**S**	**03**	**13**	**45.3 -2.8**
TNCH				pmax	pmax			
	comp=Z,120nm,1.6s							
TNCH				pmax	pmax			
	comp=Z,1μm,6.9s							
TNCH				LR	LR			
	comp=Z,3μm,15.0s							
TNCH				LR	LR			
	comp=Z,3μm,17.2s							
TNCH				LR	LR			
	comp=Z,6μm,19.4s							
SPSI	**Sidrap Palu**	**39.67**	**217**	P	**P**	**03**	**07**	**48.4 -2.1**
	comp=Z,68nm,0.7s							
MTKI	**Muara Teweh, K**	**40.06**	**226**	P	**P**	**03**	**07**	**55.2 +1.4**
	comp=Z,23nm,0.7s,comp=Z,13μm							
GOMU	**GeErMu**	**40.45**	**293**	P	**P**	**03**	**07**	**57.4 +0.1**
GOMU				pP	sP	03	08	00.5 0.0
GOMU				sP	pP	03	08	03.8 +4.2
GOMU				S	S	03	13	52.5 -13
GOMU				pmax	pmax			
	comp=Z,22nm,0.9s							
GOMU				LR	LR			
	comp=Z,2μm,14.6s							
GOMU				LR	LR			
	comp=Z,2μm,15.5s							
GOMU				LR	LR			
	comp=Z,4μm,16.0s							
KAPI	**Kappang**	**40.56**	**216**	LR	LR	03	24	07.6
	comp=Z,3μm,21.5s,baz=33,slow=35							
BKSI	**Bulukumba**	**40.63**	**216**	P	**P**	**03**	**07**	**57.5 -1.0**
	comp=Z,39nm,1.0s,comp=Z,1μm							
NAYO	**Nakonayok**	**40.89**	**258**	P	**P**	**03**	**08**	**00.5 -0.2**
CHTO	**Chiang Mai**	**41.00**	**265**	IAMs_20	IAMs_20	03	25	06.0
	comp=Z,7μm,20.0s							
CHTO	**Chiang Mai**	**41.00**	**265**	P	**P**	**03**	**08**	**00.8 -0.9**
CHTO	**Chiang Mai**	**41.00**	**265**	P	**P**	**03**	**08**	**00.7 -0.9**
CM31	**Chiang Mai Arr**	**41.14**	**265**	P	**P**	**03**	**08**	**01.6 -1.2**
CM31				IAmb	IAmb	03	08	04.0
	comp=Z,97nm,1.4s							
CM31	**Chiang Mai Arr**	**41.14**	**265**	P	**P**	**03**	**08**	**03.5 +0.7**
	SNR=8.1							
CMAR	**Chiang Mai Arr**	**41.14**	**265**	P	**P**	**03**	**08**	**01.4 -1.4**
CMAR	**Chiang Mai Arr**	**41.14**	**265**	*i* P	**P**	**03**	**08**	**02.2 -0.6**
CMAR				pmax	pmax			
	comp=Z,12nm,0.9s							
CMAR	**Chiang Mai Arr**	**41.14**	**265**	P	**P**	**03**	**08**	**02.1 -0.6**
	comp=Z,11nm,0.8s,baz=58,slow=6.6,SNR=38							
CMAR				PcP	**PcP**	**03**	**10**	**04.0 +1.9**
	comp=Z,1.2nm,0.3s,baz=64,slow=8.1,SNR=4.1							
CMAR				LR	LR	03	25	20.9
	comp=Z,7μm,21.1s,baz=70,slow=37							
	comp=Z,11nm,0.8s							
BILL	**Bilibino**	**41.24**	**13**⇑*e*P		**P**	**03**	**08**	**03.8 +0.8**
STKI	**Sintang**	**41.55**	**231**	P	**P**	**03**	**08**	**06.5 +0.4**
	comp=Z,94nm,1.0s							
HNR	**Honiara**	**41.98**	**154**	IAMs_20	IAMs_20	03	23	19.9
	comp=Z,7μm,21.0s							
HNR	**Honiara**	**41.98**	**154**	LR	LR	03	23	52.8
	comp=Z,82μm,22.0s,baz=316,slow=34							
MND	**Mandalay**	**42.30**	**271**	P	**P**	**03**	**08**	**12.4 +0.1**
NIKH	**Nikolski High**	**42.49**	**42**	P	**P**	**03**	**08**	**11.6 -1.8**
	baz=256							
MMRI	**Maumere**	**42.51**	**211**	P	**P**	**03**	**08**	**15.8 +1.9**
MMRI	**Maumere**	**42.51**	**211**	P	**P**	**03**	**08**	**13.0 -0.9**
	comp=Z,203nm,0.9s,comp=Z,5μm							
SOEI	**Soe**	**42.66**	**207**	P	**P**	**03**	**08**	**16.5 +1.3**
SOEI	**Soe**	**42.66**	**207**	P	P	03	08	21.8 +6.6
SOEI	**Soe**	**42.66**	**207**	S	S	03	14	23.4 -15
SOEI				P	**P**	**03**	**08**	**12.6 -2.6**
ZIRO	**ZIRO**	**42.67**	**280**	*e*P	**P**	**03**	**08**	**14.2 -1.2**
EDFI	**Ende, Flores**	**42.86**	**211**	P	**P**	**03**	**08**	**15.8 -1.0**
	comp=Z,159nm,0.9s,comp=Z,2μm							
KDU	**Kakadu**	**42.87**	**195**	P	**P**	**03**	**08**	**18.3 +1.6**
TIXI	**Tiksi**	**43.07**	**354**	P	**P**	**03**	**08**	**17.2 -0.6**
TIXI	**Tiksi**	**43.07**	**354**	IAMs_20	IAMs_20	03	26	38.5
	comp=Z,5μm,18.0s							
TIXI	**Tiksi**	**43.07**	**354***ce*P		**P**	**03**	**08**	**18.2 +0.4**
TIXI	**Tiksi**	**43.07**	**354**	LR	LR	03	27	43.0
	comp=Z,160nm,21.5s,baz=159,slow=38							
MTN	**Manton Dam**	**43.33**	**196**	P	**P**	**03**	**08**	**20.6 +0.1**
SILR	**SILCHAR**	**44.32**	**276**	*e*P	**P**	**03**	**08**	**29.5 +1.0**
PLAI	**Plampang**	**44.82**	**216**	P	**P**	**03**	**08**	**33.3 +0.8**
PLAI	**Plampang**	**44.82**	**216**	P	**P**	**03**	**08**	**34.1 +1.6**
	comp=Z,103nm,0.8s,comp=Z,2μm							
SAIH	**SAIHA**	**44.87**	**273**	*e*P	**P**	**03**	**08**	**31.1 -2.1**
SAIH				IAmb	IAmb	03	08	41.3
	comp=Z,55nm,1.1s							
SHL	**Shillong**	**44.88**	**278**	P	**P**	**03**	**08**	**32.5 -0.8**
	SNR=14							
SHL	**Shillong**	**44.88**	**278**	*e*P	**P**	**03**	**08**	**32.1 -1.2**
SHL				IAmb	IAmb	03	08	44.9
	comp=Z,58nm,1.5s							
SURA	**Surathani**	**44.91**	**252**	P	**P**	**03**	**08**	**34.4 +1.1**
GAMB	**Gambell**	**45.00**	**27**	P	**P**	**03**	**08**	**33.5 +0.2**
	baz=242							
TWSI	**Taliwang, Sumb**	**45.21**	**217**	P	**P**	**03**	**08**	**36.2 +0.6**
	comp=Z,97nm,0.9s,comp=Z,1μm							
SRIT	**Nakonsritamara**	**45.24**	**252**	P	**P**	**03**	**08**	**35.2 -0.7**
SRIT	**Nakonsritamara**	**45.24**	**252**	P	**P**	**03**	**08**	**37.9 +1.9**
WMQ	**Urumqi**	**45.62**	**304**	*e*P	**P**	**03**	**08**	**39.8 +1.1**
WMQ				S	**S**	**03**	**15**	**18.1 -2.8**
WMQ				sS	sS	03	15	33.9 +9.0
WMQ				pmax	pmax			
	comp=Z,83nm,1.5s							
WMQ				pmax	pmax			
	comp=Z,2μm,4.9s							
WMQ				LR	LR			
	comp=Z,7μm,15.7s							
WMQ				LR	LR			
	comp=Z,6μm,19.1s							
WMQ				LR	LR			
	comp=Z,7μm,22.5s							
MYKOM	**Kota Tinggi**	**45.89**	**241**	IAMs_20	IAMs_20	03	25	18.0
	comp=Z,6μm,21.0s							
DGZ	**Jazzator, Alta**	**46.03**	**312***c i*P		**P**	**03**	**08**	**42.2 +0.2**
DGZ				pmax	pmax			
	comp=Z,150nm,1.4s							
DGZ				MLR	MLR			
	comp=Z,5μm,16.0s							
KULM	**Kulim**	**46.25**	**247**	P	**P**	**03**	**08**	**42.9 -1.0**
JAGI	**Jajag, Banyuwa**	**46.48**	**221**	P	**P**	**03**	**08**	**45.8 +0.1**
JAGI	**Jajag, Banyuwa**	**46.48**	**221**	P	**P**	**03**	**08**	**44.5 -1.2**
	comp=Z,90nm,0.9s							
KNRA	**Kununurra**	**46.66**	**198**	P	**P**	**03**	**08**	**48.9 +1.9**
TNA	**Tin City**	**47.25**	**26**	P	**P**	**03**	**08**	**50.8 -0.3**
	baz=245							
M13K	**Dall Lake**	**47.38**	**33**	P	**P**	**03**	**08**	**53.4 +1.2**
	baz=254							
ZSN	**Zaisan**	**47.62**	**309**⇑*e*P		**P**	**03**	**08**	**53.9 -0.4**
	baz=309							
ZSN				*i* S	**S**	**03**	**15**	**51.1 +1.7**
	baz=309							
ZSN	**Zaisan**	**47.62**	**309***ce*P		**P**	**03**	**08**	**53.9 -0.4**
ZSN				*i* S	**S**	**03**	**15**	**51.1 +1.7**
SDPT	**Sand Point**	**47.79**	**40**	P	**P**	**03**	**08**	**56.3 +0.9**
	baz=261							
F14K	**Arctic Creek**	**47.82**	**26**	P	**P**	**03**	**08**	**55.2 -0.3**
	baz=246							
ANM	**Nome**	**47.84**	**27**	P	**P**	**03**	**08**	**55.8 +0.1**
	baz=248							
L14K	**Kuka Creek**	**47.96**	**32**	P	**P**	**03**	**08**	**56.6 0.0**
L14K	**Kuka Creek**	**47.96**	**32**	P	**P**	**03**	**08**	**56.5 -0.1**
	baz=254							
J14K	**Nanvaranak Lak**	**47.98**	**30**	IAMs_20	IAMs_20	03	28	13.9
	comp=Z,4μm,19.0s							
N14K	**Kuskokwak Cree**	**48.06**	**34**	P	**P**	**03**	**08**	**56.9 -0.5**
	baz=256							
ZAA0	**Zalesovo Array**	**48.09**	**318**	P	**P**	**03**	**08**	**56.8 -1.0**
ZALV	**Zalesovo Beam**	**48.09**	**318**	P	**P**	**03**	**08**	**57.9 +0.1**
ZALV	**Zalesovo Beam**	**48.09**	**318**	P	**P**	**03**	**08**	**57.9 +0.1**
ZALV	**Zalesovo Beam**	**48.09**	**318**	P	**P**	**03**	**08**	**57.6 -0.2**
	comp=Z,24nm,0.4s,baz=101,slow=8.2,SNR=47							
ZALV				PcP	**PcP**	**03**	**10**	**24.9 -0.4**
	comp=Z,6.3nm,0.7s,baz=109,slow=3.0,SNR=1.3							
ZALV				LR	LR	03	30	10.0
	comp=Z,9μm,18.0s,baz=94,slow=37							
	comp=Z,24nm,0.4s							
O14K	**Tigyukauivet M**	**48.11**	**35**	IAMs_20	IAMs_20	03	26	20.3
	comp=Z,4μm,20.0s							
O14K	**Tigyukauivet M**	**48.11**	**35**	P	**P**	**03**	**08**	**57.5 -0.4**
	baz=257							
M14K	**Bethel**	**48.13**	**33**	IAMs_20	IAMs_20	03	27	03.9
	comp=Z,5μm,20.0s							
M14K	**Bethel**	**48.13**	**33**	P	**P**	**03**	**08**	**57.3 -0.7**
	baz=255							
CNBA	**Chernabura Isl**	**48.22**	**41**	P	**P**	**03**	**08**	**57.9 -0.8**
CHNA	**Chernabura Isl**	**48.22**	**41**	P	**P**	**03**	**08**	**59.1 +0.3**
	baz=262							
ODAN	**Odare**	**48.39**	**281**	*e*P	**P**	**03**	**09**	**00.2 -0.6**
S14K	**Fog Glacier**	**48.45**	**39**	P	**P**	**03**	**08**	**59.9 -0.7**
	baz=261							
G15K	**Niukluk**	**48.53**	**27**	P	**P**	**03**	**09**	**01.9 +0.9**
	baz=249							
F15K	**North Star Dit**	**48.55**	**26**	P	**P**	**03**	**09**	**01.0 -0.2**
F15K				IAmb	IAmb	03	09	17.8
	comp=Z,42nm,1.0s							
F15K	**North Star Dit**	**48.55**	**26**	P	**P**	**03**	**09**	**02.0 +0.7**
	baz=248							
L15K	**Ungalak Mounta**	**48.60**	**32**	P	**P**	**03**	**09**	**01.9 +0.2**
	baz=255							
M15K	**Kasigluk River**	**48.73**	**33**	P	**P**	**03**	**09**	**03.0 +0.3**
	baz=256							
KPJI	**Karang Pucung**	**48.74**	**227**	P	**P**	**03**	**09**	**02.2 -1.1**
	comp=Z,262nm,1.0s,comp=Z,3μm							
K15K	**Wolf Creek Mou**	**48.74**	**31**	P	**P**	**03**	**09**	**03.2 +0.4**
K15K				IAMs_20	IAMs_20	03	27	50.4
	comp=Z,4μm,20.0s							
K15K	**Wolf Creek Mou**	**48.74**	**31**	P	**P**	**03**	**09**	**03.5 +0.7**
	baz=254							
O15K	**Ungalikthiuk R**	**48.82**	**35**	P	**P**	**03**	**09**	**03.1 -0.3**
	baz=258							
N15K	**Kwethluk River**	**48.89**	**34**	P	**P**	**03**	**09**	**04.2 +0.2**
N15K				IAMs_20	IAMs_20	03	27	16.0
	comp=Z,5μm,20.0s							
N15K	**Kwethluk River**	**48.89**	**34**	P	**P**	**03**	**09**	**04.1 +0.2**
	baz=257,SNR=6.0							
BKNI	**Bangkinang**	**48.97**	**242**	IAMs_20	IAMs_20	03	27	24.8
	comp=Z,5μm,21.0s							
BKNI	**Bangkinang**	**48.97**	**242**	P	**P**	**03**	**09**	**06.3 +1.1**
RAMN	**Ramite**	**49.04**	**282**	*e*P	**P**	**03**	**09**	**04.8 -1.0**
	comp=Z,106nm,1.0s							
CHGN	**Chignik**	**49.08**	**39**	P	**P**	**03**	**09**	**04.4 -0.9**
	baz=262							
PSI	**Prapat**	**49.10**	**246**	P	**P**	**03**	**09**	**07.8 +1.5**
PSI	**Prapat**	**49.10**	**246**	P	**P**	**03**	**09**	**05.5 -0.8**
PSI				pmax	pmax			
	comp=Z,43nm,0.9s							
H16K	**Elim**	**49.14**	**28**	P	**P**	**03**	**09**	**06.2 +0.5**
	baz=251							
RPSI	**Rantau Prapat**	**49.17**	**246**	P	**P**	**03**	**09**	**05.5 -1.1**
RPSI				IAmb	IAmb	03	10	45.2
	comp=Z,43nm,0.9s							
JIRN	**Jiri**	**49.19**	**283**	*e*P	**P**	**03**	**09**	**06.2 -1.0**
LEM	**Lembang**	**49.21**	**229**	LR	LR	03	32	37.9
	comp=Z,2μm,18.5s,baz=46,slow=40							
CTA	**Charters Tower**	**49.22**	**175**	P	**P**	**03**	**09**	**07.1 +0.3**
CTA	**Charters Tower**	**49.22**	**175**	LR	LR	03	28	46.1
	comp=Z,3μm,22.0s,baz=348,slow=35							
CTAO	**Charters Tower**	**49.22**	**175**	P	**P**	**03**	**09**	**06.7 -0.1**
CTAO				IAmb	IAmb	03	09	23.2
	comp=Z,55nm,1.4s							
CTAO	**Charters Tower**	**49.22**	**175**	P	**P**	**03**	**09**	**07.2 +0.4**
CTAO	**Charters Tower**	**49.22**	**175**	P	**P**	**03**	**09**	**06.7 -0.1**
CTAO				pmax	pmax			
	comp=Z,55nm,1.4s							
C16K	**Lisburne Hills**	**49.33**	**23**	P	**P**	**03**	**09**	**07.1 0.0**
	baz=245							
G16K	**Koyuk River**	**49.34**	**27**	P	**P**	**03**	**09**	**07.3 +0.1**
	baz=251							
MK31	**Makanchi Array**	**49.38**	**308**	P	**P**	**03**	**09**	**07.3 -0.6**
MK31	**Makanchi Array**	**49.38**	**308**	*i* P	**P**	**03**	**09**	**06.5 -1.4**
MK31				pmax	pmax			
	comp=Z,29nm,0.7s							
MKAR	**Makanchi Array**	**49.38**	**308**	P	**P**	**03**	**09**	**07.4 -0.5**
MKAR	**Makanchi Array**	**49.38**	**308**	P	**P**	**03**	**09**	**07.4 -0.5**
MKAR	**Makanchi Array**	**49.38**	**308**	P	**P**	**03**	**09**	**07.2 -0.7**
	comp=Z,21nm,0.7s,baz=89,slow=9.4,SNR=67

WRA	**Warramunga Arr**	**49.59**	**190**	P	**P**	**03 09 08.6**	**-1.1**
	comp=Z,91nm,0.8s,baz=7.4,slow=7.7,SNR=76						
WRA				PcP	**PcP**	**03 10 31.5**	**+0.3**
	comp=Z,11nm,0.6s,baz=1.9,slow=3.7,SNR=5.1						
WRA				ScP	**ScP**	**03 14 27.0**	**+0.7**
	comp=Z,4.6nm,1.2s,baz=6.9,slow=4.1,SNR=5.0						
WRA				S	**S**	**03 16 11.8**	**-5.8**
	comp=Z,8.6nm,1.1s,baz=9.6,slow=15,SNR=9.3						
WRA				LR	LR	03 28 07.5	
	comp=Z,5µm,22.0s,baz=31,slow=34						
WR2	**Warramunga Arr**	**49.59**	**190**	IAMs_20	IAMs_20	03 27 55.7	
	comp=Z,5µm,21.0s						
MAKZ	**Makanchi**	**49.60**	**308**	P	**P**	**03 09 09.4**	**-0.1**
MAKZ	**Makanchi**	**49.60**	**308**	P	**P**	**03 09 09.4**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,206nm,1.6s						
MAKZ				MLR	MLR		
	comp=Z,8µm,18.0s						
N16K	**Nishlik Lake**	**49.60**	**34**	P	**P**	**03 09 08.7**	**-0.6**
	baz=258						
WC3	**Warramunga Arr**	**49.60**	**190**	IAMs_20	IAMs_20	03 27 57.0	
	comp=Z,6µm,22.0s						
WB1	**Warramunga Ar.**	**49.61**	**190**	IAMs_20	IAMs_20	03 27 57.1	
	comp=Z,6µm,22.0s						
WC4	**Warramunga Arr**	**49.61**	**190**	IAMs_20	IAMs_20	03 27 56.2	
	comp=Z,6µm,21.0s						
M16K	**Timber Creek**	**49.62**	**33**	P	**P**	**03 09 10.3**	**+0.8**
M16K				IAmb	IAmb	03 09 13.0	
	comp=Z,96nm,1.4s						
M16K				IAMs_20	IAMs_20	03 27 28.3	
	comp=Z,5µm,21.0s						
M16K	**Timber Creek**	**49.62**	**33**	P	**P**	**03 09 08.7**	**-0.8**
	baz=258						
QIS	**Mount Isa**	**49.65**	**184**	P	**P**	**03 09 10.3**	**+0.2**
BBJI	**Bungbulang**	**49.67**	**228**	P	**P**	**03 09 12.6**	**+2.2**
P16K	**Nushagak River**	**49.72**	**36**	P	**P**	**03 09 09.4**	**-0.8**
	baz=260						
O16K	**Kokwok River B**	**49.77**	**35**	P	**P**	**03 09 11.0**	**+0.4**
O16K				IAMs_20	IAMs_20	03 28 44.1	
	comp=Z,4µm,20.0s						
O16K	**Kokwok River B**	**49.77**	**35**	P	**P**	**03 09 10.4**	**-0.2**
	baz=260						
FITZ	**Fitzroy Crossi**	**49.88**	**201**	P	**P**	**03 09 11.8**	**0.0**
LHSI	**Lahat**	**49.88**	**235**	P	**P**	**03 09 11.8**	**-0.2**
	comp=Z,152nm,1.0s						
PKI	**Pulchoki**	**49.88**	**283**	*e*P	**P**	**03 09 11.4**	**-1.0**
PKIN	**Phulchoki**	**49.89**	**283**	*e*P	**P**	**03 09 11.5**	**-0.9**
KKN	**Kakani**	**49.93**	**283**	*e*P	**P**	**03 09 12.2**	**-0.4**
	comp=Z,195nm,1.1s						
G17K	**Kiwalik Mounta**	**50.05**	**27**	P	**P**	**03 09 12.9**	**+0.2**
	baz=252						
RDOG	**Red Dog Mine**	**50.07**	**24**	P	**P**	**03 09 13.3**	**+0.4**
RDOG				IAmb	IAmb	03 09 29.5	
	comp=Z,36nm,0.9s						
RDOG	**Red Dog Mine**	**50.07**	**24**	P	**P**	**03 09 13.8**	**+1.0**
	baz=248,SNR=9.8						
F17K	**Baldwin Pennin**	**50.11**	**26**	P	**P**	**03 09 13.2**	**+0.1**
	baz=251						
C17K	**DeLong Mountai**	**50.14**	**23**	P	**P**	**03 09 13.5**	**+0.2**
	baz=247						
L17K	**Donlin**	**50.17**	**32**	P	**P**	**03 09 14.3**	**+0.7**
	baz=257						
H17K	**Granite Mounta**	**50.18**	**28**	P	**P**	**03 09 14.1**	**+0.4**
	baz=254						
PDSI	**Padang**	**50.21**	**241**	P	P	03 09 21.0	+6.4
O17K	**Koliganek Bris**	**50.30**	**35**	P	**P**	**03 09 15.1**	**+0.5**
	baz=260,SNR=13						
K17K	**Iditarod**	**50.30**	**31**	P	**P**	**03 09 14.9**	**+0.3**
K17K				IAmb	IAmb	03 09 31.3	
	comp=Z,46nm,0.9s						
K17K				IAMs_20	IAMs_20	03 28 59.2	
	comp=Z,4µm,19.0s						
K17K	**Iditarod**	**50.30**	**31**	P	**P**	**03 09 14.1**	**-0.5**
	baz=257,SNR=5.5						
Q16K	**King Salmon**	**50.35**	**36**	P	**P**	**03 09 14.6**	**-0.4**
	baz=262						
R17K	**Ugashik Creek**	**50.35**	**38**	P	**P**	**03 09 14.6**	**-0.5**
	baz=263						
KASI	**Kota Agung**	**50.38**	**233**	P	**P**	**03 09 14.4**	**-1.4**
	comp=Z,91nm,0.9s						
N17K	**Nushagak Hills**	**50.38**	**34**	P	**P**	**03 09 15.9**	**+0.6**
N17K				IAmb	IAmb	03 09 18.6	
	comp=Z,41nm,0.8s						
N17K				IAMs_20	IAMs_20	03 28 02.3	
	comp=Z,6µm,18.0s						
N17K	**Nushagak Hills**	**50.38**	**34**	P	**P**	**03 09 15.3**	**+0.1**
	baz=260						
GKN	**Gorkha**	**50.42**	**283**	*e*P	**P**	**03 09 15.8**	**-0.4**
M17K	**Holitna River**	**50.42**	**33**	P	**P**	**03 09 15.9**	**+0.3**
M17K				IAmb	IAmb	03 09 32.6	
	comp=Z,57nm,0.8s						
M17K	**Holitna River**	**50.42**	**33**	P	**P**	**03 09 16.1**	**+0.5**
	baz=259,SNR=9.4						
P17K	**Kvichak River**	**50.54**	**36**	P	**P**	**03 09 16.7**	**+0.3**
	baz=262,SNR=11						
CHIR	**Chirikof Islan**	**50.58**	**40**	P	**P**	**03 09 16.3**	**-0.5**
	baz=265						
BOK	**Bokaro**	**50.62**	**278**	*e*P	**P**	**03 09 16.7**	**-0.9**
BOK				IAmb	IAmb	03 09 30.6	
	comp=Z,53nm,1.0s						
E18K	**Tukpahlearik C**	**50.67**	**25**	P	**P**	**03 09 17.3**	**0.0**
E18K	**Tukpahlearik C**	**50.67**	**25**	P	**P**	**03 09 17.4**	**+0.1**
	baz=251						
Q17K	**Contact Creek**	**50.70**	**37**	P	**P**	**03 09 16.8**	**-1.0**
	baz=263						
H18K	**Honhosa River**	**50.87**	**28**	P	**P**	**03 09 18.9**	**0.0**
H18K	**Honhosa River**	**50.87**	**28**	P	**P**	**03 09 17.3**	**-1.6**
	baz=255						
C18K	**Utukok River**	**50.88**	**23**	P	**P**	**03 09 19.2**	**+0.2**
C18K	**Utukok River**	**50.88**	**23**	P	**P**	**03 09 19.3**	**+0.2**
	baz=249,SNR=7.4						
L18K	**Granite Mounta**	**50.93**	**32**	P	**P**	**03 09 19.8**	**+0.4**
L18K				IAMs_20	IAMs_20	03 29 56.8	
	comp=Z,5µm,19.0s						
L18K	**Granite Mounta**	**50.93**	**32**	P	**P**	**03 09 19.7**	**+0.3**
	baz=259						
B18K	**Kokolik River**	**50.94**	**22**	P	**P**	**03 09 18.6**	**-0.7**
	baz=248,SNR=9.6						
G18K	**Tagagawik**	**50.95**	**27**	P	**P**	**03 09 20.0**	**+0.5**
G18K	**Tagagawik**	**50.95**	**27**	P	**P**	**03 09 19.3**	**-0.2**
	baz=254						
N18K	**Kilae Creek**	**51.04**	**34**	P	**P**	**03 09 20.4**	**+0.2**
N18K				IAmb	IAmb	03 09 49.5	
	comp=Z,63nm,1.3s						
N18K				IAMs_20	IAMs_20	03 28 32.6	
	comp=Z,5µm,20.0s						
N18K	**Kilae Creek**	**51.04**	**34**	P	**P**	**03 09 20.0**	**-0.2**
	baz=261,SNR=7.4						
DANN	**Dangsing**	**51.07**	**284**	*e*P	**P**	**03 09 20.4**	**-0.9**
	comp=Z,474nm,1.3s						
GSI	**Gunungsitoli**	**51.08**	**245**	IAMs_20	IAMs_20	03 28 41.0	
	comp=Z,4µm,20.0s						
GSI	**Gunungsitoli**	**51.08**	**245**	P	**P**	**03 09 23.8**	**+2.7**
J18K	**Innoko River**	**51.17**	**30**	IAMs_20	IAMs_20	03 30 23.4	
	comp=Z,4µm,19.0s						
J18K	**Innoko River**	**51.17**	**30**	P	**P**	**03 09 20.4**	**-0.8**
	baz=258						
P18K	**Big Mountain,**	**51.18**	**36**	P	**P**	**03 09 21.1**	**-0.2**
P18K				IAmb	IAmb	03 09 37.5	
	comp=Z,47nm,0.8s						
P18K				IAMs_20	IAMs_20	03 28 18.5	
	comp=Z,5µm,20.0s						
P18K	**Big Mountain,**	**51.18**	**36**	P	**P**	**03 09 21.3**	**-0.1**
	baz=262,SNR=6.8						
Q18K	**Katmai Hardscr**	**51.20**	**36**	P	**P**	**03 09 20.8**	**-0.8**
	baz=263,SNR=7.5						
M18K	**Stony River**	**51.20**	**33**	P	**P**	**03 09 21.0**	**-0.4**
	baz=260						
O18K	**Koktuh Hills**	**51.25**	**35**	P	**P**	**03 09 22.5**	**+0.6**
O18K				IAmb	IAmb	03 09 39.4	
	comp=Z,50nm,0.7s						
O18K	**Koktuh Hills**	**51.25**	**35**	P	**P**	**03 09 21.8**	**0.0**
	baz=262,SNR=11						
SVW2	**Sparrevohn**	**51.25**	**33**	P	**P**	**03 09 21.7**	**-0.1**
SVW2				IAMs_20	IAMs_20	03 28 31.0	
	comp=Z,5µm,22.0s						
SVW2	**Sparrevohn**	**51.25**	**33**	P	**P**	**03 09 24.3**	**+2.5**
KOLN	**Koldanda**	**51.37**	**284**	*e*P	**P**	**03 09 23.2**	**-0.2**
TTA	**Tatalina**	**51.38**	**31**	P	**P**	**03 09 23.0**	**+0.2**
	baz=259						
R18K	**Karluk**	**51.38**	**38**	P	**P**	**03 09 22.1**	**-0.7**
	baz=265						
GCSA	**Galena City Sc**	**51.38**	**29**	P	**P**	**03 09 22.5**	**-0.2**
	baz=257						
SNSI	**Sinabang, Aceh**	**51.42**	**247**	P	**P**	**03 09 22.2**	**-1.4**
SII	**Sitkinak Islan**	**51.44**	**39**	P	**P**	**03 09 23.4**	**+0.1**
SII				IAmb	IAmb	03 09 42.2	
	comp=Z,72nm,0.9s						
SII				IAMs_20	IAMs_20	03 29 39.5	
	comp=Z,5µm,20.0s						
SII	**Sitkinak Islan**	**51.44**	**39**	P	**P**	**03 09 23.6**	**+0.3**
	baz=266						
A19K	**Wainwright**	**51.49**	**21**	P	**P**	**03 09 23.6**	**+0.2**
	baz=248						
F19K	**Shaleruckik Mo**	**51.55**	**26**	P	**P**	**03 09 23.9**	**0.0**
F19K				IAmb	IAmb	03 09 52.2	
	comp=Z,107nm,1.9s						
F19K	**Shaleruckik Mo**	**51.55**	**26**	P	**P**	**03 09 24.0**	**0.0**
	baz=254						
C19K	**Lookout Ridge**	**51.59**	**23**	P	**P**	**03 09 24.2**	**-0.1**
C19K				IAmb	IAmb	03 09 40.6	
	comp=Z,40nm,0.9s						
C19K				IAMs_20	IAMs_20	03 30 51.3	
	comp=Z,4µm,20.0s						
C19K	**Lookout Ridge**	**51.59**	**23**	P	**P**	**03 09 24.1**	**-0.2**
	baz=251,SNR=7.6						
PDGK	**Podgornoye**	**51.60**	**304**	P	**P**	**03 09 23.0**	**-1.8**
G19K	**Purcell Mounta**	**51.64**	**27**	P	**P**	**03 09 25.0**	**+0.4**
G19K	**Purcell Mounta**	**51.64**	**27**	P	**P**	**03 09 24.6**	**0.0**
	baz=255						
SHLS	**Shalkode**	**51.64**	**304**	*e*P	**P**	**03 09 22.1**	**-3.0**
	comp=Z,108nm,2.3s,baz=304						
SHLS	**Shalkode**	**51.64**	**304**	*e*P	**P**	**03 09 22.1**	**-3.0**
SHLS				pmax	pmax		
	comp=Z,108nm,2.3s						
KURK	**Kurchatov**	**51.73**	**313**	P	**P**	**03 09 26.2**	**+0.7**
O19K	**Port Alsworth**	**51.74**	**35**	P	**P**	**03 09 25.6**	**+0.1**
O19K				IAmb	IAmb	03 09 28.9	
	comp=Z,59nm,1.1s						
O19K	**Port Alsworth**	**51.74**	**35**	P	**P**	**03 09 25.5**	**+0.1**
	baz=263,SNR=11						
H19K	**Roundabout Mou**	**51.74**	**28**	P	**P**	**03 09 25.4**	**0.0**
H19K	**Roundabout Mou**	**51.74**	**28**	P	**P**	**03 09 25.1**	**-0.2**
	baz=256						
N19K	**Bonanza Creek**	**51.74**	**34**	P	**P**	**03 09 25.6**	**+0.1**
N19K				IAMs_20	IAMs_20	03 29 26.2	
	comp=Z,5µm,21.0s						
N19K	**Bonanza Creek**	**51.74**	**34**	P	**P**	**03 09 25.7**	**+0.1**
	baz=262						
J19K	**Poorman**	**51.76**	**30**	P	**P**	**03 09 25.5**	**-0.1**
J19K	**Poorman**	**51.76**	**30**	P	**P**	**03 09 25.7**	**+0.2**
	baz=258						
L19K	**White Mountain**	**51.77**	**32**	P	**P**	**03 09 26.2**	**+0.5**
L19K				IAMs_20	IAMs_20	03 31 29.0	
	comp=Z,4µm,19.0s						
L19K	**White Mountain**	**51.77**	**32**	P	**P**	**03 09 25.3**	**-0.4**
	baz=261						
KURBB	**Kurchatov Arra**	**51.78**	**313**	P	**P**	**03 09 24.7**	**-1.2**
KURBB	**Kurchatov Arra**	**51.78**	**313**	P	**P**	**03 09 26.2**	**+0.2**
	comp=Z,43nm,0.5s,baz=92,slow=6.0,SNR=170						
KURBB				S	**S**	**03 16 48.6**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=89,slow=14,SNR=4.4						
KURBB				LR	LR	03 32 22.7	
	comp=Z,10µm,18.2s,baz=88,slow=37						
	comp=Z,43nm,0.5s						
PYUN	**Piuhan**	**51.79**	**284**	*e*P	**P**	**03 09 25.6**	**-1.0**
	comp=Z,194nm,0.6s						
D19K	**Kuna River**	**51.90**	**24**	P	**P**	**03 09 26.9**	**+0.3**
D19K	**Kuna River**	**51.90**	**24**	P	**P**	**03 09 26.0**	**-0.6**
	baz=253						
BWNR	**Bhubaneshwar**	**51.91**	**274**⇑	*e*P	**P**	**03 09 24.4**	**-2.8**
E19K	**Redstone River**	**51.93**	**25**	P	**P**	**03 09 27.2**	**+0.5**
E19K				IAmb	IAmb	03 09 43.4	
	comp=Z,36nm,0.8s						
E19K	**Redstone River**	**51.93**	**25**	P	**P**	**03 09 26.6**	**-0.2**
	baz=254						
UZB	**Uzynbulak**	**51.96**	**304**	*e*P	**P**	**03 09 27.1**	**-0.5**
	comp=Z,135nm,2.5s,baz=304						
UZB	**Uzynbulak**	**51.96**	**304**	*e*P	**P**	**03 09 27.0**	**-0.5**
UZB				pmax	pmax		
	comp=Z,135nm,2.5s						
OHAK	**Old Harbor**	**51.98**	**38**	P	**P**	**03 09 27.0**	**-0.3**
OHAK	**Old Harbor**	**51.98**	**38**	P	**P**	**03 09 27.0**	**-0.3**
OHAK	**Old Harbor**	**51.98**	**38**	P	**P**	**03 09 26.6**	**-0.7**
	baz=266,SNR=6.8						
KPKS	**Kokpek**	**52.16**	**304**	*e*P	**P**	**03 09 28.3**	**-0.8**
	comp=Z,92nm,2.3s,baz=304						
KPKS				*e*S	**S**	**03 16 54.0**	**+0.8**
	baz=304						
KPKS	**Kokpek**	**52.16**	**304**	*e*P	**P**	**03 09 28.2**	**-0.8**
KPKS				*e*S	**S**	**03 16 53.9**	**+0.8**
KPKS				pmax	pmax		
	comp=Z,92nm,2.3s						
TDK	**Taldyqorghan**	**52.20**	**306**	*e*P	**P**	**03 09 28.9**	**-0.3**
	baz=306						
TDK				*i* S	**S**	**03 16 54.5**	**+1.1**
	baz=306						
TDK				LR	LR	03 32 07.4	
	comp=Z,3µm,16.1s,baz=306						
TDK	**Taldyqorghan**	**52.20**	**306**	*e*P	**P**	**03 09 28.8**	**-0.3**
TDK				MLR	MLR		
	comp=Z,3µm,16.0s						
L20K	**Farewell, AK**	**52.27**	**32**	P	**P**	**03 09 29.2**	**-0.2**
	baz=261,SNR=6.0						
ILSW	**Iliamna Southw**	**52.30**	**35**	P	**P**	**03 09 29.8**	**0.0**
ILSW				IAMs_20	IAMs_20	03 29 04.0	
	comp=Z,4µm,20.0s						
K20K	**Telida**	**52.32**	**31**	P	**P**	**03 09 30.1**	**+0.3**
K20K				IAmb	IAmb	03 09 46.7	
	comp=Z,37nm,0.8s						
K20K				IAMs_20	IAMs_20	03 31 01.5	
	comp=Z,4µm,19.0s						
K20K	**Telida**	**52.32**	**31**	P	**P**	**03 09 29.4**	**-0.4**
	baz=260						
H20K	**Anotleneega Mo**	**52.37**	**28**	P	**P**	**03 09 30.3**	**+0.1**
	baz=258						
ZHN	**Zhinishke**	**52.38**	**304**	*e*P	**P**	**03 09 29.4**	**-1.4**
	comp=Z,102nm,2.9s,baz=304						
ZHN	**Zhinishke**	**52.38**	**304**	*e*P	**P**	**03 09 29.3**	**-1.4**
ZHN				pmax	pmax		
	comp=Z,102nm,2.9s						
F20K	**Avaraart Lake**	**52.39**	**26**	P	**P**	**03 09 30.0**	**-0.1**
F20K	**Avaraart Lake**	**52.39**	**26**	P	**P**	**03 09 31.1**	**+0.9**
	baz=256,SNR=12						
I20K	**Naaghedeneel**	**52.40**	**29**	IAMs_20	IAMs_20	03 31 09.9	
	comp=Z,4µm,18.0s						
I20K	**Naaghedeneel**	**52.40**	**29**	P	**P**	**03 09 31.5**	**+1.2**
	baz=259						
KDAK	**Kodiak Island**	**52.40**	**38**	P	**P**	**03 09 30.8**	**+0.4**
	baz=266						
KDAK	**Kodiak Island**	**52.40**	**38**	LR	LR	03 30 37.0	
	comp=Z,9µm,20.7s,baz=270,slow=35						
SATY	**Saty**	**52.42**	**304**	*e*P	**P**	**03 09 30.1**	**-0.8**
	comp=Z,146nm,2.7s,baz=304						
SATY				*e*S	**S**	**03 16 57.3**	**+0.6**
	baz=304						
SATY	**Saty**	**52.42**	**304**	*e*P	**P**	**03 09 30.1**	**-0.8**
SATY				*e*S	**S**	**03 16 57.2**	**+0.6**
SATY				pmax	pmax		
	comp=Z,146nm,2.7s						
J20K	**Nowinta River**	**52.43**	**30**	P	**P**	**03 09 30.8**	**+0.3**
J20K	**Nowinta River**	**52.43**	**30**	P	**P**	**03 09 31.1**	**+0.6**
	baz=260,SNR=12						
PRZ	**Przheval'sk**	**52.49**	**303**	P	**P**	**03 09 31.7**	**+0.1**
PRZ	**Przheval'sk**	**52.49**	**303**	P	**P**	**03 09 31.7**	**+0.1**
PRZ				pmax	pmax		
	comp=Z,98nm,1.1s						
D20K	**Etivluk River**	**52.49**	**24**	P	**P**	**03 09 30.4**	**-0.6**
	baz=254						
E20K	**Nigu River**	**52.52**	**24**	P	**P**	**03 09 31.2**	**0.0**
	baz=255						
M20K	**Styx River**	**52.53**	**33**	P	**P**	**03 09 31.7**	**+0.3**
M20K				IAMs_20	IAMs_20	03 29 41.2	
	comp=Z,5µm,20.0s						
M20K	**Styx River**	**52.53**	**33**	P	**P**	**03 09 31.4**	**-0.1**
	baz=262						
RSO	**Redoubt South**	**52.54**	**34**	P	**P**	**03 09 31.5**	**-0.2**
O20K	**Slope Mountain**	**52.57**	**35**	P	**P**	**03 09 31.6**	**-0.1**
	baz=264						
VAR	**Varanasi**	**52.61**	**281**	*e*P	**P**	**03 09 31.5**	**-0.9**
B20K	**Meade River**	**52.68**	**22**	P	**P**	**03 09 32.4**	**+0.1**
B20K				IAmb	IAmb	03 09 48.3	
	comp=Z,38nm,0.8s						
B20K	**Meade River**	**52.68**	**22**	P	**P**	**03 09 32.4**	**+0.1**
	baz=252						
ARXS	**Arharly**	**52.70**	**305**	*e*P	**P**	**03 09 32.0**	**-0.9**
N20K	**Mount Spurr**	**52.89**	**33**	P	**P**	**03 09 33.8**	**-0.3**
	baz=264						
IMAR	**Indian Mountai**	**52.93**	**27**	P	**P**	**03 09 34.5**	**+0.3**
HOM	**Homer**	**53.02**	**35**	IAMs_20	IAMs_20	03 30 08.2	
	comp=Z,5µm,20.0s						
HOM	**Homer**	**53.02**	**35**	P	**P**	**03 09 34.1**	**-0.9**
	baz=266						
TARG	**Taragay, Kyrgy**	**53.04**	**302**	P	**P**	**03 09 35.5**	**-0.4**
TARG				IAmb	IAmb	03 09 51.0	
	comp=Z,41nm,1.0s						
TARG	**Taragay, Kyrgy**	**53.04**	**302**	P	**P**	**03 09 35.5**	**-0.4**
TARG				pmax	pmax		
	comp=Z,41nm,1.0s						
PPLA	**Purkeypile**	**53.10**	**31**	P	**P**	**03 09 36.2**	**+0.5**
	baz=263,SNR=6.4						
G21K	**Allakaket**	**53.13**	**27**	P	**P**	**03 09 36.4**	**+0.6**
G21K	**Allakaket**	**53.13**	**27**	P	**P**	**03 09 36.3**	**+0.6**
	baz=259						
JHSG	**JHARSUGUGA**	**53.14**	**276**	*e*P	**P**	**03 09 34.3**	**-2.1**
CHUM	**Lake Minchumin**	**53.17**	**30**	P	**P**	**03 09 37.0**	**+1.0**
	baz=262						
CAST	**Castle Rocks**	**53.21**	**31**	P	**P**	**03 09 36.5**	**+0.2**
CAST				IAMs_20	IAMs_20	03 30 49.3	
	comp=Z,4µm,20.0s						
CAST	**Castle Rocks**	**53.21**	**31**	P	**P**	**03 09 36.0**	**-0.4**
	baz=262,SNR=17						
CNPM	**China Poot**	**53.22**	**36**	P	**P**	**03 09 36.0**	**-0.5**
CNPM				IAmb	IAmb	03 09 56.0	
	comp=Z,48nm,1.0s						
CNPM				IAMs_20	IAMs_20	03 30 55.5	
	comp=Z,5µm,21.0s						
C21K	**Knifeblade Rid**	**53.25**	**23**	P	**P**	**03 09 37.2**	**+0.7**
	baz=255						
H21K	**Melozitna River**	**53.25**	**28**	P	**P**	**03 09 36.9**	**+0.3**
H21K				IAmb	IAmb	03 09 57.9	
	comp=Z,42nm,1.1s						
H21K	**Melozitna River**	**53.25**	**28**	P	**P**	**03 09 36.7**	**+0.1**
	baz=260						
F21K	**Alatna River**	**53.28**	**26**	P	**P**	**03 09 37.0**	**+0.2**
F21K	**Alatna River**	**53.28**	**26**	P	**P**	**03 09 35.9**	**-0.9**
	baz=258,SNR=9.3						
SKT	**Skwentna**	**53.29**	**33**	P	**P**	**03 09 37.0**	**+0.1**
SKT				IAMs_20	IAMs_20	03 29 55.4	
	comp=Z,4µm,20.0s						
SKT	**Skwentna**	**53.29**	**33**	P	**P**	**03 09 36.5**	**-0.4**
	baz=264,SNR=11						
AS31	**Alice Springs**	**53.31**	**190**	P	**P**	**03 09 37.0**	**-0.6**
ASAR	**Alice Springs**	**53.32**	**190**	P	**P**	**03 09 36.9**	**-0.6**
ASAR	**Alice Springs**	**53.32**	**190**	P	**P**	**03 09 36.9**	**-0.6**
ASAR	**Alice Springs**	**53.32**	**190**	P	**P**	**03 09 36.3**	**-1.2**
	comp=Z,5.9nm,0.5s,baz=4.4,slow=5.2,SNR=26						
ASAR				S	**S**	**03 17 08.2**	**-0.7**
	comp=Z,2.2nm,1.1s,baz=14,slow=15,SNR=6.8						
ASAR				LR	LR	03 30 45.9	
	comp=Z,6µm,21.9s,baz=7.0,slow=34						
	comp=Z,5.9nm,0.5s						
CHKK	**Chushkaly**	**53.34**	**305**	*e*P	**P**	**03 09 36.7**	**-0.9**
	baz=305						
CHKK	**Chushkaly**	**53.34**	**305**	*e*P	**P**	**03 09 36.7**	**-0.9**
E21K	**Killik River**	**53.36**	**24**	P	**P**	**03 09 37.5**	**+0.1**
E21K	**Killik River**	**53.36**	**24**	P	**P**	**03 09 36.5**	**-0.9**
	baz=257						
MDOK	**Medeo**	**53.39**	**304**	*e*P	**P**	**03 09 37.6**	**-0.6**
	baz=304						
MDOK				*e*S	**S**	**03 17 10.2**	**+0.2**
	baz=304						
MDOK				LR	LR	03 31 19.1	
	comp=Z,3µm,16.5s,baz=304						
MDOK	**Medeo**	**53.39**	**304**	*e*P	**P**	**03 09 37.5**	**-0.6**
MDOK				*e*S	**S**	**03 17 10.1**	**+0.2**
MDOK				MLR	MLR		
	comp=Z,3µm,16.0s						
BRLK	**Bradley Lake**	**53.42**	**35**	P	**P**	**03 09 37.1**	**-0.8**
BRLK				IAMs_20	IAMs_20	03 30 21.4	
	comp=Z,5µm,21.0s						
B21K	**Ikpikpuk River**	**53.43**	**23**	P	**P**	**03 09 38.3**	**+0.6**
B21K				IAmb	IAmb	03 09 53.9	
	comp=Z,35nm,0.8s						
B21K	**Ikpikpuk River**	**53.43**	**23**	P	**P**	**03 09 37.0**	**-0.8**
	baz=255,SNR=10						
AAA	**Alma-Ata**	**53.48**	**304**	*e*P	**P**	**03 09 38.8**	**0.0**
	comp=Z,157nm,1.8s,baz=304						
AAA	**Alma-Ata**	**53.48**	**304**	*e*P	**P**	**03 09 38.7**	**0.0**
AAA				pmax	pmax		
	comp=Z,157nm,1.8s						
TNSS	**Tian-Shan**	**53.48**	**304**	*e*P	**P**	**03 09 38.6**	**-0.5**
	baz=304						
TNSS	**Tian-Shan**	**53.48**	**304**	*e*P	**P**	**03 09 38.6**	**-0.5**
BRSE	**Bradley Lake S**	**53.49**	**35**	P	**P**	**03 09 36.8**	**-1.6**
	baz=266						
I21K	**Tanana**	**53.51**	**29**	P	**P**	**03 09 38.4**	**-0.1**
	baz=261,SNR=9.4						
SUA	**Susitna One**	**53.62**	**33**	P	**P**	**03 09 39.3**	**-0.2**
SUA				IAmb	IAmb	03 09 55.3	
	comp=Z,36nm,0.7s						
SUA				IAMs_20	IAMs_20	03 30 05.9	
	comp=Z,4µm,20.0s						
SUA	**Susitna One**	**53.62**	**33**	P	**P**	**03 09 38.3**	**-1.2**
	baz=265						
A22K	**Sinclair Lake**	**53.68**	**21**	P	**P**	**03 09 38.4**	**-1.2**
	baz=254						
PTH	**Pithoragarh**	**53.72**	**287**	*e*P	**P**	**03 09 39.3**	**-1.5**
PTH				⇑*e*P	**pP**	**03 09 39.6**	**-3.6**
KTH	**Kantishna Hill**	**53.75**	**31**	P	**P**	**03 09 40.7**	**+0.4**
KTH				IAMs_20	IAMs_20	03 31 55.4	
	comp=Z,4µm,19.0s						
BPAW	**Bear Paw Mtn.**	**53.78**	**30**	P	**P**	**03 09 40.8**	**+0.2**
BPAW				IAmb	IAmb	03 09 45.4	
	comp=Z,84nm,1.9s						
BPAW	**Bear Paw Mtn.**	**53.78**	**30**	P	**P**	**03 09 40.6**	**0.0**
	baz=263						
KUU	**Kurty**	**53.80**	**305**	*e*P	**P**	**03 09 39.

PMR IAMs_20 IAMs_20 03 30 51.6
comp=Z,4µm,21.0s
PMR Palmer 54.40 33 P **P** **03 09 45.1 +0.1**
PMR Palmer 54.40 33 P **P** **03 09 43.7 -1.3**
baz=266,SNR=8.8
PMR Palmer 54.40 33 P **P** **03 09 45.2 +0.2**
PMR pmax pmax
comp=Z,35nm,0.9s
BLSP Bilaspur 54.44 277 *e*P **P** **03 09 42.6 -3.3**
BWN Browne 54.46 30 P **P** **03 09 46.2 +0.8**
TKM2 Tokmak 2 54.48 304 P **P** **03 09 46.4 +0.2**
SNR=36
TKM2 Tokmak 2 54.48 304 *i* P **P** **03 09 45.7 -0.5**
TKM2 pmax pmax
comp=Z,37nm,1.3s
GHO Glory Hole Cre 54.51 33 P **P** **03 09 46.1 +0.2**
GHO IAMs_20 IAMs_20 03 30 54.7
comp=Z,4µm,21.0s
G23K Bananza Creek 54.53 27 P **P** **03 09 46.5 +0.5**
G23K Bananza Creek 54.53 27 P **P** **03 09 46.3 +0.3**
baz=262,SNR=31
COLD Coldfoot 54.54 26 P **P** **03 09 45.5 -0.5**
baz=261,SNR=12
I23K Minto, Yukon-K 54.60 29 P **P** **03 09 46.8 +0.3**
I23K IAmb IAmb 03 10 24.9
comp=Z,42nm,1.2s
I23K Minto, Yukon-K 54.60 29 P **P** **03 09 47.0 +0.6**
baz=264,SNR=12
D23K Nanushuk River 54.65 24 P **P** **03 09 47.0 +0.2**
baz=260
MCK McKinley 54.65 30 P **P** **03 09 46.0 -0.9**
baz=265,SNR=14
RND Reindeer 54.66 31 P **P** **03 09 47.0 +0.1**
RND IAmb IAmb 03 10 01.9
comp=Z,31nm,0.8s
RND IAMs_20 IAMs_20 03 32 14.4
comp=Z,5µm,19.0s
RND Reindeer 54.66 31 P **P** **03 09 47.1 +0.1**
RND pmax pmax
comp=Z,31nm,0.8s
NEA2 Nenana 54.67 29 P **P** **03 09 47.2 +0.2**
NEA2 IAmb IAmb 03 10 02.8
comp=Z,35nm,0.9s
NEA2 Nenana 54.67 29 P **P** **03 09 46.8 -0.1**
baz=264,SNR=24
KNK Knik Glacier 54.71 33 P **P** **03 09 47.4 +0.1**
KNK IAMs_20 IAMs_20 03 31 53.8
comp=Z,5µm,20.0s
KNK Knik Glacier 54.71 33 P **P** **03 09 46.0 -1.4**
baz=267,SNR=17
WAT1 Susitna Watana 54.75 32 P **P** **03 09 46.5 -1.1**
baz=266
KSH Kashi 54.79 300 P **P** **03 09 51.4 +3.0**
KSH pP pwP 03 10 00.1 +0.3
KSH sP sP 03 10 05.0 +13
KSH S **S** **03 17 35.3 +6.4**
KSH ScS **ScS** **03 19 40.6 +3.1**
KSH pmax pmax
comp=Z,21nm,1.2s
KSH pmax pmax
comp=Z,1µm,6.7s
KSH LR LR
comp=Z,5µm,16.0s
KSH LR LR
comp=Z,4µm,15.5s
KSH LR LR
comp=Z,4µm,17.3s
MBWA Marble Bar 54.79 206 P **P** **03 09 48.1 -0.2**
MBWA IAmb IAmb 03 10 02.2
comp=Z,35nm,0.9s
MBWA Marble Bar 54.79 206 P **P** **03 09 48.6 +0.3**
SML Sawmill 54.79 33 P **P** **03 09 48.1 +0.1**
SML IAmb IAmb 03 10 03.7
comp=Z,45nm,0.8s
SML IAMs_20 IAMs_20 03 31 03.0
comp=Z,4µm,20.0s
SML Sawmill 54.79 33 P **P** **03 09 47.4 -0.5**
baz=267,SNR=9.1
C23K Itkillik River 54.83 23 P **P** **03 09 48.6 +0.6**
C23K IAmb IAmb 03 09 51.1
comp=Z,37nm,0.9s
C23K IAMs_20 IAMs_20 03 33 21.0
comp=Z,4µm,21.0s
C23K Itkillik River 54.83 23 P **P** **03 09 47.7 -0.4**
baz=259,SNR=28
KZA Kyzart 54.87 303 P **P** **03 09 51.8 +2.6**
SNR=15
E23K Chandalar 54.88 25 P **P** **03 09 47.6 -1.0**
baz=261
EIDS Eidsvold 54.96 171 P **P** **03 09 50.8 +1.4**
KBK Karagaybulak 54.99 304 P **P** **03 09 49.9 0.0**
SNR=29
VIS Vishakhapatnam 55.06 272 *e*P **P** **03 09 51.4 +1.0**
VIS IAmb IAmb 03 10 03.7
comp=Z,119nm,1.4s
MDM Murphy Dome 55.06 29 P **P** **03 09 50.1 +0.3**
MDM IAmb IAmb 03 10 18.5
comp=Z,53nm,1.4s
CHMS Chumysh 55.08 304 P **P** **03 09 51.3 +1.0**
SNR=10
M23K Glacier View 55.08 33 P **P** **03 09 48.6 -1.4**
baz=268
SGDS Sogindy 55.09 305 *e*P **P** **03 09 49.3 -1.2**
comp=Z,158nm,2.9s,baz=305
SGDS Sogindy 55.09 305 *e*P **P** **03 09 49.2 -1.2**
SGDS pmax pmax
comp=Z,158nm,2.9s
WAT6 Susitna Watana 55.11 32 P **P** **03 09 49.1 -1.3**
baz=267,SNR=12
PSA00 Pilbara Seismi 55.12 206 P **P** **03 09 50.7 0.0**
PSA00 IAmb IAmb 03 10 04.7
comp=Z,36nm,0.8s
PSA00 Pilbara Seismi 55.12 206 P **P** **03 09 50.8 +0.1**
PSA00 IAmb IAmb 03 10 04.6
comp=Z,27nm,0.9s
PSA00 IAMs_20 IAMs_20 03 32 31.2
comp=Z,2µm,20.0s
PSA00 Pilbara Seismi 55.12 206 P **P** **03 09 50.6 0.0**
P23K Montague Islan 55.18 35 P **P** **03 09 49.6 -1.2**
baz=269
USP Ospenovka 55.22 304 P **P** **03 09 51.3 0.0**
SNR=16
COLA College 55.22 29 P **P** **03 09 51.0 +0.1**
COLA College 55.22 29 P **P** **03 09 52.8 +1.9**
COLA College 55.22 29 P **P** **03 09 51.0 +0.1**
baz=265
COLA College 55.22 29 P **P** **03 09 51.0 +0.1**
COLA pmax pmax
comp=Z,12nm,0.8s
CCB Clear Creek Bu 55.22 29 P **P** **03 09 50.8 -0.1**
BTLS Baital 55.26 307 ‖ *e*P **P** **03 09 51.0 -0.7**
baz=307
BTLS *e*S **S** **03 17 35.5 +0.6**
baz=307
BTLS Baital 55.26 307 *ce*P **P** **03 09 50.9 -0.7**
BTLS *e*S **S** **03 17 35.5 +0.6**
SCM Sheep Creek Mo 55.27 33 P **P** **03 09 51.7 +0.3**
SCM IAMs_20 IAMs_20 03 31 07.6
comp=Z,4µm,20.0s
SCM Sheep Creek Mo 55.27 33 P **P** **03 09 49.3 -2.1**
baz=268,SNR=14
SCM Sheep Creek Mo 55.27 33 P **P** **03 09 51.7 +0.3**
SCM pmax pmax
comp=Z,59nm,0.7s
H24K Noodor Dome 55.29 28 P **P** **03 09 50.9 -0.6**
baz=264
DHY Denali Highway 55.30 31 P **P** **03 09 51.7 -0.1**
DHY IAMs_20 IAMs_20 03 32 45.5
comp=Z,4µm,20.0s
DHY Denali Highway 55.30 31 P **P** **03 09 50.3 -1.5**
baz=267,SNR=6.2
E24K Your Creek 55.31 25 P **P** **03 09 52.2 +0.6**
E24K IAmb IAmb 03 10 13.5
comp=Z,37nm,1.1s
E24K Your Creek 55.31 25 P **P** **03 09 50.6 -1.0**
baz=262,SNR=21
AAK Ala-Archa 55.32 304 P **P** **03 09 53.9 +1.6**
SNR=16
AAK Ala-Archa 55.32 304 IAMs_20 IAMs_20 03 34 28.9
comp=Z,5µm,19.0s
AAK Ala-Archa 55.32 304 *i* P **P** **03 09 51.3 -0.9**
SNR=19
AAK Ala-Archa 55.32 304 P **P** **03 09 52.0 -0.2**
AAK Ala-Archa 55.32 304 *de*P **P** **03 09 53.6 +1.3**
AAK pmax pmax
comp=Z,67nm,1.7s
AAK MLR MLR
comp=Z,4µm,19.0s
AAK Ala-Archa 55.32 304 LR LR 03 34 41.8
comp=Z,5µm,19.9s,baz=70,slow=37
D24K Happy Valley 55.34 24 P **P** **03 09 52.4 +0.7**
D24K IAMs_20 IAMs_20 03 34 38.3
comp=Z,4µm,20.0s
D24K Happy Valley 55.34 24 P **P** **03 09 50.0 -1.8**
baz=261,SNR=33
GLI Glacier Island 55.35 34 P **P** **03 09 52.0 0.0**
GLI IAmb IAmb 03 10 07.5
comp=Z,40nm,0.7s
GLI Glacier Island 55.35 34 P **P** **03 09 51.2 -0.7**
baz=269
UCH Uchtor 55.38 303 P **P** **03 09 53.6 +0.6**
SNR=26
F24K Squaw Lake 55.47 26 P **P** **03 09 53.2 +0.5**
F24K IAmb IAmb 03 10 09.6
comp=Z,26nm,0.8s
F24K Squaw Lake 55.47 26 P **P** **03 09 52.4 -0.3**
baz=263,SNR=18
G24K Hadweenzic Riv 55.54 27 P **P** **03 09 53.8 +0.6**
G24K IAmb IAmb 03 09 58.8
comp=Z,75nm,1.6s
G24K Hadweenzic Riv 55.54 27 P **P** **03 09 53.1 -0.1**
baz=264,SNR=9.2
BRZS Berezniki 55.57 313 *e*P **P** **03 09 53.0 -0.8**
baz=313
BRZS *i* S **S** **03 17 39.0 +0.2**
baz=313
BRZS Berezniki 55.57 313 *e*P **P** **03 09 52.9 -0.8**
BRZS *i* S **S** **03 17 39.0 +0.2**
HDA Harding Lake 55.57 30 P **P** **03 09 52.8 -0.7**
HDA Harding Lake 55.57 30 P **P** **03 09 52.0 -1.5**
baz=266,SNR=11
HDA P **P** **03 09 52.0 -1.5**
baz=266,SNR=11
QLP Quilpie 55.58 178 P **P** **03 09 55.3 +1.4**
IL31 55.62 29 P **P** **03 09 53.3 -0.5**
ILAR Eielson Array 55.62 29 P **P** **03 09 53.3 -0.5**
ILAR Eielson Array 55.62 29 P **P** **03 09 53.3 -0.5**
ILAR Eielson Array 55.62 29 P **P** **03 09 53.1 -0.7**
comp=Z,11nm,0.9s,baz=263,slow=5.3,SNR=56
ILAR LR LR 03 31 24.1
comp=Z,2µm,21.4s,baz=264,slow=34
comp=Z,11nm,0.9s
HIN Hinchinbrook I 55.63 35 P **P** **03 09 53.8 -0.2**
HIN IAMs_20 IAMs_20 03 32 05.3
comp=Z,5µm,21.0s
FID Port Fidalgo 55.65 34 IAMs_20 IAMs_20 03 31 11.2
comp=Z,4µm,20.0s
WRKA Warakurna 55.74 196 P **P** **03 09 54.7 -0.4**
SMLA Simla 55.81 289 *e*P **P** **03 09 53.5 -2.2**
SMLA IAmb IAmb 03 10 08.2
comp=Z,77nm,0.9s
M24K Tolsona, Glenn 55.82 33 IAmb IAmb 03 10 37.6
comp=Z,67nm,1.2s
M24K IAMs_20 IAMs_20 03 33 38.2
comp=Z,4µm,20.0s
M24K Tolsona, Glenn 55.82 33 P **P** **03 09 54.0 -1.4**
baz=269
EKS2 Erkin-Say 55.84 304 P **P** **03 09 57.5 +1.6**
SNR=13
KLU Klutina 55.93 33 IAMs_20 IAMs_20 03 31 41.1
comp=Z,4µm,19.0s
KLU Klutina 55.93 33 P **P** **03 09 55.4 -0.8**
baz=269,SNR=12
MERT Meerut 55.96 287 ‖ *e*P **P** **03 09 55.3 -1.5**
NOUC Port Laguerre 55.97 153 P **P** **03 09 58.0 +1.2**
OTUK Ortayu 55.99 311 P **P** **03 09 56.2 -0.6**
AML Almayashu 56.00 303 P **P** **03 09 58.1 +0.7**
SNR=12
AML Almayashu 56.00 303 *i* P **P** **03 09 57.4 0.0**
AML pmax pmax
comp=Z,35nm,1.4s
DZM Mont Dzumac 56.00 153 *e*P **P** **03 09 57.0 -0.1**
comp=Z,78nm,1.1s
DZM *e*S **S** **03 17 52.6 +7.5**
comp=Z,1µm,25.9s
DZM *e*SS **SS** **03 21 41.8 +10**
comp=Z,1µm,24.6s
DZM *e*LR LR 03 26 16.4
comp=Z,4µm,21.9s
DZM Mont Dzumac 56.00 153 P **P** **03 09 57.1 -0.1**
DZM IAmb IAmb 03 10 31.4
comp=Z,33nm,1.0s
DZM IAMs_20 IAMs_20 03 31 09.8
comp=Z,3µm,20.0s
DZM Mont Dzumac 56.00 153 P **P** **03 09 58.8 +1.7**
DZM Mont Dzumac 56.00 153 P **P** **03 09 57.2 +0.1**
comp=Z,23nm,0.9s,baz=46,slow=9.9,SNR=8.3
DZM LR LR 03 31 10.4
comp=Z,3µm,21.6s,baz=336,slow=33
comp=Z,23nm,0.9s
EYAK Cordova Ski Ar 56.01 34 P **P** **03 09 55.9 -0.7**
baz=270
K24K Donnelly Dome 56.05 31 P **P** **03 09 56.5 -0.5**
baz=268
G25K Bearman Lake 56.09 27 P **P** **03 09 56.6 -0.5**
baz=266
PAX Paxson 56.17 32 P **P** **03 09 57.1 -0.8**
baz=269,SNR=11
DHRM DHARAMSHALA 56.22 291 *e*P **P** **03 09 56.2 -2.7**
DHRM IAmb IAmb 03 10 12.0
comp=Z,32nm,0.8s
D25K Kavik River 56.23 24 P **P** **03 09 58.1 -0.1**
baz=264,SNR=29
PRP Porcupine Dome 56.24 28 IAMs_20 IAMs_20 03 34 30.3
comp=Z,3µm,18.0s
PRP Porcupine Dome 56.24 28 P **P** **03 09 58.3 -0.1**
baz=267
J25K Salcha River, 56.26 30 P **P** **03 09 58.6 0.0**
baz=268
HARP HAARP 56.30 32 P **P** **03 09 56.3 -2.5**
baz=269
F25K Christian River 56.33 26 P **P** **03 09 58.8 -0.2**
baz=265,SNR=26
BISR Bishrakh 56.33 286 *e*P **P** **03 09 56.0 -3.5**
E25K Arc Village 56.40 25 IAmb IAmb 03 10 21.5
comp=Z,59nm,1.1s
E25K Arctic Village 56.40 25 P **P** **03 09 59.1 -0.3**
baz=265,SNR=40
KKR Kurukshetra 56.43 288 ‖ *e*P **P** **03 09 59.4 -0.8**
RIDG Independent Ri 56.46 31 IAmb IAmb 03 10 33.8
comp=Z,48nm,1.3s
RIDG IAMs_20 IAMs_20 03 33 02.2
comp=Z,5µm,20.0s
RIDG Independent Ri 56.46 31 P **P** **03 09 59.5 -0.5**
baz=269,SNR=7.2
OUENC Ouen Island, N 56.47 153 IAMs_20 IAMs_20 03 34 48.2
comp=Z,4µm,20.0s
NDI New Delhi 56.48 287 *e*P **P** **03 09 57.2 -3.4**
GNR GANAUR 56.51 287 ‖ *e*P **P** **03 09 58.7 -2.0**
RAGM Ragged Mountai 56.54 35 IAMs_20 IAMs_20 03 35 08.3
comp=Z,5µm,19.0s
N25K Chitina, Valde 56.56 33 P **P** **03 10 00.4 -0.4**
baz=270
BMRM Bremner River 56.57 34 P **P** **03 10 01.0 +0.3**
baz=271,SNR=6.3
THN Thein Dam 56.64 291 ‖ *e*P **P** **03 09 57.7 -3.9**
KAIM Kayak Island 56.68 35 P **P** **03 10 01.4 -0.1**
baz=272
BVA0 Borovoye Array 56.69 317 *i* P **P** **03 10 01.1 -0.6**
BVAR Borovoye Array 56.69 317 P **P** **03 10 01.5 -0.2**
comp=Z,32nm,0.5s,baz=85,slow=6.2,SNR=65
BVAR LR LR 03 35 28.3
comp=Z,7µm,18.1s,baz=82,slow=37
comp=Z,32nm,0.5s
BHGR Bahadurgarh 56.71 287 ‖ *e*P **P** **03 09 59.0 -3.1**
SONA Sohna 56.73 286 *e*P **P** **03 09 59.4 -2.9**
INKA Innaminka 56.74 182 P **P** **03 10 05.4 +3.2**
BRVK Borovoye 56.75 317 P **P** **03 10 02.4 +0.3**
BRVK Borovoye 56.75 317 *ce*P **P** **03 10 01.6 -0.5**
BRVK pmax pmax
comp=Z,65nm,1.2s
BRVK MLR MLR
comp=Z,7µm,18.0s
HMT Hamilton 56.75 35 IAMs_20 IAMs_20 03 35 33.8
comp=Z,4µm,19.0s
C26K Camden Bay 56.80 23 P **P** **03 10 02.8 +0.7**
baz=265
SCRK Sand Creek 56.85 30 P **P** **03 10 03.1 +0.3**
SCRK Sand Creek 56.85 30 P **P** **03 10 03.2 +0.4**
baz=269,SNR=15
PINNC Pines Island, 56.89 152 IAMs_20 IAMs_20 03 31 21.3
comp=Z,6µm,21.0s
F26K Sheenjek River 56.91 26 P **P** **03 10 03.3 +0.3**
baz=267
GLB Gilahina Butte 56.94 33 IAmb IAmb 03 10 32.1
comp=Z,41nm,1.2s
GLB IAMs_20 IAMs_20 03 33 31.9
comp=Z,5µm,21.0s
MENT Mentasta 56.97 32 IAMs_20 IAMs_20 03 33 39.5
comp=Z,4µm,20.0s
MENT Mentasta 56.97 32 P **P** **03 10 06.3 +2.8**
G26K Porcupine Rive 57.01 27 P **P** **03 10 04.5 +0.8**
baz=268
BERG Berg Lake 57.02 35 IAmb IAmb 03 10 40.7
comp=Z,81nm,1.4s
BERG IAMs_20 IAMs_20 03 35 42.1
comp=Z,4µm,19.0s
J26L Joseph Creek 57.04 30 IAmb IAmb 03 10 23.9
comp=Z,31nm,0.9s
J26L Joseph Creek 57.04 30 P **P** **03 10 04.8 +0.7**
baz=269
VRDI Verde Repeater 57.12 34 IAMs_20 IAMs_20 03 34 26.6
comp=Z,4µm,20.0s
L26K Log Cabin Wild 57.13 31 IAMs_20 IAMs_20 03 33 34.0
comp=Z,6µm,20.0s
L26K Log Cabin Wild 57.13 31 P **P** **03 10 05.1 +0.4**
baz=270,SNR=13
OOD Oodnadatta 57.15 187 P **P** **03 10 07.6 +2.5**
I26K Coal Creek Min 57.22 29 P **P** **03 10 05.1 -0.2**
baz=269
CRQM Cirque 57.29 34 IAMs_20 IAMs_20 03 32 26.7
comp=Z,5µm,20.0s
M26K Nabesna, AK 57.31 32 IAMs_20 IAMs_20 03 35 43.4
comp=Z,3µm,20.0s
M26K Nabesna, AK 57.31 32 P **P** **03 10 06.6 +0.7**
baz=271
CRQE Cirque 57.31 34 P **P** **03 10 06.1 0.0**
baz=272,SNR=8.1
MCARA McCarthy VSAT 57.32 33 IAmb IAmb 03 10 25.8
comp=Z,39nm,0.8s
MCARA IAMs_20 IAMs_20 03 34 34.9
comp=Z,3µm,20.0s
MCARA McCarthy VSAT 57.32 33 P **P** **03 10 05.9 -0.1**
baz=272,SNR=5.7
TGL Tana Glacier 57.44 34 IAmb IAmb 03 10 26.4
comp=Z,43nm,1.0s
TGL IAMs_20 IAMs_20 03 32 32.1
comp=Z,5µm,21.0s
WAX Waxell Ridge 57.44 35 IAmb IAmb 03 10 23.2
comp=Z,35nm,0.7s
WAX IAMs_20 IAMs_20 03 32 42.1
comp=Z,4µm,19.0s
SNH Sunshine Point 57.46 35 IAMs_20 IAMs_20 03 34 52.7
comp=Z,5µm,20.0s
DZA Taraz 57.57 304 *e*P **P** **03 10 07.8 -0.3**
baz=304
DZA Taraz 57.57 304 *e*P **P** **03 10 07.8 -0.3**
ISLE Juniper Island 57.69 34 IAmb IAmb 03 10 27.6
comp=Z,38nm,0.9s
ISLE IAMs_20 IAMs_20 03 32 39.6
comp=Z,5µm,20.0s
K27K Chicken 57.69 30 P **P** **03 10 07.5 -1.1**
baz=271
L27K Beaver Creek, 57.83 31 IAMs_20 IAMs_20 03 34 44.2
comp=Z,5µm,20.0s
L27K Beaver Creek, 57.83 31 P **P** **03 10 09.3 -0.3**
baz=272
M27K Edge Creek, AK 57.83 32 IAMs_20 IAMs_20 03 34 35.2
comp=Z,4µm,21.0s
M27K Edge Creek, AK 57.83 32 P **P** **03 10 08.6 -1.1**
baz=272
G27K Doyon Strip 57.85 27 P **P** **03 10 09.1 -0.6**
baz=270
I27K Kandik River 57.87 28 P **P** **03 10 09.4 -0.5**
baz=270,SNR=7.7
E27K Coleen River 57.89 25 P **P** **03 10 08.7 -1.2**
baz=269
H27K Steamboat Moun 57.90 28 P **P** **03 10 09.0 -1.1**
baz=270,SNR=35
MESA MESA 57.91 35 IAMs_20 IAMs_20 03 35 06.4
comp=Z,5µm,19.0s
MESA MESA 57.91 35 P **P** **03 10 09.6 -0.8**
baz=274
GRNC Granite Creek 57.97 34 IAmb IAmb 03 10 13.2
comp=Z,28nm,0.8s
GRNC IAMs_20 IAMs_20 03 33 19.9
comp=Z,5µm,21.0s
BARN Barnard Glacie 58.00 34 IAMs_20 IAMs_20 03 32 38.6
comp=Z,4µm,21.0s
EGAK Eagle 58.07 29 P **P** **03 10 09.7 -1.5**
baz=271,SNR=6.7
KK31 Karatay Array 58.11 305 *i* P **P** **03 10 11.6 -0.3**
D27M Malcolm River 58.14 24 IAmb IAmb 03 10 41.1
comp=Z,51nm,1.2s
D27M IAMs_20 IAMs_20 03 37 00.5
comp=Z,3µm,18.0s
D27M Malcolm River 58.14 24 P **P** **03 10 11.4 -0.4**
baz=269
CTG Chitna Glacier 58.16 34 P **P** **03 10 11.1 -0.9**
baz=274
CTGM Chitina Glacie 58.16 34 IAMs_20 IAMs_20 03 33 17.0
comp=Z,4µm,21.0s
TABL Table Mountain 58.29 34 IAMs_20 IAMs_20 03 33 49.5
comp=Z,5µm,20.0s
NIL Nilore 58.30 293 P **P** **03 10 13.7 +0.3**
NIL IAmb IAmb 03 10 27.3
comp=Z,42nm,0.9s
NIL Nilore 58.30 293 P **P** **03 10 14.2 +0.8**
NIL Nilore 58.30 293 P **P** **03 10 13.7 +0.3**
NIL pmax pmax
comp=Z,42nm,0.9s
BVCY Beaver Creek 58.30 32 P **P** **03 10 13.0 +0.1**
baz=273
LOGN Logan Glacier 58.33 34 IAMs_20 IAMs_20 03 33 00.5
comp=Z,4µm,20.0s
YUK3 Moose Creek 58.53 33 P **P** **03 10 14.2 -0.6**
baz=274,SNR=6.0
F28M Old Crow 58.54 26 P **P** **03 10 14.8 +0.3**
baz=271,SNR=18
I28M Miner Creek 58.57 29 P **P** **03 10 15.4 +0.6**
baz=272
AULRC Lightning Ridg 58.62 174 P **P** **03 10 18.2 +2.8**
E28M Babbage River 58.65 25 IAmb IAmb 03 10 44.9
comp=Z,66nm,1.3s
E28M Babbage River 58.65 25 P **P** **03 10 15.8 +0.5**
baz=270,SNR=28
PINM Pinnacle 58.76 35 P **P** **03 10 15.1 -1.1**
baz=275
DAWY Dawson 58.87 30 IAmb IAmb 03 10 37.8
comp=Z,35nm,1.1s
DAWY Dawson 58.87 30 P **P** **03 10 16.6 -0.3**
baz=273,SNR=23
YUK8 Steele Glacier 58.90 33 P **P** **03 10 15.4 -2.0**
baz=275
D28M Stokes Point 58.93 24 P **P** **03 10 16.4 -0.7**
baz=271
BCPM Bancas Point 59.08 35 IAMs_20 IAMs_20 03 33 45.5
comp=Z,4µm,21.0s
H29M Whitestone 59.18 28 P **P** **03 10 18.1 -0.8**
baz=273
PNL Peninsula 59.23 35 P **P** **03 10 18.2 -1.2**
baz=276
I29M Ogilvie Camp, 59.26 29 IAmb IAmb 03 10 40.3
comp=Z,40nm,1.1s
I29M IAMs_20 IAMs_20 03 36 15.0
comp=Z,4µm,20.0s
I29M Ogilvie Camp, 59.26 29 P **P** **03 10 19.5 0.0**
baz=274,SNR=20
E29M Blow River 59.26 25 IAmb IAmb 03 10 49.0
comp=Z,39nm,1.1s
E29M Blow River 59.26 25 P **P** **03 10 20.3 +0.9**
baz=272
G29M Pine Creek 59.28 27 P **P** **03 10 19.9 +0.3**
baz=273,SNR=17
HYB Hyderabad 59.35 274 *e*P **P** **03 10 21.0 +0.2**
HYB *e*S **S** **03 18 30.9 +1.6**
AJM Ajmer 59.35 285 *e*P **P** **03 10 20.4 -0.4**
AKL Akola 59.39 278 *e*P **P** **03 10 20.4 -0.6**
AKL IAmb IAmb 03 10 34.2
comp=Z,43nm,0.8s
M29M Somme Creek 59.41 32 IAmb IAmb 03 10 50.1
comp=Z,54nm,1.5s
M29M IAMs_20 IAMs_20 03 36 23.0
comp=Z,3µm,20.0s
M29M Somme Creek 59.41 32 P **P** **03 10 21.0 +0.2**
baz=275,SNR=14
YUK4 Talbot Arm 59.43 33 P **P** **03 10 20.9 -0.1**
baz=276,SNR=19
L29M L29M 59.50 31 IAMs_20 IAMs_20 03 35 07.4
comp=Z,5µm,21.0s
L29M L29M 59.50 31 P **P** **03 10 20.9 -0.3**

baz=275,SNR=35
LCRK Leigh Creek 59.56 184 P P 03 10 22.4 +0.6
O29M Mount Kennedy 59.57 35 IAMs_20 IAMs_20 03 33 41.3
comp=Z,4μm,21.0s
O29M Mount Kennedy 59.57 35 P P 03 10 21.6 -0.3
baz=276,SNR=13
YUK6 Outpost Mounta 59.61 34 P P 03 10 22.3 0.0
baz=276,SNR=5.4
K29M Barlow Dome 59.71 30 IAmb IAmb 03 10 44.6
comp=Z,32nm,0.9s
K29M IAMs_20 IAMs_20 03 35 40.9
comp=Z,4μm,20.0s
K29M Barlow Dome 59.71 30 P P 03 10 23.0 +0.3
baz=275,SNR=19
MULG Mulgathing 59.80 189 P P 03 10 25.0 +1.5
EPYK Eagle Plains 59.84 27 P P 03 10 23.3 -0.2
baz=274,SNR=25
G30M tAoh Zrail Nji 59.98 27 P P 03 10 24.1 -0.4
baz=274,SNR=11
ARMA Armidale 60.00 171 IAmb IAmb 03 10 40.2
comp=Z,38nm,0.8s
ARMA IAMs_20 IAMs_20 03 34 43.8
comp=Z,3μm,19.0s
ARMA Armidale 60.00 171 P P 03 10 26.2 +1.1
HYT Haines Junctio 60.04 34 IAmb IAmb 03 10 46.4
comp=Z,46nm,1.2s
HYT IAMs_20 IAMs_20 03 34 46.7
comp=Z,4μm,19.0s
HYT Haines Junctio 60.04 34 P P 03 10 25.0 -0.1
baz=277,SNR=6.0
P29M Windy Craggy 60.07 35 P P 03 10 24.6 -0.6
baz=277
I30M Mount Dempster 60.07 29 IAmb IAmb 03 10 54.2
comp=Z,42nm,1.1s
I30M IAMs_20 IAMs_20 03 37 06.7
comp=Z,4μm,20.0s
I30M Mount Dempster 60.07 29 P P 03 10 24.4 -0.8
baz=275,SNR=15
F30M Barrier River 60.10 26 P P 03 10 24.9 -0.4
baz=274,SNR=15
J30M Hart River 60.16 29 IAmb IAmb 03 10 31.0
comp=Z,67nm,1.9s
J30M IAMs_20 IAMs_20 03 37 59.7
comp=Z,4μm,20.0s
J30M Hart River 60.16 29 P P 03 10 24.6 -1.3
baz=276
N30M Aishikik Lake 60.16 33 IAMs_20 IAMs_20 03 35 51.8
comp=Z,3μm,20.0s
N30M Aishikik Lake 60.16 33 P P 03 10 25.4 -0.4
baz=277
M30M Minto, Yukon 60.17 32 IAMs_20 IAMs_20 03 36 26.1
comp=Z,4μm,20.0s
M30M Minto, Yukon 60.17 32 P P 03 10 25.5 -0.3
baz=276,SNR=8.5
MEEK Meekatharra 60.18 205 P P 03 10 28.2 +1.9
P30M Million Dollar 60.40 35 P P 03 10 26.8 -0.7
baz=278
MAYO Mayo, Yukon 60.46 31 P P 03 10 28.5 +0.7
baz=277
CMSA Cobar Meteorol 60.57 177 P P 03 10 30.1 +1.3
AUPHS Peel High Scho 60.58 172 P P 03 10 29.9 +1.0
O30N Mendenhall 60.73 34 IAMs_20 IAMs_20 03 34 17.9
comp=Z,4μm,21.0s
O30N Mendenhall 60.73 34 P P 03 10 29.8 0.0
baz=278
G31M Satah River 60.76 27 P P 03 10 30.1 +0.4
G31M IAmb IAmb 03 10 49.8
comp=Z,39nm,0.9s
G31M Satah River 60.76 27 P P 03 10 30.1 +0.4
baz=276,SNR=12
N31M Braeburn, Yuko 60.78 33 IAMs_20 IAMs_20 03 38 23.4
comp=Z,3μm,20.0s
N31M Braeburn, Yuko 60.78 33 P P 03 10 29.2 -0.8
baz=278,SNR=8.4
STKA Stephens Creek 60.84 181 P P 03 10 31.0 +0.3
STKA Stephens Creek 60.84 181 P P 03 10 30.8 +0.2
STKA Stephens Creek 60.84 181 P P 03 10 31.0 +0.3
STKA pmax pmax
comp=Z,33nm,2.0s
STKA Stephens Creek 60.84 181 P P 03 10 30.3 -0.3
comp=Z,11nm,0.8s,baz=338,slow=9.6,SNR=12
STKA LR LR 03 36 01.9
comp=Z,4μm,21.3s,baz=353,slow=35
comp=Z,11nm,0.8s
H31M Peel River 60.85 28 IAmb IAmb 03 10 51.9
comp=Z,34nm,1.0s
H31M IAMs_20 IAMs_20 03 36 44.3
comp=Z,4μm,20.0s
H31M Peel River 60.85 28 P P 03 10 30.2 -0.2
baz=277,SNR=11
INK Inuvik 60.89 25 P P 03 10 31.0 +0.4
INK IAmb IAmb 03 10 35.0
comp=Z,48nm,1.4s
INK Inuvik 60.89 25 P P 03 10 30.9 +0.4
baz=276,SNR=18
INK Inuvik 60.89 25 P P 03 10 31.0 +0.4
INK pmax pmax
comp=Z,48nm,1.5s
INK MLR MLR
comp=Z,2μm,21.0s
F31M Tsiigehtchic 60.90 26 IAmb IAmb 03 11 10.8
comp=Z,74nm,1.7s
F31M Tsiigehtchic 60.90 26 P P 03 10 30.5 -0.1
baz=276,SNR=12
S31K Pelican 61.10 37 IAMs_20 IAMs_20 03 34 21.1
comp=Z,4μm,20.0s
S31K Pelican 61.10 37 P P 03 10 31.6 -0.6
baz=280
SKAG Skagway 61.31 35 IAmb IAmb 03 10 38.9
comp=Z,71nm,1.6s
SKAG Skagway 61.31 35 P P 03 10 35.4 +1.8
SKAG Skagway 61.31 35 P P 03 10 33.0 -0.6
baz=280
KBU Kabul Universi 61.32 296 S S 03 18 51.4 -3.2
KBU P P 03 10 33.4 -0.9
FORT Forrest 61.33 194 IAMs_20 IAMs_20 03 38 31.5
comp=Z,3μm,18.0s
FORT Forrest 61.33 194 P P 03 10 35.6 +1.7
M31M Drury Creek, Y 61.33 32 IAMs_20 IAMs_20 03 37 29.8
comp=Z,4μm,19.0s
M31M Drury Creek, Y 61.33 32 P P 03 10 33.4 -0.3
baz=279,SNR=8.9
WHY Whitehorse 61.34 34 P P 03 10 34.1 +0.2
WHY IAmb IAmb 03 11 03.1
comp=Z,50nm,1.4s
WHY Whitehorse 61.34 34 P P 03 10 33.0 -0.9
baz=279,SNR=8.5
KBL Kabul 61.38 296 P P 03 10 34.4 -0.4
KBL IAmb IAmb 03 10 48.1
comp=Z,31nm,1.1s
KBL IAMs_20 IAMs_20 03 39 53.9
comp=Z,4μm,19.0s
KBL Kabul 61.38 296 P P 03 10 34.6 -0.2
SNR=15
KBL Kabul 61.38 296 P P 03 10 34.4 -0.4
KBL pmax pmax
comp=Z,31nm,1.1s
KBL MLR MLR
comp=Z,4μm,19.0s
AUDCS Dubbo College 61.46 174 P P 03 10 35.8 +1.0
AFI Afiamalu 61.52 128 IAMs_20 IAMs_20 03 35 48.7
comp=Z,4μm,19.0s
SVE Sverdlovsk 61.72 322 *e* P **P 03 10 38.0 +1.6**
SVE *e* S **S 03 19 00.8 +2.3**
SVE *e* 03 23 00.4
SVE pmax pmax
comp=Z,102nm,1.4s
SVE MLR MLR
comp=Z,3μm,15.0s
SIT Sitka 61.74 38 P P 03 10 35.7 -0.8
baz=281
FARO Faro, Yukon 61.80 32 P P 03 10 36.4 -0.6
baz=280,SNR=11
R32K Eaglecrest 61.94 36 IAmb IAmb 03 11 46.5
comp=Z,66nm,1.7s
R32K IAMs_20 IAMs_20 03 34 49.3
comp=Z,5μm,22.0s
R32K Eaglecrest 61.94 36 P P 03 10 37.0 -0.9
baz=281
PALK Pallekele 62.00 262 LR LR 03 37 23.1
comp=Z,1μm,20.8s,baz=161,slow=36
JIS Juneau Island 62.01 36 IAmb IAmb 03 11 00.1
comp=Z,35nm,1.0s
JIS IAMs_20 IAMs_20 03 34 50.8
comp=Z,4μm,21.0s
S32K Killisnoo 62.06 37 P P 03 10 36.7 -1.9
baz=281

BBOO Buckleboo 62.08 186 P P 03 10 38.4 -0.6
BBOO IAMs_20 IAMs_20 03 39 40.2
comp=Z,5μm,21.0s
BBOO Buckleboo 62.08 186 P P 03 10 40.3 +1.3
P32M Atlin 62.10 35 IAmb IAmb 03 10 44.0
comp=Z,35nm,1.2s
P32M Atlin 62.10 35 P P 03 10 38.1 -0.9
baz=281
N32M Quiet Lake 62.12 33 IAmb IAmb 03 10 59.8
comp=Z,21nm,0.9s
N32M IAMs_20 IAMs_20 03 38 19.6
comp=Z,3μm,18.0s
N32M Quiet Lake 62.12 33 P P 03 10 37.6 -1.5
baz=280
P33M Teslin, Yukon 62.42 34 P P 03 10 40.3 -0.9
baz=281,SNR=7.4
HTT Hallett 62.48 183 P P 03 10 43.5 +1.8
ARU Arti 62.92 322 P P 03 10 44.6 +0.1
ARU IAMs_20 IAMs_20 03 40 18.9
comp=Z,4μm,18.0s
ARU Arti 62.92 322 *c i* P **P 03 10 44.4 -0.1**
ARU 03 11 21.8
ARU 03 12 58.1
ARU S **S 03 19 15.1 +1.4**
ARU SS **SS 03 23 21.5 +3.0**
ARU pmax pmax
comp=Z,131nm,1.8s
ARU MLR MLR
comp=Z,4μm,18.0s
ARU Arti 62.92 322 LR LR 03 40 40.7
comp=Z,4μm,18.1s,baz=70,slow=38
Q32M Nakina River 62.95 35 IAMs_20 IAMs_20 03 35 04.6
comp=Z,3μm,19.0s
Q32M Nakina River 62.95 35 P P 03 10 43.1 -1.8
baz=282
POO Poona 62.99 277 *e* P **P 03 10 44.5 -1.0**
POO IAmb IAmb 03 10 57.9
comp=Z,130nm,1.5s
A36M Sachs Harbour 63.10 20 IAmb IAmb 03 11 07.9
comp=Z,24nm,0.8s
A36M Sachs Harbour 63.10 20 P P 03 10 43.4 -2.0
baz=282,SNR=7.0
U33K Whale Pass 63.13 39 IAmb IAmb 03 10 49.2
comp=Z,40nm,1.1s
U33K Whale Pass 63.13 39 P P 03 10 43.4 -2.4
baz=283
CRAG Craig 63.27 39 IAMs_20 IAMs_20 03 36 16.3
comp=Z,2μm,18.0s
CRAG Craig 63.27 39 P P 03 10 44.8 -2.0
baz=283
MORW Morawa 63.34 206 P P 03 10 47.6 +0.2
MORW Morawa 63.34 206 P P 03 10 46.6 -0.9
KMBL Kambalda 63.47 200 P P 03 10 47.4 -0.9
WRAK Wrangell Islan 63.48 38 P P 03 10 46.8 -1.3
baz=283
YNG Young 63.49 175 P P 03 10 49.2 +0.8
R33M Jennings River 63.51 35 IAmb IAmb 03 11 16.4
comp=Z,38nm,1.6s
R33M IAMs_20 IAMs_20 03 36 25.4
comp=Z,4μm,19.0s
R33M Jennings River 63.51 35 P P 03 10 46.0 -2.5
baz=283
S34M Telegraph Cree 63.77 36 IAmb IAmb 03 11 19.6
comp=Z,26nm,1.1s
S34M IAMs_20 IAMs_20 03 36 03.8
comp=Z,4μm,21.0s
S34M Telegraph Cree 63.77 36 P P 03 10 46.6 -3.5
baz=284,SNR=9.1
AB31 Akbulak array 63.84 314 *e* P **P 03 10 49.9 -0.7**
ABKAR Akbulak array 63.84 314 P P 03 10 50.9 +0.2
C36M Paulatuk 64.08 23 IAmb IAmb 03 10 54.3
comp=Z,40nm,1.1s
C36M Paulatuk 64.08 23 P P 03 10 50.0 -1.8
baz=284,SNR=28
V35K Ketchikan 64.14 39 IAMs_20 IAMs_20 03 38 27.8
comp=Z,3μm,19.0s
V35K Ketchikan 64.14 39 P P 03 10 52.5 0.0
baz=284
DLBC Dease Lake 64.21 36 IAmb IAmb 03 10 58.5
comp=Z,54nm,1.6s
DLBC Dease Lake 64.21 36 P P 03 10 52.5 -0.5
baz=284
DLBC Dease Lake 64.21 36 LR LR 03 36 35.4
comp=Z,5μm,21.5s,baz=281,slow=34
WTLY Watson Lake, Y 64.41 34 P P 03 10 53.8 -0.4
baz=284,SNR=11
T35M Bob Quinn 64.46 37 IAmb IAmb 03 11 00.1
comp=Z,40nm,1.2s
T35M IAMs_20 IAMs_20 03 36 31.1
comp=Z,3μm,20.0s
T35M Bob Quinn 64.46 37 P P 03 10 54.4 -0.3
baz=285,SNR=12
BLDU Ballidu 64.48 205 P P 03 10 56.0 +1.0
CAN Canberra 64.55 174 P P 03 10 56.1 +0.7
AKTO Aktyubinsk 64.72 315 P P 03 10 56.1 -0.3
AKTO Aktyubinsk 64.72 315 LR LR 03 40 17.4
comp=Z,6μm,19.5s,baz=71,slow=37
U35K Hyder 64.86 38 P P 03 10 56.3 -0.9
baz=285
RUBB Prince Rupert 65.17 40 IAmb IAmb 03 11 18.8
comp=Z,25nm,1.1s
GRNB Grenville Isla 65.47 41 P P 03 11 01.0 -0.3
GRNB IAmb IAmb 03 11 24.7
comp=Z,46nm,1.4s
AUSMG Snowy Mountain 65.61 175 P P 03 11 03.3 +1.0
WRGLY Wrigley 66.00 30 P P 03 11 04.2 -0.3
baz=287,SNR=13
MILA Mila 66.29 174 P P 03 11 07.9 +1.3
NWAO Narrogin (SRO) 66.39 203 P P 03 11 05.9 -1.4
NWAO Narrogin (SRO) 66.39 203 P P 03 11 05.8 -1.4
NWAO IAmb IAmb 03 11 21.5
comp=Z,326nm,0.9s
NWAO Narrogin (SRO) 66.39 203 P P 03 11 07.8 +0.5
NWAO Narrogin (SRO) 66.39 203 P P 03 11 06.8 -0.5
NWAO Narrogin (SRO) 66.39 203 P P 03 11 05.9 -1.4
NWAO pmax pmax
comp=Z,94nm,0.9s
NWAO MLR MLR
comp=Z,2μm,19.0s
NWAO Narrogin (SRO) 66.39 203 LR LR 03 39 43.3
comp=Z,2μm,20.6s,baz=32,slow=36
TOO Toolangi 66.57 177 P P 03 11 08.8 +0.4
TOO IAMs_20 IAMs_20 03 40 55.9
comp=Z,3μm,18.0s
TOO Toolangi 66.57 177 P P 03 11 10.3 +1.9
TOO Toolangi 66.57 177 P P 03 11 08.8 +0.4
TOO pmax pmax
comp=Z,69nm,1.0s
TOO MLR MLR
comp=Z,3μm,18.0s
KOTAN Kotaneelee Air 66.68 33 P P 03 11 08.7 -0.2
baz=288
HRA Herat 66.75 297 P P 03 11 09.2 -0.8
HRA IAmb IAmb 03 11 13.9
comp=Z,24nm,1.1s
FLDN Fort Liard 66.92 33 P P 03 11 10.7 +0.3
baz=289
BBB Bella Bella 67.03 42 LR LR 03 37 36.9
comp=Z,1μm,20.6s,baz=289,slow=33
KIRV Kirov 67.09 325 *e* P **P 03 11 12.4 +0.9**
KIRV Kirov 67.09 325 LR LR 03 42 33.1
comp=Z,3μm,18.2s,baz=69,slow=38
ALE Alert 67.75 3 IAMs_20 IAMs_20 03 45 35.0
comp=Z,3μm,20.0s
PRGR Permogore 67.84 329 *e* P **P 03 11 15.3 -0.9**
PRGR pmax pmax
comp=Z,37nm,1.1s
SPITS Spitsbergen Ar 68.29 350 P P 03 11 19.2 +0.4
comp=Z,8.7nm,0.7s,baz=86,slow=8.8,SNR=7.5
SPITS LR LR 03 43 56.2
comp=Z,3μm,20.6s,baz=12,slow=38
comp=Z,8.7nm,0.7s
GEYT Alibeck 68.63 302 IAmb IAmb 03 11 32.3
comp=Z,33nm,0.9s
GEYT Alibeck 68.63 302 P P 03 11 21.9 +0.3
comp=Z,21nm,0.8s,baz=64,slow=6.8,SNR=27
GEYT LR LR 03 43 47.9
comp=Z,4μm,19.9s,baz=74,slow=38
comp=Z,21nm,0.8s
GYA0 ALIBECK ARRAY 68.63 302 P P 03 11 22.2 +0.6
GYA0B ALIBECK ARRAY 68.63 302 IAmb IAmb 03 11 30.6
comp=Z,34nm,0.9s
RAO Raoul Island 69.36 144 IAMs_20 IAMs_20 03 36 58.3
comp=Z,4μm,21.0s
RAO Raoul Island 69.36 144 LR LR 03 36 56.2
comp=Z,3μm,20.6s,baz=359,slow=32
CBB Campbell River 69.39 44 IAmb IAmb 03 11 29.1
comp=Z,31nm,1.3s
RES Resolute Bay 69.84 14 IAmb IAmb 03 11 44.1
comp=Z,30nm,1.0s
RES Resolute Bay 69.84 14 LR LR 03 42 22.5
comp=Z,1μm,21.8s,baz=331,slow=36
YKAW3 Yellowknife Wh 70.01 29 IAMs_20 IAMs_20 03 44 03.3
comp=Z,2μm,19.0s
YKA Yellowknife Ar 70.04 29 *i* P **P 03 11 29.7 -0.2**
YKA pmax pmax
comp=Z,20nm,1.1s
YKA Yellowknife Ar 70.04 29 P **P 03 11 29.8 -0.1**
comp=Z,19nm,1.1s,baz=292,slow=5.8,SNR=72
comp=Z,19nm,1.1s
YKAW1 Yellowknife Wh 70.10 29 IAMs_20 IAMs_20 03 43 33.6
comp=Z,2μm,20.0s
APA Apatity 70.16 337 *ij i* P P 03 11 35.8 +5.3
APA *i* 03 12 00.0
APA *i* 03 14 07.0
APA *i* S **S 03 20 45.0 +3.9**
APA *i* PS **PnS 03 21 02.0 -5.8**
APA *i* 03 21 29.0
APA *i* SS **SS 03 25 14.0 +3.8**
APA pmax pmax
comp=Z,24nm,0.8s
APA MLR MLR
comp=Z,3μm,21.0s
BELG Belogornoye 70.23 320 *d i* P **P 03 11 32.4 +1.2**
BELG pmax pmax
comp=Z,11nm,1.0s
BELG MLR MLR
comp=Z,832nm,17.0s
BELG Belogornoye 70.23 320 LR LR 03 44 23.4
comp=Z,6μm,18.2s,baz=61,slow=38
OUZ Omahuta 70.52 153 IAMs_20 IAMs_20 03 38 45.2
comp=Z,3μm,20.0s
CLRS Cowichan Lake 70.59 44 IAmb IAmb 03 11 38.5
comp=Z,48nm,1.2s
KLMR Klimovskoe 70.87 330 *e* P **P 03 11 32.1 -2.9**
KLMR *e* P **P 03 11 32.1 -2.9**
KLMR *e* P **P 03 11 32.1 -2.9**
KLMR AMP 03 11 37.2
comp=Z,63nm,1.9s
KLMR S **S 03 20 47.9 -1.6**
KLMR S **S 03 20 47.9 -1.6**
KLMR Klimovskoe 70.87 330 *e* P **P 03 11 32.0 -2.9**
KLMR S **S 03 20 47.9 -1.6**
KLMR pmax pmax
comp=Z,63nm,1.9s
KEV Kevo 71.03 341 IAMs_20 IAMs_20 03 45 57.3
comp=Z,4μm,19.0s
PGC Sidney 71.07 44 IAmb IAmb 03 11 39.5
comp=Z,42nm,1.2s
B04A Port Angeles 71.27 45 IAmb IAmb 03 11 41.1
comp=Z,44nm,1.1s
B04A IAMs_20 IAMs_20 03 38 07.9
comp=Z,4μm,20.0s
NLWA Neilton Lookou 71.30 46 IAmb IAmb 03 11 42.2
comp=Z,50nm,1.1s
NLWA IAMs_20 IAMs_20 03 36 47.5
comp=Z,2μm,20.0s
ARCES ARCESS Array B 71.59 341 P P 03 11 39.5 +0.3
comp=Z,8.0nm,0.8s,baz=67,slow=6.7,SNR=12
ARCES LR LR 03 49 29.3
comp=Z,2μm,18.3s,baz=69,slow=41
comp=Z,8.0nm,0.8s
GNW Green Mountain 71.88 45 IAmb IAmb 03 11 46.7
comp=Z,67nm,1.3s
GNW IAMs_20 IAMs_20 03 38 20.2
comp=Z,2μm,19.0s
F03A Seaside 72.08 47 IAMs_20 IAMs_20 03 37 37.3
comp=Z,3μm,20.0s
B06A Marblemount 72.32 44 IAMs_20 IAMs_20 03 38 13.6
comp=Z,2μm,20.0s
F04D Rainier, OR 72.36 47 IAMs_20 IAMs_20 03 37 50.0
comp=Z,4μm,21.0s
LON Longmire 72.85 46 IAMs_20 IAMs_20 03 43 11.7
comp=Z,2μm,19.0s
NEEM North Greenlan 73.18 3 *i* P **P 03 11 48.4 -0.5**
NEEM IAmb IAmb 03 11 52.0
comp=Z,18nm,0.7s
K02D Willamette Mer 73.33 50 IAmb IAmb 03 11 53.9
comp=Z,65nm,1.3s
TOZ Tahuroa Road 73.45 153 IAMs_20 IAMs_20 03 40 50.0
comp=Z,3μm,21.0s
H04A Detroit Lake 73.47 48 IAMs_20 IAMs_20 03 38 09.3
comp=Z,4μm,22.0s
JASK Jask - Hormozg 73.53 291 P **P 03 11 54.2 +2.7**
SNR=6.0
DAG Danmarks Havn 73.55 356 *i* P **P 03 11 50.0 -0.7**
DAG IAmb IAmb 03 12 06.8
comp=Z,13nm,0.9s
HOOD Mount Hood Mea 73.55 47 IAMs_20 IAMs_20 03 38 16.3
comp=Z,3μm,20.0s
L02F Cave Junction 73.63 51 IAmb IAmb 03 11 55.6
comp=Z,72nm,1.4s
KRMB Red Mountain 73.65 51 IAMs_20 IAMs_20 03 37 44.1
comp=Z,4μm,20.0s
I04A Tendick Farm, 73.70 49 IAmb IAmb 03 11 59.0
comp=Z,65nm,1.3s
G05A Wamic 73.80 47 IAmb IAmb 03 12 14.0
comp=Z,47nm,1.1s
JLN Jalan Bani Buh 73.82 287 P P 03 11 54.0 +0.7
HUMO Hull Mountain 73.84 50 IAMs_20 IAMs_20 03 40 04.1
comp=Z,4μm,20.0s
JCC Jacoby Creek, 73.86 52 IAMs_20 IAMs_20 03 38 29.8
comp=Z,4μm,20.0s
MXC Moxie City 73.87 45 IAmb IAmb 03 12 11.4
comp=Z,24nm,0.8s
HIZ Hauiti 73.88 154 IAMs_20 IAMs_20 03 39 54.4
comp=Z,2μm,21.0s
WBK Wadi Bani Khal 74.00 287 P P 03 11 55.8 +1.4
WSAR Wadi Sarin 74.01 288 P P 03 11 55.7 +1.3
KHMM Horse Mountain 74.04 52 IAmb IAmb 03 11 59.3
comp=Z,70nm,1.3s
KHMM IAMs_20 IAMs_20 03 38 34.5
comp=Z,4μm,21.0s
VRH Novokhopyorsk 74.05 320 *e* P **P 03 11 54.6 +0.5**
VRH pmax pmax
comp=Z,18nm,0.6s
MOS Moscow 74.11 325 *e* P **P 03 11 53.1 -1.2**
MOS *e* 03 12 07.9
MOS *e* 03 14 38.7
MOS *e* PPP PPP 03 16 23.5
MOS *e* S **SKiKP 03 21 23.1 +1.3**
MOS *e* 03 21 50.5
MOS pmax pmax
comp=Z,99nm,2.0s
MOS smax smax
comp=N,1μm,4.8s
MOS smax smax
comp=E,1μm,4.8s
MOS MLR MLR
comp=E,3μm,15.0s
MOS MLR MLR
comp=Z,4μm,15.0s
MAK Makhachkala 74.12 311 *e* P **P 03 11 50.8 -3.8**
MAK *e* 03 14 37.9
MAK *e* PPP PPP 03 16 21.4
MAK *e* S **SKiKP 03 21 22.6 +0.4**
MAK *e* SS **SS 03 26 05.8 -6.0**
MAK *e* SSS SSS 03 29 29.9
MAK pmax pmax
comp=Z,166nm,1.6s
MAK MLR MLR
comp=Z,11μm,17.0s
E07A Sunnyside 74.15 45 IAmb IAmb 03 12 15.1
comp=Z,25nm,0.8s
I05D Terrebonne, OR 74.17 48 IAmb IAmb 03 12 03.4
comp=Z,65nm,1.5s
G06A Carlson Farm, 74.23 47 IAmb IAmb 03 11 57.9
comp=Z,44nm,1.3s
G06A IAMs_20 IAMs_20 03 38 36.4
comp=Z,3μm,20.0s
BIDO Bidbid 74.31 288 P P 03 11 57.3 +1.2
YBH Yreka Blue Hor 74.38 51 IAmb IAmb 03 12 01.5
comp=Z,60nm,1.5s
YBH Yreka Blue Hor 74.38 51 LR LR 03 39 03.5
comp=Z,4μm,21.2s,baz=296,slow=31
F07A Phinny Hill Vi 74.39 46 IAMs_20 IAMs_20 03 38 45.6
comp=Z,3μm,20.0s
HAWA Hanford 74.42 45 IAmb IAmb 03 12 01.3
comp=Z,65nm,1.6s
HAWA IAMs_20 IAMs_20 03 47 20.0
comp=Z,3μm,18.0s
L04D Klamath Falls 74.44 50 IAmb IAmb 03 12 01.0
comp=Z,65nm,1.2s
L04D IAMs_20 IAMs_20 03 38 14.0

comp=Z,3µm,20.0s
URZ Urewera 74.55 152 LR LR 03 42 24.6
comp=Z,2µm,21.1s,baz=76,slow=34
C09A Chrisman Ranch 74.57 44 IAMs_20 IAMs_20 03 45 02.2
comp=Z,2µm,19.0s
SMDO Samad 74.57 288 P **P** **03 11 58.0 +0.2**
E08A Dider Farm, El 74.67 45 IAmb IAmb 03 12 02.6
comp=Z,81nm,1.7s
E08A IAMs_20 IAMs_20 03 47 54.9
comp=Z,3µm,18.0s
J05D Fort Rock, OR 74.69 49 IAmb IAmb 03 12 01.6
comp=Z,67nm,1.3s
RTZ Ruatahuna 74.80 153 P **P** **03 11 58.4 -0.1**
JMDO Jabal Madar 74.82 287 P **P** **03 11 59.9 +0.7**
EDM Edmonton 74.85 37 IAmb IAmb 03 12 01.3
comp=Z,45nm,1.0s
EDM IAMs_20 IAMs_20 03 48 23.3
comp=Z,2µm,19.0s
RAR Rarotonga 74.86 125 LR LR 03 41 25.1
comp=Z,4µm,19.3s,baz=340,slow=33
SHME Shamm 74.86 292 *i* P **P** **03 11 59.0 -0.3**
SNR=11
SHME Shamm 74.86 292 P **P** **03 12 00.6 +1.4**
SNR=13
LPSR Galich'ya Gora 74.94 322 *e*P **P** **03 11 55.9 -3.3**
LPSR pmax pmax
comp=Z,30nm,1.5s
LPSR MLR MLR
comp=Z,4µm,14.0s
OBN Obninsk 74.94 325 ⇑ *i*P **P** **03 12 01.0 +1.9**
OBN *e**PP **sP** **03 12 04.4 +1.8**
OBN *SP **pwP** **03 12 07.0 -3.4**
OBN 03 12 12.0
OBN *e* 03 14 53.1
OBN PPP PPP 03 16 36.0
OBN *i* S **S** **03 21 38.4 +2.4**
OBN *e* 03 22 15.6
OBN pmax pmax
comp=Z,150nm,2.5s
OBN MLR MLR
comp=Z,5µm,16.0s
OBN Obninsk 74.94 325 LR LR 03 47 27.5
comp=Z,5µm,18.9s,baz=57,slow=38
HOQ Hoqain 74.96 289 P **P** **03 12 01.2 +1.3**
SNR=11
NEW Newport 75.05 43 IAmb IAmb 03 12 04.7
comp=Z,62nm,1.6s
NEW Newport 75.05 43 P **P** **03 11 59.4 -0.7**
baz=297,SNR=21
NEW Newport 75.05 43 LR LR 03 40 14.7
comp=Z,1µm,21.0s,baz=310,slow=32
MASF Masafi 75.13 291 P **P** **03 12 01.5 +0.6**
SNR=9.7
MSFE Esma-Masafi 75.14 291 *i* P **P** **03 12 00.3 -0.7**
SNR=6.5
E09A Wood Farm, Sta 75.23 45 IAmb IAmb 03 12 05.8
comp=Z,103nm,1.7s
E09A IAMs_20 IAMs_20 03 45 17.6
comp=Z,2µm,19.0s
VORR Voronezh 75.23 321 *e*P **P** **03 12 01.4 +0.5**
VORR pmax pmax
comp=Z,39nm,0.6s
G08A Pilot Rock 75.27 46 IAMs_20 IAMs_20 03 39 22.8
comp=Z,2µm,20.0s
UOSS Minazif 75.28 290 P **P** **03 12 01.6 -0.1**
UOSS IAmb IAmb 03 12 18.4
comp=Z,65nm,1.4s
UOSS Minazif 75.28 290 *i* P **P** **03 12 00.4 -1.4**
SNR=7.6
UOSS Minazif 75.28 290 P **P** **03 12 02.0 +0.3**
SOHO SOHO 75.36 290 *i* P **P** **03 12 01.0 -1.1**
SNR=17
SOHO SOHO 75.36 290 P **P** **03 12 02.7 +0.5**
HATD Hatta, Dubai 75.39 290 *i* P **P** **03 12 01.9 -0.5**
SNR=10
HATD Hatta, Dubai 75.39 290 P **P** **03 12 03.7 +1.3**
SNR=19
BSY Bisya 75.41 288 P **P** **03 12 03.5 +1.0**
SNR=6.1
I07A Izee 75.47 48 IAmb IAmb 03 12 07.5
comp=Z,70nm,1.8s
VSR Storozhevoye 75.47 321 *e*P **P** **03 12 01.5 -0.8**
VSR pmax pmax
comp=Z,40nm,1.2s
VSR MLR MLR
comp=Z,4µm,13.0s
ASHO Ashiyiah 75.51 290 *i* P **P** **03 12 02.3 -0.9**
SNR=13
ASHO Ashiyiah 75.51 290 P **P** **03 12 03.6 +0.4**
SNR=16
VORD Divnogorie 75.52 321 *e*P **P** **03 12 02.3 -0.3**
VORD pmax pmax
comp=Z,10.0nm,1.0s
MHTO MHTO 75.54 286 P **P** **03 12 03.9 +0.7**
MHTO P **pP** **03 12 04.0 -1.7**
DSZ Denniston Nort 75.66 158 IAMs_20 IAMs_20 03 42 30.5
comp=Z,2µm,20.0s
NAZ Nazwa, Dubai 75.70 291 *i* P **P** **03 12 03.2 -1.0**
SNR=5.7
NAZ Nazwa, Dubai 75.70 291 P **P** **03 12 05.0 +0.8**
SNR=10.0
ARQ Araqi 75.72 289 P **P** **03 12 05.0 +0.7**
SNR=8.4
FAQ Al Faqa, Dubai 75.87 291 *i* P **P** **03 12 03.9 -1.2**
SNR=10
FAQ Al Faqa, Dubai 75.87 291 P **P** **03 12 06.1 +1.0**
SNR=6.0
ALNE Al Ain 76.04 290 *i* P **P** **03 12 06.0 -0.1**
SNR=16
ALNE Al Ain 76.04 290 P **P** **03 12 07.6 +1.5**
SNR=12
DBG Daneborg 76.04 355 *e*P **P** **03 12 05.6 +0.4**
F10A Beach Ranch, E 76.04 45 IAmb IAmb 03 12 34.7
comp=Z,73nm,1.8s
F10A IAMs_20 IAMs_20 03 44 25.1
comp=Z,2µm,19.0s
GOF Gofitskoye 76.07 314 *ce*P **P** **03 12 05.9 0.0**
ASUD Al Ashush, Dub 76.13 291 *i* P **P** **03 12 06.0 -0.6**
SNR=7.1
ASUD Al Ashush, Dub 76.13 291 P **P** **03 12 08.1 +1.5**
FINES FINESS Array B 76.14 334 P **P** **03 12 05.8 -0.2**
comp=Z,7.2nm,0.7s,baz=57,slow=5.0,SNR=24
comp=Z,7.2nm,0.7s
ORV Oroville 76.16 52 IAmb IAmb 03 12 10.8
comp=Z,62nm,1.4s
ORV IAMs_20 IAMs_20 03 43 38.5
comp=Z,3µm,20.0s
BHW Baring Head 76.42 156 IAMs_20 IAMs_20 03 43 08.6
comp=Z,2µm,20.0s
INZ Inchbonnie 76.43 159 IAMs_20 IAMs_20 03 41 53.7
comp=Z,2µm,20.0s
AJN Ajban 76.44 291 *i* P **P** **03 12 07.4 -0.9**
SNR=9.2
AJN Ajban 76.44 291 P **P** **03 12 09.5 +1.2**
SNR=5.4
J08A Circle Bar Ran 76.46 48 IAmb IAmb 03 12 27.2
comp=Z,70nm,1.3s
ZEI Tsey 76.57 312 *e*P **P** **03 12 08.6 -0.5**
ZEI pmax pmax
comp=Z,24nm,1.0s
LTZ Lake Taylor 76.74 158 IAMs_20 IAMs_20 03 43 12.1
comp=Z,2µm,19.0s
KBZ Khabaz 76.78 313 *ce*P **P** **03 12 11.3 +1.4**
KBZ pmax pmax
comp=Z,23nm,0.9s
KBZ MLR MLR
comp=Z,4µm,19.0s
KBZ Khabaz 76.78 313 P **P** **03 12 10.1 +0.2**
comp=Z,26nm,0.9s,baz=104,slow=4.4,SNR=33
KBZ LR LR 03 48 52.6
comp=Z,5µm,19.4s,baz=66,slow=38
comp=Z,26nm,0.9s
AFDM Forest Hills D 76.79 53 IAmb IAmb 03 12 14.8
comp=Z,49nm,1.4s
AFDM IAMs_20 IAMs_20 03 40 20.5
comp=Z,3µm,20.0s
KVAR Kislovodsk Arr 76.81 313 LR LR 03 48 33.8
comp=Z,3µm,18.8s,baz=306,slow=38
KIV Kislovodsk 76.81 313 ⇑ P **P** **03 12 14.0 +3.7**
KIV Kislovodsk 76.81 313 P **P** **03 12 10.3 0.0**
KIV Kislovodsk 76.81 313 *i* P **P** **03 12 10.2 0.0**
SNR=14
KIV Kislovodsk 76.81 313 P **P** **03 12 12.3 +2.0**
KIV Kislovodsk 76.81 313 *e*P **P** **03 12 12.3 +2.0**
KIV *e* 03 15 05.9
KIV *e*S **S** **03 22 00.6 +3.2**
KIV *e*SS **SS** **03 26 57.0 +4.2**
KIV pmax pmax
comp=Z,347nm,4.1s
KIV pmax pmax
comp=Z,36nm,1.0s
KIV MLR MLR
comp=Z,4µm,18.0s
PLTX Planet X, Gerl 77.02 51 IAMs_20 IAMs_20 03 45 25.4
comp=Z,3µm,21.0s
RPZ Rata Peaks 77.20 159 IAMs_20 IAMs_20 03 47 08.1
comp=Z,3µm,19.0s
RPZ Rata Peaks 77.20 159 LR LR 03 43 09.1
comp=Z,2µm,21.2s,baz=326,slow=33
PLID Pearl Lake 77.22 45 IAmb IAmb 03 12 16.9
comp=Z,54nm,1.7s
PLID IAMs_20 IAMs_20 03 44 31.3
comp=Z,3µm,20.0s
GNI Garni 77.22 309 P **P** **03 12 12.5 -0.3**
GNI Garni 77.22 309 IAMs_20 IAMs_20 03 48 24.2
comp=Z,2µm,21.0s
GNI Garni 77.22 309 P **P** **03 12 13.1 +0.4**
GNI Garni 77.22 309 P **P** **03 12 15.4 +2.6**
GNI Garni 77.22 309 *ce*P **P** **03 12 13.8 +1.1**
GNI pmax pmax
comp=Z,10.0nm,1.0s
GNI MLR MLR
comp=Z,2µm,19.0s
GNI Garni 77.22 309 LR LR 03 49 19.6
comp=Z,2µm,19.2s,baz=64,slow=38
EMB Emerald Bay 77.39 52 IAmb IAmb 03 12 30.8
comp=Z,54nm,1.1s
LBZ Lake Benmore 77.54 160 IAMs_20 IAMs_20 03 42 26.2
comp=Z,2µm,20.0s
PAHR Pah Rah Range 77.54 51 IAmb IAmb 03 12 19.0
comp=Z,74nm,1.4s
WKZ Wanaka 77.61 161 IAMs_20 IAMs_20 03 42 01.9
comp=Z,3µm,21.0s
CMB Columbia Colle 77.62 53 IAmb IAmb 03 12 17.6
comp=Z,27nm,0.8s
MSO Missoula 77.63 43 IAmb IAmb 03 12 19.1
comp=Z,52nm,1.5s
MSO Missoula 77.63 43 P **P** **03 12 14.2 -0.6**
baz=300,SNR=15
PNTR Pine Nut 77.68 52 IAmb IAmb 03 12 18.4
comp=Z,34nm,0.8s
YERR Yerington 77.97 52 IAmb IAmb 03 12 19.9
comp=Z,44nm,1.0s
YERR IAMs_20 IAMs_20 03 40 40.6
comp=Z,3µm,20.0s
WAKR Walker 78.06 53 IAmb IAmb 03 12 36.5
comp=Z,54nm,1.5s
MFID Camas Ranch 78.13 47 IAmb IAmb 03 12 20.7
comp=Z,39nm,1.0s
MFID IAMs_20 IAMs_20 03 43 13.3
comp=Z,3µm,21.0s
SUMG Summit 78.40 0 IAmb IAmb 03 12 35.6
comp=Z,51nm,0.9s
SUMG Summit 78.40 0 *i* P **P** **03 12 20.1 +1.1**
SUMG IAmb IAmb 03 12 35.9
comp=Z,28nm,0.8s
RYN Ryan 78.64 52 IAmb IAmb 03 12 39.2
comp=Z,31nm,1.0s
BCA Borcka 78.70 311 ⇑ P **P** **03 12 23.0 +2.3**
KVN Kaiserville 78.73 52 IAmb IAmb 03 12 24.0
comp=Z,28nm,0.9s
KVN IAMs_20 IAMs_20 03 44 40.5
comp=Z,3µm,20.0s
LHV Little Huntoon 78.83 52 IAmb IAmb 03 12 27.7
comp=Z,74nm,1.3s
SOC Sochi 78.88 314 *e*P **P** **03 12 18.9 -2.7**
SOC *e* 03 15 15.7
SOC *e*PPP PPP 03 17 11.0
SOC *e*S **S** **03 22 18.1 -1.3**
SOC *e*SSS SSS 03 30 45.0
SOC MLR MLR
comp=Z,3µm,16.0s
NVAR Mina Array Bea 78.88 52 P **P** **03 12 22.9 +0.9**
comp=Z,15nm,0.7s,baz=291,slow=5.6,SNR=60
NVAR LR LR 03 41 33.9
comp=Z,4µm,21.2s,baz=290,slow=31
comp=Z,15nm,0.7s
MLAC Mammoth, Mammo 78.89 53 P **P** **03 12 20.5 -1.7**
baz=298
HLID Hailey 78.96 46 P **P** **03 12 21.2 -1.1**
baz=300,SNR=21
NV11 Mina Array Sit 78.98 52 IAmb IAmb 03 12 27.3
comp=Z,60nm,1.5s
VOG Valley Oaks Go 79.13 55 P **P** **03 12 22.2 -0.9**
baz=298
SMMC Simmler 79.16 56 P **P** **03 12 22.2 -1.2**
baz=298
EGMT Eagleton 79.45 41 IAmb IAmb 03 12 29.5
comp=Z,94nm,1.6s
EGMT IAMs_20 IAMs_20 03 44 18.2
comp=Z,2µm,19.0s
EGMT Eagleton 79.45 41 P **P** **03 12 23.6 -1.2**
baz=302,SNR=13
Q09A Carvers 79.46 51 IAmb IAmb 03 12 43.0
comp=Z,39nm,0.9s
MNK Minsk 79.49 327 *i* P **P** **03 12 25.8 +1.1**
comp=E,13nm,1.1s
MNK *i* P **P** **03 12 25.8 +1.1**
comp=N,30nm,1.4s
MNK *i* P **P** **03 12 25.8 +1.1**
comp=Z,34nm,1.1s,baz=53
MNK *i* PP **PP** **03 15 28.7 +4.1**
MNK *i* PPP PPP 03 17 26.4
MNK *i* S **S** **03 22 29.7 +4.2**
MNK *i* SS **SS** **03 27 34.7 +2.5**
MNK *i* SSS SSS 03 31 21.2
MNK *i* LQ LQ 03 40 47.9
MNK *i* LR LR 03 43 47.5
MNK *i* LRM MLR 03 48 15.3
comp=N,2µm,17.6s
MNK *i* LRM MLR 03 48 20.4
comp=E,1µm,19.4s
MNK *i* LRM MLR 03 51 52.2
comp=Z,2µm,15.2s
MNK Minsk 79.49 327 *i* P **P** **03 12 25.8 +1.1**
MNK *i* 03 15 28.6
MNK *i* S **S** **03 22 29.7 +4.2**
MNK *i* SS **SS** **03 27 34.7 +2.5**
MNK pmax pmax
comp=Z,34nm,1.1s
MNK pmax pmax
comp=N,30nm,1.4s
MNK pmax pmax
comp=E,13nm,1.1s
MNK MLR MLR
comp=N,2µm,18.0s
MNK MLR MLR
comp=E,1µm,19.0s
MNK MLR MLR
comp=Z,2µm,15.0s
PKM Mcpherson Peak 79.50 56 P **P** **03 12 22.5 -3.0**
baz=298
DMTO DMTO 79.55 284 P **P** **03 12 26.3 +0.6**
VES Vestal, Richgr 79.57 55 P **P** **03 12 24.0 -1.6**
baz=299,SNR=13
TIN Tinemaha, Big 79.59 53 P **P** **03 12 25.2 -0.7**
baz=299
ANN Anapa 79.68 316 *ce*P **P** **03 12 25.5 -0.4**
ANN pmax pmax
comp=Z,52nm,1.2s
ANN MLR MLR
comp=Z,4µm,20.0s
FFC Flin Flon 79.69 32 P **P** **03 12 26.6 +0.7**
FFC Flin Flon 79.69 32 IAMs_20 IAMs_20 03 46 15.0
comp=Z,3µm,20.0s
FFC Flin Flon 79.69 32 P **P** **03 12 26.6 +0.7**
SMRA Abu-Samra 79.74 293 P **P** **03 12 27.4 +0.8**
SNR=5.2
BCW Bitter Crk WRg 79.76 56 IAmb IAmb 03 13 06.7
comp=Z,78nm,1.3s
NACGM Naroch 79.76 328 *e*P **P** **03 12 27.1 +0.9**
comp=Z,55nm,0.8s,baz=52
SBC Santa Barbara 79.78 56 P **P** **03 12 25.8 -0.9**
baz=298
SCO Scoresbysund 79.89 355 *i* P **P** **03 12 27.5 +0.9**
SCO IAmb IAmb 03 12 43.0
comp=Z,12nm,1.0s
CWC Cottonwood Cre 79.99 54 P **P** **03 12 26.9 -1.2**
baz=299
SCZ2 Santa Cruz Isl 80.05 57 P **P** **03 12 27.0 -1.2**
baz=299
ISA Isabella, Lake 80.09 55 P **P** **03 12 27.7 -0.8**
baz=299,SNR=6.0
ARVC Arvin 80.09 55 P **P** **03 12 27.2 -1.2**
baz=299
PMOR Pomariorio Ree 80.20 113 *e*T T 04 40 53.7
comp=Z,3.8nm,0.2s
GRAC Grapevine Rang 80.22 53 P **P** **03 12 27.7 -1.5**
baz=299
YHL Hebgen Lake 80.29 44 IAmb IAmb 03 12 48.2
comp=Z,40nm,1.1s
PPT Papeete 80.30 116 LR LR 03 43 18.4
comp=Z,2µm,19.2s,baz=336,slow=32
PPT2 Papeete2 80.32 116 *e*PKP1 **P** **03 12 30.3 +0.5**
PPT2 comp=Z,333nm,22.5s *e*S S 03 22 23.6 -12
comp=Z,541nm,26.8s
PPT2 Papeete2 80.32 116 *e*LQ LQ 03 34 10.5
comp=Z,323nm,23.2s
PPT2 *e*LR LR 03 36 51.9
PPT2 comp=Z,2µm,21.2s *e*LR LR 03 37 14.8
comp=Z,3µm,21.2s
OSI Osito Audit: C 80.41 56 P **P** **03 12 29.7 -0.5**
baz=299
WHFO Wadi Hawf 80.45 285 P **P** **03 12 31.1 +0.4**
FCC Fort Churchill 80.48 26 IAmb IAmb 03 12 33.6
comp=Z,73nm,1.5s
SNCC San Nicolas Is 80.49 57 P **P** **03 12 29.6 -1.0**
baz=299
YMR Madison River 80.52 44 IAmb IAmb 03 12 34.4
comp=Z,36nm,1.0s
MPMC Manual Prospec 80.60 54 P **P** **03 12 30.2 -1.2**
baz=299,SNR=8.2
CCAC Calif City Air 80.66 55 IAmb IAmb 03 13 00.1
comp=Z,40nm,0.9s
PABE Paberze 80.66 330 P **P** **03 12 31.1 +0.1**
PABE IAMs_20 IAMs_20 03 52 23.5
comp=Z,2µm,20.0s
YNR Norris Junctio 80.67 44 IAmb IAmb 03 12 51.5
comp=Z,43nm,1.1s
LRMC Laurel Mtn Rad 80.74 55 P **P** **03 12 31.8 -0.3**
baz=299
R11B Troy Canyon, C 80.79 51 IAmb IAmb 03 12 37.1
comp=Z,53nm,1.4s
R11B Troy Canyon, C 80.79 51 P **P** **03 12 31.8 -0.5**
baz=300,SNR=48
EDW2 Edwards Air Fo 80.81 55 P **P** **03 12 31.1 -1.3**
baz=299,SNR=9.8
FURC Furnace Creek, 80.84 53 P **P** **03 12 31.2 -1.1**
baz=300
DECC Green Verdugo 80.87 56 P **P** **03 12 32.0 -0.7**
baz=299
HVU Hansel Valley 80.90 47 IAmb IAmb 03 13 02.1
comp=Z,73nm,1.7s
H17A Grant Village 80.90 44 IAmb IAmb 03 12 37.9
comp=Z,46nm,1.0s
H17A Grant Village 80.90 44 P **P** **03 12 31.5 -1.5**
baz=302,SNR=26
IMW Indian Meadow 80.95 45 IAMs_20 IAMs_20 03 42 39.8
comp=Z,2µm,20.0s
Q12A Willow Creek R 80.95 50 IAmb IAmb 03 12 41.2
comp=Z,70nm,1.4s
YMP Mirror Lake Pl 80.97 44 IAmb IAmb 03 12 53.0
comp=Z,64nm,1.3s
FLWY Flagg Ranch 80.99 44 IAmb IAmb 03 12 52.6
comp=Z,33nm,1.0s
FLWY IAMs_20 IAMs_20 03 43 25.1
comp=Z,2µm,19.0s
TPNV Topopah Spring 81.03 53 IAmb IAmb 03 13 03.2
comp=Z,47nm,1.2s
TPNV Topopah Spring 81.03 53 P **P** **03 12 31.4 -2.3**
baz=300,SNR=12
AKASG Malin Array Be 81.06 324 *i* P **P** **03 12 32.7 -0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 81.06 324 P **P** **03 12 32.4 -0.9**
comp=Z,6.4nm,0.9s,baz=46,slow=5.8,SNR=17
AKASG LR LR 03 51 01.1
comp=Z,6µm,19.1s,baz=48,slow=38
comp=Z,6.4nm,0.9s
AKBB Malin Array Si 81.06 324 *de*P **P** **03 12 33.9 +0.6**
KIEV Kiev 81.08 324 P **P** **03 12 32.9 -0.5**
KIEV Kiev 81.08 324 P **P** **03 12 32.9 -0.5**
KIEV Kiev 81.08 324 P **P** **03 12 32.9 -0.5**
KIEV pmax pmax
comp=Z,36nm,1.3s
KIEV MLR MLR
comp=Z,6µm,19.0s
QSM Queen of Sheba 81.08 54 IAmb IAmb 03 12 52.9
comp=Z,30nm,0.9s
ABTO Aybut 81.11 285 P **P** **03 12 34.8 +0.5**
GWY Greenwater Val 81.11 54 IAmb IAmb 03 12 36.6
comp=Z,29nm,0.8s
TPAW Teton Pass 81.15 45 IAMs_20 IAMs_20 03 44 06.3
comp=Z,2µm,18.0s
FMP Fort Macarthur 81.16 56 P **P** **03 12 33.3 -0.9**
baz=299
CIS Catalina Islan 81.22 57 P **P** **03 12 34.1 -0.5**
baz=299
RLMT Red Lodge 81.30 43 IAmb IAmb 03 12 51.8
comp=Z,51nm,1.3s
RLMT Red Lodge 81.30 43 P **P** **03 12 34.2 -0.7**
baz=303,SNR=26
LOHW Long Hollow 81.30 45 IAmb IAmb 03 12 40.3
comp=Z,46nm,1.5s
LOHW IAMs_20 IAMs_20 03 42 49.3
comp=Z,3µm,21.0s
SPR3 Spring Creek 3 81.31 50 IAmb IAmb 03 12 40.4
comp=Z,57nm,1.7s
BFSC Mount Baldy Ra 81.36 56 P **P** **03 12 34.3 -1.1**
baz=300
AHID Auburn Hatcher 81.44 46 IAmb IAmb 03 12 54.5
comp=Z,44nm,1.2s
AHID IAMs_20 IAMs_20 03 42 08.1
comp=Z,3µm,20.0s
GSC Goldstone, Bar 81.45 54 P **P** **03 12 34.5 -1.3**
baz=300,SNR=8.9
NC405 NORSAR Array S 81.49 338 IAmb IAmb 03 12 53.0
comp=Z,76nm,1.4s
RRX Edison Barstow 81.53 55 P **P** **03 12 36.1 0.0**
baz=300
HFS Hagfors 81.55 337 P **P** **03 12 35.6 -0.2**
comp=Z,6.8nm,0.7s,baz=91,slow=5.9,SNR=5.9
HFS LR LR 03 53 06.4
comp=Z,3µm,18.7s,baz=45,slow=39
comp=Z,6.8nm,0.7s
SIM Simferopol' 81.60 317 *e*P **P** **03 12 36.9 +0.6**
SIM *e*S **S** **03 22 44.9 -3.1**
SIM pmax pmax
comp=Z,31nm,0.8s
SIM smax smax
comp=E,654nm,15.4s
SIM MLR MLR
comp=Z,1µm,20.6s
PRN Pahroc Range 81.62 52 IAmb IAmb 03 12 54.9
comp=Z,40nm,0.9s
NC204 NORSAR Array S 81.67 339 IAmb IAmb 03 12 55.0
comp=Z,62nm,1.2s
DUG Dugway, Tooele 81.70 49 P **P** **03 12 36.2 -0.9**
baz=301,SNR=30
NB2 NORSAR Subarra 81.71 338 P **P** **03 12 36.1 -0.5**
comp=Z,44nm,1.1s,baz=40,slow=5.3
NB2 NORSAR Subarra 81.71 338 P **P** **03 12 36.1 -0.5**
baz=40,slow=5.3
NOA NORSAR Array B 81.71 338 P **P** **03 12 36.2 -0.4**
comp=Z,9.4nm,0.9s,baz=40,slow=5.1,SNR=18
NOA LR LR 03 54 00.6
comp=Z,3µm,20.5s,baz=45,slow=40
comp=Z,9.4nm,0.9s
HWUT Hardware Ranch 81.77 47 IAmb IAmb 03 12 55.7
comp=Z,45nm,1.1s
ELS Elsinore Mount 81.82 56 IAmb IAmb 03 12 42.2
comp=Z,82nm,1.9s
BBRC Big Bear Solar 81.89 55 P **P** **03 12 36.8 -1.5**
baz=300
ICESG Greenland Ices 81.89 1 *i* P **P** **03 12 37.3 -0.6**
ICESG IAmb IAmb 03 12 54.2
comp=Z,28nm,0.8s
SUW Suwalki 81.96 329 *e*P **P** **03 12 38.3 +0.3**
SUW Suwalki 81.96 329 IAMs_20 IAMs_20 03 50 38.9
comp=Z,3µm,20.0s
TUQ Turquoise Moun 82.01 54 P **P** **03 12 38.6 -0.3**
baz=300
MURC Murrieta 82.02 56 P **P** **03 12 37.3 -1.5**
baz=300
HEC Hector,Ludlow 82.02 55 P **P** **03 12 38.2 -0.6**
baz=300
TCUT Toone Canyon 82.12 47 IAmb IAmb 03 12 46.7
comp=Z,34nm,1.2s
CTU Camp Tracy 82.13 48 IAmb IAmb 03 12 57.2
comp=Z,34nm,1.1s

LAO	**LASA Array**	**82.19**	**40**	IAMs_20	IAMs_20	03 49 43.7			
	comp=Z,2µm,19.0s								
LAO	**LASA Array**	**82.19**	**40**	P	**P**	**03 12 39.2**	**-0.3**		
	baz=305,SNR=6.0								
LAO	**LASA Array**	**82.19**	**40**	P	**P**	**03 12 41.1**	**+1.6**		
	baz=305								
DGMT	**Dagmar**	**82.28**	**38**	IAmb	IAmb	03 12 55.7			
	comp=Z,32nm,0.9s								
DGMT	**Dagmar**	**82.28**	**38**	IAMs_20	IAMs_20	03 46 00.5			
	comp=Z,2µm,20.0s								
DGMT	**Dagmar**	**82.28**	**38**	P	**P**	**03 12 39.8**	**0.0**		
	baz=306,SNR=6.6								
DGMT	**Dagmar**	**82.28**	**38**	P	**P**	**03 12 41.2**	**+1.3**		
	baz=306								
BW06	**Boulder Array**	**82.40**	**45**	IAMs_20	IAMs_20	03 43 36.4			
	comp=Z,3µm,20.0s								
BW06	**Boulder Array**	**82.40**	**45**	P	**P**	**03 12 39.9**	**-1.0**		
	baz=303,SNR=18								
PDAR	**Pinedale Array**	**82.40**	**45**	P	**P**	**03 12 41.3**	**+0.4**		
	comp=Z,11nm,1.0s,baz=256,slow=1.4,SNR=40								
PDAR				LR	LR	03 44 49.0			
	comp=Z,2µm,19.8s,baz=318,slow=32								
	comp=Z,11nm,1.0s								
109C	**Camp Elliot, M**	**82.43**	**57**	IAmb	IAmb	03 12 43.2			
	comp=Z,51nm,1.5s								
109C	**Camp Elliot, M**	**82.43**	**57**	P	**P**	**03 12 40.7**	**-0.2**		
	baz=300								
GMRC	**Granite Mounta**	**82.52**	**54**	P	**P**	**03 12 41.3**	**-0.3**		
	baz=300,SNR=12								
PFO	**Pinyon Flats O**	**82.54**	**56**	P	**P**	**03 12 41.2**	**-0.5**		
PFO				IAmb	IAmb	03 13 09.8			
	comp=Z,45nm,1.2s								
PFO	**Pinyon Flats O**	**82.54**	**56**	P	**P**	**03 12 41.2**	**-0.5**		
	baz=300								
PFO	**Pinyon Flats O**	**82.54**	**56**	P	**P**	**03 12 41.2**	**-0.5**		
PFO				pmax	pmax				
	comp=Z,45nm,1.3s								
PFO				MLR	MLR				
	comp=Z,4µm,19.0s								
PFO	**Pinyon Flats O**	**82.54**	**56**	LR	LR	03 42 34.7			
	comp=Z,2µm,21.3s,baz=276,slow=31								
TPFO	**Pinon Flats**	**82.55**	**56**	P	**P**	**03 12 40.7**	**-0.9**		
	baz=300								
V12A	**Nelson**	**82.62**	**53**	IAmb	IAmb	03 13 00.5			
	comp=Z,62nm,1.5s								
BELC	**Belle Mtn. Jos**	**82.68**	**55**	P	**P**	**03 12 41.4**	**-0.9**		
	baz=300								
CCUT	**Cedar City**	**82.70**	**51**	IAmb	IAmb	03 13 00.7			
	comp=Z,27nm,1.0s								
TCRU	**Three Creeks R**	**82.77**	**50**	IAmb	IAmb	03 13 13.0			
	comp=Z,34nm,1.2s								
BSUT	**Blindstream Ca**	**82.85**	**47**	IAmb	IAmb	03 12 48.5			
	comp=Z,46nm,1.6s								
BAR	**Barrett**	**82.85**	**57**	IAmb	IAmb	03 13 11.3			
	comp=Z,36nm,1.4s								
MONP2	**Monument Peak**	**82.93**	**56**	P	**P**	**03 12 43.0**	**-0.8**		
	baz=300								
SORM	**Soroca**	**83.04**	**322**	⇓P	**P**	**03 12 40.0**	**-3.8**		
LCMT	**Little Creek M**	**83.06**	**51**	IAmb	IAmb	03 15 17.8			
	comp=Z,34nm,1.0s								
PURM	**Purcari**	**83.15**	**320**	⇑P	**P**	**03 12 45.6**	**+1.2**		
IRM	**Iron Mountain**	**83.21**	**55**	P	**P**	**03 12 45.8**	**+0.9**		
	baz=301								
BC3	**Big Chuckawall**	**83.24**	**55**	P	**P**	**03 12 44.8**	**-0.5**		
	baz=301,SNR=14								
NEE2	**Needles Airpor**	**83.27**	**54**	P	**P**	**03 12 45.1**	**-0.1**		
	baz=301								
IKP	**In-Ko-Pah, Jac**	**83.28**	**56**	P	**P**	**03 12 45.4**	**0.0**		
	baz=300								
TAOE	**Nuku Hiva Isla**	**83.34**	**104**	*e*PKP1	**P**	**03 12 45.0**	**-0.9**		
	comp=Z,385nm,23.6s								
TAOE	**Nuku Hiva Isla**	**83.34**	**104**	*e*S	S	03 22 52.3	-15		
	comp=Z,594nm,28.7s								
TAOE				*e*SS	**SS**	**03 28 37.5**	**+5.1**		
	comp=Z,667nm,24.8s								
TAOE				*e*LR	LR	03 38 35.3			
	comp=Z,3µm,21.4s								
SWSC	**Sam W. Stewart**	**83.35**	**56**	P	**P**	**03 12 46.0**	**+0.4**		
	baz=301								
YUH	**Yuha Desert**	**83.42**	**56**	IAmb	IAmb	03 13 48.2			
	comp=Z,33nm,1.6s								
KIS	**Kishinev**	**83.46**	**321**	*e*P	P	03 12 41.0	-4.9		
KIS				*e*S	S	03 22 51.0	-16		
KIS	**Kishinev**	**83.46**	**321**	*e*P	P	03 12 41.0	-4.9		
KIS				*e*		03 23 00.0			
KIS				MLR	MLR				
	comp=Z,2µm,15.0s								
MILM	**Milestii Mici**	**83.51**	**321**	*e*P	P	03 12 40.0	-6.2		
MILM				*e*S	S	03 22 54.0	-13		
MILM	**Milestii Mici**	**83.51**	**321**	*e*P	P	03 12 40.0	-6.2		
MILM				MLR	MLR				
	comp=Z,4µm,15.0s								
TBI	**Tubuai**	**83.71**	**121**	*e*P	**P**	**03 12 51.9**	**+4.5**		
	comp=Z,1µm,23.2s								
TBI	**Tubuai**	**83.71**	**121**	*e*S	**SKSac**	**03 23 07.1**	**-2.9**		
	comp=Z,2µm,27.0s								
TBI	**Tubuai**	**83.71**	**121**	*e*LR	LR	03 38 58.0			
	comp=Z,22µm,29.5s								
TBI				*e*LR	LR	03 39 01.4			
	comp=Z,4µm,28.2s								
TBI	**Tubuai**	**83.71**	**121**	*e*T	T	04 44 55.4			
	comp=Z,0.9nm,0.1s								
SRU	**San Rafael Swe**	**83.77**	**48**	IAmb	IAmb	03 13 06.2			
	comp=Z,30nm,1.0s								
PDMCI	**Parker Dam,Lak**	**83.85**	**54**	P	**P**	**03 12 47.4**	**-0.7**		
	baz=301,SNR=9.7								
BLYC	**Blythe**	**83.86**	**55**	IAmb	IAmb	03 12 52.9			
	comp=Z,58nm,1.6s								
LVV	**L'vov**	**84.24**	**325**	*e*P	**P**	**03 12 47.7**	**-2.2**		
LVV				*e*PPP	PPP	03 18 01.2			
LVV				*e*S	**SKSac**	**03 23 11.1**	**-1.9**		
LVV				*e*SS	**SS**	**03 28 39.2**	**-3.8**		
LVV				MLR	MLR				
	comp=N,2µm,19.0s								
LVV				MLR	MLR				
	comp=E,2µm,19.0s								
LVV				MLR	MLR				
	comp=Z,3µm,19.0s								
VASR	**Vaslui**	**84.24**	**321**	⇑P	**P**	**03 12 51.4**	**+1.4**		
HMU	**Henry Mountain**	**84.26**	**50**	IAmb	IAmb	03 13 08.1			
	comp=Z,40nm,1.0s								
DY2G	**Dye2**	**84.30**	**4**	*i* P	**P**	**03 12 50.7**	**+0.6**		
DY2G				IAmb	IAmb	03 12 54.1			
	comp=Z,9.4nm,0.7s								
K22A	**Casper**	**84.32**	**44**	IAmb	IAmb	03 13 06.3			
	comp=Z,29nm,1.0s								
K22A	**Casper**	**84.32**	**44**	P	**P**	**03 12 49.7**	**-0.9**		
	baz=305								
RWWY	**Rawlins**	**84.45**	**45**	IAMs_20	IAMs_20	03 50 46.6			
	comp=Z,3µm,20.0s								
O20A	**White River Ci**	**84.68**	**47**	IAmb	IAmb	03 12 55.1			
	comp=Z,38nm,1.0s								
O20A	**White River Ci**	**84.68**	**47**	P	**P**	**03 12 51.6**	**-1.0**		
	baz=304,SNR=23								
SCTR	**Scanteiesti**	**84.71**	**320**	⇑P	**P**	**03 12 55.9**	**+3.5**		
BR131	**Keskin Array S**	**84.78**	**313**	IAmb	IAmb	03 13 08.7			
	comp=Z,31nm,0.9s								
BR131	**Keskin Array S**	**84.78**	**313**	P	**P**	**03 12 53.6**	**+0.6**		
	SNR=18								
BR131	**Keskin Array S**	**84.78**	**313**	*d i* P	**P**	**03 12 53.8**	**+0.8**		
BRTR	**Keskin Array B**	**84.78**	**313**	P	**P**	**03 12 52.8**	**-0.3**		
	comp=Z,16nm,0.8s,baz=93,slow=4.0,SNR=38								
BRTR				LR	LR	03 55 17.4			
	comp=Z,3µm,18.9s,baz=54,slow=39								
	comp=Z,16nm,0.8s								
CFR	**Carcaliu**	**84.93**	**320**	⇑P	**P**	**03 12 52.6**	**-0.9**		
RSSD	**Black Hills**	**84.94**	**42**	P	**P**	**03 12 53.1**	**-0.8**		
RSSD				IAmb	IAmb	03 12 58.1			
	comp=Z,68nm,1.8s								
RSSD	**Black Hills**	**84.94**	**42**	IAMs_20	IAMs_20	03 51 34.4			
	comp=Z,2µm,19.0s								
RSSD	**Black Hills**	**84.94**	**42**	P	**P**	**03 12 52.8**	**-1.0**		
	baz=306								
RSSD	**Black Hills**	**84.94**	**42**	P	**P**	**03 12 54.1**	**+0.3**		
	baz=306								
RSSD	**Black Hills**	**84.94**	**42**	P	**P**	**03 12 53.1**	**-0.8**		
RSSD				pmax	pmax				
	comp=Z,68nm,1.8s								
RSSD				MLR	MLR				
	comp=Z,2µm,19.0s								
TPGR	**Topolog**	**84.97**	**319**	⇑P	**P**	**03 12 54.1**	**+0.4**		
BUR01	**Bucovina Ar. S**	**85.03**	**323**	⇓P	**P**	**03 12 54.3**	**+0.3**		
MDND	**Maddock**	**85.10**	**37**	P	**P**	**03 12 53.8**	**-0.5**		
	baz=309,SNR=6.6								
MDND	**Maddock**	**85.10**	**37**	P	**P**	**03 12 55.1**	**+0.8**		
	baz=309								
WUAZ	**Wupatki**	**85.14**	**52**	IAmb	IAmb	03 12 57.8			
	comp=Z,42nm,1.1s								
WUAZ	**Wupatki**	**85.14**	**52**	P	**P**	**03 12 54.2**	**-0.8**		
	baz=303								
TIRR	**Tirgusor**	**85.21**	**319**	⇑P	**P**	**03 12 59.4**	**+4.6**		
ANTO	**Ankara**	**85.23**	**313**	P	**P**	**03 12 55.4**	**+0.2**		
ANTO	**Ankara**	**85.23**	**313**	IAMs_20	IAMs_20	03 57 44.5			
	comp=Z,2µm,18.0s								
ANTO	**Ankara**	**85.23**	**313**	P	**P**	**03 12 56.0**	**+0.8**		
ANTO	**Ankara**	**85.23**	**313**	P	**P**	**03 12 55.4**	**+0.2**		
ANTO				pmax	pmax				
	comp=Z,81nm,1.7s								
VRI	**Vrincioaia**	**85.30**	**321**	⇑P	**P**	**03 12 58.8**	**+3.5**		
E28A	**Huff**	**85.32**	**38**	P	**P**	**03 12 56.5**	**+1.0**		
	baz=308								
HARR	**Harsova**	**85.34**	**319**	⇓P	P	03 13 03.1	+7.6		
HARR	**Harsova**	**85.34**	**319**	⇓P	P	03 13 03.1	+7.6		
PLOR	**Plostina**	**85.35**	**321**	⇑P	**P**	**03 12 57.9**	**+2.3**		
ULM	**Lac du Bonnet**	**85.41**	**33**	IAMs_20	IAMs_20	03 49 22.4			
	comp=Z,3µm,22.0s								
ULM	**Lac du Bonnet**	**85.41**	**33**	P	**P**	**03 12 55.8**	**0.0**		
	comp=Z,12nm,1.1s,baz=326,slow=6.9,SNR=10								
ULM				LR	LR	03 49 33.6			
	comp=Z,3µm,21.4s,baz=312,slow=35								
	comp=Z,12nm,1.1s								
TURR	**Turia**	**85.57**	**321**	⇑P	**P**	**03 12 57.9**	**+1.2**		
OZUR		**85.67**	**321**	⇑P	**P**	**03 12 59.2**	**+1.9**		
N23A	**Red Feather La**	**85.69**	**45**	P	**P**	**03 12 57.5**	**-0.2**		
	baz=306,SNR=15								
KOLS	**Kolonicke sedl**	**85.69**	**325**	*e*P	**P**	**03 13 00.5**	**+3.3**		
KOLS	**Kolonicke sedl**	**85.69**	**325**	*e*P	**P**	**03 13 00.5**	**+3.3**		
KOLS				pmax	pmax				
	comp=Z,9.0nm,1.0s								
PHWY	**Pilot Hill**	**85.75**	**44**	IAmb	IAmb	03 13 14.3			
	comp=Z,25nm,1.1s								
PHWY				IAMs_20	IAMs_20	03 47 37.2			
	comp=Z,2µm,20.0s								
RGN	**Rugen**	**85.78**	**333**	IAMs_20	IAMs_20	03 58 14.7			
	comp=Z,3µm,19.0s								
MLR	**Muntele Rosu**	**85.96**	**321**	⇑P	**P**	**03 12 56.3**	**-2.5**		
214A	**Organ Pipe Nat**	**86.03**	**56**	IAmb	IAmb	03 13 02.0			
	comp=Z,24nm,1.1s								
214A	**Organ Pipe Nat**	**86.03**	**56**	P	**P**	**03 12 59.3**	**+0.1**		
	baz=302,SNR=12								
SMCO	**Snowmass**	**86.03**	**47**	IAmb	IAmb	03 13 17.6			
	comp=Z,33nm,1.1s								
OJC	**Ojcow**	**86.03**	**327**	*e*P	**P**	**03 12 58.1**	**-0.8**		
OJC	**Ojcow**	**86.03**	**327**	IAmb	IAmb	03 13 18.6			
	comp=Z,31nm,1.2s								
CRVS	**Cervenica-Dubn**	**86.11**	**326**	*e*P	**P**	**03 13 01.2**	**+1.9**		
CRVS	**Cervenica-Dubn**	**86.11**	**326**	*e*P	**P**	**03 13 01.2**	**+1.9**		
CRVS				pmax	pmax				
	comp=Z,147nm,2.2s								
MVCO	**Mesa Verde**	**86.15**	**49**	IAmb	IAmb	03 13 18.3			
	comp=Z,27nm,1.1s								
MVCO	**Mesa Verde**	**86.15**	**49**	P	**P**	**03 12 58.8**	**-1.2**		
	baz=304,SNR=12								
W18A	**Petrified Fore**	**86.48**	**51**	P	**P**	**03 13 00.4**	**-1.2**		
	baz=304								
VOIR		**86.49**	**321**	⇑P	**P**	**03 13 03.4**	**+2.1**		
VOIR		**86.49**	**321**	⇑P	**P**	**03 13 03.4**	**+2.1**		
ISCO	**Idaho Springs**	**86.53**	**46**	IAMs_20	IAMs_20	03 46 53.6			
	comp=Z,2µm,20.0s								
ISCO	**Idaho Springs**	**86.53**	**46**	P	**P**	**03 13 00.8**	**-1.2**		
	baz=306,SNR=16								
ISCO	**Idaho Springs**	**86.53**	**46**	P	**P**	**03 13 02.3**	**+0.4**		
	baz=306								
ASF	**Jabal al Asfar**	**86.70**	**305**	LR	LR	03 56 06.9			
	comp=Z,994nm,19.8s,baz=53,slow=39								
AGMN	**Agassiz Nation**	**86.72**	**35**	IAMs_20	IAMs_20	03 52 03.6			
	comp=Z,2µm,20.0s								
AGMN	**Agassiz Nation**	**86.72**	**35**	P	**P**	**03 13 01.4**	**-0.9**		
	baz=312,SNR=14								
AGMN	**Agassiz Nation**	**86.72**	**35**	P	**P**	**03 13 01.7**	**-0.6**		
	baz=312,SNR=14								
MARR	**Marisel-Cluj**	**86.73**	**323**	⇑P	**P**	**03 13 03.5**	**+1.0**		
ARR	**Arges**	**86.76**	**321**	⇓P	**P**	**03 13 05.5**	**+2.9**		
BRIGG	**Briggsdale**	**86.87**	**45**	IAMs_20	IAMs_20	03 46 39.6			
	comp=Z,2µm,20.0s								
S22A	**4UR Ranch, Cre**	**86.94**	**48**	IAmb	IAmb	03 13 08.9			
	comp=Z,34nm,1.5s								
S22A	**4UR Ranch, Cre**	**86.94**	**48**	P	**P**	**03 13 03.0**	**-0.9**		
	baz=305,SNR=15								
OKC	**Ostrava-Krasne**	**87.07**	**328**	AMS	AMS	04 03 00.0			
	comp=Z,3µm,14.3s								
KSP	**Ksiaz**	**87.22**	**329**	*e*P	**P**	**03 13 04.1**	**-0.5**		
TUC	**Tucson**	**87.28**	**54**	P	**P**	**03 13 05.3**	**-0.2**		
TUC	**Tucson**	**87.28**	**54**	P	**P**	**03 13 04.4**	**-1.1**		
	baz=303								
TUC	**Tucson**	**87.28**	**54**	P	**P**	**03 13 05.3**	**-0.2**		
TUC				pmax	pmax				
	comp=Z,34nm,1.9s								
MMAI	**Mount Meron ar**	**87.30**	**307**	P	**P**	**03 13 05.4**	**-0.1**		
	comp=Z,8.2nm,0.6s,baz=64,slow=5.7,SNR=16								
MMAI				LR	LR	03 57 07.8			
	comp=Z,2µm,18.4s,baz=4.0,slow=39								
	comp=Z,8.2nm,0.6s								
Q24A	**Divide**	**87.31**	**46**	P	**P**	**03 13 03.9**	**-1.8**		
	baz=306								
MORC	**Moravsky Berou**	**87.40**	**328**	*e*P	**P**	**03 13 05.4**	**-0.2**		
OSTC	**Ostas**	**87.45**	**329**	*e*P	**P**	**03 13 06.5**	**+0.7**		
OSTC				*ex*	x	03 13 15.4			
OSTC				*e*S	**S**	**03 23 44.5**	**-1.8**		
OSTC				AMS	AMS	03 56 20.0			
	comp=Z,4µm,15.8s								
OSTC	**Ostas**	**87.45**	**329**	*e*P	**P**	**03 13 06.5**	**+0.7**		
OSTC				*e*		03 13 15.4			
OSTC				*e*		03 23 44.5			
OSTC				MLR	MLR				
	comp=Z,4µm,15.8s								
CHVC	**Chvalec**	**87.50**	**329**	AMS	AMS	03 56 20.0			
	comp=Z,4µm,16.0s								
KRLC	**Kraliky**	**87.54**	**328**	*e*S	**S**	**03 23 51.2**	**+4.0**		
KRLC				AMS	AMS	03 56 30.0			
	comp=Z,5µm,16.1s								
PSZ	**Piszkesteto**	**87.55**	**325**	⇑P	**P**	**03 13 07.7**	**+1.3**		
PSZ	**Piszkesteto**	**87.55**	**325**	IAmb	IAmb	03 13 32.4			
	comp=Z,46nm,1.7s								
PSZ	**Piszkesteto**	**87.55**	**325**	⇑P	**P**	**03 13 07.7**	**+1.3**		
DPC	**Dobruska-Polom**	**87.55**	**329**	*e*P	**P**	**03 13 06.2**	**-0.1**		
DPC				*e*S	**S**	**03 23 43.0**	**-4.3**		
DPC				AMS	AMS	03 55 50.0			
	comp=Z,3µm,15.9s								
DPC	**Dobruska-Polom**	**87.55**	**329**	*e*P	**P**	**03 13 06.2**	**-0.1**		
DPC				*e*		03 23 43.0			
DPC				MLR	MLR				
	comp=Z,3µm,15.9s								
UPC	**Upice**	**87.58**	**329**	*e*P	**P**	**03 13 06.8**	**+0.4**		
UPC				AMS	AMS	03 56 30.0			
	comp=Z,4µm,16.1s								
UPC	**Upice**	**87.58**	**329**	*e*P	**P**	**03 13 06.8**	**+0.4**		
UPC				MLR	MLR				
	comp=Z,4µm,16.1s								
SUSD	**Miller**	**87.61**	**39**	P	**P**	**03 13 05.6**	**-1.2**		
	baz=310								
VYHS	**Vyhne**	**87.67**	**326**	*e*P	**P**	**03 13 07.2**	**+0.3**		
VYHS	**Vyhne**	**87.67**	**326**	*e*P	**P**	**03 13 07.2**	**+0.3**		
VYHS				pmax	pmax				
	comp=Z,86nm,2.4s								
SIRR	**Siria**	**87.76**	**323**	⇑P	**P**	**03 13 08.2**	**+0.8**		
SDCO	**Great Sand Dun**	**87.80**	**47**	IAmb	IAmb	03 13 12.8			
	comp=Z,38nm,1.7s								
SDCO	**Great Sand Dun**	**87.80**	**47**	P	**P**	**03 13 06.7**	**-1.4**		
	baz=306,SNR=11								
SDCO	**Great Sand Dun**	**87.80**	**47**	P	**P**	**03 13 09.5**	**+1.4**		
	baz=306								
SURR	**Surduc**	**87.85**	**323**	⇓P	**P**	**03 13 04.9**	**-2.9**		
ISP	**Isparta**	**87.86**	**313**	IAMs_20	IAMs_20	03 59 60.0			
	comp=Z,2µm,20.0s								
JAVC	**Velka Javorina**	**87.98**	**327**	*e*P	**P**	**03 13 09.6**	**+1.2**		
OGNE	**Ogallala**	**88.04**	**43**	P	**P**	**03 13 08.5**	**-0.4**		
	baz=308								
OGNE	**Ogallala**	**88.04**	**43**	P	**P**	**03 13 09.6**	**+0.7**		
	baz=308								
OGNE				S	**S**	**03 23 50.5**	**-1.9**		
	baz=308								
F33A	**5 Mile Ranch,**	**88.13**	**37**	P	**P**	**03 13 09.5**	**+0.3**		
	baz=312								
F33A				S	**S**	**03 23 49.7**	**-3.2**		
	baz=312								
VRAC	**Vranov**	**88.17**	**328**	⇑P	**P**	**03 13 05.2**	**-4.1**		
VRAC	**Vranov**	**88.17**	**328**	*e*P	**P**	**03 13 09.0**	**-0.3**		
VRAC	**Vranov**	**88.17**	**328**	⇑P	**P**	**03 13 05.2**	**-4.1**		
VRAC	**Vranov**	**88.17**	**328**	LR	LR	03 56 56.0			
	comp=Z,3µm,18.3s,baz=50,slow=39								
BRG	**Berggiesshubel**	**88.23**	**330**	Amp		03 12 54.9			
	comp=Z,9.4nm,1.6s								
BRG	**Berggiesshubel**	**88.23**	**330**	P	P	03 12 59.9	-10		
BRG				Amp		03 13 02.0			
	comp=Z,5.6nm,0.9s								
BRG				PP	PP	03 16 07.6	-28		
BRG				Amp		03 16 45.1			
	comp=Z,16nm,1.4s								
BRG	**Berggiesshubel**	**88.23**	**330**	SS	SS	03 29 28.0	-13		
BRG	**Berggiesshubel**	**88.23**	**330**	*e*P	P	03 12 50.3	-19		
HERR	**Herculane**	**88.27**	**322**	⇓P	**P**	**03 13 12.2**	**+2.4**		
CLL	**Collm**	**88.31**	**331**	IAMs_20	IAMs_20	03 53 51.6			
	comp=Z,2µm,18.0s								
CLL	**Collm**	**88.31**	**331**	*e*P	**P**	**03 13 10.0**	**+0.2**		
	comp=Z,7.0nm,0.6s								
CLL				*ex*	x	03 16 26.0			
CLL				*e*PP	**PP**	**03 16 40.0**	**+3.5**		
CLL				*e*S	**S**	**03 23 51.0**	**-3.3**		
CLL				*e*PS	**PnS**	**03 24 55.0**	**-1.9**		
CLL				*e*SS	**SS**	**03 29 47.0**	**+4.6**		
CLL				*e*SSS	SSS	03 33 12.0			
CLL				AMS	AMS	03 58 00.0			
CLL				AMS	AMS	04 03 00.0			
	comp=N,2µm,18.4s								
CLL				AMS	AMS	04 03 00.0			
	comp=E,2µm,18.1s								
CLL				AMS	AMS	04 03 00.0			
	comp=Z,3µm,18.3s								
CLL	**Collm**	**88.31**	**331**	*e*P	**P**	**03 13 10.0**	**+0.2**		
CLL				*e*S	**S**	**03 23 51.0**	**-3.3**		
CLL				pmax	pmax				
	comp=Z,7.0nm,0.6s								
CLL				MLR	MLR				
	comp=Z,3µm,18.3s								
SMOL	**Smolenice**	**88.33**	**327**	*e*P	**P**	**03 13 09.6**	**-0.5**		
SMOL				pmax	pmax				
	comp=Z,39nm,2.4s								
K30B	**Basset**	**88.37**	**41**	P	**P**	**03 13 11.1**	**+0.7**		
	baz=309								
K30B				S	**S**	**03 23 52.1**	**-3.3**		
	baz=309								
SRO	**Srobarova**	**88.40**	**326**	*e*P	**P**	**03 13 11.2**	**+0.9**		
SRO	**Srobarova**	**88.40**	**326**	*e*P	**P**	**03 13 11.2**	**+0.9**		
SRO				pmax	pmax				
	comp=Z,26nm,1.8s								
KRUC	**Moravsky**	**88.43**	**328**	*e*P	**P**	**03 13 08.9**	**-1.6**		
MODS	**Modra-Piesok**	**88.50**	**327**	*e*P	**P**	**03 13 11.6**	**+0.7**		
MODS	**Modra-Piesok**	**88.50**	**327**	*e*P	**P**	**03 13 11.6**	**+0.7**		
MODS				pmax	pmax				
	comp=Z,269nm,2.8s								
PRA	**Prague**	**88.60**	**330**	AMS	AMS	03 57 20.0			
	comp=Z,4µm,18.1s								
PRU	**Pruhonice**	**88.61**	**329**	AMS	AMS	03 57 00.0			
	comp=Z,4µm,16.6s								
HSKC	**Hora Svate Kat**	**88.64**	**330**	AMS	AMS	03 57 00.0			
	comp=Z,4µm,17.0s								
MDVR	**Moldovita**	**88.71**	**322**	⇑P	**P**	**03 13 12.5**	**+0.5**		
ANMO	**Albuquerque**	**88.79**	**50**	P	**P**	**03 13 12.4**	**-0.4**		
ANMO	**Albuquerque**	**88.79**	**50**	P	**P**	**03 13 12.2**	**-0.6**		
	baz=305								
ANMO	**Albuquerque**	**88.79**	**50**	P	**P**	**03 13 14.0**	**+1.3**		
	baz=305								
ANMO	**Albuquerque**	**88.79**	**50**	⇑*e*P	**P**	**03 13 14.0**	**+1.3**		
ANMO				pmax	pmax				
	comp=Z,21nm,2.5s								
ANMO	**Albuquerque**	**88.79**	**50**	LR	LR	03 47 37.3			
	comp=Z,3µm,21.2s,baz=56,slow=32								
KSCO	**Kaye Shedlock'**	**88.86**	**45**	IAmb	IAmb	03 13 31.3			
	comp=Z,32nm,1.2s								
KSCO	**Kaye Shedlock'**	**88.86**	**45**	P	**P**	**03 13 12.8**	**-0.1**		
	baz=308								
KSCO	**Kaye Shedlock'**	**88.86**	**45**	S	**S**	**03 24 00.6**	**+0.3**		
	baz=308								
T25A	**Trinidad**	**88.86**	**47**	IAmb	IAmb	03 13 55.4			
	comp=Z,35nm,1.6s								
T25A	**Trinidad**	**88.86**	**47**	P	**P**	**03 13 13.3**	**+0.3**		
	baz=307,SNR=6.1								
Y22D	**IRIS PASSCAL I**	**88.98**	**51**	P	**P**	**03 13 13.8**	**+0.2**		
	baz=305								
EYMN	**Ely**	**89.09**	**33**	IAmb	IAmb	03 13 29.3			
	comp=Z,33nm,1.1s								
EYMN	**Ely**	**89.09**	**33**	IAMs_20	IAMs_20	03 50 49.1			
	comp=Z,3µm,20.0s								
EYMN	**Ely**	**89.09**	**33**	P	**P**	**03 13 13.4**	**-0.3**		
	baz=315,SNR=12								
EYMN	**Ely**	**89.09**	**33**	P	**P**	**03 13 13.6**	**0.0**		
	baz=315,SNR=12								
ZVC	**Zvikov**	**89.17**	**329**	*e*P	**P**	**03 13 13.8**	**-0.1**		
ZVC				*ex*	x	03 13 21.8			
121A	**Cookes Peak, D**	**89.27**	**53**	IAmb	IAmb	03 13 57.9			
	comp=Z,55nm,1.9s								
121A	**Cookes Peak, D**	**89.27**	**53**	P	**P**	**03 13 15.9**	**+0.9**		
	baz=305								
MORH	**Mrgy, Hungar**	**89.34**	**325**	⇑P	**P**	**03 13 13.6**	**-1.2**		
NKC	**Novy Kostel**	**89.34**	**331

comp=Z,3.5nm,1.0s
SOKA Soboth 90.78 327 *e*PcP **P** 03 13 21.5 -0.1
comp=Z,12nm,1.5s
N33B J Bar K, Exete 90.86 41 S **S** 03 24 15.3 -3.2
baz=311
I37A Lemond, Waseca 90.88 37 IAmb IAmb 03 13 24.9
comp=Z,21nm,0.8s
D41A Chassel 91.10 32 IAMs_20 IAMs_20 03 52 15.0
comp=Z,2µm,21.0s
OBKA Obir 91.13 327 *e*pP pP 03 13 26.9 +1.0
comp=Z,7.9nm,1.4s
LESA Schwarzleotal 91.33 329 *e*P **P** 03 13 23.2 -1.0
comp=Z,11nm,1.3s
KARP Karpathos 91.39 313 IAMs_20 IAMs_20 04 00 08.4
comp=Z,1µm,19.0s
MNTX Cornudas Mount 91.41 52 P **P** 03 13 25.3 +0.5
baz=306,SNR=10
MNTX Cornudas Mount 91.41 52 P **P** 03 13 25.4 +0.6
baz=306,SNR=10
R32A Long Quarter, 91.61 44 IAmb IAmb 03 13 29.4
comp=Z,32nm,1.4s
G40A Rib Lake 91.62 34 IAmb IAmb 03 13 29.8
comp=Z,40nm,1.6s
G40A Rib Lake 91.62 34 P **P** 03 13 26.2 +0.7
baz=316,SNR=5.3
N35A Tabor 91.81 40 P **P** 03 13 27.8 +1.3
baz=312
MSTX Muleshoe 91.82 49 P **P** 03 13 26.0 -0.7
baz=308
STU Stuttgart 91.83 331 IAMs_20 IAMs_20 04 01 06.8
comp=Z,2µm,21.0s
WATA Walderalm 91.89 329 *e*PcP **PcP** 03 13 28.0 +0.3
comp=Z,6.7nm,1.3s
ABTA Abfaltersbach 91.91 328 *e*PcP **P** 03 13 26.7 -0.2
comp=Z,9.5nm,1.2s
AMTX Amarillo 91.98 48 P **P** 03 13 26.5 -0.9
baz=308
MOTA Moosalm 92.10 329 *e*PcP **PcP** 03 13 28.7 +0.1
comp=Z,6.2nm,1.3s
LPIG La Paz 92.12 61 LR LR 03 49 05.1
comp=Z,2µm,19.3s,baz=313,slow=32
RETA Reutte 92.14 330 *e*PcP **PcP** 03 13 28.4 -0.3
comp=Z,12nm,1.5s
SQTA Sankt Quirin 92.15 329 *e*PcP **PcP** 03 13 28.3 -0.5
comp=Z,2.8nm,0.6s
F42A Maple Grove Fa 92.26 33 IAMs_20 IAMs_20 03 55 15.7
comp=Z,2µm,20.0s
WLF Walferdange 92.37 333 IAmb IAmb 03 13 49.3
comp=Z,25nm,1.3s
KSU1 Kansas State U 92.42 42 P **P** 03 13 28.3 -1.0
baz=311,SNR=7.3
KSU1 Kansas State U 92.42 42 P **P** 03 13 29.5 +0.2
baz=311
SCIA State Center 92.43 38 P **P** 03 13 28.9 -0.4
baz=314
SCHQ Schefferville 92.47 17 P **P** 03 13 29.8 +0.6
comp=Z,2.9nm,0.7s,baz=0.0,slow=4.0,SNR=1.8
SCHQ LR LR 03 56 16.3
comp=Z,1µm,21.9s,baz=321,slow=36
comp=Z,2.9nm,0.7s
FETA Feichten 92.51 329 *e*PcP **PcP** 03 13 30.4 -0.1
comp=Z,6.8nm,1.2s
BFO Black Forest 92.54 331 P **P** 03 13 29.2 -0.5
BFO IAmb IAmb 03 13 50.0
comp=Z,21nm,1.2s
BFO IAMs_20 IAMs_20 04 00 50.5
comp=Z,2µm,18.0s
BFO Black Forest 92.54 331 P **P** 03 13 29.2 -0.5
BFO pmax pmax
comp=Z,21nm,1.2s
PECS Pecos 92.65 52 IAmb IAmb 03 13 35.1
comp=Z,28nm,1.3s
DAVA Damuels 92.68 330 *e*PcP **P** 03 13 30.7 +0.1
comp=Z,17nm,1.2s
SMWD Samnorwood 92.77 47 IAmb IAmb 03 13 47.4
comp=Z,27nm,0.9s
OK032 Salt Plains WL 92.96 45 IAMs_20 IAMs_20 03 55 22.0
comp=Z,2µm,19.0s
IDI Anoyia 93.00 314 LR LR 04 00 38.6
comp=Z,1µm,18.4s,baz=44,slow=39
FUORN Ofenpass-Fuorn 93.02 329 IAmb IAmb 03 13 46.1
comp=Z,24nm,1.2s
DAVOX Davos/Dischmat 93.07 330 LR LR 03 58 57.3
comp=Z,3µm,20.0s,baz=36,slow=38
ECH Echery 93.11 332 IAMs_20 IAMs_20 04 02 24.6
comp=Z,2µm,18.0s
N38A Joes South For 93.19 39 S **S** 03 24 40.6 +1.0
baz=314
POST Post 93.22 49 IAmb IAmb 03 13 49.1
comp=Z,20nm,1.0s
DKNS Dickens 93.22 48 IAmb IAmb 03 13 50.4
comp=Z,23nm,0.8s
I42A Draeger Farm, 93.25 35 S **S** 03 24 41.5 +1.6
baz=317
JFWS Jewell Farm 93.29 36 P **P** 03 13 31.3 -1.9
baz=316
JFWS Jewell Farm 93.29 36 S **S** 03 24 42.9 +2.6
baz=316
H43A Windswept, Lux 93.39 34 IAMs_20 IAMs_20 03 53 21.5
comp=Z,2µm,20.0s
L40A Anamosa 93.39 37 IAmb IAmb 03 13 36.9
comp=Z,22nm,1.0s
L40A Anamosa 93.39 37 P **P** 03 13 33.2 -0.5
baz=315,SNR=7.3
ALPN Alpine 93.40 52 IAmb IAmb 03 13 36.9
comp=Z,11nm,0.9s
MNHN Monahans 93.42 51 IAmb IAmb 03 13 50.1
comp=Z,11nm,1.0s
P38A Dawn 93.83 40 P **P** 03 13 35.7 -0.1
baz=313
T35A Sooner Cattle 93.92 44 IAmb IAmb 03 13 52.0
comp=Z,17nm,1.0s
T35B Sooner Cattle 93.92 44 P **P** 03 13 36.3 0.0
baz=311
WMOK Wichita Mounta 93.93 46 IAmb IAmb 03 13 52.2
comp=Z,18nm,0.8s
SGRT San Giovanni R 93.96 323 IAMs_20 IAMs_20 04 00 12.1
comp=Z,2µm,18.0s
APMT Aspermont 93.96 48 IAmb IAmb 03 13 52.4
comp=Z,19nm,0.8s
G45A Suttons Bay 93.96 32 IAMs_20 IAMs_20 03 56 38.5
comp=Z,2µm,18.0s
OK048 Pawnee Station 93.98 44 IAMs_20 IAMs_20 03 56 50.9
comp=Z,2µm,20.0s
HPIG 93.98 56 IAmb IAmb 03 13 41.7
comp=Z,33nm,1.7s
OK051 E0350 and S346 93.99 44 IAMs_20 IAMs_20 03 56 51.0
comp=Z,2µm,18.0s
TX31 Lajitas Ar. Si 94.00 53 P **P** 03 13 37.0 +0.1
baz=307,SNR=36
TXAR Lajitas Array 94.00 53 P **P** 03 13 38.1 +1.2
comp=Z,40nm,1.2s,baz=300,slow=2.5,SNR=72
TXAR LR LR 03 53 17.5
comp=Z,1µm,19.4s,baz=296,slow=34
SGCY Sterling City 94.17 50 IAmb IAmb 03 13 53.4
comp=Z,24nm,0.9s
OK033 Mehan 94.23 44 IAMs_20 IAMs_20 03 56 48.4
comp=Z,2µm,20.0s
I45A Fountain 94.45 33 IAMs_20 IAMs_20 03 54 14.5
comp=Z,2µm,22.0s
GLMI Grayling 94.60 32 P **P** 03 13 37.7 -1.5
baz=320
SAND Sanderson 94.70 52 IAmb IAmb 03 13 44.4
comp=Z,22nm,1.5s
ABTX Abilene, Hawle 94.71 49 P **P** 03 13 39.5 -0.5
baz=309,SNR=7.7
ABTX Abilene, Hawle 94.71 49 P **P** 03 13 40.8 +0.8
baz=309,SNR=7.7
P40A Paris 94.72 39 IAMs_20 IAMs_20 03 56 27.3
comp=Z,2µm,20.0s
P40A Paris 94.72 39 P **P** 03 13 40.3 +0.4
baz=314,SNR=8.0
WTFS Witchita Falls 94.75 47 IAmb IAmb 03 13 42.3
comp=Z,21nm,1.0s
OZNA Ozona 94.78 51 IAmb IAmb 03 13 55.9
comp=Z,6.5nm,0.8s
W35A Tecumseh 94.85 45 IAmb IAmb 03 13 56.3
comp=Z,21nm,0.8s
VLDQ Val d'Or 94.98 26 IAMs_20 IAMs_20 03 56 08.6
comp=Z,1µm,19.0s
L44A Lake County Fo 95.01 35 IAMs_20 IAMs_20 03 55 59.9
comp=Z,2µm,19.0s
L44A Lake County Fo 95.01 35 P **P** 03 13 39.8 -1.3
baz=318
TUL3 Leonard 95.02 44 P **P** 03 13 40.7 -0.6
baz=312
TUL3 Leonard 95.02 44 P **P** 03 13 41.1 -0.2
baz=312

CUC Castrocucco 95.17 322 IAMs_20 IAMs_20 04 00 50.5
comp=Z,2µm,20.0s
S39A Bolivar 95.28 41 IAmb IAmb 03 13 57.3
comp=Z,14nm,1.0s
S39A Bolivar 95.28 41 P **P** 03 13 41.7 -0.7
baz=314,SNR=9.9
RLO Rose Lookout 95.31 43 IAmb IAmb 03 13 46.5
comp=Z,29nm,1.5s
PLPT Palo Pinto 95.45 48 IAmb IAmb 03 13 46.0
comp=Z,23nm,1.1s
R40A Maddies Statio 95.46 40 P **P** 03 13 43.1 -0.2
baz=314,SNR=6.6
HDIL Hopedale 95.48 37 P **P** 03 13 43.0 -0.3
baz=316
U38A Gravette 95.50 43 IAmb IAmb 03 13 58.8
comp=Z,15nm,0.9s
U38A Gravette 95.50 43 P **P** 03 13 43.8 +0.3
baz=313,SNR=9.3
BNI Bardonecchia 95.82 330 IAMs_20 IAMs_20 04 05 32.3
comp=Z,2µm,20.0s
FW06 Azle 95.84 47 IAmb IAmb 03 13 50.5
comp=Z,74nm,1.8s
FW07 Weatherford 95.87 47 IAmb IAmb 03 13 47.9
comp=Z,17nm,0.9s
JCT Junction City 95.95 50 IAmb IAmb 03 13 47.9
comp=Z,9.7nm,0.8s
JCT Junction City 95.95 50 P **P** 03 13 45.5 -0.2
baz=309
BRDY Brady 95.98 49 IAmb IAmb 03 13 48.2
comp=Z,15nm,1.1s
DRIO Del Rio 96.06 52 IAmb IAmb 03 13 50.7
comp=Z,19nm,1.4s
I49A Point Hope 96.10 31 IAMs_20 IAMs_20 03 56 19.2
comp=Z,2µm,20.0s
CCM Cathedral Cave 96.20 40 P **P** 03 13 46.8 +0.1
CCM Cathedral Cave 96.20 40 IAMs_20 IAMs_20 03 57 26.4
comp=Z,2µm,20.0s
CCM Cathedral Cave 96.20 40 P **P** 03 13 46.6 0.0
baz=315
CCM Cathedral Cave 96.20 40 P **P** 03 13 46.8 +0.1
CCM pmax pmax
CCM comp=Z,48nm,1.7s MLR MLR
comp=Z,2µm,20.0s
MGMO Mountain Grove 96.25 41 IAmb IAmb 03 14 01.9
comp=Z,11nm,0.8s
FW13 Cleburne 96.32 48 IAmb IAmb 03 13 52.7
comp=Z,53nm,1.6s
CEL Celeste 96.36 321 IAMs_20 IAMs_20 04 02 14.0
comp=Z,2µm,20.0s
U40A Yellville 96.47 42 P **P** 03 13 47.6 -0.3
baz=314,SNR=8.9
U40A P **P** 03 13 47.6 -0.3
baz=314,SNR=8.9
WHTX Lake Whitney, 96.54 48 P **P** 03 13 48.2 -0.1
baz=310,SNR=12
WHTX Lake Whitney, 96.54 48 P **P** 03 13 49.2 +0.9
baz=310,SNR=12
SFIN Lafayette 96.75 36 P **P** 03 13 49.7 +0.6
baz=318
L48A N Adams 96.89 33 IAMs_20 IAMs_20 03 55 59.2
comp=Z,1µm,20.0s
AAM Ann Arbor 96.99 33 IAMs_20 IAMs_20 03 55 32.2
comp=Z,2µm,22.0s
AAM Ann Arbor 96.99 33 P **P** 03 13 50.3 +0.2
baz=321
T42A Van Buren 97.01 41 IAmb IAmb 03 13 52.1
comp=Z,11nm,1.2s
K50A Casco 97.10 32 IAMs_20 IAMs_20 03 57 55.7
comp=Z,2µm,19.0s
FCAR Ozark Folk Cen 97.21 42 IAmb IAmb 03 13 52.2
comp=Z,13nm,1.3s
435B Jarrell 97.23 49 P Pdif 03 13 51.6 0.0
baz=310
PBMO Poplar Bluff 97.56 40 IAmb IAmb 03 14 08.2
comp=Z,12nm,1.1s
833A Chaparral WMA, 97.58 52 P Pdif 03 13 53.2 +0.1
baz=309
FURI Furi 97.63 285 IAMs_20 IAMs_20 04 04 40.1
comp=Z,2µm,21.0s
O48B Farmland 97.82 35 P **P** 03 13 53.2 -0.8
baz=319
LMQ La Malbaie 97.97 22 IAMs_20 IAMs_20 04 02 21.4
comp=Z,1µm,19.0s
M50A Fremont 97.97 33 IAMs_20 IAMs_20 03 56 12.8
comp=Z,2µm,22.0s
J54A Appleton 98.47 29 IAMs_20 IAMs_20 03 56 29.8
comp=Z,2µm,22.0s
NATX Nacogdoches 98.48 46 P Pdif 03 13 56.9 -0.2
baz=312
MNTQ Montreal, Queb 98.60 25 IAMs_20 IAMs_20 04 02 07.2
comp=Z,2µm,19.0s
HNVL Huntsville, TX 98.63 48 IAmb IAmb 03 14 15.1
comp=Z,25nm,1.0s
M52A Chesterland 98.65 32 IAMs_20 IAMs_20 03 58 42.8
comp=Z,2µm,19.0s
N51A Ashland 98.67 33 IAMs_20 IAMs_20 03 57 08.2
comp=Z,2µm,20.0s
D62A Allapoint, All 98.79 21 IAMs_20 IAMs_20 04 05 27.1
comp=Z,2µm,20.0s
J55A Hilton 98.82 29 IAMs_20 IAMs_20 04 03 08.1
comp=Z,2µm,19.0s
VSL Villasalto 98.88 325 IAMs_20 IAMs_20 04 02 52.0
comp=Z,2µm,20.0s
LONY Lake Ozonia 98.99 26 IAMs_20 IAMs_20 04 04 10.6
comp=Z,2µm,19.0s
M53A WI Miller and 99.05 31 IAMs_20 IAMs_20 03 59 42.2
comp=Z,2µm,20.0s
FRNY Flat Rock 99.18 25 IAMs_20 IAMs_20 04 00 00.5
comp=Z,2µm,19.0s
J56A Wolcott 99.21 28 IAMs_20 IAMs_20 04 00 11.4
comp=Z,2µm,20.0s
J57A Williamstown 99.45 27 IAMs_20 IAMs_20 03 58 09.7
comp=Z,2µm,20.0s
WVT Waverly 99.48 39 IAMs_20 IAMs_20 04 00 59.2
comp=Z,2µm,20.0s
F62A Pittston Farm, 99.54 22 IAMs_20 IAMs_20 03 59 56.9
comp=Z,2µm,21.0s
O52A Adamsville 99.55 33 IAMs_20 IAMs_20 03 57 21.5
comp=Z,2µm,21.0s
NCB Newcomb 99.68 26 IAMs_20 IAMs_20 03 58 39.6
comp=Z,2µm,21.0s
O53A New Philadelph 99.74 33 IAMs_20 IAMs_20 04 00 07.5
comp=Z,2µm,20.0s
OXF Oxford 99.76 41 IAMs_20 IAMs_20 04 02 06.6
comp=Z,1µm,20.0s
J58A Remsen 99.78 27 IAMs_20 IAMs_20 03 58 22.3
comp=Z,2µm,21.0s
K57A Scipio Center 99.80 28 IAMs_20 IAMs_20 04 00 29.1
comp=Z,2µm,20.0s
L56A Greenwood 99.86 29 IAMs_20 IAMs_20 03 58 29.5
comp=Z,2µm,20.0s
VT1 Waterbury 99.92 25 IAMs_20 IAMs_20 04 03 07.4
comp=Z,2µm,20.0s
G62A West of Eustis 99.94 23 IAMs_20 IAMs_20 03 59 46.6
comp=Z,2µm,20.0s
F63A Nahmakanta, Br 99.99 22 IAMs_20 IAMs_20 04 03 42.0
comp=Z,1µm,20.0s
F64A Sherman 100.09 21 IAMs_20 IAMs_20 04 01 16.6
comp=Z,2µm,19.0s
PLAL Pickwick Lake 100.18 40 IAMs_20 IAMs_20 03 59 26.7
comp=Z,2µm,20.0s
H62A Milan 100.29 24 IAMs_20 IAMs_20 04 00 56.8
comp=Z,2µm,21.0s
LBNH Lisbon 100.30 24 IAMs_20 IAMs_20 04 08 10.1
comp=Z,2µm,18.0s
PKME Peaks-Kenny Pk 100.32 22 IAMs_20 IAMs_20 04 00 32.5
comp=Z,2µm,19.0s
ACCN Adirondack Com 100.39 26 IAMs_20 IAMs_20 03 57 54.5
comp=Z,2µm,20.0s
HNH Hanover 100.63 25 IAMs_20 IAMs_20 04 00 45.9
comp=Z,2µm,20.0s
WVL Waterville 100.81 23 IAMs_20 IAMs_20 04 00 12.6
comp=Z,2µm,22.0s
J61A Chester 100.84 25 IAMs_20 IAMs_20 03 59 17.5
comp=Z,2µm,20.0s
L59A Walton 100.86 28 IAMs_20 IAMs_20 04 01 49.9
comp=Z,2µm,20.0s
TRY Troy 100.94 26 IAMs_20 IAMs_20 03 58 07.2
comp=Z,2µm,21.0s
EMMW East Machias 101.41 21 IAMs_20 IAMs_20 04 02 17.4
comp=Z,2µm,20.0s
L61B Northampton 101.56 26 IAMs_20 IAMs_20 03 58 16.7
comp=Z,2µm,21.0s
QUA2 Belchertown 101.83 26 IAMs_20 IAMs_20 03 58 24.7
comp=Z,2µm,22.0s
HRV Adam Dziewonsk 101.94 25 IAMs_20 IAMs_20 04 01 23.4
comp=Z,1µm,20.0s

WES Weston 102.13 25 IAMs_20 IAMs_20 04 01 30.5
comp=Z,2µm,19.0s
LRAL Lakeview Retre 102.21 41 IAMs_20 IAMs_20 03 58 14.4
comp=Z,2µm,20.0s
UCCT U. Connecticut 102.30 26 IAMs_20 IAMs_20 03 59 11.0
comp=Z,2µm,21.0s
WSPT Westport, CT 102.40 27 IAMs_20 IAMs_20 04 05 23.8
comp=Z,2µm,20.0s
BRYW Bryant College 102.45 25 IAMs_20 IAMs_20 03 59 19.2
comp=Z,2µm,21.0s
M65A Busby, Falmout 103.09 25 IAMs_20 IAMs_20 04 01 07.0
comp=Z,2µm,20.0s
BRAL Brewton 103.54 42 IAMs_20 IAMs_20 03 58 22.8
comp=Z,1µm,20.0s
GOGA Godfrey 103.90 38 IAMs_20 IAMs_20 04 02 53.0
comp=Z,2µm,19.0s
ESDC Sonseca Array 104.66 334 PP **PP** 03 18 42.4 -0.4
comp=Z,0.9nm,1.0s,baz=21,slow=5.5,SNR=4.8
CART Cartagena 105.24 331 IAMs_20 IAMs_20 04 10 33.5
comp=Z,2µm,19.0s
PESTR Estremoz 106.70 336 IAMs_20 IAMs_20 04 01 54.7
comp=Z,2µm,21.0s
MESJ Messejana 107.84 336 IAMs_20 IAMs_20 04 06 01.9
comp=Z,2µm,21.0s
PFVI Vila Bisbo 108.69 336 IAMs_20 IAMs_20 04 05 48.3
comp=Z,2µm,19.0s
MBAR Mbarara 109.28 281 IAMs_20 IAMs_20 04 12 01.8
comp=Z,1µm,20.0s
AVE Averroes 111.57 333 IAMs_20 IAMs_20 04 15 43.8
comp=Z,1µm,19.0s
SNET Serv Nac Est T 114.22 57 IAMs_20 IAMs_20 03 57 59.8
comp=Z,1µm,20.0s
TGUH Tegucigalpa,Un 115.40 55 IAMs_20 IAMs_20 04 10 40.8
comp=Z,1µm,19.0s
QSPA South Pole Qui 119.06 180 **PKiKP** 03 19 06.3 -0.1
QSPA South Pole Qui 119.06 180 PKP **PKPdf** 03 19 06.0 -0.4
comp=Z,2.3nm,0.3s,baz=307,slow=3.3,SNR=10
HDC Heredia 120.40 56 IAMs_20 IAMs_20 04 03 56.5
comp=Z,1µm,21.0s
TOA0 Torodi Ar. Sit 123.39 313 **PKPdf** 03 19 15.9 -0.3
TORD Torodi Ar. Bea 123.39 313 PKPdf **PKPdf** 03 19 15.9 -0.4
TORD IAMs_20 IAMs_20 04 22 36.1
comp=Z,930nm,20.0s
TORD Torodi Ar. Bea 123.39 313 PKP **PKPdf** 03 19 15.7 -0.6
comp=Z,1.5nm,0.5s,baz=24,slow=2.0,SNR=27
BCIP Isla Barro Col 124.02 53 IAMs_20 IAMs_20 04 07 00.3
comp=Z,1µm,19.0s
LBTB Lobatse 124.37 258 IAMs_20 IAMs_20 04 05 20.3
comp=Z,1µm,22.0s
SJG San Juan 125.31 34 IAMs_20 IAMs_20 04 12 10.9
comp=Z,994nm,21.0s
BOSA Boshof 125.78 254 PKP **PKiKP** 03 19 20.9 -0.1
comp=Z,2.8nm,0.9s,baz=104,slow=4.2,SNR=3.6
ELIB Princess Elisa 126.56 200 *d*PKP **PKPdf** 03 19 19.6 -1.2
ELIB *d*PP **PP** 03 21 15.7 -1.5
ELIB *dx* x 03 21 28.8
SABA Saba 127.11 31 IAMs_20 IAMs_20 04 20 40.3
comp=Z,1µm,22.0s
GDSD La Dsirade Is 129.23 30 IAMs_20 IAMs_20 04 13 42.3
comp=Z,1µm,21.0s
SDV Santo Domingo 130.34 45 PKPdf **PKPdf** 03 19 29.4 -0.4
SDV IAMs_20 IAMs_20 04 22 33.1
comp=Z,1µm,20.0s
SDV Santo Domingo 130.34 45 *e*P **PKiKP** 03 19 30.1 -0.6
FDF Fort de France 130.59 31 IAMs_20 IAMs_20 04 14 24.4
comp=Z,1µm,22.0s
ILAM Ilet Lapin Mar 130.67 31 IAMs_20 IAMs_20 04 28 38.7
comp=Z,1µm,22.0s
BIM Bigot 130.81 31 IAMs_20 IAMs_20 04 20 32.5
comp=Z,1µm,20.0s
WIN Windhoek 130.89 265 IAMs_20 IAMs_20 04 27 05.3
comp=Z,1µm,18.0s
ROSC El Rosal 130.93 52 PKP **PKPdf** 03 19 31.1 -0.1
comp=Z,3.6nm,0.4s,baz=304,slow=9.2,SNR=1.7
MPOM Morne Pois Mar 130.97 31 IAMs_20 IAMs_20 04 14 24.6
comp=Z,1µm,21.0s
OTAV Otavalo 131.05 61 IAMs_20 IAMs_20 04 08 17.4
comp=Z,1µm,20.0s
BELA Belgrano 2 131.32 181 PKPdf **PKiKP** 03 19 30.9 +0.4
TROLL Troll, Antarti 132.13 196 ⇑PKPdf **PKiKP** 03 19 33.0 +0.6
comp=Z,288nm,0.8s
DBIC Dimbokro 132.47 314 IAMs_20 IAMs_20 04 29 25.7
comp=Z,1µm,21.0s
DBIC Dimbokro 132.47 314 PKP **PKiKP** 03 19 34.1 -0.5
comp=Z,3.1nm,0.8s,baz=17,slow=2.4,SNR=7.0
GRGR Gremville 132.63 33 IAMs_20 IAMs_20 04 19 38.7
comp=Z,1µm,20.0s
SNAA Sanae 133.58 194 IAMs_20 IAMs_20 04 19 16.0
comp=Z,1µm,19.0s
SNAA Sanae 133.58 194 ⇑PKPdf **PKiKP** 03 19 35.6 +0.4
SNAA Sanae 133.58 194 ⇑PKIKP **PKiKP** 03 19 35.1 -0.2
SNAA pmax pmax
comp=Z,18nm,2.5s
SNAA MLR MLR
comp=Z,950nm,19.0s
SNAA Sanae 133.58 194 PKP **PKPdf** 03 19 34.3 +0.3
comp=Z,3.4nm,0.9s,baz=180,slow=3.0,SNR=3.7
VNA2 Neumayer--Watz 135.11 193 ⇑PKPdf **PKiKP** 03 19 38.2 -0.1
comp=Z,7.6nm,0.7s,baz=130,slow=2.0
VNA3 Neumayer Olymp 135.29 192 ⇑PKPdf **PKiKP** 03 19 39.8 +1.1
comp=Z,3.3nm,0.7s
VNA1 Neumayer--Stat 135.50 193 ⇑PKPdf **PKiKP** 03 19 39.1 0.0
comp=Z,12nm,1.0s
ORCD Orcadas 148.17 173 **PKPdf** 03 20 01.4 +1.1
COYC Coyhaique 148.33 130 **PKPdf** 03 20 01.4 +0.4
SAML Samuel 148.47 55 **PKPdf** 03 20 01.7 +0.5
SAML Samuel 148.47 55 *e*P **PKPdf** 03 20 03.8 +1.5
SAML Samuel 148.47 55 PKIKP **PKPdf** 03 20 01.7 -0.5
SAML Samuel 148.47 55 *e*P **PKPdf** 03 20 03.6 +1.4
LL02 Futaleuf 149.19 126 **PKPdf** 03 20 03.3 +0.7
PATCX Punta Patache 149.24 82 PKPdf **PKPdf** 03 20 03.0 -0.4
PLCA Paso Flores 150.72 122 *e*P **PKPdf** 03 20 07.5 +2.3
PLCA Paso Flores 150.72 122 PKPbc **PKiKP** 03 20 11.1 -0.3
comp=Z,26nm,1.0s,baz=231,slow=2.8,SNR=23
LVC Limon Verde 150.96 84 *e*P **PKPdf** 03 20 08.1 +1.7
BO02 Sierra Bellavi 151.27 110 PKPdf **PKPdf** 03 20 06.2 0.0
RVDE Rio Verde (Bra 161.04 61 *e*P **PKPdf** 03 20 21.0 +1.6
CPUP Villa Florida 162.13 85 **PKPdf** 03 20 19.9 -0.3
CPUP Villa Florida 162.13 85 PKP **PKPdf** 03 20 20.6 +0.3
comp=Z,3.4nm,0.9s,baz=229,slow=1.8,SNR=4.4
CPUP PKPab **PKPab** 03 21 06.6 -0.4
comp=Z,2.3nm,0.8s,baz=246,slow=3.1,SNR=4.3

*IDC **21** 03:01:00.3±0.5, 9.36S×159.28E, h0km, mb4.5/18, mbtmp4.5/20, ML2.7/2, MS4.0/2, Error ellipse: s-maj=15.5km s-min=12.0km az=5.0*
*NEIC **21** 03:01:02.2±1.8, 9.2S±0.1×159.19E±0.05, h10km±1km, mb4.9/15, Error ellipse: s-maj=19.2km s-min=7.0km az=196.0*

ISC 21 03:01:04.6±0.4, 9.31S±0.07×159.23E±0.05, h27km, n104, σ1§18/101, mb4.8/28, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.72**	**100**			**Pb**	**03 01 17.2**	**-1.4**
HNR					Sg	**Sb**	**03 01 28.0**	**-0.1**
HNR	**Honiara**	**0.72**	**100**		P	**Pb**	**03 01 17.5**	**-1.1**
HNR	**Honiara**	**0.72**	**100**		Pn	**Pb**	**03 01 17.2**	**-1.4**
	38µm,0.3s,baz=239,slow=4.3,SNR=378							
HNR					Sn	**Sb**	**03 01 27.2**	**-0.9**
	42µm,0.3s,baz=283,slow=23,SNR=9.7							
PMG	**Port Moresby**	**11.91**	**269**		Pn	**Pn**	**03 03 51.7**	**-1.0**
	0.5nm,0.3s,baz=86,slow=16,SNR=1.2							
PMG					LR	LR	03 08 10.9	
	comp=Z,1µm,19.5s,baz=122,slow=36							
	3.6nm,0.3s							
DZM	**Mont Dzumac**	**14.46**	**152**		Pn	**Pn**	**03 04 28.3**	**+0.7**
DZM	**Mont Dzumac**	**14.46**	**152**		Pn	**Pn**	**03 04 27.0**	**-0.7**
	0.2nm,0.3s,baz=299,slow=19,SNR=2.4							
DZM					LR	LR	03 09 38.2	
	comp=Z,423nm,18.3s,baz=22,slow=36							
	7.0nm,0.9s							
CTAO	**Charters Tower**	**16.49**	**228**		P	Pn	03 04 45.3	-8.9
CTAO					IAmb	IAmb	03 04 59.5	
	comp=Z,36nm,1.4s							
CTAO	**Charters Tower**	**16.49**	**228**		P	**Pn**	**03 04 55.0**	**+0.9**
MTSU	**Mount Surprise**	**16.92**	**237**		P	**Pn**	**03 05 00.0**	**+0.4**
	baz=17,SNR=24							
EIDS	**Eidsvold**	**17.75**	**205**		P	**P**	**03 05 11.5**	**+1.0**
	baz=18,SNR=4.5							
EIDS	**Eidsvold**	**17.75**	**205**			**Pn**	**03 05 04.3**	**-5.5**
NFK	**Norfolk Island**	**21.27**	**159**		P	**P**	**03 05 52.9**	**+4.0**
	baz=22,SNR=5.1							
QIS	**Mount Isa**	**21.98**	**237**		P	**P**	**03 05 57.1**	**+0.4**

baz=22,SNR=17
QIS Mount Isa 21.98 237 P **P** **03 05 57.4 +0.7**
ARMA Armidale 22.17 198 P **P** **03 06 00.7 +2.0**
baz=22,SNR=5.0
ARMA Armidale 22.17 198 P **P** **03 06 00.7 +2.0**
QLP Quilpie 22.29 218 P **P** **03 06 00.7 +0.8**
baz=22,SNR=14
QLP Quilpie 22.29 218 P **P** **03 06 02.7 +2.8**
INKA Innaminka 25.29 221 P **P** **03 06 30.0 +1.1**
WR0 Warramunga Arr 26.09 243 P **P** **03 06 36.3 0.0**
WR0 IAmb IAmb 03 06 43.5
comp=Z,50nm,0.9s
WB0 Warramunga Arr 26.15 244 P **P** **03 06 36.3 -0.6**
WB0 IAmb IAmb 03 06 44.0
comp=Z,47nm,1.0s
WRAB Tennant Creek 26.25 244 P **P** **03 06 36.3 -1.4**
WRAB IAmb IAmb 03 06 45.6
comp=Z,98nm,1.6s
WB2 Warramunga Arr 26.25 243 P **P** **03 06 37.6 -0.2**
WB2 IAmb IAmb 03 06 45.0
comp=Z,28nm,0.9s
WRA Warramunga Arr 26.26 243 P **P** **03 06 36.6 -1.3**
WRA Warramunga Arr 26.26 243 P **P** **03 06 37.7 -0.2**
comp=Z,16nm,0.6s,baz=70,slow=9.6,SNR=76
comp=Z,16nm,0.6s
STKA Stephens Creek 27.78 214 P **P** **03 06 51.4 0.0**
baz=28,SNR=4.9
STKA Stephens Creek 27.78 214 P **P** **03 06 51.2 -0.2**
STKA Stephens Creek 27.78 214 P **P** **03 06 52.9 +1.5**
STKA Stephens Creek 27.78 214 P **P** **03 06 50.7 -0.7**
comp=Z,3.8nm,0.7s,baz=34,slow=12,SNR=14
comp=Z,3.8nm,0.7s
AS31 Alice Springs 28.09 236 P **P** **03 06 52.6 -1.8**
AS31 IAmb IAmb 03 07 00.5
comp=Z,5.3nm,0.7s
ASAR Alice Springs 28.09 236 P **P** **03 06 53.6 -0.7**
ASAR Alice Springs 28.09 236 P **P** **03 06 53.2 -1.1**
comp=Z,5.5nm,0.6s,baz=64,slow=10.0,SNR=78
comp=Z,5.5nm,0.6s
LCRK Leigh Creek 28.75 220 P **P** **03 06 59.8 -0.2**
OOD Oodnadatta 28.81 227 P **P** **03 07 00.6 0.0**
HTT Hallett 30.43 215 P **P** **03 07 14.8 -0.2**
baz=31,SNR=3.1
KUZ Kuaotunu 31.14 154 P **P** **03 07 21.0 -0.1**
MULG Mulgathing 31.42 225 P **P** **03 07 22.9 -0.8**
BBOO Buckleboo 31.70 219 P **P** **03 07 25.8 -0.2**
baz=32,SNR=17
BBOO Buckleboo 31.70 219 P **P** **03 07 26.0 -0.1**
BBOO Buckleboo 31.70 219 P **P** **03 07 25.9 -0.2**
WRKA Warakurna 33.32 238 P **P** **03 07 39.6 -0.9**
baz=33,SNR=28
BKZ Black Stump Fm 33.51 155 P **P** **03 07 43.3 +1.4**
QRZ Quartz Range 33.53 162 P **P** **03 07 41.7 -0.3**
FITZ Fitzroy Crossi 33.73 251 P **P** **03 07 43.8 -0.3**
baz=34,SNR=6.1
PSA00 Pilbara Seismi 39.75 247 P **P** **03 08 35.2 -0.1**
PSA00 IAmb IAmb 03 09 55.2
comp=Z,39nm,1.1s
PSA00 Pilbara Seismi 39.75 247 P **P** **03 08 35.4 0.0**
PSA00 IAmb IAmb 03 09 55.1
comp=Z,23nm,1.1s
KMBL Kambalda 41.02 232 P **P** **03 08 45.2 -0.6**
baz=41,SNR=5.6
MEEK Meekatharra 42.07 240 P **P** **03 08 54.8 +0.3**
baz=42,SNR=7.1
MORW Morawa 44.95 238 P **P** **03 09 17.0 -0.6**
baz=45,SNR=4.9
KSRS Korea Array 54.99 330 P **P** **03 10 34.5 +1.0**
comp=Z,0.7nm,0.5s,baz=141,slow=7.7,SNR=2.3
comp=Z,0.7nm,0.5s
NJ2 Nanjing 56.38 319 *e*P **P** **03 10 44.3 +0.6**
NJ2 pP **pP** **03 10 47.3 -4.7**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
NJ2 pmax pmax
comp=Z,1μm,5.7s
USRK Ussuriysk Ar. 58.70 337 P **P** **03 11 00.9 +1.1**
comp=Z,2.3nm,0.8s,baz=150,slow=6.1,SNR=2.4
comp=Z,2.3nm,0.8s
MDJ Mudanjiang 59.99 336 P **P** **03 11 07.5 -1.2**
MDJ pmax pmax
comp=Z,12nm,1.4s
MDJ pmax pmax
comp=Z,3μm,9.9s
PETK Petropavlovsk- 62.19 359 P **P** **03 11 23.0 -0.5**
comp=Z,4.6nm,0.8s,baz=162,slow=5.8,SNR=2.8
comp=Z,4.6nm,0.8s
KLR Kul'dur 63.09 340 P **P** **03 11 30.2 +0.7**
comp=Z,1.8nm,0.5s,baz=151,slow=4.2,SNR=2.5
comp=Z,1.8nm,0.5s
CMAR Chiang Mai Arr 65.56 295 P **P** **03 11 47.9 +1.5**
comp=Z,2.5nm,0.2s,baz=120,slow=5.3,SNR=1.1
comp=Z,2.5nm,0.2s
PZH PanZhiHua 66.17 304 P **P** **03 11 52.3 +2.0**
PZH pmax pmax
comp=Z,10.0nm,0.4s
HHC Hu-ho-hao-te 66.45 322 *e*P **P** **03 11 52.6 +0.8**
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,2μm,6.1s
HHC LR LR
comp=N,3μm,13.3s
HHC LR LR
comp=E,2μm,13.3s
HHC LR LR
comp=Z,3μm,14.7s
VNDA Vanda 68.20 179 P **P** **03 12 03.0 +0.9**
VNDA IAmb IAmb 03 12 03.9
comp=Z,5.9nm,0.8s
VNDA Vanda 68.20 179 P **P** **03 12 02.8 +0.6**
comp=Z,5.1nm,0.8s,baz=338,slow=7.6,SNR=24
comp=Z,5.1nm,0.8s
SONM Songino Array 73.56 326 P **P** **03 12 36.2 +0.9**
comp=Z,1.7nm,0.6s,baz=142,slow=6.5,SNR=3.8
comp=Z,1.7nm,0.6s
QSPA South Pole Qui 80.68 180 P **P** **03 13 14.9 -0.1**
comp=Z,3.7nm,0.6s,baz=34,slow=4.4,SNR=11
comp=Z,3.7nm,0.6s
CAST Castle Rocks 81.40 20 P **P** **03 13 18.9 +0.2**
WMQ Urumqi 83.37 316 *e*P **P** **03 13 29.0 -0.5**
WMQ pP PcP 03 13 34.1 +0.2
WMQ pmax pmax
comp=Z,20nm,0.7s
ILAR Eielson Array 84.03 20 P **P** **03 13 32.2 -0.1**
comp=Z,1.5nm,0.5s,baz=244,slow=5.1,SNR=12
comp=Z,1.5nm,0.5s
MKAR Makanchi Array 87.91 318 P **P** **03 13 52.1 +0.2**
comp=Z,4.5nm,0.6s,baz=94,slow=7.0,SNR=8.9
comp=Z,4.5nm,0.6s
ZALV Zalesovo Beam 88.44 325 P **P** **03 13 53.6 -0.6**
comp=Z,0.8nm,0.5s,baz=119,slow=4.9,SNR=2.1
comp=Z,0.8nm,0.5s
NVAR Mina Array Bea 89.88 51 P **P** **03 14 03.5 +1.8**
comp=Z,6.5nm,0.9s,baz=251,slow=5.6,SNR=3.1
comp=Z,6.5nm,0.9s
BELA Belgrano 2 92.61 177 P **P** **03 14 13.2 -0.2**
YKA Yellowknife Ar 96.42 28 P **P** **03 14 31.2 +0.2**
comp=Z,1.1nm,0.9s,baz=269,slow=4.9,SNR=3.2
comp=Z,1.1nm,0.9s
BVAR Borovoye Array 96.66 323 P **P** **03 14 31.4 -0.9**
comp=Z,2.5nm,0.7s,baz=90,slow=8.6,SNR=3.5
comp=Z,2.5nm,0.7s
PDAR Pinedale Array 97.13 48 P Pdif 03 14 35.4 +0.4
comp=Z,0.8nm,0.7s,baz=215,slow=3.1,SNR=1.4
comp=Z,0.8nm,0.7s
AKASG Malin Array Be 121.84 325 PKP **PKPdf** **03 19 55.7 -0.6**
comp=Z,1.8nm,0.7s,baz=61,slow=2.0,SNR=7.0
BRTR Keskin Array B 123.05 312 PKP **PKPdf** **03 19 58.9 -0.3**
comp=Z,0.6nm,0.8s,baz=98,slow=3.7,SNR=2.3
HFS Hagfors 123.12 340 PKP **PKPdf** **03 19 57.9 -0.5**
comp=Z,2.5nm,0.8s,baz=90,slow=5.8,SNR=1.9
NB2 NORSAR Subarra123.22 342 PKPdf **PKPdf** **03 19 58.2 -0.5**
comp=Z,5.3nm,0.9s,baz=41,slow=1.9
NB2 NORSAR Subarra123.22 342 PKPdf **PKPdf** **03 19 58.2 -0.5**
baz=41,slow=1.9
NOA NORSAR Array B123.22 342 PKP **PKPdf** **03 19 57.9 -0.8**
comp=Z,1.4nm,0.7s,baz=44,slow=2.0,SNR=5.4
MMAI Mount Meron Ar 123.28 303 PKP **PKiKP** **03 20 00.1 +0.1**
comp=Z,0.3nm,0.3s,baz=236,slow=5.9,SNR=4.1
ZVC Zvikov 130.52 331 *e*PKP **PKiKP** **03 20 14.2 +0.4**
CKRC Cesky Krumlov 130.88 330 *e*PKP **PKiKP** **03 20 14.9 +0.3**
KHC Kasperske Hory 131.03 331 *e*PKP **PKiKP** **03 20 14.6 -0.3**
GERES GERESS Array B 131.16 330 PKP **PKPdf** **03 20 14.5 +0.2**
comp=Z,1.3nm,0.7s,baz=11,slow=1.4,SNR=4.3
BDFB Brasilia 143.36 132 PKP **PKPdf** **03 20 36.8 -0.9**
comp=Z,1.2nm,0.4s,baz=214,slow=8.6,SNR=3.1

PBRG Braganca 145.35 341 *e*PKP **PKPdf** **03 20 40.7 +0.3**
PBRG *i* LQ LQ 03 20 48.3
PGAV Gavieira, Arco 145.66 343 *e*PKP **PKPdf** **03 20 40.8 -0.2**
PGAV *i* LQ LQ 03 20 48.1
PGAV Gavieira, Arco 145.66 343 *e*LR LR 04 01 00.9
comp=Z,1μm,18.0s
MVO Moncorvo 146.02 341 *e*PKP **PKPab** **03 20 43.2 +0.3**
MVO *i* LQ LQ 03 20 50.6
MVO Moncorvo 146.02 341 *e*LR LR 04 00 20.6
comp=Z,2μm,18.0s
POLO Lamas de Olo 146.07 342 *e*PKP **PKPab** **03 20 43.5 +0.4**
POLO *i* LQ LQ 03 20 50.8
PVRL Vila Real 146.13 342 *e*PKP **PKPab** **03 20 43.7 +0.4**
PVRL *i* LQ LQ 03 20 50.3
ESDC Sonseca Array 146.24 336 PKPbc **PKPbc** **03 20 42.9 -0.1**
comp=Z,1.0nm,0.8s,baz=18,slow=3.9,SNR=6.7
PVIS Viseu 146.70 342 *e*PKP **PKPab** **03 20 45.4 -0.1**
PVIS *i* LQ LQ 03 20 52.5
MTE Manteigas 146.88 341 *e*PKP **PKPab** **03 20 45.9 -0.3**
MTE *i* LQ LQ 03 20 53.2
MTE Manteigas 146.88 341 *e*LR LR 04 02 37.2
comp=Z,2μm,18.0s
PCBR Castelo Branco 147.37 341 *e*PKP **PKPbc** **03 20 46.9 +0.7**
PCBR *i* LQ LQ 03 20 55.4
PMRV Marv??o 147.71 340 *e*PKP **PKPbc** **03 20 47.9 +0.7**
PMRV Marv??o 147.71 340 *e*LR LR 04 01 29.7
comp=Z,2μm,18.0s
PMTG Montargil 148.31 341 *e*PKP **PKPbc** **03 20 49.2 +0.5**
PMTG *i* LQ LQ 03 20 56.4
EVO Evora 148.73 341 *e*PKP **PKPbc** **03 20 50.5 +0.6**
EVO *i* LQ LQ 03 20 56.9
PBEJ Beja 149.13 340 *e*PKP **PKiKP** **03 20 52.2 0.0**
PNCL Nicolau / Gran 149.28 341 *e*PKP **PKiKP** **03 20 52.4 0.0**
MESJ Messejana 149.42 340 *e*PKP **PKiKP** **03 20 52.8 0.0**
PCVE Castro Verde 149.55 340 *e*PKP **PKiKP** **03 20 53.3 +0.3**

LJU 21 03:11:22.6, 46°.39N × 15°.07E, h 0 km, Confirmed Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROS	**Grobnik**	**0.31**	**76**	*i* Pg	Pg	03 11 27.1	-1.4
GROS				IAML		03 11 32.8	

comp=Z,1.6nm,0.1s

*MEX **21** 03:23:32.9± 1.0, 15°.93N × 98°.38W, h15 km, MD5.2*
*MOS **21** 03:23:32.5± 1.2, 16°.19N × 98°.26W, h5 km, mb5.2/21, Error ellipse: s-maj=12.5km s-min=6.1km az=98.4*
*IDC **21** 03:23:33.0± 0.8, 16°.14N × 98°.18W, h0 km, mb4.5/20, mbtmp4.5/24, ML3.8/4, MS4.5/10, Error ellipse: s-maj=18.2km s-min=12.9km az=39.0*
*NEIC **21** 03:23:35.7± 1.1, 16°.14N ± 0°.04 × 98°.30W ± 0°.04, h14 km ± 4km, mb5.1/432, Mwr5.1/15, Mww5.1/26, Md5.2/38(MEX), Error ellipse: s-maj=6.4km s-min=5.0km az=106.0, Moment Tensor Solution. Moment tensor: Scale 10 16 Nm; Mrr 3.03; Mθθ -3.01; Mφφ -0.02; Mrθ 2.87; Mθφ 0.49; Mφr -3.52; Fault plane solution: M0 5.48000 × 10 16 NP1: φs 130.80000°, δ74.51000°, λ106.80000°. NP2: φs 262.28000°, δ22.70000°, λ43.79000°. Principal axes: T 5.8837, Plg57.0000°, Azm63.0000°; N -0.9302, Plg16.0000°, Azm306.0000°; P -4.9535, Plg28.0000°, Azm207.0000°;*
*NEIC **21** 03:23:39.1, 16°.34N × 98°.14W, h18 km*
*GCMT **21** 03:23:39.7± 0.3, 16°.25N ± 0°.01 × 98°.24W ± 0°.02, h20 km, MW5.2/111, Moment Tensor Solution. s43,c56; s111,c161; Duration: 1s0 Moment tensor: Scale 10 16 Nm; Mrr 5.90±.31; Mθθ -5.08±.20; Mφφ -0.82±.18; Mrθ 4.48±.34; Mθφ 1.45±.12; Mφr -3.20±.39; Best double couple: M0 7.92300 × 10 16 NP1: φs 119.00000°, δ67.00000°, λ99.00000°. NP2: φs 278.00000°, δ24.00000°, λ70.00000°. Principal axes: T 8.2340, Plg67.0000°, Azm45.0000°; N -0.6260, Plg8.0000°, Azm296.0000°; P -7.6110, Plg22.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **21** 03:23:39.1, 16°.33N × 98°.15W, h20 km*
*NEIC **21** 03:23:39.1, 16°.23N × 97°.94W, h20 km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10 16 Nm; Mrr 4.42; Mθθ -3.83; Mφφ -0.59; Mrθ 2.39; Mθφ 2.42; Mφr 1.57; Fault plane solution: M0 5.58000 × 1016 NP1: φs 93.55000°, δ58.56000°, λ60.19000°. NP2: φs 321.23000°, δ42.24000°, λ129.12000°. Principal axes: T 5.8188, Plg63.0000°, Azm312.0000°; N -0.4793, Plg25.0000°, Azm110.0000°; P -5.3395, Plg9.0000°, Azm204.0000°;*
ISC 21 03:23:33.0± 0.8, 16°.01N ± 0°.03 × 98°.30W ± 0°.02, h5 km ± 4 km, n952, σ2 ≥ 00/891, mb5.1/219, MS4.3/7, 8C-8D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.42**	**24**		**Pg**	**03 23 42.2**	**+1.2**
PNIG					**Sg**	**03 23 48.3**	**+1.7**
PNIG	**Pinotepa**	**0.42**	**24**	*i* P	**Pg**	**03 23 42.2**	**+1.2**
PNIG				*i* S	**Sg**	**03 23 48.3**	**+1.7**
CRIG	**Cruz Grande**	**1.07**	**312**		Pb	03 23 49.0	-5.1
CRIG					**Sb**	**03 24 03.8**	**-4.6**
CRIG	**Cruz Grande**	**1.07**	**312**	*e*P	Pb	03 23 49.6	-4.4
CRIG				*e*S	**Sb**	**03 24 03.8**	**-4.6**
PEIG	**Puerto Escondi**	**1.11**	**90**		**Pn**	**03 23 51.0**	**-4.3**
PEIG					**Sb**	**03 24 08.4**	**-1.2**
PEIG	**Puerto Escondi**	**1.11**	**90**	*i* P	**Pn**	**03 23 51.0**	**-4.3**
PEIG				*e*S	**Sb**	**03 24 08.4**	**-1.2**
YOIG	**Yosondua**	**1.11**	**41**		**Pn**	**03 23 51.6**	**-4.0**
YOIG	**Yosondua**	**1.11**	**41**	*e*P	**Pn**	**03 23 53.6**	**-1.9**
YOIG				*e*S	**Sb**	**03 24 09.2**	**-0.6**
TXIG	**Tlaxiaco**	**1.34**	**22**		Pn	03 23 54.2	-4.5
TXIG					**Sn**	**03 24 15.0**	**-2.0**
TXIG	**Tlaxiaco**	**1.34**	**22**	*i* P	Pn	03 23 54.2	-4.5
TXIG				*e*S	**Sn**	**03 24 15.0**	**-2.0**
TLIG	**Tlapa**	**1.57**	**351**	Pn	Pn	03 23 56.3	-5.3
TLIG				Sn	**Sn**	**03 24 19.7**	**-2.7**
TLIG	**Tlapa**	**1.57**	**351**	*e*P	Pn	03 23 57.3	-4.3
TLIG				*e*S	**Sn**	**03 24 19.5**	**-2.8**
DAIG	**Los Arroyos**	**1.64**	**308**		**Pn**	**03 23 58.9**	**-3.6**
DAIG	**Los Arroyos**	**1.64**	**308**	*i* P	**Pn**	**03 23 58.9**	**-3.6**
DAIG				*e*S	**Sb**	**03 24 22.8**	**-1.9**
VHO	**Vista Hermosa**	**1.84**	**55**	*e*P	**Pn**	**03 24 02.6**	**-2.9**
VHO				*e*S	**Sn**	**03 24 26.6**	**-2.7**
OXIG	**Oaxaca**	**1.84**	**55**		**Pn**	**03 24 02.6**	**-2.9**
HLIG	**Huajuapan de L**	**1.87**	**15**		**Pn**	**03 24 05.2**	**-0.7**
HLIG					**Sn**	**03 24 29.1**	**-1.0**
HLIG	**Huajuapan de L**	**1.87**	**15**	*e*P	**Pn**	**03 24 04.2**	**-1.7**
HLIG				*e*S	**Sn**	**03 24 29.1**	**-1.0**
FTIG	**Fresnillo de T**	**1.90**	**5**		**Pn**	**03 24 04.3**	**-1.8**
FTIG	**Fresnillo de T**	**1.90**	**5**	*i* P	**Pn**	**03 24 02.8**	**-3.4**
HUIG	**Huatulco**	**2.13**	**96**		**Pn**	**03 24 05.6**	**-3.6**
HUIG					**Sn**	**03 24 30.5**	**-5.5**
HUIG	**Huatulco**	**2.13**	**96**	*i* P	**Pn**	**03 24 05.6**	**-3.6**
HUIG				*e*S	**Sn**	**03 24 30.5**	**-5.5**
CAIG	**El Cayaco**	**2.15**	**299**	*e*P	**Pn**	**03 24 08.8**	**-0.6**
CAIG				*e*S	**Sb**	**03 24 37.3**	**-2.1**
MEIG	**Mezcala**	**2.29**	**327**		**Pn**	**03 24 09.3**	**-2.2**
MEIG					**Sn**	**03 24 39.4**	**-0.7**
MEIG	**Mezcala**	**2.29**	**327**	*e*P	**Pn**	**03 24 09.3**	**-2.2**
MEIG				*e*S	**Sn**	**03 24 39.4**	**-0.7**
TOIG	**Toxpalan**	**2.39**	**30**		**Pn**	**03 24 13.2**	**+0.3**
TOIG	**Toxpalan**	**2.39**	**30**	*e*P	**Pn**	**03 24 09.8**	**-3.1**
TOIG				*e*S	**Sn**	**03 24 43.0**	**+0.3**
TPIG	**Tehuac#an**	**2.56**	**20**		**Pn**	**03 24 14.7**	**-0.7**
TPIG					**Sn**	**03 24 50.1**	**+3.1**
TPIG	**Tehuac#an**	**2.56**	**20**	*e*P	**Pn**	**03 24 14.7**	**-0.7**
TPIG				*e*S	**Sn**	**03 24 50.1**	**+3.1**
PLIG	**Platanillo**	**2.63**	**334**		**Pn**	**03 24 18.1**	**+1.8**
PLIG	**Platanillo**	**2.63**	**334**	*i* P	**Pn**	**03 24 18.1**	**+1.8**
PLIG				*e*S	**Sb**	**03 24 50.9**	**-2.6**
YAIG	**Yautepec**	**2.93**	**346**	*e*P	**Pn**	**03 24 21.6**	**+1.1**
YAIG				*e*S	**Sn**	**03 24 58.2**	**+2.1**
ARIG	**Puente Sto Nin**	**2.99**	**319**		**Pn**	**03 24 19.1**	**-2.0**
ARIG	**Puente Sto Nin**	**2.99**	**319**	*e*P	**Pn**	**03 24 19.9**	**-1.1**
ARIG				*e*S	**Sb**	**03 25 00.0**	**-3.5**
PPIG	**Popocatepetl**	**3.06**	**354**		**Pn**	**03 24 22.4**	**-0.1**
PPIG					**Sb**	**03 25 05.2**	**-0.9**
PPM	**Popocatepetl**	**3.06**	**354**	*e*P	**Pn**	**03 24 22.1**	**-0.3**
PPM				*e*S	**Sb**	**03 25 05.2**	**-0.9**

UNM Universidad Na 3.41 346 Pn **Pn** **03 24 26.6 -0.5**
UNM Universidad Na 3.41 346 P **Pn** **03 24 26.6 -0.5**
UNM Universidad Na 3.41 346 *i* P **Pn** **03 24 26.6 -0.5**
UNM *e*S **Sn** **03 25 06.3 -1.8**
ZIIG Zihuatanejo 3.42 298 **Pn** **03 24 27.4 +0.5**
ZIIG Zihuatanejo 3.42 298 *e*P **Pn** **03 24 24.5 -2.5**
ZIIG *e*S **Sn** **03 25 01.3 -6.6**
CMIG Matias Romero 3.45 71 **Sb** **03 25 15.9 -1.0**
CMIG Matias Romero 3.45 71 **Pn** **03 24 24.6 -2.8**
CMIG Matias Romero 3.45 71 Pn **Pn** **03 24 27.1 -0.4**
12nm,0.3s,baz=250,slow=12,SNR=122
CMIG Sn **Sn** **03 25 06.8 -1.9**
85nm,0.3s,baz=248,slow=20,SNR=6.2
CMIG Lg Lg 03 25 17.8
87nm,0.3s,baz=289,slow=14,SNR=5.5
37nm,0.3s
CMIG Matias Romero 3.45 71 *e*P **Pn** **03 24 23.9 -3.6**
CMIG *e*S **Sn** **03 25 07.1 -1.6**
PMUV Sontecomapan 3.95 50 *e*P **Pn** **03 24 31.7 -2.7**
PMUV *e*S **Sn** **03 25 19.2 -2.0**
LVIG Laguna Verde 4.11 26 *e*P **Pn** **03 24 33.7 -2.7**
LVIG *e*S **Sn** **03 25 24.6 -0.3**
UXUV UXUV 4.19 71 *e*P **Pn** **03 24 35.9 -1.7**
UXUV *e*S **Sn** **03 25 26.2 -0.8**
TUIG Tuzandepetl 4.22 61 *e*P **Pn** **03 24 34.1 -4.0**
TUIG *e*S **Sn** **03 25 25.4 -2.4**
DEIG Demacu 4.33 351 *e*P **Pn** **03 24 40.9 +1.2**
DEIG *e*S **Sn** **03 25 27.8 -2.9**
DHIG Demacu 4.33 351 **Pb** **03 24 47.2 -2.5**
DHIG **Sb** **03 25 43.0 +0.7**
MOIG Morelia 4.57 323 Pn **Pn** **03 24 42.9 -0.1**
MOIG Morelia 4.57 323 *e*P **Pn** **03 24 40.7 -2.3**
MOIG *e*S **Sn** **03 25 35.5 -1.2**
TGIG 5.03 81 *e*P **Pn** **03 24 46.5 -2.7**
TGIG *e*S **Sn** **03 25 46.4 -1.4**
MMIG Aquila 5.33 296 *e*P **Pn** **03 24 51.3 -2.0**
CCIG Comitan 5.93 87 Pn **Pn** **03 25 03.2 +1.4**
SNET Serv Nac Est T 9.07 104 Pn **Pn** **03 25 45.7 +1.0**
TEIG Tepich 10.41 65 Pn **Pn** **03 26 02.3 -0.8**
TEIG Tepich 10.41 65 Pn **Pn** **03 26 01.4 -1.7**
35nm,0.3s,baz=205,slow=1.3,SNR=42
TEIG Sn **Sn** **03 27 52.2 -8.1**
baz=288,slow=19
TEIG LR LR 03 30 12.3
comp=Z,22μm,20.7s,baz=26,slow=39
TGUH Tegucigalpa,Un 10.83 99 Pn **Pn** **03 26 09.9 +1.0**
CNGN Cerro Negro 11.78 106 **Pn** **03 26 24.2 +2.4**
833A Chaparral WMA, 12.30 355 Pn **Pn** **03 26 27.8 -1.0**
833A Chaparral WMA, 12.30 355 P **Pn** **03 26 26.0 -2.9**
baz=175,SNR=24
833A Chaparral WMA, 12.30 355 P **Pn** **03 26 30.2 +1.4**
baz=175,SNR=24
833A S **Sn** **03 28 44.2 -2.2**
baz=175
MATN Matagalpa 12.37 103 **Pn** **03 26 32.0 +2.0**
735A Kenedy 12.79 2 **Pn** **03 26 35.8 +0.1**
HPIG 12.85 329 Pn **Pn** **03 26 35.9 -0.7**
ACON Acoyapa 13.36 106 **Pn** **03 26 46.0 +2.6**
HNDO Hondo 13.49 356 **Pn** **03 26 42.6 -2.6**
DRIO Del Rio 13.52 351 Pn **Pn** **03 26 43.8 -1.8**
LPIG La Paz 13.85 307 Pn **Pn** **03 26 52.6 +2.5**
1.8nm,0.3s,baz=192,slow=9.7,SNR=1.3
LPIG LR LR 03 31 05.8
comp=Z,1μm,19.9s,baz=48,slow=33
7.3nm,0.3s
HKT Hockley 14.06 9 P **Pn** **03 26 53.1 +0.2**
baz=190
HKT Hockley 14.06 9 *i* P **Pn** **03 26 53.0 +0.2**
TX31 Lajitas Ar. Si 14.15 340 P **Pn** **03 26 55.5 +1.2**
baz=158,SNR=12
TXAR Lajitas Array 14.15 341 Pn **Pn** **03 26 55.0 +0.7**
baz=157,slow=13,SNR=24
TXAR Lg Lg 03 30 58.7
baz=165,slow=21,SNR=1.2
TXAR LR LR 03 32 60.0
comp=Z,2μm,21.0s,baz=144,slow=40
4.2nm,1.1s
JTS Las Juntas de 14.19 112 **P** **03 26 58.0 -4.4**
JTS Las Juntas de 14.19 112 *e*P **P** **03 26 58.2 -4.2**
JTS Las Juntas de 14.19 112 Pn **Pn** **03 26 56.6 +1.8**
0.4nm,0.3s,baz=280,slow=9.6,SNR=4.1
7.8nm,0.5s
SAND Sanderson 14.32 346 Pn **Pn** **03 26 57.5 +0.9**
JCT Junction City 14.47 355 Pn **Pn** **03 26 57.8 -0.8**
JCT Junction City 14.47 355 P Pn 03 26 54.0 -4.6
baz=174
JCT Junction City 14.47 355 P **Pn** **03 26 58.8 +0.2**
baz=174
JCT S **Sn** **03 29 44.1 +4.5**
baz=174
JCT Junction City 14.47 355 P **Pn** **03 26 57.8 -0.8**
435B Jarrell 14.72 2 P **Pn** **03 26 59.4 -2.6**
baz=183
435B Jarrell 14.72 2 P **P** **03 27 05.4 -2.8**
baz=183,SNR=5.3
HNVL Huntsville, TX 14.91 10 **P** **03 27 08.4 -1.9**
OZNA Ozona 15.07 351 **Pn** **03 27 07.0 +0.3**
ALPN Alpine 15.11 342 Pn **Pn** **03 27 08.0 +0.6**
BRDY Brady 15.22 358 IAmb IAmb 03 27 15.0
comp=Z,62nm,1.1s
441A DeRidder 15.40 17 IAmb IAmb 03 27 17.1
comp=Z,96nm,1.1s
MNHN Monahans 15.80 346 IAmb IAmb 03 27 21.9
comp=Z,52nm,0.9s
SOR Soroa 15.92 63 P **P** **03 27 24.0 +2.4**
WHTX Lake Whitney, 15.93 3 IAmb IAmb 03 27 22.9
comp=Z,121nm,1.1s
WHTX Lake Whitney, 15.93 3 P **Pn** **03 27 15.1 -2.9**
baz=183,SNR=17
WHTX Lake Whitney, 15.93 3 P **Pn** **03 27 18.4 +0.4**
baz=183,SNR=17
WHTX S **S** **03 30 27.4 -2.0**
baz=183
NATX Nacogdoches 16.03 11 P **Pn** **03 27 19.5 +0.3**
NATX IAmb IAmb 03 27 23.4
comp=Z,114nm,1.2s
NATX Nacogdoches 16.03 11 P **Pn** **03 27 16.9 -2.3**
baz=193,SNR=9.8
NATX Nacogdoches 16.03 11 P **Pn** **03 27 19.8 +0.6**
baz=193,SNR=9.8
SGCY Sterling City 16.04 351 IAmb IAmb 03 27 25.3
comp=Z,86nm,0.8s
237A Washetta, Mont 16.08 8 IAmb IAmb 03 27 24.4
comp=Z,139nm,1.1s
237A Washetta, Mont 16.08 8 P **P** **03 27 22.8 -0.6**
baz=189,SNR=20
PECS Pecos 16.11 343 IAmb IAmb 03 27 26.7
comp=Z,34nm,0.9s
FW13 Cleburne 16.29 3 IAmb IAmb 03 27 26.7
comp=Z,62nm,1.0s
FW14 Alvarado 16.35 3 IAmb IAmb 03 27 27.1
comp=Z,54nm,1.1s
FW16 Waxahatchie 16.45 4 IAmb IAmb 03 27 28.6
comp=Z,110nm,1.1s
ODSA Odessa 16.50 347 IAmb IAmb 03 27 34.4
comp=Z,38nm,0.9s
ABTX Abilene, Hawle 16.59 356 IAmb IAmb 03 27 31.3
comp=Z,187nm,1.1s
ABTX Abilene, Hawle 16.59 356 P **Pn** **03 27 24.2 -2.2**
baz=175,SNR=32
ABTX Abilene, Hawle 16.59 356 P **Pn** **03 27 27.0 +0.6**
baz=175,SNR=32
ABTX S **S** **03 30 41.6 -1.3**
baz=175
FW07 Weatherford 16.63 2 IAmb IAmb 03 27 31.4
comp=Z,205nm,1.3s
PLPT Palo Pinto 16.73 360 IAmb IAmb 03 27 32.7
comp=Z,247nm,1.1s
TREL Terrell 16.77 6 IAmb IAmb 03 27 32.1
comp=Z,120nm,1.2s
MNTX Cornudas Mount 16.90 339 P **Pn** **03 27 27.9 -2.5**
baz=156,SNR=35
MNTX Cornudas Mount 16.90 339 P **P** **03 27 30.9 -1.6**
baz=156,SNR=35
FW06 Azle 16.91 2 IAmb IAmb 03 27 33.7
comp=Z,87nm,1.2s
SN01 Snyder 1 16.94 353 IAmb IAmb 03 27 39.2
comp=Z,86nm,1.0s
FW03 Perrin-Whitt E 16.96 1 IAmb IAmb 03 27 39.4
comp=Z,258nm,1.5s
POST Post 17.23 351 IAmb IAmb 03 27 39.4
comp=Z,101nm,1.3s
Z35A Perchaven, San 17.27 3 IAmb IAmb 03 27 42.2
comp=Z,125nm,1.2s
Z35A Perchaven, San 17.27 3 P **P** **03 27 36.8 +0.3**
baz=183,SNR=7.5

APMT **Aspermont** 17.32 355 IAmb IAmb 03 27 43.2
comp=Z,44nm,1.0s
HSIG 17.42 320 P **03 27 37.1 -1.1**
Z38A **Mt. Pleasant** 17.44 9 IAmb IAmb 03 27 39.4
comp=Z,127nm,1.1s
Z38A **Mt. Pleasant** 17.44 9 P P **03 27 38.0 -0.3**
baz=191,SNR=10
VBMS **Vicksburg** 17.62 22 IAmb IAmb 03 27 42.3
comp=Z,128nm,1.0s
VBMS **Vicksburg** 17.62 22 P Pn **03 27 36.4 -2.9**
baz=206
VBMS **Vicksburg** 17.62 22 P P **03 27 39.7 -0.7**
baz=206
WTFS **Witchita Falls** 17.68 360 IAmb IAmb 03 27 45.7
comp=Z,61nm,1.1s
DKNS **Dickens** 17.74 353 IAmb IAmb 03 27 48.4
comp=Z,110nm,1.2s
143A **Socs Landing,** 17.76 19 P P **03 27 41.3 -0.6**
baz=202
BRAL **Brewton** 18.26 32 P P **03 27 43.6 -3.8**
baz=217
MSTX **Muleshoe** 18.33 348 P P **03 27 46.2 -2.2**
baz=166,SNR=30
MSTX **Muleshoe** 18.33 348 P Pn **03 27 47.9 -0.3**
baz=166,SNR=30
146A **Union** 18.56 25 IAmb IAmb 03 27 52.9
comp=Z,168nm,1.3s
146A **Union** 18.56 25 P P **03 27 49.0 -1.8**
baz=209,SNR=7.7
121A **Cookes Peak, D** 18.57 334 P P **03 27 49.2 -1.8**
baz=150,SNR=25
121A **Cookes Peak, D** 18.57 334 P Pn **03 27 52.5 +1.4**
baz=150,SNR=25
WMOK **Wichita Mounta** 18.66 359 P P **03 27 48.2 -3.7**
baz=179
AMTX **Amarillo** 19.04 351 P P **03 27 52.1 -4.0**
baz=170
AMTX **Amarillo** 19.04 351 P Pn **03 27 55.8 -1.0**
baz=170,SNR=5.8
X40A **Basin Creek Fa** 19.05 14 S S **03 31 32.0 -0.7**
baz=196
X40A S S **03 31 32.0 -0.7**
baz=196
SMWD **Samnorwood** 19.10 355 IAmb IAmb 03 28 09.2
comp=Z,39nm,0.9s
W35A **Tecumseh** 19.11 4 IAmb IAmb 03 28 02.2
comp=Z,145nm,1.3s
250A **Grady** 19.30 32 P P **03 27 59.1 +0.2**
baz=217
OKCSW **OKLAHOMA CITY** 19.33 2 IAmb IAmb 03 28 04.1
comp=Z,130nm,0.9s
Y45A **Yeager Farm, C** 19.46 22 IAmb IAmb 03 28 08.4
comp=Z,83nm,1.0s
Y45A **Yeager Farm, C** 19.46 22 P P **03 28 00.3 -0.3**
baz=206,SNR=7.4
Z47A **Carrollton** 19.46 27 P P **03 27 59.8 -0.8**
baz=211,SNR=6.1
Y22A **Socorro** 19.48 338 P Pn **03 28 02.8 +0.5**
baz=154,SNR=24
Y22D **IRIS PASSCAL I** 19.59 338 P P **03 28 00.9 -1.3**
baz=154
352A **Blakely** 19.64 36 P P **03 28 02.8 +0.2**
baz=222
DWPF **Disney Wildern** 19.71 49 P P **03 27 59.7 -3.6**
baz=236
TUC **Tucson** 19.80 327 P P **03 28 03.5 -0.9**
TUC **Tucson** 19.80 327 P P **03 28 03.1 -1.3**
baz=142
TUC **Tucson** 19.80 327 P P **03 28 03.5 -0.9**
TUC pmax pmax
comp=Z,22nm,1.1s
LRAL **Lakeview Retre** 19.80 29 P P **03 28 01.6 -2.7**
baz=214,SNR=10
LRAL **Lakeview Retre** 19.80 29 P P **03 28 04.5 +0.2**
baz=214,SNR=10
DEOK **Depew** 19.82 4 IAmb IAmb 03 28 10.8
comp=Z,137nm,1.1s
TUL3 **Leonard** 19.95 6 IAmb IAmb 03 28 20.2
comp=Z,77nm,0.9s
TUL3 **Leonard** 19.95 6 P P **03 28 03.3 -2.6**
baz=187,SNR=12
TUL3 **Leonard** 19.95 6 P P **03 28 04.0 -1.9**
baz=187,SNR=12
TUL3 S S **03 31 48.6 -2.2**
baz=187
OK052 **Battle Ridge R** 19.95 4 IAmb IAmb 03 28 12.2
comp=Z,168nm,1.2s
OK033 **Mehan** 19.99 3 IAmb IAmb 03 28 13.7
comp=Z,153nm,1.1s
OXF **Oxford** 20.09 22 IAmb IAmb 03 28 13.7
comp=Z,117nm,1.1s
OXF **Oxford** 20.09 22 P P **03 28 03.3 -4.1**
baz=206,SNR=12
OXF **Oxford** 20.09 22 P P **03 28 06.7 -0.7**
baz=206,SNR=12
ANMO **Albuquerque** 20.23 340 P P **03 28 08.5 -0.7**
ANMO IAmb IAmb 03 28 12.0
comp=Z,85nm,1.4s
ANMO **Albuquerque** 20.23 340 P P **03 28 06.5 -2.7**
baz=157
ANMO **Albuquerque** 20.23 340 P Pn 03 28 10.0 -1.1
baz=157,SNR=63
ANMO **Albuquerque** 20.23 340 *c i* P Pn 03 28 10.2 -0.9
ANMO pmax pmax
comp=Z,38nm,1.0s
ANMO **Albuquerque** 20.23 340 P Pn 03 28 10.1 -1.0
comp=Z,36nm,1.0s,baz=237,slow=11,SNR=58
comp=Z,36nm,1.0s
RLO **Rose Lookout** 20.29 8 IAmb IAmb 03 28 12.4
comp=Z,54nm,1.2s
U32A **Winter Ranch,** 20.30 358 IAmb IAmb 03 28 17.4
comp=Z,71nm,0.9s
U32A **Winter Ranch,** 20.30 358 P P **03 28 08.8 -1.0**
baz=178,SNR=6.9
U32A S S **03 31 57.9 0.0**
baz=178
OK048 **Pawnee Station** 20.36 3 IAmb IAmb 03 28 21.1
comp=Z,205nm,1.3s
OK038 **West end E0370** 20.39 359 IAmb IAmb 03 28 22.1
comp=Z,62nm,0.9s
TIGA **Tifton** 20.39 39 IAmb IAmb 03 28 16.7
comp=Z,112nm,1.1s
TIGA **Tifton** 20.39 39 P P **03 28 06.8 -4.0**
baz=225
TIGA **Tifton** 20.39 39 P P **03 28 10.9 +0.1**
baz=225
CROK **Carrier** 20.42 1 IAmb IAmb 03 28 17.8
comp=Z,201nm,1.3s
OK051 **E0350 and S346** 20.46 3 IAmb IAmb 03 28 25.2
comp=Z,87nm,1.0s
HHAR **Hobbs** 20.56 10 S S **03 32 03.7 +0.6**
baz=192
214A **Organ Pipe Nat** 20.64 323 P P **03 28 12.6 -1.0**
baz=137,SNR=15
U38A **Gravette** 20.65 9 P P **03 28 12.1 -1.4**
baz=191,SNR=22
152A **Waverly Hall** 20.66 34 P P **03 28 12.4 -1.3**
baz=220,SNR=9.5
BLOK **Blackwell** 20.69 2 IAmb IAmb 03 28 22.0
comp=Z,161nm,1.1s
OK032 **Salt Plains WL** 20.71 0 IAmb IAmb 03 28 20.8
comp=Z,97nm,1.0s
RTBA **Rita Blanca** 20.73 350 IAmb IAmb 03 28 21.0
comp=Z,82nm,0.9s
Y49A **Blount Mountai** 20.76 29 IAmb IAmb 03 28 25.1
comp=Z,74nm,1.2s
Y49A **Blount Mountai** 20.76 29 S S **03 32 09.4 +2.4**
baz=214
U40A **Yellville** 20.84 12 P P **03 28 14.7 -0.9**
baz=195,SNR=59
U40A P P **03 28 14.7 -0.9**
baz=195,SNR=59
KAN14 **Manchester OK** 20.87 1 IAmb IAmb 03 28 23.1
comp=Z,87nm,1.3s
T35A **Sooner Cattle** 20.89 4 IAmb IAmb 03 28 33.0
comp=Z,51nm,0.8s
T35B **Sooner Cattle** 20.89 4 P P **03 28 14.2 -2.0**
baz=185,SNR=16
Z51A **Franklin** 20.93 32 P P **03 28 16.0 -0.6**
baz=218,SNR=6.9
KAN13 **South Haven SW** 20.93 2 IAmb IAmb 03 28 24.0
comp=Z,139nm,1.2s
KAN17 **Caldwell West** 20.96 1 IAmb IAmb 03 28 33.6
comp=Z,169nm,1.5s
X48A **Hartselle** 20.97 27 IAmb IAmb 03 28 22.8
comp=Z,66nm,1.1s
X48A **Hartselle** 20.97 27 P P **03 28 17.0 0.0**
baz=212,SNR=16
X48A S Sn 03 32 14.2 -2.6
baz=212
LCAR **Lake Charles** 20.97 16 P P **03 28 15.6 -1.4**
baz=200,SNR=16
PLAL **Pickwick Lake** 21.00 24 P P **03 28 16.4 -1.0**
PLAL IAmb IAmb 03 28 22.5
comp=Z,71nm,0.9s
KAN09 **Caldwell North** 21.05 2 IAmb IAmb 03 28 28.5
comp=Z,112nm,1.4s
KAN06 **Argonia West S** 21.16 1 IAmb IAmb 03 28 26.4
comp=Z,87nm,1.3s
255A **Hazlehurst** 21.41 39 P P **03 28 21.5 -0.3**
baz=226
154A **Montrose** 21.52 37 IAmb IAmb 03 28 36.0
comp=Z,116nm,1.0s
154A **Montrose** 21.52 37 P P **03 28 23.2 +0.2**
baz=224,SNR=9.6
W18A **Petrified Fore** 21.61 334 IAmb IAmb 03 28 31.7
comp=Z,63nm,1.1s
W18A **Petrified Fore** 21.61 334 P P **03 28 21.6 -2.6**
baz=149,SNR=22
FPAL **Fort Paine** 21.69 29 IAmb IAmb 03 28 28.0
comp=Z,55nm,1.0s
MGMO **Mountain Grove** 21.73 13 IAmb IAmb 03 28 29.0
comp=Z,153nm,1.4s
T25A **Trinidad** 21.73 347 P P **03 28 23.5 -2.0**
baz=164,SNR=54
PBMO **Poplar Bluff** 21.84 17 IAmb IAmb 03 28 29.6
comp=Z,133nm,1.0s
PBMO **Poplar Bluff** 21.84 17 P P **03 28 25.7 -0.7**
baz=201,SNR=25
GOGA **Godfrey** 21.91 35 IAmb IAmb 03 28 27.3
comp=Z,92nm,1.1s
GOGA **Godfrey** 21.91 35 P P **03 28 23.8 -3.3**
baz=221,SNR=18
GOGA **Godfrey** 21.91 35 P P **03 28 26.0 -1.2**
baz=221,SNR=18
GOGA **Godfrey** 21.91 35 P P **03 28 26.6 -0.5**
Y52A **Lilburn** 21.93 33 IAmb IAmb 03 28 28.1
comp=Z,98nm,0.9s
Y52A **Lilburn** 21.93 33 P P **03 28 26.3 -1.1**
baz=219,SNR=31
Y52A P P **03 28 26.3 -1.1**
baz=219,SNR=31
Y52A S Sn 03 32 35.8 -4.2
baz=219
Y52A S Sn 03 32 35.8 -4.2
baz=219
S39A **Bolivar** 22.04 11 IAmb IAmb 03 28 32.1
comp=Z,86nm,0.9s
S39A **Bolivar** 22.04 11 P P **03 28 27.8 -0.7**
baz=193,SNR=61
S39A S S **03 32 35.3 +3.1**
baz=193
X51A **Calhoun** 22.08 31 IAmb IAmb 03 28 35.6
comp=Z,59nm,1.1s
X51A **Calhoun** 22.08 31 P P **03 28 27.9 -1.1**
baz=217,SNR=8.8
X51A P P **03 28 27.9 -1.1**
baz=217,SNR=8.8
SWET **Sewanee** 22.11 28 IAmb IAmb 03 28 30.1
comp=Z,127nm,1.2s
WVT **Waverly** 22.11 23 P P **03 28 27.8 -1.4**
WVT IAmb IAmb 03 28 31.7
comp=Z,124nm,1.1s
WVT **Waverly** 22.11 23 P P **03 28 26.4 -2.9**
baz=208
WVT **Waverly** 22.11 23 P P **03 28 27.7 -1.6**
baz=208,SNR=50
WVT S Sn 03 32 41.9 -2.2
baz=208
WVT **Waverly** 22.11 23 P P **03 28 27.8 -1.4**
WVT pmax pmax
comp=Z,124nm,1.1s
V48A **Smith Brothers** 22.17 25 IAmb IAmb 03 28 36.8
comp=Z,75nm,1.1s
V48A **Smith Brothers** 22.17 25 P P **03 28 28.7 -1.2**
baz=210,SNR=27
V48A S S **03 32 38.5 +3.9**
baz=210
R32A **Long Quarter,** 22.33 359 IAmb IAmb 03 28 41.9
comp=Z,64nm,0.9s
R32A **Long Quarter,** 22.33 359 P P **03 28 30.6 -1.1**
baz=179,SNR=7.2
R32A S S **03 32 41.5 +3.7**
baz=179
W50A **Signal Mountai** 22.38 29 IAmb IAmb 03 28 33.0
comp=Z,101nm,1.0s
W50A **Signal Mountai** 22.38 29 P P **03 28 30.7 -1.5**
baz=215,SNR=33
W50A S Sn 03 32 45.2 -5.4
baz=215
GTBY **Guantanamo Bay** 22.40 77 P P **03 28 33.2 +0.7**
CGM3 **Cape Girardeau** 22.55 18 IAmb IAmb 03 28 36.0
comp=Z,102nm,1.1s
SDCO **Great Sand Dun** 22.57 345 P P **03 28 32.2 -2.3**
baz=162,SNR=27
SDCO **Great Sand Dun** 22.57 345 P P **03 28 34.7 +0.2**
baz=162,SNR=27
WUAZ **Wupatki** 22.67 331 P P **03 28 35.7 +0.2**
baz=146
CBKS **Cedar Bluff** 22.75 357 IAmb IAmb 03 28 46.5
comp=Z,112nm,1.2s
CBKS **Cedar Bluff** 22.75 357 P P **03 28 33.4 -2.8**
baz=176
R40A **Maddies Station** 22.83 12 P P **03 28 35.1 -1.8**
baz=195,SNR=69
R40A S Sn 03 32 53.8 -7.5
baz=195
CCM **Cathedral Cave** 22.83 14 P P **03 28 35.4 -1.5**
CCM IAmb IAmb 03 28 59.4
comp=Z,36nm,0.8s
CCM **Cathedral Cave** 22.83 14 P P **03 28 34.2 -2.7**
baz=198
CCM **Cathedral Cave** 22.83 14 P P **03 28 35.1 -1.8**
baz=198,SNR=21
CCM **Cathedral Cave** 22.83 14 P P **03 28 35.4 -1.5**
CCM pmax pmax
comp=Z,36nm,0.8s
S22A **4UR Ranch, Cre** 22.93 342 P P **03 28 35.5 -2.8**
baz=158,SNR=24
HAW **Hanna Fire** 22.93 38 P P **03 28 36.8 -1.3**
baz=225,SNR=15
HAW S Sn 03 32 59.5 -4.5
baz=225
CPCT **Cooper Cave** 22.95 30 IAmb IAmb 03 28 38.7
comp=Z,49nm,1.1s
W52A **Murphy** 22.96 31 P P **03 28 38.3 -0.1**
baz=218,SNR=23
W52A S Sn 03 32 59.6 -5.0
baz=218
FVM **French Village** 22.97 16 IAmb IAmb 03 28 39.8
comp=Z,72nm,1.1s
FVM **French Village** 22.97 16 P P **03 28 39.0 +0.6**
baz=200
MVCO **Mesa Verde** 22.97 339 IAmb IAmb 03 28 40.8
comp=Z,82nm,1.1s
MVCO **Mesa Verde** 22.97 339 P P **03 28 36.6 -2.1**
baz=154,SNR=38
YUH **Yuha Desert** 23.01 319 P P **03 28 38.9 -0.1**
S44A **Carbondale** 23.03 19 P P **03 28 38.3 -0.8**
baz=203,SNR=34
S44A S Sn 03 32 58.6 -7.7
baz=203
KSU1 **Kansas State U** 23.05 3 IAmb IAmb 03 28 51.6
comp=Z,60nm,1.2s
KSU1 **Kansas State U** 23.05 3 P P **03 28 36.7 -2.6**
baz=184,SNR=7.0
KSU1 **Kansas State U** 23.05 3 P P **03 28 39.0 -0.3**
baz=184,SNR=7.0
PDMCI **Parker Dam,Lak** 23.12 325 P P **03 28 38.8 -1.2**
baz=138,SNR=12
IKP **In-Ko-Pah, Jac** 23.13 319 P P **03 28 41.3 +1.0**
baz=131
SWSC **Sam W. Stewart** 23.13 320 P P **03 28 39.5 -0.7**
baz=132
T47A **Sharon Grove** 23.14 23 P P **03 28 39.3 -0.9**
baz=208,SNR=42
HODGE **Hodges** 23.19 36 IAmb IAmb 03 28 41.1
comp=Z,92nm,0.9s
HODGE **Hodges** 23.19 36 P P **03 28 39.6 -1.1**
baz=222,SNR=23
KSCO **Kaye Shedlock'** 23.23 351 IAmb IAmb 03 28 42.5
comp=Z,98nm,1.1s
KSCO **Kaye Shedlock'** 23.23 351 P P **03 28 38.9 -2.3**
baz=169,SNR=12
KSCO **Kaye Shedlock'** 23.23 351 P P **03 28 41.2 0.0**
baz=169,SNR=12
U49A **Red Boiling Sp** 23.26 26 IAmb IAmb 03 28 48.3
comp=Z,108nm,1.2s
U49A **Red Boiling Sp** 23.26 26 P P **03 28 40.4 -1.1**
baz=212,SNR=24
U49A S S **03 32 53.4 -0.9**
baz=212
V51A **Loudon** 23.32 30 IAmb IAmb 03 28 43.2
comp=Z,96nm,1.1s
V51A **Loudon** 23.32 30 P P **03 28 41.0 -1.0**
baz=216,SNR=24
V51A S S **03 32 53.4 -1.9**
baz=216
BG3 **Lake Jocassee** 23.39 33 IAmb IAmb 03 28 43.2
comp=Z,103nm,1.2s
CASEE **Lake Jocassee** 23.39 33 P P **03 28 42.5 -0.3**
baz=220,SNR=21
CASEE S Sn 03 33 07.4 -7.6
baz=220
BC3 **Big Chuckawall** 23.41 322 P P **03 28 42.9 -0.2**
baz=134,SNR=14
TKL **Tuckaleechee C** 23.48 31 IAmb IAmb 03 28 57.1
comp=Z,87nm,1.5s
TKL **Tuckaleechee C** 23.48 31 P P **03 28 42.8 -0.9**
baz=217
TKL S S **03 33 06.9 +8.9**
baz=217
MONP2 **Monument Peak** 23.49 319 P P **03 28 43.8 -0.2**
baz=131
IRM **Iron Mountain** 23.59 323 P P **03 28 44.3 -0.4**
baz=136
SLM **Saint Louis** 23.63 16 IAmb IAmb 03 28 46.4
comp=Z,80nm,1.1s
SLM **Saint Louis** 23.63 16 P P **03 28 46.0 +0.9**
baz=200
NHSC **New Hope** 23.64 41 P P **03 28 43.9 -1.3**
NHSC **New Hope** 23.64 41 P P **03 28 44.3 -0.9**
baz=228,SNR=11
NHSC **New Hope** 23.64 41 P P **03 28 45.7 +0.5**
baz=228,SNR=11
Q24A **Divide** 23.65 347 P P **03 28 44.1 -1.5**
baz=163,SNR=23
V52A **Sevierville** 23.72 31 P P **03 28 45.4 -0.6**
baz=217,SNR=8.5
UREC **San Jos de Ur** 23.73 108 *e* P P **03 28 49.1 +2.8**
NEE2 **Needles Airpor** 23.73 325 P P **03 28 46.9 +0.8**
baz=138
JSC **Jenkinsville** 23.79 37 P P **03 28 45.9 -0.8**
baz=224,SNR=9.7
PAULI **Pauline** 23.87 35 IAmb IAmb 03 28 48.6
comp=Z,97nm,1.0s
PAULI **Pauline** 23.87 35 P P **03 28 46.6 -0.8**
baz=222,SNR=17
P38A **Dawn** 23.90 9 IAmb IAmb 03 28 48.3
comp=Z,83nm,1.1s
P38A **Dawn** 23.90 9 P P **03 28 46.5 -1.1**
baz=191,SNR=21
P38A S S **03 33 09.5 +5.1**
baz=191
109C **Camp Elliot, M** 23.92 318 P P **03 28 48.4 +0.4**
baz=130
PMD **Palm Desert** 23.96 320 IAmb IAmb 03 28 57.2
comp=Z,69nm,1.8s
V53A **Saluda** 23.98 32 IAmb IAmb 03 28 49.7
comp=Z,158nm,1.7s
V53A **Saluda** 23.98 32 P P **03 28 48.7 +0.2**
baz=219,SNR=7.6
V53A P P **03 28 48.7 +0.2**
baz=219,SNR=7.6
BELC **Belle Mtn. Jos** 23.98 322 P P **03 28 49.0 +0.3**
baz=134,SNR=7.0
TPFO **Pinon Flats** 23.98 320 P P **03 28 49.1 +0.4**
baz=132
PFO **Pinyon Flats O** 23.99 320 P P **03 28 48.6 -0.2**
PFO **Pinyon Flats O** 23.99 320 P P **03 28 49.5 +0.7**
baz=132
PFO **Pinyon Flats O** 23.99 320 *e* P P **03 28 51.3 +2.5**
PFO pmax pmax
comp=Z,19nm,1.5s
P40A **Paris** 24.07 12 P P **03 28 48.3 -0.9**
baz=195,SNR=44
P40A S S **03 33 07.5 +0.4**
baz=195
CBOC **Ciudad Bolivar** 24.07 112 *e* P P **03 28 53.0 +3.3**
T50A **Nancy** 24.10 27 P P **03 28 49.0 -0.6**
baz=213
T50A P P **03 28 49.0 -0.6**
baz=213
T50A S S **03 33 16.4 +8.7**
baz=213
T50A S S **03 33 16.4 +8.7**
baz=213
Y57A **Sumter** 24.12 39 P P **03 28 49.8 0.0**
baz=226,SNR=12
Y57A P P **03 28 49.8 0.0**
baz=226,SNR=12
Y57A S S **03 33 19.7 +12**
baz=226
Y57A S S **03 33 19.7 +12**
baz=226
Q44A **Meyer Farm, Va** 24.22 18 P P **03 28 49.8 -0.9**
baz=202,SNR=15
Q44A S S **03 33 18.9 +9.3**
baz=202
PLMC **San Jos del P** 24.27 115 *e* P P **03 28 53.3 +1.8**
TZTN **Tazewell** 24.30 30 P P **03 28 49.6 -1.9**
baz=217,SNR=15
TZTN **Tazewell** 24.30 30 P P **03 28 50.2 -1.3**
baz=217,SNR=15
TZTN S S **03 33 19.8 +8.8**
baz=217
GMRC **Granite Mounta** 24.33 323 P P **03 28 52.5 +0.5**
baz=136,SNR=6.5
OLIL **Olney** 24.35 20 P P **03 28 52.0 +0.1**
baz=204,SNR=11
KMSC **Kings Mountain** 24.37 35 P P **03 28 50.8 -1.4**
baz=223,SNR=19
KMSC **Kings Mountain** 24.37 35 P P **03 28 52.0 -0.2**
baz=223,SNR=19
KMSC S S **03 33 23.4 +11**
baz=223
MURC **Murrieta** 24.44 319 P P **03 28 53.7 +0.8**
baz=131
ZARC **Zaragoza, Cauc** 24.44 108 *e* P P **03 28 54.3 +1.3**
Y58A **Scranton** 24.48 40 P P **03 28 52.2 -0.9**
Y58A **Scranton** 24.48 40 P P **03 28 53.4 +0.2**
baz=228
Y58A P P **03 28 53.4 +0.2**
baz=228
BIRD **Birdtown, Kers** 24.51 38 P P **03 28 53.0 -0.5**
baz=225,SNR=13
WCI **Wyandotte Cave** 24.53 23 P P **03 28 53.1 -0.5**
WCI **Wyandotte Cave** 24.53 23 P P **03 28 52.1 -1.5**
baz=209
WCI **Wyandotte Cave** 24.53 23 P P **03 28 53.2 -0.5**
baz=209,SNR=21
WCI S S **03 33 17.6 +2.9**
baz=209
WCI **Wyandotte Cave** 24.53 23 P P **03 28 53.1 -0.5**
WCI pmax pmax
comp=Z,380nm,1.8s
ISCO **Idaho Springs** 24.55 346 IAmb IAmb 03 29 00.8
comp=Z,79nm,1.1s
ISCO **Idaho Springs** 24.55 346 P P **03 28 54.1 0.0**
baz=163,SNR=84
ISCO **Idaho Springs** 24.55 346 P P **03 28 55.6 +1.5**
baz=163,SNR=84
KNB **Kanab** 24.57 331 IAmb IAmb 03 29 03.0
comp=Z,54nm,1.1s
ELS **Elsinore Mount** 24.62 319 P P **03 28 54.6 +0.1**
N33B **J Bar K, Exete** 24.65 2 P P **03 28 55.1 +0.4**
baz=182,SNR=6.7
YOTC **Yotoco, Valle** 24.67 117 *e* P P **03 28 56.4 +1.2**
BBRC **Big Bear Solar** 24.71 321 P P **03 28 57.0 +1.4**
baz=133
HEC **Hector,Ludlow** 24.75 323 P P **03 28 56.4 +0.6**
baz=135
P43A **Skaggs, Pawnee** 24.77 16 P P **03 28 54.6 -1.0**
P43A IAmb IAmb 03 28 56.9
comp=Z,95nm,1.2s
P43A **Skaggs, Pawnee** 24.77 16 P P **03 28 56.6 +1.0**
baz=200
JAMC **Jamundi, Valle** 24.79 119 *e* P P **03 28 58.4 +2.0**
N35A **Tabor** 24.87 5 P P **03 28 56.8 +0.2**
baz=186
GUY2C **Guyana, Caldas** 24.93 113 *e* P P **03 29 01.8 +3.8**
TUQ **Turquoise Moun** 24.95 324 P P **03 28 58.4 +0.8**
baz=136
V55A **Taylorsville** 24.96 34 P P **03 28 57.8 +0.3**

baz=222,SNR=14
V55A P P 03 28 57.8 +0.3
baz=222,SNR=14
V55A S S 03 33 30.9 +9.2
baz=222
V55A S S 03 33 30.9 +9.2
baz=222
BBAC Balboa, Cauca 24.97 122 *eP* P 03 29 00.9 +2.9
R49A Shelbyville 25.03 25 P P 03 28 57.7 -0.4
baz=211,SNR=11
R49A P P 03 28 57.7 -0.4
baz=211,SNR=11
R49A S S 03 33 26.3 +3.6
baz=211
R49A S S 03 33 26.3 +3.6
baz=211
OGNE Ogallala 25.06 353 P P 03 28 57.6 -0.8
baz=172,SNR=12
OGNE Ogallala 25.06 353 P P 03 29 00.4 +2.0
baz=172,SNR=12
N38A Joes South For 25.09 9 P P 03 28 58.7 +0.2
baz=192,SNR=20
N38A S S 03 33 31.5 +7.9
baz=192
OTAV Otavalo 25.09 127 P P 03 29 00.9 +1.6
OTAV Otavalo 25.09 127 *eP* P 03 29 02.5 +3.2
OTAV Otavalo 25.09 127 *eP* P 03 29 02.5 +3.2
OTAV Otavalo 25.09 127 P P 03 29 00.9 +1.6
OTAV pmax pmax
comp=Z,27nm,1.4s
CIS Catalina Islan 25.09 317 P P 03 28 59.1 +0.4
baz=129
X58A Rowland 25.12 39 P P 03 29 00.2 +1.3
baz=228
X58A P P 03 29 00.2 +1.3
baz=228
MTPU Mount Pierson 25.13 334 P P 03 28 60.0 +0.6
U54A Nelsons Funny 25.14 33 P P 03 28 59.2 0.0
baz=220,SNR=15
U54A P P 03 28 59.2 0.0
baz=220,SNR=15
U54A S S 03 33 33.6 +8.9
baz=220
U54A S S 03 33 33.6 +8.9
baz=220
W57A Gilead 25.14 37 P P 03 28 59.4 +0.3
baz=225,SNR=19
W57A P P 03 28 59.4 +0.3
baz=225,SNR=19
POPC Popayan, Colom 25.15 120 *eP* P 03 29 02.8 +3.2
S51A Beattyville 25.16 28 P P 03 28 59.2 -0.1
baz=215,SNR=32
S51A P P 03 28 59.2 -0.1
baz=215,SNR=32
S51A S S 03 33 31.7 +6.8
baz=215
S51A S S 03 33 31.7 +6.8
baz=215
RRX Edison Barstow 25.18 322 P P 03 28 58.8 -0.7
baz=134
PTBC PUERTO BERRIO, 25.18 109 *eP* P 03 29 01.4 +1.7
FMP Fort Macarthur 25.21 318 P P 03 29 00.4 +0.7
baz=129
BLO Bloomington 25.28 22 IAmb IAmb 03 29 10.4
comp=Z,49nm,1.1s
TULM Tulcn-Chalpat 25.30 125 *eP* P 03 29 13.2 +12
BGNE Belgrade 25.31 0 P P 03 28 59.7 -0.9
baz=180
GSC Goldstone, Bar 25.36 323 P P 03 29 01.6 +0.4
baz=134
R50A Paris 25.37 26 P P 03 29 00.6 -0.5
baz=213,SNR=9.8
R50A P P 03 29 00.6 -0.5
baz=213,SNR=9.8
R50A S S 03 33 33.8 +5.6
baz=213
R50A S S 03 33 33.8 +5.6
baz=213
SRU San Rafael Swe 25.39 337 IAmb IAmb 03 29 09.9
comp=Z,41nm,0.9s
P46A Rosedale 25.44 20 P P 03 29 02.2 +0.4
baz=206,SNR=12
Q16A Castle Valley 25.46 336 IAmb IAmb 03 29 11.3
comp=Z,31nm,0.8s
O44A Mansfield 25.54 18 IAmb IAmb 03 29 03.0
comp=Z,48nm,0.9s
O44A Mansfield 25.54 18 P P 03 29 02.3 -0.3
baz=202,SNR=7.6
O20A White River Ci 25.55 342 IAmb IAmb 03 29 07.2
comp=Z,86nm,1.2s
O20A White River Ci 25.55 342 P P 03 29 03.4 +0.4
baz=157,SNR=43
ORTC Ortega, Tolima 25.66 116 *eP* P 03 29 07.4 +3.4
N23A Red Feather La 25.67 347 IAmb IAmb 03 29 12.5
comp=Z,64nm,1.0s
N23A Red Feather La 25.67 347 P P 03 29 02.8 -1.3
baz=163,SNR=34
HDIL Hopedale 25.68 16 P P 03 29 02.4 -1.6
baz=200,SNR=8.7
HDIL Hopedale 25.68 16 P P 03 29 03.8 -0.2
baz=200,SNR=8.7
HDIL S S 03 33 41.6 +8.6
baz=200
SNCC San Nicolas Is 25.73 316 P P 03 29 06.5 +2.0
baz=127
U56A King 25.78 35 P P 03 29 05.5 +0.6
baz=223,SNR=12
U56A P P 03 29 05.5 +0.6
baz=223,SNR=12
U56A S S 03 33 41.9 +7.2
baz=223
U56A S S 03 33 41.9 +7.2
baz=223
EDW2 Edwards Air Fo 25.78 320 P P 03 29 05.5 +0.5
baz=132
TMUT Trail Mountain 25.81 337 IAmb IAmb 03 29 15.0
comp=Z,58nm,1.5s
L34A Svendsen Farm, 25.92 3 IAmb IAmb 03 29 12.8
comp=Z,82nm,1.2s
L34A Svendsen Farm, 25.92 3 P P 03 29 07.1 +0.9
baz=184
SDDR Presa de Saban 25.93 79 P P 03 29 06.7 +0.3
SDDR IAmb IAmb 03 29 27.9
comp=Z,32nm,0.9s
SDDR Presa de Saban 25.93 79 *eP* P 03 29 08.4 +2.0
P48A Milroy 25.94 23 IAmb IAmb 03 29 08.5
comp=Z,30nm,0.9s
P48A Milroy 25.94 23 P P 03 29 04.8 -1.5
baz=209,SNR=7.7
P48A P P 03 29 04.8 -1.5
baz=209,SNR=7.7
P48A S S 03 33 46.1 +9.0
baz=209
P48A S S 03 33 46.1 +9.0
baz=209
PHWY Pilot Hill 25.95 348 IAmb IAmb 03 29 10.3
comp=Z,47nm,1.1s
ROSC El Rosal 26.03 113 P P 03 29 13.8 +6.0
OSI Osito Audit: C 26.06 319 P P 03 29 06.9 -0.6
baz=130
PRAC Prado 26.06 115 *eP* P 03 29 11.1 +3.4
W59A Clinton 26.08 39 P P 03 29 09.1 +1.6
baz=228
V58A Windy Hill, Pi 26.10 37 P P 03 29 08.0 +0.2
baz=226,SNR=22
V58A P P 03 29 08.0 +0.2
baz=226,SNR=22
SFIN Lafayette 26.17 20 IAmb IAmb 03 29 10.3
comp=Z,103nm,1.5s
SFIN Lafayette 26.17 20 P P 03 29 06.4 -1.9
baz=205,SNR=7.4
SFIN Lafayette 26.17 20 P P 03 29 08.3 0.0
baz=205,SNR=7.4
SFIN S S 03 33 48.1 +7.4
baz=205
SCIA State Center 26.18 9 P P 03 29 06.8 -1.7
baz=191,SNR=15
SCIA State Center 26.18 9 P P 03 29 08.8 +0.3
baz=191,SNR=15
FURC Furnace Creek, 26.22 324 P P 03 29 11.1 +2.2
baz=196
TPNV Topopah Spring 26.24 326 P P 03 29 11.4 +2.2
baz=138,SNR=7.1
P49A Miami Univ. Ec 26.28 24 P P 03 29 08.2 -1.2
baz=211,SNR=23
P49A Miami Univ. Ec 26.28 24 P P 03 29 08.3 -1.1
baz=211,SNR=23
MPMC Manual Prospec 26.29 323 P P 03 29 11.1 +1.4
baz=134
BARC Barichara 26.32 108 *eP* P 03 29 13.5 +3.2
RDMU Red Mountain 26.36 340 IAmb IAmb 03 29 26.3
comp=Z,51nm,1.2s
BLA Blacksburg 26.40 33 P P 03 29 10.7 +0.2
baz=222,SNR=7.4
BLA Blacksburg 26.40 33 P P 03 29 10.4 -0.1
baz=222,SNR=7.4
BLA S S 03 33 56.2 +12
baz=222
Q51A Peebles 26.42 27 P P 03 29 09.7 -0.9
baz=214,SNR=22
Q51A P P 03 29 09.7 -0.9
baz=214,SNR=22
ARVC Arvin 26.46 320 P P 03 29 12.0 +0.9
baz=131
CNNC Cliffs of the 26.46 40 P P 03 29 10.6 -0.5
CNNC Cliffs of the 26.46 40 P P 03 29 12.2 +1.2
baz=229
PAMC Pamplona, Colo 26.49 106 *eP* P 03 29 15.1 +3.1
R53A Hurricane 26.49 30 P P 03 29 11.0 -0.3
baz=217,SNR=18
R53A P P 03 29 11.0 -0.3
baz=217,SNR=18
K30B Basset 26.60 358 P P 03 29 13.3 +1.0
baz=177,SNR=11
L40A Anamosa 26.67 12 IAmb IAmb 03 29 18.8
comp=Z,44nm,0.9s
L40A Anamosa 26.67 12 P P 03 29 12.4 -0.4
baz=195,SNR=12
NLU North Lily Min 26.71 336 IAmb IAmb 03 29 16.4
comp=Z,42nm,1.2s
RWWY Rawlins 26.72 345 IAmb IAmb 03 29 21.7
comp=Z,44nm,1.1s
BSUT Blindstream Ca 26.73 339 IAmb IAmb 03 29 21.2
comp=Z,35nm,1.0s
O48B Farmland 26.73 23 P P 03 29 11.8 -1.7
baz=209,SNR=23
O48B Farmland 26.73 23 P P 03 29 12.5 -1.0
baz=209,SNR=23
M44A Midewin, Midew 26.80 17 P P 03 29 14.0 0.0
baz=202,SNR=6.6
M44A S S 03 34 00.2 +10
baz=202
Q52A Bidwell 26.85 28 P P 03 29 14.2 -0.3
baz=216,SNR=18
Q52A P P 03 29 14.2 -0.3
baz=216,SNR=18
Q52A S S 03 34 01.4 +10
baz=216
Q52A S S 03 34 01.4 +10
baz=216
SPR3 Spring Creek 3 26.87 332 P P 03 29 14.1 -1.1
T57A Hurt 26.88 35 P P 03 29 15.8 +1.1
baz=224,SNR=15
T57A P P 03 29 15.8 +1.1
baz=224,SNR=15
P51A Williamsport 26.92 27 IAmb IAmb 03 29 22.2
comp=Z,62nm,0.9s
P51A Williamsport 26.92 27 P P 03 29 14.4 -0.7
baz=214,SNR=11
P51A P P 03 29 14.4 -0.7
baz=214,SNR=11
L42A Oliver, Polo 26.95 14 P P 03 29 15.1 -0.3
baz=199,SNR=9.9
R11B Troy Canyon, C 26.95 329 P P 03 29 15.4 -0.3
baz=141,SNR=12
K38A Parkersburg 26.97 9 IAmb IAmb 03 29 38.5
comp=Z,76nm,1.1s
O49A Covington 26.99 24 IAmb IAmb 03 29 18.3
comp=Z,73nm,1.0s
O49A Covington 26.99 24 P P 03 29 14.9 -0.8
baz=211,SNR=17
O49A P P 03 29 14.9 -0.8
baz=211,SNR=17
N47A Urbana 27.09 21 P P 03 29 15.7 -0.9
baz=208,SNR=14
N47A P P 03 29 15.7 -0.9
baz=208,SNR=14
DUG Dugway, Tooele 27.21 335 P P 03 29 18.1 +0.1
baz=148,SNR=24
DUG Dugway, Tooele 27.21 335 P P 03 29 20.3 +2.4
U59A Littleton 27.27 38 IAmb IAmb 03 29 20.0
comp=Z,53nm,1.2s
U59A Littleton 27.27 38 P P 03 29 19.2 +0.9
baz=227,SNR=5.2
U59A P P 03 29 19.2 +0.9
baz=227,SNR=5.2
SMMC Simmler 27.31 319 P P 03 29 20.3 +1.5
baz=129
R55A Marlinton 27.36 32 IAmb IAmb 03 29 24.1
comp=Z,48nm,1.1s
P52A Corning 27.45 28 IAmb IAmb 03 29 23.3
comp=Z,50nm,1.1s
P52A Corning 27.45 28 P P 03 29 20.0 0.0
baz=216
K22A Casper 27.47 347 IAmb IAmb 03 29 27.7
comp=Z,36nm,1.1s
K22A Casper 27.47 347 P P 03 29 20.9 +0.6
baz=163
K22A Casper 27.47 347 P P 03 29 21.8 +1.5
baz=163
TCUT Toone Canyon 27.47 338 IAmb IAmb 03 29 31.4
comp=Z,52nm,1.0s
Q54A Coxs Mills 27.54 30 P P 03 29 20.8 0.0
baz=219,SNR=7.7
Q54A P P 03 29 20.8 0.0
baz=219,SNR=7.7
L44A Lake County Fo 27.57 17 P P 03 29 19.7 -1.2
baz=202
ACSO Alum Creek Sta 27.57 26 IAmb IAmb 03 29 27.5
comp=Z,41nm,1.0s
ACSO Alum Creek Sta 27.57 26 P P 03 29 20.9 -0.1
baz=213,SNR=7.0
ACSO Alum Creek Sta 27.57 26 P P 03 29 20.8 -0.3
baz=213,SNR=7.0
TPH Tonopah 27.59 326 IAmb IAmb 03 29 39.7
comp=Z,43nm,1.2s
S57A Dark Hollow, R 27.59 35 P P 03 29 21.2 0.0
baz=224
S57A P P 03 29 21.2 0.0
baz=224
TAMC Tame, Arauca 27.66 107 *eP* P 03 29 25.2 +3.1
ECSD EROS Data Cent 27.67 3 P P 03 29 20.1 -1.8
baz=184,SNR=6.2
ECSD EROS Data Cent 27.67 3 P P 03 29 21.6 -0.3
baz=184,SNR=6.2
P53A Whipple 27.67 29 IAmb IAmb 03 29 37.8
comp=Z,52nm,1.2s
JFWS Jewell Farm 27.69 13 IAmb IAmb 03 29 22.7
comp=Z,45nm,1.1s
JFWS Jewell Farm 27.69 13 P P 03 29 20.6 -1.5
baz=197,SNR=9.4
JFWS Jewell Farm 27.69 13 P P 03 29 21.9 -0.1
baz=197,SNR=9.4
T59A Double "B" Far 27.83 37 P P 03 29 24.1 +0.8
baz=227,SNR=11
T59A P P 03 29 24.1 +0.8
baz=227,SNR=11
SDV Santo Domingo 27.91 101 P P 03 29 24.1 -0.5
SDV Santo Domingo 27.91 101 *eP* P 03 29 26.7 +2.1
SDV Santo Domingo 27.91 101 *eP* P 03 29 25.2 +0.7
SDV Santo Domingo 27.91 101 LR LR 03 42 17.8
comp=Z,648nm,18.4s,baz=3.5,slow=40
BGU Big Grassy Mou 27.92 336 IAmb IAmb 03 29 32.4
comp=Z,90nm,1.9s
HWUT Hardware Ranch 27.96 338 P P 03 29 24.2 -0.5
O52A Adamsville 27.98 28 IAmb IAmb 03 29 34.6
comp=Z,26nm,0.9s
MLAC Mammoth, Mammc 28.16 324 P P 03 29 28.8 +2.2
baz=134
R58B Mineral 28.33 36 IAmb IAmb 03 29 34.6
comp=Z,33nm,1.1s
NV11 Mina Array Sit 28.35 326 IAmb IAmb 03 29 31.6
comp=Z,34nm,1.4s
SUSD Miller 28.35 359 P P 03 29 28.9 +1.0
baz=179
BW06 Boulder Array 28.36 342 IAmb IAmb 03 29 30.6
comp=Z,46nm,1.6s
BW06 Boulder Array 28.36 342 P P 03 29 29.5 +1.2
baz=157,SNR=17
PD31 Pinedale Array 28.36 342 IAmb IAmb 03 29 30.6
comp=Z,41nm,1.6s
PDAR Pinedale Array 28.36 342 P P 03 29 28.5 +0.2
comp=Z,7.9nm,1.0s,baz=147,slow=8.3,SNR=32
comp=Z,7.9nm,1.0s
O53A New Philadelph 28.36 28 P P 03 29 26.7 -1.4
baz=216
N51A Ashland 28.40 26 IAmb IAmb 03 29 41.1
comp=Z,23nm,0.9s
Q56A Snyder Ridge, 28.41 32 IAmb IAmb 03 29 32.0
comp=Z,64nm,1.2s
T60A Surry 28.42 38 P P 03 29 30.3 +1.7
baz=228,SNR=6.1
T60A P P 03 29 30.3 +1.7
baz=228,SNR=6.1
NVAR Mina Array Bea 28.43 326 P P 03 29 30.4 +1.5
comp=Z,6.4nm,1.0s,baz=151,slow=9.6,SNR=30
comp=Z,6.4nm,1.0s
RSSD Black Hills 28.44 351 P P 03 29 28.4 -0.6
RSSD IAmb IAmb 03 29 31.5
comp=Z,64nm,1.9s
RSSD Black Hills 28.44 351 P P 03 29 29.4 +0.4
baz=168
RSSD Black Hills 28.44 351 P P 03 29 29.9 +0.9
baz=168,SNR=7.4
RSSD Black Hills 28.44 351 P P 03 29 28.4 -0.6
RSSD pmax pmax
comp=Z,64nm,1.9s
MCWV Mont Chateau 28.55 31 IAmb IAmb 03 29 42.5
comp=Z,56nm,1.4s
MCWV Mont Chateau 28.55 31 P P 03 29 28.3 -1.5
baz=220
HVU Hansel Valley 28.55 337 IAmb IAmb 03 29 38.6
comp=Z,25nm,1.0s
I40A Norwalk 28.55 12 IAmb IAmb 03 29 30.6
comp=Z,51nm,1.4s
O54A Avella 28.70 29 IAmb IAmb 03 29 32.0
comp=Z,54nm,1.4s
CBN Corbin Frederi 28.78 36 P P 03 29 30.6 -1.2
baz=226
I42A Draeger Farm, 28.92 14 IAmb IAmb 03 29 35.0
comp=Z,33nm,1.1s
AAM Ann Arbor 29.07 23 IAmb IAmb 03 29 41.6
comp=Z,22nm,0.8s
AAM Ann Arbor 29.07 23 P P 03 29 33.3 -1.0
baz=210
P57A Homestead Farm 29.35 33 IAmb IAmb 03 29 41.1
comp=Z,77nm,1.6s
SNOW Snow King Moun 29.35 341 IAmb IAmb 03 29 39.8
comp=Z,45nm,1.4s
TPAW Teton Pass 29.44 341 IAmb IAmb 03 29 58.3
comp=Z,34nm,1.2s
J47A Sumner 29.48 20 IAmb IAmb 03 29 39.8
comp=Z,40nm,1.2s
SPMN Marine on St. 29.49 8 IAmb IAmb 03 30 33.7
comp=Z,57nm,1.4s
SPMN Marine on St. 29.49 8 P P 03 29 36.5 -1.6
baz=191
M53A WI Miller and 29.56 27 P P 03 29 36.7 -2.0
baz=216
FLWY Flagg Ranch 29.90 342 IAmb IAmb 03 29 57.9
comp=Z,24nm,1.1s
G40A Rib Lake 29.96 11 IAmb IAmb 03 29 43.0
comp=Z,38nm,1.2s
G40A Rib Lake 29.96 11 P P 03 29 41.9 -0.3
baz=196,SNR=9.9
F36A Milaca 30.03 7 P P 03 29 42.0 -0.8
baz=189,SNR=8.8
H17A Grant Village 30.15 342 P P 03 29 44.8 +0.7
baz=156
SSPA Standing Stone 30.27 32 P P 03 29 44.8 -0.2
SSPA Standing Stone 30.27 32 P P 03 29 42.9 -2.1
baz=222
BAUV El Baul 30.34 100 P P 03 29 46.8 +0.9
RLMT Red Lodge 30.46 345 IAmb IAmb 03 29 49.2
comp=Z,42nm,1.5s
RLMT Red Lodge 30.46 345 P P 03 29 47.2 +0.3
baz=159,SNR=9.3
M55A Ridgway 30.47 30 IAmb IAmb 03 29 47.6
comp=Z,33nm,1.1s
E28A Huff 30.54 357 P P 03 29 48.0 +0.6
baz=176,SNR=5.3
HLID Hailey 30.70 337 P P 03 29 49.7 +0.7
baz=148
SJG San Juan 30.79 81 LR LR 03 43 25.8
comp=Z,411nm,20.0s,baz=282,slow=39
GLMI Grayling 30.96 19 IAmb IAmb 03 30 32.8
comp=Z,35nm,0.8s
GLMI Grayling 30.96 19 P P 03 29 49.5 -1.5
baz=206
WVNY West Valley, N 31.27 29 IAmb IAmb 03 29 54.7
comp=Z,54nm,1.2s
WVNY West Valley, N 31.27 29 P P 03 29 53.3 -0.5
baz=219,SNR=5.2
WVOR Wild Horse Val 31.59 331 IAmb IAmb 03 29 59.5
comp=Z,54nm,1.6s
E43A Lone Tree Farm 31.72 15 IAmb IAmb 03 29 58.2
comp=Z,26nm,1.1s
MDND Maddock 31.77 358 P P 03 29 57.7 -0.4
baz=178,SNR=14
MDND Maddock 31.77 358 P P 03 29 58.8 +0.7
baz=178,SNR=14
D41A Chassel 32.00 13 P P 03 30 00.3 +0.1
baz=198,SNR=5.5
BRNJ Basking Ridge 32.06 35 P P 03 30 01.5 +0.7
baz=227
J08A Circle Bar Ran 32.23 332 IAmb IAmb 03 30 09.9
comp=Z,33nm,1.0s
AGMN Agassiz Nation 32.26 3 IAmb IAmb 03 30 03.4
comp=Z,46nm,1.1s
AGMN Agassiz Nation 32.26 3 P P 03 30 01.1 -1.4
baz=184,SNR=17
AGMN Agassiz Nation 32.26 3 P P 03 30 01.8 -0.7
baz=184,SNR=17
EYMN Ely 32.34 9 P P 03 30 01.3 -1.9
baz=192
BINY Binghamton 32.38 32 IAmb IAmb 03 30 04.6
comp=Z,38nm,1.1s
BINY Binghamton 32.38 32 P P 03 30 01.3 -2.4
baz=223
PLID Pearl Lake 32.60 336 IAmb IAmb 03 30 08.2
comp=Z,39nm,1.4s
PAL Palisades 32.65 35 P P 03 30 03.9 -2.1
baz=227
DGMT Dagmar 32.73 353 IAmb IAmb 03 30 08.6
comp=Z,43nm,1.2s
DGMT Dagmar 32.73 353 P P 03 30 05.5 -1.2
baz=170,SNR=5.8
DGMT Dagmar 32.73 353 P P 03 30 07.8 +1.2
baz=170,SNR=5.8
SADO Sadowa 32.92 25 P P 03 30 07.0 -1.2
comp=Z,9.9nm,0.9s,baz=216,slow=9.2,SNR=2.9
comp=Z,9.9nm,0.9s
PCRV Puerto La Cruz 33.27 96 LR LR 03 46 09.8
comp=Z,361nm,18.2s,slow=41
EGMT Eagleton 33.29 346 IAmb IAmb 03 30 19.4
comp=Z,40nm,1.3s
EGMT Eagleton 33.29 346 P P 03 30 11.5 -0.1
baz=160,SNR=8.7
MSO Missoula 33.37 340 IAmb IAmb 03 30 14.6
comp=Z,50nm,1.9s
MSO Missoula 33.37 340 P P 03 30 11.7 -0.6
baz=152,SNR=6.3
KSCT Kent School, K 33.37 35 IAmb IAmb 03 30 15.5
comp=Z,66nm,1.2s
F10A Beach Ranch, E 33.81 336 IAmb IAmb 03 30 21.9
comp=Z,25nm,1.0s
ULM Lac du Bonnet 34.21 3 IAmb IAmb 03 30 19.9
comp=Z,35nm,1.3s
ULM Lac du Bonnet 34.21 3 *ceP* P 03 30 17.8 -1.6
ULM pmax pmax
comp=Z,11nm,1.0s
ULM Lac du Bonnet 34.21 3 P P 03 30 18.9 -0.6
comp=Z,14nm,1.1s,baz=196,slow=8.3,SNR=11
comp=Z,14nm,1.1s
L61B Northampton 34.30 35 P P 03 30 19.4 -0.9
baz=228
LONY Lake Ozonia 34.85 30 P P 03 30 23.9 -1.2
baz=223
HRV Adam Dziewonsk 34.96 36 P P 03 30 25.4 -0.6
baz=229
NNA Nana 34.99 141 LR LR 03 41 51.5
comp=Z,557nm,21.0s,baz=16,slow=31
NEW Newport 35.69 338 P P 03 30 33.4 +1.0
baz=148
NEW Newport 35.69 338 P P 03 30 32.6 +0.3
comp=Z,4.0nm,1.0s,baz=176,slow=8.4,SNR=5.4
comp=Z,4.0nm,1.0s
C09A Chrisman Ranch 35.73 337 IAmb IAmb 03 30 35.0
comp=Z,44nm,1.4s
LBNH Lisbon 35.92 33 P P 03 30 32.8 -1.5
baz=227
LTY Liberty 36.25 334 IAmb IAmb 03 30 39.8
comp=Z,34nm,1.3s
FFC Flin Flon 38.74 357 P P 03 30 57.5 -0.6

FFC IAmb IAmb 03 31 04.4
comp=Z,30nm,1.0s
FFC Flin Flon 38.74 357 P **P** **03 30 57.5 -0.6**
FFC pmax pmax
comp=Z,30nm,1.0s
EDM Edmonton 38.97 346 IAmb IAmb 03 31 06.7
comp=Z,44nm,0.9s
BOAV Boa Vista 39.57 106 P **P** **03 31 06.0 +0.4**
BOAV Boa Vista 39.57 106 *eP* **P** **03 31 05.2 -0.4**
ETMB Extrema 40.84 127 IAmb IAmb 03 31 24.4
comp=Z,42nm,1.2s
ETMB Extrema 40.84 127 *eP* **P** **03 31 17.2 +1.2**
MACA Manacapuru-AM 41.79 114 P **P** **03 31 24.6 +0.8**
MACA IAmb IAmb 03 31 25.6
comp=Z,32nm,1.1s
MACA Manacapuru-AM 41.79 114 *eP* **P** **03 31 23.6 -0.2**
SAML Samuel 42.71 123 P **P** **03 31 30.9 -0.4**
SAML Samuel 42.71 123 P **P** **03 31 30.9 -0.4**
SAML pmax pmax
comp=Z,10.0nm,1.2s
SAML Samuel 42.71 123 *eP* **P** **03 31 30.9 -0.4**
FCC Fort Churchill 42.80 3 P **P** **03 31 31.0 -0.4**
FCC IAmb IAmb 03 31 33.0
comp=Z,87nm,1.9s
FCC Fort Churchill 42.80 3 P **P** **03 31 31.0 -0.4**
FCC pmax pmax
comp=Z,87nm,1.9s
PB16 IPOC Station P 44.37 139 IAmb IAmb 03 31 55.3
comp=Z,30nm,1.5s
HILA High Level 44.69 346 P **P** **03 31 46.3 -0.5**
SCHQ Schefferville 45.73 25 P **P** **03 31 53.8 -1.2**
comp=Z,30nm,0.9s,baz=227,slow=4.6,SNR=13
comp=Z,30nm,0.9s
MDP Montagnes des 46.08 98 LR LR 03 51 46.4
comp=Z,375nm,19.5s,baz=284,slow=37
MALB Monte Alegre 46.98 108 *eP* **P** **03 32 05.4 -0.1**
VILB Vilhena 47.41 125 P **P** **03 32 09.8 +1.0**
VILB IAmb IAmb 03 32 17.2
comp=Z,28nm,1.3s
VILB Vilhena 47.41 125 *eP* **P** **03 32 08.9 +0.1**
T35M Bob Quinn 47.46 337 P **P** **03 32 09.7 +1.1**
baz=136
CRAG Craig 47.56 334 P **P** **03 32 11.1 +1.8**
baz=132
YKA Yellowknife Ar 47.83 350 P **P** **03 32 10.1 -1.3**
comp=Z,5.2nm,0.9s,baz=158,slow=7.3,SNR=42
YKA PP **PP** **03 34 05.4 +2.3**
comp=Z,1.1nm,1.0s,baz=156,slow=9.8,SNR=2.1
comp=Z,5.2nm,0.9s
KOTAN Kotaneelee Air 47.87 343 P **P** **03 32 12.1 +0.4**
baz=146
NPGB Novo Progresso 48.29 115 *eP* **P** **03 32 14.3 -1.4**
DLBC Dease Lake 48.44 338 P **P** **03 32 18.5 +2.2**
baz=138
DLBC Dease Lake 48.44 338 P **P** **03 32 16.7 +0.4**
comp=Z,5.7nm,1.0s,baz=146,slow=5.1,SNR=7.9
DLBC LR LR 03 52 14.0
comp=Z,1μm,18.4s,baz=196,slow=36
comp=Z,5.7nm,1.0s
MCPB Macapa, AP 48.44 105 *eP* **P** **03 32 17.2 +0.3**
S34M Telegraph Cree 48.46 337 P **P** **03 32 18.6 +2.3**
baz=136
WTLY Watson Lake, Y 49.29 340 P **P** **03 32 24.5 +1.8**
baz=140,SNR=9.7
PDRB Porto dos Gac 49.45 121 *eP* **P** **03 32 26.1 +1.6**
R33M Jennings River 49.48 339 P **P** **03 32 25.2 +0.9**
baz=137
BBSD Serra de San D 49.69 130 *eP* **P** **03 32 25.9 -0.4**
PTLB Pontes e Lacer 49.72 127 P **P** **03 32 27.2 +0.7**
PTLB Pontes e Lacer 49.72 127 *eP* **P** **03 32 26.8 +0.2**
WRGLY Wrigley 50.31 346 P **P** **03 32 31.6 +1.2**
baz=148
P32M Atlin 50.60 338 P **P** **03 32 34.1 +1.3**
baz=134
P33M Teslin, Yukon 50.72 339 P **P** **03 32 34.3 +0.7**
baz=135,SNR=6.3
BBRB Robore, Bolivi 50.97 130 *eP* **P** **03 32 35.0 -0.9**
SKAG Skagway 51.12 337 P **P** **03 32 37.4 +0.9**
baz=132
N32M Quiet Lake 51.48 339 P **P** **03 32 41.8 +2.5**
baz=136
WHY Whitehorse 51.77 338 P **P** **03 32 43.4 +1.8**
baz=133
FRB Frobisher Bay 51.92 16 P **P** **03 32 41.3 -1.1**
comp=Z,6.1nm,0.9s,baz=219,slow=9.1,SNR=5.8
comp=Z,6.1nm,0.9s
P29M Windy Craggy 52.16 336 P **P** **03 32 45.5 +1.1**
baz=129
P30M Million Dollar 52.17 337 P **P** **03 32 45.9 +1.3**
baz=130
O30N Mendenhall 52.28 338 P **P** **03 32 45.4 +0.2**
O30N Mendenhall 52.28 338 P **P** **03 32 47.2 +1.9**
baz=132
FARO Faro, Yukon 52.34 340 P **P** **03 32 47.4 +1.7**
baz=136,SNR=7.8
H03N2 Juan Fernandez 52.53 160 T T 04 29 38.6
baz=337,slow=77,SNR=2370
H03N1 Juan Fernandez 52.54 160 T T 04 29 27.5
baz=337,slow=77,SNR=1111
H03N3 Juan Fernandez 52.55 160 T T 04 29 38.8
baz=337,slow=77,SNR=2609
N31M Braeburn, Yuko 52.65 338 P **P** **03 32 50.5 +2.5**
baz=133,SNR=6.5
SALV Santo Antonio 52.67 125 *eP* **P** **03 32 48.8 +0.1**
M31M Drury Creek, Y 52.67 340 P **P** **03 32 48.3 +0.2**
M31M Drury Creek, Y 52.67 340 P **P** **03 32 50.0 +1.8**
baz=135,SNR=5.6
PRPB Parauapebas 52.81 111 *eP* **P** **03 32 50.8 +1.0**
HYT Haines Junctio 52.84 337 P **P** **03 32 51.9 +2.4**
baz=130,SNR=6.3
O29M Mount Kennedy 52.91 336 P **P** **03 32 50.7 +0.7**
baz=129
N30M Aishikik Lake 53.10 338 P **P** **03 32 53.2 +1.9**
baz=131
YUK6 Outpost Mounta 53.24 337 P **P** **03 32 54.6 +2.0**
baz=129,SNR=6.4
YUK4 Talbot Arm 53.60 337 P **P** **03 32 56.5 +1.3**
baz=130
M30M Minto, Yukon 53.74 339 P **P** **03 32 54.5 -1.6**
M30M Minto, Yukon 53.74 339 P **P** **03 32 57.5 +1.5**
baz=132,SNR=6.5
YUK8 Steele Glacier 53.98 337 P **P** **03 32 58.3 +0.2**
baz=128,SNR=5.4
SNDB Serra Nova Dou 54.18 118 *eP* **P** **03 33 00.6 +0.7**
M29M Somme Creek 54.24 338 P **P** **03 32 58.8 -1.0**
M29M IAmb IAmb 03 33 03.0
comp=Z,26nm,1.2s
M29M Somme Creek 54.24 338 P **P** **03 32 59.8 +0.1**
baz=130
PP1B Ponte de Pedra 54.28 126 *eP* **P** **03 33 00.8 +0.3**
YUK3 Moose Creek 54.55 337 P **P** **03 33 02.4 +0.3**
baz=126
L29M L29M 54.55 339 P **P** **03 33 02.1 +0.2**
L29M IAmb IAmb 03 33 04.9
comp=Z,40nm,1.3s
L29M L29M 54.55 339 P **P** **03 33 01.5 -0.5**
baz=131,SNR=12
BDQN Bodoquena, MS 54.57 130 *eP* **P** **03 33 02.0 -0.5**
BGLC Bering Glacier 54.70 334 P **P** **03 33 05.4 +2.4**
baz=124
MURT Porto Murtinho 54.71 132 *eP* **P** **03 33 02.9 -0.7**
K29M Barlow Dome 54.84 340 P **P** **03 33 03.4 -0.6**
K29M IAmb IAmb 03 33 06.7
comp=Z,34nm,1.5s
K29M Barlow Dome 54.84 340 P **P** **03 33 03.8 -0.3**
baz=132
J30M Hart River 54.95 341 P **P** **03 33 05.2 +0.3**
J30M IAmb IAmb 03 33 08.6
comp=Z,22nm,1.5s
J30M Hart River 54.95 341 P **P** **03 33 06.1 +1.2**
baz=134
CRQE Cirque 54.98 335 P **P** **03 33 06.4 +1.3**
baz=124
KAIM Kayak Island 55.07 334 P **P** **03 33 06.9 +1.2**
baz=122
BVCY Beaver Creek 55.09 337 P **P** **03 33 06.9 +1.1**
baz=128
H31M Peel River 55.24 343 P **P** **03 33 06.2 -0.6**
H31M IAmb IAmb 03 33 09.0
comp=Z,31nm,1.5s
H31M Peel River 55.24 343 P **P** **03 33 07.2 +0.3**
baz=136
MCARA McCarthy VSAT 55.31 336 P **P** **03 33 08.5 +1.1**
baz=125
AQDB Aquidauana 55.36 130 P **P** **03 33 08.8 +0.5**
AQDB Aquidauana 55.36 130 *eP* **P** **03 33 07.7 -0.7**

I30M Mount Dempster 55.42 342 P **P** **03 33 08.0 -0.3**
I30M IAmb IAmb 03 33 10.3
comp=Z,15nm,1.1s
I30M Mount Dempster 55.42 342 P **P** **03 33 08.2 0.0**
baz=134
M27K Edge Creek, AK 55.43 337 P **P** **03 33 08.3 -0.1**
M27K IAmb IAmb 03 33 11.6
comp=Z,49nm,1.8s
M27K Edge Creek, AK 55.43 337 P **P** **03 33 09.1 +0.6**
baz=126
DAWY Dawson 55.61 340 P **P** **03 33 09.7 +0.1**
DAWY Dawson 55.61 340 P **P** **03 33 09.1 -0.5**
baz=130,SNR=5.5
Q23K Middleton Isla 55.66 333 P **P** **03 33 09.6 -0.2**
baz=120
BMRM Bremner River 55.71 335 P **P** **03 33 10.9 +0.5**
baz=123
BCAR Beaver Creek A 55.82 338 P **P** **03 33 10.9 -0.2**
L27K Beaver Creek, 55.84 338 P **P** **03 33 10.4 -0.8**
L27K IAmb IAmb 03 33 14.0
comp=Z,15nm,1.1s
L27K Beaver Creek, 55.84 338 P **P** **03 33 11.3 +0.2**
baz=127
M26K Nabesna, AK 55.88 337 P **P** **03 33 11.0 -0.5**
M26K IAmb IAmb 03 33 14.5
comp=Z,28nm,1.4s
M26K Nabesna, AK 55.88 337 P **P** **03 33 11.1 -0.5**
baz=125
G31M Satah River 56.03 344 P **P** **03 33 12.4 -0.1**
G31M IAmb IAmb 03 33 14.4
comp=Z,28nm,1.3s
G31M Satah River 56.03 344 P **P** **03 33 12.3 -0.2**
baz=137,SNR=7.9
N25K Chitina, Valde 56.06 335 P **P** **03 33 12.4 -0.5**
N25K IAmb IAmb 03 33 16.3
comp=Z,18nm,1.1s
N25K Chitina, Valde 56.06 335 P **P** **03 33 13.0 +0.2**
baz=123
I29M Ogilvie Camp, 56.11 341 P **P** **03 33 13.0 -0.1**
I29M Ogilvie Camp, 56.11 341 P **P** **03 33 13.9 +0.8**
baz=132,SNR=5.5
F31M Tsiigehtchic 56.28 344 P **P** **03 33 14.4 +0.3**
F31M IAmb IAmb 03 33 16.7
comp=Z,46nm,1.7s
F31M Tsiigehtchic 56.28 344 P **P** **03 33 13.4 -0.8**
baz=138,SNR=8.7
EPYK Eagle Plains 56.32 342 P **P** **03 33 15.0 +0.3**
baz=134
L26K Log Cabin Wild 56.37 337 P **P** **03 33 14.3 -0.7**
L26K IAmb IAmb 03 33 17.8
comp=Z,18nm,1.3s
L26K Log Cabin Wild 56.37 337 P **P** **03 33 15.2 +0.2**
baz=125,SNR=5.8
P23K Montague Islan 56.40 333 P **P** **03 33 15.0 -0.2**
baz=119
K27K Chicken 56.51 339 P **P** **03 33 17.0 +1.1**
K27K Chicken 56.51 339 P **P** **03 33 16.1 +0.2**
baz=127
KLU Klutina 56.53 335 P **P** **03 33 16.3 +0.1**
KLU IAmb IAmb 03 33 25.4
comp=Z,17nm,1.0s
KLU Klutina 56.53 335 P **P** **03 33 17.0 +0.8**
baz=122,SNR=6.1
EGAK Eagle 56.65 340 P **P** **03 33 17.1 +0.2**
EGAK IAmb IAmb 03 33 18.8
comp=Z,15nm,1.1s
EGAK Eagle 56.65 340 P **P** **03 33 17.9 +1.0**
baz=128,SNR=6.1
I28M Miner Creek 56.68 341 P **P** **03 33 18.2 +0.9**
baz=139
H29M Whitestone 56.70 342 P **P** **03 33 17.4 +0.2**
H29M IAmb IAmb 03 33 19.3
comp=Z,27nm,1.2s
H29M Whitestone 56.70 342 P **P** **03 33 18.0 +0.7**
baz=132
HARP HAARP 56.71 336 P **P** **03 33 16.8 -0.7**
baz=123
INK Inuvik 56.87 345 P **P** **03 33 17.8 -0.6**
INK IAmb IAmb 03 33 20.0
comp=Z,22nm,1.1s
INK Inuvik 56.87 345 P **P** **03 33 18.2 -0.2**
baz=138,SNR=15
INK Inuvik 56.87 345 P **P** **03 33 17.8 -0.6**
INK pmax pmax
comp=Z,22nm,1.2s
F30M Barrier River 56.94 344 P **P** **03 33 18.4 -0.5**
baz=136,SNR=6.5
M24K Tolsona, Glenn 56.96 335 P **P** **03 33 19.7 +0.5**
baz=122
G29M Pine Creek 57.07 343 P **P** **03 33 19.7 -0.2**
G29M IAmb IAmb 03 33 48.6
comp=Z,52nm,2.0s
G29M Pine Creek 57.07 343 P **P** **03 33 18.5 -1.4**
baz=133
PAX Paxson 57.15 336 P **P** **03 33 21.0 +0.4**
baz=123,SNR=9.3
SCRK Sand Creek 57.16 338 P **P** **03 33 19.6 -1.1**
SCRK IAmb IAmb 03 33 23.4
comp=Z,24nm,1.3s
SCRK Sand Creek 57.16 338 P **P** **03 33 22.6 +1.9**
baz=125,SNR=12
J26L Joseph Creek 57.31 339 P **P** **03 33 22.1 +0.3**
J26L Joseph Creek 57.31 339 P **P** **03 33 23.3 +1.6**
baz=126
I27K Kandik River 57.32 340 P **P** **03 33 22.4 +0.7**
baz=128
RIDG Independent Ri 57.34 337 P **P** **03 33 22.4 +0.5**
RIDG Independent Ri 57.34 337 P **P** **03 33 23.5 +1.7**
baz=124,SNR=12
I26K Coal Creek Min 57.65 339 P **P** **03 33 24.1 +0.1**
I26K IAmb IAmb 03 33 26.1
comp=Z,16nm,1.2s
I26K Coal Creek Min 57.65 339 P **P** **03 33 25.0 +1.1**
baz=127
H27K Steamboat Moun 57.68 341 P **P** **03 33 25.5 +1.3**
baz=129
SML Sawmill 57.68 334 P **P** **03 33 24.4 0.0**
SML IAmb IAmb 03 33 33.1
comp=Z,33nm,1.2s
SML Sawmill 57.68 334 P **P** **03 33 24.3 0.0**
K24K Donnelly Dome 57.72 337 P **P** **03 33 23.8 -0.7**
baz=123
BRSE Bradley Lake S 57.78 332 P **P** **03 33 24.4 -0.6**
baz=116
WAT6 Susitna Watana 57.83 335 P **P** **03 33 24.1 -1.4**
baz=120,SNR=7.4
KDAK Kodiak Island 57.85 329 P **P** **03 33 24.1 -1.3**
baz=119
KDAK Kodiak Island 57.85 329 *c* P **P** **03 33 26.0 +0.5**
KDAK pmax pmax
comp=Z,44nm,1.7s
BRLK Bradley Lake 57.85 332 P **P** **03 33 25.9 +0.3**
BRLK IAmb IAmb 03 33 27.8
comp=Z,41nm,1.2s
GHO Glory Hole Cre 57.91 334 P **P** **03 33 25.9 -0.1**
GHO IAmb IAmb 03 33 35.3
comp=Z,24nm,1.0s
PMR Palmer 57.91 334 P **P** **03 33 26.2 +0.4**
PMR IAmb IAmb 03 33 28.1
comp=Z,36nm,1.4s
PMR Palmer 57.91 334 P **P** **03 33 25.3 -0.5**
baz=118
PMR Palmer 57.91 334 P **P** **03 33 26.3 +0.4**
PMR pmax pmax
comp=Z,36nm,1.4s
RC01 Rabbit Creek A 57.94 333 P **P** **03 33 25.5 -0.6**
baz=117
DHY Denali Highway 57.94 336 P **P** **03 33 24.8 -1.4**
baz=121
CPUP Villa Florida 57.95 136 P **P** **03 33 26.9 +0.3**
comp=Z,1.6nm,0.8s,baz=327,slow=11,SNR=2.9
comp=Z,1.6nm,0.8s
OHAK Old Harbor 57.98 328 P **P** **03 33 25.4 -1.0**
baz=112
J25K Salcha River, 58.02 338 P **P** **03 33 26.2 -0.4**
J25K IAmb IAmb 03 33 29.2
comp=Z,17nm,1.4s
J25K Salcha River, 58.02 338 P **P** **03 33 25.9 -0.8**
baz=124,SNR=5.8
E29M Blow River 58.06 344 P **P** **03 33 27.2 +0.4**
E29M IAmb IAmb 03 33 28.9
comp=Z,35nm,1.4s
E29M Blow River 58.06 344 P **P** **03 33 25.7 -1.1**
baz=134,SNR=10
F28M Old Crow 58.08 343 P **P** **03 33 26.5 -0.5**
F28M IAmb IAmb 03 33 29.2
comp=Z,43nm,1.4s
F28M Old Crow 58.08 343 P **P** **03 33 25.9 -1.1**
baz=131,SNR=16
G27K Doyon Strip 58.09 341 P **P** **03 33 26.5 -0.6**
G27K IAmb IAmb 03 33 29.0
comp=Z,32nm,1.8s
G27K Doyon Strip 58.09 341 P **P** **03 33 25.4 -1.7**
baz=129
A36M Sachs Harbour 58.19 350 P **P** **03 33 26.9 -0.7**
A36M IAmb IAmb 03 33 28.7
comp=Z,20nm,1.1s
A36M Sachs Harbour 58.19 350 P **P** **03 33 25.5 -2.1**
baz=149,SNR=6.3
SII Sitkinak Islan 58.20 327 P **P** **03 33 27.3 -0.7**
baz=110
WAT1 Susitna Watana 58.28 335 P **P** **03 33 27.2 -1.3**
baz=120
M22K Willow 58.41 334 P **P** **03 33 29.4 0.0**
M22K Willow 58.41 334 P **P** **03 33 29.7 +0.4**
baz=117
HDA Harding Lake 58.48 338 P **P** **03 33 30.4 +0.5**
HDA IAmb IAmb 03 33 31.7
comp=Z,40nm,1.5s
HDA Harding Lake 58.48 338 P **P** **03 33 28.8 -1.0**
baz=122,SNR=8.3
HDA P **P** **03 33 28.8 -1.0**
baz=122,SNR=8.3
SUA Susitna One 58.54 333 P **P** **03 33 29.1 -1.3**
baz=117
PRP Porcupine Dome 58.58 339 P **P** **03 33 30.9 +0.2**
PRP IAmb IAmb 03 33 32.9
comp=Z,39nm,1.3s
PRP Porcupine Dome 58.58 339 P **P** **03 33 29.2 -1.5**
baz=124,SNR=7.4
E28M Babbage River 58.65 344 P **P** **03 33 30.6 -0.4**
E28M IAmb IAmb 03 33 32.5
comp=Z,32nm,1.6s
E28M Babbage River 58.65 344 P **P** **03 33 31.3 +0.4**
baz=132
IL31 58.65 338 P **P** **03 33 31.1 +0.2**
ILAR Eielson Array 58.65 338 *eP* **P** **03 33 31.6 +0.6**
ILAR pmax pmax
comp=Z,16nm,1.2s
ILAR Eielson Array 58.65 338 P **P** **03 33 31.2 +0.2**
comp=Z,16nm,1.2s,baz=144,slow=4.8,SNR=51
comp=Z,16nm,1.2s
RND Reindeer 58.68 336 P **P** **03 33 31.3 -0.1**
RND Reindeer 58.68 336 P **P** **03 33 31.3 -0.1**
RND pmax pmax
comp=Z,62nm,1.3s
RES Resolute Bay 58.71 1 P **P** **03 33 30.7 -0.5**
comp=Z,2.1nm,0.9s,baz=196,slow=9.2,SNR=5.3
comp=Z,2.1nm,0.9s
BDFB Brasilia 58.77 120 P **P** **03 33 33.8 +1.1**
BDFB IAmb IAmb 03 33 41.2
comp=Z,25nm,1.4s
BDFB Brasilia 58.77 120 P **P** **03 33 33.8 +1.1**
BDFB pmax pmax
comp=Z,25nm,1.4s
BDFB Brasilia 58.77 120 P **P** **03 33 33.4 +0.8**
comp=Z,6.1nm,0.7s,baz=257,slow=4.2,SNR=9.6
comp=Z,6.1nm,0.7s
CUT Chulitna 58.77 335 P **P** **03 33 32.4 +0.5**
CUT Chulitna 58.77 335 P **P** **03 33 30.1 -1.8**
baz=118
G26K Porcupine Rive 58.84 341 P **P** **03 33 31.6 -0.7**
baz=127
MCK McKinley 58.88 336 P **P** **03 33 31.4 -1.3**
baz=120,SNR=6.7
CCB Clear Creek Bu 58.92 338 P **P** **03 33 32.8 -0.1**
CCB IAmb IAmb 03 33 34.7
comp=Z,45nm,2.0s
D28M Stokes Point 58.93 344 P **P** **03 33 30.6 -2.2**
baz=133
E27K Coleen River 58.95 343 P **P** **03 33 33.2 +0.1**
E27K IAmb IAmb 03 33 35.3
comp=Z,35nm,1.4s
E27K Coleen River 58.95 343 P **P** **03 33 31.4 -1.7**
baz=130
RSO Redoubt South 58.99 332 P **P** **03 33 33.5 -0.2**
COLA College 59.05 338 P **P** **03 33 31.1 -2.7**
baz=121
N20K Mount Spurr 59.06 333 P **P** **03 33 32.2 -1.8**
baz=115
SKT Skwentna 59.11 334 P **P** **03 33 34.4 +0.1**
SKT Skwentna 59.11 334 P **P** **03 33 32.2 -2.1**
baz=116,SNR=6.1
MDM Murphy Dome 59.24 338 P **P** **03 33 35.1 0.0**
MDM IAmb IAmb 03 33 54.6
comp=Z,14nm,1.4s
TRF Thorofare Moun 59.27 336 P **P** **03 33 36.1 +0.5**
TRF Thorofare Moun 59.27 336 P **P** **03 33 33.8 -1.7**
baz=118,SNR=9.5
BWN Browne 59.30 337 P **P** **03 33 35.9 +0.3**
NEA2 Nenana 59.36 337 P **P** **03 33 36.2 +0.2**
NEA2 Nenana 59.36 337 P **P** **03 33 33.8 -2.1**
baz=120
Q18K Katmai Hardscr 59.36 329 P **P** **03 33 34.4 -1.8**
baz=111
PCMB Pacaembu 59.37 128 *eP* **P** **03 33 36.1 -0.5**
BMAR Burnt Mountain 59.38 341 P **P** **03 33 36.9 +0.8**
F26K Sheenjek River 59.40 341 P **P** **03 33 33.3 -2.9**
baz=127
D27M Malcolm River 59.46 344 P **P** **03 33 36.7 +0.1**
D27M IAmb IAmb 03 33 38.6
comp=Z,38nm,1.6s
D27M Malcolm River 59.46 344 P **P** **03 33 34.3 -2.4**
baz=131
G25K Bearman Lake 59.48 340 P **P** **03 33 35.1 -1.6**
baz=124
KTH Kantishna Hill 59.57 336 P **P** **03 33 37.5 0.0**
KTH IAmb IAmb 03 33 39.2
comp=Z,21nm,1.1s
H24K Noodor Dome 59.57 339 P **P** **03 33 37.5 0.0**
H24K Noodor Dome 59.57 339 P **P** **03 33 37.6 +0.1**
baz=122
SFJD Kangerlussuaq 59.57 20 *i* P **P** **03 33 37.0 -0.3**
SFJD IAmb IAmb 03 33 39.4
comp=Z,8.5nm,0.8s
SFJD Kangerlussuaq 59.57 20 P **P** **03 33 38.1 +0.8**
comp=Z,12nm,0.8s,baz=171,slow=12,SNR=3.6
comp=Z,12nm,0.8s
O19K Port Alsworth 59.60 331 P **P** **03 33 37.8 +0.1**
baz=112
Q17K Contact Creek 59.66 329 P **P** **03 33 35.0 -3.3**
baz=110
I23K Minto, Yukon-K 59.74 338 P **P** **03 33 39.1 +0.5**
I23K Minto, Yukon-K 59.74 338 P **P** **03 33 36.7 -1.8**
baz=120,SNR=12
M20K Styx River 59.75 333 P **P** **03 33 37.5 -1.3**
baz=114,SNR=5.3
PPLA Purkeypile 59.78 335 P **P** **03 33 37.4 -1.7**
baz=116
F25K Christian Rive 59.80 341 P **P** **03 33 37.0 -2.0**
baz=125,SNR=9.9
BPAW Bear Paw Mtn. 59.85 336 P **P** **03 33 39.6 +0.3**
BPAW IAmb IAmb 03 33 41.0
comp=Z,21nm,1.3s
BPAW Bear Paw Mtn. 59.85 336 P **P** **03 33 36.9 -2.4**
baz=118
O18K Koktuh Hills 59.89 331 P **P** **03 33 39.2 -0.5**
baz=111
SDBA SAO DESIDERIO 59.89 115 *eP* **P** **03 33 40.9 +0.5**
G24K Hadweenzic Riv 59.90 340 P **P** **03 33 40.2 +0.5**
G24K IAmb IAmb 03 33 48.5
comp=Z,18nm,1.1s
G24K Hadweenzic Riv 59.90 340 P **P** **03 33 38.0 -1.6**
baz=123
N19K Bonanza Creek 59.92 332 P **P** **03 33 40.3 +0.3**
N19K Bonanza Creek 59.92 332 P **P** **03 33 39.0 -1.0**
baz=112
CAST Castle Rocks 59.97 335 P **P** **03 33 40.2 -0.1**
CAST Castle Rocks 59.97 335 P **P** **03 33 39.3 -0.9**
baz=116,SNR=11
E25K Arctic Village 60.09 341 P **P** **03 33 41.8 +0.8**
E25K Arctic Village 60.09 341 P **P** **03 33 40.7 -0.2**
baz=125,SNR=7.3
Q16K King Salmon 60.18 329 P **P** **03 33 42.7 +1.1**
baz=109
MLY Manley 60.20 337 P **P** **03 33 42.4 +0.6**
MLY Manley 60.20 337 P **P** **03 33 41.6 -0.1**
baz=118,SNR=13
P17K Kvichak River 60.25 330 P **P** **03 33 41.1 -1.0**
baz=110
CHUM Lake Minchumin 60.27 336 P **P** **03 33 39.5 -2.7**
baz=116
L20K Farewell, AK 60.31 334 P **P** **03 33 40.8 -1.8**

baz=114
F24K Squaw Lake 60.48 340 P P 03 33 42.0 -1.7
baz=123
N18K Kilae Creek 60.51 331 P P 03 33 44.4 +0.4
N18K Kilae Creek 60.51 331 P P 03 33 43.1 -0.9
baz=111
I21K Tanana 60.73 337 P P 03 33 45.9 +0.6
I21K Tanana 60.73 337 P P 03 33 45.0 -0.3
baz=117,SNR=6.3
K20K Telida 60.76 335 P P 03 33 45.4 -0.1
K20K IAmb IAmb 03 33 52.0
comp=Z,26nm,1.2s
K20K Telida 60.76 335 P P 03 33 45.5 -0.1
baz=114
O17K Koliganek Bris 60.76 330 P P 03 33 45.1 -0.5
baz=109
DY2G Dye2 60.76 21 *i* P P 03 33 44.8 -1.0
DY2G IAmb IAmb 03 33 53.1
comp=Z,8.6nm,0.6s
G23K Bananza Creek 60.77 339 P P 03 33 46.1 +0.5
G23K IAmb IAmb 03 33 47.7
comp=Z,24nm,1.4s
G23K Bananza Creek 60.77 339 P P 03 33 46.6 +1.0
baz=120
M18K Stony River 60.77 332 P P 03 33 45.2 -0.5
baz=112
H22K Ishtalitna Cre 60.84 338 P P 03 33 45.1 -1.0
baz=118
P16K Nushagak River 60.95 329 P P 03 33 46.7 -0.1
baz=108
S14K Fog Glacier 60.96 326 P P 03 33 45.8 -1.4
baz=105
C26K Camden Bay 60.96 343 P P 03 33 45.8 -1.0
baz=127
E24K Your Creek 60.97 341 P P 03 33 47.8 +0.8
E24K IAmb IAmb 03 33 49.4
comp=Z,24nm,1.4s
E24K Your Creek 60.97 341 P P 03 33 47.4 +0.4
baz=122
D25K Kavik River 61.02 342 P P 03 33 47.4 +0.1
D25K IAmb IAmb 03 33 49.5
comp=Z,16nm,1.1s
D25K Kavik River 61.02 342 P P 03 33 46.5 -0.8
baz=125
N17K Nushagak Hills 61.05 331 P P 03 33 48.0 +0.4
baz=110
COLD Coldfoot 61.09 340 P P 03 33 47.3 -0.4
baz=120,SNR=6.4
J20K Nowinta River 61.13 336 P P 03 33 48.2 +0.2
J20K Nowinta River 61.13 336 P P 03 33 47.7 -0.3
baz=115
O16K Kokwok River B 61.18 330 P P 03 33 48.6 +0.1
baz=108
H21K Melozitna River 61.26 337 P P 03 33 49.2 +0.2
H21K IAmb IAmb 03 33 50.4
comp=Z,13nm,1.1s
H21K Melozitna River 61.26 337 P P 03 33 49.1 +0.2
baz=117
E23K Chandalar 61.32 340 P P 03 33 47.7 -1.7
baz=121
G22K Bettles 61.38 339 P P 03 33 49.0 -0.7
baz=119
TTA Tatalina 61.40 334 P P 03 33 50.2 +0.2
baz=112
L18K Granite Mounta 61.42 333 P P 03 33 50.1 0.0
L18K Granite Mounta 61.42 333 P P 03 33 50.1 0.0
baz=111
M17K Holitna River 61.47 332 P P 03 33 50.2 -0.2
baz=110
I20K Naaghedeneel 61.52 336 P P 03 33 50.1 -0.6
baz=115
J19K Poorman 61.65 335 P P 03 33 51.7 +0.2
J19K IAmb IAmb 03 33 57.8
comp=Z,23nm,0.9s
J19K Poorman 61.65 335 P P 03 33 51.8 +0.2
baz=113
D24K Happy Valley 61.66 342 P P 03 33 52.5 +1.0
D24K IAmb IAmb 03 33 53.5
comp=Z,30nm,1.6s
D24K Happy Valley 61.66 342 P P 03 33 52.0 +0.4
baz=122
N16K Nishlik Lake 61.78 331 P P 03 33 53.5 +0.9
baz=108
J18K Innoko River 61.89 334 P P 03 33 51.8 -1.5
baz=112
F22K John River 61.89 339 P P 03 33 54.0 +0.8
baz=118
O15K Ungalikthiuk R 61.90 329 P P 03 33 52.6 -0.8
baz=106
G21K Allakaket 61.90 338 P P 03 33 54.4 +1.2
G21K IAmb IAmb 03 33 59.8
comp=Z,27nm,1.4s
G21K Allakaket 61.90 338 P P 03 33 53.7 +0.5
baz=116
H20K Anotleneega Mo 61.96 337 P P 03 33 54.2 +0.5
baz=114
M16K Timber Creek 62.04 331 P P 03 33 54.9 +0.7
baz=108
PLCA Paso Flores 62.06 156 *e*P P 03 33 58.1 +3.4
PLCA pmax pmax
comp=Z,3.0nm,0.7s
PLCA Paso Flores 62.06 156 P P 03 33 56.7 +2.1
comp=Z,2.6nm,0.7s,baz=328,slow=7.3,SNR=3.0
comp=Z,2.6nm,0.7s
E22K Anaktuvuk Pass 62.07 340 P P 03 33 55.2 +0.7
E22K IAmb IAmb 03 33 56.5
comp=Z,21nm,1.4s
E22K Anaktuvuk Pass 62.07 340 P P 03 33 52.5 -2.0
baz=119
D23K Nanushuk River 62.13 341 P P 03 33 54.3 -0.4
baz=120
F21K Alatna River 62.21 339 P P 03 33 56.0 +0.7
F21K Alatna River 62.21 339 P P 03 33 53.7 -1.6
baz=117,SNR=18
GCSA Galena City Sc 62.44 336 P P 03 33 56.3 -0.6
baz=112
L16K Owhat River 62.49 332 P P 03 33 55.9 -1.4
baz=108
C23K Itkillik River 62.55 342 P P 03 33 58.0 +0.5
C23K Itkillik River 62.55 342 P P 03 33 55.9 -1.6
baz=121
H19K Roundabout Mou 62.58 337 P P 03 33 55.7 -2.1
baz=113
D22K Ayikyak River 62.71 341 P P 03 33 59.1 +0.5
D22K Ayikyak River 62.71 341 P P 03 33 57.0 -1.6
baz=118
F20K Avaraart Lake 62.92 338 P P 03 34 00.4 +0.4
F20K IAmb IAmb 03 34 02.2
comp=Z,26nm,1.3s
F20K Avaraart Lake 62.92 338 P P 03 33 58.8 -1.2
baz=114
E21K Killik River 62.93 340 P P 03 34 00.8 +0.7
E21K Killik River 62.93 340 P P 03 33 57.9 -2.2
baz=117
G19K Purcell Mounta 63.06 337 P P 03 34 00.6 -0.4
G19K IAmb IAmb 03 34 02.6
comp=Z,28nm,1.1s
G19K Purcell Mounta 63.06 337 P P 03 33 59.7 -1.2
baz=113
H18K Honhosa River 63.18 336 P P 03 33 58.2 -3.6
baz=111
VAO Valinhos 63.44 126 *e*P P 03 34 04.3 +0.1
J16K Anvik River 63.48 333 P P 03 34 02.4 -1.4
baz=108
C21K Knifeblade Rid 63.51 341 P P 03 34 03.8 -0.1
baz=116
G18K Tagagawik 63.56 337 P P 03 34 02.8 -1.5
baz=111
F19K Shaleruckik Mo 63.58 338 P P 03 34 02.6 -1.8
baz=112
E20K Nigu River 63.59 339 P P 03 34 02.3 -2.3
baz=114
E19K Redstone River 63.62 338 P P 03 34 02.9 -1.9
baz=113
B22K Teshekpuk Lake 63.64 342 P P 03 34 04.9 +0.2
B22K IAmb IAmb 03 34 06.2
comp=Z,25nm,1.2s
B22K Teshekpuk Lake 63.64 342 P P 03 34 03.7 -1.0
baz=118
B21K Ikpikpuk River 63.67 341 P P 03 34 05.3 +0.4
B21K Ikpikpuk River 63.67 341 P P 03 34 02.8 -2.2
baz=117
I17K Unalakleet 63.70 334 P P 03 34 03.5 -1.7
baz=108
H17K Granite Mounta 63.72 335 P P 03 34 04.8 -0.6
baz=109
D20K Etivluk River 63.92 340 P P 03 34 05.4 -1.3
baz=114
M13K Dall Lake 63.94 330 P P 03 34 05.8 -1.0
baz=104
ICESG Greenland Ices 64.19 20 *i* P P 03 34 08.1 -0.7
ICESG IAmb IAmb 03 34 17.4
comp=Z,30nm,0.9s
G17K Kiwalik Mounta 64.20 336 P P 03 34 08.8 +0.3
baz=109
EUNU Eureka 64.31 2 P P 03 34 08.8 -0.3
D19K Kuna River 64.34 339 P P 03 34 10.0 +0.5
D19K IAmb IAmb 03 34 11.1
comp=Z,20nm,1.2s
D19K Kuna River 64.34 339 P P 03 34 09.3 -0.1
baz=113
A22K Sinclair Lake 64.41 342 P P 03 34 09.9 +0.2
baz=117
B20K Meade River 64.63 341 P P 03 34 11.7 +0.4
B20K Meade River 64.63 341 P P 03 34 11.5 +0.2
baz=114
E18K Tuspahlearik C 64.82 338 P P 03 34 12.5 -0.1
baz=110
NEEM North Greenlan 65.78 10 *i* P P 03 34 18.7 -0.3
NEEM IAmb IAmb 03 34 27.7
comp=Z,17nm,0.8s
SUMG Summit 65.99 17 P P 03 34 20.3 -0.2
SUMG Summit 65.99 17 P P 03 34 20.3 -0.2
SUMG pmax pmax
comp=Z,32nm,1.2s
SUMG Summit 65.99 17 *i* P P 03 34 20.0 -0.6
SUMG IAmb IAmb 03 34 30.1
comp=Z,9.9nm,0.8s
DAG Danmarks Havn 72.15 14 *i* P P 03 34 57.0 -1.2
DAG IAmb IAmb 03 35 05.2
comp=Z,4.6nm,0.7s
PCAS Casmilo, Conde 79.74 51 *e*P P 03 35 43.4 +1.1
comp=Z,40nm,1.6s
PCAS *e*pP PcP 03 35 48.3 -1.7
COI Coimbra 79.77 51 P P 03 35 43.4 +1.0
EKA Eskdalemuir Ar 79.88 35 P P 03 35 42.4 -0.4
comp=Z,2.8nm,0.9s,baz=289,slow=5.2,SNR=6.0
comp=Z,2.8nm,0.9s
POLO Lamas de Olo 79.98 50 *e*P P 03 35 44.1 +0.4
comp=Z,11nm,1.7s
POLO *e*pP pwP 03 35 48.9 +3.9
PVIS Viseu 80.05 51 *e*P P 03 35 43.4 -0.6
PFVI Vila Bisbo 80.11 54 *e*pP pP 03 35 51.2 +5.5
PNCL Nicolau / Gran 80.13 53 *e*P P 03 35 46.0 +1.6
PNCL *e*pP PcP 03 35 51.1 -0.6
PMTG Montargil 80.15 52 *e*P P 03 35 45.1 +0.6
comp=Z,24nm,1.7s
MORF Marmelete 80.21 54 *e*P P 03 35 49.8 +4.9
comp=Z,27nm,2.0s
MTE Manteigas 80.38 51 *e*P P 03 35 44.3 -1.5
comp=Z,25nm,1.9s
MESJ Messejana 80.43 53 *e*P P 03 35 46.8 +0.8
comp=Z,16nm,1.6s
MESJ Messejana 80.43 53 P P 03 35 46.6 +0.6
EVO Evora 80.43 53 *e*P P 03 35 46.9 +0.8
comp=Z,21nm,1.6s
EVO *e*pP PcP 03 35 51.8 -1.3
PCBR Castelo Branco 80.55 51 *e*P P 03 35 47.5 +0.9
comp=Z,22nm,1.8s
PCBR *e*pP pwP 03 35 52.0 +4.0
PCVE Castro Verde 80.61 54 *e*P P 03 35 48.0 +1.0
comp=Z,19nm,1.4s
PCVE *e*pP PcP 03 35 55.8 +1.9
PBEJ Beja 80.66 53 *e*P P 03 35 47.9 +0.6
comp=Z,18nm,1.9s
PBEJ *e*pP PcP 03 35 53.3 -0.8
PMRV Marv??o 80.71 52 *e*P P 03 35 48.2 +0.7
comp=Z,22nm,1.5s
PBDV Barranco-do-Ve 80.78 54 *e*P P 03 35 49.2 +1.2
comp=Z,24nm,1.7s
PBDV *e*pP PcP 03 35 54.9 +0.2
PBAR Barrancos 81.26 53 *e*P P 03 35 51.3 +0.8
comp=Z,26nm,1.7s
PAB San Pablo 82.96 51 P P 03 35 59.6 +0.1
PAB IAmb IAmb 03 36 01.5
comp=Z,19nm,1.3s
PAB San Pablo 82.96 51 P P 03 35 59.6 +0.1
PAB pmax pmax
comp=Z,19nm,1.3s
ESDC Sonseca Array 83.22 51 P P 03 36 00.8 -0.1
ESDC IAmb IAmb 03 36 01.9
comp=Z,13nm,1.4s
ESDC Sonseca Array 83.22 51 P P 03 36 00.8 -0.1
comp=Z,2.6nm,1.0s,baz=306,slow=5.0,SNR=12
comp=Z,2.6nm,1.0s
SEY Seymchan 84.36 334⇑ *i*P P 03 36 07.8 +1.7
SEY pmax pmax
comp=Z,6.0nm,1.5s
CLF Chambon-Foret 85.14 41 P P 03 36 09.6 -0.7
NOA NORSAR Array B 85.24 27 P P 03 36 11.5 +0.9
comp=Z,2.8nm,1.1s,baz=298,slow=5.1,SNR=3.6
comp=Z,2.8nm,1.1s
DOU Dourbes 85.91 39 *d*P P 03 36 15.5 +1.4
BMRD Maredsous 85.94 39 *d*P P 03 36 14.9 +0.6
comp=Z,5.9nm,1.4s
BGES Gesves 86.10 39 *d*P P 03 36 16.0 +1.0
comp=Z,6.0nm,1.6s
BCLA Clavier 86.22 39 *d*P P 03 36 17.1 +1.4
comp=Z,4.3nm,1.4s
RCHB Rochefort 86.27 39 *d*P P 03 36 16.1 +0.2
BSTI Sart Tilman 86.32 38 *d*P P 03 36 17.1 +0.9
MEM Membach 86.57 38 *d*P P 03 36 18.8 +1.5
HFS Hagfors 86.73 28 P P 03 36 17.7 -0.2
comp=Z,1.4nm,0.8s,baz=339,slow=7.7,SNR=1.3
comp=Z,1.4nm,0.8s
TIXI Tiksi 86.97 347 P P 03 36 17.7 -1.2
TIXI IAmb IAmb 03 36 20.0
comp=Z,22nm,1.4s
TIXI Tiksi 86.97 347 P P 03 36 17.7 -1.2
TIXI pmax pmax
comp=Z,22nm,1.4s
WLF Walferdange 87.00 39 *d*P P 03 36 20.3 +0.9
TIC Toumodi 91.33 83⇑ *e*P P 03 36 40.7 +0.1
comp=Z,13nm,1.0s
LIC Lamto 91.44 83⇑ *e*P P 03 36 41.3 +0.2
comp=Z,18nm,1.1s
KHC Kasperske Hory 91.65 38⇑ *i*P P 03 36 42.6 +1.1
KHC pmax pmax
comp=Z,4.0nm,1.0s
KIC Kosan Boka 91.68 83⇑ *e*P P 03 36 42.4 +0.2
comp=Z,13nm,1.0s
MORC Moravsky Berou 93.62 36 P P 03 36 50.1 -0.4
MORC IAmb IAmb 03 36 53.0
comp=Z,13nm,1.6s
MORC Moravsky Berou 93.62 36 P P 03 36 50.1 -0.4
MORC pmax pmax
comp=Z,13nm,1.6s
URZ Urewera 95.60 232 LR LR 04 13 04.2
comp=Z,153nm,18.3s,baz=126,slow=31
PRGR Permogore 97.50 16 *e*P Pdif 03 37 10.2 +2.3
PRGR pmax pmax
comp=Z,17nm,1.1s
MDJ Mudanjiang 105.59 327 Pdif **Pdif** 03 37 48.5 +4.2
MDJ pP sPdif 03 37 50.0 +3.9
MDJ sP pPdif 03 37 54.4 +8.7
MDJ PP **PP** **03 42 06.3 +0.6**
MDJ Mudanjiang 105.59 327 SKS **SKSdf** **03 49 18.0 +7.7**
MDJ Mudanjiang 105.59 327 SS SS 03 57 04.3 +0.7
MDJ AMB AMB
comp=Z,1μm,10.1s
HHC Hu-ho-hao-te 117.01 335 *e*P **PKiKP** **03 42 19.1 -0.4**
WMQ Urumqi 120.21 355 *e*P **PKiKP** **03 42 30.0 +4.4**
NJ2 Nanjing 120.41 324 *e*P **PKiKP** **03 42 30.8 +4.6**
NJ2 pmax pmax
comp=Z,17nm,0.5s
WRA Warramunga Arr 129.93 257 **PKiKP** **03 42 45.2 -0.2**
WRA Warramunga Arr 129.93 257 PKIKP **PKiKP** **03 42 45.2 -0.2**
WRA Warramunga Arr 129.93 257 PKP **PKiKP** **03 42 44.6 -0.9**
comp=Z,2.5nm,0.8s,baz=87,slow=2.3,SNR=6.6
ASAR Alice Springs 130.52 252 PKP **PKiKP** **03 42 45.6 -0.9**
comp=Z,1.7nm,0.8s,baz=94,slow=2.3,SNR=6.9
PZH PanZhiHua 133.47 335 PKP **PKiKP** **03 42 54.8 +2.2**
CMAR Chiang Mai Arr 141.77 333 PKP **PKiKP** **03 43 06.6 -3.0**
comp=Z,1.0nm,0.4s,baz=320,slow=2.4,SNR=1.0
HYB Hyderabad 146.64 5 *e*PKPbc **PKPbc** **03 43 15.6 -1.2**
HYB epPKPbc pPKPab 03 43 20.6 +1.5
HYB ePP **PP** **03 46 39.6 +1.5**
ABPO Ambohimpanom 147.02 100 **PKPab** **03 43 17.6 -1.9**
ABPO Ambohimpanom 147.02 100 PKP2 **PKPab** **03 43 17.6 -1.9**

*IDC **21** 03:40:51.4±0.5, 30.°71N×131.°98E, h0km, mb4.7/28,*

mbtmp4.7/34, ML4.0/6, MS4.8/25, Error ellipse: s-maj=14.4km s-min=11.7km az=86.0

*BJI **21** 03:40:51.8, 30.°44N×132.°41E, h38km, mb4.6/60, mB5.4/23, Ms5.0/50, Ms7.4 9/48*

*BGR **21** 03:40:53.8, 30.°85N×133.°84E, h31km, mb5.4, Ms5.4*

*NIED **21** 03:40:53.7, 30.°66N×132.°08E, h56km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; Mrr=4.10; Mθθ 1.45; Mφφ 2.64; Mrθ 0.22; Mθφ -0.22; Mφr 3.99; Fault plane solution: M0 5.23000×10^16^ NP1: φs 180.00000°, δ 70.00000°, λ -87.00000°. NP2: φs 351.00000°, δ 20.00000°, λ -98.00000°.*

*MOS **21** 03:40:53.9±1.2, 30.°69N×131.°94E, h25km, mb4.9/37, MS5.2/12 Error ellipse: s-maj=8.5km s-min=4.6km az=111.6*

*JMA **21** 03:40:53.7±0.2, 30.°7N±0.°5×13.°2E±.°, h56km±3km, MD4.4/32, MW5.0/32, E OFF TANEGASHIMA ISLAND*

*NEIC **21** 03:40:55.5±1.3, 30.°68N±0.°06×132.°01E±0.°08, h21km±4km, mb5.1/256, Error ellipse: s-maj=9.9km s-min=8.2km az=101.0*

*GCMT **21** 03:40:56.5±0.4, 30.°85N±0.°03×131.°90E±0.°02, h12km, MW5.0/91, Moment Tensor Solution. s27, c30; s91, c127; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.46±.11; Mθθ 0.05±.10; Mφφ 2.41±.09; Mrθ 1.43±.42; Mφθ 1.13±.09; Mφr 2.92±.31; Best double couple: M0 4.20300×10^16^ NP1: φs 205.00000°, δ 70.00000°, λ -87.00000°. NP2: φs 17.00000°, δ 20.00000°, λ -98.00000°. Principal axes: T 4.3990, Plg 25.0000°, Azm 293.0000°; N -0.3960, Plg 3.0000°, Azm 24.0000°; P -4.0060, Plg 65.0000°, Azm 120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 03:40:55.3±0.5, 30.°63N±0.°03×132.°03E±0.°04, h25km±2km, h25km: pP-P, n804, σ1§24/729, mb5.1/223, MS5.0/52, 21C-13D, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.91**	**272**	P	**Pb**	**03 41 11.1**	**-1.3**
JTN				*e*S	**Sn**	**03 41 24.2**	**-0.5**
JTN	**Tanegashima 3**	**0.91**	**272**	A	A	03 41 11.1	
	comp=E,31nm,1.5s,comp=N,14nm,1.1s						
JMTN	**Minamitane**	**1.00**	**257**	P	**Pn**	**03 41 12.7**	**-1.1**
JMTN				*e*S	**Sn**	**03 41 27.0**	**0.0**
JMTN	**Minamitane**	**1.00**	**257**	A	A	03 41 12.7	
	comp=E,22nm,4.1s,comp=N,14nm,1.9s						
JTSR	**Tashiro 2**	**1.09**	**300**	P	**Pn**	**03 41 13.0**	**-2.1**
JTSR				*e*S	**Sn**	**03 41 27.5**	**-1.9**
JTSR	**Tashiro 2**	**1.09**	**300**	A	A	03 41 13.0	
	comp=E,21nm,3.1s,comp=N,18nm,4.5s						
JNAR	**Kushima--Naru**	**1.11**	**324**	P	**Pn**	**03 41 13.4**	**-1.8**
JNAR				*e*S	**Sn**	**03 41 27.8**	**-1.9**
JNAR	**Kushima--Naru**	**1.11**	**324**	A	A	03 41 13.4	
	comp=E,36nm,3.0s,comp=N,19nm,2.2s						
JNKG	**Nichinankitago**	**1.18**	**332**	P	**Pn**	**03 41 14.2**	**-2.0**
JNKG				*e*S	**Sn**	**03 41 28.7**	**-2.6**
JNKG	**Nichinankitago**	**1.18**	**332**	A	A	03 41 14.2	
	comp=E,15nm,1.7s,comp=N,16nm,2.5s						
JYAK	**Yakushimahirau**	**1.37**	**254**	P	**Pn**	**03 41 17.6**	**-1.2**
JYAK	**Yakushimahirau**	**1.37**	**254**	A	A	03 41 17.6	
	comp=E,10.0nm,0.7s,comp=N,10.0nm,1.9s						
JTZ	**Takazaki**	**1.50**	**328**	P	**Pn**	**03 41 18.8**	**-1.8**
JTZ				*e*S	**Sn**	**03 41 37.7**	**-1.8**
JTZ	**Takazaki**	**1.50**	**328**	A	A	03 41 18.8	
	comp=E,14nm,0.9s,comp=N,13nm,1.8s						
JKC	**Kuchinoerabu**	**1.59**	**265**	P	**Pn**	**03 41 20.8**	**-1.0**
JKC				*e*S	**Sn**	**03 41 40.9**	**-0.7**
JKC	**Kuchinoerabu**	**1.59**	**265**	A	A	03 41 20.8	
	comp=E,10.0nm,4.9s,comp=N,10.0nm,4.8s						
JSU	**Suzuyama**	**1.61**	**303**	P	**Pn**	**03 41 20.6**	**-1.6**
JSU				*e*S	**Sn**	**03 41 41.4**	**-0.7**
JSU	**Suzuyama**	**1.61**	**303**	A	A	03 41 20.6	
	comp=E,7.0nm,1.4s,comp=N,10.0nm,1.8s						
JTSN	**Tsuno**	**1.68**	**345**	P	**Pn**	**03 41 21.0**	**-2.1**
JTSN				*e*S	**Sn**	**03 41 41.4**	**-2.3**
JTSN	**Tsuno**	**1.68**	**345**	A	A	03 41 21.0	
	comp=E,21nm,1.5s,comp=N,10.0nm,2.6s						
JHHC	**Hyugahichiya**		**1.84**	**350**	A	A	03 41 23.2	
	comp=E,7.0nm,2.3s,comp=N,8.0nm,4.9s						
JZO	**Okuchi**		**1.94**	**321**	P	**Pn**	**03 41 25.1**	**-1.6**
JZO					*e*S	**Sn**	**03 41 49.6**	**-0.8**
JZO	**Okuchi**		**1.94**	**321**	A	A	03 41 25.1	
	comp=E,11nm,5.8s,comp=N,8.0nm,2.8s						
JNN	**Nakanoshima**		**2.02**	**248**	A	A	03 41 27.0	
	comp=E,9.0nm,2.0s,comp=N,7.0nm,5.2s						
JKIT	**Kitakata**		**2.05**	**346**	A	A	03 41 26.3	
	comp=E,7.0nm,8.6s,comp=N,10.0nm,7.2s						
JSKE	**Saikikamae**		**2.17**	**357**	A	A	03 41 27.7	
	comp=E,4.0nm,3.1s,comp=N,5.0nm,3.8s						
JIU3	**Izumi3**		**2.18**	**332**	A	A	03 41 28.3	
	comp=E,7.0nm,5.0s,comp=N,7.0nm,8.6s						
JUS	**Usuki**		**2.44**	**354**	A	A	03 41 31.7	
	comp=E,3.0nm,2.6s,comp=N,4.0nm,4.5s						
JHD	**Hondo**		**2.44**	**319**	A	A	03 41 32.2	
	comp=E,5.0nm,3.7s,comp=N,6.0nm,6.3s						
JTA	**Tamana**		**2.66**	**332**	A	A	03 41 35.0	
	comp=E,4.0nm,6.5s,comp=N,5.0nm,3.0s						
JNU	**Nakatsue**		**2.67**	**339**		**Pn**	**03 41 35.6**	**-1.2**
JNU	**Nakatsue**		**2.67**	**339**	A	A	03 41 35.2	
	comp=E,5.0nm,7.5s,comp=N,4.0nm,3.9s						
JNU	**Nakatsue**		**2.67**	**339**	Pn	**Pn**	**03 41 35.1**	**-1.6**
	comp=N,30nm,0.3s,baz=177,slow=1.7,SNR=114							
JNU					Sn	**Sn**	**03 42 06.9**	**-1.5**
	comp=N,43nm,0.3s,baz=182,slow=11,SNR=7.3							
	comp=N,239nm,0.5s							
JBEP	**Beppuamama**		**2.75**	**349**	A	A	03 41 36.1	
	comp=E,5.0nm,4.2s,comp=N,8.0nm,0.8s						
JMN	**Monobe**		**3.47**	**26**	Pn	**Pn**	**03 41 45.8**	**-1.9**
JTU	**Tsushima**		**4.48**	**331**	Pn	**Pn**	**03 41 60.0**	**-1.5**
JMZ	**Minamidaito 2**		**4.84**	**189**		**Pn**	**03 42 06.5**	**-0.1**
JOW	**Kunigami**		**5.02**	**222**		**Pn**	**03 42 08.8**	**-0.2**
JOW	**Kunigami**		**5.02**	**222**	Pn	**Pn**	**03 42 09.1**	**+0.1**
	comp=N,22nm,0.3s,baz=107,slow=23,SNR=19							
JOW					Sn	**Sn**	**03 43 03.7**	**-2.4**
	comp=N,30nm,0.3s,baz=129,slow=26,SNR=11							
	comp=N,44nm,0.3s							
INU	**Inuyama**		**6.30**	**40**		**Pn**	**03 42 23.8**	**-2.8**
TJN	**Taejon**		**6.93**	**327**	Pn	**Pn**	**03 42 35.4**	**+0.1**
TJN	**Taejon**		**6.93**	**327⇑**	*e*P	**Pn**	**03 42 36.8**	**+1.5**
JHJ	**Hachijo jima 2**		**7.05**	**67**		**Pn**	**03 42 36.1**	**-0.8**
JHJ	**Hachijo jima 2**		**7.05**	**67**	Pn	**Pn**	**03 42 36.1**	**-0.8**
	comp=N,21nm,0.3s,baz=64,slow=11,SNR=7.3							
	comp=N,139nm,0.6s							
KSRS	**Korea Array**		**7.61**	**335**		**Pn**	**03 42 44.2**	**-0.3**
KSRS	**Korea Array**		**7.61**	**335**	P	**Pn**	**03 42 44.3**	**-0.3**
KSRS	**Korea Array**		**7.61**	**335**	Pn	**Pn**	**03 42 44.2**	**-0.3**
	comp=N,0.6nm,0.3s,baz=156,slow=14,SNR=37							
	comp=N,9.2nm,0.9s							
KSAR	**Wonju Array Be**		**7.62**	**334**		**Pn**	**03 42 45.4**	**+0.7**
KSAR	**Wonju Array Be**		**7.62**	**334**	P	**Pn**	**03 42 45.4**	**+0.7**
KS19	**Wonju Array Si**		**7.68**	**334**		**Pn**	**03 42 46.4**	**+0.9**
MAJO	**Matsushiro**		**7.83**	**39**	Pn	**Pn**	**03 42 46.9**	**-0.8**
MAJO	**Matsushiro**		**7.83**	**39**	*de*P	**Pn**	**03 42 46.8**	**-0.8**
MJAR	**Matsushiro Arr**		**7.83**	**40**	P	**Pn**	**03 42 47.0**	**-0.7**
MJAR	**Matsushiro Arr**		**7.83**	**40**	Pn	**Pn**	**03 42 47.0**	**-0.7**
	comp=N,1.5nm,0.3s,baz=233,slow=14,SNR=38							
	comp=N,11nm,0.3s							
MJB9	**Matsu-Tunnel**		**7.83**	**39**	Pn	**Pn**	**03 42 47.4**	**-0.3**
SSE	**Sheshan**		**9.33**	**276**	P	**Pn**	**03 43 07.3**	**-0.9**
SSE					S	**Sn**	**03 44 52.0**	**-0.3**
SSE					pmax	pmax		
	comp=Z,12nm,0.6s							
SSE					pmax	pmax		
	comp=Z,330nm,7.6s							
SSE					LR	LR		
	comp=N,3μm,17.9s							
SSE					LR	LR		
	comp=E,2μm,18.4s							
JCJ	**Chichijima**		**9.57**	**109**	LR	LR	03 45 48.7	
	comp=E,2μm,19.3s,baz=334,slow=31							
JMM	**Marumori**		**10.23**	**43**		**Pn**	**03 43 20.5**	**0.0**
NJ2	**Nanjing**		**11.36**	**281**	*e*P	**Pn**	**03 43 37.4**	**+1.5**
NJ2					pmax	pmax		
	comp=E,11nm,0.5s							
NJ2					pmax	pmax		
	comp=E,780nm,5.5s							
NJ2					LR	LR		
	comp=E,6μm,18.0s							
NJ2					LR	LR		
	comp=E,4μm,15.6s							
NJ2					LR	LR		
	comp=E,5μm,17.5s							

SNY Shenyang 13.09 331 ⇑P Pn 03 44 02.3 +2.8
SNY pmax pmax
comp=E,24nm,1.8s
SNY pmax pmax
comp=E,880nm,11.8s
SNY LR LR
comp=E,3μm,14.2s
SNY LR LR
comp=E,4μm,21.6s
SNY LR LR
comp=E,4μm,20.6s
QZH Quanzhou 13.17 248 P Pn 03 44 02.8 +2.1
QZH LR LR
comp=E,7μm,17.9s
QZH LR LR
comp=E,5μm,19.9s
QZH LR LR
comp=E,6μm,13.6s
USA0B Ussuriysk Arra 13.55 360 Pn 03 44 05.8 0.0
USA0B Ussuriysk Arra 13.55 360 P Pn 03 44 05.8 0.0
USRK Ussuriysk Ar. 13.55 360 Pn Pn 03 44 06.1 +0.3
USRK Ussuriysk Ar. 13.55 360 P Pn 03 44 06.1 +0.3
USRK Ussuriysk Ar. 13.55 360 Pn Pn 03 44 08.4 +2.5
comp=E,0.1nm,0.3s,baz=178,slow=10,SNR=5.1
TIA Tai'an 13.63 298 ⇓P Pn 03 44 08.8 +1.7
TIA pmax pmax
comp=E,47nm,0.9s
TIA LR LR
comp=E,1μm,14.2s
TIA LR LR
comp=E,5μm,15.7s
TIA LR LR
comp=E,4μm,11.2s
MDJ Mudanjiang 14.10 353 Pn 03 44 12.2 -1.1
MDJ Mudanjiang 14.10 353 P Pn 03 44 15.1 +1.8
MDJ pP P 03 44 20.5 -0.3
MDJ sP 03 44 25.4
MDJ S **Sn** **03 46 54.1 +5.2**
MDJ sS S 03 47 01.9 -7.7
MDJ SS **SnSn** **03 47 04.4 +2.8**
MDJ PcP **PcP** **03 49 32.3 +0.2**
MDJ ScP **ScP** **03 53 03.8 -0.3**
MDJ PcS **PcS** **03 53 06.8 0.0**
MDJ ScS **ScS** **03 56 39.6 -1.6**
MDJ pmax pmax
comp=E,20nm,1.4s
MDJ pmax pmax
comp=E,2μm,10.3s
MDJ LR LR
comp=E,3μm,14.6s
MDJ LR LR
comp=E,4μm,12.4s
MDJ LR LR
comp=E,5μm,13.2s
CN2 Changchun 14.15 340 P **P** **03 44 21.6 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,4μm,10.0s
CN2 LR LR
comp=E,6μm,10.0s
CN2 LR LR
comp=Z,3μm,10.0s
BNX BinXian 15.52 348 ⇑P Pn 03 44 33.0 +0.7
BNX pmax pmax
comp=Z,33nm,1.1s
ASAJ Asahikawa 15.85 29 Pn Pn 03 44 32.8 -3.9
comp=Z,0.4nm,0.3s,baz=225,slow=5.3,SNR=5.2
HNS HongShan 15.86 300 ⇓P **P** **03 44 41.0 +0.6**
HNS pmax pmax
comp=E,65nm,0.9s
BJT Baijiatuau 15.96 310 Pn Pn 03 44 36.6 -1.5
BJT Baijiatuau 15.96 310 P Pn 03 44 36.6 -1.5
BJT pmax pmax
comp=E,63nm,1.1s
BJI Beijing 15.97 310 P **P** **03 44 42.6 +1.1**
BJI pmax pmax
comp=E,29nm,1.4s
BJI LR LR
comp=E,2μm,14.3s
BJI LR LR
comp=E,1μm,15.7s
BJI LR LR
comp=E,2μm,12.6s
LYN LuoYang 16.94 288 *e*P **P** **03 44 52.4 0.0**
LYN PP **sP** **03 45 03.6 +1.9**
LYN pmax pmax
comp=E,43nm,1.0s
LYN LR LR
comp=E,5μm,16.8s
LYN LR LR
comp=E,5μm,17.5s
LYN LR LR
comp=E,6μm,18.5s
TIY Taiyuan 17.67 299 *e*P **P** **03 45 02.4 +1.8**
TIY pmax pmax
comp=E,40nm,0.7s
TIY LR LR
comp=E,2μm,13.2s
TIY LR LR
comp=E,2μm,12.6s
TIY LR LR
comp=E,2μm,17.6s
YSS Yuzh-Sakhalins 18.29 24 *e*P **P** **03 45 02.8 -4.4**
YSS pmax pmax
comp=Z,30nm,1.4s
KLR Kul'dur 18.58 359 *de*P **P** **03 45 10.4 0.0**
KLR pmax pmax
comp=Z,164nm,1.7s
KLR Kul'dur 18.58 359 P **P** **03 45 10.4 0.0**
comp=Z,1.0nm,0.3s,baz=166,slow=9.3,SNR=48
comp=Z,33nm,0.9s
ENH Enshi 19.44 275 P **P** **03 45 20.2 +0.2**
HHC Hu-ho-hao-te 19.45 307 *e*P **Pn** **03 45 20.9 -0.5**
HHC sP sP 03 45 32.0 +2.5
HHC pmax pmax
comp=Z,25nm,0.8s
HHC pmax pmax
comp=Z,1μm,9.8s
HHC LR LR
comp=Z,3μm,15.2s
HHC LR LR
comp=Z,7μm,15.9s
HHC LR LR
comp=Z,8μm,15.3s
XAN Xi'an 19.81 286 ⇑P **P** **03 45 23.5 -0.6**
XAN pP pwP 03 45 32.0 -0.9
XAN pmax pmax
comp=Z,73nm,2.0s
XAN LR LR
comp=E,6μm,15.2s
XAN LR LR
comp=E,6μm,13.6s
XAN LR LR
comp=E,7μm,12.4s
HEH HeiHe 19.91 351 *e*P **P** **03 45 25.0 +0.1**
HEH pmax pmax
comp=Z,56nm,1.4s
GRNR Gornyy 20.39 8 ⇓*i*P **P** **03 45 28.0 -2.1**
GRNR pmax pmax
comp=N,4.0nm,0.9s
GRNR pmax pmax
comp=Z,4.0nm,1.0s
GRNR MLR MLR
comp=E,3μm,20.0s
GRNR MLR MLR
comp=N,1μm,16.0s
GRNR MLR MLR
comp=Z,2μm,17.0s
BTO Baotou 20.43 305 *e*P Pn 03 45 32.0 -1.0
BTO pP sP 03 45 40.9 +0.7
BTO sP pwP 03 45 45.3 +5.6
BTO PP **PnPn** **03 45 53.8 +5.6**
BTO S **S** **03 49 19.3 +0.9**
BTO sS sS 03 49 29.3 +1.0
BTO SS **SnSn** **03 49 49.3 +12**
BTO pmax pmax
comp=Z,36nm,1.3s
BTO pmax pmax
comp=Z,2μm,8.6s
BTO LR LR
comp=Z,7μm,11.9s
BTO LR LR
comp=Z,4μm,12.7s
BTO LR LR
comp=Z,7μm,13.8s

HIA Hailar 20.82 337 P **P** **03 45 34.5 -0.3**
HIA Hailar 20.82 337 ⇑*e*P **P** **03 45 35.0 +0.2**
HIA pmax pmax
comp=Z,11nm,0.9s
GYA Guiyang 22.65 266 ⇑P **P** **03 45 54.5 -0.3**
GYA S **S** **03 49 59.3 -2.2**
GYA pmax pmax
comp=Z,21nm,0.7s
GYA pmax pmax
comp=Z,720nm,9.5s
GYA LR LR
comp=Z,3μm,14.2s
GYA LR LR
comp=Z,3μm,16.1s
GYA LR LR
comp=Z,3μm,17.2s
QIZ Qiongzhong 23.16 245 P **P** **03 46 00.3 +0.3**
QIZ S **S** **03 50 10.8 +0.6**
QIZ LR LR
comp=Z,3μm,12.1s
QIZ LR LR
comp=Z,3μm,14.3s
QIZ LR LR
comp=Z,3μm,13.1s
ZEA Zeya 23.36 353 *e*P **P** **03 45 59.9 -1.7**
ZEA pmax pmax
comp=Z,30nm,1.2s
LZH Lanzhou 24.12 291 ⇑P **P** **03 46 08.1 -1.2**
LZH pP pP 03 46 16.8 +0.6
LZH pmax pmax
comp=Z,21nm,1.5s
CD2 Chengdu 24.27 278 P **P** **03 46 09.4 -1.2**
CD2 pmax pmax
comp=Z,60nm,1.1s
CD2 LR LR
comp=Z,3μm,10.6s
CD2 LR LR
comp=Z,4μm,10.7s
CD2 LR LR
comp=Z,5μm,9.9s
ULN Ulaanbaatar 25.72 319 P **P** **03 46 21.3 -2.4**
ULN IAmb IAmb 03 46 25.7
comp=Z,50nm,1.3s
ULN Ulaanbaatar 25.72 319 *de*P **P** **03 46 22.7 -1.0**
ULN pmax pmax
comp=Z,26nm,1.1s
SONM Songino Array 26.08 318 P **P** **03 46 25.4 -1.6**
SONM Songino Array 26.08 318 P **P** **03 46 25.4 -1.6**
SONM pmax pmax
comp=Z,16nm,1.2s
SONM Songino Array 26.08 318 P **P** **03 46 25.0 -1.9**
comp=Z,6.3nm,0.8s,baz=133,slow=9.4,SNR=21
SONM LR LR 03 58 27.5
comp=Z,4μm,18.1s,baz=121,slow=41
comp=Z,6.3nm,0.8s
KMI Kunming 26.42 265 ⇓P **P** **03 46 31.1 +0.7**
KMI pP pwP 03 46 39.6 -0.3
KMI pmax pmax
comp=Z,15nm,1.0s
KMI LR LR
comp=Z,2μm,15.2s
KMI LR LR
comp=Z,1μm,21.0s
KMI LR LR
comp=Z,2μm,16.6s
PZH PanZhiHua 26.88 269 P **P** **03 46 33.4 -0.9**
PZH S **S** **03 51 17.8 +8.1**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH LR LR
comp=Z,2μm,17.7s
PZH LR LR
comp=Z,1μm,17.2s
PZH LR LR
comp=Z,1μm,14.3s
GTA Gaotai 27.68 297 *e*P **P** **03 46 40.0 -1.5**
GTA pmax pmax
comp=Z,12nm,1.0s
GTA LR LR
comp=Z,1μm,13.8s
GTA LR LR
comp=Z,2μm,13.8s
GTA LR LR
comp=Z,1μm,14.2s
PEA0B Petropavlovsk- 29.21 32 *de*P **P** **03 46 54.9 +0.1**
PETK Petropavlovsk- 29.21 32 P **P** **03 46 55.0 +0.2**
PETK Petropavlovsk- 29.21 32 P **P** **03 46 55.0 +0.2**
PETK Petropavlovsk- 29.21 32 P **P** **03 46 54.8 0.0**
comp=Z,25nm,1.0s,baz=193,slow=4.0,SNR=8.0
comp=Z,25nm,1.0s
PET Petropavlovsk 29.60 33 *e*P **P** **03 46 58.6 +0.4**
PET pmax pmax
comp=Z,53nm,1.3s
PET MLR MLR
comp=Z,4μm,11.0s
TNCH TengChong 30.08 268 *e*P **P** **03 47 03.8 +0.8**
TNCH S **S** **03 51 55.0 -5.3**
TNCH pmax pmax
comp=Z,74nm,1.1s
TNCH pmax pmax
comp=Z,470nm,6.6s
TNCH LR LR
comp=Z,1μm,14.4s
TNCH LR LR
comp=Z,1μm,13.9s
TNCH LR LR
comp=Z,1μm,17.6s
YAK Yakutsk 31.45 358 *e*P **P** **03 47 15.3 +0.9**
YAK *e**PP **pwP** **03 47 24.5 +0.3**
YAK *e* 03 48 14.8
YAK *e* 03 50 06.5
YAK *e*S **S** **03 52 21.5 +1.0**
YAK pmax pmax
comp=Z,39nm,1.7s
YAK pmax pmax
comp=N,32nm,1.7s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,1μm,13.9s
YAK pmax pmax
comp=N,743nm,12.6s
YAK pmax pmax
comp=E,457nm,13.9s
YAK smax smax
comp=E,1μm,16.1s
YAK smax smax
comp=N,650nm,15.5s
YAK MLR MLR
comp=Z,2μm,26.0s
YAK MLR MLR
comp=N,2μm,27.0s
YAK MLR MLR
comp=E,1μm,24.0s
YAK Yakutsk 31.45 358 LR LR 04 01 13.0
comp=E,65nm,18.4s,baz=166,slow=39
CHTO Chiang Mai 32.16 256 P **P** **03 47 21.1 0.0**
CHTO IAmb IAmb 03 47 33.2
comp=Z,22nm,1.1s
CHTO Chiang Mai 32.16 256 P **P** **03 47 21.1 0.0**
CHTO pmax pmax
comp=Z,22nm,1.2s
CMAR Chiang Mai Arr 32.32 256 *i*P **P** **03 47 23.1 +0.5**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 32.32 256 P **P** **03 47 22.9 +0.4**
comp=Z,2.2nm,0.4s,baz=51,slow=7.1,SNR=10
CMAR LR LR 04 01 18.9
comp=Z,1μm,21.9s,baz=65,slow=38
comp=Z,2.2nm,0.4s
H11N2 WAKE ISLAND Hy 33.24 101 T T 04 22 28.9
baz=296,slow=75,SNR=27
H11N1 WAKE ISLAND Hy 33.24 101 T T 04 22 35.1
baz=296,slow=75,SNR=14
H11N3 WAKE ISLAND Hy 33.26 101 T T 04 22 30.2
baz=296,slow=75,SNR=16
FAKI Fak Fak 33.36 180 P **P** **03 47 32.2 +0.7**
H11S3 WAKE ISLAND Hy 33.62 103 T T 04 24 33.6
baz=302
H11S1 WAKE ISLAND Hy 33.63 103 T T 04 24 45.0
baz=302
H11S2 WAKE ISLAND Hy 33.64 103 T T 04 24 30.5
baz=302
SEY Seymchan 34.87 16 *ce*P **P** **03 47 46.1 +1.9**
SEY pmax pmax
comp=Z,12nm,1.3s
WMQ Urumqi 37.25 303 *e*P **P** **03 48 05.0 +0.1**
WMQ pmax pmax
comp=Z,9.0nm,0.9s
KAPI Kappang 37.34 200 LR LR 04 03 08.0
comp=Z,335nm,22.0s,baz=24,slow=36
DGZ Jazzator, Alta 38.37 313 ⇑*e*P **P** **03 48 12.8 -1.6**
DGZ pmax pmax
comp=Z,14nm,2.5s
ZALV Zalesovo Beam 40.98 319 P **P** **03 48 33.9 -1.9**
ZALV 03 50 35.2
ZALV Zalesovo Beam 40.98 319 P **P** **03 48 33.9 -1.9**
comp=Z,0.6nm,0.3s,baz=121,slow=9.2,SNR=5.4
ZALV PcP **PcP** **03 50 35.2 -0.5**
comp=Z,1.3nm,0.6s,baz=99,slow=4.7,SNR=4.6
ZALV LR LR 04 07 09.5
comp=Z,1μm,19.7s,baz=102,slow=39
comp=Z,0.6nm,0.3s
TIXI Tiksi 41.11 358 P **P** **03 48 35.7 -1.0**
TIXI IAmb IAmb 03 48 41.3
comp=Z,46nm,1.4s
TIXI Tiksi 41.11 358 *ce*P **P** **03 48 38.7 +2.0**
TIXI Tiksi 41.11 358 LR LR 04 07 51.1
comp=Z,60nm,19.4s,baz=175,slow=40
MK31 Makanchi Array 41.32 307 P **P** **03 48 37.5 -1.3**
MK31 Makanchi Array 41.32 307 P **P** **03 48 37.5 -1.3**
MK31 pmax pmax
comp=Z,5.0nm,0.9s
MKAR Makanchi Array 41.32 307 P **P** **03 48 37.2 -1.6**
MKAR Makanchi Array 41.32 307 *i*P **P** **03 48 37.5 -1.3**
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR Makanchi Array 41.32 307 P **P** **03 48 37.1 -1.8**
comp=Z,4.6nm,0.8s,baz=96,slow=9.2,SNR=32
MKAR PcP **PcP** **03 50 36.9 -0.1**
comp=Z,1.0nm,0.8s,baz=57,slow=2.8,SNR=2.7
MKAR ScP **ScP** **03 54 30.4 +5.1**
comp=Z,0.2nm,0.7s,baz=111,slow=7.9,SNR=1.6
MKAR LR LR 04 07 24.6
comp=Z,2μm,19.1s,baz=85,slow=39
comp=Z,4.6nm,0.8s
MAKZ Makanchi 41.53 307 P **P** **03 48 38.9 -1.7**
MAKZ Makanchi 41.53 307 P **P** **03 48 38.9 -1.7**
MAKZ pmax pmax
comp=Z,10.0nm,1.2s
BILL Bilibino 42.46 18 ⇑*e*P **P** **03 48 49.3 +1.5**
SHLS Shalkode 43.21 302 *e*P **P** **03 48 50.8 -3.6**
baz=302
SHLS Shalkode 43.21 302 *e*P **P** **03 48 50.8 -3.6**
MTN Manton Dam 43.23 181 P **P** **03 48 53.1 -1.4**
MTN IAmb IAmb 03 48 55.6
comp=Z,24nm,0.9s
UZB Uzynbulak 43.53 302 *e*P **P** **03 48 55.5 -1.6**
baz=302
UZB Uzynbulak 43.53 302 *e*P **P** **03 48 55.4 -1.6**
KPKS Kokpek 43.77 302 *e*P **P** **03 48 57.5 -1.4**
baz=302
KPKS Kokpek 43.77 302 *e*P **P** **03 48 57.5 -1.4**
GSI Gunungsitoli 43.77 235 P **P** **03 48 58.0 -1.1**
LEM Lembang 43.98 216 P **P** **03 49 01.6 +0.8**
LEM Lembang 43.98 216 P **P** **03 49 01.6 +0.8**
LEM Lembang 43.98 216 P **P** **03 49 01.6 +0.8**
comp=Z,13nm,0.4s,baz=33,slow=10.0,SNR=4.0
comp=Z,13nm,0.4s
KURK Kurchatov 44.12 313 **P** **03 48 59.7 -1.7**
KURK Kurchatov 44.12 313 P **P** **03 49 00.4 -1.0**
KURK 03 50 47.1
KURBB Kurchatov Arra 44.16 313 P **P** **03 49 00.4 -1.4**
comp=Z,10nm,0.8s,baz=97,slow=8.8,SNR=51
KURBB PcP **PcP** **03 50 47.1 +0.8**
comp=Z,0.3nm,0.6s,baz=98,slow=3.6,SNR=1.7
KURBB LR LR 04 09 34.6
comp=Z,2μm,19.3s,baz=120,slow=39
comp=Z,10nm,0.8s
MDOK Medeo 44.97 302 *e*P **P** **03 49 07.5 -1.2**
baz=302
MDOK Medeo 44.97 302 *e*P **P** **03 49 07.4 -1.2**
CHKK Chushkaly 44.99 303 *e*P **P** **03 49 07.1 -1.5**
baz=303
CHKK Chushkaly 44.99 303 *e*P **P** **03 49 07.0 -1.5**
TNSS Tian-Shan 45.05 302 *e*P **P** **03 49 09.1 -0.4**
baz=302
TNSS Tian-Shan 45.05 302 *e*P **P** **03 49 09.1 -0.4**
KUU Kurty 45.45 303 *e*P **P** **03 49 11.1 -1.1**
comp=Z,12nm,1.2s,baz=303
KUU Kurty 45.45 303 *e*P **P** **03 49 11.1 -1.1**
KUU pmax pmax
comp=Z,12nm,1.2s
KNRA Kununurra 46.14 184 P **P** **03 49 18.6 +0.9**
KNRA IAmb IAmb 03 49 20.7
comp=Z,31nm,0.8s
SGDS Sogindy 46.72 303 *e*P **P** **03 49 21.9 -0.4**
baz=303
SGDS Sogindy 46.72 303 *e*P **P** **03 49 21.8 -0.4**
AAK Ala-Archa 46.88 301 P **P** **03 49 22.8 -0.8**
AAK Ala-Archa 46.88 301 ⇓*e*P **P** **03 49 23.1 -0.5**
AAK pmax pmax
comp=Z,9.0nm,1.8s
BTLS Baital 47.04 305 *e*P **P** **03 49 23.6 -1.0**
comp=Z,7.3nm,1.1s,baz=305
BTLS Baital 47.04 305 *e*P **P** **03 49 23.6 -1.0**
BTLS pmax pmax
comp=Z,7.0nm,1.1s
SPIA Saint Paul Isl 47.48 39 P **P** **03 49 28.3 +0.4**
baz=261
NIKH Nikolski High 47.83 44 P **P** **03 49 31.2 +0.6**
baz=266
BRZS Berezniki 47.87 312 *e*P **P** **03 49 29.9 -1.1**
comp=Z,7.7nm,1.3s,baz=312
BRZS Berezniki 47.87 312 *e*P **P** **03 49 29.9 -1.1**
BRZS pmax pmax
comp=Z,8.0nm,1.3s
GAMB Gambell 48.18 30 P **P** **03 49 34.2 +1.1**
baz=254
FITZ Fitzroy Crossi 48.83 188 P **P** **03 49 38.4 -0.3**
UNV Unalaska Valle 49.28 43 P **P** **03 49 42.7 +0.9**
baz=268
BVAR Borovoye Array 49.36 316 P **P** **03 49 41.0 -1.5**
BVAR 03 51 04.6
BVAR Borovoye Array 49.36 316 P **P** **03 49 41.0 -1.5**
comp=Z,6.7nm,0.9s,baz=94,slow=8.9,SNR=18
BVAR PcP **PcP** **03 51 04.6 -0.1**
comp=Z,0.5nm,0.4s,baz=86,slow=5.9,SNR=2.7
BVAR LR LR 04 13 01.9
comp=Z,2μm,18.3s,baz=97,slow=39
comp=Z,6.7nm,0.9s
BRVK Borovoye 49.42 316 P **P** **03 49 42.2 -0.8**
BRVK Borovoye 49.42 316 ⇑*e*P **P** **03 49 42.0 -0.9**
BRVK pmax pmax
comp=Z,10.0nm,0.9s
KK31 Karatay Array 49.74 302 P **P** **03 49 44.6 -1.0**
KK31 IAmb IAmb 03 50 10.9
comp=Z,36nm,1.4s
KK31 Karatay Array 49.74 302 P **P** **03 49 44.6 -1.0**
KK31 pmax pmax
comp=Z,36nm,1.4s
KKAR Karatay Array 49.74 302 P **P** **03 49 44.5 -1.1**
KKAR IAmb IAmb 03 50 10.9
comp=Z,36nm,1.4s
KKAR Karatay Array 49.74 302 P **P** **03 49 44.2 -1.4**
KKAR Karatay Array 49.74 302 P **P** **03 49 44.5 -1.1**
KKAR pmax pmax
comp=Z,36nm,1.4s
M11K Mekoryuk 50.02 35 P **P** **03 49 46.0 -1.3**
baz=262
WB0 Warramunga Arr 50.16 177 P **P** **03 49 48.7 -0.1**
WB0 IAmb IAmb 03 50 22.7
comp=Z,21nm,1.4s
HYB Hyderabad 50.16 268 *e*P **P** **03 49 49.1 0.0**
HYB *es*P **pwP** **03 49 58.6 -0.2**
TNA Tin City 50.21 28 P **P** **03 49 48.8 +0.1**
baz=256
WB2 Warramunga Arr 50.33 177 P **P** **03 49 50.5 +0.4**
WRA Warramunga Arr 50.33 177 P **P** **03 49 50.3 +0.2**
WRA Warramunga Arr 50.33 177 *i*P **P** **03 49 50.2 +0.2**
WRA pmax pmax
comp=Z,8.0nm,0.9s
WRA Warramunga Arr 50.33 177 P **P** **03 49 50.2 +0.2**
comp=Z,7.2nm,0.9s,baz=353,slow=8.3,SNR=43
comp=Z,7.2nm,0.9s
WR0 Warramunga Arr 50.35 177 P **P** **03 49 50.7 +0.4**
WR0 IAmb IAmb 03 49 52.9
comp=Z,15nm,1.0s
F14K Arctic Creek 50.84 28 P **P** **03 49 54.0 +0.5**
baz=258
ANM Nome 51.06 30 P **P** **03 49 54.6 -0.5**
baz=260
M13K Dall Lake 51.43 35 P **P** **03 49 58.5 +0.6**

baz=265
F15K North Star Dit 51.57 28 P P 03 49 59.1 +0.1
baz=260
J14K Nanvaranak Lak 51.59 32 P P 03 49 58.9 -0.2
baz=263
G15K Niukluk 51.70 29 P P 03 50 00.6 +0.7
baz=261
C16K Lisburne Hills 51.83 25 P P 03 50 01.1 +0.3
baz=257
L14K Kuka Creek 51.84 34 P P 03 50 02.0 +1.0
L14K Kuka Creek 51.84 34 P P 03 50 01.8 +0.8
baz=265
M14K Bethel 52.14 35 P P 03 50 03.9 +0.7
baz=266
N14K Kuskokwak Cree 52.23 36 P P 03 50 04.7 +0.8
baz=267
CTAO Charters Tower 52.24 163 P P 03 50 04.6 +0.1
CTAO Charters Tower 52.24 163 P P 03 50 04.6 +0.1
CTAO pmax pmax
comp=Z,13nm,1.1s
H16K Elim 52.41 30 P P 03 50 05.4 +0.3
baz=263
O14K Tigyukauivet M 52.41 37 P P 03 50 05.9 +0.7
baz=268
L15K Ungalak Mounta 52.44 33 P P 03 50 06.3 +0.8
baz=266
G16K Koyuk River 52.46 29 P P 03 50 06.1 +0.6
baz=262
K15K Wolf Creek Mou 52.47 33 P P 03 50 05.9 +0.2
baz=265
C17K DeLong Mountai 52.66 25 P P 03 50 07.3 +0.2
baz=259
RDOG Red Dog Mine 52.67 25 P P 03 50 07.0 -0.1
RDOG IAmb IAmb 03 50 11.0
comp=Z,21nm,1.0s
RDOG Red Dog Mine 52.67 25 P P 03 50 07.7 +0.6
baz=259
M15K Kasigluk River 52.76 35 P P 03 50 08.4 +0.5
baz=267
SDPT Sand Point 52.80 41 P P 03 50 09.0 +0.7
baz=271
J16K Anvik River 52.98 32 P P 03 50 10.1 +0.7
baz=265
I17K Unalakleet 52.99 31 P P 03 50 10.2 +0.7
baz=265
N15K Kwethluk River 53.04 35 P P 03 50 10.8 +0.8
baz=268
F17K Baldwin Pennin 53.05 28 P P 03 50 10.7 +0.9
baz=262
O15K Ungalikthiuk R 53.15 37 P P 03 50 11.4 +0.6
baz=269
G17K Kiwalik Mounta 53.18 29 P P 03 50 11.6 +0.7
baz=264
PSA00 Pilbara Seismi 53.20 194 P P 03 50 11.8 +0.3
PSA00 Pilbara Seismi 53.20 194 P P 03 50 11.8 +0.3
PSA00 IAmb IAmb 03 50 13.3
comp=Z,7.9nm,0.8s
PALK Pallekele 53.27 255 LR LR 04 13 39.9
comp=Z,410nm,20.4s,baz=144,slow=37
S14K Fog Glacier 53.30 40 P P 03 50 13.0 +0.9
baz=271
B18K Kokolik River 53.31 24 P P 03 50 12.2 +0.4
baz=260,SNR=6.5
CHNA Chernabura Isl 53.33 42 P P 03 50 12.3 +0.2
baz=272
L16K Owhat River 53.40 34 P P 03 50 13.1 +0.5
baz=267
C18K Utukok River 53.40 25 P P 03 50 12.7 +0.1
C18K IAmb IAmb 03 50 14.3
comp=Z,22nm,0.8s
C18K Utukok River 53.40 25 P P 03 50 12.3 -0.3
baz=261
H17K Granite Mounta 53.43 29 P P 03 50 13.1 +0.4
H17K IAmb IAmb 03 50 15.7
comp=Z,40nm,1.4s
H17K Granite Mounta 53.43 29 P P 03 50 12.3 -0.5
baz=265
E18K Tukpahlearik C 53.44 26 P P 03 50 13.6 +0.9
E18K IAmb IAmb 03 50 15.2
comp=Z,23nm,0.8s
E18K Tukpahlearik C 53.44 26 P P 03 50 12.2 -0.5
baz=262
M16K Timber Creek 53.62 34 P P 03 50 13.0 -1.2
baz=268
N16K Nishlik Lake 53.70 35 P P 03 50 14.3 -0.6
baz=269
A19K Wainwright 53.72 23 P P 03 50 15.0 +0.3
baz=260
L17K Donlin 53.97 33 P P 03 50 17.0 +0.3
baz=268
K17K Iditarod 53.99 32 IAmb IAmb 03 50 19.2
comp=Z,21nm,0.8s
K17K Iditarod 53.99 32 P P 03 50 17.3 +0.4
baz=268
AS31 Alice Springs 54.01 178 P P 03 50 17.2 -0.3
ASAR Alice Springs 54.01 178 P P 03 50 17.4 -0.1
ASAR Alice Springs 54.01 178 P P 03 50 17.7 +0.2
ASAR Alice Springs 54.01 178 P P 03 50 17.7 +0.2
comp=Z,4.0nm,0.8s,baz=11,slow=11,SNR=36
comp=Z,4.0nm,0.8s
O16K Kokwok River B 54.04 36 P P 03 50 17.8 +0.6
O16K Kokwok River B 54.04 36 P P 03 50 17.8 +0.6
baz=270,SNR=5.3
G18K Tagagawik 54.04 28 P P 03 50 17.6 +0.3
G18K Tagagawik 54.04 28 P P 03 50 17.5 +0.3
baz=265
C19K Lookout Ridge 54.05 24 P P 03 50 16.5 -0.8
C19K IAmb IAmb 03 50 19.5
comp=Z,19nm,0.9s
C19K Lookout Ridge 54.05 24 P P 03 50 17.7 +0.4
baz=262
P16K Nushagak River 54.09 37 P P 03 50 18.3 +0.6
baz=271
H18K Honhosa River 54.10 29 P P 03 50 18.4 +0.8
H18K Honhosa River 54.10 29 P P 03 50 18.2 +0.5
baz=266
M17K Holitna River 54.37 34 P P 03 50 20.8 +1.1
M17K Holitna River 54.37 34 P P 03 50 20.1 +0.5
baz=270
F19K Shaleruckik Mo 54.47 27 P P 03 50 21.0 +0.7
F19K IAmb IAmb 03 50 22.8
comp=Z,37nm,1.6s
F19K Shaleruckik Mo 54.47 27 P P 03 50 20.5 +0.2
baz=265
N17K Nushagak Hills 54.49 35 P P 03 50 20.2 -0.3
N17K Nushagak Hills 54.49 35 P P 03 50 21.0 +0.5
baz=270
D19K Kuna River 54.50 25 P P 03 50 21.0 +0.4
D19K IAmb IAmb 03 50 22.6
comp=Z,30nm,0.9s
D19K Kuna River 54.50 25 P P 03 50 20.6 +0.1
baz=264
O17K Koliganek Bris 54.54 36 P P 03 50 20.8 -0.1
baz=271
G19K Purcell Mounta 54.70 28 P P 03 50 22.8 +0.8
G19K IAmb IAmb 03 50 25.1
comp=Z,51nm,1.6s
G19K Purcell Mounta 54.70 28 P P 03 50 21.5 -0.5
baz=266
GCSA Galena City Sc 54.71 30 P P 03 50 22.7 +0.7
baz=268
L18K Granite Mounta 54.73 33 P P 03 50 23.0 +0.8
L18K IAmb IAmb 03 50 24.2
comp=Z,21nm,1.0s
L18K Granite Mounta 54.73 33 P P 03 50 22.6 +0.4
baz=270
E19K Redstone River 54.73 26 P P 03 50 22.1 -0.1
E19K IAmb IAmb 03 50 24.3
comp=Z,25nm,0.9s
E19K Redstone River 54.73 26 P P 03 50 22.5 +0.3
baz=265
J18K Innoko River 54.74 31 P P 03 50 21.7 -0.7
baz=269
Q16K King Salmon 54.80 37 P P 03 50 22.8 +0.1
baz=272,SNR=9.4
P17K Kvichak River 54.89 37 P P 03 50 23.2 -0.2
baz=272,SNR=5.3
H19K Roundabout Mou 54.92 29 P P 03 50 24.2 +0.6
H19K IAmb IAmb 03 50 25.9
comp=Z,27nm,0.8s
H19K Roundabout Mou 54.92 29 P P 03 50 23.4 -0.2
baz=267
B20K Meade River 55.01 23 P P 03 50 24.6 +0.5
B20K Meade River 55.01 23 P P 03 50 24.3 +0.2
baz=264
TTA Tatalina 55.05 32 P P 03 50 24.8 +0.2
baz=270

D20K Etivluk River 55.07 25 P P 03 50 25.3 +0.6
baz=265
N18K Kilae Creek 55.12 35 P P 03 50 25.3 +0.2
N18K Kilae Creek 55.12 35 P P 03 50 26.1 +0.9
baz=271
M18K Stony River 55.14 34 P P 03 50 26.0 +0.7
baz=271
E20K Nigu River 55.19 26 P P 03 50 26.0 +0.4
baz=266
Q17K Contact Creek 55.22 38 P P 03 50 26.3 +0.3
baz=273
J19K Poorman 55.23 31 P P 03 50 26.3 +0.5
J19K IAmb IAmb 03 50 27.8
comp=Z,24nm,0.8s
J19K Poorman 55.23 31 P P 03 50 25.8 -0.1
baz=269,SNR=11
SVW2 Sparrevohn 55.27 34 P P 03 50 26.8 +0.7
SVW2 IAmb IAmb 03 50 28.6
comp=Z,24nm,1.1s
F20K Avaraart Lake 55.29 27 P P 03 50 26.9 +0.6
F20K Avaraart Lake 55.29 27 P P 03 50 26.8 +0.6
baz=267
O18K Koktuh Hills 55.49 36 P P 03 50 28.8 +1.0
O18K Koktuh Hills 55.49 36 P P 03 50 28.1 +0.3
baz=272,SNR=7.6
P18K Big Mountain, 55.50 36 P P 03 50 28.6 +0.6
P18K Big Mountain, 55.50 36 P P 03 50 28.0 +0.1
baz=273,SNR=7.1
CHIR Chirikof Islan 55.53 41 P P 03 50 28.1 0.0
H20K Anotleneega Mo 55.58 29 P P 03 50 29.3 +0.9
baz=269
L19K White Mountain 55.59 33 P P 03 50 29.2 +0.7
baz=271
Q18K Katmai Hardscr 55.66 37 P P 03 50 29.8 +0.6
baz=274
I20K Naaghedeneel 55.74 30 P P 03 50 30.0 +0.5
I20K Naaghedeneel 55.74 30 P P 03 50 30.2 +0.8
baz=270
C21K Knifeblade Rid 55.77 24 P P 03 50 30.4 +0.8
baz=266
N19K Bonanza Creek 55.81 35 P P 03 50 30.2 0.0
baz=272
A22K Sinclair Lake 55.84 22 P P 03 50 30.5 +0.4
baz=265
B21K Ikpikpuk River 55.86 24 P P 03 50 31.0 +0.7
B21K IAmb IAmb 03 50 33.6
comp=Z,21nm,1.0s
B21K Ikpikpuk River 55.86 24 P P 03 50 30.8 +0.6
baz=266
J20K Nowinta River 55.88 31 P P 03 50 31.6 +1.1
J20K Nowinta River 55.88 31 P P 03 50 31.6 +1.1
baz=270
O19K Port Alsworth 55.92 35 P P 03 50 30.8 -0.1
O19K Port Alsworth 55.92 35 P P 03 50 31.4 +0.6
baz=273,SNR=9.6
K20K Telida 55.93 32 P P 03 50 31.3 +0.4
K20K IAmb IAmb 03 50 33.4
comp=Z,27nm,0.8s
K20K Telida 55.93 32 P P 03 50 31.4 +0.4
baz=271
E21K Killik River 56.02 25 P P 03 50 31.6 +0.1
E21K IAmb IAmb 03 50 33.3
comp=Z,17nm,0.9s
E21K Killik River 56.02 25 P P 03 50 31.9 +0.4
baz=268
R18K Karluk 56.03 39 P P 03 50 32.3 +0.7
baz=275
L20K Farewell, AK 56.04 33 P P 03 50 32.4 +0.7
baz=272
IMAR Indian Mountai 56.05 28 P P 03 50 32.0 +0.3
ARU Arti 56.10 320 c iP P 03 50 31.0 -1.2
ARU S S 03 58 20.5 +1.1
ARU SS SS 04 02 04.5 -0.9
ARU pmax pmax
comp=Z,9.0nm,1.0s
ARU MLR MLR
comp=Z,1µm,14.0s
ARU Arti 56.10 320 P P 03 50 31.0 -1.2
comp=Z,5.4nm,0.2s,baz=94,slow=15,SNR=1.3
ARU LR LR 04 16 45.5
comp=Z,1µm,20.9s,baz=87,slow=38
comp=Z,5.4nm,0.2s
G21K Allakaket 56.16 28 P P 03 50 32.4 -0.1
G21K IAmb IAmb 03 50 34.7
comp=Z,20nm,1.0s
G21K Allakaket 56.16 28 P P 03 50 33.2 +0.7
baz=269
F21K Alatna River 56.17 27 P P 03 50 32.5 -0.1
F21K Alatna River 56.17 27 P P 03 50 33.3 +0.7
baz=269
ABKAR Akbulak array 56.17 311 P P 03 50 32.1 -0.8
ABKAR Akbulak array 56.17 311 P P 03 50 32.0 -0.8
ABKAR IAmb IAmb 03 51 00.7
comp=Z,12nm,1.1s
SII Sitkinak Islan 56.26 40 P P 03 50 34.2 +0.8
baz=276
B22K Teshekpuk Lake 56.31 23 P P 03 50 33.9 +0.5
B22K Teshekpuk Lake 56.31 23 P P 03 50 34.6 +1.2
baz=267,SNR=6.0
M20K Styx River 56.41 33 P P 03 50 34.9 +0.5
M20K IAmb IAmb 03 50 38.2
comp=Z,36nm,1.6s
M20K Styx River 56.41 33 P P 03 50 35.5 +1.0
baz=273
H21K Melozitna Rive 56.44 29 P P 03 50 34.9 +0.4
H21K Melozitna Rive 56.44 29 P P 03 50 35.2 +0.7
baz=271,SNR=18
D22K Ayikyak River 56.51 25 P P 03 50 35.6 +0.7
D22K Ayikyak River 56.51 25 P P 03 50 35.9 +1.0
baz=269
ILSW Iliamna Southw 56.52 36 P P 03 50 35.0 -0.4
F22K John River 56.68 27 P P 03 50 37.2 +1.0
baz=270,SNR=22
RSO Redoubt South 56.68 35 P P 03 50 36.7 +0.1
OHAK Old Harbor 56.69 39 P P 03 50 36.2 -0.1
OHAK IAmb IAmb 03 50 38.0
comp=Z,14nm,1.0s
OHAK Old Harbor 56.69 39 P P 03 50 37.0 +0.7
baz=276
CHUM Lake Minchumin 56.70 31 P P 03 50 37.3 +1.0
baz=272,SNR=11
I21K Tanana 56.80 29 P P 03 50 38.3 +1.3
I21K Tanana 56.80 29 P P 03 50 38.0 +1.0
baz=272,SNR=17
PPLA Purkeypile 56.80 32 P P 03 50 38.1 +0.8
baz=273
CAST Castle Rocks 56.82 31 P P 03 50 38.2 +0.9
CAST IAmb IAmb 03 50 39.5
comp=Z,20nm,0.8s
CAST Castle Rocks 56.82 31 P P 03 50 37.6 +0.3
baz=273,SNR=13
E22K Anaktuvuk Pass 56.82 26 P P 03 50 38.0 +0.8
E22K Anaktuvuk Pass 56.82 26 P P 03 50 38.0 +0.8
baz=270
N20K Mount Spurr 56.90 34 P P 03 50 38.7 +0.8
baz=274
G22K Bettles 56.95 27 P P 03 50 38.4 +0.3
baz=271
KDAK Kodiak Island 57.01 38 P P 03 50 38.4 -0.2
KDAK Kodiak Island 57.01 38 P P 03 50 38.9 +0.3
baz=276
KDAK Kodiak Island 57.01 38 P P 03 50 38.4 -0.2
KDAK pmax pmax
comp=Z,38nm,0.9s
H22K Ishtalitna Cre 57.02 28 P P 03 50 39.1 +0.5
baz=272
SKT Skwentna 57.16 33 P P 03 50 39.8 +0.1
SKT IAmb IAmb 03 50 51.5
comp=Z,43nm,1.5s
SKT Skwentna 57.16 33 P P 03 50 39.5 -0.2
baz=274,SNR=6.0
AKTO Aktyubinsk 57.21 313 LR LR 04 17 37.8
comp=Z,2µm,18.1s,baz=70,slow=39
D23K Nanushuk River 57.23 25 P P 03 50 41.1 +1.0
baz=270,SNR=19
C23K Itkillik River 57.26 24 P P 03 50 40.9 +0.7
C23K Itkillik River 57.26 24 P P 03 50 40.9 +0.7
baz=270,SNR=8.9
BPAW Bear Paw Mtn. 57.27 31 P P 03 50 40.8 +0.4
BPAW IAmb IAmb 03 50 42.5
comp=Z,18nm,1.0s
BPAW Bear Paw Mtn. 57.27 31 P P 03 50 40.9 +0.4
baz=273,SNR=7.8
MLY Manley 57.33 29 P P 03 50 40.5 -0.3
MLY IAmb IAmb 03 50 43.1
comp=Z,24nm,0.9s
MLY Manley 57.33 29 P P 03 50 41.2 +0.4
baz=273,SNR=24
KTH Kantishna Hill 57.33 31 P P 03 50 42.0 +1.1
KTH IAmb IAmb 03 50 43.0
comp=Z,25nm,1.2s
COLD Coldfoot 57.45 27 P P 03 50 42.2 +0.6
baz=272,SNR=7.7
CNPM China Poot 57.52 36 IAmb IAmb 03 50 44.6
comp=Z,22nm,0.8s
G23K Bananza Creek 57.54 27 IAmb IAmb 03 50 44.5
comp=Z,19nm,0.9s
G23K Bananza Creek 57.54 27 P P 03 50 42.9 +0.5
baz=272
SUA Susitna One 57.58 34 P P 03 50 42.7 -0.1
baz=275
TRF Thorofare Moun 57.62 31 IAmb IAmb 03 50 44.6
comp=Z,18nm,1.2s
TRF Thorofare Moun 57.62 31 P P 03 50 43.0 -0.1
baz=274
E23K Chandalar 57.65 26 P P 03 50 43.2 0.0
baz=272,SNR=29
CUT Chulitna 57.72 33 P P 03 50 43.4 -0.2
baz=275
BRSE Bradley Lake S 57.75 36 P P 03 50 44.4 +0.5
baz=276,SNR=6.2
M22K Willow 57.85 33 P P 03 50 44.4 -0.1
baz=276
D24K Happy Valley 57.90 25 P P 03 50 45.1 +0.4
baz=272
I23K Minto, Yukon-K 57.90 29 P P 03 50 45.6 +0.8
baz=274,SNR=6.2
E24K Your Creek 58.07 26 P P 03 50 46.5 +0.4
baz=273
NEA2 Nenana 58.07 30 P P 03 50 46.9 +0.8
baz=275,SNR=31
RC01 Rabbit Creek A 58.10 34 IAmb IAmb 03 50 48.0
comp=Z,32nm,1.0s
RC01 Rabbit Creek A 58.10 34 P P 03 50 46.3 0.0
baz=276,SNR=5.5
MCK McKinley 58.20 31 P P 03 50 46.9 -0.1
baz=275,SNR=17
F24K Squaw Lake 58.33 26 IAmb IAmb 03 50 50.1
comp=Z,16nm,0.8s
F24K Squaw Lake 58.33 26 P P 03 50 48.4 +0.5
baz=274,SNR=8.3
PMR Palmer 58.33 33 IAmb IAmb 03 50 48.9
comp=Z,24nm,0.9s
PMR Palmer 58.33 33 P P 03 50 47.3 -0.6
baz=276,SNR=8.8
SEW Seward 58.35 35 P P 03 50 48.0 0.0
baz=277,SNR=6.2
H24K Noodor Dome 58.47 28 P P 03 50 49.3 +0.5
baz=275
WAT1 Susitna Watana 58.47 32 P P 03 50 49.3 +0.4
baz=276
G24K Hadweenzic Riv 58.55 27 IAmb IAmb 03 50 52.0
comp=Z,15nm,0.9s
G24K Hadweenzic Riv 58.55 27 P P 03 50 49.9 +0.6
baz=275
COLA College 58.56 30 P P 03 50 50.2 +0.8
COLA IAmb IAmb 03 50 52.1
comp=Z,14nm,0.8s
COLA College 58.56 30 P P 03 50 50.8 +1.4
baz=276
COLA College 58.56 30 P P 03 50 50.2 +0.8
COLA pmax pmax
comp=Z,14nm,0.8s
KNK Knik Glacier 58.67 34 P P 03 50 49.9 -0.4
baz=277,SNR=13
SML Sawmill 58.69 33 IAmb IAmb 03 50 53.7
comp=Z,28nm,1.0s
SML Sawmill 58.69 33 P P 03 50 50.0 -0.4
baz=277
D25K Kavik River 58.76 24 IAmb IAmb 03 50 53.3
comp=Z,33nm,1.4s
D25K Kavik River 58.76 24 P P 03 50 50.9 +0.1
baz=274,SNR=8.4
WAT6 Susitna Watana 58.87 32 P P 03 50 51.6 -0.2
baz=277,SNR=14
DHY Denali Highway 58.97 32 P P 03 50 52.1 -0.5
baz=277,SNR=7.0
M23K Glacier View 58.97 33 P P 03 50 52.2 -0.2
baz=278
IL31 58.98 30 IAmb IAmb 03 50 54.3
comp=Z,8.8nm,0.8s
ILAR Eielson Array 58.98 30 P P 03 50 51.9 -0.5
ILAR Eielson Array 58.98 30 P P 03 50 51.9 -0.5
comp=Z,5.5nm,0.7s,baz=267,slow=5.5,SNR=59
comp=Z,5.5nm,0.7s
HDA Harding Lake 59.00 30 P P 03 50 52.3 -0.2
baz=277,SNR=26
HDA P P 03 50 52.3 -0.2
baz=277,SNR=26
G25K Bearman Lake 59.09 27 P P 03 50 53.9 +0.8
baz=276
SCM Sheep Creek Mo 59.16 33 P P 03 50 53.8 +0.1
baz=278,SNR=7.2
E25K Arctic Village 59.16 26 IAmb IAmb 03 50 56.8
comp=Z,32nm,1.4s
E25K Arctic Village 59.16 26 P P 03 50 54.2 +0.7
baz=276,SNR=16
F25K Christian Rive 59.18 26 P P 03 50 54.4 +0.6
baz=276
C26K Camden Bay 59.22 24 P P 03 50 54.1 +0.2
baz=275
P23K Montague Islan 59.39 35 P P 03 50 55.6 +0.4
baz=279
GLI Glacier Island 59.40 34 P P 03 50 55.3 -0.1
baz=279
PRP Porcupine Dome 59.47 29 IAmb IAmb 03 50 58.1
comp=Z,12nm,0.8s
PRP Porcupine Dome 59.47 29 P P 03 50 56.4 +0.5
baz=277,SNR=7.6
K24K Donnelly Dome 59.59 31 P P 03 50 56.4 -0.2
baz=278,SNR=5.2
J25K Salcha River, 59.65 30 IAmb IAmb 03 51 04.7
comp=Z,35nm,1.9s
J25K Salcha River, 59.65 30 P P 03 50 57.2 +0.1
baz=276
M24K Tolsona, Glenn 59.66 33 P P 03 50 57.4 +0.2
baz=279,SNR=5.8
F26K Sheenjek River 59.74 26 P P 03 50 58.5 +0.9
baz=277
PAX Paxson 59.85 32 P P 03 50 58.3 -0.1
baz=279,SNR=8.0
KLU Klutina 59.87 33 IAmb IAmb 03 51 00.2
comp=Z,16nm,0.9s
KLU Klutina 59.87 33 P P 03 50 59.5 +0.9
baz=279,SNR=6.0
G26K Porcupine Rive 59.98 27 P P 03 50 59.9 +0.7
baz=278
Q23K Middleton Isla 60.01 36 P P 03 50 59.7 +0.2
baz=280
RIDG Independent Ri 60.01 31 IAmb IAmb 03 51 01.3
comp=Z,14nm,1.1s
RIDG Independent Ri 60.01 31 P P 03 50 59.1 -0.5
baz=279
HARP HAARP 60.08 32 P P 03 51 00.0 0.0
baz=279,SNR=10
EYAK Cordova Ski Ar 60.11 34 P P 03 50 59.9 -0.2
baz=280
SCRK Sand Creek 60.34 30 P P 03 51 02.1 +0.2
SCRK IAmb IAmb 03 51 03.0
comp=Z,23nm,0.9s
SCRK Sand Creek 60.34 30 P P 03 51 00.9 -1.0
baz=280,SNR=18
J26L Joseph Creek 60.44 30 P P 03 51 01.0 -1.5
baz=280
N25K Chitina, Valde 60.48 33 IAmb IAmb 03 51 05.6
comp=Z,13nm,0.8s
N25K Chitina, Valde 60.48 33 P P 03 51 01.8 -1.0
baz=280,SNR=6.7
I26K Coal Creek Min 60.48 29 P P 03 51 02.5 -0.1
baz=279
BMRM Bremner River 60.59 34 P P 03 51 03.3 -0.3
baz=281,SNR=7.2
E27K Coleen River 60.62 25 IAmb IAmb 03 51 06.7
comp=Z,21nm,1.2s
E27K Coleen River 60.62 25 P P 03 51 03.9 +0.3
baz=279,SNR=14
KIRV Kirov 60.67 323 iP P 03 51 03.2 -0.8
KIRV Kirov 60.67 323 LR LR 04 21 09.0
comp=Z,1µm,18.6s,baz=52,slow=40
D27M Malcolm River 60.68 24 IAmb IAmb 03 51 07.0
comp=Z,21nm,1.2s
D27M Malcolm River 60.68 24 P P 03 51 04.4 +0.4
baz=279,SNR=14

L26K Log Cabin Wild 60.79 31 P P 03 51 04.8 -0.1
baz=281,SNR=12
G27K Doyon Strip 60.83 27 P P 03 51 04.7 -0.4
baz=280
GLB Gilahina Butte 60.88 33 P P 03 51 06.2 +0.6
KAIM Kayak Island 60.88 35 P P 03 51 05.2 -0.3
baz=281
H27K Steamboat Moun 60.98 28 P P 03 51 06.5 +0.4
baz=280
I27K Kandik River 61.06 28 P P 03 51 07.4 +0.7
baz=281,SNR=27
M26K Nabesna, AK 61.07 32 P P 03 51 07.1 +0.3
baz=281
VRDI Verde Repeater 61.09 33 P P 03 51 07.6 +0.5
VRDI IAmb IAmb 03 51 08.7
comp=Z,16nm,0.9s
K27K Chicken 61.16 30 IAmb IAmb 03 51 10.6
comp=Z,31nm,1.2s
K27K Chicken 61.16 30 P P 03 51 07.3 -0.1
baz=281
MCARA McCarthy VSAT 61.26 33 IAmb IAmb 03 51 11.1
comp=Z,22nm,0.9s
MCARA McCarthy VSAT 61.26 33 P P 03 51 08.1 0.0
baz=282,SNR=5.0
E28M Babbage River 61.30 25 IAmb IAmb 03 51 11.2
comp=Z,18nm,1.2s
E28M Babbage River 61.30 25 P P 03 51 08.5 +0.3
baz=281,SNR=16
CRQE Cirque 61.36 34 P P 03 51 08.8 0.0
baz=282,SNR=5.4
F28M Old Crow 61.37 26 P P 03 51 09.0 +0.3
baz=281,SNR=18
EGAK Eagle 61.41 29 IAmb IAmb 03 51 20.7
comp=Z,43nm,1.9s
EGAK Eagle 61.41 29 P P 03 51 09.1 +0.1
baz=282
D28M Stokes Point 61.45 24 P P 03 51 09.1 -0.1
baz=281
L27K Beaver Creek, 61.47 31 IAmb IAmb 03 51 12.3
comp=Z,44nm,1.7s
L27K Beaver Creek, 61.47 31 P P 03 51 09.4 0.0
baz=282,SNR=11
TGL Tana Glacier 61.48 34 IAmb IAmb 03 51 11.2
comp=Z,17nm,0.8s
M27K Edge Creek, AK 61.59 32 IAmb IAmb 03 51 12.2
comp=Z,16nm,0.8s
M27K Edge Creek, AK 61.59 32 P P 03 51 10.4 0.0
baz=282
I28M Miner Creek 61.78 28 P P 03 51 11.9 +0.3
baz=282
PRGR Permogore 61.89 327 *e*P P 03 51 12.5 +0.3
PRGR pmax pmax
comp=Z,20nm,1.0s
E29M Blow River 61.94 25 IAmb IAmb 03 51 15.3
comp=Z,18nm,1.2s
E29M Blow River 61.94 25 P P 03 51 12.7 +0.2
baz=282
DZM Mont Dzumac 61.95 144 LR LR 04 13 02.9
comp=Z,209nm,21.5s,baz=64,slow=31
MESA MESA 62.03 34 P P 03 51 12.7 -0.8
baz=283
BVCY Beaver Creek 62.04 32 P P 03 51 13.1 -0.2
baz=283
CTG Chitna Glacier 62.15 33 P P 03 51 13.9 -0.3
baz=283
G29M Pine Creek 62.22 26 P P 03 51 15.4 +1.0
baz=283,SNR=16
H29M Whitestone 62.24 27 IAmb IAmb 03 51 16.9
comp=Z,24nm,0.9s
H29M Whitestone 62.24 27 P P 03 51 14.7 +0.2
baz=283
DAWY Dawson 62.31 30 P P 03 51 14.8 -0.4
baz=283,SNR=6.6
YUK3 Moose Creek 62.37 32 P P 03 51 15.2 -0.6
baz=284
I29M Ogilvie Camp, 62.46 28 IAmb IAmb 03 51 18.0
comp=Z,17nm,0.9s
I29M Ogilvie Camp, 62.46 28 P P 03 51 15.9 -0.2
baz=284,SNR=17
YUK8 Steele Glacier 62.81 33 P P 03 51 18.6 -0.2
baz=284
STKA Stephens Creek 62.82 171 P P 03 51 19.5 +0.8
STKA Stephens Creek 62.82 171 P P 03 51 19.5 +0.8
STKA pmax pmax
comp=Z,7.0nm,1.4s
STKA Stephens Creek 62.82 171 P P 03 51 19.2 +0.5
comp=Z,11nm,0.7s,baz=334,slow=7.2,SNR=24
comp=Z,11nm,0.7s
EPYK Eagle Plains 62.85 27 P P 03 51 18.6 -0.1
baz=284,SNR=27
PINM Pinnacle 62.88 34 P P 03 51 19.0 0.0
baz=285
G30M tAoh Zraii Nji 62.89 26 P P 03 51 19.3 +0.3
baz=285
F30M Barrier River 62.89 25 P P 03 51 18.9 -0.1
baz=285
L29M L29M 63.09 31 P P 03 51 20.9 +0.5
baz=285
M29M Somme Creek 63.12 31 IAmb IAmb 03 51 23.1
comp=Z,14nm,0.9s
M29M Somme Creek 63.12 31 P P 03 51 21.2 +0.6
baz=285
BELG Belogornoye 63.12 317⇑ *e*P P 03 51 21.5 +0.9
BELG pmax pmax
comp=Z,3.0nm,1.2s
K29M Barlow Dome 63.17 30 IAmb IAmb 03 51 23.0
comp=Z,16nm,0.8s
K29M Barlow Dome 63.17 30 P P 03 51 21.3 +0.3
baz=285
I30M Mount Dempster 63.28 28 P P 03 51 21.8 +0.1
baz=285,SNR=25
YUK4 Talbot Arm 63.32 33 P P 03 51 22.2 +0.1
baz=285,SNR=5.1
PNL Peninsula 63.41 35 P P 03 51 22.6 +0.2
baz=286
J30M Hart River 63.47 29 IAmb IAmb 03 51 25.0
comp=Z,9.1nm,0.8s
J30M Hart River 63.47 29 P P 03 51 22.9 0.0
baz=286
INK Inuvik 63.53 24 IAmb IAmb 03 51 24.4
comp=Z,16nm,1.1s
INK Inuvik 63.53 24 P P 03 51 24.0 +0.9
baz=286,SNR=12
YUK6 Outpost Mounta 63.56 33 P P 03 51 23.9 +0.2
baz=286,SNR=6.9
O29M Mount Kennedy 63.63 34 IAmb IAmb 03 51 31.1
comp=Z,17nm,1.0s
O29M Mount Kennedy 63.63 34 P P 03 51 24.1 +0.1
baz=286
G31M Satah River 63.65 26 IAmb IAmb 03 51 24.9
comp=Z,13nm,0.8s
G31M Satah River 63.65 26 P P 03 51 24.0 +0.2
baz=286,SNR=12
F31M Tsiigehtchic 63.70 25 P P 03 51 24.4 +0.3
baz=286,SNR=12
M30M Minto, Yukon 63.83 31 IAmb IAmb 03 51 27.4
comp=Z,7.1nm,0.7s
M30M Minto, Yukon 63.83 31 P P 03 51 25.5 +0.3
baz=286,SNR=7.2
H31M Peel River 63.94 27 P P 03 51 26.0 +0.1
baz=287,SNR=22
HYT Haines Junctio 63.99 33 IAmb IAmb 03 51 28.7
comp=Z,13nm,0.9s
HYT Haines Junctio 63.99 33 P P 03 51 27.2 +0.8
baz=286,SNR=6.7
N30M Aishikik Lake 64.01 32 P P 03 51 26.7 +0.3
baz=286
P29M Windy Craggy 64.23 34 IAmb IAmb 03 51 30.3
comp=Z,16nm,0.8s
P29M Windy Craggy 64.23 34 P P 03 51 28.4 +0.5
baz=287
P30M Million Dollar 64.46 34 P P 03 51 29.7 +0.3
baz=287
N31M Braeburn, Yuko 64.60 32 P P 03 51 30.1 -0.2
baz=288,SNR=5.9
O30N Mendenhall 64.67 33 P P 03 51 31.2 +0.4
baz=288
LVZ Lovozero 64.70 335⇑ *e*P P 03 51 32.2 +1.4
LVZ pmax pmax
comp=Z,43nm,1.4s
KLMR Klimovskoe 64.94 327 *e*P P 03 51 31.6 -0.8
KLMR AMP 03 51 43.1
comp=Z,19nm,1.3s
KLMR Klimovskoe 64.94 327 *e*P P 03 51 31.6 -0.8
KLMR pmax pmax
comp=Z,19nm,1.3s
A36M Sachs Harbour 65.00 20 P P 03 51 33.4 +0.7
baz=292,SNR=24

M31M Drury Creek, Y 65.01 31 P P 03 51 32.8 -0.1
baz=288,SNR=5.4
SPITS Spitsbergen Ar 65.22 348 P P 03 51 33.6 -0.5
SPITS Spitsbergen Ar 65.22 348 P P 03 51 33.6 -0.5
comp=Z,37nm,1.1s,baz=38,slow=8.4,SNR=2.7
comp=Z,37nm,1.1s
WHY Whitehorse 65.27 33 IAmb IAmb 03 51 36.8
comp=Z,14nm,0.9s
WHY Whitehorse 65.27 33 P P 03 51 34.6 -0.2
baz=289,SNR=8.3
SKAG Skagway 65.45 34 P P 03 51 35.9 +0.1
baz=289
FARO Faro, Yukon 65.46 31 P P 03 51 35.9 +0.1
baz=289,SNR=23
N32M Quiet Lake 65.94 32 P P 03 51 38.9 -0.1
baz=290
MAK Makhachkala 66.13 307 *e*P P 03 51 37.5 -3.0
MAK *e*S S 04 00 23.8 -3.7
MAK pmax pmax
comp=Z,152nm,1.4s
MAK MLR MLR
comp=Z,1μm,16.0s
P32M Atlin 66.18 34 P P 03 51 40.4 -0.2
baz=290
R32K Eaglecrest 66.24 35 P P 03 51 41.3 +0.4
baz=290
SIT Sitka 66.25 37 P P 03 51 40.0 -0.9
baz=290
P33M Teslin, Yukon 66.39 33 IAmb IAmb 03 51 44.5
comp=Z,32nm,1.4s
P33M Teslin, Yukon 66.39 33 P P 03 51 41.1 -0.8
baz=290,SNR=8.5
C36M Paulatuk 66.39 22 P P 03 51 41.8 +0.2
baz=294,SNR=32
S32K Killisnoo 66.49 36 P P 03 51 43.0 +0.6
baz=290
Q32M Nakina River 67.10 34 P P 03 51 45.4 -1.2
baz=291
R33M Jennings River 67.56 33 IAmb IAmb 03 51 51.8
comp=Z,11nm,0.9s
R33M Jennings River 67.56 33 P P 03 51 48.2 -1.2
baz=292,SNR=6.9
MOS Moscow 67.63 322 *e*P P 03 51 44.6 -5.1
MOS *e* 03 52 12.6
MOS MLR MLR
comp=Z,900nm,16.0s
U33K Whale Pass 67.72 37 P P 03 51 50.1 -0.2
baz=292
CRAG Craig 67.96 38 P P 03 51 53.1 +1.2
baz=292
WRAK Wrangell Islan 68.01 37 P P 03 51 51.2 -0.9
baz=292
S34M Telegraph Cree 68.05 35 IAmb IAmb 03 51 54.6
comp=Z,12nm,0.8s
S34M Telegraph Cree 68.05 35 P P 03 51 53.1 +0.8
baz=293,SNR=6.1
WTLY Watson Lake, Y 68.29 32 P P 03 51 54.4 +0.5
baz=294,SNR=12
DLBC Dease Lake 68.38 34 IAmb IAmb 03 51 56.9
comp=Z,11nm,0.9s
DLBC Dease Lake 68.38 34 P P 03 51 54.8 +0.3
baz=293,SNR=5.4
OBN Obninsk 68.42 322⇑ *e*P P 03 51 54.7 0.0
OBN *SP pP 03 51 59.0 -3.1
OBN *e* 03 52 17.5
OBN *e* 04 01 35.1
OBN pmax pmax
comp=Z,9.0nm,1.0s
OBN MLR MLR
comp=Z,832nm,18.0s
ZEI Tsey 68.67 308 *e*P P 03 51 55.2 -1.6
ZEI pmax pmax
comp=Z,11nm,1.4s
V35K Ketchikan 68.81 38 P P 03 51 57.8 +0.7
baz=293
T35M Bob Quinn 68.85 36 IAmb IAmb 03 51 59.9
comp=Z,14nm,0.9s
T35M Bob Quinn 68.85 36 P P 03 51 58.2 +0.7
baz=294
KBZ Khabaz 68.98 309⇑ *e*P P 03 51 58.2 -0.2
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 68.98 309 P P 03 51 58.9 +0.4
comp=Z,5.2nm,0.8s,baz=25,slow=5.3,SNR=14
KBZ LR LR 04 26 22.7
comp=Z,1μm,19.8s,baz=66,slow=40
comp=Z,5.2nm,0.8s
KIV Kislovodsk 69.04 309 *e*P P 03 51 59.4 +0.5
KIV pmax pmax
comp=Z,9.0nm,1.0s
GNI Garni 69.09 305 *de*P P 03 52 00.4 +0.9
GNI pmax pmax
comp=Z,9.0nm,0.9s
WRGLY Wrigley 69.26 28 P P 03 52 00.7 +0.8
baz=297,SNR=7.8
KOTAN Kotaneelee Air 70.42 31 P P 03 52 07.9 +0.8
baz=297
FINES FINESS Array B 70.69 331 *i* P P 03 52 08.1 -0.5
FINES pmax pmax
comp=Z,12nm,0.7s
FINES FINESS Array B 70.69 331 P P 03 52 08.1 -0.5
comp=Z,12nm,0.7s,baz=72,slow=5.2,SNR=36
FINES LR LR 04 26 36.1
comp=Z,1μm,19.6s,baz=71,slow=39
comp=Z,12nm,0.7s
DAG Dannarks Havn 71.33 353 *i* P P 03 52 13.0 +0.8
YKA Yellowknife Ar 73.13 26 *i* P P 03 52 23.3 +0.1
YKA pmax pmax
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 73.13 26 P P 03 52 22.9 -0.3
comp=Z,4.8nm,0.8s,baz=298,slow=6.1,SNR=68
comp=Z,4.8nm,0.8s
NACGM Naroch 73.57 324 *e*P P 03 52 25.2 -0.7
comp=Z,20nm,0.7s,baz=60
AKASG Malin Array Be 74.35 320 *i* P P 03 52 29.6 -1.1
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKASG Malin Array Be 74.35 320 P P 03 52 29.6 -1.1
comp=Z,6.7nm,0.8s,baz=53,slow=5.9,SNR=30
comp=Z,6.7nm,0.8s
AKBB Malin Array Si 74.35 320⇑ *e*P P 03 52 30.8 +0.2
KIEV Kiev 74.36 320 P P 03 52 30.1 -0.6
KIEV Kiev 74.36 320 P P 03 52 30.1 -0.6
KIEV pmax pmax
comp=Z,9.0nm,1.0s
HFS Hagfors 76.46 333 P P 03 52 41.4 -1.2
HFS Hagfors 76.46 333 P P 03 52 41.4 -1.2
comp=Z,4.2nm,0.7s,baz=74,slow=7.9,SNR=5.1
comp=Z,4.2nm,0.7s
NB2 NORSAR Subarra 76.83 335 P P 03 52 43.8 -0.9
comp=Z,63nm,1.7s,baz=50,slow=5.9
NB2 NORSAR Subarra 76.83 335 P P 03 52 43.8 -0.9
baz=50,slow=5.9
NOA NORSAR Array B 76.83 335 P P 03 52 43.8 -0.9
NOA NORSAR Array B 76.83 335 P P 03 52 43.8 -0.9
comp=Z,4.3nm,0.9s,baz=49,slow=5.6,SNR=9.8
NOA LR LR 04 30 20.4
comp=Z,1μm,18.7s,baz=45,slow=39
comp=Z,4.3nm,0.9s
SUMG Summit 76.87 357 P P 03 52 45.6 +0.5
SUMG Summit 76.87 357 P P 03 52 45.7 +0.5
SUMG pmax pmax
comp=Z,13nm,1.1s
SUMG Summit 76.87 357 *i* P P 03 52 45.0 -0.2
BR131 Keskin Array S 76.96 308 P P 03 52 46.1 +0.1
BR131 IAmb IAmb 03 53 12.3
comp=Z,27nm,1.4s
BR131 Keskin Array S 76.96 308 *de*P P 03 52 45.9 -0.1
BRTR Keskin Array B 76.96 308 P P 03 52 45.9 -0.1
BRTR Keskin Array B 76.96 308 *i* P P 03 52 46.5 +0.5
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 76.96 308 P P 03 52 46.4 +0.4
comp=Z,4.7nm,0.8s,baz=86,slow=6.5,SNR=27
comp=Z,4.7nm,0.8s
BUR08 Bucovina Ar. S 78.19 319 P P 03 52 52.6 -0.1
BUR08 IAmb IAmb 03 53 23.4
comp=Z,49nm,1.9s
MLR Muntele Rosu 78.91 316 LR LR 04 32 26.7
comp=Z,1μm,18.5s,baz=65,slow=39
MMAI Mount Meron Ar 78.97 302 P P 03 52 57.9 +0.7
comp=Z,3.0nm,0.8s,baz=46,slow=7.2,SNR=5.3
comp=Z,3.0nm,0.8s
EDM Edmonton 79.10 34 IAmb IAmb 03 52 59.6
comp=Z,38nm,1.2s
CRVS Cervenica-Dubn 79.57 321 *e*P P 03 51 01.8 +1.7
CRVS Cervenica-Dubn 79.57 321 *e*P P 03 51 01.8 +1.7

GHAJ Ghor Haditha 79.69 300 IAmb IAmb 03 53 29.5
comp=Z,23nm,1.1s
OJC Ojcow 79.69 323 P P 03 53 00.9 +0.2
OJC IAmb IAmb 03 53 03.3
comp=Z,30nm,1.4s
OJC Ojcow 79.69 323 P P 03 53 00.9 +0.2
OJC pmax pmax
comp=Z,30nm,1.4s
D08A Wollman Farm, 79.77 41 P P 03 53 01.3 +0.1
NEW Newport 80.09 39 P P 03 53 03.4 +0.4
baz=305
J05D Fort Rock, OR 80.50 45 P P 03 53 05.7 +0.3
E09A Wood Farm, Sta 80.52 41 P P 03 53 05.5 +0.2
RTZ Ruatahuna 80.63 146 P P 03 53 05.5 -0.3
RTZ IAmb IAmb 03 55 47.9
comp=Z,44nm,1.5s
MORC Moravsky Berou 81.12 323 *e*P P 03 53 08.5 0.0
VYHS Vyhne 81.22 322 *e*P P 03 53 10.9 +2.0
VYHS Vyhne 81.22 322 *e*P P 03 53 11.0 +2.0
VYHS pmax pmax
comp=Z,16nm,1.4s
RUE Ruedersdorf 81.29 327 *e*P P 03 53 10.9 +1.8
comp=Z,68nm,1.5s,baz=47,slow=5.0
OSTC Ostas 81.32 324 *e*P P 03 53 12.0 +2.5
OSTC AMS AMS 04 33 00.0
comp=Z,1μm,16.9s
OSTC Ostas 81.32 324 *e*P P 03 53 12.0 +2.5
OSTC MLR MLR
comp=Z,1μm,16.9s
KRLC Kraliky 81.33 324 AMS AMS 04 33 40.0
comp=Z,1μm,19.9s
KRLC Kraliky 81.33 324 *e*P P 03 53 18.4 +8.8
KRLC MLR MLR
comp=Z,2μm,19.7s
CHVC Chvalec 81.38 325 *e*P P 03 53 11.5 +1.7
CHVC Chvalec 81.38 325 *e*P P 03 53 11.5 +1.7
DPC Dobruska-Polom 81.39 324 *e*P P 03 53 12.0 +2.1
DPC AMS AMS 04 34 00.0
comp=Z,1μm,17.0s
DPC Dobruska-Polom 81.39 324 *e*P P 03 53 12.0 +2.1
DPC MLR MLR
comp=Z,1μm,17.0s
UPC Upice 81.45 325 AMS AMS 04 33 10.0
comp=Z,1μm,17.4s
JAVC Velka Javorina 81.61 323 *e*P P 03 53 12.4 +1.3
VRAC Vranov 81.90 323 *e*P P 03 53 12.8 +0.2
VRAC Vranov 81.90 323 P P 03 53 12.7 +0.2
VRAC Vranov 81.90 323 P P 03 53 12.7 +0.2
comp=Z,3.1nm,0.7s,baz=53,slow=4.5,SNR=7.4
VRAC LR LR 04 34 13.9
comp=Z,680nm,18.6s,baz=42,slow=39
comp=Z,3.1nm,0.7s
BSEG Bad Segeberg 81.90 329 *e*P P 03 53 13.8 +1.4
comp=Z,20nm,1.1s,baz=47,slow=5.0
SMOL Smolenice 81.95 322 *e*P P 03 53 14.8 +2.0
SMOL pmax pmax
comp=Z,28nm,2.3s
GORT1 Trebel 82.09 328 *e*P P 03 53 15.1 +1.8
comp=Z,50nm,1.4s,baz=47,slow=5.0
MODS Modra-Piesok 82.12 322 *e*P P 03 53 15.7 +2.0
MODS Modra-Piesok 82.12 322 *e*P P 03 53 15.7 +2.0
MODS pmax pmax
comp=Z,140nm,2.4s
KRUC Moravsky 82.15 323 *e*P P 03 53 14.6 +0.7
BRG Berggiesshubel 82.24 326 P P 03 53 04.7 -10
BRG Amp 03 53 07.3
comp=Z,5.0nm,1.0s
BRG Berggiesshubel 82.24 326 P P 03 53 17.2 +2.9
BRG Amp 03 53 19.2
comp=Z,3.2nm,0.9s
BRG Amp 03 59 23.0
comp=N,1.6nm,14.9s
BRG Amp 03 59 23.0
comp=E,1.6nm,15.5s
BRG Amp 03 59 27.0
comp=Z,2.9nm,16.4s
BRG Amp 04 34 04.0
comp=E,1.0nm,18.9s
BRG Amp 04 34 05.0
comp=N,1.0nm,15.6s
BRG Amp 04 34 08.0
comp=Z,1.7nm,17.3s
RICC Richard 82.37 325 AMS AMS 04 33 50.0
comp=Z,2μm,17.0s
CLL Collm 82.41 326 IAmb IAmb 03 53 17.5
comp=Z,24nm,0.9s
CLL Collm 82.41 326 *i* P P 03 53 15.2 +0.1
comp=Z,29nm,1.0s
CLL *i* sP pwP 03 53 24.5 -0.8
CLL AMS AMS 04 33 00.0
comp=Z,2μm,19.3s
CLL Collm 82.41 326 *i* P P 03 53 15.2 +0.1
CLL *i* 03 53 24.5
CLL pmax pmax
comp=Z,29nm,1.0s
CLL MLR MLR
comp=Z,2μm,19.3s
CLL Collm 82.41 326 *e*P P 03 53 16.7 +1.6
comp=Z,22nm,0.8s,baz=47,slow=5.0
CLL *e*pP pwP 03 53 25.5 +0.2
baz=46,slow=5.0
GOPC GO Pecny, Ondr 82.44 325 *e*P P 03 53 17.4 +2.0
GOPC GO Pecny, Ondr 82.44 325 *e*P P 03 53 17.4 +2.0
FBE Freiberg 82.49 326 *e*P P 03 53 17.4 +1.8
comp=Z,159nm,2.1s,baz=47,slow=5.0
FBE *e*pP sP 03 53 26.5 +0.6
baz=46,slow=5.0
PRU Pruhonice 82.51 325 *e*P P 03 53 17.3 +1.6
PRU AMS AMS 04 33 40.0
comp=Z,1μm,14.6s
PRU Pruhonice 82.51 325 *e*P P 03 53 17.3 +1.6
PRU MLR MLR
comp=Z,1μm,14.6s
PRA Prague 82.51 325 AMS AMS 04 33 40.0
comp=Z,1μm,16.7s
FLTG Flechtingen 82.56 328 *e*P P 03 53 16.9 +1.0
comp=Z,28nm,1.1s,baz=47,slow=5.0
HSKC Hora Svate Kat 82.66 326 *e*P P 03 53 18.4 +1.9
HSKC AMS AMS 04 34 20.0
comp=Z,2μm,19.7s
MSO Missoula 82.67 39 P P 03 53 17.6 +0.9
baz=308
NRDL Niedersach Rie 82.97 328 *e*P P 03 53 19.2 +1.2
comp=Z,87nm,2.1s,baz=47,slow=5.0
ZVC Zvikov 83.04 324 AMS AMS 04 36 30.0
comp=Z,1μm,17.3s
FCC Fort Churchill 83.04 22 IAmb IAmb 03 53 20.1
comp=Z,40nm,1.6s
RONA Rosalia, Austr 83.05 322 *e*PcP PcP 03 53 21.5 -1.8
comp=Z,25nm,1.9s
NEUB Neuenburg 83.06 327 *e*P P 03 53 20.1 +1.6
comp=Z,44nm,1.1s,baz=47,slow=5.0
NEUB *e*pP sP 03 53 29.1 +0.3
baz=46,slow=5.0
RETH Rethem/Aller, 83.14 329 *e*P P 03 53 20.1 +1.3
comp=Z,72nm,1.9s,baz=47,slow=5.0
CONA Conrad Observa 83.14 323 *i* PcP P 03 53 21.4 +2.2
comp=Z,35nm,1.6s,SNR=14
TANN Tannenbergstha 83.25 326 *e*P P 03 53 21.1 +1.4
comp=Z,38nm,1.6s,baz=47,slow=5.0
TANN *e*pP sP 03 53 30.2 +0.3
baz=46,slow=5.0
CLZ Clausthal 83.29 328 *e*P P 03 53 21.5 +1.7
comp=Z,38nm,1.2s,baz=47,slow=5.0
CLZ *e*pP sP 03 53 30.4 +0.3
baz=46,slow=5.0
WERD Werda 83.31 326 *e*P P 03 53 21.3 +1.5
comp=Z,30nm,1.4s,baz=47,slow=5.0
WERD *e*pP sP 03 53 30.3 +0.2
baz=46,slow=5.0
RAR Rarotonga 83.32 119 LR LR 04 20 51.9
comp=Z,93nm,21.2s,baz=340,slow=29
GUNZ Gunzen 83.35 326 *e*P P 03 53 21.6 +1.5
comp=Z,31nm,1.2s,baz=47,slow=5.0
GUNZ *e*pP sP 03 53 30.8 +0.4
baz=46,slow=5.0
PLN Plauen 83.36 326 *e*P P 03 53 21.6 +1.5
comp=Z,17nm,1.1s,baz=47,slow=5.0
PLN *e*pP sP 03 53 30.8 +0.4
baz=46,slow=5.0
CKRC Cesky Krumlov 83.37 324 *e*P P 03 53 22.0 +1.8
CKRC *ex* x 03 53 30.7
CKRC AMS AMS 04 34 50.0
comp=Z,1μm,17.1s
CKRC Cesky Krumlov 83.37 324 *e*P P 03 53 22.0 +1.8
CKRC *e* 03 53 30.7

CKRC					MLR	MLR		
	comp=Z,1μm,17.1s							
WERN	**Wernitzgruen**	**83.38**	**326**	*eP*	**P**		**03 53 21.9**	**+1.6**
	comp=Z,23nm,1.1s,baz=47,slow=5.0							
WERN				*epP*	**sP**		**03 53 30.9**	**+0.3**
	baz=46,slow=5.0							
NKC	**Novy Kostel**	**83.38**	**326**	AMS	AMS		04 34 40.0	
	comp=Z,2μm,18.4s							
MOX	**Moxa**	**83.51**	**326**	*eP*	**P**		**03 53 22.5**	**+1.6**
	comp=Z,55nm,1.7s,baz=47,slow=5.0							
MOX				*epP*	**sP**		**03 53 31.4**	**+0.2**
	baz=46,slow=5.0							
MOX				*eL*	L		04 34 53.0	
	comp=Z,1μm,20.0s							
KHC	**Kasperske Hory**	**83.54**	**324**	IAmb	IAmb		03 53 23.9	
	comp=Z,17nm,1.2s							
KHC	**Kasperske Hory**	**83.54**	**324**	*eP*	**P**		**03 53 23.0**	**+1.9**
KHC				*epP*	**pwP**		**03 53 31.4**	**+0.1**
KHC				AMS	AMS		04 36 40.0	
	comp=Z,1μm,16.1s							
KHC	**Kasperske Hory**	**83.54**	**324**	*eP*	**P**		**03 53 23.0**	**+1.9**
KHC				*e*			03 53 31.4	
KHC				MLR	MLR			
	comp=Z,1μm,16.1s							
PAHR	**Pah Rah Range**	**83.65**	**47**	IAmb	IAmb		03 53 24.1	
	comp=Z,30nm,1.8s							
GEC2	**GERESS Array S**	**83.67**	**324**	*eP*	**P**		**03 53 23.2**	**+1.4**
	comp=Z,12nm,1.1s,baz=47,slow=5.0							
GEC2				*epP*	**pwP**		**03 53 32.1**	**+0.2**
	baz=46,slow=5.0							
GERES	**GERESS Array B**	**83.67**	**324**	P	**P**		**03 53 22.5**	**+0.7**
GERES	**GERESS Array B**	**83.67**	**324**	P	**P**		**03 53 22.5**	**+0.7**
	comp=Z,4.2nm,0.8s,baz=35,slow=4.9,SNR=12							
	comp=Z,4.2nm,0.8s							
GTTG	**Gottingen**	**83.67**	**328**	*eP*	**P**		**03 53 23.0**	**+1.3**
	comp=Z,31nm,1.1s,baz=47,slow=5.0							
MANZ	**Manzenberg**	**83.71**	**326**	*eP*	**P**		**03 53 23.5**	**+1.5**
	comp=Z,16nm,1.9s,baz=47,slow=5.0							
MANZ				*epP*	**sP**		**03 53 32.6**	**+0.4**
	baz=46,slow=5.0							
ARSA	**Arzberg**	**83.74**	**322**	*i* PcP	**PcP**		**03 53 24.4**	**-1.9**
	comp=Z,8.1nm,0.9s,SNR=6.4							
ROTZ	**Rotzenmuhle**	**83.80**	**326**	*eP*	**P**		**03 53 24.5**	**+2.0**
	comp=Z,9.6nm,1.3s,baz=47,slow=5.0							
ROTZ				*epP*	**sP**		**03 53 33.3**	**+0.6**
	baz=46,slow=5.0							
WET	**Wettzell**	**83.88**	**325**	*eP*	**P**		**03 53 24.5**	**+1.6**
	comp=Z,53nm,2.0s,baz=47,slow=5.0							
CMB	**Columbia Colle**	**83.95**	**49**	IAmb	IAmb		03 53 25.3	
	comp=Z,19nm,1.6s							
MOA	**Molln**	**84.02**	**323**	*i* PcP	**PcP**		**03 53 25.9**	**-1.6**
	comp=Z,16nm,1.3s,SNR=6.1							
EGMT	**Eagleton**	**84.14**	**36**	IAmb	IAmb		03 53 25.6	
	comp=Z,18nm,1.1s							
EGMT	**Eagleton**	**84.14**	**36**	P	**P**		**03 53 24.6**	**+0.3**
	baz=310							
IBBN	**Ibbenburen**	**84.14**	**329**	*eP*	**P**		**03 53 24.9**	**+0.8**
	comp=Z,40nm,1.3s,baz=47,slow=5.0							
IBBN				*epP*	**pwP**		**03 53 34.0**	**-0.2**
	baz=46,slow=5.0							
UBBA	**Unterbreizbach**	**84.15**	**327**	*eP*	**P**		**03 53 25.6**	**+1.6**
	comp=Z,89nm,1.8s,baz=47,slow=5.0							
YERR	**Yerington**	**84.15**	**48**	IAmb	IAmb		03 53 26.0	
	comp=Z,8.7nm,0.9s							
GRF	**Grafenberg Arr**	**84.33**	**326**	*eP*	**P**		**03 53 26.7**	**+1.6**
	comp=Z,56nm,1.2s,baz=47,slow=5.0							
GRF				*epP*	**sP**		**03 53 35.9**	**+0.5**
	baz=46,slow=5.0							
GRF				*eL*	L		04 35 32.0	
	comp=Z,2μm,19.2s							
GRFO	**Grafenberg**	**84.33**	**326**	P	**P**		**03 53 25.5**	**+0.4**
GRFO	**Grafenberg**	**84.33**	**326**	P	**P**		**03 53 25.5**	**+0.4**
GRFO				pmax	pmax			
	comp=Z,181nm,1.9s							
SOKA	**Soboth**	**84.36**	**322**	*i* P	**P**		**03 53 26.0**	**+0.5**
	comp=Z,73nm,2.1s,SNR=17							
HLID	**Hailey**	**84.39**	**42**	P	**P**		**03 53 25.9**	**+0.1**
	baz=308							
BIOA	**Bad Ischl, Aus**	**84.44**	**323**	P	**P**		**03 53 26.8**	**+1.1**
	comp=Z,32nm,1.8s,SNR=8.0							
FRB	**Frobisher Bay**	**84.54**	**9**	LR	LR		04 34 59.4	
	comp=Z,483nm,18.2s,baz=3.5,slow=38							
BMN	**Battle Mountai**	**84.58**	**46**	IAmb	IAmb		03 53 28.6	
	comp=Z,9.0nm,1.0s							
KASTN	**Kahler Asten**	**84.62**	**328**	*eP*	**P**		**03 53 27.7**	**+1.1**
	comp=Z,18nm,1.2s,baz=47,slow=5.0							
KASTN				*epP*	**pwP**		**03 53 36.6**	**-0.1**
	baz=46,slow=5.0							
RYN	**Ryan**	**84.82**	**48**	IAmb	IAmb		03 53 29.5	
	comp=Z,11nm,0.9s							
KVN	**Kaiserville**	**84.84**	**47**	IAmb	IAmb		03 53 29.6	
	comp=Z,17nm,0.9s							
BUG	**Bochum--Univer**	**84.97**	**329**	*eP*	**P**		**03 53 29.2**	**+1.0**
	comp=Z,48nm,1.8s,baz=47,slow=5.0							
BUG				*epP*	**pwP**		**03 53 38.3**	**-0.1**
	baz=46,slow=5.0							
MDPB	**Devils Postpil**	**85.03**	**49**	IAmb	IAmb		03 53 31.1	
	comp=Z,11nm,1.2s							
LHV	**Little Huntoon**	**85.05**	**48**	IAmb	IAmb		03 53 31.0	
	comp=Z,12nm,0.9s							
NVAR	**Mina Array Bea**	**85.07**	**48**	P	**P**		**03 53 29.8**	**+0.5**
	comp=Z,6.1nm,0.8s,baz=296,slow=5.2,SNR=48							
	comp=Z,6.1nm,0.8s							
LESA	**Schwarzleotal**	**85.11**	**324**	*eP*	**P**		**03 53 29.5**	**+0.3**
	comp=Z,29nm,1.5s							
MYKA	**Terra Mystica**	**85.13**	**323**	PcP	**P**		**03 53 30.4**	**+1.1**
	comp=Z,6.3nm,1.1s							
TNS	**Taunus Mts**	**85.28**	**328**	*eP*	**P**		**03 53 31.2**	**+1.2**
	comp=Z,62nm,2.0s,baz=47,slow=5.0							
TNS				*epP*	**pwP**		**03 53 40.3**	**+0.3**
	baz=46,slow=5.0							
FUR	**Furstenfeldbru**	**85.33**	**325**	*eP*	**P**		**03 53 31.7**	**+1.6**
	comp=Z,54nm,1.2s,baz=47,slow=5.0							
ABTA	**Abfaltersbach**	**85.64**	**323**	*eP*	**P**		**03 53 32.0**	**+0.1**
	comp=Z,12nm,1.3s							
AHRW	**Bad Neuenahr-A**	**85.69**	**328**	*eP*	**P**		**03 53 33.5**	**+1.6**
	comp=Z,39nm,1.5s,baz=47,slow=5.0							
WATA	**Walderalm**	**85.73**	**324**	*e*PcP	**PcP**		**03 53 33.8**	**-1.4**
	comp=Z,3.9nm,0.8s							
WTTA	**Wattenberg**	**85.75**	**324**	*eP*	**P**		**03 53 31.8**	**-0.7**
	comp=Z,15nm,1.5s							
STU	**Stuttgart**	**85.93**	**326**	*eP*	**P**		**03 53 34.3**	**+1.1**
	comp=Z,41nm,1.0s,baz=47,slow=5.0							
STU				*epP*	**pwP**		**03 53 43.4**	**+0.2**
	baz=46,slow=5.0							
MOTA	**Moosalm**	**85.96**	**324**	*e*PcP	**PcP**		**03 53 35.1**	**-1.1**
	comp=Z,5.3nm,1.2s							
H17A	**Grant Village**	**86.04**	**40**	IAmb	IAmb		03 53 38.2	
	comp=Z,19nm,1.2s							
H17A	**Grant Village**	**86.04**	**40**	P	**P**		**03 53 34.8**	**+0.7**
	baz=310							
RETA	**Reutte**	**86.04**	**324**	*e*PcP	**PcP**		**03 53 36.0**	**-0.4**
	comp=Z,12nm,1.7s							
YMP	**Mirror Lake Pl**	**86.05**	**39**	IAmb	IAmb		03 53 37.2	
	comp=Z,34nm,1.8s							
VES	**Vestal, Richgr**	**86.06**	**50**	P	**P**		**03 53 33.9**	**-0.1**
	baz=305							
FLWY	**Flagg Ranch**	**86.17**	**40**	IAmb	IAmb		03 53 37.4	
	comp=Z,8.1nm,0.9s							
EKA	**Eskdalemuir Ar**	**86.18**	**336**	P	**P**		**03 53 34.0**	**-0.2**
EKA	**Eskdalemuir Ar**	**86.18**	**336**	P	**P**		**03 53 34.0**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=44,slow=4.0,SNR=12							
	comp=Z,2.2nm,0.6s							
RLMT	**Red Lodge**	**86.28**	**38**	P	**P**		**03 53 35.4**	**+0.2**
	baz=311							
FETA	**Feichten**	**86.37**	**324**	*e*PcP	**PcP**		**03 53 36.9**	**-1.2**
	comp=Z,3.2nm,1.0s							
TPAW	**Teton Pass**	**86.41**	**41**	IAmb	IAmb		03 53 55.6	
	comp=Z,22nm,1.8s							
HVU	**Hansel Valley**	**86.44**	**43**	IAmb	IAmb		03 53 38.7	
	comp=Z,21nm,1.7s							
DGMT	**Dagmar**	**86.59**	**34**	P	**P**		**03 53 35.9**	**-0.6**
	baz=314							
DGMT	**Dagmar**	**86.59**	**34**	P	**P**		**03 53 37.1**	**+0.7**
	baz=314							
DAVA	**Damuels**	**86.62**	**325**	*e*PcP	**P**		**03 53 37.7**	**+1.0**
	comp=Z,9.8nm,1.4s							
ARVC	**Arvin**	**86.64**	**51**	P	**P**		**03 53 37.3**	**+0.4**
	baz=306							
BFO	**Black Forest**	**86.65**	**326**	P	**P**		**03 53 36.7**	**-0.1**
BFO	**Black Forest**	**86.65**	**326**	P	**P**		**03 53 36.7**	**-0.1**
BFO				pmax	pmax			
	comp=Z,51nm,1.8s							
BFO	**Black Forest**	**86.65**	**326**	*eP*	**P**		**03 53 37.8**	**+1.1**
	comp=Z,41nm,1.6s,baz=47,slow=5.0							
WLF	**Walferdange**	**86.73**	**328**	IAmb	IAmb		03 53 39.7	
	comp=Z,24nm,1.3s							
WLF	**Walferdange**	**86.73**	**328**	*eP*	**P**		**03 53 38.5**	**+1.5**
	comp=Z,67nm,1.9s,baz=47,slow=5.0							
LAO	**LASA Array**	**86.82**	**36**	IAmb	IAmb		03 53 39.4	
	comp=Z,18nm,1.1s							
LAO	**LASA Array**	**86.82**	**36**	P	**P**		**03 53 38.2**	**+0.5**
	baz=313							
LAO	**LASA Array**	**86.82**	**36**	P	**P**		**03 53 38.2**	**+0.5**
	baz=313							
BGU	**Big Grassy Mou**	**86.83**	**43**	IAmb	IAmb		03 53 50.1	
	comp=Z,20nm,1.9s							
R11B	**Troy Canyon, C**	**86.84**	**47**	P	**P**		**03 53 38.6**	**+0.5**
	baz=307							
Q12A	**Willow Creek R**	**86.89**	**46**	IAmb	IAmb		03 53 53.9	
	comp=Z,9.2nm,1.0s							
DAVOX	**Davos/Dischmat**	**86.96**	**324**	LR	LR		04 36 06.6	
	comp=Z,1μm,20.3s,baz=38,slow=38							
MPMC	**Manual Prospec**	**86.98**	**49**	P	**P**		**03 53 38.3**	**-0.5**
	baz=306							
FURC	**Furnace Creek,**	**87.15**	**49**	P	**P**		**03 53 39.5**	**+0.2**
	baz=306							
HWUT	**Hardware Ranch**	**87.26**	**42**	IAmb	IAmb		03 53 43.3	
	comp=Z,18nm,1.2s							
TPNV	**Topopah Spring**	**87.26**	**48**	IAmb	IAmb		03 53 41.3	
	comp=Z,8.9nm,1.1s							
TPNV	**Topopah Spring**	**87.26**	**48**	P	**P**		**03 53 41.1**	**+1.0**
	baz=307							
DUG	**Dugway, Tooele**	**87.41**	**44**	IAmb	IAmb		03 53 43.3	
	comp=Z,20nm,1.5s							
DUG	**Dugway, Tooele**	**87.41**	**44**	P	**P**		**03 53 41.3**	**+0.6**
	baz=309							
BW06	**Boulder Array**	**87.66**	**40**	IAmb	IAmb		03 53 43.5	
	comp=Z,27nm,1.9s							
BW06	**Boulder Array**	**87.66**	**40**	P	**P**		**03 53 42.6**	**+0.6**
	baz=311							
PD31	**Pinedale Array**	**87.66**	**40**	IAmb	IAmb		03 53 43.5	
	comp=Z,23nm,1.9s							
PDAR	**Pinedale Array**	**87.66**	**40**	P	**P**		**03 53 41.9**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=318,slow=1.2,SNR=23							
	comp=Z,2.4nm,0.8s							
TCUT	**Toone Canyon**	**87.66**	**43**	IAmb	IAmb		03 53 43.9	
	comp=Z,11nm,1.0s							
GSC	**Goldstone, Bar**	**87.88**	**50**	P	**P**		**03 53 43.2**	**+0.3**
	baz=307							
MPU	**Maple Canyon**	**88.23**	**44**	IAmb	IAmb		03 53 46.5	
	comp=Z,6.5nm,0.9s							
ULM	**Lac du Bonnet**	**88.99**	**28**	P	**P**		**03 53 47.5**	**-0.3**
ULM	**Lac du Bonnet**	**88.99**	**28**	P	**P**		**03 53 47.5**	**-0.3**
	comp=Z,5.2nm,0.8s,baz=322,slow=6.7,SNR=11							
	comp=Z,5.2nm,0.8s							
P17A	**Butcher Ranch,**	**89.10**	**43**	IAmb	IAmb		03 53 50.8	
	comp=Z,12nm,1.0s							
MTPU	**Mount Pierson**	**89.14**	**45**	IAmb	IAmb		03 53 51.6	
	comp=Z,9.7nm,1.3s							
MDND	**Maddock**	**89.18**	**32**	P	**P**		**03 53 49.2**	**+0.4**
	baz=318							
MDND	**Maddock**	**89.18**	**32**	P	**P**		**03 53 49.8**	**+1.0**
	baz=318							
Q16A	**Castle Valley**	**89.20**	**44**	IAmb	IAmb		03 53 53.6	
	comp=Z,27nm,1.8s							
PPT	**Papeete**	**89.23**	**111**	LR	LR		04 31 28.5	
	comp=Z,75nm,19.0s,baz=346,slow=34							
SRU	**San Rafael Swe**	**89.46**	**44**	IAmb	IAmb		03 53 52.1	
	comp=Z,7.3nm,1.0s							
RSSD	**Black Hills**	**89.71**	**37**	P	**P**		**03 53 51.9**	**+0.3**
RSSD				IAmb	IAmb		03 53 53.8	
	comp=Z,12nm,0.8s							
RSSD	**Black Hills**	**89.71**	**37**	P	**P**		**03 53 52.1**	**+0.5**
	baz=314							
RSSD	**Black Hills**	**89.71**	**37**	P	**P**		**03 53 51.7**	**+0.1**
	baz=314							
RSSD	**Black Hills**	**89.71**	**37**	P	**P**		**03 53 51.9**	**+0.3**
RSSD				pmax	pmax			
	comp=Z,12nm,0.9s							
BC3	**Big Chuckawall**	**89.75**	**50**	P	**P**		**03 53 50.3**	**-1.6**
	baz=307							
O20A	**White River Ci**	**90.13**	**42**	IAmb	IAmb		03 53 56.3	
	comp=Z,16nm,1.4s							
O20A	**White River Ci**	**90.13**	**42**	P	**P**		**03 53 53.7**	**+0.1**
	baz=312							
AGMN	**Agassiz Nation**	**90.49**	**30**	P	**P**		**03 53 55.2**	**+0.3**
	baz=320							
PHWY	**Pilot Hill**	**90.90**	**39**	IAmb	IAmb		03 54 00.1	
	comp=Z,15nm,1.6s							
N23A	**Red Feather La**	**90.91**	**40**	P	**P**		**03 53 57.7**	**+0.3**
	baz=313							
WUAZ	**Wupatki**	**91.24**	**47**	P	**P**		**03 53 57.1**	**-1.7**
	baz=310							
SMCO	**Snowmass**	**91.50**	**42**	IAmb	IAmb		03 54 17.2	
	comp=Z,7.3nm,0.8s							
ISCO	**Idaho Springs**	**91.85**	**41**	P	**P**		**03 54 01.6**	**-0.2**
	baz=313							
ISCO	**Idaho Springs**	**91.85**	**41**	P	**P**		**03 54 02.2**	**+0.4**
	baz=313							
MVCO	**Mesa Verde**	**91.91**	**44**	IAmb	IAmb		03 54 05.1	
	comp=Z,8.8nm,1.1s							
MVCO	**Mesa Verde**	**91.91**	**44**	P	**P**		**03 54 01.0**	**-1.0**
	baz=312							
SUSD	**Miller**	**92.00**	**34**	P	**P**		**03 53 59.2**	**-2.8**
	baz=318							
F33A	**5 Mile Ranch,**	**92.19**	**32**	IAmb	IAmb		03 54 04.1	
	comp=Z,10nm,0.8s							
F33A	**5 Mile Ranch,**	**92.19**	**32**	P	**P**		**03 54 03.0**	**+0.2**
	baz=320							
W18A	**Petrified Fore**	**92.52**	**46**	P	**P**		**03 54 02.3**	**-2.6**
	baz=311							
S22A	**4UR Ranch, Cre**	**92.54**	**43**	P	**P**		**03 54 05.3**	**+0.3**
	baz=313							
214A	**Organ Pipe Nat**	**92.55**	**50**	P	**P**		**03 54 04.9**	**+0.1**
	baz=309							
EYMN	**Ely**	**92.58**	**28**	P	**P**		**03 54 04.3**	**-0.3**
	baz=324							
Q24A	**Divide**	**92.68**	**41**	P	**P**		**03 54 06.2**	**+0.6**
	baz=314							
OGNE	**Ogallala**	**93.00**	**38**	P	**P**		**03 54 07.3**	**+0.5**
	baz=316							
SDCO	**Great Sand Dun**	**93.31**	**42**	P	**P**		**03 54 08.8**	**+0.2**
	baz=313							
SCHQ	**Schefferville**	**93.35**	**11**	LR	LR		04 39 25.1	
	comp=Z,417nm,18.9s,baz=356,slow=38							
ECSD	**EROS Data Cent**	**93.65**	**33**	P	**P**		**03 54 10.6**	**+1.0**
	baz=320							
TUC	**Tucson**	**93.66**	**49**	P	**P**		**03 54 09.8**	**-0.1**
TUC	**Tucson**	**93.66**	**49**	P	**P**		**03 54 10.9**	**+0.9**
	baz=310							
TUC	**Tucson**	**93.66**	**49**	P	**P**		**03 54 09.9**	**-0.1**
T25A	**Trinidad**	**94.36**	**42**	P	**P**		**03 54 13.8**	**+0.5**
	baz=314							
ANMO	**Albuquerque**	**94.65**	**45**	P	**P**		**03 54 14.9**	**+0.2**
ANMO	**Albuquerque**	**94.65**	**45**	P	**P**		**03 54 15.0**	**+0.4**
	baz=313							
ANMO	**Albuquerque**	**94.65**	**45**	⇓*e*P	**P**		**03 54 16.3**	**+1.7**
ANMO				pmax	pmax			
	comp=Z,4.0nm,1.3s							
BGNE	**Belgrade**	**94.66**	**35**	P	**P**		**03 54 15.1**	**+0.8**
	baz=318							
KMBO	**Kilima Mbogo**	**94.69**	**271**	LR	LR		04 41 01.4	
	comp=Z,208nm,18.2s,baz=51,slow=38							
KEST	**Kesra**	**94.82**	**317**	LR	LR		04 43 09.3	
	comp=Z,560nm,19.3s,baz=326,slow=40							
TXAR	**Lajitas Array**	**100.20**	**47**	P	**Pdif**		**03 54 39.9**	**+0.2**
TXAR	**Lajitas Array**	**100.20**	**47**	P	**Pdif**		**03 54 39.9**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=318,slow=1.7,SNR=5.0							
TORD	**Torodi Ar. Bea**	**115.40**	**305**	PKP	**PKPdf**		**03 59 36.1**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=20,slow=4.5,SNR=1.9							
QSPA	**South Pole Qui**	**120.39**	**180**	PKP	**PKPdf**		**03 59 43.4**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=268,slow=1.4,SNR=14							
DBIC	**Dimbokro**	**124.51**	**305**	PKIKP	**PKiKP**		**03 59 54.2**	**+0.8**
DBIC	**Dimbokro**	**124.51**	**305**	PKP	**PKiKP**		**03 59 54.2**	**+0.8**
	comp=Z,3.6nm,0.9s,baz=24,slow=3.2,SNR=3.3							
VNA2	**Neumayer--Watz**	**133.95**	**197**	⇑P	**Pdif**		**03 57 08.1**	**-0.3**
	comp=Z,1.3nm,0.2s,baz=324,slow=14							
VNA3	**Neumayer Olymp**	**134.31**	**196**	⇑P	**Pdif**		**03 57 05.1**	**-4.9**
	comp=Z,1.8nm,0.2s							
VNA1	**Neumayer--Stat**	**134.34**	**197**	⇑P	**Pdif**		**03 57 02.8**	**-7.3**
	comp=Z,1.9nm,0.2s							
SDV	**Santo Domingo**	**135.09**	**33**	PKPdf	**PKPdf**		**04 00 12.7**	**-0.7**
TBTG	**Tabatinga, AM**	**146.54**	**43**		**PKPdf**		**04 00 34.2**	**+0.5**
CZSB	**Cruzeiro do Su**	**147.53**	**51**		**PKPdf**		**04 00 35.5**	**+0.1**
ETMB	**Extrema**	**153.22**	**43**	PKPdf	**PKPdf**		**04 00 44.1**	**-0.1**
SAML	**Samuel**	**154.18**	**37**	PKPdf	**PKPdf**		**04 00 45.3**	**-0.3**
SAML	**Samuel**	**154.18**	**37**	PKIKP	**PKPdf**		**04 00 45.3**	**-0.3**

*SDD **21** 04:05:47.4±2.1, 19°.77N×69°.97W, h20km±9km, MD3.7, ML2.8, MW3.7*
*OSPL **21** 04:05:50.1±2.4, 19°.65N×70°.01W, h7km±9km, ML2.7*
ISC 21 04:05:45.2±1.6, 19°.84N±0°.08×69°.95W±0°.04, h23km±8km, n21, σ0s82/33, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CADR	**Cabrera**	**0.18**	**176**	*e*Pg	**Pb**		**04 05 50.5**	**+0.1**
CADR				*e*Sg	**Sb**		**04 05 53.8**	**0.0**
CADR				IAML			04 05 54.6	
	comp=N,2μm,0.1s							
LONA1	**Toro Cenizo, N**	**0.47**	**170**	*i* P	**Pb**		**04 05 55.3**	**+0.4**
LONA1				*e*S	**Sb**		**04 05 59.7**	**-1.6**
LONA1				IAML			04 06 07.6	
	comp=Z,1μm,1.5s							
SODR	**Sosua Marina B**	**0.59**	**261**	*e*Pg	**Pn**		**04 05 58.0**	**-0.3**
SODR				*e*Sg	**Sn**		**04 06 07.5**	**+0.2**
SODR				IAML			04 06 08.3	
	comp=N,1μm,0.3s							
SC01	**Santiago de lo**	**0.84**	**241**	*e*Pg	**Pb**		**04 06 01.4**	**+0.3**
SC01				IAML			04 06 21.7	
	comp=N,292nm,0.6s							
SC01	**Santiago de lo**	**0.84**	**241**	*i* P	**Pn**		**04 06 01.7**	**0.0**
SC01				*e*S	**Sn**		**04 06 14.0**	**+0.7**
SC01				IAML			04 06 21.9	
	comp=Z,152nm,0.4s							
DR08	**Loma La Naviza**	**0.88**	**184**	*e*Pg	**Pb**		**04 06 01.1**	**-0.8**
DR08				*e*Sg	**Sb**		**04 06 13.3**	**0.0**
DR08				IAML			04 06 13.6	
	comp=N,3μm,0.2s							
SMDR	**Samana, DR**	**0.91**	**127**	*e*Pg	**Pn**		**04 06 04.3**	**+1.7**
SMDR				IAML			04 06 24.0	
	comp=N,117nm,0.5s							
HATOM	**Hato Mayor del**	**1.18**	**153**	*e*Pg	**Pb**		**04 06 07.6**	**+0.6**
HATOM				IAML			04 06 25.9	
	comp=N,129nm,0.2s							
ABDR	**Alto Bandera**	**1.21**	**212**	*e*Pg	**Pn**		**04 06 07.3**	**+0.2**
ABDR				IAML			04 06 27.5	
	comp=N,156nm,0.8s							
SDD	**Santo Domingo**	**1.38**	**178**	*e*Pg	**Pn**		**04 06 08.6**	**-0.5**
SDD				*e*Sg	**Sn**		**04 06 27.3**	**+0.7**
SDD				IAML			04 06 32.0	
	comp=N,48nm,0.4s							
SDD	**Santo Domingo**	**1.38**	**178**	*i* P	**Pb**		**04 06 10.0**	**-0.4**
SDD				*e*S	**Sn**		**04 06 25.9**	**-0.7**
LOSC1	**San Cristbal**	**1.44**	**186**	*e*S	**Sn**		**04 06 28.2**	**+0.2**
LOSC1				IAML			04 06 29.0	
	comp=Z,823nm,0.8s							
BANI	**BANI**	**1.49**	**195**	*e*Pg	**Pn**		**04 06 11.6**	**+0.7**
BANI				*e*Sg	**Sn**		**04 06 30.2**	**+0.6**
BANI				IAML			04 06 33.0	
	comp=N,383nm,0.7s							
SDDR	**Presa de Saban**	**1.52**	**236**	*e*Pg	**Pb**		**04 06 12.3**	**-0.5**
SDDR				*e*Sg	**Sb**		**04 06 31.6**	**-0.2**
SDDR				IAML			04 06 36.1	
	comp=N,112nm,0.2s							
SDDR	**Presa de Saban**	**1.52**	**236**	*i* P	**Pb**		**04 06 12.4**	**-0.5**
SDDR				*e*S	**Sb**		**04 06 31.5**	**-0.2**
SDDR				IAML			04 06 36.3	
	comp=Z,46nm,0.7s							
LODA1	**ITESIL, Dajabo**	**1.68**	**260**	*e*S	**Sb**		**04 06 36.7**	**+0.5**
LODA1				IAML			04 06 37.5	
	comp=Z,888nm,1.5s							
NEDR	**Neiba UASD**	**1.94**	**226**	*e*Pg	**Pb**		**04 06 19.8**	**0.0**
NEDR				*e*Sg	**Sb**		**04 06 44.4**	**+0.9**
NEDR				IAML			04 06 48.2	
	comp=N,50nm,0.5s							
LOBA2	**Hotel Casa Bon**	**2.06**	**212**	*e*Pg	**Pb**		**04 06 21.3**	**-0.7**
LOBA2				*e*Sg	**Sb**		**04 06 48.1**	**+1.0**
JIDR	**Jimani**	**2.24**	**233**	*e*Pg	**Pb**		**04 06 24.5**	**-0.6**
JIDR				IAML			04 07 03.7	
	comp=N,52nm,0.8s							
LOPE2	**Hotel El Peder**	**2.48**	**224**	*i* P	**Pb**		**04 06 27.4**	**-1.7**
CRPR	**Cabo Rojo, PR**	**3.25**	**124**	*i* P	**Pb**		**04 06 40.4**	**-1.9**
CRPR				IAML			04 07 30.1	
	comp=Z,50nm,1.4s							

*IDC **21** 04:10:35.3±2.0, 38°.26N×71°.23E, h0km, mb3.5/8, mbtmp3.5/15, ML3.2/7, Error ellipse: s-maj=37.0km s-min=14.1km az=145.0*
*SOME **21** 04:10:37.2, 38°.70N×73°.28E, h10km*
*NNC **21** 04:10:42.7±3.2, 38°.47N×70°.64E, h93km±67km, mb3.2, mpv3.6, Error ellipse: s-maj=32.5km s-min=21.3km az=159.0*
**ISC 21 04:10:50.8±1.2, 38°.9N±0°.1×70°.86E±0°.09, h100km, n43, σ2s31/40, mb3.2/8, 5C

CHKK	**Chushkaly**	**6.75**	**41**	*e*Pg	**Pn**	**04 12 26.9**	**-0.4**
	1.4nm,0.1s						
CHKK				*e*Lg	Lg	04 13 45.9	
	2.9nm,0.2s						
ARXS	**Arharly**	**7.44**	**42**	*e*Pg	**Pn**	**04 12 38.1**	**+1.4**
	2.6nm,0.4s						
ARXS				*e*Lg	Lg	04 14 05.1	
	2.6nm,0.5s						
SHLS	**Shalkode**	**7.76**	**54**	*e*P	**Pn**	**04 12 41.5**	**+0.4**
	5.1nm,0.2s						
GEYT	**Alibeck**	**10.05**	**268**	Pn	Pn	04 13 06.7	-5.5
	0.2nm,0.3s,baz=92,slow=10,SNR=1.4						
GEYT				Sn	Sn	04 14 52.6	-10
	0.6nm,0.3s,baz=86,slow=20,SNR=1.6						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**11.50**	**43**	Pn	**Pn**	**04 13 27.3**	**-4.4**
	0.1nm,0.3s,baz=232,slow=14,SNR=3.8						
	0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**12.91**	**22**	Pn	Pn	04 13 44.3	-6.0
	baz=218,slow=12,SNR=2.6						
KURBB				Sn	**Sn**	**04 16 09.1**	**-3.0**
	baz=206,slow=26,SNR=2.2						
KURBB				Lg	Lg	04 17 34.3	
	baz=215,slow=31,SNR=4.3						
	0.2nm,0.3s						
AB31	**Akbulak array**	**12.97**	**326**	⇑P	Pn	04 13 45.2	-5.9
	1.1nm,0.4s,baz=147,slow=11,SNR=56						
BVAR	**Borovoye Array**	**14.12**	**359**	Pn	**Pn**	**04 14 02.9**	**-3.2**
	baz=151,slow=9.9,SNR=2.7						
	0.5nm,0.4s						
AKTO	**Aktyubinsk**	**14.68**	**326**	Pn	**Pn**	**04 14 11.0**	**-2.3**
	0.4nm,0.3s,baz=145,slow=9.9,SNR=4.0						
	0.9nm,0.3s						
AKTO	**Aktyubinsk**	**14.68**	**326**	⇑P	**Pn**	**04 14 10.5**	**-2.7**
	0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**17.80**	**28**	P	**P**	**04 14 50.0**	**-1.3**
	0.2nm,0.3s,baz=217,slow=7.0,SNR=4.1						
	0.3nm,0.3s						
AKASG	**Malin Array Be**	**31.40**	**306**	P	**P**	**04 17 03.2**	**+1.2**
	0.1nm,0.3s,baz=81,slow=7.9,SNR=1.7						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**35.44**	**324**	P	**P**	**04 17 38.6**	**+1.6**
	4.1nm,1.0s,baz=116,slow=6.3,SNR=1.9						
	4.1nm,1.0s						
HFS	**Hagfors**	**41.12**	**320**	P	**P**	**04 18 25.5**	**+0.9**
	0.8nm,0.3s,baz=96,slow=12,SNR=6.7						
	0.8nm,0.3s						
NOA	**NORSAR Array B**	**42.41**	**321**	P	**P**	**04 18 35.8**	**+0.6**
	0.2nm,0.5s,baz=110,slow=8.0,SNR=1.0						
	0.2nm,0.5s						
EKA	**Eskdalemuir Ar**	**50.50**	**315**	P	**P**	**04 19 40.1**	**+1.8**
	0.5nm,0.7s,baz=100,slow=6.8,SNR=4.6						
	0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**65.69**	**267**	P	**P**	**04 21 23.4**	**-1.5**
	0.2nm,0.6s,baz=65,slow=7.3,SNR=2.1						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**72.50**	**16**	P	**P**	**04 22 06.0**	**-0.2**
	0.3nm,0.9s,baz=324,slow=4.5,SNR=2.6						
	0.3nm,0.9s						
YKA	**Yellowknife Ar**	**78.85**	**3**	P	**P**	**04 22 44.1**	**+1.7**
	0.2nm,0.6s,baz=345,slow=5.9,SNR=4.1						
	0.2nm,0.6s						

*IDC **21** 04:13:19.6±0.7,51.62°N×162.28°E,h0km,mb3.9/18, mbtmp3.9/20,ML3.7/3, Error ellipse: s-maj=22.6km s-min=13.1km az=175.0*
*KRSC **21** 04:13:22.8±2.1,51.67°N×161.93°E,h54km±24km, Ml4.4*
*NEIC **21** 04:13:22.9±1.0,51.7°N±0.1°×162.3°E±0.1,h16km±4km, mb4.3/39, Error ellipse: s-maj=21.1km s-min=8.7km az=189.0*
*MOS **21** 04:13:24.1±0.8,51.76°N×162.13E,h44km,mb4.4/9, Error ellipse: s-maj=11.6km s-min=5.8km az=129.0*

ISC 21 04:13:24.8±0.6,51.72°N±0.07°×162.22°E±0.05,h35km,n131, σ1s15/139,mb4.2/43,3C-1D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
SPN	**Mys Shipunski**	**1.93**	**317**	*e*P		**Pn**	**04 13 52.8**		**-2.3**
SPN				*e*S		**Sn**	**04 14 15.0**		**-3.1**
SPN	**Mys Shipunski**	**1.93**	**317**	PN		**Pn**	**04 13 52.8**		**-2.3**
SPN				S		**Sn**	**04 14 15.0**		**-3.1**
NLC	**Nalytchevo**	**2.28**	**311**	*e*P		**Pn**	**04 14 00.5**		**+0.6**
NLC	**Nalytchevo**	**2.28**	**311**	PN		**Pn**	**04 14 00.5**		**+0.6**
DALK	**Dalny**	**2.50**	**303**	*e*P		**Pn**	**04 14 01.6**		**-1.3**
DALK	**Dalny**	**2.50**	**303**	PN		**Pn**	**04 14 01.6**		**-1.3**
PET	**Petropavlovsk**	**2.55**	**302**			**Pn**	**04 14 02.5**		**-1.1**
PET	**Petropavlovsk**	**2.55**	**302**	*e*P		**Pn**	**04 14 03.4**		**-0.2**
PET	**Petropavlovsk**	**2.55**	**302**	*e*PN		**Pn**	**04 14 02.4**		**-1.1**
PET				*e*S		**Sn**	**04 14 31.7**		**-1.6**
PET				smax		smax			
	comp=N,239nm,0.6s								
PET				smax		smax			
	comp=E,292nm,0.5s								
UGLR	**Uglovaya**	**2.56**	**307**	*e*P		**Pn**	**04 14 04.1**		**+0.2**
UGLR	**Uglovaya**	**2.56**	**307**	PN		**Pn**	**04 14 04.1**		**+0.2**
KDTR	**Khodutka, Kamc**	**2.57**	**274**	*e*P		**Pn**	**04 14 02.0**		**-1.9**
KDTR				*e*S		**Sn**	**04 14 31.0**		**-3.0**
KDTR	**Khodutka, Kamc**	**2.57**	**274**	PN		**Pn**	**04 14 02.0**		**-1.9**
KDTR				S		**Sn**	**04 14 31.0**		**-3.0**
SMAR	**Somma**	**2.60**	**308**	*e*P		**Pn**	**04 14 03.9**		**-0.6**
SMAR	**Somma**	**2.60**	**308**	PN		**Pn**	**04 14 03.9**		**-0.6**
AVH	**Avacha**	**2.63**	**307**	*e*P		**Pn**	**04 14 04.5**		**-0.3**
AVH	**Avacha**	**2.63**	**307**	PN		**Pn**	**04 14 04.5**		**-0.3**
GRL	**Gorelyy**	**2.69**	**290**	*e*P		**Pn**	**04 14 04.9**		**-0.7**
GRL	**Gorelyy**	**2.69**	**290**	PN		**Pn**	**04 14 04.9**		**-0.7**
KOK	**Koryaka**	**2.70**	**307**	*e*P		**Pn**	**04 14 05.5**		**-0.2**
KOK	**Koryaka**	**2.70**	**307**	PN		**Pn**	**04 14 05.5**		**-0.2**
KRX	**Arik**	**2.73**	**308**	*e*P		**Pn**	**04 14 05.5**		**-0.8**
KRX	**Arik**	**2.73**	**308**	PN		**Pn**	**04 14 05.5**		**-0.8**
ASAK	**Asacha**	**2.75**	**286**	*e*P		**Pn**	**04 14 05.4**		**-1.0**
ASAK				*e*S		**Sn**	**04 14 36.6**		**-1.8**
ASAK	**Asacha**	**2.75**	**286**	PN		**Pn**	**04 14 05.4**		**-1.0**
ASAK				S		**Sn**	**04 14 36.6**		**-1.8**
KRMR	**Karymshinskiy**	**2.75**	**296**	*e*P		**Pn**	**04 14 05.3**		**-1.0**
KRMR				*e*S		**Sn**	**04 14 37.1**		**-1.2**
KRMR	**Karymshinskiy**	**2.75**	**296**	PN		**Pn**	**04 14 05.3**		**-1.0**
KRMR				S		**Sn**	**04 14 37.1**		**-1.2**
KII	**Karymskiy**	**2.87**	**325**	*e*P		**Pn**	**04 14 07.8**		**-0.2**
KII	**Karymskiy**	**2.87**	**325**	PN		**Pn**	**04 14 07.8**		**-0.2**
PEA0B	**Petropavlovsk-**	**3.10**	**299**			**Pn**	**04 14 11.1**		**0.0**
PEA0B	**Petropavlovsk-**	**3.10**	**299**	*ce*PN		**Pn**	**04 14 10.3**		**-0.9**
PETK	**Petropavlovsk-**	**3.10**	**299**			**Pn**	**04 14 10.4**		**-0.7**
PETK	**Petropavlovsk-**	**3.10**	**299**	Pn		**Pn**	**04 14 09.5**		**-1.6**
	comp=E,10nm,0.3s,baz=93,slow=15,SNR=75								
PETK				Sn		**Sn**	**04 14 46.1**		**-0.8**
	comp=E,9.7nm,0.3s,baz=101,slow=22,SNR=2.3								
	comp=E,16nm,0.4s								
APC	**Apacha**	**3.33**	**293**	*e*P		**Pn**	**04 14 14.0**		**-0.4**
APC				*e*S		**Sn**	**04 14 52.2**		**-0.4**
APC	**Apacha**	**3.33**	**293**	PN		**Pn**	**04 14 14.0**		**-0.4**
APC				S		**Sn**	**04 14 52.2**		**-0.4**
PAU	**Pauzhetka**	**3.38**	**268**	*e*P		**Pn**	**04 14 15.4**		**+0.4**
PAU	**Pauzhetka**	**3.38**	**268**	PN		**Pn**	**04 14 15.4**		**+0.4**
TUMD	**Tumrok D**	**3.66**	**343**	*e*P		**Pn**	**04 14 18.7**		**-0.2**
TUMR	**Tumrok**	**3.78**	**342**	PN		**Pn**	**04 14 18.7**		**-1.9**
SKR	**Severo-Kuril's**	**3.97**	**257**	*e*P		**Pn**	**04 14 21.2**		**-1.9**
SKR				*e*S		**Sn**	**04 15 04.8**		**-3.6**
SKR	**Severo-Kuril's**	**3.97**	**257**	*e*PN		**Pn**	**04 14 22.6**		**-0.5**
SKR				pmax		pmax			
	comp=Z,128nm,0.7s								
SKR				MLR		MLR			
	comp=Z,700nm,10.0s								
SHEM	**Shemya Is, Ala**	**7.37**	**77**	Pn		**Pn**	**04 15 08.4**		**-1.4**
	comp=Z,10nm,0.3s,baz=337,slow=7.7,SNR=6.3								
SHEM				Sn		**Sn**	**04 16 26.2**		**-5.9**
	comp=Z,1.5nm,0.3s,baz=293,slow=22,SNR=1.9								
KLR	**Kul'dur**	**19.48**	**275**	⇑*e*P		**Pn**	**04 17 49.0**		**-0.9**
KLR				pmax		pmax			
	comp=Z,1.0nm,0.9s								
KLR	**Kul'dur**	**19.48**	**275**	P		**Pn**	**04 17 50.1**		**+0.3**
	comp=Z,0.1nm,0.3s,baz=82,slow=11,SNR=5.3								
	comp=Z,1.2nm,0.5s								
YAK	**Yakutsk**	**20.33**	**313**	⇑*e*P		**P**	**04 17 55.5**		**-2.0**
YAK				pmax		pmax			
	comp=Z,9.0nm,0.8s								
USRK	**Ussuriysk Ar.**	**21.48**	**261**	P		**P**	**04 18 10.0**		**-0.1**
USRK	**Ussuriysk Ar.**	**21.48**	**261**	P		**P**	**04 18 10.0**		**-0.1**
	comp=Z,0.7nm,0.5s,baz=73,slow=12,SNR=3.3								
	comp=Z,0.7nm,0.5s								
TIXI	**Tiksi**	**24.88**	**336**	P		**P**	**04 18 44.2**		**+0.5**
TIXI				IAmb		IAmb	04 18 48.0		
	comp=Z,5.3nm,0.8s								
TIXI	**Tiksi**	**24.88**	**336**	P		**P**	**04 18 44.2**		**+0.5**
TIXI				pmax		pmax			
	comp=Z,5.0nm,0.8s								
G19K	**Purcell Mounta**	**24.90**	**39**	P		**P**	**04 18 43.3**		**-0.7**
G19K				IAmb		IAmb	04 19 22.2		
	comp=Z,13nm,1.4s								
J19K	**Poorman**	**25.04**	**44**	P		**P**	**04 18 46.1**		**+0.8**
J19K				IAmb		IAmb	04 18 47.5		
	comp=Z,6.3nm,1.1s								
E19K	**Redstone River**	**25.23**	**36**	P		**P**	**04 18 47.4**		**+0.5**
E19K				IAmb		IAmb	04 19 22.0		
	comp=Z,5.5nm,1.1s								
D19K	**Kuna River**	**25.27**	**33**	P		**P**	**04 18 47.6**		**+0.2**
K20K	**Telida**	**25.64**	**46**	P		**P**	**04 18 50.6**		**-0.1**
K20K				IAmb		IAmb	04 19 17.0		
	comp=Z,11nm,1.5s								
SII	**Sitkinak Islan**	**25.66**	**62**	P		**P**	**04 18 50.5**		**-0.5**
J20K	**Nowinta River**	**25.71**	**44**	P		**P**	**04 18 52.0**		**+0.7**
J20K				IAmb		IAmb	04 18 53.7		
	comp=Z,6.5nm,0.8s								
OHAK	**Old Harbor**	**26.06**	**60**	P		**P**	**04 18 53.9**		**-0.6**
OHAK				IAmb		IAmb	04 19 35.5		
	comp=Z,9.1nm,1.1s								
B20K	**Meade River**	**26.16**	**31**	P		**P**	**04 18 55.8**		**+0.4**
IMAR	**Indian Mountai**	**26.18**	**40**	P		**P**	**04 18 55.9**		**+0.3**
KDAK	**Kodiak Island**	**26.37**	**59**	P		**P**	**04 18 56.7**		**-0.6**
KDAK	**Kodiak Island**	**26.37**	**59**	P		**P**	**04 18 56.7**		**-0.6**
KDAK				pmax		pmax			
	comp=Z,27nm,1.5s								
G21K	**Allakaket**	**26.39**	**39**	P		**P**	**04 18 58.1**		**+0.6**
G21K				IAmb		IAmb	04 19 16.1		
	comp=Z,7.3nm,1.2s								
H21K	**Melozitna Rive**	**26.50**	**41**	P		**P**	**04 18 59.1**		**+0.6**
B21K	**Ikpikpuk River**	**26.84**	**32**	P		**P**	**04 19 01.8**		**+0.3**
B21K				IAmb		IAmb	04 19 05.4		
	comp=Z,12nm,1.3s								
E22K	**Anaktuvuk Pass**	**27.39**	**36**	P		**P**	**04 19 06.5**		**0.0**
B22K	**Teshekpuk Lake**	**27.47**	**31**	P		**P**	**04 19 07.3**		**+0.2**
B22K				IAmb		IAmb	04 19 09.8		
	comp=Z,4.9nm,1.0s								
I23K	**Minto, Yukon-K**	**27.87**	**43**	P		**P**	**04 19 11.5**		**+0.8**
I23K				IAmb		IAmb	04 19 26.5		
	comp=Z,6.1nm,1.4s								
SML	**Sawmill**	**28.23**	**50**	P		**P**	**04 19 13.7**		**-0.4**
C23K	**Itkillik River**	**28.24**	**33**	P		**P**	**04 19 14.5**		**+0.6**
C23K				IAmb		IAmb	04 19 15.1		
	comp=Z,9.3nm,1.4s								
CCB	**Clear Creek Bu**	**28.49**	**44**	P		**P**	**04 19 15.3**		**-1.0**
E24K	**Your Creek**	**28.60**	**36**	P		**P**	**04 19 16.7**		**-0.6**
D24K	**Happy Valley**	**28.69**	**34**	P		**P**	**04 19 18.1**		**+0.2**
D24K				IAmb		IAmb	04 19 21.4		
	comp=Z,7.8nm,1.5s								
F24K	**Squaw Lake**	**28.74**	**38**	P		**P**	**04 19 18.4**		**-0.1**
ILAR	**Eielson Array**	**28.89**	**44**	P		**P**	**04 19 19.6**		**-0.3**
	comp=Z,0.6nm,0.8s,baz=254,slow=6.7,SNR=15								
	comp=Z,0.6nm,0.8s								
E25K	**Arctic Village**	**29.69**	**37**	P		**P**	**04 19 27.2**		**+0.3**
BMAR	**Burnt Mountain**	**29.99**	**38**	P		**P**	**04 19 30.3**		**+0.6**
WAX	**Waxell Ridge**	**31.00**	**52**	P		**P**	**04 19 38.0**		**-0.6**
BCAR	**Beaver Creek A**	**31.19**	**47**	P		**P**	**04 19 41.4**		**+1.1**
F28M	**Old Crow**	**31.81**	**38**	P		**P**	**04 19 46.8**		**+1.1**
I28M	**Miner Creek**	**31.83**	**42**	P		**P**	**04 19 45.1**		**-0.8**
H11N2	**WAKE ISLAND Hy**	**32.13**	**172**	T		T	04 53 33.4		
	baz=355,slow=76,SNR=8.9								
H11N3	**WAKE ISLAND Hy**	**32.15**	**172**	T		T	04 53 36.1		
	baz=355,slow=76,SNR=7.0								
H11N1	**WAKE ISLAND Hy**	**32.15**	**172**	T		T	04 53 33.1		
	baz=355,slow=76,SNR=9.5								
H29M	**Whitestone**	**32.43**	**41**	P		**P**	**04 19 51.8**		**+0.7**
H29M				IAmb		IAmb	04 20 01.4		
	comp=Z,3.8nm,1.3s								
G29M	**Pine Creek**	**32.54**	**39**	P		**P**	**04 19 52.9**		**+0.9**
G29M				IAmb		IAmb	04 19 55.6		
	comp=Z,4.0nm,0.9s								
E29M	**Blow River**	**32.56**	**37**	P		**P**	**04 19 52.6**		**+0.5**
E29M				IAmb		IAmb	04 20 17.4		
	comp=Z,4.0nm,1.5s								
INK	**Inuvik**	**34.18**	**37**	P		**P**	**04 20 06.5**		**+0.3**
INK				IAmb		IAmb	04 20 47.9		
	comp=Z,5.1nm,1.4s								
INK	**Inuvik**	**34.18**	**37**	P		**P**	**04 20 06.5**		**+0.3**
INK				pmax		pmax			
	comp=Z,5.0nm,1.5s								
SONM	**Songino Array**	**35.51**	**286**	P		**P**	**04 20 19.6**		**+1.5**
	comp=Z,0.5nm,0.8s,baz=67,slow=6.2,SNR=2.6								
	comp=Z,0.5nm,0.8s								
YKA	**Yellowknife Ar**	**43.30**	**42**	*e*P		**P**	**04 21 22.5**		**-0.2**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
YKA	**Yellowknife Ar**	**43.30**	**42**	P		**P**	**04 21 22.9**		**+0.3**
	comp=Z,0.6nm,0.8s,baz=294,slow=7.9,SNR=7.1								
	comp=Z,0.6nm,0.8s								
KURK	**Kurchatov**	**49.57**	**304**	P		**P**	**04 22 12.6**		**+0.6**
KURK				IAmb		IAmb	04 22 13.3		
	comp=Z,4.1nm,0.7s								
KURK	**Kurchatov**	**49.57**	**304**	P		**P**	**04 22 12.6**		**+0.6**
KURK				pmax		pmax			
	comp=Z,4.0nm,0.7s								
KURBB	**Kurchatov Arra**	**49.67**	**304**	P		**P**	**04 22 13.4**		**+0.7**
	comp=Z,3.1nm,0.7s,baz=59,slow=7.8,SNR=17								
	comp=Z,3.1nm,0.7s								
MK31	**Makanchi Array**	**49.94**	**298**	P		**P**	**04 22 15.3**		**+0.5**
MK31	**Makanchi Array**	**49.94**	**298**	P		**P**	**04 22 15.3**		**+0.5**
MK31				pmax		pmax			
	comp=Z,2.0nm,1.2s								
MKAR	**Makanchi Array**	**49.94**	**298**	P		**P**	**04 22 15.1**		**+0.3**
MKAR	**Makanchi Array**	**49.94**	**298**	P		**P**	**04 22 15.3**		**+0.4**
	comp=Z,0.9nm,0.6s,baz=60,slow=7.2,SNR=13								
	comp=Z,0.9nm,0.6s								
BVAR	**Borovoye Array**	**52.27**	**310**	P		**P**	**04 22 32.7**		**+0.5**
	comp=Z,2.8nm,0.7s,baz=54,slow=7.5,SNR=9.4								
	comp=Z,2.8nm,0.7s								
NVAR	**Mina Array Bea**	**54.98**	**71**	P		**P**	**04 22 52.9**		**+0.3**
	comp=Z,0.6nm,0.6s,baz=298,slow=7.1,SNR=5.1								
	comp=Z,0.6nm,0.6s								
ARU	**Arti**	**55.29**	**319**	P		**P**	**04 22 54.9**		**+0.6**
	comp=Z,6.4nm,0.2s,baz=93,slow=15,SNR=1.6								
AAK	**Ala-Archa**	**56.86**	**298**	P		**P**	**04 23 06.9**		**+1.0**
AAK				IAmb		IAmb	04 23 07.9		
	comp=Z,3.5nm,0.8s								
AAK	**Ala-Archa**	**56.86**	**298**	P		**P**	**04 23 06.9**		**+1.0**
AAK				pmax		pmax			
	comp=Z,4.0nm,0.8s								
PDAR	**Pinedale Array**	**57.05**	**61**	P		**P**	**04 23 06.7**		**-0.6**
PDAR	**Pinedale Array**	**57.05**	**61**	P		**P**	**04 23 08.1**		**+0.7**
	comp=Z,0.5nm,0.8s,baz=333,slow=1.7,SNR=6.4								
	comp=Z,0.5nm,0.8s								
KK31	**Karatay Array**	**58.70**	**301**	P		**P**	**04 23 19.3**		**+0.7**
KK31				IAmb		IAmb	04 23 20.1		
	comp=Z,2.1nm,0.7s								
KK31	**Karatay Array**	**58.70**	**301**	P		**P**	**04 23 19.3**		**+0.7**
KK31				pmax		pmax			
	comp=Z,2.0nm,0.7s								
KKAR	**Karatay Array**	**58.70**	**301**	P		**P**	**04 23 19.0**		**+0.4**
KKAR	**Karatay Array**	**58.70**	**301**	P		**P**	**04 23 19.3**		**+0.7**
KKAR				IAmb		IAmb	04 23 20.1		
	comp=Z,2.1nm,0.7s								
KKAR	**Karatay Array**	**58.70**	**301**	P		**P**	**04 23 19.0**		**+0.4**
ULM	**Lac du Bonnet**	**58.81**	**47**	P		**P**	**04 23 19.6**		**+0.3**
	comp=Z,1.2nm,0.6s,baz=324,slow=8.7,SNR=2.3								
	comp=Z,1.2nm,0.6s								
ABKAR	**Akbulak array**	**59.68**	**312**	P		**P**	**04 23 25.8**		**+0.5**
AKTO	**Aktyubinsk**	**59.71**	**314**	P		**P**	**04 23 25.9**		**+0.4**
	comp=Z,1.8nm,1.0s,baz=13,slow=2.7,SNR=2.2								
	comp=Z,1.8nm,1.0s								
BTK	**Batken**	**60.65**	**298**	P		**P**	**04 23 33.0**		**+0.9**
BTK	**Batken**	**60.65**	**298**	P		**P**	**04 23 33.0**		**+0.9**
BTK				pmax		pmax			
	comp=Z,5.0nm,0.7s								
FINES	**FINESS Array B**	**61.90**	**338**	P		**P**	**04 23 40.7**		**+0.6**
FINES	**FINESS Array B**	**61.90**	**338**	*i*P		**P**	**04 23 41.7**		**+1.6**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.9s								
FINES	**FINESS Array B**	**61.90**	**338**	P		**P**	**04 23 41.0**		**+0.9**
	comp=Z,2.6nm,0.8s,baz=31,slow=8.3,SNR=3.6								
	comp=Z,2.6nm,0.8s								
PMG	**Port Moresby**	**62.25**	**197**	P		**P**	**04 23 43.6**		**+0.6**
PMG	**Port Moresby**	**62.25**	**197**	P		**P**	**04 23 43.6**		**+0.6**
PMG				pmax		pmax			
	comp=Z,9.0nm,1.1s								
SDCO	**Great Sand Dun**	**62.77**	**63**	P		**P**	**04 23 47.6**		**+0.9**
NOA	**NORSAR Array B**	**65.22**	**345**	P		**P**	**04 24 02.9**		**+0.8**
	comp=Z,0.7nm,0.9s,baz=21,slow=6.6,SNR=1.6								
	comp=Z,0.7nm,0.9s								
TXAR	**Lajitas Array**	**69.97**	**68**	P		**P**	**04 24 32.8**		**+0.2**
	comp=Z,1.2nm,0.6s,baz=288,slow=3.7,SNR=14								
	comp=Z,1.2nm,0.6s								
AKASG	**Malin Array Be**	**70.46**	**330**	P		**P**	**04 24 35.4**		**+0.2**
	comp=Z,0.9nm,0.5s,baz=29,slow=6.6,SNR=3.8								
	comp=Z,0.9nm,0.5s								
KBZ	**Khabaz**	**71.43**	**318**	‖*e*P		**P**	**04 24 42.2**		**+1.0**
KBZ				pmax		pmax			
	comp=Z,2.0nm,0.7s								
KBZ	**Khabaz**	**71.43**	**318**	P		**P**	**04 24 42.0**		**+0.9**
	comp=Z,2.0nm,0.9s,baz=114,slow=4.3,SNR=3.6								
	comp=Z,2.0nm,0.9s								
WRA	**Warramunga Arr**	**75.41**	**207**	P		**P**	**04 25 03.8**		**-1.0**
	comp=Z,0.8nm,0.8s,baz=23,slow=5.6,SNR=4.9								
	comp=Z,0.8nm,0.8s								
ASAR	**Alice Springs**	**79.07**	**206**	P		**P**	**04 25 25.2**		**0.0**
	comp=Z,0.6nm,0.6s,baz=12,slow=5.9,SNR=6.8								
	comp=Z,0.6nm,0.6s								
H03N2	**Juan Fernandez**	**132.88**	**92**	T		T	06 59 49.2		
	baz=314,slow=78,SNR=20								
H03N1	**Juan Fernandez**	**132.89**	**92**	T		T	06 59 50.5		
	baz=314,slow=78,SNR=20								
H03N3	**Juan Fernandez**	**132.89**	**92**	T		T	06 59 49.9		
	baz=314,slow=78,SNR=16								

*IDC **21** 04:22:24.7±1.1,35.97°N×97.50°W,h0km,mbtmp3.3/4, ML3.8/3, Error ellipse: s-maj=14.2km s-min=11.7km az=141.0*
*NEIC **21** 04:22:24.4±0.7,35.891°N±0.004°×97.29°W±0.01, h10km±2km, Error ellipse: s-maj=3.1km s-min=2.1km az=123.0*
*TUL **21** 04:22:24.6±0.5,35.893°N±0.009°×97.29°W±0.01,h7km±1km, ML3.5,mb_Lg3.4/131(NEIC),ML3.5/46(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=104.0*
*ANF **21** 04:22:24.7±0.3,35.91°N×97.29W,h10km,ML3.9/11, Error ellipse: s-maj=3.7km s-min=3.0km az=146.0*

ISC 21 04:22:24.6±0.9,35.91°N±0.02°×97.30W±0.02,h11km±9km, n142,σ0s87/99,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
ADOK	**Arcadia Dam**	**0.26**	**194**	Pg		**Pg**	**04 22 29.6**		**-0.4**
ADOK				Sg		**Sg**	**04 22 33.3**		**-0.4**
OK033	**Mehan**	**0.32**	**65**	Pg		**Pg**	**04 22 31.2**		**+0.2**
OK033				Sg		**Sg**	**04 22 36.0**		**+0.6**
OK052	**Battle Ridge R**	**0.41**	**78**	Pg		**Pg**	**04 22 32.8**		**0.0**
OK052				Sg		**Sg**	**04 22 38.5**		**+0.3**
OK052				IAML			04 22 39.1		
	2μm,0.3s								
OKCSW	**OKLAHOMA CITY**	**0.52**	**193**	Pg		**Pg**	**04 22 34.3**		**-0.4**
OKCSW				Sg		**Sg**	**04 22 41.4**		**-0.1**
OKCSW				IAML			04 22 41.8		
	comp=N,5μm,0.5s								
OKCSW				IAML			04 22 41.8		
	comp=E,6μm,0.4s								
QUOK	**Quay**	**0.54**	**61**	Pg		**Pg**	**04 22 35.4**		**+0.2**
QUOK				IAML			04 22 48.5		
	comp=E,1μm,0.2s								
OK048	**Pawnee Station**	**0.58**	**29**	Pg		**Pg**	**04 22 36.2**		**+0.2**
OK048				IAML			04 22 44.5		
	comp=E,3μm,0.5s								
OK048				IAML			04 22 44.5		
	comp=E,2μm,0.4s								
DEOK	**Depew**	**0.65**	**96**	Pg		**Pg**	**04 22 37.0**		**-0.3**
DEOK				IAML			04 22 46.7		
	comp=N,2μm,0.5s								
FNO	**Franklin**	**0.66**	**188**	Pg		**Pg**	**04 22 36.8**		**-0.6**
FNO				IAML			04 22 58.0		
	comp=E,2μm,0.6

Z38A Mt. Pleasant 3.26 144 Pn Pn 04 23 15.9 +0.2
Z38A IAmb_Lg 04 24 14.0
comp=Z,101nm,0.8s
Z38A Mt. Pleasant 3.26 144 Sb Sb 04 24 05.0 +2.8
baz=324
TREL Terrell 3.32 162 Pn Pn 04 23 16.4 -0.3
TREL IAmb_Lg 04 24 18.2
comp=Z,39nm,0.7s
FW16 Waxahatchie 3.44 174 Pn Pn 04 23 17.6 -0.6
FW16 IAmb_Lg 04 24 16.7
comp=Z,44nm,0.8s
APMT Aspermont 3.48 223 Pn Pn 04 23 18.2 -0.5
APMT IAmb_Lg 04 24 20.3
comp=Z,52nm,0.8s
CBKS Cedar Bluff 3.49 327 Pn Pn 04 23 20.0 +1.0
FW14 Alvarado 3.50 179 IAmb_Lg 04 24 19.6
comp=Z,41nm,1.0s
FW13 Cleburne 3.55 182 IAmb_Lg 04 24 15.6
comp=Z,21nm,0.8s
U40A Yellville 3.62 82 P Pn 04 23 21.4 +0.6
baz=264,SNR=7.4
U40A P Pn **04 23 21.4 +0.6**
baz=264,SNR=7.4
S39A Bolivar 3.65 60 Pn 04 23 21.8 +0.7
S39A Bolivar 3.65 60 P Pn 04 23 22.1 +0.9
baz=242,SNR=7.9
AMTX Amarillo 3.73 255 Pn Pn 04 23 21.7 -0.5
AMTX IAmb_Lg 04 24 32.8
comp=Z,117nm,0.8s
DKNS Dickens 3.73 234 Pn Pn 04 23 22.2 -0.1
DKNS IAmb_Lg 04 24 31.2
comp=Z,71nm,0.7s
ABTX Abilene, Hawle 3.81 211 IAmb_Lg 04 24 27.9
comp=Z,60nm,0.8s
WHTX Lake Whitney, 3.91 182 Pn 04 23 24.0 -0.7
X40A Basin Creek Fa 3.92 110 Pn Pn 04 23 25.9 +1.1
237A Washetta, Mont 4.09 162 Pn 04 23 26.8 -0.3
237A Washetta, Mont 4.09 162 P Pn 04 23 27.0 -0.1
baz=343
WLAR White Oak Lake 4.09 122 IAmb_Lg 04 24 35.5
comp=Z,83nm,0.7s
WHAR Wooly Hollow 4.13 97 Pn Pn 04 23 28.4 +0.7
WHAR IAmb_Lg 04 24 42.3
comp=Z,64nm,0.9s
FCAR Ozark Folk Cen 4.20 89 Pn Pn 04 23 28.2 -0.4
FCAR IAmb_Lg 04 24 40.2
comp=Z,64nm,0.9s
UALR University of 4.20 104 Pn Pn 04 23 29.5 +0.7
UALR IAmb_Lg 04 24 43.4
comp=Z,86nm,0.8s
MGMO Mountain Grove 4.23 71 Pn Pn 04 23 28.9 -0.3
MGMO IAmb_Lg 04 24 41.3
comp=Z,70nm,0.7s
SN01 Snyder 1 4.25 225 Pn Pn 04 23 28.5 -0.9
SN01 IAmb_Lg 04 24 44.5
comp=Z,162nm,0.9s
RTBA Rita Blanca 4.43 278 Pn Pn 04 23 31.9 -0.1
RTBA IAmb_Lg 04 24 56.8
comp=Z,54nm,0.7s
POST Post 4.48 232 IAmb_Lg 04 24 57.5
comp=Z,124nm,1.2s
Z41A Richland Creek 4.55 124 IAmb_Lg 04 24 57.3
comp=Z,72nm,0.8s
R40A Maddies Statio 4.67 58 Pn 04 23 35.7 +0.6
R40A IAmb_Lg 04 25 04.2
comp=Z,49nm,0.7s
R40A Maddies Statio 4.67 58 P Pn 04 23 35.7 +0.6
baz=241,SNR=12
P38A Dawn 4.76 38 Pn Pn 04 23 36.3 -0.1
N33B J Bar K, Exete 4.82 359 S Sn 04 24 33.5 +0.4
baz=179
N33A J Bar K, Exete 4.82 359 IAmb_Lg 04 25 06.5
comp=Z,68nm,0.8s
BRDY Brady 4.83 198 Pn 04 23 37.0 -0.3
BRDY IAmb_Lg 04 24 58.5
comp=Z,122nm,0.9s
MSTX Muleshoe 4.90 248 Pn Pn 04 23 38.6 +0.2
CCAR Cane Creek 4.95 112 IAmb_Lg 04 25 09.5
comp=Z,80nm,0.9s
LCAR Lake Charles 4.98 86 IAmb_Lg 04 25 03.0
comp=Z,50nm,0.9s
SGCY Sterling City 5.10 220 Pn Pn 04 23 41.5 +0.3
SGCY IAmb_Lg 04 25 14.3
comp=Z,82nm,0.8s
N35A Tabor 5.11 14 Pn Pn 04 23 41.5 +0.3
435B Jarrell 5.12 183 IAmb_Lg 04 25 19.4
comp=Z,56nm,0.8s
KSCO Kaye Shedlock' 5.25 308 IAmb_Lg 04 25 22.8
comp=Z,58nm,0.7s
CCM Cathedral Cave 5.30 64 Pn Pn 04 23 43.3 -0.4
CCM IAmb_Lg 04 25 20.3
comp=Z,69nm,0.8s
P40A Paris 5.51 47 IAmb_Lg 04 25 20.3
comp=Z,77nm,0.7s
BGNE Belgrade 5.53 353 Pn Pn 04 23 46.9 -0.1
BGNE Belgrade 5.53 353 P Pn 04 23 47.4 +0.4
baz=173
PBMO Poplar Bluff 5.61 79 IAmb_Lg 04 25 20.6
comp=Z,52nm,0.7s
JCT Junction City 5.81 202 IAmb_Lg 04 25 36.0
comp=Z,82nm,0.8s
N38A Joes South For 5.83 32 Pn Pn 04 23 50.9 -0.1
143A Socs Landing, 5.83 122 IAmb_Lg 04 25 41.6
comp=Z,44nm,0.8s
T25A Trinidad 5.86 284 Pn Pn 04 23 52.2 +0.5
T25A IAmb_Lg 04 25 46.3
comp=Z,61nm,0.8s
FVM French Village 5.88 67 Pn Pn 04 23 52.0 +0.3
OZNA Ozona 5.92 214 IAmb_Lg 04 25 39.6
comp=Z,52nm,0.8s
PARMO Parma 6.14 81 IAmb_Lg 04 25 50.5
comp=Z,66nm,0.8s
SLM Saint Louis 6.25 62 IAmb_Lg 04 25 42.6
comp=Z,53nm,0.8s
OGNE Ogallala 6.25 325 IAmb_Lg 04 25 52.3
comp=Z,69nm,0.8s
CGM3 Cape Girardeau 6.30 75 IAmb_Lg 04 25 53.9
comp=Z,54nm,1.2s
MNHN Monahans 6.45 227 IAmb_Lg 04 25 50.8
comp=Z,44nm,1.0s
HNDO Hondo 6.58 195 IAmb_Lg 04 26 02.1
comp=Z,80nm,1.0s
OXF Oxford 6.60 100 IAmb_Lg 04 26 08.1
comp=Z,52nm,0.9s
Y45A Yeager Farm, C 6.69 106 IAmb_Lg 04 26 08.4
comp=Z,33nm,0.9s
S44A Carbondale 6.69 72 IAmb_Lg 04 26 05.0
comp=Z,39nm,0.7s
SIUC Southern Illin 6.73 72 IAmb_Lg 04 25 58.6
comp=Z,65nm,1.0s
EF01 Eagle Ford 01 6.82 188 IAmb_Lg 04 26 03.4
comp=Z,34nm,0.8s
SDCO Great Sand Dun 6.83 288 IAmb_Lg 04 26 03.4
comp=Z,50nm,1.2s
Q24A Divide 6.95 298 IAmb_Lg 04 26 17.3
comp=Z,37nm,0.8s
K30B Basset 6.99 346 IAmb_Lg 04 26 22.7
comp=Z,54nm,0.8s
735A Kenedy 7.05 184 IAmb_Lg 04 26 25.7
comp=Z,32nm,1.0s
DRIO Del Rio 7.05 204 IAmb_Lg 04 26 14.3
comp=Z,28nm,0.7s
PECS Pecos 7.11 232 IAmb_Lg 04 26 22.4
comp=Z,20nm,0.7s
SAND Sanderson 7.19 216 IAmb_Lg 04 26 13.0
comp=Z,55nm,1.1s
BRIGG Briggsdale 7.23 312 IAmb_Lg 04 26 28.5
comp=Z,49nm,0.9s
ANMO Albuquerque 7.54 265 Pg Pb 04 24 39.8 +4.2
comp=Z,0.4nm,0.3s,baz=168,slow=15,SNR=14
ANMO Lg Lg 04 26 17.0
comp=Z,0.7nm,0.3s,baz=90,slow=19,SNR=2.5
ALPN Alpine 7.66 226 IAmb_Lg 04 26 45.0
comp=Z,28nm,0.9s
WVT Waverly 7.67 86 IAmb_Lg 04 26 33.0
comp=Z,25nm,1.1s
L40A Anamosa 7.75 36 IAmb_Lg 04 26 39.0
comp=Z,42nm,0.8s
833A Chaparral WMA, 7.77 194 IAmb_Lg 04 26 40.5
comp=Z,28nm,0.9s
ECSD EROS Data Cent 7.83 4 IAmb_Lg 04 26 33.5
comp=Z,27nm,1.0s
USIN University of 7.98 72 IAmb_Lg 04 26 37.9
comp=Z,35nm,0.9s
Z47A Carrollton 8.08 107 IAmb_Lg 04 27 02.4
comp=Z,31nm,1.3s
Y22D IRIS PASSCAL I 8.11 260 IAmb_Lg 04 26 59.9
comp=Z,49nm,0.9s
PHWY Pilot Hill 8.35 313 IAmb_Lg 04 27 07.7
comp=Z,37nm,1.1s
N23A Red Feather La 8.42 309 IAmb_Lg 04 27 04.9
comp=Z,44nm,0.8s
TXAR Lajitas Array 8.47 221 Pn Pn 04 24 27.0 -0.5
comp=Z,0.3nm,0.3s,baz=41,slow=11,SNR=7.4
TXAR Lg Lg 04 26 41.7
comp=Z,0.9nm,0.3s,baz=60,slow=23,SNR=5.0
comp=Z,0.1nm,0.3s
SUSD Miller 8.62 352 IAmb_Lg 04 27 01.4
comp=Z,29nm,0.8s
I40A Norwalk 9.48 31 IAmb_Lg 04 27 39.0
comp=Z,24nm,0.8s
K22A Casper 9.82 316 IAmb_Lg 04 27 56.4
comp=Z,38nm,1.1s
SPMN Marine on St. 9.91 19 IAmb_Lg 04 27 38.9
comp=Z,22nm,0.9s
F33A 5 Mile Ranch, 9.95 4 IAmb_Lg 04 27 45.4
comp=Z,35nm,1.2s
TKL Tuckaleechee C 10.99 87 Pn Pn 04 25 05.1 +3.3
comp=Z,0.1nm,0.3s,baz=293,slow=16,SNR=1.4
TKL Lg Lg 04 28 06.1
comp=Z,1.2nm,0.3s,baz=343,slow=23,SNR=5.9
comp=Z,1.6nm,0.6s
PDAR Pinedale Array 11.70 310 Pn Pn 04 25 10.7 -1.1
comp=Z,0.1nm,0.3s,baz=117,slow=14,SNR=4.4
PDAR Lg Lg 04 28 26.4
comp=Z,0.1nm,0.3s,baz=119,slow=29,SNR=2.4
comp=Z,0.4nm,0.5s
ULM Lac du Bonnet 14.37 4 Pn Pn 04 25 44.8 -3.2
comp=Z,1.3nm,0.6s,baz=214,slow=22,SNR=2.2
ULM Sn Sn 04 28 13.4 -14
comp=Z,0.2nm,0.3s,baz=180,slow=20,SNR=1.3
ULM Lg Lg 04 29 49.8
comp=Z,0.1nm,0.3s,baz=131,slow=20,SNR=1.8

*NOU **21** 04:34:12.5,37.˚14S×179.˚97E,h0km,MLv3.9/7,Off E. Coast of N. Island, N.Z.*
*WEL **21** 04:34:23.9±1.3,37.˚5S±˚,17.˚9E±˚,h16km±8km,M3.3/13, ML3.5/18,MLv3.3/13,Error ellipse: s-maj=0.0km s-min=0.0km az=105.2,confirmed*
*IDC **21** 04:34:26.0±5.9,37.˚54S×179.˚24E,h63km±102km,mb3.7/3, mbtmp4.0/3,Error ellipse: s-maj=332.8km s-min=43.0km az=159.0*

ISC 21 04:34:21.0±2.3,37.˚19S±0.˚07×179.˚20E±0.˚08,h11km±11km, n70,σ1s24/75,mb3.5/3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.81**	**242**	P		**Pb**		**04 34 37.2**	**+0.2**
MXZ	**Matakaoa Point**	**0.81**	**242**	P		**Pb**		**04 34 37.2**	**+0.2**
MXZ				S		**Sg**		**04 34 46.5**	**-0.5**
WMGZ	**Waiomatatini S**	**0.89**	**225**	P		**Pn**		**04 34 40.5**	**+1.1**
WMGZ				S		**Sb**		**04 34 52.7**	**+2.5**
PKGZ	**Pakihiroa**	**1.14**	**232**	P		**Pn**		**04 34 43.6**	**+0.8**
PKGZ				S		**Sg**		**04 34 58.0**	**+0.4**
PUZ	**Puketiti**	**1.16**	**220**	P		**Pn**		**04 34 44.1**	**+1.0**
HAZ	**Te Kaha**	**1.26**	**243**	P		**Pg**		**04 34 44.2**	**-1.0**
HAZ				S		**Sg**		**04 35 01.4**	**-0.2**
TWGZ	**Tauwhareparae**	**1.38**	**224**	P		**Pg**		**04 34 47.4**	**-0.1**
TWGZ				S		**Sg**		**04 35 05.7**	**+0.2**
RUGZ	**Raukumara Rang**	**1.44**	**237**	P		**Pg**		**04 34 48.4**	**-0.2**
RUGZ				S		**Sn**		**04 35 05.9**	**-0.1**
CNGZ	**Carnagh Statio**	**1.51**	**211**	P		**Pg**		**04 34 49.9**	**-0.1**
TKGZ	**Te Karaka**	**1.65**	**220**	P		**Pn**		**04 34 50.8**	**+1.0**
MWZ	**Matawai**	**1.75**	**229**	P		**Pn**		**04 34 52.3**	**+1.0**
WHRZ	**Whale Island**	**1.89**	**249**	P		**Pn**		**04 34 54.1**	**+0.9**
RIGZ	**Rimuhau**	**1.89**	**217**	P		**Pn**		**04 34 54.3**	**+1.1**
RAGZ	**Rawiri**	**1.92**	**227**	P		**Pn**		**04 34 54.7**	**+1.0**
URZ	**Urewera**	**1.97**	**237**	P		**Pn**		**04 34 55.4**	**+1.1**
URZ	**Urewera**	**1.97**	**237**	P		**Pn**		**04 34 55.3**	**+1.0**
	29nm,0.3s,baz=73,slow=20,SNR=150								
URZ				S		**Sn**		**04 35 17.6**	**-1.4**
	82nm,0.5s,baz=127,slow=20,SNR=24								
URZ	**Urewera**	**1.97**	**237**	P		**Pn**		**04 34 55.2**	**+1.0**
URZ				S		**Sn**		**04 35 17.8**	**-1.2**
PRGZ	**Paritu Road**	**2.02**	**211**	P		**Pn**		**04 34 55.8**	**+0.8**
EDRZ	**Edgecumbe**	**2.16**	**244**	P		**Pn**		**04 34 57.9**	**+1.0**
OPRZ	**Ohinepanea**	**2.21**	**252**	P		**Pn**		**04 34 57.6**	**+0.2**
MHGZ	**Mahia Peninsul**	**2.21**	**207**	P		**Pn**		**04 34 58.3**	**+0.8**
RTZ	**Ruatahuna**	**2.26**	**230**	P		**Pn**		**04 34 58.9**	**+0.5**
MUGZ	**Murupara**	**2.32**	**236**	P		**Pn**		**04 34 59.7**	**+0.7**
TARZ	**Mount Tarawera**	**2.38**	**243**	P		**Pn**		**04 35 01.3**	**+1.3**
RAHZ	**Arahi**	**2.40**	**223**	P		**Pn**		**04 35 01.3**	**+1.1**
RRRZ	**Republican Roa**	**2.42**	**241**	P		**Pn**		**04 35 01.3**	**+0.8**
MTHZ	**Maungataniwha**	**2.50**	**228**	P		**Pn**		**04 35 02.7**	**+1.1**
NMHZ	**Naumai**	**2.68**	**224**	P		**Pn**		**04 35 05.2**	**+1.1**
ARHZ	**Aropaoanui**	**2.70**	**219**	P		**Pn**		**04 35 05.1**	**+0.7**
KUZ	**Kuaotunu**	**2.83**	**278**	P		**Pn**		**04 35 05.2**	**-0.8**
BKZ	**Black Stump Fm**	**2.91**	**226**	P		**Pn**		**04 35 08.2**	**+1.0**
BKZ	**Black Stump Fm**	**2.91**	**226**	P		**Pn**		**04 35 07.7**	**+0.5**
MCHZ	**McNeill Hill**	**2.99**	**220**	P		**Pn**		**04 35 08.5**	**+0.2**
TOZ	**Tahuroa Road**	**3.00**	**258**	P		**Pn**		**04 35 08.3**	**0.0**
KWHZ	**Kaweka Forest**	**3.12**	**224**	P		**Pn**		**04 35 10.0**	**-0.1**
GRZ	**Great Barrier**	**3.15**	**286**	P		**Pn**		**04 35 11.7**	**+1.2**
KAHZ	**Kahuranaki**	**3.18**	**214**	P		**Pn**		**04 35 10.4**	**-0.5**
MKAZ	**Moumakai**	**3.23**	**270**	P		**Pn**		**04 35 11.4**	**-0.2**
WIAZ	**Waiheke Island**	**3.28**	**276**	P		**Pn**		**04 35 12.4**	**+0.1**
KRHZ	**Kereru**	**3.31**	**221**	P		**Pn**		**04 35 12.6**	**-0.1**
TMVZ	**Te Maari**	**3.36**	**234**	P		**Pn**		**04 35 11.9**	**-1.6**
ETVZ	**East Tongariro**	**3.37**	**234**	P		**Pn**		**04 35 14.0**	**+0.4**
NTVZ	**North Tongarir**	**3.37**	**235**	P		**Pn**		**04 35 14.1**	**+0.5**
PXZ	**Pawanui**	**3.38**	**212**	P		**Pn**		**04 35 16.2**	**+2.7**
OTVZ	**Oturere**	**3.41**	**234**	P		**Pn**		**04 35 14.7**	**+0.4**
SNVZ	**South Ngauruho**	**3.44**	**234**	P		**Pn**		**04 35 15.1**	**+0.5**
TUVZ	**Tukino**	**3.48**	**232**	P		**Pn**		**04 35 15.9**	**+0.7**
MOVZ	**Moawhango**	**3.50**	**230**	P		**Pn**		**04 35 15.7**	**+0.3**
WNVZ	**Wahianoa**	**3.55**	**232**	P		**Pn**		**04 35 16.7**	**+0.6**
PNHZ	**Pukenui**	**3.60**	**220**	P		**Pn**		**04 35 15.7**	**-0.9**
HIZ	**Hauiti**	**3.69**	**248**	P		**Pn**		**04 35 19.7**	**+1.9**
HIZ	**Hauiti**	**3.69**	**248**	P		**Pn**		**04 35 19.7**	**+1.9**
TSZ	**Takapari Road**	**3.83**	**221**	P		**Pn**		**04 35 18.7**	**-1.1**
VRZ	**Vera Road**	**4.00**	**240**	P		**Pn**		**04 35 23.5**	**+1.4**
WCZ	**Waipu Caves**	**4.11**	**286**	P		**Pn**		**04 35 24.3**	**+0.7**
BFZ	**Birch Farm**	**4.18**	**213**	P		**Pn**		**04 35 21.3**	**-3.3**
BFZ	**Birch Farm**	**4.18**	**213**	P		**Pn**		**04 35 22.4**	**-2.2**
WAZ	**Wanganui**	**4.18**	**231**	P		**Pn**		**04 35 25.5**	**+0.8**
TWZ	**Tintock**	**4.42**	**215**	P		**Pn**		**04 35 26.3**	**-1.6**
MRZ	**Mangatainoka R**	**4.47**	**218**	P		**Pn**		**04 35 26.9**	**-1.8**
OUZ	**Omahuta**	**4.94**	**292**	P		**Pn**		**04 35 36.4**	**+1.3**
OUZ	**Omahuta**	**4.94**	**292**	P		**Pn**		**04 35 36.4**	**+1.3**
TKNZ	**Takaka Hill**	**6.19**	**230**	P		**Pn**		**04 35 50.5**	**-1.8**
CTZ	**Chatham Island**	**7.27**	**155**	P		**Pn**		**04 36 11.5**	**+4.5**
ASAR	**Alice Springs**	**40.95**	**276**	P		**P**		**04 42 03.1**	**-0.6**
	0.5nm,0.5s,baz=118,slow=8.1,SNR=6.5								
	0.5nm,0.5s								
WRA	**Warramunga Arr**	**42.56**	**281**	P		**P**		**04 42 16.0**	**-0.9**
	0.3nm,0.3s,baz=123,slow=7.0,SNR=9.7								
	0.3nm,0.3s								
H03N3	**Juan Fernandez**	**78.88**	**124**	T		**T**		06 13 12.3	
	baz=222								
H03N2	**Juan Fernandez**	**78.88**	**123**	T		**T**		06 13 03.4	
	baz=222								
H03N1	**Juan Fernandez**	**78.89**	**124**	T		**T**		06 13 01.5	
	baz=222								
PETK	**Petropavlovsk-**	**91.85**	**347**	P		**P**		**04 47 28.6**	**+0.1**
	4.6nm,0.8s,baz=189,slow=8.2,SNR=3.6								
	4.6nm,0.8s								

*IDC **21** 04:37:07.5±0.6,5.˚04S×153.˚67E,h0km,mb4.4/17, mbtmp4.4/19,ML3.1/2,MS4.3/2,Error ellipse: s-maj=21.0km s-min=13.1km az=74.0*
*NEIC **21** 04:37:09.7±0.7,5.˚14S±0.˚07×153.˚57E±0.˚08,h10km±1km, mb4.7/39,Error ellipse: s-maj=14.0km s-min=10.9km az=62.0*

ISC 21 04:37:15.7±0.5,5.˚19S±0.˚05×153.˚47E±0.˚08,h56km,n95, σ1s24/100,mb4.7/46,2C-2D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.63**	**307**	Pn		**Pn**		**04 37 39.2**	**-2.9**
RABL				Sn		**Sn**		**04 38 01.6**	**-0.5**
KRVT	**Keravat (AS076**	**1.68**	**301**	Pn		**Pn**		**04 37 41.6**	**-1.1**
	240nm,0.3s,baz=192,slow=2.4,SNR=58								
KRVT				Sn		**Sn**		**04 38 03.9**	**+0.6**
	706nm,0.3s,baz=154,slow=22,SNR=8.6								
MANU	**Manus Island**	**6.84**	**297**	Pn		**Pn**		**04 38 51.5**	**-2.0**
PMG	**Port Moresby**	**7.53**	**236**	Pn		**Pn**		**04 39 00.6**	**-2.3**
PMG						**Sn**		**04 40 28.4**	**+1.4**
PMG	**Port Moresby**	**7.53**	**236**	Pn		**Pn**		**04 39 01.5**	**-1.3**
	5.0nm,0.3s,baz=232,slow=6.2,SNR=4.3								
PMG				Sn		**Sn**		**04 40 25.9**	**-1.0**
	3.7nm,0.3s,baz=91,slow=12,SNR=3.1								
	10nm,0.3s								
HNR	**Honiara**	**7.69**	**124**	LR		LR		04 42 08.2	
	comp=Z,7μm,18.5s,baz=302,slow=40								
PATS	**Pohnpei**	**12.89**	**22**	Pn		Pn		04 40 11.4	-4.8
CTA	**Charters Tower**	**16.39**	**205**	Pn		**P**		**04 41 03.7**	**-0.5**
	0.1nm,0.3s,baz=21,slow=15,SNR=3.6								
	2.7nm,0.7s								
CTAO	**Charters Tower**	**16.39**	**205**			**P**		**04 41 02.9**	**-1.2**
EIDS	**Eidsvold**	**20.20**	**186**	P		**P**		**04 41 44.9**	**-1.0**
DZM	**Mont Dzumac**	**20.96**	**144**	P		**P**		**04 41 51.8**	**-2.6**
DZM				IAmb		IAmb		04 42 04.9	
	comp=Z,55nm,1.4s								
DZM	**Mont Dzumac**	**20.96**	**144**	P		**P**		**04 41 54.1**	**-0.2**
	comp=Z,7.9nm,0.6s,baz=284,slow=18,SNR=2.4								
	comp=Z,7.9nm,0.6s								
MTN	**Manton Dam**	**23.32**	**249**	P		**P**		**04 42 18.5**	**-0.6**
MTN				IAmb		IAmb		04 42 37.6	
	comp=Z,17nm,0.6s								
WR0	**Warramunga Arr**	**23.55**	**230**	P		**P**		**04 42 20.6**	**-0.7**
WB2	**Warramunga Arr**	**23.69**	**230**	P		**P**		**04 42 22.1**	**-0.4**
WB2				IAmb		IAmb		04 42 31.1	
	comp=Z,11nm,0.8s								
WRA	**Warramunga Arr**	**23.70**	**230**	P		**P**		**04 42 22.0**	**-0.6**
WRA						**PcP**		**04 46 06.3**	**+0.5**
WRA	**Warramunga Arr**	**23.70**	**230**	P		**P**		**04 42 22.0**	**-0.6**
	comp=Z,7.2nm,0.8s,baz=54,slow=9.2,SNR=44								
WRA				PcP		**PcP**		**04 46 06.8**	**+1.0**
	comp=Z,2.6nm,0.8s,baz=58,slow=2.4,SNR=9.1								
WRA				ScP		**ScP**		**04 49 44.7**	**+5.2**
	comp=Z,0.5nm,0.8s,baz=59,slow=2.6,SNR=4.6								
	comp=Z,7.2nm,0.8s								
ARMA	**Armidale**	**25.16**	**184**	P		**P**		**04 42 34.8**	**-1.1**
ARMA				IAmb		IAmb		04 42 54.3	
	comp=Z,46nm,1.5s								
AS31	**Alice Springs**	**26.32**	**224**	P		**P**		**04 42 44.5**	**-2.0**
ASAR	**Alice Springs**	**26.32**	**224**	P		**P**		**04 42 45.9**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=52,slow=9.3,SNR=13								
ASAR				PcP		**PcP**		**04 46 12.8**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=48,slow=3.1,SNR=6.5								
	comp=Z,1.1nm,0.5s								
KNRA	**Kununurra**	**26.40**	**245**	P		**P**		**04 42 46.5**	**-0.7**
H11S3	**WAKE ISLAND Hy**	**26.90**	**29**	T		T		05 11 10.0	
	baz=209,slow=72,SNR=5.8								
H11S2	**WAKE ISLAND Hy**	**26.91**	**29**	T		T		05 11 05.6	
	baz=209,slow=72,SNR=4.8								
H11S1	**WAKE ISLAND Hy**	**26.92**	**29**	T		T		05 11 07.4	
	baz=209,slow=72,SNR=4.0								
STKA	**Stephens Creek**	**28.79**	**201**	P		**P**		**04 43 09.3**	**+0.9**
	comp=Z,1.6nm,0.5s,baz=53,slow=12,SNR=4.7								
	comp=Z,1.6nm,0.5s								
FITZ	**Fitzroy Crossi**	**30.06**	**242**	P		**P**		**04 43 19.3**	**-0.5**
JCJ	**Chichijima**	**33.90**	**342**	LR		LR		04 55 42.8	
	comp=Z,131nm,20.3s,baz=334,slow=33								
FORT	**Forrest**	**34.91**	**220**	P		**P**		**04 44 01.6**	**-0.5**
URZ	**Urewera**	**39.32**	**150**	P		**P**		**04 44 38.8**	**-0.6**
	comp=Z,7.3nm,1.0s,baz=37,slow=20,SNR=1.6								
	comp=Z,7.3nm,1.0s								
RTZ	**Ruatahuna**	**39.53**	**151**	P		**P**		**04 44 40.2**	**-1.1**
RTZ				IAmb		IAmb		04 44 54.7	
	comp=Z,21nm,0.8s								
BFZ	**Birch Farm**	**40.83**	**153**	P		**P**		**04 44 51.9**	**0.0**
LTZ	**Lake Taylor**	**40.98**	**159**	P		**P**		**04 44 53.2**	**0.0**
LTZ				IAmb		IAmb		04 44 58.8	
	comp=Z,15nm,0.9s								
NWAO	**Narrogin (SRO)**	**43.59**	**226**	P		**P**		**04 45 14.4**	**-0.1**
JNU	**Nakatsue**	**43.71**	**332**	P		**P**		**04 45 14.5**	**-1.0**
JNU				IAmb		IAmb		04 45 15.5	
	comp=Z,22nm,0.9s								
MJAR	**Matsushiro Arr**	**43.90**	**342**	P		**P**		**04 45 14.6**	**-2.3**
	comp=Z,0.9nm,0.4s,baz=174,slow=9.4,SNR=1.8								
	comp=Z,0.9nm,0.4s								
KSRS	**Korea Array**	**48.65**	**333**	P		**P**		**04 45 53.0**	**-1.0**
	comp=Z,3.5nm,0.7s,baz=149,slow=9.6,SNR=12								
	comp=Z,3.5nm,0.7s								
NJ2	**Nanjing**	**49.56**	**321**	*e*P		**P**		**04 46 03.8**	**+2.6**
NJ2				pP		**pP**		**04 46 15.0**	**+0.1**
NJ2				sP		**sP**		**04 46 20.5**	**-0.4**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
NJ2				pmax		pmax			
	comp=Z,280nm,3.6s								
MDJ	**Mudanjiang**	**54.02**	**339**	P		**P**		**04 46 34.3**	**+0.1**
MDJ				pmax		pmax			
	comp=Z,8.0nm,1.4s								
MDJ				pmax		pmax			
	comp=Z,400nm,6.3s								
ENH	**Enshi**	**54.90**	**313**	P		**P**		**04 46 40.7**	**-0.3**
ENH				IAmb		IAmb		04 46 57.9	
	comp=Z,14nm,1.0s								
GYA	**Guiyang**	**55.16**	**307**	*e*P		**P**		**04 46 46.0**	**+3.0**
GYA				pmax		pmax			
	comp=Z,13nm,1.0s								
HNS	**HongShan**	**55.66**	**323**	⇑P		**P**		**04 46 45.9**	**-0.3**
HNS				pmax		pmax			
	comp=Z,10.0nm,1.1s								
BNX	**BinXian**	**55.77**	**338**	⇓P		**P**		**04 46 45.9**	**-1.0**
BNX				pmax		pmax			
	comp=Z,10.0nm,1.1s								
BNX				pmax		pmax			
	comp=Z,300nm,9.9s								
XAN	**Xi'an**	**57.36**	**316**	P		**P**		**04 46 58.1**	**-0.4**
XAN				pmax		pmax			
	comp=Z,18nm,0.9s								
CMAR	**Chiang Mai Arr**	**58.64**	**295**	P		**P**		**04 47 07.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**58.64**	**295**	P		**P**		**04 47 09.1**	**+1.4**
	comp=Z,6.3nm,0.8s,baz=117,slow=5.3,SNR=25								
	comp=Z,6.3nm,0.8s								
PZH	**PanZhiHua**	**59.14**	**305**	P		**P**		**04 47 13.9**	**+2.8**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.4s								
PZH				pmax		pmax			
	comp=Z,360nm,7.9s								
XLT	**XiLinHaoTe**	**59.34**	**329**	⇓*i*P		**P**		**04 47 11.9**	**-0.2**
XLT				pmax		pmax			
	comp=Z,22nm,0.7s								
XLT				pmax		pmax			
	comp=Z,190nm,6.2s								
HEH	**HeiHe**	**59.64**	**341**	*e*P		**P**		**04 47 13.0**	**-0.9**
HHC	**Hu-ho-hao-te**	**59.75**	**324**	*e*P		**P**		**04 47 17.0**	**+2.0**
HHC				pmax		pmax			
	comp=Z,23nm,0.5s								
HHC				pmax		pmax			
	comp=Z,590nm,10.0s								
LZH	**Lanzhou**	**61.97**	**316**	⇑P		**P**		**04 47 31.3**	**+1.0**
LZH				pP	

comp=Z,3.1nm,0.7s
MAKZ Makanchi 81.26 319 P P 04 49 25.9 0.0
MAKZ IAmb IAmb 04 49 27.0
comp=Z,7.1nm,0.7s
ZAA0 Zalesovo Array 81.84 326 P P 04 49 28.2 -0.6
ZAA0 IAmb IAmb 04 49 28.6
comp=Z,3.7nm,0.8s
ZALV Zalesovo Beam 81.84 326 P P 04 49 27.5 -1.3
ZALV Zalesovo Beam 81.84 326 P P 04 49 27.9 -0.9
comp=Z,3.1nm,0.5s,baz=113,slow=6.7,SNR=14
comp=Z,3.1nm,0.5s
B20K Meade River 82.03 15 P P 04 49 29.2 -0.2
ILAR Eielson Array 82.27 22 P P 04 49 28.2 -2.5
comp=Z,0.6nm,0.8s,baz=245,slow=5.0,SNR=7.5
comp=Z,0.6nm,0.8s
E22K Anaktuvuk Pass 82.40 18 P P 04 49 31.4 -0.1
J25K Salcha River, 82.76 22 P P 04 49 31.9 -1.5
J25K IAmb IAmb 04 49 50.7
comp=Z,6.2nm,1.4s
M27K Edge Creek, AK 83.14 25 P P 04 49 35.1 -0.5
M27K IAmb IAmb 04 49 53.2
comp=Z,6.4nm,1.3s
FYU Fort Yukon 83.75 21 P P 04 49 38.6 +0.3
BOOM Boomskoye usch 84.34 313 P P 04 49 42.9 +0.8
BOOM IAmb IAmb 04 49 47.8
comp=Z,7.5nm,1.0s
HYT Haines Junctio 84.47 27 P P 04 49 42.0 -0.4
HYT IAmb IAmb 04 49 48.7
comp=Z,4.0nm,1.1s
KURK Kurchatov 84.48 322 P P 04 49 42.3 -0.1
KURBB Kurchatov Arra 84.51 322 P P 04 49 42.2 -0.4
comp=Z,2.0nm,0.6s,baz=109,slow=4.1,SNR=16
comp=Z,2.0nm,0.6s
DIB Dawson Inlet, 84.67 36 P P 04 49 43.6 +0.3
TKM2 Tokmak 2 84.68 314 P P 04 49 44.6 +0.7
SNR=13
KZA Kyzart 84.75 313 P P 04 49 46.1 +1.5
SNR=5.7
QSPA South Pole Qui 84.77 180 P P 04 49 44.6 +0.8
QSPA South Pole Qui 84.77 180 P P 04 49 44.4 +0.6
comp=Z,9.4nm,0.8s,baz=284,slow=0.6,SNR=36
comp=Z,9.4nm,0.8s
KBK Karagaybulak 85.09 313 P P 04 49 47.0 +1.0
SNR=5.0
UCH Uchtor 85.32 313 P P 04 49 48.5 +1.1
SNR=6.7
AAK Ala-Archa 85.41 313 P P 04 49 48.4 +0.8
SNR=7.3
AAK Ala-Archa 85.41 313 P P 04 49 47.5 0.0
MAW Mawson 85.47 203 P P 04 49 47.9 +0.9
comp=Z,8.7nm,1.0s,baz=131,slow=0.5,SNR=3.6
comp=Z,8.7nm,1.0s
USP Ospenovka 85.53 314 P P 04 49 48.5 +0.5
SNR=12
AML Almayashu 85.90 313 P P 04 49 51.5 +1.2
SNR=8.5
KK31 Karatay Array 88.38 313 P P 04 50 01.6 -0.2
KK31 IAmb IAmb 04 50 04.2
comp=Z,2.4nm,0.8s
KKAR Karatay Array 88.38 313 P P 04 50 00.9 -0.9
KKAR Karatay Array 88.38 313 P P 04 50 01.6 -0.2
KKAR IAmb IAmb 04 50 04.3
comp=Z,2.4nm,0.8s
BVAR Borovoye Array 89.95 323 P P 04 50 08.0 -0.9
comp=Z,7.7nm,0.7s,baz=106,slow=5.6,SNR=24
comp=Z,7.7nm,0.7s
TORD Torodi Ar. Bea 151.06 288 PKPbc PKPbc 04 57 03.2 -0.3
comp=Z,9.2nm,0.7s,baz=57,slow=2.4,SNR=87

*SJA **21** 04:39:22.4±0.7,21°.11S×68°.64W,h148km±4km,ML4.1, MW4.1*
*IDC **21** 04:39:23.7±1.2,21°.07S×68°.44W,h117km±12km,mb4.1/8, mbtmp4.5/10,MS4.3/1,Error ellipse: s-maj=20.8km s-min=14.8km az=113.0*
*VAO **21** 04:39:23.9±0.5,20°.94S×68°.20W,h92km±5km, mb4.6*
*NEIC **21** 04:39:24.3±1.4,21°.13S±0°.03×68°.71W±0°.08,h138km±8km, mb4.5/7,Error ellipse: s-maj=10.9km s-min=3.7km az=94.0*
*GUC **21** 04:39:24.5±0.7,21°.13S×68°.60W,h131km±4km,ML4.2*

ISC 21 04:39:23.8±0.6,21°.13S±0°.03×68°.56W±0°.04,h128km±5km, n168,σ1§65/204,mb4.4/12,18C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PB01	**IPOC Station P**	**0.88**	**275**			**Pn**	**04 39 45.6**	**+0.1**
PB01				Sn		**Sn**	**04 40 01.0**	**-1.0**
PB01	**IPOC Station P**	**0.88**	**275**	*eP*		**Pn**	**04 39 45.4**	**-0.1**
PB01				*eS*		**Sn**	**04 40 02.4**	**+0.4**
PB01				IAML			04 40 04.0	
	comp=Z,3µm,0.2s							
PB01	**IPOC Station P**	**0.88**	**275**	*i*P		**Pn**	**04 39 45.5**	**-0.1**
PB01				*eS*		**Sn**	**04 40 01.3**	**-0.6**
PB01				IAML			04 40 04.5	
	comp=E,4µm,0.2s							
PB09	**IPOC Station P**	**0.92**	**224**			**Pn**	**04 39 47.0**	**+1.0**
PB09				Sn		**Sn**	**04 40 03.7**	**+0.8**
PB09	**IPOC Station P**	**0.92**	**224**	*eP*		**Pn**	**04 39 46.8**	**+0.8**
PB09				*eS*		**Sn**	**04 40 04.8**	**+1.9**
PB09				IAML			04 40 06.3	
	comp=Z,1µm,0.4s							
PB09	**IPOC Station P**	**0.92**	**224**	*i*P		**Pn**	**04 39 46.9**	**+0.8**
PB09				*eS*		**Sn**	**04 40 03.8**	**+0.8**
PB08	**IPOC Station P**	**1.13**	**330**			**Pn**	**04 39 49.0**	**+0.8**
PB08				Sn		**Sn**	**04 40 07.2**	**+0.5**
PB08	**IPOC Station P**	**1.13**	**330**	*eP*		**Pn**	**04 39 49.0**	**+0.8**
PB08				*eS*		**Sn**	**04 40 07.9**	**+1.2**
PB08				IAML			04 40 10.2	
	comp=Z,3µm,0.6s							
PB08	**IPOC Station P**	**1.13**	**330**	*i*P		**Pn**	**04 39 49.0**	**+0.8**
PB08				*eS*		**Sn**	**04 40 07.2**	**+0.5**
PB08				IAML			04 40 09.4	
	comp=E,4µm,0.1s							
PX03	**IPOC Station P**	**1.24**	**305**	*eP*		**Pn**	**04 39 48.3**	**-0.7**
PB02	**IPOC Station P**	**1.27**	**261**			**Pn**	**04 39 49.2**	**-0.1**
PB02				Sn		**Sn**	**04 40 08.1**	**-0.6**
PB02	**IPOC Station P**	**1.27**	**261**	*eP*		**Pn**	**04 39 49.5**	**+0.2**
PB02				*eS*		**Sn**	**04 40 11.1**	**+2.4**
PB02				IAML			04 40 13.0	
	comp=Z,6µm,0.2s							
PB02	**IPOC Station P**	**1.27**	**261**	*i*P		**Pn**	**04 39 49.5**	**+0.2**
PB02				*eS*		**Sn**	**04 40 08.1**	**-0.6**
PB02				IAML			04 40 09.5	
	comp=N,6µm,0.4s							
PB07	**IPOC Station P**	**1.38**	**244**			**Pn**	**04 39 50.2**	**-0.4**
PB07				Sn		**Sn**	**04 40 10.2**	**-0.7**
PB07	**IPOC Station P**	**1.38**	**244**	*eP*		**Pn**	**04 39 50.7**	**+0.2**
PB07				*eS*		**Sn**	**04 40 11.9**	**+0.9**
PB07				IAML			04 40 15.3	
	comp=Z,2µm,0.2s							
PB07	**IPOC Station P**	**1.38**	**244**	*i*P		**Pn**	**04 39 50.8**	**+0.2**
PB07				*eS*		**Sn**	**04 40 10.3**	**-0.7**
PB07				IAML			04 40 12.3	
	comp=N,3µm,0.4s							
HMBC	**Humberstone**	**1.51**	**304**	*eP*		**Pn**	**04 39 51.7**	**-0.2**
HMBC				*eS*		**Sn**	**04 40 13.2**	**-0.2**
HMBC	**Humberstone**	**1.51**	**304**	*i*P		**Pn**	**04 39 51.8**	**-0.2**
HMBC				*eS*		**Sn**	**04 40 12.8**	**-0.6**
HMBC				IAML			04 40 14.4	
	comp=E,5µm,0.4s							
LVC	**Limon Verde**	**1.51**	**193**			**Pn**	**04 39 53.1**	**+0.9**
LVC	**Limon Verde**	**1.51**	**193**	*eP*		**Pn**	**04 39 52.9**	**+0.7**
LVC				*eS*		**Sn**	**04 40 15.2**	**+1.2**
LVC				IAML			04 40 17.3	
	comp=Z,647nm,0.5s							
LVC	**Limon Verde**	**1.51**	**193**	*eP*		**Pn**	**04 39 53.0**	**+0.7**
LVC	**Limon Verde**	**1.51**	**193**	P		**Pn**	**04 39 53.0**	**+0.7**
	comp=Z,802nm,0.3s,baz=30,slow=11,SNR=2389							
LVC				S		**Sn**	**04 40 14.1**	**+0.1**
	comp=Z,489nm,0.3s,baz=97,slow=23,SNR=8.1							
LVC	**Limon Verde**	**1.51**	**193**	*i*P		**Pn**	**04 39 53.0**	**+0.7**
LVC				*eS*		**Sn**	**04 40 14.3**	**+0.3**
PATCX	**Punta Patache**	**1.52**	**281**	Pn		**Pn**	**04 39 52.0**	**-0.1**
PATCX	**Punta Patache**	**1.52**	**281**	*eP*		**Pn**	**04 39 51.9**	**-0.2**
PATCX	**Punta Patache**	**1.52**	**281**	*i*P		**Pn**	**04 39 52.2**	**+0.1**
PATCX				*eS*		**Sn**	**04 40 13.1**	**-0.6**
PATCX				IAML			04 40 15.5	
	comp=E,5µm,0.4s							
GO01	**Chusmiza**	**1.57**	**337**			**Pn**	**04 39 53.7**	**+0.6**
GO01	**Chusmiza**	**1.57**	**337**	*eP*		**Pn**	**04 39 53.6**	**+0.6**
GO01				*eS*		**Sn**	**04 40 17.0**	**+1.7**
GO01	**Chusmiza**	**1.57**	**337**	*i*P		**Pn**	**04 39 53.6**	**+0.6**
GO01				*i* S		**Sn**	**04 40 15.9**	**+0.6**
GO01				IAML			04 40 19.0	
	comp=E,4µm,0.3s							
TA01	**Diego Aracena**	**1.62**	**290**			**Pn**	**04 39 52.6**	**-0.5**
TA01	**Diego Aracena**	**1.62**	**290**	*eP*		**Pn**	**04 39 52.2**	**-0.9**
TA01				IAML			04 40 18.3	
	comp=Z,2µm,0.6s							
TA01	**Diego Aracena**	**1.62**	**290**	*i*P		**Pn**	**04 39 52.7**	**-0.4**
TA01				*eS*		**Sn**	**04 40 14.3**	**-1.2**
TA01				IAML			04 40 17.0	
	comp=N,3µm,0.6s							
TA02	**Huaiquique**	**1.70**	**300**			**Pn**	**04 39 53.7**	**-0.4**
TA02	**Huaiquique**	**1.70**	**300**	*eP*		**Pn**	**04 39 53.9**	**-0.2**
TA02				IAML			04 40 20.9	
	comp=Z,2µm,0.1s							
TA02	**Huaiquique**	**1.70**	**300**	*eP*		**Pn**	**04 39 53.9**	**-0.2**
TA02				*eS*		**Sn**	**04 40 16.3**	**-0.9**
PB11	**IPOC Station P**	**1.71**	**323**			**Pn**	**04 39 54.2**	**-0.2**
PB11	**IPOC Station P**	**1.71**	**323**	*eP*		**Pn**	**04 39 54.1**	**-0.2**
PB11				*eS*		**Sn**	**04 40 18.2**	**+0.6**
PB11				IAML			04 40 18.8	
	comp=Z,1µm,0.3s							
PB11	**IPOC Station P**	**1.71**	**323**	*i*P		**Pn**	**04 39 54.1**	**-0.2**
PB11				*i* S		**Sn**	**04 40 17.0**	**-0.6**
PB11				IAML			04 40 19.2	
	comp=N,3µm,0.3s							
PB06	**IPOC Station P**	**1.83**	**211**			**Pn**	**04 39 56.2**	**+0.5**
PB06	**IPOC Station P**	**1.83**	**211**	*eP*		**Pn**	**04 39 56.3**	**+0.5**
PB06				*eS*		**Sn**	**04 40 20.9**	**+0.6**
PB06				IAML			04 40 24.0	
	comp=Z,1µm,0.3s							
PB06	**IPOC Station P**	**1.83**	**211**	*i*P		**Pn**	**04 39 56.3**	**+0.5**
PB06				*eS*		**Sn**	**04 40 20.3**	**0.0**
PB06				IAML			04 40 22.0	
	comp=E,2µm,0.4s							
AF01	**San Pedro de A**	**1.85**	**169**	Pn		**Pn**	**04 39 58.0**	**+1.9**
PB04	**IPOC Station P**	**1.91**	**231**			**Pn**	**04 39 56.6**	**-0.1**
PB04	**IPOC Station P**	**1.91**	**231**	*eP*		**Pn**	**04 39 56.6**	**-0.1**
PB04				*eS*		**Sn**	**04 40 22.6**	**+0.7**
PB04				IAML			04 40 24.6	
	comp=Z,1µm,0.4s							
PB04	**IPOC Station P**	**1.91**	**231**	*eP*		**Pn**	**04 39 56.6**	**-0.1**
PB04				*eS*		**Sn**	**04 40 21.6**	**-0.3**
PB04				IAML			04 40 23.8	
	comp=E,2µm,0.3s							
PB15	**IPOC Station P**	**2.24**	**202**			**Pn**	**04 40 01.4**	**+0.6**
PB15	**IPOC Station P**	**2.24**	**202**	*eP*		**Pn**	**04 40 00.9**	**+0.1**
PB15				*eS*		**Sn**	**04 40 30.1**	**+0.9**
PB15	**IPOC Station P**	**2.24**	**202**	*i*P		**Pn**	**04 40 01.2**	**+0.4**
PB15				*eS*		**Sn**	**04 40 29.4**	**+0.2**
PB05	**IPOC Station P**	**2.30**	**221**			**Pn**	**04 40 01.1**	**-0.3**
PB05	**IPOC Station P**	**2.30**	**221**	*eP*		**Pn**	**04 40 01.2**	**-0.3**
PB05				*eS*		**Sn**	**04 40 30.5**	**0.0**
PB05				IAML			04 40 34.5	
	comp=Z,585nm,0.3s							
PB05	**IPOC Station P**	**2.30**	**221**	*i*P		**Pn**	**04 40 01.2**	**-0.3**
PB05				*eS*		**Sn**	**04 40 29.3**	**-1.2**
PB05				IAML			04 40 31.5	
	comp=E,928nm,0.2s							
PX02	**IPOC Station P**	**2.65**	**324**	*eP*		**Pn**	**04 40 03.7**	**-2.2**
PB16	**IPOC Station P**	**2.92**	**342**	Pn		**Pn**	**04 40 10.2**	**+0.4**
PB16	**IPOC Station P**	**2.92**	**342**	*eP*		**Pn**	**04 40 10.7**	**+0.8**
PB16				*eS*		**Sn**	**04 40 46.8**	**+1.5**
PB16				IAML			04 40 50.4	
	comp=Z,320nm,0.7s							
PB16	**IPOC Station P**	**2.92**	**342**	*i*P		**Pn**	**04 40 10.5**	**+0.6**
PB16				*eS*		**Sn**	**04 40 45.3**	**+0.1**
PB16				IAML			04 40 50.2	
	comp=E,368nm,0.4s							
PB12	**IPOC Station P**	**3.00**	**326**	Pn		**Pn**	**04 40 09.5**	**-1.1**
PB12	**IPOC Station P**	**3.00**	**326**	*eP*		**Pn**	**04 40 09.5**	**-1.1**
PB12				*eS*		**Sn**	**04 40 45.2**	**-1.3**
PB12				IAML			04 40 51.6	
	comp=Z,359nm,0.5s							
PB12	**IPOC Station P**	**3.00**	**326**	*eP*		**Pn**	**04 40 10.0**	**-0.5**
PB12				*eS*		**Sn**	**04 40 45.3**	**-1.3**
PB12				IAML			04 40 54.8	
	comp=E,688nm,0.7s							
YJA	**Yavi**	**3.02**	**111**	*eP*		**Pn**	**04 40 13.1**	**+2.2**
AP01	**Chacalluta**	**3.22**	**328**	Pn		**Pn**	**04 40 13.0**	**-0.2**
PB18	**Visviri**	**3.62**	**346**	Pn		**Pn**	**04 40 19.5**	**+0.4**
PB18	**Visviri**	**3.62**	**346**	*eP*		**Pn**	**04 40 22.3**	**+3.2**
PB14	**IPOC Station P**	**3.88**	**206**	Pn		**Pn**	**04 40 21.0**	**-1.2**
PB14	**IPOC Station P**	**3.88**	**206**	*eP*		**Pn**	**04 40 20.9**	**-1.2**
PB14				*eS*		**Sn**	**04 41 04.7**	**-2.8**
PB14				IAML			04 41 08.0	
	comp=Z,282nm,0.2s							
PB14	**IPOC Station P**	**3.88**	**206**	*eP*		**Pn**	**04 40 21.3**	**-0.8**
PB14				*eS*		**Sn**	**04 41 04.6**	**-2.8**
GO02	**Mina Guanaco**	**4.13**	**193**	Pn		**Pn**	**04 40 25.0**	**-0.5**
GO02	**Mina Guanaco**	**4.13**	**193**	*eP*		**Pn**	**04 40 24.9**	**-0.5**
GO02				*eS*		**Sn**	**04 41 12.3**	**-1.0**
GO02	**Mina Guanaco**	**4.13**	**193**	*eP*		**Pn**	**04 40 24.9**	**-0.5**
GO02				*eS*		**Sn**	**04 41 11.5**	**-1.9**
AZAP	**Zapla**	**4.46**	**134**	*eP*		**Pn**	**04 40 30.9**	**+1.0**
SLA	**San Lorenzo**	**4.55**	**142**	*eP*		**Pn**	**04 40 33.0**	**+2.0**
LPAZ	**La Paz**	**4.83**	**5**	Pn		**Pn**	**04 40 36.1**	**+1.0**
LPAZ	**La Paz**	**4.83**	**5**	*eP*		**Pn**	**04 40 37.2**	**+2.1**
ALOL	**LOMAS DE OLMED**	**5.00**	**123**	*eP*		**Pn**	**04 40 37.6**	**+0.6**
AC01	**Pan de Azucar**	**5.34**	**200**	Pn		**Pn**	**04 40 39.2**	**-2.1**
AC01	**Pan de Azucar**	**5.34**	**200**	*eP*		**Pn**	**04 40 39.5**	**-1.9**
AC06	**Mina Casimiro**	**6.42**	**194**			**Pn**	**04 40 52.9**	**-3.0**
GO03	**Copiap**	**6.62**	**193**			**Pn**	**04 40 56.3**	**-2.3**
AC04	**Llanos de Chal**	**7.41**	**198**	Pn		**Pn**	**04 41 04.8**	**-4.4**
AC05	**El Transito**	**7.83**	**191**	Pn		**Pn**	**04 41 12.2**	**-2.9**
LCO	**Las Campanas**	**8.09**	**193**	Pn		**Pn**	**04 41 14.8**	**-3.9**
BBSD	**Serra de San D**	**8.47**	**64**	*eP*		**Pn**	**04 41 18.7**	**-4.9**
BBRB	**Robore, Bolivi**	**8.71**	**73**	*eP*		**Pn**	**04 41 21.7**	**-5.1**
SIV	**San Ignacio**	**8.74**	**55**	P		**Pn**	**04 41 24.6**	**-2.7**
	comp=Z,23nm,0.4s,baz=245,slow=9.2,SNR=213							
SIV				S		**Sn**	**04 42 56.2**	**-8.0**
	comp=Z,4.2nm,0.7s,baz=270,slow=12,SNR=6.9							
CO01	**Juntas del Tor**	**8.92**	**189**			**Pn**	**04 41 27.6**	**-2.2**
GO04	**Tololo Observa**	**9.23**	**192**			**Pn**	**04 41 29.7**	**-4.3**
CO03	**El Pedregal**	**9.86**	**191**	Pn		**Pn**	**04 41 38.0**	**-4.3**
MURT	**Porto Murtinho**	**10.21**	**95**	*eP*		Pn	04 41 41.4	-5.6
CFA	**Coronel Fontan**	**10.44**	**179**	P		**Pn**	**04 41 47.5**	**-2.5**
	comp=Z,3.3nm,0.3s,baz=6.2,slow=13,SNR=15							
CFA				S		Sn	04 43 36.4	-8.8
	comp=Z,5.3nm,0.3s,baz=292,slow=18,SNR=8.5							
PTLB	**Pontes e Lacer**	**10.58**	**59**	Pn		**Pn**	**04 41 50.0**	**-1.9**
PTLB	**Pontes e Lacer**	**10.58**	**59**	*eP*		**Pn**	**04 41 48.2**	**-3.7**
VILB	**Vilhena**	**11.39**	**46**	Pn		**Pn**	**04 42 01.4**	**-1.4**
VILB	**Vilhena**	**11.39**	**46**	*eP*		**Pn**	**04 41 58.8**	**-4.0**
ETMB	**Extrema**	**11.47**	**12**	*eP*		**Pn**	**04 42 01.6**	**-2.2**
AQDB	**Aquidauana**	**12.04**	**89**	Pn		**Pn**	**04 42 13.3**	**+2.0**
AQDB	**Aquidauana**	**12.04**	**89**	*eP*		**Pn**	**04 42 07.4**	**-3.9**
AMBA	**Amambai (Brazi**	**12.71**	**101**	*eP*		**Pn**	**04 42 16.5**	**-3.5**
SALV	**Santo Antonio**	**13.26**	**69**	*eP*		**Pn**	**04 42 23.8**	**-3.3**
PP1B	**Ponte de Pedra**	**13.37**	**77**	*eP*		**Pn**	**04 42 25.4**	**-3.2**
BO01	**Tunca**	**13.40**	**189**			**P**	**04 42 35.6**	**+1.9**
BO02	**Sierra Bellavi**	**13.76**	**188**	P		**Pn**	**04 42 35.2**	**+1.7**
RPRD	**Ribas do Rio P**	**13.91**	**90**	*eP*		**Pn**	**04 42 32.6**	**-2.8**
CZSB	**Cruzeiro do Su**	**13.91**	**343**			**P**	**04 42 40.8**	**+1.4**
CZSB	**Cruzeiro do Su**	**13.91**	**343**	*eP*		**P**	**04 42 37.3**	**-2.2**
CRSM	**Crissiumal (Br**	**14.66**	**118**	*eP*		**Pn**	**04 42 43.4**	**-1.6**
PDRB	**Porto dos Gac**	**14.76**	**52**	*eP*		**Pn**	**04 42 44.5**	**-1.8**
FRBT	**Francisco Belt**	**15.00**	**112**	*eP*		**Pn**	**04 42 48.8**	**-0.5**
RODS	**Rosario do Sul**	**15.13**	**130**	*eP*		**P**	**04 42 53.0**	**+0.1**
CLDB	**Colider**	**15.94**	**52**	*eP*		**Pn**	**04 42 59.6**	**-1.4**
LDASE	**Londrina, Braz**	**16.30**	**101**	*eP*		**Pn**	**04 43 05.0**	**-0.4**
TBTG	**Tabatinga, AM**	**16.89**	**355**	P		**Pn**	**04 43 13.3**	**+0.7**
ITRB	**Iturama**	**17.12**	**88**	*eP*		**P**	**04 43 14.8**	**-0.2**
FRTB	**Fartura**	**17.72**	**101**	*eP*		**P**	**04 43 21.7**	**+0.1**
TEFE	**Tefe**	**17.92**	**13**	*eP*		**P**	**04 43 22.7**	**-1.1**
GO06	**Curarrehue**	**18.57**	**187**	IAmb	IAmb		04 43 34.4	
	comp=Z,19nm,0.9s							
BB19B	**Bebedouro**	**18.69**	**93**	*eP*		**P**	**04 43 31.2**	**-1.1**
SNDB	**Serra Nova Dou**	**18.87**	**64**	*eP*		**P**	**04 43 33.5**	**-0.7**
LR05	**Currie**	**19.27**	**188**	IAmb	IAmb		04 43 40.9	
	comp=Z,41nm,0.9s							
IPMB	**Ipameri, GO**	**19.42**	**84**	*eP*		**P**	**04 43 40.0**	**-0.3**
RCLB	**Rio Claro- Sao**	**19.57**	**98**	*eP*		**P**	**04 43 41.2**	**-0.6**
PLCA	**Paso Flores**	**19.62**	**185**	IAmb	IAmb		04 43 48.2	
	comp=Z,17nm,0.8s							
PLCA	**Paso Flores**	**19.62**	**185**	P		**Pn**	**04 43 43.7**	**-1.1**
	comp=Z,17nm,0.8s,baz=359,slow=13,SNR=29							
MCRA	**Macar, Loja**	**20.00**	**325**	*eP*		**Pn**	**04 43 48.2**	**-1.3**
VAO	**Valinhos**	**20.10**	**99**	*eP*		**P**	**04 43 46.4**	**-1.2**
LL03	**Petrohue**	**20.22**	**188**	P		Pn	04 43 51.1	-0.6
BDFB	**Brasilia**	**20.23**	**78**	P		**P**	**04 43 49.3**	**+0.2**
BDFB	**Brasilia**	**20.23**	**78**	P		**P**	**04 43 49.3**	**+0.2**
	comp=Z,8.7nm,0.5s,baz=251,slow=10,SNR=23							
	comp=Z,8.7nm,0.5s							
ITTB	**Itaituba**	**20.80**	**39**	*eP*		**P**	**04 43 53.2**	**-1.8**
COHC	**Cochancay**	**21.28**	**329**	*eP*		**P**	**04 44 05.0**	**+4.9**
LL01	**San Ignacio de**	**21.44**	**188**	P		**P**	**04 44 02.5**	**+0.9**
LL01				IAmb	IAmb		04 44 05.7	
	comp=Z,15nm,0.8s							
BSCB	**Bom Sucesso**	**22.19**	**94**	*eP*		**P**	**04 44 10.0**	**+0.2**
OTAV	**Otavalo**	**23.33**	**334**	*eP*		**P**	**04 44 23.6**	**+2.4**
PRPB	**Parauapebas**	**23.46**	**53**	*eP*		**P**	**04 44 20.1**	**-1.8**
DIAM	**Diamantina, MG**	**23.59**	**87**	*eP*		**P**	**04 44 23.1**	**-0.1**
JANB	**Januaria**	**23.81**	**79**	*eP*		**P**	**04 44 24.1**	**-1.0**
GCUF	**Volcan Galeras**	**23.82**	**338**	*eP*		**P**	**04 44 29.6**	**+3.9**
GARC	**Garzon, Huila**	**24.14**	**343**	*eP*		**P**	**04 44 30.2**	**+1.8**
SDBA	**SAO DESIDERIO**	**24.22**	**73**	*eP*		**P**	**04 44 28.6**	**-0.3**
BBAC	**Balboa, Cauca**	**24.53**	**339**	*eP*		**P**	**04 44 34.1**	**+2.4**
BOAV	**Boa Vista**	**24.66**	**20**	P		**P**	**04 44 33.2**	**+0.5**
BOAV				IAmb	IAmb		04 44 33.8	
	comp=Z,15nm,0.7s							
BOAV	**Boa Vista**	**24.66**	**20**	*eP*		**P**	**04 44 33.4**	**+0.7**
PTGC	**Puerto Gaitan,**	**25.41**	**352**	*eP*		**P**	**04 44 39.5**	**0.0**
JAMC	**Jamundi, Valle**	**25.46**	**341**	*eP*		**P**	**04 44 41.8**	**+1.5**
ORTC	**Ortega, Tolima**	**25.73**	**344**	*eP*		**P**	**04 44 43.5**	**+1.0**
YOTC	**Yotoco, Valle**	**26.10**	**342**	*eP*		**P**	**04 44 49.9**	**+4.1**
MCPB	**Macapa, AP**	**26.18**	**40**	*eP*		**P**	**04 44 46.9**	**+0.3**
ROSC	**El Rosal**	**26.42**	**347**	P		**P**	**04 44 50.8**	**+1.8**
	comp=Z,3.9nm,0.4s,baz=219,slow=18,SNR=1.9							
	comp=Z,3.9nm,0.4s							
PLMC	**San Jos del P**	**26.96**	**343**	*eP*		**P**	**04 44 53.5**	**0.0**
GUY2C	**Guyana, Caldas**	**27.03**	**345**	*eP*		**P**	**04 44 56.3**	**+1.8**
CBOC	**Ciudad Bolivar**	**27.80**	**344**	*eP*		**P**	**04 45 02.0**	**+0.9**
BARC	**Barichara**	**27.92**	**350**	*eP*		**P**	**04 45 02.7**	**+0.4**
PTBC	**PUERTO BERRIO,**	**28.10**	**347**	*eP*		**P**	**04 45 01.2**	**-2.4**
MDP	**Montagnes des**	**30.38**	**33**	LR		LR	04 59 43.4	
	comp=Z,518nm,19.0s,baz=162,slow=40							
VNA3	**Neumayer Olymp**	**60.32**	**161**	⇑P		**P**	**04 49 19.9**	**+1.2**
	comp=Z,3.2nm,0.7s							
TXAR	**Lajitas Array**	**60.51**	**325**	P		**P**	**04 49 21.7**	**+1.2**
	comp=Z,0.1nm,0.8s,baz=147,slow=6.8,SNR=1.6							
VNA1	**Neumayer--Stat**	**60.52**	**161**	⇑P		**P**	**04 49 21.7**	**+1.8**
	comp=Z,5.6nm,0.8s							
SNAA	**Sanae**	**62.52**	**161**	⇑P		**P**	**04 49 34.9**	**+1.5**
	comp=Z,83nm,0.7s							
SNAA	**Sanae**	**62.52**	**161**	P		**P**	**04 49 35.1**	**+1.6**
	comp=Z,3.4nm,0.8s,baz=305,slow=8.9,SNR=6.7							
	comp=Z,3.4nm,0.8s							
TROLL	**Troll, Antarti**	**64.24**	**161**	⇑P		**P**	**04 49 46.4**	**+1.6**
	comp=Z,199nm,0.6s							
DBIC	**Dimbokro**	**68.31**	**73**	P		**P**	**04 50 12.0**	**+0.4**
	comp=Z,7.8nm,0.7s,baz=213,slow=4.9,SNR=11							
	comp=Z,7.8nm,0.7s							
QSPA	**South Pole Qui**	**69.06**	**180**	P		**P**	**04 50 17.4**	**+1.9**
	comp=Z,2.3nm,0.5s,baz=157,slow=8.9,SNR=1.5							
	comp=Z,2.3nm,0.5s							
ULM	**Lac du Bonnet**	**75.06**	**342**	P		**P**	**04 50 51.5**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=176,slow=11,SNR=3.2							
	comp=Z,1.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**76.92**	**70**	P		**P**	**04 51 02.4**	**-0.1**
	comp=Z,6.0nm,0.6s,baz=257,slow=5.3,SNR=68							
	comp=Z,6.0nm,0.6s							
YKA	**Yellowknife Ar**	**90.95**	**340**	P		**P**	**04 52 13.8**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=133,slow=4.3,SNR=6.6							
	comp=Z,0.3nm,0.4s							
ASAR	**Alice Springs**	**130.40**	**207**	PKP		**PKPdf**	**04 58 20.0**	**+0.2**
	comp=Z,0.8nm,1.0s,baz=178,slow=2

0.7nm,0.5s

*IDC **21** 05:03:29.9±1.5,5°.61S×29°.84E,h0km,mb4.2/2, mbtmp4.1/6,ML4.1/4,Error ellipse: s-maj=29.0km s-min=18.8km az=104.0*

ISC 21 05:03:30.1±0.9,**5°.62S**±0°.08×**29°.90E**±0°.08,**h10**km,**n13**, σ3⁰**19**/17,**Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DODT	**Dodoma, Tanzan**	**5.85**	**96**	*i* P		Pn	05 05 02.7	+5.5
DODT				*i* S		**Sn**	**05 06 08.9**	**+4.5**
KMBO	**Kilima Mbogo**	**8.59**	**59**	*e*P		**Pn**	**05 05 36.5**	**+1.7**
KMBO				*e*S		Sn	05 07 36.9	+25
KMBO	**Kilima Mbogo**	**8.59**	**59**	Pn		**Pn**	**05 05 36.7**	**+1.8**
	2.3nm,0.3s,baz=231,slow=20,SNR=19							
KMBO				Sn		**Sn**	**05 07 09.6**	**-2.5**
	1.6nm,0.3s,baz=224,slow=12,SNR=5.5							
KMBO				Lg		Lg	05 08 02.5	
	11nm,0.3s,baz=324,slow=22,SNR=9.2							
	6.0nm,0.4s							
KMBO	**Kilima Mbogo**	**8.59**	**59**	*e*P		**Pn**	**05 05 36.5**	**+1.7**
KMBO				*e*S		Sn	05 07 36.9	+25
KMBO	**Kilima Mbogo**	**8.59**	**59**	*e*P		**Pn**	**05 05 37.8**	**+2.9**
KMBO				*e*S		**Sg**	**05 08 01.8**	**-4.3**
KIBK	**Kibwezi**	**8.76**	**69**	*e*P		**Pn**	**05 05 41.5**	**+4.5**
KIBK				*e*S		**Sg**	**05 08 07.5**	**-3.9**
LSZ	**Lusaka**	**9.75**	**190**	Pn		**Pn**	**05 05 51.5**	**+0.9**
	2.6nm,0.3s,baz=5.2,slow=12,SNR=23							
LSZ				Sn		**Sn**	**05 07 35.1**	**-5.2**
	3.2nm,0.3s,baz=351,slow=11,SNR=3.2							
LSZ				Lg		Lg	05 08 37.3	
	4.1nm,0.3s,baz=64,slow=14,SNR=4.0							
	9.6nm,0.5s							
LODK	**Lodwar**	**10.51**	**31**	*e*P		**Pn**	**05 06 03.2**	**+2.2**
LODK				*e*S		Sn	05 09 00.2	+61
MATP	**Matopo**	**14.79**	**185**	Pn		**Pn**	**05 06 59.4**	**-0.2**
	0.2nm,0.3s,baz=349,slow=12,SNR=2.5							
MATP				Sn		Sn	05 09 33.0	-11
	0.2nm,0.3s,baz=348,slow=13,SNR=1.7							
MATP				Lg		Lg	05 11 17.1	
	0.3nm,0.3s,baz=294,slow=11,SNR=4.2							
	1.1nm,0.5s							
TSUM	**Tsumeb**	**18.06**	**221**	P		**Pn**	**05 07 39.4**	**-2.2**
	1.6nm,0.3s,baz=24,slow=17,SNR=5.7							
TSUM				S		Sn	05 10 46.3	-17
	2.1nm,0.3s,baz=319,slow=19,SNR=2.5							
TSUM				Lg		Lg	05 12 54.2	
	baz=271,slow=22,SNR=1.5							
LBTB	**Lobatse**	**19.73**	**192**	P		**P**	**05 08 00.8**	**+0.6**
	0.2nm,0.3s,baz=1.6,slow=11,SNR=3.6							
	3.7nm,0.9s							
BOSA	**Boshof**	**23.29**	**190**	P		**P**	**05 08 41.1**	**+2.7**
	4.8nm,0.7s,baz=1.8,slow=9.0,SNR=14							
	4.8nm,0.7s							
TORD	**Torodi Ar. Bea**	**33.65**	**304**	P		**P**	**05 10 11.8**	**+0.4**
	2.3nm,0.7s,baz=110,slow=7.4,SNR=16							
	2.3nm,0.7s							

*NEIC **21** 06:08:06.5±0.5,19°.10N±0°.04×155°.39W±0°.03,h42km±3km, Error ellipse: s-maj=5.8km s-min=2.8km az=148.0*

HVO 21 06:08:08.1±0.8,**19°.08N**±0°.06×**155°.37W**±0°.09,**h35**km±7km, **ML2.5**/4,**ML2.6**/49(NEIC),**Error ellipse: s-maj=12.8km s-min=6.2km az=118.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.16**	**351**			Pb	06 08 14.0	-0.5
HPO	**Honuapo**	**0.17**	**272**			Pn	06 08 13.9	+0.7
HLP	**Hilina Pali**	**0.22**	**16**			Pn	06 08 14.5	0.0
HLP				IAML			06 08 19.7	
	comp=E,757nm,0.6s							
HLP				IAML			06 08 21.6	
	comp=N,680nm,0.2s							
KHU	**Kahuku**	**0.28**	**305**			Pn	06 08 15.0	-0.8
KHU						Sn	06 08 20.2	-0.2
KHU				IAML			06 08 21.6	
	comp=E,544nm,2.1s							
AIN	**Ainahou**	**0.30**	**344**			Pn	06 08 15.5	-0.6
AIN						Sn	06 08 21.1	+0.2
SDHHI	**Sand Hill**	**0.31**	**13**			Pn	06 08 15.2	-1.2
RIM	**Rim**	**0.32**	**16**			Pb	06 08 15.2	-1.3
RIM				IAML			06 08 21.1	
	comp=E,507nm,0.5s							
RIM				IAML			06 08 21.1	
	comp=N,545nm,0.5s							
PUH	**Pauahi**	**0.33**	**27**			Pb	06 08 15.2	-1.3
KKO	**Keanakako`i**	**0.33**	**18**			Pb	06 08 15.3	-1.2
KKO				IAML			06 08 21.3	
	comp=N,571nm,0.4s							
WRMHI	**West Rim**	**0.33**	**12**	Pg		Pb	06 08 15.2	-1.3
NPH	**North Pit**	**0.34**	**15**	Sg		Sn	06 08 20.7	-1.3
OBL	**Observatory Le**	**0.34**	**14**			Pb	06 08 15.4	-1.3
OBL				IAML			06 08 24.0	
	comp=N,528nm,0.5s							
OBL				IAML			06 08 29.9	
	comp=E,608nm,1.5s							
BYL	**Byron's Ledge**	**0.34**	**18**			Pb	06 08 15.4	-1.3
BYL						Sn	06 08 20.5	-1.7
BYL				IAML			06 08 28.4	
	comp=E,416nm,3.4s							
UWE	**Uwekahuna**	**0.34**	**12**			Pb	06 08 15.4	-1.3
UWE						Sn	06 08 21.3	-1.0
UWE				IAML			06 08 28.4	
	comp=E,595nm,0.9s							
UWE				IAML			06 08 28.4	
	comp=N,521nm,0.9s							
UWB	**Uwekahuna B**	**0.35**	**15**			Pb	06 08 15.4	-1.4
UWB						Sn	06 08 20.8	-1.7
KNHH	**Kane Nui o Ham**	**0.35**	**33**			Pb	06 08 15.5	-1.3
HATHI	**Halema'uma'u T**	**0.35**	**17**			Pb	06 08 15.4	-1.5
HATHI				IAML			06 08 25.5	
	comp=N,377nm,0.5s							
SBLHI	**Steaming Bluff**	**0.36**	**16**			Pb	06 08 15.4	-1.5
SBLHI						Sn	06 08 20.7	-1.8
SBLHI				IAML			06 08 21.4	
	comp=N,390nm,0.4s							
STCH	**Steam Cracks**	**0.38**	**38**			Pb	06 08 15.7	-1.5
STCH						Sn	06 08 21.4	-1.8
STCH				IAML			06 08 21.6	
	comp=E,478nm,0.2s							
STCH				IAML			06 08 22.0	
	comp=N,458nm,0.6s							
RSD	**Rainshed**	**0.39**	**13**			Pb	06 08 15.8	-1.6
RSD				IAML			06 08 28.1	
	comp=N,426nm,2.7s							
JCUZ	**Jacuzzi**	**0.39**	**40**			Pb	06 08 16.1	-1.2
JCUZ				IAML			06 08 22.0	
	comp=E,489nm,0.2s							
NPOC	**North of Pu`u**	**0.40**	**39**			Pb	06 08 15.9	-1.4
NPOC						Sn	06 08 21.7	-2.0
NPOC				IAML			06 08 22.0	
	comp=E,358nm,0.3s							
MLH	**Mauna Loa**	**0.41**	**358**			Pb	06 08 16.5	-1.2
MWH	**Moku'aweowe**	**0.45**	**332**			Pb	06 08 17.0	-1.5
MWH				IAML			06 08 20.7	
	comp=E,349nm,1.4s							
MLOA	**Mauna Loa Obse**	**0.49**	**337**			Pb	06 08 17.4	-1.6
MLOA				IAML			06 08 23.7	
	comp=N,446nm,3.7s							
MLOA						Sb	06 08 24.5	-2.0
JOKA	**Jonika Flow**	**0.49**	**45**			Pb	06 08 17.0	-1.7
JOKA						Sb	06 08 23.4	-2.6
ALEP	**Alea Permanent**	**0.52**	**331**			Pn	06 08 17.6	-1.8
ALEP						Sb	06 08 24.9	-2.3
HMH	**Humu'ula Sheep**	**0.53**	**349**			Pn	06 08 18.1	-1.3
HMH				IAML			06 08 25.1	
	comp=E,324nm,3.2s							
HMH						Sb	06 08 25.7	-1.6
HMH				IAML			06 08 26.2	
	comp=N,430nm,0.5s							
CPH	**Captain Cook**	**0.66**	**308**			Pn	06 08 19.0	-1.9
POHA	**Pohakuloa**	**0.69**	**347**			Pn	06 08 19.8	-1.9
POHA				IAML			06 08 35.1	
	comp=N,232nm,0.3s							
KHLU	**Kahalu`u**	**0.71**	**316**			Pn	06 08 19.9	-1.8
KHLU				IAML			06 08 27.9	
	comp=E,262nm,4.2s							
KHLU						Sn	06 08 28.5	-3.0
KHLU				IAML			06 08 42.1	
	comp=N,254nm,3.9s							
HPAH	**Hawaii Prepara**	**0.99**	**342**			Pn	06 08 23.6	-2.1
HPAH						Sn	06 08 34.5	-4.0
MHA	**Mahukona**	**1.21**	**336**	Pn		Pn	06 08 26.9	-1.7

*CATAC **21** 07:07:32.3±1.2,13°.82N×93°.27W,h10km,ML3.6*
*MEX **21** 07:07:36.0±0.6,14°.00N×93°.29W,h15km,MD3.8*

ISC 21 07:07:33.7±3.1,**14°.2N**±0°.1×**93°.25W**±0°.09,**h7**km±13km,**n12**, σ0⁰**90**/21,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**1.33**	**59**	*i* P		**Pg**	**07 07 59.1**	**0.0**
SMCA				IAML			07 08 28.9	
	comp=Z,420nm,1.0s							
PATR	**El Naranjo**	**1.36**	**46**	*e*P		**Pb**	**07 07 59.2**	**-0.4**
PATR				*e*S		**Sb**	**07 08 17.1**	**-0.2**
CHUJ	**Union Juarez**	**1.44**	**50**	*e*P		**Pn**	**07 08 00.0**	**-0.3**
CHUJ				*e*S		**Sb**	**07 08 18.9**	**-0.6**
PAVE	**Pavencul**	**1.45**	**46**	*e*P		**Pb**	**07 08 00.8**	**-0.4**
PAVE				*e*S		**Sn**	**07 08 19.8**	**-0.1**
PCIG		**1.52**	**1**	*e*P		**Pn**	**07 08 01.4**	**+0.1**
PCIG				*e*S		**Sb**	**07 08 22.0**	**+0.3**
SMSP	**San Marcos**	**1.63**	**61**	*e*P		**Pn**	**07 08 02.5**	**-0.5**
SMSP				*e*S		**Sn**	**07 08 24.5**	**+0.1**
SMSP	**San Marcos**	**1.63**	**61**	*i* P		**Pn**	**07 08 03.2**	**+0.2**
SMSP				*i* S		**Sg**	**07 08 25.9**	**-0.3**
SMSP				IAML			07 08 33.6	
	comp=Z,630nm,1.0s							
SOKI	**Kika Raxquin**	**1.90**	**70**	*i* P		**Pn**	**07 08 06.3**	**-0.6**
SOKI				IAML			07 08 16.5	
	comp=Z,200nm,1.0s							
SOKI				*i* S		**Sg**	**07 08 36.0**	**+1.1**
HUEH	**Huehuetenango**	**2.04**	**56**	*e*P		**Pn**	**07 08 09.4**	**+0.8**
HUEH				*e*S		**Sb**	**07 08 36.4**	**-0.4**
HUEH	**Huehuetenango**	**2.04**	**56**	*i* P		**Pb**	**07 08 10.6**	**-0.6**
HUEH				IAML			07 08 49.3	
	comp=Z,290nm,1.0s							
CCIG	**Comitan**	**2.36**	**27**	*i* P		**Pb**	**07 08 15.4**	**-1.2**
CCIG				*i* S		**Sg**	**07 08 49.6**	**+0.1**
CCIG				IAML			07 08 56.6	
	comp=Z,150nm,1.0s							
PETF	**Flores**	**4.25**	**50**	*i* P		**Pn**	**07 08 41.7**	**+2.9**
PETF				IAML			07 10 29.1	
	comp=Z,49nm,1.0s							

*SOME **21** 07:14:47.5,39°.27N×74°.43E,h10km*
*KRNET **21** 07:14:48.4±0.1,39°.45N×74°.47E,mb3.0*
*NNC **21** 07:14:49.8±1.6,39°.39N×74°.30E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=11.5km s-min=7.8km az=178.0*

ISC 21 07:14:53.8±3.1,**39°.52N**±0°.08×**74°.34E**±0°.05,**h10**km±24km, **n37**,σ1⁰**21**/51,**18C-12D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.56**	**311**	⇓*e*P		**Pn**	**07 15 20.1**	**-1.6**
	baz=10.0							
OHH				⇓*e*S		**Sb**	**07 15 43.0**	**+0.3**
	baz=10.0							
DRK	**Karamyk**	**1.96**	**270**	⇑*e*P		**Pn**	**07 15 26.6**	**-0.9**
	baz=72							
DRK				⇑*e*S		**Sb**	**07 15 54.3**	**-0.3**
	baz=72							
ARSB	**Arslanbob**	**2.08**	**331**	⇑*e*P		**Pn**	**07 15 27.9**	**-1.1**
	baz=29							
ARSB				⇑*e*S		**Sb**	**07 15 57.2**	**-0.6**
	baz=29							
ARLS	**Aral**	**2.34**	**360**	⇑*e*P		**Pn**	**07 15 31.4**	**-1.1**
	baz=57							
ARLS				⇑*e*S		**Sn**	**07 16 01.9**	**+0.4**
	baz=57							
KZA	**Kyzart**	**2.65**	**15**	⇓*e*P		**Pn**	**07 15 35.3**	**-1.7**
	baz=12							
KZA				⇓*i*S		**Sn**	**07 16 09.3**	**-0.1**
	baz=12							
AML	**Almayashu**	**2.66**	**350**	⇑*e*P		**Pn**	**07 15 35.9**	**-1.2**
	baz=48							
AML				⇑*i*S		**Sn**	**07 16 10.7**	**+1.1**
	baz=48							
AML	**Almayashu**	**2.66**	**350**	Pg		**Pn**	**07 15 37.2**	**+0.1**
	0.9nm,0.6s							
AML				⇑Lg		Lg	07 16 18.7	
	2.0nm,0.7s							
UCH	**Uchtor**	**2.71**	**3**	⇓*e*P		**Pn**	**07 15 36.7**	**-1.2**
	baz=1.0							
UCH				⇓*i*S		**Sn**	**07 16 11.4**	**+0.4**
	baz=1.0							
BTK	**Batken**	**2.77**	**282**	⇑*e*P		**Pn**	**07 15 37.5**	**-0.8**
	baz=83							
BTK				⇑*e*S		**Sn**	**07 16 13.6**	**+1.8**
	baz=83							
ARK	**Arkit**	**2.91**	**322**	⇓*i*P		**Pn**	**07 15 39.0**	**-1.3**
	baz=22							
ARK				⇓*i*S		**Sn**	**07 16 17.2**	**+1.8**
	baz=22							
ULHL	**Ulahol**	**3.08**	**27**	⇓*i*P		**Pn**	**07 15 40.7**	**-2.1**
	baz=25							
ULHL				⇓*e*S		**Sn**	**07 16 19.2**	**-0.6**
	baz=25							
TRKS	**Terek-Say**	**3.16**	**311**	⇑*e*P		**Pn**	**07 15 42.6**	**-1.2**
	baz=10.0							
TRKS				⇑*i*S		**Sn**	**07 16 22.0**	**+0.3**
	baz=10.0							
BOOM	**Boomskoye usch**	**3.21**	**22**	⇑*e*P		**Pn**	**07 15 42.6**	**-1.9**
	baz=20							
BOOM				⇑*i*S		**Sn**	**07 16 22.1**	**-0.7**
	baz=20							
MRKS	**Merke**	**3.33**	**346**	*e*Pg		**Pb**	**07 15 53.7**	**+0.6**
	6.6nm,0.3s							
MRKS				*e*Lg		Lg	07 16 41.4	
	5.6nm,0.4s							
MRKS	**Merke**	**3.33**	**346**	Pg		**Pb**	**07 15 53.7**	**+0.6**
	6.6nm,0.3s							
MRKS				Lg		Lg	07 16 41.4	
	5.6nm,0.4s							
TKM2	**Tokmak 2**	**3.53**	**15**	⇑Pn		**Pn**	**07 15 49.0**	**+0.1**
	2.5nm,0.6s							
TKM2				⇓Lg		Lg	07 16 43.8	
	4.1nm,0.5s							
KST	**Kastek**	**3.73**	**19**	*e*Pg		**Pb**	**07 15 59.8**	**-0.1**
	4.0nm,0.5s							
KST				*e*Lg		Lg	07 16 51.8	
	11nm,0.5s							
KST	**Kastek**	**3.73**	**19**	Pg		**Pb**	**07 15 59.8**	**-0.1**
	4.0nm,0.5s							
KST				Lg		Lg	07 16 51.8	
	11nm,0.5s							
DGS	**Degeres**	**3.87**	**16**	*e*Pg		**Pb**	**07 16 03.5**	**+1.2**
	10.0nm,0.3s							
DGS				*e*Lg		Lg	07 16 58.5	
	11nm,0.6s							
DGS	**Degeres**	**3.87**	**16**	Pg		**Pb**	**07 16 03.5**	**+1.2**
	10.0nm,0.3s							
DGS				Lg		Lg	07 16 58.5	
	11nm,0.6s							
SGDS	**Sogindy**	**3.94**	**3**	Pg		**Pb**	**07 16 04.6**	**+1.3**
	3.0nm,0.4s							
SGDS				Lg		Lg	07 16 59.9	
	4.5nm,0.4s							
TNSS	**Tian-Shan**	**4.03**	**28**	*e*Pg		**Pb**	**07 16 05.4**	**+0.3**
	6.3nm,0.4s							
TNSS				*e*Lg		Lg	07 17 01.4	
	5.1nm,0.5s							
TNSS	**Tian-Shan**	**4.03**	**28**	Pg		**Pb**	**07 16 05.4**	**+0.3**
	6.3nm,0.4s							
TNSS				Lg		Lg	07 17 01.4	
	5.1nm,0.5s							
MDOK	**Medeo**	**4.17**	**28**	*e*Pg		**Pb**	**07 16 08.3**	**+0.9**
	5.6nm,0.5s							
MDOK				*e*Lg		Lg	07 17 06.4	
	12nm,0.6s							
MDOK	**Medeo**	**4.17**	**28**	Pg		**Pb**	**07 16 08.3**	**+0.9**
	5.6nm,0.5s							
MDOK				Lg		Lg	07 17 06.4	
	12nm,0.6s							
KOTS	**Kotyrbulak**	**4.26**	**28**	*e*Pg		**Pb**	**07 16 09.9**	**+1.0**
	5.6nm,0.4s							
KOTS				*e*Lg		Lg	07 17 09.2	
	18nm,0.4s							
KOTS	**Kotyrbulak**	**4.26**	**28**	Pg		**Pb**	**07 16 09.9**	**+1.0**
	5.6nm,0.4s							
KOTS				Lg		Lg	07 17 09.2	
	18nm,0.4s							
KRBS	**Karabastau**	**4.29**	**13**	*e*Pg		**Pb**	**07 16 11.0**	**+1.6**
	2.9nm,0.4s							
KRBS				*e*Lg		Lg	07 17 11.2	
	4.6nm,0.3s							
KRBS	**Karabastau**	**4.29**	**13**	Pg		**Pb**	**07 16 11.0**	**+1.6**
	2.9nm,0.4s							
KRBS				Lg		Lg	07 17 11.1	
	4.6nm,0.3s							
KTBS	**Karatobe**	**4.54**	**22**	*e*Pg		**Pb**	**07 16 14.8**	**+1.2**
	6.2nm,0.3s							
KTBS				*e*Lg		Lg	07 17 17.7	
	10nm,0.6s							
KTBS	**Karatobe**	**4.54**	**22**	Pg		**Pb**	**07 16 14.8**	**+1.2**
	6.2nm,0.3s							
KTBS				Lg		Lg	07 17 17.7	
	10nm,0.6s							
KK31	**Karatay Array**	**4.60**	**322**	Pn		**Pn**	**07 16 01.9**	**-1.6**
	0.4nm,0.3s,baz=142,slow=12,SNR=6.8							
KK31				⇓Pg		**Pb**	**07 16 13.5**	**-1.1**
	0.4nm,0.3s,baz=153,slow=18,SNR=4.0							
KK31				⇑Sn		**Sn**	**07 16 58.2**	**+1.3**
	2.1nm,0.6s							
KK31				⇑Lg		Lg	07 17 17.1	
	2.8nm,0.7s							
CHKK	**Chushkaly**	**4.76**	**24**	*e*Pg		**Pb**	**07 16 19.5**	**+2.1**
	2.2nm,0.2s							
CHKK				*e*Lg		Lg	07 17 25.8	
	4.8nm,0.3s							
CHKK	**Chushkaly**	**4.76**	**24**	Pg		**Pb**	**07 16 19.5**	**+2.1**
	2.2nm,0.2s							
CHKK				Lg		Lg	07 17 25.8	
	4.8nm,0.3s							
KPKS	**Kokpek**	**5.12**	**38**	*e*Pg		**Pb**	**07 16 24.0**	**+0.5**
	2.7nm,0.3s							
KPKS				*e*Lg		Lg	07 17 33.5	
	7.9nm,0.3s							
KPKS	**Kokpek**	**5.12**	**38**	Pg		**Pb**	**07 16 24.0**	**+0.5**
	2.7nm,0.3s							
KPKS				Lg		Lg	07 17 33.5	
	7.9nm,0.3s							
PDGK	**Podgornoye**	**5.43**	**44**	Pg		**Pb**	**07 16 31.1**	**+2.3**
	1.5nm,0.4s							
PDGK				Lg		Lg	07 17 45.7	
	1.8nm,0.6s							

JMA 21 07:19:30.8±0.2,**38°N**±1°×**14°5E**±°,**h44**km,**MV3.8**/28,**FAR E OFF NORTH HONSHU,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.61**	**278**		P	Pn	07 20 11.8	+1.3
JIKH					S	Sn	07 20 42.3	+1.3
OFUJ	**Ofunato**	**2.66**	**295**		P	Pn	07 20 12.6	+1.4
OFUJ					*e*S	Sn	07 20 43.5	+1.4
JKMT	**Kesennumamotoy**	**2.71**	**289**		S	Sn	07 20 44.7	+1.4
JIO	**Ouri**	**2.72**	**281**		P	Pn	07 20 13.9	+1.9
JIO					S	Sn	07 20 45.3	+1.6
JMK	**Ichinoseki**	**2.94**	**290**		P	Pn	07 20 17.2	+2.2
JMK					S	Sn	07 20 51.3	+2.3
JOM	**Ohasama**	**3.09**	**300**		S	Sn	07 20 55.4	+2.6
JANG	**Nango**	**3.47**	**315**		P	Pn	07 20 24.3	+2.0
JOTO	**OTAMA OYAMA**	**3.53**	**264**		S	Sn	07 21 06.3	+2.7
JOT	**Ohata**	**4.44**	**321**		S	Sn	07 21 26.4	+0.5
JCH	**Churui**	**4.75**	**347**		P	Pn	07 20 40.0	+0.1
JCH					*e*S	Sn	07 21 30.2	-3.4
JRY	**Ryogami san**	**5.08**	**249**		P	Pn	07 20 45.7	+1.3
JRY					*e*S	Sn	07 21 41.0	-0.8
NEM2	**Nemuro 2**	**5.43**	**8**	*e*P		Pn	07 20 46.2	-3.0
NEM2				*e*S		Sn	07 21 43.4	-6.9
JTKR	**Abashiri--Toko**	**6.02**	**354**	P		Pn	07 20 56.8	-0.4
JTKR				*e*S		Sn	07 22 01.5	-3.3
JHR	**Hokuryu**	**6.20**	**339**	*e*S		Sn	07 22 09.6	+0.4

*IDC **21** 07:28:34.0±2.4,36°.38N×70°.98E,h135km±21km,mb3.8/19, mbtmp4.3/25,MS3.5/3,Error ellipse: s-maj=16.4km s-min=10.7km az=14.0*
*MOS **21** 07:28:35.4±0.8,36°.53N×71°.01E,h158km,mb4.3/11,Error ellipse: s-maj=7.6km s-min=3.9km az=81.2*
*NEIC **21** 07:28:36.6±1.5,36°.54N±0°.07×71°.1E±0°.1,h151km±7km, mb4.4/11,Error ellipse: s-maj=12.2km s-min=10.3km az=72.0*
*NNC **21** 07:28:38.9±2.4,36°.74N×70°.96E,h146km±30km,mb3.8, mpv4.7,Error ellipse: s-maj=20.0km s-min=16.4km az=20.0*

ISC 21 07:28:35.8±0.4,**36°.50N**±0°.05×**71°.02E**±0°.04,**h150**km,**n172**, σ1⁰**40**/190,**mb4.1**/29,**12C-5D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.54**	**220**			**Pn**	**07 29 18.9**	**+1.3**
KBL	**Kabul**	**2.54**	**220**	PN		**Pn**	**07 29 18.9**	**+1.3**
CHGR	**Chuyangaron**	**2.61**	**326**			**Pn**	**07 29 19.1**	**+0.7**
CHGR	**Chuyangaron**	**2.61**	**326**	PN		**Pn**	**07 29 19.1**	**+0.7**
NIL	**Nilore**	**3.38**	**147**			**Pn**	**07 29 29.4**	**+1.3**
NIL	**Nilore**	**3.38**	**147**	PN		**Pn**	**07 29 29.4**	**+1.3**
BTK	**Batken**	**3.56**	**357**			**Pn**	**07 29 31.5**	**+1.1**
BTK	**Batken**	**3.56**	**357**	PN		**Pn**	**07 29 31.5**	**+1.1**
OHH	**Osh**	**4.25**	**18**	*i* PN		**Pn**	**07 29 40.4**	**+1.0**
KSH	**Kashi**	**4.93**	**51**	P		**Pn**	**07 29 44.5**	**-3.9**
KSH				S		Sn	07 30 35.3	-10
KSH				pmax	pmax			
	comp=Z,250nm,0.7s							
KSH				smax	smax			
	comp=N,3μm,0.7s							
KSH				smax	smax			
	comp=E,1μm,0.8s							
TRKS	**Terek-Say**	**5.02**	**1**	*i* PN		**Pn**	**07 29 49.4**	**-0.2**
ARSB	**Arslanbob**	**5.05**	**17**			**Pn**	**07 29 49.9**	**-0.1**
ARSB	**Arslanbob**	**5.05**	**17**	PN		**Pn**	**07 29 49.9**	**-0.1**
ARK	**Arkit**	**5.34**	**8**	PN		**Pn**	**07 29 54.0**	**+0.2**
ARLS	**Aral**	**5.94**	**25**	PN		**Pn**	**07 30 01.0**	**-0.8**
AML	**Almayashu** SNR=311	**5.99**	**19**	P		**Pn**	**07 30 02.8**	**+0.1**
AML	**Almayashu** comp=E,3.1nm,0.3s	**5.99**	**19**	⇓P		**Pn**	**07 30 02.8**	**+0.1**
AML				⇓S		**Sn**	**07 31 08.6**	**-2.0**
	comp=E,41nm,0.7s							
DHRM	**DHARAMSHALA**	**6.08**	**133**	*e*P		**Pn**	**07 30 04.0**	**+0.2**
DHRM				*e*S		**Sn**	**07 31 09.3**	**-3.4**
DHRM				IAML			07 31 12.2	
	comp=E,604nm,0.3s							
DHRM				IAML			07 31 12.6	
	comp=N,828nm,0.2s							
UCH	**Uchtor** SNR=57	**6.33**	**24**	P		**Pn**	**07 30 08.4**	**+1.2**
DZA	**Taraz** baz=2.0	**6.39**	**2**	*e*P		**Pn**	**07 30 08.2**	**+0.5**
DZA	**Taraz**	**6.39**	**2**	*e*PN		**Pn**	**07 30 08.1**	**+0.5**
KZA	**Kyzart** SNR=18	**6.46**	**29**	P

TKM2 comp=Z,50nm,0.5s ⇑S **Sn** **07 31 42.1 0.0**

SMLA Simla **7.41 135** *e*P **Pn**
SMLA *e*S **Sn** **07 31 38.5 -5.5**
comp=Z,24nm,0.7s

TARG Taragay, Kyrgy **7.42 43** **Pn** **07 30 21.5 -0.3**
TARG Taragay, Kyrgy **7.42 43** PN **Pn** **07 30 21.5 -0.3**
HRA Herat **7.47 256** Pn **Pn** **07 30 25.7 +3.4**
SGDS Sogindy **7.47 21** *e*P **Pn** **07 30 21.4 -0.8**
comp=Z,3.6nm,0.4s,baz=20

SGDS Sogindy **7.47 21** *e*PN **Pn** **07 30 21.4 -0.8**
SGDS pmax pmax
comp=Z,4.0nm,0.4s

TNSS Tian-Shan **7.96 33** *e*P **Pn** **07 30 29.3 +0.3**
baz=33

TNSS Tian-Shan **7.96 33** *e*PN **Pn** **07 30 29.3 +0.3**
MDOK Medeo **8.11 33** *e*P **Pn** **07 30 31.4 +0.7**
baz=33

MDOK Medeo **8.11 33** *e*PN **Pn** **07 30 31.4 +0.7**
KUU Kurty **8.43 27** *e*P **Pn** **07 30 34.9 +0.1**
comp=Z,4.4nm,0.4s,baz=27

KUU Kurty **8.43 27** *e*PN **Pn** **07 30 34.9 +0.1**
KUU pmax pmax
comp=Z,4.0nm,0.4s

CHKK Chushkaly **8.64 30** *e*P **Pn** **07 30 38.2 +0.4**
baz=30

CHKK Chushkaly **8.64 30** *e*PN **Pn** **07 30 38.1 +0.4**
SATY Saty **8.67 39** *e*P **Pn** **07 30 38.1 -0.1**
comp=Z,4.3nm,0.8s,baz=38

SATY Saty **8.67 39** *e*PN **Pn** **07 30 38.1 -0.1**
SATY pmax pmax
comp=Z,4.0nm,0.8s

BTLS Baital **8.83 14** *e*P **Pn** **07 30 40.7 +0.5**
baz=14

BTLS Baital **8.83 14** *e*PN **Pn** **07 30 40.7 +0.5**
UZB Uzynbulak **9.05 40** *e*P **Pn** **07 30 42.6 -0.6**
comp=Z,2.7nm,0.5s,baz=40

UZB Uzynbulak **9.05 40** *e*P **Pn** **07 30 42.6 -0.6**
UZB pmax pmax
comp=Z,3.0nm,0.5s

KPKS Kokpek **9.11 38** *e*P **Pn** **07 30 43.9 0.0**
comp=Z,6.3nm,0.6s,baz=38

KPKS Kokpek **9.11 38** *e*P **Pn** **07 30 43.9 0.0**
KPKS pmax pmax
comp=Z,6.0nm,0.6s

GEYT Alibeck **10.39 282** **Pn** **07 30 59.9 -1.1**
GEYT Alibeck **10.39 282** P **Pn** **07 30 59.5 -1.5**
comp=Z,8.7nm,0.3s,baz=108,slow=12,SNR=19

GEYT S **Sn** **07 32 52.5 -3.5**
comp=Z,10nm,0.3s,baz=122,slow=25,SNR=7.9

GYA0 ALIBECK ARRAY **10.39 282** P **Pn** **07 31 00.3 -0.7**
GYA0B ALIBECK ARRAY **10.39 282** **Pn** **07 31 00.3 -0.7**
PYUN Piuthan **13.13 126** *e*P **Pn** **07 31 33.8 -3.1**
comp=Z,21nm,0.3s

MAKZ Makanchi **13.14 35** Pn **Pn** **07 31 35.8 -0.9**
MAKZ Makanchi **13.14 35** P **Pn** **07 31 35.8 -0.9**
MK31 Makanchi Array **13.28 36** Pn **Pn** **07 31 38.1 -0.3**
MK31 Makanchi Array **13.28 36** *ce*P **Pn** **07 31 39.4 +0.9**
MK31 Makanchi Array **13.28 36** ⇑P **Pn** **07 31 38.4 -0.1**
comp=Z,10.0nm,0.7s,baz=212,slow=12,SNR=9.1

MKAR Makanchi Array **13.28 36** P **Pn** **07 31 38.4 -0.1**
MKAR Makanchi Array **13.28 36** *e*P **Pn** **07 31 39.8 +1.3**
MKAR pmax pmax
comp=Z,6.0nm,0.6s

MKAR Makanchi Array **13.28 36** P **Pn** **07 31 38.0 -0.5**
comp=Z,1.7nm,0.6s,baz=216,slow=12,SNR=21

DANN Dangsing **13.47 123** *e*P **Pn** **07 31 39.1 -2.3**
comp=Z,13nm,0.2s

BRZS Berezniki **13.53 5** *e*P **Pn** **07 31 41.9 +0.2**
baz=4.6

BRZS Berezniki **13.53 5** *e*P **Pn** **07 31 41.8 +0.2**
KOLN Koldanda **13.75 126** *e*P **Pn** **07 31 42.3 -2.5**
comp=Z,67nm,0.3s

GKN Gorkha **14.29 123** *e*P **Pn** **07 31 50.2 -1.3**
comp=Z,206nm,0.5s

WMQ Urumqi **14.68 55** *e*P **Pn** **07 31 55.5 -0.7**
WMQ pmax pmax
comp=Z,19nm,0.9s

DMN Daman **14.86 123** *e*P **Pn** **07 31 57.6 -1.2**
KKN Kakani **14.86 122** *e*P **Pn** **07 31 57.0 -1.8**
ZSN Zaisan **15.00 39** *e*P **Pn** **07 32 00.5 +0.4**
baz=39

ZSN Zaisan **15.00 39** *e*P **Pn** **07 32 00.5 +0.4**
PKIN Phulchoki **15.08 122** *e*P **Pn** **07 32 00.1 -1.4**
PKI Pulchoki **15.09 122** *e*P **Pn** **07 32 00.3 -1.4**
AB31 Akbulak array **15.09 331** P **Pn** **07 32 00.7 -0.5**
comp=Z,2.8nm,0.3s,baz=142,slow=11,SNR=315

ABKAR Akbulak array **15.09 331** Pn **Pn** **07 31 59.9 -1.3**
ABKAR Akbulak array **15.09 331** Pn **Pn** **07 32 00.9 -0.3**
ABKAR IAmb IAmb 07 32 06.8
comp=Z,9.5nm,1.0s

KURBB Kurchatov Arra **15.12 19** P **Pn** **07 32 00.6 -0.9**
comp=Z,2.4nm,0.5s,baz=205,slow=10,SNR=12

KURBB S **S** **07 34 54.7 -0.1**
comp=Z,0.6nm,0.3s,baz=205,slow=19,SNR=5.9

GUN Gumba **15.20 120** *e*P **Pn** **07 32 02.1 -1.0**
KURK Kurchatov **15.22 19** *i*P **Pn** **07 32 02.3 -0.5**
JIRN Jiri **15.57 120** *e*P **Pn** **07 32 06.9 -0.8**
RAMN Ramite **16.30 121** *e*P **Pn** **07 32 15.1 -1.4**
comp=Z,30nm,0.4s

BVA0 Borovoye Array **16.53 359** P **Pn** **07 32 19.6 +0.8**
comp=Z,1.9nm,0.3s,baz=177,slow=11,SNR=19

BVAR Borovoye Array **16.53 359** P **P** **07 32 18.3 -0.4**
comp=Z,3.7nm,0.4s,baz=159,slow=12,SNR=22

BVAR S **S** **07 35 18.1 -4.2**
comp=Z,2.5nm,0.7s,baz=165,slow=23,SNR=5.4

BRVK Borovoye **16.56 358** P **Pn** **07 32 19.6 +0.4**
BRVK Borovoye **16.56 358** *ce*P **P** **07 32 19.3 +0.2**
BRVK pmax pmax
comp=Z,4.0nm,0.6s

AKTO Aktyubinsk **16.79 330** P **P** **07 32 21.3 -0.3**
comp=Z,8.3nm,0.3s,baz=136,slow=6.9,SNR=36

AKTO S **S** **07 35 21.3 -7.2**
comp=Z,1.9nm,0.4s,baz=187,slow=23,SNR=2.7

AKTO Aktyubinsk **16.79 330** ⇑P **Pn** **07 32 22.8 +0.9**
comp=Z,6.4nm,0.6s

TAPN Taplejung **16.83 118** *e*P **P** **07 32 23.1 +0.5**
ODAN Odare **16.91 120** *e*P **P** **07 32 22.8 -0.5**
DGZ Jazzator, Alta **17.77 37** *d i*P **Pn** **07 32 33.7 -0.2**
MAK Makhachkala **19.17 297** *e*P **P** **07 32 47.2 -0.5**
MAK *e*S **S** **07 36 16.9 0.0**
MAK pmax pmax
comp=Z,78nm,0.9s

MAK MLR MLR
comp=Z,95nm,16.0s

ZAA0 Zalesovo Array **19.91 24** P **P** **07 32 54.6 -0.9**
ZAA0 IAmb IAmb 07 32 56.7
comp=Z,14nm,0.6s

ZALV Zalesovo Beam **19.91 24** P **P** **07 32 55.0 -0.5**
ZALV Zalesovo Beam **19.91 24** *i*P **P** **07 32 56.0 +0.5**
ZALV pmax pmax
comp=Z,11nm,0.4s

ZALV Zalesovo Beam **19.91 24** P **P** **07 32 56.0 +0.5**
comp=Z,11nm,0.4s,baz=223,slow=11,SNR=45
comp=Z,11nm,0.4s

SHL Shillong **20.89 116** P **P** **07 33 07.2 +0.7**
SHL IAmb IAmb 07 33 09.8
comp=Z,37nm,1.0s

SHL Shillong **20.89 116** P **P** **07 33 07.2 +0.7**
SHL pmax pmax
comp=Z,37nm,1.0s

GNI Garni **20.91 288** P **P** **07 33 07.4 +0.8**
GNI IAmb IAmb 07 33 11.2
comp=Z,48nm,1.3s

GNI Garni **20.91 288** *i*P **P** **07 33 07.2 +0.6**
GNI pmax pmax
comp=Z,14nm,0.7s

GNI Garni **20.91 288** P **P** **07 33 06.0 -0.6**
comp=Z,4.7nm,0.3s,baz=114,slow=6.9,SNR=2.3
comp=Z,4.7nm,0.3s

ARU Arti **21.64 341** P **P** **07 33 14.5 +0.5**
ARU IAmb IAmb 07 33 17.4
comp=Z,20nm,1.4s

ARU Arti **21.64 341** *d i*P **P** **07 33 14.7 +0.7**
ARU 07 33 47.6
ARU S **S** **07 37 06.0 +2.3**
ARU pmax pmax
comp=Z,17nm,1.4s

ARU Arti **21.64 341** P **P** **07 33 14.6 +0.7**
comp=Z,5.2nm,0.2s,baz=157,slow=7.8,SNR=5.1
comp=Z,5.2nm,0.2s

ZEI Tsey **21.75 295** *e*P **P** **07 33 16.6 +1.0**
ZEI pmax pmax
comp=Z,6.0nm,0.9s

AKH Akhalkalaki **21.92 291** P **P** **07 33 19.8 +2.5**
AKH pmax pmax
comp=Z,68nm,1.2s

ONI Oni **22.06 294** P **P** **07 33 21.2 +2.6**
ONI IAmb IAmb 07 33 23.2
comp=Z,7.8nm,0.9s

ONI Oni **22.06 294** P **P** **07 33 21.2 +2.6**
ONI pmax pmax
comp=Z,8.0nm,0.9s

KBZ Khabaz **22.62 297** *e*P **P** **07 33 25.8 +2.0**
KBZ pmax pmax
comp=Z,3.0nm,0.7s

KBZ Khabaz **22.62 297** P **P** **07 33 23.8 -0.1**
comp=Z,2.8nm,0.7s,baz=119,slow=7.8,SNR=6.1

KBZ LR LR 07 43 48.8
comp=Z,43nm,18.3s,baz=264,slow=40
comp=Z,2.8nm,0.7s

KIV Kislovodsk **22.80 298** *e*P **P** **07 33 25.1 -0.6**
KIV *e*S **S** **07 37 23.8 +0.4**
KIV pmax pmax
comp=Z,4.0nm,0.8s

GTA Gaotai **22.85 74** *e*P **P** **07 33 27.8 +1.6**
GTA pP pP 07 34 01.0 +5.5
GTA pmax pmax
comp=Z,5.0nm,1.0s

BELG Belogornoye **22.90 321** *i*P **P** **07 33 26.9 +0.5**
TNCH TengChong **26.16 108** P **P** **07 33 51.9 -4.6**
TNCH PP **sP** **07 34 49.3 +2.4**
TNCH pmax pmax
comp=Z,310nm,5.0s

KIRV Kirov **26.25 334** *i*P **P** **07 33 55.3 -1.3**
PZH PanZhiHua **27.92 102** P **P** **07 34 13.3 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.4s

PZH pmax pmax
comp=Z,500nm,5.4s

SONM Songino Array **28.32 55** P **P** **07 34 16.6 +1.1**
comp=Z,1.2nm,1.0s,baz=266,slow=8.6,SNR=5.4
comp=Z,1.2nm,1.0s

ULN Ulaanbaatar **28.76 55** *i*P **P** **07 34 21.4 +2.0**
OBN Obninsk **29.95 319** ⇓*e*P **P** **07 34 31.2 +1.7**
OBN pmax pmax
comp=Z,12nm,0.5s

CMAR Chiang Mai Arr **30.44 119** P **P** **07 34 36.1 +1.8**
CMAR Chiang Mai Arr **30.44 119** *e*P **P** **07 34 36.4 +2.1**
CMAR pmax pmax
comp=Z,2.0nm,0.4s

CMAR Chiang Mai Arr **30.44 119** P **P** **07 34 35.5 +1.2**
comp=Z,2.0nm,0.6s,baz=300,slow=8.1,SNR=11
comp=Z,2.0nm,0.6s

HHC Hu-ho-hao-te **31.75 70** *e*P **P** **07 34 47.3 +1.6**
HHC pmax pmax
comp=Z,12nm,0.6s

HHC pmax pmax
comp=Z,410nm,5.6s

AKASG Malin Array Be **32.96 309** P **P** **07 34 57.1 +1.1**
AKASG IAmb IAmb 07 34 58.1
comp=Z,3.6nm,0.9s

AKASG Malin Array Be **32.96 309** *e*P **P** **07 34 57.1 +1.1**
AKASG pmax pmax
comp=Z,5.0nm,0.6s

AKASG Malin Array Be **32.96 309** P **P** **07 34 56.7 +0.7**
comp=Z,3.5nm,0.6s,baz=81,slow=7.1,SNR=27
comp=Z,3.5nm,0.6s

AKBB Malin Array Si **32.96 309** *i*P **P** **07 34 56.8 +0.8**
AKBB pmax pmax
comp=Z,4.0nm,0.8s

KIEV Kiev **32.97 309** P **P** **07 34 56.7 +0.6**
BURAR Bucovina Array **35.30 303** P **P** **07 35 18.1 +1.7**
FINES FINESS Array B **37.49 326** *e*P **P** **07 35 35.8 +1.2**
FINES pmax pmax
comp=Z,2.0nm,0.5s

FINES FINESS Array B **37.49 326** P **P** **07 35 35.5 +0.9**
comp=Z,1.9nm,0.4s,baz=118,slow=9.4,SNR=15
comp=Z,1.9nm,0.4s

ARCES ARCESS Array B **41.15 338** *e*P **P** **07 36 04.9 0.0**
ARCES pmax pmax
comp=Z,5.0nm,0.9s

ARCES ARCESS Array B **41.15 338** P **P** **07 36 06.0 +1.2**
comp=Z,5.2nm,0.9s,baz=106,slow=6.8,SNR=11
comp=Z,5.2nm,0.9s

HFS Hagfors **43.08 322** P **P** **07 36 21.1 +0.5**
comp=Z,4.1nm,0.5s,baz=104,slow=11,SNR=22
comp=Z,4.1nm,0.5s

CLL Collm **43.20 309** *e*P **P** **07 36 21.0 -0.7**
CLL Collm **43.20 309** *i*P **P** **07 36 20.5 -1.2**
YAK Yakutsk **43.95 35** *ce*P **P** **07 36 27.8 +0.3**
YAK pmax pmax
comp=Z,10.0nm,0.6s

MDJ Mudanjiang **44.39 61** P **P** **07 36 31.6 +0.3**
MDJ pP pP 07 37 04.3 -1.8
MDJ sP sP 07 37 20.8 -2.8
MDJ PP **PP** **07 38 20.5 +2.9**
MDJ ScP **ScP** **07 41 49.8 -0.5**
MDJ PcS **PcS** **07 42 05.8 0.0**
MDJ S **S** **07 42 56.8 +2.5**
MDJ sS sS 07 43 54.6 +0.4
MDJ ScS **ScS** **07 46 13.1 -0.3**
MDJ SS **SS** **07 46 17.3 -0.5**
MDJ pmax pmax
comp=Z,4.0nm,0.7s

MDJ pmax pmax
comp=Z,230nm,4.3s

NB2 NORSAR Subarra **44.39 323** P **P** **07 36 31.6 +0.5**
comp=Z,2.1nm,0.4s,baz=100,slow=7.9

NOA NORSAR Array B **44.39 323** *e*P **P** **07 36 31.8 +0.7**
NOA pmax pmax
comp=Z,1.0nm,0.3s

NOA NORSAR Array B **44.39 323** P **P** **07 36 31.4 +0.3**
comp=Z,1.2nm,0.3s,baz=101,slow=7.3,SNR=10
comp=Z,1.2nm,0.3s

TIXI Tiksi **45.77 22** *ce*P **P** **07 36 42.8 +1.1**
EKA Eskdalemuir Ar **52.30 316** P **P** **07 37 31.6 0.0**
comp=Z,0.6nm,0.6s,baz=84,slow=7.2,SNR=4.1
comp=Z,0.6nm,0.6s

MA2 Magadan **54.35 38** *ce*P **P** **07 37 46.5 -0.1**
MA2 pmax pmax
comp=Z,84nm,2.5s

LEM Lembang **55.08 134** LR LR 08 02 33.5
comp=Z,38nm,20.5s,baz=216,slow=37

ESDC Sonseca Array **57.47 298** P **P** **07 38 08.1 -1.1**
comp=Z,0.2nm,0.4s,baz=77,slow=6.2,SNR=1.7
comp=Z,0.2nm,0.4s

DAV Davao City (W) **57.58 107** LR LR 08 05 22.4
comp=Z,86nm,18.5s,baz=345,slow=38

TORD Torodi Ar. Bea **65.74 269** P **P** **07 39 03.3 -1.5**
comp=Z,0.9nm,0.5s,baz=49,slow=6.2,SNR=10
comp=Z,0.9nm,0.5s

ILAR Eielson Array **74.77 16** *e*P **P** **07 39 59.2 +0.2**
ILAR Eielson Array **74.77 16** P **P** **07 39 58.4 -0.6**
comp=Z,0.4nm,0.9s,baz=303,slow=6.1,SNR=5.8
comp=Z,0.4nm,0.9s

YKA Yellowknife Ar **81.24 3** *e*P **P** **07 40 35.6 +1.0**
YKA pmax pmax
comp=Z,1.0nm,0.6s

YKA Yellowknife Ar **81.24 3** P **P** **07 40 35.0 +0.4**
comp=Z,0.8nm,0.6s,baz=347,slow=5.6,SNR=21
comp=Z,0.8nm,0.6s

WRA Warramunga Arr **81.98 122** *e*P **P** **07 40 38.2 -0.9**
WRA pmax pmax
comp=Z,3.0nm,0.8s

WRA Warramunga Arr **81.98 122** P **P** **07 40 38.3 -0.9**
comp=Z,2.1nm,0.6s,baz=322,slow=5.1,SNR=15
comp=Z,2.1nm,0.6s

ASAR Alice Springs **84.24 125** P **P** **07 40 49.9 -0.8**
comp=Z,3.4nm,0.7s,baz=318,slow=5.3,SNR=20
comp=Z,3.4nm,0.7s

CTA Charters Tower **90.53 115** P **P** **07 41 19.3 -1.6**
comp=Z,1.6nm,0.6s,baz=270,slow=6.1,SNR=1.9
comp=Z,1.6nm,0.6s

*NEIC **21** 07:33:00.0±2.0, 20°.4S±0°.1×177°.8W±0°.1, h516km±11km, mb4.4/29, Error ellipse: s-maj=21.0km s-min=17.1km az=143.0*
*IDC **21** 07:33:04.3±2.0, 20°.40S×177°.85W, h571km±23km, mb3.5/15, mbtmp4.4/15, Error ellipse: s-maj=18.1km s-min=9.9km az=160.0*
ISC 21 07:33:01.0±0.5, 20°.4S±0°.1×177°.84W±0°.08, h534km, n70, σ0.991/73, mb4.3/30, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**7.56**	**82**	P	**P**	**07 34 53.5**	**-0.5**
AFI	**Afiamalu**	**8.64**	**43**	P	**P**	**07 35 02.4**	**-2.6**
PPT	**Papeete**	**26.86**	**89**	P	**P**	**07 37 59.8**	**+0.6**

20nm,0.8s,baz=302,slow=15,SNR=5.3
20nm,0.8s

PPTF Pamatai, Papee **26.86 89** P **P** **07 38 00.0 +0.7**
WHZ Wether Hill Ro **28.02 201** P **P** **07 38 08.7 -0.3**
EIDS Eidsvold **29.03 254** P **P** **07 38 18.1 0.0**
EIDS IAmb IAmb 07 38 19.4
comp=Z,3.9nm,0.6s

ARMA Armidale **29.27 244** P **P** **07 38 21.2 +1.0**
ARMA IAmb IAmb 07 38 23.6
comp=Z,22nm,1.4s

CTA Charters Tower **33.66 264** P **P** **07 38 58.4 +0.7**
comp=Z,8.2nm,0.4s,baz=90,slow=11,SNR=21
comp=Z,8.2nm,0.4s

CTAO Charters Tower **33.66 264** P **P** **07 38 58.5 +0.7**
STKA Stephens Creek **37.99 244** P **P** **07 39 33.9 +0.4**
STKA Stephens Creek **37.99 244** P **P** **07 39 33.8 +0.3**
comp=Z,1.0nm,0.5s,baz=85,slow=13,SNR=5.1
comp=Z,1.0nm,0.5s

AS31 Alice Springs **44.70 257** P **P** **07 40 27.3 +0.5**
ASAR Alice Springs **44.70 257** P **P** **07 40 26.6 -0.2**
ASAR Alice Springs **44.70 257** P **P** **07 40 27.1 +0.3**
comp=Z,6.0nm,0.7s,baz=98,slow=7.7,SNR=58

ASAR PcP **PcP** **07 41 57.7 -0.2**
comp=Z,0.8nm,0.6s,baz=109,slow=4.2,SNR=5.4

ASAR S **S** **07 46 22.9 -1.8**
comp=Z,2.1nm,0.9s,baz=93,slow=15,SNR=14
comp=Z,6.0nm,0.7s

WRA Warramunga Arr **44.77 262** P **P** **07 40 27.8 +0.4**
WRA Warramunga Arr **44.77 262** P **P** **07 40 27.4 0.0**
comp=Z,1.5nm,0.5s,baz=98,slow=8.5,SNR=30

WRA PcP **PcP** **07 41 56.9 -1.2**
comp=Z,0.5nm,0.8s,baz=93,slow=3.3,SNR=2.6

WRA S **S** **07 46 23.1 -2.7**
comp=Z,0.4nm,0.7s,baz=99,slow=11,SNR=3.1
comp=Z,1.5nm,0.5s

KNRA Kununurra **50.82 266** P **P** **07 41 12.8 +0.1**
KNRA IAmb IAmb 07 41 16.7
comp=Z,19nm,1.2s

FITZ Fitzroy Crossi **53.20 262** P **P** **07 41 30.2 +0.5**
MBWA Marble Bar **58.03 257** P **P** **07 42 02.8 -0.5**
QSPA South Pole Qui **69.70 180** P **P** **07 43 17.2 +0.2**
QSPA South Pole Qui **69.70 180** P **P** **07 43 17.6 +0.6**
comp=Z,2.1nm,0.7s,baz=20,slow=1.0,SNR=11
comp=Z,2.1nm,0.7s

MJAR Matsushiro Arr **70.19 324** P **P** **07 43 20.3 +0.1**
comp=Z,5.3nm,0.7s,baz=156,slow=5.6,SNR=15
comp=Z,5.3nm,0.7s

MAJO Matsushiro **70.19 324** P **P** **07 43 20.5 +0.3**
MAJO IAmb IAmb 07 43 21.8
comp=Z,8.6nm,0.8s

JOW Kunigami **70.20 310** P **P** **07 43 21.6 +1.1**
MJB9 Matsu-Tunnel **70.20 324** P **P** **07 43 21.5 +1.2**
MJB9 IAmb IAmb 07 43 22.7
comp=Z,8.3nm,0.7s

JHS Saijyo **72.10 319** P **P** **07 43 34.0 +2.5**
TPUB Ta-pu **74.03 303** P **P** **07 43 42.5 -0.3**
PEA0B Petropavlovsk- **76.18 345** P **P** **07 43 54.5 +0.4**
PETK Petropavlovsk- **76.18 345** P **P** **07 43 55.3 +1.2**
PETK Petropavlovsk- **76.18 345** P **P** **07 43 54.3 +0.2**
comp=Z,5.5nm,0.8s,baz=144,slow=10,SNR=5.6
comp=Z,5.5nm,0.8s

KSRS Korea Array **76.89 318** P **P** **07 43 58.5 +0.2**
comp=Z,1.0nm,0.6s,baz=142,slow=6.1,SNR=4.2
comp=Z,1.0nm,0.6s

USRK Ussuriysk Ar. **78.94 326** P **P** **07 44 10.1 +0.9**
comp=Z,4.9nm,0.8s,baz=105,slow=2.8,SNR=6.6
comp=Z,4.9nm,0.8s

NVAR Mina Array Bea **80.82 43** P **P** **07 44 19.8 +0.3**
comp=Z,2.2nm,0.9s,baz=230,slow=8.1,SNR=7.2
comp=Z,2.2nm,0.9s

PINE Pine Mountain **82.38 38** P **P** **07 44 29.2 +1.8**
PINE IAmb IAmb 07 44 29.9
comp=Z,7.5nm,0.8s

F10A Beach Ranch, E **85.80 38** P **P** **07 44 44.5 +0.5**
F10A IAmb IAmb 07 44 45.9
comp=Z,8.3nm,0.8s

TXAR Lajitas Array **86.85 57** P **P** **07 44 48.2 -1.1**
comp=Z,0.8nm,0.7s,baz=228,slow=7.0,SNR=12
comp=Z,0.8nm,0.7s

HDA Harding Lake **87.81 13** P **P** **07 44 53.2 +0.3**
HDA IAmb IAmb 07 44 53.9
comp=Z,5.6nm,0.6s

CCB Clear Creek Bu **87.85 12** P **P** **07 44 52.6 -0.4**
CCB IAmb IAmb 07 44 53.3
comp=Z,5.3nm,0.6s

BCAR Beaver Creek A **87.85 16** P **P** **07 44 53.9 +0.7**
IMAR Indian Mountai **88.00 10** P **P** **07 44 54.4 +0.7**
IL31 **88.15 13** P **P** **07 44 54.1 -0.3**
IL31 IAmb IAmb 07 44 58.1
comp=Z,8.9nm,1.5s

ILAR Eielson Array **88.15 13** P **P** **07 44 55.0 +0.6**
ILAR Eielson Array **88.15 13** P **P** **07 44 53.9 -0.6**
comp=Z,1.6nm,0.8s,baz=220,slow=5.3,SNR=27
comp=Z,1.6nm,0.8s

M29M Somme Creek **88.22 17** P **P** **07 44 55.8 +0.8**
M29M IAmb IAmb 07 44 56.6
comp=Z,3.3nm,0.8s

J25K Salcha River, **88.33 13** P **P** **07 44 55.7 +0.3**
J25K IAmb IAmb 07 44 56.7
comp=Z,2.3nm,0.8s

G21K Allakaket **88.53 10** P **P** **07 44 57.1 +0.8**
G21K IAmb IAmb 07 45 37.8
comp=Z,9.1nm,1.4s

J26L Joseph Creek **88.64 14** P **P** **07 44 57.6 +0.7**
J26L IAmb IAmb 07 44 59.0
comp=Z,4.8nm,0.9s

PD31 Pinedale Array **88.76 43** P **P** **07 44 58.5 +0.3**
PDAR Pinedale Array **88.76 43** P **P** **07 44 59.0 +0.9**
PDAR Pinedale Array **88.76 43** P **P** **07 44 58.5 +0.3**
comp=Z,1.2nm,0.7s,baz=213,slow=3.0,SNR=14
comp=Z,1.2nm,0.7s

L29M L29M **88.84 17** P **P** **07 44 58.6 +0.8**
L29M IAmb IAmb 07 44 59.6
comp=Z,5.8nm,0.8s

CMAR Chiang Mai Arr **90.22 290** P **P** **07 45 06.7 +1.5**
comp=Z,1.6nm,0.3s,baz=117,slow=3.6,SNR=8.4
comp=Z,1.6nm,0.3s

MKAR Makanchi Array **111.22 313** PKiKP **PKiKP** **07 50 32.8 -1.3**
comp=Z,0.6nm,0.6s,baz=225,slow=1.1,SNR=7.2

KURBB Kurchatov Arra **114.05 317** PKP PKPdf 07 50 37.9 -1.4
comp=Z,0.9nm,0.2s,baz=88,slow=2.0,SNR=8.2

BVAR Borovoye Array **119.07 320** PKP **PKPdf** **07 50 48.3 -0.7**
comp=Z,1.7nm,0.5s,baz=123,slow=2.5,SNR=7.6

ARCES ARCESS Array B **128.81 350** PKP **PKPdf** **07 51 05.3 -1.8**
comp=Z,5.6nm,0.6s,baz=18,slow=3.1,SNR=3.8

AKASG Malin Array Be **142.97 331** PKP 07 51 31.0
comp=Z,6.6nm,0.6s,baz=42,slow=4.3,SNR=50

EKA Eskdalemuir Ar **144.85 5** PKP **PKPdf** **07 51 36.6 -0.3**
comp=Z,2.6nm,0.8s,baz=345,slow=2.0,SNR=8.3

BRTR Keskin Array B **146.86 313** PKPbc **PKPbc** **07 51 43.4 -0.5**
comp=Z,2.0nm,0.7s,baz=103,slow=3.1,SNR=9.6

MMAI Mount Meron Ar **147.88 300** PKPbc **PKPbc** **07 51 46.2 -0.4**
comp=Z,4.7nm,0.6s,baz=81,slow=5.2,SNR=5.0

OSTC Ostas **147.88 343** *e*PKP **PKiKP** **07 51 47.1 -0.3**
CLL Collm **147.96 347** *i*PKPbc **PKPbc** **07 51 46.5 +0.4**
comp=Z,11nm,0.7s

CLL *i*PKPab **PKPab** **07 51 50.9 +0.2**
comp=Z,4.0nm,0.7s

DPC Dobruska-Polom **148.04 343** *e*PKP **PKPbc** **07 51 47.3 +0.9**
DPC *ex* x 07 51 52.3
KRLC Kraliky **148.16 342** *e*PKP **PKPbc** **07 51 47.6 +0.9**
PRU Pruhonice **148.84 344** *e*PKP **PKPbc** **07 51 49.0 +0.6**
ZVC Zvikov **149.44 344** *e*PKP **PKiKP** **07 51 50.9 +0.3**
ZVC *ex* x 07 51 58.1
KHC Kasperske Hory **149.88 345** *e*PKP **PKPbc** **07 51 51.5 +0.6**
KHC *ex* x 07 51 59.7
CKRC Cesky Krumlov **149.98 344** *e*PKP **PKiKP** **07 51 51.9 +0.1**
GERES GERESS Array B **150.11 345** PKPbc **PKPbc** **07 51 51.1 -0.4**
comp=Z,3.5nm,1.0s,baz=64,slow=3.1,SNR=5.4

TORD Torodi Ar. Bea **172.81 176** PKP **PKPdf** **07 52 08.7 -1.0**
comp=Z,1.1nm,1.0s,baz=48,slow=2.1,SNR=4.1

*RSNC **21** 07:38:00.3±2.1, 7°.14N×72°.99W, h172km±9km, ML3.3, Mw3.8*
*IDC **21** 07:38:04.6±2.5, 7°.14N×74°.83W, h189km±37km, mb2.9/1, mbtmp3.5/2, MS2.3/1, Error ellipse: s-maj=130.8km s-min=40.6km az=89.0*
ISC 21 07:37:59.1±1.0, 7°.13N±0°.03×72°.95W±0°.04, h179km±7km, n36, σ1.943/60, 2C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAMC	**Pamplona, Colo**	**0.32**	**49**	⇓*i*P	**Pn**	**07 38 24.4**	**+0.7**
PAMC				*e*S	**Sn**	**07 38 42.1**	**-0.6**
PAMC				*i*		07 38 44.3	

comp=Z,506nm,0.6s
BARC Barichara 0.58 204 ⇑*i* P **Pn 07 38 24.7 +0.2**
BARC *e*S **Sn 07 38 42.8 -1.2**
BARC *i* 07 38 43.6
comp=Z,551nm,0.2s
OCAC Ocana 1.16 342 *e*P **Pn 07 38 28.9 +0.8**
OCAC *e*S **Sn 07 38 50.8 0.0**
TAMC Tame, Arauca 1.34 121 ⇓*i* P **Pn 07 38 30.5 +1.0**
TAMC *e*S **Sn 07 38 53.0 -0.1**
PTBC PUERTO BERRIO, 1.61 249 ⇑*i* P **Pn 07 38 31.7 -0.4**
PTBC *e*S **Sn 07 38 56.2 -1.3**
PTBC *i* 07 38 58.5
comp=Z,141nm,0.1s
UREC San Jos de Ur 2.64 284 *e*P **Pn 07 38 42.8 -0.6**
UREC *e*S **Sn 07 39 15.8 -2.0**
UREC *i* 07 39 20.4
comp=Z,232nm,0.4s
ROSC El Rosal 2.65 211 *e*P **Pn 07 38 46.0 +2.2**
ROSC *e*S **Sn 07 39 18.0 -0.8**
ROSC *i* 07 39 24.3
comp=Z,97nm,0.3s
ROSC El Rosal 2.65 211 P **Pn 07 38 46.1 +2.2**
comp=Z,48nm,0.3s,baz=348,slow=0.4,SNR=53
ROSC S **Sn 07 39 19.4 +0.6**
comp=Z,117nm,0.3s,baz=218,slow=21,SNR=14
MEDEC Medelln, Ant 2.76 252 *e*P **Pn 07 38 46.0 +1.1**
MEDEC *e*S **Sn 07 39 20.3 -0.3**
CVER Cruz Verde, Cu 2.82 203 *e*P **Pn 07 38 47.8 +1.8**
CVER *e*S **Sn 07 39 23.7 +1.2**
CVER *i* 07 39 30.1
comp=Z,61nm,0.4s
SDV Santo Domingo 2.88 53 ⇓*e*P **Pn 07 38 47.4 +0.9**
SDV *e*S **Sn 07 39 22.2 -1.1**
SDV *i* 07 39 24.4
comp=Z,58nm,0.5s
SDV Santo Domingo 2.88 53 LR LR 07 41 23.8
comp=Z,38nm,21.8s,baz=230,slow=44
ARGC Ariguani, Magd 3.00 335 *e*P **Pn 07 38 50.3 +2.6**
ARGC *e*S **Sn 07 39 27.3 +1.5**
ARGC *i* 07 39 31.6
comp=Z,24nm,0.2s
PTGC Puerto Gaitan, 3.02 164 ⇓*i* P **Pn 07 38 47.6 -0.4**
PTGC *e*S **Sn 07 39 23.5 -2.7**
PTGC *i* 07 39 27.9
comp=Z,39nm,0.4s
GUY2C Guyana, Caldas 3.06 232 *e*P **Pn 07 38 50.1 +1.2**
GUY2C *e*S **Sn 07 39 26.9 -0.7**
GUY2C *i* 07 39 38.7
comp=Z,104nm,0.6s
VILC Villavicencio, 3.09 194 *e*P **Pn 07 38 49.3 +0.4**
VILC *e*S **Sn 07 39 26.8 -1.0**
VILC *i* 07 39 35.6
comp=Z,72nm,0.3s
RECRC Villamaria, Ca 3.22 228 *e*P **Pn 07 38 52.9 +2.0**
RECRC *e*S **Sn 07 39 35.3 +4.0**
DBBC Dabeiba 3.24 268 *e*P **Pn 07 38 51.5 +0.7**
DBBC *e*S **Sn 07 39 29.5 -1.5**
DBBC *i* 07 39 34.1
comp=Z,64nm,0.4s
NIZA Niza - Manizal 3.24 231 *e*P **Pn 07 38 53.5 +2.5**
NIZA *e*S **Sn 07 39 33.7 +2.2**
CBOC Ciudad Bolivar 3.29 248 *e*P **Pn 07 38 52.6 +1.1**
CBOC *e*S **Sn 07 39 31.1 -1.2**
CBOC *i* 07 39 36.8
comp=Z,51nm,0.4s
SJCC San Jacinto, C 3.53 321 *e*P **Pn 07 38 54.4 +0.1**
SJCC *e*S **Sn 07 39 35.4 -2.1**
SJCC *i* 07 39 39.5
comp=Z,74nm,0.6s
ANIL Santa Ana 3.58 223 *e*P **Pn 07 38 56.8 +1.6**
ANIL *e*S **Sn 07 39 39.5 +0.5**
ANIL *i* 07 39 44.1
comp=Z,130nm,0.4s
APAC Apartado, Choc 3.68 282 *e*P **Pn 07 38 56.9 +0.8**
APAC *e*S **Sn 07 39 37.5 -3.3**
APAC *i* 07 39 47.1
comp=Z,98nm,0.4s
CRJC Cerrejon, Guaj 3.87 1 *e*P **Pn 07 38 58.4 -0.2**
CRJC *e*S Sn 07 39 39.2 -6.1
CRJC *i* 07 39 47.0
comp=Z,42nm,0.3s
PRAC Prado 3.90 210 *e*P **Pn 07 38 59.2 +0.2**
PRAC *e*S **Sn 07 39 44.0 -1.9**
PRAC *i* 07 39 46.0
comp=Z,67nm,0.3s
ORTC Ortega, Tolima 3.93 216 *e*P **Pn 07 38 59.9 +0.5**
ORTC *e*S **Sn 07 39 45.7 -0.9**
ORTC *i* 07 39 56.9
comp=Z,40nm,0.5s
PLMC San Jos del P 3.98 237 *e*P **Pn 07 39 00.8 +0.8**
PLMC *i* 07 39 49.8
comp=Z,31nm,0.3s
YOTC Yotoco, Valle 4.60 227 *e*P **Pn 07 39 08.1 0.0**
BETC Betania 5.07 209 *e*P **Pn 07 39 13.3 -0.7**
JAMC Jamundi, Valle 5.37 224 *e*P **Pn 07 39 18.7 +0.5**
GARC Garzon, Huila 5.53 207 *e*P **Pn 07 39 19.5 -0.7**
POPC Popayan, Colom 5.88 219 *e*P **Pn 07 39 25.1 +0.3**
FLOC Florencia 6.13 206 *e*P **Pn 07 39 27.8 -0.1**
BBAC Balboa, Cauca 6.64 220 *e*P **Pn 07 39 35.8 +1.0**
BBAC *e*S **Sn 07 40 48.3 -1.8**
YKA Yellowknife Ar 63.04 340 P **P 07 48 07.0 +0.2**
comp=Z,0.2nm,0.5s,baz=134,slow=6.1,SNR=5.2
comp=Z,0.2nm,0.5s
WRA Warramunga Arr 150.63 242 PKPbc **PKPbc 07 57 30.6 -0.2**
comp=Z,0.3nm,0.4s,baz=108,slow=2.8,SNR=6.9

IDC 21 07:40:14.6±6.6, 3°86S×142°63E, h0km, mb3.1/2, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=231.9km s-min=35.2km az=93.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.91**	**206**	P	P	07 44 26.0	-0.1
	0.3nm,0.3s,baz=29,slow=12,SNR=21						
	1.7nm,0.5s						
ASAR	**Alice Springs**	**21.42**	**202**	P	P	07 45 03.9	-0.5
	0.4nm,0.7s,baz=31,slow=9.9,SNR=3.8						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**73.10**	**321**	P	P	07 51 47.1	+1.1
	0.3nm,0.7s,baz=101,slow=7.1,SNR=2.2						
	0.3nm,0.7s						

*ISN **21** 07:46:15.6±0.9, 34°63N×45°75E, h15km±999km, ML3.5*
*TEH **21** 07:46:16.3, 34°65N×45°71E, h9km±27km, ML3.5*
ISC 21 07:46:16.4±1.1, 34°62N±0°03×45°74E±0°04, h9km±9km, n18, σ0°88/25, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.17**	**227**	Pg	**Pg**	**07 46 19.7**	**-0.4**
KGS1				Sg	**Sg**	**07 46 23.5**	**+0.9**
IDHR	**Dehrash**	**0.54**	**82**	Pg	**Pb**	**07 46 27.3**	**-0.8**
IDHR				Sg	**Sb**	**07 46 36.3**	**+0.4**
IGHG	**Ghaleghazi**	**0.74**	**113**	Pg	**Pb**	**07 46 31.5**	**-0.1**
IGHG				Sg	**Sn**	**07 46 44.2**	**-0.6**
ILIN	**Lien**	**1.04**	**73**	Pg	**Pn**	**07 46 36.7**	**-0.7**
ILIN				Sg	**Sn**	**07 46 52.6**	**+0.3**
ILBA	**Ilam Banvizeh**	**1.07**	**159**	Pg	**Pn**	**07 46 37.3**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.13**	**108**	Pg	**Pn**	**07 46 38.6**	**+0.1**
IBDR	**Badra**	**1.52**	**174**	*e*Pn	**Pb**	**07 46 44.0**	**-0.7**
IBDR				*e*Sn	**Sg**	**07 47 05.0**	**-0.2**
IBDR				AML	AML	07 47 10.6	
	comp=E,684nm,0.7s						
IBDR				AML	AML	07 47 12.3	
	comp=N,632nm,0.5s						
IKOM	**Komasi**	**1.53**	**107**	Pg	**Pg**	**07 46 46.1**	**+0.4**
SDS1	**Sardasht. Az.**	**1.54**	**352**	Pg	**Pg**	**07 46 45.8**	**-0.1**
IBZA	**Bozab**	**1.75**	**94**	Pg	**Pg**	**07 46 49.9**	**-0.1**
BHD	**Baghdad**	**1.76**	**220**	*e*Pn	**Pn**	**07 46 47.0**	**-0.1**
BHD				*e*Sn	**Sb**	**07 47 11.0**	**-0.1**
BHD				AML	AML	07 47 23.8	
	comp=E,615nm,0.4s						
IALM	**Almabolaq**	**2.01**	**83**	Pn	**Pb**	**07 46 53.2**	**-0.1**
IKFM	**Kafar-mosalman**	**2.06**	**122**	Pn	**Pb**	**07 46 53.7**	**-0.3**
MAHB	**Mahabad**	**2.14**	**359**	Pn	**Pb**	**07 46 54.4**	**-0.9**
HAGD	**Aghdareh**	**2.80**	**85**	Pn	**Pb**	**07 47 04.5**	**-2.3**
RAFI	**Al-Rafai**	**2.91**	**174**	*e*Pn	**Pn**	**07 47 04.0**	**+1.2**
RAFI				*e*Sn	**Sn**	**07 47 38.0**	**+0.1**
AMIS	**Naft Sefid**	**4.19**	**134**	Pn	**Pn**	**07 47 21.6**	**+1.2**
GRMI	**Germi**	**4.52**	**22**	Pn	**Pn**	**07 47 27.0**	**+1.9**

IDC 21 07:59:37.0±3.7, 55°63N×86°41E, h0km, mbtmp3.3/2, ML2.4/2, Error ellipse: s-maj=31.5km s-min=29.4km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.92**	**209**	I	I	08 12 50.0	
	baz=34,slow=344,SNR=1.6						
ZALV	**Zalesovo Beam**	**1.92**	**209**	Pn	Pn	08 00 11.3	+0.5
	2.3nm,0.3s,baz=28,slow=15,SNR=28						
ZALV				Lg	Lg	08 00 37.6	
	2.4nm,0.3s,baz=26,slow=27,SNR=7.4						
KURBB	**Kurchatov Arra**	**6.90**	**227**	Pn	Pn	08 01 18.0	-1.3
	0.1nm,0.3s,baz=44,slow=14,SNR=1.5						
	2.9nm,0.2s						
MKAR	**Makanchi Array**	**9.21**	**198**	Pn	Pn	08 01 52.2	+1.1
	0.1nm,0.3s,baz=17,slow=12,SNR=2.1						
	0.1nm,0.3s						

*IDC **21** 08:02:18.7±5.7, 38°20N×73°10E, h109km±38km, mb3.6/6, mbtmp3.9/9, Error ellipse: s-maj=52.2km s-min=27.3km az=146.0*
*SOME **21** 08:02:18.7, 39°23N×73°42E, h5km*
*NNC **21** 08:02:24.7±2.0, 38°67N×73°02E, h148km±32km, mb2.5, mpv3.1, Error ellipse: s-maj=22.0km s-min=12.2km az=9.0*
ISC 21 08:02:19.2±1.4, 38°3N±0°1×72°87E±0°10, h103km, n28, σ1s60/31, mb3.9/6, 4C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.89**	**9**	P	**Pn**	**08 03 18.5**	**+1.2**
	SNR=197						
AML	**Almayashu**	**3.89**	**9**	⇑P	**Pn**	**08 03 18.6**	**+1.2**
	0.5nm,0.2s						
AML				⇓S	**Sn**	**08 04 01.6**	**-0.8**
	18nm,0.7s						
UCH	**Uchtor**	**4.13**	**17**	P	**Pn**	**08 03 21.9**	**+1.2**
	SNR=16						
KZA	**Kyzart**	**4.21**	**25**	P	**Pn**	**08 03 22.4**	**+0.8**
	SNR=8.3						
EKS2	**Erkin-Say**	**4.43**	**9**	P	**Pn**	**08 03 26.2**	**+2.0**
	SNR=8.6						
MRKS	**Merke**	**4.46**	**3**	*e*Pg	**Pn**	**08 03 23.6**	**-1.2**
	23nm,0.3s						
MRKS				*e*Lg	Lg	08 04 10.3	
	42nm,0.3s						
AAK	**Ala-Archa**	**4.52**	**15**	P	**Pn**	**08 03 27.2**	**+1.6**
	SNR=9.0						
AAK	**Ala-Archa**	**4.52**	**15**	P	**Pn**	**08 03 27.3**	**+1.6**
	5.4nm,0.3s,baz=210,slow=6.8,SNR=26						
AAK				S	**Sn**	**08 04 17.1**	**0.0**
	15nm,0.4s,baz=86,slow=17,SNR=15						
ULHL	**Ulahol**	**4.72**	**32**	P	**Pn**	**08 03 29.2**	**+0.8**
	SNR=10						
TKM2	**Tokmak 2**	**5.08**	**23**	P	**Pn**	**08 03 33.9**	**+0.8**
	0.8nm,0.4s						
TKM2				⇓S	**Sn**	**08 04 28.0**	**-2.6**
	1.7nm,0.3s						
KK31	**Karatay Array**	**5.14**	**340**	⇑P	**Pn**	**08 03 35.6**	**+1.9**
	3.1nm,0.2s,baz=159,slow=14,SNR=131						
KK31				S	**Sn**	**08 04 31.1**	**-0.7**
	12nm,0.3s,baz=156,slow=25,SNR=38						
KST	**Kastek**	**5.30**	**25**	*e*Pg	**Pn**	**08 03 36.8**	**+0.7**
	7.5nm,0.3s						
KST				*e*Lg	Lg	08 04 33.2	
	20nm,0.4s						
DGS	**Degeres**	**5.42**	**23**	*e*Pg	**Pn**	**08 03 39.0**	**+1.3**
	8.6nm,0.3s						
DGS				*e*Lg	Lg	08 04 36.7	
	7.1nm,0.4s						
MTBS	**Maitube**	**5.54**	**28**	*e*P	**Pn**	**08 03 41.4**	**+2.0**
	4.4nm,0.4s						
KRBS	**Karabastau**	**5.81**	**21**	*e*Pg	**Pn**	**08 03 45.9**	**+3.0**
	2.6nm,0.4s						
KRBS				*e*Lg	Lg	08 04 48.7	
	3.5nm,0.4s						
KTBS	**Karatobe**	**6.14**	**27**	*e*Pg	**Pn**	**08 03 52.2**	**+4.8**
	2.3nm,0.3s						
KTBS				*e*Lg	Lg	08 04 59.5	
	8.5nm,0.3s						
BTLS	**Baital**	**6.81**	**7**	*e*Pg	Pn	08 04 06.9	+10
	1.3nm,0.3s						
BTLS				*e*Lg	Lg	08 05 24.8	
	3.7nm,0.3s						
AB31	**Akbulak array**	**14.38**	**324**	⇑P	**Pn**	**08 05 37.5**	**-0.2**
	0.6nm,0.3s,baz=132,slow=14,SNR=33						
BVAR	**Borovoye Array**	**14.84**	**354**	P	**P**	**08 05 47.0**	**+0.2**
	1.6nm,0.3s,baz=160,slow=9.2,SNR=7.0						
AKTO	**Aktyubinsk**	**16.10**	**324**	P	**P**	**08 06 01.9**	**+1.2**
	2.4nm,0.3s,baz=141,slow=6.0,SNR=11						
AKTO	**Aktyubinsk**	**16.10**	**324**	⇑P	**P**	**08 06 01.4**	**+0.7**
	0.9nm,0.3s						
ZALV	**Zalesovo Beam**	**17.68**	**24**	P	**P**	**08 06 16.8**	**-1.3**
	1.6nm,0.5s,baz=211,slow=11,SNR=8.5						
FINES	**FINESS Array B**	**36.87**	**324**	P	**P**	**08 09 17.9**	**+0.6**
	1.8nm,0.6s,baz=125,slow=9.6,SNR=4.6						
	1.8nm,0.6s						
ARCES	**ARCESS Array B**	**40.09**	**336**	P	**P**	**08 09 44.4**	**+0.3**
	4.9nm,0.9s,baz=112,slow=9.9,SNR=7.0						
	4.9nm,0.9s						
HFS	**Hagfors**	**42.61**	**321**	P	**P**	**08 10 05.0**	**+0.2**
	2.5nm,0.9s,baz=73,slow=9.9,SNR=1.8						
	2.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**67.24**	**269**	P	**P**	**08 13 02.2**	**-0.7**
	0.6nm,0.5s,baz=51,slow=5.6,SNR=9.1						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**72.65**	**17**	P	**P**	**08 13 34.1**	**-1.0**
	0.4nm,0.9s,baz=332,slow=3.5,SNR=4.8						
	0.4nm,0.9s						
YKA	**Yellowknife Ar**	**79.39**	**4**	P	**P**	**08 14 12.9**	**-0.5**
	0.3nm,0.6s,baz=348,slow=6.3,SNR=11						
	0.3nm,0.6s						

*NEIC **21** 08:05:26.9±0.4, 35°89N±0°01×97°29W±0°02, h6km±6km, Error ellipse: s-maj=2.6km s-min=0.9km az=123.0*
*TUL **21** 08:05:26.3±0.5, 35°892N±0°010×97°29W±0°02, h7km±6km, ML3.1, mb_Lg3.0/101(NEIC), ML3.2/36(NEIC), Error ellipse: s-maj=2.5km s-min=1.2km az=113.0*
*ANF **21** 08:05:26.5±0.3, 35°91N×97°27W, h7km, ML3.6/9, Error ellipse: s-maj=4.1km s-min=2.5km az=159.0*
ISC 21 08:05:26.2±1.1, 35°90N±0°02×97°29W±0°02, h4km±11km, n102, σ0s66/51, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.26**	**196**	Pg	**Pg**	**08 05 31.3**	**+0.1**
ADOK				Sg	**Sg**	**08 05 34.9**	**+0.3**
OK033	**Mehan**	**0.32**	**63**	Pg	**Pg**	**08 05 33.0**	**+0.6**
OK033				Sg	**Sg**	**08 05 37.5**	**+1.0**
OKCSW	**OKLAHOMA CITY**	**0.51**	**194**	Pg	**Pg**	**08 05 35.9**	**-0.1**
OKCSW				Sg	**Sg**	**08 05 42.9**	**+0.3**
OKCSW				IAML		08 05 43.7	
	comp=N,2μm,0.4s						
OKCSW				IAML		08 05 48.2	
	comp=E,3μm,0.6s						
QUOK	**Quay**	**0.54**	**60**	Pg	**Pg**	**08 05 37.1**	**+0.5**
OK048	**Pawnee Station**	**0.58**	**28**	Pg	**Pg**	**08 05 37.8**	**+0.4**
OK048				Sg	**Sg**	**08 05 45.5**	**+0.4**
OK048				IAML		08 05 46.2	
	comp=E,1μm,0.5s						
OK048				IAML		08 05 46.2	
	comp=E,915nm,0.4s						
DEOK	**Depew**	**0.64**	**95**	Pg	**Pg**	**08 05 38.5**	**0.0**
DEOK				IAML		08 05 50.3	
	comp=N,809nm,0.4s						
FNO	**Franklin**	**0.65**	**188**	Pg	**Pg**	**08 05 38.4**	**-0.3**
FNO				IAML		08 05 59.7	
	comp=E,1μm,0.7s						
OK051	**E0350 and S346**	**0.70**	**31**		**Pg**	**08 05 39.9**	**+0.1**
OK051				IAML		08 05 51.8	
	comp=E,871nm,0.1s						
OK051				IAML		08 05 53.7	
	comp=E,993nm,0.4s						
CROK	**Carrier**	**0.82**	**317**	Pg	**Pg**	**08 05 42.1**	**0.0**
CROK				IAML		08 05 59.4	
	comp=E,1μm,0.3s						
BLOK	**Blackwell**	**0.86**	**4**	Pg	**Pg**	**08 05 42.7**	**0.0**
BLOK				IAML		08 05 59.3	
	comp=N,1μm,0.2s						
BLOK				IAML		08 06 01.7	
	comp=E,1μm,0.2s						
GC02	**Grant County #**	**1.06**	**334**		**Pg**	**08 05 46.2**	**-0.3**
KAN13	**South Haven SW**	**1.12**	**352**		**Pb**	**08 05 47.4**	**-0.8**
CSTR	**Hydro, Custer**	**1.17**	**258**		**Pb**	**08 05 48.2**	**-0.8**

OK032 Salt Plains WL 1.17 321 Pb 08 05 48.1 -0.9
KAN14 Manchester OK 1.19 333 Pb 08 05 48.5 -0.8
KAN14 IAML 08 06 07.9
comp=N,786nm,0.2s
T35A Sooner Cattle 1.19 31 Pb 08 05 48.5 -0.9
T35A IAML 08 06 07.8
comp=N,427nm,0.5s
T35A IAML 08 06 08.8
comp=E,652nm,0.5s
T35B Sooner Cattle 1.19 31 P **Pb 08 05 48.5 -0.8**
baz=212,SNR=81
T35B S **Sb 08 06 04.8 -0.4**
baz=212
KAN17 Caldwell West 1.21 341 Pn 08 05 48.9 -1.0
TUL3 Leonard 1.21 89 P **Pn 08 05 48.3 -1.7**
baz=270,SNR=83
TUL3 S **Sb 08 06 05.3 -0.5**
baz=270
KAN09 Caldwell North 1.26 348 Pn 08 05 49.9 -0.7
KAN05 Bluff City Nor 1.29 339 Pn 08 05 50.6 -0.5
KAN01 Argonia South 1.31 343 Pn 08 05 50.8 -0.5
KAN10 Anthony SW Sta 1.38 332 Pn 08 05 52.1 -0.2
KS21 Milan North St 1.42 348 Pn 08 05 52.8 0.0
KAN06 Argonia West S 1.42 341 Pn 08 05 52.6 -0.2
KAN08 Anthony NE Sta 1.43 338 Pn 08 05 52.8 -0.2
U32A Winter Ranch, 1.47 289 Pn 08 05 53.1 -0.4
U32A Winter Ranch, 1.47 289 P **Pn 08 05 53.2 -0.3**
baz=109,SNR=30
U32A S **Sb 08 06 13.4 +0.2**
baz=109
WMOK Wichita Mounta 1.69 227 Pn 08 05 56.6 +0.1
WMOK Wichita Mounta 1.69 227 P **Pn 08 05 56.4 -0.1**
baz=46,SNR=17
WMOK S **Sb 08 06 19.0 -0.4**
baz=46
ELIS Ellis County 1.74 276 Pn 08 05 57.7 +0.5
RLO Rose Lookout 1.85 81 Pn 08 05 59.0 +0.2
LOOK Love County 1.91 177 Pb 08 06 00.2 -1.3
WTFS Witchita Falls 2.34 205 Pn 08 06 06.3 +0.9
SMWD Samnorwood 2.54 253 Pn 08 06 08.7 +0.4
SMWD IAmb_Lg 08 06 52.6
comp=Z,30nm,0.7s
HHAR Hobbs 2.74 81 P **Pn 08 06 11.5 +0.6**
baz=263
R32A Long Quarter, 2.76 336 IAmb_Lg 08 07 01.5
comp=Z,33nm,1.0s
FW03 Perrin-Whitt E 2.93 193 IAmb_Lg 08 07 03.4
comp=Z,13nm,0.8s
FW06 Azle 2.93 184 IAmb_Lg 08 07 06.2
comp=Z,20nm,0.8s
PLPT Palo Pinto 3.20 196 IAmb_Lg 08 07 11.8
comp=Z,21nm,0.8s
FW07 Weatherford 3.22 188 IAmb_Lg 08 07 14.2
comp=Z,22nm,0.7s
KSU1 Kansas State U 3.24 9 IAmb_Lg 08 07 14.0
comp=Z,43nm,0.7s
KSU1 Kansas State U 3.24 9 P **Pn 08 06 18.6 +0.8**
baz=190
Z38A Mt. Pleasant 3.25 144 IAmb_Lg 08 07 15.8
comp=Z,36nm,0.8s
Z38A Mt. Pleasant 3.25 144 P **Pn 08 06 18.3 +0.3**
baz=325
TREL Terrell 3.31 162 IAmb_Lg 08 07 12.8
comp=Z,15nm,0.8s
FW16 Waxahatchie 3.42 174 IAmb_Lg 08 07 19.1
comp=Z,22nm,0.8s
APMT Aspermont 3.47 223 IAmb_Lg 08 07 22.1
comp=Z,23nm,0.8s
FW14 Alvarado 3.49 179 IAmb_Lg 08 07 20.8
comp=Z,19nm,0.9s
FW13 Cleburne 3.54 182 IAmb_Lg 08 07 17.8
comp=Z,13nm,0.9s
U40A Yellville 3.62 81 P **Pn 08 06 23.1 0.0**
baz=264
U40A P **Pn 08 06 23.1 0.0**
baz=264
S39A Bolivar 3.65 60 P **Pn 08 06 23.7 +0.3**
baz=242,SNR=12
AMTX Amarillo 3.73 255 IAmb_Lg 08 07 34.2
comp=Z,42nm,0.7s
AMTX Amarillo 3.73 255 S **Sn 08 07 11.0 +1.9**
baz=73
DKNS Dickens 3.73 234 IAmb_Lg 08 07 29.8
comp=Z,32nm,1.0s
WHAR Wooly Hollow 4.12 97 IAmb_Lg 08 07 43.1
comp=Z,37nm,1.1s
FCAR Ozark Folk Cen 4.19 89 IAmb_Lg 08 07 40.7
comp=Z,26nm,0.9s
UALR University of 4.19 104 IAmb_Lg 08 07 47.4
comp=Z,47nm,1.1s
MGMO Mountain Grove 4.23 71 IAmb_Lg 08 07 39.7
comp=Z,32nm,1.0s
SN01 Snyder 1 4.25 226 IAmb_Lg 08 07 45.7
comp=Z,62nm,0.9s
RTBA Rita Blanca 4.44 279 IAmb_Lg 08 07 53.6
comp=Z,34nm,0.9s
POST Post 4.48 232 IAmb_Lg 08 07 59.3
comp=Z,46nm,1.2s
Z41A Richland Creek 4.54 124 IAmb_Lg 08 07 59.4
comp=Z,28nm,0.8s
R40A Maddies Statio 4.67 58 IAmb_Lg 08 08 05.9
comp=Z,17nm,0.7s
R40A Maddies Statio 4.67 58 P **Pn 08 06 37.5 +0.1**
baz=241,SNR=8.1
P38A Dawn 4.76 38 IAmb_Lg 08 07 56.7
comp=Z,21nm,0.8s
BRDY Brady 4.82 198 IAmb_Lg 08 08 00.2
comp=Z,47nm,0.9s
N33A J Bar K, Exete 4.83 359 IAmb_Lg 08 08 13.5
comp=Z,40nm,1.1s
CCAR Cane Creek 4.94 112 IAmb_Lg 08 08 11.7
comp=Z,35nm,0.9s
LCAR Lake Charles 4.97 86 IAmb_Lg 08 08 05.5
comp=Z,22nm,0.9s
SGCY Sterling City 5.10 220 IAmb_Lg 08 08 19.9
comp=Z,35nm,0.8s
435B Jarrell 5.11 183 IAmb_Lg 08 08 09.0
comp=Z,24nm,0.7s
KSCO Kaye Shedlock' 5.26 308 IAmb_Lg 08 08 24.2
comp=Z,29nm,0.7s
CCM Cathedral Cave 5.29 64 IAmb_Lg 08 08 21.2
comp=Z,28nm,0.8s
P40A Paris 5.51 47 IAmb_Lg 08 08 22.5
comp=Z,25nm,0.7s
PBMO Poplar Bluff 5.60 79 IAmb_Lg 08 08 25.8
comp=Z,29nm,0.8s
ODSA Odessa 5.77 231 IAmb_Lg 08 08 39.8
comp=Z,13nm,1.0s
143A Socs Landing, 5.82 122 IAmb_Lg 08 08 38.9
comp=Z,18nm,0.8s
T25A Trinidad 5.87 284 IAmb_Lg 08 08 48.1
comp=Z,24nm,0.8s
FVM French Village 5.87 67 IAmb_Lg 08 08 41.8
comp=Z,14nm,0.8s
OZNA Ozona 5.91 214 IAmb_Lg 08 08 41.3
comp=Z,24nm,0.8s
SLM Saint Louis 6.25 62 IAmb_Lg 08 08 44.3
comp=Z,20nm,0.9s
OGNE Ogallala 6.26 325 IAmb_Lg 08 08 54.5
comp=Z,27nm,0.8s
MNHN Monahans 6.45 227 IAmb_Lg 08 08 52.6
comp=Z,17nm,1.0s
HNDO Hondo 6.57 195 IAmb_Lg 08 08 57.9
comp=Z,25nm,0.8s
S44A Carbondale 6.69 72 IAmb_Lg 08 09 05.9
comp=Z,19nm,0.8s
SIUC Southern Illin 6.72 72 IAmb_Lg 08 09 00.3
comp=Z,23nm,0.9s
EF01 Eagle Ford 01 6.82 188 IAmb_Lg 08 09 10.8
comp=Z,16nm,0.7s
Q24A Divide 6.96 298 IAmb_Lg 08 09 08.2
comp=Z,15nm,0.7s
K30B Basset 7.00 346 IAmb_Lg 08 09 21.5
comp=Z,24nm,0.8s
DRIO Del Rio 7.04 204 IAmb_Lg 08 09 16.0
comp=Z,12nm,0.8s
SAND Sanderson 7.19 216 IAmb_Lg 08 09 26.8
comp=Z,15nm,0.8s
ALPN Alpine 7.66 226 IAmb_Lg 08 09 39.7
comp=Z,10nm,0.8s
L40A Anamosa 7.75 36 IAmb_Lg 08 09 40.7
comp=Z,21nm,0.9s
833A Chaparral WMA, 7.76 194 IAmb_Lg 08 09 42.7
comp=Z,12nm,0.9s
PHWY Pilot Hill 8.36 313 IAmb_Lg 08 10 09.5
comp=Z,14nm,1.0s
N23A Red Feather La 8.43 309 IAmb_Lg 08 10 06.7

	comp=Z,18nm,0.8s						
I37A	**Lemond, Waseca**	**8.63**	**19**	IAmb_Lg		08 10 22.4	
	comp=Z,17nm,0.9s						
I40A	**Norwalk**	**9.48**	**31**	IAmb_Lg		08 10 39.0	
	comp=Z,15nm,1.0s						
K22A	**Casper**	**9.83**	**316**	IAmb_Lg		08 10 52.9	
	comp=Z,12nm,1.0s						
SPMN	**Marine on St.**	**9.92**	**19**	IAmb_Lg		08 10 44.6	
	comp=Z,9.6nm,1.0s						
F33A	**5 Mile Ranch,**	**9.96**	**4**	IAmb_Lg		08 10 58.4	
	comp=Z,9.8nm,1.1s						

IDC 21 08:53:46.5±3.5, 53°17N×90°30E, h0km, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=29.5km s-min=22.6km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**3.36**	**286**	Pn	Pn	08 54 40.4	+0.2
	1.0nm,0.3s,baz=105,slow=17,SNR=12						
ZALV				Lg	Lg	08 55 30.6	
	0.8nm,0.3s,baz=107,slow=14,SNR=4.0						
	5.1nm,0.6s						
KURBB	**Kurchatov Arra**	**7.71**	**255**	Pn	Pn	08 55 40.2	+0.3
	0.1nm,0.3s,baz=70,slow=14,SNR=5.4						
KURBB				Sn	Sn	08 57 07.8	-0.2
	baz=70,slow=25						
KURBB				Lg	Lg	08 57 52.9	
	baz=63,slow=28,SNR=2.1						
	1.3nm,0.5s						
MKAR	**Makanchi Array**	**8.21**	**222**	Pn	Pn	08 55 47.5	+0.8
	0.1nm,0.3s,baz=39,slow=14,SNR=5.7						
MKAR				Sn	Sn	08 57 18.0	-2.2
	baz=36,slow=13,SNR=1.8						
MKAR				Lg	Lg	08 58 10.4	
	0.1nm,0.3s,baz=37,slow=29,SNR=2.6						
	0.5nm,0.5s						
I34MN	**SONGINO INFRAS**	**11.58**	**111**	I	I	10 02 20.0	
	baz=304,slow=329,SNR=0.4						

IDC 21 09:52:35.2±0.7, 0.°98S×80.°71W, h0km, mb3.8/11, mbtmp4.0/16, ML3.9/4, MS3.7/20, Error ellipse: s-maj=23.5km s-min=14.9km az=72.0
IGQ 21 09:52:39±0.9, 1.°5±3.°×8.°1W±.°, h2km
NEIC 21 09:52:43.0±2.7, 1.°12S±0.°06×80.°52W±0.°08, h38km±6km, mb4.5/17, Error ellipse: s-maj=11.9km s-min=7.6km az=118.0
ISC 21 09:52:39.5±0.9, 1.°09S±0.°03×80.°65W±0.°04, h23km±7km, n190, σ1§89/185, mb4.0/15, MS3.7/16, 2D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**0.08**	**297**	P	**Pb**	**09 52 42.0**	**-1.8**
ISPT	**Isla de la Pla**	**0.46**	**248**	P	**Pb**	**09 52 48.0**	**-0.9**
SALI	**Salinas**	**1.14**	**197**		**Pn**	**09 53 01.2**	**+1.1**
SALI	**Salinas**	**1.14**	**197**	P	**Pn**	**09 53 00.0**	**-0.1**
AQUE	**Quevedo**	**1.16**	**88**	P	**Pn**	**09 52 59.0**	**-1.4**
AGUAY	**Guayaquil**	**1.19**	**144**	P	**Pn**	**09 52 59.0**	**-1.7**
GYE3	**Ecuador-Guayaq**	**1.30**	**145**	P	**Pn**	**09 53 02.0**	**-0.3**
MAG1	**Magdalena**	**1.34**	**41**	P	**Pn**	**09 53 01.0**	**-1.8**
AMIL	**Milagro (Trans**	**1.48**	**135**	P	**Pn**	**09 53 06.0**	**+1.2**
AMIL				S	**Sb**	**09 53 27.0**	**+2.2**
MILO	**Milagro-Astudi**	**1.61**	**137**	P	**Pn**	**09 53 05.0**	**-1.6**
MILO				S	**Sn**	**09 53 26.0**	**-0.7**
ASDO	**Santo Domingo**	**1.73**	**62**	P	Pn	09 53 04.0	-4.3
AV18	**Acelerografo,**	**1.82**	**40**	P	**Pn**	**09 53 10.0**	**+0.5**
CHSH	**Refugio Sur-Vo**	**1.83**	**103**		**Pn**	**09 53 10.2**	**+0.1**
CHSH	**Refugio Sur-Vo**	**1.83**	**103**	P	**Pn**	**09 53 10.0**	**-0.1**
BV15	**Puerto Quito-O**	**1.89**	**49**	P	**Pn**	**09 53 12.0**	**+1.6**
PORT	**Chimborazo Vol**	**1.91**	**101**	P	**Pn**	**09 53 11.0**	**-0.3**
TAMH	**Tambohuasha Ch**	**1.92**	**104**	P	**Pn**	**09 53 11.0**	**-0.3**
ISPG	**Isla Puna-Puer**	**1.93**	**166**	P	**Pn**	**09 53 13.0**	**+2.0**
COHC	**Cochancay**	**1.96**	**134**		**Pn**	**09 53 10.8**	**-0.5**
COHC	**Cochancay**	**1.96**	**134**	P	**Pn**	**09 53 10.0**	**-1.3**
COHC				S	**Sb**	**09 53 38.0**	**-0.4**
COHC	**Cochancay**	**1.96**	**134**	‖ *eP*	**Pn**	**09 53 10.8**	**-0.5**
ILLI	**Illinizas Sur**	**1.96**	**79**	P	**Pn**	**09 53 11.0**	**-0.8**
APR2	**Miler**	**2.04**	**56**	P	**Pn**	**09 53 11.0**	**-1.6**
PAST	**Pastocalle**	**2.05**	**79**	P	**Pn**	**09 53 12.0**	**-1.0**
IGUA	**Igualata**	**2.05**	**101**	P	**Pn**	**09 53 13.0**	**-0.1**
AV21	**Acelerografo,**	**2.06**	**32**	P	**Pn**	**09 53 13.0**	**+0.3**
SRM	**San Ramn-Vol**	**2.11**	**81**	P	**Pn**	**09 53 15.0**	**+1.2**
HPAL	**Hacienda Las P**	**2.18**	**67**	P	**Pn**	**09 53 13.0**	**-1.7**
BIL2	**Estacion Bilba**	**2.18**	**100**	P	**Pb**	**09 53 17.0**	**-1.4**
SLOR	**San Lorenzo -**	**2.18**	**81**	Pn	**Pn**	**09 53 15.0**	**+0.1**
SLOR	**San Lorenzo -**	**2.18**	**81**	P	**Pn**	**09 53 15.0**	**+0.1**
CAMI	**Rancho Maria**	**2.18**	**79**	P	**Pn**	**09 53 15.0**	**+0.1**
BBIL	**Ulba Tungurahu**	**2.19**	**99**	P	**Pn**	**09 53 15.0**	**+0.1**
BRRN	**Barrancas-Volc**	**2.20**	**82**	P	**Pn**	**09 53 16.0**	**+0.9**
SUCR	**Mariscal Sucre**	**2.20**	**78**	P	**Pn**	**09 53 15.0**	**-0.1**
GGPT	**Toaza - Volcan**	**2.20**	**67**	P	**Pn**	**09 53 13.0**	**-2.1**
JUI6	**Juive**	**2.21**	**99**	P	**Pn**	**09 53 16.0**	**+0.9**
BMAS	**Trigal station**	**2.21**	**101**	P	**Pn**	**09 53 16.0**	**+0.8**
AMA1	**Acelerografo,**	**2.21**	**25**	P	**Pn**	**09 53 16.0**	**+1.1**
TUYU	**Q. Yuibug Volc**	**2.21**	**100**	P	**Pn**	**09 53 16.0**	**+0.8**
BMOR	**Cotopaxi Volca**	**2.22**	**81**	P	**Pn**	**09 53 16.0**	**+0.5**
JUA2	**San Juan 2**	**2.22**	**67**	P	**Pn**	**09 53 17.0**	**+1.6**
POND	**Pondoa**	**2.22**	**99**	P	**Pn**	**09 53 16.0**	**+0.7**
ARRY	**Arrayan**	**2.23**	**101**	P	**Pn**	**09 53 16.0**	**+0.5**
RETU	**Refugio**	**2.23**	**99**	P	**Pn**	**09 53 16.0**	**+0.4**
TERV	**Terraza Guagua**	**2.24**	**66**	P	**Pn**	**09 53 14.0**	**-1.7**
PINO	**Pino**	**2.24**	**66**	P	**Pn**	**09 53 14.0**	**-1.8**
GGPC	**Guagua Pichinc**	**2.24**	**66**	P	**Pn**	**09 53 17.0**	**+1.2**
BRUN	**Tungurahua Vol**	**2.25**	**98**	P	**Pn**	**09 53 17.0**	**+1.4**
BREF	**Cotopaxi Volca**	**2.25**	**79**	P	**Pn**	**09 53 16.0**	**+0.1**
PIS1	**Pisayambo**	**2.27**	**89**	P	**Pn**	**09 53 17.0**	**+1.0**
BULB	**Ulba Tungurahu**	**2.27**	**99**	P	**Pn**	**09 53 16.0**	**0.0**
VCES	**Cotopaxi**	**2.27**	**83**	P	**Pn**	**09 53 17.0**	**+0.8**
BVC2	**Cotopaxi Volca**	**2.28**	**79**	P	**Pn**	**09 53 17.0**	**+0.7**
PITA	**Cotopaxi Volc**	**2.28**	**77**	P	**Pn**	**09 53 16.0**	**-0.2**
BTAM	**Cotopaxi Volca**	**2.29**	**80**	P	**Pn**	**09 53 17.0**	**+0.6**
VC1	**Cotopaxi 1**	**2.29**	**79**	P	**Pn**	**09 53 17.0**	**+0.6**
TOMA	**Boca Toma-Volc**	**2.29**	**75**	P	**Pn**	**09 53 17.0**	**+0.7**
YANA	**Yana**	**2.29**	**65**	P	**Pn**	**09 53 15.0**	**-1.4**
PAC1	**Pacto, Paraso**	**2.29**	**54**	P	**Pn**	**09 53 14.0**	**-2.1**
PAC1	**Pacto, Paraso**	**2.29**	**54**	*eP*	**Pn**	**09 53 13.2**	**-2.9**
TAMB	**Tambo**	**2.32**	**80**	P	**Pn**	**09 53 18.0**	**+1.2**
TING	**Casa Alexandra**	**2.34**	**70**	P	**Pn**	**09 53 20.0**	**-1.3**
PIAT	**Ana Tenorio**	**2.39**	**88**	*eP*	**Pn**	**09 53 18.7**	**+1.1**
PIAT				*eS*	**Sn**	**09 53 47.6**	**+1.1**
CUMY	**Casa Hugo Yepe**	**2.41**	**68**	P	**Pb**	**09 53 21.0**	**-1.4**
PULU	**Pululahua**	**2.42**	**63**		**Pn**	**09 53 17.0**	**-1.0**
PULU	**Pululahua**	**2.42**	**63**	P	**Pn**	**09 53 17.0**	**-1.0**
ANTG	**Antisana-Guama**	**2.46**	**76**	P	**Pn**	**09 53 19.0**	**+0.2**
ACUE	**Ecuador-Cuenca**	**2.48**	**137**	P	**Pn**	**09 53 21.0**	**+2.2**
ANTM	**Antisana-La Mi**	**2.49**	**77**	P	**Pn**	**09 53 21.0**	**+1.9**
AV11	**Acelerografo,**	**2.49**	**66**	P	**Pb**	**09 53 22.0**	**-1.8**
ARNL	**Arenillas**	**2.51**	**167**		**Pn**	**09 53 20.9**	**+1.9**
ARNL	**Arenillas**	**2.51**	**167**	P	**Pn**	**09 53 21.0**	**+2.0**
ANTS	**Antisana-Sarah**	**2.55**	**77**	P	**Pn**	**09 53 21.0**	**+1.0**
OTAV	**Otavalo**	**2.56**	**59**	Pn	**Pn**	**09 53 18.6**	**-1.5**
OTAV	**Otavalo**	**2.56**	**59**	‖ *eP*	**Pn**	**09 53 18.0**	**-2.1**
OTAV				*eS*	**Sn**	**09 53 48.8**	**-2.0**
ANTI	**Antisana**	**2.57**	**76**	P	**Pn**	**09 53 21.0**	**+0.7**
CUSE	**Cuicocha Este**	**2.64**	**68**	P	**Pb**	**09 53 20.0**	**-1.2**
CUSE	**Cuicocha Este**	**2.64**	**58**	*eP*	**Pn**	**09 53 19.9**	**-1.3**
PUYO	**Puyo, Santa Ro**	**2.66**	**99**	P	**Pb**	**09 53 26.0**	**-0.5**
CUSW	**Cuicocha Oeste**	**2.67**	**59**	P	**Pn**	**09 53 22.0**	**+0.4**
CUIC	**Cuicocha-Domo**	**2.67**	**59**	P	**Pn**	**09 53 21.0**	**-0.6**
COTA	**Cotacachi**	**2.71**	**59**	P	**Pn**	**09 53 23.0**	**+0.8**
IMBA	**Imbabura, San**	**2.80**	**61**		**Pn**	**09 53 24.0**	**+0.7**
IMBA	**Imbabura, San**	**2.80**	**61**	P	**Pn**	**09 53 25.0**	**+1.6**
URCU	**Urcuqui**	**2.83**	**58**	P	**Pn**	**09 53 24.0**	**+0.2**
ANGU	**Angureal**	**2.87**	**67**	P	**Pn**	**09 53 26.0**	**+1.5**
CAYA	**Cayambe**	**2.90**	**67**	P	**Pn**	**09 53 26.0**	**+1.2**
ALIT	**Ecuador-Imbabu**	**2.96**	**51**	P	**Pn**	**09 53 26.0**	**+0.8**
LITE1	**Lita**	**2.96**	**51**	P	**Pn**	**09 53 26.0**	**+0.8**
BOSC	**San Juan Bosco**	**2.97**	**134**	P	**Pn**	**09 53 29.0**	**+3.5**
LNGL	**El Angel-Carch**	**3.21**	**56**	P	**Pn**	**09 53 29.0**	**-0.1**
CHMA	**Chilma**	**3.23**	**53**	P	**Pn**	**09 53 29.0**	**-0.2**
ECEN	**Cerro Negro**	**3.28**	**55**	P	**Pn**	**09 53 32.0**	**+1.9**
CHL1	**Volcn Chiles**	**3.29**	**55**	P	**Pn**	**09 53 32.0**	**+1.9**
CHL2	**Volcn Chiles**	**3.31**	**56**	P	**Pn**	**09 53 33.0**	**+2.5**
MCRA	**Macar, Loja**	**3.33**	**168**	Pn	**Pn**	**09 53 31.8**	**+1.5**
MCRA	**Macar, Loja**	**3.33**	**168**	P	**Pn**	**09 53 32.0**	**+1.7**
MCRA	**Macar, Loja**	**3.33**	**168**	*eP*	**Pn**	**09 53 31.9**	**+1.5**
TULM	**Tulcn-Chalpat**	**3.38**	**58**		**Pn**	**09 53 33.3**	**+2.0**
TULM	**Tulcn-Chalpat**	**3.38**	**58**	P	**Pb**	**09 53 36.0**	**-3.0**
TULM	**Tulcn-Chalpat**	**3.38**	**58**	P	**Pn**	**09 53 33.6**	**+2.3**
TAIS	**Taisha**	**3.40**	**112**	P	**Pb**	**09 53 36.0**	**-3.1**
CMBC	**Cumbal**	**3.47**	**55**	P	**Pn**	**09 53 36.0**	**+3.4**
CMBC	**Cumbal**	**3.47**	**55**	*eP*	**Pn**	**09 53 34.1**	**+1.5**
TUMC	**Tumaco**	**3.47**	**34**	*eP*	**Pb**	**09 53 37.8**	**-2.6**
TUMC				*eS*	**Sb**	**09 54 22.1**	**-0.1**
TUMC				*i*		09 54 36.8	
	comp=Z,647nm,0.6s						
BONI	**La Bonita**	**3.48**	**64**	P	**Pn**	**09 53 35.0**	**+2.5**
BONI	**La Bonita**	**3.48**	**64**	*eP*	**Pn**	**09 53 34.2**	**+1.7**
CASC	**Dorado de Casc**	**3.53**	**70**	P	**Pn**	**09 53 36.0**	**+2.9**
GCUF	**Volcan Galeras**	**4.03**	**55**	*eP*	**Pn**	**09 53 40.6**	**+0.3**
ZUMB	**Zumba**	**4.04**	**158**	P	**Pn**	**09 53 44.0**	**+3.8**
CRUC	**La Cruz**	**4.54**	**55**	*eP*	**Pn**	**09 53 48.1**	**+0.8**
BBAC	**Balboa, Cauca**	**4.60**	**48**	P	**Pn**	**09 53 47.0**	**-0.9**
BBAC	**Balboa, Cauca**	**4.60**	**48**	*eP*	**Pn**	**09 53 47.0**	**-0.9**
GR1C	**Gorgona, Isla**	**4.76**	**31**	*eP*	**Pn**	**09 53 54.4**	**+4.4**
GR1C				*eS*	**Sn**	**09 54 52.3**	**+7.9**
POPC	**Popayan, Colom**	**5.37**	**48**	*eP*	**Pn**	**09 53 57.0**	**-1.5**
FLOC	**Florencia**	**5.66**	**62**	P	**Pn**	**09 54 03.0**	**+0.7**
FLOC	**Florencia**	**5.66**	**62**	*eP*	**Pn**	**09 54 02.4**	**+0.1**
JAMC	**Jamundi, Valle**	**5.84**	**43**	*eP*	**Pn**	**09 54 05.2**	**+0.3**
PTLC	**Puerto Leguiza**	**5.99**	**78**	*eP*	**Pn**	**09 54 09.3**	**+2.5**
MALC	**Bahia Malaga**	**6.05**	**33**	P	**Pn**	**09 54 12.0**	**+4.3**
GARC	**Garzon, Huila**	**6.10**	**58**	*eP*	**Pn**	**09 54 09.4**	**+0.8**
BETC	**Betania**	**6.41**	**54**	*eP*	Pn	09 54 17.7	+5.0
ATAH	**Atahualpa**	**6.42**	**160**	Pn	**Pn**	**09 54 15.0**	**+1.9**
	comp=Z,3.3nm,0.3s,baz=351,slow=9,SNR=30						
ATAH				Sn	**Sn**	**09 55 30.7**	**+4.9**
	comp=Z,14nm,0.3s,baz=49,slow=4.4,SNR=3.8						
ATAH				LR	LR	09 57 05.8	
	comp=Z,625nm,18.9s,baz=338,slow=41						
	comp=Z,19nm,0.7s						
YOTC	**Yotoco, Valle**	**6.62**	**40**	*eP*	**Pn**	**09 54 16.2**	**+0.5**
YOTC				*eS*	**Sn**	**09 55 33.2**	**+2.6**
YOTC				*i*		09 55 38.3	
	comp=Z,61nm,0.6s						
ORTC	**Ortega, Tolima**	**7.34**	**47**	*eP*	**Pn**	**09 54 25.7**	**+0.3**
PRAC	**Prado**	**7.48**	**50**	*eP*	**Pn**	**09 54 26.1**	**-1.2**
GUY2C	**Guyana, Caldas**	**8.20**	**40**	*eP*	**Pn**	**09 54 37.5**	**-0.1**
GUY2C				*eS*	**Sn**	**09 56 12.9**	**+3.1**
CBOC	**Ciudad Bolivar**	**8.31**	**34**	*eP*	**Pn**	**09 54 42.0**	**+3.1**
ROSC	**El Rosal**	**8.64**	**47**		**Pn**	**09 54 45.2**	**+1.6**
ROSC	**El Rosal**	**8.64**	**47**	Pn	**Pn**	**09 54 43.1**	**-0.5**
	comp=Z,3.9nm,0.3s,baz=198,slow=20,SNR=3.0						
ROSC				Sn	**Sn**	**09 56 22.9**	**+2.3**
	comp=Z,0.9nm,0.3s,baz=258,slow=22,SNR=1.0						
	comp=Z,9.6nm,0.4s						
VILC	**Villavicencio,**	**8.66**	**53**	*eP*	**Pn**	**09 54 47.5**	**+3.9**
PTBC	**PUERTO BERRIO,**	**9.78**	**39**	*eP*	**Pn**	**09 55 01.8**	**+2.9**
ZARC	**Zaragoza, Cauc**	**10.30**	**34**	*eP*	Pn	09 55 11.1	+5.1
ZARC				*eS*	**Sn**	**09 57 09.7**	**+8.9**
ZARC				*i*		09 57 19.9	
	comp=Z,4.5nm,0.7s						
CZSB	**Cruzeiro do Su**	**10.31**	**130**	Pn	**Pn**	**09 55 07.0**	**+0.9**
CZSB	**Cruzeiro do Su**	**10.31**	**130**	*eP*	**Pn**	**09 55 06.8**	**+0.7**
BARC	**Barichara**	**10.67**	**44**	*eP*	**Pn**	**09 55 15.4**	**+4.2**
TBTG	**Tabatinga, AM**	**11.16**	**106**		**Pn**	**09 55 18.7**	**+0.9**
TBTG	**Tabatinga, AM**	**11.16**	**106**	*eP*	**Pn**	**09 55 19.2**	**+1.4**
NNA	**Nana**	**11.47**	**161**		**Pn**	**09 55 24.0**	**+1.9**
NNA	**Nana**	**11.47**	**161**	Pn	**Pn**	**09 55 23.5**	**+1.5**
	comp=Z,4.1nm,0.3s,baz=336,slow=14,SNR=8.6						
NNA				Sn	**Sn**	**09 57 31.3**	**+1.7**
	comp=Z,25nm,0.3s,baz=229,slow=21,SNR=28						
	comp=Z,15nm,0.4s						
JTS	**Las Juntas de**	**12.09**	**339**	LR	LR	09 59 11.9	
	comp=Z,245nm,19.7s,baz=139,slow=33						
SDV	**Santo Domingo**	**14.06**	**45**	Pn	**Pn**	**09 55 57.3**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=214,slow=14,SNR=2.1						
SDV				LR	LR	10 02 06.4	
	comp=Z,195nm,18.1s,baz=245,slow=41						
BAUV	**El Baul**	**16.04**	**51**	Pn	**Pn**	**09 56 25.2**	**+1.4**
BAUV				IAmb	IAmb	09 56 41.4	
	comp=Z,29nm,1.4s						
ETMB	**Extrema**	**16.77**	**122**		**Pn**	**09 56 30.9**	**-2.3**
SAML	**Samuel**	**19.06**	**115**	P	**P**	**09 56 59.1**	**-1.4**
SAML				IAmb	IAmb	09 57 06.5	
	comp=Z,13nm,0.7s						
PCRV	**Puerto La Cruz**	**19.48**	**55**	P	**P**	**09 57 05.4**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=301,slow=5.9,SNR=4.2						
PCRV				LR	LR	10 05 33.4	
	comp=Z,222nm,20.3s,slow=40						
	comp=Z,15nm,0.9s						
LPAZ	**La Paz**	**19.50**	**141**	P	**P**	**09 57 06.4**	**+0.4**
PB18	**Visviri**	**19.74**	**147**		**P**	**09 57 09.6**	**+1.2**
PB18				IAmb	IAmb	09 57 18.4	
	comp=Z,27nm,1.0s						
MACA	**Manacapuru-AM**	**20.06**	**96**	P	**P**	**09 57 11.9**	**+0.5**
MACA				IAmb	IAmb	09 57 19.5	
	comp=Z,24nm,0.7s						
PB16	**IPOC Station P**	**20.33**	**148**	P	Pn	09 57 16.8	-0.2
PB16				IAmb	IAmb	09 57 25.4	
	comp=Z,14nm,0.9s						
BOAV	**Boa Vista**	**20.42**	**80**	P	**P**	**09 57 16.1**	**+0.8**
GO01	**Chusmiza**	**21.61**	**149**	P	**P**	**09 57 25.4**	**-3.1**
TEIG	**Tepich**	**22.46**	**341**	P	**P**	**09 57 40.4**	**+3.2**
TEIG				IAmb	IAmb	09 57 45.2	
	comp=Z,31nm,1.2s						
TEIG	**Tepich**	**22.46**	**341**	LR	LR	10 05 25.6	
	comp=Z,985nm,18.2s,baz=340,slow=34						
CMIG	**Matias Romero**	**22.87**	**323**	LR	LR	10 04 52.3	
	comp=Z,59nm,21.1s,baz=213,slow=32						
SJG	**San Juan**	**23.83**	**36**	LR	LR	10 09 24.5	
	comp=Z,31nm,18.7s,baz=210,slow=42						
LVC	**Limon Verde**	**24.25**	**153**	LR	LR	10 08 47.9	
	comp=Z,109nm,19.6s,baz=319,slow=40						
SIV	**San Ignacio**	**24.33**	**129**	LR	LR	10 08 41.8	
	comp=Z,352nm,21.6s,baz=288,slow=40						
PTLB	**Pontes e Lacer**	**25.58**	**125**	P	**P**	**09 58 07.2**	**+0.1**
MDP	**Montagnes des**	**28.65**	**77**	LR	LR	10 09 57.3	
	comp=Z,334nm,19.8s,baz=260,slow=36						
ROC1	**El Roble**	**32.99**	**165**	P	**P**	**09 59 13.4**	**+0.2**
CPUP	**Villa Florida**	**33.67**	**140**	LR	LR	10 16 03.4	
	comp=Z,177nm,19.1s,baz=334,slow=42						
BDFB	**Brasilia**	**35.29**	**116**	LR		10 14 44.7	
	comp=Z,177nm,20.4s,baz=330,slow=38						
TKL	**Tuckaleechee C**	**36.67**	**356**	LR	LR	10 14 06.9	
	comp=Z,68nm,21.0s,baz=170,slow=35						
TXAR	**Lajitas Array**	**37.41**	**326**	P	**P**	**09 59 50.2**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=153,slow=10,SNR=3.3						
	comp=Z,0.2nm,0.7s						
RPN	**Rapa Nui**	**37.79**	**224**	LR	LR	10 11 58.6	
	comp=Z,89nm,19.3s,baz=58,slow=31						
425A	**Indio Mountain**	**39.25**	**326**	P	**P**	**10 00 08.0**	**+1.3**
425A				IAmb	IAmb	10 00 14.0	
	comp=Z,19nm,1.5s						
SMWD	**Samnorwood**	**40.40**	**335**	P	**P**	**10 00 19.6**	**+3.6**
SMWD				IAmb	IAmb	10 00 23.6	
	comp=Z,12nm,0.9s						
PLCA	**Paso Flores**	**40.51**	**168**	P	**P**	**10 00 17.8**	**+0.9**
	comp=Z,3.2nm,1.0s,baz=341,slow=11,SNR=3.8						
PLCA				LR	LR	10 13 39.2	
	comp=Z,48nm,20.2s,baz=284,slow=31						
	comp=Z,3.2nm,1.0s						
ANMO	**Albuquerque**	**43.22**	**329**	P	**P**	**10 00 40.0**	**+0.7**
RCBR	**Riachuelo**	**44.90**	**97**	LR	LR	10 20 50.5	
	comp=Z,382nm,18.1s,baz=256,slow=38						
PDAR	**Pinedale Array**	**50.82**	**333**	P	**P**	**10 01 37.1**	**-1.5**
	comp=Z,0.1nm,0.6s,baz=129,slow=7.1,SNR=1.5						
	comp=Z,0.1nm,0.6s						
NVAR	**Mina Array Bea**	**52.41**	**323**	P	**P**	**10 01 49.5**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=154,slow=6.7,SNR=4.8						
	comp=Z,0.3nm,0.7s						
ULM	**Lac du Bonnet**	**52.78**	**348**	P	**P**	**10 01 50.9**	**-1.9**
	comp=Z,2.8nm,0.8s,baz=140,slow=10,SNR=4.7						
	comp=Z,2.8nm,0.8s						
YBH	**Yreka Blue Hor**	**57.10**	**323**	LR	LR	10 25 03.2	
	comp=Z,26nm,19.2s,baz=186,slow=34						
YKA	**Yellowknife Ar**	**68.39**	**344**	P	**P**	**10 03 37.9**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=138,slow=5.9,SNR=12						
	comp=Z,0.8nm,0.9s						
DBIC	**Dimbokro**	**76.02**	**83**	P	**P**	**10 04 24.8**	**-0.9**
	comp=Z,7.2nm,0.9s,baz=253,slow=6.0,SNR=6.2						
DBIC				LR	LR	10 35 23.1	
	comp=Z,30nm,19.9s,baz=198,slow=34						
	comp=Z,7.2nm,0.9s						
J30M	**Hart River**	**76.92**	**339**	P	**P**	**10 04 31.2**	**+1.3**
J30M				IAmb	IAmb	10 04 38.2	
	comp=Z,4.0nm,0.8s						
ESDC	**Sonseca Array**	**80.46**	**50**	P	**P**	**10 04 49.4**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=291,slow=4.0,SNR=2.4						
	comp=Z,0.4nm,0.6s						
ILAR	**Eielson Array**	**81.05**	**337**	P	**P**	**10 04 50.5**	**-1.9**
	comp=Z,0.4nm,1.0s,baz=108,slow=5.8,SNR=4.2						
	comp=Z,0.4nm,1.0s						
TORD	**Torodi Ar. Bea**	**82.79**	**77**	P	**P**	**10 05 00.7**	**-1.9**
	comp=Z,1.0nm,0.7s,baz=284,slow=5.0,SNR=3.6						
TORD				LR	LR	10 39 02.8	
	comp=Z,57nm,21.7s,baz=268,slow=34						
	comp=Z,1.0nm,0.7s						
QSPA	**South Pole Qui**	**88.97**	**180**	P	**P**	**10 05 33.4**	**+1.1**
QSPA	**South Pole Qui**	**88.97**	**180**	P	**P**	**10 05 32.5**	**+0.2**
	comp=Z,2.7nm,0.6s,baz=148,slow=1.3,SNR=25						
	comp=Z,2.7nm,0.6s						
URZ	**Urewera**	**98.93**	**231**	LR	LR	10 42 41.5	
	comp=Z,57nm,18.1s,baz=311,slow=30						
ZALV	**Zalesovo Beam**	**125.97**	**11**	PKP	**PKPdf**	**10 11 37.4**	**-2.3**
	comp=Z,1.0nm,0.6s,baz=212,slow=1.4,SNR=3.7						
KURBB	**Kurchatov Arra**	**127.58**	**17**	PKP	**PKPdf**	**10 11 42.0**	**-0.9**
	comp=Z,0.9nm,0.2s,baz=315,slow=2.5,SNR=5.6						
MKAR	**Makanchi Array**	**132.10**	**16**	PKP	**PKPdf**	**10 11 49.0**	**-2.7**
	comp=Z,1.0nm,1.0s,baz=354,slow=1.4,SNR=4.2						
ASAR	**Alice Springs**	**138.37**	**232**	PKhKP	PKPpre	10 11 55.0	
	comp=Z,0.2nm,0.5s,baz=119,slow=3.9,SNR=4.5						
ASAR				PKP	**PKPdf**	**10 12 02.1**	**-1.9**
	comp=Z,0.6nm,0.6s,baz=119,slow=2.3,SNR=9.0						
WRA	**Warramunga Arr**	**139.84**	**237**	PKhKP	PKPpre	10 11 59.6	
	comp=Z,0.4nm,0.8s,baz=134,slow=2.1,SNR=2.2						
WRA				PKP	**PKPdf**	**10 12 04.5**	**-2.3**
	comp=Z,0.9nm,0.8s,baz=118,slow=2.1,SNR=9.4						

KOLA 21 10:07:19.3, 64.°67N×30.°59E, h0km, ML2.4, Error ellipse: s-maj=20.7km s-min=17.4km az=150.0, Kostomuksha, Karelia
IDC 21 10:07:21.5±2.5, 64.°73N×30.°78E, h0km, mbtmp3.1/3, ML2.2/3, Error ellipse: s-maj=39.1km s-min=8.7km az=101.0
HEL 21 10:07:22.6±0.3, 64.°73N×30.°33E, h0km, ML2.0, Explosion
ISC 21 10:07:19.5±0.8, 64.79N±0.°02×30.76E±0.°04, h0km, n34, σ1§36/55, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.68**	**212**	PG	**Pg**	**10 07 32.1**	**-0.4**
RMF				MSG		10 07 40.2	
	comp=Z,33nm,0.2s						
RMF				SG	**Sg**	**10 07 40.6**

baz=71
PPLA S Sn 10 13 36.4 -0.8
baz=71
CAST Castle Rocks 0.57 307 Pn 10 13 21.2 -0.7
CAST IAML 10 13 36.0
comp=N,1µm,0.6s
CAST IAML 10 13 36.8
comp=E,503nm,0.7s
CAST Castle Rocks 0.57 307 Sn 10 13 35.4 -1.8
CAST Castle Rocks 0.57 307 P **Pn 10 13 21.2 -0.7**
baz=124
CAST S Sn 10 13 35.4 -1.8
baz=124
CUT Chulitna 0.77 151 Pn 10 13 22.6 -0.6
CUT Chulitna 0.77 151 Sn 10 13 38.8 -0.7
CUT Chulitna 0.77 151 P **Pn 10 13 22.7 -0.6**
baz=334
CUT S Sn 10 13 38.8 -0.7
baz=334
CHUM Lake Minchumin 0.98 326 Pn 10 13 24.6 -0.4
CHUM **Sn 10 13 41.3 -1.3**
CHUM Lake Minchumin 0.98 326 P **Pn 10 13 24.6 -0.4**
baz=143
CHUM S Sn 10 13 41.3 -1.3
baz=143
BPAW Bear Paw Mtn. 1.02 2 Pn **Pn 10 13 24.6 -0.9**
BPAW IAML 10 13 42.0
comp=N,558nm,0.7s
BPAW IAML 10 13 42.4
comp=E,390nm,0.6s
BPAW Bear Paw Mtn. 1.02 2 Sn 10 13 41.6 -1.9
BPAW Bear Paw Mtn. 1.02 2 P **Pn 10 13 24.5 -0.9**
baz=180
BPAW S Sn 10 13 41.6 -1.9
baz=180
WAT7 Susitna Watana 1.04 103 Pn 10 13 24.6 -1.1
WAT7 **Sn 10 13 42.4 -1.5**
RND Reindeer 1.05 71 Pn **Pn 10 13 24.7 -1.0**
RND IAML 10 13 43.6
comp=E,645nm,0.3s
RND IAML 10 13 45.0
comp=N,501nm,0.3s
SKT Skwentna 1.13 191 Pn 10 13 25.9 -0.5
SKT Skwentna 1.13 191 P **Pn 10 13 25.8 -0.6**
baz=12
MCK McKinley 1.16 55 Pn 10 13 25.9 -0.8
MCK **Sn 10 13 43.6 -2.1**
MCK McKinley 1.16 55 P **Pn 10 13 25.9 -0.8**
baz=236
MCK S Sn 10 13 43.6 -2.1
baz=236
WAT1 Susitna Watana 1.18 101 P **Pn 10 13 25.9 -1.0**
baz=284
BWN Browne 1.31 32 Pn 10 13 27.9 -0.3
BWN **Sn 10 13 47.8 -0.5**
BWN Browne 1.31 32 IAML 10 13 48.1
comp=N,665nm,0.7s
BWN IAML 10 13 54.6
comp=E,603nm,0.7s
K20K Telida 1.39 283 Pn 10 13 28.7 -0.4
K20K Telida 1.39 283 IAML 10 13 49.3
comp=E,327nm,0.8s
K20K IAML 10 13 49.5
comp=N,344nm,0.7s
K20K Telida 1.39 283 P **Pn 10 13 28.7 -0.4**
baz=100
M22K Willow 1.40 161 Pn 10 13 28.6 -0.6
M22K Willow 1.40 161 P **Pn 10 13 28.6 -0.6**
baz=344
L20K Farewell, AK 1.43 246 Pn 10 13 29.2 -0.4
L20K Farewell, AK 1.43 246 P **Pn 10 13 29.2 -0.4**
baz=64
M20K Styx River 1.54 220 Pn 10 13 30.1 -0.7
M20K Styx River 1.54 220 IAML 10 13 57.2
comp=E,238nm,0.5s
M20K Styx River 1.54 220 P **Pn 10 13 30.2 -0.7**
baz=39
WAT6 Susitna Watana 1.60 107 Pn 10 13 30.2 -1.4
WAT6 Susitna Watana 1.60 107 P **Pn 10 13 30.2 -1.4**
baz=290
SUA Susitna One 1.63 175 Pn **Pn 10 13 31.6 -0.2**
SUA IAML 10 13 56.4
comp=E,470nm,0.6s
SUA IAML 10 13 57.1
comp=N,452nm,0.4s
SUA Susitna One 1.63 175 Sn 10 13 53.7 -1.1
SUA Susitna One 1.63 175 P **Pn 10 13 31.5 -0.3**
baz=356
SUA S Sn 10 13 53.7 -1.1
baz=356
GHO Glory Hole Cre 1.65 142 Pn 10 13 31.4 -0.6
DHY Denali Highway 1.68 89 Pn 10 13 31.6 -0.8
DHY **Sn 10 13 54.2 -1.6**
DHY Denali Highway 1.68 89 IAML 10 13 55.2
comp=E,1µm,0.9s
DHY Denali Highway 1.68 89 P **Pn 10 13 31.6 -0.8**
baz=272
DHY S Sn 10 13 54.2 -1.6
baz=272
PMR Palmer 1.75 148 Pn 10 13 32.0 -1.0
PMR IAML 10 14 02.1
comp=E,1µm,0.5s
PMR IAML 10 14 04.6
comp=N,596nm,0.3s
PMR Palmer 1.75 148 P **Pn 10 13 32.1 -1.0**
PMR Palmer 1.75 148 P **Pn 10 13 31.8 -1.2**
baz=331
NEA2 Nenana 1.76 29 Pn 10 13 32.0 -1.2
NEA2 IAML 10 13 55.5
comp=E,249nm,0.6s
NEA2 Nenana 1.76 29 P **Pn 10 13 31.9 -1.2**
baz=210
J20K Nowinta River 1.76 310 Pn 10 13 32.9 -0.3
J20K Nowinta River 1.76 310 IAML 10 13 56.3
comp=E,318nm,0.7s
J20K IAML 10 13 57.6
comp=N,192nm,0.8s
J20K Nowinta River 1.76 310 P **Pn 10 13 32.9 -0.3**
baz=127
SML Sawmill 1.80 134 Pn 10 13 32.6 -1.2
SML Sawmill 1.80 134 Sn 10 13 56.8 -1.3
SML Sawmill 1.80 134 P **Pn 10 13 32.6 -1.2**
baz=317
SML S Sn 10 13 56.8 -1.3
baz=317
SPNN North Nagishla 1.88 205 Pn 10 13 34.3 -0.5
WRH Wood River Hil 1.92 42 Pn 10 13 34.1 -1.0
SPBG Spurr Blockage 1.93 199 Pn 10 13 35.1 -0.2
MLY Manley 1.96 4 Pn **Pn 10 13 34.8 -0.8**
MLY Manley 1.96 4 P **Pn 10 13 34.8 -0.8**
baz=183
N20K Mount Spurr 1.96 196 P **Pn 10 13 35.1 -0.6**
baz=16
SPCR Spurr Chakacha 1.96 196 Pn 10 13 35.1 -0.6
L19K White Mountain 1.97 244 Pn 10 13 35.2 -0.5
L19K White Mountain 1.97 244 P **Pn 10 13 35.2 -0.5**
baz=61
FIS Fire Island 1.98 168 Pn **Pn 10 13 36.5 +0.6**
M23K Glacier View 2.02 128 Pn 10 13 35.1 -1.2
M23K Glacier View 2.02 128 P **Pn 10 13 35.1 -1.2**
baz=312
KNK Knik Glacier 2.07 143 Pn 10 13 36.0 -0.9
KNK Knik Glacier 2.07 143 P **Pn 10 13 35.8 -1.1**
baz=326
RC01 Rabbit Creek A 2.09 162 Pn **Pn 10 13 36.4 -0.8**
RC01 IAML 10 14 04.5
comp=N,529nm,0.3s
RC01 IAML 10 14 05.9
comp=E,512nm,0.3s
RC01 Rabbit Creek A 2.09 162 P **Pn 10 13 36.2 -1.0**
baz=344
CCB Clear Creek Bu 2.13 41 Pn **Pn 10 13 36.6 -1.0**
CCB IAML 10 14 04.0
comp=E,169nm,0.6s
SCM Sheep Creek Mo 2.14 124 Pn 10 13 36.6 -1.3
SCM IAML 10 14 13.0
comp=N,662nm,0.4s
SCM Sheep Creek Mo 2.14 124 P **Pn 10 13 36.5 -1.3**
baz=308
I21K Tanana 2.15 350 Pn 10 13 37.1 -0.7
I21K Tanana 2.15 350 P **Pn 10 13 37.1 -0.7**
baz=168
I23K Minto, Yukon-K 2.21 19 Pn 10 13 37.8 -0.7
I23K Minto, Yukon-K 2.21 19 IAML 10 14 06.2
comp=N,235nm,1.1s
I23K Minto, Yukon-K 2.21 19 P **Pn 10 13 37.8 -0.7**
baz=200
J19K Poorman 2.24 296 Pn 10 13 38.8 -0.2
J19K Poorman 2.24 296 IAML 10 14 25.6
comp=E,136nm,1.0s
J19K Poorman 2.24 296 P **Pn 10 13 38.8 -0.2**
baz=112
MDM Murphy Dome 2.26 32 Pn 10 13 38.3 -0.9
HDA Harding Lake 2.26 52 Pn 10 13 38.1 -1.1
HDA IAML 10 14 07.5
comp=E,485nm,0.4s
HDA IAML 10 14 08.1
comp=N,661nm,0.5s
HDA Harding Lake 2.26 52 P **Pn 10 13 38.2 -1.0**
baz=235
HDA P Pn 10 13 38.2 -1.0
baz=235
TTA Tatalina 2.26 268 Pn **Pn 10 13 38.9 -0.4**
TTA Tatalina 2.26 268 P **Pn 10 13 39.1 -0.2**
TTA Tatalina 2.26 268 P **Pn 10 13 38.9 -0.4**
baz=84
I20K Naaghedeneel 2.29 320 Pn 10 13 39.3 -0.2
I20K Naaghedeneel 2.29 320 IAML 10 14 26.9
comp=N,255nm,0.8s
I20K IAML 10 14 35.7
comp=E,299nm,0.7s
I20K Naaghedeneel 2.29 320 P **Pn 10 13 39.3 -0.2**
baz=137
COLA College 2.29 37 Pn 10 13 38.8 -0.7
COLA IAML 10 14 11.5
comp=E,344nm,0.5s
COLA IAML 10 14 12.8
comp=E,211nm,0.6s
COLA College 2.29 37 P **Pn 10 13 38.8 -0.7**
CAPN Captain Cook N 2.32 181 Pn **Pn 10 13 41.2 +1.3**
K24K Donnelly Dome 2.48 71 Pn 10 13 41.2 -0.8
K24K Donnelly Dome 2.48 71 P **Pn 10 13 41.3 -0.8**
baz=255
IL31 2.51 46 Pn 10 13 41.2 -1.0
ILAR Eielson Array 2.51 46 P **Pn 10 13 41.1 -1.2**
comp=E,49nm,0.5s,baz=227,slow=12,SNR=1188
ILAR S **Sn 10 14 12.1 -1.3**
comp=E,14nm,0.4s,baz=259,slow=13,SNR=2.8
PAX Paxson 2.55 90 P **Pn 10 13 42.0 -0.9**
baz=275
J18K Innoko River 2.58 281 Pn 10 13 43.1 -0.2
J18K Innoko River 2.58 281 P **Pn 10 13 43.1 -0.2**
baz=96
SLKM Skilak Lake 2.61 171 Pn 10 13 43.0 -0.7
DFR Drift River 2.61 198 Pn 10 13 43.5 -0.2
RDJH Redoubt Jeurge 2.63 199 Pn 10 13 43.8 -0.3
NCT North Crescent 2.68 200 Pn 10 13 44.3 -0.3
O22K Cooper Landing 2.69 166 Pn 10 13 43.8 -0.7
O22K Cooper Landing 2.69 166 P **Pn 10 13 43.8 -0.7**
baz=348
H21K Melozitna Rive 2.69 344 Pn 10 13 44.1 -0.6
H21K Melozitna Rive 2.69 344 P **Pn 10 13 44.1 -0.6**
baz=162
L18K Granite Mounta 2.74 254 Pn 10 13 45.1 -0.1
L18K Granite Mounta 2.74 254 P **Pn 10 13 45.1 -0.1**
baz=69
M18K Stony River 2.74 236 Pn 10 13 44.6 -0.6
M18K Stony River 2.74 236 P **Pn 10 13 44.6 -0.6**
baz=53
RSO Redoubt South 2.75 198 Pn 10 13 45.2 -0.3
RDSO Redoubt South 2.75 198 Pn 10 13 45.1 -0.5
N19K Bonanza Creek 2.79 217 Pn 10 13 45.7 -0.3
N19K Bonanza Creek 2.79 217 P **Pn 10 13 45.7 -0.3**
baz=34
RED Redoubt Volcan 2.79 198 Pn 10 13 45.6 -0.4
H22K Ishtalitna Cre 2.83 357 Pn 10 13 45.8 -0.6
H22K Ishtalitna Cre 2.83 357 P **Pn 10 13 45.8 -0.6**
baz=176
RIDG Independent Ri 2.87 74 IAML 10 14 20.6
comp=E,238nm,0.7s
RIDG IAML 10 14 27.1
comp=N,332nm,0.6s
RIDG Independent Ri 2.87 74 P **Pn 10 13 46.1 -0.9**
baz=259
KLU Klutina 2.88 121 Pn 10 13 46.2 -0.9
KLU IAML 10 14 33.2
comp=E,379nm,0.3s
KLU Klutina 2.88 121 P **Pn 10 13 45.5 -1.7**
baz=306
GLI Glacier Island 2.90 138 Pn 10 13 45.9 -1.4
GLI Glacier Island 2.90 138 P **Pn 10 13 45.8 -1.4**
baz=322
SVW2 Sparrevohn 2.91 229 Pn 10 13 47.0 -0.5
SVW2 Sparrevohn 2.91 229 P **Pn 10 13 46.9 -0.5**
H20K Anotleneega Mo 2.94 327 Pn 10 13 47.1 -0.7
H20K Anotleneega Mo 2.94 327 P **Pn 10 13 47.1 -0.7**
baz=143
J25K Salcha River, 2.95 56 Pn 10 13 46.8 -1.2
J25K Salcha River, 2.95 56 IAML 10 14 26.1
comp=N,211nm,0.4s
J25K IAML 10 14 27.6
comp=E,251nm,0.6s
J25K Salcha River, 2.95 56 P **Pn 10 13 46.8 -1.2**
baz=241
GCSA Galena City Sc 3.07 306 P **Pn 10 13 49.3 -0.1**
baz=120
SEW Seward 3.08 165 P **Pn 10 13 48.6 -1.0**
baz=347
H24K Noodor Dome 3.09 25 Pn 10 13 48.8 -0.9
H24K Noodor Dome 3.09 25 P **Pn 10 13 48.8 -0.9**
baz=207
O20K Slope Mountain 3.10 195 Pn 10 13 49.7 -0.3
O20K Slope Mountain 3.10 195 P **Pn 10 13 49.7 -0.3**
baz=14
IMAR Indian Mountai 3.14 339 Pn **Pn 10 13 49.6 -0.6**
FID Port Fidalgo 3.19 135 Pn 10 13 49.8 -1.2
ILW Iliamna West 3.19 199 Pn 10 13 50.7 -0.5
IVE Iliamna Volcan 3.21 198 Pn 10 13 51.0 -0.4
ILSW Iliamna Southw 3.27 199 Pn 10 13 51.7 -0.4
O19K Port Alsworth 3.29 210 Pn 10 13 51.8 -0.5
O19K Port Alsworth 3.29 210 IAML 10 14 32.8
comp=N,119nm,0.5s
O19K IAML 10 14 38.4
comp=E,147nm,0.5s
O19K Port Alsworth 3.29 210 P **Pn 10 13 51.8 -0.5**
baz=27
SCRK Sand Creek 3.29 71 Pn 10 13 51.1 -1.4
SCRK Sand Creek 3.29 71 IAML 10 14 32.4
comp=N,143nm,0.9s
SCRK IAML 10 14 32.4
comp=E,136nm,0.7s
SCRK Sand Creek 3.29 71 P **Pn 10 13 51.1 -1.4**
baz=257
WACK Wrangell Chich 3.31 106 Pn 10 13 51.6 -1.1
N18K Kilae Creek 3.32 226 Pn 10 13 52.3 -0.4
N18K Kilae Creek 3.32 226 IAML 10 15 24.1
comp=N,51nm,3.7s
N18K Kilae Creek 3.32 226 P **Pn 10 13 52.3 -0.4**
baz=42
BRLK Bradley Lake 3.33 178 Pn 10 13 52.5 -0.4
BRLK IAML 10 14 40.0
comp=E,117nm,0.4s
BRLK IAML 10 14 44.5
comp=N,107nm,0.6s
K17K Iditarod 3.33 267 Pn 10 13 52.7 -0.2
K17K Iditarod 3.33 267 IAML 10 15 04.0
comp=E,51nm,3.9s
K17K IAML 10 15 12.8
comp=N,59nm,3.1s
K17K Iditarod 3.33 267 P **Pn 10 13 52.7 -0.2**
baz=80
MENT Mentasta 3.35 89 Pn 10 13 52.0 -1.1
MENT Mentasta 3.35 89 IAML 10 14 46.3
comp=N,274nm,0.6s
MENT Mentasta 3.35 89 P **Pn 10 13 52.3 -0.8**
WAZA Wrangell Mount 3.35 104 Pn 10 13 52.5 -0.9
BRSE Bradley Lake S 3.35 177 P **Pn 10 13 52.5 -0.7**
baz=358
N25K Chitina, Valde 3.36 113 Pn 10 13 52.3 -0.9
N25K Chitina, Valde 3.36 113 IAML 10 14 33.0
comp=E,238nm,0.5s
N25K IAML 10 14 33.0
comp=N,264nm,0.5s
N25K Chitina, Valde 3.36 113 P **Pn 10 13 52.3 -0.9**
baz=299
H19K Roundabout Mou 3.40 319 Pn 10 13 53.1 -0.5
H19K Roundabout Mou 3.40 319 P **Pn 10 13 53.1 -0.5**
baz=134
M17K Holitna River 3.43 243 Pn 10 13 53.3 -0.8
M17K Holitna River 3.43 243 IAML 10 14 35.0
comp=N,66nm,2.1s
M17K IAML 10 15 17.8
comp=E,75nm,0.8s
M17K Holitna River 3.43 243 P **Pn 10 13 53.3 -0.8**
baz=58
PRP Porcupine Dome 3.44 42 IAML 10 14 40.7
comp=N,50nm,0.5s
PRP Porcupine Dome 3.44 42 P **Pn 10 13 53.1 -1.2**
baz=227
HOM Homer 3.45 185 Pn 10 13 54.2 -0.1
HOM Homer 3.45 185 P **Pn 10 13 54.2 -0.1**
baz=5.0
HIN Hinchinbrook I 3.46 139 Pn 10 13 53.2 -1.3
L17K Donlin 3.48 257 Pn 10 13 54.6 -0.1
L17K Donlin 3.48 257 P **Pn 10 13 54.6 -0.1**
baz=71
L26K Log Cabin Wild 3.51 87 Pn 10 13 54.2 -1.0
L26K Log Cabin Wild 3.51 87 IAML 10 14 46.3
comp=E,258nm,0.4s
L26K Log Cabin Wild 3.51 87 P **Pn 10 13 54.2 -1.0**
baz=274
P23K Montague Islan 3.56 149 Pn 10 13 54.2 -1.6
P23K Montague Islan 3.56 149 P **Pn 10 13 54.2 -1.6**
baz=333
CNPM China Poot 3.57 181 IAML 10 14 37.8
comp=N,184nm,0.4s
CNPM IAML 10 14 37.9
comp=E,204nm,0.4s
EYAK Cordova Ski Ar 3.58 133 Pn 10 13 55.2 -0.9
EYAK Cordova Ski Ar 3.58 133 P **Pn 10 13 55.2 -0.9**
baz=318
G21K Allakaket 3.60 344 Pn 10 13 56.0 -0.4
G21K Allakaket 3.60 344 P **Pn 10 13 56.0 -0.4**
baz=162
J26L Joseph Creek 3.62 63 Pn 10 13 56.0 -0.6
J26L Joseph Creek 3.62 63 IAML 10 14 41.3
comp=N,180nm,0.5s
J26L Joseph Creek 3.62 63 P **Pn 10 13 56.0 -0.6**
baz=250
G23K Bananza Creek 3.67 6 Pn 10 13 56.9 -0.4
G23K Bananza Creek 3.67 6 P **Pn 10 13 56.9 -0.4**
baz=187
BMRM Bremner River 3.71 122 P **Pn 10 13 56.5 -1.3**
baz=308
GLB Gilahina Butte 3.77 113 IAML 10 14 41.8
comp=E,167nm,0.5s
M26K Nabesna, AK 3.77 97 Pn 10 13 57.6 -1.1
M26K Nabesna, AK 3.77 97 IAML 10 15 01.1
comp=N,149nm,0.6s
M26K IAML 10 15 02.5
comp=E,109nm,0.5s
M26K Nabesna, AK 3.77 97 P **Pn 10 13 57.6 -1.1**
baz=284
O18K Koktuh Hills 3.80 213 Pn 10 13 58.6 -0.4
O18K Koktuh Hills 3.80 213 IAML 10 14 36.6
comp=N,52nm,4.7s
O18K IAML 10 15 34.5
comp=E,39nm,3.0s
O18K Koktuh Hills 3.80 213 P **Pn 10 13 58.6 -0.4**
baz=30
H18K Honhosa River 3.82 306 Pn 10 13 59.1 -0.1
H18K Honhosa River 3.82 306 P **Pn 10 13 59.1 -0.1**
baz=119
N17K Nushagak Hills 3.88 231 Pn 10 13 59.6 -0.4
N17K Nushagak Hills 3.88 231 IAML 10 15 26.3
comp=N,41nm,0.8s
N17K Nushagak Hills 3.88 231 P **Pn 10 13 59.6 -0.4**
baz=46
G24K Hadweenzic Riv 3.94 21 Pn 10 14 00.1 -0.8
G24K Hadweenzic Riv 3.94 21 P **Pn 10 14 00.1 -0.8**
baz=204
VRDI Verde Repeater 4.03 114 IAML 10 14 49.6
comp=N,134nm,0.5s
VRDI IAML 10 14 50.2
comp=E,79nm,0.8s
RAGM Ragged Mountai 4.07 129 Pn 10 14 01.9 -0.7
I26K Coal Creek Min 4.12 54 Pn 10 14 01.8 -1.3
I26K Coal Creek Min 4.12 54 IAML 10 14 53.1
comp=E,85nm,0.5s
I26K IAML 10 14 55.0
comp=N,89nm,0.7s
I26K Coal Creek Min 4.12 54 P **Pn 10 14 01.8 -1.3**
baz=240
MCARA McCarthy VSAT 4.13 111 Pn 10 14 02.4 -0.9
MCARA McCarthy VSAT 4.13 111 P **Pn 10 14 02.4 -0.9**
baz=298
K27K Chicken 4.13 73 Pn 10 14 01.9 -1.4
K27K Chicken 4.13 73 IAML 10 14 51.6
comp=E,86nm,0.8s
K27K IAML 10 14 52.9
comp=N,138nm,0.7s
K27K Chicken 4.13 73 P **Pn 10 14 01.9 -1.4**
baz=261
L16K Owhat River 4.15 254 Pn 10 14 03.2 -0.4
L16K Owhat River 4.15 254 IAML 10 14 50.9
comp=N,39nm,3.5s
L16K IAML 10 15 48.8
comp=E,38nm,4.5s
L16K Owhat River 4.15 254 P **Pn 10 14 03.2 -0.4**
baz=67
COLD Coldfoot 4.18 5 P **Pn 10 14 03.5 -0.4**
baz=185
L27K Beaver Creek, 4.20 86 Pn 10 14 02.6 -1.7
L27K Beaver Creek, 4.20 86 IAML 10 14 54.7
comp=N,35nm,0.9s
L27K IAML 10 15 18.3
comp=E,34nm,1.0s
L27K Beaver Creek, 4.20 86 P **Pn 10 14 02.6 -1.7**
baz=274
P18K Big Mountain, 4.21 210 Pn 10 14 04.1 -0.4
P18K Big Mountain, 4.21 210 IAML 10 15 52.1
comp=E,28nm,2.4s
P18K IAML 10 16 22.9
comp=N,28nm,4.3s
P18K Big Mountain, 4.21 210 P **Pn 10 14 04.1 -0.4**
baz=27
BCAR Beaver Creek A 4.22 86 Pn **Pn 10 14 02.5 -2.0**
HMT Hamilton 4.25 127 Pn 10 14 03.6 -1.4
M16K Timber Creek 4.25 244 Pn 10 14 04.6 -0.4
M16K Timber Creek 4.25 244 IAML 10 16 52.9
comp=N,44nm,3.8s
M16K IAML 10 16 55.6
comp=E,53nm,3.0s
M16K Timber Creek 4.25 244 P **Pn 10 14 04.6 -0.4**
baz=58
G25K Bearman Lake 4.26 28 Pn 10 14 04.3 -0.6
G25K Bearman Lake 4.26 28 P **Pn 10 14 04.3 -0.6**
baz=212
F21K Alatna River 4.28 347 Pn 10 14 05.3 -0.1
F21K Alatna River 4.28 347 P **Pn 10 14 05.3 -0.1**
baz=165
M27K Edge Creek, AK 4.29 96 Pn 10 14 05.2 -0.4
M27K Edge Creek, AK 4.29 96 IAML 10 15 16.7
comp=E,50nm,0.7s
M27K IAML 10 15 20.8
comp=N,81nm,1.0s
M27K Edge Creek, AK 4.29 96 P **Pn 10 14 05.2 -0.4**
baz=284
FYU Fort Yukon 4.29 33 IAML 10 14 57.6
comp=N,81nm,4.4s
FYU IAML 10 15 05.7
comp=E,63nm,4.5s
Q23K Middleton Isla 4.31 146 Pn 10 14 05.4 -0.3
Q23K Middleton Isla 4.31 146 P **Pn 10 14 05.4 -0.3**
baz=330
H17K Granite Mounta 4.32 299 Pn 10 14 05.7 -0.1
H17K Granite Mounta 4.32 299 P **Pn 10 14 05.7 -0.1**
baz=111
MID Middleton Isla 4.32 146 Pn 10 14 05.3 -0.4
J16K Anvik River 4.33 277 Pn 10 14 05.8 -0.1
J16K Anvik River 4.33 277 IAML 10 14 55.9
comp=N,28nm,3.7s
J16K IAML 10 15 11.3
comp=E,31nm,3.4s
J16K Anvik River 4.33 277 P **Pn 10 14 05.8 -0.1**
baz=88
G18K Tagagawik 4.33 314 Pn 10 14 05.5 -0.4
G18K Tagagawik 4.33 314 P **Pn 10 14 05.5 -0.4**
baz=127
I17K Unalakleet 4.39 285 Pn 10 14 07.0 +0.2
I17K Unalakleet 4.39 285 IAML 10 14 45.5
comp=E,37nm,3.5s
I17K IAML 10 15 29.8
comp=N,32nm,4.0s
I17K Unalakleet 4.39 285 P **Pn 10 14 07.0 +0.2**
baz=96
O17K Koliganek Bris 4.41 224 Pn 10 14 06.6 -0.4
O17K Koliganek Bris 4.41 224 P **Pn 10 14 06.6 -0.4**
baz=39

CRQM	Cirque	4.41	118			Pn	10 14 06.1	-1.1
BERG	Berg Lake	4.42	124			Pn	10 14 06.3	-0.8
NICHA	Nichawak Mount	4.42	127			Pn	10 14 06.0	-1.3
CRQE	Cirque	4.43	118	P		Pn	10 14 06.1	-1.4
	baz=306							
F20K	Avaraart Lake	4.45	336			Pn	10 14 07.3	-0.1
F20K	Avaraart Lake	4.45	336	P		Pn	10 14 07.3	-0.1
	baz=151							
PTPK	Patty Peak	4.46	111			Pn	10 14 06.7	-1.2
F22K	John River	4.47	354			Pn	10 14 07.2	-0.6
F22K	John River	4.47	354	P		Pn	10 14 07.2	-0.6
	baz=173							
KAIM	Kayak Island	4.49	132			Pn	10 14 06.2	-1.8
KAIM	Kayak Island	4.49	132		IAML		10 15 13.0	
	comp=N,110nm,2.6s							
KAIM					IAML		10 15 45.3	
	comp=E,97nm,2.1s							
KAIM	Kayak Island	4.49	132	P		Pn	10 14 06.2	-1.8
	baz=318							
N16K	Nishlik Lake	4.50	238			Pn	10 14 08.0	-0.3
N16K	Nishlik Lake	4.50	238	P		Pn	10 14 08.0	-0.3
	baz=51							
TGL	Tana Glacier	4.54	117			Pn	10 14 07.4	-1.5
KHIT	Khitrov Hills	4.56	122			Pn	10 14 08.4	-0.7
SUCK	Suckling Hills	4.61	128			Pn	10 14 08.9	-0.8
KIAG	Kiagna River	4.64	114			Pn	10 14 08.7	-1.5
F24K	Squaw Lake	4.65	15			Pn	10 14 09.6	-0.6
F24K	Squaw Lake	4.65	15	P		Pn	10 14 09.6	-0.6
	baz=198							
P17K	Kvichak River	4.69	216			Pn	10 14 10.5	-0.2
P17K	Kvichak River	4.69	216	P		Pn	10 14 10.5	-0.2
	baz=32							
EGAK	Eagle	4.69	64	Pn		Pn	10 14 09.3	-1.4
EGAK					IAML		10 15 18.5	
	comp=E,68nm,0.8s							
EGAK					IAML		10 15 18.8	
	comp=E,109nm,1.0s							
WAX	Waxell Ridge	4.71	120			Pn	10 14 10.3	-0.8
BVCY	Beaver Creek	4.74	94			Pn	10 14 10.3	-1.1
BVCY	Beaver Creek	4.74	94	P		Pn	10 14 10.3	-1.1
	baz=283							
ISLE	Juniper Island	4.82	117			Pn	10 14 11.9	-0.7
ISLE					IAML		10 15 28.4	
	comp=E,101nm,0.6s							
ISLE					IAML		10 15 35.2	
	comp=N,104nm,0.8s							
I27K	Kandik River	4.82	54			Pn	10 14 10.9	-1.6
I27K	Kandik River	4.82	54	P		Pn	10 14 10.9	-1.6
	baz=242							
KAHC	Katmai Hardscr	4.85	205			Pn	10 14 12.4	-0.6
KAHC	Katmai Hardscr	4.85	205			Pn	10 14 12.6	-0.4
KAHC	Katmai Hardscr	4.85	205	P		Pn	10 14 12.6	-0.4
	baz=22							
Q18K	Katmai Hardscr	4.85	205	P		Pn	10 14 12.4	-0.6
	baz=22							
BARN	Barnard Glacie	4.86	110			Pn	10 14 12.3	-0.9
BARN	Barnard Glacie	4.86	110		IAML		10 15 13.6	
	comp=E,49nm,0.6s							
BARN					IAML		10 15 33.2	
	comp=N,49nm,0.9s							
O16K	Kokwok River B	4.87	227			Pn	10 14 12.7	-0.4
O16K	Kokwok River B	4.87	227		IAML		10 15 58.6	
	comp=E,43nm,4.0s							
O16K					IAML		10 16 39.4	
	comp=N,38nm,3.5s							
O16K	Kokwok River B	4.87	227	P		Pn	10 14 12.7	-0.4
	baz=41							
SNH	Sunshine Point	4.88	123			Pn	10 14 12.8	-0.6
SNH	Sunshine Point	4.88	123		IAML		10 15 09.9	
	comp=E,81nm,1.0s							
SNH					IAML		10 15 41.9	
	comp=N,77nm,1.2s							
K15K	Wolf Creek Mou	4.89	265			Pn	10 14 13.6	+0.2
K15K	Wolf Creek Mou	4.89	265		IAML		10 15 24.8	
	comp=E,47nm,4.8s							
K15K					IAML		10 15 39.9	
	comp=N,39nm,3.8s							
K15K	Wolf Creek Mou	4.89	265	P		Pn	10 14 13.6	+0.2
	baz=76							
KAHG	Katmai Hook Gl	4.91	202			Pn	10 14 13.5	-0.3
G26K	Porcupine Rive	4.96	35			Pn	10 14 12.9	-1.3
G26K	Porcupine Rive	4.96	35	P		Pn	10 14 12.9	-1.3
	baz=222							
GRNC	Granite Creek	4.99	114			Pn	10 14 13.8	-1.2
GRNC	Granite Creek	4.99	114		IAML		10 15 32.4	
	comp=N,57nm,0.7s							
GRNC					IAML		10 15 42.2	
	comp=E,33nm,0.7s							
CTG	Chitna Glacier	5.05	111	P		Pn	10 14 14.6	-1.1
	baz=299							
CTGM	Chitina Glacie	5.05	110			Pn	10 14 14.6	-1.1
CTGM	Chitina Glacie	5.05	110		IAML		10 15 13.6	
	comp=E,25nm,0.8s							
CTGM					IAML		10 15 35.0	
	comp=N,39nm,1.1s							
L15K	Ungalak Mounta	5.05	258			Pn	10 14 15.6	0.0
L15K	Ungalak Mounta	5.05	258	P		Pn	10 14 15.6	0.0
	baz=69							
F25K	Christian Rive	5.07	24			Pn	10 14 15.2	-0.6
F25K	Christian Rive	5.07	24	P		Pn	10 14 15.2	-0.6
	baz=209							
YUK3	Moose Creek	5.10	100	P		Pn	10 14 15.6	-0.8
	baz=290							
E19K	Redstone River	5.10	332			Pn	10 14 15.8	-0.4
E19K	Redstone River	5.10	332		IAML		10 15 46.5	
	comp=E,15nm,4.7s							
E19K	Redstone River	5.10	332	P		Pn	10 14 15.8	-0.4
	baz=146							
E24K	Your Creek	5.13	11			Pn	10 14 15.9	-0.7
E24K	Your Creek	5.13	11	P		Pn	10 14 15.9	-0.7
	baz=193							
BMAR	Burnt Mountain	5.14	29	Pn		Pn	10 14 15.8	-1.0
M15K	Kasigluk River	5.14	247			Pn	10 14 16.7	-0.1
M15K	Kasigluk River	5.14	247	P		Pn	10 14 16.7	-0.1
	baz=58							
MESA	MESA	5.23	120			Pn	10 14 17.2	-0.9
MESA	MESA	5.23	120	P		Pn	10 14 17.2	-0.9
	baz=308							
KABU	Katmai Buttres	5.25	205			Pn	10 14 17.8	-0.6
LOGN	Logan Glacier	5.26	111			Pn	10 14 17.4	-1.1
LOGN	Logan Glacier	5.26	111		IAML		10 15 40.8	
	comp=N,40nm,1.0s							
LOGN					IAML		10 15 42.2	
	comp=E,30nm,1.3s							
DAWY	Dawson	5.31	74			Pn	10 14 17.7	-1.3
DAWY	Dawson	5.31	74	P		Pn	10 14 17.7	-1.3
	baz=264							
ANCK	Angle Creek	5.36	206			Pn	10 14 19.6	-0.2
KDAK	Kodiak Island	5.37	189			Pn	10 14 18.1	-1.7
KDAK	Kodiak Island	5.37	189		IAML		10 15 18.2	
	comp=E,64nm,0.6s							
KDAK					IAML		10 15 18.4	
	comp=E,45nm,0.5s							
KDAK	Kodiak Island	5.37	189	P		Pn	10 14 16.8	-3.1
	comp=E,3.3nm,0.3s,baz=28,slow=17,SNR=73							
KDAK					S		Sn	10 15 15.1 -5.5
	comp=E,13nm,0.3s,baz=186,slow=22,SNR=15							
I28M	Miner Creek	5.40	59			Pn	10 14 18.8	-1.5
I28M	Miner Creek	5.40	59		IAML		10 15 25.9	
	comp=E,50nm,0.9s							
I28M					IAML		10 15 47.4	
	comp=N,27nm,0.9s							
I28M	Miner Creek	5.40	59	P		Pn	10 14 18.8	-1.5
	baz=249							
TABL	Table Mountain	5.40	115			Pn	10 14 18.8	-1.6
TABL	Table Mountain	5.40	115		IAML		10 15 47.8	
	comp=E,35nm,1.0s							
TABL					IAML		10 15 47.9	
	comp=N,37nm,0.6s							
F26K	Sheenjek River	5.46	29			Pn	10 14 20.0	-1.0
F26K	Sheenjek River	5.46	29	P		Pn	10 14 20.0	-1.0
	baz=215							
G27K	Doyon Strip	5.47	43			Pn	10 14 19.1	-2.1
G27K	Doyon Strip	5.47	43	P		Pn	10 14 19.0	-2.1
	baz=231							
E25K	Arctic Village	5.55	22			Pn	10 14 21.7	-0.5
E25K	Arctic Village	5.55	22	P		Pn	10 14 21.7	-0.5
	baz=206							
M14K	Bethel	5.65	250			Pn	10 14 23.6	0.0
M14K	Bethel	5.65	250	P		Pn	10 14 23.6	0.0
	baz=61							
L14K	Kuka Creek	5.71	257			Pn	10 14 24.5	+0.1
L14K	Kuka Creek	5.71	257	P		Pn	10 14 24.5	+0.1
	baz=67							
M29M	Somme Creek	5.82	91			Pn	10 14 24.8	-1.2
M29M	Somme Creek	5.82	91	P		Pn	10 14 24.8	-1.2
	baz=282							
L29M	L29M	5.87	84			Pn	10 14 25.2	-1.4
L29M	L29M	5.87	84	P		Pn	10 14 25.2	-1.4
	baz=276							
PCA	Pinnacle	5.96	115			Pn	10 14 26.9	-0.9
PINM	Pinnacle	5.96	115	P		Pn	10 14 26.9	-0.9
	baz=305							
OHAK	Old Harbor	5.98	192			Pn	10 14 25.6	-2.4
OHAK	Old Harbor	5.98	192	P		Pn	10 14 25.8	-2.2
OHAK	Old Harbor	5.98	192	P		Pn	10 14 25.6	-2.4
	baz=10							
K29M	Barlow Dome	6.12	77			Pn	10 14 28.5	-1.5
K29M	Barlow Dome	6.12	77	P		Pn	10 14 28.5	-1.5
	baz=269							
H29M	Whitestone	6.29	54			Pn	10 14 30.5	-1.6
H29M	Whitestone	6.29	54	P		Pn	10 14 30.5	-1.6
	baz=246							
BCPM	Bancas Point	6.30	115			Pn	10 14 31.4	-0.9
E27K	Coleen River	6.44	33			Pn	10 14 32.9	-1.3
E27K	Coleen River	6.44	33	P		Pn	10 14 32.9	-1.3
	baz=222							
F28M	Old Crow	6.52	41			Pn	10 14 33.5	-1.7
F28M	Old Crow	6.52	41	P		Pn	10 14 33.5	-1.7
	baz=231							
HYT	Haines Junctio	6.78	103			Pn	10 14 38.4	-0.4
C23K	Itkillik River	6.79	1	Pn		Pn	10 14 39.3	+0.6
C18K	Utukok River	6.96	328	Pn		Pn	10 14 40.9	-0.2
B20K	Meade River	7.37	343	Pn		Pn	10 14 46.2	-0.3
G31M	Satah River	8.08	54			Pn	10 14 54.1	-1.9
SKAG	Skagway	8.40	109	Pn		Pn	10 14 58.5	-1.9
SKAG	Skagway	8.40	109	P		Pn	10 14 59.4	-1.0
INK	Inuvik	8.91	46	Pn		Pn	10 15 06.4	-0.7
INK	Inuvik	8.91	46	P		Pn	10 15 06.6	-0.5
	comp=N,1.6nm,0.9s,baz=248,slow=19,SNR=13							
INK					S		Sn	10 16 44.2 -1.4
	comp=N,0.8nm,0.6s,baz=353,slow=32,SNR=1.4							
SIT	Sitka	9.90	120	P		Pn	10 15 21.4	+0.9
DLBC	Dease Lake	11.26	105	P		Pn	10 15 38.7	0.0
	comp=N,0.8nm,0.6s,baz=284,slow=17,SNR=1.5							
DLBC					S		Sn	10 17 50.4 +7.6
	comp=N,1.5nm,0.8s,baz=19,slow=6.9,SNR=2.4							
YKA	Yellowknife Ar	16.55	76	P		Pn	10 16 43.6	-2.0
	comp=N,0.7nm,0.5s,baz=257,slow=9.9,SNR=25							
PDAR	Pindale Array	31.41	111	P		P	10 19 12.2	+2.2
	comp=N,0.4nm,0.9s,baz=356,slow=5.8,SNR=2.4							
	comp=N,0.4nm,0.9s							
TXAR	Lajitas Array	45.33	115	P		P	10 21 07.2	+1.1
	comp=N,0.1nm,0.6s,baz=340,slow=4.9,SNR=2.1							
	comp=N,0.1nm,0.6s							
SONM	Songino Array	53.74	305	P		P	10 22 10.3	+0.6
	comp=N,0.8nm,0.8s,baz=11,slow=6.3,SNR=4.0							
	comp=N,0.8nm,0.8s							
ZALV	Zalesovo Beam	55.44	324	P		P	10 22 20.5	-1.1
	comp=N,0.6nm,0.4s,baz=10,slow=9.0,SNR=3.8							
	comp=N,0.6nm,0.4s							
BVAR	Borovoye Array	59.77	332	P		P	10 22 51.2	-0.7
	comp=N,1.8nm,0.6s,baz=60,slow=8.8,SNR=4.0							
	comp=N,1.8nm,0.6s							
KURBB	Kurchatov Arra	60.10	326	P		P	10 22 53.6	-0.6
	comp=N,1.7nm,0.3s,baz=28,slow=7.1,SNR=1.5							
	comp=N,1.7nm,0.3s							
MKAR	Makanchi Array	62.59	322	P		P	10 23 10.2	-0.9
	comp=N,0.9nm,0.5s,baz=47,slow=7.5,SNR=6.7							
	comp=N,0.9nm,0.5s							
AKASG	Malin Array Be	66.56	360	P		P	10 23 35.8	-0.9
	comp=N,1.1nm,0.5s,baz=0.9,slow=6.5,SNR=6.4							
	comp=N,1.1nm,0.5s							

*IDC **21** 10:17:53.7±1.4,41.08N×140.30E,h164km±12km,*
mb3.2/13,mbtmp3.7/16,MS3.1/1,Error ellipse:
s-maj=16.2km s-min=12.1km az=124.0
*JMA **21** 10:17:55.0±0.1,41.1N±0.5×140.3E±1.0,h170km±1km,*
MV3.5/38,TSUGARU PENINSULA REGION

ISC 21 10:17:54.4±0.7,**41.06N**±0.04×**140.32E**±0.07,**h173**km±5km,
n33,σ**0.78/44,mb3.5/13,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JSI2	Shiura 2	0.07	90	P		Pn	10 18 17.6	+0.2
JSI2				S		Sn	10 18 34.6	-0.2
JHHS	Hirosakihyakuz	0.41	176	P		Pn	10 18 18.8	+0.7
JHHS				S		Sn	10 18 37.0	+0.7
JSR	Shiriuchi	0.48	9	*i* P		Pn	10 18 18.4	+0.1
JSR				eS		Sn	10 18 35.6	-1.2
JIW	Iwasaki	0.52	207	P		Pn	10 18 19.0	+0.4
JOMM	Oshimamatsumae	0.52	333	P		Pn	10 18 18.8	+0.3
JOMM				eS		Sn	10 18 36.6	-0.5
JTM	Tenmabayashi	0.63	115	*i* P		Pn	10 18 19.4	+0.4
JTM				S		Sn	10 18 37.6	-0.3
JOT	Ohata	0.64	59	*i* P		Pn	10 18 19.4	+0.4
JAH	Hinai	0.90	164	*i* P		Pn	10 18 21.1	+0.4
JAH				S		Sn	10 18 40.9	-0.1
JKB	Kayabe	0.99	33	P		Pn	10 18 21.6	+0.3
JANG	Nango	1.14	127	P		Pn	10 18 22.5	0.0
JANG				S		Sn	10 18 43.0	-1.2
JOSM	Okushiri--Mats	1.21	328	P		Pn	10 18 23.1	0.0
JOSM				eS		Sn	10 18 44.2	-1.1
JOM	Ohasama	1.75	155	*i* P		Pn	10 18 28.1	-0.2
JEW	Eniwo	1.97	25	*eP*		Pn	10 18 31.6	+1.0
JYK	Kaneyama	2.14	179	P		Pn	10 18 32.7	+0.1
JYK				eS		Sn	10 19 01.2	-0.9
JNBK	Urakawa-nobuka	2.19	55	P		Pn	10 18 33.6	+0.5
JNBK				eS		Sn	10 19 02.6	-0.6
JMK	Ichinoseki	2.21	162	P		Pn	10 18 33.1	-0.3
JMK				S		Sn	10 19 02.1	-1.5
ASAJ	Asahikawa	3.49	28	P		Pn	10 18 48.5	-0.3
	5.3nm,0.4s,baz=209,slow=10,SNR=6.7							
ASAJ					S		Sn	10 19 28.8 -2.5
	19nm,1.0s,baz=329,slow=32,SNR=7.3							
MJAR	Matsushiro Arr	4.80	201	P		Pn	10 19 06.2	+0.5
	0.6nm,0.3s,baz=16,slow=14,SNR=2.5							
USRK	Ussuriysk Ar.	6.90	300	P		Pn	10 19 33.9	+0.7
	9.3nm,0.5s,baz=104,slow=13,SNR=43							
SEY	Seymchan	23.05	14	P		P	10 22 44.5	+0.4
	0.8nm,0.3s,baz=195,slow=20,SNR=2.5							
	0.8nm,0.3s							
SONM	Songino Array	25.00	297	P		P	10 23 02.3	0.0
	0.3nm,0.4s,baz=72,slow=9.3,SNR=1.6							
	0.3nm,0.4s							
DAV	Davao City (W)	36.31	205	LR		LR	10 38 58.9	
	comp=Z,26nm,21.3s,baz=18,slow=35							
ZALV	Zalesovo Beam	38.65	309	P		P	10 24 59.1	-1.7
	0.5nm,0.5s,baz=90,slow=12,SNR=2.1							
	0.5nm,0.5s							
MKAR	Makanchi Array	41.37	298	P		P	10 25 22.1	-1.2
	0.3nm,0.5s,baz=82,slow=11,SNR=3.7							
	0.3nm,0.5s							
KURBB	Kurchatov Arra	42.94	305	P		P	10 25 36.1	+0.2
	1.9nm,0.4s,baz=79,slow=8.6,SNR=6.8							
	1.9nm,0.4s							
ILAR	Eielson Array	46.60	34	P		P	10 26 05.0	+0.3
	1.2nm,0.8s,baz=277,slow=6.4,SNR=17							
	1.2nm,0.8s							
WRA	Warramunga Arr	60.94	186	P		P	10 27 48.7	-0.4
	0.4nm,0.4s,baz=4.1,slow=7.1,SNR=14							
	0.4nm,0.4s							
ASAR	Alice Springs	64.67	187	P		P	10 28 13.9	+0.2
	0.3nm,0.9s,baz=7.4,slow=6.5,SNR=2.9							
	0.3nm,0.9s							
FINES	FINESS Array B	64.87	331	P		P	10 28 14.7	+0.2
	2.1nm,0.9s,baz=38,slow=12,SNR=1.6							
	2.1nm,0.9s							
HFS	Hagfors	70.08	335	P		P	10 28 47.3	+0.1
	0.5nm,0.3s,baz=39,slow=7.4,SNR=1.2							
	0.5nm,0.3s							
NVAR	Mina Array Bea	73.27	54	P		P	10 29 07.2	+0.2
	0.2nm,0.4s,baz=281,slow=5.2,SNR=2.5							
	0.2nm,0.4s							
PDAR	Pinedale Array	75.46	46	P		P	10 29 20.4	+0.9
	0.2nm,0.4s,baz=24,slow=2.5,SNR=6.6							
	0.2nm,0.4s							
TXAR	Lajitas Array	88.32	52	P		P	10 30 27.5	+0.9
	0.1nm,0.5s,baz=318,slow=2.6,SNR=2.4							
	0.1nm,0.5s							

*IDC **21** 10:22:11.7±1.2,42.62N×141.34E,h120km±10km,*
mb3.3/11,mbtmp3.7/15,Error ellipse: s-maj=17.9km
s-min=13.5km az=134.0
*JMA **21** 10:22:11.9±0.1,42.6N±0.4×141.3E±0.5,h121km,*
MV3.0/38,IBURI REGION

ISC 21 10:22:12.0±0.7,**42.61N**±0.05×**141.33E**±0.05,**h123**km±5km,
n34,σ**0.48/46,mb3.4/11,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JEW	Eniwo	0.25	20	P		Pn	10 22 29.0	-0.1
JEW				eS		Sn	10 22 41.7	-0.2
JNB	Noboribetsu	0.26	237	*eP*		Pn	10 22 28.7	-0.3
JNB				eS		Sn	10 22 41.7	-0.2
JIAM	Iburiatsuma	0.43	88	*eP*		Pn	10 22 29.9	+0.1
JISS	Ishikarishitsu	0.67	5	*eP*		Pn	10 22 31.3	0.0
JISS				eS		Sn	10 22 46.1	+0.1
JKB	Kayabe	0.75	197	*eP*		Pn	10 22 32.2	+0.2
JKB				eS		Sn	10 22 47.4	+0.3
JBT2	Biratori 2	0.78	77	*eP*		Pn	10 22 32.2	0.0
JBT2				eS		Sn	10 22 47.7	+0.3
JYM2	Yakumo 2	0.87	236	*eP*		Pn	10 22 33.0	+0.1
JYM2				eS		Sn	10 22 49.0	+0.3
JSH	Shimam	0.95	273	*eP*		Pn	10 22 33.5	-0.2
JFR	Furan	1.08	59	*eP*		Pn	10 22 34.8	-0.2
JFR				eS		Sn	10 22 52.5	0.0
JHST	Hiyamasetana	1.09	261	*eP*		Pn	10 22 35.1	0.0
JNBK	Urakawa-nobuka	1.10	107	*eP*		Pn	10 22 35.2	0.0
JHR	Hokuryu	1.17	14	*eP*		Pn	10 22 36.3	+0.4
JOT	Ohata	1.24	190	*eP*		Pn	10 22 37.1	+0.4
JOSM	Okushiri--Mats	1.47	250	*eP*		Pn	10 22 39.2	0.0
JOSM				eS		Sn	10 22 59.9	-0.1
JCH	Churui	1.50	89	*eP*		Pn	10 22 39.6	+0.1
JCH				eS		Sn	10 23 00.7	+0.2
JKK2	Kamakawa 2	1.63	39	*eP*		Pn	10 22 41.3	+0.3
JKK2				eS		Sn	10 23 03.3	0.0
ASAJ	Asahikawa	1.77	31	P		Pn	10 22 43.0	+0.4
	38nm,0.4s,baz=238,slow=12,SNR=47							
ASAJ					S		Sn	10 23 05.2 -1.0
	41nm,0.6s,baz=344,slow=25,SNR=6.5							
JSS	Shosan	1.83	12	*eP*		Pn	10 22 44.4	+1.0
JAR	Ashorobuto	1.92	68	*eP*		Pn	10 22 44.1	-0.4
JAR				eS		Sn	10 23 08.4	-0.9
MJAR	Matsushiro Arr	6.52	203	P		Pn	10 23 45.9	+0.4
	1.2nm,0.6s,baz=19,slow=13,SNR=4.9							
USRK	Ussuriysk Ar.	6.99	286	P		Pn	10 23 52.4	+0.7
	1.0nm,0.5s,baz=94,slow=14,SNR=4.7							
KLR	Kul'dur	9.40	318	P		Pn	10 24 25.1	+0.9
	5.7nm,0.7s,baz=129,slow=14,SNR=19							
PETK	Petropavlovsk-	15.16	41	P		Pn	10 25 39.6	+0.2
	7.0nm,1.1s,baz=236,slow=11,SNR=1.9							
ZALV	Zalesovo Beam	38.30	307	P		P	10 29 20.2	0.0
	1.3nm,0.5s,baz=92,slow=9.0,SNR=6.6							
	1.3nm,0.5s							
MKAR	Makanchi Array	41.32	297	P		P	10 29 44.6	-0.7
	0.2nm,0.5s,baz=72,slow=9.4,SNR=2.0							
	0.2nm,0.5s							
KURBB	Kurchatov Arra	42.70	303	P		P	10 29 55.5	-1.0
	1.0nm,0.3s,baz=76,slow=9.0,SNR=4.3							
	1.0nm,0.3s							
ILAR	Eielson Array	44.90	35	P		P	10 30 14.2	+0.4
	0.3nm,0.8s,baz=282,slow=6.3,SNR=3.0							
	0.3nm,0.8s							
YKA	Yellowknife Ar	59.06	32	P		P	10 31 58.5	-0.1
	0.3nm,0.8s,baz=307,slow=6.5,SNR=4.5							
	0.3nm,0.8s							
WRA	Warramunga Arr	62.57	187	P		P	10 32 21.8	-1.1
	0.5nm,0.8s,baz=5.6,slow=7.1,SNR=5.2							
	0.5nm,0.8s							
FINES	FINESS Array B	63.88	331	P		P	10 32 30.4	-0.7
	4.5nm,1.0s,baz=59,slow=6.7,SNR=4.9							
	4.5nm,1.0s							
ASAR	Alice Springs	66.30	187	P		P	10 32 47.6	+0.5
	0.4nm,0.8s,baz=14,slow=5.7,SNR=3.3							
	0.4nm,0.8s							
HFS	Hagfors	69.00	335	P		P	10 33 03.7	0.0
	2.9nm,0.9s,baz=33,slow=9.0,SNR=2.4							
	2.9nm,0.9s							
NVAR	Mina Array Bea	71.75	54	P		P	10 33 21.7	+0.6
	0.2nm,0.4s,baz=274,slow=4.2,SNR=2.6							
	0.2nm,0.4s							
TXAR	Lajitas Array	86.77	52	P		P	10 34 42.8	+0.2
	0.3nm,0.8s,baz=320,slow=2.4,SNR=2.9							
	0.3nm,0.8s							

*TAP **21** 10:33:05.4,24.87N×122.53E,h36km±1km,ML2.8,D*
*JMA **21** 10:33:06.4±0.1,24.8N±0.7×122.5E±0.3,h16km±2km,*
MV2.1/9,NW OFF ISHIGAKIJIMA IS

ISC 21 10:33:05.8±1.1,**24.83N**±0.03×**122.50E**±0.03,**h24**km±12km,
n48,σ**0.39/85,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
EOS2	EOS2	0.47	211	P		Pb	10 33 15.5	0.0
	baz=208							
EOS2				S		Sb	10 33 22.4	+0.4
	baz=208							
TWB1	Santiao Chiao	0.50	291	P		Pb	10 33 15.7	-0.2
	baz=286							
TWB1				eS		Sb	10 33 21.9	-0.9
	baz=286							
JYNG	Yonagunijimaku	0.55	133	P		Pb	10 33 16.9	+0.1
JYNG				S		Sb	10 33 24.1	-0.2
EOS3	EOS3	0.56	197	*eP*		Pb	10 33 17.1	+0.1
	baz=205							
EOS3				eS		Sn	10 33 26.5	-0.1
	baz=205							
YOJ	Yonaguni jima	0.59	128	P		Pb	10 33 17.5	0.0
YOJ				S		Sb	10 33 25.2	-0.3
YOJ	Yonaguni jima	0.59	128

baz=255
NHDH Xindian Distri 0.90 279 *eP* **Pb 10 33 22.9 +0.2**
baz=265
NHDH *eS* **Sb 10 33 34.6 +0.4**
baz=265
YM01 YM01 0.90 291 *eP* **Pn 10 33 22.5 -0.5**
baz=296
YM01 *eS* **Sb 10 33 34.3 -0.1**
baz=296
NWLT Wulai 0.91 267 *eP* **Pb 10 33 23.0 +0.1**
baz=264
NWLT *eS* **Sb 10 33 33.9 -0.7**
baz=264
NDT Datong Townshi 0.93 256 *eP* **Pb 10 33 23.3 +0.2**
baz=254
NDT *eS* **Sn 10 33 35.7 -0.1**
baz=254
LATG Datong 0.93 252 *eP* **Pn 10 33 23.4 -0.1**
baz=250
LATG *eS* **Sb 10 33 35.4 +0.1**
baz=250
ANP Anpu 0.96 292 *eS* **Sn 10 33 37.0 +0.2**
baz=289
YHNB Yeheng 1.03 262 *eP* **Pb 10 33 25.1 0.0**
baz=251
YHNB *eS* **Sb 10 33 38.3 +0.1**
baz=251
ETL Fush Village 1.04 230 *eP* **Pb 10 33 25.1 0.0**
baz=229
NSK Sanguang 1.05 262 *eP* **Pn 10 33 25.1 +0.1**
baz=251
NSK *eS* **Sn 10 33 38.0 -1.0**
baz=251
NACB Ninganchiao 1.05 232 *eP* **Pn 10 33 25.0 0.0**
baz=238
NACB *eS* **Sn 10 33 38.1 -0.8**
baz=238
NNSB Datong 1.09 249 *eP* **Pb 10 33 26.1 0.0**
baz=255
NNSB *eS* **Sb 10 33 40.1 +0.2**
baz=255
NNS Nan Shan 1.10 250 *eP* **Pb 10 33 26.2 +0.1**
baz=248
NNS *eS* **Sb 10 33 41.0 +0.9**
baz=248
ETLH Xiulin Townshi 1.11 237 *eP* **Pn 10 33 26.1 +0.1**
baz=241
ETLH *eS* **Sb 10 33 40.9 +0.4**
baz=241
IRIF Iriomote-Funau 1.22 113 P **Pb 10 33 28.9 +0.6**
IRIF S **Sb 10 33 43.9 +0.3**
NFF Wufeng Townshi 1.27 261 *eP* **Pn 10 33 28.3 +0.2**
baz=259
NFF *eS* **Sb 10 33 45.4 +0.3**
baz=259
LXIB Xiulin Townshi 1.27 231 *eP* **Pb 10 33 29.3 +0.1**
baz=230
LXIB *eS* **Sb 10 33 46.1 +0.9**
baz=230
FUSS Fushou 1.28 243 *eP* **Pb 10 33 29.6 +0.2**
baz=248
FUSS *eS* **Sb 10 33 46.2 +0.7**
baz=248
WHF Hehuan Shan 1.31 239 *eP* **Pb 10 33 30.3 +0.3**
baz=238
WHF *eS* **Sb 10 33 46.8 +0.1**
baz=238
TDCB Techi 1.35 245 *eP* **Pb 10 33 30.6 +0.1**
baz=234
NSTT Nanjuang 1.38 262 *eP* **Pb 10 33 31.5 +0.6**
baz=260
CHGB Renai 1.43 238 *eP* **Pb 10 33 32.2 +0.3**
baz=222
CHGB *eS* **Sb 10 33 49.9 +0.2**
baz=222
WARBT Fenglin Townsh 1.50 223 *eP* **Pn 10 33 31.2 0.0**
baz=210
WUSB Renai 1.51 237 *eP* **Pb 10 33 33.6 +0.4**
baz=223
WHP Taichung City 1.52 249 *eP* **Pb 10 33 34.3 +1.0**
baz=238
VWDT VWDT 1.64 230 *eP* **Pb 10 33 35.1 -0.2**
baz=219

*JMA **21** 10:42:50.1±0.9, 45°N±4°×15°0E±°, h30km, MV3.9/14, SE OFF ETOROFU*
*SKHL **21** 10:42:53.8±0.2, 44°50N×149°30E, h45km±4km, mb4.4/2*
ISC 21 10:42:47.4±4.0, **44°25N**±0°09×**149°7E**±0°2, **h36**km, **n14, σ3§30/21, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.66**	**307**	*eP*		**Pn**	**10 43 14.1**	**+0.3**
KUR					AMB	AMB	10 43 16.6	
	90nm,0.3s							
KUR				*eS*		**Sn**	**10 43 29.5**	**-4.3**
KUR				A		A	10 43 33.4	
	480nm,0.4s							
KUR				A		A	10 43 33.4	
	310nm,0.4s							
SHO	**Shikotan**	**2.13**	**261**	*eP*		**Pn**	**10 43 22.7**	**+2.4**
SHO				*eS*		**Sn**	**10 43 44.3**	**-1.2**
SHO				A		A	10 43 48.2	
	40nm,0.2s							
SHO				A		A	10 43 48.2	
	60nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**2.80**	**267**	*eP*		**Pn**	**10 43 32.2**	**+2.7**
YUK					AMB	AMB	10 43 33.6	
	70nm,0.4s							
YUK				*eS*		**Sn**	**10 44 01.0**	**-1.0**
YUK				A		A	10 44 07.0	
	70nm,0.3s							
YUK				A		A	10 44 07.0	
	110nm,0.3s							
NEM2	**Nemuro 2**	**3.02**	**254**	*eP*		**Pn**	**10 43 34.7**	**+2.1**
NEM2				*eS*		**Sn**	**10 44 07.6**	**0.0**
JRA	**Rausu**	**3.34**	**266**	*eP*		**Pn**	**10 43 40.1**	**+3.1**
JNK	**Nakash**	**3.69**	**261**	*eP*		**Pn**	**10 43 44.5**	**+2.8**
JAK	**Akkeshi**	**3.87**	**253**	*eP*		**Pn**	**10 43 46.5**	**+2.2**
JAK				*eS*		**Sn**	**10 44 28.7**	**+0.3**
JTKR	**Abashiri--Toko**	**4.21**	**268**	*eP*		**Pn**	**10 43 52.8**	**+3.9**
JAR	**Ashorobuto**	**4.43**	**260**	*eP*		**Pn**	**10 43 55.3**	**+3.4**
JOB	**Onbets**	**4.50**	**255**	*eP*		**Pn**	**10 43 56.0**	**+3.1**
JCH	**Churui**	**4.92**	**253**	*eP*		**Pn**	**10 44 01.4**	**+2.6**
JCH				*eS*		**Sn**	**10 44 53.5**	**-0.9**
JNBK	**Urakawa-nobuka**	**5.47**	**251**	*eP*		**Pn**	**10 44 08.6**	**+2.4**
JANG	**Nango**	**7.22**	**240**	*eP*		**Pn**	**10 44 30.9**	**+0.6**
JANG				*eS*		**Sn**	**10 45 44.4**	**-6.6**
JTH	**Tanohata**	**7.27**	**236**	*eS*		**Sn**	**10 45 45.8**	**-6.4**

*NNC **21** 10:48:22.2±1.4, 51°72N×75°52E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=59.9km s-min=8.4km az=27.0, Suspected Mining explosion.*
*IDC **21** 10:48:23.4±1.0, 51°70N×75°56E, h0km, mbtmp2.5/3, ML1.9/3, Error ellipse: s-maj=34.6km s-min=7.3km az=30.0*
ISC 21 10:48:23.6±1.1, **51°6N**±0°1×**75°44E**±0°06, **h0**km, **n9, σ0§73/10, 5C-2D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.19**	**116**	Pg		**Pn**	**10 49 01.2**	**-0.1**
	0.3nm,0.3s,baz=302,slow=19,SNR=15							
KURBB				Lg		Lg	10 49 31.9	
	0.5nm,0.3s,baz=294,slow=27,SNR=13							
KURBB	**Kurchatov Arra**	**2.19**	**116**	⇑Pg		**Pb**	**10 49 03.6**	**-0.5**
	0.9nm,0.2s							
KURBB				⇑Lg		Lg	10 49 31.7	
	19nm,0.6s							
KURK	**Kurchatov**	**2.20**	**113**	⇓Pg		**Pn**	**10 49 01.8**	**+0.3**
	1.8nm,0.6s							
KURK				⇓Lg		Lg	10 49 30.4	
	7.9nm,0.6s							
BVA0	**Borovoye Array**	**3.40**	**296**	Pg		**Pb**	**10 49 23.8**	**-0.9**
	1.3nm,0.6s,baz=115,slow=16,SNR=8.6							
BVA0				⇑Lg		Lg	10 50 09.5	
	6.1nm,0.6s,baz=111,slow=27,SNR=12							
BVAR	**Borovoye Array**	**3.40**	**296**	Pn		**Pn**	**10 49 18.6**	**+0.7**
	baz=137,slow=15,SNR=2.5							
BVAR				Pg		**Pb**	**10 49 23.9**	**-0.8**
	0.1nm,0.3s,baz=113,slow=17,SNR=9.4							
BVAR				Lg		Lg	10 50 10.2	
	0.3nm,0.3s,baz=99,slow=29,SNR=8.7							
	0.4nm,0.3s							

I46RU ZALESOVO INFRA 6.15 64 I I 11 24 00.0
baz=246,slow=307,SNR=1.0
ZALV Zalesovo Beam 6.15 64 Pn **Pn 10 49 56.2 +0.6**
0.2nm,0.3s,baz=259,slow=15,SNR=2.9
0.5nm,0.4s
MK31 Makanchi Array 6.60 135 ⇑Sn **Sn 10 51 18.6 +0.8**
0.3nm,0.4s,baz=322,slow=19,SNR=4.2
MK31 ⇑Lg Lg 10 51 51.0
2.5nm,0.7s,baz=315,slow=26,SNR=6.4
MKAR Makanchi Array 6.60 135 Pn **Pn 10 50 02.2 +0.3**
0.1nm,0.3s,baz=321,slow=11,SNR=1.9
MKAR Sn **Sn 10 51 17.2 -0.6**
0.1nm,0.3s,baz=349,slow=13,SNR=3.3
MKAR Lg Lg 10 51 52.7
0.2nm,0.3s,baz=321,slow=25,SNR=10
0.1nm,0.3s

WEL 21 10:51:41.2±0.3, **45°S**±2°×**16°9E**±°, **h5**km, **M3.6**/11, **ML3.8**/13, **MLv3.6**/11, **Error ellipse: s-maj=0.0km s-min=0.0km az=129.5, confirmed, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
GLNY	**Glenorchy**	**0.20**	**258**	P		Pg	10 51 45.2	+0.2
GLNY				S		Sg	10 51 48.6	+1.0
QTPS	**Queenstown Pol**	**0.21**	**183**	P		Pg	10 51 46.8	+1.5
QTPS				S		Sg	10 51 50.0	+1.9
WKZ	**Wanaka**	**0.24**	**91**	P		Pg	10 51 47.4	+1.5
WKZ				S		Sg	10 51 51.4	+2.3
WNPS	**Wanaka Nationa**	**0.35**	**69**	P		Pg	10 51 47.7	-0.3
WNPS				S		Sg	10 51 53.6	+0.9
MSZ	**Milford Sound**	**0.56**	**285**	P		Pg	10 51 52.6	+0.7
MSZ				S		Sg	10 52 00.0	+0.9
EAZ	**Earnscleugh**	**0.60**	**133**	P		Pg	10 51 53.4	+0.6
EAZ				S		Sg	10 52 00.9	+0.2
MLZ	**Mavora Lakes**	**0.67**	**216**	P		Pg	10 51 54.6	+0.5
MLZ				S		Sg	10 52 03.9	+1.0
MECS	**Makarora Emerg**	**0.71**	**34**	P		Pb	10 51 55.5	-0.5
MECS				S		Sg	10 52 04.7	+0.6
JCZ	**Jackson Bay**	**0.75**	**6**	P		Pg	10 51 56.1	+0.4
JCZ				S		Sg	10 52 06.1	+0.7
NSBS	**Neils Beach**	**0.83**	**359**	P		Pb	10 51 57.6	-0.4
NSBS				S		Sg	10 52 08.5	+0.8
LBZ	**Lake Benmore**	**1.16**	**68**	P		Pg	10 52 03.4	-0.1
LBZ				S		Sb	10 52 19.0	-0.1
WHZ	**Wether Hill Ro**	**1.19**	**205**	P		Pg	10 52 03.3	-0.6
WHZ				S		Sg	10 52 19.6	+0.2
TUZ	**Tuapeka**	**1.31**	**150**	P		Pn	10 52 05.9	-0.3
TUZ				S		Sg	10 52 22.3	-1.1
ODZ	**Otahua Downs**	**1.41**	**100**	P		Pn	10 52 06.6	-0.9
ODZ				S		Sb	10 52 25.7	-0.6
FOZ	**Fox Glacier**	**1.53**	**33**	P		Pn	10 52 09.4	+0.3
HHSZ	**Highcliff Hill**	**1.72**	**129**	P		Pn	10 52 11.8	0.0
HHSZ				S		Sn	10 52 34.0	-0.1
TMZ	**Timaru**	**1.72**	**76**	P		Pn	10 52 10.7	-1.1
SYZ	**Scrubby Hill**	**1.74**	**170**	P		Pn	10 52 11.5	-0.5
GCSZ	**Gaunt Creek Bo**	**1.92**	**39**	P		Pn	10 52 14.3	-0.2
PYZ	**Puysegur Point**	**1.94**	**226**	P		Pn	10 52 15.9	+1.1
ARCZ	**Arundel**	**1.99**	**65**	P		Pn	10 52 14.0	-1.5
RPZ	**Rata Peaks**	**2.04**	**58**	P		Pn	10 52 14.8	-1.3
APZ	**The Paps**	**2.07**	**193**	P		Pn	10 52 15.8	-0.7
WVZ	**Waitaha Valley**	**2.29**	**41**	P		Pn	10 52 20.7	+1.1
WACZ	**Wakanui South**	**2.43**	**70**	P		Pn	10 52 20.1	-1.4
OXZ	**Oxford**	**2.85**	**59**	P		Pn	10 52 25.3	-1.9
INZ	**Inchbonnie**	**2.90**	**45**	P		Pn	10 52 27.3	-0.7
MQZ	**McQueen's Vall**	**3.07**	**70**	P		Pn	10 52 28.6	-1.7
AKCZ	**Akaroa Harbour**	**3.18**	**74**	P		Pb	10 52 36.6	-1.5
LTZ	**Lake Taylor**	**3.31**	**53**	P		Pn	10 52 31.9	-1.7
OKCZ	**Okains Bay**	**3.33**	**72**	P		Pb	10 52 39.0	-1.8
DSZ	**Denniston Nort**	**3.83**	**38**	P		Pn	10 52 39.6	-1.2
THZ	**Tophouse**	**4.34**	**47**	P		Pn	10 52 48.1	+0.2
THZ						P	Pb	10 52 49.2	-8.8
MRNZ	**Matariki Terra**	**4.54**	**43**	P		Pn	10 52 52.0	+1.4
QRZ	**Quartz Range**	**4.90**	**37**	P		Pn	10 52 54.8	-0.6
TKNZ	**Takaka Hill**	**4.92**	**41**	P		Pn	10 52 55.3	-0.5
PKE	**Pukeiti**	**6.87**	**37**	P		Pn	10 53 24.8	+2.1
OUZ	**Omahuta**	**10.30**	**23**	P		Pn	10 54 10.5	+1.0

IDC 21 10:55:47.8±425.0, **57°15N**×**32°55E**, **h0**km, **Error ellipse: s-maj=170.8km s-min=62.1km az=95.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
I43RU	**DUBNA INFRASON 2.59**		**98**	I		I	11 15 40.0	
	0.8nm,0.9s,baz=280,slow=317,SNR=1.4							
I37NO	**I37NO**	**13.47**		**338**	I	I	12 14 10.0	
	baz=142,slow=335,SNR=0.8							
I31KZ	**AKTYUBINSK INF 16.44**			**103**	I	I	12 24 40.0	
	baz=306,slow=282,SNR=1.1							

*IDC **21** 11:24:29.1±1.4, 28°95N×54°27E, h0km, mb3.5/6, mbtmp3.6/7, ML3.7/1, Error ellipse: s-maj=32.5km s-min=27.7km az=176.0*
*TEH **21** 11:24:32.1, 28°76N×54°32E, h22km±48km, ML3.4*
*OMAN **21** 11:24:33.8±0.9, 28°70N×54°35E, h5km, mb4.9/2, ml3.3/8, Error ellipse: s-maj=9.0km s-min=6.4km az=20.0*
ISC 21 11:24:30.5±0.6, **28°95N**±0°04×**54°37E**±0°03, **h10**km, **n48, σ1§53/61, mb3.6/5, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op		ISC		
JHRM	**Jahrom**	**0.82**	**238**	Pg		**Pg**	**11 24 45.8**	**-0.5**
QIR1	**Qir**	**1.25**	**248**	Pg		**Pn**	**11 24 54.4**	**+0.3**
QIR1				Sg		**Sn**	**11 25 13.5**	**+2.5**
LAR1	**LAR**	**1.27**	**180**	Pg		**Pn**	**11 24 54.3**	**-0.1**
LMD1	**Lamerd**	**1.92**	**214**	Pg		**Pn**	**11 25 03.1**	**-0.2**
NGRK	**Negar Kerman**	**2.18**	**71**	Pn		**Pb**	**11 25 11.3**	**+1.1**
GENO	**Geno**	**2.22**	**134**	Pn		**Pn**	**11 25 09.8**	**+2.3**
KHGB	**Koh Gabri**	**2.33**	**52**	Pn		**Pg**	**11 25 14.5**	**-0.6**
TVBK	**TV Kerman**	**2.33**	**63**	Pn		**Pg**	**11 25 14.9**	**-0.3**
IMEH	**Mehriz**	**2.45**	**5**	Pn		**Pg**	**11 25 16.9**	**-0.6**
DSBU	**Dashti - Bushe**	**2.79**	**259**	Pn		**Pn**	**11 25 17.4**	**+2.2**
IBAF	**Bafgh**	**2.83**	**21**	Pn		**Pb**	**11 25 21.4**	**+0.1**
CHMN	**Cheshme madani**	**2.92**	**71**	Pn		**Pb**	**11 25 22.2**	**-0.6**
ISAD	**Sadrabad**	**3.02**	**349**	Pn		**Pb**	**11 25 24.2**	**-0.3**
KLNJ	**Kolanjah**	**3.17**	**311**	Pn		**Pb**	**11 25 25.0**	**-2.0**
IRAM	**Ramesheh**	**3.33**	**329**	Pn		**Pb**	**11 25 27.9**	**-1.9**
KBAM	**BAM**	**3.58**	**86**	Pn		**Pb**	**11 25 30.9**	**-3.1**
MASF	**Masafi**	**3.90**	**155**	P		**Pn**	**11 25 33.0**	**+2.5**
	SNR=5.7							
MASF				S		**Sn**	**11 26 17.5**	**+1.0**
NAZ	**Nazwa, Dubai**	**4.11**	**163**	P		**Pn**	**11 25 36.0**	**+2.7**
	SNR=6.0							
UOSS	**Minazif**	**4.31**	**157**	P		**Pn**	**11 25 37.7**	**+1.6**
UOSS				S		**Sn**	**11 26 27.3**	**+0.8**
SHMA	**Al-Shehemyia**	**4.31**	**225**	P		**Pn**	**11 25 39.0**	**+2.8**
	SNR=11							
SHMA				S		**Sn**	**11 26 28.4**	**+1.9**
FAQ	**Al Faqa, Dubai**	**4.32**	**165**	P		**Pn**	**11 25 38.4**	**+2.1**
	SNR=6.0							
ASUD	**Al Ashush, Dub**	**4.39**	**168**	P		**Pn**	**11 25 39.8**	**+2.6**
ASUD				S		**Sn**	**11 26 28.1**	**-0.2**
HATD	**Hatta, Dubai**	**4.39**	**159**	P		**Pn**	**11 25 40.1**	**+2.8**
	SNR=9.8							
ASHO	**Ashiyiah**	**4.50**	**160**	P		**Pn**	**11 25 40.7**	**+1.9**
	SNR=22							
SAKB	**Bahrain**	**4.51**	**230**	P		**Pn**	**11 25 41.2**	**+2.4**
ALNE	**Al Ain**	**5.02**	**165**	P		**Pn**	**11 25 47.3**	**+1.3**
ALNE				S		**Sn**	**11 26 45.9**	**+1.7**
	SNR=7.1							
TRNA	**Turayna**	**5.05**	**215**	P		**Pn**	**11 25 47.9**	**+1.6**
TRNA				S		**Sn**	**11 26 43.8**	**-0.9**
	SNR=5.7							
SOHO	**SOHO**	**5.17**	**157**	P		**Pn**	**11 25 48.7**	**+0.7**
SOHO				S		**Sn**	**11 26 47.8**	**+0.2**
SMRA	**Abu-Samra**	**5.25**	**218**	P		**Pn**	**11 25 50.5**	**+1.6**
SMRA				S		**Sn**	**11 26 50.0**	**+0.5**
ARQ	**Araqi**	**5.91**	**160**	P		**Pn**	**11 25 59.3**	**+1.1**
ARQ				S		**Sn**	**11 27 05.7**	**-0.3**
BIDO	**Bidbid**	**6.37**	**147**	P		**Pn**	**11 26 06.0**	**+1.6**
BSY	**Bisya**	**6.68**	**157**	P		**Pn**	**11 26 09.8**	**+1.1**
SMDO	**Samad**	**6.73**	**150**	P		**Pn**	**11 26 10.7**	**+1.2**
SMDO				S		**Sn**	**11 27 26.9**	**+0.6**
WSAR	**Wadi Sarin**	**6.85**	**145**	P		**Pn**	**11 26 12.0**	**+0.9**
	SNR=9.4							
WSAR				S		**Sn**	**11 27 27.0**	**-2.2**
WSAR	**Wadi Sarin**	**6.85**	**145**	Pn		**Pn**	**11 26 12.0**	**+0.9**
	1.5nm,0.3s,baz=334,slow=7.4,SNR=13							
WSAR				Sn		**Sn**	**11 27 26.5**	**-2.7**
	0.4nm,0.3s,baz=269,slow=18,SNR=1.4							
	5.3nm,0.5s							
NGCH	**Negor - Chabah**	**7.01**	**119**	P		**Pn**	**11 26 14.1**	**+0.9**
JMDO	**Jabal Madar**	**7.36**	**152**	P		**Pn**	**11 26 19.9**	**+1.8**
WBK	**Wadi Bani Khal**	**7.55**	**146**	P		**Pn**	**11 26 21.2**	**+0.6**
JLN	**Jalan Bani Buh**	**8.15**	**145**	P		**Pn**	**11 26 29.3**	**+0.3**
MHTO	**MHTO**	**8.57**	**157**	P		**Pn**	**11 26 34.9**	**+0.3**
WHFO	**Wadi Hawf**	**10.99**	**183**	P		**Pn**	**11 27 06.7**	**-1.2**
DMTO	**DMTO**	**11.19**	**177**	P		**Pn**	**11 27 09.8**	**-0.8**
BRTR	**Keskin Array B**	**20.17**	**308**	P		**P**	**11 29 06.0**	**+0.8**
	0.4nm,0.5s,baz=125,slow=11,SNR=2.2							
	0.4nm,0.5s							
MKAR	**Makanchi Array**	**28.13**	**43**	P		**P**	**11 30 23.1**	**+0.5**
	0.2nm,0.4s,baz=240,slow=8.4,SNR=3.1							
	0.2nm,0.4s							
ZALV	**Zalesovo Beam**	**33.39**	**33**	P		**P**	**11 31 09.9**	**+1.0**
	0.7nm,0.4s,baz=229,slow=8.9,SNR=4.3							
	0.7nm,0.4s							
HFS	**Hagfors**	**41.45**	**330**	P		**P**	**11 32 15.8**	**-1.3**
	1.4nm,0.8s,baz=117,slow=12,SNR=1.2							
	1.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**51.20**	**264**	P		**P**	**11 33 33.7**	**-0.7**
	0.4nm,0.5s,baz=58,slow=8.6,SNR=5.6							
	0.4nm,0.5s							
YKA	**Yellowknife Ar**	**88.45**	**355**	P		**P**	**11 37 22.7**	**0.0**
	0.1nm,0.5s,baz=2.6,slow=5.3,SNR=4.6							
	0.1nm,0.5s							

*NEIC **21** 11:46:07.7±1.1, 60°06N±0°03×151°71W±0°06, h58km±9km, Error ellipse: s-maj=5.3km s-min=3.4km az=221.0*
*AEIC **21** 11:46:08.4±0.9, 60°06N±0°03×151°72W±0°06, h53km±7km, ML3.5, ML3.7/178(NEIC), Error ellipse: s-maj=5.8km s-min=1.4km az=224.0*
ISC 21 11:46:07.5±1.3, **60°04N**±0°03×**151°71W**±0°03, **h62**km±9km, **n312, σ0§60/277, Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
HOM	**Homer**	**0.38**	**175**			**Pn**	**11 46 18.5**	**+0.1**
HOM	**Homer**	**0.38**	**175**			**Sn**	**11 46 27.1**	**+0.7**
HOM	**Homer**	**0.38**	**175**	P		**Pn**	**11 46 18.7**	**+0.2**
	baz=356							
HOM				S		**Sn**	**11 46 27.1**	**+0.7**
	baz=356							
O20K	**Slope Mountain**	**0.46**	**276**			**Pn**	**11 46 19.2**	**-0.1**
O20K						**Sn**	**11 46 28.3**	**+0.4**
O20K	**Slope Mountain**	**0.46**	**276**	P		**Pn**	**11 46 19.2**	**-0.1**
	baz=93							
O20K				S		**Sn**	**11 46 28.3**	**+0.4**
	baz=93							
BRLK	**Bradley Lake**	**0.50**	**123**			**Pn**	**11 46 19.3**	**-0.3**
BRLK	**Bradley Lake**	**0.50**	**123**			**Sn**	**11 46 28.1**	**-0.4**
CNPM	**China Poot**	**0.57**	**155**			**Pn**	**11 46 20.2**	**-0.2**
CNPM					IAML		11 46 31.3	
	comp=N,5μm,0.5s							
CNPM	**China Poot**	**0.57**	**155**			**Sn**	**11 46 29.8**	**+0.1**
BRSE	**Bradley Lake S**	**0.57**	**121**			**Pn**	**11 46 20.1**	**-0.3**
BRSE						**Sn**	**11 46 29.5**	**-0.4**
BRSE	**Bradley Lake S**	**0.57**	**121**	P		**Pn**	**11 46 20.1**	**-0.3**
	baz=303							
BRSE				S		**Sn**	**11 46 29.5**	**-0.4**
	baz=303							
RDT	**Redoubt**	**0.64**	**328**			**Pn**	**11 46 20.4**	**-0.8**
RDT						**Sn**	**11 46 30.6**	**-0.7**
RED	**Redoubt Volcan**	**0.65**	**306**			**Pn**	**11 46 20.9**	**-0.5**
RDSO	**Redoubt South**	**0.66**	**310**			**Pn**	**11 46 21.1**	**-0.6**
RDSO						**Sn**	**11 46 31.3**	**-0.6**
RSO	**Redoubt South**	**0.67**	**310**			**Pn**	**11 46 21.3**	**-0.5**
ILSW	**Iliamna Southw**	**0.72**	**266**			**Pn**	**11 46 21.9**	**-0.3**
ILSW	**Iliamna Southw**	**0.72**	**266**		IAML		11 46 33.0	
	comp=E,2μm,0.3s							
ILSW					IAML		11 46 33.2	
	comp=N,3μm,0.3s							
CAPN	**Captain Cook N**	**0.78**	**20**			**Pn**	**11 46 23.8**	**+1.0**
CAPN	**Captain Cook N**	**0.78**	**20**	P		**Pn**	**11 46 23.8**	**+1.0**
	baz=202							
NCT	**North Crescent**	**0.80**	**311**			**Sn**	**11 46 34.6**	**-0.2**
SLKM	**Skilak Lake**	**0.88**	**57**			**Pn**	**11 46 23.2**	**-0.9**
AU22	**Augustine Moun**	**1.07**	**232**			**Pn**	**11 46 26.8**	**+0.3**
O22K	**Cooper Landing**	**1.09**	**65**			**Pn**	**11 46 26.6**	**-0.1**
O22K	**Cooper Landing**	**1.09**	**65**	P		**Pn**	**11 46 26.6**	**-0.1**
	baz=248							
AUL	**Augustine Lava**	**1.09**	**234**			**Pn**	**11 46 27.3**	**+0.5**
AUCH	**Augustine Cone**	**1.11**	**233**			**Pn**	**11 46 27.7**	**+0.6**
SEW	**Seward**	**1.13**	**86**			**Pn**	**11 46 27.7**	**+0.4**
SEW	**Seward**	**1.13**	**86**	P		**Pn**	**11 46 27.7**	**+0.4**
	baz=268							
N20K	**Mount Spurr**	**1.19**	**348**	P		**Pn**	**11 46 27.8**	**-0.5**
	baz=168							
N20K				S		**Sn**	**11 46 42.6**	**-1.0**
	baz=168							
SPCR	**Spurr Chakacha**	**1.19**	**348**			**Pn**	**11 46 27.8**	**-0.5**
SPCR						**Sn**	**11 46 42.6**	**-1.0**
SPCP	**Crater Peak Br**	**1.25**	**350**			**Sn**	**11 46 45.4**	**+0.3**
SPBG	**Spurr Blockage**	**1.27**	**345**			**Pn**	**11 46 29.1**	**-0.1**
O19K	**Port Alsworth**	**1.32**	**278**			**Pn**	**11 46 29.6**	**-0.1**
O19K	**Port Alsworth**	**1.32**	**278**	P		**Pn**	**11 46 29.6**	**-0.1**
	baz=95							
FIS	**Fire Island**	**1.33**	**33**			**Pn**	**11 46 31.2**	**+1.2**
RC01	**Rabbit Creek A**	**1.44**	**42**	Pn		**Pn**	**11 46 31.4**	**+0.1**
RC01					IAML		11 46 53.7	
	comp=N,1μm,0.6s							
RC01					IAML		11 46 56.0	
	comp=E,1μm,0.5s							
RC01	**Rabbit Creek A**	**1.44**	**42**	P		**Pn**	**11 46 31.2**	**-0.2**
	baz=224							
STLK	**Strandline Lak**	**1.47**	**358**			**Pn**	**11 46 31.9**	**0.0**
SUA	**Susitna One**	**1.51**	**18**	Pn		**Pn**	**11 46 32.5**	**0.0**
SUA					IAML		11 46 56.3	
	comp=E,1μm,0.8s							
SUA	**Susitna One**	**1.51**	**18**	P		**Pn**	**11 46 32.3**	**-0.1**
	baz=199							
N19K	**Bonanza Creek**	**1.58**	**301**			**Pn**	**11 46 33.1**	**-0.3**
N19K	**Bonanza Creek**	**1.58**	**301**	P		**Pn**	**11 46 33.1**	**-0.3**
	baz=118							
O18K	**Koktuh Hills**	**1.77**	**266**			**Pn**	**11 46 35.8**	**-0.1**
O18K	**Koktuh Hills**	**1.77**	**266**		IAML		11 46 58.1	
	comp=E,477nm,0.6s							
O18K	**Koktuh Hills**	**1.77**	**266**	P		**Pn**	**11 46 35.8**	**-0.1**
	baz=82							
M22K	**Willow**	**1.89**	**24**			**Pn**	**11 46 37.8**	**+0.4**
M22K	**Willow**	**1.89**	**24**	P		**Pn**	**11 46 37.8**	**+0.4**
	baz=205							
P18K	**Big Mountain,**	**1.90**	**252**			**Pn**	**11 46 37.4**	**-0.2**
P18K	**Big Mountain,**	**1.90**	**252**	P		**Pn

KDAK					IAML			11 47 24.0	
	comp=N,669nm,0.6s								
SML	**Sawmill**	**2.42**	**41**	Pn		**Pn**	**11 46 44.8**	**0.0**	
SML					IAML		11 47 21.4		
	comp=N,625nm,1.0s								
SML					IAML		11 47 21.8		
	comp=E,577nm,0.9s								
SML	**Sawmill**	**2.42**	**41**	P		**Pn**	**11 46 44.4**	**-0.3**	
	baz=225								
GLI	**Glacier Island**	**2.44**	**68**			**Pn**	**11 46 43.4**	**-1.5**	
GLI					IAML		11 47 22.1		
	comp=N,425nm,0.7s								
GLI					IAML		11 47 24.7		
	comp=E,484nm,0.5s								
GLI	**Glacier Island**	**2.44**	**68**	P		**Pn**	**11 46 43.3**	**-1.6**	
	baz=252								
KAKN	**Katmai Knife C**	**2.45**	**226**			**Pn**	**11 46 45.9**	**+0.7**	
M18K	**Stony River**	**2.49**	**308**			**Pn**	**11 46 45.0**	**-0.6**	
M18K	**Stony River**	**2.49**	**308**	P		**Pn**	**11 46 45.1**	**-0.6**	
	baz=124								
P17K	**Kvichak River**	**2.55**	**253**			**Pn**	**11 46 46.6**	**+0.3**	
P17K	**Kvichak River**	**2.55**	**253**	P		**Pn**	**11 46 46.7**	**+0.3**	
	baz=68								
KABU	**Katmai Buttres**	**2.56**	**228**			**Pn**	**11 46 47.5**	**+0.9**	
ACHA	**Angle Creek He**	**2.61**	**227**			**Pn**	**11 46 48.2**	**+0.8**	
KELA	**Mount Kelaz**	**2.62**	**234**			**Pn**	**11 46 47.8**	**+0.3**	
HIN	**Hinchinbrook I**	**2.62**	**80**			**Pn**	**11 46 46.2**	**-1.3**	
HIN	**Hinchinbrook I**	**2.62**	**80**		IAML		11 47 18.9		
	comp=E,222nm,0.7s								
HIN					IAML		11 47 38.1		
	comp=N,287nm,0.9s								
M23K	**Glacier View**	**2.62**	**46**			**Pn**	**11 46 47.4**	**-0.1**	
M23K	**Glacier View**	**2.62**	**46**	P		**Pn**	**11 46 47.4**	**-0.1**	
	baz=230								
L19K	**White Mountain**	**2.64**	**326**			**Pn**	**11 46 47.7**	**+0.1**	
L19K	**White Mountain**	**2.64**	**326**	P		**Pn**	**11 46 47.7**	**+0.1**	
	baz=143								
L20K	**Farewell, AK**	**2.67**	**338**			**Pn**	**11 46 48.0**	**0.0**	
L20K	**Farewell, AK**	**2.67**	**338**	P		**Pn**	**11 46 48.0**	**0.0**	
	baz=156								
ANCK	**Angle Creek**	**2.68**	**228**			**Pn**	**11 46 48.9**	**+0.6**	
FID	**Port Fidalgo**	**2.69**	**72**		IAML		11 47 18.2		
	comp=N,283nm,0.5s								
FID					IAML		11 47 32.6		
	comp=E,285nm,0.7s								
O17K	**Koliganek Bris**	**2.73**	**267**			**Pn**	**11 46 49.1**	**+0.3**	
O17K	**Koliganek Bris**	**2.73**	**267**	P		**Pn**	**11 46 49.1**	**+0.3**	
	baz=82								
N17K	**Nushagak Hills**	**2.77**	**283**			**Pn**	**11 46 49.0**	**-0.4**	
N17K	**Nushagak Hills**	**2.77**	**283**	P		**Pn**	**11 46 49.0**	**-0.4**	
	baz=98								
SCM	**Sheep Creek Mo**	**2.80**	**48**	P		**Pn**	**11 46 49.7**	**-0.2**	
	baz=232								
R18K	**Karluk**	**2.86**	**211**			**Pn**	**11 46 51.5**	**+0.8**	
R18K	**Karluk**	**2.86**	**211**	P		**Pn**	**11 46 51.5**	**+0.8**	
	baz=28								
Q16K	**King Salmon**	**2.88**	**244**			**Pn**	**11 46 51.3**	**+0.4**	
Q16K	**King Salmon**	**2.88**	**244**	P		**Pn**	**11 46 51.3**	**+0.4**	
	baz=59								
PPLA	**Purkeypile**	**2.88**	**356**	P		**Pn**	**11 46 52.0**	**+1.0**	
	baz=175								
OHAK	**Old Harbor**	**2.94**	**197**			**Pn**	**11 46 51.3**	**-0.4**	
OHAK	**Old Harbor**	**2.94**	**197**		IAML		11 47 38.1		
	comp=N,282nm,0.8s								
OHAK					IAML		11 47 45.0		
	comp=E,226nm,0.8s								
OHAK	**Old Harbor**	**2.94**	**197**	P		**Pn**	**11 46 51.3**	**-0.4**	
	baz=15								
EYAK	**Cordova Ski Ar**	**3.01**	**78**			**Pn**	**11 46 53.3**	**+0.6**	
EYAK	**Cordova Ski Ar**	**3.01**	**78**	P		**Pn**	**11 46 53.3**	**+0.6**	
	baz=263								
M17K	**Holitna River**	**3.13**	**298**			**Pn**	**11 46 54.4**	**0.0**	
M17K	**Holitna River**	**3.13**	**298**		IAML		11 47 57.0		
	comp=N,284nm,0.8s								
M17K	**Holitna River**	**3.13**	**298**	P		**Pn**	**11 46 54.4**	**0.0**	
	baz=113								
WAT1	**Susitna Watana**	**3.19**	**27**	P		**Pn**	**11 46 56.3**	**+1.1**	
	baz=210								
WAT6	**Susitna Watana**	**3.19**	**35**	P		**Pn**	**11 46 55.7**	**+0.4**	
	baz=219								
KLU	**Klutina**	**3.19**	**60**		IAML		11 47 32.5		
	comp=N,306nm,0.4s								
KLU					IAML		11 47 32.5		
	comp=E,148nm,0.3s								
KLU	**Klutina**	**3.19**	**60**	P		**Pn**	**11 46 54.7**	**-0.6**	
	baz=246								
O16K	**Kokwok River B**	**3.25**	**265**			**Pn**	**11 46 56.2**	**+0.2**	
O16K	**Kokwok River B**	**3.25**	**265**		IAML		11 47 50.2		
	comp=N,121nm,0.9s								
O16K	**Kokwok River B**	**3.25**	**265**	P		**Pn**	**11 46 56.2**	**+0.2**	
	baz=79								
L18K	**Granite Mounta**	**3.26**	**314**			**Pn**	**11 46 55.7**	**-0.4**	
L18K	**Granite Mounta**	**3.26**	**314**	P		**Pn**	**11 46 55.7**	**-0.4**	
	baz=130								
P16K	**Nushagak River**	**3.35**	**255**			**Pn**	**11 46 57.9**	**+0.6**	
P16K	**Nushagak River**	**3.35**	**255**	P		**Pn**	**11 46 57.9**	**+0.6**	
	baz=70								
M24K	**Tolsona, Glenn**	**3.40**	**50**			**Pn**	**11 46 58.4**	**+0.3**	
M24K	**Tolsona, Glenn**	**3.40**	**50**	P		**Pn**	**11 46 58.4**	**+0.3**	
	baz=235								
CAST	**Castle Rocks**	**3.40**	**357**	Pn		**Pn**	**11 46 58.7**	**+0.6**	
CAST	**Castle Rocks**	**3.40**	**357**	P		**Pn**	**11 46 58.6**	**+0.6**	
	baz=177								
R17K	**Ugashik Creek**	**3.42**	**227**			**Pn**	**11 47 00.5**	**+2.2**	
R17K	**Ugashik Creek**	**3.42**	**227**		IAML		11 47 43.6		
	comp=E,200nm,1.3s								
R17K					IAML		11 47 44.0		
	comp=N,180nm,0.8s								
R17K	**Ugashik Creek**	**3.42**	**227**	P		**Pn**	**11 47 00.5**	**+2.2**	
	baz=43								
TRF	**Thorofare Moun**	**3.49**	**11**		IAML		11 48 00.2		
	comp=E,182nm,1.2s								
TRF	**Thorofare Moun**	**3.49**	**11**	P		**Pn**	**11 47 00.5**	**+1.1**	
	baz=192								
K20K	**Telida**	**3.52**	**342**			**Pn**	**11 46 60.0**	**+0.3**	
K20K	**Telida**	**3.52**	**342**	P		**Pn**	**11 46 60.0**	**+0.3**	
	baz=160								
GOAT	**Goat Mountain**	**3.52**	**78**			**Pn**	**11 46 59.6**	**-0.1**	
N16K	**Nishlik Lake**	**3.54**	**280**			**Pn**	**11 47 00.2**	**+0.1**	
N16K	**Nishlik Lake**	**3.54**	**280**	P		**Pn**	**11 47 00.2**	**+0.1**	
	baz=94								
KTH	**Kantishna Hill**	**3.55**	**6**			**Pn**	**11 47 00.9**	**+0.8**	
KTH	**Kantishna Hill**	**3.55**	**6**		IAML		11 47 48.2		
	comp=E,204nm,1.2s								
KTH					IAML		11 47 52.9		
	comp=N,226nm,0.7s								
TTA	**Tatalina**	**3.56**	**326**	Pn		**Pn**	**11 47 00.1**	**-0.2**	
TTA	**Tatalina**	**3.56**	**326**	P		**Pn**	**11 47 00.1**	**-0.2**	
	baz=143								
BMRM	**Bremner River**	**3.64**	**72**	P		**Pn**	**11 47 01.6**	**+0.3**	
	baz=258								
RND	**Reindeer**	**3.64**	**21**			**Pn**	**11 47 02.7**	**+1.3**	
RND	**Reindeer**	**3.64**	**21**		IAML		11 47 50.1		
	comp=E,152nm,0.7s								
RND					IAML		11 48 03.7		
	comp=N,151nm,0.9s								
KAIM	**Kayak Island**	**3.67**	**89**			**Pn**	**11 47 00.3**	**-1.4**	
KAIM	**Kayak Island**	**3.67**	**89**		IAML		11 48 12.4		
	comp=N,94nm,1.0s								
KAIM					IAML		11 48 38.6		
	comp=E,103nm,3.6s								
KAIM	**Kayak Island**	**3.67**	**89**	P		**Pn**	**11 47 00.3**	**-1.4**	
	baz=275								
DHY	**Denali Highway**	**3.69**	**32**		IAML		11 47 57.1		
	comp=E,228nm,0.7s								
DHY					IAML		11 48 02.6		
	comp=N,147nm,0.8s								
DHY	**Denali Highway**	**3.69**	**32**	P		**Pn**	**11 47 03.0**	**+0.9**	
	baz=216								
M16K	**Timber Creek**	**3.72**	**289**			**Pn**	**11 47 02.3**	**0.0**	
M16K	**Timber Creek**	**3.72**	**289**		IAML		11 48 05.0		
	comp=E,76nm,0.8s								
M16K					IAML		11 48 06.4		
	comp=N,95nm,0.7s								
M16K	**Timber Creek**	**3.72**	**289**	P		**Pn**	**11 47 02.3**	**0.0**	
	baz=102								
SII	**Sitkinak Islan**	**3.72**	**202**	Pn		**Pn**	**11 47 04.7**	**+2.2**	
N25K	**Chitina, Valde**	**3.82**	**63**			**Pn**	**11 47 03.0**	**-0.8**	
N25K	**Chitina, Valde**	**3.82**	**63**		IAML		11 48 03.4		
	comp=N,91nm,0.6s								
N25K					IAML		11 48 03.6		
	comp=E,97nm,0.6s								
N25K	**Chitina, Valde**	**3.82**	**63**	P		**Pn**	**11 47 03.1**	**-0.8**	
	baz=249								
L17K	**Donlin**	**3.83**	**306**			**Pn**	**11 47 03.6**	**-0.2**	
L17K	**Donlin**	**3.83**	**306**	P		**Pn**	**11 47 03.6**	**-0.2**	
	baz=120								
CHUM	**Lake Minchumin**	**3.87**	**356**			**Pn**	**11 47 04.9**	**+0.5**	
CHUM	**Lake Minchumin**	**3.87**	**356**	P		**Pn**	**11 47 04.9**	**+0.5**	
	baz=176								
MCK	**McKinley**	**3.93**	**18**			**Pn**	**11 47 06.7**	**+1.3**	
MCK	**McKinley**	**3.93**	**18**	P		**Pn**	**11 47 06.6**	**+1.3**	
	baz=201								
HARP	**HAARP**	**3.96**	**50**			**Pn**	**11 47 05.9**	**+0.3**	
HARP	**HAARP**	**3.96**	**50**	P		**Pn**	**11 47 05.9**	**+0.3**	
	baz=236								
SUCK	**Suckling Hills**	**3.98**	**86**	Pn		**Pn**	**11 47 06.7**	**+0.8**	
SUCK					IAML		11 48 35.5		
	comp=E,66nm,2.7s								
BERG	**Berg Lake**	**4.01**	**81**			**Pn**	**11 47 06.0**	**-0.4**	
BERG	**Berg Lake**	**4.01**	**81**		IAML		11 48 19.2		
	comp=N,113nm,0.7s								
BERG					IAML		11 48 28.4		
	comp=E,129nm,0.6s								
WACK	**Wrangell Chich**	**4.09**	**58**			**Pn**	**11 47 07.6**	**-0.1**	
BPAW	**Bear Paw Mtn.**	**4.09**	**4**			**Pn**	**11 47 08.0**	**+0.5**	
BPAW	**Bear Paw Mtn.**	**4.09**	**4**		IAML		11 48 15.4		
	comp=E,76nm,0.7s								
BPAW					IAML		11 48 23.3		
	comp=N,80nm,0.7s								
BPAW	**Bear Paw Mtn.**	**4.09**	**4**	P		**Pn**	**11 47 08.0**	**+0.5**	
	baz=185								
GLB	**Gilahina Butte**	**4.13**	**67**			**Pn**	**11 47 07.0**	**-1.0**	
GLB	**Gilahina Butte**	**4.13**	**67**		IAML		11 48 11.2		
	comp=N,73nm,0.8s								
GLB					IAML		11 48 16.6		
	comp=E,60nm,0.9s								
WASW	**Wrangell South**	**4.13**	**59**			**Pn**	**11 47 08.0**	**-0.3**	
L16K	**Owhat River**	**4.15**	**297**			**Pn**	**11 47 08.5**	**+0.2**	
L16K	**Owhat River**	**4.15**	**297**		IAML		11 48 20.5		
	comp=N,62nm,0.9s								
L16K	**Owhat River**	**4.15**	**297**	P		**Pn**	**11 47 08.5**	**+0.2**	
	baz=110								
K17K	**Iditarod**	**4.16**	**313**			**Pn**	**11 47 08.1**	**-0.2**	
K17K	**Iditarod**	**4.16**	**313**		IAML		11 48 20.8		
	comp=N,65nm,3.0s								
K17K					IAML		11 48 21.1		
	comp=E,70nm,0.9s								
K17K	**Iditarod**	**4.16**	**313**	P		**Pn**	**11 47 08.1**	**-0.2**	
	baz=127								
J18K	**Innoko River**	**4.18**	**327**			**Pn**	**11 47 08.9**	**+0.2**	
J18K	**Innoko River**	**4.18**	**327**	P		**Pn**	**11 47 08.9**	**+0.2**	
	baz=143								
PAX	**Paxson**	**4.19**	**43**	P		**Pn**	**11 47 09.3**	**+0.4**	
	baz=228								
N15K	**Kwethluk River**	**4.20**	**275**			**Pn**	**11 47 09.3**	**+0.3**	
N15K	**Kwethluk River**	**4.20**	**275**		IAML		11 48 27.2		
	comp=N,113nm,1.0s								
N15K					IAML		11 48 27.7		
	comp=E,93nm,0.8s								
N15K	**Kwethluk River**	**4.20**	**275**	P		**Pn**	**11 47 09.3**	**+0.3**	
	baz=88								
WAZA	**Wrangell Mount**	**4.20**	**58**			**Pn**	**11 47 09.3**	**0.0**	
O15K	**Ungalikthuk R**	**4.21**	**262**			**Pn**	**11 47 09.8**	**+0.7**	
O15K	**Ungalikthuk R**	**4.21**	**262**	P		**Pn**	**11 47 09.9**	**+0.7**	
	baz=74								
KHIT	**Khitov Hills**	**4.24**	**81**			**Pn**	**11 47 08.9**	**-0.6**	
VRDI	**Verde Repeater**	**4.24**	**70**			**Pn**	**11 47 09.1**	**-0.6**	
VRDI	**Verde Repeater**	**4.24**	**70**		IAML		11 48 27.4		
	comp=N,58nm,2.5s								
J20K	**Nowinta River**	**4.31**	**346**			**Pn**	**11 47 10.8**	**+0.3**	
J20K	**Nowinta River**	**4.31**	**346**	P		**Pn**	**11 47 10.8**	**+0.3**	
	baz=164								
CRQM	**Cirque**	**4.31**	**77**			**Pn**	**11 47 10.7**	**0.0**	
CRQM	**Cirque**	**4.31**	**77**		IAML		11 48 33.7		
	comp=N,71nm,1.4s								
CRQM					IAML		11 48 39.9		
	comp=E,78nm,0.9s								
CRQE	**Cirque**	**4.33**	**77**	P		**Pn**	**11 47 10.7**	**-0.2**	
	baz=264								
J19K	**Poorman**	**4.38**	**337**	P		**Pn**	**11 47 11.6**	**+0.3**	
	baz=153								
SNH	**Sunshine Point**	**4.44**	**84**			**Pn**	**11 47 12.2**	**-0.1**	
SNH	**Sunshine Point**	**4.44**	**84**		IAML		11 48 33.4		
	comp=N,53nm,2.6s								
SNH					IAML		11 49 53.8		
	comp=E,52nm,2.4s								
TGL	**Tana Glacier**	**4.46**	**77**			**Pn**	**11 47 12.5**	**-0.2**	
TGL	**Tana Glacier**	**4.46**	**77**		IAML		11 48 36.6		
	comp=N,51nm,1.1s								
MCARA	**McCarthy VSAT**	**4.48**	**69**			**Pn**	**11 47 12.8**	**+0.1**	
MCARA	**McCarthy VSAT**	**4.48**	**69**		IAML		11 48 29.3		
	comp=E,109nm,0.7s								
MCARA					IAML		11 48 38.0		
	comp=N,87nm,1.1s								
MCARA	**McCarthy VSAT**	**4.48**	**69**	P		**Pn**	**11 47 12.8**	**+0.1**	
	baz=256								
M15K	**Kasigluk River**	**4.51**	**282**			**Pn**	**11 47 13.1**	**-0.1**	
M15K	**Kasigluk River**	**4.51**	**282**	P		**Pn**	**11 47 13.1**	**-0.1**	
	baz=94								
BARK	**Barkley Ridge**	**4.61**	**81**			**Pn**	**11 47 13.6**	**-1.1**	
ISLE	**Juniper Island**	**4.69**	**79**			**Pn**	**11 47 15.4**	**-0.7**	
ISLE	**Juniper Island**	**4.69**	**79**		IAML		11 48 48.2		
	comp=E,44nm,0.7s								
ISLE					IAML		11 48 50.8		
	comp=N,75nm,1.2s								
PTPK	**Patty Peak**	**4.70**	**72**			**Pn**	**11 47 15.2**	**-0.7**	
KIAG	**Kiagna River**	**4.71**	**75**			**Pn**	**11 47 15.4**	**-0.7**	
NEA2	**Nenana**	**4.74**	**14**			**Pn**	**11 47 16.6**	**+0.3**	
NEA2	**Nenana**	**4.74**	**14**		IAML		11 48 35.3		
	comp=E,44nm,1.0s								
NEA2					IAML		11 48 40.2		
	comp=N,42nm,1.0s								
NEA2	**Nenana**	**4.74**	**14**	P		**Pn**	**11 47 16.5**	**+0.3**	
	baz=196								
WRH	**Wood River Hil**	**4.76**	**19**			**Pn**	**11 47 17.1**	**+0.5**	
WRH	**Wood River Hil**	**4.76**	**19**		IAML		11 48 19.8		
	comp=N,71nm,0.6s								
BAGL	**Bagley Icefiel**	**4.81**	**80**			**Pn**	**11 47 17.7**	**+0.4**	
M26K	**Nabesna, AK**	**4.83**	**57**			**Pn**	**11 47 17.5**	**-0.2**	
M26K	**Nabesna, AK**	**4.83**	**57**		IAML		11 48 53.5		
	comp=N,42nm,0.8s								
M26K					IAML		11 48 54.4		
	comp=E,39nm,0.6s								
M26K	**Nabesna, AK**	**4.83**	**57**	P		**Pn**	**11 47 17.5**	**-0.2**	
	baz=245								
MESA	**MESA**	**4.89**	**84**			**Pn**	**11 47 17.9**	**-0.6**	
MESA	**MESA**	**4.89**	**84**	P		**Pn**	**11 47 17.9**	**-0.6**	
	baz=273								
O14K	**Tigyukauivet M**	**4.91**	**265**			**Pn**	**11 47 19.2**	**+0.6**	
O14K	**Tigyukauivet M**	**4.91**	**265**		IAML		11 48 30.2		
	comp=E,62nm,3.0s								
O14K					IAML		11 49 18.7		
	comp=N,76nm,3.1s								
O14K	**Tigyukauivet M**	**4.91**	**265**	P		**Pn**	**11 47 19.2**	**+0.6**	
	baz=76								
HDA	**Harding Lake**	**4.92**	**25**			**Pn**	**11 47 19.4**	**+0.6**	
HDA	**Harding Lake**	**4.92**	**25**		IAML		11 48 37.1		
	comp=E,72nm,1.1s								
HDA	**Harding Lake**	**4.92**	**25**	P		**Pn**	**11 47 19.4**	**+0.6**	
	baz=209								
HDA					P		**11 47 19.4**	**+0.6**	
	baz=209								
RIDG	**Independent Ri**	**4.93**	**38**			**Pn**	**11 47 19.8**	**+0.8**	
RIDG	**Independent Ri**	**4.93**	**38**	P		**Pn**	**11 47 19.8**	**+0.8**	
	baz=224								
I20K	**Naaghedeneel**	**4.95**	**346**			**Pn**	**11 47 19.6**	**+0.5**	
I20K	**Naaghedeneel**	**4.95**	**346**	P		**Pn**	**11 47 19.6**	**+0.5**	
	baz=164								
CCB	**Clear Creek Bu**	**4.97**	**20**		IAML		11 48 26.0		
	comp=N,32nm,0.6s								
CCB					IAML		11 48 40.5		
	comp=E,46nm,1.6s								
GRNC	**Granite Creek**	**4.99**	**78**			**Pn**	**11 47 20.2**	**+0.2**	
GRNC	**Granite Creek**	**4.99**	**78**		IAML		11 48 53.0		
	comp=N,41nm,0.8s								
N14K	**Kuskokwak Cree**	**5.01**	**273**			**Pn**	**11 47 20.1**	**+0.1**	
N14K	**Kuskokwak Cree**	**5.01**	**273**	P		**Pn**	**11 47 20.1**	**+0.1**	
	baz=84								
MLY	**Manley**	**5.03**	**5**			**Pn**	**11 47 20.8**	**+0.4**	
MLY	**Manley**	**5.03**	**5**		IAML		11 49 03.3		
	comp=N,31nm,1.4s								
MLY	**Manley**	**5.03**	**5**	P		**Pn**	**11 47 20.8**	**+0.4**	
	baz=186								
L15K	**Ungalak Mounta**	**5.05**	**293**			**Pn**	**11 47 21.0**	**+0.4**	
L15K	**Ungalak Mounta**	**5.05**	**293**	P		**Pn**	**11 47 21.0**	**+0.4**	
	baz=104								
BARN	**Barnard Glacie**	**5.07**	**74**			**Pn**	**11 47 21.3**	**+0.3**	
M14K	**Bethel**	**5.13**	**282**			**Pn**	**11 47 22.4**	**+0.7**	
M14K	**Bethel**	**5.13**	**282**	P		**Pn**	**11 47 22.4**	**+0.7**	
	baz=93								
I21K	**Tanana**	**5.16**	**359**			**Pn**	**11 47 22.6**	**+0.5**	
I21K	**Tanana**	**5.16**	**359**		IAML		11 48 49.5		
	comp=N,34nm,0.8s								
I21K					IAML		11 49 18.0		
	comp=E,33nm,4.3s								
I21K	**Tanana**	**5.16**	**359**	P		**Pn**	**11 47 22.6**	**+0.5**	
	baz=178								
COLA	**College**	**5.17**	**19**			**Pn**	**11 47 22.7**	**+0.5**	
MDM	**Murphy Dome**	**5.20**	**17**			**Pn**	**11 47 22.9**	**+0.3**	
MDM	**Murphy Dome**	**5.20**	**17**		IAML		11 48 28.2		
	comp=N,35nm,0.6s								
MDM					IAML		11 48 53.2		
	comp=E,41nm,1.3s								
CTG	**Chitna Glacier**	**5.21**	**75**	P		**Pn**	**11 47 22.6**	**-0.3**	
	baz=264								
CTGM	**Chitina Glacie**	**5.21**	**75**			**Pn**	**11 47 22.6**	**-0.4**	
I23K	**Minto, Yukon-K**	**5.24**	**11**			**Pn**	**11 47 23.7**	**+0.5**	
I23K	**Minto, Yukon-K**	**5.24**	**11**		IAML		11 48 30.1		
	comp=N,37nm,0.7s								
I23K					IAML		11 49 37.6		
	comp=E,39nm,4.7s								
I23K	**Minto, Yukon-K**	**5.24**	**11**	P		**Pn**	**11 47 23.7**	**+0.5**	
	baz=193								
IL31		**5.25**	**23**			**Pn**	**11 47 23.7**	**+0.4**	
K15K	**Wolf Creek Mou**	**5.26**	**300**			**Pn**	**11 47 24.0**	**+0.5**	
K15K	**Wolf Creek Mou**	**5.26**	**300**		IAML		11 48 43.1		
	comp=N,57nm,3.4s								
K15K					IAML		11 49 19.4		
	comp=E,51nm,4.3s								
K15K	**Wolf Creek Mou**	**5.26**	**300**	P		**Pn**	**11 47 24.0**	**+0.5**	
	baz=111								
TABL	**Table Mountain**	**5.28**	**81**			**Pn**	**11 47 24.0**	**+0.1**	
TABL	**Table Mountain**	**5.28**	**81**		IAML		11 48 25.3		
	comp=E,33nm,1.4s								
TABL					IAML		11 49 28.2		
	comp=N,30nm,2.0s								
GCSA	**Galena City Sc**	**5.30**	**335**			**Pn**	**11 47 23.6**	**-0.4**	
GCSA	**Galena City Sc**	**5.30**	**335**	P		**Pn**	**11 47 23.6**	**-0.4**	
	baz=151								
J16K	**Anvik River**	**5.34**	**311**			**Pn**	**11 47 24.7**	**+0.2**	
J16K	**Anvik River**	**5.34**	**311**		IAML		11 49 06.2		
	comp=E,33nm,4.1s								
J16K					IAML		11 50 13.1		
	comp=N,32nm,4.1s								
J16K	**Anvik River**	**5.34**	**311**	P		**Pn**	**11 47 24.7**	**+0.2**	
	baz=124								
LOGN	**Logan Glacier**	**5.36**	**77**			**Pn**	**11 47 25.0**	**0.0**	
LOGN	**Logan Glacier**	**5.36**	**77**		IAML		11 48 59.5		
	comp=N,24nm,3.5s								
SCRK	**Sand Creek**	**5.37**	**39**		IAML		11 48 58.5		
	comp=N,62nm,1.4s								
SCRK	**Sand Creek**	**5.37**	**39**	P		**Pn**	**11 47 24.7**	**-0.3**	
	baz=226								
J25K	**Salcha River,**	**5.46**	**30**			**Pn**	**11 47 26.8**	**+0.5**	
J25K	**Salcha River,**	**5.46**	**30**	P		**Pn**	**11 47 26.8**	**+0.5**	
	baz=216								
SAMH	**Samovar Hills**	**5.47**	**84**			**Pn**	**11 47 27.4**	**+0.9**	
L14K	**Kuka Creek**	**5.55**	**288**			**Pn**	**11 47 27.9**	**+0.6**	
L14K	**Kuka Creek**	**5.55**	**288**	P		**Pn**	**11 47 27.9**	**+0.6**	
	baz=99								
L27K	**Beaver Creek,**	**5.61**	**53**	P		**Pn**	**11 47 28.1**	**-0.2**	
	baz=242								
BCAR	**Beaver Creek A**	**5.63**	**53**	Pn		**Pn**	**11 47 28.2**	**-0.4**	
H21K	**Melozitna Rive**	**5.66**	**355**	P		**Pn**	**11 47 29.7**	**+0.8**	
	baz=174								
PCA	**Pinnacle**	**5.74**	**84**			**Pn**	**11 47 29.9**	**-0.1**	
PINM	**Pinnacle**	**5.74**	**84**	P		**Pn**	**11 47 29.9**	**-0.2**	
	baz=275								
M13K	**Dall Lake**	**5.81**	**279**			**Pn**	**11 47 31.9**	**+0.9**	
M13K	**Dall Lake**	**5.81**	**279**	P		**Pn**	**11 47 31.9**	**+0.9**	
	baz=88								
J26L	**Joseph Creek**	**5.87**	**37**	P		**Pn**	**11 47 32.1**	**+0.2**	
	baz=224								
H19K	**Roundabout Mou**	**5.92**	**341**	P		**Pn**	**11 47 33.0**	**+0.6**	
	baz=156								
H18K	**Honhosa River**	**5.98**	**332**			**Pn**	**11 47 34.0**	**+0.7**	
H18K	**Honhosa River**	**5.98**	**332**	P		**Pn**	**11 47 34.0**	**+0.7**	
	baz=146								
IMAR	**Indian Mountai**	**6.04**	**352**	Pn		**Pn**	**11 47 34.5**	**+0.4**	
H24K	**Noodor Dome**	**6.08**	**15**			**Pn**	**11 47 35.6**	**+0.9**	
H24K	**Noodor Dome**	**6.08**	**15**	P		**Pn**	**11 47 35.6**	**+0.9**	
	baz=198								
PRP	**Porcupine Dome**	**6.19**	**25**			**Pn**	**11 47 37.1**	**+0.8**	
PRP	**Porcupine Dome**	**6.19**	**25**

JTAJ					S		Sn	11 59 07.6	-0.6
MKAR	**Makanchi Array**	**42.38**	**312**		P		P	**12 05 42.2**	**+1.1**
	0.3nm,0.7s,baz=98,slow=8.9,SNR=2.6								
	0.3nm,0.7s								
WRA	**Warramunga Arr**	**46.14**	**174**		P		P	**12 06 12.4**	**+1.0**
	0.4nm,0.9s,baz=354,slow=8.4,SNR=4.7								
	0.4nm,0.9s								
ASAR	**Alice Springs**	**49.79**	**175**		P		P	**12 06 41.4**	**+1.8**
	0.2nm,0.7s,baz=4.3,slow=14,SNR=2.3								
	0.2nm,0.7s								

DNK 21 12:00:48.8±1.0, 58°.70N×12°.30E, h0km, ML1.4(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANU	**Vaenersborg**	**0.24**	**210**	P	Pg	12 00 53.4	+0.1
	baz=27						
VANU				S	Sg	12 00 56.7	+0.4
NASU	**Vaermlandsnaes**	**0.52**	**63**	P	Pg	12 00 58.2	-0.5
STRU	**Stroemstad**	**0.67**	**301**	P	Pg	12 01 01.8	+0.2
TJOU	**Tjoern**	**0.76**	**208**	P	Pg	12 01 02.7	-0.5
BORU	**Boraas**	**1.09**	**167**	*e*P	Pg	12 01 07.9	-1.8
BORU				P	Pb	12 01 08.2	-2.3
ONAU	**Onsala**	**1.32**	**189**	*e*P	Pg	12 01 11.5	-2.5
ONAU				P	Pb	12 01 12.4	-2.0
FABU	**Falkenberg**	**1.71**	**172**	*e*P	Pb	12 01 20.6	-0.5

*AEIC **21** 12:13:35.0±0.9, 54°.67N±0°.03×160°.86W±0°.03, h12km±5km, Error ellipse: s-maj=4.9km s-min=2.2km az=187.0*
NEIC 21 12:13:34.0±1.2, 54°.65N±0°.04×160°.85W±0°.04, h23km±9km, ML3.5/12, ML3.0(AEIC), Error ellipse: s-maj=5.5km s-min=3.1km az=198.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.73**	**17**		Pb	12 13 48.3	+0.3
SDPT	**Sand Point**	**0.73**	**17**		Sb	12 13 58.0	+0.4
SDPT	**Sand Point**	**0.73**	**17**	IAML		12 13 58.6	
	comp=N,448nm,0.3s						
SDPT				IAML		12 13 58.7	
	comp=E,771nm,0.4s						
CNBA	**Chernabura Isl**	**0.75**	**77**		Pn	12 13 48.9	-0.3
CNBA					Sn	12 13 59.1	-0.7
PVV	**Pavlof Volcano**	**0.90**	**324**		Pb	12 13 50.5	-0.5
PVV					Sb	12 14 02.4	-0.1
PS1A	**Pavlof South-1**	**0.92**	**327**		Pb	12 13 50.8	-0.6
PS1A					Sb	12 14 02.8	-0.4
DT1	**Dutton Round H**	**0.94**	**299**		Pb	12 13 51.3	-0.4
VNKR	**Veniaminof 5**	**1.62**	**31**		Pn	12 14 01.3	+0.1
ISLZ	**Isanotski Laza**	**1.66**	**274**		Pn	12 14 01.9	+0.2
VNSG	**Veniaminof 6**	**1.79**	**34**		Pn	12 14 03.9	+0.4
VNFG	**Fog Glacier, M**	**1.79**	**24**		Pn	12 14 04.1	+0.5
VNFG	**Fog Glacier, M**	**1.79**	**24**	IAML		12 14 40.2	
	comp=E,395nm,2.9s						
VNFG				IAML		12 14 40.5	
	comp=N,441nm,2.9s						
AKUT	**Akutan**	**2.92**	**262**		Pn	12 14 19.6	+0.6
AKUT	**Akutan**	**2.92**	**262**	IAML		12 15 03.9	
	comp=N,201nm,3.7s						
CHIR	**Chirikof Islan**	**3.21**	**67**		Pn	12 14 23.0	0.0
CHIR	**Chirikof Islan**	**3.21**	**67**	IAML		12 15 31.9	
	comp=E,189nm,4.1s						
CHIR				IAML		12 16 25.9	
	comp=N,146nm,2.8s						
R16K	**Pilot Point**	**3.45**	**31**		Pn	12 14 26.5	+0.3
O14K	**Tigyukauivet M**	**4.62**	**357**	Pn	Pn	12 14 41.9	-0.3
ILSW	**Iliamna Southw**	**6.78**	**35**	Pn	Pn	12 15 12.5	+0.4
M17K	**Holitna River**	**7.00**	**14**	Pn	Pn	12 15 15.2	+0.1
RSO	**Redoubt South**	**7.27**	**33**	Pn	Pn	12 15 19.4	+0.5
L18K	**Granite Mounta**	**7.89**	**14**	Pn	Pn	12 15 26.6	-0.7

*KRNET **21** 12:25:07.4±0.1, 40°.12N×72°.63E, h17km, mb3.5*
*ISU **21** 12:25:09.2, 40°.23N×72°.48E, h6km*
*SOME **21** 12:25:10.0, 40°.23N×72°.70E, h15km*
*NNC **21** 12:25:11.2±0.9, 40°.34N×72°.67E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=7.5km s-min=4.7km az=170.0*
ISC 21 12:25:04.6±1.3, 40°.08N±0°.04×72°.84E±0°.02, h6km±10km, n69, σ1°.36/97, 29C-18D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.45**	**355**	⇑*e*P	**Pb**	**12 25 15.9**	**+0.9**
	baz=17						
OHH				⇑*e*S	**Sb**	**12 25 21.9**	**0.0**
	baz=17						
OHH	**Osh**	**0.45**	**355**	P	**Pb**	**12 25 15.9**	**+0.9**
OHH				S	**Sb**	**12 25 21.9**	**0.0**
SFK	**Sufi-Kurgan**	**0.52**	**97**	⇓*e*P	**Pn**	**12 25 20.2**	**+1.4**
	baz=98						
SFK				⇓*e*S	**Sn**	**12 25 29.6**	**+1.6**
	baz=98						
TSTA	**Tashata**	**0.57**	**331**	P	**Pg**	**12 25 16.8**	**+1.2**
TSTA				S	**Sg**	**12 25 22.4**	**-0.6**
ANR	**Andizhan**	**0.77**	**332**	P	**Pn**	**12 25 21.3**	**-0.8**
DRK	**Karamyk**	**1.00**	**233**	⇑*e*P	**Pb**	**12 25 24.6**	**+0.1**
	baz=25						
DRK				⇑*e*S	**Sb**	**12 25 36.9**	**-1.2**
	baz=25						
ARSB	**Arslanbob**	**1.25**	**5**	⇑*e*P	**Pg**	**12 25 30.5**	**+2.0**
	baz=13						
ARSB				⇑*e*S	**Sn**	**12 25 47.3**	**+1.3**
	baz=13						
ARSB	**Arslanbob**	**1.25**	**5**	P	**Pg**	**12 25 30.5**	**+2.0**
ARSB				S	**Sn**	**12 25 47.3**	**+1.3**
BTK	**Batken**	**1.55**	**270**	⇑*e*P	**Pn**	**12 25 32.9**	**0.0**
	baz=68						
BTK				⇑*e*S	**Sn**	**12 25 51.3**	**-2.1**
	baz=68						
BTK	**Batken**	**1.55**	**270**	P	**Pn**	**12 25 32.9**	**0.0**
BTK				S	**Sn**	**12 25 51.3**	**-2.1**
ARLS	**Aral**	**2.10**	**32**	⇑*e*P	**Pg**	**12 25 45.4**	**+0.5**
	baz=36						
ARLS				⇑*e*S	**Sg**	**12 26 13.2**	**+1.0**
	baz=36						
AML	**Almayashu**	**2.15**	**17**	P	**Pg**	**12 25 45.8**	**0.0**
	SNR=153						
AML	**Almayashu**	**2.15**	**17**	⇑*e*P	**Pg**	**12 25 45.8**	**0.0**
	baz=22						
AML				⇑*e*S	**Sg**	**12 26 13.9**	**+0.2**
	baz=22						
AML	**Almayashu**	**2.15**	**17**	⇓Pg	**Pg**	**12 25 47.2**	**+1.4**
AML	6.4nm,0.6s			⇓Lg	Lg	12 26 14.0	
	9.4nm,0.4s						
UCH	**Uchtor**	**2.49**	**30**	P	**Pg**	**12 25 51.3**	**-1.0**
	SNR=11						
UCH	**Uchtor**	**2.49**	**30**	⇓*e*P	**Pg**	**12 25 51.1**	**-1.3**
	baz=33						
UCH				⇓*e*S	**Sg**	**12 26 22.8**	**-1.8**
	baz=33						
CHMG	**Chimgan**	**2.60**	**305**	P	**Pb**	**12 25 51.7**	**0.0**
CHMG				S	**Sb**	**12 26 24.0**	**0.0**
EKS2	**Erkin-Say**	**2.67**	**15**	P	**Pg**	**12 25 56.2**	**+0.3**
	SNR=20						
EKS2	**Erkin-Say**	**2.67**	**15**	⇑*e*P	**Pb**	**12 25 52.7**	**-0.3**
	baz=18						
EKS2				⇑*e*S	**Sb**	**12 26 25.9**	**-0.2**
	baz=18						
MRKS	**Merke**	**2.68**	**6**	*e*Pg	**Pg**	**12 25 56.8**	**+0.9**
	79nm,0.2s						
MRKS				*e*Lg	Lg	12 26 30.6	
	94nm,0.4s						
MRKS	**Merke**	**2.68**	**6**	Pg	**Pg**	**12 25 56.8**	**+0.9**
	79nm,0.2s						
MRKS				Lg	Lg	12 26 30.6	
	94nm,0.4s						
CHRV	**Charvak**	**2.69**	**306**	S	**Sb**	**12 26 27.5**	**+1.1**
KZA	**Kyzart**	**2.70**	**42**	⇑*e*P	**Pb**	**12 25 54.3**	**+0.7**
	baz=44						
KZA				⇑*e*S	**Sg**	**12 26 28.6**	**-2.9**
	baz=44						
NRN	**Naryn**	**2.76**	**60**	⇑*e*P	**Pb**	**12 25 55.0**	**+0.5**
	baz=62						
NRN				⇑*e*S	**Sb**	**12 26 29.9**	**+1.2**
	baz=62						
YBZ	**Yangibazar**	**2.76**	**297**	S	**Sb**	**12 26 30.6**	**+2.2**
AAK	**Ala-Archa**	**2.84**	**25**	P	**Pb**	**12 25 56.3**	**+0.4**
	SNR=15						
AAK	**Ala-Archa**	**2.84**	**25**	⇑*e*P	**Pb**	**12 25 55.6**	**-0.3**
	baz=29						
AAK				⇑*e*S	**Sb**	**12 26 30.7**	**-0.3**
	baz=29						
TGS	**TashGRES**	**2.85**	**299**	S	**Sg**	**12 26 35.3**	**-1.0**
KBK	**Karagaybulak**	**3.02**	**31**	P	**Pg**	**12 26 02.6**	**0.0**
	SNR=5.4						
KBK	**Karagaybulak**	**3.02**	**31**	⇑*e*P	**Pb**	**12 25 58.3**	**-0.7**
	baz=34						
KBK				⇑*e*S	**Sb**	**12 26 35.3**	**-0.9**
	baz=34						
DZA	**Taraz**	**3.03**	**339**	*e*Pg	**Pg**	**12 26 02.5**	**-0.1**
	86nm,0.3s						
DZA				*e*Lg	Lg	12 26 40.5	
	165nm,0.3s						
FRU1	**Bishkek**	**3.04**	**26**	⇓*e*P	**Pb**	**12 25 58.5**	**-0.7**
	baz=29						
FRU1				⇓*e*S	**Sb**	**12 26 35.6**	**-1.1**
	baz=29						
CHMS	**Chumysh**	**3.25**	**26**	⇓*e*P	**Pb**	**12 26 01.2**	**-1.6**
	baz=28						
CHMS				⇓*e*S	**Sb**	**12 26 40.2**	**-2.4**
	baz=28						
CHM	**Chimkent**	**3.31**	**314**	*e*Pg	**Pg**	**12 26 06.8**	**-1.2**
	83nm,0.3s						
CHM				*e*Lg	Lg	12 26 47.8	
	248nm,0.3s						
BOOM	**Boomskoye usch**	**3.35**	**43**	⇑*e*P	**Pb**	**12 26 03.3**	**-1.3**
	baz=45						
BOOM				⇑*e*S	**Sb**	**12 26 44.0**	**-1.8**
	baz=45						
ULHL	**Ulahol**	**3.36**	**49**	⇑*e*P	**Pb**	**12 26 03.5**	**-1.2**
	baz=51						
ULHL				⇑*e*S	**Sb**	**12 26 44.4**	**-1.5**
	baz=51						
USP	**Ospenovka**	**3.42**	**21**	P	**Pg**	**12 26 10.6**	**+0.5**
	SNR=14						
USP	**Ospenovka**	**3.42**	**21**	⇓*e*P	**Pb**	**12 26 03.3**	**-2.3**
	baz=23						
USP				⇓*e*S	**Sb**	**12 26 44.0**	**-3.5**
	baz=23						
KK31	**Karatay Array**	**3.49**	**331**	Pn	**Pn**	**12 26 01.6**	**+2.2**
	0.9nm,0.2s,baz=171,slow=15,SNR=83						
KK31				Pg	**Pg**	**12 26 09.2**	**+2.4**
	5.5nm,0.3s,baz=148,slow=16,SNR=34						
KK31				⇓Sn	**Sn**	**12 26 41.1**	**0.0**
	3.9nm,0.3s,baz=157,slow=26,SNR=4.5						
KK31				⇓Lg	Lg	12 26 51.9	
	8.2nm,0.3s,baz=144,slow=31,SNR=3.8						
KKAR	**Karatay Array**	**3.49**	**331**	⇑*e*P	**Pn**	**12 26 02.0**	**+2.5**
	baz=33						
KKAR				⇑*e*S	**Sn**	**12 26 42.1**	**+1.0**
	baz=33						
TKM2	**Tokmak 2**	**3.51**	**35**	⇓*e*P	**Pb**	**12 26 05.3**	**-2.0**
	baz=38						
TKM2				⇓*e*S	**Sb**	**12 26 47.4**	**-3.0**
	baz=38						
TKM2	**Tokmak 2**	**3.51**	**35**	⇓Pn	**Pb**	**12 26 05.6**	**-1.8**
	0.8nm,0.3s						
TKM2				⇑Pg	**Pg**	**12 26 15.4**	**+3.5**
	4.9nm,0.4s						
TKM2				⇓Lg	Lg	12 26 57.6	
	14nm,0.5s						
SGDS	**Sogindy**	**3.63**	**21**	Pg	**Pg**	**12 26 14.3**	**+0.3**
	5.8nm,0.2s						
SGDS				Lg	Lg	12 27 00.8	
	19nm,0.7s						
KST	**Kastek**	**3.78**	**37**	*e*Pg	**Pg**	**12 26 18.1**	**+1.2**
	2.5nm,0.3s						
KST				*e*Lg	Lg	12 27 07.4	
	22nm,0.2s						
KST	**Kastek**	**3.78**	**37**	Pg	**Pg**	**12 26 18.1**	**+1.2**
	2.5nm,0.3s						
KST				Lg	Lg	12 27 07.4	
	22nm,0.2s						
DGS	**Degeres**	**3.85**	**34**	*e*Pg	**Pg**	**12 26 19.0**	**+0.7**
	10nm,0.6s						
DGS				*e*Lg	Lg	12 27 08.8	
	32nm,0.1s						
DGS	**Degeres**	**3.85**	**34**	Pg	**Pg**	**12 26 19.0**	**+0.7**
	10nm,0.6s						
DGS				Lg	Lg	12 27 08.8	
	32nm,0.1s						
MTBS	**Maitube**	**4.07**	**40**	*e*Pg	**Pg**	**12 26 23.9**	**+1.4**
	4.1nm,0.2s						
MTBS				*e*Lg	Lg	12 27 17.1	
	14nm,0.5s						
MTBS	**Maitube**	**4.07**	**40**	Pg	**Pg**	**12 26 23.9**	**+1.4**
	4.1nm,0.2s						
MTBS				Lg	Lg	12 27 17.1	
	14nm,0.5s						
IZV	**Izvestkoviy**	**4.09**	**43**	*e*Pg	**Pg**	**12 26 24.6**	**+1.6**
	4.2nm,0.6s						
IZV				*e*Lg	Lg	12 27 18.1	
	18nm,0.6s						
IZV	**Izvestkoviy**	**4.09**	**43**	Pg	**Pg**	**12 26 24.6**	**+1.6**
	4.2nm,0.6s						
IZV				Lg	Lg	12 27 18.1	
	18nm,0.6s						
TNSS	**Tian-Shan**	**4.27**	**45**	*e*Pg	**Pg**	**12 26 27.5**	**+1.1**
	3.7nm,0.6s						
TNSS				*e*Lg	Lg	12 27 23.4	
	8.2nm,0.3s						
TNSS	**Tian-Shan**	**4.27**	**45**	Pg	**Pg**	**12 26 27.5**	**+1.1**
	3.7nm,0.6s						
TNSS				Lg	Lg	12 27 23.4	
	8.2nm,0.3s						
MDOK	**Medeo**	**4.41**	**44**	*e*Pg	**Pg**	**12 26 29.8**	**+0.7**
	2.7nm,0.3s						
MDOK				*e*Lg	Lg	12 27 27.3	
	14nm,0.0s						
MDOK	**Medeo**	**4.41**	**44**	Pg	**Pg**	**12 26 29.8**	**+0.7**
	2.7nm,0.3s						
MDOK				Lg	Lg	12 27 27.3	
	14nm,0.0s						
KOTS	**Kotyrbulak**	**4.49**	**44**	*e*Pg	**Pg**	**12 26 31.7**	**+1.1**
	3.9nm,0.3s						
KOTS				*e*Lg	Lg	12 27 30.4	
	39nm,0.5s						
KOTS	**Kotyrbulak**	**4.49**	**44**	Pg	**Pg**	**12 26 31.7**	**+1.1**
	3.9nm,0.3s						
KOTS				Lg	Lg	12 27 30.4	
	39nm,0.5s						
KUU	**Kurty**	**4.62**	**33**	*e*Pg	**Pg**	**12 26 32.5**	**-0.6**
	3.5nm,0.2s						
KUU				*e*Lg	Lg	12 27 31.7	
	28nm,0.6s						
KUU	**Kurty**	**4.62**	**33**	Pg	**Pg**	**12 26 32.5**	**-0.6**
	3.5nm,0.2s						
KUU				Lg	Lg	12 27 31.7	
	28nm,0.6s						
KTBS	**Karatobe**	**4.63**	**37**	*e*Pg	**Pg**	**12 26 32.8**	**-0.4**
	2.2nm,0.6s						
KTBS				*e*Lg	Lg	12 27 32.5	
	22nm,0.5s						
KTBS	**Karatobe**	**4.63**	**37**	Pg	**Pg**	**12 26 32.8**	**-0.4**
	2.2nm,0.6s						
KTBS				Lg	Lg	12 27 32.5	
	22nm,0.5s						
CHKK	**Chushkaly**	**4.88**	**38**	*e*Pg	**Pg**	**12 26 37.8**	**-0.2**
	0.8nm,0.1s						
CHKK				*e*Lg	Lg	12 27 40.9	
	18nm,0.3s						
CHKK	**Chushkaly**	**4.88**	**38**	Pg	**Pg**	**12 26 37.8**	**-0.2**
	0.8nm,0.1s						
CHKK				Lg	Lg	12 27 40.9	
	18nm,0.3s						
BTLS	**Baital**	**5.04**	**10**	*e*Pg	**Pg**	**12 26 39.6**	**-1.5**
	3.6nm,0.6s						
BTLS				*e*Lg	Lg	12 27 43.9	
	6.1nm,0.4s						
BTLS	**Baital**	**5.04**	**10**	Pg	**Pg**	**12 26 39.6**	**-1.5**
	3.6nm,0.6s						
BTLS				Lg	Lg	12 27 43.9	
	6.1nm,0.4s						
SATY	**Saty**	**5.13**	**53**	*e*Pg	**Pg**	**12 26 44.2**	**+1.4**
	2.6nm,0.4s						
SATY				*e*Lg	Lg	12 27 51.7	
	14nm,0.4s						
SATY	**Saty**	**5.13**	**53**	Pg	**Pg**	**12 26 44.2**	**+1.4**
	2.6nm,0.4s						
SATY				Lg	Lg	12 27 51.7	
	14nm,0.4s						
KURS	**Kuram**	**5.24**	**48**	*e*Pg	**Pg**	**12 26 45.9**	**+0.9**
	2.2nm,0.3s						
KURS				*e*Lg	Lg	12 27 54.7	
	4.4nm,0.7s						
KURS	**Kuram**	**5.24**	**48**	Pg	**Pg**	**12 26 45.9**	**+0.9**
	2.2nm,0.3s						
KURS				Lg	Lg	12 27 54.7	
	4.4nm,0.7s						

*HEL **21** 12:28:34.7±0.1, 63°.98N×28°.11E, h0km, ML1.7, Suspected explosion*
*IDC **21** 12:28:35.8±2.3, 63°.89N×27°.87E, h0km, mbtmp3.3/1, ML2.1/1, Error ellipse: s-maj=59.1km s-min=8.2km az=98.0*
ISC 21 12:28:33.6±0.8, 63°.97N±0°.02×28°.17E±0°.03, h0km, n28, σ1°.24/48, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.60**	**195**	PG	**Pb**	**12 28 45.8**	**-1.1**
NIF				SG	**Sg**	**12 28 53.5**	**+0.8**
RMF	**Romuvaara**	**0.82**	**71**	PB	**Pb**	**12 28 50.5**	**-0.1**
RMF				MSG		12 29 00.6	
	comp=Z,5.9nm,0.2s						
RMF				SB	**Sb**	**12 29 01.5**	**-0.6**
OUL	**Oulu**	**1.49**	**320**	PN	**Pg**	**12 29 01.9**	**-0.2**
OUL				SN	**Sg**	**12 29 21.2**	**-0.2**
OUF	**Merijarvi**	**1.56**	**287**	PN	**Pb**	**12 29 02.5**	**-0.7**
OUF				MSG		12 29 20.6	
	comp=Z,6.2nm,0.2s						
OUF				SN	**Sn**	**12 29 22.7**	**-0.6**
OBF4	**Vikkela, Lumij**	**1.58**	**304**	PN	**Pb**	**12 29 03.3**	**-0.3**
OBF4				MSG		12 29 21.1	
	comp=Z,4.6nm,0.2s						
OBF4				SN	**Sg**	**12 29 25.7**	**+1.4**
JOF	**Joensuu**	**1.76**	**125**	PG	**Pg**	**12 29 06.9**	**-0.4**
	baz=305						
JOF				SG	**Sg**	**12 29 30.5**	**+0.4**
OBF0	**Syolatti, Pyha**	**1.80**	**289**	PG	**Pb**	**12 29 06.9**	**-0.4**
OBF0				MSG		12 29 27.6	
	comp=Z,8.3nm,0.2s						
OBF0				SN	**Sb**	**12 29 29.9**	**-0.4**
MSF	**Maaselka**	**1.99**	**10**	PG	**Pb**	**12 29 10.0**	**-0.6**
	baz=191						
MSF				SG	**Sb**	**12 29 35.2**	**-0.7**
KAF	**Kangasniemi**	**2.04**	**205**	PG	**Pb**	**12 29 11.1**	**-0.4**
KAF				MSG		12 29 35.6	
	comp=Z,8.7nm,0.2s						
KAF				SG	**Sg**	**12 29 38.4**	**-0.7**
OBF8	**Ulkokalla**	**2.10**	**282**	PG	**Pg**	**12 29 13.0**	**-0.8**
OBF8				MSG		12 29 36.1	
	comp=Z,3.3nm,0.2s						
KU6	**Riekki**	**2.19**	**19**	PG	**Pb**	**12 29 13.8**	**-0.3**
	baz=203						
KU6				MSG		12 29 39.5	
	comp=Z,3.2nm,0.2s						
KU6				SG	**Sb**	**12 29 41.7**	**-0.1**
KEF	**Keuruu**	**2.35**	**221**	PG	**Pb**	**12 29 16.3**	**-0.3**
KEF				MSG		12 29 44.1	
	comp=Z,4.4nm,0.2s						
KEF				SG	**Sb**	**12 29 46.3**	**+0.2**
OLKF	**Oulanka, Finla**	**2.42**	**12**	PG	**Pb**	**12 29 18.2**	**+0.2**
OLKF				MSG		12 29 46.0	
	comp=Z,3.5nm,0.2s						
OLKF				SG	**Sb**	**12 29 48.1**	**-0.2**
RUF	**Ruokolahti**	**2.58**	**172**	PG	**Pb**	**12 29 20.3**	**-0.3**
RUF				MSG		12 29 51.4	
	comp=Z,3.7nm,0.2s						
RUF				SG	**Sg**	**12 29 54.3**	**-1.9**
VAF	**Ylistaro**	**2.63**	**252**	PB	**Pb**	**12 29 20.2**	**-1.3**
	baz=64						
VAF				MSG		12 29 51.9	
	comp=Z,3.0nm,0.2s						
VAF				SG	**Sb**	**12 29 55.3**	**+1.0**
TOF	**Tornio**	**2.68**	**324**	PB	**Pb**	**12 29 20.4**	**-1.9**
TOF				SB	**Sn**	**12 29 52.1**	**+1.2**
TOF				MSG		12 29 52.7	
	comp=Z,1.2nm,0.2s						
FIA0	**FINESS Array S**	**2.71**	**202**	PB	**Pb**	**12 29 21.4**	**-1.4**
FIA0				MSG		12 29 54.8	
	comp=Z,2.1nm,0.2s						
FIA0				SG	**Sb**	**12 29 56.7**	**+0.2**
FINES	**FINESS Array B**	**2.71**	**202**	Pg	**Pb**	**12 29 21.9**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=21,slow=16,SNR=23						
FINES				Lg	Lg	12 29 56.6	
	comp=Z,0.8nm,0.3s,baz=28,slow=27,SNR=18						
KALU	**Kalix**	**2.79**	**315**	SB	**Sb**	**12 29 57.5**	**-1.5**
RNF	**Rovaniemi**	**2.80**	**342**	PB	**Pb**	**12 29 22.8**	**-1.6**
RNF				SB	**Sb**	**12 29 57.7**	**-1.6**
BURU	**Burvik**	**3.02**	**285**	PN	**Pn**	**12 29 23.7**	**+1.0**
BURU				SG	**Sb**	**12 30 05.8**	**+0.2**
UMAU	**Umeaa**	**3.31**	**272**	PN	**Pn**	**12 29 27.0**	**+0.5**
	baz=86						
ERTU	**Ertsjaerv**	**3.61**	**319**	PN	**Pn**	**12 29 33.1**	**+2.4**
ERTU				SN	**Sn**	**12 30 15.2**	**+1.1**
KLF	**Kolari**	**3.72**	**334**	PB	**Pn**	**12 29 35.0**	**+2.9**
	baz=146						
KLF				SN	**Sn**	**12 30 16.3**	**-0.2**
PAJU	**Pajala**	**3.72**	**328**	SN	**Sn**	**12 30 17.1**	**+0.4**
VRF	**Varrio**	**3.84**	**8**	PB	**Pb**	**12 29 38.3**	**-3.9**
ARCES	**ARCESS Array B**	**5.69**	**351**	Pn	**Pn**	**12 30 01.7**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=172,slow=13,SNR=1.8						
ARCES				Sn	**Sn**	**12 31 04.1**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=168,slow=26,SNR=2.7						
ARCES				Lg	Lg	12 31 30.2	
	comp=Z,0.1nm,0.3s,baz=168,slow=30,SNR=2.7						
	comp=Z,4.5nm,1.1s						
I43RU	**DUBNA INFRASON**	**8.53**	**144**	I	I	13 20 55.0	
	baz=336,slow=332,SNR=4.0						

IDC 21 12:31:10.1±2.6, 6°.67S×129°.21E, h0km, mb3.2/1, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=184.9km s-min=33.1km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.11**	**160**	Pn	Pn	12 34 30.2	-1.1
	0.2nm,0.3s,baz=342,slow=12,SNR=7.9						
WRA				Sn	Sn	12 36 54.0	-15
	0.2nm,0.3s,baz=340,slow=21,SNR=1.9						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**17.49**	**166**	P	P	12 35 16.4	-0.5
	0.3nm,0.3s,baz=345,slow=10.0,SNR=15						
ASAR				S	Sn	12 38 15.8	-15
	0.1nm,0.4s,baz=359,slow=24,SNR=2.0						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**67.52**	**327**	P	P	12 42 08.2	0.0
	0.2nm,0.7s,baz=109,slow=7.1,SNR=1.6						
	0.2nm,0.7s						

*IDC **21** 12:36:29.8±1.1, 23°.12N×143°.92E, h0km, mb3.5/6, mbtmp3.5/8, ML3.1/2, Error ellipse: s-maj=39.3km s-min=23.4km az=87.0*
ISC 21 12:36:35.1±1.1, 23°.3N±0°.1×143°.7E±0°.2, h35km, n9, σ1°.62/10, mb3.5/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.07**	**340**	Pn	**Pn**	**12 37 31.9**	**-3.0**
	2.6nm,0.3s,baz=304,slow=18,SNR=2.0						
JCJ				Sn	**Sn**	**12 38 20.8**	**-0.5**
	14nm,0.3s,baz=127,slow=23,SNR=5.4						
MJAR	**Matsushiro Arr**	**14.07**	**341**	Pn	**Pn**	**12 39 53.5**	**+1.5**
	0.1nm,0.3s,baz=142,slow=14,SNR=1.7						
	0.7nm,0.6s						
KSRS	**Korea Array**	**19.61**	**320**	P	**

Md2.3/32,**ML2.5**/50(NEIC),**Error ellipse: s-maj=5.5km s-min=4.1km az=128.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.08**	**61**		Pn	13 05 49.1	-0.6
HPO	**Honuapo**	**0.13**	**215**		Pn	13 05 49.1	-3.4
KHU	**Kahuku**	**0.14**	**290**		Pn	13 05 49.3	-3.1
KHU				IAML		13 05 54.0	
	comp=N,762nm,0.1s						
AIN	**Ainahou**	**0.17**	**5**		Pn	13 05 49.8	-2.2
AIN				IAML		13 05 54.5	
	comp=E,491nm,0.3s						
AIN				IAML		13 05 55.0	
	comp=N,768nm,0.3s						
HLP	**Hilina Pali**	**0.19**	**58**		Pn	13 05 49.6	-2.1
HLP	**Hilina Pali**	**0.19**	**58**	IAML		13 05 52.4	
	comp=N,634nm,4.2s						
HLP				IAML		13 05 52.9	
	comp=E,708nm,3.3s						
KKO	**Keanakako`i**	**0.28**	**45**	IAML		13 06 00.8	
	comp=E,461nm,1.0s						
UWB	**Uwekahuna B**	**0.29**	**39**	IAML		13 06 04.7	
	comp=N,429nm,2.1s						
BYL	**Byron's Ledge**	**0.29**	**43**	IAML		13 06 04.7	
	comp=E,364nm,1.8s						
BYL				IAML		13 06 05.3	
	comp=N,662nm,1.5s						
SBLHI	**Steaming Bluff**	**0.30**	**40**	IAML		13 05 57.6	
	comp=E,419nm,1.4s						
SBLHI				IAML		13 06 00.8	
	comp=N,388nm,2.6s						
HATHI	**Halema'uma'u T**	**0.30**	**42**	IAML		13 06 00.4	
	comp=E,557nm,1.6s						
HATHI				IAML		13 06 01.2	
	comp=N,379nm,1.0s						
MLH	**Mauna Loa**	**0.31**	**16**	IAML		13 06 01.8	
	comp=N,433nm,3.9s						
MWH	**Moku'aweowe**	**0.31**	**338**	IAML		13 06 01.1	
	comp=E,353nm,3.7s						
RSD	**Rainshed**	**0.32**	**35**	Pn	Pn	13 05 50.5	-1.4
RSD				IAML		13 06 06.0	
	comp=E,380nm,1.8s						
MLOA	**Mauna Loa Obse**	**0.35**	**344**	IAML		13 06 01.5	
	comp=E,436nm,3.5s						
STCH	**Steam Cracks**	**0.38**	**60**	IAML		13 06 07.7	
	comp=E,292nm,2.2s						
NPOC	**North of Pu'u**	**0.40**	**60**	IAML		13 06 01.8	
	comp=N,342nm,0.9s						
NPOC				IAML		13 06 09.2	
	comp=E,510nm,1.2s						
CPH	**Captain Cook**	**0.51**	**305**		Pn	13 05 52.7	-1.7
KHLU	**Kahalu`u**	**0.56**	**315**	IAML		13 05 59.6	
	comp=E,245nm,3.4s						
KHLU				IAML		13 06 00.8	
	comp=N,249nm,0.1s						
POHA	**Pohakuloa**	**0.56**	**354**	Pn	Pn	13 05 53.6	-1.7
HUH	**Hualalai**	**0.59**	**325**	IAML		13 06 10.6	
	comp=N,358nm,3.3s						
HUH				IAML		13 06 10.9	
	comp=E,288nm,3.6s						
HPAH	**Hawaii Prepara**	**0.85**	**346**	IAML		13 06 07.8	
	comp=E,144nm,0.1s						
HPAH				IAML		13 06 17.2	
	comp=N,194nm,4.0s						

*IDC **21** 13:08:34.0±0.9,35°.51N×141°.55E,h0km,mb3.7/12, mbtmp3.8/16,ML3.8/4,MS3.1/5,Error ellipse: s-maj=25.9km s-min=15.9km az=85.0*

*NEIC **21** 13:08:39.1±2.5,35°.38N±0°.06×141°.30E±0°.06,h24km±7km, mb4.3/6,Error ellipse: s-maj=9.3km s-min=6.5km az=144.0*

*NIED **21** 13:08:40.4,35°.49N×141°.08E,h32km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.17; $M_{\theta\theta}$-0.69; $M_{\phi\phi}$0.52; $M_{r\theta}$-0.32; $M_{\theta\phi}$-0.93; $M_{r\phi}$0.11; Fault plane solution: $M_0$1.16000×10^{15} NP1: ϕ_s286.00000°,δ86.00000°,λ162.00000°. NP2: ϕ_s17.00000°,δ72.00000°,λ4.00000°.*

*JMA **21** 13:08:40.4±0.2,35°.5N±0°.6×14°.1E±°,h32km±1km, MV3.7/39,NEAR CHOSHI CITY*

JMA Felt I J1 at NEAR CHOSHI CITY .

ISC 21 13:08:38.2±0.7,35°.44N±0°.05×141°.26E±0°.07,h25km,n67, σ1§62/54,mb3.9/16,**3D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.69**	**287**	*i* P	**Pb**	**13 08 51.5**	**-0.1**
JIHU	**Itakohorinouch**	**0.80**	**312**	‖*i* P	**Pb**	**13 08 53.6**	**+0.2**
BSO1	**Boso 1**	**0.81**	**197**	‖*i* P	**Pb**	**13 08 55.2**	**+1.8**
KTR	**Katsuura**	**0.83**	**250**	P	**Pb**	**13 08 54.0**	**+0.1**
JCN	**Nagara**	**0.87**	**269**	*i* P	**Pb**	**13 08 54.8**	**+0.2**
BSO4	**Boso 4**	**0.88**	**240**	*i* P	**Pn**	**13 08 55.1**	**+0.3**
BSO3	**Boso 3**	**0.88**	**224**	P	**Pn**	**13 08 55.5**	**+0.7**
BSO3				*eX*		13 09 06.7	
JYT	**Yasato**	**1.17**	**313**	‖*i* P	**Pn**	**13 08 58.4**	**-0.6**
JIM2	**Oshima 3**	**1.66**	**245**	*i* P	**Pn**	**13 09 04.5**	**-1.3**
JAG	**Ashikaga**	**1.77**	**304**	*i* P	**Pn**	**13 09 07.1**	**-0.1**
JMM	**Marumori**	**2.45**	**351**		**Pn**	**13 09 17.9**	**+1.3**
JMM	**Marumori**	**2.45**	**351**	P	**Pn**	**13 09 18.1**	**+1.5**
JHJ2	**Mitsune**	**2.61**	**208**	Pn	**Pn**	**13 09 19.4**	**+0.6**
JHJ2	**Mitsune**	**2.61**	**208**	P	**Pn**	**13 09 21.3**	**+2.5**
JHJ	**Hachijo jima 2**	**2.62**	**208**	Pn	**Pn**	**13 09 19.3**	**+0.4**
	19nm,0.3s,baz=331,slow=23,SNR=12						
JHJ				Sn	**Sn**	**13 09 46.4**	**-3.4**
	40nm,0.3s,baz=315,slow=23,SNR=9.6 62nm,0.3s						
JSG	**Sagara**	**2.64**	**254**	Pn	**Pn**	**13 09 17.7**	**-1.5**
JSG	**Sagara**	**2.64**	**254**	P	**Pn**	**13 09 21.1**	**+2.0**
MJAR	**Matsushiro Arr**	**2.71**	**295**	Pn	**Pn**	**13 09 21.1**	**+1.0**
	1.7nm,0.3s,baz=96,slow=8.2,SNR=64 8.6nm,0.4s						
MAJO	**Matsushiro**	**2.71**	**295**		**Pn**	**13 09 21.7**	**+1.5**
MAJO	**Matsushiro**	**2.71**	**295**	P	**Pn**	**13 09 21.9**	**+1.7**
MJB9	**Matsu-Tunnel**	**2.72**	**295**		**Pn**	**13 09 22.9**	**+2.6**
INU	**Inuyama**	**3.47**	**270**		**Pn**	**13 09 32.6**	**+2.0**
INU	**Inuyama**	**3.47**	**270**	P	**Pn**	**13 09 32.9**	**+2.3**
JTM	**Tenmabayashi**	**5.34**	**358**		**Pn**	**13 09 58.9**	**+2.6**
JTM	**Tenmabayashi**	**5.34**	**358**	P	**Pn**	**13 09 58.9**	**+2.6**
JMN	**Monobe**	**6.32**	**256**	P	**Pn**	**13 10 12.1**	**+2.2**
ERM	**Erimo**	**6.73**	**12**	Pn	**Pn**	**13 10 17.0**	**+1.6**
ERM	**Erimo**	**6.73**	**12**	P	**Pn**	**13 10 17.3**	**+1.9**
JEM	**Erimo**	**6.74**	**12**	P	**Pn**	**13 10 17.1**	**+1.7**
JCJ	**Chichijima**	**8.35**	**174**	Pn	**Pn**	**13 10 37.0**	**-0.6**
JCJ	**Chichijima**	**8.35**	**174**	Pn	**Pn**	**13 10 35.0**	**-2.6**
	9.2nm,0.3s,baz=293,slow=23,SNR=11						
JCJ				Sn	Sn	13 12 02.5	-8.7
	4.1nm,0.3s,baz=257,slow=15,SNR=2.1 24nm,0.3s						
ASAJ	**Asahikawa**	**8.73**	**6**	Pn	**Pn**	**13 10 42.2**	**-0.6**
	1.3nm,0.3s,baz=233,slow=8.4,SNR=13 3.4nm,0.4s						
JKA	**Kamikawa-asahi**	**8.73**	**6**	Pn	**Pn**	**13 10 43.4**	**+0.6**
JNU	**Nakatsue**	**8.90**	**258**	Pn	**Pn**	**13 10 46.1**	**+0.9**
JNU	**Nakatsue**	**8.90**	**258**	LR	LR	13 14 42.6	
	comp=Z,144nm,18.9s,baz=116,slow=40						
USRK	**Ussuriysk Ar.**	**11.28**	**324**	LR	LR	13 15 23.0	
	comp=Z,75nm,19.5s,baz=294,slow=36						
KLR	**Kul'dur**	**15.46**	**336**	LR	LR	13 17 55.2	
	comp=Z,78nm,19.5s,baz=135,slow=36						
MA2	**Magadan**	**24.94**	**11**	LR	LR	13 22 58.4	
	comp=Z,27nm,20.1s,baz=194,slow=35						
H11N2	**WAKE ISLAND Hy**	**27.47**	**118**	T	T	13 43 26.7	
	baz=310,slow=75,SNR=118						
H11N1	**WAKE ISLAND Hy**	**27.48**	**118**	T	T	13 43 26.1	
	baz=310,slow=75,SNR=98						
H11N3	**WAKE ISLAND Hy**	**27.49**	**118**	T	T	13 43 28.9	
	baz=310,slow=75,SNR=79						
H11S1	**WAKE ISLAND Hy**	**28.13**	**120**	T	T	13 44 17.8	
	baz=312,slow=75,SNR=368						
H11S3	**WAKE ISLAND Hy**	**28.13**	**120**	T	T	13 44 18.0	
	baz=312,slow=75,SNR=279						
H11S2	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	13 44 17.4	
	baz=312,slow=75,SNR=250						
SONM	**Songino Array**	**28.61**	**306**	P	**P**	**13 14 33.7**	**+1.2**
	0.6nm,0.7s,baz=107,slow=8.8,SNR=4.2 0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**42.91**	**314**	P	**P**	**13 16 35.1**	**+0.6**
	0.8nm,0.5s,baz=101,slow=7.7,SNR=4.0 0.8nm,0.5s						
MKAR	**Makanchi Array**	**44.88**	**303**	P	**P**	**13 16 50.4**	**-0.1**
	0.7nm,0.8s,baz=90,slow=9.7,SNR=5.1 0.7nm,0.8s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**46.83**	**309**	P	**P**	**13 17 06.0**	**+0.2**
KURK				IAmb	IAmb	13 17 20.2	
	comp=Z,3.8nm,0.9s						
KURBB	**Kurchatov Arra**	**46.90**	**309**	P	**P**	**13 17 06.7**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=77,slow=7.2,SNR=7.9 comp=Z,0.7nm,0.3s						
B20K	**Meade River**	**47.49**	**24**	P	**P**	**13 17 10.8**	**+0.1**
B20K				IAmb	IAmb	13 17 21.9	
	comp=Z,2.9nm,1.1s						
E22K	**Anaktuvuk Pass**	**49.08**	**27**	P	**P**	**13 17 27.3**	**+4.4**
E22K				IAmb	IAmb	13 17 29.7	
	comp=Z,1.8nm,1.0s						
ILAR	**Eielson Array**	**50.91**	**32**	P	**P**	**13 17 35.7**	**-1.2**
	comp=Z,0.2nm,0.9s,baz=268,slow=6.3,SNR=1.5 comp=Z,0.2nm,0.9s						
BVAR	**Borovoye Array**	**51.56**	**313**	P	**P**	**13 17 42.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=79,slow=7.8,SNR=3.0 comp=Z,0.3nm,0.3s						
WRAB	**Tennant Creek**	**55.45**	**188**	P	**P**	**13 18 11.5**	**+0.7**
WRAB				IAmb	IAmb	13 18 22.3	
	comp=Z,3.4nm,0.9s						
WR0	**Warramunga Arr**	**55.46**	**188**	P	**P**	**13 18 12.4**	**+1.6**
WRA	**Warramunga Arr**	**55.47**	**188**	P	**P**	**13 18 12.0**	**+1.1**
WRA	**Warramunga Arr**	**55.47**	**188**	P	**P**	**13 18 12.3**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=5.3,slow=7.6,SNR=20 comp=Z,0.8nm,0.6s						
ABKAR	**Akbulak array**	**58.88**	**311**	P	**P**	**13 18 35.6**	**+0.8**
ASAR	**Alice Springs**	**59.19**	**188**	P	**P**	**13 18 37.6**	**+0.4**
	comp=Z,0.2nm,0.2s,baz=16,slow=11,SNR=1.7 comp=Z,0.2nm,0.2s						
YKA	**Yellowknife Ar**	**65.25**	**30**	P	**P**	**13 19 14.6**	**-2.6**
	comp=Z,0.1nm,0.7s,baz=282,slow=6.1,SNR=2.2 comp=Z,0.1nm,0.7s						
ARCES	**ARCESS Array B**	**65.45**	**340**	P	**P**	**13 19 18.5**	**0.0**
	comp=Z,4.5nm,0.9s,baz=42,slow=7.3,SNR=1.6 comp=Z,4.5nm,0.9s						
FINES	**FINESS Array B**	**70.17**	**332**	P	**P**	**13 19 49.4**	**+1.1**
	comp=Z,2.1nm,0.8s,baz=72,slow=6.2,SNR=7.3 comp=Z,2.1nm,0.8s						
AKASG	**Malin Array Be**	**75.49**	**322**	LR	LR	13 56 27.2	
	comp=Z,24nm,18.7s,baz=326,slow=38						
NOA	**NORSAR Array B**	**75.61**	**337**	P	**P**	**13 20 18.9**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=40,slow=5.7,SNR=3.3 comp=Z,0.9nm,0.7s						
H03N2	**Juan Fernandez**	**146.95**	**98**	T	T	16 12 37.2	
	baz=290,slow=76,SNR=10						
H03N3	**Juan Fernandez**	**146.96**	**98**	T	T	16 12 40.7	
	baz=290,slow=76,SNR=9.2						
H03N1	**Juan Fernandez**	**146.96**	**98**	T	T	16 12 40.0	
	baz=290,slow=76,SNR=11						

*NEIC **21** 13:14:54.4±2.9,19°.4S±0°.1×178°.1W±0°.1,h517km±9km, mb4.9/63,Error ellipse: s-maj=16.9km s-min=14.9km az=172.0*

*IDC **21** 13:14:59.4±2.0,19°.13S×178°.01W,h599km±23km, mb3.8/12,mbtmp4.7/13,Error ellipse: s-maj=15.3km s-min=11.7km az=152.0*

ISC 21 13:14:55.0±0.3,19°.27S±0°.06×177°.86W±0°.06,h550km, n260,σ1§68/256,mb5.0/69,5C-4D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**3.21**	**322**	P	**P**	**13 16 12.6**	**+1.2**
DGTI	**Dogotuki**	**3.73**	**322**	P	**P**	**13 16 15.8**	**+0.8**
FUTU	**Fugatoga**	**4.94**	**357**	P	**P**	**13 16 24.7**	**+0.2**
YSA	**Yasawairara**	**5.04**	**300**	P	**P**	**13 16 26.6**	**+1.4**
NIUE	**Niue**	**7.50**	**90**	P	**P**	**13 16 46.5**	**-1.3**
	baz=7.6,SNR=18						
NIUE	**Niue**	**7.50**	**90**	P	**P**	**13 16 44.0**	**-3.9**
NIUE	**Niue**	**7.50**	**90**	P	**P**	**13 16 46.9**	**-0.9**
AFI	**Afiamalu**	**7.90**	**48**	P	**P**	**13 16 47.6**	**-4.3**
AFI	**Afiamalu**	**7.90**	**48**	P	**P**	**13 16 49.4**	**-2.5**
FUNA	**Funafuti**	**11.05**	**345**	P	**P**	**13 17 20.5**	**-3.4**
FUNA	**Funafuti**	**11.05**	**345**	P	**P**	**13 17 23.9**	**0.0**
PINNC	**Pines Island,**	**14.12**	**254**	P	**P**	**13 17 51.7**	**-3.7**
PINNC	**Pines Island,**	**14.12**	**254**	P	**P**	**13 17 56.5**	**+1.0**
OUENC	**Ouen Island, N**	**14.64**	**255**	P	P	13 17 56.3	-4.5
OUENC	**Ouen Island, N**	**14.64**	**255**	P	**P**	**13 18 02.0**	**+1.2**
DZM	**Mont Dzumac**	**14.95**	**257**	*e*P	**P**	**13 18 03.9**	**-0.2**
	143nm,1.4s						
DZM				*e*S	**S**	**13 20 43.2**	**+3.4**
	263nm,25.9s						
DZM	**Mont Dzumac**	**14.95**	**257**	P	**P**	**13 17 59.7**	**-4.4**
DZM	**Mont Dzumac**	**14.95**	**257**	P	**P**	**13 18 04.9**	**+0.8**
DZM	**Mont Dzumac**	**14.95**	**257**	P	**P**	**13 18 04.5**	**+0.4**
	17nm,0.7s,baz=77,slow=16,SNR=13						
ONTNC	**Ouen Toro**	**14.98**	**256**	P	**P**	**13 18 01.7**	**-2.6**
NOUC	**Port Laguerre**	**15.09**	**257**	P	**P**	**13 18 06.2**	**+0.8**
NFK	**Norfolk Island**	**16.19**	**230**	P	**P**	**13 18 12.8**	**-3.5**
	baz=16,SNR=4.6						
KOUNC	**Koumac, New Ca**	**16.84**	**263**	P	**P**	**13 18 23.2**	**+0.9**
KOUNC	**Koumac, New Ca**	**16.84**	**263**	P	**P**	**13 18 23.9**	**+1.6**
RAR	**Rarotonga**	**17.09**	**100**	P	**P**	**13 18 28.7**	**+4.2**
RAR				IAmb	IAmb	13 18 35.1	
	comp=Z,39nm,0.8s						
KUZ	**Kuaotunu**	**18.30**	**197**	P	**P**	**13 18 37.9**	**+2.5**
MXZ	**Matakaoa Point**	**18.53**	**190**	P	**P**	**13 18 37.6**	**0.0**
MXZ				IAmb	IAmb	13 18 45.1	
	comp=Z,52nm,1.1s						
TOZ	**Tahuroa Road**	**19.29**	**196**	P	**P**	**13 18 44.0**	**-0.4**
TOZ				IAmb	IAmb	13 18 57.0	
	comp=Z,56nm,1.0s						
URZ	**Urewera**	**19.42**	**192**	P	**P**	**13 18 44.3**	**-1.3**
	comp=Z,29nm,0.5s,baz=327,slow=1.3,SNR=34						
URZ				S	**S**	**13 21 47.7**	**-5.1**
	comp=Z,9.4nm,0.5s,baz=343,slow=19,SNR=7.5						
RTZ	**Ruatahuna**	**19.79**	**192**	P	**P**	**13 18 48.5**	**-0.6**
RTZ				IAmb	IAmb	13 18 58.9	
	comp=Z,30nm,0.9s						
BFZ	**Birch Farm**	**21.93**	**192**	P	**P**	**13 19 08.0**	**-0.3**
BFZ				IAmb	IAmb	13 19 28.4	
	comp=Z,46nm,1.1s						
MRZ	**Mangatainoka R**	**22.05**	**193**	P	**P**	**13 19 08.3**	**-1.1**
MRZ				IAmb	IAmb	13 19 20.3	
	comp=Z,30nm,1.0s						
QRZ	**Quartz Range**	**23.01**	**199**	P	**P**	**13 19 19.1**	**+1.2**
THZ	**Tophouse**	**23.76**	**197**	P	**P**	**13 19 24.9**	**+0.3**
THZ				IAmb	IAmb	13 19 38.2	
	comp=Z,22nm,0.7s						
KHZ	**Kahutara**	**24.20**	**196**	P	**P**	**13 19 27.8**	**-0.6**
KHZ				IAmb	IAmb	13 19 38.0	
	comp=Z,85nm,1.1s						
GVZ	**Greta Valley S**	**24.84**	**196**	P	**P**	**13 19 34.6**	**+0.4**
LTZ	**Lake Taylor**	**24.88**	**197**	P	**P**	**13 19 33.9**	**-0.7**
LTZ				IAmb	IAmb	13 19 46.6	
	comp=Z,24nm,0.6s						
OXZ	**Oxford**	**25.45**	**197**	P	**P**	**13 19 38.7**	**-0.8**
OXZ				IAmb	IAmb	13 19 49.2	
	comp=Z,24nm,0.7s						
FOZ	**Fox Glacier**	**26.32**	**200**	P	**P**	**13 19 46.4**	**-0.7**
FOZ				IAmb	IAmb	13 19 59.3	
	comp=Z,56nm,0.9s						
PPTF	**Pamatai, Papee**	**26.89**	**91**	P	**P**	**13 19 55.8**	**+3.2**
PPTF				IAmb	IAmb	13 20 03.9	
	comp=Z,46nm,0.8s						
PPTF	**Pamatai, Papee**	**26.89**	**91**	P	**P**	**13 19 53.0**	**+0.4**
JCZ	**Jackson Bay**	**27.14**	**201**	P	**P**	**13 19 56.0**	**+1.5**
MLZ	**Mavora Lakes**	**28.51**	**201**	P	**P**	**13 20 07.0**	**+0.7**
MLZ				IAmb	IAmb	13 20 19.4	
	comp=Z,30nm,0.7s						
WHZ	**Wether Hill Ro**	**29.02**	**201**	P	**P**	**13 20 10.9**	**+0.1**
EIDS	**Eidsvold**	**29.32**	**252**	P	**P**	**13 20 13.8**	**+0.2**
	baz=29,SNR=4.0						
EIDS	**Eidsvold**	**29.32**	**252**	P	**P**	**13 20 14.9**	**+1.2**
ARMA	**Armidale**	**29.74**	**242**	P	**P**	**13 20 18.8**	**+1.5**
	baz=30,SNR=24						
ARMA	**Armidale**	**29.74**	**242**	P	**P**	**13 20 17.3**	**0.0**
ARMA				IAmb	IAmb	13 20 20.1	
	comp=Z,26nm,0.8s						
ARMA	**Armidale**	**29.74**	**242**	P	**P**	**13 20 19.2**	**+1.9**
AUPHS	**Peel High Scho**	**30.53**	**241**	P	**P**	**13 20 25.5**	**+1.5**
AULRC	**Lightning Ridg**	**32.62**	**245**	P	**P**	**13 20 43.3**	**+1.5**
AUDCS	**Dubbo College**	**32.68**	**240**	P	**P**	**13 20 44.2**	**+1.8**
CNB	**Canberra Magne**	**33.03**	**234**	P	**P**	**13 20 46.7**	**+1.3**
	baz=33,SNR=14						
CNB	**Canberra Magne**	**33.03**	**234**	P	**P**	**13 20 46.8**	**+1.4**
CAN	**Canberra**	**33.32**	**234**	P	**P**	**13 20 45.3**	**-2.4**
CAN				IAmb	IAmb	13 20 50.6	
	comp=Z,26nm,1.1s						
CAN	**Canberra**	**33.32**	**234**	P	**P**	**13 20 49.0**	**+1.3**
CAN	**Canberra**	**33.32**	**234**	P	**P**	**13 20 48.8**	**+1.0**
CTA	**Charters Tower**	**33.76**	**262**	P	**P**	**13 20 52.5**	**+0.9**
CTA	**Charters Tower**	**33.76**	**262**	P	**P**	**13 20 52.0**	**+0.4**
	comp=Z,62nm,0.9s,baz=99,slow=9.8,SNR=56						
	comp=Z,62nm,0.9s						
CTAO	**Charters Tower**	**33.76**	**262**	P	**P**	**13 20 50.2**	**-1.4**
CTAO	**Charters Tower**	**33.76**	**262**	P	**P**	**13 20 52.5**	**+0.9**
CTAO	**Charters Tower**	**33.76**	**262**	P	**P**	**13 20 51.7**	**0.0**
AUSMG	**Snowy Mountain**	**34.00**	**233**	P	**P**	**13 20 55.1**	**+1.6**
CMSA	**Cobar Meteorol**	**34.96**	**242**	P	**P**	**13 21 02.6**	**+1.1**
	baz=35,SNR=72						
CMSA	**Cobar Meteorol**	**34.96**	**242**	P	**P**	**13 21 03.0**	**+1.5**
PMG	**Port Moresby**	**35.21**	**281**	P	**P**	**13 21 02.1**	**-1.7**
PMG	**Port Moresby**	**35.21**	**281**	P	**P**	**13 21 05.4**	**+1.6**
PMG	**Port Moresby**	**35.21**	**281**	P	**P**	**13 21 05.2**	**+1.4**
PMG	**Port Moresby**	**35.21**	**281**	P	**P**	**13 21 04.1**	**+0.3**
	comp=Z,65nm,0.9s,baz=82,slow=5.5,SNR=27 comp=Z,65nm,0.9s						
PMG	**Port Moresby**	**35.21**	**281**	P	**P**	**13 21 04.3**	**+0.5**
QLP	**Quilpie**	**35.56**	**251**	P	**P**	**13 21 07.1**	**+0.5**
	baz=35,SNR=30						
QLP	**Quilpie**	**35.56**	**251**	P	**P**	**13 21 07.8**	**+1.2**
MTSU	**Mount Surprise**	**35.80**	**266**	P	**P**	**13 21 08.8**	**+0.1**
	baz=36,SNR=22						
TOO	**Toolangi**	**36.74**	**232**	P	**P**	**13 21 17.2**	**+1.0**
	baz=37,SNR=24						
TOO	**Toolangi**	**36.74**	**232**	P	**P**	**13 21 14.8**	**-1.4**
TOO				IAmb	IAmb	13 21 18.5	
	comp=Z,34nm,0.8s						
TOO	**Toolangi**	**36.74**	**232**	P	**P**	**13 21 17.6**	**+1.5**
TAOE	**Nuku Hiva Isla**	**37.94**	**80**	P	P	13 21 31.8	+5.5
TAOE				IAmb	IAmb	13 21 35.8	
	comp=Z,53nm,1.0s						
MANU	**Manus Island**	**38.09**	**292**	P	**P**	**13 21 28.5**	**+1.1**
MANU				IAmb	IAmb	13 21 38.3	
	comp=Z,57nm,0.8s						
MANU	**Manus Island**	**38.09**	**292**	P	**P**	**13 21 29.1**	**+1.7**
STKA	**Stephens Creek**	**38.45**	**243**	P	**P**	**13 21 31.4**	**+1.2**
	baz=38,SNR=30						
STKA	**Stephens Creek**	**38.45**	**243**	P	**P**	**13 21 31.1**	**+0.9**
STKA	**Stephens Creek**	**38.45**	**243**	P	**P**	**13 21 31.6**	**+1.4**
STKA	**Stephens Creek**	**38.45**	**243**	P	**P**	**13 21 31.4**	**+1.2**
	comp=Z,44nm,0.8s,baz=88,slow=10,SNR=68 comp=Z,44nm,0.8s						
INKA	**Innaminka**	**38.74**	**249**	P	**P**	**13 21 34.4**	**+1.9**
ARPS	**Mount Arapiles**	**39.28**	**235**	P	**P**	**13 21 37.6**	**+0.8**
	baz=39,SNR=12						
QIS	**Mount Isa**	**39.93**	**261**	P	**P**	**13 21 41.9**	**-0.4**
	baz=40,SNR=12						
QIS	**Mount Isa**	**39.93**	**261**	P	**P**	**13 21 42.3**	**0.0**
HTT	**Hallett**	**40.92**	**241**	P	**P**	**13 21 50.8**	**+0.8**
	baz=41,SNR=43						
HTT	**Hallett**	**40.92**	**241**	P	**P**	**13 21 51.5**	**+1.4**
LCRK	**Leigh Creek**	**41.15**	**246**	P	**P**	**13 21 52.9**	**+1.1**
TABU	**Tabubil**	**42.20**	**284**	P	**P**	**13 22 02.5**	**+2.1**
OOD	**Oodnadatta**	**43.22**	**250**	P	**P**	**13 22 09.9**	**+1.8**
BBOO	**Buckleboo**	**43.22**	**242**	P	**P**	**13 22 08.6**	**+0.5**
	baz=43,SNR=57						
BBOO	**Buckleboo**	**43.22**	**242**	P	**P**	**13 22 08.5**	**+0.5**
BBOO	**Buckleboo**	**43.22**	**242**	P	**P**	**13 22 09.0**	**+0.9**
JAY	**Jayapura**	**43.79**	**287**	P	**P**	**13 22 12.6**	**-0.2**
	comp=Z,227nm,0.8s,comp=Z,2μm						
GENI	**Genyem**	**44.24**	**287**	P	**P**	**13 22 17.9**	**+1.7**
GENI	**Genyem**	**44.24**	**287**	P	**P**	**13 22 16.4**	**+0.2**
	comp=Z,247nm,0.7s,comp=Z,2μm						
WR0	**Warramunga Arr**	**44.72**	**261**	P	**P**	**13 22 18.9**	**-0.9**
WR0				IAmb	IAmb	13 22 30.9	
	comp=Z,43nm,0.9s						
MULG	**Mulgathing**	**44.72**	**246**	P	**P**	**13 22 20.3**	**+0.6**
WB0	**Warramunga Arr**	**44.88**	**261**	P	**P**	**13 22 20.6**	**-0.5**
WB2	**Warramunga Arr**	**44.90**	**261**	P	**P**	**13 22 20.4**	**-0.9**
WRAB	**Tennant Creek**	**44.90**	**261**	P	**P**	**13 22 20.1**	**-1.1**
WRA	**Warramunga Arr**	**44.91**	**261**	P	**P**	**13 22 19.8**	**-1.6**
WRA	**Warramunga Arr**	**44.91**	**261**	P	**P**	**13 22 21.0**	**-0.3**
	comp=Z,21nm,0.4s,baz=98,slow=7.7,SNR=389						
WRA				S	**S**	**13 28 16.0**	**-3.7**
	comp=Z,0.8nm,0.6s,baz=98,slow=13,SNR=4.5 comp=Z,21nm,0.4s						
AS31	**Alice Springs**	**44.94**	**256**	P	**P**	**13 22 21.8**	**+0.3**
AS31				IAmb	IAmb	13 22 32.7	
	comp=Z,44nm,0.9s						
ASAR	**Alice Springs**	**44.94**	**256**	P	**P**	**13 22 21.8**	**+0.3**
ASAR	**Alice Springs**	**44.94**	**256**	P	**P**	**13 22 21.6**	**+0.1**
	comp=Z,79nm,0.7s,baz=87,slow=8.7,SNR=457						
ASAR				S	**S**	**13 28 17.2**	**-2.8**
	comp=Z,4.4nm,0.8s,baz=91,slow=16,SNR=14						
KDU	**

MRSI	Marisa	62.17	281	P		P		13 24 20.1	-3.5
	comp=Z,42nm,0.9s								
SPSI	Sidrap Palu	62.64	276	P		P		13 24 25.5	-1.1
	comp=Z,44nm,0.9s								
PLAI	Plampang	63.00	270	P		P		13 24 29.7	+0.8
PLAI	Plampang	63.00	270	P		P		13 24 28.2	-0.7
	comp=Z,112nm,1.0s,comp=Z,1µm								
GIRL	Giralia	63.01	254	P		P		13 24 28.1	-0.8
TWSI	Taliwang, Sumb	63.87	270	P		P		13 24 33.3	-1.2
	comp=Z,109nm,1.0s								
MPSI	Mapaga	64.02	280	P		P		13 24 34.0	-1.4
	comp=Z,65nm,0.9s								
CASY	Casey	65.13	205	P		P		13 24 41.4	-0.1
JHJ	Hachijo jima 2	65.95	322	P		P		13 24 46.2	-0.9
	comp=Z,127nm,0.9s,baz=56,slow=17,SNR=1.7								
JAGI	Jajag, Banyuwa	66.53	269	P		P		13 24 50.3	-0.9
JAGI	Jajag, Banyuwa	66.53	269	P		P		13 24 49.4	-1.8
	comp=Z,89nm,1.0s								
ABJI	Asem Bagus	66.65	270	P		P		13 24 47.9	-4.0
	comp=Z,73nm,1.0s								
BLJI	Banyuglugur	67.27	270	P		P		13 24 54.8	-0.9
	comp=Z,63nm,0.8s								
BBKI	Banjar Baru	67.44	274	P		P		13 24 57.1	+0.3
	comp=Z,69nm,1.3s,comp=Z,7µm								
MJAR	Matsushiro Arr	69.30	323	P		P		13 25 06.5	-1.0
	comp=Z,3.2nm,0.6s,baz=148,slow=5.9,SNR=10								
	comp=Z,3.2nm,0.6s								
MAJO	Matsushiro	69.30	323	P		P		13 25 05.8	-1.8
MAJO	Matsushiro	69.30	323	P		P		13 25 12.1	+4.5
MAJO	Matsushiro	69.30	323	P		P		13 25 06.5	-1.0
QSPA	South Pole Qui	70.79	180	P		P		13 25 16.7	+0.6
QSPA				IAmb		IAmb		13 25 27.8	
	comp=Z,33nm,0.8s								
QSPA	South Pole Qui	70.79	180	P		P		13 25 17.1	+1.0
YULB	Yu-li	72.94	303	P		P		13 25 24.6	-4.6
SSLB	Suanglung	73.41	303	P		P		13 25 29.7	-2.1
SSLB				IAmb		IAmb		13 25 41.0	
	comp=Z,44nm,1.1s								
TPUB	Ta-pu	73.42	303	P		P		13 25 29.3	-2.6
TPUB	Ta-pu	73.42	303	P		P		13 25 33.4	+1.5
YSS	Yuzh-Sakhalins	74.86	333	P		P		13 25 46.8	+7.4
YSS				IAmb		IAmb		13 25 50.6	
	comp=Z,67nm,1.1s								
YSS	Yuzh-Sakhalins	74.86	333	P		P		13 25 40.1	+0.7
PEA0B	Petropavlovsk-	75.12	345	P		P		13 25 40.3	-0.5
PETK	Petropavlovsk-	75.12	345	P		P		13 25 40.3	-0.5
PETK	Petropavlovsk-	75.12	345	P		P		13 25 40.1	-0.6
	comp=Z,4.5nm,0.9s,baz=117,slow=6.1,SNR=8.3								
	comp=Z,4.5nm,0.9s								
KASI	Kota Agung	76.55	269	P		P		13 25 47.6	-2.0
	comp=Z,127nm,1.0s								
USRK	Ussuriysk Ar.	78.03	326	P		P		13 25 57.0	+0.1
USRK	Ussuriysk Ar.	78.03	326	P		P		13 25 55.9	-0.9
	comp=Z,1.4nm,0.5s,baz=145,slow=7.0,SNR=5.5								
	comp=Z,1.4nm,0.5s								
USA0B	Ussuriysk Arra	78.03	326	P		P		13 25 57.1	+0.2
NJ2	Nanjing	79.20	309	*e*P		P		13 26 07.3	+3.9
MDJ	Mudanjiang	79.59	325	P		P		13 26 06.6	+1.4
MDJ	Mudanjiang	79.59	325	P		P		13 26 06.8	+1.6
MDJ				PcP		PcP		13 26 12.0	+1.1
MDJ				pP		pP		13 27 56.5	-5.4
MDJ				sP		sP		13 28 47.1	-11
MDJ				PP		PP		13 29 20.9	+4.6
MDJ	Mudanjiang	79.59	325	sS		sS		13 38 49.3	-0.4
NVAR	Mina Array Bea	80.05	43	P		P		13 26 08.0	-0.1
	comp=Z,0.2nm,0.4s,baz=233,slow=8.6,SNR=2.0								
BELA	Belgrano 2	80.76	173	P		P		13 26 09.1	-1.7
GHO	Glory Hole Cre	84.00	13	P		P		13 26 32.8	+5.5
GHO				IAmb		IAmb		13 26 36.3	
	comp=Z,16nm,0.7s								
CAST	Castle Rocks	84.85	11	P		P		13 26 38.5	+7.0
N25K	Chitina, Valde	84.87	15	P		P		13 26 39.9	+8.2
LYN	LuoYang	85.08	309	*e*P		P		13 26 34.4	+1.2
LYN				pP		pP		13 28 30.9	-0.8
LYN				pmax		pmax			
	comp=Z,27nm,0.7s								
LYN				pmax		pmax			
	comp=Z,340nm,4.4s								
TRF	Thorofare Moun	85.22	12	P		P		13 26 39.1	+5.7
GSI	Gunungsitoli	85.29	273	P		P		13 26 36.5	+1.8
GSI	Gunungsitoli	85.29	273	P		P		13 26 33.6	-1.1
	comp=Z,52nm,1.0s								
ENH	Enshi	85.46	304	P		P		13 26 36.3	+1.1
RND	Reindeer	85.47	13	P		P		13 26 40.3	+5.8
RND				IAmb		IAmb		13 26 44.0	
	comp=Z,18nm,1.1s								
NONG	Nongkai	85.96	291	P		P		13 26 39.0	+1.3
TXAR	Lajitas Array	86.28	57	P		P		13 26 39.9	+0.7
	comp=Z,0.5nm,0.6s,baz=216,slow=6.6,SNR=8.9								
	comp=Z,0.5nm,0.6s								
COLA	College	86.98	12	P		P		13 26 43.2	+1.7
MDM	Murphy Dome	86.98	12	P		P		13 26 44.7	+3.2
ILAR	Eielson Array	87.09	13	P		P		13 26 39.6	-2.4
	comp=Z,0.1nm,0.3s,baz=220,slow=5.2,SNR=6.1								
ILAR				pP		pwP		13 28 44.5	+0.1
	comp=Z,0.7nm,1.0s,baz=246,slow=5.4,SNR=4.6								
J25K	Salcha River,	87.28	13	P		P		13 26 48.5	+5.5
XAN	Xi'an	87.49	307	P		P		13 26 45.8	+1.1
XAN				pmax		pmax			
	comp=Z,18nm,1.0s								
J26L	Joseph Creek	87.59	14	P		P		13 26 50.7	+6.2
HHC	Hu-ho-hao-te	88.59	314	*e*P		P		13 26 52.3	+2.5
HHC				pmax		pmax			
	comp=Z,10.0nm,0.5s								
HHC				pmax		pmax			
	comp=Z,190nm,7.2s								
TROLL	Troll, Antarti	88.95	180	⇑P		P		13 26 50.8	-0.2
	comp=Z,286nm,0.8s								
SNAA	Sanae	89.23	178	⇑P		P		13 26 51.8	-0.3
	comp=Z,61nm,0.7s								
VNA3	Neumayer Olymp	89.36	176	⇑P		P		13 26 52.7	0.0
	comp=Z,14nm,0.6s								
VNA2	Neumayer--Watz	89.80	177	⇑P		P		13 26 55.1	+0.3
	comp=Z,11nm,0.6s,baz=183,slow=4.0								
CMAR	Chiang Mai Arr	89.83	290	P		P		13 26 55.4	-0.5
	comp=Z,3.2nm,0.9s,baz=115,slow=2.4,SNR=18								
	comp=Z,3.2nm,0.9s								
CHTO	Chiang Mai	89.95	290	P		P		13 26 57.9	+1.5
PLCA	Paso Flores	90.02	133	P		P		13 26 56.3	-0.2
	comp=Z,2.6nm,1.0s,baz=342,slow=9.4,SNR=3.3								
	comp=Z,2.6nm,1.0s								
PZH	PanZhiHua	90.25	298	P		P		13 26 59.0	+1.2
PZH				pmax		pmax			
	comp=Z,20nm,0.9s								
PZH				pmax		pmax			
	comp=Z,280nm,7.1s								
G31M	Satah River	91.82	16	P		P		13 27 08.4	+4.5
G31M				IAmb		IAmb		13 27 13.0	
	comp=Z,5.9nm,0.8s								
SONM	Songino Array	94.91	319	P		P		13 27 17.8	-0.9
	comp=Z,0.2nm,0.4s,baz=108,slow=8.0,SNR=1.6								
	comp=Z,0.2nm,0.4s								
BVAR	Borovoye Array	118.22	320	PKP		PKPdf		13 32 37.4	-2.3
	comp=Z,0.6nm,0.4s,baz=25,slow=3.0,SNR=5.4								
HFS	Hagfors	138.35	351	PKhKP		PKPpre		13 33 10.0	
	comp=Z,1.3nm,0.8s,baz=64,slow=3.4,SNR=1.0								
AKASG	Malin Array Be	142.00	332	PKhKP		PKPpre		13 33 18.4	
	comp=Z,0.7nm,0.4s,baz=40,slow=4.8,SNR=5.7								
BRTR	Keskin Array B	146.10	314	PKPbc		PKPbc		13 33 33.2	-0.9
	comp=Z,2.7nm,0.9s,baz=129,slow=1.8,SNR=8.0								
CLL	Collm	146.90	347			PKPab		13 33 39.9	+1.0
MMAI	Mount Meron Ar	147.30	301	PKPbc		PKPbc		13 33 36.9	-0.7
	comp=Z,2.1nm,0.5s,baz=58,slow=5.0,SNR=6.0								
BORA	Eskisehir	148.15	316	PKPab		PKPab		13 33 48.4	+3.9
BTNL	Ternell	148.59	355	*d*PKP		PKPab		13 33 48.7	+2.9
KHC	Kasperske Hory	148.82	345	⇑*e*PKP		PKPbc		13 33 40.5	-0.3
KHC				*e*PKPAB		PKPab		13 33 46.7	-0.1
KHC				*ex*		x		13 33 55.5	
CKRC	Cesky Krumlov	148.93	344	*e*PKPAB		PKPab		13 33 50.2	+2.9
BMRD	Maredsous	148.97	357	*d*PKP		PKPab		13 33 49.7	+2.4
GERES	GERESS Array B	149.05	345			PKPab		13 33 50.5	+2.7
GERES	GERESS Array B	149.05	345	PKPbc		PKPbc		13 33 40.8	-0.7
	comp=Z,1.1nm,0.6s,baz=119,slow=4.7,SNR=5.0								
RCHB	Rochefort	149.08	356	*d*PKP		PKPab		13 33 50.2	+2.4
DOU	Dourbes	149.18	357	*d*PKP		PKPab		13 33 50.5	+2.3
CONA	Conrad Observa	149.31	342	*e*PKP		PKiKP		13 33 42.3	-0.6
	comp=Z,7.0nm,1.2s								
CONA				*i* PKiKP		PKPab		13 33 51.1	+2.1
	comp=Z,22nm,1.1s,SNR=6.3								
RONA	Rosalia, Austr	149.38	341	*e*PKP		PKiKP		13 33 42.6	-0.4
	comp=Z,4.1nm,0.8s								
RONA				*i* PKiKP		PKPab		13 33 51.2	+2.0
	comp=Z,18nm,0.7s,SNR=8.1								
MOA	Molln	149.83	344	*e*PKiKP		PKPab		13 33 52.0	+0.9
	comp=Z,9.4nm,1.2s								
BIOA	Bad Ischl, Aus	150.14	344	*e*PKiKP		PKPab		13 33 52.6	+0.2
	comp=Z,10.0nm,0.9s								
LESA	Schwarzleotal	150.63	345	*e*PKiKP		PKPab		13 33 53.8	-0.7
	comp=Z,11nm,0.9s								
SOKA	Soboth	150.68	342	*e*PKiKP		PKPab		13 33 53.9	-0.8
	comp=Z,15nm,1.1s								
WATA	Walderalm	150.96	347	*e*PKiKP		PKPab		13 33 54.1	-1.8
	comp=Z,9.6nm,0.6s								
RETA	Reutte	150.99	348	*e*PKiKP		PKPab		13 33 54.2	-1.8
	comp=Z,7.8nm,0.9s								
WTTA	Wattenberg	151.02	347	*i* PKiKP		PKPab		13 33 55.1	-1.1
	comp=Z,19nm,0.6s,SNR=6.4								
MOTA	Moosalm	151.05	347	*e*PKiKP		PKPab		13 33 54.4	-1.9
	comp=Z,13nm,0.8s								
MYKA	Terra Mystica	151.12	343	*e*PKP		PKPab		13 33 54.4	-2.2
	comp=Z,10nm,0.6s								
SQTA	Sankt Quirin	151.15	347	*e*PKiKP		PKPab		13 33 54.7	-2.0
	comp=Z,16nm,0.8s								
ABTA	Abfaltersbach	151.30	345	*e*PKP		PKiKP		13 33 46.4	-0.6
	comp=Z,4.9nm,0.8s								
ABTA				*i* PKiKP		PKPab		13 33 55.0	-2.3
	comp=Z,18nm,0.6s,SNR=6.7								
DAVA	Damuels	151.35	349	*e*PKiKP		PKPab		13 33 56.1	-1.5
	comp=Z,15nm,1.0s								
FETA	Feichten	151.44	348	*i* PKiKP		PKPab		13 33 56.2	-1.8
	comp=Z,15nm,1.0s,SNR=7.0								
STAL	STALIGIAL	151.71	344			PKPab		13 33 55.6	-3.3
TORD	Torodi Ar. Bea	173.90	176	PKPab		PKPab		13 35 36.7	-0.1
	comp=Z,0.5nm,0.7s,baz=159,slow=2.1,SNR=2.7								

*NOU **21** 13:14:55.2, 19˚.26S×177˚.74W, h544km, mb5.1/77, Fiji Islands Region*

*BJI **21** 13:15:00.1, 19˚.07S×177˚.27W, h530km, mb4.9/32, mB4.9/15*

*GCMT **21** 13:15:04.4±0.6, 18˚.98S±0˚.06×177˚.96W±0˚.05, h568km±4km, MW5.3/52, Moment Tensor Solution. s52,c62; Duration: 1ŝ1 Moment tensor: Scale 10^17Nm; Mrr-0.07±.04; Mθθ 0.60±.07; Mφφ -0.53±.07; Mrθ -0.50±.07; Mθφ 0.51±.07; Mφr-0.75±.07; Best double couple: M0 1.17500×10^17 NP1:φs 28.00000°, δ89.00000°, λ-130.00000°. NP2:φs 296.00000°, δ40.00000°, λ-2.00000°. Principal axes: T 1.2530, Plg32.0000°, Azm150.0000°; N -0.1580, Plg40.0000°, Azm29.0000°; P -1.0960, Plg34.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

*NEIC **21** 13:15:04.4±1.5, 19˚.2S±0˚.1×177˚.7W±0˚.1, h556km±10km, mb4.9/36 Error ellipse: s-maj=18.4km s-min=16.1km az=83.0*

*IDC **21** 13:15:05.6±0.7, 19˚.23S×177˚.81W, h566km±7km, mb4.2/16, mbtmp5.1/18, Error ellipse: s-maj=15.6km s-min=9.2km az=170.0*

*BGR **21** 13:15:05.3, 19˚.93S×177˚.19W, h577km*

ISC 21 13:15:04.8±0.5, 19°.17S±0°.07×177°.77W±0°.06, h560km±5km, h561km; pP-P, n201, σ1s25/211, mb4.8/42, 26C-15D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	7.41	91	P	P	13 16 54.3	-2.8
AFI	Afiamalu	7.76	49	P	P	13 16 58.0	-2.7
FUNA	Funafuti	10.98	344	P	P	13 17 32.2	-0.8
DZM	Mont Dzumaz	15.06	256	P	P	13 18 16.0	+1.2
	25nm,0.7s,baz=88,slow=13,SNR=11						
RAR	Rarotonga	17.01	100	P	P	13 18 33.1	-0.1
	35nm,0.8s,baz=260,slow=7.1,SNR=4.8						
MXZ	Matakaoa Point	18.65	190	P	P	13 18 47.8	0.0
MXZ				IAmb	IAmb	13 18 53.6	
	comp=Z,40nm,1.0s						
TOZ	Tahuroa Road	19.41	196	P	P	13 18 55.0	+0.2
THZ	Tophouse	23.88	197	P	P	13 19 33.4	-1.6
FOZ	Fox Glacier	26.44	201	P	P	13 19 55.9	-1.5
PAE	Paea	26.77	91	*e*P	P	13 20 00.7	0.0
	comp=Z,14nm,1.0s						
PPT2	Papeete2	26.79	91	*es*S	sS	13 26 44.4	-1.5
	comp=Z,209nm,41.2s						
PPT2	Papeete2	26.79	91	*e*P	P	13 19 58.5	-2.4
	comp=Z,59nm,1.2s						
PPT	Papeete	26.79	91	P	P	13 20 01.6	+0.7
	comp=Z,25nm,0.4s,baz=40,slow=4.6,SNR=12						
	comp=Z,25nm,0.4s						
PPTF	Pamatai, Papee	26.80	91	P	P	13 20 00.3	-0.7
TIAR	Tiarei	27.01	91	*e*P	P	13 20 02.9	+0.1
	comp=Z,4.4nm,0.7s						
TVO	Taravao	27.07	92	*e*P	P	13 20 02.1	-1.3
	comp=Z,10nm,0.9s						
MLZ	Mavora Lakes	28.63	201	P	P	13 20 17.2	+0.6
PMOR	Pomariorio Ree	28.83	86	*e*P	P	13 20 17.9	-0.8
	comp=Z,88nm,1.2s						
VAH	Vaihoa	29.03	87	*e*P	P	13 20 19.5	-1.0
	comp=Z,35nm,0.9s						
ARMA	Armidale	29.86	242	P	P	13 20 28.0	+0.3
ARMA				IAmb	IAmb	13 20 29.1	
	comp=Z,22nm,0.6s						
CAN	Canberra	33.45	234	P	P	13 20 58.3	+0.3
CAN	Canberra	33.45	234	P	P	13 20 58.0	0.0
CTA	Charters Tower	33.86	262	P	P	13 21 01.8	+0.2
	comp=Z,98nm,0.8s,baz=97,slow=11,SNR=29						
	comp=Z,98nm,0.8s						
CTAO	Charters Tower	33.86	262	P	P	13 21 01.6	0.0
CTAO	Charters Tower	33.86	262	P	P	13 21 01.8	+0.2
PMG	Port Moresby	35.28	281	P	P	13 21 14.2	+0.6
PMG	Port Moresby	35.28	281	P	P	13 21 14.2	+0.6
	comp=Z,159nm,0.9s,baz=97,slow=4.9,SNR=38						
	comp=Z,159nm,0.9s						
PMG	Port Moresby	35.28	281	P	P	13 21 14.0	+0.4
TAOE	Nuku Hiva Isla	37.83	80	P	P	13 21 35.2	+0.6
STKA	Stephens Creek	38.58	243	P	P	13 21 41.0	+0.6
STKA				IAmb	IAmb	13 21 42.2	
	comp=Z,19nm,1.1s						
BBOO	Buckleboo	43.35	242	P	P	13 22 18.1	0.0
BBOO				IAmb	IAmb	13 22 18.9	
	comp=Z,47nm,0.6s						
WR0	Warramunga Arr	44.83	261	P	P	13 22 29.9	+0.1
WB0	Warramunga Arr	44.99	261	P	P	13 22 30.8	-0.2
WB2	Warramunga Arr	45.01	261	P	P	13 22 31.2	+0.1
WRAB	Tennant Creek	45.01	261	P	P	13 22 31.1	0.0
WRA	Warramunga Arr	45.02	261	P	P	13 22 30.3	-0.9
WRA	Warramunga Arr	45.02	261	P	P	13 22 30.5	-0.7
	comp=Z,48nm,0.7s,baz=97,slow=7.7,SNR=46						
WRA				PcP	PcP	13 23 59.6	-0.6
	comp=Z,7.0nm,1.0s,baz=94,slow=3.3,SNR=4.1						
WRA				ScP	ScP	13 26 59.5	-0.1
	comp=Z,3.2nm,1.0s,baz=84,slow=4.4,SNR=7.2						
WRA				S	S	13 28 24.2	-5.5
	comp=Z,3.8nm,1.0s,baz=94,slow=15,SNR=5.1						
	comp=Z,48nm,0.7s						
AS31	Alice Springs	45.05	255	P	P	13 22 31.9	+0.4
ASAR	Alice Springs	45.05	255	P	P	13 22 31.6	+0.1
	comp=Z,147nm,0.8s,baz=85,slow=8.3,SNR=49						
ASAR				PcP	PcP	13 24 00.3	0.0
	comp=Z,7.1nm,0.8s,baz=85,slow=5.5,SNR=5.0						
ASAR				ScP	ScP	13 27 00.5	+0.8
	comp=Z,2.5nm,0.9s,baz=101,slow=3.9,SNR=4.5						
ASAR				S	S	13 28 27.6	-2.5
	comp=Z,5.5nm,0.8s,baz=90,slow=16,SNR=14						
	comp=Z,147nm,0.8s						
GUMO	Guam	49.13	309	P	P	13 22 59.8	-2.3
GUMO				IAmb	IAmb	13 23 03.3	
	comp=Z,195nm,0.8s						
GUMO	Guam	49.13	309	P	P	13 23 02.4	+0.3
	comp=Z,153nm,0.8s,baz=122,slow=6.3,SNR=4.9						
	comp=Z,153nm,0.8s						
GUMO	Guam	49.13	309	P	P	13 23 02.3	+0.2
MTN	Manton Dam	49.38	269	P	P	13 23 03.9	-0.2
KNRA	Kununurra	50.98	265	P	P	13 23 15.6	0.0
FITZ	Fitzroy Crossi	53.43	261	P	P	13 23 33.6	+0.4
DRV	Dumont d'Urvil	54.68	199	P	P	13 23 41.5	+0.5
PSA00	Pilbara Seismi	58.19	256	P	P	13 24 05.7	-0.3
MBWA	Marble Bar	58.37	257	P	P	13 24 06.9	-0.4
MBWA	Marble Bar	58.37	257	P	P	13 24 06.7	-0.5
SBA	Scott Base	59.21	184	P	P	13 24 14.4	+2.5
SBA	Scott Base	59.21	184	P	P	13 24 14.6	+2.7
SBA	Scott Base	59.21	184	PcP	PcP	13 24 48.3	-4.6
VNDA	Vanda	59.25	185	P	P	13 24 11.1	-1.0
VNDA				IAmb	IAmb	13 24 15.7	
	comp=Z,10nm,1.1s						
VNDA	Vanda	59.25	185	ScP	ScP	13 28 01.7	+1.5
	comp=Z,2.2nm,0.8s,baz=10,slow=5.3,SNR=5.6						
VNDA	Vanda	59.25	185	ScP	ScP	13 28 02.6	+2.4
VNDA	Vanda	59.25	185	P	P	13 24 13.7	+1.5
KMSI	Cibinong	60.39	282	P	P	13 24 21.3	+0.5
MORW	Morawa	60.54	247	P	P	13 24 18.0	-3.7
MORW				IAmb	IAmb	13 24 21.8	
	comp=Z,13nm,0.9s						
CASY	Casey	65.26	205	P	P	13 24 52.0	+0.8
JHJ	Hachijo jima 2	65.93	322	P	P	13 24 56.1	+0.2
	comp=Z,83nm,0.3s,baz=84,slow=19,SNR=11						
MJAR	Matsushiro Arr	69.28	323	P	P	13 25 16.0	-0.3
	comp=Z,16nm,0.7s,baz=156,slow=5.7,SNR=33						
	comp=Z,16nm,0.7s						
MAJO	Matsushiro	69.28	323	P	P	13 25 16.6	+0.3
MAJO	Matsushiro	69.28	323	P	P	13 25 16.1	-0.2
KKM	Kota Kinabalu	69.64	284	P	P	13 25 19.6	+0.5
KKM				IAmb	IAmb	13 25 20.1	
	comp=Z,30nm,0.7s						
QSPA	South Pole Qui	70.89	180	P	P	13 25 25.3	-0.3
QSPA	South Pole Qui	70.89	180	P	P	13 25 26.6	+1.0
ASAJ	Asahikawa	72.67	331	P	P	13 25 37.5	+1.5
	comp=Z,29nm,0.9s,baz=194,slow=6.5,SNR=7.9						
	comp=Z,29nm,0.9s						
YULB	Yu-li	72.96	303	P	P	13 25 37.5	-0.7
SSLB	Suanglung	73.43	303	P	P	13 25 39.9	-1.0
TPUB	Ta-pu	73.45	302	P	P	13 25 39.7	-1.3
PEA0B	Petropavlovsk-	75.05	345		P	13 25 49.4	+0.1
PETK	Petropavlovsk-	75.05	345	P	P	13 25 49.0	-0.3
PETK	Petropavlovsk-	75.05	345	P	P	13 25 49.1	-0.1
	comp=Z,9.9nm,0.7s,baz=113,slow=6.5,SNR=22						
	comp=Z,9.9nm,0.7s						
KSRS	Korea Array	76.04	318	P	P	13 25 56.4	+1.2
	comp=Z,4.5nm,1.0s,baz=134,slow=6.3,SNR=8.7						
	comp=Z,4.5nm,1.0s						
USRK	Ussuriysk Ar.	77.99	326	P	P	13 26 07.1	+1.5
	comp=Z,12nm,0.9s,baz=150,slow=3.6,SNR=16						
	comp=Z,12nm,0.9s						
NJ2	Nanjing	79.21	309	⇑P	P	13 26 13.5	+1.2
NJ2				pP	pP	13 27 53.5	-17
NJ2				pP	pwP	13 28 10.4	-2.8
NJ2				sP	sP	13 28 44.3	-23
NJ2				sP	PP	13 29 07.8	-15
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,220nm,7.6s						
NJ2				pmax	pmax		
	comp=Z,31nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,540nm,4.1s						
MDJ	Mudanjiang	79.56	325	SS	SS	13 41 06.3	+11
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,220nm,4.1s						
MDJ	Mudanjiang	79.56	325	P	P	13 26 15.6	+1.7
MDJ				PcP	PcP	13 26 20.3	+0.7
MDJ				PP	PP	13 29 27.0	+1.8
MDJ				S	SKSac	13 35 36.4	-0.8
MDJ				ScS	ScS	13 35 49.4	+2.9
MDJ				pmax	pmax		
	comp=Z,43nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,200nm,6.4s						
NVAR	Mina Array Bea	79.91	43	P	P	13 26 17.4	+1.2
	comp=Z,0.2nm,0.4s,baz=238,slow=8.5,SNR=4.6						
CN2	Changchun	81.39	322	P	P	13 26 23.8	+0.4
CN2				pmax	pmax		
	comp=Z,20nm,1.1s						
BNX	BinXian	81.47	325	⇓P	P	13 26 24.4	+0.6
BNX				pmax	pmax		
	comp=Z,35nm,1.1s						
BNX				pmax	pmax		
	comp=Z,190nm,6.3s						
WHN	Wuhan	81.84	306	P	P	13 26 27.3	+1.3
HEH	HeiHe	84.30	328	*e*P	P	13 26 38.3	+0.5
HEH				pmax	pmax		
	comp=Z,16nm,1.2s						
HEH				pmax	pmax		
	comp=Z,170nm,5.3s						
HNS	HongShan	84.82	312	⇓P	P	13 26 41.6	+0.9
HNS				pmax	pmax		
	comp=Z,24nm,1.0s						
TXAR	Lajitas Array	86.15	57	P	P	13 26 48.9	+1.5
	comp=Z,3.1nm,0.8s,baz=218,slow=6.4,SNR=29						
	comp=Z,3.1nm,0.8s						
GYA	Guiyang	86.19	300	*e*P	P	13 26 48.8	+1.1
GYA				pmax	pmax		
	comp=Z,13nm,0.7s						
CCB	Clear Creek Bu	86.67	12	P	P	13 26 48.5	-0.4
ILAR	Eielson Array	86.97	13	P	P	13 26 49.8	-0.5
	comp=Z,2.7nm,0.9s,baz=230,slow=4.9,SNR=39						
ILAR				pP	pP	13 28 53.0	+1.7
	comp=Z,3.3nm,1.1s,baz=226,slow=5.8,SNR=7.6						
	comp=Z,2

BRTR				SKPbc	**SKiKP**	**13 36 29.7**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=108,slow=4.0,SNR=4.1							
TESR	**Tescani**	**146.15**	**329**	⇓P	**PKPbc**	**13 33 43.5**	**+0.8**
FLTG	**Flechtingen**	**146.16**	**350**	*e*PKPbc	**PKPbc**	**13 33 42.7**	**+0.3**
	baz=14,slow=2.6							
NRDL	**Niedersach Rie**	**146.18**	**351**	*e*PKPbc	**PKPbc**	**13 33 42.9**	**+0.5**
	baz=14,slow=2.6							
JURR	**Jurilovca**	**146.19**	**325**	⇑P	**PKPbc**	**13 33 42.8**	**0.0**
KOLS	**Kolonicke sedl**	**146.20**	**336**	*e*PKP	**PKPbc**	**13 33 43.4**	**+0.7**
CFR	**Carcaliu**	**146.32**	**326**	⇑P	**PKPbc**	**13 33 42.8**	**-0.3**
TPGR	**Topolog**	**146.38**	**325**	⇑P	**PKPbc**	**13 33 44.0**	**+0.6**
CRVS	**Cervenica-Dubn**	**146.53**	**337**	*e*PKP	**PKPbc**	**13 33 44.2**	**+0.6**
VRI	**Vrincioaia**	**146.57**	**328**	⇑P	**PKPbc**	**13 33 43.8**	**0.0**
PLOR	**Plostina**	**146.62**	**328**	⇓P	**PKPbc**	**13 33 43.1**	**-0.9**
TIRR	**Tirgusor**	**146.64**	**325**	⇑P	**PKPbc**	**13 33 44.1**	**+0.1**
HARR	**Harsova**	**146.75**	**326**	⇑P	**PKPbc**	**13 33 44.0**	**-0.3**
OSTC	**Ostas**	**146.76**	**344**	*e*PKPAB	**PKiKP**	**13 33 45.4**	**-0.8**
ARCR	**ARCALIA**	**146.79**	**332**	⇑P	**PKiKP**	**13 33 45.7**	**-0.7**
CLL	**Collm**	**146.82**	**348**	*e*SKPdf	**SKPdf**	**13 36 20.0**	**-2.7**
CLL	**Collm**	**146.82**	**348**	*e*PKPbc	**PKPbc**	**13 33 44.8**	**+0.5**
	baz=14,slow=2.6							
CLL	**Collm**	**146.82**	**348**	*i* PKPbc	**PKPbc**	**13 33 44.3**	**0.0**
	comp=Z,25nm,1.0s							
CLL	**Collm**	**146.82**	**348**	*i* PKPab	**PKPab**	**13 33 47.2**	**-0.1**
	comp=Z,14nm,0.9s							
COVR	**Voineasa-Covas**	**146.84**	**329**	⇑P	**PKPbc**	**13 33 44.8**	**+0.2**
OZUR		**146.86**	**329**	⇓P	**PKPbc**	**13 33 45.0**	**+0.3**
UPC	**Upice**	**146.86**	**344**	*e*PKPAB	**PKPbc**	**13 33 45.1**	**+0.6**
DPC	**Dobruska-Polom**	**146.92**	**343**	*ex*	x	13 33 48.9		
DPC	**Dobruska-Polom**	**146.92**	**343**	*e*PKPAB	**PKPbc**	**13 33 45.3**	**+0.6**
MANR	**Mangalia**	**146.96**	**324**	⇑P	**PKPbc**	**13 33 45.7**	**+0.8**
BRG	**Berggiesshubel**	**147.03**	**346**	Amp		13 33 46.3		
	comp=Z,9.7nm,0.7s							
BRG	**Berggiesshubel**	**147.03**	**346**	*e*PKPbc	**PKPbc**	**13 33 45.5**	**+0.7**
	baz=14,slow=2.6							
BRG	**Berggiesshubel**	**147.03**	**346**	*i* PKP	**PKPbc**	**13 33 45.5**	**+0.7**
KRLC	**Kraliky**	**147.05**	**343**	*e*PKPAB	**PKPbc**	**13 33 45.7**	**+0.7**
MORC	**Moravsky Berou**	**147.09**	**342**	⇓P	**PKPbc**	**13 33 46.1**	**+0.9**
MORC	**Moravsky Berou**	**147.09**	**342**	*e*PKP	**PKPbc**	**13 33 45.3**	**+0.1**
MORC	**Moravsky Berou**	**147.09**	**342**	*e*PG	**PKPab**	**13 33 53.2**	**+4.6**
FBE	**Freiberg**	**147.11**	**347**	*e*PKPbc	**PKPbc**	**13 33 46.0**	**+0.9**
	baz=14,slow=2.6							
DOPR	**Dopca**	**147.15**	**330**	⇓P	**PKPbc**	**13 33 46.2**	**+0.8**
ISR	**Istrita**	**147.18**	**327**	⇑P	**PKPbc**	**13 33 45.8**	**+0.3**
MLR	**Muntele Rosu**	**147.22**	**329**	⇑P	**PKPbc**	**13 33 45.7**	**-0.1**
MMAI	**Mount Meron Ar**	**147.33**	**302**	PKPbc	**PKPbc**	**13 33 46.9**	**+0.6**
	comp=Z,15nm,0.7s,baz=17,slow=15,SNR=4.0							
MARR	**Marisel-Cluj**	**147.65**	**333**	⇑P	**PKPbc**	**13 33 47.0**	**+0.2**
KASTN	**Kahler Asten**	**147.66**	**353**	*e*PKPbc	**PKPbc**	**13 33 47.0**	**+0.5**
	baz=14,slow=2.6							
VOIR		**147.70**	**329**	⇓P	**PKPbc**	**13 33 45.6**	**-1.3**
PRU	**Pruhonice**	**147.71**	**345**	*e*PKPAB	**PKPbc**	**13 33 47.1**	**+0.4**
MOX	**Moxa**	**147.72**	**349**	*e*PKPbc	**PKPbc**	**13 33 47.2**	**+0.5**
	baz=14,slow=2.6							
GOPC	**GO Pecny, Ondr**	**147.72**	**345**	*e*PKPAB	**PKPbc**	**13 33 47.4**	**+0.7**
PLN	**Plauen**	**147.77**	**348**	*e*PKPbc	**PKPbc**	**13 33 47.4**	**+0.6**
	baz=14,slow=2.6							
TANN	**Tannenbergstha**	**147.78**	**348**	*e*PKPbc	**PKPbc**	**13 33 47.6**	**+0.7**
	baz=14,slow=2.6							
WERD	**Werda**	**147.78**	**348**	*e*PKPbc	**PKPbc**	**13 33 47.6**	**+0.8**
	baz=14,slow=2.6							
WERD				*ep*PKPbc	**pPKPab**	**13 35 60.0**	**+4.1**
VRAC	**Vranov**	**147.79**	**342**	*e*PKP	**PKPbc**	**13 33 47.3**	**+0.4**
VYHS	**Vyhne**	**147.81**	**339**	*e*PKP	**PKPdf**	**13 33 39.2**	**-4.0**
VYHS				*e*		13 33 47.8		
GUNZ	**Gunzen**	**147.85**	**348**	*e*PKPbc	**PKPbc**	**13 33 47.8**	**+0.7**
	baz=14,slow=2.6							
GUNZ				*ep*PKPbc	**pPKPab**	**13 36 00.1**	**+3.8**
JAVC	**Velka Javorina**	**147.87**	**341**	*e*PKP	**PKiKP**	**13 33 48.3**	**-0.3**
WERN	**Wernitzgruen**	**147.91**	**348**	*e*PKPbc	**PKiKP**	**13 33 48.1**	**-0.5**
	baz=14,slow=2.6							
PSZ	**Piszkesteto**	**147.93**	**337**	⇑P	**PKPbc**	**13 33 47.7**	**+0.3**
ARR	**Arges**	**147.95**	**330**	⇑P	**PKPbc**	**13 33 47.7**	**+0.2**
KRUC	**Moravsky**	**148.07**	**342**	*e*PKP	**PKPbc**	**13 33 47.9**	**+0.3**
MANZ	**Manzenberg**	**148.25**	**348**	*e*PKPbc	**PKiKP**	**13 33 48.8**	**-0.5**
	baz=14,slow=2.6							
ZVC	**Zvikov**	**148.31**	**345**	*e*PKPAB	**PKiKP**	**13 33 48.5**	**+0.3**
MODS	**Modra-Piesok**	**148.42**	**341**	*e*PKP	**PKiKP**	**13 33 49.6**	**-0.1**
ROTZ	**Rotzenmuhle**	**148.44**	**348**	*e*PKPbc	**PKPbc**	**13 33 49.2**	**+0.7**
	baz=14,slow=2.6							
SRO	**Srobarova**	**148.57**	**339**	*e*PKP	**PKPbc**	**13 33 47.8**	**-1.1**
SIRR	**Siria**	**148.59**	**334**	⇑P	**PKPbc**	**13 33 49.5**	**+0.5**
TNS	**Taunus Mts**	**148.62**	**352**	*e*PKPbc	**PKPbc**	**13 33 49.5**	**+0.5**
	baz=14,slow=2.6							
GZR	**Gura Zlata**	**148.79**	**332**	⇓P	**PKPbc**	**13 33 49.2**	**-0.4**
SURR	**Surduc**	**148.80**	**333**	⇑P	**PKPbc**	**13 33 49.4**	**-0.1**
WET	**Wettzell**	**148.89**	**346**	*e*PKPbc	**PKPbc**	**13 33 50.3**	**+0.6**
	baz=14,slow=2.6							
GEC2	**GERESS Array S**	**148.98**	**345**	*e*PKPbc	**PKPbc**	**13 33 50.5**	**+0.5**
	baz=14,slow=2.6							
GERES	**GERESS Array B**	**148.98**	**345**	PKPbc	**PKPbc**	**13 33 49.4**	**-0.7**
	comp=Z,9.4nm,0.9s,baz=28,slow=3.2,SNR=15							
BZS	**Buzias**	**149.13**	**333**	⇑P	**PKPbc**	**13 33 50.6**	**+0.3**
HERR	**Herculane**	**149.35**	**331**	⇑P	**PKPbc**	**13 33 51.1**	**+0.2**
WLF	**Walferdange**	**149.41**	**355**	*d*PKP	**PKiKP**	**13 33 51.8**	**+0.1**
WLF	**Walferdange**	**149.41**	**355**	*e*PKPbc	**PKiKP**	**13 33 52.0**	**+0.4**
	baz=14,slow=2.6							
MDVR	**Moldovita**	**149.74**	**332**	⇑P	**PKPbc**	**13 33 52.1**	**+0.2**
MORH	**Mrgy, Hungar**	**149.82**	**337**	⇓P	**PKPbc**	**13 33 52.2**	**+0.3**
STU	**Stuttgart**	**149.94**	**351**	*e*PKPbc	**PKiKP**	**13 33 52.8**	**0.0**
	baz=14,slow=2.6							
RJOB	**Jochberg**	**150.23**	**346**	*e*PKPbc	**PKPbc**	**13 33 53.1**	**+0.2**
	baz=14,slow=2.6							
FRGS	**Fruska Gora**	**150.25**	**334**	⇓P	**PKPbc**	**13 33 53.1**	**+0.1**
BFO	**Black Forest**	**150.49**	**352**		**PKPbc**	**13 33 53.5**	**0.0**
BFO	**Black Forest**	**150.49**	**352**	*e*PKPbc	**PKiKP**	**13 33 53.9**	**-0.1**
	baz=14,slow=2.6							
UBR	**Ueberruh**	**150.84**	**349**	*e*PKPbc	**PKiKP**	**13 33 54.7**	**-0.1**
	baz=14,slow=2.6							
LJU	**Ljubljana**	**151.34**	**342**	*i* PKPbc	**PKPbc**	**13 33 55.6**	**+0.2**
CRNS	**Crni Vrh**	**151.38**	**342**	*i* PKPbc	**PKPbc**	**13 33 55.4**	**-0.3**
VISS	**Visnje**	**151.46**	**341**	*i* PKPbc	**PKPbc**	**13 33 56.0**	**+0.2**
ESDC	**Sonseca Array**	**158.88**	**13**	PKPab	**PKPab**	**13 34 38.2**	**-0.6**
	comp=Z,1.0nm,1.0s,baz=5.2,slow=3.3,SNR=4.7							
TORD	**Torodi Ar. Bea**	**173.99**	**175**	PKPab	**PKPab**	**13 35 45.8**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=159,slow=1.6,SNR=3.5							

IDC 21 13:21:59.9±19.0, 25°.45N×45°.61W, h0km, mb3.3/3, mbtmp3.3/3, MS3.1/1, Error ellipse: s-maj=436.7km s-min=135.2km az=157.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKL	**Tuckaleechee C**	**34.22**	**297**	LR	LR	13 41 33.2	
	comp=Z,26nm,18.8s,baz=111,slow=34						
H10N2	**ASCENSION HYDR**	**44.84**	**133**	T	T	14 18 08.9	
	baz=321,slow=75,SNR=81						
H10N3	**ASCENSION HYDR**	**44.84**	**133**	T	T	14 18 09.0	
	baz=321,slow=75,SNR=65						
H10N1	**ASCENSION HYDR**	**44.86**	**133**	T	T	14 18 16.0	
	baz=321,slow=75,SNR=114						
H10S3	**ASCENSION HYDR**	**45.57**	**135**	T	T	14 19 05.0	
	baz=319,slow=74,SNR=15						
H10S2	**ASCENSION HYDR**	**45.59**	**135**	T	T	14 19 06.4	
	baz=261,slow=74,SNR=10.0						
PDAR	**Pinedale Array**	**54.45**	**306**	P	P	13 31 29.5	+0.1
	0.1nm,0.6s,baz=92,slow=8.0,SNR=0.7 0.1nm,0.6s						
YKA	**Yellowknife Ar**	**58.07**	**329**	P	P	13 31 53.9	-0.6
	0.3nm,0.8s,baz=99,slow=6.6,SNR=5.0 0.3nm,0.8s						
ILAR	**Eielson Array**	**71.92**	**334**	P	P	13 33 25.1	+0.3
	0.6nm,0.8s,baz=71,slow=4.9,SNR=8.7 0.6nm,0.8s						

RHSSO 21 13:31:42.0±0.6, 43°.06N×18°.45E, h2km, ML1.4/1, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TREB	**Trebinje**	**0.35**	**192**	⇑*i*P*g*	Pg	13 31 49.2	+0.6
TREB				*e*S*g*	Sg	13 31 53.0	-0.1
DBRK	**Dubrovnik**	**0.45**	**210**	*i* P*g*	Pg	13 31 47.1	-3.4
DBRK				Sg	Sg	13 31 48.9	-7.4
STON	**Ston**	**0.58**	**252**	*e*P*g*	Pg	13 31 53.6	+0.6
STON				Sg	Sg	13 32 00.3	-0.2
STON	**Ston**	**0.58**	**252**	*e*P*g*	Pg	13 31 52.3	-0.8
STON				*e*S*g*	Sg	13 32 00.8	+0.2
RUDO	**Rudo**	**0.88**	**50**	*e*P*g*	Pg	13 31 57.4	-1.4
DRME	**Dracevica, Mon**	**1.03**	**148**	*e*P*g*	Pg	13 32 00.6	-1.0
DRME				*e*S*g*	Sg	13 32 14.9	0.0
RICI	**Ricice**	**1.05**	**295**	Sg	Sn	13 32 25.2	+6.1

*SOME **21** 13:51:41.5, 40°.20N×77°.27E, h5km*
*NNC **21** 13:51:42.1±1.0, 40°.18N×77°.27E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=7.0km s-min=5.0km az=169.0*
*KRNET **21** 13:51:44.1±0.1, 40°.16N×77°.42E, mb3.2*

ISC 21 13:51:47.1±1.7, 40°.24N±0°.08×77°.35E±0°.05, h10km, n76, σ1§65/89, 29C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.57**	**320**	⇑*i*P	**Pn**	**13 52 14.8**	**-0.5**
	baz=19						
NRN				⇑*i*S	**Sb**	**13 52 37.0**	**+0.6**
	baz=19						
ULHL	**Ulahol**	**2.17**	**338**	P	**Pn**	**13 52 23.1**	**-0.3**
	SNR=61						
ULHL	**Ulahol**	**2.17**	**338**	⇓*i*P	**Pn**	**13 52 23.3**	**-0.2**
	baz=37						
ULHL				⇓*i*S	**Sn**	**13 52 52.2**	**+1.7**
	baz=37						
PRZ	**Przheval'sk**	**2.37**	**19**	⇑*e*P	**Pn**	**13 52 25.9**	**-0.4**
	baz=17						
PRZ				⇑*e*S	**Sn**	**13 52 56.5**	**+0.9**
	baz=17						
KZA	**Kyzart**	**2.42**	**320**	P	**Pn**	**13 52 26.6**	**-0.6**
	SNR=24						
KZA	**Kyzart**	**2.42**	**320**	⇑*i*P	**Pn**	**13 52 27.3**	**+0.2**
	baz=20						
KZA				⇑*i*S	**Sn**	**13 52 58.4**	**+1.4**
	baz=20						
BOOM	**Boomskoye usch**	**2.48**	**335**	⇑*i*P	**Pn**	**13 52 27.9**	**+0.2**
	baz=35						
BOOM				⇑*i*S	**Sn**	**13 52 59.7**	**+1.5**
	baz=35						
ANVS	**Anan'yevo**	**2.55**	**5**	⇑*e*P	**Pn**	**13 52 28.6**	**-0.1**
	baz=4.0						
ANVS				⇑*e*S	**Sn**	**13 53 01.1**	**+1.2**
	baz=4.0						
ARLS	**Aral**	**2.80**	**306**	⇑*i*P	**Pn**	**13 52 31.9**	**-0.2**
	baz=7.0						
ARLS				⇑*i*S	**Sn**	**13 53 06.8**	**+0.8**
	baz=7.0						
TNSS	**Tian-Shan**	**2.81**	**354**	*e*P*g*	**Pb**	**13 52 35.2**	**-2.3**
	57nm,0.5s						
TNSS				*e*L*g*	Lg	13 53 13.9	
	41nm,0.0s						
TNSS	**Tian-Shan**	**2.81**	**354**	P*g*	**Pb**	**13 52 35.2**	**-2.3**
	57nm,0.5s						
TNSS				L*g*	Lg	13 53 13.9	
	41nm,0.0s						
IZV	**Izvestkoviy**	**2.84**	**349**	*e*P*g*	**Pb**	**13 52 35.6**	**-2.4**
	15nm,0.4s						
IZV				*e*L*g*	Lg	13 53 14.6	
	143nm,0.4s						
IZV	**Izvestkoviy**	**2.84**	**349**	P*g*	**Pb**	**13 52 35.6**	**-2.4**
	15nm,0.4s						
IZV				L*g*	Lg	13 53 14.6	
	143nm,0.4s						
UCH	**Uchtor**	**2.91**	**314**	P	**Pn**	**13 52 33.6**	**-0.3**
	SNR=11						
UCH	**Uchtor**	**2.91**	**314**	⇑*e*P	**Pn**	**13 52 33.9**	**0.0**
	baz=14						
UCH				⇑*i*S	**Sn**	**13 53 10.2**	**+1.0**
	baz=14						
SATY	**Saty**	**2.92**	**15**	*e*P*g*	**Pb**	**13 52 37.4**	**-2.0**
	29nm,0.4s						
SATY				*e*L*g*	Lg	13 53 17.6	
	69nm,0.5s						
SATY	**Saty**	**2.92**	**15**	P*g*	**Pb**	**13 52 37.4**	**-2.0**
	29nm,0.4s						
SATY				L*g*	Lg	13 53 17.6	
	69nm,0.5s						
MDOK	**Medeo**	**2.92**	**356**	*e*P*g*	**Pb**	**13 52 37.0**	**-2.4**
	28nm,0.4s						
MDOK				*e*L*g*	Lg	13 53 17.1	
	138nm,0.4s						
MDOK	**Medeo**	**2.92**	**356**	P*g*	**Pb**	**13 52 37.0**	**-2.4**
	17nm,0.4s						
MDOK				P*g*	**Pb**	**13 52 37.0**	**-2.4**
	28nm,0.4s						
MDOK				L*g*	Lg	13 53 16.9	
	52nm,0.5s						
MDOK				L*g*	Lg	13 53 17.1	
	138nm,0.4s						
SFK	**Sufi-Kurgan**	**2.96**	**267**	⇑*e*P	**Pn**	**13 52 33.7**	**-0.6**
	baz=69						
SFK				⇑*i*S	**Sn**	**13 53 09.8**	**-0.2**
	baz=69						
MTBS	**Maitube**	**2.96**	**347**	*e*P*g*	**Pb**	**13 52 37.7**	**-2.4**
	9.9nm,0.3s						
MTBS				*e*L*g*	Lg	13 53 18.0	
	38nm,0.1s						
MTBS	**Maitube**	**2.96**	**347**	P*g*	**Pb**	**13 52 37.7**	**-2.4**
	9.9nm,0.3s						
MTBS				L*g*	Lg	13 53 18.0	
	38nm,0.1s						
TKM2	**Tokmak 2**	**2.98**	**334**	P	**Pn**	**13 52 35.0**	**+0.4**
	SNR=6.5						
TKM2	**Tokmak 2**	**2.98**	**334**	⇑P*g*	**Pb**	**13 52 37.5**	**-2.9**
	2.5nm,0.3s						
TKM2				⇑L*g*	Lg	13 53 18.3	
	20nm,0.6s						
AAA	**Alma-Ata**	**2.98**	**354**	*e*P*g*	**Pb**	**13 52 38.8**	**-1.5**
	58nm,0.3s						
AAA				*e*L*g*	Lg	13 53 19.9	
	120nm,0.9s						
AAA	**Alma-Ata**	**2.98**	**354**	P*g*	**Pb**	**13 52 38.8**	**-1.5**
	58nm,0.3s						
AAA				L*g*	Lg	13 53 19.9	
	120nm,0.9s						
KST	**Kastek**	**2.98**	**340**	*e*P*g*	**Pb**	**13 52 38.0**	**-2.4**
	12nm,0.5s						
KST				*e*L*g*	Lg	13 53 18.7	
	50nm,0.6s						
KST	**Kastek**	**2.98**	**340**	P*g*	**Pb**	**13 52 38.0**	**-2.4**
	12nm,0.5s						
KST				L*g*	Lg	13 53 18.7	
	50nm,0.6s						
KNDC	**Almaty**	**2.98**	**355**	⇓P*g*	**Pb**	**13 52 38.7**	**-1.7**
	34nm,0.5s						
KNDC				⇑L*g*	Lg	13 53 19.7	
	254nm,0.6s						
KOTS	**Kotyrbulak**	**2.99**	**357**	*e*P*g*	**Pb**	**13 52 38.4**	**-2.2**
	38nm,0.4s						
KOTS				*e*L*g*	Lg	13 53 19.5	
	101nm,0.4s						
KOTS	**Kotyrbulak**	**2.99**	**357**	P*g*	**Pb**	**13 52 38.4**	**-2.2**
	38nm,0.4s						
KOTS				L*g*	Lg	13 53 19.5	
	101nm,0.4s						
KBK	**Karagaybulak**	**3.01**	**324**	P	**Pn**	**13 52 35.5**	**+0.5**
	SNR=18						
KBK	**Karagaybulak**	**3.01**	**324**	⇓*e*P	**Pn**	**13 52 35.3**	**+0.3**
	baz=24						
KBK				⇓*i*S	**Sn**	**13 53 12.4**	**+1.2**
	baz=24						
UZB	**Uzynbulak**	**3.16**	**23**	*e*P*g*	**Pb**	**13 52 41.4**	**-2.1**
	13nm,0.1s						
UZB				*e*L*g*	Lg	13 53 24.4	
	35nm,0.1s						
UZB	**Uzynbulak**	**3.16**	**23**	P*g*	**Pb**	**13 52 41.4**	**-2.1**
	13nm,0.1s						
UZB				L*g*	Lg	13 53 24.4	
	35nm,0.1s						
AAK	**Ala-Archa**	**3.21**	**319**	P	**Pb**	**13 52 41.9**	**-2.4**
	SNR=5.6						
AAK	**Ala-Archa**	**3.21**	**319**	⇓*e*P	**Pn**	**13 52 37.8**	**0.0**
	baz=19						
AAK				⇓*i*S	**Sn**	**13 53 17.2**	**+1.0**
	baz=19						
DGS	**Degeres**	**3.22**	**339**	*e*P*g*	**Pb**	**13 52 42.3**	**-2.2**
	16nm,0.5s						
DGS				*e*L*g*	Lg	13 53 25.9	
	45nm,0.5s						
DGS	**Degeres**	**3.22**	**339**	P*g*	**Pb**	**13 52 42.3**	**-2.2**
	16nm,0.5s						
DGS				L*g*	Lg	13 53 25.9	
	45nm,0.5s						
KURS	**Kuram**	**3.30**	**10**	*e*P*g*	**Pb**	**13 52 43.5**	**-2.2**
	11nm,0.2s						
KURS				*e*L*g*	Lg	13 53 28.2	
	38nm,1.2s						
KURS	**Kuram**	**3.30**	**10**	P*g*	**Pb**	**13 52 43.5**	**-2.2**
	11nm,0.2s						
KURS				L*g*	Lg	13 53 28.2	
	38nm,1.2s						
SHLS	**Shalkode**	**3.31**	**28**	*e*P*g*	**Pb**	**13 52 46.8**	**+0.7**
	11nm,0.4s						
SHLS				*e*L*g*	Lg	13 53 33.7	
	43nm,1.4s						
SHLS	**Shalkode**	**3.31**	**28**	P*g*	**Pb**	**13 52 46.8**	**+0.7**
	11nm,0.4s						
SHLS				L*g*	Lg	13 53 33.7	
	43nm,1.4s						
AML	**Almayashu**	**3.34**	**306**	P	**Pn**	**13 52 39.6**	**-0.1**
	SNR=13						
AML	**Almayashu**	**3.34**	**306**	⇑*e*P	**Pn**	**13 52 39.8**	**+0.1**
	baz=6.0						
AML				⇑*i*S	**Sn**	**13 53 20.4**	**+0.8**
	baz=6.0						
AML	**Almayashu**	**3.34**	**306**	⇓P*g*	**Pn**	**13 52 39.8**	**+0.1**
	1.0nm,0.7s						
AML				⇑L*g*	Lg	13 53 28.0	
	3.3nm,0.7s						
CHMS	**Chumysh**	**3.37**	**326**	P	**Pn**	**13 52 40.2**	**+0.4**
	SNR=6.4						
CHMS	**Chumysh**	**3.37**	**326**	⇑*i*P	**Pn**	**13 52 39.9**	**+0.1**
	baz=26						
CHMS				⇑*i*S	**Sn**	**13 53 20.7**	**+0.8**
	baz=26						
CHMS	**Chumysh**	**3.37**	**326**	⇑P*g*	**Pn**	**13 52 39.7**	**-0.1**
	6.6nm,0.7s						
CHMS				⇑L*g*	Lg	13 53 29.6	
	28nm,0.6s						
KPKS	**Kokpek**	**3.37**	**17**	*e*P*g*	**Pb**	**13 52 45.2**	**-1.8**
	7.9nm,0.4s						
KPKS				*e*L*g*	Lg	13 53 31.0	
	105nm,0.3s						
KPKS	**Kokpek**	**3.37**	**17**	P*g*	**Pb**	**13 52 45.2**	**-1.8**
	7.9nm,0.4s						
KPKS				L*g*	Lg	13 53 31.0	
	105nm,0.3s						
PDGK	**Podgornoye**	**3.47**	**27**	P*g*	**Pb**	**13 52 46.4**	**-2.4**
	5.4nm,0.8s						
PDGK				L*g*	Lg	13 53 33.2	
	26nm,0.4s						
PDGK	**Podgornoye**	**3.47**	**27**	⇑P*g*	**Pb**	**13 52 46.2**	**-2.6**
	7.4nm,0.5s						
PDGK				⇓L*g*	Lg	13 53 34.0	
	40nm,0.7s						
KTBS	**Karatobe**	**3.50**	**352**	*e*P*g*	**Pb**	**13 52 47.0**	**-2.2**
	8.8nm,0.4s						
KTBS				*e*L*g*	Lg	13 53 34.2	
	62nm,0.6s						
KTBS	**Karatobe**	**3.50**	**352**	P*g*	**Pb**	**13 52 47.0**	**-2.2**
	8.8nm,0.4s						
KTBS				L*g*	Lg	13 53 34.2	
	62nm,0.6s						
CHKK	**Chushkaly**	**3.62**	**356**	*e*P*g*	**Pb**	**13 52 49.5**	**-1.7**
	15nm,0.5s						
CHKK				*e*L*g*	Lg	13 53 38.3	
	64nm,0.3s						
CHKK	**Chushkaly**	**3.62**	**356**	P*g*	**Pb**	**13 52 49.5**	**-1.7**
	15nm,0.5s						
CHKK				L*g*	Lg	13 53 38.3	
	64nm,0.3s						
USP	**Ospenovka**	**3.69**	**326**	P	**Pb**	**13 52 50.9**	**-1.6**
	SNR=7.3						
KUU	**Kurty**	**3.72**	**349**	*e*P*g*	**Pb**	**13 52 50.8**	**-2.1**
	5.1nm,0.4s						
KUU				*e*L*g*	Lg	13 53 40.7	
	58nm,0.4s						
KUU	**Kurty**	**3.72**	**349**	P*g*	**Pb**	**13 52 50.8**	**-2.1**
	5.1nm,0.4s						
KUU				L*g*	Lg	13 53 40.7	
	58nm,0.4s						
SGDS	**Sogindy**	**3.79**	**329**	P*g*	**Pb**	**13 52 52.1**	**-2.1**
	7.9nm,0.4s						
SGDS				L*g*	Lg	13 53 43.1	
	12nm,0.2s						
KTMS	**Ketmen**	**3.91**	**34**	*e*P*g*	**Pb**	**13 52 55.0**	**-1.1**
	2.8nm,0.3s						
KTMS				*e*L*g*	Lg	13 53 47.9	
	13nm,0.5s						
KTMS	**Ketmen**	**3.91**	**34**	P*g*	**Pb**	**13 52 55.0**	**-1.1**
	2.8nm,0.3s						
KTMS				L*g*	Lg	13 53 47.9	
	13nm,0.5s						
MRKS	**Merke**	**3.98**	**310**	*e*P*g*	**Pb**	**13 52 55.1**	**-2.3**
	4.1nm,0.2s						
MRKS				*e*L*g*	Lg	13 53 48.2	
	14nm,0.4s						
MRKS	**Merke**	**3.98**	**310**	P*g*	**Pb**	**13 52 55.1**	**-2.3**
	4.1nm,0.2s						
MRKS				L*g*	Lg	13 53 48.2	
	14nm,0.4s						
ARXS	**Arharly**	**3.98**	**5**	*e*P*g*	**Pb**	**13 52 56.1**	**-1.3**
	13nm,0.4s						
ARXS				*e*L*g*	Lg	13 53 49.6	
	40nm,0.3s						
ARXS	**Arharly**	**3.98**	**5**	P*g*	**Pb**	**13 52 56.1**	**-1.3**
	13nm,0.4s						
ARXS				L*g*	Lg	13 53 49.6	
	40nm,0.3s						
KNOS	**Konyrlen**	**4.33**	**18**	P*g*	**Pb**	**13 53 02.8**	**-0.

SHO	**Shikotan**	**1.82**	**267**	*e*PN		**Pb**	**14 17 31.7**	**+2.5**
YUK	**Yuzh-Kuril'sk**	**2.51**	**272**	*e*P		**Pb**	**14 17 41.6**	**+0.5**
YUK				AMB		AMB	14 17 43.9	
	comp=E,90nm,0.5s							
YUK				*e*S		**Sn**	**14 18 06.4**	**+0.2**
YUK				A		A	14 18 17.5	
	comp=E,250nm,0.4s							
YUK				A		A	14 18 17.5	
	comp=E,250nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.51**	**272**	*e*PN		**Pb**	**14 17 41.5**	**+0.5**
YUK				pmax		pmax		
	comp=Z,87nm,0.3s							
NEM2	**Nemuro 2**	**2.68**	**258**	*e*P		**Pb**	**14 17 45.0**	**+1.1**
NEM2				*e*S		**Sn**	**14 18 11.8**	**+1.4**
NMR	**Nemuro--Hokkai**	**2.69**	**258**	*e*P		**Pb**	**14 17 44.9**	**+0.8**
NMR				*e*S		**Sn**	**14 18 12.0**	**+1.3**
NMR	**Nemuro--Hokkai**	**2.69**	**258**	*e*PN		**Pb**	**14 17 44.7**	**+0.6**
RUSJ	**Misakicho**	**2.96**	**274**	*e*PN		**Pb**	**14 17 48.5**	**-0.1**
JRA	**Rausu**	**3.05**	**271**	*e*P		**Pb**	**14 17 50.2**	**+0.1**
JRA				*e*S		**Sn**	**14 18 21.4**	**+2.0**
JNSB	**Nemuroshibetsu**	**3.14**	**268**	*e*P		**Pb**	**14 17 52.0**	**+0.2**
JNK	**Nakash**	**3.37**	**265**	*e*P		**Pb**	**14 17 54.8**	**-0.9**
JNK				*e*S		**Sn**	**14 18 28.0**	**+0.6**
AKK	**Akkeshi**	**3.41**	**255**	*e*P		**Pb**	**14 17 56.6**	**+0.2**
JAK	**Akkeshi**	**3.52**	**255**	*e*P		**Pb**	**14 17 57.0**	**-1.2**
JAK				*e*S		**Sn**	**14 18 32.9**	**+1.8**
JAR	**Ashorobuto**	**4.10**	**262**	*e*P		**Pb**	**14 18 06.2**	**-1.9**
JCH	**Churui**	**4.57**	**255**	*e*P		**Pb**	**14 18 13.3**	**-2.9**
ASAJ	**Asahikawa**	**4.86**	**274**	Pn		**Pb**	**14 18 19.4**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=299,slow=11,SNR=2.1							
ASAJ				Sn		**Sb**	**14 19 17.7**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=16,slow=30,SNR=2.6 comp=Z,5.3nm,0.5s							
JNBK	**Urakawa-nobuka**	**5.11**	**253**	*e*P		Pb	14 18 20.4	-5.0
JNBK				*e*S		**Sn**	**14 19 13.4**	**+3.0**
JANG	**Nango**	**6.84**	**241**	*e*S		**Sn**	**14 19 51.8**	**-1.1**
PETK	**Petropavlovsk-**	**10.67**	**28**	Pn		Pn	14 19 37.6	+9.4
	comp=Z,0.3nm,0.3s,baz=218,slow=13,SNR=9.5 comp=Z,2.1nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**28.29**	**143**	T		T	14 53 43.5	
	baz=333,slow=76,SNR=30							
H11N1	**WAKE ISLAND Hy**	**28.30**	**143**	T		T	14 53 47.5	
	baz=333,slow=76,SNR=26							
H11N3	**WAKE ISLAND Hy**	**28.30**	**143**	T		T	14 53 47.0	
	baz=333,slow=76,SNR=36							
H11S1	**WAKE ISLAND Hy**	**29.29**	**145**	T		T	14 55 04.9	
	baz=334,slow=76,SNR=40							
H11S3	**WAKE ISLAND Hy**	**29.30**	**145**	T		T	14 55 04.9	
	baz=334,slow=76,SNR=25							
H11S2	**WAKE ISLAND Hy**	**29.31**	**145**	T		T	14 55 05.1	
	baz=334,slow=76,SNR=18							
YKA	**Yellowknife Ar**	**54.72**	**34**	P		P	14 26 33.4	+9.4
	comp=Z,0.3nm,0.7s,baz=299,slow=7.3,SNR=4.2 comp=Z,0.3nm,0.7s							
TXAR	**Lajitas Array**	**81.19**	**58**	P		P	14 29 20.7	+10
	comp=Z,0.2nm,0.5s,baz=286,slow=3.0,SNR=3.8 comp=Z,0.2nm,0.5s							

*SJA **21** 14:20:57.2±0.7,33°.85S×72°.60W,h11km±3km,ML4.6, MW4.4*
*NEIC **21** 14:20:59.8±2.1,33°.88S±0°.02×72°.50W±0°.06,h10km±1km, mb4.7/13,Mwr4.5/55,Error ellipse: s-maj=9.6km s-min=2.9km az=292.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr5.00; Mθθ0.80; Mφφ-5.80; Mrθ1.04; Mrφ-0.53; Mθφ-2.85; Fault plane solution: M0 6.25000×10¹⁵ NP1:φs171.59000°,δ59.87000°, λ75.38000°. NP2:φs19.06000°,δ33.19000°,λ113.51000°. Principal axes: T 5.9538, Plg71.0000°, Azm48.0000°; N 0.5555, Plg13.0000°, Azm179.0000°; P -6.5093, Plg14.0000°, Azm272.0000°;*
*IDC **21** 14:20:59.1±0.7,33°.92S×72°.25W,h0km,mb4.3/9, mbtmp4.2/11,ML4.0/2,MS4.0/17 Error ellipse: s-maj=26.8km s-min=18.8km az=93.0*
*NEIC **21** 14:20:59.6,33°.89S×72°.52W,h10km*
*GUC **21** 14:21:01.5±0.7,33°.92S×72°.45W,h25km,ML4.4*
*VAO **21** 14:21:10.4±1.0,34°.57S×72°.98W,h216km±13km,mb4.3*
ISC 21 14:20:59.5±1.5,**33°.89S**±0°.02×**72°.48W**±0°.04,**h9**km±9km, **n153**,σ1$**23**/158,**mb4.7**/12,**MS4.0**/17,**21C-6D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.74**	**145**	⇓*iP*		**Pb**	**14 21 14.9**	**+0.3**
BO03				*e*S		**Sb**	**14 21 24.8**	**0.0**
BO03				IAML			14 21 27.0	
	comp=E,25μm,0.2s							
VA05	**Santo Domingo**	**0.75**	**72**			**Pb**	**14 21 15.6**	**+0.8**
VA05	**Santo Domingo**	**0.75**	**72**	⇓*iP*		**Pb**	**14 21 15.6**	**+0.8**
VA05				*e*S		**Sb**	**14 21 26.2**	**+1.0**
VA05				IAML			14 21 27.6	
	comp=E,52μm,0.3s							
MT01	**Popeta**	**1.02**	**89**			**Pb**	**14 21 19.5**	**+0.2**
MT01	**Popeta**	**1.02**	**89**	*e*P		**Pg**	**14 21 18.8**	**-0.3**
MT01				*e*S		**Sn**	**14 21 34.1**	**-0.4**
MT01				IAML			14 21 34.6	
	comp=E,19μm,0.3s							
MT01	**Popeta**	**1.02**	**89**	⇓*iP*		**Pb**	**14 21 19.5**	**+0.2**
MT01				*e*S		**Sg**	**14 21 32.4**	**+0.1**
MT01				IAML			14 21 34.7	
	comp=E,18μm,0.3s							
VA01	**Torpederas**	**1.11**	**39**			**Pb**	**14 21 21.2**	**+0.4**
VA01	**Torpederas**	**1.11**	**39**	⇑*iP*		**Pg**	**14 21 21.2**	**+0.4**
VA01				*e*S		**Sg**	**14 21 35.2**	**+0.2**
GO05	**Huala**	**1.21**	**158**			**Pb**	**14 21 22.1**	**-0.4**
GO05	**Huala**	**1.21**	**158**	*e*P		**Pb**	**14 21 21.9**	**-0.7**
GO05				*e*P		**Pn**	**14 21 22.7**	**+0.1**
GO05				*e*S		**Sg**	**14 21 38.7**	**+0.4**
GO05				IAML			14 21 50.6	
	comp=Z,7μm,0.8s							
GO05	**Huala**	**1.21**	**158**	⇑*iP*		**Pb**	**14 21 22.1**	**-0.4**
GO05				*e*S		**Sb**	**14 21 37.5**	**-0.7**
GO05				IAML			14 21 43.5	
	comp=E,17μm,0.7s							
MT09	**Talagante**	**1.24**	**85**			**Pn**	**14 21 22.8**	**-0.4**
MT09	**Talagante**	**1.24**	**85**	⇑*iP*		**Pn**	**14 21 22.9**	**-0.3**
MT09				*e*S		**Sb**	**14 21 39.4**	**0.0**
MT09				IAML			14 21 43.4	
	comp=E,12μm,0.4s							
BO01	**Tunca**	**1.26**	**114**			**Pn**	**14 21 22.5**	**-0.8**
BO01	**Tunca**	**1.26**	**114**	*e*P		**Pn**	**14 21 22.7**	**-0.6**
BO01				*e*S		**Sn**	**14 21 40.9**	**+0.6**
BO01	**Tunca**	**1.26**	**114**	⇓*iP*		**Pn**	**14 21 22.5**	**-0.8**
MT02	**Curacav**	**1.28**	**61**			**Pn**	**14 21 23.7**	**+0.1**
MT02	**Curacav**	**1.28**	**61**	⇑*iP*		**Pn**	**14 21 23.7**	**+0.1**
MT02				*e*S		**Sg**	**14 21 40.8**	**+0.2**
MT02				IAML			14 21 47.0	
	comp=N,8μm,0.5s							
ROC1	**El Roble**	**1.52**	**54**			**Pn**	**14 21 27.4**	**+0.3**
ROCH	**El Roble**	**1.53**	**54**	⇑*iP*		**Pn**	**14 21 27.5**	**+0.3**
ROCH				⇓*iP*		**Pb**	**14 21 27.7**	**-0.5**
ROCH				*e*S		**Sb**	**14 21 47.8**	**+0.1**
ROCH				*e*S		**Sb**	**14 21 47.8**	**+0.1**
MT05	**Renca**	**1.53**	**72**			**Pn**	**14 21 27.4**	**+0.3**
MT05	**Renca**	**1.53**	**72**	*e*P		**Pn**	**14 21 27.3**	**+0.2**
MT05				*e*S		**Sg**	**14 21 51.3**	**+2.6**
MT05	**Renca**	**1.53**	**72**	⇑*iP*		**Pn**	**14 21 27.4**	**+0.3**
MT05				IAML			14 22 01.2	
	comp=E,10μm,0.4s							
BO04	**La Punta**	**1.55**	**94**			**Pn**	**14 21 27.9**	**+0.5**
BO04	**La Punta**	**1.55**	**94**	⇑*iP*		**Pn**	**14 21 27.8**	**+0.5**
BO04				*e*S		**Sn**	**14 21 47.5**	**-0.2**
BO04				IAML			14 21 56.0	
	comp=E,7μm,0.6s							
MT12	**Pirque**	**1.61**	**85**	⇑*iP*		**Pn**	**14 21 28.5**	**+0.3**
BO02	**Sierra Bellavi**	**1.67**	**123**			**Pn**	**14 21 29.2**	**+0.2**
BO02	**Sierra Bellavi**	**1.67**	**123**	*e*P		**Pn**	**14 21 29.7**	**+0.7**
BO02				*e*S		**Sn**	**14 21 47.4**	**-3.1**
BO02				*e*S		**Sg**	**14 21 54.1**	**+1.0**
BO02				IAML			14 21 59.0	
	comp=Z,7μm,0.8s							
BO02	**Sierra Bellavi**	**1.67**	**123**	⇓*iP*		**Pn**	**14 21 29.2**	**+0.2**
BO02				*e*S		**Sn**	**14 21 50.5**	**-0.1**
MT15	**Las Vizcachas**	**1.67**	**81**	⇑*iP*		**Pn**	**14 21 29.6**	**+0.6**
PEL	**Peldehue**	**1.67**	**64**	Pn		**Pb**	**14 21 30.0**	**-0.5**
PEL	**Peldehue**	**1.67**	**64**	⇑*iP*		**Pb**	**14 21 30.1**	**-0.3**
PEL				*e*S		**Sb**	**14 21 51.5**	**-0.1**
MT03	**Universidad Ad**	**1.69**	**77**			**Pn**	**14 21 29.6**	**+0.4**
MT03	**Universidad Ad**	**1.69**	**77**	*e*P		**Pn**	**14 21 30.1**	**+0.8**
MT03				*e*S		**Sg**	**14 21 55.9**	**+2.3**
MT03				IAML			14 21 58.2	
	comp=Z,8μm,0.8s							
MT03	**Universidad Ad**	**1.69**	**77**	⇑*iP*		**Pn**	**14 21 29.6**	**+0.4**
MT03				*e*S		**Sn**	**14 21 51.6**	**+0.6**
MT14	**Cerro Cal¡n**	**1.69**	**74**	⇑*iP*		**Pn**	**14 21 30.1**	**+0.8**
MT14				*e*S		**Sn**	**14 21 51.7**	**+0.6**
MT10	**Hacienda Santa**	**1.73**	**70**	⇑*iP*		**Pb**	**14 21 31.1**	**-0.4**
MT13	**San Alfonso**	**1.83**	**86**			**Pn**	**14 21 31.9**	**+0.7**
MT13	**San Alfonso**	**1.83**	**86**	⇑*iP*		**Pn**	**14 21 32.0**	**+0.7**
MT13				*e*S		**Sn**	**14 21 55.3**	**+0.7**
LMEL	**Las Melosas**	**1.89**	**89**			**Pn**	**14 21 33.1**	**+1.0**
LMEL	**Las Melosas**	**1.89**	**89**	⇑*iP*		**Pn**	**14 21 33.1**	**+1.0**
LMEL				*e*S		**Sn**	**14 21 57.2**	**+1.0**
FCH	**Farellones**	**1.91**	**74**	⇑*iP*		**Pn**	**14 21 33.2**	**+0.7**
FCH				IAML			14 22 04.4	
	comp=N,5μm,0.3s							
MT04	**Ro Olivares**	**2.01**	**77**	⇑*iP*		**Pn**	**14 21 34.6**	**+0.8**
ML02	**Panimavida**	**2.06**	**155**	Pn		**Pn**	**14 21 34.8**	**+0.4**
ML02	**Panimavida**	**2.06**	**155**	*i* P		**Pn**	**14 21 35.4**	**+1.1**
BI05	**Punta Hualpn**	**2.91**	**191**	Pn		**Pn**	**14 21 45.7**	**-0.3**
CO02	**Combarbal**	**2.95**	**25**			**Pn**	**14 21 47.5**	**+0.8**
CO02	**Combarbal**	**2.95**	**25**	*e*P		**Pn**	**14 21 46.9**	**+0.1**
CO02				*e*P		Pb	14 21 47.4	-5.0
CO02				*e*S		**Sn**	**14 22 23.0**	**+0.7**
CO02				IAML			14 22 40.7	
	comp=Z,2μm,1.1s							
CO06	**Fray Jorge**	**3.28**	**13**			**Pn**	**14 21 51.0**	**-0.2**
CO03	**El Pedregal**	**3.40**	**27**	Pn		**Pn**	**14 21 54.0**	**+1.3**
CO03	**El Pedregal**	**3.40**	**27**	*e*P		**Pn**	**14 21 53.6**	**+0.9**
CO03				*e*P		Pb	14 21 54.1	-5.8
CO03				*e*S		**Sg**	**14 22 47.9**	**-0.7**
CO03				IAML			14 22 58.9	
	comp=Z,1μm,1.1s							
ZON	**Zonda**	**3.96**	**55**			**Pn**	**14 22 00.8**	**+0.3**
GO04	**Tololo Observa**	**3.97**	**21**			**Pn**	**14 22 01.3**	**+0.5**
GO04	**Tololo Observa**	**3.97**	**21**	*e*P		**Pn**	**14 22 01.4**	**+0.6**
GO04				*e*S		**Sn**	**14 22 47.4**	**-0.2**
GO04				IAML			14 23 15.7	
	comp=Z,1μm,0.6s							
CO05	**La Serena**	**4.10**	**15**			**Pn**	**14 22 02.8**	**+0.5**
CFA	**Coronel Fontan**	**4.24**	**59**	Lg		Lg	14 23 07.3	
	comp=Z,13nm,0.3s,baz=279,slow=19,SNR=1.4							
CO01	**Juntas del Tor**	**4.39**	**28**			**Pn**	**14 22 07.6**	**+0.9**
CO01	**Juntas del Tor**	**4.39**	**28**	*e*P		**Pn**	**14 22 07.8**	**+1.2**
CO01				*e*S		**Sn**	**14 22 59.7**	**+1.6**
CO01				IAML			14 23 33.3	
	comp=Z,546nm,1.4s							
LC02	**Puerto Saavedr**	**4.95**	**188**	Pn		**Pn**	**14 22 14.3**	**+0.4**
LCO	**Las Campanas**	**5.09**	**18**			**Pn**	**14 22 16.8**	**+0.5**
LCO	**Las Campanas**	**5.09**	**18**	*e*P		**Pn**	**14 22 16.7**	**+0.4**
LCO				*e*P		**Pn**	**14 22 16.7**	**+0.4**
LCO				*e*S		**Sn**	**14 23 16.7**	**+1.3**
LCO				IAML			14 23 55.9	
	comp=Z,369nm,0.9s							
H03S1	**Juan Fernandez**	**5.35**	**269**	T		T	14 28 30.9	
	baz=96,slow=74,SNR=1777							
H03S3	**Juan Fernandez**	**5.35**	**269**	T		T	14 28 28.6	
	baz=96,slow=74,SNR=2210							
H03S2	**Juan Fernandez**	**5.37**	**269**	T		T	14 28 30.0	
	baz=96,slow=74,SNR=2140							
AC05	**El Transito**	**5.38**	**21**			**Pn**	**14 22 21.0**	**+1.0**
AC05	**El Transito**	**5.38**	**21**	*e*P		**Pn**	**14 22 21.2**	**+1.1**
AC05				*e*S		**Sn**	**14 23 23.3**	**+1.1**
AC05				IAML			14 24 09.0	
	comp=Z,330nm,1.5s							
H03N1	**Juan Fernandez**	**5.39**	**273**	T		T	14 28 28.3	
	baz=102,slow=72,SNR=11							
H03N3	**Juan Fernandez**	**5.39**	**273**	T		T	14 28 28.3	
	baz=102,slow=72,SNR=8.9							
H03N2	**Juan Fernandez**	**5.40**	**273**	T		T	14 28 29.5	
	baz=102,slow=72,SNR=79							
GO06	**Curarrehue**	**5.74**	**172**			**Pn**	**14 22 26.1**	**+1.1**
AC04	**Llanos de Chal**	**5.79**	**12**			**Pn**	**14 22 25.1**	**-0.5**
LR05	**Currie**	**6.34**	**177**	Pn		**Pn**	**14 22 34.2**	**+1.1**
GO03	**Copiap**	**6.56**	**18**			**Pn**	**14 22 36.4**	**+0.1**
AC06	**Mina Casimiro**	**6.76**	**16**			**Pn**	**14 22 38.6**	**-0.4**
PLCA	**Paso Flores**	**7.00**	**168**			**Pn**	**14 22 43.8**	**+1.5**
PLCA	**Paso Flores**	**7.00**	**168**	*e*P		**Pn**	**14 22 43.4**	**+1.1**
PLCA	**Paso Flores**	**7.00**	**168**	Pn		**Pn**	**14 22 43.4**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=333,slow=11,SNR=17							
PLCA				Lg		Lg	14 24 36.4	
	comp=Z,0.6nm,0.3s,baz=350,slow=15,SNR=1.9							
PLCA				LR		LR	14 25 29.9	
	comp=Z,791nm,18.2s,baz=350,slow=39 comp=Z,4.9nm,0.5s							
AC01	**Pan de Azucar**	**7.88**	**12**	Pn		**Pn**	**14 22 52.4**	**-2.0**
GO02	**Mina Guanaco**	**9.05**	**17**	Pn		**Pn**	**14 23 07.6**	**-3.1**
PB14	**IPOC Station P**	**9.40**	**12**	Pn		**Pn**	**14 23 12.5**	**-3.0**
TRQA	**Tornquist**	**9.47**	**119**			**Pn**	**14 23 13.8**	**-2.2**
LVC	**Limon Verde**	**11.67**	**17**	Pn		**Pn**	**14 23 47.0**	**+0.4**
LVC	**Limon Verde**	**11.67**	**17**	*e*P		Pn	14 24 00.8	+14
LVC	**Limon Verde**	**11.67**	**17**	Lg		Lg	14 27 00.7	
	comp=Z,2.2nm,0.3s,baz=273,slow=3.4,SNR=8.1							
LVC				LR		LR	14 28 21.8	
	comp=Z,426nm,19.4s,baz=208,slow=38							
ITQB	**Itaqui**	**14.12**	**77**	*e*P		**P**	**14 24 27.0**	**-0.5**
RODS	**Rosario do Sul**	**15.06**	**81**	*e*P		**P**	**14 24 38.4**	**+0.5**
CPUP	**Villa Florida**	**15.11**	**64**	Pn		**Pn**	**14 24 33.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=206,slow=14,SNR=1.5							
CPUP				Lg		Lg	14 28 41.9	
	comp=Z,0.2nm,0.3s,baz=318,slow=19,SNR=1.8							
CPUP				LR		LR	14 31 10.2	
	comp=Z,462nm,19.3s,baz=242,slow=41 comp=Z,0.9nm,0.5s							
UNIS	**Unistalda (Bra**	**15.60**	**77**	*e*P		**P**	**14 24 46.3**	**+2.4**
PB16	**IPOC Station P**	**15.72**	**10**	Pn		**Pn**	**14 24 38.1**	**-3.6**
PLTB	**Pedras Altas**	**16.01**	**88**	Pn		**Pn**	**14 24 41.7**	**-3.2**
LPAZ	**La Paz**	**17.96**	**14**			**Pn**	**14 25 09.5**	**-0.6**
FRBT	**Francisco Belt**	**18.56**	**70**	*e*P		**Pn**	**14 25 18.7**	**+1.8**
ITAB	**Concordia**	**18.72**	**75**	P		**P**	**14 25 16.4**	**-2.0**
ITAB				IAmb		IAmb	14 25 31.4	
	comp=Z,54nm,1.5s							
ITAB	**Concordia**	**18.72**	**75**	*e*P		**Pn**	**14 25 20.4**	**+1.6**
CNLB	**Canela**	**18.96**	**82**	*e*P		**P**	**14 25 20.7**	**-0.5**
AQDB	**Aquidauana**	**19.99**	**52**	P		**P**	**14 25 28.4**	**-4.0**
AQDB				IAmb		IAmb	14 25 38.6	
	comp=Z,20nm,0.9s							
AQDB	**Aquidauana**	**19.99**	**52**	*e*P		**P**	**14 25 33.4**	**+1.0**
SIV	**San Ignacio**	**20.57**	**33**	P		**P**	**14 25 39.0**	**+0.2**
	comp=Z,9.9nm,0.8s,baz=213,slow=9.7,SNR=29							
SIV				LR		LR	14 35 09.2	
	comp=Z,583nm,18.6s,baz=270,slow=42 comp=Z,9.9nm,0.8s							
EFI	**East Falkland**	**20.62**	**154**	P		**P**	**14 25 38.0**	**-0.9**
EFI				IAmb		IAmb	14 26 03.5	
	comp=Z,31nm,0.8s							
RPRD	**Ribas do Rio P**	**21.34**	**56**	*e*P		**P**	**14 25 47.1**	**+0.1**
LDASE	**Londrina, Braz**	**21.42**	**66**	*e*P		**P**	**14 25 47.7**	**-0.2**
PTLB	**Pontes e Lacer**	**21.96**	**37**	*e*P		**P**	**14 25 54.2**	**+0.6**
PCMB	**Pacaembu**	**22.36**	**62**	*e*P		**P**	**14 25 56.7**	**-1.2**
PP1B	**Ponte de Pedra**	**22.62**	**49**	*e*P		**P**	**14 25 60.0**	**-0.8**
FRTB	**Fartura**	**22.64**	**68**	*e*P		**P**	**14 25 59.5**	**-1.5**
C2SB	**Chapadao do Su**	**23.10**	**54**	*e*P		**P**	**14 26 04.2**	**-1.5**
VILB	**Vilhena**	**23.65**	**31**	P		**P**	**14 26 09.6**	**-1.7**
VILB				IAmb		IAmb	14 26 21.4	
	comp=Z,28nm,0.9s							
BDFB	**Brasilia**	**28.57**	**57**	P		**P**	**14 26 52.5**	**-3.6**
BDFB				IAmb		IAmb	14 27 33.9	
	comp=Z,9.8nm,1.0s							
BDFB	**Brasilia**	**28.57**	**57**	P		**P**	**14 26 55.3**	**-0.8**
	comp=Z,6.2nm,0.8s,baz=226,slow=11,SNR=8.6							
BDFB				LR		LR	14 39 22.6	
	comp=Z,466nm,19.3s,baz=222,slow=39 comp=Z,6.2nm,0.8s							
PMSA	**Palmer Station**	**31.34**	**173**	LR		LR	14 40 04.3	
	comp=Z,186nm,18.0s,baz=168,slow=37							
RPN	**Rapa Nui**	**32.34**	**272**	LR		LR	14 37 48.8	
	comp=Z,300nm,18.4s,baz=121,slow=31							
HOPE	**Hope Point**	**32.41**	**140**	P		P	14 27 23.7	-5.8
BOAV	**Boa Vista**	**37.81**	**20**	P		**P**	**14 28 15.8**	**-0.5**
BAUV	**El Baul**	**42.80**	**6**	P		**P**	**14 28 53.3**	**-4.4**
BAUV				IAmb		IAmb	14 28 59.8	
	comp=Z,25nm,1.1s							
MDP	**Montagnes des**	**43.08**	**30**	LR		LR	14 49 04.5	
	comp=Z,421nm,19.0s,baz=218,slow=39							
RCBR	**Riachuelo**	**43.89**	**59**	LR		LR	14 48 25.4	
	comp=Z,224nm,21.1s,baz=239,slow=38							
PCRV	**Puerto La Cruz**	**44.45**	**11**	LR		LR	14 50 07.0	
	comp=Z,193nm,18.6s,slow=39							
VNA3	**Neumayer Olymp**	**49.60**	**158**	⇑P		**P**	**14 29 52.2**	**+1.6**
	comp=Z,6.0nm,0.7s							
VNA2	**Neumayer--Watz**	**50.26**	**157**	⇑P		**P**	**14 29 57.1**	**+1.5**
	comp=Z,6.8nm,0.7s,baz=290,slow=9.0							
SNAA	**Sanae**	**51.82**	**158**	P		**P**	**14 30 06.1**	**-1.4**
SNAA	**Sanae**	**51.82**	**158**	⇑P		**P**	**14 30 08.8**	**+1.3**
	comp=Z,207nm,0.9s							
SNAA	**Sanae**	**51.82**	**158**	P		**P**	**14 30 06.8**	**-0.7**
	comp=Z,8.7nm,0.9s,baz=258,slow=8.1,SNR=11 comp=Z,8.7nm,0.9s							
GCPR	**Guaynabo City**	**52.26**	**8**	P		**P**	**14 30 09.9**	**-1.2**
TROLL	**Troll, Antarti**	**53.53**	**158**	⇑P		**P**	**14 30 21.6**	**+1.3**
	comp=Z,301nm,0.8s							
QSPA	**South Pole Qui**	**56.35**	**180**	P		**P**	**14 30 42.2**	**+1.5**
QSPA				IAmb		IAmb	14 31 01.2	
	comp=E,8.1nm,1.0s							
QSPA	**South Pole Qui**	**56.35**	**180**	P		**P**	**14 30 42.4**	**+1.8**
	comp=Z,4.1nm,0.9s,baz=166,slow=3.6,SNR=7.1 comp=Z,4.1nm,0.9s							
TBI	**Tubuai**	**66.99**	**257**	*e*LR		LR	14 52 04.2	
	comp=Z,484nm,27.2s							
MEH	**Mehetia**	**68.50**	**262**	*e*T		T	15 47 17.7	
	comp=Z,8.8nm,0.2s							
TXAR	**Lajitas Array**	**69.46**	**331**	P		**P**	**14 32 10.3**	**+2.1**
	comp=Z,0.7nm,0.7s,baz=155,slow=7.5,SNR=9.0 comp=Z,0.7nm,0.7s							
PPT2	**Papeete2**	**69.89**	**262**	*e*LR		LR	14 53 15.0	
	comp=Z,99nm,27.0s							
SUR	**Sutherland**	**75.20**	**119**	LR		LR	14 59 43.1	
	comp=Z,33nm,19.5s,baz=181,slow=31							
DBIC	**Dimbokro**	**75.49**	**72**	P		**P**	**14 32 45.2**	**+0.7**
	comp=Z,5.6nm,0.7s,baz=227,slow=7.5,SNR=8.4							
DBIC				LR		LR	15 04 43.5	
	comp=Z,60nm,18.3s,baz=224,slow=35 comp=Z,5.6nm,0.7s							
BOSA	**Boshof**	**80.44**	**118**	LR		LR	15 05 37.6	
	comp=Z,43nm,18.4s,baz=200,slow=33							
LBTB	**Lobatse**	**82.68**	**115**	LR		LR	15 08 13.8	
	comp=Z,72nm,18.2s,baz=186,slow=34							
PDAR	**Pinedale Array**	**83.50**	**333**	P		**P**	**14 33 29.5**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=143,slow=6.3,SNR=2.7 comp=Z,0.3nm,0.6s							
NVAR	**Mina Aray Bea**	**83.59**	**325**	P		**P**	**14 33 30.9**	**+2.7**
	comp=Z,0.5nm,0.7s,baz=147,slow=5.2,SNR=2.0 comp=Z,0.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**84.51**	**70**	P		**P**	**14 33 33.9**	**+0.7**
	comp=Z,5.2nm,0.8s,baz=278,slow=3.1,SNR=24 comp=Z,5.2nm,0.8s							
LSZ	**Lusaka**	**90.19**	**108**	LR		LR	15 10 11.0	
	comp=Z,109nm,20.0s,baz=253,slow=33							
MDT	**Midelt**	**92.03**	**51**	LR		LR	15 15 38.8	
	comp=Z,71nm,19.6s,baz=320,slow=36							
ESDC	**Sonseca Array**	**96.76**	**46**	LR		LR	15 17 28.7	
	comp=Z,76nm,18.1s,baz=266,slow=35							
DZM	**Mont Dzumac**	**101.01**	**234**	*e*LR		LR	15 07 35.1	
	comp=Z,146nm,27.9s							
WRA	**Warramunga Arr**	**120.68**	**210**	PKP		**PKPdf**	**14 39 52.6**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=166,slow=1.5,SNR=5.0							
BRTR	**Keskin Array B**	**122.10**	**61**	PKP		**PKPdf**	**14 39 53.5**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=272,slow=5.5,SNR=4.2							
AKASG	**Malin Array Be**	**122.38**	**48**	PKP		**PKPdf**	**14 39 54.6**	**0.0**
	comp=Z,1.8nm,0.8s,baz=264,slow=2.3,SNR=4.2							
H11S2	**WAKE ISLAND Hy**	**125.41**	**269**	T		T	16 58 43.0	
	baz=118							
H11S1	**WAKE ISLAND

RVSTA	Santa Teresita	1.07	48	*e*P		Pn	14 33 13.5	-0.2		
NYURE	Nandayure	1.07	313	*e*P		Pg	14 33 11.7	-2.1		
SRBA	San Rafael, Bu	1.08	91	⇑*i*P		Pg	14 33 12.0	-2.0		
SRBA	San Rafael, Bu	1.08	91	*i* P		Pg	14 33 12.2	-1.8		
SRBA				IAML			14 33 17.2			
	comp=Z,2µm,1.0s									
SRBA				*i* S		Sb	14 33 28.5	+0.8		
BURE	Buenos Aires	1.11	94	*e*P		Pg	14 33 13.1	-1.4		
SOCE	Pocosol	1.12	352	*e*P		Pb	14 33 13.9	-0.5		
SOCE	Pocosol	1.12	352	*i* P		Pb	14 33 14.1	-0.2		
SOCE				IAML			14 33 41.2			
	comp=Z,6µm,1.0s									
JUNT	Juntas	1.13	334	*e*P		Pg	14 33 13.4	-1.4		
JTS	Las Juntas de	1.13	335	Pg		Pg	14 33 13.3	-1.7		
	comp=Z,111nm,0.3s,baz=99,slow=24,SNR=74									
JTS				Lg		Lg	14 33 30.1			
	comp=Z,156nm,0.3s,baz=300,slow=22,SNR=8.0									
EDBA	Buenos Aires	1.17	95	*e*P		Pg	14 33 13.2	-2.4		
RIFO	Rio Frio, Sara	1.17	27	*e*P		Pg	14 33 14.2	-1.5		
RIFO	Rio Frio, Sara	1.17	27	*i* P		Pn	14 33 15.1	0.0		
RIFO				IAML			14 33 52.3			
	comp=Z,7µm,1.0s									
INDI	Punta indio, G	1.19	300	*e*P		Pg	14 33 12.2	-3.9		
INDI	Punta indio, G	1.19	300	*i* P		Pn	14 33 17.4	+2.1		
INDI				IAML			14 33 39.3			
	comp=Z,1µm,1.0s									
DRK0	Durika	1.20	90	⇑*i*P		Pg	14 33 14.1	-2.1		
LCOCO	El Coco	1.21	47	*e*P		Pn	14 33 15.7	+0.2		
ARE1	Arenal 1	1.22	348	⇓*e*P		Pb	14 33 15.5	-0.4		
VACR	Volcan Arenal	1.22	350	*e*P		Pn	14 33 15.9	+0.1		
VACR	Volcan Arenal	1.22	350	*i* P		Pn	14 33 17.9	+2.1		
VACR				IAML			14 33 47.5			
	comp=Z,3µm,1.0s									
CEDE	Laguna Cedeo	1.24	349	⇓*e*P		Pg	14 33 15.9	-1.2		
SGBR	La Fortuna	1.24	346	*e*P		Pb	14 33 16.0	-0.4		
IRES	Siquirres	1.25	48	*e*P		Pn	14 33 16.7	+0.6		
SARA	Sarapiqu	1.26	20	*e*P		Pn	14 33 15.8	-0.8		
NICO	Nicoya	1.31	312	*e*P		Pn	14 33 16.1	-0.8		
JIME	Puerto Jimenez	1.33	123	*e*P		Pn	14 33 16.9	-0.3		
POTG	Potrero Grande	1.34	99	⇓*e*P		Pn	14 33 16.1	-1.3		
POTG	Potrero Grande	1.34	99	*i* P		Pn	14 33 16.3	-1.1		
POTG				IAML			14 33 44.8			
	comp=Z,7µm,1.0s									
PTJ1	Puerto Jimnez	1.35	122	*e*P		Pn	14 33 17.3	-0.2		
PIRO	Carate, Puerto	1.40	127	*i* P		Pb	14 33 18.8	-0.1		
PIRO				IAML			14 33 53.2			
	comp=Z,2µm,1.0s									
TRT2	Tortugero	1.47	29	*i* P		Pb	14 33 19.5	-0.7		
TRT2				IAML			14 33 55.4			
	comp=Z,2µm,1.0s									
ORTG	Ortega, Santa	1.47	318	*i* P		Pg	14 33 22.6	+1.2		
ORTG				IAML			14 33 51.6			
	comp=Z,1µm,1.0s									
VERA	Finca Concepci	1.63	346	*e*P		Pg	14 33 23.1	-1.4		
CANAL	Canalete	1.67	339	*e*P		Pb	14 33 23.0	-0.6		
VMAR	Armenia, Volca	1.67	337	*e*P		Pn	14 33 22.3	+0.3		
VMAR				*e*P		Pb	14 33 22.8	-0.9		
VMAR	Armenia, Volca	1.67	337	*i* P		Pb	14 33 22.9	-0.8		
VMAR				IAML			14 34 13.0			
	comp=Z,2µm,1.0s									
MLIR3	Monte Lirio, C	1.68	106	*e*P		Pb	14 33 23.3	-0.5		
CCOL	Caracol de Cor	1.69	120	*i* P		Pg	14 33 24.7	-0.9		
CCOL				IAML			14 34 02.3			
	comp=Z,4µm,1.0s									
CDITO	Canoas	1.71	113	*e*P		Pb	14 33 24.0	-0.2		
CDITO				*e*S		Sg	14 33 53.3	+5.2		
CTCR	Cotoan	1.71	102	*i* P		Pn	14 33 22.1	-0.6		
CTCR				IAML			14 34 01.2			
	comp=Z,7µm,1.0s									
GPS3	Bodega del ICE	1.73	329	*e*P		Pb	14 33 24.6	-0.1		
VRLE	La Escondida,	1.76	330	*i* P		Pn	14 33 24.1	+0.9		
VRLE				IAML			14 34 09.0			
	comp=Z,810nm,1.0s									
BRU2	Volcan	1.81	105	*e*P		Pn	14 33 24.9	+1.0		
BRU2				*e*S		Sg	14 33 56.0	+4.7		
BRU2	Volcan	1.81	105	*i* P		Pb	14 33 26.0	0.0		
BRU2				IAML			14 34 07.3			
	comp=Z,2µm,1.0s									
HZTE	Horizontes, Gu	1.83	322	*i* P		Pb	14 33 25.8	-0.5		
HZTE				IAML			14 34 06.5			
	comp=Z,2µm,1.0s									
BC3P	Paso Ancho	1.88	104	*e*P		Pn	14 33 26.0	+1.0		
PTPM	Petroterminale	1.88	124	*e*P		Pb	14 33 26.3	-0.8		
PTPM				*e*S		Sg	14 33 57.7	+4.0		
BCO2	Palmira	1.98	106	*e*P		Pn	14 33 27.1	+0.8		
BCO2				*e*S		Sg	14 33 59.0	+2.1		
PTAR3	Potrerillos Ar	2.02	106	*e*P		Pn	14 33 27.1	+0.3		
LNBQ3	Los Naranjos,	2.04	103	*e*P		Pn	14 33 27.1	-0.1		
DVD	David	2.15	112	*e*P		Pn	14 33 29.2	+0.8		
DVD				*e*S		Sg	14 34 03.7	+1.5		
PEDE3	Pedregal, Chir	2.19	113	*e*P		Pn	14 33 29.6	+0.5		
CHGR2	Aguacate	2.31	98	*e*P		Pn	14 33 31.0	+0.4		
CHGR2				*e*S		Sg	14 34 05.8	-1.4		
CONN	Concepcion	2.56	333	*i* P		Pg	14 33 40.6	-1.6		
ACON	Acoyapa	2.78	345	*i* P		Pb	14 33 43.3	+0.8		
BOAB	BOACO BROADBAN	3.38	340	*i* P		Pb	14 33 51.6	-1.2		
BOAB				*i* S		Sn	14 34 29.0	+3.6		
BOAB				IAML			14 34 58.3			
	comp=Z,170nm,1.0s									
RSUS3	Rio de Jesus,	3.50	111	*e*P		Pn	14 33 47.8	+0.7		
COPN	Copaltepe	3.58	324	*i* P		Pb	14 33 53.0	-3.2		
CACAO	El Cacao, Vera	4.04	118	*e*P		Pn	14 33 56.1	+1.6		
CACAO				*e*S		Sb	14 34 49.6	-3.0		
AZU	Azuero	4.39	109	*e*P		Pn	14 34 00.8	+1.5		
AZU				*e*S		Sb	14 34 57.4	-5.4		
BCIP	Isla Barro Col	4.56	91	*e*P		Pn	14 34 00.6	-1.1		
BCIP	Isla Barro Col	4.56	91	*i* P		Pn	14 34 01.3	-0.4		
BCIP				IAML			14 34 07.9			
	comp=Z,130nm,1.0s									
SDV	Santo Domingo	13.66	90	LR		LR	14 41 36.1			
	comp=Z,86nm,21.2s,baz=285,slow=39									
TXAR	Lajitas Array	26.89	321	P		P	14 38 33.9	+0.1		
	comp=Z,0.2nm,0.8s,baz=137,slow=11,SNR=2.3									
	comp=Z,0.2nm,0.8s									
PDAR	Pinedale Array	39.96	331	P		P	14 40 26.8	-0.6		
	comp=Z,0.1nm,0.4s,baz=122,slow=7.1,SNR=1.7									
	comp=Z,0.1nm,0.4s									
NVAR	Mina Array Bea	42.02	319	P		P	14 40 45.6	+1.2		
	comp=Z,0.2nm,0.5s,baz=131,slow=9.0,SNR=2.1									
	comp=Z,0.2nm,0.5s									
YBH	Yreka Blue Hor	46.67	320	LR		LR	15 04 12.7			
	comp=Z,20nm,21.5s,baz=169,slow=40									
YKA	Yellowknife Ar	57.46	344	P		P	14 42 41.3	0.0		
	comp=Z,0.2nm,0.7s,baz=143,slow=6.5,SNR=2.7									
	comp=Z,0.2nm,0.7s									
ESDC	Sonseca Array	76.85	51	P		P	14 44 44.4	-0.5		
	comp=Z,0.2nm,0.3s,baz=293,slow=6.7,SNR=2.4									
	comp=Z,0.2nm,0.3s									

IDC ***21*** *15:06:52.6±5.3, 14°.57N×93°.64W, h0km, mb3.6/2, mbtmp3.6/4, ML3.8/2, MS2.7/2, Error ellipse: s-maj=91.7km s-min=50.9km az=1.0*

MEX ***21*** *15:07:04.5±0.5, 15°.09N×93°.76W, h23km±10km, MD4.2*

ISC 21 15:06:57.1±1.5, 14°.99N±0°.05×93°.82W±0°.03, h15km±11km, n31, σ1§87/50, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		0.92	39	*i* P	Pn	15 07 17.2	+1.8
PCIG				*i* S	Sn	15 07 27.5	-0.9
CARR	Arriaga	1.25	356	*e*P	Pg	15 07 22.4	+1.0
CARR				*e*S	Sb	15 07 35.9	-0.6
PATR	El Naranjo	1.53	85	*e*P	Pg	15 07 26.9	+0.2
PATR				*e*S	Sb	15 07 44.2	-0.5
PAVE	Pavencul	1.60	82	*i* P	Pg	15 07 28.2	+0.4
PAVE				*i* S	Sb	15 07 45.6	-0.9
CHUJ	Union Juarez	1.65	86	*e*P	Pg	15 07 28.5	-0.4
CHUJ				*e*S	Sb	15 07 47.6	-0.5
NILT	Santiago Nilte	1.75	334	*e*P	Pb	15 07 29.4	+0.6
NILT				*e*S	Sn	15 07 47.7	-1.2
TGIG		1.90	20	*e*P	Pb	15 07 31.2	-0.4
TGIG				*i* S	Sn	15 07 52.1	-0.8
TGBT	Tuxtla Gutierr	1.91	21	*i* P	Pb	15 07 30.9	-0.7
TGBT				*e*S	Sn	15 07 51.6	-1.4
CCIG	Comitan	2.07	51	*e*P	Pb	15 07 34.4	0.0
CCIG				*i* S	Sb	15 07 58.8	-1.3
RTAL	Retalhuleu	2.10	102	*e*S	Sb	15 07 59.8	-1.1
HUEH	Huehuetenango	2.26	81	*e*P	Pg	15 07 39.1	-1.3
HUEH				*i* S	Sb	15 08 05.7	+0.1
CMIG	Matias Romero	2.33	334	Pn	Pb	15 07 37.8	-1.0
	23nm,0.3s,baz=147,slow=13,SNR=4.4						
CMIG				Sn	Sn	15 08 03.4	0.0
	23nm,0.3s,baz=126,slow=9.9,SNR=5.2						
CMIG	Matias Romero	2.33	334	*e*P	Pb	15 07 37.6	-1.2
CMIG				*e*S	Sn	15 08 03.2	-0.2
UXUV	UXUV	2.34	352	*e*P	Pb	15 07 38.5	-0.4
UXUV				*e*S	Sn	15 08 04.1	+0.6
HUIG	Huatulco	2.34	290	*e*P	Pb	15 07 39.5	+0.4
HUIG				*i* S	Sn	15 08 04.4	+0.7
NEUV	Arroyo Zacate	3.31	325	*e*P	Pb	15 07 51.8	-3.8
NEUV				*e*S	Sn	15 08 24.8	-2.8
PEIG	Puerto Escondi	3.37	288	*e*P	Pb	15 07 53.9	-2.7
PEIG				*e*S	Sn	15 08 27.7	-1.2
VHO	Vista Hermosa	3.49	307	*e*S	Sn	15 08 32.9	+0.6
YOIG	Yosondua	4.04	298	*e*P	Pb	15 08 05.6	-2.6
YOIG				*e*S	Sn	15 08 46.8	+0.8
PNIG	Pinotepa	4.38	289	*e*P	Pb	15 08 08.3	-5.6
PNIG				*i* S	Sn	15 08 51.0	-3.1
TOIG	Toxpalan	4.39	315	*e*P	Pn	15 08 08.2	+4.8
TOIG				*e*S	Sn	15 08 54.0	-0.3
TXIG	Tlaxiaco	4.42	301	*e*P	Pb	15 08 09.2	-5.4
TXIG				*e*S	Sn	15 08 56.8	+1.6
HLIG	Huajuapan de L	4.76	307	*e*P	Pb	15 08 18.6	-1.8
HLIG				*e*S	Sn	15 09 04.0	+0.4
JAUV	Jalcomulco	5.21	327	*e*P	Pn	15 08 16.0	+1.5
JAUV				*e*S	Sn	15 09 10.6	-3.8
LVIG	Laguna Verde	5.32	333	*e*P	Pn	15 08 17.4	+1.2
LVIG				*e*S	Sn	15 09 10.1	-7.1
TEIG	Tepich	7.42	45	Pn	Pn	15 08 45.4	+0.6
	62nm,0.3s,baz=154,slow=2.2,SNR=7.2						
TEIG				Sn	Sn	15 10 05.8	-3.0
	62nm,0.3s,baz=201,slow=20,SNR=8.0						
TXAR	Lajitas Array	16.93	329	P	P	15 10 57.9	+2.3
	0.1nm,0.3s,baz=146,slow=13,SNR=11						
	1.1nm,0.8s						
TKL	Tuckaleechee C	22.46	22	LR	LR	15 21 20.1	
	comp=Z,16nm,21.9s,baz=178,slow=38						
SJG	San Juan	26.69	79	LR	LR	15 22 43.4	
	comp=Z,26nm,20.1s,baz=53,slow=36						
YKA	Yellowknife Ar	49.67	348	P	P	15 15 48.5	+0.4
	0.9nm,0.8s,baz=152,slow=7.3,SNR=9.1						
	0.9nm,0.8s						
ILAR	Eielson Array	61.24	337	P	P	15 17 12.8	+1.4
	0.4nm,0.9s,baz=144,slow=4.8,SNR=4.8						
	0.4nm,0.9s						

IDC ***21*** *15:08:46.5±0.7, 16°.26S×173°.42W, h0km, mb4.1/11, mbtmp4.1/12, ML3.7/1, MS3.9/29, Error ellipse: s-maj=32.8km s-min=16.4km az=134.0*

NEIC ***21*** *15:08:46.4±2.6, 16°.307S±0°.007×172°.9W±0°.1, h10km±1km, mb5.1/54, Error ellipse: s-maj=16.9km s-min=2.8km az=89.0*

NOU ***21*** *15:09:08.9, 14°.93S×172°.32W, h60km, MLv3.8/5, Samoa Islands*

ISC 21 15:08:48.9±0.4, 16°.38S±0°.05×172°.92W±0°.06, h32km, n140, σ1§66/101, mb5.0/38, MS4.0/32, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.69	24		Pn	15 09 28.0	-2.1
AFI					Sn	15 09 57.8	-3.8
AFI	Afiamalu	2.69	24	P	Pn	15 09 28.8	-1.3
NIUE	Niue	3.92	134		Pn	15 09 47.3	+0.4
NIUE					Sn	15 10 28.9	-2.9
RAR	Rarotonga	13.35	113	Pn	Pn	15 11 52.6	-3.6
RAR					Sn	15 14 19.7	-3.8
RAR	Rarotonga	13.35	113	Pn	Pn	15 11 57.9	+1.7
	1.7nm,0.3s,baz=242,slow=11,SNR=16						
RAR				LR	LR	15 15 56.0	
	comp=Z,410nm,21.3s,baz=339,slow=31						
DZM	Mont Dzumac	20.28	251	*e*P	Pn	15 13 24.5	+0.2
	70nm,1.2s						
DZM				*e*LR	LR	15 18 06.3	
	comp=Z,1µm,25.1s						
DZM	Mont Dzumac	20.28	251	P	P	15 13 21.4	-0.8
DZM	Mont Dzumac	20.28	251	P	P	15 13 20.9	-1.3
	0.2nm,0.3s,baz=100,slow=19,SNR=2.5						
DZM				LR	LR	15 20 01.2	
	comp=Z,711nm,20.3s,baz=42,slow=34						
	12nm,1.0s						
PAE	Paea	22.35	97	*e*T	T	15 36 57.9	
	2.4nm,0.3s						
PPT	Papeete	22.36	96	LR	LR	15 20 02.3	
	comp=Z,245nm,21.0s,baz=267,slow=30						
PPT2	Papeete2	22.36	96	*e*P	P	15 13 42.3	-2.3
	63nm,25.5s						
PPT2				*e*LQ	LQ	15 18 17.6	
	565nm,28.2s						
PPT2				*e*LR	LR	15 18 59.5	
	comp=Z,496nm,25.8s						
PPT2				*e*LR	LR	15 19 18.2	
	comp=Z,413nm,22.5s						
PPT2	Papeete2	22.36	96	*e*T	T	15 36 49.9	
	3.2nm,0.3s						
MXZ	Matakaoa Point	22.48	198	P	P	15 13 45.0	-0.6
MXZ				IAmb	IAmb	15 13 49.2	
	comp=Z,124nm,1.5s						
TVO	Taravao	22.67	97	*e*T	T	15 37 05.6	
	comp=Z,1.4nm,0.3s						
TBI	Tubuai	23.11	111	*e*P	P	15 13 53.2	+0.9
	comp=Z,272nm,30.2s						
TBI				*e*LQ	LQ	15 18 40.4	
	comp=Z,1µm,25.8s						
TBI				*e*LR	LR	15 19 20.1	
	comp=Z,3µm,26.8s						
TBI	Tubuai	23.11	111	*e*T	T	15 37 52.9	
	comp=Z,6.1nm,0.3s						
URZ	Urewera	23.50	200	P	P	15 13 56.5	+0.6
	comp=Z,6.1nm,0.4s,baz=121,slow=2.7,SNR=14						
	comp=Z,6.1nm,0.4s						
TOZ	Tahuroa Road	23.60	203	P	P	15 13 57.1	+0.2
RTZ	Ruatahuna	23.86	200	P	P	15 13 59.7	+0.2
PMOR	Pomariorio Ree	24.13	90	*e*T	T	15 39 19.0	
	comp=Z,2.4nm,0.2s						
VAH	Vaihoa	24.36	91	*e*T	T	15 39 22.9	
	comp=Z,3.3nm,0.2s						
BKZ	Black Stump Fm	24.52	200	P	P	15 14 05.3	-0.4
BKZ				IAmb	IAmb	15 14 12.3	
	comp=Z,70nm,1.9s						
HIZ	Hauiti	24.53	204	P	P	15 14 06.2	+0.6
MRZ	Mangatainoka R	26.17	200	P	P	15 14 20.4	-0.1
MRZ				IAmb	IAmb	15 14 52.3	
	comp=Z,97nm,1.8s						
HNR	Honiara	27.31	281	LR	LR	15 23 41.6	
	comp=Z,12µm,20.7s,baz=86,slow=33						
THZ	Taphouse	28.09	203	P	P	15 14 37.8	0.0
LTZ	Lake Taylor	29.20	203	P	P	15 14 47.0	-0.7
LTZ				IAmb	IAmb	15 15 18.3	
	comp=Z,56nm,1.4s						
OXZ	Oxford	29.76	202	P	P	15 14 52.6	+0.1
OXZ				IAmb	IAmb	15 15 01.1	
	comp=Z,21nm,0.7s						
TAOE	Nuku Hiva Isla	32.81	81	*e*LR	LR	15 24 03.4	
	comp=Z,305nm,23.6s						
ARMA	Armidale	35.25	240	P	P	15 15 38.9	-1.9
ARMA				IAmb	IAmb	15 16 45.0	
	comp=Z,31nm,1.6s						
CTA	Charters Tower	38.88	258	LR	LR	15 30 18.8	
	comp=Z,238nm,19.2s,baz=82,slow=34						
CTAO	Charters Tower	38.88	258	P	P	15 16 10.1	-1.7
PMG	Port Moresby	39.47	275		P	15 16 16.1	-0.7
PMG	Port Moresby	39.47	275	LR	LR	15 30 37.6	
	comp=Z,106nm,19.2s,baz=90,slow=34						
H11S2	WAKE ISLAND Hy	40.03	329	T	T	15 58 30.2	
	baz=149,slow=76,SNR=21						
H11S3	WAKE ISLAND Hy	40.05	329	T	T	15 58 31.2	
	baz=149,slow=76,SNR=21						
H11S1	WAKE ISLAND Hy	40.05	329	T	T	15 58 31.6	
	baz=149,slow=76,SNR=26						
H11N3	WAKE ISLAND Hy	40.98	330	T	T	15 59 47.0	
	baz=150,slow=76,SNR=6.3						
H11N1	WAKE ISLAND Hy	40.99	330	T	T	16 00 00.1	
	baz=150,slow=76,SNR=12						
H11N2	WAKE ISLAND Hy	41.00	330	T	T	15 59 48.5	
	baz=150,slow=76,SNR=7.8						
TOO	Toolangi	42.22	232	P	P	15 16 38.2	-1.0
TOO				IAmb	IAmb	15 18 01.4	
	comp=Z,73nm,1.9s						
STKA	Stephens Creek	43.96	241	P	P	15 16 52.6	-0.7
STKA	Stephens Creek	43.96	241	P	P	15 16 52.6	-0.7
	comp=Z,12nm,1.0s,baz=75,slow=8.8,SNR=19						
STKA				LR	LR	15 32 20.6	
	comp=Z,137nm,21.7s,baz=30,slow=32						
	comp=Z,12nm,1.0s						

BBOO	Buckleboo	48.73	241	P		P	15 17 29.3	-1.4		
WR0	Warramunga Arr	49.89	258	P		P	15 17 37.8	-2.0		
WRA	Warramunga Arr	50.08	258	P		P	15 17 39.0	-2.3		
WRA	Warramunga Arr	50.08	258	P		P	15 17 39.5	-1.7		
	comp=Z,3.9nm,1.0s,baz=95,slow=6.7,SNR=40									
WRA				PcP		PcP	15 19 01.4	+0.7		
	comp=Z,1.5nm,1.1s,baz=90,slow=4.0,SNR=3.3									
	comp=Z,3.9nm,1.0s									
AS31	Alice Springs	50.25	253	P		P	15 17 40.9	-1.6		
ASAR	Alice Springs	50.25	253	P		P	15 17 41.2	-1.4		
	comp=Z,15nm,0.8s,baz=90,slow=8.3,SNR=141									
ASAR				PcP		PcP	15 19 02.5	+1.1		
	comp=Z,1.0nm,1.0s,baz=99,slow=5.0,SNR=0.8									
ASAR				LR		LR	15 38 08.4			
	comp=Z,255nm,18.4s,baz=87,slow=35									
	comp=Z,15nm,0.8s									
GUMO	Guam	51.25	303	LR		LR	15 37 29.2			
	comp=Z,46nm,19.0s,baz=113,slow=34									
FORT	Forrest	55.39	244	P		P	15 18 19.1	-1.3		
FORT				IAmb		IAmb	15 18 59.4			
	comp=Z,30nm,1.1s									
KNRA	Kununurra	55.88	262	P		P	15 18 23.2	-0.9		
KNRA				IAmb		IAmb	15 18 36.5			
	comp=Z,14nm,1.0s									
SOEI	Soe	61.35	268	P		P	15 19 02.5	+0.2		
JCJ	Chichijima	61.36	314	P		P	15 19 02.1	+0.1		
PSA00	Pilbara Seismi	63.37	254	P		P	15 19 15.3	-0.4		
PSA00				IAmb		IAmb	15 19 22.2			
	comp=Z,26nm,1.9s									
PSA00	Pilbara Seismi	63.37	254	P		P	15 19 14.8	-0.8		
PSA00				IAmb		IAmb	15 20 06.0			
	comp=Z,32nm,1.5s									
MBWA	Marble Bar	63.54	254	P		P	15 19 15.3	-1.5		
MBWA				IAmb		IAmb	15 20 53.3			
	comp=Z,19nm,1.1s									
NWAO	Narrogin (SRO)	64.55	241	LR		LR	15 47 21.2			
	comp=Z,81nm,18.2s,baz=314,slow=36									
AMKA	Amchitka	67.81	355	P		P	15 19 42.3	-1.3		
KIWB	Kanaga Island	68.04	357	P		P	15 19 44.0	-1.0		
MJAR	Matsushiro Arr	69.98	320	LR		LR	15 46 00.8			
	comp=Z,26nm,19.3s,baz=166,slow=32									
JNU	Nakatsue	72.80	313	LR		LR	15 46 44.3			
	comp=Z,66nm,19.3s,baz=150,slow=32									
LPIG	La Paz	73.16	58	LR		LR	15 44 44.7			
	comp=Z,86nm,19.8s,baz=209,slow=29									
PFO	Pinyon Flats O	73.25	47	LR		LR	15 44 51.5			
	comp=Z,112nm,21.1s,baz=241,slow=29									
QSPA	South Pole Qui	73.67	180	P		P	15 20 23.4	+4.0		
	comp=Z,0.7nm,0.3s,baz=85,slow=3.2,SNR=5.7									
QSPA				LR		LR	15 48 35.3			
	comp=Z,43nm,20.9s,baz=309,slow=32									
	comp=Z,0.7nm,0.3s									
PETK	Petropavlovsk-	73.69	342	P		P	15 20 20.8	+1.4		
	comp=Z,2.4nm,0.9s,baz=142,slow=8.6,SNR=1.8									
	comp=Z,2.4nm,0.9s									
MDPB	Devils Postpil	73.78	42	P		P	15 20 20.5	-0.1		
EMB	Emerald Bay	73.94	40	P		P	15 20 21.3	-0.1		
YBH	Yreka Blue Hor	74.10	37	LR		LR	15 45 24.0			
	comp=Z,129nm,18.8s,baz=218,slow=30									
NVAR	Mina Array Bea	74.75	42	P		P	15 20 30.0	+3.8		
	comp=Z,0.7nm,0.7s,baz=226,slow=7.1,SNR=3.7									
NVAR				LR		LR	15 45 25.9			
	comp=Z,134nm,20.1s,baz=267,slow=29									
	comp=Z,0.7nm,0.7s									
TPUB	Ta-pu	75.97	300	P		P	15 20 33.9	+0.7		
ELK	Elko	78.01	41	LR		LR	15 48 40.2			
	comp=Z,125nm,20.1s,baz=252,slow=31									
USRK	Ussuriysk Ar.	78.44	323	P		P	15 20 46.4	-0.1		
USRK	Ussuriysk Ar.	78.44	323	LR		LR	15 52 34.9			
	comp=Z,34nm,19.6s,baz=124,slow=34									
L18K	Granite Mounta	79.38	8	P		P	15 20 52.3	+0.9		
SUA	Susitna One	79.57	11	P		P	15 20 53.0	+0.5		
SKT	Skwentna	79.92	10	P		P	15 20 54.6	+0.3		
KNK	Knik Glacier	79.94	12	P		P	15 20 55.1	+0.7		
KNK				IAmb		IAmb	15 22 04.5			
	comp=Z,33nm,1.6s									
J16K	Anvik River	79.98	6	P		P	15 20 55.1	+0.5		
J16K				IAmb		IAmb	15 21 48.5			
	comp=Z,33nm,1.4s									
S31K	Pelican	80.02	19	P		P	15 20 55.8	+0.9		
GHO	Glory H

comp=Z,0.4nm,1.0s
ATAH Atahualpa 92.33 98 LR LR 15 53 09.3
comp=Z,95nm,21.8s,baz=265,slow=29
ULM Lac du Bonnet 94.40 39 LR LR 15 56 52.7
comp=Z,90nm,20.3s,baz=228,slow=30
LVC Limon Verde 96.18 116 LR LR 15 54 44.6
comp=Z,63nm,21.4s,baz=238,slow=28
TKL Tuckaleechee C 98.68 55 LR LR 16 00 18.5
comp=Z,50nm,20.5s,baz=230,slow=31
BUR08 Bucovina Ar. S 145.42 338 PKPab 15 28 25.1 +1.1
BURAR Bucovina Array 145.44 338 PKPbc 15 28 22.1 -1.8
KMBO Kilima Mbogo 145.51 243 PKPdf **PKPdf 15 28 23.2 -2.1**
KMBO Kilima Mbogo 145.51 243 PKPbc **PKPab 15 28 27.1 +1.6**
comp=Z,1.9nm,0.7s,baz=48,slow=9.2,SNR=4.7
MORC Moravsky Berou 145.62 348 PKPdf 15 28 23.6 -0.5
MORC Moravsky Berou 145.62 348 *e*PKP PKiKP 15 28 38.2 +10
VRAC Vranov 146.25 349 *e*PKP PKiKP 15 28 40.4 +11
BNN Bunyan 146.31 317 PKPbc **PKPab 15 28 28.5 +0.8**
ILGA Ilgaz 146.33 322 PKPbc **PKPab 15 28 28.7 +0.8**
JAVC Velka Javorina 146.47 347 *e*PKP PKiKP 15 28 40.5 +11
KRUC Moravsky 146.53 349 *e*PKP PKiKP 15 28 40.8 +11
KHC Kasperske Hory 146.90 352 PKPbc **PKPab 15 28 29.5 0.0**
KHC Kasperske Hory 146.90 352 *e*PKP **PKPab 15 28 30.0 +0.5**
KHC *ex* x 15 28 42.0
GERES GERESS Array B 147.17 352 PKPbc **PKPbc 15 28 29.8 +0.8**
comp=Z,1.1nm,0.8s,baz=38,slow=5.0,SNR=2.4
BR131 Keskin Array S 147.20 320 PKPdf **PKPdf 15 28 26.2 -1.0**
BR131 PKPbc **PKPab 15 28 31.2 +0.1**
BRTR Keskin Array B 147.20 320 PKPdf **PKPdf 15 28 26.3 -0.9**
BRTR **PKPab 15 28 31.2 0.0**
BRTR Keskin Array B 147.20 320 PKPbc **PKPab 15 28 30.7 -0.5**
comp=Z,2.0nm,0.8s,baz=78,slow=3.8,SNR=9.3
CONA Conrad Observa 147.71 349 *e*PKP **PKPab 15 28 33.4 +0.6**
comp=Z,2.0nm,0.8s
CLUD Cludinico 149.62 352 PKPbc **PKPbc 15 28 35.5 +0.1**
FUORN Ofenpass-Fuorn 149.73 356 PKPbc 15 28 35.7 -0.3

TAP 21 15:20:02.0,24.80N×122.29E,h12km,ML2.2,2D,C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.33**	**279**	*e*P	Pb	15 20 10.0	+0.2
	baz=278						
EGS				*e*S	Sb	15 20 15.4	+0.3
	baz=278						
TWB1	**Santiao Chiao**	**0.35**	**308**	⇓P	Pg	15 20 09.4	+0.3
	baz=308						
TWB1				S	Sg	15 20 14.3	+0.5
	baz=308						
EOS2	**EOS2**	**0.38**	**188**	⇓*i*P	Pb	15 20 10.3	-0.2
	baz=191						
EOS2				*e*S	Sb	15 20 16.5	+0.2
	baz=191						
TWC	**Suao**	**0.44**	**245**	P	Pg	15 20 10.5	-0.3
	baz=251						
TWC				*i* S	Sg	15 20 17.3	+0.5
	baz=251						
TIPB	**Shuangxi**	**0.46**	**293**	P	Pb	15 20 11.7	-0.4
	baz=292						
TIPB				*e*S	Sb	15 20 19.9	+1.1
	baz=292						
ESAO	**Su ao**	**0.46**	**242**	*i* P	Pg	15 20 11.2	+0.1
	baz=251						
ESAO				S	Sg	15 20 17.6	+0.3
	baz=251						
SXI1	**Grass Mountain**	**0.48**	**308**	*i* P	Pb	15 20 12.4	-0.1
	baz=308						
SXI1				*i* S	Sb	15 20 19.8	+0.2
	baz=308						
EOS3	**EOS3**	**0.51**	**177**	P	Pb	15 20 12.5	-0.2
	baz=177						
EOS3				*e*S	Sn	15 20 21.9	-1.5
	baz=177						
NWF	**Wu-fen Shan**	**0.54**	**301**	*i* P	Pb	15 20 13.8	+0.4
	baz=301						
WFSB	**Wu-fen Shan**	**0.54**	**301**	*e*P	Pb	15 20 13.9	+0.5
	baz=300						
WFSB				*e*S	Sb	15 20 21.8	+0.6
	baz=300						
NDS	**Dongshan**	**0.55**	**253**	P	Pb	15 20 13.7	+0.2
	baz=245						
NDS				*e*S	Sb	15 20 22.0	+0.6
	baz=245						
TWE	**Neicheng**	**0.57**	**263**	P	Pb	15 20 13.8	-0.2
	baz=255						
TWE				*e*S	Sb	15 20 23.2	+1.1
	baz=255						
EWUT	**Wuta**	**0.58**	**233**	*i* P	Pg	15 20 13.5	0.0
	baz=233						
EWUT				*i* S	Sg	15 20 21.6	+0.5
	baz=233						
TNOU	**National Taiwa**	**0.59**	**307**	P	Pb	15 20 14.5	+0.2
	baz=307						
TNOU				S	Sb	15 20 23.0	+0.4
	baz=307						
ENA	**Nanau**	**0.62**	**234**	*i* P	Pg	15 20 14.1	0.0
	baz=233						
ENA				S	Sg	15 20 22.5	+0.2
	baz=233						
FUSB	**Fushanzhiwuyua**	**0.64**	**267**	*i* P	Pb	15 20 15.4	+0.2
	baz=267						
FUSB				S	Sb	15 20 24.8	+0.7
	baz=267						
TWA	**Mucha**	**0.67**	**286**	*e*P	Pn	15 20 16.8	-0.5
	baz=275						
TWA				S	Sb	15 20 26.2	+1.3
	baz=275						
EOS4	**EOS4**	**0.67**	**178**	P	Pb	15 20 15.4	0.0
	baz=170						
EOS4				S	Sb	15 20 24.9	+0.4
	baz=170						
ENTT	**Nioudou**	**0.68**	**257**	*e*P	Pb	15 20 16.6	+0.8
	baz=256						
ENTT				*e*S	Sb	15 20 26.3	+1.2
	baz=256						
EAHA	**Aohua**	**0.69**	**228**	P	Pg	15 20 15.6	+0.2
	baz=236						
EAHA				S	Sb	15 20 25.0	-0.3
	baz=236						
NHDH	**Xindian Distri**	**0.72**	**284**	P	Pg	15 20 16.1	+0.2
	baz=283						
NHDH				S	Sn	15 20 27.8	-1.0
	baz=283						
NWLT	**Wulai**	**0.72**	**269**	P	Pb	15 20 16.7	+0.2
	baz=268						
NWLT				*e*S	Sb	15 20 26.0	-0.3
	baz=268						
YOJ	**Yonaguni jima**	**0.73**	**117**	*e*P	Pg	15 20 14.2	-2.1
	baz=116						
YOJ				*e*S	Sg	15 20 25.6	-0.2
	baz=116						
NDT	**Datong Townshi**	**0.73**	**255**	*e*P	Pn	15 20 17.5	-0.7
	baz=263						
NDT				S	Sb	15 20 27.8	+1.0
	baz=263						
LATG	**Datong**	**0.74**	**250**	*i* P	Pb	15 20 17.0	+0.1
	baz=249						
LATG				*e*S	Sb	15 20 26.9	-0.2
	baz=249						
YM01	**YM01**	**0.74**	**298**	P	Pn	15 20 17.9	-0.4
	baz=298						
YM01				*e*S	Sb	15 20 28.2	+1.2
	baz=298						
TATO	**Taipei**	**0.75**	**284**	P	Pb	15 20 17.0	-0.1
	baz=284						
TATO				S	Sn	15 20 28.5	-1.2
	baz=284						
TWY	**Chenhua**	**0.79**	**307**	*e*P	Pn	15 20 18.3	-0.6
	baz=307						
TWY				*e*S	Sn	15 20 29.9	-0.8
	baz=307						
YHNB	**Yeheng**	**0.84**	**262**	*e*P	Pb	15 20 19.0	+0.4
	baz=261						
YHNB				S	Sb	15 20 29.9	0.0
	baz=261						
NSK	**Sanguang**	**0.86**	**262**	P	Pb	15 20 19.1	+0.2
	baz=262						
NSK				S	Sb	15 20 30.4	0.0
	baz=262						
NACB	**Ninganchiao**	**0.89**	**226**	P	Pg	15 20 19.1	-0.1
	baz=235						
NACB				*e*S	Sg	15 20 30.5	-0.3
	baz=235						
NNSB	**Datong**	**0.91**	**246**	P	Pb	15 20 19.9	+0.1
	baz=246						
NNSB				*i* S	Sb	15 20 32.1	+0.3
	baz=246						
NNS	**Nan Shan**	**0.91**	**247**	*e*P	Pn	15 20 20.4	-0.3
	baz=246						
NNS				*e*S	Sn	15 20 33.2	-0.5
	baz=246						
ETLH	**Xiulin Townshi**	**0.94**	**232**	P	Pb	15 20 20.4	0.0
	baz=238						
ETLH				*e*S	Sg	15 20 31.6	-0.9
	baz=238						
TWD	**Chiawan**	**0.95**	**222**	*e*P	Pn	15 20 22.2	+1.0
	baz=229						
TWD				S	Sb	15 20 33.5	+0.5
	baz=229						
NFF	**Wufeng Townshi**	**1.08**	**262**	P	Pn	15 20 23.1	+0.1
	baz=267						
NFF				*i* S	Sn	15 20 38.4	+0.5
	baz=267						
FUSS	**Fushou**	**1.10**	**241**	P	Pn	15 20 23.5	0.0
	baz=240						
FUSS				S	Sg	15 20 38.0	+0.4
	baz=240						
LXIB	**Xiulin Townshi**	**1.11**	**226**	*e*P	Pb	15 20 23.0	-0.2
	baz=235						
LXIB				*e*S	Sg	15 20 38.4	+0.4
	baz=235						
WHF	**Hehuan Shan**	**1.14**	**236**	*i* P	Pg	15 20 24.1	0.0
	baz=234						
WHF				*e*S	Sb	15 20 38.6	-0.2
	baz=234						
TWT	**Tachien**	**1.15**	**242**	*e*P	Pg	15 20 25.5	+1.2
	baz=242						
TWT				S	Sn	15 20 40.6	+0.8
	baz=242						
LIOB	**Emei**	**1.17**	**263**	*e*P	Pg	15 20 26.7	+2.1
	baz=283						
NSTT	**Nanjuang**	**1.19**	**262**	*e*P	Pg	15 20 26.8	+1.9
	baz=262						
NSTT				*e*S	Sn	15 20 42.1	+1.6
	baz=262						
ESL	**Shilin**	**1.25**	**219**	*e*P	Pg	15 20 26.2	0.0
	baz=237						
ESL				*e*S	Sg	15 20 45.5	+3.1
	baz=237						
CHGB	**Renai**	**1.25**	**235**	P	Pg	15 20 26.4	+0.2
	baz=234						
CHGB				*i* S	Sg	15 20 43.0	+0.4
	baz=234						
WHP	**Taichung City**	**1.33**	**248**	*e*P	Pg	15 20 28.5	+0.9
	baz=248						
WHP				*e*S	Sg	15 20 46.4	+1.4
	baz=248						
WUSB	**Renai**	**1.34**	**234**	*e*P	Pg	15 20 27.4	-0.3
	baz=233						
WUSB				*e*S	Sg	15 20 45.3	+0.1
	baz=233						
WARBT	**Fenglin Townsh**	**1.35**	**218**	*e*P	Pg	15 20 27.9	-0.1
	baz=235						
WARBT				*e*S	Sg	15 20 47.0	+1.3
	baz=235						
WCS	**Beigang Elemen**	**1.46**	**240**	*e*P	Pb	15 20 29.4	+0.4
	baz=240						
VWDT	**VWDT**	**1.48**	**226**	*e*P	Pg	15 20 30.2	-0.2
	baz=230						
VWDT				S	Sg	15 20 49.5	-0.1
	baz=230						
SSLB	**Suanglung**	**1.58**	**231**	*e*P	Pg	15 20 32.2	-0.2
	baz=239						
SSLB				*e*S	Sn	15 20 50.3	+0.1
	baz=239						
SSLB	**Suanglung**	**1.58**	**231**	P	Pg	15 20 32.4	0.0
YULB	**Yu-li**	**1.67**	**213**	P	Pb	15 20 32.6	0.0
WHYT	**Xinyi Township**	**1.71**	**231**	*e*P	Pg	15 20 34.7	-0.2
	baz=213						
FULB	**Fuli**	**1.83**	**210**	P	Pn	15 20 33.3	0.0
	baz=192						
FULB				S	Sb	15 20 58.3	-0.1
	baz=192						
EHD	**Haiduan**	**1.92**	**211**	*e*S	Sn	15 20 57.1	-1.4
	baz=210						
ELDTW	**Lidau**	**1.98**	**216**	P	Pn	15 20 36.6	+1.2
	baz=200						
STYH	**Taoyuan**	**2.13**	**221**	*e*P	Pn	15 20 38.6	+1.2
	baz=203						
STYT	**Tauyuan**	**2.15**	**221**	*e*P	Pn	15 20 38.2	+0.5
	baz=203						
WTP	**Ta-pu**	**2.18**	**225**	*e*P	Pb	15 20 40.6	-0.8
	baz=207						
WTP				*e*S	Sb	15 21 06.7	-1.6
	baz=207						
SNST	**Tainan City**	**2.27**	**227**	*e*P	Pb	15 20 41.8	-1.1
	baz=225						
CHN1	**Nanshi**	**2.27**	**226**	*e*P	Pn	15 20 39.6	+0.2
	baz=224						

TAP 21 15:20:06.7,21.58N×121.02E,h25km,ML2.6,3D,D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSEB	**Hengchuen, Pin**	**0.34**	**341**	*e*P	Pb	15 20 14.4	0.0
	baz=327						
TSEB				*e*S	Sn	15 20 21.9	-0.4
	baz=327						
TWKBT	**Hengchun**	**0.41**	**332**	*i* P	Pb	15 20 15.8	+0.3
	baz=325						
TWKBT				*i* S	Sb	15 20 22.5	+1.0
	baz=325						
TWK1	**Hengchun**	**0.42**	**331**	⇓*i*P	Pb	15 20 15.8	+0.2
	baz=326						
TWK1				*i* S	Sb	15 20 22.4	+0.8
	baz=326						
SMST	**Manzhou Townsh**	**0.47**	**339**	P	Pb	15 20 17.1	+0.6
	baz=333						
SMST				*i* S	Sb	15 20 24.2	+1.0
	baz=333						
HEN	**Hengchun**	**0.50**	**328**	⇓P	Pn	15 20 17.8	-0.6
	baz=329						
HEN				*e*S	Sn	15 20 26.0	-0.2
	baz=329						
SLIU	**Shizi**	**0.67**	**342**	⇓P	Pb	15 20 19.9	+0.1
	baz=342						
SLIU				*e*S	Sn	15 20 31.8	+1.3
	baz=342						
LYUB	**Lan-yu**	**0.67**	**51**	*i* P	Pb	15 20 20.0	+0.1
	baz=51						
LYUB				S	Sn	15 20 30.0	-0.4
	baz=51						
LAY	**Lan-yu**	**0.67**	**47**	*e*P	Pb	15 20 19.9	0.0
	baz=47						
TAWH	**Dawu Township**	**0.77**	**351**	*e*P	Pb	15 20 21.0	-0.5
	baz=3.0						
TAWH				S	Sn	15 20 33.1	+0.2
	baz=3.0						
TAW	**Tawu**	**0.79**	**351**	*e*P	Pb	15 20 21.2	-0.6
	baz=4.0						
TAW				*e*S	Sb	15 20 31.9	-0.2
	baz=4.0						
EAST	**Anshuo**	**0.82**	**349**	*e*P	Pb	15 20 21.8	-0.5
	baz=360						
EAST				S	Sn	15 20 34.7	+0.6
	baz=360						
SCZT	**Fangliau**	**0.88**	**335**	P	Pn	15 20 23.8	+0.3
	baz=324						
SCZT				*i* S	Sn	15 20 36.7	+1.2
	baz=324						
TWP	**Hsiaoliuchiu**	**0.98**	**322**	*e*P	Pn	15 20 24.8	-0.2
	baz=312						
ECL	**Taimali**	**1.02**	**356**	*e*P	Pb	15 20 26.6	+0.8
	baz=9.0						
ECL				*e*S	Sn	15 20 40.5	+1.5
	baz=9.0						
MASBT	**Mashibuluo**	**1.09**	**341**	P	Pb	15 20 27.6	+0.6
	baz=345						
MASBT				*e*S	Sb	15 20 42.3	+1.5
	baz=345						
LDUT	**Ludao**	**1.17**	**21**	P	Pb	15 20 28.3	0.0
	baz=21						
LDUT				*e*S	Sb	15 20 43.8	+0.8
	baz=21						
TSMG	**Majia**	**1.18**	**343**	P	Pb	15 20 29.4	+1.0
	baz=343						
TSMG				*e*S	Sb	15 20 44.3	+1.0
	baz=343						
TTN	**Taitung**	**1.18**	**6**	*e*P	Pn	15 20 27.9	+0.3
	baz=6.0						
KAU	**Kaohsiung**	**1.19**	**326**	*e*P	Pb	15 20 28.6	0.0
	baz=327						
KAU				*e*S	Sb	15 20 46.3	+2.8
	baz=327						
SSD	**Sandimen**	**1.22**	**343**	*e*P	Pb	15 20 29.4	+0.2
	baz=344						
SSD				*e*S	Sb	15 20 45.7	+1.2
	baz=344						
TWGBT	**Beinan**	**1.24**	**2**	*e*P	Pb	15 20 30.1	+0.6
	baz=3.0						
TWG	**Pinlang**	**1.24**	**2**	*e*P	Pb	15 20 29.4	-0.1
	baz=3.0						
SGLT	**Jiouru**	**1.25**	**337**	*e*P	Pb	15 20 30.1	+0.5
	baz=338						
SGLT				*e*S	Sb	15 20 47.0	+1.8
	baz=338						
SCST	**Cishan**	**1.39**	**340**	P	Pb	15 20 32.6	+0.5
	baz=340						
SCST				*e*S	Sb	15 20 50.8	+1.3
	baz=340						
EDH	**Donghe**	**1.42**	**11**	*e*P	Pn	15 20 30.2	-0.7
	baz=11						
SLGT	**Liugui**	**1.45**	**346**	*e*P	Pb	15 20 34.0	+0.9
	baz=347						
SLGT				*e*S	Sb	15 20 51.4	+0.2
	baz=347						
SGST	**Jiashian**	**1.55**	**345**	*e*P	Pb	15 20 34.0	-0.9
	baz=330						
EHD	**Haiduan**	**1.58**	**6**	*e*P	Pn	15 20 32.0	-1.2
	baz=6.0						
STYT	**Tauyuan**	**1.60**	**351**	*e*P	Pb	15 20 35.5	-0.2
	baz=352						
FULB	**Fuli**	**1.64**	**9**	*e*P	Pb	15 20 35.7	-0.6
	baz=9.0						
FULB				*e*S	Sb	15 20 57.4	+1.0
	baz=9.0						

IDC 21 15:24:35.4±4.5,25.70S×29.59E,h0km,mbtmp3.0/1, ML2.4/1,Error ellipse: s-maj=36.5km s-min=23.1km az=106.0,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**3.68**	**280**	Pg	Pb	15 25 42.4	+1.0
	0.2nm,0.3s,baz=103,slow=19,SNR=1.8						
LBTB				Sn	Sn	15 26 19.4	+1.6
	0.3nm,0.3s,baz=180,slow=20,SNR=1.7						
LBTB				Lg	Lg	15 26 32.9	
	1.2nm,0.3s,baz=180,slow=20,SNR=12						
BOSA	**Boshof**	**4.83**	**232**	Pn	Pn	15 25 50.4	+0.8
	0.1nm,0.3s,baz=39,slow=14,SNR=2.3						
BOSA				Pg	Pb	15 26 02.9	+1.8
	0.1nm,0.3s,baz=55,slow=17,SNR=2.3						
BOSA				Lg	Lg	15 26 58.8	
	0.9nm,0.3s,baz=326,slow=22,SNR=8.4 2.8nm,0.9s						
I47ZA	**BOSHOF INFRASO**	**4.85**	**232**	I	I	15 51 10.0	
	0.1nm,0.8s,baz=51,slow=308,SNR=2.0						
MATP	**Matopo**	**5.34**	**349**	Pg	Pb	15 26 11.1	+1.3
	0.1nm,0.3s,baz=168,slow=11,SNR=2.3						
MATP				Lg	Lg	15 27 26.2	
	0.2nm,0.3s,baz=266,slow=19,SNR=3.7						
I35NA	**TSUMEB INFRASO**	**12.85**	**298**	I	I	16 42 00.0	
	baz=127,slow=312,SNR=1.0						

*IDC **21** 15:48:21.8±2.2,11.64N×125.65E,h0km,mb3.7/6, mbtmp3.7/6,MS3.2/7,Error ellipse: s-maj=230.4km s-min=21.1km az=68.0*

ISC 21 15:48:27.5±2.1,11.4N±0.6×12.5E±°,h35km,n14,σ0.81/6, mb3.7/6,MS3.5/6,Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**15.62**	**11**	LR	LR	15 57 14.9	
	comp=Z,66nm,20.7s,baz=1.5,slow=35						
GUMO	**Guam**	**19.40**	**82**	LR	LR	15 58 40.0	
	comp=Z,61nm,20.1s,baz=173,slow=33						
KSRS	**Korea Array**	**26.05**	**5**	LR	LR	16 03 53.7	
	comp=Z,35nm,21.6s,baz=175,slow=36						
MJAR	**Matsushiro Arr**	**27.66**	**23**	LR	LR	16 04 01.1	
	comp=Z,32nm,20.9s,baz=227,slow=34						
WRA	**Warramunga Arr**	**32.46**	**164**	P	**P**	**15 54 55.1**	**+0.3**
	0.5nm,0.9s,baz=345,slow=9.3,SNR=2.4 0.5nm,0.9s						
ASAR	**Alice Springs**	**35.91**	**166**	P	**P**	**15 55 24.6**	**-0.1**
	0.6nm,0.7s,baz=347,slow=7.1,SNR=9.6 0.6nm,0.7s						
HNR	**Honiara**	**40.35**	**120**	LR	LR	16 09 51.6	
	comp=Z,694nm,19.8s,baz=201,slow=32						
MKAR	**Makanchi Array**	**50.44**	**323**	P	**P**	**15 57 22.4**	**+0.6**
	1.0nm,0.9s,baz=129,slow=8.9,SNR=3.7 1.0nm,0.9s						
ZALV	**Zalesovo Beam**	**53.08**	**331**	P	**P**	**15 57 42.2**	**+0.9**
	0.3nm,0.4s,baz=116,slow=9.8,SNR=2.3 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**54.49**	**325**	P	**P**	**15 57 51.6**	**-0.1**
	0.4nm,0.5s,baz=126,slow=7.3,SNR=2.1 0.4nm,0.5s						
KIRV	**Kirov**	**72.88**	**328**	LR	LR	16 35 39.8	
	comp=Z,43nm,18.1s,baz=347,slow=39						
ILAR	**Eielson Array**	**78.91**	**26**	LR	LR	16 35 34.6	
	comp=Z,19nm,18.5s,baz=56,slow=36						
FINES	**FINESS Array B**	**84.35**	**332**	P	**P**	**16 00 55.1**	**-0.8**
	2.4nm,0.9s,baz=91,slow=7.0,SNR=5.2 2.4nm,0.9s						
HFS	**Hagfors**	**90.51**	**332**	LR	LR	16 48 48.7	
	comp=Z,20nm,21.8s,baz=356,slow=40						

IDC 21 15:55:27.6±7.0,19.01S×178.57W,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=300.7km s-min=41.7km az=144.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.29**	**261**	P	P	16 03 39.7	+0.1
	0.2nm,0.3s,baz=97,slow=7.8,SNR=8.7 0.2nm,0.3s						
ASAR	**Alice Springs**	**44.36**	**255**	P	P	16 03 39.6	-0.4
	0.3nm,0.5s,baz=90,slow=7.8,SNR=7.5 0.3nm,0.5s						
ILAR	**Eielson Array**	**86.98**	**13**	P	P	16 08 14.2	-0.1
	0.3nm,0.9s,baz=210,slow=6.3,SNR=1.8 0.3nm,0.9s						

IDC 21 15:59:55.7±2.0,0.25N×125.70E,h0km,mb3.5/3, mbtmp3.6/3,Error ellipse: s-maj=175.6km s-min=27.8km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.78**	**158**	P	P	16 04 48.7	-0.7
	1.1nm,0.5s,baz=336,slow=11,SNR=19 1.1nm,0.5s						
ASAR	**Alice Springs**	**25.08**	**162**	P	P	16 05 22.6	+0.5
	0.5nm,0.5s,baz=346,slow=12,SNR=23 0.5nm,0.5s						
MKAR	**Makanchi Array**	**59.85**	**327**	P	P	16 10 03.1	-0.1
	0.6nm,0.9s,baz=126,slow=7.4,SNR=0.5 0.6nm,0.9s						

IDC 21 16:01:57.4±4.8,2.38S×140.53E,h0km,mb3.2/2, mbtmp3.3/3,ML3.4/1,Error ellipse: s-maj=176.9km s-min=31.7km az=89.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.47**	**199**	P	P	16 06 14.2	-0.8
	0.1nm,0.3s,baz=19,slow=12,SNR=5.5						
WRA				S	Sn	16 09 29.7	-12
	0.3nm,1.0s,baz=12,slow=24,SNR=2.0 0.5nm,0.6s						
ASAR	**Alice Springs**	**22.11**	**196**	P	P	16 06 55.0	+0.4
	0.5nm,0.6s,baz=27,slow=11,SNR=12 0.5nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**33.07**	**50**	T	T	16 43 45.7	
	baz=232,slow=76,SNR=6.1						
H11S2	**WAKE ISLAND Hy**	**33.08**	**50**	T	T	16 43 44.7	
	baz=232,slow=76,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**33.09**	**50**	T	T	16 43 48.3	
	baz=232,slow=76,SNR=7.2						
H11N1	**WAKE ISLAND Hy**	**33.95**	**49**	T	T	16 44 52.6	
	baz=233,slow=74						
H11N2	**WAKE ISLAND Hy**	**33.97**	**49**	T	T	16 44 53.5	
	baz=233,slow=74						
H11N3	**WAKE ISLAND Hy**	**33.97**	**49**	T	T	16 44 58.4	
	baz=233						
MKAR	**Makanchi Array**	**70.65**	**322**	P	P	16 13 15.0	0.0

0.2nm,0.5s,baz=101,slow=7.5,SNR=2.3
0.2nm,0.5s

IDC 21 16:06:28.9±1.7, 6°84S×128°47E, h0km, mb3.5/2, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=114.2km s-min=29.3km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.22**	**157**	Pn	Pn	16 09 50.7	-1.0
	0.2nm,0.3s,baz=335,slow=12,SNR=8.9						
WRA				Sn	Sn	16 12 15.3	-15
	0.1nm,0.3s,baz=334,slow=22,SNR=1.8						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**17.53**	**163**	P	P	16 10 35.5	-0.5
	0.1nm,0.3s,baz=346,slow=10,SNR=17						
ASAR				S	Sn	16 13 44.1	-6.7
	0.2nm,0.9s,baz=357,slow=23,SNR=1.8						
	0.4nm,0.5s						
SONM	**Songino Array**	**57.82**	**343**	P	P	16 16 22.0	-0.3
	0.2nm,0.4s,baz=145,slow=8.1,SNR=2.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**67.27**	**327**	P	P	16 17 25.6	+0.2
	0.2nm,0.4s,baz=125,slow=7.8,SNR=5.1						
	0.2nm,0.4s						

*MEX **21** 16:16:50.5±0.8, 16°.48N×95°.14W, h5km, MD4.3*
*IDC **21** 16:16:53.3±1.2, 17°.43N×94°.91W, h0km, mb3.5/2, mbtmp3.4/3, ML3.0/1, MS3.2/6, Error ellipse: s-maj=32.4km s-min=11.2km az=85.0*

ISC 21 16:16:47.7±1.3, 16°.53N±0°.03×95°.12W±0°.02, h7km±9km, n54, σ2s38/88, MS3.3/3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NILT	**Santiago Nilte**	**0.48**	**86**	*eP*	**Pg**	**16 16 56.4**	**-0.6**
NILT				*eS*	**Sg**	**16 17 03.9**	**+0.6**
CMIG	**Matias Romero**	**0.60**	**22**	Pg	**Pg**	**16 16 59.6**	**+0.3**
	108nm,0.3s,baz=202,slow=12,SNR=255						
CMIG				LR	LR	16 17 05.6	
	comp=Z,33nm,19.5s,baz=11,slow=37						
CMIG				Lg	Lg	16 17 07.9	
	786nm,0.3s,baz=304,slow=17,SNR=64						
CMIG	**Matias Romero**	**0.60**	**22**	*eP*	**Pg**	**16 16 59.4**	**+0.1**
CMIG				*i* S	**Sb**	**16 17 08.0**	**-1.3**
CARR	**Arriaga**	**1.19**	**104**	*eP*	**Pn**	**16 17 09.1**	**-1.6**
CARR				*eS*	**Sb**	**16 17 24.9**	**-1.3**
UXUV	**UXUV**	**1.22**	**50**	*eP*	**Pb**	**16 17 10.2**	**-0.9**
UXUV				*eS*	**Sg**	**16 17 27.4**	**+0.5**
HUIG	**Huatulco**	**1.22**	**232**	*eP*	Pn	16 17 09.1	-2.0
HUIG				*eS*	**Sn**	**16 17 25.4**	**-2.5**
NEUV	**Arroyo Zacate**	**1.35**	**331**	*eP*	**Pn**	**16 17 12.5**	**-0.4**
NEUV				*eS*	**Sn**	**16 17 30.5**	**-0.6**
OXLC	**Oaxaca**	**1.61**	**290**	*eP*	**Pn**	**16 17 17.3**	**+0.6**
OXLC				*eS*	**Sn**	**16 17 38.1**	**+0.3**
TUIG	**Tuzandepetl**	**1.64**	**24**	*eP*	**Pn**	**16 17 16.0**	**-0.9**
TUIG				*eS*	**Sg**	**16 17 43.2**	**+2.8**
VHO	**Vista Hermosa**	**1.64**	**289**	*eP*	**Pn**	**16 17 17.4**	**+0.3**
VHO				*eS*	**Sn**	**16 17 37.5**	**-1.1**
TGIG		**1.93**	**82**	*eP*	**Pn**	**16 17 22.0**	**+1.0**
TGIG				*eS*	**Sn**	**16 17 46.0**	**+0.5**
TGBT	**Tuxtla Gutierr**	**1.96**	**83**	*i* P	**Pn**	**16 17 22.6**	**+1.3**
TGBT				*eS*	**Sb**	**16 17 48.5**	**+0.2**
PCIG		**2.00**	**114**	*eP*	**Pn**	**16 17 21.2**	**-0.7**
PCIG				*eS*	**Sn**	**16 17 47.2**	**0.0**
PMUV	**Sontecomapan**	**2.00**	**360**	*eP*	**Pn**	**16 17 22.7**	**+0.7**
PMUV				*i* S	**Sn**	**16 17 43.0**	**-4.4**
PEIG	**Puerto Escondi**	**2.02**	**255**	*eP*	**Pn**	**16 17 21.5**	**-0.7**
PEIG				*eS*	**Sn**	**16 17 45.8**	**-1.9**
YOIG	**Yosondua**	**2.35**	**278**	*eP*	**Pn**	**16 17 28.8**	**+1.8**
YOIG				*eS*	**Sn**	**16 17 58.4**	**+2.2**
TOIG	**Toxpalan**	**2.43**	**310**	*eP*	**Pn**	**16 17 29.8**	**+1.9**
TOIG				*eS*	**Sb**	**16 18 01.4**	**-0.6**
TXIG	**Tlaxiaco**	**2.64**	**286**	*eP*	**Pn**	**16 17 34.1**	**+3.2**
TXIG				*eS*	**Sb**	**16 18 08.2**	**0.0**
TPIG	**Tehuac#an**	**2.85**	**312**	*eP*	**Pn**	**16 17 35.3**	**+1.5**
TPIG				*eS*	**Sn**	**16 18 08.8**	**+0.4**
CCIG	**Comitan**	**2.87**	**95**	*eP*	**Pn**	**16 17 35.5**	**+1.5**
CCIG				*eS*	**Sb**	**16 18 15.7**	**+1.0**
HLIG	**Huajuapan de L**	**2.88**	**297**	*eP*	**Pn**	**16 17 36.7**	**+2.6**
HLIG				*eS*	**Sb**	**16 18 15.0**	**+0.1**
PNIG	**Pinotepa**	**2.89**	**268**	*eP*	**Pn**	**16 17 33.6**	**-0.6**
PNIG				*eS*	**Sn**	**16 18 11.2**	**+1.9**
PATR	**El Naranjo**	**3.11**	**116**	*eP*	**Pn**	**16 17 37.3**	**-0.1**
PATR				*eS*	**Sn**	**16 18 14.5**	**-0.4**
PAVE	**Pavencul**	**3.13**	**115**	*eP*	**Pn**	**16 17 38.2**	**+0.6**
PAVE				*eS*	**Sn**	**16 18 16.7**	**+1.4**
FTIG	**Fresnillo de T**	**3.19**	**296**	*eP*	**Pn**	**16 17 41.6**	**+3.2**
FTIG				*i* S	**Sb**	**16 18 23.1**	**-0.9**
CHUJ	**Union Juarez**	**3.23**	**116**	*eP*	**Pn**	**16 17 39.2**	**+0.2**
CHUJ				*eS*	**Sn**	**16 18 17.8**	**0.0**
JAUV	**Jalcomulco**	**3.25**	**331**	*eP*	**Pn**	**16 17 37.6**	**-1.5**
JAUV				*eS*	**Sb**	**16 18 21.1**	**-4.4**
LVIG	**Laguna Verde**	**3.41**	**339**	*eP*	**Pn**	**16 17 39.0**	**-2.3**
LVIG				*i* S	**Sn**	**16 18 22.2**	**+0.3**
MGIG	**Malinaltepec**	**3.44**	**282**	*eP*	**Pn**	**16 17 42.9**	**+1.1**
MGIG				*eS*	**Sn**	**16 18 24.3**	**+1.3**
TLIG	**Tlapa**	**3.46**	**288**	*eP*	**Pn**	**16 17 43.8**	**+1.8**
TLIG				*eS*	**Sn**	**16 18 20.9**	**-2.5**
CRIG	**Cruz Grande**	**3.85**	**274**	*i* S	**Sn**	**16 18 36.1**	**+3.2**
PPM	**Popocatepetl**	**4.19**	**308**	*eP*	**Pn**	**16 17 54.2**	**+1.8**
PPM				*eS*	**Sn**	**16 18 42.5**	**+0.5**
AMVM	**AMECAMECA**	**4.35**	**307**	*eS*	**Sn**	**16 18 50.5**	**+4.9**
DAIG	**Los Arroyos**	**4.37**	**277**	*eP*	**Pn**	**16 17 54.0**	**-0.5**
DAIG				*eS*	**Sn**	**16 18 49.2**	**+3.5**
YAIG	**Yautepec**	**4.42**	**302**	*eP*	**Pn**	**16 17 58.4**	**+3.0**
YAIG				*eS*	**Sn**	**16 18 50.6**	**+3.4**
MEIG	**Mezcala**	**4.52**	**289**	*eP*	Pn	16 17 52.2	-4.5
MEIG				*eS*	**Sn**	**16 18 48.2**	**-1.3**
MPVM	**San Francisco**	**4.56**	**306**	*eP*	**Pn**	**16 17 59.5**	**+2.1**
MPVM				*eS*	**Sn**	**16 18 53.3**	**+2.6**
PLIG	**Platanillo**	**4.58**	**295**	*eP*	**Pn**	**16 17 59.5**	**+2.1**
PLIG				*eS*	**Sn**	**16 18 50.2**	**-0.7**
XCVM	**Xochimilco**	**4.67**	**306**	*i* P	**Pn**	**16 18 00.6**	**+1.7**
XCVM				*i* S	**Sn**	**16 18 57.5**	**+3.9**
AOVM	**Tlapan**	**4.84**	**305**	*eP*	**Pb**	**16 18 10.6**	**-2.6**
AOVM				*eS*	**Sn**	**16 19 03.7**	**+5.7**
PTVM	**Pico Tres Padr**	**4.87**	**309**	*eP*	**Pn**	**16 17 58.1**	**-3.6**
PTVM				*i* S	**Sn**	**16 18 58.6**	**+0.1**
CAIG	**El Cayaco**	**4.96**	**277**	*eP*	**Pn**	**16 18 02.9**	**+0.3**
CAIG				*eS*	**Sn**	**16 18 59.7**	**-0.6**
TOVM	**TOLUCA**	**5.13**	**303**	*eP*	Pn	16 18 10.8	+5.5
TOVM				*eS*	**Sn**	**16 19 12.5**	**+7.4**
ARIG	**Puente Sto Nin**	**5.29**	**290**	*eP*	**Pn**	**16 18 07.5**	**+0.4**
ARIG				*eS*	**Sn**	**16 19 11.2**	**+2.8**
ACIG	**Acambay**	**5.68**	**308**	*eS*	**Sb**	**16 19 27.9**	**-7.7**
TEIG	**Tepich**	**7.46**	**59**	Pn	**Pn**	**16 18 35.6**	**-1.4**
	57nm,0.3s,baz=0.0,slow=2.0,SNR=20						
TEIG				Sn	**Sn**	**16 19 55.5**	**-6.5**
	31nm,0.3s,baz=305,slow=21,SNR=4.4						
JTS	**Las Juntas de**	**11.67**	**121**	LR	LR	16 24 46.7	
	comp=Z,85nm,18.9s,baz=156,slow=40						
TXAR	**Lajitas Array**	**14.97**	**330**	Pn	**Pn**	**16 20 21.4**	**+1.5**
	baz=143,slow=16,SNR=2.7						
TXAR				LR	LR	16 27 07.6	
	comp=Z,26nm,18.2s,baz=140,slow=43						
	0.5nm,1.0s						
LPIG	**La Paz**	**16.11**	**300**	LR	LR	16 25 52.1	
	comp=Z,79nm,19.1s,baz=42,slow=34						
SDV	**Santo Domingo**	**25.04**	**105**	LR	LR	16 31 54.2	
	comp=Z,56nm,20.6s,baz=262,slow=36						
PFO	**Pinyon Flats O**	**25.66**	**315**	LR	LR	16 33 58.6	
	comp=Z,82nm,18.5s,baz=165,slow=41						
NVAR	**Mina Array Bea**	**29.83**	**322**	P	**P**	**16 22 57.6**	**+1.9**
	0.9nm,0.8s,baz=141,slow=10,SNR=2.6						
	0.9nm,0.8s						
YBH	**Yreka Blue Hor**	**34.53**	**322**	LR	LR	16 38 36.1	
	comp=Z,61nm,18.7s,baz=116,slow=38						
YKA	**Yellowknife Ar**	**47.91**	**348**	P	**P**	**16 25 26.1**	**-0.2**
	0.4nm,0.9s,baz=153,slow=7.3,SNR=3.5						
	0.4nm,0.9s						

*IDC **21** 16:27:20.6±1.5, 14°.87S×167°.89E, h0km, mb4.0/6, mbtmp4.0/7, ML3.9/1, MS2.9/1, Error ellipse: s-maj=53.2km s-min=25.4km az=123.0*
*NEIC **21** 16:27:22.9±2.2, 15°.14S±0°.07×168°.1E±0°.1, h10km±1km, mb5.1/17, Error ellipse: s-maj=19.1km s-min=9.7km az=69.0*

ISC 21 16:27:25.9±0.9, 15°.11S±0°.08×168°.0E±0°.2, h36km, n31, σ1s13/35, mb4.7/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOUNC	**Koumac, New Ca**	**6.47**	**213**	Pn	**Pn**	**16 29 00.9**	**+2.3**
KOUNC				Sn	**Sn**	**16 30 11.7**	**+0.6**
DZM	**Mont Dzumac**	**7.08**	**192**	Pn	**Pn**	**16 29 07.9**	**+0.7**
DZM				Sn	**Sn**	**16 30 25.2**	**-1.3**
DZM	**Mont Dzumac**	**7.08**	**192**	Pn	**Pn**	**16 29 08.4**	**+1.2**
	1.8nm,0.3s,baz=83,slow=13,SNR=22						
DZM				Sn	**Sn**	**16 30 25.2**	**-1.3**
	baz=62,slow=22						
	3.5nm,0.3s						
ONTNC	**Ouen Toro**	**7.31**	**191**	Pn	**Pn**	**16 29 10.9**	**+0.7**
OUENC	**Ouen Island, N**	**7.35**	**188**	Pn	**Pn**	**16 29 11.5**	**+0.7**
PINNC	**Pines Island,**	**7.48**	**184**	Pn	**Pn**	**16 29 14.0**	**+1.5**
STKA	**Stephens Creek**	**29.30**	**231**	P	**P**	**16 33 24.4**	**-0.6**
STKA	**Stephens Creek**	**29.30**	**231**	P	**P**	**16 33 25.7**	**+0.7**
	1.6nm,0.4s,baz=41,slow=11,SNR=6.4						
	1.6nm,0.4s						
WB0	**Warramunga Arr**	**32.36**	**257**	P	**P**	**16 33 51.2**	**-1.0**
WB0				IAmb	IAmb	16 34 02.9	
	comp=Z,16nm,1.9s						
WRA	**Warramunga Arr**	**32.42**	**257**	P	**P**	**16 33 52.0**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=85,slow=8.8,SNR=5.2						
WRA				PcP	**PcP**	**16 36 40.1**	**+0.3**
	comp=Z,0.3nm,1.0s,baz=87,slow=3.6,SNR=1.8						
	comp=Z,0.5nm,0.5s						
AS31	**Alice Springs**	**33.20**	**250**	P	**P**	**16 33 59.1**	**-0.5**
ASAR	**Alice Springs**	**33.20**	**250**	P	**P**	**16 33 58.4**	**-1.2**
ASAR	**Alice Springs**	**33.20**	**250**	P	**P**	**16 33 59.5**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=79,slow=9.3,SNR=35						
ASAR				PcP	**PcP**	**16 36 41.7**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=85,slow=2.1,SNR=5.6						
	comp=Z,2.0nm,0.6s						
BBOO	**Buckleboo**	**33.91**	**233**	P	**P**	**16 34 04.9**	**-0.7**
GUMO	**Guam**	**36.56**	**320**	LR	LR	16 49 55.8	
	comp=Z,18nm,19.2s,baz=118,slow=37						
FORT	**Forrest**	**39.72**	**240**	P	**P**	**16 34 55.6**	**+0.6**
FORT				IAmb	IAmb	16 34 57.0	
	comp=Z,17nm,0.7s						
FITZ	**Fitzroy Crossi**	**40.64**	**260**	P	**P**	**16 35 03.0**	**+0.2**
MBWA	**Marble Bar**	**46.13**	**255**	P	**P**	**16 35 46.7**	**-0.4**
MBWA				IAmb	IAmb	16 36 04.1	
	comp=Z,18nm,1.2s						
NWAO	**Narrogin (SRO)**	**49.16**	**239**	P	**P**	**16 36 10.7**	**+0.1**
NWAO	**Narrogin (SRO)**	**49.16**	**239**	P	**P**	**16 36 10.8**	**+0.3**
NWAO				IAmb	IAmb	16 36 31.1	
	comp=Z,278nm,1.8s						
VNDA	**Vanda**	**62.50**	**182**	P	**P**	**16 37 44.9**	**-0.4**
SONM	**Songino Array**	**83.22**	**323**	P	**P**	**16 39 47.6**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=147,slow=4.2,SNR=2.8						
	comp=Z,0.3nm,0.5s						
KNK	**Knik Glacier**	**83.70**	**19**	P	**P**	**16 39 51.4**	**+0.7**
KNK				IAmb	IAmb	16 40 01.1	
	comp=Z,33nm,1.6s						
GLI	**Glacier Island**	**83.76**	**20**	P	**P**	**16 39 52.6**	**+1.6**
GLI				IAmb	IAmb	16 40 10.4	
	comp=Z,18nm,1.0s						
SML	**Sawmill**	**84.04**	**19**	P	**P**	**16 39 55.5**	**+3.1**
CAST	**Castle Rocks**	**84.15**	**17**	P	**P**	**16 39 53.2**	**+0.2**
CAST				IAmb	IAmb	16 39 56.0	
	comp=Z,32nm,1.8s						
SCM	**Sheep Creek Mo**	**84.38**	**20**	P	**P**	**16 39 55.8**	**+1.6**
SCM				IAmb	IAmb	16 40 08.2	
	comp=Z,23nm,1.2s						
WAX	**Waxell Ridge**	**84.94**	**22**	P	**P**	**16 39 58.3**	**+1.2**
I21K	**Tanana**	**85.56**	**16**	P	**P**	**16 40 01.2**	**+1.3**
I21K				IAmb	IAmb	16 41 32.9	
	comp=Z,40nm,2.0s						
ILAR	**Eielson Array**	**86.67**	**18**	P	**P**	**16 40 05.0**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=239,slow=4.9,SNR=12						
	comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**97.97**	**316**	P	**P**	**16 40 57.3**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=97,slow=6.2,SNR=3.7						
	comp=Z,0.5nm,0.8s						

*NEIC **21** 16:30:20.5±0.4, 19°.21N±0°.03×155°.48W±0°.01, h42km±3km, Error ellipse: s-maj=3.9km s-min=1.3km az=195.0*

HVO 21 16:30:22.1±0.5, 19°.20N±0°.02×155°.47W±0°.03, h36km±3km, Md2.4/27, ML2.6/53(NEIC), Error ellipse: s-maj=4.3km s-min=2.4km az=129.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.08**	**59**		Pn	16 30 27.6	-0.6
HPO	**Honuapo**	**0.13**	**217**		Pn	16 30 27.7	-4.7
KHU	**Kahuku**	**0.15**	**290**		Pn	16 30 27.9	-4.3
KHU				Sn	Sn	16 30 32.1	-10
KHU				IAML		16 30 32.6	
	comp=N,776nm,0.1s						
AIN	**Ainahou**	**0.17**	**4**		Pn	16 30 28.3	-3.0
AIN					Sn	16 30 33.1	-6.8
AIN	**Ainahou**	**0.17**	**4**	IAML		16 30 33.3	
	comp=E,471nm,0.3s						
AIN				IAML		16 30 33.7	
	comp=N,522nm,0.2s						
HLP	**Hilina Pali**	**0.18**	**57**		Pn	16 30 28.2	-2.9
HLP					Sn	16 30 32.8	-6.6
HLP	**Hilina Pali**	**0.18**	**57**	IAML		16 30 40.1	
	comp=E,508nm,2.5s						
HLP				IAML		16 30 40.9	
	comp=N,493nm,1.6s						
SDHHI	**Sand Hill**	**0.25**	**41**		Pn	16 30 28.6	-1.7
SDHHI	**Sand Hill**	**0.25**	**41**	IAML		16 30 33.5	
	comp=N,1μm,0.8s						
SDHHI					Sn	16 30 33.8	-3.6
SDHHI				IAML		16 30 33.8	
	comp=E,821nm,0.4s						
WRMHI	**West Rim**	**0.26**	**37**		Pn	16 30 28.7	-1.7
WRMHI	**West Rim**	**0.26**	**37**	IAML		16 30 32.4	
	comp=E,1μm,1.5s						
WRMHI				IAML		16 30 36.4	
	comp=N,1μm,0.9s						
RIM	**Rim**	**0.27**	**43**		Pn	16 30 28.7	-1.6
KKO	**Keanakako`i**	**0.28**	**44**		Pn	16 30 28.9	-1.5
KKO	**Keanakako`i**	**0.28**	**44**	IAML		16 30 35.6	
	comp=N,864nm,1.2s						
KKO				IAML		16 30 42.6	
	comp=E,694nm,1.5s						
UWE	**Uwekahuna**	**0.28**	**37**		Pn	16 30 28.8	-1.5
OBL	**Observatory Le**	**0.28**	**39**		Pn	16 30 28.8	-1.5
UWB	**Uwekahuna B**	**0.29**	**39**		Pn	16 30 28.8	-1.6
BYL	**Byron's Ledge**	**0.29**	**43**		Pn	16 30 28.9	-1.4
BYL	**Byron's Ledge**	**0.29**	**43**	IAML		16 30 41.0	
	comp=E,546nm,1.4s						
BYL				IAML		16 30 42.3	
	comp=N,406nm,0.9s						
PUH	**Pauahi**	**0.30**	**54**		Pn	16 30 28.9	-1.4
PUH					Sn	16 30 33.8	-3.3
PUH	**Pauahi**	**0.30**	**54**	IAML		16 30 34.3	
	comp=N,464nm,2.3s						
PUH				IAML		16 30 45.3	
	comp=E,230nm,2.3s						
SBLHI	**Steaming Bluff**	**0.30**	**40**		Pn	16 30 28.9	-1.5
SBLHI	**Steaming Bluff**	**0.30**	**40**	IAML		16 30 34.6	
	comp=N,399nm,0.7s						
SBLHI				IAML		16 30 42.3	
	comp=E,471nm,1.3s						
HATHI	**Halema'uma'u T**	**0.30**	**41**		Pn	16 30 29.0	-1.4
HATHI	**Halema'uma'u T**	**0.30**	**41**	IAML		16 30 36.2	
	comp=N,464nm,0.9s						
HATHI				IAML		16 30 43.1	
	comp=E,716nm,1.3s						
MLH	**Mauna Loa**	**0.31**	**15**		Pn	16 30 29.4	-1.2
MWH	**Moku'aweowe**	**0.31**	**337**		Pn	16 30 29.4	-1.6
MWH	**Moku'aweowe**	**0.31**	**337**	IAML		16 30 34.2	
	comp=N,437nm,3.8s						
MWH				IAML		16 30 43.0	
	comp=E,432nm,3.4s						
RSD	**Rainshed**	**0.32**	**34**		Sn	16 30 35.0	-2.2
RSD	**Rainshed**	**0.32**	**34**	Pn	Pn	16 30 29.2	-1.3
RSD				IAML		16 30 38.3	
	comp=N,396nm,3.7s						
KNHH	**Kane Nui o Ham**	**0.34**	**57**		Pn	16 30 29.4	-1.1
MLOA	**Mauna Loa Obse**	**0.35**	**343**		Pn	16 30 29.8	-1.3
MLOA					Sn	16 30 35.4	-2.7
MLOA	**Mauna Loa Obse**	**0.35**	**343**	IAML		16 30 36.1	
	comp=E,419nm,3.1s						
MLOA				IAML		16 30 42.3	
	comp=N,234nm,3.4s						
STCH	**Steam Cracks**	**0.38**	**60**		Pn	16 30 29.8	-1.1
STCH	**Steam Cracks**	**0.38**	**60**	IAML		16 30 35.7	
	comp=E,202nm,0.2s						
STCH				IAML		16 30 42.6	
	comp=N,235nm,1.6s						
ALEP	**Alea Permanent**	**0.38**	**334**		Pn	16 30 29.9	-1.4
NPOC	**North of Pu'u**	**0.39**	**60**		Pn	16 30 30.0	-1.1
NPOC					Sn	16 30 35.8	-2.1
NPOC	**North of Pu'u**	**0.39**	**60**	IAML		16 30 36.0	
	comp=E,365nm,0.8s						
NPOC				IAML		16 30 36.5	
	comp=N,308nm,0.6s						
JCUZ	**Jacuzzi**	**0.40**	**62**	Pn	Pn	16 30 30.0	-1.1
JCUZ				IAML		16 30 37.9	
	comp=N,372nm,3.0s						
HMH	**Humu'ula Sheep**	**0.40**	**358**		Pn	16 30 30.7	-0.9
HMH					Sn	16 30 37.3	-1.2
HMH	**Humu'ula Sheep**	**0.40**	**358**	IAML		16 30 38.1	
	comp=E,191nm,1.3s						
HMH				IAML		16 30 47.8	
	comp=N,349nm,3.6s						
JOKA	**Jonika Flow**	**0.50**	**62**		Pn	16 30 31.1	-1.6
JOKA					Sn	16 30 38.1	-2.0
KHLU	**Kahalu`u**	**0.56**	**315**		Pn	16 30 32.0	-1.8
KHLU					Sn	16 30 39.2	-2.7
KHLU	**Kahalu`u**	**0.56**	**315**	IAML		16 30 39.3	
	comp=E,296nm,3.8s						
KHLU				IAML		16 30 47.0	
	comp=N,243nm,3.6s						
POHA	**Pohakuloa**	**0.56**	**354**	Pn	Pn	16 30 31.9	-2.0
HUH	**Hualalai**	**0.60**	**325**	Pn	Pn	16 30 32.7	-1.7
HUH				IAML		16 30 43.0	
	comp=E,232nm,1.8s						
HUH				IAML		16 30 49.0	
	comp=N,307nm,2.2s						
HPAH	**Hawaii Prepara**	**0.86**	**346**		Pn	16 30 35.8	-1.9
HPAH				IAML		16 30 57.8	
	comp=N,211nm,4.5s						
HPAH				IAML		16 31 10.6	
	comp=E,235nm,3.8s						
MHA	**Mahukona**	**1.07**	**338**	Pn	Pn	16 30 38.8	-1.7
HLK	**Haleakala**	**1.72**	**335**	Pn	Pn	16 30 46.9	-2.9
KIP	**Kipapa**	**3.26**	**313**	Pn	Pn	16 31 08.4	-2.3

IDC 21 16:35:54.5±1.9, 4°.73S×145°.68E, h0km, mb3.1/2, mbtmp3.5/5, ML2.9/3, Error ellipse: s-maj=59.0km s-min=29.7km az=107.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.88**	**163**	Pn	Pn	16 37 07.2	-1.9
	4.4nm,0.3s,baz=309,slow=7.8,SNR=20						
PMG				Sn	Sn	16 37 58.3	-8.0
	3.4nm,0.3s,baz=158,slow=23,SNR=5.6						
	14nm,0.4s						
CTA	**Charters Tower**	**15.28**	**178**	Pn	Pn	16 39 31.0	-0.7
	0.2nm,0.3s,baz=355,slow=12,SNR=1.8						
	2.7nm,0.8s						
WRA	**Warramunga Arr**	**18.73**	**215**	P	Pn	16 40 15.9	+0.7
	baz=32,slow=11,SNR=3.9						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**21.99**	**210**	P	P	16 40 50.8	+0.4
	0.2nm,0.8s,baz=38,slow=11,SNR=4.0						
	0.2nm,0.8s						
ILAR	**Eielson Array**	**84.84**	**23**	P	P	16 48 30.8	+0.1
	0.7nm,1.1s,baz=241,slow=5.0,SNR=2.4						
	0.7nm,1.1s						

DJA 21 16:48:41.5±0.4, 8°S±2°×107°E±°, h28km±4km, M4.1/13, mb4.7/1, MLv3.8/13, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.60**	**349**	P	Pn	16 48 54.7	+0.5
CNJI				S	Sn	16 49 03.1	+0.1
SKJI	**Sukabumi**	**1.12**	**322**	P	Pb	16 49 02.2	-0.1
SKJI				S	Sn	16 49 15.9	0.0
LEM	**Lembang**	**1.13**	**19**	P	Pn	16 49 01.8	+0.2
CMJI	**Cimerak**	**1.19**	**85**	P	Pn	16 49 02.6	+0.3
CMJI				S	Sn	16 49 16.7	-0.9
DBJI	**Dramaga**	**1.43**	**340**	P	Pn	16 49 06.3	+0.7
KPJI	**Karang Pucung**	**1.76**	**71**	P	Pn	16 49 10.6	+0.5
CGJI	**Cibinong**	**2.00**	**310**	P	Pn	16 49 13.9	+0.4
CGJI				S	Sn	16 49 35.9	-1.8
UGM	**Wanagama**	**3.24**	**90**	P	Pn	16 49 30.3	-0.3
KASI	**Kota Agung**	**3.61**	**311**	P	Pn	16 49 35.9	+0.3

IDC 21 17:00:27.8±5.0, 29°.11N×141°.99E, h0km, mb3.4/5, mbtmp3.4/6, ML2.5/1, MS3.1/1, Error ellipse: s-maj=196.5km s-min=24.1km az=72.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**8.07**	**338**	Pn	Pn	17 02 24.6	-1.7
	0.1nm,0.3s,baz=163,slow=11,SNR=2.5						
	0.9nm,0.5s						
JNU	**Nakatsue**	**10.33**	**296**	LR	LR	17 06 35.9	
	comp=Z,104nm,18.6s,baz=144,slow=36						
SONM	**Songino Array**	**33.17**	**314**	P	P	17 07 06.0	-0.1
	0.4nm,0.7s,baz=108,slow=9.4,SNR=2.5						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**

MW5.2/128,Moment Tensor Solution. s78,c104; s128,c219; Duration: 1ˢ0 Moment tensor: Scale 10¹⁶ Nm; Mrr-0.61±.12; Mθθ-5.06±.14; Mϕϕ5.67±.12; Mrθ3.91±.41; Mθϕ4.45±.12; Mϕr1.42±.24; Best double couple: M₀8.13400×10¹⁶ NP1:ϕ₁244.00000°,δ86.00000°, λ-31.00000°. NP2:ϕ₂336.00000°,δ59.00000°, λ-175.00000°. Principal axes: T 8.1530, Plg18.0000°, Azm294.0000°; N -0.0380, Plg59.0000°, Azm57.0000°; P -8.1150, Plg24.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

DSN ***21*** *17:04:48.3±0.5,31˚.24N×56˚.25E,h15ᵏᵐ,mb5.2/2, ML5.0/12 Error ellipse: s-maj=8.7km s-min=5.0km az=75.0*

OMAN ***21*** *17:04:49.6±0.2,31˚.11N×56˚.11E,h10ᵏᵐ,mb5.7/30, ml4.1/2,ms4.2/7,Mwp5.0/7,Error ellipse: s-maj=6.2km s-min=1.6km az=305.0*

BGR ***21*** *17:04:51.2,30˚.57N×54˚.59E,h14ᵏᵐ±1ᵏᵐ,mb4.8,Ms4.4*

ISC 21 17:04:45.8±0.4,**31˚.31N**±0˚.03×**56˚.21E**±0˚.02,**h8**ᵏᵐ±2ᵏᵐ, **h8ᵏᵐ:pP-P,n1025,**σ1ˢ**59**/1022,**mb5.1**/287,**MS4.7**/121, **48C-24D,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.44**	**141**	Pg		**Pg**	**17 04 52.7**	**-1.8**
ZRDN				Sg		**Sg**	**17 05 00.4**	**+0.1**
IBAF	**Bafgh**	**0.62**	**297**	Pg		**Pg**	**17 04 56.3**	**-1.4**
KHGB	**Koh Gabri**	**0.96**	**166**	Pg		**Pg**	**17 05 02.9**	**-1.4**
KRM1	**Kerman Provinc**	**1.22**	**131**	Pg		**Pb**	**17 05 07.4**	**-1.9**
IMEH	**Mehriz**	**1.37**	**274**	Pg		**Pn**	**17 05 10.9**	**-0.6**
TVBK	**TV Kerman**	**1.41**	**160**	Pg		**Pn**	**17 05 11.2**	**-0.8**
KRBR	**Kerman**	**1.41**	**160**	*e*Pg		**Pn**	**17 05 12.2**	**+0.1**
KRBR				*e*Sg		**Sg**	**17 05 31.9**	**+0.8**
KRBR				IAML			17 05 41.7	
	comp=N,30μm,0.5s							
KRBR				IAML			17 05 42.3	
	comp=E,25μm,0.7s							
NGRK	**Negar Kerman**	**1.72**	**165**	Pg		**Pn**	**17 05 17.0**	**+0.5**
YZKH	**Yazd**	**1.75**	**308**	*e*Pn		**Pn**	**17 05 16.9**	**+0.3**
YZKH				IAML			17 05 45.7	
	comp=N,17μm,0.6s							
YZKH				IAML			17 05 46.8	
	comp=E,14μm,0.6s							
TPRV	**Parvadeh(Tabas**	**1.76**	**13**	Pg		**Pn**	**17 05 15.1**	**-1.6**
ICHK	**Chekchek**	**1.80**	**302**	Pn		**Pn**	**17 05 17.8**	**+0.4**
CHMN	**Cheshme madani**	**1.84**	**141**	Pn		**Pn**	**17 05 18.8**	**+0.7**
ISAD	**Sadrabad**	**2.24**	**286**	Pn		**Pn**	**17 05 24.4**	**+1.0**
TKDS	**Koohdasht(Taba**	**2.42**	**18**	Pn		**Pn**	**17 05 24.8**	**-1.0**
TABS	**Tabas**	**2.45**	**18**	*e*Pn		**Pn**	**17 05 25.5**	**-0.8**
TABS				IAML			17 06 06.0	
	comp=E,2μm,0.7s							
TABS				IAML			17 06 15.6	
	comp=N,5μm,0.7s							
BSRN	**Basiran**	**2.57**	**75**	*e*Pn		**Pn**	**17 05 26.8**	**-1.1**
BSRN				IAML			17 06 11.2	
	comp=N,5μm,0.6s							
BSRN	**Basiran**	**2.57**	**75**	Pg		**Pn**	**17 05 26.5**	**-1.4**
IKOO	**Kooshah**	**2.62**	**64**	Pn		**Pn**	**17 05 27.8**	**-1.0**
TNSJ	**Nastanj**	**2.66**	**7**	Pn		**Pn**	**17 05 28.4**	**-0.8**
ITEG	**Tejag**	**2.67**	**53**	Pn		**Pn**	**17 05 28.1**	**-1.2**
ANAR	**Anarak**	**2.82**	**312**	Pn		**Pn**	**17 05 31.8**	**+0.5**
KBAM	**BAM**	**2.91**	**138**	Pn		**Pn**	**17 05 32.8**	**+0.3**
AFRZ	**Afriz**	**3.17**	**48**	Pn		**Pn**	**17 05 34.6**	**-1.6**
NASN	**Na'in**	**3.25**	**298**	*e*Pn		**Pn**	**17 05 38.2**	**+0.8**
NASN				IAML			17 06 36.2	
	comp=N,2μm,0.7s							
NASN				IAML			17 06 42.4	
	comp=E,2μm,0.6s							
NHDN	**Nehbandan**	**3.29**	**88**	Pn		**Pn**	**17 05 36.9**	**-0.8**
IRAM	**Rameshen**	**3.31**	**280**	Pn		**Pn**	**17 05 39.0**	**+0.9**
IDAH	**Dahanechah**	**3.42**	**64**	Pn		**Pn**	**17 05 38.2**	**-1.4**
KHNJ	**Kahnooj**	**3.60**	**158**	Pn		**Pn**	**17 05 43.9**	**+2.0**
SHI	**Shiraz**	**3.60**	**243**	Pn		**Pn**	**17 05 44.0**	**+1.9**
JHRM	**Jahrom**	**3.61**	**220**	Pn		**Pn**	**17 05 44.0**	**+1.7**
IZEF	**Zefreh**	**3.65**	**297**	Pn		**Pn**	**17 05 44.3**	**+1.3**
IGAR	**Gharneh**	**3.71**	**288**	Pn		**Pn**	**17 05 44.2**	**+0.5**
IBND	**Bandar-abas**	**3.86**	**176**	Pn		**Pn**	**17 05 46.9**	**+1.4**
GENO	**Geno**	**3.90**	**181**	Pn		**Pn**	**17 05 47.4**	**+1.1**
BNDS	**Bandar-Abbas**	**3.90**	**181**	*e*Pn		**Pn**	**17 05 48.5**	**+2.3**
BNDS				IAML			17 06 57.7	
	comp=E,1μm,0.6s							
BNDS				IAML			17 07 04.1	
	comp=N,1μm,0.5s							
QIR1	**Qir**	**3.94**	**225**	Pn		**Pn**	**17 05 48.9**	**+2.1**
LAR1	**LAR**	**3.97**	**204**	Pn		**Pn**	**17 05 49.2**	**+2.1**
KLNJ	**Kolanjah**	**3.97**	**267**	Pn		**Pn**	**17 05 49.4**	**+2.0**
GHIR	**Ghir-Karzin**	**4.12**	**224**	*e*Pn		**Pn**	**17 05 51.5**	**+2.3**
GHIR				IAML			17 07 17.7	
	comp=N,1μm,0.8s							
GHIR				IAML			17 07 18.7	
	comp=E,2μm,0.6s							
SHRT	**Shahrakht**	**4.16**	**55**	*e*Pn		**Pn**	**17 05 48.9**	**-0.8**
SHRT				IAML			17 07 00.7	
	comp=E,1μm,0.6s							
SHRT				IAML			17 07 04.0	
	comp=N,2μm,0.8s							
SHRT	**Shahrakht**	**4.16**	**55**	Pn		**Pn**	**17 05 48.9**	**-0.8**
IBRJ	**Brojen**	**4.27**	**279**	Pn		**Pn**	**17 05 53.8**	**+2.4**
ZHSF	**Zahedan**	**4.29**	**112**	*e*Pn		**Pn**	**17 05 51.6**	**0.0**
KRSH	**Karshahi**	**4.34**	**309**	Pn		**Pn**	**17 05 52.6**	**+0.3**
IKLH	**Kolahrood**	**4.40**	**298**	Pn		**Pn**	**17 05 54.7**	**+1.5**
ZHDN	**Zahedan**	**4.41**	**114**	Pn		**Pn**	**17 05 53.0**	**-0.3**
ISFB	**Sefidab**	**4.51**	**313**	Pn		**Pn**	**17 05 55.0**	**+0.4**
IANJ	**Anjilo**	**4.57**	**336**	Pn		**Pn**	**17 05 55.1**	**-0.3**
ZNGN	**Zangian**	**4.63**	**281**	Pn		**Pn**	**17 05 58.6**	**+2.1**
SHRO	**Shahrood**	**4.67**	**358**	*e*Pn		**Pn**	**17 05 56.2**	**-0.5**
IPIR	**Pirpir**	**4.72**	**288**	Pn		**Pn**	**17 05 59.9**	**+2.2**
QAMS	**Qamsar**	**4.73**	**302**	Pn		**Pn**	**17 05 58.5**	**+0.8**
LMD1	**Lamerd**	**4.77**	**215**	Pn		**Pn**	**17 06 00.4**	**+2.3**
TBHD	**Torbat heydari**	**4.81**	**31**	Pn		**Pn**	**17 05 58.0**	**-0.7**
JHBN	**Jahan bin**	**4.81**	**282**	Pn		**Pn**	**17 06 00.7**	**+1.8**
ILAS	**Lasjerd**	**4.89**	**327**	Pn		**Pn**	**17 05 59.9**	**0.0**
AHBU	**AHRAM**	**4.91**	**241**	Pn		**Pn**	**17 06 02.6**	**+2.6**
SBZV	**Sabzevar**	**5.19**	**13**	Pn		**Pn**	**17 06 03.7**	**-0.4**
IFIR	**Firoozkooh**	**5.20**	**327**	Pn		**Pn**	**17 06 04.1**	**0.0**
GHVR	**GHOM**	**5.20**	**309**	*e*Pn		**Pn**	**17 06 06.1**	**+2.0**
GHVR				IAML			17 07 51.4	
	comp=N,769nm,0.6s							
GHVR				IAML			17 07 53.6	
	comp=E,2μm,0.8s							
DSBU	**Dashti - Bushe**	**5.21**	**237**	Pn		**Pn**	**17 06 05.6**	**+1.4**
TBJM	**Torbat-e-JAM**	**5.24**	**40**	Pn		**Pn**	**17 06 03.5**	**-1.1**
SHME	**Shamm**	**5.24**	**181**	*i* P		**Pn**	**17 06 05.3**	**+0.7**
	SNR=19							
SHME	**Shamm**	**5.24**	**181**	P		**Pn**	**17 06 05.5**	**+0.9**
	SNR=54							
IVRN	**Varamin**	**5.26**	**316**	Pn		**Pn**	**17 06 05.7**	**+0.9**
BANOM	**Banah**	**5.37**	**179**	*i* P		**Pn**	**17 06 07.0**	**+0.7**
	SNR=14							
BANOM	**Banah**	**5.37**	**179**	P		**Pn**	**17 06 08.7**	**+2.3**
IMOG	**Moghan**	**5.45**	**28**	Pn		**Pn**	**17 06 07.1**	**-0.5**
IDMV	**Damavand**	**5.50**	**322**	Pn		**Pn**	**17 06 09.0**	**+0.6**
IGLO	**Ghaloghah**	**5.54**	**340**	Pn		**Pn**	**17 06 09.3**	**+0.4**
IQOM	**Qom**	**5.57**	**311**	Pn		**Pn**	**17 06 09.7**	**+0.5**
DAMV	**Damavand**	**5.58**	**322**	*e*Pn		**Pn**	**17 06 10.9**	**+1.6**
JASK	**Jask - Hormozg**	**5.62**	**165**	P		**Pn**	**17 06 11.7**	**+2.0**
	SNR=185							
JASK	**Jask - Hormozg**	**5.62**	**165**	Pn		**Pn**	**17 06 11.1**	**+1.4**
IPAY	**Payeh**	**5.62**	**24**	Pn		**Pn**	**17 06 09.7**	**-0.3**
IAKL	**Akhelmad**	**5.68**	**21**	Pn		**Pn**	**17 06 10.3**	**-0.5**
JRKH	**Jarkhoshk**	**5.74**	**36**	Pn		**Pn**	**17 06 10.9**	**-0.6**
UMQ	**Umm Al-Quwin**	**5.79**	**185**	*i* P		**Pn**	**17 06 13.8**	**+1.8**
	SNR=15							
UMQ	**Umm Al-Quwin**	**5.79**	**185**	P		**Pn**	**17 06 14.4**	**+2.4**
	SNR=15							
KHMZ	**Khomeyn**	**5.81**	**296**	*e*Pn		**Pn**	**17 06 14.8**	**+2.3**
IHSB	**Hasanabad**	**5.83**	**316**	Pn		**Pn**	**17 06 13.7**	**+1.0**
IPRN	**Peran**	**5.88**	**328**	Pn		**Pn**	**17 06 14.3**	**+0.9**
ISFR	**Sfrayin**	**5.92**	**14**	Pn		**Pn**	**17 06 13.9**	**-0.1**
MASF	**Masafi**	**5.92**	**180**	P		**Pn**	**17 06 15.7**	**+1.8**
	SNR=78							
AMIS	**Naft Sefid**	**5.93**	**275**	Pn		**Pn**	**17 06 15.1**	**+1.1**
HRA	**Herat**	**5.93**	**57**	Pn		**Pn**	**17 06 13.2**	**-0.9**
MSFE	**Esma-Masafi**	**5.93**	**180**	*i* P		**Pn**	**17 06 15.3**	**+1.2**
	SNR=78							
IMND	**Minoodasht**	**5.97**	**354**	Pn		**Pn**	**17 06 14.9**	**+0.4**
IMYA	**Miami**	**5.97**	**32**	Pn		**Pn**	**17 06 16.0**	**+1.3**
TEH	**Tehran**	**5.98**	**319**	Pn		**Pn**	**17 06 15.6**	**+0.8**
IKRD	**Kardeh**	**6.10**	**26**	Pn		**Pn**	**17 06 15.8**	**-0.7**
ASAO	**Ashtian**	**6.12**	**303**	*e*Pn		**Pn**	**17 06 19.2**	**+2.4**
CHTH	**Charan**	**6.25**	**319**	*e*Pn		**Pn**	**17 06 19.6**	**+1.1**
NAZ	**Nazwa, Dubai**	**6.32**	**185**	*i* P		**Pn**	**17 06 21.2**	**+1.8**
	SNR=58							
NAZ	**Nazwa, Dubai**	**6.32**	**185**	P		**Pn**	**17 06 21.0**	**+1.7**
	SNR=202							
NAZ				P		**Pn**	**17 06 21.0**	**+1.7**
	SNR=202							
MRVT	**Maraveh tapeh**	**6.33**	**359**	*e*Pn		**Pn**	**17 06 19.4**	**-0.2**
MRVT	**Maraveh tapeh**	**6.33**	**359**	Pn		**Pn**	**17 06 19.4**	**-0.2**
UOSS	**Minazif**	**6.34**	**180**	Pn		**Pn**	**17 06 20.1**	**+0.4**
UOSS	**Minazif**	**6.34**	**180**	*i* P		**Pn**	**17 06 20.3**	**+0.6**
	SNR=60							
UOSS	**Minazif**	**6.34**	**180**	P		**Pn**	**17 06 21.1**	**+1.4**
UOSS				P		**Pn**	**17 06 21.1**	**+1.4**
IMHD	**Mahdasht**	**6.36**	**315**	Pn		**Pn**	**17 06 21.3**	**+1.3**
THKV	**Tehran--Karaj**	**6.39**	**317**	*e*Pn		**Pn**	**17 06 21.8**	**+1.3**
MZPU	**Pul - Mazandar**	**6.41**	**324**	Pn		**Pn**	**17 06 22.2**	**+1.5**
IEMG	**Emamgholi**	**6.41**	**18**	Pn		**Pn**	**17 06 20.9**	**0.0**
BJRD	**Bojnurd**	**6.45**	**8**	*e*Pn		**Pn**	**17 06 21.4**	**+0.2**
HATD	**Hatta, Dubai**	**6.46**	**181**	*i* P		**Pn**	**17 06 21.9**	**+0.6**
	SNR=36							
HATD	**Hatta, Dubai**	**6.46**	**181**	P		**Pn**	**17 06 23.0**	**+1.6**
	SNR=36							
HATD				P		**Pn**	**17 06 23.0**	**+1.6**
	SNR=36							
FAQ	**Al Faqa, Dubai**	**6.57**	**185**	*i* P		**Pn**	**17 06 23.9**	**+1.1**
	SNR=38							
FAQ	**Al Faqa, Dubai**	**6.57**	**185**	P		**Pn**	**17 06 24.2**	**+1.5**
	SNR=107							
ASHO	**Ashiyiah**	**6.61**	**181**	*i* P		**Pn**	**17 06 24.3**	**+1.0**
	SNR=54							
ASHO	**Ashiyiah**	**6.61**	**181**	P		**Pn**	**17 06 25.0**	**+1.6**
	SNR=54							
ASHO				S		**Sn**	**17 07 38.5**	**-0.3**
IRAZ	**Razeghan**	**6.65**	**310**	Pn		**Pn**	**17 06 25.5**	**+1.4**
SRVN	**Saravan**	**6.66**	**124**	Pn		**Pn**	**17 06 25.0**	**+0.9**
ASUD	**Al Ashush, Dub**	**6.71**	**187**	*i* P		**Pn**	**17 06 26.2**	**+1.5**
	SNR=34							
ASUD	**Al Ashush, Dub**	**6.71**	**187**	P		**Pn**	**17 06 26.7**	**+2.0**
	SNR=33							
ASUD				P		**Pn**	**17 06 26.7**	**+2.0**
	SNR=33							
KLST	**Kelardasht - M**	**6.73**	**322**	Pn		**Pn**	**17 06 26.9**	**+1.6**
GEYT	**Alibeck**	**6.79**	**13**			**Pn**	**17 06 26.0**	**+0.2**
GEYT	**Alibeck**	**6.79**	**13**	Pn		**Pn**	**17 06 26.3**	**+0.5**
	comp=E,5.6nm,0.3s,baz=187,slow=10,SNR=155							
GEYT				Sn		**Sn**	**17 07 41.5**	**-1.7**
	comp=E,3.2nm,0.3s,baz=233,slow=30,SNR=2.3							
GEYT				Lg		Lg	17 08 21.9	
	comp=E,1.8nm,0.3s,baz=201,slow=11,SNR=2.0 comp=E,308nm,1.0s							
GYA0	**ALIBECK ARRAY**	**6.79**	**13**	P		**Pn**	**17 06 25.9**	**+0.1**
GYA0B	**ALIBECK ARRAY**	**6.79**	**13**			**Pn**	**17 06 25.9**	**+0.1**
AJN	**Ajban**	**6.81**	**189**	*i* P		**Pn**	**17 06 27.3**	**+1.2**
	SNR=35							
AJN	**Ajban**	**6.81**	**189**	P		**Pn**	**17 06 27.7**	**+1.6**
	SNR=51							
CHBR	**Chabahar**	**6.82**	**146**	*e*Pn		**Pn**	**17 06 26.3**	**0.0**
CHBR	**Chabahar**	**6.82**	**146**	Pn		**Pn**	**17 06 26.3**	**0.0**
HAGD	**Aghdareh**	**6.89**	**302**	Pn		**Pn**	**17 06 29.6**	**+2.2**
JRN	**Qarnain Island**	**7.01**	**206**	P		**Pn**	**17 06 29.6**	**+0.8**
	SNR=14							
JRN				S		**Sn**	**17 07 50.3**	**+1.6**
	SNR=5.5							
SHMA	**Al-Shehemyia**	**7.13**	**222**	P		**Pn**	**17 06 31.8**	**+1.4**
	SNR=30							
SHMA				S		**Sn**	**17 07 51.5**	**-0.2**
SOHO	**SOHO**	**7.16**	**178**	*i* P		**Pn**	**17 06 31.5**	**+0.7**
	SNR=26							
SOHO	**SOHO**	**7.16**	**178**	P		**Pn**	**17 06 32.4**	**+1.5**
SOHO				P		**Pn**	**17 06 32.4**	**+1.5**
ALNE	**Al Ain**	**7.24**	**183**	*i* P		**Pn**	**17 06 32.5**	**+0.5**
	SNR=45							
ALNE	**Al Ain**	**7.24**	**183**	P		**Pn**	**17 06 33.4**	**+1.4**
	SNR=57							
ALNE				P		**Pn**	**17 06 33.4**	**+1.4**
	SNR=57							
SAKB	**Bahrain**	**7.29**	**225**	P		**Pn**	**17 06 34.8**	**+2.2**
SAKB				S		**Sn**	**17 07 53.9**	**-1.7**
NGCH	**Negor - Chabah**	**7.35**	**143**	Pn		**Pn**	**17 06 34.2**	**+0.8**
IKFM	**Kafar-mosalman**	**7.41**	**290**	Pn		**Pn**	**17 06 34.9**	**+0.6**
JIR1	**Jirandeh**	**7.57**	**317**	Pn		**Pn**	**17 06 38.0**	**+1.4**
IALM	**Almabolaq**	**7.62**	**300**	Pn		**Pn**	**17 06 41.0**	**+3.5**
GIDE	**GILAN DEYLAMAN**	**7.65**	**319**	*e*Pn		**Pn**	**17 06 39.8**	**+1.9**
IBZA	**Bozab**	**7.70**	**296**	Pn		**Pn**	**17 06 38.8**	**+0.4**
HOQ	**Hoqain**	**7.76**	**173**	P		**Pn**	**17 06 39.0**	**-0.2**
	SNR=13							
HOQ				P		**Pn**	**17 06 39.0**	**-0.2**
	SNR=13							
HOQ	**Hoqain**	**7.76**	**173**	Pn		**Pn**	**17 06 38.6**	**-0.6**
QSDN	**Sirdan**	**7.81**	**313**	Pn		**Pn**	**17 06 40.7**	**+0.7**
IKOM	**Komasi**	**7.87**	**294**	Pn		**Pn**	**17 06 40.3**	**-0.4**
TRNA	**Turayna**	**7.90**	**215**	P		**Pn**	**17 06 41.1**	**0.0**
	SNR=50							
BIDO	**Bidbid**	**7.95**	**167**	P		**Pn**	**17 06 41.1**	**-0.6**
	SNR=34							
BIDO				P		**Pn**	**17 06 41.1**	**-0.6**
	SNR=34							
ARQ	**Araqi**	**7.95**	**178**	P		**Pn**	**17 06 43.5**	**+1.7**
	SNR=32							
SMRA	**Abu-Samra**	**8.09**	**217**	P		**Pn**	**17 06 44.1**	**+0.5**
	SNR=34							
SMRA				S		**Sn**	**17 08 14.2**	**-1.2**
ZNJK	**Zanjan**	**8.22**	**313**	*e*Pn		**Pn**	**17 06 47.1**	**+1.4**
KCHF	**Cheshme Sefid,**	**8.27**	**293**	Pn		**Pn**	**17 06 47.3**	**+1.0**
WSAR	**Wadi Sarin**	**8.32**	**164**	P		**Pn**	**17 06 47.5**	**+0.6**
	SNR=135							
WSAR	**Wadi Sarin**	**8.32**	**164**	Pn		**Pn**	**17 06 47.2**	**+0.3**
	comp=E,23nm,0.3s,baz=14,slow=15,SNR=213							
WSAR				Sn		**Sn**	**17 08 17.5**	**-3.7**
	comp=E,3.7nm,0.3s,baz=238,slow=18,SNR=1.4							
WSAR				LR		LR	17 11 11.2	
	comp=E,3μm,18.7s,baz=0.5,slow=46 comp=E,322nm,0.8s							
SNGE	**Sanandaj**	**8.33**	**299**	*e*Pn		**Pn**	**17 06 47.8**	**+0.7**
SMDO	**Samad**	**8.38**	**168**	P		**Pn**	**17 06 48.1**	**+0.3**
	SNR=37							
SMDO				P		**Pn**	**17 06 48.1**	**+0.3**
	SNR=37							
SMDO				P		**Pn**	**17 06 48.1**	**+0.3**
	SNR=37							
ILIN	**Lien**	**8.55**	**297**	Pn		**Pn**	**17 06 50.9**	**+0.7**
CSN1	**Caspian**	**8.57**	**319**	Pn		**Pn**	**17 06 52.1**	**+1.9**
BSY	**Bisya**	**8.58**	**174**	P		**Pn**	**17 06 51.0**	**+0.6**
	SNR=22							
IGHG	**Ghaleghazi**	**8.65**	**293**	Pn		**Pn**	**17 06 51.4**	**-0.2**
ILBA	**Ilam Banvizeh**	**8.76**	**288**	*e*Pn		**Pn**	**17 06 52.1**	**-0.8**
ILBA	**Ilam Banvizeh**	**8.76**	**288**	Pn		**Pn**	**17 06 52.6**	**-0.3**
IDHR	**Dehrash**	**8.91**	**295**	Pn		**Pn**	**17 06 55.4**	**+0.2**
WBK	**Wadi Bani Khal**	**9.01**	**164**	P		**Pn**	**17 06 56.6**	**+0.3**
	SNR=24							
WBK				P		**Pn**	**17 06 56.6**	**+0.3**
	SNR=24							
WBK	**Wadi Bani Khal**	**9.01**	**164**	Pn		**Pn**	**17 06 56.2**	**-0.1**
JMDO	**Jabal Madar**	**9.07**	**169**	P		**Pn**	**17 06 58.2**	**+1.2**
	SNR=24							
JMDO				P		**Pn**	**17 06 58.2**	**+1.2**
	SNR=24							
GAS1	**Astara - Iran**	**9.30**	**321**	Pn		**Pn**	**17 07 00.9**	**+0.8**
KGS1	**Ghasr-e-Shirin**	**9.48**	**292**	Pn		**Pn**	**17 07 03.7**	**+1.0**
IHSH	**Hashtrud**	**9.51**	**311**	Pn		**Pn**	**17 07 04.3**	**+0.9**
JLN	**Jalan Bani Buh**	**9.56**	**162**	P		**Pn**	**17 07 04.0**	**+0.1**
	SNR=7.4							
LKRN	**Lenkeran, Azer**	**9.57**	**322**	P		**Pn**	**17 07 04.3**	**+0.4**
ISRB	**Sarab**	**9.58**	**315**	Pn		**Pn**	**17 07 05.9**	**+1.6**
GRMI	**Germi**	**10.11**	**320**	*e*Pn		**Pn**	**17 07 12.2**	**+0.7**
GRMI	**Germi**	**10.11**	**320**	Pn		**Pn**	**17 07 13.5**	**+2.0**
MAHB	**Mahabad**	**10.27**	**305**	Pn		**Pn**	**17 07 15.0**	**+1.3**
IHRS	**Heris**	**10.27**	**315**	Pn		**Pn**	**17 07 15.1**	**+1.3**
MHTO	**MHTO**	**10.40**	**171**	P		**Pn**	**17 07 16.1**	**+0.7**
	SNR=60							
IAZR	**Azarshahr**	**10.56**	**310**	Pn		**Pn**	**17 07 19.4**	**+1.7**
ITBZ	**Tabriz**	**10.77**	**313**	Pn		**Pn**	**17 07 21.3**	**+0.8**
ISHB	**Shabestar**	**11.14**	**311**	Pn		**Pn**	**17 07 22.2**	**+0.5**
KBL	**Kabul**	**11.25**	**70**	Pn		**Pn**	**17 07 28.3**	**+1.1**
KBL	**Kabul**	**11.25**	**70**	P		Pn	17 07 32.3	+5.1
	SNR=10							
KBL	**Kabul**	**11.25**	**70**	P		**Pn**	**17 07 28.3**	**+1.1**
IMRD	**Marand**	**11.34**	**313**	Pn		**Pn**	**17 07 31.4**	**+3.1**
NAX	**Nakhchivan**	**11.75**	**315**	P		**Pn**	**17 07 34.3**	**+0.4**
SEKA	**Sheki**	**12.26**	**326**	P		**Pn**	**17 07 40.5**	**-0.3**
MAKU	**Maku**	**12.36**	**314**	*e*Pn		**Pn**	**17 07 44.0**	**+1.7**
MAKU	**Maku**	**12.36**	**314**	Pn		**Pn**	**17 07 42.7**	**+0.4**
GNI	**Garni**	**12.82**	**317**	Pn		**Pn**	**17 07 49.4**	**+0.9**
GNI	**Garni**	**12.82**	**317**	*i* P		**Pn**	**17 07 48.7**	**+0.2**
GNI	**Garni**	**12.82**	**317**	Pn		Pn	17 07 54.3	+5.8
	comp=E,0.5nm,0.3s,baz=142,slow=9.1,SNR=15							
GNI				Lg		Lg	17 11 36.0	
	comp=E,0.4nm,0.3s,baz=13,slow=22,SNR=1.6							
GNI				LR		LR	17 13 17.3	
	comp=E,3μm,19.5s,baz=114,slow=40							
CHGR	**Chuyangaron**	**12.89**	**52**	Pn		**Pn**	**17 07 47.8**	**-1.7**
CHGR	**Chuyangaron**	**12.89**	**52**	P		**Pn**	**17 07 47.8**	**-1.7**
SHAO	**Shalim**	**13.24**	**182**	*i* P		**Pn**	**17 07 53.0**	**-1.3**
	SNR=5.7							
SHAO	**Shalim**	**13.24**	**182**	P		**Pn**	**17 07 52.6**	**-1.7**
	SNR=5.7							
WHFO	**Wadi Hawf**	**13.52**	**190**	P		**Pn**	**17 07 55.0**	**-3.0**
	SNR=31							
WHFO				P		P	17 07 55.0	-12
	SNR=50							
MAK	**Makhachkala**	**13.53**	**332**	*e*P		**Pn**	**17 07 55.4**	**-2.7**
MAK				*e*S		**Sn**	**17 10 25.1**	**-3.5**
MAK				pmax		pmax		
	comp=Z,285nm,1.3s							
MAK				MLR		MLR		
	comp=Z,3μm,18.0s							
DMTO	**DMTO**	**13.59**	**185**	P		**Pn**	**17 07 56.1**	**-2.8**
	SNR=6.5							
DMTO				P		**Pn**	**17 07 56.1**	**-2.8**
	SNR=6.5							
GURO	**Guroymak-BITLI**	**13.68**	**306**	Pn		**Pn**	**17 08 01.9**	**+1.6**
RBK	**Rabkut**	**13.87**	**188**	P		**Pn**	**17 08 00.0**	**-2.8**
	SNR=8.4							
KARS	**Kars**	**14.11**	**315**	P		**Pn**	**17 08 08.8**	**+2.7**
KARS	**Kars**	**14.11**	**315**	P		**Pn**	**17 08 08.9**	**+2.7**
ABTO	**Aybut**	**14.15**	**191**	P		**Pn**	**17 08 03.2**	**-3.5**
	SNR=15							
ABTO				P		**Pn**	**17 08 03.2**	**-3.5**
	SNR=15							
AKH	**Akhalkalaki**	**14.36**	**318**	Pn		**Pn**	**17 08 10.2**	**+0.6**
AKH	**Akhalkalaki**	**14.36**	**318**	P		**Pn**	**17 08 10.2**	**+0.6**
NIL	**Nilore**	**14.57**	**76**			**Pn**	**17 08 13.0**	**+0.6**
NIL	**Nilore**	**14.57**	**76**	P		**Pn**	**17 08 13.0**	**+0.6**
BTK	**Batken**	**14.72**	**50**			**Pn**	**17 08 11.9**	**-2.5**
BTK	**Batken**	**14.72**	**50**	P		**Pn**	**17 08 11.9**	**-2.5**
ZEI	**Tsey**	**15.07**	**323**	*e*P		**Pn**	**17 08 21.0**	**+1.7**
ZEI				pmax		pmax		
	comp=Z,75nm,1.4s							
ONI	**Oni**	**15.17**	**321**	P		**Pn**	**17 08 20.8**	**+0.4**
ONI	**Oni**	**15.17**	**321**	P		**Pn**	**17 08 20.8**	**+0.4**
ONI				pmax		pmax		
	comp=Z,64nm,1.5s							
CHM	**Chimkent**	**15.33**	**41**	*e*P		**Pn**	**17 08 20.7**	**-1.9**
	baz=40		

comp=Z,4µm,18.3s,baz=252,slow=41
comp=Z,54nm,1.1s
FRU1 Bishkek 18.60 47 P **P 17 09 01.4 -2.2**
FRU1 Bishkek 18.60 47 P **P 17 09 01.4 -2.2**
FRU1 pmax pmax
comp=Z,110nm,1.3s
KZA Kyzart 18.63 49 P **Pn 17 09 05.9 +1.4**
SNR=15
KBK Karagaybulak 18.72 48 P **P 17 09 04.6 -0.4**
SNR=32
USP Ospenovka 18.77 45 P **Pn 17 09 06.0 +0.1**
SNR=5.8
CHMS Chumysh 18.78 46 P **Pn 17 09 08.5 +2.5**
SNR=8.4
NRN Naryn 18.83 52 P **Pn 17 09 06.5 -0.3**
NRN Naryn 18.83 52 P **Pn 17 09 06.5 -0.3**
NRN pmax pmax
comp=Z,54nm,1.1s
SGDS Sogindy 18.95 45 *eP* **P 17 09 07.0 -0.4**
SGDS *eS* **Sn 17 12 40.2 -0.2**
baz=45
SGDS Sogindy 18.95 45 *eP* **P 17 09 07.0 -0.4**
SGDS *eS* **Sn 17 12 40.1 -0.3**
AKTO Aktyubinsk 19.15 4 P **P 17 09 09.5 0.0**
comp=Z,3.1nm,0.3s,baz=190,slow=12,SNR=96
AKTO S **S 17 12 49.8 +3.1**
comp=Z,7.2nm,1.1s,baz=324,slow=17,SNR=1.1
AKTO LR LR 17 17 58.9
comp=Z,5µm,18.1s,baz=184,slow=42
comp=Z,114nm,0.9s
TKM2 Tokmak 2 19.27 48 P **Pn 17 09 12.3 +0.3**
SNR=37
TKM2 Tokmak 2 19.27 48 *i* P **P 17 09 10.3 -0.8**
TKM2 pmax pmax
comp=Z,68nm,1.4s
CSS Mathiatis 19.50 287 IAmb IAmb 17 09 21.2
comp=Z,108nm,1.0s
BTLS Baital 19.55 40 *eP* **P 17 09 12.7 -1.2**
baz=40
BTLS Baital 19.55 40 *eP* **P 17 09 12.7 -1.2**
DIKM Dikmen 19.71 307 ⇑P **Pn 17 09 18.7 +1.6**
ANN Anapa 19.94 318 *eP* **Pn 17 09 19.2 -0.5**
ANN *eS* **Sn 17 13 08.1 +4.1**
ANN pmax pmax
comp=Z,156nm,1.1s
ANN MLR MLR
comp=Z,965nm,13.0s
BR131 Keskin Array S 20.16 301 P **P 17 09 21.2 +0.4**
BR131 IAmb IAmb 17 09 25.3
comp=Z,136nm,0.9s
BR131 Keskin Array S 20.16 301 *c i*P **P 17 09 20.9 +0.1**
BRTR Keskin Array B 20.16 301 P **P 17 09 21.7 +0.9**
comp=Z,64nm,0.8s,baz=115,slow=12,SNR=185
BRTR S **S 17 13 00.0 -7.4**
comp=Z,1.0nm,0.9s,baz=138,slow=13,SNR=0.7
BRTR LR LR 17 18 00.7
comp=Z,4µm,19.0s,baz=100,slow=39
comp=Z,64nm,0.8s
TARG Taragay, Kyrgy 20.18 53 P **P 17 09 19.8 -1.5**
TARG IAmb IAmb 17 09 28.6
comp=Z,79nm,1.1s
TARG Taragay, Kyrgy 20.18 53 P **P 17 09 19.8 -1.5**
TARG pmax pmax
comp=Z,79nm,1.1s
TNSS Tian-Shan 20.19 49 *eP* **P 17 09 20.9 -0.4**
baz=49
TNSS Tian-Shan 20.19 49 *eP* **P 17 09 20.9 -0.4**
KUU Kurty 20.23 46 *eP* **P 17 09 20.6 -0.9**
comp=Z,119nm,1.7s,baz=46
KUU *eS* **S 17 13 08.5 -0.1**
baz=46
KUU LR LR 17 17 01.3
comp=Z,2µm,10.4s,baz=46
KUU Kurty 20.23 46 *eP* **P 17 09 20.5 -0.9**
KUU *eS* **S 17 13 08.5 -0.1**
KUU pmax pmax
comp=Z,119nm,1.7s
KUU MLR MLR
comp=Z,2µm,10.0s
AAA Alma-Ata 20.25 48 *eP* **P 17 09 21.0 -0.6**
baz=48
AAA LR LR 17 16 56.5
comp=Z,2µm,10.3s,baz=48
AAA Alma-Ata 20.25 48 *eP* **P 17 09 21.0 -0.6**
AAA MLR MLR
comp=Z,2µm,10.0s
MDOK Medeo 20.31 49 *eP* **P 17 09 21.5 -0.9**
baz=48
MDOK *eS* **S 17 13 09.9 -0.5**
baz=48
MDOK LR LR 17 16 55.5
comp=Z,2µm,11.3s,baz=48
MDOK Medeo 20.31 49 P Pn 17 09 23.3 -1.1
CHKK Chushkaly 20.62 47 *eP* **P 17 09 24.8 -0.8**
baz=47
CHKK Chushkaly 20.62 47 *eP* **P 17 09 24.8 -0.8**
ANTO Ankara 20.83 301 ⇓P Pn 17 09 29.3 -1.1
ANTO Ankara 20.83 301 P **P 17 09 28.5 +0.5**
ANTO Ankara 20.83 301 P **P 17 09 29.2 +1.3**
BR231 Keskin MP Arra 20.83 301 P **P 17 09 28.2 +0.2**
OTUK Ortayu 20.89 31 P **P 17 09 27.5 -1.0**
SATY Saty 21.15 50 *eP* **P 17 09 31.1 -0.4**
comp=Z,123nm,2.1s,baz=50
SATY Saty 21.15 50 *eP* **P 17 09 31.0 -0.4**
SATY pmax pmax
comp=Z,123nm,2.1s
ZHN Zhinishke 21.21 50 *eP* **P 17 09 31.7 -0.4**
baz=50
ZHN Zhinishke 21.21 50 *eP* **P 17 09 31.6 -0.5**
ARXS Arharly 21.32 47 *eP* **P 17 09 32.7 -0.5**
KPKS Kokpek 21.51 49 *eP* **P 17 09 34.4 -0.9**
KPKS *eS* **S 17 13 33.2 -0.9**
baz=49
KPKS Kokpek 21.51 49 *eP* **P 17 09 34.4 -0.9**
KPKS *eS* **S 17 13 33.1 -0.9**
UZB Uzynbulak 21.59 50 *eP* **P 17 09 35.7 -0.5**
baz=50
UZB Uzynbulak 21.59 50 *eP* **P 17 09 35.7 -0.5**
SHLS Shalkode 21.89 51 *eP* **P 17 09 42.0 +2.6**
baz=51
SHLS Shalkode 21.89 51 *eP* **P 17 09 41.9 +2.6**
PDGK Podgornoye 21.98 50 P **P 17 09 41.5 +1.1**
BELG Belogornoye 21.98 346 *i* P **P 17 09 39.5 -0.6**
BELG pmax pmax
comp=Z,116nm,1.3s
BELG Belogornoye 21.98 346 P **P 17 09 39.5 -0.6**
comp=Z,331nm,1.1s,baz=346,slow=4.3,SNR=52
BELG S Sn 17 13 52.4 -0.7
comp=Z,18nm,1.0s,baz=148,slow=17,SNR=1.9
BELG LR LR 17 20 50.5
comp=Z,1µm,19.0s,baz=169,slow=44
comp=Z,331nm,1.1s
SIM Simferopol' 21.99 314 *eP* **P 17 09 40.6 +0.3**
SIM *eS* **S 17 13 39.7 -3.4**
SIM pmax pmax
comp=Z,127nm,0.8s
SIM smax smax
comp=N,575nm,17.1s
SIM MLR MLR
comp=Z,491nm,20.9s
TDK Taldyqorghan 22.07 45 *eP* **P 17 09 40.5 -0.8**
comp=Z,95nm,1.0s,baz=45
TDK LR LR 17 18 03.4
comp=Z,1µm,10.9s,baz=45
TDK Taldyqorghan 22.07 45 *eP* **P 17 09 40.5 -0.8**
TDK pmax pmax
comp=Z,95nm,1.0s
TDK MLR MLR
comp=Z,1µm,11.0s
ISP Isparta 22.09 294 P **P 17 09 41.8 +0.2**
ISP Isparta 22.09 294 *ce*P **P 17 09 42.9 +1.3**
ISP pmax pmax
comp=Z,448nm,2.5s
MDUB Mudurnu 22.17 301 P **P 17 09 42.3 -0.1**
BRZS Berezniki 22.36 29 *eP* **P 17 09 44.0 -0.2**
comp=Z,87nm,1.4s,baz=29
BRZS Berezniki 22.36 29 *eP* **P 17 09 44.0 -0.2**
BRZS pmax pmax
comp=Z,87nm,1.4s
ELL Elmali 22.43 291 P **P 17 09 44.4 -0.8**
ELL Elmali 22.43 291 P **P 17 09 44.4 -0.8**
ELL pmax pmax
comp=Z,362nm,0.8s
VRH Novokhopyorsk 22.58 336 *eP* **P 17 09 46.9 +0.3**
VRH pmax pmax
comp=Z,170nm,1.3s
ATD Arta Tunnel 23.25 215 P **P 17 09 54.4 +0.6**
ATD IAmb IAmb 17 10 10.6
comp=Z,69nm,1.1s
ATD Arta Tunnel 23.25 215 *eP* **P 17 09 51.0 -2.8**
ATD Arta Tunnel 23.25 215 *eP* **P 17 09 52.9 -0.9**
ATD *eS* Sn 17 14 21.6 -2.2
ATD Arta Tunnel 23.25 215 P **P 17 09 54.6 +0.8**
comp=Z,1.1nm,0.8s,baz=343,slow=2.0,SNR=7.5
ATD S **S 17 14 08.4 +2.0**
comp=Z,0.3nm,0.5s,baz=234,slow=22,SNR=1.7
ATD LR LR 17 20 18.3
comp=Z,93nm,20.6s,baz=28,slow=40
ATD Arta Tunnel 23.25 215 *eP* **P 17 09 51.0 -2.8**
ATD Arta Tunnel 23.25 215 *eP* **P 17 09 52.9 -0.9**
ATD *eS* Sn 17 14 21.6 -2.2
VORD Divnogorie 23.30 332 *eP* **P 17 09 53.7 -0.3**
VORD pmax pmax
comp=Z,120nm,1.5s
PYUN Piuthan 23.46 91 *eP* **P 17 09 55.5 -0.6**
comp=Z,150nm,1.2s
VSR Storozhevoye 23.55 333 *eP* **P 17 09 55.4 -1.1**
VSR pmax pmax
comp=Z,70nm,1.1s
VORR Voronezh 23.89 333 *eP* **P 17 10 00.4 +0.6**
VORR pmax pmax
comp=Z,46nm,0.4s
BRVK Borovoye 24.02 21 P **P 17 10 00.4 -0.7**
BRVK IAmb IAmb 17 10 04.0
comp=Z,111nm,1.3s
BRVK Borovoye 24.02 21 *i* P **P 17 10 00.3 -0.7**
BRVK pmax pmax
comp=Z,101nm,1.3s
BVA0 Borovoye Array 24.02 21 *i* P **P 17 09 59.9 -1.2**
BVAR Borovoye Array 24.02 21 P **P 17 10 00.8 -0.3**
comp=Z,97nm,1.1s,baz=202,slow=7.3,SNR=105
BVAR PcP **PcP 17 13 43.6 +0.9**
comp=Z,3.6nm,0.7s,baz=210,slow=2.1,SNR=2.4
BVAR S **S 17 14 19.9 +1.7**
comp=Z,1.6nm,0.8s,baz=116,slow=10,SNR=1.5
BVAR LR LR 17 20 36.6
comp=Z,4µm,18.9s,baz=214,slow=40
comp=Z,97nm,1.1s
DANN Dangsing 24.06 90 *eP* **P 17 10 01.8 -0.2**
comp=Z,296nm,1.1s
KOLN Koldanda 24.06 91 *eP* **P 17 10 01.1 -0.9**
comp=Z,572nm,2.3s
HYB Hyderabad 24.54 119 *eP* **P 17 10 07.0 +0.8**
HYB *epP* **pP 17 10 09.4 +0.3**
HYB *eS* **S 17 14 28.6 +1.3**
LPSR Galich'ya Gora 24.73 334 *eP* **P 17 10 06.7 -0.8**
LPSR pmax pmax
comp=Z,60nm,0.7s
GKN Gorkha 24.89 90 *eP* **P 17 10 09.6 +0.1**
comp=Z,81nm,1.0s
MAKZ Makanchi 25.14 45 P **P 17 10 10.5 -0.8**
MAKZ Makanchi 25.14 45 P **P 17 10 11.2 -0.1**
ARU Arti 25.16 3 P **P 17 10 11.5 +0.1**
ARU Arti 25.16 3 *d i*P **P 17 10 14.4 +3.0**
ARU 17 10 48.9
ARU 17 13 43.3
ARU S **S 17 14 42.5 +6.0**
ARU SS **SnSn 17 15 33.4 +7.2**
ARU pmax pmax
comp=Z,115nm,1.3s
ARU MLR MLR
comp=Z,1µm,16.0s
ARU Arti 25.16 3 LR LR 17 21 15.4
comp=Z,2µm,18.6s,baz=184,slow=39
DESE Dese 25.28 221 *eP* **P 17 10 10.1 -3.1**
DESE Dese 25.28 221 *eP* **P 17 10 13.6 +0.4**
DESE *eS* S 17 14 50.9 +11
DESE Dese 25.28 221 *eP* **P 17 10 10.1 -3.1**
DESE Dese 25.28 221 *eP* **P 17 10 13.6 +0.4**
DESE *eS* S 17 14 50.9 +11
MK31 Makanchi Array 25.32 45 *i* P **P 17 10 12.4 -0.6**
MK31 pmax pmax
comp=Z,102nm,0.9s
MKAR Makanchi Array 25.32 45 P **P 17 10 12.1 -0.8**
MKAR Makanchi Array 25.32 45 *i* P **P 17 10 12.6 -0.4**
MKAR pmax pmax
comp=Z,44nm,0.8s
MKAR Makanchi Array 25.32 45 P **P 17 10 12.7 -0.3**
comp=Z,44nm,0.8s,baz=228,slow=6.4,SNR=135
MKAR PcP **PcP 17 13 46.9 +1.1**
comp=Z,3.6nm,1.1s,baz=230,slow=0.9,SNR=1.6
MKAR S **S 17 14 45.2 +6.0**
comp=Z,0.9nm,0.8s,baz=269,slow=7.3,SNR=1.8
MKAR LR LR 17 20 06.9
comp=Z,824nm,19.7s,baz=256,slow=36
comp=Z,44nm,0.8s
DMN Daman 25.39 91 *eP* **P 17 10 14.0 -0.1**
TIRR Tirgusor 25.43 309 ⇑P **P 17 10 14.7 +0.7**
TIRR Tirgusor 25.43 309 P **P 17 10 14.6 +0.7**
KURBB Kurchatov Arra 25.44 34 P **P 17 10 13.0 -1.0**
KURBB Kurchatov Arra 25.44 34 P **P 17 10 13.3 -0.7**
comp=Z,26nm,1.0s,baz=234,slow=9.4,SNR=86
KURBB S **S 17 14 44.6 +3.5**
comp=Z,0.7nm,0.2s,baz=292,slow=10,SNR=1.3
KURBB LR LR 17 20 32.2
comp=Z,1µm,21.5s,baz=214,slow=37
comp=Z,26nm,1.0s
KKN Kakani 25.50 90 *eP* **P 17 10 14.2 -0.8**
comp=Z,230nm,1.5s
KURK Kurchatov 25.55 34 P **P 17 10 14.3 -0.6**
KURK IAmb IAmb 17 10 19.7
comp=Z,68nm,1.2s
KURK Kurchatov 25.55 34 *ce*P **P 17 10 14.9 -0.1**
KURK pmax pmax
comp=Z,55nm,1.0s
TPGR Topolog 25.57 310 ⇑P **P 17 10 15.7 +0.4**
PKIN Phulchoki 25.65 91 *eP* **P 17 10 16.2 -0.3**
comp=Z,160nm,1.1s
PKI Pulchoki 25.66 91 *eP* **P 17 10 16.4 -0.3**
comp=Z,255nm,1.4s
SVE Sverdlovsk 25.69 6 *eP* **P 17 10 18.1 +1.9**
SVE pmax pmax
comp=Z,169nm,1.4s
SVE MLR MLR
comp=Z,3µm,15.0s
HARR Harsova 25.83 309 ⇑P **P 17 10 18.4 +0.8**
HARR Harsova 25.83 309 P **P 17 10 18.4 +0.8**
CFR Carcaliu 25.88 310 ⇓P **P 17 10 18.2 +0.2**
CFR Carcaliu 25.88 310 P **P 17 10 18.2 +0.2**
APE Apeiranthos 25.95 291 ⇑P **P 17 10 17.4 -1.5**
APE Apeiranthos 25.95 291 P **P 17 10 17.3 -1.5**
GUN Gumba 25.98 90 *eP* **P 17 10 20.4 +0.9**
comp=Z,171nm,1.0s
VLDR Vladesti 26.18 312 ⇑P **P 17 10 21.9 +1.2**
MILM Milestii Mici 26.18 314 ⇑*i*P **P 17 10 20.6 -0.1**
comp=Z,470nm,2.4s
MILM Milestii Mici 26.18 314 *c i*P **P 17 10 20.6 -0.1**
MILM *e* 17 10 56.0
MILM *eS* **S 17 14 54.0 +1.2**
MILM *eSS* SnSn 17 16 18.0 +27
MILM pmax pmax
comp=Z,470nm,2.4s
MILM smax smax
comp=E,2µm,8.5s
KIS Kishinev 26.21 315 *eP* **P 17 10 21.6 +0.6**
comp=E,160nm,4.9s
KIS *eS* **S 17 14 56.0 +2.7**
comp=E,1µm,6.9s
KIS *eSS* SnSn 17 16 13.0 +21
KIS *eL* L 17 20 28.0
KIS LRM MLR 17 24 17.0
comp=E,400nm,16.0s
KIS Kishinev 26.21 315 *eP* **P 17 10 21.6 +0.6**
KIS *eS* **S 17 14 56.0 +2.7**
KIS *eSS* SnSn 17 16 13.0 +21
KIS pmax pmax
comp=Z,160nm,4.9s
KIS smax smax
comp=E,1µm,6.9s
KIS MLR MLR
comp=Z,400nm,16.0s
JIRN Jiri 26.31 90 *eP* **P 17 10 23.5 +0.9**
comp=Z,190nm,1.3s
IDI Anoyia 26.42 287 LR LR 17 23 03.9
comp=Z,449nm,20.1s,baz=82,slow=42
ELND Elena 26.68 304 ⇓P **P 17 10 25.5 +0.2**
VASR Vaslui 26.69 313 ⇑P **P 17 10 26.3 +1.0**
GHRR 26.69 312 ⇑P **P 17 10 26.6 +1.2**
RAMN Ramite 26.85 92 *eP* **P 17 10 26.6 -0.7**
comp=Z,47nm,0.8s
ISR Istrita 26.91 309 ⇓P **P 17 10 28.7 +1.3**
ISR Istrita 26.91 309 P **P 17 10 28.7 +1.3**
VRI Vrincioaia 27.06 311 ⇑P **P 17 10 30.3 +1.5**
VRI Vrincioaia 27.06 311 P **P 17 10 30.2 +1.5**
PLOR Plostina 27.10 311 ⇑P **P 17 10 31.0 +1.8**
PLOR Plostina 27.10 311 P **P 17 10 30.9 +1.8**
ZSN Zaisan 27.18 45 *eP* **P 17 10 29.3 -0.6**
baz=45
ZSN Zaisan 27.18 45 *eP* **P 17 10 29.2 -0.6**
TESR Tescani 27.36 312 ⇑P **P 17 10 32.4 +1.0**
COVR Voineasa-Covas 27.39 311 ⇑P **P 17 10 33.1 +1.4**
MLR Muntele Rosu 27.43 310 ⇓P **P 17 10 34.2 +2.0**
MLR Muntele Rosu 27.43 310 IAmb IAmb 17 10 59.3
comp=Z,80nm,1.1s
MLR Muntele Rosu 27.43 310 P **P 17 10 34.2 +2.0**
MLR Muntele Rosu 27.43 310 P **P 17 10 33.8 +1.6**
comp=Z,40nm,1.0s,baz=44,slow=3.6,SNR=30
MLR S **S 17 15 20.9 +8.0**
comp=Z,0.8nm,0.3s,baz=61,slow=20,SNR=1.0
comp=Z,40nm,1.0s
ODAN Odare 27.55 91 *eP* **P 17 10 32.0 -1.6**
comp=Z,315nm,2.5s
OBN Obninsk 27.57 335 P **P 17 10 32.5 -0.7**
OBN Obninsk 27.57 335 *ce*P **P 17 10 33.3 +0.1**
OBN *i* *PP **sP 17 10 37.7 +0.4**
OBN *e* 17 11 24.3
OBN *e*PPP PPP 17 11 34.2
OBN 17 13 53.0
OBN *eS* **S 17 15 21.6 +7.0**
OBN SS **SnSn 17 16 27.0 +1.9**
OBN SSS SSS 17 16 47.0
OBN pmax pmax
comp=Z,123nm,1.7s
OBN MLR MLR
comp=Z,610nm,18.0s
OBN Obninsk 27.57 335 P **P 17 10 32.9 -0.3**
comp=Z,24nm,0.7s,baz=144,slow=15,SNR=8.5
OBN LR LR 17 23 15.2
comp=Z,559nm,18.5s,baz=154,slow=40
comp=Z,24nm,0.7s
TURR Turia 27.59 311 ⇑P **P 17 10 35.3 +1.8**
FURI Furi 27.64 220 *eP* P 17 10 20.7 -14
FURI Furi 27.64 220 *eP* **P 17 10 32.1 -2.4**
FURI *eS* S 17 15 28.6 +12
FURI Furi 27.64 220 *eP* P 17 10 20.7 -14
FURI Furi 27.64 220 *eP* **P 17 10 32.1 -2.4**
FURI *eS* S 17 15 28.6 +12
KIRV Kirov 27.66 352 P **P 17 10 33.8 -0.2**
comp=Z,25nm,0.8s,baz=173,slow=12,SNR=22
KIRV LR LR 17 23 32.5
comp=Z,871nm,19.3s,baz=166,slow=41
comp=Z,25nm,0.8s
TAPN Taplejung 27.69 90 *eP* **P 17 10 34.5 -0.4**
comp=Z,38nm,1.0s
MOS Moscow 27.71 337 *eP* **P 17 10 33.7 -0.7**
MOS *eS* **S 17 15 13.7 -3.0**
MOS pmax pmax
comp=Z,84nm,1.4s
MOS MLR MLR
comp=Z,800nm,16.0s
WMQ Urumqi 27.73 54 *eP* **P 17 10 34.5 -0.3**
WMQ pP sP 17 10 41.6 +2.7
WMQ PP **PnPn 17 11 25.6 +5.2**
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ LR LR
comp=Z,6µm,10.9s
WMQ LR LR
comp=Z,2µm,18.7s
WMQ LR LR
comp=Z,2µm,26.1s
AKASG Malin Array Be 27.86 322 P **P 17 10 35.8 0.0**
comp=Z,19nm,0.9s,baz=126,slow=8.1,SNR=40
AKASG PcP **PcP 17 13 52.5 +1.0**
comp=Z,1.6nm,0.7s,baz=93,slow=2.4,SNR=2.4
AKASG S **S 17 15 22.1 +3.0**
comp=Z,0.2nm,0.4s,baz=93,slow=15,SNR=1.0
AKASG LR LR 17 24 40.7
comp=Z,786nm,19.2s,baz=110,slow=43
comp=Z,19nm,0.9s
AKBB Malin Array Si 27.86 322 IAmb IAmb 17 10 40.1
comp=Z,52nm,0.9s
KIEV Kiev 27.86 322 P **P 17 10 35.3 -0.5**
KIEV IAmb IAmb 17 10 40.1
comp=Z,50nm,1.0s
KIEV Kiev 27.86 322 P **P 17 10 35.3 -0.5**
KIEV pmax pmax
comp=Z,50nm,1.0s
DOPR Dopca 27.96 310 ⇑P **P 17 10 37.5 +0.7**
VOIR 28.00 309 ⇓P **P 17 10 38.4 +1.1**
VOIR 28.00 309 P **P 17 10 38.4 +1.1**
BURAR Bucovina Array 28.69 313 ⇑P **P 17 10 44.1 +0.6**
BURAR Bucovina Array 28.69 313 P **P 17 10 44.0 +0.6**
BUR08 Bucovina Ar. S 28.71 314 IAmb IAmb 17 10 49.4
comp=Z,26nm,1.0s
VAY Valandovo 28.73 300 *i* P **P 17 10 43.4 -0.3**
LOT Lotru 28.86 309 ⇓P **P 17 10 45.4 +0.4**
STIP Stip 29.08 300 *i* P **P 17 10 45.5 -1.3**
CJR Cluj-Napoca 29.39 311 ⇑P **P 17 10 51.2 +1.7**
CJR Cluj-Napoca 29.39 311 P **P 17 10 51.2 +1.7**
GZR Gura Zlata 29.51 308 ⇓P **P 17 10 51.3 +0.6**
HERR Herculane 29.61 307 ⇑P **P 17 10 51.8 +0.3**
SKO Skopje 29.68 301 *i* P **P 17 10 52.1 0.0**
MARR Marisel-Cluj 29.68 311 ⇑P **P 17 10 53.3 +1.0**
DGZ Jazzator, Alta 29.71 43 *i* P **P 17 10 52.2 -0.3**
DGZ pmax pmax
comp=Z,21nm,0.9s
BOVS Bovan 29.81 304 ⇑P **P 17 10 52.8 -0.5**
MESR Meseseni 29.95 311 ⇓P **P 17 10 56.1 +1.6**
OHR Ohrid 30.02 299 *i* P **P 17 10 56.5 +1.2**
SURR Surduc 30.06 308 ⇑P **P 17 10 56.2 +0.9**
MDVR Moldovita 30.07 306 ⇑P **P 17 10 56.0 +0.4**
BZS Buzias 30.36 308 ⇑P **P 17 10 58.4 +0.3**
BZS Buzias 30.36 308 P **P 17 10 58.3 +0.3**
SIRR Siria 30.52 309 ⇑P **P 17 11 00.6 +1.2**
ZAA0 Zalesovo Array 30.54 34 IAmb IAmb 17 11 01.6
comp=Z,43nm,1.1s
ZALV Zalesovo Beam 30.54 34 P **P 17 10 58.2 -1.3**
comp=Z,24nm,0.8s,baz=242,slow=8.4,SNR=66
ZALV PcP **PcP 17 13 58.8 +0.5**
comp=Z,2.7nm,0.8s,baz=241,slow=8.1,SNR=1.8
ZALV LR LR 17 24 21.7
comp=Z,911nm,19.4s,baz=230,slow=39
comp=Z,24nm,0.8s
MNK Minsk 30.74 327 *i* P **P 17 10 57.3 -4.1**
comp=E,5.0nm,1.1s
MNK *i* P **P 17 10 57.3 -4.1**
comp=N,18nm,1.4s
MNK *i* P **P 17 10 57.3 -4.1**
comp=Z,19nm,1.0s,baz=127
MNK *i* PP **PnPn 17 11 52.6 -8.3**
MNK *i* S **S 17 15 59.9 -4.5**
MNK *i* SS **SnSn 17 17 50.1 +7.9**
MNK *i* LQ LQ 17 20 59.6
MNK *i* LR LR 17 23 20.3
MNK *i* LRM MLR 17 24 32.2
comp=E,165nm,19.5s
MNK *i* LRM MLR 17 25 02.3
comp=N,315nm,16.9s
MNK *i* LRM MLR 17 25 10.6
comp=Z,835nm,27.9s
MNK Minsk 30.74 327 *i* P **P 17 10 57.2 -4.1**
MNK *i* S **S 17 15 59.8 -4.5**
MNK *i* SS **SnSn 17 17 50.0 +7.9**
MNK pmax pmax
comp=N,18nm,1.4s
MNK pmax pmax
comp=E,5.0nm,1.1s
MNK pmax pmax
comp=Z,19nm,1.0s
MNK MLR MLR
comp=E,165nm,19.0s
MNK MLR MLR
comp=N,315nm,17.0s
MNK MLR MLR
comp=Z,835nm,28.0s
TIR Tirane 30.75 299 ⇑P **P 17 11 01.2 -0.4**
TIR Tirane 30.75 299 P **P 17 11 01.2 -0.4**
KOLS Kolonicke sedl 31.02 314 *eP* **P 17 11 05.6 +1.7**
KOLS Kolonicke sedl 31.02 314 *eP* **P 17 11 05.6 +1.7**
KOLS pmax pmax
comp=Z,179nm,0.8s
PRGR Permogore 31.11 350 *eP* P 17 10 58.2 -6.3
PRGR pmax pmax

NACGM **Naroch** 31.49 327 *e*P P 17 11 13.0 +5.1
comp=Z,26nm,0.9s,baz=127
CRVS Cervenica-Dubn 31.50 314 *e*P **P 17 11 09.9 +1.7**
CRVS Cervenica-Dubn 31.50 314 *e*P **P 17 11 09.9 +1.7**
CRVS pmax pmax
comp=Z,46nm,1.0s
KLMR Klimovskoe 31.54 344 *e*P **P 17 11 06.8 -1.5**
KLMR AMP 17 11 11.7
comp=Z,64nm,1.6s
KLMR *e*PP **PnPn 17 12 07.5 -3.8**
KLMR LQ LQ 17 23 09.7
KLMR LQ LQ 17 23 09.7
KLMR LR LR 17 23 40.5
KLMR AMP 17 27 42.6
comp=Z,2µm,15.0s
KLMR Klimovskoe 31.54 344 *e*P **P 17 11 06.8 -1.5**
KLMR *e* 17 12 07.4
KLMR pmax pmax
comp=Z,64nm,1.6s
KLMR MLR MLR
comp=Z,2µm,15.0s
SHL Shillong 31.79 91 P **P 17 11 08.7 -2.4**
SHL Shillong 31.79 91 P **P 17 11 08.7 -2.4**
SHL pmax pmax
comp=Z,11nm,1.0s
KECS Kecovo 31.96 313 *e*P **P 17 11 13.8 +1.6**
KECS Kecovo 31.96 313 *e*P **P 17 11 13.8 +1.6**
KECS pmax pmax
comp=Z,27nm,1.2s
PSZ Piszkesteto 32.16 312 ⇑P **P 17 11 14.7 +0.7**
PSZ Piszkesteto 32.16 312 P **P 17 11 14.5 +0.5**
PSZ IAmb IAmb 17 11 19.6
comp=Z,28nm,1.0s
PSZ Piszkesteto 32.16 312 P **P 17 11 14.7 +0.7**
ISAL Salakas 32.19 328 *e*P **P 17 11 14.6 +0.5**
GOMU GeErMu 32.32 71 P **P 17 11 18.3 +2.4**
GOMU pP sP 17 11 21.8 +1.8
GOMU sP pP 17 11 24.6 +5.7
GOMU S **S 17 16 36.8 +6.6**
GOMU pmax pmax
comp=Z,6.0nm,0.6s
GOMU LR LR
comp=Z,2µm,16.9s
GOMU LR LR
comp=Z,500nm,16.3s
GOMU LR LR
comp=Z,800nm,16.3s
MORH Mrgy, Hungar 32.52 308 ⇑P **P 17 11 17.2 +0.2**
SUW Suwalki 32.76 324 *e*P **P 17 11 19.9 +0.8**
SUW Suwalki 32.76 324 P **P 17 11 18.4 -0.7**
SUW Suwalki 32.76 324 *e*P **P 17 11 19.7 +0.6**
SUW Suwalki 32.76 324 P **P 17 11 18.4 -0.7**
SUW pmax pmax
comp=Z,89nm,1.1s
OJC Ojcow 32.99 316 *e*P **P 17 11 22.1 +1.0**
VYHS Vyhne 33.01 312 *e*P **P 17 11 22.2 +0.8**
VYHS Vyhne 33.01 312 *e*P **P 17 11 22.2 +0.8**
VYHS pmax pmax
comp=Z,27nm,1.0s
PALK Pallekele 33.10 131 LR LR 17 25 57.2
comp=Z,933nm,21.9s,baz=63,slow=38
SRO Srobarova 33.15 311 *e*P **P 17 11 23.7 +1.1**
SRO Srobarova 33.15 311 *e*P **P 17 11 23.7 +1.1**
SRO pmax pmax
comp=Z,37nm,1.0s
PABE Paberze 33.16 326 *e*P **P 17 11 23.4 +0.8**
CUC Castrocucco 33.71 296 IAmb IAmb 17 11 33.1
comp=Z,20nm,0.9s
VSU Vasula 33.74 332 *e*P **P 17 11 28.0 +0.4**
VSU Vasula 33.74 332 *ce*P **P 17 11 27.7 +0.2**
VSU pmax pmax
comp=Z,82nm,1.7s
JAVC Velka Javorina 33.85 312 *e*P **P 17 11 29.9 +1.1**
MAUC Maruska 33.91 313 *e*P **P 17 11 30.7 +1.5**
SMOL Smolenice 33.91 312 *e*P **P 17 11 29.9 +0.7**
SMOL pmax pmax
comp=Z,12nm,0.9s
MODS Modra-Piesok 33.97 311 *e*P **P 17 11 30.2 +0.4**
MODS Modra-Piesok 33.97 311 *e*P **P 17 11 30.2 +0.4**
MODS pmax pmax
comp=Z,54nm,1.1s
LODK Lodwar 33.99 219 P **P 17 11 32.2 +1.9**
LODK Lodwar 33.99 219 *e*P **P 17 11 26.8 -3.5**
LODK Lodwar 33.99 219 *e*P **P 17 11 26.8 -3.5**
ZST Bratislava 34.03 311 *e*P **P 17 11 32.6 +2.3**
ZST Bratislava 34.03 311 *e*P **P 17 11 32.6 +2.3**
KOGS Kog 34.19 308 *i*P **P 17 11 31.6 -0.1**
MORC Moravsky Berou 34.21 314 ⇓P **P 17 11 32.1 +0.2**
MORC Moravsky Berou 34.21 314 IAmb IAmb 17 11 37.1
comp=Z,25nm,0.9s
MORC Moravsky Berou 34.21 314 *e*P **P 17 11 31.9 0.0**
MORC Moravsky Berou 34.21 314 P **P 17 11 32.0 +0.2**
RONA Rosalia, Austr 34.44 310 *i*P **P 17 11 33.8 0.0**
comp=Z,46nm,1.1s,SNR=17
CRES Cresnjev 34.61 307 *i*P **P 17 11 35.2 -0.1**
VRAC Vranov 34.66 313 ⇑P **P 17 11 37.0 +1.3**
VRAC Vranov 34.66 313 *e*P **P 17 11 36.1 +0.4**
VRAC Vranov 34.66 313 P **P 17 11 37.0 +1.3**
VRAC Vranov 34.66 313 P **P 17 11 35.9 +0.1**
comp=Z,22nm,0.9s,baz=104,slow=8.6,SNR=18
VRAC S S 17 16 55.2 -10
comp=Z,1.0nm,0.4s,baz=346,slow=12,SNR=1.3
VRAC LR LR 17 28 32.3
comp=Z,568nm,19.5s,baz=92,slow=41
comp=Z,22nm,0.9s
KRUC Moravsky 34.72 312 *e*P **P 17 11 36.5 +0.3**
KRLC Kraliky 34.77 314 *e*P **P 17 11 37.6 +0.9**
KRLC Kraliky 34.77 314 *e*P **P 17 11 37.6 +0.9**
CONA Conrad Observa 34.77 310 *i*P **P 17 11 36.8 0.0**
comp=Z,19nm,1.0s,SNR=14
VAE Valguarnera 34.82 292 LR LR 17 27 41.7
comp=Z,504nm,18.9s,baz=126,slow=40
ARSA Arzberg 34.84 309 *i*P **P 17 11 37.7 +0.4**
comp=Z,17nm,0.8s,SNR=9.6
SOKA Soboth 35.06 308 *e*P **P 17 11 39.1 -0.1**
comp=Z,8.1nm,1.0s
DPC Dobruska-Polom 35.13 314 *e*P **P 17 11 41.0 +1.2**
DPC Dobruska-Polom 35.13 314 *e*P **P 17 11 41.0 +1.2**
VNDS Vrh nad Dolski 35.17 307 *i*P **P 17 11 40.3 +0.1**
INTR Introdacqua 35.26 300 IAmb IAmb 17 11 51.1
comp=Z,20nm,0.9s
OSTC Ostas 35.26 315 *e*P **P 17 11 41.2 +0.3**
OSTC Ostas 35.26 315 *e*P **P 17 11 41.2 +0.3**
KSP Ksiaz 35.30 315 *e*P **P 17 11 42.4 +1.1**
OBKA Obir 35.35 307 *e*P **P 17 11 41.7 -0.1**
comp=Z,14nm,1.1s
TREC Trest 35.36 312 *e*P **P 17 11 46.0 +4.3**
CHVC Chvalec 35.37 315 *e*P **P 17 11 42.3 +0.5**
CHVC Chvalec 35.37 315 *e*P **P 17 11 42.3 +0.5**
UPC Upice 35.37 315 *e*P **P 17 11 43.1 +1.3**
UPC Upice 35.37 315 *e*P **P 17 11 43.1 +1.3**
GUMA Gualdo di Mace 35.76 301 IAmb IAmb 17 11 49.9
comp=Z,76nm,0.9s
MEF Metsahovi 35.79 333 *e*P **P 17 11 45.7 +0.5**
MOA Molln 35.80 310 *i*P **P 17 11 45.7 +0.1**
comp=Z,39nm,1.0s,SNR=16
SABO M.te Sabotino 35.91 306 IAmb IAmb 17 11 54.5
comp=Z,165nm,2.0s
GOPC GO Pecny, Ondr 35.96 313 *e*P **P 17 11 47.5 +0.6**
GOPC AMS AMS 17 28 30.0
comp=Z,1µm,20.0s
GOPC GO Pecny, Ondr 35.96 313 *e*P **P 17 11 47.5 +0.6**
GOPC MLR MLR
comp=Z,1µm,20.0s
FINES FINESS Array B 35.98 336 P **P 17 11 46.5 -0.4**
comp=Z,7.0nm,0.8s,baz=145,slow=7.8,SNR=12
FINES PcP **PcP 17 14 14.1 +0.8**
comp=Z,13nm,1.0s,baz=106,slow=4.9,SNR=2.4
FINES LR LR 17 28 19.1
comp=Z,642nm,20.6s,baz=139,slow=39
comp=Z,7.0nm,0.8s
CKRC Cesky Krumlov 35.99 311 *e*P **P 17 11 47.5 +0.3**
CKRC AMS AMS 17 28 50.0
comp=Z,600nm,22.0s
CKRC Cesky Krumlov 35.99 311 *e*P **P 17 11 47.5 +0.3**
CKRC MLR MLR
comp=Z,600nm,22.0s
MYKA Terra Mystica 35.99 308 *e*P **P 17 11 47.3 0.0**
comp=Z,7.8nm,1.0s
PRED Cave del Predi 36.01 307 IAmb IAmb 17 11 50.7
comp=Z,45nm,1.0s
PRU Pruhonice 36.13 313 *e*P **P 17 11 48.8 +0.5**
PRU AMS AMS 17 28 40.0
comp=Z,900nm,19.0s
PRU Pruhonice 36.13 313 *e*P **P 17 11 48.8 +0.5**
PRU MLR MLR
comp=Z,900nm,19.0s
GTA Gaotai 36.18 65 *e*P **P 17 11 49.8 +0.7**
GTA sP sP 17 12 00.8 +7.6
GTA S **S 17 17 32.3 +2.9**
GTA sS sS 17 17 36.8 +2.6
GTA pmax pmax
comp=Z,38nm,1.4s
GTA LR LR
comp=Z,620nm,15.6s
GTA LR LR
comp=Z,1µm,17.8s
GTA LR LR
comp=Z,1µm,18.2s
BIOA Bad Ischl, Aus 36.19 309 *i*P **P 17 11 49.0 +0.1**
comp=Z,26nm,1.0s,SNR=17
ZVC Zvikov 36.21 312 *e*P **P 17 11 49.6 +0.5**
ZVC *ex* x 17 11 53.5
ZVC AMS AMS 17 30 30.0
comp=Z,800nm,14.6s
PRA Prague 36.22 313 AMS AMS 17 28 40.0
comp=Z,800nm,17.4s
KBA Koelnbreinsper 36.27 308 *e*P **P 17 11 50.4 +0.6**
comp=Z,31nm,0.8s
CESX Cesi 36.28 301 IAmb IAmb 17 11 50.5
comp=Z,38nm,0.9s
GEC2 GERESS Array S 36.39 311 *e*P **P 17 11 51.5 +0.9**
comp=Z,57nm,1.0s,baz=105,slow=8.5
GERES GERESS Array B 36.39 311 P **P 17 11 50.5 -0.1**
comp=Z,30nm,0.9s,baz=104,slow=8.3,SNR=82
GERES LR LR 17 30 23.1
comp=Z,630nm,18.9s,baz=118,slow=42
comp=Z,30nm,0.9s
CLUD Cludinico 36.48 307 IAmb IAmb 17 11 52.2
comp=Z,23nm,0.9s
KHC Kasperske Hory 36.53 312 *e*P **P 17 11 51.9 +0.1**
KHC *ex* x 17 12 04.0
KHC AMS AMS 17 29 30.0
comp=Z,600nm,15.9s
KHC Kasperske Hory 36.53 312 *ce*P **P 17 11 51.7 -0.1**
KHC pmax pmax
comp=Z,160nm,1.3s
STAL STALIGIAL 36.57 307 IAmb IAmb 17 11 56.2
comp=Z,39nm,0.9s
BRG Berggiesshubel 36.74 315 *i*P **P 17 11 54.7 +1.1**
BRG Amp 17 11 59.0
comp=Z,19nm,1.0s
BRG Berggiesshubel 36.74 315 *i*P **P 17 11 54.6 +1.1**
BRG pmax pmax
comp=Z,19nm,1.0s
BRG pmax pmax
comp=Z,7.0nm,0.8s
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG MLR MLR
comp=Z,753nm,17.0s
BRG MLR MLR
comp=N,833nm,17.3s
BRG MLR MLR
comp=E,613nm,18.2s
BRG Berggiesshubel 36.74 315 *e*P **P 17 11 54.6 +1.1**
comp=E,14nm,1.0s,baz=105,slow=8.5
BRG *ep*P **sP 17 11 58.1 +0.4**
baz=104,slow=8.8
RJOB Jochberg 36.75 309 *e*P **P 17 11 54.2 +0.4**
comp=E,41nm,1.1s,baz=105,slow=8.5
CIMO Cimolais 36.76 307 IAmb IAmb 17 11 57.5
comp=Z,26nm,0.9s
ABTA Abfaltersbach 36.77 307 *i*P **P 17 11 53.8 -0.2**
comp=Z,43nm,0.9s,SNR=14
LESA Schwarzleotal 36.78 309 *e*P **P 17 11 53.5 -0.5**
comp=Z,23nm,0.7s
KMBO Kilima Mbogo 36.95 213 P **P 17 11 57.3 +1.4**
KMBO Kilima Mbogo 36.95 213 P **P 17 11 57.3 +1.4**
KMBO pmax pmax
comp=Z,11nm,1.2s
KMBO Kilima Mbogo 36.95 213 P **P 17 11 56.8 +0.9**
comp=Z,3.2nm,0.8s,baz=27,slow=13,SNR=7.1
KMBO LR LR 17 29 05.5
comp=Z,1µm,19.2s,baz=36,slow=40
comp=Z,3.2nm,0.8s
HSKC Hora Svate Kat 36.98 314 *e*P **P 17 11 56.5 +0.9**
HSKC *ex* x 17 11 58.7
WET Wettzell 36.98 311 *e*P **P 17 11 56.2 +0.5**
comp=Z,36nm,1.0s,baz=105,slow=8.5
FBE Freiberg 37.11 314 *e*P **P 17 11 57.9 +1.2**
comp=Z,21nm,1.3s,baz=105,slow=8.5
FBE *ep*P **sP 17 12 01.5 +0.8**
baz=104,slow=8.8
TEOL Teolo 37.17 305 IAmb IAmb 17 12 01.4
comp=Z,58nm,1.0s
CTI Castel Tesino 37.27 306 IAmb IAmb 17 12 13.7
comp=Z,28nm,1.1s
RUE Ruedersdorf 37.30 317 *e*P **P 17 11 59.6 +1.5**
OSSC Osservatorio P 37.31 302 IAmb IAmb 17 12 03.3
comp=Z,28nm,1.0s
CLL Collm 37.42 315 IAmb IAmb 17 12 05.7
comp=Z,65nm,1.1s
CLL Collm 37.42 315 *i*P **P 17 12 00.3 +1.0**
comp=Z,48nm,1.1s
CLL *i*sP **sP 17 12 04.0 +0.5**
comp=Z,60nm,1.1s
CLL *i*x x 17 12 18.1
CLL *e*PP **PP 17 13 25.0 +0.4**
comp=Z,147nm,2.5s
CLL *e*PPP PPP 17 13 41.0
CLL *e*PPPP 17 13 49.0
CLL *e*S **S 17 17 50.0 +2.2**
CLL *e*SS **SnSn 17 20 12.0 -12**
CLL AMS AMS 17 28 00.0
comp=Z,600nm,21.7s
CLL Collm 37.42 315 *i*P **P 17 12 00.3 +1.0**
CLL *i* 17 12 04.0
CLL *e*S **S 17 17 50.0 +2.2**
CLL pmax pmax
comp=Z,48nm,1.1s
CLL MLR MLR
comp=Z,600nm,21.7s
CLL Collm 37.42 315 *e*P **P 17 12 00.9 +1.6**
comp=Z,48nm,1.1s,baz=105,slow=8.5
CLL *ep*P **sP 17 12 04.5 +1.0**
baz=104,slow=8.8
WTTA Wattenberg 37.45 308 *i*P **P 17 11 59.3 -0.5**
comp=Z,101nm,1.1s,SNR=32
NKC Novy Kostel 37.50 313 *e*P **P 17 12 01.0 +1.0**
NKC Novy Kostel 37.50 313 *e*P **P 17 12 01.0 +1.0**
WATA Walderalm 37.50 308 *i*P **P 17 11 59.4 -0.8**
comp=Z,74nm,1.0s,SNR=36
TANN Tannenbergstha 37.53 313 *e*P **P 17 12 01.1 +0.8**
comp=Z,5.4nm,1.0s,baz=105,slow=8.5
TANN *ep*P **pP 17 12 04.5 +1.2**
baz=104,slow=8.8
ROTZ Rotzenmuhle 37.54 312 *e*P **P 17 12 01.4 +1.1**
comp=Z,5.1nm,0.9s,baz=105,slow=8.5
WERN Wernitzgruen 37.55 313 *e*P **P 17 12 01.6 +1.0**
comp=Z,10nm,1.1s,baz=105,slow=8.5
BSD Bornholm Skovb 37.56 322 *e*P **P 17 12 00.1 -0.3**
BSD Bornholm Skovb 37.56 322 *i*P **P 17 11 59.0 -1.4**
BSD IAmb IAmb 17 12 00.2
comp=Z,47nm,0.8s
ZCCA Zocca 37.56 303 IAmb IAmb 17 12 10.6
comp=Z,33nm,0.8s
GUNZ Gunzen 37.60 313 *e*P **P 17 12 01.7 +0.8**
comp=Z,6.6nm,1.0s,baz=105,slow=8.5
GUNZ *ep*P **sP 17 12 05.3 +0.2**
baz=104,slow=8.8
WERD Werda 37.64 313 *e*P **P 17 12 01.8 +0.7**
comp=Z,6.3nm,1.0s,baz=105,slow=8.5
TNCH TengChong 37.65 89 P **P 17 12 03.3 +1.5**
TNCH pP pP 17 12 05.5 +0.6
TNCH sP sP 17 12 06.8 +0.9
TNCH PP **PnPn 17 13 30.0 +1.5**
TNCH S **S 17 17 54.4 +2.3**
TNCH pmax pmax
comp=Z,13nm,0.7s
TNCH pmax pmax
comp=Z,120nm,2.9s
TNCH LR LR
comp=Z,680nm,11.1s
TNCH LR LR
comp=Z,1µm,11.9s
TNCH LR LR
comp=Z,2µm,14.1s
MANZ Manzenberg 37.65 313 *e*P **P 17 12 02.5 +1.1**
comp=Z,1.5nm,1.0s,baz=105,slow=8.5
SQTA Sankt Quirin 37.73 308 *i*P **P 17 12 00.5 -1.6**
comp=Z,54nm,0.7s,SNR=27
PLN Plauen 37.74 313 *e*P **P 17 12 02.7 +0.7**
comp=Z,6.4nm,1.0s,baz=105,slow=8.5
PLN *ep*P **pP 17 12 06.0 +1.0**
baz=104,slow=8.8
MOTA Moosalm 37.82 308 *i*P **P 17 12 01.9 -1.0**
comp=Z,58nm,1.0s,SNR=40
FUR Furstenfeldbru 37.83 310 *e*P **P 17 12 03.1 +0.2**
comp=Z,51nm,1.1s,baz=105,slow=8.5
FUR *ep*P **pP 17 12 06.5 +0.7**
baz=104,slow=8.8
SALO Salr 38.00 305 IAmb IAmb 17 12 08.9
comp=Z,62nm,1.0s
FETA Feichten 38.02 308 *i*P **P 17 12 04.1 -0.6**
comp=Z,72nm,0.9s,SNR=60
RETA Reutte 38.07 308 *i*P **P 17 12 03.8 -1.1**
comp=Z,38nm,0.8s,SNR=23
MOX Moxa 38.11 314 *e*P **P 17 12 06.2 +1.0**
comp=Z,12nm,1.2s,baz=105,slow=8.5
MOX *e*L L 17 30 05.1
comp=Z,443nm,21.0s
NEUB Neuenburg 38.15 315 *e*P **P 17 12 06.8 +1.4**
comp=Z,24nm,0.9s,baz=105,slow=8.5
NEUB *ep*P **sP 17 12 10.2 +0.6**
baz=104,slow=8.8
GRA1 Grafenberg Arr 38.15 312 IAmb IAmb 17 12 10.9
comp=Z,58nm,1.0s
GRF Grafenberg Arr 38.15 312 *e*P **P 17 12 06.8 +1.2**
comp=Z,48nm,1.0s,baz=105,slow=8.5
GRF *e*L L 17 32 47.1
comp=Z,723nm,20.2s
GRFO Grafenberg 38.15 312 P **P 17 12 05.7 +0.2**
GRFO IAmb IAmb 17 12 10.9
comp=Z,53nm,1.0s
GRFO Grafenberg 38.15 312 P **P 17 12 05.7 +0.2**
GRFO pmax pmax
comp=Z,53nm,1.0s
MOY Mondy 38.47 45 *e*P **P 17 12 09.5 +1.2**
MOY pmax pmax
comp=Z,37nm,1.8s
LUNU Lund 38.53 322 *e*P **P 17 12 08.8 +0.2**
UBR Ueberruh 38.53 309 *e*P **P 17 12 08.7 -0.1**
comp=Z,79nm,0.9s,baz=105,slow=8.5
DAVOX Davos/Dischmat 38.57 307 P **P 17 12 08.6 -0.7**
comp=Z,36nm,0.7s,baz=118,slow=7.9
comp=Z,36nm,0.7s
MSSA Maissana 38.61 303 IAmb IAmb 17 12 09.1
comp=Z,32nm,0.8s
DEL Delary 38.62 323 *e*P **P 17 12 09.2 -0.1**
DEL Delary 38.62 323 *e*P **P 17 12 09.7 +0.3**
DAVA Damuels 38.63 308 *e*P **P 17 12 09.0 -0.8**
comp=Z,124nm,0.9s
VSL Villasalto 38.68 295 IAmb IAmb 17 12 14.6
comp=Z,52nm,1.0s
APA Apatity 38.71 346 ⇓*i*P **P 17 12 09.3 -0.6**
APA *i* 17 13 42.6
APA *i* 17 14 25.1
APA *i*S **S 17 18 05.0 -1.8**
APA MLR MLR
comp=Z,3µm,17.0s
LVZ Lovozero 38.75 347 P **P 17 12 10.7 +0.4**
LVZ Lovozero 38.75 347 *i*P **P 17 12 11.6 +1.3**
LVZ pmax pmax
comp=Z,125nm,2.4s
FLTG Flechtingen 38.75 316 *e*P **P 17 12 11.8 +1.3**
comp=Z,22nm,0.8s,baz=105,slow=8.5
FLTG *ep*P **sP 17 12 15.8 +1.2**
baz=104,slow=8.8
TUE Stuetta 38.90 307 IAmb IAmb 17 12 17.5
comp=Z,46nm,0.7s
KEST Kesra 39.03 289 P **P 17 12 14.7 +1.4**
comp=Z,18nm,1.0s,baz=3.3,slow=2.4,SNR=6.3
KEST LR LR 17 32 28.9
comp=Z,484nm,18.6s,baz=12,slow=43
comp=Z,18nm,1.0s
ASSE Asse, Remlinge 39.03 316 *e*P **P 17 12 14.6 +1.8**
comp=Z,12nm,1.0s,baz=105,slow=8.5
CLZ Clausthal 39.15 315 *e*P **P 17 12 15.9 +2.0**
comp=Z,47nm,1.0s,baz=105,slow=8.5
UBBA Unterbreizbach 39.15 314 *e*P **P 17 12 15.4 +1.6**
comp=Z,38nm,1.5s,baz=105,slow=8.5
STU Stuttgart 39.30 310 IAmb IAmb 17 12 15.7
comp=Z,31nm,1.0s
STU Stuttgart 39.30 310 *e*P **P 17 12 14.9 -0.3**
comp=Z,80nm,1.0s,baz=105,slow=8.5
GTTG Gottingen 39.33 315 *e*P **P 17 12 17.3 +1.9**
comp=Z,46nm,1.4s,baz=105,slow=8.5
NRDL Niedersach Rie 39.46 316 *e*P **P 17 12 18.5 +2.2**
comp=Z,72nm,1.8s,baz=105,slow=8.5
ZAK Zakamensk 39.60 47 *e*P **P 17 12 17.9 +0.1**
ZAK pmax pmax
comp=Z,14nm,1.1s
LZH Lanzhou 39.60 70 ⇑P **P 17 12 20.0 +1.9**
LZH pP sP 17 12 23.5 +1.3
LZH S **S 17 18 26.0 +4.6**
LZH pmax pmax
comp=Z,27nm,1.4s
LZH LR LR
comp=Z,1µm,12.4s
LZH LR LR
comp=Z,770nm,14.1s
LZH LR LR
comp=Z,840nm,12.0s
BSEG Bad Segeberg 39.71 318 *e*P **P 17 12 20.1 +1.6**
comp=Z,18nm,1.1s,baz=105,slow=8.5
BFO Black Forest 39.81 309 P **P 17 12 18.1 -1.3**
BFO Black Forest 39.81 309 P **P 17 12 18.1 -1.3**
BFO pmax pmax
comp=Z,22nm,1.2s
BFO Black Forest 39.81 309 *e*P **P 17 12 18.6 -0.8**
comp=Z,13nm,1.4s,baz=105,slow=8.5
MBAR Mbarara 39.89 222 P **P 17 12 19.7 -0.9**
MBAR Mbarara 39.89 222 *i*P **P 17 12 20.4 -0.2**
PZH PanZhiHua 39.93 85 P **P 17 12 21.3 +0.4**
PZH S **S 17 18 25.1 -1.3**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,300nm,6.3s
PZH LR LR
comp=Z,790nm,14.7s
PZH LR LR
comp=Z,830nm,16.9s
PZH LR LR
comp=Z,890nm,14.7s
TNS Taunus Mts 40.01 312 *e*P **P 17 12 22.7 +1.5**
comp=Z,72nm,1.0s,baz=105,slow=8.5
TNS *ep*P **sP 17 12 26.5 +1.2**
baz=104,slow=8.8
KASTN Kahler Asten 40.21 314 *e*P **P 17 12 24.4 +1.7**
comp=Z,24nm,1.0s,baz=105,slow=8.5
HFS Hagfors 40.23 328 P **P 17 12 22.2 -0.6**
comp=Z,8.6nm,0.8s,baz=145,slow=10,SNR=8.3
HFS LR LR 17 30 54.5
comp=Z,723nm,19.7s,baz=116,slow=39
comp=Z,8.6nm,0.8s
CHTO Chiang Mai 40.42 98 P **P 17 12 24.9 0.0**
CHTO IAmb IAmb 17 12 28.3
comp=Z,36nm,1.1s
CHTO Chiang Mai 40.42 98 P **P 17 12 24.9 0.0**
CHTO pmax pmax
comp=Z,36nm,1.1s
CD2 Chengdu 40.46 78 P **P 17 12 26.0 +0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 LR LR
comp=Z,650nm,8.1s
CD2 LR LR
comp=Z,610nm,8.3s
CD2 LR LR
comp=Z,2µm,15.3s
ECH Echery 40.57 309 IAmb IAmb 17 12 29.6
comp=Z,48nm,1.0s
CMAR Chiang Mai Arr 40.58 98 P **P 17 12 25.6 -0.6**
comp=Z,10nm,0.8s,baz=291,slow=8.3,SNR=50
CMAR PcP **PcP 17 14 29.1 +0.7**
comp=Z,3.4nm,0.8s,baz=286,slow=4.9,SNR=4.4
CMAR LR LR 17 30 48.2
comp=Z,799nm,20.6s,baz=295,slow=39
comp=Z,10nm,0.8s
BNI Bardonecchia 40.66 304 P **P 17 12 25.5 -1.3**
BNI Bardonecchia 40.66 304 P **P 17 12 25.5 -1.3**
BNI pmax pmax
comp=Z,94nm,0.9s
IBBN Ibbenburen 40.82 315 *e*P **P 17 12 29.4 +1.6**
comp=Z,43nm,1.4s,baz=105,slow=8.5

BUG Bochum--Univer 40.96 314 *e*P **P** **17 12 30.6 +1.7**
comp=Z,102nm,1.6s,baz=105,slow=8.5
CRAI Chiangrai 41.03 95 P **P** **17 12 29.9 0.0**
MUD Monsted U'grnd 41.06 322 *e*P **P** **17 12 30.9 +1.3**
KMI Kunming 41.22 87 ⇑P **P** **17 12 30.3 -1.4**
KMI S S 17 18 36.8 -9.1
KMI pmax pmax
comp=Z,23nm,0.9s
KMI pmax pmax
comp=Z,130nm,3.1s
KMI LR LR
comp=Z,1μm,21.5s
KMI LR LR
comp=Z,500nm,23.6s
KMI LR LR
comp=Z,920nm,15.5s
SONM Songino Array 41.29 52 P **P** **17 12 32.7 +0.9**
SONM Songino Array 41.29 52 P **P** **17 12 32.7 +0.9**
SONM pmax pmax
comp=Z,28nm,1.3s
SONM Songino Array 41.29 52 P **P** **17 12 31.5 -0.3**
comp=Z,16nm,1.1s,baz=266,slow=7.2,SNR=49
SONM PcP **PcP** **17 14 31.5 +1.1**
comp=Z,2.9nm,0.9s,baz=252,slow=2.9,SNR=2.6
SONM LR LR 17 30 42.4
comp=Z,1μm,18.3s,baz=266,slow=38
comp=Z,16nm,1.1s
WLF Walferdange 41.40 311 P **P** **17 12 32.4 -0.1**
WLF IAmb IAmb 17 12 37.5
comp=Z,55nm,1.0s
WLF Walferdange 41.40 311 *d*P **P** **17 12 32.7 +0.2**
comp=Z,34nm,1.1s
WLF Walferdange 41.40 311 P **P** **17 12 32.4 -0.1**
WLF pmax pmax
comp=Z,55nm,1.0s
WLF Walferdange 41.40 311 *e*P **P** **17 12 33.3 +0.8**
comp=Z,37nm,0.9s,baz=105,slow=8.5
BHOU Houvegnez 41.58 312 *d*P **P** **17 12 34.8 +0.7**
comp=Z,22nm,1.2s
MEM Membach 41.62 313 *d*P **P** **17 12 34.5 +0.2**
comp=Z,32nm,1.1s
NB2 NORSAR Subarra 41.73 329 P **P** **17 12 34.2 -0.9**
comp=Z,16nm,1.1s,baz=116,slow=7.9
NOA NORSAR Array B 41.73 329 P **P** **17 12 34.0 -1.1**
comp=Z,3.7nm,0.8s,baz=115,slow=8.1,SNR=11
NOA LR LR 17 31 51.3
comp=Z,622nm,20.2s,baz=105,slow=39
comp=Z,3.7nm,0.8s
ULN Ulaanbaatar 41.73 52 P **P** **17 12 35.8 +0.3**
ULN Ulaanbaatar 41.73 52 *ce*P **P** **17 12 35.7 +0.2**
ULN pmax pmax
comp=Z,40nm,1.7s
ARCES ARCESS Array B 42.02 344 P **P** **17 12 37.0 -0.4**
ARCES ARCESS Array B 42.02 344 P **P** **17 12 37.0 -0.4**
comp=Z,7.5nm,0.8s,baz=134,slow=7.7,SNR=8.7
ARCES PP **PP** **17 14 14.3 -0.1**
comp=Z,5.3nm,1.0s,baz=147,slow=8.4,SNR=3.5
ARCES LR LR 17 32 33.2
comp=Z,918nm,18.8s,baz=130,slow=40
comp=Z,7.5nm,0.8s
BCLA Clavier 42.03 312 *d*P **P** **17 12 38.3 +0.5**
comp=Z,31nm,1.1s
RCHB Rochefort 42.05 312 *d*P **P** **17 12 38.8 +1.0**
comp=Z,49nm,1.0s
BGES Gesves 42.17 312 *d*P **P** **17 12 39.7 +0.8**
comp=Z,35nm,1.1s
SSB Saint Sauveur 42.18 304 IAmb IAmb 17 12 42.6
comp=Z,46nm,0.9s
BMRD Maredsous 42.36 312 *d*P **P** **17 12 41.2 +0.8**
comp=Z,38nm,1.1s
DOU Dourbes 42.45 312 *d*P **P** **17 12 41.6 +0.5**
comp=Z,51nm,1.1s
SLVN Son La 43.60 91 IAmb IAmb 17 13 50.2
comp=Z,47nm,1.8s
CLF Chambon-Foret 43.83 308 IAmb IAmb 17 12 57.6
comp=Z,45nm,1.1s
BTO Baotou 43.94 62 *e*P **P** **17 12 52.9 -0.5**
BTO pP **pP** **17 12 57.6 +1.2**
BTO sP **sP** **17 13 00.0 +2.4**
BTO PP **PP** **17 14 36.3 +0.7**
BTO S **S** **17 19 25.8 +0.4**
BTO pmax pmax
comp=Z,59nm,1.1s
BTO pmax pmax
comp=Z,220nm,5.0s
BTO LR LR
comp=Z,5μm,16.8s
BTO LR LR
comp=Z,4μm,18.9s
BTO LR LR
comp=Z,5μm,17.5s
XAN Xi'an 44.05 72 ⇑P **P** **17 12 54.6 +0.3**
XAN pmax pmax
comp=Z,65nm,1.0s
XAN LR LR
comp=Z,2μm,16.2s
XAN LR LR
comp=Z,1μm,15.9s
XAN LR LR
comp=Z,2μm,13.7s
GYA Guiyang 44.13 83 P **P** **17 12 56.0 +0.8**
GYA S **S** **17 19 28.9 +0.3**
GYA pmax pmax
comp=Z,15nm,0.8s
GYA pmax pmax
comp=Z,310nm,6.1s
GYA LR LR
comp=Z,780nm,16.8s
GYA LR LR
comp=Z,1μm,16.8s
GYA LR LR
comp=Z,890nm,17.8s
HHC Hu-ho-hao-te 45.08 62 *e*P **P** **17 13 04.5 +1.9**
HHC S **S** **17 19 42.6 +0.6**
HHC sS sS 17 19 50.1 +3.2
HHC pmax pmax
comp=Z,48nm,1.0s
HHC pmax pmax
comp=Z,250nm,5.2s
HHC LR LR
comp=Z,2μm,16.4s
HHC LR LR
comp=Z,2μm,16.9s
HHC LR LR
comp=Z,3μm,17.3s
WACR West Acre 45.19 315 *e*P **P** **17 13 03.2 +0.1**
WACR IAmb IAmb 17 13 06.7
comp=Z,52nm,0.8s
TAM Tamanrasset 45.60 272 P **P** **17 13 07.1 +0.1**
TAM Tamanrasset 45.60 272 P **P** **17 13 07.1 +0.1**
TAM pmax pmax
comp=Z,12nm,1.2s
TIY Taiyuan 46.18 66 *e*P **P** **17 13 13.3 +2.0**
TIY S **S** **17 19 54.8 -3.0**
TIY SS **ScS** **17 23 14.1 +6.6**
TIY pmax pmax
comp=Z,24nm,0.8s
TIY pmax pmax
comp=Z,160nm,4.9s
TIY LR LR
comp=Z,980nm,13.7s
TIY LR LR
comp=Z,480nm,14.4s
TIY LR LR
comp=Z,1μm,21.3s
GDLE Glaisdale, N Y 46.22 317 *e*P **P** **17 13 11.2 0.0**
LYN LuoYang 46.81 70 *e*P **P** **17 13 17.8 +1.6**
LYN S **S** **17 20 12.3 +5.5**
LYN pmax pmax
comp=Z,110nm,0.8s
LYN pmax pmax
comp=Z,480nm,5.3s
LYN LR LR
comp=Z,3μm,18.5s
LYN LR LR
comp=Z,970nm,16.5s
LYN LR LR
comp=Z,1μm,13.1s
EDMD Edmundbyers 46.93 318 *e*P **P** **17 13 16.7 -0.1**
EDMD IAmb IAmb 17 13 17.4
comp=Z,34nm,0.8s
BOD Bodaibo 47.08 38 *e*P **P** **17 13 17.4 -0.5**
BOD pmax pmax
comp=Z,46nm,1.5s
MCH1 Michaelchurch 47.36 314 *e*P **P** **17 13 19.4 -0.8**
DRUM Mains of Drumt 47.44 320 *e*P **P** **17 13 20.9 +0.1**
FOEL Foel Wylfa 47.52 315 *e*P **P** **17 13 21.4 -0.1**
FOEL IAmb IAmb 17 13 24.0
comp=Z,26nm,1.0s
EKA Eskdalemuir Ar 47.66 318 P **P** **17 13 21.6 -0.9**
comp=Z,6.2nm,0.6s,baz=114,slow=7.1,SNR=28
comp=Z,6.2nm,0.6s
ESK Eskdalemuir 47.68 318 *e*P **P** **17 13 21.8 -0.8**
EDI Edinburgh 47.72 319 *e*P **P** **17 13 23.4 +0.5**
EDI IAmb IAmb 17 13 24.6
comp=Z,15nm,0.8s
MCD Coleburn Disti 47.94 321 *e*P **P** **17 13 24.7 +0.1**
MCD IAmb IAmb 17 13 25.4
comp=Z,24nm,0.9s
HNS HongShan 48.01 66 ⇓P **P** **17 13 27.6 +2.1**
HNS S **S** **17 20 27.0 +3.2**
HNS pmax pmax
comp=Z,18nm,1.0s
HNS LR LR
comp=Z,950nm,12.6s
HNS LR LR
comp=Z,1μm,15.7s
HNS LR LR
comp=Z,1μm,17.2s
XLT XiLinHaoTe 48.09 57 *e*P **P** **17 13 27.8 +1.7**
XLT sP sP 17 13 36.9 +6.6
XLT sS sS 17 20 30.9 +1.0
XLT pmax pmax
comp=Z,23nm,1.2s
XLT LR LR
comp=Z,360nm,20.9s
XLT LR LR
comp=Z,520nm,13.4s
INVG Invergeldie, C 48.25 320 *e*P **P** **17 13 26.8 -0.3**
INVG IAmb IAmb 17 13 27.5
comp=Z,19nm,0.8s
BJI Beijing 48.68 62 P **P** **17 13 32.4 +1.9**
BJI S **S** **17 20 37.3 +4.2**
BJI pmax pmax
comp=Z,7.0nm,1.0s
BJI LR LR
comp=Z,370nm,18.8s
BJI LR LR
comp=Z,700nm,16.4s
BJI LR LR
comp=Z,910nm,18.2s
CNSH ChangSha 48.88 78 ⇑P **P** **17 13 31.8 -0.5**
CNSH pmax pmax
comp=Z,22nm,1.5s
CNSH LR LR
comp=Z,1μm,18.2s
CNSH LR LR
comp=Z,840nm,16.3s
CNSH LR LR
comp=Z,1μm,17.2s
ESBB Sonseca Array 48.90 297 IAmb IAmb 17 13 34.9
comp=Z,20nm,1.4s
ESDC Sonseca Array 48.90 297 P **P** **17 13 31.4 -0.9**
comp=Z,8.4nm,1.1s,baz=62,slow=7.0,SNR=33
ESDC LR LR 17 36 05.1
comp=Z,307nm,20.4s,baz=74,slow=38
comp=Z,8.4nm,1.1s
LAWE Loch Awe, Argy 48.99 319 *e*P **P** **17 13 32.4 -0.2**
KULM Kulim 49.01 113 P **P** **17 13 35.0 +1.6**
KULM IAmb IAmb 17 13 40.0
comp=Z,27nm,1.1s
PAB San Pablo 49.21 297 P **P** **17 13 33.7 -1.1**
PAB IAmb IAmb 17 13 38.9
comp=Z,42nm,1.4s
PAB San Pablo 49.21 297 P **P** **17 13 33.7 -1.1**
PAB pmax pmax
comp=Z,43nm,1.5s
RPSI Rantau Prapat 49.28 117 IAmb IAmb 17 13 38.4
comp=Z,23nm,1.2s
WHN Wuhan 49.36 75 P **P** **17 13 37.1 +1.2**
WHN LR LR
comp=Z,900nm,14.8s
WHN LR LR
comp=Z,2μm,14.0s
WHN LR LR
comp=Z,2μm,20.4s
SPITS Spitsbergen Ar 50.09 350 P **P** **17 13 41.3 +0.4**
comp=Z,9.9nm,0.8s,baz=115,slow=11,SNR=1.6
SPITS LR LR 17 38 10.4
comp=Z,791nm,18.0s,baz=112,slow=40
comp=Z,9.9nm,0.8s
TIA Tai'an 50.16 67 ⇑P **P** **17 13 43.3 +1.3**
TIA S **S** **17 20 56.0 +2.0**
TIA pmax pmax
comp=Z,50nm,0.9s
TIA LR LR
comp=Z,1μm,18.6s
TIA LR LR
comp=Z,630nm,15.2s
TIA LR LR
comp=Z,1μm,21.1s
OPO Ambohidratompo 50.35 191 LR LR 17 33 55.8
comp=Z,423nm,20.1s,baz=182,slow=35
PBRG Braganca 50.62 301 *e*P **P** **17 13 44.7 -0.8**
comp=Z,11nm,1.7s
ABPO Ambohimpanom 50.78 191 P **P** **17 13 46.8 -0.1**
ABPO Ambohimpanom 50.78 191 P **P** **17 13 46.8 -0.1**
ABPO pmax pmax
comp=Z,13nm,1.0s
MDT Midelt 50.92 289 LR LR 17 38 42.0
comp=Z,268nm,18.3s,baz=94,slow=40
MVO Moncorvo 50.95 300 *e*P **P** **17 13 47.5 -0.4**
comp=Z,24nm,1.2s
MVO Moncorvo 50.95 300 *e*LR LR 17 31 09.4
comp=Z,276nm,20.0s
PVRL Vila Real 51.44 300 *e*P **P** **17 13 51.3 -0.3**
comp=Z,21nm,1.4s
MTE Manteigas 51.47 299 *e*P **P** **17 13 52.1 +0.2**
comp=Z,30nm,1.2s
MTE Manteigas 51.47 299 *e*LR LR 17 32 13.4
comp=Z,273nm,18.0s
MTE Manteigas 51.47 299 IAmb IAmb 17 13 56.5
comp=Z,20nm,1.0s
POLO Lamas de Olo 51.48 300 *e*P **P** **17 13 50.9 -1.0**
comp=Z,11nm,1.2s
PCBR Castelo Branco 51.53 298 *e*P **P** **17 13 51.9 -0.3**
comp=Z,43nm,1.2s
PBAR Barrancos 51.54 296 *e*P **P** **17 13 51.5 -0.9**
comp=Z,44nm,1.3s
PMRV Marv??o 51.55 298 *e*P **P** **17 13 51.9 -0.5**
comp=Z,18nm,1.2s
PMRV A A 17 41 51.5
comp=Z,224nm,20.0s
PVIS Viseu 51.67 299 *e*P **P** **17 13 53.6 +0.2**
PGAV Gavieira, Arco 51.72 301 *e*P **P** **17 13 52.9 -0.9**
comp=Z,37nm,2.2s
PGAV Gavieira, Arco 51.72 301 *e*LR LR 17 31 52.5
comp=Z,348nm,18.0s
PESTR Estremoz 51.82 297 *e*P **P** **17 13 53.8 -0.6**
comp=Z,18nm,1.1s
EVO Evora 52.21 297 *e*P **P** **17 13 57.0 -0.3**
comp=Z,20nm,1.2s
PBEJ Beja 52.21 296 *e*P **P** **17 13 57.0 -0.4**
comp=Z,20nm,1.2s
PCAS Casmilo, Conde 52.26 299 *e*P **P** **17 13 59.0 +1.3**
comp=Z,22nm,1.9s
PMTG Montargil 52.26 297 *e*P **P** **17 13 57.2 -0.5**
comp=Z,24nm,1.3s
PCVE Castro Verde 52.44 296 *e*P **P** **17 13 58.2 -0.8**
comp=Z,26nm,1.3s
JMIC Jan Mayen 52.53 338 LR LR 17 38 32.3
comp=Z,231nm,18.5s,baz=68,slow=39
MESJ Messejana 52.53 296 *e*P **P** **17 13 59.7 0.0**
comp=Z,22nm,1.3s
NJ2 Nanjing 52.62 72 *e*P **P** **17 13 59.5 -0.9**
NJ2 pmax pmax
comp=Z,19nm,0.6s
NJ2 pmax pmax
comp=Z,300nm,3.9s
NJ2 LR LR
comp=Z,1μm,17.5s
NJ2 LR LR
comp=Z,680nm,15.2s
NJ2 LR LR
comp=Z,960nm,16.1s
PNCL Nicolau / Gran 52.70 296 *e*P **P** **17 14 00.9 -0.1**
comp=Z,19nm,1.1s
TORD Torodi Ar. Bea 53.07 263 P **P** **17 14 03.4 -0.6**
comp=Z,22nm,0.7s,baz=55,slow=7.5,SNR=39
TORD LR LR 17 37 00.7
comp=Z,786nm,18.5s,baz=62,slow=36
comp=Z,22nm,0.7s
LSZ Lusaka 53.58 214 P **P** **17 14 08.1 +0.4**
LSZ IAmb IAmb 17 14 29.3
comp=Z,23nm,1.2s
LSZ Lusaka 53.58 214 P **P** **17 14 08.1 +0.4**
LSZ pmax pmax
comp=Z,23nm,1.2s
LSZ Lusaka 53.58 214 LR LR 17 37 22.7
comp=Z,655nm,19.0s,baz=42,slow=36
VOI Vohitsoka 53.68 191 P **P** **17 14 08.8 +0.4**
VOI IAmb IAmb 17 14 10.6
comp=Z,23nm,0.9s
VOI Vohitsoka 53.68 191 P **P** **17 14 10.3 +2.0**
SNY Shenyang 53.86 59 ⇓P **P** **17 14 07.8 -1.6**
SNY S **S** **17 21 37.0 -7.7**
SNY pmax pmax
comp=Z,10.0nm,1.0s
SNY pmax pmax
comp=Z,95nm,2.8s
SNY LR LR
comp=Z,2μm,22.6s
SNY LR LR
comp=Z,620nm,21.5s
SNY LR LR
comp=Z,1μm,17.1s
KRJI Kerinci 54.31 119 P **P** **17 14 13.4 +0.3**
comp=Z,118nm,1.0s
ZEA Zeya 54.46 44 *e*P **P** **17 14 14.7 +1.1**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA MLR MLR
comp=E,400nm,14.0s
ZEA MLR MLR
comp=Z,600nm,17.0s
CN2 Changchun 54.80 56 P **P** **17 14 16.5 +0.2**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 LR LR
comp=Z,700nm,14.0s
CN2 LR LR
comp=Z,700nm,14.0s
CN2 LR LR
comp=Z,700nm,13.0s
SSE Sheshan 54.80 72 P **P** **17 14 14.0 -2.5**
SSE S **S** **17 21 52.9 -4.8**
SSE pmax pmax
comp=Z,14nm,0.7s
SSE pmax pmax
comp=Z,170nm,5.4s
SSE LR LR
comp=Z,350nm,14.6s
SSE LR LR
comp=Z,340nm,16.3s
HEH HeiHe 55.00 48 *e*P **P** **17 14 17.1 -0.5**
HEH pmax pmax
comp=Z,34nm,1.0s
HEH pmax pmax
comp=Z,170nm,4.2s
HEH LR LR
comp=Z,4μm,16.6s
HEH LR LR
comp=Z,560nm,14.2s
HEH LR LR
comp=Z,2μm,19.4s
TIXI Tiksi 55.16 22 P **P** **17 14 17.7 -0.6**
TIXI IAmb IAmb 17 14 20.6
comp=Z,30nm,1.7s
TIXI Tiksi 55.16 22 *i* P **P** **17 14 18.3 -0.1**
TIXI pmax pmax
comp=Z,19nm,1.8s
TIXI Tiksi 55.16 22 LR LR 17 40 16.5
comp=Z,49nm,21.9s,baz=302,slow=39
YAK Yakutsk 55.19 33 P **P** **17 14 17.7 -1.0**
YAK IAmb IAmb 17 14 19.4
comp=Z,36nm,1.3s
YAK Yakutsk 55.19 33 *e*P **P** **17 14 18.3 -0.4**
YAK *e* 17 15 18.9
YAK *e* 17 16 19.5
YAK *e*PPP PPP 17 17 33.9
YAK *e*S **S** **17 22 03.3 +1.3**
YAK *e* 17 24 07.7
YAK pmax pmax
comp=Z,22nm,1.1s
YAK pmax pmax
comp=E,15nm,1.5s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=Z,176nm,5.6s
YAK pmax pmax
comp=N,91nm,5.0s
YAK pmax pmax
comp=E,66nm,3.3s
YAK smax smax
comp=E,134nm,4.7s
YAK smax smax
comp=N,69nm,5.0s
YAK MLR MLR
comp=Z,2μm,21.0s
YAK MLR MLR
comp=N,494nm,16.0s
YAK MLR MLR
comp=E,1μm,19.0s
YAK Yakutsk 55.19 33 LR LR 17 38 48.4
comp=E,27nm,18.1s,baz=268,slow=37
BNX BinXian 55.78 53 ⇑P **P** **17 14 23.5 +0.2**
BNX S **S** **17 22 12.3 +1.9**
BNX pmax pmax
comp=E,18nm,1.2s
BNX pmax pmax
comp=E,87nm,5.8s
BNX LR LR
comp=E,890nm,19.5s
BNX LR LR
comp=E,780nm,20.9s
BNX LR LR
comp=E,1μm,14.3s
DAG Danmarks Havn 56.31 345 *i* P **P** **17 14 26.0 -0.6**
DAG IAmb IAmb 17 14 30.3
comp=Z,7.0nm,0.9s
DBG Daneborg 56.48 341 *i* P **P** **17 14 27.4 -0.4**
DBG IAmb IAmb 17 14 32.1
comp=Z,3.3nm,0.8s
BORG Borgarnes 56.88 330 LR LR 17 40 50.0
comp=Z,327nm,21.1s,baz=96,slow=38
MDJ Mudanjiang 57.53 54 P **P** **17 14 35.6 -0.2**
MDJ PcP **PcP** **17 15 30.3 +1.1**
MDJ PP **PP** **17 16 43.3 +0.1**
MDJ ScP **ScP** **17 19 28.8 -0.7**
MDJ PcS **PcS** **17 19 31.4 +1.1**
MDJ S **S** **17 22 31.8 -1.8**
MDJ ScS **ScS** **17 24 24.4 -1.3**
MDJ SS **SS** **17 26 22.8 -0.3**
MDJ pmax pmax
comp=Z,6.0nm,0.9s
MDJ pmax pmax
comp=Z,170nm,4.5s
MDJ LR LR
comp=Z,3μm,20.5s
MDJ LR LR
comp=Z,1μm,15.2s
MDJ LR LR
comp=Z,2μm,16.1s
MATP Matopo 57.91 211 LR LR 17 41 43.6
comp=Z,453nm,18.5s,baz=48,slow=38
KLR Kul'dur 57.95 48 *i* P **P** **17 14 38.3 -0.3**
KLR pmax pmax
comp=Z,23nm,1.0s
KLR Kul'dur 57.95 48 LR LR 17 41 08.9
comp=Z,1μm,19.6s,baz=282,slow=38
KS19 Wonju Array Si 58.15 63 IAmb IAmb 17 14 42.9
comp=Z,23nm,1.0s
LWLI Liwa 58.18 120 P **P** **17 14 38.9 -1.9**
comp=Z,117nm,1.0s,comp=Z,2μm
KSRS Korea Array 58.20 63 P **P** **17 14 39.2 -1.3**
comp=Z,14nm,0.8s,baz=280,slow=6.9,SNR=48
KSRS LR LR 17 42 04.5
comp=Z,958nm,19.6s,baz=290,slow=38
comp=Z,14nm,0.8s
MSHR Mys Shultsa 59.15 56 *i* P **P** **17 14 46.9 -0.2**
USA0B Ussuriysk Arra 59.30 54 IAmb IAmb 17 14 49.5
comp=Z,13nm,0.9s
USRK Ussuriysk Ar. 59.30 54 P **P** **17 14 47.2 -1.0**
USRK Ussuriysk Ar. 59.30 54 P **P** **17 14 48.1 0.0**
comp=Z,8.7nm,0.8s,baz=275,slow=5.2,SNR=20
USRK LR LR 17 40 53.3
comp=Z,655nm,20.7s,baz=283,slow=37
comp=Z,8.7nm,0.8s
GRNR Gornyy 60.53 46 ⇓*i* P **P** **17 14 56.1 -0.4**
GRNR pmax pmax

comp=Z,6.0nm,1.2s
GRNR MLR MLR
comp=E,440nm,16.0s
GRNR MLR MLR
comp=N,510nm,10.0s
GRNR MLR MLR
comp=Z,510nm,15.0s
SUMG Summit 61.83 340 P **P** **17 15 04.6 -0.8**
SUMG IAmb IAmb 17 15 59.5
comp=Z,28nm,1.2s
SUMG Summit 61.83 340 P **P** **17 15 04.6 -0.8**
SUMG pmax pmax
comp=Z,28nm,1.2s
SUMG Summit 61.83 340 *i* P **P** **17 15 05.0 -0.4**
SUMG IAmb IAmb 17 15 18.5
comp=Z,6.1nm,0.9s
JNU Nakatsue 61.89 67 LR LR 17 44 08.5
comp=Z,494nm,20.8s,baz=290,slow=38
DBIC Dimbokro 61.90 260 P **P** **17 15 06.7 +0.4**
DBIC IAmb IAmb 17 16 08.5
comp=Z,26nm,1.2s
DBIC Dimbokro 61.90 260 P **P** **17 15 07.3 +1.1**
comp=Z,16nm,1.1s,baz=78,slow=3.0,SNR=10
comp=Z,16nm,1.1s
KIC Kosan Boka 61.97 260⇑ *i* P **P** **17 15 07.7 +0.9**
comp=Z,18nm,0.8s
LEM Lembang 62.02 119 LR LR 17 44 38.2
comp=Z,452nm,19.6s,baz=302,slow=39
TIC Toumodi 62.05 260⇑ *i* P **P** **17 15 10.7 +3.4**
comp=Z,18nm,0.7s
JOW Kunigami 62.11 74 LR LR 17 46 00.0
comp=Z,518nm,18.1s,baz=309,slow=40
LIC Lamto 62.28 260⇑ *i* P **P** **17 15 11.4 +2.5**
comp=Z,28nm,0.8s
ICESG Greenland Ices 63.17 336 *i* P **P** **17 15 13.2 -1.1**
ICESG IAmb IAmb 17 15 15.4
comp=Z,4.1nm,0.8s
LBTB Lobatse 63.20 211 P **P** **17 15 15.4 +0.7**
LBTB Lobatse 63.20 211 P **P** **17 15 15.5 +0.7**
LBTB pmax pmax
comp=Z,28nm,1.1s
LBTB Lobatse 63.20 211 LR LR 17 42 49.1
comp=Z,1µm,18.9s,baz=26,slow=36
NEEM North Greenlan 63.32 346 *i* P **P** **17 15 13.2 -1.9**
NEEM IAmb IAmb 17 15 18.7
comp=Z,5.0nm,0.9s
TYV Tymovskoe 64.30 45 *e*P **P** **17 15 21.7 0.0**
TYV pmax pmax
comp=Z,17nm,1.2s
TYV pmax pmax
comp=Z,200nm,3.8s
SEY Seymchan 65.31 30 *i* P **P** **17 15 28.7 +0.7**
SEY pmax pmax
comp=Z,23nm,1.3s
SEY Seymchan 65.31 30 LR LR 17 46 54.4
comp=Z,2µm,18.5s,baz=288,slow=39
WIN Windhoek 65.39 220 P **P** **17 15 28.3 -1.0**
WIN IAmb IAmb 17 15 55.6
comp=Z,9.1nm,0.9s
WIN Windhoek 65.39 220 P **P** **17 15 28.3 -1.0**
WIN pmax pmax
comp=Z,9.0nm,0.9s
YSS Yuzh-Sakhalins 65.66 49 P **P** **17 15 30.8 +0.2**
YSS Yuzh-Sakhalins 65.66 49 *e*P **P** **17 15 30.5 -0.1**
YSS *e*S **S** **17 24 13.4 -3.2**
YSS pmax pmax
comp=Z,60nm,0.9s
YSS MLR MLR
comp=Z,900nm,11.0s
YSS MLR MLR
comp=E,600nm,10.0s
MA2 Magadan 65.76 34 *i* P **P** **17 15 31.1 +0.1**
MA2 pmax pmax
comp=Z,15nm,1.1s
MA2 Magadan 65.76 34 LR LR 17 46 37.2
comp=Z,737nm,18.7s,baz=288,slow=38
INU Inuyama 65.82 62 P **P** **17 15 31.6 -0.2**
INU IAmb IAmb 17 15 33.6
comp=Z,14nm,0.9s
MAJO Matsushiro 66.26 61 P **P** **17 15 34.2 -0.6**
MAJO IAmb IAmb 17 15 36.0
comp=Z,14nm,1.1s
MAJO Matsushiro 66.26 61 *i* P **P** **17 15 34.1 -0.6**
MAJO pmax pmax
comp=Z,14nm,1.2s
MJAR Matsushiro Arr 66.26 61 P **P** **17 15 34.8 0.0**
comp=Z,6.7nm,1.0s,baz=294,slow=8.7,SNR=9.4
MJAR LR LR 17 46 50.7
comp=Z,389nm,19.5s,baz=301,slow=38
comp=Z,6.7nm,1.0s
DY2G Dye2 66.46 335 *i* P **P** **17 15 35.8 +0.1**
DY2G IAmb IAmb 17 15 44.8
comp=Z,5.4nm,0.7s
BOSA Boshof 66.49 210 P **P** **17 15 36.1 -0.1**
BOSA IAmb IAmb 17 15 39.7
comp=Z,24nm,1.0s
BOSA Boshof 66.49 210 P **P** **17 15 36.4 +0.2**
comp=Z,13nm,0.8s,baz=38,slow=9.1,SNR=15
BOSA LR LR 17 46 11.9
comp=Z,736nm,20.3s,baz=22,slow=37
comp=Z,13nm,0.8s
ASAJ Asahikawa 66.57 52 LR LR 17 47 30.3
comp=Z,815nm,18.0s,baz=296,slow=39
MPSI Mapaga 67.52 104 P **P** **17 15 43.8 +0.9**
comp=Z,19nm,1.8s,comp=Z,807nm
SFJD Kangerlussuaq 67.78 336 LR LR 17 47 51.5
comp=Z,348nm,18.5s,baz=62,slow=38
BILL Bilibino 68.36 22 *i* P **P** **17 15 48.2 +0.8**
DAV Davao City (W) 68.74 95 LR LR 17 52 12.6
comp=Z,192nm,18.2s,baz=340,slow=42
JHJ Hachijo jima 2 68.80 63 LR LR 17 49 19.8
comp=Z,529nm,18.7s,baz=279,slow=39
MRSI Marisa 69.14 103 P **P** **17 15 53.8 +0.7**
comp=Z,19nm,1.0s,comp=Z,644nm
SOE Somerset East 69.97 207 P **P** **17 15 58.6 +0.8**
KAPI Kappang 70.43 109 LR LR 17 51 15.9
comp=Z,200nm,18.4s,baz=289,slow=40
SUR Sutherland 71.66 211 LR LR 17 48 02.2
comp=Z,900nm,19.9s,baz=21,slow=36
PEA0B Petropavlovsk- 71.95 38 *i* P **P** **17 16 09.2 -0.5**
PETK Petropavlovsk- 71.95 38 P **P** **17 16 09.2 -0.5**
comp=Z,10.0nm,1.1s,baz=321,slow=13,SNR=4.9
PETK LR LR 17 50 17.3
comp=Z,816nm,19.2s,baz=298,slow=38
comp=Z,10.0nm,1.1s
RES Resolute Bay 72.58 352 LR LR 17 51 15.6
comp=Z,498nm,21.6s,baz=12,slow=38
SANI Sanana 73.90 103 P **P** **17 16 20.7 -1.2**
comp=Z,17nm,0.9s
A19K Wainwright 75.27 12 P **P** **17 16 28.4 -0.5**
baz=328
A22K Sinclair Lake 75.59 10 P **P** **17 16 30.5 -0.2**
baz=333
FRB Frobisher Bay 75.75 338 LR LR 17 52 30.6
comp=Z,218nm,18.9s,baz=20,slow=38
B18K Kokolik River 75.85 13 P **P** **17 16 32.2 0.0**
baz=327
C16K Lisburne Hills 76.02 15 P **P** **17 16 32.5 -0.7**
baz=324
B20K Meade River 76.13 11 P **P** **17 16 32.6 -1.2**
baz=331
C17K DeLong Mountai 76.32 14 P **P** **17 16 34.7 -0.3**
baz=326
B22K Teshekpuk Lake 76.42 10 P **P** **17 16 35.3 -0.2**
baz=334
C19K Lookout Ridge 76.48 12 P **P** **17 16 36.0 +0.1**
baz=329
C18K Utukok River 76.57 13 IAmb IAmb 17 16 39.7
comp=Z,29nm,1.1s
C18K Utukok River 76.57 13 P **P** **17 16 35.9 -0.5**
baz=328
RDOG Red Dog Mine 76.72 14 IAmb IAmb 17 16 40.3
comp=Z,30nm,1.3s
RDOG Red Dog Mine 76.72 14 P **P** **17 16 36.6 -0.7**
baz=326
SOEI Soe 76.81 110 P **P** **17 16 37.6 -1.1**
SOEI Soe 76.81 110 P **P** **17 16 37.1 -1.6**
comp=Z,47nm,1.3s
B21K Ikpikpuk River 76.88 11 IAmb IAmb 17 16 41.5
comp=Z,32nm,1.1s
B21K Ikpikpuk River 76.88 11 P **P** **17 16 37.5 -0.6**
baz=333
A36M Sachs Harbour 76.98 0 IAmb IAmb 17 16 54.0
comp=Z,23nm,0.8s
A36M Sachs Harbour 76.98 0 P **P** **17 16 38.4 -0.2**
baz=359,SNR=18
D17K Noatak River 76.98 14 P **P** **17 16 38.7 0.0**
baz=326
C21K Knifeblade Rid 77.27 11 P **P** **17 16 41.2 +0.9**
baz=333,SNR=5.6
C23K Itkillik River 77.28 9 P **P** **17 16 42.0 +1.7**
baz=337
D19K Kuna River 77.28 12 P **P** **17 16 41.7 +1.2**
baz=330
D20K Etivluk River 77.36 12 P **P** **17 16 41.9 +1.0**
baz=332
E18K Tukpahlearik C 77.73 14 P **P** **17 16 43.2 +0.3**
baz=328
E17K Hotham Inlet 77.77 14 P **P** **17 16 43.6 +0.5**
baz=327
E20K Nigu River 77.84 12 P **P** **17 16 43.5 -0.1**
baz=332
D22K Ayikyak River 77.85 10 IAmb IAmb 17 16 47.5
comp=Z,30nm,1.1s
D22K Ayikyak River 77.85 10 P **P** **17 16 44.6 +1.0**
baz=335
C26K Camden Bay 77.90 7 P **P** **17 16 44.7 +0.9**
baz=342
GAMB Gambell 77.97 20 P **P** **17 16 44.5 +0.2**
baz=320
E21K Killik River 78.05 11 P **P** **17 16 45.7 +1.0**
baz=334
F14K Arctic Creek 78.07 17 P **P** **17 16 45.2 +0.4**
baz=324
D23K Nanushuk River 78.07 10 P **P** **17 16 45.5 +0.7**
baz=337
D24K Happy Valley 78.15 9 P **P** **17 16 45.1 -0.1**
baz=338
F15K North Star Dit 78.28 16 P **P** **17 16 45.8 -0.3**
baz=325
D25K Kavik River 78.30 8 P **P** **17 16 46.4 +0.3**
baz=340
E19K Redstone River 78.36 13 IAmb IAmb 17 16 49.0
comp=Z,15nm,1.1s
E19K Redstone River 78.36 13 P **P** **17 16 46.7 +0.3**
baz=331
F17K Baldwin Pennin 78.44 14 P **P** **17 16 46.9 +0.2**
baz=328
E22K Anaktuvuk Pass 78.67 10 IAmb IAmb 17 16 51.1
comp=Z,16nm,1.1s
E22K Anaktuvuk Pass 78.67 10 P **P** **17 16 47.4 -0.8**
baz=336
F19K Shaleruckik Mo 78.80 13 P **P** **17 16 47.9 -0.9**
baz=331
D27M Malcolm River 78.95 6 P **P** **17 16 49.2 -0.5**
baz=345
F20K Avaraart Lake 79.00 12 P **P** **17 16 49.3 -0.6**
baz=332
G15K Niukluk 79.02 16 P **P** **17 16 49.1 -0.9**
baz=326
E23K Chandler 79.06 10 P **P** **17 16 50.6 +0.2**
baz=338
G16K Koyuk River 79.08 15 P **P** **17 16 49.4 -0.9**
baz=327
F22K John River 79.18 11 P **P** **17 16 50.7 -0.3**
baz=336
E24K Your Creek 79.21 9 IAmb IAmb 17 16 55.1
comp=Z,20nm,1.2s
E24K Your Creek 79.21 9 P **P** **17 16 50.7 -0.4**
baz=338
F21K Alatna River 79.23 11 P **P** **17 16 50.6 -0.6**
baz=334
G17K Kiwalik Mounta 79.37 15 P **P** **17 16 51.5 -0.5**
baz=328
G18K Tagagawik 79.45 14 IAmb IAmb 17 17 00.8
comp=Z,41nm,1.6s
G18K Tagagawik 79.45 14 P **P** **17 16 51.6 -0.9**
baz=330
E25K Arctic Village 79.54 8 IAmb IAmb 17 16 56.6
comp=Z,22nm,1.2s
E25K Arctic Village 79.54 8 P **P** **17 16 51.9 -1.0**
baz=341
G19K Purcell Mounta 79.54 13 IAmb IAmb 17 16 55.5
comp=Z,36nm,1.2s
G19K Purcell Mounta 79.54 13 P **P** **17 16 52.6 -0.3**
baz=331
C36M Paulatuk 79.64 0 IAmb IAmb 17 16 55.9
comp=Z,18nm,1.1s
C36M Paulatuk 79.64 0 P **P** **17 16 53.0 -0.4**
baz=360
E28M Babbage River 79.70 6 P **P** **17 16 54.2 +0.4**
baz=346
H16K Elim 79.74 16 P **P** **17 16 54.0 0.0**
baz=327
COLD Coldfoot 79.75 10 P **P** **17 16 53.9 -0.1**
baz=337
F24K Squaw Lake 79.81 9 P **P** **17 16 54.8 +0.4**
baz=339
G21K Allakaket 79.87 12 IAmb IAmb 17 16 57.1
comp=Z,20nm,1.2s
G21K Allakaket 79.87 12 P **P** **17 16 53.4 -1.3**
baz=334,SNR=6.3
E27K Coleen River 79.91 7 P **P** **17 16 54.0 -1.0**
baz=344
H17K Granite Mounta 80.01 15 P **P** **17 16 55.0 -0.5**
baz=329
F25K Christian Rive 80.03 8 P **P** **17 16 55.2 -0.4**
baz=341
E29M Blow River 80.05 5 P **P** **17 16 55.4 -0.2**
baz=348
F26K Sheenjek River 80.11 8 P **P** **17 16 55.6 -0.4**
baz=342
H18K Honhosa River 80.16 14 P **P** **17 16 56.1 -0.2**
baz=330
H19K Roundabout Mou 80.21 13 P **P** **17 16 56.4 -0.1**
baz=332
G23K Bananza Creek 80.25 10 P **P** **17 16 56.8 0.0**
baz=337
BMAR Burnt Mountain 80.32 8 P **P** **17 16 57.3 +0.1**
SHEM Shemya Is, Ala 80.38 33 LR LR 17 55 36.7
comp=Z,303nm,19.4s,baz=304,slow=38
INK Inuvik 80.42 4 P **P** **17 16 58.6 +1.1**
baz=352,SNR=8.9
INK Inuvik 80.42 4 LR LR 17 57 46.9
comp=Z,115nm,18.8s,baz=0.5,slow=40
PSA00 Pilot Point Seismi 80.52 122 P **P** **17 16 57.6 -1.2**
H20K Anotleneega Mo 80.54 13 P **P** **17 16 57.8 -0.5**
baz=333
F28M Old Crow 80.64 6 P **P** **17 16 58.8 0.0**
baz=346
G24K Hadweenzic Riv 80.64 9 P **P** **17 16 58.8 -0.1**
baz=340
I17K Unalakleet 80.74 16 P **P** **17 17 00.0 +0.7**
baz=329
H21K Melozitna Rive 80.77 12 P **P** **17 17 00.1 +0.5**
baz=335
H22K Ishtalitna Cre 80.80 11 P **P** **17 17 00.3 +0.6**
baz=336,SNR=9.8
G26K Porcupine Rive 80.87 8 P **P** **17 17 00.8 +0.8**
baz=343
F30M Barrier River 80.97 5 P **P** **17 17 01.2 +0.7**
baz=350
G27K Doyon Strip 81.24 7 P **P** **17 17 02.7 +0.6**
baz=345
F31M Tsiigehtchic 81.27 4 IAmb IAmb 17 17 05.5
comp=Z,26nm,1.1s
F31M Tsiigehtchic 81.27 4 P **P** **17 17 02.2 +0.1**
baz=351,SNR=12
SCHQ Schefferville 81.27 331 P **P** **17 17 01.7 -0.7**
comp=Z,4.4nm,0.7s,baz=46,slow=6.1,SNR=4.9
SCHQ LR LR 17 54 55.9
comp=Z,241nm,19.8s,baz=94,slow=37
comp=Z,4.4nm,0.7s
J16K Anvik River 81.28 16 P **P** **17 17 02.7 +0.4**
baz=329
I21K Tanana 81.35 12 P **P** **17 17 03.0 +0.4**
baz=336
H24K Noodor Dome 81.39 10 P **P** **17 17 03.4 +0.4**
baz=339
G29M Pine Creek 81.48 6 P **P** **17 17 04.2 +0.8**
baz=348
G30M tAoh Zraii Nji 81.56 5 IAmb IAmb 17 17 06.9
comp=Z,25nm,1.1s
G30M tAoh Zraii Nji 81.56 5 P **P** **17 17 03.3 -0.4**
baz=349,SNR=9.6
MLY Manley 81.70 11 P **P** **17 17 04.9 +0.4**
baz=337
J19K Poorman 81.74 14 P **P** **17 17 04.9 +0.1**
baz=333
G31M Satah River 81.75 4 IAmb IAmb 17 17 07.3
comp=Z,33nm,1.2s
G31M Satah River 81.75 4 P **P** **17 17 05.3 +0.6**
baz=351,SNR=10
I23K Minto, Yukon-K 81.81 11 IAmb IAmb 17 17 08.3
comp=Z,19nm,1.2s
I23K Minto, Yukon-K 81.81 11 P **P** **17 17 05.5 +0.4**
baz=338,SNR=5.8
H27K Steamboat Moun 81.82 7 P **P** **17 17 03.9 -1.3**
baz=345
J20K Nowinta River 81.87 13 IAmb IAmb 17 17 12.1
comp=Z,29nm,1.6s
J20K Nowinta River 81.87 13 P **P** **17 17 05.2 -0.2**
baz=334
K15K Wolf Creek Mou 81.90 17 P **P** **17 17 05.5 -0.1**
baz=328
GUMO Guam 81.94 79 LR LR 17 55 05.2
comp=Z,129nm,21.6s,baz=310,slow=37
J18K Innoko River 81.99 14 IAmb IAmb 17 19 22.6
comp=Z,33nm,1.6s
J18K Innoko River 81.99 14 P **P** **17 17 05.8 -0.2**
baz=332
PRP Porcupine Dome 82.02 9 P **P** **17 17 06.2 -0.1**
baz=341
H29M Whitestone 82.14 6 IAmb IAmb 17 17 10.2
comp=Z,24nm,1.2s
H29M Whitestone 82.14 6 P **P** **17 17 06.3 -0.5**
baz=347
MDM Murphy Dome 82.16 10 IAmb IAmb 17 17 10.4
comp=Z,28nm,1.1s
K17K Iditarod 82.30 15 P **P** **17 17 06.8 -0.9**
baz=331
I27K Kandik River 82.41 7 P **P** **17 17 08.7 +0.4**
baz=345
BPAW Bear Paw Mtn. 82.51 12 IAmb IAmb 17 17 12.7
comp=Z,26nm,1.1s
BPAW Bear Paw Mtn. 82.51 12 P **P** **17 17 08.9 +0.1**
baz=337
I26K Coal Creek Min 82.52 8 P **P** **17 17 08.5 -0.3**
baz=343
ILAR Eielson Array 82.54 10 P **P** **17 17 07.6 -1.3**
comp=Z,2.8nm,1.0s,baz=326,slow=3.1,SNR=16
ILAR PKKPbc **PKKPbc** **17 35 35.1 0.0**
comp=Z,0.5nm,0.8s,baz=171,slow=1.6,SNR=5.4
ILAR LR LR 17 56 58.6
comp=Z,458nm,21.2s,baz=310,slow=38
comp=Z,2.8nm,1.0s
TTA Tatalina 82.61 14 IAmb IAmb 17 17 12.3
comp=Z,32nm,1.4s
TTA Tatalina 82.61 14 P **P** **17 17 10.1 +0.7**
baz=333
K20K Telida 82.62 13 IAmb IAmb 17 17 12.3
comp=Z,32nm,1.3s
K20K Telida 82.62 13 P **P** **17 17 10.3 +0.9**
baz=334
I28M Miner Creek 82.74 7 P **P** **17 17 10.1 0.0**
baz=346
L17K Donlin 82.81 16 P **P** **17 17 10.0 -0.3**
baz=331
H31M Peel River 82.85 4 IAmb IAmb 17 17 22.3
comp=Z,14nm,1.1s
H31M Peel River 82.85 4 P **P** **17 17 10.1 -0.4**
baz=351
J25K Salcha River, 82.90 9 P **P** **17 17 11.5 +0.6**
baz=342
L16K Owhat River 82.90 16 P **P** **17 17 11.4 +0.6**
baz=330
CAST Castle Rocks 82.94 12 P **P** **17 17 10.7 -0.4**
CAST Castle Rocks 82.94 12 P **P** **17 17 11.5 +0.4**
baz=336
I29M Ogilvie Camp, 82.98 6 P **P** **17 17 11.5 +0.2**
baz=348,SNR=10
M14K Bethel 83.10 18 P **P** **17 17 11.6 -0.3**
baz=328
MCK McKinley 83.20 11 P **P** **17 17 12.6 +0.2**
baz=338
TRF Thorofare Moun 83.23 12 P **P** **17 17 12.8 0.0**
baz=337
J26L Joseph Creek 83.25 8 P **P** **17 17 13.2 +0.5**
baz=343
EGAK Eagle 83.27 7 IAmb IAmb 17 17 15.4
comp=Z,15nm,1.1s
EGAK Eagle 83.27 7 P **P** **17 17 13.6 +1.0**
baz=345,SNR=8.1
I30M Mount Dempster 83.28 5 IAmb IAmb 17 17 15.3
comp=Z,11nm,1.1s
I30M Mount Dempster 83.28 5 P **P** **17 17 13.2 +0.3**
baz=349,SNR=8.1
PPLA Purkeypile 83.40 13 P **P** **17 17 13.8 +0.2**
baz=336
L20K Farewell, AK 83.45 14 P **P** **17 17 14.3 +0.5**
baz=334
RND Reindeer 83.52 11 IAmb IAmb 17 17 16.4
comp=Z,26nm,1.2s
L19K White Mountain 83.52 14 IAmb IAmb 17 17 17.7
comp=Z,20nm,1.2s
L19K White Mountain 83.52 14 P **P** **17 17 13.9 -0.2**
baz=334
M17K Holitna River 83.65 16 P **P** **17 17 13.9 -0.8**
baz=332
SCRK Sand Creek 83.70 9 IAmb IAmb 17 17 18.2
comp=Z,24nm,1.2s
SCRK Sand Creek 83.70 9 P **P** **17 17 15.3 +0.2**
baz=343
K27K Chicken 83.89 8 P **P** **17 17 16.3 +0.4**
baz=344
J30M Hart River 83.92 5 IAmb IAmb 17 17 19.1
comp=Z,12nm,1.2s
J30M Hart River 83.92 5 P **P** **17 17 16.1 -0.1**
baz=349
M18K Stony River 83.94 15 P **P** **17 17 16.3 +0.2**
baz=333
DHY Denali Highway 84.07 11 IAmb IAmb 17 17 20.3
comp=Z,17nm,1.4s
DHY Denali Highway 84.07 11 P **P** **17 17 17.0 0.0**
baz=340
N15K Kwethluk River 84.09 17 P **P** **17 17 16.4 -0.6**
baz=329
DAWY Dawson 84.15 7 P **P** **17 17 16.7 -0.6**
DAWY IAmb IAmb 17 17 20.7
comp=Z,20nm,1.3s
DAWY Dawson 84.15 7 P **P** **17 17 16.2 -1.1**
baz=347,SNR=7.2
SKT Skwentna 84.37 13 IAmb IAmb 17 17 21.1
comp=Z,25nm,1.2s
SKT Skwentna 84.37 13 P **P** **17 17 17.8 -0.6**
baz=336
PAX Paxson 84.45 10 P **P** **17 17 17.6 -1.3**
baz=341
WAT6 Susitna Watana 84.47 11 P **P** **17 17 17.6 -1.5**
baz=340
N17K Nushagak Hills 84.48 16 P **P** **17 17 18.1 -0.8**
baz=332
K29M Barlow Dome 84.54 6 P **P** **17 17 19.1 -0.3**
baz=348
O14K Tigyukauivet M 84.57 18 P **P** **17 17 19.5 +0.1**
baz=328
N18K Kilae Creek 84.64 15 P **P** **17 17 19.3 -0.5**
baz=333
N19K Bonanza Creek 84.83 15 P **P** **17 17 20.5 -0.4**
baz=334
L27K Beaver Creek, 84.85 8 P **P** **17 17 20.8 -0.1**
baz=344
N20K Mount Spurr 84.95 13 P **P** **17 17 20.4 -1.0**
baz=336
SUA Susitna One 84.99 13 P **P** **17 17 20.9 -0.7**
baz=337
O15K Ungalikthiuk R 85.01 18 P **P** **17 17 21.5 -0.1**
baz=330
HARP HAARP 85.04 10 P **P** **17 17 21.2 -0.6**
baz=342
O16K Kokwok River B 85.09 17 P **P** **17 17 22.3 +0.3**
baz=331
SML Sawmill 85.10 11 IAmb IAmb 17 18 10.6
comp=Z,22nm,1.2s
SML Sawmill 85.10 11 P **P** **17 17 20.9 -1.2**
baz=339
PMR Palmer 85.17 12 P **P** **17 17 21.6 -0.8**
baz=338,SNR=7.0
M24K Tolsona, Glenn 85.17 10 P **P** **17 17 21.0 -1.5**
baz=341,SNR=6.6
O17K Koliganek Bris 85.17 16 P **P** **17 17 22.1 -0.3**
baz=332
L29M L29M 85.21 6 P **P** **17 17 22.2 -0.4**
baz=348
SCM Sheep Creek Mo 85.24 11 P **P** **17 17 22.4 -0.5**
baz=340
M26K Nabesna, AK 85.34 9 P **P** **17 17 22.9 -0.4**
baz=344
KNK Knik Glacier 85.45 12 P **P** **17 17 23.7 -0.2**
baz=339
M27K Edge Creek, AK 85.53 8 P **P** **17 17 24.8 +0.5**
baz=344
KLU Klutina 85.79 10 P **P** **17 17 25.7 +0.1**

baz=341
M29M Somme Creek 85.83 7 P **P** 17 17 25.7 -0.2
baz=347
P17K Kvichak River 85.84 16 P **P** 17 17 25.7 0.0
baz=332
M30M Minto, Yukon 85.86 6 P **P** 17 17 25.1 -0.8
baz=349
N25K Chitina, Valde 85.88 10 P **P** 17 17 25.4 -0.7
baz=342
O20K Slope Mountain 85.89 14 P **P** 17 17 26.0 -0.1
baz=336
NWAO Narrogin (SRO) 86.05 132 LR LR 17 52 44.2
comp=Z,190nm,21.9s,baz=340,slow=34
O22K Cooper Landing 86.09 13 P **P** 17 17 26.3 -0.7
baz=338
YKA Yellowknife Ar 86.23 356 P **P** 17 17 26.8 -0.8
YKA Yellowknife Ar 86.23 356 P **P** 17 17 27.1 -0.6
comp=Z,4.3nm,1.0s,baz=357,slow=5.3,SNR=37
YKA LR LR 18 00 27.2
comp=Z,401nm,20.7s,baz=354,slow=39
comp=Z,4.3nm,1.0s
YUK3 Moose Creek 86.26 8 P **P** 17 17 28.6 +0.5
baz=346,SNR=8.1
MCARA McCarthy VSAT 86.32 9 P **P** 17 17 28.3 +0.2
baz=344
M31M Drury Creek, Y 86.42 5 IAmb IAmb 17 17 31.3
comp=Z,12nm,1.1s
BMRM Bremner River 86.49 10 P **P** 17 17 28.0 -1.0
baz=342
SEW Seward 86.49 13 P **P** 17 17 29.1 +0.1
baz=338
YUK4 Talbot Arm 86.88 7 P **P** 17 17 30.7 -0.5
baz=347,SNR=6.1
FCC Fort Churchill 86.91 345 P **P** 17 17 30.4 -0.6
FCC IAmb IAmb 17 18 04.8
comp=Z,24nm,1.6s
FCC Fort Churchill 86.91 345 P **P** 17 17 30.4 -0.6
FCC pmax pmax
comp=Z,24nm,1.7s
N30M Aishikik Lake 86.93 6 P **P** 17 17 31.0 -0.2
baz=349
CTG Chitna Glacier 86.94 8 P **P** 17 17 31.8 +0.4
baz=345
HYT Haines Junctio 87.51 7 P **P** 17 17 33.1 -1.0
baz=348
O30N Mendenhall 87.70 6 IAmb IAmb 17 17 38.1
comp=Z,16nm,1.1s
KDAK Kodiak Island 88.00 15 LR LR 18 03 43.9
comp=Z,369nm,19.4s,baz=356,slow=40
P33M Teslin, Yukon 88.51 4 IAmb IAmb 17 17 41.1
comp=Z,11nm,1.2s
DLBC Dease Lake 90.44 3 LR LR 18 02 49.3
comp=Z,115nm,20.1s,baz=331,slow=38
WRA Warramunga Arr 90.56 113 P **P** 17 17 47.8 -1.1
comp=Z,2.3nm,0.8s,baz=314,slow=4.0,SNR=19
comp=Z,2.3nm,0.8s
AS31 Alice Springs 92.24 116 P **P** 17 17 55.1 -1.6
ASAR Alice Springs 92.24 116 P **P** 17 17 55.2 -1.5
ASAR Alice Springs 92.24 116 P **P** 17 17 55.6 -1.1
comp=Z,3.8nm,0.7s,baz=305,slow=4.6,SNR=47
ASAR LR LR 18 02 28.0
comp=Z,141nm,19.6s,baz=298,slow=38
comp=Z,3.8nm,0.7s
SADO Sadowa 94.06 330 LR LR 18 03 31.0
comp=Z,172nm,18.2s,baz=40,slow=38
RCBR Riachuelo 94.79 266 LR LR 18 01 52.6
comp=Z,244nm,20.1s,baz=70,slow=36
ULM Lac du Bonnet 95.11 342 P **P** 17 18 08.7 -0.8
comp=Z,2.6nm,0.7s,baz=51,slow=6.5,SNR=4.6
ULM LR LR 18 02 52.3
comp=Z,317nm,19.5s,baz=34,slow=37
comp=Z,2.6nm,0.7s
PMG Port Moresby 95.62 98 P **P** 17 18 11.3 -1.1
PMG pmax pmax
comp=Z,8.0nm,1.2s
BBB Bella Bella 96.77 3 LR LR 18 06 47.9
comp=Z,112nm,20.2s,baz=356,slow=38
V52A Sevierville 103.28 327 Pdif **Pdif** 17 18 43.4 -3.0
TKL Tuckaleechee C 103.51 327 Pdif **Pdif** 17 18 53.0 +5.5
PDAR Pinedale Array 105.13 349 PKKPbc PKKPbc 17 34 35.5 -0.4
comp=Z,0.5nm,0.8s,baz=173,slow=2.5,SNR=4.0
CCUT Cedar City 110.80 351 Pdif **Pdif** 17 19 19.3 -0.9
DZM Mont Dzumac 117.89 100 eLR LR 17 59 29.6
comp=Z,185nm,21.6s
QSPA South Pole Qui 121.14 180 PKP **PKPdf** 17 23 38.3 -0.2
comp=Z,3.6nm,0.8s,baz=254,slow=3.2,SNR=12
SIV San Ignacio 121.26 270 PKP **PKPdf** 17 23 39.1 -1.0
comp=Z,1.3nm,0.7s,baz=100,slow=11,SNR=6.2
CPUP Villa Florida 122.34 257 PKP **PKPdf** 17 23 40.1 -1.8
comp=Z,2.6nm,0.6s,baz=108,slow=3.2,SNR=7.9
PPT2 Papeete2 152.92 66 eLR LR 18 15 34.8
comp=Z,362nm,27.5s
PPT2 eLR LR 18 15 39.9
comp=Z,236nm,28.5s
TAOE Nuku Hiva Isla 152.96 38 eLR LR 18 15 46.6
comp=Z,358nm,25.0s
TBI Tubuai 155.89 77 eLR LR 18 17 02.1
comp=Z,1μm,23.8s

IDC 21 17:04:49.6±55.0, 15°83.S×173°33.W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=1062.0km s-min=180.7km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.88**	**240**	P	P	17 12 58.9	+0.8
	1.1nm,0.5s,baz=89,slow=14,SNR=4.6						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**49.81**	**257**	P	P	17 13 44.1	-0.6
	0.7nm,0.5s,baz=95,slow=8.1,SNR=29						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**50.05**	**252**	P	P	17 13 46.2	-0.3
	4.8nm,0.4s,baz=90,slow=7.4,SNR=270						
	4.8nm,0.4s						

*TEH **21** 17:19:38.5, 30°.76N×57°.29E, h7km±31km, ML3.6*
*IDC **21** 17:19:40.0±1.3, 30°.67N×57°.07E, h0km, mb3.6/5, mbtmp3.7/8, ML3.4/3, Error ellipse: s-maj=30.0km s-min=22.2km az=112.0*

ISC 21 17:19:40.7±0.8, 30°.72N±0°.04×57°.27E±0°.04, h10km, n34, σ1ŝ13/35, mb3.5/5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.22**	**181**	Pg	**Pg**	17 19 44.4	-0.9
ZRDN	**Zarand Kerman**	**0.68**	**291**	Pg	**Pg**	17 19 52.0	-1.9
KHGB	**Koh Gabri**	**0.77**	**244**	Pg	**Pg**	17 19 53.7	-1.8
TVBK	**TV Kerman**	**0.86**	**211**	Pg	**Pg**	17 19 56.4	-0.8
CHMN	**Cheshme madani**	**0.89**	**165**	Pg	**Pg**	17 19 56.1	-1.7
NGRK	**Negar Kerman**	**1.17**	**204**	Pg	**Pb**	17 20 02.3	-1.0
IBAF	**Bafgh**	**1.70**	**301**	Pg	**Pn**	17 20 10.9	+0.4
KBAM	**BAM**	**1.88**	**147**	Pn	**Pn**	17 20 13.4	+0.4
BSRN	**Basiran**	**2.01**	**51**	Pn	**Pn**	17 20 14.4	-0.5
IKOO	**Kooshah**	**2.25**	**41**	Pn	**Pn**	17 20 17.7	-0.5
TPRV	**Parvadeh(Tabas**	**2.35**	**348**	Pn	**Pn**	17 20 19.2	-0.3
IMEH	**Mehriz**	**2.38**	**287**	Pn	**Pn**	17 20 20.4	+0.4
NHDN	**Nehbandan**	**2.48**	**74**	Pn	**Pn**	17 20 20.9	-0.3
ITEG	**Tejag**	**2.51**	**30**	Pn	**Pn**	17 20 21.2	-0.5
BAGH	**Bagheran - Bir**	**2.63**	**38**	Pn	**Pn**	17 20 22.5	-1.0
ICHK	**Chekchek**	**2.88**	**303**	Pn	**Pn**	17 20 27.1	+0.2
TKDS	**Koohdasht(Taba**	**2.89**	**357**	Pn	**Pn**	17 20 26.4	-0.4
IDAH	**Dahanechah**	**2.99**	**47**	Pn	**Pn**	17 20 28.0	-0.3
AFRZ	**Afriz**	**3.08**	**28**	Pn	**Pn**	17 20 28.9	-0.5
TNSJ	**Nastanj**	**3.28**	**350**	Pn	**Pn**	17 20 31.6	-0.6
ISAD	**Sadrabad**	**3.29**	**292**	Pn	**Pn**	17 20 33.7	+1.2
ZHDN	**Zahedan**	**3.34**	**112**	Pn	**Pn**	17 20 33.2	+0.2
SHRT	**Shahrakht**	**3.88**	**40**	Pn	**Pn**	17 20 40.3	-0.1
ANAR	**Anarak**	**3.89**	**310**	Pn	**Pn**	17 20 40.9	+0.3
IRAM	**Ramesheh**	**4.33**	**286**	Pn	**Pn**	17 20 46.6	-0.1
IZEF	**Zefreh**	**4.74**	**299**	Pn	**Pn**	17 20 53.0	+0.6
GEYT	**Alibeck**	**7.22**	**5**	Pn	**Pn**	17 21 27.8	+1.5
	0.2nm,0.3s,baz=164,slow=16,SNR=1.5						
	0.6nm,0.3s						
WSAR	**Wadi Sarin**	**7.55**	**170**	Pn	**Pn**	17 21 31.8	+1.0
	1.1nm,0.3s,baz=352,slow=8.4,SNR=10						
WSAR				Sn	**Sn**	17 22 56.8	+0.3
	baz=4.0,slow=22,SNR=1.6						
	7.2nm,0.6s						
AKTO	**Aktyubinsk**	**19.70**	**1**	P	**P**	17 24 09.8	-0.3
	0.2nm,0.3s,baz=197,slow=12,SNR=3.6						
	1.0nm,0.5s						
BRTR	**Keskin Array B**	**21.25**	**301**	P	**P**	17 24 27.9	+0.9
	0.6nm,0.7s,baz=115,slow=9.9,SNR=4.0						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**25.11**	**43**	P	**P**	17 25 08.0	+2.4
	0.3nm,0.6s,baz=222,slow=7.8,SNR=2.5						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**25.43**	**33**	P	**P**	17 25 11.2	+2.8
	2.2nm,0.2s,baz=232,slow=9.4,SNR=2.7						
	2.2nm,0.2s						
ZALV	**Zalesovo Beam**	**30.53**	**33**	P	**P**	17 25 56.0	+2.0
	1.1nm,0.5s,baz=237,slow=9.6,SNR=7.4						
	1.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**53.91**	**264**	P	**P**	17 29 03.4	-1.2
	0.3nm,0.6s,baz=62,slow=8.4,SNR=2.4						
	0.3nm,0.6s						

*NEIC **21** 17:48:33.5±1.4, 17°.3S±0°.1×174°.09W±0°.07, h131km±18km, mb4.2/7, Error ellipse: s-maj=17.3km s-min=8.2km az=157.0*
*IDC **21** 17:48:38.8±16.0, 17°.69S×174°.61W, h146km±145km, mb3.7/7, mbtmp4.1/7, Error ellipse: s-maj=74.5km s-min=28.4km az=144.0*

ISC 21 17:48:32.7±0.7, 17°.54S±0°.09×174°.25W±0°.08, h100km, n18, σ2ŝ11/18, mb4.2/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.32**	**34**	Pn	**Pn**	17 49 33.5	-2.8
AFI				Sn	**Sn**	17 50 24.2	-1.5
NIUE	**Niue**	**4.38**	**111**	Pn	**Pn**	17 49 37.7	+0.7
NIUE				Sn	**Sn**	17 50 23.2	-3.8
CTAO	**Charters Tower**	**37.41**	**260**	P	**P**	17 55 35.9	-0.4
CTAO				IAmb	IAmb	17 55 39.5	
	comp=Z,14nm,1.5s						
STKA	**Stephens Creek**	**42.29**	**242**	P	P	17 56 14.5	-2.1
STKA				IAmb	IAmb	17 56 56.0	
	comp=Z,1.2nm,1.3s						
STKA	**Stephens Creek**	**42.29**	**242**	P	**P**	17 56 15.0	-1.6
	comp=Z,0.9nm,0.5s,baz=342,slow=16,SNR=3.3						
	comp=Z,0.9nm,0.5s						
BBOO	**Buckleboo**	**47.06**	**241**	P	P	17 56 52.4	-2.1
WR0	**Warramunga Arr**	**48.40**	**259**	P	**P**	17 57 04.0	-1.1
WR0				IAmb	IAmb	17 57 28.4	
	comp=Z,9.2nm,1.4s						
WB0	**Warramunga Arr**	**48.56**	**259**	P	**P**	17 57 04.7	-1.6
WB0				IAmb	IAmb	17 57 05.2	
	comp=Z,6.2nm,1.1s						
WRA	**Warramunga Arr**	**48.59**	**259**	P	**P**	17 57 04.8	-1.7
WRA	**Warramunga Arr**	**48.59**	**259**	P	**P**	17 57 05.1	-1.5
	comp=Z,1.8nm,0.6s,baz=99,slow=6.2,SNR=25						
	comp=Z,1.8nm,0.6s						
AS31	**Alice Springs**	**48.70**	**254**		**P**	17 57 05.6	-1.8
AS31				IAmb	IAmb	17 57 06.9	
	comp=Z,2.7nm,0.7s						
ASAR	**Alice Springs**	**48.70**	**254**	P	P	17 57 05.0	-2.3
ASAR	**Alice Springs**	**48.70**	**254**	P	**P**	17 57 05.9	-1.4
	comp=Z,8.7nm,0.6s,baz=90,slow=8.4,SNR=136						
ASAR				PcP	**PcP**	17 58 30.8	-0.4
	comp=Z,0.4nm,0.8s,baz=104,slow=3.9,SNR=2.7						
	comp=Z,8.7nm,0.6s						
PETK	**Petropavlovsk-**	**74.41**	**343**	P	**P**	18 00 01.2	+1.7
	comp=Z,2.2nm,0.8s,baz=131,slow=8.0,SNR=1.9						
	comp=Z,2.2nm,0.8s						
NVAR	**Mina Array Bea**	**76.45**	**42**	P	**P**	18 00 15.3	+3.5
	comp=Z,0.8nm,0.6s,baz=220,slow=8.3,SNR=4.9						
	comp=Z,0.8nm,0.6s						
PDAR	**Pinedale Array**	**84.39**	**42**	P	**P**	18 00 56.4	+2.1
	comp=Z,0.5nm,0.8s,baz=235,slow=3.2,SNR=3.9						
	comp=Z,0.5nm,0.8s						
ILAR	**Eielson Array**	**84.69**	**11**	P	**P**	18 00 56.8	+1.8
	comp=Z,0.5nm,0.6s,baz=222,slow=6.1,SNR=19						
	comp=Z,0.5nm,0.6s						
BRTR	**Keskin Array B**	**147.25**	**318**	PKPbc	**PKPdf**	18 08 04.0	+1.6
	comp=Z,0.7nm,0.8s,baz=31,slow=0.8,SNR=2.7						

*ISK **21** 17:57:27.3, 35°.29N×30°.92E, h6km*
*AFAD **21** 17:57:29.0±0.0, 35°.30N×30°.90E, h13km±3km, ML3.3*
*NIC **21** 17:57:30.4, 35°.25N×30°.89E, h53km±9km, Ml3.0/10*
*NEIC **21** 17:57:31.1±2.3, 35°.29N±0°.07×30°.86E±0°.08, h47km±9km, mb4.2/12, Error ellipse: s-maj=11.5km s-min=7.8km az=217.0*
*IDC **21** 17:57:31.5±1.5, 35°.33N×30°.97E, h50km±15km, mb3.6/10, mbtmp3.7/17, ML3.9/6, MS3.0/2, Error ellipse: s-maj=15.9km s-min=10.7km az=63.0*
*GII **21** 17:57:32.4±0.4, 35°.23N×30°.98E, h40km, Mm3.3/5*
*THE **21** 17:57:42.2, 35°.63N×29°.89E, h17km±2km, ML2.2/2, Error ellipse: s-maj=4.2km s-min=1.1km az=85.0*

ISC 21 17:57:30.3±0.8, 35°.32N±0°.03×30°.88E±0°.03, h38km±2km, n180, σ1ŝ68/217, mb3.9/13, 3C, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**1.09**	**337**	P	**Pn**	17 57 48.2	-0.8
AKUM				S	**Sn**	17 58 01.8	-1.1
AKUM				*i* AML	AML	17 58 20.0	
	comp=N,663nm,0.7s						
AKMS	**Akamas**	**1.23**	**104**	↑*i* P	**Pn**	17 57 51.5	+0.6
AKMS				S	**Sn**	17 58 07.0	+0.7
AKMS				AML	AML	17 58 18.4	
	1.2nm,0.5s						
AKMS				AML	AML	17 58 20.4	
	1.0nm,0.5s						
KSL	**Kastellorizon**	**1.34**	**309**	P	**Pn**	17 57 53.3	+0.8
KSL				S	**Sn**	17 58 02.3	-6.8
	268nm,0.8s						
KSL	**Kastellorizon**	**1.34**	**309**	P	**Pn**	17 57 54.3	+1.8
KSL				S	**Sn**	17 58 12.0	+2.9
KSL				AML	AML	17 58 28.5	
	0.6nm,0.6s						
KSL				AML	AML	17 58 36.0	
	0.4nm,1.0s						
AKAS	**Kas**	**1.38**	**312**	Pn	**Pn**	17 57 54.8	+1.6
AKAS	**Kas**	**1.38**	**312**	P	**Pn**	17 57 55.9	+2.7
ALFC	**Alefka**	**1.42**	**96**	P	**Pn**	17 57 53.8	+0.3
ALFC				S	**Sn**	17 58 12.2	+1.2
ALFC				AML	AML	17 58 25.6	
	0.9nm,0.6s						
ALFC				AML	AML	17 58 26.8	
	0.8nm,0.5s						
GAZI	**Gazipasa**	**1.48**	**51**	Pn	**Pn**	17 57 54.2	-0.3
GAZI	**Gazipasa**	**1.48**	**51**	P	**Pn**	17 57 53.7	-0.8
GAZI				S	**Sn**	17 58 06.1	-6.5
GAZI				*i* AML	AML	17 58 19.0	
	comp=N,321nm,0.7s						
NATA	**Nata**	**1.49**	**111**	P	**Pn**	17 57 54.7	+0.2
NATA				AML	AML	17 58 30.7	
	1.4nm,0.6s						
NATA				AML	AML	17 58 35.3	
	2.0nm,0.6s						
ANTB	**Antalya**	**1.59**	**353**	Pn	**Pn**	17 57 57.6	+1.7
ELL	**Elmali**	**1.63**	**331**	Pn	**Pn**	17 57 58.6	+2.0
ELL	**Elmali**	**1.63**	**331**		**Pn**	17 57 56.5	-0.2
ELL	**Elmali**	**1.63**	**331**	P	**Pn**	17 57 57.8	+1.2
ELL				AML	AML	17 58 35.7	
	1.4nm,0.5s						
ELL				AML	AML	17 58 39.4	
	1.3nm,0.7s						
LEF	**Lefka**	**1.66**	**96**	Pn	**Pn**	17 57 56.8	0.0
LEF	**Lefka**	**1.66**	**96**	P	**Pn**	17 57 56.7	-0.2
LEF				S	**Sn**	17 58 13.8	-3.1
TROD	**Troodos**	**1.67**	**102**	↑*e* P	**Pn**	17 57 57.4	+0.2
TROD				AML	AML	17 58 34.5	
	0.4nm,0.9s						
TROD				AML	AML	17 58 34.6	
	0.3nm,0.8s						
KEPZ	**Antalya-Kepez**	**1.68**	**20**	P	**Pn**	17 57 57.9	+0.6
KEPZ				S	**Sn**	17 58 12.2	-5.4
KEPZ				*i* AML	AML	17 58 26.0	
	comp=N,283nm,0.8s						
KEPZ				*i* AML	AML	17 58 31.0	
	comp=E,311nm,0.8s						
KORT	**Korkueli**	**1.73**	**346**	Pn	**Pn**	17 57 59.4	+1.4
KORT	**Korkueli**	**1.73**	**346**	P	**Pn**	17 58 00.4	+2.4
KORT				S	**Sn**	17 58 22.3	+3.4
KORT				*i* AML	AML	17 58 46.0	
	comp=E,276nm,0.9s						
IZZE	**Mula-Seydike**	**1.75**	**310**	P	**Pn**	17 57 57.5	-0.6
KNIK	**Mula-Seydike**	**1.86**	**326**	P	**Pn**	17 57 60.0	+0.3
KNIK				S	**Sn**	17 58 15.6	-6.3
FETY	**Fethiye**	**1.96**	**313**	Pn	**Pn**	17 58 02.1	+1.0
TEKE	**Tekeli-Mersin**	**1.99**	**65**	Pn	**Pn**	17 58 02.5	+1.0
ASGA	**Asgata**	**2.01**	**105**	P	**Pn**	17 58 02.5	+0.8
ASGA				AML	AML	17 58 45.9	
	0.3nm,0.9s						
ASGA				AML	AML	17 58 48.0	
	0.3nm,0.5s						
BUCA	**Burdur, Bucak-**	**2.02**	**353**	P	**Pn**	17 58 06.2	+4.2
BUCA				S	**Sn**	17 58 26.9	+0.9
CSS	**Mathiatis**	**2.04**	**99**	Pn	**Pn**	17 58 02.6	+0.5
CSS	**Mathiatis**	**2.04**	**99**		**Pn**	17 58 02.3	+0.2
CSS	**Mathiatis**	**2.04**	**99**	Pn	**Pn**	17 58 02.3	+0.2
CSS	**Mathiatis**	**2.04**	**99**	P	**Pn**	17 58 02.5	+0.5
CSS				AML	AML	17 58 46.3	
	0.3nm,1.0s						
CSS				AML	AML	17 58 46.9	
	0.3nm,0.8s						
CAME	**Cameli-Denizli**	**2.06**	**322**	Pn	**Pn**	17 58 03.9	+1.3
HDMB	**Hadim**	**2.09**	**38**	Pn	**Pn**	17 58 04.2	+1.1
BERE	**Bereket-Mersin**	**2.16**	**61**	Pn	**Pn**	17 58 04.6	+0.7
BERE				Sn	**Sn**	17 58 31.9	+2.4
LFK	**Lefkose**	**2.17**	**90**	Pn	**Pn**	17 58 04.4	+0.5
GOLH	**Golhisar**	**2.19**	**331**	P	**Pn**	17 58 05.9	+1.6
GOLH				S	**Sn**	17 58 32.3	+2.1
GOLH				*i* AML	AML	17 59 05.0	
	comp=E,154nm,0.8s						
CAEL	**Denizli, Camel**	**2.20**	**325**	P	**Pn**	17 58 05.9	+1.4
CAEL				*i* AML	AML	17 59 07.0	
	comp=E,240nm,1.1s						
CAEL				*i* AML	AML	17 59 14.0	
	comp=N,317nm,1.3s						
SEYD	**Seydisehir-KON**	**2.22**	**20**	Pn	**Pn**	17 58 06.2	+1.5
SEDI	**Konya, Seydise**	**2.24**	**18**	P	**Pn**	17 58 05.1	+0.1
SEDI				S	**Sn**	17 58 31.6	+0.1
SEDI				*i* AML	AML	17 58 47.0	
	comp=N,153nm,0.8s						
SEDI				*i* AML	AML	17 58 47.0	
	comp=E,165nm,0.6s						
MVOU	**Mavrovouni**	**2.27**	**97**	P	**Pn**	17 58 05.4	+0.1
MVOU				AML	AML	17 58 53.2	
	0.2nm,1.0s						
MVOU				AML	AML	17 58 54.5	
	0.2nm,1.0s						
AKKU	**Akkuyu-Mersin**	**2.33**	**68**	Pn	**Pn**	17 58 06.7	+0.6
GULN	**MERSIN_Gulnar**	**2.33**	**67**	P	**Pn**	17 58 06.9	+0.8
GULN				S	**Sn**	17 58 30.1	-3.3
DALY	**Dalyan (Mula)**	**2.34**	**310**	Pn	**Pn**	17 58 07.6	+1.3
TEVE	**Tevekalti-Mers**	**2.36**	**61**	Pn	**Pn**	17 58 07.3	+0.7
ARG	**Arkhangelos**	**2.41**	**293**	Pn	**Pn**	17 58 07.4	+0.2
ARG	**Arkhangelos**	**2.41**	**293**	P	**Pn**	17 58 07.1	-0.1
ARG				S	Sn	17 58 27.4	-8.1
	72nm,0.4s						
ARG	**Arkhangelos**	**2.41**	**293**	P	**Pn**	17 58 07.9	+0.7
IKL	**Isikli**	**2.46**	**67**	Pn	**Pn**	17 58 08.9	+1.1
BRDR	**BURDUR-Merkez**	**2.46**	**345**	P	**Pn**	17 58 10.0	+2.0
APMY	**Acipayam-Deniz**	**2.50**	**330**	Pn	**Pn**	17 58 10.1	+1.6
OSC2	**CSNet OBS 4**	**2.52**	**152**	P	**Pn**	17 58 08.7	0.0
ISP	**Isparta**	**2.52**	**353**	Pn	**Pn**	17 58 10.5	+1.7
ISP	**Isparta**	**2.52**	**353**	Pn	**Pn**	17 58 11.2	+2.4
ISP	**Isparta**	**2.52**	**353**	Pn	**Pn**	17 58 11.8	+3.0
KKBE	**Karaman, Kazim**	**2.52**	**41**	P	**Pn**	17 58 11.1	+2.2
KKBE				S	**Sn**	17 58 42.7	+4.3
KKBE				*i* AML	AML	17 58 57.0	
	comp=N,143nm,0.7s						
KKBE				*i* AML	AML	17 58 59.0	
	comp=E,178nm,0.6s						
KEBE	**Keben-Mersin**	**2.56**	**63**	Pn	**Pn**	17 58 10.2	+0.9
TURN	**Turunc**	**2.58**	**305**	P	**Pn**	17 58 10.9	+1.3
INCE	**Denizli-Bozkur**	**2.61**	**337**	P	**Pn**	17 58 11.9	+1.9
TAVA	**DENIZLI_Tavas**	**2.67**	**324**	P	**Pn**	17 58 12.2	+1.4
KRMN	**Karaman**	**2.67**	**45**	Pn	**Pn**	17 58 12.1	+1.2
BASM	**Basmaki-Afyon**	**2.68**	**346**	Pn	**Pn**	17 58 12.9	+1.9
SILI	**Silifke-Mersin**	**2.68**	**66**	Pn	**Pn**	17 58 12.3	+1.4
EREN	**Erenkoy**	**2.69**	**85**	Pn	**Pn**	17 58 12.1	+1.0
KMER	**Konya-Meram**	**2.72**	**26**	P	**Pn**	17 58 13.4	+1.8
KMER				S	**Sn**	17 58 42.0	-1.3
KMER				*i* AML	AML	17 58 59.0	
	comp=E,140nm,0.8s						
YER	**Yerkesik**	**2.77**	**312**	P	**Pn**	17 58 13.5	+1.2
YER				S	Sn	17 58 37.1	-7.5
MULA	**Mugla, Merkez-**	**2.83**	**314**	P	**Pn**	17 58 14.4	+1.4
MULA				S	**Sn**	17 58 42.9	-3.1
DOGA	**KONYA_Doganhis**	**2.85**	**13**	P	**Pn**	17 58 15.3	+1.8
DOGA				S	**Sn**	17 58 43.6	-3.0
DOGA				*i* AML	AML	17 58 56.0	
	comp=N,118nm,0.5s						
DOGA				*i* AML	AML	17 59 04.0	
	comp=E,96nm,1.0s						
KONT	**Konya--Tatoy**	**2.88**	**24**	Pn	**Pn**	17 58 15.1	+1.4
KONT	**Konya--Tatoy**	**2.88**	**24**	P	**Pn**	17 58 15.7	+2.0
KONT				S	**Sn**	17 58 48.7	+1.6
KIZK	**Mersin**	**2.89**	**65**	Pn	**Pn**	17 58 15.0	+1.2
YVAC	**Isparta, Yalva**	**2.96**	**5**	P	**Pn**	17 58 16.9	+2.1
YVAC				S	**Sn**	17 58 46.5	-2.8
KZIL	**AFYON_Kizioren**	**2.99**	**349**	P	**Pn**	17 58 17.3	+1.9
DAT	**Datca**	**3.03**	**299**	P	**Pn**	17 58 16.1	+0.3
DAT				S	Sn	17 58 41.8	-9.0
KARP	**Karpathos**	**3.05**	**275**		**Pn**	17 58 16.9	+1.0
KARP	**Karpathos**	**3.05**	**275**	P	**Pn**	17 58 17.0	+1.0
KARP				S	Sn	17 58 42.9	-8.3
KARP	**Karpathos**	**3.05**	**275**	↑*i* P	**Pn**	17 58 17.0	+1.0
KARP				S	**Sn**	17 58 52.0	+0.8
KARP				AML	AML	17 58 56.8	
	0.3nm,0.3s						
KARP				AML	AML	17 58 59.1	
	0.2nm,0.4s						
LADK	**Ladik-KONYA**	**3.11**	**22**	Pn	**Pn**	17 58 18.4	+1.4
ESEN	**Aydn-Nazilli**	**3.21**	**321**	P	**Pn**	17 58 18.3	+0.1
SHUT	**Suhut-Afyon**	**3.24**	**355**	Pn	**Pn**	17 58 20.7	+2.0
NIS1	**Nisyros Isl.**	**3.27**	**294**	P	**Pn**	17 58 19.5	+0.5
MERS	**Mersin**	**3.33**	**61**	Pn	**Pn**	17 58 21.2	+1.3
UCKU	**Afyonkarahisar**	**3.34**	**7**	P	**Pn**	17 58 21.2	+1.1
UCKU				S	**Sn**	17 58 52.5	-6.0
KDHN	**Kadinhani**	**3.35**	**17**	P	**Pn**	17 58 21.6	+1.4
KERG	**Konya-Eregli**	**3.35**	**50**	P	**Pn**	17 58 21.2	+0.9
KERG				S	**Sn**	17 58 56.3	-2.6
YESY	**Yesilyurt**	**3.37**	**42**	Pn	**Pn**	17 58 22.1	+1.6
BODT	**Bodrum**	**3.37**	**302**	P	**Pn**	17 58 20.8	+0.4
ALIN	**Konya, Altinte**	**3.38**	**28**	P	**Pn**	17 58 21.7	+1.1
KURO	**Afyon-Bolvadin**	**3.41**	**1**	P	**Pn**	17 58 22.5	+1.4
BNAZ	**Uak-Banaz**	**3.45**	**347**	P	**Pn**	17 58 23.2	+1.7
BNAZ				*i* AML	AML	17 59 04.0	

GEM					Sn	**Sn**	17 59 27.1	+0.5	
GEM	**Giv'at Ha'Em**	**4.48**	**117**		P	**Pn**	17 58 36.4	+0.8	
KIRS	**Kirsehir-Merke**	**4.51**	**32**		P	**Pn**	17 58 35.3	-0.8	
NATI	**Neve Ativ**	**4.51**	**116**		Pn	**Pn**	17 58 36.8	+0.7	
NATI					Sn	**Sn**	17 59 27.1	-0.2	
KOZT	**Kozan**	**4.54**	**60**		Pn	**Pn**	17 58 37.8	+1.4	
THR6	**Thira Island,**	**4.57**	**285**		P	**Pn**	17 58 37.6	+0.7	
THR3	**Thira Island,**	**4.58**	**285**		P	**Pn**	17 58 36.5	-0.5	
CMBO	**Columbo, Santo**	**4.59**	**286**		P	**Pn**	17 58 37.8	+0.6	
THR9	**Santorini-Faro**	**4.61**	**285**		P	**Pn**	17 58 36.9	-0.5	
SLTI	**Sal'it**	**4.63**	**130**		P	**Pn**	17 58 39.0	+1.3	
APE	**Apeiranthos**	**4.67**	**294**		P	**Pn**	17 58 38.9	+0.6	
SALP	**Salfit**	**4.84**	**131**		Pn	**Pn**	17 58 41.9	+1.3	
SALP					Sn	**Sn**	17 59 35.6	+0.2	
IDI	**Anoyia**	**4.90**	**271**		P	**Pn**	17 58 41.7	+0.2	
QRNJ	**Al-Qirein**	**4.91**	**126**		P	**Pn**	17 58 42.3	+0.8	
BR131	**Keskin Array S**	**4.91**	**26**			**Pn**	17 58 42.8	+1.0	
BRTR	**Keskin Array B**	**4.91**	**26**		Pn	**Pn**	17 58 43.6	+1.9	
BRTR	**Keskin Array B**	**4.91**	**26**		P	**Pn**	17 58 42.6	+0.8	
	1.2nm,0.5s,baz=195,slow=16,SNR=7.5								
BRTR					S	**Sn**	17 59 38.9	+1.5	
	2.0nm,0.7s,baz=217,slow=25,SNR=1.9								
HMDT	**Nahal Hemdat**	**4.93**	**127**		Pn	**Pn**	17 58 42.8	+1.0	
CHOS	**Chios island**	**4.94**	**310**		P	**Pn**	17 58 42.3	+0.3	
KZIT	**Kziot**	**5.30**	**145**		Pn	**Pn**	17 58 48.0	+1.1	
KZIT					Sn	**Sn**	17 59 46.1	-0.6	
DSI	**Dead Sea**	**5.30**	**134**		Pn	**Pn**	17 58 48.1	+1.1	
DSI					Sn	**Sn**	17 59 47.1	+0.3	
DSI	**Dead Sea**	**5.30**	**134**		P	**Pn**	17 58 47.6	+0.6	
MSBI	**Mazada**	**5.48**	**136**		Pn	**Pn**	17 58 50.2	+0.9	
IMMV	**Iera Moni Meta**	**5.64**	**273**		P	**Pn**	17 58 52.9	+1.3	
KARJ	**KARJ**	**5.79**	**135**		P	Pn	17 58 46.0	-7.6	
ASF	**Jabal al Asfar**	**5.91**	**120**		P	**Pn**	17 58 56.9	+1.5	
ASF	**Jabal al Asfar**	**5.91**	**120**		P	**Pn**	17 58 57.4	+1.9	
	0.9nm,0.3s,baz=329,slow=5.7,SNR=7.8								
ASF					S	**Sn**	18 00 03.5	+1.6	
	1.8nm,0.5s,baz=36,slow=22,SNR=1.2								
	2.1nm,0.3s								
ZFRI	**Zfri**	**5.97**	**142**		Pn	**Pn**	17 58 57.3	+1.2	
PRNI	**Paran**	**6.05**	**144**		Pn	**Pn**	17 58 57.9	+0.7	
PRNI	**Paran**	**6.05**	**144**		P	**Pn**	17 58 57.3	+0.1	
KRMI	**Paran Flat**	**6.11**	**147**		Pn	**Pn**	17 58 58.9	+0.7	
KRMI	**Paran Flat**	**6.11**	**147**		P	**Pn**	17 58 59.1	+0.9	
VLY	**Voula,Athens**	**6.24**	**296**		P	**Pn**	17 59 00.7	+0.9	
HRFI	**Mount Harif**	**6.33**	**145**		Pn	**Pn**	17 59 01.6	+0.6	
HRFI					Sn	**Sn**	18 00 11.4	-0.6	
HRFI	**Mount Harif**	**6.33**	**145**		P	**Pn**	17 59 01.6	+0.6	
MBRI	**Mt Berech**	**6.47**	**147**		Pn	**Pn**	17 59 05.1	+1.9	
MBRI	**Mt Berech**	**6.47**	**147**		P	**Pn**	17 59 04.8	+1.6	
AQBJ	**Aqaba**	**6.59**	**147**		P	**Pn**	17 59 06.2	+1.5	
EIL	**Elat**	**6.60**	**147**		Pn	**Pn**	17 59 05.6	+0.8	
EIL					Sn	**Sn**	18 00 18.2	-0.5	
EIL	**Elat**	**6.60**	**147**		P	**Pn**	17 59 05.6	+0.8	
	4.5nm,0.3s,baz=304,slow=3.6,SNR=33								
EIL					S	**Sn**	18 00 17.6	-1.1	
	7.7nm,0.5s,baz=355,slow=13,SNR=5.2								
	11nm,0.4s								
AKASG	**Malin Array Be**	**15.42**	**356**		P	**Pn**	18 01 06.9	+1.9	
	0.5nm,0.3s,baz=178,slow=10,SNR=5.3								
	0.1nm,0.3s								
GERES	**GERESS Array B**	**18.52**	**322**		P	**P**	18 01 44.4	+0.9	
	0.2nm,0.3s,baz=128,slow=15,SNR=4.1								
GERES					LR	LR	18 09 59.7		
	comp=Z,89nm,18.1s,baz=52,slow=40								
	0.8nm,0.5s								
KHC	**Kasperske Hory**	**18.77**	**323**		P	**P**	18 01 47.1	+0.9	
DAVOX	**Davos/Dischmat**	**19.48**	**312**		P	**P**	18 01 55.5	+1.4	
	0.2nm,0.3s,baz=162,slow=20,SNR=3.8								
	1.1nm,0.6s								
CLL	**Collm**	**20.52**	**327**	*i*	P	**P**	18 02 05.8	+0.7	
	comp=Z,5.0nm,0.8s								
SENIN	**Lac Senin/Sane**	**20.90**	**309**		P	**P**	18 02 09.2	-0.3	
SENIN					IAmb	IAmb	18 02 25.5		
	comp=Z,10.0nm,0.8s								
FIA1	**FINESS Array S**	**26.32**	**355**		P	**P**	18 03 00.4	-1.9	
FINES	**FINESS Array B**	**26.32**	**355**		P	**P**	18 03 00.2	-2.0	
FINES	**FINESS Array B**	**26.32**	**355**		P	**P**	18 03 01.0	-1.2	
	comp=Z,3.0nm,0.7s,baz=160,slow=13,SNR=9.4								
	comp=Z,3.0nm,0.7s								
HFS	**Hagfors**	**27.22**	**341**		P	**P**	18 03 11.6	+1.3	
	comp=Z,2.2nm,0.8s,baz=187,slow=20,SNR=4.4								
	comp=Z,2.2nm,0.8s								
ESDC	**Sonseca Array**	**27.88**	**289**		P	**P**	18 03 16.5	0.0	
	comp=Z,0.6nm,0.9s,baz=91,slow=8.9,SNR=2.7								
	comp=Z,0.6nm,0.9s								
ARU	**Arti**	**28.25**	**33**		P	**P**	18 03 18.2	-1.4	
ARU					IAmb	IAmb	18 03 51.1		
	comp=Z,5.7nm,1.3s								
ARU	**Arti**	**28.25**	**33**		P	**P**	18 03 18.6	-1.0	
	comp=Z,1.4nm,0.3s,baz=270,slow=15,SNR=3.9								
	comp=Z,1.4nm,0.3s								
NOA	**NORSAR Array B**	**28.65**	**340**		P	**P**	18 03 21.5	-1.7	
	comp=Z,1.1nm,0.8s,baz=140,slow=8.9,SNR=1.7								
NOA					ScP	**ScP**	18 10 10.4	-1.0	
	comp=Z,2.2nm,1.1s,baz=141,slow=2.8,SNR=2.9								
	comp=Z,1.1nm,0.8s								
TORD	**Torodi Ar. Bea**	**34.36**	**237**		P	**P**	18 04 15.3	+1.6	
	comp=Z,0.5nm,0.7s,baz=21,slow=10,SNR=3.4								
	comp=Z,0.5nm,0.7s								
KURBB	**Kurchatov Arra**	**37.38**	**51**		P	**P**	18 04 37.2	-2.0	
	comp=Z,0.4nm,0.3s,baz=236,slow=5.4,SNR=1.2								
KURBB					PcP	**PcP**	18 06 56.4	-1.2	
	comp=Z,0.2nm,0.2s,baz=272,slow=2.6,SNR=1.7								
	comp=Z,0.4nm,0.3s								
MAKZ	**Makanchi**	**39.55**	**57**		P	**P**	18 04 57.2	-0.4	
MK31	**Makanchi Array**	**39.77**	**57**		P	**P**	18 04 59.3	-0.1	
MKAR	**Makanchi Array**	**39.77**	**57**		P	**P**	18 04 59.8	+0.4	
MKAR	**Makanchi Array**	**39.77**	**57**		P	**P**	18 04 59.5	+0.1	
	comp=Z,1.0nm,0.7s,baz=284,slow=6.0,SNR=8.4								
	comp=Z,1.0nm,0.7s								
ZALV	**Zalesovo Beam**	**41.52**	**46**		P	**P**	18 05 13.1	-0.5	
	comp=Z,0.3nm,0.3s,baz=288,slow=5.5,SNR=1.5								
	comp=Z,0.3nm,0.3s								
SONM	**Songino Array**	**55.73**	**52**		P	**P**	18 07 03.5	+0.3	
SONM					IAmb	IAmb	18 07 39.8		
	comp=Z,2.2nm,1.3s								
SONM	**Songino Array**	**55.73**	**52**		P	**P**	18 07 03.1	0.0	
	comp=Z,0.5nm,0.5s,baz=269,slow=6.6,SNR=4.9								
	comp=Z,0.5nm,0.5s								
C18K	**Utukok River**	**75.95**	**5**		P	**P**	18 09 13.1	+0.2	
E28M	**Babbage River**	**76.14**	**356**		P	**P**	18 09 15.1	+1.2	
E28M					IAmb	IAmb	18 09 37.1		
	comp=Z,3.0nm,1.3s								
H29M	**Whitestone**	**78.45**	**356**		P	**P**	18 09 26.8	0.0	
H29M					IAmb	IAmb	18 09 53.5		
	comp=Z,5.7nm,1.5s								
G18K	**Tagagawik**	**78.84**	**4**		P	**P**	18 09 28.8	-0.2	
IMAR	**Indian Mountai**	**78.96**	**2**		P	**P**	18 09 29.4	-0.2	
J20K	**Nowinta River**	**80.76**	**2**		P	**P**	18 09 38.4	-1.0	
J20K					IAmb	IAmb	18 09 41.0		
	comp=Z,3.5nm,1.1s								
BCAR	**Beaver Creek A**	**81.78**	**357**		P	**P**	18 09 44.6	-0.3	

*IDC **21** 17:58:06.4±2.9, 36˚.20N×70˚.76E, h173^{km}±24^{km}, mb3.2/11, mbtmp3.7/17, MS3.3/1, Error ellipse: s-maj=22.4km s-min=15.4km az=176.0*
*NEIC **21** 17:58:10.6±1.0, 36˚.46N±0˚.08×70˚.7E±0˚.1, h208^{km}±5^{km}, mb4.1/6, Error ellipse: s-maj=13.1km s-min=10.6km az=70.0*
*NNC **21** 17:58:15.6±2.5, 36˚.87N×70˚.69E, h203^{km}±36^{km}, mb2.9, mpv4.2, Error ellipse: s-maj=24.4km s-min=17.1km az=20.0*

ISC 21 17:58:09.2±0.5,**36˚.34N**±0˚.05×**70˚.67E**±0˚.05,**h204**^{km},**n76,** σ**2^{s}33**/85,**mb3.4**/14,**3C-3D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.23**	**217**		**Pn**	17 58 53.0	+2.3
CHGR	**Chuyangaron**	**2.60**	**333**	Pn	**Pn**	17 58 55.0	+0.5
NIL	**Nilore**	**3.42**	**141**		**Pn**	17 59 06.9	+2.8
BTK	**Batken**	**3.71**	**2**	Pn	**Pn**	17 59 08.4	+0.8
JMU	**Jammu**	**5.03**	**135**	*e*S	**S**	18 00 18.9	-3.8
KSH	**Kashi**	**5.26**	**51**	P	**Pn**	17 59 22.9	-4.1
KSH				S	S	18 00 16.9	-11
KSH				pmax	pmax		
	comp=Z,91nm,0.6s						
KSH				smax	smax		
	comp=N,140nm,0.6s						
KSH				smax	smax		
	comp=E,98nm,0.6s						
ARSB	**Arslanbob**	**5.29**	**19**	Pn	**Pn**	17 59 26.8	-0.7
DHRM	**DHARAMSHALA**	**6.20**	**130**	*e*P	**Pn**	17 59 40.9	+1.6
DHRM				*e*S	**S**	18 00 48.0	-2.2
DHRM				IAML		18 00 51.8	
	comp=E,85nm,0.4s						
AML	**Almayashu**	**6.24**	**21**	P	**Pn**	17 59 39.9	-0.1
	SNR=193						
AML	**Almayashu**	**6.24**	**21**	⇑P	**Pn**	17 59 39.7	-0.2
	comp=E,8.6nm,0.5s						
AML				S	**S**	18 00 47.1	-4.4
	comp=E,23nm,0.7s						
NRN	**Naryn**	**6.57**	**38**	Pn	**Pn**	17 59 44.8	+0.7
UCH	**Uchtor**	**6.59**	**26**	P	**Pn**	17 59 44.3	-0.2
	SNR=54						
KZA	**Kyzart**	**6.74**	**30**	P	**Pn**	17 59 45.9	-0.5
	SNR=12						
EKS2	**Erkin-Say**	**6.75**	**20**	P	**Pn**	17 59 46.5	+0.3
	SNR=50						
KK31	**Karatay Array**	**6.75**	**359**	Pn	**Pn**	17 59 45.5	-0.7
KK31	**Karatay Array**	**6.75**	**359**	P	**Pn**	17 59 46.1	-0.1
	comp=E,5.6nm,0.4s,baz=183,slow=12,SNR=78						
KK31				⇓S	**S**	18 00 57.5	-5.6
	comp=E,21nm,0.5s,baz=189,slow=18,SNR=16						
KKAR	**Karatay Array**	**6.75**	**359**	Pn	**Pn**	17 59 45.5	-0.6
KKAR	**Karatay Array**	**6.75**	**359**	Pn	**Pn**	17 59 45.7	-0.5
BHK	**Bhakra**	**6.85**	**134**	*e*S	**S**	18 01 03.8	-1.8
AAK	**Ala-Archa**	**6.95**	**24**	P	**Pn**	17 59 49.0	+0.2
	SNR=22						
AAK	**Ala-Archa**	**6.95**	**24**	Pn	**Pn**	17 59 48.9	+0.1
AAK	**Ala-Archa**	**6.95**	**24**	P	**Pn**	17 59 49.0	+0.2
	comp=E,18nm,0.5s,baz=205,slow=10.0,SNR=99						
AAK				S	**S**	18 01 04.0	-3.8
	comp=E,17nm,0.9s,baz=144,slow=24,SNR=16						
KBK	**Karagaybulak**	**7.12**	**26**	P	**Pn**	17 59 51.3	+0.2
	SNR=21						
FRU1	**Bishkek**	**7.15**	**24**		**Pn**	17 59 51.3	0.0
ULHL	**Ulahol**	**7.31**	**35**	P	**Pn**	17 59 53.6	+0.1
	SNR=7.3						
CHMS	**Chumysh**	**7.36**	**24**	P	**Pn**	17 59 54.0	0.0
	SNR=16						
SMLA	**Simla**	**7.50**	**132**	*e*S	**S**	18 01 17.6	-3.3
SMLA				IAML		18 01 25.6	
	comp=N,36nm,0.6s						
SMLA				IAML		18 01 26.9	
	comp=E,30nm,0.5s						
USP	**Ospenovka**	**7.52**	**22**	P	**Pn**	17 59 55.2	-0.9
	SNR=7.2						
TKM2	**Tokmak 2**	**7.59**	**29**	P	**Pn**	17 59 57.3	+0.1
	SNR=50						
TKM2	**Tokmak 2**	**7.59**	**29**	⇓P	**Pn**	17 59 57.3	+0.1
	comp=E,27nm,0.6s						
TKM2				⇑S	**S**	18 01 19.3	-3.8
	comp=E,3.1nm,0.6s						
TARG	**Taragay, Kyrgy**	**7.73**	**44**	Pn	**Pn**	17 59 59.0	-0.2
PRZ	**Przheval'sk**	**8.57**	**42**	Pn	**Pn**	18 00 10.2	+0.3
KHET	**Khetri**	**9.32**	**151**	*e*S	**S**	18 01 59.6	-4.7
KUDL	**Kundal**	**9.54**	**147**	*e*S	**S**	18 02 01.3	-8.2
GEYT	**Alibeck**	**10.15**	**283**	P	**Pn**	18 00 30.7	+0.5
	comp=E,0.5nm,0.3s,baz=90,slow=14,SNR=2.2						
GEYT				S	**S**	18 02 21.0	-3.1
	comp=E,1.6nm,0.6s,baz=116,slow=20,SNR=2.4						
LGTI	**Lohaghat**	**10.58**	**128**	*e*S	**S**	18 02 27.0	-7.4
MAKZ	**Makanchi**	**13.44**	**35**	P	**Pn**	18 01 11.6	-0.3
MK31	**Makanchi Array**	**13.58**	**36**		**Pn**	18 01 13.4	-0.2
MKAR	**Makanchi Array**	**13.58**	**36**	Pn	**Pn**	18 01 13.4	-0.2
MKAR	**Makanchi Array**	**13.58**	**36**	P	**Pn**	18 01 13.3	-0.3
	comp=E,1.4nm,0.7s,baz=230,slow=14,SNR=11						
DANN	**Dangsing**	**13.63**	**122**	*e*P	**P**	18 01 20.8	+3.8
WMQ	**Urumqi**	**15.01**	**55**	*e*P	**P**	18 01 32.9	+1.0
AB31	**Akbulak array**	**15.10**	**332**	⇑P	**P**	18 01 34.5	+1.8
	comp=E,0.5nm,0.5s,baz=147,slow=12,SNR=16						
ABKAR	**Akbulak array**	**15.10**	**332**	P	**P**	18 01 34.1	+1.4
PKIN	**Phulchoki**	**15.24**	**121**	*e*P	**P**	18 01 38.2	+3.4
	comp=E,7.6nm,0.4s						
PKI	**Pulchoki**	**15.25**	**121**	*e*P	**P**	18 01 38.3	+3.3
KURBB	**Kurchatov Arra**	**15.36**	**19**	P	**Pn**	18 01 34.2	-1.2
	comp=E,0.8nm,0.3s,baz=206,slow=11,SNR=1.6						
GUN	**Gumba**	**15.37**	**119**	*e*P	**P**	18 01 40.8	+4.5
RAMN	**Ramite**	**16.46**	**120**	*e*P	**Pn**	18 01 50.5	+1.3
BVAR	**Borovoye Array**	**16.68**	**359**	P	**Pn**	18 01 50.6	-0.6
	comp=E,0.7nm,0.5s,baz=156,slow=12,SNR=6.8						
AKTO	**Aktyubinsk**	**16.79**	**331**	P	**Pn**	18 01 52.2	-0.3
	comp=E,1.4nm,0.6s,baz=139,slow=8.9,SNR=4.8						
AKTO	**Aktyubinsk**	**16.79**	**331**	⇓P	**Pn**	18 01 51.9	-0.6
	comp=E,1.0nm,0.8s						
UOSS	**Minazif**	**16.83**	**232**	P	**Pn**	18 01 53.7	+0.5
UOSS				IAmb	IAmb	18 02 00.6	
	comp=Z,14nm,1.4s						
TAPN	**Taplejung**	**17.01**	**117**	*e*P	**Pn**	18 01 57.8	+2.1
	comp=Z,3.6nm,0.4s						
ZAA0	**Zalesovo Array**	**20.17**	**25**	P	**P**	18 02 28.3	+0.5
ZAA0				IAmb	IAmb	18 02 29.4	
	comp=Z,3.6nm,0.5s						
ZALV	**Zalesovo Beam**	**20.17**	**25**	P	**P**	18 02 28.4	+0.5
ZALV	**Zalesovo Beam**	**20.17**	**25**	P	**P**	18 02 28.7	+0.9
	comp=Z,3.7nm,0.4s,baz=216,slow=11,SNR=19						
	comp=Z,3.7nm,0.4s						
SHL	**Shillong**	**21.08**	**115**	P	**P**	18 02 38.9	+0.8
ARU	**Arti**	**21.70**	**342**	P	**P**	18 02 43.5	-0.2
ARU				IAmb	IAmb	18 03 16.6	
	comp=Z,7.1nm,1.4s						
ARU	**Arti**	**21.70**	**342**	P	**P**	18 02 45.7	+1.9
	comp=Z,2.3nm,0.6s,baz=176,slow=13,SNR=5.3						
	comp=Z,2.3nm,0.6s						
PZH	**PanZhiHua**	**28.17**	**102**	P	**P**	18 03 44.9	+2.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,7.3s						
SONM	**Songino Array**	**28.64**	**55**	P	**P**	18 03 47.1	+0.3
	comp=Z,0.2nm,0.4s,baz=269,slow=8.4,SNR=1.7						
	comp=Z,0.2nm,0.4s						
BRTR	**Keskin Array B**	**29.23**	**288**	P	**P**	18 03 51.9	-0.2
HHC	**Hu-ho-hao-te**	**32.07**	**69**	*e*P	**P**	18 04 19.8	+2.8
HHC				pmax	pmax		
	comp=Z,33nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,4.1s						
FINES	**FINESS Array B**	**37.47**	**326**	P	**P**	18 05 05.0	+2.3
	comp=Z,3.0nm,1.0s,baz=126,slow=9.1,SNR=1.2						
	comp=Z,3.0nm,1.0s						
ARCES	**ARCESS Array B**	**41.19**	**338**	LR	LR	18 22 57.7	
	comp=Z,39nm,18.9s,baz=115,slow=36						
HFS	**Hagfors**	**43.03**	**322**	P	**P**	18 05 50.0	+1.7
	comp=Z,0.6nm,0.4s,baz=77,slow=14,SNR=1.3						
	comp=Z,0.6nm,0.4s						
STAL	**STALIGIAL**	**43.77**	**302**	P	**P**	18 05 52.8	-1.7
STAL				IAmb	IAmb	18 06 27.4	
	comp=Z,12nm,1.4s						
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	18 06 00.4	+1.5
	comp=Z,0.3nm,0.5s,baz=97,slow=7.7,SNR=1.4						
	comp=Z,0.3nm,0.5s						
MDJ	**Mudanjiang**	**44.71**	**60**	P	**P**	18 06 01.9	0.0
MDJ				pP	pP	18 06 46.3	-0.7
MDJ				sP	sP	18 07 13.1	+2.7
MDJ				ScP	**ScP**	18 11 10.3	-3.0
MDJ				PcS	**PcS**	18 11 30.3	-4.0
MDJ				S	**S**	18 12 25.8	+2.9
MDJ				sS	sS	18 13 42.0	+0.6
MDJ				ScS	**ScS**	18 15 36.1	-1.2
MDJ				SS	SS	18 15 59.0	+11
MDJ				pmax	pmax		
	comp=Z,5.0nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,160nm,4.2s						
TIXI	**Tiksi**	**46.02**	**22**	P	**P**	18 06 13.2	+1.4
TORD	**Torodi Ar. Bea**	**65.45**	**269**	P	**P**	18 08 30.2	-0.4
	comp=Z,0.3nm,0.6s,baz=58,slow=6.2,SNR=2.0						
	comp=Z,0.3nm,0.6s						
ILAR	**Eielson Array**	**75.00**	**16**	P	**P**	18 09 28.8	+1.1
	comp=Z,0.5nm,0.9s,baz=330,slow=5.2,SNR=4.4						
	comp=Z,0.5nm,0.9s						
YKA	**Yellowknife Ar**	**81.42**	**2**	P	**P**	18 10 04.0	+1.1
	comp=Z,0.3nm,0.7s,baz=345,slow=5.6,SNR=6.3						
	comp=Z,0.3nm,0.7s						
WRA	**Warramunga Arr**	**82.14**	**122**	P	**P**	18 10 07.4	+0.1
	comp=Z,0.4nm,0.8s,baz=324,slow=4.9,SNR=6.5						
	comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**84.39**	**125**	P	**P**	18 10 18.4	-0.3
	comp=Z,0.5nm,0.8s,baz=315,slow=5.3,SNR=5.7						
	comp=Z,0.5nm,0.8s						

*UPP **21** 18:01:04.3±0.1, 67˚.07N×20˚.95E, h0^{km}, ML2.4, Suspected explosion*
*IDC **21** 18:01:05.3±1.0, 67˚.06N×21˚.31E, h0^{km}, mbtmp3.1/4, ML2.0/4, Error ellipse: s-maj=20.4km s-min=9.4km az=110.0*

*BER **21** 18:01:06.9±1.6, 67˚.02N×21˚.13E, h0^{km}, ML1.9, Suspected explosion*

ISC 21 18:01:03.9±0.9,**67˚.07N**±0˚.03×**21˚.02E**±0˚.04,**h0**^{km},**n25,** σ**0^{s}91**/28,**Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.18**	**287**	P	**Pg**	18 01 07.5	+0.2
DUNU				S	**Sg**	18 01 09.5	-0.2
MASU	**Masugnsbyn**	**0.55**	**44**	P	**Pb**	18 01 15.1	-1.3
ERTU	**Ertsjaerv**	**0.69**	**137**	P	**Pb**	18 01 17.8	-1.0
PAJU	**Pajala**	**0.82**	**92**	P	**Pb**	18 01 20.2	-0.9
HARU	**Harads**	**0.91**	**181**	P	**Pb**	18 01 21.4	-1.1
KUA	**Kurravaara**	**0.93**	**344**	P	**Pg**	18 01 21.2	-0.5
RATU	**Laukkuluspa**	**0.94**	**325**	P	**Pg**	18 01 21.2	-0.6
SALU	**Saltoluokta**	**1.03**	**289**	P	**Pg**	18 01 22.9	-0.6
LANU	**Lannavaara**	**1.05**	**20**	P	**Pg**	18 01 23.7	-0.4
KOVU	**Salmi**	**1.21**	**345**	P	**Pg**	18 01 26.3	-0.6
KALU	**Kalix**	**1.54**	**141**	P	**Pg**	18 01 32.8	-0.4
SJUU	**Sjulsmark**	**1.58**	**171**	P	**Pb**	18 01 33.4	-0.6
HEF	**Hetta**	**1.68**	**36**	*e*P	**Pb**	18 01 35.0	-0.7
KTK1	**Kautokeino**	**2.12**	**22**	*e*P	**Pb**	18 01 42.9	-0.3
KTK1				IAML		18 02 14.6	
	comp=Z,8.9nm,0.3s						
FAUS	**Fauske**	**2.25**	**281**	*e*P	**Pn**	18 01 43.6	+1.3
FAUS				IAML		18 02 21.0	
	comp=Z,15nm,0.6s						
JETT	**Jettan, Norway**	**2.51**	**355**	*e*P	**Pb**	18 01 48.7	-1.1
JETT				IAML		18 02 24.9	
	comp=Z,24nm,0.2s						
MOR8	**Moi Rana**	**2.77**	**254**	*e*P	**Pn**	18 01 50.0	+0.5
ARA0	**ARCESS Array S**	**2.99**	**32**	*e*P	**Pn**	18 01 53.6	+1.1
ARA0				IAML		18 02 41.2	
	comp=Z,5.7nm,0.2s						
ARCES	**ARCESS Array B**	**2.99**	**32**	Pn	**Pn**	18 01 53.4	+0.9
	comp=Z,0.5nm,0.3s,baz=210,slow=14,SNR=62						
ARCES				Sn	**Sn**	18 02 29.6	+0.7
	comp=Z,0.4nm,0.3s,baz=210,slow=14,SNR=1.1						
	comp=Z,2.3nm,0.2s						
LOF	**Lofoten**	**3.06**	**294**	*e*P	**Pn**	18 01 54.4	+1.1
KONS	**Konsvik**	**3.18**	**263**	*e*P	**Pn**	18 01 56.5	+1.5
KEV	**Kevo**	**3.49**	**37**	*e*P	**Pn**	18 02 00.3	+1.0
FINES	**FINESS Array B**	**6.06**	**156**	Pn	**Pn**	18 02 36.1	+1.5
	comp=Z,0.1nm,0.3s,baz=342,slow=13,SNR=2.9						
FINES				Sn	**Sn**	18 03 44.6	+0.1
	comp=Z,0.3nm,0.3s,baz=349,slow=21,SNR=8.0						
	comp=Z,5.5nm,1.1s						
NOA	**NORSAR Array B**	**7.41**	**220**	Pn	**Pn**	18 02 54.2	+1.0
	baz=39,slow=11,SNR=6.4						
	comp=Z,0.4nm,0.7s						
HFS	**Hagfors**	**7.68**	**209**	Pn	**Pn**	18 02 56.3	-0.5
	comp=Z,0.1nm,0.3s,baz=24,slow=13,SNR=1.1						
	comp=Z,0.5nm,0.4s						

*IDC **21** 18:08:23.7±0.6, 10˚.78S×113˚.59E, h0^{km}, mb4.0/16, mbtmp4.0/17, ML3.6/1, MS3.2/2, Error ellipse: s-maj=24.7km s-min=11.9km az=54.0*
*DJA **21** 18:08:23.8±0.3, 11˚.S±3˚×11˚.4E±˚, h10^{km}, M4.8/16, mb4.7/13, mB4.8/1, MLv4.8/16, Mw(mB)4.0/1*
*NEIC **21** 18:08:25.8±1.6, 10˚.79S±0˚.09×113˚.64E±0˚.10, h10^{km}±1^{km}, mb4.4/17, Error ellipse: s-maj=17.3km s-min=14.1km az=123.0*

**ISC 21 18:08

comp=Z,1.3nm,0.8s,baz=52,slow=3.0,SNR=3.0
comp=Z,1.3nm,0.8s

CRAI	**Chiangrai**	**33.54**	**337**	P		**P**	**18 15 05.4**	**+0.5**
CRAI				IAmb		IAmb	18 15 18.9	
	comp=Z,4.5nm,0.9s							
H08S2	**Diego Garcia H**	**40.67**	**271**	T		T	18 59 31.5	
	baz=97,slow=74							
H08S3	**Diego Garcia H**	**40.68**	**271**	T		T	18 59 24.7	
	baz=97,slow=74,SNR=23							
H08S1	**Diego Garcia H**	**40.69**	**271**	T		T	18 59 36.0	
	baz=97							
RAMN	**Ramite**	**45.84**	**326**	*e*P		**P**	**18 16 49.2**	**+1.7**
	comp=Z,2.7nm,0.5s							
GUN	**Gumba**	**46.98**	**326**	*e*P		**P**	**18 16 55.7**	**-0.9**
	comp=Z,6.1nm,0.4s							
GKN	**Gorkha**	**47.75**	**325**	*e*P		**P**	**18 17 01.6**	**-0.8**
	comp=Z,3.7nm,0.4s							
JMN	**Monobe**	**48.38**	**23**	P		**P**	**18 17 06.0**	**-1.0**
DANN	**Dangsing**	**48.52**	**324**	*e*P		**P**	**18 17 06.6**	**-1.9**
	comp=Z,6.7nm,0.5s							
PYUN	**Piuthan**	**48.78**	**323**	*e*P		**P**	**18 17 08.5**	**-1.9**
KSRS	**Korea Array**	**49.93**	**15**	P		**P**	**18 17 18.6**	**0.0**
	comp=Z,0.8nm,0.6s,baz=202,slow=6.5,SNR=4.6							
	comp=Z,0.8nm,0.6s							
MJAR	**Matsushiro Arr**	**52.56**	**25**	P		**P**	**18 17 38.2**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=195,slow=8.8,SNR=3.0							
	comp=Z,1.3nm,0.6s							
USRK	**Ussuriysk Ar.**	**57.31**	**16**	P		**P**	**18 18 12.5**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=196,slow=7.7,SNR=10							
	comp=Z,3.2nm,0.6s							
SONM	**Songino Array**	**58.80**	**354**	P		**P**	**18 18 23.0**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=175,slow=9.3,SNR=6.0							
	comp=Z,0.5nm,0.3s							
MK31	**Makanchi Array**	**63.88**	**337**	P		**P**	**18 18 57.3**	**-0.3**
MK31				IAmb		IAmb	18 19 02.6	
	comp=Z,1.3nm,0.8s							
MKAR	**Makanchi Array**	**63.88**	**337**	P		**P**	**18 18 57.3**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=152,slow=7.0,SNR=17							
	comp=Z,0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**68.44**	**337**	P		**P**	**18 19 26.4**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=152,slow=5.9,SNR=7.3							
	comp=Z,0.9nm,0.7s							
KURK	**Kurchatov**	**68.48**	**337**	P		**P**	**18 19 26.6**	**-0.3**
KURK				IAmb		IAmb	18 19 32.2	
	comp=Z,2.3nm,0.9s							
ZALV	**Zalesovo Beam**	**69.05**	**342**	P		**P**	**18 19 29.9**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=161,slow=7.2,SNR=3.9							
	comp=Z,1.6nm,0.7s							
VNDA	**Vanda**	**71.01**	**170**	P		**P**	**18 19 44.0**	**+1.6**
	comp=Z,1.2nm,0.9s,baz=75,slow=4.4,SNR=4.2							
	comp=Z,1.2nm,0.9s							
BVAR	**Borovoye Array**	**73.56**	**334**	P		**P**	**18 19 57.4**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=141,slow=7.6,SNR=3.8							
	comp=Z,0.5nm,0.5s							
ABKAR	**Akbulak array**	**76.13**	**327**	P		**P**	**18 20 12.5**	**-0.3**
QSPA	**South Pole Qui**	**79.13**	**180**	P		**P**	**18 20 30.4**	**+0.9**
QSPA				IAmb		IAmb	18 20 38.3	
	comp=Z,5.6nm,1.4s							
QSPA	**South Pole Qui**	**79.13**	**180**	P		**P**	**18 20 30.4**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=307,slow=1.9,SNR=3.0							
	comp=Z,1.3nm,0.9s							
BOSA	**Boshof**	**83.43**	**242**	P		**P**	**18 20 53.7**	**+0.6**
BOSA	**Boshof**	**83.43**	**242**	P		**P**	**18 20 53.8**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=131,slow=9.7,SNR=3.3							
	comp=Z,2.2nm,0.8s							
SNAA	**Sanae**	**87.73**	**196**	P		**P**	**18 21 14.9**	**+1.3**
SNAA	**Sanae**	**87.73**	**196**	P		**P**	**18 21 14.6**	**+1.0**
	comp=Z,2.8nm,0.9s,baz=24,slow=7.7,SNR=3.0							
	comp=Z,2.8nm,0.9s							
YKA	**Yellowknife Ar**	**118.04**	**23**	PKP		**PKiKP**	**18 27 12.0**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=325,slow=2.7,SNR=6.0							

TEH 21 18:11:23.1,31°39N×56°30E,h6km±13km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.47**	**154**	Pg	Pg	18 11 32.7	+0.6
IBAF	**Bafgh**	**0.66**	**288**	Pg	Pg	18 11 36.2	+0.4
KHGB	**Koh Gabri**	**1.02**	**171**	Pg	Pg	18 11 42.9	+0.2
KRM1	**Kerman Provinc**	**1.22**	**136**	Pg	Pn	18 11 46.9	+0.1
IMEH	**Mehriz**	**1.44**	**271**	Pg	Pg	18 11 51.1	+0.3
TVBK	**TV Kerman**	**1.45**	**164**	Pg	Pg	18 11 51.4	+0.4
TPRV	**Parvadeh(Tabas**	**1.67**	**11**	Pg	Pg	18 11 55.5	+0.4
NGRK	**Negar Kerman**	**1.78**	**168**	Pg	Pb	18 11 56.5	+0.3
ICHK	**Chekchek**	**1.82**	**298**	Pn	Pg	18 11 57.6	-0.5
CHMN	**Cheshme madani**	**1.86**	**145**	Pn	Pg	18 11 58.3	-0.5
TKDS	**Koohdasht(Taba**	**2.33**	**17**	Pn	Pb	18 12 04.8	-0.7
BSRN	**Basiran**	**2.48**	**76**	Pn	Pn	18 12 06.1	+1.9
IKOO	**Kooshah**	**2.52**	**65**	Pn	Pb	18 12 07.0	-2.0
ITEG	**Tejag**	**2.57**	**53**	Pn	Pb	18 12 07.9	-1.8
TNSJ	**Nastanj**	**2.58**	**6**	Pn	Pb	18 12 07.9	-1.9
ANAR	**Anarak**	**2.82**	**310**	Pn	Pn	18 12 11.2	+2.4
AFRZ	**Afriz**	**3.07**	**48**	Pn	Pn	18 12 14.9	+2.7
NHDN	**Nehbandan**	**3.21**	**89**	Pn	Pn	18 12 16.6	+2.4
IDAH	**Dahanechah**	**3.32**	**65**	Pn	Pn	18 12 18.1	+2.4
DSBU	**Dashti - Bushe**	**5.31**	**237**	Pn	Pn	18 12 45.5	+2.5
IPAY	**Payeh**	**5.53**	**23**	Pn	Pn	18 12 49.3	+3.2
IAKL	**Akhelmad**	**5.59**	**21**	Pn	Pn	18 12 49.8	+2.8
ISFR	**Sfrayin**	**5.83**	**14**	Pn	Pn	18 12 53.0	+2.8
IKRD	**Kardeh**	**6.00**	**26**	Pn	Pn	18 12 55.8	+3.1
MRVT	**Maraveh tapeh**	**6.26**	**358**	Pn	Pn	18 12 59.2	+3.1
IEMG	**Emamgholi**	**6.32**	**17**	Pn	Pn	18 13 00.8	+3.7

*IDC **21** 18:21:48.8±1.9,8°17S×159°71E,h0km,mb3.7/5, mbtmp3.7/5,MS3.6/2,Error ellipse: s-maj=46.9km s-min=18.8km az=73.0*

ISC 21 18:21:53.7±1.7,8°2S±0°1×159°8E±0°3,h35km,n14, σ1§27/7,mb3.6/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.27**	**171**	Pn	**Pn**	**18 22 14.1**	**-0.9**
	874nm,0.3s,baz=220,slow=4.7,SNR=53						
HNR				Sn	**Sn**	**18 22 32.3**	**+1.5**
	5μm,0.3s,baz=13,slow=24,SNR=18						
HNR				LR	LR	18 22 40.6	
	comp=Z,1μm,18.6s,baz=48,slow=41						
WRA	**Warramunga Arr**	**27.25**	**242**	P	**P**	**18 27 34.7**	**-0.2**
	0.8nm,0.5s,baz=69,slow=9.3,SNR=16						
	0.8nm,0.5s						
H11S2	**WAKE ISLAND Hy**	**27.36**	**14**	T	T	18 56 04.0	
	baz=194,slow=76,SNR=716						
H11S3	**WAKE ISLAND Hy**	**27.36**	**14**	T	T	18 56 03.9	
	baz=194,slow=76,SNR=448						
H11S1	**WAKE ISLAND Hy**	**27.38**	**14**	T	T	18 56 05.1	
	baz=194,slow=76,SNR=351						
H11N1	**WAKE ISLAND Hy**	**28.58**	**14**	T	T	18 57 37.5	
	baz=194,slow=76,SNR=240						
H11N3	**WAKE ISLAND Hy**	**28.59**	**14**	T	T	18 57 37.9	
	baz=194,slow=76,SNR=242						
H11N2	**WAKE ISLAND Hy**	**28.60**	**14**	T	T	18 57 39.0	
	baz=194,slow=76,SNR=267						
ASAR	**Alice Springs**	**29.17**	**235**	P	**P**	**18 27 51.0**	**-0.9**
	0.6nm,0.6s,baz=61,slow=9.7,SNR=15						
	0.6nm,0.6s						
JOW	**Kunigami**	**46.29**	**320**	LR	LR	18 47 53.9	
	comp=Z,83nm,19.8s,baz=352,slow=34						
CMAR	**Chiang Mai Ar**	**65.55**	**294**	P	**P**	**18 32 35.7**	**+1.4**
	1.0nm,0.8s,baz=123,slow=4.6,SNR=7.6						
	1.0nm,0.8s						
SONM	**Songino Array**	**72.92**	**326**	P	**P**	**18 33 19.8**	**+0.3**
	0.6nm,0.8s,baz=111,slow=7.9,SNR=3.3						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**87.42**	**318**	P	**P**	**18 34 36.8**	**-0.8**
	0.2nm,0.7s,baz=110,slow=4.9,SNR=2.0						
	0.2nm,0.7s						
PDAR	**Pinedale Array**	**95.98**	**48**	LR	LR	19 21 01.6	
	comp=Z,25nm,18.3s,baz=252,slow=37						

*TEH **21** 18:33:41.5,31°40N×56°31E,h7km±19km,ML4.3*
*IDC **21** 18:33:42.5±0.8,31°35N×56°24E,h0km,mb3.9/16, mbtmp4.0/21,ML3.8/5,MS3.3/8,Error ellipse: s-maj=17.3km s-min=16.5km az=142.0*
*MOS **21** 18:33:42.3±1.6,31°40N×56°12E,h13km,mb4.3/10,Error ellipse: s-maj=9.5km s-min=6.6km az=84.0*
*NEIC **21** 18:33:43.3±1.4,31°37N±0°09×56°2E±0°1,h10km±1km, mb4.3/22,Error ellipse: s-maj=21.4km s-min=13.9km az=111.0*

ISC 21 18:33:43.3±0.4,31°36N±0°04×56°24E±0°04,h10km,n144, σ1§31/146,mb4.1/40,MS3.2/7,3C-1D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.46**	**146**	Pg	**Pg**	**18 33 51.5**	**-0.9**
ZRDN				Sg	**Sg**	**18 33 58.4**	**-0.2**
IBAF	**Bafgh**	**0.62**	**292**	Pg	**Pg**	**18 33 54.8**	**-0.5**
KHGB	**Koh Gabri**	**1.00**	**168**	Pg	**Pg**	**18 34 01.4**	**-1.1**
KRM1	**Kerman Provinc**	**1.23**	**133**	Pg	**Pn**	**18 34 05.9**	**-0.8**
IMEH	**Mehriz**	**1.39**	**272**	Pg	**Pb**	**18 34 09.4**	**0.0**
TVBK	**TV Kerman**	**1.44**	**162**	Pg	**Pn**	**18 34 09.8**	**+0.1**
TPRV	**Parvadeh(Tabas**	**1.71**	**13**	Pg	**Pn**	**18 34 13.7**	**+0.5**
NGRK	**Negar Kerman**	**1.76**	**166**	Pg	**Pn**	**18 34 15.6**	**+1.5**
ICHK	**Chekchek**	**1.79**	**300**	Pn	**Pb**	**18 34 16.1**	**-0.2**
CHMN	**Cheshme madani**	**1.87**	**143**	Pn	**Pn**	**18 34 16.9**	**+1.3**
ISAD	**Sadrabad**	**2.25**	**285**	Pn	**Pn**	**18 34 22.7**	**-1.4**
TKDS	**Koohdasht(Taba**	**2.37**	**18**	Pn	**Pn**	**18 34 22.8**	**+0.4**
BSRN	**Basiran**	**2.54**	**75**	Pn	**Pn**	**18 34 24.3**	**-0.4**
IKOO	**Kooshah**	**2.58**	**65**	Pn	**Pn**	**18 34 24.9**	**-0.5**
TNSJ	**Nastanj**	**2.62**	**7**	Pn	**Pn**	**18 34 26.2**	**+0.4**
ITEG	**Tejag**	**2.63**	**54**	Pn	**Pn**	**18 34 25.6**	**-0.3**
ANAR	**Anarak**	**2.80**	**311**	Pn	**Pn**	**18 34 30.0**	**+1.7**
KBAM	**BAM**	**2.93**	**139**	Pn	**Pn**	**18 34 31.1**	**+1.1**
AFRZ	**Afriz**	**3.13**	**48**	Pn	**Pn**	**18 34 32.8**	**0.0**
NHDN	**Nehbandan**	**3.26**	**88**	Pn	**Pn**	**18 34 34.8**	**+0.2**
IDAH	**Dahanechah**	**3.38**	**65**	Pn	**Pn**	**18 34 36.2**	**-0.1**
IBND	**Bandar-abas**	**3.90**	**176**	Pn	**Pn**	**18 34 44.5**	**+1.3**
GENO	**Geno**	**3.94**	**181**	Pn	**Pn**	**18 34 45.8**	**+1.8**
SHRT	**Shahrakht**	**4.12**	**55**	Pn	**Pn**	**18 34 46.9**	**+0.6**
ZHDN	**Zahedan**	**4.41**	**115**	Pn	**Pn**	**18 34 51.5**	**+1.1**
IANJ	**Anjilo**	**4.54**	**335**	Pn	**Pn**	**18 34 53.4**	**+1.2**
TBHD	**Torbat heydari**	**4.76**	**31**	Pn	**Pn**	**18 34 56.3**	**+1.1**
ILAS	**Lasjerd**	**4.86**	**327**	Pn	**Pn**	**18 34 58.0**	**+1.3**
SBZV	**Sabzevar**	**5.15**	**12**	Pn	**Pn**	**18 35 02.1**	**+1.5**
IFIR	**Firoozkooh**	**5.17**	**327**	Pn	**Pn**	**18 35 02.4**	**+1.5**
TBJM	**Torbat-e-JAM**	**5.19**	**40**	Pn	**Pn**	**18 35 02.1**	**+0.9**
SHME	**Shamm**	**5.29**	**181**	Pn	**Pn**	**18 35 04.9**	**+2.5**
IMOG	**Moghan**	**5.40**	**28**	Pn	**Pn**	**18 35 05.2**	**+1.1**
BANOM	**Banah**	**5.41**	**179**	Pn	**Pn**	**18 35 05.5**	**+1.4**
IDMV	**Damavand**	**5.48**	**321**	Pn	**Pn**	**18 35 05.7**	**+0.4**
IPAY	**Payeh**	**5.58**	**24**	Pn	**Pn**	**18 35 08.1**	**+1.6**
IAKL	**Akhelmad**	**5.64**	**21**	Pn	**Pn**	**18 35 08.3**	**+0.9**
JASK	**Jask - Hormozg**	**5.65**	**165**	Pn	**Pn**	**18 35 09.0**	**+1.6**
JRKH	**Jarkhoshk**	**5.69**	**36**	Pn	**Pn**	**18 35 08.8**	**+0.9**
IPRN	**Peran**	**5.86**	**327**	Pn	**Pn**	**18 35 12.2**	**+2.0**
ISFR	**Sfrayin**	**5.87**	**14**	Pn	**Pn**	**18 35 11.8**	**+1.2**
HRA	**Herat**	**5.89**	**58**	Pn	**Pn**	**18 35 11.0**	**+0.2**
MSFE	**Esma-Masafi**	**5.97**	**181**	Pn	**Pn**	**18 35 12.9**	**+1.1**
IKRD	**Kardeh**	**6.05**	**26**	Pn	**Pn**	**18 35 14.6**	**+1.5**
MRVT	**Maraveh tapeh**	**6.29**	**359**	Pn	**Pn**	**18 35 17.7**	**+1.5**
NAZ	**Nazwa, Dubai**	**6.36**	**185**	Pn	**Pn**	**18 35 19.1**	**+1.9**
IEMG	**Emamgholi**	**6.37**	**18**	Pn	**Pn**	**18 35 18.1**	**+0.7**
UOSS	**Minazif**	**6.39**	**180**	Pn	**Pn**	**18 35 17.6**	**+0.2**
UOSS	**Minazif**	**6.39**	**180**	Pn	**Pn**	**18 35 18.3**	**+0.8**
HATD	**Hatta, Dubai**	**6.51**	**181**	Pn	**Pn**	**18 35 20.2**	**+1.1**
FAQ	**Al Faqa, Dubai**	**6.61**	**185**	Pn	**Pn**	**18 35 21.4**	**+0.9**
ASHO	**Ashiyiah**	**6.65**	**181**	Pn	**Pn**	**18 35 21.7**	**+0.7**
GEYT	**Alibeck**	**6.74**	**13**	Pn	**Pn**	**18 35 22.1**	**-0.1**
GEYT	**Alibeck**	**6.74**	**13**	Pn	**Pn**	**18 35 23.7**	**+1.4**
	1.0nm,0.3s,baz=172,slow=13,SNR=26						
	14nm,0.7s						
GYA0	**ALIBECK ARRAY**	**6.74**	**13**	P	**Pn**	**18 35 22.6**	**+0.3**
GYA0B	**ALIBECK ARRAY**	**6.74**	**13**	Pn	**Pn**	**18 35 22.6**	**+0.3**
WSAR	**Wadi Sarin**	**8.36**	**165**	Pn	**Pn**	**18 35 45.0**	**+0.4**
	1.4nm,0.3s,baz=3.9,slow=11,SNR=16						
	18nm,0.8s						
BTK	**Batken**	**14.67**	**50**	Pn	**Pn**	**18 37 09.8**	**-1.2**
BTK	**Batken**	**14.67**	**50**	P	**Pn**	**18 37 09.8**	**-1.2**
KK31	**Karatay Array**	**16.30**	**40**	Pn	**Pn**	**18 37 33.0**	**+0.7**
KK31	**Karatay Array**	**16.30**	**40**	P	**Pn**	**18 37 33.0**	**+0.7**
KK31				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KKAR	**Karatay Array**	**16.30**	**40**		**Pn**	**18 37 33.7**	**+1.4**
KKAR	**Karatay Array**	**16.30**	**40**		**P**	**18 37 34.7**	**-0.6**
KKAR				IAmb	IAmb	18 37 36.2	
	comp=Z,4.6nm,1.2s						
KKAR	**Karatay Array**	**16.30**	**40**	P	**Pn**	**18 37 33.7**	**+1.4**
ASF	**Jabal al Asfar**	**16.47**	**278**	Pn	**Pn**	**18 37 36.2**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=65,slow=17,SNR=2.2						
ASF				Sn	Sn	18 40 20.4	-17
	comp=Z,0.2nm,0.3s,baz=304,slow=24,SNR=5.8						
	comp=Z,3.8nm,0.9s						
KIV	**Kislovodsk**	**16.50**	**323**	*e*P	**Pn**	**18 37 34.4**	**-0.5**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ABKAR	**Akbulak array**	**18.10**	**8**		**Pn**	**18 37 54.4**	**-0.3**
ABKAR	**Akbulak array**	**18.10**	**8**		**Pn**	**18 37 53.2**	**-1.5**
AAK	**Ala-Archa**	**18.38**	**47**	P	**Pn**	**18 37 59.0**	**+0.5**
AAK	**Ala-Archa**	**18.38**	**47**	*i* P	**Pn**	**18 37 58.4**	**0.0**
AAK	**Ala-Archa**	**18.38**	**47**	P	**Pn**	**18 37 58.9**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=243,slow=11,SNR=3.9						
AAK				LR	LR	18 46 07.1	
	comp=Z,110nm,18.7s,baz=256,slow=40						
	comp=Z,2.8nm,1.0s						
EIL	**Elat**	**18.42**	**270**	S	Sn	18 41 13.8	-11
	comp=Z,3.7nm,0.9s,baz=62,slow=22,SNR=1.7						
AKTO	**Aktyubinsk**	**19.11**		P	**P**	**18 38 06.8**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=185,slow=9.4,SNR=25						
AKTO				LR	LR	18 46 32.5	
	comp=Z,93nm,20.0s,baz=84,slow=40						
	comp=Z,6.6nm,0.6s						
BR131	**Keskin Array S**	**20.16**	**301**	P	**P**	**18 38 15.7**	**-2.2**
BR131	**Keskin Array S**	**20.16**	**301**	P	**P**	**18 38 15.7**	**-2.2**
BR131				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BRTR	**Keskin Array B**	**20.16**	**301**	P	**P**	**18 38 15.9**	**-2.0**
BRTR	**Keskin Array B**	**20.16**	**301**	P	**P**	**18 38 18.5**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=110,slow=13,SNR=5.9						
	comp=Z,1.6nm,0.7s						
BELG	**Belogornoye**	**21.95**	**346**	*i* P	**P**	**18 38 36.5**	**-0.3**
BELG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BELG	**Belogornoye**	**21.95**	**346**	P	**P**	**18 38 37.1**	**+0.3**
	comp=Z,20nm,0.8s,baz=288,slow=2.2,SNR=9.7						
	comp=Z,20nm,0.8s						
BRVK	**Borovoye**	**23.97**	**21**	P	**P**	**18 38 57.5**	**-0.2**
BRVK				IAmb	IAmb	18 39 02.6	
	comp=Z,9.5nm,1.4s						
BRVK	**Borovoye**	**23.97**	**21**	*ce*P	**P**	**18 38 59.3**	**+1.6**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BVAR	**Borovoye Array**	**23.97**	**21**	P	**P**	**18 38 58.5**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=202,slow=6.5,SNR=14						
BVAR				LR	LR	18 49 23.1	
	comp=Z,82nm,19.7s,baz=219,slow=39						
	comp=Z,1.9nm,0.6s						
MAKZ	**Makanchi**	**25.09**	**45**	P	**P**	**18 39 08.0**	**0.0**
MAKZ				IAmb	IAmb	18 39 12.4	
	comp=Z,13nm,1.5s						
MAKZ	**Makanchi**	**25.09**	**45**	P	**P**	**18 39 08.0**	**0.0**
MAKZ				pmax	pmax		
	comp=Z,13nm,1.5s						
MK31	**Makanchi Array**	**25.27**	**45**	P	**P**	**18 39 09.4**	**-0.3**
MK31				IAmb	IAmb	18 39 13.3	
	comp=Z,4.8nm,1.2s						
MK31	**Makanchi Array**	**25.27**	**45**	*ce*P	**P**	**18 39 10.7**	**+1.0**
MKAR	**Makanchi Array**	**25.27**	**45**	P	**P**	**18 39 09.6**	**0.0**
MKAR	**Makanchi Array**	**25.27**	**45**	P	**P**	**18 39 10.4**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=228,slow=7.7,SNR=16						
MKAR				LR	LR	18 50 24.1	
	comp=Z,39nm,19.1s,baz=30,slow=40						
	comp=Z,2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**25.40**	**34**	P	**P**	**18 39 11.4**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=234,slow=9.6,SNR=7.8						
KURBB				LR	LR	18 51 00.1	
	comp=Z,65nm,20.9s,baz=164,slow=41						
	comp=Z,1.3nm,0.3s						
KURK	**Kurchatov**	**25.50**	**34**	P	**P**	**18 39 11.7**	**+0.1**
KURK				IAmb	IAmb	18 39 16.5	
	comp=Z,6.9nm,1.3s						
KURK	**Kurchatov**	**25.50**	**34**	*ce*P	**P**	**18 39 12.5**	**+0.9**
KURK				pmax	pmax		
	comp=Z,13nm,2.5s						
OBN	**Obninsk**	**27.55**	**335**	||*e*P	**P**	**18 39 26.8**	**-3.2**
OBN				*PP	**pP**	**18 39 29.0**	**-4.6**
OBN				*SP	**sP**	**18 39 34.0**	**-1.1**
OBN						18 40 14.0	
OBN				S	**S**	**18 44 14.0**	**+3.0**
OBN				*e*SS	**SnSn**	**18 45 22.0**	**+0.7**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
	comp=Z,91nm,15.0s			MLR	MLR		
KIRV	**Kirov**	**27.62**	**352**	*i* P	**P**	**18 39 28.1**	**-2.6**
WMQ	**Urumqi**	**27.69**	**54**	*e*P	**P**	**18 39 33.4**	**+1.8**
AKBB	**Malin Array Si**	**27.84**	**322**	*i* P	**P**	**18 39 29.9**	**-2.8**
AKBB				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ZAA0	**Zalesovo Array**	**30.49**	**34**	P	**P**	**18 39 54.9**	**-1.4**
ZAA0				IAmb	IAmb	18 39 56.4	
	comp=Z,2.3nm,0.9s						
ZALV	**Zalesovo Beam**	**30.49**	**34**	P	**P**	**18 39 54.9**	**-1.4**
ZALV	**Zalesovo Beam**	**30.49**	**34**	*i* P	**P**	**18 39 56.0**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**30.49**	**34**	P	**P**	**18 39 56.0**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=239,slow=10,SNR=8.0						
ZALV				LR	LR	18 53 35.3	
	comp=Z,49nm,19.9s,baz=238,slow=39						
	comp=Z,1.7nm,0.6s						
KOLS	**Kolonicke sedl**	**31.00**	**314**	*e*P	**P**	**18 40 03.9**	**+3.1**
KOLS	**Kolonicke sedl**	**31.00**	**314**	*e*P	**P**	**18 40 03.9**	**+3.1**
KOLS				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GTA	**Gaotai**	**36.14**	**65**	*e*P	**P**	**18 40 49.6**	**+3.8**
GTA				PcP	PP	18 41 32.8	-35
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GEC2	**GERESS Array S**	**36.37**	**311**	P	**P**	**18 40 48.1**	**+0.4**
GEC2				IAmb	IAmb	18 40 49.1	
	comp=Z,3.5nm,0.9s						
GERES	**GERESS Array B**	**36.37**	**311**	P	**P**	**18 40 47.4**	**-0.3**
GERES	**GERESS Array B**	**36.37**	**311**	P	**P**	**18 40 48.5**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=93,slow=9.4,SNR=5.9						
	comp=Z,1.7nm,0.8s						
KHC	**Kasperske Hory**	**36.52**	**312**	P	**P**	**18 40 49.0**	**+0.2**
KHC				IAmb	IAmb	18 40 50.9	
	comp=Z,8.6nm,1.5s						
KHC	**Kasperske Hory**	**36.52**	**312**	*e*P	**P**	**18 40 47.3**	**-1.5**
KHC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ABTA	**Abfaltersbach**	**36.77**	**307**	*e*pP	**P**	**18 40 51.7**	**+0.7**
	comp=Z,1.3nm,0.6s						
CLL	**Collm**	**37.41**	**315**	*e*P	**P**	**18 40 57.0**	**+0.7**
CLL	**Collm**	**37.41**	**315**	*e*P	**P**	**18 40 57.0**	**+0.7**
SQTA	**Sankt Quirin**	**37.72**	**308**	*e*P	**P**	**18 40 59.1**	**-0.1**
	comp=Z,3.8nm,0.5s						
MOTA	**Moosalm**	**37.81**	**308**	*e*P	**P**	**18 41 00.1**	**+0.2**
	comp=Z,1.9nm,0.5s						
FETA	**Feichten**	**38.02**	**308**	*e*pP	**P**	**18 41 02.0**	**+0.3**
	comp=Z,1.8nm,0.4s						
RETA	**Reutte**	**38.06**	**308**	*e*P	**P**	**18 41 01.8**	**-0.2**
	comp=Z,1.4nm,0.5s						
DAVA	**Damuels**	**38.63**	**308**	*e*P	**P**	**18 41 06.7**	**-0.1**
	comp=Z,3.0nm,0.6s						
PZH	**PanZhiHua**	**39.91**	**85**	P	**P**	**18 41 18.3**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,6.2s						
HFS	**Hagfors**	**40.20**	**328**	P	**P**	**18 41 21.7**	**+2.1**
	comp=Z,1.6nm,0.6s,baz=89,slow=10,SNR=2.0						
	comp=Z,1.6nm,0.6s						
SENIN	**Lac Senin/Sane**	**40.30**	**306**	P	**P**	**18 41 20.2**	**-0.7**
ECH	**Echery**	**40.56**	**309**	P	**P**	**18 41 21.4**	**-1.4**
ECH				IAmb	IAmb	18 41 55.9	
	comp=Z,5.7nm,1.4s						
ECH	**Echery**	**40.56**	**309**	P	**P**	**18 41 21.4**	**-1.4**
ECH				pmax	pmax		
	comp=Z

1.4nm,0.7s,baz=142,slow=9.6,SNR=7.1
1.4nm,0.7s
HFS Hagfors 38.23 331 P P 18 41 05.0 -1.6
1.0nm,0.4s,baz=120,slow=11,SNR=6.6
1.0nm,0.4s
TORD Torodi Ar. Bea 47.97 260 P P 18 42 25.5 -0.5
0.4nm,0.5s,baz=47,slow=9.3,SNR=3.1
0.4nm,0.5s

KRNET 21 18:44:57.5±0.1, 39°.03N×71°.82E, h11km, mb2.5, 4C-10D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.45**	**358**	⇓*e*P	Pg	18 45 06.2	-0.2
	baz=58						
DRK				⇓*e*S	Sg	18 45 12.5	+0.1
	baz=58						
BTK	**Batken**	**1.29**	**323**	⇑*e*P	Pg	18 45 22.1	-0.1
	baz=23						
BTK				⇑*i*S	Sg	18 45 39.7	+0.8
	baz=23						
SFK	**Sufi-Kurgan**	**1.63**	**52**	⇑*i*P	Pb	18 45 28.0	+0.3
	baz=52						
SFK				⇑*i*S	Sg	18 45 50.2	+0.3
	baz=52						
OHH	**Osh**	**1.67**	**26**	⇓*e*P	Pb	18 45 28.6	+0.4
	baz=26						
OHH				⇓*e*S	Sg	18 45 51.1	0.0
	baz=26						
CHGR	**Chuyangaron**	**2.11**	**261**	⇓*e*P	Pb	18 45 35.7	-0.1
	baz=61						
CHGR				⇓*i*S	Sg	18 46 03.8	-1.6
	baz=61						
ARSB	**Arslanbob**	**2.46**	**21**	⇓*e*P	Pb	18 45 40.7	-1.0
	baz=21						
ARSB				⇓*e*S	Sb	18 46 12.2	+0.1
	baz=21						
TRKS	**Terek-Say**	**2.55**	**348**	⇓*i*P	Pb	18 45 41.2	-2.1
	baz=49						
TRKS				⇓*i*S	Sb	18 46 13.0	-1.8
	baz=49						

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*SOME **21** 18:45:37.6, 38°.47N×72°.15E, h0km*
*IDC **21** 18:45:46.1±6.3, 38°.03N×71°.61E, h186km±53km, mbtmp3.3/5, Error ellipse: s-maj=96.0km s-min=18.9km az=152.0*
ISC 21 18:45:37.6±2.9, 37°.3N±0°.2×72°.1E±0°.1, h100km, n11, σ2°.79/10, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHM	**Chimkent**	**5.38**	**340**	*e*Pg	**Pn**	**18 46 58.2**	**+2.7**
	30nm,0.2s						
CHM				*e*Lg	Lg	18 47 56.2	
	114nm,0.4s						
MRKS	**Merke**	**5.52**	**9**	*e*Pg	**Pn**	**18 46 58.8**	**+1.4**
	11nm,0.2s						
MRKS				*e*Lg	Lg	18 47 57.4	
	7.1nm,0.4s						
DZA	**Taraz**	**5.63**	**354**	*e*Pg	**Pn**	**18 47 01.0**	**+2.1**
	54nm,0.1s						
DZA				*e*Lg	Lg	18 48 01.1	
	58nm,0.3s						
AAK	**Ala-Archa**	**5.65**	**18**	P	**Pn**	**18 47 00.8**	**+1.5**
	8.2nm,0.4s,baz=187,slow=7.6,SNR=30						
AAK				S	**Sn**	**18 48 01.4**	**-1.5**
	1.4nm,0.4s,baz=320,slow=23,SNR=3.8						
KST	**Kastek**	**6.46**	**26**	*e*Pg	Pn	18 47 18.5	+8.2
	2.0nm,0.3s						
KST				*e*Lg	Lg	18 48 30.9	
	2.0nm,0.4s						
DGS	**Degeres**	**6.57**	**24**	*e*Pg	Pn	18 47 19.7	+8.0
	1.7nm,0.4s						
DGS				*e*Lg	Lg	18 48 33.2	
	1.9nm,0.5s						
CHKK	**Chushkaly**	**7.54**	**28**	*e*Pg	Pn	18 47 38.4	+14
	1.2nm,0.1s						
CHKK				*e*Lg	Lg	18 49 05.3	
	1.1nm,0.1s						
GEYT	**Alibeck**	**11.12**	**278**	P	**Pn**	**18 48 13.9**	**+0.5**
	1.3nm,0.7s,baz=122,slow=11,SNR=6.2						
GEYT				S	**Sn**	**18 50 13.4**	**-2.4**
	1.6nm,0.7s,baz=62,slow=29,SNR=1.6						
MKAR	**Makanchi Array**	**12.13**	**35**	P	**Pn**	**18 48 29.9**	**+2.9**
	0.1nm,0.4s,baz=216,slow=9.0,SNR=1.7						
KURBB	**Kurchatov Arra**	**14.10**	**17**	P	**Pn**	**18 48 52.0**	**-0.6**
	0.3nm,0.7s,baz=203,slow=9.8,SNR=4.4						
ZALV	**Zalesovo Beam**	**18.84**	**24**	P	**P**	**18 49 44.7**	**-4.7**
	0.5nm,0.5s,baz=219,slow=11,SNR=2.5						

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*IDC **21** 18:47:08.2±0.9, 27°.39N×92°.47E, h0km, mb3.6/11, mbtmp3.6/12, ML3.4/1, Error ellipse: s-maj=43.4km s-min=15.3km az=58.0*
*NDI **21** 18:47:11.4±2.5, 27°.41N×92°.60E, h5km, ML3.9*
ISC 21 18:47:10.4±1.5, 27°.44N±0°.05×92°.55E±0°.04, h11km±10km, n22, σ1°10/31, mb3.7/10, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEZP	**TEZPUR**	**0.85**	**165**	*e*P	**Pg**	**18 47 26.8**	**0.0**
TEZP				*e*S	**Sg**	**18 47 36.9**	**-0.9**
TEZP				IAML		18 47 39.5	
	comp=N,3μm,0.2s						
TEZP				IAML		18 47 39.7	
	comp=E,3μm,0.1s						
ITAN	**ITANAGAR**	**1.08**	**105**	*e*P	**Pg**	**18 47 31.4**	**+0.1**
ITAN				*e*S	**Sb**	**18 47 46.8**	**+1.4**
ZIRO	**ZIRO**	**1.16**	**85**	*e*P	**Pg**	**18 47 32.3**	**-0.4**
ZIRO				*e*S	**Sg**	**18 47 47.4**	**-0.4**
ZIRO				IAML		18 47 52.9	
	comp=E,513μm,0.2s						
ZIRO				IAML		18 47 53.5	
	comp=N,611μm,0.3s						
JORH	**JORHAT**	**1.67**	**114**	*e*P	**Pn**	**18 47 42.0**	**+2.3**
JORH				*e*S	**Sb**	**18 48 04.2**	**+2.0**
JORH				IAML		18 48 06.6	
	comp=N,4μm,0.3s						
JORH				IAML		18 48 07.0	
	comp=E,5μm,0.2s						
SHL	**Shillong**	**1.96**	**198**	*e*P	**Pn**	**18 47 44.6**	**+0.8**
SHL				*e*S	**Sb**	**18 48 11.9**	**+1.1**
SHL				IAML		18 48 13.7	
	comp=E,1μm,0.3s						
SHL				IAML		18 48 13.8	
	comp=N,1μm,0.2s						
MOKO	**MOKOCHONG**	**2.08**	**122**	*e*P	**Pn**	**18 47 46.8**	**+1.4**
MOKO				*e*S	**Sb**	**18 48 14.5**	**+0.3**
MOKO				IAML		18 48 21.5	
	comp=N,1μm,0.3s						
MOKO				IAML		18 48 21.7	
	comp=E,1μm,0.2s						
KOHI	**KOHIMA**	**2.21**	**140**	*e*P	**Pn**	**18 47 48.5**	**+1.3**
KOHI				*e*S	**Sn**	**18 48 13.9**	**-0.7**
KOHI				IAML		18 48 23.2	
	comp=E,510nm,0.5s						
KOHI				IAML		18 48 24.2	
	comp=N,453nm,0.4s						
IMP	**Imphal**	**2.88**	**154**	*e*P	**Pn**	**18 47 58.1**	**+1.7**
IMP				IAML		18 48 47.5	
	comp=E,53nm,0.6s						
GTK	**Tadong**	**3.51**	**269**	*e*P	**Pn**	**18 48 07.3**	**+2.1**
GTK				*e*S	**Sn**	**18 48 48.5**	**+1.7**
GTK				IAML		18 48 51.6	
	comp=E,41nm,0.4s						
SAIH	**SAIHA**	**4.94**	**175**	*e*P	**Pn**	**18 48 25.6**	**+0.8**
SAIH				*e*S	**Sn**	**18 49 22.1**	**0.0**
SAIH				IAML		18 49 35.5	
	comp=E,28nm,0.4s						
SAIH				IAML		18 49 38.4	
	comp=N,18nm,1.0s						
CMAR	**Chiang Mai Arr**	**10.70**	**145**	Pn	**Pn**	**18 49 43.3**	**-0.5**
	comp=N,0.1nm,0.3s,baz=314,slow=12,SNR=4.5						
	comp=N,0.3nm,0.5s						
MKAR	**Makanchi Array**	**20.95**	**340**	P	**P**	**18 51 53.1**	**-0.2**
	comp=N,1.9nm,0.6s,baz=146,slow=13,SNR=25						
	comp=N,1.9nm,0.6s						
SONM	**Songino Array**	**23.06**	**24**	P	**P**	**18 52 15.9**	**0.0**
	comp=N,0.2nm,0.6s,baz=210,slow=11,SNR=2.0						
	comp=N,0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**25.50**	**339**	P	**P**	**18 52 38.5**	**-0.2**
	comp=N,1.1nm,0.7s,baz=155,slow=9.4,SNR=11						
	comp=N,1.1nm,0.7s						

ZALV	**Zalesovo Beam**	**27.09**	**350**	P	**P**	**18 52 52.9**	**-0.2**
	comp=N,0.6nm,0.4s,baz=168,slow=6.7,SNR=2.9						
	comp=N,0.6nm,0.4s						
BVAR	**Borovoye Array**	**30.41**	**333**	P	**P**	**18 53 23.0**	**+0.4**
	comp=N,0.4nm,0.4s,baz=131,slow=13,SNR=2.5						
	comp=N,0.4nm,0.4s						
AKASG	**Malin Array Be**	**52.60**	**314**	P	**P**	**18 56 23.1**	**-1.1**
	comp=N,0.2nm,0.4s,baz=87,slow=5.6,SNR=4.0						
	comp=N,0.2nm,0.4s						
HFS	**Hagfors**	**61.13**	**326**	P	**P**	**18 57 24.0**	**-0.6**
	comp=N,2.9nm,0.9s,baz=93,slow=7.4,SNR=4.2						
	comp=N,2.9nm,0.9s						
WRA	**Warramunga Arr**	**62.09**	**135**	P	**P**	**18 57 31.2**	**-0.4**
	comp=N,0.9nm,0.7s,baz=322,slow=7.3,SNR=13						
	comp=N,0.9nm,0.7s						
GERES	**GERESS Array B**	**62.77**	**313**	P	**P**	**18 57 35.1**	**-0.8**
	comp=N,0.6nm,0.7s,baz=65,slow=6.3,SNR=3.8						
	comp=N,0.6nm,0.7s						
ASAR	**Alice Springs**	**64.61**	**138**	P	**P**	**18 57 47.9**	**-0.3**
	comp=N,0.5nm,0.5s,baz=322,slow=6.7,SNR=22						
	comp=N,0.5nm,0.5s						
ILAR	**Eielson Array**	**77.27**	**22**	P	**P**	**18 59 04.3**	**-0.2**
	comp=N,0.3nm,0.7s,baz=312,slow=6.1,SNR=4.3						
	comp=N,0.3nm,0.7s						

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*IDC **21** 18:59:15.2±1.2, 30°.13S×178°.30W, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=31.6km s-min=17.4km az=117.0*
*NEIC **21** 18:59:25.1±0.8, 30°.4S±0°.1×178°.4W±0°.2, h69km±8km, mb4.2/11, Error ellipse: s-maj=28.9km s-min=13.6km az=61.0*
ISC 21 18:59:20.3±0.9, 30°.2S±0°.1×178°.3W±0°.2, h35km, n21, σ0°.91/22, mb4.0/9, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.97**	**20**	Pn	**Pn**	**18 59 35.5**	**-1.9**
	153nm,0.3s,baz=16,slow=23,SNR=2.3						
RAO				Sn	**Sn**	**18 59 50.6**	**+0.7**
	286nm,0.3s,baz=97,slow=21,SNR=5.8						
CTAO	**Charters Tower**	**33.51**	**279**	P	**P**	**19 05 56.5**	**-0.1**
CTAO				IAmb	IAmb	19 06 27.0	
	comp=Z,12nm,1.4s						
STKA	**Stephens Creek**	**34.28**	**257**	P	**P**	**19 06 02.8**	**-0.5**
STKA				IAmb	IAmb	19 06 05.3	
	comp=Z,0.5nm,0.7s						
STKA	**Stephens Creek**	**34.28**	**257**	P	**P**	**19 06 04.4**	**+1.2**
	comp=Z,1.7nm,0.5s,baz=72,slow=8.7,SNR=5.6						
	comp=Z,1.7nm,0.5s						
BBOO	**Buckleboo**	**38.78**	**254**	P	**P**	**19 06 41.2**	**-0.4**
AS31	**Alice Springs**	**42.86**	**267**	P	**P**	**19 07 14.9**	**-0.5**
ASAR	**Alice Springs**	**42.86**	**267**	P	**P**	**19 07 13.8**	**-1.6**
ASAR	**Alice Springs**	**42.86**	**267**	P	**P**	**19 07 14.9**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=103,slow=7.3,SNR=18						
	comp=Z,0.4nm,0.5s						
WR0	**Warramunga Arr**	**43.65**	**272**	P	**P**	**19 07 22.1**	**+0.3**
WR0				IAmb	IAmb	19 07 47.9	
	comp=Z,3.3nm,1.4s						
WB2	**Warramunga Arr**	**43.82**	**272**	P	**P**	**19 07 23.1**	**-0.1**
WB2				IAmb	IAmb	19 08 00.3	
	comp=Z,8.9nm,1.4s						
WRA	**Warramunga Arr**	**43.83**	**272**	P	**P**	**19 07 22.4**	**-0.8**
WRA	**Warramunga Arr**	**43.83**	**272**	P	**P**	**19 07 22.7**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=110,slow=8.1,SNR=33						
	comp=Z,1.1nm,0.4s						
WB0	**Warramunga Arr**	**43.85**	**272**	P	**P**	**19 07 22.8**	**-0.6**
WB0				IAmb	IAmb	19 07 51.4	
	comp=Z,4.8nm,1.3s						
VNDA	**Vanda**	**48.30**	**186**	P	**P**	**19 07 56.8**	**-0.9**
VNDA				IAmb	IAmb	19 08 40.1	
	comp=Z,2.5nm,1.3s						
VNDA	**Vanda**	**48.30**	**186**	P	**P**	**19 07 57.9**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=16,slow=15,SNR=2.1						
	comp=Z,0.9nm,0.9s						
KNRA	**Kununurra**	**50.43**	**274**	P	**P**	**19 08 15.0**	**+0.3**
QSPA	**South Pole Qui**	**59.95**	**180**	P	**P**	**19 09 22.5**	**-0.3**
QSPA				IAmb	IAmb	19 09 22.6	
	comp=Z,4.4nm,1.4s						
QSPA	**South Pole Qui**	**59.95**	**180**	P	**P**	**19 09 23.0**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=68,slow=1.6,SNR=4.4						
	comp=Z,0.9nm,0.3s						
GSTR	**Great Sitkin T**	**81.93**	**1**	P	**P**	**19 11 37.7**	**+1.9**
FIA1	**FINESS Array S**	**144.83**	**340**		**PKPab**	**19 18 52.3**	**+0.5**
FINES	**FINESS Array B**	**144.84**	**340**	PKP	**PKPdf**	**19 18 53.5**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=44,slow=4.1,SNR=9.8						

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*IDC **21** 19:00:38.3±0.8, 29°.08N×142°.52E, h0km, mb3.9/12, mbtmp3.9/14, ML3.0/2, Error ellipse: s-maj=25.2km s-min=15.5km az=77.0*
*NEIC **21** 19:00:39.7±1.6, 29°.06N±0°.06×142°.5E±0°.2, h10km±1km, mb4.4/25, Error ellipse: s-maj=23.7km s-min=10.7km az=87.0*
*JMA **21** 19:00:41.1±0.2, 29°.2N±0°.5×14°2E±°, h54km, MV3.9/16, NEAR TORISHIMA IS*
ISC 21 19:00:41.8±0.6, 29°.03N±0°.05×142°.5E±0°.1, h27km, n52, σ1°15/55, mb4.3/25, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.95**	**187**	P	**Pb**	**19 01 15.3**	**-1.2**
CBIJ				*e*S	**Sb**	**19 01 40.6**	**+0.2**
JCJ	**Chichijima**	**1.95**	**187**	Pn	**Pn**	**19 01 11.5**	**-1.6**
	10nm,0.3s,baz=3.5,slow=20,SNR=9.8						
JCJ				Sn	**Sn**	**19 01 36.1**	**-0.5**
	24nm,0.3s,baz=101,slow=23,SNR=6.3						
JHH2	**Haha-jima-NKT2**	**2.41**	**186**	*e*S	**Sb**	**19 01 52.3**	**-1.3**
JOD2	**Odawara 2**	**6.83**	**336**	P	**Pn**	**19 02 19.1**	**-1.1**
JRY	**Ryogami san**	**7.58**	**338**	P	**Pn**	**19 02 28.8**	**-1.7**
JAG	**Ashikaga**	**7.79**	**342**	P	**Pn**	**19 02 30.6**	**-2.8**
MJAR	**Matsushiro Arr**	**8.29**	**336**	Pn	**Pn**	**19 02 38.7**	**-1.6**
	0.2nm,0.3s,baz=163,slow=12,SNR=11						
	1.0nm,0.3s						
MAJO	**Matsushiro**	**8.29**	**336**	Pn	**Pn**	**19 02 38.5**	**-1.8**
MJB9	**Matsu-Tunnel**	**8.30**	**336**	Pn	**Pn**	**19 02 39.6**	**-0.8**
JMM	**Marumori**	**8.92**	**352**	Pn	**Pn**	**19 02 45.6**	**-3.2**
KSRS	**Korea Array**	**14.76**	**308**	Pn	**Pn**	**19 04 10.4**	**+1.7**
	0.1nm,0.3s,baz=109,slow=14,SNR=2.7						
	0.9nm,0.6s						
SONM	**Songino Array**	**33.51**	**314**	P	**P**	**19 07 16.7**	**-2.4**
SONM	**Songino Array**	**33.51**	**314**	P	**P**	**19 07 20.4**	**+1.3**
	1.1nm,0.7s,baz=124,slow=8.3,SNR=6.3						
	1.1nm,0.7s						
CRAI	**Chiangrai**	**39.07**	**267**	P	**P**	**19 08 07.2**	**+0.5**
CRAI				IAmb	IAmb	19 08 13.2	
	comp=Z,5.7nm,1.1s						
CHTO	**Chiang Mai**	**40.85**	**266**	P	**P**	**19 08 21.4**	**-0.1**
CHTO				IAmb	IAmb	19 08 44.2	
	comp=Z,9.1nm,1.4s						
CMAR	**Chiang Mai Arr**	**40.99**	**265**	P	**P**	**19 08 23.9**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=51,slow=7.8,SNR=4.9						
	comp=Z,0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**48.20**	**318**	P	**P**	**19 09 19.9**	**+0.1**
ZALV	**Zalesovo Beam**	**48.20**	**318**	P	**P**	**19 09 20.1**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=98,slow=7.8,SNR=6.2						
	comp=Z,1.0nm,0.4s						
WB0	**Warramunga Arr**	**49.14**	**190**	P	**P**	**19 09 28.4**	**+1.1**
WB0				IAmb	IAmb	19 09 50.9	
	comp=Z,6.5nm,1.1s						
WR0	**Warramunga Arr**	**49.30**	**190**	P	**P**	**19 09 29.8**	**+1.2**
WR0				IAmb	IAmb	19 10 00.8	
	comp=Z,4.9nm,1.1s						
WB2	**Warramunga Arr**	**49.31**	**190**	P	**P**	**19 09 30.6**	**+1.9**
WRA	**Warramunga Arr**	**49.32**	**190**	P	**P**	**19 09 27.9**	**-0.8**
WRA	**Warramunga Arr**	**49.32**	**190**	P	**P**	**19 09 29.9**	**+1.3**
	comp=Z,0.9nm,0.4s,baz=7.8,slow=7.8,SNR=25						
WRA				PcP	**PcP**	**19 10 52.8**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=3.2,slow=3.8,SNR=6.8						
	comp=Z,0.9nm,0.4s						
MK31	**Makanchi Array**	**49.44**	**308**	P	**P**	**19 09 29.6**	**+0.2**
MKAR	**Makanchi Array**	**49.44**	**308**	P	**P**	**19 09 28.1**	**-1.4**
MKAR	**Makanchi Array**	**49.44**	**308**	P	**P**	**19 09 29.9**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=80,slow=11,SNR=14						
	comp=Z,1.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**49.59**	**201**	P	**P**	**19 09 29.7**	**-1.1**
MAKZ	**Makanchi**	**49.66**	**308**	P	**P**	**19 09 31.0**	**-0.1**
KURK	**Kurchatov**	**51.81**	**313**	P	**P**	**19 09 48.0**	**+0.7**
KURK				IAmb	IAmb	19 09 51.7	
	comp=Z,4.0nm,0.7s						
KURBB	**Kurchatov Arra**	**51.87**	**313**	P	**P**	**19 09 48.4**	**+0.8**
	comp=Z,3.0nm,0.6s,baz=91,slow=6.2,SNR=43						
	comp=Z,3.0nm,0.6s						
C19K	**Lookout Ridge**	**51.88**	**23**	P	**P**	**19 09 48.1**	**+0.6**
ASAR	**Alice Springs**	**53.04**	**190**	P	**P**	**19 09 56.0**	**-0.6**

ASAR	**Alice Springs**	**53.04**	**190**	P	**P**	**19 09 57.6**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=18,slow=8.2,SNR=9.3						
	comp=Z,0.5nm,0.7s						
G23K	**Bananza Creek**	**54.82**	**27**	P	**P**	**19 10 09.7**	**+0.5**
G23K				IAmb	IAmb	19 10 38.7	
	comp=Z,8.3nm,1.5s						
C23K	**Itkillik River**	**55.12**	**23**	P	**P**	**19 10 10.3**	**-0.9**
MDM	**Murphy Dome**	**55.35**	**29**	P	**P**	**19 10 12.1**	**-0.9**
ILAR	**Eielson Array**	**55.91**	**29**	P	**P**	**19 10 16.4**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=262,slow=5.6,SNR=4.6						
	comp=Z,0.4nm,0.9s						
E25K	**Arctic Village**	**56.69**	**25**	P	**P**	**19 10 22.7**	**+0.1**
E25K				IAmb	IAmb	19 10 51.8	
	comp=Z,3.6nm,1.4s						
ARSB	**Arslanbob**	**56.70**	**302**	P	**P**	**19 10 23.4**	**+0.1**
BVAR	**Borovoye Array**	**56.79**	**317**	P	**P**	**19 10 23.9**	**+0.4**
	comp=Z,1.9nm,0.5s,baz=86,slow=6.0,SNR=14						
	comp=Z,1.9nm,0.5s						
BRVK	**Borovoye**	**56.85**	**317**	P	**P**	**19 10 23.5**	**-0.4**
BRVK				IAmb	IAmb	19 10 30.6	
	comp=Z,2.4nm,0.8s						
KK31	**Karatay Array**	**58.16**	**305**	P	**P**	**19 10 33.3**	**0.0**
KK31				IAmb	IAmb	19 10 36.2	
	comp=Z,2.6nm,0.8s						
KKAR	**Karatay Array**	**58.16**	**305**	P	**P**	**19 10 33.2**	**-0.1**
KKAR				IAmb	IAmb	19 10 36.2	
	comp=Z,2.6nm,0.8s						
GRNC	**Granite Creek**	**58.26**	**34**	P	**P**	**19 10 33.7**	**-0.2**
D27M	**Malcolm River**	**58.43**	**24**	P	**P**	**19 10 35.5**	**+0.7**
D27M				IAmb	IAmb	19 11 01.4	
	comp=Z,5.3nm,1.4s						
I28M	**Miner Creek**	**58.86**	**28**	P	**P**	**19 10 37.5**	**-0.4**
I28M				IAmb	IAmb	19 10 45.7	
	comp=Z,3.5nm,1.2s						
CHGR	**Chuyangaron**	**60.17**	**300**	P	**P**	**19 10 47.4**	**0.0**
ABKAR	**Akbulak array**	**63.92**	**314**	P	**P**	**19 11 12.4**	**+0.2**
ABKAR				IAmb	IAmb	19 11 17.3	
	comp=Z,3.5nm,1.2s						
ABKAR	**Akbulak array**	**63.92**	**314**	P	**P**	**19 11 12.1**	**-0.1**
KBZ	**Khabaz**	**76.87**	**313**	P	**P**	**19 12 32.0**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=55,slow=4.2,SNR=5.8						
	comp=Z,1.7nm,0.8s						
NVAR	**Mina Array Bea**	**79.14**	**52**	P	**P**	**19 12 45.4**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=291,slow=6.3,SNR=2.7						
	comp=Z,0.4nm,0.5s						
TXAR	**Lajitas Array**	**94.26**	**53**	P	**P**	**19 13 59.9**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=300,slow=2.0,SNR=2.7						
	comp=Z,0.4nm,0.8s						

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*IDC **21** 19:04:45.7±1.8, 44°.05N×105°.55W, h0km, mbtmp3.4/2, ML3.3/2, Error ellipse: s-maj=57.3km s-min=9.6km az=148.0*
*NEIC **21** 19:04:46.6±1.9, 44°.06N±0°.05×105°.33W±0°.02, h0km±2km, ML3.1/64, Error ellipse: s-maj=9.2km s-min=3.1km az=355.0*
ISC 21 19:04:45.8±1.4, 44°.07N±0°.06×105°.28W±0°.06, h0km, n38, σ1°12/37, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.90**	**86**		**Pn**	**19 05 04.8**	**-1.1**
K22A	**Casper**	**1.68**	**213**		**Pn**	**19 05 15.4**	**-1.3**
K22A				IAML		19 05 39.9	
	comp=N,253nm,0.3s						
K22A				IAML		19 05 40.0	
	comp=E,245nm,0.9s						
LAO	**LASA Array**	**2.70**	**346**		**Pn**	**19 05 30.8**	**+0.2**
PHWY	**Pilot Hill**	**2.77**	**183**		**Pn**	**19 05 32.4**	**+0.7**
RWWY	**Rawlins**	**2.77**	**211**		**Pn**	**19 05 32.4**	**+0.7**
RWWY				IAML		19 06 10.1	
	comp=E,60nm,1.4s						
RWWY				IAML		19 06 11.4	
	comp=E,60nm,1.4s						
RLMT	**Red Lodge**	**3.04**	**292**		**Pn**	**19 05 35.6**	**+0.3**
RLMT				IAML		19 06 35.1	
	comp=E,53nm,1.1s						
RLMT				IAML		19 06 35.4	
	comp=E,48nm,1.5s						
N23A	**Red Feather La**	**3.21**	**189**		**Pn**	**19 05 38.3**	**+0.5**
N23A				IAML		19 06 41.2	
	comp=N,41nm,0.8s						
N23A				IAML		19 07 14.4	
	comp=E,42nm,1.5s						
PD31	**Pinedale Array**	**3.38**	**249**	Pn	**Pn**	**19 05 40.7**	**+0.7**
PDAR	**Pinedale Array**	**3.38**	**249**	Pn	**Pn**	**19 05 40.1**	**+0.1**
	comp=E,4.1nm,0.3s,baz=73,slow=15,SNR=31						
PDAR				Lg	Lg	19 06 25.9	
	comp=E,8.3nm,0.3s,baz=65,slow=32,SNR=4.3						
	comp=E,3.3nm,0.3s						
BW06	**Boulder Array**	**3.38**	**249**		**Pn**	**19 05 40.5**	**+0.5**
YMP	**Mirror Lake Pl**	**3.56**	**283**		**Pn**	**19 05 42.1**	**-0.5**
YMP				IAML		19 06 45.9	
	comp=N,38nm,1.2s						
YMP				IAML		19 06 57.3	
	comp=E,41nm,1.9s						
LOHW	**Long Hollow**	**3.88**	**265**		**Pn**	**19 05 47.4**	**+0.5**
FLWY	**Flagg Ranch**	**3.90**	**272**	Pn	**Pn**	**19 05 48.3**	**+1.1**
OGNE	**Ogallala**	**3.94**	**141**		**Pn**	**19 05 49.0**	**+1.4**
MOOW	**Moose Ponds**	**3.96**	**267**	Pn	**Pn**	**19 05 47.5**	**-0.5**
SNOW	**Snow King Moun**	**4.01**	**263**		**Pn**	**19 05 51.7**	**+3.0**
SNOW				IAML		19 07 02.0	
	comp=E,40nm,2.0s						
YHH	**Holmes Hill**	**4.05**	**282**	Pn	**Pn**	**19 05 49.3**	**-0.1**
IMW	**Indian Meadow**	**4.09**	**270**	Pn	**Pn**	**19 05 50.6**	**+0.8**
IMW				IAML		19 07 03.0	
	comp=E,17nm,1.6s						
IMW				IAML		19 07 05.1	
	comp=E,23nm,1.6s						
REDW	**Red Top Meadow**	**4.10**	**262**		**Pn**	**19 05 50.7**	**+0.7**
YMR	**Madison River**	**4.12**	**280**	Pn	**Pn**	**19 05 49.0**	**-1.2**
YMR				IAML		19 07 14.3	
	comp=N,39nm,1.0s						
YMR				IAML		19 07 14.4	
	comp=E,31nm,1.0s						
**TPAW

mpv3.5,Error ellipse: s-maj=64.2km s-min=52.7km az=14.0

ISC 21 19:16:42.6±1.0,**36°29N**±0°08×**71°39E**±0°07,**h200**km,**n28,** σ2.8**30**/32,**3C-4D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.10**	**16**	P	**Pn**	**19 18 11.6**	**+0.2**
	SNR=31						
AML	**Almayashu**	**6.10**	**16**	⇑P	**Pn**	**19 18 11.4**	**0.0**
	0.9nm,0.5s						
AML				⇓S	**Sn**	**19 19 17.5**	**-4.1**
	2.2nm,0.6s						
UCH	**Uchtor**	**6.40**	**21**	P	**Pn**	**19 18 11.1**	**-4.3**
	SNR=7.3						
EKS2	**Erkin-Say**	**6.62**	**15**	P	**Pn**	**19 18 19.5**	**+1.6**
	SNR=9.2						
AAK	**Ala-Archa**	**6.77**	**20**	P	**Pn**	**19 18 20.9**	**+0.9**
	SNR=14						
AAK	**Ala-Archa**	**6.77**	**20**	P	**Pn**	**19 18 20.7**	**+0.8**
	7.6nm,0.3s,baz=194,slow=7.9,SNR=51						
AAK				S	**Sn**	**19 19 34.5**	**-2.7**
	5.1nm,0.8s,baz=334,slow=18,SNR=3.0						
KK31	**Karatay Array**	**6.83**	**355**	⇓P	**Pn**	**19 18 21.3**	**+0.7**
	3.1nm,0.3s,baz=183,slow=15,SNR=53						
KK31				⇑S	**Sn**	**19 19 34.1**	**-4.3**
	2.8nm,0.4s,baz=186,slow=25,SNR=9.1						
CHMS	**Chumysh**	**7.18**	**20**	P	**Pn**	**19 18 25.9**	**+0.9**
	SNR=11						
TKM2	**Tokmak 2**	**7.37**	**25**	P	**Pn**	**19 18 29.2**	**+1.5**
	SNR=5.9						
TKM2	**Tokmak 2**	**7.37**	**25**	⇓P	**Pn**	**19 18 28.5**	**+0.7**
	3.1nm,0.6s						
TKM2				⇓S	**Sn**	**19 19 50.6**	**-0.7**
	2.4nm,0.7s						
GEYT	**Alibeck**	**10.72**	**283**	P	**Pn**	**19 19 11.9**	**+0.7**
	0.8nm,0.3s,baz=107,slow=14,SNR=8.3						
GEYT				S	**Sn**	**19 21 07.4**	**-3.4**
	1.3nm,0.4s,baz=71,slow=20,SNR=8.7						
PYUN	**Piuthan**	**12.77**	**127**	*eP*	**Pn**	**19 19 35.6**	**-1.8**
	21nm,0.4s						
DANN	**Dangsing**	**13.11**	**124**	*eP*	**Pn**	**19 19 40.1**	**-1.7**
MKAR	**Makanchi Array**	**13.28**	**34**	P	**P**	**19 19 46.0**	**-0.2**
	0.5nm,0.7s,baz=216,slow=14,SNR=4.9						
KOLN	**Koldanda**	**13.39**	**126**	*eP*	**Pn**	**19 19 44.2**	**-1.0**
GKN	**Gorkha**	**13.93**	**123**	*eP*	**Pn**	**19 19 50.3**	**-1.5**
	12nm,0.5s						
DMN	**Daman**	**14.50**	**123**	*eP*	**Pn**	**19 19 58.3**	**-0.6**
	6.2nm,0.3s						
PKIN	**Phulchoki**	**14.72**	**122**	*eP*	**Pn**	**19 20 00.9**	**-0.7**
	6.6nm,0.4s						
PKI	**Pulchoki**	**14.73**	**122**	*eP*	**Pn**	**19 20 01.3**	**-0.5**
GUN	**Gumba**	**14.84**	**120**	*eP*	**Pn**	**19 20 02.3**	**-0.9**
	4.3nm,0.3s						
JIRN	**Jiri**	**15.21**	**120**	*eP*	**Pn**	**19 20 06.7**	**-1.1**
	10nm,0.4s						
KURBB	**Kurchatov Arra**	**15.22**	**18**	P	P	19 20 14.6	+6.9
	2.4nm,0.9s,baz=207,slow=10,SNR=9.7						
AB31	**Akbulak array**	**15.42**	**331**	P	**P**	**19 20 13.8**	**+4.0**
	0.3nm,0.2s,baz=140,slow=13,SNR=36						
RAMN	**Ramite**	**15.94**	**121**	*eP*	**Pn**	**19 20 16.1**	**-0.4**
	6.2nm,0.5s						
TAPN	**Taplejung**	**16.47**	**118**	*eP*	**Pn**	**19 20 23.0**	**+0.1**
	4.6nm,0.4s						
BVAR	**Borovoye Array**	**16.74**	**358**	P	**Pn**	**19 20 31.3**	**+5.8**
	0.6nm,0.5s,baz=159,slow=11,SNR=6.1						
AKTO	**Aktyubinsk**	**17.11**	**330**	⇑P	**P**	**19 20 27.1**	**-1.4**
	0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**19.97**	**24**	P	**Pn**	**19 21 06.7**	**+2.9**
	3.2nm,0.5s,baz=223,slow=11,SNR=19						

*IDC **21** 19:19:02.9±1.2,36°.81N×27°.66E,h0km,mb3.7/4, mbtmp3.6/10,ML3.4/6,MS2.9/6,Error ellipse: s-maj=21.2km s-min=19.7km az=39.0*
*ISK **21** 19:19:03.6,36°.92N×27°.61E,h7km,ML3.5/27*
*AFAD **21** 19:19:03.4±0.0,36°.91N×27°.59E,h12km±1km,MW3.6*
*THE **21** 19:19:03.8,36°.92N×27°.62E,h5km±1km,ML3.6/7,Error ellipse: s-maj=1.8km s-min=0.8km az=204.0*

ISC 21 19:19:03.9±0.8,**36°.91N**±0°.02×**27°.61E**±0°.02,**h11**km±5km, **n80,** σ0.8**94**/108,**mb3.6/4,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RFTAA	**Mazikoy-Bodrum**	**0.14**	**52**	Pg	**Pg**	**19 19 06.6**	**-0.6**
RFTAA				Sg	**Sg**	**19 19 09.5**	**0.0**
DATC	**Datca-Mugla**	**0.16**	**165**	Pg	**Pg**	**19 19 07.6**	**+0.1**
DATC				Sg	**Sg**	**19 19 10.6**	**+0.6**
DAT	**Datca**	**0.18**	**188**	Pg	**Pg**	**19 19 07.9**	**-0.1**
DAT	**Datca**	**0.18**	**188**	P	**Pg**	**19 19 07.9**	**-0.1**
DAT	**Datca**	**0.18**	**188**	P	**Pg**	**19 19 07.9**	**-0.1**
DAT				S	**Sg**	**19 19 10.3**	**-0.6**
BDRM	**Kayabasi**	**0.20**	**319**	P	**Pg**	**19 19 07.7**	**-0.5**
BDRM				S	**Sg**	**19 19 11.0**	**-0.2**
BDRM				*i* AML	AML	19 19 13.0	
	comp=E,1μm,0.2s						
YAZI	**Mula-Dat§a-**	**0.26**	**209**	P	**Pg**	**19 19 09.3**	**0.0**
RFTB	**Kemer-Bodrum**	**0.28**	**281**	Pg	**Pg**	**19 19 09.3**	**-0.3**
RFTB				Sg	**Sg**	**19 19 13.9**	**+0.6**
BODT	**Bodrum**	**0.28**	**302**	Pg	**Pg**	**19 19 09.6**	**-0.1**
BODT				Sg	**Sg**	**19 19 14.4**	**+0.8**
BODT	**Bodrum**	**0.28**	**302**	P	**Pg**	**19 19 09.6**	**-0.1**
BODT				S	**Sg**	**19 19 13.9**	**+0.3**
YKAV	**Yalikavak-Bodr**	**0.34**	**309**	Pg	**Pg**	**19 19 10.5**	**-0.2**
YKAV				Sg	**Sg**	**19 19 15.7**	**+0.4**
MLSB	**Milas**	**0.40**	**19**	Pg	**Pg**	**19 19 11.7**	**-0.2**
NIS1	**Nisyros Isl.**	**0.47**	**228**	P	**Pg**	**19 19 13.2**	**+0.2**
NIS1				S	**Sb**	**19 19 21.7**	**+0.7**
	28μm,0.5s						
NISR	**Nisiros**	**0.49**	**232**	P	**Pg**	**19 19 13.6**	**+0.1**
NISR				S	**Sb**	**19 19 21.3**	**-0.4**
	11μm,0.3s						
TURN	**Turunc**	**0.53**	**105**	Pg	**Pb**	**19 19 14.4**	**-0.7**
TURN				Sg	**Sb**	**19 19 22.5**	**-0.2**
TURN	**Turunc**	**0.53**	**105**	P	**Pg**	**19 19 13.7**	**-0.5**
TURN				S	**Sb**	**19 19 22.3**	**-0.4**
TURN				*i* AML	AML	19 19 25.0	
	comp=N,3μm,0.3s						
TURN				*i* AML	AML	19 19 25.0	
	comp=E,4μm,0.2s						
DIDI	**Didim-Aydin**	**0.55**	**327**	Pg	**Pg**	**19 19 14.6**	**0.0**
YER	**Yerkesik**	**0.58**	**67**	Pg	**Pb**	**19 19 15.4**	**-0.7**
YER	**Yerkesik**	**0.58**	**67**	P	**Pg**	**19 19 15.2**	**-0.1**
YER				S	**Sb**	**19 19 23.3**	**-1.1**
DDIM	**Aydin, Didim**	**0.62**	**332**	P	**Pg**	**19 19 15.4**	**-0.5**
MULA	**Mugla, Merkez-**	**0.66**	**59**	P	**Pg**	**19 19 16.5**	**-0.3**
MULA				S	**Sg**	**19 19 25.5**	**-0.1**
MULA				*i* AML	AML	19 19 26.0	
	comp=N,841nm,1.0s						
MULA				*i* AML	AML	19 19 33.0	
	comp=E,1μm,0.8s						
ARG	**Arkhangelos**	**0.81**	**149**	Pg	**Pb**	**19 19 19.9**	**-0.1**
ARG	**Arkhangelos**	**0.81**	**149**	P	**Pg**	**19 19 19.2**	**-0.3**
ARG				S	**Sb**	**19 19 31.7**	**+0.8**
	6μm,0.5s						
DALY	**Dalyan (Mula)**	**0.84**	**96**	Pg	**Pb**	**19 19 20.4**	**-0.1**
GCAM	**G?zelcaml?**	**0.84**	**339**	Pg	**Pg**	**19 19 20.0**	**-0.2**
GCAM	**G?zelcaml?**	**0.84**	**339**	P	**Pg**	**19 19 20.0**	**-0.2**
GCAM				S	**Sg**	**19 19 31.2**	**0.0**
GCAM				*i* AML	AML	19 19 34.0	
	comp=N,2μm,0.6s						
GCAM				*i* AML	AML	19 19 34.0	
	comp=E,2μm,0.7s						
SMG	**Samos**	**1.01**	**322**	P	**Pg**	**19 19 22.6**	**-0.7**
SMG				S	**Sg**	**19 19 36.2**	**-0.2**
	4μm,0.4s						
ESEN	**Aydn-Nazilli**	**1.06**	**33**	P	**Pg**	**19 19 23.6**	**-0.8**
ESEN				S	**Sg**	**19 19 37.5**	**-0.7**
ESEN				*i* AML	AML	19 19 41.0	
	comp=N,848nm,0.6s						
ESEN				*i* AML	AML	19 19 41.0	
	comp=E,946nm,0.6s						
SABU	**Mula-Dalaman**	**1.09**	**94**	P	**Pn**	**19 19 25.2**	**0.0**
TAVA	**DENIZLI_Tavas**	**1.18**	**62**	P	**Pn**	**19 19 26.4**	**0.0**
TAVA				S	**Sn**	**19 19 42.6**	**+0.1**
TAVA				*i* AML	AML	19 19 48.0	
	comp=N,505nm,0.5s						
FETI	**Fethiye-Mugla**	**1.21**	**100**	Pn	**Pn**	**19 19 27.4**	**+0.6**
FETY	**Fethiye**	**1.21**	**103**	Pn	**Pn**	**19 19 27.4**	**+0.6**
FETY	**Fethiye**	**1.21**	**103**	P	**Pn**	**19 19 29.6**	**+2.8**
IZMR	**zmir-demi**	**1.25**	**12**	P	**Pb**	**19 19 27.3**	**-0.2**
IZMR				P	**Pb**	**19 19 27.3**	**-0.2**
IZMR				S	**Sn**	**19 19 44.5**	**+0.4**
IZMR				*i* AML	AML	19 19 50.0	
	comp=E,1μm,0.5s						
DGB	**zmir**	**1.28**	**333**	P	**Pn**	**19 19 27.1**	**-0.6**
GMLD	**Gumuldur**	**1.29**	**335**	Pn	**Pg**	**19 19 28.6**	**0.0**
DNIZ	**Denizli-Tavas-**	**1.34**	**58**	P	**Pg**	**19 19 29.2**	**-0.5**
DNIZ				S	**Sn**	**19 19 48.3**	**+1.7**
DNIZ				*i* AML	AML	19 19 51.0	
	comp=N,1μm,0.5s						
CAME	**Cameli-Denizli**	**1.36**	**88**	Pn	**Pg**	**19 19 29.7**	**-0.3**
IZZE	**Mula-Seydike**	**1.38**	**110**	P	**Pg**	**19 19 30.3**	**-0.2**
IZZE				S	**Sg**	**19 19 50.9**	**+2.5**
IZZE				*i* AML	AML	19 19 55.0	
	comp=N,3μm,0.5s						
CAEL	**Denizli, Camel**	**1.38**	**81**	P	**Pg**	**19 19 30.5**	**0.0**
KARP	**Karpathos**	**1.41**	**195**	Pn	**Pn**	**19 19 29.6**	**+0.1**
KARP	**Karpathos**	**1.41**	**195**	P	**Pn**	**19 19 29.2**	**-0.3**
KARP				S	**Sb**	**19 19 47.9**	**-0.3**
	1μm,0.9s						
KIRA	**zmir-Kiraz**	**1.43**	**26**	P	**Pn**	**19 19 29.6**	**-0.3**
KIRA				S	**Sb**	**19 19 47.6**	**-1.2**
KIRA				*i* AML	AML	19 19 56.0	
	comp=E,599nm,0.6s						
APMY	**Acipayam-Deniz**	**1.46**	**67**	Pn	**Pg**	**19 19 31.2**	**-0.8**
KNIK	**Mula-Seydike**	**1.57**	**92**	P	**Pb**	**19 19 33.1**	**0.0**
ZEYE	**Izmir, Urla-Ze**	**1.59**	**327**	P	**Pn**	**19 19 31.5**	**-0.5**
GOLH	**Golhisar**	**1.59**	**78**	P	**Pg**	**19 19 34.5**	**0.0**
URLA	**Izmir**	**1.66**	**331**	Pn	**Pn**	**19 19 33.6**	**+0.7**
URLA	**Izmir**	**1.66**	**331**	P	**Pb**	**19 19 34.8**	**+0.4**
APE	**Apeiranthos**	**1.67**	**276**	Pn	**Pn**	**19 19 32.4**	**-0.8**
APE	**Apeiranthos**	**1.67**	**276**	P	**Pn**	**19 19 32.8**	**-0.4**
APE				S	**Sn**	**19 19 53.1**	**-1.5**
	300nm,0.4s						
AKAS	**Kas**	**1.74**	**112**	Pn	**Pb**	**19 19 35.4**	**-0.6**
AKAS	**Kas**	**1.74**	**112**	P	**Pg**	**19 19 37.6**	**+0.2**
MANT	**Manisa**	**1.75**	**25**	P	**Pb**	**19 19 36.3**	**+0.3**
INCE	**Denizli-Bozkur**	**1.76**	**62**	P	**Pg**	**19 19 37.3**	**-0.3**
KULA	**Kula-Manisa**	**1.80**	**27**	Pn	**Pn**	**19 19 35.4**	**+0.4**
KULA	**Kula-Manisa**	**1.80**	**27**	P	**Pn**	**19 19 34.9**	**-0.1**
KULA				S	**Sn**	**19 19 57.3**	**-0.6**
GOMA	**Golmarmara-Man**	**1.81**	**8**	Pn	**Pb**	**19 19 35.9**	**+0.9**
ELL	**Elmali**	**1.85**	**94**	Pn	**Pb**	**19 19 36.8**	**-1.0**
CHOS	**Chios island**	**1.92**	**320**	P	**Pn**	**19 19 36.5**	**-0.1**
CHOS				S	**Sn**	**19 20 00.8**	**0.0**
	452nm,0.6s						
FOCM	**Foa**	**1.93**	**339**	Pn	**Pn**	**19 19 37.5**	**+0.9**
RFT7	**Candarli**	**2.11**	**345**	Pn	**Pn**	**19 19 40.3**	**+1.1**
ZKR	**Zakros**	**2.12**	**213**	Pn	**Pn**	**19 19 40.6**	**+1.3**
ZKR	**Zakros**	**2.12**	**213**	P	**Pn**	**19 19 39.9**	**+0.6**
ZKR				S	**Sn**	**19 20 05.6**	**0.0**
DKL	**Dikili**	**2.23**	**346**	Pn	**Pn**	**19 19 41.9**	**+1.2**
BRTR	**Keskin Array B**	**5.51**	**58**	Pn	**Pn**	**19 20 28.5**	**+2.5**
	1.5nm,0.3s,baz=238,slow=16,SNR=38						
BRTR				Sn	**Sn**	**19 21 30.4**	**+1.0**
	0.4nm,0.3s,baz=234,slow=26,SNR=4.7						
BRTR				LR	LR	19 23 13.0	
	comp=Z,62nm,20.6s,baz=243,slow=45						
	4.7nm,0.4s						
MMAI	**Mount Meron Ar**	**7.48**	**119**	Pn	**Pn**	**19 20 52.5**	**-0.5**
	2.8nm,0.3s,baz=307,slow=12,SNR=6.7						
MMAI				Sn	**Sn**	**19 22 14.8**	**-3.1**
	1.9nm,0.3s,baz=322,slow=16,SNR=2.8						
	1.5nm,0.3s						
MLR	**Muntele Rosu**	**8.66**	**352**	Pn	**Pn**	**19 21 11.7**	**+2.5**
	0.1nm,0.3s,baz=174,slow=3.4,SNR=3.7						
	2.3nm,0.8s						
ASF	**Jabal al Asfar**	**9.00**	**119**	Pn	**Pn**	**19 21 13.4**	**-0.5**
	0.3nm,0.3s,baz=246,slow=20,SNR=1.5						
ASF				Sn	**Sn**	**19 22 55.8**	**+0.6**
	baz=269,slow=21,SNR=1.6						
	0.7nm,0.3s						
EIL	**Elat**	**9.48**	**138**	Pn	**Pn**	**19 21 19.6**	**-0.8**
	0.5nm,0.3s,baz=245,slow=15,SNR=2.3						
EIL				Sn	**Sn**	**19 23 02.4**	**-4.5**
	0.6nm,0.3s,baz=288,slow=22,SNR=4.7						
	1.1nm,0.3s						
AKASG	**Malin Array Be**	**13.83**	**4**	LR	LR	19 27 39.7	
	comp=Z,34nm,18.6s,baz=204,slow=37						
VRAC	**Vranov**	**14.75**	**331**	LR	LR	19 28 20.7	
	comp=Z,61nm,18.0s,baz=316,slow=38						
GERES	**GERESS Array B**	**15.66**	**324**	Pn	**P**	**19 22 48.2**	**-0.4**
	baz=137,slow=16,SNR=2.3						
	0.3nm,0.6s						
DAVOX	**Davos/Dischmat**	**16.45**	**312**	LR	LR	19 29 20.2	
	comp=Z,39nm,18.7s,baz=81,slow=37						
FINES	**FINESS Array B**	**24.57**	**358**	P	**P**	**19 24 24.9**	**+1.4**
	3.7nm,1.0s,baz=172,slow=11,SNR=2.3						
	3.7nm,1.0s						
NOA	**NORSAR Array B**	**26.28**	**342**	LR	LR	19 36 31.6	
	comp=Z,31nm,19.6s,baz=350,slow=40						
ARU	**Arti**	**28.47**	**37**	LR	LR	19 38 12.3	
	comp=Z,27nm,21.8s,baz=152,slow=40						
TORD	**Torodi Ar. Bea**	**33.13**	**231**	P	**P**	**19 25 40.1**	**-0.1**
	0.8nm,0.7s,baz=38,slow=9.7,SNR=5.3						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**38.48**	**53**	P	**P**	**19 26 26.8**	**+1.0**
	0.3nm,0.5s,baz=274,slow=8.7,SNR=6.8						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**41.16**	**58**	P	**P**	**19 26 49.1**	**+1.0**
	0.6nm,0.6s,baz=270,slow=9.4,SNR=8.9						
	0.6nm,0.6s						

*CNRM **21** 19:21:39.3,37°.13N×1°.58W,h0km,ml2.9*
*CRAAG **21** 19:21:40.8,37°.15N×1°.38W,Ml3.4,Espagne*
*MDD **21** 19:21:41.4±0.3,37°.18N×1°.40W,h0km±1km,mb_Lg3.3/50, Error ellipse: s-maj=2.2km s-min=1.3km az=145.0*
*INMG **21** 19:21:41.5±1.5,37°.09N×1°.32W,h15km±2km,ML3.0,Error ellipse: s-maj=3.1km s-min=1.8km az=138.0*
*SFS **21** 19:21:41.1,37°.07N×1°.29W,h14km,mb3.6/6,ML3.9/26, ML3.6/26,MLv3.6/24*
*LDG **21** 19:21:41.4±0.1,37°.10N×1°.33W,h2km,Ml3.2/6,Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*IGIL **21** 19:21:42.2,37°.01N×1°.34W,h12km,ML2.3*

ISC 21 19:21:40.5±1.0,**37°.11N**±0°.03×**1°.34W**±0°.02,**h18**km±7km, **n122,** σ1.**82**/253,**1C-3D,Spain**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CART	**Cartagena**	**0.55**	**30**	P	**Pg**	**19 21 52.0**	**+0.5**
CART				S	**Sg**	**19 21 59.1**	**+0.3**
CART	**Cartagena**	**0.55**	**30**	Sg	**Sg**	**19 21 58.8**	**0.0**
CART				Pg	**Pg**	**19 21 51.7**	**+0.2**
TLOR	**Lorca, Murcia**	**0.61**	**333**	Pg	**Pb**	**19 21 54.1**	**+1.4**
TLOR				Sg	**Sg**	**19 21 58.9**	**-1.9**
TLOR	**Lorca, Murcia**	**0.61**	**333**	Sg	**Sb**	**19 22 03.0**	**+2.1**
TLOR				Pg	**Pb**	**19 21 54.1**	**+1.4**
ELOR	**Lorca, Murcia**	**0.61**	**329**	Pg	**Pb**	**19 21 53.0**	**+0.2**
ELOR				Sg	**Sg**	**19 21 59.5**	**-1.5**
ENIJ	**Nijar**	**0.71**	**259**	⇑Pg	**Pg**	**19 21 54.6**	**+0.2**
ENIJ				Sg	**Sg**	**19 22 03.7**	**-0.1**
ENIJ				*i* Vmb_Lg		19 22 06.6	
ENIJ	**Nijar**	**0.71**	**259**	Sg	**Sb**	**19 22 04.7**	**+1.0**
ENIJ				Pg	**Pg**	**19 21 54.6**	**+0.2**
EMUR	**La Murta**	**0.73**	**6**	⇓Pg	**Pb**	**19 21 55.5**	**+0.6**
EMUR				Sg	**Sg**	**19 22 04.3**	**-0.4**
EMUR				*i* Vmb_Lg		19 22 07.7	
EMUR	**La Murta**	**0.73**	**6**	Pg	**Pb**	**19 21 55.5**	**+0.6**
EMUR				Sg	**Sb**	**19 22 04.8**	**+0.2**
EZAR	**Zarzadilla de**	**0.81**	**340**	⇓Pg	**Pb**	**19 21 57.2**	**+1.0**
EZAR				Sg	**Sb**	**19 22 07.6**	**+0.7**
EZAR				*i* Vmb_Lg		19 22 11.1	
ETRV	**Los Montesinos**	**1.02**	**27**	Pg	**Pg**	**19 21 59.5**	**-0.7**
ETRV				Sg	**Sg**	**19 22 12.3**	**-1.4**
ETRV				*i* Vmb_Lg		19 22 16.3	
EBER	**Berja**	**1.26**	**261**	Pg	**Pg**	**19 22 03.0**	**-1.8**
EBER				Sg	**Sg**	**19 22 21.2**	**-0.1**
EBER				*i* Vmb_Lg		19 22 37.1	
EBER	**Berja**	**1.26**	**261**	Pn	**Pg**	**19 22 03.1**	**-1.8**
EBER				Sn	**Sg**	**19 22 19.9**	**-1.4**
EQES	**Quesada**	**1.54**	**297**	Pg	**Pn**	**19 22 09.3**	**+2.1**
EQES				Sg	**Sg**	**19 22 27.9**	**-2.3**
EQES				*i* Vmb_Lg		19 22 32.6	
ETOB	**Tobarra**	**1.54**	**354**	⇓Pg	**Pn**	**19 22 08.3**	**+1.1**
ETOB				Sn	**Sg**	**19 22 27.8**	**-2.4**
ETOB				*i* Vmb_Lg		19 22 29.6	
ETOB	**Tobarra**	**1.54**	**354**	Pn	**Pn**	**19 22 08.3**	**+1.1**
ETOB				Sn	**Sg**	**19 22 26.3**	**-3.9**
AFON	**Font Roja**	**1.67**	**22**	Pn	**Pn**	**19 22 09.8**	**+0.7**
AFON				Sn	**Sn**	**19 22 31.3**	**+1.1**
AFON				*i* Vmb_Lg		19 22 34.0	
EQUE	**Quentar**	**1.68**	**274**	Pn	**Pn**	**19 22 09.8**	**+0.7**
EQUE				Sn	**Sn**	**19 22 30.9**	**+0.7**
EQUE				*i* Vmb_Lg		19 22 39.9	
EQTA	**Presa de Quent**	**1.68**	**274**	Pn	**Pn**	**19 22 10.4**	**+1.2**
EQTA				Sn	**Sn**	**19 22 30.4**	**+0.1**
EBEN2	**Beniarda presa**	**1.81**	**30**	Pn	**Pn**	**19 22 10.9**	**0.0**
EBEN2				Sn	**Sn**	**19 22 34.4**	**+1.1**
EBEN2				*i* Vmb_Lg		19 22 39.9	
ELGU	**Los Guajares,**	**1.84**	**263**	Pn	**Pn**	**19 22 12.2**	**+0.8**
ELGU				Sn	**Sn**	**19 22 35.1**	**+0.8**
ELGU				*i* Vmb_Lg		19 22 53.7	
ELGU	**Los Guajares,**	**1.84**	**263**	Pn	**Pn**	**19 22 11.7**	**+0.3**
ELGU				Sn	**Sn**	**19 22 33.8**	**-0.6**
CHAS	**Isla Isabel II**	**2.12**	**205**	Pn	**Pn**	**19 22 15.2**	**+0.1**
CHAS				Sn	**Sn**	**19 22 39.3**	**-1.6**
EVIV	**Cofrentes, Val**	**2.16**	**5**	Pn	**Pn**	**19 22 16.5**	**+0.8**
EVIV				Pg	**Pb**	**19 22 18.9**	**-0.2**
EVIV				Sn	**Sn**	**19 22 46.3**	**+1.3**
EVIV				*i* Vmb_Lg		19 23 08.5	
EGOR	**Sierra Gorda,**	**2.21**	**271**	Pn	**Pn**	**19 22 17.3**	**+0.8**
EGOR				Sn	**Sn**	**19 22 45.1**	**+1.6**
EGOR				*i* Vmb_Lg		19 23 09.2	
EGOR	**Sierra Gorda,**	**2.21**	**271**	Pn	**Pn**	**19 22 18.2**	**+1.7**
GOG	**Mont Gurugu**	**2.31**	**216**	P	**Pn**	**19 22 16.9**	**-1.0**
GOG				S	**Sn**	**19 22 46.8**	**+0.9**
ECHE	**Chera**	**2.49**	**7**	Pn	**Pn**	**19 22 20.8**	**+0.5**
ECHE				Sn	**Sn**	**19 22 49.0**	**-1.3**
ECHE				*i* Vmb_Lg		19 23 20.9	
ECHE	**Chera**	**2.49**	**7**	Pn	**Pn**	**19 22 22.0**	**+1.7**
EMAL	**Malaga-Limoner**	**2.50**	**263**	Pn	**Pn**	**19 22 21.0**	**+0.8**
EMAL				Sn	**Sn**	**19 22 50.8**	**+0.5**
EADA	**Adamuz**	**2.77**	**293**	Pn	**Pn**	**19 22 24.9**	**+0.8**
EADA				Sn	**Sn**	**19 22 57.9**	**+0.6**
EADA				Sg	**Sb**	**19 23 06.4**	**+3.1**
EADA				*i* Vmb_Lg		19 23 14.9	
EADA	**Adamuz**	**2.77**	**293**	Pn	**Pn**	**19 22 25.1**	**+0.9**
EADA				Sn	**Sn**	**19 22 57.6**	**+0.4**
EMIJ	**Mijas**	**2.81**	**260**	Pn	**Pn**	**19 22 24.4**	**-0.1**
EMIJ				Pg	**Pb**	**19 22 29.8**	**-0.3**
EMIJ				Sn	**Sn**	**19 22 59.2**	**+1.2**
EMIJ				*i* Vmb_Lg		19 23 39.1	
EMIJ	**Mijas**	**2.81**	**260**	Pn	**Pn**	**19 22 23.5**	**-1.0**
PALE	**Palemas**	**2.83**	**229**	P	**Pn**	**19 22 24.0**	**-0.9**
PALE				S	**Sn**	**19 22 58.9**	**+0.4**
EIBI	**Ibiza**	**2.85**	**47**	Pn	**Pn**	**19 22 25.3**	**+0.1**
EIBI				Sn	**Sn**	**19 22 57.4**	**-1.7**
EIBI				*i* Vmb_Lg		19 23 11.1	
EIBI	**Ibiza**	**2.85**	**47**	Pn	**Pn**	**19 22 25.6**	**+0.4**
EIBI				Sn	**Sn**	**19 22 57.3**	**-1.9**
PVLZ	**Peæn de**	**3.08**	**232**	Pn	**Pn**	**19 22 28.3**	**0.0**
ESDC	**Sonseca Array**	**3.28**	**322**	Pn	**Pn**	**19 22 31.9**	**+0.8**
ESDC				Sn	**Sn**	**19 23 09.3**	**-0.5**
ESDC				*i* Vmb_Lg		19 23 09.9	
ESDC				Sg	**Sb**	**19 23 21.1**	**+3.1**
AKLM	**AKL**	**3.31**	**219**	P	**Pn**	**19 22 31.4**	**-0.1**
AKLM				S	**Sn**	**19 23 08.4**	**-2.0**
EMOS	**Mosqueruela**	**3.32**	**12**	Pn	**Pn**	**19 22 32.7**	**+0.9**
EMOS				Sn	**Sn**	**19 23 10.2**	**-0.6**
EMOS				*i* Vmb_Lg		19 23 48.0	
ECAB	**El Cabril**	**3.38**	**288**	Pn	**Pn**	**19 22 33.2**	**+0.8**
ECAB				Sn	**Sn**	**19 23 12.3**	**+0.2**
ECAB				Sg	**Sb**	**19 23 21.6**	**+0.9**
ECAB				*i* Vmb_Lg		19 23 29.4	
ECAB	**El Cabril**	**3.38**	**288**	Pn	**Pn**	**19 22 33.0**	**+0.5**
ECAB				Sn	**Sn**	**19 23 11.0**	**-1.1**
PAB	**San Pablo**	**3.39**	**317**	Pn	**Pn**	**19 22 33.5**	**+0.9**
PAB				Sn	**Sn**	**19 23 11.2**	**-1.3**
PAB				Sg	**Sb**	**19 23 23.6**	**+2.6**
PAB				*i* Vmb_Lg		19 23 35.1	
UCM	**Universidad Co**	**3.52**	**336**	Pn	**Pn**	**19 22 36.0**	**+1.6**
UCM				Sn	**Sn**	**19 23 14.2**	**-1.4**
SMIR	**Smir Dam**	**3.56**	**248**	P	**Pn**	**19 22 34.8**	**0.0**
SMIR				S	**Sn**	**19 23 14.

MESJ					*e*Sn		**Sn**	**19 24 03.2**	**-1.6**
MESJ					A		A	19 24 39.9	
	7.2nm,0.4s								
MESJ	**Messejana**	**5.52**	**280**		*e*P		**Pn**	**19 23 02.2**	**+0.4**
MESJ					*e*S		**Sn**	**19 24 00.9**	**-3.9**
MESJ					IAML			19 24 06.4	
	comp=N,3.9nm,0.2s								
PCBR	**Castelo Branco**	**5.53**	**301**		*e*Pn		**Pn**	**19 23 03.8**	**+1.8**
PCBR					*e*Sn		**Sn**	**19 24 04.6**	**-0.5**
PCBR					*e*Sg		**Sg**	**19 24 39.4**	**+1.4**
PCBR					A		A	19 24 43.3	
	comp=N,16nm,0.4s								
ECHI	**Chisagues Biel**	**5.67**	**12**		Pn		**Pn**	**19 23 05.2**	**+1.2**
ECHI					Sn		**Sn**	**19 24 07.3**	**-1.5**
PMTG	**Montargil**	**5.77**	**292**		*e*Pn		**Pn**	**19 23 05.7**	**+0.4**
PMTG					*e*Sn		**Sn**	**19 24 08.8**	**-2.2**
PMTG					*e*Sg		**Sg**	**19 24 45.5**	**-0.2**
PMTG					A		A	19 24 54.8	
	comp=N,18nm,0.6s								
EORO	**Oroz-Betelu**	**5.77**	**0**		Pn		**Pn**	**19 23 06.3**	**+0.9**
EORO					Sn		**Sn**	**19 24 09.4**	**-1.8**
PNCL	**Nicolau / Gran**	**5.79**	**282**		*e*Pn		**Pn**	**19 23 06.1**	**+0.5**
PNCL					*e*Sn		**Sn**	**19 24 09.9**	**-1.6**
PNCL					A		A	19 24 57.1	
	comp=N,6.6nm,0.7s								
PNCL	**Nicolau / Gran**	**5.79**	**282**		Pn		**Pn**	**19 23 06.0**	**+0.4**
ETSF	**Etsaut**	**5.81**	**6**		*e*Pn		**Pn**	**19 23 06.6**	**+0.7**
ETSF					*e*Sn		**Sn**	**19 24 10.2**	**-1.9**
	comp=N,0.8nm,0.2s								
MORF	**Marmelete**	**5.84**	**274**		*e*Pn		**Pn**	**19 23 06.9**	**+0.6**
MORF					*e*Sn		**Sn**	**19 24 11.2**	**-1.6**
MORF					A		A	19 24 14.7	
	comp=N,5.6nm,0.2s								
MORF	**Marmelete**	**5.84**	**274**		*e*P		**Pn**	**19 23 06.5**	**+0.2**
MTE	**Manteigas**	**5.85**	**306**		*e*Sn		**Sn**	**19 24 12.4**	**-0.8**
MTE					*e*Sg		**Sg**	**19 24 44.5**	**-3.8**
MTE					A		A	19 24 57.5	
	comp=N,17nm,0.3s								
PTEO	**Sao Teotonio**	**5.90**	**276**		*e*Pn		**Pn**	**19 23 07.5**	**+0.5**
PTEO					*e*Sn		**Sn**	**19 24 12.7**	**-1.5**
PTEO					A		A	19 25 00.2	
	comp=N,12nm,0.6s								
PFVI	**Vila Bisbo**	**5.98**	**272**		*e*Pn		**Pn**	**19 23 08.9**	**+0.7**
PFVI					*e*Sn		**Sn**	**19 24 14.6**	**-1.6**
PFVI					A		A	19 24 28.7	
	comp=N,6.4nm,0.8s								
PFVI	**Vila Bisbo**	**5.98**	**272**		Pn		**Pn**	**19 23 09.0**	**+0.9**
MVO	**Moncorvo**	**5.99**	**314**		*e*Pn		**Pn**	**19 23 10.1**	**+1.7**
MVO					*e*Sn		**Sn**	**19 24 13.6**	**-3.0**
MVO					*e*Sg		**Sg**	**19 24 47.2**	**-5.6**
MVO					A		A	19 24 59.6	
	comp=N,16nm,0.7s								
SJPF	**Ste Jean**	**5.99**	**1**		*e*Pn		**Pn**	**19 23 09.9**	**+1.5**
SJPF					*e*Sn		**Sn**	**19 24 14.6**	**-1.9**
	comp=N,2.0nm,0.3s								
EPF	**Esparros**	**6.05**	**12**		*e*Pn		**Pn**	**19 23 10.6**	**+1.4**
EPF					*e*Sn		**Sn**	**19 24 15.9**	**-2.1**
	comp=N,6.2nm,0.4s								
EALK	**Alkurruntz**	**6.10**	**359**		Pn		**Pn**	**19 23 11.9**	**+2.0**
EALK					Sn		**Sn**	**19 24 17.5**	**-1.8**
EALK					*i* Vmb_Lg			19 24 21.2	
PACT	**Alcochete**	**6.15**	**288**		*e*Pn		**Pn**	**19 23 11.6**	**-0.3**
PACT					*e*Sn		**Sn**	**19 24 19.5**	**-0.8**
PACT					*e*Sg		**Sg**	**19 24 59.2**	**+1.5**
PVIS	**Viseu**	**6.25**	**307**		*e*Pn		**Pn**	**19 23 13.2**	**+1.3**
PVIS					*e*Sn		**Sn**	**19 24 21.9**	**-1.0**
PVIS					*e*Sg		**Sg**	**19 25 01.8**	**+0.8**
PVIS					A		A	19 25 05.7	
	comp=N,8.7nm,0.5s								
PBRG	**Braganca**	**6.28**	**320**		*e*Pn		**Pn**	**19 23 14.0**	**+1.7**
PBRG					*e*Sn		**Sn**	**19 24 20.9**	**-2.6**
PBRG					*e*Sg		**Sg**	**19 24 58.7**	**-3.2**
PBRG					A		A	19 25 04.0	
	comp=N,8.9nm,0.5s								
ELAN	**Lanestosa**	**6.32**	**346**		Pn		**Pn**	**19 23 14.0**	**+1.2**
ELAN					Sn		**Sn**	**19 24 20.3**	**-4.3**
ELAN					Sg		**Sb**	**19 24 49.2**	**+4.0**
PCAS	**Casmilo, Conde**	**6.33**	**300**		*e*Pn		**Pn**	**19 23 14.6**	**+1.7**
PCAS					*e*Sn		**Sn**	**19 24 22.9**	**-1.9**
PCAS					*e*Sg		**Sg**	**19 25 00.6**	**-2.9**
PCAS					A		A	19 25 16.1	
	comp=N,26nm,0.6s								
PSBE	**So Bento**	**6.33**	**295**		*e*Pn		**Pn**	**19 23 14.4**	**+1.4**
PSBE					*e*Sn		**Sn**	**19 24 24.5**	**-0.4**
PSBE					*e*Sg		**Sg**	**19 25 03.2**	**-0.5**
PSBE					A		A	19 25 07.5	
	comp=N,19nm,0.6s								
ECAL	**Calabor**	**6.37**	**321**		Pn		**Pn**	**19 23 14.8**	**+1.2**
ECAL					Sn		**Sn**	**19 24 22.8**	**-3.2**
ECAL					*i* Vmb_Lg			19 25 12.9	
ECAL	**Calabor**	**6.37**	**321**		Pn		**Pn**	**19 23 14.6**	**+1.0**
ECAL					Sn		**Sn**	**19 24 22.6**	**-3.4**
PMAFR	**Mafra**	**6.53**	**289**		*e*Pn		**Pn**	**19 23 16.4**	**+0.7**
PMAFR					*e*Sn		**Sn**	**19 24 27.6**	**-2.2**
PMAFR					*e*Sg		**Sg**	**19 25 10.4**	**+0.3**
PMAFR	**Mafra**	**6.53**	**289**		Pn		**Pn**	**19 23 16.2**	**+0.5**
PMAFR					Sn		**Sn**	**19 24 27.5**	**-2.2**
POLO	**Lamas de Olo**	**6.57**	**312**		*e*Pn		Pn	19 23 23.4	+7.1
POLO					*e*Sn		**Sn**	**19 24 28.4**	**-2.4**
POLO					*e*Sg		**Sg**	**19 25 09.3**	**-2.0**
POLO					A		A	19 25 21.2	
	comp=N,4.8nm,0.6s								
EARI	**Arriondas**	**6.85**	**336**		Pn		**Pn**	**19 23 21.1**	**+0.9**
EARI					Sn		**Sn**	**19 24 35.0**	**-2.7**
EARI					Sg		**Sb**	**19 25 05.1**	**+4.6**
EARI					*i* Vmb_Lg			19 25 37.1	
PCAB	**Cabril**	**6.92**	**314**		*e*Pn		**Pn**	**19 23 24.0**	**+3.0**
PCAB					*e*Sn		**Sn**	**19 24 36.0**	**-3.3**
PCAB					*e*Sg		**Sg**	**19 25 22.9**	**+0.5**
ELOB	**Lobios**	**7.04**	**314**		Pn		**Pn**	**19 23 23.9**	**+1.2**
ELOB					Sn		**Sn**	**19 24 38.8**	**-3.5**
ELOB					*i* Vmb_Lg			19 25 42.0	
PGAV	**Gavieira, Arco**	**7.22**	**314**		*e*Pn		**Pn**	**19 23 25.8**	**+0.5**
PGAV					*e*Sn		**Sn**	**19 24 43.2**	**-3.6**
PGAV					*e*Sg		**Sg**	**19 25 31.2**	**-0.9**
EPON	**Pontenova**	**7.63**	**326**		Pn		**Pn**	**19 23 32.3**	**+1.5**
EPON					Sn		**Sn**	**19 24 51.2**	**-5.6**
EAGO	**Agolada(Pontev**	**7.69**	**320**		Pn		**Pn**	**19 23 33.0**	**+1.4**
EAGO					Sn		**Sn**	**19 24 54.3**	**-4.0**
EAGO					*i* Vmb_Lg			19 25 57.8	
LASF	**Ste Croix**	**8.00**	**28**		*e*Pn		**Pn**	**19 23 36.1**	**+0.2**
LMR	**La Mourre**	**8.64**	**42**		*e*Sn		**Sn**	**19 25 17.1**	**-4.5**
	comp=N,1.4nm,0.3s								
VSL	**Villasalto**	**8.76**	**71**		Pn		**Pn**	**19 23 48.0**	**+1.7**
PGF	**Pioggiola**	**9.63**	**52**		*e*Pn		**Pn**	**19 23 57.9**	**-0.4**
QUIF	**Quistinic**	**10.88**	**353**		*e*Pn		**Pn**	**19 24 15.5**	**+0.2**
QUIF					*e*Sn		**Sn**	**19 26 11.3**	**-5.2**
	comp=N,3.2nm,0.5s								
SGMF	**Saint Gilles**	**11.17**	**356**		*e*Sn		**Sn**	**19 26 17.4**	**-6.2**
	comp=N,1.9nm,0.4s								

UPA ***21*** *19:26:37.3±1.7, 4.°21N×76.°17W, h10km±16km, MW4.9*
RSNC ***21*** *19:26:39.6±1.5, 4.°26N×76.°23W, h146km±4km, ML4.7, Mw4.9, Fault plane solution: NP1:φ=99.00000°, δ=48.00000°, λ=118.00000°.*
VAO ***21*** *19:26:39.0±0.6, 4.°21N×76.°15W, h152km, mb4.7*
NEIC ***21*** *19:26:40.1±1.5, 4.°14N±0.°07×76.°20W±0.°07, h156km±6km, mb4.6/114, Error ellipse: s-maj=10.5km s-min=9.8km az=136.0*
IDC ***21*** *19:26:40.7±0.9, 4.°21N×76.°10W, h162km±7km, mb4.2/20, mbtmp4.8/27, MS3.5/4, Error ellipse: s-maj=11.9km s-min=9.3km az=41.0*
BGR ***21*** *19:26:43.4, 4.°97N×76.°25W, h150km, mb5.0*
ISC 21 19:26:38.8±0.6, **4.°23N**±0.°03×**76.°17W**±0.°03, **h149**km±5km, **n452**, σ**1**$**37**/503, **mb4.6**/153, **15C-23D, Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOTC	**Yotoco, Valle**	**0.30**	**215**	⇑*i*	*i*P	**Pn**	**19 26 59.2**	**-0.2**
YOTC				*e*	S	**Sn**	**19 27 14.6**	**-0.5**
YOTC				*i*			19 27 15.9	
	comp=Z,7μm,0.3s							
PLMC	**San Jos del P**	**0.68**	**350**	⇑*e*	P	**Pn**	**19 27 01.0**	**-0.2**
PLMC				*e*	S	**Sn**	**19 27 17.9**	**-0.4**
PLMC				*i*			19 27 22.0	
	comp=Z,16μm,0.2s							
ORTC	**Ortega, Tolima**	**0.97**	**109**	⇑*i*	*i*P	**Pn**	**19 27 04.1**	**+0.8**
ORTC				*e*	S	**Sn**	**19 27 22.5**	**+0.6**
ORTC				*i*			19 27 30.3	
	comp=Z,6μm,0.5s							
JAMC	**Jamundi, Valle**	**1.13**	**206**	⇑*i*	*i*P	**Pn**	**19 27 05.2**	**+0.3**
JAMC				*e*	S	**Sn**	**19 27 24.4**	**-0.3**
JAMC				*i*			19 27 25.8	
	comp=Z,23μm,0.3s							
MALC	**Bahia Malaga**	**1.18**	**259**	*i*	P	**Pn**	**19 27 06.2**	**+1.1**
MALC				*e*	S	**Sn**	**19 27 24.6**	**-0.5**
MALC				*i*			19 27 31.9	
	comp=Z,5μm,0.4s							
GUY2C	**Guyana, Caldas**	**1.27**	**39**	⇓*e*	P	**Pn**	**19 27 07.0**	**+0.5**
GUY2C				*e*	S	**Sn**	**19 27 27.8**	**+0.2**
GUY2C				*i*			19 27 35.0	
	comp=Z,3μm,0.7s							
PRAC	**Prado**	**1.38**	**112**	*e*	P	**Pn**	**19 27 08.1**	**+1.0**
PRAC				*e*	S	**Sn**	**19 27 29.2**	**+0.5**
PRAC				*i*			19 27 31.6	
	comp=Z,10μm,0.4s							
PIZC	**Pizarro, Choco**	**1.39**	**302**	⇑*i*	P	**Pn**	**19 27 07.7**	**+0.5**
PIZC				*e*	S	**Sn**	**19 27 29.1**	**+0.2**
PIZC				*i*			19 27 44.2	
	comp=Z,10μm,0.5s							
CBOC	**Ciudad Bolivar**	**1.63**	**6**	⇓*i*	P	**Pn**	**19 27 09.6**	**-0.3**
CBOC				*e*	S	**Sn**	**19 27 33.9**	**+0.1**
CBOC				*i*			19 27 41.7	
	comp=Z,3μm,0.6s							
BETC	**Betania**	**1.70**	**155**	⇓*i*	P	**Pn**	**19 27 11.6**	**+1.0**
BETC				*e*	S	**Sn**	**19 27 35.8**	**+0.9**
BETC				*i*			19 27 38.8	
	comp=Z,7μm,0.5s							
POPC	**Popayan, Colom**	**1.75**	**197**	⇓*i*	P	**Pn**	**19 27 11.3**	**0.0**
POPC				*e*	S	**Sn**	**19 27 36.2**	**-0.1**
POPC				*i*			19 27 37.5	
	comp=Z,7μm,0.6s							
NORC	**Norcasia**	**1.85**	**44**	*e*	P	**Pn**	**19 27 13.0**	**+0.7**
NORC				*e*	S	**Sn**	**19 27 38.1**	**+0.2**
ROSC	**El Rosal**	**1.94**	**72**	P	Pn	**Pn**	**19 27 15.9**	**+2.4**
ROSC	**El Rosal**	**1.94**	**72**	⇑*i*	P	**Pn**	**19 27 16.2**	**+2.6**
ROSC				*e*	S	**Sn**	**19 27 42.3**	**+2.1**
ROSC				*i*			19 27 47.3	
	comp=Z,2μm,0.7s							
ROSC	**El Rosal**	**1.94**	**72**	P		**Pn**	**19 27 16.1**	**+2.6**
	comp=Z,923nm,0.5s,baz=207,slow=7.8,SNR=154							
ROSC					S	**Sn**	**19 27 43.0**	**+2.9**
	comp=Z,729nm,0.5s,baz=301,slow=18,SNR=8.8							
CVER	**Cruz Verde, Cu**	**2.11**	**82**	⇑*i*	P	**Pn**	**19 27 17.7**	**+2.1**
CVER				*e*	S	**Sn**	**19 27 46.8**	**+3.0**
GARC	**Garzon, Huila**	**2.14**	**162**	⇓*i*	P	**Pn**	**19 27 16.3**	**+0.5**
GARC				*e*	S	**Sn**	**19 27 44.9**	**+0.6**
GARC				*i*			19 27 48.8	
	comp=Z,2μm,0.3s							
SOLC	**Bahia Solano**	**2.33**	**328**	*e*	P	**Pn**	**19 27 17.8**	**0.0**
SOLC				*e*	S	**Sn**	**19 27 46.8**	**-1.2**
GR1C	**Gorgona, Isla**	**2.34**	**239**	⇑*i*	P	**Pn**	**19 27 17.0**	**-0.9**
GR1C				*e*	S	**Sn**	**19 27 45.4**	**-2.6**
BBAC	**Balboa, Cauca**	**2.44**	**206**	*e*	P	**Pn**	**19 27 19.5**	**+0.1**
BBAC				*e*	S	**Sn**	**19 27 50.3**	**-0.4**
BBAC				*i*			19 27 55.9	
	comp=Z,5μm,0.4s							
VILC	**Villavicencio,**	**2.47**	**93**	*e*	P	**Pn**	**19 27 21.9**	**+2.2**
VILC				*e*	S	**Sn**	**19 27 53.8**	**+2.7**
VILC				*i*			19 27 57.7	
	comp=Z,3μm,0.6s							
SPBC	**San Pablo de B**	**2.52**	**56**	*e*	P	**Pn**	**19 27 20.9**	**+0.7**
SPBC				*e*	S	**Sn**	**19 27 52.3**	**+0.1**
FLOC	**Florencia**	**2.68**	**169**	⇓*i*	P	**Pn**	**19 27 23.1**	**+1.0**
FLOC				*e*	S	**Sn**	**19 27 56.0**	**+0.3**
CRUC	**La Cruz**	**2.76**	**196**	*e*	P	**Pn**	**19 27 24.3**	**+0.9**
CRUC				*e*	S	**Sn**	**19 27 58.0**	**+0.1**
DBBC	**Dabeiba**	**2.77**	**359**	*e*	P	**Pn**	**19 27 23.6**	**+0.3**
DBBC				*e*	S	**Sn**	**19 27 56.7**	**-1.0**
PTBC	**PUERTO BERRIO,**	**2.86**	**37**	⇓*e*	P	**Pn**	**19 27 24.2**	**-0.1**
PTBC				*e*	S	**Sn**	**19 27 58.3**	**-1.3**
GCUF	**Volcan Galeras**	**3.21**	**202**	*e*	P	**Pn**	**19 27 29.5**	**+0.2**
GCUF				*e*	S	**Sn**	**19 28 07.0**	**-1.3**
GCUF				*i*			19 28 10.2	
	comp=Z,3μm,0.4s							
PTAC	**Punta Ardita,**	**3.33**	**331**	*e*	P	**Pn**	**19 27 30.1**	**-0.2**
PTAC				*e*	S	**Sn**	**19 28 07.6**	**-2.6**
PTAC	**Punta Ardita,**	**3.33**	**331**	*e*	P	**Pn**	**19 27 30.1**	**-0.2**
PTAC				*e*	S	**Sn**	**19 28 07.5**	**-2.8**
ZARC	**Zaragoza, Cauc**	**3.49**	**22**	⇓*i*	P	**Pn**	**19 27 32.4**	**-0.1**
ZARC				*e*	S	**Sn**	**19 28 12.5**	**-1.6**
ZARC				*i*			19 28 13.7	
	comp=Z,1μm,0.5s							
TUMC	**Tumaco**	**3.50**	**227**	*e*	P	**Pn**	**19 27 31.6**	**-0.9**
TUMC				*e*	S	**Sn**	**19 28 13.6**	**-0.6**
TUMC				*i*			19 28 23.1	
	comp=Z,3μm,0.5s							
UREC	**San Jos de Ur**	**3.56**	**10**	*e*	P	**Pn**	**19 27 33.0**	**-0.2**
UREC				*e*	S	**Sn**	**19 28 14.3**	**-1.3**
UREC	**San Jos de Ur**	**3.56**	**10**	*e*	P	**Pn**	**19 27 33.2**	**-0.1**
UREC				*e*	S	**Sn**	**19 28 13.7**	**-1.9**
CMBC	**Cumbal**	**3.66**	**207**	*e*	P	**Pn**	**19 27 36.4**	**+1.3**
CMBC				*e*	S	**Sn**	**19 28 20.2**	**+1.5**
APAC	**Apartado, Choc**	**3.67**	**354**	*e*	P	**Pn**	**19 27 35.5**	**+0.7**
APAC				*e*	S	**Sn**	**19 28 17.9**	**-0.3**
APAC				*i*			19 28 30.7	
	comp=Z,505nm,0.5s							
BARC	**Barichara**	**3.79**	**52**	*e*	P	**Pn**	**19 27 37.2**	**+0.7**
BARC				*e*	S	**Sn**	**19 28 21.6**	**+0.4**
BARC				*i*			19 28 22.9	
	comp=Z,714nm,0.5s							
TULM	**Tulcn-Chalpat**	**3.85**	**205**			**Pn**	**19 27 38.0**	**+0.5**
TULM	**Tulcn-Chalpat**	**3.85**	**205**	*e*	P	**Pn**	**19 27 38.1**	**+0.6**
TULM				*e*	S	**Sn**	**19 28 22.7**	**-0.4**
TULM				*i*			19 28 28.0	
	comp=Z,3μm,1.0s							
BONI	**La Bonita**	**3.99**	**200**	*e*	P	**Pn**	**19 27 39.4**	**+0.2**
BONI				*e*	S	**Sn**	**19 28 26.8**	**+0.7**
BONI				*i*			19 28 31.1	
	comp=Z,379nm,0.3s							
PTGC	**Puerto Gaitan,**	**4.03**	**90**	*e*	P	**Pn**	**19 27 39.5**	**+0.1**
PTLC	**Puerto Leguiza**	**4.26**	**161**	⇓*i*	P	Pn	19 27 48.1	+5.7
IMBA	**Imbabura, San**	**4.42**	**207**			**Pn**	**19 27 45.4**	**+0.3**
CUSE	**Cuicocha Este**	**4.49**	**210**	*e*	P	**Pn**	**19 27 46.5**	**+0.6**
CUSE				*e*	S	**Sn**	**19 28 38.6**	**+0.5**
CUSE				*i*			19 28 46.6	
	comp=Z,2μm,0.3s							
CAPC	**Capurgana**	**4.53**	**345**	*e*	P	**Pn**	**19 27 45.9**	**-0.2**
CAPC				*e*	S	**Sn**	**19 28 37.4**	**-1.0**
CAPC				*i*			19 28 43.2	
	comp=Z,618nm,0.6s							
OTAV	**Otavalo**	**4.58**	**210**	Pn		**Pn**	**19 27 46.8**	**-0.3**
OTAV	**Otavalo**	**4.58**	**210**	⇓*i*	P	**Pn**	**19 27 46.9**	**-0.1**
OTAV				*e*	S	**Sn**	**19 28 39.2**	**-0.9**
OTAV	**Otavalo**	**4.58**	**210**	*e*	P	**Pn**	**19 27 46.8**	**-0.3**
LCBC	**Los crdobas,**	**4.60**	**358**	*e*	P	**Pn**	**19 27 48.7**	**+1.7**
PAMC	**Pamplona, Colo**	**4.63**	**48**	*e*	P	**Pn**	**19 27 48.4**	**+0.6**
PAMC				*e*	S	**Sn**	**19 28 40.7**	**-0.8**
UPD2	**Meteti**	**4.66**	**337**	*e*	P	**Pn**	**19 27 48.3**	**+0.5**
UPD2				*e*	S	**Sn**	**19 28 42.4**	**+0.8**
UPD2	**Meteti**	**4.66**	**337**	⇓*i*	P	**Pn**	**19 27 48.6**	**+0.8**
UPD2				*e*	S	**Sn**	**19 28 41.8**	**+0.2**
UPD2				*i*			19 28 44.8	
	comp=Z,880nm,0.6s							
PAC1	**Pacto, Paraso**	**4.73**	**214**	*e*	P	**Pn**	**19 27 47.3**	**-1.6**
PAC1				*e*	S	**Sn**	**19 28 40.0**	**-3.4**
PULU	**Pululahua**	**4.79**	**209**			**Pn**	**19 27 49.9**	**+0.1**
TAMC	**Tame, Arauca**	**4.88**	**63**	*e*	P	**Pn**	**19 27 51.5**	**+0.8**
TAMC				*e*	S	**Sn**	**19 28 45.8**	**-0.8**
OCAC	**Ocana**	**4.89**	**35**	*e*	P	**Pn**	**19 27 51.0**	**+0.1**
OCAC				*e*	S	**Sn**	**19 28 45.3**	**-1.8**
OCAC				*i*			19 28 50.8	
	comp=Z,1μm,0.4s							
ACHO3	**Achotines, Los**	**5.09**	**309**	*i*	P	**Pn**	**19 27 53.0**	**-0.4**
ACHO3				*e*	S	**Sn**	**19 28 50.6**	**-0.9**
TOTI	**Torti**	**5.13**	**336**	*e*	P	**Pn**	**19 27 53.6**	**-0.4**
TOTI				*e*	S	**Sn**	**19 28 51.1**	**-1.5**
PCRI3	**Pocri, Los San**	**5.20**	**311**	*i*	P	**Pn**	**19 27 54.8**	**-0.1**
PCRI3				*e*	S	**Sn**	**19 28 53.8**	**-0.4**
AZU	**Azuero**	**5.40**	**311**	⇓*i*	P	**Pn**	**19 27 57.6**	**0.0**
AZU				*e*	S	**Sn**	**19 28 58.7**	**-0.4**
AZU	**Azuero**	**5.40**	**311**	⇓*i*	P	**Pn**	**19 27 57.5**	**0.0**
AZU				*e*	S	**Sn**	**19 28 58.6**	**-0.4**
AZU				*i*			19 29 05.5	
	comp=Z,2μm,0.6s							
SLOR	**San Lorenzo -**	**5.45**	**205**			**Pn**	**19 27 57.7**	**-0.9**
PIAT	**Ana Tenorio**	**5.60**	**202**	*e*	P	**Pn**	**19 28 02.3**	**+1.8**
CACAO	**El Cacao, Vera**	**5.60**	**304**	⇓*i*	P	**Pn**	**19 27 59.5**	**-0.7**
CACAO				*e*	S	**Sn**	**19 29 02.9**	**-0.9**
CACAO	**El Cacao, Vera**	**5.60**	**304**	*e*	P	**Pn**	**19 28 00.1**	**-0.1**
CACAO				*e*	S	**Sn**	**19 29 03.8**	**0.0**
CACAO				*i*			19 29 06.5	
	comp=Z,189nm,0.4s							
CHPO	**Chepo, Panama**	**5.71**	**329**	*e*	P	**Pn**	**19 28 01.1**	**-0.6**
CHPO				*e*	S	**Sn**	**19 29 06.0**	**-0.5**
SJCC	**San Jacinto, C**	**5.71**	**10**	*e*	P	**Pn**	**19 28 02.2**	**+0.4**
SJCC				*e*	S	**Sn**	**19 29 02.2**	**-4.5**
SJCC				*i*			19 29 09.1	
	comp=Z,137nm,0.5s							
UPA	**Univ. de Panam**	**5.78**	**325**	*e*	P	**Pn**	**19 28 01.6**	**-1.0**
UPA				*e*	S	**Sn**	**19 29 07.6**	**-0.5**
UPA	**Univ. de Panam**	**5.78**	**325**	*e*	P	**Pn**	**19 28 01.9**	**-0.8**
UPA				*e*	S	**Sn**	**19 29 09.3**	**+1.2**
ARGC	**Ariguani, Magd**	**5.91**	**19**	*e*	P	**Pn**	**19 28 05.6**	**+1.3**
ARGC				*e*	S	**Sn**	**19 29 10.4**	**-0.8**
PNME	**Penonome**	**5.91**	**316**	*e*	P	**Pn**	**19 28 04.8**	**+0.5**
PNME				*e*	S	**Sn**	**19 29 12.5**	**+1.3**
PNME	**Penonome**	**5.91**	**316**	*e*	P	**Pn**	**19 28 04.1**	**-0.2**
PNME				*e*	S	**Sn**	**19 29 13.2**	**+2.0**
CRIS3	**El Cristo, Coc**	**5.96**	**312**	*e*	P	**Pn**	**19 28 05.5**	**+0.5**
LL5C	**La Loma 5 El P**	**6.00**	**24**	*e*	P	**Pn**	**19 28 00.9**	**-4.6**
LL5C				*e*	S	**Sn**	**19 29 10.5**	**-2.8**
BCIP	**Isla Barro Col**	**6.11**	**324**	Pn		**Pn**	**19 28 06.4**	**-0.6**
BCIP	**Isla Barro Col**	**6.11**	**324**	*e*	P	**Pn**	**19 28 06.7**	**-0.3**
BCIP				*e*	S	**Sn**	**19 29 16.1**	**+0.2**
BCIP	**Isla Barro Col**	**6.11**	**324**	*e*	P	**Pn**	**19 28 06.2**	**-0.8**
BCIP				*e*	S	**Sn**	**19 29 16.2**	**+0.2**
BCIP				*i*			19 29 23.6	
	comp=Z,322nm,0.7s							
RSUS3	**Rio de Jesus,**	**6.21**	**307**	*i*	P	**Pn**	**19 28 09.2**	**+1.0**
RSUS3				*e*	S	**Sn**	**19 29 17.7**	**-0.6**
CHSH	**Refugio Sur-Vo**	**6.29**	**205**			**Pn**	**19 28 09.1**	**-0.9**
SMRC	**Santa Marta, M**	**7.15**	**16**	*e*	P	**Pn**	**19 28 21.1**	**+0.1**
SMRC				*e*	S	**Sn**	**19 29 35.5**	**-5.5**
SMRC				*i*			19 29 52.6	
	comp=Z,84nm,0.5s							
SDV	**Santo Domingo**	**7.18**	**50**	Pn		**Pn**	**19 28 21.4**	**-0.2**
SDV				Sn		**Sn**	**19 29 38.5**	**-3.6**
SDV	**Santo Domingo**	**7.18**	**50**	*e*	P	**Pn**	**19 28 21.6**	**+0.1**
SDV				*e*	S	**Sn**	**19 29 37.7**	**-4.5**
SDV				*i*			19 29 40.8	
	comp=Z,184nm,0.6s							
SDV	**Santo Domingo**	**7.18**	**50**	*e*	P	**Pn**	**19 28 21.6**	**+0.1**
SDV	**Santo Domingo**	**7.18**	**50**	P	P	**Pn**	**19 28 22.0**	**+0.4**
	comp=Z,47nm,0.3s,baz=197,slow=8.0,SNR=82							
SDV					S	**Sn**	**19 29 37.9**	**-4.2**
	comp=Z,224nm,0.5s,baz=285,slow=23,SNR=19							
COHC	**Cochancay**	**7.33**	**205**			**Pn**	**19 28 21.7**	**-1.7**
COHC	**Cochancay**	**7.33**	**205**	*e*	P	**Pn**	**19 28 24.6**	**+1.3**
COHC				*e*	S	**Sn**	**19 29 42.9**	**-2.5**
PPLP	**Puerto Lpez**	**7.36**	**219**	*e*	P	**Pn**	**19 28 27.6**	**+3.9**
PPLP				*e*	S	**Sn**	**19 29 41.3**	**-4.7**
CRJC	**Cerrejon, Guaj**	**7.49**	**26**	*e*	P	**Pn**	**19 28 24.4**	**-1.1**
CRJC				*e*	S	**Sn**	**19 29 42.4**	**-7.0**
CRJC				*i*			19 29 49.2	
	comp=Z,178nm,0.5s							
DVD	**David**	**7.51**	**304**	*e*	P	**Pn**	**19 28 26.3**	**+0.6**
DVD				*e*	S	**Sn**	**19 29 48.8**	**-0.8**
**CHGR2

BDFB Brasilia 34.16 126 P **P** **19 33 09.3 -0.8**
comp=Z,9.9nm,0.7s,baz=287,slow=9.3,SNR=16
BDFB PcP **PcP** **19 35 44.3 +0.3**
comp=Z,3.2nm,0.5s,baz=166,slow=3.5,SNR=3.2
BDFB LR LR 19 48 11.3
comp=Z,58nm,19.9s,baz=0.3,slow=38
comp=Z,9.9nm,0.7s
ITRB Iturama 34.78 134 *e*P **P** **19 33 14.8 -0.6**
SDBA SAO DESIDERIO 35.20 118 *e*P **P** **19 33 18.6 -0.5**
IPMB Ipameri, GO 35.32 129 *e*P **P** **19 33 19.1 -0.9**
PCMB Pacaembu 35.42 137 *e*P **P** **19 33 20.2 -0.6**
CPUP Villa Florida 35.44 150 *e*P **P** **19 33 19.9 -0.9**
CPUP Villa Florida 35.44 150 PcP **PcP** **19 35 47.9 +0.5**
comp=Z,4.3nm,0.6s,baz=334,slow=2.1,SNR=7.3
SAND Sanderson 35.45 319 P **P** **19 33 20.7 -0.3**
SAND IAmb IAmb 19 34 02.8
comp=Z,2.3nm,0.7s
TXAR Lajitas Array 36.08 317 P **P** **19 33 27.4 +1.0**
comp=Z,0.6nm,0.7s,baz=137,slow=9.3,SNR=7.6
TXAR PcP **PcP** **19 35 51.1 +1.7**
comp=Z,2.9nm,0.7s,baz=144,slow=6.3,SNR=18
TX31 Lajitas Ar. Si 36.08 317 P **P** **19 33 24.1 -2.3**
TX31 IAmb IAmb 19 33 39.0
comp=Z,13nm,1.4s
FNO Franklin 36.59 330 P **P** **19 33 28.9 -1.7**
LDASE Londrina, Braz 36.76 139 *e*P **P** **19 33 30.8 -1.3**
S39A Bolivar 36.81 337 P **P** **19 33 31.9 -0.5**
S39A IAmb IAmb 19 33 33.4
comp=Z,13nm,1.4s
JANB Januaria 36.92 122 *e*P **P** **19 33 33.2 -0.5**
R40A Maddies Statio 36.94 339 P **P** **19 33 32.6 -0.9**
BB19B Bebedouro 36.97 134 *e*P **P** **19 33 33.4 -0.6**
PMNB Patos De Minas 37.01 129 *e*P **P** **19 33 34.1 -0.4**
PTGB Pitanga 37.11 142 *e*P **P** **19 33 33.2 -2.1**
FRBT Francisco Belt 37.46 144 *e*P **P** **19 33 36.4 -1.7**
FRTB Fartura 37.75 138 *e*P **P** **19 33 39.4 -1.1**
WVNY West Valley, N 38.07 357 P **P** **19 33 44.0 +1.0**
WVNY IAmb IAmb 19 33 46.2
comp=Z,15nm,0.8s
CRSM Crissiumal (Br 38.09 147 *e*P **P** **19 33 41.2 -2.1**
RCLB Rio Claro- Sao 38.54 135 *e*P **P** **19 33 46.5 -0.7**
MSTX Muleshoe 38.57 323 P **P** **19 33 47.7 +0.3**
MSTX IAmb IAmb 19 33 49.3
comp=Z,9.4nm,1.1s
UNIS Unistalda (Bra 38.82 150 *e*P **P** **19 33 47.9 -1.5**
ITAB Concordia 38.96 145 *e*P **P** **19 33 49.9 -0.6**
DIAM Diamantina, MG 39.08 126 *e*P **P** **19 33 51.7 -0.2**
VAO Valinhos 39.31 135 *e*P **P** **19 33 52.9 -0.8**
SPB Sao Paulo 39.37 136 *e*P **P** **19 33 52.9 -1.1**
ALGR Alto Alegre (B 39.67 147 *e*P **P** **19 33 54.1 -2.3**
BSCB Bom Sucesso 39.70 130 *e*P **P** **19 33 57.3 +0.3**
RODS Rosario do Sul 39.81 151 *e*P **P** **19 33 58.0 +0.4**
PET01 Itanhaem-SP 39.93 137 *e*P **P** **19 33 57.4 -1.3**
RTBA Rita Blanca 40.30 326 P **P** **19 34 01.8 +0.1**
RTBA IAmb IAmb 19 34 04.0
comp=Z,10.0nm,1.1s
PARB Paraibuna 40.48 134 *e*P **P** **19 34 02.9 -0.5**
CPSB Cacapava Do Su 40.73 149 *e*P **P** **19 34 04.2 -0.9**
121A Cookes Peak, D 40.83 317 P **P** **19 34 07.5 +1.3**
121A IAmb IAmb 19 34 47.5
comp=Z,11nm,0.8s
MNTQ Montreal, Queb 41.17 3 P **P** **19 34 09.8 +1.3**
SJMB Sao Joao De Ma 41.31 125 *e*P **P** **19 34 09.7 -0.4**
ANMO Albuquerque 41.48 321 P **P** **19 34 11.9 +0.4**
RIB01 Linhares ES 42.26 125 *e*P **P** **19 34 17.2 -0.6**
ALF01 Guarapari-ES 42.66 127 *e*P **P** **19 34 19.0 -1.9**
PLCA Paso Flores 45.04 174 *e*P **P** **19 34 38.2 -1.5**
PLCA Paso Flores 45.04 174 P **P** **19 34 39.7 -0.1**
comp=Z,1.0nm,0.4s,baz=352,slow=9.5,SNR=5.8
PLCA PcP **PcP** **19 36 18.5 +0.4**
comp=Z,2.1nm,0.6s,baz=5.0,slow=3.4,SNR=4.5
comp=Z,1.0nm,0.4s
HMU Henry Mountain 46.04 321 P **P** **19 34 49.2 +1.3**
HMU IAmb IAmb 19 35 30.7
comp=Z,16nm,1.1s
RSSD Black Hills 46.70 332 P **P** **19 34 55.4 +2.4**
BSUT Blindstream Ca 47.69 324 P **P** **19 35 01.8 +1.0**
PDAR Pinedale Array 48.49 327 P **P** **19 35 08.0 +1.2**
comp=Z,0.8nm,0.5s,baz=131,slow=9.1,SNR=9.3
comp=Z,0.8nm,0.5s
ULM Lac du Bonnet 48.78 343 P **P** **19 35 08.4 -0.1**
ULM Lac du Bonnet 48.78 343 P **P** **19 35 08.1 -0.5**
comp=Z,2.1nm,0.4s,baz=159,slow=8.0,SNR=7.3
ULM PcP **PcP** **19 36 30.9 -0.2**
comp=Z,3.1nm,0.4s,baz=135,slow=2.6,SNR=5.9
comp=Z,2.1nm,0.4s
IMW Indian Meadow 49.99 327 P **P** **19 35 19.4 +1.1**
SCHQ Schefferville 51.01 7 P **P** **19 35 26.5 +1.1**
comp=Z,16nm,0.7s,baz=192,slow=5.2,SNR=14
SCHQ PcP **PcP** **19 36 39.4 +0.1**
comp=Z,5.0nm,0.5s,baz=219,slow=6.9,SNR=3.7
comp=Z,16nm,0.7s
NVAR Mina Array Bea 51.23 317 P **P** **19 35 29.6 +2.1**
comp=Z,2.4nm,0.7s,baz=129,slow=7.0,SNR=13
NVAR PcP **PcP** **19 36 41.2 +0.5**
comp=Z,3.2nm,0.6s,baz=135,slow=4.8,SNR=8.4
NVAR ScP **ScP** **19 40 23.1 -0.3**
comp=Z,0.2nm,0.3s,baz=128,slow=4.8,SNR=3.6
comp=Z,2.4nm,0.7s
BMN Battle Mountai 51.58 320 P **P** **19 35 30.7 +0.7**
HLID Hailey 51.70 325 P **P** **19 35 32.4 +1.4**
MFID Camas Ranch 52.43 324 P **P** **19 35 38.4 +2.2**
WVOR Wild Horse Val 53.57 322 P **P** **19 35 44.4 -0.2**
FCC Fort Churchill 56.15 349 P **P** **19 36 01.7 -0.9**
FCC IAmb IAmb 19 36 03.3
comp=Z,5.6nm,0.9s
PMOZ Porto Moniz, M 61.81 55 *e*P **P** **19 36 43.2 +0.9**
comp=Z,144nm,1.4s
PMPS Porto Santo 62.57 55 *e*P P 19 36 41.9 -5.4
comp=Z,98nm,1.7s
YKA Yellowknife Ar 64.68 341 P **P** **19 36 59.8 -0.7**
YKA Yellowknife Ar 64.68 341 P **P** **19 37 00.2 -0.3**
comp=Z,5.3nm,0.6s,baz=135,slow=5.9,SNR=94
YKA PcP **PcP** **19 37 33.0 +0.1**
comp=Z,1.7nm,0.7s,baz=135,slow=5.0,SNR=7.6
comp=Z,5.3nm,0.6s
ICESG Greenland Ices 69.14 13 *i*P **P** **19 37 28.6 -0.4**
ICESG IAmb IAmb 19 37 31.1
comp=Z,5.1nm,0.5s
OUK Oukaimeden 69.29 58 P **P** **19 37 33.0 +2.3**
SRHM Skhour des Reh 69.44 57 P **P** **19 37 33.1 +1.9**
PTEO Sao Teotonio 69.60 52 *e*P **P** **19 37 33.5 +1.4**
comp=Z,24nm,1.6s
MORF Marmelete 69.61 52 *e*P **P** **19 37 33.7 +1.5**
comp=Z,23nm,1.2s
MORF Marmelete 69.61 52 *e*P **P** **19 37 33.3 +1.1**
MORF IAmb IAmb 19 37 34.3
comp=Z,13nm,0.6s
PNCL Nicolau / Gran 69.86 51 *e*P **P** **19 37 35.2 +1.6**
comp=Z,17nm,1.7s
PSBE So Bento 69.93 49 *e*P **P** **19 37 34.4 +0.3**
comp=Z,22nm,1.4s
AVE Averroes 69.96 56 P **P** **19 37 34.8 +0.4**
AVE Averroes 69.96 56 P **P** **19 37 36.5 +2.2**
MESJ Messejana 70.05 51 *e*P **P** **19 37 35.9 +1.1**
comp=Z,14nm,1.3s
MESJ Messejana 70.05 51 *e*P **P** **19 37 35.9 +1.1**
MESJ IAmb IAmb 19 37 37.1
comp=Z,8.8nm,0.8s
PCVE Castro Verde 70.15 52 *e*P **P** **19 37 36.9 +1.5**
comp=Z,13nm,1.8s
PBDV Barranco-do-Ve 70.17 52 *e*P **P** **19 37 36.9 +1.3**
comp=Z,33nm,1.6s
PCAS Casmilo, Conde 70.26 49 *e*P **P** **19 37 37.0 +1.0**
comp=Z,27nm,1.1s
PMTG Montargil 70.27 50 *e*P **P** **19 37 36.9 +0.8**
comp=Z,7.9nm,2.0s
EVO Evora 70.34 51 *e*P **P** **19 37 37.6 +1.1**
comp=Z,9.7nm,1.3s
COI Coimbra 70.35 49 *e*P **P** **19 37 37.9 +1.3**
comp=Z,34nm,1.1s
COI Coimbra 70.35 49 P **P** **19 37 37.3 +0.7**
PBEJ Beja 70.36 51 *e*P **P** **19 37 37.8 +1.1**
comp=Z,7.2nm,2.3s
PVAQ Vaqueiros 70.37 52 *e*P **P** **19 37 40.1 +3.4**
comp=Z,2.5nm,1.7s
PESTR Estremoz 70.72 50 *e*P **P** **19 37 39.9 +1.0**
comp=Z,24nm,0.8s
PESTR Estremoz 70.72 50 P **P** **19 37 39.5 +0.6**
PESTR Estremoz 70.72 50 P **P** **19 37 40.0 +1.0**
PGAV Gavieira, Arco 70.81 47 *e*P **P** **19 37 38.8 -0.7**
comp=Z,20nm,1.4s
TIC Toumodi 70.82 84 *e*P **P** **19 37 39.5 -0.5**
comp=Z,23nm,0.6s
LIC Lamto 70.83 85⇑ *i*P **P** **19 37 39.6 -0.4**
comp=Z,67nm,0.5s
PVIS Viseu 70.84 48 *e*P **P** **19 37 40.2 +0.6**
PMRV Marv??o 70.98 50 *e*P **P** **19 37 41.0 +0.6**
comp=Z,17nm,1.8s
DBIC Dimbokro 70.98 84 P **P** **19 37 40.2 -0.7**
DBIC Dimbokro 70.98 84 P **P** **19 37 40.7 -0.2**
comp=Z,22nm,0.5s,baz=270,slow=8.0,SNR=54
comp=Z,22nm,0.5s
PCBR Castelo Branco 70.99 49 *e*P **P** **19 37 41.2 +0.8**
comp=Z,8.2nm,1.8s
PBAR Barrancos 71.03 51 *e*P **P** **19 37 41.3 +0.6**
comp=Z,11nm,1.5s
MTE Manteigas 71.04 49 *e*P **P** **19 37 41.5 +0.6**
comp=Z,18nm,1.7s
POLO Lamas de Olo 71.04 48 *e*P **P** **19 37 41.6 +0.7**
comp=Z,9.5nm,0.9s
ZGR Zagora 71.08 60 P **P** **19 37 43.1 +1.8**
PVRL Vila Real 71.08 48 *e*P **P** **19 37 41.9 +0.8**
comp=Z,11nm,1.3s
KIC Kosan Boka 71.11 85⇑ *e*P **P** **19 37 41.5 -0.2**
comp=Z,51nm,0.6s
MVO Moncorvo 71.57 48 *e*P **P** **19 37 45.0 +1.0**
comp=Z,22nm,1.7s
PBRG Braganca 71.90 47 *e*P **P** **19 37 46.5 +0.5**
comp=Z,15nm,1.7s
SUMG Summit 72.09 11 P **P** **19 37 46.9 0.0**
SUMG IAmb IAmb 19 37 48.4
comp=Z,17nm,0.9s
SUMG Summit 72.09 11 *i*P **P** **19 37 46.5 -0.4**
SUMG IAmb IAmb 19 37 48.6
comp=Z,9.3nm,0.7s
MDT Midelt 72.23 57 P **P** **19 37 50.0 +1.9**
ARF Arif 72.41 58 P **P** **19 37 52.0 +2.8**
AKLM AKL 73.04 55 P **P** **19 37 55.0 +2.1**
M30M Minto, Yukon 73.05 335 P **P** **19 37 52.8 +0.5**
PAB San Pablo 73.32 50 P **P** **19 37 54.9 +0.4**
PAB IAmb IAmb 19 37 55.8
comp=Z,7.8nm,0.8s
PAB San Pablo 73.32 50 P **P** **19 37 55.4 +1.0**
ESDC Sonseca Array 73.63 50 P **P** **19 37 57.0 +0.8**
ESDC Sonseca Array 73.63 50 P **P** **19 37 57.2 +1.0**
comp=Z,5.5nm,0.6s,baz=271,slow=5.8,SNR=70
comp=Z,5.5nm,0.6s
ESBB Sonseca Array 73.63 50 P **P** **19 37 57.0 +0.8**
ESBB IAmb IAmb 19 37 57.8
comp=Z,7.3nm,0.7s
L29M L29M 73.83 335 P **P** **19 37 57.5 +0.6**
I30M Mount Dempster 74.02 338 P **P** **19 37 58.9 +0.9**
F31M Tsiigehtchic 74.10 340 P **P** **19 37 58.5 +0.3**
A36M Sachs Harbour 74.16 346 P **P** **19 37 57.8 -0.7**
A36M IAmb IAmb 19 37 58.9
comp=Z,18nm,0.6s
NEEM North Greenlan 74.39 6 *i*P **P** **19 37 59.4 -0.8**
NEEM IAmb IAmb 19 38 01.7
comp=Z,16nm,0.6s
INK Inuvik 74.45 341 P **P** **19 38 00.3 0.0**
INK IAmb IAmb 19 38 01.0
comp=Z,4.2nm,0.6s
FIGM Figuig 74.98 58 P **P** **19 38 06.0 +1.7**
H29M Whitestone 75.19 338 P **P** **19 38 05.0 +0.3**
H29M IAmb IAmb 19 38 06.3
comp=Z,7.4nm,0.8s
G29M Pine Creek 75.35 339 P **P** **19 38 05.9 +0.3**
G29M IAmb IAmb 19 38 06.9
comp=Z,8.2nm,0.7s
BCAR Beaver Creek A 75.36 335 P **P** **19 38 06.6 +0.9**
L27K Beaver Creek, 75.38 335 P **P** **19 38 06.8 +1.0**
I28M Miner Creek 75.48 337 P **P** **19 38 06.9 +0.5**
EGAK Eagle 75.71 336 P **P** **19 38 08.9 +1.3**
EGAK IAmb IAmb 19 38 10.0
comp=Z,7.7nm,0.8s
WIM Isle of Man 75.79 35 *e*P **P** **19 38 08.9 +0.7**
LAWE Loch Awe, Argy 75.87 33 *e*P **P** **19 38 08.9 +0.3**
GAL1 Galloway 75.93 34 *e*P **P** **19 38 09.4 +0.5**
GAL1 IAmb IAmb 19 38 10.2
comp=Z,29nm,0.9s
E29M Blow River 75.93 340 P **P** **19 38 09.2 +0.4**
E29M IAmb IAmb 19 38 10.2
comp=Z,17nm,1.0s
EUNU Eureka 75.95 358 P **P** **19 38 09.6 +0.8**
EUNU IAmb IAmb 19 38 10.4
comp=Z,9.1nm,1.1s
KPL Plockton 76.00 32 *e*P **P** **19 38 09.6 +0.3**
NEWG New Galloway 76.25 34 *e*P **P** **19 38 11.4 +0.5**
NEWG IAmb IAmb 19 38 12.1
comp=Z,32nm,0.7s
PGBU Glenifferbraes 76.27 33 *e*P **P** **19 38 11.3 +0.4**
PGBU IAmb IAmb 19 38 12.1
comp=Z,31nm,1.1s
F28M Old Crow 76.29 339 P **P** **19 38 11.0 +0.1**
MCH1 Michaelchurch 76.34 38 *e*P **P** **19 38 11.5 +0.1**
MCH1 IAmb IAmb 19 38 13.3
comp=Z,15nm,1.0s
FOEL Foel Wylfa 76.39 37 *e*P **P** **19 38 12.0 +0.3**
MONM Monmouth 76.43 38 *e*P **P** **19 38 12.6 +0.7**
HLM1 Long Mynd 76.51 37 *e*P **P** **19 38 12.5 +0.1**
E28M Babbage River 76.57 340 P **P** **19 38 12.0 -0.4**
E28M IAmb IAmb 19 38 13.1
comp=Z,8.3nm,0.7s
J26L Joseph Creek 76.58 336 P **P** **19 38 13.3 +0.7**
SCRK Sand Creek 76.59 335 P **P** **19 38 13.5 +0.7**
INVG Invergeldie, C 76.64 33 *e*P **P** **19 38 13.2 +0.2**
KESW Keswick, Cumbr 76.78 35 *e*P **P** **19 38 14.3 +0.5**
KESW IAmb IAmb 19 38 15.1
comp=Z,28nm,0.9s
STRD Stroud 76.81 38 *e*P **P** **19 38 14.4 +0.3**
STRD IAmb IAmb 19 38 15.6
comp=Z,31nm,0.7s
ESK Eskdalemuir 76.87 34 *e*P **P** **19 38 14.7 +0.4**
ESK IAmb IAmb 19 38 15.3
comp=Z,14nm,0.9s
RIDG Independent Ri 76.88 335 IAmb IAmb 19 38 16.6
comp=Z,9.7nm,1.0s
EKA Eskdalemuir Ar 76.90 34 P **P** **19 38 14.8 +0.4**
comp=Z,8.9nm,0.6s,baz=255,slow=4.8,SNR=54
comp=Z,8.9nm,0.6s
E27K Coleen River 77.11 340 IAmb IAmb 19 38 16.8
comp=Z,6.7nm,0.9s
DBG Daneborg 77.14 13 *i*P **P** **19 38 15.3 -0.2**
DBG IAmb IAmb 19 38 18.1
comp=Z,1.9nm,0.7s
TOA0 Torodi Ar. Sit 77.24 78 IAmb IAmb 19 38 17.3
comp=Z,10nm,0.6s
TORD Torodi Ar. Bea 77.24 78 IAmb IAmb 19 38 17.3
comp=Z,7.2nm,0.7s
TORD Torodi Ar. Bea 77.24 78 P **P** **19 38 16.9 -0.3**
comp=Z,7.3nm,0.5s,baz=284,slow=6.3,SNR=71
comp=Z,7.3nm,0.5s
MCD Coleburn Disti 77.32 32 *e*P **P** **19 38 17.1 +0.4**
MCD IAmb IAmb 19 38 18.3
comp=Z,22nm,0.8s
LBWR Ladybower, Pea 77.36 36 *e*P **P** **19 38 17.5 +0.4**
LBWR IAmb IAmb 19 38 18.6
comp=Z,29nm,0.8s
J25K Salcha River, 77.36 336 IAmb IAmb 19 38 18.5
comp=Z,6.9nm,0.7s
EDMD Edmundbyers 77.48 35 *e*P **P** **19 38 17.8 +0.1**
DRUM Mains of Drumt 77.59 33 *e*P **P** **19 38 18.9 +0.6**
PRP Porcupine Dome 77.69 336 P **P** **19 38 19.8 +0.9**
HDA Harding Lake 77.96 335 IAmb IAmb 19 38 21.4
comp=Z,18nm,0.7s
IL31 78.03 336 IAmb IAmb 19 38 21.6
comp=Z,5.6nm,0.7s
ILAR Eielson Array 78.03 336 P **P** **19 38 20.8 +0.2**
comp=Z,3.8nm,0.6s,baz=117,slow=4.2,SNR=83
comp=Z,3.8nm,0.6s
GDLE Glaisdale, N Y 78.06 35 *e*P **P** **19 38 21.6 +0.6**
GDLE IAmb IAmb 19 38 22.4
comp=Z,39nm,0.7s
HMNX Herstmonceux 78.22 39 *e*P **P** **19 38 22.8 +0.9**
RND Reindeer 78.52 334 IAmb IAmb 19 38 24.8
comp=Z,6.2nm,0.8s
MDM Murphy Dome 78.64 336 IAmb IAmb 19 38 25.2
comp=Z,11nm,1.1s
WACR West Acre 78.66 37 *e*P **P** **19 38 24.6 +0.4**
WACR IAmb IAmb 19 38 25.8
comp=Z,54nm,0.8s
DAG Danmarks Havn 78.77 11 *i*P **P** **19 38 24.0 -0.4**
DAG IAmb IAmb 19 38 25.3
comp=Z,2.3nm,0.7s
NEA2 Nenana 78.89 335 IAmb IAmb 19 38 26.5
comp=Z,8.4nm,0.6s
CLF Chambon-Foret 79.13 42 IAmb IAmb 19 38 28.9
comp=Z,18nm,0.7s
I23K Minto, Yukon-K 79.15 336 IAmb IAmb 19 38 29.6
comp=Z,5.6nm,0.8s
BPAW Bear Paw Mtn. 79.60 334 IAmb IAmb 19 38 30.0
comp=Z,8.1nm,0.7s
SSB Saint Sauveur 80.47 45 IAmb IAmb 19 38 36.4
comp=Z,9.0nm,0.7s
C23K Itkillik River 80.71 340 IAmb IAmb 19 38 36.8
comp=Z,14nm,0.8s
TAM Tamanrasset 80.72 68 IAmb IAmb 19 38 39.0
comp=Z,16nm,0.7s
DOU Dourbes 80.84 40 *d*P **P** **19 38 36.7 +0.6**
comp=Z,7.5nm,0.9s
BMRD Maredsous 80.97 40 *d*P **P** **19 38 37.3 +0.6**
comp=Z,4.6nm,0.9s
BGES Gesves 81.18 40 *d*P **P** **19 38 38.4 +0.5**
comp=Z,5.9nm,0.8s
RCHB Rochefort 81.25 40 *d*P **P** **19 38 38.3 +0.1**
comp=Z,12nm,0.8s
BCLA Clavier 81.32 40 *d*P **P** **19 38 39.2 +0.6**
comp=Z,4.6nm,0.8s
BSTI Sart Tilman 81.50 40 *d*P **P** **19 38 40.6 +1.1**
B22K Teshekpuk Lake 81.75 341 IAmb IAmb 19 38 42.1
comp=Z,18nm,0.7s
MEM Membach 81.78 40 *d*P **P** **19 38 42.4 +1.4**
MEM *d*PcP **PcP** **19 38 47.7 +1.4**
WLF Walferdange 81.82 41 *d*P **P** **19 38 42.3 +1.0**
comp=Z,21nm,0.7s
WLF Walferdange 81.82 41 *e*P **P** **19 38 43.1 +1.8**
comp=Z,21nm,0.7s,baz=271,slow=5.1
ECH Echery 82.42 42 IAmb IAmb 19 38 46.0
comp=Z,12nm,0.9s
AHRW Bad Neuenahr-A 82.46 40 *e*P **P** **19 38 46.8 +2.3**
comp=Z,12nm,0.8s,baz=271,slow=5.1
BUG Bochum--Univer 82.62 39 *e*P **P** **19 38 46.8 +1.5**
comp=Z,15nm,1.0s,baz=271,slow=5.1
TNS Taunus Mts 83.32 40 *e*P **P** **19 38 50.8 +1.7**
comp=Z,12nm,1.1s,baz=271,slow=5.1
KASTN Kahler Asten 83.33 39 *e*P **P** **19 38 50.4 +1.3**
comp=Z,4.2nm,0.8s,baz=271,slow=5.1
TUE Stuetta 83.87 44 IAmb IAmb 19 38 54.1
comp=Z,10nm,0.6s
VSL Villasalto 83.90 51 P **P** **19 38 53.2 +0.9**
KEST Kesra 83.91 55 P **P** **19 38 53.4 +0.9**
comp=Z,14nm,0.8s,baz=282,slow=4.2,SNR=15
comp=Z,14nm,0.8s
RETH Rethem/Aller, 83.95 38 *e*P **P** **19 38 54.1 +2.0**
comp=Z,8.7nm,0.7s,baz=271,slow=5.1
DAVA Damuels 84.23 43 *e*P **P** **19 38 54.9 +1.0**
comp=Z,12nm,0.6s
GTTG Gottingen 84.31 39 *e*P **P** **19 38 55.8 +1.8**
comp=Z,9.1nm,0.9s,baz=271,slow=5.1
NRDL Niedersach Rie 84.40 38 *e*P **P** **19 38 56.5 +2.2**
comp=Z,8.4nm,0.8s,baz=271,slow=5.1
BSEG Bad Segeberg 84.53 36 *e*P **P** **19 38 56.7 +1.7**
comp=Z,16nm,1.0s,baz=271,slow=5.1
CLZ Clausthal 84.56 38 *e*P **P** **19 38 57.2 +1.9**
comp=Z,7.2nm,0.7s,baz=271,slow=5.1
FETA Feichten 84.81 43 *i*P **P** **19 38 57.8 +0.9**
comp=Z,8.5nm,1.0s,SNR=9.8
BELA Belgrano 2 85.06 172 P **P** **19 38 57.7 +0.5**
NB2 NORSAR Subarra 85.06 29 P **P** **19 38 58.8 +1.2**
comp=Z,4.2nm,0.8s,baz=267,slow=5.3
NOA NORSAR Array B 85.06 29 P **P** **19 38 58.5 +0.8**
comp=Z,2.3nm,0.8s,baz=270,slow=4.9,SNR=4.4
comp=Z,2.3nm,0.8s
MOTA Moosalm 85.07 43 *e*P **P** **19 38 58.8 +0.7**
comp=Z,4.8nm,0.8s
FLTG Flechtingen 85.09 38 *e*P **P** **19 38 59.3 +1.4**
comp=Z,8.7nm,0.7s,baz=271,slow=5.1
SQTA Sankt Quirin 85.14 43 *e*P **P** **19 38 59.2 +0.8**
comp=Z,4.1nm,0.6s
MOX Moxa 85.35 40 *e*P **P** **19 39 01.0 +1.7**
comp=Z,9.7nm,1.4s,baz=271,slow=5.1
WATA Walderalm 85.39 43 *e*P **P** **19 39 00.0 +0.3**
comp=Z,4.3nm,1.0s
WTTA Wattenberg 85.43 43 *i*P **P** **19 39 00.5 +0.5**
comp=Z,4.2nm,0.8s,SNR=4.2
CTI Castel Tesino 85.47 44 IAmb IAmb 19 39 02.4
comp=Z,8.2nm,0.6s
MANZ Manzenberg 85.68 40 *e*P **P** **19 39 02.9 +1.9**
comp=Z,1.9nm,1.1s,baz=271,slow=5.1
PLN Plauen 85.70 40 *e*P **P** **19 39 02.7 +1.7**
comp=Z,7.3nm,0.9s,baz=271,slow=5.1
WERD Werda 85.80 40 *e*P **P** **19 39 03.3 +1.8**
comp=Z,3.8nm,0.7s,baz=271,slow=5.1
GUNZ Gunzen 85.81 40 *e*P **P** **19 39 03.4 +1.8**
comp=Z,6.2nm,1.1s,baz=271,slow=5.1
WERN Wernitzgruen 85.84 40 *e*P **P** **19 39 03.9 +2.1**
comp=Z,6.1nm,0.9s,baz=271,slow=5.1
TANN Tannenbergstha 85.90 40 *e*P **P** **19 39 04.1 +2.0**
comp=Z,10nm,1.0s,baz=271,slow=5.1
CIMO Cimolais 86.01 44 IAmb IAmb 19 39 04.1
comp=Z,15nm,0.7s
ABTA Abfaltersbach 86.04 44 *i*P **P** **19 39 03.8 +0.9**
comp=Z,12nm,0.8s,SNR=15
LESA Schwarzleotal 86.13 43 *e*P **P** **19 39 04.2 +0.9**
comp=Z,9.0nm,0.5s
RJOB Jochberg 86.20 43 *e*P **P** **19 39 05.2 +1.6**
comp=Z,9.4nm,0.7s,baz=271,slow=5.1
WET Wettzell 86.21 41 *e*P **P** **19 39 05.5 +1.9**
comp=Z,12nm,0.9s,baz=271,slow=5.1
CLL Collm 86.21 39 P **P** **19 39 03.7 +0.2**
CLL IAmb IAmb 19 39 05.5
comp=Z,12nm,1.0s
CLL Collm 86.21 39 *i*P **P** **19 39 04.1 +0.6**
comp=Z,11nm,1.0s
CLL Collm 86.21 39 *e*P **P** **19 39 05.2 +1.7**
comp=Z,11nm,1.0s,baz=271,slow=5.1
HFS Hagfors 86.29 30 P **P** **19 39 03.9 +0.2**
comp=Z,2.4nm,0.5s,baz=318,slow=2.0,SNR=11
comp=Z,2.4nm,0.5s
SPITS Spitsbergen Ar 86.41 12 P **P** **19 39 04.7 +0.7**
comp=Z,4.1nm,0.5s,baz=167,slow=4.1,SNR=13
comp=Z,4.1nm,0.5s
FBE Freiberg 86.45 39 *e*P **P** **19 39 06.5 +1.8**
comp=Z,16nm,1.1s,baz=271,slow=5.1
HSKC Hora Svate Kat 86.51 40 *e*P **P** **19 39 06.1 +1.1**
VNA3 Neumayer Olymp 86.60 163⇑P **P** **19 39 05.5 +0.6**
comp=Z,14nm,0.9s
KHC Kasperske Hory 86.67 41 IAmb IAmb 19 39 07.9
comp=Z,8.5nm,1.0s
KHC Kasperske Hory 86.67 41 *e*P **P** **19 39 07.0 +1.2**
ROBS Robic 86.75 44 *i*P **P** **19 39 06.9 +0.7**
GEC2 GERESS Array S 86.76 41 IAmb IAmb 19 39 08.1
comp=Z,8.3nm,0.9s
GEC2 GERESS Array S 86.76 41 *e*P **P** **19 39 07.9 +1.5**
comp=Z,8.4nm,0.9s,baz=271,slow=5.1
GERES GERESS Array B 86.76 41 P **P** **19 39 07.0 +0.7**
comp=Z,5.1nm,0.8s,baz=260,slow=4.1,SNR=24
comp=Z,5.1nm,0.8s
BIOA Bad Ischl, Aus 86.77 43 *i*P **P** **19 39 07.2 +0.9**
comp=Z,8.5nm,0.7s,SNR=4.9
VNA1 Neumayer--Stat 86.79 162⇑P **P** **19 39 07.1 +1.2**
comp=Z,15nm,1.0s
BRG Berggiesshubel 86.82 39 *i*P **P** **19 39 07.7 +1.3**
BRG Amp 19 39 10.6
comp=Z,8.1nm,0.9s
BRG Berggiesshubel 86.82 39 *e*P **P** **19 39 08.4 +1.9**
comp=Z,8.2nm,0.9s,baz=271,slow=5.1
MYKA Terra Mystica 86.83 44 *i*P **P** **19 39 07.6 +0.9**
comp=Z,14nm,0.5s,SNR=9.1
SABO M.te Sabotino 86.83 44 IAmb IAmb 19 39 08.8
comp=Z,24nm,0.8s
RICC Richard 86.94 40 *e*P **P** **19 39 09.0 +2.0**
ZVC Zvikov 87.05 41 *e*P **P** **19 39 08.7 +1.1**
VNA2 Neumayer--Watz 87.16 162⇑P **P** **19 39 08.3 +0.6**
comp=Z,12nm,0.6s,baz=305,slow=5.0
MOA Molln 87.19 42 *e*P **P** **19 39 09.1 +0.7**
comp=Z,9.0nm,1.0s
PRU Pruhonice 87.25 40 *e*P **P** **19 39 09.9 +1.3**
GBAS Gorenja Brezov 87.42 44 *i*P **P** **19 39 10.5 +1.0**
OBKA Obir 87.46 44 *e*P **P** **19 39 10.5 +0.7**
comp=Z,2.6nm,0.5s
LJU Ljubljana 87.47 44 *i*P **P** **19 39 10.9 +1.1**
SOKA Soboth 87.78 44 *e*P **P** **19 39 11.7 +0.5**
comp=Z,4.9nm,1.1s
TREC Trest 87.91 41 *e*P **P** **19 39 13.0 +1.3**
ARSA Arzberg 88.08 43 *e*P **P** **19 39 13.2 +0.6**
comp=Z,5.1nm,0.6s
CONA Conrad Observa 88.25 42 *e*PcP **PcP** **19 39 14.6 -0.5**
comp=Z,5.7nm,0.7s
OSTC Ostas 88.28 40 *e*P **P** **19 39 15.1 +1.6**
DPC Dobruska-Polom 88.37 40 *e*P **P** **19 39 15.4 +1.5**
RONA Rosalia, Austr 88.56 42 *e*P **P** **19 39 16.0 +1.1**
comp=Z,5.8nm,0.8s
SNAA Sanae 88.80 162 P **P** **19 39 16.0 +0.5**
SNAA IAmb IAmb 19 39 17.1
comp=Z,7.2nm,0.7s
SNAA Sanae 88.80 162⇑P **P** **19 39 16.2 +0.7**
comp=Z,167nm,0.7s

SNAA	**Sanae**	**88.80**	**162**	P		**P**		**19 39 16.2**	**+0.7**
	comp=Z,6.6nm,0.7s,baz=255,slow=5.6,SNR=22								
	comp=Z,6.6nm,0.7s								
ARCES	**ARCESS Array B**	**90.14**	**20**	P		**P**		**19 39 21.5**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=298,slow=2.6,SNR=6.7								
	comp=Z,3.2nm,0.8s								
VYHS	**Vyhne**	**90.18**	**42**	*e*P		**P**		**19 39 23.8**	**+1.4**
TROLL	**Troll, Antarti**	**90.51**	**162**	⇑P		**P**		**19 39 24.5**	**+1.0**
	comp=Z,567nm,0.6s								
DIVS	**Divibare**	**91.51**	**46**	IAmb		IAmb		19 39 31.1	
	comp=Z,5.4nm,0.9s								
FINES	**FINESS Array B**	**92.14**	**28**	P		**P**		**19 39 31.4**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=294,slow=1.9,SNR=8.0								
	comp=Z,2.8nm,0.7s								
SUR	**Sutherland**	**98.14**	**122**	LR		LR		20 22 34.5	
	comp=Z,28nm,18.1s,baz=178,slow=34								
ZALV	**Zalesovo Beam**	**119.88**	**13**	PKP		**PKPdf**		**19 45 11.1**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=258,slow=1.9,SNR=10								
GEYT	**Alibeck**	**120.39**	**41**	PKP		**PKPdf**		**19 45 12.6**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=252,slow=3.0,SNR=4.3								
KURBB	**Kurchatov Arra**	**121.19**	**19**	PKP		**PKPdf**		**19 45 13.9**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=322,slow=2.3,SNR=21								
KURBB				PKKPbc		**PKKPbc**		**19 55 15.8**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=150,slow=2.7,SNR=4.2								
USRK	**Ussuriysk Ar.**	**125.56**	**335**	PKP		**PKPdf**		**19 45 22.9**	**+0.2**
	comp=Z,5.2nm,0.8s,baz=236,slow=0.7,SNR=9.9								
MKAR	**Makanchi Array**	**125.74**	**18**	PKP		**PKPdf**		**19 45 22.6**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=307,slow=2.7,SNR=35								
MDJ	**Mudanjiang**	**126.17**	**337**	P		**PKiKP**		**19 45 25.3**	**+1.0**
MDJ				pmax		pmax			
	comp=Z,6.0nm,0.8s								
MDJ				pmax		pmax			
	comp=Z,65nm,3.5s								
SONM	**Songino Array**	**128.10**	**358**	PKP		**PKPdf**		**19 45 27.9**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=331,slow=0.6,SNR=12								
MJAR	**Matsushiro Arr**	**128.27**	**325**	PKP		**PKPdf**		**19 45 28.2**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=91,slow=1.3,SNR=4.7								
WMQ	**Urumqi**	**130.01**	**15**	*e*P		**PKPdf**		**19 45 31.5**	**+0.2**
KSRS	**Korea Array**	**132.86**	**334**	PKP		**PKPdf**		**19 45 37.0**	**+0.2**
	comp=Z,3.3nm,0.6s,baz=14,slow=1.8,SNR=16								
HHC	**Hu-ho-hao-te**	**134.58**	**352**	*e*P		**PKPdf**		**19 45 38.8**	**-1.3**
STKA	**Stephens Creek**	**135.18**	**228**	PKP		**PKPdf**		**19 45 41.0**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=172,slow=7.1,SNR=5.4								
GTA	**Gaotai**	**136.42**	**5**	*e*PKPbc		**PKPdf**		**19 45 44.3**	**+0.7**
LZH	**Lanzhou**	**139.89**	**360**	*e*P		**PKPdf**		**19 45 47.5**	**-2.6**
LZH				pP		PKiKP		19 45 53.9	+1.4
LZH				pmax		pmax			
	comp=Z,19nm,1.5s								
NJ2	**Nanjing**	**141.19**	**339**	*e*P		**PKPdf**		**19 45 52.3**	**0.0**
NJ2				pmax		pmax			
	comp=Z,5.0nm,0.5s								
PYUN	**Piuthan**	**142.10**	**31**	*e*P		**PKPdf**		**19 45 47.7**	**-6.6**
	comp=Z,3.5nm,0.4s								
DANN	**Dangsing**	**142.28**	**30**	*e*P		**PKPdf**		**19 45 49.4**	**-5.4**
	comp=Z,4.8nm,0.3s								
GKN	**Gorkha**	**143.00**	**29**	*e*P		**PKPdf**		**19 45 51.3**	**-4.6**
	comp=Z,4.5nm,0.3s								
KKN	**Kakani**	**143.48**	**28**	*e*P		PKPab		19 45 53.2	-0.1
DMN	**Daman**	**143.55**	**29**	*e*P		PKPab		19 45 54.0	+0.3
	comp=Z,58nm,0.7s								
GUN	**Gumba**	**143.66**	**27**	*e*P		PKPab		19 45 54.6	+0.4
	comp=Z,44nm,0.6s								
PKIN	**Phulchoki**	**143.72**	**28**	*e*P		PKPab		19 45 54.1	-0.2
	comp=Z,29nm,0.6s								
PKI	**Pulchoki**	**143.73**	**28**	*e*P		PKPab		19 45 54.1	-0.3
	comp=Z,24nm,0.6s								
JIRN	**Jiri**	**144.01**	**27**	*e*P		**PKPab**		**19 45 55.4**	**-0.2**
	comp=Z,19nm,0.8s								
RAMN	**Ramite**	**144.81**	**27**	*e*P		**PKPab**		**19 45 57.9**	**-0.5**
	comp=Z,15nm,0.6s								
TAPN	**Taplejung**	**144.96**	**25**	*e*P		PKPbc		19 45 58.5	-0.5
	comp=Z,46nm,0.7s								
ASAR	**Alice Springs**	**145.14**	**234**	PKPbc		**PKPbc**		**19 45 59.2**	**-0.2**
	comp=Z,16nm,0.4s,baz=120,slow=3.8,SNR=460								
ASAR				SKPbc		**SKPbc**		**19 49 24.1**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=151,slow=2.1,SNR=5.1								
WRA	**Warramunga Arr**	**146.43**	**240**	PKPbc		**PKPdf**		**19 46 02.2**	**+0.4**
	comp=Z,9.5nm,0.6s,baz=115,slow=2.1,SNR=113								
WRA				SKPbc		**SKPbc**		**19 49 27.3**	**-1.1**
	comp=Z,1.1nm,1.0s,baz=106,slow=2.2,SNR=3.8								
PZH	**PanZhiHua**	**149.38**	**4**	PKP		**PKPbc**		**19 46 10.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**156.95**	**12**	PKP		**PKPdf**		**19 46 17.5**	**-0.1**
CMAR				PKPab		**PKPab**		**19 46 47.5**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=330,slow=5.7,SNR=15								

*TEH **21** 19:45:26.1,31.87N×47.32E,h10km±101km,ML2.7*
*ISN **21** 19:45:27.3±1.2,31.87N×47.39E,h30km±10km,ML2.5*
ISC 21 19:45:27.0±1.2,**31.88N**±0.07×**47.34E**±0.05,**h10km,n7,**
σ0$41/10,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAFI	**Al-Rafai**	**1.05**	**262**	*e*Pg	**Pb**	**19 45 47.0**	**-0.3**
	baz=82						
RAFI				*e*Sg	**Sn**	**19 46 03.0**	**+0.5**
AMIS	**Naft Sefid**	**1.68**	**97**	Pg	**Pn**	**19 45 56.4**	**+0.1**
AMIS				Sg	**Sb**	**19 46 18.9**	**-0.2**
IKFM	**Kafar-mosalman**	**1.69**	**15**	Pg	**Pn**	**19 45 56.9**	**+0.3**
IBDR	**Badra**	**1.71**	**316**	*e*Pn	**Pn**	**19 45 57.0**	**+0.2**
IBDR				*e*Sn	**Sb**	**19 46 20.0**	**0.0**
IBDR				AML	AML	19 46 25.4	
	comp=E,65nm,0.3s						
IBDR				AML	AML	19 46 30.4	
	comp=N,66nm,0.5s						
ILBA	**Ilam Banvizeh**	**1.98**	**332**	Pn	**Pb**	**19 46 02.4**	**-0.8**
IKOM	**Komasi**	**2.29**	**4**	Pn	**Pb**	**19 46 08.7**	**+0.2**
IGHG	**Ghaleghazi**	**2.52**	**345**	Pn	**Pn**	**19 46 08.1**	**-0.1**

*IDC **21** 21:05:02.9±0.8,9.33S×159.26E,h0km,mb4.0/8,*
mbtmp4.0/9,ML3.8/1,MS3.3/4,Error ellipse: s-maj=23.9km
s-min=13.1km az=175.0
*NEIC **21** 21:05:05.3±1.4,9.2S±0.1×159.14E±0.05,h10km±1km,*
mb4.3/14,Error ellipse: s-maj=18.6km s-min=7.4km
az=13.0
ISC 21 21:05:07.1±0.6,**9.28S**±0.09×**159.20E**±0.06,**h27km,n36,**
σ1$02/29,mb4.1/15,Bougainville-Solomon Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.75**	**101**		**Pb**	**21 05 20.0**	**-1.6**
HNR				Sg	**Sn**	**21 05 33.0**	**+0.5**
HNR	**Honiara**	**0.75**	**101**	Pn	**Pb**	**21 05 20.1**	**-1.6**
	33μm,0.3s,baz=230,slow=3.4,SNR=268						
HNR				Sn	**Sb**	**21 05 31.2**	**-0.3**
	47μm,0.3s,baz=112,slow=22,SNR=15						
PMG	**Port Moresby**	**11.88**	**268**	LR	LR	21 12 22.5	
	comp=Z,188nm,18.2s,baz=356,slow=37						
LIFNC	**LIFOU**	**13.81**	**147**	Pn	**Pn**	**21 08 23.2**	**+2.1**
DZM	**Mont Dzumac**	**14.50**	**152**	LR	LR	21 13 40.2	
	comp=Z,95nm,18.4s,baz=74,slow=36						
PATS	**Pohnpei**	**16.04**	**357**	P	**P**	**21 08 53.1**	**-1.0**
CTA	**Charters Tower**	**16.49**	**228**	Pn	**Pn**	**21 08 56.2**	**-0.4**
	0.2nm,0.3s,baz=50,slow=16,SNR=2.0						
CTA				LR	LR	21 13 37.1	
	comp=Z,57nm,21.6s,baz=85,slow=31						
	2.6nm,0.9s						
CTAO	**Charters Tower**	**16.49**	**228**	Pn	**Pn**	**21 08 55.4**	**-1.3**
LHI	**Lord Howe Isla**	**22.13**	**180**	P	**P**	**21 09 58.5**	**-2.1**
LHI				IAmb	IAmb	21 10 01.3	
	comp=Z,11nm,1.1s						
ARMA	**Armidale**	**22.19**	**198**	P	**P**	**21 10 02.9**	**+1.5**
WR0	**Warramunga Arr**	**26.08**	**243**	P	**P**	**21 10 38.4**	**-0.3**
WR0				IAmb	IAmb	21 10 46.0	
	comp=Z,8.1nm,0.9s						
WB0	**Warramunga Arr**	**26.14**	**244**	P	**P**	**21 10 39.4**	**+0.1**
WB0				IAmb	IAmb	21 10 46.5	
	comp=Z,9.5nm,1.1s						
WB2	**Warramunga Arr**	**26.24**	**243**	P	**P**	**21 10 39.7**	**-0.5**
WB2				IAmb	IAmb	21 10 51.1	
	comp=Z,4.6nm,0.8s						
WRA	**Warramunga Arr**	**26.25**	**243**	P	**P**	**21 10 40.2**	**0.0**
WRA	**Warramunga Arr**	**26.25**	**243**	P	**P**	**21 10 40.0**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=69,slow=10.0,SNR=18						
	comp=Z,3.2nm,0.8s						
STKA	**Stephens Creek**	**27.79**	**213**	P	**P**	**21 10 53.8**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=43,slow=15,SNR=4.4						
	comp=Z,0.9nm,0.4s						
ASAR	**Alice Springs**	**28.09**	**236**	P	**P**	**21 10 56.0**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=68,slow=9.2,SNR=13						
	comp=Z,1.3nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**28.57**	**15**	T	T	21 39 57.3	
	baz=195,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**28.57**	**15**	T	T	21 39 47.6	
	baz=195,slow=76,SNR=42						
H11S1	**WAKE ISLAND Hy**	**28.59**	**15**	T	T	21 39 47.4	
	baz=195,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**29.79**	**15**	T	T	21 41 23.6	
	baz=194,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**29.80**	**15**	T	T	21 41 33.6	
	baz=194,slow=76,SNR=20						
H11N2	**WAKE ISLAND Hy**	**29.81**	**15**	T	T	21 41 22.7	
	baz=194,slow=76,SNR=22						
KNRA	**Kununurra**	**30.37**	**255**	P	**P**	**21 11 16.2**	**-0.8**
BBOO	**Buckleboo**	**31.70**	**219**	P	**P**	**21 11 28.5**	**-0.2**
RAR	**Rarotonga**	**41.20**	**112**	LR	LR	21 27 13.6	
	comp=Z,58nm,20.2s,baz=325,slow=32						
VNDA	**Vanda**	**68.23**	**179**	P	**P**	**21 16 05.6**	**+0.8**
VNDA				IAmb	IAmb	21 16 10.7	
	comp=Z,2.1nm,1.1s						
VNDA	**Vanda**	**68.23**	**179**	P	**P**	**21 16 05.5**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=352,slow=8.1,SNR=6.9						
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**73.52**	**326**	P	**P**	**21 16 39.4**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=142,slow=4.9,SNR=2.8						
	comp=Z,0.5nm,0.7s						
IL31		**84.01**	**20**	P	**P**	**21 17 34.4**	**-0.2**
IL31				IAmb	IAmb	21 17 49.7	
	comp=Z,2.9nm,1.1s						
ILAR	**Eielson Array**	**84.01**	**20**	P	**P**	**21 17 35.8**	**+1.1**
ILAR	**Eielson Array**	**84.01**	**20**	P	**P**	**21 17 34.5**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=247,slow=5.0,SNR=6.4						
	comp=Z,0.3nm,0.4s						
J25K	**Salcha River,**	**84.44**	**21**	P	**P**	**21 17 38.0**	**+1.0**
J25K				IAmb	IAmb	21 17 54.8	
	comp=Z,4.6nm,1.1s						
MK31	**Makanchi Array**	**87.87**	**318**	P	**P**	**21 17 54.0**	**-0.3**
MK31				IAmb	IAmb	21 18 10.8	
	comp=Z,0.9nm,1.0s						
MKAR	**Makanchi Array**	**87.87**	**318**	P	**P**	**21 17 54.5**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=96,slow=6.2,SNR=9.4						
	comp=Z,0.8nm,0.6s						
NVAR	**Mina Array Bea**	**89.88**	**51**	P	**P**	**21 18 04.4**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=236,slow=6.7,SNR=4.8						
	comp=Z,1.3nm,0.9s						

*IDC **21** 21:05:11.5±0.6,24.72N×125.42E,h0km,mb4.3/20,*
mbtmp4.2/22,ML3.3/2,MS3.8/31,Error ellipse:
s-maj=23.2km s-min=14.1km az=66.0
*NEIC **21** 21:05:14.8,24.38N×125.29E,h35km*
*NEIC **21** 21:05:15.4±2.6,24.52N±0.08×125.18E±0.07,h35km±1km,*
mb4.6/54,Mwr4.5/21,Error ellipse: s-maj=14.4km
s-min=9.9km az=159.0,Moment Tensor Solution.
Moment tensor: Scale 10^{15}Nm; M_{rr}-2.71; $M_{\theta\theta}$2.83;
$M_{\phi\phi}$-0.12; $M_{r\theta}$-3.81; $M_{\theta\phi}$1.15; $M_{\phi r}$-3.58; Fault plane
solution: $M_0$6.03000×10^{15} NP1:$\phi_0$272.53000°,δ18.39000°,
λ-49.01000°. NP2:$\phi_0$50.05000°,δ76.23000°,
λ-102.30000°. Principal axes: T 6.0432, Plg30.0000°,
Azm150.0000°; N -0.0347, Plg12.0000°, Azm53.0000°; P
-6.0084, Plg57.0000°, Azm304.0000°;
*JMA **21** 21:05:19.4±0.2,25°N±1°×12°6E±°,h53km±2km,MD4.3/7,*
MV4.1/7,NEAR MIYAKOJIMA ISLAND
ISC 21 21:05:13.2±0.5,**24.42N**±0.06×**125.63E**±0.05,**h21km,n154,**
σ2$54/130,mb4.6/54,MS3.8/36,1C-2D,Southwestern
Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.39**	**329**	P	Pn	21 05 28.9	+5.2
JOGS				S	**Sn**	**21 05 35.6**	**+5.0**
JOGS	**Gusukube**	**0.39**	**329**	A	A	21 05 28.9	
	comp=E,96nm,1.0s,comp=N,55nm,0.9s						
JMJ2	**Miyako jima3**	**0.42**	**320**	P	Pn	21 05 29.6	+5.5
JMJ2				S	**Sn**	**21 05 37.0**	**+5.8**
JMJ2	**Miyako jima3**	**0.42**	**320**	A	A	21 05 29.6	
	comp=E,61nm,0.8s,comp=N,43nm,0.6s						
JIRB	**Irabujima**	**0.58**	**315**	P	**Pn**	**21 05 30.0**	**+3.7**
JIRB				S	**Sn**	**21 05 37.6**	**+2.4**
JIRB	**Irabujima**	**0.58**	**315**	A	A	21 05 30.0	
	comp=E,23nm,0.6s,comp=N,37nm,0.5s						
JIKM	**Ikemajima**	**0.61**	**326**	P	**Pn**	**21 05 29.2**	**+2.6**
JIKM				S	**Sn**	**21 05 36.1**	**+0.3**
JIKM	**Ikemajima**	**0.61**	**326**	A	A	21 05 29.2	
	comp=E,103nm,0.7s,comp=N,78nm,0.7s						
JKE	**Kume jima 2**	**2.17**	**29**	P	**Pn**	**21 05 46.6**	**-1.5**
JAGN	**Aguni-jima**	**2.61**	**34**	P	**Pn**	**21 05 53.3**	**-0.8**
JOW	**Kunigami**	**3.39**	**44**	Pn	**Pn**	**21 06 06.2**	**+1.3**
JOW	**Kunigami**	**3.39**	**44**	P	**Pn**	**21 06 05.1**	**+0.2**
JOW	**Kunigami**	**3.39**	**44**	Pn	**Pn**	**21 06 04.8**	**-0.1**
	comp=N,5.5nm,0.3s,baz=264,slow=10,SNR=24						
JOW				Sn	**Sn**	**21 06 42.3**	**-2.2**
	comp=N,26nm,0.3s,baz=276,slow=24,SNR=5.9						
	comp=N,19nm,0.3s						
JMZ	**Minamidaito 2**	**5.26**	**73**	Pn	**Pn**	**21 06 31.8**	**+1.2**
JMZ	**Minamidaito 2**	**5.26**	**73**	P	**Pn**	**21 06 31.5**	**+0.9**
NJ2	**Nanjing**	**9.67**	**323**	*e*P	**Pn**	**21 07 29.9**	**-1.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,310nm,6.6s						
NJ2				LR	LR		
	comp=N,830nm,15.6s						
NJ2				LR	LR		
	comp=E,510nm,12.8s						
NJ2				LR	LR		
	comp=Z,930nm,17.5s						
JNU	**Nakatsue**	**9.82**	**27**	Pn	**Pn**	**21 07 31.8**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=145,slow=15,SNR=2.1						
	comp=Z,5.0nm,0.9s						
KSRS	**Korea Array**	**13.14**	**8**	Pn	**Pn**	**21 08 20.9**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=191,slow=14,SNR=2.8						
JCJ	**Chichijima**	**15.15**	**76**	LR	LR	21 14 25.5	
	comp=Z,101nm,19.2s,baz=333,slow=36						
LYN	**LuoYang**	**15.26**	**314**	*e*P	**Pn**	**21 08 40.8**	**-6.6**
LYN				PP	**P**	**21 08 52.3**	**+0.2**
LYN				pmax	pmax		
	comp=Z,16nm,0.5s						
LYN				pmax	pmax		
	comp=Z,320nm,5.9s						
LYN				LR	LR		
	comp=N,350nm,6.9s						
LYN				LR	LR		
	comp=E,220nm,6.2s						
LYN				LR	LR		
	comp=Z,330nm,6.9s						
HNS	**HongShan**	**15.96**	**327**	⇓P	P	21 09 10.1	+10
HNS				S	**S**	**21 12 14.0**	**+7.5**
HNS				LR	LR		
	comp=N,390nm,14.3s						
HNS				LR	LR		
	comp=Z,480nm,15.1s						
MJAR	**Matsushiro Arr**	**16.22**	**39**	Pn	**P**	**21 09 02.5**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=234,slow=12,SNR=2.8						
DAV	**Davao City (W)**	**17.25**	**180**	LR	LR	21 17 38.1	
	comp=Z,79nm,18.4s,baz=338,slow=42						
XAN	**Xi'an**	**17.43**	**307**	P	**Pn**	**21 09 13.9**	**-1.3**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XAN				LR	LR		
	comp=N,620nm,12.1s						
XAN				LR	LR		
	comp=E,620nm,14.6s						
XAN				LR	LR		
	comp=Z,630nm,13.6s						
CN2	**Changchun**	**19.34**	**360**	P	Pn	21 09 49.4	+11
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**20.17**	**328**	*e*P	**P**	**21 09 46.0**	**-0.4**
HHC				SS	Sn	21 13 51.4	+17
HHC				pmax	pmax		
	comp=Z,23nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,4.6s						
HHC				LR	LR		
	comp=N,750nm,13.2s						
HHC				LR	LR		
	comp=E,340nm,13.5s						
HHC				LR	LR		
	comp=Z,950nm,15.8s						
CD2	**Chengdu**	**20.40**	**293**	P	**P**	**21 09 45.4**	**-3.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MDJ	**Mudanjiang**	**20.41**	**8**	P	Pn	21 09 52.9	+1.9
MDJ				pP	sP	21 10 02.0	+4.7
MDJ				sP	pP	21 10 07.1	+13
MDJ				PP	**PnPn**	**21 10 09.3**	**+3.1**
MDJ				S	Sn	21 13 38.5	-1.8
MDJ				SS	**SnSn**	**21 13 59.3**	**+4.1**
MDJ				PcP	**PcP**	**21 14 06.6**	**+5.8**
MDJ				ScP	**ScP**	**21 17 36.6**	**+0.4**
MDJ				PcS	**PcS**	**21 17 42.4**	**+4.0**
MDJ	**Mudanjiang**	**20.41**	**8**	ScS	ScS	21 21 21.9	+2.9
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,170nm,5.4s						
MDJ				LR	LR		
	comp=N,220nm,11.6s						
MDJ				LR	LR		
	comp=E,140nm,12.0s						
MDJ				LR	LR		
	comp=Z,170nm,11.7s						
BTO	**Baotou**	**20.77**	**325**	*e*P	Pn	21 09 59.0	+3.6
BTO				pP	sP	21 10 07.8	+6.3
BTO				sP	pP	21 10 12.3	+14
BTO				PP	P	21 10 20.6	+28
BTO				S	**S**	**21 13 41.8**	**-2.1**
BTO				sS	pS	21 13 58.3	+2.5
BTO				SS	**SnSn**	**21 14 14.3**	**+10**
BTO				pmax	pmax		
	comp=Z,14nm,0.7s						
BTO				pmax	pmax		
	comp=Z,340nm,5.3s						
BTO				LR	LR		
	comp=N,500nm,17.4s						
BTO				LR	LR		
	comp=E,580nm,17.8s						
BTO				LR	LR		
	comp=Z,830nm,18.4s						
KMI	**Kunming**	**20.79**	**277**	⇓P	**P**	**21 09 48.3**	**-5.1**
KMI				sP	Pn	21 09 59.3	+3.4
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GUMO	**Guam**	**21.11**	**117**	LR	LR	21 16 47.1	
	comp=Z,98nm,20.8s,baz=268,slow=32						
PZH	**PanZhiHua**	**21.66**	**281**	P	**P**	**21 09 58.3**	**-4.3**
PZH				S	S	21 13 39.3	-22
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,280nm,5.9s						
PZH				LR	LR		
	comp=N,250nm,12.6s						
PZH				LR	LR		
	comp=E,330nm,13.7s						
PZH				LR	LR		
	comp=Z,380nm,13.2s						
LZH	**Lanzhou**	**22.07**	**307**	⇑P	**P**	**21 10 04.3**	**-2.7**
LZH				pP	pP	21 10 14.8	+2.2
LZH				sP	sP	21 10 19.3	+3.9
LZH				pmax	pmax		
	comp=Z,8.0nm,1.4s						
LZH				LR	LR		
	comp=N,300nm,11.3s						
LZH				LR	LR		
	comp=E,380nm,10.3s						
LZH				LR	LR		
	comp=Z,480nm,11.3s						
TNCH	**TengChong**	**24.62**	**277**	P	P	21 10 26.8	-5.7
TNCH				pP	pP	21 10 36.6	-1.9
TNCH				pmax	pmax		
	comp=Z,11nm,3.3s						
TNCH				pmax	pmax		
	comp=Z,130nm,6.0s						
CMAR	**Chiang Mai Arr**	**25.51**	**262**	P	**P**	**21 10 36.9**	**-3.5**
	comp=Z,2.2nm,0.7s,baz=67,slow=7.5,SNR=12						
CMAR				LR	LR	21 21 30.1	
	comp=Z,205nm,19.1s,baz=70,slow=39						
GTA	**Gaotai**	**26.40**	**311**	*e*P	**P**	**21 10 45.9**	**-2.6**
GTA				pP	pP	21 10 55.4	+1.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.6s						
GTA				LR	LR		
	comp=N,160nm,18.5s						
GTA				LR	LR		
	comp=E,150nm,17.1s						
GTA				LR	LR		
	comp=Z,150nm,17.1s						
SONM	**Songino Array**	**27.91**	**332**	P	**P**	**21 10 59.5**	**-2.4**
SONM	**Songino Array**	**27.91**	**332**	P	**P**	**21 10 59.8**	**-2.1**
	comp=Z,1.1nm,0.7s,baz=148,slow=10.0,SNR=7.5						
SONM				LR	LR	21 23 30.0	
	comp=Z,263nm,18.2s,baz=169,slow=40						
	comp=Z,1.1nm,0.7s						
KAPI	**Kappang**	**29.81**	**192**	LR	LR	21 22 58.8	
	comp=Z,37nm,19.1s,baz=32,slow=36						
TAPN	**Taplejung**	**34.15**	**283**	*e*P	**P**	**21 11 54.7**	**-2.7**
	comp=Z,8.9nm,0.3s						
ODAN	**Odare**	**34.47**	**282**	*e*P	**P**	**21 11 58.1**	**-2.0**
RAMN	**Ramite**	**35.17**	**283**	*e*P	**P**	**21 12 03.1**	**-3.0**
	comp=Z,8.7nm,0.7s						
GUN	**Gumba**	**35.74**	**284**	*e*P	P	21 12 08.0	-3.1
	comp=Z,8.0nm,0.5s						
MNAI	**Manna**	**36.13**	**221**	P	P	21 12 10.1	-4.0
PKI	**Pulchoki**	**36.18**	**284**	*e*P	P	21 12 11.4	-3.5
WMQ	**Urumqi**	**36.48**	**312**	*e*P	**P**	**21 12 15.4**	**-1.5**
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				LR	LR		
	comp=Z,74nm,21.7s						
GKN	**Gorkha**	**36.83**	**285**	*e*P	P	21 12 16.9	-3.3
	comp=Z,5.3nm,0.4s						
PETK	**Petropavlovsk-**	**37.47**	**32**	LR	LR	21 29 57.1	
	comp=Z,36nm,18.2s,baz=233,slow=40						
DANN	**Dangsing**	**37.58**	**285**	*e*P	P	21 12 23.4	-3.3
	comp=Z,9.9nm,0.5s						
KOLN	**Koldanda**	**37.76**	**284**	*e*P	**P**	**21 12 25.5**	**-2.7**
PYUN	**Piuthan**	**38.27**	**285**	*e*P	**P**	**21 12 29.6**	**-2.9**
	comp=Z,5.8nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**38.43**	**89**	T	T	21 54 36.3	
	baz=284,slow=74,SNR=8.0						
H11N2	**WAKE ISLAND Hy**

	comp=Z,1.6nm,0.6s							
KKAR	**Karatay Array**	**48.57**	**307**	P	**P**	**21**	**13**	**54.2 -0.9**
CTA	**Charters Tower**	**48.59**	**154**	LR	LR	21	34	34.0
	comp=Z,59nm,19.9s,baz=290,slow=36							
CHGR	**Chuyangaron**	**49.46**	**301**	P	**P**	**21**	**14**	**00.4 -1.7**
KBL	**Kabul**	**49.73**	**295**	P	**P**	**21**	**14**	**02.7 -1.7**
KBL				IAmb	IAmb	21	14	03.8
	comp=Z,7.9nm,0.8s							
BVAR	**Borovoye Array**	**50.09**	**320**	P	**P**	**21**	**14**	**05.6 -1.0**
	comp=Z,2.6nm,0.6s,baz=107,slow=7.8,SNR=19							
BVAR				LR	LR	21	37	28.0
	comp=Z,28nm,18.5s,baz=102,slow=39							
	comp=Z,2.6nm,0.6s							
BRVK	**Borovoye**	**50.16**	**320**	P	**P**	**21**	**14**	**05.8 -1.3**
BRVK				IAmb	IAmb	21	14	16.6
	comp=Z,3.3nm,0.8s							
ABKAR	**Akbulak array**	**56.19**	**314**	P	**P**	**21**	**14**	**51.1 -0.4**
ABKAR				IAmb	IAmb	21	14	52.1
	comp=Z,3.4nm,0.7s							
ARU	**Arti**	**57.37**	**323**	P	**P**	**21**	**14**	**57.9 -1.9**
ARU	**Arti**	**57.37**	**323**	LR	LR	21	41	07.9
	comp=Z,122nm,19.3s,baz=112,slow=38							
AKTO	**Aktyubinsk**	**57.45**	**315**	LR	LR	21	41	18.4
	comp=Z,112nm,18.7s,baz=243,slow=38							
BBOO	**Buckleboo**	**57.77**	**170**	P	**P**	**21**	**15**	**06.4 +3.6**
STKA	**Stephens Creek**	**58.02**	**164**	P	**P**	**21**	**15**	**09.3 +4.7**
STKA	**Stephens Creek**	**58.02**	**164**	P	**P**	**21**	**15**	**08.7 +4.1**
	comp=Z,2.8nm,0.7s,baz=352,slow=6.4,SNR=7.7							
	comp=Z,2.8nm,0.7s							
GEYT	**Alibeck**	**58.17**	**301**	P	**P**	**21**	**15**	**02.4 -3.4**
GEYT	**Alibeck**	**58.17**	**301**	P	**P**	**21**	**15**	**05.4 -0.4**
	comp=Z,7.0nm,0.7s,baz=72,slow=9.5,SNR=11							
GEYT				LR	LR	21	42	58.0
	comp=Z,87nm,19.9s,baz=90,slow=39							
	comp=Z,7.0nm,0.7s							
GYA0B	**ALIBECK ARRAY**	**58.17**	**301**	P	**P**	**21**	**15**	**03.1 -2.7**
DZM	**Mont Dzumac**	**60.90**	**136**	LR	LR	21	38	00.6
	comp=Z,56nm,21.9s,baz=238,slow=32							
K17K	**Iditarod**	**62.23**	**30**	P	**P**	**21**	**15**	**33.7 +0.6**
KIRV	**Kirov**	**62.35**	**325**	LR	LR	21	44	51.8
	comp=Z,276nm,18.4s,baz=93,slow=38							
E19K	**Redstone River**	**62.77**	**25**	P	**P**	**21**	**15**	**36.9 +0.2**
E19K				IAmb	IAmb	21	16	07.8
	comp=Z,5.9nm,0.9s							
H19K	**Roundabout Mou**	**63.05**	**27**	P	**P**	**21**	**15**	**39.1 +0.5**
H19K				IAmb	IAmb	21	16	14.5
	comp=Z,7.8nm,1.1s							
B21K	**Ikpikpuk River**	**63.78**	**23**	P	**P**	**21**	**15**	**43.8 +0.5**
K20K	**Telida**	**64.14**	**30**	P	**P**	**21**	**15**	**46.4 +0.6**
K20K				IAmb	IAmb	21	16	05.4
	comp=Z,11nm,1.4s							
B22K	**Teshekpuk Lake**	**64.19**	**22**	P	**P**	**21**	**15**	**46.0 +0.1**
D22K	**Ayikyak River**	**64.47**	**23**	P	**P**	**21**	**15**	**48.6 +0.6**
D22K				IAmb	IAmb	21	16	07.4
	comp=Z,7.1nm,0.8s							
H21K	**Melozitna Rive**	**64.56**	**27**	P	**P**	**21**	**15**	**48.2 -0.3**
E22K	**Anaktuvuk Pass**	**64.82**	**24**	P	**P**	**21**	**15**	**50.6 +0.4**
E22K				IAmb	IAmb	21	15	52.9
	comp=Z,5.7nm,0.8s							
CAST	**Castle Rocks**	**65.03**	**29**	P	**P**	**21**	**15**	**50.8 -0.8**
CAST				IAmb	IAmb	21	16	25.5
	comp=Z,5.6nm,1.0s							
G23K	**Bananza Creek**	**65.61**	**26**	P	**P**	**21**	**15**	**55.8 +0.4**
G23K				IAmb	IAmb	21	16	14.8
	comp=Z,6.6nm,1.1s							
SUA	**Susitna One**	**65.84**	**32**	P	**P**	**21**	**15**	**57.2 +0.1**
NEA2	**Nenana**	**66.23**	**28**	P	**P**	**21**	**15**	**60.0 +0.6**
F24K	**Squaw Lake**	**66.36**	**25**	P	**P**	**21**	**16**	**00.8 +0.7**
F24K				IAmb	IAmb	21	16	25.5
	comp=Z,5.3nm,0.8s							
ILAR	**Eielson Array**	**67.13**	**28**	P	**P**	**21**	**16**	**06.0 +0.9**
	comp=Z,0.5nm,0.7s,baz=256,slow=4.6,SNR=8.1							
	comp=Z,0.5nm,0.7s							
E25K	**Arctic Village**	**67.15**	**24**	P	**P**	**21**	**16**	**06.3 +1.1**
E25K				IAmb	IAmb	21	16	29.9
	comp=Z,11nm,1.4s							
SCM	**Sheep Creek Mo**	**67.41**	**31**	P	**P**	**21**	**16**	**06.9 -0.1**
BMAR	**Burnt Mountain**	**67.63**	**25**	P	**P**	**21**	**16**	**09.6 +1.3**
GNI	**Garni**	**67.99**	**305**	LR	LR	21	48	56.2
	comp=Z,50nm,18.3s,baz=42,slow=39							
KLU	**Klutina**	**68.13**	**31**	P	**P**	**21**	**16**	**10.7 -0.8**
KLU				IAmb	IAmb	21	16	36.9
	comp=Z,8.6nm,1.1s							
KBZ	**Khabaz**	**68.48**	**309**	P	**P**	**21**	**16**	**13.8 -0.2**
	comp=Z,5.0nm,0.8s,baz=116,slow=2.4,SNR=17							
	comp=Z,5.0nm,0.8s							
KIV	**Kislovodsk**	**68.58**	**310**	P	**P**	**21**	**16**	**11.5 -3.2**
J26L	**Joseph Creek**	**68.59**	**28**	P	**P**	**21**	**16**	**13.8 -0.6**
GLB	**Gilahina Butte**	**69.13**	**31**	P	**P**	**21**	**16**	**17.6 -0.1**
GLB				IAmb	IAmb	21	16	46.1
	comp=Z,8.2nm,1.2s							
E28M	**Babbage River**	**69.25**	**23**	P	**P**	**21**	**16**	**19.2 +0.9**
E28M				IAmb	IAmb	21	16	38.1
	comp=Z,6.1nm,0.7s							
VRDI	**Verde Repeater**	**69.35**	**31**	P	**P**	**21**	**16**	**19.2 0.0**
VRDI				IAmb	IAmb	21	16	59.4
	comp=Z,9.5nm,1.3s							
BCAR	**Beaver Creek A**	**69.68**	**29**	P	**P**	**21**	**16**	**21.8 +0.7**
I28M	**Miner Creek**	**69.88**	**26**	P	**P**	**21**	**16**	**22.4 0.0**
I28M				IAmb	IAmb	21	16	27.3
	comp=Z,7.0nm,1.1s							
H29M	**Whitestone**	**70.30**	**25**	P	**P**	**21**	**16**	**25.2 +0.4**
H29M				IAmb	IAmb	21	16	29.4
	comp=Z,12nm,1.3s							
ARCES	**ARCESS Array B**	**70.82**	**338**	P	**P**	**21**	**16**	**26.9 -1.0**
	comp=Z,6.1nm,0.9s,baz=79,slow=6.4,SNR=5.8							
ARCES				LR	LR	21	53	57.8
	comp=Z,48nm,18.7s,baz=226,slow=42							
	comp=Z,6.1nm,0.9s							
M29M	**Somme Creek**	**71.32**	**29**	P	**P**	**21**	**16**	**32.3 +1.1**
INK	**Inuvik**	**71.47**	**23**	P	**P**	**21**	**16**	**31.9 +0.1**
INK				IAmb	IAmb	21	16	50.2
	comp=Z,4.5nm,0.8s							
G31M	**Satah River**	**71.65**	**24**	P	**P**	**21**	**16**	**32.8 -0.1**
G31M				IAmb	IAmb	21	16	50.7
	comp=Z,4.7nm,0.9s							
M30M	**Minto, Yukon**	**72.02**	**29**	P	**P**	**21**	**16**	**36.1 +0.8**
M30M				IAmb	IAmb	21	17	09.7
	comp=Z,7.7nm,1.4s							
FINES	**FINESS Array B**	**73.27**	**330**	P	**P**	**21**	**16**	**41.7 -1.0**
FINES	**FINESS Array B**	**73.27**	**330**	P	**P**	**21**	**16**	**42.1 -0.6**
	comp=Z,2.4nm,0.6s,baz=61,slow=5.4,SNR=14							
FINES				LR	LR	21	52	22.2
	comp=Z,146nm,18.1s,baz=80,slow=39							
	comp=Z,2.4nm,0.6s							
WHY	**Whitehorse**	**73.52**	**30**	P	**P**	**21**	**16**	**45.1 +0.8**
WHY				IAmb	IAmb	21	17	05.0
	comp=Z,6.6nm,1.1s							
AKASG	**Malin Array Be**	**75.37**	**319**	P	**P**	**21**	**16**	**54.8 -0.3**
	comp=Z,1.1nm,0.3s,baz=69,slow=5.9,SNR=8.1							
	comp=Z,1.1nm,0.3s							
KIEV	**Kiev**	**75.38**	**319**	P	**P**	**21**	**16**	**54.0 -1.2**
KIEV				IAmb	IAmb	21	17	07.3
	comp=Z,11nm,1.4s							
BRTR	**Keskin Array B**	**76.27**	**307**	P	**P**	**21**	**17**	**00.7 0.0**
	comp=Z,2.8nm,0.8s,baz=87,slow=4.9,SNR=13							
	comp=Z,2.8nm,0.8s							
MMAI	**Mount Meron Ar**	**77.29**	**301**	LR	LR	21	55	42.5
	comp=Z,42nm,19.3s,baz=28,slow=39							
NEEM	**North Greenlan**	**78.34**	**359**	*i* P	**P**	**21**	**17**	**11.9 +0.1**
NEEM				*e*P	**pP**	**21**	**17**	**12.2 -6.1**
NEEM				*e*		21	17	27.6
URZ	**Urewera**	**78.85**	**141**	LR	LR	21	48	27.4
	comp=Z,52nm,20.0s,baz=128,slow=33							
EIL	**Elat**	**78.87**	**298**	LR	LR	21	56	40.6
	comp=Z,47nm,20.1s,baz=52,slow=39							
HFS	**Hagfors**	**79.31**	**332**	P	**P**	**21**	**17**	**17.0 0.0**
	comp=Z,3.8nm,0.7s,baz=75,slow=8.0,SNR=5.8							
HFS				LR	LR	21	57	21.4
	comp=Z,149nm,18.3s,baz=65,slow=40							
	comp=Z,3.8nm,0.7s							
NC405	**NORSAR Array S**	**79.63**	**333**	P	**P**	**21**	**17**	**17.5 -1.3**
NB2	**NORSAR Subarra**	**79.88**	**333**	P	**P**	**21**	**17**	**19.6 -0.6**
	comp=Z,3.5nm,0.8s,baz=54,slow=5.9							
NOA	**NORSAR Array B**	**79.88**	**333**	P	**P**	**21**	**17**	**19.6 -0.6**
	comp=Z,1.0nm,0.7s,baz=53,slow=1.7,SNR=4.6							
NOA				LR	LR	21	56	16.3
	comp=Z,91nm,18.3s,baz=80,slow=38							
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**81.14**	**24**	P	**P**	**21**	**17**	**27.3 +0.4**
	comp=Z,0.5nm,0.7s,baz=304,slow=4.9,SNR=8.4							
	comp=Z,0.5nm,0.7s							
VYHS	**Vyhne**	**82.43**	**320**	*e*P	**P**	**21**	**17**	**35.7 +1.7**
SUMG	**Summit**	**82.65**	**355**	P	**P**	**21**	**17**	**35.5 +0.4**
SUMG				IAmb	IAmb	21	17	51.3
	comp=Z,10nm,1.0s							
SUMG	**Summit**	**82.65**	**355**	*i* P	**P**	**21**	**17**	**35.6 +0.4**
SUMG				*e*		21	17	50.8
VRAC	**Vranov**	**83.32**	**321**	LR	LR	21	58	03.9
	comp=Z,65nm,19.9s,baz=35,slow=38							
CLL	**Collm**	**84.27**	**324**	*i* P	**P**	**21**	**17**	**43.6 +0.3**
	comp=Z,3.0nm,0.7s							
CLL				*es*P	**sP**	**21**	**17**	**55.0 +2.6**
GERES	**GERESS Array B**	**85.19**	**322**	P	**P**	**21**	**17**	**48.6 +0.4**
	comp=Z,1.4nm,0.8s,baz=66,slow=3.2,SNR=5.4							
GERES				LR	LR	21	57	07.6
	comp=Z,75nm,18.6s,baz=66,slow=37							
	comp=Z,1.4nm,0.8s							
DAVOX	**Davos/Dischmat**	**88.48**	**322**	LR	LR	21	59	37.3
	comp=Z,63nm,18.3s,baz=77,slow=37							
KMBO	**Kilima Mbogo**	**88.98**	**268**	LR	LR	21	59	12.7
	comp=Z,20nm,19.3s,baz=89,slow=36							
EKA	**Eskdalemuir Ar**	**89.36**	**334**	P	**P**	**21**	**18**	**08.2 +0.1**
	comp=Z,0.7nm,0.7s,baz=33,slow=4.3,SNR=1.9							
	comp=Z,0.7nm,0.7s							

*JMA **21** 21:05:19.4±0.2,24°N±1°×124°6E±0°8, h27km±4km, MD4.7/14, MV4.3/14, NEAR ISHIGAKUJIMA ISLAND*
JMA Felt I J1 at NEAR ISHIGAKIJIMA ISLAND.
ISC 21 21:05:17.6±1.8, 24°12N±0°09×124°64E±0°05, h23km±14km, n42, σ0°74/38, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIJ	**Ishigaki jima**	**0.51**	**299**	P		P	**Pb**	**21 05 28.2**	**+0.2**
JIJ				S		S	**Sb**	**21 05 34.9**	**-0.2**
JIJ	**Ishigaki jima**	**0.51**	**299**	A		A		21 05 28.2	
	comp=E,23nm,1.7s,comp=N,29nm,1.0s								
JTJ	**Tarama**	**0.52**	**7**	P		P	**Pb**	**21 05 28.3**	**+0.1**
JTJ				S		S	**Sb**	**21 05 35.1**	**-0.2**
JTJ	**Tarama**	**0.52**	**7**	A		A		21 05 28.3	
	comp=E,143nm,1.3s,comp=N,143nm,0.9s								
JISG	**Ishigakijimahi**	**0.55**	**328**	P		P	**Pb**	**21 05 28.2**	**-0.5**
JISG				*e*S		S	**Sb**	**21 05 35.1**	**-1.1**
JISG	**Ishigakijimahi**	**0.55**	**328**	A		A		21 05 28.2	
	comp=E,53nm,1.3s,comp=N,30nm,0.6s								
JKRS	**Kuro-shima**	**0.58**	**282**	P		P	**Pb**	**21 05 30.1**	**+0.9**
JKRS				S		S	**Sb**	**21 05 37.6**	**+0.5**
JKRS	**Kuro-shima**	**0.58**	**282**	A		A		21 05 30.1	
	comp=E,145nm,2.3s,comp=N,100nm,1.3s								
HATJ	**Hateruma jima**	**0.76**	**266**	P		P	**Pb**	**21 05 33.3**	**+1.1**
HATJ				S		S	**Sn**	**21 05 43.9**	**+0.1**
HATJ	**Hateruma jima**	**0.76**	**266**	A		A		21 05 33.3	
	comp=E,36nm,2.6s,comp=N,57nm,2.6s								
IRIF	**Iriomote-Funau**	**0.85**	**285**	P		P	**Pb**	**21 05 33.9**	**+0.1**
IRIF				S		S	**Sn**	**21 05 45.9**	**-0.1**
IRIF	**Iriomote-Funau**	**0.85**	**285**	A		A		21 05 33.9	
	comp=E,51nm,1.1s,comp=N,65nm,1.5s								
JIRB	**Irabujima**	**0.86**	**35**	S		S	**Sb**	**21 05 45.1**	**+0.1**
JIRB	**Irabujima**	**0.86**	**35**	A		A		21 05 45.1	
	comp=E,38nm,1.9s,comp=N,42nm,1.8s								
JMJ2	**Miyako jima3**	**0.89**	**45**	S		S	**Sn**	**21 05 47.2**	**+0.4**
JMJ2	**Miyako jima3**	**0.89**	**45**	A		A		21 05 47.2	
	comp=E,73nm,0.6s,comp=N,127nm,0.7s								
JOGS	**Gusukube**	**0.95**	**48**	S		S	**Sn**	**21 05 49.3**	**+0.9**
JOGS	**Gusukube**	**0.95**	**48**	A		A		21 05 49.3	
	comp=E,90nm,1.7s,comp=N,130nm,0.7s								
JIKM	**Ikemajima**	**0.98**	**35**	S		S	**Sn**	**21 05 49.0**	**-0.1**
JIKM	**Ikemajima**	**0.98**	**35**	A		A		21 05 49.0	
	comp=E,53nm,1.0s,comp=N,69nm,1.3s								
YOJ	**Yonaguni jima**	**1.52**	**283**	Pn		Pn	**Pn**	**21 05 43.3**	**-0.1**
YOJ	**Yonaguni jima**	**1.52**	**283**	P		Pn	**Pn**	**21 05 43.5**	**+0.1**
YOJ	**Yonaguni jima**	**1.52**	**283**	P		Sn	**Pn**	**21 05 43.3**	**-0.1**
YOJ				S		Sn	**Sn**	**21 06 02.3**	**-0.3**
YOJ	**Yonaguni jima**	**1.52**	**283**	A		A		21 05 43.3	
	comp=E,14nm,2.3s,comp=N,9.0nm,1.7s								
JYNG	**Yonagunijimaku**	**1.58**	**282**	P		Pn	**Pn**	**21 05 44.1**	**-0.1**
JYNG				*e*S		Sn	**Sn**	**21 06 04.0**	**0.0**
JYNG	**Yonagunijimaku**	**1.58**	**282**	A		A		21 05 44.1	
	comp=E,16nm,1.1s,comp=N,12nm,0.7s								
NACB	**Ninganchiao**	**2.78**	**272**	Pn		Pn	**Pn**	**21 06 00.3**	**-0.4**
NACB	**Ninganchiao**	**2.78**	**272**	P		Pn	**Pn**	**21 06 00.2**	**-0.6**
TATO	**Taipei**	**2.99**	**287**	Pn		Pn	**Pn**	**21 06 05.0**	**+1.3**
TATO	**Taipei**	**2.99**	**287**	P		Pn	**Pn**	**21 06 04.0**	**+0.3**
YHNB	**Yeheng**	**3.02**	**281**	Pn		Pn	**Pn**	**21 06 05.6**	**+1.4**
YHNB	**Yeheng**	**3.02**	**281**	P		Pn	**Pn**	**21 06 05.3**	**+1.1**
YULB	**Yu-li**	**3.14**	**257**	Pn		Pn	**Pn**	**21 06 05.0**	**-0.8**
YULB	**Yu-li**	**3.14**	**257**	P		Pn	**Pn**	**21 06 04.8**	**-1.0**
SSLB	**Suanglung**	**3.38**	**265**	Pn		Pn	**Pn**	**21 06 09.0**	**-0.2**
SSLB	**Suanglung**	**3.38**	**265**	P		Pn	**Pn**	**21 06 08.6**	**-0.5**
TWGBT	**Beinan**	**3.51**	**249**	P		Pn	**Pn**	**21 06 09.8**	**-1.1**
TWG	**Pinlang**	**3.52**	**249**	Pn		Pn	**Pn**	**21 06 10.0**	**-0.9**
TPUB	**Ta-pu**	**3.76**	**258**	Pn		Pn	**Pn**	**21 06 15.3**	**+1.0**
TPUB	**Ta-pu**	**3.76**	**258**	P		Pn	**Pn**	**21 06 15.0**	**+0.7**
KNMB	**Chin-men Tao**	**5.71**	**275**	Pn		Pn	**Pn**	**21 06 41.2**	**+0.1**
HKPS	**Hong Kong Po S**	**9.83**	**261**	Pn		Pn	**Pn**	**21 07 36.0**	**-1.6**

*THE **21** 21:26:42.7, 39°54N×26°02E, h10km±1km, ML2.2/7, Error ellipse: s-maj=1.5km s-min=0.7km az=153.0*
*ISK **21** 21:26:42.1, 39°55N×26°00E, h7km, ML2.6/22*
*AFAD **21** 21:26:42.8±0.0, 39°54N×26°09E, h14km, ML2.3*
*ATH **21** 21:26:43.1, 39°48N×26°00E, h18km±1km, ML2.2/6, Error ellipse: s-maj=2.0km s-min=0.8km az=208.0*
ISC 21 21:26:42.2±0.8, 39°51N±0°01×26°04E±0°02, h18km±5km, n60, σ0°72/93, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.07**	**93**	P		P	**Pg**	**21 26 45.8**	**+0.2**
KOCA				S		S	**Sg**	**21 26 47.6**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.09**	**125**	Pg		Pg	**Pg**	**21 26 45.7**	**0.0**
GPNR				Sg		Sg	**Sg**	**21 26 48.1**	**+0.1**
PRK	**Paraskevi**	**0.32**	**145**	P		Pb	**Pb**	**21 26 49.7**	**+0.4**
PRK				S		S	**Sb**	**21 26 54.4**	**+0.3**
	532nm,0.4s								
PRK	**Paraskevi**	**0.32**	**145**	P		Pb	**Pb**	**21 26 49.7**	**+0.4**
PRK				S		Sb	**Sb**	**21 26 54.1**	**0.0**
PRK				AML		AML		21 26 55.1	
	comp=E,1177μm,0.2s								
PRK				AML		AML		21 26 57.4	
	comp=N,944μm,0.5s								
SIGR	**SIGRI**	**0.33**	**206**	Pg		Pb	**Pb**	**21 26 49.6**	**0.0**
SIGR				Sg		Sb	**Sb**	**21 26 54.9**	**+0.4**
SIGR	**SIGRI**	**0.33**	**206**	P		Pb	**Pb**	**21 26 49.7**	**+0.2**
SIGR				S		Sb	**Sb**	**21 26 54.5**	**0.0**
	comp=N,920nm,0.3s								
SIGR	**SIGRI**	**0.33**	**206**	P		Pb	**Pb**	**21 26 49.8**	**+0.2**
SIGR				S		Sb	**Sb**	**21 26 53.7**	**-0.8**
SIGR				AML		AML		21 26 55.2	
	comp=E,1926μm,0.2s								
SIGR				AML		AML		21 26 55.5	
	comp=N,1725μm,0.5s								
EZN	**Ezine**	**0.39**	**34**	Pg		Pg	**Pg**	**21 26 49.9**	**-0.3**
EZN				Sg		Sg	**Sb**	**21 26 55.8**	**-0.5**
EZN	**Ezine**	**0.39**	**34**	P		Pb	**Pb**	**21 26 50.3**	**-0.3**
EZN				S		S	**Sg**	**21 26 55.5**	**-0.2**
	comp=N,335nm,0.0s								
BAYC	**CANAKKALE_Bayr**	**0.46**	**59**	P		P	**Pb**	**21 26 51.4**	**-0.4**
BAYC				S		S	**Sg**	**21 26 56.5**	**-1.2**
AYVA	**Ayvalik**	**0.54**	**111**	P		P	**Pb**	**21 26 53.9**	**+0.7**
AYVA				S		S	**Sb**	**21 27 00.5**	**-0.1**
ECEA	**Canakkale, Ece**	**0.55**	**11**	P		P	**Pg**	**21 26 52.8**	**-0.4**
ECEA				S		S	**Sb**	**21 27 00.8**	**-0.1**
ECEA				*i* AML		AML		21 27 01.0	
	comp=N,340nm,0.3s								
ECEA				*i* AML		AML		21 27 02.0	
	comp=N,461nm,0.4s								
EAG3	**Mitilini, Lesv**	**0.59**	**136**	P		Pb	**Pb**	**21 26 54.4**	**+0.4**
EAG3				S		Sb	**Sb**	**21 27 03.1**	**+1.1**
CNKL	**anakkale-Mer**	**0.62**	**25**	P		Pg	**Pg**	**21 26 54.0**	**-0.5**
CNKL				P		Pb	**Pb**	**21 26 54.3**	**-0.3**
CNKL				S		Sg	**Sg**	**21 27 02.0**	**-0.7**
CNKL				S		Sb	**Sb**	**21 27 02.2**	**-0.8**
GOAD	**anakkale-G¶**	**0.66**	**351**	P		Pg	**Pg**	**21 26 54.7**	**-0.6**
GOAD				S		Sg	**Sg**	**21 27 02.8**	**-1.3**
COMU	**Canakkale**	**0.68**	**29**	Pg		Pg	**Pg**	**21 26 55.4**	**-0.2**
GADA	**Gvkgeada**	**0.69**	**351**	Pg		Pg	**Pg**	**21 26 55.1**	**-0.8**
LIA	**Limnos Island**	**0.77**	**301**	P		Pb	**Pb**	**21 26 57.5**	**+0.4**
LIA				S		Sb	**Sb**	**21 27 07.3**	**+0.1**
	comp=N,225nm,0.4s								
LIA	**Limnos Island**	**0.77**	**301**	P		Pb	**Pb**	**21 26 57.3**	**+0.2**
LIA				S		Sb	**Sb**	**21 27 07.4**	**+0.1**
LIA				AML		AML		21 27 10.0	
	comp=E,501μm,0.5s								
LIA				AML		AML		21 27 10.7	
	comp=N,396μm,0.3s								
DKL	**Dikili**	**0.80**	**123**	Pg		Pn	**Pn**	**21 26 58.9**	**+0.3**
BUHA	**Balikesir, Bur**	**0.80**	**90**	P		Pb	**Pb**	**21 26 57.5**	**-0.1**
BUHA				S		Sb	**Sb**	**21 27 09.0**	**+0.8**
KARB	**zmir-Karabur**	**0.89**	**161**	P		Pn	**Pn**	**21 27 00.0**	**+0.1**
KARB				S		Sb	**Sb**	**21 27 11.5**	**+0.8**
KARB				*i* AML		AML		21 27 15.0	
	comp=N,71nm,0.2s								
KARB				*i* AML		AML		21 27 16.0	
	comp=N,72nm,0.5s								
CANM	**Can-anakkale**	**0.93**	**57**	Pg		Pn	**Pn**	**21 27 00.6**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.95**	**20**	Pg		Pb	**Pb**	**21 27 00.3**	**+0.1**
GELI				Sg		Sb	**Sb**	**21 27 13.6**	**+1.1**
ZEDA	**zmir-Bergama**	**0.97**	**123**	P		Pn	**Pn**	**21 27 01.4**	**+0.5**
ZEDA				*i* AML		AML		21 27 45.0	
	comp=N,69nm,1.4s								
LPK	**Lapseki**	**1.03**	**32**	Pg		Pn	**Pn**	**21 27 01.9**	**+0.1**
PSRA	**Psara**	**1.03**	**201**	P		Pb	**Pb**	**21 27 01.4**	**-0.1**
SMTH	**Samothraki Isl**	**1.04**	**338**	P		Pb	**Pb**	**21 27 02.0**	**+0.3**
SMTH				S		Sb	**Sb**	**21 27 15.7**	**+0.6**
	comp=N,78nm,0.2s								
SMTH	**Samothraki Isl**	**1.04**	**338**	P		Pb	**Pb**	**21 27 02.0**	**+0.3**
SMTH				S		Sg	**Sg**	**21 27 15.5**	**-0.5**
SMTH				AML		AML		21 27 17.9	
	comp=N,162μm,0.2s								
SMTH				AML		AML		21 27 18.5	
	comp=E,155μm,0.2s								
CHOS	**Chios island**	**1.12**	**179**	P		Pn	**Pn**	**21 27 03.9**	**+0.8**
CHOS				S		Sn	**Sn**	**21 27 20.3**	**+2.2**
	comp=E,148nm,0.3s								
CHOS	**Chios island**	**1.12**	**179**	P		Pn	**Pn**	**21 27 03.1**	**0.0**
CHOS				S		Sg	**Sg**	**21 27 16.5**	**-2.1**
CHOS				AML		AML		21 27 22.9	
	comp=E,363μm,0.2s								
CHOS				AML		AML		21 27 24.3	
	comp=N,243μm,0.5s								
CAVK	**Edirne/Enez-Ca**	**1.19**	**5**	P		Pg	**Pg**	**21 27 05.8**	**+0.6**
CAVK				*i* AML		AML		21 27 27.0	
	comp=N,108nm,0.7s								
CAVK				*i* AML		AML		21 27 28.0	
	comp=N,62nm,0.5s								
ERIK	**Erikli-Kesan**	**1.22**	**17**	Pn		Pb	**Pb**	**21 27 04.9**	**+0.1**
URLA	**Izmir**	**1.22**	**159**	Pn		Pg	**Pg**	**21 27 05.7**	**-0.2**
URLA	**Izmir**	**1.22**	**159**	P		Pb	**Pb**	**21 27 04.8**	**0.0**
ENEZ	**Enez**	**1.23**	**4**	Pn		Pg	**Pg**	**21 27 05.4**	**-0.6**
ENEZ	**Enez**	**1.23**	**4**	P		Pb	**Pb**	**21 27 05.2**	**+0.2**
ENEZ				S		Sb	**Sb**	**21 27 20.8**	**+0.2**
	comp=N,138nm,0.5s								
BALY	**Balya**	**1.24**	**79**	P		Pg	**Pg**	**21 27 06.4**	**+0.2**
BALY				S		Sb	**Sb**	**21 27 20.5**	**-0.4**
BALY				*i* AML		AML		21 27 24.0	
	comp=N,116nm,0.5s								
BALY				*i* AML		AML		21 27 25.0	
	comp=N,56nm,0.2s								
STEP	**BALIKESIR_Sava**	**1.30**	**95**	P		Pg	**Pg**	**21 27 07.2**	**-0.2**
STEP				S		Sn	**Sn**	**21 27 23.2**	**+0.5**
STEP				*i* AML		AML		21 27 27.0	
	comp=N,42nm,0.5s								
KRBG	**Karabiga-Canak**	**1.31**	**47**	Pn		Pg	**Pg**	**21 27 06.8**	**-0.7**
ZEYE	**Izmir, Urla-Ze**	**1.32**	**164**	P		Pg	**Pg**	**21 27 06.9**	**-0.7**
ZEYE				S		Sb	**Sb**	**21 27 20.8**	**-2.1**
GONE	**Gonen-Balikesi**	**1.38**	**66**	Pn		Pg	**Pg**	**21 27 08.2**	**-0.6**
ALN	**Alexandroupoli**	**1.39**	**0**	Pn		Pb	**Pb**	**21 27

MAJO Matsushiro 8.09 335 Pn **Pn** 21 46 26.2 +0.4
MJB9 Matsu-Tunnel 8.09 335 Pn **Pn** 21 46 26.9 +1.0
JFK Kawauchi 8.18 351 P **Pn** 21 46 24.4 -2.7
JFK S Sn 21 47 49.0 -10
JMM Marumori 8.68 351 **Pn** 21 46 32.0 -1.9
JNU Nakatsue 10.65 294 LR LR 21 50 53.9
comp=Z,67nm,18.4s,baz=124,slow=36
KSRS Korea Array 14.64 308 Pn **Pn** 21 47 58.4 +3.0
0.4nm,0.3s,baz=110,slow=12,SNR=7.8
KSRS LR LR 21 53 18.6
comp=Z,48nm,20.4s,baz=145,slow=36
USRK Ussuriysk Ar. 17.08 333 P **Pn** 21 48 26.9 0.0
0.1nm,0.3s,baz=150,slow=12,SNR=3.3
USRK LR LR 21 55 22.7
comp=Z,38nm,20.1s,baz=63,slow=38
1.4nm,0.5s
MDJ Mudanjiang 18.42 330 P **P** 21 48 43.7 +0.4
YHNB Yeheng 19.36 261 **P** 21 48 54.5 +0.6
YHNB IAmb IAmb 21 49 26.9
comp=Z,48nm,1.3s
YULB Yu-li 19.87 258 **Pn** 21 49 02.1 +1.0
YULB IAmb IAmb 21 49 06.4
comp=Z,64nm,1.5s
SSLB Suanglung 20.02 259 **Pn** 21 49 03.0 +0.1
SSLB IAmb IAmb 21 49 07.6
comp=Z,19nm,0.7s
KLR Kul'dur 21.55 341 P **P** 21 49 17.7 +0.4
comp=Z,2.6nm,0.7s,baz=146,slow=8.0,SNR=8.9
comp=Z,2.6nm,0.7s
BJT Baijiatuau 24.08 303 P **P** 21 49 42.3 -1.1
HIA Hailar 26.44 325 P **P** 21 50 04.6 -0.2
HIA IAmb IAmb 21 50 07.8
comp=Z,11nm,0.8s
ULN Ulaanbaatar 32.96 314 P **P** 21 51 03.1 +0.3
ULN IAmb IAmb 21 51 05.2
comp=Z,4.4nm,0.7s
SONM Songino Array 33.37 314 P **P** 21 51 06.6 +0.3
SONM Songino Array 33.37 314 P **P** 21 51 07.3 +1.0
comp=Z,4.1nm,0.9s,baz=114,slow=8.1,SNR=24
SONM LR LR 22 03 56.7
comp=Z,25nm,18.3s,baz=48,slow=35
comp=Z,4.1nm,0.9s
CRAI Chiangrai 39.12 266 P **P** 21 51 54.9 -0.8
CRAI IAmb IAmb 21 51 56.9
comp=Z,5.8nm,0.7s
CMAR Chiang Mai Arr 41.05 265 P **P** 21 52 11.0 -0.6
CMAR Chiang Mai Arr 41.05 265 P **P** 21 52 11.6 0.0
comp=Z,0.7nm,0.4s,baz=57,slow=7.2,SNR=6.9
CMAR LR LR 22 09 29.0
comp=Z,31nm,20.9s,baz=70,slow=37
comp=Z,0.7nm,0.4s
ZAA0 Zalesovo Array 48.04 318 P **P** 21 53 07.2 +0.3
ZAA0 IAmb IAmb 21 53 09.1
comp=Z,3.7nm,0.9s
ZALV Zalesovo Beam 48.04 318 P **P** 21 53 07.6 +0.6
comp=Z,2.1nm,0.5s,baz=93,slow=8.7,SNR=12
ZALV PcP **PcP** 21 54 35.0 +0.4
comp=Z,0.6nm,0.6s,baz=87,slow=3.0,SNR=2.3
comp=Z,2.1nm,0.5s
RAMN Ramite 48.95 281 *eP* **P** 21 53 13.9 -0.9
LHMI Lhok Sumawe 49.20 250 P **P** 21 53 15.2 -1.2
GUN Gumba 49.30 283 *eP* **P** 21 53 15.4 -2.2
MK31 Makanchi Array 49.32 308 P **P** 21 53 17.3 +0.3
MKAR Makanchi Array 49.32 308 P **P** 21 53 17.7 +0.7
comp=Z,2.5nm,0.7s,baz=91,slow=9.6,SNR=31
comp=Z,2.5nm,0.7s
WB0 Warramunga Arr 49.38 190 **P** 21 53 17.5 -0.1
WB0 IAmb IAmb 21 53 31.2
comp=Z,10nm,1.2s
MAKZ Makanchi 49.53 308 P **P** 21 53 18.9 +0.3
WR0 Warramunga Arr 49.55 190 P **P** 21 53 18.5 -0.4
WR0 IAmb IAmb 21 53 51.9
comp=Z,9.0nm,1.4s
WRA Warramunga Arr 49.56 190 **P** 21 53 18.4 -0.6
WRA Warramunga Arr 49.56 190 P **P** 21 53 18.6 -0.4
comp=Z,4.8nm,0.9s,baz=9.1,slow=8.0,SNR=32
WRA PcP **PcP** 21 54 41.4 +0.8
comp=Z,0.6nm,0.6s,baz=1.2,slow=3.8,SNR=6.8
comp=Z,4.8nm,0.9s
FITZ Fitzroy Crossi 49.83 201 P **P** 21 53 21.2 +0.2
H17K Granite Mounta 50.23 28 P **P** 21 53 23.4 -0.2
H17K IAmb IAmb 21 53 58.1
comp=Z,14nm,1.4s
M17K Holitna River 50.48 33 P **P** 21 53 26.3 +0.7
DANN Dangsing 50.98 284 *eP* **P** 21 53 29.3 -0.9
comp=Z,10nm,0.8s
P18K Big Mountain, 51.24 36 P **P** 21 53 28.7 -2.7
KURK Kurchatov 51.67 313 P **P** 21 53 35.8 +1.1
KURK IAmb IAmb 21 53 36.5
comp=Z,9.4nm,0.9s
PYUN Piuthan 51.71 284 *eP* **P** 21 53 34.9 -0.6
comp=Z,14nm,0.5s
KURBB Kurchatov Arra 51.73 313 P **P** 21 53 35.9 +0.8
comp=Z,4.6nm,0.5s,baz=92,slow=6.7,SNR=27
comp=Z,4.6nm,0.5s
E19K Redstone River 51.98 25 P **P** 21 53 37.8 +1.1
F20K Avaraart Lake 52.44 26 P **P** 21 53 41.0 +0.9
J20K Nowinta River 52.48 30 P **P** 21 53 41.7 +1.2
J20K IAmb IAmb 21 54 02.7
comp=Z,9.7nm,1.3s
B20K Meade River 52.73 22 P **P** 21 53 42.8 +0.5
IMAR Indian Mountai 52.98 27 P **P** 21 53 45.1 +0.9
G21K Allakaket 53.18 27 P **P** 21 53 46.8 +1.0
G21K IAmb IAmb 21 53 48.2
comp=Z,6.2nm,1.2s
ASAR Alice Springs 53.29 190 P **P** 21 53 46.2 -0.7
comp=Z,0.3nm,0.4s,baz=4.0,slow=5.7,SNR=7.2
comp=Z,0.3nm,0.4s
H21K Melozitna Rive 53.31 28 P **P** 21 53 47.7 +1.1
SKT Skwentna 53.35 33 P **P** 21 53 47.2 +0.2
SKT IAmb IAmb 21 53 58.0
comp=Z,13nm,1.5s
B21K Ikpikpuk River 53.48 23 P **P** 21 53 48.7 +1.0
B21K IAmb IAmb 21 54 07.5
comp=Z,8.3nm,1.2s
B22K Teshekpuk Lake 54.05 22 P **P** 21 53 52.3 +0.4
B22K IAmb IAmb 21 54 00.2
comp=Z,12nm,1.4s
MLY Manley 54.07 29 P **P** 21 53 53.6 +1.4
MLY IAmb IAmb 21 54 24.9
comp=Z,6.4nm,1.4s
E22K Anaktuvuk Pass 54.14 25 P **P** 21 53 53.2 +0.5
GHO Glory Hole Cre 54.57 33 P **P** 21 53 56.3 +0.3
C23K Itkillik River 54.88 23 P **P** 21 53 58.6 +0.7
TOLK Toolik Lake Re 55.04 24 P **P** 21 53 60.0 +0.7
TOLK IAmb IAmb 21 54 16.9
comp=Z,5.2nm,1.2s
MDM Murphy Dome 55.12 29 P **P** 21 54 00.6 +0.8
MDM IAmb IAmb 21 54 10.9
comp=Z,6.2nm,1.4s
AAK Ala-Archa 55.26 304 P **P** 21 54 02.1 +0.8
AAK IAmb IAmb 21 54 03.8
comp=Z,11nm,1.5s
SCM Sheep Creek Mo 55.33 33 P **P** 21 54 02.4 +1.0
ILAR Eielson Array 55.68 29 P **P** 21 54 04.3 +0.5
comp=Z,0.6nm,0.9s,baz=249,slow=6.6,SNR=1.9
comp=Z,0.6nm,0.9s
BVAR Borovoye Array 56.64 317 P **P** 21 54 11.7 +0.8
comp=Z,6.3nm,0.6s,baz=90,slow=7.6,SNR=31
comp=Z,6.3nm,0.6s
BRVK Borovoye 56.70 317 P **P** 21 54 12.8 +1.5
KK31 Karatay Array 58.05 305 P **P** 21 54 21.9 +0.9
KKAR Karatay Array 58.05 305 P **P** 21 54 22.0 +1.0
NIL Nilore 58.22 293 P **P** 21 54 22.0 -0.3
NIL IAmb IAmb 21 54 25.1
comp=Z,3.9nm,0.8s
I28M Miner Creek 58.63 29 P **P** 21 54 25.5 +0.7
I28M IAmb IAmb 21 54 40.3
comp=Z,3.5nm,1.1s
CHGR Chuyangaron 60.07 300 **P** 21 54 35.6 +0.4
ARU Arti 62.88 322 **P** 21 54 53.6 -0.1
ABKAR Akbulak array 63.78 314 P **P** 21 55 00.3 +0.5
ABKAR IAmb IAmb 21 55 02.5
comp=Z,3.1nm,0.7s
GEYT Alibeck 68.56 302 P **P** 21 55 31.8 +1.1
comp=Z,3.1nm,0.9s,baz=67,slow=16,SNR=4.6
comp=Z,3.1nm,0.9s
YKA Yellowknife Ar 70.10 29 P **P** 21 55 40.7 +1.0
comp=Z,0.2nm,0.6s,baz=297,slow=6.9,SNR=2.5
comp=Z,0.2nm,0.6s
FINES FINESS Array B 76.11 334 P **P** 21 56 15.9 +0.6
comp=Z,5.2nm,1.1s,baz=90,slow=8.6,SNR=2.2
comp=Z,5.2nm,1.1s
KBZ Khabaz 76.72 313 P **P** 21 56 20.4 +1.3
comp=Z,2.4nm,0.8s,baz=64,slow=6.2,SNR=8.7
comp=Z,2.4nm,0.8s

NVAR Mina Array Bea 78.97 52 P **P** 21 56 34.0 +1.9
comp=Z,0.4nm,0.6s,baz=273,slow=6.2,SNR=2.6
comp=Z,0.4nm,0.6s
AKASG Malin Array Be 81.02 324 P **P** 21 56 44.5 +1.9
comp=Z,0.3nm,0.4s,baz=52,slow=5.1,SNR=2.1
comp=Z,0.3nm,0.4s
BRTR Keskin Array B 84.72 313 P **P** 21 57 03.1 +0.9
comp=Z,0.8nm,0.7s,baz=106,slow=5.4,SNR=5.5
comp=Z,0.8nm,0.7s
MMAI Mount Meron Ar 87.24 306 P **P** 21 57 15.8 +1.1
comp=Z,0.2nm,0.3s,baz=32,slow=5.6,SNR=1.5
comp=Z,0.2nm,0.3s
TXAR Lajitas Array 94.08 53 P P 21 58 01.5 +15
comp=Z,1.0nm,0.8s,baz=299,slow=5.2,SNR=6.0

MEX 21 21:57:14.4±0.7, 15°.81N×95°.32W, h64km±24km, MD3.8,
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.76**	**267**	*eP*		Pn	Pn	21 57 28.6	-1.0
HUIG				*eS*		Sn	Sn	21 57 38.5	-2.4
NILT	**Santiago Nilte**	**1.01**	**42**	*eP*		Pn	Pn	21 57 30.5	-2.2
NILT				*eS*		Sn	Sn	21 57 40.4	-5.9
CMIG	**Matias Romero**	**1.34**	**18**	*eP*		Pn	Pn	21 57 33.7	-3.4
CMIG				*eS*		Sn	Sn	21 57 48.6	-5.5
UXUV	**UXUV**	**1.88**	**37**	*eP*		Pn	Pn	21 57 42.8	-1.4
UXUV				*eS*		Sn	Sn	21 58 05.1	-1.9
NEUV	**Arroyo Zacate**	**1.95**	**346**	*eP*		Pn	Pn	21 57 43.4	-1.9
NEUV				*eS*		Sn	Sn	21 58 07.5	-1.3
PCIG		**2.02**	**93**	*eP*		Pn	Pn	21 57 48.2	+2.0
PCIG				*eS*		Sn	Sn	21 58 10.6	+0.1
TOIG	**Toxpalan**	**2.83**	**324**	*eP*		Pn	Pn	21 57 59.2	+1.9
TOIG				*eS*		Sn	Sn	21 58 34.2	+3.9
PATR	**El Naranjo**	**3.05**	**103**	*eS*		Sn	Sn	21 58 37.0	+1.1
PAVE	**Pavencul**	**3.09**	**101**	*eS*		Sn	Sn	21 58 35.0	-1.9
CHUJ	**Union Juarez**	**3.17**	**102**	*eS*		Sn	Sn	21 58 37.9	-1.1

*NEIC **21** 22:09:27.6±2.0, 29°.9N±0°.1×139°.3E±0°.2, h340km±11km, mb4.2/18, Error ellipse: s-maj=20.5km s-min=19.5km az=106.0*
*IDC **21** 22:09:39.9±38.0, 29°.57N×139°.00E, h487km±248km, mb3.1/7, mbtmp4.0/8, Error ellipse: s-maj=404.1km s-min=63.5km az=156.0*
ISC 21 22:09:29.3±0.7, 29°.2N±0°.1×139°.61E±0°.10, h400km, n31,
σ1ş51/31, mb3.8/16, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.11**	**132**				**Pn**	**22 10 33.4**	**-0.1**
JCJ							**S**	**22 11 24.3**	**-1.1**
JOW	**Kunigami**	**10.30**	**259**	P			**Pn**	**22 11 49.6**	**-1.2**
YOJ	**Yonaguni jima**	**15.56**	**256**	P			**P**	**22 12 48.9**	**+1.1**
USRK	**Ussuriysk Ar.**	**16.13**	**340**	P			**P**	**22 12 57.0**	**+3.3**
	1.6nm,0.5s,baz=143,slow=9.8,SNR=6.3								
YHNB	**Yeheng**	**16.88**	**259**	P			**P**	**22 13 02.7**	**+0.7**
SSLB	**Suanglung**	**17.55**	**256**	P			**P**	**22 13 07.5**	**-1.6**
TWG	**Pinlang**	**17.83**	**253**	P			**P**	**22 13 15.9**	**+3.7**
TWG					IAmb	IAmb		22 13 17.1	
	comp=Z,43nm,1.3s								
SONM	**Songino Array**	**31.61**	**315**	P			**P**	**22 15 15.6**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=108,slow=9.3,SNR=2.1								
	comp=Z,0.2nm,0.4s								
KULM	**Kulim**	**43.84**	**245**	P			**P**	**22 17 01.0**	**+2.8**
KULM					IAmb	IAmb		22 17 04.4	
	comp=Z,45nm,1.5s								
MK31	**Makanchi Array**	**47.37**	**308**	P			**P**	**22 17 24.2**	**-0.8**
MKAR	**Makanchi Array**	**47.37**	**308**	P			**P**	**22 17 24.0**	**-1.0**
MKAR	**Makanchi Array**	**47.37**	**308**	P			**P**	**22 17 24.2**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=86,slow=10,SNR=12								
	comp=Z,0.4nm,0.3s								
MAKZ	**Makanchi**	**47.59**	**308**	P			**P**	**22 17 25.9**	**-0.8**
KURK	**Kurchatov**	**49.87**	**313**	P			**P**	**22 17 43.0**	**-0.7**
KURBB	**Kurchatov Arra**	**49.93**	**313**	P			**P**	**22 17 43.4**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=92,slow=7.5,SNR=30								
	comp=Z,1.3nm,0.4s								
H18K	**Honhosa River**	**52.15**	**28**	P			**P**	**22 18 01.8**	**+1.5**
H18K					IAmb	IAmb		22 18 10.0	
	comp=Z,23nm,1.4s								
P18K	**Big Mountain,**	**52.75**	**36**	P			**P**	**22 18 04.7**	**0.0**
E19K	**Redstone River**	**53.10**	**25**	P			**P**	**22 18 07.1**	**0.0**
E19K					IAmb	IAmb		22 18 17.0	
	comp=Z,8.8nm,1.5s								
K20K	**Telida**	**53.71**	**31**	P			**P**	**22 18 11.7**	**+0.2**
K20K					IAmb	IAmb		22 18 48.2	
	comp=Z,16nm,1.4s								
B20K	**Meade River**	**53.73**	**22**	P			**P**	**22 18 13.2**	**+1.7**
B20K					IAmb	IAmb		22 18 40.3	
	comp=Z,27nm,1.4s								
J20K	**Nowinta River**	**53.77**	**30**	P			**P**	**22 18 11.9**	**0.0**
J20K					IAmb	IAmb		22 18 34.4	
	comp=Z,6.7nm,1.4s								
ARSB	**Arslanbob**	**54.50**	**302**	P			**P**	**22 18 16.2**	**-1.5**
BVAR	**Borovoye Array**	**54.94**	**316**	P			**P**	**22 18 19.9**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=96,slow=6.9,SNR=5.4								
	comp=Z,0.6nm,0.4s								
D22K	**Ayikyak River**	**55.04**	**24**	P			**P**	**22 18 23.0**	**+2.1**
D22K					IAmb	IAmb		22 18 48.2	
	comp=Z,7.0nm,1.4s								
KK31	**Karatay Array**	**56.00**	**304**	P			**P**	**22 18 26.9**	**-1.1**
KK31					IAmb	IAmb		22 18 29.2	
	comp=Z,3.9nm,1.5s								
KKAR	**Karatay Array**	**56.00**	**304**	P			**P**	**22 18 27.0**	**-1.1**
BBOO	**Buckleboo**	**61.79**	**183**	P			P	22 19 15.6	+8.4
BBOO					IAmb	IAmb		22 19 56.3	
	comp=Z,16nm,1.4s								
ABKAR	**Akbulak array**	**61.98**	**313**	P			**P**	**22 19 07.1**	**-1.3**
ARCES	**ARCESS Array B**	**70.78**	**340**	P			**P**	**22 20 03.7**	**+0.5**
	comp=Z,5.4nm,0.9s,baz=83,slow=8.3,SNR=1.5								
	comp=Z,5.4nm,0.9s								
KBZ	**Khabaz**	**74.90**	**312**	P			**P**	**22 20 26.8**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=76,slow=4.2,SNR=3.8								
	comp=Z,1.1nm,0.7s								
FINES	**FINESS Array B**	**75.03**	**333**	P			**P**	**22 20 27.0**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=68,slow=6.5,SNR=6.5								
	comp=Z,1.4nm,0.6s								

*IDC **21** 22:13:50.0±1.6, 57°.49N×33°.14W, h0km, mb3.5/5, mbtmp3.6/7, ML3.7/2, MS3.4/21, Error ellipse: s-maj=44.1km s-min=24.3km az=30.0*
ISC 21 22:13:52.9±1.3, 57°.6N±0°.1×33°.1W±0°.1, h15km, n26,
σ1ş14/9, mb3.8/5, MS3.4/17, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**9.13**	**33**	Pn		Pn	**Pn**	**22 16 05.9**	**+1.9**
	0.6nm,0.3s,baz=231,slow=4.9,SNR=6.1								
BORG				Sn		Sn	**Sn**	**22 17 44.6**	**-1.8**
	0.3nm,0.3s,baz=213,slow=3.6,SNR=1.5								
BORG				LR		LR	LR	22 18 34.5	
	comp=Z,150nm,18.6s,baz=209,slow=31								
	18nm,1.0s								
SFJD	**Kangerlussuaq**	**12.43**	**327**	LR		LR	LR	22 20 52.3	
	comp=Z,137nm,18.9s,baz=152,slow=34								
EKA	**Eskdalemuir Ar**	**16.61**	**85**	Pn		**Pn**	**Pn**	**22 17 45.0**	**+0.1**
	baz=292,slow=9.8								
	0.8nm,0.6s								
FRB	**Frobisher Bay**	**18.25**	**304**	LR		LR	LR	22 23 28.0	
	comp=Z,101nm,18.2s,baz=109,slow=32								
SCHQ	**Schefferville**	**18.87**	**276**	LR		LR	LR	22 24 12.3	
	comp=Z,115nm,18.8s,baz=100,slow=33								
ESDC	**Sonseca Array**	**25.98**	**121**	P		P	**P**	**22 19 24.5**	**-0.3**
	0.8nm,0.9s,baz=322,slow=9.0,SNR=6.6								
ESDC				LR		LR	LR	22 27 02.3	
	comp=Z,52nm,20.4s,baz=310,slow=30								
	0.8nm,0.6s								
DAVOX	**Davos/Dischmat**	**27.99**	**94**	LR		LR	LR	22 29 27.8	
	comp=Z,64nm,20.3s,baz=260,slow=34								
VRAC	**Vranov**	**30.09**	**84**	LR		LR	LR	22 31 02.5	
	comp=Z,53nm,18.7s,baz=334,slow=34								
SADO	**Sadowa**	**30.96**	**266**	LR		LR	LR	22 31 10.2	
	comp=Z,53nm,20.0s,baz=4.5,slow=34								
KEST	**Kesra**	**35.57**	**109**	LR		LR	LR	22 33 41.2	
	comp=Z,72nm,21.7s,baz=276,slow=34								
AKASG	**Malin Array Be**	**35.95**	**74**	LR		LR	LR	22 34 24.9	
	comp=Z,40nm,19.1s,baz=27,slow=34								
ULM	**Lac du Bonnet**	**36.49**	**286**	LR		LR	LR	22 33 08.8	
	comp=Z,61nm,19.1s,baz=82,slow=32								
MLR	**Muntele Rosu**	**37.44**	**83**	LR		LR	LR	22 35 53.0	
	comp=Z,48nm,18.6s,baz=260,slow=35								
YKA	**Yellowknife Ar**	**38.46**	**312**	P		P	**P**	**22 21 13.1**	**-0.5**
	0.2nm,0.6s,baz=59,slow=8.7,SNR=2.3								
YKA				LR		LR	LR	22 36 28.5	
	comp=Z,86nm,19.5s,baz=336,slow=35								
	0.2nm,0.6s								
TKL	**Tuckaleechee C**	**39.94**	**259**	LR		LR	LR	22 36 38.2	
	comp=Z,64nm,19.8s,baz=8.5,slow=34								
ILAR	**Eielson Array**	**48.09**	**328**	P			**P**	**22 22 31.6**	**+0.3**
	0.9nm,0.9s,baz=35,slow=6.6,SNR=9.5								
	0.9nm,0.9s								
NEW	**Newport**	**48.39**	**297**	LR		LR	LR	22 40 27.4	
	comp=Z,50nm,20.0s,baz=38,slow=33								
PDAR	**Pinedale Array**	**48.50**	**287**	LR		LR	LR	22 42 09.4	
	comp=Z,46nm,18.0s,baz=34,slow=35								
ANMO	**Albuquerque**	**52.64**	**278**	LR		LR	LR	22 43 57.5	
	comp=Z,62nm,18.1s,baz=166,slow=34								
ELK	**Elko**	**52.88**	**289**	LR		LR	LR	22 43 15.5	
	comp=Z,52nm,19.2s,baz=341,slow=33								
TXAR	**Lajitas Array**	**55.47**	**271**	LR		LR	LR	22 44 13.2	
	comp=Z,28nm,19.3s,baz=172,slow=33								
YBH	**Yreka Blue Hor**	**55.86**	**295**	LR		LR	LR	22 45 23.8	
	comp=Z,47nm,20.4s,baz=27,slow=34								
NVAR	**Mina Array Bea**	**56.18**	**290**	LR		LR	LR	22 45 31.2	
	comp=Z,26nm,21.4s,baz=84,slow=34								
KURBB	**Kurchatov Arra**	**58.45**	**44**	P			**P**	**22 23 47.0**	**-0.6**
	0.5nm,0.6s,baz=327,slow=7.7,SNR=1.2								
	0.5nm,0.6s								
MKAR	**Makanchi Array**	**63.02**	**44**	P			**P**	**22 24 18.6**	**-0.3**
	0.4nm,0.6s,baz=347,slow=5.4,SNR=5.5								
	0.4nm,0.6s								
ASAR	**Alice Springs**	**144.83**	**21**	PKP			**PKPab**	**22 33 27.9**	**0.0**
	0.8nm,0.7s,baz=336,slow=1.7,SNR=7.1								

*IDC **21** 22:14:58.1±1.2, 2°.43S×121°.24E, h0km, mb3.5/5, mbtmp3.6/6, ML4.1/1, MS3.6/2, Error ellipse: s-maj=37.4km s-min=20.7km az=69.0*
*DJA **21** 22:14:59.4±0.2, 3°.3S±2°×12°.1E±°, h10km, M4.5/14, mb4.6/7, MLv4.4/14*
ISC 21 22:14:59.8±0.9, 2°.46S±0°.06×121°.17E±0°.08, h10km, n19,
σ0ş98/16, mb3.5/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.47**	**246**	P		P	Pn	22 15 22.6	-3.7
TTSI				S		S	**Sn**	**22 15 45.4**	**-0.2**
SPSI	**Sidrap Palu**	**2.05**	**223**	P		P	Pn	22 15 32.8	-1.5
SPSI				S		S	**Sn**	**22 16 00.7**	**+0.8**
LUWI	**Luwuk**	**2.13**	**49**	P		P	**Pn**	**22 15 35.1**	**-0.4**
KAPI	**Kappang**	**2.91**	**209**	Pn		Pn	**Pn**	**22 15 46.4**	**+0.3**
	26nm,0.3s,baz=16,slow=7.3,SNR=28								
KAPI				Sn		Sn	**Sn**	**22 16 22.3**	**+1.1**
	33nm,0.3s,baz=182,slow=23,SNR=19								
KAPI				LR		LR	LR	22 17 01.6	
	comp=Z,321nm,18.3s,baz=42,slow=42								
	77nm,0.4s								
MRSI	**Marisa**	**3.02**	**15**	P		P	**Pn**	**22 15 48.1**	**+0.4**
MRSI				S		S	**Sn**	**22 16 23.0**	**-0.9**
BKSI	**Bulukumba**	**3.03**	**200**	P		P	**Pn**	**22 15 47.7**	**-0.2**
MPSI	**Mapaga**	**3.05**	**335**	P		P	**Pn**	**22 15 48.8**	**+0.7**
KMSI	**Cibinong**	**4.12**	**43**	P		P	**Pn**	**22 16 05.3**	**+2.4**
SANI	**Sanana**	**4.84**	**85**	P		P	Pn	22 16 10.7	-2.0
EDFI	**Ende, Flores**	**6.27**	**175**	P		P	Pn	22 16 31.4	-1.2
	21nm,0.7s,0.1nm								
LBMI	**Labuha**	**6.59**	**74**	P		P	Pn	22 16 34.3	-2.5
	73nm,0.8s,0.3nm								
PLAI	**Plampang**	**7.17**	**208**	P		P	**Pn**	**22 16 43.8**	**-1.0**
	26nm,1.9s,0.1nm								
SRBI	**Singaraja**	**8.15**	**226**	P		P	Pn	22 16 55.8	-2.4
WRA	**Warramunga Arr**	**21.63**	**144**	P		P	**P**	**22 19 51.2**	**+0.8**
	0.9nm,0.6s,baz=325,slow=11,SNR=11								
	0.9nm,0.6s								
ASAR	**Alice Springs**	**24.43**	**151**	P		P	**P**	**22 20 17.9**	**-1.0**
	1.4nm,0.9s,baz=335,slow=9.8,SNR=11								
	1.4nm,0.9s								
STKA	**Stephens Creek**	**35.02**	**149**	P		P	**P**	**22 21 52.1**	**-0.7**
	1.8nm,0.6s,baz=308,slow=12,SNR=4.5								
	1.8nm,0.6s								
MKAR	**Makanchi Array**	**59.77**	**330**	P		P	**P**	**22 25 05.2**	**+0.1**
	0.2nm,0.6s,baz=121,slow=8.6,SNR=2.0								
	0.2nm,0.6s								
KURBB	**Kurchatov Arra**	**64.19**	**331**	P		P	**P**	**22 25 34.7**	**0.0**
	0.2nm,0.6s,baz=148,slow=5.2,SNR=1.6								
	0.2nm,0.6s								
AKTO	**Aktyubinsk**	**75.18**	**324**	LR		LR	LR	23 03 17.4	
	comp=Z,94nm,18.6s,baz=88,slow=39								

*IDC **21** 22:32:19.4±0.7, 0°.42S×124°.66E, h0km, mb4.0/11, mbtmp4.1/12, ML4.8/1, MS3.1/6, Error ellipse: s-maj=39.0km s-min=15.5km az=73.0*
*NEIC **21** 22:32:27.7±2.1, 0°.64S±0°.08×124°.43E±0°.07, h57km±8km, mb4.3/23, Error ellipse: s-maj=12.2km s-min=9.7km az=160.0*
*DJA **21** 22:32:28.4±1.2, 1°.5S±2°×12°.5E±°, h33km±19km, M4.7/15, mb4.9/6, mB5.2/3, MLv4.5/15, Mw(mB)4.5/3*
ISC 21 22:32:27.6±0.5, 0°.64S±0°.05×124°.56E±0°.04, h60km, n60,
σ1ş35/63, mb4.2/22, MS3.1/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.33**	**334**	P		P	**Pn**	**22 32 51.4**	**+1.3**
LUWI	**Luwuk**	**1.83**	**257**				**Pn**	**22 32 55.0**	**-1.7**
LUWI	**Luwuk**	**1.83**	**257**	P		P	**Pn**	**22 32 55.9**	**-0.8**
SANI	**Sanana**	**2.00**	**134**	P		P	**Pn**	**22 32 57.6**	**-1.5**
SANI				S		S	**Sn**	**22 33 20.4**	**-2.8**
MRSI	**Marisa**	**2.84**	**293**	P		P	**Pn**	**22 33 10.6**	**+0.1**
MRSI				S		S	**Sn**	**22 33 43.5**	**-0.1**
LBMI	**Labuha**	**2.94**	**90**	P		P	**Pn**	**22 33 11.8**	**-0.2**
LBMI				S		S	**Sn**	**22 33 47.8**	**+1.6**
TNTI	**Ternate**	**3.14**	**64**	Pn		Pn	**Pn**	**22 33 16.3**	**+1.7**
TNTI	**Ternate**	**3.14**	**64**	P		Pn	**Pn**	**22 33 17.6**	**+3.0**
NLAI	**Namlea**	**3.62**	**136**	P		Pn	**Pn**	**22 33 20.0**	**-1.3**
NLAI				S		S	**Sn**	**22 34 02.1**	**-0.8**
TOLI2	**Tolitoli**	**4.15**	**295**				**Pn**	**22 33 27.7**	**-0.9**
MPSI	**Mapaga**	**4.76**	**282**	P		P	**Pn**	**22 33 39.2**	**+2.4**
TTSI	**Tana Toraja**	**5.30**	**243**	P		P	**Pn**	**22 33 44.6**	**+0.3**
	125nm,0.6s,3μm0.7nm								
SPSI	**Sidrap Palu**	**5.81**	**235**	P		P	**Pn**	**22 33 51.5**	**+0.2**
	173nm,0.6s,2μm0.6nm								
BKSI	**Bulukumba**	**6.42**	**223**	P		P	**Pn**	**22 34 00.0**	**+0.4**
	38nm,0.5s,1μm0.2nm								
KAPI	**Kappang**	**6.47**	**228**				**Pn**	**22 33 59.7**	**-0.6**
KAPI	**Kappang**

USRK	**Ussuriysk Ar.**	**45.13**	**8**	P		**P**	**22 40 36.4**	**-1.7**	
	comp=Z,1.0nm,0.5s,baz=182,slow=7.2,SNR=4.9								
	comp=Z,1.0nm,0.5s								
ULN	**Ulaanbaatar**	**50.66**	**345**	P		**P**	**22 41 21.0**	**0.0**	
ULN				IAmb		IAmb	22 41 22.6		
	comp=Z,2.0nm,0.8s								
SONM	**Songino Array**	**50.80**	**344**	P		**P**	**22 41 22.3**	**+0.3**	
SONM				IAmb		IAmb	22 41 24.0		
	comp=Z,2.1nm,1.0s								
SONM	**Songino Array**	**50.80**	**344**	P		**P**	**22 41 21.0**	**-1.1**	
	comp=Z,1.6nm,0.7s,baz=161,slow=8.8,SNR=14								
	comp=Z,1.6nm,0.7s								
THZ	**Tophouse**	**59.70**	**140**	P		**P**	**22 42 26.1**	**-0.1**	
MK31	**Makanchi Array**	**59.97**	**328**	P		**P**	**22 42 27.1**	**-0.8**	
MK31				IAmb		IAmb	22 42 29.2		
	comp=Z,3.1nm,0.9s								
MKAR	**Makanchi Array**	**59.97**	**328**	P		**P**	**22 42 26.8**	**-1.0**	
	comp=Z,1.7nm,0.3s,baz=125,slow=8.3,SNR=42								
MKAR				LR		LR	23 10 54.1		
	comp=Z,16nm,18.6s,baz=28,slow=39								
	comp=Z,1.7nm,0.3s								
ODZ	**Otahua Downs**	**60.04**	**144**	P		**P**	**22 42 29.8**	**+1.4**	
MAKZ	**Makanchi**	**60.15**	**328**	P		**P**	**22 42 27.8**	**-1.3**	
MAKZ				IAmb		IAmb	22 42 28.6		
	comp=Z,4.1nm,1.4s								
KBL	**Kabul**	**62.54**	**310**	P		**P**	**22 42 44.2**	**-1.6**	
KBL				IAmb		IAmb	22 42 45.3		
	comp=Z,2.0nm,0.5s								
MA2	**Magadan**	**63.45**	**15**	LR		LR	23 12 14.3		
	comp=Z,8.8nm,19.0s,baz=19,slow=38								
ZALV	**Zalesovo Beam**	**63.54**	**335**	P		**P**	**22 42 49.7**	**-1.9**	
ZALV	**Zalesovo Beam**	**63.54**	**335**	P		**P**	**22 42 49.4**	**-2.2**	
	comp=Z,0.8nm,0.4s,baz=134,slow=6.4,SNR=4.4								
	comp=Z,0.8nm,0.4s								
KURBB	**Kurchatov Arra**	**64.30**	**329**	P		**P**	**22 42 55.1**	**-1.6**	
	comp=Z,1.8nm,0.6s,baz=140,slow=6.3,SNR=21								
	comp=Z,1.8nm,0.6s								
KURK	**Kurchatov**	**64.31**	**330**	P		**P**	**22 42 55.4**	**-1.4**	
KK31	**Karatay Array**	**65.01**	**319**	P		**P**	**22 42 59.6**	**-1.9**	
KKAR	**Karatay Array**	**65.01**	**319**	P		**P**	**22 43 00.4**	**-1.2**	
BVAR	**Borovoye Array**	**69.83**	**329**	P		**P**	**22 43 31.7**	**-0.1**	
	comp=Z,1.0nm,0.5s,baz=120,slow=8.9,SNR=6.9								
	comp=Z,1.0nm,0.5s								
TIXI	**Tiksi**	**72.22**	**1**	P		**P**	**22 43 45.8**	**-0.1**	
TIXI				IAmb		IAmb	22 43 46.4		
	comp=Z,3.1nm,0.5s								
ABKAR	**Akbulak array**	**74.18**	**322**	P		**P**	**22 43 56.8**	**-1.1**	
ABKAR				IAmb		IAmb	22 44 07.3		
	comp=Z,2.3nm,1.2s								
ARU	**Arti**	**77.48**	**329**	P		**P**	**22 44 15.8**	**-0.7**	
ARU				IAmb		IAmb	22 44 20.1		
	comp=Z,7.0nm,1.2s								
VNDA	**Vanda**	**79.41**	**172**	P		**P**	**22 44 28.0**	**+1.2**	
VNDA				IAmb		IAmb	22 44 49.4		
	comp=Z,4.0nm,1.5s								
VNDA	**Vanda**	**79.41**	**172**	P		**P**	**22 44 28.0**	**+1.2**	
	comp=Z,0.6nm,1.0s,baz=330,slow=5.7,SNR=2.1								
	comp=Z,0.6nm,1.0s								
ILAR	**Eielson Array**	**89.95**	**25**	P		**P**	**22 45 19.9**	**-0.2**	
	comp=Z,0.3nm,0.7s,baz=229,slow=5.5,SNR=4.6								
	comp=Z,0.3nm,0.7s								
FINES	**FINESS Array B**	**94.62**	**332**	P		**P**	**22 45 39.8**	**-1.9**	
	comp=Z,2.5nm,0.9s,baz=147,slow=18,SNR=2.0								
	comp=Z,2.5nm,0.9s								
TORD	**Torodi Ar. Bea**	**122.08**	**285**	PKP		**PKPdf**	**22 51 16.4**	**-0.1**	
	comp=Z,0.3nm,0.5s,baz=45,slow=1.6,SNR=2.4								

*CATAC **21** 22:32:29.1±0.4, 13°.16N×89°.25W, h27km±3km, ML4.1*
*SNET **21** 22:32:29.1±0.7, 13°.14N×89°.26W, h42km, ML4.1*
*GCG **21** 22:32:31.6±0.4, 14°.43N×88°.99W, h109km±16km, MD4.0*
ISC 21 22:32:28.1±1.5,**13°.18N**±0°.05×**89°.23W**±0°.03,**h13**km±12km,
n67,σ0°**76**/**87**,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LALI	**Alcalda de L**	**0.32**	**343**	*eP*		**Pn**	**22 32 38.4**	**0.0**
LALI				*eS*		**Sn**	**22 32 45.1**	**+0.2**
LALI	**Alcalda de L**	**0.32**	**343**	*i P*		**Pn**	**22 32 38.6**	**+0.2**
LALI				*i S*		**Sn**	**22 32 45.2**	**+0.2**
LALI				IAML			22 32 45.4	
	comp=Z,8μm,1.0s							
PANCS	**Alcalda de**	**0.43**	**6**	*i P*		**Pn**	**22 32 39.9**	**-0.1**
PANCS				*i S*		**Sn**	**22 32 48.3**	**+0.5**
PANCS				IAML			22 32 49.1	
	comp=Z,32μm,1.0s							
LOMA	**Loma Larga**	**0.46**	**7**	*eP*		**Pn**	**22 32 40.5**	**-0.1**
LOMA	**Loma Larga**	**0.46**	**7**	*i P*		**Pn**	**22 32 40.6**	**0.0**
LOMA				*i S*		**Sn**	**22 32 48.8**	**+0.1**
LOMA				IAML			22 32 50.7	
	comp=Z,22μm,1.0s							
LFRS	**El Faro**	**0.47**	**20**	*eP*		**Pn**	**22 32 40.5**	**-0.1**
SJTE	**Alcalda de S**	**0.48**	**27**	*i P*		**Pn**	**22 32 40.4**	**-0.4**
SJTE				*i S*		**Sn**	**22 32 49.4**	**+0.3**
SJTE				IAML			22 32 50.4	
	comp=Z,5μm,1.0s							
ITCA	**Escuela Especi**	**0.49**	**354**	*eP*		**Pn**	**22 32 40.7**	**-0.2**
ITCA	**Escuela Especi**	**0.49**	**354**	*i P*		**Pn**	**22 32 40.7**	**-0.2**
ITCA				*i S*		**Sn**	**22 32 49.1**	**-0.3**
ITCA				IAML			22 32 51.2	
	comp=Z,26μm,1.0s							
MAGS	**Ministerio de**	**0.50**	**354**	*eP*		**Pn**	**22 32 40.6**	**-0.4**
MAGS	**Ministerio de**	**0.50**	**354**	*i P*		**Pn**	**22 32 40.7**	**-0.4**
MAGS				IAML			22 32 55.6	
	comp=Z,9μm,1.0s							
SNET	**Serv Nac Est T**	**0.50**	**360**	*i P*		**Pn**	**22 32 40.7**	**-0.3**
SNET				IAML			22 32 50.8	
	comp=Z,31μm,1.0s							
JAYA	**Jayaque - finc**	**0.51**	**335**	*eP*		**Pn**	**22 32 40.6**	**-0.7**
JAYA	**Jayaque - finc**	**0.51**	**335**	*i P*		**Pn**	**22 32 40.6**	**-0.7**
JAYA				*i S*		**Sn**	**22 32 48.7**	**-1.4**
JAYA				IAML			22 32 50.1	
	comp=Z,85μm,1.0s							
UTEC	**Universidad Te**	**0.51**	**3**	*i P*		**Pn**	**22 32 41.0**	**-0.2**
UTEC				IAML			22 32 52.9	
	comp=Z,9μm,1.0s							
SEMO	**Seminario San**	**0.52**	**0**	*i P*		**Pn**	**22 32 41.0**	**-0.3**
SEMO				IAML			22 32 51.3	
	comp=Z,32μm,1.0s							
AEIL	**Aeropuerto Ilo**	**0.52**	**12**	*eP*		**Pn**	**22 32 41.5**	**+0.2**
UEES	**Universidad Ev**	**0.53**	**359**	*i P*		**Pn**	**22 32 41.2**	**-0.3**
UEES				*i S*		**Sn**	**22 32 50.7**	**+0.3**
UEES				IAML			22 32 52.2	
	comp=Z,12μm,1.0s							
IGN	**Direccin Gen**	**0.53**	**6**	*eP*		**Pn**	**22 32 41.2**	**-0.3**
IGN	**Direccin Gen**	**0.53**	**6**	*i P*		**Pn**	**22 32 41.3**	**-0.1**
IGN				*i S*		**Sn**	**22 32 50.8**	**+0.5**
IGN				IAML			22 32 54.0	
	comp=Z,42μm,1.0s							
PMON	**Piamonte**	**0.53**	**351**	*i P*		**Pn**	**22 32 41.1**	**-0.4**
PMON				*i S*		**Sn**	**22 32 50.3**	**-0.1**
PMON				IAML			22 32 53.9	
	comp=Z,19μm,1.0s							
UDBS	**Universidad Do**	**0.53**	**8**	*i P*		**Pn**	**22 32 41.3**	**-0.2**
BOQS	**Boqueron**	**0.55**	**355**	*eP*		**Pn**	**22 32 41.6**	**-0.2**
COEG	**Centro de Oper**	**0.55**	**38**	*eP*		**Pn**	**22 32 41.4**	**-0.3**
COEG	**Centro de Oper**	**0.55**	**38**	*i P*		**Pn**	**22 32 41.5**	**-0.2**
COEG				IAML			22 32 54.1	
	comp=Z,5μm,1.0s							
TECO	**Alcaldia de Te**	**0.56**	**51**	*i P*		**Pn**	**22 32 41.3**	**-0.5**
TECO				IAML			22 32 52.7	
	comp=Z,5μm,1.0s							
PAVA	**Las Pavas**	**0.60**	**28**	*i P*		**Pn**	**22 32 42.3**	**-0.1**
PAVA				*i S*		**Sn**	**22 32 52.7**	**+0.6**
PAVA				IAML			22 32 55.5	
	comp=Z,12μm,1.0s							
UESV	**Universidad de**	**0.62**	**44**	*i P*		**Pn**	**22 32 42.3**	**-0.4**
UESV				*i S*		**Sn**	**22 32 52.7**	**+0.2**
UESV				IAML			22 32 54.9	
	comp=Z,4μm,1.0s							
CEDA	**San Andres**	**0.64**	**345**	*eP*		**Pn**	**22 32 42.1**	**-0.8**
CEDA	**San Andres**	**0.64**	**345**	*i P*		**Pn**	**22 32 42.2**	**-0.7**
CEDA				*i S*		**Sn**	**22 32 52.8**	**-0.1**
CEDA				IAML			22 32 56.6	
	comp=Z,20μm,1.0s							
QUEZ	**Alcaldia de Qu**	**0.65**	**356**	*i P*		**Pn**	**22 32 42.7**	**-0.3**
QUEZ				IAML			22 32 56.3	
	comp=Z,13μm,1.0s							
ALJI	**Alcalda de J**	**0.66**	**77**	*eP*		**Pn**	**22 32 42.4**	**-0.7**
ALJI	**Alcalda de J**	**0.66**	**77**	*i P*		**Pn**	**22 32 42.2**	**-0.9**
ALJI				*i S*		**Sb**	**22 32 51.7**	**+1.2**
ALJI				IAML			22 32 52.6	
	comp=Z,6μm,1.0s							
SCLA	**Alcaldia de Sa**	**0.71**	**43**	*i P*		**Pn**	**22 32 43.9**	**0.0**
SCLA				*i S*		**Sn**	**22 32 55.2**	**+0.5**
SCLA				IAML			22 32 56.5	
	comp=Z,2μm,1.0s							
CEVE	**Cerro Verde**	**0.75**	**329**	*eP*		**Pb**	**22 32 43.6**	**+0.5**
CEVE	**Cerro Verde**	**0.75**	**329**	*i P*		**Pn**	**22 32 44.1**	**-0.5**
CEVE				IAML			22 33 03.3	
	comp=Z,9μm,1.0s							
PQSS	**Presa 15 de Se**	**0.78**	**56**	*i P*		**Pn**	**22 32 44.5**	**-0.4**
PQSS				IAML			22 32 59.0	
	comp=Z,4μm,1.0s							
UNIC	**Universidad Ca**	**0.85**	**339**	*i P*		**Pb**	**22 32 45.0**	**+0.2**
UNIC				IAML			22 33 00.9	
	comp=Z,2μm,1.0s							
NUBE	**Las Nubes**	**0.89**	**323**	*i P*		**Pg**	**22 32 45.3**	**-0.1**
NUBE				*i S*		**Sb**	**22 32 57.5**	**0.0**
NUBE				IAML			22 33 00.3	
	comp=Z,7μm,1.0s							
PACA	**Pacayal**	**0.93**	**72**	*i P*		**Pn**	**22 32 47.4**	**+0.5**
PACA				*i S*		**Sn**	**22 32 59.8**	**-0.4**
PACA				IAML			22 33 05.0	
	comp=Z,53μm,1.0s							
JUCU	**Jucuarn**	**0.96**	**86**	*eP*		**Pn**	**22 32 46.9**	**-0.4**
LOAL	**Lomas de Alarc**	**0.97**	**327**	*i P*		**Pg**	**22 32 46.8**	**0.0**
LOAL				IAML			22 33 05.7	
	comp=Z,7μm,1.0s							
LLGN	**La Laguna**	**1.01**	**16**	*i P*		**Pb**	**22 32 47.5**	**0.0**
LLGN				IAML			22 32 47.8	
	comp=Z,1μm,1.0s							
MTO3	**Montecristo**	**1.22**	**354**	*i P*		**Pn**	**22 32 50.1**	**-0.9**
MTO3				IAML			22 33 08.4	
	comp=Z,760nm,1.0s							
LCND	**La Caada**	**1.31**	**84**	*eP*		**Pn**	**22 32 51.8**	**-0.2**
LCND	**La Caada**	**1.31**	**84**	IAML			22 32 49.1	
	comp=Z,11μm,1.0s							
LCND				*i P*		**Pn**	**22 32 51.9**	**-0.2**
LCND				*i P*		**Pg**	**22 32 54.1**	**+0.8**
LCND				IAML			22 33 14.4	
	comp=Z,2μm,1.0s							
CNCH	**Conchagua**	**1.36**	**86**	*eP*		**Pn**	**22 32 52.4**	**-0.5**
CNCH	**Conchagua**	**1.36**	**86**	*i P*		**Pn**	**22 32 52.5**	**-0.5**
CNCH				IAML			22 33 12.7	
	comp=Z,5μm,1.0s							
ESQI	**Esquipulas**	**1.37**	**355**	*i P*		**Pn**	**22 32 52.6**	**-0.5**
ESQI				IAML			22 32 52.8	
	comp=Z,1μm,1.0s							
AMPH	**Amapala**	**1.53**	**86**	*i P*		**Pn**	**22 32 54.9**	**-0.2**
SARH	**Santa Rosa de**	**1.65**	**16**	*i P*		**Pn**	**22 32 56.9**	**+0.1**
NBG	**Las Nubes**	**1.77**	**322**	*i P*		**Pn**	**22 32 57.4**	**-1.2**
GUNB	**GUNB**	**1.77**	**322**	*i P*		**Pb**	**22 33 00.2**	**-0.5**
GUNB				IAML			22 33 24.1	
	comp=Z,380nm,1.0s							
FUG	**Fuego 3**	**2.01**	**309**	*i P*		**Pn**	**22 33 03.0**	**+1.1**
FUG				*i S*		**Sn**	**22 33 27.1**	**+0.1**
TGUH	**Tegucigalpa,Un**	**2.09**	**65**	*i P*		**Pn**	**22 33 02.4**	**-0.6**
TGUH				IAML			22 33 39.7	
	comp=Z,330nm,1.0s							
PKGN	**Cerro Pekin**	**2.25**	**103**	*i P*		**Pn**	**22 33 04.2**	**-0.9**
PKGN				IAML			22 33 40.2	
	comp=Z,2μm,1.0s							
YUSH	**Yuscaran**	**2.44**	**71**	*i P*		**Pn**	**22 33 07.2**	**-0.6**
STG3	**Santiaguito 3,**	**2.73**	**304**	*i P*		**Pn**	**22 33 12.1**	**+0.2**
STG3				*i S*		**Sn**	**22 33 44.1**	**-0.8**
LIMN	**Finca el Limon**	**2.79**	**92**	*i P*		**Pn**	**22 33 11.6**	**-1.0**
LIMN				IAML			22 33 49.2	
	comp=Z,100nm,1.0s							
NISHN	**Nisperales Com**	**2.89**	**27**	*i P*		**Pn**	**22 33 13.7**	**-0.2**
HUEN		**3.10**	**105**	*i P*		**Pb**	**22 33 20.4**	**-2.7**
JUTIH	**Juticalpa Olan**	**3.27**	**63**	*i P*		**Pn**	**22 33 19.6**	**+0.4**
BOAB	**BOACO BROADBAN**	**3.55**	**101**	*i P*		**Pn**	**22 33 21.6**	**-1.3**
BOAB				IAML			22 34 22.6	
	comp=Z,53nm,1.0s							
HZTE	**Horizontes, Gu**	**4.32**	**124**	*i P*		**Pn**	**22 33 37.7**	**+4.2**
ORTG	**Ortega, Santa**	**4.63**	**127**	*i P*		**Pn**	**22 33 38.0**	**+0.1**
ORTG				IAML			22 35 00.7	
	comp=Z,68nm,1.0s							
INDI	**Punta indio, G**	**4.92**	**132**	*i P*		**Pn**	**22 33 42.5**	**+0.7**
INDI				IAML			22 35 06.3	
	comp=Z,210nm,1.0s							
COVE	**Coope Vega, Sa**	**5.32**	**117**	*i P*		**Pn**	**22 33 48.2**	**+0.9**

DNK 21 22:39:10.7±2.3,**73°.49N**×**59°.79W**,**h0**km,**Mc3.8,**
Suspected explosion,Baffin Bay

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
UPNV	**Upernavik**	**1.28**	**122**	*eP*		Pg	22 39 32.4	-2.8
UMMG	**Uummannaq**	**3.69**	**136**	*e*		Sn	22 40 48.2	-4.6
NEEM	**North Greenlan**	**4.54**	**25**	*e*		Pn	22 40 21.0	+0.2
NEEM				*eS*		Sn	22 41 10.5	-3.8
SUMG	**Summit**	**6.30**	**88**	*eP*		Pn	22 40 45.8	+0.8
SUMG				*eS*		Sn	22 41 52.8	-4.9

*SNET **21** 22:42:48.3±1.1, 13°.71N×90°.58W, h61km±13km, ML3.3*
*GCG **21** 22:42:49.9±0.3, 13°.66N×90°.63W, h36km±183km, MD3.5*
*CATAC **21** 22:42:49.6±1.1, 13°.71N×90°.51W, h31km±10km, ML3.5*
ISC 21 22:42:48.9±1.7,**13°.63N**±0°.08×**90°.54W**±0°.05,**h29**km±13km,
n29,σ1°**13**/**43**,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCG	**Pacaya**	**0.76**	**355**	*i P*		**Pn**	**22 43 04.4**	**+0.4**
NUBE	**Las Nubes**	**0.79**	**70**	*eP*		**Pb**	**22 43 04.1**	**-0.1**
NUBE				*eS*		**Sn**	**22 43 15.9**	**+0.7**
NUBE	**Las Nubes**	**0.79**	**70**	*i P*		**Pn**	**22 43 03.9**	**-0.4**
NUBE				IAML			22 43 05.6	
	comp=Z,680nm,1.0s							
NUBE				*i S*		**Sn**	**22 43 15.3**	**+0.1**
LOAL	**Lomas de Alarc**	**0.83**	**64**	*i P*		**Pb**	**22 43 04.7**	**-0.1**
LOAL				IAML			22 43 05.0	
	comp=Z,4μm,1.0s							
LOAL				*i S*		**Sn**	**22 43 15.4**	**-0.6**
SLOZ	**Alcaldia de Sa**	**0.84**	**62**	*eP*		**Pb**	**22 43 04.7**	**-0.2**
SLOZ				*eS*		**Sn**	**22 43 18.0**	**+1.7**
FUG	**Fuego 3**	**0.86**	**340**	*i P*		**Pb**	**22 43 05.3**	**-0.2**
RTR	**El Retiro**	**0.91**	**73**	*eP*		**Pb**	**22 43 06.1**	**-0.2**
CEVE	**Cerro Verde**	**0.91**	**78**	*eP*		**Pn**	**22 43 06.0**	**-0.1**
CEVE				*eS*		**Sb**	**22 43 20.3**	**+2.0**
CEVE				IAML			22 43 24.1	
	comp=Z,1μm,0.5s							
CEVE	**Cerro Verde**	**0.91**	**78**	*i P*		**Pn**	**22 43 05.8**	**-0.3**
CEVE				*i S*		**Sb**	**22 43 17.8**	**-0.5**
CEVE				IAML			22 43 21.3	
	comp=Z,2μm,1.0s							
SBLS	**San Blas**	**0.92**	**77**	*eP*		**Pn**	**22 43 05.9**	**-0.2**
SNJE	**San Jose**	**0.94**	**75**	*eP*		**Pn**	**22 43 06.3**	**-0.1**
SNJE				*eS*		**Sb**	**22 43 20.5**	**+1.4**
NBG	**Las Nubes**	**0.97**	**11**	*i P*		**Pb**	**22 43 07.7**	**+0.4**
NBG				*i S*		**Sb**	**22 43 24.6**	**+4.6**
GUNB	**GUNB**	**0.98**	**11**	*i P*		**Pn**	**22 43 06.2**	**-0.8**
GUNB				*i S*		**Sb**	**22 43 18.7**	**-1.5**
GUNB				IAML			22 43 22.8	
	comp=Z,650nm,1.0s							
GUMI	**Mixco**	**1.00**	**356**	*i S*		**Sb**	**22 43 19.5**	**-1.1**
JAYA	**Jayaque - finc**	**1.06**	**89**	*eP*		**Pn**	**22 43 07.6**	**-0.5**
JAYA				*eS*		**Sb**	**22 43 22.3**	**-0.2**
JAYA				IAML			22 43 24.1	
	comp=Z,811nm,0.2s							
JAYA	**Jayaque - finc**	**1.06**	**89**	*i P*		**Pn**	**22 43 07.4**	**-0.7**
JAYA				*i S*		**Sb**	**22 43 22.2**	**-0.2**
JAYA				IAML			22 43 23.9	
	comp=Z,2μm,1.0s							
LALI	**Alcalda de L**	**1.20**	**97**	IAML			22 43 31.7	
	comp=Z,174nm,0.4s							
PMON	**Piamonte**	**1.20**	**86**	*eS*		**Sb**	**22 43 26.9**	**+0.6**
PMON	**Piamonte**	**1.20**	**86**	*i P*		**Pn**	**22 43 09.7**	**-0.2**
PMON				IAML			22 43 32.8	
	comp=Z,740nm,1.0s							
BOQS	**Boqueron**	**1.23**	**85**	*eP*		**Pn**	**22 43 11.0**	**+0.6**
LOMA	**Loma Larga**	**1.33**	**89**	*eP*		**Pn**	**22 43 11.6**	**-0.2**
LOMA				*eS*		**Sb**	**22 43 29.6**	**-0.5**
MTO3	**Montecristo**	**1.38**	**56**	*eP*		**Pn**	**22 43 11.6**	**-0.9**
MTO3				*eS*		**Sb**	**22 43 30.2**	**-1.4**
MTO3	**Montecristo**	**1.38**	**56**	*i P*		**Pn**	**22 43 11.6**	**-0.9**
MTO3				IAML			22 43 33.3	
	comp=Z,140nm,1.0s							
LFRS	**El Faro**	**1.44**	**90**	*eP*		**Pn**	**22 43 13.4**	**+0.2**
STG3	**Santiaguito 3,**	**1.47**	**317**	*i P*		**Pn**	**22 43 13.4**	**-0.2**
STG3				*i S*		**Sn**	**22 43 31.7**	**-0.2**
ESQI	**Esquipulas**	**1.49**	**51**	*eS*		**Sb**	**22 43 32.5**	**-2.1**
SJTE	**Alcalda de S**	**1.49**	**90**	*eS*		**Sb**	**22 43 33.8**	**-0.9**
COEG	**Centro de Oper**	**1.62**	**90**	*eP*		**Pn**	**22 43 15.9**	**+0.3**
COEG				*eS*		**Sb**	**22 43 37.2**	**-1.1**
LCND	**La Caada**	**2.60**	**97**	*eS*		**Sn**	**22 44 01.0**	**+1.2**

*IDC **21** 22:43:29.2±1.1, 72°.19N×1°.56E, h0km, mb3.5/6,*
mbtmp3.6/12, ML3.1/6, MS3.4/29, Error ellipse:
s-maj=23.8km s-min=15.3km az=69.0
*NAO **21** 22:43:30.9±9.6, 72°.19N×2°.28E, ML3.1*
*BER **21** 22:43:31.1±3.5, 72°.38N×1°.37E, h10km, mb(Pn)4.2,*
ML3.1(NAO), Confirmed Earthquake
*DNK **21** 22:43:33.6±2.3, 72°.76N×0°.41E, h0km±59km, ML1.7*
ISC 21 22:43:30.7±0.8,**72°.32N**±0°.06×**2°.27E**±0°.08,**h10**km,**n75,**
σ1°**44**/**55**,**mb3.6/6**,**MS3.4**/**26**,**Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JMIC	**Jan Mayen**	**3.66**	**254**	LR		LR	22 45 32.4	
	comp=Z,450nm,18.3s,baz=43,slow=36							
LOF	**Lofoten**	**5.68**	**132**	*eP*		**Pn**	**22 44 55.9**	**+0.9**
LOF				*eS*		**Sn**	**22 45 58.0**	**-2.2**
LOF				IAML			22 46 01.2	
	comp=Z,6.8nm,0.5s							
HSPB	**Hornsund (broa**	**5.86**	**31**	*eP*		**Pn**	**22 44 57.0**	**-0.4**
HSPB				*eS*		**Sn**	**22 46 00.1**	**-4.4**
HSPB				IAML			22 46 12.9	
	comp=Z,5.3nm,0.8s							
TRO	**Tromso**	**6.07**	**108**	*eP*		**Pn**	**22 45 02.0**	**+1.7**
TRO				*eS*		**Sn**	**22 46 06.4**	**-3.3**
TRO				*eS*		**Sn**	**22 46 06.4**	**-3.3**
STEI	**Steigen**	**6.23**	**129**	*eP*		**Pn**	**22 45 04.2**	**+1.6**
STEI				IAML			22 46 15.8	
	comp=Z,4.6nm,0.6s							
BRBB	**Barentsburg B**	**6.54**	**22**	*eP*		**Pn**	**22 45 07.0**	**+0.3**
JETT	**Jettan, Norway**	**6.54**	**106**	Pn		**Pn**	**22 45 07.8**	**+0.9**
JETT	**Jettan, Norway**	**6.54**	**106**	Pn		**Pn**	**22 45 07.8**	**+0.9**
JETT				IAML			22 46 27.9	
	comp=Z,4.3nm,0.6s							
FAUS	**Fauske**	**6.68**	**131**	*eP*		**Pn**	**22 45 09.3**	**+0.7**
FAUS				IAML			22 46 25.9	
	comp=Z,3.2nm,0.6s							
DBG	**Daneborg**	**6.75**	**298**	*eP*		Pn	22 45 02.8	-6.9
DBG				*eS*		Sn	22 46 11.6	-15
DBG	**Daneborg**	**6.75**	**298**	*e*		Pn	22 45 01.8	-7.8
	baz=100,slow=11							
DBG				*i P*		Pn	22 45 03.0	-6.7
DBG				*eS*		Sn	22 46 10.8	-16
SPA0	**Spitsbergen Ar**	**6.87**	**25**	Pn		**Pn**	**22 45 13.5**	**+2.1**
	baz=204,slow=16							
SPA0	**Spitsbergen Ar**	**6.87**	**25**	Pn		**Pn**	**22 45 13.5**	**+2.1**
	baz=204,slow=16							
SPITS	**Spitsbergen Ar**	**6.87**	**25**	Pn		**Pn**	**22 45 13.1**	**+1.8**
	baz=208,slow=15							
SPITS				Sn		**Sn**	**22 46 29.3**	**-0.1**
	baz=294,slow=15							
	comp=Z,3.4nm,0.5s							
KONS	**Konsvik**	**6.97**	**142**	Pn		**Pn**	**22 45 13.1**	**+0.3**
KONS	**Konsvik**	**6.97**	**142**	*eP*		**Pn**	**22 45 14.2**	**+1.5**
KONS				IAML			22 46 49.7	
	comp=Z,5.5nm,0.7s							
KBS	**Kingsbay**	**7.05**	**15**	Pn		**Pn**	**22 45 14.4**	**+0.6**
KBS	**Kingsbay**	**7.05**	**15**	*eP*		**Pn**	**22 45 14.5**	**+0.7**
KBS	**Kingsbay**	**7.05**	**15**	*eP*		**Pn**	**22 45 13.4**	**-0.3**
KBS				*e*			22 46 06.1	
DAG	**Danmarks Havn**	**7.11**	**318**	*eP*		Pn	22 45 09.1	-5.5
DAG				*eS*		Sn	22 46 18.5	-17
DAG	**Danmarks Havn**	**7.11**	**318**	*i P*		Pn	22 45 08.0	-6.6
DAG				*i P*		Pn	22 45 08.0	-6.6
DAG				*i S*		Sn	22 46 16.4	-19
DAG				IAML			22 46 21.1	
	comp=Z,2.4nm,0.3s							
SALU	**Saltoluokta**	**7.46**	**124**	*eP*		**Pn**	**22 45 20.7**	**+1.2**
MOR8	**Moi Rana**	**7.52**	**139**	*eP*		**Pn**	**22 45 22.3**	**+2.0**
KTK1	**Kautokeino**	**7.68**	**105**	*eP*		**Pn**	**22 45 24.3**

YKA				LR	LR	23 06 33.6	
	comp=Z,74nm,19.1s,baz=336,slow=36						
	comp=Z,0.1nm,0.3s						
ILAR	**Eielson Array**	**41.60**	**341**	P	**P**	**22 51 18.6**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=14,slow=7.7,SNR=3.3						
	comp=Z,0.3nm,0.7s						
ULM	**Lac du Bonnet**	**45.39**	**297**	LR	LR	23 09 34.5	
	comp=Z,61nm,19.6s,baz=17,slow=35						
DLBC	**Dease Lake**	**45.44**	**327**	LR	LR	23 12 57.1	
	comp=Z,80nm,19.5s,baz=80,slow=39						
NEW	**Newport**	**52.54**	**313**	LR	LR	23 13 28.2	
	comp=Z,30nm,19.2s,baz=32,slow=34						
TORD	**Torodi Ar. Bea**	**59.15**	**181**	P	**P**	**22 53 30.9**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=355,slow=7.6,SNR=2.8						
	comp=Z,0.5nm,0.8s						
ELK	**Elko**	**59.21**	**308**	LR	LR	23 18 28.1	
	comp=Z,35nm,19.4s,baz=82,slow=36						
YBH	**Yreka Blue Hor**	**59.98**	**315**	LR	LR	23 18 32.9	
	comp=Z,52nm,18.3s,baz=6.5,slow=35						
NVAR	**Mina Array Bea**	**62.14**	**310**	LR	LR	23 21 03.8	
	comp=Z,39nm,20.7s,baz=323,slow=36						
ANMO	**Albuquerque**	**62.46**	**299**	LR	LR	23 20 39.3	
	comp=Z,50nm,18.2s,baz=130,slow=36						
PFO	**Pinyon Flats O**	**66.29**	**307**	LR	LR	23 24 06.9	
	comp=Z,32nm,20.3s,baz=142,slow=37						
TXAR	**Lajitas Array**	**66.99**	**294**	LR	LR	23 24 57.1	
	comp=Z,22nm,19.7s,baz=98,slow=37						
TEIG	**Tepich**	**71.06**	**277**	LR	LR	23 25 40.0	
	comp=Z,298nm,18.6s,baz=224,slow=36						
LPIG	**La Paz**	**73.77**	**298**	LR	LR	23 26 21.9	
	comp=Z,19nm,19.6s,baz=1.0,slow=35						

AZER ***21*** *22:48:34.6±0.5,34.17N×46.97E, h8km, Error ellipse: s-maj=6.1km s-min=3.5km az=108.0*
ISN ***21*** *22:48:34.8±0.9,34.69N×46.26E, h17km±5km, ML3.5*
TEH ***21*** *22:48:35.4,34.64N×46.25E, h8km±16km, ML3.7*
AFAD ***21*** *22:48:41.7±0.0,34.66N×45.93E, h97km±6km, MW3.9*
OMAN ***21*** *22:48:42.1±0.2,33.60N×45.94E, h10km, mb3.9/15, ms2.9/3, Error ellipse: s-maj=6.3km s-min=3.3km az=239.0*

ISC 21 22:48:35.2±1.0, 34°52N±0.02×46°15E±0.03, h14km±7km, n103, σ2s93/133, mb3.9/4, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.27**	**48**	Pg	**Pg**	**22 48 38.3**	**-2.8**
IDHR				Sg	**Sg**	**22 48 41.2**	**-3.8**
IGHG	**Ghaleghazi**	**0.40**	**118**	Pg	**Pg**	**22 48 44.0**	**+0.7**
KGS1	**Ghasr-e-Shirin**	**0.46**	**268**	Pg	**Pb**	**22 48 46.7**	**+1.5**
KCHF	**Cheshme Sefid,**	**0.78**	**108**	Pg	**Pg**	**22 48 49.8**	**-0.6**
KCHF				Sg	**Sb**	**22 49 01.6**	**+0.5**
ILIN	**Lien**	**0.78**	**59**	Pg	**Pg**	**22 48 47.8**	**-2.6**
ILBA	**Ilam Banvizeh**	**0.90**	**177**	Pg	**Pn**	**22 48 55.1**	**+1.7**
IKOM	**Komasi**	**1.18**	**107**	Pg	**Pg**	**22 48 57.0**	**-1.0**
IBZA	**Bozab**	**1.42**	**92**	Pg	**Pn**	**22 49 01.0**	**+0.2**
IBDR	**Badra**	**1.42**	**187**	*e*Pg	**Pg**	**22 49 04.0**	**+1.5**
IBDR				*e*Sg	**Sg**	**22 49 25.0**	**+4.1**
IBDR				AML	AML	22 49 41.3	
	comp=N,576nm,0.5s						
IBDR				AML	AML	22 49 41.6	
	comp=E,719nm,0.3s						
IALM	**Almabolaq**	**1.70**	**78**	Pg	**Pn**	**22 49 05.7**	**+1.0**
SDS1	**Sardasht. Az.**	**1.71**	**342**	Pg	**Pn**	**22 49 05.3**	**+0.4**
IKFM	**Kafar-mosalman**	**1.73**	**125**	Pg	**Pb**	**22 49 07.3**	**+0.6**
BHD	**Baghdad**	**1.93**	**230**	*e*Pn	**Pb**	**22 49 11.0**	**+0.9**
BHD				*e*Sn	**Sg**	**22 49 38.0**	**+0.8**
BHD				AML	AML	22 49 46.3	
	comp=E,730nm,0.7s						
MAHB	**Mahabad**	**2.27**	**351**	Pn	**Pn**	**22 49 14.2**	**+1.7**
HAGD	**Aghdareh**	**2.48**	**82**	Pn	**Pn**	**22 49 17.3**	**+1.8**
RAFI	**Al-Rafai**	**2.79**	**181**	*e*Pn	**Pn**	**22 49 23.0**	**+3.6**
RAFI				*e*Sn	**Sb**	**22 49 59.0**	**+0.2**
IHSH	**Hashtrud**	**2.92**	**18**	Pn	**Pn**	**22 49 22.9**	**+1.3**
IAZR	**Azarshahr**	**3.15**	**358**	Pn	**Pn**	**22 49 26.0**	**+1.3**
QSDN	**Sirdan**	**3.17**	**50**	Pn	**Pn**	**22 49 26.7**	**+1.8**
IRAZ	**Razeghan**	**3.23**	**73**	Pn	**Pn**	**22 49 27.0**	**+1.3**
YOVA	**Hakkari_Yksek**	**3.41**	**334**	P	**Pn**	**22 49 30.7**	**+2.5**
YOVA				S	**Sn**	**22 50 07.0**	**-1.5**
CUKT	**Cukurca**	**3.41**	**324**	P	**Pn**	**22 49 29.8**	**+1.6**
CUKT	**Cukurca**	**3.41**	**324**	P	**Pn**	**22 49 28.7**	**+0.5**
CUKT				S	**Sn**	**22 50 05.4**	**-3.1**
ISRB	**Sarab**	**3.52**	**20**	Pn	**Pn**	**22 49 31.2**	**+1.5**
HAKT	**HAKKARI**	**3.62**	**328**	P	**Pn**	**22 49 33.1**	**+2.0**
HAKT				S	**Sn**	**22 50 08.0**	**-5.7**
ITBZ	**Tabriz**	**3.71**	**360**	Pn	**Pn**	**22 49 33.2**	**+0.9**
ISHB	**Shabestar**	**3.78**	**354**	Pn	**Pn**	**22 49 34.6**	**+1.4**
IHRS	**Heris**	**3.86**	**11**	Pn	**Pn**	**22 49 36.0**	**+1.7**
AMIS	**Naft Sefid**	**3.88**	**136**	Pn	**Pn**	**22 49 38.4**	**+4.0**
IMHD	**Mahdasht**	**3.88**	**71**	Pn	**Pn**	**22 49 35.3**	**+0.7**
SIRN	**Sirnak**	**4.24**	**316**	P	**Pn**	**22 49 41.3**	**+1.9**
SIRN				S	**Sn**	**22 50 27.0**	**-1.9**
IPIR	**Pirpir**	**4.36**	**113**	Pn	**Pn**	**22 49 43.8**	**+2.4**
ORD	**Ordubad**	**4.40**	**358**	P	Pn	22 49 47.4	+5.7
	SNR=12						
ORD				S	**Sb**	**22 50 45.0**	**-0.3**
JHBN	**Jahan bin**	**4.42**	**120**	Pn	**Pn**	**22 49 45.0**	**+2.9**
LRK	**Lerik**	**4.48**	**23**	P	**Pn**	**22 49 45.5**	**+2.7**
	SNR=6.4						
LRK				S	**Sn**	**22 50 40.1**	**+5.3**
OZAP	**Van, Ozalp-Mer**	**4.48**	**338**	P	**Pn**	**22 49 47.0**	**+4.1**
PEVV	**Siirt/Pervari-**	**4.49**	**321**	P	**Pn**	**22 49 46.2**	**+2.6**
GRMI	**Germi**	**4.50**	**18**	Pn	**Pn**	**22 49 44.4**	**+1.2**
GEVA	**Gevas**	**4.53**	**328**	P	**Pn**	**22 49 46.4**	**+2.8**
ASTR	**Astara**	**4.56**	**27**	P	**Pn**	**22 49 44.9**	**+1.1**
ASTR				S	**Sn**	**22 50 39.9**	**+3.3**
TVAN	**Van**	**4.57**	**332**	P	**Pn**	**22 49 46.4**	**+2.2**
AKDM	**Akdamar-Van**	**4.58**	**327**	*e*P	**Pn**	**22 49 46.9**	**+2.7**
ZNGN	**Zangian**	**4.61**	**120**	Pn	**Pn**	**22 49 47.9**	**+3.1**
VANB	**Van**	**4.63**	**332**	*e*P	**Pn**	**22 49 45.8**	**+0.9**
NAX	**Nakhchivan**	**4.67**	**354**	P	Pn	22 49 52.9	+7.5
	SNR=9.5						
NAX				S	**Sb**	**22 50 52.8**	**-0.4**
LKRN	**Lenkeran, Azer**	**4.69**	**26**	S	**Sn**	**22 50 43.2**	**+3.6**
YRD	**Yardimli**	**4.70**	**20**	P	**Pn**	**22 49 48.1**	**+2.2**
	SNR=8.4						
YRD				S	**Sn**	**22 50 45.5**	**+5.2**
MIDY	**Mardin/Midyat-**	**4.81**	**308**	P	**Pn**	**22 49 49.5**	**+2.2**
MIDY				S	**Sn**	**22 50 39.5**	**-3.3**
SBZ	**Shahbuz**	**4.89**	**355**	P	Pn	22 49 55.6	+7.2
	SNR=11						
VMUR	**Van-Muradiye**	**4.92**	**336**	P	**Pn**	**22 49 50.2**	**+1.3**
IDMV	**Damavand**	**4.94**	**76**	Pn	**Pn**	**22 49 51.0**	**+1.7**
KRSH	**Karshahi**	**4.99**	**95**	Pn	**Pn**	**22 49 52.5**	**+2.6**
IBRJ	**Brojen**	**5.01**	**120**	Pn	**Pn**	**22 49 53.5**	**+3.2**
QRD	**Qoradiz**	**5.02**	**10**	P	**Pn**	**22 49 54.1**	**+4.0**
	SNR=4.5						
QRD				S	**Sn**	**22 50 56.5**	**+8.5**
ISFB	**Sefidab**	**5.04**	**90**	Pn	**Pn**	**22 49 52.1**	**+1.6**
GLBA	**Clilabad**	**5.04**	**20**	P	**Pn**	**22 49 53.1**	**+2.7**
	SNR=9.0						
GLBA				S	**Sn**	**22 50 54.1**	**+5.6**
BLIS	**Bitlis-Merkez**	**5.07**	**321**	P	**Pn**	**22 49 52.5**	**+1.6**
GURO	**Guroymak-BITLI**	**5.21**	**322**	*e*P	**Pn**	**22 49 54.7**	**+1.8**
IGAR	**Gharneh**	**5.36**	**112**	Pn	**Pn**	**22 49 57.9**	**+2.9**
SVAN	**Silvan-Diyarba**	**5.39**	**314**	*e*P	**Pn**	**22 49 56.4**	**+1.1**
SVAN	**Silvan-Diyarba**	**5.39**	**314**	P	**Pn**	**22 49 55.8**	**+0.6**
IZEF	**Zefreh**	**5.40**	**106**	Pn	**Pn**	**22 49 57.8**	**+2.2**
MAZI	**Mazidag**	**5.47**	**304**	*e*P	**Pn**	**22 49 57.1**	**+0.7**
MUSM	**Mu-Merkez**	**5.61**	**320**	P	**Pn**	**22 49 59.4**	**+1.1**
ILAS	**Lasjerd**	**5.66**	**79**	Pn	**Pn**	**22 50 00.8**	**+1.7**
GNI	**Garni**	**5.73**	**349**	*e*P	**Pn**	**22 50 01.9**	**+1.9**
GNI	**Garni**	**5.73**	**349**	P	**Pb**	**22 50 18.9**	**+3.8**
KLNJ	**Kolanjah**	**5.77**	**126**	Pn	**Pn**	**22 50 03.4**	**+2.7**
IRAM	**Ramesheh**	**5.88**	**116**	Pn	**Pn**	**22 50 04.6**	**+2.4**
DYBB	**Diyarbakir**	**5.94**	**307**	*e*P	**Pn**	**22 50 01.9**	**-0.9**
GDB	**GEDABAY**	**6.20**	**357**	P	Pn	22 50 12.0	+5.6
GDB				S	Sn	22 51 28.8	+12
ANAR	**Anarak**	**6.45**	**100**	Pn	**Pn**	**22 50 11.8**	**+1.9**
IML	**Ismayilli**	**6.47**	**14**	P	**Pn**	**22 50 13.1**	**+3.0**
PQL	**Pirkuli**	**6.55**	**16**	P	**Pn**	**22 50 13.7**	**+2.4**
SIZA	**Siyzn**	**6.90**	**18**	P	**Pn**	**22 50 18.1**	**+2.1**
SIZA				S	**Sn**	**22 51 40.0**	**+5.7**
PTK	**Pertek**	**6.96**	**311**	*e*P	**Pn**	**22 50 17.8**	**+0.8**
BANOM	**Banah**	**12.26**	**132**	P	**Pn**	**22 51 30.6**	**+1.2**
AJN	**Ajban**	**12.55**	**140**	P	**Pn**	**22 51 35.1**	**+1.8**
MASF	**Masafi**	**12.58**	**134**	P	**Pn**	**22 51 35.1**	**+1.2**
MASF				S	**Sn**	**22 53 49.1**	**-4.7**
NAZ	**Nazwa, Dubai**	**12.58**	**136**	P	**Pn**	**22 51 35.7**	**+1.8**
	SNR=9.0						
NAZ				S	**Sn**	**22 53 50.4**	**-3.4**
ASUD	**Al Ashush, Dub**	**12.68**	**139**	P	**Pn**	**22 51 36.9**	**+1.7**
	SNR=10						
ASUD				S	**Sn**	**22 53 52.4**	**-3.8**
FAQ	**Al Faqa, Dubai**	**12.73**	**137**	P	**Pn**	**22 51 37.5**	**+1.6**
FAQ				S	**Sn**	**22 53 52.2**	**-5.3**
UOSS	**Minazif**	**12.93**	**135**	P	**Pn**	**22 51 39.0**	**+0.4**
HATD	**Hatta, Dubai**	**12.98**	**135**	P	**Pn**	**22 51 41.0**	**+1.7**
HATD				S	**Sn**	**22 53 58.4**	**-5.2**
ASHO	**Ashiyiah**	**13.05**	**136**	P	**Pn**	**22 51 41.1**	**+0.9**
	SNR=10						
ASHO				S	**Sn**	**22 53 58.5**	**-6.6**
	SNR=7.6						
ALNE	**Al Ain**	**13.37**	**139**	P	**Pn**	**22 51 46.1**	**+1.5**
	SNR=8.5						
ALNE				P	**Pn**	**22 51 46.1**	**+1.5**
	SNR=8.5						
ALNE				S	**Sn**	**22 54 08.4**	**-4.6**
ALNE				S	**Sn**	**22 54 08.4**	**-4.6**
SOHO	**SOHO**	**13.74**	**136**	P	**Pn**	**22 51 49.8**	**+0.1**
SOHO				P	**Pn**	**22 51 49.8**	**+0.1**
SOHO				S	**Sn**	**22 54 17.4**	**-4.8**
SOHO				S	**Sn**	**22 54 17.4**	**-4.8**
ARQ	**Araqi**	**14.36**	**138**	P	**Pn**	**22 51 58.9**	**+0.7**
ARQ				S	**Sn**	**22 54 33.5**	**-3.9**
HOQ	**Hoqain**	**14.62**	**135**	P	**Pn**	**22 52 02.4**	**+0.7**
BIDO	**Bidbid**	**15.15**	**133**	P	**Pn**	**22 52 07.9**	**-0.9**
BSY	**Bisya**	**15.21**	**138**	P	**Pn**	**22 52 08.1**	**-1.6**
BSY				S	**Sn**	**22 54 49.9**	**-8.1**
SMDO	**Samad**	**15.45**	**135**	P	**Pn**	**22 52 12.0**	**-1.0**
SMDO				S	**Sn**	**22 54 57.0**	**-7.0**
WSAR	**Wadi Sarin**	**15.66**	**133**	P	**Pn**	**22 52 15.3**	**-0.2**
	SNR=6.4						
JMDO	**Jabal Madar**	**16.02**	**136**	P	**Pn**	**22 52 19.3**	**-0.8**
MHTO	**MHTO**	**17.04**	**139**	P	**Pn**	**22 52 32.3**	**-0.8**
WHFO	**Wadi Hawf**	**17.88**	**156**	P	**Pn**	**22 52 42.1**	**-1.5**
	SNR=13						
WHFO				S	Sn	22 55 52.2	-11
ABTO	**Aybut**	**18.25**	**158**	P	**Pn**	**22 52 47.3**	**-0.9**
ABTO				S	**Sn**	**22 56 02.7**	**-9.2**
RBK	**Rabkut**	**18.41**	**155**	P	**Pn**	**22 52 48.9**	**-1.3**
DMTO	**DMTO**	**18.49**	**153**	P	P	**22 52 50.2**	**-0.7**
DMTO				S	Sn	22 56 06.2	-11
SQTA	**Sankt Quirin**	**29.06**	**307**	*i* P	**P**	**22 54 35.7**	**+0.7**
	comp=E,1.0nm,0.3s						
MOTA	**Moosalm**	**29.16**	**307**	*e*P	**P**	**22 54 36.5**	**+0.5**
	comp=E,0.5nm,0.3s						
RETA	**Reutte**	**29.41**	**307**	*e*P	**P**	**22 54 37.5**	**-0.7**
	comp=E,0.7nm,0.4s						
DAVA	**Damuels**	**29.95**	**306**	*i* P	**P**	**22 54 43.4**	**+0.3**
	comp=E,1.6nm,0.5s						

IDC ***21*** *22:48:58.4±1.7,37.01N×27.55E, h0km, mb3.2/2, mbtmp3.2/4, ML3.2/2, MS2.6/1, Error ellipse: s-maj=46.4km s-min=25.8km az=170.0*
THE ***21*** *22:49:00.4,36.92N×27.64E, h5km±1km, ML2.9/4, Error ellipse: s-maj=1.9km s-min=0.7km az=217.0*
ATH ***21*** *22:49:00.7,36.93N×27.63E, h12km±3km, ML2.9/5, Error ellipse: s-maj=4.1km s-min=1.6km az=226.0*
AFAD ***21*** *22:49:00.2±0.0,36.92N×27.61E, h7km±2km, ML3.0*
ISK ***21*** *22:49:00.3,36.93N×27.63E, h8km, ML3.0/24*

ISC 21 22:49:00.1±0.8, 36.93N±0.02×27.63E±0.02, h15km±6km, n68, σ0s66/95, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DATC	**Datca-Mugla**	**0.17**	**170**	Pg	**Pb**	**22 49 04.6**	**-0.5**
DATC				Sg	**Sg**	**22 49 08.0**	**+0.9**
BDRM	**Kayabasi**	**0.20**	**313**	P	**Pb**	**22 49 05.2**	**-0.4**
BDRM				S	**Sg**	**22 49 07.8**	**0.0**
BDRM				*i* AML	AML	22 49 09.0	
	comp=E,4μm,0.4s						
DAT	**Datca**	**0.20**	**191**	Pg	**Pb**	**22 49 05.1**	**-0.7**
DAT				Sg	**Sg**	**22 49 08.4**	**+0.3**
DAT	**Datca**	**0.20**	**191**	P	**Pb**	**22 49 05.0**	**-0.7**
DAT				S	**Sg**	**22 49 07.6**	**-0.5**
DAT	**Datca**	**0.20**	**191**	P	**Pb**	**22 49 05.0**	**-0.7**
DAT				S	**Sg**	**22 49 08.0**	**-0.1**
BODT	**Bodrum**	**0.28**	**298**	Pg	**Pb**	**22 49 06.7**	**-0.3**
BODT				Sg	**Sb**	**22 49 11.2**	**-0.4**
BODT	**Bodrum**	**0.28**	**298**	P	**Pb**	**22 49 06.6**	**-0.4**
BODT				S	**Sb**	**22 49 11.0**	**-0.6**
YAZI	**Mula-Dat§a-**	**0.28**	**209**	P	**Pb**	**22 49 06.2**	**-0.8**
YAZI				S	**Sg**	**22 49 09.0**	**-1.2**
YKAV	**Yalikavak-Bodr**	**0.34**	**305**	Pg	**Pb**	**22 49 07.3**	**-0.6**
YKAV				Sg	**Sb**	**22 49 12.6**	**-0.5**
MLSB	**Milas**	**0.38**	**18**	Pg	**Pb**	**22 49 08.2**	**-0.5**
MLSB				Sg	**Sb**	**22 49 14.6**	**+0.1**
NISR	**Nisiros**	**0.51**	**232**	P	**Pg**	**22 49 10.1**	**-0.1**
NISR				S	**Sb**	**22 49 18.6**	**+0.5**
	2μm,0.3s						
NISR	**Nisiros**	**0.51**	**232**	P	**Pb**	**22 49 10.8**	**0.0**
NISR				S	**Sg**	**22 49 17.4**	**+0.4**
NISR				AML	AML	22 49 19.9	
	comp=N,2309μm,0.2s						
NISR				AML	AML	22 49 20.4	
	comp=E,5242μm,0.4s						
TURN	**Turunc**	**0.52**	**107**	Pg	**Pb**	**22 49 10.7**	**-0.3**
TURN	**Turunc**	**0.52**	**107**	P	**Pb**	**22 49 10.6**	**-0.3**
TURN				S	**Sb**	**22 49 18.4**	**+0.1**
TURN				*i* AML	AML	22 49 21.0	
	comp=E,2μm,0.2s						
TURN				*i* AML	AML	22 49 24.0	
	comp=E,2μm,0.3s						
KLNA	**Kalymnos**	**0.52**	**273**	P	**Pb**	**22 49 10.9**	**-0.2**
KLNA				S	**Sb**	**22 49 18.3**	**-0.2**
KLNA				AML	AML	22 49 22.4	
	comp=E,3556μm,0.3s						
KLNA				AML	AML	22 49 22.6	
	comp=N,2815μm,0.4s						
DIDI	**Didim-Aydin**	**0.54**	**325**	Pg	**Pb**	**22 49 11.2**	**-0.2**
YER	**Yerkesik**	**0.56**	**69**	Pg	**Pb**	**22 49 12.1**	**+0.2**
YER	**Yerkesik**	**0.56**	**69**	P	**Pb**	**22 49 12.0**	**+0.2**
YER				S	**Sb**	**22 49 18.1**	**-0.9**
DDIM	**Aydin, Didim**	**0.61**	**330**	P	**Pg**	**22 49 11.8**	**-0.3**
DDIM				S	**Sb**	**22 49 21.0**	**+0.1**
DDIM				*i* AML	AML	22 49 26.0	
	comp=N,568nm,0.7s						
DDIM				*i* AML	AML	22 49 26.0	
	comp=N,670nm,0.5s						
MULA	**Mugla, Merkez-**	**0.65**	**59**	P	**Pb**	**22 49 12.7**	**-0.5**
ARG	**Arkhangelos**	**0.82**	**150**	Pg	**Pb**	**22 49 16.2**	**+0.1**
ARG	**Arkhangelos**	**0.82**	**150**	P	**Pb**	**22 49 16.1**	**0.0**
ARG				S	**Sn**	**22 49 28.2**	**-0.9**
	comp=N,1μm,0.5s						
ARG	**Arkhangelos**	**0.82**	**150**	P	**Pb**	**22 49 16.1**	**0.0**
ARG				AML	AML	22 49 30.8	
	comp=N,2484μm,0.4s						
ARG				AML	AML	22 49 32.2	
	comp=E,2410μm,0.6s						
GCAM	**G?zelcaml?**	**0.83**	**338**	Pg	**Pn**	**22 49 17.0**	**-0.3**
GCAM	**G?zelcaml?**	**0.83**	**338**	P	**Pb**	**22 49 16.7**	**+0.4**
GCAM				S	**Sb**	**22 49 28.2**	**+0.9**
GCAM				*i* AML	AML	22 49 33.0	
	comp=E,503nm,0.6s						
GCAM				*i* AML	AML	22 49 34.0	
	comp=E,655nm,0.6s						
DALY	**Dalyan (Mula)**	**0.83**	**97**	Pg	**Pb**	**22 49 16.3**	**0.0**
SMG	**Samos**	**1.00**	**321**	P	**Pb**	**22 49 19.2**	**0.0**
SMG				S	**Sn**	**22 49 34.0**	**+0.4**
	comp=E,815nm,0.4s						
SMG	**Samos**	**1.00**	**321**	P	**Pb**	**22 49 19.3**	**0.0**
SMG				AML	AML	22 49 36.7	
	comp=N,1314μm,0.4s						
SMG				AML	AML	22 49 40.6	
	comp=E,2131μm,0.3s						
ESEN	**Aydn-Nazilli**	**1.04**	**33**	P	**Pn**	**22 49 19.9**	**-0.3**
ESEN				S	**Sg**	**22 49 32.7**	**-1.1**
ESEN				*i* AML	AML	22 49 41.0	
	comp=E,249nm,0.5s						
SABU	**Mula-Dalaman**	**1.08**	**95**	P	**Pn**	**22 49 21.2**	**+0.3**
SABU				S	**Sg**	**22 49 34.7**	**-0.5**
TAVA	**DENIZLI_Tavas**	**1.16**	**62**	P	**Pg**	**22 49 23.0**	**+0.5**
FETI	**Fethiye-Mugla**	**1.21**	**101**	Pn	**Pg**	**22 49 23.7**	**+0.3**
FETY	**Fethiye**	**1.21**	**104**	Pn	**Pg**	**22 49 23.2**	**-0.2**
FETY	**Fethiye**	**1.21**	**104**	P	**Pg**	**22 49 24.6**	**+1.2**
IZMR	**zmir-demi**	**1.23**	**12**	P	**Pb**	**22 49 22.9**	**-0.2**
IZMR				P	**Pg**	**22 49 23.3**	**-0.6**
IZMR				S	**Sg**	**22 49 39.3**	**-0.7**
IZMR				*i* AML	AML	22 49 48.0	
	comp=E,166nm,0.6s						
IZMR				*i* AML	AML	22 49 48.0	
	comp=E,167nm,0.7s						
DGB	**zmir**	**1.27**	**332**	P	**Pn**	**22 49 23.3**	**0.0**
GMLD	**Gumuldur**	**1.28**	**334**	Pn	**Pg**	**22 49 24.8**	**+0.1**
DNIZ	**Denizli-Tavas-**	**1.32**	**58**	P	**Pg**	**22 49 25.4**	**-0.3**
DNIZ				*i* AML	AML	22 49 49.0	
	comp=E,305nm,0.3s						
DNIZ				*i* AML	AML	22 49 59.0	
	comp=E,245nm,0.3s						
CAME	**Cameli-Denizli**	**1.34**	**89**	Pn	**Pg**	**22 49 25.8**	**-0.2**
CAEL	**Denizli, Camel**	**1.37**	**81**	P	**Pg**	**22 49 25.9**	**-0.6**
CAEL				S	**Sg**	**22 49 45.8**	**+1.5**
CAEL				*i* AML	AML	22 50 04.0	
	comp=E,177nm,0.6s						
IZZE	**Mula-Seydike**	**1.38**	**110**	P	**Pg**	**22 49 26.6**	**-0.1**
IZZE				*i* AML	AML	22 49 50.0	
	comp=E,594nm,0.6s						
KIRA	**zmir-Kiraz**	**1.41**	**26**	P	**Pb**	**22 49 25.8**	**-0.4**
KIRA				S	**Sn**	**22 49 43.7**	**-0.1**
KARP	**Karpathos**	**1.43**	**195**	Pn	**Pb**	**22 49 26.5**	**-0.1**
KARP	**Karpathos**	**1.43**	**195**	P	**Pn**	**22 49 25.8**	**+0.2**
KARP				S	**Sn**	**22 49 44.2**	**0.0**
	comp=E,295nm,0.6s						
KARP	**Karpathos**	**1.43**	**195**	P	**Pn**	**22 49 25.8**	**+0.2**
KARP				AML	AML	22 49 51.8	
	comp=E,680μm,0.6s						
KARP				AML	AML	22 49 51.8	
	comp=N,497μm,0.5s						
APMY	**Acipayam-Deniz**	**1.44**	**67**	Pn	**Pg**	**22 49 27.7**	**-0.2**
KNIK	**Mula-Seydike**	**1.56**	**93**	P	**Pg**	**22 49 30.2**	**0.0**
GOLH	**Golhisar**	**1.58**	**78**	P	**Pg**	**22 49 30.8**	**+0.3**
ZEYE	**Izmir, Urla-Ze**	**1.58**	**326**	P	**Pb**	**22 49 29.2**	**+0.1**
URLA	**Izmir**	**1.65**	**331**	Pn	**Pb**	**22 49 30.5**	**+0.3**
URLA	**Izmir**	**1.65**	**331**	P	**Pg**	**22 49 31.8**	**+0.1**
URLA				*i* AML	AML	22 50 02.0	
	comp=N,166nm,1.1s						
APE	**Apeiranthos**	**1.68**	**275**	Pn	**Pb**	**22 49 30.7**	**-0.2**
MANT	**Manisa**	**1.73**	**25**	Pn	**Pn**	**22 49 30.3**	**+0.4**
INCE	**Denizli-Bozkur**	**1.74**	**63**	P	**Pb**	**22 49 31.3**	**-0.5**
AKAS	**Kas**	**1.74**	**113**	Pn	**Pb**	**22 49 31.6**	**-0.3**
KULA	**Kula-Manisa**	**1.78**	**27**	Pn	**Pn**	**22 49 31.3**	**+0.8**
KULA	**Kula-Manisa**	**1.78**	**27**	P	**Pn**	**22 49 31.0**	**+0.5**
KULA				S	**Sn**	**22 49 53.6**	**+0.6**
ELL	**Elmali**	**1.84**	**95**	Pn	**Pb**	**22 49 33.2**	**-0.4**
CHOS	**Chios island**	**1.92**	**320**	P	**Pn**	**22 49 33.2**	**+0.8**
CHOS	**Chios island**	**1.92**	**320**	P	**Pn**	**22 49 32.7**	**+0.4**
AKHS	**Akhisar**	**1.95**	**4**	P	**Pg**	**22 49 37.3**	**-0.3**
BASM	**Basmaki-Afyon**	**2.17**	**62**	Pn	**Pb**	**22 49 37.6**	**-1.6**
KORT	**Korkueli**	**2.18**	**87**	Pn	**Pb**	**22 49 38.0**	**-1.5**
BRTR	**Keskin Array B**	**5.49**	**58**	Pn	**Pn**	**22 50 23.9**	**+2.4**
	comp=N,0.3nm,0.3s,baz=238,slow=15,SNR=9.6						
	comp=N,1.0nm,0.4s						
MMAI	**Mount Meron Ar**	**7.48**	**119**	Pn	**Pn**	**22 50 50.7**	**+1.8**
	comp=N,1.2nm,0.3s,baz=310,slow=11,SNR=7.0						
MMAI				Sn	**Sn**	**22 52 11.4**	**-2.1**
	comp=N,0.9nm,0.3s,baz=305,slow=23,SNR=1.7						
	comp=N,0.6nm,0.3s						
GNI	**Garni**	**13.78**	**71**	LR	LR	22 58 22.6	
	comp=N,28nm,21.4s,baz=316,slow=41						
ESDC	**Sonseca Array**	**24.88**	**286**	P	**P**	**22 54 22.2**	**-0.1**
	comp=N,0.2nm,0.6s,baz=83,slow=8.9,SNR=1.8						
	comp=N,0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**33.15**	**231**	P	**P**	**22 55 36.4**	**+0.3**
	comp=N,0.2nm,0.4s,baz=32,slow=9.1,SNR=2.5						
	comp=N,0.2nm,0.4s						

IDC ***21*** *23:00:48.0±2.6, 43.23N×105.14W, h0km, mbtmp3.6/2, ML2.7/1, Error ellipse: s-maj=55.5km s-min=9.2km az=156.0*
NEIC ***21*** *23:

0.4nm,0.5s
PKI **Pulchoki** **35.98 298** *e*P **P** **23 14 33.7 -0.5**
5.0nm,0.5s
SONM **Songino Array** **36.24 343** P **P** **23 14 37.3 +1.4**
0.3nm,0.6s,baz=163,slow=8.6,SNR=2.5
0.3nm,0.6s
PYUN **Piuthan** **38.19 298** *e*P **P** **23 14 51.4 -1.3**
5.1nm,0.6s
ASAR **Alice Springs** **39.13 161** P **P** **23 15 00.3 0.0**
0.2nm,0.3s,baz=340,slow=7.2,SNR=7.7
0.2nm,0.3s
MKAR **Makanchi Array** **46.30 324** P **P** **23 15 58.8 +0.9**
0.2nm,0.3s,baz=114,slow=8.5,SNR=7.4
0.2nm,0.3s
ZALV **Zalesovo Beam** **49.29 333** P **P** **23 16 20.4 -0.3**
0.5nm,0.4s,baz=100,slow=6.0,SNR=3.4
0.5nm,0.4s
KURBB **Kurchatov Arra** **50.45 326** P **P** **23 16 30.2 +0.7**
0.6nm,0.2s,baz=128,slow=7.7,SNR=4.1
0.6nm,0.2s
TXAR **Lajitas Array** **119.30 45** PKP **PKiKP** **23 26 21.2 +1.7**
0.5nm,1.0s,baz=90,slow=1.1,SNR=3.6

IDC 21 23:40:21.9±2.2, 1°.14N×126°.35E, h0km, mb3.3/3, mbtmp3.3/3, MS3.5/2, Error ellipse: s-maj=169.5km s-min=28.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.36**	**160**	P	P	23 45 21.0	-0.8
	0.6nm,0.5s,baz=338,slow=11,SNR=7.7						
	0.6nm,0.5s						
PMG	**Port Moresby**	**23.22**	**117**	LR	LR	23 56 22.6	
	comp=Z,93nm,19.2s,baz=305,slow=41						
ASAR	**Alice Springs**	**25.73**	**164**	P	P	23 45 54.8	+0.6
	0.5nm,0.4s,baz=354,slow=15,SNR=7.9						
	0.5nm,0.4s						
CTA	**Charters Tower**	**28.73**	**138**	LR	LR	00 00 55.3	
	comp=Z,89nm,19.1s,baz=288,slow=43						
MKAR	**Makanchi Array**	**59.47**	**326**	P	P	23 50 26.7	-0.1
	0.1nm,0.4s,baz=117,slow=8.5,SNR=1.6						
	0.1nm,0.4s						

IDC 22 00:03:05.4±1.3, 36°.98N×139°.77E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=47.1km s-min=29.2km az=91.0, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**43.03**	**302**	P	P	00 11 06.5	-0.2
	0.3nm,0.5s,baz=79,slow=6.2,SNR=5.1						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**50.24**	**32**	P	P	00 12 02.8	-0.1
	0.1nm,0.4s,baz=263,slow=7.2,SNR=4.1						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**56.85**	**186**	P	P	00 12 50.8	-1.0
	0.2nm,0.4s,baz=5.1,slow=7.5,SNR=5.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**60.58**	**186**	P	P	00 13 18.9	+1.1
	0.4nm,0.9s,baz=354,slow=4.9,SNR=2.5						
	0.4nm,0.9s						

*SOME **22** 00:29:20.8, 40°.43N×77°.92E, h5km*
*KRNET **22** 00:29:20.5±0.1, 40°.42N×78°.13E, mb2.6*
*NNC **22** 00:29:22.2±0.6, 40°.47N×77°.93E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=3.7km s-min=3.3km az=170.0*

ISC 22 00:29:23.9±2.7, 40°.5N±0°.1×78°.02E±0°.07, h10km, n33, σ0s95/38, 10C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.26**	**353**	⇓*i*P	**Pg**	**00 29 45.7**	**-2.4**
	baz=49						
TARG				⇓*i*S	**Sg**	**00 30 04.4**	**-0.1**
	baz=49						
NRN	**Naryn**	**1.80**	**303**	⇑*i*P	**Pn**	**00 29 56.2**	**+0.9**
	baz=2.0						
NRN				⇑*i*S	**Sg**	**00 30 22.1**	**+0.3**
	baz=2.0						
ULHL	**Ulahol**	**2.21**	**323**	⇑*i*P	**Pn**	**00 30 01.9**	**+1.0**
	baz=23						
ULHL				⇑*i*S	**Sb**	**00 30 32.1**	**+0.4**
	baz=23						
SATY	**Saty**	**2.59**	**6**	*e*Pg	**Pb**	**00 30 10.6**	**0.0**
	11nm,0.6s						
SATY				*e*Lg	Lg	00 30 46.3	
	9.6nm,0.3s						
SATY	**Saty**	**2.59**	**6**	Pg	**Pb**	**00 30 10.6**	**0.0**
	11nm,0.6s						
SATY				Lg	Lg	00 30 46.3	
	9.6nm,0.3s						
KZA	**Kyzart**	**2.63**	**308**	⇑*i*P	**Pn**	**00 30 07.9**	**+1.2**
	baz=8.0						
KZA				⇑*i*S	**Sb**	**00 30 42.5**	**-1.3**
	baz=8.0						
TNSS	**Tian-Shan**	**2.68**	**343**	*e*Pg	**Pb**	**00 30 11.2**	**-1.0**
	4.5nm,0.2s						
TNSS				*e*Lg	Lg	00 30 47.5	
	3.8nm,0.3s						
TNSS	**Tian-Shan**	**2.68**	**343**	Pg	**Pb**	**00 30 11.2**	**-1.0**
	4.5nm,0.2s						
TNSS				Lg	Lg	00 30 47.5	
	3.8nm,0.3s						
ZHN	**Zhinishke**	**2.71**	**7**	*e*Pg	**Pb**	**00 30 12.0**	**-0.4**
	2.9nm,0.1s						
ZHN				*e*Lg	Lg	00 30 48.8	
	3.7nm,0.2s						
ZHN	**Zhinishke**	**2.71**	**7**	Pg	**Pb**	**00 30 12.0**	**-0.4**
	2.9nm,0.1s						
ZHN				Lg	Lg	00 30 48.8	
	3.7nm,0.2s						
UZB	**Uzynbulak**	**2.77**	**15**	*e*Pg	**Pb**	**00 30 13.3**	**-0.3**
	4.8nm,0.2s						
UZB				*e*Lg	Lg	00 30 51.0	
	3.1nm,0.2s						
UZB	**Uzynbulak**	**2.77**	**15**	Pg	**Pb**	**00 30 13.4**	**-0.2**
	4.8nm,0.2s						
UZB				Lg	Lg	00 30 51.1	
	2.5nm,0.2s						
MDOK	**Medeo**	**2.78**	**345**	*e*Pg	**Pb**	**00 30 13.0**	**-0.7**
	3.0nm,0.2s						
MDOK				*e*Lg	Lg	00 30 50.5	
	8.4nm,0.7s						
MDOK	**Medeo**	**2.78**	**345**	Pg	**Pb**	**00 30 13.0**	**-0.7**
	3.0nm,0.2s						
MDOK				Lg	Lg	00 30 50.5	
	8.4nm,0.7s						
KOTS	**Kotyrbulak**	**2.83**	**347**	*e*Pg	**Pb**	**00 30 14.2**	**-0.5**
	3.8nm,0.2s						
KOTS				*e*Lg	Lg	00 30 52.7	
	6.5nm,1.2s						
KOTS	**Kotyrbulak**	**2.83**	**347**	Pg	**Pb**	**00 30 14.2**	**-0.5**
	3.8nm,0.2s						
KOTS				Lg	Lg	00 30 52.7	
	6.6nm,0.2s						
KST	**Kastek**	**2.99**	**330**	*e*Pg	**Pb**	**00 30 16.9**	**-0.3**
	3.2nm,0.2s						
KST				*e*Lg	Lg	00 30 57.2	
	4.7nm,0.2s						
KPKS	**Kokpek**	**3.03**	**9**	*e*Pg	**Pb**	**00 30 17.5**	**-0.4**
	3.3nm,0.2s						
KPKS				*e*Lg	Lg	00 30 58.2	
	5.9nm,0.3s						
KPKS	**Kokpek**	**3.03**	**9**	Pg	**Pb**	**00 30 17.5**	**-0.4**
	3.3nm,0.2s						
KPKS				Lg	Lg	00 30 58.2	
	6.2nm,0.3s						
TKM2	**Tokmak 2**	**3.04**	**324**	⇑*i*P	**Pn**	**00 30 13.3**	**+1.1**
	baz=24						
TKM2				⇑*i*S	**Sn**	**00 30 51.9**	**+3.1**
	baz=24						
TKM2	**Tokmak 2**	**3.04**	**324**	⇓Pg	**Pb**	**00 30 16.8**	**-1.4**
	2.8nm,1.2s						
TKM2				⇓Lg	Lg	00 30 58.8	
	1.7nm,0.6s						
PDGK	**Podgornoye**	**3.05**	**21**	⇑Pg	**Pb**	**00 30 17.7**	**-0.7**
	3.0nm,1.1s						
PDGK				⇑Lg	Lg	00 30 59.9	
	3.7nm,0.7s						
DGS	**Degeres**	**3.23**	**329**	*e*Pg	**Pb**	**00 30 20.8**	**-0.6**
	2.9nm,0.3s						
DGS				*e*Lg	Lg	00 31 04.1	
	4.3nm,0.4s						
DGS	**Degeres**	**3.23**	**329**	Pg	**Pb**	**00 30 20.8**	**-0.6**
	2.9nm,0.3s						
DGS				Lg	Lg	00 31 04.1	
	4.3nm,0.4s						
KTBS	**Karatobe**	**3.38**	**343**	*e*Pg	**Pb**	**00 30 23.8**	**-0.2**
	2.4nm,0.4s						
KTBS				*e*Lg	Lg	00 31 09.1	
	3.3nm,0.4s						
KTBS	**Karatobe**	**3.38**	**343**	Pg	**Pb**	**00 30 23.8**	**-0.2**
	2.4nm,0.4s						
KTBS				Lg	Lg	00 31 09.1	
	3.3nm,0.4s						
CHKK	**Chushkaly**	**3.46**	**348**	*e*Pg	**Pb**	**00 30 25.5**	**+0.2**
	1.4nm,0.1s						
CHKK				*e*Lg	Lg	00 31 12.0	
	3.7nm,0.1s						
CHKK	**Chushkaly**	**3.46**	**348**	Pg	**Pb**	**00 30 25.5**	**+0.2**
	1.7nm,0.2s						
CHKK				Lg	Lg	00 31 12.0	
	3.7nm,0.1s						
BLB	**Baldybastay**	**3.63**	**5**	Pg	**Pb**	**00 30 28.9**	**+0.7**
	1.9nm,0.2s						
BLB				Lg	Lg	00 31 17.7	
	2.2nm,0.6s						
KRBS	**Karabastau**	**3.66**	**332**	*e*Pg	**Pb**	**00 30 28.2**	**-0.5**
	2.9nm,0.2s						
KRBS				*e*Lg	Lg	00 31 16.4	
	1.7nm,0.4s						
KRBS	**Karabastau**	**3.66**	**332**	Pg	**Pb**	**00 30 28.3**	**-0.3**
	2.9nm,0.2s						
KRBS				Lg	Lg	00 31 16.8	
	1.7nm,0.4s						
ARXS	**Arharly**	**3.73**	**358**	*e*Pg	**Pb**	**00 30 30.8**	**+0.8**
	1.3nm,0.1s						
ARXS				*e*Lg	Lg	00 31 21.0	
	6.2nm,0.2s						
ARXS	**Arharly**	**3.73**	**358**	Pg	**Pb**	**00 30 30.8**	**+0.8**
	1.5nm,0.2s						
ARXS				Lg	Lg	00 31 21.0	
	6.2nm,0.2s						

*NEIC **22** 00:35:36.6±0.9, 36°.14N±0°.05×140°.02E±0°.09, h80km±7km, mb4.7/38, Error ellipse: s-maj=10.3km s-min=7.4km az=108.0*
*JMA **22** 00:35:36.1±0.1, 36°.0N±0°.3×140°.1E±0°.4, h62km, MV3.0/34, SOUTHERN IBARAKI PREF*
*IDC **22** 00:35:37.6±2.5, 36°.02N×140°.07E, h88km±19km, mb3.4/10, mbtmp3.7/10, MS2.4/1, Error ellipse: s-maj=28.2km s-min=19.4km az=65.0*

ISC 22 00:35:35.0±0.7, 36°.03N±0°.04×140°.09E±0°.04, h70km±6km, n71, σ0s96/78, mb4.5/30, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.21**	**24**	*i* P	**Pn**	**00 35 46.1**	**+0.4**
JYT				S	**Sn**	**00 35 53.3**	**-0.2**
JIHU	**Itakohorinouch**	**0.36**	**100**	P	**Pn**	**00 35 47.5**	**+0.9**
JIHU				S	**Sn**	**00 35 56.7**	**+1.6**
JAG	**Ashikaga**	**0.64**	**308**	*i* P	**Pn**	**00 35 50.1**	**+0.8**
JAG				S	**Sn**	**00 36 00.3**	**+0.5**
JRY	**Ryogami san**	**0.96**	**269**	*i* P	**Pn**	**00 35 53.9**	**+0.8**
JRY				S	**Sn**	**00 36 06.7**	**+0.3**
JKT	**Katashina**	**1.00**	**318**	P	**Pn**	**00 35 54.1**	**+0.5**
JKT				S	**Sn**	**00 36 08.3**	**+1.0**
JOD2	**Odawara 2**	**1.12**	**227**	*i* P	**Pn**	**00 35 55.4**	**+0.4**
JOD2				S	**Sn**	**00 36 09.3**	**-0.6**
BSO3	**Boso 3**	**1.28**	**164**	P	**Pn**	**00 35 57.0**	**+0.2**
JYN	**Shimob**	**1.36**	**247**	*i* P	**Pn**	**00 35 59.3**	**+1.1**
JYN				*e*S	**Sn**	**00 36 16.3**	**+0.6**
JFNN	**Fujinakano**	**1.42**	**234**	P	**Pn**	**00 35 59.6**	**+0.7**
MJAR	**Matsushiro Arr**	**1.60**	**289**	P	**Pn**	**00 36 02.4**	**+1.0**
	96nm,0.6s,baz=90,slow=11,SNR=226						
MJAR				S	**Sn**	**00 36 24.5**	**+3.3**
	27nm,0.6s,baz=31,slow=2.7,SNR=3.9						
MJAR				LR	LR	00 36 52.0	
	comp=Z,62nm,18.8s,baz=75,slow=47						
MAJO	**Matsushiro**	**1.60**	**289**	Pn	**Pn**	**00 36 02.5**	**+1.2**
MJB9	**Matsu-Tunnel**	**1.60**	**289**	Pn	**Pn**	**00 36 03.3**	**+1.9**
JMM	**Marumori**	**1.92**	**17**	Pn	**Pn**	**00 36 06.5**	**+1.0**
JSG	**Sagara**	**2.06**	**229**	Pn	**Pn**	**00 36 09.4**	**+1.9**
JSD	**Sado**	**2.48**	**324**	Pn	**Pn**	**00 36 13.5**	**+0.3**
INU	**Inuyama**	**2.59**	**256**	Pn	**Pn**	**00 36 15.2**	**+0.6**
JTM	**Tenmabayashi**	**4.81**	**9**	Pn	**Pn**	**00 36 45.2**	**+0.3**
KSRS	**Korea Array**	**9.87**	**282**	LR	LR	00 41 11.3	
	comp=Z,21nm,18.5s,baz=335,slow=34						
USA0B	**Ussuriysk Arra**	**10.24**	**325**	Pn	**Pn**	**00 37 59.0**	**-0.1**
INCN	**Inchon**	**10.89**	**282**	Pn	**Pn**	**00 38 04.9**	**-3.1**
BJT	**Baijiatuan**	**19.24**	**289**	P	**P**	**00 39 52.4**	**-1.2**
GUMO	**Guam**	**22.76**	**168**	P	**P**	**00 40 32.0**	**+0.4**
SONM	**Songino Array**	**27.48**	**306**	P	**P**	**00 41 13.9**	**-0.8**
SONM	**Songino Array**	**27.48**	**306**	P	**P**	**00 41 14.5**	**-0.2**
	0.6nm,0.6s,baz=103,slow=8.4,SNR=4.9						
	0.6nm,0.6s						
ZAA0	**Zalesovo Array**	**41.81**	**313**	P	**P**	**00 43 16.7**	**-0.8**
ZALV	**Zalesovo Beam**	**41.81**	**313**	P	**P**	**00 43 16.6**	**-1.0**
ZALV	**Zalesovo Beam**	**41.81**	**313**	P	**P**	**00 43 18.4**	**+0.8**
	1.2nm,0.7s,baz=100,slow=7.7,SNR=7.8						
	1.2nm,0.7s						
J14K	**Nanvaranak Lak**	**43.40**	**34**	P	**P**	**00 43 30.2**	**-0.1**
J14K				IAmb	IAmb	00 43 39.3	
	comp=Z,27nm,1.3s						
L14K	**Kuka Creek**	**43.56**	**36**	P	**P**	**00 43 31.2**	**-0.5**
L14K				IAmb	IAmb	00 43 42.6	
	comp=Z,30nm,1.4s						
MK31	**Makanchi Array**	**43.75**	**303**	P	**P**	**00 43 32.5**	**-0.9**
MKAR	**Makanchi Array**	**43.75**	**303**	P	**P**	**00 43 32.1**	**-1.4**
MKAR	**Makanchi Array**	**43.75**	**303**	P	**P**	**00 43 34.5**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=92,slow=9.5,SNR=13						
	comp=Z,1.2nm,0.7s						
MAKZ	**Makanchi**	**43.96**	**303**	P	**P**	**00 43 34.5**	**-0.7**
KURK	**Kurchatov**	**45.72**	**309**	P	**P**	**00 43 48.5**	**-0.4**
KURK				IAmb	IAmb	00 43 50.8	
	comp=Z,3.0nm,0.7s						
KURBB	**Kurchatov Arra**	**45.78**	**309**	P	**P**	**00 43 50.1**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=84,slow=8.1,SNR=12						
	comp=Z,1.7nm,0.6s						
R17K	**Ugashik Creek**	**46.52**	**42**	P	**P**	**00 43 55.2**	**0.0**
F19K	**Shaleruckik Mo**	**46.55**	**29**	P	**P**	**00 43 55.2**	**-0.1**
F19K				IAmb	IAmb	00 44 01.3	
	comp=Z,9.2nm,0.8s						
O19K	**Port Alsworth**	**47.57**	**38**	P	**P**	**00 44 03.2**	**-0.1**
O19K				IAmb	IAmb	00 44 31.5	
	comp=Z,28nm,1.2s						
B22K	**Teshekpuk Lake**	**48.66**	**24**	P	**P**	**00 44 12.1**	**+0.5**
D22K	**Ayikyak River**	**48.74**	**26**	P	**P**	**00 44 11.7**	**-0.6**
D22K				IAmb	IAmb	00 44 14.0	
	comp=Z,14nm,1.5s						
KTH	**Kantishna Hill**	**49.17**	**34**	P	**P**	**00 44 14.9**	**-0.8**
KTH				IAmb	IAmb	00 44 15.2	
	comp=Z,8.9nm,1.5s						
SUA	**Susitna One**	**49.30**	**36**	P	**P**	**00 44 16.8**	**+0.1**
BWN	**Browne**	**49.81**	**33**	P	**P**	**00 44 20.6**	**+0.2**
GHO	**Glory Hole Cre**	**50.15**	**36**	P	**P**	**00 44 22.6**	**-0.6**
GHO				IAmb	IAmb	00 44 29.6	
	comp=Z,13nm,1.4s						
BVAR	**Borovoye Array**	**50.46**	**313**	P	**P**	**00 44 25.4**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=70,slow=9.7,SNR=3.7						
	comp=Z,0.5nm,0.5s						
ILAR	**Eielson Array**	**50.91**	**32**	P	**P**	**00 44 29.9**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=267,slow=5.9,SNR=6.7						
	comp=Z,0.5nm,0.8s						
FID	**Port Fidalgo**	**51.42**	**37**	P	**P**	**00 44 32.8**	**+0.2**
SNH	**Sunshine Point**	**53.28**	**37**	P	**P**	**00 44 46.2**	**-0.2**
BARN	**Barnard Glacie**	**53.70**	**36**	P	**P**	**00 44 50.4**	**+0.7**
BARN				IAmb	IAmb	00 44 54.6	
	comp=Z,10nm,1.5s						
GRNC	**Granite Creek**	**53.72**	**37**	P	**P**	**00 44 49.6**	**-0.2**
GRNC				IAmb	IAmb	00 44 51.9	
	comp=Z,13nm,1.4s						
L29M	**L29M**	**54.95**	**33**	P	**P**	**00 44 58.0**	**-0.6**
L29M				IAmb	IAmb	00 45 12.4	
	comp=Z,8.1nm,1.4s						
G30M	**tAoh Zraii Nji**	**55.01**	**28**	P	**P**	**00 44 58.5**	**-0.4**
G30M				IAmb	IAmb	00 45 04.9	
	comp=Z,6.8nm,1.5s						
KIP	**Kipapa**	**55.36**	**87**	P	**P**	**00 45 03.3**	**+1.2**
WRA	**Warramunga Arr**	**55.93**	**187**	P	**P**	**00 45 05.5**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=2.0,slow=7.5,SNR=6.9						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**59.66**	**187**	P	**P**	**00 45 34.3**	**+2.2**
	comp=Z,0.3nm,0.6s,baz=19,slow=12,SNR=2.4						
	comp=Z,0.3nm,0.6s						
STKA	**Stephens Creek**	**67.57**	**179**	P	**P**	**00 46 24.8**	**+0.8**
GNW	**Green Mountain**	**68.70**	**46**	P	**P**	**00 46 31.0**	**0.0**
GNW				IAmb	IAmb	00 46 52.0	
	comp=Z,15nm,1.5s						
KBO	**Bosley Butte**	**70.59**	**52**	P	**P**	**00 46 43.5**	**+0.6**
MXC	**Moxie City**	**70.70**	**46**	P	**P**	**00 46 43.7**	**+0.3**
MXC				IAmb	IAmb	00 47 01.9	
	comp=Z,4.8nm,1.1s						
HUMO	**Hull Mountain**	**71.18**	**51**	P	**P**	**00 46 45.6**	**-0.8**
HUMO				IAmb	IAmb	00 46 47.3	
	comp=Z,9.1nm,1.1s						
KRPM	**Rodgers**	**71.27**	**52**	P	**P**	**00 46 47.0**	**0.0**
GNI	**Garni**	**71.44**	**306**	P	**P**	**00 46 47.5**	**-0.7**
GNI				IAmb	IAmb	00 46 53.0	
	comp=Z,8.3nm,1.4s						
KMPM	**Mount Pierce**	**71.59**	**53**	P	**P**	**00 46 48.0**	**-1.0**
KMPM				IAmb	IAmb	00 47 12.2	
	comp=Z,34nm,1.4s						
GDXM	**Geysers**	**73.32**	**54**	P	**P**	**00 46 59.4**	**+0.1**
GDXM				IAmb	IAmb	00 46 59.5	
	comp=Z,5.5nm,1.1s						
AKASG	**Malin Array Be**	**74.43**	**322**	P	**P**	**00 47 05.3**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=83,slow=0.7,SNR=1.5						
	comp=Z,0.6nm,0.7s						
MLR	**Muntele Rosu**	**79.45**	**319**	P	**P**	**00 47 32.8**	**-1.1**
MPU	**Maple Canyon**	**79.64**	**48**	P	**P**	**00 47 34.6**	**-0.6**
TMUT	**Trail Mountain**	**80.34**	**48**	P	**P**	**00 47 38.2**	**-0.9**
KNB	**Kanab**	**80.77**	**51**	P	**P**	**00 47 41.0**	**-0.3**
KNB				IAmb	IAmb	00 47 42.8	
	comp=Z,5.9nm,1.5s						
CBX	**Cerro Bola**	**81.13**	**57**	P	**P**	**00 47 42.8**	**-0.4**
CBX				IAmb	IAmb	00 48 07.4	
	comp=Z,28nm,1.1s						
TXAR	**Lajitas Array**	**91.58**	**52**	P	**P**	**00 48 34.9**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=330,slow=3.2,SNR=2.2						
	comp=Z,0.1nm,0.5s						

IDC 22 00:47:26.1±2.3, 4°.88N×124°.65E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=204.3km s-min=29.4km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.37**	**23**	Sn	Sn	00 48 21.3	-15
	72nm,0.3s,baz=276,slow=23,SNR=2.7						
WRA	**Warramunga Arr**	**26.44**	**159**	P	P	00 53 04.6	-0.3
	0.4nm,0.5s,baz=337,slow=10,SNR=5.9						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**29.77**	**163**	P	P	00 53 35.0	+0.4
	0.3nm,0.5s,baz=344,slow=7.2,SNR=5.2						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**55.44**	**326**	P	P	00 57 02.4	-0.1
	0.3nm,0.8s,baz=120,slow=7.2,SNR=2.0						
	0.3nm,0.8s						

*IDC **22** 00:56:35.9±1.5, 15°.78S×173°.97W, h0km, mb4.0/6, mbtmp4.0/6, Error ellipse: s-maj=97.9km s-min=21.8km az=146.0*
*NEIC **22** 00:56:52.5±1.0, 16°.02S±0°.07×173°.97W±0°.09, h127km±13km, mb4.5/16, Error ellipse: s-maj=14.3km s-min=8.0km az=123.0*
*NOU **22** 00:57:26.1, 14°.17S×172°.23W, h62km, MLv3.3/4, Samoa Islands*

ISC 22 00:56:50.7±0.6, 16°.01S±0°.07×174°.03W±0°.08, h115km, n34, σ1s04/35, mb4.4/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.02**	**46**		**Pn**	**00 57 38.7**	**+1.6**
AFI				Sn	**Sn**	**00 58 13.1**	**+0.1**
AFI	**Afiamalu**	**3.02**	**46**	P	**Pn**	**00 57 39.8**	**+2.6**
NIUE	**Niue**	**4.96**	**129**		**Pn**	**00 58 04.2**	**+1.2**
NIUE				Sn	**Sn**	**00 58 57.9**	**-1.4**
RAO	**Raoul Island**	**13.66**	**195**	Pn	**Pn**	**01 00 00.3**	**+0.6**
PINNC	**Pines Island,**	**18.67**	**247**	Pn	**Pn**	**01 01 03.4**	**+1.8**
RTZ	**Ruatahuna**	**23.86**	**198**	P	**P**	**01 01 56.2**	**+2.6**
RTZ				IAmb	IAmb	01 02 07.0	
	comp=Z,22nm,1.4s						
H11S2	**WAKE ISLAND Hy**	**39.18**	**330**	T	T	01 45 22.0	
	baz=146,slow=74						
H11S3	**WAKE ISLAND Hy**	**39.20**	**330**	T	T	01 45 27.9	
	baz=146,slow=74						
H11S1	**WAKE ISLAND Hy**	**39.20**	**330**	T	T	01 45 54.1	
	baz=146						
STKA	**Stephens Creek**	**43.21**	**240**	P	**P**	**01 04 41.0**	**+0.4**
STKA	**Stephens Creek**	**43.21**	**240**	P	**P**	**01 04 40.9**	**+0.3**
	comp=Z,3.3nm,0.5s,baz=85,slow=3.0,SNR=10						
	comp=Z,3.3nm,0.5s						
BBOO	**Buckleboo**	**47.98**	**240**	P	**P**	**01 05 17.9**	**-0.3**
BBOO				IAmb	IAmb	01 05 23.4	
	comp=Z,22nm,1.5s						
WR0	**Warramunga Arr**	**48.93**	**257**	P	**P**	**01 05 26.3**	**+0.7**
WR0				IAmb	IAmb	01 05 31.1	
	comp=Z,3.5nm,1.0s						
WB0	**Warramunga Arr**	**49.08**	**258**	P	**P**	**01 05 26.7**	**-0.1**
WB0				IAmb	IAmb	01 05 28.4	
	comp=Z,9.4nm,1.4s						
WB2	**Warramunga Arr**	**49.11**	**257**	P	**P**	**01 05 27.1**	**+0.2**
WB2				IAmb	IAmb	01 05 55.0	
	comp=Z,7.5nm,0.9s						
WRA	**Warramunga Arr**	**49.12**	**257**	P	**P**	**01 05 26.7**	**-0.4**
WRA	**Warramunga Arr**	**49.12**	**257**	P	**P**	**01 05 26.3**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=92,slow=6.7,SNR=35						
WRA				PcP	**PcP**	**01 06 48.6**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=99,slow=3.0,SNR=2.1						
	comp=Z,2.4nm,0.7s						
AS31	**Alice Springs**	**49.35**	**252**	P	**P**	**01 05 28.5**	**-0.3**
ASAR	**Alice Springs**	**49.35**	**252**	P	**P**	**01 05 28.3**	**-0.5**
ASAR	**Alice Springs**	**49.35**	**252**	P	**P**	**01 05 28.4**	**-0.4**
	comp=Z,7.1nm,0.6s,baz=87,slow=8.2,SNR=108						
ASAR				PcP	**PcP**	**01 06 49.3**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=101,slow=5.2,SNR=1.3						
	comp=Z,7.1nm,0.6s						
FAKI	**Fak Fak**	**54.40**	**278**	P	**P**	**01 06 04.9**	**-1.5**
FORT	**Forrest**	**54.60**	**243**	P	**P**	**01 06 06.8**	**-0.8**
KNRA	**Kununurra**	**54.88**	**262**	P	**P**	**01 06 09.8**	**+0.1**
KNRA				IAmb	IAmb	01 06 37.3	
	comp=Z,9.6nm,1.1s						
FITZ	**Fitzroy Crossi**	**57.49**	**259**	P	**P**	**01 06 27.1**	**-1.3**
PSA00	**Pilbara Seismi**	**62.45**	**254**	P	**P**	**01 07 02.1**	**-0.1**
PSA00				IAmb	IAmb	01 07 02.8	
	comp=Z,4.3nm,0.6s						
MBWA

AKLM				S	**Sb**	**01 01 10.0**	**-1.4**
EMEL	**Melilla**	**0.84**	**66**	Pg	**Pn**	**01 01 10.5**	**-1.7**
EMEL				Sg	**Sn**	**01 01 23.8**	**-0.5**
CHEFC	**Chefchaouen**	**1.19**	**277**	P	**Pn**	**01 01 17.1**	**0.0**
CHEFC				S	**Sb**	**01 01 33.3**	**+0.8**
CHEFC	**Chefchaouen**	**1.19**	**277**	P	**Pb**	**01 01 17.3**	**+0.1**
EALB	**Alboran**	**1.20**	**36**	*i* Vmb_Lg		01 01 32.5	
EALB				Sg	**Sg**	**01 01 34.1**	**+0.5**
SMIR	**Smir Dam**	**1.41**	**301**	P	**Pn**	**01 01 17.9**	**-2.1**
SMIR				S	**Sn**	**01 01 37.9**	**-0.4**
SICH	**Sidi Chahed**	**1.45**	**234**	P	**Pg**	**01 01 22.3**	**-0.5**
SICH				S	**Sb**	**01 01 40.6**	**+0.6**
LCRM	**LCR**	**1.50**	**212**	P	**Pb**	**01 01 22.3**	**-0.3**
LCRM				S	**Sg**	**01 01 46.0**	**+2.7**
LCRM	**LCR**	**1.50**	**212**	P	**Pg**	**01 01 24.0**	**+0.2**
LCRM				S	**Sg**	**01 01 46.0**	**+2.7**
CEU	**Ceuta**	**1.52**	**308**	Pn	**Pn**	**01 01 19.2**	**-2.3**
CEU				Sn	**Sn**	**01 01 37.7**	**-3.4**
EMIJ	**Mijas**	**1.75**	**336**	Pn	**Pn**	**01 01 25.0**	**+0.3**
EMIJ				Sn	**Sn**	**01 01 44.7**	**-2.1**
EMIJ				*i* Vmb_Lg		01 01 50.5	
EMIJ	**Mijas**	**1.75**	**336**	Sn	**Sn**	**01 01 43.7**	**-3.0**
EMIJ				Pn	**Pn**	**01 01 24.2**	**-0.5**
IFR	**Ifrane**	**1.77**	**215**	Sn	**Sn**	**01 01 47.1**	**-0.5**
IFR				Pn	**Pn**	**01 01 25.7**	**+0.5**
EMAL	**Malaga-Limoner**	**1.84**	**347**	Pn	**Pn**	**01 01 25.8**	**-0.1**
ELGU	**Los Guajares,**	**1.91**	**7**	Pn	**Pn**	**01 01 26.2**	**-0.7**
ELGU				Sn	**Sn**	**01 01 50.5**	**-0.3**
ELGU				*i* Vmb_Lg		01 01 57.3	
ELGU	**Los Guajares,**	**1.91**	**7**	Sn	**Sn**	**01 01 47.7**	**-3.1**
ELGU				Pn	**Pn**	**01 01 26.0**	**-1.0**
EJIF	**Jimena Fronter**	**1.96**	**320**	Pg	**Pg**	**01 01 31.9**	**-0.5**
EJIF				Sn	**Sn**	**01 01 52.1**	**+0.2**
EBER	**Berja**	**2.09**	**23**	Pn	**Pn**	**01 01 29.8**	**+0.2**
EBER				Sn	**Sn**	**01 01 55.8**	**+0.3**
EBER				*i* Vmb_Lg		01 01 56.2	
EBER	**Berja**	**2.09**	**23**	Pn	**Pn**	**01 01 29.4**	**-0.2**
EBER				Sn	**Sn**	**01 01 54.7**	**-0.9**
EGOR	**Sierra Gorda,**	**2.15**	**355**	Pn	**Pn**	**01 01 30.8**	**+0.5**
EGOR				Sn	**Sn**	**01 01 57.7**	**+0.9**
EGOR				*i* Vmb_Lg		01 02 10.0	
EGOR	**Sierra Gorda,**	**2.15**	**355**	Pn	**Pn**	**01 01 30.7**	**+0.5**
MD31	**MD31**	**2.21**	**199**	P	**Pn**	**01 01 31.3**	**+0.1**
MD31				S	**Sn**	**01 01 59.3**	**+0.9**
MDT	**Midelt**	**2.23**	**196**	P	**Pn**	**01 01 31.4**	**0.0**
MDT				S	**Sn**	**01 01 59.5**	**+0.8**
MDT	**Midelt**	**2.23**	**196**	P	**Pn**	**01 01 31.4**	**0.0**
EQTA	**Presa de Quent**	**2.27**	**9**	Sn	**Sn**	**01 01 58.7**	**-1.0**
ZHG	**ZHG**	**2.73**	**237**	P	**Pb**	**01 01 41.0**	**-2.5**
EQES	**Quesada**	**2.91**	**13**	Pn	**Pn**	**01 01 42.5**	**+1.7**
EQES				Sn	**Sn**	**01 02 16.9**	**+1.4**
EQES				*i* Vmb_Lg		01 02 22.8	
EADA	**Adamuz**	**3.24**	**350**	Pn	**Pn**	**01 01 46.5**	**+1.2**
EADA				Sn	**Sn**	**01 02 24.6**	**+0.9**
EADA				*i* Vmb_Lg		01 02 30.2	
ECAB	**El Cabril**	**3.33**	**339**	Pn	**Pn**	**01 01 47.8**	**+1.3**
ECAB				Sn	**Sn**	**01 02 24.8**	**-1.2**
ECAB				*i* Vmb_Lg		01 02 31.4	
EGRO	**El Granado**	**3.87**	**313**	Pn	**Pn**	**01 01 54.7**	**+0.9**
EGRO				Sn	**Sn**	**01 02 36.8**	**-2.2**
EGRO				*i* Vmb_Lg		01 02 40.1	
PVAQ	**Vaqueiros**	**3.93**	**309**	*e*P	**Pn**	**01 01 55.0**	**+0.3**
PVAQ				*e*S	**Sn**	**01 02 38.7**	**-1.9**
PBDV	**Barranco-do-Ve**	**3.98**	**306**	*e*P	**Pn**	**01 01 55.8**	**+0.4**
PBDV				*e*S	**Sn**	**01 02 40.3**	**-1.5**
PBDV				A	A	01 02 43.8	
	2.5nm,0.8s						
PBAR	**Barrancos**	**4.08**	**323**	*e*P	**Pn**	**01 01 58.2**	**+1.5**
PBAR				*e*S	**Sn**	**01 02 43.2**	**-1.1**
PBAR				A	A	01 02 55.9	
	1.1nm,0.6s						
ETOB	**Tobarra**	**4.13**	**27**	Pn	**Pn**	**01 01 58.6**	**+1.2**
ETOB				Sn	**Sn**	**01 02 45.9**	**+0.3**
ETOB				*i* Vmb_Lg		01 03 16.5	
ETOB	**Tobarra**	**4.13**	**27**	Sn	**Sn**	**01 02 43.6**	**-2.0**
ETOB				Pn	**Pn**	**01 01 58.7**	**+1.2**
PCVE	**Castro Verde**	**4.27**	**310**	*e*P	**Pn**	**01 02 00.8**	**+1.4**
PCVE				*e*S	**Sn**	**01 02 48.3**	**-0.8**
PCVE				A	A	01 02 57.4	
	1.4nm,0.5s						
MORF	**Marmelete**	**4.50**	**303**	*e*P	**Pn**	**01 02 04.7**	**+2.1**
MESJ	**Messejana**	**4.51**	**311**	*e*P	**Pn**	**01 02 03.7**	**+1.0**
MESJ				*e*S	**Sn**	**01 02 55.8**	**+0.8**
MESJ				A	A	01 02 58.1	
	1.6nm,0.5s						
PFVI	**Vila Bisbo**	**4.54**	**300**	*e*P	**Pn**	**01 02 05.6**	**+2.5**
PFVI				*e*S	**Sn**	**01 02 55.4**	**-0.3**
EVO	**Evora**	**4.86**	**318**	*e*P	**Pn**	**01 02 10.0**	**+2.6**
EVO				*e*S	**Sn**	**01 03 01.8**	**-1.6**
EVO				A	A	01 03 06.3	
	0.9nm,0.2s						
PNCL	**Nicolau / Gran**	**4.87**	**311**	*e*P	**Pn**	**01 02 08.4**	**+0.8**
PNCL				*e*S	**Sn**	**01 03 03.1**	**-0.7**
PESTR	**Estremoz**	**4.89**	**324**	*e*P	**Pn**	**01 02 09.3**	**+1.4**
PESTR				*e*S	**Sn**	**01 03 03.4**	**-0.9**
TIO	**Tiouine**	**4.92**	**216**	Sn	**Sn**	**01 03 02.6**	**-2.7**
TIO				Pn	**Pn**	**01 02 08.7**	**+0.2**
PMRV	**Marv??o**	**5.25**	**329**	*e*P	**Pn**	**01 02 14.5**	**+1.6**
PMTG	**Montargil**	**5.36**	**321**	*e*P	**Pn**	**01 02 17.4**	**+3.1**
PCBR	**Castelo Branco**	**5.64**	**331**	*e*P	**Pn**	**01 02 19.9**	**+1.8**

*SOME **22** 01:01:19.5,39.20N×75.27E,h5km*
*NNC **22** 01:01:19.7±1.6,39.20N×75.01E,h0km±6km,mb3.8, mpv3.5,Error ellipse: s-maj=12.0km s-min=8.8km az=152.0*
*KRNET **22** 01:01:20.4±0.1,39.03N×74.54E,mb3.2*
ISC 22 01:01:17.3±2.4,38.8N±0.1×74.93E±0.07,h27km±18km, n38,σ1§45/51,19C-9D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.62**	**318**	⇑*i*P	**Pn**	**01 01 43.8**	**-0.5**
	baz=21						
SFK				⇑*i*S	**Sn**	**01 02 00.9**	**-3.6**
	baz=21						
OHH	**Osh**	**2.37**	**317**	⇓*i*P	**Pn**	**01 01 55.8**	**+1.3**
	baz=18						
OHH				⇓*i*S	**Sn**	**01 02 21.9**	**-0.9**
	baz=18						
DRK	**Karamyk**	**2.52**	**286**	⇑*e*P	**Pn**	**01 01 58.2**	**+1.5**
	baz=83						
DRK				⇑*e*S	**Sn**	**01 02 25.5**	**-1.2**
	baz=83						
NRN	**Naryn**	**2.74**	**17**	⇑*e*P	**Pb**	**01 02 04.4**	**-1.3**
	baz=24						
NRN				⇑*i*S	**Sb**	**01 02 37.1**	**-1.9**
	baz=24						
ARSB	**Arslanbob**	**2.91**	**330**	⇓*e*P	**Pn**	**01 02 03.6**	**+1.6**
	baz=33						
ARSB				⇓*e*S	**Sn**	**01 02 35.6**	**-0.6**
	baz=33						
ARLS	**Aral**	**3.07**	**352**	⇑*i*P	**Pn**	**01 02 07.5**	**+3.3**
	baz=57						
ARLS				⇑*i*S	**Sn**	**01 02 41.8**	**+1.6**
	baz=57						
BTK	**Batken**	**3.41**	**293**	⇑*i*P	**Pn**	**01 02 10.6**	**+1.8**
	baz=91						
BTK				⇑*i*S	**Sn**	**01 02 46.5**	**-1.9**
	baz=91						
AML	**Almayashu**	**3.44**	**345**	⇓*i*P	**Pn**	**01 02 11.6**	**+2.2**
	baz=49						
AML				⇓*i*S	**Sn**	**01 02 50.0**	**+0.5**
	baz=49						
AML	**Almayashu**	**3.44**	**345**	⇑Pn	**Pn**	**01 02 09.7**	**+0.2**
	1.8nm,0.7s						
AML				⇑Lg	Lg	01 02 58.4	
	2.4nm,0.7s						
ARK	**Arkit**	**3.74**	**324**	⇑*e*P	**Pn**	**01 02 14.9**	**+1.6**
	baz=26						
ARK				⇑*e*S	**Sn**	**01 02 55.1**	**-1.4**
	baz=26						
TRKS	**Terek-Say**	**3.97**	**314**	⇑*e*P	**Pn**	**01 02 16.9**	**+0.4**
	baz=14						
TRKS				⇑*e*S	**Sn**	**01 02 58.2**	**-4.0**
	baz=14						
MRKS	**Merke**	**4.13**	**342**	*e*Pg	**Pb**	**01 02 30.9**	**+1.6**
	5.1nm,0.4s						
MRKS				*e*Lg	Lg	01 03 22.4	
	6.6nm,0.3s						
MRKS	**Merke**	**4.13**	**342**	Pg	**Pb**	**01 02 30.9**	**+1.6**
	5.1nm,0.4s						
MRKS				Lg	Lg	01 03 22.4	
	6.6nm,0.3s						
TKM2	**Tokmak 2**	**4.13**	**7**	⇓Pn	**Pn**	**01 02 19.5**	**+0.7**
	5.5nm,0.6s						
TKM2				⇑Sn	**Sn**	**01 03 06.0**	**-0.2**
	12nm,0.7s						
KST	**Kastek**	**4.29**	**10**	*e*Pg	**Pb**	**01 02 31.5**	**-0.6**
	2.5nm,0.1s						
KST				*e*Lg	Lg	01 03 23.4	
	8.3nm,0.4s						
KST	**Kastek**	**4.29**	**10**	Pg	**Pb**	**01 02 31.5**	**-0.6**
	5.1nm,0.4s						
KST				Lg	Lg	01 03 23.4	
	8.3nm,0.4s						
MTBS	**Maitube**	**4.45**	**14**	*e*Pg	**Pb**	**01 02 33.9**	**-0.9**
	2.4nm,0.2s						
MTBS				*e*Lg	Lg	01 03 27.5	
	4.0nm,0.1s						
MTBS	**Maitube**	**4.45**	**14**	Pg	**Pb**	**01 02 33.9**	**-0.9**
	3.7nm,0.2s						
MTBS				Lg	Lg	01 03 27.5	
	4.4nm,0.2s						
DGS	**Degeres**	**4.46**	**8**	*e*Pg	**Pb**	**01 02 34.2**	**-0.8**
	3.3nm,0.9s						
DGS				*e*Lg	Lg	01 03 28.0	
	6.3nm,0.4s						
DGS	**Degeres**	**4.46**	**8**	Pg	**Pb**	**01 02 34.2**	**-0.8**
	8.1nm,0.4s						
DGS				Lg	Lg	01 03 28.0	
	6.3nm,0.4s						
TNSS	**Tian-Shan**	**4.48**	**19**	*e*Pg	**Pb**	**01 02 34.5**	**-1.0**
	4.0nm,0.2s						
TNSS				*e*Lg	Lg	01 03 28.4	
	3.4nm,0.4s						
TNSS	**Tian-Shan**	**4.48**	**19**	Pg	**Pb**	**01 02 34.5**	**-1.0**
	4.5nm,0.5s						
TNSS				Lg	Lg	01 03 28.4	
	3.4nm,0.4s						
MDOK	**Medeo**	**4.63**	**20**	*e*Pg	**Pb**	**01 02 37.1**	**-0.7**
	5.3nm,0.5s						
MDOK				*e*Lg	Lg	01 03 32.8	
	10.0nm,0.5s						
MDOK	**Medeo**	**4.63**	**20**	Pg	**Pb**	**01 02 37.1**	**-0.7**
	5.4nm,0.5s						
MDOK				Lg	Lg	01 03 32.8	
	10.0nm,0.5s						
SGDS	**Sogindy**	**4.63**	**357**	Pg	**Pb**	**01 02 39.3**	**+1.5**
	5.8nm,0.6s						
SGDS				Lg	Lg	01 03 36.7	
	3.1nm,0.5s						
KOTS	**Kotyrbulak**	**4.71**	**20**	*e*Pg	**Pb**	**01 02 38.2**	**-1.0**
	3.2nm,0.2s						
KOTS				*e*Lg	Lg	01 03 35.0	
	16nm,0.2s						
KOTS	**Kotyrbulak**	**4.71**	**20**	Pg	**Pb**	**01 02 38.2**	**-1.0**
	3.5nm,0.2s						
KOTS				Lg	Lg	01 03 35.0	
	16nm,0.4s						
KRBS	**Karabastau**	**4.91**	**6**	*e*Pg	**Pb**	**01 02 42.6**	**+0.2**
	4.7nm,0.2s						
KRBS				*e*Lg	Lg	01 03 42.5	
	4.2nm,0.6s						
KRBS	**Karabastau**	**4.91**	**6**	Pg	**Pb**	**01 02 42.6**	**+0.2**
	4.7nm,0.2s						
KRBS				Lg	Lg	01 03 42.5	
	4.2nm,0.6s						
KTBS	**Karatobe**	**5.06**	**15**	*e*Pg	**Pb**	**01 02 45.6**	**+0.5**
	5.4nm,0.2s						
KTBS				*e*Lg	Lg	01 03 47.7	
	6.4nm,0.3s						
KTBS	**Karatobe**	**5.06**	**15**	Pg	**Pb**	**01 02 45.6**	**+0.5**
	5.5nm,0.3s						
KTBS				Lg	Lg	01 03 47.7	
	6.4nm,0.3s						
KUU	**Kurty**	**5.18**	**11**	*e*Pg	**Pb**	**01 02 47.9**	**+0.8**
	4.6nm,0.5s						
KUU				*e*Lg	Lg	01 03 51.6	
	9.0nm,0.6s						
KUU	**Kurty**	**5.18**	**11**	Pg	**Pb**	**01 02 47.9**	**+0.8**
	4.7nm,0.8s						
KUU				Lg	Lg	01 03 51.6	
	9.0nm,0.6s						
KK31	**Karatay Array**	**5.43**	**323**	⇓Pn	**Pn**	**01 02 36.1**	**-0.3**
	0.5nm,0.5s,baz=130,slow=13,SNR=7.9						
KK31				⇓Pg	**Pb**	**01 02 52.4**	**+1.1**
	0.8nm,0.5s,baz=136,slow=16,SNR=4.3						
KK31				⇑Sn	**Sn**	**01 03 38.8**	**+0.7**
	1.4nm,0.7s,baz=194,slow=55,SNR=4.5						
KK31				⇑Lg	Lg	01 04 02.9	
	2.9nm,0.8s,baz=134,slow=27						
KPKS	**Kokpek**	**5.44**	**30**	*e*Pg	**Pb**	**01 02 51.1**	**-0.5**
	4.8nm,0.5s						
KPKS				*e*Lg	Lg	01 03 57.1	
	6.0nm,0.3s						
KPKS	**Kokpek**	**5.44**	**30**	Pg	**Pb**	**01 02 51.1**	**-0.5**
	5.0nm,0.6s						
KPKS				Lg	Lg	01 03 57.1	
	11nm,0.6s						
BLB	**Baldybastay**	**5.91**	**26**	Pg	**Pb**	**01 03 00.7**	**+1.2**
	4.3nm,0.3s						
BLB				Lg	Lg	01 04 13.5	
	2.1nm,0.4s						
KNOS	**Konyrlen**	**6.39**	**29**	Pg	**Pb**	**01 03 09.6**	**+1.9**
	5.5nm,0.8s						
KNOS				Lg	Lg	01 04 29.1	
	1.9nm,0.4s						

*RSNC **22** 01:25:13.6±2.1,7.39N×78.89W,h7km±9km, ML2.5*
*UPA **22** 01:25:14.5±0.5,7.46N×78.92W,h10km±5km, MW4.3*
ISC 22 01:25:11.9±1.2,7.43N±0.04×78.91W±0.02,h11km±11km, n19,σ0§95/35,1C,Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTAC	**Punta Ardita,**	**1.12**	**104**	*e*P	**Pg**	**01 25 33.1**	**-0.4**
PTAC				*e*S	**Sb**	**01 25 46.4**	**-1.8**
PTAC				*i*		01 25 49.6	
	comp=Z,104nm,0.1s						
ACHO3	**Achotines, Los**	**1.25**	**270**	*e*P	**Pg**	**01 25 36.6**	**+0.5**
ACHO3				*e*S	**Sg**	**01 25 54.1**	**+1.7**
AZU	**Azuero**	**1.40**	**285**	⇑*i*P	**Pg**	**01 25 38.4**	**-0.4**
AZU				*e*S	**Sg**	**01 25 57.0**	**-0.1**
AZU	**Azuero**	**1.40**	**285**	*e*P	**Pg**	**01 25 38.5**	**-0.4**
AZU				*e*S	**Sg**	**01 25 57.2**	**+0.1**
UPD2	**Meteti**	**1.42**	**38**	*e*P	**Pg**	**01 25 39.0**	**-0.2**
UPD2				*e*S	**Sg**	**01 25 57.6**	**-0.1**
UPD2	**Meteti**	**1.42**	**38**	*e*P	**Pg**	**01 25 38.6**	**-0.7**
UPD2				*e*S	**Sg**	**01 25 57.7**	**-0.1**
UPD2				*i*		01 26 04.2	
	comp=Z,101nm,0.5s						
TABO3	**Taboga, Panama**	**1.50**	**335**	*e*P	**Pb**	**01 25 39.1**	**-0.8**
UPA	**Univ. de Panam**	**1.67**	**338**	*e*P	**Pb**	**01 25 42.2**	**-0.4**
UPA				*e*S	**Sb**	**01 26 03.3**	**-0.4**
UPA	**Univ. de Panam**	**1.67**	**338**	*e*P	**Pb**	**01 25 42.4**	**-0.3**
UPA				*e*S	**Sb**	**01 26 03.4**	**-0.3**
ARRA3	**Arraijan, Pana**	**1.70**	**334**	*e*P	**Pb**	**01 25 43.1**	**-0.2**
ARRA3				*e*S	**Sb**	**01 26 04.3**	**-0.4**
CHPO	**Chepo, Panama**	**1.75**	**353**	*e*P	**Pg**	**01 25 44.3**	**-1.1**
CHPO				*e*S	**Sb**	**01 26 05.5**	**-0.5**
CACAO	**El Cacao, Vera**	**1.94**	**268**	*e*P	**Pb**	**01 25 47.7**	**+0.4**
CACAO				*e*S	**Sn**	**01 26 09.9**	**+0.6**
CACAO	**El Cacao, Vera**	**1.94**	**268**	*e*P	**Pb**	**01 25 46.0**	**-1.3**
CACAO				*e*S	**Sb**	**01 26 10.2**	**-1.4**
CACAO				*i*		01 26 19.9	
	comp=Z,32nm,0.5s						
CAPC	**Capurgana**	**1.95**	**52**	*e*P	**Pg**	**01 25 51.8**	**+2.4**
CAPC				*e*S	**Sb**	**01 26 12.5**	**+0.5**
CAPC				*i*		01 26 14.1	
	comp=Z,33nm,0.2s						
BCIP	**Isla Barro Col**	**1.96**	**332**	*e*P	**Pb**	**01 25 47.4**	**-0.3**
BCIP				*e*S	**Sb**	**01 26 12.0**	**-0.2**
BCIP				*i*		01 26 15.0	
	comp=Z,95nm,0.2s						
APAC	**Apartado, Choc**	**2.35**	**78**	*e*P	**Pb**	**01 25 53.6**	**-0.8**
DBBC	**Dabeiba**	**2.71**	**98**	*e*P	**Pn**	**01 25 54.6**	**-0.9**
DBBC				*e*S	**Sn**	**01 26 27.9**	**-0.5**
DBBC				*i*		01 26 30.8	
	comp=N,9.2nm,0.2s						
CBOC	**Ciudad Bolivar**	**3.27**	**118**	*e*P	**Pn**	**01 26 04.6**	**+1.3**
CBOC				*i*		01 26 44.8	
	comp=Z,4.1nm,0.4s						
UREC	**San Jos de Ur**	**3.36**	**84**	*e*P	**Pn**	**01 26 06.5**	**+2.0**
UREC				*e*S	**Sn**	**01 26 44.6**	**+0.1**

*IDC **22** 01:28:08.7±1.4,33.23N×90.83E,h0km,mb3.4/4, mbtmp3.3/7,ML2.8/2,MS3.4/11,Error ellipse: s-maj=46.8km s-min=24.7km az=64.0*
ISC 22 01:28:15.1±1.0,33.6N±0.1×91.0E±0.2,h35km,n23, σ1§46/14,mb3.5/3,MS3.4/9,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUN	**Gumba**	**7.14**	**219**	*e*P	**Pn**	**01 29 59.0**	**+1.7**
	22nm,0.6s						
JIRN	**Jiri**	**7.18**	**216**	*e*P	**Pn**	**01 30 00.1**	**+2.1**
	11nm,0.4s						
RAMN	**Ramite**	**7.60**	**211**	*e*P	**Pn**	**01 30 04.1**	**+0.5**
	62nm,0.6s						
PKI	**Pulchoki**	**7.66**	**220**	*e*P	**Pn**	**01 30 05.7**	**+1.2**
	17nm,0.6s						
GKN	**Gorkha**	**7.77**	**226**	*e*P	**Pn**	**01 30 07.3**	**+1.5**
DANN	**Dangsing**	**8.08**	**232**	*e*P	**Pn**	**01 30 10.3**	**+0.1**
PYUN	**Piuthan**	**8.76**	**234**	*e*P	**Pn**	**01 30 19.2**	**-0.2**
MKAR	**Makanchi Array**	**14.77**	**336**	Pn	**Pn**	**01 31 40.4**	**-0.8**
	0.1nm,0.3s,baz=145,slow=10,SNR=1.6						
	0.1nm,0.3s						
AAK	**Ala-Archa**	**15.79**	**310**	LR	LR	01 39 12.2	
	comp=Z,64nm,21.4s,baz=136,slow=42						
SONM	**Songino Array**	**18.39**	**35**	P	**Pn**	**01 32 29.2**	**+1.9**
	0.1nm,0.3s,baz=236,slow=10,SNR=1.8						
SONM				LR	LR	01 40 16.6	
	comp=Z,47nm,19.7s,baz=21,slow=39						
KURBB	**Kurchatov Arra**	**19.33**	**336**	P	**P**	**01 32 37.8**	**+0.6**
	baz=139,slow=12,SNR=5.3						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**20.84**	**350**	P	**P**	**01 32 54.7**	**+1.2**
	0.9nm,0.6s,baz=173,slow=9.7,SNR=5.5						
	0.9nm,0.6s						
BVAR	**Borovoye Array**	**24.39**	**329**	P	**P**	**01 33 30.5**	**+0.6**
	0.4nm,0.6s,baz=134,slow=10,SNR=2.6						
BVAR				LR	LR	01 44 06.6	
	comp=Z,56nm,18.2s,baz=117,slow=39						
	0.4nm,0.6s						
GEYT	**Alibeck**	**26.93**	**289**	LR	LR	01 46 00.7	
	comp=Z,50nm,21.0s,baz=327,slow=40						
AKTO	**Aktyubinsk**	**29.41**	**315**	LR	LR	01 46 22.0	
	comp=Z,67nm,19.3s,baz=38,slow=37						
USRK	**Ussuriysk Ar.**	**33.34**	**59**	LR	LR	01 49 27.0	
	comp=Z,80nm,18.1s,baz=16,slow=38						
JHJ	**Hachijo jima 2**	**40.48**	**77**	LR	LR	01 52 52.3	
	comp=Z,44nm,19.1s,baz=82,slow=36						
AKASG	**Malin Array Be**	**47.46**	**311**	LR	LR	02 01 42.4	
	comp=Z,39nm,18.2s,baz=216,slow=42						
HFS	**Hagfors**	**55.35**	**324**	LR	LR	02 04 43.9	
	comp=Z,127nm,18.2s,baz=16,slow=40						
GERES	**GERESS Array B**	**57.67**	**310**	LR	LR	02 06 24.5	
	comp=Z,46nm,18.9s,baz=308,slow=40						
KEST	**Kesra**	**65.23**	**298**	LR	LR	02 11 36.7	
	comp=Z,40nm,18.1s,baz=294,slow=40						
ASAR	**Alice Springs**	**70.08**	**138**	P	**P**	**01 39 21.7**	**-2.1**
	0.3nm,0.6s,baz=323,slow=6.1,SNR=5.7						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**82.25**	**281**	P	**P**	**01 40 32.3**	**-1.0**
	0.3nm,0.7s,baz=42,slow=5.1,SNR=2.1						
	0.3nm,0.7s						

*IDC **22** 01:45:11.2±1.2,7.10N×78.94W,h0km,mb3.6/5, mbtmp3.7/6,ML2.7/1,Error ellipse: s-maj=35.0km s-min=24.5km az=38.0*
*RSNC **22** 01:45:16.3±3.4,7.35N×78.92W,h32km±17km,ML3.1*
*UPA **22** 01:45:18.1±8.1,7.56N×78.74W,h20km±51km,MW4.4*
ISC 22 01:45:14.5±1.2,7.46N±0.03×78.86W±0.02,h14km±9km, n49,σ1§71/70,mb3.6/5,2C-1D,Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTAC	**Punta Ardita,**	**1.09**	**107**	*e*P	**Pb**	**01 45 33.1**	**-2.0**
PTAC				*e*S	**Sb**	**01 45 46.3**	**-2.9**
PTAC	**Punta Ardita,**	**1.09**	**107**	⇓*e*P	**Pb**	**01 45 33.1**	**-2.0**
PTAC				*e*S	**Sb**	**01 45 46.5**	**-2.7**
PTAC				*i*		01 45 49.5	
	comp=Z,269nm,0.4s						
ACHO3	**Achotines, Los**	**1.30**	**268**	*e*P	Pg	01 45 47.6	+8.0
UPD2	**Meteti**	**1.36**	**38**	⇑*i*P	**Pn**	**01 45 38.7**	**-0.5**
UPD2				*e*S	**Sb**	**01 45 55.4**	**-1.8**
UPD2	**Meteti**	**1.36**	**38**	*e*P	**Pn**	**01 45 38.7**	**-0.5**
UPD2				*e*S	**Sg**	**01 45 57.6**	**-1.0**
UPD2				*i*		01 46 04.0	
	comp=Z,403nm,0.6s						
AZU	**Azuero**	**1.44**	**283**	⇑*i*P	**Pn**	**01 45 38.5**	**-1.6**
AZU				*e*S	**Sn**	**01 45 57.0**	**-1.8**
AZU	**Azuero**	**1.44**	**283**	*e*P	**Pn**	**01 45 38.5**	**-1.6**
AZU				*e*S	**Sn**	**01 45 56.4**	**-2.4**
TOTI	**Torti**	**1.56**	**20**	*e*P	**Pn**	**01 45 41.5**	**-0.3**
TOTI				*e*S	**Sb**	**01 46 02.4**	**-0.3**
UPA	**Univ. de Panam**	**1.65**	**336**	*e*P	**Pn**	**01 45 42.3**	**-0.8**
UPA				*e*S	**Sn**	**01 46 03.3**	**-0.8**
UPA	**Univ. de Panam**	**1.65**	**336**	*e*P	**Pn**	**01 45 42.3**	**-0.8**
UPA				*e*S	**Sn**	**01 46 03.2**	**-0.8**
ARRA3	**Arraijan, Pana**	**1.69**	**332**	*e*P	**Pn**	**01 45 43.2**	**-0.4**
CHPO	**Chepo, Panama**	**1.71**	**352**	*e*P	**Pn**	**01 45 39.8**	**-4.2**
PNME	**Penonome**	**1.77**	**305**	*e*P	**Pg**	**01 45 49.4**	**+0.8**
PNME	**Penonome**	**1.77**	**305**	*e*P	**Pn**	**01 45 44.1**	**-0.7**
PNME				*e*S	**Sn**	**01 46 06.7**	**-0.4**
PNME				*i*		01 46 09.0	
	comp=Z,224nm,0.4s						
PESE3	**Pese, Herrera**	**1.79**	**284**	*e*P	**Pg**	**01 45 52

comp=Z,0.3nm,0.7s,baz=119,slow=12,SNR=3.6
comp=Z,0.3nm,0.7s
PLCA Paso Flores 48.56 172 P P 01 53 53.0 -4.5
comp=Z,3.5nm,0.9s,baz=336,slow=9.0,SNR=3.5
comp=Z,3.5nm,0.9s
YKA Yellowknife Ar 60.79 342 P **P** **01 55 25.6 -0.3**
comp=Z,0.6nm,0.9s,baz=133,slow=7.2,SNR=11
comp=Z,0.6nm,0.9s
TORD Torodi Ar. Bea 79.18 78 P **P** **01 57 20.7 +0.9**
comp=Z,0.5nm,0.8s,baz=296,slow=3.8,SNR=2.5
comp=Z,0.5nm,0.8s
ASAR Alice Springs 144.69 239 PKP **PKPab** **02 04 50.0 -0.5**
comp=Z,0.6nm,0.6s,baz=118,slow=3.8,SNR=8.8

*RSNC **22** 01:55:17.2±2.3, 7°.43N×78°.88W, h4km±13km, ML2.8*
*UPA **22** 01:55:18.4±0.9, 7°.42N×78°.83W, h26km±15km, MW4.2*
ISC 22 01:55:15.3±1.4, 7°.41N±0°.05×78°.87W±0°.03, h10km±11km, n17, σ1§09/30, Panama

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**1.09**	**104**	*eP*		**Pn**	**01 55 36.7**	**+0.1**
PTAC				*eS*		**Sn**	**01 55 49.9**	**-1.9**
PTAC	**Punta Ardita,**	**1.09**	**104**	*eP*		**Pn**	**01 55 36.5**	**-0.2**
PTAC				*eS*		**Sn**	**01 55 49.8**	**-2.0**
PTAC				*i*			01 55 52.9	
	comp=Z,122nm,0.1s							
ACHO3	**Achotines, Los**	**1.29**	**270**	*eP*		**Pg**	**01 55 40.5**	**+0.4**
UPD2	**Meteti**	**1.42**	**37**	*eP*		**Pg**	**01 55 42.2**	**-0.3**
UPD2				*eS*		**Sg**	**01 56 00.8**	**-0.1**
UPD2	**Meteti**	**1.42**	**37**	*eP*		**Pg**	**01 55 42.0**	**-0.5**
UPD2				*eS*		**Sg**	**01 56 00.8**	**-0.1**
UPD2				*i*			01 56 06.8	
	comp=Z,137nm,0.8s							
AZU	**Azuero**	**1.44**	**285**	*eP*		**Pb**	**01 55 42.4**	**+0.1**
AZU				*eS*		**Sn**	**01 56 00.9**	**+0.5**
AZU	**Azuero**	**1.44**	**285**	*eP*		**Pn**	**01 55 41.9**	**+0.4**
AZU				*eS*		**Sn**	**01 55 59.7**	**-0.7**
AZU				*i*			01 56 07.0	
	comp=Z,368nm,0.5s							
UPA	**Univ. de Panam**	**1.69**	**337**	*eP*		**Pn**	**01 55 45.7**	**+0.8**
UPA				*eS*		**Sn**	**01 56 06.6**	**-0.1**
UPA	**Univ. de Panam**	**1.69**	**337**	*eP*		**Pn**	**01 55 45.9**	**+0.9**
UPA				*eS*		**Sn**	**01 56 06.6**	**-0.1**
CHPO	**Chepo, Panama**	**1.77**	**352**	*eP*		**Pn**	**01 55 46.9**	**+0.9**
CHPO				*eS*		**Sn**	**01 56 08.5**	**-0.1**
CACAO	**El Cacao, Vera**	**1.97**	**268**	*eP*		**Pb**	**01 55 50.8**	**-0.5**
CACAO				*eS*		**Sb**	**01 56 15.6**	**-0.4**
CACAO	**El Cacao, Vera**	**1.97**	**268**	*eP*		**Pn**	**01 55 48.9**	**+0.1**
CACAO				*eS*		**Sn**	**01 56 12.4**	**-1.2**
CACAO				*i*			01 56 23.3	
	comp=Z,51nm,0.6s							
BCIP	**Isla Barro Col**	**1.99**	**331**	*eP*		**Pn**	**01 55 49.9**	**+0.8**
BCIP				*eS*		**Sn**	**01 56 14.4**	**+0.3**
APAC	**Apartado, Choc**	**2.33**	**78**	*eP*		**Pb**	**01 55 57.3**	**0.0**
GMAL	**Guarumal, Vera**	**2.37**	**279**	*eP*		**Pb**	**01 55 56.6**	**-1.4**
GMAL				*eS*		**Sb**	**01 56 27.5**	**+0.1**
CBOC	**Ciudad Bolivar**	**3.23**	**118**	*eP*		**Pn**	**01 56 08.2**	**+2.0**
GUY2C	**Guyana, Caldas**	**4.11**	**122**	*eP*		**Pn**	**01 56 21.9**	**+3.3**

*UPA **22** 02:05:38.6±0.8, 7°.31N×78°.85W, h16km±7km, MW4.0*
*RSNC **22** 02:05:40.3±1.4, 7°.35N×78°.86W, h32km±8km, ML2.4*
ISC 22 02:05:36.5±1.9, 7°.38N±0°.07×78°.89W±0°.05, h3km±18km, n12, σ0§93/23, Panama

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**1.10**	**102**	*eP*		**Pg**	**02 05 57.8**	**+0.2**
PTAC				*eS*		**Sg**	**02 06 11.1**	**-0.7**
PTAC	**Punta Ardita,**	**1.10**	**102**	*eP*		**Pg**	**02 05 57.8**	**+0.2**
PTAC				*eS*		**Sg**	**02 06 11.1**	**-0.7**
PTAC				*i*			02 06 23.1	
	comp=Z,47nm,0.1s							
AZU	**Azuero**	**1.43**	**287**	*eP*		**Pn**	**02 06 03.7**	**+0.3**
AZU				*eS*		**Sn**	**02 06 22.9**	**+0.3**
AZU	**Azuero**	**1.43**	**287**	*eP*		**Pn**	**02 06 03.3**	**0.0**
AZU				*eS*		**Sn**	**02 06 21.9**	**-0.8**
AZU				*i*			02 06 23.3	
	comp=Z,141nm,0.3s							
UPD2	**Meteti**	**1.45**	**37**	*eP*		**Pn**	**02 06 03.3**	**-0.3**
UPD2				*eS*		**Sn**	**02 06 21.6**	**-1.6**
UPD2				*i*			02 06 28.4	
	comp=Z,40nm,0.3s							
UPA	**Univ. de Panam**	**1.71**	**338**	*eP*		**Pn**	**02 06 07.6**	**+0.4**
UPA				*eS*		**Sn**	**02 06 28.6**	**-1.0**
UPA	**Univ. de Panam**	**1.71**	**338**	*eP*		**Pn**	**02 06 07.3**	**+0.1**
UPA				*eS*		**Sn**	**02 06 28.2**	**-1.4**
CHPO	**Chepo, Panama**	**1.79**	**353**	*eP*		**Pn**	**02 06 09.3**	**+1.0**
CHPO				*eS*		**Sn**	**02 06 32.8**	**+1.1**
CACAO	**El Cacao, Vera**	**1.95**	**269**	*eP*		**Pn**	**02 06 10.9**	**+0.4**
CACAO				*eS*		**Sn**	**02 06 34.1**	**-1.5**
CACAO				*i*			02 06 44.5	
	comp=Z,12nm,0.6s							
BCIP	**Isla Barro Col**	**2.01**	**332**	*eP*		**Pn**	**02 06 12.2**	**+0.9**
BCIP				*eS*		**Sn**	**02 06 37.7**	**+0.8**
BCIP	**Isla Barro Col**	**2.01**	**332**	*eP*		**Pn**	**02 06 12.1**	**+0.8**
BCIP				*eS*		**Sn**	**02 06 37.4**	**+0.5**
BCIP				*i*			02 06 39.9	
	comp=Z,46nm,0.4s							
CBOC	**Ciudad Bolivar**	**3.23**	**118**	*eP*		**Pn**	**02 06 29.6**	**+1.3**

IDC 22 02:17:16.6±26.0, 20°.02S×179°.76W, h652km±250km, mb2.3/3, mbtmp3.3/3, Error ellipse: s-maj=354.2km s-min=49.0km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.02**	**256**	P		P	02 24 22.1	+0.2
	0.3nm,0.7s,baz=84,slow=8.5,SNR=1.9							
ASAR				PcP		PcP	02 25 56.3	-0.2
	0.5nm,0.7s,baz=103,slow=4.1,SNR=4.8							
	0.3nm,0.7s							
WRA	**Warramunga Arr**	**43.03**	**262**	P		P	02 24 21.9	0.0
	0.1nm,0.3s,baz=96,slow=8.1,SNR=8.1							
	0.1nm,0.3s							
ILAR	**Eielson Array**	**88.22**	**13**	P		P	02 29 00.1	+0.2
	0.2nm,0.5s,baz=211,slow=5.9,SNR=6.2							
	0.2nm,0.5s							
AKASG	**Malin Array Be**	**141.79**	**330**	PKP		PKPdf	02 35 33.8	-1.9
	0.1nm,0.2s,baz=39,slow=3.2,SNR=6.8							

IDC 22 02:22:42.4±55.0, 19°.93S×178°.11W, h0km, mb3.9/3, mbtmp3.9/3, MS3.8/1, Error ellipse: s-maj=999.2km s-min=164.1km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.94**	**243**	P		P	02 30 01.5	-0.4
	1.2nm,0.7s,baz=95,slow=9.9,SNR=2.3							
	1.2nm,0.7s							
ASAR	**Alice Springs**	**44.55**	**256**	P		P	02 30 56.4	0.0
	2.0nm,0.7s,baz=95,slow=7.7,SNR=17							
ASAR				LR		LR	02 49 57.2	
	comp=Z,97nm,18.2s,baz=350,slow=37							
	2.0nm,0.7s							
WRA	**Warramunga Arr**	**44.58**	**261**	P		P	02 30 56.5	-0.1
	0.7nm,0.7s,baz=97,slow=7.5,SNR=14							
	0.7nm,0.7s							

IDC 22 02:23:20.9±3.6, 22°.52S×113°.03W, h0km, mb3.5/2, mbtmp3.5/2, MS3.5/4, Error ellipse: s-maj=401.2km s-min=79.6km az=96.0, Eastern Island region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**31.88**	**117**	T		T	03 04 58.3	
	baz=286,slow=75,SNR=37							
H03N3	**Juan Fernandez**	**31.89**	**117**	T		T	03 04 58.5	
	baz=286,slow=75,SNR=40							
H03N1	**Juan Fernandez**	**31.90**	**117**	T		T	03 04 58.5	
	baz=286,slow=75,SNR=46							
NNA	**Nana**	**36.02**	**79**	LR		LR	02 41 20.4	
	comp=Z,76nm,21.3s,baz=262,slow=30							
ATAH	**Atahualpa**	**36.58**	**71**	LR		LR	02 42 10.4	
	comp=Z,84nm,18.9s,baz=304,slow=31							
LVC	**Limon Verde**	**40.63**	**99**	LR		LR	02 43 01.2	
	comp=Z,25nm,19.2s,baz=272,slow=29							
CFA	**Coronel Fontan**	**40.67**	**113**	LR		LR	02 44 10.6	
	comp=Z,110nm,21.3s,baz=282,slow=31							
NVAR	**Mina Array Bea**	**60.83**	**355**	P		P	02 33 35.0	-0.1
	0.6nm,0.7s,baz=174,slow=9.1,SNR=4.4							
	0.6nm,0.7s							
PDAR	**Pinedale Array**	**65.04**	**3**	P		P	02 34 03.3	+0.2
	0.3nm,0.6s,baz=167,slow=7.4,SNR=3.8							
	0.3nm,0.6s							
H11S2	**WAKE ISLAND Hy**	**88.38**	**291**	T		T	04 12 26.2	
	baz=115,slow=75,SNR=40							
H11S1	**WAKE ISLAND Hy**	**88.39**	**291**	T		T	04 12 28.7	
	baz=115,slow=75,SNR=24							
H11S3	**WAKE ISLAND Hy**	**88.39**	**291**	T		T	04 12 29.1	
	baz=115,slow=75,SNR=27							
H11N3	**WAKE ISLAND Hy**	**88.70**	**292**	T		T	04 12 52.1	
	baz=116							
H11N1	**WAKE ISLAND Hy**	**88.72**	**292**	T		T	04 12 51.7	
	baz=116							
H11N2	**WAKE ISLAND Hy**	**88.72**	**292**	T		T	04 12 51.0	
	baz=116							
ZALV	**Zalesovo Beam**	**145.84**	**341**	PKPbc		PKPdf	02 43 00.6	-0.7
	1.4nm,0.6s,baz=42,slow=4.5,SNR=5.0							
BVAR	**Borovoye Array**	**149.43**	**356**	PKPbc		PKPbc	02 43 10.5	-1.2
	0.7nm,0.6s,baz=1.9,slow=4.3,SNR=4.1							
KURBB	**Kurchatov Arra**	**150.53**	**345**	PKPbc		PKiKP	02 43 14.8	-0.3
	0.5nm,0.5s,baz=27,slow=2.3,SNR=5.7							

*IDC **22** 02:31:35.6±1.4, 11°.38S×116°.02E, h0km, mb4.0/6, mbtmp3.9/8, ML3.5/2, MS3.3/2, Error ellipse: s-maj=54.0km s-min=19.2km az=51.0*
*DJA **22** 02:31:36.5±0.3, 12°S±3°×11°6E±°, h10km, M4.3/9, mb4.4/6, mB4.8/1, MLv4.3/9, Mw(mB)4.0/1*
ISC 22 02:31:37.2±0.7, 11°.39S±0°.06×116°.17E±0°.06, h16km, n31, σ1§96/38, mb4.0/5, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**2.73**	**15**	P		**Pn**	**02 32 21.4**	**+1.1**
TWSI				S		**Sn**	**02 32 50.5**	**-2.5**
IGBI	**Denpasar**	**2.75**	**338**	P		**Pn**	**02 32 20.6**	**0.0**
IGBI				S		**Sn**	**02 32 49.9**	**-3.6**
DNP	**Denpasar**	**2.86**	**341**	S		**Sn**	**02 32 55.8**	**-0.4**
PLAI	**Plampang**	**3.00**	**32**	P		**Pn**	**02 32 25.4**	**+1.4**
PLAI	**Plampang**	**3.00**	**32**	P		**Pn**	**02 32 25.0**	**+1.0**
PLAI				S		**Sn**	**02 32 55.9**	**-3.8**
SRBI	**Singaraja**	**3.42**	**344**	P		**Pn**	**02 32 32.3**	**+2.5**
SRBI				S		**Sn**	**02 33 08.8**	**-1.2**
JAGI	**Jajag, Banyuwa**	**3.52**	**325**	P		**Pn**	**02 32 31.5**	**+0.3**
JAGI	**Jajag, Banyuwa**	**3.52**	**325**	P		**Pn**	**02 32 31.1**	**-0.1**
JAGI				S		**Sn**	**02 33 09.1**	**-3.4**
ABJI	**Asem Bagus**	**4.05**	**332**	P		**Pn**	**02 32 38.8**	**+0.3**
BLJI	**Banyuglugur**	**4.42**	**325**	P		**Pn**	**02 32 44.9**	**+1.2**
BASI	**Baing, Sumba**	**4.48**	**75**	P		**Pn**	**02 32 44.8**	**+0.3**
BASI				S		**Sn**	**02 33 35.0**	**-1.3**
EDFI	**Ende, Flores**	**6.03**	**65**	P		**Pn**	**02 33 06.7**	**+0.8**
	10nm,0.6s,709nm0.1nm							
BKSI	**Bulukumba**	**7.18**	**33**	P		**Pn**	**02 33 23.9**	**+2.3**
	26nm,0.8s,0.1nm							
KAPI	**Kappang**	**7.26**	**30**	Pn		**Pn**	**02 33 25.0**	**+2.4**
	1.1nm,0.3s,baz=24,slow=16,SNR=1.3							
KAPI				Sn		**Sn**	**02 34 41.7**	**-3.1**
	2.1nm,0.3s,baz=222,slow=17,SNR=1.9							
KAPI				LR		LR	02 36 38.2	
	comp=Z,122nm,18.1s,baz=217,slow=41							
	4.1nm,0.3s							
SOEI	**Soe**	**8.12**	**79**	P		**Pn**	**02 33 36.5**	**+1.9**
	27nm,0.8s							
KPJI	**Karang Pucung**	**8.20**	**299**	P		**Pn**	**02 33 37.1**	**+1.5**
	28nm,1.3s							
MBWA	**Mable Bar**	**10.30**	**161**	P		**Pn**	**02 34 02.7**	**-1.6**
PSA00	**Pilbara Seismi**	**10.72**	**161**	P		**Pn**	**02 34 08.5**	**-1.6**
FITZ	**Fitzroy Crossi**	**11.33**	**127**	P		**Pn**	**02 34 18.9**	**+0.5**
GIRL	**Giralia**	**11.34**	**189**	P		**Pn**	**02 34 17.7**	**-1.0**
MEEK	**Meekatharra**	**15.34**	**172**	P		**Pn**	**02 35 11.7**	**-1.5**
MORW	**Morawa**	**17.59**	**180**	P		**Pn**	**02 35 40.7**	**-1.0**
WRKA	**Warakurna**	**17.78**	**141**	P		**Pn**	**02 35 44.3**	**+0.1**
WRA	**Warramunga Arr**	**19.43**	**118**	P		**Pn**	**02 36 06.1**	**+1.8**
	0.1nm,0.3s,baz=291,slow=12,SNR=8.5							
WRA				S		Sn	02 39 28.0	-14
	0.7nm,0.7s,baz=302,slow=25,SNR=3.2							
	0.8nm,0.8s							
ASAR	**Alice Springs**	**20.83**	**128**	P		**P**	**02 36 20.8**	**+2.5**
	2.2nm,0.7s,baz=304,slow=10,SNR=29							
ASAR				S		**S**	**02 40 05.3**	**-5.0**
	1.8nm,0.8s,baz=304,slow=24,SNR=8.0							
	2.2nm,0.7s							
CTA	**Charters Tower**	**30.18**	**110**	LR		LR	02 49 54.5	
	comp=Z,78nm,20.5s,baz=271,slow=36							
STKA	**Stephens Creek**	**31.07**	**135**	P		**P**	**02 37 55.8**	**+1.1**
	1.2nm,0.8s,baz=293,slow=16,SNR=3.2							
	1.2nm,0.8s							
USRK	**Ussuriysk Ar.**	**57.16**	**13**	P		**P**	**02 41 23.0**	**-0.1**
	0.8nm,0.6s,baz=214,slow=7.0,SNR=2.8							
	0.8nm,0.6s							
MKAR	**Makanchi Array**	**65.37**	**335**	P		**P**	**02 42 19.9**	**+1.1**
	2.0nm,0.5s,baz=148,slow=7.2,SNR=26							
	2.0nm,0.5s							
KURBB	**Kurchatov Arra**	**69.92**	**336**	P		**P**	**02 42 48.3**	**+0.9**
	0.8nm,0.6s,baz=150,slow=5.0,SNR=12							
	0.8nm,0.6s							
ZALV	**Zalesovo Beam**	**70.32**	**341**	P		**P**	**02 42 50.1**	**+0.3**
	1.5nm,0.7s,baz=154,slow=5.3,SNR=6.1							
	1.5nm,0.7s							

*OSPL **22** 02:31:59.6±2.0, 18°.68N×69°.39W, h99km±12km, ML2.9*
*SDD **22** 02:32:01.9±5.1, 18°.77N×69°.46W, h86km±18km, MD3.6, ML3.2, MW3.9*
ISC 22 02:31:60.0±1.3, 18°.75N±0°.05×69°.44W±0°.03, h88km±8km, n28, σ1§38/49, 13C-20D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HATOM	**Hato Mayor del**	**0.07**	**52**	*ePg*		**Pn**	**02 32 11.7**	**-0.7**
HATOM				⇑*eSg*		**Sn**	**02 32 22.4**	**+0.8**
HATOM				IAML			02 32 23.1	
	comp=E,2μm,0.2s							
HATOM				IAML			02 32 23.2	
	comp=N,2μm,0.2s							
SPM1	**San Pedro UASD**	**0.32**	**157**	⇑*ePg*		**Pn**	**02 32 12.7**	**-0.6**
SPM1				IAML			02 32 25.2	
	comp=N,2μm,0.5s							
SDD	**Santo Domingo**	**0.53**	**238**	⇓*ePg*		**Pn**	**02 32 13.9**	**-0.9**
SDD				⇑*eSg*		**Sn**	**02 32 25.9**	**+0.2**
SDD				IAML			02 32 27.6	
	comp=E,236nm,0.2s							
SDD				IAML			02 32 27.6	
	comp=N,184nm,0.2s							
SDD	**Santo Domingo**	**0.53**	**238**	*i* P		**Pn**	**02 32 13.9**	**-0.9**
SDD				*eS*		**Sn**	**02 32 25.9**	**+0.2**
SMDR	**Samana, DR**	**0.59**	**24**	⇑*ePg*		**Pn**	**02 32 13.9**	**-1.3**
SMDR				⇑*eSg*		**Sn**	**02 32 27.5**	**+0.9**
SMDR				IAML			02 32 30.8	
	comp=E,462nm,0.7s							
SMDR				IAML			02 32 34.1	
	comp=N,474nm,0.4s							
DR08	**Loma La Naviza**	**0.59**	**291**	⇑*ePg*		**Pn**	**02 32 14.8**	**-0.5**
DR08				⇓*eSg*		**Sn**	**02 32 27.5**	**+0.7**
DR08				IAML			02 32 28.9	
	comp=N,5μm,0.6s							
LOSC1	**San Cristbal**	**0.72**	**242**	*i* P		**Pn**	**02 32 15.9**	**-0.6**
LOSC1				*eS*		**Sn**	**02 32 29.4**	**+0.7**
LOSC1				IAML			02 32 32.3	
	comp=Z,1μm,0.2s							
LONA1	**Toro Cenizo, N**	**0.75**	**327**	*i* P		**Pn**	**02 32 15.8**	**-0.9**
LONA1				*eS*		**Sn**	**02 32 30.4**	**+1.1**
LONA1				IAML			02 32 34.0	
	comp=Z,819nm,1.1s							
SADR	**Isla Saona**	**0.83**	**131**	⇓*ePg*		**Pn**	**02 32 16.4**	**-1.2**
SADR				⇑*eSg*		**Sn**	**02 32 31.5**	**+0.7**
BANI	**BANI**	**0.94**	**248**	⇓*ePg*		**Pn**	**02 32 18.9**	**0.0**
BANI				⇓*eSg*		**Sn**	**02 32 35.5**	**+2.3**
BANI				IAML			02 32 37.5	
	comp=E,888nm,0.3s							
BANI				IAML			02 32 40.5	
	comp=N,856nm,1.1s							
PCDR	**Punta Cana, DR**	**1.03**	**103**	*ePg*		**Pn**	**02 32 19.6**	**-0.2**
PCDR				⇓*eSg*		**Sn**	**02 32 35.4**	**+0.7**
PCDR				IAML			02 32 39.7	
	comp=N,742nm,1.9s							
PCDR	**Punta Cana, DR**	**1.03**	**103**	*i* P		**Pn**	**02 32 18.4**	**-1.4**
PCDR				IAML			02 32 40.5	
	comp=Z,168nm,0.2s							
CADR	**Cabrera**	**1.03**	**333**	⇑*ePg*		**Pn**	**02 32 18.2**	**-1.7**
CADR				⇓*eSg*		**Sn**	**02 32 34.1**	**-0.8**
CADR				IAML			02 32 35.5	
	comp=N,585nm,0.2s							
ABDR	**Alto Bandera**	**1.13**	**274**	⇓*ePg*		**Pn**	**02 32 20.6**	**-0.8**
ABDR				IAML			02 32 38.1	
	comp=N,476nm,0.4s							
ABDR				⇓*eSg*		**Sn**	**02 32 39.0**	**+1.6**
SC01	**Santiago de lo**	**1.40**	**299**	⇑*ePg*		**Pn**	**02 32 23.8**	**-0.5**
SC01				⇓*eSg*		**Sn**	**02 32 44.3**	**+1.6**
SC01				IAML			02 32 49.6	
	comp=E,301nm,0.5s							
SC01				IAML			02 32 51.3	
	comp=N,279nm,0.6s							
SC01	**Santiago de lo**	**1.40**	**299**	*i* P		**Pn**	**02 32 23.8**	**-0.5**
SC01				*eS*		**Sn**	**02 32 44.1**	**+1.4**
SC01				IAML			02 32 54.5	
	comp=Z,126nm,0.3s							
LOBA2	**Hotel Casa Bon**	**1.71**	**247**	⇑*ePg*		**Pn**	**02 32 26.7**	**-1.6**
LOBA2				⇑*eSg*		**Sn**	**02 32 48.2**	**-1.5**
LOBA2				IAML			02 32 49.1	
	comp=N,38nm,0.2s							
LOBA2				IAML			02 32 49.4	
	comp=E,78nm,0.7s							
SDDR	**Presa de Saban**	**1.77**	**278**	⇓*ePg*		**Pn**	**02 32 29.0**	**-0.1**
SDDR				⇓*eSg*		**Sn**	**02 32 53.6**	**+2.4**
SDDR				IAML			02 32 54.8	
	comp=E,224nm,0.6s							
SDDR				IAML			02 32 56.7	
	comp=N,167nm,0.8s							
SDDR	**Presa de Saban**	**1.77**	**278**	*i* P		**Pn**	**02 32 28.9**	**-0.1**
SDDR				IAML			02 32 54.6	
	comp=Z,92nm,0.3s							
AGPR	**Aguadilla, PR**	**2.22**	**97**	⇑*ePg*		**Pn**	**02 32 35.3**	**+0.2**
AGPR				⇓*eSg*		**Sn**	**02 33 05.3**	**+3.4**
AGPR				IAML			02 33 10.3	
	comp=E,176nm,0.3s							
AGPR				IAML			02 33 12.4	
	comp=N,134nm,0.3s							
AGPR	**Aguadilla, PR**	**2.22**	**97**	*i* P		**Pn**	**02 32 33.8**	**-1.3**
AGPR				IAML			02 33 10.6	
	comp=Z,100nm,0.2s							
PRSN	**Puerto Rico Se**	**2.24**	**103**	*ePg*		**Pn**	**02 32 32.1**	**-3.2**
PRSN				IAML			02 33 08.6	
	comp=N,288nm,0.3s							
JIDR	**Jimani**	**2.30**	**264**	⇓*ePg*		**Pn**	**02 32 35.6**	**-0.5**
JIDR				⇓*eSg*		**Sn**	**02 33 03.8**	**+0.1**
JIDR				IAML			02 33 06.9	
	comp=N,55nm,0.5s							
LOPE2	**Hotel El Peder**	**2.30**	**252**	*i* P		**Pn**	**02 32 34.9**	**-1.2**
LOPE2				IAML			02 33 08.5	
	comp=Z,66nm,0.8s							
CRPR	**Cabo Rojo, PR**	**2.33**	**108**	⇓*ePg*		**Pn**	**02 32 35.8**	**-0.7**
CRPR				⇓*eSg*		**Sn**	**02 33 07.2**	**+2.8**
CRPR				IAML			02 33 12.7	
	comp=N,50nm,0.8s							
CRPR				IAML			02 33 21.1	
	comp=E,58nm,1.9s							
CRPR	**Cabo Rojo, PR**	**2.33**	**108**	*i* P		**Pn**	**02 32 35.0**	**-1.5**
CRPR				IAML			02 33 09.7	
	comp=Z,66nm,0.9s							
AOPR	**Arecibo Observ**	**2.58**	**98**	⇓*ePg*		**Pn**	**02 32 39.1**	**-0.7**
AOPR				⇑*eSg*		**Sn**	**02 33 12.8**	**+2.4**
AOPR				IAML			02 33 16.4	
	comp=N,357nm,0.2s							
AOPR				IAML			02 33 16.5	
	comp=E,533nm,0.3s							
SJG	**San Juan**	**3.18**	**101**	⇓*ePg*		**Pn**	**02 32 47.4**	**-0.5**
SJG				⇓*eSg*		**Sn**	**02 33 23.3**	**-1.7**

*IDC **22** 02:33:07.9±3.0, 5°.85S×146°.08E, h124km±32km, mb3.5/8, mbtmp3.9/10, Error ellipse: s-maj=31.9km s-min=22.2km az=106.0*
ISC 22 02:33:06.4±0.8, 5°.74S±0°.09×145°.9E±0°.2, h100km, n13, σ1§68/14, mb3.7/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.84**	**162**	P		**Pn**	**02 34 04.2**	**+0.8**
	90nm,0.3s,baz=3.1,slow=6.6,SNR=50							
PMG				S		**Sn**	**02 34 46.7**	**-1.0**
	213nm,0.5s,baz=136,slow=20,SNR=23							
CTA	**Charters Tower**	**14.27**	**179**	P		**P**	**02 36 28.9**	**+0.7**
	5.6nm,0.4s,baz=355,slow=14,SNR=16							
WRA	**Warramunga Arr**	**18.07**	**218**	P		**P**	**02 37 08.3**	**-2.0**
	1.0nm,0.6s,baz=36,slow=12,SNR=7.9							
ASAR	**Alice Springs**	**21.26**	**212**	P		**P**	**02 37 44.2**	**-0.6**
	0.6nm,0.6s,baz=50,slow=7.5,SNR=8.3							
	0.6nm,0.6s							
STKA	**Stephens Creek**	**26.32**	**188**	P		**P**	**02 38 32.1**	**-0.9**
	1.8nm,0.7s,baz=0.5,slow=12,SNR=4.6							
	1.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**52.20**	**299**	P		**P**	**02 42 07.9**	**+0.5**
	2.8nm,0.6s,baz=116,slow=6.8,SNR=11							
	2.8nm,0.6s							
PETK	**Petropavlovsk-**	**59.46**	**8**	P		**P**	**02 42 58.1**	**-0.6**
	4.2nm,1.0s,baz=186,slow=8.7,SNR=2.2							
	4.2nm,1.0s							
SONM	**Songino Array**	**63.67**	**331**	P		**P**	**02 43 27.5**	**+0.2**
	0.4nm,0.6s,baz=159,slow=4.6,SNR=4.2							
	0.4nm,0.6s							
MKAR	**Makanchi Array**	**76.63**	**321**	P		**P**	**02 44 46.1**	**-0.2**
	0.9nm,0.8s,baz=103,slow=7.9,SNR=4.5							
	0.9nm,

PCRV Puerto La Cruz 58.37 62 LR LR 03 16 25.8
comp=Z,89nm,18.8s,slow=33
URZ Urewera 60.10 238 LR LR 03 15 26.5
comp=Z,112nm,20.3s,baz=300,slow=31
NVAR Mina Array Bea 60.63 356 P **P** **02 54 23.9 +0.6**
0.8nm,0.7s,baz=189,slow=9.1,SNR=6.5
NVAR LR LR 03 15 15.9
comp=Z,108nm,19.7s,baz=168,slow=31
0.8nm,0.7s
BDFB Brasilia 62.52 97 LR LR 03 18 19.9
comp=Z,56nm,18.6s,baz=299,slow=33
ELK Elko 62.83 359 LR LR 03 16 31.7
comp=Z,100nm,19.0s,baz=198,slow=31
RPZ Rata Peaks 64.06 231 LR LR 03 16 52.2
comp=Z,145nm,20.0s,baz=102,slow=30
YBH Yreka Blue Hor 64.29 353 LR LR 03 16 40.2
comp=Z,101nm,19.6s,baz=178,slow=30
PDAR Pinedale Array 64.98 4 P **P** **02 54 51.7 -0.6**
0.5nm,0.8s,baz=165,slow=6.2,SNR=5.1
PDAR LR LR 03 18 35.2
comp=Z,57nm,18.0s,baz=189,slow=32
0.5nm,0.8s
MDP Montagnes des 66.08 73 LR LR 03 20 48.3
comp=Z,161nm,19.8s,baz=258,slow=34
NEW Newport 70.39 359 LR LR 03 20 59.6
comp=Z,125nm,18.0s,baz=200,slow=32
DZM Mont Dzumac 72.53 253 *e*LR LR 03 18 02.4
comp=Z,137nm,22.9s
DZM Mont Dzumac 72.53 253 LR LR 03 20 01.7
comp=Z,103nm,20.4s,baz=110,slow=29
YKA Yellowknife Ar 84.60 360 P **P** **02 56 44.1 -1.0**
0.2nm,0.7s,baz=181,slow=5.1,SNR=5.3
0.2nm,0.7s
H11N3 WAKE ISLAND Hy 87.65 292 T T 04 34 09.8
baz=116
H11N1 WAKE ISLAND Hy 87.67 292 T T 04 33 59.0
baz=116
H11N2 WAKE ISLAND Hy 87.67 292 T T 04 34 12.7
baz=116
ZALV Zalesovo Beam 145.36 340 PKPbc **PKPab** **03 03 50.0 +0.1**
0.7nm,0.4s,baz=0.0,slow=3.0,SNR=6.7
CMAR Chiang Mai Arr 148.73 269 PKPbc **PKPab** **03 04 03.8 -0.3**
2.1nm,0.3s,baz=112,slow=0.1,SNR=5.3
BVAR Borovoye Array 149.22 355 PKPbc **PKiKP** **03 04 02.0 +0.2**
1.2nm,0.5s,baz=360,slow=2.0,SNR=6.8
KURBB Kurchatov Arra 150.12 344 PKPbc **PKiKP** **03 04 04.2 +0.4**
1.2nm,0.6s,baz=6.0,slow=2.3,SNR=6.9
MKAR Makanchi Array 152.25 335 PKPbc **PKiKP** **03 04 09.2 +0.9**
1.2nm,0.7s,baz=47,slow=2.6,SNR=11

TEH ***22*** *02:49:33.7,31°.36N×56°.33E,h5km,ML4.2*
IDC ***22*** *02:49:34.4±0.9,31°.23N×56°.27E,h0km,mb3.7/13, mbtmp3.7/21,ML3.7/8,MS3.1/12,Error ellipse: s-maj=18.5km s-min=15.2km az=1.0*
DSN ***22*** *02:49:34.8±1.4,31°.47N×56°.48E,h15km,ML3.6/8,Error ellipse: s-maj=74.2km s-min=13.7km az=92.0*
OMAN ***22*** *02:49:37.3±0.9,31°.35N×56°.43E,h14km±3,31km,mb4.3/15, ml3.8/1,ms2.4/2,Error ellipse: s-maj=56.8km s-min=9.0km az=14.0*

ISC 22 02:49:36.8±0.6,**31°.37N**±0°.05×**56°.34E**±0°.05,**h10**km,**n118,** σ0**89**/118,**mb3.8**/16,**MS3.1**/7,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.69**	**289**	Pg	Pg	02 49 47.2	-3.1
KHGB	**Koh Gabri**	**0.99**	**173**	Pg	Pg	02 49 52.9	-3.1
TVBK	**TV Kerman**	**1.42**	**165**	Pg	**Pn**	**02 50 01.4**	**-1.6**
TPRV	**Parvadeh(Tabas**	**1.69**	**10**	Pg	**Pn**	**02 50 06.1**	**-0.3**
NGRK	**Negar Kerman**	**1.75**	**169**	Pg	**Pn**	**02 50 07.4**	**-0.2**
CHMN	**Cheshme madani**	**1.82**	**145**	Pn	**Pn**	**02 50 08.3**	**-0.2**
ISAD	**Sadrabad**	**2.33**	**284**	Pn	**Pn**	**02 50 15.1**	**-0.3**
TKDS	**Koohdasht(Taba**	**2.34**	**16**	Pn	**Pn**	**02 50 15.7**	**+0.2**
BSRN	**Basiran**	**2.45**	**75**	Pn	**Pn**	**02 50 16.7**	**-0.4**
IKOO	**Kooshah**	**2.50**	**64**	Pn	**Pn**	**02 50 17.6**	**-0.2**
ITEG	**Tejag**	**2.55**	**53**	Pn	**Pn**	**02 50 18.6**	**+0.1**
TNSJ	**Nastanj**	**2.60**	**5**	Pn	**Pn**	**02 50 19.3**	**+0.2**
AFRZ	**Afriz**	**3.06**	**47**	Pn	**Pn**	**02 50 25.6**	**+0.2**
NHDN	**Nehbandan**	**3.18**	**89**	Pn	**Pn**	**02 50 27.0**	**0.0**
IDAH	**Dahanechah**	**3.30**	**65**	Pn	**Pn**	**02 50 28.9**	**+0.1**
IRAM	**Rameshieh**	**3.40**	**279**	Pn	**Pn**	**02 50 30.2**	**0.0**
JHRM	**Jahrom**	**3.72**	**221**	Pn	**Pn**	**02 50 34.5**	**0.0**
IZEF	**Zefreh**	**3.73**	**295**	Pn	**Pn**	**02 50 34.8**	**+0.2**
IGAR	**Gharneh**	**3.80**	**287**	Pn	**Pn**	**02 50 36.0**	**+0.5**
IBND	**Bandar-abas**	**3.91**	**177**	Pn	**Pn**	**02 50 36.6**	**-0.3**
GENO	**Geno**	**3.95**	**182**	Pn	**Pn**	**02 50 37.6**	**-0.1**
SHRT	**Shahrakht**	**4.04**	**55**	Pn	**Pn**	**02 50 39.5**	**+0.7**
LAR1	**LAR**	**4.06**	**205**	Pn	**Pn**	**02 50 38.6**	**-0.5**
IBRJ	**Brojen**	**4.36**	**278**	Pn	**Pn**	**02 50 43.9**	**+0.5**
KRSH	**Karshahi**	**4.39**	**307**	Pn	**Pn**	**02 50 44.1**	**+0.4**
IKLH	**Kolahrood**	**4.47**	**297**	Pn	**Pn**	**02 50 45.9**	**+0.9**
ISFB	**Sefidab**	**4.55**	**312**	Pn	**Pn**	**02 50 45.8**	**-0.1**
IANJ	**Anjilo**	**4.56**	**334**	Pn	**Pn**	**02 50 46.1**	**0.0**
TBHD	**Torbat heydari**	**4.71**	**30**	Pn	**Pn**	**02 50 48.4**	**+0.3**
ZNGN	**Zangian**	**4.73**	**281**	Pn	**Pn**	**02 50 49.8**	**+1.3**
QAMS	**Qamsar**	**4.79**	**301**	Pn	**Pn**	**02 50 49.7**	**+0.4**
IPIR	**Pirpir**	**4.81**	**287**	Pn	**Pn**	**02 50 50.6**	**+1.1**
ILAS	**Lasjerd**	**4.90**	**326**	Pn	**Pn**	**02 50 51.0**	**+0.2**
JHBN	**Jahan bin**	**4.90**	**282**	Pn	**Pn**	**02 50 51.7**	**+0.8**
SBZV	**Sabzevar**	**5.12**	**12**	Pn	**Pn**	**02 50 54.4**	**+0.6**
TBJM	**Torbat-e-JAM**	**5.13**	**40**	Pn	**Pn**	**02 50 54.3**	**+0.4**
SHME	**Shamm**	**5.30**	**182**	P	**Pn**	**02 50 55.2**	**-0.9**
SHME	**Shamm**	**5.30**	**182**	P	**Pn**	**02 50 56.8**	**+0.7**
SHME				S	**Sn**	**02 51 58.5**	**+1.3**
DSBU	**Dashti - Bushe**	**5.33**	**237**	Pn	**Pn**	**02 50 56.1**	**-0.4**
IMOG	**Moghan**	**5.35**	**27**	Pn	**Pn**	**02 50 57.7**	**+0.7**
BANOM	**Banah**	**5.42**	**180**	P	**Pn**	**02 50 57.6**	**-0.2**
BANOM				S	**Sn**	**02 52 02.6**	**+2.3**
IGLO	**Ghaloghah**	**5.53**	**339**	Pn	**Pn**	**02 51 00.6**	**+1.1**
IPAY	**Payeh**	**5.53**	**23**	Pn	**Pn**	**02 51 00.5**	**+1.0**
IAKL	**Akhelmad**	**5.60**	**20**	Pn	**Pn**	**02 51 01.0**	**+0.6**
IQOM	**Qom**	**5.62**	**310**	Pn	**Pn**	**02 51 00.7**	**+0.1**
JRKH	**Jarkhoshk**	**5.63**	**35**	Pn	**Pn**	**02 51 01.4**	**+0.7**
ISFR	**Sfrayin**	**5.84**	**13**	Pn	**Pn**	**02 51 04.6**	**+0.9**
IHSB	**Hasanabad**	**5.87**	**316**	Pn	**Pn**	**02 51 04.5**	**+0.4**
IPRN	**Peran**	**5.89**	**327**	Pn	**Pn**	**02 51 05.5**	**+1.1**
IMND	**Minoodasht**	**5.93**	**353**	Pn	**Pn**	**02 51 04.8**	**+0.2**
MASF	**Masafi** SNR=12	**5.97**	**182**	P	**Pn**	**02 51 05.8**	**+0.4**
MASF				S	**Sn**	**02 52 14.7**	**+0.8**
MSFE	**Esma-Masafi**	**5.99**	**182**	P	**Pn**	**02 51 03.8**	**-1.7**
IKRD	**Kardeh**	**6.01**	**25**	Pn	**Pn**	**02 51 06.9**	**+0.9**
AMIS	**Naft Sefid**	**6.03**	**275**	Pn	**Pn**	**02 51 06.7**	**+0.6**
MRVT	**Maraveh tapeh**	**6.28**	**358**	Pn	**Pn**	**02 51 09.8**	**+0.2**
IEMG	**Emamgholi**	**6.33**	**17**	Pn	**Pn**	**02 51 10.9**	**+0.4**
NAZ	**Nazwa, Dubai**	**6.38**	**186**	P	**Pn**	**02 51 10.4**	**-0.5**
NAZ	**Nazwa, Dubai** SNR=16	**6.38**	**186**	P	**Pn**	**02 51 10.9**	**0.0**
UOSS	**Minazif**	**6.40**	**181**	P	**Pn**	**02 51 10.7**	**-0.4**
UOSS	**Minazif**	**6.40**	**181**	P	**Pn**	**02 51 11.1**	**0.0**
UOSS				S	**Sn**	**02 52 24.9**	**+0.6**
IMHD	**Mahdasht**	**6.40**	**314**	Pn	**Pn**	**02 51 11.8**	**+0.5**
HATD	**Hatta, Dubai**	**6.52**	**182**	P	**Pn**	**02 51 12.9**	**+0.1**
HATD	**Hatta, Dubai**	**6.52**	**182**	P	**Pn**	**02 51 13.5**	**+0.7**
HATD				S	**Sn**	**02 52 29.3**	**+2.1**
FAQ	**Al Faqa, Dubai**	**6.63**	**186**	P	**Pn**	**02 51 14.7**	**+0.4**
FAQ	**Al Faqa, Dubai**	**6.63**	**186**	P	**Pn**	**02 51 15.8**	**+1.5**
ASHO	**Ashiyiah**	**6.66**	**182**	P	**Pn**	**02 51 13.7**	**-1.1**
ASHO				S	**Sn**	**02 52 32.2**	**+1.5**
ASHO	**Ashiyiah** SNR=28	**6.66**	**182**	P	**Pn**	**02 51 14.7**	**-0.1**
ASHO				S	**Sn**	**02 52 32.3**	**+1.5**
IRAZ	**Razeghan**	**6.70**	**309**	Pn	**Pn**	**02 51 15.8**	**+0.3**
GEYT	**Alibeck** 1.0nm,0.3s,baz=171,slow=10,SNR=14	**6.71**	**12**	Pn	**Pn**	**02 51 15.9**	**+0.4**
GEYT	baz=58,slow=47 2.4nm,0.3s				**Sn**	**02 52 32.8**	**+0.8**
ASUD	**Al Ashush, Dub**	**6.77**	**188**	P	**Pn**	**02 51 14.8**	**-1.5**
ASUD	**Al Ashush, Dub** SNR=5.7	**6.77**	**188**	P	**Pn**	**02 51 17.3**	**+1.1**
AJN	**Ajban**	**6.88**	**190**	P	**Pn**	**02 51 18.8**	**+1.0**
SOHO	**SOHO**	**7.21**	**179**	P	**Pn**	**02 51 21.2**	**-1.1**
SOHO	**SOHO**	**7.21**	**179**	P	**Pn**	**02 51 22.1**	**-0.1**
SOHO				P	**Pn**	**02 51 22.1**	**-0.1**
ALNE	**Al Ain**	**7.30**	**184**	P	**Pn**	**02 51 25.0**	**+1.4**
HOQ	**Hoqain**	**7.80**	**173**	P	**Pn**	**02 51 28.9**	**-1.6**
QSDN	**Sirdan**	**7.85**	**313**	Pn	**Pn**	**02 51 32.0**	**+0.7**
BIDO	**Bidbid**	**7.97**	**168**	P	**Pn**	**02 51 31.6**	**-1.2**
ARQ	**Araqi** SNR=6.3	**8.00**	**179**	P	**Pn**	**02 51 33.2**	**0.0**
SMRA	**Abu-Samra** SNR=5.8	**8.20**	**218**	P	**Pn**	**02 51 36.0**	**+0.2**
WSAR	**Wadi Sarin** SNR=11	**8.35**	**165**	P	**Pn**	**02 51 37.9**	**-0.1**
WSAR	**Wadi Sarin** 1.8nm,0.3s,baz=358,slow=12,SNR=18	**8.35**	**165**	Pn	**Pn**	**02 51 36.7**	**-1.2**
WSAR				Sn	**Sn**	**02 53 09.4**	**-2.9**
WSAR	0.4nm,0.3s,baz=111,slow=21,SNR=1.6			LR	LR	02 55 49.8	
SMDO	comp=Z,60nm,19.5s,baz=30,slow=46 8.7nm,0.5s **Samad**	**8.41**	**169**	P	**Pn**	**02 51 38.8**	**-0.2**
BSY	**Bisya**	**8.62**	**175**	P	**Pn**	**02 51 41.9**	**+0.1**
WBK	**Wadi Bani Khal**	**9.03**	**164**	P	**Pn**	**02 51 46.2**	**-1.1**
JMDO	**Jabal Madar**	**9.10**	**170**	P	**Pn**	**02 51 50.2**	**+1.9**
JLN	**Jalan Bani Buh**	**9.58**	**163**	P	**Pn**	**02 51 53.7**	**-1.1**
ISRB	**Sarab**	**9.62**	**314**	Pn	**Pn**	**02 51 56.2**	**+0.7**
MHTO	**MHTO**	**10.44**	**172**	P	**Pn**	**02 52 05.7**	**-0.9**
GNI	**Garni** comp=Z,68nm,18.9s,baz=84,slow=40	**12.85**	**316**	LR	LR	02 58 09.9	
KBZ	**Khabaz** 0.1nm,0.3s,baz=328,slow=22,SNR=2.3 0.8nm,0.7s	**16.28**	**323**	Pn	**Pn**	**02 53 25.7**	**+0.2**
KVAR	**Kislovodsk Arr** baz=357,slow=22 1.0nm,0.3s	**16.54**	**323**	Pn	**Pn**	**02 53 31.0**	**+2.0**
ASF	**Jabal al Asfar** 0.4nm,0.3s,baz=73,slow=22,SNR=6.3 1.1nm,0.4s	**16.55**	**278**	Pn	**Pn**	**02 53 27.4**	**-1.8**
MMAI	**Mount Meron Ar** 1.3nm,0.3s,baz=111,slow=8.2,SNR=2.5	**17.80**	**281**	P	**Pn**	**02 53 44.5**	**-0.2**
MMAI	comp=Z,39nm,21.6s,baz=94,slow=42 1.7nm,0.7s			LR	LR	03 01 55.3	
AAK	**Ala-Archa** 0.1nm,0.3s,baz=257,slow=9.1,SNR=4.1	**18.32**	**47**	P	**Pn**	**02 53 51.1**	**0.0**
AAK	comp=Z,58nm,18.3s,baz=285,slow=42 1.5nm,0.7s			LR	LR	03 02 27.4	
EIL	**Elat** comp=Z,24nm,19.1s,baz=100,slow=40	**18.50**	**270**	LR	LR	03 02 00.8	
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=187,slow=10,SNR=12 3.7nm,0.7s	**19.09**	**3**	P	**P**	**02 53 59.5**	**0.0**
BRTR	**Keskin Array B** 3.5nm,1.0s,baz=115,slow=14,SNR=11	**20.23**	**301**	P	**P**	**02 54 11.7**	**-0.5**
BRTR	comp=Z,90nm,20.2s,baz=80,slow=39 3.5nm,1.0s			LR	LR	03 02 52.9	
BVAR	**Borovoye Array** 1.4nm,0.8s,baz=225,slow=17,SNR=8.0	**23.93**	**21**	P	**P**	**02 54 50.7**	**-0.1**
BVAR	comp=Z,39nm,18.4s,baz=230,slow=38 1.4nm,0.8s			LR	LR	03 04 49.7	
MKAR	**Makanchi Array** 1.8nm,0.8s,baz=228,slow=8.4,SNR=13 1.8nm,0.8s	**25.21**	**45**	P	**P**	**02 55 03.1**	**+0.5**
KURBB	**Kurchatov Arra** 2.6nm,1.0s,baz=234,slow=9.6,SNR=11 2.6nm,1.0s	**25.34**	**34**	P	**P**	**02 55 05.0**	**+1.3**
IDI	**Anoyia** comp=Z,22nm,18.2s,baz=65,slow=43	**26.51**	**287**	LR	LR	03 08 44.6	
KIRV	**Kirov** comp=Z,67nm,18.0s,baz=288,slow=45	**27.63**	**352**	LR	LR	03 10 20.9	
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=83,slow=1.1,SNR=1.2 0.2nm,0.3s	**27.88**	**322**	P	**P**	**02 55 25.1**	**-1.6**
ZALV	**Zalesovo Beam** 0.7nm,0.4s,baz=252,slow=7.6,SNR=5.5 0.7nm,0.4s	**30.43**	**34**	P	**P**	**02 55 49.7**	**+0.4**
GERES	**GERESS Array B** 0.6nm,0.5s,baz=91,slow=8.4,SNR=3.8 0.6nm,0.5s	**36.43**	**311**	P	**P**	**02 56 41.0**	**-0.7**
SQTA	**Sankt Quirin** 2.4nm,0.5s	**37.78**	**308**	*e*pP	**P**	**02 56 52.4**	**-0.8**
MOTA	**Moosalm** 1.9nm,0.6s	**37.87**	**308**	*e*pP	**P**	**02 56 52.3**	**-1.7**
FETA	**Feichten** 1.0nm,0.6s	**38.08**	**308**	*e*pP	**P**	**02 56 56.2**	**+0.5**
DAVA	**Damuels** 4.6nm,0.7s	**38.69**	**308**	*e*pP	**P**	**02 57 01.0**	**+0.1**
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=297,slow=8.0,SNR=4.7	**40.48**	**98**	P	**P**	**02 57 15.3**	**-0.7**
CMAR	comp=Z,23nm,18.6s,baz=105,slow=42 0.7nm,0.3s			LR	LR	03 18 12.8	
SONM	**Songino Array** 2.1nm,18.6s,baz=164,slow=40	**41.17**	**52**	LR	LR	03 16 54.8	
EKA	**Eskdalemuir Ar** 0.5nm,0.6s,baz=102,slow=6.8,SNR=2.0 0.5nm,0.6s	**47.69**	**318**	P	**P**	**02 58 13.7**	**+0.4**
ESDC	**Sonseca Array** 0.2nm,0.7s,baz=74,slow=7.5,SNR=2.2 0.2nm,0.7s	**48.97**	**297**	P	**P**	**02 58 23.1**	**-0.4**
TORD	**Torodi Ar. Bea** 1.0nm,0.7s,baz=57,slow=7.9,SNR=9.7 1.0nm,0.7s	**53.18**	**263**	P	P	02 58 53.3	-2.1
FRB	**Frobisher Bay** comp=Z,36nm,19.0s,baz=218,slow=36	**75.74**	**338**	LR	LR	03 35 24.1	
YKA	**Yellowknife Ar** 0.1nm,0.6s,baz=358,slow=5.1,SNR=8.1 0.1nm,0.6s	**86.19**	**356**	P	**P**	**03 02 18.2**	**+0.2**
ASAR	**Alice Springs** 0.4nm,0.8s,baz=292,slow=4.9,SNR=4.1 0.4nm,0.8s	**92.17**	**116**	P	P	03 02 44.9	-2.1

TEH ***22*** *02:58:41.8,34°.61N×45°.87E,h10km±114km,ML2.5*
ISN ***22*** *02:58:41.7±1.5,34°.63N×45°.81E,h25km,ML2.5*

ISC 22 02:58:40.9±3.8,**34°.7N**±0°.2×**45°.8E**±0°.2,**h10**km,**n5,**σ0**89**/7, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.50**	**85**	Pg	**Pg**	**02 58 50.8**	**0.0**
IDHR				Sg	**Sg**	**02 58 57.6**	**+0.2**
IGHG	**Ghaleghazi**	**0.73**	**117**	Pg	**Pg**	**02 58 54.7**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.11**	**110**	Pg	**Pg**	**02 59 01.3**	**-0.9**
IKOM	**Komasi**	**1.51**	**108**	Pg	**Pb**	**02 59 09.5**	**+0.4**
IBDR	**Badra** baz=356	**1.55**	**175**	*e*Pg	**Pn**	**02 59 08.0**	**-0.6**
IBDR				*e*Sg	**Sn**	**02 59 30.0**	**+1.3**
IBDR	comp=E,85nm,0.3s			AML	AML	02 59 36.4	
IBDR	comp=N,70nm,0.4s			AML	AML	02 59 43.0	

ISK ***22*** *03:04:24.8,34°.26N×32°.98E,h5km,ML2.5/16*
NIC ***22*** *03:04:30.5,34°.50N×33°.00E,h5km±31km,MI1.9/8*
GII ***22*** *03:04:30.3±0.0,34°.60N×33°.03E,h30km,Mm2.4/3*

ISC 22 03:04:29.9±1.4,**34°.48N**±0°.03×**33°.03E**±0°.04,**h12**km±11km, **n48,**σ0**76**/63,**Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASGA	**Asgata**	**0.35**	**30**	P	**Pg**	**03 04 37.0**	**+0.1**
ASGA				S	**Sb**	**03 04 44.1**	**+0.4**
ASGA	1.4nm,0.4s			AML	AML	03 04 45.5	
ASGA	1.2nm,0.5s			AML	AML	03 04 45.9	
NATA	**Nata**	**0.48**	**308**	P	**Pb**	**03 04 40.1**	**-0.3**
NATA				S	**Sb**	**03 04 47.6**	**+0.1**
NATA	0.6nm,0.7s			AML	AML	03 04 56.9	
NATA	0.7nm,0.7s			AML	AML	03 05 03.3	
TROD	**Troodos**	**0.48**	**343**	P	**Pg**	**03 04 39.6**	**+0.2**
TROD				S	**Sb**	**03 04 47.4**	**-0.3**
TROD	0.3nm,0.8s			AML	AML	03 04 54.8	
TROD	0.4nm,0.6s			AML	AML	03 04 56.4	
CSS	**Mathiatis**	**0.54**	**27**	Pg	**Pg**	**03 04 40.3**	**-0.1**
CSS	**Mathiatis**	**0.54**	**27**	Pg	**Pg**	**03 04 40.0**	**-0.4**
CSS	**Mathiatis**	**0.54**	**27**	P	**Pg**	**03 04 40.1**	**-0.4**
CSS				S	**Sn**	**03 04 50.2**	**-2.2**
CSS	0.4nm,0.7s			AML	AML	03 04 53.1	
CSS	0.3nm,0.4s			AML	AML	03 04 55.0	
AKIN	**Akıncılar- Kıb**	**0.64**	**34**	Pg	**Pb**	**03 04 42.4**	**-0.6**
LEF	**Lefka**	**0.65**	**349**	Pg	**Pb**	**03 04 42.4**	**-0.8**
LEF				Sg	**Sn**	**03 04 55.3**	**+0.2**
ATHAL	**Athalassa**	**0.72**	**24**	P	**Pn**	**03 04 45.7**	**-0.3**
ATHAL	0.6nm,0.9s			AML	AML	03 05 05.9	
ATHAL	0.4nm,0.6s			AML	AML	03 05 06.4	
MVOU	**Mavrovouni**	**0.72**	**43**	P	**Pn**	**03 04 45.4**	**-0.6**
MVOU				S	**Sn**	**03 04 56.4**	**-0.6**
MVOU	0.2nm,0.3s			AML	AML	03 05 01.6	
MVOU	0.2nm,0.3s			AML	AML	03 05 04.2	
ALFC	**Alefka**	**0.76**	**332**	P	**Pb**	**03 04 44.2**	**-1.0**
ALFC				S	**Sn**	**03 04 58.1**	**+0.1**
ALFC	0.5nm,0.5s			AML	AML	03 05 00.3	
ALFC	0.4nm,0.4s			AML	AML	03 05 01.4	
AKMS	**Akamas**	**0.79**	**313**	P	**Pb**	**03 04 45.1**	**-0.4**
AKMS				S	**Sn**	**03 04 57.3**	**-1.3**
AKMS	0.2nm,0.8s			AML	AML	03 05 06.4	
AKMS	0.2nm,0.6s			AML	AML	03 05 06.4	
LFK	**Lefkose**	**0.89**	**27**	Pn	**Pb**	**03 04 47.4**	**0.0**
LFK				Sn	**Sn**	**03 05 03.8**	**+2.5**
PARAL	**Paralimni**	**0.97**	**58**	P	**Pg**	**03 04 50.0**	**+1.3**
EREN	**Erenkoy**	**1.40**	**41**	Pn	**Pn**	**03 04 55.3**	**0.0**
TEKE	**Tekeli-Mersin**	**1.66**	**2**	Pn	**Pn**	**03 04 59.3**	**+0.5**
AKKU	**Akkuyu-Mersin**	**1.72**	**14**	Pn	**Pn**	**03 05 00.4**	**+0.6**
IKL	**Isikli**	**1.83**	**17**	Pn	**Pn**	**03 05 01.8**	**+0.6**
GAZI	**Gazipasa**	**1.84**	**342**	Pn	**Pn**	**03 05 01.4**	**0.0**
BERE	**Bereket-Mersin**	**1.87**	**5**	Pn	**Pn**	**03 05 02.3**	**+0.4**
TEVE	**Tevekalti-Mers**	**1.98**	**10**	Pn	**Pn**	**03 05 04.1**	**+0.8**
KEBE	**Keben-Mersin**	**2.04**	**16**	Pn	**Pn**	**03 05 04.8**	**+0.7**
KIZK	**Mersin**	**2.19**	**24**	Pn	**Pn**	**03 05 06.8**	**+0.7**
MMC7	**Mount Meron ar**	**2.45**	**126**	Pn	**Pn**	**03 05 08.1**	**-1.7**
MMA0	**Mount Meron ar** MMA0	**2.46**	**126**	Pn	**Pn**	**03 05 09.1**	**-0.8**
MMA0				Sn	**Sn**	**03 05 39.1**	**-0.8**
HDMB	**Hadim**	**2.52**	**350**	Pn	**Pn**	**03 05 11.5**	**+0.7**
GEM	**Giv'at Ha'Em**	**2.53**	**119**	Pn	**Pn**	**03 05 10.3**	**-0.5**
GEM				Sn	**Sn**	**03 05 41.0**	**-0.6**
GEM	**Giv'at Ha'Em**	**2.53**	**119**	P	**Pn**	**03 05 10.3**	**-0.5**
MERS	**Mersin**	**2.67**	**27**	Pn	**Pn**	**03 05 13.7**	**+0.9**
KRMN	**Karaman**	**2.69**	**4**	Pn	**Pn**	**03 05 14.2**	**+1.0**
SALP	**Salfit**	**3.01**	**143**	Pn	**Pn**	**03 05 17.6**	**+0.1**
QRNJ	**Al-Qirein**	**3.02**	**135**	P	**Pn**	**03 05 18.6**	**+1.1**
HMDT	**Nahal Hemdat** HMDT	**3.05**	**136**	Pn	**Pn**	**03 05 18.0**	**0.0**
HMDT				Sn	**Sn**	**03 05 54.7**	**+0.3**
HMDT	**Nahal Hemdat**	**3.05**	**136**	P	**Pn**	**03 05 17.7**	**-0.3**
AMAZ	**Amatzia**	**3.34**	**151**	Pn	**Pn**	**03 05 22.7**	**+0.7**
DSI	**Dead Sea**	**3.51**	**145**	Pn	**Pn**	**03 05 24.6**	**+0.3**
DSI	**Dead Sea**	**3.51**	**145**	P	**Pn**	**03 05 23.2**	**-1.1**
YTIR	**Yattir**	**3.57**	**150**	Pn	**Pn**	**03 05 25.9**	**+0.7**
YTIR	**Yattir**	**3.57**	**150**	P	**Pn**	**03 05 25.9**	**+0.7**
MSBI	**Mazada** MSBI	**3.72**	**148**	Pn	**Pn**	**03 05 27.4**	**+0.3**
MSBI				Sn	**Sn**	**03 06 11.1**	**+0.3**
KZIT	**Kziot**	**3.75**	**162**	Pn	**Pn**	**03 05 27.6**	**0.0**
PRNI	**Paran** PRNI	**4.44**	**157**	Pn	**Pn**	**03 05 37.4**	**+0.2**
PRNI				Sn	**Sn**	**03 06 29.2**	**+0.3**
PRNI	**Paran**	**4.44**	**157**	P	**Pn**	**03 05 37.0**	**-0.2**
KRMI	**Paran Flat**	**4.58**	**161**	Pn	**Pn**	**03 05 39.4**	**+0.3**
HRFI	**Mount Harif** HRFI	**4.75**	**159**	Pn	**Pn**	**03 05 41.2**	**+0.2**
HRFI				Sn	**Sn**	**03 06 36.9**	**+0.5**
MBRI	**Mt Berech**	**4.94**	**161**	Pn	**Pn**	**03 05 44.6**	**+0.5**
AQBJ	**Aqaba**	**5.04**	**160**	P	**Pn**	**03 05 46.2**	**+0.8**
EIL	**Elat**	**5.07**	**161**	Pn	**Pn**	**03 05 46.1**	**+0.4**

IDC ***22*** *03:34:27.4±4.3,51°.97N×175°.32W,h46km±40km,mb3.7/11, mbtmp4.0/14,ML3.2/3,Error ellipse: s-maj=34.1km s-min=15.4km az=2.0*
NEIC ***22*** *03:34:30.9±0.7,51°.6N±0°.3×175°.2W±0°.1,h55km±41km, ML3.7(AEIC),Error ellipse: s-maj=47.6km s-min=4.1km az=167.0*
AEIC ***22*** *03:34:31.0±0.5,51°.9N±0°.3×175°.23W±0°.10,h67km±8km, Error ellipse: s-maj=40.1km s-min=3.4km az=168.0*

ISC 22 03:34:30.6±1.0,**52°.0N**±0°.2×**175°.26W**±0°.05,**h79**km±7km, **n43,**σ1**23**/43,**mb3.9**/11,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**0.50**	**277**		**Pn**	**03 34 44.8**	**+0.6**
GSCK	**Great Sitkin C**	**0.56**	**273**		**Pn**	**03 34 45.3**	**+0.5**
ATKA	**Atka Island**	**0.69**	**71**		**Pn**	**03 34 45.6**	**-0.4**
ATKA	**Atka Island**	**0.69**	**71**		**Sn**	**03 34 57.1**	**+0.3**
KOKL	**Mount Kliuchef**	**0.73**	**62**		**Pn**	**03 34 47.5**	**+0.9**
KOFP	**Korovin Flat P**	**0.77**	**67**		**Pn**	**03 34 47.6**	**+0.6**
KOSE	**Korovin Southe** KOSE	**0.83**	**64**		**Pn**	**03 34 48.5**	**+0.9**
KOSE					**Sn**	**03 35 02.4**	**+2.1**
KIWB	**Kanaga Island**	**1.18**	**264**		**Pn**	**03 34 52.5**	**+0.7**
KICM	**Kanaga Island** KICM	**1.20**	**268**		**Pn**	**03 34 53.3**	**+1.3**
KICM					**Sn**	**03 35 09.8**	**+1.7**
KIMD	**Kanaga Island**	**1.25**	**260**		**Pn**	**03 34 52.9**	**+0.3**
TAPA	**Tanaga Point A**	**1.59**	**265**		**Pn**	**03 34 58.0**	**+0.9**
TAFP	**Tanaga Falls P** TAFP	**1.69**	**268**		**Pn**	**03 34 59.3**	**+0.9**
TAFP					**Sn**	**03 35 20.6**	**+1.2**
TANO	**Tanaga North** TANO	**1.77**	**269**		**Pn**	**03 35 00.6**	**+1.1**
TANO					**Sn**	**03 35 22.4**	**+1.1**
GANE	**Gareloi Northe**	**2.19**	**267**		**Pn**	**03 35

*VAO **22** 03:56:57.6±1.1,5°.59S×81°.27W,h10km,mb4.5*
*IDC **22** 03:56:59.2±5.5,5°.61S×81°.31W,h33km±41km,mb3.7/13, mbtmp3.9/16,ML3.3/3,MS3.8/23,Error ellipse: s-maj=34.3km s-min=15.6km az=68.0*
*NEIC **22** 03:57:04.9±1.8,5°.39S±0°.07×80°.57W±0°.07,h10km±1km, mb4.6/44,Error ellipse: s-maj=17.1km s-min=5.2km az=224.0*

ISC 22 03:56:59.3±0.6,**5°.59S**±0°.05×**81°.35W**±0°.08,**h28**km,**n131,** σ1§**48**/82,**mb4.5**/33,**MS3.7**/19,**4C,Near coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MCRA	**Macar, Loja**	**1.85**	**49**			**Pn**	**03 57 28.9**	**-0.3**
MCRA	**Macar, Loja**	**1.85**	**49**	*eP*		**Pn**	**03 57 28.9**	**-0.3**
ARNL	**Arenillas**	**2.40**	**32**			**Pn**	**03 57 35.9**	**-0.9**
ATAH	**Atahualpa**	**3.32**	**118**	Pn		**Pn**	**03 57 50.2**	**+0.5**
	2.4nm,0.3s,baz=323,slow=3.8,SNR=27							
ATAH				Sn		**Sn**	**03 58 31.1**	**+2.6**
	10nm,0.3s,baz=308,slow=18,SNR=4.3							
ATAH				Lg		Lg	03 58 43.6	
	34nm,0.3s,baz=29,slow=19,SNR=4.9 12nm,0.4s							
BOSC	**San Juan Bosco**	**3.74**	**50**			**Pn**	**03 57 56.2**	**+0.8**
COHC	**Cochancay**	**3.74**	**34**			**Pn**	**03 57 55.1**	**-0.1**
COHC	**Cochancay**	**3.74**	**34**	*eP*		**Pn**	**03 57 55.2**	**-0.1**
PPLP	**Puerto Lopez**	**4.06**	**8**	*eP*		**Pn**	**03 57 59.0**	**-0.7**
CHSH	**Refugio Sur-Vo**	**4.76**	**31**			**Pn**	**03 58 09.5**	**-0.4**
PULU	**Pululahua**	**6.26**	**27**			**Pn**	**03 58 30.6**	**+0.4**
PAC1	**Pacto, Paraso**	**6.36**	**24**	*eP*		**Pn**	**03 58 30.6**	**-0.8**
OTAV	**Otavalo**	**6.47**	**27**			**Pn**	**03 58 33.9**	**+0.6**
OTAV	**Otavalo**	**6.47**	**27**	*eP*		**Pn**	**03 58 33.9**	**+0.6**
OTAV	**Otavalo**	**6.47**	**27**	*eP*		**Pn**	**03 58 34.0**	**+0.7**
OTAV				*eS*		**Sn**	**03 59 46.1**	**-0.3**
CUSE	**Cuicocha Este**	**6.56**	**27**	*eP*		**Pn**	**03 58 35.3**	**+0.9**
IMBA	**Imbabura, San**	**6.62**	**28**			**Pn**	**03 58 36.6**	**+1.3**
BONI	**La Bonita**	**7.11**	**33**	*eP*		**Pn**	**03 58 43.0**	**+1.2**
TULM	**Tulcn-Chalpat**	**7.21**	**30**			**Pn**	**03 58 42.4**	**-0.9**
TULM	**Tulcn-Chalpat**	**7.21**	**30**	*eP*		**Pn**	**03 58 45.0**	**+1.7**
NNA	**Nana**	**7.76**	**145**	Pn		**Pn**	**03 58 48.6**	**-2.0**
	1.1nm,0.3s,baz=315,slow=10,SNR=4.1							
NNA				Sn		**Sn**	**04 00 17.8**	**+0.1**
	1.6nm,0.3s,baz=330,slow=20,SNR=1.2							
NNA				Lg		Lg	04 00 53.2	
	1.2nm,0.3s,baz=66,slow=23,SNR=3.9							
NNA				LR		LR	04 02 26.5	
	comp=Z,443nm,20.0s,baz=322,slow=42 7.1nm,0.5s							
BBAC	**Balboa, Cauca**	**8.60**	**29**	*eP*		**Pn**	**03 59 03.1**	**+0.9**
PTLC	**Puerto Leguiza**	**8.70**	**49**	*eP*		Pn	03 58 55.9	-7.5
CZSB	**Cruzeiro do Su**	**8.85**	**104**			**Pn**	**03 59 03.4**	**-2.1**
CZSB	**Cruzeiro do Su**	**8.85**	**104**	*eP*		Pn	03 59 10.4	+5.0
CZSB	**Cruzeiro do Su**	**8.85**	**104**	*eP*		**Pn**	**03 59 04.7**	**-0.8**
GUY2C	**Guyana, Caldas**	**12.29**	**29**	*eP*		**P**	**04 00 04.3**	**-0.8**
ROSC	**El Rosal**	**12.52**	**34**	LR		LR	04 04 58.9	
	comp=Z,748nm,18.7s,baz=212,slow=38							
ETMB	**Extrema**	**15.58**	**107**	*eP*		**Pn**	**04 00 37.4**	**+0.2**
JTS	**Las Juntas de**	**16.18**	**347**	LR		LR	04 05 54.4	
	comp=Z,282nm,18.1s,baz=181,slow=33							
SJCC	**San Jacinto, C**	**16.57**	**22**	*eP*		**P**	**04 00 53.2**	**+1.0**
SDV	**Santo Domingo**	**17.92**	**37**	P		**Pn**	**04 01 07.5**	**+0.7**
	0.7nm,0.3s,baz=302,slow=2.2,SNR=5.3							
SDV				LR		LR	04 08 31.2	
	comp=Z,437nm,20.7s,baz=234,slow=39 1.6nm,0.4s							
SAML	**Samuel**	**18.33**	**102**			**Pn**	**04 01 10.8**	**-0.9**
SAML	**Samuel**	**18.33**	**102**	*eP*		**Pn**	**04 01 10.8**	**-0.9**
BAUV	**El Baul**	**19.61**	**43**	P		**P**	**04 01 24.2**	**-1.4**
MACA	**Manacapuru-AM**	**20.75**	**84**	P		**P**	**04 01 35.4**	**-2.7**
MACA				IAmb		IAmb	04 01 38.7	
	comp=Z,37nm,1.3s							
LVC	**Limon Verde**	**20.76**	**146**	P		**P**	**04 01 40.7**	**+2.2**
LVC				IAmb		IAmb	04 01 50.7	
	comp=Z,33nm,1.4s							
LVC	**Limon Verde**	**20.76**	**146**	P		**P**	**04 01 38.8**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=329,slow=7.9,SNR=3.2							
LVC				LR		LR	04 10 35.3	
	comp=Z,259nm,18.4s,baz=308,slow=39 comp=Z,2.0nm,0.5s							
MTO3	**Montecristo**	**21.39**	**338**	P		P	04 01 53.0	+7.8
VILB	**Vilhena**	**22.11**	**111**	P		**P**	**04 01 51.7**	**-1.1**
VILB				IAmb		IAmb	04 02 18.6	
	comp=Z,34nm,1.2s							
VILB	**Vilhena**	**22.11**	**111**	*eP*		**P**	**04 01 52.8**	**0.0**
BOAV	**Boa Vista**	**22.27**	**70**	*eP*		**P**	**04 01 54.7**	**+0.3**
SIV	**San Ignacio**	**22.42**	**119**	P		**P**	**04 01 54.9**	**-1.2**
	comp=Z,3.6nm,0.8s,baz=292,slow=10,SNR=15							
SIV				LR		LR	04 10 56.5	
	comp=Z,478nm,18.5s,baz=284,slow=37 comp=Z,3.6nm,0.8s							
GO02	**Mina Guanaco**	**22.50**	**151**	P		**P**	**04 01 59.4**	**+2.3**
PTLB	**Pontes e Lacer**	**23.91**	**116**	P		**P**	**04 02 11.1**	**0.0**
PTLB				IAmb		IAmb	04 02 22.9	
	comp=Z,25nm,1.2s							
BBRB	**Robore, Bolivi**	**24.52**	**123**	*eP*		**P**	**04 02 15.6**	**-1.1**
PDRB	**Porto dos Gac**	**25.06**	**105**	*eP*		**P**	**04 02 22.2**	**+0.6**
ITTB	**Itaituba**	**25.55**	**88**	*eP*		**P**	**04 02 26.1**	**+0.1**
CLDB	**Colider**	**25.82**	**103**	*eP*		**P**	**04 02 28.6**	**0.0**
NPGB	**Novo Progresso**	**25.88**	**95**	*eP*		**P**	**04 02 28.4**	**-0.6**
CMIG	**Matias Romero**	**26.20**	**330**	LR		LR	04 10 41.6	
	comp=Z,96nm,20.8s,baz=154,slow=31							
TEIG	**Tepich**	**26.54**	**345**	LR		LR	04 11 37.4	
	comp=Z,1μm,18.9s,baz=206,slow=33							
SALV	**Santo Antonio**	**27.18**	**114**	*eP*		**P**	**04 02 41.1**	**+0.3**
PANT	**Pantanal (Braz**	**27.54**	**121**	*eP*		**P**	**04 02 44.1**	**+0.1**
H03N2	**Juan Fernandez**	**27.80**	**176**	T		T	04 31 45.0	
	baz=355,slow=76							
H03N1	**Juan Fernandez**	**27.80**	**176**	T		T	04 31 40.7	
	baz=355,slow=76							
H03N3	**Juan Fernandez**	**27.82**	**176**	T		T	04 31 32.3	
	baz=355,slow=76							
SJG	**San Juan**	**27.92**	**32**	P		**P**	**04 02 49.6**	**+2.2**
SJG	**San Juan**	**27.92**	**32**	LR		LR	04 16 03.5	
	comp=Z,198nm,18.4s,baz=212,slow=41							
PP1B	**Ponte de Pedra**	**28.50**	**117**	*eP*		**P**	**04 02 52.9**	**+0.4**
RVDE	**Rio Verde (Bra**	**29.00**	**120**	*eP*		**P**	**04 02 56.6**	**-0.4**
MDP	**Montagnes des**	**30.57**	**70**	LR		LR	04 18 00.1	
	comp=Z,253nm,20.4s,baz=280,slow=41							
AMBA	**Amambai (Brazi**	**30.72**	**127**	*eP*		**P**	**04 03 12.3**	**+0.1**
CPUP	**Villa Florida**	**30.85**	**135**	P		**P**	**04 03 12.4**	**-0.9**
	comp=Z,2.3nm,1.1s,baz=342,slow=12,SNR=3.2							
CPUP				LR		LR	04 17 19.9	
	comp=Z,185nm,19.9s,baz=324,slow=40 comp=Z,2.3nm,1.1s							
UNIS	**Unistalda (Bra**	**34.11**	**136**	*eP*		**P**	**04 03 42.4**	**+0.6**
BDFB	**Brasilia**	**34.21**	**110**	P		**P**	**04 03 40.5**	**-2.5**
	comp=Z,2.6nm,0.8s,baz=158,slow=13,SNR=4.2							
BDFB				LR		LR	04 17 48.5	
	comp=Z,159nm,19.2s,baz=322,slow=37 comp=Z,2.6nm,0.8s							
PLCA	**Paso Flores**	**36.31**	**166**	P		P	04 04 08.5	+7.8
PLCA	**Paso Flores**	**36.31**	**166**	P		**P**	**04 03 59.0**	**-1.7**
	comp=Z,2.4nm,0.9s,baz=313,slow=7.7,SNR=2.8							
PLCA				LR		LR	04 16 19.1	
	comp=Z,96nm,20.9s,baz=356,slow=32 comp=Z,2.4nm,0.9s							
SDBA	**SAO DESIDERIO**	**36.60**	**103**	*eP*		**P**	**04 04 03.6**	**0.0**
HKT	**Hockley**	**37.97**	**339**	P		P	04 04 23.9	+9.1
HKT				IAmb		IAmb	04 04 27.2	
	comp=Z,15nm,1.4s							
435B	**Jarrell**	**39.36**	**338**	P		P	04 04 35.9	+9.4
TXAR	**Lajitas Array**	**40.81**	**330**	P		P	04 04 47.9	+9.2
LPIG	**La Paz**	**40.84**	**317**	LR		LR	04 17 32.2	
	comp=Z,38nm,19.3s,baz=124,slow=30							
ALPN	**Alpine**	**41.65**	**330**	P		P	04 04 54.9	+9.3
ALPN				IAmb		IAmb	04 05 01.1	
	comp=Z,4.1nm,1.0s							
GDU01	**Guandu, BA**	**41.92**	**104**	*eP*		**P**	**04 04 47.7**	**-0.2**
MNHN	**Monahans**	**42.03**	**332**	P		P	04 04 58.3	+10
MNHN				IAmb		IAmb	04 04 58.8	
	comp=Z,9.7nm,1.2s							
CMC01	**Camacan, BA**	**42.19**	**107**	*eP*		**P**	**04 04 50.1**	**0.0**
425A	**Indio Mountain**	**42.66**	**329**	P		P	04 05 03.0	+9.2
425A				IAmb		IAmb	04 05 03.8	
	comp=Z,11nm,1.2s							
HHAR	**Hobbs**	**43.29**	**345**	P		P	04 05 06.7	+7.9
HHAR				IAmb		IAmb	04 05 09.8	
	comp=Z,13nm,1.4s							
U38A	**Gravette**	**43.55**	**345**	P		P	04 05 09.1	+8.3
SMWD	**Samnorwood**	**44.21**	**338**	IAmb		IAmb	04 05 16.4	
	comp=Z,9.8nm,0.9s							
CCM	**Cathedral Cave**	**44.39**	**349**	P		P	04 05 14.7	+7.3
CCM				IAmb		IAmb	04 05 18.2	
	comp=Z,13nm,1.1s							
WUAZ	**Wupatki**	**49.68**	**328**	IAmb		IAmb	04 05 59.6	
	comp=Z,7.0nm,1.0s							
PV01	**Paradox Valley**	**50.32**	**332**	P		P	04 06 03.7	+10
PV01				IAmb		IAmb	04 06 04.3	
	comp=Z,9.5nm,1.5s							
U15A	**North Rim**	**50.85**	**328**	IAmb		IAmb	04 06 17.6	
	comp=Z,9.4nm,1.5s							
PFO	**Pinyon Flats O**	**51.23**	**322**	LR		LR	04 24 17.2	
	comp=Z,48nm,18.8s,baz=115,slow=32							
CCUT	**Cedar City**	**52.26**	**328**	IAmb		IAmb	04 06 21.9	
	comp=Z,12nm,1.4s							
P17A	**Butcher Ranch,**	**52.41**	**331**	IAmb		IAmb	04 06 20.5	
	comp=Z,8.5nm,1.2s							
SHPR	**Sheep Range**	**52.48**	**326**	P		P	04 06 20.8	+11
RDMU	**Red Mountain**	**52.74**	**333**	P		P	04 06 20.9	+8.8
RDMU				IAmb		IAmb	04 06 22.0	
	comp=Z,8.6nm,1.1s							
PDAR	**Pinedale Array**	**54.52**	**335**	P		**P**	**04 06 24.7**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=138,slow=7.4,SNR=5.8							
PDAR				LR		LR	04 29 38.1	
	comp=Z,44nm,18.3s,baz=130,slow=36 comp=Z,0.7nm,0.8s							
NVAR	**Mina Array Bea**	**55.61**	**325**	P		**P**	**04 06 33.1**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=128,slow=8.5,SNR=5.4							
NVAR				LR		LR	04 28 56.4	
	comp=Z,53nm,18.2s,baz=127,slow=34 comp=Z,0.4nm,0.5s							
BMN	**Battle Mountai**	**56.41**	**328**	P		P	04 06 48.0	+9.4
YERR	**Yerington**	**56.52**	**325**	IAmb		IAmb	04 06 52.4	
	comp=Z,12nm,1.4s							
ULM	**Lac du Bonnet**	**57.02**	**349**	P		**P**	**04 06 41.3**	**-1.2**
	comp=Z,2.0nm,0.9s,baz=127,slow=9.6,SNR=3.7 comp=Z,2.0nm,0.9s							
ORV	**Oroville**	**58.21**	**324**	IAmb		IAmb	04 07 01.3	
	comp=Z,6.0nm,1.1s							
K05A	**Summer Lake**	**59.99**	**327**	P		P	04 07 12.1	+8.4
I07A	**Izee**	**60.20**	**329**	P		P	04 07 14.8	+10
I07A				IAmb		IAmb	04 07 17.1	
	comp=Z,7.4nm,1.3s							
YBH	**Yreka Blue Hor**	**60.33**	**325**	LR		LR	04 31 43.6	
	comp=Z,47nm,18.3s,baz=106,slow=34							
G08A	**Pilot Rock**	**60.78**	**330**	P		P	04 07 17.3	+8.3
NEW	**Newport**	**62.12**	**334**	LR		LR	04 34 26.3	
	comp=Z,37nm,18.7s,baz=134,slow=36							
YKA	**Yellowknife Ar**	**72.50**	**345**	P		**P**	**04 08 21.8**	**-1.4**
	comp=Z,0.5nm,1.0s,baz=142,slow=5.6,SNR=2.6 comp=Z,0.5nm,1.0s							
DBIC	**Dimbokro**	**77.31**	**82**	LR		LR	04 41 39.8	
	comp=Z,84nm,18.5s,baz=198,slow=35							
VNA3	**Neumayer Olymp**	**78.89**	**162**	⇑P		**P**	**04 09 02.6**	**+2.8**
	comp=Z,4.6nm,0.8s							
VNA2	**Neumayer--Watz**	**79.53**	**161**	⇑P		**P**	**04 09 04.4**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=296,slow=4.0							
M29M	**Somme Creek**	**80.46**	**337**	P		P	04 09 17.3	+8.8
M29M				IAmb		IAmb	04 09 18.6	
	comp=Z,6.6nm,0.9s							
SNAA	**Sanae**	**81.11**	**162**	P		P	04 09 18.6	+6.8
SNAA	**Sanae**	**81.11**	**162**	⇑P		**P**	**04 09 11.5**	**-0.4**
	comp=Z,28nm,0.8s							
SNAA	**Sanae**	**81.11**	**162**	P		**P**	**04 09 10.4**	**-1.4**
	comp=Z,1.7nm,1.0s,baz=308,slow=12,SNR=2.5 comp=Z,1.7nm,1.0s							
F31M	**Tsiigehtchic**	**81.66**	**342**	P		P	04 09 22.7	+8.2
F31M				IAmb		IAmb	04 09 23.5	
	comp=Z,7.1nm,1.2s							
BCAR	**Beaver Creek A**	**82.09**	**336**	P		P	04 09 26.3	+9.2
INK	**Inuvik**	**82.12**	**343**	LR		LR	04 48 31.2	
	comp=Z,72nm,18.2s,baz=182,slow=38							
EGAK	**Eagle**	**82.70**	**338**	P		P	04 09 28.5	+8.4
TROLL	**Troll, Antarti**	**82.82**	**162**	⇑P		**P**	**04 09 18.7**	**-2.2**
	comp=Z,89nm,0.8s							
ESDC	**Sonseca Array**	**83.91**	**49**	P		**P**	**04 09 29.0**	**+2.0**
ESDC				IAmb		IAmb	04 09 38.4	
	comp=Z,3.9nm,1.2s							
ESDC	**Sonseca Array**	**83.91**	**49**	P		**P**	**04 09 25.7**	**-1.3**
	comp=Z,1.9nm,0.8s,baz=270,slow=4.6,SNR=17 comp=Z,1.9nm,0.8s							
QSPA	**South Pole Qui**	**84.50**	**180**	P		**P**	**04 09 28.7**	**-0.9**
	comp=Z,4.6nm,1.1s,baz=178,slow=1.4,SNR=5.2 comp=Z,4.6nm,1.1s							
TORD	**Torodi Ar. Bea**	**84.52**	**76**	P		**P**	**04 09 27.1**	**-3.5**
	comp=Z,0.4nm,0.4s,baz=301,slow=6.4,SNR=4.8							
ILAR	**Eielson Array**	**84.88**	**337**	P		**P**	**04 09 30.2**	**-1.1**
	comp=Z,0.2nm,0.8s,baz=119,slow=8.4,SNR=1.6 comp=Z,0.2nm,0.8s							
NOA	**NORSAR Array B**	**96.10**	**29**	LR		LR	04 51 48.5	
	comp=Z,17nm,20.2s,baz=290,slow=34							
SUR	**Sutherland**	**97.23**	**124**	LR		LR	04 52 03.0	
	comp=Z,59nm,20.5s,baz=228,slow=34							
H11S2	**WAKE ISLAND Hyl**	**12.55**	**288**	T		T	06 17 38.4	
	baz=95,slow=72							
H11S1	**WAKE ISLAND Hyl**	**12.55**	**288**	T		T	06 17 35.9	
	baz=95,slow=72							
H11S3	**WAKE ISLAND Hyl**	**12.56**	**288**	T		T	06 17 33.0	
	baz=95,slow=72							
ZALV	**Zalesovo Beam**	**130.49**	**11**	PKP		**PKPdf**	**04 16 06.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=262,slow=2.9,SNR=1.5							
ASAR	**Alice Springs**	**134.96**	**228**	PKP		**PKPdf**	**04 16 16.5**	**-0.3**
	comp=Z,0.2nm,0.9s,baz=141,slow=1.9,SNR=2.0							
WRA	**Warramunga Arr**	**136.69**	**233**	PKP		**PKPdf**	**04 16 18.9**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=111,slow=3.2,SNR=3.6							
GTA	**Gaotai**	**146.31**	**358**	*e*PKPbc		**PKiKP**	**04 16 46.0**	**+4.9**
LZH	**Lanzhou**	**149.28**	**352**	*e*PKPbc		**PKPab**	**04 16 52.8**	**+2.2**
LZH				pPKP		pPKPab	04 17 02.3	+2.9
XAN	**Xi'an**	**150.13**	**343**	PKPbc		**PKPab**	**04 16 55.8**	**+1.8**
WHN	**Wuhan**	**151.11**	**331**	PKPbc		**PKPab**	**04 16 58.3**	**+0.2**
PZH	**PanZhiHua**	**158.99**	**352**	PKP		**PKPdf**	**04 17 01.0**	**+5.3**

*NEIC **22** 04:18:14.3±0.6,19°.07N±0°.05×155°.43W±0°.01,h46km±3km, Error ellipse: s-maj=7.2km s-min=1.6km az=175.0*

HVO 22 04:18:16.0±0.7,**19°.05N**±0°.05×**155°.42W**±0°.03,**h38**km±4km, **Md2.6**/33,**ML2.7**/50(NEIC),**Error ellipse: s-maj=7.9km s-min=3.7km az=164.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.14**	**289**			Pn	04 18 21.9	-5.6
HTC	**Hot Caves**	**0.19**	**6**			Pn	04 18 22.4	-3.1
HLP	**Hilina Pali**	**0.27**	**23**			Sn	04 18 28.5	-3.3
HLP	**Hilina Pali**	**0.27**	**23**			Pn	04 18 23.1	-1.3
HLP	**Hilina Pali**	**0.27**	**23**	IAML			04 18 28.7	
	comp=E,492nm,1.4s							
HLP				IAML			04 18 30.9	
	comp=N,532nm,0.2s							
KHU	**Kahuku**	**0.27**	**317**			Pn	04 18 22.9	-1.7
AIN	**Ainahou**	**0.33**	**353**			Pn	04 18 23.9	-0.8
AIN				IAML			04 18 30.1	
	comp=N,800nm,0.2s							
AIN	**Ainahou**	**0.33**	**353**			Sn	04 18 29.5	-2.2
SDHHI	**Sand Hill**	**0.36**	**19**			Pn	04 18 23.7	-1.1
SDHHI	**Sand Hill**	**0.36**	**19**	IAML			04 18 30.0	
	comp=E,1μm,0.9s							
SDHHI				IAML			04 18 31.4	
	comp=N,1μm,0.7s							
RIM	**Rim**	**0.37**	**21**			Pn	04 18 23.8	-1.1
RIM	**Rim**	**0.37**	**21**	IAML			04 18 30.1	
	comp=E,643nm,1.2s							
RIM				IAML			04 18 30.1	
	comp=N,683nm,1.2s							
WRMHI	**West Rim**	**0.38**	**17**			Pn	04 18 23.8	-1.1
WRMHI	**West Rim**	**0.38**	**17**	IAML			04 18 30.5	
	comp=N,1μm,1.1s							
WRMHI				IAML			04 18 34.2	
	comp=E,1μm,0.6s							
KKO	**Keanakako`i**	**0.38**	**22**			Pn	04 18 24.0	-1.0
KKO	**Keanakako`i**	**0.38**	**22**	IAML			04 18 30.3	
	comp=E,650nm,1.0s							
KKO				IAML			04 18 40.9	
	comp=N,816nm,1.2s							
PUH	**Pauahi**	**0.38**	**30**			Pn	04 18 23.8	-1.1
PUH						Sn	04 18 29.5	-2.4
PUH	**Pauahi**	**0.38**	**30**	IAML			04 18 30.1	
	comp=E,203nm,0.6s							
PUH				IAML			04 18 37.8	
	comp=N,290nm,1.1s							
OBL	**Observatory Le**	**0.39**	**19**			Pn	04 18 23.9	-1.2
OBL						Sn	04 18 30.7	-1.4
UWE	**Uwekahuna**	**0.39**	**17**			Pn	04 18 24.0	-1.2
UWE						Sn	04 18 30.5	-1.6
UWE	**Uwekahuna**	**0.39**	**17**	IAML			04 18 39.1	
	comp=N,684nm,1.5s							
BYL	**Byron's Ledge**	**0.40**	**22**			Pn	04 18 24.0	-1.2
BYL	**Byron's Ledge**	**0.40**	**22**	IAML			04 18 30.3	
	comp=E,402nm,1.0s							
BYL				IAML			04 18 32.5	
	comp=N,434nm,0.8s							
UWB	**Uwekahuna B**	**0.40**	**19**			Sn	04 18 30.4	-1.8
UWB	**Uwekahuna B**	**0.40**	**19**			Pn	04 18 24.0	-1.3
UWB				IAML			04 18 39.8	
	comp=E,115nm,1.3s							
UWB	**Uwekahuna B**	**0.40**	**19**	IAML			04 18 30.4	
	comp=N,185nm,1.4s							
HATHI	**Halema'uma'u T**	**0.40**	**21**			Pn	04 18 24.1	-1.2
HATHI						Sn	04 18 30.3	-1.9
HATHI	**Halema'uma'u T**	**0.40**	**21**	IAML			04 18 38.8	
	comp=E,503nm,1.0s							
HATHI				IAML			04 18 43.7	
	comp=N,399nm,1.1s							
SBLHI	**Steaming Bluff**	**0.41**	**20**			Pn	04 18 24.0	-1.3
SBLHI						Sn	04 18 30.0	-2.3
SBLHI	**Steaming Bluff**	**0.41**	**20**	IAML			04 18 30.9	
	comp=N,433nm,1.0s							
SBLHI				IAML			04 18 33.1	
	comp=E,376nm,1.0s							
KNHH	**Kane Nui o Ham**	**0.41**	**35**			Pn	04 18 24.2	-1.1
RSD	**Rainshed**	**0.44**	**18**			Pn	04 18 24.4	-1.4
RSD						Sn	04 18 30.4	-2.4
RSD	**Rainshed**	**0.44**	**18**	IAML			04 18 30.9	
	comp=E,239nm,0.4s							
RSD				IAML			04 18 35.8	
	comp=N,162nm,0.4s							
STCH	**Steam Cracks**	**0.44**	**39**			Pn	04 18 24.5	-1.2
STCH						Sn	04 18 30.7	-2.1
STCH	**Steam Cracks**	**0.44**	**39**	IAML			04 18 31.0	
	comp=N,579nm,0.4s							
STCH				IAML			04 18 31.4	
	comp=E,470nm,0.1s							
MLH	**Mauna Loa**	**0.45**	**4**			Pn	04 18 25.0	-1.1
MLH				IAML			04 18 31.8	
	comp=E,537nm,0.2s							
MLH				IAML			04 18 32.0	
	comp=N,615nm,0.7s							
MLH	**Mauna Loa**	**0.45**	**4**			Sn	04 18 31.4	-1.9
JCUZ	**Jacuzzi**	**0.45**	**41**			Sn	04 18 31.1	-2.0
NPOC	**North of Pu'u**	**0.45**	**40**			Pn	04 18 24.7	-1.3
NPOC						Sn	04 18 31.0	-2.1
NPOC	**North of Pu'u**	**0.45**	**40**	IAML			04 18 31.5	
	comp=E,424nm,0.6s							
NPOC				IAML			04 18 35.7	
	comp=N,408nm,0.9s							
MWH	**Moku'aweowe**	**0.47**	**339**			Pn	04 18 25.2	-1.5
MWH	**Moku'aweowe**	**0.47**	**339**			Sn	04 18 32.2	-2.0
MLOA	**Mauna Loa Obse**	**0.51**	**343**			Pn	04 18 25.7	-1.5
MLOA						Sn	04 18 32.5	-2.5
MLOA	**Mauna Loa Obse**	**0.51**	**343**	IAML			04 18 32.7	
	comp=E,508nm,0.2s							
MLOA				IAML			04 18 33.7	
	comp=N,361nm,0.3s							
ALEP	**Alea Permanent**	**0.54**	**337**			Pn	04 18 25.8	-1.8
ALEP						Sn	04 18 32.9	-2.7
JOKA	**Jonika Flow**	**0.55**	**45**			Pn	04 18 25.8	-1.7
JOKA						Sn	04 18 32.8	-2.7
HMH	**Humu'ula Sheep**	**0.56**	**354**			Pn	04 18 26.5	-1.4
HMH				IAML			04 18 34.6	
	comp=E,323nm,0.2s							
HMH	**Humu'ula Sheep**	**0.56**	**354**			Sn	04 18 34.0	-2.0
KHLU	**Kahalu`u**	**0.70**	**321**			Sn	04 18 36.3	-3.0
KHLU	**Kahalu`u**	**0.70**	**321**	Pn		Pn	04 18 27.9	-1.7
KHLU				IAML			04 18 36.5	
	comp=E,147nm,0.3s							
KHLU				IAML			04 18 36.9	
	comp=N,270nm,0.4s							
POHA	**Pohakuloa**	**0.72**	**351**	Pn		Pn	04 18 28.0	-1.9
POHA						Sn	04 18 37.5	-2.3
POHA				IAML			04 18 44.9	
	comp=N,268nm,1.4s							
HUH	**Hualalai**	**0.75**	**328**			Sn	04 18 38.8	-1.8
HUH	**Hualalai**	**0.75**	**328**	Pn		Pn	04 18 28.8	-1.5
HUH				IAML			04 18 44.5	
	comp=E,305nm,0.7s							
HUH				IAML			04 18 46.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.25**	**14**	P	**Pn**	**04 59 51.1**	**+0.4**
	SNR=78						
AML	**Almayashu**	**4.25**	**14**	⇑P	**Pn**	**04 59 50.9**	**+0.2**
	0.9nm,0.5s						
AML				⇓S	**Sn**	**05 00 39.4**	**-0.9**
	20nm,0.8s						
UCH	**Uchtor**	**4.54**	**21**	P	**Pn**	**04 59 55.0**	**+0.4**
	SNR=18						
KZA	**Kyzart**	**4.65**	**28**	P	**Pn**	**04 59 56.0**	**0.0**
	SNR=16						
MRKS	**Merke**	**4.78**	**8**	*e*Pg	**Pn**	**04 59 58.1**	**+0.8**
	13nm,0.2s						
MRKS				*e*Lg	Lg	05 00 51.4	
	39nm,0.2s						
EKS2	**Erkin-Say**	**4.78**	**13**	P	**Pn**	**04 59 58.5**	**+1.2**
	SNR=38						
AAK	**Ala-Archa**	**4.92**	**19**	P	**Pn**	**05 00 00.2**	**+1.0**
	SNR=15						
AAK	**Ala-Archa**	**4.92**	**19**	P	**Pn**	**04 59 59.9**	**+0.7**
	14nm,0.4s,baz=183,slow=6.3,SNR=64						
AAK				S	**Sn**	**05 00 56.1**	**+0.4**
	16nm,0.6s,baz=315,slow=23,SNR=18						
DZA	**Taraz**	**4.92**	**352**	*e*Pg	**Pn**	**05 00 01.1**	**+1.9**
	53nm,0.1s						
DZA				*e*Lg	Lg	05 00 56.2	
	84nm,0.2s						
KBK	**Karagaybulak**	**5.06**	**23**	P	**Pn**	**05 00 03.0**	**+1.9**
	SNR=9.1						
ULHL	**Ulahol**	**5.20**	**34**	P	**Pn**	**05 00 02.6**	**-0.5**
	SNR=25						
KK31	**Karatay Array**	**5.26**	**346**	⇑P	**Pn**	**05 00 04.5**	**+0.9**
	5.1nm,0.3s						
KK31				⇓S	**Sn**	**05 01 03.2**	**-0.3**
	15nm,0.3s						
CHMS	**Chumysh**	**5.32**	**20**	P	**Pn**	**05 00 05.4**	**+0.9**
	SNR=11						
CHMS	**Chumysh**	**5.32**	**20**	⇑P	**Pn**	**05 00 04.8**	**+0.3**
	9.8nm,0.5s						
CHMS				⇓S	**Sn**	**05 01 05.7**	**+0.6**
	15nm,0.7s						
USP	**Ospenovka**	**5.51**	**17**	P	**Pn**	**05 00 07.5**	**+0.5**
	SNR=6.9						
TKM2	**Tokmak 2**	**5.51**	**26**	⇑P	**Pn**	**05 00 07.2**	**0.0**
	2.5nm,0.5s						
TKM2				⇑S	**Sn**	**05 01 09.4**	**-0.5**
	8.3nm,0.6s						
KST	**Kastek**	**5.75**	**28**	*e*Pg	Pn	05 00 16.8	+6.5
	3.2nm,0.4s						
KST				*e*Lg	Lg	05 01 23.1	
	14nm,0.6s						
DGS	**Degeres**	**5.86**	**26**	*e*Pg	Pn	05 00 20.3	+8.7
	3.0nm,0.2s						
DGS				*e*Lg	Lg	05 01 29.1	
	5.8nm,0.3s						
TNSS	**Tian-Shan**	**6.15**	**34**	*e*Pg	Pn	05 00 27.7	+12
	5.2nm,0.2s						
TNSS				*e*Lg	Lg	05 01 41.6	
	5.2nm,0.5s						
KRBS	**Karabastau**	**6.23**	**23**	*e*Pg	Pn	05 00 28.0	+11
	3.3nm,0.3s						
KRBS				*e*Lg	Lg	05 01 42.6	
	4.5nm,0.4s						
MDOK	**Medeo**	**6.29**	**34**	*e*Pg	Pn	05 00 30.0	+13
	5.8nm,0.5s						
MDOK				*e*Lg	Lg	05 01 45.9	
	9.5nm,0.9s						
KOTS	**Kotyrbulak**	**6.38**	**34**	*e*Pg	Pn	05 00 32.2	+14
	6.8nm,0.3s						
KOTS				*e*Lg	Lg	05 01 49.6	
	14nm,0.4s						
KTBS	**Karatobe**	**6.59**	**29**	*e*Pg	Pn	05 00 35.5	+14
	3.1nm,0.2s						
KTBS				*e*Lg	Lg	05 01 55.0	
	6.5nm,0.3s						
KUU	**Kurty**	**6.62**	**26**	*e*Pg	Pn	05 00 35.9	+14
	4.3nm,0.5s						
KUU				*e*Lg	Lg	05 01 55.9	
	4.3nm,0.3s						
PDGK	**Podgornoye**	**7.62**	**44**	P	**Pn**	**05 00 33.7**	**-1.6**
	4.3nm,0.5s						
GEYT	**Ailbeck**	**11.18**	**274**	P	**P**	**05 01 26.4**	**-4.2**
	1.2nm,0.3s,baz=174,slow=17,SNR=1.6						
GEYT				S	Sn	05 03 17.5	-8.5
	1.5nm,0.4s,baz=257,slow=39,SNR=2.1						
MK31	**Makanchi Array**	**11.47**	**37**	P	**Pn**	**05 01 26.0**	**0.0**
	1.0nm,0.7s,baz=220,slow=14,SNR=4.9						
MKAR	**Makanchi Array**	**11.47**	**37**	P	**Pn**	**05 01 24.7**	**-1.3**
	0.8nm,0.8s,baz=215,slow=15,SNR=7.6						
KURBB	**Kurchatov Arra**	**13.37**	**17**	P	**Pn**	**05 01 49.1**	**-1.3**
	0.2nm,0.5s,baz=203,slow=12,SNR=2.7						
AB31	**Akbulak array**	**14.33**	**326**	P	**P**	**05 02 04.1**	**-1.3**
	0.7nm,0.5s,baz=169,slow=11,SNR=25						
AB31				⇓S	**Sn**	**05 04 39.1**	**-2.4**
	1.2nm,0.6s,baz=137,slow=25,SNR=5.7						
BVAR	**Borovoye Array**	**15.07**	**356**	P	**P**	**05 02 13.4**	**-0.1**
	1.0nm,0.3s,baz=154,slow=9.2,SNR=9.2						
AKTO	**Aktyubinsk**	**16.04**	**325**	P	**P**	**05 02 26.4**	**+2.0**
	1.7nm,0.3s,baz=125,slow=9.9,SNR=7.7						
AKTO	**Aktyubinsk**	**16.04**	**325**	⇑P	**Pn**	**05 02 22.9**	**-1.0**
	1.4nm,0.6s						
AKTO				⇑S	**S**	**05 05 18.9**	**-3.5**
	4.5nm,1.4s						
ZALV	**Zalesovo Beam**	**18.11**	**24**	P	**Pn**	**05 02 47.7**	**-1.0**
	0.8nm,0.3s,baz=210,slow=10,SNR=6.6						
FINES	**FINESS Array B**	**36.82**	**325**	P	**P**	**05 05 43.6**	**+3.7**
	0.5nm,0.3s,baz=119,slow=11,SNR=6.6						
	0.5nm,0.3s						
ARCES	**ARCESS Array B**	**40.15**	**337**	P	**P**	**05 06 10.9**	**+3.3**
	0.7nm,0.5s,baz=114,slow=9.0,SNR=5.4						
	0.7nm,0.5s						
HFS	**Hagfors**	**42.52**	**321**	P	**P**	**05 06 30.4**	**+3.4**
	1.6nm,0.7s,baz=89,slow=13,SNR=4.6						
	1.6nm,0.7s						
NOA	**NORSAR Array B**	**43.80**	**322**	P	**P**	**05 06 40.0**	**+2.6**
	0.7nm,0.8s,baz=104,slow=5.5,SNR=1.4						
	0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**66.77**	**269**	P	**P**	**05 09 24.1**	**+1.8**
	0.2nm,0.4s,baz=64,slow=6.7,SNR=1.7						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**73.04**	**16**	P	**P**	**05 09 59.2**	**-0.7**
	0.2nm,0.5s,baz=292,slow=4.8,SNR=1.5						
	0.2nm,0.5s						
YKA	**Yellowknife Ar**	**79.68**	**3**	P	**P**	**05 10 39.2**	**+2.0**
	0.4nm,0.6s,baz=348,slow=6.0,SNR=14						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**81.94**	**123**	P	**P**	**05 10 48.5**	**-1.4**
	0.3nm,0.8s,baz=322,slow=5.3,SNR=1.7						
	0.3nm,0.8s						

TEH 22 05:21:15.8, 30.75N×57.41E, h9km±49km, ML3.7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.27**	**205**	Pg	Pb	05 21 23.0	-0.1
KRM1				Sg	Sb	05 21 26.8	-1.1
ZRDN	**Zarand Kerman**	**0.78**	**286**	Pg	Pn	05 21 32.7	-0.6
KHGB	**Koh Gabri**	**0.88**	**245**	Pg	Pb	05 21 33.8	+0.3
CHMN	**Cheshme madani**	**0.90**	**172**	Pg	Pn	05 21 34.5	-0.5
TVBK	**TV Kerman**	**0.94**	**216**	Pg	Pn	05 21 35.8	+0.2
NGRK	**Negar Kerman**	**1.25**	**208**	Pg	Pn	05 21 41.4	+1.6
IBAF	**Bafgh**	**1.78**	**298**	Pg	Pg	05 21 49.9	-0.2
KBAM	**BAM**	**1.85**	**150**	Pn	Pg	05 21 51.2	-0.1
BSRN	**Basiran**	**1.91**	**50**	Pn	Pb	05 21 51.3	+0.5
IKOO	**Kooshah**	**2.15**	**39**	Pn	Pb	05 21 55.2	0.0
TPRV	**Parvadeh(Tabas**	**2.35**	**345**	Pn	Pb	05 21 57.6	-0.8
NHDN	**Nehbandan**	**2.36**	**74**	Pn	Pb	05 21 58.5	-0.1
ITEG	**Tejag**	**2.43**	**28**	Pn	Pb	05 21 58.5	-1.3
IMEH	**Mehriz**	**2.48**	**286**	Pn	Pb	05 21 59.8	-0.9
TKDS	**Koohdasht(Taba**	**2.86**	**355**	Pn	Pn	05 22 04.4	+2.6
ICHK	**Chekchek**	**2.96**	**301**	Pn	Pb	05 22 06.5	-2.5
AFRZ	**Afriz**	**3.00**	**27**	Pn	Pb	05 22 06.8	-2.6
ZHDN	**Zahedan**	**3.25**	**114**	Pn	Pn	05 22 09.5	+2.4
ISAD	**Sadrabad**	**3.39**	**291**	Pn	Pn	05 22 12.4	+3.2
GENO	**Geno**	**3.51**	**198**	Pn	Pb	05 22 14.8	-3.5
SHRT	**Shahrakht**	**3.78**	**40**	Pn	Pn	05 22 18.4	+3.9
IRAM	**Ramesheh**	**4.43**	**285**	Pn	Pn	05 22 26.5	+3.1
IZEF	**Zefreh**	**4.82**	**298**	Pn	Pn	05 22 32.5	+3.7
TBJM	**Torbat-e-JAM**	**5.13**	**28**	Pn	Pn	05 22 36.9	+3.9
SBZV	**Sabzevar**	**5.62**	**2**	Pn	Pn	05 22 42.3	+2.5
IAKL	**Akhelmad**	**5.94**	**11**	Pn	Pn	05 22 48.1	+3.8

IDC 22 05:22:48.3±3.3, 21.83S×113.59W, h0km, mb3.6/3,

mbtmp3.6/3, MS3.6/21, Error ellipse: s-maj=351.4km s-min=66.5km az=99.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**32.67**	**118**	T	T	06 04 24.4	
	baz=286,slow=75						
H03N3	**Juan Fernandez**	**32.68**	**118**	T	T	06 04 30.3	
	baz=286,slow=75						
H03N1	**Juan Fernandez**	**32.68**	**118**	T	T	06 04 26.4	
	baz=286,slow=75						
PPT	**Papeete**	**34.09**	**271**	LR	LR	05 38 39.3	
	comp=Z,129nm,19.3s,baz=116,slow=28						
NNA	**Nana**	**36.41**	**80**	LR	LR	05 40 53.2	
	comp=Z,157nm,19.9s,baz=256,slow=30						
ATAH	**Atahualpa**	**36.95**	**72**	LR	LR	05 41 00.5	
	comp=Z,204nm,21.7s,baz=251,slow=30						
PLCA	**Paso Flores**	**40.86**	**128**	LR	LR	05 43 14.4	
	comp=Z,85nm,19.3s,baz=260,slow=30						
LVC	**Limon Verde**	**41.25**	**100**	LR	LR	05 43 28.8	
	comp=Z,38nm,19.2s,baz=272,slow=30						
CFA	**Coronel Fontan**	**41.42**	**113**	LR	LR	05 43 34.0	
	comp=Z,204nm,21.7s,baz=270,slow=30						
CMIG	**Matias Romero**	**42.80**	**27**	LR	LR	05 43 39.0	
	comp=Z,30nm,19.6s,baz=132,slow=29						
RAR	**Rarotonga**	**42.84**	**262**	LR	LR	05 43 06.1	
	comp=Z,123nm,21.1s,baz=158,slow=28						
LPIG	**La Paz**	**45.77**	**4**	LR	LR	05 45 52.0	
	comp=Z,52nm,19.8s,baz=204,slow=30						
SIV	**San Ignacio**	**49.83**	**93**	LR	LR	05 50 18.3	
	comp=Z,45nm,18.0s,baz=272,slow=33						
CPUP	**Villa Florida**	**51.23**	**107**	LR	LR	05 49 53.7	
	comp=Z,48nm,18.9s,baz=253,slow=32						
TXAR	**Lajitas Array**	**51.76**	**11**	LR	LR	05 48 54.3	
	comp=Z,20nm,21.3s,baz=147,slow=30						
SDV	**Santo Domingo**	**52.03**	**59**	LR	LR	05 51 10.0	
	comp=Z,60nm,18.7s,baz=260,slow=33						
PFO	**Pinyon Flats O**	**55.20**	**357**	LR	LR	05 51 15.5	
	comp=Z,30nm,18.7s,baz=107,slow=31						
ANMO	**Albuquerque**	**56.87**	**7**	LR	LR	05 52 18.5	
	comp=Z,75nm,19.5s,baz=294,slow=31						
NVAR	**Mina Array Bea**	**60.10**	**356**	P	P	05 32 58.1	+0.4
	0.8nm,0.6s,baz=190,slow=9.8,SNR=5.3						
NVAR				LR	LR	05 52 53.1	
	comp=Z,78nm,21.3s,baz=180,slow=30						
	0.8nm,0.6s						
ELK	**Elko**	**62.27**	**359**	LR	LR	05 54 59.3	
	comp=Z,37nm,19.2s,baz=187,slow=31						
PDAR	**Pinedale Array**	**64.38**	**3**	P	P	05 33 25.1	-1.2
	0.5nm,0.8s,baz=180,slow=7.4,SNR=4.1						
PDAR				LR	LR	05 55 57.6	
	comp=Z,32nm,20.7s,baz=116,slow=31						
	0.5nm,0.8s						
MDP	**Montagnes des**	**65.37**	**73**	LR	LR	05 59 23.6	
	comp=Z,70nm,18.6s,baz=330,slow=34						
NEW	**Newport**	**69.84**	**357**	LR	LR	05 59 38.6	
	comp=Z,38nm,19.0s,baz=253,slow=32						
YKA	**Yellowknife Ar**	**84.02**	**360**	P	P	05 35 21.2	+1.0
	0.4nm,0.9s,baz=180,slow=5.6,SNR=5.1						
	0.4nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**87.65**	**291**	T	T	07 11 50.0	
	baz=115,slow=75,SNR=122						
H11S1	**WAKE ISLAND Hy**	**87.66**	**291**	T	T	07 11 52.8	
	baz=115,slow=75,SNR=59						
H11S3	**WAKE ISLAND Hy**	**87.66**	**291**	T	T	07 11 51.7	
	baz=115,slow=75,SNR=66						
H11N3	**WAKE ISLAND Hy**	**87.96**	**292**	T	T	07 12 13.5	
	baz=117,slow=74						
H11N1	**WAKE ISLAND Hy**	**87.98**	**292**	T	T	07 12 15.2	
	baz=117						
H11N2	**WAKE ISLAND Hy**	**87.98**	**292**	T	T	07 12 17.8	
	baz=117,slow=74						
FRB	**Frobisher Bay**	**92.24**	**18**	LR	LR	06 13 26.8	
	comp=Z,49nm,20.5s,baz=222,slow=33						
ZALV	**Zalesovo Beam**	**145.01**	**341**	PKPbc	PKPbc	05 42 26.0	-0.6
	1.2nm,0.6s,baz=13,slow=3.2,SNR=7.4						
BVAR	**Borovoye Array**	**148.71**	**355**	PKPbc	PKPbc	05 42 37.6	+0.2
	1.9nm,0.7s,baz=343,slow=1.5,SNR=9.1						
KURBB	**Kurchatov Arra**	**149.73**	**345**	PKPbc	PKPbc	05 42 38.5	-1.5
	1.6nm,0.8s,baz=26,slow=2.1,SNR=14						
MKAR	**Makanchi Array**	**151.96**	**336**	PKPbc	PKPbc	05 42 45.2	-0.2
	1.8nm,0.8s,baz=52,slow=1.5,SNR=8.5						

NNC 22 05:31:16.6±0.7, 42.08N×72.80E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=6.3km s-min=2.9km az=12.0
KRNET 22 05:31:16.4±0.1, 42.12N×72.79E, h20km, mb2.5
KNET 22 05:31:17.8±0.4, 42.17N×72.91E, h7km±2km, ml2.0, Error ellipse: s-maj=2.7km s-min=2.5km az=58.0

ISC 22 05:31:15.9±1.1, 42.06N±0.03×72.83E±0.02, h12km±10km, n37, σ0°96/66, 33C-21D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.65**	**84**	⇓P	**Pb**	**05 31 29.7**	**+0.2**
	9.5nm,0.1s,SNR=57						
AML				⇓S	**Sb**	**05 31 38.7**	**+0.1**
	32nm,0.1s						
AML	**Almayashu**	**0.65**	**84**	⇑*i*P	**Pb**	**05 31 29.4**	**0.0**
	baz=89						
AML				⇑*i*S	**Sb**	**05 31 38.6**	**0.0**
	baz=89						
AML	**Almayashu**	**0.65**	**84**	⇑P	**Pb**	**05 31 29.4**	**0.0**
	0.4nm,0.5s						
AML				⇑S	**Sb**	**05 31 39.0**	**+0.4**
	11nm,0.7s						
ARK	**Arkit**	**0.70**	**248**	⇑*i*P	**Pg**	**05 31 29.7**	**+0.2**
	baz=42						
ARK				⇑*i*S	**Sg**	**05 31 39.1**	**+0.5**
	baz=42						
MRKS	**Merke**	**0.74**	**23**	P	**Pg**	**05 31 30.7**	**+0.3**
	64nm,0.1s						
MRKS				S	**Sg**	**05 31 40.5**	**+0.4**
	289nm,0.1s						
ARSB	**Arslanbob**	**0.75**	**171**	⇑*e*P	**Pb**	**05 31 31.8**	**+0.9**
	baz=70						
ARSB				⇑*e*S	**Sn**	**05 31 43.0**	**-0.7**
	baz=70						
EKS2	**Erkin-Say**	**0.93**	**49**	⇑P	**Pg**	**05 31 33.9**	**+0.1**
	2.0nm,0.1s,SNR=12						
EKS2				⇑S	**Sg**	**05 31 46.1**	**+0.1**
	4.7nm,0.1s						
EKS2	**Erkin-Say**	**0.93**	**49**	⇑*i*P	**Pg**	**05 31 33.5**	**-0.3**
	baz=53						
EKS2				⇑*i*S	**Sg**	**05 31 46.0**	**+0.1**
	baz=53						
ARLS	**Aral**	**1.13**	**100**	⇑*i*P	**Pn**	**05 31 38.1**	**+0.3**
	baz=3.0						
ARLS				⇑*i*S	**Sn**	**05 31 53.9**	**+0.6**
	baz=3.0						
UCH	**Uchtor**	**1.27**	**82**	⇑P	**Pg**	**05 31 40.7**	**+0.3**
	5.3nm,0.1s,SNR=17						
UCH				⇑S	**Sn**	**05 31 58.1**	**+1.1**
	9.0nm,0.1s						
UCH	**Uchtor**	**1.27**	**82**	⇑*i*P	**Pb**	**05 31 40.3**	**+0.3**
	baz=85						
UCH				⇑*i*S	**Sn**	**05 31 57.8**	**+0.8**
	baz=85						
AAK	**Ala-Archa**	**1.36**	**64**	⇑*i*P	**Pb**	**05 31 41.7**	**+0.2**
	baz=67						
AAK				⇑*i*S	**Sg**	**05 31 59.9**	**0.0**
	baz=67						
TRKS	**Terek-Say**	**1.37**	**248**	⇓*i*P	**Pb**	**05 31 41.7**	**+0.2**
	baz=42						
TRKS				⇓*i*S	**Sg**	**05 31 59.9**	**-0.1**
	baz=42						
KBK	**Karagaybulak**	**1.68**	**69**	⇑P	**Pg**	**05 31 48.0**	**-0.2**
	4.3nm,0.1s,SNR=8.1						
KBK				⇓S	**Sg**	**05 32 11.2**	**+1.2**
	35nm,0.5s						
KBK	**Karagaybulak**	**1.68**	**69**	⇓*i*P	**Pb**	**05 31 47.2**	**+0.3**
	baz=71						
KBK				⇓*i*S	**Sg**	**05 32 09.8**	**-0.2**
	baz=71						
CHMS	**Chumysh**	**1.70**	**56**	⇓*i*P	**Pb**	**05 31 47.3**	**+0.1**
	baz=58						
CHMS				⇓*i*S	**Sb**	**05 32 09.9**	**+1.3**
	baz=58						
CHMS	**Chumysh**	**1.70**	**56**	⇓P	**Pb**	**05 31 47.9**	**+0.7**
	3.2nm,0.5s						
CHMS				⇑S	**Sg**	**05 32 10.4**	**-0.3**
	5.6nm,0.3s						
USP	**Ospenovka**	**1.72**	**45**	⇑P	**Pb**	**05 31 47.9**	**+0.3**
	2.9nm,0.1s,SNR=10						
USP				⇑S	**Sg**	**05 32 11.2**	**-0.2**
	16nm,0.2s						
USP	**Ospenovka**	**1.72**	**45**	⇓*i*P	**Pb**	**05 31 47.6**	**0.0**
	baz=47						
USP				⇓*i*S	**Sb**	**05 32 10.1**	**+0.9**
	baz=47						
KZA	**Kyzart**	**1.80**	**89**	⇑P	**Pg**	**05 31 50.9**	**+0.3**
	3.9nm,0.2s,SNR=10						
KZA				⇓S	**Sg**	**05 32 15.6**	**+1.6**
	16nm,0.2s						
KZA	**Kyzart**	**1.80**	**89**	⇑*i*P	**Pb**	**05 31 49.9**	**+0.8**
	baz=91						
KZA				⇑*i*S	**Sg**	**05 32 14.1**	**+0.1**
	baz=91						
SGDS	**Sogindy**	**1.92**	**43**	P	**Pb**	**05 31 51.7**	**+0.8**
	2.6nm,0.2s						
SGDS				S	**Sb**	**05 32 16.2**	**+1.2**
	23nm,0.2s						
KK31	**Karatay Array**	**2.00**	**302**	⇓P	**Pb**	**05 31 51.8**	**-0.4**
	0.7nm,0.3s,baz=121,slow=16						
KK31				⇑S	**Sb**	**05 32 17.6**	**+0.4**
	4.4nm,0.3s,baz=124,slow=29						
KKAR	**Karatay Array**	**2.00**	**302**	⇓*i*P	**Pb**	**05 31 51.2**	**-1.1**
	baz=1.0						
KKAR				⇓*i*S	**Sb**	**05 32 16.4**	**-0.7**
	baz=1.0						
TKM2	**Tokmak 2**	**2.22**	**66**	⇑P	**Pb**	**05 31 56.9**	**+0.7**
	3.0nm,0.2s,SNR=11						
TKM2				⇓S	**Sg**	**05 32 27.3**	**-0.1**
	8.6nm,0.1s						
TKM2	**Tokmak 2**	**2.22**	**66**	⇑*i*P	**Pb**	**05 31 55.2**	**-0.9**
	baz=68						
TKM2				⇑*i*S	**Sb**	**05 32 23.2**	**-0.5**
	baz=68						
TKM2	**Tokmak 2**	**2.22**	**66**	⇓P	**Pb**	**05 31 56.3**	**+0.1**
	3.0nm,0.4s						
TKM2				⇓S	**Sg**	**05 32 26.6**	**-0.7**
	4.3nm,0.3s						
BOOM	**Boomskoye usch**	**2.35**	**78**	⇓*i*P	**Pb**	**05 31 57.1**	**-1.2**
	baz=80						
BOOM				⇓*i*S	**Sb**	**05 32 26.7**	**-0.6**
	baz=80						
DGS	**Degeres**	**2.47**	**61**	Pg	**Pg**	**05 32 02.2**	**-1.2**
	3.6nm,0.2s						
DGS				Lg	Lg	05 32 34.3	
	14nm,0.2s						
KST	**Kastek**	**2.52**	**66**	Pg	**Pb**	**05 32 02.9**	**+1.8**
	2.4nm,0.1s						
KST				Lg	Lg	05 32 35.6	
	16nm,0.3s						
ULHL	**Ulahol**	**2.55**	**85**	⇑*i*P	**Pb**	**05 31 59.9**	**-1.8**
	baz=86						
ULHL				⇑*i*S	**Sb**	**05 32 31.6**	**-1.4**
	baz=86						
KRBS	**Karabastau**	**2.66**	**51**	Pg	**Pb**	**05 32 05.1**	**+1.7**
	2.3nm,0.2s						
KRBS				Lg	Lg	05 32 39.1	
	7.2nm,0.3s						
BTLS	**Baital**	**3.11**	**16**	Pg	**Pb**	**05 32 12.6**	**+1.5**
	1.5nm,0.2s						
BTLS				Lg	Lg	05 32 52.0	
	2.9nm,0.1s						
KUU	**Kurty**	**3.16**	**53**	Pg	**Pg**	**05 32 14.6**	**-1.9**
	2.9nm,0.3s						
KUU				Lg	Lg	05 32 55.5	
	3.7nm,0.3s						
KTBS	**Karatobe**	**3.28**	**59**	Pg	**Pg**	**05 32 16.8**	**-1.9**
	2.2nm,0.2s						
KTBS				Lg	Lg	05 32 59.1	
	9.2nm,0.2s						
ARXS	**Arharly**	**4.24**	**58**	Pg	**Pg**	**05 32 34.6**	**-2.6**
	1.9nm,0.2s						
ARXS				Lg	Lg	05 33 29.9	
	8.2nm,0.4s						
BLB	**Baldybastay**	**4.61**	**62**	Pg	**Pg**	**05 32 41.4**	**-2.8**
	3.0nm,0.3s						
BLB				Lg	Lg	05 33 41.7	
	2.8nm,0.4s						

IDC 22 05:33:02.8±0.5, 3.12N×126.59E, h0km, mb4.7/26, mbtmp4.6/28, ML4.4/2, MS3.5/25, Error ellipse: s-maj=22.6km s-min=11.0km az=76.0
MOS 22 05:33:06.9±0.9, 3.21N×126.72E, h39km, mb5.3/39, Error ellipse: s-maj=14.0km s-min=5.0km az=119.5
BJI 22 05:33:10.7, 2.98N×126.75E, h86km, mb4.8/54, mB5.0/29, Ms4.5/4, Ms7 4.1/4
DJA 22 05:33:10.1±0.3, 3°N±2°×12°7E±°, h58km±3km, M5.0/43, mb5.0/43, mB5.5/14, MLv4.9/13, Mw(mB)5.0/14, MwMwp7.0/2, Mwp6.8/2
NEIC 22 05:33:11.1±1.6, 3.29N±0.06×126.95E±0.08, h55km±7km, mb4.9/71, Error ellipse: s-maj=12.0km s-min=8.5km az=72.0

ISC 22 05:33:11.3±0.5, 3.23N±0.04×126.89E±0.06, h63km±3km, h63km:pP-P, n318, σ1°28/318, mb5.0/112, 11C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.43**	**288**	P	**Pn**	**05 33 34.4**	**-0.7**
TNTI	**Ternate**	**2.49**	**169**		**Pn**	**05 33 49.7**	**+0.2**
TNTI	**Ternate**	**2.49**	**169**	P	**Pn**	**05 33 51.2**	**+1.7**
LBMI	**Labuha**	**3.90**	**171**	P	**Pn**	**05 34 11.4**	**+2.7**
KMSI	**Cibinong**	**3.93**	**228**	P	**Pn**	**05 34 10.4**	**+1.3**
DAV	**Davao City (W)**	**4.03**	**341**	Pn	**Pn**	**05 34 10.1**	**-0.5**
DAV	**Davao City (W)**	**4.03**	**341**	Pn	**Pn**	**05 34 06.3**	**-4.2**
	47nm,0.3s,baz=128,slow=19,SNR=1.5						
DAV				Sn	**Sn**	**05 34 56.2**	**-0.3**
	84nm,0.3s,baz=95,slow=17,SNR=3.8						
DAV				LR	LR	05 35 33.1	
	comp=Z,242nm,18.7s,baz=134,slow=37						
	111nm,0.3s						
GTOI	**Gorontalo**	**4.66**	**236**	P	**Pn**	**05 34 19.8**	**+0.7**
SANI	**Sanana**	**5.33**	**190**	P	**Pn**	**05 34 26.5**	**-1.8**
MRSI	**Marisa**	**5.65**	**241**	P	**Pn**	**05 34 34.8**	**+2.0**
	424nm,0.6s,4μm1.5nm						
LUWI	**Luwuk**	**5.91**	**224**		**Pn**	**05 34 39.0**	**+2.6**
LUWI	**Luwuk**	**5.91**	**224**	P	**Pn**	**05 34 39.2**	**+2

YULB Yu-li 20.76 345 P **P** 05 37 44.2 -2.8
YULB IAmb IAmb 05 37 52.7
comp=Z,127nm,1.8s
YULB Yu-li 20.76 345 P **P** 05 37 44.5 -2.6
KPJI Karang Pucung 20.77 240 P **P** 05 37 47.0 -0.3
comp=Z,63nm,0.7s
TPUB Ta-pu 20.85 344 P **P** 05 37 45.5 -2.5
TPUB Ta-pu 20.85 344 P **P** 05 37 46.0 -2.0
SSLB Suanglung 21.22 345 P **P** 05 37 50.9 -1.2
SSLB IAmb IAmb 05 37 52.2
comp=Z,37nm,0.5s
SSLB Suanglung 21.22 345 P **P** 05 37 51.3 -0.8
FITZ Fitzroy Crossi 21.23 183 **P** 05 37 51.7 -0.5
YOJ Yonaguni jima 21.43 350 P **P** 05 37 52.7 -1.6
YOJ IAmb IAmb 05 37 57.8
comp=Z,64nm,0.9s
YOJ Yonaguni jima 21.43 350 P **P** 05 37 52.7 -1.6
YOJ pmax pmax
comp=Z,64nm,0.9s
NACB Ninganchiao 21.44 347 P **P** 05 37 52.3 -2.0
LEM Lembang 21.68 243 LR LR 05 47 02.8
comp=Z,254nm,19.9s,baz=50,slow=39
BBJI Bungbulang 21.94 241 P **P** 05 38 01.9 +2.0
YHNB Yeheng 21.96 346 P **P** 05 37 58.5 -1.6
YHNB Yeheng 21.96 346 P **P** 05 37 59.5 -0.5
CNJI Cibinong 22.33 242 P **P** 05 38 02.8 -1.2
comp=Z,26nm,1.4s
KNMB Chin-men Tao 22.64 340 P **P** 05 38 06.0 -1.2
KNMB IAmb IAmb 05 38 10.2
comp=Z,46nm,0.8s
CGJI Cibinong 23.31 245 P **P** 05 38 13.2 -0.9
comp=Z,59nm,0.6s
JOW Kunigami 23.50 3 P **P** 05 38 14.9 -0.8
comp=Z,11nm,0.7s,baz=214,slow=7.3,SNR=2.2
JOW LR LR 05 46 43.4
comp=Z,101nm,21.7s,baz=130,slow=35
comp=Z,11nm,0.7s
PMG Port Moresby 23.79 122 LR LR 05 48 36.0
comp=Z,286nm,21.7s,baz=289,slow=39
KASI Kota Agung 24.00 249 P **P** 05 38 20.1 -0.2
comp=Z,69nm,1.3s
WB0 Warramunga Arr 24.02 162 P **P** 05 38 19.7 -0.8
WRAB Tennant Creek 24.16 163 P **P** 05 38 21.2 -0.6
WRAB IAmb IAmb 05 38 49.5
comp=Z,27nm,0.8s
WRAB Tennant Creek 24.16 163 P **P** 05 38 21.2 -0.6
WRAB pmax pmax
comp=Z,27nm,0.9s
WRA Warramunga Arr 24.17 163 P **P** 05 38 20.2 -1.6
WRA Warramunga Arr 24.17 163 P **P** 05 38 20.2 -1.6
WRA pmax pmax
comp=Z,1.0nm,1.1s
WRA Warramunga Arr 24.17 163 P **P** 05 38 20.4 -1.5
comp=Z,17nm,0.7s,baz=338,slow=11,SNR=101
WRA S **S** 05 42 35.7 0.0
comp=Z,6.0nm,0.9s,baz=327,slow=22,SNR=9.3
comp=Z,17nm,0.7s
WB2 Warramunga Arr 24.17 163 P **P** 05 38 20.8 -1.0
WB2 IAmb IAmb 05 38 49.6
comp=Z,28nm,0.8s
WR0 Warramunga Arr 24.24 162 P **P** 05 38 21.4 -1.2
MBWA Marble Bar 25.24 196 P **P** 05 38 31.7 +0.2
PSA00 Pilbara Seismi 25.60 195 P **P** 05 38 35.3 +0.4
PSA00 Pilbara Seismi 25.60 195 P **P** 05 38 34.7 -0.1
PSA00 IAmb IAmb 05 38 57.9
comp=Z,12nm,1.1s
QIS Mount Isa 26.73 153 P **P** 05 38 44.9 -0.2
AS31 Alice Springs 27.60 166 P **P** 05 38 52.0 -0.9
ASAR Alice Springs 27.60 166 P **P** 05 38 52.5 -0.3
ASAR Alice Springs 27.60 166 P **P** 05 38 51.5 -1.3
comp=Z,3.2nm,0.6s,baz=348,slow=7.0,SNR=89
ASAR S **S** 05 43 27.8 -2.2
comp=Z,1.0nm,1.0s,baz=351,slow=17,SNR=3.3
comp=Z,3.2nm,0.6s
AS01 Alice Springs 27.61 166 P **P** 05 38 51.9 -1.0
comp=Z,9.5nm,0.6s
JCJ Chichijima 27.88 30 LR LR 05 48 18.9
comp=Z,51nm,19.9s,baz=114,slow=33
WRKA Warakurna 28.14 177 P **P** 05 38 57.5 -0.1
GSI Gunungsitoli 29.35 267 P **P** 05 39 08.6 +0.1
GSI IAmb IAmb 05 40 09.2
comp=Z,39nm,1.2s
NJ2 Nanjing 29.64 346 *e*P P 05 39 18.6 +7.7
NJ2 pmax pmax
comp=Z,15nm,0.5s
CTA Charters Tower 29.98 141 LR LR 05 53 22.6
comp=Z,100nm,22.0s,baz=325,slow=41
MEEK Meekatharra 30.75 195 P **P** 05 39 21.1 +0.3
CRAI Chiangrai 30.88 305 P **P** 05 39 22.2 +0.2
CM31 Chiang Mai Arr 31.26 301 P **P** 05 39 25.2 -0.2
CM31 IAmb IAmb 05 39 57.5
comp=Z,12nm,0.4s
CMAR Chiang Mai Arr 31.26 301 P **P** 05 39 25.1 -0.3
CMAR Chiang Mai Arr 31.26 301 P **P** 05 39 23.0 -2.4
CMAR Chiang Mai Arr 31.26 301 P **P** 05 39 22.9 -2.4
comp=Z,3.2nm,0.3s,baz=112,slow=7.0,SNR=26
CMAR LR LR 05 51 14.5
comp=Z,48nm,21.0s,baz=110,slow=35
comp=Z,3.2nm,0.3s
CHTO Chiang Mai 31.41 302 P **P** 05 39 26.3 -0.4
CHTO Chiang Mai 31.41 302 P **P** 05 39 27.3 +0.6
CHTO Chiang Mai 31.41 302 P **P** 05 39 26.3 -0.4
CHTO pmax pmax
comp=Z,9.0nm,0.6s
CHTO Chiang Mai 31.41 302 P **P** 05 39 26.1 -0.6
KMI Kunming 31.84 315 ⇑P **P** 05 39 29.9 -0.7
KMI pmax pmax
comp=Z,17nm,0.7s
OOD Oodnadatta 31.99 165 P **P** 05 39 30.7 -0.9
JHJ Hachijo jima 2 32.09 21 LR LR 05 52 57.0
comp=Z,55nm,19.3s,baz=158,slow=37
PZH PanZhiHua 33.41 316 P **P** 05 39 47.3 +3.1
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,280nm,5.9s
MORW Morawa 33.76 197 P **P** 05 39 46.7 -0.4
MORW IAmb IAmb 05 39 49.3
comp=Z,52nm,1.8s
FORT Forrest 33.84 178 P **P** 05 39 47.6 -0.1
FORT Forrest 33.84 178 P **P** 05 39 47.5 -0.2
LYN LuoYang 33.92 338 ⇓P **P** 05 39 49.0 +0.6
LYN pP pP 05 40 05.8 +2.5
LYN PP **PnPn** 05 41 02.0 -1.3
LYN pmax pmax
comp=Z,22nm,0.7s
LYN pmax pmax
comp=Z,120nm,4.9s
MULG Mulgathing 34.02 169 P **P** 05 39 49.3 -0.1
TIA Tai'an 34.03 346 *e*P **P** 05 39 50.1 +0.7
TIA pmax pmax
comp=Z,9.0nm,0.9s
KSRS Korea Array 34.07 1 P **P** 05 39 50.5 +0.8
comp=Z,1.7nm,0.5s,baz=179,slow=9.9,SNR=8.3
KSRS LR LR 05 52 53.1
comp=Z,40nm,21.2s,baz=185,slow=35
comp=Z,1.7nm,0.5s
MJAR Matsushiro Arr 34.75 16 LR LR 05 52 35.6
comp=Z,64nm,21.8s,baz=198,slow=34
TNCH TengChong 34.86 311 P P 05 40 04.1 +7.2
TNCH pmax pmax
comp=Z,170nm,3.3s
XAN Xi'an 34.93 333 P **P** 05 39 56.1 -1.1
XAN pmax pmax
comp=Z,24nm,0.9s
XAN Xi'an 34.93 333 P **P** 05 39 56.1 -1.1
XAN pP **pP** 05 40 11.1 -1.1
XAN sP **sP** 05 40 17.8 -1.4
CD2 Chengdu 35.13 324 P **P** 05 39 58.5 -0.5
CD2 pmax pmax
comp=Z,20nm,0.8s
HNR Honiara 35.26 111 LR LR 05 55 19.6
comp=Z,966nm,19.1s,baz=298,slow=38
HNS HongShan 35.79 343 *e*P **P** 05 40 05.4 +0.9
EIDS Eidsvold 36.87 142 P **P** 05 40 12.7 -1.1
EIDS IAmb IAmb 05 40 13.9
comp=Z,16nm,0.9s
BBOO Buckleboo 36.89 167 P **P** 05 40 13.4 -0.5
BBOO IAmb IAmb 05 40 14.2
comp=Z,10nm,0.7s
STKA Stephens Creek 37.61 159 P **P** 05 40 19.5 -0.5
STKA IAmb IAmb 05 40 21.1
comp=Z,8.2nm,0.8s
STKA Stephens Creek 37.61 159 *i* P **P** 05 40 19.6 -0.5
STKA Stephens Creek 37.61 159 P **P** 05 40 19.4 -0.5
comp=Z,38nm,0.7s,baz=332,slow=8.5,SNR=111
STKA S **S** 05 46 02.0 -3.3
comp=Z,2.0nm,0.8s,baz=76,slow=21,SNR=3.8
comp=Z,38nm,0.7s
BJT Baijiatuau 37.88 347 P **P** 05 40 22.9 +0.7
BJT Baijiatuau 37.88 347 P **P** 05 40 23.0 +0.7
BJT pmax pmax
comp=Z,25nm,0.8s
BJT Baijiatuau 37.88 347 P **P** 05 40 23.0 +0.7
BJI Beijing 37.90 347 P **P** 05 40 23.5 +1.1
BJI pmax pmax
comp=Z,16nm,0.8s
SNY Shenyang 38.54 356 ⇓P **P** 05 40 28.9 +1.2
SNY S **S** 05 46 21.0 +2.0
SNY pmax pmax
comp=Z,19nm,1.1s
SNY pmax pmax
comp=Z,200nm,4.6s
SNY LR LR
comp=Z,150nm,5.5s
SNY LR LR
comp=Z,84nm,6.4s
SNY LR LR
comp=Z,170nm,5.3s
LZH Lanzhou 39.01 330 *e*P **P** 05 40 33.8 +1.8
LZH pP pP 05 40 48.8 +1.7
LZH pmax pmax
comp=Z,34nm,1.1s
HHC Hu-ho-hao-te 39.91 342 *e*P **P** 05 40 39.1 -0.3
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,330nm,5.9s
BTO Baotou 40.20 340 *e*P P 05 40 46.3 +4.6
BTO pP sP 05 41 04.5 +0.2
BTO sP pwP 05 41 13.8 +15
BTO PP **PnPn** 05 42 24.5 +5.1
BTO pmax pmax
comp=Z,9.0nm,0.7s
BTO pmax pmax
comp=Z,74nm,3.7s
SHL Shillong 40.30 307 P **P** 05 40 41.6 -1.3
SHL Shillong 40.30 307 P **P** 05 40 41.6 -1.3
SHL pmax pmax
comp=Z,48nm,0.6s
ARMA Armidale 40.97 147 P **P** 05 40 48.1 -0.1
ARMA IAmb IAmb 05 40 49.4
comp=Z,14nm,0.8s
USRK Ussuriysk Ar. 41.04 6 P **P** 05 40 49.1 +0.6
USRK Ussuriysk Ar. 41.04 6 P **P** 05 40 49.1 +0.6
USRK Ussuriysk Ar. 41.04 6 P **P** 05 40 49.6 +1.1
comp=Z,3.2nm,0.7s,baz=197,slow=8.7,SNR=8.1
comp=Z,3.2nm,0.7s
USA0B Ussuriysk Arra 41.04 6 P **P** 05 40 48.8 +0.3
USA0B Ussuriysk Arra 41.04 6 P **P** 05 40 48.8 +0.3
USA0B pmax pmax
comp=Z,12nm,1.4s
MDJ Mudanjiang 41.28 3 P **P** 05 40 52.0 +1.6
MDJ pmax pmax
comp=Z,10.0nm,1.6s
MDJ pmax pmax
comp=Z,85nm,6.4s
XLT XiLinHaoTe 41.61 348 *e*P **P** 05 40 54.3 +1.0
XLT pmax pmax
comp=Z,39nm,0.8s
XLT pmax pmax
comp=Z,54nm,5.6s
LSA Lhasa 42.88 312 P **P** 05 41 04.7 +0.4
LSA IAmb IAmb 05 41 06.8
comp=Z,17nm,0.5s
LSA Lhasa 42.88 312 P **P** 05 41 04.7 +0.4
LSA pmax pmax
comp=Z,17nm,0.5s
LSA Lhasa 42.88 312 P **P** 05 41 05.4 +1.1
ASAJ Asahikawa 43.02 17 LR LR 05 59 14.5
comp=Z,50nm,20.2s,baz=65,slow=36
GTA Gaotai 43.60 329 *e*P **P** 05 41 09.8 +0.3
GTA pmax pmax
comp=Z,5.0nm,1.0s
CAN Canberra 43.60 153 P **P** 05 41 10.0 +0.5
CAN IAmb IAmb 05 41 11.9
comp=Z,51nm,1.7s
CAN Canberra 43.60 153 P **P** 05 41 10.0 +0.5
CAN pmax pmax
comp=Z,51nm,1.7s
CAN Canberra 43.60 153 P **P** 05 41 10.4 +1.0
TOO Toolangi 44.12 159 P **P** 05 41 14.8 +1.3
TOO IAmb IAmb 05 41 52.5
comp=Z,47nm,1.9s
TOO Toolangi 44.12 159 P **P** 05 41 14.9 +1.3
TOO pmax pmax
comp=Z,47nm,2.0s
GOMU GeErMu 44.17 322 P **P** 05 41 13.8 -0.6
GOMU pmax pmax
comp=Z,7.0nm,1.2s
TAPN Taplejung 44.44 307 *e*P **P** 05 41 15.9 -0.7
comp=Z,31nm,0.6s
ODAN Odare 44.48 306 *e*P **P** 05 41 16.4 -0.5
RAMN Ramite 45.16 306 *e*P **P** 05 41 22.1 -0.3
comp=Z,50nm,0.7s
JIRN Jiri 45.79 306 *e*P **P** 05 41 26.6 -0.8
KLR Kul'dur 46.02 4 *ce*P **P** 05 41 28.2 -0.2
KLR pmax pmax
comp=Z,15nm,2.5s
GUN Gumba 46.14 306 *e*P **P** 05 41 29.5 -0.7
comp=Z,58nm,0.6s
PALK Pallekele 46.15 277 LR LR 06 02 52.8
comp=Z,63nm,19.3s,baz=199,slow=39
PKI Pulchoki 46.38 306 *e*P **P** 05 41 30.9 -1.2
DMN Daman 46.65 306 *e*P **P** 05 41 33.8 -0.2
HEH HeiHe 46.85 0 *e*P **P** 05 41 35.5 +0.6
HEH pmax pmax
comp=Z,12nm,1.2s
HEH pmax pmax
comp=Z,110nm,5.6s
GKN Gorkha 47.18 306 *e*P **P** 05 41 37.5 -0.6
comp=Z,42nm,0.8s
ULN Ulaanbaatar 47.64 342 P **P** 05 41 42.0 +0.7
ULN IAmb IAmb 05 41 43.1
comp=Z,9.8nm,0.9s
ULN Ulaanbaatar 47.64 342 P **P** 05 41 42.0 +0.7
ULN pmax pmax
comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 47.64 342 P **P** 05 41 41.9 +0.7
ULN sP **sP** 05 42 03.0 -1.1
SONM Songino Array 47.81 341 P **P** 05 41 43.2 +0.6
SONM Songino Array 47.81 341 P **P** 05 41 42.8 +0.2
comp=Z,3.5nm,0.5s,baz=158,slow=8.4,SNR=25
SONM PcP **PcP** 05 43 10.7 +0.1
comp=Z,1.6nm,0.8s,baz=158,slow=3.5,SNR=2.7
SONM LR LR 06 03 22.1
comp=Z,65nm,18.4s,baz=132,slow=38
comp=Z,3.5nm,0.5s
KOLN Koldanda 47.94 305 *e*P **P** 05 41 43.2 -0.8
DANN Dangsing 48.03 306 *e*P **P** 05 41 43.8 -1.0
PYUN Piuthan 48.56 305 *e*P **P** 05 41 48.0 -0.8
MOY Mondy 52.90 340 *e*P **P** 05 42 22.2 +1.3
MOY pmax pmax
comp=Z,28nm,1.7s
WMQ Urumqi 53.22 325 *e*P **P** 05 42 23.6 +0.2
WMQ pmax pmax
comp=Z,23nm,1.1s
BOD Bodaibo 55.37 352 *e*P **P** 05 42 39.6 +0.9
BOD pmax pmax
comp=Z,20nm,1.0s
PEA0B Petropavlovsk- 55.83 22 P **P** 05 42 42.0 0.0
PEA0B Petropavlovsk- 55.83 22 P **P** 05 42 42.0 0.0
PEA0B pmax pmax
comp=Z,192nm,2.0s
PETK Petropavlovsk- 55.83 22 P **P** 05 42 41.7 -0.3
PETK Petropavlovsk- 55.83 22 P **P** 05 42 41.7 -0.3
PETK Petropavlovsk- 55.83 22 P **P** 05 42 43.1 +1.1
comp=Z,3.6nm,0.8s,baz=200,slow=6.1,SNR=2.9
comp=Z,3.6nm,0.8s
ZSN Zaisan 57.01 327 *e*P **P** 05 42 50.1 -0.5
baz=327
ZSN Zaisan 57.01 327 *e*P **P** 05 42 50.0 -0.5
DGZ Jazzator, Alta 57.10 331 *i* P **P** 05 42 51.1 -0.3
DGZ pmax pmax
comp=Z,8.0nm,0.9s
SHLS Shalkode 57.83 320 *e*P **P** 05 42 54.5 -2.1
baz=321
SHLS Shalkode 57.83 320 *e*P **P** 05 42 54.5 -2.1
MK31 Makanchi Array 58.05 325 P **P** 05 42 57.9 -0.1
MK31 IAmb IAmb 05 42 59.7
comp=Z,7.0nm,0.7s
MK31 Makanchi Array 58.05 325 *ce*P **P** 05 42 58.2 +0.3
MKAR Makanchi Array 58.05 325 P **P** 05 42 58.1 +0.2
MKAR Makanchi Array 58.05 325 P **P** 05 42 57.0 -0.9
MKAR Makanchi Array 58.05 325 P **P** 05 42 57.0 -0.9
comp=Z,8.3nm,0.5s,baz=123,slow=8.5,SNR=6.5
MKAR LR LR 06 09 30.2
comp=Z,69nm,18.7s,baz=102,slow=38
comp=Z,8.3nm,0.5s
UZB Uzynbulak 58.10 320 *e*P **P** 05 42 58.4 -0.1
baz=320
UZB Uzynbulak 58.10 320 *e*P **P** 05 42 58.4 -0.1
MAKZ Makanchi 58.24 325 P **P** 05 42 59.0 -0.2
MAKZ Makanchi 58.24 325 P **P** 05 42 59.0 -0.2
MAKZ pmax pmax
comp=Z,14nm,0.7s
MAKZ Makanchi 58.24 325 P **P** 05 42 59.2 -0.1
NIL Nilore 58.35 308 P **P** 05 43 00.4 +0.1
NIL Nilore 58.35 308 P **P** 05 43 00.4 +0.1
NIL pmax pmax
comp=Z,39nm,1.2s
NIL Nilore 58.35 308 P **P** 05 43 00.5 +0.1
SATY Saty 58.45 320 *e*P **P** 05 43 01.0 0.0
comp=Z,11nm,0.8s,baz=320
SATY Saty 58.45 320 *e*P **P** 05 43 01.0 0.0
SATY pmax pmax
comp=Z,11nm,0.8s
KPKS Kokpek 58.47 320 *e*P **P** 05 43 00.8 -0.3
comp=Z,12nm,1.0s,baz=320
KPKS Kokpek 58.47 320 *e*P **P** 05 43 00.7 -0.3
KPKS pmax pmax
comp=Z,12nm,1.0s
ZHN Zhinishke 58.49 320 *e*P **P** 05 43 01.1 -0.2
baz=320
ZHN Zhinishke 58.49 320 *e*P **P** 05 43 01.0 -0.2
KSH Kashi 58.50 315 P **P** 05 43 02.8 +1.4
KSH pmax pmax
comp=Z,6.0nm,0.9s
YAK Yakutsk 58.70 2 *e*P **P** 05 43 03.4 +1.3
YAK *e**PP **pP** 05 43 20.1 +1.7
YAK *e* 05 43 52.2
YAK *e*PPP PPP 05 46 34.3
YAK *e*S **S** 05 51 03.4 +1.6
YAK *e*SS **SS** 05 54 52.0 -3.8
YAK *e*SSS SSS 05 57 25.6
YAK pmax pmax
comp=Z,33nm,1.0s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,306nm,5.2s
YAK pmax pmax
comp=N,125nm,4.7s
YAK pmax pmax
comp=E,139nm,4.1s
YAK smax smax
comp=E,164nm,6.6s
YAK smax smax
comp=N,173nm,5.8s
YAK Yakutsk 58.70 2 P **P** 05 43 02.6 +0.5
comp=N,0.9nm,0.4s,baz=93,slow=0.5,SNR=7.5
MDOK Medeo 59.38 319 *e*P **P** 05 43 07.0 -0.4
baz=320
MDOK Medeo 59.38 319 *e*P **P** 05 43 07.0 -0.4
TNSS Tian-Shan 59.39 319 *e*P **P** 05 43 07.4 -0.4
baz=319
TNSS Tian-Shan 59.39 319 *e*P **P** 05 43 07.3 -0.4
TDK Taldyqorghan 59.40 322 *e*P **P** 05 43 06.8 -0.5
comp=N,10.0nm,0.6s,baz=322
TDK Taldyqorghan 59.40 322 *e*P **P** 05 43 06.8 -0.5
TDK pmax pmax
comp=Z,10.0nm,0.6s
AAA Alma-Ata 59.49 319 *e*P **P** 05 43 08.1 +0.1
baz=320
AAA Alma-Ata 59.49 319 *e*P **P** 05 43 08.1 +0.1
CHKK Chushkaly 59.74 320 *e*P **P** 05 43 08.9 -0.8
baz=320
CHKK Chushkaly 59.74 320 *e*P **P** 05 43 08.9 -0.8
KUU Kurty 60.17 320 ⇑*i*P **P** 05 43 12.1 -0.6
baz=320
KUU Kurty 60.17 320 *c i*P **P** 05 43 12.1 -0.6
TKM2 Tokmak 2 60.22 319 P **P** 05 43 13.6 +0.3
SNR=7.2
UCH Uchtor 60.64 318 P **P** 05 43 17.2 +0.8
SNR=7.0
AAK Ala-Archa 60.83 318 *i* P **P** 05 43 14.9 -2.5
AAK pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 60.83 318 LR LR 06 12 43.7
comp=Z,41nm,18.9s,baz=100,slow=39
AAK Ala-Archa 60.83 318 P **P** 05 43 17.6 +0.3
SGDS Sogindy 61.09 319 *e*P **P** 05 43 18.4 -0.6
baz=319
SGDS Sogindy 61.09 319 *e*P **P** 05 43 18.4 -0.6
USP Ospenovka 61.09 319 P **P** 05 43 18.9 -0.1
SNR=7.2
ZAA0 Zalesovo Array 61.10 333 P **P** 05 43 18.2 -0.5
ZAA0 IAmb IAmb 05 43 21.3
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 61.10 333 P **P** 05 43 17.9 -0.8
comp=Z,9.9nm,0.8s,baz=132,slow=6.5,SNR=24
comp=Z,9.9nm,0.8s
AML Almayashu 61.16 317 P **P** 05 43 20.2 +0.4
SNR=8.6
SEM Semipalatinsk 61.20 328 *i* P **P** 05 43 19.2 -0.6
baz=328
SEM Semipalatinsk 61.20 328 *i* P **P** 05 43 19.2 -0.6
EKS2 Erkin-Say 61.32 318 P **P** 05 43 21.3 +0.7
SNR=5.2
ARSB Arslanbob 61.32 316 P **P** 05 43 20.6 -0.1
ARSB Arslanbob 61.32 316 P **P** 05 43 20.6 -0.1
ARSB pmax pmax
comp=Z,1.0nm,0.6s
KBL Kabul 61.95 308 P **P** 05 43 24.5 -0.6
KBL IAmb IAmb 05 43 26.2
comp=Z,13nm,0.7s
KBL Kabul 61.95 308 P **P** 05 43 24.5 -0.6
KBL pmax pmax
comp=Z,13nm,0.7s
BTLS Baital 62.16 320 *e*P **P** 05 43 25.4 -0.6
baz=320
BTLS Baital 62.16 320 *e*P **P** 05 43 25.4 -0.6
RTZ Ruatahuna 62.16 137 P **P** 05 43 26.2 -0.1
KURBB Kurchatov Arra 62.24 327 P **P** 05 43 26.3 -0.1
comp=Z,17nm,0.7s,baz=126,slow=6.3,SNR=152
KURBB S **S** 05 51 52.1 +4.6
comp=Z,0.4nm,0.5s,baz=115,slow=12,SNR=4.9
comp=Z,17nm,0.7s
KURK Kurchatov 62.24 328 P **P** 05 43 26.3 -0.1
KURK Kurchatov 62.24 328 P **P** 05 43 26.3 -0.1
KURK pmax pmax
comp=Z,32nm,0.8s
KURK Kurchatov 62.24 328 P **P** 05 43 26.4 -0.1
BTK Batken 62.38 314 P **P** 05 43 28.3 +0.6
BTK IAmb IAmb 05 43 29.9
comp=Z,6.1nm,0.8s
BTK Batken 62.38 314 P **P** 05 43 28.3 +0.6
BTK pmax pmax
comp=Z,6.0nm,0.9s
CHGR Chuyangaron 63.11 312 P **P** 05 43 32.5 -0.2
CHGR IAmb IAmb 05 43 34.9
comp=Z,15nm,1.0s
CHGR Chuyangaron 63.11 312 P **P** 05 43 32.5 -0.2
CHGR pmax pmax
comp=Z,15nm,1.0s
SIMJ Simiganj 63.23 312 P **P** 05 43 33.2 -0.3
KK31 Karatay Array 63.70 317 P **P** 05 43 36.0 -0.3
KK31 IAmb IAmb 05 43 37.7
comp=Z,8.3nm,0.8s
KK31 Karatay Array 63.70 317 P **P** 05 43 36.0 -0.3
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 63.70 317 P **P** 05 43 35.9 -0.5
KKAR Karatay Array 63.70 317 P **P** 05 43 35.9 -0.5
BRZS Berezniki 65.18 325 *e*P **P** 05 43 45.8 -0.1
baz=325
BRZS Berezniki 65.18 325 *e*P **P** 05 43 45.8 -0.1
BVAR Borovoye Array 67.82 327 P **P** 05 44 02.5 -0.1
comp=Z,8.8nm,0.6s,baz=137,slow=9.5,SNR=37
BVAR LR LR 06 14 10.5
comp=Z,53nm,18.4s,baz=117,slow=36
comp=Z,8.8nm,0.6s
BRVK Borovoye 67.89 327 P **P** 05 44 02.8 -0.3
BRVK IAmb IAmb 05 44 04.1

comp=Z,13nm,0.8s
BRVK Borovoye 67.89 327 *ce*P **P** **05 44 03.2 +0.1**
BRVK pmax pmax
comp=Z,14nm,0.8s
BRVK Borovoye 67.89 327 P **P** **05 44 03.2 +0.1**
BRVK pP **pP** **05 44 19.2 -0.4**
BRVK PcP **sP** **05 44 27.9 +1.4**
TIXI Tiksi 68.33 1 P **P** **05 44 05.6 +0.1**
TIXI IAmb IAmb 05 44 13.4
comp=Z,7.0nm,0.5s
TIXI Tiksi 68.33 1 *ce*P **P** **05 44 05.8 +0.3**
TIXI Tiksi 68.33 1 P **P** **05 44 06.1 +0.6**
WSAR Wadi Sarin 68.77 294 LR LR 06 14 14.1
comp=Z,19nm,21.8s,baz=68,slow=36
UOSS Minazif 71.14 295 P **P** **05 44 22.6 -1.0**
GEYT Alibeck 71.33 309 P **P** **05 44 24.9 +0.3**
GEYT Alibeck 71.33 309 P **P** **05 44 24.5 -0.2**
comp=Z,4.3nm,0.6s,baz=166,slow=6.9,SNR=7.7
comp=Z,4.3nm,0.6s
ABKAR Akbulak array 72.63 321 P **P** **05 44 31.7 -0.4**
AKTO Aktyubinsk 74.14 322 LR LR 06 20 03.1
comp=Z,76nm,19.2s,baz=218,slow=38
SVE Sverdlovsk 74.46 329 *e*P **P** **05 44 43.3 +0.6**
SVE pmax pmax
comp=Z,35nm,0.9s
ARU Arti 75.44 328 P **P** **05 44 48.2 -0.1**
ARU Arti 75.44 328 *c i*P **P** **05 44 48.2 -0.1**
ARU 05 47 33.9
ARU S **S** **05 54 25.6 +2.1**
ARU SS **SS** **05 59 14.9 -0.1**
ARU pmax pmax
comp=Z,29nm,0.7s
F17K Baldwin Pennin 79.85 23 P **P** **05 45 14.1 +1.4**
F17K IAmb IAmb 05 46 04.4
comp=Z,37nm,1.4s
KIRV Kirov 80.72 329 *ce*P **P** **05 45 16.9 -0.6**
BELG Belogornoye 80.89 322 *i*P **P** **05 45 17.9 -0.7**
BELG pmax pmax
comp=Z,9.0nm,0.9s
BELG Belogornoye 80.89 322 LR LR 06 23 46.2
comp=Z,21nm,19.0s,baz=157,slow=38
ABPO Ambohimpanom 81.29 250 P **P** **05 45 22.3 +0.7**
ABPO IAmb IAmb 05 45 24.0
comp=Z,11nm,0.7s
ABPO Ambohimpanom 81.29 250 P **P** **05 45 22.3 +0.7**
ABPO pmax pmax
comp=Z,11nm,0.7s
GNI Garni 81.92 310 LR LR 06 27 01.8
comp=Z,20nm,18.7s,baz=83,slow=40
ZEI Tsey 82.67 313 *e*P **P** **05 45 28.0 -0.4**
ZEI pmax pmax
comp=Z,10.0nm,1.0s
VNDA Vanda 82.92 173 P **P** **05 45 29.1 +0.4**
comp=Z,1.1nm,0.9s,baz=317,slow=5.8,SNR=7.1
comp=Z,1.1nm,0.9s
ONI Oni 82.99 312 P **P** **05 45 30.1 +0.2**
ONI Oni 82.99 312 P **P** **05 45 30.1 +0.2**
ONI pmax pmax
comp=Z,6.0nm,0.8s
PRGR Permogore 83.01 332 *e*P **P** **05 45 28.8 -0.7**
PRGR pmax pmax
comp=Z,38nm,1.4s
KBZ Khabaz 83.43 313 *ce*P **P** **05 45 32.0 -0.1**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 83.43 313 P **P** **05 45 32.3 +0.2**
comp=Z,3.2nm,1.0s,baz=104,slow=5.4,SNR=4.8
comp=Z,3.2nm,1.0s
B22K Teshekpuk Lake 83.50 20 P **P** **05 45 33.4 +1.5**
B22K IAmb IAmb 05 45 49.7
comp=Z,34nm,1.8s
VRH Novokhopyorsk 84.46 321 *e*P **P** **05 45 35.0 -2.2**
VRH pmax pmax
comp=Z,30nm,0.8s
RND Reindeer 84.55 27 P **P** **05 45 37.0 -0.5**
RND Reindeer 84.55 27 P **P** **05 45 37.0 -0.5**
RND pmax pmax
comp=Z,49nm,1.9s
TOLK Toolik Lake Re 84.65 21 P **P** **05 45 40.0 +2.2**
TOLK IAmb IAmb 05 46 09.4
comp=Z,25nm,1.6s
SCM Sheep Creek Mo 85.17 28 P **P** **05 45 42.6 +2.0**
SCM Sheep Creek Mo 85.17 28 P **P** **05 45 42.6 +2.0**
SCM pmax pmax
comp=Z,79nm,1.7s
ILAR Eielson Array 85.48 25 P **P** **05 45 43.0 +1.0**
ILAR Eielson Array 85.48 25 P **P** **05 45 43.0 +1.0**
comp=Z,0.3nm,0.5s,baz=256,slow=5.3,SNR=12
comp=Z,0.3nm,0.5s
SOC Sochi 85.74 313 *e*P **P** **05 45 42.9 -0.8**
SOC *e* 05 49 00.2
SOC *e*PPP PPP 05 50 53.4
SOC *e*S **SKSac** **05 56 02.5 -1.5**
SOC *e*SS **SS** **06 01 47.3 -2.0**
SOC pmax pmax
comp=Z,28nm,0.7s
KLMR Klimovskoe 85.91 331 *e*P **P** **05 45 42.9 -1.3**
KLMR AMP 05 45 46.7
comp=Z,26nm,0.9s
KLMR Klimovskoe 85.91 331 *e*P **P** **05 45 42.9 -1.3**
KLMR pmax pmax
comp=Z,26nm,0.9s
VORD Divnogorie 85.99 321 *e*P **P** **05 45 43.7 -1.1**
VORD pmax pmax
comp=Z,30nm,1.0s
VORR Voronezh 86.04 321 *e*P **P** **05 45 44.3 -0.7**
VORR pmax pmax
comp=Z,40nm,0.9s
VSR Storozhevoye 86.07 321 *e*P **P** **05 45 44.0 -1.2**
VSR pmax pmax
comp=Z,20nm,0.8s
LPSR Galich'ya Gora 86.21 322 *e*P **P** **05 45 44.6 -1.2**
LPSR pmax pmax
comp=Z,30nm,0.9s
BMAR Burnt Mountain 86.47 23 P **P** **05 45 48.2 +1.3**
ARPR Arapgir-MALATY 86.86 309 P **P** **05 45 50.8 +1.2**
J26L Joseph Creek 86.91 26 P **P** **05 45 50.6 +1.5**
J26L IAmb IAmb 05 47 41.0
comp=Z,14nm,1.6s
OBN Obninsk 87.55 325 *e*P **P** **05 45 50.9 -1.4**
OBN *e**PP **pP** **05 46 06.3 -3.1**
OBN *e* 05 49 17.8
OBN *e*PPP PPP 05 51 11.2
OBN *e*S **SKSac** **05 56 08.6 -6.1**
OBN *e*SS **SS** **06 02 15.8 +0.6**
OBN *e*SSS SSS 06 05 48.7
OBN pmax pmax
comp=Z,60nm,1.7s
OBN MLR MLR
comp=Z,30nm,7.0s
MMAI Mount Meron Ar 89.50 303 P **P** **05 46 01.6 -0.6**
comp=Z,3.0nm,0.6s,baz=89,slow=6.8,SNR=7.0
comp=Z,3.0nm,0.6s
KMBO Kilima Mbogo 89.70 269 P **P** **05 46 02.2 -1.4**
comp=Z,2.5nm,0.3s,baz=12,slow=4.6,SNR=7.4
comp=Z,2.5nm,0.3s
BR131 Keskin Array S 90.46 310 *i*P **P** **05 46 03.4 -3.2**
BRTR Keskin Array B 90.46 310 P **P** **05 46 06.7 +0.1**
BRTR Keskin Array B 90.46 310 P **P** **05 46 05.8 -0.8**
comp=Z,5.5nm,0.9s,baz=114,slow=4.8,SNR=19
comp=Z,5.5nm,0.9s
ARCES ARCESS Array B 90.97 340 P **P** **05 46 07.2 -0.9**
comp=Z,5.8nm,0.9s,baz=76,slow=5.1,SNR=8.6
comp=Z,5.8nm,0.9s
SPITS Spitsbergen Ar 90.99 349 P **P** **05 46 09.5 +1.4**
comp=Z,11nm,0.9s,baz=91,slow=6.7,SNR=9.6
SPITS LR LR 06 32 08.7
comp=Z,36nm,18.1s,baz=48,slow=39
comp=Z,11nm,0.9s
FINES FINESS Array B 92.34 332 *i*P **P** **05 46 14.8 +0.2**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 92.34 332 P **P** **05 46 14.1 -0.5**
comp=Z,2.2nm,0.6s,baz=60,slow=4.6,SNR=10
comp=Z,2.2nm,0.6s
AKASG Malin Array Be 92.37 321 P **P** **05 46 14.0 -1.0**
comp=Z,1.8nm,0.7s,baz=67,slow=4.7,SNR=10
AKASG LR LR 06 30 23.7
comp=Z,21nm,21.2s,baz=34,slow=37
comp=Z,1.8nm,0.7s
AKBB Malin Array Si 92.37 321 *ce*P **P** **05 46 11.9 -3.1**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
QSPA South Pole Qui 93.14 180 P **P** **05 46 17.2 -1.2**
comp=Z,0.6nm,0.6s,baz=327,slow=2.4,SNR=2.2
comp=Z,0.6nm,0.6s
NACGM Naroch 93.18 325 *e*P **P** **05 46 16.5 -2.1**
comp=Z,4.0nm,0.4s,baz=80
BUR08 Bucovina Ar. S 95.48 318 P **P** **05 46 29.7 +0.2**
BUR08 IAmb IAmb 05 46 31.6
comp=Z,4.8nm,0.9s
CRVS Cervenica-Dubn 97.65 320 *e*PDIFF Pdif 05 46 39.4 +0.2
CRVS Cervenica-Dubn 97.65 320 *e*P Pdif 05 46 39.4 +0.2
IDI Anoyia 97.91 306 LR LR 06 37 12.2
comp=Z,8.7nm,18.6s,baz=70,slow=39
HFS Hagfors 98.53 332 P Pdif 05 46 43.1 +0.3
comp=Z,3.0nm,0.8s,baz=123,slow=5.3,SNR=7.3
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 99.30 334 LR LR 06 37 40.8
comp=Z,7.6nm,20.4s,baz=345,slow=39
TXAR Lajitas Array 121.77 52 PKP **PKiKP** **05 52 00.8 +1.6**
comp=Z,0.4nm,0.8s,baz=190,slow=2.3,SNR=3.6
TORD Torodi Ar. Bea 123.22 288 PKP **PKiKP** **05 52 02.7 +0.5**
comp=Z,3.2nm,0.7s,baz=45,slow=3.1,SNR=20
DBIC Dimbokro 130.83 282 PKP **PKPdf** **05 52 16.8 +0.2**
comp=Z,2.0nm,0.7s,baz=106,slow=2.2,SNR=5.1

IDC 22 05:40:03.4±3.0, 7°.25S×155°.63E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=111.9km s-min=35.4km az=118.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.20**	**236**	P	P	05 45 21.0	-0.9
	0.7nm,0.9s,baz=64,slow=8.5,SNR=2.6						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**26.48**	**230**	P	P	05 45 42.1	-0.5
	1.1nm,0.7s,baz=61,slow=9.2,SNR=5.8						
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**84.01**	**319**	P	P	05 52 35.4	-0.5
	0.7nm,0.8s,baz=94,slow=4.3,SNR=4.1						
	0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**84.75**	**326**	P	P	05 52 38.6	-0.7
	0.4nm,0.3s,baz=107,slow=9.7,SNR=3.0						
	0.4nm,0.3s						
TORD	**Torodi Ar. Bea**	**153.70**	**285**	PKP	PKPdf	05 59 57.1	-0.5
	0.6nm,1.0s,baz=64,slow=3.4,SNR=3.5						
TORD				PKPbc	PKiKP	06 00 07.6	+2.0
	0.5nm,0.6s,baz=69,slow=3.2,SNR=4.7						

IDC 22 05:44:55.1±5.8, 6°.83S×128°.67E, h242km±65km, mb2.9/1, mbtmp3.7/3, Error ellipse: s-maj=121.4km s-min=22.8km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.15**	**158**	P	Pn	05 48 03.5	-1.9
	0.5nm,0.4s,baz=343,slow=12,SNR=9.6						
WRA				S	S	05 50 37.5	-4.6
	0.4nm,0.5s,baz=328,slow=23,SNR=3.8						
ASAR	**Alice Springs**	**17.48**	**164**	P	Pn	05 48 44.1	-0.9
	3.2nm,0.6s,baz=337,slow=9.3,SNR=39						
ASAR				S	S	05 51 52.4	+0.6
	0.3nm,0.8s,baz=208,slow=23,SNR=2.2						
MKAR	**Makanchi Array**	**67.37**	**327**	P	P	05 55 24.1	-0.3
	0.2nm,0.3s,baz=119,slow=5.3,SNR=1.8						
	0.2nm,0.3s						

*NOU **22** 05:51:19.8,38°.73S×175°.37E,h198km, MLv3.5/9, North Island, New Zealand*
*WEL **22** 05:51:23.0±0.8,39°.3S±10°×17°.5E±°, h173km±6km, M2.2/20, ML2.0/7, MLv2.2/20, Error ellipse: s-maj=0.0km s-min=0.0km az=2.9, confirmed*
ISC 22 05:51:18.5±1.7, 38°.77S±0°.05×175°.43E±0°.06, h205km±9km, n98, σ1s20/106, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.30**	**178**	P	Pn	05 51 46.9	+1.1
WTVZ	**West Tongariro**	**0.37**	**160**	P	Pn	05 51 47.2	+1.2
WTVZ				S	S	05 52 06.3	-1.3
NTVZ	**North Tongarir**	**0.38**	**149**	P	Pn	05 51 47.1	+1.1
NTVZ				S	S	05 52 07.8	+0.1
NNVZ	**North Ngauruho**	**0.39**	**158**	P	Pn	05 51 47.3	+1.2
NNVZ				S	S	05 52 06.8	-1.0
TMVZ	**Te Maari**	**0.41**	**148**	P	Pn	05 51 47.4	+1.3
TMVZ				S	S	05 52 05.7	-2.1
NGZ	**Ngauruhoe**	**0.43**	**161**	P	Pn	05 51 47.5	+1.3
NGZ				S	S	05 52 06.0	-1.9
OTVZ	**Oturere**	**0.43**	**155**	P	Pn	05 51 47.7	+1.5
OTVZ				S	S	05 52 07.2	-0.8
SNVZ	**South Ngauruho**	**0.45**	**158**	P	Pn	05 51 47.7	+1.4
SNVZ				S	S	05 52 06.9	-1.2
TLZ	**Tolley Road**	**0.45**	**11**	P	Pn	05 51 46.3	0.0
HIZ	**Hauiti**	**0.52**	**300**	P	Pn	05 51 47.7	+1.4
HIZ	**Hauiti**	**0.52**	**300**	P	Pn	05 51 47.8	+1.4
PKVZ	**Pokaka**	**0.52**	**187**	P	Pn	05 51 43.7	-2.7
TUVZ	**Tukino**	**0.53**	**160**	P	Pn	05 51 47.8	+1.3
TUVZ				S	S	05 52 06.7	-1.8
TRVZ	**Turoa**	**0.54**	**170**	P	Pn	05 51 48.3	+1.6
WNVZ	**Wahianoa**	**0.57**	**167**	P	Pn	05 51 48.1	+1.4
MOVZ	**Moawhango**	**0.69**	**158**	P	Pn	05 51 48.0	+0.9
BHHZ	**Black Hill Sta**	**0.87**	**146**	P	Pn	05 51 49.1	+1.0
BKZ	**Black Stump Fm**	**0.92**	**116**	P	Pn	05 51 49.4	+1.0
BKZ	**Black Stump Fm**	**0.92**	**116**	P	Pn	05 51 49.2	+0.8
KWHZ	**Kaweka Forest**	**1.01**	**130**	P	Pn	05 51 50.3	+1.3
TOZ	**Tahuroa Road**	**1.04**	**3**	P	Pn	05 51 50.7	+1.6
MTHZ	**Maungataniwha**	**1.11**	**95**	P	Pn	05 51 50.4	+0.8
NMHZ	**Naumai**	**1.12**	**107**	P	Pn	05 51 51.0	+1.2
KRHZ	**Kereru**	**1.14**	**140**	P	Pn	05 51 51.1	+1.3
NEZ	**North Egmont**	**1.15**	**244**	P	Pn	05 51 52.0	+2.1
MCHZ	**McNeill Hill**	**1.20**	**125**	P	Pn	05 51 52.0	+1.8
PKE	**Pukeiti**	**1.20**	**249**	P	Pn	05 51 52.0	+1.8
KHEZ	**Kahui Hut**	**1.22**	**244**	P	Pn	05 51 52.7	+2.2
RTZ	**Ruatahuna**	**1.23**	**83**	P	Pn	05 51 51.1	+0.5
PNHZ	**Pukenui**	**1.29**	**153**	P	Pn	05 51 52.5	+1.3
RAHZ	**Arahi**	**1.30**	**97**	P	Pn	05 51 52.4	+1.3
ARHZ	**Arapoaonui**	**1.32**	**112**	P	Pn	05 51 52.7	+1.5
URZ	**Urewera**	**1.42**	**69**	P	Pn	05 51 52.2	+0.2
URZ	**Urewera**	**1.42**	**69**	P	Pn	05 51 52.1	+0.2
WHHZ	**Waihua**	**1.44**	**103**	P	Pn	05 51 53.4	+1.2
SNGZ	**Shannon Statio**	**1.50**	**91**	P	Pn	05 51 53.7	+1.0
WPHZ	**Waipukurau**	**1.51**	**149**	P	Pn	05 51 54.2	+1.5
KAHZ	**Kahuranaki**	**1.52**	**133**	P	Pn	05 51 54.5	+1.6
RAGZ	**Rawiri**	**1.58**	**81**	P	Pn	05 51 54.0	+0.5
MKAZ	**Moumakai**	**1.68**	**353**	P	Pn	05 51 56.3	+1.9
MWZ	**Matawai**	**1.70**	**76**	P	Pn	05 51 55.1	+0.5
PRHZ	**Porangahau**	**1.76**	**148**	P	Pn	05 51 56.5	+1.4
KNZ	**Kokohu**	**1.77**	**99**	P	Pn	05 51 56.1	+1.0
AWAZ	**Awhitu Peninsu**	**1.81**	**340**	P	Pn	05 51 54.8	-0.8
RIGZ	**Rimuhau**	**1.83**	**89**	P	Pn	05 51 56.7	+1.0
PRWZ	**Pori Road**	**1.83**	**167**	P	Pn	05 51 57.1	+1.4
ETAZ	**East Tamaki Re**	**1.86**	**348**	P	Pn	05 51 58.3	+2.2
MRZ	**Mangatainoka R**	**1.89**	**176**	P	Pn	05 51 57.5	+1.2
TKGZ	**Te Karaka**	**1.93**	**81**	P	Pn	05 51 57.8	+1.1
RUGZ	**Raukumara Rang**	**1.94**	**66**	P	Pn	05 51 56.7	-0.3
MHGZ	**Mahia Peninsul**	**1.97**	**102**	P	Pn	05 51 58.6	+1.4
BFZ	**Birch Farm**	**2.01**	**162**	P	Pn	05 51 59.0	+1.5
BFZ	**Birch Farm**	**2.01**	**162**	P	Pn	05 51 58.7	+1.2
OGWZ	**Otaki Gorge**	**2.05**	**185**	P	Pn	05 51 59.5	+1.5
TWGZ	**Tauwhareparae**	**2.09**	**74**	P	Pn	05 51 59.5	+1.1
HAZ	**Te Kaha**	**2.11**	**62**	P	Pn	05 51 58.5	-0.1
HOWZ	**Holdsworth Sta**	**2.13**	**178**	P	Pn	05 51 59.7	+1.0
KIW	**Kapiti Island**	**2.13**	**191**	P	Pn	05 51 59.8	+1.1
CNGZ	**Carnagh Statio**	**2.20**	**83**	P	Pn	05 52 00.7	+1.3
PKGZ	**Pakihiroa**	**2.26**	**68**	P	Pn	05 52 00.7	+0.4
PUZ	**Puketiti**	**2.33**	**73**	P	Pn	05 52 01.2	+0.3
DUWZ	**D'Urville Isla**	**2.34**	**209**	P	Pn	05 52 02.2	+1.3
CAW	**Cannon Point**	**2.35**	**187**	P	Pn	05 52 02.2	+1.2
MTW	**Mount Morrison**	**2.39**	**179**	P	Pn	05 52 02.2	+0.7
WMGZ	**Waiomatatini S**	**2.54**	**69**	P	Pn	05 52 03.5	+0.4
MXZ	**Matakaoa Point**	**2.57**	**63**	P	Pn	05 52 05.1	+1.6
MXZ	**Matakaoa Point**	**2.57**	**63**	P	Pn	05 52 04.2	+0.7
TCW	**Tory Channel**	**2.59**	**200**	P	Pn	05 52 05.1	+1.4
TRWZ	**Traveller**	**2.63**	**176**	P	Pn	05 52 04.9	+0.8
BHW	**Baring Head**	**2.67**	**189**	P	Pn	05 52 05.5	+0.9
PLWZ	**Palliser**	**2.80**	**183**	P	Pn	05 52 06.6	+0.5
TUWZ	**Tuamarina**	**2.89**	**203**	P	Pn	05 52 08.1	+1.0
NNZ	**Nelson**	**2.91**	**212**	P	Pn	05 52 08.2	+1.0
TKNZ	**Takaka Hill**	**2.95**	**219**	P	Pn	05 52 08.4	+0.6
QRZ	**Quartz Range**	**3.03**	**226**	P	Pn	05 52 09.2	+0.4
QRZ	**Quartz Range**	**3.03**	**226**	P	Pn	05 52 09.3	+0.5
BSWZ	**Blackbirch Sta**	**3.17**	**201**	P	Pn	05 52 11.9	+1.5
MRNZ	**Matariki Terra**	**3.33**	**217**	P	Pn	05 52 12.8	+0.5
THZ	**Tophouse**	**3.56**	**212**	P	Pn	05 52 15.8	+0.7
KHZ	**Kahutara**	**3.92**	**201**	P	Pn	05 52 20.6	+1.3
KHZ	**Kahutara**	**3.92**	**201**	P	Pn	05 52 20.6	+1.3
DSZ	**Denniston Nort**	**4.06**	**222**	P	Pn	05 52 21.5	+0.3
GVZ	**Greta Valley S**	**4.57**	**203**	P	Pn	05 52 28.6	+1.1
LTZ	**Lake Taylor**	**4.67**	**210**	P	Pn	05 52 29.1	+0.3
INZ	**Inchbonnie**	**4.97**	**216**	P	Pn	05 52 33.4	+0.7
OXZ	**Oxford**	**5.22**	**208**	P	Pn	05 52 35.6	-0.2
OKCZ	**Okains Bay**	**5.26**	**199**	P	Pn	05 52 36.9	+0.6
MQZ	**McQueen's Vall**	**5.36**	**202**	P	Pn	05 52 37.3	-0.2
AKCZ	**Akaroa Harbour**	**5.44**	**200**	P	Pn	05 52 39.1	+0.6
RACZ	**Rakaia**	**5.54**	**206**	P	Pn	05 52 39.9	+0.1
MHCZ	**Mount Hutt**	**5.58**	**210**	P	Pn	05 52 40.9	+0.6
WACZ	**Wakanui South**	**5.83**	**206**	P	Pn	05 52 43.6	+0.1
RPZ	**Rata Peaks**	**5.94**	**212**	P	Pn	05 52 46.2	+1.2
RPZ	**Rata Peaks**	**5.94**	**212**	P	Pn	05 52 45.7	+0.7
ARCZ	**Arundel**	**6.08**	**210**	P	Pn	05 52 47.3	+0.5
TMZ	**Timaru**	**6.51**	**209**	P	Pn	05 52 52.2	-0.2
ODZ	**Otahua Downs**	**7.21**	**208**	P	Pn	05 53 02.9	+1.5
ODZ	**Otahua Downs**	**7.21**	**208**	P	Pn	05 53 02.5	+1.1

*IDC **22** 05:52:14.9±0.9, 59°.87S×151°.82W, h0km, mb4.3/9, mbtmp4.3/9, MS4.1/30, Error ellipse: s-maj=31.9km s-min=19.4km az=37.0*
*NEIC **22** 05:52:15.2±2.1, 59°.7S±0°.1×151°.2W±0°.1, h10km±1km, mb4.7/18, Error ellipse: s-maj=24.9km s-min=7.1km az=337.0*
*GCMT **22** 05:52:18.2±0.3, 59°.78S±0°.02×150°.84W±0°.03, h26km±1km, MW4.9/85, Moment Tensor Solution. s20,c23; s85,c102; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.31±.19; Mθθ2.84±.17; Mϕϕ=2.53±.14; Mrθ=-0.91±.31; Mrϕ=1.64±.10; Mθϕ0.14±.27; Best double couple: Mo3.26800×10^16 NP1:φs299.00000°, δ87.00000°, λ15.00000°. NP2: φs209.00000°, δ75.00000°, λ177.00000°. Principal axes: T 3.4890, Plg13.0000°, Azm165.0000°; N -0.4390, Plg75.0000°, Azm311.0000°; P -3.0470, Plg8.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 05:52:15.9±0.5, 59°.92S±0°.09×151°.44W±0°.09, h10km, n81, σ1s23/49, mb4.6/18, MS4.2/33, 5C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**23.32**	**204**	P	**P**	**05 57 25.6**	**+2.1**
VNDA	**Vanda**	**23.32**	**204**	P	**P**	**05 57 24.4**	**+0.9**
	1.3nm,1.0s,baz=63,slow=11,SNR=3.1						
VNDA				LR	LR	06 04 18.4	
	comp=Z,321nm,20.7s,baz=77,slow=31						
	1.3nm,1.0s						
MCQ	**Macquarie Isla**	**26.86**	**259**	P	**P**	**05 57 56.2**	**-0.1**
RPZ	**Rata Peaks**	**27.79**	**289**	LR	LR	06 07 18.8	
	comp=Z,332nm,19.4s,baz=134,slow=33						
QSPA	**South Pole Qui**	**30.21**	**180**	P	**P**	**05 58 28.0**	**+1.8**
QSPA				IAmb	IAmb	05 58 30.2	
	comp=Z,18nm,1.2s						
QSPA	**South Pole Qui**	**30.21**	**180**	P	**P**	**05 58 28.0**	**+1.8**
	comp=Z,6.4nm,0.9s,baz=64,slow=5.6,SNR=15						
QSPA				LR	LR	06 08 49.1	
	comp=Z,407nm,19.2s,baz=64,slow=33						
	comp=Z,6.4nm,0.9s						
TBI	**Tubuai**	**36.57**	**3**	*e*S	**S**	**06 05 07.2**	**+3.2**
TBI	comp=Z,339nm,36.2s						
				*e*LR	LR	06 09 14.1	
	comp=Z,1μm,22.5s						
TBI				*e*LR	LR	06 09 15.4	
	comp=Z,871nm,25.2s						
TBI	**Tubuai**	**36.57**	**3**	*e*T	T	06 37 26.9	
	comp=Z,24nm,0.3s						
BELA	**Belgrano 2**	**37.22**	**162**	P	**P**	**05 59 27.1**	**+0.3**
BELA				IAmb	IAmb	05 59 39.6	
	comp=Z,7.4nm,0.7s						
PMSA	**Palmer Station**	**37.78**	**136**	LR	LR	06 10 42.3	
	comp=Z,244nm,21.2s,baz=281,slow=29						
RAR	**Rarotonga**	**39.12**	**348**	LR	LR	06 10 56.9	
	comp=Z,325nm,19.5s,baz=175,slow=29						
TVO	**Taravao**	**42.11**	**3**	*e*T	T	06 44 25.7	
	comp=Z,0.8nm,0.3s						
MG04	**Isla Riesco**	**42.21**	**117**	P	**P**	**06 00 07.6**	**-0.8**
PPT2	**Papeete2**	**42.30**	**3**	*e*S	**S**	**06 06 30.3**	**+0.1**
	comp=Z,67nm,24.0s						
PPT2				*e*LR	LR	06 11 29.3	
	comp=Z,591nm,28.0s						
PPT2				*e*LR	LR	06 11 48.8	
	comp=Z,455nm,22.2s						
PPT2	**Papeete2**	**42.30**	**3**	*e*T	T	06 44 26.0	
	comp=Z,1.6nm,0.3s						
PPT	**Papeete**	**42.32**	**3**	LR	LR	06 12 44.6	
	comp=Z,226nm,19.8s,baz=199,slow=29						
RPN	**Rapa Nui**	**43.54**	**60**	LR	LR	06 13 50.2	
	comp=Z,218nm,21.7s,baz=198,slow=30						
VAH	**Vaihoa**	**44.70**	**5**	*e*T	T	06 47 36.3	
	comp=Z,44nm,0.3s						
TOO	**Toolangi**	**45.11**	**270**	P	**P**	**06 00 32.9**	**+0.9**
TOO				IAmb	IAmb	06 00 43.5	
	comp=Z,11nm,1.2s						
VNA3	**Neumayer Olymp**	**46.42**	**164**	⇑P	**P**	**06 00 41.6**	**-0.3**
	comp=Z,5.2nm,0.9s						
SNAA	**Sanae**	**46.89**	**167**	P	**P**	**06 00 45.4**	**-0.3**
SNAA				IAmb	IAmb	06 00 47.2	
	comp=Z,20nm,1.5s						
SNAA	**Sanae**	**46.89**	**167**	⇑P	**P**	**06 00 45.7**	**0.0**
	comp=Z,74nm,1.4s						
SNAA	**Sanae**	**46.89**	**167**	P	**P**	**06 00 45.5**	**-0.1**
	comp=Z,3.2nm,1.0s,baz=200,slow=13,SNR=6.5						
SNAA				LR	LR	06 20 19.1	
	comp=Z,219nm,18.1s,baz=184,slow=36						
	comp=Z,3.2nm,1.0s						
VNA2	**Neumayer--Watz**	**47.02**	**165**	⇑P	**P**	**06 00 46.1**	**-0.5**
	comp=Z,7.0nm,0.8s,baz=204,slow=8.0						
TROLL	**Troll, Antarti**	**47.12**	**169**	⇑P	**P**	**06 00 48.4**	**+0.8**
	comp=Z,84nm,0.7s						
VNA1	**Neumayer--Stat**	**47.15**	**164**	⇑P	**P**	**06 00 48.0**	**+0.4**
	comp=Z,17nm,1.0s						
DZM	**Mont Dzumac**	**47.98**	**303**	*e*LR	LR	06 14 25.1	
	comp=Z,330nm,26.4s						
DZM	**Mont Dzumac**	**47.98**	**303**	LR	LR	06 17 29.0	
	comp=Z,66nm,19.7s,baz=188,slow=32						
GO07	**Milladeo Hill,**	**48.21**	**106**	P	**P**	**06 00 56.0**	**-0.1**
EFI	**East Falkland**	**48.89**	**124**	P	**P**	**06 01 01.3**	**0.0**
PLCA	**Paso Flores**	**51.53**	**107**	P	**P**	**06 01 19.8**	**-1.8**
PLCA				IAmb	IAmb	06 01 28.1	
	comp=Z,8.5nm,1.2s						
PLCA	**Paso Flores**	**51.53**	**107**	P	**P**	**06 01 24.7**	**+3.1**
	comp=Z,2.2nm,0.9s,baz=166,slow=19,SNR=2.1						
PLCA				LR	LR	06 17 56.2	
	comp=Z,117nm,20.2s,baz=217,slow=30						
	comp=Z,2.2nm,0.9s						
STKA	**Stephens Creek**	**51.56**	**272**	P	**P**	**06 01 22.3**	**+0.5**
STKA	**Stephens Creek**	**51.56**	**272**	P	**P**	**06 01 22.6**	**+0.8**
	comp=Z,2.8nm,0.7s,baz=149,slow=9.9,SNR=9.1						
STKA				LR	LR	06 20 16.4	
	comp=Z,212nm,18.3s,baz=185,slow=33						
	comp=Z,2.8nm,0.7s						
**TAO

AS31	**Alice Springs**	**62.16**	**271**	P	**P**	**06 02 36.3**	**-0.9**	
ASAR	**Alice Springs**	**62.16**	**271**	P	**P**	**06 02 35.7**	**-1.4**	
ASAR	**Alice Springs**	**62.16**	**271**	P	**P**	**06 02 35.9**	**-1.2**	
	comp=Z,6.1nm,0.7s,baz=142,slow=6.7,SNR=81							
ASAR				LR	LR	06 25 48.3		
	comp=Z,179nm,20.3s,baz=188,slow=32							
	comp=Z,6.1nm,0.7s							
WRA	**Warramunga Arr**	**65.05**	**273**	P	**P**	**06 02 55.2**	**-1.1**	
WRA	**Warramunga Arr**	**65.05**	**273**	P	**P**	**06 02 54.7**	**-1.6**	
	comp=Z,2.2nm,0.7s,baz=154,slow=5.8,SNR=19							
	comp=Z,2.2nm,0.7s							
WB0	**Warramunga Arr**	**65.17**	**273**	P	**P**	**06 02 55.3**	**-1.8**	
WB0				IAmb	IAmb	06 02 56.6		
	comp=Z,2.9nm,0.8s							
LVC	**Limon Verde**	**67.00**	**96**	LR	LR	06 25 24.5		
	comp=Z,68nm,20.7s,baz=224,slow=30							
PMG	**Port Moresby**	**67.78**	**291**	P	**P**	**06 03 13.5**	**-0.2**	
PMG				IAmb	IAmb	06 03 14.9		
	comp=Z,16nm,1.1s							
PMG	**Port Moresby**	**67.78**	**291**	P	**P**	**06 03 13.5**	**-0.2**	
	comp=Z,6.9nm,0.6s,baz=227,slow=1.2,SNR=4.5							
	comp=Z,6.9nm,0.6s							
CPUP	**Villa Florida**	**69.59**	**107**	P	**P**	**06 03 24.6**	**-0.3**	
CPUP				IAmb	IAmb	06 03 52.3		
	comp=Z,8.5nm,1.5s							
CPUP	**Villa Florida**	**69.59**	**107**	LR	LR	06 29 26.1		
	comp=Z,63nm,19.5s,baz=207,slow=32							
NNA	**Nana**	**71.99**	**83**	LR	LR	06 27 43.0		
	comp=Z,133nm,18.9s,baz=220,slow=30							
LPAZ	**La Paz**	**72.71**	**93**	P	**P**	**06 03 42.1**	**-2.6**	
ATAH	**Atahualpa**	**75.38**	**79**	LR	LR	06 29 01.2		
	comp=Z,180nm,20.3s,baz=251,slow=29							
SIV	**San Ignacio**	**76.50**	**98**	LR	LR	06 31 39.1		
	comp=Z,70nm,21.0s,baz=261,slow=31							
BDFB	**Brasilia**	**83.18**	**109**	LR	LR	06 38 36.5		
	comp=Z,101nm,18.5s,baz=216,slow=33							
KAPI	**Kappang**	**85.10**	**269**	LR	LR	06 43 28.9		
	comp=Z,190nm,18.2s,baz=178,slow=36							
JTS	**Las Juntas de**	**87.45**	**65**	LR	LR	06 35 32.9		
	comp=Z,83nm,18.9s,baz=164,slow=30							
ROSC	**El Rosal**	**87.74**	**76**	LR	LR	06 37 17.9		
	comp=Z,101nm,18.3s,baz=260,slow=31							
LPIG	**La Paz**	**90.23**	**37**	LR	LR	06 36 43.0		
	comp=Z,70nm,19.1s,baz=215,slow=30							
BOSA	**Boshof**	**91.75**	**177**	LR	LR	06 41 57.0		
	comp=Z,268nm,21.6s,baz=174,slow=32							
SDV	**Santo Domingo**	**93.04**	**78**	LR	LR	06 40 17.2		
	comp=Z,81nm,21.6s,baz=222,slow=31							
TEIG	**Tepich**	**94.78**	**57**	LR	LR	06 40 48.2		
	comp=Z,403nm,18.2s,baz=348,slow=31							
LBTB	**Lobatse**	**95.34**	**177**	LR	LR	06 44 26.4		
	comp=Z,236nm,21.2s,baz=152,slow=33							
PCRV	**Puerto La Cruz**	**97.12**	**82**	LR	LR	06 44 23.4		
	comp=Z,149nm,18.0s,slow=32							
PFO	**Pinyon Flats O**	**97.56**	**29**	LR	LR	06 41 56.8		
	comp=Z,70nm,18.3s,baz=189,slow=31							
ILAR	**Eielson Array**	**124.42**	**2**	PKP	**PKPdf**	**06 11 13.0**	**-0.4**	
	comp=Z,0.3nm,0.8s,baz=211,slow=2.2,SNR=2.1							
NRN	**Naryn**	**145.66**	**259**	PKPdf	**PKPdf**	**06 11 53.4**	**-0.5**	
MK31	**Makanchi Array**	**146.35**	**272**		**PKPdf**	**06 11 53.5**	**-1.0**	
MKAR	**Makanchi Array**	**146.35**	**272**		**PKPdf**	**06 11 52.8**	**-1.7**	
MKAR	**Makanchi Array**	**146.35**	**272**	PKPbc	**PKPdf**	**06 11 53.8**	**-0.8**	
	comp=Z,2.0nm,0.8s,baz=106,slow=4.0,SNR=15							
MAKZ	**Makanchi**	**146.52**	**271**	PKPdf	**PKPdf**	**06 11 54.6**	**-0.2**	
ZALV	**Zalesovo Beam**	**149.56**	**284**	PKPbc	**PKiKP**	**06 12 04.6**	**-0.5**	
	comp=Z,0.3nm,0.3s,baz=128,slow=4.6,SNR=2.6							
KURBB	**Kurchatov Arra**	**150.73**	**274**	PKP	**PKPdf**	**06 12 01.3**	**-0.1**	
	comp=Z,1.1nm,0.9s,baz=119,slow=2.0,SNR=4.3							
KURBB				PKPbc	**PKiKP**	**06 12 07.7**	**0.0**	
	comp=Z,1.0nm,0.9s,baz=118,slow=2.0,SNR=5.1							
KURBB				PKPab	**PKPab**	**06 12 12.6**	**-1.6**	
	comp=Z,2.5nm,0.9s,baz=127,slow=2.0,SNR=6.0							
ESDC	**Sonseca Array**	**151.30**	**120**	PKP	**PKPdf**	**06 12 03.2**	**+0.5**	
	comp=Z,0.3nm,0.4s,baz=247,slow=1.0,SNR=2.9							
ESDC				PKPbc	**PKiKP**	**06 12 09.9**	**+0.6**	
	comp=Z,0.9nm,1.0s,baz=212,slow=1.4,SNR=5.0							

IDC 22 06:05:04.3±2.4, 54°12N×86°39E, h0km, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=19.4km s-min=12.1km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**260**	I	I	06 10 40.0	
	baz=79,slow=354,SNR=10						
ZALV	**Zalesovo Beam**	**0.94**	**260**	Pg	Pg	06 05 21.5	-0.9
	1.6nm,0.3s,baz=78,slow=17,SNR=13						
ZALV				Lg	Lg	06 05 35.5	
	2.2nm,0.3s,baz=78,slow=26,SNR=14						
KURBB	**Kurchatov Arra**	**5.95**	**237**	Pn	Pn	06 06 34.6	+1.0
	0.1nm,0.3s,baz=55,slow=14,SNR=10						
KURBB				Lg	Lg	06 08 14.5	
	baz=57,slow=30,SNR=1.5						
	1.5nm,0.6s						
MKAR	**Makanchi Array**	**7.79**	**201**	Pn	Pn	06 06 59.7	+0.9
	0.3nm,0.3s,baz=24,slow=13,SNR=11						
MKAR				Lg	Lg	06 09 12.0	
	baz=22,slow=27						
	0.5nm,0.3s						

IDC 22 06:36:48.5±2.7, 54°17N×86°35E, h0km, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=20.9km s-min=12.0km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**257**	I	I	06 42 20.0	
	baz=74,slow=354,SNR=4.4						
ZALV	**Zalesovo Beam**	**0.93**	**257**	Pg	Pg	06 37 04.6	-1.6
	1.6nm,0.3s,baz=73,slow=16,SNR=16						
ZALV				Lg	Lg	06 37 20.1	
	2.7nm,0.3s,baz=81,slow=33,SNR=13						
KURBB	**Kurchatov Arra**	**5.96**	**237**	Pn	Pn	06 38 18.9	+1.0
	0.3nm,0.3s,baz=54,slow=12,SNR=4.7						
	1.9nm,0.2s						
MKAR	**Makanchi Array**	**7.82**	**201**	Pn	Pn	06 38 44.9	+1.4
	0.1nm,0.3s,baz=21,slow=11,SNR=5.0						
MKAR				Lg	Lg	06 40 54.0	
	baz=28,slow=31						
	0.2nm,0.3s						

*SKHL **22** 06:39:09.3±0.3, 44°.90N×150°.40E, h78km±2km, mb4.4/3*
*IDC **22** 06:39:10.9±9.1, 45°.79N×149°.44E, h161km±83km, mb3.2/14, mbtmp3.7/15, MS3.6/1, Error ellipse: s-maj=20.7km s-min=19.3km az=146.0*

ISC 22 06:39:07.9±1.4, 45°.6N±0°.1×149°.8E±0°.2, h150km, n28, σ1§39/17, mb3.3/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.42**	**258**	*eP*	**Pn**	**06 39 38.2**	**+1.6**
KUR				AMB	AMB	06 39 38.4	
	170nm,0.4s						
KUR				*eS*	**Sn**	**06 40 00.0**	**+1.5**
KUR				A	A	06 40 02.7	
	490nm,0.5s						
KUR				A	A	06 40 02.7	
	750nm,0.5s						
SHO	**Shikotan**	**2.72**	**233**	*eP*	**Pn**	**06 39 51.7**	**0.0**
SHO				AMB	AMB	06 39 55.0	
	50nm,0.4s						
SHO				*eS*	**Sn**	**06 40 23.2**	**-2.3**
SHO				A	A	06 40 25.8	
	150nm,0.3s						
SHO				A	A	06 40 25.8	
	160nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.21**	**243**	*eP*	**Pn**	**06 39 59.2**	**+1.4**
YUK				AMB	AMB	06 40 00.0	
	60nm,0.4s						
YUK				*eS*	**Sn**	**06 40 36.7**	**+0.2**
YUK				A	A	06 40 39.8	
	220nm,0.6s						
YUK				A	A	06 40 39.8	
	260nm,0.6s						
NMR	**Nemuro--Hokkai**	**3.66**	**235**	*eP*	**Pn**	**06 40 03.8**	**+0.1**
NMR				*eS*	**Sn**	**06 40 44.7**	**-2.2**
AKK	**Akkeshi**	**4.39**	**236**	*eP*	**Pn**	**06 40 15.5**	**+2.3**
SEY	**Seymchan**	**17.47**	**4**	P	**Pn**	**06 43 01.8**	**-0.3**
	0.8nm,0.2s,baz=359,slow=24,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**29.36**	**146**	T	T	07 16 10.2	
	baz=335,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**29.38**	**146**	T	T	07 16 13.6	
	baz=335,slow=76,SNR=9.3						
H11N3	**WAKE ISLAND Hy**	**29.38**	**146**	T	T	07 16 18.1	
	baz=335,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**30.40**	**147**	T	T	07 17 30.3	
	baz=336,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**30.40**	**147**	T	T	07 17 31.0	
	baz=336,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**30.41**	**147**	T	T	07 17 31.8	
	baz=336,slow=76,SNR=11						
ILAR	**Eielson Array**	**38.90**	**38**	P	P	06 46 19.3	+0.9
	0.2nm,0.7s,baz=287,slow=6.5,SNR=2.1						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**45.45**	**297**	P	**P**	**06 47 11.3**	**-0.3**
	0.3nm,0.5s,baz=60,slow=6.8,SNR=4.0						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**46.21**	**303**	P	**P**	**06 47 16.4**	**-1.1**
	0.3nm,0.3s,baz=70,slow=8.9,SNR=4.7						
	0.2nm,0.3s						
DLBC	**Dease Lake**	**48.05**	**44**	LR	LR	07 10 20.2	
	comp=Z,58nm,18.1s,baz=48,slow=39						
YKA	**Yellowknife Ar**	**53.23**	**35**	P	P	06 48 12.4	+2.1
	0.2nm,0.6s,baz=299,slow=7.3,SNR=4.8						
	0.2nm,0.6s						
FINES	**FINESS Array B**	**64.12**	**334**	P	**P**	**06 49 24.9**	**-0.7**
	2.1nm,0.5s,baz=32,slow=7.5,SNR=11						
	2.1nm,0.5s						
NVAR	**Mina Array Bea**	**65.01**	**60**	P	P	06 49 34.1	+2.1
	0.2nm,0.5s,baz=318,slow=6.7,SNR=2.5						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**66.69**	**196**	P	**P**	**06 49 44.0**	**+1.5**
	0.2nm,0.6s,baz=8.6,slow=6.9,SNR=1.9						
	0.2nm,0.6s						
NB2	**NORSAR Subarra**	**68.59**	**340**	P	**P**	**06 49 53.7**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=30,slow=6.2						
NOA	**NORSAR Array B**	**68.59**	**340**	P	P	06 49 54.0	-0.1
	comp=Z,0.7nm,0.6s,baz=30,slow=6.7,SNR=4.1						
	comp=Z,0.7nm,0.6s						
HFS	**Hagfors**	**68.75**	**338**	P	P	06 49 55.1	+0.1
	comp=Z,3.5nm,0.8s,baz=51,slow=5.7,SNR=2.6						
	comp=Z,3.5nm,0.8s						
ASAR	**Alice Springs**	**70.40**	**195**	P	P	06 50 09.2	+3.7
	comp=Z,2.0nm,0.5s,baz=12,slow=4.6,SNR=4.9						
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**71.23**	**325**	P	**P**	**06 50 09.8**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=35,slow=5.4,SNR=5.6						
	comp=Z,0.7nm,0.5s						
EKA	**Eskdalemuir Ar**	**76.92**	**345**	P	P	06 50 43.2	0.0
	comp=Z,0.1nm,0.3s,baz=26,slow=5.0,SNR=3.9						
	comp=Z,0.1nm,0.3s						
GERES	**GERESS Array B**	**78.49**	**332**	P	**P**	**06 50 52.1**	**0.0**
	comp=Z,0.5nm,0.5s,baz=64,slow=6.7,SNR=2.7						
	comp=Z,0.5nm,0.5s						
TXAR	**Lajitas Array**	**80.06**	**58**	P	P	06 51 04.0	+2.9
	comp=Z,0.3nm,0.5s,baz=287,slow=4.6,SNR=8.2						
	comp=Z,0.3nm,0.5s						

*IDC **22** 07:00:16.9±3.5, 53°.47N×90°.63E, h0km, mbtmp3.2/3, ML2.7/3, Error ellipse: s-maj=34.7km s-min=23.7km az=34.0*
*NNC **22** 07:00:19.1±2.1, 53°.39N×90°.40E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=16.8km s-min=14.7km az=88.0, Suspected Mining explosion.*

ISC 22 07:00:26.6±2.5, 52°.32N±0°.06×88°.0E±0°.1, h0km, n8, σ1§52/12, 3C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**2.50**	**312**	⇓Pn	**Pb**	**07 01 13.1**	**+0.7**
	0.7nm,0.6s						
ZAA0				⇓Lg	Lg	07 02 06.6	
	3.0nm,0.9s						
ZALV	**Zalesovo Beam**	**2.50**	**312**	Pn	**Pg**	**07 01 14.0**	**-0.5**
	1.0nm,0.3s,baz=100,slow=16,SNR=11						
ZALV				Lg	Lg	07 02 06.0	
	2.4nm,0.3s,baz=98,slow=26,SNR=11						
	2.2nm,0.3s						
KURK	**Kurchatov**	**6.06**	**258**	⇓Pn	**Pb**	**07 02 10.4**	**-2.5**
	2.6nm,1.2s						
KURK				⇓Sn	**Sg**	**07 03 42.2**	**+1.2**
	2.3nm,0.6s						
KURK				⇑Lg	Lg	07 04 26.3	
	13nm,1.1s						
KURBB	**Kurchatov Arra**	**6.14**	**258**	Pn	**Pb**	**07 02 13.6**	**-0.8**
	0.1nm,0.3s,baz=65,slow=15,SNR=9.8						
KURBB				Sn	**Sg**	**07 03 44.0**	**+0.3**
	baz=69,slow=26,SNR=1.9						
KURBB				Lg	Lg	07 04 32.0	
	0.1nm,0.3s,baz=70,slow=34,SNR=1.4						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**6.14**	**258**	⇑Pn	**Pb**	**07 02 14.8**	**+0.4**
	1.4nm,0.4s						
KURBB				⇓Sn	**Sg**	**07 03 44.8**	**+1.0**
	9.2nm,0.7s						
KURBB				⇓Lg	Lg	07 04 26.3	
	12nm,0.8s						
MK31	**Makanchi Array**	**6.65**	**216**	Pn	**Pb**	**07 02 23.1**	**0.0**
	0.7nm,0.6s,baz=39,slow=12,SNR=9.0						
MK31				⇑Sn	**Sg**	**07 03 58.9**	**-1.3**
	0.9nm,0.7s,baz=40,slow=15,SNR=2.7						
MK31				⇓Lg	Lg	07 04 47.3	
	2.8nm,0.8s,baz=51,slow=30,SNR=3.5						
MKAR	**Makanchi Array**	**6.65**	**216**	Pn	**Pb**	**07 02 23.0**	**-0.1**
	0.2nm,0.3s,baz=42,slow=14,SNR=12						
MKAR				Sn	**Sg**	**07 04 03.1**	**+2.9**
	0.1nm,0.3s,baz=22,slow=17,SNR=2.0						
MKAR				Lg	Lg	07 04 50.8	
	0.1nm,0.3s,baz=45,slow=31,SNR=2.3						
	0.7nm,0.5s						
I34MN	**SONGINO INFRAS**	**12.67**	**104**	I	I	08 07 10.0	
	baz=307,slow=332,SNR=1.4						

*NNC **22** 07:19:44.6±0.5, 50°.10N×79°.13E, h0km, mb2.7, mpv2.6, Error ellipse: s-maj=10.3km s-min=2.3km az=58.0, Suspected Mining explosion.*
*IDC **22** 07:19:45.8±1.0, 50°.05N×78°.76E, h0km, mbtmp2.7/2, ML2.3/1, Error ellipse: s-maj=15.2km s-min=6.5km az=65.0*

ISC 22 07:19:41.2±1.0, 50°.10N±0°.06×79°.45E±0°.07, h0km, n17, σ1§10/29, 4C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR14	**Kurchatov Arra**	**0.75**	**314**	P	**Pb**	**07 19 56.7**	**-0.5**
KUR14				S	**Sg**	**07 20 06.0**	**+0.6**
KUR07	**Kurchatov Arra**	**0.77**	**310**	P	**Pb**	**07 19 56.6**	**-0.8**
KUR07				S	**Sg**	**07 20 05.8**	**-0.1**
KUR15	**Kurchatov Arra**	**0.77**	**313**	P	**Pb**	**07 19 56.9**	**-0.6**
KUR15				S	**Sg**	**07 20 06.3**	**+0.4**
KUR06	**Kurchatov Arra**	**0.78**	**311**	P	**Pb**	**07 19 56.7**	**-0.9**
KUR06				S	**Sg**	**07 20 06.1**	**-0.1**
KURBB	**Kurchatov Arra**	**0.79**	**312**	Pg	**Pb**	**07 19 57.0**	**-0.8**
	1.2nm,0.3s,baz=165,slow=18,SNR=94						
KURBB				Lg	Lg	07 20 05.8	
	1.2nm,0.3s,baz=162,slow=30,SNR=13						
KURBB	**Kurchatov Arra**	**0.79**	**312**	⇓P	**Pb**	**07 19 56.9**	**-0.8**
	11nm,0.3s						
KURBB				⇑S	**Sg**	**07 20 07.0**	**+0.5**
	44nm,0.7s						
KUR05	**Kurchatov Arra**	**0.80**	**313**	P	**Pb**	**07 19 57.4**	**-0.6**
KUR05				S	**Sg**	**07 20 06.4**	**-0.4**
KUR16	**Kurchatov Arra**	**0.81**	**311**	P	**Pb**	**07 19 57.4**	**-0.7**
KUR16				S	**Sg**	**07 20 06.8**	**-0.2**
KUR04	**Kurchatov Arra**	**0.81**	**315**	P	**Pb**	**07 19 57.7**	**-0.4**
KUR04				S	**Sg**	**07 20 06.8**	**-0.4**
KURK	**Kurchatov**	**0.81**	**320**	⇓P	**Pb**	**07 19 58.2**	**0.0**
	3.3nm,0.3s						
KURK				⇓S	**Sg**	**07 20 07.6**	**+0.3**
	21nm,0.8s						
KUR17	**Kurchatov Arra**	**0.82**	**311**	P	**Pb**	**07 19 57.5**	**-0.8**
KUR17				S	**Sg**	**07 20 07.1**	**-0.5**
MAKZ	**Makanchi**	**3.70**	**152**	⇓Pn	**Pb**	**07 20 45.5**	**-1.9**
	0.3nm,0.5s						
MAKZ				⇑Pg	**Pg**	**07 20 54.7**	**+2.7**
	2.2nm,1.1s						
MAKZ				⇓Lg	Lg	07 21 45.5	
	2.8nm,0.7s						
MK31	**Makanchi Array**	**3.81**	**149**	⇑Pn	**Pb**	**07 20 47.0**	**-2.3**
	baz=319,slow=9.9,SNR=14						
MK31				Pg	**Pg**	**07 20 56.2**	**+2.0**
	0.1nm,0.2s,baz=325,slow=13,SNR=12						
MK31				Lg	Lg	07 21 50.0	
	2.6nm,0.4s,baz=336,slow=27,SNR=16						
MKAR	**Makanchi Array**	**3.81**	**149**	Pn	**Pb**	**07 20 49.3**	**0.0**
	0.2nm,0.3s,baz=319,slow=10,SNR=17						
MKAR				Pg	**Pg**	**07 20 55.7**	**+1.5**
	0.4nm,0.3s,baz=324,slow=14,SNR=10						
MKAR				Lg	Lg	07 21 51.9	
	0.9nm,0.3s,baz=322,slow=28,SNR=13						
	0.2nm,0.3s						
OTUK	**Ortayu**	**5.02**	**251**	⇓Pn	**Pn**	**07 20 56.6**	**-1.1**
	0.4nm,0.1s						
OTUK				⇑Lg	Lg	07 22 15.9	
	3.4nm,0.9s						
ZALV	**Zalesovo Beam**	**5.08**	**39**	Pn	**Pb**	**07 21 09.7**	**-1.2**
	1.0nm,0.3s,baz=232,slow=14,SNR=1.0						
I46RU	**ZALESOVO INFRA**	**5.09**	**39**	I	I	07 53 40.0	
	baz=221,slow=328,SNR=2.9						

IDC 22 07:25:56.2±1.1, 19°.56N×144°.44E, h0km, mb3.6/7, mbtmp3.6/7, MS3.0/4, Error ellipse: s-maj=44.7km s-min=24.2km az=97.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**17.78**	**343**	LR	LR	07 36 02.1	
	comp=Z,14nm,20.1s,baz=182,slow=34						
H11N1	**WAKE ISLAND Hy**	**21.15**	**86**	T	T	07 52 38.3	
	baz=273,slow=75,SNR=23						
H11N2	**WAKE ISLAND Hy**	**21.15**	**86**	T	T	07 52 41.1	
	baz=273,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**21.16**	**86**	T	T	07 52 44.9	
	baz=273,slow=75,SNR=17						
DAV	**Davao City (W)**	**22.12**	**238**	LR	LR	07 38 17.4	
	comp=Z,26nm,21.9s,baz=44,slow=34						
KAPI	**Kappang**	**34.44**	**227**	LR	LR	07 46 55.8	
	comp=Z,48nm,18.3s,baz=186,slow=37						
WRA	**Warramunga Arr**	**40.49**	**195**	P	P	07 33 37.0	+0.1
	0.4nm,0.9s,baz=12,slow=9.3,SNR=2.9						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**44.17**	**194**	P	P	07 34 06.7	-0.3
	0.3nm,0.7s,baz=9.5,slow=8.5,SNR=3.3						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**59.89**	**318**	P	P	07 36 03.7	-0.1
	0.3nm,0.6s,baz=92,slow=7.6,SNR=4.1						
	0.3nm,0.6s						
AAK	**Ala-Archa**	**62.41**	**309**	LR	LR	08 04 17.6	
	comp=Z,26nm,18.2s,baz=214,slow=37						
ILAR	**Eielson Array**	**63.41**	**27**	P	P	07 36 27.1	-0.3
	0.5nm,0.8s,baz=272,slow=5.1,SNR=4.6						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**65.06**	**320**	P	P	07 36 39.0	+0.7
	1.6nm,0.5s,baz=82,slow=7.3,SNR=8.5						
	1.6nm,0.5s						
YKA	**Yellowknife Ar**	**77.79**	**28**	P	P	07 37 55.3	+0.3
	0.3nm,0.7s,baz=286,slow=5.5,SNR=5.5						
	0.3nm,0.7s						
FINES	**FINESS Array B**	**85.61**	**335**	P	P	07 38 35.2	-1.2
	0.9nm,0.6s,baz=78,slow=9.1,SNR=1.3						
	0.9nm,0.6s						

IDC 22 07:35:26.8±2.6, 54°.29N×85°.91E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=19.1km s-min=10.5km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.73**	**242**	I	I	07 40 00.0	
	baz=62,slow=353,SNR=1.0						
ZALV	**Zalesovo Beam**	**0.73**	**242**	Pg	Pg	07 35 39.6	-1.1
	0.5nm,0.3s,baz=60,slow=17,SNR=5.3						
ZALV				Lg	Lg	07 35 51.3	
	2.2nm,0.3s,baz=60,slow=29,SNR=13						
KURBB	**Kurchatov Arra**	**5.82**	**234**	Pn	Pn	07 36 55.6	+1.4
	0.1nm,0.3s,baz=49,slow=13,SNR=5.2						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.85**	**198**	Pn	Pn	07 37 22.7	+0.5
	0.1nm,0.3s,baz=22,slow=13,SNR=4.8						
	0.2nm,0.5s						

*IDC **22** 07:38:49.5±6.1, 22°.09S×178°.06W, h427km±69km, mb3.1/7, mbtmp3.9/8, Error ellipse: s-maj=60.9km s-min=22.6km az=165.0*

ISC 22 07:38:44.6±0.8, 21°.9S±0°.1×178°.1W±0°.2, h373km, n13, σ1§03/15, mb3.5/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.86**	**193**	P	**P**	**07 42 16.8**	**-1.3**
	3.5nm,0.6s,baz=228,slow=19,SNR=1.3						
URZ				S	**S**	**07 45 15.6**	**+0.5**
	4.2nm,0.9s,baz=269,slow=21,SNR=0.7						
STKA	**Stephens Creek**	**37.12**	**246**	P	**P**	**07 45 22.2**	**+1.0**
	2.1nm,0.8s,baz=105,slow=13,SNR=4.0						
	2.1nm,0.9s						
ASAR	**Alice Springs**	**44.11**	**258**	P	**P**	**07 46 18.9**	**+0.9**
	2.9nm,0.8s,baz=94,slow=8.1,SNR=40						
ASAR				PcP	**PcP**	**07 47 54.7**	**-0.9**
	0.3nm,0.8s,baz=127,slow=2.9,SNR=2.4						
	2.9nm,0.8s						
WRA	**Warramunga Arr**	**44.32**	**263**	P	**P**	**07 46 19.7**	**+0.2**
	1.4nm,0.7s,baz=95,slow=8.2,SNR=18						
	1.4nm,0.7s						
NVAR	**Mina Array Bea**	**82.08**	**43**	P	**P**	**07 50 25.4**	**+0.8**
	0.8nm,0.8s,baz=218,slow=6.8,SNR=4.3						
	0.8nm,0.8s						
TXAR	**Lajitas Array**	**87.88**	**57**	P	**P**	**07 50 54.2**	**+1.0**
	0.1nm,0.7s,baz=229,slow=5.5,SNR=1.5						
	0.1nm,0.7s						
ILAR	**Eielson Array**	**89.65**	**13**	P	**P**	**07 51 00.0**	**-0.5**
	0.4nm,0.4s,baz=217,slow=5.3,SNR=12						
	0.4nm,0.4s						
PDAR	**Pinedale Array**	**90.02**	**43**	P	**P**	**07 51 03.6**	**+0.6**
	0.4nm,0.7s,baz=193,slow=3.7,SNR=4.4						
	0.4nm,0.7s						
**AR

MOS ***22*** *08:00:14.1±0.7,65˚.49N×134˚.16W,h23km,mb5.6/84, MS4.7/21 Error ellipse: s-maj=10.7km s-min=3.5km az=91.5*

GCMT ***22*** *08:00:17.0±0.2,65˚.65N±0˚.01×133˚.78W±0˚.03,h15km, MW5.0/121,Moment Tensor Solution. s60,c80; s121,c177; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.54±.15; Mθθ-5.03±.13; Mφφ2.49±.12; Mrθ0.84±.21; Mθφ1.96±.10; Mφr0.37±.24; Best double couple: Mo4.47300×10¹⁶ NP1:φs66.00000°,δ70.00000°, λ31.00000°. NP2:φs324.00000°,δ62.00000°,λ157.00000°. Principal axes: T 3.3700, Plg36.0000°, Azm287.0000°; N 2.2060, Plg54.0000°, Azm96.0000°; P -5.5760, Plg5.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 08:00:13.3±0.5,65˚48N±0˚.01×134˚13W±0˚.02,h8km±2km, n1960,σ1°23/2117,mb5.5/286,MS4.6/170,128C-55D, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H31M	**Peel River**	**0.34**	**345**			**Pg**	**08 00 20.4**	**+0.5**
H31M						**Sg**	**08 00 24.6**	**+0.2**
H31M	**Peel River**	**0.34**	**345**	P		**Pg**	**08 00 20.6**	**+0.6**
	baz=172							
H31M				S		**Sg**	**08 00 25.7**	**+1.2**
	baz=172							
H31M	**Peel River**	**0.34**	**345**	P		**Pg**	**08 00 20.4**	**+0.5**
H31M				S		**Sg**	**08 00 24.6**	**+0.2**
I30M	**Mount Dempster**	**0.98**	**256**			**Pg**	**08 00 31.7**	**-0.4**
I30M				Sg		**Sg**	**08 00 44.7**	**-0.1**
I30M	**Mount Dempster**	**0.98**	**256**	P		**Pg**	**08 00 31.3**	**-0.8**
	baz=75							
I30M				S		**Sg**	**08 00 44.7**	**-0.1**
	baz=75							
I30M	**Mount Dempster**	**0.98**	**256**	P		**Pg**	**08 00 30.9**	**-1.2**
I30M				S		**Sg**	**08 00 44.3**	**-0.5**
J30M	**Hart River**	**1.30**	**227**			**Pn**	**08 00 36.6**	**-1.3**
J30M						**Sg**	**08 00 53.8**	**-1.4**
J30M	**Hart River**	**1.30**	**227**	P		**Pn**	**08 00 37.3**	**-0.7**
	baz=44							
J30M	**Hart River**	**1.30**	**227**	P		**Pn**	**08 00 36.6**	**-1.3**
J30M				S		**Sg**	**08 00 53.8**	**-1.4**
EPYK	**Eagle Plains**	**1.39**	**311**			**Pb**	**08 00 39.5**	**-0.1**
EPYK				Sn		**Sg**	**08 00 58.1**	**+0.2**
EPYK	**Eagle Plains**	**1.39**	**311**	P		**Pn**	**08 00 38.9**	**-0.1**
	baz=131,SNR=1000							
EPYK				S		**Sg**	**08 00 58.9**	**+0.9**
	baz=131							
EPYK	**Eagle Plains**	**1.39**	**311**	P		**Pn**	**08 00 38.9**	**-0.1**
EPYK				S		**Sb**	**08 00 57.6**	**+0.2**
G31M	**Satah River**	**1.45**	**358**			**Pn**	**08 00 39.7**	**-0.1**
G31M				Sn		**Sg**	**08 01 00.1**	**+0.2**
G31M	**Satah River**	**1.45**	**358**	P		**Pn**	**08 00 40.1**	**+0.2**
	baz=179,SNR=1000							
G31M				S		**Sg**	**08 00 60.0**	**+0.1**
	baz=179							
G31M	**Satah River**	**1.45**	**358**	P		**Pn**	**08 00 40.0**	**+0.2**
G31M				S		**Sn**	**08 00 59.0**	**+0.1**
G30M	**tAoh Zraii Nji**	**1.73**	**332**	P		**Pn**	**08 00 43.7**	**0.0**
	baz=151							
G30M				S		**Sb**	**08 01 07.0**	**-0.2**
	baz=151							
G30M	**tAoh Zraii Nji**	**1.73**	**332**	Pn		**Pn**	**08 00 43.8**	**0.0**
G30M				Sn		**Sb**	**08 01 07.2**	**0.0**
I29M	**Ogilvie Camp,**	**1.75**	**268**			**Pn**	**08 00 44.3**	**+0.3**
I29M				Sn		**Sb**	**08 01 07.7**	**-0.2**
I29M	**Ogilvie Camp,**	**1.75**	**268**	P		**Pn**	**08 00 43.9**	**-0.1**
	baz=85,SNR=713							
I29M	**Ogilvie Camp,**	**1.75**	**268**	Pn		**Pn**	**08 00 44.0**	**-0.1**
I29M				Sn		**Sb**	**08 01 07.6**	**-0.2**
H29M	**Whitestone**	**1.90**	**295**	Pn		**Pn**	**08 00 46.3**	**+0.3**
H29M				Sn		**Sb**	**08 01 11.4**	**-0.6**
H29M	**Whitestone**	**1.90**	**295**	P		**Pn**	**08 00 46.5**	**+0.5**
	baz=112							
H29M	**Whitestone**	**1.90**	**295**	Pn		**Pn**	**08 00 46.3**	**+0.3**
H29M				Sn		**Sb**	**08 01 11.4**	**-0.6**
F31M	**Tsiigehtchic**	**1.98**	**4**	Pn		**Pn**	**08 00 46.8**	**-0.2**
F31M				Sn		**Sn**	**08 01 11.7**	**-0.2**
F31M	**Tsiigehtchic**	**1.98**	**4**	P		**Pn**	**08 00 47.2**	**+0.1**
	baz=186,SNR=1000							
F31M				S		**Sn**	**08 01 13.0**	**+1.1**
	baz=186							
F31M	**Tsiigehtchic**	**1.98**	**4**	Pn		**Pn**	**08 00 47.1**	**+0.1**
F31M				Sn		**Sn**	**08 01 13.2**	**+1.3**
MAYO	**Mayo, Yukon**	**2.04**	**203**			**Pn**	**08 00 48.2**	**+0.3**
MAYO	**Mayo, Yukon**	**2.04**	**203**			**Sb**	**08 01 16.5**	**+0.4**
MAYO	**Mayo, Yukon**	**2.04**	**203**	Pn		**Pn**	**08 00 47.8**	**-0.2**
MAYO				Sg		**Sb**	**08 01 16.6**	**+0.4**
MAYO	**Mayo, Yukon**	**2.04**	**203**	P		**Pn**	**08 00 47.9**	**-0.1**
	baz=20,SNR=246							
MAYO	**Mayo, Yukon**	**2.04**	**203**	Pn		**Pn**	**08 00 47.8**	**-0.2**
MAYO				Sg		**Sb**	**08 01 16.6**	**+0.4**
G29M	**Pine Creek**	**2.14**	**314**			**Pn**	**08 00 49.7**	**+0.4**
G29M	**Pine Creek**	**2.14**	**314**	P		**Pn**	**08 00 49.3**	**0.0**
	baz=132							
G29M	**Pine Creek**	**2.14**	**314**	Pn		**Pn**	**08 00 49.2**	**-0.1**
G29M				Sn		**Sn**	**08 01 16.7**	**+0.7**
G29M				Sg		**Sg**	**08 01 20.9**	**-1.0**
K29M	**Barlow Dome**	**2.20**	**223**	Pn		**Pn**	**08 00 50.7**	**+0.5**
K29M				Sn		**Sn**	**08 01 18.1**	**+0.5**
K29M	**Barlow Dome**	**2.20**	**223**	P		**Pn**	**08 00 50.8**	**+0.6**
	baz=40							
K29M				S		**Sn**	**08 01 19.0**	**+1.4**
	baz=40							
K29M	**Barlow Dome**	**2.20**	**223**	Pn		**Pn**	**08 00 50.7**	**+0.5**
K29M				Sn		**Sn**	**08 01 18.1**	**+0.5**
F30M	**Barrier River**	**2.24**	**344**	Pn		**Pn**	**08 00 51.4**	**+0.7**
F30M				Sn		**Sn**	**08 01 20.1**	**+1.6**
F30M	**Barrier River**	**2.24**	**344**	P		**Pn**	**08 00 51.4**	**+0.7**
	baz=163,SNR=1000							
F30M				S		**Sn**	**08 01 20.1**	**+1.6**
	baz=163							
F30M	**Barrier River**	**2.24**	**344**	Pn		**Pn**	**08 00 51.4**	**+0.7**
F30M				Sn		**Sn**	**08 01 20.1**	**+1.6**
I28M	**Miner Creek**	**2.42**	**272**	Pn		**Pn**	**08 00 53.1**	**-0.3**
I28M				Sn		**Sn**	**08 01 23.8**	**+0.6**
I28M				Sg		**Sg**	**08 01 29.3**	**-1.8**
I28M	**Miner Creek**	**2.42**	**272**	P		**Pn**	**08 00 53.2**	**-0.1**
	baz=87							
I28M	**Miner Creek**	**2.42**	**272**	Pn		**Pn**	**08 00 53.1**	**-0.3**
I28M				Sn		**Sn**	**08 01 23.8**	**+0.6**
I28M				Sg		**Sg**	**08 01 29.3**	**-1.8**
DAWY	**Dawson**	**2.67**	**240**	Pn		**Pn**	**08 00 56.4**	**-0.2**
DAWY	**Dawson**	**2.67**	**240**	Pn		**Pn**	**08 00 56.4**	**-0.2**
DAWY				Sn		**Sn**	**08 01 29.5**	**+0.5**
DAWY				Sg		**Sb**	**08 01 36.2**	**+2.1**
DAWY	**Dawson**	**2.67**	**240**	P		**Pn**	**08 00 57.2**	**+0.7**
	baz=56,SNR=1000							
DAWY				S		**Sn**	**08 01 30.4**	**+1.4**
	baz=56							
DAWY	**Dawson**	**2.67**	**240**	Pn		**Pn**	**08 00 56.4**	**-0.2**
DAWY				Sn		**Sn**	**08 01 29.5**	**+0.5**
DAWY				Sg		**Sb**	**08 01 36.2**	**+2.1**
INK	**Inuvik**	**2.85**	**5**	Pn		**Pn**	**08 00 58.8**	**-0.2**
INK	**Inuvik**	**2.85**	**5**	Pn		**Pn**	**08 00 58.8**	**-0.2**
INK				Sn		**Sn**	**08 01 33.6**	**+0.1**
INK				Sg		**Sg**	**08 01 42.2**	**-2.5**
INK	**Inuvik**	**2.85**	**5**	P		**Pn**	**08 00 59.1**	**+0.1**
	baz=186,SNR=1000							
INK	**Inuvik**	**2.85**	**5**	P		**Pn**	**08 00 58.8**	**-0.2**
INK							08 01 33.6	
INK	**Inuvik**	**2.85**	**5**	Pn		**Pn**	**08 00 59.2**	**+0.2**
	104nm,0.3s,baz=174,slow=17,SNR=1760							
INK				Pg		**Pb**	**08 01 05.3**	**+0.9**
	2μm,0.3s,baz=182,slow=15,SNR=84							
INK				LR		LR	08 01 38.1	
	comp=Z,3μm,19.6s,baz=214,slow=31							
INK				Lg		Lg	08 01 39.3	
	877nm,0.3s,baz=305,slow=14,SNR=4.8							
	563nm,0.3s							
INK	**Inuvik**	**2.85**	**5**	Pn		**Pn**	**08 00 58.8**	**-0.2**
INK				Sn		**Sn**	**08 01 33.6**	**+0.1**
INK				Sg		**Sg**	**08 01 42.2**	**-2.5**
L29M	**L29M**	**2.95**	**218**			**Pn**	**08 01 00.9**	**+0.4**
L29M	**L29M**	**2.95**	**218**	Pn		**Pn**	**08 01 00.5**	**-0.1**
L29M				Sn		**Sn**	**08 01 35.4**	**-0.7**
L29M	**L29M**	**2.95**	**218**	P		**Pn**	**08 01 01.0**	**+0.4**
	baz=34							
L29M	**L29M**	**2.95**	**218**	Pn		**Pn**	**08 01 00.5**	**-0.1**
L29M				Sn		**Sn**	**08 01 35.4**	**-0.7**
EGAK	**Eagle**	**3.05**	**260**			**Pn**	**08 01 01.5**	**-0.4**
EGAK	**Eagle**	**3.05**	**260**	P		**Pn**	**08 01 01.6**	**-0.4**
	baz=74,SNR=1000							
EGAK				S		**Sn**	**08 01 38.8**	**+0.3**
	baz=74							
EGAK	**Eagle**	**3.05**	**260**	Pn		**Pn**	**08 01 01.5**	**-0.4**
EGAK				Sn		**Sn**	**08 01 38.5**	**-0.1**
I27K	**Kandik River**	**3.12**	**276**	Pn		**Pn**	**08 01 02.7**	**-0.1**
I27K				Sn		**Sn**	**08 01 41.0**	**+0.8**
I27K	**Kandik River**	**3.12**	**276**	P		**Pn**	**08 01 03.2**	**+0.4**
	baz=90							
I27K				S		**Sn**	**08 01 41.3**	**+1.1**
	baz=90							
I27K	**Kandik River**	**3.12**	**276**	Pn		**Pn**	**08 01 02.7**	**-0.1**
I27K				Sn		**Sn**	**08 01 41.0**	**+0.8**
H27K	**Steamboat Moun**	**3.13**	**287**	Pn		**Pn**	**08 01 02.9**	**-0.1**
H27K				Sn		**Sn**	**08 01 40.7**	**+0.1**
H27K	**Steamboat Moun**	**3.13**	**287**	P		**Pn**	**08 01 03.6**	**+0.6**
	baz=101							
H27K	**Steamboat Moun**	**3.13**	**287**	Pn		**Pn**	**08 01 02.9**	**-0.1**
H27K				Sn		**Sn**	**08 01 40.7**	**+0.1**
F28M	**Old Crow**	**3.14**	**316**	Pn		**Pn**	**08 01 03.3**	**+0.2**
F28M	**Old Crow**	**3.14**	**316**	P		**Pn**	**08 01 03.3**	**+0.2**
	baz=131,SNR=627							
F28M	**Old Crow**	**3.14**	**316**	Pn		**Pn**	**08 01 03.2**	**+0.2**
F28M				Sn		**Sn**	**08 01 41.0**	**+0.3**
F28M				Sg		**Sg**	**08 01 51.0**	**-3.1**
M30M	**Minto, Yukon**	**3.14**	**203**			**Pn**	**08 01 02.6**	**-0.5**
M30M	**Minto, Yukon**	**3.14**	**203**	Pn		**Pn**	**08 01 02.6**	**-0.5**
M30M				Sn		**Sn**	**08 01 41.2**	**+0.4**
M30M				Sg		**Sb**	**08 01 49.9**	**+2.1**
M30M	**Minto, Yukon**	**3.14**	**203**	P		**Pn**	**08 01 02.8**	**-0.4**
	baz=20,SNR=1000							
M30M	**Minto, Yukon**	**3.14**	**203**	Pn		**Pn**	**08 01 02.6**	**-0.5**
M30M				Sn		**Sn**	**08 01 41.2**	**+0.4**
M30M				Sg		**Sb**	**08 01 49.9**	**+2.1**
E29M	**Blow River**	**3.28**	**335**	Pn		**Pn**	**08 01 05.9**	**+0.9**
E29M				Sn		**Sn**	**08 01 43.3**	**-0.7**
E29M				Sg		**Sg**	**08 01 56.2**	**-2.2**
E29M	**Blow River**	**3.28**	**335**	P		**Pn**	**08 01 05.8**	**+0.8**
	baz=152							
E29M				S		**Sn**	**08 01 45.9**	**+1.9**
	baz=152							
E29M	**Blow River**	**3.28**	**335**	Pn		**Pn**	**08 01 05.9**	**+0.9**
E29M				Sn		**Sn**	**08 01 43.3**	**-0.7**
E29M				Sg		**Sg**	**08 01 56.2**	**-2.2**
FARO	**Faro, Yukon**	**3.28**	**174**			**Pn**	**08 01 04.4**	**-0.6**
FARO	**Faro, Yukon**	**3.28**	**174**	Pn		**Pn**	**08 01 04.8**	**-0.2**
FARO				Sn		**Sn**	**08 01 43.5**	**-0.7**
FARO	**Faro, Yukon**	**3.28**	**174**	P		**Pn**	**08 01 05.1**	**0.0**
	baz=354,SNR=1000							
FARO	**Faro, Yukon**	**3.28**	**174**	Pn		**Pn**	**08 01 04.8**	**-0.2**
FARO				Sn		**Sn**	**08 01 43.5**	**-0.7**
M31M	**Drury Creek, Y**	**3.29**	**182**	Pn		**Pn**	**08 01 05.0**	**-0.2**
M31M	**Drury Creek, Y**	**3.29**	**182**	Pn		**Pn**	**08 01 04.9**	**-0.2**
M31M	**Drury Creek, Y**	**3.29**	**182**	P		**Pn**	**08 01 05.1**	**-0.2**
	baz=1.2,SNR=1000							
M31M				Sb		**Sb**	**08 01 55.8**	**+3.6**
	baz=1.2							
M31M	**Drury Creek, Y**	**3.29**	**182**	Pn		**Pn**	**08 01 04.9**	**-0.2**
G27K	**Doyon Strip**	**3.34**	**297**	Pn		**Pn**	**08 01 06.0**	**+0.3**
G27K				Sn		**Sn**	**08 01 46.0**	**+0.4**
G27K				Sg		**Sg**	**08 01 57.2**	**-3.2**
G27K	**Doyon Strip**	**3.34**	**297**	P		**Pn**	**08 01 06.1**	**+0.3**
	baz=111							
G27K	**Doyon Strip**	**3.34**	**297**	Pn		**Pn**	**08 01 06.0**	**+0.3**
G27K				Sn		**Sn**	**08 01 46.0**	**+0.4**
G27K				Sg		**Sg**	**08 01 57.2**	**-3.2**
M29M	**Somme Creek**	**3.60**	**214**	Pn		**Pn**	**08 01 09.1**	**-0.3**
M29M				Sn		**Sn**	**08 01 51.2**	**-1.0**
M29M				Sg		**Sg**	**08 02 05.3**	**-3.4**
M29M	**Somme Creek**	**3.60**	**214**	P		**Pn**	**08 01 09.9**	**+0.5**
	baz=30							
M29M				Sn		**Sn**	**08 01 53.0**	**+0.8**
	baz=30							
M29M	**Somme Creek**	**3.60**	**214**	Pn		**Pn**	**08 01 09.1**	**-0.3**
M29M				Sn		**Sn**	**08 01 51.2**	**-1.0**
M29M				Sg		**Sg**	**08 02 05.3**	**-3.4**
K27K	**Chicken**	**3.70**	**250**	Pn		**Pn**	**08 01 10.2**	**-0.6**
K27K				Sn		**Sn**	**08 01 53.7**	**-0.9**
K27K	**Chicken**	**3.70**	**250**	P		**Pn**	**08 01 10.6**	**-0.2**
	baz=64							
K27K	**Chicken**	**3.70**	**250**	Pn		**Pn**	**08 01 10.2**	**-0.6**
K27K				Sn		**Sn**	**08 01 53.7**	**-0.9**
I26K	**Coal Creek Min**	**3.78**	**271**	P		**Pn**	**08 01 11.7**	**-0.1**
	baz=84							
E28M	**Babbage River**	**3.79**	**328**	Pn		**Pn**	**08 01 11.9**	**0.0**
E28M				Sn		**Sn**	**08 01 56.1**	**-0.5**
E28M	**Babbage River**	**3.79**	**328**	P		**Pn**	**08 01 12.4**	**+0.5**
	baz=144							
E28M				S		**Sn**	**08 01 57.2**	**+0.6**
	baz=144							
E28M	**Babbage River**	**3.79**	**328**	Pn		**Pn**	**08 01 11.9**	**0.0**
E28M				Sn		**Sn**	**08 01 56.1**	**-0.5**
E27K	**Coleen River**	**4.01**	**316**			**Pn**	**08 01 14.3**	**-0.8**
E27K	**Coleen River**	**4.01**	**316**	P		**Pn**	**08 01 15.1**	**+0.1**
	baz=130,SNR=433							
E27K	**Coleen River**	**4.01**	**316**	Pn		**Pn**	**08 01 14.9**	**-0.1**
E27K				Sn		**Sn**	**08 02 01.3**	**-0.9**
E27K				Sg		**Sg**	**08 02 18.1**	**-3.9**
N31M	**Braeburn, Yuko**	**4.08**	**191**			**Pn**	**08 01 15.1**	**-0.8**
N31M	**Braeburn, Yuko**	**4.08**	**191**	P		**Pn**	**08 01 15.7**	**-0.3**
	baz=9.2,SNR=1000							
N31M	**Braeburn, Yuko**	**4.08**	**191**	Pn		**Pn**	**08 01 15.1**	**-0.8**
N31M				Sn		**Sn**	**08 02 02.3**	**-1.5**
J26L	**Joseph Creek**	**4.13**	**261**			**Pn**	**08 01 16.1**	**-0.5**
J26L	**Joseph Creek**	**4.13**	**261**	P		**Pn**	**08 01 16.2**	**-0.5**
	baz=72							
J26L				S		**Sn**	**08 02 03.8**	**-1.3**
	baz=72							
L27K	**Beaver Creek,**	**4.14**	**238**			**Pn**	**08 01 17.5**	**+0.6**
L27K	**Beaver Creek,**	**4.14**	**238**	Pn		**Pn**	**08 01 16.8**	**-0.1**
L27K				Sn		**Sn**	**08 02 03.6**	**-1.9**
L27K				Sg		**Sb**	**08 02 19.8**	**+3.2**
L27K	**Beaver Creek,**	**4.14**	**238**	P		**Pn**	**08 01 17.4**	**+0.6**
	baz=51							
L27K	**Beaver Creek,**	**4.14**	**238**	Pn		**Pn**	**08 01 16.8**	**-0.1**
L27K				Sn		**Sn**	**08 02 03.6**	**-1.9**
L27K				Sg		**Sb**	**08 02 19.8**	**+3.2**
G26K	**Porcupine Rive**	**4.18**	**295**			**Pn**	**08 01 17.2**	**-0.1**
G26K	**Porcupine Rive**	**4.18**	**295**	P		**Pn**	**08 01 16.9**	**-0.4**
	baz=107							
N30M	**Aishikik Lake**	**4.25**	**200**			**Pn**	**08 01 18.2**	**-0.1**
N30M	**Aishikik Lake**	**4.25**	**200**	Pn		**Pn**	**08 01 18.1**	**-0.2**
N30M				Sg		**Sb**	**08 02 22.1**	**+2.4**
N30M	**Aishikik Lake**	**4.25**	**200**	P		**Pn**	**08 01 18.5**	**+0.2**
	baz=16							
N30M				S		**Sn**	**08 02 09.1**	**+1.0**
	baz=16							
N30M	**Aishikik Lake**	**4.25**	**200**	Pn		**Pn**	**08 01 18.1**	**-0.2**
N30M				Sg		**Sb**	**08 02 22.1**	**+2.4**
D28M	**Stokes Point**	**4.25**	**337**	Pn		**Pn**	**08 01 19.4**	**+1.1**
D28M				Sn		**Sn**	**08 02 08.3**	**+0.2**
D28M	**Stokes Point**	**4.25**	**337**	P		**Pn**	**08 01 18.7**	**+0.4**
	baz=154							
D28M				S		**Sn**	**08 02 09.5**	**+1.4**
	baz=154							
D28M	**Stokes Point**	**4.25**	**337**	Pn		**Pn**	**08 01 19.4**	**+1.1**
D28M				Sn		**Sn**	**08 02 08.3**	**+0.2**
BVCY	**Beaver Creek**	**4.28**	**227**			**Pn**	**08 01 19.6**	**+0.9**
BVCY	**Beaver Creek**	**4.28**	**227**	Pn		**Pn**	**08 01 19.4**	**+0.8**
BVCY				Sn		**Sn**	**08 02 06.6**	**-2.1**
BVCY	**Beaver Creek**	**4.28**	**227**	P		**Pn**	**08 01 19.6**	**+0.9**
	baz=41,SNR=217							
BVCY	**Beaver Creek**	**4.28**	**227**	Pn		**Pn**	**08 01 19.4**	**+0.8**
BVCY				Sn		**Sn**	**08 02 06.6**	**-2.1**
N32M	**Quiet Lake**	**4.37**	**173**	Pn		**Pn**	**08 01 19.9**	**-0.1**
N32M				Sg		**Sb**	**08 02 28.2**	**+5.0**
N32M	**Quiet Lake**	**4.37**	**173**	P		**Pn**	**08 01 20.1**	**+0.1**
	baz=354							
N32M	**Quiet Lake**	**4.37**	**173**	Pn		**Pn**	**08 01 19.9**	**-0.1**
N32M				Sg		**Sb**	**08 02 28.2**	**+5.0**
SCRK	**Sand Creek**	**4.49**	**255**	Pn		**Pn**	**08 01 21.2**	**-0.4**
SCRK	**Sand Creek**	**4.49**	**255**	P		**Pn**	**08 01 21.2**	**-0.4**
	baz=66,SNR=378							
F26K	**Sheenjek River**	**4.57**	**304**	P		**Pn**	**08 01 23.3**	**+0.5**
	baz=115							
D27M	**Malcolm River**	**4.61**	**328**	Pn		**Pn**	**08 01 24.2**	**+1.0**
D27M	**Malcolm River**	**4.61**	**328**	P		**Pn**	**08 01 24.3**	**+1.0**
	baz=142							
D27M	**Malcolm River**	**4.61**	**328**	Pn		**Pn**	**08 01 24.2**	**+1.0**
YUK4	**Talbot Arm**	**4.62**	**208**	Pn		**Pn**	**08 01 22.2**	**-1.4**
YUK4				Sg		**Sb**	**08 02 32.5**	**+2.0**
YUK4	**Talbot Arm**	**4.62**	**208**	P		**Pn**	**08 01 22.8**	**-0.7**
	baz=24,SNR=1000							
YUK4				S		**Sn**	**08 02 16.5**	**-0.9**
	baz=24							
YUK4	**Talbot Arm**	**4.62**	**208**	Pn		**Pn**	**08 01 22.2**	**-1.4**
YUK4				Sn		**Sn**	**08 02 13.3**	**-4.1**
YUK4				Sg		**Sb**	**08 02 32.5**	**+2.0**
M27K	**Edge Creek, AK**	**4.64**	**231**			**Pn**	**08 01 24.1**	**+0.3**
M27K	**Edge Creek, AK**	**4.64**	**231**	Pn		**Pn**	**08 01 23.8**	**+0.1**
M27K				Sg		**Sb**	**08 02 36.3**	**+5.4**
M27K	**Edge Creek, AK**	**4.64**	**231**	P		**Pn**	**08 01 23.8**	**+0.1**
	baz=44							
M27K	**Edge Creek, AK**	**4.64**	**231**	Pn		**Pn**	**08 01 23.8**	**+0.1**
M27K				Sg		**Sb**	**08 02 36.3**	**+5.4**
FYU	**Fort Yukon**	**4.66**	**289**	Pn		**Pn**	**08 01 23.1**	**-0.8**
YUK3	**Moose Creek**	**4.67**	**220**			**Pn**	**08 01 24.6**	**+0.4**
YUK3	**Moose Creek**	**4.67**	**220**	Pn		**Pn**	**08 01 24.6**	**+0.4**
YUK3				Sn		**Sn**	**08 02 17.1**	**-1.5**
YUK3				Sg		**Sb**	**08 02 36.6**	**+4.7**
YUK3	**Moose Creek**	**4.67**	**220**	P		**Pn**	**08 01 25.0**	**+0.8**
	baz=34,SNR=1000							
YUK3	**Moose Creek**	**4.67**	**220**	Pn		**Pn**	**08 01 24.6**	**+0.4**
YUK3				Sn		**Sn**	**08 02 17.1**	**-1.5**
YUK3				Sg		**Sb**	**08 02 36.6**	**+4.7**
YUK5	**Granite Creek**	**4.68**	**203**			**Pn**	**08 01 24.5**	**+0.1**
YUK5	**Granite Creek**	**4.68**	**203**	Pn		**Pn**	**08 01 24.2**	**-0.1**
YUK5				Sg		**Sg**	**08 02 38.3**	**-5.1**
YUK5	**Granite Creek**	**4.68**	**203**	Pn		**Pn**	**08 01 24.2**	**-0.1**
YUK5				Sg		**Sg**	**08 02 38.3**	**-5.1**
L26K	**Log Cabin Wild**	**4.71**	**243**			**Pn**	**08 01 24.5**	**-0.2**
L26K	**Log Cabin Wild**	**4.71**	**243**	P		**Pn**	**08 01 24.9**	**+0.2**
	baz=54,SNR=162							
PRP	**Porcupine Dome**	**4.75**	**276**	Pn		**Pn**	**08 01 24.6**	**-0.6**
PRP	**Porcupine Dome**	**4.75**	**276**	P		**Pn**	**08 01 25.0**	**-0.2**
	baz=86							
TGTN	**Hyland Airport**	**4.75**	**144**			**Pn**	**08 01 25.3**	**0.0**
TGTN	**Hyland Airport**	**4.75**	**144**	Pn		**Pn**	**08 01 25.3**	**0.0**
TGTN				Sg		**Sb**	**08 02 40.0**	**+5.8**
TGTN	**Hyland Airport**	**4.75**	**144**	P		**Pn**	**08 01 25.3**	**0.0**
	baz=329,SNR=574							
TGTN	**Hyland Airport**	**4.75**	**144**	Pn		**Pn**	**08 01 25.3**	**0.0**
TGTN				Sg		**Sb**	**08 02 40.0**	**+5.8**
YUK2	**White River**	**4.76**	**222**			**Pn**	**08 01 25.8**	**+0.4**
YUK2	**White River**	**4.76**	**222**	Pn		**Pn**	**08 01 25.8**	**+0.4**
YUK2				Sn		**Sn**	**08 02 19.3**	**-1.5**
YUK2				Sg		**Sb**	**08 02 40.4**	**+5.8**
YUK2	**White River**	**4.76**	**222**	Pn		**Pn**	**08 01 25.8**	**+0.4**
YUK2				Sn		**Sn**	**08 02 19.3**	**-1.5**
YUK2				Sg		**Sb**	**08 02 40.4**	**+5.8**
O30N	**Mendenhall**	**4.81**	**192**			**Pn**	**08 01 25.2**	**-0.8**
O30N	**Mendenhall**	**4.81**	**192**	P		**Pn**	**08 01 25.7**	**-0.4**
	baz=9.4,SNR=1000							
J25K	**Salcha River,**	**4.84**	**265**			**Pn**	**08 01 25.8**	**-0.7**
J25K	**Salcha River,**	**4.84**	**265**	P		**Pn**	**08 01 25.7**	**-0.8**
	baz=75							
WHY	**Whitehorse**	**4.85**	**184**	Pn		**Pn**	**08 01 25.9**	**-0.8**
WHY	**Whitehorse**	**4.85**	**184**	Pn		**Pn**	**08 01 26.2**	**-0.4**
WHY				Sg		**Sg**	**08 02 44.0**	**-4.9**
WHY	**Whitehorse**	**4.85**	**184**	P		**Pn**	**08 01 26.2**	**-0.4**
	baz=3.3,SNR=966							
WHY	**Whitehorse**	**4.85**	**184**	Pn		**Pn**	**08 01 26.2**	**-0.4**
WHY				Sg		**Sg**	**08 02 44.0**	**-4.9**
MENT	**Mentasta**	**4.90**	**243**			**Pn**	**08 01 26.7**	**-0.6**
MENT	**Mentasta**	**4.90**	**243**	P		**Pn**	**08 01 28.0**	**+0.7**
YUK8	**Steele Glacier**	**4.92**	**214**			**Pn**	**08 01 28.0**	**+0.3**
YUK8	**Steele Glacier**	**4.92**	**214**	Pn		**Pn**	**08 01 27.8**	**+0.1**
YUK8				Sn		**Sn**	**08 02 22.8**	**-2.0**
YUK8				Sg		**Sg**	**08 02 45.6**	**-5.4**
YUK8	**Ste

	baz=80							
LOGN	Logan Glacier	5.61	217		Pn	Pn	08 01 38.8	+1.6
LOGN	Logan Glacier	5.61	217	Pn	Pn	Pn	08 01 37.4	+0.2
H24K	Noodor Dome	5.70	280		Pn	Pn	08 01 37.9	-0.3
H24K	Noodor Dome baz=88	5.70	280	P	Pn	Pn	08 01 37.8	-0.4
WASW	Wrangell South	5.71	236		Pn	Pn	08 01 39.9	+1.3
PTPK	Patty Peak	5.71	225	Pn	Pn	Pn	08 01 39.5	+1.0
PTPK	Patty Peak	5.71	225	Pn	Pn	Pn	08 01 39.5	+1.0
WACK	Wrangell Chich	5.73	237		Pn	Pn	08 01 39.9	+1.2
MCARA	McCarthy VSAT	5.73	228		Pn	Pn	08 01 39.7	+1.1
MCARA	McCarthy VSAT baz=40,SNR=353	5.73	228	P	Pn	Pn	08 01 39.7	+1.1
HARP	HAARP	5.76	243		Pn	Pn	08 01 40.5	+1.4
HARP	HAARP baz=53	5.76	243	P	Pn	Pn	08 01 39.8	+0.8
COLA	College	5.81	270		Pn	Pn	08 01 40.2	+0.5
COLA	College	5.81	270	P	Pn	Pn	08 01 39.9	+0.2
COLA	College baz=78	5.81	270	P	Pn	Pn	08 01 39.4	-0.3
COLA	College	5.81	270	*i* P	Pn	Pn	08 01 40.6	+0.9
CCB	Clear Creek Bu	5.85	268		Pn	Pn	08 01 39.1	-1.1
F24K	Squaw Lake baz=104	5.87	297	P	Pn	Pn	08 01 40.8	+0.3
GRNC	Granite Creek	5.89	219		Pn	Pn	08 01 43.1	+2.1
GRNC	Granite Creek	5.89	219	Pn	Pn	Pn	08 01 41.7	+0.8
KIAG	Kiagna River	5.89	223	Pn	Pn	Pn	08 01 41.5	+0.5
KIAG	Kiagna River	5.89	223	Pn	Pn	Pn	08 01 41.5	+0.5
WTLY	Watson Lake, Y	5.91	153		Pn	Pn	08 01 41.2	+0.1
WTLY	Watson Lake, Y	5.91	153	Pn	Pn	Pn	08 01 40.9	-0.2
WTLY	Watson Lake, Y baz=337,SNR=20	5.91	153	P	Pn	Pn	08 01 40.7	-0.4
WTLY	Watson Lake, Y	5.91	153	Pn	Pn	Pn	08 01 40.9	-0.2
P32M	Atlin	5.92	178		Pn	Pn	08 01 40.8	-0.5
P32M	Atlin	5.92	178	Pn	Pn	Pn	08 01 41.0	-0.2
P32M	Atlin baz=358,SNR=711	5.92	178	P	Pn	Pn	08 01 41.0	-0.2
P32M	Atlin	5.92	178	Pn	Pn	Pn	08 01 41.0	-0.2
GLB	Gilahina Butte	5.94	231		Pn	Pn	08 01 41.9	+0.4
MDM	Murphy Dome	5.95	271		Pn	Pn	08 01 41.4	-0.3
VRDI	Verde Repeater	5.98	229		Pn	Pn	08 01 43.4	+1.1
TABL	Table Mountain	5.98	216		Pn	Pn	08 01 44.7	+2.4
TABL	Table Mountain	5.98	216	Pn	Pn	Pn	08 01 42.1	-0.1
WRH	Wood River Hil	6.01	267		Pn	Pn	08 01 42.2	-0.2
C26K	Camden Bay	6.05	322		Pn	Pn	08 01 45.0	+2.1
C26K	Camden Bay baz=133,SNR=1000	6.05	322	P	Pn	Pn	08 01 45.1	+2.1
SKAG	Skagway	6.07	186		Pn	Pn	08 01 44.3	+1.0
SKAG	Skagway	6.07	186	P	Pn	Pn	08 01 44.5	+1.3
SKAG	Skagway baz=4.4,SNR=1000	6.07	186	P	Pn	Pn	08 01 43.5	+0.3
N25K	Chitina, Valde	6.08	235	Pn	Pn	Pn	08 01 44.3	+0.8
N25K	Chitina, Valde baz=46	6.08	235	P	Pn	Pn	08 01 43.7	+0.3
D25K	Kavik River	6.09	315		Pn	Pn	08 01 45.3	+1.7
D25K	Kavik River baz=124	6.09	315	P	Pn	Pn	08 01 44.6	+1.0
PCA	Pinnacle	6.09	210	Pn	Pn	Pn	08 01 45.0	+1.4
PCA	Pinnacle	6.09	210	Pn	Pn	Pn	08 01 45.0	+1.4
PINM	Pinnacle baz=25,SNR=402	6.09	210	P	Pn	Pn	08 01 45.7	+2.1
BCPM	Bancas Point	6.10	207		Pn	Pn	08 01 46.2	+2.6
P29M	Windy Craggy	6.10	198	Pn	Pn	Pn	08 01 44.4	+0.6
P29M	Windy Craggy baz=14	6.10	198	P	Pn	Pn	08 01 44.4	+0.6
P29M	Windy Craggy	6.10	198	Pn	Pn	Pn	08 01 44.4	+0.6
ISLE	Juniper Island	6.15	221		Pn	Pn	08 01 47.4	+2.9
TGL	Tana Glacier	6.17	224		Pn	Pn	08 01 47.0	+2.3
SAMH	Samovar Hills	6.17	213	Pn	Pn	Pn	08 01 45.8	+1.0
SAMH	Samovar Hills	6.17	213	Pn	Pn	Pn	08 01 45.8	+1.0
BAGL	Bagley Icefiel	6.18	220		Pn	Pn	08 01 46.8	+2.0
E24K	Your Creek baz=108	6.24	301	P	Pn	Pn	08 01 46.4	+0.7
CRQE	Cirque baz=37	6.25	225	P	Pn	Pn	08 01 46.6	+0.8
DHY	Denali Highway	6.25	253		Pn	Pn	08 01 47.0	+1.1
DHY	Denali Highway baz=62	6.25	253	P	Pn	Pn	08 01 46.5	+0.6
CRQM	Cirque	6.25	225		Pn	Pn	08 01 48.4	+2.4
R33M	Jennings River	6.28	165	Pn	Pn	Pn	08 01 46.3	0.0
R33M	Jennings River baz=348	6.28	165	P	Pn	Pn	08 01 46.7	+0.4
R33M	Jennings River	6.28	165	Pn	Pn	Pn	08 01 46.3	0.0
M24K	Tolsona, Glenn	6.32	243		Pn	Pn	08 01 48.2	+1.5
M24K	Tolsona, Glenn baz=52	6.32	243	P	Pn	Pn	08 01 47.0	+0.3
PNL	Peninsula	6.32	205		Pn	Pn	08 01 47.7	+0.9
PNL	Peninsula	6.32	205	Pn	Pn	Pn	08 01 47.6	+0.9
PNL	Peninsula	6.32	205	P	Pn	Pn	08 01 48.9	+2.2
PNL	Peninsula baz=20,SNR=231	6.32	205	P	Pn	Pn	08 01 48.0	+1.3
PNL	Peninsula	6.32	205	Pn	Pn	Pn	08 01 47.6	+0.9
NEA2	Nenana	6.39	269		Pn	Pn	08 01 46.7	-1.0
NEA2	Nenana baz=76	6.39	269	P	Pn	Pn	08 01 46.7	-1.0
I23K	Minto, Yukon-K baz=80	6.39	274	P	Pn	Pn	08 01 47.3	-0.3
MESA	MESA	6.41	218		Pn	Pn	08 01 51.4	+3.2
MESA	MESA baz=30,SNR=142	6.41	218	P	Pn	Pn	08 01 50.8	+2.7
MESA	MESA	6.41	218	Pn	Pn	Pn	08 01 47.9	-0.2
WAX	Waxell Ridge	6.42	222		Pn	Pn	08 01 51.7	+3.5
BMRM	Bremner River baz=42	6.55	231	P	Pn	Pn	08 01 50.7	+0.9
G23K	Bananza Creek	6.58	288	Pn	Pn	Pn	08 01 49.9	-0.3
G23K	Bananza Creek baz=94	6.58	288	P	Pn	Pn	08 01 49.9	-0.3
Q32M	Nakina River baz=353	6.60	172	P	Pn	Pn	08 01 50.9	+0.2
Q32M	Nakina River	6.60	172	Pn	Pn	Pn	08 01 50.6	-0.2
MCK	McKinley	6.61	261		Pn	Pn	08 01 51.3	+0.7
MCK	McKinley baz=68	6.61	261	P	Pn	Pn	08 01 51.1	+0.5
MCK	McKinley	6.61	261	P	Pn	Pn	08 01 51.3	+0.7
KLU	Klutina	6.62	238		Pn	Pn	08 01 52.7	+1.8
KLU	Klutina baz=48	6.62	238	P	Pn	Pn	08 01 51.2	+0.3
SNH	Sunshine Point	6.64	221		Pn	Pn	08 01 54.3	+3.1
E23K	Chandalar baz=106	6.64	300	P	Pn	Pn	08 01 52.1	+0.9
WAT6	Susitna Watana	6.64	250		Pn	Pn	08 01 51.9	+0.6
WAT6	Susitna Watana baz=58	6.64	250	P	Pn	Pn	08 01 51.8	+0.5
BWN	Browne	6.67	266		Pn	Pn	08 01 50.6	-0.9
COLD	Coldfoot	6.70	292	Pn	Pn	Pn	08 01 52.5	+0.6
COLD	Coldfoot baz=98	6.70	292	P	Pn	Pn	08 01 52.4	+0.6
COLD	Coldfoot	6.70	292	Pn	Pn	Pn	08 01 52.5	+0.6
RND	Reindeer	6.70	259		Pn	Pn	08 01 52.5	+0.5
RND	Reindeer	6.70	259	P	Pn	Pn	08 01 52.5	+0.5
D24K	Happy Valley	6.76	310	Pn	Pn	Pn	08 01 54.4	+1.7
D24K	Happy Valley baz=116	6.76	310	P	Pn	Pn	08 01 53.8	+1.1
TOLK	Toolik Lake Re	6.81	305		Pn	Pn	08 01 55.6	+2.2
TOLK	Toolik Lake Re baz=111	6.81	305	P	Pn	Pn	08 01 55.0	+1.5
BGLC	Bering Glacier baz=34	6.82	222	P	Pn	Pn	08 01 53.4	-0.1
DIV	Divide	6.82	236	Pn	Pn	Pn	08 01 54.6	+1.0
DIV	Divide	6.82	236	Pn	Pn	Pn	08 01 54.6	+1.0
WAT1	Susitna Watana	6.84	254		Pn	Pn	08 01 55.2	+1.4
WAT1	Susitna Watana baz=61	6.84	254	P	Pn	Pn	08 01 55.0	+1.2
SCM	Sheep Creek Mo	6.92	244		Pn	Pn	08 01 56.4	+1.5
SCM	Sheep Creek Mo baz=52	6.92	244	P	Pn	Pn	08 01 55.6	+0.6
SCM	Sheep Creek Mo	6.92	244	P	Pn	Pn	08 01 56.4	+1.5
HMT	Hamilton	6.93	227		Pn	Pn	08 01 57.1	+2.1
BESE	Bessie Mountai	6.94	183	Pn	Pn	Pn	08 01 55.3	+0.1
BESE	Bessie Mountai	6.94	183	Pn	Pn	Pn	08 01 55.3	+0.1
WAT7	Susitna Watana	6.96	254		Pn	Pn	08 01 57.1	+1.5
MLY	Manley	6.99	274		Pn	Pn	08 01 55.7	-0.2
MLY	Manley baz=79	6.99	274	P	Pn	Pn	08 01 55.4	-0.5
C24K	Franklin Bluff baz=121	7.00	314	P	Pn	Pn	08 01 56.2	+0.3
SUCK	Suckling Hills	7.00	224		Pn	Pn	08 01 57.2	+1.2
KOTAN	Kotaneelee Air baz=323,SNR=6.2	7.07	135	P	Pn	Pn	08 01 56.7	-0.3
M23K	Glacier View baz=53	7.09	245	P	Pn	Pn	08 01 58.8	+1.6
H22K	Ishtalitna Cre baz=86	7.13	281	P	Pn	Pn	08 01 57.3	-0.5
R31K	City Hall, Gus	7.13	187	P	Pn	Pn	08 01 57.4	-0.5
	baz=5.1							
FLDN	Fort Liard	7.16	132		Pn	Pn	08 01 57.2	-1.0
FLDN	Fort Liard	7.16	132	Pn	Pn	Pn	08 01 58.3	+0.1
FLDN	Fort Liard baz=321,SNR=21	7.16	132	P	Pn	Pn	08 01 57.8	-0.4
FLDN	Fort Liard	7.16	132	Pn	Pn	Pn	08 01 58.3	+0.1
G22K	Bettles	7.17	289	P	Pn	Pn	08 01 58.1	-0.3
	baz=94							
JIS	Juneau Island	7.23	181			Pn	08 01 58.9	-0.3
JIS	Juneau Island	7.23	181	P		Pn	08 02 00.0	+0.8
EYAK	Cordova Ski Ar	7.23	232			Pn	08 02 01.0	+1.8
EYAK	Cordova Ski Ar	7.23	232	P		Pn	08 02 01.7	+2.5
EYAK	Cordova Ski Ar baz=42	7.23	232	P		Pn	08 02 00.7	+1.5
R32K	Eaglecrest	7.24	182			Pn	08 01 59.1	-0.2
R32K	Eaglecrest baz=1.0,SNR=77	7.24	182	P		Pn	08 01 59.5	+0.3
TRF	Thorofare Moun	7.27	261			Pn	08 02 00.1	+0.2
TRF	Thorofare Moun baz=67	7.27	261	P		Pn	08 01 60.0	0.0
A36M	Sachs Harbour	7.28	22			Pn	08 01 59.3	-0.5
A36M	Sachs Harbour baz=211,SNR=1000	7.28	22	P		Pn	08 01 58.8	-1.0
A36M	Sachs Harbour	7.28	22	Pn		Pn	08 01 58.3	-1.5
D23K	Nanushuk River baz=111	7.30	306	P		Pn	08 02 01.2	+1.0
KAIM	Kayak Island	7.30	225			Pn	08 02 02.2	+2.1
KAIM	Kayak Island baz=36	7.30	225	P		Pn	08 02 00.7	+0.5
SML	Sawmill	7.31	246			Pn	08 02 02.3	+1.9
SML	Sawmill baz=54	7.31	246	P		Pn	08 02 01.8	+1.4
DLBC	Dease Lake	7.33	163			Pn	08 02 00.2	-0.4
DLBC	Dease Lake baz=346,SNR=1000	7.33	163	P		Pn	08 02 00.8	+0.2
DLBC	Dease Lake 127nm,0.3s,baz=7.9,slow=11,SNR=821	7.33	163	Pn		Pn	08 02 00.8	+0.2
DLBC	50nm,0.3s,baz=74,slow=22,SNR=5.5				Sn	Sn	08 03 23.2	-0.6
DLBC	73nm,0.3s,baz=107,slow=14,SNR=11				Lg	Lg	08 04 03.0	
DLBC	comp=Z,2µm,20.5s,baz=346,slow=41 460nm,0.4s				LR	LR	08 05 18.2	
DLBC	Dease Lake	7.33	163	Pn	Pn	Pn	08 02 00.3	-0.3
BPAW	Bear Paw Mtn.	7.33	267		Pn	Pn	08 01 59.5	-1.1
BPAW	Bear Paw Mtn. baz=72	7.33	267	P	Pn	Pn	08 02 00.3	-0.3
FID	Port Fidalgo	7.33	235			Pn	08 02 04.1	+3.5
GLI	Glacier Island baz=46	7.46	238	P		Pn	08 02 04.0	+1.7
E22K	Anaktuvuk Pass baz=103	7.46	299	P		Pn	08 02 02.7	+0.3
I21K	Tanana baz=80	7.47	276	P		Pn	08 02 01.8	-0.7
F22K	John River	7.49	294			Pn	08 02 03.5	+0.7
F22K	John River baz=98	7.49	294	P		Pn	08 02 03.0	+0.3
KTH	Kantishna Hill	7.49	263			Pn	08 02 02.8	0.0
NBC1	NorthernBC 1	7.53	136	Pn		Pn	08 02 03.1	-0.1
NBC1	NorthernBC 1	7.53	136	Pn		Pn	08 02 03.1	-0.1
HIN	Hinchinbrook I	7.60	234			Pn	08 02 05.5	+1.2
KNK	Knik Glacier	7.60	244			Pn	08 02 06.3	+2.0
KNK	Knik Glacier baz=51	7.60	244	P		Pn	08 02 05.5	+1.2
S31K	Pelican	7.61	189			Pn	08 02 04.8	+0.5
S31K	Pelican baz=6.4,SNR=483	7.61	189	P		Pn	08 02 05.0	+0.6
C23K	Itkillik River baz=117	7.63	312	P		Pn	08 02 06.0	+1.4
S34M	Telegraph Cree	7.73	168			Pn	08 02 07.1	+1.1
S34M	Telegraph Cree	7.73	168	Pn		Pn	08 02 06.1	+0.2
S34M	Telegraph Cree baz=350,SNR=271	7.73	168	P		Pn	08 02 06.4	+0.4
S34M	Telegraph Cree	7.73	168	Pn		Pn	08 02 06.1	+0.2
CUT	Chulitna	7.74	254			Pn	08 02 07.2	+1.0
CUT	Chulitna baz=60	7.74	254	P		Pn	08 02 07.5	+1.4
H21K	Melozitna Rive baz=83	7.74	280	P		Pn	08 02 05.4	-0.8
PMR	Palmer	7.75	247			Pn	08 02 07.9	+1.7
PMR	Palmer	7.75	247	P		Pn	08 02 08.4	+2.2
PMR	Palmer baz=53	7.75	247	P		Pn	08 02 08.1	+1.9
PMR	Palmer	7.75	247	P		Pn	08 02 07.9	+1.7
TOAD	Toad River Com	7.84	144	Pn		Pn	08 02 07.4	-0.2
CHUM	Lake Mainchumin baz=70	7.95	267	P		Pn	08 02 08.9	-0.2
D22K	Ayikyak River baz=107	7.96	304	P		Pn	08 02 10.5	+1.3
G21K	Allakaket baz=89	7.96	286	P		Pn	08 02 09.4	+0.2
F21K	Alatna River baz=94	7.97	291	P		Pn	08 02 09.5	+0.2
CAST	Castle Rocks	8.03	263			Pn	08 02 10.6	+0.4
CAST	Castle Rocks baz=67	8.03	263	P		Pn	08 02 10.0	-0.1
M22K	Willow baz=55	8.04	250	P		Pn	08 02 12.6	+2.4
S32K	Killisnoo	8.04	182			Pn	08 02 10.6	+0.3
S32K	Killisnoo baz=1.1	8.04	182	P		Pn	08 02 09.5	-0.8
RC01	Rabbit Creek A baz=51	8.29	245	P		Pn	08 02 15.5	+1.9
PPLA	Purkeypile baz=64	8.29	260	P		Pn	08 02 15.6	+1.8
Q23K	Middleton Isla baz=38	8.29	229	P		Pn	08 02 15.2	+1.5
E21K	Killik River baz=102	8.31	300	P		Pn	08 02 14.5	+0.5
SUA	Susitna One	8.45	249			Pn	08 02 18.4	+2.5
SUA	Susitna One baz=54	8.45	249	P		Pn	08 02 18.1	+2.2
SKT	Skwentna	8.47	254			Pn	08 02 18.2	+2.0
SKT	Skwentna baz=58	8.47	254	P		Pn	08 02 18.5	+2.3
SIT	Sitka	8.47	184			Pn	08 02 16.9	+0.7
SIT	Sitka	8.47	184	P		Pn	08 02 17.2	+1.0
SIT	Sitka baz=3.1	8.47	184	P		Pn	08 02 16.0	-0.2
SIT	Sitka	8.47	184	P		Pn	08 02 16.9	+0.7
NBC3	NorthernBC 3	8.53	127	Pn		Pn	08 02 15.6	-1.3
NBC3	NorthernBC 3	8.53	127	Pn		Pn	08 02 15.6	-1.3
FNSB	Fort Nelson	8.55	136	Pn		Pn	08 02 16.2	-1.0
I20K	Naaghedeneel baz=76	8.59	275	P		Pn	08 02 17.3	-0.5
H20K	Anotleneega Mo	8.62	280			Pn	08 02 17.4	-0.8
H20K	Anotleneega Mo baz=81	8.62	280	P		Pn	08 02 17.5	-0.8
J20K	Nowinta River	8.62	270			Pn	08 02 18.1	-0.2
J20K	Nowinta River baz=72	8.62	270	P		Pn	08 02 17.9	-0.3
O22K	Cooper Landing baz=48	8.68	242	P		Pn	08 02 18.9	0.0
T33K	Petersburg baz=356	8.71	176	P		Pn	08 02 19.3	-0.2
B22K	Teshekpuk Lake baz=115	8.72	312	P		Pn	08 02 20.5	+1.0
T35M	Bob Quinn	8.73	166			Pn	08 02 20.1	+0.4
T35M	Bob Quinn	8.73	166	Pn		Pn	08 02 18.4	-1.3
T35M	Bob Quinn baz=349	8.73	166	P		Pn	08 02 20.9	+1.2
T35M	Bob Quinn	8.73	166	Pn		Pn	08 02 18.4	-1.3
C21K	Knifeblade Rid baz=105	8.77	304	P		Pn	08 02 21.6	+1.4
F20K	Avaraart Lake baz=90	8.84	290	P		Pn	08 02 21.7	+0.6
SEW	Seward baz=46	8.84	240	P		Pn	08 02 22.2	+1.1
B21K	Ikpikpuk River	8.84	307	Pn		Pn	08 02 21.9	+0.8
B21K	Ikpikpuk River baz=108	8.84	307	P		Pn	08 02 22.5	+1.3
K20K	Telida baz=67	8.88	265	P		Pn	08 02 22.1	+0.4
YKA	Yellowknife Ar comp=Z,297nm,0.4s	9.07	100	*i* P pmax		Pn pmax	08 02 21.2	-3.2
YKA	Yellowknife Ar comp=Z,100nm,0.3s,baz=302,slow=14,SNR=857	9.07	100	Pn		Pn	08 02 22.3	-2.1
YKA	comp=Z,56nm,0.3s,baz=299,slow=23,SNR=5.2				Sn	Sn	08 03 57.0	-9.5
YKA	baz=288,slow=28				Lg	Lg	08 04 51.7	
YKA	comp=Z,2µm,19.6s,baz=300,slow=41 comp=Z,316nm,0.5s				LR	LR	08 06 26.2	
E20K	Nigu River baz=98	9.09	298	P		Pn	08 02 25.5	+0.8
WRAK	Wrangell Islan	9.13	174			Pn	08 02 24.6	-0.6
WRAK	Wrangell Islan baz=355	9.13	174	P		Pn	08 02 25.7	+0.5
WRAK	Wrangell Islan	9.13	174	Pn		Pn	08 02 24.9	-0.3
NBC6	NorthernBC 6	9.15	133	Pn		Pn	08 02 24.0	-1.4
NBC6	NorthernBC 6	9.15	133	Pn		Pn	08 02 24.0	-1.4
M20K	Styx River baz=59	9.16	256	P		Pn	08 02 26.8	+1.0
L20K	Farewell, AK baz=62	9.17	260	P		Pn	08 02 27.3	+1.5
N20K	Mount Spurr baz=54	9.17	251	P		Pn	08 02 28.1	+2.3
H19K	Roundabout Mou	9.26	280			Pn	08 02 27.7	+0.8
H19K	Roundabout Mou baz=80	9.26	280	P		Pn	08 02 26.7	-0.2
J19K	Poorman	9.30	271			Pn	08 02 27.1	-0.4
J19K	Poorman baz=71	9.30	271	P		Pn	08 02 27.0	-0.5
D20K	Etivluk River baz=100	9.32	300	P		Pn	08 02 29.8	+2.0
U33K	Whale Pass	9.41	177			Pn	08 02 29.0	0.0
U33K	Whale Pass baz=357	9.41	177	P		Pn	08 02 29.4	+0.4
E19K	Redstone River baz=92	9.43	293	P		Pn	08 02 30.7	+1.5
G19K	Purcell Mounta baz=84	9.43	284	P		Pn	08 02 29.4	+0.1
A22K	Sinclair Lake	9.47	315			Pn	08 02 30.8	+1.0
A22K	Sinclair Lake baz=116	9.47	315	P		Pn	08 02 30.2	+0.4
BRSE	Bradley Lake S baz=46	9.55	241	P		Pn	08 02 31.5	+0.4
BRLK	Bradley Lake	9.59	241			Pn	08 02 33.1	+1.6
GCSA	Galena City Sc	9.60	276			Pn	08 02 31.5	-0.1
GCSA	Galena City Sc baz=76	9.60	276	P		Pn	08 02 31.1	-0.5
F19K	Shaleruckik Mo baz=87	9.65	289	P		Pn	08 02 32.0	-0.2
NBC5	NorthernBC 5	9.66	140	Pn		Pn	08 02 31.7	-0.9
NBC5	NorthernBC 5	9.66	140	Pn		Pn	08 02 31.7	-0.9
L19K	White Mountain	9.71	260	Pn		Pn	08 02 34.2	+0.9
L19K	White Mountain baz=61	9.71	260	P		Pn	08 02 33.9	+0.7
B20K	Meade River baz=107	9.80	308	P		Pn	08 02 34.7	+0.4
U35K	Hyder	9.80	166			Pn	08 02 35.8	+1.4
U35K	Hyder baz=350	9.80	166	P		Pn	08 02 35.8	+1.4
D19K	Kuna River baz=97	9.83	299	P		Pn	08 02 35.8	+1.0
RSO	Redoubt South	9.84	248			Pn	08 02 37.8	+2.7
TTA	Tatalina	9.86	265			Pn	08 02 35.3	+0.2
TTA	Tatalina	9.86	265	P		Pn	08 02 35.4	+0.2
TTA	Tatalina baz=66	9.86	265	P		Pn	08 02 34.9	-0.3
TTA	Tatalina	9.86	265	P		Pn	08 02 35.3	+0.2
J18K	Innoko River baz=68	9.94	269	P		Pn	08 02 35.8	-0.4
HOM	Homer	9.94	242			Pn	08 02 36.7	+0.4
HOM	Homer baz=47	9.94	242	P		Pn	08 02 36.7	+0.4
O20K	Slope Mountain baz=50	10.03	246	P		Pn	08 02 37.1	-0.4
CRAG	Craig	10.06	177			Pn	08 02 38.7	+0.8
CRAG	Craig	10.06	177	P		Pn	08 02 39.1	+1.2
CRAG	Craig baz=357	10.06	177	P		Pn	08 02 38.2	+0.4
A21K	Barrow baz=115	10.09	315	P		Pn	08 02 38.0	-0.3
A21K	baz=115			S		Sn	08 04 29.9	-1.5
G18K	Tagagawik	10.10	284			Pn	08 02 39.0	+0.6
G18K	Tagagawik baz=81	10.10	284	P		Pn	08 02 38.3	-0.2
H18K	Honhosa River baz=77	10.12	279	P		Pn	08 02 38.8	+0.1
V35K	Ketchikan	10.26	172			Pn	08 02 41.5	+0.8
V35K	Ketchikan baz=354	10.26	172	P		Pn	08 02 41.1	+0.5
N19K	Bonanza Creek baz=54	10.30	252	P		Pn	08 02 41.5	+0.2
C19K	Lookout Ridge baz=98	10.44	302	P		Pn	08 02 44.0	+0.8
L18K	Granite Mounta baz=62	10.45	262	P		Pn	08 02 43.5	+0.2
M18K	Stony River baz=58	10.46	258	P		Pn	08 02 44.2	+0.7
P19K	Oil Pt baz=48	10.54	245	P		Pn	08 02 45.7	+1.1
SVW2	Sparrevohn	10.58	255			Pn	08 02 46.8	+1.8
HILA	High Level	10.59	123			Pn	08 02 42.6	-2.5
O19K	Port Alsworth	10.61	249			Pn	08 02 47.9	+2.4
E18K	Tukpahlearik C	10.73	292			Pn	08 02 48.4	+1.4
E18K	Tukpahlearik C baz=88	10.73	292	P		Pn	08 02 47.9	+0.9
H17K	Granite Mounta	10.81	279	Pn		Pn	08 02 48.8	+0.6
H17K	Granite Mounta baz=76	10.81	279	P		Pn	08 02 48.8	+0.6
K17K	Iditarod baz=65	10.90	266	P		Pn	08 02 49.9	+0.5
N18K	Kilae Creek baz=55	10.94	254	P		Pn	08 02 50.7	+0.7
Q20K	Shuyak Island baz=43	10.96	240	P		Pn	08 02 50.4	+0.2
C18K	Utukok River	10.97	299	Pn		Pn	08 02 50.9	+0.5
C18K	Utukok River baz=94	10.97	299	P		Pn	08 02 51.0	+0.6
G17K	Kiwalik Mounta baz=78	10.98	282	P		Pn	08 02 51.1	+0.6
F17K	Baldwin Pennin	11.06	287			Pn	08 02 52.2	+0.6
F17K	Baldwin Pennin baz=83	11.06	287	P		Pn	08 02 52.5	+0.9
BMTB	Bullhead Mount	11.11	143	Pn		Pn	08 02 52.0	-0.3
A19K	Wainwright baz=102	11.15	307	P		Pn	08 02 53.5	+0.8
L17K	Donlin baz=62	11.16	264	P		Pn	08 02 53.0	0.0
M17K	Holitna River baz=58	11.17	259	P		Pn	08 02 53.0	-0.1
O18K	Koktuh Hills baz=51	11.17	250	P		Pn	08 02 52.3	-0.9
Q19K	Cape Douglas, baz=46	11.19	243	P		Pn	08 02 53.1	-0.3
E17K	Hotham Inlet baz=86	11.22	291	P		Pn	08 02 54.9	+1.1
B18K	Kokolik River baz=97	11.26	303	P		Pn	08 02 54.7	+0.4
LIB	Langara Island	11.27	177	Pn		Pn	08 02 53.9	-0.6
LIB	Langara Island	11.27	177	Pn		Pn	08 02 53.9	-0.6
RUBB	Prince Rupert	11.36	168	Pn		Pn	08 02 56.0	+0.4
RUBB	Prince Rupert	11.36

GRNB Grenville Isla 11.86 168 Pn Pn 08 03 04.8 +2.2
GRNB Grenville Isla 11.86 168 Pn Pn 08 03 02.9 +0.4
GRNB Grenville Isla 11.86 168 Pn Pn 08 03 02.9 +0.4
Q18K Katmai Hardscr 11.90 245 P Pn 08 03 03.3 +0.1
baz=46
O17K Koliganek Bris 11.97 252 P Pn 08 03 04.8 +0.8
baz=52
M16K Timber Creek 12.00 260 P Pn 08 03 03.8 -0.6
baz=58
P17K Kvichak River 12.08 249 P Pn 08 03 06.1 +0.6
baz=49
FSJB Fort St James 12.08 152 Pn Pn 08 03 04.6 -1.0
FSJB Fort St James 12.08 152 Pn Pn 08 03 04.6 -1.0
WTMTA White Mountain 12.20 136 Pn Pn 08 03 04.6 -2.7
WTMTA White Mountain 12.20 136 Pn Pn 08 03 04.6 -2.7
N16K Nishlik Lake 12.22 257 P Pn 08 03 07.7 +0.2
baz=55
OHAK Old Harbor 12.32 237 P Pn 08 03 09.1 +0.3
baz=40
DIB Dawson Inlet, 12.35 175 Pn 08 03 10.3 +1.1
DIB Dawson Inlet, 12.35 175 Pn Pn 08 03 09.7 +0.6
DIB Dawson Inlet, 12.35 175 Pn Pn 08 03 09.7 +0.6
BNKB Banks Island 12.37 168 Pn Pn 08 03 10.7 +1.1
BNKB Banks Island 12.37 168 Pn Pn 08 03 10.7 +1.1
K15K Wolf Creek Mou 12.43 268 P Pn 08 03 10.9 +0.6
baz=63
GRIB Gribbell Islan 12.44 166 Pn Pn 08 03 11.9 +1.5
R18K Karluk 12.47 240 P Pn 08 03 11.1 +0.3
baz=42
O16K Kokwok River B 12.48 253 P Pn 08 03 11.6 +0.6
baz=52
G15K Niukluk 12.49 281 P Pn 08 03 10.8 -0.3
baz=74
C16K Lisburne Hills 12.50 297 P Pn 08 03 11.3 +0.2
baz=88
Q17K Contact Creek 12.50 245 P Pn 08 03 11.8 +0.4
baz=46
Q16K King Salmon 12.51 248 P Pn 08 03 11.8 +0.4
baz=48
F15K North Star Dit 12.56 285 Pn Pn 08 03 12.4 +0.3
F15K North Star Dit 12.56 285 P Pn 08 03 12.6 +0.6
baz=77
HG1B Mitchell Dam 12.63 174 Pn Pn 08 03 13.7 +0.7
HG1B Mitchell Dam 12.63 174 Pn Pn 08 03 13.7 +0.7
L15K Ungalak Mounta 12.70 265 P Pn 08 03 14.7 +0.7
baz=61
BUTB Butedale 12.78 164 Pn Pn 08 03 17.5 +2.3
BUTB Butedale 12.78 164 Pn Pn 08 03 17.5 +2.3
P16K Nushagak River 12.79 251 P Pn 08 03 15.8 +0.6
baz=50
M15K Kasigluk River 12.89 261 P Pn 08 03 16.8 +0.3
baz=57
N15K Kwethluk River 12.94 258 P Pn 08 03 17.2 -0.1
baz=55
BAIB Barry Inlet 13.00 174 Pn Pn 08 03 20.2 +2.0
BNB Barry Inlet 13.00 174 Pn Pn 08 03 20.1 +1.9
BNB Barry Inlet 13.00 174 Pn Pn 08 03 20.1 +1.9
BDMTA Bald Mountain 13.06 138 Pn Pn 08 03 16.4 -2.5
BDMTA Bald Mountain 13.06 138 Pn Pn 08 03 16.4 -2.5
J14K Nanvaranak Lak 13.08 272 P Pn 08 03 19.5 +0.4
baz=65
SII Sitkinak Islan 13.14 237 P Pn 08 03 19.7 -0.4
baz=39
ANM Nome 13.16 280 Pn 08 03 21.3 +1.0
ANM Nome 13.16 280 P Pn 08 03 20.9 +0.7
baz=72
ANM Nome 13.16 280 P Pn 08 03 21.3 +1.0
STPRA Salt Prairie L 13.27 129 Pn Pn 08 03 19.6 -2.3
STPRA Salt Prairie L 13.27 129 Pn Pn 08 03 19.6 -2.3
F14K Arctic Creek 13.29 285 P Pn 08 03 22.5 +0.5
baz=75
HG4B Hotspring 13.31 172 Pn 08 03 23.2 +0.8
HG4B Hotspring 13.31 172 Pn Pn 08 03 24.3 +1.9
HG4B Hotspring 13.31 172 Pn Pn 08 03 24.3 +1.9
L14K Kuka Creek 13.37 265 P Pn 08 03 23.5 +0.5
baz=60
M14K Bethel 13.38 262 Pn 08 03 23.1 -0.1
M14K Bethel 13.38 262 P Pn 08 03 22.8 -0.4
baz=57
O15K Ungalikthiuk R 13.43 254 P Pn 08 03 23.6 -0.3
baz=51
SWHSA Sweathouse Loo 13.62 133 Pn Pn 08 03 23.7 -2.9
SWHSA Sweathouse Loo 13.62 133 Pn Pn 08 03 23.7 -2.9
BBB Bella Bella 13.68 164 Pn Pn 08 03 26.8 -0.6
BBB Bella Bella 13.68 164 Pn Pn 08 03 29.5 +2.1
comp=Z,1.1nm,0.3s,baz=353,slow=7.7,SNR=12
BBB Lg Lg 08 07 19.6
comp=Z,0.4nm,0.3s,baz=116,slow=17,SNR=4.8
BBB LR LR 08 08 12.6
comp=Z,2µm,18.8s,baz=350,slow=35
BBB Bella Bella 13.68 164 Pn Pn 08 03 26.8 -0.6
N14K Kuskokwak Cree 13.73 259 P Pn 08 03 28.5 +0.5
baz=54
TNA Tin City 13.91 286 P Pn 08 03 30.5 0.0
baz=75
O14K Tigyukauivet M 13.96 256 P Pn 08 03 30.3 -0.8
baz=52
BRLDA Berland Lookou 14.12 136 Pn 08 03 30.6 -2.9
M13K Dall Lake 14.14 263 P Pn 08 03 33.7 +0.1
baz=57
HOLB Holberg 15.20 165 Pn Pn 08 03 48.6 +0.5
HOLB Holberg 15.20 165 Pn Pn 08 03 48.6 +0.5
PHC Port Hardy 15.22 164 P P 08 03 53.5 +0.3
PHC Sg 08 08 08.3
M11K Mekoryuk 15.34 266 P Pn 08 03 49.7 -0.1
baz=57
BLBC Blue River 15.46 143 Pn Pn 08 03 52.0 +0.3
BLBC Blue River 15.46 143 Pn Pn 08 03 52.0 +0.3
MNB Mounoet Dainar 15.54 141 Pn Pn 08 03 52.3 -0.4
MNB Mounoet Dainar 15.54 141 Pn Pn 08 03 52.3 -0.4
MAYB Maynard 15.55 163 Sg 08 08 21.0
NCSB Newcastle Ridg 15.69 161 Pn Pn 08 03 54.0 -0.6
NCSB P P 08 03 58.0 -0.7
RES Resolute Bay 15.85 38 Pn 08 03 52.1 -4.2
RES IAmb IAmb 08 04 00.8
comp=Z,230nm,0.8s
RES Resolute Bay 15.85 38 P Pn 08 03 52.1 -4.2
RES pmax pmax
comp=Z,230nm,0.8s
RES Resolute Bay 15.85 38 Pn Pn 08 03 52.2 -4.2
comp=Z,20nm,0.3s,baz=255,slow=12,SNR=305
RES Sn Sn 08 06 37.0 -15
comp=Z,23nm,0.3s,baz=185,slow=12,SNR=7.8
RES Lg Lg 08 08 22.2
baz=296,slow=7.3
RES Resolute Bay 15.85 38 Pn Pn 08 03 51.9 -4.5
WOSB Woss 15.86 162 Pn Pn 08 03 56.5 -0.2
WOSB P P 08 04 01.1 +0.5
WOSB Woss 15.86 162 Pn Pn 08 03 56.5 -0.2
WOSB P P 08 04 01.1 +0.5
WOSB Sg 08 08 25.5
GAMB Gambell 16.04 281 P Pn 08 03 57.8 -1.0
baz=67
BLKN Baker Lake 16.05 77 Pn Pn 08 03 52.5 -6.5
EDB Eliza Dome 16.07 163 Sg 08 08 46.3
EDM Edmonton 16.11 130 Pn 08 03 56.9 -3.0
EDM IAmb IAmb 08 03 59.8
comp=Z,197nm,0.9s
EDM Edmonton 16.11 130 P Pn 08 03 56.9 -3.0
EDM pmax pmax
comp=Z,197nm,0.9s
EDM Edmonton 16.11 130 Pn Pn 08 03 57.3 -2.6
CBB Campbell River 16.15 159 Pn 08 04 01.2 +0.8
CBB Campbell River 16.15 159 Pn Pn 08 04 01.3 +0.8
CBB Campbell River 16.15 159 Pn Pn 08 04 01.3 +0.8
SDPT Sand Point 16.36 244 Pn 08 04 03.2 +0.3
SDPT IAmb IAmb 08 04 11.2
comp=Z,273nm,0.6s
SDPT Sand Point 16.36 244 P P 08 04 04.7 -1.2
SDPT Sand Point 16.36 244 P Pn 08 04 02.5 -0.5
baz=41
CHNA Chernabura Isl 16.42 242 P Pn 08 04 03.3 -0.5
baz=39
CNBA Chernabura Isl 16.43 242 Pn 08 04 03.0 -0.9
CNBA IAmb IAmb 08 04 10.9
comp=Z,711nm,1.8s
SLEB Sale Mountain 16.54 142 Pn Pn 08 04 04.5 -1.1
SLEB Sale Mountain 16.54 142 Pn Pn 08 04 04.5 -1.1
TXB Texada 16.62 158 Pn Pn 08 04 05.9 -0.5
TXB Texada 16.62 158 Pn Pn 08 04 05.9 -0.5
SHB Sechelt 16.81 156 P P 08 04 10.7 -0.4
SHB Sechelt 16.81 156 P P 08 04 10.7 -0.4
BIB Bowen Island 17.09 155 Pn Pn 08 04 12.5 +0.2
BIB Bowen Island 17.09 155 Pn Pn 08 04 12.5 +0.2

NLLB Nanaimo Lost L 17.15 157 P P 08 04 14.8 +0.1
NLLB Nanaimo Lost L 17.15 157 P P 08 04 14.8 +0.1
HNBB Haney 17.34 154 Pn Pn 08 04 14.2 -1.2
HNBB P P 08 04 16.5 -0.3
HNBB Haney 17.34 154 Pn Pn 08 04 14.2 -1.2
HNBB P P 08 04 16.5 -0.3
HOPB Hope 17.46 151 P Pn 08 04 17.1 +0.1
HOPB Hope 17.46 151 P Pn 08 04 17.1 +0.1
GOBB Galiano Island 17.50 156 P Pn 08 04 17.5 +0.1
GOBB Galiano Island 17.50 156 P Pn 08 04 17.5 +0.1
B926 Mesachie Lake 17.52 158 P P 08 04 18.8 0.0
B926 Mesachie Lake 17.52 158 P P 08 04 18.8 0.0
CLRS Cowichan Lake 17.52 158 P P 08 04 18.6 -0.2
CLRS Cowichan Lake 17.52 158 P P 08 04 18.8 0.0
CLRS Cowichan Lake 17.52 158 P P 08 04 18.8 0.0
PFB Port Renfrew 17.71 158 P Pn 08 04 19.6 -0.5
PFB Port Renfrew 17.71 158 P Pn 08 04 19.6 -0.5
SNB Saturna Island 17.72 156 P Pn 08 04 20.0 -0.2
SNB Saturna Island 17.72 156 P Pn 08 04 20.0 -0.2
SNB Sg 08 09 27.4
PTRF Port Renfrew 17.75 158 P Pn 08 04 20.3 -0.1
PGC Sidney 17.80 156 P Pn 08 04 20.8 -0.3
PGC Sidney 17.80 156 P Pn 08 04 20.6 -0.4
PGC Sidney 17.80 156 P Pn 08 04 20.6 -0.4
SYMB Survey Mountai 17.83 157 P P 08 04 23.4 +1.1
SYMB Survey Mountai 17.83 157 P P 08 04 23.4 +1.1
PNT Penticton 17.91 148 P P 08 04 24.1 +0.9
PNT Penticton 17.91 148 P P 08 04 24.1 +0.9
PNT Penticton 17.91 148 P P 08 04 24.1 +0.9
MBW Mount Baker 17.95 153 P P 08 04 25.0 +1.3
MBW Mount Baker 17.95 153 P P 08 04 25.0 +1.3
OCP Olym-Cheeka Pk 17.95 159 P Pn 08 04 23.1 0.0
VGZ Gonzales 18.05 156 P Pn 08 04 23.9 -0.3
VGZ Gonzales 18.05 156 P Pn 08 04 23.9 -0.3
VGZ Sg 08 09 31.3
CMW Cultus Mountai 18.25 154 P Pn 08 04 26.3 -0.5
CMW Cultus Mountai 18.25 154 P Pn 08 04 26.3 -0.5
B06A Marblemount 18.28 152 P Pn 08 04 25.6 -1.4
RPW Rockport 18.34 152 P Pn 08 04 27.8 -0.1
RPW Rockport 18.34 152 P Pn 08 04 27.8 -0.1
JCW Jim Creek 18.51 154 P P 08 04 30.1 +0.4
JCW Jim Creek 18.51 154 P P 08 04 30.1 +0.4
B08A Colville Reser 18.88 148 P P 08 04 33.8 0.0
P08K Saint George I 19.05 259 P P 08 04 36.0 +0.4
baz=48
FFC Flin Flon 19.06 109 P P 08 04 32.1 -3.6
FFC IAmb IAmb 08 04 36.4
comp=Z,339nm,0.9s
FFC Flin Flon 19.06 109 P P 08 04 32.1 -3.6
FFC pmax pmax
comp=Z,339nm,0.9s
EUNU Eureka 19.31 23 P P 08 04 37.7 -0.7
EUNU IAmb IAmb 08 04 42.4
comp=Z,278nm,1.2s
EUNU Eureka 19.31 23 P P 08 04 38.4 0.0
HSPGA Hill Springs, 19.40 136 P P 08 04 39.5 -0.1
HSPGA Hill Springs, 19.40 136 P P 08 04 39.5 -0.1
D05A Enumclaw 19.46 155 P Pn 08 04 42.4 +1.0
NEW Newport 19.48 144 P P 08 04 41.3 +0.9
NEW Newport 19.48 144 P P 08 04 41.4 +0.9
baz=338
NEW Newport 19.48 144 P P 08 04 41.3 +0.9
NEW pmax pmax
comp=Z,26nm,0.9s
NEW Newport 19.48 144 P P 08 04 41.3 +0.9
comp=Z,0.4nm,0.3s,baz=349,slow=10.0,SNR=31
NEW Lg Lg 08 10 23.1
comp=Z,0.1nm,0.3s,baz=311,slow=2.5,SNR=4.4
NEW LR LR 08 12 53.0
comp=Z,359nm,21.9s,baz=334,slow=39
comp=Z,21nm,1.0s
FCC Fort Churchill 19.59 91 P P 08 04 38.4 -3.1
FCC IAmb IAmb 08 04 42.4
comp=Z,215nm,0.9s
FCC Fort Churchill 19.59 91 P P 08 04 38.4 -3.1
FCC pmax pmax
comp=Z,215nm,1.0s
FCC Fort Churchill 19.59 91 P P 08 04 38.0 -3.5
C09A Chrisman Ranch 19.64 147 P Pn 08 04 43.8 +0.3
LTY Liberty 19.64 152 P P 08 04 42.7 +0.4
FMW Mount Fremont 19.77 154 P Pn 08 04 44.9 -0.4
FMW Mount Fremont 19.77 154 P Pn 08 04 44.9 -0.4
UNV Unalaska Valle 19.80 250 P P 08 04 44.0 +0.2
baz=41
ILON Igloolik, Nuna 19.91 55 P P 08 04 42.7 -2.2
ILON Igloolik, Nuna 19.91 55 P P 08 04 42.7 -2.2
LON Longmire 19.92 154 P Pn 08 04 46.6 -0.2
LON Longmire 19.92 154 P Pn 08 04 46.7 -0.2
LON pmax pmax
comp=Z,83nm,1.3s
D08A Wollman Farm, 20.20 149 P P 08 04 48.7 +0.5
MXC Moxie City 20.37 152 P P 08 04 50.6 +0.5
E07A Sunnyside 20.48 151 P P 08 04 52.1 +0.9
HAWA Hanford 20.70 150 P P 08 04 53.3 -0.3
E08A Dider Farm, El 20.71 149 P P 08 04 53.8 +0.1
E09A Wood Farm, Sta 20.88 148 P Pn 08 04 58.0 -0.1
F07A Phinny Hill Vi 21.10 152 P P 08 04 58.2 +0.2
NIKH Nikolski High 21.38 251 P P 08 05 01.1 +0.2
baz=41
G06A Carlson Farm, 21.60 153 P P 08 05 04.9 +1.6
G06A IAmb IAmb 08 05 11.8
comp=Z,195nm,1.5s
F10A Beach Ranch, E 21.60 147 P P 08 05 06.0 +2.6
MSO Missoula 21.62 140 P P 08 05 04.0 +0.3
MSO Missoula 21.62 140 P P 08 05 04.2 +0.5
baz=337
OVMT Ovando 21.67 138 P P 08 05 05.0 +0.8
CHMT Chamberlain Mo 21.73 139 P P 08 05 05.6 +0.6
EGMT Eagleton 21.76 132 P P 08 05 04.1 -1.0
EGMT IAmb IAmb 08 05 09.2
comp=Z,186nm,1.0s
EGMT Eagleton 21.76 132 P P 08 05 04.8 -0.3
baz=332
COR Corvallis 21.78 159 IAMs_20 IAMs_20 08 13 59.7
comp=Z,2µm,18.0s
TULEG Thule 22.43 34 P P 08 05 11.5 -0.5
TULEG IAmb IAmb 08 05 13.3
comp=Z,266nm,0.9s
TULEG Thule 22.43 34 i P P 08 05 11.0 -1.0
TULEG IAmb IAmb 08 05 13.5
comp=Z,155nm,0.8s
BMO Blue Mountains 22.65 148 P P 08 05 15.0 +0.3
BMO Blue Mountains 22.65 148 P P 08 05 15.0 +0.3
BMO pmax pmax
comp=Z,67nm,1.0s
BMO MLR MLR
comp=Z,1µm,20.0s
BILL Bilibino 22.86 303 P P 08 05 17.3 +0.7
BILL IAmb IAmb 08 05 22.7
comp=Z,214nm,1.1s
BILL Bilibino 22.86 303 i P P 08 05 17.8 +1.2
BILL pmax pmax
comp=Z,289nm,1.2s
DGMT Dagmar 23.22 123 P P 08 05 20.4 -0.1
DGMT Dagmar 23.22 123 P P 08 05 20.0 -0.5
baz=328
DGMT Dagmar 23.22 123 P P 08 05 20.9 +0.4
baz=328,SNR=76
HUMO Hull Mountain 23.76 159 IAMs_20 IAMs_20 08 14 00.3
comp=Z,3µm,19.0s
K04D Chiloquin, OR 23.93 157 P P 08 05 28.0 +0.3
CLRN Clyde River 23.94 49 P P 08 05 26.1 -1.2
CLRN Clyde River 23.94 49 P P 08 05 26.1 -1.2
LAO LASA Array 24.07 128 P P 08 05 28.7 -0.2
LAO IAmb IAmb 08 05 32.7
comp=Z,132nm,1.1s
LAO LASA Array 24.07 128 P P 08 05 28.3 -0.6
baz=331
LAO LASA Array 24.07 128 P P 08 05 29.8 +0.9
baz=332,SNR=23
L04D Klamath Falls 24.24 158 P P 08 05 31.0 +0.4
MFID Camas Ranch 24.35 146 P P 08 05 32.1 +0.6
YHH Holmes Hill 24.35 137 P P 08 05 32.0 +0.2
KSXB Camp Six Broad 24.40 161 P P 08 05 31.7 -0.2
YMR Madison River 24.43 137 P P 08 05 32.4 0.0
YNR Norris Junctio 24.47 137 P P 08 05 32.8 0.0
RLMT Red Lodge 24.51 134 P P 08 05 33.5 +0.4
RLMT Red Lodge 24.51 134 P P 08 05 32.8 -0.3
baz=335
HLID Hailey 24.55 144 P P 08 05 33.5 +0.1
HLID IAMs_20 IAMs_20 08 16 02.9
comp=Z,3µm,18.0s
HLID Hailey 24.55 144 P P 08 05 32.9 -0.5

baz=340
YBH Yreka Blue Hor 24.66 159 IAMs_20 IAMs_20 08 14 28.0
comp=Z,2µm,20.0s
YBH Yreka Blue Hor 24.66 159 LR LR 08 14 39.6
comp=Z,2µm,21.0s,baz=343,slow=35
WVOR Wild Horse Val 24.68 152 P P 08 05 35.4 +0.8
WVOR Wild Horse Val 24.68 152 P P 08 05 35.4 +0.8
WVOR pmax pmax
comp=Z,28nm,1.0s
WVOR MLR MLR
comp=Z,1µm,18.0s
H17A Grant Village 24.79 137 P P 08 05 36.1 +0.4
H17A Grant Village 24.79 137 P P 08 05 35.5 -0.2
baz=336
ULM Lac du Bonnet 24.89 109 P P 08 05 36.0 -0.1
ULM Lac du Bonnet 24.89 109 IAmb IAmb 08 05 38.0
comp=Z,116nm,0.8s
ULM Lac du Bonnet 24.89 109 P P 08 05 36.2 +0.1
comp=Z,89nm,0.8s,baz=320,slow=9.9,SNR=127
ULM S S 08 10 03.5 +4.4
comp=Z,30nm,0.7s,baz=222,slow=20,SNR=3.2
ULM LR LR 08 14 28.3
comp=Z,364nm,20.8s,baz=320,slow=34
comp=Z,89nm,0.8s
ULM Lac du Bonnet 24.89 109 P P 08 05 36.0 -0.1
FLWY Flagg Ranch 25.04 137 IAMs_20 IAMs_20 08 14 34.0
comp=Z,2µm,19.0s
IMW Indian Meadow 25.15 138 P P 08 05 40.5 +1.5
IMW IAMs_20 IAMs_20 08 14 51.8
comp=Z,2µm,20.0s
FXWY Fox Creek 25.36 138 IAMs_20 IAMs_20 08 14 51.4
comp=Z,2µm,19.0s
MDND Maddock 25.41 117 P P 08 05 40.9 0.0
baz=326
MDND Maddock 25.41 117 P P 08 05 41.8 +0.9
baz=327,SNR=32
LOHW Long Hollow 25.50 138 IAMs_20 IAMs_20 08 14 30.2
comp=Z,2µm,18.0s
TPAW Teton Pass 25.52 138 IAMs_20 IAMs_20 08 14 55.6
comp=Z,2µm,18.0s
E28A Huff 26.08 120 P P 08 05 48.1 +1.0
baz=329,SNR=12
NEEM North Greenlan 26.13 30 i P P 08 05 46.7 -0.9
NEEM IAmb IAmb 08 05 51.5
comp=Z,60nm,0.8s
PKLO Pickle Lake 26.14 101 P P 08 05 47.1 -0.5
PKLO Pickle Lake 26.14 101 P P 08 05 47.1 -0.5
AHID Auburn Hatcher 26.15 139 IAMs_20 IAMs_20 08 15 37.3
comp=Z,2µm,19.0s
SOLO Sioux Lookout 26.58 105 P P 08 05 51.5 0.0
SOLO Sioux Lookout 26.58 105 P P 08 05 51.5 0.0
BW06 Boulder Array 26.58 137 IAMs_20 IAMs_20 08 17 04.6
comp=Z,2µm,18.0s
BW06 Boulder Array 26.58 137 P P 08 05 51.8 -0.1
baz=337
PDAR Pinedale Array 26.58 137 P P 08 05 52.9 +1.0
comp=Z,12nm,0.8s,baz=356,slow=6.2,SNR=110
PDAR PcP PcP 08 09 16.6 +0.8
comp=Z,12nm,0.9s,baz=135,slow=0.1,SNR=5.5
PDAR LR LR 08 17 23.5
comp=Z,2µm,18.2s,baz=352,slow=39
comp=Z,12nm,0.8s
HVU Hansel Valley 26.63 143 P P 08 05 53.1 +0.9
HVU Hansel Valley 26.63 143 P P 08 05 53.1 +0.9
HVU pmax pmax
comp=Z,20nm,1.0s
ELK Elko 27.02 147 P P 08 05 56.4 +0.5
ELK Elko 27.02 147 P P 08 05 56.4 +0.5
ELK pmax pmax
comp=Z,17nm,0.9s
FRB Frobisher Bay 27.04 63 P P 08 05 55.5 0.0
FRB Frobisher Bay 27.04 63 P P 08 05 55.5 0.0
FRB Frobisher Bay 27.04 63 P P 08 05 55.5 0.0
RSSD Black Hills 27.06 127 P P 08 05 55.7 -0.4
baz=333
RSSD Black Hills 27.06 127 P P 08 05 56.4 +0.2
baz=333,SNR=19
SAKN Sanikiluaq 27.19 83 P P 08 05 56.5 -0.4
SAKN Sanikiluaq 27.19 83 P P 08 05 56.5 -0.4
B35A Bob, Littlefor 27.24 109 P P 08 05 57.5 0.0
baz=324,SNR=12
K22A Casper 27.59 132 P P 08 06 00.3 -0.5
baz=335
K22A Casper 27.59 132 P P 08 06 01.4 +0.5
baz=335,SNR=17
ATKO Atikokan Iron 27.72 106 P P 08 06 01.7 0.0
ATKO Atikokan Iron 27.72 106 P P 08 06 01.7 0.0
VIMO Victor Mine 27.90 92 P P 08 06 03.2 -0.1
VIMO Victor Mine 27.90 92 P P 08 06 03.2 -0.1
DUG Dugway, Tooele 28.11 144 P P 08 06 05.3 -0.2
baz=341
MCCM Marconi Confer 28.15 161 IAMs_20 IAMs_20 08 17 51.6
comp=Z,2µm,19.0s
RWWY Rawlins 28.26 134 IAMs_20 IAMs_20 08 15 58.0
comp=Z,2µm,20.0s
F33A 5 Mile Ranch, 28.33 115 P P 08 06 06.7 -0.5
F33A IAmb IAmb 08 06 51.1
comp=Z,42nm,0.8s
F33A 5 Mile Ranch, 28.33 115 P P 08 06 07.4 +0.1
baz=328,SNR=18
EYMN Ely 28.46 107 P P 08 06 08.4 0.0
baz=324
EYMN Ely 28.46 107 P P 08 06 08.9 +0.5
baz=324,SNR=35
SUSD Miller 28.54 120 P P 08 06 08.6 -0.5
baz=330
SHEM Shemya Is, Ala 28.55 269 LR LR 08 18 21.3
comp=Z,734nm,18.0s,baz=92,slow=38
NVAR Mina Array Bea 28.62 153 P P 08 06 11.9 +1.8
comp=Z,8.6nm,0.8s,baz=334,slow=7.7,SNR=59
NVAR PcP PcP 08 09 22.2 +1.4
comp=Z,7.8nm,0.8s,baz=277,slow=1.5,SNR=8.0
NVAR LR LR 08 17 50.1
comp=Z,800nm,20.9s,baz=334,slow=37
comp=Z,8.6nm,0.8s
KJKQ Kuujjuarapik 28.66 83 P P 08 06 10.1 +0.1
KJKQ Kuujjuarapik 28.66 83 P P 08 06 10.1 +0.1
UMMG Uummannaq 28.81 43 i P P 08 06 11.1 -0.1
UMMG IAmb IAmb 08 06 12.8
comp=Z,23nm,0.5s
GTO Geraldton 28.88 100 P P 08 06 12.2 +0.2
GTO Geraldton 28.88 100 P P 08 06 12.2 +0.2
GTOO Geraldton 28.88 100 P P 08 06 12.1 0.0
GTOO Geraldton 28.88 100 P P 08 06 12.1 0.0
R11B Troy Canyon, C 29.24 149 IAMs_20 IAMs_20 08 17 14.1
comp=Z,2µm,18.0s
R11B Troy Canyon, C 29.24 149 P P 08 06 16.5 +0.9
baz=344
MLAC Mammoth, Mammo 29.30 155 P P 08 06 16.4 +0.3
baz=347
N23A Red Feather La 29.37 133 P P 08 06 17.1 +0.3
baz=336
F36A Milaca 29.37 112 P P 08 06 16.5 0.0
F36A IAmb IAmb 08 06 18.1
comp=Z,132nm,0.9s
F36A Milaca 29.37 112 P P 08 06 17.0 +0.5
baz=326,SNR=54
O20A White River Ci 29.39 137 P P 08 06 17.7 +0.8
baz=338
K30B Basset 29.85 123 P P 08 06 21.5 +0.6
baz=332,SNR=16
ECSD EROS Data Cent 30.01 118 IAMs_20 IAMs_20 08 18 44.1
comp=Z,2µm,19.0s
ECSD EROS Data Cent 30.01 118 P P 08 06 21.9 -0.2
baz=330
ECSD EROS Data Cent 30.01 118 P P 08 06 22.3 +0.2
baz=330,SNR=36
BRIGG Briggsdale 30.16 131 IAMs_20 IAMs_20 08 19 09.2
comp=Z,2µm,21.0s
SPMN Marine on St. 30.18 112 P P 08 06 23.5 -0.2
baz=327
SPMN Marine on St. 30.18 112 P P 08 06 24.5 +0.8
baz=327,SNR=61
D41A Chassel 30.35 105 P P 08 06 25.8 +0.7
baz=324
SEY Seymchan 30.42 300 ||| i P P 08 06 27.4 +1.8
SEY pmax pmax
comp=Z,88nm,1.0s
SEY MLR MLR
comp=Z,2µm,13.0s
SEY Seymchan 30.42 300 LR LR 08 19 11.4
comp=Z,996nm,20.0s,baz=45,slow=38
TPNV Topopah Spring 30.45 151 IAMs_20 IAMs_20 08 18 04.2
comp=Z,1µm,20.0s
TPNV Topopah Spring 30.45 151 P P 08 06 27.6 +1.3
baz=345
ISCO Idaho Springs 30.47 134 P P 08 06 27.0 +0.4

baz=337
ISCO **Idaho Springs** 30.47 134 P P 08 06 27.9 +1.3
baz=337,SNR=8.6
OGNE **Ogallala** 30.56 128 IAMs_20 IAMs_20 08 19 18.0
comp=Z,2µm,19.0s
OGNE **Ogallala** 30.56 128 P P 08 06 26.7 -0.5
baz=334
OGNE **Ogallala** 30.56 128 P P 08 06 28.0 +0.8
baz=334,SNR=5.7
CWC **Cottonwood Cre** 30.59 154 P P 08 06 29.1 +1.5
baz=347
SMCO **Snowmass** 30.64 136 IAMs_20 IAMs_20 08 19 27.1
comp=Z,2µm,20.0s
FURC **Furnace Creek,** 30.79 152 P P 08 06 30.7 +1.6
baz=346
KAPO **Kapuskasing** 30.95 96 P P 08 06 30.5 +0.2
KAPO **Kapuskasing** 30.95 96 P P 08 06 30.5 +0.2
I37A **Lemond, Waseca** 30.97 114 P P 08 06 31.2 +0.5
I37B **Waseca** 30.97 114 P P 08 06 31.8 +1.1
baz=328,SNR=49
MPMC **Manual Prospec** 31.07 153 P P 08 06 33.4 +1.6
baz=347
G40A **Rib Lake** 31.16 109 P P 08 06 32.0 -0.4
G40A IAmb IAmb 08 06 33.9
comp=Z,102nm,0.9s
G40A **Rib Lake** 31.16 109 P P 08 06 32.8 +0.5
baz=326,SNR=33
ISA **Isabella, Lake** 31.27 155 P P 08 06 34.9 +1.5
baz=347
SFJD **Kangerlussuaq** 31.33 49 *i* P P 08 06 33.0 -0.6
SFJD IAmb IAmb 08 06 36.4
comp=Z,42nm,0.8s
SFJD **Kangerlussuaq** 31.33 49 LR LR 08 19 12.7
comp=Z,1µm,19.2s,baz=310,slow=36
LG4Q **La Grande 4** 31.34 83 P P 08 06 33.3 -0.5
LG4Q **La Grande 4** 31.34 83 P P 08 06 33.3 -0.5
SUMG **Summit** 31.34 35 *i* P P 08 06 33.4 -0.7
SUMG IAmb IAmb 08 06 37.1
comp=Z,73nm,1.0s
SMMC **Simmler** 31.36 157 P P 08 06 36.4 +2.2
baz=349
Q24A **Divide** 31.38 134 P P 08 06 35.5 +0.9
baz=337
SHOC **Shoshone, Teco** 31.46 152 P P 08 06 36.5 +1.5
baz=346
BGNE **Belgrade** 31.48 122 P P 08 06 35.2 0.0
BGNE **Belgrade** 31.48 122 P P 08 06 35.6 +0.5
baz=332
BGNE **Belgrade** 31.48 122 P P 08 06 35.8 +0.6
baz=332,SNR=11
E43A **Lone Tree Farm** 31.54 104 P P 08 06 35.9 +0.3
baz=324,SNR=6.2
F42A **Maple Grove Fa** 31.58 106 P P 08 06 37.0 +1.0
baz=325,SNR=6.1
LRMC **Laurel Mtn Rad** 31.59 154 P P 08 06 37.4 +1.1
baz=347
L34A **Svendsen Farm,** 31.62 119 P P 08 06 36.8 +0.4
baz=331,SNR=6.9
PKM **Mcpherson Peak** 31.80 157 P P 08 06 39.4 +1.1
baz=349
GSC **Goldstone, Bar** 31.93 153 P P 08 06 41.1 +1.9
baz=346
NMSQ **Nemaska Statio** 31.93 87 P P 08 06 38.8 -0.2
NMSQ **Nemaska Statio** 31.93 87 P P 08 06 38.8 -0.2
TUQ **Turquoise Moun** 31.98 151 P P 08 06 41.6 +1.9
baz=346
S22A **4UR Ranch, Cre** 32.01 137 P P 08 06 41.5 +1.3
baz=339
MVCO **Mesa Verde** 32.05 139 IAMs_20 IAMs_20 08 20 34.7
comp=Z,2µm,19.0s
MVCO **Mesa Verde** 32.05 139 P P 08 06 41.7 +1.2
baz=340
KSCO **Kaye Shedlock'** 32.12 130 P P 08 06 42.0 +1.0
baz=336
KSCO **Kaye Shedlock'** 32.12 130 P P 08 06 42.3 +1.3
baz=336,SNR=20
EDW2 **Edwards Air Fo** 32.12 155 P P 08 06 41.4 +0.5
baz=347
I40A **Norwalk** 32.15 111 P P 08 06 42.1 +1.0
baz=327,SNR=25
TIXI **Tiksi** 32.24 324 *e* P P 08 06 42.6 +1.1
TIXI pmax pmax
comp=Z,27nm,0.9s
TIXI **Tiksi** 32.24 324 LR LR 08 22 30.1
comp=Z,19nm,19.1s,baz=70,slow=42
RRX **Edison Barstow** 32.31 153 P P 08 06 44.4 +1.9
baz=347
N33A **J Bar K, Exete** 32.32 122 P P 08 06 42.9 +0.3
N33B **J Bar K, Exete** 32.32 122 P P 08 06 43.0 +0.4
baz=332,SNR=6.4
K38A **Parkersburg** 32.38 114 P P 08 06 44.1 +1.1
baz=329,SNR=28
SDCO **Great Sand Dun** 32.40 135 P P 08 06 44.9 +1.3
baz=338
SDCO **Great Sand Dun** 32.40 135 P P 08 06 44.9 +1.3
baz=338,SNR=12
DAG **Danmarks Havn** 32.54 23 *i* P P 08 06 42.8 -1.3
DAG IAmb IAmb 08 06 47.6
comp=Z,45nm,0.7s
E46A **Sault Ste Mari** 32.64 101 P P 08 06 45.3 +0.1
E46A IAmb IAmb 08 06 46.7
comp=Z,55nm,1.1s
E46A **Sault Ste Mari** 32.64 101 P P 08 06 45.4 +0.1
baz=324
GMRC **Granite Mounta** 32.66 151 P P 08 06 47.6 +1.9
baz=346
DECC **Green Verdugo** 32.67 155 P P 08 06 46.9 +1.2
baz=348
SCZ2 **Santa Cruz Isl** 32.71 157 P P 08 06 47.2 +1.2
baz=349
MATQ **Matagami** 32.74 91 P P 08 06 45.5 -0.6
MATQ **Matagami** 32.74 91 P P 08 06 45.5 -0.6
PASC **Pasadena Art C** 32.78 155 IAMs_20 IAMs_20 08 18 57.9
comp=Z,1µm,21.0s
H43A **Windswept, Lux** 32.79 107 P P 08 06 47.6 +0.9
baz=326,SNR=6.8
BFSC **Mount Baldy Ra** 32.81 154 P P 08 06 48.7 +1.7
baz=347
I42A **Draeger Farm,** 32.82 109 P P 08 06 47.2 +0.3
baz=327,SNR=7.3
KILO **Kirkland Lake** 32.84 94 P P 08 06 47.2 +0.2
KILO **Kirkland Lake** 32.84 94 P P 08 06 47.2 +0.2
SCIA **State Center** 32.85 116 P P 08 06 47.9 +0.7
SCIA **State Center** 32.85 116 P P 08 06 47.9 +0.7
baz=330
SCIA **State Center** 32.85 116 P P 08 06 48.2 +1.1
baz=330,SNR=22
N35A **Tabor** 32.86 120 P P 08 06 48.3 +1.0
baz=332,SNR=18
WUAZ **Wupatki** 32.91 144 P P 08 06 49.1 +1.2
baz=343
DY2G **Dye2** 33.01 47 *i* P P 08 06 47.5 -1.1
DY2G IAmb IAmb 08 06 50.0
comp=Z,22nm,0.7s
JFWS **Jewell Farm** 33.12 111 P P 08 06 49.8 +0.3
baz=328
JFWS **Jewell Farm** 33.12 111 P P 08 06 50.1 +0.6
baz=328,SNR=19
G45A **Suttons Bay** 33.17 104 P P 08 06 50.9 +0.9
baz=325,SNR=5.8
G45A P P 08 06 50.9 +0.9
baz=325,SNR=5.8
MA2 **Magadan** 33.19 296 *ce* P P 08 06 52.4 +2.4
MA2 pmax pmax
comp=Z,147nm,1.8s
MA2 MLR MLR
comp=Z,986nm,11.0s
MA2 **Magadan** 33.19 296 LR LR 08 21 53.5
comp=Z,872nm,20.6s,baz=53,slow=39
ICESG **Greenland Ices** 33.23 41 *i* P P 08 06 50.1 -0.5
ICESG IAmb IAmb 08 06 52.0
comp=Z,71nm,0.7s
CBKS **Cedar Bluff** 33.25 126 P P 08 06 51.0 +0.3
CBKS IAmb IAmb 08 06 52.4
comp=Z,86nm,0.9s
CBKS IAMs_20 IAMs_20 08 20 06.0
comp=Z,2µm,19.0s
CBKS **Cedar Bluff** 33.25 126 P P 08 06 51.5 +0.9
baz=334
CBKS **Cedar Bluff** 33.25 126 P P 08 06 51.6 +0.9
baz=335,SNR=14
CBKS **Cedar Bluff** 33.25 126 P P 08 06 51.0 +0.3
CBKS pmax pmax
comp=Z,87nm,1.0s
CBKS MLR MLR
comp=Z,2µm,19.0s
T25A **Trinidad** 33.28 134 P P 08 06 52.0 +0.7
baz=338
BELC **Belle Mtn. Jos** 33.35 152 P P 08 06 52.8 +1.0
baz=346
IRM **Iron Mountain** 33.37 151 P P 08 06 53.9 +2.1
baz=346
SCHQ **Schefferville** 33.44 76 P P 08 06 51.6 -0.7
SCHQ **Schefferville** 33.44 76 IAmb IAmb 08 08 03.5
comp=Z,45nm,1.0s
SCHQ **Schefferville** 33.44 76 P P 08 06 51.9 -0.3
comp=Z,29nm,1.0s,baz=320,slow=9.0,SNR=11
SCHQ LR LR 08 20 45.5
comp=Z,994nm,20.6s,baz=320,slow=37
comp=Z,29nm,1.0s
SCHQ **Schefferville** 33.44 76 P P 08 06 51.6 -0.7
L40A **Anamosa** 33.47 113 P P 08 06 52.6 +0.1
L40A **Anamosa** 33.47 113 P P 08 06 53.0 +0.5
baz=329,SNR=33
CIS **Catalina Islan** 33.49 156 P P 08 06 52.8 0.0
baz=348
MURC **Murrieta** 33.51 154 P P 08 06 54.2 +1.2
baz=347
SUNO **Sudbury Onapin** 33.64 98 P P 08 06 54.0 0.0
SUNO **Sudbury Onapin** 33.64 98 P P 08 06 54.0 0.0
PFO **Pinyon Flats O** 33.64 153 P P 08 06 54.3 +0.1
baz=347
PFO **Pinyon Flats O** 33.64 153 LR LR 08 19 50.3
comp=Z,819nm,18.7s,baz=332,slow=35
TPFO **Pinon Flats** 33.65 153 P P 08 06 54.4 +0.1
baz=347
W18A **Petrified Fore** 33.70 142 P P 08 06 55.0 +0.2
baz=342
SUBO **Sudbury** 33.75 98 P P 08 06 54.7 -0.3
I45A **Fountain** 33.77 106 P P 08 06 54.8 -0.4
baz=326,SNR=7.7
I45A P P 08 06 54.8 -0.4
baz=326,SNR=7.7
GLMI **Grayling** 33.77 103 P P 08 06 55.3 +0.2
baz=325
GLMI **Grayling** 33.77 103 P P 08 06 56.1 +0.9
baz=325,SNR=6.7
BC3 **Big Chuckawall** 33.79 151 P P 08 06 56.6 +1.1
baz=346
N38A **Joes South For** 33.80 117 P P 08 06 55.4 -0.1
baz=331,SNR=23
R32A **Long Quarter,** 33.95 125 P P 08 06 56.4 -0.4
baz=334,SNR=10
K43A **Burlington** 34.05 109 P P 08 06 57.2 -0.4
baz=328,SNR=8.2
DBG **Daneborg** 34.06 26 *i* P P 08 06 56.5 -0.9
DBG IAmb IAmb 08 07 00.6
comp=Z,51nm,0.7s
KSU1 **Kansas State U** 34.07 122 IAMs_20 IAMs_20 08 21 20.6
comp=Z,2µm,21.0s
KSU1 **Kansas State U** 34.07 122 P P 08 06 57.5 -0.3
baz=333
KSU1 **Kansas State U** 34.07 122 P P 08 06 57.9 +0.1
baz=333,SNR=13
VLDQ **Val d'Or** 34.09 93 P P 08 06 56.0 -1.9
VLDQ **Val d'Or** 34.09 93 P P 08 06 56.0 -1.9
L42A **Oliver, Polo** 34.12 111 P P 08 06 58.3 +0.1
baz=329,SNR=14
NANL **Nain** 34.28 70 P P 08 06 59.0 -0.4
NANL **Nain** 34.28 70 P P 08 06 59.0 -0.4
MONP2 **Monument Peak** 34.34 153 P P 08 07 00.6 +0.1
baz=347
SWSC **Sam W. Stewart** 34.41 152 P P 08 07 02.5 +1.7
baz=347
KBS **Kingsbay** 34.44 11 *eP* P 08 07 02.7 +2.1
KIPQ **Kipawa,Quebec** 34.47 96 P P 08 07 01.0 -0.2
EEO **Eldee** 34.58 96 P P 08 07 02.1 -0.1
EEO **Eldee** 34.58 96 P P 08 07 02.1 -0.1
IKP **In-Ko-Pah, Jac** 34.64 153 P P 08 07 02.0 -0.9
baz=347
L44A **Lake County Fo** 34.66 109 IAMs_20 IAMs_20 08 21 38.1
comp=Z,1µm,18.0s
L44A **Lake County Fo** 34.66 109 P P 08 07 01.8 -1.0
baz=328
L44A **Lake County Fo** 34.66 109 P P 08 07 02.9 0.0
baz=328,SNR=6.1
P38A **Dawn** 34.72 118 P P 08 07 03.6 +0.2
baz=332,SNR=43
PET **Petropavlovsk** 34.73 282 *eP* P 08 07 04.0 +0.6
PET *eS* S 08 12 25.3 -8.0
PET pmax pmax
comp=Z,32nm,1.1s
PET MLR MLR
comp=Z,900nm,16.0s
PET MLR MLR
comp=Z,600nm,18.0s
ANMO **Albuquerque** 34.73 138 P P 08 07 05.6 +1.8
baz=340
ANMO **Albuquerque** 34.73 138 P P 08 07 05.8 +2.0
baz=340,SNR=89
ANMO **Albuquerque** 34.73 138 *c* *i* P P 08 07 05.6 +1.8
ANMO pmax pmax
comp=Z,65nm,0.9s
ANMO MLR MLR
comp=Z,3µm,16.0s
ANMO **Albuquerque** 34.73 138 LR LR 08 22 45.6
comp=Z,1µm,19.5s,baz=68,slow=39
J47A **Sunmer** 35.00 105 P P 08 07 05.7 -0.1
baz=327,SNR=6.6
J47A P P 08 07 05.7 -0.1
baz=327,SNR=6.6
PEA0B **Petropavlovsk-** 35.06 283 *c* *i* P P 08 07 07.2 +1.0
PETK **Petropavlovsk-** 35.06 283 P P 08 07 06.7 +0.4
comp=Z,21nm,0.7s,baz=66,slow=13,SNR=38
PETK LR LR 08 22 02.8
comp=Z,418nm,19.9s,baz=55,slow=37
comp=Z,21nm,0.7s
KAN12 **Harper NE Stat** 35.20 125 P 08 07 07.7 +0.1
KAN12 IAmb IAmb 08 07 08.9
comp=Z,91nm,1.0s
I49A **Point Hope** 35.23 102 P P 08 07 08.7 +0.9
baz=326
I49A P P 08 07 08.7 +0.9
baz=326
M44A **Midewin, Midew** 35.28 110 P P 08 07 08.7 +0.5
baz=329,SNR=7.1
P40A **Paris** 35.35 116 P P 08 07 09.1 +0.3
baz=331,SNR=51
Y22D **IRIS PASSCAL I** 35.42 139 IAMs_20 IAMs_20 08 20 08.8
comp=Z,2µm,20.0s
Y22D **IRIS PASSCAL I** 35.42 139 P P 08 07 11.0 +1.3
baz=341
Y22D **IRIS PASSCAL I** 35.42 139 P P 08 07 12.2 +2.5
baz=341
L46A **Eue Claire** 35.44 108 P P 08 07 10.0 +0.5
baz=328,SNR=6.1
L46A P P 08 07 10.0 +0.5
baz=328,SNR=6.1
SPA0 **Spitsbergen Ar** 35.48 10 *eP* P 08 07 09.8 +0.2
SPITS **Spitsbergen Ar** 35.48 10 P P 08 07 09.8 +0.2
comp=Z,42nm,0.8s,baz=18,slow=5.6,SNR=33
SPITS PcP PcP 08 09 38.4 -0.2
comp=Z,8.2nm,0.7s,baz=214,slow=0.5,SNR=2.1
SPITS LR LR 08 24 10.0
comp=Z,260nm,18.2s,baz=316,slow=41
comp=Z,42nm,0.8s
HDIL **Hopedale** 35.51 112 P P 08 07 10.0 -0.2
HDIL **Hopedale** 35.51 112 P P 08 07 10.2 0.0
baz=330
HDIL **Hopedale** 35.51 112 P P 08 07 10.3 +0.2
baz=330,SNR=20
Y22A **Socorro** 35.54 139 P P 08 07 12.6 +1.8
baz=341,SNR=29
U32A **Winter Ranch,** 35.70 127 P P 08 07 12.3 +0.4
baz=336,SNR=11
ISOG **Isortoq, Green** 35.84 45 *i* P P 08 07 11.9 -0.8
ISOG IAmb IAmb 08 07 13.8
comp=Z,60nm,0.8s
214A **Organ Pipe Nat** 35.99 148 P P 08 07 16.2 +1.8
baz=345
SOEG **Soedalen** 36.04 38 *i* P P 08 07 14.1 -0.4
SOEG IAmb IAmb 08 07 17.3
comp=Z,30nm,1.0s
T35B **Sooner Cattle** 36.06 124 P P 08 07 14.8 -0.2
baz=334,SNR=19
SADO **Sadowa** 36.06 98 LR LR 08 22 10.8
comp=Z,1µm,19.2s,baz=348,slow=36
TUC **Tucson** 36.11 145 P P 08 07 17.7 +2.1
baz=344
O44A **Mansfield** 36.17 112 P P 08 07 16.1 +0.2
baz=330,SNR=35
AMTX **Amarillo** 36.20 132 IAMs_20 IAMs_20 08 21 18.4
comp=Z,1µm,19.0s
AMTX **Amarillo** 36.20 132 P P 08 07 17.2 +0.8
baz=338
AMTX **Amarillo** 36.20 132 P P 08 07 17.0 +0.7
baz=338,SNR=16
P43A **Skaggs, Pawnee** 36.21 113 P P 08 07 16.3 +0.1
baz=330,SNR=20
L48A **N Adams** 36.24 106 P P 08 07 16.9 +0.4
baz=328,SNR=23
L48A P P 08 07 16.9 +0.4
baz=328,SNR=23
AAM **Ann Arbor** 36.25 105 P P 08 07 17.1 +0.5
baz=327
AAM **Ann Arbor** 36.25 105 P P 08 07 17.6 +1.1
baz=327
K50A **Casco** 36.27 103 P P 08 07 17.3 +0.5
baz=327,SNR=7.5
K50A P P 08 07 17.3 +0.5
baz=327,SNR=7.5
R40A **Maddies Statio** 36.35 118 P P 08 07 17.1 -0.4
baz=332,SNR=30
OK048 **Pawnee Station** 36.36 125 IAMs_20 IAMs_20 08 21 31.3
comp=Z,1µm,18.0s
S39A **Bolivar** 36.50 119 P P 08 07 18.3 -0.4
baz=333,SNR=57
SFIN **Lafayette** 36.51 110 P P 08 07 18.4 -0.4
baz=329
SFIN **Lafayette** 36.51 110 P P 08 07 18.9 +0.1
baz=329,SNR=20
SCO **Scoresbysund** 36.59 31 P P 08 07 19.1 0.0
SCO IAmb IAmb 08 07 20.7
comp=Z,39nm,0.5s
SCO **Scoresbysund** 36.59 31 P P 08 07 19.1 0.0
SCO pmax pmax
comp=Z,39nm,0.5s
SCO **Scoresbysund** 36.59 31 *i* P P 08 07 18.8 -0.3
SCO IAmb IAmb 08 07 21.0
comp=Z,30nm,0.5s
N47A **Urbana** 36.64 108 P P 08 07 19.9 0.0
baz=329,SNR=13
N47A P P 08 07 19.9 0.0
baz=329,SNR=13
121A **Cookes Peak, D** 36.65 141 P P 08 07 22.5 +2.2
baz=342
121A **Cookes Peak, D** 36.65 141 P P 08 07 22.3 +2.0
baz=342,SNR=18
MSTX **Muleshoe** 36.72 134 P P 08 07 21.4 +0.7
baz=339
MSTX **Muleshoe** 36.72 134 P P 08 07 21.7 +1.0
baz=339,SNR=14
OK029 **Liberty Lake** 36.74 126 IAMs_20 IAMs_20 08 23 35.6
comp=Z,2µm,20.0s
OK052 **Battle Ridge R** 36.79 125 IAMs_20 IAMs_20 08 21 44.7
comp=Z,1µm,20.0s
SLM **Saint Louis** 36.81 115 P P 08 07 21.5 +0.1
baz=331
CCM **Cathedral Cave** 36.94 117 P P 08 07 22.2 -0.3
baz=332
CCM **Cathedral Cave** 36.94 117 P P 08 07 21.9 -0.6
baz=332,SNR=26
Q44A **Meyer Farm, Va** 37.04 113 P P 08 07 23.5 +0.2
baz=331,SNR=20
P46A **Rosedale** 37.12 111 P P 08 07 24.4 +0.4
baz=330,SNR=21
N49A **Columbus Grove** 37.20 106 P P 08 07 25.3 +0.6
baz=328,SNR=20
N49A P P 08 07 25.3 +0.6
baz=328,SNR=20
TUL3 **Leonard** 37.21 124 P P 08 07 24.8 0.0
baz=335
TUL3 **Leonard** 37.21 124 P P 08 07 24.7 -0.2
baz=335,SNR=29
U38A **Gravette** 37.23 122 P P 08 07 23.8 -1.2
U38A IAmb IAmb 08 07 25.4
comp=Z,63nm,1.2s
U38A **Gravette** 37.23 122 P P 08 07 24.2 -0.8
baz=334,SNR=23
M50A **Fremont** 37.26 105 P P 08 07 24.6 -0.5
M50A IAmb IAmb 08 07 26.9
comp=Z,75nm,1.0s
WMOK **Wichita Mounta** 37.27 128 P P 08 07 25.9 +0.6
baz=336
WMOK **Wichita Mounta** 37.27 128 P P 08 07 26.3 +1.0
baz=337,SNR=5.9
FVM **French Village** 37.31 116 P P 08 07 25.8 +0.1
baz=332,SNR=19
O48B **Farmland** 37.38 108 P P 08 07 25.9 -0.3
baz=329
O48B **Farmland** 37.38 108 P P 08 07 26.4 +0.2
baz=329,SNR=13
J54A **Appleton** 37.49 99 P P 08 07 27.1 0.0
J54A IAmb IAmb 08 07 28.6
comp=Z,83nm,0.9s
J54A **Appleton** 37.49 99 P P 08 07 27.6 +0.5
baz=326
J54A P P 08 07 27.6 +0.5
baz=326
SKR **Severo-Kuril's** 37.53 282 *eP* P 08 07 28.6 +1.3
SKR pmax pmax
comp=Z,182nm,0.8s
SKR pmax pmax
comp=Z,300nm,5.6s
SKR MLR MLR
comp=Z,900nm,17.0s
OLIL **Olney** 37.54 113 P P 08 07 27.6 0.0
baz=331,SNR=34
DKNS **Dickens** 37.57 131 P P 08 07 28.2 +0.3
DKNS IAmb IAmb 08 07 29.4
comp=Z,48nm,0.8s
HOPEN **Hopen** 37.64 8 *eP* P 08 07 29.3 +1.2
EPT **El Paso** 37.71 140 IAMs_20 IAMs_20 08 21 29.3
comp=Z,987nm,20.0s
O49A **Covington** 37.77 107 P P 08 07 29.3 -0.2
baz=329,SNR=7.9
O49A P P 08 07 29.3 -0.2
baz=329,SNR=7.9
J55A **Hilton** 37.84 98 P P 08 07 30.3 +0.3
baz=326,SNR=8.9
J55A P P 08 07 30.3 +0.3
baz=326,SNR=8.9
U40A **Yellville** 37.86 120 P P 08 07 29.7 -0.6
baz=334,SNR=54
U40A P P 08 07 29.7 -0.6
baz=334,SNR=54
ERPA **Erie** 37.90 101 P P 08 07 30.3 -0.2
baz=327
BMNY **Brushton-Moira** 37.93 93 P P 08 07 30.4 -0.4
baz=324,SNR=20
N51A **Ashland** 37.93 105 P P 08 07 31.1 +0.2
N51A **Ashland** 37.93 105 P P 08 07 31.4 +0.5
baz=328,SNR=19
N51A P P 08 07 31.4 +0.5
baz=328,SNR=19
P48A **Milroy** 37.96 109 P P 08 07 30.6 -0.5
baz=330,SNR=10.0
P48A P P 08 07 30.6 -0.5
baz=330,SNR=10.0
S44A **Carbondale** 38.01 115 P P 08 07 30.9 -0.6
S44A IAmb IAmb 08 07 32.4
comp=Z,65nm,0.9s
S44A **Carbondale** 38.01 115 P P 08 07 31.3 -0.2
baz=332,SNR=24
LONY **Lake Ozonia** 38.08 93 P P 08 07 32.1 +0.1
baz=324
MNTX **Cornudas Mount** 38.09 138 P P 08 07 33.6 +1.4
baz=341
MNTX **Cornudas Mount** 38.09 138 P P 08 07 33.8 +1.5
baz=341,SNR=33
WCNY **West Carthage** 38.15 95 P P 08 07 32.7 0.0
baz=325,SNR=16
P49A **Miami Univ. Ec** 38.17 108 IAMs_20 IAMs_20 08 23 55.2
comp=Z,1µm,19.0s
P49A **Miami Univ. Ec** 38.17 108 P P 08 07 32.6 -0.4
baz=329
P49A **Miami Univ. Ec** 38.17 108 P P 08 07 32.4 -0.6
baz=329,SNR=16
M53A **WI Miller and** 38.19 102 P P 08 07 33.5 +0.5
baz=327
ALLY **Alegheny Colle** 38.23 102 P P 08 07 34.0 +0.7
baz=327,SNR=9.3
WVNY **West Valley, N** 38.23 99 P P 08 07 33.7 +0.4
baz=326,SNR=10.0
J56A **Wolcott** 38.23 97 P P 08 07 32.5 -0.8
baz=326,SNR=8.9
J56A P P 08 07 32.5 -0.8
baz=326,SNR=8.9
ACSO **Alum Creek Sta** 38.27 106 P P 08 07 33.6 -0.1
ACSO IAmb IAmb 08 07 35.3
comp=Z,91nm,1.0s
ACSO **Alum Creek Sta** 38.27 106 P P 08 07 33.9 +0.2

baz=328
ACSO Alum Creek Sta 38.27 106 P P 08 07 32.6 -1.1
baz=328,SNR=18
FRNY Flat Rock 38.32 92 P P 08 07 33.2 -0.8
baz=324,SNR=12
PBMO Poplar Bluff 38.37 117 P P 08 07 34.2 -0.3
baz=332,SNR=22
D62A Allapoint, All 38.41 86 P P 08 07 34.9 +0.1
baz=323,SNR=16
D62A P P 08 07 34.9 +0.1
baz=323,SNR=16
J57A Williamstown 38.48 96 P P 08 07 35.2 -0.2
J57A IAmb IAmb 08 07 36.6
comp=Z,135nm,0.8s
J57A Williamstown 38.48 96 P P 08 07 35.6 +0.2
baz=325,SNR=24
J57A P P 08 07 35.6 +0.2
baz=325,SNR=24
PAOC Oil Creek Stat 38.53 101 P P 08 07 36.3 +0.4
baz=327
FCAR Ozark Folk Cen 38.54 119 P P 08 07 35.0 -1.0
FCAR IAmb IAmb 08 07 36.3
comp=Z,65nm,0.9s
E62A Clayton Lake 38.58 87 P P 08 07 36.0 -0.2
baz=323,SNR=9.2
E62A P P 08 07 36.0 -0.2
baz=323,SNR=9.2
N53A Lisbon 38.65 103 P P 08 07 37.1 +0.2
baz=328,SNR=11
N53A P P 08 07 37.1 +0.2
baz=328,SNR=11
WCI Wyandotte Cave 38.68 111 P P 08 07 36.6 -0.6
baz=330
WCI Wyandotte Cave 38.68 111 P P 08 07 36.9 -0.3
baz=330,SNR=9.5
YAK Yakutsk 38.72 311 *eP* **P 08 07 38.1 +0.9**
YAK *eS* **S 08 13 42.3 +8.4**
YAK *e* 08 17 45.5
YAK pmax pmax
comp=N,31nm,1.3s
YAK pmax pmax
comp=E,48nm,1.5s
YAK smax smax
comp=N,155nm,4.1s
YAK smax smax
comp=E,217nm,5.8s
YAK Yakutsk 38.72 311 LR LR 08 24 03.8
comp=E,21nm,19.8s,baz=76,slow=37
LCAR Lake Charles 38.73 118 P P 08 07 37.1 -0.5
baz=333,SNR=29
NCB Newcomb 38.75 94 P P 08 07 37.6 -0.2
baz=325,SNR=20
J58A Remsen 38.81 95 P P 08 07 38.4 +0.1
baz=325,SNR=28
J58A P P 08 07 38.4 +0.1
baz=325,SNR=28
K57A Scipio Center 38.82 97 P P 08 07 38.0 -0.3
baz=326,SNR=27
O52A Adamsville 38.83 105 P P 08 07 38.0 -0.5
O52A IAmb IAmb 08 07 39.7
comp=Z,134nm,1.1s
O52A Adamsville 38.83 105 P P 08 07 38.3 -0.1
baz=328,SNR=24
O52A P P 08 07 38.3 -0.1
baz=328,SNR=24
JMIC Jan Mayen 38.84 25 LR LR 08 23 35.0
comp=Z,380nm,20.3s,baz=302,slow=36
PAMR Moraine State 38.84 102 P P 08 07 38.9 +0.4
baz=328
P51A Williamsport 38.88 106 P P 08 07 38.7 -0.1
baz=329,SNR=22
P51A P P 08 07 38.7 -0.1
baz=329,SNR=22
L56A Greenwood 38.88 99 P P 08 07 39.1 +0.2
baz=326,SNR=15
L56A P P 08 07 39.1 +0.2
baz=326,SNR=15
ABTX Abilene, Hawle 38.93 131 P P 08 07 39.1 -0.2
baz=338
ABTX Abilene, Hawle 38.93 131 P P 08 07 39.2 -0.2
baz=338,SNR=6.8
M55A Ridgway 38.94 100 P P 08 07 39.6 +0.2
baz=327,SNR=22
M55A P P 08 07 39.6 +0.2
baz=327,SNR=22
F62A Pittston Farm, 38.97 88 P P 08 07 39.6 +0.1
F62A IAmb IAmb 08 07 41.1
comp=Z,79nm,1.1s
F62A Pittston Farm, 38.97 88 P P 08 07 40.0 +0.4
baz=323,SNR=14
F62A P P 08 07 40.0 +0.4
baz=323,SNR=14
O53A New Philadelph 38.97 104 P P 08 07 39.4 -0.2
baz=328
FW03 Perrin-Whitt E 39.06 128 P P 08 07 40.8 +0.4
FW03 IAmb IAmb 08 07 42.7
comp=Z,62nm,0.9s
Z35A Perchaven, San 39.06 127 P P 08 07 40.9 +0.5
baz=337,SNR=8.3
VT1 Waterbury 39.07 92 IAMs_20 IAMs_20 08 23 31.0
comp=Z,1µm,18.0s
VT1 Waterbury 39.07 92 P P 08 07 40.7 +0.3
baz=325,SNR=5.6
P52A Corning 39.12 105 P P 08 07 40.5 -0.4
baz=329
SGCY Sterling City 39.13 133 P P 08 07 41.2 +0.2
SGCY IAmb IAmb 08 07 42.5
comp=Z,57nm,0.9s
Q51A Peebles 39.16 107 P P 08 07 41.5 +0.3
Q51A IAmb IAmb 08 07 42.5
comp=Z,94nm,1.1s
Q51A Peebles 39.16 107 P P 08 07 41.5 +0.3
baz=329,SNR=12
Q51A P P 08 07 41.5 +0.3
baz=329,SNR=12
PLPT Palo Pinto 39.19 129 P P 08 07 41.8 +0.4
PLPT IAmb IAmb 08 07 43.0
comp=Z,102nm,1.0s
E63A Oxbow 39.19 86 P P 08 07 40.7 -0.7
baz=323,SNR=7.6
E63A P P 08 07 40.7 -0.7
baz=323,SNR=7.6
PSDB Penn State Uni 39.23 101 P P 08 07 43.0 +1.2
baz=327
UPAO U. Pittsburgh 39.26 102 P P 08 07 42.8 +0.8
baz=328
G62A West of Eustis 39.28 89 P P 08 07 42.5 +0.3
baz=324,SNR=8.0
G62A P P 08 07 42.5 +0.3
baz=324,SNR=8.0
MCVT Middlebury Col 39.28 93 P P 08 07 42.1 -0.1
baz=325,SNR=15
O54A Avella 39.37 103 P P 08 07 43.2 +0.3
baz=328,SNR=22
O54A P P 08 07 43.2 +0.3
baz=328,SNR=22
R50A Paris 39.41 109 P P 08 07 43.2 -0.1
baz=330
R50A P P 08 07 43.2 -0.1
baz=330
T47A Sharon Grove 39.45 113 P P 08 07 43.5 -0.1
baz=331,SNR=18
ACCN Adirondack Com 39.47 94 P P 08 07 44.1 +0.4
baz=325,SNR=18
BINY Binghamton 39.48 97 P P 08 07 44.1 +0.3
baz=326
BINY Binghamton 39.48 97 P P 08 07 43.8 0.0
baz=326,SNR=21
F63A Nahmakanta, Br 39.49 87 P P 08 07 44.2 +0.3
baz=324,SNR=8.9
F63A P P 08 07 44.2 +0.3
baz=324,SNR=8.9
LBNH Lisbon 39.49 91 P P 08 07 43.9 0.0
baz=325
P53A Whipple 39.55 105 P P 08 07 44.3 -0.1
baz=329,SNR=17
P53A P P 08 07 44.3 -0.1
baz=329,SNR=17
Q52A Bidwell 39.64 106 P P 08 07 45.0 -0.2
baz=329,SNR=16
Q52A P P 08 07 45.0 -0.2
baz=329,SNR=16
F64A Sherman 39.67 87 P P 08 07 44.6 -0.7
baz=324,SNR=12
F64A P P 08 07 44.6 -0.7
baz=324,SNR=12
M57A Sunshine Farm, 39.73 99 P P 08 07 46.1 +0.2
baz=327,SNR=21
M57A P P 08 07 46.1 +0.2
baz=327,SNR=21
HCNY Howe Caverns 39.73 95 P P 08 07 46.2 +0.3
baz=326,SNR=23
PKME Peaks-Kenny Pk 39.76 88 P P 08 07 46.4 +0.3
baz=324
PKME Peaks-Kenny Pk 39.76 88 P P 08 07 46.5 +0.4
baz=324,SNR=11
L59A Walton 39.88 96 P P 08 07 46.0 -1.2
baz=326,SNR=26
L59A P P 08 07 46.0 -1.2
baz=326,SNR=26
Z38A Mt. Pleasant 39.89 124 P P 08 07 47.6 +0.3
baz=336,SNR=15
WVT Waverly 39.92 114 P P 08 07 47.7 +0.1
baz=332
WVT Waverly 39.92 114 P P 08 07 47.5 0.0
baz=332,SNR=39
J61A Chester 39.96 93 P P 08 07 47.0 -0.8
baz=325,SNR=9.4
J61A P P 08 07 47.0 -0.8
baz=325,SNR=9.4
SSPA Standing Stone 40.00 100 P P 08 07 48.1 -0.1
baz=327
SSPA Standing Stone 40.00 100 P P 08 07 47.8 -0.4
baz=327,SNR=23
TRY Troy 40.00 94 P P 08 07 48.8 +0.7
baz=326,SNR=9.2
MCWV Mont Chateau 40.03 103 P P 08 07 48.5 +0.1
baz=328
MCWV Mont Chateau 40.03 103 P P 08 07 48.8 +0.4
baz=328,SNR=11
PABK Blue Knob Stat 40.03 101 P P 08 07 48.2 -0.3
baz=328
I62A Tamworth 40.04 91 P P 08 07 49.2 +0.8
baz=325
I62A P P 08 07 49.2 +0.8
baz=325
KSPA Keystone Colle 40.10 97 P P 08 07 49.1 0.0
baz=327,SNR=16
Q54A Coxs Mills 40.20 105 P P 08 07 49.8 -0.1
baz=329,SNR=10
Q54A P P 08 07 49.8 -0.1
baz=329,SNR=10
I63A Otisfield 40.21 90 P P 08 07 49.0 -0.9
baz=325,SNR=15
I63A P P 08 07 49.0 -0.9
baz=325,SNR=15
WHTX Lake Whitney, 40.22 128 P P 08 07 49.9 -0.2
WHTX IAmb IAmb 08 07 51.6
comp=Z,95nm,1.0s
WHTX Lake Whitney, 40.22 128 P P 08 07 50.4 +0.3
baz=337
WHTX Lake Whitney, 40.22 128 P P 08 07 50.4 +0.3
baz=337,SNR=30
S51A Beattyville 40.25 108 P P 08 07 49.8 -0.4
S51A IAmb IAmb 08 07 51.3
comp=Z,70nm,0.8s
S51A Beattyville 40.25 108 P P 08 07 49.9 -0.4
baz=330,SNR=22
S51A P P 08 07 49.9 -0.4
baz=330,SNR=22
T50A Nancy 40.30 110 P P 08 07 50.3 -0.4
baz=331
T50A P P 08 07 50.3 -0.4
baz=331
R53A Hurricane 40.31 106 P P 08 07 50.8 0.0
baz=330,SNR=14
R53A P P 08 07 50.8 0.0
baz=330,SNR=14
N58A Sunbury 40.31 99 P P 08 07 49.8 -1.0
baz=327,SNR=31
N58A P P 08 07 49.8 -1.0
baz=327,SNR=31
U49A Red Boiling Sp 40.38 112 P P 08 07 50.6 -0.7
baz=331,SNR=14
CCAR Cane Creek 40.43 120 P P 08 07 51.9 +0.1
baz=334,SNR=8.6
NPNY Mohonk Preserv 40.61 96 P P 08 07 53.2 -0.1
baz=326,SNR=17
L61B Northampton 40.65 94 IAMs_20 IAMs_20 08 24 46.4
comp=Z,947nm,18.0s
L61B Northampton 40.65 94 P P 08 07 54.0 +0.5
baz=326
L61B Northampton 40.65 94 P P 08 07 53.9 +0.5
baz=326,SNR=7.9
V48A Smith Brothers 40.65 113 P P 08 07 53.4 -0.2
baz=332,SNR=35
K62A Royalston 40.65 93 P P 08 07 54.5 +1.0
baz=326,SNR=21
K62A P P 08 07 54.5 +1.0
baz=326,SNR=21
237A Washetta, Mont 40.76 126 P P 08 07 55.2 +0.7
baz=337,SNR=6.4
OXF Oxford 40.76 117 P P 08 07 55.1 +0.6
baz=333
OXF Oxford 40.76 117 P P 08 07 55.1 +0.6
baz=333,SNR=50
TX31 Lajitas Ar. Si 40.80 137 P P 08 07 56.0 +1.1
baz=341
TXAR Lajitas Array 40.80 137 P P 08 07 56.0 +1.1
comp=Z,14nm,0.8s,baz=350,slow=8.0,SNR=142
TXAR PcP PcP 08 09 56.4 +0.4
comp=Z,8.0nm,0.8s,baz=16,slow=2.2,SNR=10
TXAR LR LR 08 24 54.6
comp=Z,792nm,19.6s,baz=332,slow=36
comp=Z,14nm,0.8s
Q56A Snyder Ridge, 40.82 103 P P 08 07 55.2 +0.2
baz=329,SNR=16
Q56A P P 08 07 55.2 +0.2
baz=329,SNR=16
JCT Junction City 40.87 132 IAMs_20 IAMs_20 08 23 57.9
comp=Z,1µm,19.0s
JCT Junction City 40.87 132 P P 08 07 55.6 +0.1
baz=339
JCT Junction City 40.87 132 P P 08 07 56.0 +0.5
baz=339,SNR=45
P57A Homestead Farm 40.92 101 P P 08 07 55.9 +0.1
baz=328,SNR=9.6
P57A P P 08 07 55.9 +0.1
baz=328,SNR=9.6
QUA2 Belchertown 40.92 93 IAMs_20 IAMs_20 08 23 05.7
comp=Z,926nm,19.0s
QUA2 Belchertown 40.92 93 P P 08 07 56.4 +0.6
baz=326,SNR=12
BRNY Black Rk. Fore 40.95 96 P P 08 07 56.1 +0.1
baz=327,SNR=14
ODNJ Ogdensburg 40.98 97 P P 08 07 56.2 0.0
baz=327,SNR=23
S54A Dingess, Beckl 41.02 106 P P 08 07 56.8 +0.1
baz=330,SNR=14
S54A P P 08 07 56.8 +0.1
baz=330,SNR=14
HRV Adam Dziewonsk 41.07 92 P P 08 07 57.8 +0.8
baz=326
HRV Adam Dziewonsk 41.07 92 P P 08 07 57.6 +0.7
baz=326,SNR=9.7
LUPA Lehigh Univers 41.07 98 P P 08 07 56.8 -0.2
LUPA IAmb IAmb 08 07 58.2
comp=Z,105nm,0.9s
R55A Marlinton 41.09 104 P P 08 07 57.6 +0.3
baz=329,SNR=15
R55A P P 08 07 57.6 +0.3
baz=329,SNR=15
MVL Millersville 41.17 99 P P 08 07 57.5 -0.3
MVL IAmb IAmb 08 07 59.2
comp=Z,103nm,1.0s
TZTN Tazewell 41.22 109 P P 08 07 58.1 -0.3
baz=331
TZTN Tazewell 41.22 109 P P 08 07 58.3 -0.1
baz=331,SNR=13
BORG Borgarnes 41.28 37 LR LR 08 25 42.7
comp=Z,851nm,18.2s,baz=327,slow=37
Y45A Yeager Farm, C 41.29 118 P P 08 07 58.7 -0.2
Y45A Yeager Farm, C 41.29 118 P P 08 08 00.0 +1.2
baz=334,SNR=46
435B Jarrell 41.29 129 P P 08 07 58.8 -0.1
baz=338
435B Jarrell 41.29 129 P P 08 08 00.1 +1.1
baz=338
BRNJ Basking Ridge 41.33 97 P P 08 07 59.4 +0.3
baz=327,SNR=9.8
PAL Palisades 41.34 96 P P 08 07 59.4 +0.2
baz=327
PAL Palisades 41.34 96 P P 08 07 59.6 +0.4
baz=327,SNR=7.1
BCX Boston College 41.37 92 IAMs_20 IAMs_20 08 25 16.5
comp=Z,1µm,18.0s
NATX Nacogdoches 41.37 125 P P 08 08 00.1 +0.6
baz=336
NATX Nacogdoches 41.37 125 P P 08 08 00.3 +0.8
baz=336,SNR=5.4
FOR Fordham 41.46 96 P P 08 08 00.4 +0.2
baz=327,SNR=5.1
SDMD Soldier's Deli 41.47 100 P P 08 07 59.7 -0.5
baz=328,SNR=5.6
TUPA Temple Univers 41.51 98 P P 08 08 01.0 +0.4
baz=328,SNR=22
PANJ Princeton 41.53 97 P P 08 08 00.6 -0.2
baz=327,SNR=12
V51A Loudon 41.55 111 P P 08 08 00.9 -0.1
baz=331,SNR=15
BRYW Bryant College 41.56 93 P P 08 08 01.4 +0.4
BRYW IAmb IAmb 08 08 02.7
comp=Z,132nm,0.8s
PSUB Penn St. - Bra 41.60 98 P P 08 08 01.1 -0.3
baz=328
GEDE Greenville 41.62 99 P P 08 08 01.2 -0.3
baz=328,SNR=9.8
143A Socs Landing, 41.66 121 P P 08 08 02.5 +0.6
baz=335,SNR=11
X48A Hartselle 41.70 115 P P 08 08 01.9 -0.4
baz=333,SNR=22
W50A Signal Mountai 41.71 112 P P 08 08 01.9 -0.4
baz=332,SNR=17
M63A Gales Ferry 41.78 94 P P 08 08 03.2 +0.4
baz=326,SNR=18
M63A P P 08 08 03.2 +0.4
baz=326,SNR=18
CPCT Cooper Cave 41.80 111 P P 08 08 02.7 -0.3
CPCT IAmb IAmb 08 08 04.2
comp=Z,83nm,1.5s
V52A Sevierville 41.81 110 P P 08 08 02.8 -0.4
baz=331,SNR=6.2
BLA Blacksburg 41.89 105 P P 08 08 04.0 +0.1
baz=330
BLA Blacksburg 41.89 105 P P 08 08 03.6 -0.2
baz=330,SNR=12
TKL Tuckaleechee C 41.91 110 P P 08 08 04.2 +0.2
baz=331
TKL Tuckaleechee C 41.91 110 LR LR 08 26 09.9
comp=Z,914nm,18.6s,baz=334,slow=37
U54A Nelsons Funny 41.92 107 P P 08 08 04.6 +0.4
baz=330,SNR=11
U54A P P 08 08 04.6 +0.4
baz=330,SNR=11
S57A Dark Hollow, R 42.01 104 P P 08 08 05.1 +0.4
baz=329
S57A P P 08 08 05.1 +0.4
baz=329
P61A Hammonton 42.09 98 P P 08 08 05.6 +0.3
baz=328,SNR=6.7
P61A P P 08 08 05.6 +0.3
baz=328,SNR=6.7
M65A Busby, Falmout 42.23 92 P P 08 08 06.6 +0.2
baz=326
CBN Corbin Frederi 42.27 102 P P 08 08 06.8 -0.1
baz=329
CBN Corbin Frederi 42.27 102 P P 08 08 07.1 +0.3
baz=329,SNR=6.1
R58B Mineral 42.27 102 P P 08 08 07.1 +0.2
baz=329,SNR=8.4
R58B P P 08 08 07.1 +0.2
baz=329,SNR=8.4
V53A Saluda 42.27 109 P P 08 08 06.9 -0.1
baz=331,SNR=12
V53A P P 08 08 06.9 -0.1
baz=331,SNR=12
W52A Murphy 42.34 111 P P 08 08 07.6 +0.1
baz=332,SNR=16
VBMS Vicksburg 42.41 120 P P 08 08 08.6 +0.5
baz=335
VBMS Vicksburg 42.41 120 P P 08 08 09.3 +1.2
baz=335
Z47A Carrollton 42.43 117 P P 08 08 08.6 +0.4
baz=334,SNR=39
X51A Calhoun 42.44 112 P P 08 08 08.4 +0.1
baz=332,SNR=7.1
X51A P P 08 08 08.4 +0.1
baz=332,SNR=7.1
Y49A Blount Mountai 42.47 114 P P 08 08 08.4 -0.1
baz=333,SNR=26
T57A Hurt 42.54 104 P P 08 08 09.2 +0.1
baz=330,SNR=6.6
T57A P P 08 08 09.2 +0.1
baz=330,SNR=6.6
146A Union 42.57 118 P P 08 08 10.7 +1.4
baz=334
HKT Hockley 42.64 127 IAMs_20 IAMs_20 08 26 14.2
comp=Z,1µm,19.0s
HKT Hockley 42.64 127 P P 08 08 10.4 +0.5
baz=338
HKT Hockley 42.64 127 *ceP* **P 08 08 10.3 +0.5**
HKT pmax pmax
comp=Z,51nm,1.4s
U56A King 42.65 106 P P 08 08 10.0 0.0
baz=330,SNR=16
U56A P P 08 08 10.0 0.0
baz=330,SNR=16
V55A Taylorsville 42.75 107 P P 08 08 11.3 +0.5
baz=331,SNR=10
V55A P P 08 08 11.3 +0.5
baz=331,SNR=10
TYV Tymovskoe 42.76 292 *eP* **P 08 08 12.2 +1.5**
TYV *eS* **S 08 14 38.7 +4.5**
TYV pmax pmax
comp=Z,68nm,1.4s
TYV pmax pmax
comp=Z,500nm,4.1s
TYV smax smax
comp=N,700nm,7.5s
TYV smax smax
comp=E,800nm,7.5s
LRAL Lakeview Retre 42.98 115 P P 08 08 12.8 +0.1
baz=333
LRAL Lakeview Retre 42.98 115 P P 08 08 12.7 0.0
baz=334,SNR=29
833A Chaparral WMA, 43.01 133 P P 08 08 13.4 +0.5
baz=340
833A Chaparral WMA, 43.01 133 P P 08 08 13.9 +1.0
baz=340,SNR=6.0
T59A Double "B" Far 43.26 103 P P 08 08 14.8 -0.1
baz=330,SNR=13
T59A P P 08 08 14.8 -0.1
baz=330,SNR=13
HAMF Hammerfest 43.29 11 *eP* **P 08 08 14.7 -0.1**
KMSC Kings Mountain 43.32 108 P **P 08 08 15.2 -0.2**
baz=331
Y52A Lilburn 43.37 112 P P 08 08 16.5 +0.7
baz=332,SNR=12
Y52A P P 08 08 16.5 +0.7
baz=332,SNR=12
PAULI Pauline 43.41 109 P P 08 08 16.4 +0.2
baz=331,SNR=17
Z51A Franklin 43.42 113 P P 08 08 16.4 +0.2
baz=333
T60A Surry 43.44 102 P P 08 08 16.8 +0.4
baz=329,SNR=18
T60A P P 08 08 16.8 +0.4
baz=329,SNR=18
346A Big Creek Wild 43.55 119 P P 08 08 18.5 +1.3
baz=335,SNR=11
V58A Windy Hill, Pi 43.64 105 P P 08 08 18.0 +0.1
baz=330,SNR=13
V58A P P 08 08 18.0 +0.1
baz=330,SNR=13
U59A Littleton 43.69 103 P P 08 08 18.7 +0.4
baz=330,SNR=18
U59A P P 08 08 18.7 +0.4
baz=330,SNR=18
HODGE Hodges 43.75 110 P P 08 08 18.8 0.0
baz=332
W57A Gilead 43.84 107 P P 08 08 19.6 0.0
W57A IAmb IAmb 08 08 21.2
comp=Z,66nm,1.1s
W57A Gilead 43.84 107 P P 08 08 19.6 0.0
baz=331,SNR=13
W57A P P 08 08 19.6 0.0
baz=331,SNR=13
GOGA Godfrey 44.00 111 P P 08 08 20.8 -0.1
baz=332
GOGA Godfrey 44.00 111 P P 08 08 21.0 +0.1
baz=332,SNR=20
JETT Jettan, Norway 44.08 13 *eP* **P 08 08 22.0 +0.8**
BIRD Birdtown, Kers 44.10 107 P **P 08 08 21.7 +0.1**
baz=331,SNR=17

JSC Jenkinsville 44.10 108 P **P** **08 08 21.5 -0.2**
baz=332,SNR=34

LPIG La Paz 44.12 148 LR LR 08 26 38.6
comp=Z,940nm,19.7s,baz=348,slow=36

152A Waverly Hall 44.17 113 P **P** **08 08 22.3 0.0**
baz=333,SNR=49

VADS Vadso 44.19 8 *e*P **P** **08 08 22.0 0.0**
250A Grady 44.20 115 P **P** **08 08 22.4 -0.1**
250A Grady 44.20 115 P **P** **08 08 22.7 +0.2**
baz=334,SNR=37

W59A Clinton 44.45 105 P **P** **08 08 25.1 +0.6**
baz=331,SNR=5.7

ARA0 ARCESS Array S 44.51 10 *e*P **P** **08 08 24.9 +0.3**
ARCES ARCESS Array B 44.51 10 P **P** **08 08 24.5 -0.1**
comp=Z,15nm,0.6s,baz=358,slow=7.7,SNR=121

ARCES PcP **PcP** **08 10 07.3 -0.3**
comp=Z,17nm,1.0s,baz=328,slow=4.3,SNR=4.7

ARCES LR LR 08 27 06.2
comp=Z,294nm,20.5s,baz=342,slow=36
comp=Z,15nm,0.6s

CNNC Cliffs of the 44.61 104 IAMs_20 IAMs_20 08 26 10.6
comp=Z,744nm,20.0s

CNNC Cliffs of the 44.61 104 P **P** **08 08 25.9 +0.2**
baz=330

X58A Rowland 44.63 106 P **P** **08 08 26.3 +0.4**
baz=331,SNR=10

X58A P **P** **08 08 26.3 +0.4**
baz=331,SNR=10

BRAL Brewton 44.63 117 P **P** **08 08 26.0 +0.1**
BRAL Brewton 44.63 117 P **P** **08 08 26.4 +0.5**
baz=334

BRAL Brewton 44.63 117 P **P** **08 08 27.0 +1.0**
baz=334

V61A Roper 44.67 103 P **P** **08 08 26.9 +0.7**
baz=330

V61A P **P** **08 08 26.9 +0.7**
baz=330

Y57A Sumter 44.68 108 P **P** **08 08 26.6 +0.3**
baz=332,SNR=8.7

Y57A P **P** **08 08 26.6 +0.3**
baz=332,SNR=8.7

LOF Lofoten 44.73 17 *e*P **P** **08 08 26.6 +0.3**
HAW Hawthorne Fire 44.77 109 P **P** **08 08 27.4 +0.3**
baz=332,SNR=27

154A Montrose 44.85 112 P **P** **08 08 27.8 +0.2**
baz=333,SNR=9.3

KTK1 Kautokeino 44.85 11 *e*P **P** **08 08 27.3 0.0**
Y58A Scranton 45.06 107 P **P** **08 08 30.0 +0.7**
baz=331,SNR=8.9

Y58A P **P** **08 08 30.0 +0.7**
baz=331,SNR=8.9

STEI Steigen 45.12 16 *e*P **P** **08 08 29.7 +0.3**
352A Blakely 45.15 114 P **P** **08 08 29.9 -0.2**
baz=334,SNR=30

GRNR Gornyy 45.20 297 ⇓ *i*P **P** **08 08 30.7 +0.4**
GRNR *e*S **S** **08 15 13.3 +3.3**
GRNR pmax pmax
comp=N,7.0nm,1.1s
GRNR pmax pmax
comp=E,3.0nm,1.1s
GRNR pmax pmax
comp=Z,20nm,1.2s
GRNR smax smax
comp=N,2.0nm,0.9s
GRNR MLR MLR
comp=E,430nm,11.0s
GRNR MLR MLR
comp=N,390nm,15.0s
GRNR MLR MLR
comp=Z,550nm,15.0s

NHSC New Hope 45.56 108 P **P** **08 08 33.8 +0.5**
baz=332
NHSC New Hope 45.56 108 P **P** **08 08 34.1 +0.8**
baz=332,SNR=7.9

FAUS Fauske 45.65 16 *e*P **P** **08 08 33.9 +0.3**
255A Hazlehurst 45.70 111 P **P** **08 08 34.9 +0.5**
baz=333,SNR=6.9

TIGA Tifton 45.70 113 P **P** **08 08 34.3 -0.2**
TIGA IAmb IAmb 08 08 35.5
comp=Z,94nm,1.0s
TIGA Tifton 45.70 113 P **P** **08 08 34.2 -0.2**
baz=333
TIGA Tifton 45.70 113 P **P** **08 08 34.7 +0.3**
baz=333,SNR=11

YSS Yuzh-Sakhalins 45.87 289 IAMs_20 IAMs_20 08 29 50.0
comp=Z,717nm,19.0s
YSS Yuzh-Sakhalins 45.87 289 *de*P **P** **08 08 37.1 +1.5**
YSS *e*S **S** **08 15 21.9 +2.4**
YSS pmax pmax
comp=Z,110nm,0.9s
YSS pmax pmax
comp=Z,500nm,2.1s
YSS MLR MLR
comp=Z,700nm,17.0s

ZEA Zeya 46.06 305 *e*P **P** **08 08 38.2 +1.1**
ZEA pmax pmax
comp=Z,10.0nm,0.5s
ZEA MLR MLR
comp=E,400nm,12.0s
ZEA MLR MLR
comp=N,700nm,14.0s
ZEA MLR MLR
comp=Z,800nm,13.0s

KONS Konsvik 46.23 17 *e*P **P** **08 08 38.7 +0.5**
STOK Stokkvaagen 46.38 18 *e*P **P** **08 08 39.9 +0.6**
LVZ Lovozero 46.66 6 *c* *i*P **P** **08 08 41.5 -0.2**
LVZ pmax pmax
comp=Z,96nm,1.0s
MOR8 Moi Rana 46.71 17 *e*P **P** **08 08 41.5 -0.5**
KIP Kipapa 46.72 211 ⇓ *e*P **P** **08 08 44.2 +1.6**
KIP pmax pmax
comp=Z,639nm,4.3s
BOD Bodaibo 46.80 317 *e*P **P** **08 08 42.4 -0.4**
BOD pmax pmax
comp=Z,136nm,0.8s
456A Hilliard 46.94 112 P **P** **08 08 45.1 +0.9**
baz=333
NSS Namsos 47.96 19 *e*P **P** **08 08 51.5 -0.2**
KLR Kul'dur 48.20 299 *c* *i*P **P** **08 08 54.0 +0.2**
KLR pmax pmax
comp=Z,28nm,1.1s
KLR Kul'dur 48.20 299 LR LR 08 31 54.7
comp=Z,452nm,18.4s,baz=40,slow=40
ASAJ Asahikawa 48.27 287 P **P** **08 08 54.4 0.0**
comp=Z,15nm,0.8s,baz=311,slow=6.6,SNR=6.8
ASAJ LR LR 08 31 25.8
comp=Z,577nm,18.0s,baz=27,slow=39
comp=Z,15nm,0.8s

HEH HeiHe 48.90 303 *e*P **P** **08 08 59.6 +0.5**
HEH pP **sP** **08 09 06.9 +3.8**
HEH sP pP 08 09 10.8 +8.9
HEH PcP **PcP** **08 10 22.9 -0.4**
HEH S **S** **08 16 04.6 +2.0**
HEH ScS **ScS** **08 18 49.1 -2.0**
HEH pmax pmax
comp=Z,23nm,0.7s
HEH pmax pmax
comp=Z,270nm,3.5s
HEH LR LR
comp=Z,1μm,12.8s
HEH LR LR
comp=Z,800nm,10.6s
HEH LR LR
comp=Z,2μm,11.1s

AKN Aaknes 49.45 23 *e*P **P** **08 09 03.9 +0.7**
DWPF Disney Wildern 49.51 112 P **P** **08 09 04.8 +0.8**
baz=334
DWPF Disney Wildern 49.51 112 P **P** **08 09 05.2 +1.2**
baz=334
TEY Ternei 49.86 292 ⇑ *e*P **P** **08 09 06.3 -0.3**
TEY pmax pmax
comp=Z,10.0nm,0.9s
LRW Lerwick 49.87 29 *e*P **P** **08 09 06.8 +0.4**
DOMB Dombas 49.91 22 *e*P **P** **08 09 06.6 -0.1**
LEWI Lewis, Hebride 50.47 33 ⇑ *e*P **P** **08 09 11.3 +0.3**
LEWI IAmb IAmb 08 09 12.1
comp=Z,319nm,1.7s
ASK Askoy 50.74 25 *e*P **P** **08 09 14.7 +1.7**
LINV Loch Inver, As 50.85 32 ⇑ *e*P **P** **08 09 13.6 -0.2**
LINV IAmb IAmb 08 09 14.5
comp=Z,64nm,0.9s
BER Bergen 50.86 25 *e*P **P** **08 09 14.4 +0.5**
060A Indiantown 50.88 112 P **P** **08 09 14.9 +0.4**
060A Indiantown 50.88 112 P **P** **08 09 16.3 +1.8**
baz=334
SKAR Skarslia 51.08 23 *e*P **P** **08 09 15.9 +0.3**

NB2 NORSAR Subarra 51.19 21 P **P** **08 09 16.2 -0.2**
comp=Z,22nm,0.7s,baz=343,slow=7.9
NB2 NORSAR Subarra 51.19 21 P **P** **08 09 16.2 -0.2**
baz=343,slow=7.9
NOA NORSAR Array B 51.19 21 P **P** **08 09 16.3 -0.2**
comp=Z,15nm,0.6s,baz=343,slow=7.6,SNR=49
NOA LR LR 08 31 48.8
comp=Z,336nm,18.4s,baz=335,slow=37
comp=Z,15nm,0.6s

KPL Plockton 51.48 33 ⇑ *e*P **P** **08 09 18.9 +0.3**
KPL IAmb IAmb 08 09 19.8
comp=Z,158nm,1.5s
NC602 NORSAR Array S 51.52 21 *e*P **P** **08 09 18.9 +0.1**
ODD1 Odda 51.53 24 *e*P **P** **08 09 19.7 +0.7**
061Z Ochoppi 51.73 113 P **P** **08 09 22.1 +1.3**
baz=335

MCD Coleburn Disti 51.79 31 ⇑ *e*P **P** **08 09 21.0 +0.1**
MCD IAmb IAmb 08 09 22.1
comp=Z,101nm,0.7s

CIT Chita 51.94 313 *e*P **P** **08 09 24.1 +1.9**
CIT *e* 08 10 38.2
BLS5 Blasjo 51.96 24 *e*P **P** **08 09 22.9 +0.7**
OSL Oslo 52.16 22 *e*P **P** **08 09 24.2 +0.6**
KONO Kongsberg 52.27 22 P **P** **08 09 24.7 +0.3**
KONO IAmb IAmb 08 09 30.2
comp=Z,40nm,1.0s
KONO Kongsberg 52.27 22 *e*P **P** **08 09 24.9 +0.5**
KONO Kongsberg 52.27 22 *ce*P **P** **08 09 24.4 0.0**
KONO pmax pmax
comp=Z,151nm,3.0s

USRK Ussuriysk Ar. 52.34 295 P **P** **08 09 26.1 +0.9**
comp=Z,26nm,0.8s,baz=34,slow=7.3,SNR=47
USRK LR LR 08 33 33.0
comp=Z,554nm,18.4s,baz=29,slow=38
comp=Z,26nm,0.8s

HIA Hailar 52.36 307 IAMs_20 IAMs_20 08 34 54.3
comp=Z,852nm,21.0s

HFS Hagfors 52.41 20 P **P** **08 09 25.4 -0.1**
comp=Z,67nm,0.8s,baz=343,slow=4.6,SNR=141
HFS LR LR 08 32 21.3
comp=Z,610nm,18.8s,baz=345,slow=37
comp=Z,67nm,0.8s

LAWE Loch Awe, Argy 52.52 33 *e*P **P** **08 09 26.7 +0.3**
LAWE IAmb IAmb 08 09 29.9
comp=Z,44nm,0.9s

FINES FINESS Array B 52.53 12 P **P** **08 09 26.1 -0.2**
comp=Z,38nm,0.5s,baz=359,slow=8.1,SNR=469
FINES LR LR 08 33 15.9
comp=Z,414nm,20.8s,baz=352,slow=38
comp=Z,38nm,0.5s

RAF Rauma 52.54 15 *e*P **P** **08 09 25.5 -0.9**
DRUM Mains of Drumt 52.57 31 ⇑ *e*P **P** **08 09 26.9 +0.2**
DRUM IAmb IAmb 08 09 27.7
comp=Z,155nm,0.8s

INVG Invergeldie, C 52.68 32 ⇑ *e*P **P** **08 09 27.8 +0.3**
INVG IAmb IAmb 08 09 28.6
comp=Z,40nm,0.8s

BNX BinXian 52.72 299 ⇓ P **P** **08 09 28.4 +0.4**
BNX pmax pmax
comp=Z,12nm,0.9s
BNX pmax pmax
comp=Z,150nm,5.2s

MDJ Mudanjiang 52.88 297 P **P** **08 09 29.5 +0.3**
MDJ pmax pmax
comp=Z,17nm,0.8s
MDJ pmax pmax
comp=Z,140nm,3.5s

SNART Snartemo 53.12 24 *e*P **P** **08 09 31.6 +0.9**
SNART Snartemo 53.12 24 *i*P **P** **08 09 31.0 +0.3**
PGBU Glenifferbraes 53.14 33 ⇑ *e*P **P** **08 09 31.0 0.0**
PGBU IAmb IAmb 08 09 32.1
comp=Z,66nm,0.8s

PRGR Permogore 53.19 0 ⇑ *i*P **P** **08 09 31.7 +0.5**
PRGR pmax pmax
comp=Z,220nm,1.1s

UPP Uppsala 53.20 17 *e*P **P** **08 09 31.3 +0.1**
HOMB Homborsund 53.40 24 *e*P **P** **08 09 33.5 +0.7**
CLGH Cloghs, Cushen 53.43 34 *e*P **P** **08 09 33.1 0.0**
MEF Metsahovi 53.59 13 *e*P **P** **08 09 33.9 -0.2**
SOR Soroa 53.72 117 P **P** **08 09 35.5 -0.1**
SOR IAmb IAmb 08 09 36.9
comp=Z,42nm,1.0s
SOR Soroa 53.72 117 P **P** **08 09 35.5 -0.1**
SOR pmax pmax
comp=Z,42nm,1.0s

NEWG New Galloway 53.84 33 ⇑ *e*P **P** **08 09 36.0 0.0**
EKA Eskdalemuir Ar 53.88 32 P **P** **08 09 36.9 +0.5**
comp=Z,70nm,0.8s,baz=328,slow=6.8,SNR=250
comp=Z,70nm,0.8s

ESK Eskdalemuir 53.89 32 ⇑ *e*P **P** **08 09 36.9 +0.5**
ESK IAmb IAmb 08 09 37.6
comp=Z,92nm,0.8s
ESK Eskdalemuir 53.89 32 P **P** **08 09 36.6 +0.2**
ESK Eskdalemuir 53.89 32 P **P** **08 09 36.6 +0.2**
ESK pmax pmax
comp=Z,91nm,0.8s

GAL1 Galloway 53.96 34 ⇑ *e*P **P** **08 09 37.3 +0.3**
GAL1 IAmb IAmb 08 09 38.1
comp=Z,82nm,1.0s

MSHR Mys Shultsa 54.03 295 *d* *i*P **P** **08 09 38.9 +1.2**
MSHR pmax pmax
comp=Z,30nm,0.9s

TJOU Tjoern 54.13 22 *i*P **P** **08 09 37.9 -0.2**
TEIG Tepich 54.18 124 IAMs_20 IAMs_20 08 35 52.2
comp=Z,596nm,18.0s

TEIG Tepich 54.18 124 *e*P P 08 09 32.2 -6.7
TEIG Tepich 54.18 124 LR LR 08 35 54.5
comp=Z,4μm,18.9s,baz=147,slow=40

ILTH Belurgan, Co L 54.35 35 *e*P **P** **08 09 39.9 +0.1**
VIKU Vikbolandet 54.40 18 *e*P **P** **08 09 40.8 +0.7**
PUL Pulkovo 54.52 10 ⇑ *i*P **P** **08 09 41.6 +0.7**
PUL pmax pmax
comp=Z,89nm,1.2s

IOMK Kirk Michael 54.55 34 ⇑ *e*P **P** **08 09 41.4 +0.1**
IOMK IAmb IAmb 08 09 44.6
comp=Z,114nm,0.9s

KESW Keswick, Cumbr 54.58 33 ⇑ *e*P **P** **08 09 41.8 +0.3**
KESW IAmb IAmb 08 09 42.6
comp=Z,87nm,1.0s

EDMD Edmundbyers 54.61 32 ⇑ *e*P **P** **08 09 42.0 +0.3**
EDMD IAmb IAmb 08 09 43.0
comp=Z,53nm,1.0s

BORU Boraas 54.69 21 *i*P **P** **08 09 41.5 -0.6**
ONAU Onsala 54.78 22 *i*P **P** **08 09 42.0 -0.9**
CMIG Matias Romero 54.93 132 LR LR 08 34 41.2
comp=Z,660nm,19.3s,baz=300,slow=38

MTSE Matsula 55.01 14 *e*P **P** **08 09 45.0 +0.5**
CN2 Changchun 55.10 300 P **P** **08 09 45.6 +0.2**
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 LR LR
comp=Z,400nm,11.0s
CN2 LR LR
comp=Z,500nm,11.0s
CN2 LR LR
comp=Z,700nm,11.0s

GDLE Glaisdale, N Y 55.24 31 *e*P **P** **08 09 46.5 +0.2**
MUD Monsted U'grnd 55.24 24 *i*P **P** **08 09 46.0 -0.2**
MUD IAmb IAmb 08 09 48.1
comp=Z,96nm,1.1s

FABU Falkenberg 55.29 21 *i*P **P** **08 09 45.2 -1.3**
WPS Cemaes, Angles 55.36 34 ⇑ *e*P **P** **08 09 47.4 +0.3**
WPS IAmb IAmb 08 09 48.9
comp=Z,86nm,1.1s

HPK Haverah Park 55.49 32 *e*P **P** **08 09 48.3 +0.2**
VSU Vasula 55.54 12 *e*P **P** **08 09 48.2 -0.1**
VSU Vasula 55.54 12 *c* *i*P **P** **08 09 48.1 -0.2**
VSU pmax pmax
comp=Z,140nm,0.8s

IWEX Carrickbyrne, 55.76 36 *e*P **P** **08 09 50.0 +0.1**
IWEX IAmb IAmb 08 09 51.1
comp=Z,112nm,1.0s

MOY Mondy 55.78 322 *e*P **P** **08 09 51.7 +1.4**
MOY pmax pmax
comp=Z,128nm,2.0s

SLIT Slitere, Latvi 55.92 15 *e*P **P** **08 09 51.2 +0.1**
DEL Delary 55.97 21 *e*P **P** **08 09 50.8 -0.6**
DEL Delary 55.97 21 *i*P **P** **08 09 50.5 -1.0**
LBWR Ladybower, Pea 55.99 32 ⇑ *e*P **P** **08 09 51.9 +0.2**
LBWR IAmb IAmb 08 09 52.9
comp=Z,92nm,0.9s

LLW Llanuwychllyn 56.06 34 ⇑ *e*P **P** **08 09 52.0 -0.2**
FOEL Foel Wylfa 56.13 33 ⇑ *e*P **P** **08 09 53.1 +0.4**
FOEL IAmb IAmb 08 09 53.8
comp=Z,42nm,0.9s

KIRV Kirov 56.22 358 *de*P **P** **08 09 53.2 0.0**
KIRV Kirov 56.22 358 P **P** **08 09 53.7 +0.5**
comp=Z,68nm,1.1s,baz=21,slow=2.8,SNR=19
KIRV LR LR 08 35 53.7
comp=Z,236nm,21.9s,baz=11,slow=38
comp=Z,68nm,1.1s

BJUU Bjuv 56.23 21 *i*P **P** **08 09 52.5 -0.8**
ZAK Zakamensk 56.34 320 *e*P **P** **08 09 54.6 +0.2**
ZAK *e* 08 10 51.7
ZAK pmax pmax
comp=Z,22nm,1.4s
ZAK pmax pmax
comp=Z,15nm,1.0s

MAJO Matsushiro 56.47 285 P **P** **08 09 56.0 +0.6**
MAJO IAmb IAmb 08 09 60.0
comp=Z,42nm,1.1s
MAJO Matsushiro 56.47 285 IAMs_20 IAMs_20 08 33 32.6
comp=Z,497nm,19.0s
MAJO Matsushiro 56.47 285 *de*P **P** **08 09 56.4 +1.1**
MAJO pmax pmax
comp=Z,46nm,1.2s
MJAR Matsushiro Arr 56.47 285 P **P** **08 09 56.6 +1.3**
comp=Z,14nm,1.0s,baz=20,slow=6.8,SNR=10
MJAR LR LR 08 34 30.3
comp=Z,410nm,21.6s,baz=37,slow=36
comp=Z,14nm,1.0s

COP Copenhagen 56.51 22 *i*P **P** **08 09 55.2 -0.1**
COP IAmb IAmb 08 09 57.0
comp=Z,91nm,0.9s

HLM1 Long Mynd 56.55 33 ⇑ *e*P **P** **08 09 56.1 +0.5**
HLM1 IAmb IAmb 08 09 57.1
comp=Z,103nm,1.1s

CCIG Comitan 56.56 130 P **P** **08 09 56.4 +0.1**
CCIG IAmb IAmb 08 09 57.9
comp=Z,42nm,1.3s

CWF Charnwood Fore 56.70 32 *e*P **P** **08 09 57.0 +0.3**
LUNU Lund 56.72 21 *i*P **P** **08 09 55.9 -0.9**
MCH1 Michaelchurch 57.01 34 ⇑ *e*P **P** **08 09 59.4 +0.5**
MCH1 IAmb IAmb 08 10 00.2
comp=Z,127nm,1.1s

WACR West Acre 57.14 31 ⇑ *e*P **P** **08 10 00.1 +0.3**
WACR IAmb IAmb 08 10 00.8
comp=Z,119nm,1.0s

ZALV Zalesovo Beam 57.24 334 *i*P **P** **08 10 00.9 +0.4**
ZALV pmax pmax
comp=Z,39nm,0.7s
ZALV Zalesovo Beam 57.24 334 P **P** **08 10 00.9 +0.4**
comp=Z,40nm,0.7s,baz=11,slow=7.0,SNR=68
ZALV LR LR 08 38 32.1
comp=Z,178nm,19.0s,baz=16,slow=40
comp=Z,40nm,0.7s

STRD Stroud 57.40 33 *e*P **P** **08 10 02.5 +0.7**
STRD IAmb IAmb 08 10 03.3
comp=Z,188nm,1.2s

BSD Bornholm Skovb 57.44 21 *e*P **P** **08 10 01.9 0.0**
BSD Bornholm Skovb 57.44 21 *i*P **P** **08 10 00.9 -1.0**
BSD IAmb IAmb 08 10 02.8
comp=Z,31nm,0.7s

PBUR Paburge 57.46 16 *e*P **P** **08 10 03.2 +1.2**
SNY Shenyang 57.49 300 ⇓ P P 08 09 52.3 -10
SNY S S 08 17 42.9 -17
SNY pmax pmax
comp=Z,7.0nm,0.3s
SNY pmax pmax
comp=Z,130nm,3.5s
SNY LR LR
comp=N,660nm,11.3s
SNY LR LR
comp=E,390nm,14.7s
SNY LR LR
comp=Z,370nm,11.5s

SVE Sverdlovsk 57.50 350 *de*P **P** **08 10 03.4 +1.1**
SVE *e*S **S** **08 18 03.2 +3.8**
SVE pmax pmax
comp=Z,132nm,1.0s

ULN Ulaanbaatar 57.56 316 P **P** **08 10 04.0 +0.9**
ULN IAmb IAmb 08 10 07.5
comp=Z,52nm,1.4s
ULN Ulaanbaatar 57.56 316 *c* *i*P **P** **08 10 04.0 +0.9**
ULN pmax pmax
comp=Z,57nm,1.7s

HTL Hartland 57.59 35 *e*P **P** **08 10 04.0 +1.0**
VSVD Vaisvydziai 57.72 14 *e*P **P** **08 10 03.5 -0.3**
SONM Songino Array 57.78 316 P **P** **08 10 06.0 +1.4**
comp=Z,14nm,0.8s,baz=10,slow=5.0,SNR=70
SONM LR LR 08 38 16.5
comp=Z,429nm,21.9s,baz=19,slow=40
SONM PKP2bc 08 39 58.1
comp=Z,0.3nm,0.3s,baz=259,slow=1.5,SNR=4.0
comp=Z,14nm,0.8s

ELMS Elmsett, Ipswi 57.81 31 *e*P **P** **08 10 04.6 +0.1**
ARU Arti 58.03 352 P **P** **08 10 06.3 +0.3**
ARU Arti 58.03 352 *d* *i*P **P** **08 10 06.8 +0.7**
ARU 08 11 00.9
ARU 08 12 14.9
ARU S **S** **08 18 09.2 +2.8**
ARU SS **SS** **08 22 00.8 +4.4**
ARU pmax pmax
comp=Z,120nm,0.9s

ARU Arti 58.03 352 P **P** **08 10 07.2 +1.1**
comp=Z,95nm,0.9s,baz=5.0,slow=4.0,SNR=79
ARU LR LR 08 38 55.7
comp=Z,122nm,18.5s,baz=3.5,slow=40
comp=Z,95nm,0.9s

PABE Paberze 58.19 14 P **P** **08 10 07.5 +0.3**
PABE Paberze 58.19 14 *e*P **P** **08 10 07.7 +0.6**
XLT XiLinHaoTe 58.28 307 ⇓ *i*P **P** **08 10 08.8 +0.7**
XLT pmax pmax
comp=Z,18nm,1.0s
XLT pmax pmax
comp=Z,170nm,5.1s
XLT LR LR
comp=Z,810nm,17.0s
XLT LR LR
comp=Z,300nm,8.8s

ISAL Salakas 58.34 13 *e*P **P** **08 10 09.7 +1.5**
KLNR Kaliningrad 58.65 17 *de*P **P** **08 10 10.8 +0.4**
KLNR pmax pmax
comp=Z,457nm,1.3s

ELSH Elham, Standar 58.73 31 *e*P **P** **08 10 11.6 +0.6**
JHJ Hachijo jima 2 58.80 282 LR LR 08 38 04.2
comp=Z,45nm,18.9s,baz=85,slow=39

MOS Moscow 58.94 5 *e*P **P** **08 10 11.3 -1.1**
MOS *e* 08 10 21.0
MOS *e* 08 11 00.2
MOS pmax pmax
comp=Z,105nm,0.8s

NACGM Naroch 59.06 13 *e*P **P** **08 10 13.6 +0.3**
comp=E,2μm,0.8s
MTO3 Montecristo 59.23 127 P **P** **08 10 15.2 +0.1**
MTO3 IAmb IAmb 08 10 16.5
comp=Z,43nm,1.2s

GTBY Guantanamo Bay 59.34 110 IAMs_20 IAMs_20 08 37 12.6
comp=Z,756nm,19.0s

OBN Obninsk 59.52 6 P **P** **08 10 15.8 -0.6**
OBN Obninsk 59.52 6 *c* *i*P **P** **08 10 16.4 0.0**
OBN *e* 08 11 04.0
OBN *e* 08 12 28.7
OBN *e*S **S** **08 18 25.5 -0.2**
OBN *e*SS **SS** **08 22 22.8 +3.0**
OBN pmax pmax
comp=Z,160nm,1.7s
OBN MLR MLR
comp=Z,246nm,5.0s

MNK Minsk 59.56 12 *i*P **P** **08 10 14.9 -1.8**
comp=E,14nm,1.1s
MNK *i*P **P** **08 10 14.9 -1.8**
comp=N,96nm,1.1s
MNK *i*P **P** **08 10 14.9 -1.8**
comp=Z,121nm,1.1s,baz=351
MNK *i*PP **PP** **08 12 26.0 -1.6**
MNK *i*PPP PPP 08 13 45.7
MNK *i*S **S** **08 18 24.5 -1.7**
MNK *i*SS **SS** **08 22 20.7 +0.2**
MNK *i*SSS SSS 08 25 00.1
MNK *i*LQ LQ 08 31 46.6
MNK *i*LR LR 08 35 52.1
MNK *i*LRM MLR 08 37 20.7
comp=Z,399nm,15.3s
MNK *i*LRM MLR 08 37 38.5
comp=E,105nm,17.8s
MNK *i*LRM MLR 08 37 52.5
comp=N,159nm,11.0s
MNK Minsk 59.56 12 *i*P **P** **08 10 14.9 -1.8**
MNK *i* 08 12 25.9

MNK *i* S **S** 08 18 24.5 -1.7
MNK *i* SS **SS** 08 22 20.6 +0.2
MNK pmax pmax
comp=E,14nm,1.1s
MNK pmax pmax
comp=Z,121nm,1.1s
MNK pmax pmax
comp=N,96nm,1.1s
MNK MLR MLR
comp=Z,399nm,15.0s
MNK MLR MLR
comp=E,105nm,18.0s
MNK MLR MLR
comp=N,159nm,11.0s
GKP Gorka Klasztor 59.56 20 *e*P **P** **08 10 17.4 +0.7**
GKP Gorka Klasztor 59.56 20 *e*P **P** **08 10 16.8 +0.1**
SUW Suwalki 59.58 15 *e*P **P** **08 10 16.8 0.0**
SUW Suwalki 59.58 15 P **P** **08 10 16.0 -0.8**
SUW Suwalki 59.58 15 *e*P **P** **08 10 16.8 0.0**
SUW Suwalki 59.58 15 P **P** **08 10 16.0 -0.8**
SUW pmax pmax
comp=Z,128nm,1.0s
KSRS Korea Array 59.71 294 P **P** **08 10 19.1 +1.1**
comp=Z,9.4nm,0.9s,baz=26,slow=6.2,SNR=20
KSRS LR LR 08 36 43.3
comp=Z,338nm,18.4s,baz=50,slow=37
comp=Z,9.4nm,0.9s
RUE Ruedersdorf 59.82 22 *e*P **P** **08 10 19.4 +1.0**
SNET Serv Nac Est T 59.93 128 IAMs_20 IAMs_20 08 40 05.8
comp=Z,606nm,18.0s
BEBN Eben Emael 60.00 28 *d*P **P** **08 10 20.4 +0.7**
BSTI Sart Tilman 60.18 28 *d*P **P** **08 10 22.0 +1.0**
comp=Z,14nm,1.1s
MEM Membach 60.24 28 *d*P **P** **08 10 22.2 +0.7**
comp=Z,66nm,0.8s
TGUH Tegucigalpa,Un 60.25 125 P **P** **08 10 20.8 -1.2**
TGUH IAmb IAmb 08 10 24.0
comp=Z,43nm,0.9s
TGUH IAMs_20 IAMs_20 08 38 06.1
comp=Z,464nm,19.0s
TGUH Tegucigalpa,Un 60.25 125 *e*P **P** **08 10 22.1 +0.1**
BGES Gesves 60.27 29 *d*P **P** **08 10 21.9 +0.2**
comp=Z,24nm,1.1s
BCLA Clavier 60.28 29 *d*P **P** **08 10 22.4 +0.6**
comp=Z,24nm,0.8s
BCLA *d*PcP **PcP** **08 11 07.1 +0.1**
BMRD Maredsous 60.29 29 *d*P **P** **08 10 22.5 +0.8**
comp=Z,44nm,1.0s
BTNL Ternell 60.29 28 *d*P **P** **08 10 22.4 +0.6**
comp=Z,81nm,0.8s
BRVK Borovoye 60.32 343 P **P** **08 10 22.5 +0.5**
BRVK IAmb IAmb 08 10 23.8
comp=Z,38nm,0.9s
BRVK Borovoye 60.32 343*c* *i*P **P** **08 10 22.3 +0.3**
BRVK pmax pmax
comp=Z,74nm,1.7s
BVA0 Borovoye Array 60.34 343 *i* P **P** **08 10 22.4 +0.3**
BVAR Borovoye Array 60.34 343 P **P** **08 10 22.7 +0.6**
comp=Z,30nm,1.0s,baz=20,slow=4.7,SNR=70
BVAR PKPPKP **P'P'df** **08 39 50.0 -1.8**
comp=Z,1.0nm,0.6s,baz=132,slow=2.2,SNR=4.5
BVAR LR LR 08 41 01.4
comp=Z,234nm,18.7s,baz=13,slow=41
comp=Z,30nm,1.0s
DOU Dourbes 60.45 29 *d*P **P** **08 10 23.6 +0.7**
comp=Z,28nm,1.0s
BHOU Houvegnez 60.48 28 *d*P **P** **08 10 23.9 +0.8**
RCHB Rochefort 60.52 29 *d*P **P** **08 10 24.1 +0.7**
comp=Z,45nm,1.1s
JMN Monobe 60.65 287 P **P** **08 10 25.8 +1.2**
JMN IAmb IAmb 08 10 29.7
comp=Z,62nm,1.1s
DGZ Jazzator, Alta 60.77 330*c* *i*P **P** **08 10 26.2 +0.9**
DGZ pmax pmax
comp=Z,56nm,1.7s
CLL Collm 60.83 23 P **P** **08 10 25.3 -0.2**
CLL IAmb IAmb 08 10 27.0
comp=Z,63nm,1.2s
CLL Collm 60.83 23⇑ *i*P **P** **08 10 25.6 +0.2**
comp=Z,59nm,1.3s
CLL *i* x x 08 10 36.3
comp=Z,54nm,1.2s
CLL *e*PPP PPP 08 14 00.0
CLL *e*PS **PnS** **08 18 57.0 +1.8**
CLL *e*SS SS 08 22 48.0 +7.5
CLL *e*SSS SSS 08 25 30.0
CLL Collm 60.83 23⇑ *i*P **P** **08 10 25.6 +0.2**
CLL pmax pmax
comp=Z,59nm,1.3s
CLL MLR MLR
comp=Z,400nm,24.7s
TJN Taejon 60.87 294*d* *i*P **P** **08 10 27.0 +1.1**
WLF Walferdange 61.17 28 P **P** **08 10 28.7 +0.9**
WLF IAmb IAmb 08 10 30.1
comp=Z,58nm,1.0s
WLF Walferdange 61.17 28 *d*P **P** **08 10 28.6 +0.7**
comp=Z,34nm,0.9s
WLF Walferdange 61.17 28 P **P** **08 10 28.7 +0.9**
WLF pmax pmax
comp=Z,58nm,1.0s
WLF MLR MLR
comp=Z,800nm,19.0s
BRG Berggiesshubel 61.40 22 *i* P **P** **08 10 30.3 +0.9**
BRG Amp 08 10 33.2
comp=Z,24nm,1.0s
BRG Berggiesshubel 61.40 22 P P 08 10 40.3 +11
BRG Amp 08 10 41.3
comp=Z,32nm,1.1s
BRG Berggiesshubel 61.40 22 *i* P **P** **08 10 30.2 +0.9**
BRG 08 10 40.2
BRG pmax pmax
comp=Z,24nm,1.0s
BRG pmax pmax
comp=Z,33nm,1.1s
BRG pmax pmax
comp=Z,12nm,1.0s
BRG pmax pmax
comp=Z,11nm,1.0s
KURK Kurchatov 61.42 337 P **P** **08 10 29.6 +0.1**
KURK IAmb IAmb 08 10 31.0
comp=Z,50nm,0.9s
KURK Kurchatov 61.42 337*c* *i*P **P** **08 10 29.5 +0.1**
KURK pmax pmax
comp=Z,58nm,0.9s
BEL Belsk 61.44 17 *e*P **P** **08 10 30.9 +1.3**
KURBB Kurchatov Arra 61.53 337 P **P** **08 10 29.7 -0.5**
KURBB Kurchatov Arra 61.53 337 P **P** **08 10 30.5 +0.3**
comp=Z,31nm,0.8s,baz=14,slow=5.9,SNR=135
KURBB LR LR 08 40 38.6
comp=Z,135nm,18.9s,baz=159,slow=40
comp=Z,31nm,0.8s
HSKC Hora Svate Kat 61.58 23⇑ *i*P **P** **08 10 31.4 +0.8**
BJI Beijing 61.68 305 P **P** **08 10 31.8 +0.4**
BJI pmax pmax
comp=Z,5.0nm,1.0s
BJI LR LR
comp=Z,210nm,14.6s
BJI LR LR
comp=Z,260nm,16.2s
BJI LR LR
comp=Z,310nm,12.7s
SDDR Presa de Saban 61.70 107 P **P** **08 10 32.4 +0.6**
BJT Baijiatuau 61.71 305 IAMs_20 IAMs_20 08 39 02.8
comp=Z,529nm,20.0s
PAPH Port-au-Prince 61.71 108 P **P** **08 10 33.2 +1.4**
RICC Richard 61.74 22⇑ *e*P **P** **08 10 32.6 +0.9**
NKC Novy Kostel 61.78 24⇑ *i*P **P** **08 10 32.9 +1.0**
NKC Novy Kostel 61.78 24⇑ *i*P **P** **08 10 32.9 +1.0**
KSP Ksiaz 61.79 21 *e*P **P** **08 10 32.9 +0.9**
PVCC Panska Ves 61.83 22⇑ *i*P **P** **08 10 33.2 +0.9**
PVCC Panska Ves 61.83 22⇑ *i*P **P** **08 10 33.2 +0.9**
CLF Chambon-Foret 61.92 32 P **P** **08 10 33.0 +0.2**
CHVC Chvalec 62.00 21 *e*P **P** **08 10 34.3 +0.8**
CHVC Chvalec 62.00 21 *e*P **P** **08 10 34.3 +0.8**
OSTC Ostas 62.06 21⇑ *e*P **P** **08 10 34.8 +1.0**
OSTC Ostas 62.06 21 *e*P **P** **08 10 34.8 +1.0**
UPC Upice 62.08 21⇑ *e*P **P** **08 10 34.9 +1.0**
UPC Upice 62.08 21 *e*P **P** **08 10 34.9 +1.0**
GRA1 Grafenberg Arr 62.09 25 P **P** **08 10 34.5 +0.5**
GRA1 IAmb IAmb 08 10 40.0
comp=Z,52nm,1.1s
GRF Grafenberg Arr 62.09 25 P **P** **08 10 34.5 +0.5**
GRF pmax pmax
comp=Z,52nm,1.1s
GRFO Grafenberg 62.09 25 P **P** **08 10 34.5 +0.5**
GRFO IAmb IAmb 08 10 39.9
comp=Z,52nm,1.1s
GRFO Grafenberg 62.09 25 P **P** **08 10 34.5 +0.5**
GRFO pmax pmax
comp=Z,52nm,1.1s
LPSR Galich'ya Gora 62.13 5 *e*P **P** **08 10 33.2 -1.0**
LPSR pmax pmax
comp=Z,90nm,1.0s
DPC Dobruska-Polom 62.27 21⇑ *i*P **P** **08 10 36.4 +1.1**
DPC Dobruska-Polom 62.27 21⇑ *i*P **P** **08 10 36.4 +1.1**
PRU Pruhonice 62.35 22⇑ *i*P **P** **08 10 36.6 +0.8**
PRU Pruhonice 62.35 22⇑ *i*P **P** **08 10 36.6 +0.8**
JNU Nakatsue 62.37 289 P **P** **08 10 36.9 +0.7**
comp=Z,111nm,0.7s,baz=9.5,slow=3.1,SNR=8.0
JNU LR LR 08 39 45.2
comp=Z,246nm,18.2s,baz=30,slow=38
comp=Z,11nm,0.7s
BELG Belogornoye 62.45 359*c* *i*P **P** **08 10 36.7 +0.4**
BELG pmax pmax
comp=Z,32nm,1.0s
BELG Belogornoye 62.45 359 LR LR 08 40 36.1
comp=Z,256nm,21.1s,baz=329,slow=39
GOPC GO Pecny, Ondr 62.47 22⇑ *i*P **P** **08 10 37.5 +0.9**
GOPC GO Pecny, Ondr 62.47 22⇑ *i*P **P** **08 10 37.5 +0.9**
HHC Hu-ho-hao-te 62.50 309 *e*P **P** **08 10 35.3 -1.7**
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,250nm,5.1s
KRLC Kraliky 62.61 21⇑ *i*P **P** **08 10 38.6 +1.0**
KRLC Kraliky 62.61 21⇑ *i*P **P** **08 10 38.6 +1.0**
ECH Echery 62.75 28 P **P** **08 10 38.9 +0.4**
ECH IAMs_20 IAMs_20 08 39 00.3
comp=Z,658nm,19.0s
ECH Echery 62.75 28 P **P** **08 10 38.9 +0.4**
ECH pmax pmax
comp=Z,59nm,1.0s
ECH MLR MLR
comp=Z,700nm,19.0s
ZVC Zvikov 62.83 23⇑ *i*P **P** **08 10 39.9 +0.9**
BFO Black Forest 62.87 27 P **P** **08 10 39.5 +0.3**
BFO IAmb IAmb 08 10 41.2
comp=Z,54nm,1.0s
BFO Black Forest 62.87 27 P **P** **08 10 39.6 +0.3**
BFO pmax pmax
comp=Z,54nm,1.0s
OJC Ojcow 62.89 18 *e*P **P** **08 10 40.0 +0.6**
ACON Acoyapa 62.91 124 P **P** **08 10 39.2 -0.7**
ACON IAmb IAmb 08 10 42.5
comp=Z,33nm,0.8s
ACON Acoyapa 62.91 124 *e*P **P** **08 10 39.8 -0.1**
MORC Moravsky Berou 63.01 20⇑ P **P** **08 10 41.2 +1.0**
MORC Moravsky Berou 63.01 20 P **P** **08 10 40.4 +0.1**
MORC IAmb IAmb 08 10 41.3
comp=Z,17nm,0.7s
MORC Moravsky Berou 63.01 20 *e*P **P** **08 10 40.3 +0.1**
MORC Moravsky Berou 63.01 20 P **P** **08 10 41.2 +1.0**
BRZS Berezniki 63.03 341⇑ *i*P **P** **08 10 40.6 +0.3**
comp=Z,20nm,0.8s,baz=341
BRZS Berezniki 63.03 341*c* *i*P **P** **08 10 40.5 +0.3**
BRZS pmax pmax
comp=Z,21nm,0.8s
KHC Kasperske Hory 63.03 23 P **P** **08 10 40.5 +0.1**
KHC IAmb IAmb 08 10 42.9
comp=Z,54nm,1.1s
KHC Kasperske Hory 63.03 23⇑ *i*P **P** **08 10 41.5 +1.1**
KHC *ex* x 08 20 49.5
KHC Kasperske Hory 63.03 23⇑ *i*P **P** **08 10 41.5 +1.1**
OKC Ostrava-Krasne 63.04 20⇑ *e*P **P** **08 10 40.9 +0.6**
OKC Ostrava-Krasne 63.04 20 *e*P **P** **08 10 40.9 +0.6**
VORR Voronezh 63.07 5 *e*P **P** **08 10 40.5 0.0**
VORR pmax pmax
comp=Z,78nm,0.4s
JCJ Chichijima 63.09 276 LR LR 08 39 22.0
comp=Z,99nm,19.1s,baz=80,slow=37
BTO Baotou 63.22 310 *e*P **P** **08 10 39.5 -2.3**
BTO pP **pP** **08 10 43.9 -0.8**
BTO sP **sP** **08 10 46.5 +0.7**
BTO PP **PP** **08 12 59.3 -1.0**
BTO S **S** **08 19 08.5 -4.8**
BTO pmax pmax
comp=Z,22nm,0.6s
BTO pmax pmax
comp=Z,210nm,3.6s
BTO comp=Z,1μm,13.7s LR LR
BTO comp=Z,970nm,13.4s LR LR
BTO comp=Z,2μm,13.5s LR LR
GERES GERESS Array B 63.33 23 P **P** **08 10 43.2 +0.8**
comp=Z,15nm,0.8s,baz=348,slow=6.0,SNR=48
GERES LR LR 08 38 12.9
comp=Z,252nm,21.1s,baz=342,slow=36
GERES PKPPKP **P'P'df** **08 39 43.5 -3.2**
comp=Z,1.1nm,0.7s,baz=180,slow=0.5,SNR=4.6
comp=Z,15nm,0.8s
VRAC Vranov 63.33 21⇑ P **P** **08 10 43.2 +0.9**
VRAC Vranov 63.33 21 *e*P **P** **08 10 42.9 +0.6**
VRAC Vranov 63.33 21 P **P** **08 10 43.2 +0.9**
VRAC Vranov 63.33 21 LR LR 08 39 47.9
comp=Z,247nm,18.3s,baz=342,slow=38
ZSN Zaisan 63.43 331 *e*P **P** **08 10 43.5 +0.5**
comp=Z,25nm,1.3s,baz=332
ZSN Zaisan 63.43 331 *e*P **P** **08 10 43.5 +0.5**
ZSN pmax pmax
comp=Z,25nm,1.3s
AKASG Malin Array Be 63.44 12 P **P** **08 10 42.8 -0.2**
comp=Z,53nm,0.8s,baz=353,slow=6.5,SNR=117
AKASG LR LR 08 39 42.1
comp=Z,147nm,21.3s,baz=30,slow=37
comp=Z,53nm,0.8s
AKBB Malin Array Si 63.44 12*c* *i*P **P** **08 10 42.6 -0.4**
AKBB pmax pmax
comp=Z,97nm,1.0s
KIEV Kiev 63.45 12⇑ P **P** **08 10 43.1 0.0**
KIEV Kiev 63.45 12 P **P** **08 10 42.3 -0.7**
KIEV Kiev 63.45 12 *i* P **P** **08 10 42.8 -0.2**
SNR=41
KIEV Kiev 63.45 12 P **P** **08 10 43.0 0.0**
CKRC Cesky Krumlov 63.45 23⇑ *i*P **P** **08 10 43.8 +0.7**
CKRC AMS AMS 08 40 40.0
comp=Z,400nm,17.4s
CKRC Cesky Krumlov 63.45 23⇑ *i*P **P** **08 10 43.8 +0.7**
CKRC MLR MLR
comp=Z,400nm,17.4s
MAUC Maruska 63.46 20⇑ *e*P **P** **08 10 44.0 +0.8**
VSR Storozhevoye 63.52 5 *e*P **P** **08 10 43.0 -0.5**
VSR pmax pmax
comp=Z,60nm,1.2s
KRUC Moravsky 63.54 21 *e*P **P** **08 10 43.9 +0.2**
VRH Novokhopyorsk 63.61 3 *e*P **P** **08 10 44.1 +0.1**
VRH pmax pmax
comp=Z,87nm,1.4s
NIE Niedzica 63.74 18 *e*P **P** **08 10 46.4 +1.3**
VORD Divnogorie 63.78 5 *e*P **P** **08 10 43.3 -1.9**
VORD pmax pmax
comp=Z,60nm,1.0s
LVV L'vov 63.80 16 *e*P **P** **08 10 46.1 +0.7**
KWP Kalwaria Pacla 63.84 17 *e*P **P** **08 10 46.0 +0.4**
KWP Kalwaria Pacla 63.84 17 P **P** **08 10 45.3 -0.3**
KWP Kalwaria Pacla 63.84 17 P **P** **08 10 45.3 -0.3**
JAVC Velka Javorina 63.93 20 *e*P **P** **08 10 48.0 +1.7**
AKTO Aktyubinsk 64.04 351 P **P** **08 10 47.3 +0.4**
comp=Z,29nm,0.9s,baz=6.4,slow=5.0,SNR=56
AKTO LR LR 08 41 45.8
comp=Z,88nm,19.2s,baz=8.0,slow=39
comp=Z,29nm,0.9s
RETA Reutte 64.13 26 *i* pP **P** **08 10 48.7 +1.0**
comp=Z,42nm,1.3s,SNR=8.7
DAVA Damuels 64.17 26 *i* pP **P** **08 10 49.1 +1.1**
comp=Z,37nm,1.3s
SMOL Smolenice 64.23 21 *e*P **P** **08 10 49.6 +1.4**
SMOL pmax pmax
comp=Z,23nm,1.3s
MOTA Moosalm 64.33 25 *i* pP **P** **08 10 50.0 +0.9**
comp=Z,16nm,1.0s,SNR=8.5
COVE Coope Vega, Sa 64.34 124 P **P** **08 10 48.5 -0.8**
MODS Modra-Piesok 64.34 21 *e*P **P** **08 10 50.3 +1.3**
MODS Modra-Piesok 64.34 21 *e*P **P** **08 10 50.3 +1.3**
MODS pmax pmax
comp=Z,135nm,1.2s
MOA Molln 64.39 23 *i* pP **P** **08 10 49.7 +0.5**
comp=Z,18nm,1.2s,SNR=8.4
CRVS Cervenica-Dubn 64.40 18 *e*P **P** **08 10 50.1 +0.7**
CRVS pmax pmax
comp=Z,40nm,1.1s
WATA Walderalm 64.42 25 *i* pP **P** **08 10 50.8 +1.1**
comp=Z,53nm,1.1s,SNR=16
BIOA Bad Ischl, Aus 64.44 24 *i* pP **P** **08 10 50.4 +0.8**
comp=Z,16nm,0.5s,SNR=12
VYHS Vyhne 64.45 20 *e*P **P** **08 10 50.2 +0.6**
VYHS Vyhne 64.45 20 *e*P **P** **08 10 50.3 +0.6**
VYHS pmax pmax
comp=Z,40nm,1.2s
KOLS Kolonicke sedl 64.47 17 *e*P **P** **08 10 51.1 +1.3**
KOLS Kolonicke sedl 64.47 17 *e*P **P** **08 10 51.1 +1.3**
KOLS pmax pmax
comp=Z,35nm,1.2s
SQTA Sankt Quirin 64.47 25 *i* pP **P** **08 10 51.2 +1.2**
comp=Z,35nm,1.3s,SNR=14
ZST Bratislava 64.49 21 *e*P **P** **08 10 51.2 +1.3**
ZST Bratislava 64.49 21 *e*P **P** **08 10 51.3 +1.3**
ZST pmax pmax
comp=Z,104nm,1.0s
WTTA Wattenberg 64.50 25 *i* pP **P** **08 10 51.4 +1.1**
comp=Z,101nm,1.3s,SNR=29
LESA Schwarzleotal 64.53 24 *i* pP **P** **08 10 51.2 +0.8**
comp=Z,45nm,1.4s
JTS Las Juntas de 64.55 124 LR LR 08 44 02.6
comp=Z,251nm,18.0s,baz=332,slow=41
SENIN Lac Senin/Sane 64.55 29 P **P** **08 10 51.4 +0.7**
SJG San Juan 64.56 102 P **P** **08 10 49.9 -0.8**
SJG San Juan 64.56 102 IAMs_20 IAMs_20 08 39 24.8
comp=Z,495nm,21.0s
SJG San Juan 64.56 102 P **P** **08 10 49.9 -0.8**
SJG pmax pmax
comp=Z,46nm,0.8s
SJG MLR MLR
comp=Z,500nm,21.0s
SJG San Juan 64.56 102 LR LR 08 39 55.4
comp=Z,346nm,19.3s,baz=344,slow=37
HNS HongShan 64.56 305⇓ P **P** **08 10 51.0 +0.5**
HNS *e*S **S** **08 19 34.4 +4.7**
HNS pmax pmax
comp=Z,32nm,0.9s
HNS LR LR
comp=Z,510nm,15.9s
HNS LR LR
comp=Z,290nm,18.3s
HNS LR LR
comp=Z,440nm,17.2s
MK31 Makanchi Array 64.56 333 *i* P **P** **08 10 49.0 -1.5**
MKAR Makanchi Array 64.56 333 P **P** **08 10 50.2 -0.3**
comp=Z,9.3nm,0.6s,baz=36,slow=5.9,SNR=95
MKAR PKPPKP **P'P'df** **08 39 39.6 -4.9**
comp=Z,1.8nm,0.9s,baz=250,slow=3.6,SNR=7.5
MKAR LR LR 08 44 35.1
comp=Z,166nm,18.5s,baz=17,slow=41
comp=Z,9.3nm,0.6s
CONA Conrad Observa 64.56 22 *i* pP **P** **08 10 51.5 +1.0**
comp=Z,58nm,1.3s,SNR=26
FETA Feichten 64.58 26 *i* pP **P** **08 10 51.7 +1.0**
comp=Z,38nm,1.0s,SNR=17
MAKZ Makanchi 64.61 333 P **P** **08 10 50.4 -0.4**
MAKZ Makanchi 64.61 333 P **P** **08 10 50.6 -0.1**
DAVOX Davos/Dischmat 64.65 27 LR LR 08 40 12.0
comp=Z,188nm,18.7s,baz=276,slow=37
KECS Kecovo 64.69 18 *e*P **P** **08 10 52.4 +1.2**
KECS Kecovo 64.69 18 *e*P **P** **08 10 52.4 +1.2**
KECS pmax pmax
comp=Z,75nm,1.1s
TUE Stuetta 64.85 27 P **P** **08 10 53.5 +1.0**
TUE IAmb IAmb 08 10 55.2
comp=Z,47nm,0.9s
TUE IAMs_20 IAMs_20 08 39 31.7
comp=Z,491nm,21.0s
RONA Rosalia, Austr 64.85 22 *i* pP **P** **08 10 53.6 +1.2**
comp=Z,57nm,1.2s,SNR=19
FUORN Ofenpass-Fuorn 64.88 26 P **P** **08 10 53.7 +0.9**
FUORN IAmb IAmb 08 10 55.5
comp=Z,65nm,1.2s
PGAV Gavieira, Arco 64.97 42 *e*P **P** **08 10 52.9 -0.4**
comp=Z,82nm,1.4s
PGAV Gavieira, Arco 64.97 42 *e*LR LR 08 33 43.1
comp=Z,361nm,20.0s
KBA Koelnbreinsper 64.98 24 *e*pP **P** **08 10 54.8 +1.4**
comp=Z,70nm,1.2s
SSB Saint Sauveur 65.02 31 P **P** **08 10 53.8 +0.3**
SSB IAmb IAmb 08 10 54.9
comp=Z,17nm,0.8s
SSB Saint Sauveur 65.02 31 P **P** **08 10 53.8 +0.3**
SSB pmax pmax
comp=Z,17nm,0.8s
SSB MLR MLR
comp=Z,900nm,18.0s
SRO Srobarova 65.04 20 *e*P **P** **08 10 55.0 +1.5**
SRO Srobarova 65.04 20 *e*P **P** **08 10 55.0 +1.5**
SRO pmax pmax
comp=Z,50nm,1.7s
AB31 Akbulak array 65.08 350 *i* P **P** **08 10 53.8 0.0**
ABKAR Akbulak array 65.08 350 P **P** **08 10 53.4 -0.4**
ABTA Abfaltersbach 65.16 25 *i* pP **P** **08 10 55.2 +0.8**
comp=Z,21nm,1.0s,SNR=10.0
PSZ Piszkesteto 65.16 19⇓ P **P** **08 10 55.8 +1.4**
PSZ Piszkesteto 65.16 19 P **P** **08 10 55.2 +0.8**
PSZ Piszkesteto 65.16 19 P **P** **08 10 55.2 +0.8**
PSZ pmax pmax
comp=Z,83nm,1.0s
ARSA Arzberg 65.17 22 *i* pP **P** **08 10 55.6 +1.2**
comp=Z,32nm,1.1s,SNR=13
MYKA Terra Mystica 65.47 24 *i* pP **P** **08 10 57.0 +0.6**
comp=Z,19nm,0.8s,SNR=9.7
CLUD Cludinico 65.50 24 P **P** **08 10 56.4 -0.2**
CLUD IAmb IAmb 08 10 58.2
comp=Z,38nm,1.0s
PBRG Braganca 65.54 41 *e*P **P** **08 10 57.9 +1.0**
comp=Z,52nm,1.5s
SOKA Soboth 65.65 23 *i* pP **P** **08 10 58.4 +0.8**
comp=Z,19nm,1.0s,SNR=9.6
POLO Lamas de Olo 65.65 42 *e*P **P** **08 10 58.6 +0.9**
comp=Z,26nm,1.2s
BNI Bardonecchia 65.68 29 IAMs_20 IAMs_20 08 40 05.8
comp=Z,546nm,18.0s
OBKA Obir 65.73 23 *e*pP **P** **08 10 58.8 +0.7**
comp=Z,109nm,1.0s
OBKA Obir 65.73 23⇑ *i*P **P** **08 10 59.0 +0.8**
PVRL Vila Real 65.76 42 *e*P **P** **08 10 59.5 +1.1**
comp=Z,71nm,1.5s
ROBS Robic 65.82 24 *i* P **P** **08 10 58.4 -0.2**
BMR Baia Mare 65.86 16⇑ P **P** **08 10 59.9 +1.0**
BMR Baia Mare 65.86 16 P **P** **08 10 59.8 +1.0**
SMRT St. Maarten 65.87 100 IAMs_20 IAMs_20 08 41 20.5
comp=Z,412nm,19.0s
SALO Salr 65.89 26 P **P** **08 10 58.9 -0.2**
SORM Soroca 65.91 13⇓ P **P** **08 10 59.0 -0.2**
SORM Soroca 65.91 13 P **P** **08 10 58.9 -0.2**
MOZS Mozjanca 65.92 23 *i* P **P** **08 10 59.9 +0.6**
MVO Moncorvo 66.06 41 *e*P **P** **08 11 01.2 +0.9**
comp=Z,52nm,0.9s
MVO Moncorvo 66.06 41 *e*LR LR 08 32 51.3
comp=Z,439nm,18.0s
KOGS Kog 66.07 22 *i* P **P** **08 11 00.7 +0.5**
BURAR Bucovina Array 66.11 15⇓ P **P** **08 11 01.3 +0.7**
BURAR Bucovina Array 66.11 15 P **P** **08 11 01.3 +0.7**
PVIS Viseu 66.23 42 *e*P **P** **08 11 02.2 +0.8**
WMQ Urumqi 66.30 328 *e*P **P** **08 11 03.1 +1.3**
WMQ pP sP 08 11 05.9 +0.1
WMQ sP pP 08 11 12.4 +7.8
WMQ pmax pmax
comp=Z,44nm,1.1s
WMQ pmax pmax
comp=Z,380nm,4.3s
WMQ LR LR
comp=Z,430nm,17.1s
WMQ LR LR
comp=Z,580nm,21.9s
WMQ LR LR
comp=Z,250nm,29.3s
TEOL Teolo 66.35 26 P **P** **08 11 01.9 -0.1**
CEY Cerknica 66.46 23⇑ *i*P **P** **08 11 02.6 -0.2**
CRES Cresnjev 66.55 23⇑ *i*P **P** **08 11 03.0 -0.3**
COI Coimbra 66.56 43 *e*P **P** **08 11 04.5 +1.1**
comp=Z,128nm,1.6s
MTE Manteigas 66.62 42 *e*P **P** **08 11 04.8 +0.9**
comp=Z,71nm,1.1s
MTE Manteigas 66.62 42 *e*LR LR 08 34 49.6
comp=Z,256nm,18.0s
MTE Manteigas 66.62 42 P **P** **08 11 04.3 +0.4**
MORH Mrgy, Hungar 66.65 20⇑ P **P** **08 11 04.7 +0.8**

PCAS Casmilo, Conde 66.68 43 *e*P P 08 11 05.1 +0.9
comp=Z,191nm,1.3s
MARR Marisel-Cluj 66.79 17 ⇑P P 08 11 05.7 +0.8
CJR Cluj-Napoca 66.81 16 ⇓P P 08 11 05.8 +0.7
CJR Cluj-Napoca 66.81 16 P P 08 11 05.7 +0.7
BOJS Bojanci 66.83 23 *i*P P 08 11 05.2 +0.2
TDK Taldyqorghan 66.99 336 *e*P P 08 11 06.5 +0.3
comp=Z,29nm,1.0s,baz=336
TDK Taldyqorghan 66.99 336 *e*P P 08 11 06.5 +0.3
TDK pmax pmax
comp=Z,29nm,1.0s
PSBE So Bento 67.09 43 *e*P P 08 11 07.8 +0.9
comp=Z,70nm,1.5s
MILM Milestii Mici 67.16 13 ⇑*i*P P 08 11 06.5 -0.6
comp=Z,150nm,1.2s
MILM Milestii Mici 67.16 13 ⇑P P 08 11 06.8 -0.3
MILM Milestii Mici 67.16 13 *c i*P P 08 11 06.5 -0.6
MILM pmax pmax
comp=Z,150nm,1.2s
PCBR Castelo Branco 67.16 42 *e*P P 08 11 07.8 +0.5
comp=Z,65nm,1.4s
TESR Tescani 67.35 14 ⇑P P 08 11 08.6 +0.2
GTA Gaotai 67.40 317 ⇑P P 08 11 09.6 +0.7
GTA sP sP 08 11 18.0 +5.1
GTA S **S** 08 20 02.8 -1.8
GTA pmax pmax
comp=Z,24nm,1.0s
GTA LR LR
comp=Z,350nm,16.0s
GTA LR LR
comp=Z,170nm,16.0s
GTA LR LR
comp=Z,470nm,14.2s
PMAFR **Mafra** 67.47 44 *e*P P 08 11 10.1 +0.8
comp=Z,199nm,1.3s
SURR Surduc 67.58 18 ⇓P P 08 11 10.7 +0.9
BZS Buzias 67.65 18 ⇓P P 08 11 10.8 +0.6
BZS Buzias 67.65 18 P P 08 11 10.8 +0.6
BTLS Baital 67.66 339 ⇑*i*P P 08 11 10.6 +0.3
baz=339
BTLS Baital 67.66 339 *c i*P P 08 11 10.6 +0.3
PMTG Montargil 67.67 43 *e*P P 08 11 10.5 0.0
comp=Z,73nm,1.3s
OZUR 67.67 15 ⇓P P 08 11 11.1 +0.7
TURR Turia 67.74 15 ⇑P P 08 11 11.7 +0.8
DOPR Dopca 67.75 15 ⇓P P 08 11 11.8 +0.9
FRGS Fruska Gora 67.85 20 ⇓P P 08 11 12.4 +0.8
FRGS Fruska Gora 67.85 20 ⇑*i*P P 08 11 11.7 +0.1
BLY Banja Luka 67.87 22 *e*P P 08 11 11.8 +0.1
LYN LuoYang 67.90 305 ⇓P P 08 11 12.4 +0.4
LYN pP sP 08 11 17.1 +1.1
LYN PP **PP** 08 13 45.5 +4.3
LYN pmax pmax
comp=Z,64nm,0.8s
LYN pmax pmax
comp=Z,270nm,5.1s
LYN LR LR
comp=Z,950nm,16.1s
LYN LR LR
comp=Z,590nm,12.7s
LYN LR LR
comp=Z,740nm,16.6s
NJ2 Nanjing 67.90 299 *e*P P 08 11 11.1 -0.9
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,330nm,5.3s
NJ2 LR LR
comp=Z,500nm,16.2s
NJ2 LR LR
comp=Z,620nm,19.6s
NJ2 LR LR
comp=Z,530nm,18.6s
COVR Voineasa-Covas 67.96 15 ⇓P P 08 11 13.9 +1.6
VRI Vrincioaia 68.00 14 ⇑P P 08 11 13.3 +0.7
VRI Vrincioaia 68.00 14 P P 08 11 13.2 +0.7
PLOR Plostina 68.00 14 ⇑P P 08 11 13.5 +0.9
PLOR Plostina 68.00 14 P P 08 11 13.4 +0.9
GZR Gura Zlata 68.02 17 ⇑P P 08 11 13.6 +0.9
GZR Gura Zlata 68.02 17 P P 08 11 13.6 +0.9
A050A Klekovaca 68.03 22 ⇑*i*P P 08 11 12.7 -0.1
PESTR Estremoz 68.04 43 *e*P P 08 11 13.3 +0.5
comp=Z,37nm,1.2s
PESTR Estremoz 68.04 43 P P 08 11 12.4 -0.4
PESTR IAmb IAmb 08 11 13.7
comp=Z,27nm,0.7s
LOT Lotru 68.08 17 ⇓P P 08 11 13.4 +0.2
MGRS Mrkonjic Grad 68.18 22 ⇑*i*P P 08 11 14.5 +0.9
EVO Evora 68.23 43 *e*P P 08 11 14.6 +0.6
comp=Z,84nm,1.4s
VOIR 68.24 16 ⇑P P 08 11 14.7 +0.6
VOIR 68.24 16 P P 08 11 14.7 +0.6
ARR Arges 68.26 16 ⇑P P 08 11 15.5 +1.3
ESDC Sonseca Array 68.28 39 P P 08 11 15.5 +1.1
comp=Z,41nm,0.9s,baz=337,slow=6.2,SNR=224
ESDC PKPPKP **P'P'df** 08 39 32.4 -5.1
comp=Z,1.7nm,0.8s,baz=171,slow=2.4,SNR=10
ESDC LR LR 08 40 45.2
comp=Z,293nm,18.4s,baz=332,slow=36
comp=Z,41nm,0.9s
MLR Muntele Rosu 68.29 15 ⇓P P 08 11 16.8 +2.3
MLR Muntele Rosu 68.29 15 P P 08 11 16.7 +2.3
MLR Muntele Rosu 68.29 15 LR LR 08 42 49.3
comp=Z,279nm,18.6s,baz=1.0,slow=38
PAB San Pablo 68.29 40 IAMs_20 IAMs_20 08 38 56.1
comp=Z,412nm,19.0s
PAB San Pablo 68.29 40 P P 08 11 15.8 +1.3
CHKK Chushkaly 68.35 336 *e*P P 08 11 14.3 -0.4
baz=336
CHKK Chushkaly 68.35 336 *e*P P 08 11 14.3 -0.4
TEKS Tekeris 68.41 20 *e*P P 08 11 15.3 +0.2
KUU Kurty 68.42 337 *e*P P 08 11 14.8 -0.4
comp=Z,33nm,1.2s,baz=337
KUU Kurty 68.42 337 *e*P P 08 11 14.8 -0.4
KUU pmax pmax
comp=Z,33nm,1.2s
PDGK Podgornoye 68.42 334 P P 08 11 15.1 -0.2
KPKS Kokpek 68.43 335 ⇑*i*P P 08 11 15.6 +0.2
baz=335
KPKS Kokpek 68.43 335 *c i*P P 08 11 15.6 +0.2
NEGRR **Negrea** 68.44 14 ⇓P P 08 11 15.9 +0.7
PNCL Nicolau / Gran 68.47 44 *e*P P 08 11 16.3 +0.8
comp=Z,88nm,1.4s
HERR Herculane 68.47 18 ⇓P P 08 11 16.0 +0.6
MDVR Moldovita 68.48 18 ⇓P P 08 11 16.3 +0.7
SHLS Shalkode 68.59 334 *e*P P 08 11 16.9 +0.5
comp=Z,37nm,1.2s,baz=334
SHLS Shalkode 68.59 334 *e*P P 08 11 16.9 +0.5
SHLS pmax pmax
comp=Z,37nm,1.2s
UZB Uzynbulak 68.68 335 *e*P P 08 11 17.2 +0.2
baz=335
UZB Uzynbulak 68.68 335 *e*P P 08 11 17.2 +0.2
PBEJ Beja 68.74 43 *e*P P 08 11 17.9 +0.7
comp=Z,61nm,1.3s
ZHN Zhinishke 68.77 335 *e*P P 08 11 17.9 +0.4
baz=335
ZHN Zhinishke 68.77 335 *e*P P 08 11 17.9 +0.4
HAPS Han Pijesak,BI 68.78 20 ⇑*i*P P 08 11 17.9 +0.4
MESJ Messejana 68.81 43 *e*P P 08 11 18.2 +0.5
comp=Z,52nm,1.4s
MESJ Messejana 68.81 43 *e*P P 08 11 18.2 +0.5
MESJ IAmb IAmb 08 11 19.7
comp=Z,74nm,1.4s
CFR Carcaliu 68.82 13 ⇑P P 08 11 18.1 +0.5
CFR Carcaliu 68.82 13 P P 08 11 18.1 +0.5
PBAR Barrancos 68.84 42 *e*P P 08 11 18.6 +0.8
comp=Z,67nm,1.5s
FDMO Fiordimonte 68.86 25 P P 08 11 18.0 +0.1
FDMO IAmb IAmb 08 11 19.6
comp=Z,43nm,0.9s
SATY Saty 68.88 335 ⇑*i*P P 08 11 18.8 +0.6
baz=335
SATY Saty 68.88 335 *c i*P P 08 11 18.8 +0.6
DIVS Divibare 68.92 20 ⇑*i*P P 08 11 18.6 +0.2
PTEO Sao Teotonio 68.94 44 *e*P P 08 11 19.1 +0.6
comp=Z,78nm,1.3s
JOW Kunigami 68.98 288 LR LR 08 44 39.8
comp=Z,160nm,19.7s,baz=132,slow=39
MDOK Medeo 69.01 336 *e*P P 08 11 19.4 +0.3
baz=336
MDOK Medeo 69.01 336 *e*P P 08 11 19.3 +0.3
PCVE Castro Verde 69.06 43 *e*P P 08 11 19.8 +0.6
comp=Z,34nm,1.6s
SGDS Sogindy 69.12 338 *e*P P 08 11 20.4 +0.7
comp=Z,33nm,1.3s,baz=338
SGDS Sogindy 69.12 338 *e*P P 08 11 20.3 +0.7
SGDS pmax pmax
comp=Z,33nm,1.3s
TNSS Tian-Shan 69.15 336 *e*P P 08 11 20.5 +0.3
baz=336
TNSS Tian-Shan 69.15 336 *e*P P 08 11 20.5 +0.3
TPGR Topolog 69.17 13 ⇓P P 08 11 20.6 +0.8
MORF Marmelete 69.19 44 *e*P P 08 11 20.6 +0.5
comp=Z,139nm,1.2s
MORF Marmelete 69.19 44 P P 08 11 20.0 -0.1
MORF Marmelete 69.19 44 *e*P P 08 11 20.5 +0.5
MORF IAmb IAmb 08 11 21.6
comp=Z,101nm,1.0s
MORF Marmelete 69.19 44 P P 08 11 20.0 -0.1
MORF pmax pmax
comp=Z,108nm,1.0s
HARR Harsova 69.28 14 ⇑P P 08 11 21.0 +0.5
HARR Harsova 69.28 14 P P 08 11 20.9 +0.5
LZH Lanzhou 69.29 313 ⇑P P 08 11 21.8 +0.9
LZH sP sP 08 11 28.8 +3.9
LZH S **S** 08 20 29.9 +2.6
LZH pmax pmax
comp=Z,120nm,1.0s
LZH pmax pmax
comp=Z,350nm,4.1s
LZH LR LR
comp=Z,400nm,13.9s
LZH LR LR
comp=Z,620nm,14.3s
LZH LR LR
comp=Z,600nm,15.8s
PFVI Vila Bisbo 69.30 44 *e*P P 08 11 21.2 +0.5
comp=Z,161nm,1.6s
PFVI Vila Bisbo 69.30 44 P P 08 11 21.5 +0.8
RUDO Rudo 69.30 20 ⇑*i*P P 08 11 20.9 +0.3
USP Ospenovka 69.33 338 P P 08 11 21.9 +1.0
SNR=23
PVAQ Vaqueiros 69.36 43 *e*P P 08 11 21.2 +0.1
comp=Z,15nm,1.4s
PVAQ Vaqueiros 69.36 43 P P 08 11 21.5 +0.4
PBDV Barranco-do-Ve 69.45 43 *e*P P 08 11 22.9 +1.2
comp=Z,159nm,1.1s
TKM2 Tokmak 2 69.49 337 P P 08 11 22.9 +0.9
SNR=38
TKM2 Tokmak 2 69.49 337 *i*P P 08 11 22.5 +0.4
TKM2 pmax pmax
comp=Z,61nm,1.1s
SIM Simferopol' 69.53 9 *e*P P 08 11 23.3 +1.3
SIM pmax pmax
comp=Z,20nm,0.8s
CHMS Chumysh 69.55 338 P P 08 11 23.2 +1.0
SNR=18
XAN Xi'an 69.56 308 ⇑P P 08 11 21.8 -0.6
XAN pP sP 08 11 26.5 +0.1
XAN pmax pmax
comp=Z,23nm,1.0s
XAN LR LR
comp=Z,2μm,16.5s
XAN LR LR
comp=Z,930nm,16.8s
XAN LR LR
comp=Z,2μm,18.1s
TIRR Tirgusor 69.56 13 ⇓P P 08 11 22.8 +0.6
TIRR Tirgusor 69.56 13 P P 08 11 22.0 -0.2
TIRR Tirgusor 69.56 13 P P 08 11 22.8 +0.6
BOVS Bovan 69.61 18 ⇑P P 08 11 22.8 +0.3
SJES Sjenica 69.74 20 ⇑*i*P P 08 11 24.4 +0.9
BLKB Belogradchik 69.75 18 ⇓P P 08 11 23.4 -0.1
APAC Apartado, Choc 69.76 117 *e*P P 08 11 25.2 +1.4
GOF Gofitskoye 69.78 2 *ce*P P 08 11 24.5 +1.0
STON Ston 69.78 22 ⇑*i*P P 08 11 23.2 -0.3
KBK Karagaybulak 69.85 338 P P 08 11 25.5 +1.2
SNR=19
ANN Anapa 69.86 6 *e*P P 08 11 19.3 -4.7
ANN *e**PP pP 08 11 22.6 -4.2
ANN *e*S **S** 08 20 25.9 -7.5
ANN pmax pmax
comp=Z,44nm,0.9s
AAK Ala-Archa 69.94 338 P P 08 11 25.9 +1.1
SNR=24
AAK Ala-Archa 69.94 338 P P 08 11 25.4 +0.6
AAK IAmb IAmb 08 11 27.0
comp=Z,40nm,1.1s
AAK Ala-Archa 69.94 338 *i*P P 08 11 25.6 +0.9
SNR=30
AAK Ala-Archa 69.94 338 *c i*P P 08 11 25.7 +0.9
AAK pmax pmax
comp=Z,48nm,1.1s
AAK Ala-Archa 69.94 338 P P 08 11 25.8 +1.0
comp=Z,26nm,1.0s,baz=69,slow=0.8,SNR=36
AAK LR LR 08 45 20.4
comp=Z,144nm,19.7s,baz=7.5,slow=39
comp=Z,26nm,1.0s
EKS2 Erkin-Say 70.03 338 P P 08 11 26.4 +1.1
SNR=58
KK31 Karatay Array 70.07 341 P P 08 11 25.3 -0.1
KKAR Karatay Array 70.07 341 P P 08 11 25.4 0.0
KKAR IAmb IAmb 08 11 27.0
comp=Z,31nm,0.9s
KKAR Karatay Array 70.07 341 P P 08 11 25.4 0.0
KKAR pmax pmax
comp=Z,31nm,1.0s
DZA Taraz 70.16 340 *e*P P 08 11 26.8 +0.7
comp=Z,24nm,1.1s,baz=340
DZA Taraz 70.16 340 *e*P P 08 11 26.7 +0.7
DZA pmax pmax
comp=Z,24nm,1.1s
PLVB Pleven 70.22 16 ⇓P P 08 11 26.0 -0.2
RAZG Razgrad 70.25 15 ⇓P P 08 11 26.2 -0.3
URUEC San Jos de Ur 70.29 116 *e*P P 08 11 27.3 +0.3
UCH Uchtor 70.34 338 P P 08 11 28.2 +0.6
SNR=11
KZA Kyzart 70.37 337 P P 08 11 28.9 +1.1
SNR=8.2
PDG Podgorica 70.45 21 ⇑P P 08 11 28.2 +0.6
PDG Podgorica 70.45 21 P P 08 11 27.4 -0.2
PDG Podgorica 70.45 21 ⇑*i*P P 08 11 27.7 0.0
LOZB Loznitsa 70.45 15 ⇑P P 08 11 27.7 0.0
AML Almayashu 70.56 338 P P 08 11 30.1 +1.3
SNR=52
AML Almayashu 70.56 338 *i*P P 08 11 29.0 +0.1
AML pmax pmax
comp=Z,13nm,1.1s
PMOZ Porto Moniz, M 70.66 53 *e*LR LR 08 36 40.8
comp=Z,246nm,16.0s
DRME Dracevica, Mon 70.67 21 *e*P P 08 11 29.1 0.0
OCAC Ocana 70.68 114 ⇑*e*P P 08 11 29.7 +0.1
DBBC Dabeiba 70.71 117 *e*P P 08 11 29.8 +0.1
PMPST Porto Santo, M 70.71 52 *e*P P 08 11 30.2 +0.7
comp=Z,179nm,1.2s
ZARC Zaragoza, Cauc 70.78 115 *e*P P 08 11 29.8 -0.2
PMAR Madeira 70.85 53 *e*P P 08 11 32.4 +1.9
comp=Z,112nm,1.7s
KIV Kislovodsk 70.87 2 ⇓P P 08 11 30.9 +0.5
KIV Kislovodsk 70.87 2 P P 08 11 30.8 +0.4
KIV IAmb IAmb 08 11 32.2
comp=Z,56nm,0.9s
KIV Kislovodsk 70.87 2 *i*P P 08 11 31.2 +0.7
SNR=6.6
KIV Kislovodsk 70.87 2 *e*P P 08 11 31.1 +0.7
KIV pmax pmax
comp=Z,58nm,1.1s
KIV MLR MLR
comp=Z,149nm,17.0s
KVAR Kislovodsk Arr 70.87 2 LR LR 08 46 15.8
comp=Z,256nm,20.9s,baz=24,slow=39
WHN Wuhan 70.89 302 P P 08 11 30.8 +0.3
WHN pmax pmax
comp=Z,50nm,0.9s
WHN LR LR
comp=Z,950nm,20.8s
CHM Chimkent 70.96 342 *e*P P 08 11 31.4 +0.6
baz=342
CHM Chimkent 70.96 342 *e*P P 08 11 31.4 +0.6
KBZ Khabaz 71.10 2 *de*P P 08 11 31.8 +0.2
KBZ pmax pmax
comp=Z,42nm,0.9s
KBZ Khabaz 71.10 2 P P 08 11 32.7 +1.1
comp=Z,33nm,0.8s,baz=342,slow=5.9,SNR=58
KBZ LR LR 08 47 19.9
comp=Z,188nm,19.2s,baz=2.0,slow=40
comp=Z,33nm,0.8s
SDV Santo Domingo 71.12 111 P P 08 11 32.5 +0.2
SDV IAmb IAmb 08 11 33.9
comp=Z,36nm,0.8s
SDV Santo Domingo 71.12 111 *e*P P 08 11 33.1 +0.7
SDV Santo Domingo 71.12 111 *e*P P 08 11 32.5 +0.2
SOC Sochi 71.17 5 *e*P P 08 11 31.5 -0.5
SOC *e* 08 14 08.4
SOC *e*PPP PPP 08 15 50.9
SOC *e*S **S** 08 20 48.4 -0.3
SOC pmax pmax
comp=Z,26nm,0.7s
SOC MLR MLR
comp=Z,243nm,18.0s
SKO Skopje 71.21 19 *i*P P 08 11 33.6 +1.3
NCK Nalchik 71.35 2 ⇓*e*P P 08 11 34.9 +1.7
NCK pmax pmax
comp=Z,149nm,1.4s
STIP Stip 71.58 18 *i*P P 08 11 34.9 +0.3
PAMC Pamplona, Colo 71.74 113 *e*P P 08 11 35.8 -0.6
GOMU GeErMu 71.78 320 P P 08 11 37.3 +1.0
GOMU pP sP 08 11 42.1 +1.8
GOMU sP pP 08 11 45.9 +6.6
GOMU S **S** 08 20 57.1 +0.3
GOMU pmax pmax
comp=Z,31nm,1.0s
GOMU LR LR
comp=Z,400nm,12.8s
GOMU LR LR
comp=Z,230nm,13.2s
GOMU LR LR
comp=Z,560nm,13.6s
PTBC PUERTO BERRIO, 71.81 115 ⇑*e*P P 08 11 35.5 -0.8
CBOC Ciudad Bolivar 71.85 117 *e*P P 08 11 36.6 -0.1
MAK Makhachkala 71.89 359 *e*P P 08 11 33.4 -3.0
MAK *e* 08 14 15.3
MAK *e*PPP PPP 08 15 53.9
MAK *e*S **S** 08 20 51.8 -5.2
MAK *e*SS **SS** 08 25 31.9 -0.1
MAK *e*SSS SSS 08 28 43.8
MAK pmax pmax
comp=Z,287nm,1.2s
OHR Ohrid 71.96 20 *i*P P 08 11 38.1 +1.2
VAY Valandovo 72.00 18 *i*P P 08 11 37.9 +0.8
ZEI Tsey 72.06 2 *e*P P 08 11 37.4 -0.3
ZEI pmax pmax
comp=Z,21nm,1.1s
BAUV El Baul 72.09 108 P P 08 11 37.2 -0.7
BARC Barichara 72.24 114 *e*P P 08 11 39.1 0.0
ONI Oni 72.25 2 P P 08 11 39.2 +0.5
ONI Oni 72.25 2 P P 08 11 39.2 +0.5
ONI pmax pmax
comp=Z,19nm,1.0s
CUC Castrocucco 72.29 24 P P 08 11 38.8 -0.1
CUC IAmb IAmb 08 11 39.7
comp=Z,49nm,0.8s
PCRV Puerto La Cruz 72.33 105 LR LR 08 42 32.9
comp=Z,171nm,22.0s,slow=35
PALE Palemas 72.47 41 P P 08 11 41.0 +0.9
PLMC San Jos del P 72.63 118 *e*P P 08 11 40.9 -0.3
GUY2C **Guyana, Caldas** 72.68 117 *e*P P 08 11 42.1 +0.1
KSH Kashi 72.74 336 P P 08 11 45.1 +3.4
KSH PcP **PcP** 08 12 00.8 +1.8
KSH pmax pmax
comp=Z,43nm,1.1s
SPBC San Pablo de B 72.77 115 *e*P P 08 11 41.9 -0.2
ENH Enshi 72.82 306 IAMs_20 IAMs_20 08 47 20.8
comp=Z,563nm,21.0s
TAMC Tame, Arauca 72.92 113 *e*P P 08 11 42.9 0.0
BTK Batken 73.02 340 P P 08 11 43.6 +0.3
BTK IAmb IAmb 08 11 45.3
comp=Z,61nm,1.1s
BTK Batken 73.02 340 P P 08 11 43.6 +0.3
BTK pmax pmax
comp=Z,61nm,1.1s
TIP Timpagrande 73.24 23 ⇑P P 08 11 45.2 +0.7
ZHG ZHG 73.37 44 P P 08 11 46.1 +0.7
ROSC El Rosal 73.42 116 P P 08 11 47.3 +1.0
comp=Z,60nm,1.2s,baz=8.8,slow=8.6,SNR=18
ROSC LR LR 08 45 38.8
comp=Z,245nm,19.5s,baz=33,slow=37
comp=Z,60nm,1.2s
YOTC Yotoco, Valle 73.46 118 *e*P P 08 11 46.3 +0.1
JBK JBK 73.67 40 P P 08 11 48.0 +0.6
MDUB Mudurnu 73.77 12 P P 08 11 48.3 +0.6
SRHM Skhour des Reh 73.91 45 P P 08 11 50.0 +1.3
ORTC Ortega, Tolima 73.94 117 *e*P P 08 11 48.7 -0.2
GUMO Guam 74.00 268 LR LR 08 41 48.3
comp=Z,174nm,21.8s,baz=92,slow=34
JAMC Jamundi, Valle 74.05 119 *e*P P 08 11 50.8 +1.0
CD2 Chengdu 74.11 311 P P 08 11 49.0 -0.8
CD2 pP pP 08 11 51.3 -1.5
CD2 sP sP 08 11 52.8 -1.0
CD2 S **S** 08 21 21.6 -1.1
CD2 pmax pmax
comp=Z,40nm,0.8s
CD2 LR LR
comp=Z,910nm,14.3s
CD2 LR LR
comp=Z,680nm,9.9s
CD2 LR LR
comp=Z,870nm,16.3s
TAOE Nuku Hiva Isla 74.27 186 *e*LR LR 08 34 30.9
comp=Z,505nm,26.9s
VILC Villavicencio, 74.33 116 *e*P P 08 11 51.6 +0.3
VAE Valguarnera 74.49 26 LR LR 08 46 48.5
comp=Z,347nm,18.8s,baz=332,slow=38
ANTO Ankara 74.49 10 ⇓P P 08 11 51.0 -1.0
ANTO Ankara 74.49 10 P P 08 11 52.8 +0.9
ANTO IAmb IAmb 08 11 54.3
comp=Z,65nm,1.0s
ANTO Ankara 74.49 10 P P 08 11 52.8 +0.9
ANTO pmax pmax
comp=Z,65nm,1.0s
POPC Popayan, Colom 74.67 119 *e*P P 08 11 53.2 -0.2
BR131 Keskin Array S 74.69 10 *c i*P P 08 11 53.8 +0.6
BRTR Keskin Array B 74.70 10 *i*P P 08 11 53.9 +0.7
BRTR pmax pmax
comp=Z,15nm,0.8s
BRTR Keskin Array B 74.70 10 P P 08 11 53.9 +0.7
comp=Z,14nm,0.8s,baz=345,slow=3.8,SNR=32
BRTR LR LR 08 46 46.2
comp=Z,331nm,21.9s,baz=350,slow=37
comp=Z,14nm,0.8s
GNI Garni 74.70 1 P P 08 11 54.5 +1.2
GNI Garni 74.70 1 *de*P P 08 11 54.4 +1.2
GNI pmax pmax
comp=Z,22nm,0.7s
GNI Garni 74.70 1 LR LR 08 50 35.0
comp=Z,95nm,19.1s,baz=8.0,slow=40
PTGC Puerto Gaitan, 74.84 114 ⇑*e*P P 08 11 52.9 -1.2
BBAC Balboa, Cauca 74.95 120 ⇑*e*P P 08 11 56.0 +1.0
OUK Oukaimeden 75.11 46 P P 08 11 57.0 +1.0
KEST Kesra 75.20 30 P P 08 11 57.1 +1.0
comp=Z,65nm,0.8s,baz=284,slow=1.4,SNR=31
KEST LR LR 08 45 58.6
comp=Z,499nm,18.6s,baz=294,slow=36
comp=Z,65nm,0.8s
GCUF Volcan Galeras 75.65 120 ⇑*e*P P 08 11 57.2 -2.2
OUZM OUZ 75.71 45 P P 08 12 01.0 +1.8
CMBC Cumbal 75.74 121 *e*P P 08 12 01.9 +2.1
FLOC Florencia 75.93 119 *e*P P 08 12 01.0 +0.5
ARF Arif 75.95 43 P P 08 12 02.0 +1.5
TULM Tulcn-Chalpat 75.96 121 P P 08 12 01.3 +0.2
TULM IAmb IAmb 08 12 03.7
comp=Z,98nm,1.3s
PAC1 Pacto, Paraso 76.02 122 *e*P P 08 12 02.0 +1.0
FIGM Figuig 76.10 40 P P 08 12 03.0 +1.6
CUSE Cuicocha Este 76.12 122 ⇑*e*P P 08 12 02.2 +0.2
OTAV Otavalo 76.17 122 *e*P P 08 12 03.3 +1.0
GURO Guroymak-BITLI 76.26 3 P P 08 12 02.7 +0.5
ISP Isparta 76.33 12 IAMs_20 IAMs_20 08 49 52.0
comp=Z,302nm,18.0s
ISP Isparta 76.33 12 *ce*P P 08 12 03.1 +0.5
ISP pmax pmax
comp=Z,45nm,0.8s
GEYT Alibeck 76.48 350 P P 08 12 04.3 +1.0
comp=Z,31nm,0.9s,baz=292,slow=4.0,SNR=44
GEYT LR LR 08 49 45.5
comp=Z,165nm,20.9s,baz=32,slow=39
comp=Z,31nm,0.9s
ZGR Zagora 76.78 44 P P 08 12 07.0 +1.7
GYA Guiyang 77.28 307 ⇓P P 08 12 08.3 +0.2
GYA S **S** 08 21 58.4 +0.3
GYA pmax pmax
comp=Z,31nm,0.9s
GYA pmax pmax

	comp=Z,310nm,5.9s							
GYA				LR	LR			
	comp=Z,500nm,18.4s							
GYA				LR	LR			
	comp=Z,480nm,14.4s							
GYA				LR	LR			
	comp=Z,700nm,14.7s							
PTLC	**Puerto Leguiza**	**77.55**	**118**	*eP*	**P**		**08 12 11.8**	**+2.3**
IDI	**Anoyia**	**78.24**	**17**	LR	LR		08 49 47.9	
	comp=Z,108nm,18.4s,baz=5.5,slow=38							
COHC	**Cochancay**	**78.40**	**123**	*eP*	**P**		**08 12 14.0**	**-0.2**
PZH	**PanZhiHua**	**78.84**	**311**	P	**P**		**08 12 16.6**	**-0.2**
PZH				S	**S**		**08 22 13.3**	**-1.6**
PZH				pmax	pmax			
	comp=Z,40nm,0.9s							
PZH				pmax	pmax			
	comp=Z,290nm,5.7s							
PZH				LR	LR			
	comp=Z,490nm,17.3s							
PZH				LR	LR			
	comp=Z,430nm,17.5s							
PZH				LR	LR			
	comp=Z,670nm,14.2s							
NIL	**Nilore**	**78.92**	**337**	P	**P**		**08 12 16.9**	**-0.1**
NIL	**Nilore**	**78.92**	**337**	P	**P**		**08 12 16.9**	**-0.1**
NIL				pmax	pmax			
	comp=Z,104nm,0.8s							
KMI	**Kunming**	**79.81**	**310**	⇑P	**P**		**08 12 22.1**	**-0.1**
KMI				pmax	pmax			
	comp=Z,16nm,0.7s							
KMI				LR	LR			
	comp=Z,370nm,14.6s							
KMI				LR	LR			
	comp=Z,710nm,18.3s							
KMI				LR	LR			
	comp=Z,500nm,14.5s							
MCRA	**Macar, Loja**	**79.93**	**125**	*eP*	**P**		**08 12 23.5**	**+0.8**
BOAV	**Boa Vista**	**81.06**	**104**	*eP*	**P**		**08 12 28.9**	**+0.2**
VAH	**Vaihoa**	**81.12**	**193**	*eP*	**P**		**08 12 29.7**	**+0.9**
	comp=Z,42nm,0.9s							
MMAI	**Mount Meron Ar**	**81.49**	**9**	P	**P**		**08 12 31.5**	**+0.6**
	comp=Z,3.9nm,0.5s,baz=20,slow=5.3,SNR=6.7							
MMAI				LR	LR		08 51 26.6	
	comp=Z,129nm,21.9s,baz=322,slow=38							
	comp=Z,3.9nm,0.5s							
MDP	**Montagnes des**	**81.85**	**96**	LR	LR		08 51 27.4	
	comp=Z,195nm,18.1s,baz=333,slow=38							
GUN	**Gumba**	**81.94**	**325**	*eP*	**P**		**08 12 34.3**	**+0.6**
	comp=Z,167nm,1.0s							
DANN	**Dangsing**	**82.01**	**327**	*eP*	**P**		**08 12 34.2**	**+0.2**
	comp=Z,135nm,0.7s							
TAPN	**Taplejung**	**82.03**	**323**	*eP*	**P**		**08 12 34.3**	**+0.2**
	comp=Z,145nm,0.8s							
JIRN	**Jiri**	**82.10**	**325**	*eP*	**P**		**08 12 35.0**	**+0.4**
	comp=Z,187nm,0.7s							
GKN	**Gorkha**	**82.14**	**326**	*eP*	**P**		**08 12 34.2**	**-0.3**
KKN	**Kakani**	**82.19**	**325**	*eP*	**P**		**08 12 35.5**	**+0.6**
PKI	**Pulchoki**	**82.38**	**325**	*eP*	**P**		**08 12 35.9**	**-0.1**
DMN	**Daman**	**82.41**	**326**	*eP*	**P**		**08 12 36.8**	**+0.7**
ASF	**Jabal al Asfar**	**82.42**	**8**	LR	LR		08 54 22.2	
	comp=Z,125nm,18.8s,baz=358,slow=40							
PYUN	**Piuthan**	**82.42**	**327**	*eP*	**P**		**08 12 36.1**	**0.0**
	comp=Z,184nm,0.8s							
ODAN	**Odare**	**82.57**	**323**	*eP*	**P**		**08 12 36.5**	**-0.4**
	comp=Z,159nm,1.0s							
KOLN	**Koldanda**	**82.61**	**327**	*eP*	**P**		**08 12 36.9**	**-0.1**
RAMN	**Ramite**	**82.68**	**324**	*eP*	**P**		**08 12 38.0**	**+0.5**
	comp=Z,103nm,0.9s							
SLVN	**Son La**	**82.95**	**307**	IAMs_20	IAMs_20		08 53 14.5	
	comp=Z,506nm,21.0s							
ATAH	**Atahualpa**	**83.05**	**124**	LR	LR		08 50 35.0	
	comp=Z,216nm,21.9s,baz=345,slow=36							
TIAR	**Tiarei**	**83.59**	**195**	*eP*	**P**		**08 12 43.0**	**+1.3**
	comp=Z,5.0nm,1.0s							
PPT	**Papeete**	**83.62**	**195**	P	**P**		**08 12 43.0**	**+1.1**
	comp=Z,34nm,1.0s,baz=319,slow=4.3,SNR=5.9							
PPT				LR	LR		08 43 00.2	
	comp=Z,168nm,18.4s,baz=3.0,slow=31							
	comp=Z,34nm,1.0s							
PPT2	**Papeete2**	**83.64**	**195**	*eP*	**P**		**08 12 41.4**	**-0.7**
	comp=Z,39nm,1.1s							
PPT2	**Papeete2**	**83.64**	**195**	*e*LR	LR		08 39 07.8	
	comp=Z,563nm,31.0s							
PPT2				*e*LR	LR		08 39 16.5	
	comp=Z,313nm,34.0s							
PAE	**Paea**	**83.72**	**195**	*eP*	**P**		**08 12 43.0**	**+0.7**
	comp=Z,31nm,1.4s							
TVO	**Taravao**	**83.80**	**194**	*eP*	**P**		**08 12 43.4**	**+0.6**
	comp=Z,23nm,1.1s							
EIL	**Elat**	**84.78**	**10**	LR	LR		08 56 27.4	
	comp=Z,53nm,19.6s,baz=19,slow=40							
CZSB	**Cruzeiro do Su**	**85.62**	**119**	*eP*	**P**		**08 12 52.5**	**+0.4**
TAM	**Tamanrasset**	**86.76**	**37**	P	**P**		**08 12 57.8**	**-0.2**
TAM	**Tamanrasset**	**86.76**	**37**	P	**P**		**08 12 57.8**	**-0.2**
TAM				pmax	pmax			
	comp=Z,21nm,1.3s							
CHTO	**Chiang Mai**	**86.92**	**311**	P	**P**		**08 12 58.2**	**-0.3**
CHTO				IAmb	IAmb		08 12 59.5	
	comp=Z,16nm,0.9s							
CHTO	**Chiang Mai**	**86.92**	**311**	P	**P**		**08 12 58.3**	**-0.3**
CHTO				pmax	pmax			
	comp=Z,16nm,1.0s							
MCPB	**Macapa, AP**	**87.03**	**97**	*eP*	**P**		**08 12 58.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**87.25**	**311**	*i* P	**P**		**08 13 00.8**	**+0.6**
CMAR				pmax	pmax			
	comp=Z,21nm,0.7s							
CMAR	**Chiang Mai Arr**	**87.25**	**311**	P	**P**		**08 13 00.8**	**+0.6**
	comp=Z,19nm,0.7s,baz=358,slow=5.9,SNR=84							
CMAR				LR	LR		08 56 41.3	
	comp=Z,461nm,18.1s,baz=40,slow=39							
	comp=Z,19nm,0.7s							
DAV	**Davao City (W)**	**87.87**	**282**	LR	LR		08 51 38.2	
	comp=Z,80nm,21.1s,baz=7.5,slow=35							
NNA	**Nana**	**88.10**	**125**	LR	LR		08 57 48.1	
	comp=Z,108nm,18.1s,baz=306,slow=39							
SHME	**Shamm**	**88.42**	**351**	P	**P**		**08 13 04.0**	**-1.7**
BANOM	**Banah**	**88.54**	**351**	P	**P**		**08 13 05.5**	**-0.8**
RAR	**Rarotonga**	**88.62**	**200**	LR	LR		08 46 02.8	
	comp=Z,189nm,18.6s,baz=350,slow=31							
HNR	**Honiara**	**88.85**	**244**	LR	LR		08 45 51.6	
	comp=Z,1μm,21.7s,baz=340,slow=31							
MSFE	**Esma-Masafi**	**89.11**	**351**	*i* P	**P**		**08 13 08.6**	**-0.4**
	SNR=6.2							
TBI	**Tubuai**	**89.33**	**194**	*e*LR	LR		08 41 54.7	
	comp=Z,2μm,34.0s							
UOSS	**Minazif**	**89.52**	**351**	P	**P**		**08 13 09.1**	**-1.8**
HATD	**Hatta, Dubai**	**89.64**	**351**	*i* P	**P**		**08 13 10.2**	**-1.3**
	SNR=7.5							
FAQ	**Al Faqa, Dubai**	**89.75**	**351**	P	**P**		**08 13 11.1**	**-0.9**
ASHO	**Ashiyiah**	**89.78**	**351**	*i* P	**P**		**08 13 11.7**	**-0.5**
	SNR=7.1							
ASUD	**Al Ashush, Dub**	**89.89**	**351**	P	**P**		**08 13 12.6**	**-0.1**
ETMB	**Extrema**	**89.96**	**114**	P	**P**		**08 13 11.7**	**-1.2**
SOHO	**SOHO**	**90.30**	**350**	P	**P**		**08 13 13.7**	**-0.8**
SAML	**Samuel**	**90.33**	**111**	*eP*	**P**		**08 13 14.2**	**-0.5**
ALNE	**Al Ain**	**90.43**	**351**	*i* P	**P**		**08 13 15.0**	**-0.2**
	SNR=8.0							
WSAR	**Wadi Sarin**	**91.02**	**348**	LR	LR		09 00 44.5	
	comp=Z,58nm,19.2s,baz=42,slow=40							
NPGB	**Novo Progresso**	**91.72**	**103**	*eP*	**P**		**08 13 21.2**	**0.0**
HYB	**Hyderabad**	**93.73**	**329**	*eP*	**P**		**08 13 31.2**	**+0.7**
PMG	**Port Moresby**	**93.84**	**256**	LR	LR		08 50 47.4	
	comp=Z,185nm,21.6s,baz=348,slow=32							
TORD	**Torodi Ar. Bea**	**94.94**	**43**	P	**P**		**08 13 36.0**	**-0.1**
	comp=Z,4.2nm,0.7s,baz=338,slow=6.2,SNR=28							
TORD				PP	**PP**		**08 17 21.2**	**-3.2**
	comp=Z,1.2nm,0.9s,baz=5.9,slow=8.9,SNR=3.7							
TORD				PKKPbc	**PKKPbc**		**08 30 28.6**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=80,slow=2.1,SNR=4.5							
TORD				LR	LR		08 54 55.7	
	comp=Z,343nm,18.2s,baz=332,slow=35							
	comp=Z,4.2nm,0.7s							
VILB	**Vilhena**	**95.15**	**110**	P	**P**		**08 13 36.9**	**0.0**
VILB				IAmb	IAmb		08 13 38.4	
	comp=Z,16nm,1.0s							
VILB	**Vilhena**	**95.15**	**110**	*eP*	**P**		**08 13 37.9**	**+1.0**
PDRB	**Porto dos Gac**	**95.31**	**106**	*eP*	**P**		**08 13 37.1**	**-0.5**
SIV	**San Ignacio**	**97.58**	**112**	LR	LR		08 59 21.5	
	comp=Z,170nm,21.5s,baz=83,slow=36							
PTLB	**Pontes e Lacer**	**97.84**	**110**	*eP*		Pdif	08 13 50.0	+1.0
DZM	**Mont Dzumac**	**98.20**	**234**	*e*LR	LR		08 45 35.1	
	comp=Z,221nm,26.5s							
DZM	**Mont Dzumac**	**98.20**	**234**	LR	LR		08 57 51.6	
	comp=Z,122nm,18.2s,baz=40,slow=35							
RCBR	**Riachuelo**	**98.69**	**85**	LR	LR		08 55 13.1	
	comp=Z,115nm,20.0s,baz=338,slow=33							
BBSD	**Serra de San D**	**98.84**	**112**	*eP*	**P**		**08 13 52.8**	**-0.8**
DBIC	**Dimbokro**	**99.06**	**51**	LR	LR		08 55 59.4	
	comp=Z,373nm,18.9s,baz=330,slow=34							
WRA	**Warramunga Arr**	**108.58**	**263**	PP	**PP**		**08 19 05.7**	**-2.1**
	comp=Z,1.9nm,1.0s,baz=30,slow=7.7,SNR=6.4							
ASAR	**Alice Springs**	**112.08**	**261**	PKiKP	**PKiKP**		**08 18 47.6**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=33,slow=2.5,SNR=5.8							
ASAR				PKKPab	**PKKPab**		**08 29 48.1**	**+0.5**
	comp=Z,1.1nm,1.0s,baz=191,slow=4.9,SNR=6.5							
KMBO	**Kilima Mbogo**	**115.48**	**10**	PKP	**PKPdf**		**08 18 54.9**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=111,slow=22,SNR=1.4							
STKA	**Stephens Creek**	**116.24**	**251**	PKP	**PKPdf**		**08 18 54.9**	**-1.5**
	comp=Z,1.6nm,0.7s,baz=195,slow=5.6,SNR=4.2							
PLCA	**Paso Flores**	**116.72**	**130**	PKP	**PKPdf**		**08 18 56.0**	**-1.1**
	comp=Z,2.5nm,0.8s,baz=216,slow=1.3,SNR=4.5							
BOSA	**Boshof**	**140.93**	**29**	PKhKP	PKPpre		08 19 36.2	
	comp=Z,6.5nm,0.8s,baz=10,slow=2.9,SNR=11							
SOE	**Somerset East**	**144.96**	**31**		**PKPab**		**08 19 49.1**	**-0.4**
GRHM	**Grahamstown, E**	**145.67**	**30**		**PKPdf**		**08 19 51.8**	**+0.2**
VNDA	**Vanda**	**147.91**	**202**	PKPbc	**PKPbc**		**08 19 57.0**	**+0.1**
	comp=Z,15nm,0.9s,baz=351,slow=3.0,SNR=32							
QSPA	**South Pole Qui**	**155.32**	**180**	PKPbc	PKPdf		08 20 14.7	+9.4
	comp=Z,23nm,1.0s,baz=106,slow=0.5,SNR=16							
QSPA				PKPab	**PKPab**		**08 20 31.6**	**+0.7**
	comp=Z,14nm,1.0s,baz=296,slow=0.8,SNR=4.9							
VNA3	**Neumayer Olymp**	**159.44**	**131**	⇑P	**PKPab**		**08 20 47.9**	**-0.6**
	comp=Z,32nm,0.8s							
VNA1	**Neumayer--Stat**	**159.77**	**129**	⇑P	**PKPab**		**08 20 49.5**	**-0.3**
	comp=Z,14nm,0.9s							
VNA2	**Neumayer--Watz**	**160.10**	**129**	⇑P	**PKPab**		**08 20 50.5**	**-0.9**
	comp=Z,16nm,0.7s,baz=294,slow=4.0							
SNAA	**Sanae**	**161.66**	**131**	⇑P	**PKPab**		**08 20 57.0**	**-1.3**
	comp=Z,280nm,0.7s							
SNAA	**Sanae**	**161.66**	**131**	PKPab	**PKPab**		**08 20 58.1**	**-0.2**
	comp=Z,13nm,0.8s,baz=263,slow=5.3,SNR=38							
TROLL	**Troll, Antarti**	**163.35**	**132**	⇑P	**PKPab**		**08 21 05.9**	**+0.1**
	comp=Z,1μm,0.7s							
NVL	**N'lazarevskaya**	**166.41**	**128**	*e*PKP2	**PKPab**		**08 21 18.0**	**-1.1**
NVL				pmax	pmax			
	comp=Z,34nm,1.5s							
ELIB	**Princess Elisa**	**169.62**	**138**	*d*PKP	**PKPab**		**08 21 33.9**	**+0.4**

*RSNC **22** 08:02:27.1±1.6, 7.°41N×78.°87W, h4km±7km, ML3.1*
*UPA **22** 08:02:27.4±0.4, 7.°43N×78.°90W, h9km±3km, MW4.1*
ISC 22 08:02:25.4±1.3, **7.°43N**±0.°03×**78.°85W**±0.°02, **h10**km±10km, **n30**,σ1**9**35/53, **Panama**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PTAC	**Punta Ardita,**	**1.07**	**105**	*eP*	**Pg**		**08 02 46.4**	**+0.4**
PTAC				*e*S	**Sg**		**08 02 59.2**	**-0.7**
PTAC				*i*			08 03 04.2	
	comp=Z,284nm,0.1s							
PEDA3	**Pedasi**	**1.17**	**275**	*eP*	**Pb**		**08 02 48.1**	**+0.3**
ACHO3	**Achotines, Los**	**1.31**	**270**	*eP*	**Pn**		**08 02 50.2**	**+0.4**
UPD2	**Meteti**	**1.39**	**37**	*eP*	**Pg**		**08 02 52.1**	**0.0**
UPD2				*e*S	**Sg**		**08 03 10.9**	**+0.8**
UPD2	**Meteti**	**1.39**	**37**	*eP*	**Pg**		**08 02 51.8**	**-0.2**
UPD2				*e*S	**Sg**		**08 03 10.9**	**+0.8**
UPD2				*i*			08 03 14.4	
	comp=Z,261nm,0.3s							
AZU	**Azuero**	**1.46**	**284**	*eP*	**Pn**		**08 02 52.0**	**+0.2**
AZU				*e*S	**Sn**		**08 03 11.1**	**+0.1**
AZU	**Azuero**	**1.46**	**284**	*eP*	**Pn**		**08 02 52.0**	**+0.2**
AZU				*e*S	**Sn**		**08 03 10.5**	**-0.4**
TABO3	**Taboga, Panama**	**1.53**	**333**	*eP*	**Pn**		**08 02 52.7**	**0.0**
UPA	**Univ. de Panam**	**1.69**	**336**	*eP*	**Pn**		**08 02 55.6**	**+0.7**
UPA				*e*S	**Sb**		**08 03 17.1**	**-0.7**
UPA	**Univ. de Panam**	**1.69**	**336**	*eP*	**Pb**		**08 02 56.0**	**-0.5**
UPA				*e*S	**Sb**		**08 03 17.0**	**-0.7**
ARRA3	**Arraijan, Pana**	**1.73**	**332**	*eP*	**Pn**		**08 02 56.4**	**+0.9**
CHPO	**Chepo, Panama**	**1.75**	**351**	*eP*	**Pn**		**08 02 56.1**	**+0.2**
CHPO				*e*S	**Sb**		**08 03 19.3**	**-0.4**
PNME	**Penonome**	**1.80**	**306**	*eP*	**Pn**		**08 02 57.2**	**+0.7**
PNME				*e*S	**Sn**		**08 03 19.9**	**+0.4**
PNME	**Penonome**	**1.80**	**306**	*eP*	**Pb**		**08 02 57.8**	**-0.7**
PNME				*e*S	**Sn**		**08 03 20.1**	**+0.6**
PNME				*i*			08 03 22.3	
	comp=Z,236nm,0.5s							
PESE3	**Pese, Herrera**	**1.81**	**285**	*eP*	**Pn**		**08 02 57.2**	**+0.5**
CAPC	**Capurgana**	**1.91**	**51**	*eP*	**Pn**		**08 02 59.4**	**+1.4**
CAPC				*e*S	**Sb**		**08 03 23.5**	**-0.7**
CAPC				*i*			08 03 31.7	
	comp=Z,112nm,0.5s							
BCIP	**Isla Barro Col**	**1.99**	**331**	*eP*	**Pb**		**08 03 00.8**	**-0.8**
BCIP				*e*S	**Sb**		**08 03 26.5**	**+0.1**
BCIP				*i*			08 03 29.0	
	comp=Z,257nm,0.5s							
CACAO	**El Cacao, Vera**	**2.00**	**268**	*eP*	**Pn**		**08 02 59.7**	**+0.5**
CACAO				*e*S	**Sn**		**08 03 30.5**	**+0.2**
CACAO	**El Cacao, Vera**	**2.00**	**268**	*eP*	**Pn**		**08 02 58.7**	**-0.5**
CACAO				*e*S	**Sb**		**08 03 27.8**	**+1.0**
CACAO				*i*			08 03 42.9	
	comp=Z,100nm,0.7s							
MARI3	**Mariato, Verag**	**2.13**	**276**	*eP*	**Pn**		**08 03 02.0**	**+0.9**
SFRA3	**San Francisco,**	**2.26**	**291**	*eP*	**Pn**		**08 03 04.0**	**+1.2**
APAC	**Apartado, Choc**	**2.30**	**78**	*eP*	**Pb**		**08 03 07.8**	**+0.8**
APAC				*e*S	**Sg**		**08 03 38.7**	**-0.6**
APAC				*i*			08 03 46.1	
	comp=Z,96nm,0.8s							
GMAL	**Guarumal, Vera**	**2.39**	**278**	*eP*	**Pn**		**08 03 06.6**	**+2.0**
GMAL				*e*S	**Sb**		**08 03 36.4**	**-1.6**
DBBC	**Dabeiba**	**2.65**	**99**	*eP*	**Pn**		**08 03 10.6**	**+2.4**
DBBC				*e*S	**Sn**		**08 03 41.0**	**+0.4**
CBOC	**Ciudad Bolivar**	**3.22**	**119**	*eP*	**Pn**		**08 03 17.7**	**+1.5**
CBOC				*e*S	**Sn**		**08 03 50.5**	**-4.1**
UREC	**San Jos de Ur**	**3.30**	**84**	*eP*	**Pb**		**08 03 21.5**	**-2.7**
UREC				*e*S	**Sn**		**08 03 59.4**	**+2.8**
ZARC	**Zaragoza, Cauc**	**3.96**	**89**	*eP*	**Pn**		**08 03 24.6**	**-1.6**
ZARC				*e*S	**Sn**		**08 04 11.4**	**-1.4**
ZARC				*i*			08 04 17.4	
	comp=Z,12nm,0.6s							
GUY2C	**Guyana, Caldas**	**4.10**	**122**	*eP*	**Pn**		**08 03 31.9**	**+3.4**
GUY2C				*e*S	**Sn**		**08 04 18.8**	**+2.0**
YOTC	**Yotoco, Valle**	**4.23**	**144**	*eP*	**Pn**		**08 03 30.6**	**+0.5**
YOTC				*e*S	**Sn**		**08 04 17.5**	**-2.1**
OCAC	**Ocana**	**5.54**	**81**	*eP*	**Pn**		**08 03 49.7**	**+1.6**
OCAC				*e*S	**Sn**		**08 04 51.8**	**-0.1**
OCAC				*i*			08 05 01.4	
	comp=Z,18nm,0.5s							

*KNET **22** 08:04:27.8±0.5, 42.°62N×75.°53E, h7km±18km, ml1.1, Error ellipse: s-maj=1.9km s-min=1.3km az=15.0*
*SOME **22** 08:04:27.5, 42.°62N×75.°53E, h5km*
*NNC **22** 08:04:27.5±0.4, 42.°60N×75.°58E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=2.8km s-min=1.9km az=108.0*
ISC 22 08:04:27.9±1.1, **42.°62N**±0.°03×**75.°54E**±0.°03, **h9**km±9km, **n17**,σ0**9**41/32, **8C-3D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**0.31**	**7**	⇑P	**Pg**		**08 04 34.0**	**-0.1**
	7.3nm,0.2s,SNR=25							
TKM2				⇓S	**Sg**		**08 04 38.9**	**+0.6**
	40nm,0.2s							
TKM2	**Tokmak 2**	**0.31**	**7**	⇓P	**Pg**		**08 04 33.8**	**-0.3**
	1.9nm,0.2s							
TKM2				⇑S	**Sg**		**08 04 38.5**	**+0.2**
	6.8nm,0.2s							
KBK	**Karagaybulak**	**0.44**	**276**	⇓P	**Pg**		**08 04 36.8**	**+0.2**
	12nm,0.3s,SNR=7.0							
KST	**Kastek**	**0.53**	**36**	*eP*	**Pg**		**08 04 38.1**	**-0.1**
	4.5nm,0.2s							
KST				*e*S	**Sg**		**08 04 45.6**	**+0.4**
	6.0nm,0.2s							
KST	**Kastek**	**0.53**	**36**	P	**Pg**		**08 04 38.1**	**-0.1**
	4.5nm,0.2s							
KST				S	**Sg**		**08 04 45.6**	**+0.4**
	6.0nm,0.2s							
KZA	**Kyzart**	**0.58**	**202**	⇑P	**Pg**		**08 04 39.4**	**+0.2**
	4.7nm,0.2s,SNR=5.3							
KZA				⇑S	**Sb**		**08 04 48.5**	**-0.4**
	3.3nm,0.3s							
ULHL	**Ulahol**	**0.64**	**125**	⇑P	**Pg**		**08 04 40.0**	**-0.2**
	3.3nm,0.2s,SNR=15							
ULHL				⇑S	**Sb**		**08 04 49.5**	**-0.8**
	2.0nm,0.2s							
DGS	**Degeres**	**0.65**	**15**	*eP*	**Pg**		**08 04 40.4**	**-0.1**
	2.0nm,0.2s							
DGS				*e*S	**Sg**		**08 04 49.5**	**+0.5**
	3.2nm,0.1s							
AAK	**Ala-Archa**	**0.77**	**272**	⇑P	**Pg**		**08 04 42.6**	**-0.2**
	7.6nm,0.2s,SNR=8.0							
AAK				⇑S	**Sb**		**08 04 53.7**	**-0.5**
	6.8nm,0.4s							
KRBS	**Karabastau**	**1.08**	**5**	*eP*	**Pg**		**08 04 47.9**	**-0.9**
	0.7nm,0.2s							
KRBS				*e*S	**Sg**		**08 05 02.5**	**-0.3**
	1.1nm,0.2s							
KTBS	**Karatobe**	**1.38**	**37**	*eP*	**Pn**		**08 04 53.5**	**+0.2**
	2.7nm,0.2s							
KTBS				*e*S	**Sn**		**08 05 12.2**	**+0.5**
	2.0nm,0.3s							
KTBS	**Karatobe**	**1.38**	**37**	P	**Pn**		**08 04 53.5**	**+0.2**
	2.7nm,0.2s							
KTBS				S	**Sn**		**08 05 12.1**	**+0.5**
	2.0nm,0.3s							
KUU	**Kurty**	**1.40**	**24**	*eP*	**Pn**		**08 04 53.9**	**+0.3**
	4.0nm,0.3s							
KUU				*e*S	**Sn**		**08 05 12.8**	**+0.5**
	1.5nm,0.2s							
KUU	**Kurty**	**1.40**	**24**	P	**Pn**		**08 04 53.9**	**+0.3**
	4.0nm,0.3s							
KUU				S	**Sn**		**08 05 12.8**	**+0.5**
	1.5nm,0.4s							
MRKS	**Merke**	**1.71**	**275**	*eP*	**Pb**		**08 04 59.5**	**0.0**
	3.1nm,0.2s							
MRKS				*e*S	**Sg**		**08 05 22.7**	**-0.2**
	1.7nm,0.3s							
MRKS	**Merke**	**1.71**	**275**	P	**Pb**		**08 04 59.5**	**0.0**
	3.2nm,0.4s							
MRKS				S	**Sg**		**08 05 22.7**	**-0.2**
	1.7nm,0.3s							
BLB	**Baldybastay**	**2.60**	**54**	Pg	**Pb**		**08 05 14.4**	**-0.4**
	1.8nm,0.2s							
BLB				Lg	Lg		08 05 48.8	
	1.6nm,0.5s							

*NIED **22** 08:07:59.1, 40.°29N×142.°53E, h32km, MW3.7, Moment Tension Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.11; $M_{\theta\theta}$-0.78; $M_{\phi\phi}$0.67; $M_{r\theta}$0.76; $M_{\theta\phi}$0.22; $M_{\phi r}$-3.44; Fault plane solution: M_{o}3.57000×10^{14} NP1: ϕ_s346.00000°, δ89.00000°, λ-99.00000°. NP2: ϕ_s246.00000°, δ9.00000°, λ-9.00000°.*
JMA 22 08:07:59.1±0.1, **40.°3N**±0.°3×**142.°5E**±0.°7, **h32**km±1km, **MV3.7**/40, **NE OFF IWATE PREF, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.62**	**235**	*i* P		Pb	08 08 11.4	-0.2
JTH				S		Sb	08 08 20.1	+0.1
JKEN	**Kujiedanarisaw**	**0.63**	**262**	*i* P		Pb	08 08 11.3	-0.5
JKEN				S		Sb	08 08 19.9	-0.4
JANG	**Nango**	**0.78**	**276**	*i* P		Pn	08 08 13.5	-0.4
JANG				S		Sn	08 08 23.7	-0.8
MIYJ	**Miyakonagasawa**	**0.90**	**217**	*i* P		Pn	08 08 15.2	-0.4
MIYJ				S		Sn	08 08 27.0	-0.5
JKZ	**Kuzumaki**	**0.97**	**252**	*i* P		Pn	08 08 16.7	-0.2
JKZ				S		Sn	08 08 29.1	-0.1
JARK	**Aomorirokkasho**	**1.13**	**309**	*i* P		Pn	08 08 18.7	-0.1
JARK				S		Sn	08 08 32.7	-0.6
JTM	**Tenmabayashi**	**1.21**	**294**	*i* P		Pn	08 08 20.3	+0.4
JTM				S		Sn	08 08 35.2	0.0
JOM	**Ohasama**	**1.25**	**230**	*i* P		Pn	08 08 21.2	+0.8
JOM				*e*S		Sb	08 08 37.8	-0.2
JAH	**Hinai**	**1.45**	**266**	*i* P		Pb	08 08 24.5	-1.0
JAH				S		Sb	08 08 43.2	-0.3
JOT	**Ohata**	**1.56**	**315**	P		Pn	08 08 25.0	+0.3
JOT				*e*S		Sn	08 08 44.5	+0.7
JMK	**Ichinoseki**	**1.68**	**217**	P		Pb	08 08 28.1	-1.3
JMK				S		Sb	08 08 49.6	-0.5
JRG	**Rokugo**	**1.71**	**239**	P		Pb	08 08 28.8	-1.1

*IDC **22** 08:44:31.0±0.6, 33.°40S×68.°96W, h0km, mb4.3/10, mbtmp4.3/13, ML4.1/3, MS3.8/7, Error ellipse: s-maj=22.1km s-min=11.0km az=104.0*
*SJA **22** 08:44:33.3±1.3, 33.°35S×68.°95W, h7km±4km, ML4.4, MW4.2*
*NEIC **22** 08:44:36.1±2

BO04 Sg 08 45 22.6 -1.1
BO04 La Punta 1.53 243 *e*P Pb 08 45 02.2 0.0
BO04 *i* S Sb 08 45 22.4 +1.2
BO04 IAML 08 45 24.3
comp=E,4μm,0.4s
ROCH El Roble 1.75 281 *e*P Pb 08 45 06.5 +0.5
ROCH *e*P Pg 08 45 06.7 -1.3
ROCH *i* S Sg 08 45 29.9 -0.9
MT09 Talagante 1.75 254 Pb 08 45 05.7 -0.3
MT09 Talagante 1.75 254 *e*P Pb 08 45 05.8 -0.2
MT09 *i* S Sb 08 45 29.1 +1.4
ROC1 El Roble 1.75 280 Pb 08 45 06.8 +0.7
ROC1 Sn Sb 08 45 29.4 +1.6
ZON Zonda 1.78 8 Pb 08 45 06.3 -0.1
ZON Zonda 1.78 8 *i* P Pb 08 45 06.8 +0.3
ZON *i* S Sg 08 45 32.3 +0.6
ZON IAML 08 45 33.9
comp=Z,4μm,0.8s
CFA Coronel Fontan 1.81 20 *i* P Pb 08 45 07.3 +0.3
CFA *i* S Sg 08 45 33.1 +0.3
CFA IAML 08 45 34.3
comp=Z,7μm,0.5s
CFA Coronel Fontan 1.81 20 Pg Pb 08 45 07.1 +0.1
comp=Z,124nm,0.3s,baz=203,slow=14,SNR=1442
CFA Lg Lg 08 45 31.5
comp=Z,390nm,0.3s,baz=136,slow=13,SNR=11
CFA LR LR 08 45 38.2
comp=Z,241nm,21.2s,baz=198,slow=36
MT02 Curacav 1.82 271 Pn Pb 08 45 06.5 -0.6
MT02 Curacav 1.82 271 *i* P Pb 08 45 06.9 -0.2
MT02 *i* S Sg 08 45 31.9 -1.1
MT02 IAML 08 45 35.9
comp=Z,2μm,1.4s
MT02 Curacav 1.82 271 *e*P Pb 08 45 06.8 -0.2
MT02 *i* S Sb 08 45 30.8 +1.2
MT02 IAML 08 45 32.3
comp=N,2μm,0.5s
MT01 Popeta 1.98 253 Pn 08 45 08.4 +1.4
MT01 Popeta 1.98 253 *i* P Pb 08 45 09.2 -0.8
MT01 *i* S Sb 08 45 36.0 +1.7
MT01 IAML 08 45 36.5
comp=Z,3μm,0.3s
MT01 Popeta 1.98 253 ⇑*i* P Pb 08 45 08.8 -1.2
MT01 *i* S Sb 08 45 35.4 +1.0
MT01 IAML 08 45 36.8
comp=N,4μm,0.3s
RTLL Cerro Villicun 2.02 12 *i* P Pb 08 45 10.3 -0.3
RTLL *i* S Sb 08 45 37.2 +1.8
RTLL IAML 08 45 40.9
comp=Z,5μm,0.4s
BO01 Tunca 2.06 238 Pb 08 45 09.7 -1.6
BO01 Tunca 2.06 238 *i* P Pb 08 45 10.6 -0.7
BO01 *i* S Sb 08 45 37.9 +1.3
BO01 IAML 08 45 40.6
comp=Z,1μm,0.6s
BO01 Tunca 2.06 238 *e*P Pb 08 45 09.7 -1.6
BO01 *i* S Sb 08 45 38.6 +2.0
BO01 IAML 08 45 40.5
comp=E,3μm,0.5s
BO02 Sierra Bellavi 2.11 225 Pb 08 45 10.8 -1.3
BO02 Sierra Bellavi 2.11 225 *i* P Pb 08 45 11.2 -0.9
BO02 *i* S Sb 08 45 39.9 +1.9
BO02 IAML 08 45 41.5
comp=Z,2μm,1.1s
BO02 Sierra Bellavi 2.11 225 *e*P Pb 08 45 10.9 -1.2
BO02 *i* S Sg 08 45 40.9 -1.4
BO02 IAML 08 45 42.1
comp=E,2μm,0.6s
VA05 Santo Domingo 2.24 260 Pn 08 45 11.6 +1.1
VA05 Santo Domingo 2.24 260 *e*P Pn 08 45 12.2 +1.7
VA05 *i* S Sb 08 45 43.2 +1.6
VA05 IAML 08 45 46.0
comp=N,4μm,0.2s
VA01 Torpederas 2.27 277 Pb 08 45 12.8 -1.9
VA01 Torpederas 2.27 277 *i* P Pb 08 45 13.6 -1.2
VA01 *i* S Sb 08 45 44.3 +1.9
VA01 IAML 08 45 47.4
comp=Z,2μm,0.9s
VA01 Torpederas 2.27 277 *e*P Pb 08 45 13.7 -1.0
VA01 *i* S Sb 08 45 44.9 +2.5
CO02 Combarbal 2.72 320 Pb 08 45 20.8 -1.8
CO02 Combarbal 2.72 320 *i* P Pb 08 45 20.7 -1.8
CO02 IAML 08 46 13.0
comp=Z,2μm,1.1s
CO02 Combarbal 2.72 320 ⇑*i* P Pb 08 45 20.4 -2.1
CO02 *i* S Sb 08 45 56.5 +0.9
BO03 Pichilemu 2.76 244 *e*P Pn 08 45 18.9 +1.3
BO03 *i* S Sn 08 45 52.2 +1.7
BO03 IAML 08 46 04.9
comp=E,669nm,0.5s
CO03 El Pedregal 2.87 329 Pb 08 45 23.8 -1.2
CO03 El Pedregal 2.87 329 *i* P Pb 08 45 22.8 -2.2
CO03 IAML 08 46 08.1
comp=Z,1μm,0.8s
CO03 El Pedregal 2.87 329 *e*P Pb 08 45 23.7 -1.4
GO05 Huala 2.98 235 Pn 08 45 22.4 +1.6
GO05 Huala 2.98 235 *i* P Pn 08 45 23.2 +2.5
GO05 Huala 2.98 235 *e*P Pn 08 45 21.9 +1.1
GO05 *i* S Sb 08 46 05.0 +1.9
GO05 IAML 08 46 08.3
comp=N,1μm,0.6s
ML02 Panimavida 3.17 219 Pn 08 45 26.4 +3.0
ML02 Panimavida 3.17 219 *e*P Pn 08 45 26.4 +3.0
ML02 *i* S Sb 08 46 11.0 +2.4
ML02 IAML 08 46 16.2
comp=E,786nm,0.4s
CO01 Juntas del Tor 3.46 344 Pb 08 45 33.1 -2.1
CO01 Juntas del Tor 3.46 344 *i* P Pb 08 45 33.2 -2.1
CO01 IAML 08 46 31.1
comp=Z,535nm,0.7s
CO01 Juntas del Tor 3.46 344 *e*P Pb 08 45 33.0 -2.3
CO06 Fray Jorge 3.47 319 Pn 08 45 29.4 +1.9
GO04 Tololo Observa 3.50 333 Pn Pn 08 45 31.2 +3.2
GO04 Tololo Observa 3.50 333 *i* P Pn 08 45 31.6 +3.5
CO05 La Serena 3.90 330 Pn 08 45 35.2 +1.9
LCO Las Campanas 4.54 340 Pn Pn 08 45 45.2 +2.8
LCO Las Campanas 4.54 340 *i* P Pn 08 45 45.2 +2.8
AC05 El Transito 4.60 346 Pn Pn 08 45 47.4 +4.2
AC05 El Transito 4.60 346 *i* P Pn 08 45 46.9 +3.8
AC05 IAML 08 47 12.5
comp=Z,353nm,1.1s
BI05 Punta Hualpn 4.87 224 Pn Pn 08 45 47.9 +1.1
AC04 Llanos de Chal 5.40 340 Pn Pn 08 45 56.5 +2.5
GO03 Copiap 5.80 349 Pn Pn 08 46 02.5 +2.9
AC06 Mina Casimiro 6.05 348 Pn 08 46 05.8 +2.7
GO06 Curarrehue 6.58 197 Pn Pn 08 46 13.4 +3.2
AC01 Pan de Azucar 7.28 348 Pn 08 46 22.6 +2.7
LR05 Currie 7.32 199 Pn 08 46 22.9 +2.6
TRQA Tornquist 7.40 132 Pn 08 46 20.9 -0.5
PLCA Paso Flores 7.51 189 Pn Pn 08 46 26.2 +3.1
comp=Z,0.3nm,0.3s,baz=15,slow=14,SNR=15
PLCA Lg Lg 08 48 27.0
comp=Z,1.7nm,0.3s,baz=296,slow=19,SNR=2.1
PLCA LR LR 08 49 32.8
comp=Z,756nm,18.5s,baz=14,slow=41
GO02 Mina Guanaco 8.14 356 Pn 08 46 35.0 +3.1
VACA Villa Angela C 9.10 54 *e*P Pn 08 46 37.5 -7.3
MECA Mercedes 10.06 69 *e*P Pn 08 46 57.3 -0.7
PB15 IPOC Station P 10.08 357 Pn 08 47 00.1 +1.7
TICA Tres Isletas 10.15 49 *e*P Pn 08 46 51.8 -7.4
SCCA San Cayetano, 10.59 60 *e*P Pn 08 46 50.0 -5.2
LVC Limon Verde 10.66 0 Pn Pn 08 47 06.7 +0.1
LVC Limon Verde 10.66 0 Pn Pn 08 47 06.8 +0.3
comp=Z,0.9nm,0.3s,baz=136,slow=6.8,SNR=7.5
LVC Sn Sn 08 49 07.5 +1.8
comp=Z,1.0nm,0.3s,baz=304,slow=2.6,SNR=3.1
LVC Lg Lg 08 50 08.2
comp=Z,0.7nm,0.3s,baz=121,slow=15,SNR=4.0
LVC LR LR 08 52 02.0
comp=Z,222nm,19.4s,baz=154,slow=42
comp=Z,1.8nm,0.3s
ITQB Itaqui 11.14 74 Pn 08 47 13.8 +1.0
PB01 IPOC Station P 12.23 358 Pn 08 47 27.1 -0.7
CPUP Villa Florida 12.26 58 *e*P Pn 08 47 21.2 -6.9
CPUP Villa Florida 12.26 58 Pn Pn 08 47 27.2 -0.9
comp=Z,0.6nm,0.3s,baz=233,slow=9.6,SNR=7.3
CPUP Lg Lg 08 51 03.4
comp=Z,1.0nm,0.3s,baz=329,slow=17,SNR=2.4
CPUP LR LR 08 52 42.9
comp=Z,495nm,18.4s,baz=235,slow=40
comp=Z,1.5nm,0.4s
AZCA Azaras, Argent 12.33 68 *e*P Pn 08 47 28.0 -1.0
ESFA Espinillo Form 12.37 50 *e*P Pn 08 47 22.1 -7.5

PLTB Pedras Altas 13.06 87 Pn 08 47 37.4 -1.6
ALGR Alto Alegre (B 14.38 76 *e*P Pn 08 47 56.3 -0.9
MURT Porto Murtinho 15.36 44 *e*P Pn 08 48 02.9 -7.3
FRBT Francisco Belt 15.63 66 *e*P Pn 08 48 09.5 -4.4
LPAZ La Paz 16.97 3 P P 08 48 33.3 -0.1
PTGB Pitanga 17.07 64 *e*P Pn 08 48 27.6 -4.6
AQDB Aquidauana 17.40 46 P P 08 48 38.7 +1.2
AQDB Aquidauana 17.40 46 *e*P Pn 08 48 29.5 -6.7
LDASE Londrina, Braz 18.54 62 *e*P P 08 48 45.6 -4.4
SIV San Ignacio 18.66 24 P Pn 08 48 51.8 0.0
baz=194,slow=9.8,SNR=13
comp=Z,2.2nm,0.6s
RVDE Rio Verde (Bra 18.97 45 *e*P P 08 48 50.8 -4.0
PCMB Pacaembu 19.53 58 *e*P P 08 48 57.4 -3.6
FRTB Fartura 19.73 65 *e*P P 08 49 01.9 -1.2
PTLB Pontes e Lacer 19.89 29 P P 08 49 05.3 +0.5
PP1B Ponte de Pedra 20.13 42 *e*P P 08 49 07.4 -0.1
SALV Santo Antonio 21.09 38 *e*P P 08 49 18.4 +0.6
SPB Sao Paulo 21.23 68 *e*P P 08 49 22.1 +2.8
ITRB Iturama 21.42 55 *e*P P 08 49 21.5 +0.1
VILB Vilhena 21.79 24 P P 08 49 26.5 +1.1
VILB IAmb IAmb 08 49 37.7
comp=Z,46nm,1.2s
RCLB Rio Claro- Sao 21.80 66 *e*P P 08 49 25.9 +0.5
BB19B Bebedouro 21.85 61 *e*P P 08 49 24.9 -1.2
VAO Valinhos 21.91 68 *e*P P 08 49 27.3 +0.6
ETMB Extrema 22.52 7 P P 08 49 43.6 +0.1
BSCB Bom Sucesso 24.71 66 *e*P P 08 49 59.9 +5.2
CLDB Colider 25.40 31 *e*P P 08 50 10.3 +9.5
CZSB Cruzeiro do Su 25.69 351 P P 08 50 03.2 -0.3
CZSB IAmb IAmb 08 50 15.2
comp=Z,19nm,0.8s
BDFB Brasilia 25.86 52 P P 08 50 04.0 -1.2
comp=Z,2.7nm,0.8s,baz=212,slow=18,SNR=3.2
comp=Z,2.7nm,0.8s
DIAM Diamantina, MG 27.14 63 *e*P P 08 50 23.8 +7.0
JANB Januaria 28.79 57 *e*P P 08 50 39.7 +8.2
TBTG Tabatinga, AM 28.99 358 P P 08 50 32.5 -0.6
TBTG IAmb IAmb 08 50 42.5
comp=Z,17nm,0.9s
MCRA Macar, Loja 30.57 338 P P 08 50 46.8 -0.3
MACA Manacapuru-AM 30.98 16 P P 08 50 52.3 +1.6
MACA IAmb IAmb 08 50 59.3
comp=Z,11nm,0.6s
COHC Cochancay 32.16 340 P P 08 51 02.1 +1.0
RPN Rapa Nui 35.26 269 LR LR 09 01 53.8
comp=Z,172nm,18.8s,baz=100,slow=30
BELA Belgrano 2 47.12 171 P P 08 53 07.0 +2.1
VNA3 Neumayer Olymp 49.04 158 ⇑P P 08 53 19.9 +0.1
comp=Z,16nm,0.8s
VNA1 Neumayer--Stat 49.31 157 ⇑P P 08 53 22.3 +0.4
comp=Z,12nm,0.9s
VNA2 Neumayer--Watz 49.66 158 ⇑P P 08 53 24.0 -0.5
comp=Z,7.5nm,0.6s,baz=286,slow=8.0
SNAA Sanae 51.26 158 P P 08 53 35.9 -0.8
SNAA IAmb IAmb 08 53 38.4
comp=Z,11nm,0.9s
SNAA Sanae 51.26 158 ⇑P P 08 53 36.3 -0.4
comp=Z,161nm,0.7s
SNAA Sanae 51.26 158 P P 08 53 36.1 -0.6
comp=Z,7.7nm,0.8s,baz=289,slow=7.9,SNR=19
comp=Z,7.7nm,0.8s
TROLL Troll, Antarti 52.98 158 ⇑P P 08 53 49.2 -0.3
comp=Z,709nm,0.8s
TROLL ⇓pP **sP** 08 53 59.8 +1.8
TEIG Tepich 56.34 338 P P 08 54 13.7 -0.6
QSPA South Pole Qui 56.92 180 P P 08 54 17.9 -0.3
QSPA IAmb IAmb 08 54 18.9
comp=Z,11nm,0.9s
QSPA South Pole Qui 56.92 180 P P 08 54 17.6 -0.6
comp=Z,9.4nm,0.8s,baz=149,slow=2.5,SNR=24
comp=Z,9.4nm,0.8s
VNDA Vanda 65.26 191 P P 08 55 14.6 +0.3
comp=Z,2.7nm,0.9s,baz=92,slow=5.5,SNR=6.9
comp=Z,2.7nm,0.9s
833A Chaparral WMA, 67.75 331 P P 08 55 30.6 -0.3
833A IAmb IAmb 08 55 32.4
comp=Z,7.4nm,0.9s
X58A Rowland 68.21 351 P P 08 55 33.2 -0.3
Y52A Lilburn 68.31 347 P P 08 55 34.0 -0.2
Z47A Carrollton 68.56 343 P P 08 55 35.0 -0.7
HNDO Hondo 68.78 332 P P 08 55 37.3 +0.1
HNDO IAmb IAmb 08 55 38.6
comp=Z,7.5nm,0.7s
Y49A Blount Mountai 68.80 344 P P 08 55 37.1 -0.2
Y49A IAmb IAmb 08 55 37.5
comp=Z,9.8nm,1.1s
X51A Calhoun 69.15 346 P P 08 55 39.0 -0.5
V58A Windy Hill, Pi 69.40 351 P P 08 55 40.9 0.0
X48A Hartselle 69.51 344 P P 08 55 41.5 -0.2
X48A IAmb IAmb 08 55 42.4
comp=Z,12nm,1.2s
Y45A Yeager Farm, C 69.57 342 P P 08 55 42.2 +0.2
V55A Taylorsville 69.75 349 P P 08 55 42.8 -0.3
V55A IAmb IAmb 08 55 43.4
comp=Z,6.8nm,0.7s
JCT Junction City 69.83 332 P P 08 55 43.6 -0.2
JCT IAmb IAmb 08 55 44.9
comp=Z,9.3nm,0.9s
W50A Signal Mountai 69.86 346 P P 08 55 43.6 -0.3
SWET Sewanee 70.00 345 P P 08 55 44.8 0.0
BRDY Brady 70.23 333 P P 08 55 46.1 -0.2
BRDY IAmb IAmb 08 55 47.0
comp=Z,3.7nm,0.8s
SAND Sanderson 70.31 330 P P 08 55 46.6 -0.2
SAND IAmb IAmb 08 55 48.0
comp=Z,8.6nm,1.1s
TXAR Lajitas Array 70.44 328 P P 08 55 47.8 +0.1
comp=Z,1.1nm,0.7s,baz=152,slow=8.3,SNR=15
comp=Z,1.1nm,0.7s
OZNA Ozona 70.75 331 P P 08 55 49.4 -0.1
OZNA IAmb IAmb 08 55 50.2
comp=Z,7.5nm,0.7s
WVT Waverly 71.30 344 P P 08 55 52.0 -0.6
R55A Marlinton 71.98 351 P P 08 55 56.6 -0.1
R55A IAmb IAmb 08 56 18.7
comp=Z,15nm,1.2s
LCAR Lake Charles 72.07 341 P P 08 55 56.5 -0.7
ODSA Odessa 72.38 330 P P 08 55 58.8 -0.5
ODSA IAmb IAmb 08 55 59.9
comp=Z,20nm,0.7s
APMT Aspermont 72.48 333 P P 08 55 59.6 -0.2
APMT IAmb IAmb 08 56 00.5
comp=Z,12nm,0.7s
DBIC Dimbokro 72.54 70 P P 08 55 59.2 -1.4
comp=Z,2.9nm,0.7s,baz=245,slow=9.4,SNR=3.6
comp=Z,2.9nm,0.7s
PBMO Poplar Bluff 72.55 342 P P 08 55 59.6 -0.4
PBMO IAmb IAmb 08 56 00.4
comp=Z,9.9nm,0.7s
PPT Papeete 72.88 260 LR LR 09 21 40.0
comp=Z,43nm,18.1s,baz=299,slow=31
HHAR Hobbs 73.06 339 P P 08 56 02.5 -0.6
HHAR IAmb IAmb 08 56 03.5
comp=Z,6.6nm,0.7s
FVM French Village 73.69 342 P P 08 56 06.6 -0.2
FVM IAmb IAmb 08 56 07.1
comp=Z,13nm,0.8s
CCM Cathedral Cave 73.97 342 P P 08 56 07.8 -0.6
CCM IAmb IAmb 08 56 08.8
comp=Z,8.2nm,0.7s
MSTX Muleshoe 74.08 331 P P 08 56 08.9 -0.4
MSTX IAmb IAmb 08 56 09.9
comp=Z,8.8nm,0.8s
S39A Bolivar 74.19 340 P P 08 56 09.3 -0.5
S39A IAmb IAmb 08 56 10.2
comp=Z,23nm,1.4s
R40A Maddies Statio 74.46 341 P P 08 56 10.5 -0.8
121A Cookes Peak, D 75.01 327 P P 08 56 16.0 +1.1
P43A Skaggs, Pawnee 75.04 344 P P 08 56 14.2 -0.4
P43A IAmb IAmb 08 56 14.5
comp=Z,9.1nm,0.7s
P40A Paris 75.57 342 P P 08 56 17.3 -0.4
T25A Trinidad 77.49 332 P P 08 56 29.4 +0.5
T25A IAmb IAmb 08 56 30.6
comp=Z,8.7nm,0.8s
BOSA Boshof 78.10 116 P P 08 56 31.5 -1.1
comp=Z,2.9nm,0.9s,baz=250,slow=7.1,SNR=4.3
comp=Z,2.9nm,0.9s
SDCO Great Sand Dun 78.45 331 P P 08 56 34.8 +0.5
S22A 4UR Ranch, Cre 79.00 330 P P 08 56 37.6 +0.3
ISCO Idaho Springs 80.27 332 P P 08 56 44.3 +0.1
K30B Basset 80.67 338 P P 08 56 45.5 -0.5
K30B IAmb IAmb 08 56 47.3
comp=Z,15nm,0.8s

ECSD EROS Data Cent 80.73 340 P P 08 56 45.8 -0.4
ECSD IAmb IAmb 08 56 46.5
comp=Z,10nm,0.7s
KNB Kanab 81.05 326 P P 08 56 48.7 +0.4
KNB IAmb IAmb 08 56 50.1
comp=Z,8.1nm,0.9s
PHWY Pilot Hill 81.50 333 P P 08 56 50.7 0.0
PHWY IAmb IAmb 08 56 51.8
comp=Z,6.1nm,0.7s
TOA0 Torodi Ar. Sit 81.57 68 P P 08 56 50.9 -0.5
TOA0 IAmb IAmb 08 57 01.5
comp=Z,6.9nm,0.8s
TORD Torodi Ar. Bea 81.57 68 P P 08 56 50.9 -0.5
TORD Torodi Ar. Bea 81.57 68 P P 08 56 51.0 -0.3
comp=Z,3.6nm,0.8s,baz=283,slow=3.7,SNR=20
comp=Z,3.6nm,0.8s
MTPU Mount Pierson 81.58 327 P P 08 56 51.4 +0.1
PRN Pahroc Range 82.42 325 P P 08 56 56.4 +0.9
SPR3 Spring Creek 3 83.35 326 P P 08 57 00.6 +0.1
SPR3 IAmb IAmb 08 57 01.6
comp=Z,8.7nm,1.0s
R11B Troy Canyon, C 83.43 325 P P 08 57 01.6 +0.8
HWUT Hardware Ranch 84.22 329 P P 08 57 04.4 -0.3
HWUT IAmb IAmb 08 57 05.3
comp=Z,4.6nm,0.8s
PDAR Pinedale Array 84.35 331 P P 08 57 04.9 -0.5
comp=Z,0.7nm,0.5s,baz=138,slow=5.8,SNR=8.4
comp=Z,0.7nm,0.5s
NVAR Mina Array Bea 84.82 323 P P 08 57 08.0 +0.1
comp=Z,2.5nm,0.8s,baz=158,slow=5.6,SNR=21
comp=Z,2.5nm,0.8s
J08A Circle Bar Ran 88.70 326 P P 08 57 26.6 +0.1
MDT Midelt 89.41 49 LR LR 09 37 41.1
comp=Z,61nm,18.1s,baz=280,slow=36
ESDC Sonseca Array 94.27 45 LR LR 09 38 39.4
comp=Z,33nm,18.0s,baz=96,slow=34
ASAR Alice Springs 119.29 204 PKP **PKPdf** 09 03 21.2 -1.8
comp=Z,0.2nm,0.5s,baz=147,slow=1.7,SNR=4.9
WRA Warramunga Arr 122.56 206 PKP **PKPdf** 09 03 27.8 -1.5
comp=Z,1.5nm,0.8s,baz=168,slow=1.7,SNR=15
BVAR Borovoye Array 145.03 43 PKPbc **PKPab** 09 04 09.7 +0.2
comp=Z,1.3nm,0.6s,baz=276,slow=2.8,SNR=7.9
KURBB Kurchatov Arra 150.60 44 PKPbc **PKPbc** 09 04 24.6 -0.1
comp=Z,5.0nm,0.8s,baz=299,slow=3.0,SNR=31
ZALV Zalesovo Beam 152.25 34 PKPbc **PKPbc** 09 04 28.1 -0.2
comp=Z,13nm,0.8s,baz=298,slow=3.5,SNR=31
MKAR Makanchi Array 154.37 50 PKPbc **PKPbc** 09 04 32.8 -0.6
comp=Z,1.1nm,0.8s,baz=300,slow=2.4,SNR=7.8
SONM Songino Array 165.08 12 PKPab **PKPab** 09 05 32.8 -1.2
comp=Z,0.3nm,0.3s,baz=146,slow=33,SNR=2.5
PZH PanZhiHua 169.47 128 PKP **PKPdf** 09 04 40.1 -1.0

KRSC 22 09:05:27.0±1.3, 48.80N×156.23E, h40km±19km, Ml3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.89**	**358**	*e*P		Pn 09 05 57.4	+0.7
SKR				*e*S		Sn 09 06 20.9	+1.8
PAU	**Pauzhetka**	**2.69**	**8**	*e*P		Pn 09 06 10.9	+3.1
PAU				*e*S		Sn 09 06 43.6	+4.5
KDTR	**Khodutka, Kamc**	**3.24**	**21**	*e*P		Pn 09 06 18.9	+3.7
KDTR				*e*S		Sn 09 06 57.1	+4.6
ASAK	**Asacha**	**3.74**	**16**	*e*P		Pn 09 06 27.0	+4.8
ASAK				*e*S		Sn 09 07 10.9	+5.9
GRL	**Gorelyy**	**3.94**	**17**	*e*P		Pn 09 06 29.6	+4.6
KRMR	**Karymshinskiy**	**4.21**	**16**	*e*P		Pn 09 06 32.2	+3.6
KRMR				*e*S		Sn 09 07 19.9	+3.5
DALK	**Dalny**	**4.53**	**20**	*e*S		Sn 09 07 29.4	+5.2
UGLR	**Uglovaya**	**4.71**	**19**	*e*P		Pn 09 06 40.4	+4.9
AVH	**Avacha**	**4.74**	**19**	*e*P		Pn 09 06 40.8	+4.8
KOK	**Koryaka**	**4.75**	**18**	*e*P		Pn 09 06 40.8	+4.8
SMAR	**Somma**	**4.75**	**19**	*e*P		Pn 09 06 41.2	+4.9
KRX	**Arik**	**4.81**	**18**	*e*P		Pn 09 06 41.8	+4.8
SPN	**Mys Shipunski**	**4.93**	**28**	*e*P		Pn 09 06 42.7	+4.3
SPN				*e*S		Sn 09 07 39.6	+5.5

IDC 22 09:07:51.9±1.6, 54.65N×83.76E, h0km, mbtmp2.8/3, ML2.3/3, Error ellipse: s-maj=14.4km s-min=9.4km az=6.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**138**	I	I	09 13 20.0	
	0.5nm,1.1s,baz=317,slow=336,SNR=9.2						
ZALV	**Zalesovo Beam**	**0.94**	**138**	Pg	Pg	09 08 09.6	-0.3
	3.7nm,0.3s,baz=320,slow=15,SNR=22						
ZALV				Lg	Lg	09 08 23.4	
	8.5nm,0.3s,baz=321,slow=29,SNR=15						
KURBB	**Kurchatov Arra**	**5.13**	**220**	Pn	Pn	09 09 10.3	+0.3
	0.1nm,0.3s,baz=40,slow=13,SNR=5.2						
KURBB				Sn	Sn	09 10 08.4	-1.4
	baz=36,slow=25,SNR=2.2						
KURBB				Lg	Lg	09 10 36.4	
	0.1nm,0.3s,baz=39,slow=32,SNR=4.2						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.92**	**187**	Pn	Pn	09 09 48.3	+0.1
	0.1nm,0.3s,baz=5.7,slow=11,SNR=2.2						
MKAR				Lg	Lg	09 12 02.3	
	0.1nm,0.3s,baz=1.0,slow=26,SNR=1.7						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**8.07**	**264**	Pn	Pn	09 09 49.4	-1.0
	baz=67,slow=16,SNR=5.2						
	0.9nm,0.5s						

IDC 22 09:43:36.5±10.0, 13.86S×167.10E, h149km±108km, mb3.1/4, mbtmp3.6/5, Error ellipse: s-maj=109.0km s-min=31.8km az=149.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.19**	**184**	P	Pn	09 45 32.5	0.0
	2.6nm,0.4s,baz=218,slow=9.2,SNR=3.9						
DZM				S	Sn	09 46 57.4	-6.4
	7.1nm,0.9s,baz=162,slow=21,SNR=2.2						
STKA	**Stephens Creek**	**29.44**	**228**	P	P	09 49 26.2	-0.1
	0.8nm,0.4s,baz=58,slow=9.5,SNR=4.7						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**31.89**	**255**	P	P	09 49 48.2	+0.3
	0.1nm,0.5s,baz=86,slow=8.9,SNR=1.3						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**32.84**	**248**	P	P	09 49 56.0	-0.3
	0.2nm,0.6s,baz=73,slow=9.6,SNR=6.3						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**85.75**	**18**	P	P	09 55 58.5	0.0
	0.3nm,0.7s,baz=232,slow=5.3,SNR=5.6						
	0.3nm,0.7s						

JMA 22 09:48:41.9±0.2, 24.61N±0.5×121.61E±0.9, h73km±1km, MV2.7/14, TAIWAN REGION
TAP 22 09:48:42.1, 24.61N×121.57E, h76km, ML3.6, B
ISC 22 09:48:42.1±1.2, 24.64N±0.02×121.57E±0.02, h77km±4km, n159, g090/302, 63C-41D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENTT	**Nioudou**	**0.00**	**257**	⇑*e*P	Pn	09 48 53.4	+0.3
	baz=26						
ENTT				*i* S	Sn	09 49 01.3	0.0
	baz=26						
NDT	**Datong Townshi**	**0.07**	**234**	⇑*e*P	Pn	09 48 53.4	+0.2
	baz=275						
NDT				S	Sn	09 49 01.3	-0.1
	baz=275						
LATG	**Datong**	**0.11**	**201**	⇑*i*P	Pn	09 48 53.7	+0.2
	baz=206						
LATG				S	Sn	09 49 02.1	+0.4
	baz=206						
FUSB	**Fushanzhiwuyua**	**0.12**	**8**	⇑*e*P	Pn	09 48 53.3	-0.1
	baz=353						
FUSB				*e*S	Sn	09 49 00.8	-0.9
	baz=353						
TWE	**Neicheng**	**0.12**	**48**	⇑P	Pn	09 48 53.6	+0.3
	baz=44						
TWE				*e*S	Sn	09 49 01.6	+0.1
	baz=44						
NDS	**Dongshan**	**0.13**	**93**	⇑*i*P	Pn	09 48 53.5	+0.2
	baz=88						
NDS				S	Sn	09 49 01.7	+0.1
	baz=88						
NWLT	**Wulai**	**0.15**	**336**	⇑*i*P	Pn	09 48 53.2	-0.2
	baz=347						
NWLT				S	Sn	09 49 00.7	-1.0

	baz=347					
YHNB	Yeheng	0.18 279 ⇑P	Pn	09 48 53.3	-0.3
	baz=295				
YHNB		S	Sn	09 49 01.2	-0.9
	baz=295				
NSK	Sanguang	0.20 280 ⇑P	Pn	09 48 53.3	-0.3
	baz=295				
NSK		S	Sn	09 49 01.2	-0.9
	baz=295				
ILA	Ilan	0.20 52 P	Pn	09 48 54.1	+0.6
	baz=54				
ILA		eS	Sn	09 49 03.0	+1.0
	baz=54				
TWC	Suao	0.26 97⇑iP	Pn	09 48 54.0	+0.2
	baz=91				
TWC		iS	Sn	09 49 02.4	0.0
	baz=91				
ESAO	Su ao	0.26 105 ⇑P	Pn	09 48 53.7	-0.1
	baz=98				
ESAO		S	Sn	09 49 02.0	-0.5
	baz=98				
ENA	Nanau	0.26 144⇑iP	Pn	09 48 53.5	-0.3
	baz=143				
ENA		S	Sn	09 49 02.2	-0.3
	baz=143				
NNS	Nan Shan	0.27 222 ⇑P	Pn	09 48 54.2	+0.2
	baz=225				
NNS		S	Sn	09 49 02.8	-0.1
	baz=225				
EWUT	Wuta	0.27 136⇑iP	Pn	09 48 53.5	-0.4
	baz=131				
EWUT		iS	Sn	09 49 01.8	-0.8
	baz=131				
NNSB	Datong	0.27 219 ⇑P	Pn	09 48 54.2	+0.2
	baz=223				
NNSB		S	Sn	09 49 02.4	-0.5
	baz=223				
NTC	Toucheng	0.32 48 iS	Sn	09 49 03.7	+0.6
	baz=38				
NHDH	Xindian Distri	0.32 353⇑iP	Pn	09 48 54.2	-0.1
	baz=353				
NHDH		S	Sn	09 49 02.7	-0.5
	baz=353				
TWA	Mucha	0.34 2⇑iP	Pn	09 48 54.5	+0.1
	baz=359				
TWA		iS	Sn	09 49 03.2	-0.2
	baz=359				
EAHA	Aohua	0.35 154 ⇑P	Pn	09 48 53.5	-0.9
	baz=155				
EAHA		eS	Sn	09 49 05.0	+1.6
	baz=155				
EGS		0.39 58 ⇑P	Pn	09 48 55.6	+0.9
	baz=53				
EGS		eS	Sn	09 49 05.4	+1.5
	baz=53				
NHY	Taipei	0.40 360 S	Sn	09 49 04.3	+0.3
	baz=352				
TAP	Taipei	0.40 352 S	Sn	09 49 04.0	-0.1
	baz=357				
TIPB	Shuangxi	0.40 35 eP	Pn	09 48 55.1	+0.3
	baz=28				
TIPB		eS	Sn	09 49 03.8	-0.4
	baz=28				
NFF	Wufeng Townshi	0.41 269 ⇑P	Pn	09 48 54.8	-0.1
	baz=281				
NFF		S	Sn	09 49 03.9	-0.5
	baz=281				
ETLH	Xiulin Townshi	0.44 191 ⇑P	Pn	09 48 54.9	-0.3
	baz=185				
ETLH		S	Sn	09 49 04.0	-0.8
	baz=185				
NACB	Ninganchiao	0.47 177 ⇑P	Pn	09 48 54.4	-0.9
	baz=171				
NACB		S	Sn	09 49 04.1	-0.9
	baz=171				
NWF	Wu-fen Shan	0.47 24⇓iP	Pn	09 48 55.6	+0.2
	baz=18				
NWF		S	Sn	09 49 05.1	-0.2
	baz=18				
WFSB	Wu-fen Shan	0.47 24 ⇓P	Pn	09 48 55.6	+0.3
	baz=18				
WFSB		S	Sn	09 49 05.1	0.0
	baz=18				
NCU	National Centr	0.48 313 iS	Sn	09 49 05.5	+0.2
	baz=311				
NCUH	Zhongli	0.48 313⇑eP	Pn	09 48 56.6	+1.2
	baz=310				
NCUH		S	Sn	09 49 05.0	-0.2
	baz=310				
TWS1	Kuangyinshan	0.48 343 iP	Pn	09 48 55.8	+0.4
	baz=338				
TWS1		S	Sn	09 49 05.5	+0.3
	baz=338				
ETL	Fush Village	0.48 174 ⇓P	Pn	09 48 54.6	-0.9
	baz=174				
ETL		eS	Sn	09 49 04.2	-1.1
	baz=174				
FUSS	Fushou	0.49 217⇑iP	Pn	09 48 56.3	+0.5
	baz=216				
FUSS		iS	Sn	09 49 06.4	+0.5
	baz=216				
YM01	YM01	0.50 0 eP	Pn	09 48 55.9	+0.2
YM01		S	Sn	09 49 05.3	-0.4
LIOB	Emei	0.51 271 ⇓P	Pn	09 48 55.8	+0.2
	baz=274				
LIOB		S	Sn	09 49 05.6	0.0
	baz=274				
NSTT	Nanjuang	0.52 269⇓iP	Pn	09 48 55.9	+0.1
	baz=277				
NSTT		eS	Sn	09 49 05.3	-0.5
	baz=277				
TWT	Tachien	0.53 223 ⇓P	Pn	09 48 56.9	+0.8
	baz=232				
TWT		S	Sn	09 49 07.0	+0.7
	baz=232				
TWB1	Santiao Chiao	0.53 46⇓iP	Pn	09 48 56.2	+0.4
	baz=40				
TWB1		eS	Sn	09 49 05.7	-0.2
	baz=40				
SXI1	Grass Mountain	0.53 32 ⇓P	Pn	09 48 56.0	0.0
	baz=26				
SXI1		S	Sn	09 49 05.8	-0.4
	baz=26				
NTST	Danshui	0.53 348 P	Pn	09 48 56.1	+0.2
	baz=342				
NTST		S	Sn	09 49 06.1	0.0
	baz=342				
TDCB	Techi	0.54 224 ⇓P	Pn	09 48 56.8	+0.7
	baz=233				
TDCB		S	Sn	09 49 06.7	+0.2
	baz=233				
TNOU	National Taiwa	0.54 20 ⇓P	Pn	09 48 56.0	0.0
	baz=17				
TNOU		S	Sn	09 49 05.6	-0.6
	baz=17				
ANP	Anpu	0.55 355 ⇑P	Pn	09 48 56.0	-0.1
	baz=4.0				
ANP		S	Sn	09 49 05.7	-0.8
	baz=4.0				
YM08	YM08	0.55 2 eP	Pn	09 48 56.0	0.0
	baz=355				
YM08		S	Sn	09 49 05.5	-0.8
	baz=355				
SBCB	Hsinchu	0.55 286 ⇑P	Pn	09 48 56.3	+0.3
	baz=295				
SBCB		S	Sn	09 49 06.5	+0.1
	baz=295				
TWD	Chiawan	0.56 178 eP	Pn	09 48 55.1	-1.0
	baz=169				
TWD		iS	Sn	09 49 05.2	-1.2
	baz=169				
WHF	Hehuan Shan	0.57 209⇑eP	Pn	09 48 57.4	+0.7
	baz=205				
WHF		S	Sn	09 49 07.6	+0.1
	baz=205				
HSN	Hsinchu	0.57 287 iP	Pn	09 48 56.0	-0.2
	baz=301				
HSN		S	Sn	09 49 06.4	-0.3
	baz=301				
LXIB	Xiulin Townshi	0.63 193 ⇑P	Pn	09 48 56.5	-0.5
	baz=184				
LXIB		S	Sn	09 49 08.1	+0.1
	baz=184				
TWY	Chenhua	0.63 2⇑iP	Pn	09 48 57.1	+0.3
	baz=3.0				
TWY		S	Sn	09 49 08.2	+0.4
	baz=3.0				
EOS2	EOS2	0.64 110⇓eP	Pn	09 48 58.5	+1.7
	baz=121				
HWA	Hwalien	0.66 177 eP	Pn	09 48 53.8	-3.3
	baz=176				
HWA		eS	Sn	09 49 08.8	+0.5
	baz=176				
WHP	Taichung City	0.67 238 ⇓P	Pn	09 48 58.0	+0.6
	baz=247				
WHP		eS	Sn	09 49 08.7	+0.1
	baz=247				
ETM	Tongmen	0.68 186⇓eP	Pn	09 48 56.3	-1.0
	baz=177				
ETM		eS	Sn	09 49 07.4	-1.2
	baz=177				
CHGB	Renai	0.68 212 ⇑P	Pn	09 48 58.4	+0.8
	baz=213				
CHGB		S	Sn	09 49 09.5	+0.4
	baz=213				
EOS3	EOS3	0.77 117⇓eP	Pn	09 48 59.4	+1.3
	baz=118				
WUSB	Renai	0.77 213 ⇑P	Pn	09 48 59.2	+0.8
	baz=213				
WUSB		iS	Sn	09 49 10.8	+0.3
	baz=213				
NSY	Sanyi	0.77 253 ⇓P	Pn	09 48 58.8	+0.5
	baz=254				
NSY		S	Sn	09 49 10.8	+0.5
	baz=254				
OWD	Renai	0.77 208 ⇓P	Pn	09 48 59.2	+0.7
	baz=208				
OWD		iS	Sn	09 49 10.9	+0.3
	baz=208				
TWQ1	Liyutan	0.78 248⇓iP	Pn	09 48 58.6	+0.2
	baz=249				
TWQ1		S	Sn	09 49 10.6	0.0
	baz=249				
ESL	Shilin	0.83 189⇑eP	Pn	09 48 57.6	-1.4
	baz=181				
ESL		eS	Sn	09 49 09.5	-2.1
	baz=181				
WCS	Beigang Elemen	0.84 226 ⇓P	Pn	09 48 59.5	+0.5
	baz=233				
WCS		iS	Sn	09 49 11.7	+0.1
	baz=233				
SHUL	Shoufeng	0.85 180⇓eP	Pn	09 48 58.5	-0.7
	baz=185				
SHUL		S	Sn	09 49 11.4	-0.5
	baz=185				
EOS4	EOS4	0.86 127 ⇑P	Pn	09 48 59.4	+0.5
	baz=125				
EOS4		eS	Sn	09 49 12.3	+0.9
	baz=125				
WDJ	Dajia District	0.90 251 ⇑P	Pn	09 49 00.2	+0.5
	baz=252				
WDJ		S	Sn	09 49 13.2	+0.3
	baz=252				
TEGC	Jichi Village	0.93 182 eP	Pn	09 49 00.4	+0.3
	baz=185				
TEGC		S	Sn	09 49 13.8	+0.3
	baz=185				
WARBT	Fenglin Townsh	0.93 190⇑eP	Pn	09 48 58.6	-1.6
	baz=183				
WARBT		eS	Sn	09 49 11.8	-1.9
	baz=183				
TCU	Taichung	0.95 239 ⇓P	Pn	09 49 00.8	+0.5
	baz=246				
TCU		S	Sn	09 49 14.6	+0.5
	baz=246				
VWDT	VWDT	0.97 204 ⇑P	Pn	09 49 01.4	+0.8
	baz=210				
VWDT		S	Sn	09 49 15.2	+0.8
	baz=210				
SMLT	Sun Moon Lake	0.97 219⇓iP	Pn	09 49 01.3	+0.5
	baz=219				
SMLT		iS	Sn	09 49 15.4	+0.8
	baz=219				
EGFH	Guangfu	0.98 188 eP	Pn	09 48 59.0	-1.7
	baz=181				
EGFH		eS	Sn	09 49 12.2	-2.3
	baz=181				
TYC	Yuchr	0.98 222⇓iP	Pn	09 49 01.2	+0.5
	baz=221				
TYC		S	Sn	09 49 15.3	+0.6
	baz=221				
SSLB	Suanglung	1.02 214 ⇓P	Pn	09 49 01.7	+0.4
	baz=223				
SSLB		S	Sn	09 49 16.0	+0.4
	baz=223				
WCHH	Zhanghua	1.08 239⇓iP	Pn	09 49 02.0	+0.1
	baz=239				
WCHH		S	Sn	09 49 17.3	+0.6
	baz=239				
PCYT	Pengchaiyu	1.08 25 ⇓P	Pn	09 49 02.2	+0.2
	baz=26				
PCYT		S	Sn	09 49 17.9	+1.0
	baz=26				
WNT	Mingjian	1.11 227 ⇑P	Pn	09 49 03.0	+0.7
	baz=235				
WNT		iS	Sn	09 49 18.2	+0.7
	baz=235				
WJS	Zhushan	1.12 223 ⇑P	Pn	09 49 03.0	+0.5
	baz=233				
WJS		S	Sn	09 49 18.4	+0.7
	baz=233				
WHYT	Xinyi Township	1.15 215 ⇓P	Pn	09 49 03.5	+0.7
	baz=215				
WHYT		S	Sn	09 49 19.3	+0.9
	baz=215				
HGSD	Ruisui	1.15 187 ⇓P	Pn	09 49 02.6	-0.3
	baz=186				
HGSD		eS	Sn	09 49 18.8	+0.4
	baz=186				
EHY	Hungye	1.15 191 eP	Pn	09 49 01.2	-1.7
	baz=183				
EHY		eS	Sn	09 49 16.4	-2.0
	baz=183				
JYNG	Yonagunijimaku	1.27 98 P	Pn	09 49 04.4	+0.2
JYNG		eS	Sn	09 49 20.9	-0.1
YULB	Yu-li	1.27 191 eP	Pn	09 49 02.6	-1.7
	baz=183				
YULB		eS	Sn	09 49 21.2	+0.2
	baz=183				
TWF1	Yuli	1.31 191 eP	Pn	09 49 03.2	-1.6
	baz=185				
EYUL	Yuli	1.31 190⇑eP	Pn	09 49 05.5	+0.7
	baz=184				
EYUL		eS	Sn	09 49 22.9	+0.9
	baz=184				
WRL	Guolierlin Hig	1.31 236 ⇓P	Pn	09 49 04.5	-0.4
	baz=236				
WRL		eS	Sn	09 49 21.3	-0.8
	baz=236				
CHN5	Tsauling	1.32 218⇑iP	Pn	09 49 05.5	+0.4
	baz=218				
CHN5		S	Sn	09 49 23.2	+0.8
	baz=218				
ECBN	Changbin	1.32 185 P	Pn	09 49 04.9	-0.2
	baz=184				
ECBN		eS	Sn	09 49 22.8	+0.6
	baz=184				
WGK	Gukeng	1.32 224⇓iP	Pn	09 49 05.7	+0.7
	baz=234				
WGK		iS	Sn	09 49 23.2	+1.0
	baz=234				
YOJ	Yonaguni jima	1.32 97 P	Pn	09 49 05.2	+0.2
YOJ		S	Sn	09 49 21.4	-0.9
YOJ	Yonaguni jima	1.32 97 ⇑P	Pn	09 49 05.2	+0.2
	baz=90				
YOJ		S	Sn	09 49 21.9	-0.4
	baz=90				
ALS	Alishan	1.32 212⇓iP	Pn	09 49 06.0	+0.6
	baz=219				
ALS		S	Sn	09 49 23.2	+0.4
	baz=219				
WDLH	Douliu	1.34 225⇑iP	Pn	09 49 05.8	+0.6
	baz=225				
WDLH		eS	Sn	09 49 22.2	-0.3
	baz=225				
WTCT	Ta-ch'eng	1.41 237 eP	Pn	09 49 07.3	+1.2
	baz=236				
WTCT		iS	Sn	09 49 24.1	-0.1
	baz=236				
WTK	Tuku	1.44 229 ⇑P	Pn	09 49 06.6	+0.2
	baz=229				
WTK		iS	Sn	09 49 25.2	+0.3
	baz=229				
CHKH	Chenggong	1.45 186 eP	Pn	09 49 04.5	-2.1
	baz=182				
CHKH		eS	Sn	09 49 24.4	-0.8
	baz=182				
FULB	Fuli	1.46 190 ⇓P	Pn	09 49 06.7	-0.1
	baz=183				
FULB		iS	Sn	09 49 25.1	-0.3
	baz=183				
WCKO	Fanlu	1.49 217 ⇑P	Pn	09 49 07.9	+0.7
	baz=226				
WCKO		S	Sn	09 49 26.9	+0.9
	baz=226				
CHN2	Minshiung	1.49 222 P	Pn	09 49 08.1	+0.9
	baz=230				
CHN2		S	Sn	09 49 27.6	+1.5
	baz=230				
EHD	Haiduan	1.52 193 eP	Pn	09 49 08.4	+0.8
	baz=185				
EHD		eS	Sn	09 49 27.3	+0.5
	baz=185				
ELDTW	Lidau	1.53 199 iP	Pn	09 49 08.3	+0.5
	baz=190				
ELDTW		S	Sn	09 49 27.9	+0.7
	baz=190				
CHKT	Chengkung	1.55 187 P	Pn	09 49 08.1	+0.1
	baz=186				
CHKT		eS	Sn	09 49 26.6	-0.8
	baz=186				
CHY	Chiayi	1.55 223⇑iP	Pn	09 49 08.3	+0.4
	baz=230				
CHY		S	Sn	09 49 28.1	+0.7
	baz=230				
CHN4	Tsaushan	1.56 215⇑iP	Pn	09 49 08.8	+0.6
	baz=214				
CHN4		S	Sn	09 49 29.5	+1.6
	baz=214				
ECS	Chishang	1.57 192 P	Pn	09 49 09.4	+1.1
	baz=184				
ECS		iS	Sn	09 49 28.0	0.0
	baz=184				
WSF	Szhu	1.58 231 P	Pn	09 49 09.3	+1.0
	baz=231				
WSF		S	Sn	09 49 29.0	+0.7
	baz=231				
TPUB	Ta-pu	1.59 213 ⇑P	Pn	09 49 09.0	+0.6
	baz=212				
TPUB		S	Sn	09 49 29.1	+0.7
	baz=212				
STYH	Taoyuan	1.63 207⇑iP	Pn	09 49 09.9	+0.8
	baz=215				
STYH		S	Sn	09 49 29.9	+0.5
	baz=215				
WTP	Ta-pu	1.64 212⇑iP	Pn	09 49 09.8	+0.5
	baz=212				
WTP		S	Sn	09 49 30.7	+1.0
	baz=212				
WSL	Shuilin Townsh	1.66 228 P	Pn	09 49 10.6	+1.2
	baz=227				
WSL		S	Sn	09 49 30.9	+0.9
	baz=227				
EDH	Donghe	1.68 188 eP	Pn	09 49 07.2	-2.5
	baz=188				
EDH		eS	Sn	09 49 28.1	-2.4
	baz=188				
TWK	Hsinying	1.69 216 ⇑P	Pn	09 49 10.3	+0.5
	baz=215				
TWK		S	Sn	09 49 31.4	+0.5
	baz=215				
SNST	Tainan City	1.72 215 ⇑P	Pn	09 49 10.5	+0.3
	baz=214				
SNST		S	Sn	09 49 32.1	+0.6
	baz=214				
CHN1	Nanshi	1.73 214 ⇑P	Pn	09 49 10.9	+0.4
	baz=213				
CHN1		iS	Sn	09 49 32.2	+0.3
	baz=213				
ICHU	Yijhu	1.74 223 ⇓P	Pn	09 49 10.5	+0.1
	baz=233				
ICHU		eS	Sn	09 49 31.8	-0.1
	baz=233				
CHN8	Yiju	1.79 224 P	Pn	09 49 11.9	+0.8
	baz=233				
CHN8		S	Sn	09 49 34.0	+0.8
	baz=233				
SGST	Jiashian	1.80 210 ⇑P	Pn	09 49 11.1	-0.1
	baz=218				
SGST		S	Sn	09 49 33.2	-0.1
	baz=218				
SLGT	Liugui	1.84 207 ⇑P	Pn	09 49 12.7	+0.8
	baz=216				
SLGT		S	Sn	09 49 35.3	+0.8
	baz=216				
TWG	Pinlang	1.87 194 eP	Pn	09 49 10.5	-1.7
	baz=183				
TWG		eS	Sn	09 49 32.2	-2.8
	baz=183				
TWGBT	Beinan	1.87 194 eP	Pn	09 49 11.0	-1.2
	baz=183				
TWGBT		eS	Sn	09 49 32.6	-2.5
	baz=183				
SSHA	Shanhua	1.90 218 P	Pn	09 49 13.4	+0.8
	baz=218				
SSHA		S	Sn	09 49 36.4	+0.6
	baz=218				
CHN3	Shinhua	1.91 216 iP	Pn	09 49 13.5	+0.8
	baz=215				
CHN3		S	Sn	09 49 36.5	+0.6
	baz=215				
TTN	Taitung	1.92 192 P	Pn	09 49 13.7	+0.9
	baz=182				
TTN		eS	Sn	09 49 37.1	+0.9
	baz=182				
SCLT	Jiali	1.93 221 P	Pn	09 49 14.2	+1.3
	baz=231				
SCLT		S	Sn	09 49 37.7	+1.3
	baz=231				
VWUC	VWUC	1.96 281⇓eP	Pn	09 49 12.7	-0.6
	baz=280				
LDUT	Ludao	1.96 183⇑eP	Pn	09 49 11.7	-1.7
	baz=189				
LDUT		eS	Sn	09 49 35.2	-2.0
	baz=189				
SHHT	Tainan City	1.96 215 P	Pn	09 49 14.7	+1.3
	baz=214				
SHHT		S	Sn	09 49 38.4	+1.1
	baz=214				
SCST	Cishan	2.01 210 P	Pn	09 49 14.8	+0.9
	baz=219				
SCST		S	Sn	09 49 39.3	+1.0
	baz=219				
TSCK	Chigu Township	2.01 223 ⇓P	Pn	09 49 14.2	+0.1
	baz=231				
TSCK		S	Sn	09 49 39.0	+0.5
	baz=231				
TWM1	Shoushan	2.09 210 P	Pn	09 49 15.9	+0.7
	baz=218				
MATB	Ma-tsu	2.10 316⇓eP	Pn	09 49 14.6	-0.7
	baz=315				
TSMG	Majia	2.10 204 ⇓P	Pn	09 49 16.2	+0.9
	baz=212				
TSMG		S	Sn	09 49 41.7	+1.0
	baz=212				
ECL	Taimali	2.11 196⇑eP	Pn	09 49 16.9	+1.5
	baz=186				
ECL		iS	Sn	09 49 41.1	+0.3
	baz=186				
HATJ	Hateruma jima	2.12 105 eP	Pn	09 49 16.0	+0.5
PNG	Penghu	2.13 240⇑eP	Pn	09 49 14.8	-0.8
	baz=239				
PNG		eS	Sn	09 49 39.5	-1.7
	baz=239				
PHUB	P'eng-hu	2.14 239⇑eP	Pn	09 49 14.8	-1.0
	baz=238				
PHUB		S	Sn	09 49 39.0	-2.6
	baz=238				
SGLT	Jiouru	2.15 208 eP	Pn	09 49 14.9	-1.0
	baz=216				
SGLT		eS	Sn	09 49 41.6	-0.1
	baz=216				
SNJT	Kaohsiung City	2.19 211 P	Pn	09 49 17.6	+1.1
	baz=221				
SNJT		S	Sn	09 49 43.9	+1.1
	baz=221				
MASBT	Mashibuluo	2.19 203 ⇑P	Pn	09 49 17.3	+0.8
	baz=213				
MASBT		S	Sn	09 49 43.2	+0.4
	baz=213				
WDGT	Dungji	2.22 232 ⇑P	Pn	09 49 16.9	0.0
	baz=231				
WDGT		eS	Sn	09 49 42.2	-1.3
	baz=231				

JKRS	**Kuro-shima**	**2.26**	**100**	P		**Pn**	**09 49 18.0**	**+0.7**
JKRS				*e*S		**Sn**	**09 49 44.0**	**-0.4**
WSSB	**Gushan**	**2.32**	**211**	P		**Pn**	**09 49 19.7**	**+1.5**
	baz=220							
WSSB				S		**Sn**	**09 49 47.0**	**+1.1**
	baz=220							
EAST	**Anshuo**	**2.34**	**197**	P		**Pn**	**09 49 19.9**	**+1.4**
	baz=186							
EAST				S		**Sn**	**09 49 47.1**	**+0.7**
	baz=186							
JIJ	**Ishigaki jima**	**2.36**	**96**	P		**Pn**	**09 49 18.7**	**0.0**
JIJ				S		**Sn**	**09 49 45.9**	**-0.9**
KAU	**Kaohsiung**	**2.37**	**210**	P		**Pn**	**09 49 20.5**	**+1.7**
	baz=208							
KAU				S		**Sn**	**09 49 47.5**	**+0.6**
	baz=208							
SCZT	**Fangliau**	**2.42**	**201**	⇓P		**Pn**	**09 49 20.5**	**+1.0**
	baz=200							
SCZT				S		**Sn**	**09 49 49.0**	**+0.8**
	baz=200							
VCHM	**Qimei**	**2.42**	**234**	⇑*e*P		**Pn**	**09 49 19.1**	**-0.5**
	baz=225							
VCHM				*e*S		**Sn**	**09 49 46.6**	**-1.7**
	baz=225							
JISG	**Ishigakijimahi**	**2.50**	**91**	*e*P		**Pn**	**09 49 20.9**	**+0.3**
JISG				*e*S		**Sn**	**09 49 49.6**	**-0.4**
LYJJ	**Jianjiangzhen**	**2.51**	**320**	*e*P		**Pn**	**09 49 20.0**	**-0.7**
	baz=319							
SLIU	**Shizi**	**2.52**	**197**	⇓P		**Pn**	**09 49 21.7**	**+0.9**
	baz=195							
SLIU				S		**Sn**	**09 49 51.4**	**+0.8**
	baz=195							
XPSS	**Dashiqiu**	**2.60**	**332**	*e*P		**Pn**	**09 49 21.3**	**-0.6**
	baz=332							
XPSS				*e*S		**Sn**	**09 49 50.9**	**-1.6**
	baz=332							
LYUB	**Lan-yu**	**2.63**	**180**	*e*P		**Pn**	**09 49 23.6**	**+1.3**
	baz=173							
LYUB				*e*S		**Sn**	**09 49 51.3**	**-2.0**
	baz=173							
JTJ	**Tarama**	**2.85**	**89**	P		**Pn**	**09 49 26.6**	**+1.2**
JTJ				S		**Sn**	**09 49 59.4**	**+0.8**
KNM	**Kinmen**	**2.87**	**266**	⇓*e*P		**Pn**	**09 49 26.4**	**+0.9**
	baz=265							
KNMB	**Chin-men Tao**	**2.90**	**267**	⇓*e*P		**Pn**	**09 49 25.1**	**-0.9**
	baz=266							
AXDP	**Jialang**	**3.28**	**275**	⇑*e*P		**Pn**	**09 49 30.9**	**-0.3**
	baz=274							
ZPLA	**Ao Xicun**	**3.56**	**259**	⇓*e*P		**Pn**	**09 49 34.4**	**-0.5**
	baz=257							
ZPLA				*e*S		**Sn**	**09 50 13.6**	**-2.2**
	baz=257							
DSXP	**Dongshan**	**3.90**	**257**	⇑*e*P		**Pn**	**09 49 39.2**	**-0.4**
	baz=255							
DSXP				S		**Sn**	**09 50 23.9**	**-0.3**
	baz=255							
SXFK	**Yanhouchang**	**3.96**	**297**	P		**Pn**	**09 49 42.0**	**+1.6**
	baz=296							

*SOME **22** 09:57:53.1, 44.°70N×82.°00E, h20km*
*NNC **22** 09:57:54.3±1.0, 44.°73N×81.°90E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=10.8km s-min=3.8km az=121.0*
ISC 22 09:57:53.1±2.6**, 44.°68N**±0.°04×**81.°99E**±0.°09**, h2**km±20km**, n27**, σ0**977**/35**, 4C, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.61**	**258**	*e*P	**Pb**	**09 58 23.0**	**-0.7**
	12nm,0.1s						
DJR				*e*S	**Sg**	**09 58 44.6**	**-0.3**
	23nm,0.1s						
DJR	**Jarkent**	**1.61**	**258**	P	**Pg**	**09 58 24.0**	**0.0**
	15nm,0.2s						
DJR				S	**Sg**	**09 58 45.7**	**+0.8**
	18nm,0.4s						
KTMS	**Ketmen**	**1.71**	**224**	*e*P	**Pb**	**09 58 25.3**	**-0.1**
	5.5nm,0.1s						
KTMS				*e*S	**Sg**	**09 58 48.3**	**+0.3**
	20nm,0.4s						
KTMS	**Ketmen**	**1.71**	**224**	P	**Pb**	**09 58 25.5**	**+0.1**
	5.5nm,0.1s						
KTMS				S	**Sg**	**09 58 48.4**	**+0.4**
	20nm,0.4s						
KAPS	**Kapalarasan**	**1.96**	**289**	*e*P	**Pb**	**09 58 29.2**	**-0.4**
	4.9nm,0.2s						
KAPS				*e*S	**Sg**	**09 58 55.2**	**-1.0**
	19nm,0.3s						
KAPS	**Kapalarasan**	**1.96**	**289**	Pg	**Pb**	**09 58 29.2**	**-0.4**
	4.9nm,0.2s						
KAPS				Lg	Lg	09 58 55.6	
	19nm,0.3s						
KNOS	**Konyrlen**	**2.04**	**262**	Pg	**Pb**	**09 58 30.6**	**-0.3**
	27nm,0.2s						
KNOS				Lg	Lg	09 58 57.7	
	32nm,0.4s						
MK31	**Makanchi Array**	**2.12**	**6**	Pn	**Pn**	**09 58 30.7**	**+1.0**
	4.6nm,0.3s,baz=184,slow=14,SNR=297						
MK31				Sn	**Sb**	**09 58 58.8**	**-0.3**
	1.3nm,0.2s,baz=193,slow=28,SNR=16						
MAKZ	**Makanchi**	**2.13**	**360**	⇑Pn	**Pn**	**09 58 30.2**	**+0.4**
	4.2nm,0.3s						
MAKZ				⇑Sn	**Sb**	**09 58 58.0**	**-1.3**
	11nm,0.5s						
PDGK	**Podgornoye**	**2.25**	**234**	⇑Pn	**Pb**	**09 58 33.1**	**-1.5**
	7.2nm,0.5s						
PDGK				⇑Sn	**Sb**	**09 59 03.4**	**+0.3**
	24nm,0.8s						
SHLS	**Shalkode**	**2.38**	**231**	*e*Pg	**Pn**	**09 58 33.2**	**0.0**
	27nm,0.2s						
SHLS				*e*Lg	Lg	09 59 02.0	
	35nm,0.4s						
SHLS	**Shalkode**	**2.38**	**231**	Pg	**Pn**	**09 58 33.0**	**-0.2**
	27nm,0.2s						
SHLS				Lg	Lg	09 59 02.1	
	35nm,0.4s						
TDK	**Taldyqorghan**	**2.57**	**278**	Pg	**Pb**	**09 58 40.0**	**+0.1**
	48nm,0.4s						
TDK				Lg	Lg	09 59 13.2	
	44nm,0.4s						
UZB	**Uzynbulak**	**2.64**	**235**	*e*Pg	**Pb**	**09 58 40.9**	**-0.2**
	9.6nm,0.2s						
UZB				*e*Lg	Lg	09 59 15.4	
	8.6nm,0.2s						
UZB	**Uzynbulak**	**2.64**	**235**	Pg	**Pb**	**09 58 40.1**	**-1.0**
	9.6nm,0.2s						
UZB				Lg	Lg	09 59 14.0	
	8.6nm,0.2s						
KPKS	**Kokpek**	**2.67**	**244**	*e*Pg	**Pb**	**09 58 41.2**	**-0.6**
	14nm,0.2s						
KPKS				*e*Lg	Lg	09 59 15.9	
	30nm,0.4s						
KPKS	**Kokpek**	**2.67**	**244**	Pg	**Pb**	**09 58 41.2**	**-0.6**
	14nm,0.2s						
KPKS				Lg	Lg	09 59 15.5	
	30nm,0.4s						
ZHN	**Zhinishke**	**2.98**	**241**	*e*Pg	**Pb**	**09 58 47.0**	**0.0**
	2.6nm,0.2s						
ZHN				*e*Lg	Lg	09 59 25.8	
	23nm,0.2s						
ZHN	**Zhinishke**	**2.98**	**241**	Pg	**Pb**	**09 58 46.7**	**-0.3**
	2.6nm,0.2s						
ZHN				Lg	Lg	09 59 25.5	
	23nm,0.2s						
KURS	**Kuram**	**3.00**	**248**	*e*Pg	**Pb**	**09 58 47.5**	**+0.2**
	2.2nm,0.2s						
KURS				*e*Lg	Lg	09 59 26.4	
	4.2nm,0.2s						
SATY	**Saty**	**3.06**	**239**	*e*Pg	**Pb**	**09 58 48.2**	**-0.1**
	2.8nm,0.1s						
SATY				*e*Lg	Lg	09 59 27.8	
	16nm,0.2s						
SATY	**Saty**	**3.06**	**239**	Pg	**Pb**	**09 58 47.4**	**-0.9**
	4.7nm,0.3s						
SATY				Lg	Lg	09 59 26.3	
	16nm,0.2s						
CHKK	**Chushkaly**	**3.69**	**259**	*e*Pg	**Pb**	**09 58 58.8**	**-0.2**
	3.3nm,0.2s						
CHKK				*e*Lg	Lg	09 59 45.9	
	8.0nm,0.2s						
CHKK	**Chushkaly**	**3.69**	**259**	Pg	**Pb**	**09 58 58.5**	**-0.5**
	2.8nm,0.2s						
CHKK				Lg	Lg	09 59 45.9	
	8.0nm,0.2s						
KUU	**Kurty**	**4.13**	**261**	*e*Pg	**Pb**	**09 59 07.5**	**+1.0**
	1.8nm,0.1s						
KUU				*e*Lg	Lg	10 00 00.8	
	4.4nm,0.2s						
KRBS	**Karabastau**	**4.65**	**260**	*e*Pg	**Pb**	**09 59 17.6**	**+2.3**
	1.8nm,0.5s						
KRBS				*e*Lg	Lg	10 00 18.4	
	1.8nm,0.4s						
KRBS	**Karabastau**	**4.65**	**260**	Pg	**Pb**	**09 59 16.3**	**+0.9**
	1.8nm,0.5s						
KRBS				Lg	Lg	10 00 15.9	
	1.8nm,0.4s						

*IDC **22** 10:16:39.7±9.7, 36.°31N×71.°75E, h0km, mb3.6/1, mbtmp3.6/4, ML3.1/2, MS3.5/2, Error ellipse: s-maj=135.8km s-min=61.5km az=43.0*
*NEIC **22** 10:16:53.6±1.3, 36.°92N±0.°06×71.°4E±0.°1, h107km±11km, mb4.1/3, Error ellipse: s-maj=16.8km s-min=6.6km az=110.0*
*NNC **22** 10:16:57.3±2.1, 37.°23N×71.°46E, h149km±41km, mb2.7, mpv3.6, Error ellipse: s-maj=20.2km s-min=14.0km az=15.0*
ISC 22 10:16:52.0±0.9**, 36.°90N**±0.°08×**71.°37E**±0.°06**, h106**km**, n39, σ1°68/40, mb4.4/5, 3C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**2.48**	**316**	Pn	**Pn**	**10 17 32.0**	**+0.8**
KBL	**Kabul**	**3.02**	**220**	Pn	**Pn**	**10 17 41.1**	**+2.7**
BTK	**Batken**	**3.18**	**352**	Pn	**Pn**	**10 17 42.0**	**+1.6**
NIL	**Nilore**	**3.59**	**154**	Pn	**Pn**	**10 17 48.3**	**+2.4**
KSH	**Kashi**	**4.47**	**53**	P	**Pn**	**10 17 54.8**	**-2.9**
KSH				S	Sn	10 18 39.3	-9.4
KSH				pmax	pmax		
	comp=Z,31nm,0.6s						
KSH				smax	smax		
	comp=N,230nm,0.7s						
KSH				smax	smax		
	comp=E,160nm,0.7s						
ARSB	**Arslanbob**	**4.59**	**15**		**Pn**	**10 18 00.4**	**+1.1**
AML	**Almayashu**	**5.52**	**18**	P	**Pn**	**10 18 13.7**	**+1.5**
	SNR=47						
AML	**Almayashu**	**5.52**	**18**	⇓P	**Pn**	**10 18 13.7**	**+1.5**
	comp=E,0.8nm,0.3s						
AML				⇑S	**Sn**	**10 19 13.0**	**-1.6**
	comp=E,6.9nm,0.6s						
NRN	**Naryn**	**5.78**	**37**	Pn	**Pn**	**10 18 15.4**	**-0.2**
UCH	**Uchtor**	**5.85**	**24**	P	**Pn**	**10 18 18.4**	**+1.7**
	SNR=7.1						
KZA	**Kyzart**	**5.98**	**29**	P	**Pn**	**10 18 19.2**	**+0.9**
	SNR=6.4						
AAK	**Ala-Archa**	**6.21**	**22**	P	**Pn**	**10 18 23.2**	**+1.8**
	SNR=21						
AAK	**Ala-Archa**	**6.21**	**22**	Pn	**Pn**	**10 18 22.8**	**+1.5**
KK31	**Karatay Array**	**6.23**	**354**	Pn	**Pn**	**10 18 23.0**	**+1.6**
KK31	**Karatay Array**	**6.23**	**354**	⇓P	**Pn**	**10 18 22.7**	**+1.2**
	comp=E,2.9nm,0.3s,baz=175,slow=11,SNR=74						
KK31				S	**Sn**	**10 19 30.7**	**-0.5**
	comp=E,2.7nm,0.3s,baz=182,slow=25,SNR=6.9						
KKAR	**Karatay Array**	**6.23**	**354**	Pn	**Pn**	**10 18 22.6**	**+1.2**
KKAR	**Karatay Array**	**6.23**	**354**	Pn	**Pn**	**10 18 23.1**	**+1.6**
USP	**Ospenovka**	**6.79**	**20**	P	**Pn**	**10 18 30.6**	**+1.4**
	SNR=9.7						
TKM2	**Tokmak 2**	**6.83**	**27**	P	**Pn**	**10 18 31.5**	**+1.7**
	SNR=14						
TKM2	**Tokmak 2**	**6.83**	**27**	⇑P	**Pn**	**10 18 31.0**	**+1.2**
	comp=E,4.4nm,0.6s						
TKM2				⇑S	**Sn**	**10 19 45.0**	**-1.1**
	comp=E,8.5nm,0.8s						
GEYT	**Alibeck**	**10.60**	**280**	Pn	**Pn**	**10 19 22.2**	**+1.5**
GEYT	**Alibeck**	**10.60**	**280**	Sn	**Sn**	**10 21 11.7**	**-5.7**
	comp=E,1.9nm,0.3s,baz=104,slow=19,SNR=5.9						
MK31	**Makanchi Array**	**12.79**	**36**	Pn	**Pn**	**10 19 50.7**	**+0.8**
MK31	**Makanchi Array**	**12.79**	**36**	P	**Pn**	**10 19 50.6**	**+0.8**
	comp=E,0.8nm,0.9s,baz=224,slow=10,SNR=4.5						
MKAR	**Makanchi Array**	**12.79**	**36**	Pn	**Pn**	**10 19 48.8**	**-1.1**
	comp=E,0.1nm,0.3s,baz=223,slow=14,SNR=5.1						
	comp=E,0.7nm,0.9s						
WMQ	**Urumqi**	**14.22**	**56**	*e*P	**P**	**10 20 11.3**	**-1.4**
AB31	**Akbulak array**	**14.88**	**330**	P	**Pn**	**10 20 16.2**	**-0.6**
	comp=E,0.3nm,0.4s,baz=144,slow=13,SNR=12						
ABKAR	**Akbulak array**	**14.88**	**330**	Pn	**Pn**	**10 20 17.0**	**+0.2**
BVAR	**Borovoye Array**	**16.14**	**358**	Pn	**Pn**	**10 20 31.7**	**-0.8**
	comp=E,0.6nm,0.5s,baz=171,slow=12,SNR=1.4						
ZAA0	**Zalesovo Array**	**19.43**	**24**	P	**P**	**10 21 10.4**	**+0.6**
ZAA0				IAmb	IAmb	10 21 12.9	
	comp=Z,1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**19.43**	**24**	P	**P**	**10 21 10.6**	**+0.9**
ZALV	**Zalesovo Beam**	**19.43**	**24**	P	**P**	**10 21 10.8**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=227,slow=9.2,SNR=6.6						
	comp=Z,1.4nm,0.5s						
GNI	**Garni**	**21.06**	**287**	P	**P**	**10 21 27.1**	**-0.6**
GNI				IAmb	IAmb	10 21 54.0	
	comp=Z,28nm,1.4s						
AKH	**Akhalkalaki**	**22.04**	**290**	P	**P**	**10 21 39.0**	**+0.9**
AKH				IAmb	IAmb	10 22 03.2	
	comp=Z,9.1nm,0.7s						
PZH	**PanZhiHua**	**27.73**	**103**	P	**P**	**10 22 32.5**	**+1.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,6.2s						
SONM	**Songino Array**	**27.86**	**56**	P	**P**	**10 22 32.0**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=259,slow=7.6,SNR=2.7						
	comp=Z,0.3nm,0.4s						
HHC	**Hu-ho-hao-te**	**31.34**	**70**	*e*P	**P**	**10 23 02.9**	**+0.4**
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,290nm,6.6s						
JNU	**Nakatsue**	**48.20**	**76**	LR	LR	10 48 17.4	
	comp=Z,92nm,20.2s,baz=182,slow=40						
JHJ	**Hachijo jima 2**	**55.06**	**72**	LR	LR	10 51 01.2	
	comp=Z,30nm,21.6s,baz=128,slow=38						

*OMAN **22** 10:20:36.9±1.5, 31.°26N×57.°53E, h10km, mb4.7/17, ml4.1/1, Error ellipse: s-maj=18.2km s-min=15.1km az=111.0*
*DSN **22** 10:20:38.6±0.8, 31.°10N×57.°74E, h15km, ML3.4/8, Error ellipse: s-maj=43.6km s-min=8.0km az=103.0*
*TEH **22** 10:20:40.9, 30.°76N×57.°26E, h9km±27km, ML4.1*
*IDC **22** 10:20:47.9±3.0, 30.°64N×57.°19E, h52km±31km, mb3.6/10, mbtmp3.9/13, ML3.9/3, MS2.9/3, Error ellipse: s-maj=22.2km s-min=19.8km az=134.0*
ISC 22 10:20:41.9±0.6**, 30.°72N**±0.°03×**57.°25E**±0.°03**, h10**km**, n90, σ2°70/92, mb3.8/10, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.21**	**175**	Pg	**Pg**	**10 20 46.7**	**+0.3**
KRM1				Sg	**Sg**	**10 20 50.5**	**+0.9**
ZRDN	**Zarand Kerman**	**0.66**	**292**	Pg	**Pb**	**10 20 54.2**	**-1.5**
KHGB	**Koh Gabri**	**0.75**	**243**	Pg	**Pg**	**10 20 56.1**	**-0.3**
TVBK	**TV Kerman**	**0.84**	**210**	Pg	**Pb**	**10 20 58.7**	**-0.1**
CHMN	**Cheshme madani**	**0.89**	**163**	Pg	**Pg**	**10 20 58.6**	**-0.5**
NGRK	**Negar Kerman**	**1.16**	**203**	Pg	**Pn**	**10 21 04.6**	**0.0**
NGRK				Sg	**Sn**	**10 21 20.8**	**+0.2**
IBAF	**Bafgh**	**1.68**	**302**	Pg	**Pg**	**10 21 12.6**	**-1.6**
KBAM	**BAM**	**1.89**	**146**	Pn	**Pb**	**10 21 16.0**	**-0.5**
BSRN	**Basiran**	**2.03**	**52**	Pn	**Pb**	**10 21 16.4**	**-2.6**
IKOO	**Kooshah**	**2.27**	**41**	Pn	**Pb**	**10 21 20.2**	**-2.9**
TPRV	**Parvadeh(Tabas**	**2.35**	**348**	Pn	**Pb**	**10 21 21.1**	**-3.4**
IMEH	**Mehriz**	**2.36**	**287**	Pn	**Pb**	**10 21 22.1**	**-2.5**
NHDN	**Nehbandan**	**2.50**	**74**	Pn	**Pb**	**10 21 23.6**	**-3.4**
ITEG	**Tejag**	**2.52**	**30**	Pn	**Pn**	**10 21 23.5**	**+0.3**
KHNJ	**Kahnooj**	**2.79**	**172**	Pn	**Pb**	**10 21 29.2**	**-2.6**
TKDS	**Koohdasht(Taba**	**2.89**	**358**	Pn	**Pn**	**10 21 28.6**	**+0.4**
IDAH	**Dahanechah**	**3.01**	**47**	Pn	**Pn**	**10 21 30.4**	**+0.5**
AFRZ	**Afriz**	**3.09**	**29**	Pn	**Pn**	**10 21 31.6**	**+0.6**
ISAD	**Sadrabad**	**3.27**	**292**	Pn	**Pn**	**10 21 35.4**	**+1.8**
TNSJ	**Nastanj**	**3.28**	**351**	Pn	**Pn**	**10 21 34.2**	**+0.6**
IBND	**Bandar-abas**	**3.31**	**191**	Pn	**Pn**	**10 21 36.0**	**+2.2**
ZHDN	**Zahedan**	**3.35**	**112**	Pn	**Pn**	**10 21 36.6**	**+2.1**
GENO	**Geno**	**3.44**	**196**	Pn	**Pn**	**10 21 38.1**	**+2.4**
ANAR	**Anarak**	**3.88**	**310**	Pn	**Pn**	**10 21 42.5**	**+0.7**
SHRT	**Shahrakht**	**3.90**	**41**	Pn	**Pn**	**10 21 43.2**	**+1.2**
IRAM	**Rameshesh**	**4.31**	**286**	Pn	**Pn**	**10 21 49.5**	**+1.8**
IZEF	**Zefreh**	**4.72**	**299**	Pn	**Pn**	**10 21 54.9**	**+1.5**
SHME	**Shamm**	**4.75**	**192**	P	**Pn**	**10 21 56.2**	**+2.6**
SHME	**Shamm**	**4.75**	**192**	P	**Pn**	**10 21 57.9**	**+4.3**
SHME				S	**Sb**	**10 22 58.8**	**-3.8**
BANOM	**Banah**	**4.85**	**190**	P	**Pn**	**10 21 58.9**	**+3.9**
JASK	**Jask - Hormozg**	**4.86**	**173**	P	**Pn**	**10 21 58.4**	**+3.3**
	SNR=12						
JASK	**Jask - Hormozg**	**4.86**	**173**	Pn	**Pn**	**10 21 57.2**	**+2.0**
KLNJ	**Kolanjah**	**4.87**	**275**	Pn	**Pn**	**10 21 57.1**	**+1.5**
TBJM	**Torbat-e-JAM**	**5.22**	**29**	Pn	**Pn**	**10 22 01.2**	**+0.9**
KRSH	**Karshahi**	**5.41**	**308**	Pn	**Pn**	**10 22 03.7**	**+0.9**
MASF	**Masafi**	**5.41**	**191**	P	**Pn**	**10 22 06.5**	**+3.8**
MASF				S	**Sb**	**10 23 14.2**	**-7.4**
MSFE	**Esma-Masafi**	**5.42**	**190**	P	**Pn**	**10 22 06.0**	**+3.1**
MSFE				S	**Sb**	**10 23 14.0**	**-7.9**
ISFB	**Sefidab**	**5.57**	**312**	Pn	**Pn**	**10 22 06.0**	**+1.1**
SRVN	**Saravan**	**5.59**	**125**	Pn	**Pn**	**10 22 07.5**	**+2.3**
SBZV	**Sabzevar**	**5.67**	**3**	Pn	**Pn**	**10 22 07.2**	**+0.8**
IPIR	**Pirpir**	**5.76**	**292**	Pn	**Pn**	**10 22 09.4**	**+1.6**
JRKH	**Jarkhoshk**	**5.79**	**26**	Pn	**Pn**	**10 22 09.3**	**+1.3**
UOSS	**Minazif**	**5.82**	**189**	P	**Pn**	**10 22 11.3**	**+2.9**
UOSS	**Minazif**	**5.82**	**189**	P	**Pn**	**10 22 12.0**	**+3.6**
UOSS				S	**Sb**	**10 23 26.3**	**-7.1**
NAZ	**Nazwa, Dubai**	**5.88**	**194**	P	**Pn**	**10 22 12.8**	**+3.7**
ILAS	**Lasjerd**	**5.88**	**323**	Pn	**Pn**	**10 22 10.8**	**+1.4**
HATD	**Hatta, Dubai**	**5.95**	**190**	P	**Pn**	**10 22 13.0**	**+2.9**
HATD	**Hatta, Dubai**	**5.95**	**190**	P	**Pn**	**10 22 13.6**	**+3.5**
ASHO	**Ashiyiah**	**6.10**	**190**	P	**Pn**	**10 22 15.0**	**+2.8**
ASHO	**Ashiyiah**	**6.10**	**190**	P	**Pn**	**10 22 15.5**	**+3.3**
	SNR=8.3						
FAQ	**Al Faqa, Dubai**	**6.13**	**194**	P	**Pn**	**10 22 14.8**	**+2.3**
FAQ	**Al Faqa, Dubai**	**6.13**	**194**	P	**Pn**	**10 22 15.9**	**+3.4**
FAQ				S	**Sb**	**10 23 34.1**	**-8.0**
ASUD	**Al Ashush, Dub**	**6.30**	**196**	P	**Pn**	**10 22 18.2**	**+3.3**
ASUD	**Al Ashush, Dub**	**6.30**	**196**	P	**Pn**	**10 22 18.5**	**+3.6**
ISFR	**Sfrayin**	**6.35**	**5**	Pn	**Pn**	**10 22 16.4**	**+0.6**
IGLO	**Ghaloghah**	**6.44**	**335**	Pn	**Pn**	**10 22 18.7**	**+1.8**
AJN	**Ajban**	**6.45**	**199**	P	**Pn**	**10 22 20.6**	**+3.6**
SOHO	**SOHO**	**6.59**	**186**	P	**Pn**	**10 22 20.7**	**+1.9**
SOHO	**SOHO**	**6.59**	**186**	P	**Pn**	**10 22 21.5**	**+2.6**
ALNE	**Al Ain**	**6.77**	**192**	P	**Pn**	**10 22 24.2**	**+2.9**
ALNE	**Al Ain**	**6.77**	**192**	P	**Pn**	**10 22 24.8**	**+3.5**
JRN	**Qarnain Island**	**6.95**	**215**	P	**Pn**	**10 22 25.4**	**+1.7**
HOQ	**Hoqain**	**7.11**	**180**	P	**Pn**	**10 22 28.2**	**+2.2**
GEYT	**Alibeck**	**7.23**	**5**	P	Pn	10 22 34.0	+6.3
	0.6nm,0.3s,baz=201,slow=18,SNR=1.8						
	1.9nm,0.3s						
SHMA	**Al-Shehemyia**	**7.36**	**230**	P	**Pn**	**10 22 31.0**	**+1.6**
ARQ	**Araqi**	**7.38**	**185**	P	**Pn**	**10 22 33.2**	**+3.4**
WSAR	**Wadi Sarin**	**7.55**	**170**	P	**Pn**	**10 22 33.8**	**+1.7**
	SNR=8.8						
WSAR	**Wadi Sarin**	**7.55**	**170**	P	**Pn**	**10 22 33.8**	**+1.7**
	3.2nm,0.3s,baz=9.2,slow=9.5,SNR=39						
	22nm,0.6s						
SMDO	**Samad**	**7.66**	**174**	P	**Pn**	**10 22 35.0**	**+1.3**
BSY	**Bisya**	**7.94**	**180**	P	Pn	10 22 42.2	+4.8
TRNA	**Turayna**	**8.00**	**223**	P	**Pn**	**10 22 39.1**	**+0.8**
	SNR=8.3						
WBK	**Wadi Bani Khal**	**8.22**	**169**	P	**Pn**	**10 22 42.5**	**+1.2**
	SNR=9.2						
SMRA	**Abu-Samra**	**8.23**	**225**	P	**Pn**	**10 22 42.4**	**+1.0**
	SNR=12						
JMDO	**Jabal Madar**	**8.35**	**175**	P	**Pn**	**10 22 45.1**	**+2.0**
JLN	**Jalan Bani Buh**	**8.75**	**167**	P	**Pn**	**10 22 50.0**	**+1.5**
MHTO	**MHTO**	**9.71**	**176**	P	**Pn**	**10 23 03.0**	**+1.2**
GNI	**Garni**	**13.86**	**316**	LR	LR	10 29 47.9	
	comp=Z,36nm,18.9s,baz=180,slow=39						
EIL	**Elat**	**19.30**	**273**	LR	LR	10 34 03.8	
	comp=Z,37nm,19.2s,baz=223,slow=41						
AKTO	**Aktyubinsk**	**19.71**	**1**	P	**Pn**	**10 25 12.8**	**0.0**
	0.7nm,0.3s,baz=176,slow=11,SNR=10						
	4.0nm,0.5s						
BRTR	**Keskin Array B**	**21.23**	**301**	P	**P**	**10 25 29.5**	**+1.3**
	1.8nm,0.8s,baz=137,slow=13,SNR=6.5						
	1.8nm,0.8s						
BVAR	**Borovoye Array**	**24.27**	**20**	P	**P**	**10 26 00.6**	**+1.4**
	2.4nm,0.6s,baz=205,slow=6.6,SNR=12						
	2.4nm,0.6s						
MKAR	**Makanchi Array**	**25.13**	**43**	P	**P**	**10 26 07.7**	**+0.7**
	1.1nm,0.7s,baz=226,slow=8.5,SNR=10						
	1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**25.45**	**33**	P	**P**	**10 26 11.2**	**+1.4**
	2.2nm,0.7s,baz=233,slow=9.1,SNR=25						
	2.2nm,0.7s						
ZALV	**Zalesovo Beam**	**30.55**	**33**	P	**P**	**10 26 57.4**	**+2.0**
	4.3nm,0.6s,baz=240,slow=9.0,SNR=19						
	4.3nm,0.6s						
FINES	**FINESS Array B**	**36.89**	**336**	P	**P**	**10 27 52.1**	**+1.8**
	1.0nm,0.5s,baz=116,slow=8.7,SNR=5.9						
	1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**39.62**	**98**	LR	LR	10 49 18.3	
	comp=Z,26nm,18.9s,baz=130,slow=43						
SONM	**Songino Array**	**40.96**	**51**	P	**P**	**10 28 27.4**	**+2.5**
	0.5nm,0.7s,baz=243,slow=6.3,SNR=3.1						
	0.5nm,0.7s						
ARCES	**ARCESS Array B**	**42.83**	**344**	P	**P**	**10 28 40.5**	**+0.8**
	1.4nm,0.7s,baz=133,slow=8.5,SNR=5.4						
	1.4nm,0.7s						
TORD	**Torodi

MKAR	**Makanchi Array**	**50.43**	**344**	P		**P**	**10 35 02.4**	**+2.8**
	comp=Z,0.7nm,0.7s,baz=157,slow=7.7,SNR=3.7							
	comp=Z,0.7nm,0.7s							
KURBB	**Kurchatov Arra**	**54.97**	**343**	P		**P**	**10 35 36.7**	**+3.7**
	comp=Z,0.4nm,0.8s,baz=169,slow=6.6,SNR=2.7							
	comp=Z,0.4nm,0.8s							
ZALV	**Zalesovo Beam**	**56.49**	**349**	P		**P**	**10 35 47.0**	**+3.1**
	comp=Z,0.4nm,0.4s,baz=184,slow=5.8,SNR=1.7							
	comp=Z,0.4nm,0.4s							
BVAR	**Borovoye Array**	**59.66**	**339**	P		**P**	**10 36 10.2**	**+4.0**
	comp=Z,0.7nm,0.6s,baz=164,slow=8.5,SNR=3.6							
	comp=Z,0.7nm,0.6s							
ABKAR	**Akbulak array**	**61.27**	**331**	P		**P**	**10 36 12.6**	**-4.6**
CASY	**Casey**	**65.35**	**176**	P		P	10 36 38.7	-5.2
CASY				IAmb		IAmb	10 36 41.8	
	comp=Z,5.3nm,1.1s							
EIL	**Elat**	**69.69**	**302**	LR		LR	11 08 07.5	
	comp=Z,24nm,18.3s,baz=76,slow=36							
PETK	**Petropavlovsk-**	**71.80**	**32**	LR		LR	11 09 50.9	
	comp=Z,19nm,18.3s,baz=82,slow=37							
SUR	**Sutherland**	**80.85**	**238**	LR		LR	11 10 24.6	
	comp=Z,46nm,20.9s,baz=133,slow=33							
FINES	**FINESS Array B**	**83.72**	**332**	P		**P**	**10 38 34.9**	**+4.3**
	comp=Z,1.9nm,0.8s,baz=230,slow=8.9,SNR=3.7							
	comp=Z,1.9nm,0.8s							
ARCES	**ARCESS Array B**	**85.94**	**340**	P		**P**	**10 38 45.8**	**+4.2**
	comp=Z,5.3nm,1.1s,baz=101,slow=4.7,SNR=4.3							
	comp=Z,5.3nm,1.1s							
TXAR	**Lajitas Array**	**143.61**	**37**	PKP		**PKiKP**	**10 45 39.8**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=222,slow=1.2,SNR=1.8							

*NNC **22** 11:19:03.7±5.3, 37.97N×70.51E, h153km±99km, mb3.0, mpv3.9, Error ellipse: s-maj=51.8km s-min=32.0km az=12.0*

ISC 22 11:19:05.2±3.0, 38.1N±0.2×70.3E±0.1, h150km, n16, σ1§56/20, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.79**	**32**	P	**Pn**	**11 20 16.0**	**-0.2**
	SNR=22						
AML	**Almayashu**	**4.79**	**32**	⇓P	**Pn**	**11 20 15.4**	**-0.8**
	2.0nm,0.6s						
AML				⇑S	**Sn**	**11 21 10.8**	**-0.6**
	3.1nm,0.6s						
KK31	**Karatay Array**	**5.01**	**2**	P	**Pn**	**11 20 15.9**	**-2.7**
	5.5nm,0.3s,baz=172,slow=11,SNR=103						
KK31				⇓S	**Sn**	**11 21 19.8**	**+3.8**
	6.5nm,0.4s,baz=179,slow=29,SNR=5.7						
UCH	**Uchtor**	**5.23**	**37**	P	**Pn**	**11 20 23.0**	**+1.0**
	SNR=22						
EKS2	**Erkin-Say**	**5.27**	**29**	P	**Pn**	**11 20 22.6**	**+0.4**
	SNR=9.1						
KZA	**Kyzart**	**5.49**	**42**	P	**Pn**	**11 20 27.5**	**+2.1**
	SNR=14						
AAK	**Ala-Archa**	**5.55**	**34**	P	**Pn**	**11 20 26.7**	**+0.7**
	SNR=8.0						
KBK	**Karagaybulak**	**5.77**	**36**	P	**Pn**	**11 20 30.7**	**+1.8**
	SNR=23						
CHMS	**Chumysh**	**5.95**	**33**	P	**Pn**	**11 20 31.6**	**+0.4**
	SNR=7.7						
CHMS	**Chumysh**	**5.95**	**33**	⇑P	**Pn**	**11 20 31.3**	**+0.1**
	11nm,0.6s						
CHMS				⇑S	**Sn**	**11 21 36.6**	**-1.8**
	35nm,1.1s						
USP	**Ospenovka**	**6.07**	**30**	P	**Pn**	**11 20 32.5**	**-0.3**
	SNR=13						
TKM2	**Tokmak 2**	**6.28**	**38**	P	**Pn**	**11 20 37.3**	**+1.5**
	SNR=44						
TKM2	**Tokmak 2**	**6.28**	**38**	⇓P	**Pn**	**11 20 36.9**	**+1.2**
	16nm,0.5s						
TKM2				⇓S	**Sn**	**11 21 45.4**	**-1.1**
	12nm,0.9s						
MK31	**Makanchi Array**	**12.39**	**42**	P	**Pn**	**11 21 56.2**	**-0.2**
	0.5nm,0.6s,baz=229,slow=14,SNR=3.7						
AB31	**Akbulak array**	**13.43**	**329**	P	**Pn**	**11 22 08.9**	**-0.8**
	1.0nm,0.5s,baz=160,slow=12,SNR=26						
AKTO	**Aktyubinsk**	**15.14**	**329**	⇓P	**P**	**11 22 32.6**	**-0.1**
	1.9nm,0.8s						

*IDC **22** 11:20:42.6±1.9, 17.54S×168.05E, h0km, mb3.9/6, mbtmp3.9/7, ML3.7/1, MS3.6/4, Error ellipse: s-maj=52.9km s-min=28.3km az=127.0*
*NOU **22** 11:20:46.9, 17.57S×168.05E, h24km, MLv4.4/10, Vanuatu Islands*

ISC 22 11:20:47.0±0.9, 17.6S±0.1×168.01E±0.09, h27km, n15, σ1§26/15, mb3.9/5, MS3.5/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**0.19**	**117**	P	**Pn**	**11 20 54.7**	**+0.6**
LIFNC	**LIFOU**	**3.21**	**193**	P	**Pn**	**11 21 36.9**	**+1.3**
YATNC	**Mamie plateau,**	**4.52**	**193**	P	**Pn**	**11 21 54.8**	**+1.0**
KOUNC	**Koumac, New Ca**	**4.56**	**230**	P	**Pn**	**11 21 54.7**	**+0.4**
DZM	**Mont Dzumac**	**4.65**	**198**	P	**Pn**	**11 21 56.7**	**+1.1**
DZM	**Mont Dzumac**	**4.65**	**198**	Pn	**Pn**	**11 21 55.8**	**+0.2**
	3.5nm,0.3s,baz=53,slow=7.8,SNR=50						
DZM				Sn	**Sn**	**11 22 46.1**	**-2.7**
	8.7nm,0.3s,baz=156,slow=22,SNR=7.6						
	11nm,0.4s						
OUENC	**Ouen Island, N**	**4.88**	**193**	P	**Pn**	**11 22 00.5**	**+1.8**
HNR	**Honiara**	**11.31**	**315**	LR	LR	11 27 33.2	
	comp=Z,722nm,18.7s,baz=217,slow=36						
CTA	**Charters Tower**	**20.73**	**260**	P	**P**	**11 25 27.0**	**+1.3**
	6.0nm,1.0s,baz=90,slow=10,SNR=2.0						
CTA				LR	LR	11 32 09.6	
	comp=Z,66nm,19.1s,baz=86,slow=33						
	6.0nm,1.0s						
STKA	**Stephens Creek**	**27.77**	**234**	P	**P**	**11 26 34.6**	**+0.9**
	1.6nm,0.6s,baz=64,slow=9.6,SNR=5.1						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**31.93**	**260**	P	**P**	**11 27 09.9**	**-0.8**
	0.3nm,0.6s,baz=93,slow=9.0,SNR=8.4						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**32.42**	**254**	P	**P**	**11 27 14.5**	**-0.5**
	1.2nm,0.6s,baz=80,slow=8.4,SNR=37						
ASAR				PcP	**PcP**	**11 30 02.4**	**+0.2**
	0.2nm,0.7s,baz=93,slow=4.6,SNR=2.4						
ASAR				LR	LR	11 40 01.7	
	comp=Z,93nm,18.4s,baz=106,slow=36						
	1.2nm,0.6s						
SONM	**Songino Array**	**85.25**	**324**	P	**P**	**11 33 21.2**	**-0.1**
	1.4nm,0.8s,baz=142,slow=5.0,SNR=5.1						
	1.4nm,0.8s						
ILAR	**Eielson Array**	**89.06**	**18**	P	**P**	**11 33 38.5**	**-0.8**
	0.4nm,0.8s,baz=224,slow=6.3,SNR=2.5						
	0.4nm,0.8s						
ELK	**Elko**	**91.70**	**48**	LR	LR	12 14 38.1	
	comp=Z,20nm,18.1s,baz=296,slow=35						

*UPP **22** 11:20:47.6±0.1, 67.19N×20.67E, h0km, ML2.6, Confirmed Induced event*
*HEL **22** 11:20:48.1±0.5, 67.16N×20.62E, h0km, ML0.9, Suspected explosion*

ISC 22 11:20:48.1±0.9, 67.17N±0.03×20.70E±0.03, h0km, n18, σ1§27/25, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**226**	P	**Pg**	**11 20 49.3**	**-0.1**
DUNU				S	**Sg**	**11 20 50.5**	**+0.2**
RATU	**Laukkuluspa**	**0.78**	**328**	P	**Pg**	**11 21 01.9**	**-1.2**
ERTU	**Ertsjaerv**	**0.85**	**136**	P	**Pg**	**11 21 03.7**	**-0.7**
ERTU	**Ertsjaerv**	**0.85**	**136**	PG	**Pg**	**11 21 03.6**	**-0.7**
ERTU				SB	**Sb**	**11 21 17.6**	**-0.1**
SALU	**Saltoluokta**	**0.88**	**285**	P	**Pg**	**11 21 03.8**	**-1.0**
PAJU	**Pajala**	**0.96**	**98**	P	**Pg**	**11 21 05.9**	**-0.5**
PAJU	**Pajala**	**0.96**	**98**	PG	**Pg**	**11 21 05.9**	**-0.5**
	baz=281						
PAJU				SB	**Sg**	**11 21 19.0**	**+0.3**
KLF	**Kolari**	**1.27**	**86**	PG	**Pg**	**11 21 11.4**	**-1.0**
KLF				MSG		11 21 27.5	
	comp=Z,0.5nm,0.2s						
KLF				SG	**Sg**	**11 21 29.4**	**+0.5**
HEF	**Hetta**	**1.68**	**41**	PG	**Pn**	**11 21 18.5**	**-0.2**
HEF				MSG		11 21 39.2	
	comp=Z,0.9nm,0.2s						
HEF				SN	**Sg**	**11 21 41.7**	**-0.1**
KALU	**Kalix**	**1.69**	**140**	SN	**Sg**	**11 21 43.7**	**+1.3**
TOF	**Tornio**	**1.81**	**125**	PG	**Pn**	**11 21 21.3**	**+0.8**
TOF				MSG		11 21 42.8	
	comp=Z,0.6nm,0.2s						
TOF				SG	**Sg**	**11 21 46.3**	**+0.1**
KIF	**Kilpisjarvi**	**1.84**	**1**	PG	**Pb**	**11 21 22.5**	**-0.1**
KIF				MSG		11 21 44.3	
	comp=Z,5.9nm,0.2s						
KTK1	**Kautokeino**	**2.08**	**26**	SG	**Sb**	**11 21 52.5**	**-0.5**
RNF	**Rovaniemi**	**2.17**	**103**	SG	**Sb**	**11 21 56.0**	**+0.5**
SGF	**Sodankyl**	**2.28**	**80**	SG	**Sb**	**11 21 59.2**	**+0.6**
ARA0	**ARCESS Array S**	**2.97**	**35**	PB	**Pn**	**11 21 38.6**	**+2.2**
ARA0				SB	**Sn**	**11 22 14.7**	**+2.0**
VRF	**Varrio**	**3.48**	**76**	SG	**Sb**	**11 22 33.9**	**+0.6**
MSF	**Maaselka**	**3.57**	**107**	SN	**Sn**	**11 22 23.2**	**-4.1**

IDC 22 11:27:20.7±8.7, 4.29S×144.81E, h0km, mb2.8/2, mbtmp2.9/3, ML3.1/1, Error ellipse: s-maj=295.7km s-min=36.1km az=98.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.60**	**212**	P	P	11 31 39.4	-0.4
	0.1nm,0.3s,baz=38,slow=12,SNR=6.2						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**21.95**	**208**	P	P	11 32 16.4	+0.2
	0.2nm,0.7s,baz=40,slow=7.3,SNR=2.1						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**74.80**	**321**	P	P	11 39 02.9	0.0
	0.1nm,0.4s,baz=121,slow=7.0,SNR=1.3						
	0.1nm,0.4s						

CATAC 22 11:29:23.0±1.1, 13.12N×89.98W, h17km±8km, ML2.9, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.74**	**60**	*i* P	Pb	11 29 36.9	-0.6
LALI				*i* S	Sb	11 29 46.3	-1.1
LALI				IAML		11 29 48.2	
	comp=Z,88nm,1.0s						
JAYA	**Jayaque - finc**	**0.75**	**44**	*i* P	Pg	11 29 37.8	+0.1
JAYA				*i* S	Sb	11 29 48.5	+0.8
JAYA				IAML		11 29 50.6	
	comp=Z,1μm,1.0s						
JAYA	**Jayaque - finc**	**0.75**	**44**	*i* P	Pg	11 29 37.9	+0.2
JAYA				*i* S	Sg	11 29 47.5	-0.1
JAYA				IAML		11 29 50.6	
	comp=Z,1μm,1.0s						
NUBE	**Las Nubes**	**0.81**	**14**	*i* P	Pb	11 29 38.6	-0.1
NUBE				IAML		11 29 38.9	
	comp=Z,340nm,1.0s						
NUBE	**Las Nubes**	**0.81**	**14**	*i* P	Pb	11 29 38.7	0.0
NUBE				IAML		11 29 38.9	
	comp=Z,340nm,1.0s						
NUBE				*i* S	Sb	11 29 49.3	-0.1
PMON	**Piamonte**	**0.88**	**48**	*i* P	Pg	11 29 40.1	-0.1
PMON				IAML		11 29 53.1	
	comp=Z,440nm,1.0s						
PMON				*i* S	Sn	11 29 53.3	+0.1
PMON	**Piamonte**	**0.88**	**48**	*i* P	Pb	11 29 39.9	0.0
PMON				*i* S	Sb	11 29 50.8	-0.7
PMON				IAML		11 29 53.1	
	comp=Z,440nm,1.0s						
LOAL	**Lomas de Alarc**	**0.90**	**13**	*i* P	Pg	11 29 40.6	+0.1
LOAL				IAML		11 30 32.7	
	comp=Z,2μm,1.0s						
UNIC	**Universidad Ca**	**0.96**	**26**	*i* P	Pb	11 29 40.9	-0.3
UNIC				IAML		11 30 03.3	
	comp=Z,180nm,1.0s						
COEG	**Centro de Oper**	**1.19**	**65**	*i* P	Pn	11 29 44.3	-0.6
COEG				*i* S	Sg	11 30 01.2	-0.3
COEG				IAML		11 30 03.1	
	comp=Z,130nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.35**	**64**	*i* P	Pn	11 29 47.2	0.0
SCLA				*i* S	Sn	11 30 04.1	-0.7
SCLA				IAML		11 30 34.5	
	comp=Z,26nm,1.0s						
MTO3	**Montecristo**	**1.41**	**25**	*i* P	Pn	11 29 47.8	-0.4
MTO3				IAML		11 29 48.8	
	comp=Z,49nm,1.0s						
MTO3				*i* S	Sn	11 30 04.0	-2.5
PQSS	**Presa 15 de Se**	**1.48**	**70**	*i* P	Pn	11 29 48.7	-0.1
PQSS				*i* S	Sn	11 30 07.1	-0.6
PQSS				IAML		11 30 10.1	
	comp=Z,100nm,1.0s						
PACA	**Pacayal**	**1.65**	**78**	*i* S	Sn	11 30 12.2	-0.1
LCND	**La Caada**	**2.05**	**84**	*i* S	Sb	11 30 23.7	-1.3

IDC 22 11:30:29.1±2.8, 3.60N×127.61E, h0km, mb3.3/3, mbtmp3.3/3, MS2.8/1, Error ellipse: s-maj=228.1km s-min=27.6km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**11.61**	**223**	LR	LR	11 38 28.6	
	comp=Z,42nm,18.2s,baz=8.5,slow=41						
WRA	**Warramunga Arr**	**24.31**	**164**	P	P	11 35 48.2	-0.4
	0.6nm,0.3s,baz=344,slow=10,SNR=42						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**27.79**	**168**	P	P	11 36 20.7	+0.7
	0.1nm,0.3s,baz=351,slow=8.1,SNR=1.5						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**58.16**	**325**	P	P	11 40 24.7	-0.1
	0.3nm,0.6s,baz=120,slow=7.2,SNR=4.6						
	0.3nm,0.6s						

*NNC **22** 11:55:20.7±0.6, 42.82N×75.88E, h3km±4km, mb2.9, mpv2.5, Error ellipse: s-maj=4.9km s-min=2.1km az=162.0*
*SOME **22** 11:55:20.6, 42.82N×75.88E, h5km*

ISC 22 11:55:21.2±1.3, 42.83N±0.05×75.89E±0.03, h9km±11km, n17, σ0§38/31, 2C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KST	**Kastek**	**0.21**	**14**	*e*P	**Pg**	**11 55 25.5**	**-0.2**
	12nm,0.2s						
KST				*e*S	**Sg**	**11 55 28.8**	**+0.1**
	11nm,0.2s						
KST	**Kastek**	**0.21**	**14**	P	**Pg**	**11 55 25.5**	**-0.2**
	12nm,0.2s						
KST				S	**Sg**	**11 55 28.8**	**+0.1**
	11nm,0.2s						
TKM2	**Tokmak 2**	**0.23**	**292**	⇑P	**Pg**	**11 55 25.8**	**-0.2**
	1.7nm,0.2s						
TKM2				⇑S	**Sg**	**11 55 29.7**	**+0.4**
	4.6nm,0.2s						
DGS	**Degeres**	**0.42**	**348**	*e*P	**Pg**	**11 55 29.1**	**-0.3**
	1.0nm,0.1s						
DGS				*e*S	**Sg**	**11 55 35.1**	**+0.2**
	4.2nm,0.1s						
DGS	**Degeres**	**0.42**	**348**	P	**Pg**	**11 55 29.3**	**-0.1**
	1.0nm,0.1s						
DGS				S	**Sg**	**11 55 35.1**	**+0.2**
	2.5nm,0.2s						
MTBS	**Maitube**	**0.49**	**53**	*e*P	**Pg**	**11 55 30.7**	**-0.1**
	5.3nm,0.1s						
MTBS				*e*S	**Sg**	**11 55 37.9**	**+0.6**
	5.1nm,0.1s						
MTBS	**Maitube**	**0.49**	**53**	P	**Pg**	**11 55 30.7**	**-0.1**
	5.3nm,0.2s						
MTBS				S	**Sg**	**11 55 37.9**	**+0.6**
	5.3nm,0.3s						
IZV	**Izvestkoviy**	**0.57**	**69**	*e*P	**Pg**	**11 55 31.7**	**-0.6**
	3.6nm,0.2s						
IZV				*e*S	**Sg**	**11 55 39.4**	**-0.3**
	7.3nm,0.2s						
IZV	**Izvestkoviy**	**0.57**	**69**	P	**Pg**	**11 55 31.9**	**-0.3**
	3.6nm,0.2s						
IZV				S	**Sg**	**11 55 39.4**	**-0.3**
	7.3nm,0.2s						
KRBS	**Karabastau**	**0.88**	**350**	*e*P	**Pg**	**11 55 37.5**	**-0.6**
	1.0nm,0.1s						
KRBS				*e*S	**Sg**	**11 55 49.5**	**+0.1**
	1.3nm,0.2s						
KRBS	**Karabastau**	**0.88**	**350**	P	**Pg**	**11 55 37.5**	**-0.6**
	1.0nm,0.3s						
KRBS				S	**Sg**	**11 55 49.5**	**+0.1**
	1.3nm,0.2s						
KTBS	**Karatobe**	**1.05**	**33**	*e*P	**Pg**	**11 55 40.9**	**-0.5**
	3.4nm,0.1s						
KTBS				*e*S	**Sb**	**11 55 55.4**	**-0.1**
	1.6nm,0.1s						
KTBS	**Karatobe**	**1.05**	**33**	P	**Pg**	**11 55 40.9**	**-0.5**
	3.4nm,0.1s						
KTBS				S	**Sb**	**11 55 55.4**	**-0.1**
	0.3nm,0.2s						
MRKS	**Merke**	**1.96**	**268**	*e*P	**Pb**	**11 55 56.8**	**-0.4**
	1.7nm,0.2s						
MRKS				*e*S	**Sb**	**11 56 22.6**	**+0.8**
	1.4nm,0.9s						
ARXS	**Arharly**	**1.97**	**45**	*e*Pg	**Pb**	**11 55 57.5**	**+0.3**
	1.2nm,0.1s						
ARXS				*e*Lg	Lg	11 56 24.0	
	5.1nm,0.1s						
ARXS	**Arharly**	**1.97**	**45**	Pg	**Pb**	**11 55 57.5**	**+0.3**
	0.9nm,0.2s						
ARXS				Lg	Lg	11 56 24.0	
	2.6nm,0.5s						
KPKS	**Kokpek**	**2.14**	**72**	*e*Pg	**Pb**	**11 56 00.4**	**+0.3**
	1.5nm,0.1s						
KPKS				*e*Lg	Lg	11 56 29.0	
	2.9nm,0.2s						

IDC 22 11:57:10.4±6.0, 5.02S×147.41E, h113km±76km, mb3.0/2, mbtmp3.5/4, ML1.1/1, Error ellipse: s-maj=129.5km s-min=41.4km az=110.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.36**	**183**	P	Pn	11 58 14.4	-0.3
	0.7nm,0.3s,baz=55,slow=18,SNR=1.7						
PMG				S	Sn	11 58 56.9	-7.8
	9.6nm,0.4s,baz=145,slow=17,SNR=14						
	2.0nm,0.3s						
WRA	**Warramunga Arr**	**19.54**	**219**	P	P	12 01 29.3	0.0
	2.0nm,0.5s,baz=42,slow=11,SNR=45						
ASAR	**Alice Springs**	**22.65**	**214**	P	P	12 02 02.1	-0.1
	0.7nm,0.6s,baz=50,slow=8.2,SNR=20						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**77.01**	**320**	P	P	12 08 51.2	+0.3
	0.3nm,0.6s,baz=111,slow=6.3,SNR=3.0						
	0.3nm,0.6s						

RSNC 22 12:01:59.6±2.0, 3.71N×74.30W, h0km±5km, ML3.1, Mw3.5, 2C-2D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRAC	**Prado**	**0.58**	**271**	⇓*i*P	Pg	12 02 09.8	-1.0
PRAC				*e*S	Sg	12 02 19.1	+0.7
PRAC				*i*		12 02 22.0	
	comp=Z,395nm,0.4s						
VILC	**Villavicencio,**	**0.73**	**56**	*e*P	Pg	12 02 10.5	-3.1
VILC				*e*S	Sg	12 02 20.6	-2.5
VILC				*i*		12 02 21.6	
	comp=Z,1μm,0.5s						
CVER	**Cruz Verde, Cu**	**0.84**	**16**	⇑*i*P	Pg	12 02 13.4	-2.4
CVER				*e*S	Sg	12 02 24.6	-2.1
CVER				*i*		12 02 27.8	
	comp=Z,398nm,0.4s						
ORTC	**Ortega, Tolima**	**0.96**	**282**	⇓*i*P	Pg	12 02 16.6	-1.5
ORTC				*e*S	Sg	12 02 31.3	+0.7
ORTC				*i*		12 02 36.3	
	comp=Z,467nm,0.1s						
ROSC	**El Rosal**	**1.13**	**359**	⇑*e*P	Pg	12 02 19.6	-1.7
ROSC				*e*S	Sg	12 02 35.8	-0.1
ROSC				*i*		12 02 43.8	
	comp=Z,306nm,0.5s						
BETC	**Betania**	**1.53**	**228**	*e*P	Pn	12 02 26.0	-2.2
BETC				*e*S	Sg	12 02 45.6	-3.1
BETC				*i*		12 02 48.5	
	comp=Z,162nm,0.4s						
NIZA	**Niza - Manizal**	**1.78**	**319**	*e*P	Pn	12 02 31.9	0.0
NIZA				*e*S	Sn	12 02 55.1	-0.2
GUY2C	**Guyana, Caldas**	**1.84**	**325**	*e*P	Pn	12 02 31.2	-1.7
GUY2C				*e*S	Sn	12 02 55.9	-1.3
GUY2C				*i*		12 02 58.6	
	comp=Z,249nm,0.5s						
GARC	**Garzon, Huila**	**1.92**	**218**	*e*P	Pn	12 02 32.3	-1.5
GARC				*e*S	Sn	12 02 57.8	-1.1
SPBC	**San Pablo de B**	**1.95**	**7**	*e*P	Pn	12 02 32.5	-1.5
SPBC				*e*S	Sb	12 03 00.8	-0.1
SPBC				*i*		12 03 06.1	
	comp=Z,228nm,0.3s						
PTGC	**Puerto Gaitan,**	**2.22**	**77**	*e*P	Pn	12 02 35.5	-2.1
PTGC				*e*S	Sn	12 03 05.8	0.0
PTGC				*i*		12 03 07.1	
	comp=Z,293nm,0.3s						
PLMC	**San Jos del P**	**2.31**	**301**	*e*P	Pn	12 02 37.9	-1.0
PLMC				*e*S	Sb	12 03 10.6	-0.7
PLMC				*i*		12 03 12.8	
	comp=Z,140nm,0.2s						
JAMC	**Jamundi, Valle**	**2.42**	**258**	*e*P	Pn	12 02 38.8	-1.8
JAMC				*e*S	Sb	12 03 15.1	+0.5
JAMC				*i*		12 03 17.6	
	comp=Z,48nm,0.2s						
FLOC	**Florencia**	**2.50**	**213**	*e*P	Pn	12 02 41.7	+0.1
FLOC				*e*S	Sb	12 03 15.0	-2.0
FLOC				*i*		12 03 18.1	
	comp=Z,169nm,0.4s						
POPC	**Popayan, Colom**	**2.64**	**244**	*e*P	Pn	12 02 44.5	+0.8
POPC				*e*S	Sb	12 03 20.9	-0.1
POPC				*i*		12 03 21.9	
	comp=Z,35nm,0.4s						
CBOC	**Ciudad Bolivar**	**2.74**	**322**	*e*P	Pn	12 02 44.7	-0.3
CBOC				*e*S	Sn	12 03 19.7	+0.8
CBOC				*i*		12 03 27.4	
	comp=Z,37nm,0.7s						
PTBC	**PUERTO BERRIO,**	**2.82**	**357**	*e*P	Pn	12 02 43.9	-2.0
PTBC				*e*S	Sn	12 03 21.6	+0.9
PTBC				*i*		12 03 36.8	
	comp=Z,29nm,0.5s						
BARC	**Barichara**	**3.08**	**21**	*e*P	Pn	12 02 49.2	-0.6
BARC				*e*S	Sn	12 03 25.9	-1.5
BARC				*i*		12 03 41.6	
	comp=Z,38nm,0.5s						
PTLC	**Puerto Leguiza**	**3.55**	**188**	*e*P	Pg	12 03 06.3	-1.3
PTLC				*e*S	Sb	12 03 50.1	+3.2
PTLC				*i*		12 04 11.3	
	comp=Z,97nm,0.3s						
TAMC	**Tame, Arauca**	**3.69**	**43**	*e*P	Pn	12 02 56.0	-1.9
TAMC				*e*S	Sn	12 03 41.6	-0.7
TAMC				*i*		12 03 60.0	
	comp=Z,40nm,0.5s						
ZARC	**Zaragoza, Cauc**	**3.80**	**352**	*e*P	Pn	12 02 58.6	-0.9
ZARC				*i*		12 04 02.0	
	comp=Z,25nm,0.3s						
PAMC	**Pamplona, Colo**	**3.95**	**24**	*e*P	Pn	12 03 01.9	0.0
PAMC				*i*		12 04 12.2	
	comp=Z,15nm,0.4s						
UREC	**San Jos de Ur**	**4.20**	**343**	*e*P	Pn	12 03 03.5	-1.5

*IDC **22** 12:12:09.5±8.3, 14.70S×177.88W, h364km±83km, mb3.2/8, mbtmp3.9/8, Error ellipse: s-maj=39.5km s-min=20.5km az=142.0*

ISC 22 12:12:07.8±0.8, 14.7S±0.3×177.9W±0.2, h350km, n11, σ0§64/11, mb3.5/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

GERES	**GERESS Array B**	**144.63**	**347**	PKP	PKPbc	12 31 03.1	+0.2
	0.8nm,0.5s,baz=48,slow=2.0,SNR=4.4						
MMAI	**Mount Meron Ar**	**144.70**	**307**	PKP	PKPbc	12 31 04.1	+0.5
	1.7nm,0.5s,baz=64,slow=6.6,SNR=3.3						

SKO ***22*** *12:32:34.5,40.˚95N×22.˚75E,h21km, ML2.5*
SOF ***22*** *12:32:34.3,40.˚98N×22.˚70E,h2km, MD3.0*
THE ***22*** *12:32:36.2,40.˚98N×22.˚75E,h9km±1km, ML2.0/5, Error ellipse: s-maj=1.0km s-min=0.3km az=288.0*
ATH ***22*** *12:32:36.2,40.˚97N×22.˚74E,h6km±2km, ML2.0/3, Error ellipse: s-maj=2.6km s-min=1.1km az=45.0*

ISC 22 12:32:36.2±0.9**, 40˚99N**±0.˚02×**22˚74E**±0.˚02, **h14**km±6km, **n34**, σ0**963**/54, **2C-1D, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.21**	**35**	P		**Pg**		**12 32 40.7**	**-0.2**
KNT				S		**Sg**		**12 32 43.8**	**-0.3**
	1μm,0.1s								
KNT	**Kendrikon**	**0.21**	**35**	*i*Pg		**Pg**		**12 32 40.8**	**-0.2**
KNT				*i* Sg		**Sg**		**12 32 43.8**	**-0.3**
KNT	**Kendrikon**	**0.21**	**35**	P		**Pg**		**12 32 40.7**	**-0.2**
KNT				S		**Sg**		**12 32 43.6**	**-0.5**
GRG	**Griva**	**0.26**	**263**	P		**Pg**		**12 32 41.5**	**-0.2**
GRG				S		**Sg**		**12 32 45.8**	**+0.3**
	872nm,0.1s								
GRG	**Griva**	**0.26**	**263**	*i*Pg		**Pg**		**12 32 41.5**	**-0.2**
GRG				*i* Sg		**Sg**		**12 32 45.9**	**+0.3**
VAY	**Valandovo**	**0.35**	**339**	*i*Pg		**Pg**		**12 32 43.3**	**-0.1**
VAY				*i* Sg		**Sg**		**12 32 48.4**	**+0.1**
VAY				*e*Lg		Lg		12 32 48.6	
	comp=E,619nm,0.4s								
VAY				*e*Lg		Lg		12 32 49.1	
	comp=N,297nm,0.2s								
THE	**Thessaloniki**	**0.40**	**154**	P		**Pg**		**12 32 43.4**	**-0.7**
THE				S		**Sg**		**12 32 49.6**	**+0.1**
	comp=N,239nm,0.1s								
THE	**Thessaloniki**	**0.40**	**154**	*i* Pg		**Pg**		**12 32 43.4**	**-0.7**
THE				*i* Sg		**Sg**		**12 32 48.8**	**-0.7**
THE	**Thessaloniki**	**0.40**	**154**	P		**Pg**		**12 32 43.4**	**-0.7**
THE				S		**Sg**		**12 32 48.9**	**-0.7**
THE				AML		AML		12 32 49.9	
	comp=E,1008μm,0.2s								
THE				AML		AML		12 32 50.0	
	comp=N,838μm,0.1s								
HORT	**Hortiatis**	**0.48**	**145**	P		**Pg**		**12 32 45.1**	**-0.6**
HORT				S		**Sg**		**12 32 52.2**	**+0.1**
	comp=N,238nm,0.2s								
SOH	**Sokhos**	**0.49**	**110**	P		**Pg**		**12 32 45.8**	**-0.2**
SOH				S		**Sg**		**12 32 52.3**	**-0.3**
SRS	**Serrai**	**0.66**	**79**	P		**Pg**		**12 32 48.2**	**-0.8**
SRS				S		**Sg**		**12 32 58.1**	**+0.4**
	comp=N,92nm,0.2s								
SRS	**Serrai**	**0.66**	**79**	*i* Pg		**Pg**		**12 32 48.2**	**-0.8**
SRS				*i* Sg		**Sg**		**12 32 57.5**	**-0.2**
SRS	**Serrai**	**0.66**	**79**	P		**Pg**		**12 32 48.2**	**-0.8**
SRS				S		**Sg**		**12 32 57.1**	**-0.6**
SRS				AML		AML		12 32 58.9	
	comp=E,274μm,0.2s								
SRS				AML		AML		12 33 01.0	
	comp=N,180μm,0.2s								
KTI	**Kastanea**	**0.76**	**219**	P		**Pg**		**12 32 50.4**	**-0.6**
STIP	**Stip**	**0.82**	**329**	*i* Pg		**Pg**		**12 32 50.5**	**-1.6**
STIP				*i* Sg		**Sg**		**12 33 01.4**	**-1.4**
KKB	**Krupnik**	**0.90**	**19**	*i* Pg		**Pg**		**12 32 52.8**	**-0.9**
KKB				*i* Sg		**Sg**		**12 33 05.0**	**-0.4**
KKB	**Krupnik**	**0.90**	**19**	*i* P		**Pg**		**12 32 52.7**	**-0.9**
NVR	**Nevrokopi**	**0.92**	**67**	P		**Pg**		**12 32 53.5**	**-0.5**
NVR				S		**Sb**		**12 33 06.8**	**+0.8**
NVR	**Nevrokopi**	**0.92**	**67**	P		**Pg**		**12 32 54.0**	**0.0**
NVR				AML		AML		12 33 08.2	
	comp=N,152μm,0.1s								
NVR				AML		AML		12 33 08.4	
	comp=E,174μm,0.1s								
MMB	**Musomishta**	**0.94**	**54**	*i* Pg		**Pg**		**12 32 53.6**	**-0.7**
MMB				*i* Sg		**Sg**		**12 33 06.6**	**-0.1**
MMB	**Musomishta**	**0.94**	**54**	*i* P		**Pg**		**12 32 53.7**	**-0.7**
KOKK	**Kokkinochori,**	**0.97**	**100**	P		**Pg**		**12 32 54.1**	**-0.8**
FNA	**Florina**	**1.05**	**259**	*i* Pg		**Pg**		**12 32 55.6**	**-0.9**
FNA				*i* Sg		**Sn**		**12 33 11.8**	**+0.8**
FNA	**Florina**	**1.05**	**259**	P		**Pg**		**12 32 55.5**	**-1.0**
TYRN	**Tyrnavos**	**1.34**	**197**	P		**Pn**		**12 33 00.0**	**-0.3**
KAVA	**Kavala**	**1.34**	**89**	P		**Pn**		**12 33 00.2**	**-0.3**
NEST	**Nestorio**	**1.41**	**246**	P		**Pn**		**12 33 01.8**	**+0.3**
PENT	**Pentalofos**	**1.46**	**237**	P		**Pn**		**12 33 02.7**	**+0.6**
THAS	**Thassos island**	**1.55**	**104**	P		**Pn**		**12 33 03.7**	**+0.4**
RZN	**Rozhen**	**1.66**	**64**	*i* P		**Pb**		**12 33 06.7**	**+0.1**
VTS	**Vitosha**	**1.67**	**13**	*i* P		**Pb**		**12 33 07.8**	**+1.1**
BARS	**Barje**	**1.95**	**340**	*i* Pn		**Pb**		**12 33 11.2**	**-0.3**
BARS				*i* Sn		**Sg**		**12 33 38.9**	**0.0**
MAKR	**Makrakomi, Fth**	**2.03**	**194**	P		**Pn**		**12 33 10.1**	**+0.2**

CATAC ***22*** *12:38:56.5±0.3,9.˚42N×84.˚55W, h1km±2km, ML3.0*
UCR ***22*** *12:38:57.8±0.9,9.˚49N×84.˚59W, h19km±3km, MW3.5*

ISC 22 12:38:56.5±1.1**, 9˚44N**±0.˚04×**84˚56W**±0.˚02, **h13**km±8km, **n57**, σ1**908**/79, **5C-3D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.24**	**336**	*e*P		**Pg**		**12 39 02.4**	**+0.7**
JACO				*e*S		**Sb**		**12 39 06.3**	**-0.5**
JACO	**JACO, Garabito**	**0.24**	**336**	*i* P		**Pg**		**12 39 02.3**	**+0.7**
JACO				*i* S		**Sb**		**12 39 06.4**	**-0.5**
JACO				IAML				12 39 06.7	
	comp=Z,4μm,1.0s								
LLNJ	**Naranjito**	**0.45**	**86**	*e*P		**Pb**		**12 39 06.9**	**+0.6**
TRB2	**Turrubares**	**0.48**	**13**	*e*P		**Pg**		**12 39 06.4**	**+0.3**
ACOS	**Acosta**	**0.53**	**48**	*e*P		**Pg**		**12 39 07.3**	**+0.5**
CBL1	**Cabuya**	**0.55**	**286**	*e*P		**Pb**		**12 39 07.8**	**-0.1**
ABE2	**San Pablo**	**0.56**	**62**	*e*P		**Pb**		**12 39 08.5**	**+0.2**
LCR2	**La Lucha 2**	**0.62**	**61**	*e*P		**Pg**		**12 39 09.2**	**+0.4**
LCR2	**La Lucha 2**	**0.62**	**61**	*i* P		**Pg**		**12 39 09.1**	**+0.4**
LCR2				*i* S		**Sg**		**12 39 17.8**	**+0.8**
LCR2				IAML				12 39 18.2	
	comp=Z,830nm,1.0s								
BELE	**Belen**	**0.65**	**34**	*e*P		**Pb**		**12 39 10.3**	**+0.6**
TCS1	**Tacares**	**0.65**	**23**	*i* P		**Pg**		**12 39 09.7**	**+0.5**
TCS1				IAML				12 39 26.0	
	comp=Z,3μm,1.0s								
CDM	**Cerro de Muert**	**0.79**	**82**	*e*P		**Pg**		**12 39 12.5**	**+0.5**
CDM	**Cerro de Muert**	**0.79**	**82**	*i* P		**Pg**		**12 39 12.4**	**+0.5**
CDM				*i* S		**Sg**		**12 39 14.6**	**-7.8**
CDM				IAML				12 39 14.8	
	comp=Z,330nm,1.0s								
BUS1	**Rivas**	**0.81**	**82**	*e*P		**Pg**		**12 39 12.5**	**+0.3**
CPMI	**Catarata Coope**	**0.85**	**12**	*i* P		**Pb**		**12 39 13.1**	**-0.2**
CPMI				*i* S		**Sg**		**12 39 24.8**	**+0.5**
CPMI				IAML				12 39 25.8	
	comp=Z,440nm,1.0s								
NYURE	**Nandayure**	**0.88**	**309**	*e*P		**Pb**		**12 39 13.3**	**-0.3**
HAYA	**Volcan Irazu**	**0.89**	**53**	*i* P		**Pb**		**12 39 14.0**	**+0.1**
MONTE	**Monteverde**	**0.90**	**344**	*e*P		**Pb**		**12 39 11.1**	**-2.8**
JTS	**Las Juntas de**	**0.93**	**335**	*e*P		**Pb**		**12 39 13.5**	**-1.0**
SOCE	**Pocosol**	**0.94**	**356**	*i* P		**Pb**		**12 39 14.5**	**-0.1**
SOCE				*i* S		**Sb**		**12 39 27.1**	**+0.1**
SOCE				IAML				12 39 28.8	
	comp=Z,670nm,1.0s								
OCHAL	**Ojochal**	**0.96**	**111**	*i* P		**Pb**		**12 39 14.7**	**-0.3**
OCHAL				IAML				12 39 16.8	
	comp=Z,5.3nm,1.0s								
VTCV	**VTCV, Calle Va**	**0.98**	**57**	*e*P		**Pb**		**12 39 15.6**	**+0.2**
CASO	**Castillo**	**1.00**	**350**	*e*P		**Pb**		**12 39 15.2**	**-0.5**
INDI	**Punta indio, G**	**1.02**	**295**	*e*P		**Pb**		**12 39 15.5**	**-0.5**
INDI	**Punta indio, G**	**1.02**	**295**	*i* P		**Pb**		**12 39 15.6**	**-0.4**
INDI				*i* S		**Sg**		**12 39 29.9**	**+0.3**
INDI				IAML				12 39 33.1	
	comp=Z,260nm,1.0s								
FORC	**Fortuna**	**1.03**	**354**	*e*P		**Pb**		**12 39 15.9**	**-0.2**
VACR	**Volcan Arenal**	**1.03**	**353**	*i* P		**Pb**		**12 39 16.2**	**0.0**
VACR				*i* S		**Sn**		**12 39 32.1**	**+1.1**
VACR				IAML				12 39 42.8	
	comp=Z,300nm,1.0s								
TABAC	**Tabacon**	**1.07**	**349**	*i*P		**Pn**		**12 39 17.2**	**-0.1**
TABAC				*e*S		**Sn**		**12 39 32.2**	**+0.1**
RIFO	**Rio Frio, Sara**	**1.07**	**36**	*i* P		**Sg**		**12 39 32.1**	**+0.9**
COTE	**Lago Cote**	**1.18**	**343**	*e*P		**Pn**		**12 39 17.6**	**-1.2**
PLVR	**Palo Verde**	**1.19**	**319**	*e*P		**Pn**		**12 39 18.1**	**-0.9**
SRBA	**San Rafael, Bu**	**1.20**	**100**	*i* P		**Pb**		**12 39 19.4**	**+0.3**
SRBA				*i* S		**Sg**		**12 39 36.1**	**+0.8**
SRBA				IAML				12 39 38.6	
	comp=Z,320nm,1.0s								
ORTG	**Ortega, Santa**	**1.27**	**316**	*i* P		**Pb**		**12 39 20.3**	**-0.1**
ORTG				*i* S		**Sn**		**12 39 37.3**	**+0.2**
ORTG				IAML				12 39 45.4	
	comp=Z,120nm,1.0s								
ACAL	**Aguas Claras**	**1.28**	**338**	*i*P		**Pn**		**12 39 19.9**	**-0.2**
ACAL				*e*S		**Sb**		**12 39 36.5**	**-0.2**
COVE	**Coope Vega, Sa**	**1.28**	**7**	*i* P		**Pn**		**12 39 19.6**	**-0.5**
COVE				*i* S		**Sn**		**12 39 37.3**	**+0.2**
COVE				IAML				12 39 43.8	
	comp=Z,210nm,1.0s								
EDBA	**Buenos Aires**	**1.30**	**102**	*e*P		**Pg**		**12 39 22.4**	**+1.0**
PTEN	**Parque Tenorio**	**1.33**	**342**	*i*P		**Pn**		**12 39 20.9**	**0.0**
MOTZ	**Rio Naranjo**	**1.34**	**338**	*i*P		**Pn**		**12 39 21.1**	**+0.2**
MOTZ				*e*S		**Sb**		**12 39 38.7**	**+0.2**
CUI	**Cuipilapa**	**1.35**	**334**	*e*P		**Pn**		**12 39 20.5**	**-0.6**
COLC	**Colonia**	**1.37**	**332**	*e*P		**Pn**		**12 39 21.2**	**-0.2**
TRT2	**Tortugero**	**1.37**	**36**	*i* P		**Pn**		**12 39 21.6**	**+0.3**
TRT2				*i* S		**Sg**		**12 39 40.6**	**-0.2**
TRT2				IAML				12 39 41.6	
	comp=Z,250nm,1.0s								
HORNC	**Hornillas**	**1.40**	**334**	*i*P		**Pn**		**12 39 21.7**	**-0.1**
HORNC				*e*S		**Sn**		**12 39 39.6**	**-0.6**
MESS	**Mesas**	**1.44**	**334**	*e*P		**Pn**		**12 39 22.4**	**+0.1**
MESS				*e*S		**Sn**		**12 39 40.9**	**-0.1**
CLARA	**Aguas Claras**	**1.47**	**336**	*e*P		**Pn**		**12 39 22.4**	**-0.2**
CANAL	**Canalete**	**1.47**	**341**	*i*P		**Pb**		**12 39 23.7**	**+0.1**
VMAR	**Armenia, Volca**	**1.47**	**338**	*i*P		**Pn**		**12 39 23.1**	**+0.4**
VMAR	**Armenia, Volca**	**1.47**	**338**	*i* P		**Pn**		**12 39 23.1**	**+0.4**
VMAR				*i* S		**Sg**		**12 39 43.3**	**-0.6**
VMAR				IAML				12 39 48.8	
	comp=Z,340nm,1.0s								
POTG	**Potrero Grande**	**1.47**	**105**	*i* P		**Pb**		**12 39 23.8**	**+0.1**
POTG				*i* S		**Sg**		**12 39 44.8**	**+0.8**
POTG				IAML				12 39 53.4	
	comp=Z,290nm,1.0s								
GP77	**Hacienda Santa**	**1.52**	**330**	*e*P		**Pn**		**12 39 23.2**	**-0.1**
GPS2	**Hotel Rincn d**	**1.52**	**329**	*e*P		**Pn**		**12 39 23.5**	**+0.1**
GPS3	**Bodega del ICE**	**1.53**	**329**	*e*P		**Pn**		**12 39 23.9**	**+0.4**
GPS1	**Guardaparques**	**1.54**	**330**	*e*P		**Pn**		**12 39 23.7**	**+0.1**
VRLE	**La Escondida,**	**1.56**	**329**	*i* P		**Pn**		**12 39 24.0**	**0.0**
VRLE				*i* S		**Sn**		**12 39 44.3**	**+0.2**
VRLE				IAML				12 39 47.0	
	comp=Z,120nm,1.0s								
LAPC	**Finca la Perla**	**1.57**	**327**	*e*P		**Pn**		**12 39 23.9**	**-0.2**
LAPC				*e*S		**Sb**		**12 39 44.9**	**-0.5**
BUEV	**Buena Vista**	**1.59**	**328**	*e*P		**Pn**		**12 39 24.3**	**-0.1**
GB1A	**Borinquen Arri**	**1.60**	**329**	*e*P		**Pn**		**12 39 24.9**	**+0.3**
HZTE	**Horizontes, Gu**	**1.63**	**321**	*i* P		**Pn**		**12 39 25.3**	**+0.5**
HZTE				*i* S		**Sg**		**12 39 50.4**	**+1.5**
HZTE				IAML				12 39 59.6	
	comp=Z,150nm,1.0s								

EAF ***22*** *13:05:40.7±1.1,20.˚68S×25.˚31E,h10km, MD3.4*

BUL 22 13:05:40.6±1.1**, 17˚72S×29˚95E, h10**km**, MD3.5, Zimbabwe**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**3.02**	**207**	*i* P		Pn		13 06 28.0	-0.6
MATP				*i* S		Sn		13 07 02.6	-2.3
MATP	**Matopo**	**3.02**	**207**	*i* P		Pn		13 06 28.0	-0.6
MATP				*i* S		Sn		13 07 02.6	-2.3
MUSN	**Musina, Limpop**	**4.54**	**181**	*i* P		Pn		13 06 49.7	+0.2
MUSN				*i* S		Sn		13 07 39.6	-2.8
MUSN	**Musina, Limpop**	**4.54**	**181**	*i* P		Pn		13 06 49.7	+0.2
MUSN				*i* S		Sn		13 07 39.6	-2.8
MOPA	**Mopani**	**5.92**	**167**	*i* P		Pn		13 07 12.5	+4.0
MOPA				*i* S		Sn		13 08 19.6	+3.2
MOPA	**Mopani**	**5.92**	**167**	*i* P		Pn		13 07 12.5	+4.0
MOPA				*i* S		Sn		13 08 19.6	+3.2

NOU ***22*** *13:15:22.8,37.˚27S×177.˚84E,h183km, MLv3.7/12, Off E. Coast of N. Island, N.Z.*
WEL ***22*** *13:15:29.0±1.1,37.˚3S×17.˚8E±.˚, h109km±11km, M3.0/21, ML3.4/20, MLv3.0/21, Error ellipse: s-maj=0.0km s-min=0.0km az=12.4, confirmed*

ISC 22 13:15:23.1±2.2**, 37˚31S**±0.˚09×**177˚63E**±0.˚09, **h175**km±11km, **n143**, σ2**819**/149, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.46**	**165**	P		**Pn**		**13 15 47.3**	**+0.2**
HAZ				S		**Sn**		**13 16 01.5**	**-4.2**
MXZ	**Matakaoa Point**	**0.59**	**115**	P		**Pn**		**13 15 48.7**	**+1.0**
MXZ	**Matakaoa Point**	**0.59**	**115**	P		**Pn**		**13 15 48.6**	**+1.0**
MXZ				S		**Sn**		**13 16 04.5**	**-2.2**
RUGZ	**Raukumara Rang**	**0.66**	**177**	P		**Pn**		**13 15 48.3**	**+0.1**
PKGZ	**Pakihiroa**	**0.68**	**149**	P		**Pn**		**13 15 49.6**	**+1.3**
PKGZ				S		**Sn**		**13 16 05.1**	**-2.6**
WHRZ	**Whale Island**	**0.76**	**224**	P		**Pn**		**13 15 49.5**	**+0.9**
WMGZ	**Waiomatatini S**	**0.80**	**130**	P		**Pn**		**13 15 50.6**	**+1.7**
PUZ	**Puketiti**	**0.91**	**147**	P		**Pn**		**13 15 51.4**	**+1.8**
PUZ				S		**Sn**		**13 16 08.5**	**-1.7**
TWGZ	**Tauwhareparae**	**0.91**	**163**	P		**Pn**		**13 15 51.9**	**+2.2**
TWGZ				S		**Sn**		**13 16 09.9**	**-0.4**
OPGZ	**Ohinepanea**	**1.01**	**238**	P		**Pn**		**13 15 51.0**	**+0.7**
MARZ	**Manawahe**	**1.02**	**228**	P		**Pn**		**13 15 51.5**	**+1.1**
MWZ	**Matawai**	**1.03**	**185**	P		**Pn**		**13 15 52.2**	**+1.7**
MWZ				S		**Sn**		**13 16 10.8**	**-1.0**
URZ	**Urewera**	**1.03**	**203**	P		**Pn**		**13 15 51.7**	**+1.2**
URZ	**Urewera**	**1.03**	**203**	P		**Pn**		**13 15 51.8**	**+1.3**
URZ				S		**Sn**		**13 16 09.9**	**-1.9**
EDRZ	**Edgecumbe**	**1.07**	**221**	P		**Pn**		**13 15 52.3**	**+1.5**
TKGZ	**Te Karaka**	**1.14**	**172**	P		**Pn**		**13 15 53.6**	**+2.3**
TGRZ	**Tauranga**	**1.17**	**249**	P		**Pn**		**13 15 52.5**	**+0.9**
RAGZ	**Rawiri**	**1.20**	**188**	P		**Pn**		**13 15 54.3**	**+2.4**
MKRZ	**Makatiti**	**1.24**	**228**	P		**Pn**		**13 15 54.7**	**+2.4**
CNGZ	**Carnagh Statio**	**1.26**	**159**	P		**Pn**		**13 15 55.3**	**+3.0**
OMRZ	**Omania**	**1.28**	**231**	P		**Pn**		**13 15 54.2**	**+1.6**
TARZ	**Mount Tarawera**	**1.29**	**224**	P		**Pn**		**13 15 55.0**	**+2.3**
KARZ	**Kaharoa**	**1.31**	**237**	P		**Pn**		**13 15 54.3**	**+1.5**
MUGZ	**Murupara**	**1.35**	**210**	P		**Pn**		**13 15 55.1**	**+1.9**
RRRZ	**Republican Roa**	**1.36**	**220**	P		**Pn**		**13 15 55.6**	**+2.3**
HLRZ	**Highlands Stat**	**1.39**	**227**	P		**Pn**		**13 15 55.8**	**+2.2**
RIGZ	**Rimuhau**	**1.40**	**176**	P		**Pn**		**13 15 56.2**	**+2.5**
RTZ	**Ruatahuna**	**1.40**	**201**	P		**Pn**		**13 15 55.5**	**+1.7**
KMRZ	**Kaimai**	**1.45**	**248**	P		**Pn**		**13 15 55.6**	**+1.5**
HSRZ	**Hossack Road**	**1.49**	**227**	P		**Pn**		**13 15 57.2**	**+2.7**
SNGZ	**Shannon Statio**	**1.49**	**189**	P		**Pn**		**13 15 57.0**	**+2.5**
HRRZ	**Handcock Road**	**1.52**	**224**	P		**Pn**		**13 15 57.2**	**+2.3**
ALRZ	**Allen Road**	**1.61**	**219**	P		**Pn**		**13 15 58.3**	**+2.5**
PRGZ	**Paritu Road**	**1.62**	**173**	P		**Pn**		**13 15 58.6**	**+2.7**
KUZ	**Kuaotunu**	**1.63**	**290**	P		**Pn**		**13 15 56.1**	**+0.2**
KUZ	**Kuaotunu**	**1.63**	**290**	P		**Pn**		**13 15 56.2**	**+0.2**
RAHZ	**Arahi**	**1.66**	**195**	P		**Pn**		**13 15 59.0**	**+2.8**
MTHZ	**Maungataniwha**	**1.66**	**202**	P		**Pn**		**13 15 58.4**	**+2.2**
WPRZ	**Whakapapatarin**	**1.68**	**223**	P		**Pn**		**13 15 58.8**	**+2.4**
KNZ	**Kokohu**	**1.71**	**179**	P		**Pn**		**13 15 59.3**	**+2.7**
TOZ	**Tahuroa Road**	**1.75**	**255**	P		**Pn**		**13 15 59.0**	**+2.0**
WHHZ	**Waihua**	**1.79**	**190**	P		**Pn**		**13 16 00.5**	**+2.9**
MRHZ	**Matea Rd**	**1.80**	**212**	P		**Pn**		**13 15 59.0**	**+2.3**
MHGZ	**Mahia Peninsul**	**1.85**	**173**	P		**Pn**		**13 16 01.5**	**+3.4**
KUTZ	**Kaahu Road**	**1.85**	**230**	P		**Pn**		**13 16 01.2**	**+2.9**
NMHZ	**Naumai**	**1.90**	**200**	P		**Pn**		**13 16 01.8**	**+3.1**
TLZ	**Tolley Road**	**1.95**	**238**	P		**Pn**		**13 16 01.9**	**+2.7**
MKAZ	**Moumakai**	**1.98**	**275**	P		**Pn**		**13 16 01.2**	**+1.6**
ARHZ	**Aropaoanui**	**2.01**	**194**	P		**Pn**		**13 16 03.0**	**+3.0**
GRZ	**Great Barrier**	**2.04**	**301**	P		**Pn**		**13 16 01.1**	**+0.9**
BKZ	**Black Stump Fm**	**2.06**	**206**	P		**Pn**		**13 16 02.7**	**+2.2**
BKZ	**Black Stump Fm**	**2.06**	**206**	P		**Pn**		**13 16 03.3**	**+2.8**
RITZ	**Rihia Road**	**2.17**	**220**	P		**Pn**		**13 16 05.5**	**+3.7**
ETAZ	**East Tamaki Re**	**2.19**	**279**	P		**Pn**		**13 16 04.2**	**+2.3**
MCHZ	**McNeill Hill**	**2.25**	**199**	P		**Pn**		**13 16 05.5**	**+2.9**
KATZ	**Kakaramea**	**2.26**	**222**	P		**Pn**		**13 16 06.9**	**+4.1**
KWHZ	**Kaweka Forest**	**2.32**	**204**	P		**Pn**		**13 16 05.9**	**+2.5**
EPAZ	**Eden Park BICE**	**2.35**	**280**	P		**Pn**		**13 16 06.5**	**+2.7**
TMVZ	**Te Maari**	**2.36**	**220**	P		**Pn**		**13 16 07.0**	**+3.1**
NTVZ	**North Tongarir**	**2.36**	**220**	P		**Pn**		**13 16 07.2**	**+3.2**
HBAZ	**Herne Bay Bore**	**2.37**	**280**	P		**Pn**		**13 16 05.5**	**+2.6**
ETVZ	**East Tongariro**	**2.37**	**219**	P		**Pn**		**13 16 07.1**	**+3.1**
KRVZ	**Karewarewa**	**2.38**	**221**	P		**Pn**		**13 16 07.7**	**+3.5**
CKHZ	**Cape Kidnapper**	**2.38**	**190**	P		**Pn**		**13 16 07.0**	**+2.9**
AWAZ	**Awhitu Peninsu**	**2.40**	**275**	P		**Pn**		**13 16 06.7**	**+2.4**
OTVZ	**Oturere**	**2.41**	**219**	P		**Pn**		**13 16 07.8**	**+3.2**
NNVZ	**North Ngauruho**	**2.42**	**221**	P		**Pn**		**13 16 08.1**	**+3.4**
WTVZ	**West Tongariro**	**2.42**	**221**	P		**Pn**		**13 16 07.9**	**+3.3**
SNVZ	**South Ngauruho**	**2.44**	**219**	P		**Pn**		**13 16 08.3**	**+3.3**
NGZ	**Ngauruhoe**	**2.46**	**220**	P		**Pn**		**13 16 08.4**	**+3.3**
WTAZ	**Waiatarua**	**2.48**	**278**	P		**Pn**		**13 16 08.0**	**+2.8**
TUVZ	**Tukino**	**2.50**	**218**	P		**Pn**		**13 16 09.1**	**+3.5**
BHHZ	**Black Hill Sta**	**2.50**	**209**	P		**Pn**		**13 16 08.1**	**+2.6**
RVAZ	**Riverhead Bore**	**2.50**	**282**	P		**Pn**		**13 16 08.0**	**+2.5**
HIZ	**Hauiti**	**2.50**	**240**	P		**Pn**		**13 16 08.5**	**+3.0**
HIZ	**Hauiti**	**2.50**	**240**	P		**Pn**		**13 16 09.2**	**+3.7**
COVZ	**Chateau Observ**	**2.50**	**220**	P		**Pn**		**13 16 09.3**	**+3.7**
KRHZ	**Kereru**	**2.53**	**203**	P		**Pn**		**13 16 08.1**	**+2.2**
FWVZ	**Far West T-bar**	**2.54**	**220**	P		**Pn**		**13 16 09.5**	**+3.3**
KAHZ	**Kahuranaki**	**2.55**	**193**	P		**Pn**		**13 16 08.9**	**+2.8**
MOVZ	**Moawhango**	**2.56**	**215**	P		**Pn**		**13 16 08.6**	**+2.3**
WNVZ	**Wahianoa**	**2.57**	**218**	P		**Pn**		**13 16 09.3**	**+2.8**
TRVZ	**Turoa**	**2.58**	**219**	P		**Pn**		**13 16 09.7**	**+3.1**
PKVZ	**Pokaka**	**2.67**	**222**	P		**Pn**		**13 16 11.0**	**+3.4**
MTVZ	**Mangateitei**	**2.68**	**219**	P		**Pn**		**13 16 10.8**	**+3.1**
PXZ	**Pawanui**	**2.78**	**192**	P		**Pn**		**13 16 11.4**	**+2.6**
PNHZ	**Pukenui**	**2.83**	**203**	P		**Pn**		**13 16 11.5**	**+2.0**
VRZ	**Vera Road**	**2.90**	**230**	P		**Pn**		**13 16 14.2**	**+4.0**
WPHZ	**Waipukurau**	**2.91**	**198**	P		**Pn**		**13 16 12.7**	**+2.4**
WCZ	**Waipu Caves**	**2.98**	**296**	P		**Pn**		**13 16 10.0**	**-1.2**
TSZ	**Takapari Road**	**3.04**	**205**	P		**Pn**		**13 16 13.8**	**+1.8**
PRHZ	**Porangahau**	**3.05**	**195**	P		**Pn**		**13 16 14.3**	**+2.2**
DVHZ	**Dannevirke**	**3.20**	**201**	P		**Pn**		**13 16 15.9**	**+2.0**
ANWZ	**Angora Road**	**3.27**	**196**	P		**Pn**		**13 16 17.1**	**+2.3**
NEZ	**North Egmont**	**3.40**	**234**	P		Pn		13 16 21.4	+4.9
POWZ	**Post Office Ro**	**3.41**	**205**	P		**Pn**		**13 16 18.7**	**+2.3**
PRWZ	**Pori Road**	**3.49**	**201**	P		**Pn**		**13 16 19.8**	**+2.3**
BFZ	**Birch Farm**	**3.54**	**197**	P		**Pn**		**13 16 20.0**	**+1.9**

CHPO	**Chepo, Panama**	**1.72**	**352**	*eP*	**Pb**	**13 42 16.6**	**+0.5**
CHPO				*eS*	**Sg**	**13 42 38.9**	**-0.2**
CAPC	**Capurgana**	**1.90**	**52**	*eP*	**Pb**	**13 42 19.5**	**+0.3**
CAPC				*eS*	**Sb**	**13 42 44.0**	**+0.7**
BCIP	**Isla Barro Col**	**1.95**	**330**	*eP*	**Pb**	**13 42 19.4**	**-0.7**
BCIP				*eS*	**Sb**	**13 42 44.7**	**-0.2**
BCIP				*i*		13 42 47.6	
	comp=Z,107nm,0.3s						
RSUS3	**Rio de Jesus,**	**2.34**	**283**	*eP*	**Pn**	**13 42 23.9**	**+0.6**
GMAL	**Guarumal, Vera**	**2.37**	**278**	*eP*	**Pn**	**13 42 24.9**	**+1.3**
GMAL				*eS*	**Sb**	**13 42 56.8**	**-0.1**

BJI ***22*** *14:44:16.2,53˚.94N×160˚.54E, h67km, mb5.4/85, mB5.2/59, Ms5.2/83, Ms7 5.0/82*

KRSC ***22*** *14:44:16.2±1.0, 53˚.68N×160˚.88E, h69km±18km, Mc5.7, Ml6.4*

NEIC ***22*** *14:44:17.9, 53˚.88N×160˚.58E, h47km*

NEIC ***22*** *14:44:18.2±2.0, 53˚.86N±0˚.04×160˚.6E±0˚.1, h47km±3km, mb5.6/340, Ms_20 4.9/172, Mwb5.5/62, Mww5.5/26, Error ellipse: s-maj=9.7km s-min=5.7km az=106.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.33; $M_{\theta\theta}$-1.14; $M_{\phi\phi}$-1.19; $M_{r\theta}$0.41; $M_{\theta\phi}$-1.21; $M_{\phi r}$0.34; Fault plane solution: $M_0$2.41000×10^{17} NP1: ϕ_s223.12000°, δ38.63000°, λ87.97000°. NP2:ϕ_s45.72000°, δ51.40000°, λ91.62000°. Principal axes: T 2.3898, Plg83.0000°, Azm326.0000°; N 0.0402, Plg1.0000°, Azm225.0000°; P -2.4299, Plg6.0000°, Azm135.0000°;*

NEIC ***22*** *14:44:18, 53˚.83N×160˚.63E, h50km*

NEIC ***22*** *14:44:18, 53˚.73N×160˚.97E, h50km, Moment Tensor Solution. Duration: 2≥6 Moment tensor: Scale 10^{17}Nm; M_{rr}1.95; $M_{\theta\theta}$-0.52; $M_{\phi\phi}$-1.43; $M_{r\theta}$0.49; $M_{\theta\phi}$-0.70; $M_{\phi r}$0.48; Fault plane solution: $M_0$2.00000×10^{17} NP1:ϕ_s33.70000°, δ54.77000°, λ95.97000°. NP2:ϕ_s203.43000°, δ35.67000°, λ81.63000°. Principal axes: T 2.0757, Plg79.0000°, Azm327.0000°; N -0.1578, Plg5.0000°, Azm210.0000°; P -1.9178, Plg10.0000°, Azm119.0000°;*

MOS ***22*** *14:44:19.8±0.9, 53˚.87N×160˚.28E, h87km, mb5.6/103, MS4.9/41 Error ellipse: s-maj=5.7km s-min=3.1km az=83.8*

MOS Felt (IV-V) at Petropavlovsk-Kamchatskiy.

GCMT ***22*** *14:44:21.2±0.1, 53˚.73N±0˚.01×160˚.96E±0˚.01, h55km, MW5.5/145, Moment Tensor Solution. s144,c270; s145,c286; Duration: 1≥4 Moment tensor: Scale 10^{17} Nm; M_{rr}2.12±.03; $M_{\theta\theta}$-0.55±.02; $M_{\phi\phi}$-1.57±.02; $M_{r\theta}$0.49±.02; $M_{\theta\phi}$-1.08±.02; $M_{\phi r}$0.70±.02; Best double couple: $M_0$2.34900×10^{17} NP1:ϕ_s33.00000°, δ56.00000°, λ91.00000°. NP2:ϕ_s211.00000°, δ34.00000°, λ88.00000°. Principal axes: T 2.2820, Plg79.0000°, Azm308.0000°; N 0.1330, Plg1.0000°, Azm213.0000°; P -2.4160, Plg11.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***22*** *14:44:22.0±1.1, 53˚.95N×160˚.32E, h83km±9km, mb5.2/36, mbtmp5.5/39, MS4.7/71 Error ellipse: s-maj=11.1km s-min=7.6km az=133.0*

ISC 22 14:44:17.9±0.2, 53˚.87N±0˚.03×160˚.53E±0˚.02, h51km±1km, h50km:pP-P, n2118, σ1s44/2251, mb5.6/420, MS4.9/207, 165C-65D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.66**	**285**	*eP*		**Pn**	**14 44 34.0**	**+2.8**
KII	**Karymskiy**	**0.66**	**285**	PN		**Pn**	**14 44 34.0**	**+2.8**
SPN	**Mys Shipunski**	**0.83**	**202**	*eP*		**Pn**	**14 44 32.9**	**-0.4**
SPN				*eS*		**Sn**	**14 44 43.5**	**-1.0**
SPN	**Mys Shipunski**	**0.83**	**202**	PN		**Pn**	**14 44 32.9**	**-0.4**
NLC	**Nalytchevo**	**0.99**	**226**	*eP*		**Pn**	**14 44 37.7**	**+2.2**
NLC				*eS*		**Sn**	**14 44 51.1**	**+2.7**
NLC	**Nalytchevo**	**0.99**	**226**	PN		**Pn**	**14 44 37.7**	**+2.2**
NLC				S		**Sn**	**14 44 51.1**	**+2.7**
SMAR	**Somma**	**1.20**	**240**	*eP*		**Pn**	**14 44 40.4**	**+2.0**
SMAR	**Somma**	**1.20**	**240**	PN		**Pn**	**14 44 40.4**	**+2.0**
KRER	**Koryakskii**	**1.20**	**243**	*eP*		**Pn**	**14 44 41.2**	**+2.7**
KRER	**Koryakskii**	**1.20**	**243**	PN		**Pn**	**14 44 41.2**	**+2.7**
UGLR	**Uglovaya**	**1.21**	**238**	*eP*		**Pn**	**14 44 40.7**	**+2.1**
UGLR	**Uglovaya**	**1.21**	**238**	PN		**Pn**	**14 44 40.7**	**+2.1**
AVH	**Avacha**	**1.23**	**241**	*eP*		**Pn**	**14 44 41.2**	**+2.5**
AVH	**Avacha**	**1.23**	**241**	PN		**Pn**	**14 44 41.2**	**+2.5**
KRX	**Arik**	**1.23**	**246**	*eP*		**Pn**	**14 44 41.2**	**+2.3**
KRX	**Arik**	**1.23**	**246**	PN		**Pn**	**14 44 41.2**	**+2.3**
KOK	**Koryaka**	**1.27**	**244**	*eP*		**Pn**	**14 44 41.7**	**+2.4**
KOK	**Koryaka**	**1.27**	**244**	PN		**Pn**	**14 44 41.7**	**+2.4**
TUMD	**Tumrok D**	**1.34**	**357**	*eP*		**Pn**	**14 44 42.9**	**+2.7**
TUMD				*eS*		**Sn**	**14 45 00.6**	**+3.6**
DALK	**Dalny**	**1.35**	**233**	*eP*		**Pn**	**14 44 42.1**	**+1.8**
DALK				*eS*		**Sn**	**14 44 59.3**	**+2.1**
DALK	**Dalny**	**1.35**	**233**	PN		**Pn**	**14 44 42.1**	**+1.8**
DALK				S		**Sn**	**14 44 59.3**	**+2.1**
INSR	**Institute**	**1.40**	**236**	*eP*		**Pn**	**14 44 43.1**	**+2.1**
INSR				*eS*		**Sn**	**14 45 01.3**	**+2.9**
PET	**Petropavlovsk**	**1.41**	**234**			**Pn**	**14 44 42.5**	**+1.4**
PET					Sn	**Sn**	**14 45 00.6**	**+2.2**
PET	**Petropavlovsk**	**1.41**	**234**	P		**Pn**	**14 44 42.9**	**+1.8**
PET	**Petropavlovsk**	**1.41**	**234**	*eP*		**Pn**	**14 44 42.8**	**+1.8**
PET	**Petropavlovsk**	**1.41**	**234**	*ePN*		**Pn**	**14 44 42.4**	**+1.4**
PET				*eS*		**Sn**	**14 45 00.7**	**+2.3**
PET				pmax	pmax			
	comp=Z,17μm,0.6s							
PET				smax	smax			
	comp=E,296μm,0.6s							
PET				smax	smax			
	comp=N,254μm,0.5s							
TUMR	**Tumrok**	**1.44**	**351**	PN		**Pn**	**14 44 42.9**	**+1.3**
TUMR				S		**Sn**	**14 45 00.6**	**+1.2**
KRMR	**Karymshinskiy**	**1.77**	**235**	*eP*		**Pn**	**14 44 48.5**	**+2.4**
KRMR				*eS*		**Sn**	**14 45 10.6**	**+3.1**
KRMR	**Karymshinskiy**	**1.77**	**235**	PN		**Pn**	**14 44 48.5**	**+2.4**
KRMR				S		**Sn**	**14 45 10.6**	**+3.1**
I44RU	**PETROPAVLOVSK-**	**1.85**	**247**	P		**Pn**	**14 44 49.7**	**+2.5**
	baz=73,slow=21,SNR=1.4							
I44RU				S		**Sn**	**14 45 15.7**	**+6.4**
	baz=75,slow=20							
PEA0B	**Petropavlovsk-**	**1.86**	**247**	Pn		**Pn**	**14 44 50.0**	**+2.7**
PEA0B				Sn		**Sn**	**14 45 09.3**	**-0.2**
PEA0B	**Petropavlovsk-**	**1.86**	**247**	*d*	*iPN*	**Pn**	**14 44 49.8**	**+2.6**
PETK	**Petropavlovsk-**	**1.86**	**247**	P		**Pn**	**14 44 49.0**	**+1.8**
	comp=N,2μm,0.3s,baz=25,slow=7.1							
PETK				S		**Sn**	**14 45 14.2**	**+4.7**
	comp=N,9μm,0.5s,baz=108,slow=23,SNR=7.5							
PETK				LR		LR	14 45 37.5	
	comp=N,62μm,20.6s,baz=311,slow=43							
KMNR	**Kamenistaya**	**1.90**	**355**	*eP*		**Pn**	**14 44 51.9**	**+4.0**
KMNR	**Kamenistaya**	**1.90**	**355**	PN		**Pn**	**14 44 51.9**	**+4.0**
GRL	**Gorelyy**	**1.98**	**229**	*eP*		**Pn**	**14 44 51.2**	**+2.2**
GRL	**Gorelyy**	**1.98**	**229**	PN		**Pn**	**14 44 51.2**	**+2.2**
BZP	**Bezymyannyi-Pe**	**2.05**	**0**	*eP*		**Pn**	**14 44 53.7**	**+3.6**
BZMR	**Bezymyannaya**	**2.07**	**359**	*eP*		**Pn**	**14 44 54.2**	**+3.8**
BZMR	**Bezymyannaya**	**2.07**	**359**	PN		**Pn**	**14 44 54.2**	**+3.8**
BZGR	**Bezymyannyi-Gr**	**2.08**	**3**	*eP*		**Pn**	**14 44 54.2**	**+3.8**
BZGR	**Bezymyannyi-Gr**	**2.08**	**3**	PN		**Pn**	**14 44 54.2**	**+3.8**
BZWR	**Bezymyannyi-We**	**2.10**	**359**	*eP*		**Pn**	**14 44 54.7**	**+3.9**
BZWR	**Bezymyannyi-We**	**2.10**	**359**	PN		**Pn**	**14 44 54.7**	**+3.9**
KPT	**Kopyto**	**2.11**	**355**	*eP*		**Pn**	**14 44 54.5**	**+3.7**
KPT	**Kopyto**	**2.11**	**355**	PN		**Pn**	**14 44 54.5**	**+3.7**
ZLN	**Zelenaya**	**2.16**	**4**	*eP*		**Pn**	**14 44 55.6**	**+4.1**
ZLN	**Zelenaya**	**2.16**	**4**	PN		**Pn**	**14 44 55.6**	**+4.1**
ASAK	**Asacha**	**2.17**	**228**	*eP*		**Pn**	**14 44 53.9**	**+2.3**
ASAK	**Asacha**	**2.17**	**228**	PN		**Pn**	**14 44 53.9**	**+2.3**
APC	**Apacha**	**2.23**	**246**	*eP*		**Pn**	**14 44 55.5**	**+3.2**
APC				*eS*		**Sn**	**14 45 23.8**	**+5.2**
APC	**Apacha**	**2.23**	**246**	PN		**Pn**	**14 44 55.5**	**+3.2**
APC				S		**Sn**	**14 45 23.8**	**+5.2**
KOZ	**Kozyrevsk**	**2.23**	**350**	*eP*		**Pn**	**14 44 56.2**	**+3.9**
KOZ	**Kozyrevsk**	**2.23**	**350**	PN		**Pn**	**14 44 56.2**	**+3.9**
CIRR	**Tsirk**	**2.26**	**3**	*eP*		**Pn**	**14 44 57.1**	**+4.3**
CIRR	**Tsirk**	**2.26**	**3**	PN		**Pn**	**14 44 57.1**	**+4.3**
ESO	**Esso**	**2.32**	**334**	*eP*		**Pn**	**14 44 57.1**	**+3.5**
ESO	**Esso**	**2.32**	**334**	PN		**Pn**	**14 44 57.1**	**+3.5**
KRSR	**Krestovskiy**	**2.36**	**0**	*eP*		**Pn**	**14 44 57.8**	**+3.6**
KRSR	**Krestovskiy**	**2.36**	**0**	PN		**Pn**	**14 44 57.8**	**+3.6**
KLY	**Klyuchi**	**2.45**	**2**	*eP*		**Pn**	**14 44 59.2**	**+3.8**
KLY	**Klyuchi**	**2.45**	**2**	PN		**Pn**	**14 44 59.2**	**+3.8**
SRDR	**Sredinnyy**	**2.50**	**350**	*eP*		**Pn**	**14 44 59.2**	**+3.1**
SRDR	**Sredinnyy**	**2.50**	**350**	PN		**Pn**	**14 44 59.2**	**+3.1**
KDTR	**Khodutka, Kamc**	**2.54**	**217**	*eP*		**Pn**	**14 44 57.5**	**+0.9**
KDTR				*eS*		**Sn**	**14 45 27.0**	**+0.7**
KDTR	**Khodutka, Kamc**	**2.54**	**217**	PN		**Pn**	**14 44 57.5**	**+0.9**
KDTR				S		**Sn**	**14 45 27.0**	**+0.7**
KBTR	**Krutoberegovo**	**2.69**	**28**	*eP*		**Pn**	**14 45 00.6**	**+2.0**
KBTR	**Krutoberegovo**	**2.69**	**28**	PN		**Pn**	**14 45 00.6**	**+2.0**
KBG	**Krutoberegovo**	**2.70**	**27**	*eP*		**Pn**	**14 45 01.4**	**+2.7**
KBG	**Krutoberegovo**	**2.70**	**27**	PN		**Pn**	**14 45 01.4**	**+2.7**
BDR	**Baidarnaya**	**2.74**	**8**	*eP*		**Pn**	**14 45 03.2**	**+3.9**
BDR	**Baidarnaya**	**2.74**	**8**	PN		**Pn**	**14 45 03.2**	**+3.9**
SMKR	**Semkarok**	**2.77**	**11**	*eP*		**Pn**	**14 45 03.5**	**+3.6**
SMKR	**Semkarok**	**2.77**	**11**	PN		**Pn**	**14 45 03.5**	**+3.6**
SRKR	**Sorokina**	**2.82**	**7**	*eP*		**Pn**	**14 45 04.9**	**+4.5**
SRKR	**Sorokina**	**2.82**	**7**	PN		**Pn**	**14 45 04.9**	**+4.5**
PAU	**Pauzhetka**	**3.30**	**225**	*eP*		**Pn**	**14 45 11.1**	**+4.1**
PAU	**Pauzhetka**	**3.30**	**225**	PN		**Pn**	**14 45 11.1**	**+4.1**
BKI	**Bering**	**3.44**	**65**	*eP*		**Pn**	**14 45 08.9**	**0.0**
BKI				*eS*		**Sn**	**14 45 45.2**	**-3.1**
BKI	**Bering**	**3.44**	**65**	PN		**Pn**	**14 45 08.9**	**0.0**
TIGL	**Tigil**	**4.05**	**346**	*eP*		**Pn**	**14 45 21.0**	**+3.8**
SKR	**Severo-Kuril's**	**4.18**	**222**	*eP*		**Pn**	**14 45 21.4**	**+2.3**
SKR				*eS*		**Sn**	**14 46 07.9**	**+1.3**
SKR	**Severo-Kuril's**	**4.18**	**222**	PN		**Pn**	**14 45 21.4**	**+2.3**
SKR				S		**Sn**	**14 46 07.9**	**+1.3**
PALN	**Palana**	**5.25**	**357**	*eP*		Pn	14 45 38.3	+4.7
PALN	**Palana**	**5.25**	**357**	PN		Pn	14 45 38.3	+4.7
OSSR	**Ossora**	**5.58**	**13**	*eP*		**Pn**	**14 45 42.1**	**+4.0**
OSSR	**Ossora**	**5.58**	**13**	PN		**Pn**	**14 45 42.1**	**+4.0**
TILK	**Tilichiki**	**7.27**	**23**	*eP*		**Pn**	**14 46 05.0**	**+3.7**
TILK	**Tilichiki**	**7.27**	**23**	PN		**Pn**	**14 46 05.0**	**+3.7**
MA2	**Magadan**	**7.84**	**321**	Pn		**Pn**	**14 46 12.9**	**+3.7**
MA2	**Magadan**	**7.84**	**321**	P		**Pn**	**14 46 12.9**	**+3.7**
MA2	**Magadan**	**7.84**	**321**	*ic*	*iPN*	**Pn**	**14 46 12.8**	**+3.6**
MA2					pmax	pmax		
	comp=E,284nm,0.8s							
MA2	**Magadan**	**7.84**	**321**	P		**Pn**	**14 46 11.6**	**+2.4**
	comp=Z,246nm,0.7s,baz=130,slow=9.7,SNR=88							
MA2				LR		LR	14 49 39.0	
	comp=Z,9μm,20.9s,baz=124,slow=41							
SHEM	**Shemya Is, Ala**	**8.21**	**92**	P		**Pn**	**14 46 14.4**	**+0.2**
	comp=Z,371nm,0.6s,baz=302,slow=3.7,SNR=30							
SHEM				S		**Sn**	**14 47 39.4**	**-6.1**
	comp=Z,410nm,0.6s,baz=253,slow=2.2,SNR=8.2							
SHEM				LR		LR	14 49 22.9	
	comp=Z,8μm,21.6s,baz=284,slow=36							
KMSK	**Kamenskaya**	**9.13**	**17**	*eP*		**Pn**	**14 46 30.8**	**+4.1**
KMSK	**Kamenskaya**	**9.13**	**17**	PN		**Pn**	**14 46 30.8**	**+4.1**
SEY	**Seymchan**	**10.04**	**338**	*i*	*iPN*	Pn	14 46 44.5	+5.3
SEY					pmax	pmax		
	comp=Z,26nm,1.0s							
SEY	**Seymchan**	**10.04**	**338**	P		**Pn**	**14 46 42.5**	**+3.4**
	comp=Z,21nm,0.9s,baz=132,slow=12,SNR=17							
SEY				LR		LR	14 51 10.4	
	comp=Z,8μm,18.2s,baz=156,slow=41							
OKH	**Okha**	**10.44**	**275**	*de*	PN	**Pn**	**14 46 43.0**	**-1.7**
OKH					pmax	pmax		
	comp=Z,400nm,12.7s							
OKH					MLR	MLR		
	comp=E,6μm,13.0s							
OKH					MLR	MLR		
	comp=Z,5μm,15.0s							
OKH					MLR	MLR		
	comp=N,4μm,14.0s							
TYV	**Tymovskoe**	**11.33**	**262**	*e*	PN	Pn	14 47 03.6	+6.7
TYV				*eS*		**Sn**	**14 49 06.6**	**+4.7**
TYV					pmax	pmax		
	comp=Z,195nm,1.4s							
TYV					pmax	pmax		
	comp=Z,400nm,1.8s							
TYV					smax	smax		
	comp=N,23nm,1.9s							
TYV					smax	smax		
	comp=E,26nm,1.9s							
TYV					MLR	MLR		
	comp=Z,5μm,16.0s							
TYV					MLR	MLR		
	comp=E,4μm,20.0s							
AMKA	**Amchitka**	**11.67**	**95**			**Pn**	**14 47 01.3**	**-0.2**
NKL	**Nikolayevsk**	**11.84**	**275**	*e*	PN	Pn	14 47 08.6	+4.8
NKL					pmax	pmax		
	comp=N,184nm,0.9s							
NKL					pmax	pmax		
	comp=E,1μm,1.0s							
NKL					pmax	pmax		
	comp=Z,2μm,1.0s							
NKL					MLR	MLR		
	comp=N,8μm,19.0s							
NKL					MLR	MLR		
	comp=E,6μm,19.0s							
NKL					MLR	MLR		
	comp=Z,20μm,18.0s							
KUR	**Kuril'sk**	**11.91**	**229**	*e*	PN	**Pn**	**14 47 05.4**	**+0.6**
KUR				*eS*		**Sn**	**14 49 16.6**	**+0.5**
KUR					pmax	pmax		
	comp=Z,248nm,0.8s							
KUR					MLR	MLR		
	comp=Z,5μm,19.0s							
UGL	**Uglegorsk**	**12.46**	**255**	*e*	PN	**P**	**14 47 18.8**	**-3.9**
UGL					pmax	pmax		
	comp=Z,1μm,1.8s							
UGL					pmax	pmax		
	comp=Z,729nm,0.9s							
UGL					MLR	MLR		
	comp=Z,3μm,16.0s							
UGL					MLR	MLR		
	comp=N,2μm,8.0s							
UGL					MLR	MLR		
	comp=E,4μm,9.0s							
YSS	**Yuzh-Sakhalins**	**13.26**	**246**	Pn		**Pn**	**14 47 27.0**	**+3.8**
YSS	**Yuzh-Sakhalins**	**13.26**	**246**	P		**Pn**	**14 47 27.0**	**+3.8**
YSS	**Yuzh-Sakhalins**	**13.26**	**246**	*ic*	*iPN*	**P**	**14 47 27.4**	**-4.2**
YSS					pmax	pmax		
	comp=Z,500nm,3.4s							
YSS					pmax	pmax		
	comp=E,400nm,3.3s							
YSS					pmax	pmax		
	comp=Z,130nm,1.0s							
YSS					MLR	MLR		
	comp=Z,5μm,18.0s							
YSS					MLR	MLR		
	comp=E,2μm,17.0s							
SHO	**Shikotan**	**13.44**	**227**	*e*	PN	**Pn**	**14 47 21.7**	**-4.0**
SHO	**Shikotan**	**13.44**	**227**	*i*	*iPN*	**Pn**	**14 47 21.9**	**-3.8**
SHO					pmax	pmax		
	comp=Z,134nm,0.7s							
SHO					pmax	pmax		
	comp=N,43nm,0.4s							
KIWB	**Kanaga Island**	**13.62**	**89**	Pn		**Pn**	**14 47 25.2**	**-2.9**
YUK	**Yuzh-Kuril'sk**	**13.74**	**230**	*ic*	*iP*	**Pn**	**14 47 27.6**	**-2.3**
YUK				*eS*		**Sn**	**14 49 59.1**	**-1.7**
YUK					pmax	pmax		
	comp=Z,1μm,0.6s							
YUK					pmax	pmax		
	comp=N,504nm,0.5s							
RUSJ	**Misakicho**	**13.97**	**232**	*e*	P	**Pn**	**14 47 31.5**	**-1.5**
RUSJ					S	**Sn**	**14 50 11.1**	**+4.7**
NMR	**Nemuro--Hokkai**	**14.33**	**229**	*i*	*iP*	Pn	14 47 32.8	-4.8
BILL	**Bilibino**	**14.48**	**9**	Pn		**Pn**	**14 47 42.1**	**+2.6**
BILL	**Bilibino**	**14.48**	**9**	P		**P**	**14 47 42.3**	**-2.8**
GRNR	**Gornyy**	**15.04**	**268**	*i*	*iP*	**P**	**14 47 51.7**	**+0.3**
GRNR					pmax	pmax		
	comp=N,10.0nm,0.8s							
GRNR					pmax	pmax		
	comp=E,30nm,0.8s							
GRNR					pmax	pmax		
	comp=Z,50nm,0.8s							
GRNR					MLR	MLR		
	comp=E,1μm,20.0s							
GRNR					MLR	MLR		
	comp=N,1μm,19.0s							
GRNR					MLR	MLR		
	comp=Z,2μm,20.0s							
JKA	**Kamikawa-asahi**	**15.25**	**237**	P		**Pn**	**14 47 51.0**	**+1.3**
ASAJ	**Asahikawa**	**15.25**	**238**	P		**Pn**	**14 47 50.9**	**+1.2**
	comp=Z,117nm,0.9s,baz=70,slow=14,SNR=35							
ASAJ				LR		LR	14 53 29.2	
	comp=Z,5μm,20.4s,baz=45,slow=36							
ATKA	**Atka Island**	**15.27**	**86**			**Pn**	**14 47 50.9**	**+1.0**
ATKA				IAmb		IAmb	14 47 52.6	
	comp=Z,827nm,1.7s							
ATKA	**Atka Island**	**15.27**	**86**	P		**P**	**14 47 52.1**	**-1.8**
ERM	**Erimo**	**16.56**	**231**			**Pn**	**14 48 04.7**	**-1.7**
ERM				IAmb		IAmb	14 48 11.2	
	comp=Z,230nm,0.5s							
ERM	**Erimo**	**16.56**	**231**	*ce*	P	**Pn**	**14 48 02.1**	**-4.3**
SPIA	**Saint Paul Isl**	**16.81**	**67**	P		**Pn**	**14 48 09.1**	**-0.3**
	baz=271							
P08K	**Saint George I**	**17.21**	**69**	P		**Pn**	**14 48 13.3**	**-1.1**
	baz=273							
GAMB	**Gambell**	**17.31**	**44**	P		**Pn**	**14 48 15.2**	**-0.3**
	baz=248							
TEY	**Ternei**	**17.82**	**250**	*i*	*eP*	**P**	**14 48 24.5**	**+2.4**
TEY					*e*		14 51 40.8	
TEY					pmax	pmax		
	comp=E,120nm,0.8s							
TEY					pmax	pmax		
	comp=Z,220nm,0.7s							
TEY					pmax	pmax		
	comp=N,110nm,0.7s							
YAK	**Yakutsk**	**18.14**	**309**	P		**Pn**	**14 48 26.0**	**+0.2**
YAK	**Yakutsk**	**18.14**	**309**	*ic*	*iP*	**Pn**	**14 48 26.1**	**+0.4**
YAK					*eS*	**Sn**	**14 51 46.6**	**-0.5**
YAK					pmax	pmax		
	comp=Z,694nm,1.1s							
YAK					pmax	pmax		
	comp=N,107nm,1.2s							
YAK					pmax	pmax		
	comp=E,142nm,1.1s							
YAK					smax	smax		
	comp=E,394nm,2.7s							
YAK					smax	smax		
	comp=N,300nm,2.0s							
YAK	**Yakutsk**	**18.14**	**309**	P		**Pn**	**14 48 26.2**	**+0.5**
	comp=N,24nm,0.6s,baz=91,slow=3.3,SNR=210							
YAK				LR		LR	14 56 08.8	
	comp=N,287nm,20.2s,baz=109,slow=39							
NIKH	**Nikolski High**	**18.20**	**80**	P		**Pn**	**14 48 29.7**	**+3.1**
NIKH	**Nikolski High**	**18.20**	**80**	P		**P**	**14 48 25.9**	**-0.4**
	baz=285							
KLR	**Kul'dur**	**18.42**	**267**	*i*	*iP*	**Pn**	**14 48 29.3**	**0.0**
KLR					pmax	pmax		
	comp=Z,181nm,1.3s							
KLR					MLR	MLR		
	comp=Z,3μm,16.0s							
KLR	**Kul'dur**	**18.42**	**267**	P		**Pn**	**14 48 31.0**	**+1.7**
	comp=Z,76nm,0.7s,baz=66,slow=11,SNR=117							
KLR				PcP		**PcP**	**14 52 58.4**	**+1.0**
	comp=Z,13nm,0.7s,baz=63,slow=3.1,SNR=5.2							
JTM	**Tenmabayashi**	**18.50**	**233**	P		**P**	**14 48 25.2**	**-4.5**
JTM	**Tenmabayashi**	**18.50**	**233**	P		**P**	**14 48 29.4**	**-0.2**
M11K	**Mekoryuk**	**19.04**	**57**	P		**P**	**14 48 34.0**	**-1.4**
	baz=265							
UNV	**Unalaska Valle**	**19.35**	**77**	P		**Pn**	**14 48 43.6**	**+3.3**
UNV	**Unalaska Valle**	**19.35**	**77**	P		**P**	**14 48 38.3**	**-0.6**
	baz=283							
TNA	**Tin City**	**19.49**	**41**	P		**P**	**14 48 39.6**	**-0.7**
	baz=248							
ZEA	**Zeya**	**19.56**	**283**	*eP*		**Pn**	**14 48 42.2**	**-0.6**
ZEA				*e*			14 52 18.5	
ZEA				pmax	pmax			
	comp=E,40nm,0.9s							
ZEA				pmax	pmax			
	comp=Z,70nm,1.1s							
ZEA				pmax	pmax			
	comp=Z,600nm,6.5s							
ZEA				MLR	MLR			
	comp=E,1μm,21.0s							
ZEA				MLR	MLR			
	comp=N,1μm,17.0s							
ZEA				MLR	MLR			
	comp=Z,2μm,19.0s							
AKUT	**Akutan**	**19.71**	**76**	P		**P**	**14 48 41.0**	**-1.7**
AKUT	**Akutan**	**19.71**	**76**	P		**Pn**	**14 48 47.4**	**+2.9**
F14K	**Arctic Creek**	**20.08**	**42**	P		**P**	**14 48 47.5**	**+0.7**
	baz=250							
ANM	**Nome**	**20.19**	**45**	P		**P**	**14 48 46.4**	**-1.5**
ANM	**Nome**	**20.19**	**45**	P		**P**	**14 48 48.0**	**0.0**
	baz=254							
ANM	**Nome**	**20.19**	**45**	P		**P**	**14 48 46.4**	**-1.5**
ANM				pmax	pmax			
	comp=Z,115nm,1.2s							
M13K	**Dall Lake**	**20.45**	**57**	P		**P**	**14 48 50.8**	**+0.1**
	baz=267							
HEH	**HeiHe**	**20.57**	**273**	*eP*		**P**	**14 48 51.9**	**-0.3**
HEH				pP		**pP**	**14 49 05.8**	**+2.0**
HEH				S		**S**	**14 52 38.0**	**-1.2**
HEH				pmax	pmax			
	comp=Z,160nm,0.7s							
HEH				LR	LR			
	comp=Z,2μm,15.1s							
HEH				LR	LR			
	comp=Z,2μm,20.1s							
HEH				LR	LR			
	comp=Z,5μm,16.9s							
J14K	**Nanvaranak Lak**	**20.59**	**50**	P		**P**	**14 48 52.8**	**+0.6**
J14K	**Nanvaranak Lak**	**20.59**	**50**	P		**P**	**14 48 52.1**	**-0.1**
	baz=261							
F15K	**North Star Dit**	**20.82**	**42**	P		**P**	**14 48 54.9**	**+0.2**
F15K	**North Star Dit**	**20.82**

O15K	**Ungalikthiuk R**	22.25	60	P	P	14 49 09.4	-0.7		
	baz=274								
RDOG	**Red Dog Mine**	22.26	36	P	P	14 49 11.0	+0.9		
RDOG				IAmb	IAmb	14 49 13.8			
	comp=Z,185nm,1.0s								
RDOG	**Red Dog Mine**	22.26	36	P	P	14 49 09.7	-0.5		
	baz=248,SNR=43								
E17K	**Hotham Inlet**	22.32	39	P	P	14 49 10.8	0.0		
	baz=252,SNR=30								
C17K	**DeLong Mountai**	22.32	35	P	P	14 49 11.0	+0.2		
	baz=247,SNR=14								
F17K	**Baldwin Pennin**	22.36	41	P	P	14 49 11.8	+0.7		
F17K	**Baldwin Pennin**	22.36	41	P	P	14 49 11.8	+0.7		
	baz=254,SNR=15								
G17K	**Kiwalik Mounta**	22.36	43	P	P	14 49 11.8	+0.5		
	baz=257								
L16K	**Owhat River**	22.39	53	P	P	14 49 10.4	-1.2		
L16K	**Owhat River**	22.39	53	P	P	14 49 11.0	-0.6		
	baz=268								
MSHR	**Mys Shultsa**	22.42	252⇑	*e*P	P	14 49 08.8	-3.3		
MSHR				pmax	pmax				
	comp=Z,16nm,0.6s								
SDPT	**Sand Point**	22.43	70	P	P	14 49 12.3	+0.2		
	baz=282								
TIXI	**Tiksi**	22.49	334	P	P	14 49 12.2	-0.4		
TIXI	**Tiksi**	22.49	334	IAMs_20	IAMs_20	14 58 59.2			
	comp=Z,3µm,18.0s								
TIXI	**Tiksi**	22.49	334⇑	*i*P	P	14 49 11.5	-1.1		
TIXI				pmax	pmax				
	comp=Z,54nm,0.8s								
TIXI				MLR	MLR				
	comp=Z,3µm,18.0s								
TIXI	**Tiksi**	22.49	334	LR	LR	14 59 09.7			
	comp=Z,149nm,18.2s,baz=144,slow=40								
H17K	**Granite Mounta**	22.56	45	P	P	14 49 14.6	+1.2		
H17K	**Granite Mounta**	22.56	45	P	P	14 49 13.3	0.0		
	baz=259,SNR=12								
M16K	**Timber Creek**	22.63	55	P	P	14 49 13.3	-0.8		
	baz=270								
BNX	**BinXian**	22.70	263	⇑P	P	14 49 14.3	-0.7		
BNX				pP	pP	14 49 27.8	+1.1		
BNX				sP	sP	14 49 35.8	+2.7		
BNX				S	S	14 53 16.5	-3.1		
BNX				sS	sS	14 53 39.4	-0.5		
BNX				pmax	pmax				
	comp=Z,550nm,0.9s								
BNX				pmax	pmax				
	comp=Z,510nm,3.8s								
BNX				LR	LR				
	comp=Z,2µm,15.2s								
BNX				LR	LR				
	comp=Z,1µm,16.8s								
BNX				LR	LR				
	comp=Z,2µm,17.3s								
N16K	**Nishlik Lake**	22.73	57	P	P	14 49 15.5	+0.3		
	baz=271,SNR=5.7								
S14K	**Fog Glacier**	22.76	68	P	P	14 49 14.4	-1.2		
	baz=281								
E18K	**Tukpahlearik C**	22.88	39	P	P	14 49 18.0	+1.3		
E18K	**Tukpahlearik C**	22.88	39	P	P	14 49 16.6	0.0		
	baz=253,SNR=17								
L17K	**Donlin**	22.96	52	P	P	14 49 17.2	-0.4		
	baz=268,SNR=5.7								
K17K	**Iditarod**	22.99	51	P	P	14 49 19.2	+1.3		
K17K	**Iditarod**	22.99	51	P	P	14 49 17.0	-0.9		
	baz=266,SNR=8.9								
CHNA	**Chernabura Isl**	23.05	71	P	P	14 49 18.3	-0.2		
	baz=284								
C18K	**Utukok River**	23.07	35	P	P	14 49 19.4	+0.8		
C18K				IAmb	IAmb	14 49 21.1			
	comp=Z,542nm,1.5s								
C18K	**Utukok River**	23.07	35	P	P	14 49 18.4	-0.3		
	baz=249,SNR=51								
O16K	**Kokwok River B**	23.11	59	P	P	14 49 18.1	-0.9		
	baz=274								
B18K	**Kokolik River**	23.13	33	P	P	14 49 18.9	-0.2		
	baz=247,SNR=44								
P16K	**Nushagak River**	23.20	60	P	P	14 49 19.4	-0.6		
	baz=275								
MJB9	**Matsu-Tunnel**	23.23	231	P	P	14 49 21.5	+1.0		
MAJO	**Matsushiro**	23.24	231	P	P	14 49 21.1	+0.5		
MAJO	**Matsushiro**	23.24	231	P	P	14 49 21.2	+0.7		
MAJO	**Matsushiro**	23.24	231	*de*P	P	14 49 19.9	-0.6		
MAJO				pmax	pmax				
	comp=Z,428nm,0.7s								
MJAR	**Matsushiro Arr**	23.24	231	P	P	14 49 20.7	+0.2		
	comp=Z,230nm,0.9s,baz=22,slow=11,SNR=254								
MJAR				PcP	PcP	14 53 07.1	+0.4		
	comp=Z,12nm,1.0s,baz=63,slow=1.2,SNR=7.3								
MJAR				LR	LR	14 59 41.5			
	comp=Z,1µm,20.5s,baz=38,slow=40								
	comp=Z,230nm,0.9s								
H18K	**Honhosa River**	23.24	45	P	P	14 49 21.4	+1.1		
H18K				IAmb	IAmb	14 49 23.3			
	comp=Z,458nm,1.6s								
H18K	**Honhosa River**	23.24	45	P	P	14 49 20.1	-0.3		
	baz=261,SNR=31								
G18K	**Tagagawik**	23.26	43	P	P	14 49 19.9	-0.6		
	baz=258,SNR=70								
M17K	**Holitna River**	23.36	54	P	P	14 49 23.0	+1.5		
M17K				IAmb	IAmb	14 49 25.0			
	comp=Z,140nm,1.0s								
M17K	**Holitna River**	23.36	54	P	P	14 49 20.9	-0.6		
	baz=270,SNR=20								
N17K	**Nushagak Hills**	23.51	57	P	P	14 49 21.9	-1.0		
	baz=272								
O17K	**Koliganek Bris**	23.60	58	P	P	14 49 22.6	-1.1		
	baz=274								
R16K	**Pilot Point**	23.61	64	P	P	14 49 22.5	-1.3		
	baz=279								
A19K	**Wainwright**	23.70	32	P	P	14 49 24.7	+0.1		
	baz=246								
L18K	**Granite Mounta**	23.72	52	P	P	14 49 24.9	0.0		
	baz=269								
J18K	**Innoko River**	23.76	49	P	P	14 49 25.2	-0.1		
	baz=266								
C19K	**Lookout Ridge**	23.77	35	P	P	14 49 25.3	0.0		
	baz=250,SNR=75								
F19K	**Shaleruckik Mo**	23.80	41	P	P	14 49 25.9	+0.4		
	baz=257								
GCSA	**Galena City Sc**	23.81	46	P	P	14 49 25.4	-0.2		
	baz=263,SNR=22								
G19K	**Purcell Mounta**	23.93	43	P	P	14 49 26.9	+0.2		
G19K				IAmb	IAmb	14 49 29.0			
	comp=Z,110nm,0.9s								
G19K	**Purcell Mounta**	23.93	43	P	P	14 49 27.0	+0.2		
	baz=260,SNR=34								
Q16K	**King Salmon**	23.93	61	P	P	14 49 26.8	0.0		
	baz=277								
TTA	**Tatalina**	24.05	51	P	P	14 49 28.4	+0.4		
TTA	**Tatalina**	24.05	51	P	P	14 49 29.5	+1.5		
TTA	**Tatalina**	24.05	51	P	P	14 49 27.9	-0.1		
	baz=268,SNR=27								
TTA	**Tatalina**	24.05	51	P	P	14 49 28.4	+0.4		
TTA				pmax	pmax				
	comp=Z,105nm,1.0s								
D19K	**Kuna River**	24.09	37	P	P	14 49 28.0	-0.3		
	baz=253								
H19K	**Roundabout Mou**	24.09	44	P	P	14 49 28.2	0.0		
	baz=262,SNR=76								
M18K	**Stony River**	24.14	54	P	P	14 49 29.0	+0.4		
	baz=271								
N18K	**Kilae Creek**	24.14	56	P	P	14 49 28.8	+0.1		
	baz=273,SNR=6.6								
E19K	**Redstone River**	24.14	39	P	P	14 49 28.8	+0.1		
E19K				IAmb	IAmb	14 49 41.5			
	comp=Z,138nm,1.0s								
E19K	**Redstone River**	24.14	39	P	P	14 49 28.6	-0.1		
	baz=257,SNR=56								
R17K	**Ugashik Creek**	24.22	64	P	P	14 49 29.8	+0.3		
	baz=280								
J19K	**Poorman**	24.28	48	P	P	14 49 29.9	-0.1		
	baz=266,SNR=17								
Q17K	**Contact Creek**	24.39	62	P	P	14 49 31.2	0.0		
	baz=278								
O18K	**Koktuh Hills**	24.54	58	P	P	14 49 33.0	+0.6		
	baz=276								
P18K	**Big Mountain,**	24.58	59	P	P	14 49 32.3	-0.4		
	baz=276								
L19K	**White Mountain**	24.58	52	P	P	14 49 33.0	+0.3		
L19K	**White Mountain**	24.58	52	P	P	14 49 32.8	+0.1		
	baz=271								
F20K	**Avaraart Lake**	24.63	41	P	P	14 49 32.8	-0.3		
	baz=259								
D20K	**Etivluk River**	24.68	36	P	P	14 49 33.9	+0.3		
	baz=255								
E20K	**Nigu River**	24.72	38	P	P	14 49 33.9	-0.1		
	baz=256,SNR=61								
H20K	**Anotleneega Mo**	24.74	44	P	P	14 49 35.0	+0.8		
	baz=263,SNR=22								
INU	**Inuyama**	24.77	231	P	P	14 49 34.5	0.0		
INU				IAmb	IAmb	14 49 39.0			
	comp=Z,408nm,1.3s								
INU	**Inuyama**	24.77	231	P	P	14 49 35.4	+0.8		
Q18K	**Katmai Hardscr**	24.79	61	P	P	14 49 34.8	0.0		
	baz=278								
JSG	**Sagara**	24.80	228	P	P	14 49 38.4	+3.5		
N19K	**Bonanza Creek**	24.82	56	P	P	14 49 35.6	+0.7		
	baz=274,SNR=7.5								
I20K	**Naaghedeneel**	24.84	46	P	P	14 49 35.6	+0.7		
	baz=265,SNR=6.7								
B20K	**Meade River**	24.87	33	P	P	14 49 35.9	+0.6		
B20K	**Meade River**	24.87	33	P	P	14 49 35.9	+0.6		
	baz=251								
J20K	**Nowinta River**	24.94	48	P	P	14 49 36.3	+0.3		
J20K	**Nowinta River**	24.94	48	P	P	14 49 36.2	+0.3		
	baz=267,SNR=29								
K20K	**Telida**	24.95	50	P	P	14 49 36.1	+0.1		
	baz=269,SNR=18								
O19K	**Port Alsworth**	24.95	57	P	P	14 49 36.0	0.0		
	baz=276								
CN2	**Changchun**	24.95	261	P	P	14 49 34.8	-1.4		
CN2				PP	PnPn	14 50 18.0	+6.9		
CN2				PcP	PcP	14 53 10.3	0.0		
CN2				S	S	14 53 46.4	-10		
CN2				pmax	pmax				
	comp=Z,120nm,1.7s								
CN2				LR	LR				
	comp=Z,2µm,17.0s								
CN2				LR	LR				
	comp=Z,2µm,17.0s								
CN2				LR	LR				
	comp=Z,3µm,17.0s								
CHIR	**Chirikof Islan**	25.01	68	P	P	14 49 35.1	-1.5		
	baz=284								
L20K	**Farewell, AK**	25.03	52	P	P	14 49 36.6	-0.3		
	baz=271								
IMAR	**Indian Mountai**	25.26	43	P	P	14 49 38.6	-0.2		
IMAR					PcP	14 53 11.6	+1.0		
M20K	**Styx River**	25.40	53	P	P	14 49 39.9	-0.4		
	baz=273								
G21K	**Allakaket**	25.42	42	P	P	14 49 40.7	+0.4		
	baz=263								
C21K	**Knifeblade Rid**	25.43	36	P	P	14 49 39.7	-0.7		
	baz=256,SNR=72								
JHJ	**Hachijo jima 2**	25.45	224	P	P	14 49 40.9	+0.1		
	comp=Z,409nm,0.8s,baz=274,slow=5.9,SNR=6.9								
	comp=Z,409nm,0.8s								
Q19K	**Cape Douglas,**	25.45	60	P	P	14 49 40.7	0.0		
	baz=279								
A21K	**Barrow**	25.49	31	P	P	14 49 40.9	+0.1		
	baz=249,SNR=5.7								
HIA	**Hailar**	25.51	276	IAMs_20	IAMs_20	15 00 54.9			
	comp=Z,3µm,18.0s								
HIA	**Hailar**	25.51	276	P	P	14 49 40.5	-0.8		
F21K	**Alatna River**	25.52	41	P	P	14 49 41.4	+0.1		
	baz=261,SNR=51								
P19K	**Oil Pt**	25.56	58	P	P	14 49 41.3	-0.3		
	baz=277								
E21K	**Killik River**	25.56	38	P	P	14 49 42.0	+0.4		
	baz=258								
B21K	**Ikpikpuk River**	25.61	35	P	P	14 49 42.2	+0.3		
B21K				IAmb	IAmb	14 49 44.5			
	comp=Z,284nm,1.0s								
B21K	**Ikpikpuk River**	25.61	35	P	P	14 49 42.1	+0.1		
	baz=255,SNR=130								
H21K	**Melozitna Rive**	25.61	44	P	P	14 49 42.1	0.0		
	baz=265,SNR=32								
SII	**Sitkinak Islan**	25.62	65	P	P	14 49 41.6	-0.6		
	baz=283								
CHUM	**Lake Minchumin**	25.74	48	P	P	14 49 43.2	0.0		
	baz=269,SNR=10								
O20K	**Slope Mountain**	25.81	57	P	P	14 49 43.4	-0.5		
	baz=277								
CAST	**Castle Rocks**	25.84	49	P	P	14 49 44.0	-0.1		
CAST	**Castle Rocks**	25.84	49	P	P	14 49 43.9	-0.3		
	baz=270,SNR=13								
A22K	**Sinclair Lake**	25.89	32	P	P	14 49 44.7	+0.3		
	baz=252,SNR=46								
N20K	**Mount Spurr**	25.89	55	P	P	14 49 44.9	+0.2		
	baz=275,SNR=6.8								
I21K	**Tanana**	25.92	45	P	P	14 49 45.4	+0.6		
I21K				IAmb	IAmb	14 49 47.5			
	comp=Z,190nm,1.8s								
I21K	**Tanana**	25.92	45	P	P	14 49 44.9	0.0		
	baz=267,SNR=15								
OHAK	**Old Harbor**	25.95	64	P	P	14 49 47.2	+2.1		
OHAK	**Old Harbor**	25.95	64	P	P	14 49 45.0	-0.1		
	baz=282								
BOD	**Bodaibo**	26.01	298	*e*P	P	14 49 44.7	-1.0		
BOD				pmax	pmax				
	comp=Z,262nm,1.0s								
F22K	**John River**	26.07	40	P	P	14 49 46.4	+0.2		
	baz=262								
D22K	**Ayikyak River**	26.11	37	P	P	14 49 46.9	+0.4		
D22K	**Ayikyak River**	26.11	37	P	P	14 49 46.6	0.0		
	baz=259,SNR=36								
Q20K	**Shuyak Island**	26.14	60	P	P	14 49 47.2	+0.3		
	baz=280								
SKT	**Skwentna**	26.15	53	P	P	14 49 47.1	+0.1		
	baz=274								
B22K	**Teshekpuk Lake**	26.19	34	P	P	14 49 47.6	+0.5		
B22K				IAmb	IAmb	14 49 49.4			
	comp=Z,269nm,1.2s								
B22K	**Teshekpuk Lake**	26.19	34	P	P	14 49 47.3	+0.1		
	baz=255,SNR=51								
KDAK	**Kodiak Island**	26.20	62	P	P	14 49 46.8	-0.6		
	baz=282								
H22K	**Ishtalitna Cre**	26.22	44	P	P	14 49 47.8	+0.3		
	baz=266								
HHU	**Hamhung**	26.23	251	P	P	14 49 46.8	-1.0		
HHU				S	S	14 54 17.0	+0.7		
HHU				AmB					
	comp=Z,264nm,1.8s								
G22K	**Bettles**	26.25	41	P	P	14 49 48.6	+0.8		
	baz=264,SNR=92								
E22K	**Anaktuvuk Pass**	26.30	39	P	P	14 49 49.4	+1.2		
	baz=261,SNR=79								
BPAW	**Bear Paw Mtn.**	26.32	48	P	P	14 49 48.8	+0.3		
BPAW	**Bear Paw Mtn.**	26.32	48	P	P	14 49 48.6	+0.1		
	baz=270,SNR=13								
HOM	**Homer**	26.35	58	P	P	14 49 48.8	0.0		
	baz=279								
KTH	**Kantishna Hill**	26.36	49	P	P	14 49 49.1	+0.2		
MLY	**Manley**	26.44	46	P	P	14 49 49.6	+0.1		
MLY	**Manley**	26.44	46	P	P	14 49 49.7	+0.1		
	baz=269,SNR=11								
CAPN	**Captain Cook N**	26.45	55	P	P	14 49 49.3	-0.3		
	baz=277								
SUA	**Susitna One**	26.57	54	IAMs_20	IAMs_20	14 59 08.2			
	comp=Z,3µm,22.0s								
SUA	**Susitna One**	26.57	54	P	P	14 49 50.6	-0.2		
	baz=276								
TRF	**Thorofare Moun**	26.65	49	P	P	14 49 50.9	-0.7		
TRF	**Thorofare Moun**	26.65	49	P	P	14 49 51.3	-0.2		
	baz=272,SNR=8.7								
CUT	**Chulitna**	26.71	52	P	P	14 49 51.5	-0.5		
CUT	**Chulitna**	26.71	52	P	P	14 49 52.5	+0.5		
	baz=274,SNR=6.1								
BRSE	**Bradley Lake S**	26.79	58	P	P	14 49 51.9	-0.9		
	baz=279								
COLD	**Coldfoot**	26.79	41	P	P	14 49 53.5	+0.8		
	baz=264,SNR=48								
G23K	**Bananza Creek**	26.82	42	P	P	14 49 52.6	-0.3		
G23K	**Bananza Creek**	26.82	42	P	P	14 49 53.3	+0.3		
	baz=266,SNR=44								
M22K	**Willow**	26.84	53	P	P	14 49 53.0	0.0		
	baz=276								
D23K	**Nanushuk River**	26.84	37	P	P	14 49 53.1	0.0		
	baz=261								
BWN	**Browne**	26.99	48	P	P	14 49 56.3	+1.9		
C23K	**Itkillik River**	27.02	35	IAMs_20	IAMs_20	14 59 47.9			
	comp=Z,2µm,20.0s								
C23K	**Itkillik River**	27.02	35	P	P	14 49 55.3	+0.6		
	baz=259,SNR=34								
I23K	**Minto, Yukon-K**	27.03	46	P	P	14 49 54.9	+0.2		
I23K	**Minto, Yukon-K**	27.03	46	P	P	14 49 55.8	+1.0		
	baz=269,SNR=28								
RC01	**Rabbit Creek A**	27.10	54	P	P	14 49 55.3	-0.1		
	baz=277								
E23K	**Chandalar**	27.10	39	P	P	14 49 56.0	+0.5		
	baz=264,SNR=95								
NEA2	**Nenana**	27.15	47	P	P	14 49 56.3	+0.3		
NEA2	**Nenana**	27.15	47	P	P	14 49 56.9	+1.0		
	baz=271,SNR=6.4								
O22K	**Cooper Landing**	27.18	56	P	P	14 49 56.7	+0.5		
	baz=278								
TOLK	**Toolik Lake Re**	27.19	38	P	P	14 49 57.1	+0.8		
TOLK	**Toolik Lake Re**	27.19	38	P	P	14 49 56.4	+0.1		
	baz=262,SNR=26								
MCK	**McKinley**	27.24	49	P	P	14 49 57.0	+0.2		
	baz=273,SNR=14								
SNY	**Shenyang**	27.25	259	⇑P	P	14 49 55.3	-1.6		
SNY				S	S	14 54 29.4	-2.9		
SNY				pmax	pmax				
	comp=Z,7.0nm,0.8s								
SNY				pmax	pmax				
	comp=Z,220nm,3.5s								
SNY				LR	LR				
	comp=Z,2µm,18.6s								
SNY				LR	LR				
	comp=Z,1µm,19.8s								
SNY				LR	LR				
	comp=Z,3µm,20.4s								
RND	**Reindeer**	27.29	49	P	P	14 49 57.6	+0.3		
RND				IAmb	IAmb	14 49 58.7			
	comp=Z,120nm,1.3s								
RND	**Reindeer**	27.29	49	P	P	14 49 57.6	+0.3		
RND				pmax	pmax				
	comp=Z,120nm,1.3s								
PMR	**Palmer**	27.32	53	P	P	14 49 58.0	+0.5		
PMR	**Palmer**	27.32	53	P	P	14 49 57.2	-0.3		
	baz=277								
SEW	**Seward**	27.38	57	P	P	14 49 57.0	-0.9		
	baz=279								
GHO	**Glory Hole Cre**	27.40	53	P	P	14 49 58.4	+0.1		
WAT1	**Susitna Watana**	27.47	51	P	P	14 49 58.5	-0.4		
	baz=275								
MDM	**Murphy Dome**	27.51	46	P	P	14 49 59.9	+0.7		
E24K	**Your Creek**	27.53	39	P	P	14 50 00.3	+1.0		
	baz=265								
D24K	**Happy Valley**	27.53	37	P	P	14 50 00.1	+0.8		
	baz=282								
JMN	**Monobe**	27.57	234	P	P	14 50 01.1	+1.2		
JMN				IAmb	IAmb	14 50 41.4			
	comp=Z,169nm,1.1s								
JMN				IAMs_20	IAMs_20	15 00 47.6			
	comp=Z,3µm,21.0s								
JMN	**Monobe**	27.57	234	P	P	14 50 01.3	+1.3		
WRH	**Wood River Hil**	27.58	47	P	P	14 50 00.5	+0.8		
WRH				IAmb	IAmb	14 50 02.0			
	comp=Z,146nm,1.5s								
C24K	**Franklin Bluff**	27.65	36	P	P	14 50 00.7	+0.4		
	baz=261								
H24K	**Noodor Dome**	27.65	44	P	P	14 50 00.7	+0.2		
	baz=270,SNR=22								
KNK	**Knik Glacier**	27.67	54	P	P	14 50 00.7	+0.1		
KNK				IAmb	IAmb	14 50 02.2			
	comp=Z,88nm,1.0s								
KNK	**Knik Glacier**	27.67	54	P	P	14 50 01.2	+0.7		
	baz=278,SNR=16								
COLA	**College**	27.67	46	P	P	14 50 01.1	+0.6		
COLA	**College**	27.67	46	P	P	14 50 00.1	-0.4		
	baz=271								
COLA	**College**	27.67	46*d*	*i*P	P	14 50 01.4	+0.9		
COLA				pmax	pmax				
	comp=Z,36nm,0.8s								
SML	**Sawmill**	27.68	53	P	P	14 50 01.2	+0.5		
SML				IAmb	IAmb	14 50 02.5			
	comp=Z,120nm,1.0s								
SML	**Sawmill**	27.68	53	P	P	14 50 00.3	-0.4		
	baz=277,SNR=18								
CCB	**Clear Creek Bu**	27.70	47	P	P	14 50 00.9	+0.2		
CCB				IAmb	IAmb	14 50 04.6			
	comp=Z,121nm,1.4s								
F24K	**Squaw Lake**	27.71	40	P	P	14 50 00.8	-0.1		
F24K	**Squaw Lake**	27.71	40	P	P	14 50 00.8	-0.1		
	baz=266								
KS19	**Wonju Array Si**	27.75	247	P	P	14 50 01.2	-0.3		
KS19					PcP	14 53 18.4	+1.5		
KSRS	**Korea Array**	27.75	247	P	P	14 50 01.7	+0.2		
	comp=Z,60nm,1.0s,baz=40,slow=9.5,SNR=80								
KSRS				PcP	PcP	14 53 17.7	+0.8		
	comp=Z,17nm,0.9s,baz=350,slow=2.8,SNR=19								
KSRS				LR	LR	15 00 46.6			
	comp=Z,2µm,19.9s,baz=45,slow=36								
	comp=Z,60nm,1.0s								
KSAR	**Wonju Array Be**	27.79	247	P	P	14 50 01.7	-0.1		
KSAR				PcP	PcP	14 53 18.2	+1.2		
KSAR	**Wonju Array Be**	27.79	247	P	P	14 50 01.7	-0.1		
PYAG	**Pyongyang**	27.83	252	P	P	14 50 01.5	-0.7		
PYAG				AmB					
	comp=Z,234nm,1.5s								
G24K	**Hadweenzic Riv**	27.83	42	P	P	14 50 03.6	+1.6		
G24K				IAmb	IAmb	14 50 04.7			
	comp=Z,187nm,0.9s								
G24K	**Hadweenzic Riv**	27.83	42	P	P	14 50 02.1	+0.1		
	baz=268,SNR=73								
SUJ	**Sinuiju**	27.83	255	P	P	14 50 01.2	-1.0		
SUJ				S	S	14 54 41.9	+0.3		
SUJ				AmB					
	comp=Z,282nm,1.6s								
SUJ				AMS	AMS				
	comp=Z,1µm,9.6s								
POKR	**Poker Plat Res**	27.84	46	P	P	14 50 02.7	+0.5		
POKR				IAmb	IAmb	14 50 05.6			
	comp=Z,151nm,1.6s								
POKR	**Poker Plat Res**	27.84	46	P	P	14 50 02.4	+0.3		
	baz=271,SNR=22								
WAT6	**Susitna Watana**	27.87	51	P	P	14 50 02.9	+0.4		
	baz=276,SNR=5.7								
M23K	**Glacier View**	27.96	53	P	P	14 50 03.3	0.0		
	baz=277								
CIT	**Chita**	27.97	286	*e*P	P	14 50 00.8	-2.6		
CIT				*e*		14 50 22.0			
CIT				*e*		14 50 55.8			
CIT				*e*		14 51 04.4			
CIT				*e*		14 53 16.6			
DHY	**Denali Highway**	27.98	50	P	P	14 50 03.3	-0.3		
DHY	**Denali Highway**	27.98	50	P	P	14 50 03.8	+0.3		
	baz=275,SNR=17								
HDA	**Harding Lake**	28.08	47	P	P	14 50 04.1	-0.1		
HDA	**Harding Lake**	28.08	47	P	P	14 50 04.2	0.0		
	baz=273,SNR=18								
HDA				P	P	14 50 04.2	0.0		
	baz=273,SNR=18								
IL31		28.09	46	P	P	14 50 04.0	-0.2		
ILAR	**Eielson Array**	28.09	46

comp=Z,2µm,21.0s
FYU Fort Yukon 28.73 42 P P 14 50 10.3 +0.4
FYU IAmb IAmb 14 50 12.7
comp=Z,355nm,1.5s
J25K Salcha River, 28.75 47 P P 14 50 09.8 -0.4
baz=274,SNR=20
TJN Taejon 28.85 246 P P 14 50 12.0 +0.7
TJN Taejon 28.85 246 eP P 14 50 11.7 +0.4
KLU Klutina 28.86 53 IAMs_20 IAMs_20 15 00 57.9
comp=Z,2µm,22.0s
KLU Klutina 28.86 53 P P 14 50 10.8 -0.5
baz=279,SNR=6.1
PAX Paxson 28.86 50 P P 14 50 10.8 -0.5
baz=277,SNR=8.4
BMAR Burnt Mountain 28.98 41 P P 14 50 13.4 +1.2
C26K Camden Bay 28.98 36 P P 14 50 11.7 -0.4
baz=265,SNR=51
Q23K Middleton Isla 29.05 57 P P 14 50 12.9 +0.1
baz=283
RIDG Independent Ri 29.05 48 P P 14 50 13.1 +0.2
baz=276
HARP HAARP 29.08 51 P P 14 50 13.5 +0.4
baz=278,SNR=5.9
EYAK Cordova Ski Ar 29.11 55 P P 14 50 14.0 +0.6
baz=281
F26K Sheenjek River 29.15 40 P P 14 50 15.0 +1.3
baz=270,SNR=34
G26K Porcupine Rive 29.29 42 P P 14 50 16.5 +1.6
baz=271,SNR=65
SCRK Sand Creek 29.41 48 P P 14 50 15.7 -0.5
SCRK IAmb IAmb 14 50 18.3
comp=Z,140nm,1.5s
SCRK Sand Creek 29.41 48 P P 14 50 15.9 -0.2
baz=276,SNR=36
N25K Chitina, Valde 29.47 53 P P 14 50 17.3 +0.6
baz=280,SNR=5.9
JNU Nakatsue 29.53 237 P P 14 50 18.2 +0.8
JNU IAmb IAmb 14 50 22.2
comp=Z,163nm,1.0s
JNU Nakatsue 29.53 237 P P 14 50 18.3 +0.9
JNU Nakatsue 29.53 237 P P 14 50 17.9 +0.6
comp=Z,110nm,0.9s,baz=51,slow=6.5,SNR=45
JNU LR LR 15 03 07.6
comp=Z,720nm,20.9s,baz=38,slow=38
comp=Z,110nm,0.9s
J26L Joseph Creek 29.53 47 P P 14 50 17.5 +0.3
baz=276,SNR=7.6
BMRM Bremner River 29.58 54 P P 14 50 17.7 +0.1
baz=281,SNR=8.0
I26K Coal Creek Min 29.63 45 P P 14 50 17.6 -0.3
baz=275
MENT Mentasta 29.66 50 P P 14 50 19.7 +1.4
RAGM Ragged Mountai 29.66 55 IAMs_20 IAMs_20 15 02 16.0
comp=Z,3µm,22.0s
L26K Log Cabin Wild 29.81 50 P P 14 50 20.2 +0.5
baz=278
KAIM Kayak Island 29.89 56 P P 14 50 21.6 +1.3
baz=283
JCJ Chichijima 29.98 214 P P 14 50 18.4 -3.0
comp=Z,247nm,1.0s,baz=126,slow=22,SNR=4.9
JCJ LR LR 15 04 01.0
comp=Z,118nm,19.5s,baz=27,slow=39
M26K Nabesna, AK 30.07 51 P P 14 50 22.9 +0.9
baz=280,SNR=14
VRDI Verde Repeater 30.08 53 P P 14 50 22.7 +0.5
E27K Coleen River 30.11 39 P P 14 50 23.7 +1.5
baz=271,SNR=33
BERG Berg Lake 30.14 55 P P 14 50 23.4 +1.0
G27K Doyon Strip 30.14 42 P P 14 50 23.3 +0.8
G27K Doyon Strip 30.14 42 P P 14 50 24.5 +2.0
baz=273,SNR=27
H27K Steamboat Moun 30.23 43 P P 14 50 25.2 +1.9
baz=274,SNR=80
K27K Chicken 30.23 47 P P 14 50 24.2 +0.9
baz=278
I27K Kandik River 30.25 44 P P 14 50 24.6 +1.1
baz=275
MCARA McCarthy VSAT 30.25 53 P P 14 50 24.7 +1.2
baz=282
DL2 Dalian 30.28 256 P P 14 50 22.6 -1.3
DL2 pmax pmax
comp=Z,37nm,1.0s
DL2 LR LR
comp=Z,2µm,16.3s
DL2 LR LR
comp=Z,1µm,21.7s
DL2 LR LR
comp=Z,2µm,19.4s
CRQM Cirque 30.33 54 IAMs_20 IAMs_20 15 02 28.2
comp=Z,3µm,21.0s
D27M Malcolm River 30.33 37 P P 14 50 24.8 +0.6
D27M IAmb IAmb 14 50 26.8
comp=Z,281nm,1.9s
D27M Malcolm River 30.33 37 P P 14 50 25.5 +1.3
baz=270,SNR=59
CRQE Cirque 30.35 54 P P 14 50 25.9 +1.4
baz=282,SNR=10
BGLC Bering Glacier 30.40 55 P P 14 50 24.8 +0.1
baz=284
XLT XiLinHaoTe 30.42 269 eP P 14 50 23.9 -1.3
XLT pP pP 14 50 38.8 +0.6
XLT sP sP 14 50 45.1 +0.9
XLT PcP **PcP** **14 53 23.9 +0.3**
XLT S **S** **14 55 19.4 -3.0**
XLT sS sS 14 55 43.8 -0.1
XLT pmax pmax
comp=Z,31nm,1.1s
XLT pmax pmax
comp=Z,310nm,5.6s
XLT LR LR
comp=Z,2µm,19.8s
XLT LR LR
comp=Z,2µm,21.7s
TGL Tana Glacier 30.48 54 IAMs_20 IAMs_20 15 02 52.5
comp=Z,3µm,20.0s
L27K Beaver Creek, 30.49 49 P P 14 50 26.4 +0.7
L27K IAmb IAmb 14 50 28.5
comp=Z,82nm,1.0s
L27K Beaver Creek, 30.49 49 P P 14 50 27.5 +1.8
baz=280,SNR=51
BCAR Beaver Creek A 30.51 49 P P 14 50 27.0 +1.2
EGAK Eagle 30.53 46 P P 14 50 25.9 0.0
baz=277,SNR=9.7
M27K Edge Creek, AK 30.59 51 P P 14 50 28.1 +1.5
baz=281,SNR=29
ISLE Juniper Island 30.75 54 P P 14 50 28.2 +0.1
ISLE IAMs_20 IAMs_20 15 02 50.6
comp=Z,3µm,21.0s
F28M Old Crow 30.78 40 P P 14 50 29.8 +1.6
F28M IAmb IAmb 14 50 31.1
comp=Z,188nm,1.5s
F28M Old Crow 30.78 40 P P 14 50 29.9 +1.8
baz=274,SNR=59
E28M Babbage River 30.86 38 IAMs_20 IAMs_20 15 03 39.4
comp=Z,2µm,21.0s
E28M Babbage River 30.86 38 P P 14 50 30.2 +1.4
baz=272,SNR=42
I28M Miner Creek 30.96 44 P P 14 50 30.3 +0.5
I28M Miner Creek 30.96 44 P P 14 50 30.9 +1.1
baz=277,SNR=49
BARN Barnard Glacie 30.96 53 IAMs_20 IAMs_20 15 02 15.1
comp=Z,2µm,22.0s
GRNC Granite Creek 31.00 54 PcP 14 53 26.6 +1.5
GRNC IAMs_20 IAMs_20 15 02 47.9
comp=Z,2µm,21.0s
MESA MESA 31.03 55 P P 14 50 32.2 +1.5
baz=284,SNR=6.3
BVCY Beaver Creek 31.05 50 P P 14 50 32.2 +1.7
baz=281,SNR=6.8
D28M Stokes Point 31.12 37 P P 14 50 32.4 +1.4
baz=272,SNR=19
CTG Chitna Glacier 31.14 53 P P 14 50 32.9 +1.4
baz=283,SNR=9.5
CTGM Chitina Glacie 31.14 53 IAMs_20 IAMs_20 15 02 44.1
comp=Z,2µm,22.0s
LOGN Logan Glacier 31.33 53 IAMs_20 IAMs_20 15 02 58.8
comp=Z,2µm,21.0s
TABL Table Mountain 31.36 54 IAMs_20 IAMs_20 15 03 20.8
comp=Z,2µm,20.0s
YUK3 Moose Creek 31.37 52 P P 14 50 34.7 +1.2
baz=283,SNR=14
DAWY Dawson 31.40 47 P P 14 50 34.5 +0.9
baz=280,SNR=17
E29M Blow River 31.48 39 P P 14 50 34.8 +0.6
E29M IAmb IAmb 14 50 37.1
comp=Z,166nm,1.5s
E29M Blow River 31.48 39 P P 14 50 36.0 +1.8
baz=274,SNR=61
H29M Whitestone 31.50 43 P P 14 50 36.3 +1.8
baz=277,SNR=48
G29M Pine Creek 31.56 41 P P 14 50 36.7 +1.7
baz=276
I29M Ogilvie Camp, 31.65 44 P P 14 50 36.6 +0.9
baz=278,SNR=36
YUK8 Steele Glacier 31.80 52 P P 14 50 38.4 +0.9
baz=284,SNR=6.4
PINM Pinnacle 31.88 55 P P 14 50 38.7 +0.8
baz=286,SNR=11
M29M Somme Creek 32.13 50 P P 14 50 40.9 +0.8
baz=283,SNR=28
L29M L29M 32.13 49 P P 14 50 42.1 +2.0
baz=282,SNR=56
EPYK Eagle Plains 32.15 42 P P 14 50 41.7 +1.5
baz=278,SNR=37
BCPM Bancas Point 32.21 55 IAMs_20 IAMs_20 15 03 56.4
comp=Z,2µm,21.0s
K29M Barlow Dome 32.25 47 P P 14 50 42.3 +1.1
baz=282,SNR=12
G30M tAoh Zraii Nji 32.26 41 P P 14 50 42.5 +1.3
baz=278,SNR=42
YUK4 Talbot Arm 32.31 52 P P 14 50 43.2 +1.4
baz=285,SNR=10.0
F30M Barrier River 32.34 40 P P 14 50 43.8 +2.0
baz=277,SNR=78
PNL Peninsula 32.41 55 P P 14 50 43.7 +1.2
PNL Peninsula 32.41 55 P P 14 50 43.5 +1.0
baz=287
I30M Mount Dempster 32.47 44 IAMs_20 IAMs_20 15 03 25.0
comp=Z,2µm,20.0s
I30M Mount Dempster 32.47 44 P P 14 50 44.1 +1.0
baz=280
YUK6 Outpost Mounta 32.55 53 P P 14 50 45.1 +1.1
baz=285,SNR=5.6
J30M Hart River 32.61 46 P P 14 50 45.6 +1.3
baz=281,SNR=11
O29M Mount Kennedy 32.62 54 IAMs_20 IAMs_20 15 04 24.0
comp=Z,2µm,21.0s
O29M Mount Kennedy 32.62 54 P P 14 50 45.5 +1.0
baz=286
BJI Beijing 32.71 263 P P 14 50 43.9 -1.4
BJI PcP **PcP** **14 53 30.4 +0.7**
BJI S **S** **14 55 54.4 -3.6**
BJI pmax pmax
comp=Z,7.0nm,0.7s
BJI LR LR
comp=Z,480nm,16.0s
BJI LR LR
comp=Z,1µm,15.0s
BJI LR LR
comp=Z,1µm,14.8s
BJT Baijiatuao 32.73 263 P P 14 50 44.6 -0.8
BJT Baijiatuao 32.73 263 IAMs_20 IAMs_20 15 05 32.3
comp=Z,2µm,19.0s
BJT Baijiatuao 32.73 263 P P 14 50 45.4 -0.1
BJT Baijiatuao 32.73 263 P P 14 50 44.6 -0.8
BJT pmax pmax
comp=Z,85nm,1.7s
BJT MLR MLR
comp=Z,2µm,19.0s
BJT Baijiatuao 32.73 263 P P 14 50 44.9 -0.6
BJT PcP **PcP** **14 53 30.6 +0.7**
M30M Minto, Yukon 32.85 49 P P 14 50 47.9 +1.6
baz=284,SNR=12
HYT Haines Junctio 32.99 53 P P 14 50 48.7 +1.1
HYT Haines Junctio 32.99 53 P P 14 50 49.3 +1.6
baz=286,SNR=20
N30M Aishikik Lake 33.01 51 P P 14 50 49.3 +1.5
baz=286
MAYO Mayo, Yukon 33.01 47 P P 14 50 49.0 +1.3
baz=283
G31M Satah River 33.02 41 P P 14 50 48.6 +0.9
G31M IAmb IAmb 14 50 50.1
comp=Z,61nm,0.9s
G31M Satah River 33.02 41 P P 14 50 48.7 +0.9
baz=279,SNR=28
INK Inuvik 33.10 38 P P 14 50 49.8 +1.5
INK IAmb IAmb 14 50 51.1
comp=Z,283nm,1.8s
INK Inuvik 33.10 38 P P 14 50 49.9 +1.5
baz=278,SNR=54
INK Inuvik 33.10 38 P P 14 50 49.8 +1.5
INK pmax pmax
comp=Z,283nm,1.8s
INK Inuvik 33.10 38 LR LR 15 06 21.3
comp=Z,529nm,19.2s,baz=275,slow=40
IRK Irkutsk 33.10 291 eP P 14 50 48.0 -0.6
IRK pmax pmax
comp=Z,56nm,1.5s
F31M Tsiigehtchic 33.14 40 P P 14 50 49.3 +0.5
F31M IAmb IAmb 14 50 51.1
comp=Z,208nm,1.4s
F31M Tsiigehtchic 33.14 40 P P 14 50 50.1 +1.3
baz=279,SNR=77
H31M Peel River 33.20 43 P P 14 50 49.5 +0.2
H31M IAmb IAmb 14 50 51.6
comp=Z,56nm,1.1s
H31M Peel River 33.20 43 P P 14 50 50.4 +1.1
baz=281,SNR=22
P29M Windy Craggy 33.23 55 P P 14 50 50.8 +1.2
P29M IAMs_20 IAMs_20 15 03 21.2
comp=Z,2µm,21.0s
P29M Windy Craggy 33.23 55 P P 14 50 51.5 +1.8
baz=288,SNR=7.6
P30M Million Dollar 33.45 54 P P 14 50 53.3 +1.7
baz=288,SNR=5.4
ULN Ulaanbaatar 33.59 282 P P 14 50 52.7 -0.3
ULN Ulaanbaatar 33.59 282 P P 14 50 52.7 -0.3
ULN P P 14 50 52.7 -0.3
ULN Ulaanbaatar 33.59 282 ceP P 14 50 52.1 -1.0
ULN pmax pmax
comp=Z,28nm,0.9s
ULN Ulaanbaatar 33.59 282 P P 14 50 52.6 -0.5
ULN PcP **PcP** **14 53 32.8 +0.5**
N31M Braeburn, Yuko 33.60 51 P P 14 50 54.6 +1.7
baz=286,SNR=8.3
O30N Mendenhall 33.67 52 P P 14 50 54.4 +0.9
O30N IAMs_20 IAMs_20 15 03 39.5
comp=Z,2µm,22.0s
O30N Mendenhall 33.67 52 P P 14 50 55.0 +1.5
baz=287,SNR=9.9
SONM Songino Array 33.98 282 P P 14 50 55.9 -0.6
SONM Songino Array 33.98 282 P P 14 50 56.5 0.0
comp=Z,22nm,0.7s,baz=52,slow=7.6,SNR=54
SONM PcP **PcP** **14 53 33.8 +0.3**
comp=Z,19nm,0.7s,baz=66,slow=1.5,SNR=16
SONM ScP **ScP** **14 57 11.6 -2.1**
comp=Z,3.0nm,1.1s,baz=57,slow=3.1,SNR=1.7
SONM LR LR 15 06 12.7
comp=Z,4µm,19.0s,baz=58,slow=39
comp=Z,22nm,0.7s
M31M Drury Creek, Y 34.03 49 P P 14 50 58.7 +2.1
baz=286,SNR=35
WHY Whitehorse 34.27 52 P P 14 50 59.6 +0.9
WHY IAmb IAmb 14 51 02.3
comp=Z,101nm,1.4s
WHY IAMs_20 IAMs_20 15 06 59.8
comp=Z,2µm,20.0s
WHY Whitehorse 34.27 52 P P 14 51 00.8 +2.0
baz=288,SNR=27
H11N2 WAKE ISLAND Hy 34.42 169 T T 15 27 18.5
baz=353,slow=75,SNR=2580
H11N3 WAKE ISLAND Hy 34.44 169 T T 15 27 14.3
baz=353,slow=75,SNR=3875
H11N1 WAKE ISLAND Hy 34.44 169 T T 15 27 14.4
baz=353,slow=75,SNR=3797
SKAG Skagway 34.44 54 P P 14 51 02.7 +2.6
SKAG Skagway 34.44 54 P P 14 51 02.5 +2.4
baz=290,SNR=9.1
FARO Faro, Yukon 34.49 49 P P 14 51 01.6 +1.0
FARO IAmb IAmb 14 51 03.8
comp=Z,74nm,1.4s
FARO Faro, Yukon 34.49 49 P P 14 51 02.4 +1.8
baz=287,SNR=18
ZAK Zakamensk 34.50 288 eP P 14 51 00.8 -0.1
ZAK pmax pmax
comp=Z,23nm,1.2s
S31K Pelican 34.52 57 IAMs_20 IAMs_20 15 04 07.2
comp=Z,2µm,20.0s
S31K Pelican 34.52 57 P P 14 51 02.6 +1.8
baz=291
R31K City Hall, Gus 34.60 56 P P 14 51 02.9 +1.4
baz=291
TIA Tai'an 34.73 257 ⇑P P 14 51 01.8 -1.0
TIA PcP **PcP** **14 53 36.5 +0.9**
TIA S **S** **14 56 27.9 -1.4**
TIA pmax pmax
comp=Z,83nm,0.7s
TIA pmax pmax
comp=Z,150nm,4.7s
TIA LR LR
comp=Z,1µm,16.5s
TIA LR LR
comp=Z,2µm,17.3s
TIA LR LR
comp=Z,3µm,17.3s
HHC Hu-ho-hao-te 34.92 268 eP P 14 51 03.6 -1.0
HHC pP pP 14 51 16.8 -0.9
HHC PP **PP** **14 52 28.1 +3.8**
HHC eS **S** **14 56 28.6 -3.8**
HHC PcS **PcS** **14 57 25.6 +2.6**
HHC pmax pmax
comp=Z,42nm,1.0s
HHC pmax pmax
comp=Z,250nm,4.1s
HHC LR LR
comp=Z,1µm,15.2s
HHC LR LR
comp=Z,1µm,20.1s
HHC LR LR
comp=Z,3µm,18.0s
P32M Atlin 35.17 54 IAMs_20 IAMs_20 15 05 52.3
comp=Z,2µm,20.0s
P32M Atlin 35.17 54 P P 14 51 08.5 +2.0
baz=290,SNR=6.2
MOY Mondy 35.18 291 eP P 14 51 06.2 -0.5
MOY pmax pmax
comp=Z,65nm,1.4s
R32K Eaglecrest 35.26 56 P P 14 51 09.4 +2.2
baz=292,SNR=5.6
HNS HongShan 35.31 261 ⇑P P 14 51 07.4 -0.5
HNS PcP **PcP** **14 53 38.3 +1.1**
HNS S **S** **14 56 42.8 +4.6**
HNS pmax pmax
comp=Z,110nm,1.0s
HNS LR LR
comp=Z,890nm,15.9s
HNS LR LR
comp=Z,3µm,15.7s
HNS LR LR
comp=Z,3µm,16.2s
SIT Sitka 35.32 58 P P 14 51 10.6 +3.0
SIT Sitka 35.32 58 P P 14 51 09.8 +2.1
baz=293
JIS Juneau Island 35.32 56 IAMs_20 IAMs_20 15 04 25.5
comp=Z,2µm,22.0s
JIS Juneau Island 35.32 56 P P 14 51 10.7 +3.0
A36M Sachs Harbour 35.33 31 P P 14 51 08.4 +0.8
A36M IAmb IAmb 14 51 19.6
comp=Z,76nm,0.8s
A36M Sachs Harbour 35.33 31 P P 14 51 09.3 +1.7
baz=280,SNR=47
P33M Teslin, Yukon 35.38 52 IAMs_20 IAMs_20 15 05 19.3
comp=Z,2µm,22.0s
P33M Teslin, Yukon 35.38 52 P P 14 51 10.8 +2.4
baz=290,SNR=16
S32K Killisnoo 35.53 57 P P 14 51 11.6 +2.1
baz=293
H11S1 WAKE ISLAND Hy 35.61 170 T T 15 28 38.3
baz=352,slow=76,SNR=487
H11S3 WAKE ISLAND Hy 35.62 170 T T 15 28 46.1
baz=352,slow=76,SNR=1261
H11S2 WAKE ISLAND Hy 35.63 170 T T 15 28 48.9
baz=352,slow=76,SNR=408
JOW Kunigami 35.97 234 P P 14 51 15.3 +1.7
JOW Kunigami 35.97 234 P P 14 51 14.3 +0.6
comp=Z,250nm,0.5s,baz=13,slow=9.0,SNR=84
JOW LR LR 15 07 36.8
comp=Z,623nm,18.5s,baz=194,slow=39
comp=Z,250nm,0.5s
BTO Baotou 35.99 269 eP P 14 51 13.6 -0.2
BTO pP **pP** **14 51 28.8 +1.9**
BTO sP **sP** **14 51 36.4 +3.5**
BTO PP **PP** **14 52 35.9 -0.2**
BTO S **S** **14 56 48.9 +0.1**
BTO sS **sS** **14 57 13.1 +2.5**
BTO SS **SnSn** **14 59 10.9 -5.5**
BTO pmax pmax
comp=Z,210nm,1.1s
BTO pmax pmax
comp=Z,1µm,6.2s
BTO LR LR
comp=Z,3µm,12.1s
BTO LR LR
comp=Z,5µm,15.5s
BTO LR LR
comp=Z,6µm,15.3s
Q32M Nakina River 36.09 54 P P 14 51 17.1 +2.5
baz=292
SSE Sheshan 36.20 247 P P 14 51 14.8 -0.7
SSE S **S** **14 56 50.6 -1.2**
SSE pmax pmax
comp=Z,13nm,0.7s
SSE pmax pmax
comp=Z,180nm,5.0s
SSE LR LR
comp=Z,320nm,17.7s
SSE LR LR
comp=Z,360nm,18.2s
C36M Paulatuk 36.26 35 P P 14 51 16.4 +0.8
C36M IAmb IAmb 14 51 17.5
comp=Z,108nm,0.8s
C36M Paulatuk 36.26 35 P P 14 51 16.8 +1.2
baz=284,SNR=31
R33M Jennings River 36.55 53 IAMs_20 IAMs_20 15 07 29.7
comp=Z,2µm,19.0s
R33M Jennings River 36.55 53 P P 14 51 21.0 +2.6
baz=292,SNR=22
NJ2 Nanjing 36.76 251 eP P 14 51 19.3 -1.0
NJ2 S **S** **14 56 58.3 -2.1**
NJ2 PcS **PcS** **14 57 31.9 +2.2**
NJ2 pmax pmax
comp=Z,56nm,1.0s
NJ2 pmax pmax
comp=Z,320nm,3.5s
NJ2 LR LR
comp=Z,1µm,17.5s
NJ2 LR LR
comp=Z,970nm,15.1s
NJ2 LR LR
comp=Z,2µm,17.1s
U33K Whale Pass 36.81 59 P P 14 51 23.0 +2.6
baz=295
S34M Telegraph Cree 37.05 55 P P 14 51 25.1 +2.5
baz=294,SNR=7.5
WRAK Wrangell Islan 37.08 58 P P 14 51 25.1 +2.4
baz=295
CRAG Craig 37.09 60 P P 14 51 25.1 +2.3
baz=296
WTLY Watson Lake, Y 37.29 51 IAMs_20 IAMs_20 15 08 15.7
comp=Z,2µm,20.0s
WTLY Watson Lake, Y 37.29 51 P P 14 51 26.4 +1.8
baz=293
DLBC Dease Lake 37.38 54 P P 14 51 27.1 +1.8
DLBC IAmb IAmb 14 51 29.6
comp=Z,60nm,1.3s
DLBC Dease Lake 37.38 54 P P 14 51 28.2 +2.8
baz=294,SNR=14
DLBC Dease Lake 37.38 54 LR LR 15 07 33.1
comp=Z,977nm,20.8s,baz=304,slow=37
T35M Bob Quinn 37.88 56 P P 14 51 32.6 +3.1
baz=296,SNR=10
V35K Ketchikan 37.92 59 P P 14 51 32.3 +2.4
baz=297
WRGLY Wrigley 38.44 45 P P 14 51 36.6 +2.4
baz=292,SNR=22
U35K Hyder 38.46 58 P P 14 51 36.6 +2.2
baz=297
LYN LuoYang 38.59 260 ⇑P P 14 51 35.6 -0.2
LYN pP sP 14 51 51.3 -3.6
LYN sP **pP** **14 52 00.3 +11**
LYN PP **PP** **14 53 06.9 +2.2**
LYN S **S** **14 57 27.5 -0.7**
LYN sS sS 14 57 51.9 +1.8
LYN pmax pmax
comp=Z,130nm,0.6s
LYN pmax pmax
comp=Z,270nm,5.3s
LYN LR LR
comp=Z,2µm,23.0s
LYN LR LR
comp=Z,2µm,24.4s

LYN LR LR
comp=Z,2µm,20.6s
KOTAN Kotaneelee Air 39.45 50 P **P** **14 51 44.6 +2.0**
baz=296
FLDN Fort Liard 39.66 49 P **P** **14 51 46.3 +2.0**
baz=296
WHN Wuhan 40.43 254 P **P** **14 51 50.1 -0.9**
WHN pP **pP** **14 52 02.5 -1.8**
WHN PcP **PcP** **14 53 54.0 +0.9**
WHN S **S** **14 57 50.8 -5.0**
WHN pmax pmax
comp=Z,68nm,0.8s
WHN LR LR
comp=Z,860nm,14.6s
WHN LR LR
comp=Z,1µm,12.2s
WHN LR LR
comp=Z,2µm,16.1s
YOJ Yonaguni jima 40.55 239 IAMs_20 IAMs_20 15 08 57.5
comp=Z,1µm,18.0s
TATO Taipei 40.91 241 P **P** **14 51 55.4 +0.4**
TATO Taipei 40.91 241 P **P** **14 51 56.6 +1.6**
XAN Xi'an 41.03 263 ⇑P **P** **14 51 54.5 -1.6**
XAN pP pP 14 52 07.8 -1.6
XAN PcP **PcP** **14 53 55.3 +0.2**
XAN pmax pmax
comp=Z,34nm,0.8s
XAN LR LR
comp=Z,3µm,14.3s
XAN LR LR
comp=Z,3µm,16.2s
XAN LR LR
comp=Z,4µm,16.2s
XAN Xi'an 41.03 263 P **P** **14 51 54.6 -1.4**
XAN PcP **PcP** **14 53 55.5 +0.5**
EUNU Eureka 41.14 14 P **P** **14 51 57.8 +1.3**
YHNB Yeheng 41.21 241 P **P** **14 51 58.1 +0.5**
YHNB IAmb IAmb 14 52 00.3
comp=Z,69nm,0.9s
YHNB IAMs_20 IAMs_20 15 08 48.3
comp=Z,1µm,21.0s
BBB Bella Bella 41.28 62 LR LR 15 07 12.0
comp=Z,1µm,21.9s,baz=300,slow=33
NACB Ninganchiao 41.51 240 P **P** **14 51 57.4 -2.6**
NACB IAMs_20 IAMs_20 15 09 21.1
comp=Z,2µm,21.0s
NACB Ninganchiao 41.51 240 P **P** **14 52 01.0 +1.0**
GUMO Guam 42.04 203 LR LR 15 08 29.7
comp=Z,449nm,19.6s,baz=50,slow=34
ALE Alert 42.12 8 P **P** **14 52 05.2 +0.8**
ALE sP **sP** **14 52 23.1 -0.4**
ALE PcP **PcP** **14 53 58.8 +0.9**
SSLB Suanglung 42.16 240 P **P** **14 52 04.9 -0.5**
SSLB IAmb IAmb 14 52 10.6
comp=Z,142nm,1.1s
SSLB IAMs_20 IAMs_20 15 09 19.2
comp=Z,2µm,22.0s
SSLB Suanglung 42.16 240 P **P** **14 52 06.1 +0.8**
YULB Yu-li 42.30 240 P **P** **14 52 06.8 +0.2**
YULB IAmb IAmb 14 52 15.5
comp=Z,87nm,0.7s
YULB IAMs_20 IAMs_20 15 09 45.2
comp=Z,1µm,22.0s
YULB Yu-li 42.30 240 P **P** **14 52 07.7 +1.2**
YKA Yellowknife Ar 42.42 43 P **P** **14 52 07.8 +0.8**
YKA Yellowknife Ar 42.42 43 *i* P **P** **14 52 08.1 +1.1**
YKA pmax pmax
comp=Z,34nm,0.8s
YKA Yellowknife Ar 42.42 43 P **P** **14 52 08.2 +1.3**
comp=Z,34nm,0.8s,baz=298,slow=8.3,SNR=350
YKA PcP **PcP** **14 53 59.9 +0.8**
comp=Z,5.2nm,0.8s,baz=304,slow=4.0,SNR=3.7
YKA LR LR 15 11 25.8
comp=Z,563nm,18.8s,baz=288,slow=38
comp=Z,34nm,0.8s
QZH Quanzhou 42.45 244 ⇑*i*P **P** **14 52 08.4 +0.8**
QZH S **S** **14 58 30.3 +4.5**
QZH pmax pmax
comp=Z,94nm,0.6s
QZH LR LR
comp=Z,710nm,20.6s
RES Resolute Bay 42.51 22 P **P** **14 52 08.7 +1.2**
RES IAmb IAmb 14 52 09.9
comp=Z,65nm,0.8s
RES Resolute Bay 42.51 22 P **P** **14 52 08.7 +1.2**
RES pmax pmax
comp=Z,65nm,0.9s
RES Resolute Bay 42.51 22 LR LR 15 13 49.4
comp=Z,362nm,18.2s,baz=338,slow=42
ZAA0 Zalesovo Array 42.58 302 P **P** **14 52 06.6 -1.8**
ZALV Zalesovo Beam 42.58 302 P **P** **14 52 06.3 -2.1**
ZALV Zalesovo Beam 42.58 302 P **P** **14 52 06.5 -1.9**
comp=Z,16nm,0.6s,baz=57,slow=6.5,SNR=61
ZALV PP **PP** **14 53 47.4 -0.2**
comp=Z,15nm,0.9s,baz=54,slow=7.5,SNR=4.7
ZALV PcP **PcP** **14 53 59.9 +0.1**
comp=Z,25nm,0.9s,baz=96,slow=2.5,SNR=7.0
ZALV ScP **ScP** **14 57 44.1 -2.0**
comp=Z,0.5nm,0.5s,baz=98,slow=2.0,SNR=1.4
comp=Z,16nm,0.6s
LZH Lanzhou 42.61 269 ⇑*i*P **P** **14 52 09.3 +0.2**
LZH sP sP 14 52 27.8 -0.5
LZH PcP **PcP** **14 54 01.5 +1.1**
LZH S **S** **14 58 25.3 -3.0**
LZH sS sS 14 58 52.0 +1.5
LZH pmax pmax
comp=Z,96nm,1.1s
LZH pmax pmax
comp=Z,320nm,4.5s
LZH LR LR
comp=Z,2µm,15.6s
LZH LR LR
comp=Z,2µm,13.9s
LZH LR LR
comp=Z,2µm,18.6s
TPUB Ta-pu 42.72 240 P **P** **14 52 09.7 -0.3**
TPUB IAMs_20 IAMs_20 15 09 49.3
comp=Z,2µm,21.0s
TPUB Ta-pu 42.72 240 P **P** **14 52 11.0 +1.1**
GTA Gaotai 42.78 276 ⇑P **P** **14 52 10.3 -0.1**
GTA PcP **PcP** **14 54 01.8 +0.9**
GTA PcS **PcS** **14 57 54.4 +1.1**
GTA S **S** **14 58 35.4 +4.6**
GTA SS **SS** **15 01 38.0 -4.7**
GTA ScS **ScS** **15 02 05.3 -1.3**
GTA pmax pmax
comp=Z,130nm,1.0s
GTA LR LR
comp=Z,940nm,21.8s
GTA LR LR
comp=Z,790nm,21.1s
GTA LR LR
comp=Z,1µm,22.5s
TWGBT Beinan 42.89 239 P **P** **14 52 13.7 +2.4**
HILA High Level 43.37 49 P **P** **14 52 15.9 +1.2**
ENH Enshi 43.42 258 P **P** **14 52 14.4 -1.1**
ENH IAmb IAmb 14 52 15.2
comp=Z,86nm,0.6s
ENH IAMs_20 IAMs_20 15 12 20.2
comp=Z,2µm,19.0s
ENH Enshi 43.42 258 P **P** **14 52 14.5 -1.1**
ENH Enshi 43.42 258 P **P** **14 52 14.4 -1.1**
ENH PcP **PcP** **14 54 03.8 +0.7**
DGZ Jazzator, Alta 43.57 296*c* *i*P **P** **14 52 16.1 -0.5**
DGZ pmax pmax
comp=Z,82nm,0.9s
CLRS Cowichan Lake 45.27 64 P **P** **14 52 30.6 +0.6**
CLRS IAMs_20 IAMs_20 15 09 20.4
comp=Z,1µm,20.0s
BRLDA Berland Lookou 45.63 55 P **P** **14 52 34.1 +1.1**
TULEG Thule 46.14 14 *i* P **P** **14 52 36.5 0.0**
TULEG IAmb IAmb 14 52 38.5
comp=Z,31nm,0.8s
KBS Kingsbay 46.15 352 *i* P **P** **14 52 37.7 +1.2**
KBS Kingsbay 46.15 352 P **P** **14 52 38.2 +1.7**
ZSN Zaisan 46.27 294 ⇑*i*P **P** **14 52 37.0 -0.9**
baz=294
ZSN Zaisan 46.27 294*c* *i*P **P** **14 52 37.0 -0.9**
CD2 Chengdu 46.31 264 P **P** **14 52 37.4 -1.1**
CD2 PP **PP** **14 54 27.4 -0.3**
CD2 S **S** **14 59 20.8 -1.1**
CD2 SS **SS** **15 02 39.8 -7.7**
CD2 pmax pmax
comp=Z,70nm,0.7s
CD2 pmax pmax
comp=Z,210nm,8.5s
CD2 LR LR
comp=Z,1µm,18.2s
CD2 LR LR
comp=Z,1µm,16.7s
CD2 LR LR
comp=Z,2µm,16.3s
SPA0 Spitsbergen Ar 46.42 350 *e*P **P** **14 52 39.5 +0.8**
SPITS Spitsbergen Ar 46.42 350 P **P** **14 52 39.2 +0.5**
comp=Z,46nm,0.6s,baz=57,slow=6.4,SNR=127
SPITS LR LR 15 13 12.1
comp=Z,700nm,18.6s,baz=360,slow=37
comp=Z,46nm,0.6s
SPB2 Spitsbergen Ar 46.42 350 P **P** **14 52 39.4 +0.6**
SPB2 IAmb IAmb 14 52 40.6
comp=Z,82nm,0.7s
GULI GuiLin 46.70 253 P P 14 52 48.4 +6.8
GNW Green Mountain 46.72 65 P **P** **14 52 41.9 +0.4**
B06A Marblemount 46.85 63 P **P** **14 52 42.7 +0.2**
WMQ Urumqi 46.97 289 *e*P **P** **14 52 43.4 -0.1**
WMQ pP pP 14 52 56.3 -0.8
WMQ sP sP 14 53 06.0 +3.1
WMQ PcP **PcP** **14 54 15.8 +0.6**
WMQ pmax pmax
comp=Z,200nm,0.7s
WMQ LR LR
comp=Z,2µm,14.1s
WMQ LR LR
comp=Z,3µm,16.7s
WMQ LR LR
comp=Z,3µm,19.1s
NEEM North Greenlan 47.48 9 *i* P **P** **14 52 46.7 -0.6**
NEEM IAmb IAmb 14 52 49.7
comp=Z,162nm,0.9s
KURK Kurchatov 47.55 301 P **P** **14 52 46.3 -1.6**
KURK Kurchatov 47.55 301 P **P** **14 52 46.6 -1.3**
KURK Kurchatov 47.55 301*c* *i*P **P** **14 52 46.5 -1.3**
KURK pmax pmax
comp=Z,95nm,0.6s
KURK Kurchatov 47.55 301 P **P** **14 52 46.5 -1.4**
KURK pP **pP** **14 52 59.3 -2.1**
KURK sP **sP** **14 53 04.7 -2.5**
KURK PcP **PcP** **14 54 16.9 -0.1**
SZP Santa 47.63 236 P **P** **14 52 49.8 +1.0**
KURBB Kurchatov Arra 47.65 301 P **P** **14 52 46.8 -1.9**
KURBB Kurchatov Arra 47.65 301 P **P** **14 52 47.1 -1.5**
comp=Z,70nm,0.7s,baz=57,slow=7.9,SNR=270
KURBB PcP **PcP** **14 54 17.2 -0.1**
comp=Z,20nm,0.8s,baz=54,slow=3.7,SNR=7.8
KURBB ScP **ScP** **14 58 07.4 +0.3**
comp=Z,1.5nm,0.6s,baz=47,slow=4.1,SNR=1.9
comp=Z,70nm,0.7s
POHA Pohakuloa 47.74 118 P **P** **14 52 52.1 +2.1**
POHA pP **pwP** **14 53 05.1 -1.1**
LON Longmire 47.77 65 P **P** **14 52 50.8 +1.1**
LON Longmire 47.77 65 P **P** **14 52 50.8 +1.1**
LON pmax pmax
comp=Z,30nm,1.5s
GOMU GeErMu 47.87 276 P **P** **14 52 50.1 -0.9**
GOMU S **S** **14 59 42.8 -1.9**
GOMU sS sS 15 00 09.0 +1.9
GOMU pmax pmax
comp=Z,41nm,0.9s
GOMU LR LR
comp=Z,1µm,13.7s
GOMU LR LR
comp=Z,920nm,15.3s
GOMU LR LR
comp=Z,2µm,14.1s
GYA Guiyang 47.92 257 ⇓*i*P **P** **14 52 50.8 -0.4**
GYA PcP **PcP** **14 54 19.5 +0.6**
GYA S **S** **14 59 43.8 -1.3**
GYA pmax pmax
comp=Z,34nm,0.6s
GYA pmax pmax
comp=Z,260nm,6.1s
GYA LR LR
comp=Z,700nm,14.0s
GYA LR LR
comp=Z,1µm,18.1s
GYA LR LR
comp=Z,2µm,15.8s
F04A Amboy 47.96 66 P **P** **14 52 52.4 +1.3**
MK31 Makanchi Array 48.06 295 P **P** **14 52 50.2 -1.8**
MK31 IAmb IAmb 14 52 52.3
comp=Z,25nm,0.7s
MK31 Makanchi Array 48.06 295 *i* P **P** **14 52 50.1 -1.8**
MKAR Makanchi Array 48.06 295 P **P** **14 52 50.2 -1.7**
comp=Z,24nm,0.5s,baz=58,slow=7.4,SNR=200
MKAR PcP **PcP** **14 54 19.2 +0.2**
comp=Z,5.2nm,0.6s,baz=70,slow=7.2,SNR=1.6
MKAR ScP **ScP** **14 58 06.2 -2.7**
comp=Z,1.1nm,0.8s,baz=35,slow=5.3,SNR=2.3
comp=Z,24nm,0.5s
LTY Liberty 48.06 64 P **P** **14 52 53.0 +1.0**
B08A Colville Reser 48.08 62 P **P** **14 52 52.9 +0.8**
B08A IAmb IAmb 14 52 54.5
comp=Z,67nm,1.6s
EDM Edmonton 48.09 54 P **P** **14 52 52.8 +0.7**
EDM Edmonton 48.09 54 P **P** **14 52 52.8 +0.7**
EDM pmax pmax
comp=Z,469nm,1.6s
MAKZ Makanchi 48.22 295 P **P** **14 52 51.3 -1.8**
MAKZ IAmb IAmb 14 52 53.4
comp=Z,38nm,0.7s
MAKZ Makanchi 48.22 295 P **P** **14 52 51.3 -1.8**
MAKZ pmax pmax
comp=Z,38nm,0.7s
MAKZ Makanchi 48.22 295 ⇑P **P** **14 52 51.4 -1.8**
MAKZ PcP **PcP** **14 54 20.0 +0.4**
COR Corvallis 48.33 68 P **P** **14 52 55.6 +1.7**
MXC Moxie City 48.69 64 P **P** **14 52 58.4 +1.6**
MXC IAmb IAmb 14 52 59.5
comp=Z,74nm,1.6s
E07A Sunnyside 48.94 64 P **P** **14 52 59.0 +0.3**
E07A IAmb IAmb 14 53 01.3
comp=Z,129nm,1.9s
D08A Wollman Farm, 49.12 63 P **P** **14 52 59.4 -0.6**
NEW Newport 49.29 61 IAMs_20 IAMs_20 15 11 07.8
comp=Z,2µm,22.0s
NEW Newport 49.29 61 P **P** **14 53 02.3 +0.9**
baz=309,SNR=11
NEW Newport 49.29 61 LR LR 15 11 41.4
comp=Z,1µm,21.5s,baz=298,slow=33
DBO Dodson Butte 49.30 70 P **P** **14 53 02.9 +1.3**
DBO IAmb IAmb 14 53 52.4
comp=Z,60nm,1.6s
F07A Phinny Hill Vi 49.32 65 P **P** **14 53 03.2 +1.6**
F07A IAmb IAmb 14 53 33.5
comp=Z,51nm,0.8s
E08A Dider Farm, El 49.41 64 P **P** **14 53 02.8 +0.6**
E08A IAmb IAmb 14 53 04.5
comp=Z,93nm,1.7s
DAG Danmarks Havn 49.63 360 *i* P **P** **14 53 03.0 -0.5**
DAG IAmb IAmb 14 53 05.2
comp=Z,22nm,0.7s
HUMO Hull Mountain 49.80 70 P **P** **14 53 06.5 +1.2**
HUMO IAMs_20 IAMs_20 15 10 22.1
comp=Z,2µm,22.0s
E09A Wood Farm, Sta 49.88 63 P **P** **14 53 06.4 +0.6**
E09A IAmb IAmb 14 53 07.9
comp=Z,141nm,1.5s
KRMB Red Mountain 49.98 72 IAMs_20 IAMs_20 15 10 05.9
comp=Z,2µm,19.0s
BVA0 Borovoye Array 50.12 308 P **P** **14 53 04.9 -2.6**
BVAR Borovoye Array 50.12 308 P **P** **14 53 03.4 -4.1**
comp=Z,38nm,0.7s,baz=38,slow=17,SNR=62
BVAR PcP **PcP** **14 54 26.5 +0.2**
comp=Z,26nm,0.7s,baz=48,slow=2.1,SNR=8.8
BVAR ScP **ScP** **14 58 18.9 +1.4**
comp=Z,3.8nm,0.8s,baz=349,slow=1.5,SNR=5.2
PINE Pine Mountain 50.14 68 P **P** **14 53 09.0 +1.0**
PINE IAmb IAmb 14 53 44.6
comp=Z,38nm,1.0s
BRVK Borovoye 50.14 308 P **P** **14 53 06.3 -1.4**
BRVK IAmb IAmb 14 53 07.4
comp=Z,50nm,0.8s
BRVK Borovoye 50.14 308 P **P** **14 53 06.4 -1.4**
BRVK Borovoye 50.14 308*c* *i*P **P** **14 53 06.1 -1.6**
BRVK pmax pmax
comp=Z,47nm,0.7s
BRVK Borovoye 50.14 308 P **P** **14 53 06.4 -1.4**
BRVK sP **sP** **14 53 24.9 -2.3**
BRVK PcP **PcP** **14 54 26.4 0.0**
G08A Pilot Rock 50.23 65 P **P** **14 53 08.3 -0.3**
J05D Fort Rock, OR 50.31 68 P **P** **14 53 10.5 +1.2**
J05D IAmb IAmb 14 53 45.9
comp=Z,72nm,1.1s
YBH Yreka Blue Hor 50.51 71 P **P** **14 53 12.7 +1.9**
YBH IAmb IAmb 14 53 14.3
comp=Z,110nm,1.9s
YBH Yreka Blue Hor 50.51 71 IAMs_20 IAMs_20 15 10 41.1
comp=Z,2µm,22.0s
YBH Yreka Blue Hor 50.51 71 P **P** **14 53 12.7 +1.9**
YBH pmax pmax
comp=Z,109nm,2.0s
YBH Yreka Blue Hor 50.51 71 LR LR 15 11 13.4
comp=Z,1µm,21.6s,baz=318,slow=32
KMPM Mount Pierce 50.60 73 IAMs_20 IAMs_20 15 10 29.2
comp=Z,1µm,19.0s
F10A Beach Ranch, E 50.71 63 P **P** **14 53 12.9 +0.7**
PZH PanZhiHua 50.76 262 P **P** **14 53 11.8 -1.0**
PZH PcP **PcP** **14 54 29.4 +0.2**
PZH PcS **PcS** **14 58 25.4 -1.6**
PZH S **S** **15 00 28.4 +3.7**
PZH pmax pmax
comp=Z,40nm,0.7s
PZH pmax pmax
comp=Z,240nm,7.3s
PZH LR LR
comp=Z,510nm,16.7s
PZH LR LR
comp=Z,730nm,15.2s
PZH LR LR
comp=Z,1µm,17.1s
K05A Summer Lake 50.86 69 IAMs_20 IAMs_20 15 11 05.3
comp=Z,2µm,22.0s
BRZS Berezniki 50.98 304 ⇑*i*P **P** **14 53 12.0 -2.1**
baz=304
BRZS Berezniki 50.98 304*c* *i*P **P** **14 53 11.9 -2.1**
UPNV Upernavik 51.12 13 *i* P **P** **14 53 13.5 -1.2**
UPNV IAmb IAmb 14 53 17.0
comp=Z,88nm,0.9s
KMI Kunming 51.22 260 ⇑P **P** **14 53 15.8 -0.6**
KMI S **S** **15 00 35.8 +4.5**
KMI pmax pmax
comp=Z,25nm,1.2s
KMI pmax pmax
comp=Z,200nm,5.7s
KMI LR LR
comp=Z,1µm,21.2s
KMI LR LR
comp=Z,1µm,22.7s
KMI LR LR
comp=Z,1µm,18.9s
TDK Taldyqorghan 51.29 296 *e*P **P** **14 53 15.4 -1.1**
comp=Z,45nm,0.6s,baz=296
TDK Taldyqorghan 51.29 296 *e*P **P** **14 53 15.4 -1.1**
TDK pmax pmax
comp=Z,45nm,0.6s
TDK MLR MLR
comp=Z,891nm,14.0s
BMO Blue Mountains 51.41 64 P **P** **14 53 17.9 +0.5**
BMO IAmb IAmb 14 53 20.0
comp=Z,71nm,1.6s
BMO Blue Mountains 51.41 64 P **P** **14 53 17.9 +0.5**
BMO pmax pmax
comp=Z,71nm,1.6s
VADS Vadso 51.41 341 *e*P **P** **14 53 17.3 +0.4**
PDGK Podgornoye 51.81 293 P **P** **14 53 18.8 -1.8**
MSO Missoula 51.87 60 P **P** **14 53 21.8 +1.0**
MSO IAmb IAmb 14 53 23.3
comp=Z,80nm,1.4s
MSO Missoula 51.87 60 P **P** **14 53 21.9 +1.0**
baz=311,SNR=23
SVE Sverdlovsk 51.90 317 ⇓*e*P **P** **14 53 19.7 -1.1**
SVE pmax pmax
comp=Z,43nm,0.8s
SVE MLR MLR
comp=Z,3µm,20.0s
PLID Pearl Lake 51.94 63 P **P** **14 53 22.3 +0.6**
SHLS Shalkode 51.95 293 *e*P **P** **14 53 18.5 -3.0**
comp=Z,25nm,0.7s,baz=293
SHLS Shalkode 51.95 293 *e*P **P** **14 53 18.5 -3.0**
SHLS pmax pmax
comp=Z,25nm,0.7s
QIZ Qiongzhong 51.97 248 P **P** **14 53 23.8 +2.0**
QIZ Qiongzhong 51.97 248 P **P** **14 53 21.0 -0.8**
QIZ S **S** **15 00 43.8 +2.5**
QIZ LR LR
comp=Z,970nm,11.8s
QIZ LR LR
comp=Z,1µm,11.8s
QIZ LR LR
comp=Z,990nm,15.1s
QIZ Qiongzhong 51.97 248 P **P** **14 53 24.1 +2.3**
LVZ Lovozero 52.09 337 P **P** **14 53 21.0 -1.1**
LVZ IAmb IAmb 14 53 23.9
comp=Z,68nm,0.9s
LVZ Lovozero 52.09 337*d* *i*P **P** **14 53 22.5 +0.4**
LVZ pmax pmax
comp=Z,63nm,0.8s
LVZ Lovozero 52.09 337 P **P** **14 53 22.1 0.0**
LVZ PcP **PcP** **14 54 34.0 +0.6**
DBG Daneborg 52.11 0 *i* P **P** **14 53 21.2 -0.9**
DBG IAmb IAmb 14 53 23.5
comp=Z,15nm,0.8s
ARXS Arharly 52.12 295 *e*P **P** **14 53 21.2 -1.6**
KPKS Kokpek 52.16 294 *e*P **P** **14 53 21.8 -1.3**
baz=294
KPKS Kokpek 52.16 294 *e*P **P** **14 53 21.8 -1.3**
KEV Kevo 52.17 341 P **P** **14 53 23.9 +1.3**
KEV pP **pP** **14 53 37.0 +0.8**
KEV PcP **PcP** **14 54 35.4 +1.8**
UZB Uzynbulak 52.19 294 *e*P **P** **14 53 21.9 -1.5**
baz=294
UZB Uzynbulak 52.19 294 *e*P **P** **14 53 21.8 -1.5**
FFC Flin Flon 52.30 47 P **P** **14 53 23.4 -0.4**
FFC IAmb IAmb 14 53 26.2
comp=Z,69nm,1.2s
FFC Flin Flon 52.30 47 P **P** **14 53 23.4 -0.4**
FFC pmax pmax
comp=Z,69nm,1.2s
FFC Flin Flon 52.30 47 P **P** **14 53 24.9 +1.1**
FFC sP **sP** **14 53 43.4 +0.2**
FFC PcP **PcP** **14 54 35.0 +0.6**
ZHN Zhinishke 52.49 294 *e*P **P** **14 53 24.4 -1.2**
baz=294
ZHN Zhinishke 52.49 294 *e*P **P** **14 53 24.4 -1.2**
SATY Saty 52.58 294 ⇑*i*P **P** **14 53 25.3 -1.0**
baz=294
SATY Saty 52.58 294*c* *i*P **P** **14 53 25.3 -1.0**
LYMT Lyon Mountain 52.62 59 P **P** **14 53 27.3 +0.7**
ARA0 ARCESS Array S 52.63 342 *e*P **P** **14 53 26.3 +0.2**
ARCES ARCESS Array B 52.63 342 P **P** **14 53 26.0 -0.1**
ARCES IAmb IAmb 14 53 28.2
comp=Z,58nm,0.9s
ARCES ARCESS Array B 52.63 342 P **P** **14 53 26.0 -0.1**
ARCES pmax pmax
comp=Z,58nm,1.0s
ARCES ARCESS Array B 52.63 342 P **P** **14 53 25.8 -0.3**
comp=Z,41nm,0.9s,baz=34,slow=6.8,SNR=31
ARCES LR LR 15 20 30.6
comp=Z,743nm,19.8s,baz=34,slow=41
comp=Z,41nm,0.9s
APA Apatity 52.64 337 ⇓*i*P **P** **14 53 24.9 -1.2**
APA *i* 14 55 29.0
APA *i*S **S** **15 00 42.0 -7.3**
APA pmax pmax
comp=Z,24nm,1.0s
APA MLR MLR
comp=Z,3µm,20.0s
ORV Oroville 52.66 72 P **P** **14 53 27.5 +0.8**
ORV Oroville 52.66 72 P **P** **14 53 27.5 +0.8**
ORV pmax pmax
comp=Z,18nm,0.9s
FCC Fort Churchill 52.71 39 P **P** **14 53 27.8 +1.0**
FCC IAmb IAmb 14 53 28.4
comp=Z,74nm,0.8s
FCC Fort Churchill 52.71 39 P **P** **14 53 27.8 +1.0**
FCC pmax pmax
comp=Z,75nm,0.9s
BEMT Mount Belmont 52.75 60 P **P** **14 53 28.0 +0.5**
CHKK Chushkaly 52.81 296 *i* P **P** **14 53 25.8 -2.1**
baz=295
CHKK Chushkaly 52.81 296 *i* P **P** **14 53 25.7 -2.1**
ELMT Elliston 52.81 60 P **P** **14 53 28.3 +0.3**
PRZ Przheval'sk 52.98 293 P **P** **14 53 29.7 +0.4**
PRZ IAmb IAmb 14 54 39.3
comp=Z,48nm,0.8s

PRZ	Przheval'sk	52.98	293		P	P	14 53 29.7	+0.4		
PRZ					pmax	pmax				
	comp=Z,49nm,0.8s									
ARU	Arti	53.01	317		P	P	14 53 27.6	-1.4		
ARU					IAmb	IAmb	14 53 29.0			
	comp=Z,82nm,0.8s									
ARU	Arti	53.01	317	*c*	*i*P	P	14 53 27.8	-1.2		
ARU					*PP	sP	14 53 45.2	-3.4		
ARU							14 54 35.9			
ARU							14 55 25.1			
ARU					S	S	15 00 52.3	-2.3		
ARU					SS	SS	15 04 28.2	-5.3		
ARU					pmax	pmax				
	comp=Z,94nm,0.8s									
ARU					MLR	MLR				
	comp=Z,2µm,20.0s									
ARU	Arti	53.01	317		LR	LR	15 18 54.4			
	comp=Z,2µm,20.2s,baz=41,slow=39									
ARU	Arti	53.01	317		P	P	14 53 27.9	-1.1		
ARU					PcP	PcP	14 54 37.1	+0.1		
PLTX	Planet X, Gerl	53.01	70		IAMs_20	IAMs_20	15 12 33.2			
	comp=Z,1µm,19.0s									
KUU	Kurty	53.13	296	*e*	P	P	14 53 27.9	-2.2		
	comp=Z,35nm,0.6s,baz=296									
KUU	Kurty	53.13	296	*e*	P	P	14 53 27.9	-2.2		
KUU					pmax	pmax				
	comp=Z,35nm,0.6s									
KUU					MLR	MLR				
	comp=Z,2µm,16.0s									
MFID	Camas Ranch	53.16	65		P	P	14 53 31.1	+0.6		
MFID					IAmb	IAmb	14 53 33.2			
	comp=Z,58nm,1.6s									
SUMG	Summit	53.16	7		P	P	14 53 30.8	+0.4		
SUMG	Summit	53.16	7		P	P	14 53 30.8	+0.4		
SUMG					pmax	pmax				
	comp=Z,335nm,1.0s									
SUMG	Summit	53.16	7	*i*	P	P	14 53 29.8	-0.6		
SUMG					IAmb	IAmb	14 53 33.9			
	comp=Z,180nm,0.8s									
EGMT	Eagleton	53.19	57		P	P	14 53 30.8	+0.2		
EGMT	Eagleton	53.19	57		P	P	14 53 31.6	+1.0		
	baz=312,SNR=8.5									
MDOK	Medeo	53.24	295	*e*	P	P	14 53 29.8	-1.4		
	baz=295									
MDOK	Medeo	53.24	295	*e*	P	P	14 53 29.7	-1.4		
MDOK					MLR	MLR				
	comp=Z,668nm,12.0s									
AAA	Alma-Ata	53.29	295	*e*	P	P	14 53 30.1	-1.3		
	comp=Z,41nm,0.9s,baz=295									
AAA	Alma-Ata	53.29	295	*e*	P	P	14 53 30.0	-1.3		
AAA					pmax	pmax				
	comp=Z,41nm,0.9s									
AFDM	Forest Hills D	53.38	72		P	P	14 53 32.6	+0.5		
TNSS	Tian-Shan	53.38	295	*e*	P	P	14 53 31.2	-1.3		
	baz=295									
TNSS	Tian-Shan	53.38	295	*e*	P	P	14 53 31.2	-1.3		
WUS	Wushi	53.40	292		P	P	14 53 31.6	-0.8		
WUS					sP	sP	14 53 48.8	-3.1		
WUS					PcP	PcP	14 54 39.2	+0.2		
SLVN	Son La	53.48	256		P	P	14 53 33.1	+0.1		
SLVN					IAmb	IAmb	14 53 35.7			
	comp=Z,49nm,0.9s									
SLVN					IAMs_20	IAMs_20	15 17 52.7			
	comp=Z,1µm,21.0s									
KTK1	Kautokeino	53.50	342	*e*	P	P	14 53 32.2	-0.3		
JETT	Jettan, Norway	53.51	344	*e*	P	P	14 53 33.0	+0.4		
BTLS	Baital	53.56	298	⇑*i*	P	P	14 53 31.5	-1.7		
	baz=298									
BTLS	Baital	53.56	298	*c*	*i*P	P	14 53 31.5	-1.7		
MPK	Martis Peak	53.67	71		P	P	14 53 35.9	+1.5		
TRO	Tromso	53.68	344	*e*	P	P	14 53 34.0	+0.2		
TNCH	TengChong	53.76	263	⇑*i*	P	P	14 53 35.4	+0.2		
TNCH					pP	pP	14 53 48.3	-0.7		
TNCH					pmax	pmax				
	comp=Z,38nm,0.9s									
TNCH					pmax	pmax				
	comp=Z,260nm,3.5s									
TNCH					LR	LR				
	comp=Z,430nm,14.1s									
TNCH					LR	LR				
	comp=Z,380nm,14.7s									
TNCH					LR	LR				
	comp=Z,800nm,18.0s									
HLID	Hailey	53.81	64		IAMs_20	IAMs_20	15 13 46.4			
	comp=Z,954nm,18.0s									
HLID	Hailey	53.81	64		P	P	14 53 36.4	+1.1		
	baz=313,SNR=18									
PRGR	Permogore	53.93	328	*e*	P	P	14 53 35.6	0.0		
PRGR					pmax	pmax				
	comp=Z,87nm,0.7s									
TKM2	Tokmak 2	54.19	296		P	P	14 53 37.0	-1.2		
	SNR=35									
TKM2	Tokmak 2	54.19	296	*i*	P	P	14 53 36.3	-1.8		
TKM2					pmax	pmax				
	comp=Z,17nm,0.6s									
ULHL	Ulahol	54.31	295		P	P	14 53 39.9	+0.9		
	SNR=10									
SGDS	Sogindy	54.34	297	⇑*i*	P	P	14 53 37.8	-1.2		
	baz=296									
SGDS	Sogindy	54.34	297	*c*	*i*P	P	14 53 37.8	-1.2		
BMN	Battle Mountai	54.44	68		P	P	14 53 41.6	+1.6		
BMN					IAmb	IAmb	14 53 43.2			
	comp=Z,103nm,1.4s									
BMN	Battle Mountai	54.44	68		P	P	14 53 41.6	+1.6		
BMN					pmax	pmax				
	comp=Z,103nm,1.4s									
DAV	Davao City (W)	54.53	224		LR	LR	15 18 25.2			
	comp=Z,302nm,18.6s,baz=22,slow=38									
USP	Ospenovka	54.53	297		P	P	14 53 39.6	-0.9		
	SNR=25									
CHMS	Chumysh	54.59	296		P	P	14 53 39.7	-1.1		
	SNR=14									
SAO	San Andreas Ge	54.63	74		P	P	14 53 42.1	+1.0		
SAO	San Andreas Ge	54.63	74		P	P	14 53 42.1	+1.0		
SAO					pmax	pmax				
	comp=Z,26nm,1.2s									
LSA	Lhasa	54.65	273		P	P	14 53 41.6	-0.2		
LSA					IAMs_20	IAMs_20	15 19 34.5			
	comp=Z,760nm,21.0s									
LSA	Lhasa	54.65	273	*i*	P	P	14 53 41.7	-0.2		
	SNR=11									
LSA	Lhasa	54.65	273		P	P	14 53 41.7	-0.2		
LSA					pmax	pmax				
	comp=Z,29nm,0.9s									
LSA					MLR	MLR				
	comp=Z,800nm,21.0s									
LSA	Lhasa	54.65	273		P	P	14 53 42.1	+0.1		
LSA					PcP	PcP	14 54 45.8	+1.5		
KBK	Karagaybulak	54.72	296		P	P	14 53 41.0	-0.9		
	SNR=27									
YHH	Holmes Hill	54.84	61		P	P	14 53 43.7	+0.8		
KVN	Kaiserville	54.91	70		P	P	14 53 44.8	+1.4		
KVN					IAmb	IAmb	14 53 46.7			
	comp=Z,137nm,1.5s									
KVN	Kaiserville	54.91	70		P	P	14 53 44.8	+1.4		
KVN					pmax	pmax				
	comp=Z,137nm,1.5s									
KIRV	Kirov	54.93	323	*c*	*i*P	P	14 53 42.7	-0.2		
KIRV	Kirov	54.93	323		LR	LR	15 20 21.3			
	comp=Z,2µm,20.3s,baz=37,slow=39									
KZA	Kyzart	54.95	295		P	P	14 53 43.3	-0.6		
	SNR=10									
AAK	Ala-Archa	54.97	296		P	P	14 53 42.8	-1.0		
	SNR=34									
AAK	Ala-Archa	54.97	296		P	P	14 53 42.6	-1.2		
AAK					IAmb	IAmb	14 53 45.0			
	comp=Z,33nm,0.8s									
AAK	Ala-Archa	54.97	296	*i*	P	P	14 53 42.5	-1.2		
	SNR=44									
AAK	Ala-Archa	54.97	296		P	P	14 53 42.7	-1.0		
AAK					P	P	14 53 42.7	-1.0		
AAK	Ala-Archa	54.97	296	*c*	*i*P	P	14 53 42.5	-1.2		
AAK					pmax	pmax				
	comp=Z,36nm,0.8s									
AAK	Ala-Archa	54.97	296		P	P	14 53 42.4	-1.4		
	comp=Z,22nm,0.6s,baz=104,slow=4.2,SNR=43									
	comp=Z,22nm,0.6s									
AAK	Ala-Archa	54.97	296		P	P	14 53 42.6	-1.2		
AAK					pP	pP	14 53 55.5	-2.0		
AAK					PcP	PcP	14 54 45.0	0.0		
ILULI	Ilulissat	55.07	13	*i*	P	P	14 53 42.4	-1.4		
ILULI					IAmb	IAmb	14 53 45.2			
	comp=Z,38nm,0.7s									
JMIC	Jan Mayen	55.20	356		LR	LR	15 16 00.4			
	comp=Z,360nm,21.4s,baz=32,slow=34									

NVAR	Mina Array Bea	55.24	71		P	P	14 53 47.7	+1.9		
	comp=Z,19nm,0.7s,baz=299,slow=7.4,SNR=131									
NVAR					LR	LR	15 14 16.5			
	comp=Z,830nm,21.7s,baz=296,slow=32									
	comp=Z,19nm,0.7s									
UCH	Uchtor	55.25	296		P	P	14 53 47.3	+1.2		
	SNR=8.0									
H17A	Grant Village	55.25	61		P	P	14 53 47.7	+1.9		
	baz=314,SNR=37									
ELK	Elko	55.31	67		LR	LR	15 14 15.0			
	comp=Z,911nm,21.8s,baz=318,slow=32									
NV11	Mina Array Sit	55.32	71		P	P	14 53 47.5	+1.2		
NV11					IAmb	IAmb	14 53 49.6			
	comp=Z,82nm,1.5s									
NV11					IAMs_20	IAMs_20	15 13 42.2			
	comp=Z,1µm,20.0s									
EKS2	Erkin-Say	55.34	296		P	P	14 53 45.5	-0.9		
	SNR=36									
IMW	Indian Meadow	55.41	61		P	P	14 53 47.9	+0.8		
IMW					IAmb	IAmb	14 53 50.4			
	comp=Z,86nm,1.4s									
RLMT	Red Lodge	55.42	59		P	P	14 53 48.5	+1.5		
	baz=314,SNR=71									
DGMT	Dagmar	55.58	53		P	P	14 53 48.6	+0.7		
DGMT					IAmb	IAmb	14 54 49.1			
	comp=Z,46nm,0.9s									
DGMT	Dagmar	55.58	53		P	P	14 53 48.3	+0.4		
	baz=314,SNR=16									
DGMT	Dagmar	55.58	53		P	P	14 53 48.8	+0.8		
	baz=314,SNR=16									
AML	Almayashu	55.75	296		P	P	14 53 48.7	-0.9		
	SNR=29									
REDW	Red Top Meadow	55.83	62		P	P	14 53 51.3	+1.3		
LAO	LASA Array	55.85	56		P	P	14 53 51.8	+1.9		
LAO					IAmb	IAmb	14 53 52.9			
	comp=Z,98nm,1.0s									
LAO	LASA Array	55.85	56		P	P	14 53 51.9	+1.9		
	baz=314,SNR=18									
LAO	LASA Array	55.85	56		P	P	14 53 51.6	+1.7		
	baz=314,SNR=18									
LOF	Lofoten	55.88	346	*e*	P	P	14 53 50.1	+0.4		
HVU	Hansel Valley	55.92	64		P	P	14 53 52.6	+2.0		
HVU					IAmb	IAmb	14 53 53.8			
	comp=Z,52nm,1.1s									
HVU	Hansel Valley	55.92	64		P	P	14 53 52.6	+2.0		
HVU					pmax	pmax				
	comp=Z,52nm,1.1s									
SCO	Scoresbysund	55.94	1	*i*	P	P	14 53 50.7	+0.6		
SCO					IAmb	IAmb	14 53 52.5			
	comp=Z,12nm,0.8s									
TPH	Tonopah	56.09	70		P	P	14 53 53.7	+1.8		
TPH	Tonopah	56.09	70		P	P	14 53 53.7	+1.8		
TPH					pmax	pmax				
	comp=Z,516nm,1.4s									
TIN	Tinemaha, Big	56.25	72		P	P	14 53 54.8	+1.9		
	baz=315,SNR=5.7									
FAUS	Fauske	56.30	345	*e*	P	P	14 53 53.0	+0.3		
KSH	Kashi	56.35	292		P	P	14 53 56.3	+2.6		
KSH					pmax	pmax				
	comp=Z,39nm,1.1s									
KSH					LR	LR				
	comp=Z,1µm,19.1s									
KSH					LR	LR				
	comp=Z,880nm,19.9s									
KSH					LR	LR				
	comp=Z,2µm,19.4s									
KLMR	Klimovskoe	56.41	330	*e*	P	P	14 53 51.3	-2.3		
KLMR					AMP		14 53 56.0			
	comp=Z,121nm,0.8s									
KLMR					SS	SS	15 05 19.7	-7.2		
KLMR					SS	SS	15 05 19.7	-7.2		
KLMR					LQ	LQ	15 14 47.1			
KLMR					LQ	LQ	15 14 47.1			
KLMR					LR	LR	15 18 47.7			
KLMR					AMP		15 21 43.0			
	comp=Z,3µm,17.8s									
KLMR	Klimovskoe	56.41	330	*e*	P	P	14 53 51.2	-2.3		
KLMR					SS	SS	15 05 19.7	-7.2		
KLMR					pmax	pmax				
	comp=Z,121nm,0.8s									
KLMR					MLR	MLR				
	comp=Z,3µm,18.0s									
DZA	Taraz	56.46	298	*i*	P	P	14 53 52.3	-2.0		
	baz=298									
DZA	Taraz	56.46	298	*i*	P	P	14 53 52.3	-2.0		
ICESG	Greenland Ices	56.46	9	*i*	P	P	14 53 54.1	-0.1		
ICESG					IAmb	IAmb	14 53 57.2			
	comp=Z,113nm,0.7s									
SMMC	Simmler	56.48	75		P	P	14 53 56.8	+2.3		
	baz=316									
NONG	Nongkai	56.50	254		P	P	14 53 57.0	+2.3		
GMN	Gold Mountain	56.62	71		P	P	14 53 56.8	+1.1		
VES	Vestal, Richgr	56.63	74		P	P	14 53 56.7	+1.3		
	baz=316,SNR=16									
HWUT	Hardware Ranch	56.68	64		P	P	14 53 57.6	+1.6		
HWUT					IAmb	IAmb	14 53 58.8			
	comp=Z,56nm,0.9s									
FRB	Frobisher Bay	56.69	24		LR	LR	15 21 34.4			
	comp=Z,440nm,19.8s,baz=328,slow=39									
KK31	Karatay Array	56.74	299		P	P	14 53 54.5	-1.7		
KK31	Karatay Array	56.74	299		P	P	14 53 54.6	-1.7		
KK31					pmax	pmax				
	comp=Z,20nm,0.8s									
KKAR	Karatay Array	56.74	299		P	P	14 53 54.5	-1.7		
KKAR	Karatay Array	56.74	299		P	P	14 53 54.4	-1.8		
KKAR	Karatay Array	56.74	299		P	P	14 53 54.6	-1.7		
KKAR					pmax	pmax				
	comp=Z,19nm,0.8s									
CWC	Cottonwood Cre	56.77	72		P	P	14 53 58.5	+1.8		
	baz=316									
GRAC	Grapevine Rang	56.77	71		P	P	14 53 58.5	+2.0		
	baz=316									
R11B	Troy Canyon, C	56.80	69		P	P	14 53 58.5	+1.5		
	baz=315,SNR=29									
PKM	Mcpherson Peak	56.89	75		P	P	14 53 59.6	+2.0		
	baz=316,SNR=6.8									
BW06	Boulder Array	56.92	62		P	P	14 53 58.8	+1.1		
BW06					IAmb	IAmb	14 54 00.7			
	comp=Z,113nm,1.3s									
BW06	Boulder Array	56.92	62		P	P	14 53 59.5	+1.8		
	baz=315,SNR=78									
PD31	Pinedale Array	56.92	62		P	P	14 53 58.8	+1.1		
PD31					IAmb	IAmb	14 54 00.7			
	comp=Z,101nm,1.3s									
PDAR	Pinedale Array	56.92	62		P	P	14 53 59.4	+1.6		
	comp=Z,40nm,0.9s,baz=318,slow=2.9,SNR=234									
PDAR					LR	LR	15 19 56.8			
	comp=Z,203nm,19.2s,baz=337,slow=38									
PDAR					PKPPKP	P'P'df	15 23 46.4	-6.4		
	comp=Z,1.1nm,0.9s,baz=102,slow=6.8,SNR=4.2									
PDAR					PKP2bc		15 24 01.6			
	comp=Z,2.2nm,1.1s,baz=108,slow=3.9,SNR=5.5									
	comp=Z,40nm,0.9s									
DUG	Dugway, Tooele	57.01	66		P	P	14 53 60.0	+1.6		
DUG					IAmb	IAmb	14 54 01.7			
	comp=Z,77nm,1.1s									
DUG	Dugway, Tooele	57.01	66		P	P	14 54 00.5	+2.1		
	baz=315,SNR=48									
DUG	Dugway, Tooele	57.01	66		P	P	14 54 00.0	+1.6		
DUG					pmax	pmax				
	comp=Z,77nm,1.2s									
SPR3	Spring Creek 3	57.03	68		P	P	14 54 00.6	+1.8		
ISA	Isabella, Lake	57.10	73		P	P	14 53 59.9	+0.9		
	baz=316,SNR=12									
SFJD	Kangerlussuaq	57.20	14		P	P	14 53 58.6	-0.4		
SFJD					IAmb	IAmb	14 54 00.2			
	comp=Z,137nm,1.4s									
SFJD	Kangerlussuaq	57.20	14		P	P	14 53 58.6	-0.4		
SFJD					pmax	pmax				
	comp=Z,137nm,1.5s									
SFJD	Kangerlussuaq	57.20	14	*i*	P	P	14 53 58.5	-0.5		
SFJD					IAmb	IAmb	14 54 22.2			
	comp=Z,20nm,0.7s									
SFJD	Kangerlussuaq	57.20	14		LR	LR	15 19 55.3			
	comp=Z,766nm,21.0s,baz=352,slow=37									
SFJD	Kangerlussuaq	57.20	14		P	P	14 53 59.1	+0.1		
SFJD					pP	pP	14 54 12.8	0.0		
SFJD					PcP	PcP	14 54 53.7	+0.7		
SHL	Shillong	57.28	269		P	P	14 53 59.2	-1.2		
SHL					IAmb	IAmb	14 54 00.2			
	comp=Z,38nm,0.6s									
SHL	Shillong	57.28	269		P	P	14 53 59.3	-1.2		
	SNR=12									
SHL	Shillong	57.28	269		P	P	14 53 59.2	-1.2		
SHL					pmax	pmax				
	comp=Z,38nm,0.6s									

ARVC	Arvin	57.28	74		P	P	14 54 01.1	+0.9		
	baz=316									
WCT	Wildcat Mounta	57.33	71		P	P	14 54 02.0	+1.5		
WCT					IAmb	IAmb	14 54 03.8			
	comp=Z,67nm,1.7s									
MPMC	Manual Prospec	57.37	72		P	P	14 54 02.7	+1.7		
	baz=316,SNR=26									
UBPT	Khong Chiam	57.43	250		P	P	14 54 02.7	+1.4		
FURC	Furnace Creek,	57.43	72		P	P	14 54 03.4	+2.2		
	baz=316,SNR=16									
TPNV	Topopah Spring	57.43	71		P	P	14 54 02.3	+0.9		
TPNV	Topopah Spring	57.43	71		P	P	14 54 03.3	+1.9		
	baz=316,SNR=37									
TPNV	Topopah Spring	57.43	71		P	P	14 54 02.3	+0.9		
TPNV					pmax	pmax				
	comp=Z,207nm,2.0s									
KONS	Konsvik	57.45	345	*e*	P	P	14 54 01.3	+0.5		
MND	Mandalay	57.48	263		P	P	14 54 01.4	-0.2		
AB31	Akbulak array	57.49	310	*i*	P	P	14 53 59.3	-2.1		
ABKAR	Akbulak array	57.49	310		P	P	14 54 00.1	-1.3		
ABKAR	Akbulak array	57.49	310		P	P	14 54 00.1	-1.3		
ABKAR					IAmb	IAmb	14 54 01.3			
	comp=Z,51nm,0.8s									
AKTO	Aktyubinsk	57.49	312		P	P	14 53 59.5	-1.9		
AKTO	Aktyubinsk	57.49	312		LR	LR	15 21 56.6			
	comp=Z,1µm,19.4s,baz=74,slow=39									
MOR8	Moi Rana	57.55	344	*e*	P	P	14 54 00.4	-1.2		
SCZ2	Santa Cruz Isl	57.64	76		P	P	14 54 03.9	+1.3		
	baz=316									
LRMC	Laurel Mtn Rad	57.68	73		P	P	14 54 04.5	+1.4		
	baz=316,SNR=25									
OSI	Osito Audit: C	57.71	74		P	P	14 54 04.5	+1.2		
	baz=316									
CHM	Chimkent	57.77	299	*e*	P	P	14 54 02.2	-1.4		
	baz=299									
CHM	Chimkent	57.77	299	*e*	P	P	14 54 02.1	-1.4		
SOEG	Soedalen	57.93	5	*i*	P	P	14 54 04.3	+0.2		
SOEG					IAmb	IAmb	14 54 06.0			
	comp=Z,43nm,0.8s									
EDW2	Edwards Air Fo	57.93	74		P	P	14 54 06.4	+1.6		
	baz=316,SNR=25									
ULM	Lac du Bonnet	58.10	47		P	P	14 54 06.8	+1.2		
ULM	Lac du Bonnet	58.10	47		P	P	14 54 06.5	+0.9		
	comp=Z,41nm,0.8s,baz=319,slow=7.2,SNR=56									
ULM					LR	LR	15 20 22.5			
	comp=Z,1µm,20.4s,baz=314,slow=37									
	comp=Z,41nm,0.8s									
SHOC	Shoshone, Teco	58.17	72		P	P	14 54 08.0	+1.6		
	baz=316,SNR=17									
MDND	Maddock	58.18	51		P	P	14 54 08.0	+1.7		
	baz=317,SNR=13									
MDND	Maddock	58.18	51		P	P	14 54 07.9	+1.6		
	baz=317,SNR=13									
DECC	Green Verdugo	58.19	74		P	P	14 54 08.0	+1.4		
	baz=317									
SNCC	San Nicolas Is	58.24	76		P	P	14 54 08.6	+1.7		
	baz=317									
DY2G	Dye2	58.28	12	*i*	P	P	14 54 05.9	-1.0		
DY2G					IAmb	IAmb	14 54 08.7			
	comp=Z,35nm,0.8s									
GSC	Goldstone, Bar	58.30	72		P	P	14 54 08.9	+1.5		
	baz=316,SNR=22									
CHTO	Chiang Mai	58.32	258		P	P	14 54 07.9	+0.4		
CHTO					IAmb	IAmb	14 54 10.0			
	comp=Z,51nm,0.7s									
CHTO	Chiang Mai	58.32	258		IAMs_20	IAMs_20	15 21 21.8			
	comp=Z,1µm,20.0s									
CHTO	Chiang Mai	58.32	258		P	P	14 54 08.0	+0.4		
CHTO	Chiang Mai	58.32	258		P	P	14 54 08.0	+0.4		
CHTO					P	P	14 54 08.0	+0.4		
CHTO	Chiang Mai	58.32	258		P	P	14 54 07.9	+0.4		
CHTO					pmax	pmax				
	comp=Z,51nm,0.7s									
CHTO					MLR	MLR				
	comp=Z,1µm,20.0s									
CHTO	Chiang Mai	58.32	258		P	P	14 54 08.0	+0.4		
CHTO					pP	pP	14 54 20.9	-0.6		
CHTO					sP	sP	14 54 26.3	-0.9		
PASC	Pasadena Art C	58.34	74		P	P	14 54 08.4	+0.9		
PASC					IAmb	IAmb	14 54 10.0			
	comp=Z,90nm,1.6s									
SHPR	Sheep Range	58.36	70		P	P	14 54 09.4	+1.6		
KRVT	Keravat (AS076	58.40	190		LR	LR	15 14 09.2			
	comp=Z,627nm,20.4s,baz=255,slow=31									
TAPN	Taplejung	58.41	274	*e*	P	P	14 54 07.3	-1.2		
RRX	Edison Barstow	58.50	73		P	P	14 54 10.7	+2.0		
	baz=317									
DLV	T Lat	58.52	245		P	P	14 54 11.4	+2.2		
MVU	Marysvale	58.55	67		P	P	14 54 10.3	+1.0		
MVU					IAmb	IAmb	14 54 12.0			
	comp=Z,77nm,1.0s									
K22A	Casper	58.57	60		IAMs_20	IAMs_20	15 17 58.3			
	comp=Z,677nm,20.0s									
K22A	Casper	58.57	60		P	P	14 54 10.7	+1.4		
	baz=316,SNR=15									
K22A	Casper	58.57	60		P	P	14 54 10.5	+1.3		
	baz=316,SNR=15									
BFSC	Mount Baldy Ra	58.59	74		P	P	14 54 11.0	+1.6		
	baz=317,SNR=8.6									
CM31	Chiang Mai Arr	58.60	258		P	P	14 54 10.2	+0.7		
CM31					IAmb	IAmb	14 54 12.3			
	comp=Z,49nm,0.7s									
CM31	Chiang Mai Arr	58.60	258		P	P	14 54 10.4	+0.9		
	SNR=12									
CMAR	Chiang Mai Arr	58.60	258	*i*	P	P	14 54 10.1	+0.6		
CMAR					pmax	pmax				
	comp=Z,31nm,0.6s									
CMAR	Chiang Mai Arr	58.60	258		P	P	14 54 10.2	+0.6		
	comp=Z,29nm,0.6s,baz=27,slow=7.3,SNR=116									
CMAR					LR	LR	15 21 40.

baz=318
AGMN **Agassiz Nation** 59.55 49 P P 14 54 16.8 +1.0
baz=318
TNTI **Ternate** 59.57 219 P P 14 54 17.5 +1.3
PKI **Pulchoki** 59.61 276 eP P 14 54 15.5 -1.3
comp=Z,140nm,1.0s
KKM **Kota Kinabalu** 59.62 234 P P 14 54 20.1 +3.4
BELC **Belle Mtn. Jos** 59.70 73 P P 14 54 18.2 +1.0
baz=317,SNR=8.4
PFO **Pinyon Flats O** 59.73 74 P P 14 54 18.1 +0.8
PFO **Pinyon Flats O** 59.73 74 P P 14 54 18.6 +1.3
baz=317,SNR=8.0
PFO **Pinyon Flats O** 59.73 74 P P 14 54 18.1 +0.8
PFO pmax pmax
comp=Z,13nm,0.9s
PFO **Pinyon Flats O** 59.73 74 LR LR 15 16 59.3
comp=Z,647nm,20.6s,baz=301,slow=33
PFO **Pinyon Flats O** 59.73 74 P P 14 54 18.3 +0.9
PFO pP pwP 14 54 32.0 +0.8
TPFO **Pinon Flats** 59.73 74 P P 14 54 18.6 +1.2
baz=317,SNR=7.9
GKN **Gorkha** 59.74 277 eP P 14 54 16.8 -0.7
comp=Z,179nm,0.9s
PMD **Palm Desert** 59.75 73 P P 14 54 17.3 0.0
HMU **Henry Mountain** 59.75 66 P P 14 54 19.1 +1.4
DMN **Daman** 59.76 276 eP P 14 54 16.9 -0.9
comp=Z,145nm,0.9s
109C **Camp Elliot, M** 59.89 75 P P 14 54 19.8 +1.5
baz=317
D32A **Dogwood Acres,** 59.90 50 P P 14 54 18.9 +0.7
D32B **Dogwood Acres,** 59.90 50 P P 14 54 19.3 +1.1
baz=318,SNR=5.8
PUL **Pulkovo** 59.90 333 ||i P P 14 54 18.4 +0.5
PUL pmax pmax
comp=Z,122nm,1.0s
NEE2 **Needles Airpor** 59.92 71 P P 14 54 19.8 +1.3
baz=317
ISOG **Isortoq, Green** 59.98 9 i P P 14 54 17.7 -0.7
ISOG IAmb IAmb 14 54 19.3
comp=Z,60nm,0.7s
DANN **Dangsing** 60.00 278 eP P 14 54 18.5 -0.9
comp=Z,200nm,0.9s
U15A **North Rim** 60.01 68 P P 14 54 20.6 +1.2
U15A IAmb IAmb 14 55 08.0
comp=Z,67nm,1.3s
IRM **Iron Mountain** 60.07 72 P P 14 54 21.3 +1.7
baz=317,SNR=34
W13A **Hualapai Mount** 60.09 71 P P 14 54 20.5 +0.6
W13A IAmb IAmb 14 54 22.8
comp=Z,71nm,1.6s
N23A **Red Feather La** 60.14 61 P P 14 54 21.8 +1.6
baz=317,SNR=32
BC3 **Big Chuckawall** 60.27 73 P P 14 54 22.2 +1.2
baz=317,SNR=14
MONP2 **Monument Peak** 60.27 74 P P 14 54 22.6 +1.4
baz=318,SNR=6.5
BELG **Belogornoye** 60.30 319 ci P P 14 54 20.0 -0.8
BELG pmax pmax
comp=Z,25nm,0.8s
BELG **Belogornoye** 60.30 319 LR LR 15 23 33.7
comp=Z,3µm,18.9s,baz=7.9,slow=39
B35A **Bob, Littlefor** 60.45 48 P P 14 54 22.0 +0.1
B35A IAmb IAmb 14 54 23.2
comp=Z,50nm,0.9s
B35A **Bob, Littlefor** 60.45 48 P P 14 54 22.6 +0.7
baz=319,SNR=9.5
KOLN **Koldanda** 60.52 277 eP P 14 54 21.9 -1.0
comp=Z,160nm,0.9s
PDMCI **Parker Dam,Lak** 60.53 71 P P 14 54 24.2 +1.6
baz=317,SNR=12
NAYO **Nakonayok** 60.54 253 P P 14 54 24.7 +1.8
SWSC **Sam W. Stewart** 60.59 74 P P 14 54 24.3 +1.3
baz=318,SNR=6.3
IKP **In-Ko-Pah, Jac** 60.63 74 P P 14 54 24.9 +1.4
baz=318,SNR=7.0
PYUN **Piuthan** 60.63 278 eP P 14 54 22.5 -1.2
comp=Z,364nm,1.0s
RMX **La Rumorosa** 60.68 74 IAMs_20 IAMs_20 15 14 22.9
comp=Z,768nm,20.0s
BLYC **Blythe** 60.72 72 P P 14 54 24.8 +0.9
SIMJ **Simiganj** 60.73 296 P P 14 54 22.4 -1.8
SIMJ sP sP 14 54 41.3 -2.6
SIMJ PcP PcP 14 55 07.6 -0.2
LBMI **Labuha** 60.82 219 P P 14 54 25.4 +0.7
comp=Z,109nm,1.5s
RAF **Rauma** 60.87 338 eP P 14 54 24.9 +0.5
TBLU **Trondheim** 60.93 345 eP P 14 54 24.6 -0.4
MEF **Metsahovi** 60.99 337 eP P 14 54 26.7 +1.3
SUSD **Miller** 61.00 54 P P 14 54 26.2 +0.5
SUSD **Miller** 61.00 54 P P 14 54 26.4 +0.7
baz=318
UABX **UABC, Campus M** 61.02 74 IAMs_20 IAMs_20 15 19 25.2
comp=Z,522nm,18.0s
KMSI **Cibinong** 61.07 223 P P 14 54 26.8 +0.4
comp=Z,483nm,1.2s,comp=Z,5µm
TABU **Tabubil** 61.11 202 P P 14 54 27.9 +1.1
ISCO **Idaho Springs** 61.12 61 P 14 54 28.1 +1.1
ISCO **Idaho Springs** 61.12 61 P P 14 54 29.2 +2.2
baz=318,SNR=60
ISCO **Idaho Springs** 61.12 61 P P 14 54 29.1 +2.1
baz=318,SNR=60
ISCO **Idaho Springs** 61.12 61 P P 14 54 28.1 +1.1
ISCO pmax pmax
comp=Z,143nm,1.4s
MOS **Moscow** 61.15 327 eP P 14 54 24.9 -1.6
MOS e 14 55 07.8
MOS pmax pmax
comp=Z,168nm,0.8s
MOS MLR MLR
comp=Z,1µm,18.0s
WUAZ **Wupatki** 61.18 69 IAMs_20 IAMs_20 15 17 50.5
comp=Z,1µm,20.0s
WUAZ **Wupatki** 61.18 69 P P 14 54 29.4 +2.1
baz=318,SNR=29
F33A **5 Mile Ranch,** 61.20 51 P P 14 54 28.1 +1.1
baz=319,SNR=29
FAKI **Fak Fak** 61.31 213 P P 14 54 29.8 +1.8
FAKI **Fak Fak** 61.31 213 P P 14 54 28.4 +0.4
comp=Z,93nm,1.3s,comp=Z,1µm
Y14A **Wickenburg** 61.44 71 P P 14 54 29.9 +1.0
Y14A IAmb IAmb 14 54 31.8
comp=Z,46nm,1.2s
MVCO **Mesa Verde** 61.50 65 P P 14 54 30.6 +1.1
MVCO **Mesa Verde** 61.50 65 P P 14 54 31.0 +1.5
baz=318,SNR=27
BORG **Borgarnes** 61.71 1 LR LR 15 20 01.3
comp=Z,312nm,21.5s,baz=357,slow=35
BORG **Borgarnes** 61.71 1 P P 14 54 32.6 +2.5
BORG pP pP 14 54 45.5 +1.4
EYMN **Ely** 61.73 47 P P 14 54 31.5 +0.9
baz=320,SNR=5.8
EYMN **Ely** 61.73 47 P P 14 54 31.4 +0.7
baz=320,SNR=5.8
SRDT **SRDT** 61.76 255 P P 14 54 32.8 +1.6
comp=Z,103nm,1.5s
113A **Mohawk Valley,** 61.87 72 P P 14 54 32.8 +1.1
TOLI2 **Tolitoli** 61.91 226 P P 14 54 31.9 -0.3
TOLI2 **Tolitoli** 61.91 226 P P 14 54 32.7 +0.5
X16A **Lo Mia Camp, P** 61.95 69 P P 14 54 33.8 +1.3
VSU **Vasula** 61.97 335 eP P 14 54 33.6 +1.7
VSU **Vasula** 61.97 335 ci P P 14 54 32.5 +0.6
VSU pmax pmax
comp=Z,176nm,0.8s
Q24A **Divide** 61.98 62 P P 14 54 34.3 +1.6
baz=318,SNR=14
MOL **Molde** 61.98 346 eP P 14 54 33.3 +1.3
MRSI **Marisa** 61.99 225 P P 14 54 33.2 +0.5
comp=Z,231nm,1.2s,comp=Z,3µm
S22A **4UR Ranch, Cre** 61.99 64 P P 14 54 34.5 +1.6
S22A IAmb IAmb 14 54 36.3
comp=Z,92nm,1.4s
S22A **4UR Ranch, Cre** 61.99 64 P P 14 54 35.1 +2.2
baz=318,SNR=56
K30B **Basset** 62.00 55 P P 14 54 33.4 +0.9
K30B **Basset** 62.00 55 P P 14 54 34.0 +1.4
baz=319,SNR=22
OBN **Obninsk** 62.01 327 di P P 14 54 32.0 -0.3
OBN e*PP sP 14 54 50.2 -1.8
OBN e 14 55 11.5
OBN e 14 56 48.8
OBN ePPP PPP 14 58 15.5
OBN eS S 15 02 52.0 -0.5
OBN eSS SS 15 06 57.4 +2.8
OBN pmax pmax
comp=Z,131nm,1.0s
OBN MLR MLR
comp=Z,2µm,23.0s
OBN **Obninsk** 62.01 327 LR LR 15 24 12.9
comp=Z,1µm,21.2s,baz=13,slow=39
OGNE **Ogallala** 62.10 58 P P 14 54 35.0 +1.7
baz=318,SNR=9.8
OGNE **Ogallala** 62.10 58 P P 14 54 34.6 +1.3
baz=318,SNR=9.8
DOMB **Dombas** 62.26 345 eP P 14 54 34.6 +0.7
W18A **Petrified Fore** 62.37 68 P P 14 54 36.9 +1.6
baz=318
AKN **Aaknes** 62.43 346 eP P 14 54 36.2 +1.2
F36A **Milaca** 62.44 49 P P 14 54 35.8 +0.4
baz=320,SNR=12
MTSE **Matsula** 62.46 336 eP P 14 54 37.1 +1.8
ECSD **EROS Data Cent** 62.64 53 P P 14 54 37.5 +0.7
baz=320,SNR=39
ECSD **EROS Data Cent** 62.64 53 P P 14 54 37.3 +0.6
baz=320,SNR=39
NC303 **NORSAR Array S** 62.67 344 P P 14 54 36.9 +0.2
SANI **Sanana** 62.68 220 P P 14 54 38.2 +0.9
SANI **Sanana** 62.68 220 P P 14 54 37.0 -0.3
comp=Z,117nm,1.4s,comp=Z,1µm
X18A **Snowflake** 62.69 68 P P 14 54 39.0 +1.5
X18A IAmb IAmb 14 54 40.7
comp=Z,54nm,1.1s
SDCO **Great Sand Dun** 62.70 63 P P 14 54 39.2 +1.6
baz=318,SNR=47
SDCO **Great Sand Dun** 62.70 63 P P 14 54 39.3 +1.8
baz=318,SNR=47
E38A **The Farm, Brul** 62.74 48 P P 14 54 37.9 +0.5
baz=321,SNR=5.6
UPP **Uppsala** 62.80 340 eP P 14 54 38.6 +1.1
NB2 **NORSAR Subarra** 62.87 344 P P 14 54 37.7 -0.4
comp=Z,94nm,0.8s,baz=22,slow=6.9
NB2 **NORSAR Subarra** 62.87 344 P P 14 54 37.7 -0.4
baz=22,slow=6.9
NOA **NORSAR Array B** 62.87 344 P P 14 54 38.4 +0.4
comp=Z,65nm,0.8s,baz=20,slow=6.6,SNR=182
comp=Z,65nm,0.8s
MPSI **Mapaga** 62.99 227 P P 14 54 39.8 +0.5
comp=Z,89nm,1.5s,comp=Z,1µm
214A **Organ Pipe Nat** 63.02 72 P P 14 54 41.0 +1.5
baz=319,SNR=12
LUWI **Luwuk** 63.02 223 P P 14 54 38.8 -0.7
LUWI **Luwuk** 63.02 223 P P 14 54 39.5 -0.1
LUWI **Luwuk** 63.02 223 P P 14 54 38.7 -0.9
comp=Z,222nm,1.2s,comp=Z,3µm
IVI **Ivigtut** 63.03 15 i P P 14 54 38.8 -0.2
IVI IAmb IAmb 14 54 40.9
comp=Z,66nm,0.8s
IVI **Ivigtut** 63.03 15 P P 14 54 39.6 +0.6
HNR **Honiara** 63.05 181 LR LR 15 17 29.5
comp=Z,7µm,21.6s,baz=357,slow=32
NC602 **NORSAR Array S** 63.10 344 eP P 14 54 39.9 +0.4
NAO01 **NORSAR Array S** 63.11 344 P P 14 54 40.0 +0.4
NAO01 IAmb IAmb 14 54 40.9
comp=Z,61nm,0.8s
KSCO **Kaye Shedlock'** 63.24 60 P P 14 54 42.2 +1.2
baz=319
KSCO **Kaye Shedlock'** 63.24 60 P P 14 54 42.4 +1.4
baz=319
SPMN **Marine on St.** 63.25 49 P P 14 54 41.7 +0.9
baz=321,SNR=11
SPMN **Marine on St.** 63.25 49 P P 14 54 41.6 +0.9
baz=321,SNR=11
HFS **Hagfors** 63.29 342 P P 14 54 40.2 -0.6
comp=Z,30nm,0.6s,baz=51,slow=2.5,SNR=92
HFS LR LR 15 25 32.4
comp=Z,571nm,20.3s,baz=28,slow=39
comp=Z,30nm,0.6s
LPSR **Galich'ya Gora** 63.31 324 eP P 14 54 38.5 -2.5
LPSR pmax pmax
comp=Z,180nm,0.9s
NLAI **Namlea** 63.37 218 P P 14 54 43.0 +1.2
comp=Z,33nm,1.0s,comp=Z,3µm
VRH **Novokhopyorsk** 63.47 322 eP P 14 54 40.7 -1.3
VRH pmax pmax
comp=Z,131nm,0.6s
NRS **Narsarsuaq** 63.48 14 i P P 14 54 40.9 -1.1
NRS IAmb IAmb 14 54 43.4
comp=Z,32nm,0.8s
HYA **Hoyanger** 63.52 346 eP P 14 54 43.0 +0.8
BGNE **Belgrade** 63.67 55 P P 14 54 44.3 +0.7
BGNE **Belgrade** 63.67 55 P P 14 54 44.4 +0.7
baz=320,SNR=18
BGNE **Belgrade** 63.67 55 P P 14 54 44.7 +1.1
baz=320,SNR=18
SKAR **Skarslia** 63.67 345 eP P 14 54 44.2 +0.8
T25A **Trinidad** 63.73 63 P P 14 54 45.8 +1.5
baz=319,SNR=24
KBL **Kabul** 63.77 293 P P 14 54 41.9 -2.7
KBL IAmb IAmb 14 54 45.8
comp=Z,34nm,0.8s
KBL **Kabul** 63.77 293 P P 14 54 42.2 -2.4
SNR=21
KBL **Kabul** 63.77 293 P P 14 54 41.9 -2.7
KBL pmax pmax
comp=Z,34nm,0.8s
SLIT **Silitere, Latvi** 63.80 336 eP P 14 54 44.8 +0.6
TUC **Tucson** 63.89 71 P P 14 54 46.7 +1.4
baz=319
TUC **Tucson** 63.89 71 P P 14 54 46.7 +1.4
I37A **Lemond, Waseca** 63.92 51 P P 14 54 46.1 +0.9
I37B **Waseca** 63.92 51 P P 14 54 46.5 +1.3
baz=321,SNR=42
VORR **Voronezh** 63.98 324 eP P 14 54 43.3 -2.1
VORR pmax pmax
comp=Z,98nm,0.4s
OSL **Oslo** 64.00 344 eP P 14 54 46.4 +1.0
PMG **Port Moresby** 64.04 195 P P 14 54 45.0 -1.2
PMG IAmb IAmb 14 54 46.9
comp=Z,34nm,0.7s
PMG **Port Moresby** 64.04 195 P P 14 54 47.0 +0.8
PMG **Port Moresby** 64.04 195 P P 14 54 46.8 +0.6
PMG **Port Moresby** 64.04 195 ci P P 14 54 46.3 +0.1
PMG pmax pmax
comp=Z,35nm,0.7s
PMG **Port Moresby** 64.04 195 LR LR 15 19 50.2
comp=Z,339nm,21.4s,baz=18,slow=33
PMG **Port Moresby** 64.04 195 P P 14 54 46.3 +0.1
PMG pP pP 14 54 58.8 -1.5
L34A **Svendsen Farm,** 64.10 54 P P 14 54 47.0 +0.5
baz=325,SNR=12
VIKU **Vikbolandet** 64.23 340 eP P 14 54 47.7 +0.8
ANMO **Albuquerque** 64.28 66 P P 14 54 48.5 +0.6
ANMO **Albuquerque** 64.28 66 P P 14 54 49.6 +1.6
baz=319
ANMO **Albuquerque** 64.28 66 P P 14 54 49.6 +1.6
baz=319,SNR=28
ANMO **Albuquerque** 64.28 66 ci P P 14 54 49.5 +1.6
ANMO pmax pmax
comp=Z,28nm,0.9s
ANMO **Albuquerque** 64.28 66 LR LR 15 20 00.2
comp=Z,226nm,21.4s,baz=53,slow=33
ANMO **Albuquerque** 64.28 66 ⇑P P 14 54 49.6 +1.6
ASK **Askoy** 64.31 347 eP P 14 54 49.6 +2.2
VSR **Storozhevoye** 64.37 323 eP P 14 54 44.9 -3.1
VSR pmax pmax
comp=Z,80nm,1.0s
G40A **Rib Lake** 64.37 48 P P 14 54 48.6 +0.4
baz=322,SNR=8.2
BER **Bergen** 64.39 347 eP P 14 54 49.0 +1.1
KONO **Kongsberg** 64.45 344 P P 14 54 48.5 0.0
KONO IAmb IAmb 14 54 50.2
comp=Z,66nm,0.9s
KONO **Kongsberg** 64.45 344 eP P 14 54 49.4 +0.9
KONO **Kongsberg** 64.45 344 ceP P 14 54 49.0 +0.6
KONO pmax pmax
comp=Z,80nm,1.0s
KONO **Kongsberg** 64.45 344 P P 14 54 49.3 +0.9
N33A **J Bar K, Exete** 64.53 55 P P 14 54 49.5 +0.2
VORD **Divnogorie** 64.53 323 eP P 14 54 46.6 -2.5
VORD pmax pmax
comp=Z,70nm,0.9s
ODD1 **Odda** 64.66 346 eP P 14 54 50.8 +1.0
ISAL **Salakas** 64.67 333 eP P 14 54 50.5 +0.6
Y22D **IRIS PASSCAL I** 64.69 67 IAMs_20 IAMs_20 15 19 33.4
comp=Z,1µm,21.0s
Y22D **IRIS PASSCAL I** 64.69 67 P P 14 54 52.8 +2.3
baz=319
Y22A **Socorro** 64.77 67 P P 14 54 53.2 +2.1
baz=319,SNR=31
SCHQ **Schefferville** 64.84 28 P P 14 54 51.4 +0.3
comp=Z,56nm,0.7s,baz=347,slow=6.6,SNR=51
SCHQ LR LR 15 26 32.1
comp=Z,389nm,19.0s,baz=320,slow=39
comp=Z,56nm,0.7s
CBKS **Cedar Bluff** 64.86 58 P P 14 54 51.7 +0.2
CBKS IAmb IAmb 14 54 53.0
comp=Z,65nm,0.9s
CBKS **Cedar Bluff** 64.86 58 P P 14 54 51.8 +0.3
baz=320,SNR=6.9
CBKS **Cedar Bluff** 64.86 58 P P 14 54 51.8 +0.3
baz=320,SNR=6.9
CBKS **Cedar Bluff** 64.86 58 P P 14 54 51.7 +0.2
CBKS pmax pmax
comp=Z,65nm,1.0s
E43A **Lone Tree Farm** 64.87 45 P P 14 54 51.9 +0.5
baz=323
VSVD **Vaisvydziai** 64.88 335 eP P 14 54 51.5 +0.2
NACGM **Naroch** 65.09 333 ||i P P 14 54 52.7 +0.1
comp=Z,158nm,0.9s,baz=28
MNK **Minsk** 65.14 332 i P P 14 54 53.6 +0.6
comp=E,22nm,0.9s
MNK i P P 14 54 53.6 +0.6
comp=N,72nm,0.9s
MNK i P P 14 54 53.6 +0.6
comp=Z,198nm,0.9s,baz=29
MNK i pP sP 14 55 11.0 -1.8
MNK i PP PP 14 57 16.7 +0.7
MNK i PPP PPP 14 58 50.2
MNK i S S 15 03 32.0 +0.5
MNK i sS sS 15 04 05.9 +10
MNK i SS SS 15 07 46.4 +3.0
MNK i SSS SSS 15 10 50.2
MNK i LQ LQ 15 19 03.4
MNK i LR LR 15 23 40.7
MNK i LRM MLR 15 26 54.5
comp=E,243nm,14.6s
MNK i LRM MLR 15 26 56.2
comp=N,663nm,15.9s
MNK i LRM MLR 15 27 01.8
comp=Z,1µm,21.1s
MNK **Minsk** 65.14 332 i P P 14 54 53.5 +0.6
MNK i *PP sP 14 55 11.0 -1.8
MNK i 14 57 16.7
MNK i PPP PPP 14 58 50.2
MNK i S S 15 03 32.0 +0.5
MNK i *SS sS 15 04 05.9 +10
MNK i SS SS 15 07 46.4 +3.0
MNK pmax pmax
comp=E,22nm,0.9s
MNK pmax pmax
comp=N,72nm,0.9s
MNK pmax pmax
comp=Z,198nm,0.9s
MNK MLR MLR
comp=E,243nm,15.0s
MNK MLR MLR
comp=N,663nm,16.0s
MNK MLR MLR
comp=Z,1µm,21.0s
BLS5 **Blasjo** 65.16 346 eP P 14 54 53.9 +0.8
K38A **Parkersburg** 65.27 51 P P 14 54 54.6 +0.6
baz=321,SNR=7.8
I40A **Norwalk** 65.27 49 P P 14 54 54.3 +0.3
baz=322,SNR=10
PABE **Paberze** 65.29 334 P P 14 54 54.2 +0.3
PABE **Paberze** 65.29 334 eP P 14 54 54.7 +0.8
N35A **Tabor** 65.31 54 P P 14 54 55.2 +0.9
baz=321,SNR=9.9
PBUR **Paburge** 65.33 336 eP P 14 55 55.7 +1.5
121A **Cookes Peak, D** 65.38 68 P P 14 54 57.2 +2.1
baz=320,SNR=21
121A **Cookes Peak, D** 65.38 68 P P 14 54 57.1 +1.9
baz=320,SNR=21
KMY **Karmoy** 65.53 346 eP P 14 54 56.1 +0.8
SCIA **State Center** 65.64 52 P P 14 54 56.7 +0.2
SCIA **State Center** 65.64 52 P P 14 54 57.3 +0.9
baz=321,SNR=21
SCIA **State Center** 65.64 52 P P 14 54 57.5 +1.0
baz=321
SURA **Surathani** 65.68 251 P P 14 54 58.8 +1.9
BKB **Balikpapan** 65.74 229 P P 14 54 59.8 +2.5
I42A **Draeger Farm,** 66.03 48 P P 14 54 59.1 +0.2
baz=323,SNR=6.3
SNART **Snartemo** 66.08 345 eP P 14 55 00.0 +1.1
SRIT **Nakonsritamara** 66.16 251 P P 14 55 01.1 +1.0
SRIT **Nakonsritamara** 66.16 251 P P 14 55 01.5 +1.4
KSU1 **Kansas State U** 66.20 56 P P 14 54 59.8 -0.3
baz=321
KSU1 **Kansas State U** 66.20 56 P P 14 54 59.8 -0.3
baz=321
JFWS **Jewell Farm** 66.21 49 P P 14 55 00.1 0.0
baz=322,SNR=6.3
JFWS **Jewell Farm** 66.21 49 P P 14 55 00.0 0.0
baz=322,SNR=6.3
MTKI **Muara Teweh, K** 66.36 231 P P 14 55 02.2 +0.9
comp=Z,142nm,1.0s,comp=Z,8µm
SAUI **Saumlaki** 66.38 212 P P 14 55 02.9 +1.6
L40A **Anamosa** 66.44 50 P P 14 55 01.4 -0.2
baz=322,SNR=14
KSM **Kuching** 66.46 237 P P 14 55 04.1 +2.1
N38A **Joes South For** 66.50 53 P P 14 55 02.4 +0.4
baz=322,SNR=19
DEL **Delary** 66.69 341 eP P 14 55 03.4 +0.5
SUW **Suwalki** 66.84 334 eP P 14 55 03.8 -0.1
SUW **Suwalki** 66.84 334 eP P 14 55 04.3 +0.5
AMTX **Amarillo** 66.87 62 P P 14 55 05.5 +1.0
AMTX **Amarillo** 66.87 62 P P 14 55 05.0 +0.4
baz=320
AMTX **Amarillo** 66.87 62 P P 14 55 05.0 +0.4
baz=320,SNR=11
GEYT **Alibeck** 66.89 303 P P 14 55 03.6 -0.9
comp=Z,21nm,0.7s,baz=38,slow=2.6,SNR=32
comp=Z,21nm,0.7s
MSTX **Muleshoe** 67.00 64 P P 14 55 05.4 0.0
MSTX IAmb IAmb 14 55 07.5
comp=Z,106nm,1.1s
MSTX **Muleshoe** 67.00 64 P P 14 55 06.3 +1.0
baz=320,SNR=27
MSTX **Muleshoe** 67.00 64 P P 14 55 06.1 +0.8
baz=320,SNR=27
KLNR **Kaliningrad** 67.04 336 ceP P 14 55 05.8 +0.7
KLNR pmax pmax
comp=Z,231nm,0.8s
STKI **Sintang** 67.11 235 P P 14 54 07.7 +1.6
comp=Z,202nm,0.9s
GLMI **Grayling** 67.11 45 P P 14 55 05.9 +0.1
baz=324
L42A **Oliver, Polo** 67.19 50 P P 14 55 06.2 -0.2
baz=323,SNR=12
VLDQ **Val d'Or** 67.19 38 P P 14 55 05.0 -1.2
P38A **Dawn** 67.28 54 P P 14 55 07.3 +0.4
P38A **Dawn** 67.28 54 P P 14 55 07.6 +0.7
baz=322,SNR=13
BIGH **Upper Bighouse** 67.29 351 eP P 14 55 07.1 +0.5
MNTX **Cornudas Mount** 67.33 67 P P 14 55 09.1 +1.7
baz=320,SNR=70
MNTX **Cornudas Mount** 67.33 67 P P 14 55 08.9 +1.5
baz=320,SNR=70
HRA **Herat** 67.52 298 P P 14 55 07.8 -1.0
HRA IAmb IAmb 14 55 37.0
comp=Z,30nm,0.8s
MUD **Monsted U'grnd** 67.57 343 i P P 14 55 08.9 +0.5
MUD IAmb IAmb 14 55 10.8
comp=Z,56nm,0.8s
PBA **Port Blair** 67.60 259 P P 14 55 09.9 +0.7
COP **Copenhagen** 67.71 341 i P P 14 55 10.0 +0.7
COP IAmb IAmb 14 55 11.1
comp=Z,173nm,0.8s
BSD **Bornholm Skovb** 67.75 339 eP P 14 55 11.5 +1.9
BSD **Bornholm Skovb** 67.75 339 i P P 14 55 10.3 +0.7
BSD IAmb IAmb 14 55 11.6
comp=Z,49nm,0.8s
L44A **Lake County Fo** 67.83 48 P P 14 55 10.5 +0.1
baz=324
L44A **Lake County Fo** 67.83 48 P P 14 55 10.9 +0.5
baz=324
MAK **Makhachkala** 67.85 313 eP P 14 55 09.6 -0.8
MAK e*SP sP 14 55 31.5 +1.2
MAK e 14 57 40.8
MAK ePPP PPP 14 59 16.5
MAK eS S 15 04 04.4 -0.3
MAK e*SS sS 15 04 28.3 -0.3
MAK pmax pmax
comp=Z,291nm,1.4s
KAPI **Kappang** 67.86 225 LR LR 15 23 41.4
comp=Z,93nm,21.7s,baz=32,slow=35
LEWI **Lewis, Hebride** 67.88 353 ⇑eP P 14 55 10.7 +0.3
LEWI IAmb IAmb 14 55 11.7

comp=Z,78nm,1.0s
T35A Sooner Cattle 67.95 57 P P 14 55 11.0 -0.2
T35A IAmb IAmb 14 55 12.3
comp=Z,46nm,1.1s
T35B Sooner Cattle 67.95 57 P P 14 55 10.9 -0.3
baz=322,SNR=7.5
BKSI Bulukumba 67.99 224 P P 14 55 11.9 +0.3
comp=Z,102nm,0.7s,comp=Z,1µm
GOF Gofitskoye 68.00 317 *c i* P P **14 55 11.1 -0.3**
P40A Paris 68.06 53 P P 14 55 12.4 +0.6
baz=322,SNR=37
AKASG Malin Array Be 68.08 329 P P 14 55 10.8 -1.0
comp=Z,65nm,0.7s,baz=29,slow=6.2,SNR=88
AKASG LR LR 15 28 15.4
comp=Z,2µm,20.9s,baz=22,slow=39
comp=Z,65nm,0.7s
AKBB Malin Array Si 68.08 329 *c e* P P **14 55 11.0 -0.8**
AKBB pmax pmax
comp=Z,132nm,1.0s
KIEV Kiev 68.10 329 ⇑P P **14 55 10.9 -1.0**
KIEV Kiev 68.10 329 P P **14 55 11.2 -0.7**
KIEV IAmb IAmb 14 55 13.1
comp=Z,96nm,0.9s
KIEV Kiev 68.10 329 *i* P P **14 55 11.1 -0.8**
SNR=47
KIEV Kiev 68.10 329 P P **14 55 11.2 -0.7**
KIEV pmax pmax
comp=Z,96nm,1.0s
KIEV MLR MLR
comp=Z,2µm,21.0s
KIEV Kiev 68.10 329 P P **14 55 11.4 -0.5**
KIEV PcP **PcP 14 55 37.0 -0.6**
MCD Coleburn Disti 68.13 351⇑ *e* P P **14 55 12.6 +0.6**
MCD IAmb IAmb 14 55 13.3
comp=Z,121nm,0.8s
J47A Sunmer 68.31 46 P P 14 55 14.2 +0.8
baz=325,SNR=9.5
J47A P P **14 55 14.2 +0.8**
baz=325,SNR=9.5
M44A Midewin, Midew 68.41 49 P P 14 55 14.0 0.0
baz=324,SNR=8.5
WMOK Wichita Mounta 68.49 60 P P 14 55 15.8 +1.1
baz=321,SNR=12
WMOK Wichita Mounta 68.49 60 P P 14 55 15.2 +0.5
baz=321,SNR=12
HDIL Hopedale 68.52 50 P P 14 55 15.2 +0.5
baz=323,SNR=16
HDIL Hopedale 68.52 50 P P 14 55 15.0 +0.3
baz=323,SNR=16
KPL Plockton 68.58 352 *e* P P **14 55 14.9 +0.2**
BBKI Banjar Baru 68.62 230 P P 14 55 16.2 +0.7
comp=Z,338nm,1.2s,comp=Z,9µm
L46A Eue Claire 68.68 47 P P 14 55 15.8 +0.2
baz=324
L46A P P **14 55 15.8 +0.2**
baz=324
DRUM Mains of Drumt 68.71 350⇑ *e* P P **14 55 16.1 +0.5**
DRUM IAmb IAmb 14 55 16.7
comp=Z,254nm,1.4s
S39A Bolivar 68.91 55 P P 14 55 16.4 -0.8
baz=322,SNR=21
R40A Maddies Statio 68.94 54 P P 14 55 17.5 +0.2
baz=323,SNR=48
GKP Gorka Klasztor 68.96 337 *e* P P **14 55 18.1 +0.9**
GKP Gorka Klasztor 68.96 337 *e* P P **14 55 18.5 +1.3**
KVAR Kislovodsk Arr 69.05 317 LR LR 15 29 52.6
comp=Z,1µm,20.2s,baz=276,slow=40
KIV Kislovodsk 69.05 317 ⇑P P **14 55 18.9 +0.8**
KIV Kislovodsk 69.05 317 P P **14 55 18.2 +0.1**
KIV IAmb IAmb 14 55 22.4
comp=Z,66nm,0.7s
KIV Kislovodsk 69.05 317 *i* P P **14 55 17.7 -0.3**
SNR=17
KIV Kislovodsk 69.05 317 P P **14 55 18.0 -0.1**
KIV Kislovodsk 69.05 317 *e* P P **14 55 17.6 -0.5**
KIV *e* S S **15 04 17.3 -1.9**
KIV pmax pmax
comp=Z,110nm,4.2s
KIV pmax pmax
comp=Z,61nm,0.9s
KIV MLR MLR
comp=Z,1µm,17.0s
KIV Kislovodsk 69.05 317 P P **14 55 17.8 -0.3**
NCK Nalchik 69.06 316 *d i* P P **14 55 17.6 -0.5**
NCK pmax pmax
comp=Z,90nm,1.0s
TUL3 Leonard 69.09 58 P P 14 55 18.9 +0.6
baz=322,SNR=13
TUL3 Leonard 69.09 58 P P 14 55 18.9 +0.6
baz=322,SNR=13
P43A Skaggs, Pawnee 69.15 51 P P 14 55 19.0 +0.4
baz=324,SNR=10
KBZ Khabaz 69.15 317 *c i* P P **14 55 18.5 0.0**
KBZ pmax pmax
comp=Z,82nm,0.9s
KBZ Khabaz 69.15 317 P P **14 55 18.6 0.0**
comp=Z,59nm,0.8s,baz=59,slow=2.6,SNR=100
KBZ LR LR 15 30 13.3
comp=Z,2µm,20.2s,baz=19,slow=40
comp=Z,59nm,0.8s
O44A Mansfield 69.22 50 P P 14 55 18.7 -0.3
baz=324,SNR=5.5
INVG Invergeldie, C 69.34 351 *e* P P **14 55 19.7 +0.1**
INVG IAmb IAmb 14 55 20.5
comp=Z,63nm,0.8s
SADO Sadowa 69.36 41 LR LR 15 27 59.1
comp=Z,604nm,18.7s,baz=322,slow=38
U38A Gravette 69.38 56 P P 14 55 20.1 0.0
baz=322,SNR=16
BEL Belsk 69.43 335 *e* P P **14 55 21.6 +1.5**
LDAQ Lac Daran 69.49 34 P P 14 55 20.9 +0.2
LDAQ IAmb IAmb 14 55 22.1
comp=Z,79nm,1.0s
ZEI Tsey 69.52 315 *e* P P **14 55 17.1 -4.0**
ZEI pmax pmax
comp=Z,53nm,0.9s
L48A N Adams 69.54 46 P P 14 55 21.4 +0.4
baz=325,SNR=12
L48A P P **14 55 21.4 +0.4**
baz=325,SNR=12
AAM Ann Arbor 69.57 45 P P 14 55 21.9 +0.7
baz=325
AAM Ann Arbor 69.57 45 P P 14 55 22.2 +1.0
baz=325
CCM Cathedral Cave 69.61 53 P P 14 55 21.4 -0.1
CCM IAmb IAmb 14 55 22.9
comp=Z,106nm,1.1s
CCM Cathedral Cave 69.61 53 P P 14 55 21.8 +0.3
baz=323
CCM Cathedral Cave 69.61 53 P P 14 55 21.7 +0.1
baz=323,SNR=34
CCM Cathedral Cave 69.61 53 P P 14 55 21.4 -0.1
CCM pmax pmax
comp=Z,105nm,1.1s
CCM Cathedral Cave 69.61 53 P P 14 55 21.6 +0.1
LAWE Loch Awe, Argy 69.63 352⇑ *e* P P **14 55 21.7 +0.4**
LAWE IAmb IAmb 14 55 22.6
comp=Z,118nm,0.9s
SFIN Lafayette 69.65 49 P P 14 55 21.6 0.0
baz=324,SNR=6.0
SFIN Lafayette 69.65 49 P P 14 55 22.0 +0.3
baz=324,SNR=6.0
ABTX Abilene, Hawle 69.69 62 P P 14 55 23.0 +0.9
baz=322,SNR=19
ABTX Abilene, Hawle 69.69 62 P P 14 55 22.7 +0.5
baz=322,SNR=19
EDI Edinburgh 69.76 350 *e* P P **14 55 22.3 +0.3**
N47A Urbana 69.86 48 P P 14 55 22.6 -0.4
baz=325,SNR=11
N47A P P **14 55 22.6 -0.4**
baz=325,SNR=11
TPRI Tanjung Pinang 69.88 242 P P 14 55 24.9 +1.5
comp=Z,91nm,0.9s
Q44A Meyer Farm, Va 69.97 51 P P 14 55 23.4 -0.2
baz=324,SNR=8.8
PGBU Glenifferbraes 69.99 351⇑ *e* P P **14 55 24.2 +0.7**
PGBU IAmb IAmb 14 55 25.1
comp=Z,288nm,0.9s
FVM French Village 70.05 53 P P 14 55 24.7 +0.4
baz=324,SNR=26
TX31 Lajitas Ar. Si 70.09 68 P P 14 55 25.4 +0.6
TX31 Lajitas Ar. Si 70.09 68 P P 14 55 26.1 +1.4
baz=321,SNR=110
TXAR Lajitas Array 70.09 68 P P 14 55 25.9 +1.1
TXAR Lajitas Array 70.09 68 P P 14 55 25.9 +1.1
TXAR Lajitas Array 70.09 68 P P 14 55 26.1 +1.3
comp=Z,37nm,0.6s,baz=300,slow=4.5,SNR=528
TXAR LR LR 15 24 53.5
comp=Z,226nm,19.8s,baz=321,slow=35
comp=Z,37nm,0.6s
LMQ La Malbaie 70.16 34 P P 14 55 24.9 +0.2
LMQ IAmb IAmb 14 55 26.2
comp=Z,145nm,1.3s
MMRI Maumere 70.16 221 P P 14 55 26.2 +1.2
U40A Yellville 70.19 55 P P 14 55 25.1 0.0
baz=323,SNR=59
U40A P P **14 55 25.1 0.0**
baz=323,SNR=59
P46A Rosedale 70.22 49 P P 14 55 25.5 +0.3
baz=324,SNR=5.6
EKA Eskdalemuir Ar 70.34 350 P P 14 55 26.0 +0.4
comp=Z,69nm,0.8s,baz=21,slow=5.2,SNR=169
comp=Z,69nm,0.8s
ESK Eskdalemuir 70.36 350⇑ *e* P P **14 55 26.3 +0.5**
ESK IAmb IAmb 14 55 27.2
comp=Z,107nm,0.8s
ESK Eskdalemuir 70.36 350 P P 14 55 26.1 +0.3
ESK Eskdalemuir 70.36 350 P P 14 55 26.1 +0.3
ESK pmax pmax
comp=Z,104nm,0.8s
ESK Eskdalemuir 70.36 350 P P 14 55 26.4 +0.5
Z35A Perchaven, San 70.38 60 P P 14 55 26.2 -0.1
Z35A IAmb IAmb 14 55 27.6
comp=Z,69nm,1.2s
LVV L'vov 70.39 332 *e* P P **14 55 26.4 +0.3**
ANN Anapa 70.39 321 *e* P P **14 55 23.4 -2.7**
ANN *e* 14 55 49.6
ANN *e* PPP PPP 14 59 39.9
ANN *e* S S **15 04 29.4 -5.2**
ANN *e* SS SS **15 09 04.7 -0.3**
ANN pmax pmax
comp=Z,37nm,0.9s
ANN MLR MLR
comp=Z,2µm,18.0s
ANN MLR MLR
comp=E,969nm,16.0s
ANN MLR MLR
comp=N,2µm,17.0s
LHMI Lhok Sumawe 70.41 251 P P 14 55 30.2 +3.6
LHMI Lhok Sumawe 70.41 251 P P 14 55 28.3 +1.7
comp=N,398nm,1.3s,comp=N,5µm
LPIG La Paz 70.42 76 LR LR 15 22 55.0
comp=N,125nm,18.1s,baz=282,slow=33
SOEI Soe 70.42 218 P P 14 55 26.2 -0.6
SOEI IAmb IAmb 14 55 53.1
comp=Z,91nm,1.1s
SOEI Soe 70.42 218 P P 14 55 28.7 +1.9
SOEI Soe 70.42 218 P P 14 55 26.7 -0.1
comp=Z,68nm,1.0s,comp=Z,1µm
RUE Ruedersdorf 70.46 339 *e* P P **14 55 27.6 +1.3**
EDFI Ende, Flores 70.47 221 P P 14 55 25.9 -1.2
comp=Z,82nm,1.1s,comp=Z,834nm
KDU Kakadu 70.47 209 P P 14 55 27.7 +0.8
N49A Columbus Grove 70.48 47 P P 14 55 27.0 +0.2
baz=325,SNR=12
N49A P P **14 55 27.0 +0.2**
baz=325,SNR=12
T42A Van Buren 70.50 54 P P 14 55 27.0 0.0
baz=324
OLIL Olney 70.53 51 P P 14 55 27.7 +0.6
baz=324,SNR=6.6
SOC Sochi 70.55 319 *e* P P **14 55 25.0 -2.1**
SOC *e* *PP **sP 14 55 43.6 -3.5**
SOC *e* 14 58 01.6
SOC *e* PPP PPP 14 59 44.8
SOC *e* S S **15 04 32.9 -3.6**
SOC *e* SS SS **15 09 04.6 -2.9**
SOC pmax pmax
comp=Z,35nm,0.9s
SOC MLR MLR
comp=Z,2µm,21.0s
M50A Fremont 70.57 46 P P 14 55 27.8 +0.5
baz=326
M50A P P **14 55 27.8 +0.5**
baz=326
O48B Farmland 70.61 48 P P 14 55 27.4 -0.1
baz=325,SNR=16
O48B Farmland 70.61 48 P P 14 55 27.3 -0.3
baz=325,SNR=16
SORM Soroca 70.62 328 ⇑P P **14 55 26.7 -0.8**
SORM Soroca 70.62 328 P P 14 55 26.6 -0.8
WBO Williamsburg 70.63 38 P P 14 55 26.8 -0.8
NEWG New Galloway 70.66 351⇑ *e* P P **14 55 27.7 +0.1**
NEWG IAmb IAmb 14 55 28.8
comp=Z,65nm,0.8s
EDMD Edmundbyers 70.71 349⇑ *e* P P **14 55 27.7 -0.2**
EDMD IAmb IAmb 14 55 29.1
comp=Z,81nm,1.2s
J54A Appleton 70.81 42 P P 14 55 29.0 +0.2
baz=328
J54A P P **14 55 29.0 +0.2**
baz=328
S44A Carbondale 70.84 52 P P 14 55 29.5 +0.5
baz=324,SNR=28
CLGH Cloghs, Cushen 70.86 352⇑ *e* P P **14 55 29.3 +0.5**
CLGH IAmb IAmb 14 55 30.2
comp=Z,155nm,1.0s
KWP Kalwaria Pacla 70.93 332 *e* P P **14 55 30.5 +1.1**
GAL1 Galloway 70.95 351⇑ *e* P P **14 55 29.3 0.0**
GAL1 IAmb IAmb 14 55 30.6
comp=Z,95nm,0.9s
GDLE Glaisdale, N Y 70.98 349⇑ *e* P P **14 55 29.6 +0.1**
D62A Allapoint, All 70.99 33 P P 14 55 29.8 0.0
D62A IAmb IAmb 14 55 30.9
comp=Z,69nm,0.8s
D62A Allapoint, All 70.99 33 P P 14 55 30.4 +0.6
baz=332,SNR=17
D62A P P **14 55 30.4 +0.6**
baz=332,SNR=17
MTN Manton Dam 71.02 210 P P 14 55 30.1 -0.1
MTN Manton Dam 71.02 210 P P 14 55 31.2 +1.0
PBMO Poplar Bluff 71.02 53 P P 14 55 30.1 0.0
PBMO Poplar Bluff 71.02 53 P P 14 55 30.6 +0.5
baz=329,SNR=23
O49A Covington 71.02 47 P P 14 55 30.2 +0.1
baz=326,SNR=7.9
O49A P P **14 55 30.2 +0.1**
baz=326,SNR=7.9
DSRI Dabo 71.04 241 P P 14 55 32.0 +1.5
comp=Z,157nm,1.4s,comp=Z,2µm
BMNY Brushton-Moira 71.05 38 P P 14 55 29.6 -0.5
baz=329,SNR=12
KESW Keswick, Cumbr 71.07 350⇑ *e* P P **14 55 30.4 +0.3**
KESW IAmb IAmb 14 55 31.6
comp=Z,265nm,0.9s
P48A Milroy 71.14 48 P P 14 55 30.6 -0.2
baz=325,SNR=19
P48A P P **14 55 30.6 -0.2**
baz=325,SNR=19
OJC Ojcow 71.16 335 *e* P P **14 55 31.7 +1.0**
M52A Chesterland 71.17 44 P P 14 55 31.5 +0.6
baz=327
M52A P P **14 55 31.5 +0.6**
baz=327
LONY Lake Ozonia 71.21 38 P P 14 55 30.7 -0.4
baz=329,SNR=5.6
ERPA Erie 71.24 43 P P 14 55 31.8 +0.4
baz=327,SNR=8.5
ERPA Erie 71.24 43 P P 14 55 31.6 +0.2
baz=327,SNR=8.5
LCAR Lake Charles 71.24 54 P P 14 55 30.8 -0.7
LCAR Lake Charles 71.24 54 P P 14 55 31.3 -0.1
baz=324,SNR=6.9
N51A Ashland 71.26 45 P P 14 55 32.0 +0.5
baz=326,SNR=12
N51A P P **14 55 32.0 +0.5**
baz=326,SNR=12
JCT Junction City 71.29 64 P P 14 55 32.2 +0.3
JCT IAmb IAmb 14 55 33.8
comp=Z,84nm,1.1s
JCT Junction City 71.29 64 P P 14 55 32.8 +0.9
baz=322,SNR=11
JCT Junction City 71.29 64 P P 14 55 32.5 +0.6
baz=322,SNR=11
JCT Junction City 71.29 64 P P 14 55 32.2 +0.3
JCT pmax pmax
comp=Z,84nm,1.1s
WHTX Lake Whitney, 71.33 61 P P 14 55 32.8 +0.7
baz=322,SNR=6.9
WHTX Lake Whitney, 71.33 61 P P 14 55 32.7 +0.6
baz=322,SNR=6.9
GNI Garni 71.34 313 P P 14 55 32.6 +0.4
GNI Garni 71.34 313 P P 14 55 32.8 +0.6
GNI Garni 71.34 313 *c i* P P **14 55 33.0 +0.7**
GNI pmax pmax
comp=Z,74nm,1.0s
GNI Garni 71.34 313 P P 14 55 32.9 +0.7
USIN University of 71.35 51 P P 14 55 32.3 +0.2
FRNY Flat Rock 71.39 37 P P 14 55 31.8 -0.4
baz=330
P49A Miami Univ. Ec 71.39 48 P P 14 55 32.4 0.0
baz=326,SNR=14
P49A Miami Univ. Ec 71.39 48 P P 14 55 32.3 0.0
baz=326,SNR=14
KSP Ksiaz 71.43 337 *e* P P **14 55 33.4 +1.0**
PARMO Parma 71.43 53 P P 14 55 32.6 0.0
KIS Kishinev 71.48 327 *e* P P **14 55 32.0 -0.7**
comp=Z,400nm,4.0s
KIS *e* L L 15 27 17.0
KIS LQM 15 29 24.0
comp=Z,600nm,19.0s
KIS LRM MLR 15 31 07.0
comp=Z,500nm,18.0s
KIS Kishinev 71.48 327 *e* P P **14 55 32.0 -0.7**
KIS pmax pmax
comp=Z,400nm,4.0s
KIS MLR MLR
comp=Z,500nm,18.0s
SIM Simferopol' 71.48 323 *e* P P **14 55 30.9 -1.9**
SIM pmax pmax
comp=Z,97nm,1.1s
SIM MLR MLR
comp=Z,1µm,25.3s
MLSI Meulaboh, Aceh 71.50 251 P P 14 55 32.1 -1.2
comp=Z,96nm,0.7s
HPK Haverah Park 71.53 349⇑ *e* P P **14 55 33.4 +0.5**
HPK IAmb IAmb 14 55 34.4
comp=Z,231nm,0.9s
M53A WI Miller and 71.53 44 P P 14 55 33.6 +0.5
baz=327,SNR=14
IOMK Kirk Michael 71.54 351⇑ *e* P P **14 55 32.9 0.0**
IOMK IAmb IAmb 14 55 34.1
comp=Z,200nm,0.9s
MILM Milestii Mici 71.55 327⇑ *i* P P **14 55 31.0 -2.1**
MILM *e* L L 15 28 22.0
MILM LQM 15 29 28.0
comp=Z,1µm,19.0s
MILM LRM MLR 15 31 20.0
comp=Z,1µm,16.5s
MILM Milestii Mici 71.55 327 ⇓P P **14 55 32.8 -0.3**
MILM Milestii Mici 71.55 327 *c i* P P **14 55 31.0 -2.1**
MILM pmax pmax
comp=Z,170nm,0.6s
MILM MLR MLR
comp=Z,1µm,16.5s
PURM Purcari 71.55 326 ⇑P P **14 55 32.8 -0.3**
WVNY West Valley, N 71.56 42 P P 14 55 33.2 -0.1
baz=328,SNR=10
ACSO Alum Creek Sta 71.57 46 P P 14 55 33.4 0.0
ACSO IAmb IAmb 14 55 34.9
comp=Z,104nm,1.1s
ACSO Alum Creek Sta 71.57 46 P P 14 55 33.7 +0.3
baz=326,SNR=15
ACSO Alum Creek Sta 71.57 46 P P 14 55 33.5 +0.1
baz=326,SNR=15
ALLY Alegheny Colle 71.57 44 P P 14 55 34.0 +0.6
baz=327,SNR=5.4
BCA Borcka 71.58 316 ⇑P P **14 55 32.2 -1.2**
Z38A Mt. Pleasant 71.59 59 P P 14 55 34.4 +0.8
baz=323
WIM Isle of Man 71.66 351 ⇑ *i* P P **14 55 34.1 +0.4**
PPBI Pangkal Pinang 71.68 239 P P 14 55 35.6 +1.3
comp=Z,154nm,1.2s
KOLS Kolonicke sedl 71.68 332 *e* P P **14 55 34.8 +0.9**
KOLS Kolonicke sedl 71.68 332 *e* P P **14 55 34.8 +0.9**
KOLS pmax pmax
comp=Z,81nm,1.0s
OSTC Ostas 71.72 337 *e* P P **14 55 34.9 +0.8**
OSTC AMS AMS 15 29 00.0
comp=Z,1µm,22.4s
OSTC Ostas 71.72 337 *e* P P **14 55 34.9 +0.8**
OSTC MLR MLR
comp=Z,1µm,22.4s
F62A Pittston Farm, 71.72 35 P P 14 55 34.6 +0.4
baz=331,SNR=10
F62A P P **14 55 34.6 +0.4**
baz=331,SNR=10
CLL Collm 71.72 339 *i* P P **14 55 35.2 +1.1**
comp=Z,198nm,1.2s
CLL *e* S S **15 04 49.0 -0.9**
CLL *e* SS SS 15 09 42.0 +17
CLL LV 15 30 00.0
comp=Z,500nm,20.3s
CLL Collm 71.72 339 *i* P P **14 55 35.2 +1.1**
CLL *e* S S **15 04 49.0 -0.9**
CLL pmax pmax
comp=Z,198nm,1.2s
CHVC Chvalec 71.73 337 *e* P P **14 55 35.3 +1.1**
CHVC *e* pP 14 55 35.4 -13
CHVC AMS AMS 15 28 30.0
comp=Z,1µm,20.3s
CHVC Chvalec 71.73 337 *e* P P **14 55 35.3 +1.1**
CHVC MLR MLR
comp=Z,1µm,20.3s
WCI Wyandotte Cave 71.76 50 P P 14 55 34.8 +0.3
baz=325
WCI Wyandotte Cave 71.76 50 P P 14 55 35.3 +0.8
baz=325,SNR=12
WCI Wyandotte Cave 71.76 50 P P 14 55 35.0 +0.4
WCI sP **PcP 14 55 54.0 +0.7**
NIE Niedzica 71.77 334 *e* P P **14 55 36.0 +1.5**
E63A Oxbow 71.77 33 P P 14 55 34.4 -0.1
baz=332,SNR=6.4
E63A P P **14 55 34.4 -0.1**
baz=332,SNR=6.4
UPC Upice 71.81 337 *e* P P **14 55 35.4 +0.7**
UPC Upice 71.81 337 *e* P P **14 55 35.4 +0.7**
PAOC Oil Creek Stat 71.87 43 P P 14 55 34.8 -0.4
baz=327
DPC Dobruska-Polom 71.89 337 *e* P P **14 55 36.2 +1.0**
DPC AMS AMS 15 33 40.0
comp=Z,600nm,17.3s
DPC Dobruska-Polom 71.89 337 *e* P P **14 55 36.2 +1.0**
DPC MLR MLR
comp=Z,600nm,17.3s
ILTH Belurgan, Co L 71.92 352 *e* P P **14 55 35.0 -0.2**
OKC Ostrava-Krasne 71.92 335 *e* P P **14 55 36.5 +1.1**
OKC AMS AMS 15 33 50.0
comp=Z,700nm,15.8s
OKC Ostrava-Krasne 71.92 335 *e* P P **14 55 36.5 +1.1**
OKC MLR MLR
comp=Z,700nm,15.8s
CRVS Cervenica-Dubn 71.93 333 *e* P P **14 55 36.6 +1.2**
CRVS Cervenica-Dubn 71.93 333 *e* P P **14 55 36.6 +1.2**
CRVS pmax pmax
comp=Z,64nm,1.0s
BRG Berggiesshubel 71.93 338 ⇓ *i* P P **14 55 36.5 +1.1**
BRG Amp 14 55 38.0
comp=Z,99nm,1.3s
BRG Berggiesshubel 71.93 338 ⇓ *i* P P **14 55 36.5 +1.1**
BRG 14 55 54.0
BRG 14 56 06.6
BRG pmax pmax
comp=Z,99nm,1.3s
LNXT Lenox 72.01 53 P P 14 55 37.1 +1.0
BUR08 Bucovina Ar. S 72.02 330 P P 14 55 36.1 0.0
BUR08 IAmb IAmb 14 55 38.0
comp=Z,90nm,0.8s
J58A Remsen 72.03 39 P P 14 55 35.8 -0.3
baz=329,SNR=13
J58A P P **14 55 35.8 -0.3**
baz=329,SNR=13
KRLC Kraliky 72.03 336 *e* P P **14 55 37.1 +1.0**
KRLC AMS AMS 15 32 10.0
comp=Z,1µm,16.9s
KRLC Kraliky 72.03 336 *e* P P **14 55 37.1 +1.0**
KRLC MLR MLR
comp=Z,1µm,16.9s
BURAR Bucovina Array 72.04 330 ⇓P P **14 55 36.1 -0.2**
BURAR Bucovina Array 72.04 330 P P **14 55 36.0 -0.2**
BURAR Bucovina Array 72.04 330 P P **14 55 36.0 -0.2**
LBWR Ladybower, Pea 72.09 349⇑ *e* P P **14 55 36.5 +0.3**
LBWR IAmb IAmb 14 55 37.6
comp=Z,205nm,0.9s
K57A Scipio Center 72.10 41 P P 14 55 34.8 -1.7
baz=329,SNR=5.4
PVCC Panska Ves 72.12 338 *e* P P **14 55 37.9 +1.4**
PVCC AMS AMS 15 26 50.0

comp=Z,900nm,21.4s
PVCC Panska Ves 72.12 338 eP P 14 55 37.9 +1.4
PVCC MLR MLR
comp=Z,900nm,21.4s
VASR Vaslui 72.12 328 ⇓P P 14 55 36.5 -0.1
VT1 Waterbury 72.12 37 P P 14 55 36.9 +0.2
baz=330,SNR=5.2
G62A West of Eustis 72.12 35 P P 14 55 37.3 +0.7
baz=331,SNR=18
G62A P P 14 55 37.3 +0.7
baz=331,SNR=18
PLAI Plampang 72.12 225 P P 14 55 35.9 -1.0
PLAI Plampang 72.12 225 P P 14 55 35.4 -1.5
comp=Z,218nm,0.9s,comp=Z,2µm
MORC Moravsky Berou 72.13 336 ⇓P P 14 55 37.4 +0.8
MORC Moravsky Berou 72.13 336 P P 14 55 36.7 0.0
MORC IAmb IAmb 14 55 39.0
comp=Z,90nm,1.0s
MORC Moravsky Berou 72.13 336 eP P 14 55 36.8 +0.1
MORC Moravsky Berou 72.13 336 P P 14 55 36.7 0.0
MORC pmax pmax
comp=Z,90nm,1.0s
O52A Adamsville 72.15 46 P P 14 55 37.1 +0.2
O52A Adamsville 72.15 46 P P 14 55 37.0 +0.2
baz=327,SNR=22
O52A P P 14 55 37.0 +0.2
baz=327,SNR=22
P51A Williamsport 72.16 47 P P 14 55 37.2 +0.2
baz=326
P51A P P 14 55 37.2 +0.2
baz=326
F63A Nahmakanta, Br 72.18 34 P P 14 55 36.9 -0.1
baz=332,SNR=11
F63A P P 14 55 36.9 -0.1
baz=332,SNR=11
PAMR Moraine State 72.19 44 P P 14 55 37.6 +0.5
baz=327
L56A Greenwood 72.20 42 P P 14 55 37.0 -0.2
baz=328,SNR=12
L56A P P 14 55 37.0 -0.2
baz=328,SNR=12
RICC Richard 72.21 338 eP P 14 55 38.2 +1.2
R49A Shelbyville 72.21 49 P P 14 55 37.8 +0.5
baz=326,SNR=11
R49A P P 14 55 37.8 +0.5
baz=326,SNR=11
435B Jarrell 72.22 62 P P 14 55 38.0 +0.6
baz=323
435B Jarrell 72.22 62 P P 14 55 38.7 +1.2
baz=323
BKNI Bangkinang 72.23 245 P P 14 55 39.0 +1.4
BASI Baing, Sumba 72.25 222 P P 14 55 36.7 -0.9
comp=Z,282nm,1.3s,comp=Z,4µm
TAVE Taveuni 72.27 160 P P 14 55 39.7 +2.1
M55A Ridgway 72.28 43 P P 14 55 37.9 +0.2
baz=328,SNR=13
M55A P P 14 55 37.9 +0.2
baz=328,SNR=13
F64A Sherman 72.29 34 P P 14 55 37.6 0.0
baz=332,SNR=9.9
F64A P P 14 55 37.6 0.0
baz=332,SNR=9.9
HSKC Hora Svate Kat 72.29 339 eP P 14 55 38.6 +1.0
O53A New Philadelph 72.30 45 P P 14 55 37.9 +0.1
baz=327,SNR=8.0
WPS Cemaes, Angles 72.38 351⇑ eP P 14 55 37.7 -0.3
WPS IAmb IAmb 14 55 38.8
comp=Z,61nm,1.0s
T47A Sharon Grove 72.41 51 P P 14 55 38.8 +0.4
T47A IAmb IAmb 14 55 40.5
comp=Z,125nm,1.0s
T47A Sharon Grove 72.41 51 P P 14 55 39.2 +0.8
baz=325,SNR=32
Q51A Peebles 72.41 47 P P 14 55 39.1 +0.6
baz=326,SNR=10
Q51A P P 14 55 39.1 +0.6
baz=326,SNR=10
TWSI Taliwang, Sumb 72.42 226 P P 14 55 37.2 -1.5
comp=Z,59nm,0.9s
P52A Corning 72.43 46 P P 14 55 38.9 +0.3
baz=327,SNR=7.9
MAUC Maruska 72.44 335 eP P 14 55 39.1 +0.6
STNC Stoke 72.45 349 eP P 14 55 39.2 +0.8
WACR West Acre 72.47 347⇑ eP P 14 55 38.6 +0.1
WACR IAmb IAmb 14 55 39.8
comp=Z,224nm,1.0s
H62A Milan 72.47 36 P P 14 55 39.5 +0.8
baz=331,SNR=19
H62A P P 14 55 39.5 +0.8
baz=331,SNR=19
WLF1 Llynfaes 72.48 351⇑ eP P 14 55 38.6 0.0
WLF1 IAmb IAmb 14 55 39.0
comp=Z,74nm,0.9s
BMR Baia Mare 72.48 331 ⇑P P 14 55 39.3 +0.6
BMR Baia Mare 72.48 331 P P 14 55 39.3 +0.6
LBNH Lisbon 72.49 37 P P 14 55 39.4 +0.5
baz=331,SNR=8.1
LBNH Lisbon 72.49 37 P P 14 55 39.5 +0.7
baz=331,SNR=8.1
PKME Peaks-Kenny Pk 72.50 34 P P 14 55 39.6 +0.7
baz=332,SNR=7.6
PKME Peaks-Kenny Pk 72.50 34 P P 14 55 39.5 +0.7
baz=332,SNR=7.6
SRBI Singaraja 72.56 228 P P 14 55 39.5 0.0
comp=Z,89nm,1.2s
KECS Kecovo 72.58 333 eP P 14 55 40.8 +1.5
KECS Kecovo 72.58 333 eP P 14 55 40.8 +1.5
KECS pmax pmax
comp=Z,47nm,0.9s
PSDB Penn State Uni 72.58 43 P P 14 55 40.6 +1.2
baz=328
PRA Prague 72.58 338 eP P 14 55 40.3 +1.1
PRA AMS AMS 15 29 00.0
comp=Z,900nm,21.2s
PRA Prague 72.58 338 eP P 14 55 40.3 +1.1
PRA MLR MLR
comp=Z,900nm,21.2s
TESR Tescani 72.59 329 ⇑P P 14 55 39.1 -0.3
R50A Paris 72.60 48 P P 14 55 39.8 +0.2
R50A IAmb IAmb 14 55 41.2
comp=Z,62nm,0.9s
R50A Paris 72.60 48 P P 14 55 39.6 +0.1
baz=326,SNR=18
R50A P P 14 55 39.6 +0.1
baz=326,SNR=18
UPAO U. Pittsburgh 72.60 44 P P 14 55 40.5 +0.9
baz=327
YLL Llanberis 72.61 350⇑ eP P 14 55 39.4 +0.1
ACCN Adirondack Com 72.61 38 P P 14 55 38.9 -0.7
ACCN IAMs_20 IAMs_20 15 26 30.2
comp=Z,1µm,21.0s
ACCN Adirondack Com 72.61 38 P P 14 55 39.5 -0.1
baz=330,SNR=7.7
PRU Pruhonice 72.63 338 eP P 14 55 40.7 +1.1
PRU AMS AMS 15 27 30.0
comp=Z,1µm,19.8s
PRU Pruhonice 72.63 338 eP P 14 55 40.7 +1.1
PRU MLR MLR
comp=Z,1µm,19.8s
GOPC GO Pecny, Ondr 72.65 338 AMS AMS 15 33 00.0
comp=Z,600nm,14.7s
CCAR Cane Creek 72.67 56 P P 14 55 41.2 +1.2
CCAR Cane Creek 72.67 56 P P 14 55 41.4 +1.4
baz=324
CWF Charnwood Fore 72.69 349 eP P 14 55 40.1 +0.3
Z41A Richland Creek 72.69 57 P P 14 55 40.1 -0.1
Z41A IAmb IAmb 14 55 41.2
comp=Z,92nm,1.3s
DSB Dublin 72.70 352⇑ eP P 14 55 40.5 +0.5
DSB Dublin 72.70 352 P P 14 55 40.1 +0.1
O54A Avella 72.71 45 P P 14 55 40.5 +0.3
baz=327,SNR=11
O54A P P 14 55 40.5 +0.3
baz=327,SNR=11
ABJI Asem Bagus 72.73 229 P P 14 55 40.6 +0.1
comp=Z,77nm,0.9s
VLDR Vladesti 72.74 327 ⇑P P 14 55 40.4 +0.1
SBD1 Bryn Du 72.74 350⇑ eP P 14 55 54.8 +15
SSFO Shawnee State 72.75 47 P P 14 55 41.2 +0.7
FOEL Foel Wylfa 72.75 350⇑ eP P 14 55 40.8 +0.5
FOEL IAmb IAmb 14 55 41.7
comp=Z,145nm,0.9s
BINY Binghamton 72.75 40 P P 14 55 40.4 -0.1
baz=329,SNR=5.3
BINY Binghamton 72.75 40 P P 14 55 40.3 -0.2
baz=329,SNR=5.3

GHRR 72.76 328 ⇑P P 14 55 41.1 +0.7
ARCR ARCALIA 72.77 330 ⇑P P 14 55 41.5 +1.1
WVT Waverly 72.77 52 P P 14 55 41.2 +0.6
WVT IAmb IAmb 14 55 42.1
comp=Z,65nm,0.9s
WVT Waverly 72.77 52 P P 14 55 41.5 +0.9
baz=325
WVT Waverly 72.77 52 P P 14 55 41.2 +0.6
baz=325,SNR=35
WVT Waverly 72.77 52 P P 14 55 41.3 +0.6
WVT pmax pmax
comp=Z,65nm,0.9s
VRAC Vranov 72.79 336 ⇑P P 14 55 41.4 +0.8
VRAC Vranov 72.79 336 eP P 14 55 41.1 +0.5
VRAC Vranov 72.79 336 P P 14 55 41.4 +0.8
LLW Llanuwychllyn 72.84 350⇑ eP P 14 55 41.0 +0.2
NKC Novy Kostel 72.86 339 eP P 14 55 42.4 +1.5
NKC Novy Kostel 72.86 339 eP P 14 55 42.4 +1.5
P53A Whipple 72.87 46 P P 14 55 41.2 0.0
baz=327,SNR=10.0
P53A P P 14 55 41.2 0.0
baz=327,SNR=10.0
SCTR Scanteiesti 72.92 327 ⇑P P 14 55 41.4 +0.1
Q52A Bidwell 72.93 46 P P 14 55 41.4 -0.1
baz=327,SNR=12
Q52A P P 14 55 41.4 -0.1
baz=327,SNR=12
JAVC Velka Javorina 72.95 335 eP P 14 55 42.9 +1.3
NATX Nacogdoches 72.95 59 P P 14 55 42.7 +0.9
baz=323,SNR=6.9
NATX Nacogdoches 72.95 59 P P 14 55 43.0 +1.2
baz=323,SNR=6.9
TATR Tatarca 72.97 327 ⇓P P 14 55 42.7 +1.1
VYHS Vyhne 73.00 334 eP P 14 55 43.3 +1.5
VYHS Vyhne 73.00 334 eP P 14 55 43.3 +1.5
VYHS pmax pmax
comp=Z,105nm,1.3s
PANC Panciu 73.01 328 ⇓P P 14 55 42.8 +0.9
I62A Tamworth 73.02 36 P P 14 55 42.9 +1.0
baz=331,SNR=5.3
I62A P P 14 55 42.9 +1.0
baz=331,SNR=5.3
J61A Chester 73.05 38 P P 14 55 42.3 +0.1
baz=330,SNR=7.0
J61A P P 14 55 42.3 +0.1
baz=330,SNR=7.0
M57A Sunshine Farm, 73.05 42 P P 14 55 42.1 -0.1
baz=328,SNR=17
M57A P P 14 55 42.1 -0.1
baz=328,SNR=17
TREC Trest 73.07 337 eP P 14 55 43.7 +1.5
TREC Trest 73.07 337 eP P 14 55 43.7 +1.5
KRUC Moravsky 73.07 336 eP P 14 55 42.8 +0.6
NEGRR Negrea 73.08 327 ⇑P P 14 55 43.2 +0.9
TLCR 73.08 327 ⇓P P 14 55 42.4 0.0
TLCR 73.08 327 P P 14 55 42.3 0.0
HLM1 Long Mynd 73.09 349⇑ eP P 14 55 42.5 +0.3
HLM1 IAmb IAmb 14 55 43.6
comp=Z,137nm,1.0s
IZVR Izvoarele 73.11 327 ⇑P P 14 55 42.6 +0.2
MESR Meseseni 73.11 331 ⇓P P 14 55 43.2 +0.7
L59A Walton 73.12 40 P P 14 55 42.3 -0.4
baz=329,SNR=13
L59A P P 14 55 42.3 -0.4
baz=329,SNR=13
I63A Otisfield 73.13 36 P P 14 55 43.5 +0.9
baz=331,SNR=19
I63A P P 14 55 43.5 +0.9
baz=331,SNR=19
G65A Princeton 73.13 33 P P 14 55 42.9 +0.3
baz=333,SNR=15
G65A P P 14 55 42.9 +0.3
baz=333,SNR=15
ODBI Odobesti 73.14 328 ⇑P P 14 55 44.1 +1.5
VRI Vrincioaia 73.15 328 ⇑P P 14 55 42.9 +0.2
VRI Vrincioaia 73.15 328 P P 14 55 42.9 +0.2
TRY Troy 73.17 39 IAMs_20 IAMs_20 15 27 27.1
comp=Z,837nm,18.0s
PLOR Plostina 73.18 328 ⇓P P 14 55 43.5 +0.5
PLOR Plostina 73.18 328 P P 14 55 43.0 0.0
TURR Turia 73.20 329 ⇑P P 14 55 43.9 +0.9
833A Chaparral WMA, 73.20 65 P P 14 55 44.6 +1.4
baz=323,SNR=7.3
833A Chaparral WMA, 73.20 65 P P 14 55 44.7 +1.4
baz=323,SNR=7.3
ZVC Zvikov 73.23 338 eP P 14 55 43.9 +0.8
ZVC AMS AMS 15 33 40.0
comp=Z,600nm,15.6s
OZUR 73.23 329 ⇓P P 14 55 44.4 +1.1
PSZ Piszkesteto 73.25 334 ⇑P P 14 55 45.2 +1.9
PSZ Piszkesteto 73.25 334 P P 14 55 44.2 +0.8
PSZ IAmb IAmb 14 55 46.0
comp=Z,69nm,0.9s
PSZ Piszkesteto 73.25 334 P P 14 55 44.2 +0.8
PSZ pmax pmax
comp=Z,69nm,0.9s
PSZ MLR MLR
comp=Z,2µm,21.0s
BOSR Bosos 73.29 329 ⇑P P 14 55 44.7 +1.1
GSI Gunungsitoli 73.30 248 P P 14 55 44.5 +0.5
GSI Gunungsitoli 73.30 248 P P 14 55 45.8 +1.8
GSI Gunungsitoli 73.30 248 P P 14 55 44.5 +0.5
comp=Z,174nm,0.7s,comp=Z,4µm
CFR Carcaliu 73.31 327 ⇓P P 14 55 43.8 +0.1
CFR Carcaliu 73.31 327 P P 14 55 43.7 +0.1
CJR Cluj-Napoca 73.33 331 ⇓P P 14 55 44.9 +1.1
CJR Cluj-Napoca 73.33 331 P P 14 55 44.7 +0.9
COVR Voineasa-Covas 73.33 329 ⇓P P 14 55 44.7 +0.9
SMOL Smolenice 73.33 335 eP P 14 55 46.1 +2.4
SMOL pmax pmax
comp=Z,32nm,0.9s
OXF Oxford 73.34 54 P P 14 55 44.5 +0.5
OXF Oxford 73.34 54 P P 14 55 44.8 +0.8
baz=325,SNR=20
OXF Oxford 73.34 54 P P 14 55 44.7 +0.7
baz=325,SNR=20
OXF Oxford 73.34 54 P P 14 55 44.5 +0.5
OXF pmax pmax
comp=Z,299nm,1.3s
SSPA Standing Stone 73.34 43 P P 14 55 43.0 -0.9
SSPA IAmb IAmb 14 55 45.3
comp=Z,78nm,1.3s
SSPA Standing Stone 73.34 43 P P 14 55 44.1 +0.2
baz=326
SSPA Standing Stone 73.34 43 P P 14 55 44.0 +0.1
baz=328,SNR=10
MCWV Mont Chateau 73.37 44 P P 14 55 44.7 +0.6
baz=328,SNR=7.4
MCWV Mont Chateau 73.37 44 P P 14 55 45.0 +0.8
baz=328,SNR=7.4
PABK Blue Knob Stat 73.37 43 P P 14 55 44.2 0.0
baz=328
U49A Red Boiling Sp 73.40 50 P P 14 55 44.4 +0.1
U49A IAmb IAmb 14 55 46.1
comp=Z,96nm,1.3s
U49A Red Boiling Sp 73.40 50 P P 14 55 44.7 +0.3
baz=326,SNR=18
T50A Nancy 73.41 49 P P 14 55 44.9 +0.5
baz=326
T50A P P 14 55 44.9 +0.5
baz=326
LMN Caledonia Moun 73.42 31 P P 14 55 44.4 0.0
LMN IAmb IAmb 14 55 45.9
comp=Z,71nm,0.9s
JURR Jurilovca 73.44 326 ⇓P P 14 55 44.7 +0.3
GGN Saint George 73.44 33 P P 14 55 43.9 -0.5
GGN IAmb IAmb 14 55 46.0
comp=Z,93nm,1.0s
S51A Beattyville 73.45 48 P P 14 55 44.8 +0.2
baz=326,SNR=11
S51A P P 14 55 44.8 +0.2
baz=326,SNR=11
DOPR Dopca 73.47 329 ⇓P P 14 55 45.5 +0.9
CLTN Cedars of Leba 73.50 51 P P 14 55 45.2 +0.3
CLTN IAmb IAmb 14 55 46.8
comp=Z,82nm,1.0s
MODS Modra-Piesok 73.50 335 eP P 14 55 46.8 +2.1
MODS Modra-Piesok 73.50 335 eP P 14 55 46.8 +2.1
MODS pmax pmax
comp=Z,155nm,1.1s
BORR Bors 73.50 332 ⇓P P 14 55 46.0 +1.3
MARR Marisel-Cluj 73.50 331 ⇓P P 14 55 44.9 +0.1
GRER 73.50 328 ⇑P P 14 55 46.1 +1.3
TPGR Topolog 73.51 327 ⇑P P 14 55 44.8 -0.1
Q54A Coxs Mills 73.52 46 P P 14 55 45.2 +0.2
baz=327,SNR=13
Q54A P P 14 55 45.2 +0.2
baz=327,SNR=13
V48A Smith Brothers 73.56 52 P P 14 55 45.7 +0.4
baz=325,SNR=25
R53A Hurricane 73.59 47 P P 14 55 46.0 +0.6
baz=327,SNR=20
R53A P P 14 55 46.0 +0.6
baz=327,SNR=20
BEBN Eben Emael 73.59 344 dP P 14 55 45.6 +0.4
comp=Z,94nm,1.0s
IWEX Carrickbyrne, 73.60 352⇑ eP P 14 55 45.9 +0.7
IWEX IAmb IAmb 14 55 46.6
comp=Z,79nm,0.8s
MCH1 Michaelchurch 73.61 349⇑ eP P 14 55 45.3 0.0
MCH1 IAmb IAmb 14 55 46.6
comp=Z,103nm,0.8s
MDB Medias 73.61 330 ⇑P P 14 55 46.8 +1.3
MDB Medias 73.61 330 P P 14 55 46.7 +1.3
GRA1 Grafenberg Arr 73.62 340 P P 14 55 46.1 +0.6
GRA1 IAMs_20 IAMs_20 15 31 36.7
comp=Z,806nm,21.0s
GRF Grafenberg Arr 73.62 340 P P 14 55 46.1 +0.6
GRF pmax pmax
comp=Z,160nm,0.9s
GRF MLR MLR
comp=Z,800nm,21.0s
GRFO Grafenberg 73.62 340 P P 14 55 46.1 +0.7
GRFO IAMs_20 IAMs_20 15 31 35.7
comp=Z,822nm,21.0s
GRFO Grafenberg 73.62 340 P P 14 55 46.1 +0.7
GRFO pmax pmax
comp=Z,149nm,0.9s
GRFO MLR MLR
comp=Z,800nm,21.0s
N58A Sunbury 73.63 42 P P 14 55 45.5 -0.1
baz=329,SNR=7.8
N58A P P 14 55 45.5 -0.1
baz=329,SNR=7.8
KHC Kasperske Hory 73.65 338 eP P 14 55 47.3 +1.6
KHC AMS AMS 15 34 50.0
comp=Z,900nm,16.9s
KHC Kasperske Hory 73.65 338 *c i* **P P 14 55 46.9 +1.2**
KHC pmax pmax
comp=Z,279nm,1.2s
ZST Bratislava 73.71 335 eP P 14 55 48.0 +2.1
ZST Bratislava 73.71 335 eP P 14 55 48.0 +2.1
ZST pmax pmax
comp=Z,191nm,1.1s
MEM Membach 73.72 343 dP P 14 55 46.7 +0.7
comp=Z,246nm,0.9s
BTNL Ternell 73.72 343 dP P 14 55 46.8 +0.7
comp=Z,176nm,0.9s
MLR Muntele Rosu 73.72 329 ⇑P P 14 55 47.2 +0.9
MLR Muntele Rosu 73.72 329 P P 14 55 46.7 +0.4
MLR Muntele Rosu 73.72 329 P P 14 55 46.7 +0.4
MLR Muntele Rosu 73.72 329 LR LR 15 31 42.1
comp=Z,µm,21.1s,baz=32,slow=39
STRD Stroud 73.74 349⇑ eP P 14 55 46.3 +0.3
STRD IAmb IAmb 14 55 47.5
comp=Z,206nm,1.1s
MONM Monmouth 73.75 349⇑ eP P 14 55 46.5 +0.5
MONM IAmb IAmb 14 55 47.5
comp=Z,164nm,0.9s
K62A Royalston 73.75 38 P P 14 55 46.9 +0.6
baz=331
K62A P P 14 55 46.9 +0.6
baz=331
SRO Srobarova 73.76 335 eP P 14 55 47.9 +1.7
SRO Srobarova 73.76 335 eP P 14 55 47.9 +1.7
SRO pmax pmax
comp=Z,84nm,1.1s
L61B Northampton 73.78 38 P P 14 55 46.6 +0.2
baz=330
TV1H Townsville Har 73.78 194 P P 14 55 47.0 +0.5
comp=Z,30nm,1.1s
CKRC Cesky Krumlov 73.78 338 eP P 14 55 47.8 +1.4
CKRC AMS AMS 15 33 30.0
comp=Z,800nm,16.2s
CKRC Cesky Krumlov 73.78 338 eP P 14 55 47.8 +1.4
CKRC MLR MLR
comp=Z,800nm,16.2s
HKT Hockley 73.80 61 *c e* **P P 14 55 47.8 +1.1**
HKT pmax pmax
comp=Z,58nm,1.5s
Y45A Yeager Farm, C 73.80 55 IAMs_20 IAMs_20 15 23 18.6
comp=Z,656nm,19.0s
HARR Harsova 73.81 327 ⇓P P 14 55 46.7 +0.1
HARR Harsova 73.81 327 P P 14 55 46.7 +0.1
BSTI Sart Tilman 73.82 344 dP P 14 55 47.5 +1.0
comp=Z,32nm,1.0s
GURO Guroymak-BITLI 73.83 314 P P 14 55 47.0 -0.1
143A Socs Landing, 73.83 57 P P 14 55 48.1 +1.1
baz=324,SNR=7.0
TIRR Tirgusor 73.86 326 ⇑P P 14 55 46.8 -0.2
TIRR Tirgusor 73.86 326 P P 14 55 46.7 -0.2
UNH University of 73.87 37 P P 14 55 47.4 +0.5
baz=331,SNR=8.6
ISR Istrita 73.87 328 ⇑P P 14 55 48.4 +1.3
ISR Istrita 73.87 328 P P 14 55 48.3 +1.3
GERES GERESS Array B 73.89 338 P P 14 55 47.5 +0.3
GERES GERESS Array B 73.89 338 P P 14 55 47.5 +0.3
GERES GERESS Array B 73.89 338 P P 14 55 47.8 +0.6
comp=Z,24nm,0.6s,baz=33,slow=5.1,SNR=123
comp=Z,24nm,0.6s
TLBR Topalu 73.91 327 ⇑P P 14 55 47.6 +0.5
DIKM Dikmen 73.91 320 ⇓P P 14 55 46.7 -0.5
SWN1 Swindon 73.95 349⇑ eP P 14 55 48.2 +0.9
SWN1 IAmb IAmb 14 55 49.0
comp=Z,301nm,0.9s
BHOU Houvegnez 73.97 343 dP P 14 55 48.4 +0.9
comp=Z,93nm,1.0s
AUAYR Ayr State High 74.01 193 P P 14 55 49.0 +1.1
BCLA Clavier 74.02 344 dP P 14 55 48.4 +0.7
comp=Z,61nm,1.1s
KRJI Kerinci 74.04 243 P P 14 55 48.9 +0.5
comp=Z,777nm,0.8s,comp=Z,6µm
VOIR 74.05 329 ⇑P P 14 55 48.6 +0.5
VOIR 74.05 329 P P 14 55 48.6 +0.5
AMRR Amara 74.08 327 ⇑P P 14 55 48.1 -0.1
AMRR Amara 74.08 327 P P 14 55 48.0 -0.1
WOL Wolverton 74.08 348 eP P 14 55 48.3 +0.3
BGES Gesves 74.09 344 dP P 14 55 48.6 +0.5
comp=Z,66nm,1.0s
MFTR Murfatlar 74.11 326 ⇑P P 14 55 48.2 -0.1
EFOR EFORIE 74.13 326 ⇑P P 14 55 49.4 +1.0
HRV Adam Dziewonsk 74.14 37 P P 14 55 48.9 +0.4
baz=331
HRV Adam Dziewonsk 74.14 37 P P 14 55 48.6 +0.1
baz=331,SNR=6.1
HRV Adam Dziewonsk 74.14 37 P P 14 55 48.7 +0.2
Q56A Snyder Ridge, 74.16 44 P P 14 55 49.3 +0.5
baz=328,SNR=8.4
Q56A P P 14 55 49.3 +0.5
baz=328,SNR=8.4
KOUNC Koumac, New Ca 74.18 176 P P 14 55 48.0 -0.9
KOUNC IAmb IAmb 14 56 06.7
comp=Z,84nm,1.2s
KOUNC IAMs_20 IAMs_20 15 25 27.9
comp=Z,736nm,21.0s
KOUNC Koumac, New Ca 74.18 176 P P 14 55 52.7 +3.9
BRNY Black Rk. Fore 74.18 40 P P 14 55 48.6 -0.3
baz=330,SNR=6.5
BMRD Maredsous 74.22 344 dP P 14 55 49.2 +0.3
comp=Z,96nm,1.0s
MTUR Matau 74.23 329 ⇑P P 14 55 50.3 +1.0
MTUR Matau 74.23 329 P P 14 55 50.2 +1.0
ARR Arges 74.24 329 ⇓P P 14 55 50.5 +1.3
CONA Conrad Observa 74.26 336 *i* **P P 14 55 51.1 +1.8**
comp=Z,112nm,1.5s,SNR=36
P57A Homestead Farm 74.27 43 P P 14 55 49.4 0.0
baz=328,SNR=6.6
P57A P P 14 55 49.4 0.0
baz=328,SNR=6.6
DEV Deva 74.28 331 ⇑P P 14 55 49.5 +0.2
DEV Deva 74.28 331 P P 14 55 49.5 +0.2
SIRR Siria 74.28 332 ⇓P P 14 55 49.8 +0.4
RCHB Rochefort 74.29 344 dP P 14 55 49.5 +0.3
comp=Z,56nm,1.0s
S54A Dingess, Beckl 74.31 47 P P 14 55 49.7 -0.1
baz=327,SNR=6.0
S54A P P 14 55 49.7 -0.1
baz=327,SNR=6.0
SULR 74.36 328 ⇑P P 14 55 49.7 -0.1
LUPA Lehigh Univers 74.36 41 P P 14 55 49.6 -0.4

LUPA IAmb IAmb 14 55 51.0
comp=Z,50nm,1.0s
RONA Rosalia, Austr 74.36 336 *i* P **P** **14 55 51.9 +2.0**
comp=Z,88nm,1.4s,SNR=26
ICOR Ion Corvin 74.37 327 ⇓P **P** **14 55 50.9 +1.0**
MANR Mangalia 74.38 326 ⇑P **P** **14 55 50.3 +0.4**
TZTN Tazewell 74.38 49 P **P** **14 55 50.7 +0.6**
baz=326,SNR=11
TZTN Tazewell 74.38 49 P **P** **14 55 50.5 +0.4**
baz=326,SNR=11
SWET Sewanee 74.40 51 P **P** **14 55 49.8 -0.4**
SWET IAmb IAmb 14 55 51.5
comp=Z,106nm,0.8s
R55A Marlinton 74.41 45 P **P** **14 55 50.8 +0.5**
baz=328,SNR=23
R55A P **P** **14 55 50.8 +0.5**
baz=328,SNR=23
KNRA Kununurra 74.42 212 P **P** **14 55 49.7 -0.6**
KNRA IAmb IAmb 14 55 51.9
comp=Z,125nm,1.1s
KNRA Kununurra 74.42 212 P **P** **14 55 51.3 +1.0**
LOT Lotru 74.42 330 ⇓P **P** **14 55 50.9 +0.5**
DOU Dourbes 74.45 344⇑ *e*P **P** **14 55 50.7 +0.4**
DOU Dourbes 74.45 344 *d*P **P** **14 55 50.0 -0.2**
comp=Z,69nm,0.9s
MVL Millersville 74.50 42 P **P** **14 55 50.5 -0.1**
X48A Hartselle 74.51 52 P **P** **14 55 50.5 -0.4**
X48A IAmb IAmb 14 55 52.2
comp=Z,109nm,1.4s
X48A Hartselle 74.51 52 P **P** **14 55 51.0 +0.2**
baz=326,SNR=13
UGM Wanagama 74.52 232 P **P** **14 55 52.6 +1.5**
PAL Palisades 74.58 40 P **P** **14 55 50.3 -0.8**
PAL IAmb IAmb 14 55 52.2
comp=Z,119nm,1.4s
PAL Palisades 74.58 40 P **P** **14 55 51.2 +0.1**
baz=330,SNR=5.8
PAL Palisades 74.58 40 P **P** **14 55 51.2 +0.1**
baz=330,SNR=5.8
PAL Palisades 74.58 40 P **P** **14 55 50.3 -0.8**
PAL pmax pmax
comp=Z,119nm,1.4s
HBVL Hebbronville 74.59 65 P **P** **14 55 52.5 +1.1**
HBVL IAmb IAmb 14 55 55.0
comp=Z,115nm,1.1s
WLF Walferdange 74.61 343 P **P** **14 55 51.4 +0.2**
WLF IAmb IAmb 14 55 55.6
comp=Z,94nm,1.2s
WLF Walferdange 74.61 343 *d*P **P** **14 55 52.5 +1.3**
comp=Z,38nm,1.1s
WLF Walferdange 74.61 343 P **P** **14 55 51.4 +0.2**
WLF pmax pmax
comp=Z,94nm,1.2s
SURR Surduc 74.62 331 ⇑P **P** **14 55 51.8 +0.5**
V51A Loudon 74.64 50 P **P** **14 55 51.4 -0.2**
V51A IAmb IAmb 14 55 53.2
comp=Z,65nm,1.0s
V51A Loudon 74.64 50 P **P** **14 55 51.9 +0.3**
baz=326,SNR=16
KLI Kotabumi 74.64 239 P **P** **14 55 51.1 -0.6**
comp=Z,311nm,1.0s,comp=Z,7µm
CTA Charters Tower 74.67 194 P **P** **14 55 52.6 +0.9**
CTA Charters Tower 74.67 194 LR LR 15 25 48.8
comp=Z,158nm,19.1s,baz=18,slow=33
CTAO Charters Tower 74.67 194 P **P** **14 55 51.5 -0.2**
CTAO IAmb IAmb 14 55 52.9
comp=Z,68nm,0.9s
CTAO Charters Tower 74.67 194 P **P** **14 55 52.7 +1.0**
CTAO Charters Tower 74.67 194 P **P** **14 55 51.5 -0.2**
CTAO pmax pmax
comp=Z,68nm,0.9s
PSN Preselentsi 74.68 326 *i* P **P** **14 55 52.6 +0.9**
W50A Signal Mountai 74.70 51 P **P** **14 55 51.1 -0.9**
W50A IAmb IAmb 14 55 53.5
comp=Z,77nm,0.9s
W50A Signal Mountai 74.70 51 P **P** **14 55 52.3 +0.3**
baz=326,SNR=20
MOA Molln 74.70 337 *i* P **P** **14 55 53.2 +1.4**
comp=Z,74nm,1.7s,SNR=22
HTL Hartland 74.76 350⇑ *e*P **P** **14 55 52.3 +0.3**
HTL IAmb IAmb 14 55 53.5
comp=Z,86nm,0.9s
GZR Gura Zlata 74.76 331 ⇓P **P** **14 55 52.6 +0.4**
GZR Gura Zlata 74.76 331 P **P** **14 55 52.6 +0.4**
SDMD Soldier's Deli 74.81 43 P **P** **14 55 52.6 +0.1**
SDMD Soldier's Deli 74.81 43 P **P** **14 55 52.6 +0.1**
baz=329,SNR=7.9
TUPA Temple Univers 74.81 41 P **P** **14 55 52.3 -0.2**
baz=330,SNR=7.1
PANJ Princeton 74.81 41 P **P** **14 55 51.9 -0.6**
baz=330,SNR=7.0
SGRR Singureni 74.86 328 ⇓P **P** **14 55 52.5 -0.2**
BZS Buzias 74.89 331 ⇓P **P** **14 55 53.2 +0.4**
BZS Buzias 74.89 331 P **P** **14 55 52.7 -0.2**
L64A Middleborough 74.89 37 P **P** **14 55 53.7 +0.7**
L64A IAmb IAmb 14 55 54.7
comp=Z,118nm,1.2s
L64A Middleborough 74.89 37 P **P** **14 55 53.6 +0.7**
baz=331,SNR=6.2
L64A P **P** **14 55 53.6 +0.7**
baz=331,SNR=6.2
ARPR Arapgir-MALATY 74.90 317 IAMs_20 IAMs_20 15 32 33.6
comp=Z,939nm,21.0s
STU Stuttgart 74.91 341 P **P** **14 55 53.9 +1.0**
STU IAmb IAmb 14 55 54.9
comp=Z,172nm,1.4s
STU Stuttgart 74.91 341 P **P** **14 55 53.9 +1.0**
STU pmax pmax
comp=Z,172nm,1.4s
M63A Gales Ferry 74.92 38 P **P** **14 55 53.1 0.0**
baz=331,SNR=6.0
M63A P **P** **14 55 53.1 0.0**
baz=331,SNR=6.0
V52A Sevierville 74.94 49 P **P** **14 55 53.7 +0.4**
baz=327,SNR=15
ARSA Arzberg 74.97 336 *i* P **P** **14 55 55.0 +1.6**
comp=Z,85nm,1.3s,SNR=23
BIOA Bad Ischl, Aus 75.00 338 *i* P **P** **14 55 55.0 +1.5**
comp=Z,30nm,0.7s,SNR=17
TKL Tuckaleechee C 75.02 49 P **P** **14 55 53.4 -0.4**
baz=327,SNR=11
TKL Tuckaleechee C 75.02 49 LR LR 15 31 52.1
comp=Z,591nm,18.3s,baz=332,slow=38
146A Union 75.04 55 P **P** **14 55 55.1 +1.2**
baz=325,SNR=11
Z47A Carrollton 75.05 54 P **P** **14 55 54.2 +0.2**
baz=325,SNR=16
FPAL Fort Paine 75.11 51 P **P** **14 55 54.8 +0.4**
FPAL IAmb IAmb 14 55 55.8
comp=Z,108nm,0.9s
MORH Mrgy, Hungar 75.15 334 ⇑P **P** **14 55 54.1 -0.2**
U54A Nelsons Funny 75.16 48 P **P** **14 55 54.6 -0.1**
baz=327,SNR=13
U54A P **P** **14 55 54.6 -0.1**
baz=327,SNR=13
COPA Copaceanca 75.17 328 ⇑P **P** **14 55 54.7 +0.2**
LWLI Liwa 75.17 239 P **P** **14 55 53.2 -1.8**
comp=Z,403nm,0.9s,comp=Z,5µm
NGCH Negor - Chabah 75.18 293 P **P** **14 55 54.1 -0.8**
BLA Blacksburg 75.19 46 P **P** **14 55 55.4 +0.5**
baz=328,SNR=8.0
BLA Blacksburg 75.19 46 P **P** **14 55 55.1 +0.3**
baz=328,SNR=8.0
RAZG Razgrad 75.28 327 ⇑P **P** **14 55 55.6 +0.5**
Y49A Blount Mountai 75.30 52 P **P** **14 55 55.6 +0.2**
Y49A IAmb IAmb 14 55 56.7
comp=Z,202nm,1.6s
Y49A Blount Mountai 75.30 52 P **P** **14 55 55.5 0.0**
baz=326,SNR=17
HERR Herculane 75.34 331 ⇓P **P** **14 55 56.2 +0.8**
S57A Dark Hollow, R 75.34 45 P **P** **14 55 56.4 +0.8**
baz=328,SNR=23
S57A P **P** **14 55 56.4 +0.8**
baz=328,SNR=23
PRD Provadia 75.35 326 *i* P **P** **14 55 55.0 -0.5**
W52A Murphy 75.42 50 P **P** **14 55 56.5 +0.4**
baz=327,SNR=11
X51A Calhoun 75.43 51 P **P** **14 55 56.3 +0.2**
baz=326,SNR=12
X51A P **P** **14 55 56.3 +0.2**
baz=326,SNR=12
V53A Saluda 75.44 49 P **P** **14 55 56.5 +0.3**
baz=327,SNR=15
V53A P **P** **14 55 56.5 +0.3**
baz=327,SNR=15
LESA Schwarzleotal 75.46 338 *i* P **P** **14 55 58.0 +1.7**
comp=Z,80nm,0.8s
VLAD Vladila 75.55 329 ⇓P **P** **14 55 56.8 +0.1**
R58B Mineral 75.62 44 P **P** **14 55 57.6 +0.4**
baz=329,SNR=11
R58B P **P** **14 55 57.6 +0.4**
baz=329,SNR=11
CBN Corbin Frederi 75.62 44 P **P** **14 55 57.8 +0.7**
baz=329
SOKA Soboth 75.63 336 *i* P **P** **14 55 58.8 +1.6**
comp=Z,116nm,1.3s,SNR=39
MDVR Moldovita 75.63 331 ⇑P **P** **14 55 57.7 +0.5**
KBA Koelnbreinsper 75.64 338 *i* P **P** **14 55 59.6 +2.2**
comp=Z,335nm,1.1s
LRAL Lakeview Retre 75.70 53 P **P** **14 55 58.1 +0.4**
baz=326,SNR=11
LRAL Lakeview Retre 75.70 53 P **P** **14 55 57.7 0.0**
baz=326,SNR=11
SZH Strazhitsa 75.72 328 *i* P **P** **14 55 57.4 -0.3**
PUNG Punghina 75.73 330 ⇑P **P** **14 55 57.7 0.0**
WATA Walderalm 75.79 339 *i* P **P** **14 55 59.7 +1.5**
comp=Z,89nm,1.0s,SNR=42
DZM Mont Dzumac 75.79 174 *e*P **P** **14 55 58.9 +0.7**
comp=Z,257nm,1.4s
DZM *e*S **SKiKP** **15 05 23.8 +10**
comp=Z,426nm,25.2s
DZM Mont Dzumac 75.79 174 *e*LR LR 15 19 11.2
comp=Z,1µm,28.9s
DZM Mont Dzumac 75.79 174 P **P** **14 55 59.7 +1.5**
DZM Mont Dzumac 75.79 174 LR LR 15 24 46.9
comp=Z,506nm,20.1s,baz=22,slow=32
RETA Reutte 75.82 339 *i* P **P** **14 55 59.5 +1.3**
comp=Z,60nm,0.8s,SNR=24
FRGS Fruska Gora 75.82 332 ⇓P **P** **14 55 58.9 +0.6**
FRGS Fruska Gora 75.82 332⇑ *i*P **P** **14 55 58.2 0.0**
WTTA Wattenberg 75.84 339 *i* P **P** **14 56 00.3 +1.8**
comp=Z,99nm,0.8s,SNR=44
346A Big Creek Wild 75.86 56 P **P** **14 56 00.1 +1.5**
baz=325
T57A Hurt 75.86 46 P **P** **14 55 58.9 +0.3**
baz=328,SNR=8.1
T57A P **P** **14 55 58.9 +0.3**
baz=328,SNR=8.1
MOTA Moosalm 75.88 339 *i* P **P** **14 56 00.3 +1.6**
comp=Z,106nm,0.8s,SNR=56
OBKA Obir 75.90 337 *i* P **P** **14 56 00.2 +1.4**
comp=Z,205nm,1.2s
OBKA Obir 75.90 337⇑ *i*P **P** **14 55 59.5 +0.7**
U56A King 75.93 47 P **P** **14 55 59.8 +0.7**
baz=328,SNR=6.6
U56A P **P** **14 55 59.8 +0.7**
baz=328,SNR=6.6
CASEE Lake Jocassee 75.95 49 P **P** **14 55 59.7 +0.6**
baz=327,SNR=23
SQTA Sankt Quirin 75.97 339 *i* P **P** **14 56 00.9 +1.7**
comp=Z,134nm,0.8s,SNR=48
V55A Taylorsville 75.99 48 P **P** **14 55 59.8 +0.4**
baz=328,SNR=6.7
V55A P **P** **14 55 59.8 +0.4**
baz=328,SNR=6.7
MYKA Terra Mystica 76.00 337 *i* P **P** **14 56 00.6 +1.3**
comp=Z,70nm,1.0s,SNR=24
ONTNC Ouen Toro 76.03 174 P **P** **14 56 01.6 +2.2**
PLVB Pleven 76.03 328 ⇓P **P** **14 56 00.1 +0.6**
ELND Elena 76.05 327 ⇓P **P** **14 55 58.9 -0.7**
PVL Pavlikeni 76.10 328 *i* P **P** **14 55 59.0 -0.8**
ABTA Abfaltersbach 76.14 338 *i* P **P** **14 56 01.5 +1.4**
comp=Z,182nm,1.0s,SNR=68
OUENC Ouen Island, N 76.16 174 P **P** **14 56 03.0 +2.8**
DAVA Damuels 76.19 340 *i* P **P** **14 56 01.7 +1.2**
comp=Z,78nm,1.2s
BR131 Keskin Array S 76.19 321 P **P** **14 56 00.7 0.0**
SNR=12
BR131 Keskin Array S 76.19 321 *c* P **P** **14 56 00.2 -0.4**
BRTR Keskin Array B 76.19 321 P **P** **14 56 00.2 -0.4**
BRTR Keskin Array B 76.19 321 P **P** **14 56 00.4 -0.2**
comp=Z,16nm,0.8s,baz=38,slow=3.4,SNR=72
BRTR LR LR 15 33 29.4
comp=Z,811nm,21.7s,baz=38,slow=39
comp=Z,16nm,0.8s
PRED Cave del Predi 76.19 337 P **P** **14 56 00.5 +0.1**
FETA Feichten 76.27 339 *i* P **P** **14 56 02.6 +1.7**
comp=Z,111nm,0.8s,SNR=62
QIS Mount Isa 76.28 200 P **P** **14 56 00.8 -0.2**
JSA Saint Aubin 76.29 348⇑ *e*P **P** **14 56 01.2 +0.5**
JSA IAmb IAmb 14 56 02.0
comp=Z,163nm,0.8s
Z51A Franklin 76.32 52 P **P** **14 56 01.1 -0.2**
Z51A IAmb IAmb 14 56 02.4
comp=Z,76nm,1.0s
Z51A Franklin 76.32 52 P **P** **14 56 01.3 +0.1**
baz=326,SNR=6.5
CRES Cresnjev 76.32 336⇑ *i*P **P** **14 56 01.4 +0.3**
LJU Ljubljana 76.34 336 *i* P **P** **14 56 01.4 +0.2**
CADS Cadrg 76.35 337 *i* P **P** **14 56 01.2 -0.1**
Y52A Lilburn 76.38 51 P **P** **14 56 02.4 +0.8**
baz=327,SNR=9.8
Y52A P **P** **14 56 02.4 +0.8**
baz=327,SNR=9.8
ANTO Ankara 76.38 321 ⇑P **P** **14 56 02.3 +0.7**
ANTO Ankara 76.38 321 P **P** **14 56 02.3 +0.7**
ANTO IAmb IAmb 14 56 04.6
comp=Z,60nm,0.9s
ANTO Ankara 76.38 321 IAMs_20 IAMs_20 15 34 00.5
comp=Z,846nm,22.0s
ANTO Ankara 76.38 321 P **P** **14 56 02.3 +0.7**
ANTO Ankara 76.38 321 P **P** **14 56 02.2 +0.7**
BLKB Belogradchik 76.41 330 ⇑P **P** **14 56 01.5 -0.1**
BR231 Keskin MP Arra 76.41 321 P **P** **14 56 01.4 -0.4**
BR231 IAmb IAmb 14 58 15.6
comp=Z,55nm,0.8s
TEKS Tekeris 76.46 332⇑ *i*P **P** **14 56 01.6 -0.3**
KMSC Kings Mountain 76.54 48 P **P** **14 56 02.6 +0.2**
baz=328,SNR=10
KMSC Kings Mountain 76.54 48 P **P** **14 56 02.7 +0.3**
baz=328,SNR=10
JASK Jask - Hormozg 76.55 295 P **P** **14 56 02.0 -0.6**
SNR=6.6
STAL STALIGIAL 76.56 338 P **P** **14 56 02.3 -0.1**
STAL IAmb IAmb 14 56 03.6
comp=Z,67nm,1.0s
PAULI Pauline 76.59 49 P **P** **14 56 03.1 +0.3**
baz=327,SNR=6.4
T59A Double "B" Far 76.60 44 P **P** **14 56 03.3 +0.6**
baz=329,SNR=11
T59A P **P** **14 56 03.3 +0.6**
baz=329,SNR=11
CEY Cerknica 76.65 336⇑ *i*P **P** **14 56 02.6 -0.4**
BOJS Bojanci 76.67 336⇑ *i*P **P** **14 56 03.2 +0.2**
BOVS Bovan 76.68 331 ⇑P **P** **14 56 02.4 -0.7**
A051A Mrakovica 76.72 334⇑ *i*P **P** **14 56 03.0 -0.4**
EDRB Edirne 76.74 326 P **P** **14 56 03.5 0.0**
DIVS Divibare 76.74 332 P **P** **14 56 03.6 0.0**
DIVS IAmb IAmb 14 56 05.1
comp=Z,84nm,0.8s
DIVS Divibare 76.74 332⇑ *i*P **P** **14 56 03.4 -0.2**
FUORN Ofenpass-Fuorn 76.75 339 IAMs_20 IAMs_20 15 36 04.3
comp=Z,453nm,19.0s
T60A Surry 76.79 44 P **P** **14 56 03.9 +0.1**
T60A Surry 76.79 44 P **P** **14 56 04.7 +0.9**
baz=329,SNR=7.1
T60A P **P** **14 56 04.7 +0.9**
baz=329,SNR=7.1
CLF Chambon-Foret 76.83 345 P **P** **14 56 04.5 +0.7**
WB4 Warramunga Arr 76.85 205 IAMs_20 IAMs_20 15 32 51.2
comp=Z,639nm,21.0s
WRAB Tennant Creek 76.88 205 P **P** **14 56 04.6 +0.2**
WRAB IAmb IAmb 14 56 05.8
comp=Z,95nm,1.1s
WRAB Tennant Creek 76.88 205 P **P** **14 56 04.6 +0.2**
WRAB pmax pmax
comp=Z,95nm,1.1s
HODGE Hodges 76.89 49 P **P** **14 56 04.1 -0.4**
HODGE IAmb IAmb 14 56 05.6
comp=Z,46nm,0.9s
HODGE Hodges 76.89 49 P **P** **14 56 04.5 +0.1**
baz=327,SNR=14
WB2 Warramunga Arr 76.89 205 P **P** **14 56 04.7 +0.3**
WB2 IAmb IAmb 14 56 05.8
comp=Z,101nm,1.1s
WRA Warramunga Arr 76.89 205 P **P** **14 56 03.7 -0.7**
WRA Warramunga Arr 76.89 205 *i* P **P** **14 56 02.7 -1.7**
WRA pmax pmax
comp=Z,55nm,1.0s
WRA Warramunga Arr 76.89 205 P **P** **14 56 04.0 -0.4**
comp=Z,55nm,1.0s,baz=18,slow=5.7,SNR=124
comp=Z,55nm,1.0s
BLY Banja Luka 76.89 334 *e*P **P** **14 56 04.5 +0.2**
250A Grady 76.92 53 P **P** **14 56 05.1 +0.5**
250A Grady 76.92 53 P **P** **14 56 05.0 +0.4**
baz=326,SNR=13
SKDS Skadanscina 76.93 337 *i* P **P** **14 56 04.2 -0.3**
V58A Windy Hill, Pi 76.95 46 P **P** **14 56 05.1 +0.4**
baz=328,SNR=16
V58A P **P** **14 56 05.1 +0.4**
baz=328,SNR=16
CTI Castel Tesino 76.99 338 P **P** **14 56 05.4 +0.4**
CTI Castel Tesino 76.99 338 P **P** **14 56 05.4 +0.4**
CTI pmax pmax
comp=Z,97nm,0.8s
GAZ Gaziantep 77.00 317 P **P** **14 56 05.0 -0.2**
GAZ IAmb IAmb 14 56 07.5
comp=Z,49nm,1.0s
U59A Littleton 77.03 45 P **P** **14 56 06.0 +0.8**
baz=329,SNR=8.2
U59A P **P** **14 56 06.0 +0.8**
baz=329,SNR=8.2
GOGA Godfrey 77.03 50 P **P** **14 56 05.6 +0.4**
baz=327,SNR=8.1
GOGA Godfrey 77.03 50 P **P** **14 56 05.2 0.0**
baz=327,SNR=8.1
HAPS Han Pijesak,Bl 77.04 333⇑ *i*P **P** **14 56 05.5 +0.2**
152A Waverly Hall 77.07 52 P **P** **14 56 05.4 -0.1**
baz=327,SNR=17
W57A Gilead 77.11 47 P **P** **14 56 06.2 +0.5**
baz=328,SNR=9.5
W57A P **P** **14 56 06.2 +0.5**
baz=328,SNR=9.5
BBLS Lazići 77.12 332⇑ *i*P **P** **14 56 06.2 +0.5**
BRAL Brewton 77.21 54 P **P** **14 56 07.5 +1.2**
baz=326
MGRS Mrkonjic Grad 77.23 334 *e*P **P** **14 56 07.4 +1.2**
ROSF Rostrenen 77.25 349⇑ *e*P **P** **14 56 07.0 +0.7**
JSC Jenkinsville 77.29 48 P **P** **14 56 06.7 0.0**
baz=328,SNR=10
A050A Klekovaca 77.31 334⇑ *i*P **P** **14 56 07.0 +0.2**
SHME Shamm 77.32 297 *i* P **P** **14 56 05.6 -1.4**
SNR=6.9
SHME Shamm 77.32 297 P **P** **14 56 05.6 -1.4**
SNR=13
BANOM Banah 77.34 297 P **P** **14 56 07.2 +0.1**
BANOM Banah 77.34 297 P **P** **14 56 07.5 +0.3**
BIRD Birdtown, Kers 77.34 48 P **P** **14 56 07.2 +0.2**
baz=328,SNR=9.8
RUDO Rudo 77.36 332 *e*P **P** **14 56 06.4 -0.6**
RK1H Rockhampton Ha 77.42 189 P **P** **14 56 08.2 +0.9**
comp=Z,18nm,1.0s
SJES Sjenica 77.52 332⇑ *i*P **P** **14 56 08.3 +0.3**
SENIN Lac Senin/Sane 77.58 341 P **P** **14 56 09.0 +0.6**
TEOL Teolo 77.64 338 P **P** **14 56 09.7 +1.2**
SALO Salr 77.65 339 P **P** **14 56 09.1 +0.6**
FITZ Fitzroy Crossi 77.69 214 P **P** **14 56 08.9 0.0**
FITZ IAmb IAmb 14 56 10.9
comp=Z,53nm,1.4s
FITZ Fitzroy Crossi 77.69 214 P **P** **14 56 09.6 +0.7**
W59A Clinton 77.77 46 P **P** **14 56 10.2 +0.9**
baz=329
RDO Rodhopi 77.77 327 P **P** **14 56 09.6 +0.4**
ALN Alexandroupoli 77.83 326 P **P** **14 56 09.8 +0.2**
MASF Masafi 77.86 296 P **P** **14 56 09.2 -0.9**
SNR=7.1
154A Montrose 77.86 51 P **P** **14 56 10.6 +0.7**
154A Montrose 77.86 51 P **P** **14 56 10.9 +1.0**
baz=327
MSFE Esma-Masafi 77.87 296 *i* P **P** **14 56 08.7 -1.4**
SNR=14
KKB Krupnik 77.89 329 *i* P **P** **14 56 10.5 +0.5**
X58A Rowland 77.90 47 P **P** **14 56 11.0 +0.9**
baz=328
X58A P **P** **14 56 11.0 +0.9**
baz=328
HAW Hawthorne Fire 77.91 49 P **P** **14 56 10.5 +0.3**
baz=328,SNR=9.3
ENEZ Enez 77.94 326 P **P** **14 56 10.9 +0.7**
CNNC Cliffs of the 77.94 45 P **P** **14 56 10.8 +0.5**
baz=329
352A Blakely 77.96 53 P **P** **14 56 11.3 +0.8**
baz=327
MMB Musomishta 77.97 328 *i* P **P** **14 56 11.1 +0.7**
UMQ Umm Al-Quwin 78.00 297 P **P** **14 56 10.3 -0.4**
NVR Nevrokopi 78.12 328 P **P** **14 56 12.4 +1.2**
PALK Pallekele 78.17 266 P **P** **14 56 11.3 -0.6**
PALK Pallekele 78.17 266 P **P** **14 56 11.6 -0.2**
PALK Pallekele 78.17 266 P **P** **14 56 11.3 -0.6**
PALK Pallekele 78.17 266 LR LR 15 34 30.4
comp=Z,356nm,20.7s,baz=142,slow=38
UOSS Minazif 78.18 296 P **P** **14 56 10.2 -1.5**
UOSS IAmb IAmb 14 56 11.9
comp=Z,62nm,0.8s
UOSS Minazif 78.18 296 IAMs_20 IAMs_20 15 34 06.5
comp=Z,603nm,22.0s
UOSS Minazif 78.18 296 *i* P **P** **14 56 10.4 -1.3**
SNR=10
UOSS Minazif 78.18 296 P **P** **14 56 10.5 -1.3**
KAVA Kavala 78.23 328 P **P** **14 56 10.9 -0.9**
WSAR Wadi Sarin 78.24 293 P **P** **14 56 11.9 -0.3**
WSAR Wadi Sarin 78.24 293 LR LR 15 34 42.2
comp=Z,1µm,21.8s,baz=72,slow=39
SKO Skopje 78.28 330 *i* P **P** **14 56 13.4 +1.3**
BIDO Bidbid 78.29 294 P **P** **14 56 12.3 -0.1**
HATD Hatta, Dubai 78.31 296 *i* P **P** **14 56 11.5 -1.0**
SNR=9.2
HATD Hatta, Dubai 78.31 296 P **P** **14 56 11.8 -0.8**
SNR=20
STIP Stip 78.32 329 *i* P **P** **14 56 11.5 -0.8**
SRS Serrai 78.41 328 P **P** **14 56 12.9 +0.1**
NAZ Nazwa, Dubai 78.43 296 *i* P **P** **14 56 11.9 -1.2**
SNR=9.8
NAZ Nazwa, Dubai 78.43 296 P **P** **14 56 12.3 -0.8**
SNR=8.6
ASHO Ashiyiah 78.47 296 *i* P **P** **14 56 12.1 -1.3**
SNR=42
ASHO Ashiyiah 78.47 296 P **P** **14 56 12.5 -0.9**
SNR=18
TREB Trebinje 78.47 333⇑ *i*P **P** **14 56 12.7 -0.4**
PDG Podgorica 78.49 332 ⇓P **P** **14 56 13.1 -0.1**
PDG Podgorica 78.49 332⇑ *i*P **P** **14 56 12.6 -0.6**
STON Ston 78.51 333⇑ *i*P **P** **14 56 12.3 -1.0**
VAY Valandovo 78.54 329 *i* P **P** **14 56 13.8 +0.3**
KOKK Kokkinochori, 78.56 328 P **P** **14 56 13.2 -0.4**
WBK Wadi Bani Khal 78.56 293 P **P** **14 56 14.3 +0.3**
KNT Kendrikon 78.59 329 P **P** **14 56 14.1 +0.3**
TIGA Tifton 78.62 52 P **P** **14 56 14.6 +0.4**
TIGA Tifton 78.62 52 P **P** **14 56 15.2 +1.2**
baz=327,SNR=11
TIGA Tifton 78.62 52 P **P** **14 56 15.3 +1.2**
baz=327,SNR=11
SOHO SOHO 78.66 295 *i* P **P** **14 56 12.9 -1.5**
SNR=36
SOHO SOHO 78.66 295 P **P** **14 56 13.3 -1.1**
FAQ Al Faqa, Dubai 78.66 296 *i* P **P** **14 56 14.0 -0.5**
SNR=6.6
FAQ Al Faqa, Dubai 78.66 296 P **P** **14 56 13.5 -1.0**
SNR=7.7
HOQ Hoqain 78.68 294 P **P** **14 56 13.7 -0.9**
SNR=9.8
JLN Jalan Bani Buh 78.69 292 P **P** **14 56 14.8 +0.2**
EZN Ezine 78.70 326 P **P** **14 56 14.3 -0.1**
SMDO Samad 78.70 294 P **P** **14 56 14.4 -0.4**
255A Hazlehurst 78.73 51 P **P** **14 56 15.7 +1.0**
255A Hazlehurst 78.73 51 P **P** **14 56 15.6 +1.0**
baz=328,SNR=13
DRME Dracevica, Mon 78.73 332⇑ *i*P **P** **14 56 13.3 -1.3**
NHSC New Hope 78.77 48 P **P** **14 56 15.4 +0.6**
baz=328
PHP Peshkopia 78.84 331 P **P** **14 56 15.0 -0.2**
ASUD Al Ashush, Dub 78.90 296 *i* P **P** **14 56 15.1 -0.7**
SNR=17
ASUD Al Ashush, Dub 78.90 296 P **P** **14 56 15.1 -0.7**
SNR=6.3
GRG Griva 78.92 329 P **P** **14 56 15.9 +0.2**
BNI Bardonecchia 78.96 341 IAMs_20 IAMs_20 15 30 52.9
comp=Z,848nm,22.0s
OUR Ouranopolis 79.00 328 P **P** **14 56 16.3 +0.3**
LIA Limnos Island 79.01 327 P **P** **14 56 16.0 -0.1**
XMI Christmas Isla 79.03 235 P **P** **14 56 16.3 -0.2**
HORT Hortiatis 79.04 328 P **P** **14 56 16.1 -0.3**
KULA Kula-Manisa 79.07 323 P **P** **14 56 16.4 -0.2**
XMIS Christmas Isla 79.08 235 P **P** **14 56 16.0 -0.7**
XMIS IAmb IAmb 14 56 17.5
comp=Z,114nm,1.2s
XMIS Christmas Isla 79.08 235 P **P** **14 56 17.9 +1.2**

	comp=Z,94nm,1.4s						
MSSA	**Maissana**	**79.10 339**	P	**P**	**14 56 16.5**	**-0.2**	
SSB	**Saint Sauveur**	**79.13 343**	IAMs_20	IAMs_20	15 34 09.3		
	comp=Z,630nm,20.0s						
AJN	**Ajban**	**79.13 297**	*i* P	**P**	**14 56 15.6**	**-1.4**	
	SNR=7.6						
AJN	**Ajban**	**79.13 297**	P	**P**	**14 56 15.9**	**-1.1**	
	SNR=8.3						
ALNE	**Al Ain**	**79.14 296**	*i* P	**P**	**14 56 15.9**	**-1.2**	
	SNR=16						
ALNE	**Al Ain**	**79.14 296**	P	**P**	**14 56 16.3**	**-0.8**	
	SNR=14						
JMDO	**Jabal Madar**	**79.23 293**	P	**P**	**14 56 16.9**	**-0.7**	
	SNR=6.5						
PRK	**Paraskevi**	**79.24 326**	P	**P**	**14 56 17.4**	**0.0**	
OHR	**Ohrid**	**79.26 330**	*i* P	**P**	**14 56 17.4**	**-0.2**	
ARQ	**Araqi**	**79.31 295**	P	**P**	**14 56 17.2**	**-0.9**	
	SNR=10.0						
TIR	**Tirane**	**79.32 331**	⇑P	**P**	**14 56 18.0**	**+0.2**	
TIR	**Tirane**	**79.32 331**	P	**P**	**14 56 17.3**	**-0.5**	
TIR	**Tirane**	**79.32 331**	P	**P**	**14 56 17.9**	**+0.2**	
EIDS	**Eidsvold**	**79.33 189**	P	**P**	**14 56 17.9**	**+0.1**	
EIDS			IAmb	IAmb	14 56 19.3		
	comp=Z,36nm,0.8s						
EIDS	**Eidsvold**	**79.33 189**	P	**P**	**14 56 18.8**	**+1.0**	
FNA	**Florina**	**79.39 330**	P	**P**	**14 56 18.2**	**-0.1**	
BSY	**Bisya**	**79.42 294**	P	**P**	**14 56 18.1**	**-0.5**	
	SNR=10						
MURB	**Monte Urbino**	**79.44 337**	P	**P**	**14 56 18.6**	**+0.1**	
PAIG	**Paliouri**	**79.47 328**	P	**P**	**14 56 16.7**	**-1.9**	
OSSC	**Osservatorio P**	**79.48 338**	P	**P**	**14 56 18.8**	**+0.1**	
FDMO	**Fiordimonte**	**79.52 336**	P	**P**	**14 56 19.6**	**+0.7**	
KTI	**Kastanea**	**79.53 329**	P	**P**	**14 56 18.9**	**-0.2**	
NRCA	**Norcia**	**79.70 336**	P	**P**	**14 56 20.9**	**+0.9**	
NEST	**Nestorio**	**79.83 330**	P	**P**	**14 56 20.1**	**-0.6**	
TAOE	**Nuku Hiva Isla**	**79.90 120**	*e*PKP1	P	14 56 15.0	-6.3	
	comp=Z,104nm,26.9s						
TAOE			*e*S	S	15 06 08.1	-13	
	comp=Z,236nm,26.0s						
TAOE	**Nuku Hiva Isla**	**79.90 120**	*e*LR	LR	15 21 07.0		
	comp=Z,1µm,31.5s						
JRN	**Qarnain Island**	**79.94 299**	P	**P**	**14 56 20.2**	**-1.2**	
	SNR=5.9						
CESX	**Cesi**	**80.04 337**	P	**P**	**14 56 21.9**	**+0.2**	
CESX			IAmb	IAmb	14 56 23.5		
	comp=Z,99nm,1.0s						
TYRN	**Tyrnavos**	**80.12 329**	P	**P**	**14 56 21.3**	**-0.8**	
KPRO	**Kipourio**	**80.16 329**	P	**P**	**14 56 22.3**	**-0.2**	
SHMA	**Al-Shehemyia**	**80.17 300**	P	**P**	**14 56 21.5**	**-1.1**	
	SNR=6.2						
NEO	**Neokhori**	**80.18 328**	P	**P**	**14 56 22.3**	**-0.2**	
LSK	**Leskovik**	**80.21 330**	P	**P**	**14 56 23.3**	**+0.6**	
SAKB	**Bahrain**	**80.29 301**	P	**P**	**14 56 22.1**	**-1.1**	
THL	**Klokotos Trika**	**80.32 329**	P	**P**	**14 56 23.2**	**0.0**	
MHTO	**MHTO**	**80.42 292**	P	**P**	**14 56 23.5**	**-0.5**	
	SNR=14						
YER	**Yerkesik**	**80.44 323**	P	**P**	**14 56 24.3**	**+0.3**	
AS01	**Alice Springs**	**80.56 205**	P	**P**	**14 56 25.3**	**+0.8**	
	comp=Z,93nm,1.0s						
AS31	**Alice Springs**	**80.57 205**	P	**P**	**14 56 24.7**	**+0.1**	
ASAR	**Alice Springs**	**80.57 205**	P	**P**	**14 56 25.4**	**+0.8**	
	comp=Z,64nm,0.9s,baz=13,slow=5.4,SNR=274						
ASAR			PKKPbc	**PKKPbc**	**15 15 04.7**	**+0.7**	
	comp=Z,1.5nm,0.9s,baz=175,slow=1.2,SNR=8.1						
ASAR			PKPPKP	**P'P'df**	**15 23 06.2**	**+1.4**	
	comp=Z,0.7nm,0.9s,baz=188,slow=2.4,SNR=5.1						
ASAR			LR	LR	15 28 42.8		
	comp=Z,203nm,22.0s,baz=34,slow=33						
	comp=Z,64nm,0.9s						
JAN	**Janina**	**80.59 330**	P	**P**	**14 56 26.4**	**+1.7**	
SRN	**Sarande**	**80.63 330**	P	**P**	**14 56 25.0**	**+0.1**	
KEK	**Kerkira**	**80.85 330**	P	**P**	**14 56 25.1**	**-1.0**	
MATE	**Matera**	**80.85 333**	⇓P	**P**	**14 56 26.7**	**+0.7**	
IGT	**Igoumenitsa**	**80.86 330**	P	**P**	**14 56 25.9**	**-0.2**	
TRNA	**Turayna**	**80.96 300**	P	**P**	**14 56 25.0**	**-1.9**	
EVR	**Evrytania**	**80.97 329**	P	**P**	**14 56 27.3**	**+0.4**	
SMRA	**Abu-Samra**	**81.15 300**	P	**P**	**14 56 26.4**	**-1.5**	
	SNR=11						
MZR	**Muzera**	**81.20 297**	P	**P**	**14 56 27.2**	**-1.0**	
MZR	**Muzera**	**81.20 297**	P	**P**	**14 56 27.7**	**-0.5**	
VLY	**Voula,Athens**	**81.32 327**	P	**P**	**14 56 27.4**	**-1.2**	
MMAI	**Mount Meron Ar**	**81.34 316**	P	**P**	**14 56 28.9**	**0.0**	
	comp=Z,49nm,0.7s,baz=36,slow=7.2,SNR=75						
	comp=Z,49nm,0.7s						
PVO	**Paravola**	**81.34 329**	P	**P**	**14 56 29.4**	**+0.7**	
QLP	**Quilpie**	**81.35 195**	P	**P**	**14 56 30.0**	**+1.4**	
TSLK	**Tsoukalades, L**	**81.41 329**	P	**P**	**14 56 29.5**	**+0.4**	
LKD2	**Lefkada island**	**81.44 329**	P	**P**	**14 56 29.1**	**-0.2**	
PMOR	**Pomariorio Ree**	**81.46 130**	*e*T	T	16 26 18.6		
	comp=Z,5nm,0.2s						
NYDR	**Nydri-Lefkada**	**81.50 329**	P	**P**	**14 56 30.1**	**+0.6**	
DRAG	**Dragano-Lefkad**	**81.57 329**	P	**P**	**14 56 29.9**	**0.0**	
EVGI	**Lefkada island**	**81.60 329**	P	**P**	**14 56 29.8**	**-0.3**	
KLV	**Kalavryta, Ach**	**81.67 328**	P	**P**	**14 56 29.5**	**-1.0**	
CUC	**Castrocucco**	**81.70 333**	P	**P**	**14 56 30.4**	**-0.2**	
CUC			IAmb	IAmb	14 56 32.0		
	comp=Z,104nm,1.0s						
FSK	**Fiskardo**	**81.78 329**	P	**P**	**14 56 31.1**	**+0.1**	
RLS	**Riolos of Patr**	**81.87 329**	P	**P**	**14 56 31.5**	**0.0**	
KRND	**KRANIDI**	**81.95 327**	P	**P**	**14 56 30.8**	**-1.1**	
VLS	**Valsamata**	**82.03 329**	P	**P**	**14 56 32.0**	**-0.4**	
KEF3	**Kipouria, Keph**	**82.08 329**	P	**P**	**14 56 32.8**	**+0.2**	
PSDA	**Pessada-Kefalo**	**82.09 329**	P	**P**	**14 56 32.5**	**-0.1**	
TIP	**Timpagrande**	**82.21 332**	⇑P	**P**	**14 56 33.5**	**+0.2**	
TLIG	**Tlapa**	**82.25 71**	P	**P**	**14 56 35.0**	**+1.1**	
KARP	**Karpathos**	**82.26 323**	P	**P**	**14 56 31.5**	**-2.1**	
DWPF	**Disney Wildern**	**82.43 52**	P	**P**	**14 56 35.6**	**+1.1**	
	baz=328						
MBWA	**Marble Bar**	**82.57 218**	P	**P**	**14 56 35.0**	**-0.2**	
MBWA	**Marble Bar**	**82.57 218**	P	**P**	**14 56 35.3**	**+0.2**	
VLI	**Veliai**	**82.63 327**	P	**P**	**14 56 33.5**	**-2.0**	
GHAJ	**Ghor Haditha**	**82.76 315**	IAMs_20	IAMs_20	15 38 45.9		
	comp=Z,756nm,20.0s						
PYL	**PYLOS**	**82.85 328**	P	**P**	**14 56 35.6**	**-1.0**	
PSAC2	**Pilbara Seismi**	**82.88 218**	IAMs_20	IAMs_20	15 38 39.5		
	comp=Z,781nm,21.0s						
PSA00	**Pilbara Seismi**	**82.91 218**	P	**P**	**14 56 36.1**	**-0.8**	
PSA00			IAmb	IAmb	14 56 37.4		
	comp=Z,54nm,0.7s						
PSA00	**Pilbara Seismi**	**82.91 218**	P	**P**	**14 56 37.0**	**+0.1**	
ZKR	**Zakros**	**82.98 324**	P	**P**	**14 56 36.8**	**-0.6**	
PPT2	**Papeete2**	**83.00 133**	*e*PKP1	P	14 56 32.1	-5.4	
	comp=Z,136nm,25.8s						
PPT2	**Papeete2**	**83.00 133**	*e*S	S	15 06 39.3	-13	
	comp=Z,166nm,26.2s						
PPT2	**Papeete2**	**83.00 133**	*e*LR	LR	15 22 24.6		
	comp=Z,2µm,29.5s						
PPT2			*e*LR	LR	15 22 33.6		
	comp=Z,1µm,30.8s						
PPT2	**Papeete2**	**83.00 133**	*e*T	T	16 28 15.8		
	comp=Z,2.8nm,0.3s						
INKA	**Innaminka**	**83.06 198**	P	**P**	**14 56 38.4**	**+0.9**	
FRMA	**Ierapetra Chan**	**83.24 324**	P	**P**	**14 56 38.5**	**-0.2**	
IDI	**Anoyia**	**83.28 325**	LR	LR	15 37 03.2		
	comp=Z,477nm,21.8s,baz=33,slow=38						
WRKA	**Warakurna**	**83.38 209**	P	**P**	**14 56 39.9**	**+0.6**	
AULRC	**Lightning Ridg**	**83.66 191**	P	**P**	**14 56 41.0**	**+0.4**	
VSL	**Villasalto**	**83.74 338**	IAMs_20	IAMs_20	15 39 13.5		
	comp=Z,573nm,19.0s						
PGAV	**Gavieira, Arco**	**84.06 352**	*e*P	**P**	**14 56 42.7**	**-0.2**	
	comp=Z,196nm,1.6s						
PBRG	**Braganca**	**84.08 350**	*e*P	**P**	**14 56 43.9**	**+1.0**	
	comp=Z,183nm,1.5s						
OOD	**Oodnadatta**	**84.12 202**	P	**P**	**14 56 43.9**	**+0.9**	
ARMA	**Armidale**	**84.29 188**	P	**P**	**14 56 44.5**	**+0.6**	
ARMA	**Armidale**	**84.29 188**	P	**P**	**14 56 46.0**	**+2.1**	
VAE	**Valguarnera**	**84.43 334**	LR	LR	15 40 11.1		
	comp=Z,459nm,19.2s,baz=17,slow=40						
POLO	**Lamas de Olo**	**84.61 351**	*e*P	**P**	**14 56 46.8**	**+1.1**	
	comp=Z,120nm,1.3s						
PVRL	**Vila Real**	**84.69 351**	*e*P	**P**	**14 56 47.3**	**+1.2**	
	comp=Z,364nm,1.3s						
DMTO	**DMTO**	**84.72 293**	P	**P**	**14 56 44.5**	**-1.9**	
DMTO			P	**PcP**	**14 56 44.7**	**-5.1**	
MVO	**Moncorvo**	**84.74 351**	*e*P	**P**	**14 56 47.1**	**+0.8**	
	comp=Z,243nm,1.4s						
RAO	**Raoul Island**	**84.86 161**	LR	LR	15 32 16.1		
	comp=Z,193nm,18.8s,baz=24,slow=34						
AUPHS	**Peel High Scho**	**85.03 188**	P	**P**	**14 56 49.4**	**+1.9**	
WHFO	**Wadi Hawf**	**85.19 294**	P	**P**	**14 56 47.5**	**-1.4**	
PVIS	**Viseu**	**85.27 351**	*e*P	**P**	**14 56 49.8**	**+0.9**	
PVIS			*e*pP	**pP**	**14 57 04.3**	**+0.8**	
RBK	**Rabkut**	**85.30 293**	P	**P**	**14 56 47.7**	**-1.8**	
MTE	**Manteigas**	**85.55 351**	*e*P	**P**	**14 56 51.4**	**+1.0**	
	comp=Z,203nm,1.2s						
MTE	**Manteigas**	**85.55 351**	*e*LR	LR	15 26 04.3		
	comp=Z,206nm,18.0s						
MTE	**Manteigas**	**85.55 351**	P	**P**	**14 56 50.6**	**+0.3**	
TEIG	**Tepich**	**85.65 61**	LR	LR	15 36 19.3		
	comp=Z,2µm,20.6s,baz=134,slow=36						
COI	**Coimbra**	**85.82 352**	*e*P	**P**	**14 56 52.9**	**+1.3**	
	comp=Z,166nm,1.5s						
COI	**Coimbra**	**85.82 352**	P	**P**	**14 56 52.2**	**+0.6**	
COI	**Coimbra**	**85.82 352**	P	**P**	**14 56 52.2**	**+0.6**	
COI			pmax	pmax			
	comp=Z,97nm,1.0s						
ESBB	**Sonseca Array**	**85.88 348**	P	**P**	**14 56 53.0**	**+1.1**	
ESDC	**Sonseca Array**	**85.88 348**	P	**P**	**14 56 52.3**	**+0.3**	
ESDC	**Sonseca Array**	**85.88 348**	P	**P**	**14 56 52.6**	**+0.6**	
	comp=Z,56nm,0.9s,baz=2.7,slow=4.8,SNR=186						
ESDC			PKKPbc	**PKKPbc**	**15 14 50.4**	**+0.3**	
	comp=Z,0.9nm,0.7s,baz=237,slow=1.9,SNR=7.7						
	comp=Z,56nm,0.9s						
ABTO	**Aybut**	**85.91 294**	P	**P**	**14 56 50.7**	**-1.8**	
WDD	**Wied Dalam**	**85.95 333**	P	**P**	**14 56 51.9**	**-0.4**	
PCAS	**Casmilo, Conde**	**85.98 352**	*e*P	**P**	**14 56 53.1**	**+0.7**	
	comp=Z,175nm,1.4s						
CMSA	**Cobar Meteorol**	**86.02 193**	P	**P**	**14 56 53.3**	**+0.9**	
PAB	**San Pablo**	**86.05 348**	P	**P**	**14 56 53.4**	**+0.5**	
PAB			IAmb	IAmb	14 56 56.0		
	comp=Z,80nm,1.2s						
PAB	**San Pablo**	**86.05 348**	P	**P**	**14 56 53.4**	**+0.5**	
PAB			pmax	pmax			
	comp=Z,81nm,1.2s						
PCBR	**Castelo Branco**	**86.10 351**	*e*P	**P**	**14 56 53.6**	**+0.6**	
	comp=Z,125nm,1.2s						
LCRK	**Leigh Creek**	**86.17 199**	P	**P**	**14 56 54.2**	**+1.1**	
AUDCS	**Dubbo College**	**86.36 190**	P	**P**	**14 56 55.4**	**+1.4**	
	comp=Z,57nm,1.1s						
PMRV	**Marv??o**	**86.50 351**	*e*P	**P**	**14 56 55.1**	**+0.1**	
	comp=Z,58nm,1.7s						
PMRV			*e*pP	**pP**	**14 57 04.8**	**-4.8**	
PSBE	**So Bento**	**86.54 352**	*e*P	**P**	**14 56 55.6**	**+0.4**	
	comp=Z,79nm,1.7s						
MULG	**Mulgathing**	**86.89 203**	P	**P**	**14 56 57.0**	**+0.3**	
PMTG	**Montargil**	**86.93 351**	*e*P	**P**	**14 56 57.2**	**+0.1**	
	comp=Z,42nm,2.0s						
STKA	**Stephens Creek**	**86.95 196**	P	**P**	**14 56 57.5**	**+0.6**	
STKA	**Stephens Creek**	**86.95 196**	P	**P**	**14 56 57.9**	**+0.9**	
STKA	**Stephens Creek**	**86.95 196**	P	**P**	**14 56 57.5**	**+0.6**	
	comp=Z,27nm,0.8s,baz=346,slow=6.9,SNR=62						
STKA			LR	LR	15 33 25.9		
	comp=Z,316nm,21.4s,baz=13,slow=34						
	comp=Z,27nm,0.8s						
PESTR	**Estremoz**	**87.07 351**	*e*P	**P**	**14 56 58.0**	**+0.2**	
	comp=Z,24nm,1.2s						
PESTR	**Estremoz**	**87.07 351**	P	**P**	**14 56 57.9**	**+0.1**	
PESTR			IAmb	IAmb	14 57 00.3		
	comp=Z,21nm,0.8s						
MGCD	**Mangrove Creek**	**87.10 188**	P	**P**	**14 56 59.3**	**+1.7**	
	comp=Z,51nm,0.7s						
KEST	**Kesra**	**87.35 337**	P	**P**	**14 56 59.7**	**+0.4**	
KEST	**Kesra**	**87.35 337**	P	**P**	**14 56 59.6**	**+0.4**	
KEST	**Kesra**	**87.35 337**	P	**P**	**14 56 59.7**	**+0.4**	
	comp=Z,135nm,0.9s,baz=307,slow=1.1,SNR=50						
KEST			LR	LR	15 41 45.0		
	comp=Z,660nm,20.4s,baz=342,slow=40						
	comp=Z,135nm,0.9s						
CART	**Cartagena**	**87.53 345**	IAMs_20	IAMs_20	15 38 15.5		
	comp=Z,462nm,21.0s						
PETF	**Flores**	**87.55 65**	P	**P**	**14 57 00.7**	**+0.3**	
PETF			IAmb	IAmb	14 57 03.0		
	comp=Z,32nm,0.9s						
PBAR	**Barrancos**	**87.70 350**	*e*P	**P**	**14 57 00.8**	**0.0**	
	comp=Z,49nm,0.9s						
PBAR			*e*pP	**pP**	**14 57 13.2**	**-2.3**	
PNCL	**Nicolau / Gran**	**87.91 351**	*e*P	**P**	**14 57 02.3**	**+0.5**	
	comp=Z,12nm,1.0s						
PBEJ	**Beja**	**87.93 351**	*e*P	**P**	**14 57 02.5**	**+0.6**	
	comp=Z,36nm,1.3s						
PBEJ			*e*pP	**pP**	**14 57 17.4**	**+0.8**	
MEEK	**Meekatharra**	**87.99 217**	P	**P**	**14 57 02.0**	**-0.1**	
MESJ	**Messejana**	**88.15 351**	*e*P	**P**	**14 57 03.7**	**+0.7**	
	comp=Z,32nm,1.4s						
MESJ	**Messejana**	**88.15 351**	*e*P	**P**	**14 57 02.9**	**0.0**	
MESJ			IAmb	IAmb	14 57 07.0		
	comp=Z,25nm,1.4s						
TBI	**Tubuai**	**88.15 135**	*e*P	**P**	**14 57 02.1**	**-0.8**	
	comp=Z,425nm,27.8s						
TBI	**Tubuai**	**88.15 135**	*e*S	**S**	**15 07 38.3**	**-4.7**	
	comp=Z,905nm,28.8s						
TBI	**Tubuai**	**88.15 135**	*e*LR	LR	15 24 48.7		
	comp=Z,5µm,23.5s						
TBI			*e*LR	LR	15 24 52.7		
	comp=Z,1µm,23.5s						
TBI	**Tubuai**	**88.15 135**	*e*T	T	16 34 46.6		
	comp=Z,11nm,0.3s						
PCVE	**Castro Verde**	**88.34 351**	*e*P	**P**	**14 57 03.9**	**0.0**	
	comp=Z,59nm,1.2s						
PCVE			*e*pP	**pP**	**14 57 19.3**	**+0.8**	
YNG	**Young**	**88.43 190**	P	**P**	**14 57 05.6**	**+1.6**	
PTEO	**Sao Teotonio**	**88.48 351**	*e*P	**P**	**14 57 06.0**	**+1.5**	
	comp=Z,36nm,2.4s						
PTEO			*e*pP	**pP**	**14 57 20.1**	**+0.9**	
PBDV	**Barranco-do-Ve**	**88.71 351**	*e*P	**P**	**14 57 06.6**	**+0.9**	
	comp=Z,57nm,1.3s						
MORF	**Marmelete**	**88.72 351**	*e*P	**P**	**14 57 07.5**	**+1.8**	
	comp=Z,64nm,1.4s						
MORF	**Marmelete**	**88.72 351**	*e*P	**P**	**14 57 05.7**	**0.0**	
MORF			IAmb	IAmb	14 57 08.7		
	comp=Z,34nm,1.2s						
FORT	**Forrest**	**88.87 208**	P	**P**	**14 57 05.4**	**-0.7**	
FORT	**Forrest**	**88.87 208**	P	**P**	**14 57 07.8**	**+1.7**	
BBOO	**Buckleboo**	**88.89 200**	P	**P**	**14 57 06.4**	**+0.2**	
BBOO			IAmb	IAmb	14 57 07.5		
	comp=Z,38nm,1.3s						
BBOO	**Buckleboo**	**88.89 200**	P	**P**	**14 57 07.2**	**+1.0**	
	comp=Z,27nm,1.4s						
HTT	**Hallett**	**88.93 198**	P	**P**	**14 57 07.8**	**+1.4**	
AUUHS	**Ulladulla High**	**89.29 188**	P	**P**	**14 57 09.4**	**+1.5**	
CNB	**Canberra Magne**	**89.34 189**	P	**P**	**14 57 10.8**	**+2.5**	
CAN	**Canberra**	**89.38 189**	P	**P**	**14 57 09.0**	**+0.5**	
CAN			IAmb	IAmb	14 57 10.8		
	comp=Z,41nm,1.0s						
CAN	**Canberra**	**89.38 189**	P	**P**	**14 57 09.9**	**+1.4**	
CAN	**Canberra**	**89.38 189**	P	**P**	**14 57 09.0**	**+0.5**	
CAN			pmax	pmax			
	comp=Z,41nm,1.0s						
MTO3	**Montecristo**	**89.90 65**	P	**P**	**14 57 12.2**	**+0.4**	
AUSMG	**Snowy Mountain**	**90.51 190**	P	**P**	**14 57 14.8**	**+1.0**	
MORW	**Morawa**	**91.12 218**	P	**P**	**14 57 15.6**	**-1.1**	
MORW	**Morawa**	**91.12 218**	P	**P**	**14 57 16.1**	**-0.6**	
KMBL	**Kambalda**	**91.24 212**	P	**P**	**14 57 18.4**	**+1.2**	
	comp=Z,38nm,1.5s						
ARPS	**Mount Arapiles**	**91.70 195**	P	**P**	**14 57 20.2**	**+1.0**	
	comp=Z,28nm,0.9s						
BRAT	**Ballarat**	**92.17 193**	P	**P**	**14 57 23.5**	**+2.2**	
	comp=Z,15nm,1.1s						
BLDU	**Balldu**	**92.29 217**	P	**P**	**14 57 21.6**	**-0.5**	
URZ	**Urewera**	**92.87 167**	LR	LR	15 33 03.5		
	comp=Z,272nm,21.3s,baz=120,slow=31						
NWAO	**Narrogin (SRO)**	**94.21 215**	LR	LR	15 46 16.2		
	comp=Z,76nm,18.0s,baz=8.0,slow=39						
HZTE	**Horizontes, Gu**	**94.98 64**	IAMs_20	IAMs_20	15 44 52.6		
	comp=Z,564nm,22.0s						
JTS	**Las Juntas de**	**95.67 64**	LR	LR	15 43 09.6		
	comp=Z,96nm,20.8s,baz=313,slow=37						
ATD	**Arta Tunnel**	**96.30 299**	LR	LR	15 46 07.3		
	comp=Z,63nm,20.8s,baz=26,slow=38						
LCR2	**La Lucha 2**	**96.64 64**	IAMs_20	IAMs_20	15 39 27.6		
	comp=Z,469nm,20.0s						
RPZ	**Rata Peaks**	**97.62 172**	LR	LR	15 37 18.3		
	comp=Z,387nm,20.1s,baz=8.0,slow=32						
SJG	**San Juan**	**97.90 44**	LR	LR	15 45 33.7		
	comp=Z,148nm,19.2s,baz=326,slow=38						
SDV	**Santo Domingo**	**104.08 53**	IAMs_20	IAMs_20	15 44 47.9		
	comp=Z,373nm,21.0s						
ROSC	**El Rosal**	**105.80 58**	IAMs_20	IAMs_20	15 46 16.2		
	comp=Z,502nm,21.0s						
ARNL	**Arenillas**	**109.86 68**	IAMs_20	IAMs_20	15 47 44.2		
	comp=Z,334nm,22.0s						
TORD	**Torodi Ar. Bea**	**110.85 338**	PKiKP	**PKiKP**	**15 02 45.4**	**+0.1**	
	comp=Z,2.5nm,0.6s,baz=7.0,slow=3.3,SNR=11						
TORD			PP	**PP**	**15 03 19.3**	**-3.1**	
	comp=Z,6.1nm,0.9s,baz=21,slow=9.2,SNR=8.4						
TORD			PKKPbc	**PKKPbc**	**15 13 39.5**	**-1.3**	
	comp=Z,0.6nm,0.5s,baz=162,slow=1.8,SNR=6.1						
DBIC	**Dimbokro**	**118.44 343**	PKP	**PKPdf**	**15 02 59.9**	**0.0**	
	comp=Z,8.5nm,0.6s,baz=42,slow=2.2,SNR=14						
DBIC			PKKPbc	**PKKPbc**	**15 13 16.6**	**+1.6**	
	comp=Z,2.6nm,0.7s,baz=177,slow=2.8,SNR=4.2						
TIC	**Toumodi**	**118.50 344**	⇑*i*PKIKP	**PKPdf**	**15 02 59.9**	**-0.1**	
	comp=Z,6.0nm,0.3s						
KIC	**Kosan Boka**	**118.73 343**	⇑*i*PKIKP	**PKPdf**	**15 03 00.3**	**-0.1**	
	comp=Z,20nm,0.7s						
LIC	**Lamto**	**118.91 344**	⇑*i*PKIKP	**PKPdf**	**15 03 00.7**	**-0.1**	
	comp=Z,28nm,0.6s						
VOI	**Vohitsoka**	**121.35 275**	PKP	**PKiKP**	**15 03 06.2**	**+0.8**	
VOI	**Vohitsoka**	**121.35 275**	P	**PKPdf**	**15 03 05.0**	**-0.3**	
ITTB	**Itaituba**	**122.49 44**	*e*P	**PKiKP**	**15 03 08.9**	**+1.0**	
LSZ	**Lusaka**	**126.58 297**	P	**PKiKP**	**15 03 16.7**	**+0.7**	
VILB	**Vilhena**	**128.10 54**	*e*P	**PKiKP**	**15 03 19.8**	**+0.9**	
PDRB	**Porto dos Gac**	**128.53 49**	*e*P	**PKiKP**	**15 03 20.8**	**+1.0**	
PTLB	**Pontes e Lacer**	**130.76 54**	*e*P	**PKiKP**	**15 03 23.8**	**-0.3**	
VNDA	**Vanda**	**131.12 180**	PKP	**PKiKP**	**15 03 22.6**	**-0.4**	
	comp=Z,8.5nm,0.7s,baz=319,slow=4.3,SNR=41						
BBSD	**Serra de San D**	**131.53 57**	*e*P	**PKPdf**	**15 03 25.1**	**+0.4**	
BBRB	**Robore, Bolivi**	**132.85 57**	*e*P	**PKiKP**	**15 03 28.9**	**+0.6**	
BDFB	**Brasilia**	**135.82 41**	PKP	**PKiKP**	**15 03 33.8**	**-0.7**	
	comp=Z,9.5nm,0.9s,baz=212,slow=2.2,SNR=10.0						
MAW	**Mawson**	**140.76 217**	PKP	**PKPdf**	**15 03 37.9**	**-2.3**	
	comp=Z,11nm,0.9s,baz=101,slow=5.2,SNR=2.6						
CPUP	**Villa Florida**	**140.81 61**	PKP	**PKPdf**	**15 03 39.8**	**-1.9**	
	comp=Z,8.8nm,1.0s,baz=9.9,slow=6.4,SNR=7.3						
PLCA	**Paso Flores**	**143.75 90**	PKP	PKPbc	15 03 44.6	+0.3	
	comp=Z,20nm,0.9s,baz=295,slow=3.1,SNR=21						
SUR	**Sutherland**	**144.27 290**	P	**PKPab**	**15 03 45.6**	**-0.3**	
ELIB	**Princess Elisa**	**154.29 209**	*d*PKPdf	**PKPdf**	**15 04 02.5**	**0.0**	
ELIB			*d*PKP	**PKPbc**	**15 04 10.9**	**0.0**	
ELIB			*d*PKPab	**pPKPbc**	**15 04 25.3**	**-0.7**	
NVL	**N'lazarevskaya**	**158.11 208**	*e*PKIKP	**PKPdf**	**15 04 05.1**	**-2.3**	
NVL			pmax	pmax			
	comp=Z,38nm,1.7s						
TROLL	**Troll, Antarti**	**159.47 199**	⇑PKPab	**PKPab**	**15 04 46.6**	**-0.9**	
	comp=Z,2µm,0.7s						
TROLL			⇑PKPdf	**PKPdf**	**15 04 08.7**	**-0.5**	
	comp=Z,139nm,0.8s						
SNAA	**Sanae**	**160.72 196**	⇑PKPab	**PKPab**	**15 04 51.4**	**-1.5**	
	comp=Z,288nm,0.7s						
SNAA			⇑PKPdf	**PKPdf**	**15 04 09.3**	**-1.2**	
	comp=Z,63nm,0.9s						
SNAA	**Sanae**	**160.72 196**	PKP	**PKPdf**	**15 04 08.3**	**-2.2**	
	comp=Z,5.2nm,1.1s,baz=31,slow=3.3,SNR=5.6						
SNAA			PKPab	**PKPab**	**15 04 52.2**	**-0.7**	
	comp=Z,24nm,1.1s,baz=172,slow=2.1,SNR=15						
VNA3	**Neumayer Olymp**	**162.03 190**	⇑PKPab	**PKPab**	**15 04 56.4**	**-2.2**	
	comp=Z,16nm,0.7s						
VNA3			⇑PKPdf	**PKPdf**	**15 04 10.2**	**-1.6**	
	comp=Z,3.3nm,0.8s						
VNA2	**Neumayer--Watz**	**162.06 193**	⇑PKPab	**PKPab**	**15 04 57.7**	**-0.9**	
	comp=Z,19nm,0.6s,baz=165,slow=4.0						
VNA2			⇑PKPdf	**PKPdf**	**15 04 10.5**	**-1.3**	
	comp=Z,2.8nm,0.7s,baz=156,slow=2.0						
VNA1	**Neumayer--Stat**	**162.42 192**	⇑PKPab	**PKPab**	**15 04 58.4**	**-1.8**	
	comp=Z,10nm,0.7s						
VNA1			⇑PKPdf	**PKPdf**	**15 04 12.8**	**+0.7**	
	comp=Z,8.3nm,1.2s						

*IDC **22** 14:44:33.5±1.2, 32.05N×141.55E, h0km, mb4.1/4, mbtmp4.1/6, ML3.3/2, Error ellipse: s-maj=36.9km s-min=16.9km az=66.0*
*JMA **22** 14:44:39.4±0.4, 33°N±1'×14'2E±', h60km, MV3.4/16, E OFF HACHIJOJIMA ISLAND*

ISC 22 14:44:34.1±1.2, 32°25N±0'.06×142°0E±0'.1, h35km, n17, σ2°11/19, mb4.1/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.06**	**294**	P	**Pn**	**14 45 05.8**	**-0.4**
JHJ2	**Mitsune**	**2.06**	**

ISC 22 14:55:38.6±0.7, 34.77N±0.08 85.2E±0.1, h35km, n25, σ1§05/22, mb3.8/6, MS4.1/4, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**6.52**	**191**	*eP*		**Pn**		**14 57 11.9**	**-0.4**
	37nm,0.4s								
GKN	**Gorkha**	**6.77**	**184**	*eP*		**Pn**		**14 57 16.0**	**+0.4**
	17nm,0.4s								
GUN	**Gumba**	**6.87**	**175**	*eP*		**Pn**		**14 57 18.1**	**+0.9**
	52nm,0.7s								
PYUN	**Piuthan**	**6.91**	**196**	*eP*		**Pn**		**14 57 15.1**	**-2.5**
	86nm,0.7s								
KOLN	**Koldanda**	**7.11**	**191**	*eP*		**Pn**		**14 57 19.3**	**-1.1**
	100nm,1.0s								
DMN	**Daman**	**7.14**	**180**	*eP*		**Pn**		**14 57 21.9**	**+1.0**
JIRN	**Jiri**	**7.14**	**173**	*eP*		**Pn**		**14 57 21.9**	**+0.9**
	32nm,0.4s								
PKI	**Pulchoki**	**7.18**	**178**	*eP*		**Pn**		**14 57 22.6**	**+1.1**
	47nm,0.6s								
TAPN	**Taplejung**	**7.71**	**163**	*eP*		**Pn**		**14 57 27.1**	**-1.6**
RAMN	**Ramite**	**7.89**	**171**	*eP*		**Pn**		**14 57 30.9**	**-0.3**
	36nm,0.7s								
AAK	**Ala-Archa**	**11.45**	**316**	Pn		**Pn**		**14 58 19.7**	**-0.1**
	0.1nm,0.3s,baz=141,slow=14,SNR=3.8 4.5nm,0.8s								
MKAR	**Makanchi Array**	**12.20**	**351**	Pn		**Pn**		**14 58 30.1**	**+0.2**
	0.2nm,0.3s,baz=178,slow=13,SNR=5.1 2.6nm,0.8s								
KURBB	**Kurchatov Arra**	**16.56**	**345**	Pn		**Pn**		**14 59 26.3**	**-1.7**
	1.5nm,0.9s,baz=166,slow=9.2,SNR=3.4								
ZALV	**Zalesovo Beam**	**19.17**	**359**	P		**Pn**		**14 59 59.8**	**-0.3**
	0.1nm,0.3s,baz=173,slow=12,SNR=2.5 0.9nm,0.6s								
CMAR	**Chiang Mai Arr**	**20.35**	**139**	P		**P**		**15 00 12.6**	**+0.5**
	4.4nm,1.0s,baz=322,slow=12,SNR=14 4.4nm,1.0s								
SONM	**Songino Array**	**20.52**	**44**	P		**P**		**15 00 13.4**	**-0.4**
	0.4nm,0.4s,baz=225,slow=11,SNR=2.4 0.4nm,0.4s								
BVAR	**Borovoye Array**	**21.05**	**335**	P		**P**		**15 00 18.7**	**-0.7**
	6.5nm,0.6s,baz=140,slow=12,SNR=13 6.5nm,0.6s								
GEYT	**Alibeck**	**21.99**	**286**	P		**P**		**15 00 30.0**	**+0.3**
	4.5nm,0.9s,baz=128,slow=9.6,SNR=5.1								
GEYT				LR		LR		15 10 45.4	
	comp=Z,334nm,20.5s,baz=88,slow=41 4.5nm,0.9s								
BRTR	**Keskin Array B**	**40.86**	**293**	P		**P**		**15 03 17.6**	**+0.3**
	1.0nm,0.9s,baz=103,slow=4.6,SNR=3.0 1.0nm,0.9s								
MA2	**Magadan**	**48.56**	**38**	LR		LR		15 25 42.0	
	comp=Z,191nm,20.7s,baz=288,slow=37								
SEY	**Seymchan**	**49.40**	**34**	LR		LR		15 27 05.3	
	comp=Z,193nm,18.4s,baz=307,slow=38								
GERES	**GERESS Array B**	**53.20**	**309**	P		**P**		**15 04 53.9**	**+0.6**
	1.5nm,0.8s,baz=80,slow=8.1,SNR=6.1 1.5nm,0.8s								
ESDC	**Sonseca Array**	**68.25**	**304**	P		**P**		**15 06 37.0**	**+1.1**
	0.4nm,0.7s,baz=27,slow=6.0,SNR=2.3 0.4nm,0.7s								
WRA	**Warramunga Arr**	**71.70**	**131**	P		**P**		**15 06 56.4**	**-0.8**
	0.3nm,0.6s,baz=326,slow=6.3,SNR=4.6 0.3nm,0.6s								
KRVT	**Keravat (AS076**	**73.72**	**107**	LR		LR		15 40 23.5	
	comp=Z,157nm,20.1s,baz=255,slow=36								

*IDC **22** 15:19:04.5±2.5, 15.62N×94.73W, h0km, mb3.3/2, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=33.2km s-min=24.7km az=86.0*
*MEX **22** 15:19:07.1±0.6, 15.39N×94.99W, h23km±14km, MD4.3*
ISC 22 15:19:03.9±3.4, 15.43N±0.05 94.95W±0.03, h13km±23km, n32, σ2§34/57, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.17**	**287**	*eP*		**Pb**		**15 19 24.6**	**-1.3**
HUIG				*i*	S	**Sb**		**15 19 39.1**	**-1.8**
NILT	**Santiago Nilte**	**1.17**	**16**	*eP*		**Pn**		**15 19 23.6**	**-2.4**
NILT				*eS*		**Sb**		**15 19 37.8**	**-3.2**
CARR	**Arriaga**	**1.28**	**51**	*eP*		**Pn**		**15 19 26.2**	**-1.4**
CARR				*eS*		**Sb**		**15 19 41.9**	**-2.4**
CMIG	**Matias Romero**	**1.65**	**2**	Pg		**Pn**		**15 19 31.9**	**-0.7**
	60nm,0.3s,baz=176,slow=11,SNR=538								
CMIG				Lg		Lg		15 19 51.3	
	213nm,0.3s,baz=59,slow=17,SNR=43								
CMIG	**Matias Romero**	**1.65**	**2**	*i*	P	**Pn**		**15 19 31.9**	**-0.7**
CMIG				*eS*		**Sn**		**15 19 50.9**	**-2.7**
PCIG		**1.69**	**81**	*eP*		**Pn**		**15 19 33.1**	**+0.1**
PCIG				*eS*		**Sn**		**15 19 53.5**	**-1.0**
UXUV	**UXUV**	**2.02**	**22**	*eP*		**Sn**		**15 19 38.2**	**+0.5**
UXUV				*eS*		**Sn**		**15 20 02.5**	**-0.4**
PEIG	**Puerto Escondi**	**2.19**	**285**	*eP*		**Pn**		**15 19 38.7**	**-1.4**
PEIG				*eS*		**Sn**		**15 20 01.9**	**-5.2**
TGIG		**2.21**	**52**	*eP*		**Pn**		**15 19 41.4**	**+1.1**
TGIG				*eS*		**Sn**		**15 20 07.7**	**+0.2**
TGBT	**Tuxtla Gutierr**	**2.23**	**53**	*i*	P	**Pn**		**15 19 43.0**	**+2.5**
TGBT				*eS*		**Sn**		**15 20 09.4**	**+1.5**
VHO	**Vista Hermosa**	**2.37**	**314**	*eP*		**Pn**		**15 19 44.0**	**+1.4**
VHO				*i*	S	**Sn**		**15 20 09.4**	**-2.2**
NEUV	**Arroyo Zacate**	**2.41**	**340**	*eP*		**Pn**		**15 19 43.7**	**+0.7**
NEUV				*i*	S	**Sn**		**15 20 12.8**	**+0.4**
PATR	**El Naranjo**	**2.64**	**97**	*eP*		**Pn**		**15 19 46.6**	**+0.2**
PATR				*eS*		**Sn**		**15 20 17.2**	**-1.1**
PAVE	**Pavencul**	**2.68**	**95**	*eP*		**Pn**		**15 19 48.0**	**+1.0**
PAVE				*eS*		**Sn**		**15 20 18.4**	**-1.1**
CHUJ	**Union Juarez**	**2.76**	**97**	*eP*		**Pn**		**15 19 48.2**	**+0.1**
CHUJ				*i*	S	**Sn**		**15 20 18.1**	**-3.4**
CCIG	**Comitan**	**2.83**	**72**	*eP*		**Pn**		**15 19 51.5**	**+2.4**
CCIG				*eS*		**Sn**		**15 20 22.0**	**-1.1**
YOIG	**Yosondua**	**2.87**	**300**	*eP*		**Pn**		**15 19 51.3**	**+1.6**
YOIG				*eS*		**Sn**		**15 20 21.6**	**-2.5**
PNIG	**Pinotepa**	**3.20**	**288**	*eP*		**Pn**		**15 19 54.0**	**+0.1**
PNIG				*eS*		**Sn**		**15 20 27.8**	**-4.3**
TXIG	**Tlaxiaco**	**3.26**	**304**	*eP*		**Pn**		**15 19 56.6**	**+1.6**
TXIG				*eS*		**Sn**		**15 20 32.3**	**-1.4**
TOIG	**Toxpalan**	**3.33**	**323**	*eP*		**Pn**		**15 19 58.3**	**+2.5**
TOIG				*eS*		**Sn**		**15 20 36.2**	**+0.8**
HLIG	**Huajuapan de L**	**3.63**	**311**	*eP*		**Pn**		**15 19 59.3**	**-0.7**
HLIG				*eS*		Sn		15 20 34.6	-8.2
FTIG	**Fresnillo de T**	**3.92**	**309**	*eP*		**Pn**		**15 20 00.4**	**-3.6**
FTIG				*eS*		**Sn**		**15 20 47.9**	**-2.0**
JAUV	**Jalcomulco**	**4.29**	**336**	*eP*		**Pn**		**15 20 11.1**	**+2.1**
JAUV				*eS*		**Sn**		**15 20 56.7**	**-2.3**
PPM	**Popocatepetl**	**5.04**	**316**	*eP*		**Pn**		**15 20 22.0**	**+2.3**
PPM				*eS*		**Sn**		**15 21 23.9**	**+5.9**
MEIG	**Mezcala**	**5.12**	**300**	*eP*		**Pn**		**15 20 18.5**	**-1.9**
MEIG				*eS*		**Sn**		**15 21 16.3**	**-3.1**
PLIG	**Platanillo**	**5.26**	**305**	*eP*		**Pn**		**15 20 23.0**	**+0.6**
CAIG	**El Cayaco**	**5.36**	**288**	*eP*		**Pn**		**15 20 24.3**	**+0.7**
ARIG	**Puente Sto Nin**	**5.89**	**299**	*eP*		**Pn**		**15 20 32.5**	**+1.5**
ARIG				*eS*		**Sn**		**15 21 33.5**	**-5.0**
TEIG	**Tepich**	**7.94**	**52**	Pn		**Pn**		**15 20 58.4**	**-0.7**
	43nm,0.3s,baz=228,slow=0.4,SNR=20								
TEIG				Sn		**Sn**		**15 22 24.2**	**-4.6**
	41nm,0.3s,baz=164,slow=18,SNR=2.5								
TXAR	**Lajitas Array**	**16.00**	**331**	Pn		**Pn**		**15 22 50.8**	**+1.9**
	baz=146,slow=13,SNR=1.8 0.3nm,0.6s								
NVAR	**Mina Array Bea**	**30.79**	**323**	P		**P**		**15 25 22.9**	**+3.3**
	0.3nm,0.6s,baz=134,slow=7.8,SNR=1.6 0.3nm,0.6s								
YKA	**Yellowknife Ar**	**49.01**	**348**	P		**P**		**15 27 50.9**	**+0.8**
	0.3nm,0.8s,baz=155,slow=6.6,SNR=4.1 0.3nm,0.8s								

*KRSC **22** 15:36:33.2±0.9, 53.69N×160.88E, h53km±19km, Ml4.9*
*MOS **22** 15:36:34.6±1.0, 53.72N×160.75E, h62km, mb4.4/17, Error ellipse: s-maj=8.0km s-min=3.8km az=78.4*
*NEIC **22** 15:36:36.5±2.5, 53.8N±0.1×160.4E±0.1, h72km±9km, mb4.2/69, Error ellipse: s-maj=20.5km s-min=11.2km az=161.0*
*IDC **22** 15:36:39.1±1.2, 53.94N×160.28E, h87km±10km, mb3.8/30, mbtmp4.1/34, MS2.2/1, Error ellipse: s-maj=13.4km s-min=9.6km az=147.0*
ISC 22 15:36:34.6±0.7, 53.73N±0.03×160.73E±0.04, h56km±6km, n248, σ1§60/275, mb4.2/88, MS3.9/3, 3C-11D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.76**	**214**	*eP*		**Pn**		**15 36 49.4**	**0.0**
SPN				*eS*		**Sn**		**15 36 59.9**	**-0.3**
SPN	**Mys Shipunski**	**0.76**	**214**	PN		**Pn**		**15 36 49.4**	**0.0**
SPN				S		**Sn**		**15 36 59.9**	**-0.3**
KII	**Karymskiy**	**0.82**	**292**	*eP*		**Pn**		**15 36 50.6**	**+0.4**
KII	**Karymskiy**	**0.82**	**292**	PN		**Pn**		**15 36 50.6**	**+0.4**
NLC	**Nalytchevo**	**1.00**	**236**	*eP*		**Pn**		**15 36 54.1**	**+1.6**
NLC				*eS*		**Sn**		**15 37 07.7**	**+2.0**
NLC	**Nalytchevo**	**1.00**	**236**	PN		**Pn**		**15 36 54.1**	**+1.6**
NLC				S		**Sn**		**15 37 07.7**	**+2.0**
SMAR	**Somma**	**1.25**	**249**	*eP*		**Pn**		**15 36 57.0**	**+1.0**
SMAR				*eS*		**Sn**		**15 37 13.4**	**+1.5**
SMAR	**Somma**	**1.25**	**249**	PN		**Pn**		**15 36 57.0**	**+1.0**
SMAR				S		**Sn**		**15 37 13.4**	**+1.5**
UGLR	**Uglovaya**	**1.26**	**246**	*eP*		**Pn**		**15 36 57.3**	**+1.3**
UGLR				*eS*		**Sn**		**15 37 13.6**	**+1.6**
UGLR	**Uglovaya**	**1.26**	**246**	PN		**Pn**		**15 36 57.3**	**+1.3**
UGLR				S		**Sn**		**15 37 13.6**	**+1.6**
KRER	**Koryakskii**	**1.26**	**251**	*eP*		**Pn**		**15 36 57.8**	**+1.6**
KRER				*eS*		**Sn**		**15 37 13.6**	**+1.4**
KRER	**Koryakskii**	**1.26**	**251**	PN		**Pn**		**15 36 57.8**	**+1.6**
KRER				S		**Sn**		**15 37 13.6**	**+1.4**
AVH	**Avacha**	**1.28**	**249**	*eP*		**Pn**		**15 36 57.7**	**+1.4**
AVH				*eS*		**Sn**		**15 37 14.5**	**+2.0**
AVH	**Avacha**	**1.28**	**249**	PN		**Pn**		**15 36 57.7**	**+1.4**
AVH				S		**Sn**		**15 37 14.5**	**+2.0**
KRX	**Arik**	**1.30**	**254**	*eP*		**Pn**		**15 36 57.7**	**+1.1**
KRX				*eS*		**Sn**		**15 37 14.3**	**+1.3**
KRX	**Arik**	**1.30**	**254**	PN		**Pn**		**15 36 57.7**	**+1.1**
KRX				S		**Sn**		**15 37 14.3**	**+1.3**
KOK	**Koryaka**	**1.33**	**251**	*eP*		**Pn**		**15 36 58.2**	**+1.2**
KOK				*eS*		**Sn**		**15 37 15.1**	**+1.5**
KOK	**Koryaka**	**1.33**	**251**	PN		**Pn**		**15 36 58.2**	**+1.2**
KOK				S		**Sn**		**15 37 15.1**	**+1.5**
DALK	**Dalny**	**1.38**	**240**	*eP*		**Pn**		**15 36 58.6**	**+1.1**
DALK				*eS*		**Sn**		**15 37 15.8**	**+1.1**
DALK	**Dalny**	**1.38**	**240**	PN		**Pn**		**15 36 58.6**	**+1.1**
DALK				S		**Sn**		**15 37 15.8**	**+1.1**
PET	**Petropavlovsk**	**1.43**	**241**			**Pn**		**15 36 59.0**	**+0.7**
PET				Sn		**Sn**		**15 37 17.1**	**+1.1**
PET	**Petropavlovsk**	**1.43**	**241**	*eP*		**Pn**		**15 36 59.4**	**+1.1**
PET				*eS*		**Sn**		**15 37 17.4**	**+1.4**
PET	**Petropavlovsk**	**1.43**	**241**	*eP*	N	**Pn**		**15 36 59.5**	**+1.2**
PET				*eS*		**Sn**		**15 37 17.4**	**+1.4**
PET					pmax	pmax			
	comp=Z,346nm,0.2s								
PET					smax	smax			
	comp=E,5μm,0.6s								
PET					smax	smax			
	comp=N,5μm,0.5s								
INSR	**Institute**	**1.44**	**243**	*eP*		**Pn**		**15 36 59.5**	**+1.2**
INSR				*eS*		**Sn**		**15 37 17.6**	**+1.5**
TUMD	**Tumrok D**	**1.49**	**353**	*eP*		**Pn**		**15 36 59.6**	**+0.6**
TUMD				*eS*		**Sn**		**15 37 17.4**	**0.0**
TUMR	**Tumrok**	**1.59**	**348**	PN		**Pn**		**15 36 59.6**	**-1.0**
TUMR				S		**Sn**		**15 37 17.4**	**-2.7**
KRMR	**Karymshinskiy**	**1.81**	**241**	*eP*		**Pn**		**15 37 05.0**	**+1.7**
KRMR				*eS*		**Sn**		**15 37 27.1**	**+2.0**
KRMR	**Karymshinskiy**	**1.81**	**241**	PN		**Pn**		**15 37 05.0**	**+1.7**
KRMR				S		**Sn**		**15 37 27.1**	**+2.0**
PEA0B	**Petropavlovsk-**	**1.92**	**252**			**Pn**		**15 37 06.5**	**+1.6**
PEA0B	**Petropavlovsk-**	**1.92**	**252**	*d*	PN	**Pn**		**15 37 06.4**	**+1.5**
PETK	**Petropavlovsk-**	**1.92**	**252**			**Pn**		**15 37 05.6**	**+0.7**
PETK	**Petropavlovsk-**	**1.92**	**252**	P		**Pn**		**15 37 06.1**	**+1.2**
	comp=N,201nm,0.3s,baz=74,slow=18,SNR=1968								
PETK				S		**Sn**		**15 37 30.3**	**+2.4**
	comp=N,348nm,0.4s,baz=98,slow=21,SNR=17								
PETK				LR		LR		15 37 59.6	
	comp=N,218nm,20.1s,baz=55,slow=46								
GRL	**Gorelyy**	**1.99**	**235**	*eP*		**Pn**		**15 37 07.7**	**+1.7**
GRL	**Gorelyy**	**1.99**	**235**	PN		**Pn**		**15 37 07.7**	**+1.7**
KMNR	**Kamenistaya**	**2.05**	**352**	*eP*		**Pn**		**15 37 08.6**	**+1.9**
KMNR	**Kamenistaya**	**2.05**	**352**	PN		**Pn**		**15 37 08.6**	**+1.9**
ASAK	**Asacha**	**2.18**	**233**	*eP*		**Pn**		**15 37 10.4**	**+1.9**
ASAK	**Asacha**	**2.18**	**233**	PN		**Pn**		**15 37 10.4**	**+1.9**
BZP	**Bezymyannyi-Pe**	**2.19**	**357**	*eP*		**Pn**		**15 37 10.7**	**+2.0**
BZMR	**Bezymyannaya**	**2.21**	**356**	*eP*		**Pn**		**15 37 11.3**	**+2.3**
BZMR	**Bezymyannaya**	**2.21**	**356**	PN		**Pn**		**15 37 11.3**	**+2.3**
BZGR	**Bezymyannyi-Gr**	**2.21**	**359**	*eP*		**Pn**		**15 37 11.1**	**+2.1**
BZGR	**Bezymyannyi-Gr**	**2.21**	**359**	PN		**Pn**		**15 37 11.1**	**+2.1**
KIRR	**Kirishev**	**2.24**	**354**	*eP*		**Pn**		**15 37 11.2**	**+1.8**
KIRR	**Kirishev**	**2.24**	**354**	PN		**Pn**		**15 37 11.2**	**+1.8**
BZWR	**Bezymyannyi-We**	**2.24**	**357**	*eP*		**Pn**		**15 37 11.8**	**+2.4**
BZWR	**Bezymyannyi-We**	**2.24**	**357**	PN		**Pn**		**15 37 11.8**	**+2.4**
KPT	**Kopyto**	**2.26**	**353**	*eP*		**Pn**		**15 37 11.4**	**+1.8**
KPT	**Kopyto**	**2.26**	**353**	PN		**Pn**		**15 37 11.4**	**+1.8**
APC	**Apacha**	**2.29**	**251**	*eP*		**Pn**		**15 37 12.1**	**+2.1**
APC	**Apacha**	**2.29**	**251**	PN		**Pn**		**15 37 12.1**	**+2.1**
ZLN	**Zelenaya**	**2.29**	**1**	*eP*		**Pn**		**15 37 12.2**	**+2.2**
ZLN	**Zelenaya**	**2.29**	**1**	PN		**Pn**		**15 37 12.2**	**+2.2**
KOZ	**Kozyrevsk**	**2.38**	**348**	*eP*		**Pn**		**15 37 12.9**	**+1.7**
KOZ	**Kozyrevsk**	**2.38**	**348**	PN		**Pn**		**15 37 12.9**	**+1.7**
CIRR	**Tsirk**	**2.39**	**0**	*eP*		**Pn**		**15 37 14.1**	**+2.6**
CIRR	**Tsirk**	**2.39**	**0**	PN		**Pn**		**15 37 14.1**	**+2.6**
ESO	**Esso**	**2.49**	**333**	*eP*		**Pn**		**15 37 13.9**	**+1.2**
ESO	**Esso**	**2.49**	**333**	PN		**Pn**		**15 37 13.9**	**+1.2**
KRSR	**Krestovskiy**	**2.49**	**358**	*eP*		**Pn**		**15 37 14.6**	**+1.8**
KRSR				*eS*		**Sn**		**15 37 46.5**	**+4.5**
KRSR	**Krestovskiy**	**2.49**	**358**	PN		**Pn**		**15 37 14.6**	**+1.8**
KRSR				S		**Sn**		**15 37 46.5**	**+4.5**
KDTR	**Khodutka, Kamc**	**2.51**	**221**	*eP*		**Pn**		**15 37 14.5**	**+1.6**
KDTR				*eS*		**Sn**		**15 37 43.0**	**+0.7**
KDTR	**Khodutka, Kamc**	**2.51**	**221**	PN		**Pn**		**15 37 14.5**	**+1.6**
KDTR				S		**Sn**		**15 37 43.0**	**+0.7**
KLY	**Klyuchi**	**2.59**	**359**	*eP*		**Pn**		**15 37 16.0**	**+2.0**
KLY				*eS*		**Sn**		**15 37 46.9**	**+2.7**
KLY	**Klyuchi**	**2.59**	**359**	PN		**Pn**		**15 37 16.0**	**+2.0**
KLY				S		**Sn**		**15 37 46.9**	**+2.7**
SRDR	**Sredinnyy**	**2.66**	**348**	*eP*		**Pn**		**15 37 16.1**	**+1.1**
SRDR	**Sredinnyy**	**2.66**	**348**	PN		**Pn**		**15 37 16.1**	**+1.1**
KBTR	**Krutoberegovo**	**2.76**	**25**	*eP*		**Pn**		**15 37 18.3**	**+2.0**
KBTR	**Krutoberegovo**	**2.76**	**25**	PN		**Pn**		**15 37 18.3**	**+2.0**
KBG	**Krutoberegovo**	**2.77**	**23**	*eP*		**Pn**		**15 37 18.7**	**+2.2**
KBG				*eS*		**Sn**		**15 37 51.8**	**+3.1**
KBG	**Krutoberegovo**	**2.77**	**23**	PN		**Pn**		**15 37 18.7**	**+2.2**
KBG				S		**Sn**		**15 37 51.8**	**+3.1**
SMKR	**Semkarok**	**2.89**	**8**	*eP*		**Pn**		**15 37 20.2**	**+2.0**
SMKR	**Semkarok**	**2.89**	**8**	PN		**Pn**		**15 37 20.2**	**+2.0**
SRKR	**Sorokina**	**2.94**	**5**	*eP*		**Pn**		**15 37 21.5**	**+2.6**
SRKR	**Sorokina**	**2.94**	**5**	PN		**Pn**		**15 37 21.5**	**+2.6**
PAU	**Pauzhetka**	**3.30**	**228**	*eP*		Pn		15 37 28.2	+4.5
PAU	**Pauzhetka**	**3.30**	**228**	PN		Pn		15 37 28.2	+4.5
BKI	**Bering**	**3.40**	**62**	*eP*		**Pn**		**15 37 25.9**	**+0.9**
BKI				*eS*		**Sn**		**15 38 01.8**	**-2.2**
BKI	**Bering**	**3.40**	**62**	PN		**Pn**		**15 37 25.9**	**+0.9**
BKI				S		**Sn**		**15 38 01.8**	**-2.2**
SKR	**Severo-Kuril's**	**4.17**	**225**	*eP*		**Pn**		**15 37 37.8**	**+2.2**
SKR	**Severo-Kuril's**	**4.17**	**225**	*eP*	N	**Pn**		**15 37 39.1**	**+3.5**
SKR				*eS*		**Sn**		**15 38 25.1**	**+2.1**
SKR					smax	smax			
	comp=E,199nm,0.8s								
SKR					smax	smax			
	comp=N,245nm,0.6s								
SKR					MLR	MLR			
	comp=Z,600nm,17.0s								
OSSR	**Ossora**	**5.68**	**12**	*eP*		Pn		15 37 59.6	+3.3
OSSR	**Ossora**	**5.68**	**12**	PN		Pn		15 37 59.6	+3.3
MA2	**Magadan**	**8.02**	**321**	*eP*	N	Pn		15 38 31.4	+3.1
MA2					pmax	pmax			
	comp=Z,79nm,3.5s								
MA2	**Magadan**	**8.02**	**321**	P		**Pn**		**15 38 28.7**	**+0.4**
	comp=Z,7.6nm,0.6s,baz=127,slow=10,SNR=7.4								
SEY	**Seymchan**	**10.21**	**338**	*eP*	N	**Pn**		**15 38 58.4**	**+0.2**
SEY	**Seymchan**	**10.21**	**338**	P		**Pn**		**15 38 57.5**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=95,slow=16,SNR=4.3								
YUK	**Yuzh-Kuril'sk**	**13.75**	**231**	*i*	P	**Pn**		**15 39 46.4**	**-0.2**
ASAJ	**Asahikawa**	**15.28**	**238**	P		**Pn**		**15 40 07.5**	**+0.9**
	comp=Z,2.2nm,0.4s,baz=71,slow=11,SNR=6.0								
ERM	**Erimo**	**16.57**	**232**			**Pn**		**15 40 18.8**	**-4.2**
ERM						IAmb	IAmb	15 40 30.8	
	comp=Z,16nm,0.8s								
ERM	**Erimo**	**16.57**	**232**	*de*	P	**Pn**		**15 40 20.4**	**-2.6**
YAK	**Yakutsk**	**18.32**	**309**			**P**		**15 40 41.4**	**-2.4**
YAK	**Yakutsk**	**18.32**	**309**	*eP*		**P**		**15 40 42.9**	**-0.9**
YAK					pmax	pmax			
	comp=Z,10.0nm,0.9s								
YAK					pmax	pmax			
	comp=N,3.0nm,1.1s								
YAK					pmax	pmax			
	comp=E,5.0nm,1.6s								
YAK	**Yakutsk**	**18.32**	**309**	P		**P**		**15 40 43.1**	**-0.7**
	comp=E,1.0nm,0.4s,baz=260,slow=2.0,SNR=10.0								
YAK				LR		LR		15 48 30.7	
	comp=E,6.3nm,18.3s,baz=18,slow=40								
KLR	**Kul'dur**	**18.54**	**268**	*eP*		**Pn**		**15 40 49.0**	**+2.0**
KLR					pmax	pmax			
	comp=Z,5.0nm,1.3s								
KLR	**Kul'dur**	**18.54**	**268**	P		**Pn**		**15 40 47.8**	**+0.7**
	comp=Z,1.4nm,0.4s,baz=64,slow=7.8,SNR=7.6								
TIXI	**Tiksi**	**22.67**	**334**	P		**P**		**15 41 29.2**	**-1.4**
TIXI	**Tiksi**	**22.67**	**334**	*d*	*eP*	**P**		**15 41 31.9**	**+1.2**
TIXI					pmax	pmax			
	comp=Z,7.0nm,1.6s								
TIXI					MLR	MLR			
	comp=Z,101nm,17.0s								
BNX	**BinXian**	**22.80**	**263**		*eP*	**P**		**15 41 31.5**	**-0.9**
BNX					pmax	pmax			
	comp=Z,9.0nm,0.9s								
BNX					pmax	pmax			
	comp=Z,100nm,4.9s								
MJB9	**Matsu-Tunnel**	**23.24**	**231**	P		**P**		**15 41 38.5**	**+1.6**
MJB9					IAmb	IAmb		15 41 39.9	
	comp=Z,8.4nm,0.6s								
MAJO	**Matsushiro**	**23.24**	**231**	P		**P**		**15 41 36.2**	**-0.7**
MAJO					IAmb	IAmb		15 41 38.9	
	comp=Z,8.8nm,0.6s								
MAJO	**Matsushiro**	**23.24**	**231**	*eP*		**P**		**15 41 38.1**	**+1.2**
MAJO					pmax	pmax			
	comp=Z,31nm,2.1s								
MJAR	**Matsushiro Arr**	**23.24**	**231**	P		**P**		**15 41 38.1**	**+1.3**
	comp=Z,3.0nm,0.8s,baz=24,slow=12,SNR=8.5 comp=Z,3.0nm,0.8s								
TTA	**Tatalina**	**24.05**	**50**	P		**P**		**15 41 45.3**	**+1.2**
TTA					IAmb	IAmb		15 42 09.3	
	comp=Z,15nm,1.5s								
TTA	**Tatalina**	**24.05**	**50**	P		**P**		**15 41 45.3**	**+1.2**
TTA					pmax	pmax			
	comp=Z,15nm,1.5s								
B20K	**Meade River**	**24.92**	**33**	P		**P**		**15 41 53.2**	**+1.3**
K20K	**Telida**	**24.94**	**49**	P		**P**		**15 41 53.4**	**+1.2**
K20K					IAmb	IAmb		15 41 56.4	
	comp=Z,13nm,1.5s								
J20K	**Nowinta River**	**24.94**	**47**	P		**P**		**15 41 53.5**	**+1.3**
IMAR	**Indian Mountai**	**25.27**	**43**	P		**P**		**15 41 57.0**	**+1.8**
F21K	**Alatna River**	**25.55**	**40**	P		**P**		**15 41 59.5**	**+1.8**
H21K	**Melozitna Rive**	**25.62**	**44**	P		**P**		**15 41 57.5**	**-0.9**
B21K	**Ikpikpuk River**	**25.65**	**35**	P		**P**		**15 41 60.0**	**+1.5**
B21K					IAmb	IAmb		15 42 00.9	
	comp=Z,13nm,0.9s								
RSO	**Redoubt South**	**25.67**	**56**	P		**P**		**15 42 00.9**	**+1.8**
CAST	**Castle Rocks**	**25.84**	**49**	P		**P**		**15 42 00.5**	**+0.1**
B22K	**Teshekpuk Lake**	**26.24**	**33**	P		**P**		**15 42 04.8**	**+

JOW Kunigami 35.99 235 P P 15 43 31.4 +1.4
comp=Z,12nm,0.8s,baz=67,slow=7.7,SNR=2.0
comp=Z,12nm,0.8s
C36M Paulatuk 36.30 35 P P 15 43 33.2 +1.0
YKA Yellowknife Ar 42.43 43 P P 15 44 24.8 +1.6
comp=Z,1.4nm,0.5s,baz=298,slow=8.2,SNR=24
comp=Z,1.4nm,0.5s
DGZ Jazzator, Alta 43.73 296 i P P 15 44 32.8 -1.3
DGZ pmax pmax
comp=Z,2.0nm,1.2s
SPITS Spitsbergen Ar 46.57 350 P P 15 44 55.8 -0.3
comp=Z,12nm,1.0s,baz=55,slow=6.5,SNR=10
comp=Z,12nm,1.0s
SPB2 Spitsbergen Ar 46.57 350 P P 15 44 54.4 -1.7
WMQ Urumqi 47.12 289 eP P 15 45 01.1 +0.2
WMQ pmax pmax
comp=Z,7.0nm,0.7s
NEEM North Greenlan 47.59 9 i P P 15 45 03.8 -0.6
KURK Kurchatov 47.72 302 P P 15 45 03.2 -2.1
KURK Kurchatov 47.72 302 ceP P 15 45 04.0 -1.3
KURK pmax pmax
comp=Z,9.0nm,1.5s
KURBB Kurchatov Arra 47.82 302 P P 15 45 03.7 -2.5
comp=Z,2.2nm,0.5s,baz=58,slow=7.6,SNR=13
comp=Z,2.2nm,0.5s
MK31 Makanchi Array 48.22 295 P P 15 45 07.3 -2.0
MK31 Makanchi Array 48.22 295 P P 15 45 07.3 -2.0
MK31 pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 48.22 295 P P 15 45 06.4 -3.0
MKAR Makanchi Array 48.22 295 i P P 15 45 07.1 -2.2
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 48.22 295 P P 15 45 06.9 -2.4
comp=Z,0.9nm,0.5s,baz=58,slow=6.9,SNR=18
comp=Z,0.9nm,0.5s
MAKZ Makanchi 48.38 296 P P 15 45 08.1 -2.5
MAKZ IAmb IAmb 15 45 09.8
comp=Z,3.5nm,1.4s
MAKZ Makanchi 48.38 296 P P 15 45 08.1 -2.5
MAKZ pmax pmax
comp=Z,4.0nm,1.4s
BVAR Borovoye Array 50.29 308 P P 15 45 22.6 -2.4
comp=Z,0.9nm,0.4s,baz=64,slow=11,SNR=8.1
BVAR PcP **PcP 15 46 43.2 +0.2**
comp=Z,0.6nm,0.4s,baz=79,slow=2.1,SNR=5.5
comp=Z,0.9nm,0.4s
BRVK Borovoye 50.32 308 eP P 15 45 24.9 -0.3
PZH PanZhiHua 50.85 262 P P 15 45 28.3 -1.4
PZH pmax pmax
comp=Z,10.0nm,0.4s
PZH pmax pmax
comp=Z,110nm,5.7s
BMO Blue Mountains 51.36 64 P P 15 45 34.8 +1.6
BMO Blue Mountains 51.36 64 P P 15 45 34.8 +1.6
BMO pmax pmax
comp=Z,1.0nm,1.1s
PLID Pearl Lake 51.90 63 P P 15 45 39.3 +1.9
PLID IAmb IAmb 15 45 40.1
comp=Z,1.8nm,0.8s
LVZ Lovozero 52.26 337 eP P 15 45 42.8 +3.3
LVZ pmax pmax
comp=Z,81nm,1.6s
FCC Fort Churchill 52.74 39 P P 15 45 44.3 +1.2
FCC Fort Churchill 52.74 39 P P 15 45 44.3 +1.2
FCC pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 52.80 342 P P 15 45 41.7 -1.8
comp=Z,3.1nm,0.8s,baz=41,slow=8.4,SNR=4.7
comp=Z,3.1nm,0.8s
ARU Arti 53.19 317 i P 15 45 45.7 -0.8
ARU pmax pmax
comp=Z,13nm,2.0s
ARU MLR MLR
comp=Z,96nm,17.0s
SUMG Summit 53.28 7 i P P 15 45 47.0 -0.4
KVN Kaiserville 54.85 70 P P 15 46 00.3 +1.2
KVN IAmb IAmb 15 46 03.0
comp=Z,1.7nm,0.6s
KVN Kaiserville 54.85 70 P P 15 46 00.3 +1.2
KVN pmax pmax
comp=Z,2.0nm,0.6s
AAK Ala-Archa 55.14 296 eP P 15 46 00.4 -0.7
AAK pmax pmax
comp=Z,11nm,4.4s
NVAR Mina Array Bea 55.17 71 P P 15 46 04.5 +3.0
comp=Z,1.2nm,0.6s,baz=303,slow=7.0,SNR=10
comp=Z,1.2nm,0.6s
ELK Elko 55.25 67 P P 15 46 01.4 -0.6
ELK IAmb IAmb 15 46 05.8
comp=Z,2.0nm,0.8s
ELK Elko 55.25 67 P P 15 46 01.4 -0.6
ELK pmax pmax
comp=Z,2.0nm,0.8s
ELK Elko 55.25 67 P P 15 46 04.7 +2.7
comp=Z,1.5nm,0.7s,baz=302,slow=8.5,SNR=6.8
comp=Z,1.5nm,0.7s
PDAR Pinedale Array 56.88 62 P P 15 46 15.3 +1.7
PDAR Pinedale Array 56.88 62 P P 15 46 15.7 +2.1
comp=Z,1.0nm,0.7s,baz=318,slow=3.1,SNR=10
comp=Z,1.0nm,0.7s
SPR3 Spring Creek 3 56.98 68 P P 15 46 16.7 +2.2
SPR3 IAmb IAmb 15 46 22.3
comp=Z,1.3nm,0.9s
ABKAR Akbulak array 57.67 310 P P 15 46 17.4 -1.4
ULM Lac du Bonnet 58.10 47 P P 15 46 23.4 +1.6
comp=Z,1.6nm,0.5s,baz=316,slow=6.4,SNR=6.1
comp=Z,1.6nm,0.5s
CMAR Chiang Mai Arr 58.69 258 i P P 15 46 26.8 +0.5
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 58.69 258 P P 15 46 25.4 -0.9
comp=Z,0.8nm,0.5s,baz=27,slow=7.5,SNR=5.9
comp=Z,0.8nm,0.5s
RSSD Black Hills 58.73 57 P P 15 46 28.2 +1.6
RSSD Black Hills 58.73 57 P P 15 46 28.2 +1.6
RSSD pmax pmax
comp=Z,7.0nm,0.7s
FIA1 FINESS Array S 59.68 337 P P 15 46 31.2 -1.3
FINES FINESS Array B 59.69 337 P P 15 46 33.0 +0.5
FINES FINESS Array B 59.69 337 i P P 15 46 32.7 +0.1
FINES pmax pmax
comp=Z,2.0nm,0.3s
FINES FINESS Array B 59.69 337 P P 15 46 32.2 -0.3
comp=Z,2.4nm,0.3s,baz=38,slow=7.4,SNR=27
comp=Z,2.4nm,0.3s
OBN Obninsk 62.18 327 eP P 15 46 50.1 +0.5
OBN e*SP **sP 15 47 09.9 -1.1**
OBN e 15 47 29.2
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,89nm,16.0s
NC303 NORSAR Array S 62.83 344 P P 15 46 53.6 -0.2
NC405 NORSAR Array S 62.88 344 P P 15 46 52.7 -1.5
NB201 NORSAR Array S 63.01 344 P P 15 46 54.4 -0.7
NB2 NORSAR Subarra 63.03 344 P P 15 46 55.4 +0.1
comp=Z,1.0nm,0.5s,baz=20,slow=6.9
NOA NORSAR Array B 63.03 344 P P 15 46 55.1 -0.1
comp=Z,1.5nm,0.5s,baz=23,slow=6.0,SNR=15
comp=Z,1.5nm,0.5s
HFS Hagfors 63.46 342 P P 15 46 57.4 -0.6
comp=Z,1.8nm,0.4s,baz=44,slow=5.1,SNR=15
comp=Z,1.8nm,0.4s
PABE Paberze 65.47 335 P P 15 47 08.6 -2.5
GEYT Alibeck 67.06 303 P P 15 47 20.4 -1.3
comp=Z,0.9nm,0.5s,baz=63,slow=6.6,SNR=1.9
comp=Z,0.9nm,0.5s
AKASG Malin Array Be 68.26 329 P P 15 47 28.0 -1.0
AKASG Malin Array Be 68.26 329 P P 15 47 27.9 -1.0
comp=Z,1.0nm,0.4s,baz=28,slow=6.7,SNR=10
comp=Z,1.0nm,0.4s
KBZ Khabaz 69.33 317 P P 15 47 34.9 -0.9
comp=Z,1.9nm,0.8s,baz=153,slow=2.3,SNR=3.8
comp=Z,1.9nm,0.8s
TX31 Lajitas Ar. Si 70.04 68 P P 15 47 40.2 -0.3
TX31 IAmb IAmb 15 47 43.7
comp=Z,3.4nm,0.7s
TXAR Lajitas Array 70.04 68 P P 15 47 42.6 +2.1
comp=Z,2.4nm,0.6s,baz=299,slow=4.6,SNR=40
comp=Z,2.4nm,0.6s
EKA Eskdalemuir Ar 70.49 350 P P 15 47 42.9 +0.2
comp=Z,1.5nm,0.6s,baz=17,slow=4.4,SNR=11
comp=Z,1.5nm,0.6s
GERES GERESS Array B 74.06 338 P P 15 48 04.5 +0.2
comp=Z,1.1nm,0.6s,baz=57,slow=4.9,SNR=5.8
comp=Z,1.1nm,0.6s

CONA Conrad Observa 74.43 336 eP P 15 48 05.6 -0.8
comp=Z,2.0nm,0.8s
RONA Rosalia, Austr 74.54 336 i P P 15 48 07.4 +0.5
comp=Z,6.1nm,1.3s
LESA Schwarzleotal 75.63 338 i P P 15 48 13.0 -0.3
comp=Z,1.0nm,0.4s
SOKA Soboth 75.80 336 eP P 15 48 10.0 -4.2
comp=Z,7.9nm,1.7s
RETA Reute 75.98 340 i P P 15 48 14.6 -0.7
comp=Z,4.9nm,1.3s
MOTA Moosalm 76.05 339 i P P 15 48 13.0 -2.8
comp=Z,8.1nm,1.2s
SQTA Sankt Quirin 76.14 339 i P P 15 48 14.4 -1.8
comp=Z,3.3nm,0.7s
ABTA Abfaltersbach 76.31 338 i P P 15 48 12.9 -4.3
comp=Z,2.8nm,0.7s
DAVA Damuels 76.36 340 i P P 15 48 13.8 -3.7
comp=Z,7.3nm,1.4s
BRTR Keskin Array B 76.37 321 i P P **15 48 18.3 +0.6**
BRTR Keskin Array B 76.37 321 P P 15 48 17.0 -0.7
comp=Z,0.4nm,0.4s,baz=22,slow=4.8,SNR=4.4
comp=Z,0.4nm,0.4s
FETA Feichten 76.43 339 i P P 15 48 16.3 -1.7
comp=Z,2.4nm,0.6s
WRA Warramunga Arr 76.82 205 i P P **15 48 21.2 +1.1**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 76.82 205 P P 15 48 20.8 +0.6
comp=Z,0.7nm,0.8s,baz=18,slow=6.0,SNR=5.1
comp=Z,0.7nm,0.8s
FUORN Ofenpass-Fuorn 76.91 340 P P 15 48 19.1 -1.7
FUORN IAmb IAmb 15 48 22.9
comp=Z,2.7nm,0.8s
ASAR Alice Springs 80.50 205 P P 15 48 41.7 +1.4
comp=Z,1.1nm,0.8s,baz=19,slow=5.4,SNR=14
comp=Z,1.1nm,0.8s
MMAI Mount Meron Ar 81.52 316 P P 15 48 45.5 -0.4
comp=Z,0.4nm,0.4s,baz=40,slow=7.6,SNR=2.3
comp=Z,0.4nm,0.4s
ESDC Sonseca Array 86.03 348 P P 15 49 09.1 +0.2
comp=Z,1.3nm,0.8s,baz=2.4,slow=5.1,SNR=8.5
comp=Z,1.3nm,0.8s

*ISK **22** 15:46:42.9, 38.68°N×26.45°E, h6km, ML2.8/25*
*ATH **22** 15:46:43.1, 38.69°N×26.43°E, h15km±2km, ML2.9/5, Error ellipse: s-maj=2.5km s-min=1.0km az=309.0*
*AFAD **22** 15:46:43.6±0.0, 38.64°N×26.49°E, h7km, 3km, ML2.6*
*THE **22** 15:46:43.0, 38.69°N×26.44°E, h2km±2km, ML2.8/5, Error ellipse: s-maj=2.7km s-min=0.3km az=285.0*
ISC 22 15:46:43.2±0.9, 38.69N±0.02×26.43E±0.02, h14km±7km, n51, σ0s83/75, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FOCM	**Foa**	**0.23**	**83**	Pg		**Pg**	**15 46 47.9**	**-0.4**
FOCM				Sg		**Sg**	**15 46 51.6**	**-0.2**
EAG2	**Marmaro, Chios**	**0.29**	**241**	P		**Pg**	**15 46 49.4**	**+0.1**
URLA	**Izmir**	**0.35**	**159**	Pg		**Pg**	**15 46 50.1**	**-0.3**
URLA				Sg		**Sg**	**15 46 55.3**	**+0.1**
CESE	**eme**	**0.37**	**197**	Pg		**Pg**	**15 46 50.7**	**0.0**
CESE				Sg		**Sg**	**15 46 56.3**	**+0.5**
EAG3	**Mitilini, Lesv**	**0.41**	**15**	P		**Pg**	**15 46 50.8**	**-0.7**
EAG3				S		**Sg**	**15 46 57.2**	**+0.1**
CHIOS	**Chios island**	**0.42**	**225**	P		**Pg**	**15 46 51.9**	**+0.2**
CHOS				S		**Sg**	**15 46 57.8**	**+0.4**
	2µm,0.2s							
LESV	**Lesvos island,**	**0.43**	**13**	P		**Pg**	**15 46 51.2**	**-0.7**
LESV				S		**Sg**	**15 46 57.9**	**+0.2**
RFT7	**Candarli**	**0.47**	**54**	Pg		**Pg**	**15 46 52.3**	**-0.2**
RFT7				Sg		**Sg**	**15 46 58.9**	**+0.1**
DKL	**Dikili**	**0.53**	**44**	Pg		**Pg**	**15 46 52.9**	**-0.8**
DKL				Sg		**Sb**	**15 47 01.3**	**-0.6**
PRK	**Paraskevi**	**0.57**	**347**	P		**Pg**	**15 46 53.9**	**-0.6**
PRK				S		**Sg**	**15 47 02.5**	**+0.4**
	2µm,0.2s							
PRK	**Paraskevi**	**0.57**	**347**	P		**Pg**	**15 46 53.8**	**-0.7**
PRK				S		**Sg**	**15 47 01.6**	**-0.6**
PRK				AML	AML		15 47 05.2	
	comp=N,4326µm,0.2s							
PRK				AML	AML		15 47 05.4	
	comp=E,2334µm,0.2s							
SIGR	**SIGRI**	**0.69**	**319**	Pg		**Pg**	**15 46 56.6**	**-0.2**
SIGR				Sg		**Sb**	**15 47 07.4**	**+0.9**
SIGR	**SIGRI**	**0.69**	**319**	P		**Pg**	**15 46 56.5**	**-0.2**
SIGR				S		**Sb**	**15 47 06.6**	**+0.1**
	comp=E,1µm,0.4s							
SIGR	**SIGRI**	**0.69**	**319**	P		**Pg**	**15 46 56.3**	**-0.5**
SIGR				S		**Sg**	**15 47 05.0**	**-0.9**
SIGR				AML	AML		15 47 09.2	
	comp=N,2527µm,0.3s							
SIGR				AML	AML		15 47 09.4	
	comp=E,1943µm,0.2s							
PSRA	**Psara**	**0.70**	**258**	P		**Pg**	**15 46 56.7**	**-0.1**
PSRA				S		**Sg**	**15 47 05.2**	**-0.7**
PSRA				AML	AML		15 47 08.8	
	comp=N,2539µm,0.2s							
PSRA				AML	AML		15 47 09.3	
	comp=E,3150µm,0.2s							
GMLD	**Gumuldur**	**0.72**	**148**	Pg		**Pg**	**15 46 56.7**	**-0.5**
GMLD				Sg		**Sg**	**15 47 06.8**	**+0.2**
DGB	**zmir**	**0.72**	**151**	P		**Pg**	**15 46 56.4**	**-0.9**
DGB				S		**Sg**	**15 47 05.9**	**-1.0**
GPNR	**Gulpinar-Canak**	**0.80**	**343**	Pg		**Pb**	**15 46 59.1**	**+0.1**
SMG	**Samos**	**1.03**	**162**	P		**Pg**	**15 47 02.2**	**-0.8**
SMG				S		**Sb**	**15 47 17.7**	**+1.6**
	comp=E,490nm,0.3s							
SMG	**Samos**	**1.03**	**162**	P		**Pg**	**15 47 01.9**	**-1.2**
SMG				S		**Sg**	**15 47 16.4**	**-0.1**
SMG				AML	AML		15 47 20.6	
	comp=E,1173µm,0.2s							
SMG				AML	AML		15 47 22.1	
	comp=N,775µm,0.4s							
AKS	**Akhisar**	**1.09**	**79**	Pn		**Pb**	**15 47 04.2**	**+0.2**
AKHS	**Akhisar**	**1.10**	**79**	P		**Pg**	**15 47 03.6**	**-0.8**
AKHS				S		**Sb**	**15 47 18.3**	**+0.2**
AKHS				*i* AML	AML		15 47 21.0	
	comp=N,154nm,0.6s							
EZN	**Ezine**	**1.14**	**356**	Pn		**Pn**	**15 47 05.4**	**+0.6**
GOMA	**Golmarmara-Man**	**1.16**	**88**	Pn		**Pn**	**15 47 05.5**	**+0.5**
GCAM	**G?zelcaml?**	**1.17**	**147**	Pn		**Pg**	**15 47 05.4**	**-0.3**
GCAM	**G?zelcaml?**	**1.17**	**147**	P		**Pg**	**15 47 04.7**	**-1.1**
GCAM				S		**Sg**	**15 47 20.5**	**-0.5**
GCAM				*i* AML	AML		15 47 23.0	
	comp=N,130nm,0.3s							
GCAM				*i* AML	AML		15 47 25.0	
	comp=N,149nm,0.4s							
IZMR	**zmir-demi**	**1.31**	**114**	P		**Pb**	**15 47 07.9**	**+0.3**
IZMR				S		**Sb**	**15 47 23.7**	**-0.7**
COMU	**Canakkale**	**1.41**	**1**	Pn		**Pb**	**15 47 09.7**	**+0.3**
LIA	**Limnos Island**	**1.55**	**322**	P		**Pn**	**15 47 09.7**	**-0.7**
GADA	**Gvkgeada**	**1.56**	**345**	Pn		**Pb**	**15 47 11.8**	**0.0**
KIRA	**zmir-Kiraz**	**1.62**	**107**	P		**Pb**	**15 47 12.7**	**-0.2**
KIRA				S		**Sn**	**15 47 32.4**	**+0.2**
GONE	**Gonen-Balikesi**	**1.67**	**35**	Pn		**Pn**	**15 47 13.2**	**+1.2**
MANT	**Manisa**	**1.68**	**96**	P		**Pg**	**15 47 14.9**	**-0.6**
MANT				S		**Sg**	**15 47 36.0**	**-1.3**
GELI	**Tayfur-Gelibol**	**1.71**	**1**	Pn		**Pb**	**15 47 14.2**	**-0.2**
MLSB	**Milas**	**1.75**	**142**	Pn		**Pn**	**15 47 14.4**	**+1.3**
ESEN	**Aydn-Nazilli**	**1.75**	**120**	P		**Pn**	**15 47 13.5**	**+0.4**
ESEN				S		**Sn**	**15 47 34.5**	**-0.7**
KULA	**Kula-Manisa**	**1.75**	**95**	Pn		**Pn**	**15 47 14.4**	**+1.1**
KULA	**Kula-Manisa**	**1.75**	**95**	P		**Pn**	**15 47 13.3**	**0.0**
BODT	**Bodrum**	**1.76**	**157**	Pn		**Pn**	**15 47 14.6**	**+1.2**
APE	**Apeiranthos**	**1.77**	**204**	Pn		**Pn**	**15 47 14.8**	**+1.4**
APE	**Apeiranthos**	**1.77**	**204**	P		**Pn**	**15 47 12.1**	**-1.3**
KRBG	**Karabiga-Canak**	**1.83**	**21**	Pn		**Pn**	**15 47 15.7**	**+1.5**
SMTH	**Samothraki Isl**	**1.91**	**339**	P		**Pn**	**15 47 14.9**	**-0.6**
ERIK	**Erikli-Kesan**	**1.98**	**2**	Pn		**Pn**	**15 47 18.1**	**+1.8**
DION	**Dionisos Attik**	**2.06**	**254**	P		**Pn**	**15 47 16.0**	**-1.4**
ENEZ	**Enez**	**2.06**	**354**	Pn		**Pn**	**15 47 19.2**	**+1.8**
KCTX	**Karacabey (Bur**	**2.17**	**43**	Pn		**Pn**	**15 47 20.2**	**+1.3**
ALN	**Alexandroupoli**	**2.23**	**352**	Pn		**Pn**	**15 47 21.6**	**+1.9**
ALN	**Alexandroupoli**	**2.23**	**352**	P		**Pn**	**15 47 19.9**	**+0.2**
ALN	**Alexandroupoli**	**2.23**	**352**	P		**Pn**	**15 47 18.9**	**-0.8**
ALN				AML	AML		15 47 55.7	
	comp=E,132µm,0.4s							
ALN				AML	AML		15 47 56.4	
	comp=N,236µm,0.7s							
TVSB	**Tavsanli**	**2.48**	**71**	Pn		**Pn**	**15 47 24.9**	**+1.7**

*IDC **22** 15:52:52.7±2.2, 3.97N×95.30E, h0km, mb3.7/6,*
mbtmp3.6/7, ML4.0/1, Error ellipse: s-maj=93.7km s-min=19.1km az=61.0
*DJA **22** 15:53:03.8±2.2, 4°N±6°×9°6E±1°7, h27km±12km, M4.1/6, MLv4.1/6*
ISC 22 15:52:59.9±1.1, 3.99N±0.08×95.5E±0.1, h51km, n17, σ1s30/13, mb3.6/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.96**	**73**	P		**Pn**	**15 53 17.8**	**+0.7**
MLSI				S		**Sn**	**15 53 28.0**	**-1.8**
LHMI	**Lhok Sumawe**	**1.91**	**50**	P		**Pn**	**15 53 32.0**	**+2.0**
GSI	**Gunungsitoli**	**3.39**	**142**	P		**Pn**	**15 53 49.4**	**-0.9**
PBSI	**Pulau Batu**	**4.89**	**145**	P		**Pn**	**15 54 12.9**	**+2.0**
CMAR	**Chiang Mai Arr**	**14.78**	**13**	Pn		**Pn**	**15 56 25.8**	**-0.1**
	0.2nm,0.3s,baz=205,slow=12,SNR=2.3							
	0.2nm,0.3s							
H08S2	**Diego Garcia H**	**25.68**	**243**	T		T	16 23 43.7	
	baz=64							
H08S3	**Diego Garcia H**	**25.68**	**243**	T		T	16 23 50.8	
	baz=64							
H08S1	**Diego Carcia H**	**25.70**	**243**	T		T	16 24 09.9	
	baz=64							
MKAR	**Makanchi Array**	**44.15**	**347**	P		**P**	**16 01 03.6**	**+0.1**
	0.4nm,0.5s,baz=161,slow=8.1,SNR=6.6							
	0.4nm,0.5s							
SONM	**Songino Array**	**44.68**	**10**	P		**P**	**16 01 06.8**	**-1.1**
	0.2nm,0.4s,baz=192,slow=9.2,SNR=4.6							
	0.2nm,0.4s							
WRA	**Warramunga Arr**	**44.98**	**123**	P		**P**	**16 01 11.3**	**+0.8**
	1.8nm,0.8s,baz=302,slow=9.2,SNR=30							
	1.8nm,0.8s							
ASAR	**Alice Springs**	**46.45**	**128**	P		**P**	**16 01 22.6**	**+0.5**
	0.5nm,0.6s,baz=293,slow=7.5,SNR=14							
ASAR				PcP		**PcP**	**16 02 56.8**	**+0.6**
	0.2nm,0.6s,baz=332,slow=3.4,SNR=1.7							
	0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**48.62**	**346**	P		**P**	**16 01 37.0**	**-1.5**
	0.3nm,0.5s,baz=163,slow=7.5,SNR=4.5							
	0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**50.56**	**352**	P		**P**	**16 01 53.2**	**0.0**
	1.0nm,0.5s,baz=178,slow=7.7,SNR=6.4							
	1.0nm,0.5s							
H04N2	**CROZET ISLANDS**	**63.14**	**213**	T		T	17 11 11.3	
	baz=52,slow=75							
H04N1	**CROZET ISLANDS**	**63.15**	**213**	T		T	17 11 11.0	
	baz=52,slow=75							
H04N3	**CROZET ISLANDS**	**63.16**	**213**	T		T	17 11 10.6	
	baz=52,slow=75							

*BJI **22** 15:58:47.3, 9.72N×92.99E, h57km, mb5.1/72, mB5.1/40, Ms4.3/22, Ms7 4.1/26*
*NEIC **22** 15:58:48.1, 10.11N×93.11E, h40km, Moment Tensor Solution. Duration: 1s2 Moment tensor: Scale 10^16Nm; Mrr1.78; Mθθ-0.17; Mφφ-1.62; Mrθ0.06; Mθφ0.55; Mφr-0.90; Fault plane solution: M0 2.00000×10^16 NP1: ϕs167.93000°, δs58.34000°, λs96.79000°. NP2: ϕs335.15000°, δs32.31000°, λs79.14000°. Principal axes: T 2.0069, Plg76.0000°, Azm98.0000°; N -0.0056, Plg6.0000°, Azm344.0000°; P -2.0013, Plg13.0000°, Azm253.0000°;*
*NEIC **22** 15:58:48.1, 10.01N×93.01E, h40km*
*NEIC **22** 15:58:49.7±1.6, 10.04N±0.05×93.02E±0.09, h34km±4km, mb5.5/231, Mww4.8/10, Error ellipse: s-maj=13.3km s-min=6.5km az=69.0*
*MOS **22** 15:58:49.2±0.9, 10.00N×93.03E, h50km, mb5.4/72, MS4.0/6, Error ellipse: s-maj=6.5km s-min=3.4km az=112.5*
*NDI **22** 15:58:51.8±4.1, 10.16N×92.97E, h30km, mb5.0, ML4.5, mb5.5(NEIC)*
*IDC **22** 15:58:51.7±1.9, 10.08N×93.07E, h52km±16km, mb4.7/31, mbtmp4.9/32, ML5.0/1, MS3.9/46, Error ellipse: s-maj=13.1km s-min=10.3km az=51.0*
*DJA **22** 15:58:52.4±0.3, 10°N±2°×9°3E±°, h59km±3km, M5.5/69, mb5.2/69, mB5.9/17, MLv5.7/7, Mw(mB)5.5/17, MwMwp5.5/1, Mwp5.7/1*
ISC 22 15:58:51.6±0.3, 10.02N±0.03×92.99E±0.04, h53km±2km, h53km:pP-P,n1163, σ1s09/1163, mb5.3/284, MS4.0/63, 51C-30D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.65**	**352**	Pn		**Pn**	**15 59 17.1**	**-1.1**
PBA	**Port Blair**	**1.65**	**352**	eP		**Pn**	**15 59 17.7**	**-0.5**
PBA				eS		**Sn**	**15 59 38.4**	**+0.1**
PBA				IAML			15 59 51.5	
	comp=E,9µm,0.5s							
PBA				IAML			15 59 51.9	
	comp=N,6µm,0.4s							
DGPR	**DIGLIPUR**	**3.14**	**359**	eP		**Pn**	**15 59 42.0**	**+3.4**
DGPR				IAML			16 00 39.1	
	comp=E,3µm,0.7s							
DGPR				IAML			16 00 40.9	
	comp=N,3µm,0.7s							
LHMI	**Lhok Sumawe**	**6.17**	**140**	Pn		**Pn**	**16 00 22.1**	**+2.0**
LHMI	**Lhok Sumawe**	**6.17**	**140**	P		**Pn**	**16 00 23.4**	**+3.3**
LHMI	**Lhok Sumawe**	**6.17**	**140**	P		**Pn**	**16 00 20.5**	**+0.4**
	comp=N,963nm,0.6s,comp=N,11µmcomp=N,3.5nm							
MLSI	**Meulaboh, Aceh**	**6.64**	**149**	P		**Pn**	**16 00 26.8**	**+0.1**
	comp=N,424nm,0.9s,comp=N,4µmcomp=N,1.4nm							
SRIT	**Nakonsritamara**	**6.68**	**102**	Pn		**Pn**	**16 00 29.3**	**+2.1**
SRIT	**Nakonsritamara**	**6.68**	**102**	P		**Pn**	**16 00 29.1**	**+1.9**
SRDT	**SRDT**	**7.38**	**54**	P		**Pn**	**16 00 39.4**	**+2.6**
KULM	**Kulim**	**8.93**	**121**	Pn		**Pn**	**16 00 58.1**	**+0.1**
NAYO	**Nakonayok**	**9.20**	**62**	P		**Pn**	**16 01 03.7**	**+2.0**
PSI	**Prapat**	**9.28**	**140**	P		**Pn**	**16 01 06.9**	**+3.9**
GSI	**Gunungsitoli**	**9.78**	**152**	P		**Pn**	**16 01 11.1**	**+1.4**
CM31	**Chiang Mai Arr**	**10.18**	**34**	Pn		**Pn**	**16 01 17.6**	**+2.4**
CMAR	**Chiang Mai Arr**	**10.18**	**34**	Pn		**Pn**	**16 01 16.7**	**+1.5**
CMAR	**Chiang Mai Arr**	**10.18**	**34**	P		**Pn**	**16 01 16.7**	**+1.5**
CMAR	**Chiang Mai Arr**	**10.18**	**34**	P		**Pn**	**16 01 15.9**	**+0.7**
	comp=N,4.0nm,0.3s,baz=223,slow=15,SNR=92							
CMAR				LR		LR	16 05 24.1	
	comp=N,508nm,20.2s,baz=215,slow=39							
	comp=N,15nm,0.8s							
CHTO	**Chiang Mai**	**10.47**	**33**	Pn		**Pn**	**16 01 21.8**	**+2.6**
CHTO	**Chiang Mai**	**10.47**	**33**	P		**Pn**	**16 01 22.5**	**+3.3**
CHTO	**Chiang Mai**	**10.47**	**33**	P		**Pn**	**16 01 21.8**	**+2.6**
VIS	**Vishakhapatnam**	**12.10**	**310**	eP		**Pn**	**16 01 40.1**	**-1.3**
VIS				eS		Sn	16 03 42.4	-13
MND	**Mandalay**	**12.30**	**14**	Pn		**Pn**	**16 01 39.9**	**-4.2**
BWNR	**Bhubaneshwar**	**12.34**	**327**	eP		**Pn**	**16 01 41.3**	**-3.4**
BWNR				IAmb		IAmb	16 01 45.9	
	comp=Z,237nm,0.5s							
BWNR				eS		Sn	16 03 45.5	-15
CRAI	**Chiangrai**	**12.40**	**34**			**Pn**	**16 01 46.0**	**+0.5**
SAIH	**SAIHA**	**12.40**	**0**	eP		**Pn**	**16 01 45.7**	**+0.1**
SAIH				IAmb		IAmb	16 02 03.7	
	comp=Z,49nm,0.4s							
PALK	**Pallekele**	**12.45**	**258**	Pn		**Pn**	**16 01 44.3**	**-1.9**
PALK	**Pallekele**	**12.45**	**258**	P		**Pn**	**16 01 44.3**	**-1.9**
PALK	**Pallekele**	**12.45**	**258**	P		**Pn**	**16 01 44.7**	**-1.5**
	comp=Z,31nm,0.5s,baz=175,slow=13,SNR=30							
PALK				S		Sn	16 03 52.8	-11
	comp=Z,156nm,0.6s,baz=265,slow=22,SNR=14							
PALK				LR		LR	16 06 26.8	
	comp=Z,734nm,20.9s,baz=174,slow=36							
NONG	**Nongkai**	**12.69**	**50**	P		**Pn**	**16 01 53.3**	**+3.9**
MDRS	**Chennai**	**12.85**	**285**	eP		**Pn**	**16 01 51.9**	**+0.3**
MDRS				IAmb		IAmb	16 01 53.5	
	comp=Z,310nm,0.4s							
MDRS				eS		Sn	16 04 00.6	-13
UBPT	**Khong Chiam**	**13.25**	**65**	Pn		**Pn**	**16 01 59.9**	**+2.7**
UBPT	**Khong Chiam**	**13.25**	**65**	P		**Pn**	**16 01 59.8**	**+2.7**
MYKOM	**Kota Tinggi**	**13.54**	**126**			**Pn**	**16 02 02.2**	**+1.1**

SHL Shillong 15.50 356 P **Pn** **16 02 28.4 +1.3**
SHL Shillong 15.50 356 P **Pn** **16 02 28.4 +1.3**
SHL pmax pmax
comp=Z,61nm,0.8s
SHL Shillong 15.50 356 *e*P **Pn** **16 02 28.0 +1.0**
SHL IAmb IAmb 16 02 29.6
comp=Z,50nm,0.9s
DSRI Dabo 15.55 131 P **P** **16 02 30.2 -0.8**
comp=Z,43nm,1.4s,comp=Z,1µm
KOHI KOHIMA 15.66 4 *e*P **Pn** **16 02 26.2 -2.8**
KOHI IAmb IAmb 16 02 34.3
comp=Z,220nm,0.8s
HYB Hyderabad 15.83 299 *e*P **P** **16 02 33.6 -0.5**
TNCH TengChong 15.83 19⇑*i*P **P** **16 02 34.5 +0.3**
TNCH sP pP 16 02 44.3 -1.3
TNCH S **Sn** **16 05 25.3 -0.6**
TNCH pmax pmax
comp=Z,54nm,0.7s
TNCH LR LR
comp=Z,240nm,17.9s
TNCH LR LR
comp=Z,220nm,16.1s
TNCH LR LR
comp=Z,480nm,21.1s
TRD Trivandrum 15.89 266 *e*P **Pn** **16 02 32.6 +0.7**
BLSP Bilaspur 15.92 320 *e*P **Pn** **16 02 30.8 -1.5**
MOKO MOKOCHONG 16.28 5 *e*P **Pn** **16 02 34.6 -2.4**
MOKO IAmb IAmb 16 02 45.6
comp=Z,165nm,0.7s
TEZP TEZPUR 16.51 359 *e*P **Pn** **16 02 37.3 -2.4**
TEZP IAmb IAmb 16 02 52.4
comp=Z,37nm,0.7s
ITAN ITANAGAR 17.05 2 *e*P **Pn** **16 02 44.7 -1.8**
ITAN IAmb IAmb 16 03 01.4
comp=Z,161nm,0.8s
MNAI Manna 17.39 145 P **Pn** **16 02 51.1 +0.3**
MNAI Manna 17.39 145 P **Pn** **16 02 50.9 +0.1**
comp=Z,284nm,0.9s
ZIRO ZIRO 17.44 3 *e*P **Pn** **16 02 48.8 -2.6**
ZIRO IAmb IAmb 16 03 09.9
comp=Z,153nm,1.1s
ODAN Odare 17.57 343 *e*P **Pn** **16 02 53.2 +0.1**
KMI Kunming 17.65 30⇑P **P** **16 02 55.5 +1.1**
KMI pmax pmax
comp=Z,24nm,0.9s
KMI LR LR
comp=Z,350nm,20.3s
KMI LR LR
comp=Z,290nm,19.5s
KMI LR LR
comp=Z,460nm,21.6s
GTK Tadong 17.70 347 *e*P **P** **16 02 55.7 +0.8**
GTK IAmb IAmb 16 03 13.3
comp=Z,48nm,0.7s
PPBI Pangkal Pinang 17.83 132 P **P** **16 02 58.4 +2.2**
comp=Z,38nm,1.2s
RAMN Ramite 17.89 341 *e*P **P** **16 02 58.1 +1.0**
comp=Z,58nm,0.4s
TAPN Taplejung 17.95 345 *e*P **P** **16 02 58.1 +0.4**
PZH PanZhiHua 18.37 26 P **P** **16 03 02.3 +0.1**
PZH S **S** **16 06 33.4 +3.9**
PZH pmax pmax
comp=Z,30nm,1.1s
PZH pmax pmax
comp=Z,280nm,6.3s
PZH LR LR
comp=Z,310nm,13.2s
PZH LR LR
comp=Z,320nm,13.2s
PZH LR LR
comp=Z,480nm,20.6s
LWLI Liwa 18.57 143 P **P** **16 03 04.3 -0.1**
comp=Z,66nm,0.6s,comp=Z,2µm
QIZ Qiongzhong 18.60 59 P **Pn** **16 03 06.3 +0.9**
QIZ Qiongzhong 18.60 59 P **P** **16 03 04.9 +0.2**
QIZ S **S** **16 06 34.8 +0.7**
QIZ LR LR
comp=Z,300nm,9.8s
QIZ LR LR
comp=Z,460nm,10.2s
QIZ LR LR
comp=Z,430nm,10.6s
JIRN Jiri 18.68 341 *e*P **Pn** **16 03 06.9 +0.2**
comp=Z,125nm,0.7s
AKL Akola 18.69 307 *e*P **Pn** **16 03 09.0 +2.5**
AKL IAmb IAmb 16 03 24.5
comp=Z,47nm,0.6s
PKI Pulchoki 18.87 339 *e*P **Pn** **16 03 09.0 +0.1**
comp=Z,75nm,0.6s
DMN Daman 19.01 338 *e*P **Pn** **16 03 10.6 0.0**
comp=Z,147nm,0.6s
GUN Gumba 19.02 340 *e*P **Pn** **16 03 10.7 0.0**
comp=Z,129nm,0.5s
KKN Kakani 19.11 339 *e*P **P** **16 03 10.6 +0.1**
comp=Z,71nm,0.6s
KASI Kota Agung 19.23 143 P **P** **16 03 08.8 -2.8**
comp=Z,64nm,0.5s
GOA Goa 19.46 288 *e*P **Pn** **16 03 17.7 +2.0**
GKN Gorkha 19.54 337 *e*P **Pn** **16 03 16.3 -0.5**
comp=Z,178nm,0.5s
KAD Karad 19.65 294 *e*P **Pn** **16 03 18.6 +0.7**
LSA Lhasa 19.66 355 P **P** **16 03 16.5 -0.2**
LSA Lhasa 19.66 355 P **P** **16 03 16.5 -0.2**
LSA pmax pmax
comp=Z,38nm,0.7s
KOLN Koldanda 19.75 335 *e*P **Pn** **16 03 18.8 -0.5**
comp=Z,196nm,0.6s
DANN Dangsing 20.20 336 *e*P Pn 16 03 23.5 -1.1
comp=Z,295nm,0.6s
PYUN Piuthan 20.30 334 *e*P Pn 16 03 24.6 -1.2
comp=Z,70nm,0.7s
POO Poona 20.37 297 *e*P Pn 16 03 28.2 +1.7
POO IAmb IAmb 16 03 29.2
comp=Z,55nm,1.1s
SBUM Sibu 20.53 110 P **P** **16 03 26.6 +0.8**
GYA Guiyang 20.85 37⇓P **P** **16 03 29.4 +0.1**
GYA S **S** **16 07 18.5 -0.6**
GYA pmax pmax
comp=Z,110nm,0.8s
GYA pmax pmax
comp=Z,410nm,6.0s
GYA LR LR
comp=Z,460nm,13.5s
STKI Sintang 20.88 117 P **P** **16 03 30.3 +0.7**
comp=Z,47nm,1.0s,comp=Z,5µmcomp=Z,8µm
LEM Lembang 22.19 138 LR LR 16 14 45.6
comp=Z,338nm,18.1s,baz=320,slow=43
GULI GuiLin 22.43 45 P **P** **16 03 52.6 +6.5**
LGTI Lohaghat 22.71 330 *e*P **P** **16 03 50.0 +0.9**
PTH Pithoragarh 22.81 330 *e*P **P** **16 03 50.9 +0.6**
CD2 Chengdu 23.08 24 P **P** **16 03 51.3 -1.5**
CD2 pP pP 16 04 00.0 -4.8
CD2 S **S** **16 08 02.1 +2.1**
CD2 sS sS 16 08 20.8 -0.7
CD2 pmax pmax
comp=Z,60nm,0.9s
CD2 LR LR
comp=Z,380nm,12.7s
CD2 LR LR
comp=Z,290nm,14.5s
CD2 LR LR
comp=Z,340nm,12.2s
KKM Kota Kinabalu 23.33 98 P **P** **16 03 55.3 -0.2**
KKM Kota Kinabalu 23.33 98 P **P** **16 03 55.8 +0.3**
KUDL Kundal 23.79 322 *e*P **P** **16 04 00.5 +1.0**
AJM Ajmer 23.86 316 *e*P **P** **16 04 01.3 +1.1**
AJM IAmb IAmb 16 04 10.2
comp=Z,20nm,0.7s
MTKI Muara Teweh, K 24.37 115 P **P** **16 04 06.3 +1.3**
comp=Z,35nm,0.5s
ENH Enshi 25.35 35 P **P** **16 04 10.7 -3.1**
ENH IAmb IAmb 16 04 34.1
comp=Z,61nm,0.8s
BBKI Banjar Baru 25.56 121 P **P** **16 04 17.7 +1.9**
comp=Z,160nm,0.8s,comp=Z,4µm
MYLDM Lahad Datu 25.73 99 P **P** **16 04 18.7 +1.4**
MYLDM IAmb IAmb 16 04 42.7
comp=Z,196nm,1.1s
GOMU GeErMu 26.12 3 P **P** **16 04 21.4 +0.3**
GOMU pmax pmax
comp=Z,38nm,1.0s
H08S3 Diego Garcia H 26.91 230 T T 16 31 48.6
baz=49,slow=75
H08S2 Diego Garcia H 26.91 230 T T 16 32 30.4
baz=49,slow=75
H08S1 Diego Carcia H 26.93 230 T T 16 32 00.5
baz=49,slow=75
DHRM DHARAMSHALA 26.97 328 *e*P **P** **16 04 29.3 +0.7**
TGY Tagaytay City 27.62 79 LR LR 16 15 13.0
comp=Z,413nm,19.2s,baz=122,slow=36
LZH Lanzhou 27.76 19⇑P **P** **16 04 35.4 -0.2**
LZH pP pP 16 04 45.5 -3.1
LZH sP pwP 16 04 50.6 0.0
LZH pmax pmax
comp=Z,71nm,1.0s
LZH pmax pmax
comp=Z,160nm,6.3s
LZH LR LR
comp=Z,220nm,16.0s
LZH LR LR
comp=Z,270nm,14.4s
LZH LR LR
comp=Z,710nm,16.1s
XAN Xi'an 28.02 29⇑P **P** **16 04 35.6 -2.2**
XAN PcP **PcP** **16 07 52.4 +0.7**
XAN S **S** **16 09 12.8 -5.9**
XAN pmax pmax
comp=Z,22nm,1.0s
XAN LR LR
comp=Z,410nm,16.2s
XAN LR LR
comp=Z,410nm,17.5s
XAN LR LR
comp=Z,670nm,18.1s
MPSI Mapaga 28.44 108 P **P** **16 04 42.3 +0.6**
comp=Z,16nm,0.9s
WHN Wuhan 28.51 41 P P 16 04 47.1 +5.0
WHN pmax pmax
comp=Z,16nm,0.7s
TOLI2 Tolitoli 29.02 106 P **P** **16 04 47.3 +0.5**
NIL Nilore 29.70 325 P **P** **16 04 53.3 +0.6**
NIL IAmb IAmb 16 04 54.2
comp=Z,61nm,0.5s
NIL Nilore 29.70 325 P **P** **16 04 53.3 +0.6**
NIL pmax pmax
comp=Z,61nm,0.5s
TTSI Tana Toraja 29.71 115 P **P** **16 04 55.2 +2.3**
comp=Z,23nm,1.1s
GTA Gaotai 29.90 11⇑P **P** **16 04 54.8 +0.3**
GTA sP sP 16 05 13.8 0.0
GTA pmax pmax
comp=Z,39nm,1.0s
SSLB Suanglung 29.98 59 P **P** **16 04 54.3 -1.0**
SSLB PcP **PcP** **16 08 00.2 +3.3**
YULB Yu-li 30.12 60 P **P** **16 04 56.1 -0.4**
YULB IAmb IAmb 16 05 00.2
comp=Z,152nm,1.8s
LYN LuoYang 30.23 33⇓P **P** **16 04 57.6 +0.2**
LYN pP pP 16 05 11.0 +0.5
LYN sP sP 16 05 19.3 +2.7
LYN S **S** **16 09 58.8 +5.5**
LYN pmax pmax
comp=Z,40nm,0.8s
LYN pmax pmax
comp=Z,240nm,4.3s
LYN LR LR
comp=Z,580nm,12.4s
LYN LR LR
comp=Z,270nm,13.7s
LYN LR LR
comp=Z,770nm,16.3s
MRSI Marisa 30.32 106 P **P** **16 04 59.7 +1.4**
comp=Z,37nm,0.8s
KAPI Kappang 30.56 118 LR LR 16 17 39.3
comp=Z,222nm,20.9s,baz=296,slow=37
BKSI Bulukumba 31.03 118 P **P** **16 05 04.9 +0.3**
comp=Z,73nm,0.8s
LUWI Luwuk 31.62 109 P **P** **16 05 12.2 +2.4**
comp=Z,88nm,0.8s,comp=Z,2µm
KMSI Cibinong 32.22 105 P **P** **16 05 18.7 +3.6**
comp=Z,327nm,0.9s,comp=Z,3µm
NJ2 Nanjing 32.45 44 *e*P P 16 05 22.0 +5.1
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,350nm,3.9s
KBL Kabul 32.79 322 P **P** **16 05 19.6 -0.6**
KBL Kabul 32.79 322 P **P** **16 05 19.6 -0.6**
KBL pmax pmax
comp=Z,9.0nm,0.9s
KSH Kashi 33.06 335 P **P** **16 05 21.5 -0.9**
KSH pP pP 16 05 32.1 -3.4
KSH PcP **PcP** **16 08 06.0 +1.0**
KSH S **S** **16 10 35.5 -2.2**
KSH pmax pmax
comp=Z,39nm,0.6s
WUS Wushi 33.35 341 P **P** **16 05 25.6 +0.7**
WUS pP **pP** **16 05 38.8 +0.7**
HNS HongShan 33.57 32⇓P **P** **16 05 27.1 +0.5**
HNS pmax pmax
comp=Z,53nm,0.7s
WMQ Urumqi 33.99 353 *e*P **P** **16 05 30.9 +0.6**
WMQ sP sP 16 05 48.0 -1.6
WMQ pmax pmax
comp=Z,22nm,0.7s
WMQ LR LR
comp=Z,230nm,27.9s
BTO Baotou 34.00 24 *e*P **P** **16 05 29.8 -0.6**
BTO pP **pP** **16 05 44.8 +1.2**
BTO sP **sP** **16 05 52.3 +2.6**
BTO PP **PP** **16 06 46.1 -2.1**
BTO S **S** **16 10 51.8 -0.3**
BTO sS **sS** **16 11 15.8 +1.4**
BTO SS **SnSn** **16 13 03.9 +1.0**
BTO pmax pmax
comp=Z,81nm,0.9s
BTO pmax pmax
comp=Z,450nm,6.3s
TIA Tai'an 34.05 36 P **P** **16 05 30.0 -0.8**
TIA pmax pmax
comp=Z,16nm,0.7s
EDFI Ende, Flores 34.12 122 P **P** **16 05 28.6 -3.2**
comp=Z,40nm,1.1s
TARG Taragay, Kyrgy 34.30 340 P **P** **16 05 33.7 +0.3**
TARG IAmb IAmb 16 05 35.6
comp=Z,39nm,0.7s
TARG Taragay, Kyrgy 34.30 340 P **P** **16 05 33.7 +0.3**
TARG pmax pmax
comp=Z,39nm,0.7s
PRZ Przheval'sk 34.78 341 P **P** **16 05 38.3 +1.0**
PRZ Przheval'sk 34.78 341 P **P** **16 05 38.3 +1.0**
PRZ pmax pmax
comp=Z,71nm,0.6s
HHC Hu-ho-hao-te 34.83 25⇑P **P** **16 05 37.3 -0.3**
HHC pmax pmax
comp=Z,52nm,0.9s
HHC pmax pmax
comp=Z,360nm,4.6s
SANI Sanana 34.98 108 P **P** **16 05 39.7 +0.6**
comp=Z,21nm,1.2s
SHLS Shalkode 35.06 343⇑*i*P **P** **16 05 38.6 -1.1**
comp=Z,16nm,0.6s,baz=343
SHLS Shalkode 35.06 343*c i*P **P** **16 05 38.5 -1.1**
SHLS pmax pmax
comp=Z,16nm,0.6s
UZB Uzynbulak 35.18 342 *e*P **P** **16 05 40.4 -0.3**
comp=Z,6.4nm,0.4s,baz=342
UZB Uzynbulak 35.18 342 *e*P **P** **16 05 40.3 -0.4**
UZB pmax pmax
comp=Z,6.0nm,0.4s
SATY Saty 35.29 341⇑*i*P **P** **16 05 41.5 -0.2**
comp=Z,19nm,0.6s,baz=341
SATY Saty 35.29 341*c i*P **P** **16 05 41.4 -0.2**
SATY pmax pmax
comp=Z,19nm,0.6s
WSAR Wadi Sarin 35.34 296 LR LR 16 19 09.6
comp=Z,220nm,21.8s,baz=122,slow=34
ZHN Zhinishke 35.38 341 *e*P **P** **16 05 42.5 +0.1**
baz=342
ZHN Zhinishke 35.38 341 *e*P **P** **16 05 42.5 +0.1**
KZA Kyzart 35.53 337 P **P** **16 05 45.2 +1.1**
SNR=13
KPKS Kokpek 35.58 342 *e*P **P** **16 05 44.1 0.0**
comp=Z,10nm,0.6s,baz=342
KPKS Kokpek 35.58 342 *e*P **P** **16 05 44.0 0.0**
KPKS pmax pmax
comp=Z,10.0nm,0.6s
CHGR Chuyangaron 35.62 327 P **P** **16 05 44.0 -0.4**
CHGR IAmb IAmb 16 05 45.4
comp=Z,117nm,1.3s
CHGR Chuyangaron 35.62 327 P **P** **16 05 44.0 -0.4**
CHGR pmax pmax
comp=Z,117nm,1.3s
SIMJ Simiganj 35.70 327 P **P** **16 05 45.4 +0.2**
SIMJ PcP **PcP** **16 08 13.7 +1.1**
SIMJ ScP **ScP** **16 11 55.3 +0.9**
TNSS Tian-Shan 35.75 340 *e*P **P** **16 05 45.8 -0.1**
baz=340
TNSS Tian-Shan 35.75 340 *e*P **P** **16 05 45.7 -0.1**
BTK Batken 35.82 330 P **P** **16 05 47.7 +1.6**
BTK IAmb IAmb 16 05 51.0
comp=Z,44nm,0.7s
BTK PcP **PcP** **16 08 14.1 +1.3**
BTK Batken 35.82 330 P **P** **16 05 47.7 +1.6**
BTK 16 08 14.1
BTK pmax pmax
comp=Z,44nm,0.7s
MDOK Medeo 35.83 340 *e*P **P** **16 05 46.4 +0.2**
baz=340
MDOK Medeo 35.83 340 *e*P **P** **16 05 46.4 +0.2**
ARSB Arslanbob 35.83 334 P **P** **16 05 47.5 +1.2**
ARSB IAmb IAmb 16 05 48.6
comp=Z,25nm,0.6s
ARSB Arslanbob 35.83 334 P **P** **16 05 47.5 +1.2**
ARSB pmax pmax
comp=Z,25nm,0.6s
AAA Alma-Ata 35.91 340 *e*P **P** **16 05 47.2 +0.2**
baz=340
AAA Alma-Ata 35.91 340 *e*P **P** **16 05 47.1 +0.2**
UCH Uchtor 35.95 336 P **P** **16 05 48.8 +1.2**
SNR=17
TKM2 Tokmak 2 36.13 338 P **P** **16 05 49.8 +0.9**
SNR=25
TKM2 Tokmak 2 36.13 338 P **P** **16 05 49.3 +0.4**
KBK Karagaybulak 36.14 337 P **P** **16 05 50.6 +1.6**
SNR=58
AML Almayashu 36.20 335 P **P** **16 05 51.2 +1.5**
SNR=44
AAK Ala-Archa 36.30 337 P **P** **16 05 51.9 +1.6**
SNR=26
AAK Ala-Archa 36.30 337 P **P** **16 05 51.7 +1.4**
AAK IAmb IAmb 16 05 52.8
comp=Z,33nm,0.8s
AAK PcP **PcP** **16 08 15.7 +1.4**
AAK Ala-Archa 36.30 337*c i*P **P** **16 05 51.7 +1.4**
AAK pmax pmax
comp=Z,47nm,1.0s
AAK Ala-Archa 36.30 337 LR LR 16 22 18.2
comp=Z,339nm,21.6s,baz=152,slow=39
AAK Ala-Archa 36.30 337 P **P** **16 05 51.7 +1.4**
AAK PcP **PcP** **16 08 15.7 +1.4**
AAK ScP **ScP** **16 11 57.3 +0.8**
BJI Beijing 36.31 31 P **P** **16 05 50.6 +0.4**
BJI pmax pmax
comp=Z,8.0nm,0.8s
BJI LR LR
comp=Z,120nm,17.6s
BJI LR LR
comp=Z,100nm,14.6s
BJI LR LR
comp=Z,180nm,19.6s
NLAI Namlea 36.44 109 P **P** **16 05 52.9 +1.3**
comp=Z,12nm,0.6s
CHKK Chushkaly 36.46 340 *e*P **P** **16 05 51.8 +0.3**
baz=340
CHKK Chushkaly 36.46 340 *e*P **P** **16 05 51.8 +0.3**
CHMS Chumysh 36.51 337 P **P** **16 05 52.8 +0.9**
SNR=34
EKS2 Erkin-Say 36.61 336 P **P** **16 05 54.6 +1.7**
SNR=48
KUU Kurty 36.72 340 *e*P **P** **16 05 53.1 -0.5**
baz=340
KUU Kurty 36.72 340 *e*P **P** **16 05 53.1 -0.5**
SOEI Soe 36.80 121 P **P** **16 05 52.6 -2.3**
SOEI IAmb IAmb 16 06 04.0
comp=Z,41nm,0.7s
SOEI Soe 36.80 121 P **P** **16 05 51.8 -3.1**
comp=Z,59nm,0.8s
USP Ospenovka 36.84 337 P **P** **16 05 55.8 +1.1**
SNR=58
SGDS Sogindy 36.95 338 *e*P **P** **16 05 55.6 -0.1**
baz=338
SGDS Sogindy 36.95 338 *e*P **P** **16 05 55.6 -0.1**
TDK Taldyqorghan 37.05 343 *e*P **P** **16 05 56.3 -0.3**
baz=343
TDK Taldyqorghan 37.05 343 *e*P **P** **16 05 56.2 -0.3**
JOW Kunigami 37.25 59 P **P** **16 05 57.2 -1.2**
JOW IAmb IAmb 16 06 02.4
comp=Z,76nm,1.4s
JOW Kunigami 37.25 59 P **P** **16 05 59.5 +1.1**
JOW Kunigami 37.25 59 LR LR 16 23 37.9
comp=Z,150nm,19.5s,baz=190,slow=40
MK31 Makanchi Array 37.77 348 P **P** **16 06 02.1 -0.4**
MK31 PcP **PcP** **16 08 19.0 +0.5**
MK31 Makanchi Array 37.77 348*ce*P **P** **16 06 02.1 -0.4**
MKAR Makanchi Array 37.77 348 P **P** **16 06 02.2 -0.3**
comp=Z,20nm,0.7s,baz=170,slow=7.9,SNR=202
MKAR PcP **PcP** **16 08 18.9 +0.4**
comp=Z,5.3nm,0.6s,baz=201,slow=4.0,SNR=8.7
MKAR LR LR 16 24 36.1
comp=Z,152nm,19.0s,baz=175,slow=41
comp=Z,20nm,0.7s
DZA Taraz 37.82 334 *e*P **P** **16 06 03.5 +0.4**
baz=334
DZA Taraz 37.82 334 *e*P **P** **16 06 03.4 +0.4**
MAKZ Makanchi 37.84 348 P **P** **16 06 02.6 -0.6**
MAKZ IAmb IAmb 16 06 03.6
comp=Z,21nm,0.6s
MAKZ PcP **PcP** **16 08 19.2 +0.5**
MAKZ Makanchi 37.84 348 P **P** **16 06 02.8 -0.4**
MAKZ pP **pP** **16 06 16.8 +0.3**
MAKZ PcP **PcP** **16 08 19.0 +0.3**
MAKZ ScP **ScP** **16 12 01.8 -0.2**
ZSN Zaisan 37.94 351 *e*P **P** **16 06 03.9 -0.1**
baz=351
ZSN Zaisan 37.94 351 *e*P **P** **16 06 03.8 -0.1**
CHM Chimkent 38.15 332 *e*P **P** **16 06 06.4 +0.6**
baz=332
CHM Chimkent 38.15 332 *e*P **P** **16 06 06.3 +0.5**
KK31 Karatay Array 38.35 333 P **P** **16 06 07.9 +0.4**
KK31 IAmb IAmb 16 06 09.7
comp=Z,57nm,1.1s
KK31 Karatay Array 38.35 333 *e*P **P** **16 06 07.8 +0.3**
KKAR Karatay Array 38.35 333 P **P** **16 06 08.2 +0.7**
KKAR Karatay Array 38.35 333 P **P** **16 06 08.1 +0.7**
KKAR IAmb IAmb 16 06 09.7
comp=Z,57nm,1.1s
KKAR Karatay Array 38.35 333 P **P** **16 06 08.2 +0.7**
BTLS Baital 38.52 338 *e*P **P** **16 06 08.9 0.0**
comp=Z,10nm,0.4s,baz=338
BTLS Baital 38.52 338 *e*P **P** **16 06 08.8 0.0**
BTLS pmax pmax
comp=Z,11nm,0.4s
GIRL Giralia 38.56 148 P **P** **16 06 09.0 -0.5**
baz=39,SNR=3.4
GIRL Giralia 38.56 148 P **P** **16 06 08.9 -0.5**
GIRL Giralia 38.56 148 P **P** **16 06 09.9 +0.5**
XLT XiLinHaoTe 39.25 27⇓*i*P **P** **16 06 15.5 +0.4**
XLT pmax pmax
comp=Z,35nm,1.0s
XLT pmax pmax
comp=Z,180nm,4.6s
SONM Songino Array 39.36 14 P **P** **16 06 15.7 -0.2**
SONM PcP **PcP** **16 08 24.1 +0.5**
SONM Songino Array 39.36 14 P **P** **16 06 15.6 -0.3**
comp=Z,20nm,0.8s,baz=202,slow=7.7,SNR=104
SONM PcP **PcP** **16 08 24.1 +0.5**
comp=Z,5.5nm,0.7s,baz=204,slow=3.8,SNR=5.9
SONM LR LR 16 24 37.3
comp=Z,274nm,20.9s,baz=150,slow=39
comp=Z,20nm,0.8s
ULN Ulaanbaatar 39.55 15 P **P** **16 06 16.3 -1.3**
ULN Ulaanbaatar 39.55 15*c i*P **P** **16 06 16.9 -0.6**
ULN pmax pmax
comp=Z,23nm,1.0s
ULN Ulaanbaatar 39.55 15 P **P** **16 06 17.0 -0.6**
ULN PcP **PcP** **16 08 25.0 +0.8**
SWI Sorong 39.59 104 P **P** **16 06 17.5 -0.7**
comp=Z,24nm,1.0s
DGZ Jazzator, Alta 39.83 354⇑*e*P **P** **16 06 19.9 0.0**
DGZ pmax pmax
comp=Z,21nm,1.6s
MBWA Marble Bar 40.62 140 P **P** **16 06 24.2 -2.4**
MBWA PcP **PcP** **16 08 28.1 +0.2**
MBWA Marble Bar 40.62 140 P **P** **16 06 25.0 -1.6**
TJN Taejon 40.70 44 P **P** **16 06 26.0 -1.1**

TJN IAmb IAmb 16 06 28.1
comp=Z,106nm,0.7s
TJN Taejon 40.70 44 *ce*P **P 16 06 27.7 +0.6**
INCN Inchon 40.80 42 P **P 16 06 27.4 -0.5**
PSA00 Pilbara Seismi 41.00 140 P **P 16 06 27.9 -1.8**
PSA00 Pilbara Seismi 41.00 140 P **P 16 06 28.0 -1.8**
PSA00 IAmb IAmb 16 06 28.6
comp=Z,9.8nm,0.8s
PSA00 Pilbara Seismi 41.00 140 P **P 16 06 27.7 -2.0**
ZAK Zakamensk 41.13 10 *eP* **P 16 06 29.0 -1.6**
ZAK *e* 16 08 25.8
ZAK pmax pmax
comp=Z,9.0nm,1.1s
ZAK pmax pmax
comp=Z,6.0nm,1.2s
FAKI Fak Fak 41.16 106 P **P 16 06 28.7 -2.5**
FAKI Fak Fak 41.16 106 P **P 16 06 31.1 -0.1**
KS19 Wonju Array Si 41.64 43 P **P 16 06 32.2 -2.6**
KSRS Korea Array 41.65 43 P **P 16 06 33.9 -1.0**
comp=Z,3.0nm,0.5s,baz=242,slow=8.9,SNR=23
KSRS PcP **PcP 16 08 31.2 +0.3**
comp=Z,1.5nm,0.6s,baz=247,slow=3.0,SNR=4.1
KSRS LR LR 16 23 53.0
comp=Z,109nm,21.8s,baz=210,slow=36
comp=Z,3.0nm,0.5s
JNU Nakatsue 41.73 51 P **P 16 06 35.1 -0.6**
JNU Nakatsue 41.73 51 P **P 16 06 35.9 +0.2**
JNU Nakatsue 41.73 51 LR LR 16 24 28.6
comp=Z,98nm,20.1s,baz=242,slow=37
GEYT Alibeck 41.86 317 P **P 16 06 38.5 +1.8**
GEYT IAmb IAmb 16 06 55.9
comp=Z,37nm,0.8s
GEYT Alibeck 41.86 317 P **P 16 06 38.7 +2.1**
comp=Z,27nm,0.5s,baz=141,slow=9.5,SNR=74
GEYT LR LR 16 25 32.2
comp=Z,233nm,21.4s,baz=139,slow=38
comp=Z,27nm,0.5s
GYA0B ALIBECK ARRAY 41.86 317 P **P 16 06 38.5 +1.9**
MOY Mondy 42.04 7 *eP* **P 16 06 38.2 +0.2**
KURBB Kurchatov Arra 42.21 346 P **P 16 06 38.3 -0.9**
KURBB Kurchatov Arra 42.21 346 P **P 16 06 39.1 -0.1**
comp=Z,19nm,0.7s,baz=166,slow=7.6,SNR=164
KURBB PcP **PcP 16 08 33.1 +0.6**
comp=Z,8.1nm,0.6s,baz=160,slow=2.7,SNR=12
KURBB LR LR 16 26 51.1
comp=Z,245nm,21.6s,baz=163,slow=40
comp=Z,19nm,0.7s
KURK Kurchatov 42.27 346 P **P 16 06 39.1 -0.6**
KURK Kurchatov 42.27 346 *c iP* **P 16 06 39.6 -0.1**
KURK pmax pmax
comp=Z,25nm,1.0s
KURK Kurchatov 42.27 346 P **P 16 06 39.6 -0.1**
KURK pP **pP 16 06 54.6 +1.3**
KURK PcP **PcP 16 08 33.2 +0.5**
FITZ Fitzroy Crossi 42.66 131 P **P 16 06 41.8 -1.5**
baz=43,SNR=13
FITZ Fitzroy Crossi 42.66 131 P **P 16 06 41.5 -1.8**
FITZ PcP **PcP 16 08 35.2 +0.6**
FITZ Fitzroy Crossi 42.66 131 P **P 16 06 43.3 0.0**
BRZS Berezniki 43.26 341 *eP* **P 16 06 47.9 0.0**
baz=341
BRZS Berezniki 43.26 341 *eP* **P 16 06 47.8 0.0**
KNRA Kununurra 43.67 125 P **P 16 06 50.2 -1.3**
baz=44,SNR=6.6
KNRA Kununurra 43.67 125 P **P 16 06 50.4 -1.1**
KNRA IAmb IAmb 16 08 29.1
comp=Z,66nm,1.5s
KNRA Kununurra 43.67 125 P **P 16 06 50.0 -1.5**
CN2 Changchun 43.87 34 P **P 16 06 52.6 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
MEEK Meekatharra 44.12 146 P **P 16 06 53.9 -1.2**
baz=44,SNR=6.3
MEEK Meekatharra 44.12 146 P **P 16 06 53.7 -1.4**
MTN Manton Dam 44.17 120 P **P 16 06 54.4 -1.1**
baz=44,SNR=7.3
MTN Manton Dam 44.17 120 P **P 16 06 53.9 -1.7**
MTN Manton Dam 44.17 120 P **P 16 06 54.3 -1.2**
JMN Monobe 44.27 51 P **P 16 06 58.0 +1.8**
ZAA0 Zalesovo Array 44.30 353 P **P 16 06 54.9 -1.1**
ZALV Zalesovo Beam 44.30 353 P **P 16 06 55.3 -0.8**
ZALV Zalesovo Beam 44.30 353 P **P 16 06 55.6 -0.4**
comp=Z,6.7nm,0.4s,baz=173,slow=8.6,SNR=44
ZALV PcP **PcP 16 08 38.6 -1.0**
comp=Z,2.0nm,0.4s,baz=162,slow=4.5,SNR=2.4
ZALV LR LR 16 28 28.8
comp=Z,176nm,19.0s,baz=153,slow=40
comp=Z,6.7nm,0.4s
MORW Morawa 44.77 151 P **P 16 06 59.4 -0.8**
baz=45,SNR=5.8
MORW Morawa 44.77 151 P **P 16 06 59.0 -1.2**
MORW Morawa 44.77 151 P **P 16 06 59.7 -0.5**
HIA Hailar 45.03 25 P **P 16 07 02.8 +0.8**
KDU Kakadu 45.24 119 P **P 16 07 03.6 -0.4**
baz=45,SNR=13
KDU Kakadu 45.24 119 P **P 16 07 03.8 -0.3**
BNX BinXian 46.18 33 ⇑P **P 16 07 10.4 -0.7**
BNX pmax pmax
comp=Z,34nm,0.6s
BNX pmax pmax
comp=Z,110nm,4.6s
BLDU Ballidu 46.38 151 P **P 16 07 12.0 -0.9**
baz=46,SNR=5.5
BLDU Ballidu 46.38 151 P **P 16 07 12.2 -0.7**
MSHR Mys Shultsa 46.49 39 *ce*P **P 16 07 13.5 -0.1**
MSHR pmax pmax
comp=Z,8.0nm,0.6s
BVA0 Borovoye Array 46.61 341 *i* P **P 16 07 13.7 -0.7**
BVAR Borovoye Array 46.61 341 P **P 16 07 14.2 -0.2**
comp=Z,14nm,0.4s,baz=138,slow=9.0,SNR=46
BVAR PcP **PcP 16 08 48.3 +0.7**
comp=Z,8.6nm,0.5s,baz=143,slow=6.7,SNR=7.6
BVAR LR LR 16 28 33.8
comp=Z,64nm,21.8s,baz=150,slow=38
comp=Z,14nm,0.4s
BRVK Borovoye 46.67 341 P **P 16 07 14.4 -0.4**
BRVK IAmb IAmb 16 07 15.4
comp=Z,25nm,0.6s
BRVK Borovoye 46.67 341 P **P 16 07 14.4 -0.4**
BRVK pmax pmax
comp=Z,25nm,0.6s
BRVK Borovoye 46.67 341 P **P 16 07 14.6 -0.3**
BRVK sP **sP 16 07 35.3 +0.8**
BRVK PcP **PcP 16 08 48.4 +0.5**
MDJ Mudanjiang 46.71 36 P **P 16 07 16.3 +1.0**
MDJ pmax pmax
comp=Z,7.0nm,1.2s
MDJ pmax pmax
comp=Z,260nm,6.2s
MUN Mundaring 47.30 153 P **P 16 07 19.5 -0.4**
baz=47,SNR=12
MUN Mundaring 47.30 153 P **P 16 07 19.6 -0.4**
KLBR Kellerberrin 47.69 151 P **P 16 07 22.5 -0.6**
baz=48,SNR=4.9
AB31 Akbulak array 47.82 331 *i* P **P 16 07 24.1 +0.3**
ABKAR Akbulak array 47.82 331 P **P 16 07 24.8 +1.0**
USRK Ussuriysk Ar. 47.89 38 P **P 16 07 23.6 -0.9**
USRK PcP **PcP 16 08 50.4 -1.9**
USRK Ussuriysk Ar. 47.89 38 P **P 16 07 23.9 -0.6**
comp=Z,4.5nm,0.5s,baz=260,slow=6.6,SNR=23
USRK PcP **PcP 16 08 51.4 -0.9**
comp=Z,2.0nm,0.5s,baz=222,slow=3.9,SNR=4.7
USRK LR LR 16 28 13.4
comp=Z,98nm,19.2s,baz=231,slow=37
comp=Z,4.5nm,0.5s
RER Riviere de l'E 47.94 230 P **P 16 07 28.9 +3.7**
NWAO Narrogin (SRO) 48.56 153 P **P 16 07 29.0 -0.7**
baz=49,SNR=17
NWAO P **P 16 07 29.0 -0.7**
baz=49,SNR=17
NWAO Narrogin (SRO) 48.56 153 P **P 16 07 28.7 -1.0**
NWAO IAmb IAmb 16 08 01.9
comp=Z,86nm,1.6s
NWAO Narrogin (SRO) 48.56 153 P **P 16 07 28.8 -1.0**
NWAO IAmb IAmb 16 08 01.9
comp=Z,309nm,1.6s
NWAO Narrogin (SRO) 48.56 153 P **P 16 07 29.2 -0.5**
NWAO Narrogin (SRO) 48.56 153 P **P 16 07 29.0 -0.7**
NWAO Narrogin (SRO) 48.56 153 P **P 16 07 28.8 -0.9**
NWAO pmax pmax
comp=Z,309nm,1.7s
NWAO Narrogin (SRO) 48.56 153 LR LR 16 26 08.6
comp=Z,121nm,21.9s,baz=334,slow=34
MJB9 Matsu-Tunnel 48.61 50 P **P 16 07 29.4 -0.8**
MJB9 PcP **PcP 16 08 56.1 +1.0**

MAJO Matsushiro 48.61 50 P **P 16 07 28.0 -2.2**
MAJO Matsushiro 48.61 50 P **P 16 07 31.1 +0.9**
MAJO Matsushiro 48.61 50 *ce*P **P 16 07 29.9 -0.3**
MAJO pmax pmax
comp=Z,32nm,2.1s
MJAR Matsushiro Arr 48.61 50 P **P 16 07 29.7 -0.5**
comp=Z,3.0nm,0.8s,baz=227,slow=3.5,SNR=8.9
MJAR PcP **PcP 16 08 55.3 +0.2**
comp=Z,8.9nm,0.7s,baz=235,slow=2.0,SNR=14
MJAR LR LR 16 28 22.5
comp=Z,116nm,21.8s,baz=246,slow=36
comp=Z,3.0nm,0.8s
JHJ Hachijo jima 2 48.71 54 LR LR 16 29 52.9
comp=Z,55nm,20.0s,baz=123,slow=38
WRKA Warakurna 48.98 136 P **P 16 07 31.6 -1.5**
baz=49,SNR=30
WRKA Warakurna 48.98 136 P **P 16 07 31.7 -1.4**
HEH HeiHe 49.15 29 *eP* **P 16 07 33.3 -0.8**
HEH pmax pmax
comp=Z,37nm,0.5s
HEH pmax pmax
comp=Z,130nm,5.9s
ATD Arta Tunnel 49.23 277 LR LR 16 25 02.3
comp=Z,5.4nm,21.2s,baz=123,slow=32
AKTO Aktyubinsk 49.53 331 P **P 16 07 36.7 -0.3**
RKGY Rocky Gully 49.87 154 P **P 16 07 39.2 -0.5**
baz=50,SNR=5.5
BOD Bodaibo 50.36 14 *eP* **P 16 07 42.0 -1.1**
BOD pmax pmax
comp=Z,24nm,1.2s
WB0 Warramunga Arr 50.38 126 P **P 16 07 42.9 -1.0**
WRA Warramunga Arr 50.43 126 P **P 16 07 43.6 -0.7**
WRA Warramunga Arr 50.43 126 P **P 16 07 43.6 -0.7**
WRA pmax pmax
comp=Z,13nm,0.6s
WRA Warramunga Arr 50.43 126 P **P 16 07 43.6 -0.7**
comp=Z,102nm,0.6s,baz=306,slow=8.4,SNR=1554
WRA PcP **PcP 16 09 02.2 +0.2**
comp=Z,5.4nm,0.6s,baz=308,slow=3.5,SNR=4.8
WRA ScP **ScP 16 12 51.8 -1.9**
comp=Z,0.6nm,0.8s,baz=314,slow=3.6,SNR=3.3
WRAB Tennant Creek 50.44 126 P **P 16 07 43.5 -0.8**
WRAB Tennant Creek 50.44 126 P **P 16 07 43.5 -0.8**
WRAB pmax pmax
comp=Z,130nm,0.5s
WB2 Warramunga Arr 50.44 126 P **P 16 07 43.3 -1.0**
WR0 Warramunga Arr 50.60 126 P **P 16 07 42.9 -2.6**
KLR Kul'dur 50.66 32 *ce*P **P 16 07 45.0 -0.5**
KLR pmax pmax
comp=Z,11nm,1.3s
KLR Kul'dur 50.66 32 LR LR 16 30 07.8
comp=Z,100nm,19.3s,baz=247,slow=37
GUMO Guam 50.84 81 LR LR 16 26 57.1
comp=Z,74nm,21.1s,baz=264,slow=33
JMM Marumori 51.01 49 P **P 16 07 45.4 -2.9**
JMM Marumori 51.01 49 P **P 16 07 49.6 +1.2**
MAK Makhachkala 51.37 318 *eP* **P 16 07 51.1 +0.2**
MAK *e* 16 09 49.2
MAK *e*PPP PPP 16 10 47.2
MAK *e*S **S 16 15 08.1 +1.5**
MAK *e*SSS SSS 16 20 24.0
MAK pmax pmax
comp=Z,95nm,0.5s
ZEA Zeya 51.49 25 *eP* **P 16 07 51.5 -0.2**
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.7s
ZEA MLR MLR
comp=Z,200nm,16.0s
GNI Garni 52.14 314 *de*P **P 16 07 58.5 +1.5**
GNI pmax pmax
comp=Z,39nm,1.2s
GNI Garni 52.14 314 LR LR 16 32 41.7
comp=Z,85nm,20.4s,baz=111,slow=39
GNI Garni 52.14 314 P **P 16 07 58.8 +1.8**
AS31 Alice Springs 52.16 130 P **P 16 07 56.3 -0.9**
ASAR Alice Springs 52.16 130 P **P 16 07 55.8 -1.4**
ASAR Alice Springs 52.16 130 P **P 16 07 56.1 -1.0**
comp=Z,29nm,0.5s,baz=306,slow=7.2,SNR=890
ASAR PcP **PcP 16 09 08.9 +0.5**
comp=Z,12nm,0.7s,baz=308,slow=3.4,SNR=13
ASAR ScP **ScP 16 12 59.7 -1.5**
comp=Z,0.8nm,0.7s,baz=302,slow=4.0,SNR=4.8
ASAR LR LR 16 31 18.9
comp=Z,78nm,21.2s,baz=310,slow=37
comp=Z,29nm,0.5s
JTM Tenmabayashi 52.26 46 P **P 16 07 57.9 +0.3**
JTM IAmb IAmb 16 07 58.9
comp=Z,57nm,0.6s
JTM Tenmabayashi 52.26 46 P **P 16 07 58.1 +0.5**
FORT Forrest 52.71 142 P **P 16 07 59.7 -1.4**
FORT IAmb IAmb 16 08 16.2
comp=Z,29nm,0.9s
FORT Forrest 52.71 142 P **P 16 08 00.2 -0.9**
SVE Sverdlovsk 53.00 338 *de*P **P 16 08 03.3 +0.5**
SVE pmax pmax
comp=Z,54nm,0.7s
ARU Arti 53.48 337 P **P 16 08 05.6 -0.8**
ARU IAmb IAmb 16 08 07.3
comp=Z,20nm,0.6s
ARU Arti 53.48 337 *c iP* **P 16 08 06.2 -0.2**
ARU 16 09 11.6
ARU S **S 16 15 39.7 +4.6**
ARU SS **SKiKP 16 19 17.0 -0.5**
ARU pmax pmax
comp=Z,35nm,1.3s
ARU Arti 53.48 337 P **P 16 08 06.3 -0.2**
ABPO Ambohimpanom 53.55 237 P **P 16 08 10.9 +3.2**
ABPO pP **sP 16 08 25.4 -2.5**
ZEI Tsey 53.71 316 *eP* **P 16 08 08.8 +0.2**
ZEI pmax pmax
comp=Z,17nm,0.9s
GRNR Gornyy 54.01 33 ⇑*iP* **P 16 08 10.4 0.0**
GRNR pmax pmax
comp=E,8.0nm,1.2s
GRNR pmax pmax
comp=N,7.0nm,1.0s
GRNR pmax pmax
comp=Z,20nm,1.2s
GRNR MLR MLR
comp=E,280nm,17.0s
GRNR MLR MLR
comp=N,230nm,20.0s
GRNR MLR MLR
comp=Z,130nm,20.0s
ERM Erimo 54.17 45 P **P 16 08 12.6 +0.9**
ERM IAmb IAmb 16 09 55.7
comp=Z,42nm,1.2s
ERM Erimo 54.17 45 P **P 16 08 12.5 +0.9**
ERM Erimo 54.17 45 P **P 16 08 12.6 +0.9**
ERM pmax pmax
comp=Z,42nm,1.3s
ERM Erimo 54.17 45 P **P 16 08 13.7 +2.0**
JEM Erimo 54.17 45 P **P 16 08 12.8 +1.1**
ASAJ Asahikawa 54.58 42 P **P 16 08 14.6 0.0**
ASAJ pmax pmax
comp=Z,22nm,0.9s
ASAJ Asahikawa 54.58 42 LR LR 16 32 42.0
comp=Z,76nm,18.4s,baz=196,slow=37
JKA Kamikawa-asahi 54.58 42 P **P 16 08 14.6 0.0**
JKA IAmb IAmb 16 08 27.4
comp=Z,22nm,0.9s
KBZ Khabaz 54.75 317 *d iP* **P 16 08 17.0 +1.2**
KBZ pmax pmax
comp=Z,12nm,1.0s
KBZ Khabaz 54.75 317 P **P 16 08 15.7 -0.2**
comp=Z,6.8nm,1.0s,baz=98,slow=2.2,SNR=8.2
comp=Z,6.8nm,1.0s
KIV Kislovodsk 54.98 317 ⇑P **P 16 08 16.8 -0.8**
KIV Kislovodsk 54.98 317 *eP* **P 16 08 18.1 +0.5**
KIV pmax pmax
comp=Z,21nm,1.1s
KIV MLR MLR
comp=Z,49nm,17.0s
QIS Mount Isa 54.99 124 P **P 16 08 18.0 0.0**
baz=55,SNR=30
QIS Mount Isa 54.99 124 P **P 16 08 18.0 0.0**
YSS Yuzh-Sakhalins 55.83 39 P **P 16 08 22.0 -1.5**
YSS IAmb IAmb 16 08 24.5
comp=Z,37nm,0.7s
YSS Yuzh-Sakhalins 55.83 39 ⇓*eP* **P 16 08 24.0 +0.5**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS Yuzh-Sakhalins 55.83 39 P **P 16 08 23.8 +0.3**
OOD Oodnadatta 55.87 133 P **P 16 08 23.3 -0.8**
BELG Belogornoye 55.90 328 *c iP* **P 16 08 23.9 0.0**
BELG pmax pmax
comp=Z,10.0nm,0.8s
MULG Mulgathing 56.25 137 P **P 16 08 25.6 -1.2**
KMBO Kilima Mbogo 56.56 262 P **P 16 08 31.0 +1.4**
KMBO Kilima Mbogo 56.56 262 P **P 16 08 31.0 +1.4**
comp=Z,2.0nm,0.8s,baz=52,slow=12,SNR=4.5
KMBO LR LR 16 29 14.0
comp=Z,176nm,21.9s,baz=92,slow=32
comp=Z,2.0nm,0.8s
SOC Sochi 56.86 316 *eP* **P 16 08 30.6 -0.3**
SOC *e* 16 10 35.6
SOC *e*PPP PPP 16 11 52.5
SOC *e*S **S 16 16 24.2 +3.5**
SOC *e*SS **SS 16 20 10.1 +0.6**
SOC MLR MLR
comp=Z,69nm,12.0s
PMG Port Moresby 57.26 108 P **P 16 08 33.0 -1.2**
PMG Port Moresby 57.26 108 ⇓*eP* **P 16 08 34.5 +0.3**
PMG pmax pmax
comp=Z,12nm,1.0s
PMG Port Moresby 57.26 108 LR LR 16 36 59.8
comp=Z,45nm,18.2s,baz=276,slow=40
PMG Port Moresby 57.26 108 P **P 16 08 34.8 +0.6**
PMG pP **pP 16 08 49.1 +0.9**
EIL Elat 57.39 299 LR LR 16 34 06.6
comp=Z,110nm,21.9s,baz=75,slow=37
TYV Tymovskoe 57.48 35 *eP* **P 16 08 35.8 +0.6**
TYV pmax pmax
comp=Z,14nm,1.3s
TYV pmax pmax
comp=Z,100nm,3.4s
MMAI Mount Meron Ar 57.50 303 P **P 16 08 35.0 -0.7**
comp=Z,0.3nm,0.3s,baz=107,slow=7.7,SNR=1.8
MMAI LR LR 16 35 51.8
comp=Z,156nm,21.9s,baz=80,slow=39
MTSU Mount Surprise 57.87 119 P **P 16 08 38.9 +0.4**
baz=58,SNR=12
YAK Yakutsk 58.35 19 P **P 16 08 39.2 -1.9**
YAK IAmb IAmb 16 08 41.0
comp=Z,58nm,0.8s
YAK Yakutsk 58.35 19 *c iP* **P 16 08 40.0 -1.0**
YAK *e**PP **sP 16 09 00.5 -0.6**
YAK *e* 16 09 29.4
YAK *e* 16 10 49.5
YAK *e*S **S 16 16 37.0 -2.6**
YAK *e*SS **SS 16 20 30.9 -1.3**
YAK pmax pmax
comp=Z,66nm,1.0s
YAK pmax pmax
comp=N,20nm,1.3s
YAK pmax pmax
comp=E,16nm,1.5s
YAK pmax pmax
comp=Z,210nm,5.3s
YAK pmax pmax
comp=N,142nm,4.2s
YAK pmax pmax
comp=E,93nm,4.0s
YAK smax smax
comp=E,133nm,4.1s
YAK smax smax
comp=N,111nm,3.8s
YAK Yakutsk 58.35 19 LR LR 16 36 21.4
comp=N,8.2nm,20.3s,baz=165,slow=39
YAK Yakutsk 58.35 19 P **P 16 08 40.1 -1.0**
VRH Novokhopyorsk 58.53 325 *eP* **P 16 08 42.3 -0.2**
VRH pmax pmax
comp=Z,110nm,0.6s
KIRV Kirov 58.60 335 *c iP* **P 16 08 42.8 -0.1**
ANN Anapa 58.80 317 *eP* **P 16 08 42.2 -2.3**
ANN *e**PP **pP 16 08 52.2 -6.6**
ANN *e* 16 09 32.0
ANN *e* 16 10 54.9
ANN *e*S **S 16 16 45.9 -0.2**
ANN pmax pmax
comp=Z,18nm,1.0s
BBOO Buckleboo 59.15 138 P **P 16 08 46.0 -1.1**
baz=59,SNR=19
BBOO Buckleboo 59.15 138 P **P 16 08 45.7 -1.5**
BBOO IAmb IAmb 16 08 49.1
comp=Z,13nm,0.7s
BBOO Buckleboo 59.15 138 P **P 16 08 46.2 -1.0**
LCRK Leigh Creek 59.21 134 P **P 16 08 47.3 -0.3**
INKA Innaminka 59.54 130 P **P 16 08 50.5 +0.6**
VORD Divnogorie 59.83 324 *eP* **P 16 08 50.4 -1.1**
VORD pmax pmax
comp=Z,50nm,0.8s
VSR Storozhevoye 60.00 324 *eP* **P 16 08 51.0 -1.7**
VSR pmax pmax
comp=Z,20nm,0.5s
VORR Voronezh 60.16 325 *eP* **P 16 08 53.6 -0.1**
VORR pmax pmax
comp=Z,64nm,0.5s
BR131 Keskin Array S 60.18 310 P **P 16 08 53.3 -1.1**
BR131 Keskin Array S 60.18 310 *ce*P **P 16 08 54.0 -0.4**
BRTR Keskin Array B 60.18 310 P **P 16 08 52.1 -2.3**
BRTR Keskin Array B 60.18 310 *ce*P **P 16 08 53.5 -0.9**
BRTR pmax pmax
comp=Z,2.0nm,0.4s
BRTR Keskin Array B 60.18 310 P **P 16 08 53.3 -1.1**
comp=Z,2.2nm,0.4s,baz=129,slow=6.3,SNR=27
BRTR LR LR 16 38 09.4
comp=Z,74nm,20.3s,baz=118,slow=39
comp=Z,2.2nm,0.4s
CTA Charters Tower 60.35 120 LR LR 16 38 33.9
comp=Z,106nm,18.8s,baz=278,slow=40
CTAO Charters Tower 60.35 120 P **P 16 08 52.6 -3.0**
CTAO Charters Tower 60.35 120 P **P 16 08 55.6 0.0**
CTAO Charters Tower 60.35 120 P **P 16 08 52.6 -3.0**
CTAO pmax pmax
comp=Z,15nm,0.9s
CTAO Charters Tower 60.35 120 P **P 16 08 56.0 +0.4**
CTAO PcP **PcP 16 09 40.9 +0.6**
LPSR Galich'ya Gora 60.69 326 *eP* **P 16 08 55.5 -1.9**
LPSR pmax pmax
comp=Z,60nm,1.1s
SIM Simferopol' 61.10 316 *eP* P 16 09 11.0 +11
SIM pmax pmax
comp=Z,49nm,1.1s
HTT Hallett 61.44 137 P **P 16 09 02.6 -0.2**
baz=62,SNR=70
HTT Hallett 61.44 137 P **P 16 09 02.6 -0.2**
QLP Quilpie 61.63 127 P **P 16 09 05.1 +1.0**
baz=62,SNR=36
QLP Quilpie 61.63 127 P **P 16 09 05.2 +1.0**
PRGR Permogore 61.94 337 ⇑*iP* **P 16 09 05.2 -0.4**
PRGR pmax pmax
comp=Z,39nm,0.6s
STKA Stephens Creek 62.40 134 P **P 16 09 09.3 0.0**
baz=62,SNR=87
STKA Stephens Creek 62.40 134 P **P 16 09 08.8 -0.5**
STKA Stephens Creek 62.40 134 P **P 16 09 09.2 0.0**
STKA Stephens Creek 62.40 134 *c iP* **P 16 09 09.1 -0.2**
STKA Stephens Creek 62.40 134 P **P 16 09 09.2 0.0**
comp=Z,30nm,0.6s,baz=319,slow=0.8,SNR=78
STKA LR LR 16 38 26.4
comp=Z,57nm,19.5s,baz=252,slow=38
comp=Z,30nm,0.6s
ELL Elmali 62.54 306 P **P 16 09 09.6 -0.7**
ELL Elmali 62.54 306 P **P 16 09 09.6 -0.7**
ELL pmax pmax
comp=Z,124nm,1.2s
MOS Moscow 62.67 328 *eP* **P 16 09 09.2 -1.4**
MOS *e* 16 09 24.2
MOS *e*S **S 16 17 32.4 -2.6**
MOS pmax pmax
comp=Z,76nm,0.7s
MBAR Mbarara 62.82 264 P **P 16 09 16.1 +3.5**
MBAR pP **sP 16 09 31.0 -2.0**
OBN Obninsk 62.97 327 *de*P **P 16 09 12.3 -0.3**
OBN *e**SP **pP 16 09 27.5 +0.6**
OBN *e* 16 09 50.3
OBN *e* 16 11 32.0
OBN pmax pmax
comp=Z,75nm,1.7s
OBN MLR MLR
comp=Z,114nm,17.0s
KLMR Klimovskoe 64.04 334 *eP* **P 16 09 16.3 -3.4**
KLMR AMP 16 09 19.8
comp=Z,22nm,1.1s
KLMR Klimovskoe 64.04 334 *eP* **P 16 09 16.2 -3.4**

KLMR pmax pmax
comp=Z,22nm,1.1s
MILM Milestii Mici 65.17 317 *e*P **P 16 09 26.0 -1.2**
comp=Z,60nm,0.9s
MILM Milestii Mici 65.17 317 *e*P **P 16 09 26.0 -1.2**
MILM pmax pmax
comp=Z,60nm,0.9s
CMSA Cobar Meteorol 65.19 132 P **P 16 09 28.3 +0.7**
baz=65,SNR=233
CMSA Cobar Meteorol 65.19 132 P **P 16 09 28.1 +0.5**
CFR Carcaliu 65.28 315 ⇓P **P 16 09 28.0 0.0**
CFR Carcaliu 65.28 315 P **P 16 09 28.0 0.0**
ARPS Mount Arapiles 65.33 138 P **P 16 09 28.9 +0.5**
baz=65,SNR=12
HARR Harsova 65.33 315 ⇑P **P 16 09 28.2 -0.1**
HARR Harsova 65.33 315 P **P 16 09 28.2 -0.1**
TIXI Tiksi 65.38 12 P **P 16 09 27.3 -0.8**
TIXI Tiksi 65.38 12*c iP* **P 16 09 27.4 -0.7**
TIXI pmax pmax
comp=Z,54nm,0.6s
TIXI Tiksi 65.38 12 P **P 16 09 27.2 -0.8**
TIXI pP **pP 16 09 42.8 +0.3**
MA2 Magadan 65.42 28 P **P 16 09 28.0 -0.7**
MA2 lAmb lAmb 16 09 29.2
comp=Z,41nm,0.9s
MA2 Magadan 65.42 28 ⇓*iP* **P 16 09 28.3 -0.3**
MA2 pmax pmax
comp=Z,160nm,2.6s
MA2 Magadan 65.42 28 LR LR 16 42 12.4
comp=Z,106nm,18.3s,baz=255,slow=40
MA2 Magadan 65.42 28 P **P 16 09 28.1 -0.5**
MA2 PcP **PcP 16 10 00.4 +0.2**
SORM Soroca 65.74 318 ⇑P **P 16 09 30.1 -0.8**
SORM Soroca 65.74 318 P **P 16 09 30.0 -0.8**
AKASG Malin Array Be 65.78 321 P **P 16 09 29.7 -1.4**
AKASG Malin Array Be 65.78 321 *i* P **P 16 09 30.1 -1.0**
AKASG pmax pmax
comp=Z,9.0nm,0.6s
AKASG Malin Array Be 65.78 321 P **P 16 09 29.7 -1.4**
comp=Z,3.4nm,0.6s,baz=88,slow=5.0,SNR=35
AKASG LR LR 16 40 53.5
comp=Z,94nm,20.9s,baz=130,slow=38
comp=Z,3.4nm,0.6s
AKBB Malin Array Si 65.78 321 P **P 16 09 29.9 -1.2**
AKBB Malin Array Si 65.78 321*ce* P **P 16 09 29.8 -1.3**
AKBB pmax pmax
comp=Z,18nm,0.9s
KIEV Kiev 65.79 321 P **P 16 09 30.1 -1.0**
KIEV Kiev 65.79 321 P **P 16 09 30.1 -1.0**
KIEV pmax pmax
comp=Z,14nm,0.9s
KIEV Kiev 65.79 321 P **P 16 09 30.2 -1.0**
VRI Vrincioaia 66.38 316 ⇑P **P 16 09 35.6 +0.4**
VRI Vrincioaia 66.38 316 P **P 16 09 35.5 +0.4**
IDI Anoyia 66.42 304 LR LR 16 43 08.1
comp=Z,28nm,20.6s,baz=88,slow=40
PLOR Plostina 66.43 316 ⇓P **P 16 09 36.2 +0.7**
PLOR Plostina 66.43 316 P **P 16 09 36.1 +0.7**
EIDS Eidsvold 66.59 123 P **P 16 09 33.7 -3.1**
baz=67,SNR=6.0
EIDS Eidsvold 66.59 123 P **P 16 09 33.2 -3.5**
COVR Voineasa-Covas 66.73 316 ⇑P **P 16 09 37.2 -0.2**
MLR Muntele Rosu 66.86 315 ⇓P **P 16 09 39.0 +0.6**
MLR Muntele Rosu 66.86 315 P **P 16 09 38.9 +0.6**
MLR Muntele Rosu 66.86 315 LR LR 16 44 18.4
comp=Z,54nm,18.8s,baz=94,slow=41
PEA0B Petropavlovsk- 66.95 36 P **P 16 09 37.4 -1.2**
PEA0B lAmb lAmb 16 10 34.1
comp=Z,64nm,1.2s
PEA0B Petropavlovsk- 66.95 36 P **P 16 09 37.4 -1.2**
PEA0B pmax pmax
comp=Z,64nm,1.3s
PETK Petropavlovsk- 66.95 36 P **P 16 09 36.6 -2.0**
PETK Petropavlovsk- 66.95 36 P **P 16 09 36.6 -2.0**
PETK Petropavlovsk- 66.95 36 P **P 16 09 37.3 -1.3**
comp=Z,4.3nm,0.9s,baz=267,slow=3.4,SNR=8.6
PETK LR LR 16 43 42.0
comp=Z,50nm,18.4s,baz=246,slow=40
comp=Z,4.3nm,0.9s
H04N2 CROZET ISLANDS 66.99 210 T T 17 22 45.1
baz=45,slow=75
H04N1 CROZET ISLANDS 67.00 210 T T 17 22 45.8
baz=45,slow=75
H04N3 CROZET ISLANDS 67.00 210 T T 17 22 44.5
baz=45,slow=75
DOPR Dopca 67.32 316 ⇑P **P 16 09 41.4 +0.3**
VOIR 67.47 315 ⇑P **P 16 09 41.9 -0.2**
VOIR 67.47 315 P **P 16 09 41.9 -0.2**
SEY Seymchan 67.48 25 ⇓*iP* **P 16 09 40.1 -1.6**
SEY pmax pmax
comp=Z,18nm,0.9s
SEY Seymchan 67.48 25 LR LR 16 40 21.4
comp=Z,111nm,19.5s,baz=232,slow=37
PET Petropavlovsk 67.49 37⇑*eP* **P 16 09 40.9 -1.0**
PET pmax pmax
comp=Z,38nm,2.5s
MNK Minsk 67.53 325 *i* P **P 16 09 41.0 -1.3**
comp=E,8.0nm,0.8s
MNK *i* P **P 16 09 41.0 -1.3**
comp=N,22nm,0.8s
MNK *i* P **P 16 09 41.0 -1.3**
comp=Z,65nm,0.8s,baz=105
MNK *i* PP **PP 16 12 07.6 -3.8**
MNK *i* PPP PPP 16 13 45.0
MNK *i* S **S 16 18 35.6 +0.9**
MNK *i* SS **SS 16 22 56.5 +0.6**
MNK *i* SSS SSS 16 26 11.2
MNK *i* LQ LQ 16 34 26.5
MNK *i* LR LR 16 39 11.6
MNK *i* LRM MLR 16 40 28.1
comp=Z,146nm,14.6s
MNK *i* LRM MLR 16 40 43.6
comp=N,86nm,10.7s
MNK *i* LRM MLR 16 41 27.0
comp=E,46nm,15.5s
MNK Minsk 67.53 325 *i* P **P 16 09 40.9 -1.3**
MNK *i* 16 12 07.6
MNK *i* PPP PPP 16 13 45.0
MNK *i* S **S 16 18 35.6 +0.9**
MNK *i* SS **SS 16 22 56.4 +0.6**
MNK pmax pmax
comp=Z,65nm,0.8s
MNK pmax pmax
comp=N,22nm,0.8s
MNK pmax pmax
comp=E,8.0nm,0.8s
MNK MLR MLR
comp=Z,146nm,15.0s
MNK MLR MLR
comp=N,86nm,11.0s
MNK MLR MLR
comp=E,46nm,15.0s
BURAR Bucovina Array 67.71 317 ⇑P **P 16 09 44.0 +0.4**
BURAR Bucovina Array 67.71 317 P **P 16 09 43.6 0.0**
BURAR Bucovina Array 67.71 317 P **P 16 09 44.0 +0.4**
BUR08 Bucovina Ar. S 67.72 317 P **P 16 09 43.7 0.0**
ARR Arges 67.75 315 ⇓P **P 16 09 43.4 -0.5**
TOO Toolangi 68.19 137 P **P 16 09 47.6 +1.0**
baz=68,SNR=7.6
TOO Toolangi 68.19 137 P **P 16 09 47.4 +0.7**
TOO Toolangi 68.19 137 P **P 16 09 47.7 +1.0**
TOO Toolangi 68.19 137 P **P 16 09 47.4 +0.7**
TOO pmax pmax
comp=Z,15nm,0.9s
NACGM Naroch 68.25 325 *e*P **P 16 09 46.8 +0.1**
YNG Young 68.57 133 P **P 16 09 48.8 -0.1**
ISAL Salakas 68.77 326 *e*P **P 16 09 50.4 +0.4**
LVV L'vov 68.86 320 *e*P **P 16 09 50.5 -0.1**
BLKB Belogradchik 68.91 313 ⇓P **P 16 09 50.6 -0.6**
LSZ Lusaka 68.93 249 P **P 16 09 51.3 -0.5**
LSZ lAmb lAmb 16 10 16.0
comp=Z,39nm,1.8s
LSZ Lusaka 68.93 249 P **P 16 09 51.3 -0.5**
LSZ pmax pmax
comp=Z,39nm,1.8s
LSZ Lusaka 68.93 249 LR LR 16 38 23.6
comp=Z,86nm,18.9s,baz=142,slow=34
LSZ Lusaka 68.93 249 P **P 16 09 54.0 +2.2**
LSZ pP **pP 16 10 08.9 +2.5**
MARR Marisel-Cluj 68.98 316 ⇑P **P 16 09 51.5 -0.1**
ARMA Armidale 69.16 128 P **P 16 09 53.7 +0.7**
baz=69,SNR=32
ARMA Armidale 69.16 128 P **P 16 09 53.6 +0.6**
ARMA lAmb lAmb 16 09 55.6
comp=Z,29nm,0.8s
ARMA Armidale 69.16 128 P **P 16 09 54.3 +1.3**
LVZ Lovozero 69.17 340 P **P 16 09 51.4 -0.9**
LVZ Lovozero 69.17 340⇓*eP* **P 16 09 51.8 -0.5**
LVZ pmax pmax
comp=Z,79nm,1.6s
LVZ Lovozero 69.17 340 P **P 16 09 51.8 -0.5**
VSU Vasula 69.18 329 *eP* **P 16 09 52.4 0.0**
VSU Vasula 69.18 329*deP* **P 16 09 51.8 -0.6**
VSU pmax pmax
comp=Z,23nm,0.6s
HERR Herculane 69.24 314 ⇑P **P 16 09 53.2 +0.1**
HNR Honiara 69.38 104 LR LR 16 42 46.2
comp=Z,401nm,20.2s,baz=158,slow=38
APA Apatity 69.45 339⇓*iP* **P 16 09 57.0 +3.0**
APA *i* 16 10 23.5
APA pmax pmax
comp=Z,8.0nm,1.2s
CAN Canberra 69.46 134 P **P 16 09 55.1 +0.4**
CAN lAmb lAmb 16 09 56.2
comp=Z,24nm,0.8s
CAN Canberra 69.46 134 P **P 16 09 55.0 +0.4**
CAN Canberra 69.46 134 P **P 16 09 55.1 +0.4**
CAN pmax pmax
comp=Z,24nm,0.8s
CAN Canberra 69.46 134 P **P 16 09 55.3 +0.6**
SURR Surduc 69.55 315 ⇑P **P 16 09 55.7 +0.8**
BOVS Bovan 69.61 313 ⇑P **P 16 09 54.4 -1.0**
KWP Kalwaria Pacla 69.67 319 *eP* **P 16 09 55.9 +0.2**
CNB Canberra Magne 69.72 133 P **P 16 09 56.6 +0.3**
baz=70,SNR=4.9
CNB Canberra Magne 69.72 133 P **P 16 09 56.7 +0.4**
MDVR Moldovita 69.73 314 ⇑P **P 16 09 55.7 -0.5**
KOLS Kolonicke sedl 69.85 318 *eP* **P 16 09 57.2 +0.4**
KOLS Kolonicke sedl 69.85 318 *eP* **P 16 09 57.3 +0.4**
KOLS pmax pmax
comp=Z,10.0nm,0.6s
BZS Buzias 69.88 315 ⇑P **P 16 09 57.5 +0.4**
BZS Buzias 69.88 315 P **P 16 09 57.4 +0.4**
SIRR Siria 69.93 316 ⇑P **P 16 09 57.5 +0.1**
PABE Paberze 69.96 326 P **P 16 09 56.7 -0.6**
PABE Paberze 69.96 326 *eP* **P 16 09 57.3 0.0**
MGCD Mangrove Creek 70.01 131 P **P 16 09 58.8 +0.8**
baz=70,SNR=5.6
VSVD Vaisvydziai 70.08 326 *eP* **P 16 09 58.2 +0.2**
SUW Suwalki 70.11 324 *eP* **P 16 09 57.8 -0.5**
SUW Suwalki 70.11 324 *eP* **P 16 09 58.3 0.0**
FIA1 FINESS Array S 70.30 332 P **P 16 09 58.8 -0.4**
FIA1 lAmb lAmb 16 09 59.5
comp=Z,41nm,0.6s
FINES FINESS Array B 70.30 332 P **P 16 09 58.9 -0.4**
comp=Z,13nm,0.5s,baz=97,slow=5.6,SNR=122
FINES LR LR 16 43 28.2
comp=Z,118nm,19.1s,baz=101,slow=38
comp=Z,13nm,0.5s
CRVS Cervenica-Dubn 70.38 318 *eP* **P 16 10 01.0 +0.9**
CRVS Cervenica-Dubn 70.38 318 *eP* **P 16 10 01.0 +0.9**
CRVS pmax pmax
comp=Z,34nm,1.0s
PBUR Paburge 71.19 326 *eP* **P 16 10 05.0 +0.2**
NIE Niedzica 71.20 319 *eP* **P 16 10 05.6 +0.5**
OJC Ojcow 71.61 320 *eP* **P 16 10 07.4 -0.1**
OJC Ojcow 71.61 320 P **P 16 10 07.2 -0.3**
OJC lAmb lAmb 16 10 08.3
comp=Z,32nm,0.6s
OJC Ojcow 71.61 320 P **P 16 10 07.2 -0.3**
OJC pmax pmax
comp=Z,32nm,0.6s
KLNR Kaliningrad 71.93 324*ce* P **P 16 10 09.0 -0.2**
KLNR pmax pmax
comp=Z,87nm,0.5s
MORH Mrgy, Hungar 72.01 315 ⇑P **P 16 10 09.2 -0.7**
VYHS Vyhne 72.06 318 *eP* **P 16 10 10.1 -0.2**
VYHS Vyhne 72.06 318 *eP* **P 16 10 10.1 -0.2**
VYHS pmax pmax
comp=Z,15nm,1.3s
SRO Srobarova 72.36 317 *eP* **P 16 10 12.5 +0.5**
SRO Srobarova 72.36 317 *eP* **P 16 10 12.5 +0.5**
SRO pmax pmax
comp=Z,20nm,0.9s
KEV Kevo 72.45 341 P **P 16 10 11.3 -0.8**
KEV lAmb lAmb 16 12 38.2
comp=Z,58nm,1.3s
KEV Kevo 72.45 341 P **P 16 10 11.3 -0.8**
KEV pmax pmax
comp=Z,58nm,1.3s
OKC Ostrava-Krasne 72.64 319 *eP* **P 16 10 14.0 +0.4**
OKC Ostrava-Krasne 72.64 319 *eP* **P 16 10 14.0 +0.4**
MAUC Maruska 72.80 319 *eP* **P 16 10 14.9 +0.2**
JAVC Velka Javorina 72.86 318 *eP* **P 16 10 15.8 +0.7**
ARA0 ARCESS Array S 72.88 340 *eP* **P 16 10 14.8 +0.1**
ARCES ARCESS Array B 72.88 340 P **P 16 10 14.6 -0.1**
ARCES lAmb lAmb 16 12 18.9
comp=Z,102nm,1.8s
ARCES ARCESS Array B 72.88 340 P **P 16 10 14.6 -0.1**
ARCES pmax pmax
comp=Z,102nm,1.8s
ARCES ARCESS Array B 72.88 340 P **P 16 10 14.6 -0.1**
comp=Z,3.6nm,0.4s,baz=46,slow=3.5,SNR=59
comp=Z,3.6nm,0.4s
MORC Moravsky Berou 73.02 319 ⇓P **P 16 10 16.3 +0.3**
MORC Moravsky Berou 73.02 319 P **P 16 10 15.5 -0.4**
MORC Moravsky Berou 73.02 319 *eP* **P 16 10 16.2 +0.3**
MORC Moravsky Berou 73.02 319 P **P 16 10 16.2 +0.3**
TIP Timpagrande 73.08 308 P **P 16 10 14.7 -1.9**
TIP lAmb lAmb 16 12 12.4
comp=Z,80nm,1.6s
MODS Modra-Piesok 73.09 318 *eP* **P 16 10 16.5 +0.1**
MODS Modra-Piesok 73.09 318 *eP* **P 16 10 16.5 +0.1**
MODS pmax pmax
comp=Z,34nm,1.1s
ZST Bratislava 73.19 317 *eP* **P 16 10 17.4 +0.5**
ZST Bratislava 73.19 317 *eP* **P 16 10 17.4 +0.5**
ZST pmax pmax
comp=Z,74nm,1.0s
KTK1 Kautokeino 73.50 339 *eP* **P 16 10 18.3 0.0**
KRLC Kraliky 73.53 319 *eP* **P 16 10 19.5 +0.5**
KRLC Kraliky 73.53 319 *eP* **P 16 10 19.5 +0.5**
VRAC Vranov 73.60 318 *eP* **P 16 10 18.8 -0.6**
VRAC Vranov 73.60 318 LR LR 16 47 41.5
comp=Z,67nm,18.6s,baz=74,slow=40
KOGS Kog 73.67 315 *i* P **P 16 10 19.8 0.0**
RONA Rosalia, Austr 73.70 317 *i* P **P 16 10 19.9 -0.1**
comp=Z,7.7nm,0.7s
KRUC Moravsky 73.72 318 *eP* **P 16 10 19.9 -0.1**
HAMF Hammerfest 73.80 341 *eP* **P 16 10 20.1 0.0**
DPC Dobruska-Polom 73.85 320 *eP* **P 16 10 21.5 +0.7**
DPC Dobruska-Polom 73.85 320 *eP* **P 16 10 21.5 +0.7**
KSP Ksiaz 73.90 320 *eP* **P 16 10 21.7 +0.7**
OSTC Ostas 73.93 320 *eP* **P 16 10 21.9 +0.7**
OSTC *ex* x 16 10 39.3
OSTC Ostas 73.93 320 *eP* **P 16 10 21.9 +0.7**
OSTC *e* 16 10 39.3
CONA Conrad Observa 74.01 317 *i* P **P 16 10 21.7 -0.2**
comp=Z,10nm,1.0s
CHVC Chvalec 74.03 320 *eP* **P 16 10 22.4 +0.5**
CHVC Chvalec 74.03 320 *eP* **P 16 10 22.4 +0.5**
UPP Uppsala 74.05 329 *eP* **P 16 10 21.6 -0.1**
ARSA Arzberg 74.21 316 *i* P **P 16 10 22.8 -0.1**
comp=Z,5.1nm,0.6s
LBTB Lobatse 74.28 240 P **P 16 10 23.7 -0.2**
LBTB Lobatse 74.28 240 P **P 16 10 23.7 -0.2**
LBTB pmax pmax
comp=Z,19nm,1.0s
LBTB Lobatse 74.28 240 LR LR 16 37 54.2
comp=Z,282nm,20.8s,baz=176,slow=32
SOKA Soboth 74.52 316 *i* P **P 16 10 25.0 +0.1**
comp=Z,24nm,1.3s,SNR=5.6
BILL Bilibino 74.53 22 P **P 16 10 23.9 -0.5**
BILL Bilibino 74.53 22 P **P 16 10 24.1 -0.3**
JETT Jettan, Norway 74.61 340 *eP* **P 16 10 25.2 +0.3**
BLEU Blekinge 74.61 326 *i* P **P 16 10 23.4 -1.6**
GOPC GO Pecny, Ondr 74.81 319 *eP* **P 16 10 26.7 +0.3**
GOPC GO Pecny, Ondr 74.81 319 *eP* **P 16 10 26.7 +0.3**
OBKA Obir 74.85 315 *i* P **P 16 10 27.1 +0.3**
comp=Z,9.4nm,0.7s
PRU Pruhonice 74.97 319 *eP* **P 16 10 27.8 +0.5**
PRU Pruhonice 74.97 319 *eP* **P 16 10 27.8 +0.5**
PVCC Panska Ves 74.97 320 *eP* **P 16 10 28.0 +0.7**
PVCC Panska Ves 74.97 320 *eP* **P 16 10 28.0 +0.7**
BSD Bornholm Skovb 75.03 324 *i* P **P 16 10 26.0 -1.4**
BSD lAmb lAmb 16 10 27.2
comp=Z,21nm,0.6s
CRNS Crni Vrh 75.04 315 *i* P **P 16 10 27.6 -0.2**
CKRC Cesky Krumlov 75.08 318 *eP* **P 16 10 28.2 +0.2**
CKRC Cesky Krumlov 75.08 318 *eP* **P 16 10 28.2 +0.2**
MOA Molln 75.08 317 *i* P **P 16 10 27.7 -0.3**
comp=Z,3.3nm,0.5s
TRO Tromso 75.13 340 *eP* **P 16 10 27.6 -0.2**
ZVC Zvikov 75.18 319 *eP* **P 16 10 28.9 +0.4**
RICC Richard 75.28 320 *eP* **P 16 10 29.7 +0.7**
BRG Berggiesshubel 75.39 320 *i* P **P 16 10 30.1 +0.5**
BRG Amp 16 10 31.0
comp=Z,13nm,0.8s
BRG Berggiesshubel 75.39 320 P P 16 10 45.0 +15
BRG Amp 16 10 46.1
comp=Z,9.3nm,1.0s
BRG Berggiesshubel 75.39 320 *i* P **P 16 10 30.1 +0.5**
BRG 16 10 44.9
BRG pmax pmax
comp=Z,13nm,0.8s
BRG pmax pmax
comp=Z,9.0nm,1.0s
MYKA Terra Mystica 75.48 316 *e*P **P 16 10 30.1 -0.3**
comp=Z,4.3nm,0.5s
GEC2 GERESS Array S 75.48 318 P **P 16 10 30.4 +0.1**
GEC2 lAmb lAmb 16 10 31.4
comp=Z,21nm,0.7s
GERES GERESS Array B 75.48 318 P **P 16 10 30.3 -0.1**
GERES GERESS Array B 75.48 318 P **P 16 10 30.5 +0.1**
comp=Z,19nm,0.6s,baz=85,slow=5.7,SNR=86
comp=Z,19nm,0.6s
BIOA Bad Ischl, Aus 75.50 317 *i* P **P 16 10 30.2 -0.2**
comp=Z,7.7nm,0.5s
SABO M.te Sabotino 75.50 315 P **P 16 10 29.6 -0.8**
SABO lAmb lAmb 16 12 05.1
comp=Z,136nm,1.8s
PRED Cave del Predi 75.53 315 P **P 16 10 30.5 -0.1**
PRED lAmb lAmb 16 10 31.4
comp=Z,25nm,0.9s
RUE Ruedersdorf 75.55 322 *eP* **P 16 10 31.0 +0.5**
ROBS Robic 75.57 315 *i* P **P 16 10 30.2 -0.5**
KHC Kasperske Hory 75.57 318 P **P 16 10 30.1 -0.7**
KHC Kasperske Hory 75.57 318 *eP* **P 16 10 30.9 +0.1**
KHC Kasperske Hory 75.57 318 *eP* **P 16 10 30.9 +0.1**
DEL Delary 75.70 326 *eP* **P 16 10 31.4 +0.1**
DEL Delary 75.70 326 *i* P **P 16 10 29.8 -1.5**
HSKC Hora Svate Kat 75.70 320 *eP* **P 16 10 32.1 +0.6**
BOSA Boshof 75.77 237 P **P 16 10 33.8 +1.4**
BOSA lAmb lAmb 16 10 35.1
comp=Z,22nm,0.8s
BOSA Boshof 75.77 237 P **P 16 10 34.0 +1.6**
comp=Z,20nm,0.7s,baz=87,slow=4.2,SNR=57
comp=Z,20nm,0.7s
LUNU Lund 75.89 325 *i* P **P 16 10 32.0 -0.4**
CLL Collm 75.99 320⇑*iP* **P 16 10 32.9 -0.2**
comp=Z,19nm,1.3s
CLL *i* sP **pP 16 10 48.0 +0.2**
comp=Z,13nm,1.0s
CLL Collm 75.99 320⇑*iP* **P 16 10 32.9 -0.2**
CLL pmax pmax
comp=Z,19nm,1.3s
CLUD Cludinico 76.00 315 P **P 16 10 33.0 -0.3**
CLUD lAmb lAmb 16 10 33.9
comp=Z,38nm,0.9s
HFS Hagfors 76.04 330 P **P 16 10 32.9 -0.3**
comp=Z,12nm,0.3s,baz=104,slow=4.7,SNR=144
comp=Z,12nm,0.3s
FAUS Fauske 76.08 337 *eP* **P 16 10 33.2 -0.1**
STAL STALIGIAL 76.12 315 P **P 16 10 33.6 -0.4**
STAL lAmb lAmb 16 10 35.2
comp=Z,55nm,1.2s
LESA Schwarzleotal 76.15 316 *i* P **P 16 10 33.6 -0.6**
comp=Z,13nm,0.4s
BJUU Bjuv 76.15 325 *i* P **P 16 10 32.8 -1.1**
STEI Steigen 76.17 338 *eP* **P 16 10 33.5 -0.2**
ABTA Abfaltersbach 76.26 316 *i* P **P 16 10 33.8 -1.1**
comp=Z,12nm,1.4s
MOR8 Moi Rana 76.27 336 *eP* **P 16 10 33.8 -0.6**
FABU Falkenberg 76.36 326 *i* P **P 16 10 33.0 -2.0**
KOUNC Koumac, New Ca 76.37 114 P **P 16 10 37.0 +1.3**
KOUNC lAmb lAmb 16 11 45.3
comp=Z,30nm,1.1s
KOUNC Koumac, New Ca 76.37 114 P **P 16 10 36.8 +1.0**
GRHM Grahamstown, E 76.52 232 P **P 16 10 38.3 +1.9**
LOF Lofoten 76.83 338 *eP* **P 16 10 37.1 -0.4**
KONS Konsvik 76.83 336 *eP* **P 16 10 37.3 -0.2**
WTTA Wattenberg 76.86 316 *i* P **P 16 10 37.7 -0.6**
comp=Z,20nm,0.5s,SNR=12
CTI Castel Tesino 76.86 315 P **P 16 10 38.3 0.0**
CTI lAmb lAmb 16 10 38.8
comp=Z,19nm,0.6s
CTI Castel Tesino 76.86 315 P **P 16 10 38.3 0.0**
CTI pmax pmax
comp=Z,19nm,0.6s
WATA Walderalm 76.90 316 *i* P **P 16 10 37.7 -0.8**
comp=Z,12nm,0.5s,SNR=6.1
NC405 NORSAR Array S 77.08 330 P **P 16 10 38.4 -0.7**
NC405 lAmb lAmb 16 10 40.0
comp=Z,124nm,1.8s
GRA1 Grafenberg Arr 77.11 319 P **P 16 10 39.4 -0.1**
GRA1 lAmb lAmb 16 10 41.0
comp=Z,22nm,0.9s
GRF Grafenberg Arr 77.11 319 P **P 16 10 39.4 -0.1**
GRF pmax pmax
comp=Z,21nm,0.9s
GRFO Grafenberg 77.11 319 P **P 16 10 39.7 +0.2**
GRFO lAmb lAmb 16 10 41.0
comp=Z,23nm,1.0s
GRFO Grafenberg 77.11 319 P **P 16 10 39.7 +0.2**
GRFO pmax pmax
comp=Z,23nm,1.0s
NC602 NORSAR Array S 77.14 330 P **P 16 10 38.7 -0.7**
NC602 lAmb lAmb 16 10 39.5
comp=Z,18nm,0.7s
NC602 NORSAR Array S 77.14 330 *eP* **P 16 10 38.9 -0.6**
SQTA Sankt Quirin 77.15 316 *i* P **P 16 10 39.3 -0.6**
comp=Z,19nm,0.5s,SNR=11
NSS Namsos 77.16 334 *eP* **P 16 10 39.0 -0.4**
CASY Casey 77.18 173 P **P 16 10 36.8 -2.5**
MOTA Moosalm 77.22 316 *i* P **P 16 10 39.5 -0.8**
comp=Z,14nm,0.6s,SNR=7.6
NC303 NORSAR Array S 77.25 331 P **P 16 10 39.4 -0.6**
NC303 lAmb lAmb 16 12 50.4
comp=Z,125nm,1.8s
NB201 NORSAR Array S 77.28 330 P **P 16 10 39.5 -0.7**
NB201 lAmb lAmb 16 10 49.0
comp=Z,119nm,1.9s
NB2 NORSAR Subarra 77.32 330 P **P 16 10 39.5 -1.0**
comp=Z,8.3nm,0.7s,baz=91,slow=5.9
NOA NORSAR Array B 77.32 330 P **P 16 10 39.4 -1.0**
comp=Z,5.9nm,0.6s,baz=92,slow=5.7,SNR=22
comp=Z,5.9nm,0.6s
RETA Reutte 77.45 316 *i* P **P 16 10 41.1 -0.3**
comp=Z,20nm,0.5s,SNR=12
NAO01 NORSAR Array S 77.47 330 P **P 16 10 39.2 -2.0**
FETA Feichten 77.48 316 *i* P **P 16 10 41.5 -0.3**
comp=Z,25nm,1.2s,SNR=9.8
SPB1 Spitsbergen Ar 77.52 348 P **P 16 10 41.0 -0.2**
SPB1 lAmb lAmb 16 12 37.3
comp=Z,121nm,1.6s
SPB2 Spitsbergen Ar 77.52 348 P **P 16 10 40.8 -0.4**
SPA2 Spitsbergen Ar 77.52 348 P **P 16 10 41.4 +0.2**
SPA2 lAmb lAmb 16 11 04.2
comp=Z,95nm,1.4s
SPA1 Spitsbergen Ar 77.52 348 P **P 16 10 41.1 -0.2**
SPA1 lAmb lAmb 16 11 04.1
comp=Z,109nm,1.5s
SPA0 Spitsbergen Ar 77.52 348 P **P 16 10 40.8 -0.4**
SPA0 lAmb lAmb 16 13 10.9
comp=Z,63nm,1.2s
SPA0 Spitsbergen Ar 77.52 348 *eP* **P 16 10 41.7 +0.4**
SPITS Spitsbergen Ar 77.52 348 P **P 16 10 41.4 +0.2**
comp=Z,12nm,0.6s,baz=112,slow=11,SNR=27
comp=Z,12nm,0.6s
OSL Oslo 77.52 329 *eP* **P 16 10 41.7 +0.2**
NBO00 NORSAR Array S 77.53 330 P **P 16 10 40.5 -1.1**
NBO00 lAmb lAmb 16 12 37.0
comp=Z,95nm,1.7s
NC204 NORSAR Array S 77.55 331 P **P 16 10 39.8 -1.9**
NC204 lAmb lAmb 16 13 13.9
comp=Z,84nm,1.7s
FUORN Ofenpass-Fuorn 77.81 316 P **P 16 10 43.2 -0.5**
DAVA Damuels 78.05 316 *i* P **P 16 10 45.0 +0.1**
comp=Z,31nm,0.6s
KONO Kongsberg 78.09 329 P **P 16 10 43.2 -1.4**
KONO lAmb lAmb 16 13 27.1
comp=Z,75nm,1.6s

KONO Kongsberg 78.09 329 eP P 16 10 44.6 0.0
KONO Kongsberg 78.09 329 P P 16 10 43.3 -1.4
KONO pmax pmax
comp=Z,75nm,1.7s
MUD Monsted U'grnd 78.31 326 *i* P P 16 10 46.0 +0.1
MUD IAmb IAmb 16 10 47.1
comp=Z,32nm,0.7s
DOMB Dombas 78.37 331 *eP* P 16 10 46.0 -0.2
TUE Stuetta 78.45 315 P P 16 10 47.1 -0.2
TUE IAmb IAmb 16 10 51.5
comp=Z,18nm,0.7s
DZM Mont Dzumac 78.72 115 eLR LR 16 35 25.8
comp=Z,106nm,24.2s
DZM Mont Dzumac 78.72 115 P P 16 10 49.2 +0.2
DZM Mont Dzumac 78.72 115 P P 16 10 50.3 +1.3
SKAR Skarslia 78.73 330 *eP* P 16 10 48.8 +0.5
ONTNC Ouen Toro 78.79 115 P P 16 10 49.0 -0.3
BFO Black Forest 79.05 317 P P 16 10 49.4 -0.9
BFO Black Forest 79.05 317 P P 16 10 49.4 -0.9
BFO pmax pmax
comp=Z,15nm,0.9s
MOL Molde 79.08 332 *eP* P 16 10 50.5 +0.4
KEST Kesra 79.09 305 P P 16 10 50.9 +0.1
KEST IAmb IAmb 16 11 00.2
comp=Z,62nm,1.5s
KEST Kesra 79.09 305 P P 16 10 51.5 +0.7
comp=Z,16nm,0.6s,baz=343,slow=1.2,SNR=11
comp=Z,16nm,0.6s
LIFNC LIFOU 79.09 113 P P 16 10 51.1 +0.1
LIFNC LIFOU 79.09 113 P P 16 10 51.0 +0.1
YATNC Mamie plateau, 79.12 115 P P 16 10 52.9 +1.8
OUENC Ouen Island, N 79.17 115 P P 16 10 51.7 +0.4
SNART Snartemo 79.34 328 *i* P P 16 10 50.9 -0.6
BLS5 Blasjo 79.69 329 *eP* P 16 10 53.6 +0.1
SENIN Lac Senin/Sane 79.87 315 P P 16 10 54.9 -0.1
BTNL Ternell 80.35 320 *dP* P 16 10 57.3 0.0
MAW Mawson 80.39 191 P P 16 10 57.9 +1.0
comp=Z,9.3nm,0.8s,baz=305,slow=4.4,SNR=4.1
comp=Z,9.3nm,0.8s
BNI Bardonecchia 80.40 314 P P 16 10 57.6 -0.2
BNI IAmb IAmb 16 11 01.9
comp=Z,19nm,0.7s
BNI Bardonecchia 80.40 314 P P 16 10 57.6 -0.2
BNI pmax pmax
comp=Z,19nm,0.7s
WLF Walferdange 80.41 319 *dP* P 16 10 58.4 +0.8
MEM Membach 80.43 320 *dP* P 16 10 57.5 -0.1
SUR Sutherland 80.62 235 P P 16 11 01.5 +2.2
SUR IAmb IAmb 16 11 02.8
comp=Z,34nm,0.7s
BCLA Clavier 80.89 320 *dP* P 16 11 00.2 0.0
BGES Gesves 81.03 320 *dP* P 16 11 00.9 0.0
comp=Z,8.1nm,0.9s
BMRD Maredsous 81.25 320 *dP* P 16 11 02.0 0.0
DOU Dourbes 81.37 319 *dP* P 16 11 02.1 -0.6
SSB Saint Sauveur 81.88 315 P P 16 11 04.1 -1.4
SSB Saint Sauveur 81.88 315 P P 16 11 04.1 -1.4
SSB pmax pmax
comp=Z,15nm,0.9s
CLF Chambon-Foret 83.13 317 P P 16 11 11.4 -0.5
CLF IAmb IAmb 16 11 13.0
comp=Z,36nm,0.6s
ELMS Elmsett, Ipswi 83.41 322 *eP* P 16 11 13.1 -0.2
ELMS IAmb IAmb 16 11 13.7
comp=Z,56nm,0.6s
ELSH Elham, Standar 83.44 321 *eP* P 16 11 13.7 +0.2
WACR West Acre 83.54 322 *eP* P 16 11 14.2 +0.3
WACR IAmb IAmb 16 11 14.7
comp=Z,65nm,0.9s
HPK Haverah Park 84.69 324 *eP* P 16 11 19.9 +0.1
HPK IAmb IAmb 16 11 20.7
comp=Z,36nm,0.6s
TNA Tin City 84.70 24 P P 16 11 19.3 -0.2
baz=282
EDMD Edmundbyers 84.73 325 *eP* P 16 11 20.2 +0.2
EDMD IAmb IAmb 16 11 20.8
comp=Z,37nm,0.6s
LBWR Ladybower, Pea 84.84 323 *eP* P 16 11 20.8 +0.2
LBWR IAmb IAmb 16 11 21.4
comp=Z,41nm,0.7s
WOL Wolverton 84.89 321 *eP* P 16 11 21.1 +0.4
C16K Lisburne Hills 85.06 21 P P 16 11 21.4 +0.1
C16K Lisburne Hills 85.06 21 P P 16 11 21.1 -0.2
baz=285
DAG Danmarks Havn 85.15 348 *i* P P 16 11 20.0 -1.6
DAG IAmb IAmb 16 11 21.5
comp=Z,8.7nm,0.4s
SPIA Saint Paul Isl 85.31 33 P P 16 11 22.9 +0.1
baz=281
EKA Eskdalemuir Ar 85.32 325 P P 16 11 23.0 +0.1
comp=Z,11nm,0.6s,baz=97,slow=5.6,SNR=67
comp=Z,11nm,0.6s
EKB Eskdalemuir 85.34 325 P P 16 11 22.5 -0.5
EKB IAmb IAmb 16 11 24.1
comp=Z,15nm,0.7s
ESK Eskdalemuir 85.35 325 *eP* P 16 11 23.2 +0.2
ESK Eskdalemuir 85.35 325 P P 16 11 22.8 -0.2
ESK IAmb IAmb 16 11 24.1
comp=Z,18nm,0.8s
ESK Eskdalemuir 85.35 325 P P 16 11 22.8 -0.2
ESK pmax pmax
comp=Z,18nm,0.8s
F14K Arctic Creek 85.36 24 P P 16 11 22.8 -0.1
baz=284
HLM1 Long Mynd 85.69 322 *eP* P 16 11 24.9 +0.2
MONM Monmouth 85.77 322 *eP* P 16 11 24.9 -0.3
MONM IAmb IAmb 16 11 26.5
comp=Z,102nm,1.7s
C17K DeLong Mountai 85.78 21 P P 16 11 25.2 +0.3
baz=287
FOEL Foel Wylfa 85.81 323 *eP* P 16 11 25.7 +0.3
FOEL IAmb IAmb 16 11 26.4
comp=Z,29nm,1.0s
A19K Wainwright 85.97 19 P P 16 11 25.9 +0.1
baz=288
F15K North Star Dit 85.98 24 P P 16 11 24.9 -1.1
F15K North Star Dit 85.98 24 P P 16 11 26.5 +0.5
baz=285
ANM Nome 85.98 25 P P 16 11 26.8 +0.8
baz=285
B18K Kokolik River 85.99 20 P P 16 11 26.8 +0.9
baz=288
RDOG Red Dog Mine 85.99 21 P P 16 11 26.1 +0.1
baz=287
KPL Plockton 86.28 328 *eP* P 16 11 27.9 +0.3
GAL1 Galloway 86.29 325 *eP* P 16 11 28.1 +0.4
GAL1 IAmb IAmb 16 11 28.3
comp=Z,13nm,0.6s
IOMK Kirk Michael 86.33 324 *eP* P 16 11 28.1 +0.2
IOMK IAmb IAmb 16 11 29.0
comp=Z,53nm,0.6s
C18K Utukok River 86.42 21 IAmb IAmb 16 11 29.3
comp=Z,20nm,0.6s
C18K Utukok River 86.42 21 P P 16 11 28.3 +0.2
baz=288
G15K Niukluk 86.42 25 P P 16 11 27.9 -0.2
baz=286
WLF1 Llynfaes 86.43 323 *eP* P 16 11 28.9 +0.5
WLF1 IAmb IAmb 16 11 29.6
comp=Z,38nm,0.7s
WPS Cemaes, Angles 86.47 324 *eP* P 16 11 28.9 +0.4
MSZ Milford Sound 86.47 136 P P 16 11 29.9 +1.2
DBG Daneborg 86.52 345 *i* P P 16 11 27.8 -0.6
DBG IAmb IAmb 16 11 52.7
comp=Z,2.1nm,0.7s
E17K Hotham Inlet 86.68 22 P P 16 11 29.4 0.0
baz=288
C19K Lookout Ridge 86.82 20 P P 16 11 30.6 +0.5
C19K IAmb IAmb 16 11 31.4
comp=Z,18nm,0.5s
C19K Lookout Ridge 86.82 20 P P 16 11 30.5 +0.4
baz=290
WHZ Wether Hill Ro 86.86 138 P P 16 11 29.8 -0.8
WHZ Wether Hill Ro 86.86 138 P P 16 11 30.5 -0.1
JCZ Jackson Bay 86.88 136 P P 16 11 31.4 +0.5
JCZ Jackson Bay 86.88 136 P P 16 11 31.7 +0.8
A21K Barrow 86.96 18 P P 16 11 30.6 0.0
baz=292
G16K Koyuk River 86.99 24 P P 16 11 29.1 -1.7
G16K IAmb IAmb 16 11 32.1
comp=Z,22nm,0.7s
G16K Koyuk River 86.99 24 P P 16 11 31.0 +0.1
baz=288
E18K Tukpahlearik C 87.02 22 P P 16 11 31.3 +0.2
baz=289

F17K Baldwin Pennin 87.09 23 P P 16 11 30.7 -0.7
F17K Baldwin Pennin 87.09 23 P P 16 11 32.1 +0.7
baz=288
WKZ Wanaka 87.26 136 P P 16 11 31.6 -1.0
WKZ Wanaka 87.26 136 P P 16 11 32.9 +0.3
H16K Elim 87.26 25 P P 16 11 32.7 +0.5
baz=288
B20K Meade River 87.29 19 P P 16 11 32.2 0.0
B20K Meade River 87.29 19 P P 16 11 32.9 +0.6
baz=292
D19K Kuna River 87.54 20 P P 16 11 34.0 +0.4
D19K Kuna River 87.54 20 P P 16 11 33.5 -0.1
baz=291
EAZ Earnscleugh 87.57 137 P P 16 11 34.6 +0.5
A22K Sinclair Lake 87.58 18 P P 16 11 34.0 +0.4
baz=294
DSB Dublin 87.60 324 P P 16 11 34.4 +0.2
DSB IAmb IAmb 16 12 32.5
comp=Z,78nm,1.9s
G17K Kiwalik Mounta 87.63 24 P P 16 11 34.4 +0.4
baz=289
WVZ Waitaha Valley 87.96 134 P P 16 11 36.7 +0.8
D20K Etivluk River 87.97 20 P P 16 11 36.0 +0.4
baz=293
TUZ Tuapeka 88.00 137 P P 16 11 36.3 +0.3
IWEX Carrickbyrne, 88.04 323 *eP* P 16 11 36.9 +0.6
L14K Kuka Creek 88.06 28 P P 16 11 36.9 +0.8
baz=287
H17K Granite Mounta 88.11 24 IAmb IAmb 16 11 37.8
comp=Z,18nm,0.7s
H17K Granite Mounta 88.11 24 P P 16 11 36.9 +0.6
baz=290
UNV Unalaska Valle 88.12 36 P P 16 11 35.9 -0.6
baz=284
I17K Unalakleet 88.14 25 P P 16 11 37.0 +0.6
baz=289
E19K Redstone River 88.23 21 P P 16 11 37.6 +0.8
baz=292
B21K Ikpikpuk River 88.26 19 P P 16 11 37.2 +0.3
baz=294
F19K Shaleruckik Mo 88.27 22 P P 16 11 36.8 -0.2
F19K Shaleruckik Mo 88.27 22 P P 16 11 37.2 +0.2
baz=292
G18K Tagagawik 88.27 23 P P 16 11 37.0 -0.1
baz=291
E20K Nigu River 88.29 20 P P 16 11 37.4 +0.2
baz=293
K15K Wolf Creek Mou 88.29 27 P P 16 11 37.4 +0.2
baz=288
B22K Teshekpuk Lake 88.33 18 P P 16 11 37.4 +0.3
baz=296
RPZ Rata Peaks 88.36 135 P P 16 11 38.3 +0.4
RPZ IAmb IAmb 16 11 39.8
comp=Z,22nm,0.7s
RPZ Rata Peaks 88.36 135 P P 16 11 38.0 +0.2
RPZ Rata Peaks 88.36 135 LR LR 16 52 09.6
comp=Z,96nm,21.1s,baz=248,slow=36
RPZ Rata Peaks 88.36 135 P P 16 11 38.4 +0.5
INZ Inchbonnie 88.37 134 P P 16 11 37.9 0.0
J16K Anvik River 88.38 26 P P 16 11 38.1 +0.5
baz=289
C21K Knifeblade Rid 88.40 19 P P 16 11 38.1 +0.5
baz=294
L15K Ungalak Mounta 88.50 27 P P 16 11 39.2 +1.0
baz=288
ARCZ Arundel 88.50 135 P P 16 11 40.7 +2.2
M14K Bethel 88.57 28 P P 16 11 39.4 +0.9
baz=288
H18K Honhosa River 88.65 24 P P 16 11 38.5 -0.4
H18K Honhosa River 88.65 24 P P 16 11 39.0 +0.2
baz=291
QRZ Quartz Range 88.67 132 P P 16 11 39.2 -0.2
G19K Purcell Mounta 88.78 22 P P 16 11 39.8 +0.4
baz=292
F20K Avaraart Lake 88.93 21 P P 16 11 38.4 -1.7
F20K Avaraart Lake 88.93 21 P P 16 11 41.2 +1.1
baz=294
OXZ Oxford 88.95 134 P P 16 11 40.9 +0.2
OXZ IAmb IAmb 16 12 00.2
comp=Z,17nm,0.8s
OXZ Oxford 88.95 134 P P 16 11 41.3 +0.7
N14K Kuskokwak Cree 88.96 29 P P 16 11 40.7 +0.3
baz=288
E21K Killik River 88.96 20 P P 16 11 40.2 -0.1
E21K Killik River 88.96 20 P P 16 11 41.1 +0.8
baz=295
WACZ Wakanui South 88.96 135 P P 16 11 42.1 +1.5
ESBB Sonseca Array 88.97 310 P P 16 11 41.0 0.0
ESDC Sonseca Array 88.97 310 P P 16 11 40.9 -0.1
ESDC Sonseca Array 88.97 310 P P 16 11 41.2 +0.2
comp=Z,4.4nm,0.6s,baz=62,slow=4.2,SNR=39
comp=Z,4.4nm,0.6s
LTZ Lake Taylor 88.97 134 P P 16 11 52.2 +11
TOA0 Torodi Ar. Sit 89.00 283 P P 16 11 41.6 +0.1
TORD Torodi Ar. Bea 89.00 283 P P 16 11 42.1 +0.6
TORD Torodi Ar. Bea 89.00 283 P P 16 11 42.4 +0.9
comp=Z,7.2nm,0.6s,baz=78,slow=5.5,SNR=42
TORD PKKPbc **PKKPbc** 16 29 19.6 +0.2
comp=Z,1.0nm,0.5s,baz=309,slow=2.9,SNR=7.0
comp=Z,7.2nm,0.6s
THZ Tophouse 89.18 133 P P 16 11 42.0 +0.2
M15K Kasigluk River 89.18 28 P P 16 11 41.8 +0.4
baz=289
D22K Ayikyak River 89.20 19 IAmb IAmb 16 11 42.9
comp=Z,24nm,0.8s
D22K Ayikyak River 89.20 19 P P 16 11 41.7 +0.4
baz=296
H19K Roundabout Mou 89.26 23 P P 16 11 42.7 +1.0
H19K IAmb IAmb 16 11 43.6
comp=Z,27nm,0.8s
H19K Roundabout Mou 89.26 23 P P 16 11 42.5 +0.9
baz=293
GCSA Galena City Sc 89.39 24 P P 16 11 43.2 +0.9
baz=292
L16K Owhat River 89.40 27 P P 16 11 43.2 +0.8
baz=290
C23K Itkillik River 89.42 18 P P 16 11 43.0 +0.7
baz=298
K17K Iditarod 89.56 26 P P 16 11 43.6 +0.5
K17K Iditarod 89.56 26 P P 16 11 44.0 +0.8
baz=291
FALS False Pass 89.59 34 P P 16 11 44.0 +0.6
baz=287
F21K Alatna River 89.65 21 IAmb IAmb 16 11 44.7
comp=Z,14nm,0.9s
F21K Alatna River 89.65 21 P P 16 11 44.1 +0.6
baz=296
L17K Donlin 89.77 26 P P 16 11 44.8 +0.7
baz=291
D23K Nanushuk River 89.81 19 P P 16 11 45.4 +1.2
baz=298
E22K Anaktuvuk Pass 89.82 20 P P 16 11 44.4 0.0
E22K Anaktuvuk Pass 89.82 20 P P 16 11 45.1 +0.8
baz=297
M16K Timber Creek 89.87 28 P P 16 11 43.8 -0.8
baz=291
H20K Anotleneega Mo 89.87 23 P P 16 11 45.3 +0.7
baz=294
J18K Innoko River 89.95 25 P P 16 11 46.0 +1.0
baz=293
G21K Allakaket 89.95 22 P P 16 11 45.3 +0.4
G21K Allakaket 89.95 22 P P 16 11 45.4 +0.4
baz=296,SNR=26
F22K John River 89.98 20 P P 16 11 46.8 +1.7
baz=297
C24K Franklin Bluff 90.05 18 P P 16 11 45.6 +0.3
baz=300
EUNU Eureka 90.06 360 P P 16 11 45.7 +0.4
IMAR Indian Mountai 90.09 22 P P 16 11 46.0 +0.4
N16K Nishlik Lake 90.15 28 P P 16 11 46.6 +0.6
baz=291
KUZ Kuaotunu 90.16 127 P P 16 11 46.5 +0.1
J19K Poorman 90.19 24 IAmb IAmb 16 11 47.6
comp=Z,17nm,0.8s
J19K Poorman 90.19 24 P P 16 11 47.1 +1.0
baz=294
D24K Happy Valley 90.30 18 P P 16 11 46.8 +0.3
D24K Happy Valley 90.30 18 P P 16 11 47.2 +0.7
baz=300
I20K Naaghedeneel 90.31 23 P P 16 11 47.2 +0.6
baz=295
TOLK Toolik Lake Re 90.31 19 P P 16 11 47.0 +0.4
TOLK IAmb IAmb 16 11 48.0
comp=Z,28nm,0.7s
TOLK Toolik Lake Re 90.31 19 P P 16 11 47.3 +0.6
baz=299

NEEM North Greenlan 90.33 353 *i* P P 16 11 46.6 -0.3
NEEM IAmb IAmb 16 11 47.9
comp=Z,18nm,0.6s
M17K Holitna River 90.42 27 P P 16 11 48.0 +0.8
baz=292
L18K Granite Mounta 90.44 26 P P 16 11 47.4 +0.2
L18K Granite Mounta 90.44 26 P P 16 11 48.1 +0.8
baz=293
TTA Tatalina 90.45 25 P P 16 11 48.2 +0.8
TTA IAmb IAmb 16 11 49.3
comp=Z,38nm,1.4s
TTA Tatalina 90.45 25 P P 16 11 48.4 +1.0
TTA Tatalina 90.45 25 P P 16 11 48.4 +1.0
baz=293
TTA Tatalina 90.45 25 P P 16 11 48.2 +0.8
TTA pmax pmax
comp=Z,38nm,1.4s
PBRG Braganca 90.56 313 *eP* P 16 11 48.9 +0.6
comp=Z,12nm,1.8s
H21K Melozitna Rive 90.58 22 P P 16 11 48.5 +0.7
H21K IAmb IAmb 16 11 49.3
comp=Z,20nm,0.6s
H21K Melozitna Rive 90.58 22 P P 16 11 48.9 +1.0
baz=296
E23K Chandalar 90.58 19 P P 16 11 48.8 +0.8
baz=299
J20K Nowinta River 90.70 24 IAmb IAmb 16 11 50.5
comp=Z,26nm,0.6s
J20K Nowinta River 90.70 24 P P 16 11 49.5 +1.0
baz=295
COLD Coldfoot 90.79 20 P P 16 11 49.3 +0.5
COLD IAmb IAmb 16 11 49.8
comp=Z,10nm,0.6s
COLD Coldfoot 90.79 20 P P 16 11 49.5 +0.7
baz=299
MRZ Mangatainoka R 90.89 131 P P 16 11 49.4 -0.4
MVO Moncorvo 90.92 312 *eP* P 16 11 51.0 +0.9
comp=Z,15nm,0.7s
E24K Your Creek 90.95 19 P P 16 11 49.8 +0.2
E24K IAmb IAmb 16 11 51.0
comp=Z,18nm,0.8s
E24K Your Creek 90.95 19 P P 16 11 51.2 +1.6
baz=300
D25K Kavik River 90.96 18 P P 16 11 49.5 -0.1
D25K Kavik River 90.96 18 P P 16 11 50.9 +1.3
baz=302
H22K Ishtalitna Cre 91.00 22 P P 16 11 50.7 +0.9
baz=298
SDPT Sand Point 91.05 33 P P 16 11 51.8 +1.6
baz=289
C26K Camden Bay 91.07 17 P P 16 11 50.7 +0.7
baz=304
K20K Telida 91.08 25 P P 16 11 51.7 +1.4
K20K Telida 91.08 25 P P 16 11 51.6 +1.3
baz=295
G23K Bananza Creek 91.10 21 IAmb IAmb 16 11 51.9
comp=Z,13nm,0.8s
G23K Bananza Creek 91.10 21 P P 16 11 51.0 +0.7
baz=299
M18K Stony River 91.10 27 P P 16 11 51.1 +0.8
baz=293
I21K Tanana 91.10 22 P P 16 11 49.7 -0.6
I21K IAmb IAmb 16 11 52.3
comp=Z,26nm,0.8s
I21K Tanana 91.10 22 P P 16 11 51.5 +1.2
baz=297,SNR=10
L19K White Mountain 91.24 26 P P 16 11 51.4 +0.3
L19K IAmb IAmb 16 11 53.1
comp=Z,13nm,0.9s
L19K White Mountain 91.24 26 P P 16 11 51.9 +0.8
baz=294
N18K Kilae Creek 91.39 27 P P 16 11 51.8 0.0
baz=293
F24K Squaw Lake 91.42 20 P P 16 11 52.1 +0.3
F24K IAmb IAmb 16 11 53.3
comp=Z,13nm,0.6s
F24K Squaw Lake 91.42 20 P P 16 11 52.3 +0.5
baz=301
POLO Lamas de Olo 91.43 312 *eP* P 16 11 53.3 +0.9
comp=Z,5.3nm,1.6s
MTE Manteigas 91.49 311 *eP* P 16 11 53.9 +1.2
comp=Z,15nm,0.9s
RTZ Ruatahuna 91.53 129 P P 16 11 51.5 -1.4
URZ Urewera 91.56 128 LR LR 16 54 44.6
comp=Z,65nm,20.0s,baz=166,slow=37
CHUM Lake Minchumin 91.56 24 P P 16 11 53.5 +1.1
baz=297,SNR=15
PMRV Marv?2o 91.61 310 *eP* P 16 11 54.0 +0.8
comp=Z,13nm,1.4s
PGAV Gavieira, Arco 91.62 313 *eP* P 16 11 53.1 -0.2
comp=Z,19nm,1.6s
MLY Manley 91.64 22 P P 16 11 53.3 +0.4
MLY IAmb IAmb 16 11 54.2
comp=Z,22nm,0.6s
MLY Manley 91.64 22 P P 16 11 53.5 +0.7
baz=298,SNR=12
PBAR Barrancos 91.65 309 *eP* P 16 11 54.5 +1.1
comp=Z,22nm,1.2s
SUMG Summit 91.81 347 P P 16 11 52.1 -1.9
SUMG IAmb IAmb 16 11 55.5
comp=Z,41nm,1.3s
SUMG Summit 91.81 347 P P 16 11 52.1 -1.9
SUMG pmax pmax
comp=Z,41nm,1.3s
SUMG Summit 91.81 347 *i* P P 16 11 53.0 -1.0
SUMG IAmb IAmb 16 11 55.2
comp=Z,8.1nm,0.6s
E25K Arctic Village 91.86 19 P P 16 11 54.4 +0.7
E25K IAmb IAmb 16 11 55.2
comp=Z,11nm,0.8s
E25K Arctic Village 91.86 19 P P 16 11 54.5 +0.7
baz=303
CAST Castle Rocks 91.86 24 P P 16 11 54.7 +0.8
CAST Castle Rocks 91.86 24 P P 16 11 54.9 +1.0
baz=297,SNR=17
PESTR Estremoz 91.90 310 *eP* P 16 11 55.3 +0.7
comp=Z,16nm,1.7s
N19K Bonanza Creek 91.97 27 P P 16 11 55.7 +1.1
N19K Bonanza Creek 91.97 27 P P 16 11 55.4 +0.8
baz=295
BPAW Bear Paw Mtn. 91.98 23 P P 16 11 55.5 +1.1
baz=298,SNR=16
G24K Hadweenzic Riv 91.98 20 IAmb IAmb 16 11 56.0
comp=Z,18nm,0.8s
G24K Hadweenzic Riv 91.98 20 P P 16 11 55.3 +0.9
baz=301
O18K Koktuh Hills 92.03 28 P P 16 11 55.9 +1.1
baz=294
I23K Minto, Yukon-K 92.10 22 P P 16 11 54.5 -0.3
I23K IAmb IAmb 16 11 57.6
comp=Z,15nm,0.7s
I23K Minto, Yukon-K 92.10 22 P P 16 11 55.5 +0.6
baz=299,SNR=10
M20K Styx River 92.11 26 P P 16 11 55.9 +0.7
M20K IAmb IAmb 16 11 56.9
comp=Z,14nm,0.7s
M20K Styx River 92.11 26 P P 16 11 56.9 +1.7
baz=296
F25K Christian Rive 92.12 19 P P 16 11 56.0 +1.0
baz=303
KTH Kantishna Hill 92.26 24 P P 16 11 55.8 0.0
PCAS Casmilo, Conde 92.28 311 *eP* P 16 11 57.5 +1.2
comp=Z,13nm,1.2s
H24K Noodor Dome 92.29 21 P P 16 11 56.3 +0.4
H24K IAmb IAmb 16 11 57.4
comp=Z,13nm,0.8s
H24K Noodor Dome 92.29 21 P P 16 11 56.6 +0.8
baz=301
O19K Port Alsworth 92.30 27 P P 16 11 56.1 +0.2
baz=295
EVO Evora 92.30 310 *eP* P 16 11 57.6 +1.2
comp=Z,8.6nm,1.6s
PMTG Montargil 92.33 310 *eP* P 16 11 57.3 +0.8
comp=Z,12nm,1.5s
G25K Bearman Lake 92.42 20 P P 16 11 57.1 +0.8
baz=302
NEA2 Nenana 92.48 22 P P 16 11 57.5 +0.8
baz=300
F26K Sheenjek River 92.54 19 P P 16 11 58.1 +1.1
baz=304
PCVE Castro Verde 92.55 309 *eP* P 16 11 58.9 +1.3
comp=Z,11nm,1.7s
TRF Thorofare Moun 92.56 24 P P 16 11 57.4 +0.1
TRF Thorofare Moun 92.56 24 P P 16 11 57.6 +0.3
baz=298
D27M Malcolm River 92.59 17 P P 16 11 57.8 +0.6
D27M IAmb IAmb 16 11 58.7

comp=Z,32nm,1.1s
D27M Malcolm River 92.59 17 P P 16 11 58.3 +1.1
baz=307
MDM Murphy Dome 92.61 22 P P 16 11 57.7 +0.4
MDM IAmb IAmb 16 11 58.4
comp=Z,16nm,0.7s
MESJ Messejana 92.64 309 eP P 16 11 59.4 +1.4
comp=Z,18nm,1.9s
SKT Skwentna 92.74 25 P P 16 11 57.8 -0.2
SKT Skwentna 92.74 25 P P 16 11 57.7 -0.2
baz=297
N20K Mount Spurr 92.80 26 P P 16 11 58.9 +0.6
baz=297
POKR Poker Plat Res 92.82 22 P P 16 11 57.7 -0.5
POKR IAmb IAmb 16 11 59.6
comp=Z,8.8nm,0.5s
POKR Poker Plat Res 92.82 22 P P 16 11 58.3 0.0
baz=301,SNR=11
CCB Clear Creek Bu 92.92 22 P P 16 11 57.3 -1.4
CCB IAmb IAmb 16 12 29.4
comp=Z,39nm,2.0s
MCK McKinley 92.95 23 P P 16 11 59.0 +0.1
baz=300,SNR=8.3
E27K Coleen River 93.04 18 IAmb IAmb 16 12 00.5
comp=Z,11nm,0.7s
E27K Coleen River 93.04 18 P P 16 11 59.3 +0.1
baz=307
CUT Chulitna 93.07 25 P P 16 12 00.4 +1.0
baz=299
G26K Porcupine Rive 93.08 19 P P 16 11 59.9 +0.5
baz=304
O20K Slope Mountain 93.12 27 P P 16 12 00.6 +0.8
baz=296
D28M Stokes Point 93.16 16 P P 16 12 00.5 +0.9
baz=309
IL31 93.20 22 P P 16 11 58.5 -1.4
IL31 IAmb IAmb 16 12 00.6
comp=Z,15nm,0.7s
ILAR Eielson Array 93.20 22 P P 16 11 59.0 -1.0
ILAR Eielson Array 93.20 22 P P 16 11 59.0 -1.0
comp=Z,12nm,0.7s,baz=299,slow=4.3,SNR=4.1
ILAR PKKP PKKPdf 16 29 08.1 +0.2
comp=Z,0.5nm,0.5s,baz=141,slow=1.7,SNR=11
comp=Z,12nm,0.7s
PRP Porcupine Dome 93.29 21 P P 16 12 01.3 +0.8
baz=303,SNR=13
ELIB Princess Elisa 93.29 197 dP P 16 12 02.6 +2.3
comp=Z,6.8nm,0.9s
ELIB dx x 16 12 20.6
SUA Susitna One 93.31 26 P P 16 11 59.6 -1.1
SUA Susitna One 93.31 26 P P 16 12 01.0 +0.3
baz=298
HDA Harding Lake 93.36 22 P P 16 12 00.2 -0.6
baz=302,SNR=11
HDA P P 16 12 00.2 -0.6
baz=302,SNR=11
E28M Babbage River 93.39 17 IAmb IAmb 16 12 02.2
comp=Z,29nm,0.7s
E28M Babbage River 93.39 17 P P 16 12 01.3 +0.4
baz=309
M22K Willow 93.44 25 P P 16 12 01.6 +0.5
baz=298
WAT1 Susitna Watana 93.55 24 P P 16 12 01.4 -0.3
baz=300
J25K Salcha River, 93.83 22 P P 16 12 02.3 -0.7
J25K IAmb IAmb 16 12 03.4
comp=Z,13nm,0.6s
J25K Salcha River, 93.83 22 P P 16 12 02.8 -0.2
baz=303
G27K Doyon Strip 93.85 19 P P 16 12 03.4 +0.3
G27K IAmb IAmb 16 12 03.8
comp=Z,7.0nm,0.7s
G27K Doyon Strip 93.85 19 P P 16 12 03.3 +0.3
baz=306
DHY Denali Highway 93.89 23 P P 16 12 02.3 -1.1
DHY IAmb IAmb 16 13 52.8
comp=Z,58nm,2.0s
DHY Denali Highway 93.89 23 P P 16 12 03.5 +0.1
baz=301
F28M Old Crow 93.91 18 P P 16 12 03.1 -0.1
F28M IAmb IAmb 16 12 04.8
comp=Z,13nm,0.8s
F28M Old Crow 93.91 18 P P 16 12 03.3 0.0
baz=308,SNR=16
RC01 Rabbit Creek A 93.92 26 P P 16 12 02.8 -0.6
RC01 Rabbit Creek A 93.92 26 P P 16 12 03.6 +0.2
baz=299
PMR Palmer 93.93 25 P P 16 12 03.6 +0.2
PMR Palmer 93.93 25 P P 16 12 03.4 0.0
baz=299
E29M Blow River 94.00 17 P P 16 12 03.8 +0.2
baz=310
WAT6 Susitna Watana 94.00 24 P P 16 12 03.9 0.0
baz=301
BRLK Bradley Lake 94.04 27 P P 16 12 03.6 -0.4
BRSE Bradley Lake S 94.12 27 P P 16 12 04.4 0.0
baz=296
SML Sawmill 94.15 25 P P 16 12 04.5 0.0
baz=300
O22K Cooper Landing 94.22 26 P P 16 12 04.7 0.0
baz=299
I26K Coal Creek Min 94.23 20 P P 16 12 05.1 +0.4
baz=305
H27K Steamboat Moun 94.23 19 P P 16 12 05.2 +0.5
baz=307
KNK Knik Glacier 94.30 25 P P 16 12 05.4 +0.2
baz=300
A36M Sachs Harbour 94.39 11 IAmb IAmb 16 12 06.3
comp=Z,26nm,0.8s
A36M Sachs Harbour 94.39 11 P P 16 12 05.5 +0.3
baz=322,SNR=20
M23K Glacier View 94.41 25 P P 16 12 06.0 +0.4
baz=301
ICESG Greenland Ices 94.49 345 iP P 16 12 06.1 -0.2
ICESG IAmb IAmb 16 12 07.4
comp=Z,8.4nm,0.7s
RIDG Independent Ri 94.50 22 P P 16 12 05.4 -0.7
baz=303
SEW Seward 94.52 26 P P 16 12 05.3 -0.8
baz=299
J26L Joseph Creek 94.54 21 P P 16 12 06.5 +0.1
baz=305
SCM Sheep Creek Mo 94.55 24 P P 16 12 07.0 +0.6
baz=301
I27K Kandik River 94.58 20 P P 16 12 07.2 +0.8
baz=306
PAX Paxson 94.69 23 P P 16 12 06.3 -0.7
baz=303
SCRK Sand Creek 94.69 22 IAmb IAmb 16 12 07.9
comp=Z,16nm,0.7s
SCRK Sand Creek 94.69 22 P P 16 12 07.2 +0.1
baz=304,SNR=12
M24K Tolsona, Glenn 94.87 24 P P 16 12 07.9 +0.1
baz=302
G29M Pine Creek 94.91 18 IAmb IAmb 16 12 08.8
comp=Z,12nm,0.9s
G29M Pine Creek 94.91 18 P P 16 12 08.0 +0.1
baz=310
F30M Barrier River 95.11 17 P P 16 12 09.2 +0.5
baz=312
HARP HAARP 95.12 23 P P 16 12 09.0 +0.1
baz=303
GLI Glacier Island 95.14 25 P P 16 12 08.8 -0.2
baz=301
EGAK Eagle 95.22 20 P P 16 12 09.3 0.0
baz=307
I28M Miner Creek 95.23 20 IAmb IAmb 16 12 10.3
comp=Z,13nm,0.6s
I28M Miner Creek 95.23 20 P P 16 12 09.4 0.0
baz=308
VNDA Vanda 95.24 168 P P 16 12 08.2 -0.8
comp=Z,1.2nm,0.4s,baz=317,slow=6.5,SNR=15
comp=Z,1.2nm,0.4s
H29M Whitestone 95.25 19 P P 16 12 09.4 0.0
baz=310
INK Inuvik 95.26 16 P P 16 12 09.3 0.0
baz=314,SNR=25
INK Inuvik 95.26 16 LR LR 17 01 38.3
comp=Z,92nm,18.3s,baz=16,slow=40
KLU Klutina 95.30 24 P P 16 12 10.4 +0.6
baz=302
RES Resolute Bay 95.32 2 IAmb IAmb 16 12 10.9
comp=Z,13nm,0.8s
K27K Chicken 95.35 21 P P 16 12 10.4 +0.6
baz=306
G30M tAoh Zraii Nji 95.41 17 P P 16 12 09.9 -0.3
baz=312,SNR=20
L26K Log Cabin Wild 95.46 22 P P 16 12 11.1 +0.6
baz=305
EPYK Eagle Plains 95.66 18 P P 16 12 10.9 -0.4
baz=311,SNR=14
N25K Chitina, Valde 95.77 24 P P 16 12 12.6 +0.7
baz=304
F31M Tsiigehtchic 95.80 16 IAmb IAmb 16 12 12.5
comp=Z,19nm,0.8s
F31M Tsiigehtchic 95.80 16 P P 16 12 11.8 -0.1
baz=314,SNR=17
I29M Ogilvie Camp, 95.82 19 P P 16 12 11.7 -0.3
baz=310,SNR=7.0
EYAK Cordova Ski Ar 95.88 25 P P 16 12 12.1 -0.2
baz=302
M26K Nabesna, AK 95.95 23 P P 16 12 13.1 +0.3
baz=305
L27K Beaver Creek, 96.01 22 P P 16 12 13.4 +0.5
baz=306
G31M Satah River 96.01 17 P P 16 12 12.5 -0.3
baz=314,SNR=17
BMRM Bremner River 96.12 24 P P 16 12 13.8 +0.2
baz=303
DAWY Dawson 96.27 21 IAmb IAmb 16 12 15.0
comp=Z,8.4nm,0.7s
DAWY Dawson 96.27 21 P P 16 12 14.3 +0.2
baz=308,SNR=8.9
M27K Edge Creek, AK 96.40 23 P P 16 12 15.2 +0.3
baz=306
DBIC Dimbokro 96.52 278 P P 16 12 16.0 -0.2
DBIC Dimbokro 96.52 278 P P 16 12 16.0 -0.2
comp=Z,1.8nm,0.5s,baz=58,slow=4.2,SNR=3.1
comp=Z,1.8nm,0.5s
I30M Mount Dempster 96.52 19 IAmb IAmb 16 12 16.1
comp=Z,19nm,0.7s
I30M Mount Dempster 96.52 19 P P 16 12 15.4 0.0
baz=311,SNR=29
MCARA McCarthy VSAT 96.53 24 P P 16 12 15.6 +0.3
baz=305
C36M Paulatuk 96.74 12 P P 16 12 15.6 -0.5
baz=323,SNR=26
BVCY Beaver Creek 96.75 22 P P 16 12 16.9 +0.6
baz=307
H31M Peel River 96.76 18 IAmb IAmb 16 12 17.2
comp=Z,26nm,1.1s
H31M Peel River 96.76 18 P P 16 12 16.3 0.0
baz=313
KAIM Kayak Island 96.77 25 P P 16 12 16.6 +0.2
baz=304
J30M Hart River 96.97 19 IAmb IAmb 16 12 18.6
comp=Z,7.8nm,0.9s
J30M Hart River 96.97 19 P P 16 12 17.6 +0.2
baz=311
K29M Barlow Dome 97.05 20 IAmb IAmb 16 12 18.6
comp=Z,5.5nm,0.7s
K29M Barlow Dome 97.05 20 P Pdif 16 12 18.2 +0.3
baz=310
YUK3 Moose Creek 97.29 23 P Pdif 16 12 19.1 0.0
baz=307
L29M L29M 97.31 21 IAmb IAmb 16 12 20.4
comp=Z,7.8nm,0.8s
L29M L29M 97.31 21 P Pdif 16 12 19.5 +0.5
baz=310
CTG Chitna Glacier 97.43 24 P Pdif 16 12 19.8 +0.2
baz=306
M29M Somme Creek 97.61 22 P Pdif 16 12 20.6 +0.2
baz=309
MAYO Mayo, Yukon 97.76 20 P Pdif 16 12 21.4 +0.5
baz=312
YUK8 Steele Glacier 97.85 23 P Pdif 16 12 21.9 +0.3
baz=308
M30M Minto, Yukon 98.12 21 P Pdif 16 12 22.9 +0.3
baz=311
YUK4 Talbot Arm 98.24 22 P Pdif 16 12 23.4 +0.1
baz=309
YUK6 Outpost Mounta 98.60 23 P Pdif 16 12 25.4 +0.5
baz=309
N30M Aishikik Lake 98.74 22 P Pdif 16 12 26.1 +0.7
baz=310
O29M Mount Kennedy 98.92 23 P Pdif 16 12 26.6 +0.4
baz=309
HYT Haines Junctio 99.00 23 P Pdif 16 12 27.1 +0.5
baz=310
N31M Braeburn, Yuko 99.20 21 P **Pdif** 16 12 28.0 +0.6
baz=312
M31M Drury Creek, Y 99.21 20 P **Pdif** 16 12 27.8 +0.4
baz=313
FARO Faro, Yukon 99.55 20 P **Pdif** 16 12 29.9 +1.1
baz=314
O30N Mendenhall 99.56 22 P **Pdif** 16 12 29.5 +0.5
baz=311
P29M Windy Craggy 99.67 24 P **Pdif** 16 12 29.9 +0.4
baz=310
WHY Whitehorse 100.08 22 P **Pdif** 16 12 31.6 +0.2
baz=312
N32M Quiet Lake 100.39 21 P **Pdif** 16 12 33.1 +0.4
baz=314
SKAG Skagway 100.72 23 P **Pdif** 16 12 34.5 +0.4
baz=312
P33M Teslin, Yukon 101.14 21 P **Pdif** 16 12 36.8 +0.7
baz=314
P32M Atlin 101.24 22 P **Pdif** 16 12 36.7 +0.3
baz=313
SNAA Sanae 101.28 199 P **Pdif** 16 12 35.8 -0.5
comp=Z,0.6nm,0.5s,baz=61,slow=19,SNR=1.6
S31K Pelican 101.35 24 P **Pdif** 16 12 36.8 0.0
baz=311
WRGLY Wrigley 101.81 16 P **Pdif** 16 12 39.0 +0.1
baz=323
R32K Eaglecrest 101.82 23 P **Pdif** 16 12 38.7 -0.4
baz=312
Q32M Nakina River 102.21 22 P **Pdif** 16 12 39.9 -1.1
baz=314
SIT Sitka 102.31 25 P **Pdif** 16 12 40.8 -0.4
baz=311
R33M Jennings River 102.38 21 P **Pdif** 16 12 42.1 +0.5
baz=316
DLBC Dease Lake 103.41 22 P **Pdif** 16 12 45.9 -0.3
baz=316
U33K Whale Pass 103.85 25 P **Pdif** 16 12 47.3 -0.7
baz=313
YKA Yellowknife Ar 104.61 13 Pdiff **Pdif** 16 12 50.1 -1.2
comp=Z,1.0nm,0.8s,baz=330,slow=4.4,SNR=12
YKA PKKPbc **PKKPbc** 16 28 35.2 -3.3
comp=Z,0.4nm,0.8s,baz=158,slow=3.1,SNR=5.0
U35K Hyder 105.23 23 P **PKiKP** 16 17 09.1 +1.0
baz=316
SCHQ Schefferville 113.20 347 PKKPbc PKKPbc 16 28 08.4 -2.6
comp=Z,4.7nm,0.5s,baz=137,slow=1.0,SNR=14
NEW Newport 116.15 22 P **PKPdf** 16 17 29.5 +0.3
baz=327
MSO Missoula 118.51 21 P **PKPdf** 16 17 33.7 -0.1
baz=330
EGMT Eagleton 118.80 17 P **PKiKP** 16 17 34.4 0.0
baz=334
PPT2 Papeete2 119.00 105 eLR LR 16 53 53.6
comp=Z,105nm,25.8s
TBI Tubuai 119.13 111 eLR LR 16 54 07.4
comp=Z,541nm,33.2s
PLID Pearl Lake 119.23 23 PKPdf **PKiKP** 16 17 35.8 +0.3
ULM Lac du Bonnet 119.49 7 PKP **PKPdf** 16 17 34.7 -0.7
comp=Z,1.1nm,0.6s,baz=12,slow=3.3,SNR=4.3
ULM PKKPbc **PKKPbc** 16 27 45.8 -3.0
comp=Z,3.4nm,0.6s,baz=160,slow=5.5,SNR=6.8
LAO LASA Array 121.00 15 P **PKiKP** 16 17 39.0 +0.4
baz=338
HLID Hailey 121.13 23 P **PKPdf** 16 17 38.8 -0.3
baz=328
RLMT Red Lodge 121.56 18 P **PKPdf** 16 17 39.2 -0.7
baz=334
H17A Grant Village 121.79 20 P **PKPdf** 16 17 39.6 -0.7
baz=333
EYMN Ely 122.16 4 P **PKPdf** 16 17 40.2 -0.4
baz=355
BW06 Boulder Array 123.57 20 P **PKPdf** 16 17 43.8 0.0
baz=333
PDAR Pinedale Array 123.57 20 PKP **PKPdf** 16 17 43.6 -0.2
comp=Z,2.7nm,0.6s,baz=134,slow=0.5,SNR=27
PDAR PKKPbc **PKKPbc** 16 27 31.4 -2.1
comp=Z,0.5nm,0.5s,baz=135,slow=6.3,SNR=9.9
NVAR Mina Array Bea 123.65 29 PKP **PKiKP** 16 17 45.3 +0.9
comp=Z,4.6nm,0.7s,baz=321,slow=2.2,SNR=29
RSSD Black Hills 123.95 15 P **PKiKP** 16 17 44.6 -0.1
baz=340
LBNH Lisbon 124.29 347 P **PKPdf** 16 17 44.6 -0.2
baz=18
LONY Lake Ozonia 124.47 349 P **PKPdf** 16 17 45.2 0.0
baz=15
DUG Dugway, Tooele 124.62 24 P **PKPdf** 16 17 45.7 -0.1
baz=329,SNR=6.5
K22A Casper 124.63 17 P **PKPdf** 16 17 45.6 -0.2
baz=337
TIN Tinemaha, Big 124.76 30 P **PKiKP** 16 17 46.9 +0.5
baz=322
SPMN Marine on St. 124.77 5 P **PKiKP** 16 17 46.7 +0.7
baz=353
R11B Troy Canyon, C 124.98 27 P **PKiKP** 16 17 47.8 +0.8
baz=325,SNR=12
CWC Cottonwood Cre 125.32 31 P **PKiKP** 16 17 47.7 +0.1
baz=322
ISA Isabella, Lake 125.72 32 P **PKPdf** 16 17 48.1 +0.1
baz=321
ECSD EROS Data Cent 125.80 9 P **PKPdf** 16 17 47.9 +0.1
baz=348
TPNV Topopah Spring 125.81 29 P **PKiKP** 16 17 48.6 0.0
baz=324
HRV Adam Dziewonsk 125.85 346 P **PKPdf** 16 17 47.9 +0.1
baz=19
MPMC Manual Prospec 125.92 30 P **PKiKP** 16 17 49.3 +0.4
baz=322
ARVC Arvin 125.95 32 P **PKiKP** 16 17 49.4 +0.7
baz=320
L61B Northampton 126.16 347 P **PKPdf** 16 17 48.5 0.0
baz=18
LRMC Laurel Mtn Rad 126.27 31 P **PKiKP** 16 17 49.9 +0.4
baz=322
O20A White River Ci 126.37 20 P **PKiKP** 16 17 49.6 -0.1
baz=334,SNR=6.7
SCZ2 Santa Cruz Isl 126.37 34 P **PKiKP** 16 17 49.9 +0.3
baz=319
N23A Red Feather La 126.41 18 P **PKPdf** 16 17 49.0 -0.4
baz=337
EDW2 Edwards Air Fo 126.58 32 P **PKiKP** 16 17 50.0 0.0
baz=321
GSC Goldstone, Bar 126.85 31 P **PKiKP** 16 17 50.4 -0.2
baz=323
TUQ Turquoise Moun 127.18 30 P **PKPdf** 16 17 51.0 +0.2
baz=324
JFWS Jewell Farm 127.24 3 P **PKiKP** 16 17 50.9 -0.1
baz=356
BFSC Mount Baldy Ra 127.25 32 P **PKPdf** 16 17 51.2 +0.2
baz=321
OGNE Ogallala 127.43 14 P **PKPdf** 16 17 51.3 +0.2
baz=342
TAOE 127.62 93 eLR LR 16 57 52.9
comp=Z,162nm,26.8s
SCI2 San Clemente I 127.73 34 P **PKiKP** 16 17 52.2 -0.1
baz=320
BGNE Belgrade 127.81 11 P **PKPdf** 16 17 51.4 -0.3
baz=346
PAL Palisades 127.81 347 P **PKPdf** 16 17 51.2 -0.4
baz=16
GMRC Granite Mounta 127.83 30 P **PKiKP** 16 17 53.7 +1.1
baz=324
BELC Belle Mtn. Jos 128.29 31 P **PKiKP** 16 17 54.5 +0.9
baz=323
M53A WI Miller and 128.47 354 P **PKiKP** 16 17 54.3 +0.7
baz=8.1
IRM Iron Mountain 128.59 30 P **PKiKP** 16 17 54.8 +0.8
baz=324
BC3 Big Chuckawall 128.84 31 P **PKiKP** 16 17 54.5 -0.1
baz=323
MVCO Mesa Verde 128.88 22 P **PKiKP** 16 17 55.2 +0.4
baz=333
SSPA Standing Stone 128.90 351 P **PKPdf** 16 17 53.8 +0.1
baz=12
PDMCI Parker Dam,Lak 128.96 29 P **PKiKP** 16 17 55.5 +0.8
baz=325
S22A 4UR Ranch, Cre 128.99 20 P **PKiKP** 16 17 55.5 +0.4
baz=335
WUAZ Wupatki 129.20 26 P **PKiKP** 16 17 55.6 +0.2
baz=329
IKP In-Ko-Pah, Jac 129.29 32 P **PKiKP** 16 17 55.9 +0.3
baz=322
SDCO Great Sand Dun 129.43 19 P **PKiKP** 16 17 55.6 -0.3
baz=336
HDIL Hopedale 129.64 2 P **PKiKP** 16 17 56.3 +0.4
baz=357
O53A New Philadelph 129.70 354 P **PKiKP** 16 17 56.4 +0.3
baz=7.5
W18A Petrified Fore 130.23 25 P **PKiKP** 16 17 57.2 -0.3
baz=330
T25A Trinidad 130.33 18 P **PKPdf** 16 17 57.1 +0.2
baz=338
P52A Corning 130.40 355 P **PKiKP** 16 17 57.2 -0.3
baz=6.4
214A Organ Pipe Nat 131.51 30 P **PKiKP** 16 17 59.9 -0.1
baz=325
ANMO Albuquerque 131.64 21 P **PKiKP** 16 18 00.1 -0.3
baz=334
WCI Wyandotte Cave 132.00 359 P **PKPdf** 16 17 59.9 +0.2
baz=1.1
CCM Cathedral Cave 132.02 4 P **PKPdf** 16 18 00.1 +0.3
baz=355
TUC Tucson 132.17 27 P **PKiKP** 16 18 02.0 +0.6
baz=328
TZTN Tazewell 133.57 356 P **PKiKP** 16 18 04.1 +0.1
baz=4.8
MSTX Muleshoe 133.76 18 P **PKiKP** 16 18 04.5 -0.1
baz=338
MNTX Cornudas Mount 134.95 22 P **PKiKP** 16 18 07.6 +0.7
baz=334
OXF Oxford 135.66 3 P **PKiKP** 16 18 08.5 +0.2
baz=357
ABTX Abilene, Hawle 135.92 15 P **PKiKP** 16 18 08.1 -0.8
baz=342
WHTX Lake Whitney, 137.05 13 P **PKiKP** 16 18 10.4 -0.8
baz=345
LRAL Lakeview Retre 137.19 360 P **PKiKP** 16 18 10.7 -0.7
baz=0.2
TXAR Lajitas Array 137.71 22 PKhKP PKPpre 16 17 59.4
comp=Z,0.4nm,0.5s,baz=10,slow=3.2,SNR=6.8
TXAR PKP **PKPdf** 16 18 11.0 +0.3
comp=Z,1.7nm,0.4s,baz=200,slow=0.6,SNR=29
TXAR SKPbc **SKPbc** 16 21 40.5 +0.2
comp=Z,0.9nm,0.8s,baz=224,slow=2.4,SNR=5.0
JCT Junction City 137.90 17 P **PKiKP** 16 18 12.7 -0.3
baz=341
BDFB Brasília 141.61 257 PKP **PKPdf** 16 18 18.1 -0.1
comp=Z,4.9nm,0.8s,baz=141,slow=4.4,SNR=4.9
TRQA Tornquist 144.15 215 PKPdf PKPbc 16 18 20.6 +0.4
TRQA Tornquist 144.15 215 PKIKP PKPbc 16 18 20.6 +0.5
FDF Fort de France 144.47 313 PKPdf PKPbc 16 18 22.1 +0.3
FDF Fort de France 144.47 313 PKIKP PKPbc 16 18 22.1 +0.4
BIM Bigot 144.56 313 PKPdf **PKPdf** 16 18 22.7 -0.6
GO07 Milladeo Hill, 145.03 197 **PKPdf** 16 18 23.6 +0.3
ITQB Itaqui 145.54 231 PKPdf **PKPab** 16 18 25.7 +0.7
CELP Cerrillos 145.56 324 PKPdf **PKPab** 16 18 25.4 0.0
MLPR Magueyes Islan 145.91 325 PKPdf **PKPbc** 16 18 26.1 -0.1
CRPR Cabo Rojo, PR 145.92 325 PKPdf **PKPab** 16 18 26.7 +0.1
PLCA Paso Flores 146.11 203 PKPdf **PKPab** 16 18 27.0 +0.1
PLCA Paso Flores 146.11 203 PKP2 **PKPab** 16 18 27.0 +0.1
PLCA Paso Flores 146.11 203 PKPbc **PKPab** 16 18 26.8 -0.1
comp=Z,8.3nm,0.6s,baz=116,slow=0.5,SNR=19
SOR Soroa 147.16 353 **PKPbc** 16 18 29.8 +0.1
SOR Soroa 147.16 353 PKP2 **PKPbc** 16 18 29.8 +0.1
CPUP Villa Florida 147.58 236 PKPbc **PKPbc** 16 18 30.9 +0.1
comp=Z,5.6nm,0.5s,baz=105,slow=4.0,SNR=22
BOAV Boa Vista 150.88 294 PKPbc **PKiKP** 16 18 39.9 -0.1
GO05 Huala 151.56 207 PKPbc **PKiKP** 16 18 40.9 0.0

NEIC ***22*** *16:19:18.8±0.4, 19°21N±0°03×155°48W±0°03, h39km±4km, Error ellipse: s-maj=4.8km s-min=4.3km az=181.0*
HVO 22 16:19:20.2±0.6, **19°20N**±0°09×**155°47W**±0°06, **h34**km±8km, **Md2.3**/24, **ML2.5**/41(NEIC), **Error ellipse: s-maj=12.6km s-min=8.2km az=174.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.08**	**60**		Pb	16 19 25.6	-0.5
KHU	**Kahuku**	**0.15**	**288**		Pb	16 19 25.8	-1.0
KHU				IAML		16 19 30.3	
	comp=N,732nm,0.2s						
AIN	**Ainahou**	**0.17**	**3**		Pb	16 19 26.2	-0.7
AIN				IAML		16 19 30.9	
	comp=E,621nm,0.3s						
HLP	**Hilina Pali**	**0.18**	**57**		Pb	16 19 26.1	-0.7
HLP	**Hilina Pali**	**0.18**	**57**	IAML		16 19 29.2	
	comp=E,477nm,4.0s						
HLP				IAML		16 19 37.4	
	comp=N,858nm,3.4s						
SDHHI	**Sand Hill**	**0.25**	**41**		Pn	16 19 26.5	-0.6
SDHHI					Sn	16 19 31.4	+0.6
SDHHI	**Sand Hill**	**0.25**	**41**	IAML		16 19 31.7	
	comp=E,844nm,0.3s						
SDHHI				IAML		16 19 33.4	

	comp=N,789nm,0.1s							
RIM	**Rim**	**0.27**	**43**	IAML			16 19 29.7	
	comp=E,423nm,1.6s							
RIM				IAML			16 19 30.4	
	comp=N,482nm,1.1s							
KKO	**Keanakako`i**	**0.27**	**44**	IAML			16 19 29.7	
	comp=E,396nm,1.5s							
KKO				IAML			16 19 32.9	
	comp=N,521nm,1.4s							
UWE	**Uwekahuna**	**0.28**	**37**	IAML			16 19 37.4	
	comp=N,425nm,1.1s							
OBL	**Observatory Le**	**0.28**	**39**	IAML			16 19 32.0	
	comp=N,557nm,0.8s							
OBL				IAML			16 19 41.9	
	comp=E,512nm,1.1s							
BYL	**Byron's Ledge**	**0.29**	**43**	IAML			16 19 29.8	
	comp=N,358nm,3.3s							
PUH	**Pauahi**	**0.29**	**54**	IAML			16 19 39.1	
	comp=N,406nm,3.6s							
HATHI	**Halema'uma'u T**	**0.30**	**41**	IAML			16 19 36.0	
	comp=N,331nm,3.2s							
HATHI				IAML			16 19 36.8	
	comp=E,340nm,1.3s							
MLH	**Mauna Loa**	**0.30**	**15**	IAML			16 19 40.3	
	comp=N,460nm,2.9s							
MWH	**Moku'awecowe**	**0.31**	**337**	IAML			16 19 39.2	
	comp=E,372nm,5.0s							
RSD	**Rainshed**	**0.32**	**34**	IAML			16 19 32.4	
	comp=N,472nm,4.0s							
STCH	**Steam Cracks**	**0.37**	**60**	IAML			16 19 45.5	
	comp=N,331nm,1.6s							
HMH	**Humu'ula Sheep**	**0.40**	**358**			Pb	16 19 28.7	-1.0
HMH	**Humu'ula Sheep**	**0.40**	**358**	IAML			16 19 33.3	
	comp=N,305nm,3.3s							
HMH				IAML			16 19 38.9	
	comp=E,193nm,1.9s							
KHLU	**Kahalu`u**	**0.56**	**314**			Pn	16 19 30.1	-1.7
KHLU	**Kahalu`u**	**0.56**	**314**	IAML			16 19 44.8	
	comp=N,283nm,3.6s							
KHLU				IAML			16 19 53.7	
	comp=E,271nm,4.2s							

IDC ***22*** *17:41:15.9±0.7, 4.°20S×102.°12E, h50km±5km, mb4.1/20, mbtmp4.4/21, MS3.1/6, Error ellipse: s-maj=20.4km s-min=8.8km az=48.0*

NEIC ***22*** *17:41:15.1±2.3, 4.°34S±0.°06×101.°94E±0.°05, h45km±6km, mb4.7/68, Error ellipse: s-maj=9.8km s-min=6.7km az=212.0*

DJA ***22*** *17:41:16.1±0.3, 4.°5S±3.°×10.°2E±.°, h62km±5km, M4.7/25, mB5.2/4, mb4.6/19, MLv4.8/25, Mw(mB)4.5/4*

ISC 22 17:41:15.5±0.6,**4.°29S**±0.°05×**102.°00E**±0.°04,**h52**km±5km, **n185,** σ1**°33**/183,**mb4.6**/56,**MS3.0**/4,**1D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.95**	**94**	Pn	**Pn**	**17 41 33.3**	**+0.6**
MNAI				Sn	**Sn**	**17 41 46.0**	**+0.7**
MNAI	**Manna**	**0.95**	**94**	P	**Pn**	**17 41 34.1**	**+1.4**
MNAI	**Manna**	**0.95**	**94**	P	**Pn**	**17 41 34.1**	**+1.4**
LHSI	**Lahat**	**1.58**	**73**	P	**Pn**	**17 41 43.6**	**+2.4**
LWLI	**Liwa**	**2.17**	**110**	P	**Pn**	**17 41 51.2**	**+1.8**
KRJI	**Kerinci**	**2.25**	**346**	P	**Pn**	**17 41 53.5**	**+3.1**
PPSI	**Pulau Pagai**	**2.50**	**307**	P	**Pn**	**17 41 56.9**	**+3.1**
KASI	**Kota Agung**	**2.77**	**116**	P	**Pn**	**17 41 58.9**	**+1.4**
KLI	**Kotabumi**	**2.90**	**101**	P	**Pn**	**17 42 00.9**	**+1.6**
PMBI	**Palembang**	**3.08**	**64**	Pn	**Pn**	**17 42 00.0**	**-1.6**
PMBI				Sn	**Sn**	**17 42 36.6**	**-0.6**
PMBI	**Palembang**	**3.08**	**64**	P	**Pn**	**17 42 03.1**	**+1.4**
JMBI	**JAMBI**	**3.10**	**32**	P	**Pn**	**17 42 04.6**	**+2.6**
PDSI	**Padang**	**3.69**	**335**	P	**Pn**	**17 42 12.2**	**+2.1**
CGJI	**Cibinong**	**4.34**	**122**	P	**Pn**	**17 42 19.4**	**+0.4**
SBJI	**Serang**	**4.50**	**114**	P	**Pn**	**17 42 22.4**	**+1.3**
DSRI	**Dabo**	**4.57**	**34**	P	**Pn**	**17 42 25.2**	**+3.0**
PPBI	**Pangkal Pinang**	**4.63**	**63**	P	**Pn**	**17 42 24.8**	**+1.7**
BKNI	**Bangkinang**	**4.68**	**348**	Pn	**Pn**	**17 42 23.7**	**0.0**
BKNI	**Bangkinang**	**4.68**	**348**	P	**Pn**	**17 42 26.4**	**+2.7**
DBJI	**Dramaga** 103nm,1.2s,0.6nm	**5.24**	**116**	P	**Pn**	**17 42 33.0**	**+1.7**
SKJI	**Sukabumi** 131nm,0.7s,6μm1.4nm	**5.28**	**121**	P	**Pn**	**17 42 33.0**	**+1.1**
PBSI	**Pulau Batu** 259nm,1.3s,1.3nm	**5.61**	**318**	P	**Pn**	**17 42 38.5**	**+2.0**
TPRI	**Tanjung Pinang** 70nm,1.0s,0.4nm	**5.75**	**26**	P	**Pn**	**17 42 41.1**	**+2.7**
CNJI	**Cibinong** 21nm,0.5s,811nm0.4nm	**5.92**	**121**	P	**Pn**	**17 42 40.9**	**+0.2**
LEM	**Lembang** 44nm,1.2s,0.2nm	**6.13**	**115**	P	**Pn**	**17 42 46.0**	**+2.2**
LEM	**Lembang** 14nm,0.3s,baz=308,slow=19,SNR=3.3	**6.13**	**115**	P	**Pn**	**17 42 44.5**	**+0.7**
LEM				S	**Sn**	**17 43 55.0**	**+2.3**
	27nm,0.6s,baz=184,slow=24,SNR=1.5						
LEM				LR	LR	17 44 50.2	
	comp=Z,87nm,20.7s,baz=238,slow=35						
MYKOM	**Kota Tinggi**	**6.31**	**17**	Pn	**Pn**	**17 42 47.9**	**+1.8**
BBJI	**Bungbulang**	**6.44**	**120**	P	**Pn**	**17 42 48.6**	**+0.7**
GSI	**Gunungsitoli**	**7.10**	**321**	Pn	**Pn**	**17 42 57.5**	**+0.6**
GSI					**Sn**	**17 44 13.4**	**-2.9**
GSI	**Gunungsitoli**	**7.10**	**321**	P	**Pn**	**17 42 58.1**	**+1.2**
GSI	**Gunungsitoli**	**7.10**	**321**	P	**Pn**	**17 42 58.1**	**+1.2**
XMI	**Christmas Isla**	**7.13**	**149**	P	Pn	17 42 53.7	-3.6
XMIS	**Christmas Isla**	**7.14**	**150**	Pn	Pn	17 42 52.3	-5.1
XMIS	**Christmas Isla**	**7.14**	**150**	P	Pn	17 42 51.3	-6.1
CMJI	**Cimerak** 86nm,1.1s,0.5nm	**7.29**	**119**	P	**Pn**	**17 42 59.7**	**+0.2**
KPJI	**Karang Pucung** 25nm,0.7s,0.2nm	**7.53**	**114**	P	**Pn**	**17 43 05.6**	**+2.9**
IPM	**Ipoh**	**8.76**	**354**	Pn	**Pn**	**17 43 20.2**	**+0.5**
UGM	**Wanagama**	**9.21**	**113**	Pn	**Pn**	**17 43 26.7**	**+0.9**
UGM	**Wanagama**	**9.21**	**113**	P	**Pn**	**17 43 26.8**	**+1.0**
UGM	**Wanagama** 162nm,1.6s	**9.21**	**113**	P	**Pn**	**17 43 26.7**	**+0.9**
COCO	**West Island**	**9.37**	**213**	Pn	**Pn**	**17 43 26.0**	**-2.0**
KULM	**Kulim**	**9.61**	**352**	Pn	**Pn**	**17 43 32.6**	**+1.3**
SBUM	**Sibu**	**12.21**	**57**	Pn	**Pn**	**17 44 06.7**	**-0.1**
ABJI	**Asem Bagus** 57nm,0.7s	**12.65**	**107**	P	**Pn**	**17 44 14.7**	**+1.8**
JAGI	**Jajag, Banyuwa**	**12.77**	**110**	Pn	**Pn**	**17 44 13.6**	**-0.9**
JAGI	**Jajag, Banyuwa**	**12.77**	**110**	P	**Pn**	**17 44 14.4**	**-0.1**
JAGI	**Jajag, Banyuwa** 30nm,0.9s	**12.77**	**110**	P	**Pn**	**17 44 14.0**	**-0.5**
SRBI	**Singaraja** 45nm,0.7s	**13.66**	**107**	P	**Pn**	**17 44 27.1**	**+0.4**
PLAI	**Plampang** 30nm,1.2s	**16.30**	**107**	P	**Pn**	**17 44 58.4**	**-2.8**
KAPI	**Kappang**	**17.70**	**93**	LR	LR	17 51 58.2	
	comp=Z,74nm,18.7s,baz=257,slow=36						
BKSI	**Bulukumba** 19nm,0.6s	**18.09**	**94**	P	**Pn**	**17 45 24.0**	**+0.8**
PBA	**Port Blair**	**18.32**	**330**	P	**P**	**17 45 24.3**	**-1.4**
MPSI	**Mapaga** 13nm,0.6s	**18.46**	**76**	P	**Pn**	**17 45 29.0**	**+1.2**
MYLDM	**Lahad Datu**	**18.97**	**60**	P	**P**	**17 45 31.7**	**-1.1**
MYLDM				IAmb	IAmb	17 45 51.5	
	comp=Z,43nm,1.1s						
TOLI2	**Tolitoli**	**19.52**	**74**	P	**Pn**	**17 45 39.7**	**-0.7**
UBPT	**Khong Chiam**	**19.74**	**10**	P	**Pn**	**17 45 41.8**	**-1.2**
MRSI	**Marisa** comp=Z,29nm,0.7s	**20.48**	**77**	P	Pn	17 45 50.4	-1.4
MMRI	**Maumere**	**20.56**	**103**	P	**P**	**17 45 49.4**	**-0.7**
MMRI				IAmb	IAmb	17 46 07.0	
	comp=Z,46nm,1.2s						
SOEI	**Soe**	**22.75**	**105**	P	**P**	**17 46 12.5**	**-1.3**
SOEI				IAmb	IAmb	17 46 26.3	
	comp=Z,40nm,1.3s						
CMAR	**Chiang Mai Arr**	**22.80**	**352**	P	**P**	**17 46 13.8**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=182,slow=9.3,SNR=12						
CMAR				PcP	**PcP**	**17 50 05.3**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=229,slow=2.0,SNR=4.6						
CMAR				LR	LR	17 55 17.6	
	comp=Z,45nm,19.4s,baz=340,slow=37						
	comp=Z,1.4nm,0.6s						
MBWA	**Marble Bar**	**24.04**	**136**	P	**P**	**17 46 23.2**	**-2.8**
MBWA				IAmb	IAmb	17 46 27.6	
	comp=Z,17nm,1.4s						
PALK	**Pallekele**	**24.16**	**298**	P	**P**	**17 46 24.5**	**-2.7**
PALK				IAmb	IAmb	17 46 27.7	
	comp=Z,25nm,1.1s						
PALK	**Pallekele**	**24.16**	**298**	LR	LR	17 54 54.7	
	comp=Z,59nm,18.4s,baz=196,slow=34						
PSA00	**Pilbara Seismi**	**24.39**	**136**	P	**P**	**17 46 26.5**	**-2.7**
PSA00	**Pilbara Seismi**	**24.39**	**136**	P	**P**	**17 46 28.5**	**-0.7**
PSA00				IAmb	IAmb	17 46 50.4	
	comp=Z,4.5nm,1.1s						
CRAI	**Chiangrai**	**24.41**	**356**	P	**P**	**17 46 29.5**	**+0.1**
SLVN	**Son La**	**25.53**	**4**	P	**P**	**17 46 39.6**	**+0.1**
TNTI	**Ternate**	**25.84**	**79**	P	**P**	**17 46 42.2**	**-0.2**
TNTI				IAmb	IAmb	17 46 46.5	
	comp=Z,18nm,0.7s						
FITZ	**Fitzroy Crossi**	**26.89**	**123**	P	**P**	**17 46 50.8**	**-1.0**
KNRA	**Kununurra**	**28.64**	**115**	P	**P**	**17 47 06.1**	**-1.4**
KNRA				IAmb	IAmb	17 47 09.0	
	comp=Z,46nm,1.4s						
H08S2	**Diego Garcia H** baz=86,slow=76,SNR=6.8	**29.53**	**262**	T	T	18 17 35.8	
H08S3	**Diego Garcia H** baz=86,slow=76,SNR=26	**29.54**	**262**	T	T	18 17 36.3	
H08S1	**Diego Carcia H** baz=86,slow=76,SNR=5.5	**29.55**	**262**	T	T	18 17 33.8	
MTN	**Manton Dam**	**30.00**	**108**	P	**P**	**17 47 17.7**	**-2.0**
MTN				IAmb	IAmb	17 47 24.7	
	comp=Z,28nm,1.4s						
PZH	**PanZhiHua**	**30.61**	**360**	P	**P**	**17 47 29.3**	**+4.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,7.2s						
NWAO	**Narrogin (SRO)**	**31.85**	**155**	LR	LR	17 58 31.1	
	comp=Z,28nm,20.8s,baz=198,slow=32						
H01W3	**Cape Leeuwin H** baz=338,slow=76,SNR=14	**32.46**	**161**	T	T	18 21 41.6	
H01W2	**Cape Leeuwin H** baz=338,slow=76,SNR=12	**32.47**	**161**	T	T	18 21 44.7	
H01W1	**Cape Leeuwin H** baz=338,slow=76,SNR=12	**32.47**	**161**	T	T	18 21 49.0	
YULB	**Yu-li**	**33.34**	**34**	P	**P**	**17 47 48.8**	**-0.1**
SSLB	**Suanglung**	**33.47**	**33**	P	**P**	**17 47 50.0**	**0.0**
NACB	**Ninganchiao**	**34.12**	**33**	P	**P**	**17 47 56.2**	**+0.6**
TAPN	**Taplejung**	**34.35**	**337**	*eP*	**P**	**17 47 59.3**	**+1.4**
YHNB	**Yeheng**	**34.40**	**32**	P	**P**	**17 47 57.9**	**-0.2**
RAMN	**Ramite**	**34.44**	**335**	*eP*	**P**	**17 48 00.3**	**+1.7**
	comp=Z,7.2nm,0.4s						
WB0	**Warramunga Arr**	**35.11**	**119**	P	**P**	**17 48 03.8**	**-0.5**
WB0				IAmb	IAmb	17 48 10.6	
	comp=Z,7.6nm,1.1s						
WRA	**Warramunga Arr**	**35.13**	**119**	P	**P**	**17 48 03.9**	**-0.6**
WRA	**Warramunga Arr**	**35.13**	**119**	P	**P**	**17 48 04.4**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=302,slow=8.9,SNR=73						
WRA				PcP	**PcP**	**17 50 34.8**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=296,slow=2.3,SNR=2.4						
WRA				S	**S**	**17 53 31.3**	**-2.7**
	comp=Z,0.6nm,1.0s,baz=291,slow=16,SNR=3.3						
	comp=Z,2.4nm,0.7s						
JIRN	**Jiri**	**35.24**	**335**	*eP*	**P**	**17 48 07.3**	**+1.7**
	comp=Z,12nm,0.4s						
WR0	**Warramunga Arr**	**35.31**	**119**	P	**P**	**17 48 04.5**	**-1.6**
WR0				IAmb	IAmb	17 48 20.3	
	comp=Z,12nm,1.4s						
PKI	**Pulchoki**	**35.49**	**334**	*eP*	**P**	**17 48 09.6**	**+1.8**
	comp=Z,3.8nm,0.4s						
GUN	**Gumba**	**35.59**	**335**	*eP*	**P**	**17 48 09.8**	**+1.2**
	comp=Z,29nm,0.4s						
GKN	**Gorkha**	**36.20**	**333**	*eP*	**P**	**17 48 14.6**	**+0.9**
	comp=Z,10.0nm,0.3s						
ASAR	**Alice Springs**	**36.30**	**125**	P	**P**	**17 48 14.9**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=300,slow=7.8,SNR=18						
ASAR				PcP	**PcP**	**17 50 38.9**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=300,slow=2.9,SNR=3.4						
ASAR				S	**S**	**17 53 50.6**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=298,slow=15,SNR=3.5						
	comp=Z,2.5nm,0.7s						
KOLN	**Koldanda**	**36.48**	**332**	*eP*	**P**	**17 48 18.1**	**+2.0**
WHN	**Wuhan**	**36.59**	**18**	P	P	17 48 28.1	+11
DANN	**Dangsing** comp=Z,21nm,0.4s	**36.90**	**333**	*eP*	**P**	**17 48 21.0**	**+1.2**
PYUN	**Piuthan** comp=Z,4.8nm,0.3s	**37.05**	**331**	*eP*	**P**	**17 48 22.0**	**+1.1**
NJ2	**Nanjing**	**39.53**	**23**	*eP*	P	17 48 50.4	+8.9
NJ2				pmax	pmax		
	comp=Z,130nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,140nm,4.4s						
LYN	**LuoYang**	**39.87**	**14**	||P	**P**	**17 48 45.0**	**+0.7**
LYN				pP	pP	17 49 00.1	+2.3
LYN				sP	sP	17 49 08.8	+5.0
LYN				PP	**PP**	**17 50 14.3**	**-2.5**
LYN				sS	sS	17 55 13.0	+5.1
LYN				pmax	pmax		
	comp=Z,19nm,0.5s						
LYN				pmax	pmax		
	comp=Z,320nm,5.3s						
LYN				LR	LR		
	comp=N,470nm,5.1s						
LYN				LR	LR		
	comp=E,250nm,6.1s						
LYN				LR	LR		
	comp=Z,280nm,4.8s						
LZH	**Lanzhou**	**40.20**	**2**	*eP*	**P**	**17 48 47.5**	**+0.3**
LZH				pP	pP	17 48 54.3	-6.4
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
BBOO	**Buckleboo**	**42.62**	**136**	P	**P**	**17 49 07.0**	**0.0**
BBOO				IAmb	IAmb	17 49 17.2	
	comp=Z,20nm,1.2s						
PMG	**Port Moresby**	**45.09**	**99**	P	**P**	**17 49 26.2**	**-0.9**
PMG				IAmb	IAmb	17 49 28.9	
	comp=Z,9.8nm,0.9s						
HHC	**Hu-ho-hao-te**	**45.76**	**10**	*eP*	**P**	**17 49 35.1**	**+3.0**
HHC				pmax	pmax		
	comp=Z,23nm,0.5s						
HHC				pmax	pmax		
	comp=Z,140nm,5.6s						
CTA	**Charters Tower**	**45.83**	**114**	LR	LR	18 08 24.2	
	comp=Z,29nm,21.6s,baz=306,slow=36						
CTAO	**Charters Tower**	**45.83**	**114**	P	**P**	**17 49 32.7**	**-0.2**
CTAO				IAmb	IAmb	17 49 34.2	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**46.15**	**131**	P	**P**	**17 49 35.8**	**+0.6**
STKA	**Stephens Creek**	**46.15**	**131**	P	**P**	**17 49 35.8**	**+0.6**
	comp=Z,10.0nm,0.5s,baz=306,slow=8.0,SNR=36						
	comp=Z,10.0nm,0.5s						
NIL	**Nilore**	**46.50**	**326**	P	**P**	**17 49 38.5**	**+0.6**
KSRS	**Korea Array**	**48.02**	**28**	P	**P**	**17 49 49.6**	**0.0**
	comp=Z,1.0nm,0.7s,baz=226,slow=7.8,SNR=6.1						
	comp=Z,1.0nm,0.7s						
WMQ	**Urumqi**	**49.59**	**346**	*eP*	**P**	**17 50 02.8**	**+1.1**
WMQ				sP	sP	17 50 22.3	+0.9
KSH	**Kashi**	**49.75**	**334**	P	**P**	**17 50 02.8**	**-0.2**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
JCJ	**Chichijima**	**49.79**	**49**	P	**P**	**17 50 04.6**	**+1.3**
NRN	**Naryn**	**51.32**	**335**	P	**P**	**17 50 15.7**	**+0.6**
NRN				IAmb	IAmb	17 50 20.1	
	comp=Z,7.4nm,1.4s						
EIDS	**Eidsvold**	**51.49**	**119**	P	**P**	**17 50 16.6**	**+0.3**
EIDS				IAmb	IAmb	17 50 18.8	
	comp=Z,4.6nm,0.8s						
SONM	**Songino Array**	**52.05**	**4**	P	**P**	**17 50 20.8**	**+0.7**
SONM				IAmb	IAmb	17 50 21.7	
	comp=Z,6.2nm,0.7s						
SONM				PcP	**PcP**	**17 51 31.6**	**-0.2**
SONM	**Songino Array**	**52.05**	**4**	P	**P**	**17 50 20.6**	**+0.5**
	comp=Z,6.7nm,0.7s,baz=186,slow=9.8,SNR=58						
SONM				pP	**pP**	**17 50 33.7**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=188,slow=10,SNR=4.0						
SONM				PcP	**PcP**	**17 51 31.5**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=186,slow=4.6,SNR=5.6						
	comp=Z,6.7nm,0.7s						
ULN	**Ulaanbaatar**	**52.12**	**4**	P	**P**	**17 50 20.9**	**+0.2**
CHGR	**Chuyangaron**	**52.43**	**328**	P	**P**	**17 50 22.3**	**-0.8**
CHGR				IAmb	IAmb	17 50 23.7	
	comp=Z,4.7nm,0.8s						
CHGR				PcP	**PcP**	**17 51 34.3**	**+1.0**
ARSB	**Arslanbob**	**52.56**	**333**	P	**P**	**17 50 25.0**	**+0.9**
ARSB				PcP	**PcP**	**17 51 34.9**	**+1.0**
BTK	**Batken**	**52.61**	**330**	P	**P**	**17 50 24.3**	**-0.2**
UOSS	**Minazif**	**53.13**	**306**	P	**P**	**17 50 28.6**	**+0.2**
UOSS				IAmb	IAmb	17 51 00.6	
	comp=Z,6.1nm,1.2s						
CAN	**Canberra**	**53.21**	**132**	P	**P**	**17 50 29.0**	**+0.1**
ARMA	**Armidale**	**53.46**	**125**	P	**P**	**17 50 32.2**	**+1.3**
ARMA				IAmb	IAmb	17 50 33.5	
	comp=Z,5.8nm,0.8s						
MK31	**Makanchi Array**	**53.77**	**343**	P	**P**	**17 50 32.7**	**0.0**
MK31				IAmb	IAmb	17 50 33.7	
	comp=Z,6.5nm,0.7s						
MKAR	**Makanchi Array**	**53.77**	**343**	P	**P**	**17 50 32.7**	**0.0**
MKAR				PcP	**PcP**	**17 51 37.1**	**-1.0**
MKAR	**Makanchi Array**	**53.77**	**343**	P	**P**	**17 50 32.9**	**+0.1**
	comp=Z,8.5nm,0.6s,baz=145,slow=7.7,SNR=123						
MKAR				pP	**pP**	**17 50 46.5**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=150,slow=8.1,SNR=5.5						
	comp=Z,8.5nm,0.6s						
MAKZ	**Makanchi**	**53.87**	**343**	P	**P**	**17 50 33.2**	**-0.3**
JSD	**Sado**	**53.88**	**35**	P	**P**	**17 50 34.6**	**+0.9**
KK31	**Karatay Array**	**55.09**	**332**	P	**P**	**17 50 42.0**	**-0.4**
KKAR	**Karatay Array**	**55.09**	**332**	P	**P**	**17 50 42.0**	**-0.4**
USRK	**Ussuriysk Ar.**	**55.27**	**26**	P	**P**	**17 50 43.0**	**-0.6**
USRK	**Ussuriysk Ar.**	**55.27**	**26**	P	**P**	**17 50 43.3**	**-0.3**
	comp=Z,4.7nm,0.7s,baz=210,slow=3.2,SNR=19						
	comp=Z,4.7nm,0.7s						
KURBB	**Kurchatov Arra**	**58.30**	**343**	P	**P**	**17 51 05.0**	**0.0**
	comp=Z,1.3nm,0.3s,baz=161,slow=6.7,SNR=16						
KURBB				pP	**pP**	**17 51 18.8**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=164,slow=7.2,SNR=3.1						
	comp=Z,1.3nm,0.3s						
KURK	**Kurchatov**	**58.36**	**343**	P	**P**	**17 51 04.8**	**-0.5**
KURK				IAmb	IAmb	17 51 06.4	
	comp=Z,6.2nm,0.8s						
HEH	**HeiHe**	**58.58**	**19**	*eP*	**P**	**17 51 06.9**	**0.0**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,100nm,6.7s						
ERM	**Erimo**	**59.33**	**35**	P	**P**	**17 51 11.1**	**-1.2**
ZAA0	**Zalesovo Array**	**59.78**	**348**	P	**P**	**17 51 14.2**	**-1.0**
ZALV	**Zalesovo Beam**	**59.78**	**348**	P	**P**	**17 51 14.5**	**-0.7**
ZALV	**Zalesovo Beam**	**59.78**	**348**	P	**P**	**17 51 14.9**	**-0.3**
	comp=Z,10.0nm,0.4s,baz=169,slow=5.4,SNR=64						
ZALV				pP	**pP**	**17 51 28.4**	**-0.9**
	comp=Z,3.1nm,0.5s,baz=181,slow=5.3,SNR=5.1						
	comp=Z,10.0nm,0.4s						
H04N2	**CROZET ISLANDS** baz=62,slow=75,SNR=132	**60.20**	**218**	T	T	18 57 00.5	
H04N1	**CROZET ISLANDS** baz=62,slow=75,SNR=116	**60.21**	**218**	T	T	18 57 00.9	
H04N3	**CROZET ISLANDS** baz=62,slow=75,SNR=125	**60.21**	**218**	T	T	18 56 59.5	
JKA	**Kamikawa-asahi**	**60.40**	**33**	P	**P**	**17 51 19.0**	**-0.6**
H04S1	**CROZET ISLANDS** baz=60,slow=75,SNR=6.2	**60.45**	**217**	T	T	18 57 15.7	
H04S3	**CROZET ISLANDS** baz=60,slow=75,SNR=13	**60.46**	**217**	T	T	18 57 12.1	
H04S2	**CROZET ISLANDS** baz=60,slow=75,SNR=8.3	**60.47**	**217**	T	T	18 57 12.6	
KOUNC	**Koumac, New Ca**	**62.58**	**111**	P	**P**	**17 51 34.5**	**-0.3**
BVAR	**Borovoye Array**	**63.01**	**339**	P	**P**	**17 51 36.5**	**-0.5**
	comp=Z,2.3nm,0.5s,baz=126,slow=11,SNR=16						
BVAR				pP	**pP**	**17 51 50.5**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=143,slow=8.7,SNR=4.8						
	comp=Z,2.3nm,0.5s						
BRVK	**Borovoye**	**63.08**	**339**	P	**P**	**17 51 36.7**	**-0.7**
BRVK				IAmb	IAmb	17 51 38.0	
	comp=Z,4.3nm,1.1s						
ABKAR	**Akbulak array**	**64.59**	**331**	P	**P**	**17 51 47.1**	**-0.4**
ABKAR				IAmb	IAmb	17 51 48.4	
	comp=Z,6.6nm,0.8s						
ABKAR	**Akbulak array**	**64.59**	**331**	P	**P**	**17 51 47.2**	**-0.3**
DZM	**Mont Dzumac**	**64.73**	**112**	P	**P**	**17 51 49.0**	**-0.1**
DZM				IAmb	IAmb	17 52 28.2	
	comp=Z,18nm,1.2s						
YAK	**Yakutsk**	**69.46**	**14**	P	**P**	**17 52 16.8**	**-1.3**
ARU	**Arti**	**70.09**	**336**	P	**P**	**17 52 21.9**	**-0.3**
ARU				IAmb	IAmb	17 52 22.9	
	comp=Z,9.1nm,1.3s						
MARD	**Mardin**	**70.25**	**312**	P	**P**	**17 52 24.1**	**+0.4**
MARD				IAmb	IAmb	17 52 26.4	
	comp=Z,8.1nm,0.7s						
KBZ	**Khabaz**	**71.33**	**319**	P	**P**	**17 52 31.1**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=195,slow=11,SNR=5.4						
	comp=Z,2.5nm,0.8s						
RPZ	**Rata Peaks**	**71.96**	**135**	P	**P**	**17 52 34.5**	**+0.7**
RPZ				IAmb	IAmb	17 52 56.8	
	comp=Z,20nm,1.2s						
MRNZ	**Matariki Terra**	**72.77**	**132**	P	**P**	**17 52 38.9**	**+0.2**
THZ	**Tophouse**	**72.94**	**132**	P	**P**	**17 52 40.2**	**+0.5**
MMAI	**Mount Meron Ar**	**72.99**	**306**	P	**P**	**17 52 42.5**	**+2.3**
	comp=Z,1.3nm,0.6s,baz=94,slow=8.7,SNR=2.8						
	comp=Z,1.3nm,0.6s						
PET	**Petropavlovsk**	**74.22**	**32**	P	**P**	**17 52 45.5**	**-1.3**
BKZ	**Black Stump Fm**	**75.28**	**129**	P	**P**	**17 52 53.9**	**+0.4**
BKZ				IAmb	IAmb	17 52 54.6	
	comp=Z,10nm,0.5s						
RTZ	**Ruatahuna**	**75.60**	**129**	P	**P**	**17 52 55.1**	**-0.2**
RTZ				IAmb	IAmb	17 52 56.4	
	comp=Z,9.5nm,0.8s						
BR131	**Keskin Array S**	**76.33**	**312**	P	**P**	**17 52 59.6**	**+0.1**
BR131				IAmb	IAmb	17 53 00.7	
	comp=Z,3.3nm,0.8s						
BRTR	**Keskin Array B**	**76.33**	**312**	P	**P**	**17 52 59.6**	**+0.1**
BRTR	**Keskin Array B**	**76.33**	**312**	P	**P**	**17 52 59.8**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=133,slow=7.

TTSI Tana Toraja 5.30 25 P **Pn** **17 51 28.3 +0.3**
13nm,1.5s,0.1nm

WRA Warramunga Arr 20.18 128 P **P** **17 54 46.5 +2.9**
0.6nm,0.9s,baz=310,slow=9.4,SNR=2.6
0.6nm,0.9s

ASAR Alice Springs 22.16 137 P **P** **17 55 07.0 +2.0**
0.3nm,0.6s,baz=301,slow=8.6,SNR=1.4
0.3nm,0.6s

MKAR Makanchi Array 62.84 334 P **P** **18 00 34.5 -0.3**
0.5nm,0.7s,baz=142,slow=8.3,SNR=5.2
0.5nm,0.7s

IDC 22 18:08:30.7±2.4, 6°.65S×128°.66E, h0km, mb3.3/1, mbtmp3.3/3, ML3.5/2, Error ellipse: s-maj=151.0km s-min=34.1km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.32**	**158**	Pn		Pn	18 11 54.1	-0.9
	0.2nm,0.3s,baz=336,slow=13,SNR=19							
WRA				Sn		Sn	18 14 20.2	-14
	0.1nm,0.3s,baz=340,slow=22,SNR=1.9							
	0.3nm,0.3s							
ASAR	**Alice Springs**	**17.66**	**164**	Pn		P	18 12 39.0	-0.3
	0.1nm,0.3s,baz=338,slow=8.8,SNR=12							
ASAR				Sn		Sn	18 15 44.2	-12
	baz=245,slow=38,SNR=2.1							
	0.5nm,0.6s							
MKAR	**Makanchi Array**	**67.21**	**327**	P		P	18 19 26.8	0.0
	0.2nm,0.6s,baz=109,slow=7.8,SNR=2.3							
	0.2nm,0.6s							

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*SJA **22** 18:08:36.6±3.0, 28°.29S×71°.55W, h29km±23km, ML4.0, MW4.2*
*IDC **22** 18:08:41.6±4.3, 28°.43S×71°.31W, h43km±35km, mb3.6/6, mbtmp3.8/9, ML3.5/3, MS2.8/2, Error ellipse: s-maj=36.6km s-min=22.0km az=71.0*
*GUC **22** 18:08:41.0±0.7, 28°.40S×71°.29W, h45km±2km, ML3.9*
ISC 22 18:08:39.4±1.2, 28°.33S±0°.04×71°.54W±0°.05, h28km±8km, n54, σ1s68/67, mb4.0/6, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.43**	**74**	*i* P		**Pb**	**18 08 49.0**	**+0.3**
AC04				*e*S		**Sb**	**18 08 54.1**	**-0.8**
AC04				IAML			18 08 56.1	
	comp=Z,5μm,0.3s							
AC04	**Llanos de Chal**	**0.43**	**74**	↑*i* P		**Pb**	**18 08 49.0**	**+0.3**
AC04				*i* S		**Sb**	**18 08 54.5**	**-0.4**
AC04				IAML			18 08 54.7	
	comp=N,18μm,0.3s							
LCO	**Las Campanas**	**1.00**	**133**	*e*P		**Pn**	**18 08 56.7**	**-1.2**
LCO				*e*S		**Sn**	**18 09 07.9**	**-3.4**
LCO				IAML			18 09 09.4	
	comp=Z,27μm,0.6s							
LCO	**Las Campanas**	**1.00**	**133**	*e*P		**Pn**	**18 08 56.4**	**-1.5**
LCO				*e*S		**Sn**	**18 09 07.7**	**-3.6**
AC05	**El Transito**	**1.22**	**115**	*i* P		**Pn**	**18 08 59.6**	**-1.2**
AC05				IAML			18 09 21.1	
	comp=Z,1μm,0.5s							
AC05	**El Transito**	**1.22**	**115**	↓*i* P		**Pn**	**18 08 59.6**	**-1.2**
AC05				*i* S		**Sn**	**18 09 12.7**	**-3.8**
GO03	**Copiap**	**1.36**	**58**	*i* P		**Pn**	**18 09 03.0**	**+0.3**
GO03				*e*S		**Sn**	**18 09 18.7**	**-1.1**
GO03				IAML			18 09 19.9	
	comp=Z,4μm,0.6s							
GO03	**Copiap**	**1.36**	**58**	↓*i* P		**Pn**	**18 09 02.8**	**+0.2**
GO03				*i* S		**Sn**	**18 09 18.8**	**-1.0**
GO03				IAML			18 09 20.0	
	comp=N,5μm,0.2s							
AC06	**Mina Casimiro**	**1.42**	**48**	*i* P		**Pn**	**18 09 04.2**	**+0.7**
AC06				*i* S		**Sn**	**18 09 21.2**	**0.0**
AC06				IAML			18 09 26.0	
	comp=E,3μm,0.5s							
CO05	**La Serena**	**1.61**	**171**	*i* P		**Pn**	**18 09 06.8**	**+0.8**
CO05				*i* S		**Sn**	**18 09 26.0**	**+0.2**
CO05				IAML			18 09 32.2	
	comp=E,3μm,0.5s							
GO04	**Tololo Observa**	**1.95**	**161**	*i* P		**Pn**	**18 09 10.9**	**0.0**
GO04				*e*S		**Sn**	**18 09 36.0**	**+1.4**
GO04				IAML			18 09 41.2	
	comp=Z,2μm,0.7s							
GO04	**Tololo Observa**	**1.95**	**161**	↓*i* P		**Pn**	**18 09 11.5**	**+0.6**
GO04				*i* S		**Sn**	**18 09 34.2**	**-0.4**
CO01	**Juntas del Tor**	**2.08**	**143**	*i* P		**Pn**	**18 09 12.7**	**0.0**
CO01				IAML			18 09 50.0	
	comp=Z,926nm,0.7s							
CO01	**Juntas del Tor**	**2.08**	**143**	*i* P		**Pn**	**18 09 13.2**	**+0.6**
AC01	**Pan de Azucar**	**2.32**	**21**	*i* P		**Pn**	**18 09 15.6**	**-0.2**
AC01				IAML			18 09 56.6	
	comp=Z,437nm,0.5s							
AC01	**Pan de Azucar**	**2.32**	**21**	*i* P		**Pn**	**18 09 16.2**	**+0.4**
CO06	**Fray Jorge**	**2.34**	**182**	*i* P		**Pn**	**18 09 16.0**	**-0.1**
AROD	**Rodeo**	**2.57**	**136**	*i* P		**Pn**	**18 09 21.7**	**+2.2**
CO03	**El Pedregal**	**2.61**	**164**	*i* P		**Pn**	**18 09 19.9**	**+0.1**
CO03				IAML			18 10 03.4	
	comp=Z,658nm,0.5s							
CO03	**El Pedregal**	**2.61**	**164**	*i* P		**Pn**	**18 09 20.5**	**+0.6**
CO02	**Combarbal**	**2.91**	**171**	*i* P		**Pn**	**18 09 23.6**	**-0.3**
CO02				IAML			18 10 15.6	
	comp=Z,1μm,0.7s							
CO02	**Combarbal**	**2.91**	**171**	*e*P		**Pn**	**18 09 24.1**	**+0.2**
CO02				*i* S		**Sn**	**18 09 57.3**	**-0.7**
AGUA	**GUANDACOL**	**2.91**	**114**	*i* P		**Pn**	**18 09 27.2**	**+3.2**
AGUA				IAML			18 10 16.4	
	comp=Z,642nm,0.5s							
VCA	**Vinchina**	**2.96**	**99**	*i* P		**Pn**	**18 09 27.1**	**+2.3**
VCA				IAML			18 10 18.9	
	comp=Z,700nm,1.2s							
ACCO	**Cerro Coronel**	**3.12**	**137**	*i* P		**Pn**	**18 09 30.0**	**+2.9**
DOCA	**Reserva Natura**	**3.38**	**141**	*i* P		**Pn**	**18 09 33.0**	**+2.3**
DOCA				IAML			18 10 29.8	
	comp=Z,430nm,0.9s							
GO02	**Mina Guanaco**	**3.60**	**29**	↑*e*P		**Pn**	**18 09 34.5**	**+0.9**
PB14	**IPOC Station P**	**3.82**	**16**	*i* P		**Pn**	**18 09 36.1**	**-0.6**
PB14				IAML			18 10 47.7	
	comp=Z,158nm,0.6s							
RTLS	**Leoncito**	**3.97**	**151**	*i* P		**Pn**	**18 09 42.5**	**+3.7**
RTLS				IAML			18 10 46.3	
	comp=Z,690nm,0.6s							
ACLC	**CERRO LA CRUZ**	**4.17**	**106**	*i* P		**Pn**	**18 09 42.4**	**+1.0**
ACLC				IAML			18 10 50.3	
	comp=Z,87nm,0.5s							
ROCH	**El Roble**	**4.65**	**175**	*e*P		**Pn**	**18 09 48.1**	**0.0**
APLL	**PUNTA DE LOS L**	**4.83**	**116**	*i* P		**Pn**	**18 09 51.3**	**+0.9**
APLL				IAML			18 11 12.0	
	comp=Z,24nm,0.7s							
ASAL	**Salagasta**	**4.85**	**152**	*i* P		**Pn**	**18 09 54.0**	**+3.4**
ASAL				IAML			18 11 14.8	
	comp=Z,137nm,1.0s							
CYA	**Choya**	**5.05**	**93**	*i* P		**Pn**	**18 09 53.5**	**+0.1**
CYA				IAML			18 11 18.8	
	comp=Z,39nm,0.7s							
LVC	**Limon Verde**	**6.17**	**23**	P		**Pn**	**18 10 09.3**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=173,slow=7.8,SNR=8.7							
LVC				S		**Sn**	**18 11 20.8**	**+2.1**
	comp=Z,20nm,0.4s,baz=180,slow=8.1,SNR=5.6							
LVC				LR		LR	18 12 46.2	
	comp=Z,82nm,22.0s,baz=197,slow=40							
	comp=Z,1.8nm,0.4s							
H03N1	**Juan Fernandez**	**8.13**	**229**	P		**Pn**	**18 10 36.7**	**+1.3**
H03N1				T		T	18 19 15.0	
	baz=57,slow=72,SNR=759							
H03N2	**Juan Fernandez**	**8.14**	**229**	P		**Pn**	**18 10 36.7**	**+1.2**
H03N2				S		**Sn**	**18 12 04.3**	**-2.2**
H03N2				T		T	18 19 12.0	
	baz=57,slow=72,SNR=684							
H03N3	**Juan Fernandez**	**8.15**	**229**	P		**Pn**	**18 10 36.6**	**+1.0**
H03N3				S		**Sn**	**18 12 04.3**	**-2.3**
H03N3				T		T	18 19 09.5	
	baz=57,slow=72,SNR=742							
H03S3	**Juan Fernandez**	**8.37**	**227**	T		T	18 19 53.9	
	baz=53,slow=76							
H03S1	**Juan Fernandez**	**8.38**	**227**	S		**Sn**	**18 12 06.7**	**-5.4**
H03S1				T		T	18 19 49.4	
	baz=53,slow=76							
H03S2	**Juan Fernandez**	**8.38**	**227**	T		T	18 19 53.5	
	baz=53,slow=76							
CPUP	**Villa Florida**	**12.79**	**84**	P		**Pn**	**18 11 39.5**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=240,slow=9.7,SNR=2.0							
CPUP				LR		LR	18 16 35.3	
	comp=Z,48nm,20.8s,baz=254,slow=38							
	comp=Z,1.3nm,0.9s							
SIV	**San Ignacio**	**15.63**	**40**	P		**Pn**	**18 12 19.0**	**+1.2**
	baz=220,slow=16,SNR=1.4							
	comp=Z,0.3nm,0.3s							
SNAA	**Sanae**	**56.70**	**159**	P		**P**	**18 18 19.1**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=284,slow=7.4,SNR=7.7							
	comp=Z,0.9nm,0.6s							
TXAR	**Lajitas Array**	**65.05**	**329**	P		**P**	**18 19 19.3**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=148,slow=7.4,SNR=3.7							
	comp=Z,0.3nm,0.6s							
DBIC	**Dimbokro**	**73.01**	**73**	P		**P**	**18 20 06.3**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=249,slow=6.2,SNR=3.4							
	comp=Z,1.5nm,0.6s							
PDAR	**Pinedale Array**	**78.92**	**332**	P		**P**	**18 20 41.8**	**+1.4**
	comp=Z,0.3nm,0.8s,baz=120,slow=6.4,SNR=2.3							
	comp=Z,0.3nm,0.8s							
TORD	**Torodi Ar. Bea**	**81.89**	**70**	P		**P**	**18 20 55.9**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=253,slow=10,SNR=5.2							
	comp=Z,1.3nm,0.8s							
BOSA	**Boshof**	**82.35**	**118**	P		**P**	**18 20 58.2**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=231,slow=6.5,SNR=3.0							
	comp=Z,1.4nm,0.8s							
ASAR	**Alice Springs**	**122.79**	**208**	PKP		**PKPdf**	**18 27 33.0**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=134,slow=1.6,SNR=5.1							
WRA	**Warramunga Arr**	**125.89**	**210**	PKP		**PKPdf**	**18 27 39.2**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=153,slow=1.7,SNR=11							
KURBB	**Kurchatov Arra**	**148.27**	**37**	PKPbc		**PKPdf**	**18 28 20.6**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=302,slow=3.0,SNR=6.2							
ZALV	**Zalesovo Beam**	**149.10**	**27**	PKPbc		**PKPbc**	**18 28 25.0**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=309,slow=3.8,SNR=11							
MKAR	**Makanchi Array**	**152.45**	**41**	PKPbc		**PKPbc**	**18 28 33.1**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=274,slow=1.9,SNR=10							

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*SSNC **22** 18:17:04.7±2.0, 19°.93N×73°.13W, h5km, MD3.3, ML3.0, MW2.8*
*OSPL **22** 18:17:04.7±2.7, 19°.81N×73°.15W, h0km±17km, ML3.1*
*SDD **22** 18:17:06.9±4.8, 19°.86N×73°.15W, h26km±79km, MD3.6, ML3.2, MW4.1*
ISC 22 18:17:03.3±1.2, 19°.86N±0°.07×73°.17W±0°.03, h16km±10km, n24, σ1s09/41, Haiti region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**1.05**	**287**	*i* P		**Pg**	**18 17 23.0**	**-0.7**
MASC				*e*S		**Sn**	**18 17 39.6**	**+1.9**
MASC				IAML			18 17 40.6	
	comp=Z,258nm,0.6s							
MASC	**Masc**	**1.05**	**287**	*e*P		**Pb**	**18 17 23.5**	**+0.4**
LODA1	**ITESIL, Dajabo**	**1.41**	**103**	*e*Pg		**Pg**	**18 17 33.7**	**+3.1**
LODA1				*e*Sg		**Sg**	**18 17 48.0**	**-0.9**
LODA1	**ITESIL, Dajabo**	**1.41**	**103**	*i* P		**Pn**	**18 17 27.7**	**-0.7**
LODA1				*e*S		**Sg**	**18 17 47.9**	**-1.1**
LODA1				IAML			18 17 50.6	
	comp=Z,1μm,1.0s							
MCDR	**Montecristi**	**1.42**	**89**	*e*Pg		**Pb**	**18 17 29.3**	**-0.2**
MCDR				*e*Sg		**Sn**	**18 17 47.2**	**+0.3**
MCDR				IAML			18 17 50.0	
	comp=N,705nm,0.1s							
PAPH	**Port-au-Prince**	**1.56**	**148**	*i* P		**Pn**	**18 17 30.8**	**+0.2**
PAPH				*e*S		**Sn**	**18 17 51.1**	**+0.6**
PAPH	**Port-au-Prince**	**1.56**	**148**	*e*P		**Pn**	**18 17 30.8**	**+0.2**
PAPH				*e*S		**Sn**	**18 17 49.6**	**-0.9**
PAPH				IAML			18 17 51.8	
	comp=N,154nm,0.1s							
PAPH				IAML			18 17 53.3	
	comp=E,166nm,0.2s							
GTBY	**Guantanamo Bay**	**1.83**	**272**	*e*Pg		**Pn**	**18 17 35.3**	**+1.1**
GTBY				*e*Sg		**Sg**	**18 18 02.0**	**-0.4**
GTBY				IAML			18 18 03.8	
	comp=N,97nm,0.2s							
GTBY	**Guantanamo Bay**	**1.83**	**272**	*i* P		**Pn**	**18 17 33.8**	**-0.3**
GTBY				*e*S		**Sb**	**18 17 59.4**	**+0.2**
GTBY				IAML			18 18 03.0	
	comp=Z,27nm,0.5s							
GTBY	**Guantanamo Bay**	**1.83**	**272**	*e*P		**Pn**	**18 17 33.9**	**-0.3**
NMDO	**Nuevo Mundo**	**1.84**	**292**	*e*P		**Pn**	**18 17 34.4**	**0.0**
JIDR	**Jimani**	**1.85**	**137**	*e*Pg		**Pb**	**18 17 36.9**	**+0.1**
JIDR				IAML			18 18 11.6	
	comp=N,112nm,0.6s							
MOAC	**Moa**	**1.86**	**296**	*e*P		**Pn**	**18 17 33.6**	**-1.0**
SDDR	**Presa de Saban**	**1.98**	**116**	*e*Pg		**Pb**	**18 17 38.1**	**-1.0**
SDDR				*e*Sg		**Sn**	**18 18 00.4**	**-0.4**
SDDR				IAML			18 18 05.1	
	comp=N,207nm,0.3s							
SDDR	**Presa de Saban**	**1.98**	**116**	*i* P		**Pn**	**18 17 37.0**	**+0.8**
SDDR				*e*S		**Sn**	**18 18 01.2**	**+0.4**
SDDR				IAML			18 18 07.1	
	comp=Z,170nm,0.6s							
SDDR	**Presa de Saban**	**1.98**	**116**	*e*P		**Pn**	**18 17 36.8**	**+0.6**
SDDR				*e*S		**Sn**	**18 18 00.9**	**+0.2**
SDDR				IAML			18 18 05.1	
	comp=Z,199nm,0.3s							
SDDR				IAML			18 18 08.2	
	comp=Z,181nm,0.4s							
SC01	**Santiago de Io**	**2.34**	**100**	*i* P		**Pb**	**18 17 43.8**	**-1.4**
SC01				*e*S		**Sn**	**18 18 10.2**	**+0.6**
SC01				IAML			18 18 21.8	
	comp=Z,111nm,0.2s							
RCC	**Rio Carpintero**	**2.38**	**274**	*e*P		**Pn**	**18 17 41.6**	**-0.2**
RCC				*e*S		**Sn**	**18 18 10.9**	**+0.2**
RCC				IAML			18 18 15.1	
	comp=N,39nm,0.3s							
RCC				IAML			18 18 15.3	
	comp=E,36nm,0.2s							
MARVS	**Santiago de Cu**	**2.58**	**273**	*e*P		**Pn**	**18 17 44.3**	**-0.2**
MARVS				*e*S		**Sn**	**18 18 15.9**	**+0.5**
MARVS				IAML			18 18 20.8	
	comp=N,33nm,0.2s							
MARVS				IAML			18 18 25.1	
	comp=E,67nm,0.2s							
LOBA2	**Hotel Casa Bon**	**2.64**	**132**	*e*Pg		**Pb**	**18 17 49.2**	**-1.1**
LOBA2				*e*Sg		**Sb**	**18 18 24.3**	**+1.7**
BANI	**BANI**	**3.03**	**118**	*e*Pg		**Pb**	**18 17 54.0**	**-3.0**
BANI				*e*Sg		**Sb**	**18 18 31.9**	**-2.0**
BANI				IAML			18 19 14.4	
	comp=N,149nm,0.2s							
YAR	**Yar**	**3.04**	**280**	*e*P		**Pn**	**18 17 51.9**	**+1.0**
CHIV	**Chivirico**	**3.06**	**273**	*e*P		**Pn**	**18 17 50.5**	**-0.6**
LMGC	**Las Mercedes**	**3.62**	**274**	*e*P		**Pn**	**18 17 58.6**	**-0.2**
LMGC				*e*S		**Sn**	**18 18 41.4**	**+0.2**
LMGC				IAML			18 18 46.5	
	comp=N,14nm,0.2s							
LMGC				IAML			18 18 48.2	
	comp=E,18nm,0.3s							

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*NEIC **22** 18:33:21.3±1.1, 10°.3S±0°.2×166°.3E±0°.1, h181km±13km, mb4.6/11, Error ellipse: s-maj=27.3km s-min=19.2km az=201.0*
*IDC **22** 18:33:24.9±2.9, 10°.67S×166°.08E, h193km±25km, mb3.2/9, mbtmp3.8/10, MS3.5/1, Error ellipse: s-maj=24.1km s-min=19.1km az=86.0*
ISC 22 18:33:19.7±0.7, 10°.58S±0°.08×166°.3E±0°.1, h150km, n32, σ1s61/31, mb3.7/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.39**	**280**	Pn		**Pn**	**18 34 52.1**	**+0.4**
HNR	**Honiara**	**6.39**	**280**	P		**Pn**	**18 34 53.6**	**+1.9**
	1μm,0.8s,baz=338,slow=1.9,SNR=7.5							
KOUNC	**Koumac, New Ca**	**10.11**	**191**	Pn		**Pn**	**18 35 45.5**	**+4.4**
LIFNC	**LIFOU**	**10.18**	**175**	Pn		**Pn**	**18 35 44.0**	**+2.0**
DZM	**Mont Dzumac**	**11.43**	**179**	P		**P**	**18 36 03.4**	**-3.0**
	12nm,0.5s,baz=11,slow=17,SNR=28							
DZM				S		**Sn**	**18 38 06.9**	**+1.8**
	5.1nm,0.9s,baz=334,slow=23,SNR=1.9							
ONTNC	**Ouen Toro**	**11.66**	**179**	Pn		**P**	**18 36 06.6**	**-2.3**
OUENC	**Ouen Island, N**	**11.78**	**178**	Pn		**P**	**18 36 08.1**	**-2.1**
PINNC	**Pines Island,**	**12.01**	**175**			**P**	**18 36 11.1**	**-1.7**
MXZ	**Matakaoa Point**	**28.95**	**160**	P		**P**	**18 39 05.4**	**+0.5**
RTZ	**Ruatahuna**	**29.50**	**163**	P		**P**	**18 39 09.7**	**-0.2**
RTZ				IAmb		IAmb	18 39 24.2	
	comp=Z,19nm,1.3s							
STKA	**Stephens Creek**	**31.17**	**223**	P		**P**	**18 39 25.0**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=9.1,slow=17,SNR=4.0							
	comp=Z,0.5nm,0.3s							
BFZ	**Birch Farm**	**31.24**	**165**	P		**P**	**18 39 25.6**	**+0.5**
WB0	**Warramunga Arr**	**32.10**	**250**	P		**P**	**18 39 31.3**	**-1.7**
WB2	**Warramunga Arr**	**32.17**	**249**	P		**P**	**18 39 32.7**	**-0.9**
WB2				IAmb		IAmb	18 40 15.7	
	comp=Z,8.9nm,1.4s							
WRA	**Warramunga Arr**	**32.19**	**249**	P		**P**	**18 39 32.1**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=83,slow=9.0,SNR=4.8							
WRA				PcP		**PcP**	**18 42 18.2**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=74,slow=3.6,SNR=1.3							
	comp=Z,0.4nm,0.7s							
LTZ	**Lake Taylor**	**32.50**	**172**	P		**P**	**18 39 36.2**	**+0.1**
LTZ				IAmb		IAmb	18 40 17.5	
	comp=Z,23nm,1.4s							
MQZ	**McQueen's Vall**	**33.46**	**172**	P		**P**	**18 39 44.7**	**+0.3**
MQZ				IAmb		IAmb	18 40 25.2	
	comp=Z,34nm,1.3s							
ASAR	**Alice Springs**	**33.52**	**243**	P		**P**	**18 39 43.5**	**-1.8**
	comp=Z,0.1nm,0.4s,baz=72,slow=9.9,SNR=6.5							
ASAR				PcP		**PcP**	**18 42 21.6**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=82,slow=3.0,SNR=4.2							
	comp=Z,0.1nm,0.4s							
BBOO	**Buckleboo**	**35.57**	**227**	P		**P**	**18 40 01.7**	**-1.0**
BBOO				IAmb		IAmb	18 40 24.2	
	comp=Z,27nm,1.4s							
MCQ	**Macquarie Isla**	**44.20**	**186**	P		**P**	**18 41 11.9**	**-1.7**
KSRS	**Korea Array**	**59.82**	**325**	LR		LR	19 04 59.7	
	comp=Z,43nm,21.5s,baz=160,slow=32							
CASY	**Casey**	**67.02**	**201**	P		**P**	**18 43 55.6**	**-0.6**
CASY				IAmb		IAmb	18 44 11.3	
	comp=Z,11nm,1.4s							
CMAR	**Chiang Mai Arr**	**72.46**	**293**	P		**P**	**18 44 30.7**	**+0.3**
	comp=Z,0.4nm,0.2s,baz=133,slow=5.0,SNR=1.6							
	comp=Z,0.4nm,0.2s							
SONM	**Songino Array**	**78.64**	**324**	P		**P**	**18 45 06.5**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=138,slow=5.4,SNR=2.3							
	comp=Z,0.2nm,0.5s							
QSPA	**South Pole Qui**	**79.42**	**180**	P		**P**	**18 45 09.2**	**+0.1**
QSPA	**South Pole Qui**	**79.42**	**180**	P		**P**	**18 45 08.8**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=41,slow=9.4,SNR=5.0							
	comp=Z,1.6nm,0.6s							
ILAR	**Eielson Array**	**82.89**	**18**	P		**P**	**18 45 28.4**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=240,slow=4.8,SNR=8.2							
	comp=Z,0.5nm,0.8s							
NVAR	**Mina Array Bea**	**85.28**	**50**	P		**P**	**18 45 41.0**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=239,slow=7.0,SNR=2.6							
	comp=Z,0.4nm,0.7s							
MKAR	**Makanchi Array**	**93.58**	**317**	P		**P**	**18 46 17.9**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=83,slow=5.9,SNR=4.9							
	comp=Z,0.3nm,0.6s							
H03S2	**Juan Fernandez**	**103.97**	**129**	T		T	20 43 16.6	
	baz=242,slow=75,SNR=19							
H03S1	**Juan Fernandez**	**103.98**	**129**	T		T	20 43 16.2	
	baz=242,slow=75,SNR=18							
H03S3	**Juan Fernandez**	**103.99**	**129**	T		T	20 43 15.3	
	baz=242,slow=75,SNR=16							

IDC 22 19:07:17.1±342.0, 40°.62N×117°.78W, h0km, Error ellipse: s-maj=137.8km s-min=112.2km az=175.0, Nevada

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I57US	**PINON FLAT INF**	**7.08**	**171**		I	I	19 50 50.0	
	baz=350,slow=317,SNR=2.1							
I56US	**NEWPORT INFRAS**	**7.65**	**3**		I	I	19 50 20.0	
	baz=183,slow=334,SNR=2.6							
I10CA	**LAC DU BONNET**	**17.97**	**51**		I	I	20 57 30.0	
	baz=240,slow=331,SNR=1.9							

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*NEIC **22** 19:27:21.3±0.7, 19°.20N±0°.03×155°.54W±0°.02, h41km±2km, Error ellipse: s-maj=4.3km s-min=2.4km az=183.0*
HVO 22 19:27:23.1±0.7, 19°.21N±0°.06×155°.53W±0°.07, h34km±2km, Md2.1/17, ML2.5/44(NEIC), Error ellipse: s-maj=11.3km s-min=5.8km az=131.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KHU	**Kahuku**	**0.09**	**296**			Pb	19 27 28.5	-0.8
KHU						Sb	19 27 32.1	-1.4
KHU	**Kahuku**	**0.09**	**296**	IAML			19 27 32.8	
	comp=N,708nm,0.1s							
KHU				IAML			19 27 32.8	
	comp=E,776nm,0.2s							
HPO	**Honuapo**	**0.12**	**192**			Pb	19 27 28.5	-0.6
HTC	**Hot Caves**	**0.13**	**76**			Pb	19 27 28.7	-0.6
AIN	**Ainahou**	**0.18**	**22**			Pb	19 27 29.2	-0.7
AIN						Sb	19 27 33.7	-0.7
AIN	**Ainahou**	**0.18**	**22**	IAML			19 27 34.0	
	comp=E,382nm,0.3s							
AIN				IAML			19 27 34.4	
	comp=N,496nm,0.4s							
HLP	**Hilina Pali**	**0.23**	**67**			Sb	19 27 34.3	-0.7
HLP	**Hilina Pali**	**0.23**	**67**			Pn	19 27 29.4	-0.1
HLP				IAML			19 27 40.0	
	comp=N,418nm,3.9s							
HLP	**Hilina Pali**	**0.23**	**67**	IAML			19 27 32.8	
	comp=E,596nm,3.0s							
MWH	**Moku'aweowe**	**0.28**	**347**			Pn	19 27 29.9	-1.1
MWH	**Moku'aweowe**	**0.28**	**347**	IAML			19 27 34.3	
	comp=N,230nm,1.8s							
MWH				IAML			19 27 35.6	
	comp=E,327nm,2.6s							
SDHHI	**Sand Hill**	**0.29**	**51**			Pn	19 27 29.8	-1.0
SDHHI	**Sand Hill**	**0.29**	**51**	IAML			19 27 35.9	
	comp=E,830nm,1.5s							
SDHHI				IAML			19 27 44.0	
	comp=N,767nm,0.7s							
WRMHI	**West Rim**	**0.29**	**47**			Pn	19 27 29.8	-1.2
WRMHI	**West Rim**	**0.29**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HMH	Humu‘ula Sheep	0.40	6	IAML		19 27 35.8	
	comp=N,268nm,3.4s						
KHLU	Kahalu`u	0.52	318		Pb	19 27 32.4	-1.8
KHLU					Sb	19 27 39.3	-2.4
POHA	Pohakuloa	0.55	360	Pn	Pb	19 27 33.0	-1.8
POHA				IAML		19 27 42.5	
	comp=N,271nm,4.0s						
POHA				IAML		19 27 42.8	
	comp=N,187nm,3.9s						
HPAH	Hawaii Prepara	0.83	349		Sn	19 27 46.3	-3.5
HPAH	Hawaii Prepara	0.83	349	Pn	Pn	19 27 36.5	-2.1
HPAH				IAML		19 27 54.5	
	comp=E,211nm,3.4s						
HPAH				IAML		19 28 01.1	
	comp=N,129nm,4.5s						
MHA	Mahukona	1.04	340	Pn	Pn	19 27 39.3	-2.0

*NEIC **22** 19:38:11.1±1.7, 5.°25S±0.°08×153.°0E±0.°1, h15km±6km, mb4.6/70, Error ellipse: s-maj=16.3km s-min=11.7km az=75.0*

*IDC **22** 19:38:13.8±3.3, 5.°34S×152.°85E, h49km±25km, mb3.7/10, mbtmp4.0/11, ML2.3/1, MS2.9/3, Error ellipse: s-maj=34.2km s-min=14.7km az=98.0*

ISC 22 19:38:12.9±0.8**, 5.°31S**±0.°07×**152.°9E**±0.°1**, h37**km**, n95,** σ**1.s13**/95**, mb4.5**/44**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.34	318	P	Pn	19 38 35.3	+0.3
	535nm,0.3s,baz=223,slow=1.8,SNR=57						
KRVT				S	Sn	19 38 52.2	+0.6
	785nm,0.3s,baz=254,slow=17,SNR=9.4						
RABL	Rabaul	1.34	326		Pn	19 38 36.0	+0.8
RABL				Sn	Sn	19 38 52.6	+0.8
PMG	Port Moresby	7.01	234		Pn	19 39 55.8	+2.8
PMG	Port Moresby	7.01	234	P	Pn	19 39 54.3	+1.3
	3.1nm,0.3s,baz=54,slow=5.9,SNR=13						
PMG				LR	LR	19 42 34.9	
	comp=Z,73nm,21.6s,baz=82,slow=38						
	12nm,0.5s						
CTA	Charters Tower	16.05	203	LR	LR	19 47 19.2	
	comp=Z,61nm,18.1s,baz=61,slow=34						
MTN	Manton Dam	22.76	249	P	P	19 43 10.9	-1.3
MTN				IAmb	IAmb	19 43 17.2	
	comp=Z,11nm,0.8s						
WB0	Warramunga Arr	23.05	230	P	P	19 43 13.9	-1.3
WB2	Warramunga Arr	23.19	230	P	P	19 43 14.9	-1.6
WRA	Warramunga Arr	23.20	230	P	P	19 43 15.2	-1.4
	comp=Z,2.7nm,0.7s,baz=54,slow=9.8,SNR=27						
	comp=Z,2.7nm,0.7s						
AS31	Alice Springs	25.85	223	P	P	19 43 39.2	-1.9
ASAR	Alice Springs	25.85	223	P	P	19 43 40.1	-1.1
ASAR	Alice Springs	25.85	223	P	P	19 43 40.4	-0.8
	comp=Z,1.4nm,0.7s,baz=56,slow=9.4,SNR=21						
	comp=Z,1.4nm,0.7s						
KNRA	Kununurra	25.85	245	P	P	19 43 40.9	-0.3
FITZ	Fitzroy Crossi	29.52	242	P	P	19 44 11.9	-2.1
KAPI	Kappang	33.03	269	LR	LR	19 59 04.5	
	comp=Z,14nm,20.0s,baz=110,slow=38						
CRAI	Chiangrai	57.52	298	P	P	19 47 59.0	0.0
CMAR	Chiang Mai Arr	58.20	295	P	P	19 48 03.6	-0.1
	comp=Z,0.6nm,0.7s,baz=114,slow=5.5,SNR=5.1						
	comp=Z,0.6nm,0.7s						
PEA0B	Petropavlovsk-	58.34	3	P	P	19 48 04.6	+0.4
PETK	Petropavlovsk-	58.34	3	P	P	19 48 03.8	-0.3
PETK	Petropavlovsk-	58.34	3	P	P	19 48 04.2	+0.1
	comp=Z,3.0nm,0.7s,baz=174,slow=6.3,SNR=11						
	comp=Z,3.0nm,0.7s						
NIKH	Nikolski High	66.44	24	P	P	19 48 58.3	0.0
SONM	Songino Array	66.82	328	P	P	19 49 01.3	+0.3
SONM					pP	19 49 01.7	-10
SONM	Songino Array	66.82	328	P	P	19 49 00.9	-0.1
	comp=Z,0.4nm,0.5s,baz=117,slow=5.0,SNR=5.8						
	comp=Z,0.4nm,0.5s						
M14K	Bethel	74.64	21	P	P	19 49 48.5	+0.5
L18K	Granite Mounta	77.52	22	P	P	19 50 05.5	+1.0
L18K				IAmb	IAmb	19 50 46.8	
	comp=Z,9.5nm,1.2s						
CNPM	China Poot	78.13	26	P	P	19 50 09.4	+1.4
H17K	Granite Mounta	78.17	19	P	P	19 50 09.4	+1.4
H17K				IAmb	IAmb	19 50 22.8	
	comp=Z,8.2nm,1.0s						
L19K	White Mountain	78.18	22	P	P	19 50 10.1	+1.9
M20K	Styx River	78.66	23	P	P	19 50 11.5	+0.6
F17K	Baldwin Pennin	78.78	17	P	P	19 50 13.3	+1.9
H18K	Honhosa River	78.80	19	P	P	19 50 11.9	+0.3
C16K	Lisburne Hills	78.97	15	P	P	19 50 12.6	+0.2
K20K	Telida	79.17	22	P	P	19 50 15.0	+1.3
K20K				IAmb	IAmb	19 50 39.4	
	comp=Z,11nm,1.4s						
G18K	Tagagawik	79.19	18	P	P	19 50 14.7	+1.0
G18K				IAmb	IAmb	19 50 54.5	
	comp=Z,6.9nm,1.2s						
O22K	Cooper Landing	79.28	25	P	P	19 50 13.3	-0.9
SUA	Susitna One	79.38	24	P	P	19 50 14.4	-0.5
J20K	Nowinta River	79.62	21	P	P	19 50 17.6	+1.5
J20K				IAmb	IAmb	19 50 40.2	
	comp=Z,11nm,1.5s						
E18K	Tukpahlearik C	79.64	17	P	P	19 50 17.8	+1.7
E18K				IAmb	IAmb	19 50 55.7	
	comp=Z,10nm,1.2s						
H19K	Roundabout Mou	79.66	19	P	P	19 50 17.2	+1.0
H19K				IAmb	IAmb	19 50 32.0	
	comp=Z,10nm,1.4s						
G19K	Purcell Mounta	79.85	18	P	P	19 50 17.0	-0.2
G19K				IAmb	IAmb	19 50 45.5	
	comp=Z,13nm,1.5s						
CAST	Castle Rocks	79.94	22	P	P	19 50 18.3	+0.5
CAST				IAmb	IAmb	19 50 31.8	
	comp=Z,6.7nm,1.2s						
C18K	Utukok River	80.32	15	P	P	19 50 20.7	+0.9
C18K				IAmb	IAmb	19 50 22.4	
	comp=Z,6.5nm,0.9s						
KTH	Kantishna Hill	80.44	22	P	P	19 50 19.1	-1.5
SML	Sawmill	80.54	24	P	P	19 50 20.1	-1.1
TRF	Thorofare Moun	80.63	22	P	P	19 50 21.8	+0.1
E19K	Redstone River	80.64	17	P	P	19 50 23.0	+1.6
E19K				IAmb	IAmb	19 50 25.1	
	comp=Z,4.6nm,0.7s						
MKAR	Makanchi Array	80.79	319	P	P	19 50 23.1	+0.3
MKAR	Makanchi Array	80.79	319	P	P	19 50 22.6	-0.2
	comp=Z,0.3nm,0.6s,baz=94,slow=8.7,SNR=4.2						
	comp=Z,0.3nm,0.6s						
IMAR	Indian Mountai	80.83	19	P	P	19 50 23.3	+0.8
F20K	Avaraart Lake	80.84	18	P	P	19 50 23.9	+1.4
H21K	Melozitna Rive	80.95	20	P	P	19 50 24.7	+1.5
H21K				IAmb	IAmb	19 50 37.0	
	comp=Z,14nm,1.5s						
D19K	Kuna River	81.05	16	P	P	19 50 24.7	+1.0
D19K				IAmb	IAmb	19 50 40.8	
	comp=Z,14nm,1.4s						
C19K	Lookout Ridge	81.06	16	P	P	19 50 25.3	+1.6
C19K				IAmb	IAmb	19 50 27.2	
	comp=Z,6.0nm,0.6s						
G21K	Allakaket	81.22	19	P	P	19 50 26.2	+1.6
M24K	Tolsona, Glenn	81.58	25	P	P	19 50 27.6	+0.9
ZALV	Zalesovo Beam	81.64	326	P	P	19 50 25.8	-1.3
	comp=Z,0.9nm,0.7s,baz=123,slow=5.5,SNR=4.4						
	comp=Z,0.9nm,0.7s						
E21K	Killik River	82.22	17	P	P	19 50 31.8	+1.9
E21K				IAmb	IAmb	19 50 54.7	
	comp=Z,5.6nm,1.4s						
B20K	Meade River	82.29	15	P	P	19 50 31.5	+1.3
B20K				IAmb	IAmb	19 51 01.1	
	comp=Z,9.7nm,1.4s						
ILAR	Eielson Array	82.59	22	P	P	19 50 32.0	+0.2
ILAR	Eielson Array	82.59	22	P	P	19 50 31.0	-0.8
	comp=Z,1.4nm,0.8s,baz=247,slow=5.3,SNR=13						
	comp=Z,1.4nm,0.8s						
IL03	Eielson Array	82.60	22	P	P	19 50 31.7	-0.2
E22K	Anaktuvuk Pass	82.69	18	P	P	19 50 33.2	+0.8
B21K	Ikpikpuk River	82.74	16	P	P	19 50 33.2	+0.7
B21K				IAmb	IAmb	19 50 35.5	
	comp=Z,2.7nm,0.8s						
H24K	Noodor Dome	82.76	21	P	P	19 50 33.3	+0.5
H24K				IAmb	IAmb	19 51 06.7	
	comp=Z,6.6nm,1.4s						
D22K	Ayikyak River	82.86	17	P	P	19 50 34.3	+1.1
BARN	Barnard Glacie	83.05	26	P	P	19 50 34.6	+0.1
BARN				IAmb	IAmb	19 50 37.0	
	comp=Z,4.2nm,0.9s						
J25K	Salcha River,	83.08	22	P	P	19 50 34.5	0.0
CTGM	Chitina Glacie	83.16	27	P	P	19 50 35.2	+0.2
CTGM				IAmb	IAmb	19 50 37.0	
	comp=Z,6.9nm,1.1s						
M27K	Edge Creek, AK	83.49	25	P	P	19 50 37.9	+1.2
M27K				IAmb	IAmb	19 50 39.4	
	comp=Z,6.3nm,1.1s						
B22K	Teshekpuk Lake	83.50	16	P	P	19 50 37.0	+0.6
F24K	Squaw Lake	83.62	19	P	P	19 50 38.4	+1.2
F24K				IAmb	IAmb	19 51 19.8	
	comp=Z,4.9nm,1.4s						
C23K	Itkillik River	84.01	17	P	P	19 50 40.2	+1.2
K27K	Chicken	84.11	24	P	P	19 50 40.8	+1.1
K27K				IAmb	IAmb	19 51 12.1	
	comp=Z,6.9nm,1.4s						
D24K	Happy Valley	84.17	18	P	P	19 50 41.7	+1.8
D24K				IAmb	IAmb	19 50 41.9	
	comp=Z,1.6nm,0.6s						
BMAR	Burnt Mountain	84.69	20	P	P	19 50 43.4	+0.8
N30M	Aishikik Lake	85.25	27	P	P	19 50 46.6	+1.0
L29M	L29M	85.37	25	P	P	19 50 48.2	+2.1
L29M				IAmb	IAmb	19 50 55.2	
	comp=Z,8.5nm,1.4s						
I28M	Miner Creek	85.53	23	P	P	19 50 48.0	+1.0
K29M	Barlow Dome	85.89	25	P	P	19 50 50.4	+1.6
K29M				IAmb	IAmb	19 51 31.9	
	comp=Z,5.1nm,1.5s						
WHY	Whitehorse	86.00	28	P	P	19 50 47.8	-1.6
WHY				IAmb	IAmb	19 51 20.1	
	comp=Z,4.9nm,1.4s						
E27K	Coleen River	86.04	20	P	P	19 50 51.0	+1.7
E27K				IAmb	IAmb	19 50 53.3	
	comp=Z,7.5nm,1.4s						
F28M	Old Crow	86.40	21	P	P	19 50 52.2	+1.1
H29M	Whitestone	86.42	22	P	P	19 50 51.8	+0.6
H29M				IAmb	IAmb	19 51 29.8	
	comp=Z,6.8nm,1.4s						
J30M	Hart River	86.64	24	P	P	19 50 53.2	+0.7
J30M				IAmb	IAmb	19 51 08.8	
	comp=Z,4.4nm,1.4s						
D27M	Malcolm River	86.69	19	P	P	19 50 53.0	+0.5
D27M				IAmb	IAmb	19 50 56.4	
	comp=Z,2.8nm,0.8s						
Q32M	Nakina River	86.76	30	P	P	19 50 53.1	-0.1
G29M	Pine Creek	86.80	22	P	P	19 50 54.0	+0.9
I30M	Mount Dempster	86.83	23	P	P	19 50 53.8	+0.4
I30M				IAmb	IAmb	19 51 02.6	
	comp=Z,5.3nm,1.4s						
E28M	Babbage River	86.91	20	P	P	19 50 55.0	+1.5
E29M	Blow River	87.39	20	P	P	19 50 56.9	+1.1
H31M	Peel River	87.83	23	P	P	19 50 59.1	+1.1
G31M	Satah River	88.20	22	P	P	19 51 00.8	+1.1
G31M				IAmb	IAmb	19 51 08.7	
	comp=Z,3.1nm,1.3s						
BVAR	Borovoye Array	89.72	323	P	P	19 51 05.8	-1.4
	comp=Z,1.5nm,0.6s,baz=111,slow=8.1,SNR=7.4						
	comp=Z,1.5nm,0.6s						
YKA	Yellowknife Ar	95.83	28	P	P	19 51 36.0	+0.8
	comp=Z,0.1nm,0.4s,baz=272,slow=4.7,SNR=5.0						
	comp=Z,0.1nm,0.4s						
TORD	Torodi Ar. Bea	150.57	287	PKPbc	PKPbc	19 58 01.7	-0.2
	comp=Z,0.4nm,0.4s,baz=38,slow=3.7,SNR=5.0						

*SDD **22** 19:40:25.2±0.3, 18.°75N×69.°32W, h76km±8km, MD2.9, ML3.0, MW3.4*

*OSPL **22** 19:40:25.9±2.1, 18.°38N×69.°32W, h80km±15km, ML2.5*

ISC 22 19:40:27.1±1.3**, 18.°59N**±0.°08×**69.°31W**±0.°04**, h50**km**, n13,** σ**1.s84**/16**, 1D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HATOM	Hato Mayor del	0.21	341	ePg	Pn	19 40 35.5	-0.1
HATOM				IAML		19 40 46.4	
	comp=N,328nm,0.2s						
MIDR	Miches	0.46	32	ePg	Pn	19 40 36.7	-1.2
MIDR				IAML		19 40 50.5	
	comp=N,138nm,0.2s						
SDD	Santo Domingo	0.59	257	i P	Pn	19 40 38.4	-0.9
SDD				eS	Sn	19 40 50.8	+2.6
SADR	Isla Saona	0.64	128	ePg	Pn	19 40 40.3	+0.3
DR08	Loma La Naviza	0.77	299	⇓ePg	Pn	19 40 39.9	-1.9
DR08				IAML		19 40 56.3	
	comp=N,3µm,0.1s						
PCDR	Punta Cana, DR	0.88	95	i P	Pn	19 40 41.9	-1.3
PCDR				eS	Sn	19 40 56.6	+1.5
PCDR				IAML		19 41 05.5	
	comp=Z,118nm,1.1s						
LONA1	Toro Cenizo, N	0.95	326	eS	Sn	19 40 59.6	+3.0
BANI	BANI	1.01	259	ePg	Pn	19 40 43.9	-1.2
BANI				IAML		19 41 03.8	
	comp=N,488nm,0.2s						
ABDR	Alto Bandera	1.27	280	ePg	Pn	19 40 46.2	-2.5
ABDR				IAML		19 41 08.9	
	comp=N,171nm,0.2s						
SC01	Santiago de lo	1.58	302	eS	Sn	19 41 13.4	+1.4
SDDR	Presa de Saban	1.92	282	i P	Pn	19 40 56.4	-0.9
SDDR				eS	Sn	19 41 20.9	+0.6
SDDR				IAML		19 41 25.6	
	comp=Z,28nm,0.2s						
AGPR	Aguadilla, PR	2.09	93	i P	Pn	19 40 58.1	-1.5
AGPR				IAML		19 41 30.7	
	comp=Z,117nm,0.2s						
CRPR	Cabo Rojo, PR	2.17	105	i P	Pn	19 40 58.4	-2.3

*NEIC **22** 20:16:59.8±1.8, 44.°99N±0.°05×106.°98W±0.°07, h0km±2km, ML3.1/62, Error ellipse: s-maj=8.7km s-min=8.2km az=85.0*

*IDC **22** 20:17:00.3±1.2, 44.°87N×106.°76W, h0km, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=62.8km s-min=8.4km az=137.0*

ISC 22 20:16:58.1±1.1**, 44.°99N**±0.°06×**106.°94W**±0.°05**, h0**km**, n44,** σ**1.s49**/43**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RLMT	Red Lodge	1.66	275		Pn	20 17 29.7	+1.1
LAO	LASA Array	1.77	16		Pn	20 17 30.0	-0.2
LAO				IAML		20 18 03.4	
	192nm,1.8s						
LAO				IAML		20 18 29.9	
	260nm,4.0s						
RSSD	Black Hills	2.25	112		Pb	20 17 39.6	-0.2
RSSD				IAML		20 18 14.3	
	146nm,0.6s						
RSSD				IAML		20 18 19.0	
	79nm,0.7s						
YMP	Mirror Lake Pl	2.30	265		Pn	20 17 39.8	+2.1
YMP				IAML		20 18 16.8	
	comp=N,142nm,0.7s						
YMP				IAML		20 18 21.7	
	comp=E,147nm,0.8s						
K22A	Casper	2.36	173		Pn	20 17 39.9	+1.7
K22A				IAML		20 18 23.3	
	comp=N,85nm,0.7s						
K22A				IAML		20 18 56.2	
	comp=E,69nm,3.9s						
H17A	Grant Village	2.66	258		Pn	20 17 44.1	+1.6
H17A				IAML		20 18 27.7	
	comp=N,57nm,0.8s						
YNR	Norris Junctio	2.67	265		Pn	20 17 43.7	+1.0
YNR				IAML		20 18 33.8	
	comp=N,50nm,1.9s						
YNR				IAML		20 18 34.8	
	comp=E,63nm,4.3s						
YHH	Holmes Hill	2.79	267		Pn	20 17 45.6	+1.3
YFT	Old Faithful	2.83	260		Pn	20 17 46.7	+1.9
YFT				IAML		20 18 42.2	
	comp=E,42nm,3.3s						
FLWY	Flagg Ranch	2.84	253		Pn	20 17 46.9	+2.0
FLWY				IAML		20 18 41.9	
	comp=E,64nm,2.2s						
FLWY				IAML		20 18 44.0	
	comp=E,84nm,1.0s						
YMR	Madison River	2.88	265		Pn	20 17 47.9	+2.4
YMR				IAML		20 19 04.5	
	comp=N,81nm,3.9s						
BW06	Boulder Array	2.92	221		Pn	20 17 47.1	+1.1
BW06				IAML		20 18 38.0	
	comp=N,45nm,0.8s						
PD31	Pinedale Array	2.92	221		Pb	20 17 50.0	-1.2
PDAR	Pinedale Array	2.92	221		Pn	20 17 49.1	+3.0
PDAR	Pinedale Array	2.92	221	Pn	Pb	20 17 51.4	+0.2
	comp=N,1.9nm,0.3s,baz=52,slow=17,SNR=27						
PDAR				Lg	Lg	20 18 30.7	
	comp=N,4.8nm,0.3s,baz=46,slow=25,SNR=16						
	comp=N,1.7nm,0.3s						
LOHW	Long Hollow	2.97	244		Pn	20 17 47.8	+1.1
LOHW				IAML		20 19 35.8	
	comp=N,38nm,4.9s						
MOOW	Moose Ponds	3.00	247		Pn	20 17 49.3	+2.2
YHL	Hebgen Lake	3.02	269		Pn	20 17 49.5	+2.1
YHL				IAML		20 18 43.2	
	comp=N,61nm,2.5s						
YHL				IAML		20 18 46.3	
	comp=E,61nm,1.7s						
IMW	Indian Meadow	3.07	251		Pn	20 17 48.7	+0.6
IMW				IAML		20 18 50.5	
	comp=E,45nm,1.8s						
IMW				IAML		20 18 55.8	
	comp=E,46nm,0.8s						
SNOW	Snow King Moun	3.14	242		Pn	20 17 49.8	+0.8
SNOW				IAML		20 19 26.0	
	comp=E,62nm,4.8s						
SNOW				IAML		20 19 32.1	
	comp=E,56nm,4.9s						
FXWY	Fox Creek	3.23	247		Pn	20 17 51.1	+0.8
TPAW	Teton Pass	3.25	244		Pn	20 17 51.5	+0.9
TPAW				IAML		20 19 35.6	
	comp=E,36nm,4.5s						
REDW	Red Top Meadow	3.25	241		Pn	20 17 51.5	+0.9
AHID	Auburn Hatcher	3.74	235		Pn	20 17 59.0	+1.7
AHID				IAML		20 19 05.5	
	comp=E,26nm,2.4s						
AHID				IAML		20 19 12.5	
	comp=E,31nm,2.5s						
PHWY	Pilot Hill	3.84	163		Pn	20 18 00.1	+1.3
PHWY				IAML		20 19 12.4	
	comp=E,21nm,2.3s						
DGMT	Dagmar	3.96	27		Pn	20 18 01.1	+0.9
N23A	Red Feather La	4.16	170		Pn	20 18 05.1	+2.0
BEMT	Mount Belmont	4.16	297		Pn	20 18 02.9	-0.2
ELMT	Elliston	4.18	293	Pn	Pn	20 18 04.8	+1.5
LYMT	Lyon Mountain	4.22	300		Pn	20 18 05.5	+1.5
OVMT	Ovando	4.70	298		Pn	20 18 11.0	+0.5
BPMT	Black Pine Rid	4.78	290	Pn	Pn	20 18 12.1	+0.4
CHMT	Chamberlain Mo	4.81	296		Pn	20 18 11.8	-0.2
BRIGG	Briggsdale	4.81	155	Pn	Pn	20 18 12.9	+1.0
RDMU	Red Mountain	4.82	205		Pn	20 18 11.3	-0.9
O20A	White River Ci	4.95	192		Pn	20 18 15.3	+1.5
MSO	Missoula	5.22	293	Pn	Pn	20 18 15.3	-2.3
BSUT	Blindstream Ca	5.26	214	Pn	Pn	20 18 16.2	-2.2
ISCO	Idaho Springs	5.28	169		Pn	20 18 17.1	-1.4
ISCO				IAML		20 19 57.3	
	comp=E,6.5nm,4.0s						
HVU	Hansel Valley	5.33	235	Pn	Pn	20 18 19.0	0.0
OGNE	Ogallala	5.41	137	Pn	Pn	20 18 22.1	+2.0
HLID	Hailey	5.55	258	Pn	Pn	20 18 23.4	+1.2
I10CA	LAC DU BONNET	9.03	51	I	I	21 10 00.0	
	baz=233,slow=330,SNR=3.0						
ULM	Lac du Bonnet	9.14	51	Pn	Pn	20 19 10.8	-0.4
	comp=E,0.4nm,0.3s,baz=237,slow=14,SNR=9.4						
ULM				Lg	Lg	20 21 41.8	
	comp=E,0.1nm,0.3s,baz=154,slow=16,SNR=2.4						
	comp=E,1.3nm,0.3s						

*IDC **22** 20:28:33.3±0.8, 61.°13S×25.°97W, h0km, mb4.2/5, mbtmp4.2/7, ML4.1/2, MS3.3/5, Error ellipse: s-maj=30.1km s-min=23.6km az=68.0*

*NEIC **22** 20:28:33.8±2.3, 61.°0S±0.°1×25.°7W±0.°3, h10km±1km, mb4.5/16, Error ellipse: s-maj=32.5km s-min=8.6km az=57.0*

ISC 22 20:28:33.8±0.6**, 61.°10S**±0.°09×**25.°4W**±0.°1**, h10**km**, n42,** σ**2.s02**/38**, mb4.4**/11**, MS3.3**/4**, 3C-7D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	9.04	314	Pn	Pn	20 30 46.8	+2.7
VNA1	Neumayer--Stat	11.81	151	⇓P	Pn	20 31 24.7	+2.6
VNA1				⇑S	Sn	20 33 31.1	-2.6
	comp=Z,3.9nm,0.4s						
VNA3	Neumayer Olymp	11.95	155	⇓P	Pn	20 31 25.6	+1.7
	comp=Z,6.4nm,0.3s						
VNA3				⇑S	Sn	20 33 28.9	-8.1
	comp=Z,7.2nm,0.4s						
VNA2	Neumayer--Watz	12.21	151	⇓P	Pn	20 31 29.6	+2.1
	comp=Z,2.1nm,0.3s,baz=305,slow=16						
VNA2				⇓S	Sn	20 33 37.8	-5.7
	comp=Z,3.4nm,0.5s,baz=310,slow=23						
SNAA	Sanae	13.81	149		Pn	20 31 51.0	+1.8
SNAA					Sn	20 34 09.1	-13
SNAA	Sanae	13.81	149	⇓P	Pn	20 31 51.1	+1.8
	comp=Z,33nm,0.3s						
SNAA				⇓S	Sn	20 34 18.1	-4.4
	comp=Z,92nm,0.4s						
SNAA	Sanae	13.81	149	Pn	Pn	20 31 51.1	+1.8
	comp=Z,0.6nm,0.3s,baz=187,slow=23,SNR=20						
SNAA				Sn	Sn	20 34 15.7	-6.8
	comp=Z,1.0nm,0.3s,baz=356,slow=21,SNR=10						
SNAA				LR	LR	20 36 23.4	
	comp=Z,72nm,19.1s,baz=351,slow=34						
	comp=Z,2.1nm,0.5s						
TROLL	Troll, Antarti	15.38	147	⇓P	Pn	20 32 14.0	+3.3
	comp=Z,88nm,0.7s						
TROLL				⇑S	Sn	20 34 56.6	-4.4
	comp=Z,80nm,0.3s						
BELA	Belgrano 2	17.11	187	P	Pn	20 32 34.0	+1.4
PMSA	Palmer Station	17.75	241	P	Pn	20 32 39.7	-0.9
	comp=Z,0.8nm,0.3s,baz=105,slow=12,SNR=5.2						
	comp=Z,17nm,0.8s						
SMAI	San Martin Ant	18.85	230	P	Pn	20 32 55.8	+1.8
QSPA	South Pole Qui	29.13	180	P	P	20 34 36.1	+1.5
QSPA				IAmb	IAmb	20 35 19.6	
	comp=Z,12nm,1.3s						
QSPA	South Pole Qui	29.13	180	P	P	20 34 35.7	+1.2
	comp=Z,3.3nm,0.7s,baz=199,slow=5.7,SNR=9.4						
QSPA				LR	LR	20 45 23.6	
	comp=Z,68nm,20.9s,baz=214,slow=35						
	comp=Z,3.3nm,0.7s						
PLCA	Paso Flores	34.04	286	P	P	20 35 17.0	-0.8
PLCA				IAmb	IAmb	20 35 30.7	
	comp=Z,18nm,1.5s						
PLCA	Paso Flores	34.04	286	P	P	20 35 16.7	-1.1
	comp=Z,2.0nm,0.8s,baz=180,slow=4.0,SNR=3.8						
PLCA				LR	LR	20 47 29.1	
	comp=Z,35nm,20.9s,baz=176,slow=34						
	comp=Z,2.0nm,0.8s						
PLTB	Pedras Altas	34.65	315	P	P	20 35 21.0	-2.1
PLTB				IAmb	IAmb	20 35 24.1	
	comp=Z,9.9nm,0.7s						
MT09	Talagante	39.92	292	P	P	20 36 07.5	-0.3
MT01	Popeta	39.96	292	P	P	20 36 08.1	0.0
CPUP	Villa Florida	40.92	314	P	P	20 36 13.5	-2.5
CPUP	Villa Florida	40.92	314	P	P	20 36 15.3	-0.7
	comp=Z,1.6nm,0.6s,baz=158,slow=7.9,SNR=4.7						
	comp=Z,1.6nm,0.6s						
SBA	Scott Base	41.09	184	P	P	20 36 16.5	-0.4
SUR	Sutherland	41.40	68	LR	LR	20 50 21.1	
	comp=Z,41nm,18.0s,baz=174,slow=31						
CO01	Juntas del Tor	42.75	296	P	P	20 36 29.8	-1.6
CO01				IAmb	IAmb	20 36 33.6	
	comp=Z,6.6nm,0.9s						
AC05	El Transito	43.82	297	P	P	20 36 37.6	-2.2
AC05				IAmb	IAmb	20 36 41.1	
	comp=Z,8.5nm,0.7s						
H04S2	CROZET ISLANDS	44.85	108	T	T	21 25 55.6	
	baz=222,slow=74						
H04S3	CROZET ISLANDS	44.86	108	T	T	21 25 45.5	
	baz=222,slow=74						
H04S1	CROZET ISLANDS	44.87	108	T	T	21 26 13.8	
	baz=222						
BDFB	Brasilia	48.22	330	LR	LR	20 54 55.2	
	comp=Z,36nm,20.8s,baz=41,slow=33						
PTLB	Pontes e Lacer	51.61	317	P	P	20 37 38.0	-2.1
PTLB				IAmb	IAmb	20 37 41.0	
	comp=Z,3.4nm,0.8s						
H10N1	ASCENSION HYDR	53.77	13	T	T	21 36 23.5	
	baz=180,slow=72,SNR=11						
H10N3	ASCENSION HYDR	53.77	13	T	T	21 36 25.6	
	baz=180,slow=72,SNR=31						
H10N2	ASCENSION HYDR	53.79	13	T	T	21 36 24.8	
	baz=180,slow=72,SNR=23						
SAML	Samuel	59.04	315	P	P	20 38 31.9	-1.8
SAML				IAmb	IAmb	20 39 12.5	
	comp=Z,3.6nm,1.3s						
ETMB	Extrema	59.30	312	P	P	20 38 33.8	-1.7
TOA0	Torodi Ar. Sit	77.08	27		P	20 40 27.9	+1.0
TOA0				IAmb	IAmb	20 40 32.6	

	comp=Z,4.0nm,1.1s								
TORD	**Torodi Ar. Bea**	**77.08**	**27**	P		**P**	**20 40 28.1**	**+1.2**	
TORD	**Torodi Ar. Bea**	**77.08**	**27**	P		**P**	**20 40 29.6**	**+2.7**	
	comp=Z,2.3nm,0.7s,baz=201,slow=5.6,SNR=16								
	comp=Z,2.3nm,0.7s								
ASAR	**Alice Springs**	**93.89**	**161**	P		**P**	**20 41 52.6**	**+1.2**	
	comp=Z,0.6nm,0.8s,baz=183,slow=5.2,SNR=4.0								
	comp=Z,0.6nm,0.8s								
YKA	**Yellowknife Ar**	**140.44**	**313**	PKP		**PKiKP**	**20 48 02.7**	**-1.2**	
	comp=Z,0.5nm,0.7s,baz=130,slow=2.1,SNR=6.9								
ZALV	**Zalesovo Beam**	**143.55**	**69**	PKP		**PKPdf**	**20 48 06.3**	**-0.9**	
	comp=Z,0.5nm,0.4s,baz=256,slow=3.7,SNR=2.3								
SONM	**Songino Array**	**149.78**	**94**	PKPbc		**PKiKP**	**20 48 24.4**	**+0.6**	
	comp=Z,1.4nm,0.8s,baz=199,slow=3.4,SNR=9.8								
ILAR	**Eielson Array**	**153.95**	**304**	PKP		**PKPdf**	**20 48 22.8**	**-0.9**	
	comp=Z,0.3nm,0.8s,baz=177,slow=4.1,SNR=4.2								
ILAR				PKPbc		**PKiKP**	**20 48 32.3**	**+0.6**	
	comp=Z,1.4nm,0.9s,baz=138,slow=1.0,SNR=9.1								

*SDD **22** 20:37:59.0±2.9, 20°.58N×63°.32W, h28km±999km, MD3.6, ML4.3, MW3.7*
*NEIC **22** 20:38:34.1±1.2, 18°.7N±0°.2×65°.05W±0°.06, h97km±14km, ML3.8/30, Md3.7/12(RSPR), Error ellipse: s-maj=27.4km s-min=6.8km az=189.0*
*RSPR **22** 20:38:35.1, 18°.78N×65°.06W, h76km±8km, MD3.7/12*
*OSPL **22** 20:38:36.1±1.1, 18°.38N×65°.01W, h67km±29km, MD4.1, ML3.5*

ISC 22 20:38:32.8±1.5, 18°.7N±0°.1×65°.04W±0°.04, h106km±17km, n77, σ0°95/80, 5C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GCPR	**Guaynabo City**	**1.08**	**247**	Pn		**Pn**	**20 38 54.9**	**+0.4**
GCPR				Sn		**Sn**	**20 39 09.8**	**-1.0**
GCPR				IAML			20 39 11.0	
	comp=N,828nm,0.4s							
GCPR				IAML			20 39 11.2	
	comp=E,831nm,0.5s							
SJG	**San Juan**	**1.22**	**239**	*eP*		**Pn**	**20 38 57.1**	**+1.0**
SJG	**San Juan**	**1.22**	**239**	*eS*		**Sn**	**20 39 13.5**	**-0.2**
SJG	**San Juan**	**1.22**	**239**			**Pn**	**20 38 56.6**	**+0.5**
SJG				IAML			20 39 15.1	
	comp=E,910nm,0.2s							
SJG				IAML			20 39 15.3	
	comp=E,1μm,0.4s							
SJG	**San Juan**	**1.22**	**239**	Sn		**Sn**	**20 39 12.8**	**-0.9**
SJG	**San Juan**	**1.22**	**239**	*ePg*		**Pn**	**20 38 58.2**	**+2.1**
IGPR	**InterUniversit**	**1.27**	**233**	*eP*		**Pn**	**20 38 57.5**	**+0.8**
IGPR	**InterUniversit**	**1.27**	**233**	*eS*		**Sn**	**20 39 14.1**	**-0.6**
IGPR	**InterUniversit**	**1.27**	**233**			**Pn**	**20 38 57.5**	**+0.8**
IGPR						**Sn**	**20 39 14.1**	**-0.6**
CELP	**Cerrillos**	**1.60**	**246**	Pn		**Pn**	**20 39 01.1**	**+0.5**
CELP				Sn		**Sn**	**20 39 20.6**	**-1.1**
OBIP	**Obispado Ponce**	**1.64**	**245**	*eP*		**Pn**	**20 39 02.1**	**+1.0**
OBIP	**Obispado Ponce**	**1.64**	**245**	*eS*		**Sn**	**20 39 22.2**	**-0.3**
OBIP	**Obispado Ponce**	**1.64**	**245**			**Sn**	**20 39 22.2**	**-0.3**
OBIP	**Obispado Ponce**	**1.64**	**245**			**Pn**	**20 39 01.3**	**+0.3**
OBIP	**Obispado Ponce**	**1.64**	**245**	IAML			20 39 24.0	
	comp=E,452nm,0.5s							
OBIP				IAML			20 39 25.1	
	comp=N,632nm,0.5s							
AOPR	**Arecibo Observ**	**1.67**	**257**	*eP*		**Pn**	**20 39 02.2**	**+0.7**
AOPR	**Arecibo Observ**	**1.67**	**257**			**Sn**	**20 39 22.7**	**-0.6**
AOPR	**Arecibo Observ**	**1.67**	**257**			**Pn**	**20 39 02.0**	**+0.5**
AOPR	**Arecibo Observ**	**1.67**	**257**	IAML			20 39 26.8	
	comp=E,2μm,0.3s							
AOPR				IAML			20 39 26.9	
	comp=N,1μm,0.3s							
AOPR	**Arecibo Observ**	**1.67**	**257**	*eP*		**Pn**	**20 39 02.4**	**+0.9**
AOPR				*eS*		**Sn**	**20 39 22.6**	**-0.6**
AOPR	**Arecibo Observ**	**1.67**	**257**	*ePg*		**Pn**	**20 39 02.2**	**+0.7**
AOPR				IAML			20 39 26.9	
	comp=N,1μm,0.2s							
GBPR	**Guanica, Bosqu**	**1.90**	**247**	*eP*		**Pn**	**20 39 05.5**	**+1.1**
GBPR	**Guanica, Bosqu**	**1.90**	**247**	*eS*		**Sn**	**20 39 28.2**	**-0.2**
GBPR	**Guanica, Bosqu**	**1.90**	**247**			**Pn**	**20 39 05.5**	**+1.1**
GBPR						**Sn**	**20 39 28.2**	**-0.2**
AGPR	**Aguadilla, PR**	**1.98**	**262**	*iP*		**Pn**	**20 39 06.2**	**+0.9**
AGPR	**Aguadilla, PR**	**1.98**	**262**			**Pn**	**20 39 06.2**	**+0.9**
AGPR				IAML			20 39 30.5	
	comp=E,841nm,0.3s							
AGPR				IAML			20 39 30.8	
	comp=N,733nm,0.2s							
AGPR	**Aguadilla, PR**	**1.98**	**262**			**Sn**	**20 39 29.3**	**-0.9**
AGPR	**Aguadilla, PR**	**1.98**	**262**	*ePg*		**Pn**	**20 39 07.0**	**+1.6**
AGPR				IAML			20 39 35.8	
	comp=N,649nm,0.2s							
AGPR	**Aguadilla, PR**	**1.98**	**262**	*i* P		**Pn**	**20 39 06.1**	**+0.8**
AGPR				*eS*		**Sn**	**20 39 29.6**	**-0.6**
AGPR				IAML			20 39 32.9	
	comp=Z,362nm,0.1s							
SMRT	**St. Maarten**	**1.99**	**110**	*iP*		**Pn**	**20 39 06.5**	**+1.0**
SMRT	**St. Maarten**	**1.99**	**110**	*eS*		**Sn**	**20 39 29.9**	**-0.6**
SMRT	**St. Maarten**	**1.99**	**110**			**Pn**	**20 39 06.5**	**+1.0**
SMRT	**St. Maarten**	**1.99**	**110**			**Sn**	**20 39 29.9**	**-0.6**
LSP	**Las Mesas**	**2.02**	**254**	*eP*		**Pn**	**20 39 06.9**	**+1.0**
LSP	**Las Mesas**	**2.02**	**254**	*eS*		**Sn**	**20 39 30.9**	**-0.3**
LSP	**Las Mesas**	**2.02**	**254**			**Pn**	**20 39 06.9**	**+1.0**
LSP						**Sn**	**20 39 30.9**	**-0.3**
SABA	**Saba**	**2.04**	**123**	*iP*		**Pn**	**20 39 07.0**	**+0.7**
SABA	**Saba**	**2.04**	**123**	*eS*		**Sn**	**20 39 31.2**	**-0.5**
SABA	**Saba**	**2.04**	**123**			**Sn**	**20 39 31.2**	**-0.5**
SABA	**Saba**	**2.04**	**123**			**Pn**	**20 39 06.8**	**+0.6**
SABA	**Saba**	**2.04**	**123**	IAML			20 39 36.8	
	comp=E,1μm,0.5s							
SABA				IAML			20 39 37.0	
	comp=N,607nm,0.5s							
MLPR	**Magueyes Islan**	**2.05**	**248**	*eP*		**Pn**	**20 39 07.0**	**+0.8**
MLPR	**Magueyes Islan**	**2.05**	**248**	*eS*		**Sn**	**20 39 31.0**	**-0.8**
MLPR	**Magueyes Islan**	**2.05**	**248**			**Sn**	**20 39 31.0**	**-0.8**
MLPR	**Magueyes Islan**	**2.05**	**248**			**Pn**	**20 39 06.6**	**+0.4**
MLPR	**Magueyes Islan**	**2.05**	**248**	IAML			20 39 32.6	
	comp=E,317nm,0.5s							
MLPR				IAML			20 39 33.9	
	comp=N,306nm,0.4s							
MLPR	**Magueyes Islan**	**2.05**	**248**	*ePg*		**Pn**	**20 39 07.0**	**+0.8**
MLPR				IAML			20 39 33.9	
	comp=N,170nm,0.3s							
PRSN	**Puerto Rico Se**	**2.06**	**256**	*eP*		**Pn**	**20 39 07.3**	**+1.0**
PRSN	**Puerto Rico Se**	**2.06**	**256**	*eS*		**Sn**	**20 39 31.1**	**-1.0**
PRSN	**Puerto Rico Se**	**2.06**	**256**			**Sn**	**20 39 31.1**	**-1.0**
PRSN	**Puerto Rico Se**	**2.06**	**256**			**Pn**	**20 39 07.2**	**+0.8**
PRSN	**Puerto Rico Se**	**2.06**	**256**	IAML			20 39 35.7	
	comp=E,1μm,0.2s							
PRSN				IAML			20 39 37.0	
	comp=N,1μm,0.3s							
PRSN	**Puerto Rico Se**	**2.06**	**256**	*ePg*		**Pn**	**20 39 07.0**	**+0.6**
PRSN				IAML			20 39 37.0	
	comp=N,1μm,0.2s							
CRPR	**Cabo Rojo, PR**	**2.09**	**250**	*iP*		**Pn**	**20 39 07.8**	**+1.0**
CRPR	**Cabo Rojo, PR**	**2.09**	**250**	*eS*		**Sn**	**20 39 31.8**	**-1.0**
CRPR	**Cabo Rojo, PR**	**2.09**	**250**			**Sn**	**20 39 31.8**	**-1.0**
CRPR	**Cabo Rojo, PR**	**2.09**	**250**			**Pn**	**20 39 07.7**	**+0.9**
CRPR	**Cabo Rojo, PR**	**2.09**	**250**	IAML			20 39 34.5	
	comp=E,194nm,0.5s							
CRPR				IAML			20 39 36.8	
	comp=N,213nm,0.2s							
CRPR	**Cabo Rojo, PR**	**2.09**	**250**	*i* P		**Pn**	**20 39 07.7**	**+0.9**
CRPR				*eS*		**Sn**	**20 39 29.6**	**-3.2**
CRPR				IAML			20 39 38.2	
	comp=Z,361nm,1.2s							
IDE	**Isla Desecheo**	**2.33**	**262**	*eP*		**Pn**	**20 39 11.0**	**+1.1**
IDE	**Isla Desecheo**	**2.33**	**262**	*eS*		**Sn**	**20 39 37.5**	**-0.9**
IDE	**Isla Desecheo**	**2.33**	**262**			**Pn**	**20 39 11.0**	**+1.1**
IDE						**Sn**	**20 39 37.5**	**-0.9**
PCDR	**Punta Cana, DR**	**3.17**	**266**	*eP*		**Pn**	**20 39 22.5**	**+1.5**
PCDR	**Punta Cana, DR**	**3.17**	**266**	*eS*		**Sn**	**20 39 57.7**	**-0.5**
PCDR	**Punta Cana, DR**	**3.17**	**266**			**Pn**	**20 39 22.4**	**+1.5**
PCDR				IAML			20 40 08.4	
	comp=N,178nm,1.0s							
PCDR	**Punta Cana, DR**	**3.17**	**266**			**Sn**	**20 39 57.7**	**-0.5**
PCDR	**Punta Cana, DR**	**3.17**	**266**	*i* P		**Pn**	**20 39 22.5**	**+1.5**
MBFL	**Flemmings, Mon**	**3.35**	**126**	*eP*		**Pn**	**20 39 23.4**	**0.0**
ANBD	**Bethesda, Anti**	**3.55**	**118**	*eP*		**Pn**	**20 39 25.2**	**-0.8**
MIDR	**Miches**	**3.80**	**274**	*ePg*		**Pn**	**20 39 28.5**	**-0.9**
MIDR				IAML			20 40 12.3	
	comp=N,26nm,0.6s							
ABD	**La Joyeuse, An**	**4.07**	**123**	Pn		**Pn**	**20 39 32.3**	**-0.8**
ABD				IAML			20 41 37.5	
	comp=N,112nm,1.9s							
ABD				IAML			20 42 15.8	
	comp=E,144nm,2.1s							
ABD	**La Joyeuse, An**	**4.07**	**123**	*eP*		**Pn**	**20 39 32.3**	**-0.8**
CBE	**Ff, Capester**	**4.22**	**128**			**Pn**	**20 39 35.4**	**+0.2**
CBE						**Sn**	**20 40 24.2**	**+0.7**
CBE	**Ff, Capester**	**4.22**	**128**	IAML			20 40 25.2	
	comp=N,156nm,0.5s							
CBE				IAML			20 40 59.5	
	comp=E,150nm,0.5s							
CBE	**Ff, Capester**	**4.22**	**128**	*eP*		**Pn**	**20 39 34.8**	**-0.3**
SDDR	**Presa de Saban**	**5.92**	**273**			**Pn**	**20 39 58.4**	**+0.3**
SDDR	**Presa de Saban**	**5.92**	**273**	*i* P		**Pn**	**20 39 59.5**	**+1.5**

*TEH **22** 20:40:09.6, 36°.10N×53°.13E, h20km±12km, ML3.5*
*AZER **22** 20:40:14.6±1.1, 36°.45N×52°.83E, h5km, Error ellipse: s-maj=15.2km s-min=7.8km az=45.0*

ISC 22 20:40:09.1±0.8, 36°.14N±0°.03×53°.13E±0°.03, h10km, n64, σ1°59/89, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IALA	**Alasht**	**0.26**	**257**	Pg		**Pb**	**20 40 16.2**	**+0.1**
IALA				Sg		**Sb**	**20 40 20.9**	**+0.1**
IFIR	**Firoozkooh**	**0.58**	**211**	Pg		**Pg**	**20 40 20.7**	**+0.2**
IPRN	**Peran**	**0.65**	**279**	Pg		**Pg**	**20 40 22.4**	**+0.8**
IPRN				Sg		**Sb**	**20 40 32.5**	**+0.9**
IGLO	**Ghaloghah**	**0.67**	**58**	Pg		**Pg**	**20 40 23.3**	**+1.2**
ILAS	**Lasjerd**	**0.77**	**190**	Pg		**Pg**	**20 40 24.1**	**+0.1**
ILAS				Sg		**Sb**	**20 40 34.7**	**-0.7**
IANJ	**Anjilo**	**0.93**	**136**	Pg		**Pg**	**20 40 26.8**	**-0.2**
IANJ				Sg		**Sg**	**20 40 39.0**	**-0.2**
IDMV	**Damavand**	**1.05**	**238**	Pg		**Pg**	**20 40 29.1**	**-0.2**
IDMV				Sg		**Sb**	**20 40 44.1**	**+0.6**
MZPU	**Pul - Mazandar**	**1.29**	**284**	Pg		**Pn**	**20 40 33.5**	**+0.1**
MZPU				Sg		**Sn**	**20 40 52.0**	**+1.1**
TEH	**Tehran**	**1.47**	**255**	Pg		**Pn**	**20 40 36.7**	**+0.9**
IVRN	**Varamin**	**1.62**	**225**	Pg		**Pn**	**20 40 38.1**	**+0.4**
IHSB	**Hasanabad**	**1.66**	**245**	Pg		**Pb**	**20 40 39.8**	**0.0**
KLST	**Kelardasht - M**	**1.71**	**283**	Pg		**Pn**	**20 40 40.5**	**+1.3**
ISFB	**Sefidab**	**1.93**	**202**	Pn		**Pn**	**20 40 42.5**	**+0.5**
IMHD	**Mahdasht**	**2.05**	**258**	Pn		**Pn**	**20 40 45.4**	**+1.7**
IQOM	**Qom**	**2.12**	**233**	Pn		**Pn**	**20 40 45.5**	**+0.7**
IMND	**Minoodasht**	**2.14**	**58**	Pn		**Pn**	**20 40 45.4**	**+0.5**
KRSH	**Karshahi**	**2.32**	**201**	Pn		**Pn**	**20 40 47.7**	**+0.8**
LHJ2	**Lahijan - Gila**	**2.67**	**293**	Pn		**Pn**	**20 40 52.2**	**+0.1**
IRAZ	**Razeghan**	**2.70**	**255**	Pn		**Pn**	**20 40 53.5**	**+0.7**
JIR1	**Jirandeh**	**2.74**	**283**	Pn		**Pn**	**20 40 54.9**	**+1.7**
QAMS	**Qamsar**	**2.79**	**211**	Pn		**Pn**	**20 40 54.7**	**+0.7**
MRVT	**Maraveh tapeh**	**2.82**	**57**	Pn		**Pn**	**20 40 55.3**	**+1.1**
ANAR	**Anarak**	**2.99**	**170**	Pn		**Pn**	**20 40 57.3**	**+0.6**
IKLH	**Kolahrood**	**3.09**	**205**	Pn		**Pn**	**20 40 58.9**	**+0.7**
QSDN	**Sirdan**	**3.21**	**278**	Pn		**Pn**	**20 41 01.1**	**+1.3**
IZEF	**Zefreh**	**3.31**	**192**	Pn		**Pn**	**20 41 01.8**	**+0.7**
HAGD	**Aghdareh**	**3.51**	**249**	Pn		**Pn**	**20 41 05.1**	**+1.2**
TNSJ	**Nastanj**	**3.59**	**126**	Pn		**Pn**	**20 41 05.2**	**+0.3**
SBZV	**Sabzevar**	**3.63**	**85**	Pn		**Pn**	**20 41 07.1**	**+1.6**
GAS1	**Astara - Iran**	**4.09**	**304**	Pn		**Pn**	**20 41 11.8**	**+0.2**
TKDS	**Koohdasht(Taba**	**4.14**	**126**	Pn		**Pn**	**20 41 14.4**	**+1.9**
ASTR	**Astara**	**4.21**	**306**	P		**Pn**	**20 41 13.3**	**0.0**
ASTR				S		**Sn**	**20 42 00.3**	**-2.3**
TPRV	**Parvadeh(Tabas**	**4.28**	**136**	Pn		**Pn**	**20 41 15.7**	**+1.4**
LKRN	**Lenkeran, Azer**	**4.30**	**308**	P		**Pn**	**20 41 14.5**	**0.0**
	SNR=6.9							
LKRN				S		**Sn**	**20 42 02.7**	**-2.1**
IRAM	**Ramesheh**	**4.37**	**188**	Pn		**Pn**	**20 41 16.6**	**+0.9**
LRK	**Lerik**	**4.55**	**305**	P		**Pn**	**20 41 18.1**	**-0.1**
	SNR=6.5							
LRK				S		**Sn**	**20 42 08.6**	**-2.6**
IEMG	**Emamgholi**	**4.61**	**72**	Pn		**Pn**	**20 41 20.6**	**+1.5**
ISRB	**Sarab**	**4.68**	**293**	Pn		**Pn**	**20 41 21.7**	**+1.7**
YRD	**Yardimli**	**4.77**	**307**	P		**Pn**	**20 41 20.9**	**-0.2**
	SNR=16							
YRD				S		**Sn**	**20 42 13.5**	**-3.0**
GLBA	**Clilabad**	**4.86**	**311**	P		**Pn**	**20 41 22.5**	**+0.3**
GLBA				S		**Sn**	**20 42 17.5**	**-1.1**
GRMI	**Germi**	**4.94**	**304**	Pn		**Pn**	**20 41 23.9**	**+0.4**
ALIB	**Äli-Bayra**	**5.01**	**321**	S		**Sn**	**20 42 23.4**	**+1.3**
IHRS	**Heris**	**5.32**	**296**	Pn		**Pn**	**20 41 29.8**	**+1.1**
AFRZ	**Afriz**	**5.55**	**118**	Pn		**Pn**	**20 41 33.4**	**+1.5**
QRD	**Qoradiz**	**5.67**	**308**	S		**Sn**	**20 42 37.7**	**-0.7**
ATGJ	**Altiaghaj**	**5.74**	**326**	P		**Pn**	**20 41 35.9**	**+1.5**
ATGJ				S		**Sn**	**20 42 39.7**	**-0.7**
KDMR	**Kurdemir**	**5.74**	**319**	S		**Sn**	**20 42 38.8**	**-1.4**
PQL	**Pirkuli**	**5.84**	**324**	P		**Pn**	**20 41 37.5**	**+1.6**
PQL				S		**Sn**	**20 42 41.5**	**-1.5**
SIZA	**Siyzn**	**5.93**	**327**	S		**Sn**	**20 42 44.1**	**-1.0**
ZRD	**Zardab**	**5.95**	**316**	S		**Sn**	**20 42 44.7**	**-0.7**
IML	**Ismayilli**	**6.05**	**322**	S		**Sn**	**20 42 44.7**	**-3.2**
AGDM	**Agdam**	**6.18**	**312**	P		**Pn**	**20 41 40.7**	**+0.4**
AGDM				S		**Sn**	**20 42 49.7**	**-1.3**
BRDA	**Brd**	**6.23**	**313**	P		**Pn**	**20 41 42.5**	**+1.5**
BRDA				S		**Sn**	**20 42 51.7**	**-0.6**
ORD	**Ordubad**	**6.31**	**298**	P		**Pn**	**20 41 45.0**	**+2.7**
ORD				S		**Sn**	**20 42 57.6**	**+3.2**
QBL	**Gabala**	**6.34**	**321**	P		**Pn**	**20 41 43.3**	**+0.7**
QBL				S		**Sn**	**20 42 51.1**	**-3.9**
QUBA	**Quba, Azerbaij**	**6.34**	**327**	P		**Pn**	**20 41 44.0**	**+1.5**
QUBA				S		**Sn**	**20 42 52.5**	**-2.5**
XNQ	**Khinaliq**	**6.36**	**324**	P		**Pn**	**20 41 43.3**	**+0.3**
XNQ				S		**Sn**	**20 42 53.0**	**-2.7**
QSAR	**Qusar**	**6.57**	**326**	S		**Sn**	**20 42 57.8**	**-3.0**
SEKA	**Sheki**	**6.86**	**319**	P		**Pn**	**20 41 50.2**	**+0.4**
SEKA				S		**Sn**	**20 43 04.6**	**-3.4**
GANJ	**Ganja**	**6.98**	**312**	P		**Pn**	**20 41 51.3**	**-0.1**
GANJ				S		**Sn**	**20 43 06.6**	**-4.2**
VSHL	**Vashlovani**	**7.31**	**316**	P		**Pn**	**20 41 57.1**	**+1.2**
VSHL				S		**Sn**	**20 43 16.5**	**-2.5**
GDB	**GEDABAY**	**7.37**	**311**	P		**Pn**	**20 41 57.5**	**+0.6**
	SNR=14							
GDB				S		**Sn**	**20 43 17.3**	**-3.4**
ZKTA	**Zakatala**	**7.47**	**319**	P		**Pn**	**20 41 59.7**	**+1.6**
ZKTA				S		**Sn**	**20 43 20.1**	**-2.7**
QZX	**Qazax, Azerbai**	**7.80**	**311**	P		**Pn**	**20 42 03.4**	**+0.7**
QZX				S		**Sn**	**20 43 28.7**	**-2.4**

*IDC **22** 20:43:46.7±1.2, 56°.47N×34°.50W, h0km, mb3.5/11, mbtmp3.6/12, ML3.1/1, MS3.3/10, Error ellipse: s-maj=34.7km s-min=17.8km az=19.0*

ISC 22 20:43:49.9±1.0, 56°.5N±0°.2×34°.5W±0°.1, h22km, n25, σ0°58/13, mb3.5/11, MS3.3/7, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BORG	**Borgarnes**	**10.51**	**33**	LR		LR	20 48 33.7	
	comp=Z,74nm,18.9s,baz=213,slow=27							
SFJD	**Kangerlussuaq**	**12.96**	**331**	LR		LR	20 50 59.4	
	comp=Z,181nm,18.9s,baz=158,slow=33							
SCHQ	**Schefferville**	**18.21**	**278**	LR		LR	20 53 29.6	
	comp=Z,119nm,18.6s,baz=56,slow=32							
FRB	**Frobisher Bay**	**18.25**	**307**	P		**Pn**	**20 48 00.3**	**-1.0**
	0.1nm,0.3s,baz=107,slow=11,SNR=4.5							
	8.3nm,1.1s							
NOA	**NORSAR Array B**	**23.77**	**60**	P		**P**	**20 49 00.0**	**-0.4**
	0.6nm,0.8s,baz=294,slow=7.0,SNR=1.9							
	0.6nm,0.8s							
HFS	**Hagfors**	**25.15**	**61**	P		**P**	**20 49 13.5**	**+0.5**
	1.7nm,0.7s,baz=275,slow=16,SNR=1.9							
	1.7nm,0.7s							
ESDC	**Sonseca Array**	**26.14**	**117**	P		**P**	**20 49 22.4**	**+0.2**
	0.3nm,0.8s,baz=312,slow=8.4,SNR=2.2							
ESDC				LR		LR	20 57 26.6	
	comp=Z,50nm,19.0s,baz=339,slow=31							
	0.3nm,0.8s							
DAVOX	**Davos/Dischmat**	**28.75**	**91**	LR		LR	20 59 41.4	
	comp=Z,52nm,18.4s,baz=310,slow=33							
RES	**Resolute Bay**	**28.96**	**332**	LR		LR	21 00 59.7	
	comp=Z,48nm,20.5s,baz=350,slow=36							
AKASG	**Malin Array Be**	**37.06**	**71**	P		**P**	**20 50 57.8**	**0.0**
	0.1nm,0.3s,baz=308,slow=8.7,SNR=2.2							
	0.1nm,0.3s							
YKA	**Yellowknife Ar**	**38.62**	**313**	P		**P**	**20 51 11.5**	**+0.6**
	0.4nm,0.6s,baz=58,slow=9.0,SNR=5.2							
	0.4nm,0.6s							
INK	**Inuvik**	**42.26**	**327**	LR		LR	21 07 42.1	
	comp=Z,54nm,18.4s,baz=186,slow=34							
DLBC	**Dease Lake**	**47.18**	**314**	LR		LR	21 11 21.8	
	comp=Z,75nm,18.5s,baz=128,slow=35							
PDAR	**Pinedale Array**	**48.05**	**287**	P		**P**	**20 52 27.2**	**-0.3**
	0.3nm,0.7s,baz=75,slow=4.8,SNR=1.5							
	0.3nm,0.7s							
ILAR	**Eielson Array**	**48.61**	**328**	P		**P**	**20 52 32.1**	**+1.0**
	1.1nm,0.9s,baz=39,slow=5.5,SNR=11							
	1.1nm,0.9s							
TORD	**Torodi Ar. Bea**	**51.39**	**133**	P		**P**	**20 52 52.9**	**+0.1**
	0.7nm,0.7s,baz=358,slow=5.9,SNR=3.8							
	0.7nm,0.7s							
AKTO	**Aktyubinsk**	**51.41**	**55**	P		**P**	**20 52 52.6**	**0.0**
	1.1nm,0.7s,baz=325,slow=5.6,SNR=4.1							
	1.1nm,0.7s							
DBIC	**Dimbokro**	**54.91**	**143**	LR		LR	21 12 44.6	
	comp=Z,26nm,20.8s,baz=76,slow=32							
PFO	**Pinyon Flats O**	**58.43**	**284**	LR		LR	21 16 56.5	
	comp=Z,23nm,18.9s,baz=154,slow=34							
KURBB	**Kurchatov Arra**	**59.82**	**43**	P		**P**	**20 53 52.6**	**-0.3**
	0.8nm,0.3s,baz=325,slow=7.1,SNR=3.1							
	0.8nm,0.3s							
MKAR	**Makanchi Array**	**64.38**	**43**	P		**P**	**20 54 23.4**	**-0.3**
	0.1nm,0.6s,baz=335,slow=5.9,SNR=1.3							
	0.1nm,0.6s							
H10N2	**ASCENSION HYDR**	**66.18**	**158**	T		T	22 06 41.7	
	baz=349							
H10N3	**ASCENSION HYDR**	**66.19**	**158**	T		T	22 06 47.6	
	baz=349							
H10N1	**ASCENSION HYDR**	**66.20**	**158**	T		T	22 06 49.9	
	baz=349							
ASAR	**Alice Springs**	**146.15**	**19**	PKPbc		**PKPbc**	**21 03 27.4**	**-0.6**
	0.3nm,0.7s,baz=332,slow=2.6,SNR=2.4							

*UPA **22** 21:08:49.3±0.5, 8°.60N×84°.12W, h2km±25km, MD3.7*
*CATAC **22** 21:08:53.1±0.6, 8°.60N×83°.88W, h2km±3km, ML3.7*
*UCR **22** 21:08:54.3±1.2, 8°.66N×83°.86W, h10km, MW4.1*

ISC 22 21:08:54.3±1.3, 8°.69N±0°.04×83°.86W±0°.03, h9km±10km, n62, σ1°29/84, 1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OCHAL	**Ojochal**	**0.46**	**27**	*i* P		**Pg**	**21 09 02.7**	**-0.6**
OCHAL				*i* S		**Sg**	**21 09 10.6**	**+1.3**
OCHAL				IAML			21 09 11.3	
	comp=Z,51nm,1.0s							
EDPN	**Palmar Norte**	**0.48**	**55**	*eP*		**Pg**	**21 09 03.7**	**+0.1**
JIME	**Puerto Jimenez**	**0.55**	**106**	*eP*		**Pb**	**21 09 05.8**	**-0.2**
PIRO	**Carate, Puerto**	**0.58**	**119**	*eP*		**Pb**	**21 09 05.9**	**-0.9**
EDAD	**Golfito**	**0.68**	**93**	*eP*		**Pg**	**21 09 07.2**	**-0.3**
SRBA	**San Rafael, Bu**	**0.73**	**42**	*eP*		**Pg**	**21 09 07.8**	**-0.6**
SRBA	**San Rafael, Bu**	**0.73**	**42**	*i* P		**Pg**	**21 09 07.8**	**-0.6**
SRBA				*i* S		**Sg**	**21 09 19.8**	**+1.8**
SRBA				IAML			21 09 22.4	
	comp=Z,2μm,1.0s							
EDBA	**Buenos Aires**	**0.74**	**50**	*eP*		**Pg**	**21 09 07.9**	**-0.7**
SVQ2	**Quepos**	**0.80**	**338**	*eP*		**Pg**	**21 09 08.1**	**-1.7**
POTG	**Potrero Grande**	**0.81**	**63**	*eP*		**Pg**	**21 09 09.4**	**-0.6**
POTG	**Potrero Grande**	**0.81**	**63**	*i* P		**Pg**	**21 09 09.8**	**-0.2**

IDHR	**Dehrash**	**0.20**	**27**	Pg		**Pg**	21 24 46.0	**+0.2**
IGHG	**Ghaleghazi**	**0.31**	**129**	Pg		**Pg**	21 24 47.8	**-0.1**
KGS1	**Ghasr-e-Shirin**	**0.57**	**268**	Pg		**Pb**	21 24 53.0	**-0.6**
KCHF	**Cheshme Sefid,**	**0.68**	**111**	Pg		**Pg**	21 24 54.1	**-0.6**
ILIN	**Lien**	**0.69**	**55**	Pg		**Pb**	21 24 55.2	**-0.7**
ILBA	**Ilam Banvizeh**	**0.90**	**184**	Pg		**Pb**	21 24 58.1	**-1.2**
IKOM	**Komasi**	**1.08**	**109**	Pg		**Pg**	21 25 02.6	**+0.3**
IBDR	**Badra**	**1.44**	**192**	*e*Pn		**Pb**	21 25 08.0	**-0.5**
IBDR				*e*Sn		**Sg**	21 25 29.0	**+1.1**
IBDR				AML	AML		21 25 37.0	
	comp=E,165nm,0.7s							
IBDR				AML	AML		21 25 40.6	
	comp=N,103nm,0.2s							
IKFM	**Kafar-mosalman**	**1.64**	**127**	Pg		**Pg**	21 25 12.6	**-0.5**
BHD	**Baghdad**	**2.01**	**232**	*e*Pn		**Pn**	21 25 16.0	**+0.4**
BHD				*e*Sn		**Sb**	21 25 42.0	**-1.4**
RAFI	**Al-Rafai**	**2.80**	**183**	*e*Pn		**Pn**	21 25 27.0	**+0.6**
RAFI				*e*Sn		**Sn**	21 26 01.5	**+1.4**

FUNV ***22*** *21:29:13.4, 10.′09N×72.′83W, h19km, MW3.4*
RSNC ***22*** *21:29:13.0±1.4, 9.′99N×72.′81W, h10km±6km, ML2.4*

ISC 22 21:29:12.6±1.1, 10.′02N±0.′04×72.′84W±0.′03, h23km±11km, n16, σ1°02/27, 1C, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**0.30**	**84**	*e*P		**Pb**	21 29 19.2	**-0.3**
MCQV				*e*S		**Sb**	21 29 24.8	**+0.6**
LL6C	**La Loma 6 Bece**	**0.51**	**236**	*i*P		**Pb**	21 29 21.9	**-1.0**
CRJC	**Cerrejon, Guaj**	**0.99**	**358**	*e*P		**Pn**	21 29 31.1	**-0.3**
CRJC				*e*S		**Sb**	21 29 45.6	**+1.6**
CRJC				*i*			21 29 48.8	
	comp=Z,244nm,0.2s							
ARGC	**Ariguani, Magd**	**1.40**	**263**	*e*P		**Pn**	21 29 37.5	**+0.7**
ARGC				*i*			21 29 57.2	
	comp=Z,39nm,0.4s							
ARGC				*e*S		**Sb**	21 29 57.3	**+1.8**
SMRC	**Santa Marta, M**	**1.77**	**310**	*e*P		**Pn**	21 29 41.6	**-0.3**
SMRC				*e*S		**Sn**	21 30 03.3	**-0.6**
OCAC	**Ocana**	**1.83**	**195**	*e*P		**Pn**	21 29 43.9	**+1.0**
OCAC				*e*S		**Sn**	21 30 06.5	**+1.0**
CAPV	**Capacho**	**2.20**	**166**	*e*P		**Pn**	21 29 49.5	**+1.5**
CAPV				*e*S		**Sb**	21 30 17.0	**-1.9**
SJCC	**San Jacinto, C**	**2.31**	**267**	*e*P		**Pb**	21 29 52.1	**-1.5**
SJCC				*e*S		**Sb**	21 30 23.2	**+1.4**
SDV	**Santo Domingo**	**2.45**	**117**	*e*P		**Pn**	21 29 51.9	**+0.4**
SDV				*e*S		**Sn**	21 30 22.0	**+1.2**
SOCV	**Socops**	**2.61**	**131**	*e*P		**Pn**	21 29 53.9	**+0.4**
SOCV				*e*S		**Sn**	21 30 24.6	**0.0**
PAMC	**Pamplona, Colo**	**2.67**	**177**	*e*P		**Pn**	21 29 54.4	**-0.3**
PAMC				*e*S		**Sn**	21 30 26.6	**+0.1**
PAMC				*i*			21 30 36.1	
	comp=Z,14nm,0.4s							
CURV	**Curarigua**	**2.83**	**90**	*e*P		**Pn**	21 29 56.7	**+0.1**
CURV				*e*S		**Sn**	21 30 29.6	**-0.6**
ZARC	**Zaragoza, Cauc**	**3.21**	**219**	*e*P		**Pn**	21 30 01.3	**-0.4**
ZARC				*e*S		**Sn**	21 30 39.7	**+0.4**
ZARC				*i*			21 30 51.2	
	comp=Z,6.2nm,0.4s							
BAUV	**El Baul**	**4.85**	**102**	*e*P		**Pn**	21 30 23.7	**-0.7**
BENV	**Beln**	**5.16**	**90**	*e*P		**Pn**	21 30 29.1	**+0.5**
CACV	**CAICARA DEL OR**	**6.69**	**111**	*e*P		Pn	21 30 55.2	+5.6

IDC 22 21:43:31.4±2.3, 6.′87S×129.′51E, h0km, mb3.3/1, mbtmp3.5/3, ML3.8/2, Error ellipse: s-maj=103.2km s-min=33.8km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.81**	**161**	Pn	Pn	21 46 48.2	-0.5
	0.5nm,0.3s,baz=340,slow=14,SNR=29						
WRA				Sn	Sn	21 49 12.0	-11
	1.7nm,0.3s,baz=344,slow=22,SNR=16						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**17.23**	**166**	Pn	Pn	21 47 34.0	+0.4
	0.2nm,0.3s,baz=352,slow=14,SNR=9.3						
ASAR				Sn	Sn	21 50 34.0	-12
	0.3nm,0.3s,baz=353,slow=27,SNR=8.6						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**67.85**	**327**	P	P	21 54 31.7	0.0
	0.2nm,0.6s,baz=126,slow=7.4,SNR=2.6						
	0.2nm,0.6s						

IDC ***22*** *21:43:30.6±6.9, 27.′59N×51.′86E, h0km, mb3.8/7, mbtmp3.8/8, ML3.3/1, MS3.2/2, Error ellipse: s-maj=131.3km s-min=32.7km az=179.0*
TEH ***22*** *21:43:35.3, 27.′80N×51.′93E, h19km±30km, ML3.5*
OMAN ***22*** *21:43:42.6±1.5, 27.′84N×52.′65E, h10km, mb4.3/5, ml3.7/10, Error ellipse: s-maj=17.2km s-min=6.8km az=9.0*

ISC 22 21:43:37.1±0.8, 27.′88N±0.′04×51.′99E±0.′05, h26km, n56, σ1°63/76, mb3.5/7, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	**Dashti - Bushe**	**0.81**	**307**	Pg	**Pb**	21 43 50.9	**-1.6**
QIR1	**Qir**	**1.10**	**57**	Pg	**Pn**	21 43 57.5	**+0.5**
AHBU	**AHRAM**	**1.16**	**328**	Pg	**Pn**	21 43 57.6	**-0.1**
AHBU				Sg	**Sb**	21 44 15.8	**+2.8**
LMD1	**Lamerd**	**1.17**	**117**	Pg	**Pn**	21 43 58.2	**+0.3**
JHRM	**Jahrom**	**1.53**	**66**	Pg	**Pb**	21 44 05.2	**+0.2**
SHI	**Shiraz**	**1.81**	**15**	Pn	**Pn**	21 44 09.2	**+2.3**
LAR1	**LAR**	**2.12**	**95**	Pn	**Pn**	21 44 12.6	**+1.6**
SAKB	**Bahrain**	**2.30**	**215**	Pn	**Pn**	21 44 12.3	**-1.0**
JRN	**Qarnain Island**	**3.02**	**165**	Pn	**Pn**	21 44 22.8	**-0.6**
TRNA	**Turayna**	**3.21**	**193**	P	**Pb**	21 44 35.0	**+1.6**
	SNR=9.1						
SMRA	**Abu-Samra**	**3.29**	**199**	P	**Pb**	21 44 38.0	**+3.1**
	SNR=28						
ESRB	**Sir Abu**	**3.32**	**142**	Pn	**Pn**	21 44 28.6	**+1.2**
IRAM	**Ramesheh**	**3.93**	**5**	Pn	**Pn**	21 44 37.1	**+1.1**
GHWR	**Ruwais**	**3.98**	**168**	Pn	**Pn**	21 44 36.0	**-0.5**
SHME	**Shamm**	**4.13**	**115**	P	**Pn**	21 44 40.0	**+1.4**
SHME				S	**Sn**	21 45 25.3	**-0.7**
IMEH	**Mehriz**	**4.18**	**32**	Pn	**Pn**	21 44 42.1	**+2.7**
AJN	**Ajban**	**4.26**	**140**	P	**Pn**	21 44 41.5	**+1.1**
	SNR=7.9						
AJN				S	**Sn**	21 45 30.0	**+0.8**
NAZ	**Nazwa, Dubai**	**4.37**	**130**	P	**Pn**	21 44 43.0	**+1.1**
NAZ				S	**Sn**	21 45 32.2	**+0.2**
ASUD	**Al Ashush, Dub**	**4.41**	**136**	P	**Pn**	21 44 43.3	**+0.9**
	SNR=23						
ASUD				S	**Sn**	21 45 33.7	**+0.7**
	SNR=6.4						
MASF	**Masafi**	**4.49**	**123**	P	**Pn**	21 44 44.2	**+0.6**
	SNR=5.2						
MASF				S	**Sn**	21 45 33.8	**-1.1**
FAQ	**Al Faqa, Dubai**	**4.49**	**133**	P	**Pn**	21 44 45.7	**+2.1**
FAQ				S	**Sn**	21 45 34.4	**-0.6**
MSFE	**Esma-Masafi**	**4.50**	**123**	Pn	**Pn**	21 44 44.2	**+0.6**
NGRK	**Negar Kerman**	**4.52**	**66**	Pn	**Pn**	21 44 45.4	**+1.2**
KHGB	**Koh Gabri**	**4.65**	**57**	Pn	**Pn**	21 44 47.5	**+1.6**
UOSS	**Minazif**	**4.78**	**127**	P	**Pn**	21 44 47.4	**-0.1**
UOSS				S	**Sn**	21 45 41.6	**-0.4**
UOSS	**Minazif**	**4.78**	**127**	Pn	**Pn**	21 44 47.4	**-0.1**
HATD	**Hatta, Dubai**	**4.80**	**128**	P	**Pn**	21 44 48.2	**+0.4**
HATD				S	**Sn**	21 45 41.6	**-1.0**
ICHK	**Chekchek**	**4.83**	**25**	Pn	**Pn**	21 44 50.1	**+1.7**
ASHO	**Ashiyiah**	**4.84**	**130**	P	**Pn**	21 44 48.6	**+0.2**
	SNR=15						
ASHO				S	**Sn**	21 45 43.0	**-0.7**
IZEF	**Zefreh**	**5.01**	**3**	Pn	**Pn**	21 44 52.4	**+1.6**
ALNE	**Al Ain**	**5.09**	**138**	P	**Pn**	21 44 50.8	**-1.1**
ALNE				S	**Sn**	21 45 47.2	**-2.6**
SOHO	**SOHO**	**5.53**	**131**	P	**Pn**	21 44 57.8	**0.0**
SOHO				S	**Sn**	21 46 00.4	**-0.3**
JASK	**Jask - Hormozg**	**5.62**	**110**	P	**Pn**	21 44 59.2	**+0.2**
	SNR=6.7						
JASK				S	**Sn**	21 46 02.0	**-0.7**
JASK	**Jask - Hormozg**	**5.62**	**110**	Pn	**Pn**	21 44 59.8	**+0.8**
KBAM	**BAM**	**5.82**	**76**	Pn	**Pn**	21 45 03.3	**+1.4**
ARQ	**Araqi**	**6.10**	**137**	P	**Pn**	21 45 05.2	**-0.5**
	SNR=20						
ARQ				S	**Sn**	21 46 13.6	**-1.1**
	SNR=6.2						
HOQ	**Hoqain**	**6.43**	**131**	P	**Pn**	21 45 10.5	**+0.4**
	SNR=5.7						
HOQ				S	**Sn**	21 46 20.1	**-2.7**
BSY	**Bisya**	**6.95**	**136**	P	**Pn**	21 45 17.0	**-0.4**
	SNR=20						
BSY				S	**Sn**	21 46 32.2	**-3.5**
	SNR=6.9						
BIDO	**Bidbid**	**7.03**	**127**	S	**Sn**	21 46 33.8	**-3.8**
SMDO	**Samad**	**7.28**	**130**	P	**Pn**	21 45 22.7	**+0.7**
SMDO				S	**Sn**	21 46 42.4	**-1.4**
WSAR	**Wadi Sarin**	**7.57**	**126**	P	**Pn**	21 45 26.6	**+0.8**
WSAR				S	**Sn**	21 46 47.5	**-3.3**
JMDO	**Jabal Madar**	**7.79**	**133**	P	**Pn**	21 45 29.0	**0.0**
JMDO				S	**Sn**	21 46 52.6	**-3.8**
WBK	**Wadi Bani Khal**	**8.21**	**128**	P	**Pn**	21 45 35.0	**+0.3**
	SNR=10.0						
WBK				S	**Sn**	21 47 02.3	**-4.4**
NGCH	**Negor - Chabah**	**8.56**	**105**	P	**Pn**	21 45 39.1	**-0.3**
NGCH				S	**Sn**	21 47 12.7	**-2.4**
MHTO	**MHTO**	**8.76**	**140**	P	**Pn**	21 45 42.3	**+0.2**
	SNR=17						
JLN	**Jalan Bani Buh**	**8.82**	**129**	P	**Pn**	21 45 42.7	**-0.2**
JLN				S	**Sn**	21 47 17.3	**-4.3**
GEYT	**Alibeck**	**11.26**	**26**	Pn	**Pn**	21 46 18.2	**+1.8**
	0.2nm,0.3s,baz=191,slow=14,SNR=2.0						
	1.6nm,0.6s						
BRTR	**Keskin Array B**	**19.25**	**313**	LR	LR	21 57 03.4	
	comp=Z,43nm,18.8s,baz=338,slow=42						
BVAR	**Borovoye Array**	**28.59**	**23**	P	**P**	21 49 29.7	**-1.2**
	0.2nm,0.3s,baz=208,slow=8.1,SNR=2.0						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**30.33**	**43**	P	**P**	21 49 46.9	**+0.4**
	0.7nm,0.9s,baz=240,slow=9.6,SNR=5.0						
	0.7nm,0.9s						
KURBB	**Kurchatov Arra**	**30.34**	**34**	P	**P**	21 49 46.8	**+0.2**
	0.6nm,0.8s,baz=234,slow=8.7,SNR=4.9						
	0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**35.42**	**34**	P	**P**	21 50 30.8	**-0.1**
	0.8nm,0.3s,baz=240,slow=10.0,SNR=6.3						
	0.8nm,0.3s						
FINES	**FINESS Array B**	**37.77**	**340**	P	**P**	21 50 49.7	**-1.0**
	3.8nm,1.0s,baz=148,slow=11,SNR=3.9						
	3.8nm,1.0s						
HFS	**Hagfors**	**41.37**	**332**	P	**P**	21 51 20.3	**-0.5**
	1.0nm,0.4s,baz=135,slow=8.1,SNR=12						
	1.0nm,0.4s						
NOA	**NORSAR Array B**	**42.90**	**332**	P	**P**	21 51 32.2	**-1.1**
	0.9nm,0.8s,baz=128,slow=8.5,SNR=1.4						
	0.9nm,0.8s						
LSZ	**Lusaka**	**48.71**	**211**	LR	LR	22 15 11.8	
	comp=Z,43nm,18.3s,baz=158,slow=39						

IDC ***22*** *22:16:52.9±2.2, 37.′60N×142.′68E, h0km, mb3.6/3, mbtmp3.5/4, ML2.0/1, Error ellipse: s-maj=47.5km s-min=32.9km az=62.0*
JMA ***22*** *22:16:53.2±0.2, 38.′4N±0.′5×142.′2E±0.′8, h31km±1km, MV3.5/39, E OFF MIYAGI PREF*
NIED ***22*** *22:16:53.2, 38.′37N×142.′21E, h31km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=1.51; Mθθ=1.28; Mϕϕ=0.23; Mrθ=0.67; Mθϕ=0.55; Mrϕ=0.47; Fault plane solution: Mo1.72000×10^14 NP1: ϕs=299.00000°, δ=59.00000°, λ=-84.00000°. NP2: ϕs=108.00000°, δ=31.00000°, λ=-100.00000°.*

ISC 22 22:16:49.3±2.0, 38.′23N±0.′04×142.′30E±0.′09, h15km±10km, n22, σ1°20/25, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.66**	**277**	*i*P	**Pn**	22 17 04.5	**+0.5**
JIKH				*e*S	**Sg**	22 17 12.3	**+1.3**
JIO	**Ouri**	**0.78**	**287**	*i*P	**Pn**	22 17 06.2	**+0.5**
JIO				S	**Sb**	22 17 15.2	**+0.3**
JKMT	**Kesennumamotoy**	**0.87**	**312**	*i*P	**Pn**	22 17 07.1	**+0.1**
JKMT				S	**Sb**	22 17 16.8	**-0.8**
OFUJ	**Ofunato**	**0.98**	**330**	*i*P	**Pg**	22 17 08.3	**0.0**
OFUJ				S	**Sb**	22 17 19.1	**-1.7**
JMK	**Ichinoseki**	**1.11**	**311**	*i*P	**Pg**	22 17 10.7	**-0.1**
JMK				*e*S	**Sb**	22 17 22.9	**-1.6**
JMM	**Marumori**	**1.24**	**254**	P	**Pg**	22 17 13.7	**+0.4**
JMM				*e*S	**Sn**	22 17 28.5	**0.0**
JOU	**Okura**	**1.29**	**277**	P	**Pg**	22 17 14.7	**+0.4**
JOU				S	**Sn**	22 17 30.1	**+0.2**
JFK	**Kawauchi**	**1.42**	**233**	*i*P	**Pg**	22 17 16.1	**-0.5**
JFK				S	**Sn**	22 17 32.7	**-0.3**
JOM	**Ohasama**	**1.47**	**328**	*i*P	**Pb**	22 17 15.9	**-0.4**
JOM				*e*S	**Sn**	22 17 32.4	**-1.8**
JYK	**Kaneyama**	**1.67**	**295**	P	**Pb**	22 17 19.9	**+0.1**
JOTO	**OTAMA OYAMA**	**1.69**	**247**	*i*P	**Pg**	22 17 21.2	**-0.5**
JOTO				S	**Sb**	22 17 41.5	**+0.3**
JRG	**Rokugo**	**1.75**	**312**	P	**Pb**	22 17 20.7	**-0.3**
MJAR	**Matsushiro Arr**	**3.67**	**244**	Pn	**Pb**	22 17 50.2	**-3.6**
	0.1nm,0.3s,baz=86,slow=15,SNR=2.9						
MJAR				Sn	**Sb**	22 18 38.5	**+0.4**
	0.2nm,0.3s,baz=81,slow=30,SNR=2.7						
	0.8nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.19**	**124**	T	T	22 52 31.9	
	baz=317,slow=75,SNR=37						
H11N1	**WAKE ISLAND Hy**	**28.20**	**124**	T	T	22 52 51.1	
	baz=317,slow=75,SNR=35						
H11N3	**WAKE ISLAND Hy**	**28.21**	**124**	T	T	22 52 30.1	
	baz=317,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy**	**28.95**	**126**	T	T	22 53 23.9	
	baz=318,slow=76,SNR=6.6						
H11S3	**WAKE ISLAND Hy**	**28.95**	**126**	T	T	22 53 36.2	
	baz=318,slow=76,SNR=9.2						
H11S2	**WAKE ISLAND Hy**	**28.97**	**126**	T	T	22 53 34.2	
	baz=318,slow=76,SNR=5.8						
MKAR	**Makanchi Array**	**44.09**	**301**	P	P	22 25 07.7	**+11**
	0.6nm,0.8s,baz=88,slow=7.3,SNR=4.2						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**45.83**	**307**	P	P	22 25 20.9	**+10**
	1.2nm,0.5s,baz=81,slow=8.3,SNR=7.0						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**58.34**	**189**	P	**P**	**22 26 45.8**	**+2.0**
	0.2nm,0.4s,baz=7.4,slow=6.8,SNR=5.7						
	0.2nm,0.4s						

BJI ***22*** *22:28:19.9, 53.′90N×161.′03E, h62km, mb4.7/52, mB5.0/30, Ms4.2/6, Ms7 4.1/10*
KRSC ***22*** *22:28:23.1±0.7, 53.′76N×160.′75E, h55km±15km, Ml5.5*
IDC ***22*** *22:28:24.8±0.5, 53.′91N×160.′36E, h57km±4km, mb4.3/40, mbtmp4.6/43, MS3.8/55, Error ellipse: s-maj=10.4km s-min=7.8km az=160.0*
MOS ***22*** *22:28:24.8±0.9, 53.′82N×160.′51E, h75km, mb5.0/80, Error ellipse: s-maj=5.9km s-min=3.2km az=80.4*
NEIC ***22*** *22:28:26.1±1.3, 53.′84N±0.′08×160.′4E±0.′1, h69km±6km, mb4.9/549, Error ellipse: s-maj=13.0km s-min=9.6km az=131.0*

ISC 22 22:28:24.5±0.3, 53.′80N±0.′03×160.′57E±0.′03, h57km±2km, h57km:pP-P, n1274, σ1°10/1317, mb4.9/383, MS3.9/61, 40C-28D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.70**	**290**	*e*P	**Pn**	22 28 39.4	**+0.7**
KII	**Karymskiy**	**0.70**	**290**	PN	**Pn**	22 28 39.4	**+0.7**
SPN	**Mys Shipunski**	**0.77**	**205**	*e*P	**Pn**	22 28 38.7	**-0.8**
SPN				*e*S	**Sn**	22 28 49.4	**-1.0**
SPN	**Mys Shipunski**	**0.77**	**205**	PN	**Pn**	22 28 38.7	**-0.8**
SPN				S	**Sn**	22 28 49.4	**-1.0**
NLC	**Nalytchevo**	**0.96**	**230**	*e*P	**Pn**	22 28 43.4	**+1.5**
NLC				*e*S	**Sn**	22 28 56.9	**+2.2**
NLC	**Nalytchevo**	**0.96**	**230**	PN	**Pn**	22 28 43.4	**+1.5**
NLC				S	**Sn**	22 28 56.9	**+2.2**
SMAR	**Somma**	**1.18**	**244**	*e*P	**Pn**	22 28 46.1	**+1.1**
SMAR	**Somma**	**1.18**	**244**	PN	**Pn**	22 28 46.1	**+1.1**
KRER	**Koryakskii**	**1.19**	**246**	*e*P	**Pn**	22 28 46.8	**+1.7**
KRER	**Koryakskii**	**1.19**	**246**	PN	**Pn**	22 28 46.8	**+1.7**
UGLR	**Uglovaya**	**1.20**	**241**	*e*P	**Pn**	22 28 46.3	**+1.2**
UGLR	**Uglovaya**	**1.20**	**241**	PN	**Pn**	22 28 46.3	**+1.2**
AVH	**Avacha**	**1.21**	**245**	*e*P	**Pn**	22 28 46.8	**+1.5**
AVH	**Avacha**	**1.21**	**245**	PN	**Pn**	22 28 46.8	**+1.5**
KRX	**Arik**	**1.22**	**250**	*e*P	**Pn**	22 28 46.8	**+1.2**
KRX	**Arik**	**1.22**	**250**	PN	**Pn**	22 28 46.8	**+1.2**
KOK	**Koryaka**	**1.26**	**247**	*e*P	**Pn**	22 28 47.3	**+1.4**
KOK	**Koryaka**	**1.26**	**247**	PN	**Pn**	22 28 47.3	**+1.4**
DALK	**Dalny**	**1.33**	**235**	*e*P	**Pn**	22 28 47.8	**+1.0**
DALK				*e*S	**Sn**	22 29 05.0	**+1.6**
DALK	**Dalny**	**1.33**	**235**	PN	**Pn**	22 28 47.8	**+1.0**
DALK				S	**Sn**	22 29 05.0	**+1.6**
PET	**Petropavlovsk**	**1.38**	**237**		**Pn**	22 28 48.5	**+1.1**
PET	**Petropavlovsk**	**1.38**	**237**	*e*P	**Pn**	22 28 48.5	**+1.1**
PET	**Petropavlovsk**	**1.38**	**237**	*i*PN	**Pn**	22 28 48.6	**+1.1**
PET				*e*S	**Sn**	22 29 06.7	**+2.0**
PET				smax	smax		
	comp=N,27μm,0.5s						
PET				smax	smax		
	comp=N,32μm,0.5s						
PET				smax	smax		
	comp=E,17μm,0.5s						
INSR	**Institute**	**1.38**	**239**	*e*P	**Pn**	**22 28 49.0**	**+1.5**
INSR				*e*S	**Sn**	22 29 07.0	**+2.2**
TUMD	**Tumrok D**	**1.41**	**356**	*e*P	**Pn**	22 28 48.3	**+0.4**
TUMD				*e*S	**Sn**	22 29 05.9	**+0.4**
TUMR	**Tumrok**	**1.51**	**351**	PN	**Pn**	22 28 48.3	**-1.0**
TUMR				S	**Sn**	22 29 05.9	**-2.1**
KRMR	**Karymshinskiy**	**1.75**	**237**	*e*P	**Pn**	22 28 54.2	**+1.7**
KRMR				*e*S	**Sn**	22 29 16.3	**+2.6**
KRMR	**Karymshinskiy**	**1.75**	**237**	PN	**Pn**	22 28 54.2	**+1.7**
KRMR				S	**Sn**	22 29 16.3	**+2.6**
PEA0B	**Petropavlovsk-**	**1.85**	**249**	Pn	**Pn**	22 28 55.2	**+1.4**
PEA0B	**Petropavlovsk-**	**1.85**	**249**	*d*PN	**Pn**	22 28 55.4	**+1.6**
PETK	**Petropavlovsk-**	**1.85**	**249**	Pn	**Pn**	22 28 54.4	**+0.6**
PETK	**Petropavlovsk-**	**1.85**	**249**	P	**Pn**	22 28 54.8	**+1.0**
	comp=E,267nm,0.3s,baz=78,slow=19,SNR=1165						
PETK				S	**Sn**	22 29 19.6	**+3.5**
	comp=E,1μm,0.4s,baz=89,slow=29,SNR=5.9						
PETK				LR	LR	22 29 56.1	
	comp=E,1μm,19.7s,baz=106,slow=51						
GRL	**Gorelyy**	**1.95**	**231**	*e*P	**Pn**	**22 28 56.9**	**+1.6**
GRL	**Gorelyy**	**1.95**	**231**	PN	**Pn**	22 28 56.9	**+1.6**
BZP	**Bezymyannyi-Pe**	**2.12**	**360**	*e*P	**Pn**	22 28 59.4	**+1.8**
ASAK	**Asacha**	**2.14**	**230**	*e*P	**Pn**	22 28 59.7	**+1.8**
ASAK				*e*S	**Sn**	22 29 26.8	**+3.4**
ASAK	**Asacha**	**2.14**	**230**	PN	**Pn**	22 28 59.7	**+1.8**
ASAK				S	**Sn**	22 29 26.8	**+3.4**
BZMR	**Bezymyannaya**	**2.14**	**359**	*e*P	**Pn**	22 28 60.0	**+2.0**
BZMR	**Bezymyannaya**	**2.14**	**359**	PN	**Pn**	22 29 00.0	**+2.0**
BZGR	**Bezymyannyi-Gr**	**2.15**	**2**	*e*P	**Pn**	22 28 59.7	**+1.7**
BZGR	**Bezymyannyi-Gr**	**2.15**	**2**	PN	**Pn**	22 28 59.7	**+1.7**
KIRR	**Kirishev**	**2.17**	**357**	*e*P	**Pn**	22 28 59.9	**+1.6**
KIRR				*e*S	**Sn**	22 29 27.6	**+3.6**
KIRR	**Kirishev**	**2.17**	**357**	PN	**Pn**	22 28 59.9	**+1.6**
KIRR				S	**Sn**	22 29 27.6	**+3.6**
BZWR	**Bezymyannyi-We**	**2.17**	**359**	*e*P	**Pn**	22 29 00.2	**+1.8**
BZWR	**Bezymyannyi-We**	**2.17**	**359**	PN	**Pn**	22 29 00.2	**+1.8**
KPT	**Kopyto**	**2.18**	**355**	*e*P	**Pn**	22 29 00.2	**+1.7**
KPT	**Kopyto**	**2.18**	**355**	PN	**Pn**	22 29 00.2	**+1.7**
APC	**Apacha**	**2.22**	**248**	*e*P	**Pn**	22 29 01.4	**+2.5**
APC	**Apacha**	**2.22**	**248**	PN	**Pn**	22 29 01.4	**+2.5**
ZLN	**Zelenaya**	**2.23**	**3**	*e*P	**Pn**	22 29 01.2	**+2.1**
ZLN	**Zelenaya**	**2.23**	**3**	PN	**Pn**	22 29 01.2	**+2.1**
KOZ	**Kozyrevsk**	**2.30**	**350**	*e*P	**Pn**	22 29 01.6	**+1.6**
KOZ	**Kozyrevsk**	**2.30**	**350**	PN	**Pn**	22 29 01.6	**+1.6**
CIRR	**Tsirk**	**2.33**	**3**	*e*P	**Pn**	22 29 02.0	**+1.5**
CIRR	**Tsirk**	**2.33**	**3**	PN	**Pn**	22 29 02.0	**+1.5**
ESO	**Esso**	**2.39**	**334**	*e*P	**Pn**	22 29 02.5	**+1.3**
ESO	**Esso**	**2.39**	**334**	PN	**Pn**	22 29 02.5	**+1.3**
KRSR	**Krestovskiy**	**2.42**	**360**	*e*P	**Pn**	22 29 03.2	**+1.4**
KRSR	**Krestovskiy**	**2.42**	**360**	PN	**Pn**	22 29 03.2	**+1.4**
KDTR	**Khodutka, Kamc**	**2.50**	**218**	*e*P	**Pn**	22 29 03.3	**+0.6**
KDTR	**Khodutka, Kamc**	**2.50**	**218**	PN	**Pn**	22 29 03.3	**+0.6**
KLY	**Klyuchi**	**2.52**	**1**	*e*P	**Pn**	22 29 04.7	**+1.7**
KLY	**Klyuchi**	**2.52**	**1**	PN	**Pn**	22 29 04.7	**+1.7**
SRDR	**Sredinnyy**	**2.57**	**349**	*e*P	**Pn**	22 29 04.8	**+1.0**
SRDR	**Sredinnyy**	**2.57**	**349**	PN	**Pn**	22 29 04.8	**+1.0**
KBTR	**Krutoberegovo**	**2.74**	**27**	*e*P	**Pn**	22 29 07.1	**+1.1**
KBTR				*e*S	**Sn**	22 29 40.6	**+2.7

KLR Kul'dur 18.44 267 ⇓*e*P Pn 22 32 36.8 +1.1
KLR pmax pmax
comp=Z,11nm,1.0s
KLR MLR MLR
comp=Z,202nm,16.0s
KLR Kul'dur 18.44 267 P Pn 22 32 35.7 0.0
comp=Z,6.5nm,0.6s,baz=66,slow=10,SNR=23
KLR LR LR 22 40 15.5
comp=Z,193nm,19.6s,baz=64,slow=39
JTM Tenmabayashi 18.47 233 P 22 32 33.9 -1.7
JTM IAmb IAmb 22 32 41.6
comp=Z,90nm,1.5s
ZEA Zeya 19.60 283 *e*P P 22 32 48.3 +0.6
ZEA *e* 22 36 27.6
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
AKUT Akutan 19.70 75 P Pn 22 32 50.3 -0.5
ANM Nome 20.23 44 P P 22 32 55.4 +0.9
ANM Nome 20.23 44 P P 22 32 55.4 +0.9
ANM pmax pmax
comp=Z,37nm,1.3s
HEH HeiHe 20.59 274 *e*P P 22 32 58.8 +0.2
HEH pmax pmax
comp=Z,7.0nm,0.7s
HEH pmax pmax
comp=Z,280nm,5.5s
F15K North Star Dit 20.86 42 P P 22 33 02.5 +1.2
F15K North Star Dit 20.86 42 P P 22 33 02.6 +1.4
baz=252
L14K Kuka Creek 20.86 54 P Pn 22 33 03.4 -0.9
L14K Kuka Creek 20.86 54 P Pn 22 33 04.1 -0.3
baz=266
USA0B Ussuriysk Arra 20.93 254 P P 22 33 02.5 +0.2
USA0B Ussuriysk Arra 20.93 254 P P 22 33 02.5 +0.2
USA0B pmax pmax
comp=Z,8.0nm,1.1s
USRK Ussuriysk Ar. 20.93 254 P P 22 33 03.1 +0.9
USRK Ussuriysk Ar. 20.93 254 P P 22 33 03.1 +0.9
USRK Ussuriysk Ar. 20.93 254 P P 22 33 01.2 -1.0
comp=Z,4.7nm,0.8s,baz=58,slow=11,SNR=16
USRK LR LR 22 42 24.5
comp=Z,139nm,18.8s,baz=63,slow=40
comp=Z,4.7nm,0.8s
JMM Marumori 20.95 228 P P 22 33 03.4 +0.9
JMM IAmb IAmb 22 33 05.1
comp=Z,33nm,0.8s
M14K Bethel 21.18 56 P P 22 33 07.4 +2.7
M14K IAmb IAmb 22 33 09.1
comp=Z,41nm,1.0s
M14K Bethel 21.18 56 P P 22 33 07.9 +3.2
baz=268
K15K Wolf Creek Mou 21.49 52 P P 22 33 09.1 +1.0
baz=264
C16K Lisburne Hills 21.55 35 P P 22 33 09.1 +0.4
C16K Lisburne Hills 21.55 35 P P 22 33 08.7 0.0
baz=245
H16K Elim 21.55 45 P P 22 33 11.3 +2.6
baz=258
G16K Koyuk River 21.68 43 P P 22 33 12.9 +2.8
baz=256
M15K Kasigluk River 21.80 56 P P 22 33 13.1 +1.7
baz=269
J16K Anvik River 22.03 49 P P 22 33 15.0 +1.1
baz=263
MDJ Mudanjiang 22.07 258 P P 22 33 15.8 +1.4
MDJ pmax pmax
comp=Z,6.0nm,1.2s
MDJ pmax pmax
comp=Z,110nm,4.0s
I17K Unalakleet 22.08 47 P P 22 33 16.0 +1.7
baz=261
RDOG Red Dog Mine 22.30 36 P P 22 33 17.4 +0.7
RDOG Red Dog Mine 22.30 36 P P 22 33 18.6 +1.8
baz=249,SNR=6.8
E17K Hotham Inlet 22.36 39 P P 22 33 19.2 +1.8
baz=252
C17K DeLong Mountai 22.37 35 P P 22 33 18.6 +1.1
baz=247
F17K Baldwin Pennin 22.40 41 P P 22 33 19.4 +1.7
baz=254
G17K Kiwalik Mounta 22.40 43 P P 22 33 19.5 +1.7
baz=257
SDPT Sand Point 22.44 70 P P 22 33 19.9 +1.6
baz=282
TIXI Tiksi 22.56 334 P P 22 33 19.5 0.0
TIXI Tiksi 22.56 334 P P 22 33 19.1 -0.4
comp=Z,0.2nm,0.4s,baz=130,slow=12,SNR=21
TIXI PcP PcP 22 37 09.9 -0.6
comp=Z,0.1nm,0.3s,baz=98,slow=1.8,SNR=2.5
TIXI ScP ScP 22 40 41.9 -1.0
comp=Z,0.1nm,0.3s,baz=77,slow=5.5,SNR=8.5
TIXI LR LR 22 42 58.4
comp=Z,17nm,19.9s,baz=180,slow=39
H17K Granite Mounta 22.59 45 P P 22 33 21.0 +1.1
H17K Granite Mounta 22.59 45 P P 22 33 21.0 +1.1
baz=260
M16K Timber Creek 22.65 55 P P 22 33 20.9 +0.3
baz=270
BNX BinXian 22.71 263 ⇓P P 22 33 20.3 -1.0
BNX pmax pmax
comp=Z,33nm,0.9s
BNX pmax pmax
comp=Z,130nm,4.6s
E18K Tukpahlearik C 22.92 38 P P 22 33 23.7 +0.5
E18K Tukpahlearik C 22.92 38 P P 22 33 23.7 +0.5
baz=253
L17K Donlin 22.99 52 P P 22 33 24.3 +0.3
baz=268
K17K Iditarod 23.02 51 P P 22 33 25.3 +1.0
K17K Iditarod 23.02 51 P P 22 33 22.5 -1.8
baz=266
CHNA Chernabura Isl 23.05 71 P P 22 33 25.6 +0.9
baz=284
C18K Utukok River 23.11 35 P P 22 33 25.2 0.0
C18K Utukok River 23.11 35 P P 22 33 24.8 -0.4
baz=250
O16K Kokwok River B 23.12 59 P P 22 33 25.1 -0.2
baz=274
B18K Kokolik River 23.18 33 P P 22 33 26.9 +1.2
baz=247
MJB9 Matsu-Tunnel 23.21 231 P P 22 33 27.9 +1.6
MJB9 IAmb IAmb 22 33 28.9
comp=Z,48nm,0.7s
MAJO Matsushiro 23.21 231 P P 22 33 27.0 +0.7
MAJO Matsushiro 23.21 231 *c i*P P 22 33 26.9 +0.5
MAJO pmax pmax
comp=Z,41nm,0.6s
MJAR Matsushiro Arr 23.21 231 P P 22 33 26.6 +0.2
comp=Z,25nm,0.8s,baz=22,slow=11,SNR=71
MJAR PcP PcP 22 37 12.0 -0.5
comp=Z,0.5nm,0.4s,baz=357,slow=1.8,SNR=3.4
MJAR LR LR 22 43 28.6
comp=Z,131nm,20.0s,baz=31,slow=39
comp=Z,25nm,0.8s
H18K Honhosa River 23.28 45 P P 22 33 27.4 +0.6
H18K Honhosa River 23.28 45 P P 22 33 27.0 +0.2
baz=261
G18K Tagagawik 23.29 43 P P 22 33 27.4 +0.5
G18K IAmb IAmb 22 33 29.3
comp=Z,38nm,1.1s
G18K Tagagawik 23.29 43 P P 22 33 27.9 +0.9
baz=259
M17K Holitna River 23.39 54 P P 22 33 28.6 +0.7
M17K IAmb IAmb 22 33 30.5
comp=Z,50nm,0.8s
M17K Holitna River 23.39 54 P P 22 33 29.4 +1.5
baz=270
O17K Koliganek Bris 23.62 58 P P 22 33 31.5 +1.5
baz=274
A19K Wainwright 23.75 32 P P 22 33 31.8 +0.8
baz=246
L18K Granite Mounta 23.75 52 P P 22 33 31.4 +0.2
L18K IAmb IAmb 22 33 33.8
comp=Z,46nm,1.4s
L18K Granite Mounta 23.75 52 P P 22 33 32.3 +1.1
baz=269
J18K Innoko River 23.79 49 P P 22 33 31.8 +0.2
J18K Innoko River 23.79 49 P P 22 33 32.1 +0.5
baz=266
C19K Lookout Ridge 23.82 35 P P 22 33 32.4 +0.5
C19K IAmb IAmb 22 33 33.5
comp=Z,34nm,1.0s
C19K Lookout Ridge 23.82 35 P P 22 33 31.7 -0.1
baz=250
F19K Shaleruckik Mo 23.84 41 P P 22 33 32.1 +0.2
F19K Shaleruckik Mo 23.84 41 P P 22 33 32.6 +0.7
baz=258
GCSA Galena City Sc 23.84 46 P P 22 33 32.6 +0.6
baz=263
G19K Purcell Mounta 23.97 42 P P 22 33 33.4 +0.2
G19K Purcell Mounta 23.97 42 P P 22 33 33.4 +0.2
baz=260,SNR=6.5
TTA Tatalina 24.08 50 P P 22 33 35.2 +0.9
TTA IAmb IAmb 22 33 36.7
comp=Z,34nm,1.0s
TTA Tatalina 24.08 50 P P 22 33 35.8 +1.5
baz=268,SNR=7.5
TTA Tatalina 24.08 50 P P 22 33 35.2 +0.9
TTA pmax pmax
comp=Z,34nm,1.0s
H19K Roundabout Mou 24.13 44 P P 22 33 35.3 +0.7
H19K IAmb IAmb 22 33 36.8
comp=Z,35nm,0.8s
H19K Roundabout Mou 24.13 44 P P 22 33 35.4 +0.8
baz=262,SNR=12
D19K Kuna River 24.13 37 P P 22 33 35.0 +0.4
N18K Kilae Creek 24.16 56 P P 22 33 35.0 0.0
N18K Kilae Creek 24.16 56 P P 22 33 36.0 +1.0
baz=273
M18K Stony River 24.16 54 P P 22 33 36.2 +1.3
baz=272
E19K Redstone River 24.18 39 P P 22 33 35.8 +0.7
E19K Redstone River 24.18 39 P P 22 33 35.8 +0.7
baz=257
J19K Poorman 24.32 48 P P 22 33 36.4 +0.1
J19K Poorman 24.32 48 P P 22 33 36.9 +0.6
baz=266
O18K Koktuh Hills 24.56 58 P P 22 33 40.9 +2.3
baz=276
P18K Big Mountain, 24.60 59 P P 22 33 40.4 +1.4
baz=277
L19K White Mountain 24.61 52 P P 22 33 39.5 +0.4
L19K White Mountain 24.61 52 P P 22 33 40.2 +1.1
baz=271
F20K Avaraart Lake 24.67 40 P P 22 33 39.7 +0.2
F20K Avaraart Lake 24.67 40 P P 22 33 40.2 +0.6
baz=259
D20K Etivluk River 24.73 36 P P 22 33 41.4 +1.4
baz=255
INU Inuyama 24.74 231 P P 22 33 41.4 +1.0
INU IAmb IAmb 22 33 43.9
comp=Z,20nm,0.6s
E20K Nigu River 24.76 38 P P 22 33 41.0 +0.6
baz=256
H20K Anotleneega Mo 24.77 44 P P 22 33 40.7 +0.2
baz=264
Q18K Katmai Hardscr 24.80 61 P P 22 33 41.5 +0.5
baz=278
N19K Bonanza Creek 24.84 56 P P 22 33 39.8 -1.5
N19K Bonanza Creek 24.84 56 P P 22 33 41.6 +0.4
baz=274
I20K Naaghedeneel 24.87 46 P P 22 33 41.8 +0.5
baz=266
B20K Meade River 24.92 33 P P 22 33 42.2 +0.5
B20K IAmb IAmb 22 33 44.1
comp=Z,49nm,0.7s
B20K Meade River 24.92 33 P P 22 33 43.2 +1.4
baz=252
CN2 Changchun 24.96 261 P P 22 33 41.8 -0.6
CN2 pmax pmax
comp=Z,10.0nm,0.8s
J20K Nowinta River 24.97 47 P P 22 33 42.8 +0.5
J20K IAmb IAmb 22 33 44.6
comp=Z,22nm,0.8s
J20K Nowinta River 24.97 47 P P 22 33 43.0 +0.7
baz=267,SNR=9.9
K20K Telida 24.98 49 P P 22 33 43.0 +0.6
K20K IAmb IAmb 22 33 44.7
comp=Z,22nm,0.8s
K20K Telida 24.98 49 P P 22 33 43.4 +1.1
baz=269
L20K Farewell, AK 25.06 52 P P 22 33 43.7 +0.5
baz=271
R18K Karluk 25.28 63 P P 22 33 46.0 +0.9
baz=281
IMAR Indian Mountai 25.29 43 P P 22 33 45.6 +0.4
M20K Styx River 25.43 53 P P 22 33 47.4 +0.8
M20K Styx River 25.43 53 P P 22 33 47.3 +0.8
baz=273
G21K Allakaket 25.45 42 P P 22 33 47.3 +0.7
G21K Allakaket 25.45 42 P P 22 33 47.8 +1.2
baz=263
C21K Knifeblade Rid 25.48 36 P P 22 33 47.6 +0.8
baz=256
HIA Hailar 25.53 277 P P 22 33 46.8 -0.7
HIA Hailar 25.53 277 P P 22 33 46.8 -0.7
HIA pmax pmax
comp=Z,14nm,0.7s
A21K Barrow 25.54 31 P P 22 33 47.0 -0.3
baz=249
F21K Alatna River 25.57 40 P P 22 33 48.1 +0.4
F21K Alatna River 25.57 40 P P 22 33 47.6 0.0
baz=261
E21K Killik River 25.60 38 P P 22 33 48.4 +0.4
E21K Killik River 25.60 38 P P 22 33 47.6 -0.4
baz=258
H21K Melozitna Rive 25.65 44 IAmb IAmb 22 33 50.4
comp=Z,37nm,1.4s
H21K Melozitna Rive 25.65 44 P P 22 33 48.9 +0.5
baz=265
B21K Ikpikpuk River 25.65 35 P P 22 33 49.1 +0.7
B21K IAmb IAmb 22 34 04.3
comp=Z,45nm,0.7s
B21K Ikpikpuk River 25.65 35 P P 22 33 49.1 +0.7
baz=255
CHUM Lake Minchumin 25.77 48 P P 22 33 50.0 +0.5
baz=269
CAST Castle Rocks 25.87 49 P P 22 33 51.0 +0.5
CAST Castle Rocks 25.87 49 P P 22 33 50.7 +0.2
baz=271
N20K Mount Spurr 25.92 54 P P 22 33 52.7 +1.7
baz=275
A22K Sinclair Lake 25.93 32 P P 22 33 51.0 +0.1
baz=252
I21K Tanana 25.96 45 P P 22 33 48.2 -3.0
I21K Tanana 25.96 45 P P 22 33 49.0 -2.2
baz=267
OHAK Old Harbor 25.96 64 P P 22 33 51.9 +0.6
baz=282
BOD Bodaibo 26.06 298 *e*P P 22 33 50.9 -1.3
BOD pmax pmax
comp=Z,26nm,1.0s
F22K John River 26.11 40 P P 22 33 52.5 -0.1
baz=262
D22K Ayikyak River 26.15 37 P P 22 33 53.6 +0.6
D22K Ayikyak River 26.15 37 P P 22 33 52.9 -0.1
baz=255
SKT Skwentna 26.18 53 P P 22 33 54.2 +1.0
SKT Skwentna 26.18 53 P P 22 33 53.8 +0.5
baz=274
KDAK Kodiak Island 26.22 62 P P 22 33 52.6 -1.0
KDAK Kodiak Island 26.22 62 P P 22 33 52.6 -1.0
KDAK pmax pmax
comp=Z,150nm,1.5s
B22K Teshekpuk Lake 26.24 33 P P 22 33 54.0 +0.3
B22K IAmb IAmb 22 34 07.6
comp=Z,19nm,0.7s
B22K Teshekpuk Lake 26.24 33 P P 22 33 54.1 +0.5
baz=255,SNR=7.2
H22K Ishtalitna Cre 26.25 44 P P 22 33 54.5 +0.6
baz=266
G22K Bettles 26.29 41 P P 22 33 54.5 +0.3
baz=264
E22K Anaktuvuk Pass 26.34 39 P P 22 33 55.1 +0.4
E22K Anaktuvuk Pass 26.34 39 P P 22 33 55.1 +0.4
baz=261,SNR=10
BPAW Bear Paw Mtn. 26.36 48 P P 22 33 54.9 0.0
BPAW Bear Paw Mtn. 26.36 48 P P 22 33 55.2 +0.4
baz=270
HOM Homer 26.38 58 P P 22 33 55.8 +0.8
KTH Kantishna Hill 26.39 49 P P 22 33 55.6 +0.4
KTH IAmb IAmb 22 33 56.8
comp=Z,33nm,1.1s
MLY Manley 26.48 46 P P 22 33 56.7 +0.7
MLY Manley 26.48 46 P P 22 33 56.4 +0.4
baz=268
SUA Susitna One 26.59 54 P P 22 33 56.9 -0.2
SUA IAmb IAmb 22 34 15.0
comp=Z,44nm,1.5s
SUA Susitna One 26.59 54 P P 22 33 57.4 +0.2
baz=276
CNPM China Poot 26.60 58 P P 22 33 57.1 0.0
CNPM IAmb IAmb 22 34 01.0
comp=Z,59nm,1.3s
TRF Thorofare Moun 26.68 49 P P 22 33 58.5 +0.5
TRF Thorofare Moun 26.68 49 P P 22 33 58.7 +0.8
baz=272
COLD Coldfoot 26.83 41 P P 22 33 59.3 +0.2
baz=265,SNR=8.7
G23K Bananza Creek 26.86 42 P P 22 34 00.1 +0.8
G23K Bananza Creek 26.86 42 P P 22 33 59.6 +0.2
baz=266
D23K Nanushuk River 26.88 37 P P 22 34 00.2 +0.7
baz=261
C23K Itkillik River 27.06 35 P P 22 34 01.4 +0.3
C23K IAmb IAmb 22 34 18.4
comp=Z,36nm,1.4s
C23K Itkillik River 27.06 35 P P 22 34 01.3 +0.3
baz=259
I23K Minto, Yukon-K 27.06 45 P P 22 34 01.8 +0.6
I23K Minto, Yukon-K 27.06 45 P P 22 34 02.0 +0.9
baz=270
E23K Chandalar 27.14 39 P P 22 34 02.3 +0.4
baz=264
NEA2 Nenana 27.19 47 P P 22 34 02.6 +0.3
NEA2 Nenana 27.19 47 P P 22 34 02.7 +0.3
baz=271
TOLK Toolik Lake Re 27.23 38 P P 22 34 03.1 +0.4
TOLK Toolik Lake Re 27.23 38 P P 22 34 03.0 +0.4
baz=262
MCK McKinley 27.27 49 P P 22 34 03.2 +0.1
baz=273
RND Reindeer 27.32 49 P P 22 34 03.3 -0.3
RND IAmb IAmb 22 34 04.2
comp=Z,23nm,0.9s
RND Reindeer 27.32 49 P P 22 34 03.3 -0.3
RND pmax pmax
comp=Z,23nm,0.9s
PMR Palmer 27.35 53 P P 22 34 04.2 +0.5
baz=277
SEW Seward 27.40 56 P P 22 34 04.1 -0.1
baz=279
GHO Glory Hole Cre 27.43 53 P P 22 34 04.6 +0.1
WAT1 Susitna Watana 27.50 50 P P 22 34 04.8 -0.4
baz=275
MDM Murphy Dome 27.54 46 P P 22 34 05.7 +0.2
E24K Your Creek 27.57 39 P P 22 34 06.3 +0.6
E24K Your Creek 27.57 39 P P 22 34 06.1 +0.4
baz=265
D24K Happy Valley 27.57 37 P P 22 34 05.5 -0.2
D24K Happy Valley 27.57 37 P P 22 34 05.8 +0.1
baz=262
WRH Wood River Hil 27.61 47 P P 22 34 06.9 +0.8
H24K Noodor Dome 27.69 44 P P 22 34 07.6 +0.7
H24K Noodor Dome 27.69 44 P P 22 34 06.9 +0.1
baz=270
KNK Knik Glacier 27.69 54 P P 22 34 06.8 0.0
KNK Knik Glacier 27.69 54 P P 22 34 07.1 +0.2
baz=278,SNR=6.7
C24K Franklin Bluff 27.70 36 P P 22 34 06.9 +0.2
baz=261
SML Sawmill 27.70 53 P P 22 34 07.1 +0.1
SML IAmb IAmb 22 34 08.4
comp=Z,37nm,0.9s
SML Sawmill 27.70 53 P P 22 34 07.2 +0.2
baz=277,SNR=5.6
COLA College 27.70 46 P P 22 34 07.2 +0.4
baz=271
CCB Clear Creek Bu 27.73 47 P P 22 34 07.2 +0.1
KSRS Korea Array 27.75 247 P P 22 34 07.8 +0.4
comp=Z,3.5nm,0.8s,baz=46,slow=9.5,SNR=11
KSRS PcP PcP 22 37 21.9 -0.8
comp=Z,1.1nm,0.5s,baz=50,slow=3.1,SNR=4.5
KSRS LR LR 22 44 49.2
comp=Z,83nm,19.9s,baz=60,slow=36
comp=Z,3.5nm,0.8s
F24K Squaw Lake 27.75 40 P P 22 34 07.8 +0.5
F24K Squaw Lake 27.75 40 P P 22 34 08.0 +0.7
baz=266
G24K Hadweenzic Riv 27.87 42 P P 22 34 09.4 +1.0
G24K IAmb IAmb 22 34 10.2
comp=Z,36nm,0.8s
G24K Hadweenzic Riv 27.87 42 P P 22 34 09.4 +1.0
baz=268
POKR Poker Plat Res 27.88 45 P P 22 34 09.4 +1.0
POKR Poker Plat Res 27.88 45 P P 22 34 09.5 +1.0
baz=271
WAT6 Susitna Watana 27.89 51 P P 22 34 08.8 0.0
baz=276
M23K Glacier View 27.99 53 P P 22 34 09.6 0.0
baz=277
DHY Denali Highway 28.02 50 P P 22 34 10.1 +0.2
DHY Denali Highway 28.02 50 P P 22 34 10.1 +0.2
baz=275
HDA Harding Lake 28.11 47 P P 22 34 10.6 +0.1
HDA Harding Lake 28.11 47 P P 22 34 10.3 -0.3
baz=273,SNR=6.4
HDA P P 22 34 10.3 -0.3
baz=273,SNR=6.4
IL31 28.12 46 P P 22 34 10.7 +0.2
ILAR Eielson Array 28.12 46 P P 22 34 11.1 +0.5
ILAR Eielson Array 28.12 46 P P 22 34 11.1 +0.5
ILAR Eielson Array 28.12 46 P P 22 34 10.3 -0.3
comp=Z,2.2nm,0.8s,baz=263,slow=8.1,SNR=89
comp=Z,9.2nm,0.8s
IL03 Eielson Array 28.14 46 P P 22 34 10.6 -0.2
SCM Sheep Creek Mo 28.17 52 P P 22 34 11.6 +0.4
SCM IAmb IAmb 22 34 12.2
comp=Z,28nm,0.8s
SCM Sheep Creek Mo 28.17 52 P P 22 34 11.7 +0.5
baz=278
SCM Sheep Creek Mo 28.17 52 P P 22 34 11.6 +0.4
SCM pmax pmax
comp=Z,28nm,0.8s
G25K Bearman Lake 28.42 42 P P 22 34 13.7 +0.5
baz=270
D25K Kavik River 28.46 37 P P 22 34 13.7 +0.1
D25K IAmb IAmb 22 34 14.5
comp=Z,18nm,0.9s
D25K Kavik River 28.46 37 P P 22 34 14.5 +0.9
baz=264
F25K Christian Rive 28.61 40 P P 22 34 16.0 +1.0
baz=268,SNR=6.9
E25K Arctic Village 28.66 39 P P 22 34 16.3 +0.9
E25K Arctic Village 28.66 39 P P 22 34 16.4 +0.9
baz=268,SNR=11
PRP Porcupine Dome 28.67 45 P P 22 34 16.4 +0.8
PRP IAmb IAmb 22 34 17.0
comp=Z,23nm,0.8s
PRP Porcupine Dome 28.67 45 P P 22 34 16.5 +0.9
baz=272,SNR=7.6
M24K Tolsona, Glenn 28.68 52 P P 22 34 16.5 +0.8
M24K IAmb IAmb 22 34 33.9
comp=Z,60nm,1.4s
M24K Tolsona, Glenn 28.68 52 P P 22 34 16.0 +0.3
baz=278
FYU Fort Yukon 28.76 42 P P 22 34 16.9 +0.7
FYU IAmb IAmb 22 34 18.1
comp=Z,23nm,0.8s
J25K Salcha River, 28.78 46 P P 22 34 15.5 -1.0
J25K Salcha River, 28.78 46 P P 22 34 15.6 -1.0
baz=274,SNR=6.5
KLU Klutina 28.89 53 P P 22 34 17.5 -0.1
KLU IAmb IAmb 22 34 34.5
comp=Z,30nm,1.4s
KLU Klutina 28.89 53 P P 22 34 18.0 +0.5
baz=279
PAX Paxson 28.89 50 P P 22 34 17.5 0.0
baz=277
BMAR Burnt Mountain 29.02 41 P P 22 34 19.7 +1.1
C26K Camden Bay 29.02 35 P P 22 34 19.8 +1.3
baz=265,SNR=9.1
Q23K Middleton Isla 29.07 57 P P 22 34 17.7 -1.3
baz=283
RIDG Independent Ri 29.08 48 P P 22 34 18.8 -0.4
baz=276
HARP HAARP 29.11 51 P P 22 34 19.6 +0.1
baz=278
JTU Tsushima 29.16 241 P P 22 34 19.1 -1.0
F26K Sheenjek River 29.19 40 P P 22 34 21.1 +1.0
baz=270,SNR=6.6
G26K Porcupine Rive 29.33 42 P P 22 34 22.4 +1.1
baz=271,SNR=12
SCRK Sand Creek 29.44 48 P P 22 34 22.2 -0.2
SCRK Sand Creek 29.44 48 P P 22 34 21.8 -0.7
baz=276,SNR=8.3
N25K Chitina, Valde 29.49 53 P P 22 34 23.7 +0.8

N25K	Chitina, Valde	29.49	53	P		P	22 34 23.4	+0.5
	baz=280							
JNU	Nakatsue	29.51	238	LR		LR	22 47 06.1	
	comp=Z,51nm,20.3s,baz=46,slow=38							
J26L	Joseph Creek	29.57	47	P		P	22 34 23.7	+0.2
J26L	Joseph Creek	29.57	47	P		P	22 34 23.8	+0.2
	baz=276							
BMRM	Bremner River	29.61	54	P		P	22 34 23.8	-0.1
	baz=281							
I26K	Coal Creek Min	29.67	45	P		P	22 34 24.7	+0.3
I26K	Coal Creek Min	29.67	45	P		P	22 34 24.0	-0.4
	baz=275							
L26K	Log Cabin Wild	29.84	50	P		P	22 34 26.8	+0.8
	baz=279							
GLB	Gilahina Butte	29.89	53	P		P	22 34 26.9	+0.5
M26K	Nabesna, AK	30.10	51	P		P	22 34 29.4	+1.2
M26K	Nabesna, AK	30.10	51	P		P	22 34 29.8	+1.5
	baz=280,SNR=6.9							
VRDI	Verde Repeater	30.11	53	P		P	22 34 29.0	+0.5
E27K	Coleen River	30.15	39	P		P	22 34 29.4	+0.8
E27K	Coleen River	30.15	39	P		P	22 34 29.2	+0.6
	baz=271							
G27K	Doyon Strip	30.18	42	P		P	22 34 29.9	+1.0
G27K	Doyon Strip	30.18	42	P		P	22 34 29.3	+0.5
	baz=273							
H27K	Steamboat Moun	30.27	43	P		P	22 34 30.6	+1.0
	baz=274							
K27K	Chicken	30.27	47	P		P	22 34 30.1	+0.5
K27K				IAmb		IAmb	22 34 30.7	
	comp=Z,17nm,0.8s							
K27K	Chicken	30.27	47	P		P	22 34 29.6	-0.1
	baz=278							
MCARA	McCarthy VSAT	30.28	53	P		P	22 34 31.7	+2.0
MCARA	McCarthy VSAT	30.28	53	P		P	22 34 32.7	+2.9
	baz=282							
I27K	Kandik River	30.28	44	P		P	22 34 31.1	+1.2
	baz=276							
CRQM	Cirque	30.35	54	P		P	22 34 31.6	+1.0
CRQM				IAmb		IAmb	22 34 32.8	
	comp=Z,49nm,1.3s							
CRQE	Cirque	30.38	54	P		P	22 34 31.6	+0.9
	baz=283							
D27M	Malcolm River	30.38	37	P		P	22 34 31.4	+0.8
D27M	Malcolm River	30.38	37	P		P	22 34 31.4	+0.8
	baz=270							
BGLC	Bering Glacier	30.42	55	P		P	22 34 32.4	+1.4
	baz=284							
TGL	Tana Glacier	30.50	54	P		P	22 34 32.4	+0.5
L27K	Beaver Creek,	30.52	49	P		P	22 34 33.3	+1.3
L27K				IAmb		IAmb	22 34 33.9	
	comp=Z,26nm,0.8s							
L27K	Beaver Creek,	30.52	49	P		P	22 34 33.0	+1.1
	baz=280,SNR=20							
BCAR	Beaver Creek A	30.54	49	P		P	22 34 33.5	+1.3
WAX	Waxell Ridge	30.56	54	P		P	22 34 33.4	+1.1
WAX				IAmb		IAmb	22 34 50.8	
	comp=Z,31nm,1.3s							
EGAK	Eagle	30.57	46	P		P	22 34 32.1	-0.1
EGAK				IAmb		IAmb	22 34 32.5	
	comp=Z,18nm,0.7s							
EGAK	Eagle	30.57	46	P		P	22 34 32.0	-0.2
	baz=277,SNR=8.6							
M27K	Edge Creek, AK	30.62	51	P		P	22 34 34.3	+1.3
M27K				IAmb		IAmb	22 34 35.2	
	comp=Z,21nm,0.9s							
M27K	Edge Creek, AK	30.62	51	P		P	22 34 34.5	+1.5
	baz=281,SNR=11							
ISLE	Juniper Island	30.77	54	P		P	22 34 34.5	+0.2
F28M	Old Crow	30.82	40	P		P	22 34 35.3	+0.8
F28M				IAmb		IAmb	22 34 36.4	
	comp=Z,12nm,0.8s							
F28M	Old Crow	30.82	40	P		P	22 34 35.6	+1.0
	baz=274,SNR=13							
E28M	Babbage River	30.90	38	P		P	22 34 36.1	+0.9
E28M	Babbage River	30.90	38	P		P	22 34 35.5	+0.3
	baz=272							
BARN	Barnard Glacie	30.99	53	P		P	22 34 37.5	+1.2
I28M	Miner Creek	31.00	44	P		P	22 34 37.0	+0.9
I28M	Miner Creek	31.00	44	P		P	22 34 37.1	+0.9
	baz=277,SNR=9.0							
GRNC	Granite Creek	31.02	54	P		P	22 34 36.6	0.0
MESA	MESA	31.06	55	P		P	22 34 36.0	-0.9
MESA				IAmb		IAmb	22 34 39.2	
	comp=Z,27nm,0.9s							
MESA	MESA	31.06	55	P		P	22 34 38.2	+1.3
	baz=284							
BVCY	Beaver Creek	31.08	50	P		P	22 34 38.4	+1.5
	baz=281,SNR=9.1							
CTG	Chitna Glacier	31.16	53	P		P	22 34 38.9	+1.2
	baz=284							
CTGM	Chitina Glacie	31.17	53	P		P	22 34 38.4	+0.6
D28M	Stokes Point	31.17	37	P		P	22 34 37.9	+0.4
	baz=272							
LOGN	Logan Glacier	31.36	53	P		P	22 34 40.4	+0.9
TABL	Table Mountain	31.38	54	P		P	22 34 40.2	+0.4
TABL				IAmb		IAmb	22 34 41.3	
	comp=Z,16nm,0.9s							
YUK3	Moose Creek	31.39	51	P		P	22 34 40.3	+0.5
	baz=283							
DAWY	Dawson	31.43	47	P		P	22 34 40.4	+0.5
DAWY	Dawson	31.43	47	P		P	22 34 40.5	+0.5
	baz=280							
E29M	Blow River	31.52	39	P		P	22 34 41.6	+1.0
E29M	Blow River	31.52	39	P		P	22 34 41.6	+1.0
	baz=274,SNR=8.1							
H29M	Whitestone	31.54	43	P		P	22 34 42.0	+1.1
H29M				IAmb		IAmb	22 34 42.8	
	comp=Z,19nm,0.8s							
H29M	Whitestone	31.54	43	P		P	22 34 42.0	+1.1
	baz=277,SNR=8.6							
G29M	Pine Creek	31.60	41	P		P	22 34 42.5	+1.2
G29M	Pine Creek	31.60	41	P		P	22 34 42.5	+1.2
	baz=276							
I29M	Ogilvie Camp,	31.68	44	P		P	22 34 42.2	0.0
I29M				IAmb		IAmb	22 34 43.5	
	comp=Z,22nm,1.2s							
I29M	Ogilvie Camp,	31.68	44	P		P	22 34 42.8	+0.7
	baz=279,SNR=6.9							
YUK8	Steele Glacier	31.83	52	P		P	22 34 44.6	+0.8
	baz=284							
PCA	Pinnacle	31.90	55	P		P	22 34 44.3	+0.2
PCA				IAmb		IAmb	22 34 45.6	
	comp=Z,25nm,0.8s							
PINM	Pinnacle	31.90	55	P		P	22 34 45.4	+1.3
	baz=286							
M29M	Somme Creek	32.16	50	P		P	22 34 47.6	+1.2
M29M				IAmb		IAmb	22 34 48.5	
	comp=Z,11nm,0.7s							
M29M	Somme Creek	32.16	50	P		P	22 34 47.4	+0.9
	baz=283							
L29M	L29M	32.17	49	P		P	22 34 47.6	+1.2
L29M	L29M	32.17	49	P		P	22 34 47.9	+1.4
	baz=282,SNR=24							
EPYK	Eagle Plains	32.18	42	P		P	22 34 47.4	+0.9
EPYK				IAmb		IAmb	22 35 04.3	
	comp=Z,20nm,1.1s							
EPYK	Eagle Plains	32.18	42	P		P	22 34 47.5	+1.0
	baz=278,SNR=8.8							
BCPM	Bancas Point	32.24	55	P		P	22 34 47.5	+0.5
K29M	Barlow Dome	32.28	47	P		P	22 34 48.1	+0.6
K29M	Barlow Dome	32.28	47	P		P	22 34 48.0	+0.6
	baz=282							
G30M	tAoh Zraii Nji	32.30	41	P		P	22 34 48.1	+0.7
G30M				IAmb		IAmb	22 34 48.8	
	comp=Z,12nm,0.8s							
G30M	tAoh Zraii Nji	32.30	41	P		P	22 34 48.0	+0.5
	baz=278							
YUK4	Talbot Arm	32.34	52	P		P	22 34 48.6	+0.5
	baz=285							
F30M	Barrier River	32.38	40	P		P	22 34 49.3	+1.1
	baz=277							
PNL	Peninsula	32.43	55	P		P	22 34 49.5	+0.8
	baz=287							
I30M	Mount Dempster	32.51	44	P		P	22 34 50.3	+0.9
I30M				IAmb		IAmb	22 34 50.7	
	comp=Z,8.8nm,0.7s							
I30M	Mount Dempster	32.51	44	P		P	22 34 50.5	+1.0
	baz=280							
YUK6	Outpost Mounta	32.58	53	P		P	22 34 51.4	+1.1
	baz=286							
J30M	Hart River	32.65	46	P		P	22 34 51.6	+1.0
J30M	Hart River	32.65	46	P		P	22 34 51.9	+1.2
	baz=281							
M30M	Minto, Yukon	32.88	49	P		P	22 34 53.9	+1.2
M30M	Minto, Yukon	32.88	49	P		P	22 34 53.9	+1.2
	baz=284							

HYT	Haines Junctio	33.01	53	P		P	22 34 55.2	+1.3
HYT				IAmb		IAmb	22 34 56.0	
	comp=Z,18nm,1.1s							
HYT	Haines Junctio	33.01	53	P		P	22 34 55.4	+1.5
	baz=286							
N30M	Aishikik Lake	33.03	51	P		P	22 34 54.2	+0.2
N30M	Aishikik Lake	33.03	51	P		P	22 34 54.6	+0.6
	baz=286							
G31M	Satah River	33.06	41	P		P	22 34 54.6	+0.5
G31M	Satah River	33.06	41	P		P	22 34 54.9	+0.8
	baz=280,SNR=6.4							
INK	Inuvik	33.14	38	P		P	22 34 55.6	+0.8
INK	Inuvik	33.14	38	P		P	22 34 55.5	+0.8
	baz=278,SNR=8.7							
INK	Inuvik	33.14	38	P		P	22 34 55.6	+0.8
INK				pmax		pmax		
	comp=Z,10.0nm,0.9s							
F31M	Tsiigehtchic	33.18	40	P		P	22 34 55.4	+0.3
F31M				IAmb		IAmb	22 34 56.5	
	comp=Z,15nm,0.8s							
F31M	Tsiigehtchic	33.18	40	P		P	22 34 55.7	+0.6
	baz=279,SNR=11							
H31M	Peel River	33.23	43	P		P	22 34 56.6	+1.0
H31M	Peel River	33.23	43	P		P	22 34 56.0	+0.3
	baz=281							
P29M	Windy Craggy	33.25	55	P		P	22 34 56.6	+0.8
P29M				IAmb		IAmb	22 34 57.4	
	comp=Z,15nm,1.2s							
P29M	Windy Craggy	33.25	55	P		P	22 34 56.9	+1.0
	baz=288							
ULN	Ulaanbaatar	33.62	282	P		P	22 35 00.1	+0.7
ULN	Ulaanbaatar	33.62	282	⇑	*eP*	P	22 35 00.0	+0.6
ULN				pmax		pmax		
	comp=Z,3.0nm,0.8s							
N31M	Braeburn, Yuko	33.63	51	P		P	22 35 00.2	+1.0
N31M	Braeburn, Yuko	33.63	51	P		P	22 35 00.7	+1.5
	baz=286							
O30N	Mendenhall	33.69	52	P		P	22 35 01.2	+1.5
O30N				IAmb		IAmb	22 35 01.7	
	comp=Z,12nm,1.1s							
O30N	Mendenhall	33.69	52	P		P	22 35 00.5	+0.8
	baz=287,SNR=5.4							
SONM	Songino Array	34.02	282	P		P	22 35 03.5	+0.7
SONM	Songino Array	34.02	282	P		P	22 35 03.1	+0.3
	comp=Z,3.3nm,0.6s,baz=67,slow=7.7,SNR=28							
SONM				PcP		PcP	22 37 39.3	-0.1
	comp=Z,1.6nm,0.5s,baz=71,slow=1.7,SNR=8.3							
SONM				ScP		ScP	22 41 17.6	-1.5
	comp=Z,2.0nm,1.0s,baz=94,slow=2.2,SNR=9.1							
SONM				LR		LR	22 50 03.6	
	comp=Z,163nm,18.5s,baz=16,slow=38							
	comp=Z,3.3nm,0.6s							
M31M	Drury Creek, Y	34.06	49	P		P	22 35 04.3	+1.4
M31M				IAmb		IAmb	22 35 05.4	
	comp=Z,11nm,0.8s							
M31M	Drury Creek, Y	34.06	49	P		P	22 35 04.6	+1.7
	baz=286,SNR=8.5							
WHY	Whitehorse	34.29	52	P		P	22 35 06.2	+1.2
WHY				IAmb		IAmb	22 35 07.6	
	comp=Z,14nm,1.0s							
WHY	Whitehorse	34.29	52	P		P	22 35 07.2	+2.2
	baz=288,SNR=6.2							
H11N2	WAKE ISLAND Hy	34.35	169	T		T	23 11 30.1	
	baz=354,slow=74							
H11N3	WAKE ISLAND Hy	34.37	169	T		T	23 11 31.2	
	baz=354,slow=74							
H11N1	WAKE ISLAND Hy	34.37	169	T		T	23 11 34.1	
	baz=354							
SKAG	Skagway	34.47	54	P		P	22 35 08.0	+1.6
	baz=290							
FARO	Faro, Yukon	34.52	49	P		P	22 35 08.0	+1.1
FARO				IAmb		IAmb	22 35 09.2	
	comp=Z,11nm,1.1s							
FARO	Faro, Yukon	34.52	49	P		P	22 35 08.9	+2.0
	baz=287,SNR=5.1							
S31K	Pelican	34.54	57	P		P	22 35 08.6	+1.5
	baz=291							
TIA	Tai'an	34.73	257	P		P	22 35 09.5	+0.6
TIA				pmax		pmax		
	comp=Z,8.0nm,0.5s							
HHC	Hu-ho-hao-te	34.94	269	*eP*		P	22 35 11.1	+0.3
HHC				pmax		pmax		
	comp=Z,17nm,0.7s							
HHC				pmax		pmax		
	comp=Z,260nm,6.3s							
MOY	Mondy	35.22	291	*eP*		P	22 35 14.1	+1.0
R32K	Eaglecrest	35.28	56	P		P	22 35 15.2	+1.8
	baz=292							
HNS	HongShan	35.32	261	⇑	P	P	22 35 14.0	0.0
HNS				pmax		pmax		
	comp=Z,11nm,0.9s							
SIT	Sitka	35.34	58	P		P	22 35 15.4	+1.5
	baz=293							
A36M	Sachs Harbour	35.38	31	P		P	22 35 13.4	-0.7
A36M				IAmb		IAmb	22 35 29.0	
	comp=Z,14nm,0.8s							
A36M	Sachs Harbour	35.38	31	P		P	22 35 15.3	+1.3
	baz=280							
P33M	Teslin, Yukon	35.41	52	P		P	22 35 16.0	+1.4
	baz=290							
H11S1	WAKE ISLAND Hy	35.54	170	T		T	23 12 56.0	
	baz=352,slow=76,SNR=60							
H11S3	WAKE ISLAND Hy	35.55	170	T		T	23 12 54.0	
	baz=352,slow=76,SNR=122							
S32K	Killisnoo	35.55	57	P		P	22 35 17.1	+1.4
	baz=293							
H11S2	WAKE ISLAND Hy	35.56	170	T		T	23 13 06.1	
	baz=352,slow=76,SNR=26							
JOW	Kunigami	35.95	234	P		P	22 35 20.3	+0.8
JOW	Kunigami	35.95	234	LR		LR	22 49 10.0	
	comp=Z,51nm,21.9s,baz=182,slow=35							
BTO	Baotou	36.01	270	*eP*		P	22 35 19.5	-0.5
BTO				pP		pP	22 35 34.6	+0.3
BTO				sP		sP	22 35 41.8	+0.8
BTO				PP		PnPn	22 36 41.9	-0.2
BTO				pmax		pmax		
	comp=Z,16nm,0.8s							
BTO				pmax		pmax		
	comp=Z,180nm,6.8s							
Q32M	Nakina River	36.12	54	P		P	22 35 22.3	+1.5
Q32M				IAmb		IAmb	22 35 24.9	
	comp=Z,20nm,1.5s							
C36M	Paulatuk	36.31	35	P		P	22 35 22.6	+0.6
C36M				IAmb		IAmb	22 35 23.4	
	comp=Z,17nm,0.8s							
C36M	Paulatuk	36.31	35	P		P	22 35 22.5	+0.5
	baz=284,SNR=17							
R33M	Jennings River	36.58	53	P		P	22 35 24.7	+0.1
NJ2	Nanjing	36.75	251	*eP*		P	22 35 26.0	-0.2
NJ2				pP		pP	22 35 41.5	+0.9
NJ2				sP		sP	22 35 47.9	+0.6
NJ2				pmax		pmax		
	comp=Z,11nm,0.5s							
NJ2				pmax		pmax		
	comp=Z,450nm,4.4s							
TGTN	Hyland Airport	37.03	49	P		P	22 35 29.9	+1.5
	baz=291							
S34M	Telegraph Cree	37.08	55	P		P	22 35 30.6	+1.9
S34M	Telegraph Cree	37.08	55	P		P	22 35 30.7	+1.9
	baz=294							
WRAK	Wrangell Islan	37.09	58	P		P	22 35 30.8	+1.9
	baz=295							
CRAG	Craig	37.11	60	P		P	22 35 29.9	+0.9
DLBC	Dease Lake	37.40	54	P		P	22 35 33.6	+2.0
DLBC	Dease Lake	37.40	54	P		P	22 35 33.4	+1.8
	baz=294							
DLBC	Dease Lake	37.40	54	P		P	22 35 33.0	+1.4
	comp=Z,5.1nm,0.8s,baz=297,slow=4.0,SNR=6.0							
DLBC				LR		LR	22 51 12.1	
	comp=Z,133nm,18.7s,baz=298,slow=36							
	comp=Z,5.1nm,0.8s							
T35M	Bob Quinn	37.90	56	P		P	22 35 38.0	+2.2
T35M				IAmb		IAmb	22 35 38.8	
	comp=Z,7.8nm,0.7s							
T35M	Bob Quinn	37.90	56	P		P	22 35 37.8	+2.1
	baz=296							
LYN	LuoYang	38.60	260	⇑	P	P	22 35 41.6	-0.2
LYN				pmax		pmax		
	comp=Z,15nm,0.3s							
LYN				pmax		pmax		
	comp=Z,220nm,4.8s							
LIRD	Liard River Hi	38.85	51	P		P	22 35 45.2	+1.5
	baz=295							
GRNB	Grenville Isla	39.49	61	P		P	22 35 50.8	+1.7
GRNB				IAmb		IAmb	22 36 07.0	
	comp=Z,22nm,1.1s							

YHNB	Yeheng	41.20	241	P		P	22 36 04.2	+0.6
EUNU	Eureka	41.20	14	P		P	22 36 04.0	+1.1
EUNU				pP		pP	22 36 17.4	-0.1
BBB	Bella Bella	41.29	62	P		P	22 36 05.5	+1.6
BBB				IAmb		IAmb	22 36 24.2	
	comp=Z,39nm,1.2s							
BBB	Bella Bella	41.29	62	LR		LR	22 50 47.0	
	comp=Z,67nm,21.9s,baz=290,slow=32							
HOLB	Holberg	42.11	64	P		P	22 36 11.9	+1.2
HOLB				IAmb		IAmb	22 36 12.9	
	comp=Z,28nm,0.9s							
ALE	Alert	42.18	8	P		P	22 36 11.1	+0.2
ALE				pP		pP	22 36 24.1	-1.4
YULB	Yu-li	42.29	240	P		P	22 36 12.6	+0.2
YULB				IAmb		IAmb	22 36 16.6	
	comp=Z,27nm,1.1s							
YKA	Yellowknife Ar	42.45	43	P		P	22 36 14.1	+0.8
YKA	Yellowknife Ar	42.45	43	P		P	22 36 13.9	+0.7
	comp=Z,7.6nm,0.7s,baz=298,slow=8.3,SNR=76							
YKA				PcP		PcP	22 38 04.8	-0.3
	comp=Z,0.2nm,0.5s,baz=302,slow=3.5,SNR=3.5							
YKA				ScP		ScP	22 41 50.3	-0.3
	comp=Z,0.4nm,0.8s,baz=286,slow=4.5,SNR=4.9							
	comp=Z,7.6nm,0.7s							
RES	Resolute Bay	42.56	22	P		P	22 36 14.8	+0.8
RES	Resolute Bay	42.56	22	P		P	22 36 14.8	+0.8
RES				pmax		pmax		
	comp=Z,5.0nm,0.7s							
LZH	Lanzhou	42.63	269	*eP*		P	22 36 16.3	+1.1
LZH				pP		pP	22 36 27.1	-2.8
LZH				pmax		pmax		
	comp=Z,10.0nm,1.0s							
ZAA0	Zalesovo Array	42.64	302	P		P	22 36 14.6	-0.3
ZALV	Zalesovo Beam	42.64	302	P		P	22 36 13.9	-1.0
ZALV	Zalesovo Beam	42.64	302	P		P	22 36 13.9	-1.0
ZALV	Zalesovo Beam	42.64	302	P		P	22 36 13.2	-1.7
	comp=Z,2.3nm,0.5s,baz=53,slow=7.4,SNR=11							
ZALV				ScP		ScP	22 41 50.7	-0.8
	comp=Z,0.3nm,0.4s,baz=27,slow=4.8,SNR=2.9							
ZALV				LR		LR	22 55 01.8	
	comp=Z,164nm,18.8s,baz=76,slow=38							
	comp=Z,2.3nm,0.5s							
TPUB	Ta-pu	42.71	240	P		P	22 36 16.2	+0.4
GTA	Gaotai	42.81	276	*eP*		P	22 36 16.3	-0.3
GTA				pP		pP	22 36 27.3	-4.0
GTA				ScS		ScS	22 46 10.8	-1.2
GTA				pmax		pmax		
	comp=Z,11nm,0.9s							
DGZ	Jazzator, Alta	43.61	296	*ce*	P	P	22 36 23.0	0.0
DGZ				pmax		pmax		
	comp=Z,14nm,1.1s							
BRLDA	Berland Lookou	45.66	55	P		P	22 36 40.0	+0.8
NLWA	Neilton Lookou	46.28	66	P		P	22 36 44.1	+0.1
NLWA				IAmb		IAmb	22 36 46.5	
	comp=Z,17nm,0.9s							
SPITS	Spitsbergen Ar	46.49	350	P		P	22 36 44.4	-0.9
	comp=Z,3.0nm,0.4s,baz=52,slow=9.6,SNR=26							
SPITS				LR		LR	22 56 52.6	
	comp=Z,80nm,18.2s,baz=327,slow=37							
	comp=Z,3.0nm,0.4s							
B06A	Marblemount	46.87	63	P		P	22 36 49.0	+0.4
B06A				IAmb		IAmb	22 36 50.1	
	comp=Z,32nm,1.3s							
E03A	Lebam	46.96	66	P		P	22 36 50.5	+1.2
WMQ	Urumqi	47.01	289	*eP*		P	22 36 50.1	+0.3
WMQ				pmax		pmax		
	comp=Z,57nm,0.7s							
WMQ				LR		LR		
	comp=Z,130nm,19.7s							
D05A	Enumclaw	47.42	65	P		P	22 36 52.7	-0.2
NEEM	North Greenlan	47.54	9	*i*	P	P	22 36 53.1	-0.8
KURK	Kurchatov	47.60	302	P		P	22 36 52.7	-1.6
KURK				IAmb		IAmb	22 36 56.5	
	comp=Z,7.8nm,0.5s							
KURK	Kurchatov	47.60	302	P		P	22 36 53.3	-1.0
KURK							22 38 22.6	
KURK	Kurchatov	47.60	302	P		P	22 36 53.8	-0.5
KURBB	Kurchatov Arra	47.70	301	P		P	22 36 53.3	-1.7
	comp=Z,4.1nm,0.5s,baz=58,slow=7.6,SNR=28							
KURBB				PcP		PcP	22 38 22.6	-0.8
	comp=Z,1.3nm,0.5s,baz=53,slow=3.4,SNR=4.6							
KURBB				LR		LR	22 58 23.3	
	comp=Z,159nm,18.7s,baz=162,slow=38							
	comp=Z,4.1nm,0.5s							
GOMU	GeErMu	47.90	276	P		P	22 36 56.6	-0.6
GOMU				pmax		pmax		
	comp=Z,7.0nm,0.8s							
MLH	Mauna Loa	47.99	118	P		P	22 36 58.7	+0.8
KHU	Kahuku	48.07	118	P		P	22 36 59.1	+0.6
KHU	Kahuku	48.07	118	P		P	22 36 59.1	+0.6
KHU				pmax		pmax		
	comp=Z,176nm,1.5s							
LTY	Liberty	48.08	64	P		P	22 36 58.4	+0.3
B08A	Colville Reser	48.10	62	P		P	22 36 58.3	+0.1
B08A				IAmb		IAmb	22 36 59.9	
	comp=Z,11nm,1.2s							
MK31	Makanchi Array	48.11	295	P		P	22 36 56.8	-1.5
MK31	Makanchi Array	48.11	295	P		P	22 36 56.8	-1.5
MK31				pmax		pmax		
	comp=Z,3.0nm,0.7s							
MKAR	Makanchi Array	48.11	295	P		P	22 36 56.6	-1.6
MKAR	Makanchi Array	48.11	295	P		P	22 36 56.7	-1.6
MKAR	Makanchi Array	48.11	295	P		P	22 36 56.3	-2.0
	comp=Z,2.6nm,0.5s,baz=56,slow=7.4,SNR=33							
MKAR				PcP		PcP	22 38 25.2	+0.1
	comp=Z,0.6nm,0.5s,baz=53,slow=4.9,SNR=1.1							
MKAR				LR		LR	22 59 27.9	
	comp=Z,75nm,18.0s,baz=46,slow=39							
	comp=Z,2.6nm,0.5s							
EDM	Edmonton	48.12	54	P		P	22 36 58.8	+0.5
EDM	Edmonton	48.12	54	P		P	22 36 58.8	+0.5
EDM				pmax		pmax		
	comp=Z,31nm,0.7s							
MAKZ	Makanchi	48.27	296	P		P	22 36 57.8	-1.7
MAKZ	Makanchi	48.27	296	P		P	22 36 57.8	-1.7
MAKZ				pmax		pmax		
	comp=Z,8.0nm,1.1s							
MAKZ	Makanchi	48.27	296	P		P	22 36 57.3	-2.1
MXC	Moxie City	48.71	64	P		P	22 37 03.0	+0.2
MXC				IAmb		IAmb	22 37 04.8	
	comp=Z,23nm,1.5s							
HOOD	Mount Hood Mea	48.77	66	P		P	22 37 04.6	+1.0
E07A	Sunnyside	48.95	64	P		P	22 37 05.4	+0.6
E07A				IAmb		IAmb	22 37 06.5	
	comp=Z,19nm,1.3s							
G05A	Wamic	49.00	66	P		P	22 37 05.6	+0.5
C09A	Chrisman Ranch	49.00	62	P		P	22 37 05.6	+0.5
C09A

BVAR Borovoye Array 50.17 308 P **P** **22 37 12.3 -1.7**
comp=Z,4.2nm,0.4s,baz=61,slow=10,SNR=29
BVAR PcP **PcP** **22 38 31.8 -0.6**
comp=Z,2.3nm,0.4s,baz=68,slow=3.1,SNR=7.3
BVAR LR LR 23 00 45.0
comp=Z,138nm,18.9s,baz=55,slow=39
comp=Z,4.2nm,0.4s
BRVK Borovoye 50.20 308 P **P** **22 37 12.8 -1.4**
BRVK Borovoye 50.20 308 *de*P **P** **22 37 13.0 -1.1**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
G08A Pilot Rock 50.24 65 P **P** **22 37 14.8 +0.1**
G08A IAmb IAmb 22 37 16.2
comp=Z,11nm,1.4s
J05D Fort Rock, OR 50.31 68 P **P** **22 37 16.3 +1.0**
L04D Klamath Falls 50.42 70 P **P** **22 37 17.0 +0.9**
K04D Chiloquin, OR 50.46 69 P **P** **22 37 16.3 -0.1**
K04D IAmb IAmb 22 37 18.2
comp=Z,14nm,0.7s
KHMM Horse Mountain 50.52 72 P **P** **22 37 17.6 +0.7**
KHMM IAmb IAmb 22 37 19.8
comp=Z,25nm,1.3s
YBH Yreka Blue Hor 50.52 71 P **P** **22 37 17.8 +1.0**
YBH IAmb IAmb 22 37 19.1
comp=Z,7.4nm,0.8s
YBH Yreka Blue Hor 50.52 71 P **P** **22 37 17.8 +1.0**
YBH pmax pmax
comp=Z,7.0nm,0.8s
YBH Yreka Blue Hor 50.52 71 P **P** **22 37 17.9 +1.1**
comp=Z,8.7nm,1.0s,baz=327,slow=4.5,SNR=14
YBH LR LR 22 56 47.4
comp=Z,35nm,18.1s,baz=280,slow=34
comp=Z,8.7nm,1.0s
KMPM Mount Pierce 50.60 73 P **P** **22 37 19.2 +1.8**
F10A Beach Ranch, E 50.72 63 IAmb IAmb 22 37 19.3
comp=Z,7.5nm,0.9s
I07A Izee 50.74 66 P **P** **22 37 19.2 +0.8**
I07A IAmb IAmb 22 37 19.9
comp=Z,10nm,1.3s
PZH PanZhiHua 50.76 262 P **P** **22 37 18.0 -0.9**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,190nm,5.1s
K05A Summer Lake 50.87 69 P **P** **22 37 19.9 +0.4**
K05A IAmb IAmb 22 37 21.7
comp=Z,12nm,0.9s
KMRM Mail Ridge 50.96 73 P **P** **22 37 17.1 -3.1**
BMO Blue Mountains 51.42 64 IAmb IAmb 22 37 25.3
comp=Z,24nm,1.4s
J08A Circle Bar Ran 51.78 66 P **P** **22 37 26.7 +0.5**
J08A IAmb IAmb 22 37 28.4
comp=Z,16nm,1.3s
MSO Missoula 51.88 60 IAmb IAmb 22 37 29.3
comp=Z,12nm,1.1s
MSO Missoula 51.88 60 P **P** **22 37 27.6 +0.6**
baz=311,SNR=7.3
PLID Pearl Lake 51.96 63 IAmb IAmb 22 37 29.3
comp=Z,12nm,0.8s
WVOR Wild Horse Val 52.31 67 P **P** **22 37 30.6 +0.5**
WVOR IAmb IAmb 22 37 32.4
comp=Z,13nm,1.2s
WVOR Wild Horse Val 52.31 67 P **P** **22 37 30.7 +0.5**
WVOR pmax pmax
comp=Z,13nm,1.2s
FFC Flin Flon 52.33 47 P **P** **22 37 29.9 -0.2**
FFC IAmb IAmb 22 37 31.5
comp=Z,11nm,1.1s
FFC Flin Flon 52.33 47 P **P** **22 37 29.9 -0.2**
FFC pmax pmax
comp=Z,11nm,1.2s
FFC Flin Flon 52.33 47 P **P** **22 37 30.5 +0.4**
FFC PcP **PcP** **22 38 40.1 -0.3**
BPMT Black Pine Rid 52.40 61 P **P** **22 37 30.9 0.0**
GDXM Geysers 52.44 74 P **P** **22 37 31.1 0.0**
GDXM IAmb IAmb 22 37 34.1
comp=Z,9.5nm,1.0s
LYMT Lyon Mountain 52.64 59 P **P** **22 37 33.0 +0.3**
ORV Oroville 52.66 72 P **P** **22 37 33.0 +0.3**
ORV IAmb IAmb 22 37 34.3
comp=Z,9.4nm,0.9s
ORV Oroville 52.66 72 P **P** **22 37 33.0 +0.3**
ORV pmax pmax
comp=Z,9.0nm,1.0s
ARCES ARCESS Array B 52.70 342 P **P** **22 37 31.8 -0.8**
comp=Z,6.9nm,0.9s,baz=43,slow=9.0,SNR=6.8
ARCES PcP **PcP** **22 38 39.6 -2.0**
comp=Z,4.2nm,1.0s,baz=35,slow=3.8,SNR=1.6
ARCES LR LR 23 04 50.4
comp=Z,76nm,18.0s,baz=353,slow=42
comp=Z,6.9nm,0.9s
FCC Fort Churchill 52.75 39 P **P** **22 37 33.1 +0.1**
FCC IAmb IAmb 22 37 34.2
comp=Z,12nm,0.8s
FCC Fort Churchill 52.75 39 P **P** **22 37 33.2 +0.1**
FCC pmax pmax
comp=Z,12nm,0.9s
BEMT Mount Belmont 52.76 60 P **P** **22 37 34.4 +0.7**
ELMT Elliston 52.83 60 P **P** **22 37 34.3 +0.2**
PLTX Planet X, Gerl 53.02 70 P **P** **22 37 36.2 +0.7**
ARU Arti 53.07 317 P **P** **22 37 34.0 -1.5**
ARU IAmb IAmb 22 37 35.8
comp=Z,7.2nm,0.5s
ARU Arti 53.07 317 *c i*P **P** **22 37 33.6 -1.9**
ARU *PP **sP** **22 37 55.4 -1.6**
ARU 22 39 32.1
ARU S **S** **22 44 58.8 -2.2**
ARU SS **SS** **22 48 35.4 -4.6**
ARU pmax pmax
comp=Z,5.0nm,0.5s
ARU Arti 53.07 317 LR LR 23 03 24.3
comp=Z,134nm,18.6s,baz=32,slow=40
ARU Arti 53.07 317 P **P** **22 37 34.1 -1.4**
MFID Camas Ranch 53.17 65 P **P** **22 37 36.7 +0.2**
EGMT Eagleton 53.21 57 P **P** **22 37 37.1 +0.4**
EGMT IAmb IAmb 22 37 38.0
comp=Z,14nm,1.1s
EGMT Eagleton 53.21 57 P **P** **22 37 37.4 +0.7**
baz=312
SUMG Summit 53.23 7 P **P** **22 37 36.9 0.0**
SUMG IAmb IAmb 22 37 52.8
comp=Z,12nm,0.7s
SUMG Summit 53.23 7 P **P** **22 37 36.9 0.0**
SUMG pmax pmax
comp=Z,13nm,0.7s
SUMG Summit 53.23 7 *i*P **P** **22 37 36.5 -0.3**
LRM Limekiln Ridge 53.32 61 P **P** **22 37 37.6 -0.2**
AFDM Forest Hills D 53.38 72 P **P** **22 37 38.9 +0.8**
AFDM IAmb IAmb 22 37 40.1
comp=Z,8.5nm,1.1s
SLVN Son La 53.48 256 P **P** **22 37 38.8 -0.2**
MPK Martis Peak 53.67 71 P **P** **22 37 41.4 +0.9**
PAHR Pah Rah Range 53.75 70 P **P** **22 37 41.8 +0.9**
MCMT McKenzie Canyo 53.79 62 P **P** **22 37 41.0 -0.2**
HLID Hailey 53.83 64 P **P** **22 37 41.8 +0.3**
HLID Hailey 53.83 64 P **P** **22 37 42.5 +1.1**
baz=313,SNR=7.6
EMB Emerald Bay 53.85 72 P **P** **22 37 42.3 +0.6**
EMB IAmb IAmb 22 37 44.1
comp=Z,16nm,1.1s
PRGR Permogore 53.99 328 *e*P **P** **22 37 43.0 +0.9**
PRGR pmax pmax
comp=Z,11nm,0.9s
PNTR Pine Nut 54.05 71 P **P** **22 37 44.5 +1.3**
YERR Yerington 54.33 71 P **P** **22 37 46.5 +1.3**
CMB Columbia Colle 54.34 73 P **P** **22 37 46.1 +1.0**
CMB IAmb IAmb 22 37 47.6
comp=Z,14nm,1.4s
CMB Columbia Colle 54.34 73 P **P** **22 37 46.1 +1.0**
CMB pmax pmax
comp=Z,14nm,1.4s
BMN Battle Mountai 54.45 68 P **P** **22 37 47.4 +1.4**
BMN Battle Mountai 54.45 68 P **P** **22 37 47.4 +1.4**
BMN pmax pmax
comp=Z,26nm,1.0s
WAKR Walker 54.55 72 P **P** **22 37 47.8 +1.0**
SAO San Andreas Ge 54.63 74 P **P** **22 37 47.7 +0.6**
SAO IAmb IAmb 22 37 54.3
comp=Z,15nm,1.2s
SAO San Andreas Ge 54.63 74 P **P** **22 37 47.7 +0.6**
SAO pmax pmax
comp=Z,15nm,1.3s
YHL Hebgen Lake 54.64 61 P **P** **22 37 46.2 -1.3**
YHL IAmb IAmb 22 37 49.6
comp=Z,14nm,1.0s

LSA Lhasa 54.67 273 P **P** **22 37 48.0 0.0**
LSA IAmb IAmb 22 37 51.9
comp=Z,7.0nm,0.6s
LSA Lhasa 54.67 273 P **P** **22 37 48.0 0.0**
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA Lhasa 54.67 273 P **P** **22 37 50.3 +2.2**
FRU1 Bishkek 54.83 296 P **P** **22 37 48.2 -0.4**
FRU1 Bishkek 54.83 296 P **P** **22 37 48.2 -0.4**
FRU1 pmax pmax
comp=Z,12nm,0.5s
YHH Holmes Hill 54.85 61 P **P** **22 37 49.3 +0.3**
YMR Madison River 54.88 61 P **P** **22 37 49.8 +0.7**
YMR IAmb IAmb 22 37 51.4
comp=Z,19nm,0.9s
KVN Kaiserville 54.92 70 P **P** **22 37 50.5 +1.0**
KVN Kaiserville 54.92 70 P **P** **22 37 50.5 +1.0**
KVN pmax pmax
comp=Z,40nm,1.2s
RYN Ryan 54.98 71 P **P** **22 37 50.8 +0.9**
RYN IAmb IAmb 22 37 52.3
comp=Z,18nm,1.0s
BBGB Big Mountain B 54.99 74 P **P** **22 37 51.2 +1.3**
YNR Norris Junctio 54.99 60 P **P** **22 37 50.9 +0.9**
YNR IAmb IAmb 22 37 53.4
comp=Z,25nm,1.5s
KIRV Kirov 54.99 323 LR LR 23 04 20.8
comp=Z,256nm,18.7s,baz=40,slow=39
AAK Ala-Archa 55.02 296 P **P** **22 37 49.9 -0.2**
AAK Ala-Archa 55.02 296 ‖ *i*P **P** **22 37 50.4 +0.3**
AAK pmax pmax
comp=Z,11nm,1.9s
AAK Ala-Archa 55.02 296 LR LR 23 02 40.0
comp=Z,128nm,19.7s,baz=46,slow=38
AAK Ala-Archa 55.02 296 P **P** **22 37 50.2 +0.1**
YFT Old Faithful 55.09 61 P **P** **22 37 52.2 +1.5**
NVAR Mina Array Bea 55.24 71 P **P** **22 37 53.0 +1.2**
NVAR Mina Array Bea 55.24 71 P **P** **22 37 53.4 +1.6**
comp=Z,13nm,0.7s,baz=297,slow=7.4,SNR=88
NVAR LR LR 23 00 45.5
comp=Z,36nm,18.3s,baz=279,slow=35
comp=Z,13nm,0.7s
LHV Little Huntoon 55.25 71 P **P** **22 37 53.5 +1.9**
H17A Grant Village 55.27 61 P **P** **22 37 52.5 +0.5**
H17A Grant Village 55.27 61 P **P** **22 37 54.6 +2.6**
baz=314,SNR=5.3
ELK Elko 55.32 67 P **P** **22 37 53.6 +1.2**
ELK IAmb IAmb 22 37 54.9
comp=Z,14nm,0.9s
ELK Elko 55.32 67 P **P** **22 37 53.6 +1.2**
ELK pmax pmax
comp=Z,14nm,0.9s
ELK Elko 55.32 67 LR LR 23 00 09.4
comp=Z,35nm,18.5s,baz=268,slow=34
NV11 Mina Array Sit 55.32 71 P **P** **22 37 53.7 +1.4**
NV11 IAmb IAmb 22 37 54.9
comp=Z,20nm,1.1s
MDPB Devils Postpil 55.36 72 P **P** **22 37 54.0 +1.2**
MDPB IAmb IAmb 22 37 55.5
comp=Z,16nm,1.1s
FLWY Flagg Ranch 55.42 61 P **P** **22 37 53.9 +0.9**
FLWY IAmb IAmb 22 37 55.3
comp=Z,14nm,0.9s
OMMB Old Mammoth Mi 55.42 72 P **P** **22 37 54.8 +1.6**
IMW Indian Meadow 55.42 61 P **P** **22 37 54.3 +1.2**
IMW IAmb IAmb 22 37 55.3
comp=Z,11nm,0.8s
RLMT Red Lodge 55.44 59 P **P** **22 37 54.0 +0.9**
RLMT Red Lodge 55.44 59 P **P** **22 37 55.0 +1.9**
baz=314,SNR=7.1
FXWY Fox Creek 55.56 62 P **P** **22 37 54.9 +0.8**
FXWY IAmb IAmb 22 37 56.5
comp=Z,10nm,0.9s
Q09A Carvers 55.58 70 P **P** **22 37 55.5 +1.3**
DGMT Dagmar 55.61 53 P **P** **22 37 55.2 +1.2**
baz=314
MOOW Moose Ponds 55.63 61 P **P** **22 37 55.6 +1.1**
MOOW IAmb IAmb 22 37 57.1
comp=Z,9.3nm,1.1s
TPAW Teton Pass 55.70 62 P **P** **22 37 55.6 +0.5**
TPAW IAmb IAmb 22 37 57.3
comp=Z,8.4nm,0.8s
LOHW Long Hollow 55.80 61 P **P** **22 37 56.3 +0.6**
LOHW IAmb IAmb 22 37 58.3
comp=Z,15nm,1.1s
REDW Red Top Meadow 55.84 62 P **P** **22 37 55.6 -0.5**
LAO LASA Array 55.87 56 P **P** **22 37 54.1 -1.9**
LAO LASA Array 55.87 56 P **P** **22 37 57.1 +1.1**
baz=314
HVU Hansel Valley 55.93 64 P **P** **22 37 56.8 +0.2**
HVU IAmb IAmb 22 37 59.2
comp=Z,15nm,1.0s
HVU Hansel Valley 55.93 64 P **P** **22 37 56.8 +0.2**
TPH Tonopah 56.09 70 P **P** **22 37 59.2 +1.3**
TPH Tonopah 56.09 70 P **P** **22 37 59.2 +1.3**
AHID Auburn Hatcher 56.13 62 P **P** **22 37 58.3 +0.2**
AHID IAmb IAmb 22 38 00.4
comp=Z,18nm,1.1s
TIN Tinemaha, Big 56.25 72 P **P** **22 38 01.0 +2.1**
baz=315
MZP Montezuma Peak 56.27 71 P **P** **22 37 60.0 +0.8**
MZP IAmb IAmb 22 38 01.6
comp=Z,8.4nm,1.1s
BGU Big Grassy Mou 56.39 65 P **P** **22 38 01.1 +1.2**
BGU IAmb IAmb 22 38 01.8
comp=Z,6.5nm,0.8s
KSH Kashi 56.40 292 P **P** **22 38 04.1 +4.2**
KSH pmax pmax
comp=Z,6.0nm,1.0s
SPUT South Promonto 56.43 65 P **P** **22 38 01.1 +0.9**
KLMR Klimovskoe 56.48 330 *e*P **P** **22 37 59.7 -0.3**
KLMR AMP 22 38 13.5
comp=Z,22nm,1.5s
KLMR Klimovskoe 56.48 330 *e*P **P** **22 37 59.6 -0.4**
KLMR pmax pmax
comp=Z,22nm,1.5s
ICESG Greenland Ices 56.53 9 *i*P **P** **22 38 00.6 -0.1**
GMN Gold Mountain 56.62 71 P **P** **22 38 01.6 -0.1**
GMN IAmb IAmb 22 38 04.3
comp=Z,10.0nm,1.0s
VES Vestal, Richgr 56.63 74 P **P** **22 38 02.5 +1.1**
baz=316
HWUT Hardware Ranch 56.70 64 P **P** **22 38 03.0 +0.9**
Q12A Willow Creek R 56.74 68 P **P** **22 38 03.3 +0.9**
Q12A IAmb IAmb 22 38 05.0
comp=Z,15nm,1.1s
ARSB Arslanbob 56.74 296 P **P** **22 38 02.2 -0.2**
ARSB Arslanbob 56.74 296 P **P** **22 38 02.2 -0.2**
ARSB pmax pmax
comp=Z,1.0nm,0.6s
CWC Cottonwood Cre 56.77 72 P **P** **22 38 04.0 +1.3**
baz=316
GRAC Grapevine Rang 56.78 71 P **P** **22 38 03.0 +0.5**
GRAC Grapevine Rang 56.78 71 P **P** **22 38 04.8 +2.3**
baz=316
KK31 Karatay Array 56.79 299 P **P** **22 38 01.2 -1.3**
KK31 Karatay Array 56.79 299 P **P** **22 38 01.3 -1.3**
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 56.79 299 P **P** **22 38 01.2 -1.3**
KKAR Karatay Array 56.79 299 P **P** **22 38 01.0 -1.6**
KKAR Karatay Array 56.79 299 P **P** **22 38 01.3 -1.3**
KKAR pmax pmax
comp=Z,3.0nm,0.7s
R11B Troy Canyon, C 56.81 69 P **P** **22 38 03.7 +0.7**
R11B IAmb IAmb 22 38 05.2
comp=Z,10nm,1.1s
R11B Troy Canyon, C 56.81 69 P **P** **22 38 04.1 +1.2**
baz=315,SNR=18
PKM Mcpherson Peak 56.89 75 P **P** **22 38 04.9 +1.3**
baz=316,SNR=5.0
BW06 Boulder Array 56.94 61 P **P** 22 37 58.7 -5.2
BW06 Boulder Array 56.94 61 P **P** **22 38 04.6 +0.8**
baz=315
PD31 Pinedale Array 56.94 61 P **P** 22 37 59.0 -4.8
PDAR Pinedale Array 56.94 61 P **P** **22 38 05.4 +1.5**
comp=Z,11nm,0.8s,baz=343,slow=4.6,SNR=9.5
PDAR LR LR 23 04 18.9
comp=Z,21nm,18.2s,baz=315,slow=38
comp=Z,11nm,0.8s
DUG Dugway, Tooele 57.02 66 P **P** **22 38 05.3 +0.9**
DUG Dugway, Tooele 57.02 66 P **P** **22 38 06.0 +1.6**
baz=315,SNR=25
DUG Dugway, Tooele 57.02 66 P **P** **22 38 05.3 +0.9**
DUG pmax pmax
comp=Z,24nm,1.0s
SPR3 Spring Creek 3 57.04 68 P **P** **22 38 06.5 +1.7**
BCW Bitter Crk WRg 57.08 75 P **P** **22 38 06.1 +1.2**
ISA Isabella, Lake 57.10 73 P **P** **22 38 05.4 +0.5**
ISA IAmb IAmb 22 38 06.4
comp=Z,9.7nm,1.1s
ISA Isabella, Lake 57.10 73 P **P** **22 38 05.8 +0.8**
baz=316
ISA Isabella, Lake 57.10 73 P **P** **22 38 05.4 +0.5**
ISA pmax pmax
comp=Z,10.0nm,1.1s
S11A Rachel 57.22 70 P **P** **22 38 06.8 +1.0**
CTU Camp Tracy 57.24 65 P **P** **22 38 06.5 +0.6**
CTU IAmb IAmb 22 38 08.2
comp=Z,14nm,0.9s
SFJD Kangerlussuaq 57.26 14 *i*P **P** **22 38 04.5 -0.9**
SFJD Kangerlussuaq 57.26 14 LR LR 23 05 33.4
comp=Z,81nm,18.1s,baz=356,slow=39
SFJD Kangerlussuaq 57.26 14 P **P** **22 38 04.8 -0.6**
SHL Shillong 57.30 269 P **P** **22 38 06.7 +0.2**
SHL IAmb IAmb 22 38 07.5
comp=Z,5.3nm,0.6s
SHL Shillong 57.30 269 P **P** **22 38 06.7 +0.2**
SHL pmax pmax
comp=Z,5.0nm,0.6s
WCT Wildcat Mounta 57.34 71 P **P** **22 38 07.4 +0.8**
WCT IAmb IAmb 22 38 08.9
comp=Z,8.9nm,0.9s
MPMC Manual Prospec 57.38 72 P **P** **22 38 08.4 +1.4**
baz=316,SNR=17
FURC Furnace Creek, 57.44 72 P **P** **22 38 08.9 +1.8**
baz=316,SNR=19
TPNV Topopah Spring 57.44 71 P **P** **22 38 08.0 +0.6**
TPNV Topopah Spring 57.44 71 P **P** **22 38 08.8 +1.5**
baz=316,SNR=20
TPNV Topopah Spring 57.44 71 P **P** **22 38 08.0 +0.6**
TPNV pmax pmax
comp=Z,20nm,1.1s
ABKAR Akbulak array 57.55 310 P **P** **22 38 06.3 -1.4**
AKTO Aktyubinsk 57.56 312 LR LR 23 03 59.0
comp=Z,105nm,18.9s,baz=190,slow=37
NLU North Lily Min 57.59 65 P **P** **22 38 09.1 +0.6**
NLU IAmb IAmb 22 38 11.0
comp=Z,13nm,0.9s
SCZ2 Santa Cruz Isl 57.63 75 P **P** **22 38 09.2 +0.5**
baz=316
LRMC Laurel Mtn Rad 57.68 73 P **P** **22 38 10.2 +1.1**
baz=316,SNR=11
OSI Osito Audit: C 57.71 74 P **P** **22 38 10.6 +1.4**
baz=316
CCAC Calif City Air 57.73 73 P **P** **22 38 09.3 0.0**
GWY Greenwater Val 57.75 72 P **P** **22 38 10.4 +0.9**
PRN Pahroc Range 57.78 70 P **P** **22 38 11.1 +1.3**
MPU Maple Canyon 57.79 65 P **P** **22 38 11.0 +1.1**
QSM Queen of Sheba 57.79 72 P **P** **22 38 10.5 +0.8**
BSUT Blindstream Ca 57.88 64 P **P** **22 38 11.5 +0.8**
BSUT IAmb IAmb 22 38 13.5
comp=Z,14nm,1.0s
EDW2 Edwards Air Fo 57.94 74 P **P** **22 38 11.9 +1.2**
baz=316,SNR=13
ULM Lac du Bonnet 58.13 47 P **P** **22 38 12.2 +0.4**
comp=Z,5.6nm,0.5s,baz=318,slow=7.0,SNR=18
ULM pP **pP** **22 38 27.6 +0.7**
comp=Z,5.5nm,0.5s,baz=319,slow=6.2,SNR=6.4
ULM LR LR 23 03 27.3
comp=Z,45nm,20.9s,baz=350,slow=36
comp=Z,5.6nm,0.5s
SHOC Shoshone, Teco 58.17 72 P **P** **22 38 14.3 +1.9**
baz=316
MDND Maddock 58.21 51 P **P** **22 38 12.8 +0.4**
MDND Maddock 58.21 51 P **P** **22 38 13.1 +0.7**
baz=317
GSC Goldstone, Bar 58.31 72 P **P** **22 38 13.5 +0.1**
GSC Goldstone, Bar 58.31 72 P **P** **22 38 14.9 +1.5**
baz=316,SNR=7.6
GSC Goldstone, Bar 58.31 72 P **P** **22 38 13.5 +0.1**
GSC pmax pmax
comp=Z,19nm,1.0s
CHTO Chiang Mai 58.32 258 P **P** **22 38 12.8 -0.8**
CHTO IAmb IAmb 22 38 17.1
comp=Z,8.0nm,1.2s
CHTO Chiang Mai 58.32 258 P **P** **22 38 12.8 -0.8**
CHTO pmax pmax
comp=Z,8.0nm,1.3s
CHTO Chiang Mai 58.32 258 P **P** **22 38 13.4 -0.1**
CHTO pP **pP** **22 38 28.2 -0.6**
PASC Pasadena Art C 58.34 74 P **P** **22 38 14.1 +0.6**
PASC IAmb IAmb 22 38 15.4
comp=Z,9.8nm,0.6s
TCRU Three Creeks R 58.35 67 P **P** **22 38 14.1 +0.2**
TCRU IAmb IAmb 22 38 16.1
comp=Z,10.0nm,1.0s
SHPR Sheep Range 58.36 70 P **P** **22 38 15.0 +1.1**
TAPN Taplejung 58.44 274 *e*P **P** **22 38 14.6 -0.1**
comp=Z,28nm,0.4s
RDMU Red Mountain 58.49 63 P **P** **22 38 15.9 +1.1**
TMUT Trail Mountain 58.53 65 P **P** **22 38 16.0 +0.8**
MVU Marysvale 58.55 67 P **P** **22 38 15.3 0.0**
MSU Marysvale 58.57 67 P **P** **22 38 16.3 +0.9**
MSU Marysvale 58.57 67 P **P** **22 38 16.3 +0.9**
BFSC Mount Baldy Ra 58.59 74 P **P** **22 38 17.0 +1.6**
baz=317
CMAR Chiang Mai Arr 58.60 258 P **P** **22 38 15.4 -0.1**
CMAR Chiang Mai Arr 58.60 258 *i*P **P** **22 38 17.6 +2.1**
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CMAR Chiang Mai Arr 58.60 258 P **P** **22 38 15.2 -0.3**
comp=Z,2.7nm,0.6s,baz=25,slow=6.7,SNR=11
CMAR LR LR 23 06 48.4
comp=Z,47nm,18.1s,baz=55,slow=39
comp=Z,2.7nm,0.6s
CCUT Cedar City 58.61 68 P **P** **22 38 16.9 +1.2**
CCUT IAmb IAmb 22 38 18.2
comp=Z,13nm,1.0s
P17A Butcher Ranch, 58.66 65 P **P** **22 38 16.7 +0.8**
P17A IAmb IAmb 22 38 19.2
comp=Z,17nm,1.1s
WTNK Soaring Height 58.67 70 P **P** **22 38 16.9 +1.0**
TUQ Turquoise Moun 58.71 72 P **P** **22 38 17.6 +1.3**
baz=317,SNR=20
SZCU Shurtz Canyon 58.73 68 P **P** **22 38 17.1 +0.6**
SZCU IAmb IAmb 22 38 18.8
comp=Z,11nm,1.1s
CIS Catalina Islan 58.76 75 P **P** **22 38 17.8 +1.3**
baz=317
RSSD Black Hills 58.78 57 P **P** **22 38 17.8 +1.0**
baz=316
RSSD Black Hills 58.78 57 P **P** **22 38 17.9 +1.2**
RSSD pP **pP** **22 38 33.0 +1.3**
BTK Batken 58.80 296 P **P** **22 38 16.2 -0.5**
BTK IAmb IAmb 22 38 19.2
comp=Z,7.5nm,1.1s
BTK Batken 58.80 296 P **P** **22 38 16.2 -0.5**
BTK pmax pmax
comp=Z,8.0nm,1.2s
P18A Preston Nutter 58.81 65 P **P** **22 38 18.1 +1.0**
P18A IAmb IAmb 22 38 19.8
comp=Z,9.7nm,0.9s
MTPU Mount Pierson 58.90 67 P **P** **22 38 18.7 +0.9**
MTPU IAmb IAmb 22 38 20.8
comp=Z,10nm,1.0s
HEC Hector,Ludlow 58.91 72 P **P** **22 38 19.0 +1.4**
baz=317,SNR=7.1
BBRC Big Bear Solar 58.99 73 P **P** **22 38 19.7 +1.3**
baz=317
SRU San Rafael Swe 59.03 65 P **P** **22 38 19.1 +0.6**
SRU San Rafael Swe 59.03 65 P **P** **22 38 19.1 +0.6**
SRU pmax pmax
comp=Z,32nm,1.0s
LCMT Little Creek M 59.06 69 P **P** **22 38 19.9 +1.2**
V12A Nelson 59.10 71 P **P** **22 38 19.4 +0.5**
V12A IAmb IAmb 22 38 21.5
comp=Z,16nm,1.1s
GUN Gumba 59.10 276 *e*P **P** **22 38 20.2 +0.9**
comp=Z,8.9nm,0.3s
JIRN Jiri 59.10 275 *e*P **P** **22 38 20.1 +0.7**
comp=Z,7.0nm,0.4s
ELS Elsinore Mount 59.15 74 P **P** **22 38 19.5 +0.3**
ELS IAmb IAmb 22 38 21.1
comp=Z,16nm,1.1s
PKCU Pink Cliffs 59.27 68 P **P** **22 38 21.2 +0.9**
PKCU IAmb IAmb 22 38 23.3
comp=Z,16nm,1.0s
KNB Kanab 59.29 68 P **P** **22 38 21.1 +0.8**
KNB IAmb IAmb 22 38 23.2

comp=Z,17nm,1.1s
KNB Kanab 59.29 68 P **P** **22 38 21.2 +0.8**
KNB pmax pmax
comp=Z,17nm,1.1s
MURC Murrieta 59.32 74 P **P** **22 38 21.8 +1.4**
baz=317
GMRC Granite Mounta 59.33 72 P **P** **22 38 21.9 +1.4**
baz=317,SNR=15
RAMN Ramite 59.39 275 *e*P **P** **22 38 21.0 -0.2**
comp=Z,38nm,0.4s
O20A White River Ci 59.51 63 P **P** **22 38 23.0 +1.2**
baz=317,SNR=5.9
KKN Kakani 59.55 276 *e*P **P** **22 38 22.9 +0.7**
AGMN Agassiz Nation 59.58 49 P **P** **22 38 22.3 +0.4**
AGMN IAmb IAmb 22 38 23.3
comp=Z,6.9nm,0.7s
AGMN Agassiz Nation 59.58 49 P **P** **22 38 21.8 -0.2**
baz=318
FIA1 FINESS Array S 59.58 337 P **P** **22 38 21.0 -0.7**
FINES FINESS Array B 59.59 337 P **P** **22 38 22.1 +0.4**
FINES FINESS Array B 59.59 337 *i* P **P** **22 38 21.6 -0.1**
FINES pmax pmax
comp=Z,5.0nm,0.4s
FINES FINESS Array B 59.59 337 P **P** **22 38 20.9 -0.8**
comp=Z,5.1nm,0.4s,baz=39,slow=8.1,SNR=49
FINES PcP **PcP** **22 39 07.8 -0.6**
comp=Z,3.5nm,0.8s,baz=11,slow=1.4,SNR=1.7
FINES LR LR 23 09 19.2
comp=Z,91nm,18.1s,baz=36,slow=41
comp=Z,5.1nm,0.4s
PKI Pulchoki 59.63 276 *e*P **P** **22 38 22.9 -0.1**
comp=Z,12nm,0.4s
BELC Belle Mtn. Jos 59.71 73 P **P** **22 38 24.0 +0.8**
baz=317,SNR=9.4
PFO Pinyon Flats O 59.73 74 P **P** **22 38 23.9 +0.6**
PFO IAmb IAmb 22 38 25.1
comp=Z,11nm,1.1s
PFO Pinyon Flats O 59.73 74 P **P** **22 38 24.0 +0.6**
baz=317
PFO Pinyon Flats O 59.73 74 P **P** **22 38 23.8 +0.6**
comp=Z,4.9nm,0.8s,baz=314,slow=6.2,SNR=7.4
PFO LR LR 23 00 28.3
comp=Z,49nm,20.7s,baz=266,slow=32
comp=Z,4.9nm,0.8s
PFO Pinyon Flats O 59.73 74 P **P** **22 38 24.0 +0.6**
TPFO Pinon Flats 59.73 74 P **P** **22 38 23.9 +0.6**
baz=317
PMD Palm Desert 59.75 73 P **P** **22 38 23.2 -0.1**
PMD IAmb IAmb 22 38 24.4
comp=Z,8.8nm,0.8s
HMU Henry Mountain 59.76 66 P **P** **22 38 24.4 +0.7**
DMN Daman 59.78 276 *e*P **P** **22 38 24.7 +0.8**
comp=Z,12nm,0.4s
109C Camp Elliot, M 59.89 75 P **P** **22 38 23.1 -1.1**
D32A Dogwood Acres, 59.92 50 P **P** **22 38 23.6 -0.7**
U15A North Rim 60.01 68 P **P** **22 38 26.4 +1.0**
U15A IAmb IAmb 22 38 28.0
comp=Z,9.0nm,1.1s
DANN Dangsing 60.02 278 *e*P **P** **22 38 26.3 +0.7**
comp=Z,20nm,0.4s
IRM Iron Mountain 60.08 72 P **P** **22 38 27.0 +1.4**
baz=317,SNR=16
W13A Hualapai Mount 60.10 71 P **P** **22 38 26.4 +0.4**
W13A IAmb IAmb 22 38 28.1
comp=Z,11nm,1.1s
N23A Red Feather La 60.16 61 P **P** **22 38 27.2 +0.8**
baz=317
PV21 Cone Mtn., Par 60.26 65 P **P** **22 38 27.8 +0.7**
PV21 IAmb IAmb 22 38 29.2
comp=Z,11nm,0.9s
BC3 Big Chuckawall 60.27 73 P **P** **22 38 27.9 +0.9**
baz=317,SNR=7.8
MONP2 Monument Peak 60.28 74 P **P** **22 38 28.0 +0.8**
baz=318
PV23 Carpenter Ridg 60.32 65 P **P** **22 38 28.9 +1.4**
PV10 Paradox Valley 60.36 65 P **P** **22 38 29.2 +1.4**
BELG Belogornoye 60.37 320⇑ *e*P **P** **22 38 26.3 -0.9**
BELG pmax pmax
comp=Z,5.0nm,1.9s
BELG Belogornoye 60.37 320 LR LR 23 07 34.9
comp=Z,297nm,18.1s,baz=340,slow=39
PV14 Lion Creek, Pa 60.37 65 P **P** **22 38 28.9 +1.1**
PV22 Blue Mesa, Par 60.38 64 P **P** **22 38 28.4 +0.6**
TKX Tecate 60.41 74 P **P** **22 38 28.7 +0.8**
PV04 Paradox Valley 60.42 65 P **P** **22 38 28.4 +0.3**
PV20 West Nyswonger 60.43 65 P **P** **22 38 28.7 +0.6**
PV19 Morning Glory 60.44 65 P **P** **22 38 28.5 +0.3**
PV17 East Wray Mesa 60.48 65 P **P** **22 38 29.2 +0.7**
PV16 Nyswonger Mesa 60.48 65 P **P** **22 38 28.8 +0.3**
PV11 David Mesa, Pa 60.51 65 P **P** **22 38 28.9 +0.2**
PV07 Paradox Valley 60.53 64 P **P** **22 38 29.4 +0.6**
PV07 IAmb IAmb 22 38 30.9
comp=Z,14nm,1.0s
PV18 Skein Mesa, Pa 60.53 65 P **P** **22 38 29.7 +0.9**
PDMCI Parker Dam,Lak 60.53 71 P **P** **22 38 29.6 +1.0**
baz=317,SNR=7.3
PV12 Saucer Basin, 60.53 65 P **P** **22 38 30.0 +1.1**
PV12 IAmb IAmb 22 38 31.2
comp=Z,15nm,0.9s
PV05 Paradox Valley 60.55 65 P **P** **22 38 29.4 +0.4**
PV03 Paradox Valley 60.55 65 P **P** **22 38 29.0 0.0**
IKP In-Ko-Pah, Jac 60.63 74 P **P** **22 38 30.7 +1.2**
baz=318
PV02 Paradox Valley 60.65 65 P **P** **22 38 29.5 -0.1**
PV02 IAmb IAmb 22 38 32.7
comp=Z,17nm,1.3s
RMX La Rumorosa 60.68 74 P **P** **22 38 29.7 -0.2**
RMX IAmb IAmb 22 38 32.3
comp=Z,12nm,1.2s
PV15 Paradox Valley 60.69 64 P **P** **22 38 30.9 +1.0**
CHGR Chuyangaron 60.70 296 P **P** **22 38 28.3 -1.6**
CHGR Chuyangaron 60.70 296 P **P** **22 38 28.3 -1.6**
CHGR pmax pmax
comp=Z,11nm,0.6s
BLYC Blythe 60.72 72 P **P** **22 38 30.9 +1.0**
YUH Yuha Desert 60.74 74 P **P** **22 38 30.3 +0.3**
YUH IAmb IAmb 22 38 31.9
comp=Z,13nm,1.1s
SIMJ Simiganj 60.78 296 P **P** **22 38 29.0 -1.4**
SIMJ pP **pP** **22 38 44.7 -1.1**
SIMJ PcP **PcP** **22 39 12.7 -1.2**
PV01 Paradox Valley 60.79 65 P **P** **22 38 31.8 +1.1**
PV01 IAmb IAmb 22 38 32.9
comp=Z,22nm,1.5s
SMCO Snowmass 60.88 63 P **P** **22 38 31.9 +0.5**
SMCO IAmb IAmb 22 38 33.6
comp=Z,16nm,1.0s
SUSD Miller 61.02 54 P **P** **22 38 31.4 -0.5**
GLA Glamis 61.06 73 P **P** **22 38 34.9 +2.5**
baz=318
WUAZ Wupatki 61.19 69 P **P** **22 38 34.2 +0.9**
WUAZ Wupatki 61.19 69 P **P** **22 38 35.0 +1.8**
baz=318,SNR=10.0
ESJX Sierra Juarez 61.20 74 P **P** **22 38 34.2 +0.8**
ESJX IAmb IAmb 22 38 35.5
comp=Z,17nm,1.2s
BRIGG Briggsdale 61.23 60 P **P** **22 38 34.5 +1.1**
F33A 5 Mile Ranch, 61.23 51 P **P** **22 38 33.4 +0.2**
Y14A Wickenburg 61.44 71 P **P** **22 38 34.8 -0.1**
Y14A IAmb IAmb 22 38 37.2
comp=Z,10nm,0.9s
MVCO Mesa Verde 61.51 65 P **P** **22 38 35.4 -0.2**
MVCO IAmb IAmb 22 38 37.6
comp=Z,8.8nm,0.8s
MVCO Mesa Verde 61.51 65 P **P** **22 38 36.5 +1.0**
baz=318,SNR=6.2
EYMN Ely 61.76 47 P **P** **22 38 36.6 -0.1**
baz=320
BORG Borgarnes 61.78 1 LR LR 23 04 01.4
comp=Z,43nm,22.0s,baz=353,slow=35
TOLI2 Tolitoli 61.88 227 P **P** **22 38 37.5 -0.4**
X16A Lo Mia Camp, P 61.96 69 P **P** **22 38 39.7 +1.2**
X16A IAmb IAmb 22 38 41.2
comp=Z,10nm,1.0s
Q24A Divide 61.99 62 P **P** **22 38 38.7 -0.1**
Q24A IAmb IAmb 22 38 53.6
comp=Z,11nm,1.1s
S22A 4UR Ranch, Cre 62.01 64 P **P** **22 38 39.7 +0.8**
S22A IAmb IAmb 22 38 41.7
comp=Z,18nm,1.1s
S22A 4UR Ranch, Cre 62.01 64 P **P** **22 38 40.8 +1.8**
baz=318,SNR=13
K30B Basset 62.03 55 P **P** **22 38 38.7 0.0**
VSU Vasula 62.04 335⇑ *e*P **P** **22 38 38.7 +0.3**
VSU pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 62.07 327 *e*P **P** **22 38 38.9 +0.2**
OBN *e* 22 39 14.6
OBN *e* 22 40 56.4
OBN *e*PPP PPP 22 42 21.9
OBN *e*S **S** **22 46 56.7 -2.1**
OBN pmax pmax
comp=Z,30nm,1.5s
OBN MLR MLR
comp=Z,165nm,18.0s
OGNE Ogallala 62.12 58 P **P** **22 38 39.8 +0.4**
NIL Nilore 62.15 290 P **P** **22 38 39.3 -0.3**
NIL Nilore 62.15 290 P **P** **22 38 39.3 -0.3**
NIL pmax pmax
comp=Z,11nm,0.6s
NIL Nilore 62.15 290 P **P** **22 38 40.6 +1.0**
NIL pP **pP** **22 38 54.6 -0.4**
ECSD EROS Data Cent 62.67 53 P **P** **22 38 43.0 0.0**
ECSD IAmb IAmb 22 38 44.1
comp=Z,12nm,0.9s
ECSD EROS Data Cent 62.67 53 P **P** **22 38 43.6 +0.7**
baz=320,SNR=6.2
X18A Snowflake 62.70 68 P **P** **22 38 44.1 +0.6**
X18A IAmb IAmb 22 38 46.2
comp=Z,17nm,1.0s
SDCO Great Sand Dun 62.71 63 P **P** **22 38 44.0 +0.3**
SDCO IAmb IAmb 22 38 45.9
comp=Z,13nm,1.2s
SDCO Great Sand Dun 62.71 63 P **P** **22 38 45.0 +1.3**
baz=318,SNR=8.4
NB2 NORSAR Subarra 62.94 344 P **P** **22 38 44.0 -0.5**
comp=Z,7.6nm,0.8s,baz=22,slow=6.9
NB2 PCP PcP 22 39 36.4 +14
comp=Z,1.9nm,0.7s,baz=28,slow=4.4
NOA NORSAR Array B 62.94 344 P **P** **22 38 44.2 -0.3**
comp=Z,3.7nm,0.6s,baz=22,slow=6.5,SNR=19
NOA pP **pP** **22 38 58.7 -1.1**
comp=Z,5.1nm,0.8s,baz=19,slow=6.6,SNR=8.2
NOA LR LR 23 08 27.1
comp=Z,20nm,18.6s,baz=5.0,slow=38
comp=Z,3.7nm,0.6s
PIX Pinacate 62.95 73 P **P** **22 38 45.2 +0.3**
PIX IAmb IAmb 22 38 46.9
comp=Z,13nm,1.2s
HNR Honiara 62.98 181 LR LR 23 01 40.3
comp=Z,732nm,21.9s,baz=332,slow=32
214A Organ Pipe Nat 63.02 72 P **P** **22 38 46.5 +1.1**
214A IAmb IAmb 22 38 47.7
comp=Z,16nm,1.1s
214A Organ Pipe Nat 63.02 72 P **P** **22 38 46.7 +1.3**
baz=320,SNR=6.3
NBO00 NORSAR Array S 63.02 344 P **P** **22 38 45.3 +0.3**
KSCO Kaye Shedlock' 63.26 60 P **P** **22 38 47.0 -0.1**
KSCO Kaye Shedlock' 63.26 60 P **P** **22 38 48.3 +1.2**
baz=319
SPMN Marine on St. 63.28 49 P **P** **22 38 46.8 -0.2**
SPMN IAmb IAmb 22 38 48.2
comp=Z,8.7nm,0.8s
SPMN Marine on St. 63.28 49 P **P** **22 38 47.1 +0.1**
baz=321
HFS Hagfors 63.37 342 P **P** **22 38 46.3 -1.0**
comp=Z,3.0nm,0.4s,baz=48,slow=6.6,SNR=24
HFS LR LR 23 09 32.8
comp=Z,73nm,18.7s,baz=39,slow=39
comp=Z,3.0nm,0.4s
LPSR Galich'ya Gora 63.38 324 *e*P **P** **22 38 45.7 -1.7**
LPSR pmax pmax
comp=Z,20nm,1.1s
VRH Novokhopyorsk 63.53 322 *e*P **P** **22 38 46.9 -1.5**
VRH pmax pmax
comp=Z,10.0nm,0.6s
BGNE Belgrade 63.70 55 P **P** **22 38 50.0 +0.2**
BGNE Belgrade 63.70 55 P **P** **22 38 50.9 +1.1**
baz=320
T25A Trinidad 63.74 63 P **P** **22 38 50.0 -0.3**
T25A IAmb IAmb 22 38 52.4
comp=Z,20nm,1.1s
T25A Trinidad 63.74 63 P **P** **22 38 51.8 +1.4**
baz=319
KBL Kabul 63.81 293 P **P** **22 38 49.2 -1.6**
KBL Kabul 63.81 293 P **P** **22 38 49.2 -1.6**
KBL pmax pmax
comp=Z,7.0nm,1.0s
TUC Tucson 63.89 71 P **P** **22 38 51.0 -0.3**
TUC Tucson 63.89 71 P **P** **22 38 53.1 +1.9**
baz=319
TUC Tucson 63.89 71 P **P** **22 38 51.0 -0.3**
TUC pmax pmax
comp=Z,9.0nm,1.2s
I37A Lemond, Waseca 63.95 51 P **P** **22 38 51.2 -0.1**
L34A Svendsen Farm, 64.13 54 P **P** **22 38 51.8 -0.8**
ANMO Albuquerque 64.30 66 P **P** **22 38 54.9 +0.8**
ANMO IAmb IAmb 22 38 56.2
comp=Z,10nm,1.1s
ANMO Albuquerque 64.30 66 P **P** **22 38 55.6 +1.6**
baz=319
ANMO Albuquerque 64.30 66⇑ *i*P **P** **22 38 54.7 +0.7**
ANMO pmax pmax
comp=Z,13nm,1.2s
ANMO Albuquerque 64.30 66 LR LR 23 06 03.4
comp=Z,43nm,19.3s,baz=63,slow=35
ANMO Albuquerque 64.30 66 P **P** **22 38 55.0 +1.0**
ANMO pP **pP** **22 39 10.6 +1.9**
ANMO PcP **PcP** **22 39 30.2 +2.0**
VSR Storozhevoye 64.44 323 *e*P **P** **22 38 52.2 -2.2**
VSR pmax pmax
comp=Z,5.0nm,0.7s
VORD Divnogorie 64.60 323 *e*P **P** **22 38 53.3 -2.1**
VORD pmax pmax
comp=Z,6.0nm,0.5s
LENM Lemitar 64.60 66 P **P** **22 38 57.7 +1.7**
DUN6 Lazy B Ranch 64.65 69 P **P** **22 38 57.4 +1.1**
BNM Barren Site 64.80 66 P **P** **22 38 58.5 +1.1**
CBKS Cedar Bluff 64.88 58 P **P** **22 38 57.9 +0.3**
CBKS IAmb IAmb 22 38 58.5
comp=Z,27nm,1.1s
CBKS Cedar Bluff 64.88 58 P **P** **22 38 57.8 +0.3**
baz=320
CBKS Cedar Bluff 64.88 58 P **P** **22 38 57.9 +0.3**
CBKS pmax pmax
comp=Z,27nm,1.2s
SCHQ Schefferville 64.89 28 P **P** **22 38 57.0 -0.4**
comp=Z,5.4nm,0.6s,baz=307,slow=6.9,SNR=9.3
comp=Z,5.4nm,0.6s
RTBA Rita Blanca 65.15 62 P **P** **22 38 59.9 +0.5**
RTBA IAmb IAmb 22 39 00.8
comp=Z,24nm,1.0s
NACGM Naroch 65.16 333 *e*P **P** **22 38 57.9 -1.1**
comp=Z,13nm,0.9s,baz=28
MNK Minsk 65.21 332 *i* P **P** **22 38 58.2 -1.1**
comp=E,4.0nm,0.9s
MNK *i* P **P** **22 38 58.2 -1.1**
comp=N,16nm,0.9s
MNK *i* P **P** **22 38 58.2 -1.1**
comp=Z,11nm,0.8s,baz=29
MNK *i* PP **PP** **22 41 22.7 0.0**
MNK *i* PPP PPP 22 42 55.4
MNK *i* S **S** **22 47 36.2 -1.6**
MNK *i* SS **SS** **22 51 53.0 +2.9**
MNK *i* SSS SSS 22 54 57.8
MNK *i* LQ LQ 23 02 57.0
MNK *i* LR LR 23 06 49.6
MNK *i* LRM MLR 23 10 57.2
comp=E,45nm,15.3s
MNK *i* LRM MLR 23 11 01.5
comp=Z,117nm,16.1s
MNK *i* LRM MLR 23 11 18.4
comp=N,186nm,24.6s
MNK Minsk 65.21 332 *i* P **P** **22 38 58.2 -1.1**
MNK *i* 22 41 22.6
MNK *i* PPP PPP 22 42 55.3
MNK *i* S **S** **22 47 36.2 -1.6**
MNK *i* SS **SS** **22 51 53.0 +2.9**
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.8s
MNK pmax pmax
comp=N,16nm,0.9s
MNK MLR MLR
comp=E,45nm,15.0s
MNK MLR MLR
comp=Z,117nm,16.0s
MNK MLR MLR
comp=N,186nm,25.0s
I40A Norwalk 65.30 49 P **P** **22 39 00.3 +0.2**
I40A IAmb IAmb 22 39 01.4
comp=Z,12nm,0.9s
N35A Tabor 65.33 54 P **P** **22 39 00.6 +0.2**
PABE Paberze 65.36 335 P **P** **22 39 00.3 0.0**
121A Cookes Peak, D 65.39 68 P **P** **22 39 02.1 +1.0**
121A IAmb IAmb 22 39 03.9
comp=Z,14nm,1.1s
121A Cookes Peak, D 65.39 68 P **P** **22 39 03.2 +2.0**
baz=320,SNR=6.4
319A Douglas 65.44 70 P **P** **22 39 01.9 +0.5**
SCIA State Center 65.67 52 P **P** **22 39 03.2 +0.6**
SCIA State Center 65.67 52 P **P** **22 39 03.3 +0.8**
baz=322
SRIT Nakonsritamara 66.15 251 P **P** **22 39 06.0 +0.1**
KSU1 Kansas State U 66.22 56 P **P** **22 39 05.5 -0.6**
KSU1 IAmb IAmb 22 39 06.3
comp=Z,9.5nm,0.8s
KSU1 Kansas State U 66.22 56 P **P** **22 39 05.6 -0.6**
baz=321
JFWS Jewell Farm 66.24 49 P **P** **22 39 05.8 -0.4**
baz=322
HSIG 66.28 73 P **P** **22 39 07.0 +0.4**
HSIG IAmb IAmb 22 39 08.7
comp=Z,20nm,1.2s
KSM Kuching 66.44 237 P **P** **22 39 08.7 +1.0**
L40A Anamosa 66.47 50 P **P** **22 39 06.9 -0.8**
L40A IAmb IAmb 22 39 08.1
comp=Z,12nm,0.9s
AMTX Amarillo 66.89 62 P **P** **22 39 10.8 +0.2**
AMTX IAmb IAmb 22 39 11.6
comp=Z,9.3nm,1.0s
AMTX Amarillo 66.89 62 P **P** **22 39 10.9 +0.4**
baz=320
GEYT Alibeck 66.94 303 P **P** **22 39 10.2 -0.6**
GEYT Alibeck 66.94 303 P **P** **22 39 10.2 -0.6**
GEYT pmax pmax
comp=Z,9.0nm,1.2s
GEYT Alibeck 66.94 303 P **P** **22 39 09.4 -1.4**
comp=Z,3.3nm,0.6s,baz=26,slow=1.2,SNR=16
GEYT LR LR 23 11 01.1
comp=Z,173nm,18.5s,baz=44,slow=38
comp=Z,3.3nm,0.6s
MSTX Muleshoe 67.01 64 P **P** **22 39 11.8 +0.4**
MSTX IAmb IAmb 22 39 12.9
comp=Z,23nm,1.1s
MSTX Muleshoe 67.01 64 P **P** **22 39 12.1 +0.7**
baz=320,SNR=8.2
VLDQ Val d'Or 67.23 38 P **P** **22 39 11.1 -1.3**
VLDQ IAmb IAmb 22 39 26.5
comp=Z,14nm,0.8s
P38A Dawn 67.31 54 P **P** **22 39 12.7 -0.3**
P38A IAmb IAmb 22 39 13.9
comp=Z,24nm,1.0s
MNTX Cornudas Mount 67.34 67 P **P** **22 39 14.6 +1.2**
MNTX IAmb IAmb 22 39 15.7
comp=Z,14nm,0.9s
MNTX Cornudas Mount 67.34 67 P **P** **22 39 14.7 +1.3**
baz=320,SNR=18
SMWD Samnorwood 67.47 61 P **P** **22 39 14.8 +0.5**
SMWD IAmb IAmb 22 39 15.9
comp=Z,33nm,0.9s
HRA Herat 67.57 298 P **P** **22 39 14.2 -0.9**
P40A Paris 68.08 53 P **P** **22 39 17.5 -0.4**
AKASG Malin Array Be 68.15 329 P **P** **22 39 17.0 -1.1**
comp=Z,4.8nm,0.6s,baz=28,slow=6.7,SNR=17
AKASG LR LR 23 12 35.9
comp=Z,209nm,19.1s,baz=34,slow=39
comp=Z,4.8nm,0.6s
AKBB Malin Array Si 68.15 329 P **P** **22 39 17.1 -1.1**
AKBB Malin Array Si 68.15 329 P **P** **22 39 17.1 -1.1**
AKBB pmax pmax
comp=Z,6.0nm,0.7s
KIEV Kiev 68.17 329⇑ P **P** **22 39 17.5 -0.7**
KIEV Kiev 68.17 329 P **P** **22 39 17.4 -0.7**
KIEV Kiev 68.17 329⇑ P **P** **22 39 17.5 -0.7**
KIEV Kiev 68.17 329 P **P** **22 39 17.3 -0.9**
DKNS Dickens 68.22 63 P **P** **22 39 19.1 +0.1**
DKNS IAmb IAmb 22 39 20.3
comp=Z,15nm,1.0s
AK05 Malin Array Si 68.23 329 P **P** **22 39 17.1 -1.6**
AK05 IAmb IAmb 22 39 19.2
comp=Z,8.6nm,0.7s
425A Indio Mountain 68.26 67 P **P** **22 39 19.4 0.0**
425A IAmb IAmb 22 39 21.5
comp=Z,14nm,0.9s
J47A Sunmer 68.35 46 P **P** **22 39 18.8 -0.7**
J47A IAmb IAmb 22 39 20.6
comp=Z,22nm,0.9s
POST Post 68.38 63 P **P** **22 39 20.1 +0.1**
POST IAmb IAmb 22 39 21.5
comp=Z,16nm,0.8s
M44A Midewin, Midew 68.44 49 P **P** **22 39 19.9 -0.3**
WMOK Wichita Mounta 68.51 60 P **P** **22 39 20.6 -0.1**
WMOK Wichita Mounta 68.51 60 P **P** **22 39 21.7 +1.0**
baz=321
WMOK Wichita Mounta 68.51 60 P **P** **22 39 20.6 -0.1**
WMOK pmax pmax
comp=Z,27nm,1.0s
OK052 Battle Ridge R 68.54 58 P **P** **22 39 21.2 +0.3**
OK052 IAmb IAmb 22 39 21.8
comp=Z,21nm,1.2s
HDIL Hopedale 68.55 50 P **P** **22 39 20.5 -0.3**
HDIL IAmb IAmb 22 39 21.4
comp=Z,20nm,0.8s
HDIL Hopedale 68.55 50 P **P** **22 39 20.8 0.0**
baz=323
ODSA Odessa 68.55 65 P **P** **22 39 21.2 +0.1**
ODSA IAmb IAmb 22 39 38.6
comp=Z,13nm,0.8s
DEOK Depew 68.81 58 P **P** **22 39 23.0 +0.4**
DEOK IAmb IAmb 22 39 23.7
comp=Z,19nm,1.1s
FNO Franklin 68.81 59 P **P** **22 39 23.0 +0.4**
FNO IAmb IAmb 22 39 24.7
comp=Z,25nm,1.1s
SN01 Snyder 1 68.86 63 P **P** **22 39 22.8 -0.2**
SN01 IAmb IAmb 22 39 24.2
comp=Z,24nm,1.5s
APMT Aspermont 68.91 62 P **P** **22 39 23.4 +0.1**
APMT IAmb IAmb 22 39 23.8
comp=Z,11nm,0.7s
S39A Bolivar 68.93 55 P **P** **22 39 22.2 -1.0**
R40A Maddies Statio 68.96 54 P **P** **22 39 23.0 -0.4**
R40A IAmb IAmb 22 39 24.2
comp=Z,22nm,1.0s
MNHN Monahans 69.04 66 P **P** **22 39 24.8 +0.7**
MNHN IAmb IAmb 22 39 25.7
comp=Z,19nm,0.7s
TUL3 Leonard 69.11 58 P **P** **22 39 24.3 -0.1**
TUL3 IAmb IAmb 22 39 26.2
comp=Z,19nm,1.1s
TUL3 Leonard 69.11 58 P **P** **22 39 24.8 +0.4**
baz=322
KIV Kislovodsk 69.12 317⇑ P **P** **22 39 24.7 +0.3**
KIV Kislovodsk 69.12 317 P **P** **22 39 24.4 0.0**
KIV IAmb IAmb 22 39 28.5
comp=Z,6.8nm,0.7s
KIV Kislovodsk 69.12 317 *e*P **P** **22 39 24.5 0.0**
KIV pmax pmax
comp=Z,7.0nm,0.9s
KIV MLR MLR
comp=Z,92nm,17.0s
KIV Kislovodsk 69.12 317 P **P** **22 39 25.4 +0.9**
W35A Tecumseh 69.16 59 P **P** **22 39 24.9 +0.1**
W35A IAmb IAmb 22 39 25.5
comp=Z,13nm,0.7s
P43A Skaggs, Pawnee 69.17 51 P **P** **22 39 24.3 -0.4**
P43A IAmb IAmb 22 39 25.3
comp=Z,11nm,0.8s
KBZ Khabaz 69.22 317 *d* *i*P **P** **22 39 24.5 -0.4**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 69.22 317 P **P** **22 39 24.4 -0.4**
comp=Z,4.7nm,0.6s,baz=103,slow=3.9,SNR=21
KBZ LR LR 23 14 14.3
comp=Z,144nm,18.4s,baz=25,slow=40
comp=Z,4.7nm,0.6s
ALPN Alpine 69.31 67 P **P** **22 39 25.6 -0.3**
ALPN IAmb IAmb 22 39 27.6
comp=Z,13nm,1.0s
U38A Gravette 69.40 56 P **P** **22 39 25.6 -0.6**
U38A IAmb IAmb 22 39 26.7
comp=Z,11nm,1.0s
SGCY Sterling City 69.47 64 P **P** **22 39 27.7 +0.9**
SGCY IAmb IAmb 22 39 28.3

comp=Z,16nm,0.9s
CCM Cathedral Cave 69.64 53 P P 22 39 27.0 -0.6
CCM IAmb IAmb 22 39 28.3
comp=Z,20nm,1.1s
CCM Cathedral Cave 69.64 53 P P 22 39 27.8 +0.2
baz=323
CCM Cathedral Cave 69.64 53 P P 22 39 27.0 -0.6
CCM pmax pmax
comp=Z,19nm,1.1s
CCM Cathedral Cave 69.64 53 P P 22 39 27.2 -0.4
CCM pP **pP 22 39 41.9 -1.2**
CCM sP **sP 22 39 47.8 -1.5**
ABTX Abilene, Hawle 69.71 62 P P 22 39 27.4 -0.7
ABTX IAmb IAmb 22 39 29.6
comp=Z,20nm,0.9s
ABTX Abilene, Hawle 69.71 62 P P 22 39 28.9 +0.8
baz=322
HHAR Hobbs 69.74 56 P P 22 39 27.3 -1.0
MGMO Mountain Grove 69.86 54 P P 22 39 28.0 -1.0
MGMO IAmb IAmb 22 39 45.2
comp=Z,9.5nm,0.8s
N47A Urbana 69.89 48 P P 22 39 28.7 -0.4
N47A IAmb IAmb 22 39 29.2
comp=Z,13nm,1.0s
Q44A Meyer Farm, Va 70.00 51 P P 22 39 29.1 -0.7
FVM French Village 70.08 53 P P 22 39 30.3 0.0
FVM IAmb IAmb 22 39 31.2
comp=Z,17nm,0.9s
FVM French Village 70.08 53 P P 22 39 30.3 0.0
FVM pmax pmax
comp=Z,17nm,0.9s
TX31 Lajitas Ar. Si 70.10 68 P P 22 39 31.3 +0.6
TXAR Lajitas Array 70.10 68 P P 22 39 31.2 +0.5
TXAR Lajitas Array 70.10 68 P P 22 39 31.2 +0.5
TXAR Lajitas Array 70.10 68 P P 22 39 31.7 +1.0
comp=Z,16nm,0.7s,baz=298,slow=4.5,SNR=136
TXAR pP **pP 22 39 46.7 +0.8**
comp=Z,5.4nm,0.7s,baz=303,slow=4.5,SNR=9.8
comp=Z,16nm,0.7s
LMQ La Malbaie 70.20 34 P P 22 39 30.9 -0.1
LMQ IAmb IAmb 22 39 31.5
comp=Z,20nm,1.2s
FW03 Perrin-Whitt E 70.21 61 P P 22 39 31.3 +0.1
FW03 IAmb IAmb 22 39 32.2
comp=Z,25nm,1.1s
P46A Rosedale 70.25 49 P P 22 39 30.4 -0.9
P46A IAmb IAmb 22 39 46.6
comp=Z,16nm,0.8s
PLPT Palo Pinto 70.25 61 P P 22 39 31.3 -0.2
PLPT IAmb IAmb 22 39 32.5
comp=Z,11nm,0.9s
EKA Eskdalemuir Ar 70.41 350 P P 22 39 31.8 -0.2
comp=Z,3.1nm,0.6s,baz=20,slow=4.9,SNR=18
EKA pP **pP 22 39 46.4 -1.2**
comp=Z,2.4nm,0.6s,baz=18,slow=5.4,SNR=4.5
comp=Z,3.1nm,0.6s
LPIG La Paz 70.42 76 LR LR 23 07 58.4
comp=Z,13nm,19.0s,baz=51,slow=34
ESK Eskdalemuir 70.43 350 P P 22 39 32.1 0.0
ESK pP **pP 22 39 46.8 -1.0**
SAND Sanderson 70.46 66 P P 22 39 33.4 +0.5
SAND IAmb IAmb 22 39 34.6
comp=Z,19nm,1.2s
O48B Farmland 70.64 48 P P 22 39 33.0 -0.8
O48B IAmb IAmb 22 39 48.1
comp=Z,16nm,0.9s
O48B Farmland 70.64 48 P P 22 39 33.1 -0.6
baz=325
SORM Soroca 70.69 328 ⇓P P 22 39 32.8 -1.0
SORM Soroca 70.69 328 ⇓P P 22 39 32.8 -1.0
HPIG 70.86 71 P P 22 39 35.0 -0.5
S44A Carbondale 70.86 52 P P 22 39 35.1 0.0
S44A IAmb IAmb 22 39 36.0
comp=Z,16nm,0.8s
SIUC Southern Illin 70.86 52 P P 22 39 34.6 -0.4
SIUC IAmb IAmb 22 39 36.0
comp=Z,18nm,0.8s
FCAR Ozark Folk Cen 70.94 55 P P 22 39 34.7 -0.9
FCAR IAmb IAmb 22 39 36.0
comp=Z,22nm,1.0s
PBMO Poplar Bluff 71.05 53 P P 22 39 36.0 -0.2
PBMO IAmb IAmb 22 39 52.6
comp=Z,10nm,0.7s
O49A Covington 71.05 47 P P 22 39 35.9 -0.3
O49A IAmb IAmb 22 39 36.8
comp=Z,13nm,0.8s
BRDY Brady 71.09 63 P P 22 39 36.6 -0.1
BRDY IAmb IAmb 22 39 37.9
comp=Z,13nm,1.1s
P48A Milroy 71.17 48 P P 22 39 36.0 -0.9
P48A IAmb IAmb 22 39 51.5
comp=Z,24nm,1.2s
LONY Lake Ozonia 71.25 38 P P 22 39 38.8 +1.5
LONY IAmb IAmb 22 39 51.4
comp=Z,20nm,1.3s
JCT Junction City 71.30 64 P P 22 39 37.6 -0.3
JCT IAmb IAmb 22 39 39.3
comp=Z,19nm,1.1s
JCT Junction City 71.30 64 P P 22 39 38.6 +0.7
baz=322,SNR=5.1
JCT Junction City 71.30 64 P P 22 39 37.6 -0.3
JCT pmax pmax
comp=Z,19nm,1.1s
WHAR Wooly Hollow 71.34 56 P P 22 39 37.7 -0.3
WHAR IAmb IAmb 22 39 54.6
comp=Z,11nm,0.7s
GNI Garni 71.40 313 P P 22 39 38.0 -0.6
GNI IAmb IAmb 22 39 40.5
comp=Z,13nm,1.1s
GNI Garni 71.40 313⇓ *e*P **P 22 39 37.9 -0.6**
GNI pmax pmax
comp=Z,26nm,1.9s
GNI Garni 71.40 313 LR LR 23 16 01.1
comp=Z,107nm,19.0s,baz=39,slow=40
GNI Garni 71.40 313 P P 22 39 40.0 +1.5
P49A Miami Univ. Ec 71.42 48 P P 22 39 38.6 +0.1
P49A IAmb IAmb 22 39 39.0
comp=Z,26nm,1.2s
P49A Miami Univ. Ec 71.42 48 P P 22 39 38.4 -0.1
baz=326
PARMO Parma 71.46 53 P P 22 39 38.8 +0.1
M53A WI Miller and 71.57 44 P P 22 39 39.9 +0.5
baz=327
ACSO Alum Creek Sta 71.60 46 P P 22 39 39.3 -0.2
ACSO IAmb IAmb 22 39 40.4
comp=Z,27nm,1.3s
DRIO Del Rio 71.69 65 P P 22 39 39.9 -0.3
DRIO IAmb IAmb 22 39 41.5
comp=Z,12nm,1.0s
X40A Basin Creek Fa 71.71 56 P P 22 39 40.4 +0.1
X40A IAmb IAmb 22 39 41.4
comp=Z,16nm,1.2s
KOLS Kolonicke sedl 71.75 332 *e*P **P 22 39 40.9 +0.6**
KOLS Kolonicke sedl 71.75 332 *e*P **P 22 39 40.9 +0.6**
KOLS pmax pmax
comp=Z,5.0nm,0.7s
WCI Wyandotte Cave 71.79 50 P P 22 39 40.5 -0.2
WCI IAmb IAmb 22 39 41.6
comp=Z,15nm,0.8s
WCI Wyandotte Cave 71.79 50 P P 22 39 41.0 +0.4
baz=325
WCI Wyandotte Cave 71.79 50 P P 22 39 40.5 -0.2
WCI pmax pmax
comp=Z,15nm,0.9s
WCI Wyandotte Cave 71.79 50 P P 22 39 40.7 0.0
WCI pP **pP 22 39 55.6 -0.6**
CLL Collm 71.80 339 P P 22 39 40.0 -0.5
CLL Collm 71.80 339 *i* P **P 22 39 40.0 -0.5**
comp=Z,8.0nm,1.0s
CLL AMS AMS 23 10 00.0
comp=Z,100nm,21.6s
CLL Collm 71.80 339 *i* P **P 22 39 40.0 -0.5**
CLL pmax pmax
comp=Z,8.0nm,1.0s
CHVC Chvalec 71.80 337 *e*P **P 22 39 41.4 +0.8**
CHVC *e*pP **pP 22 39 55.9 -0.3**
CHVC Chvalec 71.80 337 *e*P **P 22 39 41.4 +0.8**
CHVC *e**PP **pP 22 39 55.9 -0.3**
UPC Upice 71.88 337 *e*P **P 22 39 42.0 +1.0**
UPC Upice 71.88 337 *e*P **P 22 39 42.0 +1.0**
DPC Dobruska-Polom 71.96 337 *e*P **P 22 39 42.2 +0.7**
DPC Dobruska-Polom 71.96 337 *e*P **P 22 39 42.2 +0.7**
GLAT Glass 72.00 53 P **P 22 39 42.6 +0.7**
BRG Berggiesshubel 72.00 338 *e*P **P 22 39 42.1 +0.3**
BRG Amp 22 39 43.5
comp=Z,2.7nm,0.7s
BRG Berggiesshubel 72.00 338 *e*P **P 22 39 42.0 +0.3**
BRG pmax pmax
comp=Z,3.0nm,0.7s
BUR08 Bucovina Ar. S 72.08 330 P P 22 39 41.8 -0.6
BURAR Bucovina Array 72.11 330 ⇓P P 22 39 42.2 -0.3
BURAR Bucovina Array 72.11 330 P P 22 39 42.2 -0.3
BURAR Bucovina Array 72.11 330 ⇓P P 22 39 42.2 -0.3
O52A Adamsville 72.19 46 P P 22 39 42.8 -0.2
O52A IAmb IAmb 22 39 58.4
comp=Z,17nm,0.9s
MORC Moravsky Berou 72.20 336 ⇑P P 22 39 44.2 +1.2
MORC Moravsky Berou 72.20 336 P P 22 39 43.0 0.0
MORC Moravsky Berou 72.20 336 *e*P **P 22 39 43.1 +0.1**
MORC Moravsky Berou 72.20 336 ⇑P P 22 39 44.2 +1.2
WLAR White Oak Lake 72.22 57 P P 22 39 42.8 -0.4
WLAR IAmb IAmb 22 39 44.6
comp=Z,14nm,0.9s
O53A New Philadelph 72.34 45 P P 22 39 43.4 -0.5
O53A IAmb IAmb 22 39 43.8
comp=Z,15nm,1.1s
O53A New Philadelph 72.34 45 P P 22 39 43.6 -0.3
baz=327
DRLN Deer Lake 72.41 25 P P 22 39 44.8 +0.6
DRLN IAmb IAmb 22 39 50.5
comp=Z,32nm,1.2s
T47A Sharon Grove 72.43 51 P P 22 39 44.2 -0.3
T47A IAmb IAmb 22 39 45.9
comp=Z,20nm,0.9s
P52A Corning 72.46 46 P P 22 39 43.9 -0.8
baz=327
H62A Milan 72.52 36 P P 22 39 44.9 -0.1
H62A IAmb IAmb 22 40 00.7
comp=Z,25nm,1.0s
PKME Peaks-Kenny Pk 72.55 34 P P 22 39 45.2 +0.2
baz=332
R50A Paris 72.63 48 P P 22 39 45.8 +0.1
R50A IAmb IAmb 22 40 01.4
comp=Z,10.0nm,0.8s
PRU Pruhonice 72.70 338 *e*P **P 22 39 47.0 +1.1**
PRU *e*pP **pP 22 40 01.0 -0.6**
PRU Pruhonice 72.70 338 *e*P **P 22 39 47.0 +1.1**
PRU *e**PP **pP 22 40 01.0 -0.6**
O54A Avella 72.74 45 P P 22 39 46.4 +0.1
O54A IAmb IAmb 22 39 46.8
comp=Z,13nm,1.0s
DSB Dublin 72.77 352 P P 22 39 46.4 +0.1
DSB IAmb IAmb 22 39 51.1
comp=Z,36nm,1.5s
SSFO Shawnee State 72.78 47 P P 22 39 46.4 -0.2
WVT Waverly 72.80 52 P P 22 39 46.8 +0.1
WVT IAmb IAmb 22 39 48.0
comp=Z,9.2nm,0.8s
WVT Waverly 72.80 52 P P 22 39 47.2 +0.5
baz=325
WVT Waverly 72.80 52 P P 22 39 46.8 +0.1
WVT pmax pmax
comp=Z,9.0nm,0.8s
VRAC Vranov 72.86 336 ⇑P P 22 39 47.8 +0.9
VRAC Vranov 72.86 336 *e*P **P 22 39 46.7 -0.2**
VRAC Vranov 72.86 336 ⇑P P 22 39 47.8 +0.9
VRAC Vranov 72.86 336 LR LR 23 17 12.5
comp=Z,98nm,19.3s,baz=29,slow=40
VYHS Vyhne 73.06 334 *e*P **P 22 39 48.7 +0.6**
VYHS Vyhne 73.06 334 *e*P **P 22 39 48.7 +0.6**
KRUC Moravsky 73.14 336 *e*P **P 22 39 48.8 +0.3**
VRI Vrincioaia 73.21 328 ⇑P P 22 39 49.0 0.0
VRI Vrincioaia 73.21 328 ⇑P P 22 39 49.0 0.0
833A Chaparral WMA, 73.22 65 P P 22 39 51.3 +2.0
baz=323
ZVC Zvikov 73.30 338 *e*P **P 22 39 50.2 +0.7**
ZVC *e*pP **PcP 22 40 04.3 -1.3**
OXF Oxford 73.36 54 P P 22 39 50.0 -0.1
OXF Oxford 73.36 54 P P 22 39 50.7 +0.6
baz=325
OXF Oxford 73.36 54 P P 22 39 50.0 -0.1
OXF pmax pmax
comp=Z,22nm,0.8s
SSPA Standing Stone 73.38 43 P P 22 39 48.9 -1.2
baz=328
COVR Voineasa-Covas 73.39 329 ⇑P P 22 39 51.0 +0.9
MCWV Mont Chateau 73.41 44 P P 22 39 49.8 -0.5
MCWV IAmb IAmb 22 40 05.6
comp=Z,19nm,1.2s
MCWV Mont Chateau 73.41 44 P P 22 39 50.3 0.0
baz=328
T50A Nancy 73.44 49 P P 22 39 50.1 -0.4
CLTN Cedars of Leba 73.53 51 P P 22 39 50.4 -0.6
CLTN IAmb IAmb 22 39 52.2
comp=Z,12nm,0.8s
V48A Smith Brothers 73.59 52 P P 22 39 51.3 -0.1
V48A IAmb IAmb 22 39 52.5
comp=Z,12nm,0.9s
PLAL Pickwick Lake 73.62 53 P P 22 39 50.9 -0.6
PLAL IAmb IAmb 22 40 07.2
comp=Z,15nm,0.8s
R53A Hurricane 73.63 47 P P 22 39 51.4 -0.2
R53A IAmb IAmb 22 40 07.3
comp=Z,18nm,0.8s
GRA1 Grafenberg Arr 73.69 340 P P 22 39 51.9 +0.1
GRA1 IAmb IAmb 22 39 53.5
comp=Z,9.0nm,0.8s
GRF Grafenberg Arr 73.69 340 P P 22 39 51.9 +0.1
GRF pmax pmax
comp=Z,9.0nm,0.8s
GRFO Grafenberg 73.70 340 P P 22 39 51.3 -0.5
GRFO IAmb IAmb 22 39 53.5
comp=Z,8.6nm,0.8s
GRFO Grafenberg 73.70 340 P P 22 39 51.3 -0.5
GRFO pmax pmax
comp=Z,9.0nm,0.8s
KHC Kasperske Hory 73.72 338 P P 22 39 50.6 -1.4
KHC Kasperske Hory 73.72 338 *e*P **P 22 39 52.8 +0.8**
KHC epP **PcP 22 40 06.4 -1.1**
KHC Kasperske Hory 73.72 338 *ce*P **P 22 39 52.5 +0.5**
KHC pmax pmax
comp=Z,17nm,1.2s
MEM Membach 73.79 343 *d*P **P 22 39 52.5 +0.2**
BTNL Ternell 73.79 343 *d*P **P 22 39 52.5 +0.1**
MLR Muntele Rosu 73.79 329 ⇑P P 22 39 51.9 -0.7
MLR Muntele Rosu 73.79 329 P **P 22 39 51.5 -1.1**
MLR IAmb IAmb 22 39 55.0
comp=Z,8.0nm,0.7s
MLR Muntele Rosu 73.79 329 ⇑P P 22 39 51.9 -0.7
MLR Muntele Rosu 73.79 329 LR LR 23 16 02.8
comp=Z,219nm,18.0s,baz=67,slow=39
Y45A Yeager Farm, C 73.83 55 P **P 22 39 53.1 +0.4**
CKRC Cesky Krumlov 73.85 338 *e*P **P 22 39 53.2 +0.4**
CKRC Cesky Krumlov 73.85 338 *e*P **P 22 39 53.2 +0.4**
GEC2 GERÉSS Array S 73.97 338 P **P 22 39 53.5 -0.1**
GERES GERESS Array B 73.97 338 P **P 22 39 53.2 -0.4**
GERES GERESS Array B 73.97 338 P **P 22 39 54.0 +0.5**
comp=Z,1.4nm,0.4s,baz=37,slow=5.2,SNR=15
GERES pP **PcP 22 40 09.1 +0.4**
comp=Z,2.3nm,0.8s,baz=35,slow=4.9,SNR=6.5
GERES LR LR 23 18 38.5
comp=Z,66nm,18.7s,baz=46,slow=41
comp=Z,1.4nm,0.4s
BHOU Houvegnez 74.04 343 *d*P **P 22 39 54.6 +0.8**
BCLA Clavier 74.09 344 *d*P **P 22 39 54.2 +0.2**
VOIR 74.12 329 ⇑P P 22 39 55.0 +0.6
VOIR 74.12 329 ⇑P P 22 39 55.1 +0.6
BGES Gesves 74.16 344 *d*P **P 22 39 53.1 -1.4**
BGES *d*PcP **PcP 22 40 08.6 -0.7**
BMRD Maredsous 74.29 344 *d*P **P 22 39 54.8 -0.4**
ARR Arges 74.31 329 ⇓P P 22 39 56.3 +0.7
CONA Conrad Observa 74.33 336 *i* P **P 22 39 55.0 -0.6**
comp=Z,6.7nm,1.5s
SIRR Siria 74.36 332 ⇑P P 22 39 55.7 0.0
KNRA Kununurra 74.37 212 P **P 22 39 56.6 +0.7**
TZTN Tazewell 74.41 49 P **P 22 39 56.5 +0.3**
baz=327
SWET Sewanee 74.43 51 P **P 22 39 55.6 -0.7**
SWET IAmb IAmb 22 40 11.8
comp=Z,17nm,0.7s
RONA Rosalia, Austr 74.44 336 *e*P **P 22 39 55.6 -0.6**
comp=Z,5.1nm,0.7s
R55A Marlinton 74.45 45 P **P 22 39 56.4 0.0**
R55A IAmb IAmb 22 39 57.5
comp=Z,23nm,1.1s
DOU Dourbes 74.52 344 *d*P **P 22 39 56.4 -0.2**
HBVL Hebbronville 74.60 65 P **P 22 39 57.1 -0.3**
HBVL IAmb IAmb 22 40 00.5
comp=Z,33nm,1.1s
CTA Charters Tower 74.61 194 P **P 22 39 57.6 +0.3**
comp=Z,12nm,0.8s,baz=6.1,slow=5.7,SNR=11
comp=Z,12nm,0.8s
CTAO Charters Tower 74.61 194 P **P 22 39 57.3 0.0**
CTAO IAmb IAmb 22 39 58.4
comp=Z,17nm,0.9s
CTAO Charters Tower 74.61 194 P **P 22 39 57.3 0.0**
CTAO pmax pmax
comp=Z,17nm,0.9s
PAL Palisades 74.61 40 P **P 22 39 56.7 -0.6**
baz=330
SURR Surduc 74.69 331 ⇑P P 22 39 58.2 +0.6
W50A Signal Mountai 74.73 51 P P 22 39 57.8 -0.3
W50A IAmb IAmb 22 40 13.7
comp=Z,15nm,0.9s
MOA Molln 74.78 337 *i* P **P 22 39 57.8 -0.3**
comp=Z,3.1nm,0.8s
GZR Gura Zlata 74.83 331 ⇑P P 22 39 58.2 -0.4
GZR Gura Zlata 74.83 331 ⇑P P 22 39 58.2 -0.4
CPCT Cooper Cave 74.88 50 P P 22 39 58.2 -0.7
BZS Buzias 74.96 331 ⇑P P 22 39 58.6 -0.6
BZS Buzias 74.96 331 ⇑P P 22 39 58.6 -0.6
ARSA Arzberg 75.04 336 *e*P **P 22 39 58.0 -1.7**
comp=Z,2.8nm,0.8s
TKL Tuckaleechee C 75.05 49 P **P 22 40 00.0 +0.1**
comp=Z,2.8nm,0.8s,baz=292,slow=16,SNR=3.7
comp=Z,2.8nm,0.8s
146A Union 75.06 55 P **P 22 40 00.2 +0.2**
BIOA Bad Ischl, Aus 75.07 338 *e*P **P 22 39 59.4 -0.4**
comp=Z,9nm,1.1s
Z47A Carrollton 75.08 54 P **P 22 39 59.5 -0.5**
FPAL Fort Paine 75.13 51 P **P 22 40 00.4 0.0**
FPAL IAmb IAmb 22 40 01.3
comp=Z,20nm,0.9s
S57A Dark Hollow, R 75.38 45 P **P 22 40 01.9 +0.2**
S57A IAmb IAmb 22 40 03.6
comp=Z,24nm,1.3s
HERR Herculane 75.41 331 ⇑P P 22 40 01.4 -0.3
LESA Schwarzleotal 75.53 338 *i* P **P 22 40 03.6 +1.0**
comp=Z,3.4nm,0.9s
SOKA Soboth 75.70 336 *i* P **P 22 40 04.4 +0.9**
comp=Z,3.8nm,0.7s
KBA Koelnbreinsper 75.71 338 *i* P **P 22 40 04.6 +0.9**
comp=Z,23nm,0.8s
DZM Mont Dzumac 75.72 174 *e*LR LR 23 03 23.8
comp=Z,103nm,26.4s
DZM Mont Dzumac 75.72 174 P **P 22 40 04.2 +0.5**
DZM Mont Dzumac 75.72 174 P **P 22 40 06.0 +2.2**
comp=Z,15nm,1.1s,baz=38,slow=14,SNR=3.8
comp=Z,15nm,1.1s
LRAL Lakeview Retre 75.72 53 P **P 22 40 03.4 -0.4**
LRAL Lakeview Retre 75.72 53 P **P 22 40 03.7 -0.1**
baz=326
WATA Walderalm 75.86 339 *i* P **P 22 40 05.3 +0.8**
comp=Z,8.4nm,1.1s
ZAIG Zacatecas 75.86 71 P **P 22 40 05.4 +0.3**
ZAIG IAmb IAmb 22 40 07.3
comp=Z,9.1nm,0.9s
RETA Reutte 75.89 339 P **P 22 40 05.3 +0.7**
comp=Z,3.4nm,0.7s,SNR=4.5
ECH Echery 75.89 342 P **P 22 40 04.6 0.0**
ECH Echery 75.89 342 P **P 22 40 04.6 0.0**
ECH pmax pmax
comp=Z,7.0nm,1.0s
WTTA Wattenberg 75.91 339 *e*P **P 22 40 06.0 +1.1**
comp=Z,5.1nm,0.8s
MOTA Moosalm 75.95 339 *i* P **P 22 40 05.8 +0.7**
comp=Z,5.9nm,0.8s,SNR=6.8
OBKA Obir 75.97 337 *i* P **P 22 40 06.0 +0.9**
comp=Z,11nm,0.9s
SQTA Sankt Quirin 76.05 339 *e*P **P 22 40 06.3 +0.7**
comp=Z,7.2nm,0.7s,SNR=7.8
MYKA Terra Mystica 76.07 337 *i* P **P 22 40 06.2 +0.6**
comp=Z,10nm,1.7s
PLVB Pleven 76.10 329 ⇑P P 22 40 05.8 +0.1
ABTA Abfaltersbach 76.21 338 *e*P **P 22 40 07.1 +0.6**
comp=Z,7.8nm,0.9s,SNR=7.6
BR131 Keskin Array S 76.26 321⇓ *e*P **P 22 40 06.8 -0.1**
BRTR Keskin Array B 76.26 321 *i* P **P 22 40 06.5 -0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 76.26 321 P **P 22 40 05.4 -1.5**
comp=Z,0.7nm,0.5s,baz=19,slow=3.8,SNR=6.7
BRTR LR LR 23 17 07.6
comp=Z,75nm,21.4s,baz=28,slow=38
comp=Z,0.7nm,0.5s
DAVA Damuels 76.26 340 *e*P **P 22 40 07.4 +0.6**
comp=Z,5.2nm,1.4s
PRED Cave del Predi 76.26 337 P **P 22 40 05.7 -1.1**
PRED IAmb IAmb 22 40 07.6
comp=Z,9.0nm,0.8s
FETA Feichten 76.34 339 *i* P **P 22 40 07.7 +0.5**
comp=Z,6.3nm,0.8s
Z51A Franklin 76.35 52 P **P 22 40 06.8 -0.6**
Z51A IAmb IAmb 22 40 07.8
comp=Z,11nm,0.8s
BLKB Belogradchik 76.48 330 ⇑P P 22 40 07.2 -0.8
KMSC Kings Mountain 76.57 48 P **P 22 40 08.7 +0.2**
baz=328
WB0 Warramunga Arr 76.66 205 P **P 22 40 08.6 -0.4**
WB0 IAmb IAmb 22 40 10.2
comp=Z,18nm,1.1s
DAVOX Davos/Dischmat 76.74 340 LR LR 23 17 52.3
comp=Z,47nm,21.0s,baz=32,slow=39
BOVS Bovan 76.75 331 ⇓P P 22 40 08.5 -0.9
WR0 Warramunga Arr 76.81 205 P **P 22 40 08.2 -1.7**
WR0 IAmb IAmb 22 40 11.0
comp=Z,13nm,1.2s
DIVS Divibare 76.81 332 P **P 22 40 09.0 -0.9**
DIVS IAmb IAmb 22 40 11.0
comp=Z,9.4nm,0.9s
FUORN Ofenpass-Fuorn 76.82 339 P **P 22 40 10.2 +0.1**
WRAB Tennant Creek 76.83 205 P **P 22 40 09.6 -0.4**
WRAB IAmb IAmb 22 40 11.2
comp=Z,13nm,0.9s
WRAB Tennant Creek 76.83 205 P **P 22 40 09.6 -0.4**
WB2 Warramunga Arr 76.84 205 P **P 22 40 09.2 -0.8**
WB2 IAmb IAmb 22 40 11.3
comp=Z,18nm,1.1s
WRA Warramunga Arr 76.84 205 P **P 22 40 09.7 -0.4**
WRA Warramunga Arr 76.84 205 *i* P **P 22 40 10.1 0.0**
WRA pmax pmax
comp=Z,10.0nm,1.0s
WRA Warramunga Arr 76.84 205 P **P 22 40 10.2 +0.1**
comp=Z,10nm,1.0s,baz=20,slow=6.0,SNR=33
comp=Z,10nm,1.0s
V58A Windy Hill, Pi 76.98 46 P **P 22 40 11.2 +0.3**
V58A IAmb IAmb 22 40 27.6
comp=Z,15nm,0.9s
CTI Castel Tesino 77.06 338 P **P 22 40 10.9 -0.4**
CTI Castel Tesino 77.06 338 P **P 22 40 10.9 -0.4**
CTI pmax pmax
comp=Z,6.0nm,0.7s
TUE Stuetta 77.15 340 P **P 22 40 11.4 -0.5**
TUE IAmb IAmb 22 40 14.4
comp=Z,10nm,0.6s
FITZ Fitzroy Crossi 77.64 214 P **P 22 40 14.7 +0.1**
TEOL Teolo 77.71 338 P **P 22 40 14.2 -0.6**
TEOL IAmb IAmb 22 40 16.4
comp=Z,16nm,0.7s
UOSS Minazif 78.22 296 P **P 22 40 17.0 -1.0**
WSAR Wadi Sarin 78.29 293 LR LR 23 18 41.9
comp=Z,74nm,19.4s,baz=49,slow=39
TIGA Tifton 78.65 52 P **P 22 40 20.5 +0.3**
baz=327
BNI Bardonecchia 79.03 341 P **P 22 40 22.1 -0.2**
BNI Bardonecchia 79.03 341 P **P 22 40 22.1 -0.2**
BNI pmax pmax
comp=Z,7.0nm,1.0s
EIDS Eidsvold 79.26 189 P **P 22 40 23.2 -0.1**
NRCA Norcia 79.78 336 P **P 22 40 26.1 -0.2**
NRCA IAmb IAmb 22 40 28.1
comp=Z,20nm,0.9s
AS31 Alice Springs 80.52 205 P **P 22 40 30.7 +0.5**
ASAR Alice Springs 80.52 205 P **P 22 40 30.6 +0.4**
ASAR Alice Springs 80.52 205 P **P 22 40 30.6 +0.4**
ASAR Alice Springs 80.52 205 P **P 22 40 31.1 +0.8**
comp=Z,11nm,0.9s,baz=13,slow=5.4,SNR=65
comp=Z,11nm,0.9s
MMAI Mount Meron Ar 81.40 316 P **P 22 40 34.9 -0.2**
comp=Z,3.1nm,0.6s,baz=22,slow=4.7,SNR=12
MMAI LR LR 23 22 03.3
comp=Z,40nm,20.3s,baz=344,slow=40
comp=Z,3.1nm,0.6s
PMOR Pomariorio Ree 81.40 130 *e*T T 00 10 20.2
comp=Z,6.4nm,0.2s

TLIG	**Tlapa**	**82.26**	**71**	P	**P**	**22 40 40.4**	**+0.5**
MBWA	**Marble Bar**	**82.53**	**218**	P	**P**	**22 40 40.9**	**+0.1**
PSA00	**Pilbara Seismi**	**82.86**	**218**	P	**P**	**22 40 42.1**	**-0.5**
PPT	**Papeete**	**82.92**	**133**	LR	LR	23 07 57.0	
	comp=Z,60nm,21.9s,baz=322,slow=28						
PPT2	**Papeete2**	**82.94**	**133**	*e*LR	LR	23 06 39.3	
	comp=Z,167nm,27.5s						
PPT2				*e*LR	LR	23 06 48.9	
	comp=Z,148nm,27.2s						
IDI	**Anoyia**	**83.35**	**325**	LR	LR	23 21 14.0	
	comp=Z,50nm,18.0s,baz=72,slow=38						
PBRG	**Braganca**	**84.15**	**350**	*e*pP	pP	22 41 04.4	-0.7
ARMA	**Armidale**	**84.22**	**188**	P	**P**	**22 40 48.9**	**-0.6**
ARMA				IAmb	IAmb	22 40 53.1	
	comp=Z,12nm,1.2s						
EIL	**Elat**	**84.50**	**315**	LR	LR	23 23 49.9	
	comp=Z,61nm,18.6s,baz=51,slow=39						
VAE	**Valguarnera**	**84.50**	**334**	LR	LR	23 23 22.9	
	comp=Z,67nm,21.1s,baz=332,slow=39						
POLO	**Lamas de Olo**	**84.67**	**351**	*e*P	**P**	**22 40 55.3**	**+3.4**
	comp=Z,12nm,1.3s						
POLO				*e*pP	**pP**	**22 41 07.5**	**-0.3**
PVRL	**Vila Real**	**84.77**	**351**	*e*P	**P**	**22 40 53.4**	**+1.1**
	comp=Z,12nm,1.3s						
PVRL				*e*pP	**pP**	**22 41 07.1**	**-1.1**
MVO	**Moncorvo**	**84.81**	**351**	*e*P	**P**	**22 40 53.9**	**+1.3**
	comp=Z,11nm,1.4s						
MVO				*e*pP	**pP**	**22 41 07.5**	**-1.0**
PVIS	**Viseu**	**85.34**	**351**	*e*P	**P**	**22 40 56.7**	**+1.5**
PVIS				*e*pP	**pP**	**22 41 09.9**	**-1.2**
MTE	**Manteigas**	**85.62**	**351**	*e*P	**P**	**22 40 57.8**	**+1.2**
	comp=Z,17nm,1.1s						
MTE				*e*pP	**pP**	**22 41 10.9**	**-1.6**
MTE	**Manteigas**	**85.62**	**351**	P	**P**	**22 40 57.0**	**+0.3**
MTE				pP	**pP**	**22 41 11.9**	**-0.6**
MTE				IAmb	IAmb	22 41 13.1	
	comp=Z,15nm,0.9s						
TEIG	**Tepich**	**85.66**	**61**	LR	LR	23 22 28.4	
	comp=Z,389nm,18.9s,baz=84,slow=38						
ESBB	**Sonseca Array**	**85.95**	**348**	P	**P**	**22 40 58.4**	**+0.2**
ESBB				pP	**pP**	**22 41 13.1**	**-1.0**
ESDC	**Sonseca Array**	**85.95**	**348**	P	**P**	**22 40 58.4**	**+0.2**
ESDC				pP	**pP**	**22 41 14.1**	**0.0**
ESDC	**Sonseca Array**	**85.95**	**348**	P	**P**	**22 40 58.5**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=1.8,slow=5.2,SNR=37						
ESDC				pP	**pP**	**22 41 14.0**	**-0.2**
	comp=Z,5.4nm,0.9s,baz=2.9,slow=5.2,SNR=17						
	comp=Z,1.3nm,0.5s						
PCAS	**Casmilo, Conde**	**86.05**	**352**	*e*P	**P**	**22 40 59.4**	**+0.7**
	comp=Z,24nm,1.7s						
PCAS				*e*pP	**pP**	**22 41 14.5**	**-0.1**
PCBR	**Castelo Branco**	**86.17**	**351**	*e*P	**P**	**22 41 00.4**	**+1.2**
	comp=Z,18nm,1.2s						
PCBR				*e*pP	**pP**	**22 41 13.9**	**-1.3**
PMRV	**Marv??o**	**86.57**	**351**	*e*P	**P**	**22 41 02.3**	**+1.0**
PMRV				*e*pP	**pP**	**22 41 16.5**	**-0.7**
STKA	**Stephens Creek**	**86.89**	**196**	P	**P**	**22 41 03.0**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=347,slow=9.1,SNR=3.4						
	comp=Z,3.0nm,0.7s						
PMTG	**Montargil**	**87.00**	**351**	*e*pP	pP	22 41 17.7	-1.6
PESTR	**Estremoz**	**87.14**	**351**	*e*P	**P**	**22 41 06.7**	**+2.6**
PESTR				*e*pP	**pP**	**22 41 17.6**	**-2.4**
PMAFR	**Mafra**	**87.20**	**352**	*e*pP	pP	22 41 22.1	+1.8
KEST	**Kesra**	**87.42**	**337**	P	**P**	**22 41 06.0**	**+0.5**
	comp=Z,6.5nm,0.6s,baz=304,slow=3.1,SNR=8.5						
KEST				LR	LR	23 25 01.5	
	comp=Z,60nm,20.8s,baz=308,slow=39						
	comp=Z,6.5nm,0.6s						
EVO	**Evora**	**87.51**	**351**	*e*pP	pP	22 41 20.3	-1.5
PBAR	**Barrancos**	**87.77**	**350**	*e*P	**P**	**22 41 08.5**	**+1.4**
	comp=Z,22nm,2.8s						
PBAR				*e*pP	**pP**	**22 41 21.7**	**-1.3**
PBEJ	**Beja**	**88.00**	**351**	*e*pP	pP	22 41 23.5	-0.7
TBI	**Tubuai**	**88.09**	**135**	*e*LR	LR	23 09 29.3	
	comp=Z,895nm,30.0s						
PCVE	**Castro Verde**	**88.41**	**351**	*e*pP	pP	22 41 24.9	-1.2
VNDA	**Vanda**	**131.05**	**180**	PKP	**PKiKP**	**22 47 28.6**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=318,slow=7.9,SNR=3.9						
QSPA	**South Pole Qui**	**143.54**	**180**	PKP	PKPbc	22 47 49.0	+0.3
	comp=Z,16nm,0.8s,baz=323,slow=1.2,SNR=36						
PLCA	**Paso Flores**	**143.73**	**90**	PKP	PKPbc	22 47 50.4	+0.3
	comp=Z,3.0nm,0.9s,baz=253,slow=4.2,SNR=5.2						
ELIB	**Princess Elisa**	**154.24**	**209**	*d*PKP	**PKPbc**	**22 48 16.4**	**-0.1**
ELIB				*d*PKPab	**PKPab**	**22 48 31.0**	**+0.1**
TROLL	**Troll, Antarti**	**159.41**	**199**	⇑P	**PKPab**	**22 48 52.8**	**-0.3**
	comp=Z,173nm,0.5s						
SNAA	**Sanae**	**160.66**	**196**	⇑P	**PKPab**	**22 48 57.9**	**-0.6**
	comp=Z,53nm,0.7s						
SNAA	**Sanae**	**160.66**	**196**	PKPab	**PKPab**	**22 48 57.7**	**-0.7**
	comp=Z,4.7nm,1.1s,baz=137,slow=4.9,SNR=5.8						
VNA3	**Neumayer Olymp**	**161.97**	**190**	⇑P	**PKPab**	**22 49 02.8**	**-1.4**
	comp=Z,2.2nm,0.6s						
VNA2	**Neumayer--Watz**	**161.99**	**193**	⇑P	**PKPab**	**22 49 03.3**	**-1.0**
	comp=Z,3.4nm,0.6s,baz=177,slow=5.0						

IDC ***22*** *22:37:18.1±5.2,28.7°S×141.5°E, h0km, mbtmp2.6/3, ML2.4/3, Error ellipse: s-maj=114.3km s-min=19.0km az=73.0*
AUST ***22*** *22:37:20.3±1.2,28.9°S×141.3°E, h10km, Error ellipse: s-maj=15.3km s-min=11.7km az=92.0*

ISC 22 22:37:19.1±0.9**,28.91S**±0.05×**141.35E**±0.06**, h10**km**, n11,** σ2**s06/18, Queensland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INKA	**Innaminka**	**1.28**	**335**	P	**Pb**	**22 37 43.8**	**+0.5**
	baz=1.3						
INKA				S	**Sn**	**22 38 02.5**	**+2.3**
	baz=1.3						
STKA	**Stephens Creek**	**2.97**	**176**	P	**Pn**	**22 38 08.5**	**+2.2**
	baz=3.0						
STKA	**Stephens Creek**	**2.97**	**176**	Pn	**Pn**	**22 38 08.7**	**+2.4**
	0.2nm,0.3s,baz=4.5,slow=13,SNR=4.8						
STKA				Pg	**Pg**	**22 38 17.1**	**+1.0**
	0.6nm,0.3s,baz=0.0,slow=13,SNR=6.9						
STKA				Sn	**Sn**	**22 38 41.1**	**-0.9**
	1.1nm,0.3s,baz=337,slow=11,SNR=5.1						
STKA				Lg	Lg	22 38 57.3	
	2.4nm,0.3s,baz=72,slow=20,SNR=6.6						
	0.8nm,0.4s						
LCRK	**Leigh Creek**	**3.13**	**240**	P	**Pn**	**22 38 10.2**	**+1.7**
	baz=3.1						
LCRK				S	**Sn**	**22 38 45.9**	**0.0**
	baz=3.1						
QLP	**Quilpie**	**3.45**	**49**	P	**Pn**	**22 38 14.6**	**+1.7**
	baz=3.5						
QLP				S	**Sn**	**22 38 50.9**	**-3.0**
	baz=3.5						
CMSA	**Cobar Meteorol**	**4.58**	**126**	P	**Pn**	**22 38 29.5**	**+1.0**
	baz=4.6						
HTT	**Hallett**	**4.96**	**204**	P	**Pn**	**22 38 33.9**	**+0.1**
	baz=4.9						
OOD	**Oodnadatta**	**5.11**	**281**	P	**Pn**	**22 38 37.3**	**+1.6**
	baz=5.1						
OOD				S	**Sn**	**22 39 31.6**	**-3.2**
	baz=5.1						
BBOO	**Buckleboo**	**5.98**	**228**	P	**Pn**	**22 38 47.9**	**+0.1**
	baz=5.9						
BBOO				S	**Sn**	**22 39 53.1**	**-3.3**
	baz=5.9						
ASAR	**Alice Springs**	**8.47**	**306**	Pn	**Pn**	**22 39 23.2**	**+1.1**
	0.1nm,0.3s,baz=128,slow=11,SNR=4.4						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**10.97**	**323**	Pn	**Pn**	**22 39 54.1**	**-2.2**
	baz=149,slow=12,SNR=2.0						
WRA				Sn	Sn	22 41 48.5	-11
	baz=132,slow=20						
	0.3nm,1.1s						

IPEC 22 22:39:21.7±0.1**,48.23N**×**16.84E, h17**km±1km**, ML0.6/3, Error ellipse: s-maj=0.5km s-min=0.4km az=142.0, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZST	**Bratislava**	**0.18**	**100**	*e*PG	Pg	22 39 26.1	-0.1
ZST				*e*SG	Sg	22 39 29.2	0.0
MODS	**Modra-Piesok**	**0.33**	**64**	*e*PG	Pg	22 39 28.4	-0.2
MODS				*e*SG	Sg	22 39 33.2	-0.2
KRUC	**Moravsky**	**0.88**	**341**	*e*PG	Pb	22 39 38.1	-0.5
KRUC				*e*SG	Sb	22 39 49.6	-0.6
KRUC	**Moravsky**	**0.88**	**341**	*e*Pg	Pb	22 39 38.0	-0.6
	baz=341						
KRUC				*e*Sg	Sb	22 39 49.5	-0.7
	1.1nm,0.2s,baz=341						

IDC ***22*** *22:47:56.7±0.6,13.1°N×143.81E, h134km±5km, mb3.6/15, mbtmp4.0/15, MS3.2/2, Error ellipse: s-maj=12.5km s-min=11.7km az=74.0*
NEIC ***22*** *22:47:57.2±0.6,13.1°N±0.1°×143.8°E±0.2, h131km±10km, mb4.1/16, Error ellipse: s-maj=30.9km s-min=6.5km az=117.0*

ISC 22 22:47:57.3±0.6**,13.08N**±0.09×**143.8E**±0.1**, h138**km**, n41,** σ0**s93/44, mb3.9/22, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.16**	**64**		**Pn**	**22 48 21.9**	**-0.5**
GUMO	**Guam**	**1.16**	**64**	P	**Pn**	**22 48 22.0**	**-0.4**
	171nm,0.2s,baz=74,slow=2.1,SNR=7.8						
GUMO				S	**Sn**	**22 48 40.2**	**-1.3**
	450nm,0.3s,baz=39,slow=21,SNR=20						
FAKI	**Fak Fak**	**19.60**	**217**		**Pn**	**22 52 18.2**	**+0.5**
FAKI				IAmb	IAmb	22 52 29.9	
	comp=Z,17nm,1.1s						
MJAR	**Matsushiro Arr**	**23.89**	**349**	P	**P**	**22 52 58.1**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=170,slow=8.4,SNR=10						
	comp=Z,2.7nm,0.6s						
JMM	**Marumori**	**24.82**	**354**	P	**P**	**22 53 07.2**	**+0.6**
KSRS	**Korea Array**	**28.11**	**332**	P	**P**	**22 53 36.1**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=139,slow=9.3,SNR=5.9						
	comp=Z,1.4nm,0.5s						
JKA	**Kamikawa-asahi**	**30.94**	**358**	P	**P**	**22 54 04.2**	**+3.1**
USA0B	**Ussuriysk Arra**	**32.62**	**344**	P	**P**	**22 54 15.3**	**-0.5**
USA0B				IAmb	IAmb	22 54 26.9	
	comp=Z,6.1nm,1.1s						
USRK	**Ussuriysk Ar.**	**32.62**	**344**	P	**P**	**22 54 15.1**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=139,slow=42,SNR=2.3						
	comp=Z,0.6nm,0.4s						
CTA	**Charters Tower**	**33.05**	**176**	LR	LR	23 08 35.4	
	comp=Z,22nm,19.7s,baz=81,slow=38						
WB0	**Warramunga Arr**	**33.93**	**196**	P	**P**	**22 54 27.0**	**-0.4**
WB0				IAmb	IAmb	22 54 27.7	
	comp=Z,2.9nm,0.6s						
WR0	**Warramunga Arr**	**34.08**	**196**	P	**P**	**22 54 28.4**	**-0.3**
WB2	**Warramunga Arr**	**34.11**	**196**	P	**P**	**22 54 28.7**	**-0.3**
WB2				IAmb	IAmb	22 54 29.1	
	comp=Z,5.0nm,0.8s						
WRA	**Warramunga Arr**	**34.11**	**196**	P	**P**	**22 54 28.6**	**-0.5**
WRA	**Warramunga Arr**	**34.11**	**196**	P	**P**	**22 54 28.5**	**-0.5**
	comp=Z,3.6nm,0.8s,baz=18,slow=9.5,SNR=26						
	comp=Z,3.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**35.79**	**210**	P	**P**	**22 54 42.9**	**-0.5**
FITZ				IAmb	IAmb	22 54 45.6	
	comp=Z,2.8nm,1.3s						
AS31	**Alice Springs**	**37.78**	**195**	P	**P**	**22 55 00.0**	**-0.2**
AS31				IAmb	IAmb	22 55 01.4	
	comp=Z,1.4nm,0.6s						
ASAR	**Alice Springs**	**37.78**	**195**	P	**P**	**22 55 00.1**	**-0.2**
ASAR	**Alice Springs**	**37.78**	**195**	P	**P**	**22 55 00.2**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=18,slow=13,SNR=45						
	comp=Z,1.0nm,0.4s						
DZM	**Mont Dzumac**	**41.40**	**147**	P	**P**	**22 55 31.6**	**+1.3**
	comp=Z,5.4nm,0.5s,baz=314,slow=20,SNR=2.6						
	comp=Z,5.4nm,0.5s						
STKA	**Stephens Creek**	**44.75**	**183**	P	**P**	**22 55 56.4**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=336,slow=13,SNR=4.3						
STKA				LR	LR	23 17 01.6	
	comp=Z,50nm,18.1s,baz=26,slow=39						
	comp=Z,1.2nm,0.4s						
SONM	**Songino Array**	**46.55**	**326**	P	**P**	**22 56 11.7**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=150,slow=9.0,SNR=4.4						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**61.13**	**316**	P	**P**	**22 57 57.3**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=92,slow=8.7,SNR=13						
MKAR				pP	**pP**	**22 58 28.9**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=39,slow=8.3,SNR=2.2						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**64.34**	**320**	P	**P**	**22 58 17.8**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=104,slow=6.8,SNR=12						
KURBB				pP	**pP**	**22 58 50.4**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=102,slow=6.7,SNR=4.9						
	comp=Z,1.3nm,0.5s						
POKR	**Poker Flat Res**	**69.32**	**25**	P	**P**	**22 58 50.9**	**+1.4**
ILAR	**Eielson Array**	**69.47**	**25**	P	**P**	**22 58 48.4**	**-2.0**
	comp=Z,0.2nm,0.5s,baz=253,slow=5.5,SNR=6.2						
	comp=Z,0.2nm,0.5s						
C23K	**Itkillik River**	**69.47**	**20**	P	**P**	**22 58 51.7**	**+1.4**
BVAR	**Borovoye Array**	**69.67**	**322**	P	**P**	**22 58 51.8**	**-0.1**
BVAR				pP	**pP**	**22 59 24.2**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=104,slow=8.6,SNR=8.5						
	comp=Z,0.5nm,0.5s,baz=104,slow=6.3,SNR=2.0						
	comp=Z,0.8nm,0.4s						
J25K	**Salcha River,**	**70.07**	**26**	P	**P**	**22 58 53.9**	**-0.2**
J25K				IAmb	IAmb	22 58 59.5	
	comp=Z,4.7nm,1.4s						
J26L	**Joseph Creek**	**70.81**	**26**	P	**P**	**22 58 58.4**	**-0.3**
BMAR	**Burnt Mountain**	**70.97**	**23**	P	**P**	**22 59 00.4**	**+0.9**
GRNC	**Granite Creek**	**71.08**	**30**	P	**P**	**22 59 01.3**	**+0.7**
L29M	**L29M**	**73.03**	**28**	P	**P**	**22 59 12.3**	**+0.5**
E28M	**Babbage River**	**73.04**	**22**	P	**P**	**22 59 13.0**	**+1.2**
E29M	**Blow River**	**73.61**	**22**	P	**P**	**22 59 16.1**	**+0.9**
J30M	**Hart River**	**73.93**	**26**	P	**P**	**22 59 17.8**	**+0.6**
G31M	**Satah River**	**74.89**	**24**	P	**P**	**22 59 23.6**	**+1.0**
G31M				IAmb	IAmb	22 59 25.6	
	comp=Z,3.0nm,1.2s						
ABKAR	**Akbulak array**	**76.21**	**318**	P	**P**	**22 59 30.2**	**-0.2**
YKA	**Yellowknife Ar**	**83.78**	**27**	P	**P**	**23 00 10.8**	**0.0**
	comp=Z,0.3nm,0.5s,baz=285,slow=5.4,SNR=5.7						
	comp=Z,0.3nm,0.5s						
NVAR	**Mina Array Bea**	**88.05**	**51**	P	**P**	**23 00 33.4**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=263,slow=6.3,SNR=8.3						
	comp=Z,1.3nm,0.8s						
FINES	**FINESS Array B**	**91.17**	**335**	P	**P**	**23 00 44.3**	**-2.1**
	comp=Z,3.6nm,1.0s,baz=249,slow=16,SNR=3.9						
	comp=Z,3.6nm,1.0s						

HEL ***22*** *22:52:14.0±0.2,67.19°N×20.42E, h0km, ML1.2, Explosion*
UPP ***22*** *22:52:15.1±0.1,67.17°N×20.66E, h0km, ML2.6, Suspected explosion*

ISC 22 22:52:14.3±1.0**,67.18N**±0.03×**20.79E**±0.04**, h0**km**, n13,** σ0**s49/17, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.10**	**239**	P	**Pg**	**22 52 16.6**	**+0.3**
DUNU				S	**Sg**	**22 52 17.7**	**+0.1**
MASU	**Masugnsbyn**	**0.55**	**58**	P	**Pb**	**22 52 26.4**	**-0.3**
RATU	**Laukkuluspa**	**0.80**	**325**	P	**Pg**	**22 52 29.5**	**-0.1**
ERTU	**Ertsjaerv**	**0.83**	**138**	P	**Pb**	**22 52 31.0**	**-0.6**
ERTU	**Ertsjaerv**	**0.83**	**138**	*e*P	**Pb**	**22 52 31.1**	**-0.6**
ERTU				*e*S	**Sb**	**22 52 43.0**	**-0.3**
PAJU	**Pajala**	**0.92**	**98**	P	**Pb**	**22 52 33.2**	**+0.1**
LANU	**Lannavaara**	**0.99**	**27**	*e*P	**Pg**	**22 52 32.6**	**-0.6**
KLF	**Kolari**	**1.24**	**86**	*e*P	**Pn**	**22 52 38.8**	**0.0**
KLF				*e*S	**Sn**	**22 52 56.6**	**+0.4**
HEF	**Hetta**	**1.65**	**40**	*e*SN	**Sg**	**22 53 08.4**	**+1.2**
HEF				MSG		22 53 11.2	
	comp=Z,1.3nm,0.3s						
KALU	**Kalix**	**1.67**	**141**	*e*PG	**Pg**	**22 52 46.2**	**-0.1**
KALU				*e*S	**Sg**	**22 53 08.4**	**+0.4**
SJUU	**Sjulsmark**	**1.71**	**169**	P	**Pb**	**22 52 46.1**	**-0.3**
TOF	**Tornio**	**1.79**	**126**	*e*PG	**Pg**	**22 52 48.5**	**0.0**
TOF				*e*S	**Sg**	**22 53 12.1**	**+0.4**
TOF				MSG		22 53 17.1	
	comp=Z,0.7nm,0.2s						
KIF	**Kilpisjarvi**	**1.84**	**0**	MSG		22 53 16.0	
	comp=Z,1.3nm,0.2s						

IDC ***22*** *23:10:34.6±7.5,51.59°N×179.75W, h0km, mb3.2/5, mbtmp3.5/6, ML4.1/1, Error ellipse: s-maj=143.7km s-min=63.3km az=91.0*
NEIC ***22*** *23:10:41.0±1.0,51.45°N±0.04°×178.36W±0.03, h6km±8km, ML3.7(AEIC), Error ellipse: s-maj=5.4km s-min=1.9km az=199.0*
AEIC ***22*** *23:10:42.2±1.4,51.60°N±0.05°×178.39W±0.03, h13km±6km, Error ellipse: s-maj=7.3km s-min=2.6km az=186.0*

ISC 22 23:10:41.2±2.1**,51.5N**±0.1°×**178.39W**±0.03**, h7**km±11km**, n31,** σ0**s80/27, mb3.4/4, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	**Gareloi East**	**0.37**	**323**		**Pg**	**23 10 49.0**	**+0.5**
TASE	**Tanaga Southea**	**0.41**	**32**		**Pg**	**23 10 49.8**	**+0.6**
GANO	**Gareloi North**	**0.42**	**322**		**Pg**	**23 10 49.5**	**+0.1**
KIKV	**Kanaga Island**	**0.85**	**62**		**Pg**	**23 10 57.5**	**-0.2**
KIKV					**Sg**	**23 11 08.2**	**-0.4**
KIWB	**Kanaga Island**	**0.85**	**64**		**Pg**	**23 10 57.6**	**0.0**
KIWB					**Sg**	**23 11 08.2**	**-0.5**
KIRH	**Kanaga Island**	**0.91**	**62**		**Pg**	**23 10 58.4**	**-0.2**
KIRH					**Sg**	**23 11 09.6**	**-0.7**
CEPE	**Semis' Perret**	**1.31**	**292**		**Pn**	**23 11 04.8**	**-1.2**
AMKA	**Amchitka**	**1.45**	**267**		**Pn**	**23 11 07.7**	**-0.2**
AMKA	**Amchitka**	**1.45**	**267**		**Sn**	**23 11 26.0**	**-1.2**
GSCK	**Great Sitkin C**	**1.48**	**68**		**Pn**	**23 11 08.1**	**-0.2**
GSCK					**Sn**	**23 11 26.9**	**-1.1**
GSMY	**Great Sitkin M**	**1.55**	**68**		**Pn**	**23 11 09.1**	**-0.3**
GSMY					**Sn**	**23 11 29.6**	**-0.1**
GSTR	**Great Sitkin T**	**1.57**	**66**		**Pn**	**23 11 09.1**	**-0.5**
LSPA	**Little Sitkin**	**1.95**	**285**		**Pn**	**23 11 15.5**	**+0.8**
LSSA	**Little Sitkin**	**1.98**	**285**		**Pn**	**23 11 16.4**	**+1.1**
ATKA	**Atka Island**	**2.70**	**73**		**Pn**	**23 11 25.7**	**+0.7**
ATKA	**Atka Island**	**2.70**	**73**	Sn	**Sn**	**23 11 59.3**	**+1.4**
KDAK	**Kodiak Island**	**16.15**	**57**	Pn	**Pn**	**23 14 29.5**	**+1.1**
	0.6nm,0.3s,baz=270,slow=8.1,SNR=2.1						
	24nm,1.0s						
ILAR	**Eielson Array**	**21.00**	**39**	P	**P**	**23 15 24.6**	**-0.4**
	0.3nm,0.7s,baz=248,slow=9.5,SNR=2.2						
	0.3nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**33.74**	**206**	T	T	23 53 03.4	
	baz=16,slow=76,SNR=71						
H11N3	**WAKE ISLAND Hy**	**33.75**	**205**	T	T	23 53 03.6	
	baz=16,slow=76,SNR=60						
H11N1	**WAKE ISLAND Hy**	**33.76**	**206**	T	T	23 53 04.8	
	baz=16,slow=76,SNR=83						
H11S1	**WAKE ISLAND Hy**	**34.96**	**205**	T	T	23 54 34.8	
	baz=17,slow=76,SNR=90						
YKA	**Yellowknife Ar**	**34.97**	**47**	P	**P**	**23 17 32.5**	**-1.0**
	0.2nm,0.6s,baz=281,slow=7.9,SNR=2.4						
	0.2nm,0.6s						
H11S2	**WAKE ISLAND Hy**	**34.97**	**205**	T	T	23 54 37.5	
	baz=17,slow=76,SNR=49						
H11S3	**WAKE ISLAND Hy**	**34.98**	**205**	T	T	23 54 40.1	
	baz=17,slow=76,SNR=46						
NVAR	**Mina Array Bea**	**43.28**	**83**	P	**P**	**23 18 45.1**	**+1.5**
	0.2nm,0.5s,baz=304,slow=8.1,SNR=1.9						
	0.2nm,0.5s						
PDAR	**Pinedale Array**	**46.03**	**73**	P	**P**	**23 19 05.8**	**+0.2**
	0.3nm,0.4s,baz=320,slow=5.0,SNR=4.3						
	0.3nm,0.4s						
TXAR	**Lajitas Array**	**58.38**	**82**	P	**P**	**23 20 37.3**	**-0.1**
	0.3nm,0.5s,baz=316,slow=5.1,SNR=4.2						
	0.3nm,0.5s						
H03N2	**Juan Fernandez**	**120.93**	**106**	T	T	01 42 09.9	
	baz=317,slow=77,SNR=35						
H03N1	**Juan Fernandez**	**120.94**	**106**	T	T	01 42 11.2	
	baz=317,slow=77,SNR=42						
H03N3	**Juan Fernandez**	**120.94**	**106**	T	T	01 42 10.5	
	baz=317,slow=77,SNR=37						

BJI ***22*** *23:10:52.8,29.30°N×142.54E, h10km, mb4.7/78, mB5.2/52, Ms4.8/86, Ms7 4.7/81*
IDC ***22*** *23:10:54.7±0.5,29.29°N×142.41E, h0km, mb4.7/29, mbtmp4.7/34, ML3.8/3, MS4.5/71, Error ellipse: s-maj=14.1km s-min=11.5km az=86.0*
NEIC ***22*** *23:10:55.8,29.32°N×142.61E, h12km*
NIED ***22*** *23:10:55.8,29.37°N×142.58E, h39km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr3.79; Mθθ-0.38; Mϕϕ-3.41; Mrθ-1.60; Mθϕ0.79; Mϕr3.14; Fault plane solution: M₀5.11000×10¹⁶ NP1: ϕs337.00000°, δ67.00000°, λ83.00000°. NP2: ϕs174.00000°, δ24.00000°, λ105.00000°.*
JMA ***22*** *23:10:55.8±0.2,29.4N±0.6×14.3E±, h39km, MD5.2/44, MW5.0/44, NEAR TORISHIMA IS*
NEIC ***22*** *23:10:55.8,29.12N×143.18E, h12km, Moment Tensor Solution. Duration: 1ᵗˢ5 Moment tensor: Scale 10¹⁶Nm; Mrr2.84; Mθθ-0.08; Mϕϕ-2.76; Mrθ1.27; Mθϕ0.27; Mϕr2.99; Fault plane solution: M₀4.28000×10¹⁶ NP1:ϕs14.60000°, δ70.13000°, λ103.44000°. NP2:ϕs159.50000°, δ23.84000°, λ57.26000°. Principal axes: T 4.4867, Plg63.0000°, Azm305.0000°; N -0.4165, Plg13.0000°, Azm190.0000°; P -4.0702, Plg24.0000°, Azm94.0000°;*
NEIC ***22*** *23:10:56.4±1.3,29.32N±0.05×142.57E±0.09, h11km±3km, mb5.1/387, Mww5.0/25 Error ellipse: s-maj=11.7km s-min=7.5km az=83.0*
MOS ***22*** *23:10:56.7±0.9,29.29°N×142.48E, h27km, mb5.2/99, MS4.6/10, Error ellipse: s-maj=6.8km s-min=3.7km az=116.6*
GCMT ***22*** *23:10:59.4±0.2,29.30°N±0.02×142.52E±0.01, h18km, MW5.0/124, Moment Tensor Solution. s51,c66; s124,c197; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.63±.17; Mθθ-0.42±.10; Mϕϕ-4.22±.12; Mrθ0.62±.28; Mθϕ-0.08±.07; Mϕr1.42±.23; Best double couple: M₀4.68500×10¹⁶ NP1:ϕs8.00000°, δ54.00000°, λ97.00000°. NP2:ϕs175.00000°, δ36.00000°, λ80.00000°. Principal axes: T 4.9210, Plg79.0000°, Azm307.0000°; N -0.4780, Plg6.0000°, Azm184.0000°; P -4.4500, Plg9

JNU LR LR 23 17 30.2
comp=N,3μm,18.8s,baz=124,slow=37
JTM Tenmabayashi 11.53 354 Pn **Pn** **23 13 38.1 -2.8**
JTU Tsushima 12.34 298 Pn **Pn** **23 13 51.7 -0.4**
ERM Erimo 12.70 2 Pn **Pn** **23 13 55.6 -1.3**
ERM Erimo 12.70 2⇓*i*P **Pn** **23 13 54.4 -2.5**
JOW Kunigami 12.86 262 Pn **Pn** **23 13 59.6 +0.4**
JOW Kunigami 12.86 262 Pn **Pn** **23 13 57.9 -1.2**
comp=N,15nm,1.0s,baz=300,slow=17,SNR=1.5
JOW LR LR 23 18 19.0
comp=N,2μm,21.7s,baz=81,slow=35
TJN Taejon 14.59 303 Pn **Pn** **23 14 22.6 -0.2**
TJN Taejon 14.59 303 P **Pn** **23 14 22.6 -0.2**
KSRS Korea Array 14.68 307 Pn **Pn** **23 14 24.1 +0.1**
comp=N,0.4nm,0.3s,baz=114,slow=13,SNR=17
KSRS LR LR 23 19 56.3
comp=N,2μm,19.2s,baz=120,slow=37
comp=N,10nm,0.8s
KSAR Wonju Array Be 14.70 307 Pn **Pn** **23 14 23.9 -0.4**
KSAR Wonju Array Be 14.70 307 P **Pn** **23 14 23.9 -0.4**
KS19 Wonju Array Si 14.74 308 **Pn** **23 14 23.2 -1.6**
ASAJ Asahikawa 14.79 0 Pn **Pn** **23 14 21.6 -3.9**
comp=N,1.8nm,0.3s,baz=213,slow=21,SNR=6.1
ASAJ Sn Sn 23 16 58.0 -11
comp=N,2.6nm,0.3s,baz=164,slow=19,SNR=3.6
ASAJ LR LR 23 21 45.2
comp=N,2μm,20.8s,baz=193,slow=44
JKA Kamikawa-asahi 14.79 0 Pn **Pn** **23 14 21.6 -3.9**
INCN Inchon 15.60 306 Pn **Pn** **23 14 34.9 -1.3**
INCN IAmb IAmb 23 14 40.7
comp=Z,52nm,0.7s
INCN Inchon 15.60 306 P **Pn** **23 14 34.9 -1.3**
INCN pmax pmax
comp=Z,52nm,0.7s
GUMO Guam 15.77 172 Pn **Pn** **23 14 36.5 -2.0**
GUMO Guam 15.77 172 P **Pn** **23 14 36.5 -2.0**
GUMO pmax pmax
comp=Z,571nm,1.5s
MSHR Mys Shultsa 16.14 328*de*P **Pn** **23 14 40.9 -2.1**
MSHR pmax pmax
comp=Z,69nm,1.7s
TEY Ternei 16.41 345 *e*P **Pn** **23 14 43.9 -2.5**
TEY *e* 23 17 40.5
USA0B Ussuriysk Arra 17.10 333 **Pn** **23 14 53.4 -1.8**
USA0B Ussuriysk Arra 17.10 333 P **Pn** **23 14 53.4 -1.8**
USA0B pmax pmax
comp=Z,31nm,1.2s
USRK Ussuriysk Ar. 17.10 333 Pn **Pn** **23 14 53.1 -2.1**
USRK Ussuriysk Ar. 17.10 333 P **Pn** **23 14 53.1 -2.1**
USRK Ussuriysk Ar. 17.10 333 P **Pn** **23 14 52.0 -3.1**
comp=Z,11nm,0.9s,baz=151,slow=11,SNR=20
USRK LR LR 23 20 37.1
comp=Z,723nm,20.9s,baz=146,slow=34
YSS Yuzh-Sakhalins 17.63 0 Pn **Pn** **23 14 59.4 -2.4**
YSS IAmb IAmb 23 15 04.3
comp=Z,168nm,1.0s
YSS Yuzh-Sakhalins 17.63 0⇑*e*P **Pn** **23 15 00.2 -1.6**
YSS *e*S **Sn** **23 18 13.2 -4.2**
YSS pmax pmax
comp=Z,300nm,3.1s
YSS pmax pmax
comp=N,400nm,3.3s
YSS pmax pmax
comp=Z,140nm,1.2s
YSS MLR MLR
comp=Z,2μm,15.0s
YSS MLR MLR
comp=N,2μm,13.0s
MDJ Mudanjiang 18.44 330 **P** **23 15 09.7 -1.9**
MDJ Mudanjiang 18.44 330 P **P** **23 15 11.0 -0.5**
MDJ pP Pn 23 15 13.1 +1.4
MDJ S **Sn** **23 18 37.5 +0.5**
MDJ sS S 23 18 41.6 +0.9
MDJ SS **SnSn** **23 19 00.3 +9.3**
MDJ pmax pmax
comp=N,43nm,1.0s
MDJ pmax pmax
comp=N,810nm,8.8s
MDJ LR LR
comp=N,2μm,16.5s
MDJ LR LR
comp=N,2μm,17.2s
MDJ LR LR
comp=N,2μm,15.8s
SSE Sheshan 18.57 281 P **P** **23 15 11.1 -2.0**
SSE S **Sn** **23 18 40.8 +0.5**
SSE pmax pmax
comp=N,6.0nm,0.4s
SSE pmax pmax
comp=N,210nm,11.4s
SSE LR LR
comp=N,520nm,13.1s
SSE LR LR
comp=N,410nm,13.9s
YHNB Yeheng 19.43 261 P **P** **23 15 21.0 -1.7**
UGL Uglegorsk 19.76 359 *e*P **Pn** **23 15 27.5 0.0**
UGL *e*S **S** **23 19 00.0 -7.3**
UGL pmax pmax
comp=Z,1μm,4.7s
UGL pmax pmax
comp=Z,131nm,1.0s
UGL smax smax
comp=N,800nm,9.0s
UGL smax smax
comp=E,1μm,4.9s
UGL MLR MLR
comp=Z,1μm,23.0s
UGL MLR MLR
comp=N,3μm,18.0s
UGL MLR MLR
comp=E,2μm,14.0s
DL2 Dalian 19.78 305 P **P** **23 15 26.1 -0.1**
DL2 S **Sn** **23 19 10.5 +1.2**
DL2 pmax pmax
comp=E,29nm,1.4s
DL2 pmax pmax
comp=E,250nm,5.9s
DL2 LR LR
comp=E,1μm,12.8s
DL2 LR LR
comp=E,1μm,17.8s
DL2 LR LR
comp=E,2μm,16.6s
SNY Shenyang 19.82 314 ⇓P **P** **23 15 25.3 -1.4**
SNY S **S** **23 19 09.4 +0.7**
SNY pmax pmax
comp=E,9.0nm,1.0s
SNY pmax pmax
comp=E,310nm,5.8s
SNY LR LR
comp=E,2μm,13.9s
SNY LR LR
comp=E,980nm,16.9s
SNY LR LR
comp=E,1μm,13.7s
CN2 Changchun 19.91 321 P **P** **23 15 27.3 -0.4**
CN2 pmax pmax
comp=E,40nm,0.9s
CN2 pmax pmax
comp=E,500nm,6.0s
CN2 LR LR
comp=E,3μm,15.0s
CN2 LR LR
comp=E,2μm,15.0s
CN2 LR LR
comp=E,2μm,16.0s
YULB Yu-li 19.94 258 P **P** **23 15 28.6 +0.5**
YULB IAmb IAmb 23 15 35.8
comp=Z,141nm,1.4s
SSLB Suanglung 20.09 259 P **P** **23 15 29.3 -0.5**
SSLB IAmb IAmb 23 15 38.4
comp=Z,108nm,1.1s
BNX BinXian 20.29 328 ⇑P **P** **23 15 31.0 -0.8**
BNX pP Pn 23 15 33.8 -0.1
BNX sP **pP** **23 15 35.0 -1.4**
BNX PP **PnPn** **23 15 47.6 -1.3**
BNX S Sn 23 19 20.8 -0.9
BNX sS **sS** **23 19 25.5 -0.3**
BNX pmax pmax
comp=Z,180nm,0.9s
BNX pmax pmax
comp=Z,950nm,6.0s
BNX LR LR
comp=Z,720nm,15.2s
BNX LR LR
comp=Z,2μm,11.9s

BNX LR LR
comp=Z,2μm,14.1s
TWG Pinlang 20.34 257 P **P** **23 15 32.9 +0.3**
TWG IAmb IAmb 23 15 52.1
comp=Z,102nm,1.3s
TPUB Ta-pu 20.54 258 P **P** **23 15 35.5 +0.8**
TPUB IAmb IAmb 23 15 59.6
comp=Z,112nm,1.0s
NJ2 Nanjing 20.57 284 ⇑P **P** **23 15 33.0 -2.0**
NJ2 pP Pn 23 15 34.5 -2.8
NJ2 sP **pP** **23 15 39.1 -1.0**
NJ2 PP **pwP** **23 15 49.5 +2.0**
NJ2 S **S** **23 19 22.8 -1.1**
NJ2 PcP **PcP** **23 19 39.5 -5.9**
NJ2 pmax pmax
comp=Z,32nm,1.1s
NJ2 pmax pmax
comp=Z,490nm,5.3s
NJ2 LR LR
comp=Z,750nm,19.9s
NJ2 LR LR
comp=Z,2μm,16.1s
NJ2 LR LR
comp=Z,2μm,16.1s
TYV Tymovskoe 21.55 0 *e*P **P** **23 15 47.8 +2.6**
TYV *e*S Sn 23 19 49.5 -2.1
TYV pmax pmax
comp=Z,41nm,1.3s
TYV pmax pmax
comp=Z,200nm,2.6s
KLR Kul'dur 21.56 340⇓*e*P **P** **23 15 45.5 +0.1**
KLR pmax pmax
comp=Z,73nm,1.4s
KLR Kul'dur 21.56 340 P **P** **23 15 44.4 -1.0**
comp=Z,48nm,1.1s,baz=147,slow=8.5,SNR=33
KLR S **S** **23 19 45.6 +2.6**
comp=Z,1.4nm,0.7s,baz=98,slow=17,SNR=1.5
comp=Z,48nm,1.1s
QZH Quanzhou 21.76 264 P **P** **23 15 46.6 -1.2**
QZH S **S** **23 19 48.0 +0.5**
QZH LR LR
comp=Z,730nm,12.8s
QZH LR LR
comp=Z,2μm,18.8s
QZH LR LR
comp=Z,1μm,15.8s
GRNR Gornyy 21.95 350⇑*i*P **P** **23 15 50.0 +0.4**
GRNR pmax pmax
comp=N,8.0nm,0.9s
GRNR pmax pmax
comp=Z,6.0nm,0.7s
GRNR MLR MLR
comp=E,840nm,17.0s
GRNR MLR MLR
comp=N,610nm,13.0s
GRNR MLR MLR
comp=Z,850nm,15.0s
TIA Tai'an 22.45 294 P **P** **23 15 53.8 -1.3**
TIA S **S** **23 19 57.6 -2.6**
TIA pmax pmax
comp=Z,16nm,1.1s
TIA pmax pmax
comp=Z,190nm,5.3s
TIA LR LR
comp=Z,880nm,12.9s
TIA LR LR
comp=Z,1μm,15.8s
TIA LR LR
comp=Z,1μm,20.1s
HEH HeiHe 23.87 335 *e*P **P** **23 16 09.1 -0.2**
HEH pP **pP** **23 16 12.1 -2.1**
HEH PP **PnPn** **23 16 44.4 +6.7**
HEH S **S** **23 20 26.0 +2.2**
HEH pmax pmax
comp=Z,82nm,1.1s
HEH pmax pmax
comp=Z,1μm,6.5s
HEH LR LR
comp=Z,2μm,15.5s
HEH LR LR
comp=Z,2μm,14.2s
HEH LR LR
comp=Z,2μm,16.0s
NKL Nikolayevsk 23.88 357 *e*P **P** **23 16 09.4 +0.1**
NKL *e*S **S** **23 20 23.8 0.0**
NKL pmax pmax
comp=E,88nm,1.2s
NKL pmax pmax
comp=N,152nm,1.4s
NKL pmax pmax
comp=Z,333nm,1.3s
H11N2 WAKE ISLAND Hy 24.05 108 T T 23 41 58.6
baz=295,slow=74
H11N1 WAKE ISLAND Hy 24.06 108 T T 23 42 10.3
baz=295,slow=74
H11N3 WAKE ISLAND Hy 24.07 108 T T 23 42 03.7
baz=295
BJT Baijiatuan 24.12 303 P **P** **23 16 10.3 -1.5**
BJT Baijiatuan 24.12 303 P **P** **23 16 10.3 -1.5**
BJT pmax pmax
comp=Z,26nm,1.1s
BJI Beijing 24.13 303 P **P** **23 16 10.3 -1.5**
BJI S **S** **23 20 25.5 -2.7**
BJI SS **SnSn** **23 21 11.4 +1.1**
BJI pmax pmax
comp=Z,9.0nm,0.9s
BJI LR LR
comp=Z,460nm,17.3s
BJI LR LR
comp=Z,820nm,16.5s
BJI LR LR
comp=Z,960nm,18.4s
WHN Wuhan 24.47 280 P **P** **23 16 13.9 -1.1**
WHN sP **sP** **23 16 23.3 +0.7**
WHN PP **PnPn** **23 16 52.4 +6.3**
WHN S **S** **23 20 36.8 +3.0**
WHN pmax pmax
comp=Z,37nm,0.9s
WHN pmax pmax
comp=Z,550nm,3.2s
WHN LR LR
comp=Z,2μm,13.9s
WHN LR LR
comp=Z,1μm,13.5s
WHN LR LR
comp=Z,1μm,12.8s
HNS HongShan 24.57 296 ⇓P **P** **23 16 13.5 -2.4**
HNS S **S** **23 20 34.9 -0.5**
HNS pmax pmax
comp=Z,15nm,1.1s
HNS pmax pmax
comp=Z,280nm,8.0s
HNS LR LR
comp=Z,1μm,17.3s
HNS LR LR
comp=Z,2μm,16.5s
HNS LR LR
comp=Z,2μm,16.2s
XLT XiLinHaoTe 25.64 312 *e*P **P** **23 16 24.9 -0.7**
XLT sP pP 23 16 31.6 +0.7
XLT S **S** **23 20 52.0 -0.6**
XLT SS **SnSn** **23 21 53.0 +5.5**
XLT PcS **PcS** **23 23 34.9 -1.6**
XLT pmax pmax
comp=Z,16nm,0.7s
XLT pmax pmax
comp=Z,250nm,8.4s
XLT LR LR
comp=Z,84nm,17.5s
XLT LR LR
comp=Z,650nm,20.6s
XLT LR LR
comp=Z,840nm,18.3s
CNSH ChangSha 25.98 275 ⇑P **P** **23 16 30.6 +1.8**
CNSH pmax pmax
comp=Z,15nm,1.2s
CNSH LR LR
comp=Z,500nm,12.0s
CNSH LR LR
comp=Z,1μm,12.9s
CNSH LR LR
comp=Z,1μm,13.3s
LYN LuoYang 26.03 289 ⇑P **P** **23 16 27.8 -1.3**
LYN PP **PnPn** **23 17 12.4 +5.0**
LYN S **S** **23 20 55.4 -3.3**
LYN SS **SnSn** **23 21 57.9 +1.0**

LYN pmax pmax
comp=Z,28nm,0.9s
LYN pmax pmax
comp=Z,390nm,7.7s
LYN LR LR
comp=Z,900nm,14.8s
LYN LR LR
comp=Z,1μm,14.1s
LYN LR LR
comp=Z,1μm,14.1s
PETK Petropavlovsk- 26.27 21 P **P** **23 16 31.6 +0.5**
comp=Z,2.8nm,0.7s,baz=204,slow=3.2,SNR=2.2
PETK LR LR 23 27 27.8
comp=Z,804nm,20.5s,baz=214,slow=38
comp=Z,2.8nm,0.7s
TIY Taiyuan 26.41 296 *e*P **P** **23 16 30.4 -2.2**
TIY pmax pmax
comp=Z,280nm,3.8s
TIY LR LR
comp=Z,890nm,15.1s
TIY LR LR
comp=Z,1μm,17.5s
TIY LR LR
comp=Z,1μm,15.5s
HIA Hailar 26.47 325 P **P** **23 16 33.1 +0.1**
HIA IAmb IAmb 23 16 35.8
comp=Z,39nm,0.8s
HIA Hailar 26.47 325 P **P** **23 16 33.1 +0.1**
HIA pmax pmax
comp=Z,39nm,0.8s
PET Petropavlovsk 26.50 22 P **P** **23 16 31.5 -1.6**
PET IAmb IAmb 23 16 47.9
comp=Z,56nm,1.5s
PET Petropavlovsk 26.50 22⇓*e*P **P** **23 16 33.4 +0.2**
ZEA Zeya 26.86 340 *e*P **P** **23 16 37.0 +0.5**
ZEA *e*S **S** **23 21 07.9 -3.6**
ZEA pmax pmax
comp=N,30nm,1.1s
ZEA pmax pmax
comp=Z,40nm,1.3s
ZEA pmax pmax
comp=Z,300nm,6.9s
ZEA smax smax
comp=N,300nm,8.1s
ZEA smax smax
comp=E,500nm,7.5s
DAV Davao City (W) 27.30 219 LR LR 23 25 30.4
comp=E,590nm,22.0s,baz=68,slow=32
HHC Hu-ho-hao-te 27.73 303 *e*P **P** **23 16 43.3 -1.2**
HHC *e*S **S** **23 21 25.5 -0.2**
HHC sS sS 23 21 33.9 -0.7
HHC pmax pmax
comp=E,30nm,0.8s
HHC pmax pmax
comp=E,310nm,5.1s
HHC LR LR
comp=E,2μm,16.2s
HHC LR LR
comp=E,3μm,17.2s
HHC LR LR
comp=E,4μm,17.9s
ENH Enshi 28.67 280 P **P** **23 16 51.0 -2.0**
BTO Baotou 28.81 302 *e*P **P** **23 16 55.3 +1.1**
BTO pP **pP** **23 16 59.9 +0.5**
BTO sP **sP** **23 17 02.3 +0.7**
BTO PP **PnPn** **23 17 48.6 +3.2**
BTO S **S** **23 21 49.9 +7.2**
BTO sS **sS** **23 21 52.5 +0.9**
BTO SS **SnSn** **23 23 12.6 +7.7**
BTO pmax pmax
comp=E,33nm,1.3s
BTO pmax pmax
comp=E,690nm,6.8s
BTO LR LR
comp=E,2μm,15.5s
BTO LR LR
comp=E,4μm,17.2s
BTO LR LR
comp=E,5μm,16.8s
XAN Xi'an 28.95 288 P **P** **23 16 52.5 -2.9**
XAN pP pP 23 16 56.4 -4.3
XAN S **S** **23 21 43.1 -1.7**
XAN pmax pmax
comp=E,14nm,1.0s
XAN LR LR
comp=E,1μm,13.6s
XAN LR LR
comp=E,2μm,15.9s
XAN LR LR
comp=E,3μm,17.5s
MA2 Magadan 30.79 8⇓*i*P **P** **23 17 12.3 +1.0**
MA2 pmax pmax
comp=Z,39nm,1.3s
MA2 Magadan 30.79 8 P **P** **23 17 11.9 +0.6**
comp=Z,15nm,0.8s,baz=184,slow=7.7,SNR=5.9
MA2 LR LR 23 29 10.0
comp=Z,353nm,21.6s,baz=200,slow=36
comp=Z,15nm,0.8s
QIZ Qiongzhong 31.46 258 P **P** **23 17 18.8 +1.1**
QIZ S **S** **23 22 29.0 +4.6**
QIZ LR LR
comp=Z,330nm,9.8s
QIZ LR LR
comp=Z,580nm,12.2s
QIZ LR LR
comp=Z,470nm,12.7s
GYA Guiyang 31.79 274 ⇑P **P** **23 17 20.1 -0.6**
GYA S **S** **23 22 29.5 -0.1**
GYA pmax pmax
comp=Z,19nm,1.0s
GYA pmax pmax
comp=Z,200nm,5.3s
GYA LR LR
comp=Z,600nm,17.7s
GYA LR LR
comp=Z,1μm,15.9s
GYA LR LR
comp=Z,1μm,17.0s
SWI Sorong 31.88 202 P **P** **23 17 20.5 -0.8**
comp=Z,38nm,0.7s
SHEM Shemya Is, Ala 32.94 36 LR LR 23 30 05.8
comp=Z,324nm,20.0s,baz=225,slow=35
ULN Ulaanbaatar 33.00 314 P **P** **23 17 30.4 -0.7**
ULN IAmb IAmb 23 17 33.1
comp=Z,27nm,0.9s
ULN Ulaanbaatar 33.00 314*c i*P **P** **23 17 31.3 +0.2**
ULN pmax pmax
comp=Z,32nm,1.0s
LBMI Labuha 33.06 208 P **P** **23 17 31.4 -0.3**
comp=Z,60nm,2.0s,comp=Z,2μm
LZH Lanzhou 33.12 292 *e*P **P** **23 17 31.3 -1.0**
LZH sP sP 23 17 38.8 -0.9
LZH PP **PnPn** **23 18 38.9 -3.4**
LZH sS sS 23 23 00.3 +0.2
LZH pmax pmax
comp=Z,22nm,1.0s
LZH LR LR
comp=Z,420nm,11.7s
LZH LR LR
comp=Z,1μm,14.4s
LZH LR LR
comp=Z,1μm,14.6s
SONM Songino Array 33.40 314 P **P** **23 17 34.2 -0.4**
SONM IAmb IAmb 23 17 36.5
comp=Z,24nm,0.9s
SONM Songino Array 33.40 314 P **P** **23 17 33.9 -0.7**
comp=Z,19nm,0.8s,baz=117,slow=8.4,SNR=74
SONM LR LR 23 31 49.4
comp=Z,1μm,18.6s,baz=118,slow=38
comp=Z,19nm,0.8s
CD2 Chengdu 33.50 283 P **P** **23 17 33.1 -2.5**
CD2 pP pP 23 17 37.4 -3.6
CD2 sP sP 23 17 38.6 -4.6
CD2 S **S** **23 22 58.0 +1.9**
CD2 sS sS 23 23 05.8 0.0
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,170nm,5.9s
CD2 LR LR
comp=Z,870nm,13.4s
CD2 LR LR
comp=Z,1μm,14.0s
CD2 LR LR
comp=Z,1μm,13.5s
FAKI Fak Fak 33.52 199 P **P** **23 17 35.8 +0.1**

FAKI IAmb IAmb 23 18 00.5
comp=Z,19nm,1.1s
FAKI Fak Fak 33.52 199 P P 23 17 35.7 0.0
comp=Z,18nm,0.8s
YAK Yakutsk 33.83 349 P P 23 17 36.8 -1.1
YAK IAmb IAmb 23 17 57.5
comp=Z,17nm,0.8s
YAK Yakutsk 33.83 349 eP P 23 17 36.9 -1.0
YAK e*PP sP 23 17 46.0 +0.8
YAK e 23 18 48.8
YAK e 23 20 15.6
YAK eS S 23 23 01.0 +0.8
YAK e*SS sS 23 23 12.4 +4.7
YAK eSS SnSn 23 25 10.0 +3.9
YAK pmax pmax
comp=Z,22nm,1.2s
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=E,3.0nm,1.5s
YAK pmax pmax
comp=Z,256nm,4.9s
YAK pmax pmax
comp=N,242nm,4.1s
YAK pmax pmax
comp=E,184nm,4.9s
YAK smax smax
comp=E,266nm,4.6s
YAK smax smax
comp=N,178nm,3.8s
YAK MLR MLR
comp=Z,1μm,20.0s
YAK MLR MLR
comp=N,487nm,17.0s
YAK MLR MLR
comp=E,292nm,14.0s
YAK Yakutsk 33.83 349 P P 23 17 38.2 +0.3
comp=E,0.5nm,0.5s,baz=110,slow=0.5,SNR=6.6
YAK LR LR 23 32 38.0
comp=E,21nm,18.8s,baz=122,slow=39
KKM Kota Kinabalu 33.97 232 P P 23 17 39.4 -0.4
KKM IAmb IAmb 23 18 01.5
comp=Z,16nm,1.0s
SEY Seymchan 34.25 8⇑iP P 23 17 42.4 +0.9
SEY pmax pmax
comp=Z,22nm,0.9s
SEY Seymchan 34.25 8 P P 23 17 42.7 +1.1
comp=Z,17nm,0.8s,baz=191,slow=6.1,SNR=28
comp=Z,17nm,0.8s
BOD Bodaibo 34.74 333 eP P 23 17 45.9 +0.1
BOD pmax pmax
comp=Z,17nm,0.9s
MRSI Marisa 34.76 218 P P 23 17 45.8 -0.7
TOLI2 Tolitoli 34.88 220 P P 23 17 47.7 +0.2
TOLI2 IAmb IAmb 23 17 49.8
comp=Z,31nm,1.0s
SANI Sanana 34.98 210 P P 23 17 46.2 -2.1
comp=Z,27nm,1.1s
KMI Kunming 35.55 273 ⇓P P 23 17 53.0 -0.5
KMI S S 23 23 27.1 -1.0
KMI pmax pmax
comp=Z,10.0nm,0.9s
KMI LR LR
comp=Z,380nm,12.3s
KMI LR LR
comp=Z,650nm,16.0s
KMI LR LR
comp=Z,860nm,20.0s
LUWI Luwuk 35.61 216 P P 23 17 52.2 -1.6
LUWI IAmb IAmb 23 17 54.0
comp=Z,30nm,0.9s
PZH PanZhiHua 36.06 276 P P 23 17 56.1 -1.7
PZH S S 23 23 30.1 -5.7
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,260nm,6.5s
PZH LR LR
comp=Z,500nm,15.7s
PZH LR LR
comp=Z,470nm,14.3s
PZH LR LR
comp=Z,570nm,16.9s
ZAK Zakamensk 36.22 317 eP P 23 17 58.9 +0.1
ZAK pmax pmax
comp=Z,26nm,1.3s
IRK Irkutsk 36.35 320 eP P 23 18 00.6 +0.8
IRK pmax pmax
comp=Z,80nm,3.1s
GTA Gaotai 36.42 298 eP P 23 17 59.0 -1.7
GTA sP pP 23 18 06.3 +0.3
GTA SS SS 23 26 08.6 -12
GTA pmax pmax
comp=Z,7.0nm,1.3s
GTA LR LR
comp=Z,560nm,17.8s
GTA LR LR
comp=Z,610nm,19.6s
GTA LR LR
comp=Z,550nm,20.4s
MOY Mondy 38.02 318 eP P 23 18 14.9 +0.8
MOY pmax pmax
comp=Z,76nm,2.8s
PMG Port Moresby 38.73 173 P P 23 18 20.5 +0.3
PMG Port Moresby 38.73 173 diP P 23 18 21.8 +1.6
PMG pmax pmax
comp=Z,27nm,1.7s
TNCH TengChong 39.25 275⇑iP P 23 18 23.3 -1.6
TNCH PP PnPn 23 20 02.4 +4.6
TNCH S S 23 24 31.5 +7.2
TNCH pmax pmax
comp=Z,24nm,1.2s
TNCH pmax pmax
comp=Z,160nm,4.5s
TNCH LR LR
comp=Z,310nm,13.1s
TNCH LR LR
comp=Z,550nm,13.7s
TNCH LR LR
comp=Z,890nm,14.5s
SBUM Sibu 39.30 233 P P 23 18 24.3 -0.8
GOMU GeErMu 40.42 293 P P 23 18 33.3 -1.4
GOMU pP pP 23 18 37.8 -2.2
GOMU sP sP 23 18 40.8 -1.7
GOMU pmax pmax
comp=Z,11nm,1.2s
GOMU LR LR
comp=Z,310nm,13.6s
GOMU LR LR
comp=Z,420nm,14.0s
GOMU LR LR
comp=Z,740nm,15.3s
KAPI Kappang 40.55 216 LR LR 23 34 13.7
comp=Z,194nm,20.7s,baz=42,slow=35
CHTO Chiang Mai 40.97 265 P P 23 18 37.9 -1.1
CHTO Chiang Mai 40.97 265 P P 23 18 37.9 -1.1
CHTO pmax pmax
comp=Z,22nm,1.1s
CM31 Chiang Mai Arr 41.12 265 P P 23 18 39.5 -0.7
CMAR Chiang Mai Arr 41.12 265 P P 23 18 38.4 -1.8
CMAR Chiang Mai Arr 41.12 265 iP P 23 18 39.5 -0.7
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 41.12 265 P P 23 18 38.9 -1.3
comp=Z,2.5nm,0.6s,baz=50,slow=7.2,SNR=19
CMAR PcP PcP 23 20 41.4 +1.9
comp=Z,0.6nm,0.3s,baz=33,slow=2.6,SNR=1.6
CMAR LR LR 23 37 18.8
comp=Z,676nm,19.4s,baz=70,slow=39
comp=Z,2.5nm,0.6s
BILL Bilibino 41.25 13 P P 23 18 40.6 0.0
KSM Kuching 41.33 234 P P 23 18 41.0 -1.0
NIKH Nikolski High 42.51 42 P P 23 18 50.0 -1.1
baz=256
EDFI Ende, Flores 42.84 211 P P 23 18 53.8 -0.5
comp=Z,35nm,0.8s
SPIA Saint Paul Isl 42.98 36 P P 23 18 53.1 -1.7
baz=250
TIXI Tiksi 43.07 354 P P 23 18 54.5 -0.8
TIXI Tiksi 43.07 354⇑eP P 23 18 55.5 +0.1
TIXI pmax pmax
comp=Z,7.0nm,0.9s
TIXI Tiksi 43.07 354 P P 23 18 55.3 0.0
comp=Z,0.2nm,0.8s,baz=171,slow=5.4,SNR=11
TIXI LR LR 23 38 20.6
comp=Z,16nm,21.1s,baz=183,slow=38

MTN Manton Dam 43.32 196 P P 23 18 57.5 -0.6
PLAI Plampang 44.80 216 P P 23 19 09.0 -1.0
comp=Z,41nm,0.8s
GAMB Gambell 45.01 27 P P 23 19 10.0 -1.1
baz=242
TWSI Taliwang, Sumb 45.19 217 P P 23 19 11.9 -1.2
comp=Z,22nm,0.9s
WMQ Urumqi 45.60 304 eP P 23 19 16.4 +0.3
WMQ sP sP 23 19 25.1 +1.4
WMQ pmax pmax
comp=Z,27nm,1.5s
WMQ LR LR
comp=Z,770nm,14.9s
WMQ LR LR
comp=Z,730nm,19.9s
WMQ LR LR
comp=Z,710nm,19.9s
DGZ Jazzator, Alta 46.02 312ciP P 23 19 20.2 +0.7
DGZ pmax pmax
comp=Z,44nm,0.9s
KNRA Kununurra 46.65 198 P P 23 19 25.1 +0.6
TNA Tin City 47.26 26 P P 23 19 28.4 -0.3
baz=245
M13K Dall Lake 47.40 33 P P 23 19 29.4 -0.4
baz=254
ZSN Zaisan 47.60 309 eP P 23 19 32.1 +0.3
comp=Z,39nm,2.2s,baz=309
ZSN Zaisan 47.60 309 eP P 23 19 32.0 +0.3
ZSN pmax pmax
comp=Z,39nm,2.2s
SDPT Sand Point 47.81 40 P P 23 19 32.4 -0.7
baz=261
F14K Arctic Creek 47.83 26 P P 23 19 32.3 -0.9
baz=246
ANM Nome 47.86 27 P P 23 19 32.8 -0.6
baz=248
TAPN Taplejung 47.96 282 eP P 23 19 34.3 -0.8
ZAA0 Zalesovo Array 48.07 318 P P 23 19 34.9 -0.4
ZAA0 IAmb IAmb 23 19 37.0
comp=Z,16nm,0.9s
ZALV Zalesovo Beam 48.07 318 P P 23 19 35.5 +0.2
ZALV Zalesovo Beam 48.07 318 iP P 23 19 35.5 +0.2
ZALV pmax pmax
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 48.07 318 P P 23 19 34.9 -0.3
comp=Z,12nm,0.8s,baz=103,slow=7.3,SNR=46
ZALV PcP PcP 23 21 03.2 +0.5
comp=Z,2.4nm,0.6s,baz=106,slow=3.3,SNR=1.7
ZALV LR LR 23 40 37.1
comp=Z,1μm,18.8s,baz=106,slow=37
comp=Z,12nm,0.8s
N14K Kuskokwak Cree 48.07 34 P P 23 19 35.3 +0.2
baz=256
O14K Tigyukauivet M 48.13 35 P P 23 19 35.4 -0.1
baz=257
M14K Bethel 48.15 33 P P 23 19 35.7 0.0
baz=255
ODAN Odare 48.37 281 eP P 23 19 36.7 -1.5
S14K Fog Glacier 48.47 39 P P 23 19 37.4 -1.0
baz=261
F15K North Star Dit 48.57 26 P P 23 19 38.0 -0.9
baz=248
L15K Ungalak Mounta 48.61 32 P P 23 19 38.3 -1.0
baz=255
KPJI Karang Pucung 48.73 227 P P 23 19 40.3 -0.4
comp=Z,53nm,0.8s
M15K Kasigluk River 48.74 33 P P 23 19 39.7 -0.6
baz=256
K15K Wolf Creek Mou 48.76 31 P P 23 19 40.3 -0.1
baz=254
RAMN Ramite 49.02 282 eP P 23 19 41.0 -2.2
CHGN Chignik 49.10 39 P P 23 19 42.9 -0.1
baz=262
H16K Elim 49.15 28 P P 23 19 43.5 +0.2
baz=251
JIRN Jiri 49.17 283 eP P 23 19 43.0 -1.5
comp=Z,34nm,0.7s
LEM Lembang 49.20 229 P P 23 19 44.1 -0.4
comp=Z,40nm,0.9s
LEM Lembang 49.20 229 LR LR 23 41 08.1
comp=Z,155nm,21.2s,baz=18,slow=37
CTA Charters Tower 49.22 175 LR LR 23 39 24.9
comp=Z,316nm,21.9s,baz=344,slow=35
CTAO Charters Tower 49.22 175 P P 23 19 44.2 -0.1
CTAO IAmb IAmb 23 19 48.3
comp=Z,20nm,1.2s
CTAO Charters Tower 49.22 175 P P 23 19 44.3 -0.1
CTAO pmax pmax
comp=Z,20nm,1.2s
C16K Lisburne Hills 49.34 23 P P 23 19 44.7 -0.1
baz=245
MK31 Makanchi Array 49.36 308 P P 23 19 45.5 +0.1
MK31 Makanchi Array 49.36 308ceP P 23 19 45.3 0.0
MKAR Makanchi Array 49.36 308 P P 23 19 45.3 0.0
MKAR Makanchi Array 49.36 308 P P 23 19 45.2 -0.1
comp=Z,10nm,0.8s,baz=91,slow=9.0,SNR=87
MKAR PcP PcP 23 21 09.0 +1.4
comp=Z,3.1nm,0.9s,baz=66,slow=5.4,SNR=1.1
MKAR S S 23 26 48.6 -2.0
comp=Z,0.3nm,0.8s,baz=94,slow=10,SNR=2.8
MKAR LR LR 23 41 36.9
comp=Z,888nm,19.7s,baz=92,slow=37
comp=Z,10nm,0.8s
GUN Gumba 49.37 283 eP P 23 19 44.8 -1.2
comp=Z,38nm,0.8s
WB0 Warramunga Arr 49.41 190 P P 23 19 45.3 -0.6
I17K Unalakleet 49.57 29 P P 23 19 46.7 +0.2
baz=254
WR0 Warramunga Arr 49.58 190 P P 23 19 47.0 -0.1
MAKZ Makanchi 49.58 308 P P 23 19 46.1 -0.9
MAKZ IAmb IAmb 23 19 52.1
comp=Z,27nm,1.4s
MAKZ Makanchi 49.58 308 P P 23 19 46.1 -0.9
MAKZ pmax pmax
comp=Z,27nm,1.5s
WRAB Tennant Creek 49.58 190 P P 23 19 46.7 -0.4
WRAB Tennant Creek 49.58 190 P P 23 19 46.7 -0.4
WRAB pmax pmax
comp=Z,50nm,0.9s
WB2 Warramunga Arr 49.59 190 P P 23 19 46.6 -0.6
WRA Warramunga Arr 49.59 190 P P 23 19 46.4 -0.8
WRA Warramunga Arr 49.59 190 P P 23 19 46.8 -0.4
comp=Z,54nm,0.9s,baz=9.0,slow=8.0,SNR=127
WRA PcP PcP 23 21 09.6 +1.0
comp=Z,6.0nm,0.8s,baz=2.5,slow=3.6,SNR=5.1
WRA S S 23 26 50.4 -3.7
comp=Z,1.2nm,0.9s,baz=10,slow=14,SNR=8.0
M16K Timber Creek 49.64 33 P P 23 19 47.5 +0.3
baz=258
R16K Pilot Point 49.73 38 P P 23 19 47.6 -0.2
baz=262
O16K Kokwok River B 49.78 35 P P 23 19 48.1 -0.1
baz=260
PKI Pulchoki 49.86 283 eP P 23 19 47.8 -1.9
FITZ Fitzroy Crossi 49.87 201 P P 23 19 48.9 -0.4
G17K Kiwalik Mounta 50.06 27 P P 23 19 50.5 +0.2
baz=252
RDOG Red Dog Mine 50.09 24 P P 23 19 50.2 -0.3
RDOG IAmb IAmb 23 19 53.2
comp=Z,19nm,1.0s
RDOG Red Dog Mine 50.09 24 P P 23 19 50.8 +0.3
baz=248,SNR=5.2
E17K Hotham Inlet 50.12 25 P P 23 19 50.7 0.0
baz=250
F17K Baldwin Pennin 50.12 26 P P 23 19 50.9 +0.2
baz=251
C17K DeLong Mountai 50.15 23 P P 23 19 51.6 +0.7
baz=247
L17K Donlin 50.19 32 P P 23 19 52.4 +1.1
baz=257
H17K Granite Mounta 50.19 28 P P 23 19 51.4 +0.1
baz=254
O17K Koliganek Bris 50.31 35 P P 23 19 53.2 +1.0
baz=260
K17K Iditarod 50.32 31 P P 23 19 52.9 +0.6
K17K Iditarod 50.32 31 P P 23 19 52.2 0.0
baz=257
N17K Nushagak Hills 50.40 34 P P 23 19 52.4 -0.5
baz=260
GKN Gorkha 50.40 283 eP P 23 19 51.4 -2.2
M17K Holitna River 50.44 33 P P 23 19 53.1 -0.1
M17K Holitna River 50.44 33 P P 23 19 52.8 -0.4
baz=259
CHIR Chirikof Islan 50.60 40 P P 23 19 54.1 -0.4
baz=265
SEM Semipalatinsk 50.67 313 eP P 23 19 55.9 +0.5
baz=313

SEM Semipalatinsk 50.67 313 eP P 23 19 55.9 +0.5
E18K Tukpahlearik C 50.69 25 P P 23 19 54.8 -0.1
baz=251
H18K Honhosa River 50.88 28 P P 23 19 56.6 +0.1
baz=255
C18K Utukok River 50.89 23 P P 23 19 57.1 +0.5
C18K IAmb IAmb 23 20 02.1
comp=Z,26nm,1.4s
C18K Utukok River 50.89 23 P P 23 19 56.4 -0.2
baz=249
L18K Granite Mounta 50.95 32 P P 23 19 56.9 -0.2
baz=259
B18K Kokolik River 50.95 22 P P 23 19 57.1 +0.1
baz=248
G18K Tagagawik 50.97 27 P P 23 19 57.1 0.0
G18K IAmb IAmb 23 20 02.4
comp=Z,22nm,1.2s
G18K Tagagawik 50.97 27 P P 23 19 57.7 +0.6
baz=254
DANN Dangsing 51.05 284 eP P 23 19 57.2 -1.5
N18K Kilae Creek 51.05 34 P P 23 19 57.7 -0.2
baz=261
GSI Gunungsitoli 51.05 245 P P 23 19 58.6 +0.1
M18K Stony River 51.22 33 P P 23 19 59.9 +0.9
baz=260
Q18K Katmai Hardscr 51.22 36 P P 23 19 58.9 -0.4
baz=263
KOLN Koldanda 51.34 284 eP P 23 19 58.3 -2.5
comp=Z,52nm,0.9s
TTA Tatalina 51.39 31 P P 23 20 00.4 0.0
baz=259
A19K Wainwright 51.50 21 P P 23 20 01.3 +0.3
baz=248
F19K Shaleruckik Mo 51.56 26 P P 23 20 01.5 0.0
baz=254
C19K Lookout Ridge 51.60 23 P P 23 20 01.9 0.0
C19K IAmb IAmb 23 20 05.9
comp=Z,35nm,1.2s
C19K Lookout Ridge 51.60 23 P P 23 20 02.3 +0.4
baz=251
SHLS Shalkode 51.62 304 eP P 23 19 59.5 -3.0
comp=Z,38nm,2.7s,baz=304
SHLS Shalkode 51.62 304 eP P 23 19 59.5 -3.0
SHLS pmax pmax
comp=Z,38nm,2.7s
G19K Purcell Mounta 51.65 27 P P 23 20 02.7 +0.5
baz=255
KURK Kurchatov 51.71 313 P P 23 20 02.6 -0.3
KURK Kurchatov 51.71 313ciP P 23 20 02.8 -0.1
KURK pmax pmax
comp=Z,82nm,1.0s
H19K Roundabout Mou 51.75 28 P P 23 20 03.3 +0.3
H19K IAmb IAmb 23 20 06.3
comp=Z,30nm,1.3s
H19K Roundabout Mou 51.75 28 P P 23 20 02.2 -0.8
baz=256
O19K Port Alsworth 51.75 35 P P 23 20 03.0 -0.1
O19K IAmb IAmb 23 20 08.5
comp=Z,28nm,1.1s
O19K Port Alsworth 51.75 35 P P 23 20 03.0 -0.1
baz=263
N19K Bonanza Creek 51.76 34 P P 23 20 02.8 -0.4
baz=262
J19K Poorman 51.77 30 P P 23 20 04.1 +1.0
J19K IAmb IAmb 23 20 17.2
comp=Z,22nm,1.4s
J19K Poorman 51.77 30 P P 23 20 02.3 -0.9
baz=258
KURBB Kurchatov Arra 51.77 313 P P 23 20 03.5 +0.2
comp=Z,33nm,0.6s,baz=91,slow=7.2,SNR=257
KURBB S S 23 27 22.5 -1.3
comp=Z,0.9nm,1.1s,baz=89,slow=12,SNR=4.6
KURBB LR LR 23 42 59.1
comp=Z,1μm,18.5s,baz=152,slow=37
comp=Z,33nm,0.6s
L19K White Mountain 51.78 32 P P 23 20 03.9 +0.6
baz=261
D19K Kuna River 51.91 24 P P 23 20 04.8 +0.6
D19K Kuna River 51.91 24 P P 23 20 03.7 -0.5
baz=253
E19K Redstone River 51.94 25 P P 23 20 04.8 +0.4
E19K IAmb IAmb 23 20 10.3
comp=Z,19nm,0.8s
E19K Redstone River 51.94 25 P P 23 20 03.9 -0.5
baz=254
UZB Uzynbulak 51.94 304 eP P 23 20 04.2 -0.8
comp=Z,39nm,2.7s,baz=304
UZB Uzynbulak 51.94 304 eP P 23 20 04.1 -0.8
UZB pmax pmax
comp=Z,39nm,2.7s
KPKS Kokpek 52.15 304 eP P 23 20 05.7 -0.8
baz=304
KPKS Kokpek 52.15 304 eP P 23 20 05.6 -0.8
TDK Taldyqorghan 52.18 306 eP P 23 20 06.1 -0.5
baz=306
TDK Taldyqorghan 52.18 306 eP P 23 20 06.9 +0.3
P19K Oil Pt 52.24 35 P P 23 20 06.7 -0.1
baz=264
L20K Farewell, AK 52.28 32 P P 23 20 07.0 0.0
baz=261
K20K Telida 52.33 31 P P 23 20 08.5 +1.1
K20K IAmb IAmb 23 20 25.8
comp=Z,18nm,1.1s
K20K Telida 52.33 31 P P 23 20 06.5 -0.9
baz=260
ZHN Zhinishke 52.36 304 eP P 23 20 07.4 -0.7
baz=304
ZHN Zhinishke 52.36 304 eP P 23 20 07.4 -0.7
H20K Anotleneega Mo 52.38 28 P P 23 20 07.2 -0.6
baz=258
SATY Saty 52.40 304 eP P 23 20 07.9 -0.5
baz=304
SATY Saty 52.40 304 eP P 23 20 07.8 -0.5
F20K Avararaat Lake 52.40 26 P P 23 20 08.1 +0.3
F20K Avararaat Lake 52.40 26 P P 23 20 08.2 +0.5
baz=256,SNR=7.5
I20K Naaghedeneel 52.41 29 P P 23 20 06.8 -1.1
baz=259
KDAK Kodiak Island 52.42 38 P P 23 20 07.7 -0.4
baz=266
KDAK Kodiak Island 52.42 38 P P 23 20 09.2 +1.2
comp=Z,14nm,0.6s,baz=326,slow=1.5,SNR=6.1
KDAK LR LR 23 41 25.2
comp=Z,715nm,20.6s,baz=258,slow=35
comp=Z,14nm,0.6s
J20K Nowinta River 52.44 30 P P 23 20 08.4 +0.3
J20K IAmb IAmb 23 20 14.0
comp=Z,25nm,1.1s
J20K Nowinta River 52.44 30 P P 23 20 07.9 -0.2
baz=260,SNR=7.2
PRZ Przheval'sk 52.47 303 P P 23 20 09.1 +0.1
PRZ IAmb IAmb 23 20 15.4
comp=Z,28nm,1.0s
PRZ Przheval'sk 52.47 303 P P 23 20 09.1 +0.1
PRZ pmax pmax
comp=Z,28nm,1.0s
D20K Etivluk River 52.51 24 P P 23 20 07.5 -1.1
baz=254,SNR=12
E20K Nigu River 52.53 24 P P 23 20 08.0 -0.9
baz=255
M20K Styx River 52.54 33 P P 23 20 08.7 -0.4
baz=262
O20K Slope Mountain 52.58 35 P P 23 20 08.8 -0.6
baz=264
B20K Meade River 52.69 22 P P 23 20 10.8 +0.8
B20K IAmb IAmb 23 20 13.0
comp=Z,20nm,0.9s
B20K Meade River 52.69 22 P P 23 20 10.8 +0.8
baz=252
N20K Mount Spurr 52.90 33 P P 23 20 13.4 +1.6
baz=264
IMAR Indian Mountai 52.94 27 P P 23 20 12.3 +0.4
TARG Taragay, Kyrgy 53.02 302 P P 23 20 13.4 +0.1
TARG IAmb IAmb 23 20 28.1
comp=Z,15nm,1.0s
TARG Taragay, Kyrgy 53.02 302 P P 23 20 13.4 +0.1
TARG pmax pmax
comp=Z,15nm,1.0s
PPLA Purkeypile 53.11 31 P P 23 20 13.4 +0.1
baz=263
G21K Allakaket 53.14 27 P P 23 20 13.5 +0.2
G21K IAmb IAmb 23 20 16.0
comp=Z,20nm,1.0s
G21K Allakaket 53.14 27 P P 23 20 14.0 +0.7
baz=259,SNR=6.9
CHUM Lake Minchumin 53.19 30 P P 23 20 12.5 -1.2
baz=262

CAST **Castle Rocks** 53.23 31 P P 23 20 13.2 -0.8
CAST **Castle Rocks** 53.23 31 P P 23 20 13.7 -0.3
baz=262
C21K **Knifeblade Rid** 53.26 23 P P 23 20 13.7 -0.5
baz=256
H21K **Melozitna Rive** 53.26 28 P P 23 20 14.5 +0.3
H21K IAmb IAmb 23 20 30.4
comp=Z,42nm,1.4s
H21K **Melozitna Rive** 53.26 28 P P 23 20 14.3 0.0
baz=260
F21K **Alatna River** 53.29 26 P P 23 20 13.7 -0.7
F21K **Alatna River** 53.29 26 P P 23 20 13.0 -1.5
baz=258
SKT **Skwentna** 53.31 33 P P 23 20 15.1 +0.5
SKT **Skwentna** 53.31 33 P P 23 20 12.7 -1.9
baz=264
AS31 **Alice Springs** 53.31 190 P P 23 20 14.6 -0.5
ASAR **Alice Springs** 53.31 190 P P 23 20 14.6 -0.4
ASAR **Alice Springs** 53.31 190 P P 23 20 14.6 -0.4
ASAR **Alice Springs** 53.31 190 P P 23 20 14.8 -0.2
comp=Z,12nm,1.0s,baz=6.9,slow=5.1,SNR=37
ASAR PcP PcP 23 21 22.9 +0.5
comp=Z,3.0nm,0.8s,baz=15,slow=4.9,SNR=2.4
ASAR LR LR 23 41 24.5
comp=Z,567nm,21.9s,baz=4.5,slow=34
comp=Z,12nm,1.0s
CHKK **Chushkaly** 53.32 305 *e*P P 23 20 14.5 -0.5
baz=305
CHKK **Chushkaly** 53.32 305 *e*P P 23 20 14.5 -0.5
MDOK **Medeo** 53.37 304 *i* P P 23 20 15.6 0.0
baz=304
MDOK *e*S S 23 27 48.0 +1.7
baz=304
MDOK **Medeo** 53.37 304 *i* P P 23 20 15.5 0.0
MDOK *e*S S 23 27 47.9 +1.7
CAPN **Captain Cook N** 53.37 34 P P 23 20 13.2 -1.8
baz=265
E21K **Killik River** 53.38 24 P P 23 20 15.1 0.0
E21K IAmb IAmb 23 20 17.5
comp=Z,13nm,0.8s
E21K **Killik River** 53.38 24 P P 23 20 14.2 -0.8
baz=257
BRLK **Bradley Lake** 53.43 35 P P 23 20 15.3 -0.2
BRLK IAmb IAmb 23 20 22.9
comp=Z,30nm,1.1s
B21K **Ikpikpuk River** 53.44 23 P P 23 20 16.5 +1.1
B21K IAmb IAmb 23 20 18.6
comp=Z,16nm,0.8s
B21K **Ikpikpuk River** 53.44 23 P P 23 20 14.3 -1.0
baz=255
AAA **Alma-Ata** 53.46 304 *e*P P 23 20 16.2 0.0
comp=Z,19nm,0.9s,baz=304
AAA **Alma-Ata** 53.46 304 *e*P P 23 20 16.1 0.0
AAA pmax pmax
comp=Z,19nm,0.9s
TNSS **Tian-Shan** 53.46 304 *e*P P 23 20 16.5 -0.1
baz=304
TNSS **Tian-Shan** 53.46 304 *e*P P 23 20 16.4 -0.1
I21K **Tanana** 53.52 29 P P 23 20 15.3 -0.9
baz=261
SUA **Susitna One** 53.63 33 P P 23 20 15.4 -1.7
baz=265
A22K **Sinclair Lake** 53.69 21 P P 23 20 15.6 -1.6
baz=254
OPA **Opana** 53.69 84 P P 23 20 17.0 -1.0
OPA **Opana** 53.69 84 P P 23 20 17.0 -1.0
OPA pmax pmax
comp=Z,261nm,1.4s
KUU **Kurty** 53.78 305 *e*P P 23 20 18.2 -0.3
comp=Z,29nm,1.4s,baz=305
KUU **Kurty** 53.78 305 *e*P P 23 20 18.1 -0.3
KUU pmax pmax
comp=Z,29nm,1.4s
BPAW **Bear Paw Mtn.** 53.80 30 P P 23 20 19.6 +1.4
BPAW **Bear Paw Mtn.** 53.80 30 P P 23 20 16.6 -1.6
baz=263
F22K **John River** 53.84 26 P P 23 20 17.6 -0.9
baz=259
H22K **Ishtalitna Cre** 53.88 28 P P 23 20 17.0 -1.8
baz=261
D22K **Ayikyak River** 53.93 24 P P 23 20 18.9 -0.2
D22K IAmb IAmb 23 20 41.0
comp=Z,21nm,1.1s
D22K **Ayikyak River** 53.93 24 P P 23 20 17.7 -1.4
baz=258
M22K **Willow** 53.95 33 P P 23 20 19.6 +0.3
baz=265
G22K **Bettles** 54.00 26 P P 23 20 19.0 -0.5
baz=260
B22K **Teshekpuk Lake** 54.01 22 P P 23 20 20.3 +0.7
B22K **Teshekpuk Lake** 54.01 22 P P 23 20 18.3 -1.3
baz=256
MLY **Manley** 54.02 29 P P 23 20 20.2 +0.3
MLY **Manley** 54.02 29 P P 23 20 18.3 -1.6
baz=262
TRF **Thorofare Moun** 54.03 31 P P 23 20 19.0 -1.1
baz=264
RC01 **Rabbit Creek A** 54.09 34 P P 23 20 21.3 +1.0
baz=266
E22K **Anaktuvuk Pass** 54.10 25 P P 23 20 21.1 +0.7
E22K IAmb IAmb 23 20 23.7
comp=Z,24nm,1.1s
E22K **Anaktuvuk Pass** 54.10 25 P P 23 20 19.2 -1.2
baz=259,SNR=13
SEW **Seward** 54.17 35 P P 23 20 18.4 -2.5
baz=267
NRN **Naryn** 54.40 302 P P 23 20 24.6 +1.2
NRN **Naryn** 54.40 302 P P 23 20 24.6 +1.2
NRN pmax pmax
comp=Z,9.0nm,1.0s
PMR **Palmer** 54.41 33 P P 23 20 22.3 -0.3
PMR IAmb IAmb 23 20 27.2
comp=Z,14nm,0.8s
PMR **Palmer** 54.41 33 P P 23 20 20.5 -2.2
baz=266
PMR **Palmer** 54.41 33 P P 23 20 22.3 -0.3
PMR pmax pmax
comp=Z,14nm,0.8s
G23K **Bananza Creek** 54.54 27 P P 23 20 24.6 +1.0
G23K **Bananza Creek** 54.54 27 P P 23 20 22.7 -0.9
baz=262
COLD **Coldfoot** 54.55 26 P P 23 20 22.1 -1.5
baz=261,SNR=5.5
I23K **Minto, Yukon-K** 54.62 29 P P 23 20 24.7 +0.6
I23K **Minto, Yukon-K** 54.62 29 P P 23 20 23.2 -0.9
baz=264
D23K **Nanushuk River** 54.66 24 P P 23 20 22.9 -1.4
baz=260
MCK **McKinley** 54.66 30 P P 23 20 23.5 -1.0
baz=265
RND **Reindeer** 54.67 31 P P 23 20 24.3 -0.3
RND IAmb IAmb 23 20 26.1
comp=Z,21nm,1.0s
RND **Reindeer** 54.67 31 P P 23 20 24.3 -0.3
RND pmax pmax
comp=Z,21nm,1.0s
NEA2 **Nenana** 54.68 29 P P 23 20 23.7 -0.9
NEA2 IAmb IAmb 23 20 27.4
comp=Z,25nm,1.2s
NEA2 **Nenana** 54.68 29 P P 23 20 23.7 -0.9
baz=264
KNK **Knik Glacier** 54.72 33 P P 23 20 23.8 -1.2
KNK IAmb IAmb 23 20 43.3
comp=Z,18nm,1.0s
KNK **Knik Glacier** 54.72 33 P P 23 20 24.6 -0.4
baz=267
WAT1 **Susitna Watana** 54.76 32 P P 23 20 24.3 -1.0
baz=266
KSH **Kashi** 54.77 300 P P 23 20 28.8 +3.0
KSH pmax pmax
comp=Z,6.0nm,0.8s
KSH LR LR
comp=Z,560nm,16.3s
KSH LR LR
comp=Z,450nm,17.4s
KSH LR LR
comp=Z,570nm,16.7s
SML **Sawmill** 54.80 33 P P 23 20 24.2 -1.3
baz=267
C23K **Itkillik River** 54.84 23 P P 23 20 25.8 +0.1
C23K **Itkillik River** 54.84 23 P P 23 20 25.2 -0.5
baz=259
E23K **Chandalar** 54.90 25 P P 23 20 23.7 -2.5
baz=261
EIDS **Eidsvold** 54.96 171 P P 23 20 27.4 +0.4
EIDS IAmb IAmb 23 20 31.2
comp=Z,17nm,0.8s
TOLK **Toolik Lake Re** 55.00 24 P P 23 20 27.9 +1.0
TOLK IAmb IAmb 23 20 48.6
comp=Z,22nm,1.1s
TOLK **Toolik Lake Re** 55.00 24 P P 23 20 23.6 -3.4
baz=261,SNR=8.6
SGDS **Sogindy** 55.07 305 *e*P P 23 20 27.6 -0.3
comp=Z,30nm,2.8s,baz=304
SGDS **Sogindy** 55.07 305 *e*P P 23 20 27.6 -0.3
SGDS pmax pmax
comp=Z,31nm,2.8s
MDM **Murphy Dome** 55.08 29 P P 23 20 28.4 +1.0
MDM IAmb IAmb 23 20 32.8
comp=Z,16nm,1.1s
M23K **Glacier View** 55.09 33 P P 23 20 25.7 -1.9
baz=268
PSA00 **Pilbara Seismi** 55.11 206 P P 23 20 28.5 +0.3
WAT6 **Susitna Watana** 55.12 32 P P 23 20 25.3 -2.7
baz=267
FRU1 **Bishkek** 55.18 304 P P 23 20 28.6 0.0
FRU1 IAmb IAmb 23 20 39.9
comp=Z,12nm,0.7s
FRU1 **Bishkek** 55.18 304 P P 23 20 28.6 0.0
FRU1 pmax pmax
comp=Z,12nm,0.7s
CCB **Clear Creek Bu** 55.23 29 P P 23 20 29.0 +0.5
BTLS **Baital** 55.25 307 *i* P P 23 20 28.8 -0.2
baz=306
BTLS **Baital** 55.25 307 *c i* P P 23 20 28.8 -0.2
SCM **Sheep Creek Mo** 55.28 33 P P 23 20 29.5 +0.4
SCM **Sheep Creek Mo** 55.28 33 P P 23 20 26.4 -2.6
baz=268
SCM **Sheep Creek Mo** 55.28 33 P P 23 20 29.5 +0.4
SCM pmax pmax
comp=Z,27nm,0.9s
H24K **Noodor Dome** 55.30 28 P P 23 20 29.2 +0.1
H24K IAmb IAmb 23 20 32.7
comp=Z,17nm,1.3s
H24K **Noodor Dome** 55.30 28 P P 23 20 27.6 -1.6
baz=265
AAK **Ala-Archa** 55.30 304 P P 23 20 28.8 -0.9
AAK **Ala-Archa** 55.30 304 *c i* P P 23 20 29.4 -0.3
AAK pmax pmax
comp=Z,10.0nm,1.0s
AAK **Ala-Archa** 55.30 304 LR LR 23 45 16.9
comp=Z,524nm,20.3s,baz=69,slow=37
DHY **Denali Highway** 55.31 31 P P 23 20 27.3 -2.1
baz=267
E24K **Your Creek** 55.32 25 P P 23 20 30.5 +1.3
E24K IAmb IAmb 23 20 33.0
comp=Z,16nm,1.1s
E24K **Your Creek** 55.32 25 P P 23 20 28.0 -1.2
baz=262
D24K **Happy Valley** 55.35 24 P P 23 20 31.0 +1.7
D24K **Happy Valley** 55.35 24 P P 23 20 27.6 -1.7
baz=261
GLI **Glacier Island** 55.36 34 P P 23 20 27.7 -1.9
baz=269
POKR **Poker Plat Res** 55.42 29 P P 23 20 30.9 +0.9
baz=266
F24K **Squaw Lake** 55.48 26 P P 23 20 30.6 +0.3
F24K IAmb IAmb 23 20 36.6
comp=Z,13nm,0.8s
F24K **Squaw Lake** 55.48 26 P P 23 20 32.6 +2.2
baz=263,SNR=13
C24K **Franklin Bluff** 55.48 23 P P 23 20 32.4 +2.1
baz=261
G24K **Hadweenzic Riv** 55.55 27 P P 23 20 31.1 +0.3
G24K **Hadweenzic Riv** 55.55 27 P P 23 20 32.6 +1.8
baz=264
BRZS **Berezniki** 55.55 313 *i* P P 23 20 31.2 0.0
baz=313
BRZS **Berezniki** 55.55 313 *c i* P P 23 20 31.1 0.0
HDA **Harding Lake** 55.58 30 P P 23 20 30.7 -0.4
HDA **Harding Lake** 55.58 30 P P 23 20 31.9 +0.8
baz=266
HDA P P 23 20 31.9 +0.8
baz=266
IL31 55.63 29 P P 23 20 30.6 -0.8
ILAR **Eielson Airay** 55.63 29 P P 23 20 30.5 -1.0
ILAR **Eielson Airay** 55.63 29 P P 23 20 30.5 -1.0
ILAR **Eielson Airay** 55.63 29 P P 23 20 31.9 +0.5
comp=Z,4.6nm,0.8s,baz=261,slow=6.1,SNR=33
ILAR LR LR 23 43 50.8
comp=Z,187nm,19.7s,baz=264,slow=36
comp=Z,4.6nm,0.8s
FID **Port Fidalgo** 55.66 34 P P 23 20 30.8 -0.9
M24K **Tolsona, Glenn** 55.83 33 P P 23 20 35.0 +2.0
baz=269
KLU **Klutina** 55.94 33 P P 23 20 34.7 +0.8
KLU IAmb IAmb 23 20 39.2
comp=Z,11nm,0.6s
KLU **Klutina** 55.94 33 P P 23 20 35.7 +1.9
baz=269
DZM **Mont Dzumac** 56.01 153 *e*S S 23 28 23.7 +1.9
comp=Z,139nm,27.9s
DZM *e*LR LR 23 36 54.6
comp=Z,400nm,21.8s
DZM **Mont Dzumac** 56.01 153 LR LR 23 45 42.5
comp=Z,284nm,18.8s,baz=20,slow=37
EYAK **Cordova Ski Ar** 56.02 34 P P 23 20 36.3 +2.0
baz=270
G25K **Bearman Lake** 56.10 27 P P 23 20 36.8 +2.1
baz=266
PAX **Paxson** 56.18 32 P P 23 20 37.6 +2.0
baz=269
D25K **Kavik River** 56.24 24 P P 23 20 35.4 -0.4
D25K IAmb IAmb 23 20 39.0
comp=Z,15nm,0.8s
D25K **Kavik River** 56.24 24 P P 23 20 38.3 +2.5
baz=264
PRP **Porcupine Dome** 56.25 28 P P 23 20 36.2 +0.1
PRP **Porcupine Dome** 56.25 28 P P 23 20 37.4 +1.3
baz=267
J25K **Salcha River,** 56.27 30 P P 23 20 37.3 +1.2
baz=268
HARP **HAARP** 56.31 32 P P 23 20 38.3 +1.9
baz=269
F25K **Christian Rive** 56.34 26 P P 23 20 39.4 +2.9
baz=266
E25K **Arctic Village** 56.41 25 P P 23 20 37.0 0.0
E25K IAmb IAmb 23 20 40.6
comp=Z,19nm,0.9s
E25K **Arctic Village** 56.41 25 P P 23 20 39.8 +2.7
baz=265,SNR=17
FYU **Fort Yukon** 56.43 27 P P 23 20 37.1 0.0
FYU IAmb IAmb 23 20 41.8
comp=Z,23nm,1.0s
RIDG **Independent Ri** 56.48 31 P P 23 20 39.7 +2.1
baz=269
N25K **Chitina, Valde** 56.58 33 P P 23 20 37.8 -0.6
N25K IAmb IAmb 23 21 00.3
comp=Z,25nm,1.2s
N25K **Chitina, Valde** 56.58 33 P P 23 20 37.3 -1.1
baz=270
BMRM **Bremner River** 56.58 34 P P 23 20 39.7 +1.3
baz=271
ARSB **Arslanbob** 56.65 302 P P 23 20 39.3 0.0
ARSB **Arslanbob** 56.65 302 P P 23 20 39.3 0.0
ARSB pmax pmax
comp=Z,15nm,1.4s
BVAR **Borovoye Array** 56.67 317 P P 23 20 37.3 -1.8
comp=Z,49nm,1.0s,baz=259,slow=40,SNR=75
BVAR LR LR 23 46 04.6
comp=Z,970nm,18.4s,baz=82,slow=37
comp=Z,49nm,1.0s
KAIM **Kayak Island** 56.70 35 P P 23 20 38.9 -0.2
baz=272
BRVK **Borovoye** 56.73 317 P P 23 20 39.4 -0.1
BRVK **Borovoye** 56.73 317 *c i* P P 23 20 39.6 +0.1
BRVK pmax pmax
comp=Z,43nm,1.0s
BMAR **Burnt Mountain** 56.74 26 P P 23 20 40.5 +1.1
C26K **Camden Bay** 56.81 23 P P 23 20 42.6 +2.9
baz=265
SCRK **Sand Creek** 56.86 30 P P 23 20 40.1 -0.3
SCRK **Sand Creek** 56.86 30 P P 23 20 42.2 +1.8
baz=269
F26K **Sheenjek River** 56.92 26 P P 23 20 43.4 +2.8
baz=267
GLB **Gilahina Butte** 56.96 33 P P 23 20 39.3 -1.7
GLB IAmb IAmb 23 21 02.9
comp=Z,28nm,1.4s
MENT **Mentasta** 56.98 32 P P 23 20 41.6 +0.5
G26K **Porcupine Rive** 57.02 27 P P 23 20 44.0 +2.7
baz=268
J26L **Joseph Creek** 57.05 30 IAmb IAmb 23 20 56.7
comp=Z,17nm,1.2s
J26L **Joseph Creek** 57.05 30 P P 23 20 42.8 +1.1
baz=269,SNR=8.4
VRDI **Verde Repeater** 57.13 34 P P 23 20 41.9 -0.6
VRDI IAmb IAmb 23 21 03.0
comp=Z,24nm,1.3s
M26K **Nabesna, AK** 57.32 32 P P 23 20 43.5 -0.1
M26K **Nabesna, AK** 57.32 32 P P 23 20 44.4 +0.8
baz=271
CRQE **Cirque** 57.33 34 P P 23 20 45.6 +1.8
baz=272
MCARA **McCarthy VSAT** 57.34 33 P P 23 20 45.2 +1.5
MCARA IAmb IAmb 23 20 59.4
comp=Z,19nm,0.9s
MCARA **McCarthy VSAT** 57.34 33 P P 23 20 45.6 +2.0
baz=272
TGL **Tana Glacier** 57.46 34 P P 23 20 44.3 -0.3
TGL IAmb IAmb 23 21 05.7
comp=Z,28nm,1.2s
WAX **Waxell Ridge** 57.46 35 P P 23 20 45.4 +0.8
DZA **Taraz** 57.55 304 *e*P P 23 20 45.5 +0.1
baz=304
DZA **Taraz** 57.55 304 *e*P P 23 20 45.5 +0.1
K27K **Chicken** 57.70 30 P P 23 20 46.6 +0.4
K27K **Chicken** 57.70 30 P P 23 20 48.1 +2.0
baz=271
ISLE **Juniper Island** 57.70 34 P P 23 20 45.2 -1.2
ISLE IAmb IAmb 23 21 08.0
comp=Z,29nm,1.2s
L27K **Beaver Creek,** 57.84 31 P P 23 20 47.1 -0.1
L27K **Beaver Creek,** 57.84 31 P P 23 20 49.1 +1.9
baz=272
M27K **Edge Creek, AK** 57.84 32 P P 23 20 47.5 +0.1
M27K **Edge Creek, AK** 57.84 32 P P 23 20 49.2 +1.8
baz=272
BCAR **Beaver Creek A** 57.86 31 P P 23 20 47.5 +0.1
G27K **Doyon Strip** 57.86 27 P P 23 20 48.6 +1.3
G27K **Doyon Strip** 57.86 27 P P 23 20 49.6 +2.3
baz=270
I27K **Kandik River** 57.88 28 P P 23 20 49.3 +1.9
baz=270
E27K **Coleen River** 57.90 25 P P 23 20 47.9 +0.3
E27K **Coleen River** 57.90 25 P P 23 20 49.8 +2.2
baz=269
H27K **Steamboat Moun** 57.91 28 P P 23 20 50.1 +2.5
baz=270
MESA **MESA** 57.92 35 P P 23 20 49.5 +1.5
baz=274
GRNC **Granite Creek** 57.98 34 P P 23 20 49.1 +0.7
GRNC IAmb IAmb 23 20 52.0
comp=Z,12nm,0.8s
EGAK **Eagle** 58.09 29 P P 23 20 48.9 0.0
EGAK IAmb IAmb 23 20 53.0
comp=Z,18nm,1.1s
EGAK **Eagle** 58.09 29 P P 23 20 50.6 +1.7
baz=271
KK31 **Karatay Array** 58.09 305 P P 23 20 49.2 -0.1
KK31 **Karatay Array** 58.09 305 P P 23 20 49.2 -0.1
KK31 pmax pmax
comp=Z,39nm,1.2s
KKAR **Karatay Array** 58.09 305 P P 23 20 49.3 0.0
KKAR **Karatay Array** 58.09 305 P P 23 20 48.7 -0.6
KKAR **Karatay Array** 58.09 305 P P 23 20 48.7 -0.6
D27M **Malcolm River** 58.15 24 P P 23 20 49.5 +0.2
D27M IAmb IAmb 23 20 53.0
comp=Z,15nm,0.8s
D27M **Malcolm River** 58.15 24 P P 23 20 51.2 +1.8
baz=269
NIL **Nilore** 58.27 293 P P 23 20 50.1 -0.6
NIL **Nilore** 58.27 293 P P 23 20 50.1 -0.6
NIL pmax pmax
comp=Z,45nm,1.5s
TABL **Table Mountain** 58.31 34 P P 23 20 51.5 +0.8
BVCY **Beaver Creek** 58.31 32 P P 23 20 52.8 +2.3
baz=273
BTK **Batken** 58.53 301 P P 23 20 52.1 -0.4
BTK IAmb IAmb 23 21 02.8
comp=Z,12nm,1.1s
BTK **Batken** 58.53 301 P P 23 20 52.1 -0.4
BTK pmax pmax
comp=Z,12nm,1.1s
YUK3 **Moose Creek** 58.54 33 P P 23 20 52.9 +0.6
baz=274
F28M **Old Crow** 58.55 26 P P 23 20 52.7 +0.6
F28M IAmb IAmb 23 20 57.6
comp=Z,14nm,1.1s
F28M **Old Crow** 58.55 26 P P 23 20 54.7 +2.6
baz=271,SNR=7.8
I28M **Miner Creek** 58.58 29 P P 23 20 52.6 +0.2
I28M IAmb IAmb 23 20 57.9
comp=Z,9.9nm,0.8s
I28M **Miner Creek** 58.58 29 P P 23 20 54.5 +2.1
baz=272
E28M **Babbage River** 58.66 25 P P 23 20 53.6 +0.8
E28M IAmb IAmb 23 20 56.7
comp=Z,20nm,1.1s
E28M **Babbage River** 58.66 25 P P 23 20 55.7 +2.8
baz=270,SNR=17
PINM **Pinnacle** 58.78 35 P P 23 20 55.2 +1.4
baz=275
DAWY **Dawson** 58.88 30 P P 23 20 55.3 +0.8
DAWY IAmb IAmb 23 21 00.0
comp=Z,11nm,1.0s
DAWY **Dawson** 58.88 30 P P 23 20 56.6 +2.1
baz=273
CHM **Chimkent** 58.91 304 *e*P P 23 20 55.6 +0.5
baz=304
CHM **Chimkent** 58.91 304 *e*P P 23 20 55.5 +0.5
D28M **Stokes Point** 58.95 24 P P 23 20 57.2 +2.5
baz=271
BCPM **Bancas Point** 59.10 35 P P 23 20 56.2 +0.2
BCPM IAmb IAmb 23 21 18.1
comp=Z,19nm,1.0s
H29M **Whitestone** 59.19 28 P P 23 20 57.1 +0.6
H29M IAmb IAmb 23 21 18.6
comp=Z,11nm,1.0s
H29M **Whitestone** 59.19 28 P P 23 20 59.0 +2.5
baz=273
PNL **Peninsula** 59.25 35 P P 23 20 59.0 +1.9
baz=276
I29M **Ogilvie Camp,** 59.27 29 P P 23 20 57.5 +0.4
I29M **Ogilvie Camp,** 59.27 29 P P 23 20 59.2 +2.1
baz=274,SNR=8.6
E29M **Blow River** 59.27 25 P P 23 20 58.7 +1.7
E29M IAmb IAmb 23 21 02.5
comp=Z,20nm,1.2s
E29M **Blow River** 59.27 25 P P 23 20 59.3 +2.2
baz=272
G29M **Pine Creek** 59.29 27 P P 23 20 58.0 +0.8
G29M **Pine Creek** 59.29 27 P P 23 21 00.1 +2.9
baz=273,SNR=8.2
HYB **Hyderabad** 59.32 274 *e*P P 23 20 58.4 +0.2
HYB *e*pP pP 23 21 01.9 -2.1
M29M **Somme Creek** 59.42 32 P P 23 20 58.9 +0.6
M29M IAmb IAmb 23 21 09.3
comp=Z,11nm,1.1s
M29M **Somme Creek** 59.42 32 P P 23 21 00.4 +2.1
baz=275
YUK4 **Talbot Arm** 59.44 33 P P 23 21 01.3 +2.7
baz=276
L29M **L29M** 59.52 31 P P 23 20 59.2 +0.4
L29M IAmb IAmb 23 21 03.6
comp=Z,21nm,1.2s
L29M **L29M** 59.52 31 P P 23 21 01.7 +2.9
baz=275
O29M **Mount Kennedy** 59.59 35 P P 23 21 00.0 +0.5
O29M IAmb IAmb 23 21 04.1
comp=Z,20nm,1.1s
O29M **Mount Kennedy** 59.59 35 P P 23 21 02.2 +2.7
baz=276
YUK6 **Outpost Mounta** 59.62 34 P P 23 21 02.5 +2.6
baz=276
K29M **Barlow Dome** 59.72 30 P P 23 20 60.0 -0.4
K29M IAmb IAmb 23 21 07.2
comp=Z,12nm,1.0s
K29M **Barlow Dome** 59.72 30 P P 23 21 02.6 +2.3
baz=275
EPYK **Eagle Plains** 59.85 27 P P 23 20 59.4 -1.7
EPYK **Eagle Plains** 59.85 27 P P 23 21 01.8 +0.7
EPYK **Eagle Plains** 59.85 27 P P 23 21 03.5 +2.4
baz=274,SNR=11
G30M **tAoh Zraii Nji** 60.00 27 P P 23 21 02.9 +0.7
G30M **tAoh Zraii Nji** 60.00 27 P P 23 21 04.3 +2.2
baz=275
ARMA **Armidale** 60.01 171 P P 23 21 01.5 -1.1

ARMA IAmb IAmb 23 21 07.2
comp=Z,20nm,1.1s
HYT Haines Junctio 60.05 34 P P 23 21 00.9 -1.8
HYT IAmb IAmb 23 21 23.0
comp=Z,17nm,1.2s
HYT Haines Junctio 60.05 34 P P 23 21 05.6 +2.9
baz=277
I30M Mount Dempster 60.09 29 P P 23 21 03.5 +0.6
I30M Mount Dempster 60.09 29 P P 23 21 05.0 +2.1
baz=275,SNR=7.0
P29M Windy Craggy 60.09 35 P P 23 21 03.7 +0.9
P29M IAmb IAmb 23 21 22.4
comp=Z,25nm,1.2s
P29M Windy Craggy 60.09 35 P P 23 21 05.4 +2.5
baz=278
F30M Barrier River 60.11 26 P P 23 21 05.3 +2.5
baz=275
CHGR Chuyangaron 60.12 300 P P 23 21 03.1 -0.4
CHGR Chuyangaron 60.12 300 P P 23 21 03.1 -0.4
CHGR pmax pmax
comp=Z,71nm,0.9s
J30M Hart River 60.17 29 P P 23 21 03.9 +0.4
J30M Hart River 60.17 29 P P 23 21 05.4 +2.0
baz=276
N30M Aishikik Lake 60.18 33 P P 23 21 03.9 +0.5
N30M Aishikik Lake 60.18 33 P P 23 21 05.5 +2.0
baz=277
M30M Minto, Yukon 60.18 32 P P 23 21 03.5 +0.1
M30M Minto, Yukon 60.18 32 P P 23 21 05.4 +1.9
baz=277
P30M Million Dollar 60.41 35 P P 23 21 08.1 +3.0
baz=278
O30N Mendenhall 60.75 34 P P 23 21 08.9 +1.6
baz=278
G31M Satah River 60.77 27 P P 23 21 07.4 +0.1
G31M IAmb IAmb 23 21 09.7
comp=Z,15nm,0.9s
G31M Satah River 60.77 27 P P 23 21 09.2 +1.9
baz=276,SNR=8.8
N31M Braeburn, Yuko 60.80 33 P P 23 21 07.2 -0.5
N31M Braeburn, Yuko 60.80 33 P P 23 21 08.9 +1.2
baz=278
STKA Stephens Creek 60.84 181 P P 23 21 08.0 -0.1
STKA Stephens Creek 60.84 181⇑ *e*P P 23 21 08.5 +0.4
STKA Stephens Creek 60.84 181 P P 23 21 08.7 +0.5
comp=Z,5.2nm,0.7s,baz=332,slow=9.1,SNR=7.3
STKA LR LR 23 46 29.7
comp=Z,351nm,21.1s,baz=10,slow=35
comp=Z,5.2nm,0.7s
H31M Peel River 60.87 28 P P 23 21 08.5 +0.5
H31M Peel River 60.87 28 P P 23 21 09.7 +1.7
baz=277
INK Inuvik 60.90 25 P P 23 21 07.3 -0.8
INK IAmb IAmb 23 21 12.5
comp=Z,20nm,1.4s
INK Inuvik 60.90 25 P P 23 21 09.8 +1.7
baz=276,SNR=6.7
INK Inuvik 60.90 25 P P 23 21 07.3 -0.8
INK pmax pmax
comp=Z,20nm,1.5s
INK Inuvik 60.90 25 LR LR 23 49 26.1
comp=Z,96nm,20.5s,baz=186,slow=38
F31M Tsiigehtchic 60.91 26 P P 23 21 08.0 -0.3
F31M IAmb IAmb 23 21 12.6
comp=Z,19nm,1.2s
F31M Tsiigehtchic 60.91 26 P P 23 21 10.0 +1.8
baz=276
S31K Pelican 61.11 37 P P 23 21 11.1 +1.3
baz=280
FORT Forrest 61.32 194 P P 23 21 11.3 -0.1
SKAG Skagway 61.33 35 P P 23 21 13.0 +1.8
baz=280
M31M Drury Creek, Y 61.34 32 P P 23 21 10.5 -0.8
M31M IAmb IAmb 23 21 14.5
comp=Z,27nm,1.4s
M31M Drury Creek, Y 61.34 32 P P 23 21 13.2 +1.8
baz=279
WHY Whitehorse 61.35 34 P P 23 21 10.1 -1.4
WHY IAmb IAmb 23 21 29.9
comp=Z,17nm,1.3s
WHY Whitehorse 61.35 34 P P 23 21 13.3 +1.8
baz=279
KBL Kabul 61.36 296 P P 23 21 11.0 -1.2
KBL Kabul 61.36 296 P P 23 21 11.0 -1.2
KBL pmax pmax
comp=Z,6.0nm,0.7s
SVE Sverdlovsk 61.70 322⇑ *e*P P 23 21 15.0 +1.2
SVE pmax pmax
comp=Z,21nm,0.9s
SVE MLR MLR
comp=Z,798nm,20.0s
SIT Sitka 61.76 38 P P 23 21 12.8 -1.3
baz=281
FARO Faro, Yukon 61.82 32 P P 23 21 14.5 0.0
FARO IAmb IAmb 23 21 30.4
comp=Z,12nm,1.3s
FARO Faro, Yukon 61.82 32 P P 23 21 16.3 +1.7
baz=280
R32K Eaglecrest 61.95 36 P P 23 21 15.3 -0.2
R32K IAmb IAmb 23 21 33.6
comp=Z,23nm,1.4s
R32K Eaglecrest 61.95 36 P P 23 21 14.4 -1.1
baz=281
PALK Pallekele 61.98 262 LR LR 23 51 08.0
comp=Z,102nm,18.1s,baz=170,slow=39
JIS Juneau Island 62.02 36 P P 23 21 15.6 -0.3
BBOO Buckleboo 62.07 186 P P 23 21 16.6 +0.1
S32K Killisnoo 62.08 37 P P 23 21 18.0 +1.7
baz=281
P32M Atlin 62.11 35 P P 23 21 17.7 +1.1
P32M IAmb IAmb 23 21 21.6
comp=Z,14nm,1.2s
P32M Atlin 62.11 35 P P 23 21 18.8 +2.2
baz=281
N32M Quiet Lake 62.13 33 P P 23 21 16.1 -0.6
N32M Quiet Lake 62.13 33 P P 23 21 19.1 +2.4
baz=280
P33M Teslin, Yukon 62.44 34 P P 23 21 19.2 +0.4
P33M IAmb IAmb 23 21 36.7
comp=Z,17nm,1.4s
P33M Teslin, Yukon 62.44 34 P P 23 21 20.8 +2.0
baz=281
ARU Arti 62.91 322 P P 23 21 21.2 -0.6
ARU Arti 62.91 322 *c i*P P 23 21 22.1 +0.2
ARU 23 21 59.0
ARU 23 23 35.0
ARU S **S 23 29 52.7 +2.7**
ARU SS **SS 23 33 57.5 +2.6**
ARU pmax pmax
comp=Z,34nm,0.8s
ARU MLR MLR
comp=Z,551nm,16.0s
ARU Arti 62.91 322 LR LR 23 51 26.6
comp=Z,618nm,18.3s,baz=69,slow=39
Q32M Nakina River 62.97 35 P P 23 21 24.1 +1.6
baz=282
A36M Sachs Harbour 63.11 20 P P 23 21 24.4 +1.4
A36M IAmb IAmb 23 21 26.1
comp=Z,12nm,1.1s
A36M Sachs Harbour 63.11 20 P P 23 21 24.8 +1.9
baz=282
U33K Whale Pass 63.14 39 P P 23 21 24.4 +1.0
baz=283
CRAG Craig 63.29 39 P P 23 21 25.1 +0.7
baz=283
WRAK Wrangell Islan 63.49 38 P P 23 21 28.3 +2.6
baz=284
R33M Jennings River 63.52 35 P P 23 21 27.2 +1.1
R33M IAmb IAmb 23 21 31.6
comp=Z,17nm,1.5s
R33M Jennings River 63.52 35 P P 23 21 28.3 +2.2
baz=283
S34M Telegraph Cree 63.79 36 P P 23 21 28.1 +0.4
S34M IAmb IAmb 23 21 43.5
comp=Z,14nm,1.1s
S34M Telegraph Cree 63.79 36 P P 23 21 29.4 +1.7
baz=284
ABKAR Akbulak array 63.82 314 P P 23 21 28.1 +0.1
C36M Paulatuk 64.09 23 P P 23 21 29.1 -0.4
C36M Paulatuk 64.09 23 P P 23 21 31.1 +1.7
baz=284
V35K Ketchikan 64.16 39 P P 23 21 30.6 +0.5
V35K Ketchikan 64.16 39 P P 23 21 32.7 +2.6
baz=285
DIB Dawson Inlet, 64.21 42 P P 23 21 30.7 +0.2
DLBC Dease Lake 64.23 36 P P 23 21 32.2 +1.6
DLBC IAmb IAmb 23 21 34.1
comp=Z,14nm,1.2s
DLBC Dease Lake 64.23 36 P P 23 21 32.7 +2.1
baz=284
DLBC Dease Lake 64.23 36 LR LR 23 47 23.6
comp=Z,386nm,21.3s,baz=289,slow=34
TGTN Hyland Airport 64.32 32 P P 23 21 33.9 +2.7
baz=284
T35M Bob Quinn 64.48 37 P P 23 21 35.2 +3.0
baz=285
CAN Canberra 64.56 174 P P 23 21 33.6 +0.7
CAN Canberra 64.56 174 P P 23 21 33.6 +0.7
CAN pmax pmax
comp=Z,27nm,1.1s
AKTO Aktyubinsk 64.70 315 LR LR 23 50 53.3
comp=Z,906nm,19.6s,baz=84,slow=37
LIRD Liard River Hi 65.93 34 P P 23 21 44.1 +2.5
baz=287
WRGLY Wrigley 66.01 30 P P 23 21 42.5 +0.5
WRGLY Wrigley 66.01 30 P P 23 21 45.4 +3.4
baz=288,SNR=7.1
TOO Toolangi 66.57 177 P P 23 21 46.7 +0.8
TOO Toolangi 66.57 177 P P 23 21 46.7 +0.8
TOO pmax pmax
comp=Z,23nm,1.1s
HRA Herat 66.73 297 P P 23 21 47.2 -0.2
BBB Bella Bella 67.05 42 LR LR 23 48 44.9
comp=Z,126nm,20.1s,baz=289,slow=34
KIRV Kirov 67.08 325 ⇓ *i*P P 23 21 49.8 +0.9
KIRV Kirov 67.08 325 LR LR 23 53 37.8
comp=Z,466nm,18.8s,baz=70,slow=38
EUNU Eureka 67.69 8 P P 23 21 53.3 +0.7
PRGR Permogore 67.83 329 *e*P P 23 21 53.6 0.0
PRGR pmax pmax
comp=Z,30nm,1.3s
SPITS Spitsbergen Ar 68.29 350 LR LR 23 54 22.8
comp=Z,276nm,20.9s,baz=14,slow=38
GEYT Alibeck 68.61 302 P P 23 21 59.2 +0.2
GEYT Alibeck 68.61 302 P P 23 21 59.2 +0.2
GEYT Alibeck 68.61 302 P P 23 21 59.5 +0.4
comp=Z,10nm,0.8s,baz=67,slow=11,SNR=13
GEYT LR LR 23 54 22.6
comp=Z,477nm,19.2s,baz=73,slow=38
comp=Z,10nm,0.8s
GYA0B ALIBECK ARRAY 68.61 302 P P 23 21 59.1 +0.1
GYA0B IAmb IAmb 23 22 18.3
comp=Z,12nm,0.8s
RAO Raoul Island 69.38 144 LR LR 23 47 45.6
comp=Z,270nm,20.3s,baz=130,slow=32
RES Resolute Bay 69.85 14 P P 23 22 06.3 +0.3
RES IAmb IAmb 23 22 08.0
comp=Z,10nm,0.9s
RES Resolute Bay 69.85 14 P P 23 22 06.3 +0.3
RES pmax pmax
comp=Z,10.0nm,0.9s
RES Resolute Bay 69.85 14 LR LR 23 53 10.8
comp=Z,150nm,21.6s,baz=348,slow=36
YKA Yellowknife Ar 70.06 29 P P 23 22 08.1 +0.7
YKA Yellowknife Ar 70.06 29 *i* P P 23 22 08.3 +0.8
YKA pmax pmax
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 70.06 29 P P 23 22 07.9 +0.4
comp=Z,4.5nm,0.8s,baz=294,slow=6.4,SNR=42
comp=Z,4.5nm,0.8s
APA Apatity 70.16 337 ⇓ *i*P P 23 22 03.4 -4.6
APA pmax pmax
comp=Z,8.0nm,1.2s
APA MLR MLR
comp=Z,1μm,21.0s
BELG Belogornoye 70.21 320 *ce*P P 23 22 08.6 0.0
BELG pmax pmax
comp=Z,8.0nm,1.3s
BELG Belogornoye 70.21 320 LR LR 23 54 59.9
comp=Z,876nm,18.2s,baz=56,slow=38
CLRS Cowichan Lake 70.61 44 P P 23 22 11.8 +0.7
CLRS IAmb IAmb 23 22 23.2
comp=Z,24nm,1.3s
HILA High Level 70.62 33 P P 23 22 11.6 +0.6
KLMR Klimovskoe 70.86 330 *e*P P 23 22 11.9 -0.5
KLMR AMP 23 22 22.2
comp=Z,28nm,1.5s
KLMR LQ LQ 23 45 06.3
KLMR LQ LQ 23 45 06.3
KLMR LR LR 23 52 04.1
KLMR LRM MLR 23 55 48.6
KLMR Klimovskoe 70.86 330 *e*P P 23 22 11.9 -0.5
KLMR pmax pmax
comp=Z,28nm,1.5s
ARCES ARCESS Array B 71.58 341 P P 23 22 18.3 +1.6
comp=Z,5.7nm,0.9s,baz=62,slow=6.3,SNR=5.0
ARCES LR LR 23 59 55.7
comp=Z,341nm,18.3s,baz=66,slow=41
comp=Z,5.7nm,0.9s
GNW Green Mountain 71.90 45 P P 23 22 18.4 -0.5
GNW IAmb IAmb 23 22 25.3
comp=Z,13nm,1.0s
B06A Marblemount 72.34 44 P P 23 22 22.8 +1.3
B06A IAmb IAmb 23 22 26.6
comp=Z,26nm,1.3s
F04A Amboy 72.82 47 P P 23 22 23.7 -0.7
LON Longmire 72.87 46 P P 23 22 25.6 +0.8
LON Longmire 72.87 46 P P 23 22 25.7 +0.8
I03D Drain, OR 73.14 49 P P 23 22 26.7 +0.3
I03D IAmb IAmb 23 22 29.8
comp=Z,21nm,1.1s
NEEM North Greenlan 73.19 3 *i* P P 23 22 26.4 -0.1
NEEM IAmb IAmb 23 22 29.6
comp=Z,12nm,1.0s
LTY Liberty 73.36 45 P P 23 22 28.2 +0.4
TOZ Tahuroa Road 73.46 153 P P 23 22 28.7 +0.6
H04A Detroit Lake 73.49 48 P P 23 22 28.4 -0.1
H04A IAmb IAmb 23 22 39.8
comp=Z,30nm,1.3s
DAG Danmarks Havn 73.55 356 *i* P P 23 22 29.0 +0.8
DAG IAmb IAmb 23 22 31.3
comp=Z,5.0nm,0.9s
KSXB Camp Six Broad 73.56 51 P P 23 22 29.4 +0.3
KSXB IAmb IAmb 23 22 40.8
comp=Z,19nm,1.2s
HOOD Mount Hood Mea 73.56 47 P P 23 22 30.0 +0.9
KRP Karapiro 73.64 153 P P 23 22 30.1 +0.9
KRP pmax pmax
comp=Z,59nm,1.3s
L02F Cave Junction 73.65 51 P P 23 22 30.2 +0.7
L02F IAmb IAmb 23 22 55.6
comp=Z,27nm,1.3s
B08A Colville Reser 73.70 43 P P 23 22 30.4 +0.8
I04A Tendick Farm, 73.72 49 P P 23 22 29.8 -0.1
I04A IAmb IAmb 23 22 41.0
comp=Z,17nm,1.1s
KRPM Rodgers 73.74 52 P P 23 22 30.1 0.0
MXC Moxie City 73.89 45 P P 23 22 30.9 +0.1
MXC IAmb IAmb 23 22 47.0
comp=Z,13nm,1.0s
VRH Novokhopyorsk 74.04 320 *e*P P 23 22 32.0 +0.5
VRH pmax pmax
comp=Z,10.0nm,0.8s
KHMM Horse Mountain 74.06 52 P P 23 22 31.3 -0.8
KHMM IAmb IAmb 23 22 51.4
comp=Z,36nm,1.5s
MOS Moscow 74.09 325 *e*P P 23 22 31.1 -0.6
MOS MLR MLR
comp=Z,800nm,21.0s
MAK Makhachkala 74.10 311 *c i*P P 23 22 27.2 -4.8
MAK *e*S **SKiKP 23 31 57.7 -0.7**
MAK *e*SS **SS 23 36 43.9 -4.2**
MAK *e*SSS SSS 23 40 06.5
MAK pmax pmax
comp=Z,135nm,1.3s
MAK MLR MLR
comp=Z,1μm,14.0s
E07A Sunnyside 74.17 45 P P 23 22 32.7 +0.2
E07A IAmb IAmb 23 22 37.8
comp=Z,34nm,1.4s
I05D Terrebonne, OR 74.19 48 P P 23 22 32.1 -0.6
I05D IAmb IAmb 23 22 35.6
comp=Z,16nm,1.1s
G06A Carlson Farm, 74.25 47 P P 23 22 32.6 -0.4
G06A IAmb IAmb 23 22 36.4
comp=Z,21nm,1.3s
YBH Yreka Blue Hor 74.40 51 P P 23 22 33.3 -0.7
YBH Yreka Blue Hor 74.40 51 P P 23 22 33.3 -0.7
YBH pmax pmax
comp=Z,8.0nm,0.9s
YBH Yreka Blue Hor 74.40 51 LR LR 23 49 41.1
comp=Z,339nm,20.7s,baz=306,slow=31
F07A Phinny Hill Vi 74.41 46 P P 23 22 34.0 +0.1
F07A IAmb IAmb 23 22 39.2
comp=Z,12nm,0.9s
HAWA Hanford 74.44 45 P P 23 22 34.0 +0.1
L04D Klamath Falls 74.46 50 P P 23 22 33.4 -1.0
D08A Wollman Farm, 74.52 45 P P 23 22 34.6 +0.2
D08A IAmb IAmb 23 22 39.5
comp=Z,13nm,1.1s
URZ Urewera 74.56 152 LR LR 23 51 35.6
comp=Z,215nm,21.8s,baz=86,slow=33
C09A Chrisman Ranch 74.59 44 P P 23 22 35.3 +0.4
C09A IAmb IAmb 23 22 39.8
comp=Z,28nm,1.5s
KCPM Cahto Peak 74.67 53 P P 23 22 36.0 +0.4
KCPM IAmb IAmb 23 22 41.0
comp=Z,17nm,0.8s
PINE Pine Mountain 74.68 48 P P 23 22 36.5 +0.8
E08A Dider Farm, El 74.69 45 P P 23 22 35.4 -0.1
J05D Fort Rock, OR 74.71 49 P P 23 22 35.8 0.0
J05D IAmb IAmb 23 22 39.7
comp=Z,33nm,1.4s
RTZ Ruatahuna 74.81 153 P P 23 22 36.5 +0.3
RTZ IAmb IAmb 23 22 53.2
comp=Z,33nm,1.5s
EDM Edmonton 74.86 37 P P 23 22 36.2 -0.2
EDM IAmb IAmb 23 22 41.0
comp=Z,23nm,1.0s
EDM Edmonton 74.86 37 P P 23 22 36.2 -0.2
EDM pmax pmax
comp=Z,23nm,1.0s
RAR Rarotonga 74.88 125 LR LR 23 52 14.3
comp=Z,468nm,18.7s,baz=304,slow=33
LPSR Galich'ya Gora 74.92 322 *e*P P 23 22 37.6 +1.0
LPSR pmax pmax
comp=Z,20nm,1.3s
OBN Obninsk 74.92 325 *e*P P 23 22 37.1 +0.5
OBN *e* 23 22 50.5
OBN *e*PPP PPP 23 27 12.3
OBN pmax pmax
comp=Z,13nm,1.5s
OBN MLR MLR
comp=Z,711nm,18.0s
OBN Obninsk 74.92 325 LR LR 23 57 54.4
comp=Z,759nm,19.1s,baz=7.5,slow=38
NEW Newport 75.07 43 P P 23 22 37.0 -0.7
NEW Newport 75.07 43 P P 23 22 39.5 +1.9
baz=297
NEW Newport 75.07 43 P P 23 22 37.0 -0.7
NEW pmax pmax
comp=Z,12nm,1.1s
NEW Newport 75.07 43 LR LR 23 51 02.1
comp=Z,117nm,20.7s,baz=310,slow=32
BKZ Black Stump Fm 75.09 153 P P 23 22 36.8 -0.8
K05A Summer Lake 75.18 49 P P 23 22 39.2 +0.6
VORR Voronezh 75.22 321 *e*P P 23 22 40.0 +1.7
VORR pmax pmax
comp=Z,40nm,0.4s
E09A Wood Farm, Sta 75.24 45 P P 23 22 38.1 -0.5
E09A IAmb IAmb 23 22 43.8
comp=Z,12nm,0.9s
UOSS Minazif 75.26 290 P P 23 22 38.6 -0.5
G08A Pilot Rock 75.29 46 P P 23 22 38.9 -0.2
VSR Storozhevoye 75.46 321 *e*P P 23 22 38.8 -0.9
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 75.51 321 *e*P P 23 22 38.1 -1.9
VORD pmax pmax
comp=Z,10.0nm,1.1s
MRZ Mangatainoka R 76.04 155 P P 23 22 43.5 +0.5
FINES FINESS Array B 76.13 334 P P 23 22 44.1 +0.7
comp=Z,2.3nm,0.7s,baz=251,slow=9.9,SNR=7.2
comp=Z,2.3nm,0.7s
ORV Oroville 76.17 52 P P 23 22 44.8 +0.7
ORV IAmb IAmb 23 22 48.7
comp=Z,25nm,1.2s
ORV Oroville 76.17 52 P P 23 22 44.8 +0.7
ORV pmax pmax
comp=Z,25nm,1.3s
NCK Nalchik 76.42 312 ⇓ *e*P P 23 22 46.2 +0.7
NCK pmax pmax
comp=Z,52nm,3.0s
J08A Circle Bar Ran 76.48 48 P P 23 22 46.3 +0.4
J08A IAmb IAmb 23 22 51.3
comp=Z,16nm,1.0s
BMO Blue Mountains 76.53 46 P P 23 22 46.0 -0.2
BMO IAmb IAmb 23 22 51.3
comp=Z,20nm,1.3s
BMO Blue Mountains 76.53 46 P P 23 22 46.0 -0.2
BMO pmax pmax
comp=Z,20nm,1.3s
ZEI Tsey 76.55 312 *e*P P 23 22 45.7 -0.7
ZEI pmax pmax
comp=Z,6.0nm,1.0s
LTZ Lake Taylor 76.75 158 P P 23 22 48.3 +1.3
KBZ Khabaz 76.77 313 *ce*P P 23 22 48.2 +0.9
KBZ pmax pmax
comp=Z,19nm,0.9s
KBZ Khabaz 76.77 313 P P 23 22 48.3 +0.9
comp=Z,16nm,0.8s,baz=68,slow=2.3,SNR=26
KBZ LR LR 23 59 37.7
comp=Z,468nm,19.0s,baz=59,slow=38
comp=Z,16nm,0.8s
KVAR Kislovodsk Arr 76.79 313 LR LR 23 59 09.3
comp=Z,262nm,18.6s,baz=244,slow=38
KIV Kislovodsk 76.80 313 P P 23 22 47.8 +0.1
KIV IAmb IAmb 23 22 52.4
comp=Z,18nm,0.8s
KIV Kislovodsk 76.80 313 *e*P P 23 22 48.6 +1.0
KIV *e*S **S 23 32 36.2 +2.6**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,300nm,18.0s
WVOR Wild Horse Val 76.80 49 P P 23 22 48.5 +0.8
WVOR IAmb IAmb 23 22 53.0
comp=Z,14nm,1.1s
WVOR Wild Horse Val 76.80 49 P P 23 22 48.5 +0.8
WVOR pmax pmax
comp=Z,14nm,1.2s
AFDM Forest Hills D 76.81 53 P P 23 22 48.3 +0.5
AFDM IAmb IAmb 23 22 53.5
comp=Z,16nm,1.3s
KHZ Kahutara 76.85 157 P P 23 22 47.0 -0.5
ONI Oni 76.94 312 P P 23 22 49.1 +0.7
ONI IAmb IAmb 23 22 53.3
comp=Z,13nm,1.1s
ONI Oni 76.94 312 P P 23 22 49.1 +0.7
ONI pmax pmax
comp=Z,13nm,1.1s
RPZ Rata Peaks 77.20 159 LR LR 23 53 26.7
comp=Z,166nm,21.7s,baz=303,slow=33
GNI Garni 77.20 309 LR LR 23 59 55.1
comp=Z,272nm,19.4s,baz=64,slow=38
MPK Martis Peak 77.31 52 P P 23 22 52.6 +1.8
EMB Emerald Bay 77.40 52 P P 23 22 51.3 -0.1
EMB IAmb IAmb 23 22 56.4
comp=Z,18nm,0.9s
AKH Akhalkalaki 77.46 310 P P 23 22 52.8 +1.3
AKH Akhalkalaki 77.46 310 P P 23 22 52.8 +1.3
AKH pmax pmax
comp=Z,31nm,1.0s
SAO San Andreas Ge 77.47 55 P P 23 22 51.4 -0.1
SAO IAmb IAmb 23 23 13.2
comp=Z,15nm,1.4s
SAO San Andreas Ge 77.47 55 P P 23 22 51.4 -0.1
SAO pmax pmax
comp=Z,15nm,1.4s
PAHR Pah Rah Range 77.56 51 P P 23 22 51.8 -0.3
PAHR IAmb IAmb 23 22 55.2
comp=Z,21nm,1.3s
CMB Columbia Colle 77.64 53 P P 23 22 51.9 -0.5
CMB IAmb IAmb 23 22 57.4
comp=Z,14nm,0.9s
CMB Columbia Colle 77.64 53 P P 23 22 51.9 -0.5
CMB pmax pmax
comp=Z,14nm,0.9s
MSO Missoula 77.64 43 P P 23 22 52.0 -0.4
MSO Missoula 77.64 43 P P 23 22 54.4 +2.0
baz=300
PNTR Pine Nut 77.70 52 P P 23 22 52.7 -0.3
PNTR **pP 23 22 55.4 -2.9**
PNTR IAmb IAmb 23 22 58.2
comp=Z,17nm,0.8s
BBGB Big Mountain B 77.85 55 P P 23 22 53.1 -0.6

MLZ Mavora Lakes 77.86 162 P **P** **23 22 53.7 +0.5**
YERR Yerington 78.00 52 P **P** **23 22 54.4 -0.2**
YERR IAmb IAmb 23 22 59.7
comp=Z,24nm,1.1s
CHMT Chamberlain Mo 78.01 43 P **P** **23 22 53.6 -0.9**
WAKR Walker 78.08 53 P **P** **23 22 54.9 -0.2**
WAKR IAmb IAmb 23 23 00.5
comp=Z,14nm,1.1s
OVMT Ovando 78.09 43 P **P** **23 22 55.2 +0.3**
BPMT Black Pine Rid 78.14 43 P **P** **23 22 55.0 -0.3**
MFID Camas Ranch 78.15 47 P **P** **23 22 56.2 +0.9**
MFID IAmb IAmb 23 23 00.6
comp=Z,19nm,1.0s
SUMG Summit 78.40 0 P **P** **23 22 57.7 +1.2**
SUMG Summit 78.40 0 P **P** **23 22 57.7 +1.2**
SUMG pmax pmax
comp=Z,32nm,1.2s
SUMG Summit 78.40 0 *i* P **P** **23 22 57.2 +0.7**
SUMG IAmb IAmb 23 23 04.4
comp=Z,11nm,0.8s
LYMT Lyon Mountain 78.55 42 P **P** **23 22 57.8 +0.2**
BEMT Mount Belmont 78.64 43 P **P** **23 22 57.0 -1.1**
RYN Ryan 78.66 52 P **P** **23 22 57.5 -0.8**
RYN IAmb IAmb 23 23 03.4
comp=Z,15nm,1.0s
ELMT Elliston 78.66 43 P **P** **23 22 57.2 -0.9**
BMN Battle Mountai 78.68 50 P **P** **23 22 58.3 0.0**
BMN IAmb IAmb 23 23 03.6
comp=Z,18nm,1.2s
BMN Battle Mountai 78.68 50 P **P** **23 22 58.3 0.0**
BMN pmax pmax
comp=Z,18nm,1.2s
MDPB Devils Postpil 78.74 53 P **P** **23 22 58.8 -0.1**
KVN Kaiserville 78.75 52 P **P** **23 22 59.1 +0.4**
KVN IAmb IAmb 23 23 03.8
comp=Z,13nm,0.9s
KVN Kaiserville 78.75 52 P **P** **23 22 59.1 +0.4**
KVN pmax pmax
comp=Z,13nm,0.9s
OMMB Old Mammoth Mi 78.81 53 P **P** **23 22 58.9 -0.4**
LHV Little Huntoon 78.85 52 P **P** **23 22 59.9 +0.9**
LHV IAmb IAmb 23 23 04.8
comp=Z,25nm,1.1s
NVAR Mina Array Bea 78.90 52 P **P** **23 22 60.0 +0.3**
NVAR Mina Array Bea 78.90 52 P **P** **23 23 01.8 +2.1**
comp=Z,8.6nm,0.7s,baz=291,slow=5.5,SNR=42
NVAR LR LR 23 54 20.3
comp=Z,268nm,19.7s,baz=283,slow=33
comp=Z,8.6nm,0.7s
HLID Hailey 78.97 46 P **P** **23 22 58.7 -1.2**
HLID Hailey 78.97 46 P **P** **23 23 02.3 +2.4**
baz=300,SNR=7.3
NV11 Mina Array Sit 79.00 52 P **P** **23 23 00.2 +0.1**
LRM Limekiln Ridge 79.04 43 P **P** **23 23 00.8 +0.4**
MCMT McKenzie Canyo 79.31 44 P **P** **23 23 01.5 -0.3**
EGMT Eagleton 79.47 41 P **P** **23 23 02.7 +0.3**
EGMT IAmb IAmb 23 23 07.4
comp=Z,33nm,1.3s
EGMT Eagleton 79.47 41 P **P** **23 23 04.7 +2.3**
baz=302
MNK Minsk 79.48 327 *i* P **P** **23 23 00.4 -1.8**
comp=E,11nm,1.4s
MNK *i* P **P** **23 23 00.4 -1.8**
comp=N,11nm,1.1s
MNK *i* P **P** **23 23 00.4 -1.8**
comp=Z,21nm,1.1s,baz=54
MNK *i* PP **PP** **23 26 00.7 -1.3**
MNK *i* PPP PPP 23 27 47.4
MNK *i* S **S** **23 33 01.4 -0.4**
MNK *i* SS **SS** **23 38 08.6 -0.1**
MNK *i* SSS SSS 23 41 34.5
MNK *i* LQ LQ 23 52 47.6
MNK *i* LR LR 23 57 05.4
MNK Minsk 79.48 327 *i* P **P** **23 23 00.3 -1.8**
MNK *i* 23 26 00.7
MNK *i* PPP PPP 23 27 47.4
MNK *i* S **S** **23 33 01.4 -0.4**
MNK *i* SS **SS** **23 38 08.5 -0.1**
MNK *i* SSS SSS 23 41 34.5
MNK pmax pmax
comp=N,11nm,1.1s
MNK pmax pmax
comp=Z,21nm,1.1s
MNK pmax pmax
comp=E,11nm,1.4s
MNK MLR MLR
comp=E,134nm,15.0s
MNK MLR MLR
comp=Z,250nm,16.0s
MNK MLR MLR
comp=N,223nm,14.0s
PKM Mcpherson Peak 79.52 56 P **P** **23 23 05.2 +2.1**
baz=298
VES Vestal, Richgr 79.59 55 P **P** **23 23 05.6 +2.5**
baz=299
ANN Anapa 79.66 316 *e*P **P** **23 23 01.1 -2.2**
ANN *e*S **S** **23 33 03.0 -1.1**
ANN pmax pmax
comp=Z,26nm,0.7s
FFC Flin Flon 79.70 32 P **P** **23 23 03.6 +0.2**
FFC IAmb IAmb 23 23 08.1
comp=Z,32nm,1.4s
FFC Flin Flon 79.70 32 P **P** **23 23 03.6 +0.2**
FFC pmax pmax
comp=Z,32nm,1.4s
BCW Bitter Crk WRg 79.78 56 P **P** **23 23 04.6 +0.2**
GURO Guroymak-BITLI 79.81 308 P **P** **23 23 04.7 +0.2**
TPH Tonopah 79.82 52 P **P** **23 23 05.1 +0.5**
TPH Tonopah 79.82 52 P **P** **23 23 05.1 +0.5**
TPH pmax pmax
comp=Z,68nm,1.1s
ELK Elko 79.84 49 P **P** **23 23 04.7 -0.1**
ELK Elko 79.84 49 P **P** **23 23 04.7 -0.1**
ELK pmax pmax
comp=Z,10.0nm,1.0s
ELK Elko 79.84 49 LR LR 23 56 36.7
comp=Z,459nm,18.6s,baz=278,slow=34
MZP Montezuma Peak 79.89 52 P **P** **23 23 04.9 -0.2**
CWC Cottonwood Cre 80.01 54 P **P** **23 23 07.6 +1.9**
baz=299
ISA Isabella, Lake 80.11 55 P **P** **23 23 05.2 -0.9**
ISA Isabella, Lake 80.11 55 P **P** **23 23 08.2 +2.2**
baz=299
ISA Isabella, Lake 80.11 55 P **P** **23 23 05.2 -0.9**
ISA pmax pmax
comp=Z,17nm,1.5s
ARVC Arvin 80.11 55 P **P** **23 23 08.3 +2.3**
baz=299
GMN Gold Mountain 80.17 53 P **P** **23 23 06.2 -0.4**
QLMT Earthquake Lak 80.17 44 P **P** **23 23 07.2 +0.8**
GRAC Grapevine Rang 80.25 53 P **P** **23 23 07.4 +0.7**
GRAC IAmb IAmb 23 23 12.0
comp=Z,21nm,1.3s
GRAC Grapevine Rang 80.25 53 P **P** **23 23 09.2 +2.4**
baz=299
YHL Hebgen Lake 80.31 44 P **P** **23 23 07.5 +0.3**
YHL IAmb IAmb 23 23 13.5
comp=Z,18nm,1.1s
PPT Papeete 80.33 116 LR LR 23 54 26.3
comp=Z,250nm,18.6s,baz=356,slow=32
PPT2 Papeete2 80.34 116 *e*P **P** **23 23 10.7 +3.3**
comp=Z,46nm,24.0s
PPT2 *e*S S 23 33 01.4 -11
comp=Z,82nm,27.5s
PPT2 *e*SS **SS** **23 38 29.1 +4.9**
comp=Z,44nm,26.2s
PPT2 *e*LR LR 23 47 57.2
comp=Z,278nm,21.0s
PPT2 *e*LR LR 23 48 09.4
comp=Z,274nm,22.2s
FCC Fort Churchill 80.49 26 P **P** **23 23 07.7 +0.2**
FCC IAmb IAmb 23 23 10.5
comp=Z,21nm,1.2s
FCC Fort Churchill 80.49 26 P **P** **23 23 07.7 +0.2**
FCC pmax pmax
comp=Z,21nm,1.3s
SNCC San Nicolas Is 80.51 57 P **P** **23 23 10.8 +2.6**
baz=299
YMR Madison River 80.54 44 P **P** **23 23 08.3 -0.1**
YMR IAmb IAmb 23 23 14.8
comp=Z,25nm,1.1s
YHH Holmes Hill 80.55 44 P **P** **23 23 09.2 +0.7**
MPMC Manual Prospec 80.62 54 P **P** **23 23 10.9 +2.0**
baz=299,SNR=8.2
CCAC Calif City Air 80.68 55 P **P** **23 23 09.3 +0.2**
CCAC IAmb IAmb 23 23 14.2
comp=Z,19nm,1.1s
YNR Norris Junctio 80.69 44 P **P** **23 23 10.0 +0.7**
YNR IAmb IAmb 23 23 31.1
comp=Z,16nm,1.1s
GCMT Greycliff 80.72 42 **P** **23 23 09.6 +0.3**
YFT Old Faithful 80.73 44 P **P** **23 23 09.9 +0.4**
YFT IAmb IAmb 23 23 32.0
comp=Z,32nm,1.3s
LRMC Laurel Mtn Rad 80.76 55 P **P** **23 23 11.5 +1.8**
baz=299,SNR=9.6
R11B Troy Canyon, C 80.81 51 P **P** **23 23 10.2 +0.2**
R11B IAmb IAmb 23 23 15.0
comp=Z,15nm,1.1s
R11B Troy Canyon, C 80.81 51 P **P** **23 23 12.0 +2.1**
baz=300,SNR=14
EDW2 Edwards Air Fo 80.83 55 P **P** **23 23 12.0 +2.1**
baz=299,SNR=10
FURC Furnace Creek, 80.86 53 P **P** **23 23 12.7 +2.8**
baz=300
WCT Wildcat Mounta 80.86 53 P **P** **23 23 09.2 -0.9**
H17A Grant Village 80.92 44 P **P** **23 23 10.5 0.0**
H17A Grant Village 80.92 44 P **P** **23 23 13.1 +2.6**
baz=302,SNR=12
HVU Hansel Valley 80.92 47 P **P** **23 23 10.6 +0.2**
HVU Hansel Valley 80.92 47 P **P** **23 23 10.6 +0.2**
HVU pmax pmax
comp=Z,9.0nm,0.8s
IMW Indian Meadow 80.96 45 P **P** **23 23 10.3 -0.5**
Q12A Willow Creek R 80.97 50 P **P** **23 23 10.2 -0.6**
Q12A IAmb IAmb 23 23 28.3
comp=Z,15nm,1.1s
YMP Mirror Lake Pl 80.99 44 P **P** **23 23 10.6 -0.3**
FLWY Flagg Ranch 81.01 44 P **P** **23 23 10.8 -0.1**
TPNV Topopah Spring 81.05 53 P **P** **23 23 10.7 -0.5**
TPNV IAmb IAmb 23 23 16.1
comp=Z,15nm,0.9s
TPNV Topopah Spring 81.05 53 P **P** **23 23 13.2 +2.0**
baz=300,SNR=13
TPNV Topopah Spring 81.05 53 P **P** **23 23 10.7 -0.5**
TPNV pmax pmax
comp=Z,15nm,0.9s
FXWY Fox Creek 81.05 45 P **P** **23 23 10.0 -1.1**
S11A Rachel 81.05 52 **P** **23 23 10.0 -1.2**
S11A IAmb IAmb 23 23 16.4
comp=Z,23nm,1.0s
AKASG Malin Array Be 81.05 324 P **P** **23 23 10.4 -0.3**
comp=Z,1.8nm,0.5s,baz=51,slow=5.2,SNR=12
AKASG LR LR 00 01 47.0
comp=Z,969nm,18.9s,baz=34,slow=38
comp=Z,1.8nm,0.5s
AKBB Malin Array Si 81.05 324 *e*P **P** **23 23 11.0 +0.3**
AKBB pmax pmax
comp=Z,7.0nm,1.1s
QSM Queen of Sheba 81.10 54 P **P** **23 23 11.5 +0.1**
QSM IAmb IAmb 23 23 16.2
comp=Z,15nm,0.8s
GWY Greenwater Val 81.13 54 P **P** **23 23 12.1 +0.4**
GWY IAmb IAmb 23 23 16.4
comp=Z,18nm,1.0s
MOOW Moose Ponds 81.16 45 P **P** **23 23 12.5 +0.7**
TPAW Teton Pass 81.17 45 P **P** **23 23 11.8 -0.1**
BGU Big Grassy Mou 81.20 48 P **P** **23 23 12.3 +0.4**
CIS Catalina Islan 81.25 57 P **P** **23 23 11.8 -0.3**
baz=299
REDW Red Top Meadow 81.30 45 P **P** **23 23 11.4 -1.1**
RLMT Red Lodge 81.32 43 P **P** **23 23 12.3 -0.2**
RLMT IAmb IAmb 23 23 18.2
comp=Z,30nm,1.4s
RLMT Red Lodge 81.32 43 P **P** **23 23 14.7 +2.2**
baz=303,SNR=9.4
LOHW Long Hollow 81.32 45 P **P** **23 23 12.7 0.0**
SPR3 Spring Creek 3 81.33 50 P **P** **23 23 13.2 +0.4**
SPR3 IAmb IAmb 23 23 18.2
comp=Z,14nm,1.2s
SPUT South Promonto 81.37 47 P **P** **23 23 13.6 +0.8**
SPUT IAmb IAmb 23 23 34.5
comp=Z,14nm,1.2s
BFSC Mount Baldy Ra 81.39 56 P **P** **23 23 15.1 +2.1**
baz=300
AHID Auburn Hatcher 81.46 46 P **P** **23 23 13.4 0.0**
AHID IAmb IAmb 23 23 18.6
comp=Z,18nm,1.3s
GSC Goldstone, Bar 81.47 54 P **P** **23 23 13.9 +0.5**
GSC IAmb IAmb 23 23 18.2
comp=Z,17nm,1.3s
GSC Goldstone, Bar 81.47 54 P **P** **23 23 15.3 +1.9**
baz=300,SNR=5.7
GSC Goldstone, Bar 81.47 54 P **P** **23 23 13.9 +0.5**
GSC pmax pmax
comp=Z,17nm,1.3s
HFS Hagfors 81.54 337 P **P** **23 23 13.4 +0.2**
comp=Z,2.9nm,0.6s,baz=79,slow=7.7,SNR=7.6
HFS LR LR 00 03 52.3
comp=Z,285nm,18.2s,baz=45,slow=39
comp=Z,2.9nm,0.6s
PRN Pahroc Range 81.64 52 P **P** **23 23 14.4 0.0**
PRN IAmb IAmb 23 23 40.1
comp=Z,18nm,1.0s
NB2 NORSAR Subarra 81.70 338 P **P** **23 23 13.8 -0.2**
comp=Z,1.8nm,0.7s,baz=42,slow=5.1
NOA NORSAR Array B 81.70 338 P **P** **23 23 14.2 +0.1**
comp=Z,2.5nm,0.8s,baz=53,slow=16,SNR=5.8
NOA LR LR 00 04 38.6
comp=Z,303nm,19.8s,baz=50,slow=40
comp=Z,2.5nm,0.8s
DUG Dugway, Tooele 81.72 49 P **P** **23 23 15.3 +0.6**
DUG IAmb IAmb 23 23 19.8
comp=Z,9.5nm,0.7s
DUG Dugway, Tooele 81.72 49 P **P** **23 23 17.0 +2.3**
baz=301,SNR=10
DUG Dugway, Tooele 81.72 49 P **P** **23 23 15.3 +0.6**
DUG pmax pmax
comp=Z,9.0nm,0.7s
HWUT Hardware Ranch 81.78 47 P **P** **23 23 14.8 -0.2**
HWUT IAmb IAmb 23 23 20.4
comp=Z,25nm,1.1s
NC602 NORSAR Array S 81.82 338 P **P** **23 23 15.3 +0.7**
ELS Elsinore Mount 81.84 56 P **P** **23 23 16.1 +0.8**
ELS IAmb IAmb 23 23 20.9
comp=Z,15nm,1.2s
ICESG Greenland Ices 81.89 1 *i* P **P** **23 23 15.9 +0.6**
ICESG IAmb IAmb 23 23 20.1
comp=Z,9.5nm,0.9s
SUW Suwalki 81.95 329 P **P** **23 23 15.7 +0.3**
SUW Suwalki 81.95 329 P **P** **23 23 15.7 +0.3**
SUW pmax pmax
comp=Z,37nm,1.0s
SHPR Sheep Range 82.03 53 P **P** **23 23 16.8 +0.4**
TUQ Turquoise Moun 82.03 54 P **P** **23 23 18.4 +2.0**
baz=300,SNR=11
ARPR Arapgir-MALATY 82.03 310 P **P** **23 23 16.0 -0.4**
MURC Murrieta 82.03 56 P **P** **23 23 18.1 +1.8**
baz=300
HEC Hector,Ludlow 82.04 55 P **P** **23 23 18.2 +1.8**
baz=300
TCUT Toone Canyon 82.14 47 P **P** **23 23 17.3 +0.2**
TCUT IAmb IAmb 23 23 22.1
comp=Z,16nm,1.0s
CTU Camp Tracy 82.15 48 IAmb IAmb 23 23 22.0
comp=Z,13nm,0.9s
LAO LASA Array 82.21 40 P **P** **23 23 17.8 +0.7**
LAO LASA Array 82.21 40 P **P** **23 23 19.3 +2.3**
baz=305
LAO LASA Array 82.21 40 P **P** **23 23 19.5 +2.4**
baz=305
WTNK Soaring Height 82.29 53 P **P** **23 23 18.3 +0.7**
DGMT Dagmar 82.30 38 P **P** **23 23 17.8 +0.4**
DGMT Dagmar 82.30 38 P **P** **23 23 19.5 +2.1**
baz=306
DGMT Dagmar 82.30 38 P **P** **23 23 19.3 +1.9**
baz=306
NLU North Lily Min 82.33 48 P **P** **23 23 18.1 +0.1**
BW06 Boulder Array 82.42 45 P **P** **23 23 18.6 +0.1**
BW06 Boulder Array 82.42 45 P **P** **23 23 20.1 +1.7**
baz=303
PD31 Pinedale Array 82.42 45 P **P** **23 23 18.9 +0.4**
PDAR Pinedale Array 82.42 45 P **P** **23 23 19.2 +0.7**
PDAR Pinedale Array 82.42 45 P **P** **23 23 20.0 +1.6**
comp=Z,7.0nm,1.0s,baz=299,slow=3.1,SNR=15
PDAR LR LR 23 55 07.4
comp=Z,148nm,20.0s,baz=312,slow=32
comp=Z,7.0nm,1.0s
109C Camp Elliot, M 82.45 57 P **P** **23 23 18.9 +0.4**
109C IAmb IAmb 23 23 21.6
comp=Z,9.0nm,0.9s
GMRC Granite Mounta 82.54 54 P **P** **23 23 21.1 +2.0**
baz=300,SNR=10
PFO Pinyon Flats O 82.56 56 P **P** **23 23 19.6 +0.4**
PFO IAmb IAmb 23 23 23.9
comp=Z,15nm,1.1s
PFO Pinyon Flats O 82.56 56 P **P** **23 23 21.1 +1.9**
baz=300,SNR=7.0
PFO Pinyon Flats O 82.56 56 P **P** **23 23 19.6 +0.4**
PFO pmax pmax
comp=Z,15nm,1.1s
PFO Pinyon Flats O 82.56 56 LR LR 23 56 06.8
comp=Z,205nm,19.8s,baz=278,slow=33
TPFO Pinon Flats 82.57 56 P **P** **23 23 21.6 +2.3**
baz=300
MPU Maple Canyon 82.58 48 P **P** **23 23 19.4 +0.1**
PMD Palm Desert 82.60 56 P **P** **23 23 19.7 +0.4**
PMD IAmb IAmb 23 23 23.8
comp=Z,15nm,1.1s
V12A Nelson 82.64 53 P **P** **23 23 20.6 +1.0**
V12A IAmb IAmb 23 23 24.6
comp=Z,18nm,1.2s
BELC Belle Mtn. Jos 82.70 55 P **P** **23 23 21.5 +1.6**
baz=300,SNR=8.7
CCUT Cedar City 82.72 51 P **P** **23 23 21.2 +1.0**
CCUT IAmb IAmb 23 23 25.4
comp=Z,12nm,1.1s
BSUT Blindstream Ca 82.87 47 P **P** **23 23 19.9 -1.1**
BAR Barrett 82.87 57 P **P** **23 23 20.8 +0.1**
SZCU Shurtz Canyon 82.89 51 P **P** **23 23 21.7 +0.8**
MONP2 Monument Peak 82.95 56 P **P** **23 23 23.4 +2.1**
baz=300
MVU Marysvale 83.00 50 P **P** **23 23 21.6 +0.1**
MSU Marysvale 83.02 50 P **P** **23 23 22.0 +0.4**
MSU Marysvale 83.02 50 P **P** **23 23 22.0 +0.4**
LCMT Little Creek M 83.08 51 P **P** **23 23 22.3 +0.4**
LCMT IAmb IAmb 23 23 27.1
comp=Z,12nm,0.9s
IRM Iron Mountain 83.23 55 P **P** **23 23 24.7 +2.2**
baz=301
MTPU Mount Pierson 83.26 50 P **P** **23 23 23.1 0.0**
MTPU IAmb IAmb 23 23 28.5
comp=Z,13nm,1.2s
BC3 Big Chuckawall 83.26 55 P **P** **23 23 24.7 +1.9**
baz=301,SNR=10
IKP In-Ko-Pah, Jac 83.30 56 P **P** **23 23 24.6 +1.6**
baz=300
TAOE Nuku Hiva Isla 83.36 104 *e*LR LR 23 49 15.8
comp=Z,303nm,22.6s
KNB Kanab 83.37 51 P **P** **23 23 24.4 +1.0**
KNB Kanab 83.37 51 P **P** **23 23 24.4 +1.0**
KNB pmax pmax
comp=Z,25nm,1.0s
SWSC Sam W. Stewart 83.37 56 P **P** **23 23 24.9 +1.7**
baz=301
YUH Yuha Desert 83.44 56 P **P** **23 23 24.0 +0.4**
YUH IAmb IAmb 23 23 41.9
comp=Z,14nm,1.4s
P17A Butcher Ranch, 83.45 48 P **P** **23 23 24.8 +1.0**
P17A IAmb IAmb 23 23 28.9
comp=Z,16nm,1.0s
Q16A Castle Valley 83.47 49 P **P** **23 23 24.6 +0.7**
SFJD Kangerlussuaq 83.49 5 LR LR 00 07 56.4
comp=Z,135nm,18.9s,baz=346,slow=41
PKCU Pink Cliffs 83.49 51 P **P** **23 23 24.9 +0.6**
RDMU Red Mountain 83.61 47 P **P** **23 23 26.0 +1.4**
W13A Hualapai Mount 83.64 53 P **P** **23 23 25.0 +0.2**
P18A Preston Nutter 83.69 48 P **P** **23 23 25.6 +0.4**
P18A IAmb IAmb 23 23 40.5
comp=Z,11nm,1.0s
TBI Tubuai 83.73 121 *e*LR LR 23 49 41.3
comp=Z,1μm,23.2s
ESJX Sierra Juarez 83.74 57 P **P** **23 23 26.3 +0.9**
ESJX IAmb IAmb 23 23 30.3
comp=Z,12nm,1.2s
SRU San Rafael Swe 83.79 48 P **P** **23 23 26.4 +0.9**
SRU San Rafael Swe 83.79 48 P **P** **23 23 26.4 +0.9**
SRU pmax pmax
comp=Z,27nm,1.4s
GAZ Gaziantep 83.80 309 P **P** **23 23 26.4 +1.0**
BNN Bunyan 83.81 311 P **P** **23 23 25.9 +0.3**
PDMCI Parker Dam,Lak 83.87 54 P **P** **23 23 27.7 +1.9**
baz=301
BLYC Blythe 83.88 55 P **P** **23 23 25.8 0.0**
BLYC IAmb IAmb 23 23 30.8
comp=Z,8.9nm,0.9s
GLA Glamis 84.02 55 P **P** **23 23 29.2 +2.6**
baz=301
U15A North Rim 84.04 52 P **P** **23 23 27.7 +0.7**
U15A IAmb IAmb 23 23 32.2
comp=Z,8.8nm,1.0s
FRB Frobisher Bay 84.06 13 LR LR 00 06 00.8
comp=Z,150nm,18.5s,baz=3.0,slow=39
HMU Henry Mountain 84.28 50 P **P** **23 23 28.6 +0.4**
K22A Casper 84.34 44 P **P** **23 23 28.3 +0.1**
K22A IAmb IAmb 23 23 33.1
comp=Z,16nm,1.0s
K22A Casper 84.34 44 P **P** **23 23 30.6 +2.3**
baz=305
K22A Casper 84.34 44 P **P** **23 23 30.1 +1.8**
baz=305
RWWY Rawlins 84.47 45 P **P** **23 23 29.7 +0.7**
O20A White River Ci 84.70 47 P **P** **23 23 30.9 +0.7**
O20A White River Ci 84.70 47 P **P** **23 23 32.2 +2.1**
baz=304
BR131 Keskin Array S 84.76 313 P **P** **23 23 30.7 +0.3**
BR131 IAmb IAmb 23 23 34.1
comp=Z,12nm,0.9s
BR131 Keskin Array S 84.76 313 *d* P **P** **23 23 31.1 +0.7**
BRTR Keskin Array B 84.76 313 P **P** **23 23 31.1 +0.7**
comp=Z,4.9nm,0.7s,baz=100,slow=4.1,SNR=32
BRTR LR LR 00 05 53.4
comp=Z,332nm,18.3s,baz=60,slow=39
comp=Z,4.9nm,0.7s
Y14A Wickenburg 84.86 54 P **P** **23 23 31.3 +0.4**
Y14A IAmb IAmb 23 23 35.8
comp=Z,11nm,1.1s
113A Mohawk Valley, 84.93 55 P **P** **23 23 31.2 +0.1**
RSSD Black Hills 84.96 42 P **P** **23 23 31.5 +0.1**
RSSD IAmb IAmb 23 23 51.3
comp=Z,17nm,1.5s
RSSD Black Hills 84.96 42 P **P** **23 23 33.3 +1.9**
baz=306
RSSD Black Hills 84.96 42 P **P** **23 23 31.5 +0.1**
RSSD pmax pmax
comp=Z,17nm,1.5s
KWP Kalwaria Pacla 85.01 326 P **P** **23 23 31.9 +0.6**
KWP Kalwaria Pacla 85.01 326 P **P** **23 23 31.9 +0.6**
KWP pmax pmax
comp=Z,31nm,1.2s
MDND Maddock 85.12 37 P **P** **23 23 34.0 +2.2**
baz=309
WUAZ Wupatki 85.16 52 P **P** **23 23 33.3 +0.8**
WUAZ IAmb IAmb 23 23 37.6
comp=Z,14nm,0.9s
WUAZ Wupatki 85.16 52 P **P** **23 23 34.4 +1.9**
baz=303
ULM Lac du Bonnet 85.43 33 P **P** **23 23 34.6 +1.4**
comp=Z,2.1nm,0.7s,baz=292,slow=11,SNR=3.0
ULM LR LR 00 00 10.9
comp=Z,224nm,21.6s,baz=287,slow=35
comp=Z,2.1nm,0.7s
KOLS Kolonicke sedl 85.68 325 *e*P P 23 23 39.9 +5.3
KOLS Kolonicke sedl 85.68 325 *e*P P 23 23 39.9 +5.3
N23A Red Feather La 85.70 45 P **P** **23 23 36.0 +0.7**
N23A Red Feather La 85.70 45 P **P** **23 23 37.0 +1.7**
baz=306
MLR Muntele Rosu 85.95 321 LR LR 00 04 59.2
comp=Z,553nm,18.5s,baz=84,slow=38
214A Organ Pipe Nat 86.05 56 P **P** **23 23 36.8 0.0**
214A IAmb IAmb 23 23 41.9
comp=Z,14nm,1.0s
214A Organ Pipe Nat 86.05 56 P **P** **23 23 38.8 +2.0**
baz=302
SMCO Snowmass 86.05 47 P **P** **23 23 37.0 -0.2**
SMCO IAmb IAmb 23 23 42.4
comp=Z,11nm,0.8s
MVCO Mesa Verde 86.17 49 P **P** **23 23 39.3 +1.7**
baz=304
W18A Petrified Fore 86.50 51 P **P** **23 23 41.0 +1.9**
baz=304
ISCO Idaho Springs 86.55 46 P **P** **23 23 39.1 -0.4**
ISCO Idaho Springs 86.55 46 P **P** **23 23 40.9 +1.5**
baz=306
ISCO Idaho Springs 86.55 46 P **P** **23 23 41.2 +1.7**
baz=306
ISCO Idaho Springs 86.55 46 P **P** **23 23 39.1 -0.4**

ISCO				pmax		pmax	
	comp=Z,6.0nm,1.0s						
AGMN	**Agassiz Nation**	**86.73**	**35**	P		**P**	**23 23 40.4 +0.6**
AGMN	**Agassiz Nation**	**86.73**	**35**	P		**P**	**23 23 42.0 +2.2**
	baz=312						
S22A	**4UR Ranch, Cre**	**86.96**	**48**	P		**P**	**23 23 42.4 +0.8**
S22A	**4UR Ranch, Cre**	**86.96**	**48**	P		**P**	**23 23 43.3 +1.8**
	baz=305						
MMAI	**Mount Meron Ar**	**87.28**	**307**	P		**P**	**23 23 42.8 -0.1**
	comp=Z,4.5nm,0.7s,baz=75,slow=4.4,SNR=6.4						
MMAI				LR		LR	00 07 43.3
	comp=Z,324nm,18.0s,baz=0.5,slow=39						
	comp=Z,4.5nm,0.7s						
TUC	**Tucson**	**87.30**	**54**	P		**P**	**23 23 44.9 +1.9**
	baz=303						
Q24A	**Divide**	**87.33**	**46**	P		**P**	**23 23 44.8 +1.5**
	baz=306						
DPC	**Dobruska-Polom**	**87.54**	**329**	*e*P		**P**	**23 23 44.6 +0.9**
DPC	**Dobruska-Polom**	**87.54**	**329**	*e*P		**P**	**23 23 44.6 +0.9**
SUSD	**Miller**	**87.63**	**39**	P		**P**	**23 23 46.2 +1.9**
	baz=310						
VYHS	**Vyhne**	**87.66**	**326**	*e*P		**P**	**23 23 44.2 -0.1**
VYHS	**Vyhne**	**87.66**	**326**	*e*P		**P**	**23 23 44.2 -0.1**
B35A	**Bob, Littlefor**	**87.74**	**34**	P		**P**	**23 23 46.3 +1.6**
	baz=313						
SDCO	**Great Sand Dun**	**87.82**	**47**	P		**P**	**23 23 47.9 +2.3**
	baz=306						
OGNE	**Ogallala**	**88.05**	**43**	P		**P**	**23 23 49.3 +2.9**
	baz=308						
F33A	**5 Mile Ranch,**	**88.15**	**37**	P		**P**	**23 23 46.9 +0.2**
F33A	**5 Mile Ranch,**	**88.15**	**37**	P		**P**	**23 23 48.0 +1.3**
	baz=312						
VRAC	**Vranov**	**88.16**	**328**	LR		LR	00 06 13.4
	comp=Z,227nm,18.9s,baz=50,slow=38						
CLL	**Collm**	**88.30**	**331**	*i* P		**P**	**23 23 47.4 +0.1**
	comp=Z,3.0nm,1.2s						
CLL				*e*S		**S**	**23 34 30.0 -0.6**
CLL				*e*PS		**PS**	**23 35 36.0 -0.1**
CLL				AMS		AMS	00 13 00.0
	comp=Z,300nm,18.7s						
CLL	**Collm**	**88.30**	**331**	*i* P		**P**	**23 23 47.4 +0.1**
CLL				*e*S		**S**	**23 34 30.0 -0.6**
CLL				pmax		pmax	
	comp=Z,3.0nm,1.2s						
ANMO	**Albuquerque**	**88.81**	**50**	P		**P**	**23 23 52.8 +2.5**
	baz=306						
ANMO	**Albuquerque**	**88.81**	**50**	*e*P		**P**	**23 23 53.2 +2.9**
ANMO	**Albuquerque**	**88.81**	**50**	LR		LR	23 58 25.6
	comp=Z,200nm,20.9s,baz=38,slow=32						
KSCO	**Kaye Shedlock'**	**88.87**	**45**	P		**P**	**23 23 52.9 +2.5**
	baz=308						
T25A	**Trinidad**	**88.87**	**47**	P		**P**	**23 23 53.3 +2.7**
	baz=307						
EYMN	**Ely**	**89.10**	**33**	P		**P**	**23 23 53.8 +2.6**
	baz=315						
ZVC	**Zvikov**	**89.15**	**329**	*e*P		**P**	**23 23 50.6 -0.7**
121A	**Cookes Peak, D**	**89.29**	**53**	P		**P**	**23 23 54.8 +2.2**
	baz=305						
ECSD	**EROS Data Cent**	**89.37**	**39**	P		**P**	**23 23 53.0 +0.5**
ECSD				IAmb		IAmb	23 23 57.5
	comp=Z,14nm,1.3s						
ECSD	**EROS Data Cent**	**89.37**	**39**	P		**P**	**23 23 54.6 +2.0**
	baz=312						
CONA	**Conrad Observa**	**89.48**	**327**	*i* PcP		**P**	**23 23 53.5 +0.5**
	comp=Z,4.0nm,1.1s						
CKRC	**Cesky Krumlov**	**89.55**	**329**	*e*P		**P**	**23 23 53.4 +0.1**
CKRC	**Cesky Krumlov**	**89.55**	**329**	*e*P		**P**	**23 23 53.4 +0.1**
KHC	**Kasperske Hory**	**89.65**	**329**	*e*P		**P**	**23 23 54.7 +1.0**
KHC	**Kasperske Hory**	**89.65**	**329**	*e*P		**P**	**23 23 54.5 +0.8**
KHC				pmax		pmax	
	comp=Z,15nm,1.8s						
GERES	**GERESS Array B**	**89.81**	**329**	P		**P**	**23 23 54.3 -0.2**
	comp=Z,0.7nm,0.7s,baz=90,slow=40,SNR=3.0						
GERES				LR		LR	00 08 06.0
	comp=Z,314nm,18.1s,baz=56,slow=38						
	comp=Z,0.7nm,0.7s						
BGNE	**Belgrade**	**90.04**	**41**	P		**P**	**23 23 57.6 +1.9**
	baz=310						
ARSA	**Arzberg**	**90.12**	**327**	*i* P		**P**	**23 23 54.7 -1.3**
	comp=Z,3.0nm,0.9s						
MOA	**Molln**	**90.28**	**328**	*i* P		**P**	**23 23 56.2 -0.5**
	comp=Z,9.2nm,1.4s						
SPMN	**Marine on St.**	**90.37**	**36**	P		**P**	**23 23 59.7 +2.6**
	baz=314						
BIOA	**Bad Ischl, Aus**	**90.68**	**328**	*i* PcP		**P**	**23 23 59.1 +0.5**
	comp=Z,4.5nm,1.1s						
SOKA	**Soboth**	**90.77**	**327**	*e*P		**P**	**23 23 58.3 -0.8**
	comp=Z,6.6nm,1.6s						
LESA	**Schwarzleotal**	**91.32**	**329**	*i* PcP		**P**	**23 24 01.8 +0.2**
	comp=Z,8.1nm,1.3s						
MNTX	**Cornudas Mount**	**91.43**	**52**	P		**P**	**23 24 04.6 +2.3**
	baz=306						
MYKA	**Terra Mystica**	**91.46**	**328**	*e*P		**P**	**23 24 00.8 -1.4**
	comp=Z,4.9nm,1.1s						
MSTX	**Muleshoe**	**91.84**	**49**	P		**P**	**23 24 06.5 +2.1**
	baz=308						
WATA	**Walderalm**	**91.88**	**329**	*i* P		**P**	**23 24 03.6 -0.7**
	comp=Z,3.8nm,1.0s						
ABTA	**Abfaltersbach**	**91.90**	**328**	*i* pP		**P**	**23 24 06.5 +2.2**
	comp=Z,5.5nm,1.2s						
WTTA	**Wattenberg**	**91.91**	**329**	*i* P		**P**	**23 24 01.0 -3.5**
	comp=Z,7.5nm,1.3s						
AMTX	**Amarillo**	**92.00**	**48**	P		**P**	**23 24 04.5 -0.5**
AMTX	**Amarillo**	**92.00**	**48**	P		**P**	**23 24 07.1 +2.1**
	baz=308						
RETA	**Reutte**	**92.13**	**330**	*e*P		**P**	**23 24 03.7 -1.6**
	comp=Z,5.2nm,1.3s						
SQTA	**Sankt Quirin**	**92.14**	**329**	*e*P		**P**	**23 24 04.0 -1.5**
	comp=Z,3.3nm,0.9s						
LPIG	**La Paz**	**92.14**	**61**	LR		LR	00 00 02.5
	comp=Z,201nm,19.3s,baz=290,slow=32						
425A	**Indio Mountain**	**92.24**	**53**	P		**P**	**23 24 06.1 -0.2**
425A				IAmb		IAmb	23 24 11.5
	comp=Z,8.7nm,1.0s						
KSU1	**Kansas State U**	**92.44**	**42**	P		**P**	**23 24 07.5 +0.7**
KSU1	**Kansas State U**	**92.44**	**42**	P		**P**	**23 24 09.2 +2.3**
	baz=312						
SCHQ	**Schefferville**	**92.48**	**17**	LR		LR	00 06 53.6
	comp=Z,139nm,21.9s,baz=344,slow=36						
FETA	**Feichten**	**92.50**	**329**	*i* PcP		**P**	**23 24 07.5 +0.4**
	comp=Z,7.7nm,1.6s						
BFO	**Black Forest**	**92.53**	**331**	P		**P**	**23 24 06.7 -0.4**
BFO				IAmb		IAmb	23 24 10.7
	comp=Z,10nm,1.3s						
BFO	**Black Forest**	**92.53**	**331**	P		**P**	**23 24 06.7 -0.4**
BFO				pmax		pmax	
	comp=Z,10.0nm,1.3s						
DAVA	**Damuels**	**92.67**	**330**	*i* pP		**P**	**23 24 09.3 +1.4**
	comp=Z,10nm,1.0s						
IDI	**Anoyia**	**92.98**	**313**	LR		LR	00 11 32.7
	comp=Z,174nm,18.0s,baz=71,slow=39						
FUORN	**Ofenpass-Fuorn**	**93.01**	**329**	P		**P**	**23 24 08.9 -0.7**
FUORN				IAmb		IAmb	23 24 26.9
	comp=Z,10nm,1.2s						
DAVOX	**Davos/Dischmat**	**93.06**	**330**	LR		LR	00 09 54.0
	comp=Z,310nm,19.1s,baz=61,slow=38						
DKNS	**Dickens**	**93.24**	**48**	P		**P**	**23 24 11.4 +0.7**
DKNS				IAmb		IAmb	23 24 15.6
	comp=Z,9.5nm,0.8s						
JFWS	**Jewell Farm**	**93.30**	**36**	P		**P**	**23 24 13.4 +2.7**
	baz=316						
ALPN	**Alpine**	**93.42**	**52**	P		**P**	**23 24 12.2 +0.5**
ALPN				IAmb		IAmb	23 24 16.7
	comp=Z,6.9nm,0.9s						
MNHN	**Monahans**	**93.44**	**51**	P		**P**	**23 24 12.5 +0.8**
MNHN				IAmb		IAmb	23 24 16.6
	comp=Z,5.4nm,0.9s						
SN01	**Snyder 1**	**93.76**	**49**	P		**P**	**23 24 13.5 +0.4**
SN01				IAmb		IAmb	23 24 17.5
	comp=Z,8.6nm,0.8s						
P38A	**Dawn**	**93.85**	**40**	P		**P**	**23 24 12.2 -1.1**
WMOK	**Wichita Mounta**	**93.94**	**46**	P		**P**	**23 24 14.4 +0.5**
WMOK				IAmb		IAmb	23 24 18.6
	comp=Z,8.9nm,0.9s						
WMOK	**Wichita Mounta**	**93.94**	**46**	P		**P**	**23 24 16.5 +2.6**
	baz=310						
WMOK	**Wichita Mounta**	**93.94**	**46**	P		**P**	**23 24 14.4 +0.5**
WMOK				pmax		pmax	
	comp=Z,9.0nm,1.0s						
APMT	**Aspermont**	**93.98**	**48**	P		**P**	**23 24 13.6 -0.5**
APMT				IAmb		IAmb	23 24 18.8
	comp=Z,12nm,0.8s						
TX31	**Lajitas Ar. Si**	**94.02**	**53**	P		**P**	**23 24 14.3 -0.1**
TXAR	**Lajitas Array**	**94.02**	**53**	P		**P**	**23 24 13.0 -1.4**
TXAR	**Lajitas Array**	**94.02**	**53**	P		**P**	**23 24 13.0 -1.4**
TXAR	**Lajitas Array**	**94.02**	**53**	P		**P**	**23 24 16.4 +1.9**
	comp=Z,8.8nm,1.0s,baz=305,slow=2.9,SNR=24						
TXAR				LR		LR	00 04 04.9
	comp=Z,141nm,18.9s,baz=294,slow=34						
	comp=Z,8.8nm,1.0s						
GLMI	**Grayling**	**94.62**	**32**	P		**P**	**23 24 17.8 +1.0**
	baz=320						
ABTX	**Abilene, Hawle**	**94.73**	**49**	P		**P**	**23 24 17.0 -0.5**
ABTX	**Abilene, Hawle**	**94.73**	**49**	P		**P**	**23 24 20.1 +2.5**
	baz=309						
P40A	**Paris**	**94.74**	**39**	P		**P**	**23 24 16.7 -0.7**
L44A	**Lake County Fo**	**95.02**	**35**	P		**P**	**23 24 21.0 +2.4**
	baz=318						
TUL3	**Leonard**	**95.03**	**44**	P		**P**	**23 24 22.4 +3.5**
	baz=312						
HDIL	**Hopedale**	**95.49**	**37**	P		**P**	**23 24 24.5 +3.6**
	baz=316						
JCT	**Junction City**	**95.97**	**50**	P		**P**	**23 24 25.5 +2.2**
	baz=309						
CCM	**Cathedral Cave**	**96.22**	**40**	P		**P**	**23 24 25.5 +1.3**
	baz=315						
WHTX	**Lake Whitney,**	**96.56**	**48**	P		**P**	**23 24 28.8 +2.9**
	baz=310						
SFIN	**Lafayette**	**96.76**	**36**	P		**P**	**23 24 29.5 +2.9**
	baz=318						
SADO	**Sadowa**	**97.06**	**29**	LR		LR	00 09 12.8
	comp=Z,95nm,20.2s,baz=56,slow=36						
O48B	**Farmland**	**97.84**	**35**	P		Pdif	23 24 33.3 +1.8
	baz=319						
WVT	**Waverly**	**99.50**	**39**	P		**Pdif**	**23 24 37.5 -1.5**
	baz=317						
O53A	**New Philadelph**	**99.75**	**33**	P		**Pdif**	**23 24 39.2 -0.8**
	baz=322						
OXF	**Oxford**	**99.78**	**41**	P		**Pdif**	**23 24 38.7 -1.5**
	baz=316						
QSPA	**South Pole Qui**	**119.06**	**180**	PKP		**PKiKP**	**23 29 44.5 +0.7**
	comp=Z,0.8nm,0.3s,baz=271,slow=3.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**123.37**	**313**	PKP		**PKiKP**	**23 29 54.2 +0.4**
	comp=Z,0.5nm,0.6s,baz=82,slow=1.7,SNR=6.0						
ELIB	**Princess Elisa**	**126.55**	**200**	*d*PKP		**PKiKP**	**23 30 00.2 +1.6**
ELIB				*d*PP		**PP**	**23 31 55.2 +0.6**
TROLL	**Troll, Antarti**	**132.12**	**196**	⇑P		**PKiKP**	**23 30 10.8 +1.0**
	comp=Z,162nm,0.8s						
SNAA	**Sanae**	**133.57**	**194**	⇑P		**PKiKP**	**23 30 14.7 +2.0**
SNAA	**Sanae**	**133.57**	**194**	PKP		**PKPdf**	**23 30 11.9 +0.5**
	comp=Z,0.8nm,0.7s,baz=196,slow=20,SNR=2.0						
SNAA				SKPbc		**SKPab**	**23 33 41.8 +1.2**
	comp=Z,1.6nm,0.8s,baz=174,slow=9.2,SNR=4.1						
VNA2	**Neumayer--Watz**	**135.10**	**193**	⇑P		**PKiKP**	**23 30 17.2 +1.5**
	baz=115,slow=1.0						
VNA3	**Neumayer Olymp**	**135.29**	**192**	⇑P		**PKiKP**	**23 30 16.2 +0.1**
SAML	**Samuel**	**148.49**	**55**			**PKiKP**	**23 30 44.8 0.0**
SAML	**Samuel**	**148.49**	**55**	PKP2		**PKiKP**	**23 30 44.8 0.0**
LL02	**Futaleuf**	**149.21**	**126**	PKPab		**PKPab**	**23 30 48.5 -0.2**
PLCA	**Paso Flores**	**150.74**	**122**	PKPbc		**PKiKP**	**23 30 49.6 +0.8**
	comp=Z,13nm,0.9s,baz=231,slow=3.1,SNR=12						
LVC	**Limon Verde**	**150.98**	**84**	PKPab		**PKPab**	**23 30 54.7 -2.4**
LVC	**Limon Verde**	**150.98**	**84**	PKIKP		**PKPab**	**23 30 54.7 -2.4**

*TEH **22** 23:20:35.0,34˚.52N×45˚.52E,h13km±16km,ML3.4*
*ISN **22** 23:20:36.9±0.6,34˚.52N×45˚.49E,h20km±4km,ML3.2*
*AZER **22** 23:20:43.4±1.9,34˚.16N×48˚.04E,h5km,Error ellipse: s-maj=17.3km s-min=12.1km az=53.0*
ISC 22 23:20:36.7±0.8,**34˚.50N**±0˚.03×**45˚.49E**±0˚.04,**h10km,n27,**
σ1⁰60/35,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.09**	**88**	Pg	**Pg**	**23 20 38.6**	**-0.6**
IDHR	**Dehrash**	**0.77**	**75**	Pg	**Pg**	**23 20 50.2**	**-1.4**
IGHG	**Ghaleghazi**	**0.91**	**101**	Pg	**Pg**	**23 20 53.4**	**-0.9**
ILBA	**Ilam Banvizeh**	**1.06**	**145**	Pg	**Pg**	**23 20 56.1**	**-1.1**
ILIN	**Lien**	**1.28**	**71**	Pg	**Pn**	**23 20 60.0**	**-1.0**
KCHF	**Cheshme Sefid,**	**1.30**	**100**	Pg	**Pb**	**23 21 01.0**	**-0.5**
KCHF				Sg	**Sn**	**23 21 19.0**	**+0.2**
IBDR	**Badra**	**1.44**	**165**	*e*Pg	**Pb**	**23 21 03.5**	**-0.1**
IBDR				*e*Sg	**Sb**	**23 21 22.0**	**0.0**
IBDR				AML	AML	23 21 40.1	
	comp=E,346nm,0.4s						
IBDR				AML	AML	23 21 40.4	
	comp=N,399nm,0.6s						
BHD	**Baghdad**	**1.54**	**217**	*e*Pn	**Pb**	**23 21 05.0**	**-0.3**
BHD				*e*Sn	**Sg**	**23 21 26.0**	**-0.1**
SDS1	**Sardasht. Az.**	**1.64**	**360**	Pg	**Pn**	**23 21 06.3**	**+0.5**
IKOM	**Komasi**	**1.71**	**101**	Pg	**Pb**	**23 21 07.4**	**-0.9**
IKFM	**Kafar-mosalman**	**2.19**	**116**	Pn	**Pn**	**23 21 13.8**	**+0.6**
IALM	**Almabolaq**	**2.24**	**80**	Pn	**Pn**	**23 21 15.0**	**+0.9**
MAHB	**Mahabad**	**2.27**	**4**	Pn	**Pn**	**23 21 14.9**	**+0.5**
RAFI	**Al-Rafai**	**2.82**	**169**	*e*Pn	**Pn**	**23 21 23.0**	**+1.1**
RAFI				*e*Sn	**Sn**	**23 21 57.0**	**+1.1**
HAGD	**Aghdareh**	**3.03**	**83**	Pn	**Pn**	**23 21 26.1**	**+1.1**
ISRB	**Sarab**	**3.75**	**27**	Pn	**Pn**	**23 21 36.0**	**+1.0**
ISHB	**Shabestar**	**3.77**	**2**	Pn	**Pn**	**23 21 35.1**	**-0.1**
AMIS	**Naft Sefid**	**4.26**	**131**	Pn	**Pn**	**23 21 41.3**	**-0.4**
ORD	**Ordubad**	**4.43**	**5**	P	**Pg**	**23 21 59.9**	**-1.8**
ORD				S	**Sg**	**23 22 59.6**	**+0.4**
GRMI	**Germi**	**4.71**	**24**	Pn	**Pn**	**23 21 49.1**	**+1.1**
LRK	**Lerik**	**4.73**	**28**	P	Pn	23 21 53.5	+5.2
LRK				S	**Sn**	**23 22 47.1**	**+3.9**
ASTR	**Astara**	**4.84**	**32**	P	**Pn**	**23 21 51.2**	**+1.6**
ASTR				S	**Sn**	**23 22 46.0**	**+0.2**
SBZ	**Shahbuz**	**4.88**	**1**	P	**Pg**	**23 22 07.4**	**-2.9**
SBZ				S	**Sg**	**23 23 13.9**	**+0.4**
YRD	**Yardimli**	**4.93**	**26**	P	**Pn**	**23 21 54.5**	**+3.5**
YRD				S	**Sn**	**23 22 52.4**	**+4.2**
LKRN	**Lenkeran, Azer**	**4.96**	**31**	S	**Sn**	**23 22 46.2**	**-2.6**
IKLH	**Kolahrood**	**5.20**	**101**	Pn	**Pn**	**23 21 56.0**	**+1.2**
ISFB	**Sefidab**	**5.58**	**90**	Pn	**Pn**	**23 21 59.8**	**-0.2**

IDC 22 23:46:28.6±2.5,**6˚.61S×129˚.52E,h0km,mb3.4**/1,
mbtmp3.4/3,**ML3.3**/2,**Error ellipse: s-maj=159.3km**
s-min=33.3km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.05**	**161**	Pn	Pn	23 49 48.5	-0.7
	0.1nm,0.3s,baz=343,slow=12,SNR=4.6						
WRA				Sn	Sn	23 52 12.9	-13
	0.3nm,0.3s,baz=342,slow=22,SNR=6.4						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**17.47**	**167**	P	Pn	23 50 34.4	+0.4
	0.1nm,0.3s,baz=349,slow=11,SNR=12						
ASAR				S	Sn	23 53 38.7	-11
	0.2nm,0.5s,baz=339,slow=26,SNR=2.5						
	0.1nm,0.8s						
MKAR	**Makanchi Array**	**67.64**	**327**	P	P	23 57 27.5	0.0
	0.1nm,0.3s,baz=116,slow=6.6,SNR=2.0						
	0.1nm,0.3s						

*THE **22** 23:50:19.9,37˚.19N×28˚.79E,h0km±1km,ML2.5/1,Error ellipse: s-maj=2.8km s-min=0.6km az=34.0*
*AFAD **22** 23:50:22.4±0.0,37˚.12N×28˚.64E,h7km±3km,ML2.1*
*ISK **22** 23:50:22.8,37˚.14N×28˚.62E,h9km,ML2.0/13*
ISC 22 23:50:22.5±1.1,**37˚.10N**±0˚.03×**28˚.66E**±0˚.03,**h9km**±9km,
n23,σ0⁰86/36,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	**Dalyan (Mula)**	**0.28**	**181**	Pg	**Pb**	**23 50 29.8**	**0.0**
DALY				Sg	**Sb**	**23 50 34.9**	**+0.3**
YER	**Yerkesik**	**0.30**	**276**	Pg	**Pg**	**23 50 28.5**	**0.0**
YER				Sg	**Sg**	**23 50 33.3**	**+0.6**
YER	**Yerkesik**	**0.30**	**276**	P	**Pg**	**23 50 28.6**	**0.0**
YER				S	**Sb**	**23 50 35.3**	**0.0**
MULA	**Mugla, Merkez-**	**0.31**	**300**	P	**Pg**	**23 50 28.2**	**-0.5**
MULA				S	**Sg**	**23 50 33.1**	**+0.2**
MULA				*i* AML	AML	23 50 38.0	
	comp=E,174nm,0.6s						
TURN	**Turunc**	**0.47**	**226**	Pg	**Pg**	**23 50 31.3**	**-0.3**
TURN				Sg	**Sb**	**23 50 39.4**	**-0.5**
TURN	**Turunc**	**0.47**	**226**	P	**Pg**	**23 50 29.6**	**-2.0**
TURN				S	**Sg**	**23 50 39.0**	**+1.3**
FETY	**Fethiye**	**0.58**	**144**	Pg	**Pb**	**23 50 35.4**	**+0.6**
APMY	**Acipayam-Deniz**	**0.63**	**54**	Pg	**Pb**	**23 50 35.3**	**-0.5**
APMY				Sg	**Sb**	**23 50 45.2**	**+0.4**
MLSB	**Milas**	**0.73**	**286**	Pg	**Pg**	**23 50 36.4**	**-0.2**
RFTAA	**Mazikoy-Bodrum**	**0.74**	**262**	Pg	**Pb**	**23 50 37.1**	**-0.5**
DAT	**Datca**	**0.94**	**247**	Pg	**Pb**	**23 50 41.4**	**+0.3**
DAT	**Datca**	**0.94**	**247**	P	**Pg**	**23 50 40.5**	**-0.2**
DAT				S	**Sn**	**23 50 55.0**	**-0.7**
DAT				*i* AML	AML	23 50 59.0	
	comp=N,84nm,1.2s						
DAT				*i* AML	AML	23 51 00.0	
	comp=E,58nm,1.1s						
DAT	**Datca**	**0.94**	**247**	P	**Pg**	**23 50 40.5**	**-0.2**
DAT				S	**Sn**	**23 50 56.3**	**+0.5**
BDRM	**Kayabasi**	**0.97**	**268**	P	**Pb**	**23 50 41.7**	**+0.1**
BDRM				S	**Sb**	**23 50 54.8**	**+0.2**
BDRM				*i* AML	AML	23 50 56.0	
	comp=E,42nm,1.7s						
ARG	**Arkhangelos**	**0.98**	**206**	Pg	**Pb**	**23 50 42.4**	**+0.7**
ARG	**Arkhangelos**	**0.98**	**206**	P	**Pg**	**23 50 40.9**	**-0.5**
ARG				S	**Sn**	**23 50 57.6**	**+1.1**
	228nm,0.9s						
YAZI	**Mula-Dat§a-**	**1.05**	**247**	P	**Pb**	**23 50 42.9**	**-0.1**
YAZI				S	**Sb**	**23 50 57.0**	**+0.2**
YAZI				*i* AML	AML	23 51 13.0	
	comp=N,56nm,1.8s						
ELL	**Elmali**	**1.06**	**109**	Pn	**Pn**	**23 50 44.4**	**+0.7**
BODT	**Bodrum**	**1.08**	**268**	Pg	**Pn**	**23 50 43.6**	**-0.3**
BODT	**Bodrum**	**1.08**	**268**	P	**Pg**	**23 50 42.5**	**-0.8**
BODT				S	**Sn**	**23 50 59.4**	**+0.4**
AKAS	**Kas**	**1.15**	**139**	Pn	**Pn**	**23 50 46.0**	**+1.0**
KSL	**Kastellorizon**	**1.21**	**142**	P	**Pn**	**23 50 42.3**	**-3.3**
GCAM	**G?zelcami?**	**1.28**	**298**	Pn	**Pg**	**23 50 47.0**	**-0.2**

*NEIC **22** 23:58:28.5±1.1,19˚.21N±0˚.01×155˚.453W±0˚.004,*
h10km±1km,Error ellipse: s-maj=2.9km s-min=1.8km az=168.0
HVO 22 23:58:28.5±1.3,**19˚.18N**±0˚.01×**155˚.447W**±0˚.005,
h7km±6km,ML3.3/11,**ML3.3**/54(NEIC),**Error ellipse:**
s-maj=2.1km s-min=0.5km az=166.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.07**	**40**		Pg	23 58 30.6	+0.3
HPO	**Honuapo**	**0.14**	**228**		Pg	23 58 31.9	+0.6
HPO					Sg	23 58 35.7	+2.5
KHU	**Kahuku**	**0.17**	**292**		Pg	23 58 32.5	+0.5
HLP	**Hilina Pali**	**0.17**	**49**		Pg	23 58 32.6	+0.5
HLP				IAML		23 58 37.1	
	comp=N,10μm,0.4s						
AIN	**Ainahou**	**0.19**	**357**		Pg	23 58 32.5	+0.1
AIN				IAML		23 58 37.7	
	comp=N,9μm,0.2s						
AIN				IAML		23 58 37.7	
	comp=E,7μm,0.2s						
SDHHI	**Sand Hill**	**0.25**	**35**		Pg	23 58 33.5	0.0
WRMHI	**West Rim**	**0.26**	**32**		Pg	23 58 33.7	-0.1
WRMHI				IAML		23 58 39.3	
	comp=N,5μm,0.5s						
RIM	**Rim**	**0.27**	**37**		Pg	23 58 33.0	-0.8
RIM					Sg	23 58 38.1	+0.6
RIM				IAML		23 58 38.8	
	comp=N,5μm,0.4s						
RIM				IAML		23 58 39.0	
	comp=E,5μm,0.5s						
KKO	**Keanakako`i**	**0.28**	**38**		Pg	23 58 33.3	-0.6
KKO				IAML		23 58 39.3	
	comp=E,5μm,0.4s						
KKO				IAML		23 58 40.3	
	comp=N,6μm,0.4s						
NPH	**North Pit**	**0.28**	**34**		Pg	23 58 33.1	-0.8
UWE	**Uwekahuna**	**0.28**	**31**		Pg	23 58 33.7	-0.4
OBL	**Observatory Le**	**0.28**	**33**		Pg	23 58 33.7	-0.3
OBL				IAML		23 58 43.0	
	comp=N,7μm,0.5s						
BYL	**Byron's Ledge**	**0.29**	**38**		Pg	23 58 34.1	-0.1
BYL				IAML		23 58 39.5	
	comp=E,4μm,0.3s						
BYL				IAML		23 58 43.2	
	comp=N,3μm,0.5s						
PUH	**Pauahi**	**0.29**	**49**		Pg	23 58 33.8	-0.4
PUH				IAML		23 58 40.0	
	comp=N,3μm,0.3s						
PUH				IAML		23 58 42.2	
	comp=E,3μm,0.3s						
UWB	**Uwekahuna B**	**0.29**	**33**		Pg	23 58 33.2	-1.1
HATHI	**Halema'uma'u T**	**0.30**	**36**		Pg	23 58 33.5	-0.9
HATHI				IAML		23 58 39.7	
	comp=E,4μm,0.4s						
HATHI				IAML		23 58 39.8	
	comp=N,3μm,0.5s						
SBLHI	**Steaming Bluff**	**0.30**	**35**		Pg	23 58 33.5	-0.9
SBLHI				IAML		23 58 39.8	
	comp=N,4μm,0.6s						
SBLHI				IAML		23 58 44.3	
	comp=E,4μm,0.4s						
MLH	**Mauna Loa**	**0.32**	**10**		Pg	23 58 34.8	0.0
MLH				IAML		23 58 43.9	
	comp=E,4μm,0.3s						
MLH				IAML		23 58 44.0	
	comp=N,4μm,0.2s						
RSD	**Rainshed**	**0.32**	**30**		Pg	23 58 34.3	-0.6
MWH	**Moku'aweowe**	**0.33**	**335**		Pg	23 58 34.6	-0.6
STCH	**Steam Cracks**	**0.37**	**56**		Pg	23 58 35.2	-0.4
STCH				IAML		23 58 41.0	
	comp=N,3μm,0.5s			

RSD	**Rainshed**	**0.08**	**3**		**Pg**	00 01 44.7 +0.5
RSD				IAML		00 01 45.2
	comp=E,556nm,2.0s					
HLP	**Hilina Pali**	**0.09**	**196**		**Pg**	00 01 45.0 +0.8
HLP				IAML		00 01 47.2
	comp=N,492nm,0.3s					
STCH	**Steam Cracks**	**0.15**	**88**		**Pg**	00 01 45.0 -0.4
STCH				IAML		00 01 49.6
	comp=N,284nm,0.8s					
STCH				IAML		00 01 49.9
	comp=E,339nm,0.6s					
MLH	**Mauna Loa**	**0.15**	**319**		**Pg**	00 01 46.3 +0.9
MLH				IAML		00 01 49.9
	comp=E,328nm,0.6s					
MLH				IAML		00 01 50.0
	comp=N,392nm,0.3s					
NPOC	**North of Pu'u**	**0.16**	**86**	Pg	Pg	00 01 46.0 +0.3
NPOC				IAML		00 01 48.4
	comp=N,366nm,3.0s					
NPOC				IAML		00 01 50.9
	comp=E,237nm,0.8s					
AIN	**Ainahou**	**0.17**	**267**	Pg	Pg	00 01 46.0 +0.3
AIN				IAML		00 01 48.2
	comp=E,226nm,3.0s					
HTC	**Hot Caves**	**0.18**	**218**		Pg	00 01 46.8 +0.9
HMH	**Humu'ula Sheep**	**0.29**	**319**	Pg	Pg	00 01 49.0 +0.9
HMH					Sg	00 01 52.1 +0.2
HMH				IAML		00 01 56.2
	comp=E,215nm,3.1s					
MWH	**Moku'aweowe**	**0.32**	**289**		Pg	00 01 49.0 +0.4
MLOA	**Mauna Loa Obse**	**0.32**	**299**	Pg	Pg	00 01 49.1 +0.4
MLOA				IAML		00 01 54.5
	comp=N,204nm,1.6s					
KHU	**Kahuku**	**0.34**	**247**		Pg	00 01 49.5 +0.5
KHU	**Kahuku**	**0.34**	**247**	Sg	Sb	00 01 55.6 -1.8
KHU				IAML		00 01 57.4
	comp=E,189nm,3.4s					
KHU				IAML		00 01 58.1
	comp=N,296nm,3.8s					
POHA	**Pohakuloa**	**0.44**	**328**	Pg	Pg	00 01 51.4 +0.4
POHA				IAML		00 02 03.8
	comp=N,100nm,1.1s					
HUH	**Hualalai**	**0.60**	**300**	Pg	Pg	00 01 53.9 -0.2
KHLU	**Kahalu`u**	**0.61**	**290**	Pg	Pg	00 01 53.8 -0.4

IDC ***23*** *00:22:12.7±1.0, 49.76S×125.31E, h0km, mb4.2/5, mbtmp4.2/5, MS3.4/1, Error ellipse: s-maj=61.4km s-min=20.1km az=93.0*

ISC 23 00:22:14.5±1.0, 49.7S±0.1×125.8E±0.4, h10km, n15, σ1§18/11, mb4.4/8, 4C-1D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**17.09**	**326**	T	T	00 43 32.2	
	baz=158,slow=79,SNR=26						
H01W2	**Cape Leeuwin H**	**17.09**	**326**	T	T	00 43 33.9	
	baz=158,slow=79,SNR=25						
H01W3	**Cape Leeuwin H**	**17.11**	**326**	T	T	00 43 33.9	
	baz=158,slow=79,SNR=20						
ASAR	**Alice Springs**	**26.77**	**17**	P	**P**	**00 27 54.9**	**+0.5**
	4.1nm,0.5s,baz=188,slow=11,SNR=7.0						
	4.1nm,0.5s						
VNDA	**Vanda**	**31.07**	**166**	P	**P**	**00 28 31.3**	**-0.8**
	2.0nm,0.8s,baz=312,slow=8.3,SNR=6.1						
	2.0nm,0.8s						
MAW	**Mawson**	**35.33**	**216**	LR	LR	00 41 20.6	
	comp=Z,61nm,18.7s,baz=20,slow=33						
QSPA	**South Pole Qui**	**40.41**	**180**	P	**P**	**00 29 52.1**	**-0.4**
	2.3nm,0.9s,baz=322,slow=4.0,SNR=6.4						
	2.3nm,0.9s						
TROLL	**Troll, Antarti**	**52.24**	**199**	⇑P	**P**	**00 31 26.2**	**+1.0**
	comp=Z,246nm,0.8s						
SNAA	**Sanae**	**53.60**	**198**	⇑P	**P**	**00 31 36.5**	**+1.3**
	comp=Z,137nm,0.8s						
SNAA	**Sanae**	**53.60**	**198**	P	**P**	**00 31 34.0**	**-1.2**
	comp=Z,7.0nm,0.9s,baz=133,slow=8.8,SNR=19						
	comp=Z,7.0nm,0.9s						
VNA2	**Neumayer--Watz**	**55.09**	**197**	⇓P	**P**	**00 31 47.4**	**+1.5**
	comp=Z,3.8nm,0.7s,baz=151,slow=9.0						
VNA3	**Neumayer Olymp**	**55.24**	**196**	⇑P	**P**	**00 31 47.9**	**+0.8**
	comp=Z,5.1nm,0.8s						
VNA1	**Neumayer--Stat**	**55.48**	**197**	⇑P	**P**	**00 31 50.1**	**+1.4**
	comp=Z,10nm,0.9s						
CMAR	**Chiang Mai Arr**	**71.91**	**333**	P	**P**	**00 33 36.8**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=181,slow=5.1,SNR=6.6						
	comp=Z,0.5nm,0.3s						
YKA	**Yellowknife Ar**	**145.35**	**45**	PKPbc	**PKPab**	**00 41 51.9**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=262,slow=3.6,SNR=11						

IDC ***23*** *00:22:51.8±4.2, 7.36S×129.32E, h52km±38km, mb4.0/11, mbtmp4.3/12, ML5.1/2, MS3.2/2, Error ellipse: s-maj=39.6km s-min=15.0km az=68.0*

DJA ***23*** *00:22:56.8±0.6, 8.5S±4.1×12.9E±1.1, h104km±28km, M4.6/11, mb4.6/5, mB5.5/2, MLv4.6/11, Mw(mB)5.0/2*

NEIC ***23*** *00:22:57.1±2.5, 7.52S±0.07×129.27E±0.05, h96km±10km, mb4.5/14, Error ellipse: s-maj=11.1km s-min=7.0km az=159.0*

ISC 23 00:22:55.3±0.5, 7.51S±0.05×129.31E±0.05, h79km, n83, σ1§62/85, mb4.4/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.02**	**104**	Pn	**Pn**	**00 23 30.9**	**+3.5**
SAUI				Sn	**Sn**	**00 23 53.8**	**+1.8**
SAUI	**Saumlaki**	**2.02**	**104**	P	**Pn**	**00 23 27.6**	**+0.1**
BNDI	**Bandanaira**	**3.02**	**11**	P	**Pn**	**00 23 43.8**	**+2.8**
NLAI	**Namlea**	**4.78**	**332**	P	**Pn**	**00 24 09.2**	**+4.3**
FAKI	**Fak Fak**	**5.42**	**33**	Pn	**Pn**	**00 24 14.5**	**+0.9**
FAKI				Sn	**Sn**	**00 25 15.2**	**+0.6**
FAKI	**Fak Fak**	**5.42**	**33**	P	**Pn**	**00 24 14.4**	**+0.9**
	76nm,0.7s,0.6nm						
SOEI	**Soe**	**5.47**	**246**		**Pn**	**00 24 15.7**	**+1.4**
SOEI				Sn	**Sn**	**00 25 16.5**	**+0.5**
SOEI	**Soe**	**5.47**	**246**	P	**Pn**	**00 24 15.7**	**+1.4**
SOEI	**Soe**	**5.47**	**246**	P	**Pn**	**00 24 16.7**	**+2.3**
	63nm,0.6s,1.0nm						
MTN	**Manton Dam**	**5.60**	**161**		**Pn**	**00 24 17.7**	**+1.7**
MTN					**Sn**	**00 25 18.8**	**-0.2**
MTN	**Manton Dam**	**5.60**	**161**	P	**Pn**	**00 24 18.1**	**+2.1**
KDU	**Kakadu**	**6.01**	**149**	P	**Pn**	**00 24 22.7**	**+1.0**
SANI	**Sanana**	**6.36**	**328**	P	**Pn**	**00 24 30.8**	**+4.4**
	40nm,1.2s,0.2nm						
SWI	**Sorong**	**6.88**	**16**	P	**Pn**	**00 24 34.4**	**+0.8**
KNRA	**Kununurra**	**8.14**	**184**		**Pn**	**00 24 51.2**	**+0.5**
KNRA				Sn	**Sn**	**00 26 19.6**	**-1.6**
KNRA	**Kununurra**	**8.14**	**184**	P	**Pn**	**00 24 51.4**	**+0.7**
FITZ	**Fitzroy Crossi**	**11.12**	**198**		**Pn**	**00 25 30.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**11.12**	**198**	P	**Pn**	**00 25 30.0**	**-1.4**
PLAI	**Plampang**	**11.50**	**263**	P	**Pn**	**00 25 38.4**	**+1.8**
WB0	**Warramunga Arr**	**13.14**	**158**		**Pn**	**00 25 56.0**	**-2.9**
WRAB	**Tennant Creek**	**13.28**	**159**		**Pn**	**00 25 58.3**	**-2.4**
WRA	**Warramunga Arr**	**13.29**	**159**		**Pn**	**00 25 56.6**	**-4.1**
WRA	**Warramunga Arr**	**13.29**	**159**	P	**Pn**	**00 25 58.2**	**-2.6**
	14nm,0.3s,baz=326,slow=14,SNR=143						
WRA				S	Sn	00 28 15.8	-11
	22nm,0.6s,baz=332,slow=24,SNR=12						
WB2	**Warramunga Arr**	**13.29**	**159**		**Pn**	**00 25 57.8**	**-3.0**
WR0	**Warramunga Arr**	**13.38**	**158**		**Pn**	**00 25 59.0**	**-3.0**
QIS	**Mount Isa**	**16.36**	**144**	P	**Pn**	**00 26 39.6**	**-0.6**
MBWA	**Marble Bar**	**16.43**	**213**	P	**P**	**00 26 42.2**	**-0.3**
MBWA				IAmb	IAmb	00 26 55.7	
	comp=Z,30nm,1.2s						
MBWA	**Marble Bar**	**16.43**	**213**	P	**P**	**00 26 42.7**	**+0.2**
AS31	**Alice Springs**	**16.66**	**165**		**Pn**	**00 26 43.3**	**-0.7**
AS31				IAmb	IAmb	00 26 47.7	
	comp=Z,12nm,0.4s						
ASAR	**Alice Springs**	**16.66**	**165**	P	**P**	**00 26 44.3**	**-0.8**
ASAR	**Alice Springs**	**16.66**	**165**	P	**Pn**	**00 26 43.4**	**-0.6**
	comp=Z,4.5nm,0.3s,baz=330,slow=8.5,SNR=71						
ASAR				S	Sn	00 29 35.2	-13
	comp=Z,6.7nm,0.6s,baz=343,slow=25,SNR=7.3						
	comp=Z,11nm,0.5s						
PSA00	**Pilbara Seismi**	**16.70**	**212**	P	**Pn**	**00 26 44.5**	**0.0**
PSA00				IAmb	IAmb	00 26 49.1	
	comp=Z,22nm,1.0s						
WRKA	**Warakurna**	**17.46**	**183**	P	**Pn**	**00 26 52.8**	**-1.0**
CTA	**Charters Tower**	**20.64**	**129**	P	**P**	**00 27 28.8**	**+0.2**
	comp=Z,5.6nm,0.6s,baz=298,slow=11,SNR=1.8						
	comp=Z,5.6nm,0.6s						
CTAO	**Charters Tower**	**20.64**	**129**	P	Pn	00 27 29.9	-1.7
GIRL	**Giralia**	**20.91**	**222**	P	**P**	**00 27 32.8**	**+1.3**
OOD	**Oodnadatta**	**21.06**	**164**	P	**P**	**00 27 34.4**	**+1.4**
MEEK	**Meekatharra**	**21.57**	**207**	P	**P**	**00 27 39.8**	**+1.2**
MULG	**Mulgathing**	**23.09**	**169**	P	**P**	**00 27 55.2**	**+0.8**
FORT	**Forrest**	**23.18**	**183**	P	**P**	**00 27 55.4**	**0.0**
FORT				IAmb	IAmb	00 27 57.4	
	comp=Z,28nm,0.7s						
FORT	**Forrest**	**23.18**	**183**	P	**P**	**00 27 56.0**	**+0.7**
QLP	**Quilpie**	**23.69**	**145**	P	**P**	**00 28 01.4**	**+1.4**
LCRK	**Leigh Creek**	**24.30**	**161**	P	**P**	**00 28 06.3**	**+0.9**
MORW	**Morawa**	**24.83**	**209**	P	**P**	**00 28 10.0**	**-0.2**
MORW				IAmb	IAmb	00 28 13.7	
	comp=Z,12nm,1.0s						
MORW	**Morawa**	**24.83**	**209**	P	**P**	**00 28 12.2**	**+1.9**
BLDU	**Ballidu**	**25.84**	**206**	P	**P**	**00 28 20.5**	**+1.0**
BBOO	**Buckleboo**	**25.94**	**167**	P	**P**	**00 28 20.6**	**+0.3**
BBOO				IAmb	IAmb	00 28 52.9	
	comp=Z,35nm,1.5s						
BBOO	**Buckleboo**	**25.94**	**167**	P	**P**	**00 28 21.4**	**+1.0**
STKA	**Stephens Creek**	**26.81**	**156**	P	**P**	**00 28 28.9**	**+0.7**
STKA	**Stephens Creek**	**26.81**	**156**	P	**P**	**00 28 29.3**	**+1.1**
STKA	**Stephens Creek**	**26.81**	**156**	P	**P**	**00 28 29.1**	**+0.8**
	comp=Z,2.2nm,0.3s,baz=320,slow=8.9,SNR=10						
	comp=Z,2.2nm,0.3s						
MUN	**Mundaring**	**27.24**	**205**	P	**P**	**00 28 32.9**	**+0.9**
HTT	**Hallett**	**27.29**	**162**	P	**P**	**00 28 34.0**	**+1.5**
NWAO	**Narrogin (SRO)**	**27.67**	**202**	P	**P**	**00 28 36.0**	**+0.1**
NWAO	**Narrogin (SRO)**	**27.67**	**202**	P	**P**	**00 28 37.2**	**+1.4**
NWAO	**Narrogin (SRO)**	**27.67**	**202**	P	**P**	**00 28 37.1**	**+1.3**
NWAO	**Narrogin (SRO)**	**27.67**	**202**	P	**P**	**00 28 36.5**	**+0.6**
	comp=Z,5.5nm,0.3s,baz=38,slow=6.9,SNR=14						
	comp=Z,5.5nm,0.3s						
CMSA	**Cobar Meteorol**	**28.38**	**150**	P	**P**	**00 28 43.7**	**+1.5**
ARMA	**Armidale**	**30.93**	**140**		**P**	**00 29 05.3**	**+0.3**
ARMA				IAmb	IAmb	00 29 20.3	
	comp=Z,14nm,1.5s						
CAN	**Canberra**	**33.05**	**150**	P	**P**	**00 29 25.8**	**+2.4**
TOO	**Toolangi**	**33.34**	**156**	P	**P**	**00 29 28.5**	**+2.7**
DZM	**Mont Dzumac**	**38.58**	**116**	P	**P**	**00 30 11.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**39.54**	**311**	P	**P**	**00 30 18.1**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=146,slow=7.0,SNR=5.2						
	comp=Z,0.9nm,0.6s						
KSRS	**Korea Array**	**44.75**	**358**	LR	LR	00 47 15.6	
	comp=Z,22nm,21.4s,baz=165,slow=33						
RPZ	**Rata Peaks**	**51.25**	**142**	LR	LR	00 54 56.3	
	comp=Z,32nm,18.1s,baz=264,slow=38						
TAPN	**Taplejung**	**53.12**	**312**	*eP*	**P**	**00 32 04.8**	**-0.7**
	comp=Z,3.8nm,0.3s						
RAMN	**Ramite**	**53.72**	**311**	*eP*	**P**	**00 32 08.9**	**-0.9**
	comp=Z,12nm,0.6s						
JIRN	**Jiri**	**54.41**	**312**	*eP*	**P**	**00 32 13.9**	**-1.1**
	comp=Z,3.3nm,0.3s						
GUN	**Gumba**	**54.78**	**312**	*eP*	**P**	**00 32 15.9**	**-1.8**
	comp=Z,6.2nm,0.4s						
PKI	**Pulchoki**	**54.94**	**311**	*eP*	**P**	**00 32 16.9**	**-1.9**
GKN	**Gorkha**	**55.75**	**311**	*eP*	**P**	**00 32 22.9**	**-1.5**
	comp=Z,6.7nm,0.3s						
SONM	**Songino Array**	**58.71**	**342**	P	**P**	**00 32 43.8**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=154,slow=6.7,SNR=4.0						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**68.28**	**327**	P	**P**	**00 33 46.4**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=117,slow=8.1,SNR=16						
	comp=Z,0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**71.74**	**334**	P	**P**	**00 34 06.0**	**-2.8**
	comp=Z,0.5nm,0.5s,baz=147,slow=6.8,SNR=3.7						
	comp=Z,0.5nm,0.5s						
VNDA	**Vanda**	**72.03**	**173**	P	**P**	**00 34 10.7**	**+0.5**
VNDA	**Vanda**	**72.03**	**173**	P	**P**	**00 34 10.8**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=316,slow=6.8,SNR=6.8						
	comp=Z,2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**72.59**	**329**	P	**P**	**00 34 13.7**	**-0.3**
	comp=Z,2.5nm,0.2s,baz=139,slow=5.5,SNR=8.1						
	comp=Z,2.2nm,0.2s						
QSPA	**South Pole Qui**	**82.47**	**180**	P	**P**	**00 35 08.8**	**-0.2**
QSPA				IAmb	IAmb	00 35 09.8	
	comp=Z,4.5nm,0.6s						
QSPA	**South Pole Qui**	**82.47**	**180**	P	**P**	**00 35 09.2**	**+0.2**
	comp=Z,3.1nm,0.5s,baz=322,slow=1.2,SNR=9.3						
	comp=Z,3.1nm,0.5s						
SNAA	**Sanae**	**95.01**	**194**	P	**P**	**00 36 09.1**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=200,slow=12,SNR=2.4						
	comp=Z,1.3nm,0.7s						
TXAR	**Lajitas Array**	**125.77**	**59**	PKP	**PKPdf**	**00 41 48.2**	**-0.5**
	comp=Z,0.1nm,0.7s,baz=243,slow=0.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**128.24**	**281**	PKP	**PKPdf**	**00 41 52.4**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=48,slow=3.4,SNR=4.6						
CPUP	**Villa Florida**	**145.75**	**169**	PKPbc	**PKPbc**	**00 42 25.9**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=105,slow=3.1,SNR=5.8						

IDC ***23*** *00:24:53.7±0.9, 49.75S×125.85E, h0km, mb4.3/5, mbtmp4.3/6, ML1.9/1, MS3.1/1, Error ellipse: s-maj=54.8km s-min=19.7km az=88.0*

ISC 23 00:24:55.1±0.9, 49.7S±0.1×126.0E±0.4, h10km, n16, σ0§54/13, mb4.5/8, 1C-4D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**17.19**	**325**	T	T	00 46 15.6	
	baz=153,slow=76,SNR=36						
H01W2	**Cape Leeuwin H**	**17.19**	**325**	T	T	00 46 15.6	
	baz=153,slow=76,SNR=36						
H01W3	**Cape Leeuwin H**	**17.20**	**325**	T	T	00 46 15.6	
	baz=153,slow=76,SNR=33						
NWAO	**Narrogin (SRO)**	**18.01**	**335**	P	**P**	**00 29 06.2**	**+0.4**
	0.2nm,0.3s,baz=225,slow=1.4,SNR=1.8						
NWAO				LR	LR	00 33 56.0	
	comp=Z,56nm,19.1s,baz=114,slow=30						
	6.9nm,0.8s						
ASAR	**Alice Springs**	**26.72**	**16**	P	**P**	**00 30 34.4**	**-0.2**
	5.6nm,0.5s,baz=190,slow=8.4,SNR=2.0						
	5.6nm,0.5s						
VNDA	**Vanda**	**31.02**	**166**	P	**P**	**00 31 12.7**	**+0.3**
	2.3nm,0.8s,baz=326,slow=8.7,SNR=5.1						
	2.3nm,0.8s						
QSPA	**South Pole Qui**	**40.41**	**180**	P	**P**	**00 32 32.5**	**-0.6**
	3.8nm,1.1s,baz=332,slow=4.2,SNR=4.6						
	3.8nm,1.1s						
TROLL	**Troll, Antarti**	**52.29**	**199**	⇓P	**P**	**00 34 06.6**	**+0.3**
	comp=Z,213nm,0.8s						
SNAA	**Sanae**	**53.65**	**198**	⇓P	**P**	**00 34 16.8**	**+0.6**
	comp=Z,166nm,0.8s						
SNAA	**Sanae**	**53.65**	**198**	P	**P**	**00 34 15.9**	**-0.3**
	comp=Z,7.7nm,0.8s,baz=154,slow=9.4,SNR=19						
	comp=Z,7.7nm,0.8s						
VNA2	**Neumayer--Watz**	**55.13**	**197**	⇑P	**P**	**00 34 27.4**	**+0.5**
	comp=Z,4.4nm,0.8s,baz=150,slow=8.0						
VNA3	**Neumayer Olymp**	**55.28**	**196**	⇓P	**P**	**00 34 27.7**	**-0.4**
	comp=Z,4.4nm,0.7s						
VNA1	**Neumayer--Stat**	**55.52**	**197**	⇓P	**P**	**00 34 30.5**	**+0.8**
	comp=Z,9.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**71.99**	**333**	P	**P**	**00 36 18.8**	**0.0**
	comp=Z,0.6nm,0.3s,baz=174,slow=5.2,SNR=6.0						
	comp=Z,0.6nm,0.3s						
YKA	**Yellowknife Ar**	**145.24**	**45**	PKPbc	**PKPab**	**00 44 31.9**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=266,slow=3.5,SNR=18						
EKA	**Eskdalemuir Ar**	**149.17**	**300**	PKPbc	**PKPbc**	**00 44 41.9**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=90,slow=1.1,SNR=4.1						

IDC 23 00:38:48.0±20.0, 17.15S×178.43W, h478km±186km, mb3.6/3, mbtmp4.5/3, Error ellipse: s-maj=141.4km s-min=85.5km az=105.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.98**	**240**	P	P	00 45 32.2	0.0
	2.7nm,0.5s,baz=75,slow=9.8,SNR=5.2						
	2.7nm,0.5s						
WRA	**Warramunga Arr**	**44.75**	**259**	P	P	00 46 17.9	-0.4
	1.4nm,0.4s,baz=92,slow=7.8,SNR=69						
WRA				PcP	PcP	00 47 49.6	-1.0
	0.2nm,0.4s,baz=93,slow=3.4,SNR=1.8						
	1.4nm,0.4s						
ASAR	**Alice Springs**	**44.98**	**254**	P	P	00 46 20.1	+0.1
	14nm,0.5s,baz=88,slow=8.3,SNR=256						
ASAR				PcP	pP	00 47 50.1	+0.3
	0.4nm,0.4s,baz=97,slow=4.2,SNR=3.2						
	14nm,0.5s						
BRTR	**Keskin Array B**	**144.24**	**316**	PKP	PKPdf	00 57 30.0	+0.6
	0.5nm,0.5s,baz=84,slow=2.0,SNR=2.3						
MMAI	**Mount Meron Ar**	**145.71**	**304**	PKPbc	PKPbc	00 57 34.0	+0.6
	0.7nm,0.5s,baz=79,slow=5.5,SNR=4.5						
GERES	**GERESS Array B**	**146.88**	**345**	PKPbc	PKPdf	00 57 34.1	+0.6
	0.6nm,0.6s,baz=17,slow=4.1,SNR=2.2						

UPA ***23*** *01:24:21.7±0.6, 8.67N×83.20W, h37km±8km, MW3.0*

CATAC ***23*** *01:24:23.9±0.7, 8.65N×83.12W, h28km±6km, ML2.5*

ISC 23 01:24:23.5±1.1, 8.62N±0.05×83.14W±0.04, h30km±10km, n15, σ0§90/22, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDITO	**Canoas**	**0.27**	**101**	*eP*	**Pb**	**01 24 30.1**	**-0.4**
CDITO				*i* Sg	**Sb**	**01 24 35.9**	**+0.6**
CDITO	**Canoas**	**0.27**	**101**	*i* P	**Pn**	**01 24 32.8**	**+1.3**
CDITO				IAML		01 24 39.5	
	comp=Z,1μm,1.0s						
POTG	**Potrero Grande**	**0.43**	**3**	*i* P	**Pn**	**01 24 33.5**	**-0.2**
POTG				*i* S	**Sn**	**01 24 42.1**	**+1.5**
POTG				IAML		01 24 43.0	
	comp=Z,890nm,1.0s						
CTCR	**Cotoan**	**0.47**	**55**	*i* P	**Pb**	**01 24 33.0**	**-0.5**
BRU2	**Volcan**	**0.48**	**69**	*eP*	**Pb**	**01 24 32.9**	**-0.8**
BRU2				*eS*	**Sn**	**01 24 41.3**	**-0.7**
BRU2	**Volcan**	**0.48**	**69**	*i* P	**Pn**	**01 24 35.6**	**+1.1**
BRU2				*i* S	**Sn**	**01 24 41.5**	**-0.5**
BRU2				IAML		01 24 42.0	
	comp=Z,230nm,1.0s						
PTPM	**Petroterminale**	**0.49**	**148**	*eP*	**Pb**	**01 24 32.6**	**-1.2**
PTPM				*eS*	**Sb**	**01 24 41.7**	**+0.9**
BC3P	**Paso Ancho**	**0.56**	**70**	*eP*	**Pb**	**01 24 33.8**	**-1.2**
BCO2	**Palmira**	**0.61**	**81**	*eP*	**Pb**	**01 24 34.6**	**-1.3**
BCO2				*eS*	**Sb**	**01 24 44.6**	**+0.2**
OCHAL	**Ojochal**	**0.68**	**314**	*i* P	**Pb**	**01 24 36.9**	**-0.1**
OCHAL				IAML		01 24 37.1	
	comp=Z,6.7nm,1.0s						
CDM	**Cerro de Muert**	**1.11**	**327**	*i* P	**Pn**	**01 24 43.1**	**-0.4**
CDM				*i* S	**Sb**	**01 24 59.2**	**+0.6**
CDM				IAML		01 24 59.9	
	comp=Z,71nm,1.0s						
RIMA	**Rio Macho**	**1.34**	**328**	*i* P	**Pn**	**01 24 46.3**	**-0.1**
RIMA				IAML		01 24 47.8	
	comp=Z,110nm,1.0s						
LCR2	**La Lucha 2**	**1.40**	**323**	*i* P	**Pn**	**01 24 48.4**	**+1.2**
LCR2				IAML		01 25 09.8	
	comp=Z,58nm,1.0s						
JACO	**JACO, Garabito**	**1.82**	**305**	*i* P	**Pn**	**01 24 52.4**	**-0.4**
SOCE	**Pocosol**	**2.27**	**320**	*i* P	**Pn**	**01 24 58.9**	**-0.2**
SOCE				IAML		01 25 07.5	
	comp=Z,130nm,1.0s						

IDC ***23*** *01:32:34.3±2.1, 6.85S×128.60E, h0km, mb3.5/2, mbtmp3.7/4, ML3.8/2, Error ellipse: s-maj=199.9km s-min=30.1km az=67.0*

NOU ***23*** *01:32:37.9, 6.68S×127.72E, h88km, mb4.0/8, Banda Sea*

ISC 23 01:32:46.3±1.3, 7.4S±0.2×127.9E±0.2, h100km, n12, σ1§52/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**6.27**	**150**	P	**Pn**	**01 34 18.2**	**+1.9**
KDU	**Kakadu**	**6.92**	**140**	P	**Pn**	**01 34 25.8**	**+0.7**
KNRA	**Kununurra**	**8.26**	**174**	P	**Pn**	**01 34 44.4**	**+1.1**
GENI	**Genyem**	**13.13**	**69**	P	Pn	01 35 40.0	-9.0
WRA	**Warramunga Arr**	**13.94**	**154**	Pn	**Pn**	**01 35 56.0**	**-3.5**
	0.4nm,0.3s,baz=331,slow=14,SNR=8.0						
WRA				Sn	Sn	01 38 20.8	-12
	2.0nm,0.3s,baz=332,slow=23,SNR=15						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**17.16**	**161**	P	**Pn**	**01 36 40.0**	**0.0**
	0.6nm,0.3s,baz=341,slow=11,SNR=45						
ASAR				S	Sn	01 39 39.3	-12
	0.6nm,0.4s,baz=50,slow=28,SNR=3.7						
	3.6nm,0.6s						
AS01	**Alice Springs**	**17.18**	**161**	P	**P**	**01 36 40.6**	**+0.4**
	6.6nm,0.9s						
QIS	**Mount Isa**	**17.30**	**140**	P	**P**	**01 36 41.4**	**-0.2**
WRKA	**Warakurna**	**17.53**	**179**	P	**Pn**	**01 36 45.4**	**+0.9**
OOD	**Oodnadatta**	**21.58**	**161**	P	**P**	**01 37 27.9**	**0.0**
MKAR	**Makanchi Array**	**67.44**	**328**	P	**P**	**01 43 31.3**	**0.0**
	0.2nm,0.4s,baz=119,slow=7.1,SNR=3.9						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**71.78**	**329**	P	**P**	**01 43 57.9**	**+0.1**
	0.3nm,0.7s,baz=134,slow=5.2,SNR=2.5						
	0.3nm,0.7s						

IDC 23 01:38:05.5±733.0, 31.29N×133.39E, h0km, Error ellipse: s-maj=300.4km s-min=155.1km az=51.0, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I30JP	**ISUMI INFRASON**	**7.04**	**54**	I	I	02 18 30.0	
	baz=235,slow=284,SNR=1.6						
I45RU	**USSURIYSK INFR**	**12.

comp=E,668nm,0.7s
AKUT IAML 01 51 27.7
comp=N,696nm,4.4s
PN7A Pavlof North-7 1.81 15 Pb 01 50 29.9 0.0
AHB Akutan Harbor 1.81 285 Pn 01 50 28.4 +0.5
PS1A Pavlof South-1 1.84 20 Sn 01 50 51.5 +0.1
AKBBA Akutan Broad B 1.88 284 Pn 01 50 29.0 +0.3
AKV Akutan Volcano 1.90 284 Pn 01 50 29.5 +0.4
ZRO Akutan Zero 1.90 283 Pn 01 50 29.4 +0.4
AKLV Akutan Long Va 1.90 286 Pn 01 50 29.6 +0.5
AKGG Akutan Green G 1.93 286 Pn 01 50 29.7 +0.3
LVA Lava Point 1.95 285 Pn 01 50 30.3 +0.6
AKRB Akutan Reef Bi 1.96 284 Pn 01 50 30.9 +1.1
SDPT Sand Point 2.15 39 Pn 01 50 33.3 +0.8
SDPT Sn **Sn 01 50 60.0 +1.0**
SDPT IAML 01 51 18.2
comp=E,845nm,0.9s
SDPT IAML 01 51 19.7
comp=N,651nm,1.2s
UNV Unalaska Valle 2.18 275 Pn 01 50 32.5 -0.3
CNBA Chernabura Isl 2.21 58 Pn Pn 01 50 33.2 -0.1
MNAT Makushin Natee 2.29 276 Pn 01 50 34.8 +0.4
MTBL Makushin Table 2.29 278 Pn 01 50 35.0 +0.5
MSW Makushin Switc 2.35 277 Pn 01 50 35.6 +0.4
MGOD Makushin Gods 2.40 274 Pn 01 50 36.1 +0.2
MAPS Pakushin South 2.44 274 Pn 01 50 37.0 +0.5
OKFG Magazine Ridge 3.04 267 Pn 01 50 44.8 +0.1
OKER Okmok East Rim 3.12 268 Pn 01 50 46.2 +0.3
OKCE Okmok Cone E 3.19 267 Pn 01 50 46.7 -0.1
VNFG Fog Glacier, M 3.21 35 Pn 01 50 48.6 +1.5
OHAK Old Harbor 6.48 53 Pn Pn 01 51 32.3 +0.5
ATKA Atka Island 7.03 262 Pn Pn 01 51 39.6 +0.2
KDAK Kodiak Island 7.09 51 Pn Pn 01 51 40.6 +0.4
KDAK Kodiak Island 7.09 51 Pn Pn 01 51 40.2 0.0
comp=N,0.7nm,0.3s,baz=216,slow=8.7,SNR=1.5
KDAK Sn **Sn 01 52 56.5 -3.9**
comp=N,1.2nm,0.3s,baz=328,slow=24,SNR=7.7
comp=N,12nm,0.8s
M14K Bethel 7.09 3 Pn Pn 01 51 41.6 +1.4
M16K Timber Creek 7.64 14 Pn Pn 01 51 49.9 +2.1
CNPM China Poot 8.66 43 Pn Pn 01 52 03.5 +1.7
KIWB Kanaga Island 8.87 264 Pn Pn 01 52 06.4 +1.7
L18K Granite Mounta 9.15 18 Pn Pn 01 52 09.8 +1.4
TTA Tatalina 9.93 18 Pn Pn 01 52 19.5 +0.4
SUA Susitna One 10.12 35 Pn Pn 01 52 19.8 -2.1
KNK Knik Glacier 10.91 39 Pn Pn 01 52 32.3 -0.3
KLU Klutina 11.94 42 Pn 01 52 46.4 -0.3
N25K Chitina, Valde 12.54 44 Pn Pn 01 52 55.5 +0.6
VRDI Verde Repeater 12.84 46 Pn Pn 01 52 59.0 0.0
H21K Melozitna Rive 13.00 19 Pn Pn 01 53 02.9 +1.8
IMAR Indian Mountai 13.12 17 Pn Pn 01 53 04.0 +1.2
I23K Minto, Yukon-K 13.33 25 Pn Pn 01 53 06.9 +1.3
M26K Nabesna, AK 13.60 42 Pn Pn 01 53 09.6 +0.3
ILAR Eielson Array 13.73 30 Pn Pn 01 53 09.3 -1.7
comp=N,0.1nm,0.3s,baz=221,slow=14,SNR=1.9
ILAR LR LR 01 58 27.3
comp=N,91nm,18.2s,baz=244,slow=37
comp=N,0.3nm,0.5s
SHEM Shemya Is, Ala 13.85 275 LR LR 01 58 11.2
comp=N,144nm,19.9s,baz=128,slow=36
M27K Edge Creek, AK 14.03 43 Pn Pn 01 53 14.8 -0.4
J25K Salcha River, 14.08 32 Pn Pn 01 53 15.2 -0.7
SCRK Sand Creek 14.12 36 Pn 01 53 14.9 -1.6
F21K Alatna River 14.30 15 Pn Pn 01 53 20.7 +1.8
BCAR Beaver Creek A 14.42 41 Pn Pn 01 53 19.7 -1.3
G23K Bananza Creek 14.48 21 Pn Pn 01 53 22.1 +0.8
J26L Joseph Creek 14.60 35 Pn Pn 01 53 22.5 -0.5
HYT Haines Junctio 15.38 52 Pn Pn 01 53 34.8 +1.3
HYT IAmb IAmb 01 53 53.7
comp=Z,6.8nm,1.0s
M29M Somme Creek 15.50 46 Pn Pn 01 53 34.9 -0.2
M29M IAmb IAmb 01 53 54.1
comp=Z,10nm,0.8s
DAWY Dawson 15.85 40 Pn 01 53 39.1 -0.4
E24K Your Creek 15.95 20 Pn 01 53 41.4 +0.6
E24K IAmb IAmb 01 53 47.0
comp=Z,9.1nm,0.7s
TOLK Toolik Lake Re 16.24 17 Pn 01 53 45.6 +1.2
K29M Barlow Dome 16.47 42 Pn Pn 01 53 45.2 -2.4
D24K Happy Valley 16.82 17 Pn Pn 01 53 50.2 -1.6
D24K IAmb IAmb 01 54 11.5
comp=Z,18nm,1.4s
J30M Hart River 17.27 40 Pn Pn 01 53 55.9 -1.7
I30M Mount Dempster 17.55 39 Pn Pn 01 54 00.8 -0.2
I30M IAmb IAmb 01 54 20.6
comp=Z,9.7nm,1.1s
FARO Faro, Yukon 17.68 49 Pn Pn 01 54 02.0 -0.6
F28M Old Crow 17.75 29 Pn Pn 01 54 02.5 -1.0
EPYK Eagle Plains 18.01 35 Pn Pn 01 54 04.9 -1.8
H31M Peel River 18.57 38 P P 01 54 12.9 -0.4
H31M IAmb IAmb 01 54 40.2
comp=Z,10nm,1.1s
F31M Tsiigehtchic 19.57 34 P P 01 54 22.7 -1.4
INK Inuvik 20.09 32 P P 01 54 28.8 -1.0
INK IAmb IAmb 01 54 47.7
comp=Z,8.4nm,1.4s
INK Inuvik 20.09 32 P P 01 54 29.1 -0.7
comp=Z,1.2nm,0.6s,baz=221,slow=11,SNR=8.8
INK LR LR 02 03 12.5
comp=Z,148nm,20.3s,baz=178,slow=40
comp=Z,1.2nm,0.6s
BBB Bella Bella 20.86 80 LR LR 02 00 53.8
comp=Z,84nm,18.4s,baz=225,slow=31
PETK Petropavlovsk- 23.33 285 P P 01 55 03.9 -0.6
PETK Petropavlovsk- 23.33 285 P P 01 55 03.5 -1.0
comp=Z,3.7nm,0.5s,baz=79,slow=13,SNR=13
PETK LR LR 02 03 47.1
comp=Z,83nm,20.5s,baz=82,slow=36
comp=Z,3.7nm,0.5s
A36M Sachs Harbour 24.40 27 P P 01 55 13.1 -1.4
SEY Seymchan 24.77 310 P P 01 55 17.4 -0.5
comp=Z,2.3nm,0.9s,baz=113,slow=11,SNR=4.3
comp=Z,2.3nm,0.9s
YKA Yellowknife Ar 26.36 51 P P 01 55 34.8 +2.4
comp=Z,0.4nm,0.6s,baz=267,slow=9.0,SNR=6.6
comp=Z,0.4nm,0.6s
H04D Lebanon 27.48 93 P P 01 55 43.8 +1.3
NEW Newport 28.88 82 LR LR 02 04 57.4
comp=Z,31nm,20.5s,baz=20,slow=31
YBH Yreka Blue Hor 29.13 98 LR LR 02 05 18.7
comp=Z,55nm,18.1s,baz=335,slow=32
EMB Emerald Bay 32.42 99 P P 01 56 27.1 +0.4
NVAR Mina Array Bea 33.84 98 P P 01 56 40.1 +1.1
NVAR Mina Array Bea 33.84 98 P P 01 56 41.4 +2.4
comp=Z,2.5nm,0.8s,baz=298,slow=8.7,SNR=14
comp=Z,2.5nm,0.8s
ELK Elko 34.17 93 P P 01 56 41.5 -0.3
ELK IAmb IAmb 01 56 45.3
comp=Z,3.6nm,1.1s
R11B Troy Canyon, C 35.50 96 P P 01 56 54.9 +1.6
R11B IAmb IAmb 01 56 56.6
comp=Z,2.9nm,0.9s
DUG Dugway, Tooele 35.95 91 P P 01 56 57.7 +0.6
DUG IAmb IAmb 01 57 00.5
comp=Z,5.0nm,1.0s
TPNV Topopah Spring 36.04 98 P P 01 56 58.7 +0.8
TPNV IAmb IAmb 01 57 01.5
comp=Z,5.5nm,1.1s
PDAR Pinedale Array 36.31 85 P P 01 57 01.6 +1.3
comp=Z,0.1nm,0.5s,baz=298,slow=1.9,SNR=2.5
comp=Z,0.1nm,0.5s
CCUT Cedar City 37.34 95 P P 01 57 08.5 -0.6
LCMT Little Creek M 37.77 96 P P 01 57 14.0 +1.4
LCMT IAmb IAmb 01 57 16.3
comp=Z,4.2nm,1.1s
PFO Pinyon Flats O 38.25 103 LR LR 02 10 10.9
comp=Z,74nm,19.1s,baz=276,slow=32
HMU Henry Mountain 38.64 92 P P 01 57 20.0 -0.1
HMU IAmb IAmb 01 57 23.3
comp=Z,7.3nm,1.0s
O20A White River Ci 38.71 88 P P 01 57 20.6 0.0
O20A IAmb IAmb 01 57 41.2
comp=Z,7.8nm,1.1s
KLR Kul'dur 39.71 291 P P 01 57 26.7 -1.8
comp=Z,1.7nm,0.7s,baz=54,slow=10,SNR=6.3
KLR LR LR 02 14 16.8
comp=Z,40nm,19.8s,baz=94,slow=37
comp=Z,1.7nm,0.7s
WUAZ Wupatki 39.89 96 P P 01 57 31.2 +0.8
WUAZ IAmb IAmb 01 57 33.8
comp=Z,4.8nm,0.9s
ULM Lac du Bonnet 40.02 67 P P 01 57 31.1 -0.1
comp=Z,1.9nm,0.8s,baz=297,slow=6.4,SNR=3.5
comp=Z,1.9nm,0.8s
H11N2 WAKE ISLAND Hy 41.09 226 T T 02 41 37.3
baz=26,slow=76,SNR=44
H11N3 WAKE ISLAND Hy 41.10 226 T T 02 41 36.3
baz=26,slow=76,SNR=56
H11N1 WAKE ISLAND Hy 41.11 226 T T 02 41 35.7
baz=26,slow=76,SNR=44
H11S1 WAKE ISLAND Hy 42.26 226 T T 02 43 05.3
baz=26,slow=76,SNR=61
H11S2 WAKE ISLAND Hy 42.28 226 T T 02 43 04.9
baz=26,slow=76,SNR=42
H11S3 WAKE ISLAND Hy 42.28 226 T T 02 43 05.6
baz=26,slow=76,SNR=56
USRK Ussuriysk Ar. 42.43 285 LR LR 02 17 06.3
comp=Z,35nm,18.9s,baz=169,slow=39
MJAR Matsushiro Arr 43.65 272 P P 01 57 59.8 -1.2
comp=Z,1.7nm,0.8s,baz=19,slow=3.0,SNR=4.2
MJAR LR LR 02 14 19.3
comp=Z,39nm,21.4s,baz=78,slow=34
comp=Z,1.7nm,0.8s
BNM Barren Site 43.65 93 P P 01 58 02.1 +0.8
FRB Frobisher Bay 45.55 38 LR LR 02 17 54.3
comp=Z,184nm,18.5s,baz=340,slow=37
DAG Danmarks Havn 47.83 10 *i* P **P 01 58 33.0 -0.5**
SPITS Spitsbergen Ar 48.39 0 P P 01 58 37.2 -0.6
comp=Z,2.3nm,0.6s,baz=46,slow=4.8,SNR=7.5
comp=Z,2.3nm,0.6s
TX31 Lajitas Ar. Si 48.85 95 P P 01 58 42.5 +0.4
TXAR Lajitas Array 48.85 95 P P 01 58 43.7 +1.6
comp=Z,1.4nm,0.7s,baz=301,slow=5.5,SNR=20
comp=Z,1.4nm,0.7s
KSRS Korea Array 49.11 280 LR LR 02 19 23.3
comp=Z,16nm,19.6s,baz=65,slow=36
SONM Songino Array 53.93 304 P P 01 59 18.7 -1.3
SONM IAmb IAmb 01 59 21.1
comp=Z,4.2nm,1.2s
SONM Songino Array 53.93 304 P P 01 59 20.1 +0.1
comp=Z,1.4nm,0.9s,baz=44,slow=5.8,SNR=7.8
comp=Z,1.4nm,0.9s
ARCES ARCESS Array B 56.93 357 P P 01 59 40.4 -0.6
comp=Z,5.0nm,1.0s,baz=5.9,slow=6.2,SNR=6.2
comp=Z,5.0nm,1.0s
ZALV Zalesovo Beam 59.01 320 P P 01 59 54.1 -1.7
comp=Z,0.5nm,0.3s,baz=32,slow=7.5,SNR=2.9
comp=Z,0.5nm,0.3s
KURK Kurchatov 63.90 322 P P 02 00 29.0 +0.1
KURBB Kurchatov Arra 64.01 322 P P 02 00 29.6 0.0
comp=Z,3.5nm,0.9s,baz=32,slow=6.8,SNR=17
comp=Z,3.5nm,0.9s
BVAR Borovoye Array 64.81 328 P P 02 00 35.1 +0.3
comp=Z,1.7nm,0.6s,baz=53,slow=5.7,SNR=7.4
comp=Z,1.7nm,0.6s
FINES FINESS Array B 64.99 355 P P 02 00 35.5 -0.4
comp=Z,0.9nm,0.5s,baz=12,slow=7.6,SNR=11
comp=Z,0.9nm,0.5s
KIRV Kirov 65.07 342 LR LR 02 34 22.0
comp=Z,34nm,19.2s,baz=39,slow=41
MK31 Makanchi Array 65.65 317 P P 02 00 40.5 +0.1
MK31 IAmb IAmb 02 00 40.8
comp=Z,1.3nm,1.0s
MKAR Makanchi Array 65.65 317 P P 02 00 39.8 -0.7
comp=Z,0.5nm,0.5s,baz=38,slow=5.3,SNR=6.4
comp=Z,0.5nm,0.5s
MAKZ Makanchi 65.77 317 P P 02 00 41.1 -0.1
HFS Hagfors 66.49 2 P P 02 00 45.8 +0.2
comp=Z,1.3nm,0.4s,baz=45,slow=4.4,SNR=13
comp=Z,1.3nm,0.4s
EKA Eskdalemuir Ar 70.05 12 P P 02 01 08.5 +0.6
comp=Z,1.4nm,0.7s,baz=345,slow=4.4,SNR=2.5
comp=Z,1.4nm,0.7s
ABKAR Akbulak array 71.25 332 P P 02 01 16.1 +0.7
AAK Ala-Archa 72.20 319 P P 02 01 21.4 0.0
AAK Ala-Archa 72.20 319 LR LR 02 36 16.7
comp=Z,43nm,20.2s,baz=34,slow=39
KK31 Karatay Array 73.30 322 P P 02 01 27.7 -0.1
KKAR Karatay Array 73.30 322 P P 02 01 28.0 +0.3
AKASG Malin Array Be 75.48 352 P P 02 01 39.8 -0.4
comp=Z,0.5nm,0.3s,baz=11,slow=5.9,SNR=5.6
comp=Z,0.5nm,0.3s
GERES GERESS Array B 77.79 2 P P 02 01 53.0 -0.5
GERES GERESS Array B 77.79 2 P P 02 01 53.1 -0.3
comp=Z,1.0nm,0.7s,baz=318,slow=7.8,SNR=4.6
comp=Z,1.0nm,0.7s
CONA Conrad Observa 78.75 1 *e*pP pP 02 02 01.5 -1.2
comp=Z,1.1nm,0.6s
LESA Schwarzleotal 79.18 3 *e*P **P 02 02 02.7 +1.5**
comp=Z,1.1nm,0.5s
MOTA Moosalm 79.20 4 *e*P **P 02 02 02.2 +0.8**
comp=Z,1.4nm,0.7s
WATA Walderalm 79.23 4 *e*P **P 02 02 02.5 +1.0**
comp=Z,0.7nm,0.3s
WTTA Wattenberg 79.31 4 *i* P **P 02 02 03.5 +1.5**
comp=Z,1.5nm,0.5s
SQTA Sankt Quirin 79.33 4 *i* P **P 02 02 03.6 +1.5**
comp=Z,1.1nm,0.5s
FETA Feichten 79.51 4 *i* pP **P 02 02 04.8 +1.7**
comp=Z,0.9nm,0.7s
ABTA Abfaltersbach 79.86 3 *e*pP **P 02 02 06.8 +1.9**
comp=Z,0.7nm,0.5s
CMAR Chiang Mai Arr 80.08 288 P P 02 02 05.9 -0.5
CMAR Chiang Mai Arr 80.08 288 LR LR 02 41 50.7
comp=Z,14nm,18.0s,baz=130,slow=39
OBKA Obir 80.15 2 *i* P **P 02 02 07.9 +1.4**
comp=Z,3.3nm,0.5s
GEYT Alibeck 82.13 328 P P 02 02 17.8 +0.7
comp=Z,2.3nm,0.8s,baz=343,slow=4.6,SNR=3.7
comp=Z,2.3nm,0.8s
ESDC Sonseca Array 85.23 16 P P 02 02 33.1 +0.2
comp=Z,0.4nm,0.6s,baz=344,slow=5.0,SNR=6.7
comp=Z,0.4nm,0.6s
BRTR Keskin Array B 85.87 347 P P 02 02 37.1 +0.8
comp=Z,1.0nm,0.6s,baz=359,slow=2.1,SNR=6.2
comp=Z,1.0nm,0.6s

***IDC 23** 01:58:52.0±1.6,**18°.97S**×**176°.74W**,**h0**km,**mb3.8**/5,*
mbtmp3.8**/5,**Error ellipse: s-maj=50.9km s-min=33.3km
az=168.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.54**	**243**	P		P		02 06 24.8	-0.1
	1.1nm,0.5s,baz=101,slow=16,SNR=4.6								
	1.1nm,0.5s								
WRA	**Warramunga Arr**	**46.01**	**260**	P		P		02 07 17.4	-0.2
	0.3nm,0.3s,baz=96,slow=7.5,SNR=29								
	0.3nm,0.3s								
ASAR	**Alice Springs**	**46.05**	**255**	P		P		02 07 17.8	-0.1
	1.9nm,0.6s,baz=94,slow=8.2,SNR=35								
	1.9nm,0.6s								
QSPA	**South Pole Qui**	**71.09**	**180**	P		P		02 10 12.1	+0.1
	1.5nm,0.6s,baz=59,slow=5.9,SNR=6.2								
	1.5nm,0.6s								
PDAR	**Pinedale Array**	**87.03**	**43**	P		P		02 11 39.7	-0.1
	0.1nm,0.5s,baz=214,slow=3.1,SNR=1.4								
	0.1nm,0.5s								

*NEIC **23** 02:09:03.4±2.1,18°.92N±0°.04×67°.34W±0°.02,h10km±2km,*
ML3.1/16,Md2.9/8(RSPR),Error ellipse: s-maj=6.8km
s-min=3.0km az=194.0
*RSPR **23** 02:09:07.5,18°.76N×67°.37W,h11km,MD2.9/8*
*SDD **23** 02:09:07.7±1.6,18°.71N×67°.38W,h18km±30km,MD3.6,*
ML3.1,MW3.5
*OSPL **23** 02:09:08.5±1.5,18°.60N×67°.36W,h35km±25km,ML3.1*

ISC 23 02:09:06.9±1.2,18.73N±0°.05×67.36W±0°.02,h19km±2km,
n56,σ0°.98/78,20C-17D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.36**	**138**	*e*P		**Pg**		**02 09 15.1**	**+0.5**
AGPR	**Aguadilla, PR**	**0.36**	**138**	↑		**Pg**		**02 09 15.1**	**+0.5**
AGPR						**Sb**		**02 09 20.8**	**+0.7**
AGPR	**Aguadilla, PR**	**0.36**	**138**	*e*Pg		**Pg**		**02 09 15.0**	**+0.5**
AGPR				↓*e*Sg		**Sb**		**02 09 20.7**	**+0.7**
AGPR					IAML			02 09 21.2	
	comp=N,5μm,0.1s								
AGPR					IAML			02 09 21.2	
	comp=E,5μm,0.1s								
AGPR	**Aguadilla, PR**	**0.36**	**138**	*i* P		**Pg**		**02 09 15.0**	**+0.5**
AGPR				*e*S		**Sb**		**02 09 20.6**	**+0.5**
AGPR					IAML			02 09 20.7	
	comp=Z,2μm,0.3s								
IDE	**Isla Desecheo**	**0.36**	**197**	*e*P		**Pg**		**02 09 14.9**	**+0.3**
IDE	**Isla Desecheo**	**0.36**	**197**	*e*S		**Sb**		**02 09 21.2**	**+1.0**
IDE	**Isla Desecheo**	**0.36**	**197**			**Pg**		**02 09 14.9**	**+0.3**
IDE						**Sb**		**02 09 21.2**	**+1.0**
PRSN	**Puerto Rico Se**	**0.55**	**158**	↑*e*P		**Pg**		**02 09 18.0**	**-0.1**
PRSN	**Puerto Rico Se**	**0.55**	**158**	*e*S		**Sb**		**02 09 26.2**	**+0.7**
PRSN	**Puerto Rico Se**	**0.55**	**158**			**Pg**		**02 09 18.0**	**-0.1**
PRSN						**Sb**		**02 09 26.2**	**+0.7**
LSP	**Las Mesas**	**0.61**	**155**	↑*e*P		**Pb**		**02 09 19.0**	**0.0**
LSP	**Las Mesas**	**0.61**	**155**	*e*S		**Sg**		**02 09 28.4**	**+0.9**
LSP	**Las Mesas**	**0.61**	**155**			**Pb**		**02 09 19.0**	**0.0**
LSP						**Sg**		**02 09 28.4**	**+0.9**
AOPR	**Arecibo Observ**	**0.69**	**124**	↑*e*P		**Pb**		**02 09 19.9**	**-0.5**
AOPR	**Arecibo Observ**	**0.69**	**124**	*e*S		**Sb**		**02 09 29.8**	**+0.2**
AOPR	**Arecibo Observ**	**0.69**	**124**			**Pb**		**02 09 19.9**	**-0.5**
AOPR						**Sb**		**02 09 29.8**	**+0.2**
AOPR	**Arecibo Observ**	**0.69**	**124**	↑*e*Pg		**Pb**		**02 09 19.8**	**-0.7**
AOPR				↑*e*Sg		**Sb**		**02 09 29.6**	**0.0**
AOPR					IAML			02 09 35.7	
	comp=N,707nm,0.2s								
AOPR					IAML			02 09 42.4	
	comp=E,998nm,0.2s								
CRPR	**Cabo Rojo, PR**	**0.76**	**162**	↑*e*P		**Pb**		**02 09 21.3**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.76**	**162**	*e*S		**Sg**		**02 09 32.2**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.76**	**162**			**Pb**		**02 09 21.3**	**-0.3**
CRPR						**Sg**		**02 09 32.2**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.76**	**162**		IAML			02 09 38.6	
	comp=N,402nm,0.2s								
CRPR	**Cabo Rojo, PR**	**0.76**	**162**	↑*e*Pg		**Pb**		**02 09 21.0**	**-0.6**
CRPR				↓*e*Sg		**Sb**		**02 09 31.1**	**-0.5**
CRPR					IAML			02 09 38.5	
	comp=N,569nm,0.2s								
CRPR					IAML			02 09 39.1	
	comp=E,372nm,0.1s								
CRPR	**Cabo Rojo, PR**	**0.76**	**162**	*i* P		**Pb**		**02 09 21.0**	**-0.6**
CRPR				*e*S		**Sb**		**02 09 28.0**	**-3.6**
CRPR					IAML			02 09 35.6	
	comp=Z,700nm,0.7s								
MLPR	**Magueyes Islan**	**0.82**	**158**	↓*e*P		**Pb**		**02 09 21.9**	**-0.7**
MLPR	**Magueyes Islan**	**0.82**	**158**	*e*S		**Sb**		**02 09 33.2**	**0.0**
MLPR	**Magueyes Islan**	**0.82**	**158**			**Pb**		**02 09 21.9**	**-0.7**
MLPR						**Sb**		**02 09 33.2**	**0.0**
MLPR	**Magueyes Islan**	**0.82**	**158**		IAML			02 09 37.9	
	comp=N,371nm,0.3s								
MLPR	**Magueyes Islan**	**0.82**	**158**	↑*e*Pg		**Pb**		**02 09 21.8**	**-0.7**
MLPR				↓*e*Sg		**Sb**		**02 09 32.0**	**-1.2**
MLPR					IAML			02 09 37.8	
	comp=N,292nm,0.1s								
MLPR					IAML			02 09 38.9	
	comp=E,305nm,0.3s								
GBPR	**Guanica, Bosqu**	**0.88**	**149**	↓*e*P		**Pb**		**02 09 23.1**	**-0.6**
GBPR	**Guanica, Bosqu**	**0.88**	**149**	*e*S		**Sb**		**02 09 35.6**	**+0.5**
GBPR	**Guanica, Bosqu**	**0.88**	**149**			**Pb**		**02 09 23.1**	**-0.6**
GBPR						**Sb**		**02 09 35.6**	**+0.5**
PCDR	**Punta Cana, DR**	**0.99**	**257**	↓*e*P		**Pb**		**02 09 24.0**	**-1.5**
PCDR	**Punta Cana, DR**	**0.99**	**257**	*e*S		**Sb**		**02 09 37.4**	**-0.7**
PCDR	**Punta Cana, DR**	**0.99**	**257**			**Pb**		**02 09 24.0**	**-1.5**
PCDR						**Sb**		**02 09 37.4**	**-0.7**
PCDR	**Punta Cana, DR**	**0.99**	**257**		IAML			02 09 41.6	
	comp=N,480nm,0.5s								
PCDR	**Punta Cana, DR**	**0.99**	**257**	↓*e*Pg		**Pb**		**02 09 24.0**	**-1.5**
PCDR				↓*e*Sg		**Sb**		**02 09 37.2**	**-0.9**
PCDR					IAML			02 09 44.7	
	comp=E,269nm,0.4s								
PCDR					IAML			02 09 45.9	
	comp=N,439nm,0.5s								
PCDR	**Punta Cana, DR**	**0.99**	**257**	*i* P		**Pb**		**02 09 23.9**	**-1.5**
PCDR				*e*S		**Sb**		**02 09 37.0**	**-1.2**
PCDR					IAML			02 09 40.3	
	comp=Z,392nm,0.6s								
OBIP	**Obispado Ponce**	**0.99**	**134**	↓*e*P		**Pb**		**02 09 24.7**	**-0.9**
OBIP	**Obispado Ponce**	**0.99**	**134**	*e*S		**Sb**		**02 09 37.8**	**-0.5**
OBIP	**Obispado Ponce**	**0.99**	**134**			**Pb**		**02 09 24.7**	**-0.9**
OBIP						**Sb**		**02 09 37.8**	**-0.5**
OBIP	**Obispado Ponce**	**0.99**	**134**		IAML			02 09 44.1	
	comp=N,331nm,0.5s								
SJG	**San Juan**	**1.31**	**118**	*e*S		**Sn**		**02 09 48.1**	**+1.0**
SJG	**San Juan**	**1.31**	**118**			**Pn**		**02 09 26.9**	**-3.3**
SJG					IAML			02 09 55.0	
	comp=N,275nm,0.4s								
SJG					IAML			02 09 55.3	
	comp=N,328nm,0.3s								
SJG	**San Juan**	**1.31**	**118**	↓*e*Pg		**Pn**		**02 09 30.0**	**-0.2**
IGPR	**InterUniversit**	**1.42**	**122**	↑*e*P		**Pn**		**02 09 31.0**	**-0.7**
IGPR	**InterUniversit**	**1.42**	**122**	*e*S		**Sn**		**02 09 50.3**	**+0.5**
IGPR	**InterUniversit**	**1.42**	**122**			**Pn**		**02 09 31.0**	**-0.7**
IGPR						**Sn**		**02 09 50.3**	**+0.5**
SADR	**Isla Saona**	**1.45**	**248**	↓*e*Pg		**Pn**		**02 09 31.6**	**-0.5**
SADR				↑*e*Pg		**Pn**		**02 09 31.7**	**-0.5**
SADR				↑*e*Sg		**Sn**		**02 09 50.3**	**-0.3**
SADR					IAML			02 09 57.3	
	comp=E,166nm,0.3s								
SADR					IAML			02 10 03.7	
	comp=N,246nm,0.4s								
MIDR	**Miches**	**1.62**	**279**	↑*e*Pg		**Pn**		**02 09 35.5**	**+1.1**
MIDR					IAML			02 10 00.5	
	comp=N,73nm,0.6s								
SMDR	**Samana, DR**	**1.81**	**288**	*e*Pg		**Pn**		**02 09 38.5**	**+1.4**
SMDR				↓*e*Sg		**Sb**		**02 10 01.9**	**0.0**
SMDR					IAML			02 10 06.1	
	comp=N,194nm,1.0s								
SMDR					IAML			02 10 07.6	
	comp=E,122nm,0.8s								
HATOM	**Hato Mayor del**	**1.91**	**272**	↑*e*Pg		**Pn**		**02 09 40.2**	**+1.7**
HATOM				↓*e*Sg		**Sb**		**02 10 04.6**	**-0.2**
HATOM					IAML			02 10 08.2	
	comp=E,154nm,0.8s								
HATOM					IAML			02 10 09.8	
	comp=N,103nm,0.2s								
DR08	**Loma La Naviza**	**2.53**	**276**	↓*e*Pg		**Pb**		**02 09 50.8**	**-1.0**
DR08				↑*e*Sg		**Sb**		**02 10 22.9**	**+0.3**
DR08					IAML			02 10 29.9	
	comp=N,842nm,0.2s								
BANI	**BANI**	**2.86**	**264**	↓*e*Pg		**Pb**		**02 09 57.3**	**-0.2**
BANI				↓*e*Sg		**Sb**		**02 10 34.1**	**+1.9**
BANI					IAML			02 10 35.0	
	comp=E,127nm,0.6s								
BANI					IAML			02 10 38.6	
	comp=N,136nm,0.6s								
ABDR	**Alto Bandera**	**3.09**	**272**	↑*e*Pg		**Pb**		**02 10 00.1**	**-1.5**
ABDR				↑*e*Sg		**Sb**		**02 10 39.1**	**0.0**
ABDR					IAML			02 10 41.2	
	comp=N,148nm,0.8s								
ABDR					IAML			02 10 53.6	
	comp=E,111nm,0.5s								
SDDR	**Presa de Saban**	**3.72**	**274**	↑*e*Pg		**Pb**		**02 10 10.8**	**-1.4**
SDDR				↑*e*Sg		**Sb**		**02 10 58.4**	**+1.4**
SDDR					IAML			02 11 02.5	
	comp=N,58nm,1.0s								
SDDR					IAML			02 11 04.8	
	comp=E,67nm,0.6s								
SDDR	**Presa de Saban**	**3.72**	**274**		IAML			02 11 03.0	
	comp=Z,43nm,0.5s								

*IDC **23** 02:10:10.5±0.6,36°.22N×137°.26E,h268km±8km,mb3.1/7,*
mbtmp3.7/10,Error ellipse: s-maj=31.9km s-min=13.4km
az=70.0
*JMA **23** 02:10:10.7±0.2,36°.2N±0°.8×137°.2E±0°.8,h264km±1km,*
MV2.7/26,NORTHERN GIFU PREF

ISC 23 02:10:10.3±0.7,36°.19N±0°.09×137°.17E±0°.08,h265km±6km,
n21,σ0°.75/26,mb3.3/7,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**0.69**	**278**	*e*P		**Pn**		**02 10 46.2**	**+0.8**
JYTA	**Yamagatataniai**	**0.69**	**211**	P		**Pn**		**02 10 45.9**	**+0.3**
JYTA				*e*S		**S**		**02 11 12.5**	**-0.9**
MAT	**Matsushiro**	**0.91**	**67**	P		**Pn**		**02 10 47.0**	**+0.5**
MAT

SONM	**Songino Array**	**25.49**	**307**	P		**P**	**02 15 14.4**	**-0.1**
	0.2nm,0.4s,baz=97,slow=10,SNR=2.1							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**41.68**	**302**	P		**P**	**02 17 33.7**	**+0.6**
	0.4nm,0.6s,baz=90,slow=9.8,SNR=4.5							
	0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**43.84**	**308**	P		**P**	**02 17 50.5**	**+0.2**
	0.9nm,0.7s,baz=85,slow=8.0,SNR=8.4							
	0.9nm,0.7s							
WRA	**Warramunga Arr**	**55.89**	**183**	P		**P**	**02 19 20.6**	**-0.2**
	0.7nm,0.5s,baz=360,slow=7.6,SNR=22							
	0.7nm,0.5s							
ASAR	**Alice Springs**	**59.61**	**183**	P		**P**	**02 19 46.6**	**0.0**
	0.3nm,0.3s,baz=359,slow=5.7,SNR=7.9							
	0.3nm,0.3s							
FINES	**FINESS Array B**	**67.94**	**331**	P		**P**	**02 20 39.7**	**-0.5**
	2.8nm,1.1s,baz=100,slow=8.1,SNR=4.8							
	2.8nm,1.1s							
TXAR	**Lajitas Array**	**93.31**	**50**	P		**P**	**02 22 56.4**	**+1.0**
	0.2nm,0.6s,baz=332,slow=3.5,SNR=2.1							
	0.2nm,0.6s							

*CATAC **23** 02:10:14.2±1.0, 14°.97N×92°.83W, h27km±6km, ML4.0*
*MEX **23** 02:10:14.6±1.1, 14°.94N×92°.88W, h66km±10km, MD4.6*
*GCG **23** 02:10:15.4±0.3, 15°.13N×92°.63W, h19km±4km, MD3.8*
ISC 23 02:10:13.3±1.2, 14°.99N±0°.05×92°.86W±0°.03, h69km±10km, n43, σ2ˢ28/74, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
THIG		**0.58**	**97**	*eP*	**Pn**		**02 10 26.3**	**-0.5**
THIG				*eS*	**Sn**		**02 10 35.6**	**-1.2**
PATR	**El Naranjo**	**0.62**	**78**	*eP*	**Pn**		**02 10 26.4**	**-1.1**
PATR				*eS*	**Sn**		**02 10 37.4**	**-0.6**
PAVE	**Pavencul**	**0.70**	**73**	*eP*	**Pn**		**02 10 28.0**	**-0.4**
PAVE				*eS*	**Sn**		**02 10 39.3**	**-0.1**
CHUJ	**Union Juarez**	**0.74**	**81**	*eP*	**Pn**		**02 10 28.1**	**-0.7**
CHUJ				*eS*	**Sn**		**02 10 39.6**	**-0.7**
SMCA	**Catarina**	**0.77**	**99**	*i* P	**Pn**		**02 10 28.1**	**-0.9**
SMCA				*i* S	**Sn**		**02 10 39.6**	**-1.0**
SMCA				IAML			02 10 40.0	
	comp=Z,3μm,1.0s							
PCIG		**0.79**	**335**	*eP*	**Pn**		**02 10 29.6**	**+0.3**
PCIG				*eS*	**Sn**		**02 10 41.2**	**+0.3**
SMSP	**San Marcos**	**1.05**	**90**	*eP*	**Pn**		**02 10 33.5**	**+0.9**
SMSP				*eS*	**Sn**		**02 10 47.4**	**+0.3**
SMSP	**San Marcos**	**1.05**	**90**	*i* P	**Pn**		**02 10 33.3**	**+0.7**
SMSP				*i* S	**Sn**		**02 10 47.3**	**+0.3**
SMSP				IAML			02 10 49.3	
	comp=Z,7μm,1.0s							
RTAL	**Retalhuleu**	**1.22**	**112**	*eP*	**Pn**		**02 10 34.8**	**+0.2**
RTAL				*eS*	**Sn**		**02 10 50.6**	**+0.1**
RTAL	**Retalhuleu**	**1.22**	**112**	*i* P	**Pn**		**02 10 34.6**	**0.0**
RTAL				*i* S	**Sn**		**02 10 50.3**	**-0.2**
RTAL				IAML			02 10 54.2	
	comp=Z,2μm,1.0s							
STG3	**Santiaguito 3,**	**1.28**	**102**	*eP*	**Pn**		**02 10 35.6**	**+0.1**
STG3				*eS*	**Sn**		**02 10 50.0**	**-2.2**
HUEH	**Huehuetenango**	**1.36**	**76**	*eP*	**Pn**		**02 10 37.1**	**+0.5**
HUEH				*eS*	**Sn**		**02 10 56.4**	**+2.3**
HUEH	**Huehuetenango**	**1.36**	**76**	*i* P	**Pn**		**02 10 36.8**	**+0.2**
HUEH				*i* S	**Sn**		**02 10 55.3**	**+1.3**
HUEH				IAML			02 11 00.5	
	comp=Z,4μm,1.0s							
SULM	**Suchitepequez,**	**1.43**	**118**	*eP*	**Pn**		**02 10 38.4**	**+1.1**
CCIG	**Comitan**	**1.47**	**28**	*eP*	**Pn**		**02 10 38.8**	**+0.8**
CCIG				*eS*	**Sn**		**02 10 57.3**	**+0.7**
CCIG	**Comitan**	**1.47**	**28**	*i* P	**Pn**		**02 10 39.0**	**+1.0**
CCIG				IAML			02 10 39.8	
	comp=Z,820nm,1.0s							
CCIG				*i* S	**Sn**		**02 10 57.4**	**+0.8**
CARR	**Arriaga**	**1.61**	**321**	*i* P	**Pn**		**02 10 41.0**	**+1.2**
CARR				*i* S	**Sn**		**02 11 01.5**	**+1.8**
TGIG		**1.80**	**352**	*eP*	**Pn**		**02 10 42.0**	**-0.3**
TGIG				*eS*	**Sn**		**02 11 03.0**	**-1.4**
FUG	**Fuego 3**	**2.03**	**105**	*eP*	**Pn**		**02 10 46.6**	**+1.1**
FUG				*eS*	**Sn**		**02 11 10.9**	**+0.9**
NILT	**Santiago Nilte**	**2.31**	**313**	*i* P	**Pn**		**02 10 50.1**	**+1.0**
NILT				*i* S	**Sn**		**02 11 16.6**	**+0.2**
UXUV	**UXUV**	**2.63**	**332**	*eP*	**Pn**		**02 10 54.2**	**+0.8**
UXUV				*eS*	**Sn**		**02 11 26.5**	**+2.2**
CMIG	**Matias Romero**	**2.86**	**317**	*eP*	**Pn**		**02 10 56.9**	**+0.3**
CMIG				*eS*	**Sn**		**02 11 31.7**	**+1.9**
NUBE	**Las Nubes**	**3.18**	**109**	*i* P	**Pn**		**02 11 01.8**	**+0.7**
NUBE				*i* S	**Sn**		**02 11 39.1**	**+1.2**
NUBE				IAML			02 11 54.0	
	comp=Z,130nm,1.0s							
HUIG	**Huatulco**	**3.23**	**284**	*eP*	**Pn**		**02 11 03.5**	**+1.9**
HUIG				*eS*	**Sn**		**02 11 34.1**	**-4.7**
PETF	**Flores**	**3.46**	**56**	*eP*	**Pn**		**02 11 04.5**	**-0.4**
PETF				*eS*	**Sn**		**02 11 39.4**	**-5.3**
PETF	**Flores**	**3.46**	**56**	*i* P	**Pn**		**02 11 04.7**	**-0.2**
PETF				IAML			02 11 05.6	
	comp=Z,240nm,1.0s							
JAYA	**Jayaque - finc**	**3.56**	**111**	*i* P	**Pn**		**02 11 10.0**	**+3.6**
JAYA				*i* S	**Sn**		**02 11 47.7**	**+0.3**
JAYA				IAML			02 11 55.4	
	comp=Z,570nm,1.0s							
NEUV	**Arroyo Zacate**	**3.91**	**314**	*eP*	**Pn**		**02 11 11.1**	**+0.1**
NEUV				*eS*	**Sn**		**02 11 49.0**	**-6.7**
PMUV	**Sontecomapan**	**4.15**	**329**	*eS*	Sn		02 11 53.1	-8.5
PEIG	**Puerto Escondi**	**4.25**	**284**	*eP*	**Pn**		**02 11 17.2**	**+1.6**
PEIG				*eS*	**Sn**		**02 11 57.9**	**-6.2**
VHO	**Vista Hermosa**	**4.26**	**300**	*eS*	**Sn**		**02 12 04.3**	**-0.2**
SCIG	**Sabancuy**	**4.27**	**22**	*eP*	**Pn**		**02 11 15.7**	**-0.3**
SCIG				*eS*	Sn		02 11 56.6	-7.9
YOIG	**Yosondua**	**4.87**	**293**	*eP*	Pn		02 11 33.5	+9.1
YOIG				*eS*	**Sn**		**02 12 18.0**	**-1.7**
TOIG	**Toxpalan**	**5.08**	**308**	*eP*	**Pn**		**02 11 31.0**	**+3.9**
TOIG				*eS*	**Sn**		**02 12 23.4**	**-1.1**
TXIG	**Tlaxiaco**	**5.22**	**296**	*eP*	**Pn**		**02 11 30.8**	**+1.6**
TXIG				*eS*	**Sn**		**02 12 29.1**	**+0.8**
PNIG	**Pinotepa**	**5.26**	**286**	*eP*	**Pn**		**02 11 28.7**	**-0.7**
PNIG				*eS*	**Sn**		**02 12 26.4**	**-2.3**
TPIG	**Tehuac#an**	**5.50**	**309**	*e*	**Sn**		**02 12 29.6**	**-5.2**
HLIG	**Huajuapan de L**	**5.52**	**302**	*eP*	**Pn**		**02 11 35.5**	**+2.3**
HLIG				*eS*	**Sn**		**02 12 39.7**	**+4.2**
JAUV	**Jalcomulco**	**5.76**	**320**	*eP*	**Pn**		**02 11 34.6**	**-1.6**
JAUV				*eS*	**Sn**		**02 12 34.4**	**-6.6**
FTIG	**Fresnillo de T**	**5.83**	**301**	*eP*	**Pn**		**02 11 40.5**	**+3.1**
FTIG				*eS*	Sn		02 12 33.4	-10
MGIG	**Malinaltepec**	**5.98**	**293**	*eP*	**Pn**		**02 11 40.7**	**+1.2**
MGIG				*eS*	Sn		02 12 34.2	-12
CRIG	**Cruz Grande**	**6.28**	**287**	*e*	Sn		02 12 39.7	-14
PPM	**Popocatepetl**	**6.84**	**307**	*eP*	**Pn**		**02 11 56.0**	**+4.4**
PPM				*eS*	**Sn**		**02 13 11.2**	**+2.8**

IDC 23 02:16:02.9±57.0, 20°.34S×175°.84W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=1054.0km s-min=166.4km az=83.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
STKA	**Stephens Creek**	**39.68**	**244**	P	P	P	02 23 36.2	-0.7
	1.3nm,0.5s,baz=86,slow=11,SNR=5.7							
	1.3nm,0.5s							
ASAR	**Alice Springs**	**46.52**	**256**	P	P	P	02 24 32.2	-0.2
	1.9nm,0.7s,baz=99,slow=7.3,SNR=21							
	1.9nm,0.7s							
WRA	**Warramunga Arr**	**46.62**	**261**	P	P	P	02 24 33.7	+0.4
	0.6nm,0.3s,baz=94,slow=8.1,SNR=81							
	0.6nm,0.3s							

IDC 23 02:22:24.6±2.7, 4°.72S×128°.84E, h0km, mb3.4/1, mbtmp3.2/3, ML2.6/2, Error ellipse: s-maj=211.2km s-min=32.4km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**16.05**	**161**	Pn	Pn	Pn	02 26 11.1	-0.8
	baz=343,slow=12,SNR=2.4							
	0.5nm,1.0s							
ASAR	**Alice Springs**	**19.46**	**166**	P	P	P	02 26 53.5	+0.4
	baz=343,slow=10,SNR=4.4							
	0.7nm,0.9s							
MKAR	**Makanchi Array**	**65.70**	**327**	P	P	P	02 33 11.1	0.0
	0.2nm,0.5s,baz=114,slow=6.5,SNR=2.6							
	0.2nm,0.5s							

*DJA **23** 02:26:52.1±0.3, 10°.3S×11°.3E±°, h10km, M4.1/12, mb4.4/5, MLv4.0/12*
*IDC **23** 02:26:57.3±2.3, 10°.06S×113°.61E, h0km, mb3.4/4, mbtmp3.4/4, MS3.4/1, Error ellipse: s-maj=122.3km s-min=26.8km az=48.0*
ISC 23 02:26:51.9±1.2, 9°.8S±0°.1×112°.92E±0°.06, h10km, n16, σ1ˢ52/15, mb3.5/4, South of Java

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
JAGI	**Jajag, Banyuwa**	**1.80**	**43**	P	**Pn**		**02 27 23.2**	**+0.2**
JAGI				S	**Sn**		**02 27 42.5**	**-3.4**
BLJI	**Banyuglugur**	**2.15**	**18**	P	**Pn**		**02 27 29.4**	**+1.6**
ABJI	**Asem Bagus**	**2.38**	**33**	P	**Pn**		**02 27 33.4**	**+2.4**
DNP	**Denpasar**	**2.52**	**64**	P	**Pn**		**02 27 33.7**	**+0.8**
NGJI	**Ngawi**	**2.82**	**329**	P	**Pn**		**02 27 38.2**	**+1.2**
SRBI	**Singaraja**	**2.83**	**53**	P	**Pn**		**02 27 38.6**	**+1.3**
UGM	**Wanagama**	**3.02**	**308**	P	**Pn**		**02 27 40.8**	**+0.9**
TWSI	**Taliwang, Sumb**	**4.05**	**75**	P	**Pn**		**02 27 54.6**	**+0.6**
KPJI	**Karang Pucung**	**4.65**	**302**	P	**Pn**		**02 28 01.8**	**-0.4**
CMJI	**Cimerak**	**4.85**	**294**	P	**Pn**		**02 28 05.6**	**+0.6**
PLAI	**Plampang**	**4.89**	**79**	P	**Pn**		**02 28 06.6**	**+1.1**
WRA	**Warramunga Arr**	**23.00**	**118**	P	**P**		**02 31 56.2**	**-0.9**
	0.4nm,0.7s,baz=293,slow=11,SNR=5.6							
	0.4nm,0.7s							
ASAR	**Alice Springs**	**24.32**	**127**	P	**P**		**02 32 10.3**	**+0.3**
	0.8nm,0.7s,baz=306,slow=8.7,SNR=15							
	0.8nm,0.7s							
STKA	**Stephens Creek**	**34.46**	**134**	P	**P**		**02 33 40.6**	**+0.6**
	1.7nm,0.9s,baz=319,slow=11,SNR=4.0							
	1.7nm,0.9s							
JOW	**Kunigami**	**39.35**	**22**	LR	LR		02 50 56.1	
	comp=Z,57nm,22.0s,baz=103,slow=37							
MKAR	**Makanchi Array**	**62.63**	**337**	P	P		02 37 27.5	+11
	0.2nm,0.5s,baz=148,slow=8.5,SNR=2.0							
	0.2nm,0.5s							

*UCR **23** 02:37:10.9±0.8, 10°.89N×86°.48W, h18km±5km, MW3.8*
*CATAC **23** 02:37:13.4±0.5, 10°.97N×86°.29W, h8km±4km, ML3.2*
ISC 23 02:37:13.0±1.5, 10°.95N±0°.04×86°.34W±0°.06, h14km±10km, n37, σ0ˢ88/50, 1C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
LCRUZ	**La Cruz**	**0.70**	**80**	*eP*	**Pb**		**02 37 27.6**	**+0.5**
HZTE	**Horizontes, Gu**	**0.77**	**108**	*eP*	**Pg**		**02 37 27.5**	**-0.4**
HZTE	**Horizontes, Gu**	**0.77**	**108**	*i* P	**Pg**		**02 37 27.7**	**-0.2**
HZTE				IAML			02 37 43.7	
	comp=Z,1μm,1.0s							
ELI1	**Hacienda Flor**	**0.83**	**112**	*eP*	**Pb**		**02 37 29.4**	**+0.2**
JAPN	**Al SSO del Vol**	**0.86**	**49**	*i* P	**Pg**		**02 37 29.4**	**-0.3**
JAPN				IAML			02 37 46.7	
	comp=Z,1μm,1.0s							
MSHP	**Masachapa**	**0.89**	**347**	*i* P	**Pn**		**02 37 31.6**	**+0.4**
MSHP				IAML			02 37 51.2	
	comp=Z,190nm,1.0s							
MORN	**Al O del Volca**	**0.90**	**49**	*i* P	**Pg**		**02 37 29.5**	**-0.9**
MORN				IAML			02 37 44.3	
	comp=Z,3μm,1.0s							
CONN	**Concepcion**	**0.92**	**49**	*i* P	**Pb**		**02 37 30.7**	**-0.1**
CONN				IAML			02 37 46.9	
	comp=Z,5μm,1.0s							
GB1A	**Borinquen Arri**	**0.93**	**98**	*eP*	**Pb**		**02 37 30.5**	**-0.5**
GB1A				*eS*	**Sn**		**02 37 45.1**	**+0.2**
VRLE	**La Escondida,**	**0.97**	**100**	*i* P	**Pb**		**02 37 31.1**	**-0.5**
VRLE				IAML			02 37 52.1	
	comp=Z,550nm,1.0s							
GPS3	**Bodega del ICE**	**0.97**	**102**	*eP*	**Pb**		**02 37 31.4**	**-0.4**
GPS3				*eS*	**Sn**		**02 37 46.3**	**+0.3**
ORTG	**Ortega, Santa**	**1.04**	**124**	*eP*	**Pb**		**02 37 31.7**	**-1.2**
ORTG	**Ortega, Santa**	**1.04**	**124**	*i* P	**Pb**		**02 37 31.8**	**-1.2**
ORTG				*i* S	**Sn**		**02 37 47.6**	**-0.1**
ORTG				IAML			02 37 51.7	
	comp=Z,430nm,1.0s							
SAJU	**San Juanillo,**	**1.07**	**145**	*eP*	**Pn**		**02 37 37.0**	**+3.4**
PLVR	**Palo Verde**	**1.14**	**122**	*eP*	**Pb**		**02 37 33.1**	**-1.5**
COLC	**Colonia**	**1.15**	**104**	*eP*	**Pn**		**02 37 33.5**	**-1.2**
COLC				*eS*	**Sn**		**02 37 50.6**	**+0.3**
TISN	**Laguna Tiscapa**	**1.18**	**3**	*i* P	**Pb**		**02 37 35.1**	**-0.2**
TISN				IAML			02 37 54.0	
	comp=Z,44nm,1.0s							
CUI	**Cuipilapa**	**1.19**	**104**	*eS*	**Sb**		**02 37 51.1**	**+0.4**
CUI				*eP*	**Pn**		**02 37 34.0**	**-1.2**
DUNO	**Dulce Nombre,**	**1.20**	**136**	*i* P	**Pn**		**02 37 34.8**	**-0.6**
VMAR	**Armenia, Volca**	**1.21**	**97**	*i*/*eP*	**Pn**		**02 37 35.1**	**-0.5**
VMAR				*eS*	**Sg**		**02 37 54.1**	**+2.0**
VMAR	**Armenia, Volca**	**1.21**	**97**	*i* P	**Pn**		**02 37 35.3**	**-0.3**
VMAR				IAML			02 37 56.1	
	comp=Z,850nm,1.0s							
APQN	**BB Volcan Apoy**	**1.26**	**2**	*i* P	**Pg**		**02 37 37.5**	**+0.2**
CANAL	**Canalete**	**1.27**	**95**	*i*/*eP*	**Pn**		**02 37 35.6**	**-0.7**
CANAL				*eS*	**Sg**		**02 37 55.1**	**+1.3**
ACAL	**Aguas Claras**	**1.32**	**104**	*i* P	**Pn**		**02 37 36.8**	**-0.2**
ACAL				*eS*	**Sn**		**02 37 55.3**	**+0.8**
INDI	**Punta indio, G**	**1.36**	**143**	*i* P	**Pn**		**02 37 36.4**	**-1.1**
INDI				IAML			02 38 05.1	
	comp=Z,400nm,1.0s							
HUEN		**1.38**	**7**	*i* P	**Pn**		**02 37 37.9**	**0.0**
HUEN				IAML			02 37 38.2	
	comp=Z,210nm,1.0s							
HUEN				*i* S	**Sb**		**02 37 57.0**	**+0.8**
VERA	**Finca Concepci**	**1.44**	**94**	*i*/*eP*	**Pn**		**02 37 38.8**	**0.0**
MOMN	**Momotombo**	**1.46**	**352**	*i* P	**Pb**		**02 37 39.1**	**-0.9**
MOMN				*i* S	**Sb**		**02 37 58.4**	**-0.1**
MOMN				IAML			02 37 59.8	
	comp=Z,15nm,1.0s							
MOM2	**El Cardon**	**1.48**	**354**	*i* P	**Pg**		**02 37 40.5**	**-1.0**
MOM2				*i* S	**Sb**		**02 37 59.5**	**+0.5**
MOM2				IAML			02 38 08.2	
	comp=Z,250nm,1.0s							
ACON	**Acoyapa**	**1.52**	**48**	*eP*	**Pn**		**02 37 38.8**	**-1.0**
ACON	**Acoyapa**	**1.52**	**48**	*i* P	**Pn**		**02 37 39.3**	**-0.5**
ACON				IAML			02 37 45.6	
	comp=Z,240nm,1.0s							
BOAB	**BOACO BROADBAN**	**1.62**	**24**	*i* P	**Pn**		**02 37 40.8**	**-0.4**
BOAB				*i* S	**Sn**		**02 38 02.2**	**+0.2**
BOAB				IAML			02 38 08.0	
	comp=Z,150nm,1.0s							
ARE1	**Arenal 1**	**1.66**	**107**	*eP*	**Pn**		**02 37 42.2**	**+0.5**
CEDE	**Laguna Cedeo**	**1.67**	**106**	*eP*	**Pn**		**02 37 41.6**	**-0.3**
CEDE				*eS*	**Sg**		**02 38 06.6**	**-0.3**
VACR	**Volcan Arenal**	**1.70**	**106**	*i* P	**Pb**		**02 37 43.3**	**-0.8**
VACR				IAML			02 37 44.2	
	comp=Z,390nm,1.0s							
JACO	**JACO, Garabito**	**2.09**	**128**	*i* P	**Pb**		**02 37 50.1**	**-0.6**
JACO				IAML			02 38 34.7	
	comp=Z,130nm,1.0s							
LIMN	**Finca el Limon**	**2.10**	**359**	*i* P	**Pb**		**02 37 50.7**	**-0.2**

*IDC **23** 02:50:18.0±1.0, 30°.66N×131°.88E, h0km, mb3.7/6, mbtmp3.6/7, ML2.6/1, Error ellipse: s-maj=52.5km s-min=20.9km az=97.0*
*JMA **23** 02:50:22.0±0.1, 30°.7N±0°.3×132°.1E±0°.7, h54km±2km, MV3.1/38, E OFF TANEGASHIMA ISLAND*
ISC 23 02:50:24.3±0.8, 30°.72N±0°.05×132°.08E±0°.06, h50km, n20, σ1ˢ58/31, mb3.5/6, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
JTN	**Tanegashima 3**	**0.95**	**267**	P	**Pn**		**02 50 39.4**	**-1.9**
JTN				S	**Sn**		**02 50 52.6**	**-1.2**
JMTN	**Minamitane**	**1.06**	**253**	P	**Pn**		**02 50 41.1**	**-1.8**
JMTN				S	**Sn**		**02 50 55.5**	**-1.1**
JNAR	**Kushima--Naru**	**1.06**	**320**	P	**Pn**		**02 50 41.7**	**-1.2**
JNAR				S	**Sn**		**02 50 56.1**	**-0.5**
JTSR	**Tashiro 2**	**1.09**	**295**	P	**Pn**		**02 50 41.6**	**-1.6**
JTSR				*eS*	**Sn**		**02 50 56.7**	**-0.6**
JNKG	**Nichinankitago**	**1.12**	**328**	P	**Pn**		**02 50 42.4**	**-1.2**
JNKG				S	**Sn**		**02 50 57.1**	**-0.8**
JYAK	**Yakushimahirau**	**1.44**	**251**	P	**Pn**		**02 50 46.0**	**-1.9**
JYAK				S	**Sn**		**02 51 04.2**	**-1.5**
JTZ	**Takazaki**	**1.45**	**325**	P	**Pn**		**02 50 47.1**	**-1.1**
JTZ				S	**Sn**		**02 51 05.2**	**-0.9**
JSU	**Suzuyama**	**1.60**	**300**	P	**Pn**		**02 50 49.5**	**-0.7**
JSU				S	**Sn**		**02 51 09.1**	**-0.6**
JTSN	**Tsuno**	**1.60**	**342**	*i* P	**Pn**		**02 50 49.2**	**-1.0**
JTSN				S	**Sn**		**02 51 09.7**	**0.0**
JNN	**Nakanoshima**	**2.10**	**246**	*eP*	**Pn**		**02 50 55.8**	**-1.2**
JNN				*eS*	**Sn**		**02 51 20.1**	**-1.7**
JIU3	**Izumi3**	**2.12**	**330**	P	**Pn**		**02 50 56.9**	**-0.4**
JTO	**Tosashimizu**	**2.23**	**16**	S	**Sn**		**02 51 20.8**	**-4.2**
UWA2	**Uwa jima 2**	**2.53**	**10**	P	**Pn**		**02 51 01.4**	**-1.6**
UWA2				S	**Sn**		**02 51 29.5**	**-3.1**
MJAR	**Matsushiro Arr**	**7.74**	**40**	Pn	**Pn**		**02 52 13.1**	**-1.2**
	0.1nm,0.3s,baz=241,slow=13,SNR=2.7							
	0.5nm,0.3s							
WRA	**Warramunga Arr**	**50.41**	**177**	P	**P**		**02 59 17.0**	**+0.2**
	0.5nm,0.9s,baz=356,slow=8.7,SNR=3.1							
	0.5nm,0.9s							
ASAR	**Alice Springs**	**54.10**	**178**	P	**P**		**02 59 44.5**	**+0.4**
	0.4nm,0.8s,baz=9.6,slow=14,SNR=4.6							
	0.4nm,0.8s							
ILAR	**Eielson Array**	**58.89**	**30**	P	**P**		**03 00 19.3**	**+1.6**
	0.3nm,0.7s,baz=298,slow=6.9,SNR=5.3							
	0.3nm,0.7s							
STKA	**Stephens Creek**	**62.90**	**171**	P	**P**		**03 00 45.1**	**-0.1**
	1.5nm,0.8s,baz=355,slow=13,SNR=3.9							
	1.5nm,0.8s							
FINES	**FINESS Array B**	**70.63**	**331**	P	**P**		**03 01 34.5**	**+0.4**
	3.4nm,1.0s,baz=65,slow=7.8,SNR=6.7							
	3.4nm,1.0s							
YKA	**Yellowknife Ar**	**73.03**	**26**	P	**P**		**03 01 50.9**	**+2.3**
	0.2nm,0.7s,baz=302,slow=5.8,SNR=5.2							
	0.2nm,0.7s							

*CATAC **23** 02:54:36.4±0.6, 12°.68N×88°.34W, h30km±6km, ML3.6*
*SNET **23** 02:54:36.1±1.2, 12°.72N×88°.33W, h60km, ML3.7*
ISC 23 02:54:35.7±1.4, 12°.63N±0°.05×88°.35W±0°.04, h27km±13km, n46, σ1ˢ01/64, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
ALJI	**Alcalda de J**	**0.72**	**343**	*eP*	**Pb**		**02 54 49.2**	**-0.5**
ALJI				*eS*	**Sb**		**02 54 58.9**	**-0.5**
ALJI	**Alcalda de J**	**0.72**	**343**	*i* P	**Pb**		**02 54 49.5**	**-0.3**
ALJI				IAML			02 54 49.7	
	comp=Z,2μm,1.0s							
ALJI				*i* S	**Sn**		**02 55 00.2**	**-0.2**
LCND	**La Caada**	**0.81**	**34**	*eP*	**Pn**		**02 54 50.8**	**-0.6**
LCND	**La Caada**	**0.81**	**34**	*i* P	**Pn**		**02 54 50.9**	**-0.5**
LCND				*i* S	**Sn**		**02 55 03.8**	**+1.3**
LCND				IAML			02 55 06.3	
	comp=Z,3μm,1.0s							
CNCH	**Conchagua**	**0.82**	**38**	*i* P	**Pn**		**02 54 51.3**	**-0.3**
CNCH				IAML			02 55 07.9	
	comp=Z,6μm,1.0s							
PACA	**Pacayal**	**0.83**	**2**	*i* P	**Pb**		**02 54 52.1**	**+0.4**
PACA				IAML			02 55 05.0	
	comp=Z,16μm,1.0s							
CSGN	**Cosiguina Volc**	**0.84**	**66**	*i* P	**Pn**		**02 54 51.8**	**-0.2**
CSGN				IAML			02 55 03.9	
	comp=Z,5μm,1.0s							
AMPH	**Amapala**	**0.94**	**46**	*i* P	**Pb**		**02 54 53.7**	**+0.3**
AMPH				*i* S	**Sb**		**02 55 06.1**	**+0.7**
TECO	**Alcaldia de Te**	**0.99**	**335**	*eP*	**Pn**		**02 54 53.1**	**-0.9**
TECO	**Alcaldia de Te**	**0.99**	**335**	*i* P	**Pn**		**02 54 53.3**	**-0.6**
TECO				IAML			02 55 11.8	
	comp=Z,840nm,1.0s							
PQSS	**Presa 15 de Se**	**1.01**	**348**	*eP*	**Pn**		**02 54 53.0**	**-1.2**
PQSS				*eS*	**Sn**		**02 55 05.9**	**-1.6**
UESV	**Universidad de**	**1.08**	**337**	*i* P	**Pn**		**02 54 54.9**	**-0.3**
UESV				IAML			02 54 55.8	
	comp=Z,1μm,1.0s							
UESV				*i* S	**Sb**		**02 55 09.2**	**-0.5**
COEG	**Centro de Oper**	**1.11**	**332**	*eP*	**Pn**		**02 54 55.1**	**-0.5**
COEG	**Centro de Oper**	**1.11**	**332**	*i* P	**Pn**		**02 54 55.3**	**-0.3**
COEG				*i* S	**Sn**		**02 55 09.9**	**-0.2**
COEG				IAML			02 55 12.6	
	comp=Z,1μm,1.0s							
SCLA	**Alcaldia de Sa**	**1.13**	**341**	*eP*	**Pn**		**02 54 55.8**	**0.0**
SCLA				*eS*	**Sn**		**02 55 10.1**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.13**	**341**	*i* P	**Pn**		**02 54 55.8**	**0.0**
SCLA				IAML			02 54 56.2	
	comp=Z,820nm,1.0s							
SJTE	**Alcalda de S**	**1.17**	**327**	*eP*	**Pn**		**02 54 55.9**	**-0.5**
SJTE				*eS*	**Sn**		**02 55 10.7**	**-0.8**
SJTE	**Alcalda de S**	**1.17**	**327**	*i* P	**Pn**		**02 54 56.1**	**-0.3**
SJTE				*i* S	**Sn**		**02 55 11.3**	**-0.2**
SJTE				IAML			02 55 13

GTOI	**Gorontalo**	**3.62**	**241**	P		**Pn**	**03 19 50.3**	**+3.3**
SANI	**Sanana**	**4.40**	**183**	P		**Pn**	**03 20 00.5**	**+2.7**
WRA	**Warramunga Arr**	**23.58**	**161**	P		**P**	**03 23 59.8**	**-1.3**
	1.8nm,0.4s,baz=339,slow=11,SNR=36							
	1.8nm,0.4s							
ASAR	**Alice Springs**	**26.95**	**164**	P		**P**	**03 24 31.2**	**-0.6**
	0.4nm,0.3s,baz=347,slow=12,SNR=18							
ASAR				PcP		**PcP**	**03 27 52.6**	**-0.7**
	0.2nm,0.5s,baz=347,slow=2.2,SNR=4.3							
	0.4nm,0.3s							
KSRS	**Korea Array**	**34.94**	**2**	P		**P**	**03 25 41.4**	**-0.6**
	0.6nm,0.5s,baz=182,slow=10,SNR=2.0							
	0.6nm,0.5s							
MKAR	**Makanchi Array**	**58.36**	**326**	P		**P**	**03 28 43.2**	**-2.0**
	0.4nm,0.5s,baz=121,slow=8.2,SNR=12							
	0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**62.59**	**328**	P		**P**	**03 29 11.6**	**-2.4**
	0.6nm,0.5s,baz=128,slow=6.7,SNR=5.2							
	0.6nm,0.5s							
ARCES	**ARCESS Array B**	**91.52**	**340**	P		**P**	**03 31 55.1**	**-1.0**
	2.4nm,0.8s,baz=64,slow=8.3,SNR=3.7							
	2.4nm,0.8s							
FINES	**FINESS Array B**	**92.76**	**332**	P		**P**	**03 31 59.4**	**-2.5**
	3.7nm,1.0s,baz=35,slow=7.6,SNR=3.9							
	3.7nm,1.0s							

IDC ***23*** *03:41:39.2±1.8,* **16°.55S×178°.40W,h0km,mb4.1/5, mbtmp4.1/5, Error ellipse: s-maj=103.1km s-min=25.0km az=147.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.30**	**240**	P	P	03 49 10.1	-0.1
	1.7nm,0.4s,baz=98,slow=12,SNR=5.7						
	1.7nm,0.4s						
WRA	**Warramunga Arr**	**44.90**	**258**	P	P	03 49 55.9	-0.1
	0.9nm,0.5s,baz=92,slow=6.9,SNR=30						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**45.18**	**253**	P	P	03 49 58.0	-0.3
	11nm,0.5s,baz=88,slow=8.3,SNR=201						
	11nm,0.5s						
ILAR	**Eielson Array**	**84.57**	**13**	P	P	03 54 13.8	-0.1
	0.2nm,0.3s,baz=226,slow=5.2,SNR=9.7						
	0.2nm,0.3s						
TXAR	**Lajitas Array**	**85.27**	**58**	P	P	03 54 18.6	+0.2
	0.3nm,0.6s,baz=222,slow=6.7,SNR=4.3						
	0.3nm,0.6s						

IDC ***23*** *03:47:04.2±7.8,* **48°.46N×155°.34E,h122km±95km,mb3.1/3, mbtmp3.4/4,ML2.2/1, Error ellipse: s-maj=199.5km s-min=35.3km az=132.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**4.89**	**17**	P	Pn	03 48 15.6	0.0
	0.5nm,0.3s,baz=178,slow=14,SNR=16						
	2.7nm,0.6s						
WRA	**Warramunga Arr**	**70.63**	**201**	P	P	03 58 06.0	-0.3
	0.2nm,0.6s,baz=33,slow=8.0,SNR=1.3						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**74.32**	**200**	P	P	03 58 28.4	+0.3
	0.2nm,0.4s,baz=13,slow=5.7,SNR=6.7						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**75.35**	**62**	P	P	03 58 34.3	0.0
	0.3nm,0.6s,baz=323,slow=5.7,SNR=2.7						
	0.3nm,0.6s						

IDC ***23*** *03:56:20.2±3.2,15°.22N×94°.15W,h0km,mb3.4/3, mbtmp3.5/4,ML4.2/2,MS3.4/6, Error ellipse: s-maj=48.7km s-min=33.4km az=174.0*
MEX ***23*** *03:56:20.1±0.8,14°.80N×94°.21W,h12km±15km,MD4.3*
ISC 23 03:56:17.8±2.5,14°.76N±0°.07×94°.25W±0°.03,h9km±15km, n41,σ2°91/54,mb3.5/3,MS3.2/5, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.37**	**47**	*eP*	Pn	03 56 40.5	-2.6
PCIG				*eS*	**Sg**	**03 56 56.2**	**-5.8**
CARR	**Arriaga**	**1.52**	**12**	*eP*	Pn	03 56 42.4	-2.8
CARR				*eS*	**Sn**	**03 57 00.3**	**-4.8**
NILT	**Santiago Nilte**	**1.83**	**349**	*eP*	**Pn**	**03 56 48.5**	**-0.9**
NILT				*eS*	**Sn**	**03 57 10.7**	**-2.0**
THIG		**1.93**	**85**	*eP*	Pn	03 56 48.0	-2.8
THIG				*eS*	**Sn**	**03 57 10.2**	**-5.0**
PATR	**El Naranjo**	**1.98**	**79**	*eP*	**Pn**	**03 56 53.2**	**+1.4**
PATR				*eS*	**Sn**	**03 57 14.6**	**-2.3**
HUIG	**Huatulco**	**2.05**	**300**	*eP*	**Pn**	**03 56 51.1**	**-1.4**
HUIG				*eS*	**Sn**	**03 57 12.9**	**-5.4**
PAVE	**Pavencul**	**2.05**	**78**	*eP*	**Pn**	**03 56 53.1**	**+0.3**
PAVE				*eS*	**Sn**	**03 57 14.9**	**-3.7**
CHUJ	**Union Juarez**	**2.10**	**81**	*eP*	**Pn**	**03 56 53.6**	**+0.2**
CHUJ				*eS*	Sn	03 57 12.8	-7.0
TGIG		**2.29**	**28**	*eP*	**Pn**	**03 56 56.0**	**+0.2**
TGIG				*eS*	**Sn**	**03 57 23.1**	**-1.0**
TGBT	**Tuxtla Gutierr**	**2.30**	**29**	*eP*	**Pn**	**03 56 57.5**	**+1.7**
TGBT				*eS*	**Sn**	**03 57 23.4**	**-0.9**
CMIG	**Matias Romero**	**2.40**	**345**	Pn	Pn	03 56 55.0	-2.3
	14nm,0.3s,baz=162,slow=15,SNR=31						
CMIG					Sn	Sn	03 57 21.1	-5.7
	33nm,0.3s,baz=153,slow=12,SNR=6.0							
CMIG	**Matias Romero**	**2.40**	**345**	*eP*	Pn	03 56 55.1	-2.1
CMIG				*eS*	**Sn**	**03 57 21.4**	**-5.5**
CCIG	**Comitan**	**2.54**	**53**	*eP*	**Pn**	**03 57 01.0**	**+1.6**
CCIG				*eS*	**Sn**	**03 57 29.8**	**-0.8**
UXUV	**UXUV**	**2.55**	**2**	*eP*	**Pn**	**03 56 58.4**	**-0.9**
UXUV				*eS*	**Sn**	**03 57 30.0**	**-0.5**
PEIG	**Puerto Escondi**	**3.05**	**294**	*eP*	**Pn**	**03 57 05.2**	**-1.0**
PEIG				*eS*	**Sn**	**03 57 38.1**	**-4.9**
NEUV	**Arroyo Zacate**	**3.29**	**333**	*eP*	**Pn**	**03 57 12.1**	**+2.5**
NEUV				*i* S	**Sn**	**03 57 46.4**	**-2.5**
VHO	**Vista Hermosa**	**3.31**	**314**	*eP*	**Pn**	**03 57 10.8**	**+0.8**
VHO				*eS*	**Sn**	**03 57 48.1**	**-1.6**
YOIG	**Yosondua**	**3.79**	**304**	*eP*	**Pn**	**03 57 17.0**	**+0.3**
YOIG				*eS*	**Sn**	**03 57 58.7**	**-3.0**
PMUV	**Sontecomapan**	**3.86**	**348**	*eP*	Pn	03 57 15.2	-2.2
PMUV				*eS*	**Sn**	**03 57 57.6**	**-5.4**
PNIG	**Pinotepa**	**4.07**	**294**	*eP*	**Pn**	**03 57 20.2**	**-0.2**
PNIG				*eS*	Sn	03 58 01.9	-6.3
TXIG	**Tlaxiaco**	**4.19**	**307**	*eP*	**Pn**	**03 57 23.6**	**+1.4**
TXIG				*eS*	**Sn**	**03 58 08.9**	**-2.6**
TOIG	**Toxpalan**	**4.28**	**321**	*eP*	**Pn**	**03 57 26.2**	**+3.0**
TOIG				*eS*	**Sn**	**03 58 10.3**	**-3.1**
HLIG	**Huajuapan de L**	**4.58**	**312**	*eP*	**Pn**	**03 57 30.3**	**+2.8**
HLIG				*eS*	**Sn**	**03 58 17.9**	**-3.0**
TPIG	**Tehuac#an**	**4.71**	**321**	*e*	**Pb**	**03 57 44.0**	**+3.4**
FTIG	**Fresnillo de T**	**4.87**	**311**	*eP*	**Pn**	**03 57 34.0**	**+2.6**
FTIG				*eS*	**Sn**	**03 58 25.2**	**-2.8**
MGIG	**Malinaltepec**	**4.88**	**301**	*eP*	**Pn**	**03 57 33.2**	**+1.6**
MGIG				*i* S	**Sn**	**03 58 23.9**	**-4.5**
TLIG	**Tlapa**	**5.00**	**305**	*eP*	**Pn**	**03 57 35.4**	**+2.3**
TLIG				*eS*	**Sn**	**03 58 27.5**	**-3.7**
CRIG	**Cruz Grande**	**5.09**	**293**	*eP*	**Pn**	**03 57 33.8**	**-0.5**
CRIG				*eS*	Sn	03 58 24.9	-8.4
SCIG	**Sabancuy**	**5.11**	**35**	*eP*	**Pn**	**03 57 33.8**	**-0.8**
JAUV	**Jalcomulco**	**5.19**	**332**	*eP*	**Pn**	**03 57 37.2**	**+1.5**
PPM	**Popocatepetl**	**5.99**	**316**	*eP*	**Pn**	**03 57 51.6**	**+4.4**
PPM				*eS*	**Sn**	**03 58 51.2**	**-5.0**
TEIG	**Tepich**	**7.88**	**46**	Pn	**Pn**	**03 58 12.0**	**-0.6**
	32nm,0.3s,baz=186,slow=3.6,SNR=22						
TEIG					Sn	Sn	03 59 36.6	-5.4
	7.4nm,0.3s,baz=145,slow=20,SNR=1.5							
TEIG					LR	LR	04 01 40.0	
	comp=Z,2μm,18.4s,baz=3.5,slow=43							
TXAR	**Lajitas Array**	**16.91**	**331**	Pn	**Pn**	**04 00 17.1**	**+2.2**
	baz=154,slow=12,SNR=8.4							
	1.1nm,0.9s							
TKL	**Tuckaleechee C**	**22.84**	**22**	LR	LR	04 10 23.4	
	comp=Z,47nm,18.5s,baz=192,slow=38							
SJG	**San Juan**	**27.15**	**79**	LR	LR	04 11 46.8	
	comp=Z,27nm,19.9s,baz=284,slow=34							
PCRV	**Puerto La Cruz**	**29.26**	**95**	LR	LR	04 15 44.4	
	comp=Z,51nm,18.1s,slow=40							
NVAR	**Mina Array Bea**	**31.73**	**323**	P	**P**	**04 02 44.0**	**+1.6**
	0.4nm,0.6s,baz=124,slow=9.0,SNR=6.0							
	0.4nm,0.6s							
YBH	**Yreka Blue Hor**	**36.44**	**323**	LR	LR	04 19 57.6	
	comp=Z,72nm,18.8s,baz=156,slow=39							
NEW	**Newport**	**38.38**	**335**	LR	LR	04 22 00.1	
	comp=Z,64nm,18.5s,baz=104,slow=40							
YKA	**Yellowknife Ar**	**49.81**	**348**	P	**P**	**04 05 11.1**	**+0.4**
	0.3nm,0.6s,baz=147,slow=7.6,SNR=6.0							
	0.3nm,0.6s							
ILAR	**Eielson Array**	**61.29**	**337**	P	**P**	**04 06 33.7**	**+0.4**
	0.6nm,0.9s,baz=176,slow=4.7,SNR=6.5							
	0.6nm,0.9s							

IDC ***23*** *04:06:52.9±3.6,19°.56S×69°.20W,h100km±32km,mb3.4/3, mbtmp3.8/6,MS3.0/1, Error ellipse: s-maj=41.7km s-min=20.2km az=125.0*
SJA ***23*** *04:06:52.2±0.7,19°.62S×69°.38W,h103km±2km,ML3.7, MW3.8*
GUC ***23*** *04:06:53.5±0.8,19°.59S×69°.37W,h100km±2km,ML3.5*
ISC 23 04:06:52.7±0.8,19°.63S±0°.03×69°.40W±0°.05,h103km±5km, n59,σ1°47/75,2C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.20**	**102**	*eP*	**Pn**	**04 07 07.8**	**0.0**
GO01				*eS*	**Sn**	**04 07 19.6**	**+0.4**
GO01	**Chusmiza**	**0.20**	**102**	⇓*iP*	**Pn**	**04 07 07.9**	**0.0**
GO01				*i* S	**Sn**	**04 07 19.2**	**0.0**
PB11	**IPOC Station P**	**0.28**	**241**	*eP*	**Pn**	**04 07 07.7**	**0.0**
PB11				*eS*	**Sn**	**04 07 19.8**	**+0.7**
PB11				IAML		04 07 21.8	
	comp=Z,2μm,0.1s						
PB11	**IPOC Station P**	**0.28**	**241**	⇓*iP*	**Pn**	**04 07 08.0**	**+0.2**
PB11				*i* S	**Sn**	**04 07 19.4**	**+0.4**
PB11				IAML		04 07 20.2	
	comp=E,7μm,0.7s						
PB08	**IPOC Station P**	**0.56**	**156**	*eP*	**Pn**	**04 07 10.1**	**+0.4**
PB08				*eS*	**Sn**	**04 07 23.2**	**+0.7**
PB08				IAML		04 07 23.7	
	comp=Z,3μm,0.2s						
PB08	**IPOC Station P**	**0.56**	**156**	⇓*iP*	**Pn**	**04 07 10.3**	**+0.6**
PB08				*i* S	**Sn**	**04 07 23.0**	**+0.5**
PB08				IAML		04 07 24.2	
	comp=E,6μm,0.2s						
HMBC	**Humberstone**	**0.80**	**215**	*eP*	**Pn**	**04 07 11.9**	**+0.5**
HMBC				*eS*	**Sn**	**04 07 26.7**	**+1.2**
HMBC	**Humberstone**	**0.80**	**215**	*eP*	**Pn**	**04 07 11.9**	**+0.5**
HMBC				*eS*	**Sn**	**04 07 26.3**	**+0.8**
HMBC				IAML		04 07 26.9	
	comp=N,4μm,0.4s						
PX03	**IPOC Station P**	**0.80**	**196**	*eP*	**Pn**	**04 07 11.3**	**-0.2**
TA02	**Huaiquique**	**0.94**	**227**	*eP*	**Pn**	**04 07 13.3**	**+0.6**
TA02				IAML		04 07 31.4	
	comp=Z,3μm,0.1s						
PX02	**IPOC Station P**	**1.00**	**311**	*eP*	**Pn**	**04 07 12.6**	**-0.9**
PX02				*i* S	**Sn**	**04 07 28.6**	**-0.6**
PX02				IAML		04 07 34.8	
	comp=E,667nm,0.4s						
TA01	**Diego Aracena**	**1.19**	**218**	*eP*	**Pn**	**04 07 15.8**	**+0.3**
TA01				*eS*	**Sn**	**04 07 33.9**	**+1.3**
TA01	**Diego Aracena**	**1.19**	**218**	*eP*	**Pn**	**04 07 15.7**	**+0.2**
TA01				*i* S	**Sn**	**04 07 33.0**	**+0.3**
TA01				IAML		04 07 34.1	
	comp=E,845nm,0.1s						
PB16	**IPOC Station P**	**1.29**	**355**	*eP*	**Pn**	**04 07 17.9**	**+0.7**
PB16				*eS*	**Sn**	**04 07 37.1**	**+1.4**
PB16				IAML		04 07 38.2	
	comp=Z,675nm,0.4s						
PB16	**IPOC Station P**	**1.29**	**355**	*i* P	**Pn**	**04 07 17.9**	**+0.7**
PB16				*i* S	**Sn**	**04 07 36.4**	**+0.7**
PB16				IAML		04 07 38.5	
	comp=N,1μm,0.7s						
PB12	**IPOC Station P**	**1.34**	**319**	*eP*	**Pn**	**04 07 17.0**	**-0.2**
PB12				*eS*	**Sn**	**04 07 37.3**	**+1.5**
PB12				IAML		04 07 41.8	
	comp=Z,436nm,0.2s						
PB12	**IPOC Station P**	**1.34**	**319**	⇑*iP*	**Pn**	**04 07 17.3**	**0.0**
PB12				*i* S	**Sn**	**04 07 35.5**	**-0.3**
PB12				IAML		04 07 40.8	
	comp=E,831nm,0.4s						
PATCX	**Punta Patache**	**1.38**	**211**	*eP*	**Pn**	**04 07 18.2**	**+0.4**
PATCX				*eS*	**Sn**	**04 07 38.2**	**+1.4**
PATCX	**Punta Patache**	**1.38**	**211**	*eP*	**Pn**	**04 07 18.2**	**+0.4**
PATCX				*eS*	**Sn**	**04 07 37.7**	**+0.9**
PATCX				IAML		04 07 44.1	
	comp=E,910nm,0.2s						
PB01	**IPOC Station P**	**1.41**	**183**	*eP*	**Pn**	**04 07 18.9**	**+0.8**
PB01				*eS*	**Sn**	**04 07 40.1**	**+2.7**
PB01				IAML		04 07 43.7	
	comp=Z,800nm,0.2s						
PB01	**IPOC Station P**	**1.41**	**183**	⇑*iP*	**Pn**	**04 07 18.9**	**+0.7**
AP01	**Chacalluta**	**1.54**	**324**	*eP*	**Pn**	**04 07 19.3**	**-0.2**
AP01				IAML		04 07 51.6	
	comp=Z,791nm,0.2s						
AP01	**Chacalluta**	**1.54**	**324**	*eP*	**Pn**	**04 07 19.8**	**+0.3**
AP01				*eS*	**Sn**	**04 07 39.5**	**-0.5**
AP01				IAML		04 07 50.8	
	comp=E,1μm,0.3s						
PB02	**IPOC Station P**	**1.75**	**195**	*eP*	**Pn**	**04 07 22.9**	**+0.5**
PB02				*eS*	**Sn**	**04 07 47.2**	**+2.4**
PB02				IAML		04 07 55.5	
	comp=Z,708nm,0.2s						
PB02	**IPOC Station P**	**1.75**	**195**	*eP*	**Pn**	**04 07 23.0**	**+0.7**
PB02				*eS*	**Sn**	**04 07 45.8**	**+0.9**
PB02				IAML		04 07 53.2	
	comp=E,947nm,0.5s						
PB18	**Visviri**	**2.03**	**358**	*eP*	**Pn**	**04 07 28.5**	**+2.3**
PB18				IAML		04 08 02.1	
	comp=E,186nm,0.4s						
PB07	**IPOC Station P**	**2.14**	**192**	*eP*	**Pn**	**04 07 28.0**	**+0.6**
PB07				*eS*	**Sn**	**04 07 56.6**	**+2.7**
PB07				IAML		04 08 01.6	
	comp=Z,394nm,0.2s						
PB07	**IPOC Station P**	**2.14**	**192**	*eP*	**Pn**	**04 07 27.8**	**+0.4**
PB07				IAML		04 08 03.7	
	comp=E,522nm,0.2s						
PB09	**IPOC Station P**	**2.16**	**176**	*eP*	**Pn**	**04 07 28.9**	**+1.2**
PB09				IAML		04 08 05.7	
	comp=Z,210nm,0.2s						
PB09	**IPOC Station P**	**2.16**	**176**	*eP*	**Pn**	**04 07 28.7**	**+1.0**
PB09				*eS*	**Sn**	**04 07 54.7**	**+0.3**
PB09				IAML		04 08 00.2	
	comp=E,248nm,0.1s						
PB04	**IPOC Station P**	**2.78**	**194**	*eP*	**Pn**	**04 07 37.3**	**+1.5**
PB04				*eS*	**Sn**	**04 08 02.7**	**-6.3**
PB04				IAML		04 08 33.2	
	comp=Z,237nm,0.4s						
PB04	**IPOC Station P**	**2.78**	**194**	*eP*	**Pn**	**04 07 36.7**	**+0.9**
LVC	**Limon Verde**	**3.00**	**171**	*eP*	**Pn**	**04 07 40.3**	**+1.4**
LVC				*eS*	**Sn**	**04 08 09.0**	**-5.4**
LVC	**Limon Verde**	**3.00**	**171**	P	**Pn**	**04 07 40.3**	**+1.4**
	comp=Z,62nm,0.3s,baz=351,slow=8.5,SNR=146						
LVC					S	**Sn**	**04 08 15.7**	**+1.2**
	comp=Z,33nm,0.2s,baz=4.9,slow=14,SNR=6.6						
LVC	**Limon Verde**	**3.00**	**171**	*eP*	**Pn**	**04 07 40.2**	**+1.4**
PB06	**IPOC Station P**	**3.07**	**183**	*eP*	**Pn**	**04 07 39.7**	**+0.1**
PB06				IAML		04 08 41.1	
	comp=Z,184nm,0.8s						
PB06	**IPOC Station P**	**3.07**	**183**	*eP*	**Pn**	**04 07 40.5**	**+0.9**
PB05	**IPOC Station P**	**3.30**	**193**	*eP*	**Pn**	**04 07 42.7**	**+0.1**
PB05				IAML		04 08 39.6	
	comp=Z,87nm,0.9s						
PB05	**IPOC Station P**	**3.30**	**193**	*eP*	**Pn**	**04 07 43.0**	**+0.4**
LPAZ	**La Paz**	**3.53**	**20**	*eP*	**Pn**	**04 07 48.4**	**+2.2**
YJA	**Yavi**	**4.43**	**126**	*eP*	**Pn**	**04 08 00.8**	**+2.6**
SIV	**San Ignacio**	**8.71**	**67**	P	**Pn**	**04 08 53.0**	**-3.0**
	comp=Z,3.1nm,0.5s,baz=263,slow=8.4,SNR=29						
CPUP	**Villa Florida**	**12.96**	**123**	P	**Pn**	**04 09 51.7**	**-1.3**
	comp=Z,1.3nm,0.9s,baz=354,slow=15,SNR=2.3						
H03N1	**Juan Fernandez**	**16.17**	**210**	T	T	04 27 11.9	
	baz=33,slow=72,SNR=4.7						
H03N2	**Juan Fernandez**	**16.17**	**210**	T	T	04 27 08.4	
	baz=33,slow=72,SNR=3.0						
H03N3	**Juan Fernandez**	**16.18**	**210**	T	T	04 27 11.1	
	baz=33,slow=72,SNR=5.0						
BDFB	**Brasilia**	**20.76**	**82**	P	**P**	**04 11 25.5**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=275,slow=11,SNR=3.6						
	comp=Z,1.1nm,0.4s						
SJG	**San Juan**	**37.64**	**5**	LR	LR	04 29 53.7	
	comp=Z,22nm,18.7s,baz=18,slow=37						
TORD	**Torodi Ar. Bea**	**77.17**	**71**	P	**P**	**04 18 34.0**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=255,slow=5.6,SNR=4.4						
	comp=Z,0.5nm,0.8s						
YKA	**Yellowknife Ar**	**89.28**	**341**	P	**P**	**04 19 36.8**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=137,slow=4.5,SNR=18						
	comp=Z,0.9nm,0.8s						
H11S2	**WAKE ISLAND Hyl**	**27.17**	**279**	T	T	06 45 19.8	
	baz=101,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hyl**	**27.17**	**279**	T	T	06 45 20.8	
	baz=101,slow=75,SNR=26						
H11S3	**WAKE ISLAND Hyl**	**27.19**	**279**	T	T	06 45 21.0	
	baz=101,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hyl**	**27.20**	**280**	T	T	06 45 30.8	
	baz=102,slow=74,SNR=6.9						
H11N2	**WAKE ISLAND Hyl**	**27.21**	**280**	T	T	06 45 22.8	
	baz=102,slow=74,SNR=6.3						
H11N1	**WAKE ISLAND Hyl**	**27.22**	**280**	T	T	06 45 24.0	
	baz=102,slow=74,SNR=6.2						
ASAR	**Alice Springs**	**131.34**	**209**	PKP	**PKPdf**	**04 25 54.0**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=122,slow=1.2,SNR=1.4						
WRA	**Warramunga Arr**	**134.31**	**212**	PKP	**PKiKP**	**04 26 00.8**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=155,slow=1.8,SNR=5.0						
SONM	**Songino Array**	**151.65**	**6**	PKPbc	**PKiKP**	**04 26 35.9**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=304,slow=1.0,SNR=7.9						

IDC ***23*** *04:07:36.7±1.8,29°.70S×71°.82W,h0km,mb3.5/1, mbtmp3.7/3,ML3.8/2, Error ellipse: s-maj=55.0km s-min=35.5km az=40.0*
GUC ***23*** *04:07:44.0±0.8,29°.86S×71°.43W,h54km±2km,ML4.1*
ISC 23 04:07:43.6±1.2,29°.81S±0°.04×71°.55W±0°.08,h44km±10km, n30,σ1°22/36,2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.29**	**111**	⇑*iP*	**Pn**	**04 07 52.3**	**+0.2**
CO05				*i* S	**Sn**	**04 07 58.4**	**+0.2**
CO05				IAML		04 07 58.9	
	comp=E,51μm,0.1s						
GO04	**Tololo Observa**	**0.74**	**119**	*eP*	**Pn**	**04 07 57.2**	**-0.8**
GO04				*i* S	**Sn**	**04 08 07.2**	**-1.2**
CO06	**Fray Jorge**	**0.86**	**185**	⇓*iP*	**Pn**	**04 07 59.7**	**+0.3**
CO06				*i* S	**Sn**	**04 08 11.4**	**+0.6**
LCO	**Las Campanas**	**1.09**	**43**	⇓*iP*	**Pn**	**04 08 02.9**	**+0.1**
LCO				*i* S	**Sn**	**04 08 16.6**	**-0.2**
CO03	**El Pedregal**	**1.27**	**144**	⇓*iP*	**Pn**	**04 08 04.7**	**-0.3**
CO03				*i* S	**Sn**	**04 08 19.8**	**-1.1**
CO03				IAML		04 08 21.4	
	comp=E,13μm,0.1s						
CO01	**Juntas del Tor**	**1.28**	**98**	⇓*iP*	**Pn**	**04 08 05.3**	**+0.1**
CO01				*i* S	**Sn**	**04 08 20.6**	**-0.7**
CO02	**Combarbal**	**1.47**	**161**	⇑*iP*	**Pn**	**04 08 07.9**	**+0.1**
CO02				*i* S	**Sn**	**04 08 25.8**	**-0.1**
CO02				IAML		04 08 31.2	
	comp=E,6μm,0.1s						
AC05	**El Transito**	**1.48**	**49**	⇓*iP*	**Pn**	**04 08 08.7**	**+0.7**
AC05				*i* S	**Sn**	**04 08 26.8**	**+0.6**
AC05				IAML		04 08 27.4	
	comp=N,10μm,0.1s						
AC04	**Llanos de Chal**	**1.66**	**15**	*eP*	**Pn**	**04 08 10.9**	**+0.6**
GO03	**Copiap**	**2.50**	**28**	*eP*	**Pn**	**04 08 22.9**	**+1.1**
GO03				IAML		04 09 00.8	
	comp=N,485nm,0.4s						
AC06	**Mina Casimiro**	**2.66**	**24**	*eP*	**Pn**	**04 08 25.5**	**+1.4**
AC06				IAML		04 09 15.2	
	comp=E,281nm,0.5s						
VA03	**San Esteban**	**3.06**	**164**	*eP*	**Pn**	**04 08 31.0**	**+1.3**
VA03				IAML		04 09 16.9	
	comp=N,615nm,0.4s						
ROCH	**El Roble**	**3.18**	**172**	*i* P	**Pn**	**04 08 31.7**	**+0.3**
ROCH				IAML		04 09 20.4	
	comp=N,403nm,0.5s						
CFA	**Coronel Fontan**	**3.37**	**123**	Pn	**Pn**	**04 08 35.6**	**+1.8**
	comp=N,26nm,0.3s,baz=308,slow=10,SNR=170						
CFA					Sn	**Sn**	**04 09 16.8**	**+4.2**
	comp=N,20nm,0.3s,baz=68,slow=13,SNR=7.8							
	comp=N,48nm,0.3s							
PEL	**Peldehue**	**3.40**	**168**	*i* P	**Pn**	**04 08 35.1**	**+0.9**
PEL				IAML		04 09 32.5	
	comp=E,202nm,0.4s						
MT02	**Curacav**	**3.45**	**174**	*i* P	**Pn**	**04 08 34.9**	**-0.1**
MT02				IAML		04 09 30.0	
	comp=E,142nm,0.5s						
MT10	**Hacienda Santa**	**3.56**	**166**	*i* P	**Pn**	**04 08 37.6**	**+1.1**
MT10				IAML		04 09 42.8	
	comp=N,659nm,0.8s						
MT05	**Renca**	**3.64**	**169**	*eP*	**Pn**	**04 08 38.3**	**+0.8**
FCH	**Farellones**	**3.67**	**163**	*i* P	**Pn**	**04 08 39.7**	**+1.6**
MT14	**Cerro Cal¡n**	**3.68**	**167**	*i* P	**Pn**	**04 08 39.1**	**+1.1**
MT04	**Ro Olivares**	**3.78**	**162**	*i* P	**Pn**	**04 08 42.1**	**+2.5**
MT15	**Las Vizcachas**	**3.88**	**167**	*eP*	**Pn**	**04 08 41.8**	**+1.0**
MT12	**Pirque**	**4.00**	**168**	*i* P	**Pn**	**04 08 43.3**	**+0.8**
H03N1	**Juan Fernandez**	**7.24**	**238**	T	T	04 17 08.2	
	baz=65,slow=72,SNR=1604						
H03N2	**Juan Fernandez**	**7.26**	**238**	T	T	04 17 12.4	
	baz=65,slow=72,SNR=1417						
H03N3	**Juan Fernandez**	**7.26**	**238**	T	T	04 17

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.89**	**358**	P	**Pn**	**04 41 19.1**	**+0.9**
	156nm,0.8s,baz=23,slow=12,SNR=2.1						
JHJ				S	**Sn**	**04 41 52.3**	**-1.5**
	92nm,0.7s,baz=235,slow=21,SNR=1.2						
JCJ	**Chichijima**	**3.71**	**147**	P	**Pn**	**04 41 27.5**	**-1.2**
	32nm,0.7s,baz=325,slow=23,SNR=1.3						
JCJ				S	**Sn**	**04 42 13.8**	**+1.3**
	36nm,0.5s,baz=298,slow=20,SNR=5.2						
KLR	**Kul'dur**	**19.97**	**344**	P	**P**	**04 44 53.0**	**+0.4**
	1.2nm,0.6s,baz=156,slow=9.3,SNR=5.8						
MKAR	**Makanchi Array**	**46.96**	**307**	P	**P**	**04 48 47.3**	**-0.6**
	0.1nm,0.5s,baz=88,slow=9.8,SNR=2.0						
	0.1nm,0.5s						
WRA	**Warramunga Arr**	**50.16**	**187**	P	**P**	**04 49 13.1**	**+0.6**
	0.2nm,0.4s,baz=4.7,slow=7.8,SNR=9.3						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**53.89**	**187**	P	**P**	**04 49 40.5**	**+0.4**
	0.1nm,0.3s,baz=360,slow=5.0,SNR=5.7						
	0.1nm,0.3s						

IDC ***23*** *05:10:50.8±1.2,21°.65N×143°.09E,h296km±11km, mb3.8/22,mbtmp4.6/26,Error ellipse: s-maj=14.8km s-min=8.4km az=77.0*

NEIC ***23*** *05:10:51.0±1.6,21°.67N±0°.07×143°.1E±0°.1,h286km±7km, mb4.4/73,Error ellipse: s-maj=15.6km s-min=10.1km az=86.0*

ISC 23 05:10:51.6±0.4,21°.66N±0°.04×143°.05E±0°.07,h300km, n316,σ1s20/335,mb4.4/64,2C,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.47**	**352**		**Pn**	**05 12 13.6**	**-0.9**
JCJ				Sn	**S**	**05 13 18.7**	**-2.6**
JCJ	**Chichijima**	**5.47**	**352**	P	**Pn**	**05 12 13.8**	**-0.7**
JCJ	**Chichijima**	**5.47**	**352**	P	**Pn**	**05 12 09.8**	**-4.8**
	128nm,0.4s,baz=263,slow=24,SNR=51						
JCJ				S	**S**	**05 13 14.3**	**-7.0**
	404nm,0.3s,baz=235,slow=22,SNR=17						
GUMO	**Guam**	**8.21**	**168**	Pn	**Pn**	**05 12 46.9**	**-0.9**
GUMO	**Guam**	**8.21**	**168**	P	**Pn**	**05 12 47.5**	**-0.3**
	131nm,0.7s,baz=54,slow=16,SNR=5.0						
JHJ2	**Mitsune**	**11.76**	**347**	Pn	**Pn**	**05 13 30.2**	**-0.9**
JHJ2	**Mitsune**	**11.76**	**347**	P	**Pn**	**05 13 30.6**	**-0.5**
JHJ	**Hachijo jima 2**	**11.78**	**346**	P	**Pn**	**05 13 30.0**	**-1.3**
	137nm,0.3s,baz=281,slow=22,SNR=16						
JHJ				S	**S**	**05 15 37.7**	**-4.8**
	104nm,0.8s,baz=85,slow=18,SNR=1.6						
JMN	**Monobe**	**14.50**	**328**	P	**Pn**	**05 14 04.9**	**+0.8**
JMN	**Monobe**	**14.50**	**328**	P	**Pn**	**05 14 05.9**	**+1.8**
INU	**Inuyama**	**14.63**	**340**	P	**P**	**05 14 04.4**	**-0.1**
INU	**Inuyama**	**14.63**	**340**	P	**Pn**	**05 14 06.3**	**+0.8**
MJAR	**Matsushiro Arr**	**15.42**	**345**	P	**P**	**05 14 12.1**	**-1.1**
	12nm,0.5s,baz=291,slow=13,SNR=36						
MJAR				S	**S**	**05 16 57.1**	**-3.4**
	1.7nm,0.6s,baz=4.2,slow=20,SNR=2.7						
MJAR				ScP	**ScP**	**05 22 01.4**	**-0.9**
	0.5nm,0.4s,baz=166,slow=2.9,SNR=4.5						
MAJO	**Matsushiro**	**15.42**	**345**	P	**P**	**05 14 13.1**	**-0.1**
MAJO	**Matsushiro**	**15.42**	**345**	P	**Pn**	**05 14 14.4**	**-0.4**
MJB9	**Matsu-Tunnel**	**15.42**	**345**	P	**Pn**	**05 14 13.2**	**0.0**
JNU	**Nakatsue**	**15.71**	**319**	P	**Pn**	**05 14 17.5**	**-0.8**
JNU				IAmb	IAmb	05 14 19.3	
	comp=Z,21nm,0.8s						
JNU	**Nakatsue**	**15.71**	**319**	P	**Pn**	**05 14 19.5**	**+1.2**
JNU	**Nakatsue**	**15.71**	**319**	P	**Pn**	**05 14 17.8**	**-0.5**
	comp=Z,14nm,0.7s,baz=106,slow=4.4,SNR=10						
JNU				S	**S**	**05 17 05.6**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=86,slow=20,SNR=1.1						
JMM	**Marumori**	**16.27**	**354**	P	**Pn**	**05 14 24.3**	**-0.4**
JTU	**Tsushima**	**17.57**	**320**	P	**Pn**	**05 14 38.8**	**-1.2**
JTU	**Tsushima**	**17.57**	**320**	P	**Pn**	**05 14 38.7**	**-1.2**
JTM	**Tenmabayashi**	**19.14**	**355**	P	**P**	**05 14 53.4**	**+0.1**
JTM	**Tenmabayashi**	**19.14**	**355**	P	**P**	**05 14 55.6**	**+2.3**
YHNB	**Yeheng**	**20.15**	**283**	P	**P**	**05 15 04.1**	**-0.1**
ERM	**Erimo**	**20.30**	**0**	P	**P**	**05 15 06.1**	**+0.8**
ERM	**Erimo**	**20.30**	**0**	P	**P**	**05 15 07.3**	**+2.0**
JEM	**Erimo**	**20.30**	**0**	P	**P**	**05 15 07.3**	**+2.0**
KSRS	**Korea Array**	**20.47**	**324**	P	**P**	**05 15 06.5**	**-0.7**
	comp=Z,5.0nm,0.5s,baz=144,slow=9.1,SNR=24						
KSRS				ScP	**ScP**	**05 22 13.5**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=141,slow=3.0,SNR=7.7						
	comp=Z,5.0nm,0.5s						
KSAR	**Wonju Array Be**	**20.49**	**323**	P	**P**	**05 15 08.1**	**+0.8**
SSLB	**Suanglung**	**20.49**	**280**	P	**P**	**05 15 08.0**	**+0.3**
SSLB				IAmb	IAmb	05 15 32.7	
	comp=Z,34nm,1.2s						
SSLB	**Suanglung**	**20.49**	**280**	P	**P**	**05 15 09.0**	**+1.4**
KS19	**Wonju Array Si**	**20.54**	**324**	P	**P**	**05 15 08.2**	**+0.3**
KS19				IAmb	IAmb	05 15 18.9	
	comp=Z,11nm,0.9s						
JKA	**Kamikawa-asahi**	**22.40**	**359**	P	**P**	**05 15 25.9**	**+0.9**
JKA				IAmb	IAmb	05 15 28.5	
	comp=Z,15nm,0.7s						
NJ2	**Nanjing**	**23.89**	**301**	*e*P	**P**	**05 15 40.0**	**+1.2**
NJ2				pP	**pP**	**05 16 29.3**	**-0.2**
NJ2				sP	**sP**	**05 17 03.3**	**-4.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,180nm,4.0s						
USA0B	**Ussuriysk Arra**	**24.28**	**340**	P	**P**	**05 15 42.2**	**+0.2**
USRK	**Ussuriysk Ar.**	**24.28**	**340**	P	**P**	**05 15 42.2**	**+0.2**
USRK	**Ussuriysk Ar.**	**24.28**	**340**	P	**P**	**05 15 42.4**	**+0.3**
	comp=Z,6.2nm,0.7s,baz=164,slow=9.5,SNR=12						
	comp=Z,6.2nm,0.7s						
MDJ	**Mudanjiang**	**25.45**	**337**	P	**P**	**05 15 51.3**	**-1.3**
MDJ				pP	pwP	05 16 48.5	-1.8
MDJ				sP	sP	05 17 12.9	-10
MDJ				S	**S**	**05 19 58.9**	**+2.1**
MDJ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,120nm,4.9s						
FAKI	**Fak Fak**	**26.62**	**205**	P	**P**	**05 16 01.5**	**-1.8**
FAKI				IAmb	IAmb	05 16 07.4	
	comp=Z,14nm,1.2s						
FAKI	**Fak Fak**	**26.62**	**205**	P	**P**	**05 16 01.8**	**-1.5**
BNX	**BinXian**	**27.22**	**336**	⇑P	**P**	**05 16 08.5**	**+0.2**
BNX				pmax	pmax		
	comp=Z,35nm,0.5s						
BNX				pmax	pmax		
	comp=Z,210nm,4.9s						
HNS	**HongShan**	**29.08**	**309**	⇑P	**P**	**05 16 25.5**	**+0.6**
HNS				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TOLI2	**Tolitoli**	**29.80**	**230**	P	**P**	**05 16 31.2**	**-0.3**
TOLI2				IAmb	IAmb	05 16 33.1	
	comp=Z,13nm,0.8s						
HEH	**HeiHe**	**31.09**	**340**	*e*P	**P**	**05 16 42.0**	**-0.3**
HEH				pmax	pmax		
	comp=Z,40nm,0.9s						
HEH				pmax	pmax		
	comp=Z,210nm,4.9s						
XLT	**XiLinHaoTe**	**31.48**	**321**	*e*P	**P**	**05 16 48.3**	**+2.4**
XLT				pP	pP	05 17 45.9	+2.5
XLT				PP	**PP**	**05 18 06.8**	**+2.7**
XLT				sP	sP	05 18 18.5	+0.5
XLT				PcP	**PcP**	**05 19 33.6**	**+2.6**
XLT				pmax	pmax		
	comp=Z,12nm,0.8s						
XLT				pmax	pmax		
	comp=Z,150nm,5.2s						
HHC	**Hu-ho-hao-te**	**32.77**	**313**	*e*P	**P**	**05 16 57.9**	**+0.7**
HHC				pmax	pmax		
	comp=Z,27nm,0.7s						
HHC				pmax	pmax		
	comp=Z,220nm,5.4s						
HIA	**Hailar**	**33.19**	**332**	P	**P**	**05 17 00.9**	**+0.3**
HIA				IAmb	IAmb	05 17 02.0	
	comp=Z,12nm,0.9s						
SBUM	**Sibu**	**35.55**	**242**	P	**P**	**05 17 21.7**	**+0.6**
MTN	**Manton Dam**	**36.23**	**200**	P	**P**	**05 17 25.0**	**-1.8**
MTN				IAmb	IAmb	05 17 25.6	
	comp=Z,11nm,0.8s						
MTN	**Manton Dam**	**36.23**	**200**	P	**P**	**05 17 25.4**	**-1.4**
LZH	**Lanzhou**	**36.96**	**302**	*e*P	**P**	**05 17 32.8**	**-0.2**
LZH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
PZH	**PanZhiHua**	**37.91**	**286**	P	**P**	**05 17 42.6**	**+1.6**
PZH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,5.2s						
PLAI	**Plampang**	**39.16**	**222**	P	**P**	**05 17 50.5**	**-0.7**
SONM	**Songino Array**	**39.29**	**321**	P	**P**	**05 17 52.7**	**+0.6**
SONM	**Songino Array**	**39.29**	**321**	P	**P**	**05 17 52.4**	**+0.3**
	comp=Z,3.2nm,0.4s,baz=127,slow=7.1,SNR=21						
SONM				ScP	**ScP**	**05 23 13.0**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=80,slow=1.6,SNR=2.5						
	comp=Z,3.2nm,0.4s						
YAK	**Yakutsk**	**41.38**	**351**	P	**P**	**05 18 08.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**41.46**	**274**	P	**P**	**05 18 11.1**	**+1.1**
	comp=Z,2.7nm,0.6s,baz=81,slow=6.4,SNR=14						
	comp=Z,2.7nm,0.6s						
CTAO	**Charters Tower**	**41.61**	**175**	P	**P**	**05 18 11.1**	**0.0**
WB0	**Warramunga Arr**	**42.03**	**192**	P	**P**	**05 18 13.9**	**-0.6**
WB0				IAmb	IAmb	05 18 14.5	
	comp=Z,16nm,0.5s						
WR0	**Warramunga Arr**	**42.19**	**192**	P	**P**	**05 18 15.0**	**-0.8**
WR0				IAmb	IAmb	05 18 15.9	
	comp=Z,20nm,1.1s						
WB2	**Warramunga Arr**	**42.21**	**192**	P	**P**	**05 18 15.3**	**-0.6**
WRA	**Warramunga Arr**	**42.22**	**192**	P	**P**	**05 18 14.0**	**-2.0**
WRA	**Warramunga Arr**	**42.22**	**192**	P	**P**	**05 18 15.2**	**-0.7**
	comp=Z,15nm,0.6s,baz=16,slow=9.8,SNR=300						
WRA				ScP	**ScP**	**05 23 27.1**	**+1.7**
	comp=Z,1.1nm,0.9s,baz=6.8,slow=4.3,SNR=5.9						
	comp=Z,15nm,0.6s						
FITZ	**Fitzroy Crossi**	**43.03**	**205**	P	**P**	**05 18 21.9**	**-0.6**
UGM	**Wanagama**	**43.39**	**231**	P	**P**	**05 18 25.1**	**-0.3**
KULM	**Kulim**	**44.14**	**255**	P	**P**	**05 18 32.9**	**+1.5**
KULM				IAmb	IAmb	05 18 33.0	
	comp=Z,23nm,0.6s						
ATKA	**Atka Island**	**44.80**	**36**	P	**P**	**05 18 36.9**	**+0.9**
AS31	**Alice Springs**	**45.92**	**192**	P	**P**	**05 18 44.5**	**-0.7**
ASAR	**Alice Springs**	**45.92**	**192**	P	**P**	**05 18 44.0**	**-1.1**
	comp=Z,4.3nm,0.6s,baz=16,slow=9.7,SNR=94						
	comp=Z,4.3nm,0.6s						
SHL	**Shillong**	**46.82**	**285**	P	**P**	**05 18 52.5**	**+0.1**
SHL				IAmb	IAmb	05 18 52.7	
	comp=Z,11nm,0.4s						
MBWA	**Marble Bar**	**48.27**	**210**	P	**P**	**05 19 02.7**	**-0.4**
MBWA				IAmb	IAmb	05 19 06.5	
	comp=Z,23nm,1.4s						
PSA00	**Pilbara Seismi**	**48.57**	**209**	P	**P**	**05 19 05.2**	**-0.3**
BILL	**Bilibino**	**48.58**	**11**	P	**P**	**05 19 05.7**	**+0.7**
BILL				IAmb	IAmb	05 19 06.1	
	comp=Z,14nm,0.7s						
GSI	**Gunungsitoli**	**48.67**	**252**	P	**P**	**05 19 06.9**	**+0.4**
AKUT	**Akutan**	**50.22**	**37**	P	**P**	**05 19 18.4**	**+1.0**
WMQ	**Urumqi**	**50.51**	**309**	*e*P	**P**	**05 19 22.8**	**+2.9**
WMQ				PcS	**PcS**	**05 24 34.1**	**+3.2**
TIXI	**Tiksi**	**50.67**	**354**	P	**P**	**05 19 20.5**	**0.0**
TIXI				IAmb	IAmb	05 19 20.6	
	comp=Z,7.2nm,0.5s						
ODAN	**Odare**	**50.68**	**288**	*e*P	**P**	**05 19 21.9**	**+0.3**
	comp=Z,12nm,0.4s						
RAMN	**Ramite**	**51.37**	**288**	*e*P	**P**	**05 19 26.9**	**+0.1**
	comp=Z,7.0nm,0.5s						
JIRN	**Jiri**	**51.65**	**289**	*e*P	**P**	**05 19 29.6**	**+0.7**
	comp=Z,16nm,0.5s						
GUN	**Gumba**	**51.89**	**289**	*e*P	**P**	**05 19 31.6**	**+0.9**
	comp=Z,14nm,0.4s						
GIRL	**Giria**	**52.23**	**214**	P	**P**	**05 19 33.5**	**+0.8**
STKA	**Stephens Creek**	**53.25**	**182**	P	**P**	**05 19 39.0**	**-0.9**
STKA	**Stephens Creek**	**53.25**	**182**	P	**P**	**05 19 38.8**	**-1.2**
	comp=Z,7.6nm,0.5s,baz=356,slow=8.1,SNR=28						
	comp=Z,7.6nm,0.5s						
M13K	**Dall Lake**	**53.66**	**30**	P	**P**	**05 19 43.8**	**+1.3**
DANN	**Dangsing**	**53.70**	**290**	*e*P	**P**	**05 19 44.2**	**+0.4**
	comp=Z,29nm,0.3s						
FORT	**Forrest**	**54.09**	**196**	P	**P**	**05 19 45.2**	**-0.8**
ZAA0	**Zalesovo Array**	**54.16**	**322**	P	**P**	**05 19 47.3**	**+1.0**
ZALV	**Zalesovo Beam**	**54.16**	**322**	P	**P**	**05 19 47.4**	**+1.1**
ZALV	**Zalesovo Beam**	**54.16**	**322**	P	**P**	**05 19 46.4**	**+0.1**
	comp=Z,2.3nm,0.4s,baz=105,slow=7.8,SNR=12						
ZALV				PcP	**PcP**	**05 20 45.7**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=119,slow=4.7,SNR=5.0						
ZALV				ScP	**ScP**	**05 24 13.8**	**-1.7**
	comp=Z,0.5nm,0.4s,baz=96,slow=2.9,SNR=1.6						
	comp=Z,2.3nm,0.4s						
PYUN	**Piuthan**	**54.41**	**290**	*e*P	**P**	**05 19 49.4**	**+0.7**
M14K	**Bethel**	**54.42**	**30**	P	**P**	**05 19 49.7**	**+1.7**
F14K	**Arctic Creek**	**54.56**	**23**	P	**P**	**05 19 50.6**	**+1.6**
	baz=242						
BBOO	**Buckleboo**	**54.57**	**187**	P	**P**	**05 19 48.5**	**-0.9**
BBOO				IAmb	IAmb	05 20 15.2	
	comp=Z,24nm,1.2s						
MK31	**Makanchi Array**	**54.63**	**313**	P	**P**	**05 19 50.9**	**+1.0**
MKAR	**Makanchi Array**	**54.63**	**313**	P	**P**	**05 19 50.2**	**+0.4**
	comp=Z,1.8nm,0.4s,baz=90,slow=8.6,SNR=34						
MKAR				PcP	**PcP**	**05 20 48.1**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=81,slow=4.6,SNR=5.8						
MKAR				ScP	**ScP**	**05 24 17.4**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=90,slow=5.8,SNR=3.1						
	comp=Z,1.8nm,0.4s						
MAKZ	**Makanchi**	**54.85**	**313**	P	**P**	**05 19 53.1**	**+1.7**
L15K	**Ungalak Mounta**	**54.97**	**29**	P	**P**	**05 19 52.3**	**+0.5**
	baz=249						
M16K	**Timber Creek**	**55.90**	**30**	P	**P**	**05 19 58.6**	**+0.1**
	baz=252						
J16K	**Anvik River**	**55.92**	**27**	P	**P**	**05 19 59.2**	**+0.6**
	baz=249						
G16K	**Koyuk River**	**56.02**	**24**	P	**P**	**05 19 59.5**	**+0.3**
	baz=246						
I17K	**Unalakleet**	**56.10**	**26**	P	**P**	**05 19 59.3**	**-0.6**
	baz=249						
L17K	**Donlin**	**56.54**	**29**	P	**P**	**05 20 03.9**	**+0.9**
	baz=252						
N17K	**Nushagak Hills**	**56.59**	**31**	P	**P**	**05 20 03.5**	**+0.1**
	baz=254						
M17K	**Holitna River**	**56.72**	**30**	P	**P**	**05 20 05.4**	**+1.1**
	baz=253						
G17K	**Kiwalik Mounta**	**56.72**	**25**	P	**P**	**05 20 04.5**	**+0.3**
	baz=248						
K17K	**Iditarod**	**56.72**	**28**	P	**P**	**05 20 05.9**	**+1.7**
	baz=252						
D17K	**Noatak River**	**56.73**	**22**	P	**P**	**05 20 04.8**	**+0.6**
	baz=244						
MORW	**Morawa**	**56.76**	**208**	P	**P**	**05 20 04.3**	**-0.7**
MORW				IAmb	IAmb	05 20 29.0	
	comp=Z,13nm,1.2s						
H17K	**Granite Mounta**	**56.80**	**25**	P	**P**	**05 20 05.3**	**+0.6**
	baz=249						
E17K	**Hotham Inlet**	**56.91**	**23**	P	**P**	**05 20 06.4**	**+0.9**
	baz=246						
C17K	**DeLong Mountai**	**57.05**	**21**	P	**P**	**05 20 06.6**	**+0.1**
	baz=243						
N18K	**Kilae Creek**	**57.25**	**31**	P	**P**	**05 20 09.1**	**+1.1**
	baz=255						
L18K	**Granite Mounta**	**57.29**	**29**	P	**P**	**05 20 08.6**	**+0.3**
L18K				IAmb	IAmb	05 20 20.9	
	comp=Z,11nm,1.3s						
O18K	**Koktuh Hills**	**57.38**	**32**	P	**P**	**05 20 09.9**	**+1.0**
	baz=256						
KURK	**Kurchatov**	**57.42**	**317**	P	**P**	**05 20 10.4**	**+1.1**
KURBB	**Kurchatov Arra**	**57.47**	**317**	P	**P**	**05 20 09.8**	**+0.1**
	comp=Z,3.5nm,0.4s,baz=93,slow=7.6,SNR=34						
	comp=Z,3.5nm,0.4s						
E18K	**Tukpahlearik C**	**57.48**	**22**	P	**P**	**05 20 10.2**	**+0.8**
	baz=247						
M18K	**Stony River**	**57.49**	**30**	P	**P**	**05 20 10.5**	**+0.9**
	baz=255						
G18K	**Tagagawik**	**57.63**	**24**	P	**P**	**05 20 11.6**	**+1.0**
	baz=250						
C18K	**Utukok River**	**57.78**	**21**	P	**P**	**05 20 12.4**	**+0.8**
	baz=245						
TTA	**Tatalina**	**57.79**	**28**	P	**P**	**05 20 12.5**	**+0.7**
	baz=254						
B18K	**Kokolik River**	**57.89**	**20**	P	**P**	**05 20 13.2**	**+1.0**
	baz=244						
O19K	**Port Alsworth**	**57.89**	**32**	P	**P**	**05 20 13.2**	**+0.9**
	baz=257						
N19K	**Bonanza Creek**	**57.95**	**31**	P	**P**	**05 20 14.2**	**+1.2**
	baz=257						
L19K	**White Mountain**	**58.11**	**29**	P	**P**	**05 20 15.3**	**+1.4**
L19K	**White Mountain**	**58.11**	**29**	P	**P**	**05 20 14.8**	**+0.8**
	baz=255						
J19K	**Poorman**	**58.25**	**27**	P	**P**	**05 20 16.1**	**+1.3**
	baz=254						
G19K	**Purcell Mounta**	**58.32**	**24**	P	**P**	**05 20 16.4**	**+1.2**
G19K	**Purcell Mounta**	**58.32**	**24**	P	**P**	**05 20 16.1**	**+0.8**
	baz=251						
H19K	**Roundabout Mou**	**58.37**	**25**	P	**P**	**05 20 16.4**	**+0.8**
	baz=252						
A19K	**Wainwright**	**58.48**	**19**	P	**P**	**05 20 18.2**	**+1.9**
	baz=244						
C19K	**Lookout Ridge**	**58.50**	**21**	P	**P**	**05 20 18.0**	**+1.5**
C19K				IAmb	IAmb	05 20 18.6	
	comp=Z,13nm,0.6s						
C19K	**Lookout Ridge**	**58.50**	**21**	P	**P**	**05 20 17.9**	**+1.3**
	baz=247						
E19K	**Redstone River**	**58.70**	**23**	P	**P**	**05 20 19.1**	**+1.2**
	baz=250						
K20K	**Telida**	**58.75**	**28**	P	**P**	**05 20 19.5**	**+1.1**
	baz=256						
D19K	**Kuna River**	**58.76**	**22**	P	**P**	**05 20 19.0**	**+0.7**
	baz=248						
M20K	**Styx River**	**58.83**	**30**	P	**P**	**05 20 19.9**	**+1.0**
	baz=257						
J20K	**Nowinta River**	**58.93**	**27**	P	**P**	**05 20 21.0**	**+1.5**
J20K				IAmb	IAmb	05 20 21.7	
	comp=Z,34nm,1.5s						
J20K	**Nowinta River**	**58.93**	**27**	P	**P**	**05 20 20.7**	**+1.2**
	baz=255						
H20K	**Anotleneega Mo**	**58.98**	**25**	P	**P**	**05 20 21.1**	**+1.2**
	baz=253						
F20K	**Avaraart Lake**	**59.12**	**24**	P	**P**	**05 20 21.6**	**+0.8**
	baz=252						
CNPM	**China Poot**	**59.29**	**33**	P	**P**	**05 20 21.8**	**-0.2**
E20K	**Nigu River**	**59.35**	**22**	P	**P**	**05 20 23.5**	**+1.1**
	baz=251						
D20K	**Etivluk River**	**59.35**	**22**	P	**P**	**05 20 23.4**	**+1.1**
	baz=250						
SKT	**Skwentna**	**59.59**	**30**	P	**P**	**05 20 23.9**	**-0.1**
SKT				IAmb	IAmb	05 20 24.5	
	comp=Z,23nm,1.4s						
SKT	**Skwentna**	**59.59**	**30**	P	**P**	**05 20 23.9**	**-0.1**
	baz=259						
B20K	**Meade River**	**59.63**	**20**	P	**P**	**05 20 24.6**	**+0.5**
B20K				IAmb	IAmb	05 20 26.0	
	comp=Z,16nm,0.8s						
B20K	**Meade River**	**59.63**	**20**	P	**P**	**05 20 25.8**	**+1.7**
	baz=249						
CAST	**Castle Rocks**	**59.63**	**28**	P	**P**	**05 20 25.2**	**+0.9**
CAST				IAmb	IAmb	05 20 26.0	
	comp=Z,19nm,1.0s						
CAST	**Castle Rocks**	**59.63**	**28**	P	**P**	**05 20 25.5**	**+1.1**
	baz=257						
CHUM	**Lake Minchumin**	**59.64**	**28**	P	**P**	**05 20 25.1**	**+0.8**
	baz=257						
G21K	**Allakaket**	**59.81**	**25**	P	**P**	**05 20 26.8**	**+1.3**
	baz=254						
SUA	**Susitna One**	**59.86**	**31**	P	**P**	**05 20 25.7**	**-0.3**
	baz=260						
H21K	**Melozitna Rive**	**59.86**	**26**	P	**P**	**05 20 26.8**	**+0.9**
	baz=255						
F21K	**Alatna River**	**60.01**	**24**	P	**P**	**05 20 27.8**	**+1.0**
	baz=254						
I21K	**Tanana**	**60.08**	**26**	P	**P**	**05 20 28.7**	**+1.5**
	baz=256						
C21K	**Knifeblade Rid**	**60.12**	**21**	P	**P**	**05 20 28.6**	**+1.1**
	baz=252						
BPAW	**Bear Paw Mtn.**	**60.26**	**28**	P	**P**	**05 20 29.4**	**+0.9**
	baz=258						
B21K	**Ikpikpuk River**	**60.33**	**21**	P	**P**	**05 20 30.1**	**+1.3**
	baz=251						
TRF	**Thorofare Moun**	**60.43**	**28**	P	**P**	**05 20 30.6**	**+0.7**
	baz=259						
H22K	**Ishtalitna Cre**	**60.49**	**25**	P	**P**	**05 20 31.0**	**+0.9**
	baz=257						
MLY	**Manley**	**60.56**	**26**	P	**P**	**05 20 31.4**	**+0.9**
	baz=258						
F22K	**John River**	**60.58**	**24**	P	**P**	**05 20 32.1**	**+1.5**
	baz=255						
PMR	**Palmer**	**60.64**	**31**	P	**P**	**05 20 30.9**	**-0.1**
	baz=261						
A22K	**Sinclair Lake**	**60.67**	**19**	P	**P**	**05 20 32.1**	**+1.0**
	baz=250						
G22K	**Bettles**	**60.68**	**24**	P	**P**	**05 20 32.1**	**+0.8**
	baz=256						
D22K	**Ayikyak River**	**60.76**	**22**	P	**P**	**05 20 33.2**	**+1.4**
	baz=254						
E22K	**Anaktuvuk Pass**	**60.87**	**23**	P	**P**	**05 20 33.0**	**+0.4**
E22K	**Anaktuvuk Pass**	**60.87**	**23**	P	**P**	**05 20 33.6**	**+1.0**
	baz=255						
KNK	**Knik Glacier**	**60.94**	**31**	P	**P**	**05 20 33.2**	**+0.1**
	baz=262						
B22K	**Teshekpuk Lake**	**60.95**	**20**	P	**P**	**05 20 33.9**	**+0.9**
	baz=252						
SML	**Sawmill**	**61.05**	**30**	P	**P**	**05 20 34.1**	**+0.2**
	baz=262						
MCK	**McKinley**	**61.08**	**28**	P	**P**	**05 20 34.4**	**+0.3**
	baz=260						
WAT1	**Susitna Watana**	**61.10**	**29**	P	**P**	**05 20 34.1**	**-0.1**
	baz=261						
I23K	**Minto, Yukon-K**	**61.15**	**26**	P	**P**	**05 20 35.7**	**+1.2**
	baz=259						
NEA2	**Nenana**	**61.17**	**27**	P	**P**	**05 20 35.4**	**+0.8**
	baz=260						
G23K	**Bananza Creek**	**61.20**	**25**	P	**P**	**05 20 35.4**	**+0.5**
G23K	**Bananza Creek**	**61.20**	**25**	P	**P**	**05 20 35.9**	**+1.0**
	baz=258						
COLD	**Coldfoot**	**61.25**	**24**	P	**P**	**05 20 36.4**	**+1.3**
	baz=257						
WAT6	**Susitna Watana**	**61.44**	**30**	P	**P**	**05 20 36.7**	**0.0**
	baz=262						
D23K	**Nanushuk River**	**61.48**	**22**	P	**P**	**05 20 38.0**	**+1.3**
	baz=256						
SCM	**Sheep Creek Mo**	**61.53**	**30**	P	**P**	**05 20 38.1**	**+1.0**
	baz=263						
E23K	**Chand

SCRK				IAmb	IAmb	05 20 49.7	
	comp=Z,6.3nm,0.5s						
SCRK	**Sand Creek**	**63.28**	**28**	P	**P**	**05 20 49.2**	**+0.4**
	baz=265						
CRQE	**Cirque**	**63.47**	**32**	P	**P**	**05 20 50.7**	**+0.7**
	baz=267						
J26L	**Joseph Creek**	**63.52**	**28**	P	**P**	**05 20 50.2**	**0.0**
J26L				IAmb	IAmb	05 20 51.1	
	comp=Z,6.0nm,0.8s						
J26L	**Joseph Creek**	**63.52**	**28**	P	**P**	**05 20 50.2**	**0.0**
	baz=265						
F26K	**Sheenjek River**	**63.63**	**24**	P	**P**	**05 20 52.2**	**+1.4**
	baz=263						
C26K	**Camden Bay**	**63.67**	**22**	P	**P**	**05 20 52.6**	**+1.6**
	baz=261						
G26K	**Porcupine Rive**	**63.68**	**25**	P	**P**	**05 20 52.4**	**+1.3**
	baz=263						
M27K	**Edge Creek, AK**	**64.13**	**30**	P	**P**	**05 20 54.6**	**+0.4**
	baz=267						
K27K	**Chicken**	**64.13**	**28**	P	**P**	**05 20 55.4**	**+1.4**
	baz=266						
L27K	**Beaver Creek,**	**64.18**	**29**	P	**P**	**05 20 55.2**	**+0.8**
	baz=267						
CTG	**Chitna Glacier**	**64.33**	**32**	P	**P**	**05 20 56.5**	**+0.9**
	baz=268						
I27K	**Kandik River**	**64.43**	**26**	P	**P**	**05 20 56.3**	**+0.2**
	baz=266						
G27K	**Doyon Strip**	**64.50**	**25**	P	**P**	**05 20 57.4**	**+0.9**
	baz=265						
H27K	**Steamboat Moun**	**64.51**	**26**	P	**P**	**05 20 57.7**	**+1.2**
	baz=266						
E27K	**Coleen River**	**64.64**	**24**	P	**P**	**05 20 58.0**	**+0.7**
	baz=265						
YUK3	**Moose Creek**	**64.78**	**31**	P	**P**	**05 20 59.0**	**+0.5**
	baz=269						
D27M	**Malcolm River**	**64.97**	**22**	P	**P**	**05 21 00.6**	**+1.2**
	baz=265						
I28M	**Miner Creek**	**65.12**	**27**	P	**P**	**05 21 00.9**	**+0.4**
I28M				IAmb	IAmb	05 21 01.8	
	comp=Z,5.5nm,0.6s						
I28M	**Miner Creek**	**65.12**	**27**	P	**P**	**05 21 01.5**	**+1.0**
	baz=268						
F28M	**Old Crow**	**65.25**	**24**	P	**P**	**05 21 02.4**	**+1.2**
F28M				IAmb	IAmb	05 21 03.2	
	comp=Z,6.7nm,0.8s						
F28M	**Old Crow**	**65.25**	**24**	P	**P**	**05 21 02.2**	**+1.0**
	baz=267,SNR=6.0						
DAWY	**Dawson**	**65.31**	**28**	P	**P**	**05 21 02.2**	**+0.5**
DAWY	**Dawson**	**65.31**	**28**	P	**P**	**05 21 02.6**	**+0.9**
	baz=269						
E28M	**Babbage River**	**65.43**	**23**	P	**P**	**05 21 03.8**	**+1.4**
	baz=266,SNR=9.4						
YUK4	**Talbot Arm**	**65.64**	**31**	P	**P**	**05 21 05.6**	**+1.6**
	baz=271						
O29M	**Mount Kennedy**	**65.69**	**32**	P	**P**	**05 21 05.4**	**+1.1**
	baz=271						
M29M	**Somme Creek**	**65.72**	**30**	P	**P**	**05 21 05.6**	**+1.2**
M29M				IAmb	IAmb	05 21 06.1	
	comp=Z,5.4nm,0.7s						
M29M	**Somme Creek**	**65.72**	**30**	P	**P**	**05 21 05.5**	**+1.2**
	baz=270						
YUK6	**Outpost Mounta**	**65.79**	**32**	P	**P**	**05 21 06.2**	**+1.2**
	baz=271						
H29M	**Whitestone**	**65.79**	**26**	P	**P**	**05 21 05.1**	**+0.4**
H29M				IAmb	IAmb	05 21 14.2	
	comp=Z,12nm,1.3s						
H29M	**Whitestone**	**65.79**	**26**	P	**P**	**05 21 05.5**	**+0.9**
	baz=269						
I29M	**Ogilvie Camp,**	**65.80**	**27**	P	**P**	**05 21 05.6**	**+0.9**
	baz=269						
L29M	**L29M**	**65.87**	**29**	P	**P**	**05 21 06.4**	**+1.2**
	baz=270						
G29M	**Pine Creek**	**65.94**	**25**	P	**P**	**05 21 06.3**	**+0.7**
G29M				IAmb	IAmb	05 21 07.7	
	comp=Z,7.9nm,0.9s						
G29M	**Pine Creek**	**65.94**	**25**	P	**P**	**05 21 06.6**	**+1.0**
	baz=269,SNR=9.6						
E29M	**Blow River**	**66.03**	**23**	P	**P**	**05 21 06.3**	**+0.2**
	baz=268						
K29M	**Barlow Dome**	**66.13**	**28**	P	**P**	**05 21 08.2**	**+1.2**
	baz=271						
P29M	**Windy Craggy**	**66.14**	**33**	P	**P**	**05 21 06.4**	**-0.6**
	baz=272						
HYT	**Haines Junctio**	**66.21**	**32**	P	**P**	**05 21 08.4**	**+0.8**
	baz=272						
N30M	**Aishikik Lake**	**66.39**	**31**	P	**P**	**05 21 10.0**	**+1.4**
	baz=272						
EPYK	**Eagle Plains**	**66.45**	**26**	P	**P**	**05 21 09.6**	**+0.7**
EPYK				IAmb	IAmb	05 21 10.4	
	comp=Z,12nm,1.1s						
M30M	**Minto, Yukon**	**66.49**	**30**	P	**P**	**05 21 10.2**	**+1.0**
	baz=272						
P30M	**Million Dollar**	**66.51**	**33**	P	**P**	**05 21 10.5**	**+1.1**
	baz=273						
I30M	**Mount Dempster**	**66.61**	**27**	P	**P**	**05 21 10.7**	**+0.7**
	baz=271						
J30M	**Hart River**	**66.64**	**28**	P	**P**	**05 21 10.9**	**+0.7**
	baz=271						
G30M	**tAoh Zraii Nji**	**66.65**	**25**	P	**P**	**05 21 10.7**	**+0.6**
	baz=270						
F30M	**Barrier River**	**66.81**	**24**	P	**P**	**05 21 11.9**	**+0.8**
	baz=270						
G31M	**Satah River**	**67.42**	**25**	P	**P**	**05 21 15.1**	**+0.3**
	baz=272,SNR=34						
H31M	**Peel River**	**67.44**	**26**	P	**P**	**05 21 16.4**	**+1.3**
	baz=273						
WHY	**Whitehorse**	**67.50**	**32**	P	**P**	**05 21 16.5**	**+0.9**
	baz=274						
SIT	**Sitka**	**67.58**	**36**	P	**P**	**05 21 16.4**	**+0.4**
	baz=275						
F31M	**Tsiigehtchic**	**67.60**	**24**	P	**P**	**05 21 15.9**	**0.0**
	baz=272						
M31M	**Drury Creek, Y**	**67.63**	**30**	P	**P**	**05 21 16.5**	**+0.2**
	baz=274						
INK	**Inuvik**	**67.65**	**24**	P	**P**	**05 21 16.4**	**+0.1**
INK				IAmb	IAmb	05 21 17.6	
	comp=Z,7.4nm,1.2s						
INK	**Inuvik**	**67.65**	**24**	P	**P**	**05 21 16.0**	**-0.2**
	baz=272,SNR=6.2						
FARO	**Faro, Yukon**	**68.11**	**30**	P	**P**	**05 21 19.6**	**+0.3**
	baz=275						
P33M	**Teslin, Yukon**	**68.56**	**32**	P	**P**	**05 21 22.6**	**+0.4**
	baz=276						
Q32M	**Nakina River**	**68.99**	**34**	P	**P**	**05 21 25.8**	**+0.8**
	baz=277						
ABKAR	**Akbulak array**	**69.49**	**316**	P	**P**	**05 21 28.2**	**+0.2**
R33M	**Jennings River**	**69.59**	**33**	P	**P**	**05 21 29.6**	**+1.0**
	baz=278						
S34M	**Telegraph Cree**	**69.72**	**35**	P	**P**	**05 21 30.6**	**+1.4**
	baz=278						
A36M	**Sachs Harbour**	**70.11**	**19**	P	**P**	**05 21 31.8**	**+0.5**
	baz=278						
TGTN	**Hyland Airport**	**70.59**	**31**	P	**P**	**05 21 35.8**	**+1.4**
	baz=280						
C36M	**Paulatuk**	**70.94**	**22**	P	**P**	**05 21 36.0**	**-0.3**
	baz=281						
WRGLY	**Wrigley**	**72.45**	**28**	P	**P**	**05 21 46.1**	**+0.8**
	baz=283						
YKA	**Yellowknife Ar**	**76.54**	**28**	P	**P**	**05 22 08.2**	**-0.5**
YKA	**Yellowknife Ar**	**76.54**	**28**	P	**P**	**05 22 08.8**	**0.0**
	comp=Z,2.6nm,0.5s,baz=292,slow=6.2,SNR=48						
	comp=Z,2.6nm,0.5s						
ARCES	**ARCESS Array B**	**78.92**	**341**	P	**P**	**05 22 22.1**	**+0.4**
	comp=Z,5.4nm,0.5s,baz=73,slow=8.5,SNR=39						
	comp=Z,5.4nm,0.5s						
J05D	**Fort Rock, OR**	**79.45**	**48**	P	**P**	**05 22 26.6**	**+1.3**
PINE	**Pine Mountain**	**79.48**	**47**	P	**P**	**05 22 26.9**	**+1.4**
PINE				IAmb	IAmb	05 22 27.5	
	comp=Z,5.0nm,0.8s						
NEW	**Newport**	**80.39**	**42**	P	**P**	**05 22 30.6**	**+0.6**
	baz=292						
KBZ	**Khabaz**	**82.31**	**314**	P	**P**	**05 22 40.5**	**+0.5**
	comp=Z,6.2nm,0.8s,baz=84,slow=5.8,SNR=11						
	comp=Z,6.2nm,0.8s						
FINES	**FINESS Array B**	**83.16**	**334**	P	**P**	**05 22 43.8**	**-0.2**
FINES	**FINESS Array B**	**83.16**	**334**	P	**P**	**05 22 43.5**	**-0.6**
	comp=Z,4.6nm,0.5s,baz=63,slow=4.7,SNR=56						
	comp=Z,4.6nm,0.5s						
NVAR	**Mina Array Bea**	**83.26**	**51**	P	**P**	**05 22 46.2**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=278,slow=5.5,SNR=14						
	comp=Z,1.3nm,0.7s						
PKM	**Mcpherson Peak**	**83.45**	**55**	P	**P**	**05 22 46.5**	**+0.1**
	baz=292						
HLID	**Hailey**	**83.96**	**46**	P	**P**	**05 22 49.2**	**+0.5**
	baz=294						
MPMC	**Manual Prospec**	**84.77**	**53**	P	**P**	**05 22 53.8**	**+0.8**
	baz=293						
LRMC	**Laurel Mtn Rad**	**84.85**	**54**	P	**P**	**05 22 53.4**	**+0.1**
	baz=293						
R11B	**Troy Canyon, C**	**85.26**	**51**	P	**P**	**05 22 56.0**	**+0.6**
	baz=294						
TPNV	**Topopah Spring**	**85.34**	**52**	P	**P**	**05 22 55.8**	**+0.1**
	baz=294						
BFSC	**Mount Baldy Ra**	**85.35**	**55**	P	**P**	**05 22 55.9**	**+0.1**
	baz=293						
GSC	**Goldstone, Bar**	**85.58**	**54**	P	**P**	**05 22 57.2**	**+0.4**
	baz=293						
TUQ	**Turquoise Moun**	**86.18**	**53**	P	**P**	**05 23 00.3**	**+0.4**
	baz=294						
DUG	**Dugway, Tooele**	**86.45**	**48**	P	**P**	**05 23 01.1**	**0.0**
	baz=295						
PFO	**Pinyon Flats O**	**86.51**	**55**	P	**P**	**05 23 00.5**	**-0.9**
	baz=294						
TPFO	**Pinon Flats**	**86.52**	**55**	P	**P**	**05 22 59.6**	**-1.8**
	baz=294						
RLMT	**Red Lodge**	**86.61**	**43**	P	**P**	**05 23 01.2**	**-0.6**
	baz=297						
FCC	**Fort Churchill**	**87.13**	**26**	P	**P**	**05 23 03.4**	**-0.2**
FCC				IAmb	IAmb	05 23 15.4	
	comp=Z,10.0nm,1.4s						
AKASG	**Malin Array Be**	**87.47**	**324**	P	**P**	**05 23 04.0**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=53,slow=5.3,SNR=3.6						
	comp=Z,0.3nm,0.4s						
PDAR	**Pinedale Array**	**87.50**	**45**	P	**P**	**05 23 06.0**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=234,slow=2.8,SNR=2.1						
	comp=Z,0.2nm,0.5s						
HFS	**Hagfors**	**88.72**	**337**	P	**P**	**05 23 09.7**	**-1.4**
	comp=Z,2.1nm,0.4s,baz=98,slow=4.5,SNR=17						
	comp=Z,2.1nm,0.4s						
NB201	**NORSAR Array S**	**88.90**	**339**	P	**P**	**05 23 11.4**	**-0.6**
NOA	**NORSAR Array B**	**88.94**	**339**	P	**P**	**05 23 11.3**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=44,slow=4.9,SNR=2.0						
	comp=Z,1.1nm,0.8s						
BRTR	**Keskin Array B**	**90.28**	**313**	P	**P**	**05 23 17.2**	**-1.8**
	comp=Z,0.9nm,0.9s,baz=70,slow=2.9,SNR=1.7						
	comp=Z,0.9nm,0.9s						
VYHS	**Vyhne**	**94.24**	**327**	*eP*	**P**	**05 23 40.8**	**+3.9**
TXAR	**Lajitas Array**	**98.17**	**54**	PKKPbc	PKKPbc	05 40 26.1	0.0
	comp=Z,0.2nm,0.5s,baz=124,slow=6.2,SNR=4.6						
QSPA	**South Pole Qui**	**111.45**	**180**	PKiKP	**PKiKP**	**05 28 48.8**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=178,slow=0.6,SNR=15						
SNAA	**Sanae**	**126.28**	**193**	PKP	**PKPdf**	**05 29 17.1**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=192,slow=15,SNR=7.9						
TORD	**Torodi Ar. Bea**	**128.67**	**309**	PKP	**PKPdf**	**05 29 23.5**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=30,slow=1.5,SNR=7.8						
PLCA	**Paso Flores**	**145.82**	**132**	PKPbc	**PKPab**	**05 29 56.4**	**-0.6**
	comp=Z,15nm,0.7s,baz=246,slow=3.8,SNR=55						

JMA 23 05:12:59.4±0.1, 28.0N±0.5×129.4E±0.6, h16km±1km, MV1.4/5, NEAR AMAMI-OSHIMA ISLAND, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMN	**Amaminishikomi**	**0.27**	**319**	*i* P	Pg	05 13 05.3	0.0
JAMN				*eS*	Sg	05 13 09.1	-0.2
JAM	**Amami Oshima**	**0.42**	**28**	P	Pg	05 13 07.9	-0.1
JTK	**Tokunoshima**	**0.45**	**237**	*eP*	Pg	05 13 08.4	-0.1
JTK				*eS*	Sg	05 13 14.3	-0.4
JTAJ	**Takarajima**	**1.12**	**352**	*eS*	Sg	05 13 36.6	+0.8

IDC 23 05:20:00.1±1.8, 31.79S×178.75W, h101km±18km, mb4.2/2, mbtmp4.5/4, Error ellipse: s-maj=55.3km s-min=12.2km az=112.0

ISC 23 05:20:00.6±1.4, 31.8S±0.2×178.8W±0.3, h100km, n6, σ0§64/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.66**	**18**	P	**Pn**	**05 20 42.7**	**+0.8**
	92nm,0.3s,baz=251,slow=20,SNR=2.4						
RAO				S	**Sn**	**05 21 12.6**	**-0.9**
	244nm,0.3s,baz=234,slow=24,SNR=8.6						
URZ	**Urewera**	**7.25**	**206**	P	**Pn**	**05 21 43.9**	**+0.1**
	1.0nm,0.3s,baz=282,slow=18,SNR=1.1						
URZ				S	**Sn**	**05 23 04.7**	**+0.1**
	8.0nm,0.3s,baz=226,slow=20,SNR=8.7						
RPZ	**Rata Peaks**	**14.32**	**211**	P	**Pn**	**05 23 18.1**	**-0.4**
	2.3nm,0.3s,baz=179,slow=23,SNR=1.9						
ASAR	**Alice Springs**	**42.33**	**269**	P	**P**	**05 27 45.1**	**+0.2**
	2.3nm,0.5s,baz=107,slow=8.3,SNR=61						
	2.3nm,0.5s						
WRA	**Warramunga Arr**	**43.45**	**274**	P	**P**	**05 27 54.0**	**+0.1**
	5.7nm,0.3s,baz=112,slow=8.0,SNR=151						
	5.7nm,0.3s						
FINES	**FINESS Array B**	**146.19**	**339**	PKPbc	**PKPdf**	**05 39 26.9**	**-0.5**
	0.6nm,0.4s,baz=64,slow=4.4,SNR=9.9						

IDC 23 05:23:52.6±2.3, 38.24N×77.94E, h0km, mb3.5/2, mbtmp3.7/4, ML3.3/2, Error ellipse: s-maj=64.2km s-min=24.4km az=136.0
NNC 23 05:23:57.6±2.4, 38.33N×78.25E, h9km±10km, mb3.9, mpv3.5, Error ellipse: s-maj=17.1km s-min=12.9km az=132.0

ISC 23 05:23:58.0±2.7, 38.4N±0.2×78.19E±0.09, h10km, n18, σ2§17/18, 7C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**4.68**	**2**	Pg	**Pg**	**05 25 26.0**	**-1.6**
	13nm,0.4s						
SATY				Lg	Lg	05 26 30.3	
	21nm,0.9s						
TNSS	**Tian-Shan**	**4.75**	**349**	Pg	**Pg**	**05 25 26.1**	**-2.9**
	16nm,0.8s						
TNSS				Lg	Lg	05 26 30.4	
	5.3nm,1.4s						
UZB	**Uzynbulak**	**4.81**	**7**	Pg	**Pb**	**05 25 26.3**	**+3.9**
	10nm,0.6s						
UZB				Lg	Lg	05 26 30.5	
	13nm,0.9s						
MDOK	**Medeo**	**4.86**	**350**	Pg	**Pb**	**05 25 26.1**	**+2.9**
	6.2nm,0.4s						
MDOK				Lg	Lg	05 26 37.1	
	24nm,0.6s						
TKM2	**Tokmak 2**	**4.95**	**337**	⇑Pg	**Pb**	**05 25 25.8**	**+0.9**
	2.6nm,0.5s						
TKM2				⇓Lg	Lg	05 26 37.9	
	19nm,1.1s						
PDGK	**Podgornoye**	**5.04**	**11**	⇓Pn	**Pn**	**05 25 15.3**	**+1.5**
	2.2nm,0.3s						
PDGK				⇓Lg	Lg	05 26 37.9	
	17nm,0.6s						
AML	**Almayashu**	**5.09**	**319**	⇑Pn	**Pn**	**05 25 15.9**	**+1.2**
AML				⇑Pg	**Pb**	**05 25 30.7**	**+3.4**
	0.3nm,0.5s						
AML				⇓Lg	Lg	05 26 44.2	
	9.3nm,0.8s						
DGS	**Degeres**	**5.19**	**340**	Pg	**Pg**	**05 25 34.6**	**-2.9**
DGS				Lg	Lg	05 26 45.5	
CHMS	**Chumysh**	**5.30**	**332**	⇓Pg	**Pb**	**05 25 32.5**	**+1.7**
	2.6nm,0.5s						
CHMS				⇓Lg	Lg	05 26 46.9	
	14nm,0.7s						
KTBS	**Karatobe**	**5.45**	**348**	Pg	Pb	05 25 38.4	+5.1
KTBS				Lg	Lg	05 26 52.1	
KRBS	**Karabastau**	**5.64**	**341**	Pg	Pb	05 25 41.9	+5.3
KRBS				Lg	Lg	05 26 58.1	
KK31	**Karatay Array**	**7.50**	**311**	⇓Pg	Pg	05 26 15.9	-5.6
	0.3nm,0.3s,baz=115,slow=16,SNR=4.6						
KK31				⇑Lg	Lg	05 28 01.4	
	2.7nm,0.6s,baz=139,slow=25,SNR=3.6						
MAKZ	**Makanchi**	**8.87**	**17**	⇑Pn	**Pn**	**05 26 06.4**	**+0.2**
	0.5nm,0.3s						
MAKZ				⇑Sn	**Sn**	**05 27 46.6**	**+0.3**
	2.9nm,1.0s						
MK31	**Makanchi Array**	**8.94**	**18**	⇓Pn	**Pn**	**05 26 06.7**	**-0.4**
	0.7nm,0.2s,baz=200,slow=12,SNR=38						
MK31				⇑Sn	**Sn**	**05 27 48.5**	**+0.7**
	3.9nm,0.8s,baz=205,slow=23,SNR=4.2						
MKAR	**Makanchi Array**	**8.94**	**18**	Pn	**Pn**	**05 26 07.7**	**+0.6**
	1.6nm,0.3s,baz=200,slow=13,SNR=48						
MKAR				Sn	**Sn**	**05 27 47.2**	**-0.6**
	0.5nm,0.3s,baz=204,slow=22,SNR=3.1						
	2.6nm,0.3s						
ZALV	**Zalesovo Beam**	**16.22**	**14**	Pn	**Pn**	**05 27 43.5**	**-2.4**
	0.1nm,0.3s,baz=196,slow=11,SNR=1.9						
	0.4nm,0.4s						
SONM	**Songino Array**	**22.55**	**56**	P	**P**	**05 28 56.7**	**-1.6**
	0.5nm,0.4s,baz=247,slow=11,SNR=2.1						
	0.5nm,0.4s						
TORD	**Torodi Ar. Bea**	**71.43**	**272**	P	P	05 35 13.9	-4.9
	0.4nm,0.4s,baz=46,slow=5.7,SNR=12						
	0.4nm,0.4s						

MEX 23 05:25:54.4±1.9, 14.81N×92.92W, h58km±35km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.64**	**81**	*eP*	Pn	05 26 06.5	-1.3
THIG				*eS*	Sn	05 26 17.1	-0.4
PATR	**El Naranjo**	**0.73**	**65**	*i* P	Pn	05 26 07.5	-1.6
PATR				*i* S	Sn	05 26 18.1	-1.7
PAVE	**Pavencul**	**0.81**	**62**	*i* P	Pn	05 26 08.9	-1.2
PAVE				*i* S	Sn	05 26 20.1	-1.6
CHUJ	**Union Juarez**	**0.83**	**70**	*i* P	Pn	05 26 09.0	-1.4
CHUJ				*i* S	Sn	05 26 19.9	-2.2
PCIG		**0.94**	**342**	*i* P	Pn	05 26 10.4	-1.2
PCIG				*i* S	Sn	05 26 21.9	-2.3
CCIG	**Comitan**	**1.65**	**27**	*i* P	Pn	05 26 19.9	-1.4
CCIG				*eS*	Sn	05 26 35.8	-5.7
CARR	**Arriaga**	**1.73**	**326**	*eP*	Pn	05 26 21.8	-0.3
CARR				*eS*	Sn	05 26 42.2	-0.8
TGIG		**1.97**	**354**	*eP*	Pn	05 26 22.9	-2.6
TGIG				*eS*	Sn	05 26 43.9	-5.3
NILT	**Santiago Nilte**	**2.40**	**317**	*i* P	Pn	05 26 17.4	-14
NILT				*eS*	Sn	05 26 57.2	-2.2
UXUV	**UXUV**	**2.76**	**335**	*eP*	Pn	05 26 35.1	-1.2
CMIG	**Matias Romero**	**2.96**	**320**	*eP*	Pn	05 26 38.1	-0.8
NEUV	**Arroyo Zacate**	**4.00**	**317**	*eP*	Pn	05 26 23.9	-29
NEUV				*eS*	Sn	05 27 30.3	-8.6
SCIG	**Sabancuy**	**4.46**	**22**	*eP*	Pn	05 26 55.6	-3.9
SCIG				*eS*	Sn	05 27 40.0	-10
TXIG	**Tlaxiaco**	**5.26**	**298**	*eP*	Pn	05 27 23.6	+13
TXIG				*eS*	Sn	05 28 08.8	-1.5
FTIG	**Fresnillo de T**	**5.88**	**302**	*eP*	Pn	05 27 21.2	+2.1
FTIG				*eS*	Sn	05 28 23.9	-1.4

MEX 23 05:26:04.7±2.8, 16.86N×94.97W, h85km±59km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.25**	**20**	*i* P	Pn	05 26 10.3	-7.0
CMIG				*i* S	Sn	05 26 16.6	-10
NILT	**Santiago Nilte**	**0.45**	**130**	*i* P	Pn	05 26 15.1	-3.4
UXUV	**UXUV**	**0.91**	**60**	*i* P	Pn	05 26 22.3	-0.8
NEUV	**Arroyo Zacate**	**1.16**	**317**	*eS*	Sn	05 26 40.9	-1.1

BJI 23 06:06:05.6, 29.29N×142.64E, h13km, mb4.6/51, mB4.9/32, Ms4.4/26, Ms7 4.1/29
IDC 23 06:06:06.7±0.5, 29.28N×142.42E, h0km, mb4.6/24, mbtmp4.6/28, ML3.6/4, MS3.8/47, Error ellipse: s-maj=16.6km s-min=13.1km az=69.0
MOS 23 06:06:08.5±0.9, 29.33N×142.44E, h22km, mb5.0/49, MS4.1/4, Error ellipse: s-maj=9.7km s-min=4.6km az=117.8
NEIC 23 06:06:08.6±1.9, 29.30N±0.06×142.7E±0.1, h10km±1km, mb4.9/91, Error ellipse: s-maj=17.6km s-min=9.5km az=86.0
NIED 23 06:06:10.0, 29.26N×142.15E, h51km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.26; $M_{\theta\theta}$-3.51; $M_{\phi\phi}$ 1.25; $M_{r\theta}$-4.06; $M_{\theta\phi}$3.30; $M_{\phi r}$1.12; Fault plane solution: $M_0$5.76000×10^{15} NP1: ϕ_s276.00000°, δ73.00000°, λ65.00000°. NP2: ϕ_s154.00000°, δ30.00000°, λ144.00000°.
JMA 23 06:06:10.0±0.2, 29.3N±1.0×14.2E±°, h51km, MV4.5/39, NEAR TORISHIMA IS

ISC 23 06:06:10.4±0.3, 29.27N±0.04×142.41E±0.06, h24km, n519, σ1§43/522, mb4.8/117, MS3.9/56, 12C-16D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.17**	**185**	*eP*	**Pn**	**06 06 44.5**	**-0.6**
CBIJ				*eS*	**Sn**	**06 07 09.2**	**-2.1**
JCJ	**Chichijima**	**2.17**	**185**		**Pn**	**06 06 44.4**	**-0.7**
JCJ	**Chichijima**	**2.17**	**185**	Pn	**Pn**	**06 06 41.3**	**-3.8**
	25nm,0.3s,baz=286,slow=23,SNR=32						
JCJ				Sn	**Sn**	**06 07 05.5**	**-5.7**
	77nm,0.3s,baz=281,slow=23,SNR=11						
JHH2	**Haha-jima-NKT2**	**2.63**	**184**	*eP*	**Pn**	**06 06 51.2**	**-0.2**
JHH2				*eS*	**Sn**	**06 07 20.9**	**-1.8**
JHJ2	**Mitsune**	**4.42**	**331**	Pn	**Pn**	**06 07 15.6**	**-0.5**
JHJ2	**Mitsune**	**4.42**	**331**	*eS*	**Sn**	**06 08 03.7**	**-3.1**
JHJ	**Hachijo jima 2**	**4.45**	**330**	Pn	**Pn**	**06 07 13.2**	**-3.1**
	8.3nm,0.3s,baz=218,slow=19,SNR=2.5						
JHJ				Sn	**Sn**	**06 08 02.5**	**-4.8**
	27nm,0.3s,baz=75,slow=19,SNR=2.5						
	101nm,0.6s						
BSO3	**Boso 3**	**5.75**	**344**	*eP*	**Pn**	**06 07 33.8**	**-0.1**
BSO4	**Boso 4**	**5.97**	**343**	*eP*	**Pn**	**06 07 37.0**	**-0.1**
BSO4				*eS*	**Sn**	**06 08 43.4**	**-1.2**
JOD2	**Odawara 2**	**6.60**	**336**	*eP*	**Pn**	**06 07 45.8**	**-0.2**
JOD2				*eS*	**Sn**	**06 08 59.3**	**-1.1**
JHU	**Hanno**	**7.07**	**339**	P	**Pn**	**06 07 51.4**	**-1.0**
JHU				*eS*	**Sn**	**06 09 08.5**	**-3.5**
JYT	**Yasato**	**7.18**	**346**	*eP*	**Pn**	**06 07 52.5**	**-1.4**
JNY	**Yasuok**	**7.18**	**329**	P	**Pn**	**06 07 52.9**	**-1.1**
JRY	**Ryogami san**	**7.35**	**337**	P	**Pn**	**06 07 55.9**	**-0.3**
JRY				*eS*	**Sn**	**06 09 16.1**	**-2.7**
JHO	**Hitachi**	**7.48**	**349**	P	**Pn**	**06 07 55.6**	**-2.3**
JHO				*eS*	**Sn**	**06 09 13.3**	**-8.7**
JAG	**Ashikaga**	**7.55**	**342**	P	**Pn**	**06 07 57.2**	**-1.8**
JAG				*eS*	**Sn**	**06 09 18.2**	**-5.7**
INU	**Inuyama**	**7.58**	**324**	Pn	**Pn**	**06 07 59.6**	**+0.2**
MJAR	**Matsushiro Arr**	**8.06**	**335**	Pn	**Pn**	**06 08 05.4**	**-0.6**
	0.7nm,0

comp=Z,60nm,0.9s
YSS pmax pmax
comp=Z,200nm,5.6s
YSS MLR MLR
comp=Z,400nm,14.0s
YSS MLR MLR
comp=N,400nm,15.0s
YSS MLR MLR
comp=E,300nm,16.0s
MDJ Mudanjiang 18.39 330 P **P** **06 10 23.4 -0.2**
MDJ Mudanjiang 18.39 330 P **P** **06 10 19.1 -4.4**
MDJ S **Sn** **06 13 42.8 -5.5**
MDJ pmax pmax
comp=E,65nm,3.6s
MDJ LR LR
comp=E,460nm,15.3s
MDJ LR LR
comp=E,570nm,15.4s
MDJ LR LR
comp=E,530nm,19.7s
NACB Ninganchiao 19.26 260 P **Pn** **06 10 34.7 +0.3**
UGL Uglegorsk 19.78 359 *eP* **Pn** **06 10 42.6 +2.3**
UGL pmax pmax
comp=Z,80nm,0.9s
CN2 Changchun 19.84 322 *eP* **P** **06 10 38.8 -0.7**
CN2 *es*P pP 06 10 45.0 +0.5
CN2 *eS* **S** **06 14 15.8 -5.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,800nm,14.0s
CN2 LR LR
comp=Z,500nm,14.0s
CN2 LR LR
comp=Z,500nm,15.0s
SSLB Suanglung 19.95 259 P **Pn** **06 10 41.8 -0.7**
BNX BinXian 20.24 328 ⇑P **P** **06 10 43.9 +0.2**
BNX pP Pn 06 10 46.9 +1.1
BNX sP **pP** **06 10 48.4 -0.5**
BNX PP **PnPn** **06 11 00.0 -0.7**
BNX S **S** **06 14 31.4 +1.8**
BNX sS Sn 06 14 33.5 +0.6
BNX pmax pmax
comp=Z,83nm,0.7s
BNX pmax pmax
comp=Z,150nm,4.6s
BNX LR LR
comp=Z,430nm,13.6s
BNX LR LR
comp=Z,380nm,12.5s
BNX LR LR
comp=Z,300nm,16.8s
NJ2 Nanjing 20.44 284 *eP* Pn 06 10 48.0 -0.3
NJ2 pP pP 06 10 50.6 -0.8
NJ2 sP sP 06 10 52.8 -0.7
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
NJ2 pmax pmax
comp=Z,180nm,4.9s
NJ2 LR LR
comp=Z,620nm,15.6s
NJ2 LR LR
comp=Z,430nm,17.5s
NJ2 LR LR
comp=Z,600nm,15.2s
KLR Kul'dur 21.53 341 *ce*P **P** **06 10 58.0 +0.3**
KLR pmax pmax
comp=Z,40nm,1.7s
KLR Kul'dur 21.53 341 P **P** **06 10 56.9 -0.8**
comp=Z,16nm,1.1s,baz=146,slow=9.1,SNR=20
comp=Z,16nm,1.1s
TYV Tymovskoe 21.57 0 *eP* **P** **06 10 58.8 +0.8**
TYV *eS* **S** **06 15 00.5 +4.7**
TYV pmax pmax
comp=Z,300nm,4.8s
TYV pmax pmax
comp=Z,21nm,1.3s
GRNR Gornyy 21.94 350⇑ *iP* **P** **06 11 05.0 +2.9**
GRNR pmax pmax
comp=N,5.0nm,0.9s
GRNR pmax pmax
comp=Z,9.0nm,1.0s
HEH HeiHe 23.83 336 *eP* **P** **06 11 21.5 0.0**
HEH pP **pP** **06 11 26.3 -0.3**
HEH S **S** **06 15 37.6 +1.8**
HEH pmax pmax
comp=Z,33nm,1.1s
HEH pmax pmax
comp=Z,290nm,6.7s
HEH LR LR
comp=Z,520nm,19.2s
HEH LR LR
comp=Z,670nm,16.1s
HEH LR LR
comp=Z,280nm,14.0s
BJT Baijiatuan 24.02 303 P **P** **06 11 23.4 0.0**
BJT Baijiatuan 24.02 303 P **P** **06 11 23.4 0.0**
BJT pmax pmax
comp=Z,7.0nm,0.8s
H11N2 WAKE ISLAND Hy 24.18 108 T T 06 37 08.3
baz=296,slow=74,SNR=4.1
H11N1 WAKE ISLAND Hy 24.19 108 T T 06 37 09.5
baz=296,slow=74,SNR=6.2
H11N3 WAKE ISLAND Hy 24.20 108 T T 06 37 10.0
baz=296,slow=74,SNR=9.2
HNS HongShan 24.46 297 ⇓P **P** **06 11 26.5 -0.9**
HNS *eS* **S** **06 15 48.1 +2.0**
HNS pmax pmax
comp=Z,7.0nm,0.9s
HNS LR LR
comp=Z,410nm,15.9s
HNS LR LR
comp=Z,490nm,15.7s
XLT XiLinHaoTe 25.55 312 *eP* **P** **06 11 38.4 +1.0**
XLT pP pP 06 11 43.6 +0.8
XLT sP sP 06 11 47.4 +2.2
XLT PP **PnPn** **06 12 17.5 +4.1**
XLT S **S** **06 16 12.1 +8.4**
XLT sS sS 06 16 18.0 +4.5
XLT SS **SnSn** **06 17 08.3 +10**
XLT pmax pmax
comp=Z,16nm,0.8s
XLT pmax pmax
comp=Z,170nm,5.1s
XLT LR LR
comp=Z,280nm,14.9s
XLT LR LR
comp=Z,290nm,14.0s
LYN LuoYang 25.90 289 *eP* **P** **06 11 40.9 +0.4**
LYN pmax pmax
comp=Z,21nm,0.5s
PETK Petropavlovsk- 26.34 21 LR LR 06 22 47.6
comp=Z,146nm,20.7s,baz=210,slow=38
HIA Hailar 26.40 325 P **P** **06 11 45.5 +0.5**
HIA IAmb IAmb 06 11 47.4
comp=Z,16nm,0.8s
HIA Hailar 26.40 325 P **P** **06 11 45.5 +0.5**
HIA pmax pmax
comp=Z,16nm,0.8s
PET Petropavlovsk 26.57 22⇓ *iP* **P** **06 11 51.2 +4.8**
PET pmax pmax
comp=Z,28nm,1.4s
ZEA Zeya 26.84 340 *eP* **P** **06 11 49.3 +0.5**
ZEA *e* 06 11 53.9
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,20nm,1.1s
DAV Davao City (W) 27.19 219 LR LR 06 23 48.1
comp=Z,116nm,19.0s,baz=56,slow=39
HHC Hu-ho-hao-te 27.62 303 *eP* **P** **06 11 57.3 +1.2**
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,130nm,4.3s
HHC LR LR
comp=Z,440nm,13.7s
HHC LR LR
comp=Z,470nm,12.8s
HHC LR LR
comp=Z,790nm,14.7s
XAN Xi'an 28.82 288 ⇑P P 06 12 01.0 -5.8
XAN pP pP 06 12 05.1 -7.2
XAN pmax pmax
comp=Z,7.0nm,0.8s
XAN LR LR
comp=N,500nm,15.2s
XAN LR LR
comp=E,590nm,15.9s
XAN LR LR
comp=Z,700nm,14.6s
MA2 Magadan 30.83 8⇓ *eP* **P** **06 12 24.2 -0.1**
MA2 pmax pmax
comp=Z,28nm,1.3s
ULN Ulaanbaatar 32.92 314 P **P** **06 12 44.0 +1.1**
ULN IAmb IAmb 06 12 45.2
comp=Z,9.7nm,0.7s
ULN Ulaanbaatar 32.92 314⇑ *eP* **P** **06 12 43.8 +0.9**
ULN pmax pmax
comp=Z,18nm,1.3s
LZH Lanzhou 33.00 292 *eP* **P** **06 12 42.5 -1.3**
LZH pP pP 06 12 46.0 -3.4
LZH pmax pmax
comp=Z,13nm,0.9s
LZH LR LR
comp=Z,250nm,12.9s
LZH LR LR
comp=Z,370nm,12.2s
LZH LR LR
comp=Z,350nm,14.8s
SHEM Shemya Is, Ala 33.05 36 LR LR 06 28 42.9
comp=Z,72nm,18.0s,baz=230,slow=41
SONM Songino Array 33.32 314 P **P** **06 12 46.7 +0.3**
SONM IAmb IAmb 06 12 49.0
comp=Z,11nm,0.8s
SONM Songino Array 33.32 314 P **P** **06 12 46.7 +0.3**
SONM pmax pmax
comp=Z,11nm,0.8s
SONM Songino Array 33.32 314 P **P** **06 12 47.1 +0.7**
comp=Z,10nm,0.8s,baz=114,slow=8.2,SNR=58
SONM LR LR 06 27 05.3
comp=Z,201nm,18.0s,baz=104,slow=38
comp=Z,10nm,0.8s
YAK Yakutsk 33.82 349⇑ *eP* **P** **06 12 50.4 0.0**
YAK pmax pmax
comp=Z,10.0nm,0.7s
SEY Seymchan 34.29 8⇑ *iP* **P** **06 12 55.1 +0.6**
SEY pmax pmax
comp=Z,13nm,1.0s
SEY Seymchan 34.29 8 LR LR 06 31 45.4
comp=Z,83nm,18.0s,baz=174,slow=45
BOD Bodaibo 34.69 333 *eP* **P** **06 12 58.0 0.0**
BOD pmax pmax
comp=Z,10.0nm,1.0s
PZH PanZhiHua 35.92 276 P **P** **06 13 11.5 +2.3**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.4s
ZAK Zakamensk 36.14 317 *eP* **P** **06 13 11.6 +0.9**
ZAK pmax pmax
comp=Z,12nm,1.1s
GTA Gaotai 36.30 298 *eP* **P** **06 13 12.4 +0.1**
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA LR LR
comp=Z,100nm,16.7s
GTA LR LR
comp=Z,430nm,16.7s
GTA LR LR
comp=Z,250nm,17.1s
MOY Mondy 37.94 318 *eP* **P** **06 13 26.2 +0.2**
CRAI Chiangrai 39.05 266 P **P** **06 13 36.0 +0.5**
CRAI IAmb IAmb 06 13 37.0
comp=Z,17nm,0.8s
KAPI Kappang 40.44 216 LR LR 06 32 30.6
comp=Z,31nm,18.5s,baz=74,slow=39
CHTO Chiang Mai 40.83 265 P **P** **06 13 50.3 -0.1**
CHTO IAmb IAmb 06 13 51.2
comp=Z,15nm,0.8s
CHTO Chiang Mai 40.83 265 P **P** **06 13 50.3 -0.1**
CHTO pmax pmax
comp=Z,15nm,0.9s
CM31 Chiang Mai Arr 40.97 265 P **P** **06 13 51.4 -0.1**
CMAR Chiang Mai Arr 40.97 265 P **P** **06 13 51.6 +0.1**
comp=Z,3.3nm,0.7s,baz=50,slow=7.9,SNR=20
CMAR LR LR 06 32 00.3
comp=Z,166nm,18.9s,baz=70,slow=38
comp=Z,3.3nm,0.7s
BILL Bilibino 41.30 13 P **P** **06 13 51.5 -2.1**
BILL Bilibino 41.30 13⇑ *iP* **P** **06 13 54.0 +0.4**
BILL pmax pmax
comp=Z,14nm,1.0s
EDFI Ende, Flores 42.75 211 P **P** **06 14 04.3 -1.8**
comp=Z,18nm,0.9s
TIXI Tiksi 43.08 354 P **P** **06 14 07.7 -0.3**
TIXI Tiksi 43.08 354⇓ *eP* **P** **06 14 07.2 -0.8**
TIXI pmax pmax
comp=Z,21nm,4.3s
MTN Manton Dam 43.26 196 P **P** **06 14 09.7 -0.4**
MTN IAmb IAmb 06 14 12.8
comp=Z,22nm,0.7s
WMQ Urumqi 45.49 304 *eP* **P** **06 14 29.8 +1.9**
WMQ pP pP 06 14 33.5 -0.2
WMQ pmax pmax
comp=Z,10.0nm,0.7s
DGZ Jazzator, Alta 45.93 312 *de*P **P** **06 14 32.4 +1.1**
DGZ pmax pmax
comp=Z,19nm,0.9s
KULM Kulim 46.08 247 P **P** **06 14 33.9 +1.1**
M11K Mekoryuk 46.13 33 P **P** **06 14 32.0 -0.6**
baz=251
ZSN Zaisan 47.51 309 *eP* **P** **06 14 44.7 +1.2**
baz=309
ZSN Zaisan 47.51 309 *eP* **P** **06 14 44.7 +1.2**
ZAA0 Zalesovo Array 47.99 318 P **P** **06 14 47.7 +0.5**
ZAA0 IAmb IAmb 06 14 49.4
comp=Z,7.7nm,0.8s
ZALV Zalesovo Beam 47.99 318 *i* P **P** **06 14 47.5 +0.3**
ZALV pmax pmax
comp=Z,8.0nm,0.8s
ZALV Zalesovo Beam 47.99 318 P **P** **06 14 47.5 +0.3**
comp=Z,11nm,0.9s,baz=100,slow=7.5,SNR=32
ZALV LR LR 06 35 51.2
comp=Z,224nm,18.8s,baz=90,slow=37
comp=Z,11nm,0.9s
ODAN Odare 48.23 281 *eP* **P** **06 14 48.7 -1.0**
F15K North Star Dit 48.65 26 P **P** **06 14 52.3 +0.2**
baz=248
RAMN Ramite 48.88 281 *eP* **P** **06 14 54.2 -0.5**
comp=Z,23nm,0.9s
JIRN Jiri 49.04 283 *eP* **P** **06 14 55.8 -0.3**
CTA Charters Tower 49.21 175 LR LR 06 36 12.6
comp=Z,51nm,18.2s,baz=296,slow=37
GUN Gumba 49.23 283 *eP* **P** **06 14 57.4 -0.1**
H16K Elim 49.24 28 P **P** **06 14 56.1 -0.5**
baz=251
CMJI Cimerak 49.26 227 P **P** **06 14 56.6 -0.7**
comp=Z,47nm,1.8s
MK31 Makanchi Array 49.27 308 P **P** **06 14 57.8 +0.7**
MK31 Makanchi Array 49.27 308 *ce*P **P** **06 14 57.9 +0.8**
MKAR Makanchi Array 49.27 308 P **P** **06 14 57.8 +0.7**
MKAR Makanchi Array 49.27 308 P **P** **06 14 57.8 +0.7**
MKAR Makanchi Array 49.27 308 P **P** **06 14 57.6 +0.5**
comp=Z,5.6nm,0.7s,baz=92,slow=9.2,SNR=44
MKAR LR LR 06 37 21.0
comp=Z,125nm,19.3s,baz=100,slow=38
comp=Z,5.6nm,0.7s
WB0 Warramunga Arr 49.36 190 P **P** **06 14 57.7 -0.3**
C16K Lisburne Hills 49.41 23 P **P** **06 14 57.8 -0.1**
baz=245
MAKZ Makanchi 49.48 308 P **P** **06 14 59.6 +0.8**
MAKZ IAmb IAmb 06 15 41.1
comp=Z,15nm,1.6s
MAKZ Makanchi 49.48 308 P **P** **06 14 59.6 +0.8**
MAKZ pmax pmax
comp=Z,15nm,1.6s
WR0 Warramunga Arr 49.53 190 P **P** **06 14 59.2 -0.1**
WB2 Warramunga Arr 49.54 190 P **P** **06 14 58.5 -0.9**
WRA Warramunga Arr 49.54 190 P **P** **06 14 59.0 -0.4**
WRA Warramunga Arr 49.54 190 P **P** **06 14 59.3 -0.1**
comp=Z,25nm,0.9s,baz=9.4,slow=8.0,SNR=68
WRA PcP **PcP** **06 16 21.9 +0.9**
comp=Z,2.3nm,0.7s,baz=3.4,slow=3.9,SNR=5.8
comp=Z,25nm,0.9s
FITZ Fitzroy Crossi 49.80 201 P **P** **06 15 02.2 +0.9**
P16K Nushagak River 49.84 36 P **P** **06 15 01.7 +0.5**
baz=260
D17K Noatak River 49.97 24 P **P** **06 15 03.2 +1.0**
baz=248
RDOG Red Dog Mine 50.16 24 P **P** **06 15 03.7 +0.1**
baz=248
C17K DeLong Mountai 50.23 23 P **P** **06 15 04.6 +0.5**
baz=247
K17K Iditarod 50.41 31 P **P** **06 15 06.3 +0.8**
baz=257
M17K Holitna River 50.53 33 P **P** **06 15 07.5 +1.0**
baz=259
SEM Semipalatinsk 50.58 313 *eP* **P** **06 15 08.3 +0.9**
comp=Z,11nm,0.7s,baz=313
SEM Semipalatinsk 50.58 313 *eP* **P** **06 15 08.2 +0.9**
SEM pmax pmax
comp=Z,11nm,0.7s
E18K Tukpahlearik C 50.77 25 P **P** **06 15 09.1 +1.0**
baz=251
DANN Dangsing 50.91 284 *eP* **P** **06 15 09.9 -0.3**
C18K Utukok River 50.97 23 P **P** **06 15 10.2 +0.4**
baz=249
B18K Kokolik River 51.03 22 P **P** **06 15 10.9 +0.8**
baz=248
L18K Granite Mounta 51.04 32 P **P** **06 15 11.1 +0.8**
baz=259
G18K Tagagawik 51.05 27 P **P** **06 15 10.8 +0.4**
baz=254
N18K Kilae Creek 51.15 34 P **P** **06 15 11.1 -0.1**
baz=261
KOLN Koldanda 51.21 283 *eP* **P** **06 15 11.8 -0.6**
comp=Z,48nm,1.0s
TTA Tatalina 51.48 31 P **P** **06 15 14.1 +0.4**
baz=259
A19K Wainwright 51.57 21 P **P** **06 15 14.5 +0.4**
baz=248
KURK Kurchatov 51.62 313 P **P** **06 15 15.7 +0.9**
KURK Kurchatov 51.62 313 *d* *i*P **P** **06 15 15.0 +0.2**
KURK pmax pmax
comp=Z,51nm,1.0s
PYUN Piuthan 51.63 284 *eP* **P** **06 15 15.1 -0.4**
comp=Z,36nm,0.7s
C19K Lookout Ridge 51.67 23 P **P** **06 15 15.4 +0.3**
C19K IAmb IAmb 06 15 16.7
comp=Z,22nm,1.2s
C19K Lookout Ridge 51.67 23 P **P** **06 15 15.5 +0.5**
baz=251
KURBB Kurchatov Arra 51.68 313 P **P** **06 15 15.5 +0.2**
comp=Z,24nm,0.6s,baz=91,slow=7.1,SNR=107
comp=Z,24nm,0.6s
G19K Purcell Mounta 51.73 27 P **P** **06 15 15.4 0.0**
baz=255
H19K Roundabout Mou 51.84 28 P **P** **06 15 16.6 +0.4**
baz=256
N19K Bonanza Creek 51.85 34 P **P** **06 15 16.1 -0.4**
baz=262
J19K Poorman 51.86 30 P **P** **06 15 16.0 -0.4**
baz=258
L19K White Mountain 51.88 32 P **P** **06 15 15.9 -0.7**
baz=261
D19K Kuna River 51.99 24 P **P** **06 15 17.4 +0.1**
baz=253
E19K Redstone River 52.02 25 P **P** **06 15 18.3 +0.7**
baz=254
KPKS Kokpek 52.04 304 *eP* **P** **06 15 18.3 +0.1**
baz=304
KPKS Kokpek 52.04 304 *eP* **P** **06 15 18.3 +0.1**
K20K Telida 52.42 31 P **P** **06 15 21.0 +0.3**
baz=260
H20K Anotleneega Mo 52.47 28 P **P** **06 15 21.2 +0.3**
baz=258
F20K Avaraart Lake 52.48 26 P **P** **06 15 21.7 +0.7**
baz=256
KDAK Kodiak Island 52.52 38 LR LR 06 36 45.3
comp=Z,155nm,20.6s,baz=230,slow=35
J20K Nowinta River 52.53 30 P **P** **06 15 22.4 +1.1**
baz=260
D20K Etivluk River 52.58 24 P **P** **06 15 22.5 +0.7**
baz=254
E20K Nigu River 52.61 24 P **P** **06 15 22.7 +0.7**
baz=255
M20K Styx River 52.64 33 P **P** **06 15 22.7 +0.4**
baz=262
B20K Meade River 52.77 22 P **P** **06 15 23.0 -0.1**
B20K IAmb IAmb 06 15 24.7
comp=Z,9.8nm,0.8s
B20K Meade River 52.77 22 P **P** **06 15 23.6 +0.5**
baz=252
N20K Mount Spurr 53.00 33 P **P** **06 15 25.4 +0.3**
baz=264
IMAR Indian Mountai 53.03 27 P **P** **06 15 25.7 +0.7**
CHKK Chushkaly 53.22 305 *eP* **P** **06 15 26.9 0.0**
baz=305
CHKK Chushkaly 53.22 305 *eP* **P** **06 15 26.8 0.0**
G21K Allakaket 53.23 27 P **P** **06 15 27.4 +0.9**
baz=259
AS31 Alice Springs 53.26 190 P **P** **06 15 27.2 0.0**
ASAR Alice Springs 53.26 190 P **P** **06 15 27.1 -0.2**
ASAR Alice Springs 53.26 190 P **P** **06 15 27.2 0.0**
comp=Z,4.9nm,1.0s,baz=0.9,slow=4.5,SNR=18
ASAR PcP **PcP** **06 16 35.0 +0.1**
comp=Z,1.4nm,0.8s,baz=12,slow=5.8,SNR=4.7
ASAR LR LR 06 37 15.0
comp=Z,107nm,20.3s,baz=358,slow=35
comp=Z,4.9nm,1.0s
MDOK Medeo 53.26 304 *eP* **P** **06 15 28.0 +0.6**
baz=304
MDOK Medeo 53.26 304 *eP* **P** **06 15 27.9 +0.6**
CHUM Lake Minchumin 53.28 30 P **P** **06 15 28.2 +1.3**
baz=262
CAST Castle Rocks 53.32 31 P **P** **06 15 28.3 +1.0**
CAST IAmb IAmb 06 17 00.1
comp=Z,26nm,1.7s
CAST Castle Rocks 53.32 31 P **P** **06 15 27.3 0.0**
baz=262
C21K Knifeblade Rid 53.34 23 P **P** **06 15 28.3 +1.0**
baz=255
H21K Melozitna Rive 53.35 28 P **P** **06 15 28.2 +0.7**
baz=260
AAA Alma-Ata 53.35 304 *eP* **P** **06 15 29.0 +1.1**
baz=304
AAA Alma-Ata 53.35 304 *eP* **P** **06 15 29.0 +1.1**
TNSS Tian-Shan 53.35 304 *eP* **P** **06 15 28.7 +0.3**
baz=304
TNSS Tian-Shan 53.35 304 *eP* **P** **06 15 28.6 +0.3**
F21K Alatna River 53.38 26 P **P** **06 15 28.4 +0.8**
baz=258
SKT Skwentna 53.40 33 P **P** **06 15 27.8 -0.1**
SKT IAmb IAmb 06 15 31.3
comp=Z,26nm,1.3s
SKT Skwentna 53.40 33 P **P** **06 15 27.6 -0.3**
baz=264
E21K Killik River 53.45 24 P **P** **06 15 28.7 +0.5**
baz=257
B21K Ikpikpuk River 53.51 23 P **P** **06 15 29.5 +1.0**
baz=255
BRSE Bradley Lake S 53.60 35 P **P** **06 15 30.9 +1.5**
baz=266
I21K Tanana 53.61 29 P **P** **06 15 30.4 +1.1**
baz=261
KUU Kurty 53.68 305 *eP* **P** **06 15 30.5 +0.3**
comp=Z,5.4nm,0.5s,baz=305
KUU Kurty 53.68 305 *eP* **P** **06 15 30.5 +0.3**
KUU pmax pmax
comp=Z,5.0nm,0.5s
SUA Susitna One 53.73 33 P **P** **06 15 29.9 -0.5**
baz=265
A22K Sinclair Lake 53.76 21 P **P** **06 15 30.7 +0.4**
baz=254
BPAW Bear Paw Mtn. 53.89 30 P **P** **06 15 32.2 +0.7**
baz=263
F22K John River 53.92 26 P **P** **06 15 32.5 +0.9**
baz=259
H22K Ishtalitna Cre 53.97 28 P **P** **06 15 33.3 +1.3**
baz=261
D22K Ayikyak River 54.01 24 P **P** **06 15 33.4 +1.2**
baz=258
CUT Chulitna 54.03 32 P **P** **06 15 32.7 +0.3**
baz=265
G22K Bettles 54.08 26 P **P** **06 15 33.4 +0.7**
baz=260
B22K Teshekpuk Lake 54.09 22 P **P** **06 15 33.3 +0.6**
baz=256
MLY Manley 54.11 29 P **P** **06 15 33.8 +0.7**
baz=262
TRF Thorofare Moun 54.12 31 P **P** **06 15 33.6 +0.3**
TRF Thorofare Moun 54.12 31 P **P** **06 15 33.6 +0.3**
baz=264
E22K Anaktuvuk Pass 54.18 25 P **P** **06 15 33.7 +0.2**
E22K IAmb IAmb 06 15 35.5
comp=Z,12nm,1.0s

E22K Anaktuvuk Pass 54.18 25 P P 06 15 35.1 +1.6
baz=259
RC01 Rabbit Creek A 54.19 34 P P 06 15 33.1 -0.5
baz=266
SEW Seward 54.27 35 P P 06 15 34.6 +0.4
baz=267
PMR Palmer 54.51 33 P P 06 15 35.0 -0.8
PMR Palmer 54.51 33 P P 06 15 35.7 -0.2
baz=266
PMR Palmer 54.51 33 P P 06 15 35.1 -0.8
PMR pmax pmax
comp=Z,40nm,1.6s
G23K Bananza Creek 54.63 27 P P 06 15 37.5 +0.7
G23K lAmb lAmb 06 15 39.0
comp=Z,14nm,0.9s
G23K Bananza Creek 54.63 27 P P 06 15 38.3 +1.5
baz=262
COLD Coldfoot 54.63 26 P P 06 15 37.9 +1.2
baz=261,SNR=5.9
KSH Kashi 54.65 300 P P 06 15 41.3 +3.8
KSH pmax pmax
comp=Z,7.0nm,0.7s
I23K Minto, Yukon-K 54.71 29 P P 06 15 37.9 +0.6
baz=264
D23K Nanushuk River 54.74 24 P P 06 15 39.2 +1.7
baz=260,SNR=8.4
MCK McKinley 54.75 30 P P 06 15 38.7 +0.9
baz=265
NEA2 Nenana 54.77 29 P P 06 15 38.6 +0.8
baz=264
KNK Knik Glacier 54.82 33 P P 06 15 38.6 +0.4
baz=267
WAT1 Susitna Watana 54.86 32 P P 06 15 38.7 +0.2
baz=266
SML Sawmill 54.90 33 P P 06 15 38.7 -0.1
baz=267
C23K Itkillik River 54.92 23 P P 06 15 39.1 +0.3
C23K Itkillik River 54.92 23 P P 06 15 39.8 +1.0
baz=259,SNR=7.0
EIDS Eidsvold 54.96 170 P P 06 15 39.5 -0.1
EIDS lAmb lAmb 06 15 44.5
comp=Z,32nm,1.9s
SGDS Sogindy 54.97 305 *e*P P 06 15 40.1 +0.4
baz=304
SGDS Sogindy 54.97 305 *e*P P 06 15 40.0 +0.4
E23K Chandalar 54.98 25 P P 06 15 40.3 +0.9
baz=261
PSA00 Pilbara Seismi 55.02 206 P P 06 15 40.4 +0.3
PSA00 lAmb lAmb 06 17 15.5
comp=Z,24nm,1.9s
TOLK Toolik Lake Re 55.08 24 P P 06 15 40.8 +0.8
TOLK lAmb lAmb 06 15 42.1
comp=Z,13nm,1.1s
TOLK Toolik Lake Re 55.08 24 P P 06 15 41.5 +1.4
baz=261,SNR=6.1
BTLS Baital 55.15 307 *e*P P 06 15 41.3 +0.5
baz=306
BTLS Baital 55.15 307 *e*P P 06 15 41.3 +0.5
AAK Ala-Archa 55.20 304 P P 06 15 41.0 -0.5
AAK Ala-Archa 55.20 304↓ *e*P P 06 15 41.8 +0.3
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 55.20 304 LR LR 06 41 33.8
comp=Z,127nm,18.1s,baz=82,slow=38
WAT6 Susitna Watana 55.22 32 P P 06 15 41.3 +0.1
baz=267
SCM Sheep Creek Mo 55.38 33 P P 06 15 41.7 -0.7
baz=268
H24K Noodor Dome 55.39 28 P P 06 15 43.3 +1.0
baz=264
E24K Your Creek 55.40 25 P P 06 15 43.9 +1.5
baz=262
D24K Happy Valley 55.43 24 P P 06 15 44.1 +1.7
baz=261
BRZS Berezniki 55.46 313 *e*P P 06 15 43.5 +0.5
comp=Z,10nm,0.9s,baz=313
BRZS Berezniki 55.46 313 *e*P P 06 15 43.5 +0.5
BRZS pmax pmax
comp=Z,10.0nm,0.9s
C24K Franklin Bluff 55.56 23 P P 06 15 44.6 +1.2
baz=261
F24K Squaw Lake 55.56 26 P P 06 15 44.0 +0.5
F24K lAmb lAmb 06 15 46.7
comp=Z,29nm,1.6s
F24K Squaw Lake 55.56 26 P P 06 15 44.9 +1.4
baz=263,SNR=6.8
G24K Hadweenzic Riv 55.63 27 P P 06 15 45.0 +1.0
baz=264
HDA Harding Lake 55.67 30 P P 06 15 43.4 -0.9
baz=266
HDA P P 06 15 43.4 -0.9
baz=266
ILAR Eielson Array 55.72 29 P P 06 15 44.4 -0.3
ILAR Eielson Array 55.72 29 P P 06 15 44.4 -0.3
ILAR Eielson Array 55.72 29 P P 06 15 43.9 -0.8
comp=Z,3.5nm,0.9s,baz=258,slow=6.2,SNR=21
ILAR LR LR 06 39 29.9
comp=Z,46nm,19.1s,baz=259,slow=36
comp=Z,3.5nm,0.9s
KLU Klutina 56.04 33 P P 06 15 47.4 +0.3
baz=269
DZM Mont Dzumac 56.05 153 *e*LR LR 06 32 00.3
comp=Z,107nm,23.8s
G25K Bearman Lake 56.18 27 P P 06 15 48.6 +0.7
baz=266
PAX Paxson 56.27 32 P P 06 15 48.9 +0.2
baz=269
D25K Kavik River 56.31 24 P P 06 15 50.0 +1.1
baz=264
PRP Porcupine Dome 56.34 28 P P 06 15 49.4 +0.1
baz=267
J25K Salcha River, 56.37 30 P P 06 15 49.1 -0.3
baz=268
F25K Christian River 56.42 26 P P 06 15 51.5 +1.7
baz=265
E25K Arctic Village 56.49 25 P P 06 15 50.9 +0.8
E25K lAmb lAmb 06 15 55.0
comp=Z,16nm,0.9s
E25K Arctic Village 56.49 25 P P 06 15 51.9 +1.7
baz=265,SNR=13
BVAR Borovoye Array 56.59 317 P P 06 15 49.3 -1.7
comp=Z,23nm,0.8s,baz=84,slow=6.2,SNR=22
BVAR LR LR 06 41 09.5
comp=Z,162nm,18.6s,baz=78,slow=37
comp=Z,23nm,0.8s
BRVK Borovoye 56.65 317 P P 06 15 52.8 +1.3
BRVK Borovoye 56.65 317 *d* *i*P P 06 15 51.7 +0.2
BRVK pmax pmax
comp=Z,23nm,1.0s
BMRM Bremner River 56.68 34 P P 06 15 52.0 +0.4
baz=271
C26K Camden Bay 56.88 23 P P 06 15 54.3 +1.5
baz=265
SCRK Sand Creek 56.95 30 P P 06 15 53.9 +0.3
baz=269
F26K Sheenjek River 57.00 26 P P 06 15 55.6 +1.8
baz=267
G26K Porcupine Rive 57.11 27 P P 06 15 55.8 +1.4
baz=268
J26L Joseph Creek 57.14 30 P P 06 15 55.3 +0.4
baz=269
CRQE Cirque 57.43 34 P P 06 15 57.7 +0.7
baz=272
MCARA McCarthy VSAT 57.44 33 P P 06 15 57.8 +0.9
baz=272
K27K Chicken 57.80 30 P P 06 16 00.1 +0.7
baz=271
L27K Beaver Creek, 57.94 31 P P 06 16 00.6 +0.2
baz=272
M27K Edge Creek, AK 57.94 32 P P 06 16 00.9 +0.3
baz=272
G27K Doyon Strip 57.95 27 P P 06 16 01.4 +0.9
baz=270
I27K Kandik River 57.97 28 P P 06 16 01.4 +0.7
baz=270
E27K Coleen River 57.98 25 P P 06 16 01.8 +1.1
baz=269
KK31 Karatay Array 57.99 305 P P 06 16 01.9 +0.8
KK31 lAmb lAmb 06 16 03.3
comp=Z,13nm,0.8s
KK31 Karatay Array 57.99 305 P P 06 16 01.9 +0.8
KK31 pmax pmax
comp=Z,13nm,0.8s
KKAR Karatay Array 57.99 305 P P 06 16 02.0 +1.0
KKAR Karatay Array 57.99 305 P P 06 16 02.1 +1.0
H27K Steamboat Moun 58.00 28 P P 06 16 01.8 +1.0
baz=270

NIL Nilore 58.15 293 P P 06 16 02.8 +0.4
NIL Nilore 58.15 293 P P 06 16 02.8 +0.4
NIL pmax pmax
comp=Z,12nm,0.6s
EGAK Eagle 58.18 29 P P 06 16 01.8 -0.2
baz=271
D27M Malcolm River 58.23 24 P P 06 16 03.9 +1.4
baz=269
F28M Old Crow 58.63 26 P P 06 16 05.3 +0.1
F28M lAmb lAmb 06 16 07.6
comp=Z,11nm,1.1s
F28M Old Crow 58.63 26 P P 06 16 06.2 +1.0
baz=271,SNR=5.7
YUK3 Moose Creek 58.64 33 P P 06 16 05.1 -0.5
baz=274
I28M Miner Creek 58.67 29 P P 06 16 05.3 -0.3
I28M lAmb lAmb 06 16 11.9
comp=Z,7.6nm,1.0s
I28M Miner Creek 58.67 29 P P 06 16 06.3 +0.7
baz=272
E28M Babbage River 58.75 25 P P 06 16 06.3 +0.3
E28M lAmb lAmb 06 16 08.5
comp=Z,12nm,1.0s
E28M Babbage River 58.75 25 P P 06 16 07.4 +1.5
baz=270,SNR=12
CHM Chimkent 58.81 304 *e*P P 06 16 07.5 +0.7
baz=304
CHM Chimkent 58.81 304 *e*P P 06 16 07.5 +0.7
DAWY Dawson 58.98 30 P P 06 16 08.6 +0.9
baz=273
YUK8 Steele Glacier 59.01 33 P P 06 16 08.0 -0.2
baz=275
D28M Stokes Point 59.02 24 P P 06 16 08.3 +0.5
baz=271
H29M Whitestone 59.28 28 P P 06 16 10.2 +0.5
baz=273
E29M Blow River 59.36 25 P P 06 16 11.8 +1.6
baz=272
I29M Ogilvie Camp, 59.36 29 P P 06 16 11.5 +1.2
baz=274
G29M Pine Creek 59.38 27 P P 06 16 10.9 +0.5
G29M lAmb lAmb 06 16 17.8
comp=Z,11nm,1.1s
G29M Pine Creek 59.38 27 P P 06 16 12.4 +2.0
baz=273,SNR=5.7
M29M Somme Creek 59.52 32 P P 06 16 12.6 +1.0
baz=275
YUK4 Talbot Arm 59.54 33 P P 06 16 13.4 +1.6
baz=276
L29M L29M 59.61 31 P P 06 16 13.7 +1.6
baz=275
O29M Mount Kennedy 59.69 34 P P 06 16 12.7 -0.1
O29M lAmb lAmb 06 16 25.0
comp=Z,10.0nm,1.1s
O29M Mount Kennedy 59.69 34 P P 06 16 14.2 +1.4
baz=276
YUK6 Outpost Mounta 59.72 34 P P 06 16 13.9 +0.8
baz=276
K29M Barlow Dome 59.81 30 P P 06 16 14.0 +0.4
K29M lAmb lAmb 06 16 17.4
comp=Z,16nm,1.2s
K29M Barlow Dome 59.81 30 P P 06 16 15.2 +1.7
baz=275,SNR=6.6
EPYK Eagle Plains 59.93 27 P P 06 16 14.2 -0.1
EPYK Eagle Plains 59.93 27 P P 06 16 15.7 +1.5
baz=274,SNR=5.2
CHGR Chuyangaron 60.01 300 P P 06 16 15.6 +0.3
CHGR Chuyangaron 60.01 300 P P 06 16 15.6 +0.3
CHGR pmax pmax
comp=Z,47nm,0.8s
G30M tAoh Zraii Nji 60.08 27 P P 06 16 16.4 +1.2
baz=274,SNR=6.3
HYT Haines Junctio 60.15 34 P P 06 16 16.9 +0.9
baz=277
I30M Mount Dempster 60.18 29 P P 06 16 17.1 +1.1
baz=275
P29M Windy Craggy 60.19 35 P P 06 16 17.1 +1.0
baz=277
F30M Barrier River 60.20 26 P P 06 16 17.5 +1.5
baz=274
M30M Minto, Yukon 60.28 32 P P 06 16 18.2 +1.6
baz=276
P30M Million Dollar 60.51 35 P P 06 16 20.0 +1.7
baz=278
STKA Stephens Creek 60.82 181 P P 06 16 19.6 -0.9
comp=Z,2.6nm,0.8s,baz=333,slow=6.8,SNR=2.5
comp=Z,2.6nm,0.8s
G31M Satah River 60.85 27 P P 06 16 20.8 +0.4
baz=276
H31M Peel River 60.95 28 P P 06 16 21.7 +0.5
baz=277
INK Inuvik 60.98 25 P P 06 16 21.2 0.0
INK Inuvik 60.98 25 P P 06 16 21.4 +0.2
baz=276
INK Inuvik 60.98 25 P P 06 16 21.2 0.0
INK pmax pmax
comp=Z,6.0nm,1.2s
INK Inuvik 60.98 25 LR LR 06 45 43.4
comp=Z,26nm,19.4s,baz=4.5,slow=39
F31M Tsiigehtchic 61.00 26 P P 06 16 21.8 +0.4
baz=276
KBL Kabul 61.24 296 P P 06 16 23.7 -0.2
KBL lAmb lAmb 06 16 28.6
comp=Z,6.3nm,0.8s
KBL Kabul 61.24 296 P P 06 16 23.7 -0.2
KBL pmax pmax
comp=Z,6.0nm,0.8s
M31M Drury Creek, Y 61.44 32 P P 06 16 25.9 +1.3
baz=279
WHY Whitehorse 61.45 34 P P 06 16 25.5 +0.7
baz=279
SVE Sverdlovsk 61.63 322↓ *e*P P 06 16 26.9 +1.0
SVE pmax pmax
comp=Z,22nm,1.1s
PALK Pallekele 61.83 262 LR LR 06 42 35.3
comp=Z,50nm,20.8s,baz=168,slow=35
FARO Faro, Yukon 61.91 32 P P 06 16 27.7 0.0
FARO lAmb lAmb 06 16 31.2
comp=Z,15nm,1.4s
FARO Faro, Yukon 61.91 32 P P 06 16 28.9 +1.1
baz=280
R32K Eaglecrest 62.05 36 P P 06 16 29.4 +0.7
baz=281
P33M Teslin, Yukon 62.54 34 P P 06 16 32.5 +0.5
baz=281
ARU Arti 62.84 322 P P 06 16 34.2 +0.3
ARU Arti 62.84 322 *c* *i*P P 06 16 34.5 +0.5
ARU S S 06 25 03.4 +1.6
ARU SS SS 06 29 04.4 -2.0
ARU pmax pmax
comp=Z,24nm,0.8s
ARU Arti 62.84 322 LR LR 06 46 32.5
comp=Z,157nm,19.1s,baz=170,slow=39
A36M Sachs Harbour 63.18 20 P P 06 16 37.0 +1.0
baz=282
ABKAR Akbulak array 63.73 314 P P 06 16 40.4 +0.3
S34M Telegraph Cree 63.89 36 P P 06 16 41.2 +0.3
baz=284
C36M Paulatuk 64.17 23 P P 06 16 42.4 -0.1
C36M Paulatuk 64.17 23 P P 06 16 43.0 +0.5
baz=284
DLBC Dease Lake 64.33 36 LR LR 06 42 22.6
comp=Z,81nm,21.6s,baz=306,slow=34
TGTN Hyland Airport 64.41 32 P P 06 16 45.2 +0.8
baz=284
T35M Bob Quinn 64.58 37 P P 06 16 45.8 +0.3
baz=285
WRGLY Wrigley 66.10 30 P P 06 16 56.2 +1.0
baz=287,SNR=5.1
KIRV Kirov 67.01 325 ↓ *e*P P 06 17 00.4 -0.7
KIRV Kirov 67.01 325 LR LR 06 48 52.4
comp=Z,156nm,18.1s,baz=78,slow=38
PRGR Permogore 67.78 329 *e*P P 06 17 05.2 -0.7
PRGR pmax pmax
comp=Z,18nm,1.1s
GEYT Alibeck 68.50 302 P P 06 17 10.5 -0.4
GEYT lAmb lAmb 06 17 13.9
comp=Z,11nm,0.9s
GEYT Alibeck 68.50 302 P P 06 17 11.7 +0.8
comp=Z,9.6nm,0.9s,baz=96,slow=1.5,SNR=11
comp=Z,9.6nm,0.9s
GYA0B ALIBECK ARRAY 68.50 302 P P 06 17 10.4 -0.5
RES Resolute Bay 69.91 14 LR LR 06 53 18.4
comp=Z,14nm,18.1s,baz=356,slow=40
BELG Belogornoye 70.14 320 *de*P P 06 17 21.8 +1.1
BELG pmax pmax
comp=Z,6.0nm,1.0s

YKA Yellowknife Ar 70.14 29 P P 06 17 20.9 +0.3
YKA Yellowknife Ar 70.14 29 P P 06 17 20.9 +0.3
YKA Yellowknife Ar 70.14 29 P P 06 17 20.4 -0.1
comp=Z,6.4nm,1.1s,baz=293,slow=5.8,SNR=34
comp=Z,6.4nm,1.1s
NEEM North Greenlan 73.22 3 *i*P P 06 17 38.6 -0.6
NEEM lAmb lAmb 06 17 41.9
comp=Z,7.0nm,0.9s
DAG Danmarks Havn 73.56 356 *i*P P 06 17 39.6 -1.3
DAG lAmb lAmb 06 17 43.6
comp=Z,2.6nm,0.8s
MAK Makhachkala 74.01 310 *e*P P 06 17 39.6 -4.4
MAK *e* 06 20 24.3
MAK *e*PPP PPP 06 22 09.2
MAK *e*S **SKiKP** **06 27 10.4 -0.5**
MAK *e*SS **SS** **06 32 02.0 +2.7**
MAK pmax pmax
comp=Z,355nm,1.2s
MAK MLR MLR
comp=Z,202nm,16.0s
KHMM Horse Mountain 74.19 52 P P 06 17 43.8 -1.6
KHMM lAmb lAmb 06 17 49.7
comp=Z,15nm,1.1s
YBH Yreka Blue Hor 74.52 51 LR LR 06 44 07.2
comp=Z,77nm,21.0s,baz=318,slow=31
L04D Klamath Falls 74.58 50 P P 06 17 47.8 +0.1
EDM Edmonton 74.97 37 P P 06 17 49.4 -0.1
EDM lAmb lAmb 06 17 51.1
comp=Z,14nm,1.0s
EDM Edmonton 74.97 37 P P 06 17 49.4 -0.1
EDM pmax pmax
comp=Z,14nm,1.0s
NEW Newport 75.18 43 P P 06 17 51.7 +0.8
baz=297
NEW Newport 75.18 43 LR LR 06 46 01.5
comp=Z,40nm,20.3s,baz=292,slow=32
K05A Summer Lake 75.30 49 P P 06 17 52.2 +0.4
VSR Storozhevoye 75.38 321 *e*P P 06 17 51.3 -0.6
VSR pmax pmax
comp=Z,4.0nm,0.4s
G08A Pilot Rock 75.41 46 P P 06 17 52.3 0.0
VORD Divnogorie 75.43 320 *e*P P 06 17 51.3 -0.9
VORD pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 76.09 334 P P 06 17 56.4 +0.7
FINES FINESS Array B 76.09 334 *i*P P 06 17 58.5 +2.8
FINES pmax pmax
comp=Z,5.0nm,1.0s
FINES FINESS Array B 76.09 334 P P 06 17 56.1 +0.4
comp=Z,5.2nm,1.0s,baz=63,slow=5.0,SNR=7.9
comp=Z,5.2nm,1.0s
ORV Oroville 76.30 52 P P 06 17 57.0 -0.4
ORV lAmb lAmb 06 17 59.4
comp=Z,8.1nm,1.1s
ORV Oroville 76.30 52 P P 06 17 57.0 -0.4
ORV pmax pmax
comp=Z,8.0nm,1.1s
ZEI Tsey 76.46 312 *e*P P 06 17 57.4 -1.1
ZEI pmax pmax
comp=Z,5.0nm,0.9s
J08A Circle Bar Ran 76.60 48 P P 06 17 59.2 +0.1
J08A lAmb lAmb 06 18 01.3
comp=Z,7.9nm,0.9s
KBZ Khabaz 76.68 313 *de*P P 06 18 00.1 +0.7
KBZ pmax pmax
comp=Z,13nm,0.8s
KBZ Khabaz 76.68 313 P P 06 18 00.8 +1.4
comp=Z,14nm,0.8s,baz=71,slow=3.1,SNR=30
KBZ LR LR 06 54 53.2
comp=Z,89nm,20.3s,baz=88,slow=38
comp=Z,14nm,0.8s
KIV Kislovodsk 76.71 313 *e*P P 06 18 03.0 +3.3
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,64nm,18.0s
AFDM Forest Hills D 76.94 53 P P 06 18 00.9 -0.2
VSU Vasula 77.59 331 ↓ *e*P P 06 18 06.5 +2.3
VSU pmax pmax
comp=Z,55nm,2.5s
MSO Missoula 77.76 43 P P 06 18 06.1 +0.5
baz=300
PNTR Pine Nut 77.83 52 P P 06 18 04.7 -1.5
PNTR lAmb lAmb 06 18 08.3
comp=Z,10.0nm,1.0s
YERR Yerington 78.12 52 P P 06 18 07.8 -0.1
YERR lAmb lAmb 06 18 12.0
comp=Z,16nm,1.1s
SUMG Summit 78.43 0 P P 06 18 09.2 +0.1
SUMG lAmb lAmb 06 18 28.7
comp=Z,15nm,1.5s
SUMG Summit 78.43 0 P P 06 18 09.2 +0.1
SUMG pmax pmax
comp=Z,15nm,1.5s
SUMG Summit 78.43 0 *i*P P 06 18 10.1 +1.0
SUMG lAmb lAmb 06 18 12.1
comp=Z,6.9nm,1.0s
BMN Battle Mountai 78.81 50 P P 06 18 11.1 -0.4
BMN Battle Mountai 78.81 50 P P 06 18 11.1 -0.4
BMN pmax pmax
comp=Z,7.0nm,1.1s
LHV Little Huntoon 78.98 52 P P 06 18 12.1 -0.2
LHV lAmb lAmb 06 18 14.9
comp=Z,14nm,1.2s
NVAR Mina Array Bea 79.03 52 P P 06 18 12.3 -0.6
NVAR Mina Array Bea 79.03 52 P P 06 18 14.1 +1.1
comp=Z,6.9nm,1.0s,baz=283,slow=5.0,SNR=33
NVAR LR LR 06 44 45.2
comp=Z,62nm,21.1s,baz=270,slow=29
comp=Z,6.9nm,1.0s
HLID Hailey 79.09 46 P P 06 18 13.5 +0.4
baz=300,SNR=5.2
MNK Minsk 79.42 327 *i*P P 06 18 13.2 -1.2
comp=E,11nm,0.9s
MNK *i*P P 06 18 13.2 -1.2
comp=N,33nm,1.1s
MNK *i*P P 06 18 13.2 -1.2
comp=Z,14nm,0.8s,baz=54
MNK *i*PP **PP** **06 21 12.9 -1.2**
MNK *i*PPP PPP 06 23 01.6
MNK *i*S **S** **06 28 14.7 +0.8**
MNK *i*SS **SS** **06 33 22.6 +2.3**
MNK *i*SSS SSS 06 36 48.2
MNK *i*LQ LQ 06 48 23.8
MNK *i*LR LR 06 54 11.4
MNK *i*LRM MLR 06 56 23.4
comp=N,123nm,17.8s
MNK *i*LRM MLR 06 56 35.3
comp=E,65nm,18.6s
MNK *i*LRM MLR 06 56 53.9
comp=Z,125nm,17.0s
MNK Minsk 79.42 327 *i*P P 06 18 13.2 -1.2
MNK *i* 06 18 21.0
MNK *i* 06 21 12.9
MNK *i*PPP PPP 06 23 01.5
MNK *i*S **S** **06 28 14.6 +0.8**
MNK *i* 06 28 36.2
MNK *i*SS **SS** **06 33 22.6 +2.3**
MNK *i*SSS SSS 06 36 48.2
MNK pmax pmax
comp=E,11nm,0.9s
MNK pmax pmax
comp=Z,14nm,0.9s
MNK pmax pmax
comp=N,33nm,1.1s
MNK MLR MLR
comp=N,123nm,18.0s
MNK MLR MLR
comp=E,65nm,19.0s
MNK MLR MLR
comp=Z,125nm,17.0s
ANN Anapa 79.58 316 *e*P P 06 18 18.4 +3.0
ANN pmax pmax
comp=Z,65nm,1.2s
EGMT Eagleton 79.58 41 P P 06 18 15.2 -0.4
baz=302
PKM Mcpherson Peak 79.65 56 P P 06 18 16.6 +0.3
baz=298
NACGM Naroch 79.69 328 *e*P P 06 18 13.1 -2.7
comp=Z,13nm,0.7s,baz=53
VES Vestal, Richgr 79.72 55 P P 06 18 16.6 +0.2
baz=299
FFC Flin Flon 79.80 32 P P 06 18 16.4 -0.1
FFC lAmb lAmb 06 18 18.1
comp=Z,14nm,1.2s
FFC Flin Flon 79.80 32 P P 06 18 16.4 -0.1

FFC					pmax	pmax		
	comp=Z,15nm,1.3s							
TPH	**Tonopah**	**79.95**	**52**	P	**P**	**06 18 17.5 -0.4**		
TPH	**Tonopah**	**79.95**	**52**	P	**P**	**06 18 17.5 -0.4**		
TPH				pmax	pmax			
	comp=Z,60nm,1.4s							
ELK	**Elko**	**79.97**	**49**	LR	LR	06 52 16.3		
	comp=Z,116nm,18.2s,baz=240,slow=35							
MZP	**Montezuma Peak**	**80.02**	**52**	P	**P**	**06 18 17.3 -1.0**		
ISA	**Isabella, Lake**	**80.24**	**55**	P	**P**	**06 18 18.8 -0.5**		
	baz=299							
ARVC	**Arvin**	**80.24**	**55**	P	**P**	**06 18 18.7 -0.5**		
	baz=299							
GRAC	**Grapevine Rang**	**80.37**	**53**	P	**P**	**06 18 20.4 +0.4**		
	baz=299							
PPT2	**Papeete2**	**80.45**	**116**	*e*LR	LR	06 43 21.0		
	comp=Z,48nm,21.0s							
FCC	**Fort Churchill**	**80.57**	**26**	P	**P**	**06 18 20.8 +0.2**		
FCC				IAmb	IAmb	06 18 24.4		
	comp=Z,18nm,1.5s							
FCC	**Fort Churchill**	**80.57**	**26**	P	**P**	**06 18 20.8 +0.2**		
FCC				pmax	pmax			
	comp=Z,18nm,1.5s							
MPMC	**Manual Prospec**	**80.75**	**54**	P	**P**	**06 18 23.0 +0.8**		
	baz=299							
LRMC	**Laurel Mtn Rad**	**80.89**	**55**	P	**P**	**06 18 23.8 +0.9**		
	baz=299							
R11B	**Troy Canyon, C**	**80.93**	**51**	P	**P**	**06 18 23.6 +0.5**		
	baz=300,SNR=11							
EDW2	**Edwards Air Fo**	**80.96**	**55**	P	**P**	**06 18 24.0 +0.7**		
	baz=299,SNR=5.5							
AKASG	**Malin Array Be**	**80.98**	**324**	P	**P**	**06 18 22.2 -0.7**		
	comp=Z,1.4nm,0.6s,baz=50,slow=5.7,SNR=9.2							
AKASG				LR	LR	06 56 59.9		
	comp=Z,192nm,19.4s,baz=36,slow=38							
	comp=Z,1.4nm,0.6s							
AKBB	**Malin Array Si**	**80.98**	**324**⇓	*e*P	**P**	**06 18 22.4 -0.5**		
AKBB				pmax	pmax			
	comp=Z,28nm,3.3s							
FURC	**Furnace Creek,**	**80.98**	**53**	P	**P**	**06 18 24.4 +1.3**		
	baz=300,SNR=5.5							
H17A	**Grant Village**	**81.04**	**44**	P	**P**	**06 18 26.0 +2.3**		
	baz=302,SNR=7.0							
TPNV	**Topopah Spring**	**81.17**	**53**	P	**P**	**06 18 24.4 -0.1**		
TPNV	**Topopah Spring**	**81.17**	**53**	P	**P**	**06 18 25.2 +0.8**		
	baz=300,SNR=7.9							
TPNV	**Topopah Spring**	**81.17**	**53**	P	**P**	**06 18 24.4 -0.1**		
TPNV				pmax	pmax			
	comp=Z,6.0nm,0.9s							
QSM	**Queen of Sheba**	**81.23**	**54**	P	**P**	**06 18 24.6 +0.1**		
QSM				IAmb	IAmb	06 18 28.5		
	comp=Z,8.0nm,1.0s							
GWY	**Greenwater Val**	**81.26**	**53**	P	**P**	**06 18 24.5 -0.4**		
GWY				IAmb	IAmb	06 18 26.5		
	comp=Z,7.9nm,1.0s							
RLMT	**Red Lodge**	**81.43**	**43**	P	**P**	**06 18 26.3 +0.6**		
	baz=303							
HFS	**Hagfors**	**81.51**	**337**	P	**P**	**06 18 24.9 -0.6**		
	comp=Z,2.6nm,0.9s,baz=0.0,slow=3.5,SNR=1.3							
HFS				LR	LR	06 57 11.8		
	comp=Z,94nm,18.6s,baz=30,slow=38							
	comp=Z,2.6nm,0.9s							
GSC	**Goldstone, Bar**	**81.60**	**54**	P	**P**	**06 18 27.7 +1.0**		
	baz=300,SNR=5.1							
NOA	**NORSAR Array B**	**81.67**	**338**	P	**P**	**06 18 26.3 -0.2**		
	comp=Z,1.7nm,0.8s,baz=40,slow=4.9,SNR=4.0							
NOA				LR	LR	06 59 47.6		
	comp=Z,50nm,20.4s,baz=20,slow=39							
	comp=Z,1.7nm,0.8s							
SHOC	**Shoshone, Teco**	**81.68**	**54**	P	**P**	**06 18 27.0 +0.1**		
	baz=300							
DUG	**Dugway, Tooele**	**81.84**	**48**	P	**P**	**06 18 29.0 +1.1**		
	baz=301,SNR=8.4							
ICESG	**Greenland Ices**	**81.92**	**1**	*i* P	**P**	**06 18 28.5 +0.5**		
TUQ	**Turquoise Moun**	**82.16**	**54**	P	**P**	**06 18 30.1 +0.4**		
	baz=300							
MURC	**Murrieta**	**82.17**	**56**	P	**P**	**06 18 29.9 +0.3**		
	baz=300							
HEC	**Hector,Ludlow**	**82.17**	**55**	P	**P**	**06 18 29.9 +0.3**		
	baz=300							
CTU	**Camp Tracy**	**82.27**	**48**	P	**P**	**06 18 29.4 -0.8**		
LAO	**LASA Array**	**82.32**	**40**	P	**P**	**06 18 31.3 +1.1**		
	baz=305							
DGMT	**Dagmar**	**82.41**	**38**	P	**P**	**06 18 31.1 +0.6**		
	baz=306							
BW06	**Boulder Array**	**82.54**	**45**	P	**P**	**06 18 32.4 +0.8**		
	baz=303							
PDAR	**Pinedale Array**	**82.54**	**45**	P	**P**	**06 18 32.0 +0.4**		
	comp=Z,3.3nm,1.0s,baz=283,slow=3.1,SNR=15							
PDAR				LR	LR	06 51 45.6		
	comp=Z,43nm,18.9s,baz=315,slow=33							
	comp=Z,3.3nm,1.0s							
GMRC	**Granite Mounta**	**82.67**	**54**	P	**P**	**06 18 32.8 +0.4**		
	baz=300							
PFO	**Pinyon Flats O**	**82.69**	**56**	P	**P**	**06 18 31.3 -1.1**		
PFO				IAmb	IAmb	06 18 35.5		
	comp=Z,14nm,1.4s							
PFO	**Pinyon Flats O**	**82.69**	**56**	P	**P**	**06 18 32.6 +0.2**		
	baz=300							
PFO	**Pinyon Flats O**	**82.69**	**56**	P	**P**	**06 18 31.3 -1.1**		
PFO				pmax	pmax			
	comp=Z,14nm,1.4s							
PFO	**Pinyon Flats O**	**82.69**	**56**	LR	LR	06 52 05.8		
	comp=Z,71nm,19.7s,baz=266,slow=33							
TPFO	**Pinon Flats**	**82.70**	**56**	P	**P**	**06 18 32.9 +0.4**		
	baz=300							
BELC	**Belle Mtn. Jos**	**82.83**	**55**	P	**P**	**06 18 32.9 -0.3**		
	baz=300							
MONP2	**Monument Peak**	**83.08**	**56**	P	**P**	**06 18 34.2 -0.4**		
	baz=300							
IRM	**Iron Mountain**	**83.36**	**55**	P	**P**	**06 18 36.3 +0.6**		
	baz=301							
BC3	**Big Chuckawall**	**83.39**	**55**	P	**P**	**06 18 37.0 +1.0**		
	baz=301,SNR=5.1							
IKP	**In-Ko-Pah, Jac**	**83.43**	**56**	P	**P**	**06 18 36.7 +0.5**		
	baz=300							
TAOE	**Nuku Hiva Isla**	**83.50**	**104**	*e*LR	LR	06 44 38.3		
	comp=Z,45nm,22.1s							
SFJD	**Kangerlussuaq**	**83.53**	**5**	LR	LR	07 01 27.0		
	comp=Z,30nm,19.5s,baz=14,slow=40							
SRU	**San Rafael Swe**	**83.91**	**48**	P	**P**	**06 18 37.9 -0.8**		
SRU				IAmb	IAmb	06 18 40.4		
	comp=Z,9.0nm,1.1s							
SRU	**San Rafael Swe**	**83.91**	**48**	P	**P**	**06 18 37.9 -0.8**		
SRU				pmax	pmax			
	comp=Z,9.0nm,1.1s							
PDMCI	**Parker Dam,Lak**	**84.00**	**54**	P	**P**	**06 18 39.6 +0.6**		
	baz=301							
FRB	**Frobisher Bay**	**84.12**	**13**	LR	LR	06 58 46.3		
	comp=Z,28nm,20.3s,baz=307,slow=38							
GLA	**Glamis**	**84.15**	**55**	P	**P**	**06 18 38.5 -1.4**		
	baz=301							
K22A	**Casper**	**84.45**	**44**	P	**P**	**06 18 42.0 +0.7**		
	baz=305							
BR131	**Keskin Array S**	**84.67**	**313**	P	**P**	**06 18 43.0 +0.5**		
BR131				IAmb	IAmb	06 18 44.7		
	comp=Z,6.5nm,0.8s							
BR131	**Keskin Array S**	**84.67**	**313**⇓	*i* P	**P**	**06 18 43.5 +1.0**		
BRTR	**Keskin Array B**	**84.67**	**313**	P	**P**	**06 18 42.7 +0.2**		
BRTR	**Keskin Array B**	**84.67**	**313**	P	**P**	**06 18 43.3 +0.8**		
	comp=Z,5.2nm,0.8s,baz=107,slow=4.5,SNR=20							
BRTR				LR	LR	07 00 31.8		
	comp=Z,39nm,18.4s,baz=92,slow=39							
	comp=Z,5.2nm,0.8s							
O20A	**White River Ci**	**84.82**	**47**	P	**P**	**06 18 44.4 +1.1**		
	baz=304,SNR=5.9							
RSSD	**Black Hills**	**85.07**	**42**	P	**P**	**06 18 44.8 +0.3**		
	baz=306							
WUAZ	**Wupatki**	**85.28**	**52**	P	**P**	**06 18 44.8 -0.9**		
WUAZ				IAmb	IAmb	06 18 48.7		
	comp=Z,10nm,1.1s							
WUAZ	**Wupatki**	**85.28**	**52**	P	**P**	**06 18 46.9 +1.2**		
	baz=303,SNR=8.3							
ULM	**Lac du Bonnet**	**85.52**	**33**	P	**P**	**06 18 46.3 -0.1**		
	comp=Z,3.6nm,1.0s,baz=49,slow=6.7,SNR=4.3							
ULM				LR	LR	06 55 41.3		
	comp=Z,40nm,21.5s,baz=268,slow=35							
	comp=Z,3.6nm,1.0s							
N23A	**Red Feather La**	**85.82**	**45**	P	**P**	**06 18 48.9 +0.5**		
N23A	**Red Feather La**	**85.82**	**45**	P	**P**	**06 18 49.5 +1.1**		
	baz=306,SNR=8.4							
214A	**Organ Pipe Nat**	**86.18**	**55**	P	**P**	**06 18 51.3 +1.3**		
	baz=302							
MVCO	**Mesa Verde**	**86.29**	**49**	P	**P**	**06 18 51.8 +1.1**		
	baz=304							
ISCO	**Idaho Springs**	**86.67**	**46**	P	**P**	**06 18 53.3 +0.7**		
	baz=306							
AGMN	**Agassiz Nation**	**86.83**	**35**	P	**P**	**06 18 52.4 -0.4**		
	baz=312							
S22A	**4UR Ranch, Cre**	**87.08**	**48**	P	**P**	**06 18 55.6 +1.0**		
	baz=305							
MMAI	**Mount Meron Ar**	**87.18**	**306**	P	**P**	**06 18 55.1 +0.2**		
	comp=Z,6.9nm,0.9s,baz=42,slow=5.1,SNR=6.4							
MMAI				LR	LR	07 02 57.0		
	comp=Z,34nm,18.6s,baz=32,slow=39							
	comp=Z,6.9nm,0.9s							
VYHS	**Vyhne**	**87.60**	**326**	*e*P	**P**	**06 18 57.4 +0.9**		
VYHS	**Vyhne**	**87.60**	**326**	*e*P	**P**	**06 18 57.5 +0.9**		
SDCO	**Great Sand Dun**	**87.94**	**47**	P	**P**	**06 18 59.8 +1.0**		
	baz=306							
VRAC	**Vranov**	**88.10**	**328**	LR	LR	07 01 37.9		
	comp=Z,79nm,19.0s,baz=30,slow=38							
OGNE	**Ogallala**	**88.17**	**43**	P	**P**	**06 19 00.8 +1.3**		
	baz=308							
ANMO	**Albuquerque**	**88.94**	**50**	P	**P**	**06 19 04.3 +0.8**		
	baz=305							
T25A	**Trinidad**	**89.00**	**47**	P	**P**	**06 19 04.0 +0.3**		
	baz=307							
EYMN	**Ely**	**89.20**	**33**	P	**P**	**06 19 04.4 +0.3**		
	baz=315							
ECSD	**EROS Data Cent**	**89.48**	**38**	P	**P**	**06 19 05.5 0.0**		
	baz=311							
GERES	**GERESS Array B**	**89.75**	**329**	LR	LR	07 03 38.1		
	comp=Z,71nm,18.2s,baz=78,slow=38							
MNTX	**Cornudas Mount**	**91.56**	**52**	P	**P**	**06 19 16.3 +0.8**		
	baz=306							
MSTX	**Muleshoe**	**91.97**	**49**	P	**P**	**06 19 17.4 0.0**		
	baz=308							
AMTX	**Amarillo**	**92.12**	**48**	P	**P**	**06 19 19.1 +0.9**		
	baz=308							
LPIG	**La Paz**	**92.28**	**61**	LR	LR	06 53 26.1		
	comp=Z,40nm,19.9s,baz=20,slow=31							
SCHQ	**Schefferville**	**92.54**	**16**	LR	LR	07 05 09.8		
	comp=Z,20nm,20.1s,baz=56,slow=38							
KSU1	**Kansas State U**	**92.55**	**42**	P	**P**	**06 19 21.0 +1.1**		
	baz=311							
TXAR	**Lajitas Array**	**94.15**	**53**	P	**P**	**06 19 29.0 +1.4**		
TXAR	**Lajitas Array**	**94.15**	**53**	P	**P**	**06 19 29.0 +1.4**		
	comp=Z,4.5nm,1.0s,baz=304,slow=2.6,SNR=26							
	comp=Z,4.5nm,1.0s							
ABTX	**Abilene, Hawle**	**94.85**	**48**	P	**P**	**06 19 31.6 +1.0**		
	baz=309							
JCT	**Junction City**	**96.10**	**50**	P	**P**	**06 19 36.8 +0.4**		
	baz=309							
CCM	**Cathedral Cave**	**96.33**	**40**	P	**P**	**06 19 38.2 +1.0**		
	baz=315							
SADO	**Sadowa**	**97.14**	**28**	LR	LR	07 05 58.7		
	comp=Z,23nm,19.1s,baz=330,slow=37							
QSPA	**South Pole Qui**	**119.03**	**180**	PKP	**PKPdf**	**06 24 55.8 -0.5**		
	comp=Z,0.5nm,0.8s,baz=76,slow=4.8,SNR=3.9							
TORD	**Torodi Ar. Bea**	**123.28**	**312**	PKP	**PKPdf**	**06 25 05.5 -0.6**		
	comp=Z,0.8nm,0.9s,baz=302,slow=2.4,SNR=4.2							
PLCA	**Paso Flores**	**150.85**	**122**	PKIKP	**PKPbc**	**06 26 01.0 0.0**		
PLCA	**Paso Flores**	**150.85**	**122**	PKPbc	**PKPbc**	**06 26 00.9 0.0**		
	comp=Z,2.1nm,0.8s,baz=285,slow=1.8,SNR=4.9							

***IDC* 23 06:17:04.7±1.5, 5°41S×150°44E, *h*0km, *mb*3.2/2, *mbtmp*3.3/2, MS3.7/1, Error ellipse: s-maj=97.3km s-min=20.2km az=141.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.93**	**55**	Pn	Pn	06 17 39.3	+0.5
	77nm,0.3s,baz=225,slow=9.9,SNR=10						
KRVT				Sn	Sn	06 18 04.1	+0.4
	139nm,0.3s,baz=332,slow=21,SNR=9.9						
WRA	**Warramunga Arr**	**21.31**	**226**	P	P	06 21 53.8	+0.5
	0.5nm,0.5s,baz=52,slow=11,SNR=7.3						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**24.15**	**220**	P	P	06 22 22.7	-0.1
	0.6nm,0.7s,baz=57,slow=9.0,SNR=8.4						
	0.6nm,0.7s						
NWAO	**Narrogin (SRO)**	**41.30**	**224**	LR	LR	06 44 07.8	
	comp=Z,94nm,18.2s,baz=100,slow=39						
TORD	**Torodi Ar. Bea**	**148.24**	**286**	PKPbc	PKPbc	06 36 52.7	-1.2
	0.5nm,0.6s,baz=63,slow=4.0,SNR=2.8						

IDC ***23*** *06:24:15.8±5.6, 31°17S×179°82W, h288km±49km, mb2.9/3, mbtmp3.6/4, Error ellipse: s-maj=47.2km s-min=25.0km az=43.0*

WEL ***23*** *06:24:25.9±1.1, 31°S±8°×17°9E±1°3, h33km, M4.5/4, mB4.4/1, ML4.9/6, MLv4.5/4, Mw(mB)3.6/1, Error ellipse: s-maj=0.0km s-min=0.0km az=121.0, confirmed*

ISC 23 06:24:21.1±0.8, 31°43S±0°10×179°8W±0°2, h350km, n21, σ1s95/32, mb3.1/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.72**	**38**	P	**Pn**	**06 25 18.8**	**+0.7**
GLKZ				S	**S**	**06 26 01.4**	**-2.4**
PKGZ	**Pakihiroa**	**6.67**	**194**	S	**S**	**06 27 19.4**	**-0.3**
RUGZ	**Raukumara Rang**	**6.84**	**197**	P	Pn	06 26 05.3	+3.6
RUGZ				S	**S**	**06 27 20.0**	**-3.3**
MWZ	**Matawai**	**7.23**	**197**	P	**Pn**	**06 26 08.4**	**+2.3**
MWZ				S	**S**	**06 27 29.6**	**-1.8**
URZ	**Urewera**	**7.27**	**199**	P	**Pn**	**06 26 03.9**	**-2.6**
	1.6nm,0.3s,baz=195,slow=16,SNR=1.4						
URZ				S	**S**	**06 27 28.8**	**-3.4**
	5.8nm,0.3s,baz=333,slow=22,SNR=13						
URZ	**Urewera**	**7.27**	**199**	P	**Pn**	**06 26 08.3**	**+1.9**
URZ				S	**S**	**06 27 29.6**	**-2.6**
MUGZ	**Murupara**	**7.57**	**201**	P	**Pn**	**06 26 13.2**	**+3.1**
MUGZ				S	**S**	**06 27 36.3**	**-2.4**
SNGZ	**Shannon Statio**	**7.70**	**197**	P	**Pn**	**06 26 14.3**	**+2.8**
SNGZ				S	**S**	**06 27 39.1**	**-2.5**
NTVZ	**North Tongarir**	**8.49**	**204**	P	**P**	**06 26 22.7**	**-1.1**
NTVZ				S	**S**	**06 28 00.3**	**+1.3**
TMVZ	**Te Maari**	**8.49**	**204**	P	**P**	**06 26 23.4**	**-0.5**
TMVZ				S	**S**	**06 27 59.8**	**+0.7**
ETVZ	**East Tongariro**	**8.51**	**204**	P	**P**	**06 26 23.5**	**-0.5**
ETVZ				S	**S**	**06 27 57.9**	**-1.6**
OTVZ	**Oturere**	**8.55**	**204**	P	**P**	**06 26 23.8**	**-0.8**
OTVZ				S	**S**	**06 27 59.4**	**-1.0**
SNVZ	**South Ngauruho**	**8.58**	**204**	P	**P**	**06 26 23.7**	**-1.1**
SNVZ				S	**S**	**06 27 59.6**	**-1.5**
ASAR	**Alice Springs**	**41.50**	**269**	P	**P**	**06 31 35.8**	**+0.3**
	0.2nm,0.7s,baz=102,slow=8.6,SNR=4.3						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**42.58**	**274**	P	**P**	**06 31 44.1**	**-0.1**
	0.3nm,0.3s,baz=111,slow=8.1,SNR=18						
	0.3nm,0.3s						
QSPA	**South Pole Qui**	**58.69**	**180**	P	**P**	**06 33 45.3**	**+2.6**
	0.8nm,0.5s,baz=118,slow=2.9,SNR=6.2						
	0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**120.65**	**314**	PKP	**PKiKP**	**06 42 31.1**	**-0.2**
	0.3nm,0.4s,baz=121,slow=2.0,SNR=2.4						
BVAR	**Borovoye Array**	**126.03**	**315**	PKP	**PKiKP**	**06 42 42.3**	**+0.3**
	0.5nm,0.4s,baz=92,slow=4.3,SNR=2.4						
FINES	**FINESS Array B**	**145.54**	**338**	PKPbc	**PKiKP**	**06 43 18.6**	**-2.8**
	1.7nm,0.4s,baz=46,slow=4.0,SNR=26						
HFS	**HFS**	**149.90**	**347**	PKPbc	**PKiKP**	**06 43 30.0**	**-0.4**
	3.8nm,0.9s,baz=151,slow=3.3,SNR=4.3						
AKASG	**Malin Array Be**	**151.12**	**320**	PKPbc	**PKiKP**	**06 43 33.7**	**+0.6**
	0.4nm,0.4s,baz=33,slow=2.2,SNR=2.1						

IDC ***23*** *06:31:00.2±1.1, 7°48N×127°11E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=38.1km s-min=20.1km az=60.0*

ISC 23 06:31:07.5±1.1, 7°4N±0°2×126°9E±0°1, h52km, n13, σ0s68/9, mb3.8/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.33**	**258**	Pn	**Pn**	**06 31 29.6**	**-0.2**
	116nm,0.3s,baz=234,slow=6.2,SNR=10						
DAV				Sn	**Sn**	**06 31 46.6**	**+0.2**
	291nm,0.3s,baz=234,slow=22,SNR=6.1						
DAV				LR	LR	06 32 08.4	
	comp=Z,342nm,18.3s,baz=163,slow=43						
WRA	**Warramunga Arr**	**28.10**	**165**	P	**P**	**06 36 53.5**	**-1.2**
	0.3nm,0.5s,baz=345,slow=10.0,SNR=2.3						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**31.59**	**168**	P	**P**	**06 37 25.4**	**-0.1**
	0.6nm,0.3s,baz=347,slow=7.4,SNR=23						
ASAR				PcP	**PcP**	**06 40 17.6**	**+0.6**
	0.2nm,0.5s,baz=352,slow=2.2,SNR=4.5						
	0.6nm,0.3s						
H11S3	**WAKE ISLAND Hy 40.25**	**70**		T	T	07 22 08.2	
	baz=262,slow=74,SNR=12						
H11S1	**WAKE ISLAND Hy 40.26**	**70**		T	T	07 22 09.5	
	baz=262,slow=74,SNR=8.2						
H11S2	**WAKE ISLAND Hy 40.26**	**70**		T	T	07 22 07.7	
	baz=262,slow=74,SNR=8.4						
H11N1	**WAKE ISLAND Hy 40.67**	**68**		T	T	07 22 43.3	
	baz=265,slow=74,SNR=5.0						
H11N2	**WAKE ISLAND Hy 40.68**	**68**		T	T	07 22 48.5	
	baz=265,slow=74,SNR=3.8						
H11N3	**WAKE ISLAND Hy 40.69**	**68**		T	T	07 22 46.0	
	baz=265,slow=74,SNR=6.6						
STKA	**Stephens Creek**	**41.46**	**161**	P	**P**	**06 38 50.2**	**+0.7**
	1.4nm,0.5s,baz=333,slow=11,SNR=3.0						
	1.4nm,0.5s						
MKAR	**Makanchi Array**	**54.71**	**324**	P	**P**	**06 40 32.0**	**+0.4**
	0.4nm,0.4s,baz=117,slow=6.5,SNR=7.9						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**58.81**	**326**	P	**P**	**06 41 00.0**	**-0.5**
	0.4nm,0.6s,baz=122,slow=7.3,SNR=5.1						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**121.88**	**290**	PKP	**PKPdf**	**06 49 56.9**	**-0.2**
	0.2nm,0.7s,baz=96,slow=0.5,SNR=1.7						

IDC ***23*** *06:33:16.3±0.9, 24°12N×122°44E, h0km, mb4.0/13, mbtmp4.0/14, ML3.3/1, MS3.3/11, Error ellipse: s-maj=27.9km s-min=18.3km az=58.0*

NEIC ***23*** *06:33:17.5±1.1, 23°96N±0°05×122°46E±0°05, h10km±1km, mb4.2/10, Error ellipse: s-maj=10.5km s-min=6.6km az=322.0*

ASIES ***23*** *06:33:20.1, 23°94N×122°42E, h16km, ML4.3, Mw4.1, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}1.04; $M_{\theta\theta}$-1.13; $M_{\phi\phi}$0.09; $M_{r\theta}$0.92; $M_{\theta\phi}$0.22; $M_{r\phi}$0.47; Fault plane solution: $M_0$1.51069×10^{22} NP1:ϕ_s76.58000°, δ67.33000°, λ69.62000°. NP2:ϕ_s300.53000°, δ30.11000°, λ129.82000°. Principal axes: T Plg62.1470°, Azm314.7900°; N Plg18.7390°, Azm84.7290°; P Plg19.8310°, Azm181.7560°;*

JMA ***23*** *06:33:20.0±0.2, 24°0N±0°9×122°4E±0°3, h18km±3km, MD4.2/15, MV3.8/15, TAIWAN REGION*

TAP ***23*** *06:33:20.1, 23°94N×122°42E, h16km, ML4.3, C*

NIED ***23*** *06:33:20.0, 23°97N×122°37E, h18km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.82; $M_{\theta\theta}$-1.17; $M_{\phi\phi}$0.35; $M_{r\theta}$1.46; $M_{\theta\phi}$0.02; $M_{r\phi}$0.83; Fault plane solution: $M_0$1.98000×10^{15} NP1:ϕ_s64.00000°, δ77.00000°, λ72.00000°. NP2:ϕ_s299.00000°, δ22.00000°, λ143.00000°.*

ISC 23 06:33:18.5±1.0, 23°96N±0°01×122°40E±0°01, h17km±6km, n217, σ0s88/367, mb4.1/17, MS3.3/9, 11C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.18**	**335**	P	**Pb**	**06 33 25.2**	**+2.1**
	baz=333						
EOS4				S	**Sb**	**06 33 28.7**	**+2.5**
	baz=333						
EOS3	**EOS3**	**0.33**	**347**	⇓P	**Pn**	**06 33 27.6**	**-0.9**
	baz=345						
EOS3				S	**Sb**	**06 33 32.6**	**+1.6**
	baz=345						
EOS2	**EOS2**	**0.48**	**341**	⇓P	**Pn**	**06 33 30.2**	**-0.3**
	baz=340						
EOS2				S	**Sn**	**06 33 37.4**	**-1.1**
	baz=340						
EHP	**Heping Village**	**0.70**	**300**	P	**Pn**	**06 33 33.4**	**-0.2**
	baz=300						
EHP				S	**Sn**	**06 33 43.6**	**-0.4**
	baz=300						
JYNG	**Yonagunijimaku**	**0.70**	**45**	P	**Pn**	**06 33 33.6**	**0.0**
JYNG				S	**Sb**	**06 33 42.4**	**+0.8**
JYNG	**Yonagunijimaku**	**0.70**	**45**	A	A	06 33 33.6	
	comp=E,21nm,1.1s,comp=N,28nm,0.9s						
EAHA	**Aohua**	**0.71**	**301**	P	**Pn**	**06 33 33.6**	**-0.1**
	baz=302						
EAHA				S	**Sn**	**06 33 44.0**	**-0.2**
	baz=302						
HWA	**Hwalien**	**0.73**	**272**	*i* P	**Pn**	**06 33 34.6**	**+0.6**
	baz=272						
HWA				S	**Sn**	**06 33 44.3**	**-0.5**
	baz=272						
ETL	**Fush Village**	**0.74**	**286**	P	**Pn**	**06 33 34.3**	**+0.1**
	baz=286						
ETL				S	**Sn**	**06 33 44.4**	**-0.7**
	baz=286						
TWD	**Chiawan**	**0.75**	**279**	*i* P	**Pn**	**06 33 34.1**	**-0.2**
	baz=280						
TWD				*i* S	**Sn**	**06 33 44.4**	**-0.8**
	baz=280						
EWUT	**Wuta**	**0.75**	**310**	P	**Pn**	**06 33 33.9**	**-0.4**
	baz=310						
EWUT				S	**Sn**	**06 33 44.5**	**-0.7**
	baz=310						
YOJ	**Yonaguni jima**	**0.75**	**48**		**Pn**	**06 33 34.0**	**-0.3**
YOJ	**Yonaguni jima**	**0.75**	**48**	P	**Pn**	**06 33 34.9**	**+0.6**
YOJ	**Yonaguni jima**	**0.75**	**48**	*e*P	**Pn**	**06 33 34.6**	**+0.3**
YOJ				S	**Sb**	**06 33 43.9**	**+0.9**
YOJ	**Yonaguni jima**	**0.75**	**48**	A	A	06 33 34.6	
	comp=E,14nm,1.0s,comp=N,12nm,1.0s						
YOJ	**Yonaguni jima**	**0.75**	**48**	P	**Pn**	**06 33 34.6**	**+0.3**
	baz=45						
YOJ				S	**Sb**	**06 33 44.3**	**+1.3**
	baz=45						
ENA	**Nanau**	**0.76**	**308**⇓	*i* P	**Pn**	**06 33 34.0**	**-0.4**
	baz=308						
ENA				S	**Sb

ILA iS Sn 06 33 51.9 +0.4
baz=323
HGSD Ruisui 1.01 243 P Pg 06 33 38.1 0.0
baz=243
HGSD S Sb 06 33 50.9 +0.4
baz=243
TWE Neicheng 1.01 319⇓iP Pn 06 33 38.4 +0.5
baz=319
TWE iS Sn 06 33 52.4 +0.6
baz=319
ENTT Nioudou 1.02 312⇑iP Pn 06 33 38.8 +0.7
baz=312
ENTT S Sn 06 33 52.0 0.0
baz=312
NTC Toucheng 1.03 330 P Pn 06 33 39.4 +1.1
baz=329
NTC S Sn 06 33 52.8 +0.5
baz=329
NDT Datong Townshi 1.03 308 P Pn 06 33 39.0 +0.7
baz=308
NDT S Sn 06 33 52.0 -0.3
baz=308
NNSB Datong 1.04 297 ⇑P Pn 06 33 39.0 +0.5
baz=297
NNSB S Sn 06 33 52.5 -0.2
baz=297
NNS Nan Shan 1.05 297⇑iP Pn 06 33 39.2 +0.5
baz=297
NNS iS Sn 06 33 53.0 0.0
baz=297
WHF Hehuan Shan 1.05 280 iP Pn 06 33 39.4 +0.5
baz=280
WHF iS Sg 06 33 52.5 -0.4
baz=280
ECBN Changbin 1.08 234 P Pg 06 33 39.6 +0.1
baz=234
ECBN S Sg 06 33 53.8 +0.2
baz=234
EHY Hungye 1.09 246 iP Pg 06 33 39.6 0.0
baz=246
EHY iS Sg 06 33 53.6 -0.2
baz=246
FUSB Fushanzhiwuyua 1.09 317 P Pg 06 33 39.9 +0.3
baz=317
FUSB S Sn 06 33 55.4 +1.6
baz=317
FUSS Fushou 1.10 285 P Pg 06 33 40.2 +0.4
baz=285
FUSS S Sn 06 33 54.4 +0.2
baz=285
TWB1 Santiao Chiao 1.11 340 iP Pg 06 33 39.6 -0.4
baz=340
TWB1 iS Sn 06 33 54.4 +0.2
baz=340
OWD Renai 1.12 270 P Pg 06 33 40.4 +0.2
baz=270
OWD S Sg 06 33 54.7 -0.2
baz=270
CHGB Renai 1.13 275 P Pg 06 33 40.3 0.0
baz=275
CHGB S Sn 06 33 55.5 +0.5
baz=275
TIPB Shuangxi 1.14 333 P Pg 06 33 40.3 -0.2
baz=332
TIPB S Sn 06 33 55.2 +0.3
baz=332
NWLT Wulai 1.16 315 P Pg 06 33 40.9 0.0
baz=314
NWLT S Sn 06 33 56.7 +1.3
baz=314
TWT Tachien 1.16 285 iP Pg 06 33 41.4 +0.5
baz=285
TWT S Sn 06 33 56.7 +1.0
baz=285
YULB Yu-li 1.16 241 Pb 06 33 40.5 +0.4
YULB Yu-li 1.16 241 P Pg 06 33 40.7 -0.2
baz=241
YULB S Sb 06 33 55.1 +0.3
baz=241
EYUL Yuli 1.17 239 P Pg 06 33 41.1 +0.1
baz=239
EYUL S Sg 06 33 57.0 +0.8
baz=239
VWDT VWDT 1.17 260 P Pg 06 33 41.2 +0.1
baz=260
VWDT S Sn 06 33 55.8 +0.1
baz=260
TDCB Techi 1.17 285 P Pg 06 33 41.1 -0.1
baz=285
TDCB S Sn 06 33 56.4 +0.5
baz=285
YHNB Yeheng 1.17 307 Pg 06 33 40.7 -0.4
YHNB Yeheng 1.17 307 P Pg 06 33 41.2 0.0
YHNB Yeheng 1.17 307 ⇑P Pg 06 33 41.1 -0.1
baz=307
YHNB S Sn 06 33 57.9 +2.0
baz=307
WUSB Renai 1.18 272 P Pg 06 33 41.0 -0.3
baz=272
WUSB S Sg 06 33 56.7 +0.1
baz=272
TWF1 Yuli 1.18 239 iP Pg 06 33 41.2 -0.1
baz=240
TWF1 S Sg 06 33 56.8 +0.1
baz=240
NSK Sanguang 1.19 307⇑iP Pg 06 33 41.2 -0.3
baz=307
NSK iS Sg 06 33 56.6 -0.4
baz=307
CHKH Chenggong 1.20 231 P Pn 06 33 40.8 +0.3
baz=231
CHKH S Sb 06 33 56.1 +0.1
baz=231
SXI1 Grass Mountain 1.23 337 ⇑P Pg 06 33 41.5 -0.7
baz=336
SXI1 S Sg 06 33 58.6 +0.3
baz=336
NWF Wu-fen Shan 1.24 333⇑iP Pg 06 33 41.9 -0.6
baz=332
NWF iS Sg 06 33 59.2 +0.4
baz=332
WFSB Wu-fen Shan 1.24 333 P Pg 06 33 42.0 -0.5
baz=332
WFSB S Sg 06 33 59.4 +0.7
baz=332
FULB Fuli 1.27 234 P Pb 06 33 42.2 +0.2
baz=234
FULB S Sb 06 33 58.3 +0.3
baz=234
NHDH Xindian Distri 1.28 322 P Pg 06 33 43.2 0.0
baz=321
NHDH S Sg 06 34 00.5 +0.6
baz=321
CHKT Chengkung 1.28 228 iP Pn 06 33 41.9 +0.3
baz=228
CHKT iS Sb 06 33 57.4 -0.9
baz=228
HATJ Hateruma jima 1.29 85 eP Pg 06 33 44.0 +0.7
HATJ eS Sg 06 34 00.7 +0.6
TATO Taipei 1.31 321 Pb 06 33 42.8 +0.1
TATO Taipei 1.31 321 P Pg 06 33 43.6 -0.2
NHY Taipei 1.31 325 eP Pn 06 33 42.4 +0.3
baz=324
NHY eS Sg 06 34 01.9 +0.9
baz=324
TNOU National Taiwa 1.32 334 P Pb 06 33 42.6 -0.2
baz=334
TNOU S Sg 06 34 00.7 -0.3
baz=334
SSLB Suanglung 1.34 263 Pb 06 33 43.2 +0.2
SSLB Suanglung 1.34 263 P Pg 06 33 43.7 -0.5
SSLB Suanglung 1.34 263 P Pg 06 33 43.8 -0.5
baz=263
SSLB eS Sg 06 34 02.4 +0.7
baz=263
NFF Wufeng Townshi 1.35 300 P Pg 06 33 44.1 -0.4
baz=300
NFF S Sg 06 34 01.9 -0.2
baz=300
TAP Taipei 1.35 323 iP Pg 06 33 44.0 -0.5
baz=323
TAP S Sg 06 34 03.0 +0.8
baz=323
EHD Haiduan 1.36 234 P Pn 06 33 43.3 +0.6
baz=234
EHD S Sn 06 34 00.6 +0.1
baz=234
WCS Beigang Elemen 1.37 274 P Pg 06 33 44.3 -0.5
baz=274
WCS S Sg 06 34 01.8 -0.9
baz=274
WHP Taichung City 1.37 284 P Pg 06 33 44.8 -0.1
baz=284
WHP S Sg 06 34 03.0 +0.3
baz=284
SMLT Sun Moon Lake 1.38 267 iP Pb 06 33 44.2 +0.3
baz=267
SMLT iS Sb 06 34 01.9 +0.7
baz=267
ECS Chishang 1.39 232 P Pb 06 33 44.1 +0.2
baz=232
ECS S Sb 06 34 02.5 +1.2
baz=232
YM01 YM01 1.40 328 P Pb 06 33 44.4 +0.2
baz=327
YM01 S Sg 06 34 03.4 -0.5
baz=327
EDH Donghe 1.41 226 P Pn 06 33 42.8 -0.6
baz=226
EDH S Sn 06 34 00.8 -0.7
baz=226
TYC Yuchr 1.41 268 iP Pg 06 33 45.1 -0.7
baz=268
TYC iS Sg 06 34 04.6 +0.4
baz=268
YM08 YM08 1.43 329 P Pb 06 33 44.9 +0.2
baz=328
YM08 S Sg 06 34 04.2 -0.4
baz=328
LIOB Emei 1.44 299 P Pg 06 33 45.9 -0.3
baz=298
LIOB S Sg 06 34 04.5 -0.4
baz=298
NSTT Nanjuang 1.44 298 iP Pg 06 33 45.7 -0.6
baz=298
NSTT iS Sg 06 34 04.1 -1.0
baz=298
WHYT Xinyi Township 1.44 260 P Pg 06 33 46.5 +0.3
baz=260
WHYT S Sb 06 34 03.3 +0.3
baz=260
TWS1 Kuangyinshan 1.45 322 iP Pb 06 33 45.2 +0.3
baz=321
TWS1 S Sg 06 34 05.4 +0.2
baz=321
ANP Anpu 1.46 327 P Pb 06 33 45.1 -0.2
baz=326
NTST Danshui 1.48 324 P Pg 06 33 46.1 -0.9
baz=324
NTST eS Sg 06 34 04.8 -1.6
baz=324
ELDTW Lidau 1.48 239 iP Pn 06 33 45.2 +0.7
baz=239
ELDTW S Sn 06 34 03.3 -0.3
baz=239
JKRS Kuro-shima 1.50 79 eP Pg 06 33 47.5 +0.2
JKRS S Sg 06 34 06.5 -0.3
NCUH Zhongli 1.50 312 P Pg 06 33 46.4 -0.9
baz=312
NCUH S Sg 06 34 07.0 +0.2
baz=312
TWY Chenhua 1.50 331 iP Pg 06 33 46.7 -0.6
baz=330
TWY S Sg 06 34 07.3 +0.4
baz=330
ALS Alishan 1.53 253 iP Pg 06 33 47.5 -0.5
baz=253
ALS S Sb 06 34 05.9 +0.1
baz=253
SBCB Hsinchu 1.53 303 P Pb 06 33 46.5 0.0
baz=303
SBCB S Sb 06 34 06.4 +0.8
baz=303
TWQ1 Liyutan 1.54 285 iP Pg 06 33 47.6 -0.5
baz=285
TWQ1 S Sg 06 34 07.4 -0.7
baz=285
WJS Zhushan 1.54 265 P Pg 06 33 48.3 +0.2
baz=265
WJS S Sg 06 34 07.0 -1.1
baz=265
LDUT Ludao 1.54 214 P Pn 06 33 45.7 +0.5
baz=214
LDUT S Sn 06 34 03.3 -1.5
baz=214
HSN Hsinchu 1.55 303 iP Pb 06 33 47.0 +0.2
baz=304
HSN iS Sg 06 34 07.7 -0.9
baz=304
NSY Sanyi 1.56 287 iP Pg 06 33 48.2 -0.4
baz=287
NSY S Sg 06 34 08.5 -0.5
baz=287
WNT Mingjian 1.57 267 iP Pg 06 33 48.6 -0.2
baz=267
WNT iS Sg 06 34 08.8 -0.5
baz=267
TCU Taichung 1.59 277 iP Pg 06 33 48.6 -0.4
baz=277
TCU S Sb 06 34 08.1 +0.9
baz=277
CHN5 Tsauling 1.62 257 iP Pg 06 33 48.9 -0.7
baz=257
CHN5 S Sg 06 34 10.1 -0.7
baz=257
JIJ Ishigaki jima 1.64 75 P Pb 06 33 48.6 +0.3
JIJ eS Sb 06 34 09.0 +0.3
WDJ Dajia District 1.65 284 P Pb 06 33 49.2 +0.7
baz=284
WDJ S Sg 06 34 10.6 -1.3
baz=284
TWGBT Beinan 1.66 227 P Pn 06 33 47.9 +1.0
TWGBT Beinan 1.66 227 P Pn 06 33 47.5 +0.6
baz=227
TWGBT eS Sn 06 34 09.1 +1.2
baz=227
TWG Pinlang 1.67 227 Pn 06 33 46.8 -0.2
TWG Pinlang 1.67 227 iP Pn 06 33 47.8 +0.8
baz=227
TWG eS Sn 06 34 08.9 +1.0
baz=227
STYH Taoyuan 1.69 243 P Pb 06 33 48.9 -0.1
baz=243
STYH S Sb 06 34 09.9 -0.1
baz=243
PCYT Pengchaiyu 1.69 350 eP Pn 06 33 48.1 +0.8
baz=349
PCYT eS Sb 06 34 10.5 +0.3
baz=349
WCHH Zhanghua 1.69 274 P Pg 06 33 50.0 -1.0
baz=274
WCHH S Sb 06 34 11.0 +0.9
baz=274
WGK Gukeng 1.71 261 iP Pb 06 33 50.0 +0.6
baz=261
WGK S Sb 06 34 10.4 -0.2
baz=261
WCKO Fanlu 1.73 253 P Pb 06 33 50.6 +0.9
baz=253
WCKO S Sb 06 34 11.2 0.0
baz=253
WDLH Douliu 1.73 261 P Pb 06 33 50.5 +0.8
baz=261
WDLH S Sg 06 34 12.8 -1.4
baz=261
TPUB Ta-pu 1.75 248 Pb 06 33 49.6 -0.7
TPUB Ta-pu 1.75 248 P Pb 06 33 51.0 +0.8
TPUB Ta-pu 1.75 248 P Pb 06 33 50.7 +0.5
baz=248
TPUB S Sb 06 34 12.3 +0.4
baz=248
CHN4 Tsaushan 1.77 250 iP Pb 06 33 51.5 +1.1
baz=250
CHN4 S Sb 06 34 12.9 +0.6
baz=250
WTP Ta-pu 1.79 247 iP Pb 06 33 51.5 +0.7
baz=247
WTP iS Sb 06 34 14.1 +1.1
baz=247
CHN2 Minshiung 1.82 257 eP Pn 06 33 49.9 +0.9
baz=257
CHN2 S Sb 06 34 13.2 -0.6
baz=257
JISG Ishigakijimahi 1.85 70 eP Pb 06 33 51.5 -0.4
JISG eS Sn 06 34 13.8 +1.3
WRL Guolierlin Hig 1.85 269 P Pb 06 33 52.2 +0.3
baz=268
WRL S Sb 06 34 15.7 +0.8
baz=268
WTK Tuku 1.86 262 P Pb 06 33 52.9 +0.8
baz=262
WTK S Sb 06 34 14.5 -0.6
baz=262
CHY Chiayi 1.87 256 P Pb 06 33 52.9 +0.7
baz=256
CHY S Sb 06 34 14.5 -0.8
baz=256
SLGT Liugui 1.88 240 P Pb 06 33 52.9 +0.6
baz=239
SLGT S Sb 06 34 15.3 -0.2
baz=239
CHN1 Nanshi 1.88 246 iP Pb 06 33 53.4 +0.9
baz=246
CHN1 S Sn 06 34 14.9 +1.5
baz=246
SGST Jiashian 1.88 243 iP Pb 06 33 53.0 +0.5
baz=242
SGST S Sb 06 34 15.5 -0.3
baz=242
TWK Hsinying 1.89 249 iP Pb 06 33 53.1 +0.6
baz=249
TWK S Sb 06 34 15.3 -0.5
baz=249
SNST Tainan City 1.90 248 P Pb 06 33 53.3 +0.7
baz=247
SNST S Sb 06 34 15.3 -0.7
baz=247
ECL Taimali 1.90 225 iP Pn 06 33 51.4 +1.2
baz=224
ECL iS Sn 06 34 14.6 +0.9
baz=224
WTCT Ta-ch'eng 1.94 268 eP Pn 06 33 52.0 +1.3
baz=267
WTCT S Sb 06 34 17.0 -0.4
baz=267
WSF Szhu 2.02 261 iP Pb 06 33 53.5 -1.3
baz=261
WSF S Sn 06 34 18.1 +1.4
baz=261
ICHU Yijhu 2.04 253 P Pb 06 33 55.1 +0.1
baz=253
ICHU S Sb 06 34 20.2 +0.2
baz=253
WSL Shuilin Townsh 2.04 258 P Pb 06 33 54.6 -0.5
baz=258
WSL S Sb 06 34 19.9 -0.3
baz=258
TSMG Majia 2.04 233 P Pb 06 33 54.6 -0.5
baz=232
TSMG S Sn 06 34 18.6 +1.4
baz=232
SCST Cishan 2.05 239 P Pb 06 33 56.2 +0.8
baz=239
SCST S Sb 06 34 19.8 -0.8
baz=239
LAY Lan-yu 2.07 202 iP Pn 06 33 53.3 +0.8
baz=202
LAY S Sn 06 34 17.1 -0.7
baz=202
LYUB Lan-yu 2.09 201 P Pn 06 33 52.6 -0.1
baz=201
LYUB S Sn 06 34 17.3 -1.1
baz=201
CHN8 Yiju 2.10 254 eP Pn 06 33 54.5 +1.6
baz=253
CHN8 S Sn 06 34 20.4 +1.8
baz=253
SHHT Tainan City 2.10 244 P Pb 06 33 56.4 +0.2
baz=244
SHHT S Sb 06 34 21.2 -0.8
baz=244
MASBT Mashibuluo 2.11 231 P Pn 06 33 54.5 +1.5
baz=231
MASBT eS Sn 06 34 20.9 +2.0
baz=231
TAW Tawu 2.11 221 eP Pn 06 33 53.4 +0.3
baz=221
TAW S Sn 06 34 19.2 +0.3
baz=221
TAWH Dawu Township 2.13 221 P Pn 06 33 53.9 +0.6
baz=221
TAWH S Sn 06 34 19.5 +0.1
baz=221
TWM1 Shoushan 2.14 239 eP Pb 06 33 56.6 -0.2
baz=238
TWM1 S Sn 06 34 21.7 +2.0
baz=238
SCLT Jiali 2.17 249 eP Pb 06 33 56.6 -0.7
baz=249
SCLT eS Sb 06 34 22.6 -1.3
baz=249
JTJ Tarama 2.21 72 P Pb 06 33 57.6 -0.3
JTJ eS Sb 06 34 25.3 +0.3
SNJT Kaohsiung City 2.25 238 eP Pb 06 33 58.1 -0.5
baz=238
SNJT S Sn 06 34 24.4 +2.1
baz=238
TSCK Chigu Township 2.27 250 P Pb 06 33 57.7 -1.3
baz=249
TSCK S Sb 06 34 26.0 -0.9
baz=249
SCZT Fangliau 2.28 226 iP Pn 06 33 57.5 +2.2
baz=226
SCZT S Sn 06 34 25.1 +2.1
baz=226
SLIU Shizi 2.28 221 P Pn 06 33 56.8 +1.4
baz=220
SLIU S Sn 06 34 24.4 +1.3
baz=220
WSSB Gushan 2.36 237 P Pb 06 34 00.3 -0.4
baz=236
WSSB eS Sn 06 34 27.2 +1.9
baz=236
SMST Manzhou Townsh 2.41 217 P Pb 06 33 59.8 -1.7
baz=217
SMST S Sn 06 34 26.5 +0.3
baz=217
TSEB Hengchuen, Pin 2.47 214 P Pn 06 33 58.5 +0.4
baz=215
TSEB S Sn 06 34 30.9 +3.1
baz=215
HEN Hengchun 2.48 219 iP Pb 06 34 01.2 -1.4
baz=218
HEN iS Sn 06 34 30.1 +2.1
baz=218
TWKBT Hengchun 2.49 216 P Pn 06 33 58.5 +0.2
baz=216
TWKBT S Sn 06 34 29.9 +1.7
baz=216
TWK1 Hengchun 2.49 217 iP Pn 06 33 59.9 +1.7
baz=216
TWK1 iS Sn 06 34 29.8 +1.6
baz=216
WDGT Dungji 2.61 255 iP Pn 06 34 02.0 +2.1
baz=254
WDGT iS Sn 06 34 32.0 +0.8
baz=254
PHUB P'eng-hu 2.63 261 P Pn 06 34 01.7 +1.5
baz=260
PHUB S Sn 06 34 32.9 +1.1
baz=260
PNG Penghu 2.64 262 iP Pn 06 34 02.1 +1.9
baz=261
PNG iS Sn 06 34 33.1 +1.2
baz=261
JIKM Ikemajima 2.77 69 eS Sn 06 34 38.7 -2.5
VCHM Qimei 2.83 255 P Pn 06 34 04.5 +1.6
baz=255
VCHM S Sn 06 34 38.6 +2.0
baz=255
VWUC VWUC 2.88 292 P Pn 06 34 04.4 +0.8
baz=291
VWUC S Sn 06 34 36.7 -1.1
baz=291
MATB Ma-tsu 3.12 315 P Pn 06 34 07.1 +0.2
baz=314
MATB S Sn 06 34 43.5 -0.3
baz=314
LYJJ Jianjiangzhen 3.52 318 P Pn 06 34 12.7 +0.3
baz=317
LYJJ S Sn 06 34 54.9 +1.3
baz=317
XPSS Dashiqiu 3.57 326 P Pn 06 34 13.7 +0.6
baz=325

XPSS				*e*S		**Sn**	**06 34 56.9**	**+2.0**
	baz=325							
KNM	**Kinmen**	**3.65**	**278**	*i* P		**Pn**	**06 34 17.0**	**+2.8**
	baz=277							
KNM				S		**Sn**	**06 34 58.0**	**+1.1**
	baz=277							
KNMB	**Chin-men Tao**	**3.70**	**279**			**Pn**	**06 34 15.0**	**+0.1**
KNMB	**Chin-men Tao**	**3.70**	**279**	P		**Pn**	**06 34 15.7**	**+0.8**
	baz=278							
KNMB				S		**Sn**	**06 34 57.8**	**-0.3**
	baz=278							
MHZQ	**Yeshan**	**3.73**	**306**	P		**Pn**	**06 34 15.5**	**+0.2**
	baz=304							
MHZQ				*e*S		**Sn**	**06 34 57.6**	**-1.2**
	baz=304							
AXDP	**Jialang**	**4.15**	**284**	P		**Pn**	**06 34 21.9**	**+0.8**
	baz=283							
AXDP				S		**Sn**	**06 35 08.4**	**-0.7**
	baz=283							
ZPLA	**Ao Xicun**	**4.26**	**271**	P		**Pn**	**06 34 23.7**	**+1.1**
	baz=269							
ZPLA				S		**Sn**	**06 35 11.3**	**-0.6**
	baz=269							
SXFK	**Yanhouchang**	**4.95**	**300**	P		**Pn**	**06 34 32.8**	**+0.7**
	baz=299							
JOW	**Kunigami**	**6.03**	**60**	Pn		**Pn**	**06 34 46.1**	**-0.8**
JOW	**Kunigami**	**6.03**	**60**	Pn		**Pn**	**06 34 46.7**	**-0.3**
	comp=N,1.6nm,0.3s,baz=62,slow=13,SNR=1.9							
JOW				Sn		**Sn**	**06 35 52.7**	**-3.0**
	baz=256,slow=6.1							
	comp=N,30nm,1.1s							
HKPS	**Hong Kong Po S**	**7.79**	**259**	Pn		**Pn**	**06 35 10.4**	**-0.7**
JNU	**Nakatsue**	**11.78**	**37**	LR		LR	06 40 57.3	
	comp=N,111nm,18.6s,baz=218,slow=40							
KSRS	**Korea Array**	**14.26**	**18**	Pn		**Pn**	**06 36 41.9**	**+2.3**
	comp=N,0.2nm,0.3s,baz=294,slow=33,SNR=1.7							
KSRS				LR		LR	06 42 50.4	
	comp=N,93nm,18.4s,baz=200,slow=41							
KS19	**Wonju Array SI**	**14.29**	**18**	Pn		**Pn**	**06 36 39.7**	**-0.3**
USA0B	**Ussuriysk Arra**	**21.66**	**19**	P		**P**	**06 38 07.2**	**-0.9**
USA0B				IAmb		IAmb	06 38 33.5	
	comp=Z,10nm,1.4s							
USRK	**Ussuriysk Ar.**	**21.66**	**19**	P		**P**	**06 38 06.0**	**-2.2**
USRK	**Ussuriysk Ar.**	**21.66**	**19**	P		**P**	**06 38 06.2**	**-2.0**
	comp=Z,2.3nm,0.7s,baz=197,slow=4.4,SNR=6.2							
	comp=Z,2.3nm,0.7s							
CMAR	**Chiang Mai Arr**	**22.53**	**260**	LR		LR	06 47 09.4	
	comp=Z,42nm,19.3s,baz=95,slow=37							
GUMO	**Guam**	**23.61**	**112**	LR		LR	06 47 24.1	
	comp=Z,27nm,19.3s,baz=310,slow=36							
ASAJ	**Asahikawa**	**26.03**	**35**	LR		LR	06 49 05.4	
	comp=Z,78nm,18.6s,baz=332,slow=37							
KLR	**Kul'dur**	**26.27**	**14**	LR		LR	06 49 48.7	
	comp=Z,90nm,18.8s,baz=192,slow=38							
SONM	**Songino Array**	**27.02**	**336**	P		**P**	**06 38 59.5**	**-0.3**
SONM				IAmb		IAmb	06 39 00.2	
	comp=Z,4.4nm,0.9s							
SONM	**Songino Array**	**27.02**	**336**	P		**P**	**06 38 59.1**	**-0.6**
	comp=Z,4.6nm,0.9s,baz=145,slow=9.6,SNR=23							
SONM				LR		LR	06 51 00.1	
	comp=Z,132nm,19.3s,baz=268,slow=40							
	comp=Z,4.6nm,0.9s							
MK31	**Makanchi Array**	**39.27**	**316**	P		**P**	**06 40 46.1**	**-0.3**
MKAR	**Makanchi Array**	**39.27**	**316**	P		**P**	**06 40 45.9**	**-0.4**
MKAR	**Makanchi Array**	**39.27**	**316**	P		**P**	**06 40 46.2**	**-0.1**
	comp=Z,2.8nm,0.8s,baz=109,slow=9.7,SNR=16							
MKAR				LR		LR	06 58 19.5	
	comp=Z,38nm,18.0s,baz=88,slow=38							
	comp=Z,2.8nm,0.8s							
PETK	**Petropavlovsk-**	**39.44**	**33**	LR		LR	06 57 27.4	
	comp=Z,34nm,18.8s,baz=126,slow=37							
ZAA0	**Zalesovo Array**	**41.04**	**327**	P		**P**	**06 40 59.4**	**-1.4**
ZAA0				IAmb		IAmb	06 41 00.8	
	comp=Z,5.7nm,0.9s							
ZALV	**Zalesovo Beam**	**41.04**	**327**	P		**P**	**06 40 59.4**	**-1.4**
ZALV	**Zalesovo Beam**	**41.04**	**327**	P		**P**	**06 40 59.7**	**-1.1**
	comp=Z,4.9nm,0.7s,baz=113,slow=8.0,SNR=22							
ZALV				LR		LR	06 58 58.1	
	comp=Z,50nm,19.0s,baz=96,slow=38							
	comp=Z,4.9nm,0.7s							
KURK	**Kurchatov**	**42.98**	**320**	P		**P**	**06 41 15.4**	**-1.3**
KURK				IAmb		IAmb	06 41 16.3	
	comp=Z,4.8nm,1.3s							
KURBB	**Kurchatov Arra**	**43.00**	**320**	P		**P**	**06 41 16.1**	**-0.7**
	comp=Z,1.9nm,0.9s,baz=111,slow=7.8,SNR=9.6							
	comp=Z,1.9nm,0.9s							
SEY	**Seymchan**	**43.81**	**19**	LR		LR	07 01 54.4	
	comp=Z,38nm,19.4s,baz=340,slow=39							
WRA	**Warramunga Arr**	**45.16**	**164**	P		**P**	**06 41 33.7**	**-0.8**
WRA	**Warramunga Arr**	**45.16**	**164**	P		**P**	**06 41 35.5**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=346,slow=8.4,SNR=6.9							
	comp=Z,1.0nm,0.8s							
WB2	**Warramunga Arr**	**45.16**	**164**	P		**P**	**06 41 32.9**	**-1.7**
BTK	**Batken**	**45.96**	**303**	P		**P**	**06 41 40.5**	**-0.3**
BTK				IAmb		IAmb	06 42 14.5	
	comp=Z,4.1nm,1.2s							
BVAR	**Borovoye Array**	**48.55**	**321**	P		**P**	**06 41 59.9**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=108,slow=9.3,SNR=6.3							
	comp=Z,1.1nm,0.6s							
BRVK	**Borovoye**	**48.62**	**321**	P		**P**	**06 42 00.7**	**-0.5**
ASAR	**Alice Springs**	**48.64**	**166**	P		**P**	**06 42 03.3**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=343,slow=7.6,SNR=2.2							
	comp=Z,0.2nm,0.6s							
ABKAR	**Akbulak array**	**54.39**	**314**	P		**P**	**06 42 44.3**	**-0.2**
GEYT	**Alibeck**	**55.87**	**301**	P		**P**	**06 42 56.8**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=98,slow=10,SNR=4.1							
	comp=Z,1.1nm,0.3s							
KBZ	**Khabaz**	**66.49**	**309**	P		**P**	**06 44 07.0**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=67,slow=3.5,SNR=3.8							
	comp=Z,2.3nm,0.9s							
BRTR	**Keskin Array B**	**74.20**	**307**	P		**P**	**06 44 55.1**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=111,slow=6.8,SNR=7.4							
	comp=Z,2.0nm,0.8s							
YKA	**Yellowknife Ar**	**82.74**	**23**	P		**P**	**06 45 41.1**	**-0.1**
	comp=Z,0.2nm,0.8s,baz=316,slow=4.9,SNR=2.8							
	comp=Z,0.2nm,0.8s							
NVAR	**Mina Array Bea**	**95.83**	**44**	P		**P**	**06 46 44.3**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=311,slow=6.9,SNR=2.4							
	comp=Z,0.4nm,0.8s							

NEIC ***23*** *06:38:36.8±2.2,24.˚4S±0.˚1×174.˚4W±0.˚1, h10km±1km, mb4.7/24, Error ellipse: s-maj=19.9km s-min=15.6km az=155.0*

IDC ***23*** *06:38:37.5±0.6,24.˚54S×174.˚75W, h0km, mb4.3/14, mbtmp4.3/15, ML3.7/1, MS3.6/11, Error ellipse: s-maj=23.0km s-min=17.9km az=124.0*

ISC 23 06:38:37.2±0.4, 24.˚52S±0.˚07×174.˚48W±0.˚08, h10km, n69, σ1ᵎ79/62, mb4.6/26, MS3.6/10, 4D, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.63**	**212**	Pn	**Pn**	**06 39 57.1**	**-3.8**
	24nm,0.3s,baz=95,slow=22,SNR=1.8						
RAO				Sn	**Sn**	**06 41 01.3**	**-4.3**
	30nm,0.3s,baz=78,slow=23,SNR=4.1						
NIUE	**Niue**	**6.87**	**39**	Pn	**Pn**	**06 40 13.9**	**-4.1**
AFI	**Afiamalu**	**10.86**	**14**	Pn	**Pn**	**06 41 09.0**	**-3.8**
RAR	**Rarotonga**	**13.95**	**79**	Pn	**Pn**	**06 41 51.9**	**-3.1**
RAR	**Rarotonga**	**13.95**	**79**	Pn	**Pn**	**06 41 52.4**	**-2.6**
	9.4nm,0.3s,baz=239,slow=8.1,SNR=5.4						
RAR				LR	LR	06 48 10.5	
	comp=Z,82nm,18.0s,baz=314,slow=40						
URZ	**Urewera**	**15.46**	**206**	Pn	**Pn**	**06 42 16.8**	**+1.6**
	0.3nm,0.3s,baz=103,slow=14,SNR=1.4						
URZ				Sn	Sn	06 44 49.6	-17
	0.3nm,0.3s,baz=113,slow=24,SNR=1.4						
	2.0nm,0.4s						
ONTNC	**Ouen Toro**	**17.64**	**273**	Pn	**Pn**	**06 42 41.8**	**-1.4**
DZM	**Mont Dzumac**	**17.69**	**274**	P	**Pn**	**06 42 41.6**	**-2.3**
DZM	**Mont Dzumac**	**17.69**	**274**	P	**P**	**06 42 45.9**	**+1.1**
	6.1nm,0.7s,baz=75,slow=19,SNR=5.0						
MRZ	**Mangatainoka R**	**18.12**	**205**	P	**Pn**	**06 42 47.9**	**-1.2**
PLWZ	**Palliser**	**19.03**	**204**	P	**P**	**06 42 59.6**	**+0.3**
THZ	**Tophouse**	**20.14**	**208**	P	**P**	**06 43 11.3**	**-0.2**
THZ				IAmb	IAmb	06 43 37.4	
	comp=Z,26nm,1.3s						
PPT	**Papeete**	**24.23**	**78**	LR	LR	06 50 36.2	
	comp=Z,108nm,21.5s,baz=272,slow=29						
HNR	**Honiara**	**28.61**	**297**	LR	LR	06 53 51.6	
	comp=Z,468nm,18.4s,baz=204,slow=32						
CTA	**Charters Tower**	**36.51**	**269**	LR	LR	07 00 07.8	
	comp=Z,48nm,18.9s,baz=88,slow=36						
CTAO	**Charters Tower**	**36.51**	**269**	P	**P**	**06 45 42.2**	**-0.8**
CTAO				IAmb	IAmb	06 45 43.4	
	comp=Z,5.5nm,0.6s						

STKA	**Stephens Creek**	**39.19**	**249**	P		**P**	**06 46 04.8**	**-0.8**
STKA	**Stephens Creek**	**39.19**	**249**	P		**P**	**06 46 04.5**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=95,slow=10,SNR=6.5							
STKA				LR		LR	06 59 49.7	
	comp=Z,79nm,20.6s,baz=30,slow=33							
	comp=Z,1.4nm,0.5s							
BBOO	**Buckleboo**	**43.85**	**247**	P		**P**	**06 46 43.7**	**-0.1**
BBOO				IAmb		IAmb	06 47 20.5	
	comp=Z,36nm,1.5s							
AS31	**Alice Springs**	**46.90**	**260**	P		**P**	**06 47 08.0**	**-0.2**
ASAR	**Alice Springs**	**46.90**	**260**	P		**P**	**06 47 07.0**	**-1.1**
ASAR	**Alice Springs**	**46.90**	**260**	P		**P**	**06 47 07.3**	**-0.8**
	comp=Z,6.5nm,1.0s,baz=99,slow=6.4,SNR=25							
ASAR				LR		LR	07 05 56.8	
	comp=Z,76nm,18.4s,baz=65,slow=35							
	comp=Z,6.5nm,1.0s							
WR0	**Warramunga Arr**	**47.20**	**265**	P		**P**	**06 47 09.1**	**-1.4**
WR0				IAmb		IAmb	06 47 21.6	
	comp=Z,5.7nm,0.7s							
WB2	**Warramunga Arr**	**47.37**	**265**	P		**P**	**06 47 10.7**	**-1.2**
WB2				IAmb		IAmb	06 47 12.7	
	comp=Z,8.2nm,0.8s							
WRA	**Warramunga Arr**	**47.38**	**265**	P		**P**	**06 47 10.2**	**-1.7**
WRA	**Warramunga Arr**	**47.38**	**265**	P		**P**	**06 47 10.9**	**-1.0**
	comp=Z,6.9nm,0.7s,baz=103,slow=8.1,SNR=64							
	comp=Z,6.9nm,0.7s							
FORT	**Forrest**	**50.82**	**249**	P		**P**	**06 47 37.3**	**-0.8**
KNRA	**Kununurra**	**53.72**	**268**	P		**P**	**06 48 00.0**	**+0.2**
KNRA				IAmb		IAmb	06 48 00.9	
	comp=Z,12nm,0.8s							
VNDA	**Vanda**	**54.25**	**186**	P		**P**	**06 48 04.0**	**+1.2**
	comp=Z,1.6nm,1.0s,baz=36,slow=5.2,SNR=2.6							
	comp=Z,1.6nm,1.0s							
FITZ	**Fitzroy Crossi**	**55.79**	**264**	P		**P**	**06 48 14.3**	**-0.5**
FITZ				IAmb		IAmb	06 48 32.2	
	comp=Z,5.0nm,1.4s							
MBWA	**Marble Bar**	**60.21**	**259**	P		**P**	**06 48 45.5**	**-0.3**
MORW	**Morawa**	**61.38**	**249**	P		**P**	**06 48 54.3**	**+0.6**
GIRL	**Giralia**	**64.66**	**255**	P		**P**	**06 49 15.9**	**+0.3**
QSPA	**South Pole Qui**	**65.57**	**180**	P		**P**	**06 49 22.7**	**+1.8**
QSPA				IAmb		IAmb	06 49 27.3	
	comp=Z,7.9nm,1.2s							
QSPA	**South Pole Qui**	**65.57**	**180**	P		**P**	**06 49 23.2**	**+2.2**
	comp=Z,3.2nm,1.0s,baz=55,slow=1.5,SNR=9.2							
	comp=Z,3.2nm,1.0s							
JCJ	**Chichijima**	**66.19**	**318**	LR		LR	07 15 32.3	
	comp=Z,22nm,19.4s,baz=64,slow=34							
BELA	**Belgrano 2**	**75.16**	**172**	P		**P**	**06 50 19.4**	**+0.2**
MJAR	**Matsushiro Arr**	**75.36**	**322**	P		**P**	**06 50 21.7**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=141,slow=2.3,SNR=2.4							
	comp=Z,1.7nm,0.9s							
LEM	**Lembang**	**76.21**	**269**	P		**P**	**06 50 27.9**	**+1.4**
	comp=Z,40nm,0.7s,baz=27,slow=2.9,SNR=4.9							
ASAJ	**Asahikawa**	**78.81**	**330**	LR		LR	07 17 47.1	
	comp=Z,31nm,21.9s,baz=147,slow=30							
MAW	**Mawson**	**78.88**	**199**	P		**P**	**06 50 43.1**	**+2.9**
	comp=Z,9.3nm,1.1s,baz=166,slow=8.3,SNR=2.0							
	comp=Z,9.3nm,1.1s							
GO08	**Villa O'Higgin**	**79.47**	**139**	P		**P**	**06 50 43.6**	**-0.3**
GO08				IAmb		IAmb	06 51 08.2	
	comp=Z,26nm,1.5s							
NVAR	**Mina Array Bea**	**81.79**	**41**	P		**P**	**06 50 59.8**	**+3.2**
	comp=Z,1.7nm,0.9s,baz=220,slow=8.6,SNR=11							
	comp=Z,1.7nm,0.9s							
KSRS	**Korea Array**	**82.04**	**317**	P		**P**	**06 50 59.9**	**+2.3**
	comp=Z,2.4nm,0.9s,baz=139,slow=6.3,SNR=8.2							
	comp=Z,2.4nm,0.9s							
TROLL	**Troll, Antarti**	**83.71**	**179**	⇓P		**P**	**06 51 08.1**	**+2.0**
	comp=Z,234nm,0.7s							
SNAA	**Sanae**	**83.90**	**177**	P		**P**	**06 51 07.6**	**+0.7**
SNAA				IAmb		IAmb	06 51 11.9	
	comp=Z,6.7nm,1.2s							
SNAA	**Sanae**	**83.90**	**177**	⇓P		**P**	**06 51 08.4**	**+1.4**
	comp=Z,55nm,1.0s							
SNAA	**Sanae**	**83.90**	**177**	P		**P**	**06 51 08.3**	**+1.3**
	comp=Z,2.3nm,0.9s,baz=216,slow=4.3,SNR=5.2							
	comp=Z,2.3nm,0.9s							
VNA3	**Neumayer Olymp**	**83.91**	**175**	⇓P		**P**	**06 51 08.3**	**+1.4**
	comp=Z,4.8nm,0.8s							
USA0B	**Ussuriysk Arra**	**84.11**	**324**	P		**P**	**06 51 09.1**	**+1.0**
USRK	**Ussuriysk Ar.**	**84.11**	**324**	P		**P**	**06 51 09.3**	**+1.1**
USRK	**Ussuriysk Ar.**	**84.11**	**324**	P		**P**	**06 51 11.3**	**+3.2**
	comp=Z,7.1nm,0.8s,baz=114,slow=3.4,SNR=11							
	comp=Z,7.1nm,0.8s							
CCUT	**Cedar City**	**84.30**	**44**	P		**P**	**06 51 08.4**	**-1.3**
CCUT				IAmb		IAmb	06 51 14.4	
	comp=Z,3.2nm,0.9s							
VNA2	**Neumayer--Watz**	**84.39**	**176**	⇓P		**P**	**06 51 10.3**	**+0.9**
	comp=Z,5.0nm,0.7s,baz=186,slow=3.0							
MTPU	**Mount Pierson**	**85.35**	**45**	P		**P**	**06 51 13.7**	**-1.4**
MTPU				IAmb		IAmb	06 51 22.8	
	comp=Z,5.9nm,1.1s							
TXAR	**Lajitas Array**	**86.55**	**56**	P		**P**	**06 51 20.4**	**-0.5**
TXAR	**Lajitas Array**	**86.55**	**56**	P		**P**	**06 51 23.7**	**+2.8**
	comp=Z,0.9nm,0.9s,baz=202,slow=6.2,SNR=6.7							
TXAR				LR		LR	07 24 10.8	
	comp=Z,20nm,18.4s,baz=166,slow=32							
	comp=Z,0.9nm,0.9s							
PDAR	**Pinedale Array**	**89.71**	**42**	P		**P**	**06 51 37.6**	**+1.8**
	comp=Z,0.7nm,0.9s,baz=225,slow=1.9,SNR=5.2							
	comp=Z,0.7nm,0.9s							
ILAR	**Eielson Array**	**91.54**	**11**	P		**P**	**06 51 45.4**	**+1.9**
	comp=Z,1.2nm,0.9s,baz=226,slow=4.6,SNR=8.8							
	comp=Z,1.2nm,0.9s							
NNA	**Nana**	**91.91**	**104**	LR		LR	07 25 33.8	
	comp=Z,52nm,18.3s,baz=274,slow=31							
ATAH	**Atahualpa**	**92.57**	**99**	LR		LR	07 23 09.6	
	comp=Z,38nm,21.2s,baz=319,slow=29							
KURBB	**Kurchatov Arra**	**119.19**	**316**	PKP		**PKiKP**	**06 57 26.7**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=79,slow=2.0,SNR=5.1							
BVAR	**Borovoye Array**	**124.23**	**319**	PKP		**PKiKP**	**06 57 36.4**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=104,slow=3.0,SNR=3.0							
HFS	**Hagfors**	**143.95**	**353**	PKiKP	PKPpre		06 58 11.1	
	comp=Z,2.8nm,0.8s,baz=13,slow=3.3,SNR=4.7							
KBZ	**Khabaz**	**144.00**	**312**	PKP		**PKPdf**	**06 58 12.6**	**-0.3**
	comp=Z,2.6nm,1.0s,baz=60,slow=7.0,SNR=3.7							
AKASG	**Malin Array Be**	**148.09**	**331**	PKPbc		**PKiKP**	**06 58 24.2**	**-0.5**
	comp=Z,3.9nm,0.6s,baz=38,slow=3.9,SNR=11							
EKA	**Eskdalemuir Ar**	**148.56**	**10**	PKPbc		**PKiKP**	**06 58 25.2**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=297,slow=2.7,SNR=5.0							
BRTR	**Keskin Array B**	**151.92**	**309**	PKPbc		**PKiKP**	**06 58 33.8**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=132,slow=1.8,SNR=4.5							
CLL	**Collm**	**152.64**	**350**	*e*PKPbc		**PKiKP**	**06 58 36.0**	**+2.0**

IDC 23 06:58:35.6±9.1, 18.˚46S×176.˚48W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=401.3km s-min=39.0km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.34**	**260**	P	P	07 07 02.3	-1.5
	0.2nm,0.6s,baz=98,slow=6.8,SNR=1.9						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**46.41**	**255**	P	P	07 07 05.0	+0.7
	0.9nm,0.6s,baz=90,slow=8.2,SNR=21						
	0.9nm,0.6s						
ILAR	**Eielson Array**	**86.02**	**12**	P	P	07 11 17.6	0.0
	0.2nm,0.5s,baz=227,slow=5.4,SNR=5.1						
	0.2nm,0.5s						

NNC ***23*** *07:04:20.0±0.5, 49.˚98N×78.˚64E, h0km, mb2.3, mpv2.0, Error ellipse: s-maj=11.3km s-min=2.2km az=79.0, Suspected Mining explosion.*

IDC ***23*** *07:04:21.9±1.1, 50.˚07N×78.˚79E, h0km, mbtmp2.2/2, ML1.7/2, Error ellipse: s-maj=12.7km s-min=6.8km az=63.0*

ISC 23 07:04:17.8±4.0, 49.˚99N±0.˚05×78.˚0E±0.˚3, h0km, n8, σ0ᵎ62/10, 5C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.73**	**29**	Pg	**Pb**	**07 04 32.8**	**-0.6**
	0.4nm,0.3s,baz=166,slow=18,SNR=22						
KURBB				Lg	Lg	07 04 41.6	
	0.7nm,0.3s,baz=162,slow=35,SNR=9.9						
KURBB	**Kurchatov Arra**	**0.73**	**29**	⇑P	**Pb**	**07 04 32.6**	**-0.8**
	2.9nm,0.3s						
KURBB				⇓S	**Sg**	**07 04 41.6**	**+0.4**
	12nm,0.7s						
KURK	**Kurchatov**	**0.84**	**29**	⇑P	**Pg**	**07 04 34.1**	**+0.3**
	1.1nm,0.3s						
KURK				⇑S	**Sg**	**07 04 44.6**	**-0.2**
	9.3nm,1.1s						
MAKZ	**Makanchi**	**4.15**	**138**	⇑Pg	**Pb**	**07 05 31.3**	**-0.4**
	0.1nm,0.4s						
MAKZ				⇓Lg	Lg	07 06 22.6	
	1.8nm,0.8s						
MK31	**Makanchi Array**	**4.30**	**136**	⇓Pg	**Pb**	**07 05 33.6**	**-0.5**
	0.1nm,0.3s,baz=336,slow=16,SNR=4.6						
MK31				⇑Lg	Lg	07 06 27.3	
	1.5nm,0.7s,baz=326,slow=26,SNR=5.9						
MKAR	**Makanchi Array**	**4.30**	**136**	Pn	**Pn**	**07 05 24.9**	**+0.5**
	0.1nm,0.3s,baz=322,slow=10,SNR=11						
MKAR				Pg	**Pb**	**07 05 33.3**	**-0.8**
	0.1nm,0.3s,baz=317,slow=11,SNR=3.7						
MKAR				Lg	Lg	07 06 25.8	
	0.3nm,0.3s,baz=328,slow=27,SNR=8.4						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**5.80**	**44**	Pn	**Pn**	**07 05 45.4**	**+0.4**
	0.1nm,0.3s,baz=233,slow=13,SNR=1.9						
	0.3nm,0.3s						
I46RU	**ZALESOVO INFRA**	**5.80**	**44**	I	I	07 36 10.0	
	baz=221,slow=325,SNR=2.5						

IDC ***23*** *07:12:15.7±3.5,5.˚66S×151.˚94E, h63km±23km, mb3.3/4, mbtmp3.6/5, ML1.8/1, MS3.0/2, Error ellipse: s-maj=73.3km s-min=15.0km az=114.0*

ISC 23 07:12:14.0±1.6, 5.˚7S±0.˚1×152.˚0E±0.˚3, h50km, n8, σ1ᵎ75/9, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.39**	**359**	P	**Pn**	**07 12 37.0**	**-0.1**
	728nm,0.3s,baz=179,slow=1.4,SNR=162						
KRVT				S	**Sn**	**07 12 55.5**	**+1.2**
	1µm,0.3s,baz=313,slow=23,SNR=25						
PMG	**Port Moresby**	**6.08**	**233**	P	**Pn**	**07 13 43.9**	**+2.6**
	1.6nm,0.3s,baz=52,slow=9.8,SNR=2.6						
PMG				S	**Sn**	**07 14 46.9**	**-2.6**
	5.5nm,0.4s,baz=153,slow=23,SNR=1.8						
PMG				LR	LR	07 15 45.1	
	comp=Z,42nm,18.0s,baz=69,slow=35						
	7.0nm,0.5s						
WRA	**Warramunga Arr**	**22.28**	**229**	P	**P**	**07 17 07.8**	**+0.6**
	1.3nm,0.8s,baz=52,slow=9.8,SNR=8.2						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**24.98**	**223**	P	**P**	**07 17 32.0**	**-1.1**
	2.0nm,0.7s,baz=54,slow=9.0,SNR=4.3						
	2.0nm,0.7s						
URZ	**Urewera**	**39.60**	**148**	LR	LR	07 34 48.5	
	comp=Z,59nm,19.0s,baz=278,slow=34						
MKAR	**Makanchi Array**	**80.51**	**319**	P	**P**	**07 24 20.1**	**-0.8**
	0.2nm,0.5s,baz=104,slow=6.3,SNR=2.4						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**83.28**	**22**	P	**P**	**07 24 35.4**	**+0.3**
	0.5nm,0.9s,baz=260,slow=4.9,SNR=4.1						
	0.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**149.85**	**286**	PKPbc	**PKiKP**	**07 32 00.0**	**-0.6**
	1.0nm,0.7s,baz=61,slow=4.2,SNR=6.4						

NEIC ***23*** *07:20:04.7±0.6, 19.˚65N±0.˚02×156.˚12W±0.˚07, h50km±5km, Error ellipse: s-maj=9.6km s-min=2.8km az=85.0*

HVO 23 07:20:06.7±0.5, 19.˚64N±0.˚03×156.˚1W±0.˚1, h45km±8km, ML2.1/3, ML2.4/33(NEIC), Error ellipse: s-maj=14.8km s-min=3.8km az=77.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLU	**Kahalu`u**	**0.20**	**103**		Pn	07 20 13.5	-1.2
KHLU					Sn	07 20 18.2	-2.0
KHLU	**Kahalu`u**	**0.20**	**103**	IAML		07 20 18.5	
	comp=E,449nm,0.1s						
KHLU				IAML		07 20 18.8	
	comp=N,410nm,0.1s						
CPH	**Captain Cook**	**0.23**	**130**		Pn	07 20 13.7	-1.0
ALEP	**Alea Permanent**	**0.45**	**103**		Pn	07 20 16.3	-1.0
ALEP					Sn	07 20 23.4	-1.5
MWH	**Moku'aweowe**	**0.50**	**108**		Pn	07 20 16.6	-1.6
MWH	**Moku'aweowe**	**0.50**	**108**	IAML		07 20 30.7	
	comp=E,152nm,1.1s						
MLOA	**Mauna Loa Obse**	**0.51**	**101**		Pn	07 20 16.8	-1.3
MLOA					Sn	07 20 24.4

K20K	**Telida**	**15.22**	**37**	P	P	07 34 44.1	+0.1
SKT	**Skwentna**	**15.52**	**44**	P	Pn	07 34 49.0	+1.5
CAST	**Castle Rocks**	**16.00**	**39**	P	Pn	07 34 52.9	-0.3
KTH	**Kantishna Hill**	**16.52**	**39**	P	P	07 34 58.5	+0.2
BPAW	**Bear Paw Mtn.**	**16.78**	**38**	P	P	07 35 00.2	-0.8
BPAW				IAmb	IAmb	07 35 13.6	
	comp=Z,7.3nm,1.4s						
DHY	**Denali Highway**	**17.73**	**43**	P	P	07 35 12.1	+0.5
DHY				IAmb	IAmb	07 35 49.4	
	comp=Z,1.9nm,0.8s						
SCRK	**Sand Creek**	**19.48**	**42**	P	P	07 35 30.6	+0.2
SCRK				IAmb	IAmb	07 35 32.6	
	comp=Z,4.7nm,1.4s						
J26L	**Joseph Creek**	**19.84**	**41**	P	P	07 35 33.9	-0.4
TOLK	**Toolik Lake Re**	**19.96**	**27**	P	P	07 35 35.9	+0.5
TOLK				IAmb	IAmb	07 36 10.7	
	comp=Z,3.8nm,1.5s						
C23K	**Itkillik River**	**20.50**	**24**	P	P	07 35 41.0	-0.1
C23K				IAmb	IAmb	07 36 24.3	
	comp=Z,1.2nm,0.9s						
HYT	**Haines Junctio**	**21.70**	**53**	P	P	07 35 52.8	-1.0
HYT				IAmb	IAmb	07 36 30.8	
	comp=Z,10.0nm,1.5s						
L29M	**L29M**	**21.75**	**47**	P	P	07 35 53.8	-0.3
K29M	**Barlow Dome**	**22.17**	**45**	P	P	07 35 57.0	-1.2
K29M				IAmb	IAmb	07 36 20.8	
	comp=Z,2.2nm,1.2s						
J30M	**Hart River**	**22.85**	**44**	P	P	07 36 04.4	+0.1
J30M				IAmb	IAmb	07 36 40.8	
	comp=Z,2.3nm,1.2s						

TEH 23 07:42:55.7, 32.61N×60.36E, h7km±31km, ML3.8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDAH	**Dahanechah**	**0.43**	**287**	Pg	Pg	07 43 04.9	+0.7
IDAH				Sg	Sb	07 43 11.7	-0.9
SHRT	**Shahrakht**	**1.03**	**357**	Pg	Pb	07 43 16.1	+0.1
IKOO	**Kooshah**	**1.16**	**261**	Pg	Pn	07 43 19.2	+0.6
IKOO				Sg	Sn	07 43 37.0	+2.3
BSRN	**Basiran**	**1.23**	**239**	Pg	Pn	07 43 19.8	+0.4
NHDN	**Nehbandan**	**1.24**	**192**	Pg	Pb	07 43 19.2	-0.4
ITEG	**Tejag**	**1.39**	**282**	Pg	Pg	07 43 23.5	+1.2
AFRZ	**Afriz**	**1.39**	**306**	Pg	Pg	07 43 23.1	+0.7
AFRZ				Sg	Sg	07 43 44.6	+4.2
TBJM	**Torbat-e-JAM**	**2.65**	**359**	Pn	Pn	07 43 41.2	+2.3
TKDS	**Koohdasht(Taba**	**2.89**	**291**	Pn	Pb	07 43 45.3	-2.4
TBHD	**Torbat heydari**	**2.94**	**342**	Pn	Pn	07 43 45.4	+2.4
TPRV	**Parvadeh(Tabas**	**3.12**	**279**	Pn	Pb	07 43 48.5	-3.1
ZHDN	**Zahedan**	**3.23**	**173**	Pn	Pn	07 43 48.4	+1.5
KRM1	**Kerman Provinc**	**3.37**	**232**	Pn	Pn	07 43 51.7	+2.7
TNSJ	**Nastanj**	**3.42**	**294**	Pn	Pn	07 43 52.6	+3.1
IMOG	**Moghan**	**3.59**	**347**	Pn	Pn	07 43 55.0	+3.1
IMYA	**Miami**	**3.73**	**357**	Pn	Pn	07 43 57.4	+3.6
KBAM	**BAM**	**3.83**	**206**	Pn	Pn	07 43 57.2	+2.0
IPAY	**Payeh**	**3.99**	**344**	Pn	Pn	07 44 00.8	+3.3
KHGB	**Koh Gabri**	**4.00**	**237**	Pn	Pn	07 44 00.5	+2.9
TVBK	**TV Kerman**	**4.04**	**231**	Pn	Pn	07 44 01.1	+2.8
IBAF	**Bafgh**	**4.19**	**257**	Pn	Pn	07 44 03.5	+3.3
IAKL	**Akhelmad**	**4.19**	**342**	Pn	Pn	07 44 03.6	+3.3
IKRD	**Kardeh**	**4.21**	**351**	Pn	Pn	07 44 03.6	+3.1
NGRK	**Negar Kerman**	**4.29**	**227**	Pn	Pn	07 44 05.0	+3.2
SBZV	**Sabzevar**	**4.40**	**330**	Pn	Pn	07 44 05.9	+2.9
ISFR	**Sfrayin**	**4.84**	**337**	Pn	Pn	07 44 12.3	+3.1
IEMG	**Emamgholi**	**4.99**	**344**	Pn	Pn	07 44 14.6	+3.3
SRVN	**Saravan**	**5.49**	**161**	Pn	Pn	07 44 20.6	+2.6
ANAR	**Anarak**	**5.61**	**278**	Pn	Pn	07 44 23.1	+3.6
MRVT	**Maraveh tapeh**	**6.13**	**326**	Pn	Pn	07 44 30.7	+4.0

*NNC **23** 07:48:53.7±1.1, 51.64N×75.33E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=19.6km s-min=7.4km az=20.0, Suspected Mining explosion.*

*IDC **23** 07:48:54.6±1.2, 51.54N×75.38E, h0km, mbtmp2.7/3, ML2.0/3, Error ellipse: s-maj=42.6km s-min=9.7km az=35.0*

ISC 23 07:48:53.6±1.0, 51.57N±0.09×75.38E±0.05, h0km, n10, σ0s86/12, 6C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.20**	**114**	⇑Pn	**Pb**	**07 49 33.6**	**-0.6**
	4.1nm,0.5s						
KURBB				⇑Sn	**Sb**	**07 50 01.7**	**-0.2**
	30nm,0.8s						
KURK	**Kurchatov**	**2.21**	**111**	⇓Pn	**Pn**	**07 49 32.3**	**+0.8**
	0.8nm,0.4s						
KURK				⇑Sn	**Sb**	**07 50 01.7**	**-0.6**
	14nm,1.0s						
BVA0	**Borovoye Array**	**3.40**	**297**	⇑Pg	**Pb**	**07 49 53.8**	**-0.8**
	0.7nm,0.5s,baz=119,slow=16,SNR=11						
BVA0				⇑Lg	Lg	07 50 41.4	
	7.5nm,0.7s,baz=115,slow=28,SNR=4.8						
BVAR	**Borovoye Array**	**3.40**	**297**	Pn	**Pn**	**07 49 48.6**	**+0.8**
	baz=103,slow=16,SNR=4.4						
BVAR				Pg	**Pb**	**07 49 54.6**	**0.0**
	0.1nm,0.3s,baz=115,slow=17,SNR=14						
	0.5nm,0.4s						
BRVK	**Borovoye**	**3.47**	**298**	⇓Pg	**Pb**	**07 49 54.3**	**-1.5**
	0.6nm,0.4s						
BRVK				⇑Lg	Lg	07 50 39.9	
	13nm,0.8s						
OTUK	**Ortayu**	**3.86**	**212**	⇓Pg	**Pg**	**07 50 07.6**	**0.0**
	0.2nm,0.3s						
OTUK				⇓Lg	Lg	07 50 59.5	
	7.3nm,0.9s						
ZALV	**Zalesovo Beam**	**6.21**	**64**	Pn	**Pn**	**07 50 27.2**	**+0.8**
	0.4nm,0.3s,baz=257,slow=14,SNR=5.8						
	1.1nm,0.4s						
I46RU	**ZALESOVO INFRA**	**6.21**	**64**	I	I	08 27 20.0	
	baz=248,slow=299,SNR=6.1						
MK31	**Makanchi Array**	**6.58**	**134**	⇓Lg	Lg	07 52 22.6	
	3.3nm,0.9s,baz=318,slow=28,SNR=5.7						
MKAR	**Makanchi Array**	**6.58**	**134**	Pn	**Pn**	**07 50 32.4**	**+0.8**
	0.1nm,0.3s,baz=323,slow=11,SNR=2.9						
MKAR				Sn	**Sn**	**07 51 46.7**	**-0.5**
	baz=336,slow=15						
MKAR				Lg	Lg	07 52 19.1	
	0.2nm,0.3s,baz=333,slow=28,SNR=2.5						
	0.4nm,0.6s						

IDC 23 07:55:49.0±2.0, 15.96S×177.51W, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=128.1km s-min=25.0km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.86**	**258**	P	P	08 04 13.4	0.0
	0.6nm,0.9s,baz=93,slow=8.0,SNR=6.9						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**46.17**	**252**	P	P	08 04 15.8	-0.1
	2.4nm,0.7s,baz=86,slow=8.4,SNR=50						
	2.4nm,0.7s						
NVAR	**Mina Array Bea**	**77.43**	**44**	P	P	08 07 48.2	+1.6
	0.4nm,0.8s,baz=211,slow=6.9,SNR=2.8						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**83.81**	**13**	P	P	08 08 19.1	-0.8
	0.3nm,1.0s,baz=218,slow=5.1,SNR=4.8						
	0.3nm,1.0s						
TXAR	**Lajitas Array**	**84.23**	**57**	P	P	08 08 22.1	-0.8
	0.6nm,0.9s,baz=228,slow=5.4,SNR=4.9						
	0.6nm,0.9s						

*IDC **23** 08:33:24.6±0.7, 34.38N±0.07×137.03E±0.05, h347km±6km, n28, σ0s88/39, mb3.1/8, Near south coast of eastern Honshu*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAA	**Atsumi**	**0.26**	**21**	P	**Pn**	**08 34 08.9**	**+0.8**
JAA				eS	**S**	**08 34 43.1**	**+0.1**
JIE	**Ise**	**0.27**	**272**	P	**Pn**	**08 34 08.7**	**+0.4**
JIE				eS	**S**	**08 34 42.6**	**-0.5**
JWY	**Kouya**	**1.20**	**263**	P	**Pn**	**08 34 11.5**	**+0.3**
JWY				eS	**S**	**08 34 47.4**	**-0.9**
JYTA	**Yamagatataniai**	**1.23**	**349**	P	**Pn**	**08 34 11.7**	**+0.6**
JYTA				eS	**S**	**08 34 47.7**	**-0.6**
JTNC	**Tanabenakahech**	**1.31**	**245**	*i* P	**Pn**	**08 34 11.8**	**+0.2**
JTNC				S	**S**	**08 34 48.2**	**-1.0**
JWT	**Wachi**	**1.61**	**304**	P	**Pn**	**08 34 13.7**	**+0.5**
JOD2	**Odawara 2**	**1.91**	**62**	P	**Pn**	**08 34 15.6**	**+0.5**
JOD2				eS	**S**	**08 34 55.3**	**-0.2**
JAI	**Aioi**	**2.22**	**255**	*i* P	**Pn**	**08 34 17.4**	**+0.1**
JAI				eS	**S**	**08 34 58.6**	**-1.1**
JRY	**Ryogami san**	**2.24**	**43**	*i* P	**Pn**	**08 34 18.1**	**+0.6**
JRY				eS	**S**	**08 34 59.2**	**-0.7**
MJAR	**Matsushiro Arr**	**2.36**	**24**	P	**Pn**	**08 34 18.8**	**+0.4**
	1.7nm,0.5s,baz=183,slow=10,SNR=9.2						
MJAR				S	**S**	**08 35 01.1**	**-0.4**
	2.0nm,0.5s,baz=198,slow=15,SNR=7.6						
MAT	**Matsushiro**	**2.36**	**24**	eS	**S**	**08 35 00.7**	**-0.8**
JHJ	**Hachijo jima 2**	**2.62**	**118**	P	**Pn**	**08 34 20.4**	**-0.2**
	61nm,0.5s,baz=319,slow=19,SNR=7.5						
JHJ				S	**S**	**08 35 08.2**	**+2.8**
	61nm,0.5s,baz=73,slow=22,SNR=1.2						
JHJ2	**Mitsune**	**2.65**	**118**	P	**Pn**	**08 34 21.1**	**+0.3**
JMN	**Monobe**	**2.70**	**257**	P	**Pn**	**08 34 21.4**	**+0.2**
JAG	**Ashikaga**	**2.84**	**43**	P	**Pn**	**08 34 21.4**	**-0.9**
BSO1	**Boso 1**	**3.27**	**84**	P	**Pn**	**08 34 24.1**	**-1.6**
BSO1				S	**S**	**08 35 13.0**	**-1.9**
JHS	**Saijyo**	**3.28**	**282**	P	**Pn**	**08 34 26.9**	**+0.5**
JTO	**Tosashimizu**	**3.84**	**248**	P	**Pn**	**08 34 31.9**	**0.0**
JNU	**Nakatsue**	**5.28**	**258**	P	**Pn**	**08 34 47.0**	**-0.3**
	1.8nm,0.3s,baz=90,slow=17,SNR=2.3						
KLR	**Kul'dur**	**15.34**	**347**	P	**P**	**08 36 43.4**	**+0.4**
	1.3nm,0.7s,baz=158,slow=16,SNR=4.9						
MKAR	**Makanchi Array**	**42.57**	**304**	P	**P**	**08 40 48.5**	**+0.9**
	0.7nm,0.7s,baz=87,slow=10,SNR=5.1						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**44.88**	**310**	P	**P**	**08 41 05.6**	**-0.1**
	0.6nm,0.5s,baz=93,slow=8.6,SNR=5.3						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**49.75**	**313**	P	**P**	**08 41 42.3**	**-0.6**
	0.4nm,0.3s,baz=83,slow=4.9,SNR=2.2						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**54.09**	**183**	P	**P**	**08 42 14.0**	**-0.9**
	0.7nm,0.3s,baz=360,slow=7.6,SNR=18						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**57.81**	**183**	P	**P**	**08 42 40.2**	**-0.7**
	0.2nm,0.3s,baz=2.3,slow=6.2,SNR=12						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**69.46**	**331**	P	**P**	**08 43 55.3**	**-0.6**
	1.5nm,0.8s,baz=66,slow=5.2,SNR=6.8						
	1.5nm,0.8s						
PDAR	**Pinedale Array**	**82.05**	**43**	P	**P**	**08 45 08.1**	**+0.8**
	0.2nm,0.6s,baz=335,slow=4.0,SNR=2.0						
	0.2nm,0.6s						
TXAR	**Lajitas Array**	**94.56**	**50**	P	**P**	**08 46 08.0**	**+1.1**
	0.3nm,1.0s,baz=304,slow=6.4,SNR=1.9						
	0.3nm,1.0s						

*IDC **23** 08:42:47.5±3.2, 30.59N×83.11E, h0km, mb3.4/4, mbtmp3.6/6, ML3.7/2, MS2.5/1, Error ellipse: s-maj=127.8km s-min=23.8km az=63.0*

ISC 23 08:42:49.3±2.7, 30.7N±0.3×83.2E±0.6, h10km, n7, σ0s22/6, mb3.6/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**13.84**	**332**	LR	LR	08 51 46.7	
	comp=Z,21nm,20.5s,baz=34,slow=39						
MKAR	**Makanchi Array**	**16.12**	**358**	Pn	**Pn**	**08 46 36.1**	**+0.1**
	baz=177,slow=11,SNR=2.1						
	1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.74**	**127**	P	**P**	**08 47 08.3**	**-0.1**
	0.3nm,0.3s,baz=301,slow=9.3,SNR=1.4						
	1.0nm,0.3s						
KURBB	**Kurchatov Arra**	**20.25**	**351**	P	**P**	**08 47 24.3**	**-0.3**
	1.0nm,0.7s,baz=172,slow=9.3,SNR=6.8						
	1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**23.30**	**2**	P	**P**	**08 47 57.3**	**+0.1**
	0.6nm,0.5s,baz=165,slow=6.0,SNR=2.6						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**24.23**	**341**	P	**P**	**08 48 06.2**	**+0.1**
	0.7nm,0.4s,baz=137,slow=11,SNR=3.9						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**70.32**	**129**	P	**P**	**08 54 03.4**	**+0.1**
	0.4nm,0.8s,baz=326,slow=6.3,SNR=2.5						
	0.4nm,0.8s						

UPA 23 08:53:54.4±0.6, 8.81N×82.69W, h0km±1km, ML1.9, MW2.3, 2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.02**	**173**	⇓*i* P	Pg	08 53 54.9	+0.2
BRU2				*i* S	Sg	08 53 55.9	+0.9
BC3P	**Paso Ancho**	**0.08**	**87**	⇓*i* P	Pg	08 53 56.7	+0.7
BC3P				AMP		08 53 57.2	
	comp=Z,756nm,0.1s						
BC3P				eS	Sg	08 53 58.6	+1.5
MLIR3	**Monte Lirio, C**	**0.13**	**262**	eP	Pg	08 53 57.5	+0.6
MLIR3				eS	Sg	08 54 00.5	+1.9
BCO2	**Palmira**	**0.19**	**119**	eP	Pg	08 53 59.5	+1.5
BCO2				eS	Sg	08 54 02.8	+2.4

CATAC 23 08:54:29.0±0.6, 9.17N×84.48W, h10km, ML2.8, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.52**	**341**	*i* P	Pg	08 54 38.5	-0.7
JACO				*i* S	Sb	08 54 47.4	-0.5
JACO				IAML		08 54 50.1	
	comp=Z,370nm,1.0s						
LCR2	**La Lucha 2**	**0.74**	**40**	*i* P	Pg	08 54 42.5	-0.8
LCR2				IAML		08 55 00.3	
	comp=Z,150nm,1.0s						
CDM	**Cerro de Muert**	**0.81**	**62**	*i* P	Pg	08 54 43.3	-1.4
CDM				IAML		08 55 00.6	
	comp=Z,260nm,1.0s						
OCHAL	**Ojochal**	**0.83**	**95**	*i* P	Pg	08 54 44.3	-0.7
OCHAL				IAML		08 54 49.6	
	comp=Z,3.9nm,1.0s						
OCHAL				*i* S	Sn	08 54 58.9	-0.2
RIMA	**Rio Macho**	**0.85**	**46**	*i* P	Pg	08 54 44.1	-1.4
RIMA				*i* S	Sb	08 54 57.5	-0.1
RIMA				IAML		08 54 58.0	
	comp=Z,190nm,1.0s						
TCS1	**Tacares**	**0.89**	**12**	*i* P	Pg	08 54 45.9	-0.2
TCS1				IAML		08 55 01.6	
	comp=Z,5μm,1.0s						
HDC3	**Heredia 3**	**0.91**	**24**	*i* P	Pg	08 54 46.4	-0.1
HDC3				IAML		08 55 07.3	
	comp=Z,240nm,1.0s						
HAYA	**Volcan Irazu**	**1.02**	**38**	*i* P	Pg	08 54 48.4	-0.4
HAYA				IAML		08 54 48.6	
	comp=Z,540nm,1.0s						
CPMI	**Catarata Coope**	**1.11**	**5**	*i* P	Pg	08 54 49.4	-1.0
CPMI				IAML		08 55 07.9	
	comp=Z,170nm,1.0s						
SOCE	**Pocosol**	**1.21**	**354**	*i* P	Pn	08 54 50.8	-1.3
INDI	**Punta indio, G**	**1.22**	**305**	*i* P	Pg	08 54 58.0	+5.5
VACR	**Volcan Arenal**	**1.31**	**352**	*i* P	Pn	08 54 52.8	-0.6
VACR				IAML		08 55 14.2	
	comp=Z,200nm,1.0s						
POTG	**Potrero Grande**	**1.35**	**95**	*i* P	Pn	08 54 53.3	-0.7
POTG				IAML		08 55 00.6	
	comp=Z,300nm,1.0s						
ORTG	**Ortega, Santa**	**1.53**	**321**	*i* P	Pb	08 54 57.4	-0.1
ORTG				IAML		08 55 01.5	
	comp=Z,48nm,1.0s						
COVE	**Coope Vega, Sa**	**1.54**	**3**	*i* P	Pn	08 54 56.0	-0.6
COVE				IAML		08 55 06.6	
	comp=Z,90nm,1.0s						
TRT2	**Tortugero**	**1.56**	**28**	*i* P	Pb	08 54 57.5	-0.6
TRT2				IAML		08 55 07.9	
	comp=Z,93nm,1.0s						
CDITO	**Canoas**	**1.70**	**110**	*i* P	Pg	08 55 08.1	+6.5
VMAR	**Armenia, Volca**	**1.75**	**339**	*i* P	Pb	08 55 01.5	+0.3
VMAR				IAML		08 55 37.5	
	comp=Z,140nm,1.0s						
HZTE	**Horizontes, Gu**	**1.89**	**325**	*i* P	Pg	08 55 04.9	-0.3
ESPN	**Las Esperanzas**	**3.01**	**3**	*i* P	Pn	08 55 14.6	-2.2
QUEN	**Al S del Volca**	**4.12**	**326**	*i* P	Pn	08 55 33.6	+1.5

*IDC **23** 09:12:08.4±1.2, 6.75N×72.81W, h170km±12km, mb3.0/4, mbtmp3.6/6, Error ellipse: s-maj=33.1km s-min=14.0km az=131.0*

*RSNC **23** 09:12:09.5±1.4, 6.84N×73.15W, h150km±5km, ML3.3, Mw3.6, Fault plane solution: NP1:ϕs99.00000°, δ59.00000°, λ-82.00000°.*

ISC 23 09:12:07.8±0.8, 6.84N±0.03×73.11W±0.04, h158km±6km, n41, σ1s64/75, mb3.3/4, 4C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**196**	⇓*i* P	**Pn**	**09 12 29.6**	**+0.1**
BARC				eS	**Sn**	**09 12 45.3**	**-0.8**
BARC				*i*		09 12 45.7	
	comp=Z,454nm,0.2s						
PAMC	**Pamplona, Colo**	**0.65**	**39**	⇓*i* P	**Pn**	**09 12 32.4**	**+1.0**
PAMC				eS	**Sn**	**09 12 49.7**	**+0.2**
PAMC				*i*		09 12 51.8	
	comp=Z,874nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.37**	**258**	eP	**Pn**	**09 12 36.1**	**-0.5**
PTBC				eS	**Sn**	**09 12 57.2**	**-1.5**
PTBC				*i*		09 13 03.0	
	comp=Z,151nm,0.3s						
TAMC	**Tame, Arauca**	**1.37**	**107**	⇓*i* P	**Pn**	**09 12 38.0**	**+1.3**
TAMC				eS	**Sn**	**09 12 59.5**	**+0.6**
TAMC				*i*		09 13 01.8	
	comp=Z,66nm,0.3s						
OCAC	**Ocana**	**1.41**	**352**	⇑*i* P	**Pn**	**09 12 37.6**	**+0.4**
OCAC				eS	**Sn**	**09 12 59.7**	**-0.3**
OCAC				*i*		09 13 07.8	
	comp=Z,650nm,0.2s						
SPBC	**San Pablo de B**	**1.51**	**219**	eP	**Pn**	**09 12 38.7**	**+0.5**
SPBC				eS	**Sn**	**09 13 00.8**	**-0.8**
SPBC				*i*		09 13 03.1	
	comp=Z,536nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	eP	**Pn**	**09 12 42.2**	**+0.5**
ZARC				eS	**Sn**	**09 13 07.2**	**-0.7**
ZARC				*i*		09 13 13.3	
	comp=Z,212nm,0.4s						
ROSC	**El Rosal**	**2.32**	**211**	eP	**Pn**	**09 12 49.3**	**+1.8**
ROSC				eS	**Sn**	**09 13 18.1**	**0.0**
ROSC				*i*		09 13 23.5	
	comp=Z,303nm,0.3s						
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**	**09 12 49.5**	**+2.0**
	comp=Z,108nm,0.3s,baz=126,slow=22,SNR=115						
ROSC				S	**Sn**	**09 13 15.5**	**-2.7**
	comp=Z,97nm,0.3s,baz=88,slow=19,SNR=5.3						
CVER	**Cruz Verde, Cu**	**2.49**	**203**	eP	**Pn**	**09 12 51.0**	**+1.3**
CVER				eS	**Sn**	**09 13 22.2**	**+0.3**
CVER				*i*		09 13 32.2	
	comp=Z,126nm,0.4s						
UREC	**San Jos de Ur**	**2.57**	**291**	eP	**Pn**	**09 12 49.3**	**-0.9**
UREC				eS	**Sn**	**09 13 20.9**	**-2.0**
UREC				*i*		09 13 31.4	
	comp=Z,176nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.75**	**235**	eP	**Pn**	**09 12 53.6**	**+0.8**
GUY2C				eS	**Sn**	**09 13 28.9**	**+1.2**
GUY2C				*i*		09 13 39.8	
	comp=Z,103nm,0.4s						
VILC	**Villavicencio,**	**2.77**	**192**	eP	**Pn**	**09 12 53.3**	**+0.6**
VILC				eS	**Sn**	**09 13 27.6**	**+0.1**
VILC				*i*		09 13 30.2	
	comp=Z,237nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.79**	**160**	⇑*i* P	**Pn**	**09 12 52.8**	**-0.1**
PTGC				eS	**Sn**	**09 13 26.2**	**-1.7**
PTGC				*i*		09 13 31.0	
	comp=Z,213nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.04**	**252**	eP	**Pn**	**09 12 57.3**	**+1.2**
CBOC				eS	**Sn**	**09 13 34.0**	**+0.4**
CBOC				*i*		09 13 37.7	
	comp=Z,32nm,0.2s						
DBBC	**Dabeiba**	**3.08**	**274**	eP	**Pn**	**09 12 57.5**	**+1.0**
DBBC				eS	**Sn**	**09 13 32.6**	**-1.8**
DBBC				*i*		09 13 37.5	
	comp=Z,52nm,0.2s						
SDV	**Santo Domingo**	**3.19**	**50**	⇑*i* P	**Pn**	**09 12 59.2**	**+1.1**
SDV				eS	**Sn**	**09 13 36.6**	**-0.5**
SDV				*i*		09 13 39.8	
	comp=Z,49nm,0.3s						
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**09 12 58.5**	**+0.4**
	comp=Z,14nm,0.3s,baz=227,slow=7.0,SNR=42						
SDV				S	**Sn**	**09 13 35.2**	**-1.9**
	comp=Z,73nm,0.4s,baz=48,slow=20,SNR=39						
ARGC	**Ariguani, Magd**	**3.21**	**340**	eP	**Pn**	**09 12 60.0**	**+1.9**
ARGC				eS	**Sn**	**09 13 38.9**	**+1.7**
ARGC				*i*		09 13 49.7	
	comp=Z,43nm,0.3s						
PRAC	**Prado**	**3.57**	**210**	eP	**Pn**	**09 13 03.4**	**+0.6**
PRAC				eS	**Sn**	**09 13 45.1**	**-0.4**
PRAC				*i*		09 13 51.4	
	comp=Z,99nm,0.3s						
APAC	**Apartado, Choc**	**3.60**	**287**	⇓*i* P	**Pn**	**09 13 03.4**	**+0.3**
APAC				eS	**Sn**	**09 13 46.3**	**+0.2**
APAC				*i*		09 13 50.4	
	comp=Z,50nm,0.4s						
ORTC	**Ortega, Tolima**	**3.60**	**216**	⇑eP	**Pn**	**09 13 03.9**	**+0.8**
ORTC				eS	**Sn**	**09 13 47.1**	**+0.9**
ORTC				*i*		09 13 50.8	
	comp=Z,80nm,0.5s						
SJCC	**San Jacinto, C**	**3.67**	**326**	eP	**Pn**	**09 13 03.8**	**-0.2**
SJCC				eS	**Sn**	**09 13 48.0**	**+0.2**
SJCC				*i*		09 13 49.3	
	comp=Z,45nm,0.7s						
PLMC	**San Jos del P**	**3.69**	**239**	⇓*i* P	**Pn**	**09 13 05.1**	**+0.8**
PLMC				eS	**Sn**	**09 13 49.0**	**+0.7**
PLMC				*i*		09 13 51.1	
	comp=Z,44nm,0.2s						
LCBC	**Los crdobas,**	**3.80**	**302**	eS	**Sn**	**09 13 52.1**	**+1.4**
LCBC				*i*		09 14 07.4	
	comp=Z,37nm,0.4s						
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	eP	**Pn**	**09 13 09.8**	**-0.7**
CRJC				eS	**Sn**	**09 13 58.5**	**-0.9**
CRJC				*i*		09 14 03.2	
	comp=Z,63nm,0.1s						
YOTC	**Yotoco, Valle**	**4.29**	**229**	eP	**Pn**	**09 13 12.6**	**+0.4**
YOTC				eS	**Sn**	**09 14 06.4**	**+4.1**
YOTC				*i*		09 14 11.8	
	comp=Z,8.1nm,0.4s						
SMRC	**Santa Marta, M**	**4.44**	**346**	eP

*IDC **23** 09:20:02.6±4.7,28°.03S×70°.66W,h35$^{km}_{\pm}$35^{km},mb3.7/4, mbtmp3.7/7,ML3.3/3,Error ellipse: s-maj=41.3km s-min=20.6km az=87.0*

*NEIC **23** 09:20:03.9±2.1,27°.96S±0°.05×71°.1W±0°.1,h58$^{km}_{\pm}$7^{km}, mb4.4/6,Error ellipse: s-maj=15.9km s-min=6.2km az=101.0*

*SJA **23** 09:20:04.9±0.6,28°.07S×70°.73W,h49$^{km}_{\pm}$11^{km},ML4.0, MW4.0*

*GUC **23** 09:20:05.2±0.7,28°.02S×70°.73W,h61$^{km}_{\pm}$4^{km},ML4.0*

ISC 23 09:20:03.2±0.7,27°.94S±0°.03×71°.05W±0°.05,h59$^{km}_{\pm}$6^{km}, n93,σ2^{s}23/115,mb4.2/9,4C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC04	**Llanos de Chal**	**0.26**	**185**	Pn	**Pn**	**09 20 15.8**	**+2.8**
AC04				Sn	**Sn**	**09 20 23.5**	**+3.4**
AC04	**Llanos de Chal**	**0.26**	**185**	*e*P	**Pn**	**09 20 15.0**	**+2.0**
AC04				*e*S	**Sn**	**09 20 15.7**	**-4.3**
AC04				IAML		09 20 25.8	
	comp=Z,8μm,0.3s						
AC04	**Llanos de Chal**	**0.26**	**185**	⇓*i*P	**Pn**	**09 20 15.8**	**+2.8**
AC04				*e*S	**Sn**	**09 20 23.5**	**+3.4**
AC04				IAML		09 20 25.2	
	comp=E,26μm,0.4s						
GO03	**Copiap**	**0.80**	**65**		**Pn**	**09 20 18.7**	**0.0**
GO03				Sn	**Sn**	**09 20 29.0**	**-1.2**
GO03	**Copiap**	**0.80**	**65**	*e*P	**Pn**	**09 20 18.7**	**0.0**
GO03				*e*S	**Sn**	**09 20 29.3**	**-0.8**
GO03	**Copiap**	**0.80**	**65**	*e*P	**Pn**	**09 20 18.7**	**0.0**
GO03				*e*S	**Sn**	**09 20 28.9**	**-1.2**
GO03				IAML		09 20 29.7	
	comp=E,11μm,0.4s						
AC06	**Mina Casimiro**	**0.85**	**47**		**Pn**	**09 20 20.5**	**+1.2**
AC06				Sn	**Sn**	**09 20 31.5**	**+0.4**
AC06	**Mina Casimiro**	**0.85**	**47**	*e*P	**Pn**	**09 20 20.4**	**+1.0**
AC06				*e*S	**Sn**	**09 20 31.5**	**+0.4**
AC06				IAML		09 20 32.3	
	comp=N,5μm,0.3s						
LCO	**Las Campanas**	**1.11**	**164**	Pn	**Pn**	**09 20 23.3**	**+0.3**
LCO	**Las Campanas**	**1.11**	**164**	*e*P	**Pn**	**09 20 23.3**	**+0.3**
LCO				*e*S	**Sn**	**09 20 36.4**	**-1.2**
LCO				IAML		09 20 38.0	
	comp=Z,6μm,0.3s						
LCO	**Las Campanas**	**1.11**	**164**	⇑*i*P	**Pn**	**09 20 23.2**	**+0.3**
LCO				*e*S	**Sn**	**09 20 36.8**	**-0.8**
LCO				IAML		09 20 40.0	
	comp=Z,21μm,0.2s						
AC05	**El Transito**	**1.12**	**143**	Pn	**Pn**	**09 20 22.8**	**-0.2**
AC05	**El Transito**	**1.12**	**143**	*e*P	**Pn**	**09 20 22.2**	**-0.9**
AC05				*e*S	**Sn**	**09 20 22.9**	**-0.2**
AC05				IAML		09 20 38.1	
	comp=Z,2μm,0.5s						
AC05	**El Transito**	**1.12**	**143**	*e*P	**Pn**	**09 20 22.8**	**-0.2**
AC05				*e*S	**Sn**	**09 20 36.1**	**-1.6**
AC05				IAML		09 20 36.7	
	comp=E,5μm,0.1s						
AC01	**Pan de Azucar**	**1.83**	**13**		**Pn**	**09 20 34.3**	**+1.9**
AC01	**Pan de Azucar**	**1.83**	**13**	*e*P	**Pn**	**09 20 33.5**	**+1.1**
AC01				*e*S	**Sn**	**09 20 51.2**	**-3.4**
CO05	**La Serena**	**1.98**	**185**		**Pn**	**09 20 35.7**	**+1.3**
CO05	**La Serena**	**1.98**	**185**	*e*P	**Pn**	**09 20 35.6**	**+1.3**
CO05				*e*S	**Sn**	**09 21 02.5**	**+4.5**
CO05				IAML		09 21 15.1	
	comp=E,2μm,0.4s						
CO01	**Juntas del Tor**	**2.19**	**158**	Pn	**Pn**	**09 20 38.8**	**+1.2**
CO01	**Juntas del Tor**	**2.19**	**158**	*e*P	**Pn**	**09 20 38.7**	**+1.2**
CO01				*e*S	**Sn**	**09 20 55.5**	**-8.3**
CO01				IAML		09 21 05.2	
	comp=Z,697nm,0.7s						
CO01	**Juntas del Tor**	**2.19**	**158**	*e*P	**Pn**	**09 20 38.8**	**+1.2**
CO01				IAML		09 21 07.8	
	comp=E,830nm,0.3s						
GO04	**Tololo Observa**	**2.23**	**174**	Pn	**Pn**	**09 20 39.5**	**+1.4**
GO04	**Tololo Observa**	**2.23**	**174**	*e*P	**Pn**	**09 20 39.7**	**+1.6**
GO04	**Tololo Observa**	**2.23**	**174**	*i* P	**Pn**	**09 20 39.3**	**+1.1**
AGUA	**GUANDACOL**	**2.72**	**125**	*e*P	**Pn**	**09 20 47.8**	**+3.1**
AGUA				*e*S	**Sn**	**09 21 20.8**	**+4.3**
AGUA				IAML		09 21 21.7	
	comp=Z,647nm,0.9s						
CO06	**Fray Jorge**	**2.77**	**191**		**Pn**	**09 20 45.7**	**+0.5**
CO06	**Fray Jorge**	**2.77**	**191**	*e*P	**Pn**	**09 20 45.4**	**+0.2**
CO06				IAML		09 21 35.5	
	comp=E,563nm,0.2s						
CO03	**El Pedregal**	**2.91**	**174**	Pn	**Pn**	**09 20 48.5**	**+1.3**
CO03	**El Pedregal**	**2.91**	**174**	*e*P	**Pn**	**09 20 48.9**	**+1.7**
CO03				IAML		09 21 38.2	
	comp=Z,372nm,0.2s						
CO03	**El Pedregal**	**2.91**	**174**	*i* P	**Pn**	**09 20 48.2**	**+1.0**
CO03				IAML		09 21 43.7	
	comp=N,1μm,0.4s						
GO02	**Mina Guanaco**	**3.06**	**26**	Pn	**Pn**	**09 20 51.1**	**+1.7**
GO02	**Mina Guanaco**	**3.06**	**26**	*e*P	**Pn**	**09 20 51.0**	**+1.5**
GO02				*e*S	Sn	09 21 12.1	-13
GO02	**Mina Guanaco**	**3.06**	**26**	*i* P	**Pn**	**09 20 50.8**	**+1.4**
TINO	**Tinogasta**	**3.08**	**93**	*e*P	Pn	09 20 35.1	-14
CO02	**Combarbal**	**3.25**	**179**		**Pn**	**09 20 52.6**	**+0.6**
CO02	**Combarbal**	**3.25**	**179**	*e*P	**Pn**	**09 20 53.6**	**+1.7**
CO02				IAML		09 21 44.9	
	comp=Z,648nm,0.3s						
CO02	**Combarbal**	**3.25**	**179**	*i* P	**Pn**	**09 20 52.5**	**+0.6**
PB14	**IPOC Station P**	**3.35**	**10**	Pn	**Pn**	**09 20 54.2**	**+0.7**
PB14	**IPOC Station P**	**3.35**	**10**	*e*P	**Pn**	**09 20 54.2**	**+0.7**
PB14				IAML		09 21 56.3	
	comp=Z,149nm,0.6s						
DOCA	**Reserva Natura**	**3.45**	**151**	*e*P	**Pn**	**09 20 57.5**	**+2.6**
DOCA				*e*S	**Sn**	**09 21 37.0**	**+2.2**
ACLC	**CERRO LA CRUZ**	**3.89**	**113**	*e*P	**Pn**	**09 21 02.0**	**+1.3**
ACLC				*e*S	**Sn**	**09 21 45.5**	**+0.2**
ACLC				IAML		09 21 47.7	
	comp=Z,317nm,0.6s						
RTLS	**Leoncito**	**4.13**	**159**	*e*P	**Pn**	**09 21 07.4**	**+3.3**
RTLS				IAML		09 22 18.7	
	comp=Z,430nm,0.8s						
CFA	**Coronel Fontan**	**4.39**	**147**	Pn	**Pn**	**09 21 08.4**	**+0.9**
	comp=Z,10nm,0.3s,baz=332,slow=14,SNR=8.7						
CFA				Pg		09 21 21.4	
	comp=Z,11nm,0.3s,baz=326,slow=16,SNR=6.9						
CFA				Sn	**Sn**	**09 21 56.0**	**-1.4**
	comp=Z,38nm,0.3s,baz=189,slow=20,SNR=13						
CFA				Lg	Lg	09 22 17.0	
	comp=Z,24nm,0.3s,baz=229,slow=20,SNR=6.5						
PB15	**IPOC Station P**	**4.92**	**17**		**Pn**	**09 21 16.5**	**+1.6**
PB15	**IPOC Station P**	**4.92**	**17**	*e*P	**Pn**	**09 21 16.3**	**+1.4**
PB15				IAML		09 22 45.4	
	comp=Z,303nm,0.3s						
ROC1	**El Roble**	**5.02**	**180**	Pn	**Pn**	**09 21 15.9**	**-0.3**
PB05	**IPOC Station P**	**5.12**	**9**		**Pn**	**09 21 17.2**	**-0.5**
PB05	**IPOC Station P**	**5.12**	**9**	*e*P	**Pn**	**09 21 17.1**	**-0.5**
PB05				IAML		09 22 54.2	
	comp=Z,73nm,0.9s						
PEL	**Peldehue**	**5.20**	**177**		**Pn**	**09 21 18.1**	**-0.4**
MT02	**Curacav**	**5.30**	**181**		**Pn**	**09 21 20.1**	**+0.3**
PB06	**IPOC Station P**	**5.38**	**15**	Pn	**Pn**	**09 21 22.3**	**+1.2**
PB06	**IPOC Station P**	**5.38**	**15**	*e*P	**Pn**	**09 21 21.2**	**+0.1**
PB06				IAML		09 22 58.8	
	comp=Z,90nm,0.7s						
MT03	**Universidad Ad**	**5.55**	**175**		**Pn**	**09 21 24.9**	**+1.5**
LVC	**Limon Verde**	**5.65**	**21**	Pn	**Pn**	**09 21 25.3**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=197,slow=9.4,SNR=12						
LVC				Pg		09 21 45.8	
	comp=Z,3.7nm,0.3s,baz=191,slow=10,SNR=5.6						
LVC				Sn	**Sn**	**09 22 27.2**	**-1.5**
	comp=Z,3.3nm,0.3s,baz=85,slow=19,SNR=7.6						
LVC				Lg	Lg	09 22 58.6	
	comp=Z,13nm,0.3s,baz=138,slow=4.0,SNR=9.7						
	comp=Z,1.8nm,0.3s						
VA05	**Santo Domingo**	**5.72**	**185**		**Pn**	**09 21 24.6**	**-1.0**
MT09	**Talagante**	**5.82**	**180**		**Pn**	**09 21 26.9**	**-0.2**
MT13	**San Alfonso**	**5.82**	**174**		**Pn**	**09 21 26.9**	**-0.2**
MT01	**Popeta**	**5.91**	**182**		**Pn**	**09 21 27.7**	**-0.5**
PB09	**IPOC Station P**	**6.33**	**15**	Pn	**Pn**	**09 21 35.2**	**+1.0**
BO02	**Sierra Bellavi**	**6.83**	**178**		**Pn**	**09 21 40.0**	**-0.9**
PB01	**IPOC Station P**	**7.01**	**12**	Pn	**Pn**	**09 21 42.7**	**-0.8**
H03N1	**Juan Fernandez**	**8.71**	**229**	Pn	**Pn**	**09 22 07.5**	**+1.3**
	baz=112,slow=19						
H03N1				Sn	**Sn**	**09 23 38.7**	**-4.1**
H03N1				T	T	09 31 02.1	
	baz=56,slow=72,SNR=259						
H03N2	**Juan Fernandez**	**8.72**	**229**	Pn	**Pn**	**09 22 08.0**	**+1.5**
	baz=112,slow=19						
H03N2				Sn	**Sn**	**09 23 38.7**	**-4.4**
H03N2				T	T	09 30 56.7	
	baz=56,slow=72,SNR=170						
H03N3	**Juan Fernandez**	**8.73**	**229**	Pn	**Pn**	**09 22 07.9**	**+1.4**
	baz=112,slow=19						
H03N3				Sn	**Sn**	**09 23 38.3**	**-5.0**
H03N3				T	T	09 30 55.3	
	baz=56,slow=72,SNR=242						
H03S3	**Juan Fernandez**	**8.94**	**227**	Pn	**Pn**	**09 22 09.6**	**+0.1**
H03S3				Sn	**Sn**	**09 23 41.7**	**-6.9**
	baz=242,slow=74						
H03S1	**Juan Fernandez**	**8.95**	**227**	Pn	**Pn**	**09 22 09.3**	**-0.2**
H03S1				Sn	**Sn**	**09 23 41.3**	**-7.5**
	baz=242,slow=74						
H03S2	**Juan Fernandez**	**8.96**	**227**	Pn	**Pn**	**09 22 09.5**	**-0.2**
H03S2				Sn	**Sn**	**09 23 41.7**	**-7.3**
	baz=242,slow=74						
LPAZ	**La Paz**	**11.91**	**14**	Pn	**Pn**	**09 22 48.5**	**-2.3**
CPUP	**Villa Florida**	**12.32**	**86**	Pn	**Pn**	**09 22 54.3**	**-1.6**
CPUP	**Villa Florida**	**12.32**	**86**	Pn	**Pn**	**09 22 52.4**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=246,slow=10.0,SNR=2.0						
	comp=Z,0.7nm,0.4s						
TRQA	**Tornquist**	**12.63**	**145**	Pn	**Pn**	**09 22 58.3**	**-1.8**
PLCA	**Paso Flores**	**12.77**	**178**	Pn	**Pn**	**09 23 02.6**	**+0.7**
SIV	**San Ignacio**	**15.06**	**40**	Pn	**Pn**	**09 23 31.9**	**-0.7**
	baz=207,slow=14,SNR=2.0						
	comp=Z,0.9nm,0.9s						
BOAV	**Boa Vista**	**31.82**	**20**	P	**P**	**09 26 23.6**	**+1.2**
BOAV				IAmb	IAmb	09 26 27.6	
	comp=Z,3.7nm,1.1s						
BELA	**Belgrano 2**	**52.70**	**171**	P	**P**	**09 29 11.1**	**-0.2**
BELA				IAmb	IAmb	09 29 39.3	
	comp=Z,5.4nm,0.6s						
VNA3	**Neumayer Olymp**	**54.68**	**160**	⇑P	**P**	**09 29 26.8**	**+0.9**
	comp=Z,1.8nm,0.5s						
VNA2	**Neumayer--Watz**	**55.30**	**159**	⇑P	**P**	**09 29 31.1**	**+0.8**
	comp=Z,3.4nm,0.5s,baz=286,slow=8.0						
SNAA	**Sanae**	**56.90**	**159**	P	**P**	**09 29 42.2**	**+0.4**
SNAA				IAmb	IAmb	09 29 43.2	
	comp=Z,2.7nm,0.7s						
SNAA	**Sanae**	**56.90**	**159**	⇑P	**P**	**09 29 42.2**	**+0.4**
	comp=Z,53nm,0.6s						
SNAA	**Sanae**	**56.90**	**159**	P	**P**	**09 29 41.9**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=271,slow=9.3,SNR=13						
	comp=Z,2.2nm,0.6s						
QSPA	**South Pole Qui**	**62.28**	**180**	P	**P**	**09 30 20.3**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=146,slow=0.9,SNR=8.6						
	comp=Z,0.5nm,0.5s						
TXAR	**Lajitas Array**	**64.94**	**329**	P	**P**	**09 30 40.7**	**+3.8**
	comp=Z,0.2nm,1.0s,baz=156,slow=9.6,SNR=1.5						
	comp=Z,0.2nm,1.0s						
S44A	**Carbondale**	**67.49**	**344**	P	**P**	**09 30 52.8**	**0.0**
TOA0	**Torodi Ar. Sit**	**81.36**	**70**	P	**P**	**09 32 14.1**	**+0.1**
TOA0				IAmb	IAmb	09 32 41.8	
	comp=Z,2.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**81.36**	**70**	P	**P**	**09 32 14.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**81.36**	**70**	P	**P**	**09 32 14.3**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=260,slow=4.2,SNR=10						
	comp=Z,2.0nm,0.7s						
H11S2	**WAKE ISLAND Hyl**	**26.51**	**273**	T	T	11 58 18.2	
	baz=112,slow=75,SNR=6.9						
H11S1	**WAKE ISLAND Hyl**	**26.52**	**273**	T	T	11 58 18.7	
	baz=112,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hyl**	**26.52**	**273**	T	T	11 58 19.2	
	baz=112,slow=75,SNR=10						
KURBB	**Kurchatov Arra**	**147.70**	**37**	PKPbc	**PKiKP**	**09 39 42.3**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=291,slow=2.9,SNR=4.3						
ZALV	**Zalesovo Beam**	**148.56**	**28**	PKPbc	**PKiKP**	**09 39 45.0**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=299,slow=3.9,SNR=5.3						
MKAR	**Makanchi Array**	**151.87**	**41**	PKPbc	**PKiKP**	**09 39 52.9**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=306,slow=1.8,SNR=3.8						
PZH	**PanZhiHua**	**173.42**	**101**	PKP	**PKPdf**	**09 40 06.6**	**+0.1**

*NEIC **23** 09:27:50.5±1.4,7°.95S±0°.07×119°.89E±0°.07,h231$^{km}_{\pm}$1^{km}, mb4.6/39,Error ellipse: s-maj=11.6km s-min=9.3km az=220.0*

*DJA **23** 09:27:50.6±0.1,8°.5±2°.×12°.0E±°,h223$^{km}_{\pm}$3^{km},M4.6/27, mb4.8/27,mB5.1/14,MLv4.9/16,Mw(mB)4.4/14*

*IDC **23** 09:27:51.7±0.9,7°.82S×120°.23E,h246$^{km}_{\pm}$8^{km},mb3.9/14, mbtmp4.5/16,Error ellipse: s-maj=20.3km s-min=6.8km az=61.0*

ISC 23 09:27:50.2±0.5,8°.05S±0°.04×119°.94E±0°.05,h229$^{km}_{\pm}$4^{km}, n143,σ2^{s}12/166,mb4.5/45,1C-1D,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDFI	**Ende, Flores**	**1.87**	**112**	P	**Pn**	**09 28 30.6**	**+0.8**
BASI	**Baing, Sumba**	**2.25**	**164**	P	**Pn**	**09 28 34.2**	**+0.8**
PLAI	**Plampang**	**2.28**	**250**	P	**Pn**	**09 28 33.9**	**+0.3**
PLAI	**Plampang**	**2.28**	**250**	P	**Pn**	**09 28 33.5**	**-0.1**
MMRI	**Maumere**	**2.35**	**105**	Pn	**Pn**	**09 28 35.5**	**+1.2**
MMRI	**Maumere**	**2.35**	**105**	P	**Pn**	**09 28 35.9**	**+1.5**
MMRI	**Maumere**	**2.35**	**105**	P	**Pn**	**09 28 35.2**	**+0.8**
BKSI	**Bulukumba**	**2.71**	**4**	P	**Pn**	**09 28 38.2**	**-0.1**
KAPI	**Kappang**	**3.02**	**356**	P	**Pn**	**09 28 41.2**	**-0.4**
	9.4nm,0.3s,baz=184,slow=15,SNR=1.7						
KAPI				S	**S**	**09 29 21.6**	**-0.4**
	20nm,0.4s,baz=285,slow=23,SNR=12						
TWSI	**Tatrwang, Sumb**	**3.10**	**257**	P	**Pn**	**09 28 42.4**	**-0.1**
SPSI	**Sidrap Palu**	**4.06**	**358**	P	**Pn**	**09 28 54.8**	**+1.0**
SOEI	**Soe**	**4.60**	**112**	Pn	**Pn**	**09 29 01.9**	**+1.4**
SOEI	**Soe**	**4.60**	**112**	P	**Pn**	**09 29 02.2**	**+1.7**
SOEI	**Soe**	**4.60**	**112**	P	**Pn**	**09 29 01.6**	**+1.1**
SRBI	**Singaraja**	**4.68**	**269**	P	**Pn**	**09 29 02.1**	**+0.7**
TTSI	**Tana Toraja**	**4.97**	**359**	P	**Pn**	**09 29 06.5**	**+1.5**
JAGI	**Jajag, Banyuwa**	**5.74**	**265**		**Pn**	**09 29 13.8**	**-0.9**
JAGI	**Jajag, Banyuwa**	**5.74**	**265**	P	**Pn**	**09 29 13.6**	**-1.1**
	148nm,0.7s,4μm2.6nm						
KMMI	**Kalianget**	**6.00**	**279**	P	**Pn**	**09 29 20.0**	**+2.0**
	311nm,1.1s,3μm1.0nm						
BLJI	**Banyuglugur**	**6.29**	**272**	P	**Pn**	**09 29 22.3**	**+0.7**
	157nm,0.7s,2μm1.1nm						
BBKI	**Banjar Baru**	**6.82**	**312**	P	**Pn**	**09 29 29.4**	**+1.1**
	131nm,1.4s,0.7nm						
LUWI	**Luwuk**	**7.51**	**22**		**Pn**	**09 29 37.9**	**+0.7**
LUWI	**Luwuk**	**7.51**	**22**	P	**Pn**	**09 29 38.4**	**+1.2**
LUWI	**Luwuk**	**7.51**	**22**	P	**Pn**	**09 29 38.4**	**+1.2**
	196nm,1.0s,2μm0.6nm						
SANI	**Sanana**	**8.47**	**46**	P	**Pn**	**09 29 50.7**	**+1.2**
	28nm,0.8s,914nm						
MRSI	**Marisa**	**8.70**	**13**	P	**Pn**	**09 29 52.8**	**+0.3**
	185nm,1.1s,2μm						
TOLI2	**Tolitoli**	**9.14**	**5**	Pn	**Pn**	**09 29 57.5**	**-0.6**
TOLI2	**Tolitoli**	**9.14**	**5**	P	**Pn**	**09 29 58.8**	**+0.7**
UGM	**Wanagama**	**9.33**	**270**	Pn	**Pn**	**09 30 00.1**	**-0.5**
UGM	**Wanagama**	**9.33**	**270**	P	**Pn**	**09 29 59.3**	**-1.2**
	212nm,1.3s						
SMRI	**Semarang**	**9.47**	**275**	P	**Pn**	**09 30 04.3**	**+2.0**
KPJI	**Karang Pucung**	**10.93**	**273**	P	**Pn**	**09 30 19.9**	**-1.0**
	70nm,0.6s						
SAUI	**Saumlaki**	**11.25**	**90**	Pn	**Pn**	**09 30 24.9**	**-0.1**
CMJI	**Cimerak**	**11.38**	**271**	P	**Pn**	**09 30 24.5**	**-2.1**
	44nm,0.4s						
FITZ	**Fitzroy Crossi**	**11.43**	**152**	Pn	**Pn**	**09 30 28.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**11.43**	**152**	P	**Pn**	**09 30 28.9**	**+1.8**
TNTI	**Ternate**	**11.47**	**41**	Pn	**Pn**	**09 30 27.2**	**-0.5**
TNTI	**Ternate**	**11.47**	**41**	P	**Pn**	**09 30 28.7**	**+1.0**
KNRA	**Kununurra**	**11.49**	**132**	Pn	**Pn**	**09 30 28.1**	**+0.2**
KNRA	**Kununurra**	**11.49**	**132**	P	**Pn**	**09 30 28.6**	**+0.7**
MTN	**Manton Dam**	**11.99**	**114**	Pn	**Pn**	**09 30 34.4**	**+0.1**
MTN	**Manton Dam**	**11.99**	**114**	P	**Pn**	**09 30 35.0**	**+0.7**
BBJI	**Bungbulang**	**12.19**	**272**	P	**P**	**09 30 39.0**	**-1.3**
LEM	**Lembang**	**12.28**	**275**	P	**Pn**	**09 30 37.8**	**-0.3**
	42nm,0.7s,baz=119,slow=18,SNR=4.7						
SBUM	**Sibu**	**12.96**	**323**	P	**Pn**	**09 30 46.1**	**-0.2**
MBWA	**Marble Bar**	**13.04**	**181**	Pn	**Pn**	**09 30 47.7**	**+0.5**
KDU	**Kakadu**	**13.16**	**112**	P	**Pn**	**09 30 49.1**	**+0.3**
FAKI	**Fak Fak**	**13.27**	**68**	Pn	**Pn**	**09 30 49.1**	**-1.0**
FAKI	**Fak Fak**	**13.27**	**68**	P	**Pn**	**09 30 49.2**	**-1.0**
FAKI	**Fak Fak**	**13.27**	**68**	P	**Pn**	**09 30 48.5**	**-1.6**
	167nm,0.7s,1μm						
SWI	**Sorong**	**13.35**	**58**	P	**Pn**	**09 30 51.0**	**-0.1**
	230nm,1.0s,3μm						
PSA00	**Pilbara Seismi**	**13.45**	**180**	P	**P**	**09 30 53.7**	**-0.3**
PSA00	**Pilbara Seismi**	**13.45**	**180**	P	**P**	**09 30 54.6**	**+0.5**
KSM	**Kuching**	**13.48**	**314**		**Pn**	**09 30 51.3**	**-1.5**
CGJI	**Cibinong**	**14.20**	**275**	P	**Pn**	**09 30 59.9**	**-1.7**
	82nm,0.6s,2μm						
XMI	**Christmas Isla**	**14.27**	**259**	P	**P**	**09 31 04.6**	**+1.4**
XMIS	**Christmas Isla**	**14.31**	**259**	P	**Pn**	**09 31 02.7**	**-0.2**
XMIS	**Christmas Isla**	**14.31**	**259**	P	**P**	**09 31 04.6**	**+0.9**
MNAI	**Manna**	**17.27**	**281**	P	**P**	**09 31 34.5**	**-1.9**
WB0	**Warramunga Arr**	**18.22**	**131**	P	**P**	**09 31 47.5**	**+0.9**
WRA	**Warramunga Arr**	**18.29**	**132**	P	**P**	**09 31 48.1**	**+0.8**
WRA				IAmb	IAmb	09 31 51.8	
	comp=Z,5.7nm,0.7s						
WRA	**Warramunga Arr**	**18.29**	**132**	P	**P**	**09 31 48.5**	**+1.2**
	comp=Z,11nm,0.3s,baz=304,slow=12,SNR=284						
WRA				S	**S**	**09 35 00.8**	**-3.5**
	comp=Z,21nm,0.9s,baz=305,slow=22,SNR=13						
WB2	**Warramunga Arr**	**18.29**	**132**	P	**P**	**09 31 48.1**	**+0.7**
WR0	**Warramunga Arr**	**18.44**	**131**	P	**P**	**09 31 49.8**	**+0.8**
MEEK	**Meekatharra**	**18.53**	**184**	P	**Pn**	**09 31 53.0**	**0.0**
WRKA	**Warakurna**	**18.68**	**156**	P	**Pn**	**09 31 54.0**	**-0.9**
AS31	**Alice Springs**	**20.50**	**141**	P	**P**	**09 32 12.2**	**+1.1**
ASAR	**Alice Springs**	**20.50**	**141**	P	**P**	**09 32 12.3**	**+1.2**
ASAR	**Alice Springs**	**20.50**	**141**	P	**P**	**09 32 12.4**	**+1.3**
	comp=Z,17nm,0.4s,baz=315,slow=8.8,SNR=227						
ASAR				S	**S**	**09 35 44.3**	**-3.0**
	comp=Z,18nm,0.9s,baz=322,slow=21,SNR=13						
ASAR				ScP	**ScP**	**09 39 24.6**	**-2.9**
	comp=Z,3.9nm,0.6s,baz=335,slow=2.1,SNR=5.2						
	comp=Z,17nm,0.4s						
MORW	**Morawa**	**21.23**	**189**	P	**P**	**09 32 18.3**	**-0.2**
MORW				IAmb	IAmb	09 32 47.2	
	comp=Z,13nm,0.7s						
QIS	**Mount Isa**	**22.72**	**125**	P	**P**	**09 32 34.3**	**+1.6**
KULM	**Kulim**	**23.36**	**304**	P	**P**	**09 32 36.5**	**-2.0**
KULM				IAmb	IAmb	09 32 38.9	
	comp=Z,20nm,0.9s						
RPSI	**Rantau Prapat**	**23.52**	**296**	P	**P**	**09 32 41.6**	**+1.7**
RPSI				IAmb	IAmb	09 32 43.0	
	comp=Z,16nm,0.8s						
PSI	**Prapat**	**23.57**	**296**	P	**P**	**09 32 42.6**	**+2.1**
FORT	**Forrest**	**23.86**	**163**	P	**P**	**09 32 45.1**	**+2.3**
GSI	**Gunungsitoli**	**24.16**	**292**	P	**P**	**09 32 43.5**	**-2.3**
GSI				IAmb	IAmb	09 33 06.6	
	comp=Z,17nm,0.6s						
NWAO	**Narrogin (SRO)**	**24.88**	**185**	P	**P**	**09 32 52.4**	**+0.3**
NWAO				IAmb	IAmb	09 33 05.2	
	comp=Z,16nm,1.1s						
NWAO	**Narrogin (SRO)**	**24.88**	**185**	P	**P**	**09 32 55.2**	**+3.2**
	comp=Z,7.7nm,1.0s,baz=188,slow=13,SNR=2.3						
	comp=Z,7.7nm,1.0s						
PMG	**Port Moresby**	**26.94**	**95**	P	**P**	**09 33 09.4**	**-1.3**
PMG				IAmb	IAmb	09 33 20.3	
	comp=Z,8.1nm,0.9s						
CTAO	**Charters Tower**	**28.14**	**118**	P	**P**	**09 33 22.6**	**+1.3**
BBOO	**Buckleboo**	**28.82**	**151**	P	**P**	**09 33 27.9**	**+0.7**
BBOO				IAmb	IAmb	09 33 30.8	
	comp=Z,13nm,1.0s						
STKA	**Stephens Creek**	**31.12**	**143**	P	**P**	**09 33 49.2**	**+1.7**
STKA	**Stephens Creek**	**31.12**	**143**	P	**P**	**09 33 49.1**	**+1.7**
	comp=Z,7.7nm,0.5s,baz=317,slow=9.5,SNR=28						
STKA				ScP	**ScP**	**09 39 56.0**	**-2.0**
	comp=Z,3.9nm,0.6s,baz=304,slow=5.3,SNR=5.2						
	comp=Z,7.7nm,0.5s						
TPUB	**Ta-pu**	**31.16**	**1**	P	**P**	**09 33 47.5**	**-0.5**
YULB	**Yu-li**	**31.27**	**2**	P	**P**	**09 33 46.2**	**-2.6**
YULB				IAmb	IAmb	09 33 50.2	
	comp=Z,24nm,1.1s						
CMAR	**Chiang Mai Arr**	**33.51**	**322**	P	**P**	**09 34 08.2**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=159,slow=5.7,SNR=6.4						
	comp=Z,1.2nm,0.3s			

KBL	**Kabul**	**64.08**	**315**	P	**P**	**09 37 59.1**	**-1.2**
KBL				IAmb	IAmb	09 37 59.7	
	comp=Z,8.0nm,0.6s						
MAKZ	**Makanchi**	**64.20**	**332**	P	**P**	**09 37 59.8**	**-0.8**
MAKZ				IAmb	IAmb	09 37 59.9	
	comp=Z,3.9nm,0.8s						
BOOM	**Boomskoye usch**	**64.32**	**325**	P	**P**	**09 38 00.4**	**-1.2**
BOOM				IAmb	IAmb	09 38 03.7	
	comp=Z,3.7nm,0.9s						
AAK	**Ala-Archa**	**65.24**	**325**	P	**P**	**09 38 06.9**	**-0.7**
ARSB	**Arslanbob**	**65.32**	**323**	P	**P**	**09 38 07.4**	**-0.7**
CHGR	**Chuyangaron**	**66.19**	**318**	P	**P**	**09 38 12.0**	**-1.6**
CHGR				IAmb	IAmb	09 38 12.6	
	comp=Z,9.8nm,0.5s						
ZAA0	**Zalesovo Array**	**68.49**	**339**	P	**P**	**09 38 26.3**	**-1.2**
ZAA0				IAmb	IAmb	09 38 26.6	
	comp=Z,11nm,0.7s						
ZALV	**Zalesovo Beam**	**68.49**	**339**	P	**P**	**09 38 26.2**	**-1.4**
ZALV	**Zalesovo Beam**	**68.49**	**339**	P	**P**	**09 38 25.8**	**-1.8**
	comp=Z,11nm,0.5s,baz=139,slow=5.0,SNR=49						
	comp=Z,11nm,0.5s						
KURBB	**Kurchatov Arra**	**68.54**	**333**	P	**P**	**09 38 26.6**	**-1.3**
	comp=Z,4.3nm,0.6s,baz=143,slow=5.6,SNR=29						
	comp=Z,4.3nm,0.6s						
KURK	**Kurchatov**	**68.56**	**333**	P	**P**	**09 38 27.1**	**-0.9**
KURK				IAmb	IAmb	09 38 27.7	
	comp=Z,7.8nm,0.8s						
PEA0B	**Petropavlovsk-**	**68.84**	**23**	P	**P**	**09 38 29.3**	**-0.4**
PEA0B				IAmb	IAmb	09 38 35.4	
	comp=Z,18nm,1.0s						
PETK	**Petropavlovsk-**	**68.84**	**23**	P	**P**	**09 38 29.1**	**-0.6**
	comp=Z,5.3nm,0.7s,baz=200,slow=3.9,SNR=4.7						
	comp=Z,5.3nm,0.7s						
VNDA	**Vanda**	**72.78**	**171**	P	**P**	**09 38 54.7**	**+1.7**
	comp=Z,1.2nm,0.6s,baz=307,slow=8.3,SNR=7.2						
	comp=Z,1.2nm,0.6s						
BVAR	**Borovoye Array**	**73.90**	**331**	P	**P**	**09 38 58.8**	**-1.2**
	comp=Z,2.4nm,0.7s,baz=164,slow=5.7,SNR=8.8						
	comp=Z,2.4nm,0.7s						
ABKAR	**Akbulak array**	**77.33**	**324**	P	**P**	**09 39 18.2**	**-1.2**
TIXI	**Tiksi**	**79.75**	**3**	P	**P**	**09 39 31.3**	**-0.9**
MNK	**Minsk**	**97.68**	**324**	*i* P	**P**	**09 40 56.2**	**-2.5**
MNK							
	comp=E,6.0nm,0.7s						
MNK				*i* P	**P**	**09 40 56.2**	**-2.5**
	comp=N,37nm,1.1s						
MNK				*i* P	**P**	**09 40 56.2**	**-2.5**
	comp=Z,9.0nm,0.7s,baz=93						
MNK				*i* PP	**PP**	**09 44 54.3**	**-5.5**
MNK				*i* PPP	PPP	09 46 59.1	
MNK				*i* S	**SKSac**	**09 51 23.9**	**+10**
MNK				*i* sS	**ScS**	**09 52 11.9**	**+8.2**
MNK				*i* SS	**SS**	**09 58 54.2**	**+4.6**
MNK				*i* SSS	SSS	10 02 45.4	
MNK				*i* LR	LR	10 25 13.2	
MNK				*i* LRM	MLR	10 25 36.0	
	comp=E,22nm,12.3s						
MNK				*i* LRM	MLR	10 25 45.2	
	comp=N,97nm,14.0s						
MNK				*i* LRM	MLR	10 26 20.6	
	comp=Z,147nm,13.2s						
YKA	**Yellowknife Ar**	**112.95**	**24**	PKiKP	**PKiKP**	**09 45 58.0**	**-1.5**
	comp=Z,1.2nm,0.6s,baz=304,slow=2.2,SNR=19						
TORD	**Torodi Ar. Bea**	**119.21**	**281**	PKP	**PKPdf**	**09 46 11.6**	**-1.4**
	comp=Z,1.7nm,0.5s,baz=65,slow=2.2,SNR=18						
NVAR	**Mina Array Bea**	**119.70**	**50**	PKP	**PKPdf**	**09 46 13.4**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=270,slow=0.9,SNR=11						
PDAR	**Pinedale Array**	**124.59**	**43**	PKP	**PKPdf**	**09 46 21.2**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=86,slow=2.0,SNR=5.6						
PLCA	**Paso Flores**	**130.51**	**170**	PKP	**PKiKP**	**09 46 34.9**	**0.0**
	comp=Z,1.1nm,0.6s,baz=220,slow=11,SNR=5.2						
SCHQ	**Schefferville**	**133.03**	**5**	PKP	**PKPdf**	**09 46 38.3**	**+0.1**
	comp=Z,3.7nm,0.9s,baz=360,slow=4.9,SNR=3.6						
TXAR	**Lajitas Array**	**133.94**	**57**	PKP	**PKiKP**	**09 46 41.4**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=258,slow=1.8,SNR=9.2						
CPUP	**Villa Florida**	**145.72**	**184**	PKPbc	**PKPdf**	**09 47 02.1**	**0.0**
	comp=Z,2.0nm,0.4s,baz=193,slow=2.6,SNR=8.0						

RSNC **23** *09:29:05.6±1.9,4°.55N×75°.81W,h147km±6km,* **ML3.1, Mw3.5,4C-7D,Fault plane solution: NP1:**ϕ_s148.00000°, δ33.00000°,λ-162.00000°.**,Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLMC	**San Jos del P**	**0.59**	**307**	⇑*e*P	Pn	09 29 26.8	-0.4
PLMC				*e*S	Sn	09 29 44.3	+0.7
YOTC	**Yotoco, Valle**	**0.78**	**223**	⇓*i*P	Pn	09 29 27.4	-1.1
YOTC				*e*S	Sn	09 29 44.3	-1.6
YOTC				*i*		09 29 48.8	
	comp=Z,271nm,0.3s						
GUY2C	**Guyana, Caldas**	**0.80**	**34**	⇓*i*P	Pn	09 29 28.8	-0.2
GUY2C				*e*S	Sn	09 29 46.1	-0.8
ORTC	**Ortega, Tolima**	**0.85**	**139**	⇓*i*P	Pn	09 29 28.3	-0.7
ORTC				*e*S	Sn	09 29 45.9	-0.9
ORTC				*i*		09 29 47.1	
	comp=Z,217nm,0.5s						
PRAC	**Prado**	**1.24**	**132**	⇓*i*P	Pn	09 29 31.8	-0.6
PRAC				*e*S	Sn	09 29 52.1	-0.7
PRAC				*i*		09 29 54.0	
	comp=Z,204nm,0.5s						
CBOC	**Ciudad Bolivar**	**1.32**	**351**	⇑*i*P	Pn	09 29 32.8	-0.5
CBOC				*e*S	Sn	09 29 53.1	-1.3
CBOC				*i*		09 29 56.5	
	comp=Z,107nm,0.1s						
ROSC	**El Rosal**	**1.51**	**79**	*e*P	Pn	09 29 36.4	+0.9
ROSC				*e*S	Sn	09 29 58.4	+0.2
JAMC	**Jamundi, Valle**	**1.58**	**213**	*e*P	Pn	09 29 34.8	-1.3
JAMC				*e*S	Sn	09 29 58.7	-0.8
JAMC				*i*		09 30 04.1	
	comp=Z,217nm,0.3s						
PIZC	**Pizarro, Choco**	**1.60**	**285**	⇑*i*P	Pn	09 29 36.5	+0.5
PIZC				*e*S	Sn	09 30 00.1	+0.9
PIZC				*i*		09 30 08.7	
	comp=Z,173nm,0.5s						
MALC	**Bahia Malaga**	**1.61**	**251**	*e*P	Pn	09 29 37.2	+1.0
MALC				*e*S	Sn	09 30 01.8	+2.2
MALC				*i*		09 30 09.1	
	comp=Z,167nm,0.3s						
CVER	**Cruz Verde, Cu**	**1.73**	**91**	*e*P	Pn	09 29 38.4	+0.4
CVER				*e*S	Sn	09 30 03.8	+1.2
CVER				*i*		09 30 06.7	
	comp=Z,83nm,0.5s						
BETC	**Betania**	**1.90**	**169**	⇓*i*P	Pn	09 29 38.4	-1.1
BETC				*e*S	Sn	09 30 03.5	-1.9
BETC				*i*		09 30 08.7	
	comp=Z,42nm,0.5s						
SPBC	**San Pablo de B**	**2.05**	**58**	*e*P	Pn	09 29 40.6	-0.6
SPBC				*e*S	Sn	09 30 10.5	+2.0
POPC	**Popayan, Colom**	**2.18**	**203**	*e*P	Pn	09 29 41.6	-1.4
POPC				*e*S	Sn	09 30 09.9	-1.7
POPC				*i*		09 30 12.3	
	comp=Z,57nm,0.2s						
SOLC	**Bahia Solano**	**2.30**	**316**	*e*P	Pn	09 29 43.5	-0.6
SOLC				*e*S	Sn	09 30 12.7	-1.2
GARC	**Garzon, Huila**	**2.37**	**172**	*e*P	Pn	09 29 44.0	-1.2
GARC				*i*		09 30 21.1	
	comp=Z,37nm,0.2s						
PTBC	**PUERTO BERRIO,**	**2.39**	**34**	*e*P	Pn	09 29 44.3	-0.9
PTBC				*e*S	Sn	09 30 13.8	-2.0
PTBC				*i*		09 30 16.2	
	comp=Z,39nm,0.5s						
DBBC	**Dabeiba**	**2.48**	**351**	*e*P	Pn	09 29 47.8	+1.3
DBBC				*e*S	Sn	09 30 18.9	+0.9
DBBC				*i*		09 30 21.5	
	comp=Z,45nm,0.2s						
BBAC	**Balboa, Cauca**	**2.90**	**210**	*e*P	Pn	09 29 50.6	-1.2
BBAC				*e*S	Sn	09 30 25.4	-2.0
BBAC				*i*		09 30 29.9	
	comp=Z,56nm,0.4s						
FLOC	**Florencia**	**2.96**	**177**	⇓*i*P	Pn	09 29 51.4	-0.9
FLOC				*e*S	Sn	09 30 28.5	0.0
ZARC	**Zaragoza, Cauc**	**3.07**	**18**	⇓*i*P	Pn	09 29 53.1	-0.7
ZARC				*e*S	Sn	09 30 29.5	-1.6
ZARC				*i*		09 30 31.0	
	comp=Z,128nm,0.5s						
CRUC	**La Cruz**	**3.18**	**201**	*e*P	Pn	09 29 55.6	+0.1
CRUC				*e*S	Sn	09 30 34.1	0.0
UREC	**San Jos de Ur**	**3.19**	**5**	*e*P	Pn	09 29 54.7	-0.7
UREC				*e*S	Sn	09 30 32.7	-1.1
UREC				*i*		09 30 33.3	
	comp=Z,44nm,0.3s						
PTAC	**Punta Ardita,**	**3.25**	**322**	⇑*i*P	Pn	09 29 55.2	-0.9
PTAC				*e*S	Sn	09 30 33.1	-2.2
BARC	**Barichara**	**3.31**	**52**	*e*P	Pn	09 29 56.4	-0.6
BARC				*e*S	Sn	09 30 34.9	-1.9
BARC				*i*		09 30 40.1	
	comp=Z,53nm,0.4s						
APAC	**Apartado, Choc**	**3.41**	**347**	*e*P	Pn	09 29 59.7	+1.5
APAC				*e*S	Sn	09 30 42.1	+3.2
APAC				*i*		09 30 44.3	
	comp=Z,16nm,0.6s						
GCUF	**Volcan Galeras**	**3.64**	**205**	*e*P	Pn	09 30 00.8	-0.8
GCUF				*e*S	Sn	09 30 43.8	-1.2
GCUF				*i*		09 30 46.0	
	comp=Z,44nm,0.3s						
PAMC	**Pamplona, Colo**	**4.15**	**48**	*e*P	Pn	09 30 07.3	-0.9
PAMC				*e*S	Sn	09 30 54.4	-2.5
PAMC				*i*		09 31 01.1	
	comp=Z,21nm,0.5s						
TULM	**Tulcn-Chalpat**	**4.29**	**207**	*e*P	Pn	09 30 10.9	+0.7
TULM				*e*S	Sn	09 31 00.3	+0.1
TAMC	**Tame, Arauca**	**4.42**	**65**	*e*P	Pn	09 30 10.8	-0.5
TAMC				*e*S	Sn	09 30 59.5	-2.9
TAMC				*i*		09 31 07.0	
	comp=Z,11nm,0.2s						
OCAC	**Ocana**	**4.42**	**34**	*e*P	Pn	09 30 10.4	-1.1
OCAC				*e*S	Sn	09 30 59.0	-3.7
UPD2	**Meteti**	**4.53**	**331**	*e*P	Pn	09 30 13.4	+0.6
UPD2				*e*S	Sn	09 31 04.9	-0.3
UPD2				*i*		09 31 10.7	
	comp=Z,21nm,0.3s						
CUSE	**Cuicocha Este**	**4.95**	**212**	*e*P	Pn	09 30 20.8	+2.1
CUSE				*e*S	Sn	09 31 18.5	+2.8
CUSE				*i*		09 31 25.8	
	comp=Z,31nm,0.3s						
OTAV	**Otavalo**	**5.03**	**212**	*e*P	Pn	09 30 20.7	+0.8
OTAV				*e*S	Sn	09 31 16.6	-1.1

IDC **23** *09:55:03.1±1.0,3°.18N×79°.33W,h0km, mb3.6/7, mbtmp3.7/11,ML3.2/4,MS2.8/4,Error ellipse: s-maj=27.0km s-min=19.9km az=62.0*
RSNC **23** *09:55:06.6±1.4,2°.98N×79°.16W,h18km±5km, ML3.4, Mw3.4*
ISC 23 09:55:05.7±2.8,3°.04N±0°.04×79°.26W±0°.06,h24km±21km, n45,σ1s99/69,mb3.6/7,5C-1D,South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GR1C	**Gorgona, Isla**	**1.09**	**92**	⇑*i*P	**Pn**	**09 55 23.5**	**-1.9**
GR1C				*e*S	**Sn**	**09 55 37.3**	**-2.5**
TUMC	**Tumaco**	**1.32**	**156**	*e*P	**Pn**	**09 55 28.1**	**-0.5**
TUMC				*e*S	**Sb**	**09 55 44.9**	**-1.4**
TUMC				*i*		09 55 53.5	
	comp=Z,484nm,0.5s						
MALC	**Bahia Malaga**	**2.15**	**63**	⇑*i*P	**Pn**	**09 55 39.4**	**-0.6**
MALC				*e*S	**Sn**	**09 56 06.4**	**+0.4**
MALC				*i*		09 56 10.6	
	comp=Z,166nm,0.3s						
BBAC	**Balboa, Cauca**	**2.25**	**117**	⇑*i*P	**Pn**	**09 55 40.6**	**-1.0**
BBAC				*e*S	**Sn**	**09 56 06.5**	**-2.2**
BBAC				*i*		09 56 13.3	
	comp=Z,140nm,0.3s						
CMBC	**Cumbal**	**2.53**	**145**	*e*P	**Pn**	**09 55 45.3**	**-0.3**
CMBC				*e*S	**Sn**	**09 56 14.5**	**-1.4**
JAMC	**Jamundi, Valle**	**2.59**	**86**	*e*P	**Pn**	**09 55 45.0**	**-1.3**
JAMC				*e*S	**Sn**	**09 56 14.2**	**-2.9**
JAMC				*i*		09 56 17.6	
	comp=Z,371nm,0.2s						
GCUF	**Volcan Galeras**	**2.63**	**133**	*e*P	**Pn**	**09 55 47.4**	**+0.4**
GCUF				*e*S	**Sn**	**09 56 17.3**	**-1.1**
GCUF				*i*		09 56 22.6	
	comp=Z,214nm,0.3s						
POPC	**Popayan, Colom**	**2.63**	**101**	⇑*i*P	**Pn**	**09 55 45.5**	**-1.3**
POPC				*e*S	**Sn**	**09 56 16.3**	**-1.8**
POPC				*i*		09 56 25.1	
	comp=Z,65nm,0.3s						
CRUC	**La Cruz**	**2.73**	**122**	*e*P	**Pn**	**09 55 48.9**	**+0.5**
CRUC				*e*S	**Sn**	**09 56 20.3**	**-0.5**
TULM	**Tulcn-Chalpat**	**2.73**	**147**	*e*S	**Sn**	**09 56 19.7**	**-1.5**
TULM				*i*		09 56 21.4	
	comp=Z,159nm,0.9s						
PAC1	**Pacto, Paraso**	**2.79**	**170**	⇓*i*P	**Pn**	**09 55 47.2**	**-1.9**
PAC1				*e*S	**Sn**	**09 56 20.9**	**-1.2**
CUSE	**Cuicocha Este**	**2.85**	**162**	*e*P	**Pn**	**09 55 49.7**	**-0.4**
CUSE				*e*S	**Sn**	**09 56 21.5**	**-2.3**
OTAV	**Otavalo**	**2.90**	**164**	*e*P	**Pn**	**09 55 49.9**	**-0.9**
OTAV				*e*S	**Sn**	**09 56 20.3**	**-4.7**
YOTC	**Yotoco, Valle**	**3.06**	**72**	*e*P	**Pn**	**09 55 51.4**	**-1.3**
YOTC				*e*S	**Sn**	**09 56 27.7**	**-0.8**
YOTC				*i*		09 56 29.0	
	comp=Z,69nm,0.4s						
BONI	**La Bonita**	**3.10**	**146**	*e*P	**Pn**	**09 55 55.3**	**+2.0**
BONI				*e*S	**Sn**	**09 56 31.3**	**+1.6**
BONI				*i*		09 56 39.9	
	comp=Z,67nm,0.4s						
PLMC	**San Jos del P**	**3.50**	**58**	*e*P	**Pn**	**09 55 56.5**	**-2.2**
PLMC				*e*S	**Sn**	**09 56 38.3**	**-1.2**
PLMC				*i*		09 56 45.3	
	comp=Z,83nm,0.2s						
GARC	**Garzon, Huila**	**3.85**	**103**	*e*P	**Pn**	**09 56 05.4**	**+1.7**
GARC				*i*		09 56 50.8	
	comp=Z,95nm,0.3s						
FLOC	**Florencia**	**3.88**	**112**	⇑*i*P	**Pn**	**09 56 05.0**	**+1.1**
FLOC				*e*S	**Sn**	**09 56 48.7**	**-0.1**
ORTC	**Ortega, Tolima**	**4.10**	**78**	*e*P	**Pn**	**09 56 08.6**	**+1.7**
ORTC				*e*S	**Sn**	**09 56 53.0**	**-1.2**
ORTC				*i*		09 56 59.6	
	comp=Z,74nm,0.5s						
ANIL	**Santa Ana**	**4.11**	**69**	*e*P	**Pn**	**09 56 07.8**	**+0.5**
ANIL				*e*S	**Sn**	**09 56 54.7**	**-0.1**
ANIL				*i*		09 57 00.4	
	comp=Z,139nm,0.4s						
CBOC	**Ciudad Bolivar**	**4.28**	**49**	*e*P	**Pn**	**09 56 07.5**	**-2.1**
CBOC				*e*S	**Sn**	**09 56 55.2**	**-3.7**
CBOC				*i*		09 57 08.9	
	comp=Z,17nm,0.5s						
PRAC	**Prado**	**4.42**	**81**	*e*P	**Pn**	**09 56 12.8**	**+1.5**
PRAC				*e*S	**Sn**	**09 57 01.0**	**-1.1**
PRAC				*i*		09 57 08.3	
	comp=Z,67nm,0.5s						
GUY2C	**Guyana, Caldas**	**4.45**	**61**	*e*P	**Pn**	**09 56 12.0**	**-0.1**
GUY2C				*e*S	**Sn**	**09 57 02.5**	**-1.0**
GUY2C				*i*		09 57 06.5	
	comp=Z,26nm,0.5s						
DBBC	**Dabeiba**	**4.99**	**37**	*e*P	**Pn**	**09 56 21.4**	**+2.2**
ROSC	**El Rosal**	**5.24**	**70**	Pn	**Pn**	**09 56 25.4**	**+2.4**
	comp=Z,5.0nm,0.3s,baz=1.3,slow=23,SNR=4.3						
ROSC				Sn	**Sn**	**09 57 26.3**	**+3.4**
	comp=Z,2.6nm,0.3s,baz=250,slow=21,SNR=1.4						
	comp=Z,15nm,0.4s						
COHC	**Cochancay**	**5.47**	**180**	*e*P	**Pn**	**09 56 24.2**	**-1.5**
COHC				*e*S	**Sn**	**09 57 25.6**	**-2.2**
VILC	**Villavicencio,**	**5.66**	**79**	*e*P	**Pn**	**09 56 31.8**	**+3.4**
VILC				*e*S	**Sn**	**09 57 33.8**	**+1.1**
VILC				*i*		09 57 42.6	
	comp=Z,34nm,0.5s						
PTBC	**PUERTO BERRIO,**	**5.92**	**54**	*e*P	**Pn**	**09 56 32.3**	**+0.4**
PTBC				*e*S	**Sn**	**09 57 38.1**	**-0.8**
UREC	**San Jos de Ur**	**5.97**	**38**	*e*P	**Pn**	**09 56 34.8**	**+2.1**
ZARC	**Zaragoza, Cauc**	**6.23**	**45**	*e*P	**Pn**	**09 56 38.3**	**+2.1**
ZARC				*i*		09 57 52.6	
	comp=Z,4.6nm,0.4s						
OCAC	**Ocana**	**7.85**	**49**	*e*P	**Pn**	**09 57 00.8**	**+2.2**
OCAC				*i*		09 58 32.6	
	comp=Z,15nm,0.4s						
JTS	**Las Juntas de**	**9.16**	**322**	Pn	Pn	09 57 14.2	-2.2
	comp=Z,1.0nm,0.3s,baz=111,slow=20,SNR=4.3						
JTS				LR	LR	09 59 12.1	
	comp=Z,22nm,20.9s,baz=127,slow=28						
	comp=Z,2.3nm,0.4s						
ATAH	**Atahualpa**	**10.14**	**175**	Pn	**Pn**	**09 57 33.1**	**+2.8**
	comp=Z,0.4nm,0.3s,baz=9.7,slow=10,SNR=3.2						
ATAH				Sn	**Sn**	**09 59 20.7**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=345,slow=22,SNR=1.9						
	comp=Z,2.5nm,0.5s						
SDV	**Santo Domingo**	**10.36**	**56**	Pn	**Pn**	**09 57 32.9**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=248,slow=5.8,SNR=9.9						
SDV				Sn	**Sn**	**09 59 21.2**	**-7.3**
	comp=Z,0.3nm,0.3s,baz=270,slow=20,SNR=1.5						
SDV				LR	LR	10 01 55.4	
	comp=Z,47nm,21.4s,baz=250,slow=40						
	comp=Z,4.1nm,0.3s						
SIV	**San Ignacio**	**26.09**	**137**	LR	LR	10 12 40.9	
	comp=Z,46nm,20.6s,baz=281,slow=40						
LVC	**Limon Verde**	**27.42**	**159**	LR	LR	10 12 33.2	
	comp=Z,24nm,21.1s,baz=97,slow=38						
TXAR	**Lajitas Array**	**34.95**	**321**	P	**P**	**10 01 57.5**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=131,slow=11,SNR=2.6						
	comp=Z,0.2nm,0.7s						
PLCA	**Paso Flores**	**44.28**	**171**	P	**P**	**10 03 15.6**	**+2.0**
	comp=Z,2.0nm,0.8s,baz=331,slow=7.9,SNR=7.2						
	comp=Z,2.0nm,0.8s						
PDAR	**Pinedale Array**	**47.89**	**330**	P	**P**	**10 03 41.9**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=148,slow=9.4,SNR=2.3						
	comp=Z,0.1nm,0.4s						
ULM	**Lac du Bonnet**	**49.10**	**346**	P	**P**	**10 03 50.0**	**-1.1**
	comp=Z,2.7nm,0.7s,baz=146,slow=9.4,SNR=6.0						
	comp=Z,2.7nm,0.7s						
NVAR	**Mina Array Bea**	**50.08**	**320**	P	**P**	**10 04 00.6**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=128,slow=5.8,SNR=4.5						
NVAR				PcP	**PcP**	**10 05 18.9**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=125,slow=5.8,SNR=1.6						
	comp=Z,0.4nm,0.6s						
YKA	**Yellowknife Ar**	**64.86**	**343**	P	**P**	**10 05 42.1**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=134,slow=6.1,SNR=10						
	comp=Z,0.5nm,0.8s						
ILAR	**Eielson Array**	**77.85**	**336**	P	**P**	**10 07 00.5**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=146,slow=5.5,SNR=3.0						
	comp=Z,0.3nm,0.8s						
ASAR	**Alice Springs**	**141.95**	**234**	PKP	**PKPdf**	**10 14 36.4**	**-0.1**
	comp=Z,0.3nm,0.9s,baz=108,slow=3.0,SNR=1.7						
WRA	**Warramunga Arr**	**143.16**	**240**	PKhKP	PKPpre	10 14 35.4	
	comp=Z,0.9nm,0.8s,baz=112,slow=2.9,SNR=7.5						

CATAC **23** *09:56:29.7±1.2,13°.50N×90°.63W,h12km± 19km,ML3.1*
GCG **23** *09:56:31.7±0.6,13°.71N×90°.76W,h66km±20km,MD3.3*
ISC 23 09:56:28.9±2.7,13°.6N±0°.1×90°.71W±0°.07,h20km±6km,n9, σ0s63/17,1C,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCG	**Pacaya**	**0.84**	**6**	*e*P	**Pb**	**09 56 44.1**	**-0.9**
PCG				*e*S	**Sn**	**09 56 57.1**	**-0.7**
FUG	**Fuego 3**	**0.90**	**352**	*e*P	**Pn**	**09 56 47.4**	**+0.8**
FUG				*e*S	**Sn**	**09 56 59.7**	**+0.5**
NUBE	**Las Nubes**	**0.96**	**69**	*i* P	**Pn**	**09 56 47.4**	**-0.1**
NUBE				IAML		09 56 48.7	
	comp=Z,190nm,1.0s						
NUBE				*i* S	**Sg**	**09 57 00.0**	**-0.5**
LOAL	**Lomas de Alarc**	**1.00**	**64**	*i* P	**Pn**	**09 56 48.0**	**+0.1**
LOAL				*i* S	**Sn**	**09 57 01.9**	**+0.4**
LOAL				IAML		09 57 18.0	
	comp=Z,2μm,1.0s						
NBG	**Las Nubes**	**1.09**	**19**	⇑*e*P	**Pg**	**09 56 50.2**	**+0.1**
NBG				*e*S	**Sn**	**09 57 05.3**	**+1.3**
UNIC	**Universidad Ca**	**1.20**	**69**	*i* P	**Pb**	**09 56 50.8**	**-0.3**
UNIC				IAML		09 57 53.7	
	comp=Z,160nm,1.0s						
JAYA	**Jayaque - finc**	**1.23**	**85**	*i* P	**Pb**	**09 56 51.5**	**0.0**
JAYA				*i* S	**Sb**	**09 57 06.7**	**-0.3**
JAYA				IAML		09 57 08.5	
	comp=Z,840nm,1.0s						
PMON	**Piamonte**	**1.36**	**83**	*i* P	**Pb**	**09 56 53.3**	**-0.5**
PMON				*i* S	**Sn**	**09 57 10.6**	**+0.1**
PMON				IAML		09 57 12.3	
	comp=Z,280nm,1.0s						
STG3	**Santiaguito 3,**	**1.43**	**324**	*e*P	**Pb**	**09 56 54.6**	**-0.3**
STG3				*e*S	**Sn**	**09 57 11.7**	**-0.5**

TAP **23** *10:05:00.1,24°.79N×122°.28E,h11km,ML2.7,C*
JMA **23** *10:05:00.9±0.1,25°.1N±1°×122°.4E±0°.4,h36km,MV2.1/10, TAIWAN REGION*
ISC 23 10:04:59.9±1.0,24°.80N±0°.03×122°.34E±0°.02,h15km±9km, n44,σ0s55/70,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.37**	**278**	*e*P	**Pb**	**10 05 08.0**	**-0.2**
	baz=280						
TWB1	**Santiao Chiao**	**0.38**	**304**	P	**Pg**	**10 05 07.7**	**0.0**
	baz=310						
TWB1				*i* S	**Sg**	**10 05 12.7**	**-0.2**
	baz=310						
EOS2	**EOS2**	**0.39**	**194**	*i* P	**Pb**	**10 05 08.3**	**-0.1**
	baz=189						
EOS2				S	**Sb**	**10 05 14.5**	**+0.4**
	baz=189						
NTC	**Toucheng**	**0.47**	**277**	*e*S	**Sb**	**10 05 16.9**	**+0.3**
	baz=279						
TWC	**Suao**	**0.48**	**247**	*e*P	**Pg**	**10 05 08.9**	**-0.5**
	baz=255						
TWC				*e*S	**Sg**	**10 05 16.1**	**+0.2**
	baz=255						
TIPB	**Shuangxi**	**0.50**	**291**	*e*P	**Pb**	**10 05 10.0**	**-0.4**
	baz=293						
TIPB				*e*S	**Sb**	**10 05 18.5**	**+1.0**
	baz=293						
ESAO	**Su ao**	**0.50**	**244**	*e*P	**Pg**	**10 05 09.8**	**0.0**
	baz=242						
EOS3	**EOS3**	**0.51**	**182**	*e*P	**Pb**	**10 05 10.4**	**0.0**
	baz=175						
EOS3				*e*S	**Sb**	**10 05 19.1**	**+1.5**
	baz=175						
SXI1	**Grass Mountain**	**0.51**	**306

NNSB	**Datong** baz=246	**0.94**	**247**	*e*P		**Pg**	**10 05 17.4**	**-0.7**
NNSB				*e*S		**Sb**	**10 05 31.5**	**+1.1**
NNS	**Nan Shan** baz=247	**0.95**	**248**	*e*P		**Pb**	**10 05 18.2**	**+0.1**
ETLH	**Xiulin Townshi** baz=238	**0.97**	**233**	*e*P		**Pg**	**10 05 18.4**	**-0.4**
ETLH				*e*S		**Sb**	**10 05 31.4**	**+0.1**
NFF	**Wufeng Townshi** baz=263	**1.12**	**262**	*e*P		**Pn**	**10 05 21.4**	**+0.2**
NFF				*e*S		**Sn**	**10 05 36.7**	**+0.3**
FUSS	**Fushou** baz=240	**1.14**	**242**	*e*P		**Pn**	**10 05 21.8**	**+0.3**
FUSS				*e*S		**Sb**	**10 05 36.5**	**+0.4**
LXIB	**Xiulin Townshi** baz=236	**1.14**	**228**	*e*P		**Pb**	**10 05 21.3**	**-0.2**
LXIB				*e*S		**Sg**	**10 05 36.2**	**-0.6**
WHF	**Hehuan Shan** baz=247	**1.17**	**237**	*e*P		**Pg**	**10 05 22.2**	**-0.4**
CHGB	**Renai** baz=234	**1.29**	**236**	*e*P		**Pg**	**10 05 24.7**	**-0.1**
WHP	**Taichung City** baz=248	**1.37**	**248**	*e*P		**Pg**	**10 05 26.2**	**0.0**
WHP				*e*S		**Sg**	**10 05 43.9**	**-0.1**
WUSB	**Renai** baz=232	**1.37**	**235**	P		**Pg**	**10 05 25.8**	**-0.5**
VWDT	**VWDT** baz=206	**1.50**	**227**	*e*P		**Pg**	**10 05 28.3**	**-0.5**
SSLB	**Suanglung** baz=231	**1.61**	**232**	*e*P		**Pb**	**10 05 29.9**	**+0.5**
JKRS	**Kuro-shima**	**1.62**	**110**	*e*S		**Sn**	**10 05 46.6**	**-2.0**
JISG	**Ishigakijimahi**	**1.81**	**96**	*e*P		**Pn**	**10 05 30.7**	**+0.2**

IDC 23 10:10:24.4±14.0, 21°23N×143°31E, h428km±162km, mb3.0/5, mbtmp3.8/5, Error ellipse: s-maj=74.5km s-min=22.5km az=76.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**39.78**	**321**	P	P	10 17 18.4	0.0
	0.3nm,0.3s,baz=112,slow=8.3,SNR=2.7 0.3nm,0.3s						
WRA	**Warramunga Arr**	**41.85**	**193**	P	P	10 17 35.1	-0.1
	0.7nm,0.3s,baz=11,slow=8.9,SNR=24 0.7nm,0.3s						
ASAR	**Alice Springs**	**45.55**	**192**	P	P	10 18 04.0	-0.2
	0.3nm,0.5s,baz=20,slow=6.4,SNR=7.5 0.3nm,0.5s						
NVAR	**Mina Array Bea**	**83.34**	**51**	P	P	10 22 05.4	-0.2
	0.1nm,0.3s,baz=294,slow=4.8,SNR=2.0 0.1nm,0.3s						
FINES	**FINESS Array B**	**83.65**	**335**	P	P	10 22 06.2	0.0
	3.8nm,0.8s,baz=74,slow=5.9,SNR=10.0 3.8nm,0.8s						

*IDC **23** 10:10:55.5±2.0, 47°40N×156°39E, h0km, mb3.2/2, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=46.1km s-min=31.1km az=151.0*
*KRSC **23** 10:11:14.8±2.7, 49°08N×154°67E, h226km±14km, Ml3.7*
ISC 23 10:11:03.7±1.5, 47°5N±0°1×156°0E±0°2, h50km, n13, σ2°76°16, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.15**	**1**	*e*P	**Pn**	**10 11 54.5**	**+3.9**
SKR				*e*S	**Sn**	**10 12 25.5**	**-1.4**
KDTR	**Khodutka, Kamc**	**4.48**	**16**	*e*P	**Pn**	**10 12 12.3**	**+3.4**
KDTR				*e*S	**Sn**	**10 12 55.0**	**-4.6**
ASAK	**Asacha**	**5.00**	**13**	*e*P	**Pn**	**10 12 18.0**	**+1.9**
GRL	**Gorelyy**	**5.19**	**14**	*e*P	**Pn**	**10 12 21.2**	**+2.4**
APC	**Apacha**	**5.44**	**7**	*e*P	**Pn**	**10 12 19.5**	**-2.6**
PETK	**Petropavlovsk-**	**5.68**	**10**	Pn	**Pn**	**10 12 23.0**	**-2.3**
	2.4nm,0.6s,baz=196,slow=9.7,SNR=7.5						
PETK				Sn	**Sn**	**10 13 31.8**	**+2.6**
	0.1nm,0.3s,baz=212,slow=18,SNR=1.7						
AVH	**Avacha**	**5.99**	**16**	*e*P	**Pn**	**10 12 31.8**	**+2.1**
KOK	**Koryaka**	**6.00**	**15**	*e*P	**Pn**	**10 12 32.0**	**+2.2**
KRX	**Arik**	**6.06**	**15**	*e*P	**Pn**	**10 12 32.1**	**+1.4**
SPN	**Mys Shipunski**	**6.12**	**23**	*e*P	**Pn**	**10 12 34.0**	**+2.5**
ASAJ	**Asahikawa**	**9.98**	**255**	Pn	**Pn**	**10 13 24.7**	**+0.3**
	0.4nm,0.3s,baz=55,slow=12,SNR=4.7 2.6nm,0.6s						
MKAR	**Makanchi Array**	**48.34**	**298**	P	**P**	**10 19 39.7**	**-0.3**
	0.2nm,0.6s,baz=58,slow=9.5,SNR=1.7 0.2nm,0.6s						
TXAR	**Lajitas Array**	**75.36**	**63**	P	**P**	**10 22 40.2**	**-1.7**
	0.1nm,0.4s,baz=288,slow=3.4,SNR=4.8 0.1nm,0.4s						

*NAO **23** 10:31:04.8±7.4, 72°14N×0°76E, ML3.0*
*IDC **23** 10:31:05.6±1.1, 72°18N×1°04E, h0km, mb3.3/5, mbtmp3.5/9, ML2.8/3, MS3.1/4, Error ellipse: s-maj=21.1km s-min=16.3km az=56.0*
*BER **23** 10:31:10.3±3.2, 72°23N×1°19E, h10km, mb(Pn)4.3, ML3.0(NAO), Confirmed Earthquake*
*KOLA **23** 10:31:12.1, 71°91N×1°47E, h0km, ML2.6, Error ellipse: s-maj=33.2km s-min=24.4km az=100.0, Norwegian sea*
ISC 23 10:31:06.8±0.8, 72°23N±0°06×1°55E±0°07, h10km, n44, σ1°96°61, mb3.2/5, MS3.1/3, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOF	**Lofoten**	**5.78**	**129**	Pn	**Pn**	**10 32 34.4**	**+1.9**
LOF				Sn	**Sn**	**10 33 38.3**	**-0.4**
LOF	**Lofoten**	**5.78**	**129**	*e*P	**Pn**	**10 32 34.5**	**+2.0**
LOF				*e*S	**Sn**	**10 33 37.1**	**-1.6**
LOF				IAML		10 33 45.0	
	comp=Z,6.5nm,0.9s						
HSPB	**Hornsund (broa**	**6.05**	**31**	Pn	**Pn**	**10 32 37.1**	**+0.9**
HSPB	**Hornsund (broa**	**6.05**	**31**	*e*P	**Pn**	**10 32 37.3**	**+1.1**
TRO	**Tromso**	**6.25**	**106**	Pn	**Pn**	**10 32 41.3**	**+2.5**
TRO				Sn	**Sn**	**10 33 47.7**	**-2.5**
TRO	**Tromso**	**6.25**	**106**	*e*P	**Pn**	**10 32 41.4**	**+2.5**
TRO				*e*S	**Sn**	**10 33 48.1**	**-2.1**
TRO				IAML		10 33 49.4	
	comp=Z,5.2nm,0.3s						
STEI	**Steigen**	**6.35**	**126**	*e*P	**Pn**	**10 32 41.8**	**+1.5**
STEI				*e*S	**Sn**	**10 33 51.0**	**-1.7**
STEI				IAML		10 33 54.6	
	comp=Z,5.8nm,0.3s						
BRBB	**Barentsburg B**	**6.71**	**23**	Pn	**Pn**	**10 32 48.0**	**+2.8**
BRBB	**Barentsburg B**	**6.71**	**23**	Pn	**Pn**	**10 32 48.0**	**+2.8**
JETT	**Jettan, Norway**	**6.73**	**104**	Pn	**Pn**	**10 32 47.3**	**+1.8**
JETT				Sn	**Sn**	**10 34 00.1**	**-2.1**
JETT	**Jettan, Norway**	**6.73**	**104**	Pn	**Pn**	**10 32 47.3**	**+1.8**
JETT				Sn	**Sn**	**10 34 00.1**	**-2.1**
FAUS	**Fauske**	**6.79**	**129**	P	**Pn**	**10 32 48.2**	**+1.9**
FAUS				S	**Sn**	**10 33 58.8**	**-4.7**
SPA0	**Spitsbergen Ar** baz=213,slow=14	**7.05**	**25**	Pn	**Pn**	**10 32 50.9**	**+1.0**
SPA0				Sn	**Sn**	**10 34 09.3**	**-0.6**
	baz=213,slow=28						
SPA0	**Spitsbergen Ar** baz=213,slow=14	**7.05**	**25**	Pn	**Pn**	**10 32 50.9**	**+1.0**
SPA0				Sn	**Sn**	**10 34 09.3**	**-0.6**
	baz=213,slow=28						
SPITS	**Spitsbergen Ar**	**7.05**	**25**	Pn	**Pn**	**10 32 50.6**	**+0.8**
	comp=Z,2.5nm,0.4s,baz=209,slow=15,SNR=88						
SPITS				Sn	**Sn**	**10 34 08.5**	**-1.4**
	baz=175,slow=33						
KIF	**Kilpisjarvi**	**7.16**	**107**	Pn	**Pn**	**10 32 53.3**	**+2.0**
KIF				Sn	**Sn**	**10 34 11.1**	**-1.4**
KIF	**Kilpisjarvi**	**7.16**	**107**	*e*P	**Pn**	**10 32 54.4**	**+3.1**
KIF				*e*S	**Sn**	**10 34 10.8**	**-1.7**
KBS	**Kingsbay**	**7.20**	**16**	Pn	**Pn**	**10 32 51.0**	**-0.9**
KBS	**Kingsbay**	**7.20**	**16**	*e*P	**Pn**	**10 32 51.7**	**-0.2**
KBS	**Kingsbay**	**7.20**	**16**	*i*	**Pn**	**10 32 51.5**	**-0.4**
HAMF	**Hammerfest**	**7.22**	**92**	Pn	**Pn**	**10 32 54.5**	**+2.3**
KTK1	**Kautokeino**	**7.87**	**104**	*e*P	**Pn**	**10 33 05.0**	**+3.9**
KTK1				*e*S	Sn	10 34 18.6	-12
KTK1				IAML		10 34 23.4	
	comp=Z,2.2nm,0.3s						
ARA0	**ARCESS Array S** baz=296,slow=14	**8.28**	**97**	Pn	**Pn**	**10 33 08.8**	**+2.1**
ARA0				Sn	**Sn**	**10 34 39.5**	**-0.6**
	baz=291,slow=22						
ARCES	**ARCESS Array B**	**8.28**	**97**	P	**Pn**	**10 33 09.5**	**+2.8**
ARCES				S	**Sn**	**10 34 39.3**	**-0.8**
ARCES	**ARCESS Array B**	**8.28**	**97**	Pn	**Pn**	**10 33 08.4**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=300,slow=11,SNR=31						
ARCES				Sn	**Sn**	**10 34 38.8**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=286,slow=17,SNR=1.5						
ARCES				LR	LR	10 36 02.7	
	comp=Z,56nm,19.0s,baz=328,slow=35 comp=Z,1.8nm,0.5s						
HEF	**Hetta**	**8.35**	**106**	*e*P	**Pn**	**10 33 11.0**	**+3.3**
KEV	**Kevo**	**8.63**	**94**	*e*P	**Pn**	**10 33 13.8**	**+2.3**
VADS	**Vadso**	**9.18**	**90**	P	**Pn**	**10 33 21.8**	**+2.7**
VADS				S	**Sn**	**10 35 00.3**	**-1.9**
VADS	**Vadso**	**9.18**	**90**	*e*P	**Pn**	**10 33 21.8**	**+2.7**
PRVG	**Vayda Guba**	**10.22**	**89**	P	**Pn**	**10 33 35.7**	**+2.4**
PRVG				S	**Sn**	**10 35 26.4**	**-1.3**
APA0	**Apatity Array** baz=309,slow=11	**11.64**	**98**	Pn	**Pn**	**10 33 54.6**	**+2.0**
APA0	**Apatity Array** baz=309,slow=11	**11.64**	**98**	Pn	**Pn**	**10 33 54.6**	**+2.0**
HFS	**Hagfors**	**13.05**	**152**	Pn	**Pn**	**10 34 13.5**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=355,slow=14,SNR=2.3 comp=Z,3.7nm,0.8s						
FIA0	**FINESS Array S**	**14.34**	**126**	P	**Pn**	**10 34 29.9**	**+0.4**
FIA0	**FINESS Array S**	**14.34**	**126**	P	**Pn**	**10 34 29.9**	**+0.4**
FINES	**FINESS Array B**	**14.34**	**126**	Pn	**Pn**	**10 34 31.0**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=349,slow=13,SNR=1.5 comp=Z,1.8nm,0.8s						
VRAC	**Vranov**	**23.99**	**155**	LR	LR	10 45 13.6	
	comp=Z,34nm,18.1s,baz=46,slow=35						
AKASG	**Malin Array Be**	**24.85**	**135**	P	**P**	**10 36 29.6**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=345,slow=10,SNR=2.4 comp=Z,0.2nm,0.3s						
DAVOX	**Davos/Dischmat**	**25.82**	**167**	LR	LR	10 47 02.4	
	comp=Z,54nm,18.2s,baz=77,slow=37						
ESDC	**Sonseca Array**	**32.74**	**188**	P	**P**	**10 37 39.9**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=2.4,slow=7.3,SNR=2.1 comp=Z,0.3nm,0.5s						
YKA	**Yellowknife Ar**	**38.74**	**318**	P	**P**	**10 38 29.0**	**-1.5**
	comp=Z,0.4nm,1.0s,baz=35,slow=9.8,SNR=4.6						
YKA				LR	LR	10 55 28.3	
	comp=Z,46nm,18.7s,baz=330,slow=38 comp=Z,0.4nm,1.0s						
ILAR	**Eison Array**	**41.61**	**340**	P	**P**	**10 38 54.8**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=12,slow=7.7,SNR=4.9 comp=Z,0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**59.05**	**180**	P	**P**	**10 41 06.4**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=6.8,slow=7.5,SNR=2.8 comp=Z,0.6nm,0.8s						

*DNK **23** 10:39:47.8±4.5, 73°65N×0°02W, h18km±150km, ML1.6*
BER 23 10:39:40.9±0.3, 73°10N×2°11E, h10km, mb(Pn)3.7, ML1.6(DNK), Confirmed Earthquake, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPA0	**Spitsbergen Ar**	**6.19**	**28**	*e*P	Pn	10 41 09.8	-2.4
KBS	**Kingsbay**	**6.31**	**17**	*e*P	Pn	10 41 11.5	-2.3
KBS	**Kingsbay**	**6.31**	**17**	*i* P	Pn	10 41 13.6	-0.2
DAG	**Danmarks Havn**	**6.51**	**314**	*e*P	Pn	10 41 14.1	-2.5
DAG				IAML		10 42 28.2	
	comp=Z,2.3nm,0.6s						
DAG	**Danmarks Havn**	**6.51**	**314**	*i* P	Pn	10 41 13.7	-2.9
DAG				*e*S	Sn	10 42 10.1	-21
DAG				IAML		10 42 28.2	
	comp=Z,2.3nm,0.6s						
SCO	**Scoresbysund**	**7.94**	**263**	*i* P	Pn	10 41 32.8	-3.4
SCO	**Scoresbysund**	**7.94**	**263**	*i* P	Pn	10 41 32.8	-3.4

*RSNC **23** 10:58:34.1±1.6, 7°40N×78°86W, h4km±9km, ML2.3*
*UPA **23** 10:58:34.5±1.1, 7°33N×78°83W, h16km±7km, MW3.0*
ISC 23 10:58:33.0±3.8, 7°39N±0°06×78°84W±0°03, h7km±28km, n18, σ0°87°34, Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTAC	**Punta Ardita,**	**1.05**	**103**	*e*P	**Pb**	**10 58 53.6**	**+0.1**
PTAC				*e*S	**Sb**	**10 59 06.6**	**-0.8**
PTAC	**Punta Ardita,**	**1.05**	**103**	*e*P	**Pb**	**10 58 52.7**	**-0.8**
PTAC				*e*S	**Sb**	**10 59 06.3**	**-1.2**
PTAC				*i*		10 59 10.5	
	comp=Z,60nm,0.2s						
UPD2	**Meteti**	**1.41**	**35**	*e*P	**Pn**	**10 58 58.9**	**-0.2**
UPD2				*e*S	**Sn**	**10 59 17.6**	**-0.3**
UPD2	**Meteti**	**1.41**	**35**	*e*P	**Pn**	**10 58 59.0**	**-0.2**
UPD2				*e*S	**Sn**	**10 59 17.6**	**-0.3**
UPD2				*i*		10 59 20.1	
	comp=Z,36nm,0.2s						
AZU	**Azuero**	**1.48**	**286**	*e*P	**Pn**	**10 58 59.7**	**-0.4**
AZU				*e*S	**Sn**	**10 59 18.7**	**-1.0**
AZU	**Azuero**	**1.48**	**286**	*e*P	**Pn**	**10 58 59.6**	**-0.5**
AZU				*e*S	**Sn**	**10 59 18.2**	**-1.6**
TOTI	**Torti**	**1.61**	**19**	*e*S	**Sn**	**10 59 23.0**	**-0.1**
CHIT3	**Chitre**	**1.67**	**290**	*e*P	**Pn**	**10 59 02.6**	**0.0**
CHIT3				*e*S	**Sn**	**10 59 23.7**	**-0.6**
UPA	**Univ. de Panam**	**1.72**	**336**	*e*P	**Pn**	**10 59 03.2**	**-0.2**
UPA				*e*S	**Sn**	**10 59 24.5**	**-1.2**
UPA	**Univ. de Panam**	**1.72**	**336**	*e*P	**Pn**	**10 59 03.3**	**-0.2**
UPA				*e*S	**Sn**	**10 59 24.4**	**-1.4**
CHPO	**Chepo, Panama**	**1.79**	**351**	*e*P	**Pn**	**10 59 04.5**	**+0.2**
CHPO				*e*S	**Sn**	**10 59 28.3**	**+1.0**
PNME	**Penonome**	**1.83**	**306**	*e*P	**Pn**	**10 59 05.1**	**+0.1**
PNME				*e*S	**Sn**	**10 59 28.8**	**+0.3**
CAPC	**Capurgana**	**1.92**	**50**	*e*P	**Pn**	**10 59 07.1**	**+1.0**
CAPC				*e*S	**Sn**	**10 59 31.3**	**+0.7**
CAPC				*i*		10 59 34.5	
	comp=Z,20nm,0.2s						
CRIS3	**El Cristo, Coc**	**1.96**	**296**	*e*P	**Pn**	**10 59 07.9**	**+1.2**
CRIS3				*e*S	**Sn**	**10 59 32.4**	**+0.8**
CACAO	**El Cacao, Vera**	**2.01**	**269**	*e*P	**Pn**	**10 59 07.1**	**-0.3**
CACAO				*e*S	**Sb**	**10 59 36.8**	**+1.7**
BCIP	**Isla Barro Col**	**2.02**	**331**	*e*P	**Pn**	**10 59 08.5**	**+1.0**
BCIP				*e*S	**Sn**	**10 59 34.1**	**+1.0**
BCIP	**Isla Barro Col**	**2.02**	**331**	*e*P	**Pn**	**10 59 08.2**	**+0.6**
BCIP				*e*S	**Sn**	**10 59 33.3**	**+0.2**
BCIP				*i*		10 59 37.1	
	comp=Z,36nm,0.2s						
CBOC	**Ciudad Bolivar**	**3.19**	**118**	*e*P	**Pn**	**10 59 25.3**	**+1.6**

TAP 23 11:00:25.3, 23°18N×121°10E, h10km, ML1.0, 1C-1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELDTW	**Lidau**	**0.08**	**274**	⇓P	Pg	11 00 27.6	-0.2
ELDTW				S	Sg	11 00 29.6	0.0
	baz=273						
EHD	**Haiduan**	**0.10**	**110**	P	Pg	11 00 28.2	+0.3
	baz=110						
EHD				*i* S	Sg	11 00 30.2	+0.4
	baz=110						
FULB	**Fuli**	**0.17**	**85**	P	Pg	11 00 29.4	+0.3
	baz=79						
FULB				S	Sg	11 00 32.5	+0.8
	baz=79						
TWF1	**Yuli**	**0.24**	**46**	P	Pg	11 00 30.4	+0.1
	baz=48						
TWF1				S	Sg	11 00 34.0	+0.3
	baz=48						
EYUL	**Yuli**	**0.26**	**50**	P	Pg	11 00 30.8	+0.2
	baz=46						
EYUL				S	Sg	11 00 34.3	+0.2
	baz=46						
YULB	**Yu-li**	**0.27**	**40**	⇑P	Pg	11 00 30.8	-0.1
	baz=31						
YULB				*i* S	Sg	11 00 35.2	+0.6
	baz=31						
EDH	**Donghe**	**0.28**	**139**	P	Pb	11 00 31.8	-0.6
	baz=143						
EDH				*e*S	Sb	11 00 36.5	-0.6
	baz=143						
STYH	**Taoyuan**	**0.30**	**268**	*e*P	Pg	11 00 31.5	+0.2
	baz=272						
STYH				*e*S	Sg	11 00 36.1	+0.7
	baz=272						
ALS	**Alishan**	**0.43**	**320**	*i* P	Pg	11 00 34.1	+0.3
	baz=321						
ALS				S	Sb	11 00 41.2	-0.5
	baz=321						
WTP	**Ta-pu**	**0.46**	**278**	P	Pb	11 00 34.9	-0.6
	baz=278						
WTP				*e*S	Sb	11 00 42.0	-0.4
	baz=278						
SGST	**Jiashian**	**0.49**	**258**	*i* P	Pb	11 00 35.9	-0.2
	baz=258						
CHN4	**Tsaushan**	**0.50**	**290**	P	Pb	11 00 36.2	0.0
	baz=290						
CHN1	**Nanshi**	**0.53**	**270**	*e*P	Pb	11 00 37.1	+0.4
	baz=270						
ESL	**Shilin**	**0.70**	**26**	P	Pb	11 00 39.4	-0.2
	baz=40						

*SOME **23** 11:10:22.5, 41°62N×77°42E, h10km*
*KRNET **23** 11:10:23.0±0.1, 41°65N×77°42E, h15km, mb2.2*
*NNC **23** 11:10:23.8±0.5, 41°64N×77°46E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=3.1km s-min=2.1km az=173.0*
ISC 23 11:10:20.8±1.5, 41°48N±0°06×77°37E±0°03, h4km±11km, n48, σ1°03°71, 15C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.41**	**52**	⇑*i*P	Pg	**11 10 28.9**	**0.0**
	baz=75						
TARG				⇑*i*S	Sg	**11 10 33.1**	**-1.2**
	baz=75						
ULHL	**Ulahol**	**1.14**	**313**	⇑*i*P	Pg	**11 10 43.0**	**+0.3**
	baz=4.0						
ULHL				⇑*i*S	Sg	**11 10 57.8**	**+0.4**
	baz=4.0						
ANVS	**Anan'yevo**	**1.32**	**10**	⇓*e*P	Pn	**11 10 44.8**	**-1.4**
	baz=9.0						
ANVS				⇓*e*S	Sb	**11 11 00.1**	**-3.6**
	baz=9.0						
BOOM	**Boomskoye usch**	**1.47**	**314**	⇑*i*P	Pb	**11 10 48.7**	**-0.1**
	baz=8.0						
BOOM				⇑*i*S	Sn	**11 11 07.5**	**-0.5**
	baz=8.0						
TNSS	**Tian-Shan**	**1.59**	**349**	*e*P	Pb	**11 10 50.8**	**-0.1**
	4.1nm,0.4s						
TNSS				*e*S	Sb	**11 11 11.1**	**-0.4**
	1.4nm,0.3s						
TNSS	**Tian-Shan**	**1.59**	**349**	P	Pb	**11 10 50.8**	**-0.1**
	4.1nm,0.4s						
TNSS				S	Sb	**11 11 11.1**	**-0.4**
	1.4nm,0.3s						
IZV	**Izvestkoviy**	**1.65**	**340**	*e*P	Pb	**11 10 52.0**	**0.0**
	1.7nm,0.2s						
IZV				*e*S	Sb	**11 11 13.4**	**+0.2**
	2.9nm,0.2s						
IZV	**Izvestkoviy**	**1.65**	**340**	P	Pb	**11 10 52.0**	**0.0**
	1.7nm,0.2s						
IZV				S	Sb	**11 11 13.4**	**+0.2**
	2.9nm,0.2s						
KZA	**Kyzart**	**1.69**	**291**	⇓*i*P	Pg	**11 10 53.8**	**+0.5**
	baz=85						
KZA				⇓*i*S	Sg	**11 11 16.4**	**+1.1**
	baz=85						
MDOK	**Medeo**	**1.70**	**352**	*e*P	Pb	**11 10 52.3**	**-0.5**
	2.9nm,0.2s						
MDOK				*e*S	Sn	**11 11 13.4**	**-0.3**
	5.9nm,0.5s						
MDOK	**Medeo**	**1.70**	**352**	P	Pb	**11 10 52.1**	**-0.7**
	2.0nm,0.4s						
MDOK				Pg	Pb	**11 10 52.3**	**-0.5**
	2.9nm,0.2s						
MDOK				Lg	Lg	11 11 13.4	
	5.9nm,0.5s						
MDOK				S	Sb	**11 11 13.6**	**-1.0**
	5.4nm,0.5s						
MTBS	**Maitube**	**1.79**	**337**	*e*P	Pb	**11 10 54.2**	**0.0**
	3.4nm,0.4s						
MTBS				*e*S	Sb	**11 11 17.0**	**-0.1**
	3.7nm,0.1s						
MTBS	**Maitube**	**1.79**	**337**	P	Pb	**11 10 54.2**	**0.0**
	3.4nm,0.4s						
MTBS				S	Sb	**11 11 17.0**	**-0.1**
	3.7nm,0.1s						
KST	**Kastek**	**1.88**	**327**	*e*P	Pb	**11 10 56.2**	**+0.5**
	2.8nm,0.5s						
KST				*e*S	Sb	**11 11 20.5**	**+0.9**
	6.7nm,0.7s						
KST	**Kastek**	**1.88**	**327**	P	Pb	**11 10 56.2**	**+0.5**
	2.8nm,0.5s						
KST				S	Sb	**11 11 20.5**	**+0.9**
	6.7nm,0.7s						
TKM2	**Tokmak 2**	**1.95**	**318**	⇓*i*P	Pb	**11 10 57.1**	**0.0**
	baz=14						
TKM2				⇓*i*S	Sb	**11 11 22.1**	**+0.3**
	baz=14						
TKM2	**Tokmak 2**	**1.95**	**318**	⇑Pn	Pb	**11 10 57.5**	**+0.5**
	0.3nm,0.3s						
TKM2				⇑Sn	Sg	**11 11 23.4**	**-0.2**
	2.3nm,0.5s						
UZB	**Uzunbulak**	**2.07**	**36**	*e*P	Pb	**11 10 58.9**	**-0.1**
	1.9nm,0.3s						
UZB				*e*S	Sb	**11 11 25.0**	**-0.1**
	8.5nm,0.4s						
UZB	**Uzunbulak**	**2.07**	**36**	Pg	Pb	**11 10 58.9**	**-0.1**
	1.9nm,0.3s						
UZB				Lg	Lg	11 11 25.0	
	8.5nm,0.4s						
DGS	**Degeres**	**2.12**	**327**	*e*Pg	Pg	**11 11 01.1**	**-0.4**
	2.2nm,0.6s						
DGS				*e*Lg	Lg	11 11 29.1	
	4.0nm,0.4s						
DGS	**Degeres**	**2.12**	**327**	Pg	Pg	**11 11 01.1**	**-0.4**
	2.2nm,0.6s						
DGS				Lg	Lg	11 11 29.1	
	4.0nm,0.4s						
KPKS	**Kokpek**	**2.21**	**26**	*e*Pg	Pb	**11 11 00.5**	**-0.9**
	1.9nm,0.2s						
KPKS				*e*Lg	Lg	11 11 27.8	
	11nm,0.7s						
KPKS	**Kokpek**	**2.21**	**26**	Pg	Pb	**11 11 01.0**	**-0.4**
	1.9nm,0.2s						
KPKS				Lg	Lg	11 11 28.6	
	11nm,0.7s						
SHLS	**Shalkode**	**2.28**	**42**	*e*Pg	Pg	**11 11 07.2**	**+2.6**
	6.7nm,0.3s						
SHLS				*e*Lg	Lg	11 11 39.4	
	9.9nm,0.2s						
SHLS	**Shalkode**	**2.28**	**42**	Pg	Pg	**11 11 07.2**	**+2.6**
	5.9nm,0.3s						
SHLS				Lg	Lg	11 11 39.4	
	4.5nm,0.3s						
KTBS	**Karatobe**	**2.29**	**347**	*e*Pg	Pb	**11 11 02.7**	**0.0**
	1.5nm,0.3s						
KTBS				*e*Lg	Lg	11 11 31.9	
	6.2nm,0.4s						
KTBS	**Karatobe**	**2.29**	**347**	Pg	Pb	**11 11 02.7**	**0.0**
	1.5nm,0.3s						
KTBS				Lg	Lg	11 11 31.9	
	6.2nm,0.4s						
ARLS	**Aral**	**2.31**	**280**	⇑*e*P	Pb	**11 11 03.4**	**+0.2**
	baz=76						
ARLS				⇑*i*S	Sb	**11 11 33.0**	**+0.8**
	baz=76						
CHKK	**Chushkaly**	**2.39**	**353**	*e*Pg	Pb	**11 11 04.3

	5.4nm,0.3s							
BLB	**Baldybastay**	**2.74**	**17**	Pg	**Pb**	**11 11 10.3**	**-0.2**	
	3.7nm,0.4s							
BLB				Lg	Lg	11 11 44.8		
	21nm,0.3s							
ARXS	**Arharly**	**2.75**	**7**	*e*Pg	**Pb**	**11 11 10.4**	**-0.2**	
	1.1nm,0.2s							
ARXS				*e*Lg	Lg	11 11 45.2		
	7.8nm,0.6s							
ARXS	**Arharly**	**2.75**	**7**	Pg	**Pb**	**11 11 10.4**	**-0.2**	
	1.1nm,0.2s							
ARXS				Lg	Lg	11 11 45.2		
	7.8nm,0.6s							
USP	**Ospenovka**	**2.78**	**311**	⇑*i*P	**Pb**	**11 11 08.6**	**-2.4**	
	baz=8.0							
USP				⇑*i*S	**Sn**	**11 11 42.3**	**+2.2**	
	baz=8.0							
AML	**Almayashu**	**2.82**	**285**	⇓*e*P	**Pb**	**11 11 10.5**	**-1.5**	
	baz=81							
AML				⇓*i*S	**Sb**	**11 11 45.4**	**-1.7**	
	baz=81							
AML	**Almayashu**	**2.82**	**285**	Pg	**Pg**	**11 11 15.8**	**+0.8**	
AML				Lg	Lg	11 11 53.9		
	0.6nm,0.7s							
SGDS	**Sogindy**	**2.83**	**315**	Pg	**Pb**	**11 11 13.1**	**+1.2**	
	2.2nm,0.4s							
SGDS				Lg	Lg	11 11 49.8		
	2.2nm,0.5s							
EKS2	**Erkin-Say**	**2.92**	**295**	⇑*e*P	**Pb**	**11 11 11.3**	**-2.3**	
	baz=92							
EKS2				⇑*i*S	**Sn**	**11 11 46.6**	**+2.8**	
	baz=92							
KNOS	**Konyrlen**	**3.17**	**24**	Pg	**Pb**	**11 11 17.7**	**0.0**	
	1.3nm,0.6s							
KNOS				Lg	Lg	11 11 57.5		
	2.2nm,0.5s							
MRKS	**Merke**	**3.33**	**294**	*e*Pg	**Pg**	**11 11 24.9**	**+0.2**	
	1.5nm,0.7s							
MRKS				*e*Lg	Lg	11 12 09.5		
	2.1nm,0.7s							
MRKS	**Merke**	**3.33**	**294**	Pg	**Pg**	**11 11 24.9**	**+0.2**	
	1.5nm,0.7s							
MRKS				Lg	Lg	11 12 09.5		
	2.1nm,0.7s							
DJR	**Jarkent**	**3.36**	**31**	*e*Pg	**Pb**	**11 11 20.7**	**-0.2**	
	1.5nm,0.7s							
DJR				*e*Lg	Lg	11 12 02.7		
	5.2nm,0.4s							
DJR	**Jarkent**	**3.36**	**31**	Pg	**Pb**	**11 11 20.7**	**-0.2**	
	1.5nm,0.7s							
DJR				Lg	Lg	11 12 02.7		
	5.2nm,0.4s							

IDC 23 11:25:05.3±3.1, 9°34N×126°34E, h0km, mb3.4/4, mbtmp3.4/4, MS2.6/2, Error ellipse: s-maj=269.6km s-min=24.0km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.38**	**199**	LR	LR	11 26 20.8	
	comp=Z,94nm,21.7s,baz=162,slow=32						
CMAR	**Chiang Mai Arr**	**28.07**	**292**	LR	LR	11 41 32.7	
	comp=Z,14nm,18.2s,baz=125,slow=35						
WRA	**Warramunga Arr**	**30.14**	**165**	P	P	11 31 16.9	-0.3
	0.3nm,0.6s,baz=344,slow=8.0,SNR=4.6						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**33.62**	**167**	P	P	11 31 47.9	+0.1
	0.3nm,0.6s,baz=349,slow=7.0,SNR=6.1						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**52.81**	**323**	P	P	11 34 22.5	-0.1
	0.3nm,0.6s,baz=125,slow=8.0,SNR=2.3						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**56.88**	**326**	P	P	11 34 51.9	0.0
	0.2nm,0.5s,baz=124,slow=7.8,SNR=4.1						
	0.2nm,0.5s						

*WEL **23** 11:35:26.5±0.6, 34°S×6°×18°0W±1°3, h272km±10km, M4.9/16, mB5.1/7, ML5.6/13, MLv5.3/16, Mw(mB)4.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=112.9, confirmed*

*IDC **23** 11:35:29.6±4.0, 32°99S×179°53E, h228km±35km, mb3.5/5, mbtmp4.1/6, Error ellipse: s-maj=32.8km s-min=18.4km az=37.0*

*NOU **23** 11:35:32.8, 33°74S×179°81E, h288km, mb4.2/12, South of Kermadec Islands*

ISC 23 11:35:28.9±0.8, 33°50S±0°07×179°9E±0°1, h250km, n70, σ2s39/88, mb3.6/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.25**	**197**	P	**Pn**	**11 36 38.4**	**+2.8**
MXZ	**Matakaoa Point**	**4.25**	**197**	P	**Pn**	**11 36 37.6**	**+2.1**
MXZ				S	**S**	**11 37 30.4**	**+1.8**
WMGZ	**Waiomatatini S**	**4.47**	**195**	P	**Pn**	**11 36 41.3**	**+3.1**
WMGZ				S	**S**	**11 37 32.8**	**-0.6**
PKGZ	**Pakihiroa**	**4.62**	**198**	P	**Pn**	**11 36 42.2**	**+2.2**
PKGZ				S	**S**	**11 37 39.6**	**+2.9**
GLKZ	**Green Lake**	**4.62**	**25**	P	**Pn**	**11 36 38.3**	**-1.9**
GLKZ				S	**S**	**11 37 30.1**	**-6.8**
RIZ	**Raoul Island**	**4.64**	**25**	S	**S**	**11 37 32.0**	**-5.1**
KUZ	**Kuaotunu**	**4.70**	**225**	P	**Pn**	**11 36 45.4**	**+4.5**
WCZ	**Waipu Caves**	**5.16**	**240**	P	**Pn**	**11 36 50.1**	**+3.5**
URZ	**Urewera**	**5.25**	**204**	P	**Pn**	**11 36 49.3**	**+1.6**
URZ	**Urewera**	**5.25**	**204**	P	**Pn**	**11 36 51.8**	**+4.1**
	40nm,0.3s,baz=333,slow=4.8,SNR=66						
URZ				S	**S**	**11 37 53.0**	**+2.4**
	155nm,0.3s,baz=28,slow=23,SNR=17						
OUZ	**Omahuta**	**5.47**	**250**	P	**Pn**	**11 36 53.0**	**+2.6**
OUZ	**Omahuta**	**5.47**	**250**	P	**Pn**	**11 36 52.9**	**+2.6**
BKZ	**Black Stump Fm**	**6.28**	**205**	P	**Pn**	**11 37 02.5**	**+2.0**
TMVZ	**Te Maari**	**6.54**	**210**	P	**Pn**	**11 37 05.0**	**+1.2**
TMVZ				S	**S**	**11 38 22.6**	**+2.7**
ETVZ	**East Tongariro**	**6.55**	**210**	P	**Pn**	**11 37 05.1**	**+1.1**
ETVZ				S	**S**	**11 38 22.1**	**+2.0**
OTVZ	**Oturere**	**6.60**	**210**	P	**Pn**	**11 37 05.7**	**+1.1**
OTVZ				S	**S**	**11 38 22.4**	**+1.2**
SNVZ	**South Ngauruho**	**6.63**	**210**	P	**Pn**	**11 37 06.0**	**+1.1**
BFZ	**Birch Farm**	**7.74**	**201**	P	**Pn**	**11 37 19.2**	**+0.5**
BFZ	**Birch Farm**	**7.74**	**201**	P	**Pn**	**11 37 17.8**	**-0.9**
BFZ				S	**S**	**11 38 45.6**	**-1.5**
MRZ	**Mangatainoka R**	**7.93**	**204**	P	**Pn**	**11 37 20.1**	**-1.1**
MRZ				S	**S**	**11 38 48.3**	**-3.3**
HOWZ	**Holdsworth Sta**	**8.16**	**204**	P	**Pn**	**11 37 23.3**	**-0.8**
HOWZ				S	**S**	**11 38 53.6**	**-3.5**
OGWZ	**Otaki Gorge**	**8.21**	**206**	P	**Pn**	**11 37 24.0**	**-0.8**
OGWZ				S	**S**	**11 38 54.9**	**-3.2**
KIW	**Kapiti Island**	**8.35**	**207**	P	**Pn**	**11 37 26.0**	**-0.5**
KIW				S	**S**	**11 38 56.5**	**-4.8**
CAW	**Cannon Point**	**8.51**	**205**	P	**Pn**	**11 37 27.0**	**-1.4**
CAW				S	**S**	**11 39 01.4**	**-3.6**
DUWZ	**D'Urville Isla**	**8.70**	**211**	P	**Pn**	**11 37 31.0**	**0.0**
DUWZ				S	**S**	**11 39 05.3**	**-4.3**
WEL	**Wellington**	**8.77**	**206**	P	**Pn**	**11 37 31.5**	**-0.3**
WEL				S	**S**	**11 39 06.7**	**-4.4**
SNZO	**South Karori**	**8.81**	**206**	P	**Pn**	**11 37 32.9**	**+0.6**
BHW	**Baring Head**	**8.84**	**205**	P	**Pn**	**11 37 31.7**	**-1.0**
BHW				S	**S**	**11 39 07.6**	**-5.1**
PLWZ	**Palliser**	**8.85**	**203**	P	**Pn**	**11 37 32.8**	**-0.1**
PLWZ				S	**S**	**11 39 08.2**	**-4.9**
TCW	**Tory Channel**	**8.89**	**208**	P	**Pn**	**11 37 32.8**	**-0.5**
TCW				S	**S**	**11 39 09.2**	**-4.8**
TUWZ	**Tuamarina**	**9.21**	**209**	P	**Pn**	**11 37 36.3**	**-1.1**
TKNZ	**Takaka Hill**	**9.32**	**214**	P	**Pn**	**11 37 38.9**	**+0.1**
QRZ	**Quartz Range**	**9.37**	**217**	P	**Pn**	**11 37 40.1**	**+0.7**
QRZ	**Quartz Range**	**9.37**	**217**	P	**Pn**	**11 37 39.3**	**-0.1**
BSWZ	**Blackbirch Sta**	**9.48**	**208**	P	**Pn**	**11 37 41.4**	**+0.6**
MRNZ	**Matariki Terra**	**9.70**	**214**	P	**Pn**	**11 37 43.4**	**-0.2**
THZ	**Tophouse**	**9.93**	**212**	P	**Pn**	**11 37 46.5**	**0.0**
KHZ	**Kahutara**	**10.21**	**207**	P	**Pn**	**11 37 50.0**	**+0.1**
KHZ	**Kahutara**	**10.21**	**207**	P	**Pn**	**11 37 48.9**	**-1.0**
DSZ	**Denniston Nort**	**10.42**	**215**	P	**Pn**	**11 37 51.5**	**-1.2**
GVZ	**Greta Valley S**	**10.87**	**208**	P	**Pn**	**11 37 57.2**	**-1.1**
LTZ	**Lake Taylor**	**11.03**	**211**	P	**Pn**	**11 37 58.9**	**-1.4**
AMCZ	**Amberley**	**11.20**	**208**	P	**Pn**	**11 38 02.7**	**+0.3**
INZ	**Inchbonnie**	**11.35**	**213**	P	**Pn**	**11 38 02.9**	**-1.3**
OKCZ	**Okains Bay**	**11.51**	**206**	P	**Pn**	**11 38 06.6**	**+0.3**
OXZ	**Oxford**	**11.57**	**210**	P	**Pn**	**11 38 05.5**	**-1.5**
MQZ	**McQueen's Vall**	**11.65**	**207**	P	**Pn**	**11 38 06.8**	**-1.1**
AKCZ	**Akaroa Harbour**	**11.70**	**206**	P	**Pn**	**11 38 08.9**	**+0.3**
RACZ	**Rakaia**	**11.87**	**208**	P	**Pn**	**11 38 10.3**	**-0.3**
MHCZ	**Mount Hutt**	**11.94**	**211**	P	**Pn**	**11 38 11.4**	**-0.2**
WVZ	**Waitaha Valley**	**11.95**	**214**	P	**Pn**	**11 38 10.8**	**-0.8**
WACZ	**Wakanui South**	**12.16**	**209**	P	**Pn**	**11 38 14.7**	**+0.4**
RPZ	**Rata Peaks**	**12.31**	**211**	P	**Pn**	**11 38 15.6**	**-0.5**
RPZ	**Rata Peaks**	**12.31**	**211**	P	**Pn**	**11 38 14.8**	**-1.4**
	6.6nm,0.3s,baz=248,slow=3.3,SNR=25						
RPZ				S	**S**	**11 40 26.0**	**-7.1**
	8.9nm,0.4s,baz=305,slow=23,SNR=14						
RPZ	**Rata Peaks**	**12.31**	**211**	P	**Pn**	**11 38 14.9**	**-1.2**
ARCZ	**Arundel**	**12.44**	**210**	P	**Pn**	**11 38 16.7**	**-1.1**
ODZ	**Otahua Downs**	**13.55**	**209**	P	**Pn**	**11 38 32.3**	**+0.9**
ODZ	**Otahua Downs**	**13.55**	**209**	P	**Pn**	**11 38 32.1**	**+0.6**
JCZ	**Jackson Bay**	**13.64**	**216**	P	**Pn**	**11 38 32.7**	**+0.2**
ASAR	**Alice Springs**	**41.26**	**271**	P	**P**	**11 42 50.6**	**+0.6**
	1.7nm,0.6s,baz=113,slow=7.3,SNR=19						
	1.7nm,0.6s						
WRA	**Warramunga Arr**	**42.53**	**277**	P	**P**	**11 43 00.5**	**+0.1**
	1.8nm,0.6s,baz=116,slow=8.0,SNR=16						
	1.8nm,0.6s						
QSPA	**South Pole Qui**	**56.62**	**180**	P	P	11 44 52.2	+6.5
	1.8nm,0.7s,baz=284,slow=0.8,SNR=15						
	1.8nm,0.7s						
PLCA	**Paso Flores**	**81.70**	**134**	P	P	11 47 26.2	+6.6
	1.3nm,0.9s,baz=255,slow=8.7,SNR=5.1						
	1.3nm,0.9s						
NVAR	**Mina Array Bea**	**91.73**	**44**	P	**P**	**11 48 12.0**	**+3.8**
	0.6nm,0.8s,baz=230,slow=10,SNR=4.6						
	0.6nm,0.8s						
ARCES	**ARCESS Array B**	**141.19**	**346**	PKP	**PKiKP**	**11 54 32.2**	**+0.8**
	3.6nm,1.0s,baz=27,slow=1.8,SNR=5.6						
FINES	**FINESS Array B**	**147.35**	**337**	PKPbc	**PKPbc**	**11 54 43.2**	**+1.0**
	4.4nm,0.6s,baz=44,slow=4.2,SNR=17						
NB2	**NORSAR Subarra**	**151.47**	**348**	PKP	**PKPbc**	**11 54 53.1**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=13,slow=2.6						
NOA	**NORSAR Array B**	**151.47**	**348**	PKPbc	**PKiKP**	**11 54 53.6**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=12,slow=4.5,SNR=4.5						
HFS	**Hagfors**	**151.84**	**345**	PKPbc	**PKPbc**	**11 54 53.9**	**+0.7**
	comp=Z,3.7nm,0.9s,baz=132,slow=2.2,SNR=5.5						
AKASG	**Malin Array Be**	**152.51**	**318**	PKPbc	**PKiKP**	**11 54 56.1**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=42,slow=2.7,SNR=4.6						

*ASIES **23** 11:35:58.6, 24°04N×122°38E, h26km, ML3.8, Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.20; $M_{\theta\theta}$-1.73; $M_{\phi\phi}$0.52; $M_{r\theta}$1.33; $M_{r\phi}$0.40; $M_{\theta\phi}$1.04; Fault plane solution: M_b2.31246×10^{21} NP1:$\phi_0$67.61000°, δ71.81000°, λ59.74000°. NP2:$\phi_0$309.47000°, δ34.86000°, λ146.90000°. Principal axes: T Plg53.2190°, Azm301.0860°; N Plg28.6080°, Azm77.9360°; P Plg21.0700°, Azm180.0650°;*

*JMA **23** 11:35:58.3±0.2, 24°N±1°×122°4E±0°4, h23km±3km, MV3.2/15, TAIWAN REGION*

*TAP **23** 11:35:58.6, 24°04N×122°38E, h26km, ML3.8, C*

*IDC **23** 11:36:01.8±22.0, 24°53N×121°38E, h0km, mb3.7/4, mbtmp3.7/5, ML3.4/1, MS2.6/1, Error ellipse: s-maj=399.4km s-min=65.9km az=147.0*

ISC 23 11:35:58.1±0.8, 23°99N±0°02×122°39E±0°02, h29km±6km, n169, σ0s97/289, mb3.6/4, 1C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.14**	**334**	*i* P	**Pb**	**11 36 03.1**	**0.0**
	baz=324						
EOS4				*i* S	**Sb**	**11 36 06.6**	**0.0**
	baz=324						
EOS3	**EOS3**	**0.30**	**348**	⇓*i*P	**Pb**	**11 36 05.5**	**+0.2**
	baz=330						
EOS3				*e*S	**Sb**	**11 36 10.2**	**0.0**
	baz=330						
EOS2	**EOS2**	**0.45**	**342**	⇓*i*P	**Pn**	**11 36 08.1**	**-0.4**
	baz=327						
EOS2				*i* S	**Sn**	**11 36 14.9**	**-0.6**
	baz=327						
EAHA	**Aohua**	**0.68**	**300**	*i* P	**Pb**	**11 36 11.5**	**+0.1**
	baz=295						
EAHA				*e*S	**Sn**	**11 36 21.8**	**+0.4**
	baz=295						
JYNG	**Yonagunijimaku**	**0.68**	**48**	P	**Pb**	**11 36 11.5**	**-0.1**
JYNG				*e*S	**Sb**	**11 36 20.2**	**-0.5**
EWUT	**Wuta**	**0.71**	**309**	P	**Pb**	**11 36 11.6**	**-0.4**
	baz=305						
EWUT				S	**Sb**	**11 36 21.4**	**-0.1**
	baz=305						
HWA	**Hwalien**	**0.71**	**269**	*e*P	**Pb**	**11 36 12.4**	**+0.3**
	baz=252						
HWA				*e*S	**Sn**	**11 36 23.5**	**+1.2**
	baz=252						
ETL	**Fush Village**	**0.72**	**283**	*e*P	**Pb**	**11 36 12.2**	**0.0**
	baz=264						
TWD	**Chiawan**	**0.73**	**277**	P	**Pb**	**11 36 12.1**	**-0.2**
	baz=273						
TWD				*e*S	**Sb**	**11 36 22.2**	**+0.3**
	baz=273						
ENA	**Nanau**	**0.73**	**306**	P	**Pb**	**11 36 12.0**	**-0.4**
	baz=311						
ENA				*e*S	**Sb**	**11 36 21.9**	**-0.1**
	baz=311						
YOJ	**Yonaguni jima**	**0.74**	**51**	P	**Pb**	**11 36 12.6**	**+0.2**
YOJ	**Yonaguni jima**	**0.74**	**51**	P	**Pb**	**11 36 12.4**	**0.0**
YOJ				S	**Sb**	**11 36 21.8**	**-0.4**
YOJ	**Yonaguni jima**	**0.74**	**51**	P	**Pb**	**11 36 12.4**	**0.0**
	baz=62						
YOJ				*e*S	**Sb**	**11 36 21.5**	**-0.6**
	baz=62						
NACB	**Ninganchiao**	**0.74**	**284**	P	**Pb**	**11 36 12.4**	**-0.2**
NACB	**Ninganchiao**	**0.74**	**284**	*i* P	**Pb**	**11 36 12.4**	**-0.2**
	baz=266						
NACB				S	**Sb**	**11 36 22.4**	**0.0**
	baz=266						
ESAO	**Su ao**	**0.76**	**320**	P	**Pb**	**11 36 12.3**	**-0.6**
	baz=316						
ESAO				*e*S	**Sb**	**11 36 22.6**	**-0.2**
	baz=316						
SHUL	**Shoufeng**	**0.78**	**255**	*e*P	**Pb**	**11 36 13.6**	**+0.4**
	baz=251						
SHUL				*e*S	**Sb**	**11 36 24.4**	**+0.9**
	baz=251						
TWC	**Suao**	**0.78**	**321**	P	**Pb**	**11 36 12.5**	**-0.7**
	baz=319						
TWC				*e*S	**Sb**	**11 36 22.0**	**-1.5**
	baz=319						
ETM	**Tongmen**	**0.82**	**268**	P	**Pb**	**11 36 13.2**	**-0.6**
	baz=254						
ETM				S	**Sb**	**11 36 24.3**	**-0.2**
	baz=254						
TEGC	**Jichi Village**	**0.82**	**250**	*e*S	**Sn**	**11 36 25.9**	**+0.9**
	baz=246						
ETLH	**Xiulin Townshi**	**0.85**	**285**	P	**Pb**	**11 36 14.3**	**-0.2**
	baz=268						
ETLH				S	**Sn**	**11 36 26.3**	**+0.4**
	baz=268						
NDS	**Dongshan**	**0.88**	**316**	P	**Pb**	**11 36 14.7**	**-0.2**
	baz=313						
NDS				*e*S	**Sn**	**11 36 26.2**	**-0.3**
	baz=313						
ESL	**Shilin**	**0.89**	**259**	*e*P	**Pb**	**11 36 14.2**	**-0.8**
	baz=247						
ESL				*e*S	**Sb**	**11 36 25.9**	**-0.6**
	baz=247						
LXIB	**Xiulin Townshi**	**0.89**	**272**	*e*P	**Pb**	**11 36 14.6**	**-0.5**
	baz=259						
LXIB				*e*S	**Sb**	**11 36 26.4**	**-0.3**
	baz=259						
EGFH	**Guangfu**	**0.94**	**250**	*e*P	**Pn**	**11 36 15.1**	**-0.2**
	baz=247						
EGFH				*e*S	**Sb**	**11 36 27.8**	**0.0**
	baz=247						
EGS		**0.94**	**334**	P	**Pn**	**11 36 16.1**	**+0.6**
	baz=324						
EGS				*e*S	**Sn**	**11 36 28.5**	**+0.6**
	baz=324						
LATG	**Datong**	**0.95**	**305**	P	**Pn**	**11 36 15.9**	**+0.3**
	baz=301						
LATG				*e*S	**Sn**	**11 36 29.1**	**+0.7**
	baz=301						
WARBT	**Fenglin Townsh**	**0.96**	**253**	*e*P	**Pn**	**11 36 15.3**	**-0.4**
	baz=242						
WARBT				*e*S	**Sb**	**11 36 28.0**	**-0.4**
	baz=242						
ILA	**Ilan**	**0.96**	**323**	*e*P	**Pb**	**11 36 16.3**	**0.0**
	baz=320						
ILA				S	**Sn**	**11 36 28.8**	**+0.4**
	baz=320						
TWE	**Neicheng**	**0.98**	**318**	*e*P	**Pb**	**11 36 16.3**	**-0.2**
	baz=315						
TWE				*e*S	**Sn**	**11 36 29.2**	**+0.4**
	baz=315						
ENTT	**Nioudou**	**0.99**	**311**	*e*P	**Pb**	**11 36 16.8**	**+0.1**
	baz=308						
NDT	**Datong Townshi**	**1.00**	**307**	*e*P	**Pb**	**11 36 16.9**	**+0.1**
	baz=314						
NDT				*e*S	**Sn**	**11 36 29.5**	**+0.1**
	baz=314						
NNSB	**Datong**	**1.01**	**295**	*i* P	**Pn**	**11 36 16.9**	**+0.4**
	baz=292						
NNSB				S	**Sn**	**11 36 30.2**	**+0.3**
	baz=292						
HGSD	**Ruisui**	**1.01**	**241**	P	**Pn**	**11 36 16.2**	**-0.2**
	baz=238						
HGSD				*e*S	**Sb**	**11 36 27.9**	**-2.1**
	baz=238						
NNS	**Nan Shan**	**1.02**	**296**	*e*P	**Pn**	**11 36 17.1**	**+0.4**
	baz=293						
NNS				S	**Sn**	**11 36 30.4**	**+0.2**
	baz=293						
WHF	**Hehuan Shan**	**1.03**	**279**	*e*P	**Pn**	**11 36 17.2**	**+0.1**
	baz=263						
WHF				*e*S	**Sb**	**11 36 30.1**	**-1.0**
	baz=263						
FUSB	**Fushanzhiwuyua**	**1.05**	**316**	⇑*i*P	**Pb**	**11 36 17.9**	**+0.1**
	baz=313						
FUSB				S	**Sn**	**11 36 32.1**	**+1.3**
	baz=313						
TWB1	**Santiao Chiao**	**1.07**	**340**	*e*P	**Pn**	**11 36 17.2**	**-0.1**
	baz=338						
TWB1				*e*S	**Sn**	**11 36 31.9**	**+0.7**
	baz=338						
FUSS	**Fushou**	**1.07**	**284**	*e*P	**Pn**	**11 36 17.8**	**+0.3**
	baz=280						
FUSS				*e*S	**Sn**	**11 36 32.0**	**+0.5**
	baz=280						
EHY	**Hungye**	**1.09**	**244**	P	**Pn**	**11 36 17.6**	**+0.2**
	baz=241						
EHY				*e*S	**Sn**	**11 36 30.6**	**-1.0**
	baz=241						
ECBN	**Changbin**	**1.09**	**232**	P	**Pn**	**11 36 17.6**	**+0.1**
	baz=230						
ECBN				*e*S	**Sn**	**11 36 31.4**	**-0.2**
	baz=230						
TIPB	**Shuangxi**	**1.10**	**332**	*i* P	**Pb**	**11 36 18.3**	**-0.3**
	baz=329						
TIPB				*e*S	**Sn**	**11 36 32.3**	**+0.4**
	baz=329						
OWD	**Renai**	**1.11**	**268**	P	**Pn**	**11 36 18.2**	**+0.4**
	baz=265						
OWD				S	**Sn**	**11 36 32.3**	**+0.1**
	baz=265						
CHGB	**Renai**	**1.11**	**274**	P	**Pn**	**11 36 18.2**	**+0.2**
	baz=259						
CHGB				*e*S	**Sn**	**11 36 32.6**	**+0.2**
	baz=259						
NWLT	**Wulai**	**1.12**	**314**	*i* P	**Pb**	**11 36 19.0**	**0.0**
	baz=311						
NWLT				*e*S	**Sb**	**11 36 33.5**	**+0.3**
	baz=311						
TWT	**Tachien**	**1.14**	**283**	P	**Pb**	**11 36 19.6**	**+0.3**
	baz=270						
TWT				*e*S	**Sb**	**11 36 34.1**	**+0.4**
	baz=270						
YHNB	**Yeheng**	**1.14**	**306**	P	**Pb**	**11 36 19.1**	**-0.2**
YHNB	**Yeheng**	**1.14**	**306**	P	**Pb**	**11 36 18.9**	**-0.4**
	baz=303						
YHNB				*e*S	**Sb**	**11 36 34.4**	**+0.6**
	baz=303						
TDCB	**Techi**	**1.15**	**283**	P	**Pn**	**11 36 19.1**	**+0.7**
	baz=270						
TDCB				*e*S	**Sn**	**11 36 33.9**	**+0.5**
	baz=270						
NSK	**Sanguang**	**1.16**	**306**	*e*P	**Pb**	**11 36 19.2**	**-0.4**
	baz=303						
NSK				*e*S	**Sb**	**11 36 33.7**	**-0.5**
	baz=303						
WUSB	**Renai**	**1.16**	**270**	*e*P	**Pn**	**11 36 19.0**	**+0.5**
	baz=267						
WUSB				*e*S	**Sn**	**11 36 34.3**	**+0.8**
	baz=267						
VWDT	**VWDT**	**1.16**	**258**	*e*P	**Pn**	**11 36 19.3**	**+0.8**
	baz=256						
VWDT				*e*S	**Sn**	**11 36 33.8**	**+0.4**
	baz=256						
YULB	**Yu-li**	**1.16**	**239**	P	**Pn**	**11 36 18.7**	**+0.2**
YULB	**Yu-li**	**1.16**	**239**	P	**Pn**	**11 36 18.6**	**+0.1**
	baz=253						
YULB				*e*S	**Sn**	**11 36 33.2**	**-0.3**
	baz=253						
EYUL	**Yuli**	**1.17**	**237**	*e*P	**Pn**	**11 36 18.8**	**+0.2**
	baz=235						
EYUL				*e*S	**Sn**	**11 36 34.6**	**+1.0**
	baz=235						
TWF1	**Yuli**	**1.19**	**238**	*i* P	**Pn**	**11 36 19.0**	**+0.2**
	baz=236						
TWF1				*e*S	**Sn**	**11 36 33.5**	**-0.4**
	baz=236						
SXI1	**Grass Mountain**	**1.19**	**337**	*e*P	**Pn**	**11 36 19.4**	**+0.5**
	baz=334						
SXI1				*e*S	**Sb**	**11 36 35.8**	**+0.6**
	baz=334						
NWF	**Wu-fen Shan**	**1.21**	**333**	*e*P	**Pb**	**11 36 19.8**	**-0.6**
	baz=330						
NWF				*e*S	**Sb**	**11 36 36.1**	**+0.5**
	baz=330						
WFSB	**Wu-fen Shan**	**1.21**	**333**	*e*P	**Pb**	**11 36 19.7**	**-0.7**
	baz=330						
WFSB				*e*S	**Sb**	**11 36 36.0**	**+0.5**
	baz=330						
CHKH	**Chenggong**	**1.21**	**229**	*e*P	**Pn**	**11 36 18.6**	**-0.5**
	baz=216						
CHKH				*e*S	**Sn**	**11 36 33.2**	**-1.3**
	baz=216						
TWA	**Mucha**	**1.22**	**324**	*e*P	**Pb**	**11 36 20.9**	**+0.3**
	baz=320						
TWA				*e*S	**Sb**	**11 36 36.3**	**+0.2**
	baz=320						
NHDH	**Xindian Distri**	**1.24**	**321**	P	**Pb**	**11 36 21.2**	**+0.3**
	baz=309						
NHDH				*e*S	**Sb**	**11 36 37.2**	**+0.6**
	baz=309						
IRIF	**Iriomote-Funau**	**1.27**	**74**	*e*P	**Pn**	**11 36 21.2**	**+1.2**
TATO	**Taipei**	**1.27**	**320**	P	**Pb**	**11 36 21.6**	**+0.1**
FULB	**Fuli**	**1.28**	**232**	P	**Pn**	**11 36 20.1**	**+0.1**
	baz=219						
FULB				*e*S	**Sn**	**11 36 36.1**	**-0.1**
	baz=219						
TNOU

TYC	**Yuchr**	**1.40 267**	*e*P	**Pn**	**11 36 22.8**	**+1.1**
	baz=264					
TYC			*e*S	**Sn**	**11 36 40.6**	**+1.3**
	baz=264					
LIOB	**Emei**	**1.41 298**	P	**Pb**	**11 36 23.9**	**+0.2**
	baz=294					
LIOB			*e*S	**Sb**	**11 36 41.5**	**+0.2**
	baz=294					
TWS1	**Kuangyinshan**	**1.41 322**	*e*P	**Pb**	**11 36 23.3**	**-0.5**
	baz=335					
NSTT	**Nanjuang**	**1.41 297**	*e*P	**Pb**	**11 36 23.8**	**-0.1**
	baz=294					
NSTT			*e*S	**Sb**	**11 36 41.4**	**-0.1**
	baz=294					
EDH	**Donghe**	**1.42 225**	*e*P	**Pn**	**11 36 21.1**	**-0.9**
	baz=215					
EDH			*e*S	**Sn**	**11 36 38.4**	**-1.4**
	baz=215					
ANP	**Anpu**	**1.43 327**	*e*P	**Pb**	**11 36 23.7**	**-0.4**
	baz=324					
WHYT	**Xinyi Township**	**1.43 258**	*e*P	**Pn**	**11 36 23.6**	**+1.3**
	baz=248					
WHYT			*e*S	**Sb**	**11 36 42.1**	**0.0**
	baz=248					
NTST	**Danshui**	**1.44 324**	*e*P	**Pb**	**11 36 23.8**	**-0.6**
	baz=336					
NCUH	**Zhongli**	**1.46 312**	*e*P	**Pb**	**11 36 24.0**	**-0.6**
	baz=308					
TWY	**Chenhua**	**1.46 331**	*e*P	**Pb**	**11 36 24.6**	**-0.1**
	baz=328					
ELDTW	**Lidau**	**1.49 238**	*e*P	**Pn**	**11 36 23.1**	**0.0**
	baz=236					
ELDTW			*e*S	**Sn**	**11 36 41.6**	**0.0**
	baz=236					
JKRS	**Kuro-shima**	**1.50 80**	*e*P	**Pb**	**11 36 25.1**	**-0.2**
SBCB	**Hsinchu**	**1.50 302**	*e*P	**Pb**	**11 36 24.9**	**-0.4**
	baz=299					
SBCB			*e*S	**Sb**	**11 36 45.8**	**+1.7**
	baz=299					
TWQ1	**Liyutan**	**1.51 284**	*e*P	**Pb**	**11 36 25.6**	**0.0**
	baz=269					
TWQ1			*e*S	**Sb**	**11 36 45.2**	**+0.8**
	baz=269					
HSN	**Hsinchu**	**1.52 302**	*e*P	**Pb**	**11 36 24.8**	**-0.9**
	baz=300					
HSN			*e*S	**Sb**	**11 36 45.0**	**+0.4**
	baz=300					
ALS	**Alishan**	**1.53 252**	*e*P	**Pn**	**11 36 24.9**	**+1.2**
	baz=250					
ALS			*e*S	**Sn**	**11 36 43.6**	**+0.8**
	baz=250					
WJS	**Zhushan**	**1.53 264**	P	**Pb**	**11 36 26.0**	**+0.2**
	baz=261					
WJS			*e*S	**Sb**	**11 36 45.8**	**+1.0**
	baz=261					
NSY	**Sanyi**	**1.54 286**	*e*P	**Pb**	**11 36 26.1**	**+0.1**
	baz=283					
NSY			*e*S	**Sb**	**11 36 46.1**	**+1.0**
	baz=283					
WNT	**Mingjian**	**1.56 266**	*e*P	**Pb**	**11 36 26.3**	**-0.1**
	baz=264					
WNT			*e*S	**Sb**	**11 36 46.2**	**+0.4**
	baz=264					
LDUT	**Ludao**	**1.56 213**	*e*P	**Pn**	**11 36 23.5**	**-0.4**
	baz=213					
LDUT			*e*S	**Sn**	**11 36 41.9**	**-1.3**
	baz=213					
TCU	**Taichung**	**1.57 276**	*e*P	**Pb**	**11 36 26.4**	**-0.1**
	baz=273					
TCU			*e*S	**Sb**	**11 36 46.9**	**+1.0**
	baz=273					
CHN5	**Tsauling**	**1.61 256**	*e*P	**Pb**	**11 36 27.4**	**+0.1**
	baz=244					
WDJ	**Dajia District**	**1.63 283**	*e*P	**Pn**	**11 36 26.4**	**+1.5**
	baz=280					
WDJ			*e*S	**Sb**	**11 36 48.1**	**+0.3**
	baz=280					
JIJ	**Ishigaki jima**	**1.65 77**	*e*P	**Pn**	**11 36 26.1**	**+1.0**
JIJ			*e*S	**Sn**	**11 36 46.5**	**+1.1**
PCYT	**Pengchaiyu**	**1.65 350**	*e*P	**Pn**	**11 36 24.5**	**-0.7**
	baz=347					
WCHH	**Zhanghua**	**1.67 273**	*e*P	**Pb**	**11 36 27.9**	**-0.3**
	baz=271					
WCHH			*e*S	**Sb**	**11 36 49.7**	**+0.8**
	baz=271					
TWGBT	**Beinan**	**1.68 226**	P	**Pn**	**11 36 25.6**	**+0.1**
TWGBT	**Beinan**	**1.68 226**	*e*P	**Pn**	**11 36 25.2**	**-0.3**
	baz=237					
TWGBT			*e*S	**Sn**	**11 36 45.7**	**-0.4**
	baz=237					
TTN	**Taitung**	**1.68 223**	*e*P	**Pn**	**11 36 26.6**	**+1.0**
	baz=222					
TTN			*e*S	**Sn**	**11 36 48.2**	**+2.1**
	baz=222					
TWG	**Pinlang**	**1.68 226**	*e*P	**Pn**	**11 36 25.4**	**-0.2**
	baz=237					
TWG			*e*S	**Sn**	**11 36 45.3**	**-0.9**
	baz=237					
STYH	**Taoyuan**	**1.69 241**	*e*P	**Pn**	**11 36 26.8**	**+1.1**
	baz=231					
STYH			*e*S	**Sn**	**11 36 48.1**	**+1.7**
	baz=231					
WGK	**Gukeng**	**1.70 260**	*e*P	**Pb**	**11 36 28.2**	**-0.5**
	baz=258					
WDLH	**Douliu**	**1.72 260**	*e*P	**Pb**	**11 36 28.4**	**-0.7**
	baz=258					
WDLH			*i* S	**Sb**	**11 36 50.4**	**+0.1**
	baz=258					
WCKO	**Fanlu**	**1.72 252**	*e*P	**Pb**	**11 36 29.2**	**0.0**
	baz=250					
WCKO			*e*S	**Sb**	**11 36 50.8**	**+0.4**
	baz=250					
TPUB	**Ta-pu**	**1.75 247**	P	**Pn**	**11 36 28.9**	**+2.3**
TPUB	**Ta-pu**	**1.75 247**	P	**Pn**	**11 36 28.6**	**+2.0**
	baz=246					
TPUB			S	**Sn**	**11 36 50.2**	**+2.3**
	baz=246					
CHN4	**Tsaushan**	**1.76 249**	*e*P	**Pb**	**11 36 29.9**	**+0.1**
	baz=248					
CHN4			*e*S	**Sb**	**11 36 52.2**	**+0.7**
	baz=248					
WTP	**Ta-pu**	**1.79 246**	*e*P	**Pn**	**11 36 29.2**	**+2.1**
	baz=244					
WTP			*e*S	**Sb**	**11 36 52.3**	**0.0**
	baz=244					
WRL	**Guolierlin Hig**	**1.84 268**	*e*P	**Pb**	**11 36 30.3**	**-0.8**
	baz=279					
WRL			*i* S	**Sb**	**11 36 53.1**	**-0.6**
	baz=279					
JISG	**Ishigakijimahi**	**1.85 71**	*e*P	**Pn**	**11 36 28.7**	**+0.8**
JISG			*e*S	**Sn**	**11 36 51.8**	**+1.4**
WTK	**Tuku**	**1.85 261**	P	**Pb**	**11 36 30.9**	**-0.5**
	baz=259					
WTK			*e*S	**Sb**	**11 36 53.9**	**-0.3**
	baz=259					
CHY	**Chiayi**	**1.86 255**	*e*P	**Pb**	**11 36 30.7**	**-0.8**
	baz=253					
CHY			S	**Sb**	**11 36 54.3**	**-0.1**
	baz=253					
SLGT	**Liugui**	**1.88 238**	*e*P	**Pn**	**11 36 30.8**	**+2.4**
	baz=228					
CHN1	**Nanshi**	**1.89 245**	*e*P	**Pb**	**11 36 31.5**	**-0.4**
	baz=244					
CHN1			*i* S	**Sb**	**11 36 55.3**	**+0.2**
	baz=244					
TWK	**Hsinying**	**1.89 248**	*e*P	**Pn**	**11 36 30.9**	**+2.5**
	baz=246					
TWK			*e*S	**Sb**	**11 36 55.1**	**+0.1**
	baz=246					
SNST	**Tainan City**	**1.90 246**	*e*P	**Pb**	**11 36 31.4**	**-0.7**
	baz=245					
SNST			*e*S	**Sb**	**11 36 54.8**	**-0.5**
	baz=245					
ECL	**Taimali**	**1.92 224**	*e*P	**Pn**	**11 36 28.5**	**-0.4**
	baz=224					
ECL			*e*S	**Sn**	**11 36 51.2**	**-0.7**
	baz=224					
WTCT	**Ta-ch'eng**	**1.93 267**	*e*S	**Sb**	**11 36 56.5**	**+0.2**
	baz=279					
WSF	**Szhu**	**2.01 260**	*e*P	**Pn**	**11 36 32.5**	**+2.3**
	baz=258					
WSF			*e*S	**Sb**	**11 36 58.4**	**-0.3**
	baz=258					
ICHU	**Yijhu**	**2.03 252**	*e*P	**Pb**	**11 36 33.2**	**-1.2**
	baz=251					
ICHU			*i* S	**Sb**	**11 36 58.1**	**-1.1**
	baz=251					
WSL	**Shuilin Townsh**	**2.03 257**	*e*P	**Pb**	**11 36 33.1**	**-1.3**
	baz=255					
WSL			*e*S	**Sb**	**11 36 58.3**	**-1.0**
	baz=255					
TSMG	**Majia**	**2.05 232**	*e*P	**Pn**	**11 36 32.5**	**+1.8**
	baz=225					
TSMG			*e*S	**Sn**	**11 36 58.5**	**+3.2**
	baz=225					
SCST	**Cishan**	**2.06 238**	*e*P	**Pb**	**11 36 34.2**	**-0.6**
	baz=226					
SCST			*e*S	**Sb**	**11 37 00.9**	**+0.9**
	baz=226					
LAY	**Lan-yu**	**2.09 202**	*e*P	**Pn**	**11 36 31.2**	**-0.1**
	baz=202					
CHN8	**Yiju**	**2.10 252**	*e*P	**Pb**	**11 36 34.4**	**-1.1**
	baz=251					
CHN8			*e*S	**Sn**	**11 36 59.3**	**+2.9**
	baz=251					
SHHT	**Tainan City**	**2.11 243**	*e*P	**Pb**	**11 36 35.6**	**0.0**
	baz=242					
SHHT			*e*S	**Sb**	**11 37 02.6**	**+1.3**
	baz=242					
LYUB	**Lan-yu**	**2.12 201**	*e*P	**Pn**	**11 36 30.4**	**-1.2**
	baz=210					
LYUB			*e*S	**Sn**	**11 36 55.3**	**-1.6**
	baz=210					
MASBT	**Mashibuluo**	**2.12 230**	*e*P	**Pn**	**11 36 32.8**	**+1.2**
	baz=221					
EAST	**Anshuo**	**2.14 222**	*e*P	**Pn**	**11 36 31.3**	**-0.7**
	baz=222					
EAST			*e*S	**Sn**	**11 36 57.1**	**-0.5**
	baz=222					
TWM1	**Shoushan**	**2.15 238**	*e*P	**Pb**	**11 36 36.1**	**-0.2**
	baz=236					
TWM1			*e*S	**Sb**	**11 37 04.8**	**+2.2**
	baz=236					
TAWH	**Dawu Township**	**2.15 220**	*e*P	**Pn**	**11 36 33.3**	**+1.3**
	baz=229					
TAWH			*e*S	**Sn**	**11 36 56.9**	**-0.8**
	baz=229					
SCLT	**Jiali**	**2.17 248**	*e*S	**Sn**	**11 37 01.6**	**+3.4**
	baz=247					
JTJ	**Tarama**	**2.21 73**	*e*P	**Pn**	**11 36 35.6**	**+2.8**
TSCK	**Chigu Township**	**2.27 249**	*e*P	**Pn**	**11 36 36.0**	**+2.2**
	baz=247					
TSCK			*e*S	**Sn**	**11 37 03.6**	**+2.9**
	baz=247					
SCZT	**Fangliau**	**2.29 226**	*e*P	**Pn**	**11 36 36.7**	**+2.7**
	baz=219					
SCZT			*e*S	**Sn**	**11 37 04.9**	**+3.6**
	baz=219					
SLIU	**Shizi**	**2.29 220**	*e*P	**Pn**	**11 36 34.7**	**+0.6**
	baz=220					
SMST	**Manzhou Townsh**	**2.43 216**	*e*P	**Pn**	**11 36 38.5**	**+2.6**
	baz=217					
SMST			*e*S	**Sn**	**11 37 04.7**	**+0.1**
	baz=217					
HEN	**Hengchun**	**2.50 218**	*e*P	**Pn**	**11 36 39.6**	**+2.8**
	baz=219					
HEN			*e*S	**Sn**	**11 37 07.8**	**+1.5**
	baz=219					
TWKBT	**Hengchun**	**2.51 216**	*e*P	**Pn**	**11 36 37.8**	**+0.8**
	baz=217					
TWKBT			*e*S	**Sn**	**11 37 07.2**	**+0.7**
	baz=217					
TWK1	**Hengchun**	**2.51 216**	*e*P	**Pn**	**11 36 38.4**	**+1.4**
	baz=217					
TWK1			*e*S	**Sn**	**11 37 07.0**	**+0.4**
	baz=217					
WDGT	**Dungji**	**2.60 254**	*e*P	**Pn**	**11 36 40.0**	**+1.7**
	baz=242					
WDGT			*e*S	**Sn**	**11 37 09.9**	**+1.0**
	baz=242					
PHUB	**P'eng-hu**	**2.62 260**	*e*P	**Pn**	**11 36 40.6**	**+2.0**
	baz=258					
PHUB			*e*S	**Sn**	**11 37 10.7**	**+1.3**
	baz=258					
PNG	**Penghu**	**2.63 261**	P	**Pn**	**11 36 39.9**	**+1.3**
	baz=259					
PNG			*e*S	**Sn**	**11 37 10.9**	**+1.3**
	baz=259					
VCHM	**Qimei**	**2.82 255**	*e*P	**Pn**	**11 36 42.6**	**+1.3**
	baz=253					
VCHM			*e*S	**Sn**	**11 37 15.0**	**+0.7**
	baz=253					
VWUC	**VWUC**	**2.85 291**	*e*P	**Pn**	**11 36 41.9**	**+0.2**
	baz=288					
MATB	**Ma-tsu**	**3.08 315**	*e*P	**Pn**	**11 36 44.8**	**-0.1**
	baz=311					
LYJJ	**Jianjiangzhen**	**3.48 317**	*e*P	**Pn**	**11 36 50.3**	**-0.1**
	baz=314					
XPSS	**Dashiqiu**	**3.53 326**	*e*P	**Pn**	**11 36 51.3**	**+0.2**
	baz=332					
KNM	**Kinmen**	**3.63 277**	*e*P	**Pn**	**11 36 54.4**	**+1.9**
	baz=275					
KNMB	**Chin-men Tao**	**3.68 278**	*e*P	**Pn**	**11 36 53.1**	**0.0**
	baz=276					
MHZQ	**Yeshan**	**3.70 305**	*e*P	**Pn**	**11 36 53.0**	**-0.3**
	baz=302					
AXDP	**Jialang**	**4.12 284**	*e*P	**Pn**	**11 36 59.7**	**+0.6**
	baz=281					
ZPLA	**Ao Xicun**	**4.24 270**	*e*P	**Pn**	**11 37 01.1**	**+0.3**
	baz=268					
DSXP	**Dongshan**	**4.55 267**	*e*P	**Pn**	**11 37 06.2**	**+1.2**
	baz=266					
SXFK	**Yanhouchang**	**4.92 300**	*e*P	**Pn**	**11 37 09.6**	**-0.6**
	baz=297					
KSRS	**Korea Array**	**14.23 18**	Pn	**P**	**11 39 22.8**	**-1.9**
	0.2nm,0.3s,baz=199,slow=12,SNR=9.1					
KSRS			LR	LR	11 45 09.5	
	comp=Z,25nm,18.6s,baz=160,slow=39					
	1.5nm,0.7s					
SONM	**Songino Array**	**26.98 336**	P	**P**	**11 41 37.1**	**-0.4**
	0.8nm,0.8s,baz=158,slow=9.4,SNR=4.4					
	0.8nm,0.8s					
MKAR	**Makanchi Array**	**39.24 316**	P	**P**	**11 43 24.2**	**+0.2**
	0.5nm,0.6s,baz=99,slow=7.7,SNR=6.1					
	0.5nm,0.6s					
ZALV	**Zalesovo Beam**	**41.00 327**	P	**P**	**11 43 37.8**	**-0.6**
	1.4nm,0.6s,baz=106,slow=9.1,SNR=6.5					
	1.4nm,0.6s					
BVAR	**Borovoye Array**	**48.52 321**	P	**P**	**11 44 38.3**	**-0.1**
	0.4nm,0.5s,baz=94,slow=6.7,SNR=2.9					
	0.4nm,0.5s					

*CATAC **23** 11:45:09.6±0.6,9.°15N×84.°50W, h6km±4km, ML3.5*
*UCR **23** 11:45:09.2±0.9,9.°14N×84.°53W, h5km, MW4.0*
ISC 23 11:45:09.9±1.4,9.°17N±0.°04×84.°52W±0.°03,h8km±11km,
n55,σ0s87/66,1D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVQ2	**Quepos**	**0.44**	**53**	*e*P	**Pg**	**11 45 18.4**	**+0.1**
JACO	**JACO, Garabito**	**0.51**	**344**	*e*P	**Pg**	**11 45 19.9**	**+0.2**
JACO				*e*S	**Sb**	**11 45 28.9**	**+0.3**
JACO	**JACO, Garabito**	**0.51**	**344**	*i* P	**Pg**	**11 45 19.9**	**+0.2**
JACO				*i* S	**Sb**	**11 45 29.0**	**+0.3**
JACO				IAML		11 45 30.6	
	comp=Z,5μm,1.0s						
LLNJ	**Naranjito**	**0.51**	**54**	*e*P	**Pg**	**11 45 19.8**	**0.0**
LLNJ				*e*S	**Sb**	**11 45 28.5**	**-0.3**
ABE2	**San Pablo**	**0.70**	**41**	*e*P	**Pg**	**11 45 23.2**	**-0.3**
LCR2	**La Lucha 2**	**0.76**	**42**	*e*P	**Pg**	**11 45 24.0**	**-0.6**
LCR2				*e*S	**Sg**	**11 45 35.5**	**+0.9**
LCR2	**La Lucha 2**	**0.76**	**42**	*i* P	**Pg**	**11 45 24.1**	**-0.5**
LCR2				IAML		11 45 44.1	
	comp=Z,1μm,1.0s						
ARZA	**Esparza**	**0.83**	**350**	*e*P	**Pg**	**11 45 26.3**	**+0.4**
CDM	**Cerro de Muert**	**0.84**	**63**	*i* P	**Pg**	**11 45 25.2**	**-0.9**
CDM				*i* S	**Sg**	**11 45 37.6**	**+0.5**
CDM				IAML		11 45 44.0	
	comp=Z,940nm,1.0s						
AMPA	**Desamparados**	**0.85**	**32**	*e*P	**Pg**	**11 45 24.8**	**-1.5**
BUS1	**Rivas**	**0.85**	**63**	*e*P	**Pg**	**11 45 25.4**	**-1.0**
OCHAL	**Ojochal**	**0.87**	**95**	*i* P	**Pb**	**11 45 26.4**	**-0.8**
OCHAL				IAML		11 45 30.9	
	comp=Z,10.0nm,1.0s						
RIMA	**Rio Macho**	**0.88**	**47**	*e*P	**Pg**	**11 45 25.8**	**-1.1**
RIMA	**Rio Macho**	**0.88**	**47**	*i* P	**Pg**	**11 45 26.0**	**-0.8**
RIMA				*i* S	**Sg**	**11 45 38.9**	**+0.6**
RIMA				IAML		11 45 43.4	
	comp=Z,650nm,1.0s						
TCS1	**Tacares**	**0.89**	**14**	*i* P	**Pg**	**11 45 26.7**	**-0.4**
TCS1				IAML		11 45 43.5	
	comp=Z,23μm,1.0s						
SRA1	**San Ramn**	**0.91**	**3**	*e*P	**Pg**	**11 45 26.1**	**-1.3**
HDC	**Heredia**	**0.92**	**26**	*e*P	**Pg**	**11 45 26.4**	**-1.2**
HDC3	**Heredia 3**	**0.92**	**26**	*i* P	**Pn**	**11 45 28.9**	**-0.4**
HAYA	**Volcan Irazu**	**1.05**	**40**	*i* P	**Pg**	**11 45 30.1**	**0.0**
VICA	**Volcano Irazu**	**1.05**	**39**	*e*P	**Pb**	**11 45 30.9**	**+0.4**
EDPN	**Palmar Norte**	**1.07**	**101**	*e*P	**Pb**	**11 45 30.1**	**-0.6**
CPMI	**Catarata Coope**	**1.11**	**7**	*i* P	**Pg**	**11 45 30.2**	**-1.1**
CPMI				*i* S	**Sg**	**11 45 46.3**	**+0.5**
VERB	**Verbena**	**1.12**	**47**	*e*P	**Pg**	**11 45 30.5**	**-1.0**
RVSTA	**Santa Teresita**	**1.18**	**47**	*e*P	**Pn**	**11 45 33.9**	**+1.1**
INDI	**Punta indio, G**	**1.19**	**306**	*e*P	**Pg**	**11 45 30.7**	**-2.0**
INDI	**Punta indio, G**	**1.19**	**306**	*i* P	**Pg**	**11 45 32.1**	**-0.7**
INDI				IAML		11 45 59.3	
	comp=Z,320nm,1.0s						
JTS	**Las Juntas de**	**1.19**	**339**	*e*P	**Pg**	**11 45 31.0**	**-1.9**
SOCE	**Pocosol**	**1.21**	**355**	*e*P	**Pg**	**11 45 31.8**	**-1.3**
SOCE	**Pocosol**	**1.21**	**355**	*i* P	**Pg**	**11 45 32.1**	**-1.0**
SOCE				IAML		11 45 53.3	
	comp=Z,2μm,1.0s						
EDBA	**Buenos Aires**	**1.23**	**90**	*e*P	**Pg**	**11 45 32.1**	**-1.4**
RIFO	**Rio Frio, Sara**	**1.28**	**27**	*i* P	**Pn**	**11 45 33.1**	**-1.1**
RIFO				*i* S	**Sb**	**11 45 51.7**	**+0.7**
RIFO				IAML		11 45 57.3	
	comp=Z,980nm,1.0s						
VACR	**Volcan Arenal**	**1.30**	**353**	*i* P	**Pn**	**11 45 33.8**	**-0.7**
VACR				IAML		11 45 55.3	
	comp=Z,750nm,1.0s						
LCOCO	**El Coco**	**1.31**	**46**	*e*P	**Pg**	**11 45 35.2**	**+0.1**
SGBR	**La Fortuna**	**1.32**	**350**	*e*P	**Pn**	**11 45 34.9**	**+0.1**
CEDE	**Laguna Cedeo**	**1.32**	**352**	*e*P	**Pn**	**11 45 34.3**	**-0.5**
POTG	**Potrero Grande**	**1.39**	**95**	*i* P	**Pb**	**11 45 35.7**	**-0.5**
POTG				IAML		11 45 40.0	
	comp=Z,2μm,1.0s						
EDAD	**Golfito**	**1.43**	**111**	*e*P	**Pn**	**11 45 35.5**	**-0.8**
ORTG	**Ortega, Santa**	**1.50**	**322**	*e*P	**Pg**	**11 45 38.5**	**-0.3**
ORTG	**Ortega, Santa**	**1.50**	**322**	*i* P	**Pn**	**11 45 37.3**	**0.0**
ORTG				IAML		11 46 09.4	
	comp=Z,270nm,1.0s						
ACAL	**Aguas Claras**	**1.54**	**341**	↓*i* P	**Pn**	**11 45 37.4**	**-0.4**
ACAL				*e*S	**Sn**	**11 45 58.7**	**+0.6**
COVE	**Coope Vega, Sa**	**1.54**	**4**	*e*P	**Pb**	**11 45 38.9**	**+0.1**
TRT2	**Tortugero**	**1.58**	**29**	*i* P	**Pn**	**11 45 37.7**	**-0.6**
TRT2				IAML		11 46 04.1	
	comp=Z,460nm,1.0s						
CUI	**Cuipilapa**	**1.61**	**337**	*e*P	**Pn**	**11 45 38.8**	**+0.1**
COLC	**Colonia**	**1.63**	**336**	*e*P	**Pn**	**11 45 38.9**	**-0.1**
COLC				*e*S	**Sn**	**11 46 00.5**	**+0.2**
CAMAV	**Centro de Prod**	**1.66**	**336**	*e*P	**Pg**	**11 45 41.7**	**-0.1**
VERA	**Finca Concepci**	**1.71**	**348**	*e*P	**Pn**	**11 45 40.5**	**+0.4**
CDITO	**Canoas**	**1.73**	**110**	*i* P	**Pg**	**11 45 45.3**	**+2.1**
CANAL	**Canalete**	**1.73**	**342**	*e*P	**Pn**	**11 45 40.6**	**+0.2**
VMAR	**Armenia, Volca**	**1.73**	**340**	*e*P	**Pn**	**11 45 40.6**	**+0.2**
VMAR				*e*P	**Pn**	**11 45 40.6**	**+0.2**
VMAR	**Armenia, Volca**	**1.73**	**340**	*i* P	**Pn**	**11 45 40.8**	**+0.4**
VMAR				IAML		11 46 17.3	
	comp=Z,530nm,1.0s						
GPS3	**Bodega del ICE**	**1.78**	**332**	*e*P	**Pn**	**11 45 41.7**	**+0.6**
VRLE	**La Escondida,**	**1.81**	**333**	*i* P	**Pg**	**11 45 47.2**	**+2.5**
GB1A	**Borinquen Arri**	**1.85**	**332**	*e*P	**Pb**	**11 45 43.3**	**-0.8**
HZTE	**Horizontes, Gu**	**1.86**	**325**	*e*P	**Pb**	**11 45 43.7**	**-0.5**
HZTE	**Horizontes, Gu**	**1.86**	**325**	*i* P	**Pb**	**11 45 43.8**	**-0.5**

*IDC **23** 11:57:21.4±1.9,22.°15N×142.°98E, h207km±17km,*
mb3.3/12, mbtmp3.9/14, Error ellipse: s-maj=26.2km
s-min=12.7km az=83.0
ISC 23 11:57:20.7±1.0,22.°10N±0.°10×143.°0E±0.°2,h200km,n14,
σ0s79/15,mb3.6/11,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.02**	**352**	P	**Pn**	**11 58 36.5**	**+1.0**
	56nm,0.8s,baz=300,slow=23,SNR=11						
JCJ				S	**Sn**	**11 59 33.4**	**-1.1**
	58nm,0.3s,baz=311,slow=22,SNR=13						
MJAR	**Matsushiro Arr**	**14.97**	**345**	P	**Pn**	**12 00 43.1**	**+0.5**
	0.5nm,0.3s,baz=270,slow=14,SNR=12						
KSRS	**Korea Array**	**20.07**	**323**	P	**P**	**12 01 40.0**	**+1.3**
	1.3nm,0.8s,baz=149,slow=9.4,SNR=8.7						
	1.3nm,0.8s						
SONM	**Songino Array**	**38.89**	**320**	P	**P**	**12 04 26.6**	**-0.4**
	0.7nm,0.5s,baz=137,slow=7.9,SNR=6.3						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**42.62**	**192**	P	**P**	**12 04 57.8**	**+0.2**
	1.6nm,0.7s,baz=8.1,slow=8.6,SNR=42						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**46.33**	**191**	P	**P**	**12 05 27.1**	**+0.2**
	0.3nm,0.3s,baz=18,slow=11,SNR=6.4						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**53.76**	**322**	P	**P**	**12 06 21.8**	**-0.5**
	1.1nm,0.4s,baz=105,slow=8.9,SNR=7.6						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**54.27**	**312**	P	**P**	**12 06 26.0**	**-0.1**
	0.6nm,0.7s,baz=109,slow=8.3,SNR=2.6						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**57.08**	**317**	P	**P**	**12 06 45.5**	**-0.5**
	1.6nm,0.5s,baz=94,slow=7.5,SNR=18						
	1.6nm,0.5s						
ILAR	**Eielson Array**	**61.78**	**27**	P	**P**	**12 07 17.5**	**-0.4**
	0.4nm,0.7s,baz=261,slow=5.1,SNR=5.9						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**62.23**	**319**	P	**P**	**12 07 20.9**	**-0.2**
	1.6nm,0.4s,baz=88,slow=8.7,SNR=13						
	1.6nm,0.4s						
YKA	**Yellowknife Ar**	**76.20**	**28**	P	**P**	**12 08 47.1**	**+0.5**
	0.1nm,0.5s,baz=298,slow=6.2,SNR=2.2						
	0.1nm,0.5s						
ARCES	**ARCESS Array B**	**78.47**	**341**	P	**P**	**12 08 59.0**	**-0.2**
	2.0nm,0.9s,baz=48,slow=1.8,SNR=4.5						
	2.0nm,0.9s						
FINES	**FINESS Array B**	**82.73**	**334**	P	**P**	**12 09 20.4**	**-1.4**
	4.5nm,1.0s,baz=62,slow=4.2,SNR=13						
	4.5nm,1.0s						

*IDC **23** 12:09:07.9±1.2,5.°74S×150.°98E, h65km±11km, mb3.6/8,*
mbtmp4.0/9, Error ellipse: s-maj=39.6km s-min=8.7km
az=128.0
ISC 23 12:09:07.9±0.8,5.°7S±0.°2×151.°0E±0.°2,h65km,n11,
σ0s80/13,mb3.9/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.76**	**37**	P	**Pn**	**12 09 36.4**	**+0.2**
	1μm,0.3s,baz=177,slow=3.5,SNR=134						
KRVT				S	**Sn**	**12 09 58.1**	**+0.5**
	2μm,0.3s,baz=11,slow=19,SNR=13						
PMG	**Port Moresby**	**5.26**	**226**	P	**Pn**	**12 10 24.1**	**+0.2**
	24nm,0.4s,baz=49,slow=7.8,SNR=18						
PMG				S	**Sn**	**12 11 23.3**	**+0.1**
	24nm,0.5s,baz=128,slow=15,SNR=2.3						
WRA	**Warramunga Arr**	**21.47**	**

	244nm,0.2s,baz=210,slow=21,SNR=11								
RAO					S		Sn	12 19 47.0	+0.7
	213nm,0.3s,baz=54,slow=20,SNR=4.1								
ASAR	**Alice Springs**	**43.80**	**262**	P			**P**	**12 26 03.7**	**+0.1**
	0.2nm,0.4s,baz=90,slow=6.7,SNR=5.6								
	0.2nm,0.4s								
WRA	**Warramunga Arr**	**44.38**	**267**	P			**P**	**12 26 08.2**	**0.0**
	0.3nm,0.6s,baz=103,slow=8.3,SNR=13								
	0.3nm,0.6s								
QSPA	**South Pole Qui**	**64.20**	**180**	P			**P**	**12 28 31.3**	**+0.5**
	0.7nm,0.7s,baz=9.5,slow=6.1,SNR=2.0								
	0.7nm,0.7s								
SNAA	**Sanae**	**82.64**	**178**	P			**P**	**12 30 17.8**	**-0.7**
	2.8nm,1.1s,baz=260,slow=6.1,SNR=4.0								
	2.8nm,1.1s								
NVAR	**Mina Array Bea**	**84.76**	**43**	P			**P**	**12 30 30.2**	**+0.3**
	0.3nm,0.6s,baz=227,slow=4.8,SNR=3.6								
	0.3nm,0.6s								

*SOME **23** 12:42:41.9, 40°.50N × 78°.60E, h15km*
*KRNET **23** 12:42:41.9±0.1, 40°.52N × 78°.58E, mb3.1*
*NNC **23** 12:42:42.5±1.1, 40°.55N × 78°.56E, h0km, mb3.7, mpv3.3,*
Error ellipse: s-maj=7.0km s-min=5.3km az=160.0

ISC 23 12:42:45.9±2.2, 40°.6N±0°.1 × 78°.48E±0°.06, h10km, n62, σ1§29/71, 18C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.20**	**335**	⇑*iP*	**Pn**	**12 43 07.2**	**-2.0**
	baz=34						
TARG				⇑*iS*	**Sn**	**12 43 26.5**	**+0.7**
	baz=34						
PRZ	**Przheval'sk**	**1.84**	**358**	⇑*eP*	**Pb**	**12 43 18.6**	**-1.3**
	baz=56						
PRZ				⇑*eS*	**Sg**	**12 43 45.8**	**+0.5**
	baz=56						
ANVS	**Anan'yevo**	**2.23**	**344**	⇑*eP*	**Pb**	**12 43 24.2**	**-2.2**
	baz=44						
ANVS				⇑*eS*	**Sb**	**12 43 55.2**	**+1.1**
	baz=44						
ULHL	**Ulahol**	**2.33**	**314**	P	**Pb**	**12 43 27.0**	**-1.1**
	SNR=14						
ULHL	**Ulahol**	**2.33**	**314**	⇑*eP*	**Pb**	**12 43 25.9**	**-2.2**
	baz=15						
ULHL				⇑*iS*	**Sb**	**12 43 57.9**	**+1.0**
	baz=15						
SATY	**Saty**	**2.42**	**359**	*e*Pg	**Pb**	**12 43 29.3**	**-0.4**
	12nm,0.6s						
SATY				*e*Lg	Lg	12 44 03.3	
	53nm,0.7s						
SATY	**Saty**	**2.42**	**359**	Pg	**Pb**	**12 43 29.3**	**-0.4**
	12nm,0.6s						
SATY				Lg	Lg	12 44 03.9	
	53nm,0.7s						
ZHN	**Zhinishke**	**2.53**	**359**	*e*Pg	**Pb**	**12 43 30.2**	**-1.3**
	15nm,0.6s						
ZHN				*e*Lg	Lg	12 44 04.4	
	40nm,0.5s						
ZHN	**Zhinishke**	**2.53**	**359**	Pg	**Pb**	**12 43 30.2**	**-1.3**
	15nm,0.6s						
ZHN				Lg	Lg	12 44 04.4	
	40nm,0.5s						
UZB	**Uzynbulak**	**2.54**	**9**	*e*Pg	**Pb**	**12 43 30.8**	**-1.0**
	5.5nm,0.4s						
UZB				*e*Lg	Lg	12 44 05.4	
	42nm,0.8s						
UZB	**Uzynbulak**	**2.54**	**9**	Pg	**Pb**	**12 43 30.8**	**-1.0**
	5.5nm,0.4s						
UZB				Lg	Lg	12 44 05.4	
	42nm,0.8s						
SHLS	**Shalkode**	**2.62**	**16**	*e*Pg	**Pg**	**12 43 34.1**	**-2.1**
	20nm,0.5s						
SHLS				*e*Lg	Lg	12 44 11.2	
	38nm,0.8s						
SHLS	**Shalkode**	**2.62**	**16**	Pg	**Pg**	**12 43 34.1**	**-2.1**
	20nm,0.5s						
SHLS				Lg	Lg	12 44 11.2	
	38nm,0.8s						
TNSS	**Tian-Shan**	**2.66**	**335**	*e*Pg	**Pb**	**12 43 33.5**	**-0.3**
	22nm,0.4s						
TNSS				*e*Lg	Lg	12 44 10.4	
	21nm,0.6s						
TNSS	**Tian-Shan**	**2.66**	**335**	Pg	**Pb**	**12 43 33.5**	**-0.3**
	22nm,0.4s						
TNSS				Lg	Lg	12 44 10.4	
	21nm,0.6s						
MDOK	**Medeo**	**2.74**	**338**	*e*Pg	**Pb**	**12 43 34.7**	**-0.4**
	24nm,0.5s						
MDOK				*e*Lg	Lg	12 44 12.5	
	47nm,0.7s						
MDOK	**Medeo**	**2.74**	**338**	Pg	**Pb**	**12 43 33.9**	**-1.2**
	2.6nm,0.4s						
MDOK				Pg	**Pb**	**12 43 34.7**	**-0.4**
	24nm,0.5s						
MDOK				Lg	Lg	12 44 12.5	
	47nm,0.7s						
MDOK				Lg	Lg	12 44 14.3	
	42nm,0.6s						
IZV	**Izvestkoviy**	**2.77**	**330**	*e*Pg	**Pb**	**12 43 35.6**	**-0.1**
	4.6nm,0.5s						
IZV				*e*Lg	Lg	12 44 14.5	
	37nm,0.6s						
IZV	**Izvestkoviy**	**2.77**	**330**	Pg	**Pb**	**12 43 35.6**	**-0.1**
	4.6nm,0.5s						
IZV				Lg	Lg	12 44 14.5	
	37nm,0.6s						
KOTS	**Kotyrbulak**	**2.79**	**339**	*e*Pg	**Pb**	**12 43 37.0**	**+1.1**
	14nm,0.4s						
KOTS				*e*Lg	Lg	12 44 16.9	
	74nm,0.6s						
KOTS	**Kotyrbulak**	**2.79**	**339**	Pg	**Pb**	**12 43 37.0**	**+1.1**
	14nm,0.4s						
KOTS				Lg	Lg	12 44 16.9	
	74nm,0.6s						
PDGK	**Podgornoye**	**2.79**	**15**	⇑Pg	**Pn**	**12 43 32.1**	**+1.2**
	2.1nm,0.3s						
PDGK				⇑Lg	Lg	12 44 12.5	
	24nm,0.8s						
KZA	**Kyzart**	**2.82**	**302**	P	**Pb**	**12 43 36.3**	**-0.4**
	SNR=17						
KZA	**Kyzart**	**2.82**	**302**	⇑*iP*	**Pn**	**12 43 32.7**	**+1.2**
	baz=3.0						
KZA				⇑*iS*	**Sb**	**12 44 08.9**	**-2.6**
	baz=3.0						
KPKS	**Kokpek**	**2.83**	**3**	*e*Pg	**Pb**	**12 43 36.1**	**-0.5**
	10nm,0.5s						
KPKS				*e*Lg	Lg	12 44 15.1	
	119nm,0.5s						
KPKS	**Kokpek**	**2.83**	**3**	Pg	**Pb**	**12 43 36.1**	**-0.5**
	10nm,0.5s						
KPKS				Lg	Lg	12 44 15.1	
	119nm,0.5s						
KURS	**Kuram**	**2.86**	**356**	*e*Pg	**Pb**	**12 43 37.5**	**+0.4**
	8.5nm,0.8s						
KURS				*e*Lg	Lg	12 44 17.0	
	18nm,0.8s						
KURS	**Kuram**	**2.86**	**356**	Pg	**Pb**	**12 43 37.5**	**+0.4**
	8.5nm,0.8s						
KURS				Lg	Lg	12 44 17.0	
	18nm,0.8s						
MTBS	**Maitube**	**2.92**	**329**	*e*Pg	**Pb**	**12 43 38.5**	**+0.3**
	4.8nm,0.6s						
MTBS				*e*Lg	Lg	12 44 18.6	
	14nm,0.7s						
MTBS	**Maitube**	**2.92**	**329**	Pg	**Pb**	**12 43 38.4**	**+0.3**
	4.8nm,0.6s						
MTBS				Lg	Lg	12 44 18.6	
	14nm,0.7s						
KST	**Kastek**	**3.05**	**323**	*e*Pg	**Pb**	**12 43 41.1**	**+0.7**
	8.1nm,0.5s						
KST				*e*Lg	Lg	12 44 23.3	
	21nm,0.6s						
KST	**Kastek**	**3.05**	**323**	Pg	**Pb**	**12 43 41.1**	**+0.7**
	8.1nm,0.5s						
KST				Lg	Lg	12 44 23.3	
	21nm,0.6s						
TKM2	**Tokmak 2**	**3.14**	**318**	P	**Pb**	**12 43 41.8**	**-0.2**
	SNR=14						
TKM2	**Tokmak 2**	**3.14**	**318**	⇑*eP*	**Pn**	**12 43 36.5**	**+0.9**
	baz=18						
TKM2				⇑*iS*	**Sb**	**12 44 17.3**	**-3.0**
	baz=18						
TKM2	**Tokmak 2**	**3.14**	**318**	⇑Pg	**Pb**	**12 43 39.9**	**-2.0**
	3.4nm,0.4s						
TKM2				⇓Lg	Lg	12 44 26.3	
	5.3nm,1.1s						
DGS	**Degeres**	**3.29**	**323**	*e*Pg	**Pb**	**12 43 45.2**	**+0.7**
	6.5nm,0.4s						
DGS				*e*Lg	Lg	12 44 30.4	
	19nm,0.5s						
DGS	**Degeres**	**3.29**	**323**	Pg	**Pb**	**12 43 45.2**	**+0.7**
	6.5nm,0.4s						
DGS				Lg	Lg	12 44 30.4	
	19nm,0.5s						
KBK	**Karagaybulak**	**3.33**	**308**	P	**Pb**	**12 43 46.0**	**+0.8**
	SNR=6.7						
KBK	**Karagaybulak**	**3.33**	**308**	⇓*eP*	**Pn**	**12 43 39.5**	**+1.3**
	baz=9.0						
KBK				⇓*iS*	**Sn**	**12 44 21.1**	**+3.2**
	baz=9.0						
KTBS	**Karatobe**	**3.35**	**337**	*e*Pg	**Pb**	**12 43 46.3**	**+0.9**
	5.5nm,0.6s						
KTBS				*e*Lg	Lg	12 44 32.3	
	21nm,0.6s						
KTBS	**Karatobe**	**3.35**	**337**	Pg	**Pb**	**12 43 46.3**	**+0.9**
	5.5nm,0.6s						
KTBS				Lg	Lg	12 44 32.3	
	21nm,0.6s						
UCH	**Uchtor**	**3.38**	**299**	P	**Pb**	**12 43 45.8**	**-0.3**
	SNR=7.2						
CHKK	**Chushkaly**	**3.40**	**342**	*e*Pg	**Pb**	**12 43 47.4**	**+1.1**
	1.9nm,0.2s						
CHKK				*e*Lg	Lg	12 44 34.3	
	32nm,0.5s						
CHKK	**Chushkaly**	**3.40**	**342**	Pg	**Pb**	**12 43 47.4**	**+1.1**
	1.9nm,0.2s						
CHKK				Lg	Lg	12 44 34.3	
	32nm,0.5s						
BLB	**Baldybastay**	**3.46**	**0**	Pg	**Pb**	**12 43 47.0**	**-0.3**
	4.2nm,0.5s						
BLB				Lg	Lg	12 44 33.7	
	9.7nm,0.6s						
AAK	**Ala-Archa**	**3.59**	**305**	P	**Pb**	**12 43 50.1**	**+0.5**
	SNR=9.6						
AAK	**Ala-Archa**	**3.59**	**305**	⇑*iP*	**Pn**	**12 43 43.4**	**+1.6**
	baz=6.0						
AAK				⇑*iS*	**Sn**	**12 44 27.4**	**+3.0**
	baz=6.0						
ARXS	**Arharly**	**3.60**	**353**	*e*Pg	**Pb**	**12 43 50.5**	**+0.7**
	4.7nm,0.5s						
ARXS				*e*Lg	Lg	12 44 40.0	
	13nm,0.8s						
ARXS	**Arharly**	**3.60**	**353**	Pg	**Pb**	**12 43 50.5**	**+0.7**
	4.7nm,0.5s						
ARXS				Lg	Lg	12 44 40.0	
	13nm,0.8s						
KUU	**Kurty**	**3.62**	**335**	*e*Pg	**Pb**	**12 43 50.3**	**+0.3**
	4.9nm,0.6s						
KUU				*e*Lg	Lg	12 44 39.1	
	16nm,0.8s						
KUU	**Kurty**	**3.62**	**335**	Pg	**Pb**	**12 43 50.3**	**+0.3**
	4.9nm,0.6s						
KUU				Lg	Lg	12 44 39.1	
	16nm,0.8s						
CHMS	**Chumysh**	**3.65**	**311**	⇓Pg	**Pb**	**12 43 50.1**	**-0.5**
	0.9nm,0.4s						
CHMS				⇓Lg	Lg	12 44 40.9	
	6.8nm,0.7s						
KRBS	**Karabastau**	**3.70**	**327**	*e*Pg	**Pb**	**12 43 52.2**	**+0.8**
	4.4nm,0.4s						
KRBS				*e*Lg	Lg	12 44 42.3	
	9.4nm,0.7s						
KRBS	**Karabastau**	**3.70**	**327**	Pg	**Pb**	**12 43 52.2**	**+0.8**
	4.4nm,0.4s						
KRBS				Lg	Lg	12 44 42.3	
	9.4nm,0.7s						
KNOS	**Konyrlen**	**3.75**	**8**	Pg	**Pb**	**12 43 53.2**	**+0.8**
	3.6nm,0.4s						
KNOS				Lg	Lg	12 44 44.1	
	12nm,0.9s						
DJR	**Jarkent**	**3.82**	**14**	*e*Pg	**Pb**	**12 43 53.6**	**+0.2**
	1.1nm,0.3s						
DJR				*e*Lg	Lg	12 44 44.9	
	8.0nm,0.7s						
DJR	**Jarkent**	**3.82**	**14**	Pg	**Pb**	**12 43 53.6**	**+0.2**
	1.1nm,0.3s						
DJR				Lg	Lg	12 44 44.9	
	8.0nm,0.7s						
AML	**Almayashu**	**3.90**	**294**	P	**Pg**	**12 43 58.7**	**-1.9**
	SNR=7.7						
AML	**Almayashu**	**3.90**	**294**	⇓Pg	**Pb**	**12 43 54.5**	**-0.5**
AML				⇑Lg	Lg	12 44 49.3	
	1.1nm,0.8s						
EKS2	**Erkin-Say**	**4.06**	**301**	P	**Pb**	**12 43 58.8**	**+1.2**
	SNR=10						
KAPS	**Kapalarasan**	**4.69**	**8**	*e*Pg	**Pb**	**12 44 10.7**	**+2.4**
	1.5nm,0.3s						
KAPS				*e*Lg	Lg	12 45 14.1	
	6.0nm,0.6s						
KAPS	**Kapalarasan**	**4.69**	**8**	Pg	**Pb**	**12 44 10.7**	**+2.4**
	1.5nm,0.3s						
KAPS				Lg	Lg	12 45 14.1	
	6.0nm,0.6s						

*IDC **23** 12:50:46.5±1.1, 16°.59S × 177°.45E, h0km, mb3.9/6,*
mbtmp3.9/6, MS3.0/6, Error ellipse: s-maj=57.4km
s-min=25.2km az=151.0

ISC 23 12:50:50.3±1.2, 16°.6S±0°.3 × 177°.4E±0°.2, h24km, n12, σ0§64/6, mb3.8/6, MS3.0/5, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.71**	**240**	LR	LR	12 57 38.2	
	comp=Z,110nm,19.6s,baz=36,slow=35						
RAR	**Rarotonga**	**22.06**	**106**	LR	LR	13 03 47.1	
	comp=Z,21nm,18.2s,baz=188,slow=35						
STKA	**Stephens Creek**	**35.85**	**238**	P	**P**	**12 57 49.0**	**+0.7**
	2.5nm,0.8s,baz=72,slow=11,SNR=3.3						
	2.5nm,0.8s						
WRA	**Warramunga Arr**	**40.97**	**259**	P	**P**	**12 58 31.0**	**-0.6**
	1.1nm,1.0s,baz=92,slow=8.8,SNR=4.7						
	1.1nm,1.0s						
ASAR	**Alice Springs**	**41.34**	**253**	P	**P**	**12 58 34.4**	**-0.2**
	2.3nm,0.8s,baz=83,slow=8.5,SNR=17						
	2.3nm,0.8s						
GUMO	**Guam**	**43.96**	**311**	LR	LR	13 15 57.8	
	comp=Z,17nm,19.5s,baz=112,slow=34						
ASAJ	**Asahikawa**	**68.26**	**334**	LR	LR	13 25 00.4	
	comp=Z,26nm,21.6s,baz=157,slow=30						
KSRS	**Korea Array**	**71.10**	**320**	LR	LR	13 29 37.1	
	comp=Z,9.4nm,21.5s,baz=170,slow=33						
QSPA	**South Pole Qui**	**73.47**	**180**	P	**P**	**13 02 20.4**	**-0.3**
	1.3nm,1.0s,baz=71,slow=3.3,SNR=2.4						
	1.3nm,1.0s						
KLR	**Kul'dur**	**76.99**	**331**	LR	LR	13 37 11.4	
	comp=Z,8.6nm,18.1s,baz=156,slow=36						
NVAR	**Mina Array Bea**	**81.29**	**46**	P	**P**	**13 03 05.5**	**+0.5**
	0.5nm,0.7s,baz=233,slow=8.7,SNR=4.6						
	0.5nm,0.7s						
PDAR	**Pinedale Array**	**89.17**	**45**	P	**P**	**13 03 44.0**	**-0.3**
	0.2nm,0.7s,baz=194,slow=3.4,SNR=3.6						
	0.2nm,0.7s						

*IDC **23** 12:54:00.2±1.3, 36°.61N × 140°.72E, h0km, mb3.6/5,*
mbtmp3.7/7, ML3.4/2, MS2.2/1, Error ellipse: s-maj=25.5km
s-min=20.4km az=119.0
*NIED **23** 12:54:05.2, 36°.42N × 140°.69E, h51km, MW3.6, Moment*
Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm;
M_{rr}1.90; $M_{\theta\theta}$-0.43; $M_{\phi\phi}$-1.47; $M_{r\theta}$1.74; $M_{\theta\phi}$-0.20; $M_{\phi r}$1.97;
Fault plane solution: M_o3.10000×10¹⁴ NP1:ϕ_o36.00000°,
δ74.00000°, λ99.00000°. NP2:ϕ_o185.00000°, δ18.00000°,
λ61.00000°.
*JMA **23** 12:54:05.2±0.1, 36°.4N±0°.2 × 140°.7E±0°.6, h51km, MV3.8/39,*
NORTHERN IBARAKI PREF
JMA Felt II J1 at NORTHERN IBARAKI PREF .
*NEIC **23** 12:54:06.9±1.2, 36°.56N±0°.06 × 140°.7E±0°.1, h49km±10km,*
mb4.4/11, Error ellipse: s-maj=13.8km s-min=7.9km
az=112.0

ISC 23 12:54:05.5±0.8, 36°.46N±0°.03 × 140°.73E±0°.05, h47km±6km, n51, σ0§92/55, mb4.2/12, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHYU	**Hitachinakayam**	**0.17**	**224**	*i*P	**Pn**	**12 54 13.3**	**+0.1**
JHYU				S	**Sn**	**12 54 18.9**	**+0.2**
JHO	**Hitachi**	**0.20**	**319**	⇓*iP*	**Pn**	**12 54 13.8**	**+0.4**
JHO				⇓S	**Sn**	**12 54 19.6**	**+0.5**
JYT	**Yasato**	**0.49**	**242**	*i*P	**Pn**	**12 54 16.0**	**-0.5**
JYT				S	**Sn**	**12 54 23.2**	**-1.0**
JIHU	**Itakohorinouch**	**0.52**	**199**	*i*P	**Pn**	**12 54 16.5**	**-0.3**
JIHU				S	**Sn**	**12 54 25.3**	**+0.4**
ONAJ	**Iwakimizuishiy**	**0.64**	**5**	⇓*iP*	**Pn**	**12 54 18.3**	**-0.1**
ONAJ				⇓S	**Sn**	**12 54 28.0**	**+0.3**
JSMT	**Sammumatsuo**	**0.85**	**196**	P	**Pn**	**12 54 20.6**	**-0.4**
JSMT				S	**Sn**	**12 54 32.1**	**-0.4**
JFK	**Kawauchi**	**0.91**	**7**	P	**Pn**	**12 54 21.6**	**-0.4**
JAG	**Ashikaga**	**1.03**	**268**	⇓*iP*	**Pn**	**12 54 23.2**	**-0.4**
JAG				⇓S	**Sn**	**12 54 36.0**	**-0.9**
JOTO	**OTAMA OYAMA**	**1.14**	**344**	*i*P	**Pn**	**12 54 25.6**	**+0.5**
JKT	**Katashina**	**1.23**	**285**	⇓*iP*	**Pn**	**12 54 26.5**	**+0.1**
JKT				⇓S	**Sn**	**12 54 42.3**	**+0.4**
JFY	**Yanaizu**	**1.25**	**319**	⇓*iP*	**Pn**	**12 54 27.0**	**+0.4**
JMM	**Marumori**	**1.40**	**2**	Pn	**Pn**	**12 54 28.9**	**+0.3**
MJAR	**Matsushiro Arr**	**2.04**	**273**	Pn	**Pn**	**12 54 36.6**	**-0.7**
	3.9nm,0.3s,baz=89,slow=16,SNR=297						
MJAR				Sn	**Sn**	**12 55 02.3**	**+0.8**
	2.9nm,0.3s,baz=96,slow=21,SNR=5.1						
MAJO	**Matsushiro**	**2.04**	**273**	Pn	**Pn**	**12 54 37.7**	**+0.4**
MJB9	**Matsu-Tunnel**	**2.04**	**273**	Pn	**Pn**	**12 54 38.9**	**+1.5**
JSG	**Sagara**	**2.74**	**230**	Pn	**Pn**	**12 54 47.2**	**+0.4**
INU	**Inuyama**	**3.21**	**251**	Pn	**Pn**	**12 54 54.8**	**+1.4**
JHJ	**Hachijo jima 2**	**3.42**	**193**	Pn	**Pn**	**12 54 56.6**	**+0.3**
	7.0nm,0.3s,baz=41,slow=22,SNR=13						
JHJ				Sn	**Sn**	**12 55 35.9**	**+0.3**
	27nm,0.3s,baz=291,slow=20,SNR=6.5						
	108nm,0.7s						
JHJ2	**Mitsune**	**3.42**	**193**	Pn	**Pn**	**12 54 55.5**	**-0.9**
JTM	**Tenmabayashi**	**4.33**	**3**	Pn	**Pn**	**12 55 10.3**	**+1.6**
ERM	**Erimo**	**5.86**	**18**	Pn	**Pn**	**12 55 28.1**	**-1.6**
ASAJ	**Asahikawa**	**7.78**	**10**	Pn	**Pn**	**12 55 54.2**	**-1.8**
	0.7nm,0.3s,baz=211,slow=15,SNR=19						
ASAJ				Sn	**Sn**	**12 57 21.1**	**-1.6**
	0.3nm,0.3s,baz=133,slow=24,SNR=2.0						
	2.1nm,0.3s						
JKA	**Kamikawa-asahi**	**7.78**	**10**	Pn	**Pn**	**12 55 53.8**	**-2.2**
KSRS	**Korea Array**	**10.30**	**279**	LR	LR	13 00 17.6	
	comp=Z,15nm,21.6s,baz=120,slow=37						
SONM	**Songino Array**	**27.66**	**305**	P	**P**	**12 59 47.4**	**-1.5**
	0.5nm,0.6s,baz=109,slow=9.6,SNR=3.1						
	0.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.34**	**119**	T	T	13 29 57.9	
	baz=312,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**28.34**	**119**	T	T	13 29 56.6	
	baz=312,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**28.36**	**119**	T	T	13 29 59.2	
	baz=312,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**29.02**	**121**	T	T	13 30 46.9	
	baz=314,slow=76,SNR=43						
H11S3	**WAKE ISLAND Hy**	**29.02**	**121**	T	T	13 30 46.0	
	baz=314,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**29.04**	**121**	T	T	13 30 47.2	
	baz=314,slow=76,SNR=28						
ZALV	**Zalesovo Beam**	**41.90**	**313**	P	**P**	**13 01 50.5**	**-0.6**
ZALV	**Zalesovo Beam**	**41.90**	**313**	P	**P**	**13 01 51.0**	**-0.1**
	0.6nm,0.4s,baz=96,slow=7.2,SNR=4.6						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**43.96**	**303**	P	**P**	**13 02 07.3**	**-0.6**
MKAR	**Makanchi Array**	**43.96**	**303**	P	**P**	**13 02 08.0**	**0.0**
	0.4nm,0.6s,baz=83,slow=10,SNR=3.6						
	0.4nm,0.6s						
C18K	**Utukok River**	**45.03**	**26**	P	**P**	**13 02 16.8**	**+0.6**
D19K	**Kuna River**	**46.10**	**27**	P	**P**	**13 02 25.4**	**+0.8**
D19K				IAmb	IAmb	13 02 28.3	
	comp=Z,7.2nm,1.3s						
E19K	**Redstone River**	**46.23**	**28**	P	**P**	**13 02 26.1**	**+0.4**
E19K				IAmb	IAmb	13 02 49.6	
	comp=Z,5.9nm,1.2s						
B20K	**Meade River**	**46.74**	**25**	P	**P**	**13 02 30.1**	**+0.6**
B20K				IAmb	IAmb	13 02 40.1	
	comp=Z,6.6nm,1.4s						
B21K	**Ikpikpuk River**	**47.54**	**25**	P	**P**	**13 02 36.5**	**+0.8**
B22K	**Teshekpuk Lake**	**48.05**	**25**	P	**P**	**13 02 40.4**	**+0.7**
C23K	**Itkillik River**	**48.95**	**25**	P	**P**	**13 02 47.2**	**+0.6**
C23K				IAmb	IAmb	13 02 60.0	
	comp=Z,1.8nm,1.1s						
ILAR	**Eielson Array**	**50.27**	**32**	P	**P**	**13 02 56.4**	**-0.4**
ILAR	**Eielson Array**	**50.27**	**32**	P	**P**	**13 02 56.9**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=272,slow=6.0,SNR=8.0						
	comp=Z,0.5nm,0.8s						
SCRK	**Sand Creek**	**51.58**	**33**	P	**P**	**13 03 07.2**	**+0.4**
SCRK				IAmb	IAmb	13 03 38.7	
	comp=Z,4.6nm,1.3s						
I28M	**Miner Creek**	**53.14**	**31**	P	**P**	**13 03 18.9**	**+0.7**
I30M	**Mount Dempster**	**54.65**	**31**	P	**P**	**13 03 30.2**	**+0.9**
I30M				IAmb	IAmb	13 03 55.2	
	comp=Z,6.4nm,1.4s						
WR0	**Warramunga Arr**	**56.42**	**187**	P	**P**	**13 03 43.4**	**+1.1**
WR0				IAmb	IAmb	13 04 26.2	
	comp=Z,6.0nm,1.2s						
WRA	**Warramunga Arr**	**56.42**	**187**	P	**P**	**13 03 43.3**	**+1.0**
WRA	**Warramunga Arr**	**56.42**	**187**	P	**P**	**13 03 44.7**	**+2.3**
	comp=Z,0.4nm,0.7s,baz=5.3,slow=7.8,SNR=2.3						
	comp=Z,0.4nm,0.7s						
ABKAR	**Akbulak array**	**57.89**	**310**	P	**P**	**13 03 51.3**	**-1.2**

IDC 23 13:26:29.1±2.5, 5°.74S × 153°.74E, h0km, mb3.5/3, mbtmp3.6/4, ML1.8/1, Error ellipse: s-maj=86.9km s-min=30.9km az=125.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.47**	**240**	Pn	Pn	13 28 20.8	+1.4
	0.8nm,0.3s,baz=76,slow=4.2,SNR=2.4						
PMG				Sn	Sn	13 29 45.9	+0.9
	0.7nm,0.3s,baz=234,slow=22,SNR=2.2						
	7.2nm,0.5s						
WRA	**Warramunga Arr**	**23.56**	**231**	P	P	13 31 41.3	-0.1
	0.3nm,0.5s,baz=54,slow=9.7,SNR=2.3						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**26.12**	**225**	P	P	13 32 04.7	-0.4
	0.8nm,0.8s,baz=58,slow=9.2,SNR=12						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**81.64**	**319**	P	P	13 38 49.7	+0.4
	0.6nm,0.7s,baz=104,slow=4.4,SNR=4.3						
	0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**151.48**	**287**	PKPbc	PKPbc	13 46 25.9	-0.4
	1.2nm,0.6s,baz=71,slow=1.8,SNR=6.9						

*AZER **23** 13:27:12.9±0.2, 40°.78N × 48°.35E, h10km, Error ellipse:*
s-maj=1.2km s-min=1.0km az=348.0
*TIF **23** 13:27:13.8, 40°.75N × 48°.32E, h15km±1km*
*TEH **23** 13:27:14.2, 40°.76N ×

QUBA				S	Sb	13 27 36.9	+0.2
QUB	**Quba**	0.62	4	Pg	Pg	13 27 26.8	-0.3
ZRD	**Zardab**	0.67	225	P	Pg	13 27 29.0	+1.2
	SNR=138						
ZRD				S	Sn	13 27 41.8	+0.7
ZRD	**Zardab**	0.67	225	Pg	Pg	13 27 29.0	+1.2
QSAR	**Qusar**	0.76	358	P	Pg	13 27 29.3	-0.3
	SNR=34						
QSAR				S	Sb	13 27 40.8	0.0
QSAR	**Qusar**	0.76	358	Pg	Pg	13 27 29.2	-0.3
AKT	**Akhty**	0.84	329	∥ *e*P	Pg	13 27 30.5	-0.7
AKT				*e*S	Sg	13 27 42.2	0.0
AKT	**Akhty**	0.84	329	*e*Pg	Pg	13 27 30.5	-0.7
AKT				*e*Sg	Sg	13 27 42.2	0.0
KSMR	**Kasumkent**	0.86	351	*e*P	Pg	13 27 31.0	-0.4
KSMR				*e*S	Sb	13 27 43.2	-0.4
KSMR				*i* S	Sg	13 27 43.6	+1.0
KSMR				pmax	pmax		
	comp=Z,297nm,0.2s						
KSMR				smax	smax		
	comp=E,2μm,0.3s						
KSMR				smax	smax		
	comp=N,2μm,0.3s						
KSMR				smax	smax		
	comp=E,2μm,0.3s						
KSMR	**Kasumkent**	0.86	351	*e*Pg	Pg	13 27 31.1	-0.4
KSMR				*e*Sg	Sb	13 27 42.8	-0.8
MNGR	**Mingechevir, A**	0.92	271	P	Pg	13 27 33.2	+0.5
	SNR=11						
MNGR				S	Sn	13 27 48.9	+1.5
MNGR	**Mingechevir, A**	0.92	271	Pg	Pg	13 27 31.7	-1.0
MNGR	**Mingechevir, A**	0.92	271	P	Pg	13 27 31.7	-1.0
SEKA	**Sheki**	0.95	299	P	Pg	13 27 32.3	-1.0
	SNR=36						
SEKA				S	Sb	13 27 47.3	+1.0
SEKA	**Sheki**	0.95	299	P	Pg	13 27 32.2	-1.0
ALIB	**Äli-Bayra**	0.96	146	P	Pn	13 27 34.8	+0.2
	SNR=10						
ALIB				S	Sn	13 27 51.5	+3.1
ALIB	**Äli-Bayra**	0.96	146	Pg	Pg	13 27 33.1	-0.3
BRDA	**Brd**	0.99	240	Pn	Pg	13 27 34.9	+1.0
	SNR=6.8						
BRDA				Sn	Sn	13 27 51.5	+2.5
AGDM	**Agdam**	1.12	235	Pn	Pg	13 27 36.2	-0.2
	SNR=221						
AGDM				Sn	Sn	13 27 54.4	+2.1
GOBA	**Gobu**	1.15	108	P	Pn	13 27 38.3	+1.1
GOBA				S	Sn	13 27 59.9	+6.9
BLQ	**Beylaqan**	1.18	209	P	Pg	13 27 36.4	-1.2
	SNR=25						
BLQ				Sn	Sb	13 27 54.5	+1.6
DRN	**Derbent**	1.27	1	*e*P	Pn	13 27 39.8	+0.9
DRN				*e*S	Sn	13 27 58.4	+2.3
DRN				*i* S	Sb	13 27 59.0	+3.5
DRN				pmax	pmax		
	comp=Z,162nm,0.4s						
DRN				smax	smax		
	comp=E,993nm,0.4s						
DRN				smax	smax		
	comp=N,652nm,0.3s						
DRN				smax	smax		
	comp=E,700nm,0.3s						
DRN	**Derbent**	1.27	1	*e*Pg	Pn	13 27 39.5	+0.6
DRN				*e*Sg	Sb	13 27 55.6	+0.1
URKR	**Urkarakh**	1.50	341	*e*P	Pg	13 27 43.9	+0.3
URKR				*e*S	Sn	13 27 57.7	-4.1
URKR	**Urkarakh**	1.50	341	*e*Pg	Pg	13 27 43.9	+0.3
QRD	**Qoradiz**	1.50	210	Pn	Pn	13 27 41.4	-0.6
	SNR=18						
QRD				Sn	Sn	13 28 02.9	+1.3
GANJ	**Ganja**	1.51	266	Pn	Pn	13 27 40.7	-1.4
	SNR=34						
GANJ				Sn	Sn	13 28 01.7	-0.2
GANJ	**Ganja**	1.51	266	P	Pn	13 27 40.7	-1.4
GLBA	**Clilabad**	1.51	177	Pn	Pn	13 27 41.1	-1.1
	SNR=9.0						
GLBA				Sn	Sb	13 28 03.3	+0.9
VSHL	**Vashlovani**	1.51	289	P	Pn	13 27 42.7	+0.5
ZKTA	**Zakatala**	1.54	305	Pn	Pn	13 27 42.3	-0.3
	SNR=18						
ZKTA				Sn	Sg	13 28 05.0	+0.5
SGKR	**Sergokala**	1.77	344	*e*P	Pb	13 27 47.8	+0.3
SGKR				*e*S	Sg	13 28 11.4	-0.4
SGKR	**Sergokala**	1.77	344	*e*Pg	Pb	13 27 47.8	+0.3
SGKR				*e*Sg	Sg	13 28 11.4	-0.4
YRD	**Yardimli**	1.84	181	Pn	Pn	13 27 45.7	-1.1
	SNR=28						
YRD				Sn	Sn	13 28 11.4	+1.0
GNBR	**Gunib**	1.92	329	*e*P	Pb	13 27 50.9	+0.8
GNBR				*e*S	Sg	13 28 17.8	+1.3
GNBR	**Gunib**	1.92	329	*e*Pg	Pb	13 27 50.9	+0.8
GNBR				*e*Sg	Sg	13 28 17.8	+1.3
GDB	**GEDABAY**	1.94	270	Pn	Pn	13 27 47.3	-0.9
	SNR=9.3						
GDB				Sn	Sn	13 28 13.1	+0.4
GRMI	**Germi**	1.97	189	Pn	Pn	13 27 47.8	-0.8
ARKR	**Arakani**	2.09	333	*e*P	Pb	13 27 52.9	-0.1
ARKR				*e*S	Sg	13 28 22.4	+0.4
ARKR	**Arakani**	2.09	333	*e*Pg	Pb	13 27 52.9	-0.1
ARKR				*e*Sg	Sg	13 28 22.4	+0.4
LRK	**Lerik**	2.11	179	Pn	Pn	13 27 49.5	-1.1
	SNR=9.6						
LRK				Sn	Sn	13 28 19.4	+2.4
XNZR	**Khunzakh**	2.15	327	*e*Pg	Pb	13 27 54.1	0.0
XNZR				*e*Sg	Sg	13 28 24.1	+0.2
HNZR	**Khunzah**	2.16	327	*e*P	Pb	13 27 54.1	-0.2
HNZR				*e*S	Sg	13 28 24.1	-0.1
QZX	**Qazax, Azerbai**	2.24	279	P	Pn	13 27 52.3	+0.1
	SNR=40						
QZX				Sn	Sb	13 28 23.5	+0.1
BUJR	**Buynaksk**	2.25	337	*e*P	Pb	13 27 55.0	-0.8
BUJR				*e*S	Sb	13 28 24.8	+1.0
BUJR	**Buynaksk**	2.25	337	*e*Pg	Pb	13 27 55.0	-0.8
BUJR				*e*Sg	Sb	13 28 24.8	+1.0
UNCR	**Uncukul**	2.26	331	*e*P	Pb	13 27 55.8	-0.1
UNCR				*e*S	Sg	13 28 26.2	-1.3
UNCR	**Uncukul**	2.26	331	*e*Pg	Pb	13 27 55.9	-0.1
UNCR				*e*Sg	Sg	13 28 26.2	-1.3
KRNR	**Karanay**	2.32	334	*e*P	Pb	13 27 56.6	-0.3
KRNR				*e*S	Sg	13 28 27.9	-1.5
KRNR	**Karanay**	2.32	334	*e*Pg	Pb	13 27 56.6	-0.3
KRNR				*e*Sg	Sg	13 28 27.9	-1.5
GAS1	**Astara - Iran**	2.40	170	Pn	Pn	13 27 54.7	+0.3
BTLR	**Botlikh**	2.46	321	*e*P	Pb	13 27 58.2	-1.2
BTLR				*e*S	Sb	13 28 31.1	+1.3
BTLR	**Botlikh**	2.46	321	*e*Pn	Pb	13 27 58.2	-1.2
BTLR				*e*Sn	Sb	13 28 31.1	+1.3
SBZ	**Shahbuz**	2.51	238	Pn	Pn	13 27 56.7	+0.7
	SNR=13						
DBC	**Dubki**	2.51	335	*e*P	Pn	13 27 58.4	+2.3
DBC				*e*S	Sb	13 28 32.4	+1.1
DBC	**Dubki**	2.51	335	*e*Pn	Pn	13 27 58.4	+2.3
DBC				*e*Sn	Sb	13 28 32.5	+1.1
ORD	**Ordubad**	2.55	225	Pn	Pn	13 27 56.7	+0.2
	SNR=25						
IHRS	**Heris**	2.62	202	Pn	Pn	13 27 58.2	+0.5
DLMR	**Dylym**	2.63	332	*e*P	Pb	13 28 02.5	+0.3
DLMR				*e*S	Sb	13 28 36.0	+1.5
NAX	**Nakhchivan**	2.67	235	P	Pb	13 28 01.6	-1.4
DVE	**Vedeno**	2.73	324	*e*P	Pb	13 28 05.3	+1.3
DVE				*e*S	Sb	13 28 36.7	-1.0
GNI	**Garni**	2.78	259	*e*P	Pb	13 28 03.5	-1.4
GNI				*e*S	Sb	13 28 42.0	+2.8
GNI	**Garni**	2.78	259	*e*Pn	Pb	13 28 03.5	-1.4
GNI				*e*Sn	Sb	13 28 42.0	+2.8
IMRD	**Marand**	2.86	225	Pn	Pn	13 28 01.1	+0.2
CHRG	**Chargali**	2.98	303	P	Pn	13 28 03.2	+0.7
CHRG				S	Sn	13 28 42.2	+3.8
ITBZ	**Tabriz**	3.02	214	Pn	Pn	13 28 03.7	+0.6
MAKU	**Maku**	3.11	244	Pn	Pn	13 28 04.9	+0.6
DMNI	**Dmanisi**	3.16	282	P	Pn	13 28 05.5	+0.5
DMNI				S	Sb	13 28 49.5	-0.5
DMNI	**Dmanisi**	3.16	282	P	Pn	13 28 05.5	+0.5
DMNI				S	Sb	13 28 49.5	-0.5
ISHB	**Shabestar**	3.23	221	Pn	Pn	13 28 06.9	+1.0
TRLG	**Trialeti**	3.27	285	P	Pn	13 28 07.7	+1.2
TRLG				S	Sb	13 28 52.4	-0.6
TRLG	**Trialeti**	3.27	285	P	Pn	13 28 07.7	+1.2
TRLG				S	Sb	13 28 52.4	-0.6
LACR	**Lac**	3.64	306	*e*P	Pb	13 28 16.5	-3.0
LACR				*e*S	Sb	13 29 00.3	-3.5
AKH	**Akhalkalaki**	3.69	282	P	Pb	13 28 17.5	-2.9
AKH	**Akhalkalaki**	3.69	282	P	Pb	13 28 17.5	-2.9
ALIG	**Mtskhetisjvari**	3.75	293	P	Pn	13 28 13.4	+0.4
ALIG	**Mtskhetisjvari**	3.75	293	P	Pn	13 28 13.4	+0.4
DIGR	**Digorskoe uzhe**	4.12	303	*e*P	Pn	13 28 20.6	+2.3
DIGR				*e*S	Sn	13 29 09.7	+2.9
DIGR	**Digorskoe uzhe**	4.12	303	*e*Pn	Pn	13 28 20.6	+2.3
DIGR				*e*Sn	Sn	13 29 09.7	+2.9
KBZ	**Khabaz**	4.99	308	Pn	Pn	13 28 35.2	+5.2
	comp=E,0.1nm,0.3s,baz=308,slow=9.3,SNR=2.2						
KBZ				Sn	Sn	13 29 31.9	+4.2
	comp=E,0.3nm,0.3s,baz=242,slow=13,SNR=1.6						
	comp=E,1.0nm,0.5s						
BRTR	**Keskin Array B**	11.26	270	LR	LR	13 35 52.9	
	comp=E,11nm,20.5s,baz=122,slow=43						
FINES	**FINESS Array B**	24.74	334	P	P	13 32 34.0	-2.4
FINES	**FINESS Array B**	24.74	334	P	P	13 32 34.0	-2.4
	comp=E,1.4nm,0.7s,baz=134,slow=9.8,SNR=1.1						
	comp=E,1.4nm,0.7s						
MKAR	**Makanchi Array**	25.14	65	P	P	13 32 38.8	-1.4
	comp=E,1.4nm,0.7s,baz=267,slow=9.4,SNR=11						
	comp=E,1.4nm,0.7s						
SEY	**Seymchan**	60.41	31	LR	LR	14 03 48.3	
	comp=E,36nm,18.6s,baz=222,slow=37						

*NOU **23** 13:40:02.3, 40°.825×176°.17E, h44km, MLv3.2/8, North Island, New Zealand*
*WEL **23** 13:40:03.1±0.3, 41°.2°×17°.6E±°, h23km±3km, M3.1/21, ML3.5/21, MLv3.1/21, Error ellipse: s-maj=0.0km s-min=0.0km az=130.9, confirmed*

ISC 23 13:40:03.6±0.9, 40°.66S±0°.02×175°.92E±0°.03, h32km±6km, n113, σ1§13/125, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
PRWZ	**Pori Road**	0.11	21	P	Pn	13 40 08.9	-0.3
PRWZ				S	Sb	13 40 13.2	+0.2
TIWZ	**Tintock**	0.12	192	P	Pn	13 40 09.4	0.0
TIWZ				S	Sb	13 40 14.0	+0.7
BFZ	**Birch Farm**	0.25	96	P	Pn	13 40 10.7	-0.4
BFZ	**Birch Farm**	0.25	96	P	Pn	13 40 10.9	-0.3
BFZ				S	Sb	13 40 16.7	+1.4
MRZ	**Mangatainoka R**	0.26	269	P	Pb	13 40 10.2	-0.5
MRZ				S	Sb	13 40 15.0	-0.4
POWZ	**Post Office Ro**	0.29	337	P	Pb	13 40 10.2	-0.8
CPWZ	**Castlepoint**	0.33	140	P	Pn	13 40 13.1	+0.9
CPWZ				S	Sn	13 40 22.2	+4.3
HOWZ	**Holdsworth Sta**	0.39	232	P	Pn	13 40 12.5	-0.5
HOWZ				S	Sn	13 40 19.2	-0.2
DVHZ	**Dannevirke**	0.41	28	P	Pb	13 40 12.1	-0.5
DVHZ				S	Sb	13 40 18.4	-0.4
TMWZ	**Te Maipa**	0.45	183	P	Pn	13 40 18.3	+0.4
TMWZ				S	Sn	13 40 23.1	+2.2
ANWZ	**Angora Road**	0.47	65	P	Pn	13 40 14.0	-0.1
ANWZ				S	Sn	13 40 22.4	+1.1
OGWZ	**Otaki Gorge**	0.59	254	P	Pn	13 40 15.5	-0.3
OGWZ				S	Sb	13 40 23.9	+0.2
MTW	**Mount Morrison**	0.59	212	P	Pn	13 40 15.9	+0.1
MTW				S	Sn	13 40 25.5	+1.1
TSZ	**Takapari Road**	0.60	3	P	Pb	13 40 15.0	-0.7
TSZ				S	Sb	13 40 23.6	-0.4
OHWZ	**Ohakea**	0.65	314	P	Pn	13 40 16.6	+0.1
PRHZ	**Porangahau**	0.67	55	P	Pn	13 40 16.8	-0.1
WPHZ	**Waipukurau**	0.71	34	P	Pn	13 40 17.6	+0.1
TRWZ	**Traveller**	0.76	193	P	Pn	13 40 18.3	+0.1
PNHZ	**Pukenui**	0.77	16	P	Pn	13 40 18.1	-0.2
CAW	**Cannon Point**	0.79	235	P	Pb	13 40 18.5	-0.3
KIW	**Kapiti Island**	0.79	255	P	Pb	13 40 17.8	+0.2
PAWZ	**Paruwai Farm**	0.81	207	P	Pb	13 40 18.9	-0.1
PXZ	**Pawanui**	0.95	49	P	Pb	13 40 20.5	-1.1
PLWZ	**Palliser**	1.04	209	P	Pn	13 40 21.7	-0.4
KRHZ	**Kereru**	1.07	19	P	Pn	13 40 22.4	0.0
WEL	**Wellington**	1.07	234	P	Pn	13 40 22.4	-0.1
BHW	**Baring Head**	1.09	226	P	Pn	13 40 22.4	-0.3
SNZO	**South Karori**	1.13	234	P	Pn	13 40 23.0	-0.1
KAHZ	**Kahuranaki**	1.13	41	P	Pn	13 40 23.1	-0.1
WAZ	**Wanganui**	1.15	321	P	Pb	13 40 24.8	-0.1
BHHZ	**Black Hill Sta**	1.17	5	P	Pn	13 40 24.2	+0.3
MOVZ	**Moawhango**	1.25	354	P	Pn	13 40 25.5	+0.5
KWHZ	**Kaweka Forest**	1.29	18	P	Pn	13 40 25.5	0.0
MTVZ	**Mangateitei**	1.32	345	P	Pb	13 40 26.9	-0.8
MCHZ	**McNeill Hill**	1.35	26	P	Pn	13 40 26.2	0.0
WNVZ	**Wahianoa**	1.35	349	P	Pb	13 40 27.4	-1.0
TCW	**Tory Channel**	1.36	246	P	Pn	13 40 26.2	-0.2
TRVZ	**Turoa**	1.39	348	P	Pb	13 40 27.9	-1.1
WHVZ	**Whangaehu Hut**	1.40	349	P	Pb	13 40 28.4	-0.8
TUVZ	**Tukino**	1.40	352	P	Pb	13 40 28.2	-1.0
MAVZ	**Matarangi**	1.41	349	P	Pb	13 40 28.5	-1.1
FWVZ	**Far West T-bar**	1.43	349	P	Pb	13 40 28.6	-1.1
PKVZ	**Pokaka**	1.44	342	P	Pb	13 40 28.5	-1.3
COVZ	**Chateau Observ**	1.48	349	P	Pb	13 40 29.3	-1.3
SNVZ	**South Ngauruho**	1.48	352	P	Pb	13 40 29.2	-1.5
NGZ	**Ngauruhoe**	1.50	351	P	Pb	13 40 29.5	-1.4
OTVZ	**Oturere**	1.50	352	P	Pn	13 40 29.4	+0.9
DUWZ	**D'Urville Isla**	1.52	264	P	Pn	13 40 28.6	-0.1
ETVZ	**East Tongariro**	1.53	354	P	Pb	13 40 29.8	-1.5
NNVZ	**North Ngauruho**	1.54	351	P	Pn	13 40 30.0	+1.0
TMVZ	**Te Maari**	1.55	354	P	Pb	13 40 30.1	-1.6
BKZ	**Black Stump Fm**	1.55	17	P	Pn	13 40 28.9	-0.2
BKZ	**Black Stump Fm**	1.55	17	P	Pn	13 40 28.8	-0.2
WTVZ	**West Tongariro**	1.56	351	P	Pb	13 40 30.4	-1.5
NTVZ	**North Tongarir**	1.57	353	P	Pb	13 40 30.4	-1.6
KRVZ	**Karewarewa**	1.57	352	P	Pb	13 40 30.9	-1.3
ARVZ	**Aropaoanui**	1.62	31	P	Pn	13 40 30.1	+0.1
TWVZ	**Taurewa**	1.63	347	P	Pn	13 40 31.0	+0.8
LREZ	**Lake Rotokare**	1.67	315	P	Pb	13 40 32.9	-0.8
RITZ	**Rihia Road**	1.68	358	P	Pb	13 40 33.0	-0.9
TUWZ	**Tuamarina**	1.68	242	P	Pn	13 40 30.0	-0.8
KATZ	**Kakaramea**	1.69	354	P	Pb	13 40 33.0	-1.1
NMHZ	**Naumai**	1.70	24	P	Pn	13 40 31.2	0.0
VRZ	**Vera Road**	1.77	329	P	Pn	13 40 33.1	+1.1
RATZ	**Rangitukua**	1.79	356	P	Pb	13 40 37.6	+1.8
MRHZ	**Matea Rd**	1.86	12	P	Pn	13 40 33.1	-0.2
BSWZ	**Blackbirch Sta**	1.87	235	P	Pn	13 40 32.7	-0.7
PREZ	**Palmer Road**	1.89	314	P	Pb	13 40 35.4	-1.9
MTHZ	**Maungataniwha**	1.94	22	P	Pn	13 40 35.1	+0.7
WATZ	**Wairara**	1.95	356	P	Pn	13 40 35.0	+0.4
RAHZ	**Arahi**	1.96	28	P	Pn	13 40 34.3	-0.4
NEZ	**North Egmont**	1.97	314	P	Pn	13 40 36.5	+1.7
DREZ	**Durham Road**	1.97	317	P	Pb	13 40 37.6	-1.2
KHHZ	**Kahui Hut**	2.00	312	P	Pb	13 40 37.4	-1.9
KHEZ	**Kahui Hut**	2.00	312	P	Pb	13 40 37.2	-2.1
MHEZ	**Mangahewa**	2.00	322	P	Pb	13 40 39.1	-0.2
NMEZ	**Namu Road**	2.00	308	P	Pb	13 40 38.0	-1.2
NNZ	**Nelson**	2.00	253	P	Pn	13 40 35.2	0.0
PKE	**Pukeiti**	2.08	314	P	Pb	13 40 39.2	-1.5
NBEZ	**Newall Road No**	2.10	311	P	Pb	13 40 39.8	-1.2
KNZ	**Kokohu**	2.12	40	P	Pn	13 40 35.3	-1.5
MHGZ	**Mahia Peninsul**	2.14	46	P	Pn	13 40 35.9	-1.3
SNGZ	**Shannon Statio**	2.17	31	P	Pn	13 40 36.8	-0.7
RTZ	**Ruatahuna**	2.20	22	P	Pn	13 40 37.8	-0.2
MUGZ	**Murupara**	2.27	17	P	Pn	13 40 38.7	-0.2
TKNZ	**Takaka Hill**	2.27	260	P	Pn	13 40 39.2	+0.2
HIZ	**Hauiti**	2.29	339	P	Pn	13 40 40.8	+1.6
HIZ	**Hauiti**	2.29	339	P	Pn	13 40 40.3	+1.1
PRGZ	**Paritu Road**	2.30	42	P	Pn	13 40 38.2	-1.2
TLZ	**Tolley Road**	2.34	353	P	Pn	13 40 42.2	+2.3
RIGZ	**Rimuhau**	2.41	37	P	Pn	13 40 39.6	-1.3
MRNZ	**Matariki Terra**	2.50	252	P	Pn	13 40 42.4	+0.3
KHZ	**Kahutara**	2.51	225	P	Pn	13 40 41.2	-0.9
KHZ	**Kahutara**	2.51	225	P	Pn	13 40 40.6	-1.5
THZ	**Tophouse**	2.53	243	P	Pn	13 40 41.6	-0.9
NGRZ	**Ngongotaha**	2.56	5	P	Pn	13 40 45.1	+2.2
URZ	**Urewera**	2.57	21	P	Pn	13 40 42.4	-0.6
URZ	**Urewera**	2.57	21	P	Pn	13 40 41.4	-1.5
QRZ	**Quartz Range**	2.58	265	P	Pn	13 40 43.1	-0.1
QRZ	**Quartz Range**	2.58	265	P	Pn	13 40 42.9	-0.2
CNGZ	**Carnagh Statio**	2.80	40	P	Pn	13 40 43.5	-2.7
TOZ	**Tahuroa Road**	2.94	354	P	Pn	13 40 51.4	+3.3
TWGZ	**Tauwhareparae**	2.95	33	P	Pn	13 40 47.1	-1.1
RUGZ	**Raukumara Rang**	3.02	27	P	Pn	13 40 47.9	-1.3
GVZ	**Greta Valley S**	3.16	222	P	Pn	13 40 50.4	-0.7
PKGZ	**Pakihiroa**	3.23	32	P	Pn	13 40 51.0	-1.2
DSZ	**Denniston Nort**	3.29	249	P	Pn	13 40 52.1	-0.8
LTZ	**Lake Taylor**	3.46	231	P	Pn	13 40 53.6	-1.7
OKCZ	**Okains Bay**	3.73	214	P	Pn	13 40 58.2	-0.7
AKCZ	**Akaroa Harbour**	3.91	214	P	Pn	13 41 01.2	-0.3
OXZ	**Oxford**	3.93	226	P	Pn	13 41 00.1	-1.7
TMZ	**Timaru**	5.20	223	P	Pn	13 41 17.5	-1.7
CTZ	**Chatham Island**	6.34	121	P	Pn	13 41 34.3	-0.5

DJA 23 13:51:54.0±0.4, 0°S±3°×12°3E±°, h84km±7km, M3.7/10, mb3.7/1, MLv3.6/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
LUWI	**Luwuk**	0.82	191	P	Pn	13 52 12.5	+1.2
LUWI				S	Sn	13 52 26.5	+2.3
MRSI	**Marisa**	1.21	305	P	Pn	13 52 15.3	-0.6
MRSI				S	Sn	13 52 32.0	-0.3
KMSI	**Cibinong**	1.32	53	P	Pn	13 52 17.3	+0.1
MPSI	**Mapaga**	3.08	281	P	Pn	13 52 42.7	+2.1
SANI	**Sanana**	3.55	121	P	Pn	13 52 43.8	-3.1
TTSI	**Tana Toraja**	4.18	228	P	Pn	13 52 56.8	+1.3
LBMI	**Labuha**	4.59	95	P	Pn	13 53 01.1	+0.1
SPSI	**Sidrap Palu**	4.87	220	P	Pn	13 53 04.4	-0.5
NLAI	**Namlea**	5.13	126	P	Pn	13 53 07.9	-0.5

*KRSC **23** 13:56:55.0±1.8, 55°.41N×166°.50E, h44km±12km, Ml4.3*
*IDC **23** 13:56:57.5±0.7, 55°.89N×166°.37E, h0km, mb3.9/15, mbtmp3.9/17, ML4.0/3, MS3.1/10, Error ellipse: s-maj=20.8km s-min=12.4km az=167.0*
*MOS **23** 13:56:58.7±0.8, 55°.46N×166°.34E, h43km, mb4.5/4, Error ellipse: s-maj=7.5km s-min=6.2km az=156.6*
*NEIC **23** 13:56:59.6±2.6, 55°.4N±0°.2×166°.6E±0°.2, h27km±7km, mb4.2/35, Error ellipse: s-maj=29.4km s-min=12.0km az=164.0*

ISC 23 13:56:58.8±0.5, 55°.43N±0°.05×166°.48E±0°.04, h20km, n159, σ1§61/196, mb4.1/31, MS3.1/8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
BKI	**Bering**	0.37	232	*e*P	Pb	13 57 04.9	-1.8
BKI				*e*S	Sb	13 57 10.0	-2.0
BKI	**Bering**	0.37	232	PN	Pb	13 57 04.9	-1.8
KBTR	**Krutoberegovo**	2.21	292	*e*P	Pn	13 57 31.1	-3.2
KBTR				*e*S	Sn	13 57 58.0	-2.9
KBTR	**Krutoberegovo**	2.21	292	PN	Pn	13 57 31.1	-3.2
KBTR				S	Sn	13 57 58.0	-2.9
KBG	**Krutoberegovo**	2.28	293	*e*P	Pn	13 57 32.1	-3.1
KBG	**Krutoberegovo**	2.28	293	PN	Pn	13 57 32.1	-3.1
SMKR	**Semkarok**	3.04	294	*e*P	Pn	13 57 44.3	-1.5
SMKR	**Semkarok**	3.04	294	PN	Pn	13 57 44.3	-1.5
BDR	**Baidarnaya**	3.17	293	*e*P	Pn	13 57 46.9	-0.7
BDR				*e*S	Sn	13 58 23.1	-1.7
BDR	**Baidarnaya**	3.17	293	PN	Pn	13 57 46.9	-0.7
BDR				S	Sn	13 58 23.1	-1.7
SRKR	**Sorokina**	3.22	294	*e*P	Pn	13 57 47.7	-0.6
SRKR	**Sorokina**	3.22	294	PN	Pn	13 57 47.7	-0.6
BZGR	**Bezymyannyi-Gr**	3.31	281	*e*P	Pn	13 57 47.8	-1.8
BZGR	**Bezymyannyi-Gr**	3.31	281	PN	Pn	13 57 47.8	-1.8
BZP	**Bezymyannyi-Pe**	3.40	281	*e*P	Pn	13 57 49.6	-1.2
BZP				*e*S	Sn	13 58 31.2	+0.6
KLY	**Klyuchi**	3.40	287	*e*P	Pn	13 57 48.3	-2.3
KLY				*e*S	Sn	13 58 27.5	-2.8
KLY	**Klyuchi**	3.40	287	PN	Pn	13 57 48.3	-2.3
KLY				S	Sn	13 58 27.5	-2.8
KRSR	**Krestovskiy**

GRL	**Gorelyy**	**5.74**	**243**	*e*P	**Pn**	**13 58 22.8**	**-0.1**
GRL				*e*S	**Sn**	**13 59 27.2**	**-0.9**
GRL	**Gorelyy**	**5.74**	**243**	PN	**Pn**	**13 58 22.8**	**-0.1**
GRL				S	**Sn**	**13 59 27.2**	**-0.9**
ASAK	**Asacha**	**5.92**	**242**	*e*P	**Pn**	**13 58 25.0**	**-0.3**
ASAK				*e*S	**Sn**	**13 59 29.1**	**-3.5**
ASAK	**Asacha**	**5.92**	**242**	PN	**Pn**	**13 58 25.0**	**-0.3**
APC	**Apacha**	**6.02**	**249**	*e*P	**Pn**	**13 58 27.1**	**+0.5**
APC				*e*S	**Sn**	**13 59 34.5**	**-0.5**
APC	**Apacha**	**6.02**	**249**	PN	**Pn**	**13 58 27.1**	**+0.5**
APC				S	**Sn**	**13 59 34.5**	**-0.5**
KDTR	**Khodutka, Kamc**	**6.18**	**237**	*e*P	**Pn**	**13 58 27.5**	**-1.2**
KDTR	**Khodutka, Kamc**	**6.18**	**237**	PN	**Pn**	**13 58 27.5**	**-1.2**
SEY	**Seymchan**	**10.41**	**322**	Pn	**Pn**	**13 59 22.8**	**-3.9**
	comp=Z,0.8nm,0.3s,baz=342,slow=20,SNR=5.9						
	comp=Z,2.7nm,0.3s						
ATKA	**Atka Island**	**11.86**	**98**	Pn	**Pn**	**13 59 44.7**	**-1.9**
JKA	**Kamikawa-asahi**	**19.03**	**243**		**Pn**	**14 01 19.8**	**-0.3**
JKA				IAmb	IAmb	14 01 25.9	
	comp=Z,12nm,0.9s						
ASAJ	**Asahikawa**	**19.03**	**243**	P	**Pn**	**14 01 19.8**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,12nm,0.9s						
ASAJ	**Asahikawa**	**19.03**	**243**	P	**Pn**	**14 01 23.5**	**+3.4**
	comp=Z,0.3nm,0.3s,baz=48,slow=7.6,SNR=5.6						
	comp=Z,8.3nm,0.8s						
YAK	**Yakutsk**	**19.98**	**304**	P	**P**	**14 01 29.0**	**-0.6**
YAK	**Yakutsk**	**19.98**	**304**	*e*P	**P**	**14 01 28.0**	**-1.5**
YAK				pmax	pmax		
	comp=Z,21nm,1.1s						
YAK				pmax	pmax		
	comp=E,13nm,1.3s						
YAK	**Yakutsk**	**19.98**	**304**	P	**P**	**14 01 28.3**	**-1.2**
	comp=E,0.1nm,0.3s,baz=114,slow=8.6,SNR=8.4						
J19K	**Poorman**	**20.64**	**50**	P	**P**	**14 01 36.6**	**-0.1**
E19K	**Redstone River**	**20.73**	**40**	P	**P**	**14 01 37.4**	**-0.2**
E19K				IAmb	IAmb	14 01 43.2	
	comp=Z,6.3nm,0.8s						
L19K	**White Mountain**	**20.86**	**55**	P	**P**	**14 01 36.9**	**-2.2**
L19K				IAmb	IAmb	14 01 51.6	
	comp=Z,14nm,1.3s						
F20K	**Avaraart Lake**	**21.17**	**42**	P	**P**	**14 01 43.9**	**+1.5**
B20K	**Meade River**	**21.66**	**34**	P	**P**	**14 01 47.4**	**-0.2**
B20K				IAmb	IAmb	14 02 00.1	
	comp=Z,9.5nm,1.4s						
IMAR	**Indian Mountai**	**21.72**	**45**	P	**P**	**14 01 47.9**	**-0.4**
KLR	**Kul'dur**	**21.94**	**268**	P	**P**	**14 01 51.3**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=29,slow=8.7,SNR=5.6						
KLR				LR	LR	14 10 56.6	
	comp=Z,54nm,18.8s,baz=78,slow=38						
	comp=Z,1.2nm,0.6s						
H21K	**Melozitna Rive**	**22.05**	**46**	P	**P**	**14 01 50.7**	**-1.2**
SUA	**Susitna One**	**22.83**	**57**	P	**P**	**14 01 58.1**	**-2.2**
SUA				IAmb	IAmb	14 02 03.5	
	comp=Z,12nm,1.1s						
E22K	**Anaktuvuk Pass**	**22.89**	**40**	P	**P**	**14 01 56.1**	**-4.7**
E22K				IAmb	IAmb	14 02 02.7	
	comp=Z,9.2nm,1.4s						
CUT	**Chulitna**	**23.00**	**55**	P	**P**	**14 02 01.9**	**-0.1**
I23K	**Minto, Yukon-K**	**23.43**	**48**	P	**P**	**14 02 06.1**	**-0.1**
RND	**Reindeer**	**23.62**	**52**	P	**P**	**14 02 05.8**	**-2.4**
RND				IAmb	IAmb	14 02 24.2	
	comp=Z,14nm,1.4s						
RND	**Reindeer**	**23.62**	**52**	P	**P**	**14 02 05.8**	**-2.4**
RND				pmax	pmax		
	comp=Z,14nm,1.4s						
SML	**Sawmill**	**23.95**	**56**	P	**P**	**14 02 09.2**	**-2.1**
CCB	**Clear Creek Bu**	**24.08**	**49**	P	**P**	**14 02 12.8**	**+0.3**
CCB				IAmb	IAmb	14 02 15.1	
	comp=Z,12nm,1.2s						
H24K	**Noodor Dome**	**24.09**	**46**	P	**P**	**14 02 11.7**	**-0.9**
E24K	**Your Creek**	**24.10**	**41**	P	**P**	**14 02 12.9**	**+0.2**
E24K				IAmb	IAmb	14 02 14.9	
	comp=Z,4.5nm,0.6s						
D24K	**Happy Valley**	**24.18**	**38**	P	**P**	**14 02 13.0**	**-0.3**
F24K	**Squaw Lake**	**24.25**	**42**	P	**P**	**14 02 13.5**	**-0.5**
F24K				IAmb	IAmb	14 02 15.1	
	comp=Z,3.7nm,0.7s						
SCM	**Sheep Creek Mo**	**24.42**	**56**	P	**P**	**14 02 14.6**	**-1.1**
SCM	**Sheep Creek Mo**	**24.42**	**56**	P	**P**	**14 02 14.6**	**-1.1**
SCM				pmax	pmax		
	comp=Z,34nm,1.2s						
IL31		**24.48**	**49**	P	**P**	**14 02 16.1**	**+0.1**
ILAR	**Eielson Array**	**24.48**	**49**	P	**P**	**14 02 14.6**	**-1.5**
ILAR	**Eielson Array**	**24.48**	**49**	P	**P**	**14 02 14.6**	**-1.5**
ILAR	**Eielson Array**	**24.48**	**49**	P	**P**	**14 02 15.9**	**-0.2**
	comp=Z,7.1nm,0.9s,baz=256,slow=8.0,SNR=38						
ILAR				LR	LR	14 12 09.4	
	comp=Z,32nm,19.4s,baz=226,slow=38						
	comp=Z,7.1nm,0.9s						
D25K	**Kavik River**	**25.07**	**38**	P	**P**	**14 02 20.4**	**-1.0**
D25K				IAmb	IAmb	14 02 22.9	
	comp=Z,8.8nm,1.4s						
J25K	**Salcha River,**	**25.13**	**49**	P	**P**	**14 02 20.9**	**-1.1**
J25K				IAmb	IAmb	14 02 41.0	
	comp=Z,7.8nm,1.3s						
E25K	**Arctic Village**	**25.19**	**41**	P	**P**	**14 02 23.3**	**+0.8**
E25K				IAmb	IAmb	14 02 24.3	
	comp=Z,3.1nm,0.7s						
BMAR	**Burnt Mountain**	**25.51**	**43**	P	**P**	**14 02 25.6**	**+0.1**
N25K	**Chitina, Valde**	**25.74**	**56**	P	**P**	**14 02 25.1**	**-2.5**
N25K				IAmb	IAmb	14 02 28.6	
	comp=Z,4.9nm,0.8s						
K27K	**Chicken**	**26.60**	**50**	P	**P**	**14 02 33.3**	**-1.9**
MJB9	**Matsu-Tunnel**	**26.96**	**237**	P	**P**	**14 02 41.1**	**+2.3**
MJB9				IAmb	IAmb	14 02 44.3	
	comp=Z,5.0nm,0.7s						
MAJO	**Matsushiro**	**26.96**	**237**	P	**P**	**14 02 40.5**	**+1.7**
MAJO				IAmb	IAmb	14 02 43.3	
	comp=Z,5.0nm,0.7s						
MAJO	**Matsushiro**	**26.96**	**237**	P	**P**	**14 02 40.5**	**+1.7**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MJAR	**Matsushiro Arr**	**26.96**	**237**	P	**P**	**14 02 42.6**	**+3.8**
	comp=Z,1.6nm,0.6s,baz=28,slow=7.8,SNR=11						
	comp=Z,1.6nm,0.6s						
DAWY	**Dawson**	**27.77**	**50**	P	**P**	**14 02 45.8**	**0.0**
H29M	**Whitestone**	**27.97**	**45**	P	**P**	**14 02 45.5**	**-2.1**
L29M	**L29M**	**28.47**	**52**	P	**P**	**14 02 51.2**	**-0.9**
G30M	**tAoh Zraii Nji**	**28.77**	**43**	P	**P**	**14 02 52.7**	**-2.0**
F31M	**Tsiigehtchic**	**29.68**	**42**	P	**P**	**14 03 02.7**	**0.0**
F31M				IAmb	IAmb	14 03 14.0	
	comp=Z,4.2nm,1.1s						
INK	**Inuvik**	**29.68**	**41**	P	**P**	**14 03 03.3**	**+0.6**
INK	**Inuvik**	**29.68**	**41**	P	**P**	**14 03 03.3**	**+0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KSRS	**Korea Array**	**31.54**	**251**	P	**P**	**14 03 23.4**	**+3.9**
	comp=Z,0.7nm,0.6s,baz=37,slow=8.6,SNR=5.3						
KSRS				LR	LR	14 17 34.1	
	comp=Z,15nm,18.4s,baz=275,slow=39						
	comp=Z,0.7nm,0.6s						
C36M	**Paulatuk**	**32.94**	**38**	P	**P**	**14 03 31.4**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**35.65**	**179**	T	T	14 41 15.2	
	baz=360,slow=76,SNR=260						
H11N3	**WAKE ISLAND Hy**	**35.66**	**179**	T	T	14 41 18.1	
	baz=360,slow=76,SNR=251						
H11N1	**WAKE ISLAND Hy**	**35.66**	**179**	T	T	14 41 14.3	
	baz=360,slow=76,SNR=219						
H11S1	**WAKE ISLAND Hy**	**36.86**	**180**	T	T	14 42 41.8	
	baz=353,slow=74,SNR=15						
H11S3	**WAKE ISLAND Hy**	**36.88**	**180**	T	T	14 42 47.5	
	baz=353,slow=74,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**36.88**	**180**	T	T	14 42 29.4	
	baz=353,slow=74,SNR=21						
SONM	**Songino Array**	**37.00**	**284**	P	**P**	**14 04 07.0**	**+0.3**
SONM				IAmb	IAmb	14 04 11.5	
	comp=Z,2.2nm,0.7s						
SONM	**Songino Array**	**37.00**	**284**	P	**P**	**14 04 07.0**	**+0.3**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**37.00**	**284**	P	**P**	**14 04 07.0**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=62,slow=7.4,SNR=16						
SONM				LR	LR	14 19 24.0	
	comp=Z,26nm,18.5s,baz=240,slow=37						
	comp=Z,3.2nm,0.7s						
YKA	**Yellowknife Ar**	**38.86**	**47**	P	**P**	**14 04 22.7**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=298,slow=8.3,SNR=9.5						
	comp=Z,0.9nm,0.9s						
RES	**Resolute Bay**	**39.70**	**24**	LR	LR	14 23 50.8	
	comp=Z,28nm,18.3s,baz=306,slow=41						
NEW	**Newport**	**45.50**	**66**	LR	LR	14 24 01.8	
	comp=Z,28nm,18.4s,baz=326,slow=36						
KURK	**Kurchatov**	**49.62**	**303**	P	**P**	**14 05 47.5**	**-0.8**
KURBB	**Kurchatov Arra**	**49.73**	**303**	P	**P**	**14 05 47.5**	**-1.6**
	comp=Z,1.5nm,0.7s,baz=53,slow=7.8,SNR=11						
	comp=Z,1.5nm,0.7s						
MKAR	**Makanchi Array**	**50.46**	**298**	P	**P**	**14 05 53.0**	**-1.8**
MKAR	**Makanchi Array**	**50.46**	**298**	P	**P**	**14 05 53.0**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=60,slow=5.1,SNR=6.6						
	comp=Z,0.5nm,0.5s						
NVAR	**Mina Array Bea**	**51.48**	**76**	P	**P**	**14 06 04.2**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=288,slow=9.2,SNR=6.5						
	comp=Z,0.5nm,0.7s						
BVAR	**Borovoye Array**	**51.81**	**310**	P	**P**	**14 06 03.9**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=38,slow=17,SNR=7.1						
	comp=Z,1.5nm,0.7s						
PDAR	**Pinedale Array**	**53.12**	**66**	P	**P**	**14 06 15.7**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=308,slow=5.5,SNR=5.4						
	comp=Z,0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**62.27**	**262**	P	**P**	**14 07 22.4**	**+3.2**
	comp=Z,0.6nm,0.6s,baz=24,slow=6.2,SNR=4.9						
CMAR				LR	LR	14 37 34.8	
	comp=Z,16nm,18.1s,baz=80,slow=39						
	comp=Z,0.6nm,0.6s						
TX31	**Lajitas Ar. Si**	**66.31**	**72**	P	**P**	**14 07 46.0**	**+0.2**
TX31				IAmb	IAmb	14 07 53.5	
	comp=Z,2.7nm,1.1s						
TXAR	**Lajitas Array**	**66.31**	**72**	P	**P**	**14 07 46.6**	**+0.9**
	comp=Z,1.9nm,0.5s,baz=300,slow=5.1,SNR=56						
	comp=Z,1.9nm,0.5s						
WRA	**Warramunga Arr**	**79.90**	**211**	P	**P**	**14 09 08.8**	**+2.9**
	comp=Z,0.7nm,0.7s,baz=25,slow=5.8,SNR=3.7						
	comp=Z,0.7nm,0.7s						
MMAI	**Mount Meron Ar**	**82.48**	**320**	LR	LR	14 49 38.1	
	comp=Z,19nm,18.6s,baz=192,slow=38						
ASAR	**Alice Springs**	**83.55**	**210**	P	**P**	**14 09 28.6**	**+3.5**
	comp=Z,0.8nm,0.7s,baz=16,slow=6.1,SNR=10						
	comp=Z,0.8nm,0.7s						

*IDC **23** 14:06:17.1±1.2,29.°88N×95.°53E,h0km,mb3.5/6, mbtmp3.5/8,ML3.3/2,MS3.4/2,Error ellipse: s-maj=56.0km s-min=19.3km az=58.0*
ISC 23 14:06:22.5±1.3,**30.°0N**±0.°2×**95.°7E**±0.°2,**h35**km,**n10,** σ0.6**s7/8,mb3.5**/6,**Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**19.65**	**22**	P	**Pn**	**14 10 50.2**	**+0.3**
	0.2nm,0.3s,baz=212,slow=9.1,SNR=6.7						
	1.3nm,0.8s						
MKAR	**Makanchi Array**	**19.75**	**332**	P	**P**	**14 10 49.4**	**+0.1**
	0.1nm,0.3s,baz=140,slow=10,SNR=2.7						
	0.3nm,0.5s						
AAK	**Ala-Archa**	**21.17**	**312**	P	**P**	**14 11 05.4**	**+0.5**
	0.7nm,0.5s,baz=55,slow=12,SNR=1.9						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**24.31**	**333**	P	**P**	**14 11 35.7**	**-0.9**
	1.6nm,0.8s,baz=144,slow=10,SNR=12						
	1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**25.22**	**345**	P	**P**	**14 11 44.3**	**-0.5**
	1.4nm,0.6s,baz=158,slow=9.4,SNR=7.7						
	1.4nm,0.6s						
JOW	**Kunigami**	**28.79**	**88**	LR	LR	14 24 53.8	
	comp=Z,40nm,19.4s,baz=182,slow=39						
BVAR	**Borovoye Array**	**29.54**	**328**	P	**P**	**14 12 23.1**	**-0.5**
	0.7nm,0.7s,baz=123,slow=11,SNR=3.5						
	0.7nm,0.7s						
AKASG	**Malin Array Be**	**52.84**	**313**	LR	LR	14 43 46.4	
	comp=Z,48nm,18.9s,baz=216,slow=43						
WRA	**Warramunga Arr**	**62.04**	**138**	P	**P**	**14 16 39.8**	**+0.2**
	0.2nm,0.7s,baz=333,slow=7.3,SNR=1.5						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**64.75**	**141**	P	**P**	**14 16 57.4**	**-0.1**
	0.2nm,0.5s,baz=325,slow=6.2,SNR=4.7						
	0.2nm,0.5s						

*IDC **23** 14:10:41.8±0.7,40.°79N×48.°40E,h0km,mb3.9/13, mbtmp4.0/24,ML4.0/11,MS3.0/8,Error ellipse: s-maj=13.3km s-min=7.9km az=171.0*
*AZER **23** 14:10:42.0±0.1,40.°78N×48.°35E,h7km, Error ellipse: s-maj=0.9km s-min=0.7km az=0.0*
*TIF **23** 14:10:43.9,40.°78N×48.°31E,h18km±1km*
*MOS **23** 14:10:43.8,40.°86N×48.°21E,h2km,MPVA4.9*
*DRS **23** 14:10:44.0,40.°71N×48.°32E,h16km*
*TEH **23** 14:10:44.5,40.°79N×48.°33E,h8km,ML3.9*
*NNC **23** 14:10:46.7±6.0,41.°02N×48.°96E,h2km±42km,mb4.0, Error ellipse: s-maj=47.7km s-min=20.7km az=90.0*
ISC 23 14:10:43.7±0.7,**40.°78N**±0.°01×**48.°34E**±0.°01,**h17**km±4km, **n221,**σ1.**91**/309,**mb4.1**/24,**MS3.1**/3,**17C-7D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IML	**Ismayili**	**0.12**	**276**	P	**Pg**	**14 10 47.2**	**-0.3**
	SNR=469						
IML				S	**Sg**	**14 10 50.0**	**0.0**
IML	**Ismayili**	**0.12**	**276**	Pg	**Pg**	**14 10 47.2**	**-0.3**
PQL	**Pirkuli**	**0.19**	**87**	P	**Pg**	**14 10 48.2**	**-0.3**
	SNR=507						
PQL				S	**Sg**	**14 10 52.3**	**+0.5**
PQL	**Pirkuli**	**0.19**	**87**	Pg	**Pg**	**14 10 48.2**	**-0.3**
QBL	**Gabala**	**0.42**	**294**	P	**Pg**	**14 10 52.7**	**+0.5**
	SNR=245						
QBL				S	**Sb**	**14 11 00.2**	**+1.5**
QBL	**Gabala**	**0.42**	**294**	Pg	**Pg**	**14 10 52.8**	**+0.6**
XNQ	**Khinaliq**	**0.42**	**339**	P	**Pg**	**14 10 52.4**	**0.0**
	SNR=411						
XNQ				S	**Sg**	**14 10 59.1**	**+0.9**
XNQ	**Khinaliq**	**0.42**	**339**	Pg	**Pg**	**14 10 52.4**	**0.0**
KDMR	**Kurdemir**	**0.42**	**196**	P	**Pg**	**14 10 53.0**	**+0.8**
	SNR=25						
KDMR				S	**Sn**	**14 11 01.4**	**-1.0**
KDMR	**Kurdemir**	**0.42**	**196**	Pg	**Pg**	**14 10 53.0**	**+0.8**
ATGJ	**Altiaghaj**	**0.46**	**80**	P	**Pg**	**14 10 53.5**	**+0.5**
	SNR=65						
ATGJ				S	**Sb**	**14 11 01.2**	**+1.1**
ATGJ	**Altiaghaj**	**0.46**	**80**	Pg	**Pg**	**14 10 53.5**	**+0.5**
SIZA	**Siyzn**	**0.52**	**55**	P	**Pb**	**14 10 54.8**	**+0.5**
	SNR=180						
SIZA				S	**Sn**	**14 11 04.1**	**-0.9**
SIZA	**Siyzn**	**0.52**	**55**	Pg	**Pb**	**14 10 54.9**	**+0.5**
GBS	**Qobustan**	**0.52**	**118**	P	**Pb**	**14 10 55.5**	**+1.1**
	SNR=22						
GBS				S	**Sn**	**14 11 05.7**	**+0.7**
GBS	**Qobustan**	**0.52**	**118**	Pg	**Pb**	**14 10 55.5**	**+1.1**
QUBA	**Quba, Azerbaij**	**0.59**	**11**	P	**Pb**	**14 10 56.5**	**+1.0**
	SNR=144						
QUBA				S	**Sn**	**14 11 05.9**	**-0.7**
QUB	**Quba**	**0.60**	**1**	Pg	**Pb**	**14 10 56.5**	**+0.7**
ZRD	**Zardab**	**0.71**	**225**	P	**Pb**	**14 10 58.7**	**+1.1**
	SNR=298						
ZRD				S	**Sn**	**14 11 11.2**	**+1.7**
ZRD	**Zardab**	**0.71**	**225**	Pg	**Pb**	**14 10 58.6**	**+1.1**
QSAR	**Qusar**	**0.74**	**355**	P	**Pb**	**14 10 58.9**	**+0.8**
	SNR=184						
QSAR				S	**Sb**	**14 11 09.7**	**+1.7**
QSAR	**Qusar**	**0.74**	**355**	Pg	**Pb**	**14 10 59.0**	**+0.8**
AKT	**Akhty**	**0.84**	**327**	*e*PG	**Pb**	**14 11 00.0**	**+0.1**
AKT	**Akhty**	**0.84**	**327**	*e*Pg	**Pb**	**14 10 60.0**	**+0.1**
AKT				*e*Sg	**Sb**	**14 11 11.7**	**+0.8**
KSMR	**Kasumkent**	**0.84**	**349**	*e*PG	**Pb**	**14 11 00.6**	**+0.7**
KSMR	**Kasumkent**	**0.84**	**349**	*e*Pg	**Pb**	**14 11 00.6**	**+0.7**
KSMR				*e*Sg	**Sg**	**14 11 12.5**	**+1.4**
SAAT	**Saatly**	**0.92**	**176**	P	**Pb**	**14 11 01.4**	**+0.1**
	SNR=16						
SAAT				S	**Sn**	**14 11 16.2**	**+1.5**
SAAT	**Saatly**	**0.92**	**176**	Pg	**Pb**	**14 11 01.3**	**+0.1**
MNGR	**Mingechevir, A**	**0.95**	**270**	P	**Pg**	**14 11 02.8**	**+0.6**
	SNR=26						
MNGR				S	**Sn**	**14 11 16.9**	**+1.4**
MNGR	**Mingechevir, A**	**0.95**	**270**	Pg	**Pg**	**14 11 02.9**	**+0.7**
MNGR	**Mingechevir, A**	**0.95**	**270**	PG	**Pg**	**14 11 02.9**	**+0.7**
SEKA	**Sheki**	**0.96**	**297**	P	**Pb**	**14 11 01.7**	**-0.3**
	SNR=107						
SEKA				S	**Sg**	**14 11 16.3**	**+1.1**
SEKA	**Sheki**	**0.96**	**297**	Pg	**Pb**	**14 11 01.9**	**-0.1**
SEKA	**Sheki**	**0.96**	**297**	PG	**Pb**	**14 11 01.9**	**-0.1**
ALIB	**Äli-Bayra**	**0.97**	**148**	P	**Pn**	**14 11 04.5**	**+1.9**
	SNR=56						
ALIB				S	**Sn**	**14 11 18.6**	**+2.8**
ALIB	**Äli-Bayra**	**0.97**	**148**	Pg	**Pn**	**14 11 04.4**	**+1.9**
BRDA	**Brd**	**1.02**	**240**	P	**Pg**	**14 11 04.4**	**+0.8**
	SNR=20						
BRDA				S	**Sn**	**14 11 20.5**	**+3.2**
GOBA	**Gobu**	**1.13**	**109**	P	**Pg**	**14 11 08.3**	**+2.8**
	SNR=16						
GOBA				S	**Sg**	**14 11 23.0**	**+2.8**
AGDM	**Agdam**	**1.16**	**235**	P	**Pn**	**14 11 05.9**	**+0.7**
	SNR=349						
AGDM				S	**Sg**	**14 11 23.9**	**+2.8**
BLQ	**Beylaqan**	**1.22**	**210**	P	**Pn**	**14 11 06.0**	**+0.1**
	SNR=46						
DRN	**Derbent**	**1.25**	**360**	*e*PG	**Pg**	**14 11 08.1**	**+0.3**
DRN				*e*S	**Sg**	**14 11 25.7**	**+1.6**
DRN	**Derbent**	**1.25**	**360**	*e*Pg	**Pg**	**14 11 08.1**	**+0.3**
DRN				*e*Sg	**Sg**	**14 11 25.7**	**+1.6**
NDR	**Nardaran**	**1.27**	**99**	P	**Pg**	**14 11 09.4**	**+1.2**
	SNR=9.4						
NDR				S	**Sg**	**14 11 27.0**	**+2.3**
URKR	**Urkarakh**	**1.48**	**339**	*e*PN	**Pg**	**14 11 13.1**	**+0.8**
URKR	**Urkarakh**	**1.48**	**339**	*e*Pg	**Pg**	**14 11 13.1**	**+0.8**
URKR				*e*Sg	**Sg**	**14 11 34.2**	**+2.6**
QRD	**Qoradiz**	**1.53**	**211**	Pn	**Pn**	**14 11 11.0**	**+0.7**
	SNR=96						
QRD				Sn	**Sb**	**14 11 31.6**	**+0.8**
VSHL	**Vashlovani**	**1.54**	**288**	P	**Pb**	**14 11 12.4**	**+0.6**
GLBA	**Clilabad**	**1.54**	**178**	Pn	**Pn**	**14 11 10.7**	**+0.4**
	SNR=44						
GLBA				Sn	**Sn**	**14 11 31.1**	**+1.1**
GANJ	**Ganja**	**1.54**	**266**	Pn	**Pn**	**14 11 10.3**	**-0.2**
	SNR=126						
GANJ				Sn	**Sn**	**14 11 31.0**	**+0.9**
GANJ	**Ganja**	**1.54**	**266**	PN	**Pn**	**14 11 10.2**	**-0.2**
ZKTA	**Zakatala**	**1.55**	**304**	Pn	**Pn**	**14 11 11.9**	**+1.3**
	SNR=185						
ZKTA				Sn	**Sg**	**14 11 34.0**	**+0.1**
SGKR	**Sergokala**	**1.75**	**343**	*e*PN	**Pb**	**14 11 17.0**	**+1.5**
SGKR	**Sergokala**	**1.75**	**343**	*e*Pg	**Pb**	**14 11 17.0**	**+1.5**
SGKR				*e*Sg	**Sg**	**14 11 41.3**	**+1.0**
YRD	**Yardimli**	**1.86**	**182**	Pn	**Pn**	**14 11 15.2**	**+0.1**
	SNR=347						
YRD				Sn	**Sb**	**14 11 40.2**	**-0.3**
GNBR	**Gunib**	**1.91**	**328**	*e*PN	**Pg**	**14 11 20.3**	**-0.1**
GNBR	**Gunib**	**1.91**	**328**	*e*Pg	**Pg**	**14 11 20.3**	**-0.1**
GNBR				*e*Sg	**Sg**	**14 11 46.6**	**+1.4**
GDB	**GEDABAY**	**1.97**	**269**	Pn	**Pn**	**14 11 17.0**	**+0.5**
	SNR=68						
GDB				Sn	**Sn**	**14 11 42.3**	**+1.5**
GRMI	**Germi**	**2.00**	**190**	Pn	**Pn**	**14 11 17.3**	**+0.4**
ARKR	**Arakani**	**2.08**	**331**	*i*PN	**Pb**	**14 11 23.0**	**+1.9**
ARKR				*e*S	**Sg**	**14 11 51.1**	**+0.4**
ARKR	**Arakani**	**2.08**	**331**	*i* Pg	**Pb**	**14 11 23.0**	**+1.9**
ARKR				*e*Sg	**Sg**	**14 11 51.1**	**+0.4**
LKRN	**Lenkeran, Azer**	**2.10**	**171**	Pn	**Pn**	**14 11 17.7**	**-0.3**
	SNR=7.1						
LKRN				Sn	**Sb**	**14 11 47.2**	**+0.2**
LKRN	**Lenkeran, Azer**	**2.10**	**171**	PN	**Pn**	**14 11 17.7**	**-0.3**
LRK	**Lerik**	**2.13**	**180**	Pn	**Pn**	**14 11 19.4**	**+0.7**
	SNR=33						
LRK				Sn	**Sb**	**14 11 48.5**	**+0.2**
XNZR	**Khunzakh**	**2.14**	**326**	*e*Pg	**Pb**	**14 11 23.7**	**+1.5**
XNZR				*e*Sg	**Sg**	**14 11 53.1**	**+0.4**
HNZR	**Khunzah**	**2.15**	**326**	*e*PN	**Pb**	**14 11 23.7**	**+1.3**
HNZR				*e*S	**Sg**	**14 11 53.1**	**+0.1**
BUJR	**Buynaksk**	**2.24**	**336**	*e*PN	**Pb**	**14 11 24.4**	**+0.7**
BUJR				*e*S	**Sg**	**14 11 55.4**	**-0.4**
BUJR	**Buynaksk**	**2.24**	**336**	*e*Pg	**Pb**	**14 11 24.4**	**+0.7**
BUJR				*e*Sg	**Sg**	**14 11 55.4**	**-0.4**
ASTR	**Astara**	**2.25**	**171**	Pn	**Pn**	**14 11 20.1**	**0.0**
	SNR=14						
ASTR				Sn	**Sb**	**14 11 51.4**	**+0.1**
UNCR	**Uncukul**	**2.25**	**330**	*e*PN	**Pb**	**14 11 24.4**	**+0.5**
UNCR				*e*S	**Sg**	**14 11 54.6**	**-1.5**
UNCR	**Uncukul**	**2.25**	**330**	*e*Pg	**Pb**	**14 11 24.4**	**+0.5**
UNCR				*e*Sg	**Sg**	**14 11 54.6**	**-1.5**
MAK	**Makhachkala**	**2.27**	**344**	*i*PN	**Pb**	**14 11 24.1**	**-0.1**
MAK				*e*		14 11 29.3	
MAK				*e*		14 11 58.9	
MAK				*e*		14 12 03.2	
MAK				pmax	pmax		
	comp=Z,708nm,0.4s						
MAK				MLR	MLR		
	comp=Z,286nm,5.0s						
MAK	**Makhachkala**	**2.27**	**344**	*e*Pg	**Pb**	**14 11 25.1**	**+0.9**
MAK				*e*Sg	**Sg**	**14 11 56.2**	**-0.3**
QZX	**Qazax, Azerbai**	**2.27**	**278**	Pn	**Pn**	**14 11 21.5**	**+1.1**

ARNR Ardon 3.86 310 *e*Pn **Pn** **14 11 46.1 +3.8**
KORR Kora 3.93 307 *e*PN **Pb** **14 11 50.7 -1.9**
KORR *e*S **Sn** **14 12 33.4 +4.3**
KORR Kora 3.93 307 *e*Sn **Sn** **14 12 33.4 +4.3**
ONI Oni 4.08 298 P **Pn** **14 11 48.6 +3.2**
ONI Oni 4.08 298 PN **Pn** **14 11 48.6 +3.2**
DIGR Digorskoe uzhe 4.14 302 *e*PN **Pn** **14 11 50.0 +3.7**
DIGR *e*S **Sn** **14 12 39.2 +4.8**
DIGR Digorskoe uzhe 4.14 302 *e*Pn **Pn** **14 11 50.0 +3.7**
DIGR *e*Sn **Sn** **14 12 39.2 +4.8**
JIR1 Jirandeh 4.22 164 Pn **Pn** **14 11 46.8 -0.7**
TKB Tkibuli 4.31 293 P **Pn** **14 11 51.5 +3.0**
TKB Tkibuli 4.31 293 PN **Pn** **14 11 51.5 +3.0**
KBTC Kuba-Taba 4.75 311 *e*PN Pn 14 12 00.9 +6.3
KBZ Khabaz 5.00 308 Pn **Pn** **14 12 00.9 +3.0**
comp=Z,2.4nm,0.9s,baz=167,slow=16,SNR=2.3
KBZ Sn **Sn** **14 13 00.0 +4.7**
comp=Z,1.7nm,0.3s,baz=299,slow=19,SNR=3.4
MZPU Pul - Mazandar 5.02 149 Pn **Pn** **14 11 58.4 0.0**
PYA1 Pyatigorsk 5.08 312 *i* PN **Pn** **14 12 00.1 +1.0**
SHA1 Shidzhatmaz 5.15 307 *e*PN **Pn** **14 12 03.9 +3.7**
SHA1 *e*S **Sn** **14 13 03.9 +4.5**
SHA1 Shidzhatmaz 5.15 307 *e*Pn **Pn** **14 12 03.9 +3.7**
SHA1 *e*Sn **Sn** **14 13 03.9 +4.5**
BEYR Belyy Ugol+ 5.21 310 *e*P Pn 14 12 08.0 +7.1
KIV0 Kislovodsk Arr 5.25 309 *e*Pn **Pn** **14 12 02.9 +1.4**
KIV0 *e*Sn **Sn** **14 13 03.4 +1.8**
KVAR Kislovodsk Arr 5.25 309 Pn **Pn** **14 12 04.6 +3.1**
baz=134,slow=15
KVAR Sn **Sn** **14 13 02.7 +1.1**
baz=241,slow=16
comp=Z,2.8nm,0.7s
KIV Kislovodsk 5.25 309 *e*P Pn 14 12 09.0 +7.5
KIV *e*S **Sb** **14 13 10.7 -7.3**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,33nm,9.0s
KIV Kislovodsk 5.25 309 *i* Pn **Pn** **14 12 03.9 +2.4**
KIV *e*Sn **Sn** **14 13 03.9 +2.1**
IPRN Peran 5.51 144 Pn **Pn** **14 12 05.0 -0.1**
DOMR Dombai 5.59 299 *i* P **Pn** **14 12 07.2 +0.9**
DOMR pmax pmax
comp=Z,5.0nm,0.1s
DOMR MLR MLR
comp=Z,138nm,10.0s
ALER Alexandrovskoy 5.64 317 *i* P **Pn** **14 12 08.4 +1.7**
ALER Alexandrovskoy 5.64 317 *e*Pn **Pn** **14 12 07.5 +0.7**
ALER *e*Sn **Sn** **14 13 13.0 +1.9**
GOF Gofitskoye 5.78 319 *ce*P **Pb** **14 12 26.4 +2.4**
GOF *e*S **Sn** **14 13 17.5 +3.0**
ARXR Arkhyz 5.94 300 *i* P **Pn** **14 12 11.9 +0.9**
IGLO Ghaloghah 6.06 133 Pn **Pn** **14 12 13.7 +1.0**
MRVT Maraveh tapeh 6.78 115 Pn **Pn** **14 12 22.5 +0.1**
GUZR Guzerip!' 6.88 301 *i* P **Pn** **14 12 25.7 +1.8**
SOC Sochi 6.99 296 *i* P **Pn** **14 12 25.9 +0.6**
GEYT Alibeck 8.09 107 Pn **Pn** **14 12 39.7 -0.8**
comp=Z,0.8nm,0.3s,baz=287,slow=12,SNR=6.9
GEYT Sn **Sn** **14 14 08.5 -3.1**
comp=Z,0.2nm,0.3s,baz=278,slow=20,SNR=1.2
comp=Z,3.5nm,0.5s
BELG Belogornoye 11.63 358 *i* P **Pn** **14 13 26.8 -1.9**
BELG pmax pmax
comp=Z,4.0nm,0.6s
BELG Belogornoye 11.63 358 Pn **Pn** **14 13 27.2 -1.5**
comp=Z,4.1nm,0.3s,baz=337,slow=2.5,SNR=16
BELG Sn **Sn** **14 15 34.5 -3.5**
comp=Z,0.6nm,0.3s,baz=238,slow=22,SNR=1.9
BELG LR LR 14 20 06.7
comp=Z,118nm,18.8s,baz=156,slow=49
comp=Z,26nm,0.7s
AKTO Aktyubinsk 11.78 32 Pn **Pn** **14 13 29.6 -1.3**
comp=Z,0.6nm,0.3s,baz=208,slow=10,SNR=15
AKTO Sn **Sn** **14 15 38.0 -4.0**
comp=Z,0.3nm,0.3s,baz=36,slow=21,SNR=1.7
AKTO LR LR 14 19 14.3
comp=Z,111nm,18.2s,baz=52,slow=44
comp=Z,3.5nm,0.5s
AKTO Aktyubinsk 11.78 32 ⇓Pn **Pn** **14 13 28.8 -2.1**
comp=Z,4.7nm,0.7s
AKTO ⇑Sn **Sn** **14 15 37.6 -4.3**
comp=Z,9.6nm,0.9s
AB31 Akbulak array 11.79 40 P **Pn** **14 13 28.2 -2.7**
AB31 14 15 38.3
AB31 Akbulak array 11.79 40 Pn **Pn** **14 13 28.3 -2.7**
comp=Z,1.0nm,0.5s,baz=223,slow=13,SNR=26
AB31 ⇑Sn **Sn** **14 15 38.3 -3.7**
comp=Z,3.2nm,0.6s,baz=225,slow=22
MMAI Mount Meron Ar 12.92 237 LR LR 14 19 16.9
comp=Z,26nm,19.3s,baz=26,slow=40
EIL Elat 15.55 229 LR LR 14 21 08.7
comp=Z,24nm,18.2s,baz=58,slow=40
OBN Obninsk 16.33 335⇑ *e*P **Pn** **14 14 29.4 -2.6**
OBN *e*S **Sn** **14 17 32.4 -0.3**
OBN pmax pmax
comp=Z,15nm,0.5s
OBN MLR MLR
comp=Z,52nm,6.0s
OBN Obninsk 16.33 335 Pn **Pn** **14 14 30.3 -1.7**
comp=Z,7.7nm,0.3s,baz=29,slow=23,SNR=3.8
comp=Z,24nm,0.4s
MOS Moscow 16.55 338 *e*P **Pn** **14 14 35.6 +0.8**
AKASG Malin Array Be 16.58 313 Pn **Pn** **14 14 33.7 -1.6**
comp=Z,0.4nm,0.3s,baz=120,slow=12,SNR=3.1
comp=Z,0.5nm,0.4s
AKBB Malin Array Si 16.58 313 *i* P **Pn** **14 14 36.2 +1.0**
AKBB pmax pmax
comp=Z,36nm,3.7s
KIEV Kiev 16.59 313 P **P** **14 14 39.0 +1.3**
KK31 Karatay Array 16.65 75 *i* P **Pn** **14 14 33.9 -2.4**
KK31 Karatay Array 16.65 75 ⇑P **Pn** **14 14 37.9 +1.6**
comp=Z,2.4nm,0.6s,baz=269,slow=15,SNR=39
ARU Arti 17.02 20*d i*P **Pn** **14 14 38.1 -2.7**
ARU S **Sn** **14 17 45.9 -3.6**
ARU pmax pmax
comp=Z,54nm,5.2s
ARU Arti 17.02 20 Pn **Pn** **14 14 37.4 -3.4**
baz=220,slow=8.1,SNR=8.5
comp=Z,4.9nm,0.4s
KIRV Kirov 17.84 2*ce*P **Pn** **14 14 50.4 -0.4**
KIRV Kirov 17.84 2 P **Pn** **14 14 51.3 +0.5**
comp=Z,3.3nm,0.3s,baz=138,slow=14,SNR=8.2
SVE Sverdlovsk 17.94 22 *e*P **Pn** **14 14 49.0 -3.1**
SVE *e*S **Sn** **14 18 06.3 -5.3**
SVE pmax pmax
comp=Z,28nm,0.9s
OTUK Ortayu 18.62 58 P **P** **14 14 58.7 -1.6**
OTUK Ortayu 18.62 58 ⇓P **P** **14 14 58.7 -1.6**
comp=Z,9.9nm,1.2s
BRVK Borovoye 19.28 43*ce*P **P** **14 15 07.6 +0.2**
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 19.28 43 ⇓P **P** **14 15 06.4 -1.0**
comp=Z,5.1nm,0.7s
BVA0 Borovoye Array 19.32 43 *i* P **P** **14 15 07.9 0.0**
BVA0 Borovoye Array 19.32 43 P **P** **14 15 07.9 0.0**
comp=Z,8.1nm,0.8s,baz=236,slow=13,SNR=26
BVAR Borovoye Array 19.32 43 P **P** **14 15 07.9 0.0**
comp=Z,0.1nm,0.3s,baz=243,slow=16,SNR=20
comp=Z,7.4nm,0.7s
MNK Minsk 19.35 322 *i* P **P** **14 15 07.1 -1.1**
comp=E,3.0nm,0.8s
MNK *i* P **P** **14 15 07.1 -1.1**
comp=N,14nm,0.8s
MNK *i* P **P** **14 15 07.1 -1.1**
comp=Z,10.0nm,0.7s,baz=126
MNK *i* PPP PPP 14 15 28.9
MNK *i* S **Sn** **14 18 45.2 -0.6**
MNK *i* SS **SnSn** **14 19 01.1 +1.3**
MNK *i* SSS SSS 14 19 14.1
MNK *i* LQ LQ 14 20 45.2
MNK *i* LR LR 14 22 23.5
MNK *i* LRM MLR 14 23 12.8
comp=N,83nm,17.0s
MNK *i* LRM MLR 14 23 55.2
comp=E,68nm,22.1s
MNK *i* LRM MLR 14 24 07.0
comp=Z,49nm,17.8s
MNK Minsk 19.35 322 *i* P **P** **14 15 07.1 -1.1**
MNK *i* S **Sn** **14 18 45.2 -0.6**
MNK pmax pmax
comp=Z,10.0nm,0.7s
MNK pmax pmax
comp=N,14nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK MLR MLR
comp=N,83nm,17.0s
MNK MLR MLR
comp=E,68nm,22.0s
MNK MLR MLR
comp=Z,49nm,18.0s
AAK Ala-Archa 19.59 76*ce*P **P** **14 15 12.0 +0.9**
AAK pmax pmax
comp=Z,11nm,1.7s
AAK Ala-Archa 19.59 76 P **P** **14 15 11.6 +0.5**
comp=Z,0.3nm,0.3s,baz=267,slow=7.9,SNR=7.9
AAK LR LR 14 23 42.5
comp=Z,48nm,19.7s,baz=258,slow=40
comp=Z,2.8nm,0.6s
TKM2 Tokmak 2 20.39 75 *i* P **P** **14 15 19.9 +0.1**
TKM2 pmax pmax
comp=Z,3.0nm,0.7s
TKM2 Tokmak 2 20.39 75 ⇓P **P** **14 15 19.9 +0.1**
comp=Z,3.3nm,0.7s
KLMR Klimovskoe 20.82 348 *e*P **P** **14 15 20.8 -3.3**
KLMR AMP 14 15 25.7
comp=Z,31nm,1.1s
KLMR Klimovskoe 20.82 348 *e*P **P** **14 15 20.8 -3.3**
KLMR pmax pmax
comp=Z,31nm,1.1s
PRGR Permogore 20.95 356 *e*P **P** **14 15 23.3 -2.2**
PRGR *e*S **S** **14 19 15.7 -2.4**
PRGR pmax pmax
comp=Z,24nm,0.5s
KSH Kashi 21.13 84 P **P** **14 15 26.3 -1.5**
KSH PP **PnPn** **14 15 49.8 +2.8**
KSH pmax pmax
comp=Z,4.0nm,0.7s
KURBB Kurchatov Arra 23.12 55 P **P** **14 15 48.9 +0.2**
comp=Z,2.6nm,0.8s,baz=260,slow=9.0,SNR=12
comp=Z,2.6nm,0.8s
KURBB Kurchatov Arra 23.12 55 ⇑P **P** **14 15 48.9 +0.2**
comp=Z,3.0nm,0.8s
KURK Kurchatov 23.20 54 *i* P **P** **14 15 48.6 -0.9**
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov 23.20 54 ⇓P **P** **14 15 49.5 0.0**
comp=Z,5.9nm,1.1s
PDGK Podgornoye 23.20 73 P **P** **14 15 49.4 -0.4**
PDGK Podgornoye 23.20 73 ⇑P **P** **14 15 49.4 -0.4**
comp=Z,2.6nm,0.8s
FINES FINESS Array B 24.73 334 P **P** **14 16 03.7 -0.1**
comp=Z,2.9nm,0.5s,baz=143,slow=9.8,SNR=20
comp=Z,2.9nm,0.5s
MAKZ Makanchi 24.89 65 P **P** **14 16 05.7 +0.2**
MAKZ Makanchi 24.89 65 ⇑P **P** **14 16 05.7 +0.2**
comp=Z,4.2nm,0.7s
MK31 Makanchi Array 25.10 65 *i* P **P** **14 16 07.8 +0.4**
MK31 pmax pmax
comp=Z,9.0nm,0.7s
MK31 Makanchi Array 25.10 65 ⇑P **P** **14 16 07.9 +0.4**
comp=Z,8.9nm,0.7s,baz=268,slow=7.0,SNR=42
MKAR Makanchi Array 25.10 65 P **P** **14 16 08.2 +0.7**
comp=Z,8.6nm,0.7s,baz=271,slow=6.9,SNR=56
comp=Z,8.6nm,0.7s
ZALV Zalesovo Beam 27.66 49 P **P** **14 16 30.4 0.0**
comp=Z,0.5nm,0.5s,baz=280,slow=8.3,SNR=2.6
ZALV LR LR 14 29 14.3
comp=Z,56nm,21.2s,baz=272,slow=40
comp=Z,0.5nm,0.5s
DGZ Jazzator, Alta 28.66 59 *i* P **P** **14 16 39.8 +0.3**
DGZ pmax pmax
comp=Z,4.0nm,1.1s
HFS Hagfors 28.84 324 P **P** **14 16 40.6 -0.3**
comp=Z,4.4nm,0.8s,baz=119,slow=11,SNR=7.0
comp=Z,4.4nm,0.8s
NOA NORSAR Array B 30.34 324 LR LR 14 29 38.6
comp=Z,20nm,21.1s,baz=350,slow=38
ARCES ARCESS Array B 31.22 345 P **P** **14 17 02.3 +0.5**
comp=Z,2.2nm,0.8s,baz=153,slow=8.1,SNR=8.1
comp=Z,2.2nm,0.8s
ESDC Sonseca Array 39.46 286 P **P** **14 18 14.5 +1.5**
comp=Z,0.3nm,0.6s,baz=66,slow=8.5,SNR=1.9
comp=Z,0.3nm,0.6s
SONM Songino Array 41.28 60 P **P** **14 18 28.7 +0.6**
comp=Z,1.3nm,0.8s,baz=283,slow=8.2,SNR=7.5
comp=Z,1.3nm,0.8s
ULN Ulaanbaatar 41.70 60*ce*P **P** **14 18 32.7 +1.1**
ULN pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 48.53 102 P **P** **14 19 26.5 +0.5**
comp=Z,0.6nm,0.5s,baz=302,slow=8.2,SNR=5.3
comp=Z,0.6nm,0.5s
TORD Torodi Ar. Bea 49.09 250 P **P** **14 19 30.8 +0.5**
comp=Z,0.6nm,0.8s,baz=11,slow=8.3,SNR=3.7
comp=Z,0.6nm,0.8s
YAK Yakutsk 51.12 37 *i* P **P** **14 19 43.3 -1.8**
YAK pmax pmax
comp=Z,4.0nm,0.6s
HEH HeiHe 53.75 51 *e*P **P** **14 20 05.6 +0.8**
HEH pmax pmax
comp=Z,10.0nm,0.7s
HEH pmax pmax
comp=Z,170nm,4.2s
KLR Kul'dur 56.74 51*ce*P **P** **14 20 25.7 -0.7**
KLR pmax pmax
comp=Z,5.0nm,2.5s
MSHR Mys Shultsa 59.42 58*ce*P **P** **14 20 45.3 +0.1**
MSHR pmax pmax
comp=Z,21nm,1.1s
KSRS Korea Array 59.78 65 P **P** **14 20 48.1 +0.3**
comp=Z,1.4nm,0.7s,baz=294,slow=6.4,SNR=7.8
comp=Z,1.4nm,0.7s
SEY Seymchan 60.38 31 LR LR 14 50 45.6
comp=Z,20nm,18.8s,baz=328,slow=40
MJAR Matsushiro Arr 67.22 61 P **P** **14 21 37.2 +0.1**
comp=Z,0.6nm,0.7s,baz=308,slow=8.1,SNR=4.4
comp=Z,0.6nm,0.7s
YKA Yellowknife Ar 76.16 352 P **P** **14 22 30.8 +0.5**
comp=Z,0.2nm,0.7s,baz=10,slow=6.4,SNR=2.9
comp=Z,0.2nm,0.7s
QSPA South Pole Qui 130.60 180 PKP **PKPdf** **14 29 53.2 +0.7**
comp=Z,0.9nm,0.9s,baz=243,slow=1.5,SNR=2.4

MOS ***23*** *14:51:13.7±0.8,2˚.74S×139˚.49E,h100km,mb4.9/26,Error ellipse: s-maj=10.9km s-min=5.5km az=111.7*
DJA ***23*** *14:51:15.8±0.2,3˚S±2˚×14˚0E±˚,h94km±2km,M5.2/73, mB5.6/43,mb5.3/73,MLv5.8/6,Mw(mB)5.1/43, MwMwp4.9/6,Mwp5.2/6*
NEIC ***23*** *14:51:16.3,2˚.72S×139˚.46E,h110km*
NEIC ***23*** *14:51:16.8±2.0,2˚.76S±0˚.08×139˚.46E±0˚.08,h108km±5km, mb5.1/92,Mww5.0/17,Error ellipse: s-maj=12.5km s-min=10.8km az=207.0*
NEIC ***23*** *14:51:16.3,2˚.62S×139˚.56E,h110km,Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^16Nm; Mrr0.78; Mθθ1.61; Mϕϕ-2.39; Mrθ2.00; Mθϕ1.87; Mϕr2.76; Fault plane solution: Mo4.40000×10^16 NP1:ϕ±21.94000°, δ82.70000°, λ129.92000°. NP2:ϕ±120.57000°, δ40.48000°, λ11.29000°. Principal axes: T 4.7163, Plg39.0000°, Azm328.0000°; N -0.6391, Plg40.0000°, Azm196.0000°; P -4.0772, Plg27.0000°, Azm81.0000°;*
IDC ***23*** *14:51:17.0±2.6,2˚.77S×139˚.51E,h112km±25km,mb4.2/22, mbtmp4.6/26,MS3.6/30 Error ellipse: s-maj=16.8km s-min=8.5km az=87.0*
GCMT ***23*** *14:51:17.8±0.2,2˚.70S±0˚.01×139˚.58E±0˚.01,h94km±3km, MW5.1/120,Moment Tensor Solution. s67,c84; s120,c179; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.06±.16; Mθθ1.33±.15; Mϕϕ-2.39±.17; Mrθ2.19±.08; Mθϕ0.98±.13; Mϕr3.76±.09; Best double couple: Mo4.91600×10^16 NP1:ϕ±26.00000°, δ83.00000°, λ115.00000°. NP2:ϕ±129.00000°, δ26.00000°, λ15.00000°. Principal axes: T 5.0070, Plg46.0000°, Azm321.0000°; N -0.1820, Plg25.0000°, Azm203.0000°; P -4.8250, Plg34.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
KLM ***23*** *14:51:18,3˚.06S×139˚.42E,h96km,mb5.4*
ISC 23 14:51:16.2±0.3,2˚.75S±0˚.04×139˚.54E±0˚.04,h107km±2km, h107km:pP-P,n477,σ1942/479,mb5.0/132,22C-5D,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.65**	**76**	P	**Pn**	**14 51 33.1**	**-0.7**
GENI	**Genyem**	**0.65**	**76**	P	**Pn**	**14 51 33.1**	**-0.7**
GENI S **Sn** **14 51 46.4 -0.7**
JAY Jayapura 1.19 79 P **Pn** **14 51 38.3 -0.9**
JAY S **Sn** **14 51 54.6 -2.1**
TABU Tabubil 3.02 146 P **Pn** **14 52 04.3 +1.9**
MMPI Merauke 5.75 172 P **Pn** **14 52 39.4 +0.3**
1μm,0.5s,40μm30nm
MMPI S **Sn** **14 53 41.5 -2.3**
1μm,0.5s,40μm30nm
KMPI Kaimana, Papua 5.89 261 P **Pn** **14 52 41.2 +0.1**
717nm,0.6s,9μm7.8nm
KMPI S **Sn** **14 53 43.2 -4.2**
717nm,0.6s,9μm7.8nm
FAKI Fak Fak 7.28 268 **Pn** **14 52 58.9 -1.1**
FAKI Fak Fak 7.28 268 P **Pn** **14 52 59.0 -1.0**
FAKI Fak Fak 7.28 268 P **Pn** **14 52 58.8 -1.1**
277nm,0.7s,2μm2.5nm
MANU Manus Island 7.85 85 **Pn** **14 53 09.8 +2.0**
MANU Manus Island 7.85 85 P **Pn** **14 53 09.8 +2.0**
SWI Sorong 8.48 283 P **Pn** **14 53 16.6 +0.3**
223nm,0.7s,3μm
SAUI Saumlaki 9.71 237 Pn **Pn** **14 53 31.9 -1.0**
SAUI Saumlaki 9.71 237 P **Pn** **14 53 33.3 +0.3**
439nm,0.5s,6μm
BNDI Bandanaira 9.77 259 P **Pn** **14 53 33.8 0.0**
327nm,1.2s
PMG Port Moresby 10.06 131 Pn **Pn** **14 53 37.6 -0.1**
PMG Port Moresby 10.06 131 P **Pn** **14 53 39.3 +1.6**
PMG Port Moresby 10.06 131*de*P **Pn** **14 53 37.3 -0.4**
PMG pmax pmax
comp=Z,113nm,1.0s
PMG Port Moresby 10.06 131 P **Pn** **14 53 38.2 +0.5**
comp=Z,82nm,0.9s,baz=323,slow=11,SNR=13
PMG S **Sn** **14 55 25.7 -3.0**
comp=Z,26nm,0.6s,baz=347,slow=20,SNR=1.0
PMG LR LR 14 58 49.7
comp=Z,555nm,18.4s,baz=314,slow=45
COEN Coen 11.71 162 **Pn** **14 53 58.5 -1.4**
KDU Kakadu 12.10 215 P Pn 14 54 01.7 -3.4
baz=12,SNR=314
KDU Kakadu 12.10 215 P **Pn** 14 54 02.6 -2.5
LBMI Labuha 12.21 280 P **Pn** **14 54 05.8 -0.8**
comp=Z,201nm,1.0s,comp=Z,2μm
NLAI Namlea 12.43 267 P **Pn** **14 54 09.9 +0.4**
comp=Z,51nm,0.5s,comp=Z,5μm
TNTI Ternate 12.66 286 Pn **Pn** **14 54 12.2 -0.2**
TNTI Ternate 12.66 286 P **Pn** **14 54 13.3 +0.8**
MTN Manton Dam 13.03 219 P Pn 14 54 14.5 -2.9
baz=13,SNR=190
MTN Manton Dam 13.03 219 Pn Pn 14 54 14.3 -3.0
MTN Manton Dam 13.03 219 P **Pn** **14 54 15.1 -2.3**
SANI Sanana 13.55 273 P **Pn** **14 54 22.8 -1.4**
SANI Sanana 13.55 273 P **Pn** **14 54 21.8 -2.4**
comp=Z,122nm,0.7s,comp=Z,1μmcomp=Z,2μm
KMSI Cibinong 15.90 282 P **Pn** **14 54 52.8 -1.2**
comp=Z,389nm,0.9s,comp=Z,4μm
MTSU Mount Surprise 16.00 163 P **Pn** **14 54 56.6 +1.5**
baz=16,SNR=35
KNRA Kununurra 16.66 219 P **Pn** **14 55 02.5 -0.9**
baz=17,SNR=67
KNRA Kununurra 16.66 219 **Pn** **14 55 02.5 -0.9**
KNRA Kununurra 16.66 219 P **Pn** **14 55 03.0 -0.4**
SOEI Soe 16.69 245 P **Pn** **14 55 03.5 -0.4**
SOEI Soe 16.69 245 P **Pn** **14 55 04.2 +0.3**
SOEI Soe 16.69 245 P **Pn** **14 55 04.7 +0.8**
comp=Z,524nm,1.1s,comp=Z,4μmcomp=Z,5μm
LUWI Luwuk 16.84 275 **Pn** **14 55 01.1 -4.5**
LUWI Luwuk 16.84 275 P **Pn** **14 55 05.7 +0.1**
comp=Z,224nm,1.3s,comp=Z,3μm
DAV Davao City (W) 17.00 305 LR LR 15 02 02.9
comp=Z,223nm,20.7s,baz=120,slow=38
GUMO Guam 17.07 18 LR LR 15 01 41.4
comp=Z,188nm,18.6s,baz=194,slow=36
BBSI Bau Bau 17.14 260 P **Pn** **14 55 11.0 +1.7**
comp=Z,187nm,1.2s,comp=Z,2μm
WB0 Warramunga Arr 17.65 196 P **P** **14 55 14.2 -0.7**
QIS Mount Isa 17.70 180 P **P** **14 55 14.9 -0.5**
baz=18,SNR=55
QIS Mount Isa 17.70 180 P **P** **14 55 15.3 -0.1**
WR0 Warramunga Arr 17.79 196 P **P** **14 55 15.4 -1.0**
WRAB Tennant Creek 17.82 196 P **P** **14 55 16.2 -0.5**
WRAB Tennant Creek 17.82 196 P **P** **14 55 16.2 -0.5**
WB2 Warramunga Arr 17.83 196 P **P** **14 55 16.0 -0.8**
WRA Warramunga Arr 17.83 196 P **P** **14 55 15.8 -1.0**
WRA Warramunga Arr 17.83 196 P **P** **14 55 15.8 -1.0**
WRA Warramunga Arr 17.83 196 P **P** **14 55 16.3 -0.6**
comp=Z,26nm,1.1s,baz=21,slow=12,SNR=61
WRA S 14 58 23.0 -13
comp=Z,33nm,0.6s,baz=16,slow=22,SNR=5.2
MRSI Marisa 17.88 280 P **P** **14 55 17.5 +0.1**
comp=Z,118nm,0.9s,comp=Z,1μm
MMRI Maumere 18.17 251 P **P** **14 55 20.6 -0.1**
MMRI Maumere 18.17 251 P **P** **14 55 20.8 +0.2**
CTA Charters Tower 18.44 160 P **P** **14 55 23.9 +0.4**
comp=Z,25nm,0.9s,baz=344,slow=11,SNR=24
CTA LR LR 15 02 57.8
comp=Z,548nm,21.6s,baz=341,slow=38
CTAO Charters Tower 18.44 160 P **P** **14 55 24.3 +0.7**
CTAO Charters Tower 18.44 160 P **P** **14 55 24.8 +1.3**
CTAO Charters Tower 18.44 160 P **P** **14 55 24.3 +0.7**
EDFI Ende, Flores 18.72 251 P **P** **14 55 26.3 -0.5**
comp=Z,42nm,0.9s,comp=Z,519nm
TOLI2 Tolitoli 19.14 281 P **P** **14 55 30.5 -0.7**
TOLI2 Tolitoli 19.14 281 P **P** **14 55 32.0 +0.8**
BKSI Bulukumba 19.53 262 P **P** **14 55 36.8 +1.3**
comp=Z,159nm,0.9s,comp=Z,1μm
TTSI Tana Toraja 19.69 269 P **Pn** **14 55 39.3 -0.4**
comp=Z,241nm,0.9s,comp=Z,4μm
SPSI Sidrap Palu 19.77 266 P **Pn** **14 55 39.4 +1.3**
comp=Z,195nm,1.1s,comp=Z,2μm
KAPI Kappang 19.87 263 P **P** **14 55 38.8 -0.3**
KAPI Kappang 19.87 263 P **P** **14 55 38.8 -0.3**
KAPI Kappang 19.87 263 P **P** **14 55 39.8 +0.7**
comp=Z,55nm,0.8s,baz=95,slow=5.0,SNR=15
MPSI Mapaga 19.87 279 P **P** **14 55 39.6 +0.5**
comp=Z,92nm,0.8s,comp=Z,1μm
BASI Baing, Sumba 20.23 248 P Pn 14 55 45.8 -0.2
comp=Z,221nm,0.5s,comp=Z,3μm
FITZ Fitzroy Crossi 20.45 221 P **P** **14 55 45.9 +0.5**
baz=20,SNR=12
FITZ Fitzroy Crossi 20.45 221 P **P** **14 55 43.9 -1.5**
FITZ Fitzroy Crossi 20.45 221 P **P** **14 55 46.0 +0.6**
HNR Honiara 21.34 109 P **P** **14 55 54.1 -0.9**
HNR Honiara 21.34 109 P **P** **14 55 54.1 -0.9**
HNR Honiara 21.34 109 P **P** **14 55 54.7 -0.3**
comp=Z,2μm,0.8s,baz=210,slow=4.5,SNR=6.5
AS31 Alice Springs 21.50 194 P **P** **14 55 56.6 0.0**
ASAR Alice Springs 21.50 194 P **P** **14 55 56.5 -0.1**
comp=Z,14nm,0.5s,baz=8.6,slow=12,SNR=86
ASAR S **S** **14 59 49.4 +0.4**
comp=Z,16nm,0.7s,baz=18,slow=28,SNR=2.6
ASAR LR LR 15 05 04.7
comp=Z,121nm,21.2s,baz=22,slow=38
comp=Z,14nm,0.5s
PLAI Plampang 22.47 253 P **P** **14 56 04.4 -2.4**
PLAI Plampang 22.47 253 P **P** **14 56 02.8 -4.0**
comp=Z,63nm,1.1s
BKB Balikpapan 22.67 273 P **P** **14 56 07.2 -1.7**
BKB Balikpapan 22.67 273 P **P** **14 56 13.2 +4.3**
TWSI Taliwang, Sumb 23.30 254 P **P** **14 56 11.2 -3.7**
comp=Z,85nm,1.4s
QLP Quilpie 24.13 170 P **P** **14 56 23.7 +1.5**
baz=24,SNR=62
QLP Quilpie 24.13 170 P **P** **14 56 23.9 +1.7**
SPMM Sapulut 24.21 288 P **P** **14 56 24.0 +0.8**
BBKI Banjar Baru 24.67 268 P **P** **14 56 28.5 +1.2**
comp=Z,221nm,1.6s,comp=Z,10μm
WRKA Warakurna 24.67 205 P **P** **14 56 27.3 +0.1**
baz=25,SNR=42
WRKA Warakurna 24.67 205 P **P** **14 56 27.5 +0.3**
MTKI Muara Teweh, K 24.69 274 P **P** **14 56 27.6 +0.1**
KKM Kota Kinabalu 24.87 291 P **P** **14 56 29.1 -0.2**
KKM Kota Kinabalu 24.87 291 P **P** **14 56 29.8 +0.5**
INKA Innaminka 24.88 177 P **P** **14 56 30.4 +1.3**
EIDS Eidsvold 25.09 155 P **P** **14 56 31.8 +0.7**
baz=25,SNR=16
EIDS Eidsvold 25.09 155 P **P** **14 56 31.7 +0.7**
EIDS Eidsvold 25.09 155 P **P** **14 56 32.6 +1.6**
OOD Oodnadatta 25.18 188 P **P** **14 56 32.8 +1.0**
KMMI Kalianget 25.83 260 P **P** **14 56 40.5 +2.7**
comp=Z,151nm,0.9s
JAGI Jajag, Banyuwa 25.88 256 P **P** **14 56 35.3 -3.1**
JAGI IAmb IAmb 14 57 04.3
comp=Z,148nm,1.5s
MBWA Marble Bar 26.59 225 P **P** **14 56 45.0 +0.5**
MBWA IAmb IAmb 14 57 20.9

comp=Z,38nm,0.7s
MBWA Marble Bar 26.59 225 P **P** **14 56 45.4 +0.8**
PSA00 Pilbara Seismi 26.78 224 P **P** **14 56 46.3 0.0**
PSA00 Pilbara Seismi 26.78 224 P **P** **14 56 47.5 +1.2**
LCRK Leigh Creek 27.58 182 P **P** **14 56 54.4 +1.1**
SBUM Sibu 27.79 280 P **P** **14 56 53.2 -2.2**
MULG Mulgathing 27.88 190 P **P** **14 56 56.9 +0.9**
STKI Sintang 28.19 275 P **P** **14 56 59.9 +0.9**
comp=Z,28nm,0.9s,comp=Z,7µm
STKA Stephens Creek 29.04 176 P **P** **14 57 07.3 +1.0**
baz=29,SNR=13
STKA Stephens Creek 29.04 176 P **P** **14 57 06.6 +0.3**
STKA Stephens Creek 29.04 176 P **P** **14 57 07.1 +0.8**
STKA Stephens Creek 29.04 176 *i* P **P** **14 57 06.4 +0.1**
STKA Stephens Creek 29.04 176 P **P** **14 57 07.1 +0.8**
comp=Z,12nm,0.7s,baz=350,slow=8.5,SNR=18
STKA LR LR 15 11 30.4
comp=Z,484nm,18.6s,baz=357,slow=42
comp=Z,12nm,0.7s
CMSA Cobar Meteorol 29.22 169 P **P** **14 57 09.2 +1.3**
baz=29,SNR=20
CMSA Cobar Meteorol 29.22 169 P **P** **14 57 09.8 +1.9**
KSM Kuching 29.52 278 P **P** **14 57 10.3 -0.5**
KSM IAmb IAmb 14 57 12.4
comp=Z,106nm,1.6s
JCJ Chichijima 29.78 5 LR LR 15 08 23.2
comp=Z,66nm,18.6s,baz=124,slow=34
ARMA Armidale 29.81 159 P **P** **14 57 15.1 +1.9**
baz=30,SNR=3.6
ARMA Armidale 29.81 159 P **P** **14 57 15.2 +1.9**
FORT Forrest 29.92 200 P **P** **14 57 14.8 +0.7**
FORT Forrest 29.92 200 P **P** **14 57 14.8 +0.7**
KOUNC Koumac, New Ca 29.92 128 P **P** **14 57 14.2 -0.1**
BBOO Buckleboo 30.09 186 P **P** **14 57 16.5 +0.9**
baz=30,SNR=12
BBOO Buckleboo 30.09 186 P **P** **14 57 16.4 +0.9**
BBOO IAmb IAmb 14 57 17.2
comp=Z,56nm,1.1s
BBOO Buckleboo 30.09 186 P **P** **14 57 16.0 +0.4**
HTT Hallett 30.53 181 P **P** **14 57 20.7 +1.1**
baz=31,SNR=8.3
HTT Hallett 30.53 181 P **P** **14 57 20.4 +0.8**
MEEK Meekatharra 31.09 218 P **P** **14 57 25.3 +0.8**
baz=31,SNR=3.9
MEEK Meekatharra 31.09 218 P **P** **14 57 25.4 +0.8**
YULB Yu-li 31.48 327 P **P** **14 57 27.2 -0.7**
YULB IAmb IAmb 14 57 50.0
comp=Z,52nm,1.5s
YULB Yu-li 31.48 327 P **P** **14 57 27.0 -0.9**
GIRL Giralia 31.52 229 P **P** **14 57 29.0 +0.7**
TPUB Ta-pu 31.78 326 P **P** **14 57 28.0 -2.6**
TPUB Ta-pu 31.78 326 P **P** **14 57 29.3 -1.3**
NACB Ninganchiao 31.95 328 P **P** **14 57 30.1 -1.9**
NACB IAmb IAmb 14 57 59.9
comp=Z,36nm,1.1s
SSLB Suanglung 31.98 327 P **P** **14 57 30.1 -2.3**
SSLB IAmb IAmb 14 57 41.0
comp=Z,24nm,1.0s
SSLB PcP **PcP** **15 00 19.9 -0.3**
SSLB Suanglung 31.98 327 P **P** **14 57 33.3 +0.9**
BBJI Bungbulang 32.09 260 P **P** **14 57 32.0 -1.6**
LIFNC LIFOU 32.40 126 P **P** **14 57 33.8 -2.3**
LIFNC LIFOU 32.40 126 P **P** **14 57 37.8 +1.7**
DZM Mont Dzumac 32.43 128 *eP* P 14 57 42.9 +6.4
comp=Z,78nm,24.4s
DZM *e*LR LR 15 06 19.8
comp=Z,692nm,35.3s
DZM Mont Dzumac 32.43 128 P **P** **14 57 35.3 -1.1**
DZM IAmb IAmb 14 58 09.0
comp=Z,44nm,1.6s
DZM Mont Dzumac 32.43 128 P **P** **14 57 37.5 +1.0**
DZM Mont Dzumac 32.43 128 LR LR 15 10 53.2
comp=Z,118nm,19.4s,baz=276,slow=36
DZM Mont Dzumac 32.43 128 P **P** **14 57 37.3 +0.8**
YNG Young 32.46 166 P **P** **14 57 38.3 +1.9**
YHNB Yeheng 32.46 328 P **P** **14 57 36.0 -0.6**
YHNB Yeheng 32.46 328 P **P** **14 57 36.3 -0.3**
YATNC Mamie plateau, 32.78 128 P **P** **14 57 41.6 +2.2**
TNG Tangerang 32.96 263 P **P** **14 57 38.7 -2.4**
comp=Z,1µm,0.4s
PPBI Pangkal Pinang 33.37 270 P **P** **14 57 45.0 +0.3**
comp=Z,97nm,1.0s,comp=Z,4µm
PINNC Pines Island, 33.51 128 P **P** **14 57 44.1 -1.6**
CAN Canberra 33.58 166 P **P** **14 57 45.9 -0.3**
CAN Canberra 33.58 166 P **P** **14 57 47.9 +1.7**
CAN Canberra 33.58 166 P **P** **14 57 45.9 -0.3**
CAN pmax pmax
comp=Z,19nm,1.1s
CAN Canberra 33.58 166 P **P** **14 57 48.3 +2.1**
CAN pP **pP** **14 58 12.4 +2.2**
CAN sP **sP** **14 58 24.6 +2.0**
CNB Canberra Magne 33.67 165 P **P** **14 57 47.8 +0.9**
baz=34,SNR=6.0
CNB Canberra Magne 33.67 165 P **P** **14 57 48.6 +1.6**
ARPS Mount Arapiles 33.92 177 P **P** **14 57 50.4 +1.3**
baz=34,SNR=11
CGJI Cibinong 33.94 262 P **P** **14 57 47.2 -2.4**
comp=Z,42nm,1.0s
H11S3 WAKE ISLAND Hy 34.06 51 T T 15 33 03.1
baz=232,slow=74,SNR=6.6
H11S2 WAKE ISLAND Hy 34.07 51 T T 15 33 05.7
baz=232,slow=74,SNR=3.3
H11S1 WAKE ISLAND Hy 34.08 51 T T 15 33 09.4
baz=232
MORW Morawa 34.42 218 P **P** **14 57 54.6 +1.1**
baz=34,SNR=5.3
MORW Morawa 34.42 218 P **P** **14 57 54.0 +0.4**
MORW IAmb IAmb 14 57 55.5
comp=Z,42nm,1.2s
DSRI Dabo 35.01 273 P **P** **14 57 59.2 +0.3**
comp=Z,43nm,1.2s
KASI Kota Agung 35.05 264 P **P** **14 57 57.5 -1.7**
comp=Z,71nm,1.1s
TOO Toolangi 35.09 172 P **P** **14 58 01.6 +2.4**
baz=35,SNR=5.6
TOO Toolangi 35.09 172 P **P** **14 58 01.1 +1.9**
TOO IAmb IAmb 14 58 31.1
comp=Z,65nm,1.8s
TOO Toolangi 35.09 172 P **P** **14 58 01.6 +2.4**
TOO Toolangi 35.09 172 P **P** **14 58 01.1 +1.9**
TOO pmax pmax
comp=Z,65nm,1.8s
BLDU Ballidu 35.13 216 P **P** **14 58 00.5 +0.8**
MILA Mila 35.27 167 P **P** **14 58 02.7 +1.9**
baz=35,SNR=6.3
MILA Mila 35.27 167 P **P** **14 58 02.4 +1.6**
LWLI Liwa 35.46 265 P **P** **14 58 01.4 -1.4**
comp=Z,83nm,1.2s
JHJ Hachijo jima 2 35.67 0 LR LR 15 09 41.6
comp=Z,125nm,19.3s,baz=245,slow=31
MYKOM Kota Tinggi 35.96 277 P **P** **14 58 07.0 +0.1**
QIZ Qiongzhong 36.35 308 P **P** **14 58 09.8 -0.3**
QIZ S **S** **15 03 44.5 +0.9**
QIZ LR LR
comp=Z,220nm,5.7s
NWAO Narrogin (SRO) 36.59 212 P **P** **14 58 12.1 +0.1**
NWAO Narrogin (SRO) 36.59 212 P **P** **14 58 12.1 +0.1**
NWAO pmax pmax
comp=Z,84nm,1.1s
NWAO Narrogin (SRO) 36.59 212 LR LR 15 16 00.8
comp=Z,206nm,19.6s,baz=22,slow=41
JNU Nakatsue 36.60 348 P **P** **14 58 12.9 +0.8**
JNU Nakatsue 36.60 348 P **P** **14 58 13.3 +1.2**
JNU Nakatsue 36.60 348 P **P** **14 58 12.4 +0.3**
comp=Z,17nm,0.7s,baz=181,slow=2.5,SNR=16
JNU LR LR 15 11 01.4
comp=Z,121nm,19.9s,baz=169,slow=32
comp=Z,17nm,0.7s
JMN Monobe 36.67 352 P **P** **14 58 13.5 +0.8**
JMN IAmb IAmb 14 58 15.1
comp=Z,39nm,0.9s
JMN Monobe 36.67 352 P **P** **14 58 14.0 +1.3**
KRJI Kerinci 38.05 270 P **P** **14 58 24.8 +0.1**
comp=Z,289nm,1.2s
UBPT Khong Chiam 38.18 299 P **P** **14 58 25.6 0.0**
BKNI Bangkinang 38.60 274 P **P** **14 58 29.4 +0.1**
comp=Z,236nm,1.0s,comp=Z,3µm
PDSI Padang 39.09 272 P **P** **14 58 31.7 -1.7**
comp=Z,87nm,0.9s
MJAR Matsushiro Arr 39.10 358 P **P** **14 58 32.5 -0.6**
MJAR LR LR 15 12 58.7
comp=Z,69nm,19.0s,baz=176,slow=33
comp=Z,1.7nm,0.6s
MAJO Matsushiro 39.10 358 P **P** **14 58 33.4 +0.2**
MAJO IAmb IAmb 14 58 51.3
comp=Z,64nm,1.9s
MAJO Matsushiro 39.10 358 P **P** **14 58 33.4 +0.2**
MAJO pmax pmax
comp=Z,64nm,2.0s
MAJO Matsushiro 39.10 358 P **P** **14 58 33.0 -0.1**
MAJO pP **pwP** **14 58 58.4 +1.2**
MJB9 Matsu-Tunnel 39.11 358 P **P** **14 58 34.1 +0.9**
MJB9 IAmb IAmb 14 58 52.2
comp=Z,59nm,1.9s
KULM Kulim 39.66 282 P **P** **14 58 36.7 -1.4**
KULM IAmb IAmb 14 58 39.5
comp=Z,48nm,1.1s
GULI GuiLin 39.71 316 P P 14 58 47.3 +9.0
NJ2 Nanjing 39.79 332 ⇓P **P** **14 58 40.3 +1.5**
NJ2 pP **pP** **14 59 01.3 -2.0**
NJ2 sP **sP** **14 59 12.3 -3.2**
NJ2 pmax pmax
comp=Z,25nm,0.6s
NJ2 pmax pmax
comp=Z,110nm,4.5s
TJN Taejon 40.55 345*ce*P **P** **14 58 45.5 +0.5**
RPSI Rantau Prapat 40.95 277 P **P** **14 58 48.1 -0.6**
PSI Prapat 40.97 277 P **P** **14 58 48.7 -0.3**
PSI Prapat 40.97 277 P **P** **14 58 48.1 -0.9**
PSI pmax pmax
comp=Z,107nm,0.8s
KSAR Wonju Array Be 41.42 346 P **P** **14 58 53.5 +1.3**
KSAR Wonju Array Be 41.42 346 P **P** **14 58 53.5 +1.3**
KSRS Korea Array 41.42 346 P **P** **14 58 53.4 +1.2**
comp=Z,4.1nm,0.6s,baz=158,slow=8.8,SNR=30
KSRS LR LR 15 14 02.7
comp=Z,70nm,22.0s,baz=170,slow=33
comp=Z,4.1nm,0.6s
KS19 Wonju Array Si 41.48 346 P **P** **14 58 52.9 +0.2**
KS19 IAmb IAmb 14 58 54.8
comp=Z,49nm,1.8s
DGTI Dogotuki 41.76 111 P **P** **14 58 57.5 +2.2**
GSI Gunungsitoli 42.14 275 P **P** **14 58 56.6 -1.9**
GSI Gunungsitoli 42.14 275 P **P** **14 58 57.2 -1.3**
GSI Gunungsitoli 42.14 275 P **P** **14 58 56.8 -1.7**
comp=Z,258nm,0.6s,comp=Z,2µm
GYA Guiyang 43.03 315 *eP* **P** **14 59 06.3 +0.7**
GYA pmax pmax
comp=Z,15nm,0.5s
GYA pmax pmax
comp=Z,270nm,3.8s
JTM Tenmabayashi 43.35 2 P **P** **14 59 08.2 +0.5**
JTM Tenmabayashi 43.35 2 P **P** **14 59 08.9 +1.2**
MLSI Meulaboh, Aceh 43.66 279 P **P** **14 59 10.0 -0.7**
comp=Z,120nm,1.0s
TIA Tai'an 44.04 334 ⇑P **P** **14 59 13.6 +0.2**
TIA pmax pmax
comp=Z,16nm,1.2s
DL2 Dalian 44.62 340 P **P** **14 59 19.0 +1.1**
DL2 pmax pmax
comp=Z,16nm,0.7s
ERM Erimo 44.67 4 P **P** **14 59 17.2 -1.1**
ERM Erimo 44.67 4 P **P** **14 59 17.2 -1.1**
ERM pmax pmax
comp=Z,89nm,1.2s
CRAI Chiangrai 44.69 303 P **P** **14 59 18.8 -0.1**
CRAI IAmb IAmb 14 59 20.4
comp=Z,31nm,1.2s
LYN LuoYang 44.98 328 *eP* **P** **14 59 21.3 +0.4**
LYN pP pP 14 59 47.0 +1.1
LYN S **S** **15 05 49.9 -1.6**
LYN pmax pmax
comp=Z,34nm,0.8s
CM31 Chiang Mai Arr 45.17 299 P **P** **14 59 23.2 +0.5**
CM31 IAmb IAmb 14 59 24.2
comp=Z,32nm,0.9s
CM31 Chiang Mai Arr 45.17 299 P **P** **14 59 23.2 +0.5**
SNR=12
CMAR Chiang Mai Arr 45.17 299*ce*P **P** **14 59 22.8 +0.1**
CMAR pmax pmax
comp=Z,17nm,0.9s
CMAR Chiang Mai Arr 45.17 299 P **P** **14 59 22.9 +0.1**
comp=Z,16nm,0.9s,baz=121,slow=6.2,SNR=84
comp=Z,16nm,0.9s
KMI Kunming 45.17 310 ⇑P **P** **14 59 23.8 +0.9**
KMI pmax pmax
comp=Z,25nm,1.3s
CHTO Chiang Mai 45.31 300 P **P** **14 59 22.4 -1.4**
CHTO IAmb IAmb 14 59 25.0
comp=Z,23nm,1.0s
CHTO Chiang Mai 45.31 300 P **P** **14 59 23.9 0.0**
CHTO Chiang Mai 45.31 300 P **P** **14 59 22.4 -1.4**
CHTO pmax pmax
comp=Z,23nm,1.0s
CHTO Chiang Mai 45.31 300 P **P** **14 59 23.5 -0.3**
CHTO pP **pP** **14 59 48.7 -0.3**
MSHR Mys Shultsa 45.75 351*ce*P **P** **14 59 27.1 +0.3**
MSHR pmax pmax
comp=Z,26nm,1.7s
HNS HongShan 46.12 332 ⇑P **P** **14 59 30.4 +0.6**
HNS pmax pmax
comp=Z,23nm,0.8s
XAN Xi'an 46.58 324 ⇑P **P** **14 59 33.6 0.0**
XAN pP pP 14 59 56.3 -2.4
XAN sP sP 15 00 07.8 -2.9
XAN pmax pmax
comp=Z,23nm,1.3s
XAN Xi'an 46.58 324 P **P** **14 59 33.8 +0.2**
PZH PanZhiHua 46.67 311 P **P** **14 59 36.1 +1.6**
PZH pmax pmax
comp=Z,11nm,0.7s
PZH pmax pmax
comp=Z,90nm,4.8s
ASAJ Asahikawa 46.73 3 P **P** **14 59 34.7 +0.2**
ASAJ pmax pmax
comp=Z,28nm,1.2s
ASAJ Asahikawa 46.73 3 P **P** **14 59 35.5 +1.1**
comp=Z,9.8nm,1.0s,baz=239,slow=10,SNR=9.2
ASAJ LR LR 15 19 38.5
comp=Z,33nm,18.4s,baz=185,slow=36
comp=Z,9.8nm,1.0s
JKA Kamikawa-asahi 46.73 3 P **P** **14 59 34.6 +0.2**
JKA IAmb IAmb 14 59 40.4
comp=Z,28nm,1.2s
USRK Ussuriysk Ar. 47.22 353 P **P** **14 59 38.3 0.0**
USRK Ussuriysk Ar. 47.22 353 P **P** **14 59 38.3 0.0**
USRK Ussuriysk Ar. 47.22 353 P **P** **14 59 37.9 -0.4**
comp=Z,6.6nm,0.7s,baz=165,slow=7.9,SNR=22
USRK LR LR 15 16 12.1
comp=Z,69nm,21.7s,baz=183,slow=32
comp=Z,6.6nm,0.7s
BJT Baijiatuan 47.65 336 IAmb IAmb 14 59 42.8
comp=Z,44nm,1.5s
BJT Baijiatuan 47.65 336 P **P** **14 59 42.3 +0.6**
BJI Beijing 47.66 336 P **P** **14 59 42.3 +0.5**
BJI pmax pmax
comp=Z,6.0nm,0.5s
CD2 Chengdu 47.76 317 P **P** **14 59 43.3 +0.5**
CD2 pmax pmax
comp=Z,20nm,1.0s
MDJ Mudanjiang 47.98 350 P **P** **14 59 40.5 -3.7**
MDJ pP pP 15 00 00.3 -9.0
MDJ sP sP 15 00 16.6 -4.7
MDJ PcP PcP 15 00 59.5 -11
MDJ PP **PP** **15 01 36.0 -1.3**
MDJ PcS PcS 15 04 58.0 -8.4
MDJ S S 15 06 41.1 +7.1
MDJ sS sS 15 07 10.8 -6.7
MDJ ScS **ScS** **15 09 20.0 -6.7**
MDJ Mudanjiang 47.98 350 SS SS 15 10 17.5 +13
MDJ pmax pmax
comp=Z,9.0nm,1.7s
MDJ pmax pmax
comp=Z,100nm,4.4s
MDJ Mudanjiang 47.98 350 P **P** **14 59 45.2 +1.0**
CN2 Changchun 48.03 346 ⇑P **P** **14 59 45.3 +0.7**
CN2 *e*pP pP 15 00 10.3 +0.5
CN2 *e*S **S** **15 06 34.9 +0.1**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,100nm,5.0s
QRZ Quartz Range 48.18 146 P **P** **14 59 46.3 +0.5**
RAO Raoul Island 48.22 128 LR LR 15 18 22.2
comp=Z,55nm,20.1s,baz=162,slow=34
TNCH TengChong 48.42 307 P **P** **14 59 48.3 +0.2**
TNCH pP pP 15 00 10.8 -2.6
TNCH PP **PP** **15 01 47.8 +6.0**
TNCH S **S** **15 06 46.8 +5.6**
TNCH sS sS 15 07 23.0 -1.7
TNCH SS **SS** **15 10 05.1 -7.3**
TNCH pmax pmax
comp=Z,25nm,1.4s
TNCH pmax pmax
comp=Z,170nm,7.0s
TNCH LR LR
comp=Z,130nm,4.6s
TNCH LR LR
comp=Z,190nm,4.0s
TNCH LR LR
comp=Z,94nm,6.4s
DSZ Denniston Nort 48.42 148 P **P** **14 59 47.1 -0.6**
JCZ Jackson Bay 48.61 152 P **P** **14 59 50.7 +1.5**
URZ Urewera 49.27 141 LR LR 15 21 32.4
comp=Z,147nm,18.0s,baz=2.0,slow=37
TUWZ Tuamarina 49.38 146 P **P** **14 59 55.2 +0.3**
TCW Tory Channel 49.42 146 P **P** **14 59 55.0 -0.2**
RPZ Rata Peaks 49.44 150 P **P** **14 59 56.5 +1.1**
RPZ IAmb IAmb 15 00 37.7
comp=Z,25nm,0.8s
RPZ Rata Peaks 49.44 150 P **P** **14 59 56.8 +1.3**
RPZ Rata Peaks 49.44 150 LR LR 15 21 35.5
comp=Z,78nm,18.8s,baz=301,slow=37
BNX BinXian 49.46 349 ⇑P **P** **14 59 55.9 +0.4**
BNX pmax pmax
comp=Z,40nm,1.3s
BNX pmax pmax
comp=Z,110nm,5.2s
YSS Yuzh-Sakhalins 49.57 3 P **P** **14 59 56.2 -0.1**
YSS IAmb IAmb 15 00 31.7
comp=Z,17nm,0.6s
YSS Yuzh-Sakhalins 49.57 3 *eP* **P** **14 59 56.3 0.0**
YSS *e* 15 00 29.8
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS Yuzh-Sakhalins 49.57 3 P **P** **14 59 57.1 +0.8**
YSS pP **pwP** **15 00 23.9 +2.4**
YSS pwP **sP** **15 00 30.1 -3.3**
KHZ Kahutara 49.82 147 P **P** **14 59 58.4 +0.1**
HHC Hu-ho-hao-te 50.34 332 *eP* **P** **15 00 04.1 +1.7**
HHC pmax pmax
comp=Z,25nm,0.9s
HHC pmax pmax
comp=Z,180nm,5.2s
BTO Baotou 50.88 331 *eP* **P** **15 00 08.3 +1.9**
BTO pP **pP** **15 00 34.6 +2.7**
BTO sP **sP** **15 00 47.3 +3.5**
BTO PP **PP** **15 02 07.4 +3.6**
BTO pmax pmax
comp=Z,24nm,0.9s
BTO pmax pmax
comp=Z,290nm,6.0s
XLT XiLinHaoTe 50.99 338 *eP* **P** **15 00 09.6 +2.5**
XLT pP pP 15 00 35.8 +3.2
XLT sP sP 15 00 47.9 +3.3
XLT PcP **PcP** **15 01 23.4 +1.5**
XLT PP **PP** **15 02 09.8 +5.1**
XLT pmax pmax
comp=Z,10.0nm,0.7s
XLT pmax pmax
comp=Z,120nm,4.7s
LZH Lanzhou 51.01 323 ⇑P **P** **15 00 08.6 +1.0**
LZH pP pP 15 00 32.6 -0.4
LZH sP sP 15 00 51.1 +6.1
LZH pmax pmax
comp=Z,27nm,1.0s
KLR Kul'dur 52.21 354*ce*P **P** **15 00 15.6 -0.4**
KLR pmax pmax
comp=Z,36nm,1.3s
KLR Kul'dur 52.21 354 P **P** **15 00 16.9 +1.0**
comp=Z,8.2nm,0.5s,baz=188,slow=4.1,SNR=28
KLR LR LR 15 19 39.4
comp=Z,42nm,21.4s,baz=164,slow=33
comp=Z,8.2nm,0.5s
GRNR Gornyy 53.37 358 ⇓*i* P **P** **15 00 25.9 +1.3**
GRNR pmax pmax
comp=Z,7.0nm,0.9s
TYV Tymovskoe 53.47 2 *eP* **P** **15 00 26.8 +1.6**
TYV pmax pmax
comp=Z,12nm,1.6s
TYV pmax pmax
comp=Z,200nm,3.2s
HEH HeiHe 53.81 350 *eP* **P** **15 00 28.3 +0.5**
HEH pmax pmax
comp=Z,26nm,1.4s
HEH pmax pmax
comp=Z,160nm,6.1s
SHL Shillong 54.03 304 P **P** **15 00 30.1 0.0**
SNR=11
HIA Hailar 54.57 344 *i* P **P** **15 00 33.3 -0.1**
HIA pmax pmax
comp=Z,25nm,1.7s
GTA Gaotai 55.59 323 *eP* **P** **15 00 41.8 +0.8**
GTA pP pP 15 01 04.8 -2.1
GTA pmax pmax
comp=Z,9.0nm,1.3s
LSA Lhasa 56.38 309 P **P** **15 00 49.1 +1.9**
GOMU GeErMu 56.90 317 P **P** **15 00 51.8 +1.1**
GOMU pmax pmax
comp=Z,4.0nm,0.8s
ZEA Zeya 57.21 351 *eP* **P** **15 00 53.1 +1.0**
ZEA *e* 15 01 27.3
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,10.0nm,1.5s
PETK Petropavlovsk- 57.71 13 P **P** **15 00 54.3 -1.3**
PETK Petropavlovsk- 57.71 13 P **P** **15 00 54.3 -1.3**
PETK Petropavlovsk- 57.71 13 P **P** **15 00 56.8 +1.2**
comp=Z,2.1nm,0.6s,baz=159,slow=6.5,SNR=11
PETK LR LR 15 22 31.0
comp=Z,60nm,21.8s,baz=196,slow=32
comp=Z,2.1nm,0.6s
ULN Ulaanbaatar 57.85 335 P **P** **15 00 56.6 -0.3**
ULN Ulaanbaatar 57.85 335*ce*P **P** **15 00 57.5 +0.7**
ULN pmax pmax
comp=Z,24nm,2.5s
SONM Songino Array 58.11 334 P **P** **15 00 59.4 +0.8**
SONM PcP **PcP** **15 01 48.1 -1.1**
SONM Songino Array 58.11 334 P **P** **15 00 59.4 +0.8**
comp=Z,2.1nm,0.5s,baz=154,slow=7.5,SNR=12
SONM LR LR 15 27 06.9
comp=Z,84nm,19.2s,baz=254,slow=37
comp=Z,2.1nm,0.5s
TAPN Taplejung 58.17 305 *eP* **P** **15 00 59.9 +0.2**
comp=Z,54nm,0.7s
ODAN Odare 58.25 304 *eP* **P** **15 00 58.9 -1.3**
RAMN Ramite 58.94 304 *eP* **P** **15 01 04.2 -0.8**
JIRN Jiri 59.54 304 *eP* **P** **15 01 09.4 +0.2**
GUN Gumba 59.89 305 *eP* **P** **15 01 11.9 +0.3**
comp=Z,15nm,0.4s
PKI Pulchoki 60.15 304 *eP* **P** **15 01 13.2 -0.2**
KKN Kakani 60.34 304 *eP* **P** **15 01 14.1 -0.4**
DMN Daman 60.42 304 *eP* **P** **15 01 14.9 -0.2**
GKN Gorkha 60.95 304 *eP* **P** **15 01 18.7 +0.1**
comp=Z,61nm,0.6s
ZAK Zakamensk 61.37 334 *eP* **P** **15 01 21.4 +0.5**
ZAK pmax pmax
comp=Z,13nm,1.3s
KOLN Koldanda 61.73 304 *eP* **P** **15 01 22.9 -1.0**
RAR Rarotonga 61.75 113 LR LR 15 25 52.2
comp=Z,41nm,21.8s,baz=316,slow=34
DANN Dangsing 61.79 304 *eP* **P** **15 01 24.2 -0.2**
PYUN Piuthan 62.34 304 *eP* **P** **15 01 28.1 +0.1**
comp=Z,146nm,0.9s
SHEM Shemya Is, Ala 62.45 23 LR LR 15 23 48.4
comp=Z,79nm,21.8s,baz=304,slow=31
MA2 Magadan 62.76 6 LR LR 15 25 48.3
comp=Z,20nm,21.5s,baz=193,slow=33
MOY Mondy 63.30 334 *eP* **P** **15 01 35.0 +1.2**
MOY pmax pmax
comp=Z,30nm,1.8s
HYB Hyderabad 63.36 291 *eP* **P** **15 01 34.4 -0.3**
HYB *e*sP **sP** **15 02 12.8 -0.3**
HYB *e*PP **PP** **15 03 54.5 -0.9**
YAK Yakutsk 65.04 355 *eP* **P** **15 01 45.5 +0.8**
YAK *e**PP **pP** **15 02 05.9 -5.4**
YAK *e* 15 02 20.2
YAK *e* 15 04 16.3
YAK *e*S **S** **15 10 20.2 +1.9**
YAK pmax pmax
comp=Z,25nm,1.2s
YAK pmax pmax
comp=N,10.0nm,1.1s

YAK pmax pmax
comp=Z,169nm,5.7s
YAK pmax pmax
comp=N,123nm,4.2s
YAK pmax pmax
comp=E,18nm,1.9s
YAK smax smax
comp=N,91nm,2.3s
YAK smax smax
comp=E,112nm,3.7s
YAK Yakutsk 65.04 355 P **P** **15 01 45.3 +0.6**
comp=E,1.1nm,0.6s,baz=126,slow=1.3,SNR=11
WMQ Urumqi 65.55 321 *e*P **P** **15 01 49.9 +1.3**
WMQ pP pP 15 02 14.4 -0.7
WMQ PcP **PcP** **15 02 20.3 +0.9**
WMQ pmax pmax
comp=E,22nm,1.5s
SEY Seymchan 66.22 6 *i* P **P** **15 01 53.1 +0.8**
SEY pmax pmax
comp=Z,4.0nm,1.4s
SEY Seymchan 66.22 6 P **P** **15 01 52.9 +0.5**
comp=Z,0.7nm,0.4s,baz=175,slow=23,SNR=6.9
SEY LR LR 15 29 49.2
comp=Z,31nm,20.5s,baz=245,slow=35
comp=Z,0.7nm,0.4s
CASY Casey 66.61 192 P **P** **15 01 54.3 -0.5**
DGZ Jazzator, Alta 68.77 327 *i* P **P** **15 02 08.7 -0.2**
DGZ pmax pmax
comp=Z,12nm,0.8s
ZSN Zaisan 69.08 324 *e*P **P** **15 02 10.7 0.0**
baz=324
ZSN Zaisan 69.08 324 *e*P **P** **15 02 10.7 0.0**
MK31 Makanchi Array 70.32 322 P **P** **15 02 18.6 +0.2**
MK31 Makanchi Array 70.32 322 *ce*P **P** **15 02 19.7 +1.4**
MKAR Makanchi Array 70.32 322 P **P** **15 02 18.8 +0.5**
MKAR Makanchi Array 70.32 322 P **P** **15 02 18.8 +0.5**
MKAR Makanchi Array 70.32 322 P **P** **15 02 18.9 +0.6**
comp=Z,4.5nm,0.5s,baz=95,slow=8.9,SNR=57
comp=Z,4.5nm,0.5s
MAKZ Makanchi 70.52 322 P **P** **15 02 19.9 +0.4**
MAKZ lAmb lAmb 15 02 21.4
comp=Z,30nm,1.2s
MAKZ Makanchi 70.52 322 P **P** **15 02 19.9 +0.4**
MAKZ pmax pmax
comp=Z,30nm,1.2s
MAKZ Makanchi 70.52 322 P **P** **15 02 20.1 +0.5**
MAKZ PcP **PcP** **15 02 42.8 +2.6**
MAKZ pP **pP** **15 02 47.9 +1.4**
MAKZ sP **sP** **15 02 58.5 +0.4**
SHLS Shalkode 70.60 318 *e*P **P** **15 02 18.3 -2.0**
baz=318
SHLS Shalkode 70.60 318 *e*P **P** **15 02 18.2 -2.0**
UZB Uzynbulak 70.89 318 *e*P **P** **15 02 22.0 0.0**
comp=Z,12nm,1.1s,baz=318
UZB Uzynbulak 70.89 318 *e*P **P** **15 02 22.0 0.0**
UZB pmax pmax
comp=Z,12nm,1.1s
PPT2 Papeete2 70.96 108 *e*P P 15 02 27.8 +5.0
comp=Z,46nm,27.0s
PPT2 *e*S **S** **15 11 24.6 -6.0**
comp=Z,70nm,27.0s
PPT2 Papeete2 70.96 108 *e*LR LR 15 24 00.8
comp=Z,150nm,37.8s
PPT2 eLR LR 15 24 16.0
comp=Z,261nm,31.0s
KPKS Kokpek 71.24 318 *e*P **P** **15 02 23.9 -0.2**
baz=318
KPKS Kokpek 71.24 318 *e*P **P** **15 02 23.8 -0.2**
SATY Saty 71.27 317 *e*P **P** **15 02 24.1 -0.2**
comp=Z,11nm,1.2s,baz=317
SATY Saty 71.27 317 *e*P **P** **15 02 24.0 -0.2**
SATY pmax pmax
comp=Z,11nm,1.2s
TBI Tubuai 71.48 114 eLR LR 15 24 38.9
comp=Z,2μm,36.8s
KSH Kashi 71.71 313 P **P** **15 02 29.3 +2.3**
KSH pP pP 15 02 57.0 +3.0
KSH pmax pmax
comp=Z,10.0nm,1.1s
NIL Nilore 72.01 307 P **P** **15 02 26.6 -2.2**
NIL lAmb lAmb 15 02 30.6
comp=Z,34nm,1.1s
NIL Nilore 72.01 307 P **P** **15 02 26.6 -2.2**
NIL pmax pmax
comp=Z,34nm,1.1s
NIL Nilore 72.01 307 P **P** **15 02 29.3 +0.5**
NIL pP **pP** **15 02 57.5 +1.7**
TDK Taldyqorghan 72.02 319 *e*P **P** **15 02 28.8 +0.2**
comp=Z,9.8nm,0.9s,baz=319
TDK Taldyqorghan 72.02 319 *e*P **P** **15 02 28.8 +0.2**
TDK pmax pmax
comp=Z,10.0nm,0.9s
MDOK Medeo 72.23 317 *e*P **P** **15 02 30.0 -0.1**
baz=317
MDOK Medeo 72.23 317 *e*P **P** **15 02 29.9 -0.1**
TNSS Tian-Shan 72.25 317 *e*P **P** **15 02 30.2 -0.4**
baz=317
TNSS Tian-Shan 72.25 317 *e*P **P** **15 02 30.1 -0.4**
ZAA0 Zalesovo Array 72.38 330 P **P** **15 02 29.0 -1.5**
ZALV Zalesovo Beam 72.38 330 P **P** **15 02 29.0 -1.5**
ZALV Zalesovo Beam 72.38 330 P **P** **15 02 29.0 -1.5**
ZALV Zalesovo Beam 72.38 330 P **P** **15 02 29.9 -0.6**
comp=Z,4.6nm,0.5s,baz=116,slow=5.9,SNR=26
ZALV LR LR 15 37 46.1
comp=Z,15nm,18.2s,baz=114,slow=38
comp=Z,4.6nm,0.5s
CHKK Chushkaly 72.53 318 *e*P **P** **15 02 30.8 -0.8**
baz=318
CHKK Chushkaly 72.53 318 *e*P **P** **15 02 30.8 -0.8**
KUU Kurty 72.98 318 *e*P **P** **15 02 33.1 -1.2**
comp=Z,17nm,1.4s,baz=318
KUU Kurty 72.98 318 *e*P **P** **15 02 33.9 -0.4**
KUU pmax pmax
comp=Z,17nm,1.4s
KZA Kyzart 73.09 315 P **P** **15 02 36.9 +1.4**
SNR=13
TKM2 Tokmak 2 73.14 316 P **P** **15 02 36.2 +0.7**
SNR=8.4
TKM2 Tokmak 2 73.14 316 *i* P **P** **15 02 35.6 +0.1**
TKM2 pmax pmax
comp=Z,5.0nm,0.5s
SEM Semipalatinsk 73.15 325 *e*P **P** **15 02 35.5 0.0**
baz=325
SEM Semipalatinsk 73.15 325 *e*P **P** **15 02 35.4 0.0**
UCH Uchtor 73.66 315 P **P** **15 02 40.2 +1.4**
SNR=8.5
AAK Ala-Archa 73.81 316 P **P** **15 02 40.2 +0.8**
AAK Ala-Archa 73.81 316 *ce*P **P** **15 02 38.3 -1.1**
AAK pmax pmax
comp=Z,13nm,1.7s
AAK Ala-Archa 73.81 316 P **P** **15 02 39.2 -0.2**
comp=Z,3.7nm,1.0s,baz=119,slow=8.0,SNR=8.5
comp=Z,3.7nm,1.0s
SGDS Sogindy 73.98 317 *e*P **P** **15 02 39.7 -0.6**
baz=317
SGDS Sogindy 73.98 317 *e*P **P** **15 02 39.7 -0.6**
USP Ospenovka 74.01 316 P **P** **15 02 41.1 +0.7**
SNR=14
AML Almayashu 74.20 315 P **P** **15 02 43.0 +1.0**
SNR=14
AML Almayashu 74.20 315 *i* P **P** **15 02 42.1 +0.1**
AML pmax pmax
comp=Z,5.0nm,1.3s
KURK Kurchatov 74.22 325 P **P** **15 02 42.2 +0.8**
KURK Kurchatov 74.22 325 P **P** **15 02 41.4 0.0**
KURK Kurchatov 74.22 325 *ce*P **P** **15 02 40.8 -0.6**
KURK pmax pmax
comp=Z,18nm,1.3s
KURBB Kurchatov Arra 74.23 325 P **P** **15 02 41.3 -0.2**
comp=Z,1.9nm,0.2s,baz=122,slow=4.9,SNR=22
comp=Z,1.9nm,0.2s
TIXI Tiksi 74.59 357 P **P** **15 02 43.1 +0.1**
TIXI Tiksi 74.59 357 *ce*P **P** **15 02 42.2 -0.9**
BTLS Baital 74.92 318 *e*P **P** **15 02 45.2 -0.4**
baz=318
BTLS Baital 74.92 318 *e*P **P** **15 02 45.1 -0.4**
VNDA Vanda 75.67 175 P **P** **15 02 50.0 +0.7**
VNDA Vanda 75.67 175 P **P** **15 02 50.0 +0.7**
VNDA pmax pmax
comp=Z,5.0nm,0.8s
VNDA Vanda 75.67 175 P **P** **15 02 48.9 -0.4**
comp=Z,1.5nm,0.7s,baz=319,slow=8.0,SNR=7.6
VNDA LR LR 15 35 51.7
comp=Z,132nm,19.7s,baz=342,slow=35
comp=Z,1.5nm,0.7s
DZA Taraz 76.10 315 *e*P **P** **15 02 52.0 -0.4**
baz=315
DZA Taraz 76.10 315 *e*P **P** **15 02 52.0 -0.4**
CHGR Chuyangaron 76.53 311 P **P** **15 02 54.4 -0.6**
CHGR lAmb lAmb 15 03 35.2
comp=Z,23nm,0.7s
CHGR Chuyangaron 76.53 311 P **P** **15 02 54.4 -0.6**
CHGR pmax pmax
comp=Z,23nm,0.7s
KK31 Karatay Array 76.73 315 P **P** **15 02 55.8 -0.2**
KK31 Karatay Array 76.73 315 *i* P **P** **15 02 55.5 -0.5**
KKAR Karatay Array 76.73 315 P **P** **15 02 55.1 -0.8**
KKAR Karatay Array 76.73 315 P **P** **15 02 55.2 -0.8**
BRZS Berezniki 77.46 323 *e*P **P** **15 02 59.3 -0.6**
baz=323
BRZS Berezniki 77.46 323 *e*P **P** **15 02 59.2 -0.6**
L14K Kuka Creek 77.58 25 P **P** **15 03 00.3 +0.1**
L14K lAmb lAmb 15 05 14.6
comp=Z,78nm,1.6s
BVA0 Borovoye Array 79.81 325 P **P** **15 03 12.2 -0.5**
BVAR Borovoye Array 79.81 325 P **P** **15 03 12.5 -0.2**
comp=Z,8.4nm,0.6s,baz=108,slow=7.6,SNR=31
comp=Z,8.4nm,0.6s
BRVK Borovoye 79.88 325 P **P** **15 03 12.8 -0.3**
BRVK Borovoye 79.88 325 P **P** **15 03 13.3 +0.2**
BRVK Borovoye 79.88 325 *ce*P **P** **15 03 12.6 -0.5**
BRVK pmax pmax
comp=Z,34nm,1.7s
TAOE Nuku Hiva Isla 80.02 98 *e*LR LR 15 28 19.8
comp=Z,405nm,26.1s
SVW2 Sparrevohn 80.54 26 P **P** **15 03 17.1 +0.7**
NGCH Negor - Chabah 80.71 296 P **P** **15 03 17.9 -0.2**
TTA Tatalina 81.10 25 P **P** **15 03 18.9 -0.5**
TTA Tatalina 81.10 25 P **P** **15 03 19.0 -0.5**
TTA pmax pmax
comp=Z,26nm,1.4s
L19K White Mountain 81.29 26 P **P** **15 03 21.0 +0.6**
L19K lAmb lAmb 15 05 56.1
comp=Z,64nm,1.7s
J19K Poorman 81.69 24 P **P** **15 03 23.6 +1.2**
C18K Utukok River 81.80 19 P **P** **15 03 23.3 +0.3**
C18K lAmb lAmb 15 04 33.2
comp=Z,53nm,1.8s
JLN Jalan Bani Buh 81.90 293 P **P** **15 03 24.4 -0.1**
WBK Wadi Bani Khal 82.35 293 P **P** **15 03 26.8 -0.1**
J20K Nowinta River 82.36 24 P **P** **15 03 26.9 +1.0**
J20K lAmb lAmb 15 03 29.3
comp=Z,34nm,1.5s
D19K Kuna River 82.72 19 P **P** **15 03 27.9 +0.1**
WSAR Wadi Sarin 82.73 294 P **P** **15 03 28.9 +0.1**
WSAR Wadi Sarin 82.73 294 P **P** **15 03 28.5 -0.3**
comp=Z,6.5nm,0.9s,baz=150,slow=5.4,SNR=4.9
comp=Z,6.5nm,0.9s
CAST Castle Rocks 82.93 25 P **P** **15 03 28.6 -0.3**
CAST lAmb lAmb 15 04 22.6
comp=Z,57nm,1.9s
MHTO MHTO 83.11 291 P **P** **15 03 30.8 0.0**
JMDO Jabal Madar 83.12 293 P **P** **15 03 30.8 0.0**
RC01 Rabbit Creek A 83.19 28 P **P** **15 03 30.7 +0.4**
BIDO Bidbid 83.22 294 P **P** **15 03 32.0 +0.7**
SNR=5.4
SMDO Samad 83.24 293 P **P** **15 03 31.4 -0.1**
JASK Jask - Hormozg 83.70 296 P **P** **15 03 34.0 +0.3**
B20K Meade River 83.70 18 P **P** **15 03 34.1 +1.4**
HOQ Hoqain 83.97 294 P **P** **15 03 35.4 +0.2**
SNR=7.6
BSY Bisya 83.99 293 P **P** **15 03 35.4 +0.2**
SML Sawmill 84.05 27 P **P** **15 03 35.5 +0.7**
B21K Ikpikpuk River 84.34 19 P **P** **15 03 36.7 +0.7**
I23K Minto, Yukon-K 84.63 24 P **P** **15 03 38.4 +0.8**
ARQ Araqi 84.67 294 P **P** **15 03 38.9 +0.3**
SNR=5.1
E22K Anaktuvuk Pass 84.72 21 P **P** **15 03 39.1 +1.1**
E22K lAmb lAmb 15 05 08.4
comp=Z,42nm,1.9s
SOHO SOHO 84.73 294 P **P** **15 03 38.7 -0.2**
GEYT Alibeck 84.91 308 P **P** **15 03 39.4 -0.2**
comp=Z,9.9nm,1.0s,baz=129,slow=4.0,SNR=17
comp=Z,9.9nm,1.0s
B22K Teshekpuk Lake 85.00 18 P **P** **15 03 40.3 +1.0**
B22K lAmb lAmb 15 04 10.4
comp=Z,22nm,1.1s
SHAO Shalim 85.06 288 P **P** **15 03 41.3 +0.6**
UOSS Minazif 85.11 295 P **P** **15 03 40.0 -0.9**
UOSS lAmb lAmb 15 03 41.5
comp=Z,13nm,0.8s
UOSS Minazif 85.11 295 P **P** **15 03 40.3 -0.5**
CCB Clear Creek Bu 85.11 24 P **P** **15 03 39.3 -0.7**
HATD Hatta, Dubai 85.16 295 P **P** **15 03 41.1 0.0**
MASF Masafi 85.19 296 P **P** **15 03 41.6 +0.3**
SNR=6.1
ASHO Ashiyiah 85.21 295 P **P** **15 03 42.0 +0.5**
SHME Shamm 85.26 296 P **P** **15 03 41.5 -0.1**
ABKAR Akbulak array 85.28 320 P **P** **15 03 40.9 -0.2**
ALNE Al Ain 85.44 294 P **P** **15 03 42.5 0.0**
SNR=6.4
IL31 85.52 24 P **P** **15 03 41.0 -0.9**
IL31 lAmb lAmb 15 04 17.9
comp=Z,40nm,1.9s
ILAR Eielson Array 85.52 24 P **P** **15 03 41.6 -0.4**
comp=Z,2.4nm,0.8s,baz=265,slow=4.2,SNR=18
comp=Z,2.4nm,0.8s
NAZ Nazwa, Dubai 85.60 295 P **P** **15 03 43.6 +0.3**
TOLK Toolik Lake Re 85.67 20 P **P** **15 03 42.8 +0.1**
TOLK lAmb lAmb 15 04 25.3
comp=Z,23nm,1.3s
DMTO DMTO 85.68 288 P **P** **15 03 44.0 +0.3**
ASUD Al Ashush, Dub 85.87 295 P **P** **15 03 44.8 +0.2**
F24K Squaw Lake 85.92 22 P **P** **15 03 45.2 +1.2**
F24K lAmb lAmb 15 03 47.3
comp=Z,23nm,1.6s
D24K Happy Valley 86.09 20 P **P** **15 03 46.8 +2.0**
D24K lAmb lAmb 15 04 16.4
comp=Z,22nm,1.0s
CRQM Cirque 86.21 29 P **P** **15 03 46.1 +0.4**
CRQM lAmb lAmb 15 06 43.0
comp=Z,52nm,1.5s
RBK Rabkut 86.37 288 P **P** **15 03 47.6 +0.4**
WHFO Wadi Hawf 86.81 288 P **P** **15 03 48.9 -0.4**
J26L Joseph Creek 86.84 25 P **P** **15 03 48.5 -0.1**
E25K Arctic Village 86.94 21 P **P** **15 03 50.8 +1.9**
CTGM Chitina Glacie 87.11 29 P **P** **15 03 49.8 -0.3**
CTGM lAmb lAmb 15 04 21.7
comp=Z,20nm,1.2s
QSPA South Pole Qui 87.20 180 P **P** **15 03 51.7 +1.3**
comp=Z,1.2nm,0.9s,baz=223,slow=0.7,SNR=6.8
comp=Z,1.2nm,0.9s
ABTO Aybut 87.22 287 P **P** **15 03 51.5 +0.1**
ARU Arti 87.28 327 *c* *i* P **P** **15 03 49.7 -1.1**
ARU *PP **pP** **15 04 13.4 -5.3**
ARU S **SKSac** **15 14 08.9 +0.5**
ARU SS **SS** **15 20 04.0 -4.5**
ARU pmax pmax
comp=Z,7.0nm,0.9s
ARU Arti 87.28 327 LR LR 15 43 16.0
comp=Z,18nm,22.0s,baz=122,slow=36
L27K Beaver Creek, 87.29 27 P **P** **15 03 47.0 -3.8**
L27K lAmb lAmb 15 03 54.1
comp=Z,20nm,1.6s
BCAR Beaver Creek A 87.31 27 P P 15 03 45.7 -5.1
I28M Miner Creek 88.54 24 lAmb lAmb 15 04 01.7
comp=Z,42nm,1.8s
DAWY Dawson 88.54 26 P **P** **15 03 57.1 +0.4**
DAWY lAmb lAmb 15 04 27.7
comp=Z,15nm,1.3s
M29M Somme Creek 88.71 27 lAmb lAmb 15 04 27.4
comp=Z,21nm,1.6s
L29M L29M 88.96 27 lAmb lAmb 15 04 29.5
comp=Z,16nm,1.2s
I29M Ogilvie Camp, 89.20 25 lAmb lAmb 15 04 01.9
comp=Z,30nm,1.6s
M30M Minto, Yukon 89.50 27 P **P** **15 04 01.9 +0.7**
M30M lAmb lAmb 15 04 51.8
comp=Z,23nm,1.9s
KIRV Kirov 92.39 328 LR LR 15 48 25.0
comp=Z,25nm,19.7s,baz=112,slow=37
ELIB Princess Elisa 95.29 196 *dx* x 15 04 47.7
ELIB *dPP PP 15 08 09.8 -9.3
KBZ Khabaz 96.69 314 LR LR 15 53 60.0
comp=Z,14nm,19.4s,baz=152,slow=39
OBN Obninsk 99.66 325 ⇑ *eP* **Pdif** **15 04 49.0 +1.4**
OBN *e* 15 08 52.2
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,48nm,13.0s

ARCES ARCESS Array B 100.81 341 P **Pdif** **15 04 51.6 -1.0**
comp=Z,1.5nm,0.6s,baz=90,slow=4.9,SNR=8.4
PB11 IPOC Station P 143.64 129 PKPdf PKPbc 15 10 38.7 +1.3
KIC Kosan Boka 144.22 277 ⇑ *i* PKP1 **PKPab** **15 10 39.0 +0.3**
comp=Z,28nm,0.6s
DBIC Dimbokro 144.31 278 PKPdf PKPbc 15 10 39.5 +0.1
DBIC Dimbokro 144.31 278 PKIKP PKPbc 15 10 39.5 +0.1
DBIC Dimbokro 144.31 278 PKP **PKPab** **15 10 39.4 +0.3**
comp=Z,16nm,0.5s,baz=81,slow=3.3,SNR=37
TIC Toumodi 144.47 278 ⇑ *i* PKP1 **PKPab** **15 10 39.8 +0.1**
comp=Z,17nm,0.3s
LIC Lamto 144.51 277 ⇑ *i* PKP1 **PKPab** **15 10 39.9 +0.1**
comp=Z,17nm,0.4s
PB16 IPOC Station P 144.55 127 PKPdf **PKPdf** **15 10 42.2 +0.4**
GARC Garzon, Huila 145.00 90 *e*P **PKPab** **15 10 42.2 +0.2**
GUY2C Guyana, Caldas 145.10 85 *e*P **PKPdf** **15 10 43.8 +0.9**
ORTC Ortega, Tolima 145.26 87 *e*P **PKPab** **15 10 43.5 +0.7**
CPUP Villa Florida 146.81 152 PKPbc **PKPbc** **15 10 47.3 +0.6**
comp=Z,1.3nm,0.7s,baz=146,slow=3.6,SNR=3.1

*SKHL **23** 14:53:30.7±0.7, 44°.50N×150°.20E, h40km±3km, mb4.1/3*
*NIED **23** 14:53:32.5, 44°.80N×149°.91E, h30km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.01; $M_{\theta\theta}$-0.68; $M_{\phi\phi}$-0.33; $M_{r\theta}$2.23; $M_{\theta\phi}$0.28; $M_{\phi r}$2.73; Fault plane solution: $M_0$3.58000×10^{14} NP1:ϕ_s40.00000°, δ85.00000°, λ88.00000°. NP2:ϕ_s243.00000°, δ_s0.00000°, λ113.00000°.*
*JMA **23** 14:53:32.5±0.8, 45°.1N×147°.4E, h30km, MV3.9/10, SE OFF ETOROFU*
*IDC **23** 14:53:35.3±4.0, 44°.92N×149°.96E, h60km±29km, mb3.5/6, mbtmp3.7/9, ML3.4/2, MS3.0/2, Error ellipse: s-maj=71.6km s-min=20.9km az=163.0*
ISC 23 14:53:30.7±1.0, 44°.5N±0°.1×150°.19E±0°.08, h35km, n30, σ1.9 37/29, mb3.7/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.82**	**295**	*e*P	**Pn**		**14 53 59.2**	**-0.2**
KUR					AMB	AMB	14 54 01.1	
	120nm,0.5s							
KUR				*e*S	**Sn**		**14 54 20.9**	**-0.3**
KUR				A	A		14 54 23.8	
	250nm,0.6s							
SHO	**Shikotan**	**2.49**	**257**	*i* P	**Pn**		**14 54 09.0**	**+0.3**
SHO					AMB	AMB	14 54 12.4	
	10.0nm,0.2s							
SHO				*e*S	**Sn**		**14 54 36.5**	**-1.4**
SHO				A	A		14 54 39.7	
	100nm,0.5s							
SHO				A	A		14 54 39.7	
	70nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**3.14**	**263**	*i* P	**Pn**		**14 54 18.6**	**+1.0**
YUK					AMB	AMB	14 54 19.5	
	30nm,0.3s							
YUK				*i* S	**Sn**		**14 54 53.9**	**0.0**
YUK				A	A		14 54 55.3	
	50nm,0.4s							
YUK				A	A		14 54 55.3	
	100nm,0.4s							
NEM2	**Nemuro 2**	**3.40**	**252**	*e*P	**Pn**		**14 54 21.5**	**+0.3**
NEM2				*e*S	**Sn**		**14 54 57.8**	**-2.4**
NMR	**Nemuro--Hokkai**	**3.41**	**253**	*e*P	**Pn**		**14 54 21.7**	**+0.4**
NMR				*e*S	**Sn**		**14 54 59.7**	**-0.8**
JRA	**Rausu**	**3.68**	**263**	*e*P	**Pn**		**14 54 27.1**	**+2.0**
JNK	**Nakash**	**4.04**	**259**	*e*P	**Pn**		**14 54 31.3**	**+1.3**
JNK				*e*S	**Sn**		**14 55 17.1**	**+0.9**
AKK	**Akkeshi**	**4.14**	**251**	*e*P	**Pn**		**14 54 32.7**	**+1.3**
JAK	**Akkeshi**	**4.25**	**252**	*e*P	**Pn**		**14 54 33.2**	**+0.4**
JAK				*e*S	**Sn**		**14 55 19.7**	**-1.4**
JTKR	**Abashiri--Toko**	**4.54**	**266**	*e*P	**Pn**		**14 54 39.4**	**+2.5**
JAR	**Ashorobuto**	**4.79**	**258**	*e*P	**Pn**		**14 54 42.5**	**+2.3**
JOB	**Onbets**	**4.87**	**253**	*e*P	**Pn**		**14 54 42.4**	**+1.0**
JCH	**Churui**	**5.30**	**252**	*e*P	**Pn**		**14 54 48.7**	**+1.4**
ASAJ	**Asahikawa**	**5.46**	**269**	P	**Pn**		**14 54 52.2**	**+2.7**
	0.9nm,0.3s,baz=94,slow=7.2,SNR=12							
	2.8nm,0.4s							
PETK	**Petropavlovsk-**	**9.95**	**27**	P	**Pn**		**14 55 51.0**	**0.0**
	2.2nm,0.9s,baz=202,slow=7.4,SNR=1.2							
USRK	**Ussuriysk Ar.**	**13.04**	**275**	P	**Pn**		**14 56 34.8**	**+1.5**
	0.3nm,0.3s,baz=86,slow=16,SNR=4.7							
	2.0nm,0.6s							
KLR	**Kul'dur**	**13.48**	**297**	LR	LR		15 02 02.3	
	comp=Z,33nm,20.0s,baz=156,slow=39							
H11N2	**WAKE ISLAND Hy**	**28.33**	**145**	T	T		15 30 21.2	
	baz=335,slow=75,SNR=16							
H11N1	**WAKE ISLAND Hy**	**28.34**	**145**	T	T		15 30 20.9	
	baz=335,slow=75,SNR=16							
H11N3	**WAKE ISLAND Hy**	**28.35**	**145**	T	T		15 30 22.6	
	baz=335,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hy**	**29.35**	**147**	T	T		15 31 34.7	
	baz=336,slow=76,SNR=17							
H11S3	**WAKE ISLAND Hy**	**29.36**	**147**	T	T		15 31 32.4	
	baz=336,slow=76,SNR=9.3							
H11S2	**WAKE ISLAND Hy**	**29.37**	**147**	T	T		15 31 36.2	
	baz=336,slow=76,SNR=13							
SONM	**Songino Array**	**30.22**	**292**	P	**P**		**14 59 37.6**	**-0.3**
	0.5nm,0.7s,baz=103,slow=6.4,SNR=2.8							
	0.5nm,0.7s							
KDAK	**Kodiak Island**	**37.14**	**48**	LR	LR		15 16 00.6	
	comp=Z,44nm,20.8s,baz=80,slow=36							
ILAR	**Eielson Array**	**39.60**	**37**	P	**P**		**15 00 58.1**	**-0.2**
	1.6nm,1.1s,baz=266,slow=7.1,SNR=5.2							
	1.6nm,1.1s							
MKAR	**Makanchi Array**	**46.18**	**298**	P	**P**		**15 01 50.9**	**-1.0**
	0.7nm,0.7s,baz=68,slow=7.3,SNR=7.6							
	0.7nm,0.7s							
YKA	**Yellowknife Ar**	**53.97**	**35**	P	**P**		**15 02 50.8**	**+0.3**
	0.2nm,0.7s,baz=294,slow=7.0,SNR=3.9							
	0.2nm,0.7s							
FINES	**FINESS Array B**	**65.20**	**334**	P	**P**		**15 04 06.5**	**-1.5**
	4.2nm,1.0s,baz=26,slow=11,SNR=4.7							
	4.2nm,1.0s							
TXAR	**Lajitas Array**	**80.42**	**58**	P	**P**		**15 05 39.9**	**+1.0**
	0.8nm,0.6s,baz=305,slow=5.4,SNR=3.1							
	0.8nm,0.6s							

*NEIC **23** 15:06:58.1±0.5, 19°.21N±0°.04×155°.49W±0°.02, h40km±5km, Error ellipse: s-maj=6.4km s-min=2.2km az=155.0*
HVO 23 15:06:59.3±0.7, 19°.20N±0°.04×155°.47W±0°.04, h36km±4km, Md2.5/28, ML2.6/42(NEIC), Error ellipse: s-maj=5.8km s-min=4.5km az=144.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.08**	**63**			Pn	15 07 04.9	-0.6
HPO	**Honuapo**	**0.14**	**215**			Pn	15 07 05.1	-4.4
KHU	**Kahuku**	**0.14**	**288**			Pn	15 07 05.1	-4.4
KHU					IAML		15 07 09.8	
	comp=N,831nm,0.1s							
AIN	**Ainahou**	**0.17**	**4**			Sn	15 07 10.3	-7.1
AIN	**Ainahou**	**0.17**	**4**			Pn	15 07 05.5	-3.2
AIN					IAML		15 07 10.7	
	comp=N,833nm,0.4s							
AIN	**Ainahou**	**0.17**	**4**		IAML		15 07 10.3	
	comp=E,354nm,0.2s							
HLP	**Hilina Pali**	**0.18**	**59**			Pn	15 07 05.4	-2.9
HLP						Sn	15 07 10.0	-6.7
HLP	**Hilina Pali**	**0.18**	**59**		IAML		15 07 13.0	
	comp=N,494nm,1.6s							
HLP					IAML		15 07 15.1	
	comp=E,648nm,4.1s							
SDHHI	**Sand Hill**	**0.25**	**42**			Pn	15 07 05.8	-1.8
SDHHI	**Sand Hill**	**0.25**	**42**		IAML		15 07 10.9	
	comp=N,913nm,0.5s							
SDHHI					IAML		15 07 11.1	
	comp=E,912nm,0.4s							
RIM	**Rim**	**0.27**	**44**		IAML		15 07 16.7	
	comp=E,574nm,1.3s							
KKO	**Keanakako`i**	**0.28**	**45**		IAML		15 07 21.0	
	comp=E,624nm,1.2s							
UWE	**Uwekahuna**	**0.28**	**38**		IAML		15 07 19.1	
	comp=N,702nm,1.0s							
SBLHI	**Steaming Bluff**	**0.29**	**41**		IAML		15 07 11.3	
	comp=N,394nm,0.2s							
SBLHI					IAML		15 07 11.3	
	comp=E,390nm,0.3s							
PUH	**Pauahi**	**0.30**	**55**		IAML		15 07 17.0	
	comp=N,548nm,2.3s							
HATHI	**Halema`uma`u T**	**0.30**	**42**		IAML		15 07 20.9	
	comp=E,617nm,0.9s							
HATHI					IAML		15 07 21.7	
	comp=N,407nm,0.7s							
MWH	**Moku'aweowe**	**0.30**	**337**		IAML		15 07 10.9	

comp=E,429nm,4.0s
MLOA Mauna Loa Obse 0.35 344 IAML 15 07 12.6
comp=E,345nm,0.9s
STCH Steam Cracks 0.38 61 IAML 15 07 12.8
comp=E,355nm,0.2s
HMH Humu'ula Sheep 0.40 358 IAML 15 07 24.7
comp=E,305nm,3.8s
CPH Captain Cook 0.51 304 Pn 15 07 08.5 -1.6
KHLU Kahalu`u 0.56 314 IAML 15 07 16.5
comp=N,365nm,0.1s
KHLU IAML 15 07 16.5
comp=E,218nm,0.3s
HUH Hualalai 0.59 324 Pn Pn 15 07 10.3 -1.3
HUH IAML 15 07 23.2
comp=N,266nm,0.2s
HUH IAML 15 07 23.7
comp=E,254nm,0.7s
HPAH Hawaii Prepara 0.85 346 IAML 15 07 37.1
comp=N,166nm,4.4s
HPAH IAML 15 07 38.5
comp=E,134nm,3.5s

*TEH **23** 15:15:17.1, 40˚.58N×48˚.29E, h10km±307km, ML2.8*
*DRS **23** 15:15:17.9, 40˚.68N×48˚.36E, h22km*
ISC 23 15:15:14.9±1.4, 40˚.70N±0˚.03×48˚.31E±0˚.06, h18km±4km, n20, σ1§23/34, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AKT	**Akhty**	**0.89**	**331**	*e*Pg		**Pn**	**15 15 32.1**	**-0.5**
	90nm,0.2s							
AKT				*e*Sg		**Sb**	**15 15 43.8**	**+0.3**
	1µm,0.4s							
KSMR	**Kasumkent**	**0.91**	**351**	*e*Pg		**Pg**	**15 15 32.8**	**+0.2**
	123nm,0.2s							
KSMR				*e*Sg		**Sg**	**15 15 44.6**	**0.0**
	52nm,0.5s							
DRN	**Derbent**	**1.33**	**1**	*e*Pg		**Pg**	**15 15 40.2**	**-0.3**
	116nm,0.3s							
DRN				*e*Sg		**Sg**	**15 15 57.9**	**+0.1**
	8.0nm,0.5s							
VSHL	**Vashlovani**	**1.54**	**291**	P		**Pg**	**15 15 44.5**	**-0.1**
VSHL				S		**Sg**	**15 16 06.4**	**+1.7**
URKR	**Urkarakh**	**1.55**	**341**	*e*Pg		**Pg**	**15 15 44.9**	**+0.2**
	52nm,0.5s							
URKR				*e*Sg		**Sg**	**15 16 06.4**	**+1.5**
	97nm,0.6s							
SGKR	**Sergokala**	**1.82**	**345**	*e*Pg		**Pg**	**15 15 49.0**	**-0.9**
	59nm,0.4s							
SGKR				*e*Sg		**Sg**	**15 16 13.9**	**+0.3**
	54nm,0.6s							
GRMI	**Germi**	**1.92**	**190**	Pg		**Pb**	**15 15 49.4**	**0.0**
GNBR	**Gunib**	**1.96**	**329**	*e*Pg		**Pb**	**15 15 50.4**	**+0.2**
	34nm,0.7s							
GNBR				*e*Sg		**Sb**	**15 16 16.3**	**+2.0**
	37nm,0.5s							
ARKR	**Arakani**	**2.14**	**333**	*e*Pg		**Pb**	**15 15 53.6**	**+0.5**
	17nm,0.5s							
ARKR				*e*Sg		**Sg**	**15 16 22.2**	**-1.5**
	89nm,0.3s							
XNZR	**Khunzakh**	**2.20**	**327**	*e*Pg		**Pb**	**15 15 53.9**	**-0.3**
	17nm,0.4s							
XNZR				*e*Sg		**Sb**	**15 16 22.6**	**+1.5**
	39nm,0.4s							
UNCR	**Uncukul**	**2.31**	**331**	*e*Pn		**Pb**	**15 15 54.6**	**-1.3**
	14nm,0.4s							
UNCR				*e*Sn		**Sb**	**15 16 23.8**	**-0.4**
	20nm,0.4s							
GAS1	**Astara - Iran**	**2.35**	**170**	Pn		**Pb**	**15 15 56.0**	**-0.6**
KRNR	**Karanay**	**2.37**	**334**	*e*Pn		**Pb**	**15 15 55.8**	**-1.3**
	8.0nm,0.3s							
KRNR				*e*Sn		**Sb**	**15 16 26.0**	**0.0**
	17nm,0.4s							
DBC	**Dubki**	**2.57**	**335**	*e*Pn		**Pb**	**15 15 58.5**	**-1.9**
	8.0nm,0.5s							
DBC				*e*Sn		**Sb**	**15 16 31.1**	**-0.5**
	17nm,0.4s							
IHRS	**Heris**	**2.58**	**203**	Pn		**Pb**	**15 15 59.7**	**-1.0**
IMRD	**Marand**	**2.83**	**226**	Pn		**Pb**	**15 16 03.6**	**-1.3**
CHRG	**Chargali**	**3.02**	**304**	P		**Pn**	**15 16 03.8**	**+2.0**
CHRG				S		**Sb**	**15 16 44.6**	**0.0**
MAKU	**Maku**	**3.10**	**245**	Pn		**Pb**	**15 16 06.8**	**-2.7**
DMNI	**Dmanisi**	**3.18**	**283**	P		**Pb**	**15 16 09.7**	**-1.2**
TRLG	**Trialeti**	**3.29**	**286**	P		**Pb**	**15 16 10.8**	**-2.0**
TRLG				S		**Sb**	**15 16 54.2**	**+1.7**

*IDC **23** 15:15:43.7±0.8, 9˚.03S×108˚.59W, h0km, mb4.0/9, mbtmp4.0/9, MS4.1/44, Error ellipse: s-maj=45.9km s-min=18.0km az=73.0*
*NEIC **23** 15:15:46.6±2.4, 9˚.0S±0˚.1×108˚.3W±0˚.1, h10km±1km, mb4.6/49, Error ellipse: s-maj=23.6km s-min=18.7km az=277.0*
ISC 23 15:15:46.3±0.6, 8˚.96S±0˚.08×108˚.3W±0˚.1, h15km, n114, σ1§09/64, mb4.5/31, MS4.1/47, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RPN	**Rapa Nui**	**18.10**	**183**	LR		LR	15 24 48.5	
	comp=Z,920nm,20.6s,baz=8.0,slow=30							
VA02	**Isla de Pascua**	**18.14**	**183**			**Pn**	**15 19 56.7**	**-1.1**
PAYG	**Puerto Ayora**	**19.73**	**66**	P		**P**	**15 20 14.8**	**-0.9**
PAYG				IAmb		IAmb	15 20 26.6	
	comp=Z,47nm,1.1s							
PTCN	**Pitcairn Islan**	**26.22**	**230**	P		**P**	**15 21 20.7**	**-0.1**
CMIG	**Matias Romero**	**29.08**	**27**	LR		LR	15 30 05.1	
	comp=Z,205nm,20.7s,baz=210,slow=29							
ATAH	**Atahualpa**	**29.66**	**89**	LR		LR	15 31 08.3	
	comp=Z,303nm,18.5s,baz=266,slow=31							
ORTG	**Ortega, Santa**	**29.75**	**50**	P		**P**	**15 21 51.8**	**-0.8**
MTO3	**Montecristo**	**29.86**	**39**	P		**P**	**15 21 52.2**	**-1.4**
MTO3				IAmb		IAmb	15 22 31.7	
	comp=Z,14nm,1.2s							
JTS	**Las Juntas de**	**30.09**	**51**	LR		LR	15 30 57.0	
	comp=Z,647nm,20.6s,baz=234,slow=30							
ACON	**Acoyapa**	**30.99**	**48**	P		**P**	**15 22 01.2**	**-2.2**
NNA	**Nana**	**31.07**	**98**	LR		LR	15 30 42.0	
	comp=Z,140nm,21.3s,baz=267,slow=29							
TAOE	**Nuku Hiva Isla**	**31.46**	**268**	*e*LR		LR	15 30 11.7	
	comp=Z,328nm,24.3s							
LPIG	**La Paz**	**32.91**	**357**	LR		LR	15 32 20.9	
	comp=Z,487nm,21.6s,baz=202,slow=30							
H03N2	**Juan Fernandez**	**36.41**	**136**	T		T	16 01 20.7	
	baz=308,slow=77,SNR=23							
H03N1	**Juan Fernandez**	**36.43**	**136**	T		T	16 01 23.5	
	baz=308,slow=77,SNR=28							
H03N3	**Juan Fernandez**	**36.43**	**136**	T		T	16 01 21.7	
	baz=308,slow=77,SNR=22							
ROSC	**El Rosal**	**36.54**	**69**	LR		LR	15 35 07.1	
	comp=Z,233nm,20.9s,baz=258,slow=32							
HSIG		**37.84**	**356**	P		**P**	**15 23 02.0**	**-0.5**
HSIG				IAmb		IAmb	15 23 15.5	
	comp=Z,22nm,1.3s							
TXAR	**Lajitas Array**	**38.33**	**7**	P		**P**	**15 23 09.0**	**+2.2**
TXAR	**Lajitas Array**	**38.33**	**7**	P		**P**	**15 23 07.7**	**+0.9**
	comp=Z,0.9nm,1.0s,baz=194,slow=10,SNR=4.6							
TXAR				LR		LR	15 36 09.3	
	comp=Z,117nm,18.1s,baz=188,slow=32							
	comp=Z,0.9nm,1.0s							
PB11	**IPOC Station P**	**38.86**	**110**	P		**P**	**15 23 11.0**	**-0.5**
DRIO	**Del Rio**	**38.87**	**11**			**P**	**15 23 12.7**	**+1.4**
DRIO				IAmb		IAmb	15 23 19.6	
	comp=Z,6.6nm,1.1s							
PB05	**IPOC Station P**	**39.02**	**115**			**PcP**	**15 25 23.2**	**+0.1**
SAND	**Sanderson**	**39.14**	**9**			**P**	**15 23 14.9**	**+1.4**
SAND				IAmb		IAmb	15 23 22.5	
	comp=Z,10nm,1.2s							
HNDO	**Hondo**	**39.23**	**12**	P		**P**	**15 23 16.3**	**+2.0**
HNDO				IAmb		IAmb	15 23 26.7	
	comp=Z,9.5nm,1.4s							
PB01	**IPOC Station P**	**39.26**	**112**	P		**P**	**15 23 15.4**	**+0.6**
LPAZ	**La Paz**	**39.81**	**105**	P		**P**	**15 23 20.3**	**+0.2**
SOR	**Soroa**	**40.11**	**38**	P		**P**	**15 23 21.4**	**-0.3**
LVC	**Limon Verde**	**40.12**	**114**	LR		LR	15 35 24.4	
	comp=Z,488nm,22.0s,baz=281,slow=29							
BRDY	**Brady**	**40.99**	**12**			**P**	**15 23 28.8**	**0.0**
BRDY				IAmb		IAmb	15 23 37.4	
	comp=Z,15nm,1.0s							
PPT	**Papeete**	**41.00**	**254**	LR		LR	15 35 40.4	
	comp=Z,238nm,19.3s,baz=78,slow=29							
PPT2	**Papeete2**	**41.00**	**254**	*e*LR		LR	15 34 44.5	
	comp=Z,627nm,24.8s							
PPT2				*e*LR		LR	15 34 51.6	
	comp=Z,341nm,24.5s							
SGCY	**Sterling City**	**41.21**	**9**			**P**	**15 23 31.8**	**+1.0**
SGCY				IAmb		IAmb	15 23 36.8	
	comp=Z,12nm,0.8s							
SDV	**Santo Domingo**	**41.49**	**66**	LR		LR	15 39 15.2	
	comp=Z,183nm,20.1s,baz=250,slow=34							
TBI	**Tubuai**	**41.88**	**245**	*e*LR		LR	15 34 53.2	
	comp=Z,3µm,28.2s							
TBI				*e*LR		LR	15 34 55.9	
	comp=Z,889nm,30.2s							
ABTX	**Abilene, Hawle**	**42.16**	**11**	P		**P**	**15 23 39.9**	**+1.4**
ABTX				IAmb		IAmb	15 23 40.4	
	comp=Z,8.6nm,1.1s							
PLPT	**Palo Pinto**	**42.61**	**12**			**P**	**15 23 43.8**	**+1.7**
PLPT				IAmb		IAmb	15 23 55.8	
	comp=Z,27nm,1.5s							
WTFS	**Witchita Falls**	**43.50**	**12**			**P**	**15 23 48.9**	**-0.3**
WTFS				IAmb		IAmb	15 23 57.4	
	comp=Z,12nm,0.9s							
ANMO	**Albuquerque**	**43.70**	**2**	LR		LR	15 39 19.4	
	comp=Z,259nm,18.3s,baz=280,slow=32							
SAML	**Samuel**	**44.55**	**94**	P		**P**	**15 23 58.6**	**+0.6**
SAML				IAmb		IAmb	15 24 00.1	
	comp=Z,12nm,1.2s							
QSM	**Queen of Sheba**	**45.40**	**350**	P		**P**	**15 24 08.0**	**+3.5**
GWY	**Greenwater Val**	**45.59**	**351**	P		**P**	**15 24 07.1**	**+1.0**
GWY				IAmb		IAmb	15 24 18.6	
	comp=Z,7.5nm,1.3s							
SHPR	**Sheep Range**	**45.68**	**352**	P		**P**	**15 24 07.1**	**+0.3**
PLCA	**Paso Flores**	**46.04**	**140**	P		**P**	**15 24 10.8**	**+1.2**
	comp=Z,1.4nm,1.0s,baz=342,slow=12,SNR=2.9							
PLCA				LR		LR	15 38 51.9	
	comp=Z,368nm,19.0s,baz=308,slow=30							
	comp=Z,1.4nm,1.0s							
WCT	**Wildcat Mounta**	**46.17**	**351**	P		**P**	**15 24 12.2**	**+1.6**
WCT				IAmb		IAmb	15 24 24.6	
	comp=Z,7.8nm,1.4s							
S22A	**4UR Ranch, Cre**	**46.48**	**2**	P		**P**	**15 24 14.5**	**+1.2**
S22A				IAmb		IAmb	15 24 31.8	
	comp=Z,6.6nm,1.3s							
SDCO	**Great Sand Dun**	**46.53**	**3**	P		**P**	**15 24 14.5**	**+0.8**
WHAR	**Wooly Hollow**	**46.53**	**18**	P		**P**	**15 24 14.0**	**+0.6**
SIV	**San Ignacio**	**46.56**	**103**	LR		LR	15 41 01.6	
	comp=Z,110nm,18.9s,baz=285,slow=32							
T35A	**Sooner Cattle**	**46.95**	**13**	P		**P**	**15 24 17.8**	**+1.1**
PCRV	**Puerto La Cruz**	**47.43**	**67**	LR		LR	15 42 38.7	
	comp=Z,128nm,18.5s,slow=34							
TPH	**Tonopah**	**47.52**	**350**	P		**P**	**15 24 23.1**	**+1.8**
LCAR	**Lake Charles**	**47.61**	**19**	P		**P**	**15 24 21.5**	**-0.2**
NVAR	**Mina Array Bea**	**48.05**	**349**	P		**P**	**15 24 26.8**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=165,slow=8.7,SNR=5.5							
NVAR				LR		LR	15 40 34.3	
	comp=Z,347nm,18.1s,baz=168,slow=31							
	comp=Z,0.7nm,0.8s							
MGMO	**Mountain Grove**	**48.27**	**17**	P		**P**	**15 24 27.9**	**+1.0**
MGMO				IAmb		IAmb	15 24 35.4	
	comp=Z,10.0nm,1.1s							
PTLB	**Pontes e Lacer**	**48.40**	**103**	P		**P**	**15 24 29.1**	**+0.8**
PTLB				IAmb		IAmb	15 24 40.8	
	comp=Z,6.6nm,1.1s							
ISCO	**Idaho Springs**	**48.57**	**3**	P		**P**	**15 24 30.3**	**+0.8**
ISCO				IAmb		IAmb	15 24 37.0	
	comp=Z,4.8nm,1.1s							
YERR	**Yerington**	**48.77**	**349**	P		**P**	**15 24 32.0**	**+1.1**
SJG	**San Juan**	**49.55**	**57**	LR		LR	15 41 56.9	
	comp=Z,163nm,21.9s,baz=222,slow=32							
ELK	**Elko**	**49.86**	**353**	P		**P**	**15 24 38.7**	**-0.6**
ELK				IAmb		IAmb	15 24 59.9	
	comp=Z,6.8nm,1.5s							
ELK	**Elko**	**49.86**	**353**	LR		LR	15 41 46.4	
	comp=Z,263nm,20.1s,baz=162,slow=31							
TKL	**Tuckaleechee C**	**50.04**	**26**	LR		LR	15 46 04.1	
	comp=Z,50nm,18.6s,baz=285,slow=36							
RAR	**Rarotonga**	**50.96**	**250**	LR		LR	15 41 05.9	
	comp=Z,86nm,18.5s,baz=142,slow=30							
CPUP	**Villa Florida**	**51.20**	**117**	P		**P**	**15 24 50.4**	**+0.9**
CPUP				IAmb		IAmb	15 24 51.8	
	comp=Z,5.1nm,0.9s							
CPUP	**Villa Florida**	**51.20**	**117**	P		**P**	**15 24 50.6**	**+1.1**
	comp=Z,4.3nm,1.0s,baz=284,slow=10,SNR=8.0							
CPUP				LR		LR	15 43 02.2	
	comp=Z,220nm,19.4s,baz=281,slow=32							
	comp=Z,4.3nm,1.0s							
PDAR	**Pinedale Array**	**51.48**	**359**	P		**P**	**15 24 51.3**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=169,slow=8.3,SNR=5.4							
PDAR				LR		LR	15 43 58.9	
	comp=Z,229nm,18.4s,baz=202,slow=33							
	comp=Z,0.5nm,0.8s							
WVOR	**Wild Horse Val**	**52.01**	**350**	P		**P**	**15 24 55.7**	**+0.4**
WVOR				IAmb		IAmb	15 25 24.4	
	comp=Z,7.7nm,1.4s							
YBH	**Yreka Blue Hor**	**52.15**	**346**	LR		LR	15 42 08.2	
	comp=Z,294nm,20.3s,baz=178,slow=30							
MOOW	**Moose Ponds**	**52.50**	**358**	P		**P**	**15 25 00.9**	**+1.8**
HLID	**Hailey**	**52.56**	**354**	P		**P**	**15 25 00.6**	**+1.2**
MFID	**Camas Ranch**	**52.57**	**353**	P		**P**	**15 24 59.9**	**+0.5**
MFID				IAmb		IAmb	15 25 01.1	
	comp=Z,6.3nm,1.1s							
IMW	**Indian Meadow**	**52.66**	**358**	P		**P**	**15 25 00.2**	**-0.1**
MDP	**Montagnes des**	**57.22**	**78**	LR		LR	15 47 57.1	
	comp=Z,150nm,18.6s,baz=290,slow=34							
NEW	**Newport**	**57.50**	**353**	LR		LR	15 46 34.8	
	comp=Z,202nm,18.5s,baz=188,slow=32							
BDFB	**Brasilia**	**59.12**	**103**	LR		LR	15 48 59.4	
	comp=Z,84nm,18.3s,baz=311,slow=34							
SADO	**Sadowa**	**59.60**	**24**	LR		LR	15 51 06.8	
	comp=Z,70nm,19.9s,baz=124,slow=36							
ULM	**Lac du Bonnet**	**59.95**	**9**	LR		LR	15 49 20.6	
	comp=Z,93nm,18.6s,baz=228,slow=34							
EDM	**Edmonton**	**62.08**	**357**	P		**P**	**15 26 05.7**	**-0.7**
BBB	**Bella Bella**	**63.23**	**346**	LR		LR	15 48 50.4	
	comp=Z,100nm,20.5s,baz=182,slow=31							
PMSA	**Palmer Station**	**63.70**	**161**	LR		LR	15 48 22.9	
	comp=Z,94nm,18.6s,baz=290,slow=31							
RAO	**Raoul Island**	**67.92**	**242**	LR		LR	15 48 39.3	
	comp=Z,98nm,19.9s,baz=116,slow=29							
DLBC	**Dease Lake**	**69.44**	**348**	LR		LR	15 52 48.0	
	comp=Z,187nm,19.1s,baz=198,slow=32							
YKA	**Yellowknife Ar**	**71.40**	**357**	P		**P**	**15 27 05.0**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=171,slow=5.6,SNR=25							
YKA				LR		LR	15 54 12.4	
	comp=Z,106nm,21.8s,baz=294,slow=32							
	comp=Z,1.6nm,0.9s							
SCHQ	**Schefferville**	**72.41**	**24**	LR		LR	15 57 28.0	
	comp=Z,122nm,21.5s,baz=222,slow=34							
URZ	**Urewera**	**72.42**	**233**	LR		LR	15 53 21.5	
	comp=Z,105nm,18.4s,baz=195,slow=31							
KDAK	**Kodiak Island**	**75.62**	**337**	LR		LR	15 52 45.1	
	comp=Z,419nm,19.3s,baz=184,slow=29							
K29M	**Barlow Dome**	**75.91**	**347**	P		**P**	**15 27 33.1**	**+1.0**
K29M				IAmb		IAmb	15 27 35.4	
	comp=Z,7.3nm,1.1s							
RPZ	**Rata Peaks**	**77.12**	**227**	LR		LR	15 54 48.1	
	comp=Z,183nm,20.4s,baz=84,slow=30							
K27K	**Chicken**	**77.13**	**345**	P		**P**	**15 27 39.5**	**+0.5**
K27K				IAmb		IAmb	15 27 41.1	
	comp=Z,7.0nm,1.1s							
J26L	**Joseph Creek**	**77.89**	**345**	P		**P**	**15 27 43.3**	**0.0**
J26L				IAmb		IAmb	15 27 45.1	
	comp=Z,4.3nm,1.0s							
FRB	**Frobisher Bay**	**78.50**	**17**	LR		LR	16 01 06.5	
	comp=Z,171nm,18.1s,baz=200,slow=35							
ILAR	**Eielson Array**	**78.97**	**344**	P		**P**	**15 27 48.8**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=163,slow=5.9,SNR=12							
ILAR				LR		LR	15 55 32.2	
	comp=Z,143nm,20.2s,baz=101,slow=30							
	comp=Z,1.1nm,0.9s							
INK	**Inuvik**	**79.12**	**351**	P		**P**	**15 27 50.1**	**+0.2**
INK				IAmb		IAmb	15 28 06.3	
	comp=Z,12nm,1.4s							
INK	**Inuvik**	**79.12**	**351**	LR		LR	15 58 56.2	
	comp=Z,195nm,21.8s,baz=182,slow=33							
QSPA	**South Pole Qui**	**81.12**	**180**	P		**P**	**15 28 01.1**	**0.0**
QSPA	**South Pole Qui**	**81.12**	**180**	P		**P**	**15 28 00.9**	**-0.2**
	comp=Z,7.7nm,1.0s,baz=121,slow=2.8,SNR=18							
	comp=Z,7.7nm,1.0s							
DZM	**Mont Dzumac**	**82.32**	**249**	*e*LR		LR	15 54 03.0	
	comp=Z,102nm,32.9s							
D25K	**Kavik River**	**82.43**	**347**	P		**P**	**15 28 08.3**	**+0.6**
D25K				IAmb		IAmb	15 28 15.5	
	comp=Z,6.6nm,1.0s							
RES	**Resolute Bay**	**83.90**	**4**	LR		LR	16 03 32.7	
	comp=Z,156nm,19.1s,baz=215,slow=34							
SFJD	**Kangerlussuaq**	**86.25**	**19**	LR		LR	16 06 09.3	
	comp=Z,94nm,18.6s,baz=218,slow=35							
SNAA	**Sanae**	**86.37**	**162**	P		**P**	**15 28 27.2**	**-0.6**
	comp=Z,3.0nm,1.1s,baz=205,slow=8.6,SNR=3.8							
	comp=Z,3.0nm,1.1s							
H11S2	**WAKE ISLAND Hy**	**88.11**	**289**	T		T	17 05 55.6	
	baz=100,slow=74,SNR=90							
H11S1	**WAKE ISLAND Hy**	**88.11**	**289**	T		T	17 05 48.4	
	baz=100,slow=74,SNR=90							
H11S3	**WAKE ISLAND Hy**	**88.12**	**289**	T		T	17 05 48.8	
	baz=100,slow=74,SNR=72							
H11N3	**WAKE ISLAND Hy**	**88.13**	**290**	T		T	17 05 52.2	
	baz=100,slow=75,SNR=63							
H11N2	**WAKE ISLAND Hy**	**88.14**	**290**	T		T	17 05 49.1	
	baz=100,slow=75,SNR=66							
H11N1	**WAKE ISLAND Hy**	**88.14**	**290**	T		T	17 05 50.2	
	baz=100,slow=75,SNR=47							
SHEM	**Shemya Is, Ala**	**89.64**	**324**	LR		LR	16 00 34.1	
	comp=Z,174nm,21.1s,baz=315,slow=30							
BORG	**Borgarnes**	**96.74**	**26**	LR		LR	16 11 37.3	
	comp=Z,50nm,18.3s,baz=259,slow=35							
SONM	**Songino Array**	**131.42**	**329**	PKP		**PKPdf**	**15 34 58.7**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=338,slow=1.6,SNR=2.0							
KMBO	**Kilima Mbogo**	**144.25**	**105**	PKP		**PKPdf**	**15 35 23.5**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=250,slow=6.1,SNR=4.0							
PZH	**PanZhiHua**	**146.62**	**305**	PKPbc		**PKPdf**	**15 35 26.4**	**-0.4**
GEYT	**Alibeck**	**148.66**	**21**	PKPbc		**PKPbc**	**15 35 33.2**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=222,slow=2.0,SNR=4.6							
CMAR	**Chiang Mai Arr**	**151.94**	**293**	PKPbc		**PKPbc**	**15 35 40.8**	**-1.1**
	comp=Z,1.9nm,0.9s,baz=44,slow=0.8,SNR=13							

*SJA **23** 15:24:26.3±0.6, 24˚.02S×66˚.75W, h241km±5km, ML3.5, MW3.5*
*GUC **23** 15:24:29.8±0.6, 23˚.98S×67˚.17W, h249km±11km, ML4.0*
ISC 23 15:24:25.7±2.0, 24˚.00S±0˚.04×66˚.81W±0˚.07, h242km±16km, n35, σ1§78/59, 6C, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SLA	**San Lorenzo**	**1.39**	**121**	*e*P		Pn	15 24 56.8	-5.8
AZAP	**Zapla**	**1.61**	**98**	*e*P		**Pn**	**15 25 04.7**	**+0.3**
YJA	**Yavi**	**2.17**	**34**	*e*P		**Pn**	**15 25 11.0**	**+1.3**
LVC	**Limon Verde**	**2.37**	**305**	*e*P		**Pn**	**15 25 13.1**	**+1.5**
LVC				*e*S		**S**	**15 25 47.6**	**+0.2**
LVC	**Limon Verde**	**2.37**	**305**	*i*P		**Pn**	**15 25 13.0**	**+1.5**
LVC				*i*S		**S**	**15 25 46.1**	**-1.3**
LVC				IAML			15 25 48.7	
	comp=Z,207nm,0.2s							
PB15	**IPOC Station P**	**2.56**	**287**	*e*P		**Pn**	**15 25 15.0**	**+1.7**
PB15				*e*S		**S**	**15 25 49.9**	**-0.7**
PB15	**IPOC Station P**	**2.56**	**287**	*i*P		**Pn**	**15 25 15.0**	**+1.7**
PB15				*i*S		**S**	**15 25 49.1**	**-1.5**
PB15				AMP			15 25 53.2	
	comp=E,542nm,0.3s							
GO02	**Mina Guanaco**	**2.78**	**245**	*e*P		**Pn**	**15 25 17.3**	**+1.7**
GO02				*e*S		**S**	**15 25 54.3**	**-0.6**
GO02	**Mina Guanaco**	**2.78**	**245**	*i*P		**Pn**	**15 25 17.3**	**+1.7**
GO02				*i*S		**S**	**15 25 53.9**	**-1.0**
GO02				IAML			15 25 55.8	
	comp=N,275nm,0.1s							
PB06	**IPOC Station P**	**2.84**	**296**	*e*P		**Pn**	**15 25 17.9**	**+1.7**
PB06				*e*S		**S**	**15 25 55.8**	**-0.1**
PB06				IAML			15 25 57.5	
	comp=Z,94nm,0.1s							
PB06	**IPOC Station P**	**2.84**	**296**	*i*P		**Pn**	**15 25 18.0**	**+1.7**
PB06				*i*S		**S**	**15 25 53.7**	**-2.2**
PB06				IAML			15 25 57.0	
	comp=E,194nm,0.1s							
PB09	**IPOC Station P**	**3.13**	**314**	*e*P		**Pn**	**15 25 21.6**	**+2.2**
PB09				*e*S		**S**	**15 26 01.5**	**-0.2**
PB09				IAML			15 26 04.4	
	comp=Z,39nm,0.3s							
PB09	**IPOC Station P**	**3.13**	**314**	*i*P		**Pn**	**15 25 21.8**	**+2.4**
PB14	**IPOC Station P**	**3.33**	**259**	*e*P		**Pn**	**15 25 23.4**	**+1.6**
PB14				*e*S		**S**	**15 26 04.1**	**-1.8**
PB14				IAML			15 26 06.1	
	comp=Z,46nm,0.3s							
PB14	**IPOC Station P**	**3.33**	**259**	*e*P		**Pn**	**15 25 23.3**	**+1.5**
PB04	**IPOC Station P**	**3.49**	**298**	*e*P		**Pn**	**15 25 25.0**	**+1.6**
PB04				*e*S		**S**	**15 26 07.0**	**-2.0**
PB04				IAML			15 26 09.5	
	comp=Z,48nm,0.2s							
PB04	**IPOC Station P**	**3.49**	**298**	*i*P		**Pn**	**15 25 25.0**	**+1.6**
PB04				*i*S		**S**	**15 26 06.4**	**-2.5**
PB07	**IPOC Station P**	**3.63**	**308**	*e*P		**Pn**	**15 25 26.4**	**+1.4**
PB07				*e*S		**S**	**15 26 10.0**	**-1.8**
PB07				IAML			15 26 12.0	
	comp=Z,62nm,0.3s							
PB07	**IPOC Station P**	**3.63**	**308**	*i*P		**Pn**	**15 25 26.6**	**+1.6**
PB07				*i*S		**S**	**15 26 09.0**	**-2.8**
PB01	**IPOC Station P**	**3.84**	**319**	*e*P		**Pn**	**15 25 29.2**	**+1.7**
PB01				*e*S		**S**	**15 26 15.6**	**-0.7**
PB01				IAML			15 26 17.5	
	comp=Z,54nm,0.2s							
PB01	**IPOC Station P**	**3.84**	**319**	*i*P		**Pn**	**15 25

HNR	**Honiara**	**8.01 298**	Pn	**Pn**	**15 31 55.4**	**-1.9**
HNR	**Honiara**	**8.01 298**	P	**Pn**	**15 31 58.3**	**+1.0**
HNR	**Honiara**	**8.01 298**	P	**Pn**	**15 31 55.4**	**-1.9**
HNR	**Honiara**	**8.01 298**	P	**Pn**	**15 31 57.8**	**+0.5**
	2µm,0.9s,baz=173,slow=3.1,SNR=13					
HNR			S	**S**	**15 33 29.0**	**+1.2**
	520nm,0.5s,baz=127,slow=6.8,SNR=1.1					
HNR			LR	LR	15 35 14.5	
	comp=Z,4µm,21.6s,baz=119,slow=39					
MARNC	**Mare, Loyalty**	**8.15 174**		**Pn**	**15 31 58.3**	**-0.8**
MARNC	**Mare, Loyalty**	**8.15 174**	P	**Pn**	**15 31 58.9**	**-0.2**
YATNC	**Mamie plateau,**	**8.68 181**	P	**Pn**	**15 32 08.0**	**+2.0**
DZM	**Mont Dzumac**	**8.71 184**	*e*Pn	**Pn**	**15 32 05.3**	**-1.2**
	196nm,1.2s					
DZM			*e*Sn	**S**	**15 33 41.4**	**-3.2**
	98nm,1.4s					
DZM	**Mont Dzumac**	**8.71 184**		**Pn**	**15 32 06.3**	**-0.1**
DZM	**Mont Dzumac**	**8.71 184**	P	**Pn**	**15 32 07.2**	**+0.7**
DZM	**Mont Dzumac**	**8.71 184**	P	**Pn**	**15 32 07.0**	**+0.6**
	45nm,0.8s,baz=329,slow=9.2,SNR=65					
DZM			S	**S**	**15 33 45.9**	**+1.3**
	15nm,0.7s,baz=294,slow=23,SNR=3.7					
DZM			LR	LR	15 34 56.3	
	comp=Z,516nm,20.5s,baz=68,slow=34					
ONTNC	**Ouen Toro**	**8.95 184**		**Pn**	**15 32 10.2**	**+0.8**
ONTNC	**Ouen Toro**	**8.95 184**	P	**Pn**	**15 32 10.4**	**+1.0**
OUENC	**Ouen Island, N**	**9.04 181**		**Pn**	**15 32 11.3**	**+0.7**
OUENC	**Ouen Island, N**	**9.04 181**	P	**Pn**	**15 32 11.3**	**+0.7**
PINNC	**Pines Island,**	**9.24 178**		**Pn**	**15 32 13.8**	**+0.7**
PINNC	**Pines Island,**	**9.24 178**	P	**Pn**	**15 32 13.8**	**+0.7**
DGTI	**Dogotuki**	**12.58 105**	P	**Pn**	**15 32 56.9**	**+1.0**
FUNA	**Funafuti**	**12.81 69**	P	**Pn**	**15 32 59.3**	**+0.5**
TAVE	**Taveuni**	**13.00 107**	P	**Pn**	**15 33 02.4**	**+1.2**
BULU	**Kimbe**	**18.26 294**	P	**P**	**15 34 02.5**	**+0.3**
EIDS	**Eidsvold**	**19.25 229**	P	**Pn**	**15 34 14.6**	**-1.7**
	baz=19,SNR=14					
EIDS	**Eidsvold**	**19.25 229**	P	**P**	**15 34 13.1**	**+0.3**
EIDS	**Eidsvold**	**19.25 229**	P	**P**	**15 34 14.4**	**+1.7**
LHI	**Lord Howe Isla**	**19.55 201**	P	**Pn**	**15 34 18.3**	**-1.5**
	baz=20,SNR=4.0					
LHI	**Lord Howe Isla**	**19.55 201**	P	**P**	**15 34 16.2**	**+0.4**
AUAYR	**Ayr State High**	**19.86 249**	P	**P**	**15 34 19.8**	**+0.5**
PMG	**Port Moresby**	**19.93 279**	P	**P**	**15 34 19.1**	**-1.0**
PMG	**Port Moresby**	**19.93 279**	P	**P**	**15 34 20.8**	**+0.7**
PMG	**Port Moresby**	**19.93 279**	P	**P**	**15 34 20.7**	**+0.7**
PMG	**Port Moresby**	**19.93 279**	*ce*P	**P**	**15 34 21.7**	**+1.6**
PMG			pmax	pmax		
	comp=Z,48nm,1.7s					
PMG	**Port Moresby**	**19.93 279**	P	**P**	**15 34 19.7**	**-0.3**
	comp=Z,9.0nm,0.4s,baz=79,slow=7.3,SNR=10					
AFI	**Afiamalu**	**20.55 94**	P	**P**	**15 34 27.8**	**+1.0**
AFI	**Afiamalu**	**20.55 94**	P	**P**	**15 34 27.8**	**+1.0**
CTA	**Charters Tower**	**21.05 249**	P	**P**	**15 34 32.7**	**+0.8**
CTA	**Charters Tower**	**21.05 249**	P	**P**	**15 34 32.5**	**+0.5**
	comp=Z,37nm,0.7s,baz=74,slow=12,SNR=42					
CTA			PcP	**PcP**	**15 38 30.4**	**+0.5**
	comp=Z,8.0nm,1.2s,baz=148,slow=2.8,SNR=2.6					
CTA			ScP	**ScP**	**15 41 49.6**	**+2.5**
	comp=Z,2.7nm,0.8s,baz=105,slow=4.8,SNR=2.3					
	comp=Z,37nm,0.7s					
CTAO	**Charters Tower**	**21.05 249**	P	**P**	**15 34 32.4**	**+0.5**
CTAO	**Charters Tower**	**21.05 249**	P	**P**	**15 34 32.8**	**+0.8**
CTAO	**Charters Tower**	**21.05 249**	P	**P**	**15 34 32.4**	**+0.5**
RMQ	**Roma**	**21.61 230**	P	**P**	**15 34 39.3**	**+1.6**
	baz=22,SNR=14					
PATS	**Pohnpei**	**21.85 336**	P	**P**	**15 34 39.1**	**-1.0**
ARMA	**Armidale**	**22.20 218**	P	**P**	**15 34 45.0**	**+1.5**
	baz=22,SNR=77					
ARMA	**Armidale**	**22.20 218**	P	**P**	**15 34 45.0**	**+1.5**
ARMA	**Armidale**	**22.20 218**	P	**P**	**15 34 45.0**	**+1.5**
MTSU	**Mount Surprise**	**22.43 255**	P	**P**	**15 34 46.9**	**+1.3**
	baz=22,SNR=116					
NIUE	**Niue**	**22.78 108**	P	**P**	**15 34 49.0**	**+0.3**
	baz=23,SNR=4.0					
NIUE	**Niue**	**22.78 108**	P	**P**	**15 34 47.5**	**-1.2**
NIUE	**Niue**	**22.78 108**	P	**P**	**15 34 51.2**	**+2.5**
AUPHS	**Peel High Scho**	**23.14 218**	P	**P**	**15 34 53.3**	**+1.5**
AULRC	**Lightning Ridg**	**23.89 225**	P	**P**	**15 34 59.7**	**+1.1**
KUZ	**Kuaotunu**	**24.56 163**	P	P	15 35 17.7	+13
MGCD	**Mangrove Creek**	**24.58 214**	P	**P**	**15 35 06.7**	**+1.9**
	baz=25,SNR=8.2					
RIV	**Riverview**	**25.03 213**	P	**P**	**15 35 10.7**	**+1.8**
	baz=25,SNR=6.2					
QLP	**Quilpie**	**25.15 235**	P	**P**	**15 35 10.7**	**+0.6**
	baz=25,SNR=27					
QLP	**Quilpie**	**25.15 235**	P	**P**	**15 35 11.1**	**+1.0**
AUDCS	**Dubbo College**	**25.29 219**	P	**P**	**15 35 13.0**	**+1.7**
TOZ	**Tahuroa Road**	**25.43 164**	P	**P**	**15 35 14.0**	**+1.5**
TOZ			IAmb	IAmb	15 35 15.6	
	comp=Z,26nm,1.1s					
MXZ	**Matakaoa Point**	**26.12 159**	P	**P**	**15 35 19.8**	**+1.1**
HAZ	**Te Kaha**	**26.12 160**	P	**P**	**15 35 20.1**	**+1.4**
RUGZ	**Raukumara Rang**	**26.25 161**	P	**P**	**15 35 20.7**	**+0.1**
URZ	**Urewera**	**26.38 162**	P	**P**	**15 35 21.2**	**+0.3**
WMGZ	**Waiomatatini S**	**26.39 160**	P	**P**	**15 35 21.2**	**+0.1**
MUGZ	**Murupara**	**26.48 163**	P	**P**	**15 35 23.0**	**+1.1**
TWGZ	**Tauwhareparae**	**26.57 161**	P	**P**	**15 35 22.9**	**+0.1**
AUUHS	**Ulladulla High**	**26.57 212**	P	**P**	**15 35 24.2**	**+1.5**
RTZ	**Ruatahuna**	**26.67 163**	P	**P**	**15 35 23.8**	**+0.1**
RTZ			IAmb	IAmb	15 35 27.1	
	comp=Z,20nm,1.1s					
RAGZ	**Rawiri**	**26.68 162**	P	**P**	**15 35 21.3**	**-2.5**
CMSA	**Cobar Meteorol**	**26.73 224**	P	**P**	**15 35 24.6**	**+0.4**
	baz=27,SNR=84					
CMSA	**Cobar Meteorol**	**26.73 224**	P	**P**	**15 35 24.7**	**+0.4**
NTVZ	**North Tongarir**	**26.76 165**	P	**P**	**15 35 28.5**	**+3.9**
TKGZ	**Te Karaka**	**26.77 161**	P	**P**	**15 35 26.1**	**+1.7**
YNG	**Young**	**26.89 216**	P	**P**	**15 35 27.1**	**+1.4**
BKZ	**Black Stump Fm**	**27.04 164**	P	**P**	**15 35 27.4**	**+0.4**
BKZ	**Black Stump Fm**	**27.04 164**	P	**P**	**15 35 27.8**	**+0.9**
CNB	**Canberra Magne**	**27.11 213**	P	**P**	**15 35 29.0**	**+1.3**
	baz=27,SNR=31					
CNB	**Canberra Magne**	**27.11 213**	P	**P**	**15 35 29.0**	**+1.3**
QIS	**Mount Isa**	**27.23 251**	P	**P**	**15 35 29.0**	**+0.2**
	baz=27,SNR=17					
QIS	**Mount Isa**	**27.23 251**	P	**P**	**15 35 29.1**	**+0.2**
CAN	**Canberra**	**27.31 214**	P	**P**	**15 35 30.1**	**+0.7**
CAN			IAmb	IAmb	15 35 31.0	
	comp=Z,17nm,0.7s					
CAN	**Canberra**	**27.31 214**	P	**P**	**15 35 30.4**	**+1.0**
CAN	**Canberra**	**27.31 214**	P	**P**	**15 35 30.1**	**+0.7**
CAN			pmax	pmax		
	comp=Z,17nm,0.7s					
QRZ	**Quartz Range**	**27.80 171**	P	**P**	**15 35 35.9**	**+2.3**
TKNZ	**Takaka Hill**	**28.07 171**	P	**P**	**15 35 38.1**	**+2.1**
MRZ	**Mangatainoka R**	**28.22 166**	P	**P**	**15 35 37.0**	**-0.3**
AUSMG	**Snowy Mountain**	**28.35 213**	P	**P**	**15 35 40.0**	**+1.4**
BFZ	**Birch Farm**	**28.40 165**	P	**P**	**15 35 38.5**	**-0.5**
BFZ			IAmb	IAmb	15 35 39.5	
	comp=Z,27nm,1.1s					
INKA	**Innaminka**	**28.45 236**	P	**P**	**15 35 40.6**	**+1.1**
MILA	**Mila**	**28.56 211**	P	**P**	**15 35 42.6**	**+2.2**
	baz=29,SNR=4.6					
DSZ	**Denniston Nort**	**28.60 173**	P	**P**	**15 35 42.9**	**+2.2**
DSZ			IAmb	IAmb	15 35 44.4	
	comp=Z,39nm,1.1s					
TUWZ	**Tuamarina**	**28.62 169**	P	**P**	**15 35 41.5**	**+0.6**
THZ	**Tophouse**	**28.77 171**	P	**P**	**15 35 42.6**	**+0.3**
THZ			IAmb	IAmb	15 35 45.9	
	comp=Z,81nm,1.6s					
BHW	**Baring Head**	**28.78 168**	P	**P**	**15 35 41.1**	**-1.1**
BHW			IAmb	IAmb	15 36 48.6	
	comp=Z,40nm,1.2s					
PLWZ	**Palliser**	**29.02 167**	P	**P**	**15 35 44.8**	**+0.3**
INZ	**Inchbonnie**	**29.53 173**	P	**P**	**15 35 49.8**	**+1.0**
INZ			IAmb	IAmb	15 35 51.1	
	comp=Z,22nm,0.8s					
LTZ	**Lake Taylor**	**29.68 172**	P	**P**	**15 35 49.4**	**-0.9**
LTZ			IAmb	IAmb	15 35 53.9	
	comp=Z,21nm,0.8s					
STKA	**Stephens Creek**	**29.79 228**	P	**P**	**15 35 52.3**	**+1.0**
	baz=30,SNR=48					
STKA	**Stephens Creek**	**29.79 228**	P	**P**	**15 35 52.2**	**+1.0**
STKA				**PcP**	**15 38 50.5**	**+0.8**
STKA	**Stephens Creek**	**29.79 228**	P	**P**	**15 35 52.5**	**+1.2**
STKA	**Stephens Creek**	**29.79 228**	P	**P**	**15 35 52.3**	**+1.0**
	comp=Z,40nm,0.5s,baz=50,slow=9.0,SNR=110					
STKA			PcP	**PcP**	**15 38 49.7**	**+0.1**
	comp=Z,10nm,0.6s,baz=58,slow=3.1,SNR=11					
STKA			ScP	**ScP**	**15 42 13.9**	**+2.0**
	comp=Z,6.3nm,0.9s,baz=47,slow=1.2,SNR=5.5					
STKA			LR	LR	15 46 41.9	
	comp=Z,61nm,19.0s,baz=174,slow=33					
	comp=Z,40nm,0.5s					

GVZ	**Greta Valley S**	**29.97 171**	P	**P**	**15 35 53.9**	**+1.1**
FOZ	**Fox Glacier**	**30.18 176**	P	**P**	**15 35 56.8**	**+2.2**
FOZ			IAmb	IAmb	15 36 09.3	
	comp=Z,27nm,1.0s					
OXZ	**Oxford**	**30.19 173**	P	**P**	**15 35 55.2**	**+0.5**
OXZ			IAmb	IAmb	15 35 57.3	
	comp=Z,19nm,0.6s					
AUMAG	**Moama Anglican**	**30.28 218**	P	**P**	**15 35 57.5**	**+1.9**
RPZ	**Rata Peaks**	**30.47 174**	P	**P**	**15 35 58.5**	**+1.3**
RPZ			IAmb	IAmb	15 35 59.8	
	comp=Z,21nm,0.8s					
TOO	**Toolangi**	**30.88 215**	P	**P**	**15 36 02.1**	**+1.2**
	baz=31,SNR=32					
TOO	**Toolangi**	**30.88 215**	P	**P**	**15 36 01.9**	**+1.0**
TOO			IAmb	IAmb	15 36 02.9	
	comp=Z,29nm,0.8s					
TOO	**Toolangi**	**30.88 215**	P	**P**	**15 36 02.3**	**+1.4**
TOO	**Toolangi**	**30.88 215**	P	**P**	**15 36 01.9**	**+1.0**
TOO			pmax	pmax		
	comp=Z,29nm,0.8s					
WR0	**Warramunga Arr**	**31.84 254**	P	**P**	**15 36 08.7**	**-0.8**
WB0	**Warramunga Arr**	**31.95 254**	P	**P**	**15 36 08.6**	**-1.9**
WB0			IAmb	IAmb	15 36 10.8	
	comp=Z,42nm,1.1s					
WB2	**Warramunga Arr**	**32.01 254**	P	**P**	**15 36 09.8**	**-1.2**
WB2			IAmb	IAmb	15 36 11.4	
	comp=Z,26nm,1.1s					
WRAB	**Tennant Creek**	**32.01 254**	P	**P**	**15 36 10.0**	**-1.0**
WRAB	**Tennant Creek**	**32.01 254**	P	**P**	**15 36 10.0**	**-1.0**
WRAB			pmax	pmax		
	comp=Z,21nm,1.1s					
WRA	**Warramunga Arr**	**32.02 254**	P	**P**	**15 36 09.0**	**-2.1**
WRA	**Warramunga Arr**	**32.02 254**	*i* P	**P**	**15 36 10.3**	**-0.8**
WRA			pmax	pmax		
	comp=Z,8.0nm,0.5s					
WRA	**Warramunga Arr**	**32.02 254**	P	**P**	**15 36 10.4**	**-0.7**
	comp=Z,13nm,0.8s,baz=85,slow=9.3,SNR=140					
WRA			S	**S**	**15 41 04.6**	**-3.0**
	comp=Z,1.3nm,1.0s,baz=88,slow=13,SNR=4.5					
WRA			ScP	**ScP**	**15 42 21.6**	**+1.9**
	comp=Z,8.4nm,0.9s,baz=83,slow=3.5,SNR=27					
	comp=Z,13nm,0.8s					
HTT	**Hallett**	**32.52 227**	P	**P**	**15 36 16.1**	**+0.8**
	baz=33,SNR=11					
HTT	**Hallett**	**32.52 227**	P	**P**	**15 36 16.5**	**+1.2**
OOD	**Oodnadatta**	**32.62 239**	P	**P**	**15 36 16.9**	**+0.8**
AS31	**Alice Springs**	**33.03 247**	P	**P**	**15 36 19.4**	**-0.4**
AS31			IAmb	IAmb	15 36 20.0	
	comp=Z,13nm,0.3s					
ASAR	**Alice Springs**	**33.03 247**	P	**P**	**15 36 19.1**	**-0.8**
ASAR	**Alice Springs**	**33.03 247**	P	**P**	**15 36 19.1**	**-0.8**
ASAR	**Alice Springs**	**33.03 247**	P	**P**	**15 36 19.3**	**-0.6**
	comp=Z,24nm,0.7s,baz=76,slow=9.6,SNR=669					
ASAR			PcP	**PcP**	**15 38 58.4**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=78,slow=3.4,SNR=8.1					
ASAR			S	**S**	**15 41 21.2**	**-1.9**
	comp=Z,4.0nm,1.0s,baz=80,slow=16,SNR=14					
ASAR			ScP	**ScP**	**15 42 24.8**	**+1.7**
	comp=Z,12nm,0.8s,baz=86,slow=3.3,SNR=46					
ASAR			LR	LR	15 49 49.2	
	comp=Z,120nm,18.0s,baz=80,slow=36					
	comp=Z,24nm,0.7s					
KDU	**Kakadu**	**33.72 267**	P	**P**	**15 36 26.0**	**+0.2**
	baz=34,SNR=16					
BBOO	**Buckleboo**	**34.31 230**	P	**P**	**15 36 31.2**	**+0.4**
	baz=34,SNR=21					
BBOO	**Buckleboo**	**34.31 230**	P	**P**	**15 36 31.1**	**+0.4**
BBOO			IAmb	IAmb	15 37 11.3	
	comp=Z,26nm,0.9s					
MTN	**Manton Dam**	**35.01 267**	P	**P**	**15 36 37.4**	**+0.5**
	baz=35,SNR=14					
MTN	**Manton Dam**	**35.01 267**	P	**P**	**15 36 37.0**	**+0.1**
KNRA	**Kununurra**	**37.15 262**	P	**P**	**15 36 55.2**	**+0.2**
	baz=37,SNR=15					
KNRA	**Kununurra**	**37.15 262**	P	**P**	**15 36 55.2**	**+0.2**
KNRA	**Kununurra**	**37.15 262**	P	**P**	**15 36 56.4**	**+1.4**
WRKA	**Warakurna**	**38.31 246**	P	**P**	**15 37 04.7**	**0.0**
	baz=38,SNR=53					
WRKA	**Warakurna**	**38.31 246**	P	**P**	**15 37 05.1**	**+0.3**
FORT	**Forrest**	**39.88 238**	P	**P**	**15 37 17.8**	**+0.3**
	baz=40,SNR=27					
FORT	**Forrest**	**39.88 238**	P	**P**	**15 37 17.9**	**+0.3**
FORT	**Forrest**	**39.88 238**	P	**P**	**15 37 18.9**	**+1.3**
FITZ	**Fitzroy Crossi**	**40.12 258**	P	**P**	**15 37 20.1**	**+0.3**
	baz=40,SNR=6.8					
FITZ	**Fitzroy Crossi**	**40.12 258**	P	**P**	**15 37 19.9**	**+0.1**
PPT2	**Papeete2**	**41.91 102**	*e*S	S	15 43 49.3	+12
	comp=Z,61nm,29.8s					
KMBL	**Kambalda**	**45.15 239**	P	**P**	**15 38 00.0**	**0.0**
	baz=45,SNR=7.1					
PSA00	**Pilbara Seismi**	**45.67 253**	P	**P**	**15 38 05.0**	**+0.7**
MBWA	**Marble Bar**	**45.76 253**	P	**P**	**15 38 05.6**	**+0.7**
MBWA	**Marble Bar**	**45.76 253**	P	**P**	**15 38 05.7**	**+0.7**
MBWA	**Marble Bar**	**45.76 253**	P	**P**	**15 38 05.6**	**+0.7**
MBWA			pP	**pP**	**15 38 46.5**	**-2.6**
DAV	**Davao City (W)**	**45.94 294**	LR	LR	15 55 11.5	
	comp=Z,64nm,21.9s,baz=159,slow=33					
MEEK	**Meekatharra**	**47.18 246**	P	**P**	**15 38 16.4**	**+0.5**
	baz=47,SNR=22					
MEEK	**Meekatharra**	**47.18 246**	P	**P**	**15 38 16.6**	**+0.7**
KLBR	**Kellerberrin**	**48.65 240**	P	**P**	**15 38 26.7**	**-0.3**
	baz=49,SNR=8.8					
MLOA	**Mauna Loa Obse**	**49.17 49**	P	**P**	**15 38 30.7**	**-1.0**
NWAO	**Narrogin (SRO)**	**49.33 238**	P	**P**	**15 38 32.1**	**-0.1**
	baz=50,SNR=11					
NWAO			P	**P**	**15 38 32.1**	**-0.1**
	baz=50,SNR=11					
NWAO	**Narrogin (SRO)**	**49.33 238**	P	**P**	**15 38 31.9**	**-0.3**
NWAO			IAmb	IAmb	15 38 33.4	
	comp=Z,70nm,0.9s					
NWAO	**Narrogin (SRO)**	**49.33 238**	P	**P**	**15 38 31.9**	**-0.3**
NWAO			pmax	pmax		
	comp=Z,69nm,1.0s					
NWAO	**Narrogin (SRO)**	**49.33 238**	P	**P**	**15 38 32.0**	**-0.1**
NWAO			pP	**pP**	**15 39 15.3**	**-1.8**
MORW	**Morawa**	**49.73 243**	P	**P**	**15 38 35.7**	**+0.4**
INU	**Inuyama**	**56.18 330**	P	**P**	**15 39 20.7**	**-1.4**
INU			IAmb	IAmb	15 39 23.2	
	comp=Z,48nm,1.7s					
INU	**Inuyama**	**56.18 330**	P	**P**	**15 39 21.9**	**-0.2**
INU	**Inuyama**	**56.18 330**	P	**P**	**15 39 21.8**	**-0.4**
DRV	**Dumont d'Urvil**	**56.26 193**	P	**P**	**15 39 22.7**	**+0.4**
JMN	**Monobe**	**56.49 327**	P	**P**	**15 39 24.1**	**-0.4**
JMN	**Monobe**	**56.49 327**	P	**P**	**15 39 25.1**	**+0.6**
MJAR	**Matsushiro Arr**	**56.60 332**	P	**P**	**15 39 24.2**	**-0.9**
	comp=Z,7.4nm,0.6s,baz=232,slow=12,SNR=62					
MJAR			PcP	**PcP**	**15 40 18.4**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=166,slow=3.5,SNR=2.0					
	comp=Z,7.4nm,0.6s					
MAJO	**Matsushiro**	**56.60 332**	P	**P**	**15 39 24.1**	**-1.0**
MAJO			IAmb	IAmb	15 39 24.9	
	comp=Z,20nm,0.5s					
MAJO	**Matsushiro**	**56.60 332**	P	**P**	**15 39 24.9**	**-0.2**
MAJO	**Matsushiro**	**56.60 332**	P	**P**	**15 39 24.1**	**-1.0**
MAJO			pmax	pmax		
	comp=Z,20nm,0.5s					
MAJO	**Matsushiro**	**56.60 332**	P	**P**	**15 39 24.5**	**-0.7**
MJB9	**Matsu-Tunnel**	**56.60 332**	P	**P**	**15 39 25.3**	**+0.2**
MJB9			IAmb	IAmb	15 39 25.9	
	comp=Z,20nm,0.5s					
JNU	**Nakatsue**	**57.70 324**	P	**P**	**15 39 32.4**	**-0.6**
JNU			IAmb	IAmb	15 39 33.7	
	comp=Z,36nm,1.0s					
JNU	**Nakatsue**	**57.70 324**	P	**P**	**15 39 33.5**	**+0.6**
TPUB	**Ta-pu**	**58.24 308**	P	**P**	**15 39 35.2**	**-1.7**
JTM	**Tenmabayashi**	**59.00 337**	P	**P**	**15 39 41.6**	**-0.1**
ERM	**Erimo**	**59.32 339**	P	**P**	**15 39 44.8**	**+0.9**
ERM	**Erimo**	**59.32 339**	P	**P**	**15 39 44.8**	**+0.9**
ERM			pmax	pmax		
	comp=Z,105nm,1.4s					
JTU	**Tsushima**	**59.56 324**	P	**P**	**15 39 44.2**	**-1.4**
CGJI	**Cibinong**	**60.72 270**	P	**P**	**15 39 54.1**	**+0.1**
	comp=Z,59nm,1.1s					
JKA	**Kamikawa-asahi**	**61.38 340**	P	**P**	**15 39 58.3**	**+0.6**
JKA			IAmb	IAmb	15 39 59.1	
	comp=Z,27nm,0.6s					
ASAJ	**Asahikawa**	**61.38 340**	P	**P**	**15 39 58.3**	**+0.5**
ASAJ			pmax	pmax		
	comp=Z,27nm,0.6s					
TJN	**Taejon**	**62.04 324**	*ce*P	**P**	**15 40 04.3**	**+2.0**
KSRS	**Korea Array**	**62.50 325**	P	**P**	**15 40 05.5**	**+0.1**
	comp=Z,4.8nm,0.8s,baz=140,slow=7.1,SNR=21					
KSRS			PcP	**PcP**	**15 40 42.3**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=134,slow=4.0,SNR=5.3					
	comp=Z,4.8nm,0.8s					

YSS	**Yuzh-Sakhalins**	**63.86 342**	P	**P**	**15 40 14.4**	**+0.3**
YSS	**Yuzh-Sakhalins**	**63.86 342**	P	**P**	**15 40 15.1**	**+1.0**
YSS	**Yuzh-Sakhalins**	**63.86 342**	*e*P	**P**	**15 40 15.1**	**+1.0**
YSS			pmax	pmax		
	comp=Z,40nm,1.2s					
YSS	**Yuzh-Sakhalins**	**63.86 342**	P	**P**	**15 40 15.0**	**+1.0**
VNDA	**Vanda**	**64.25 181**	P	**P**	**15 40 16.6**	**+0.3**
VNDA			IAmb	IAmb	15 40 18.4	
	comp=Z,31nm,1.9s					
VNDA	**Vanda**	**64.25 181**	P	**P**	**15 40 16.6**	**+0.3**
VNDA			pmax	pmax		
	comp=Z,31nm,2.0s					
VNDA	**Vanda**	**64.25 181**	P	**P**	**15 40 17.1**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=357,slow=7.4,SNR=20					
	comp=Z,2.3nm,0.6s					
VNDA	**Vanda**	**64.25 181**	P	**P**	**15 40 17.0**	**+0.7**
SBA	**Scott Base**	**64.53 180**	P	**P**	**15 40 19.6**	**+1.6**
NJ2	**Nanjing**	**64.56 315**	*e*P	**P**	**15 40 20.0**	**+1.0**
NJ2			pP	**pP**	**15 41 07.1**	**+1.0**
NJ2			sP	**sP**	**15 41 28.3**	**+0.1**
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
NJ2			pmax	pmax		
	comp=Z,170nm,5.0s					
CASY	**Casey**	**64.75 202**	P	**P**	**15 40 19.6**	**-0.1**
USA0B	**Ussuriysk Arra**	**65.57 333**	P	**P**	**15 40 26.0**	**+0.8**
USA0B			IAmb	IAmb	15 40 27.2	
	comp=Z,53nm,1.4s					
USA0B	**Ussuriysk Arra**	**65.57 333**	P	**P**	**15 40 26.0**	**+0.8**
USA0B			pmax	pmax		
	comp=Z,53nm,1.4s					
USRK	**Ussuriysk Ar.**	**65.57 333**	P	**P**	**15 40 26.2**	**+1.0**
	comp=Z,12nm,0.9s,baz=134,slow=5.4,SNR=25					
	comp=Z,12nm,0.9s					
CCD	**Concordia, Ant**	**66.23 191**	P	**P**	**15 40 30.9**	**+1.4**
KIWB	**Kanaga Island**	**66.34 11**	P	**P**	**15 40 30.0**	**+0.1**
PET	**Petropavlovsk**	**66.48 354**	P	**P**	**15 40 30.4**	**-0.4**
PET			IAmb	IAmb	15 40 31.9	
	comp=Z,20nm,0.6s					
PET	**Petropavlovsk**	**66.48 354**	*ce*P	**P**	**15 40 32.2**	**+1.4**
PET			pmax	pmax		
	comp=Z,22nm,1.3s					
PET	**Petropavlovsk**	**66.48 354**	P	**P**	**15 40 30.6**	**-0.2**
PEA0B	**Petropavlovsk-**	**66.66 354**	P	**P**	**15 40 32.4**	**+0.4**
PEA0B	**Petropavlovsk-**	**66.66 354**	*ce*P	**P**	**15 40 33.1**	**+1.1**
PETK	**Petropavlovsk-**	**66.66 354**	P	**P**	**15 40 31.5**	**-0.5**
PETK	**Petropavlovsk-**	**66.66 354**	P	**P**	**15 40 31.5**	**-0.5**
PETK	**Petropavlovsk-**	**66.66 354**	P	**P**	**15 40 31.6**	**-0.4**
	comp=Z,16nm,0.6s,baz=158,slow=4.1,SNR=58					
PETK			LR	LR	16 05 17.2	
	comp=Z,135nm,21.1s,baz=89,slow=32					
	comp=Z,16nm,0.6s					
WHN	**Wuhan**	**66.89 312**	P	**P**	**15 40 35.4**	**+1.5**
MDJ	**Mudanjiang**	**66.97 332**	P	**P**	**15 40 35.0**	**+0.9**
MDJ	**Mudanjiang**	**66.97 332**	P	**P**	**15 40 34.5**	**+0.4**
MDJ			PcP	**PcP**	**15 41 01.1**	**+0.2**
MDJ			pP	pP	15 41 21.6	-0.5
MDJ			sP	sP	15 41 43.9	-0.5
MDJ			PP	**PP**	**15 43 02.4**	**-2.4**
MDJ			S	**S**	**15 49 13.1**	**+2.6**
MDJ			ScS	**SKiKP**	**15 50 12.9**	**-0.2**
MDJ			sS	sS	15 50 35.3	+1.4
MDJ			SS	**SS**	**15 53 37.5**	**+3.7**
MDJ			pmax	pmax		
	comp=Z,17nm,1.2s					
MDJ			pmax	pmax		
	comp=Z,180nm,4.6s					
MDJ	**Mudanjiang**	**66.97 332**	P	**P**	**15 40 34.8**	**+0.7**
ATKA	**Atka Island**	**67.24 12**	P	**P**	**15 40 34.4**	**-1.2**
TYV	**Tymovskoe**	**67.40 344**	*e*P	**P**	**15 40 37.1**	**+0.5**
TYV			*e*S	**S**	**15 49 16.1**	**+0.9**
TYV			pmax	pmax		
	comp=Z,13nm,1.2s					
TYV			pmax	pmax		
	comp=Z,100nm,3.1s					
TYV			smax	smax		
	comp=N,500nm,6.1s					
TYV			smax	smax		
	comp=E,600nm,6.1s					
CN2	**Changchun**	**68.37 329**	⇓P	**P**	**15 40 42.8**	**-0.1**
CN2			*e*sP	sP	15 41 50.8	-2.5
CN2			*e*S	**S**	**15 49 26.5**	**-0

HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,120nm,4.5s
S14K Fog Glacier 74.74 19 P **P** **15 41 19.9 -0.9**
baz=214
PZH PanZhiHua 74.81 302 P **P** **15 41 23.3 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.5s
ZEA Zeya 74.95 337 *e*P **P** **15 41 22.9 +1.0**
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,10.0nm,0.6s
HIA Hailar 75.00 330 P **P** **15 41 23.3 +1.0**
CD2 Chengdu 75.03 307 P **P** **15 41 23.3 +0.4**
CD2 pmax pmax
comp=Z,20nm,1.3s
CHGN Chignik 75.11 19 P **P** **15 41 21.6 -1.1**
baz=215
BTO Baotou 75.27 319 *e*P **P** **15 41 26.1 +2.0**
BTO pP **pP** **15 42 15.3 +2.0**
BTO sP **sP** **15 42 37.0 +1.8**
BTO PP **PP** **15 44 20.3 +4.4**
BTO pmax pmax
comp=Z,27nm,1.4s
BTO pmax pmax
comp=Z,150nm,5.2s
R16K Pilot Point 76.41 19 P **P** **15 41 28.8 -1.2**
baz=215
QSPA South Pole Qui 76.69 180 P **P** **15 41 32.6 +0.8**
QSPA IAmb IAmb 15 44 02.3
comp=Z,20nm,0.6s
QSPA South Pole Qui 76.69 180 P **P** **15 41 32.3 +0.5**
comp=Z,16nm,0.7s,baz=305,slow=0.5,SNR=212
comp=Z,16nm,0.7s
SEY Seymchan 76.88 353 *ce*P **P** **15 41 32.9 +0.3**
SEY pmax pmax
comp=Z,65nm,1.7s
SEY Seymchan 76.88 353 LR LR 16 09 12.2
comp=Z,86nm,20.2s,baz=318,slow=31
N14K Kuskokwak Cree 77.21 16 P **P** **15 41 34.0 -0.5**
baz=211
M13K Dall Lake 77.22 15 P **P** **15 41 35.0 +0.5**
LZH Lanzhou 77.26 312 ⇑*i*P **P** **15 41 37.0 +1.5**
LZH pP pwP 15 42 27.4 0.0
LZH pmax pmax
comp=Z,23nm,1.2s
OHAK Old Harbor 77.55 21 P **P** **15 41 35.7 -0.7**
OHAK Old Harbor 77.55 21 P **P** **15 41 34.8 -1.5**
baz=219
Q16K King Salmon 77.60 18 P **P** **15 41 35.3 -1.3**
baz=216
M14K Bethel 77.86 15 P **P** **15 41 38.2 +0.2**
M14K Bethel 77.86 15 P **P** **15 41 37.3 -0.7**
baz=211
O16K Kokwok River B 77.92 17 P **P** **15 41 37.1 -1.3**
O16K IAmb IAmb 15 44 00.0
comp=Z,42nm,1.1s
O16K Kokwok River B 77.92 17 P **P** **15 41 38.0 -0.4**
baz=215
MND Mandalay 77.94 296 P **P** **15 41 39.9 +0.6**
Q18K Katmai Hardscr 78.10 19 P **P** **15 41 38.7 -0.9**
baz=218
M15K Kasigluk River 78.13 16 P **P** **15 41 39.0 -0.5**
baz=212
L14K Kuka Creek 78.19 14 P **P** **15 41 39.7 -0.1**
baz=210
KDAK Kodiak Island 78.22 21 P **P** **15 41 39.3 -0.8**
KDAK Kodiak Island 78.22 21 P **P** **15 41 39.3 -0.8**
KDAK pmax pmax
comp=Z,230nm,1.5s
N16K Nishlik Lake 78.46 16 P **P** **15 41 41.9 +0.5**
baz=214
L15K Ungalak Mounta 78.77 15 P **P** **15 41 43.0 0.0**
baz=211
M16K Timber Creek 78.87 16 P **P** **15 41 44.0 +0.5**
M16K Timber Creek 78.87 16 P **P** **15 41 44.1 +0.5**
baz=214
J14K Nanvaranak Lak 79.22 13 P **P** **15 41 45.5 +0.1**
baz=209
K15K Wolf Creek Mou 79.29 14 P **P** **15 41 46.5 +0.6**
K15K Wolf Creek Mou 79.29 14 P **P** **15 41 46.6 +0.8**
baz=211
L16K Owhat River 79.31 15 P **P** **15 41 45.8 -0.2**
L16K Owhat River 79.31 15 P **P** **15 41 45.7 -0.2**
baz=213
M17K Holitna River 79.60 16 P **P** **15 41 48.4 +0.9**
baz=215
L17K Donlin 79.97 16 P **P** **15 41 50.4 +0.9**
baz=214
BRLK Bradley Lake 80.31 20 P **P** **15 41 51.2 -0.2**
J16K Anvik River 80.36 14 P **P** **15 41 52.3 +0.7**
baz=212
ANM Nome 80.44 12 P **P** **15 41 52.9 +1.0**
baz=207
K17K Iditarod 80.45 15 P **P** **15 41 53.1 +1.0**
baz=214
YAK Yakutsk 80.65 343 *e*P **P** **15 41 52.6 -0.5**
YAK *e**PP **pwP** **15 42 47.3 +2.2**
YAK *e*PPP PPP 15 46 50.6
YAK *e*S **S** **15 51 42.1 -0.4**
YAK *e**SS sS 15 52 58.7 -11
YAK *e*SS **SS** **15 57 04.7 +4.0**
YAK pmax pmax
comp=Z,57nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK pmax pmax
comp=N,18nm,1.3s
YAK pmax pmax
comp=Z,191nm,4.9s
YAK pmax pmax
comp=N,108nm,3.8s
YAK pmax pmax
comp=E,99nm,4.4s
YAK smax smax
comp=N,5.0nm,0.6s
YAK smax smax
comp=E,41nm,2.5s
ULN Ulaanbaatar 80.91 324 P **P** **15 41 54.7 -0.4**
ULN IAmb IAmb 15 41 56.7
comp=Z,28nm,1.2s
ULN Ulaanbaatar 80.91 324 *ce*P **P** **15 41 55.5 +0.4**
ULN pmax pmax
comp=Z,20nm,1.0s
BILL Bilibino 81.15 360 ⇑*e*P **P** **15 41 55.7 0.0**
BILL pmax pmax
comp=Z,43nm,1.4s
TTA Tatalina 81.23 16 P **P** **15 41 56.5 +0.2**
SONM Songino Array 81.28 324 P **P** **15 41 56.7 -0.2**
SONM Songino Array 81.28 324 P **P** **15 41 56.7 -0.2**
SONM pmax pmax
comp=Z,23nm,1.5s
SONM Songino Array 81.28 324 P **P** **15 41 57.1 +0.2**
comp=Z,2.9nm,0.4s,baz=135,slow=4.7,SNR=38
comp=Z,2.9nm,0.4s
GTA Gaotai 81.58 314 *e*P **P** **15 41 59.5 +0.8**
GTA pP pP 15 42 48.6 -0.1
GTA pmax pmax
comp=Z,14nm,1.2s
G16K Koyuk River 81.78 12 P **P** **15 41 59.7 +0.7**
baz=210
H17K Granite Mounta 81.93 14 P **P** **15 42 00.2 +0.4**
baz=212
J19K Poorman 82.20 16 P **P** **15 42 02.1 +0.9**
baz=216
G17K Kiwalik Mounta 82.24 13 P **P** **15 42 01.5 +0.1**
baz=212
H18K Honhosa River 82.47 14 P **P** **15 42 02.5 -0.1**
baz=214
GCSA Galena City Sc 82.49 15 P **P** **15 42 02.8 +0.2**
baz=215
EYAK Cordova Ski Ar 82.65 21 P **P** **15 42 05.2 +1.6**
F17K Baldwin Pennin 82.92 12 P **P** **15 42 05.4 +0.6**
baz=211
G18K Tagagawik 83.02 13 P **P** **15 42 05.3 -0.1**
baz=214
MAW Mawson 83.11 202 P **P** **15 42 06.3 +0.4**
comp=Z,4.6nm,0.7s,baz=148,slow=3.6,SNR=4.0
comp=Z,4.6nm,0.7s
H19K Roundabout Mou 83.23 14 P **P** **15 42 07.2 +0.7**
baz=216
E17K Hotham Inlet 83.36 12 P **P** **15 42 08.2 +1.1**
baz=210
G19K Purcell Mounta 83.59 14 P **P** **15 42 08.6 +0.3**
baz=215,SNR=7.3
H20K Anotleneega Mo 83.59 15 P **P** **15 42 09.4 +1.0**
baz=217
MESA MESA 83.80 23 P **P** **15 42 10.0 +0.2**
baz=230
E18K Tukpahlearik C 83.90 12 P **P** **15 42 10.2 +0.4**
baz=212
RDOG Red Dog Mine 84.00 11 P **P** **15 42 10.8 +0.4**
baz=209
I21K Tanana 84.11 16 P **P** **15 42 11.7 +0.8**
baz=220
MCARA McCarthy VSAT 84.20 22 P **P** **15 42 12.2 +0.7**
baz=228
H21K Melozitna Rive 84.26 16 P **P** **15 42 12.5 +0.8**
baz=219
ZAK Zakamensk 84.32 325 *e*P **P** **15 42 11.7 -0.8**
ZAK pmax pmax
comp=Z,20nm,1.3s
C17K DeLong Mountai 84.32 11 P **P** **15 42 12.8 +0.8**
baz=209
MLY Manley 84.33 17 P **P** **15 42 12.5 +0.3**
baz=221
PINM Pinnacle 84.40 24 P **P** **15 42 12.3 -0.4**
baz=231
SCI2 San Clemente I 84.47 54 P **P** **15 42 12.5 -1.0**
baz=250
NEA2 Nenana 84.48 17 P **P** **15 42 12.5 -0.4**
baz=223
CTG Chitna Glacier 84.54 23 P **P** **15 42 13.4 0.0**
baz=230
YBH Yreka Blue Hor 84.56 45 P **P** **15 42 14.1 +0.2**
YBH Yreka Blue Hor 84.56 45 P **P** **15 42 14.1 +0.2**
YBH pmax pmax
comp=Z,10.0nm,1.3s
E19K Redstone River 84.64 13 IAmb IAmb 15 42 14.7
comp=Z,33nm,1.4s
E19K Redstone River 84.64 13 P **P** **15 42 14.2 +0.6**
baz=215
F20K Avaraart Lake 84.64 14 IAmb IAmb 15 43 17.6
comp=Z,57nm,1.9s
F20K Avaraart Lake 84.64 14 P **P** **15 42 14.2 +0.7**
baz=216
AFDM Forest Hills D 84.73 48 P **P** **15 42 15.1 +0.4**
G21K Allakaket 84.75 15 P **P** **15 42 14.7 +0.6**
baz=212
H22K Ishtalitna Cre 84.81 16 P **P** **15 42 15.1 +0.6**
baz=220
C18K Utukok River 84.83 11 P **P** **15 42 15.1 +0.5**
baz=211
M26K Nabesna, AK 84.88 21 P **P** **15 42 15.1 +0.1**
M26K Nabesna, AK 84.88 21 IAmb IAmb 15 43 17.2
comp=Z,28nm,0.7s
M26K Nabesna, AK 84.88 21 P **P** **15 42 15.1 +0.1**
baz=259
HDA Harding Lake 84.98 18 P **P** **15 42 15.3 -0.1**
baz=225
HDA P **P** **15 42 15.3 -0.1**
baz=225
MENT Mentasta 85.00 20 P **P** **15 42 16.6 +1.1**
COLA College 85.05 18 P **P** **15 42 15.6 0.0**
COLA College 85.05 18 P **P** **15 42 15.5 -0.1**
baz=224
COLA College 85.05 18 **P** **15 42 15.0 -0.6**
P29M Windy Craggy 85.12 25 P **P** **15 42 16.0 -0.2**
baz=233
L26K Log Cabin Wild 85.18 20 P **P** **15 42 16.6 +0.2**
baz=228
L26K Log Cabin Wild 85.18 20 **P** **15 42 16.2 -0.2**
M27K Edge Creek, AK 85.25 21 IAmb IAmb 15 43 36.1
comp=Z,14nm,0.8s
M27K Edge Creek, AK 85.25 21 P **P** **15 42 17.2 +0.3**
baz=229
ILAR Eielson Array 85.26 18 **P** **15 42 15.3 -1.4**
ILAR Eielson Array 85.26 18 P **P** **15 42 15.7 -1.0**
comp=Z,16nm,0.6s,baz=242,slow=5.0,SNR=400
comp=Z,16nm,0.6s
D19K Kuna River 85.31 12 IAmb IAmb 15 42 18.2
comp=Z,92nm,1.8s
D19K Kuna River 85.31 12 P **P** **15 42 17.3 +0.4**
baz=214
F21K Alatna River 85.31 14 P **P** **15 42 17.0 +0.1**
baz=218
YUK8 Steele Glacier 85.33 23 P **P** **15 42 17.4 -0.1**
baz=231
YUK3 Moose Creek 85.39 22 P **P** **15 42 17.5 -0.2**
baz=231
ISA Isabella, Lake 85.43 52 P **P** **15 42 18.6 +0.3**
baz=250
E20K Nigu River 85.52 13 P **P** **15 42 19.3 +1.3**
baz=216
C19K Lookout Ridge 85.53 11 P **P** **15 42 19.0 +1.0**
baz=212
EDW2 Edwards Air Fo 85.53 53 P **P** **15 42 19.1 +0.3**
baz=250
G22K Bettles 85.57 15 P **P** **15 42 18.6 +0.4**
baz=220
BFSC Mount Baldy Ra 85.58 53 P **P** **15 42 19.0 -0.2**
baz=251
J25K Salcha River, 85.61 19 P **P** **15 42 18.6 +0.1**
baz=226
SCRK Sand Creek 85.61 19 P **P** **15 42 18.4 -0.2**
baz=227
SCRK Sand Creek 85.61 19 **P** **15 42 18.5 -0.2**
MDPB Devils Postpil 85.64 50 IAmb IAmb 15 42 49.0
comp=Z,15nm,0.4s
BVCY Beaver Creek 85.65 22 P **P** **15 42 19.7 +1.0**
baz=230
WAKR Walker 85.69 49 P **P** **15 42 18.2 -1.5**
WAKR Walker 85.69 49 IAmb IAmb 15 42 23.5
comp=Z,52nm,0.5s
L27K Beaver Creek, 85.73 21 IAmb IAmb 15 42 41.5
comp=Z,20nm,0.8s
PNTR Pine Nut 85.77 48 P **P** **15 42 22.5 +2.4**
PNTR Pine Nut 85.77 48 IAmb IAmb 15 42 23.5
comp=Z,24nm,0.5s
G23K Bananza Creek 85.79 16 IAmb IAmb 15 42 20.8
comp=Z,14nm,0.7s
G23K Bananza Creek 85.79 16 P **P** **15 42 20.4 +1.1**
baz=222
YUK4 Talbot Arm 85.80 23 P **P** **15 42 20.1 +0.4**
baz=232
D20K Etivluk River 85.80 13 P **P** **15 42 20.3 +1.0**
baz=215
F22K John River 85.85 15 P **P** **15 42 20.0 +0.4**
baz=220
LRMC Laurel Mtn Rad 85.97 52 P **P** **15 42 21.3 +0.2**
baz=251
CWC Cottonwood Cre 85.99 51 P **P** **15 42 21.2 0.0**
baz=250
SKAG Skagway 86.01 26 P **P** **15 42 21.9 +1.4**
baz=235
MONP2 Monument Peak 86.13 55 P **P** **15 42 21.8 -0.2**
baz=252
COLD Coldfoot 86.14 15 P **P** **15 42 22.1 +1.1**
baz=221,SNR=6.4
E21K Killik River 86.16 13 IAmb IAmb 15 42 21.9
comp=Z,15nm,0.9s
A19K Wainwright 86.20 10 P **P** **15 42 22.4 +1.2**
baz=211
K27K Chicken 86.28 20 IAmb IAmb 15 43 50.2
comp=Z,26nm,0.8s
K27K Chicken 86.28 20 P **P** **15 42 23.5 +1.8**
baz=229
MPMC Manual Prospec 86.31 52 P **P** **15 42 23.0 +0.1**
baz=251
E22K Anaktuvuk Pass 86.43 14 IAmb IAmb 15 42 24.2
comp=Z,58nm,1.7s
E22K Anaktuvuk Pass 86.43 14 P **P** **15 42 23.2 +0.8**
baz,SNR=12
PLTX Planet X, Gerl 86.44 47 pP 15 43 10.2 -3.1
O30N Mendenhall 86.45 24 P **P** **15 42 23.4 +0.7**
baz=235
N30M Aishikik Lake 86.47 23 P **P** **15 42 23.9 +1.1**
baz=234
G24K Hadweenzic Riv 86.47 16 IAmb IAmb 15 42 24.0
comp=Z,46nm,1.6s
G24K Hadweenzic Riv 86.47 16 P **P** **15 42 23.4 +0.7**
baz=224
NVAR Mina Array Bea 86.50 49 P **P** **15 42 23.5 -0.2**
comp=Z,1.0nm,0.8s,baz=233,slow=7.8,SNR=7.0
comp=Z,1.0nm,0.8s
M29M Somme Creek 86.54 22 P **P** **15 42 24.0 +0.8**
baz=232
C21K Knifeblade Rid 86.55 13 P **P** **15 42 24.1 +1.1**
baz=217
SWSC Sam W. Stewart 86.64 55 P **P** **15 42 24.5 +0.3**
baz=252
GRAC Grapevine Rang 86.72 51 P **P** **15 42 24.9 +0.3**
baz=251
B20K Meade River 86.76 12 IAmb IAmb 15 42 24.7
comp=Z,14nm,0.9s
B20K Meade River 86.76 12 P **P** **15 42 24.0 +0.1**
baz=215
D22K Ayikyak River 86.80 14 IAmb IAmb 15 42 26.1
comp=Z,18nm,0.7s
D22K Ayikyak River 86.80 14 P **P** **15 42 25.1 +0.9**
baz=219,SNR=16
BELC Belle Mtn. Jos 86.81 54 P **P** **15 42 25.3 +0.1**
baz=252
TAPN Taplejung 86.86 299 *e*P **P** **15 42 24.3 -1.5**
G25K Bearman Lake 86.90 17 P **P** **15 42 25.4 +0.7**
baz=225
E23K Chandalar 86.91 15 P **P** **15 42 25.9 +1.1**
baz=222,SNR=6.5
F24K Squaw Lake 86.96 16 IAmb IAmb 15 42 26.4
comp=Z,65nm,2.0s
F24K Squaw Lake 86.96 16 P **P** **15 42 25.5 +0.5**
baz=224
B21K Ikpikpuk River 86.96 13 IAmb IAmb 15 42 26.1
comp=Z,24nm,0.9s
B21K Ikpikpuk River 86.96 13 P **P** **15 42 25.7 +0.8**
baz=217
ODAN Odare 86.99 298 *e*P **P** **15 42 26.1 -0.3**
S34M Telegraph Cree 87.02 28 P **P** **15 42 25.8 +0.4**
baz=239
EGAK Eagle 87.07 20 P **P** **15 42 26.6 +1.1**
baz=230
BC3 Big Chuckawall 87.14 55 P **P** **15 42 26.7 -0.1**
baz=252
E24K Your Creek 87.21 15 IAmb IAmb 15 42 27.5
comp=Z,36nm,1.8s
E24K Your Creek 87.21 15 P **P** **15 42 27.0 +0.8**
baz=223
DAWY Dawson 87.21 21 P **P** **15 42 26.4 +0.2**
baz=232
M30M Minto, Yukon 87.24 23 P **P** **15 42 26.8 +0.3**
baz=234
TUQ Turquoise Moun 87.32 53 P **P** **15 42 27.4 -0.2**
baz=252
GMRC Granite Mounta 87.32 53 P **P** **15 42 27.6 -0.1**
baz=252
D23K Nanushuk River 87.33 14 P **P** **15 42 27.8 +1.1**
baz=221
TOLK Toolik Lake Re 87.35 15 IAmb IAmb 15 42 28.8
comp=Z,54nm,1.7s
TOLK Toolik Lake Re 87.35 15 P **P** **15 42 27.2 +0.3**
baz=222,SNR=8.7
I27K Kandik River 87.45 19 P **P** **15 42 28.2 +0.7**
baz=230
IRM Iron Mountain 87.53 54 P **P** **15 42 28.9 +0.4**
baz=252
TPNV Topopah Spring 87.55 51 P **P** **15 42 28.6 0.0**
baz=251
F25K Christian Rive 87.61 16 P **P** **15 42 29.1 +1.0**
baz=226
G26K Porcupine Rive 87.69 17 P **P** **15 42 29.1 +0.7**
baz=227
RAMN Ramite 87.69 298 *e*P **P** **15 42 29.2 -0.5**
B22K Teshekpuk Lake 87.79 12 P **P** **15 42 29.8 +1.0**
baz=218
H27K Steamboat Moun 87.89 18 P **P** **15 42 30.6 +1.1**
baz=230
I28M Miner Creek 87.89 19 P **P** **15 42 30.4 +0.9**
baz=231
D24K Happy Valley 87.92 14 IAmb IAmb 15 42 31.2
comp=Z,13nm,0.6s
D24K Happy Valley 87.92 14 P **P** **15 42 30.6 +1.1**
baz=223
M31M Drury Creek, Y 87.94 24 P **P** **15 42 30.6 +0.9**
baz=236
A22K Sinclair Lake 88.00 12 P **P** **15 42 30.2 +0.4**
baz=217
E25K Arctic Village 88.00 16 P **P** **15 42 30.7 +0.7**
baz=226
C23K Itkillik River 88.01 14 IAmb IAmb 15 42 31.9
comp=Z,23nm,0.9s
C23K Itkillik River 88.01 14 P **P** **15 42 30.4 +0.5**
baz=221,SNR=9.2
F26K Sheenjek River 88.10 17 P **P** **15 42 30.7 +0.2**
baz=227
G27K Doyon Strip 88.23 18 P **P** **15 42 31.1 0.0**
baz=229
JIRN Jiri 88.24 299 *e*P **P** **15 42 31.8 -0.6**
C24K Franklin Bluff 88.36 14 P **P** **15 42 32.3 +0.7**
baz=223
PDMCI Parker Dam,Lak 88.37 54 P **P** **15 42 32.5 +0.1**
baz=253
I29M Ogilvie Camp, 88.38 20 P **P** **15 42 32.5 +0.7**
I29M IAmb IAmb 15 43 17.7
comp=Z,9.0nm,0.7s
I29M Ogilvie Camp, 88.38 20 P **P** **15 42 32.3 +0.6**
baz=232
R11B Troy Canyon, C 88.49 50 P **P** **15 42 32.5 -0.6**
baz=252
GUN Gumba 88.57 299 *e*P **P** **15 42 33.1 -0.9**
TIXI Tiksi 88.58 349 P **P** **15 42 31.6 -0.8**
TIXI Tiksi 88.58 349 *ce*P **P** **15 42 31.3 -1.2**
D25K Kavik River 88.64 15 P **P** **15 42 32.8 -0.2**
baz=225
PKI Pulchoki 88.88 299 *e*P **P** **15 42 34.3 -1.1**
comp=Z,39nm,1.1s
I30M Mount Dempster 88.94 21 P **P** **15 42 35.5 +1.0**
baz=234
E27K Coleen River 89.15 17 P **P** **15 42 35.4 +0.1**
baz=229
DMN Daman 89.15 298 *e*P **P** **15 42 36.1 -0.5**
F28M Old Crow 89.28 18 P **P** **15 42 36.5 +0.6**
baz=231
G29M Pine Creek 89.41 19 P **P** **15 42 37.7 +1.1**
baz=233
C26K Camden Bay 89.43 15 P **P** **15 42 37.5 +0.9**
baz=226,SNR=10.0
ELK Elko 89.49 48 LR LR 16 18 16.4
comp=Z,33nm,18.6s,baz=242,slow=32
EPYK Eagle Plains 89.50 20 IAmb IAmb 15 43 28.8
comp=Z,34nm,1.8s
EPYK Eagle Plains 89.50 20 P **P** **15 42 37.7 +0.6**
baz=224
GKN Gorkha 89.66 299 *e*P **P** **15 42 37.7 -1.1**
H31M Peel River 89.97 21 P **P** **15 42 40.2 +1.0**
H31M IAmb IAmb 15 45 56.7
comp=Z,18nm,1.4s
H31M Peel River 89.97 21 P **P** **15 42 39.6 +0.4**
baz=236
E28M Babbage River 90.00 17 P **P** **15 42 38.9 -0.4**
E28M Babbage River 90.00 17 P **P** **15 42 39.2 -0.1**
baz=231
D27M Malcolm River 90.01 16 P **P** **15 42 39.5 +0.1**
D27M IAmb IAmb 15 43 50.6
comp=Z,35nm,2.0s
D27M Malcolm River 90.01 16 P **P** **15 42 39.8 +0.4**
baz=230
G30M tAoh Zraii Nji 90.02 19 P **P** **15 42 38.4 -1.0**
G30M tAoh Zraii Nji 90.02 19 P **P** **15 42 40.0 +0.5**
baz=234
E29M Blow River 90.35 18 P **P** **15 42 41.8 +0.9**
baz=233
DANN Dangsing 90.50 299 *e*P **P** **15 42 41.5 -1.4**
TUC Tucson 90.51 57 P **P** **15 42 42.5 -0.1**
baz=255
F30M Barrier River 90.53 19 P **P** **15 42 42.6 +0.9**
baz=235
NEW Newport 90.62 40 P **P** **15 42 42.9 +0.2**
baz=251
G31M Satah River 90.62 20 P **P** **15 42 43.7 +1.6**
baz=236
D28M Stokes Point 90.68 17 P **P** **15 42 43.9 +1.6**
baz=232
WUAZ Wupatki 90.89 54 P **P** **15 42 44.3 -0.1**
baz=254
HLID Hailey 90.93 45 P **P** **15 42 44.4 0.0**
baz=253
F31M Tsiigehtchic 91.08 19 P **P** **15 42 47.0 +2.8**
baz=237
PYUN Piuthan 91.09 298 *e*P **P** **15 42 44.4 -1.1**
ELIB Princess Elisa 91.55 191 *d*P **P** **15 42 46.3 -0.4**
comp=Z,8.5nm,0.7s
ELIB *dx* x 15 42 49.5
WMQ Urumqi 91.63 315 *e*P **P** **15 42 47.9 +0.4**
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ LR LR
comp=Z,140nm,19.5s

DGZ	**Jazzator, Alta**	**93.49**	**320**	*i* P		**P**	**15 42 55.3**	**-0.7**		
DGZ				pmax		pmax				
	comp=Z,7.0nm,0.9s									
ANMO	**Albuquerque**	**94.65**	**55**	LR		LR	16 19 11.5			
	comp=Z,39nm,20.8s,baz=14,slow=31									
C36M	**Paulatuk**	**95.14**	**19**	P		**P**	**15 43 01.0**	**-1.9**		
C36M				IAmb		IAmb	15 43 30.6			
	comp=Z,24nm,1.9s									
C36M	**Paulatuk**	**95.14**	**19**	P		**P**	**15 43 01.1**	**-1.7**		
	baz=246									
TXAR	**Lajitas Array**	**95.76**	**61**	LR		LR	16 19 07.7			
	comp=Z,20nm,20.5s,baz=272,slow=31									
A36M	**Sachs Harbour**	**95.89**	**17**	IAmb		IAmb	15 43 06.1			
	comp=Z,5.4nm,0.8s									
A36M	**Sachs Harbour**	**95.89**	**17**	P		**P**	**15 43 05.0**	**-1.3**		
	baz=245									
MK31	**Makanchi Array**	**96.08**	**317**	P		**P**	**15 43 07.6**	**-0.2**		
MK31				IAmb		IAmb	15 43 08.1			
	comp=Z,5.8nm,0.8s									
MK31	**Makanchi Array**	**96.08**	**317**	*ce*P		**P**	**15 43 07.8**	**+0.1**		
MKAR	**Makanchi Array**	**96.08**	**317**	P		**P**	**15 43 07.5**	**-0.2**		
	comp=Z,5.7nm,0.6s,baz=88,slow=6.1,SNR=83									
MKAR				PKiKP		**PKiKP**	**15 47 44.6**	**-0.6**		
	comp=Z,0.5nm,0.5s,baz=197,slow=1.2,SNR=13									
	comp=Z,5.7nm,0.6s									
ZALV	**Zalesovo Beam**	**96.17**	**324**	*i* P		**P**	**15 43 07.0**	**-0.9**		
ZALV				pmax		pmax				
	comp=Z,4.0nm,0.6s									
ZALV	**Zalesovo Beam**	**96.17**	**324**	P		**P**	**15 43 07.0**	**-0.9**		
	comp=Z,4.1nm,0.6s,baz=116,slow=4.6,SNR=26									
	comp=Z,4.1nm,0.6s									
YKA	**Yellowknife Ar**	**96.39**	**27**	P		**P**	**15 43 07.1**	**-1.6**		
	comp=Z,0.9nm,0.8s,baz=256,slow=4.8,SNR=12									
	comp=Z,0.9nm,0.8s									
KURK	**Kurchatov**	**99.23**	**320**	*i* P		**Pdif**	**15 43 19.6**	**-2.1**		
KURK				pmax		pmax				
	comp=Z,2.0nm,1.1s									
KURBB	**Kurchatov Arra**	**99.27**	**320**	P		**Pdif**	**15 43 21.0**	**-0.9**		
	comp=Z,0.8nm,0.2s,baz=100,slow=4.3,SNR=5.6									
	comp=Z,0.8nm,0.2s									
BVAR	**Borovoye Array**	**104.55**	**322**	Pdiff		**Pdif**	**15 43 44.5**	**-0.9**		
	comp=Z,0.4nm,0.6s,baz=86,slow=6.1,SNR=4.5									
BVAR				PKiKP		**PKiKP**	**15 48 00.2**	**0.0**		
	comp=Z,1.0nm,0.5s,baz=108,slow=1.0,SNR=8.0									
SPITS	**Spitsbergen Ar**	**113.53**	**354**	PKiKP		**PKiKP**	**15 48 16.1**	**-0.3**		
	comp=Z,18nm,1.1s,baz=127,slow=9.3,SNR=5.3									
BELG	**Belogornoye**	**118.33**	**323**	*i* PKIKP		**PKiKP**	**15 48 26.3**	**0.0**		
BELG				pmax		pmax				
	comp=Z,6.0nm,1.0s									
ARCES	**ARCESS Array B**	**118.86**	**346**	PKP		**PKPdf**	**15 48 26.5**	**-0.4**		
	comp=Z,8.5nm,0.4s,baz=74,slow=1.8,SNR=138									
KLMR	**Klimovskoe**	**119.36**	**334**	*e*PKPdf		**PKPdf**	**15 48 24.3**	**-3.8**		
KLMR				AMP			15 48 30.4			
	comp=Z,28nm,1.4s									
KLMR	**Klimovskoe**	**119.36**	**334**	*e*PKIKP		**PKPdf**	**15 48 24.2**	**-3.8**		
KLMR				pmax		pmax				
	comp=Z,28nm,1.4s									
CPUP	**Villa Florida**	**121.52**	**133**	PKP		**PKPdf**	**15 48 32.2**	**-1.1**		
	comp=Z,1.4nm,0.6s,baz=217,slow=7.9,SNR=5.2									
VRH	**Novokhopyorsk**	**122.18**	**323**	*e*PKIKP		**PKPdf**	**15 48 31.5**	**-2.2**		
VRH				pmax		pmax				
	comp=Z,20nm,0.6s									
LPSR	**Galich'ya Gora**	**123.26**	**325**	*e*PKIKP		**PKPdf**	**15 48 34.0**	**-1.8**		
LPSR				pmax		pmax				
	comp=Z,20nm,1.0s									
OBN	**Obninsk**	**123.43**	**328**	⇓*e*PKIKP		**PKPdf**	**15 48 35.3**	**-0.7**		
OBN				*e*			15 49 26.8			
OBN				*e*			15 50 24.7			
OBN				*e*PPP		PPP	15 53 00.2			
OBN				pmax		pmax				
	comp=Z,10.0nm,1.0s									
VORR	**Voronezh**	**123.47**	**324**	*e*PKIKP		**PKPdf**	**15 48 35.3**	**-0.9**		
VORR				pmax		pmax				
	comp=Z,10.0nm,1.0s									
KBZ	**Khabaz**	**123.67**	**314**	*i* PKIKP		**PKiKP**	**15 48 37.3**	**+0.2**		
KBZ				pmax		pmax				
	comp=Z,91nm,3.0s									
VSR	**Storozhevoye**	**123.67**	**323**	*e*PKIKP		**PKPdf**	**15 48 33.9**	**-2.7**		
VSR				pmax		pmax				
	comp=Z,10.0nm,0.6s									
KIV	**Kislovodsk**	**123.76**	**314**	*e*PKIKP		**PKPdf**	**15 48 36.9**	**-0.3**		
KIV				pmax		pmax				
	comp=Z,6.0nm,1.1s									
BOSA	**Boshof**	**124.31**	**221**	PKP		**PKiKP**	**15 48 39.2**	**+0.1**		
	comp=Z,6.3nm,0.8s,baz=130,slow=2.5,SNR=11									
FINES	**FINESS Array B**	**124.37**	**339**	PKP		**PKPdf**	**15 48 37.3**	**-0.3**		
	comp=Z,5.7nm,0.4s,baz=44,slow=1.9,SNR=65									
MNK	**Minsk**	**128.02**	**331**	*i* PKP		**PKPdf**	**15 48 42.9**	**-2.0**		
	comp=E,3.0nm,0.6s									
MNK				*i* PKP		**PKPdf**	**15 48 42.9**	**-2.0**		
	comp=N,13nm,0.9s									
MNK				*i* PKP		**PKPdf**	**15 48 42.9**	**-2.0**		
	comp=Z,14nm,0.8s,baz=54									
MNK				*i* pPKP		**pPKPdf**	**15 49 34.6**	**-3.4**		
MNK				*i* PP		**PP**	**15 50 48.6**	**-1.6**		
MNK				*i* PPP		PPP	15 53 34.5			
MNK				*i* SKS		SKSdf	15 55 23.5	-13		
MNK				*i* PS		**PS**	**16 00 57.5**	**-2.5**		
MNK				*i* SS		**SS**	**16 07 43.4**	**-3.2**		
MNK				*i* SSS		SSS	16 12 23.1			
MNK				*i* LRM		MLR	16 45 12.8			
MNK	**Minsk**	**128.02**	**331**	*i* PKIKP		**PKPdf**	**15 48 42.8**	**-2.0**		
MNK				*i*			15 49 34.6			
MNK				*i*			15 50 48.5			
MNK				*i* PPP		PPP	15 53 34.5			
MNK				*i*			15 55 23.5			
MNK				*i* PS		**PS**	**16 00 57.4**	**-2.5**		
MNK				*i* SS		SS	16 07 43.4	-3.2		
MNK				pmax		pmax				
	comp=N,13nm,0.9s									
MNK				pmax		pmax				
	comp=E,3.0nm,0.6s									
MNK				pmax		pmax				
	comp=Z,14nm,0.8s									
PABE	**Paberze**	**129.16**	**334**	PKPdf		**PKiKP**	**15 48 47.3**	**-0.3**		
NB2	**NORSAR Subarra**	**129.24**	**345**	PKPdf		**PKPdf**	**15 48 46.9**	**-0.1**		
	comp=Z,1.7nm,0.5s,baz=27,slow=1.8									
NOA	**NORSAR Array B**	**129.24**	**345**	PKP		**PKPdf**	**15 48 46.8**	**-0.3**		
	comp=Z,1.1nm,0.5s,baz=66,slow=1.5,SNR=11									
HFS	**Hagfors**	**129.34**	**343**	PKP		**PKPdf**	**15 48 46.5**	**-0.7**		
	comp=Z,3.2nm,0.5s,baz=107,slow=2.0,SNR=24									
AKASG	**Malin Array Be**	**129.49**	**326**	PKP		**PKPdf**	**15 48 47.3**	**-0.4**		
	comp=Z,2.6nm,0.5s,baz=44,slow=2.8,SNR=19									
AKBB	**Malin Array Si**	**129.49**	**326**	*i* PKIKP		**PKPdf**	**15 48 47.2**	**-0.5**		
BRTR	**Keskin Array B**	**131.47**	**312**	PKP		**PKPdf**	**15 48 52.0**	**0.0**		
	comp=Z,1.1nm,0.5s,baz=146,slow=5.3,SNR=11									
MMAI	**Mount Meron Ar**	**131.93**	**303**	PKP		**PKPdf**	**15 48 53.1**	**+0.1**		
	comp=Z,2.4nm,0.8s,baz=70,slow=7.5,SNR=3.5									
BUR08	**Bucovina Ar. S**	**133.37**	**325**	PKPdf		**PKiKP**	**15 48 57.0**	**+0.4**		
BURAR	**Bucovina Array**	**133.38**	**325**	⇑P		**PKiKP**	**15 48 57.6**	**+1.0**		
BURAR	**Bucovina Array**	**133.38**	**325**	⇑PKIKP		**PKiKP**	**15 48 57.6**	**+1.0**		
TURR	**Turia**	**133.77**	**323**	⇓P		**PKiKP**	**15 49 00.9**	**+3.5**		
MLR	**Muntele Rosu**	**134.11**	**322**	⇓P		**PKiKP**	**15 48 57.6**	**-0.6**		
MLR	**Muntele Rosu**	**134.11**	**322**	⇓PKIKP		**PKiKP**	**15 48 57.6**	**-0.6**		
KOLS	**Kolonicke sedl**	**134.18**	**328**	*e*PKP		**PKiKP**	**15 48 57.9**	**-0.2**		
KOLS	**Kolonicke sedl**	**134.18**	**328**	*e*PKIKP		**PKiKP**	**15 48 57.9**	**-0.2**		
CRVS	**Cervenica-Dubn**	**134.62**	**328**	*e*PKP		**PKiKP**	**15 48 58.5**	**-0.5**		
CRVS	**Cervenica-Dubn**	**134.62**	**328**	*e*PKIKP		**PKiKP**	**15 48 58.5**	**-0.5**		
CJR	**Cluj-Napoca**	**134.80**	**325**	⇓P		**PKiKP**	**15 48 59.6**	**+0.1**		
CJR	**Cluj-Napoca**	**134.80**	**325**	⇓PKIKP		**PKiKP**	**15 48 59.6**	**+0.1**		
BDFB	**Brasilia**	**134.89**	**129**	PKP		**PKPdf**	**15 48 58.7**	**-0.4**		
	comp=Z,2.4nm,0.7s,baz=263,slow=3.6,SNR=3.8									
ARR	**Arges**	**134.96**	**323**	⇑P		**PKiKP**	**15 48 59.8**	**0.0**		
LANS	**Liptovska Anna**	**135.45**	**330**	*e*PKP		**PKiKP**	**15 49 00.3**	**-0.4**		
LANS	**Liptovska Anna**	**135.45**	**330**	*e*PKIKP		**PKiKP**	**15 49 00.3**	**-0.4**		
MORC	**Moravsky Berou**	**135.93**	**332**	*e*PKP		**PKPdf**	**15 48 59.6**	**-0.4**		
GZR	**Gura Zlata**	**136.03**	**324**	⇓P		**PKPdf**	**15 49 00.2**	**-0.1**		
GZR	**Gura Zlata**	**136.03**	**324**	⇓PKIKP		**PKPdf**	**15 49 00.2**	**-0.1**		
PSZ	**Piszkesteto**	**136.05**	**328**	⇓P		**PKiKP**	**15 49 01.4**	**-0.6**		
PSZ	**Piszkesteto**	**136.05**	**328**	⇓PKIKP		**PKiKP**	**15 49 01.4**	**-0.6**		
DPC	**Dobruska-Polom**	**136.06**	**333**	*e*PKP		**PKiKP**	**15 49 02.1**	**+0.2**		
DPC	**Dobruska-Polom**	**136.06**	**333**	*e*PKIKP		**PKiKP**	**15 49 02.1**	**+0.2**		
UPC	**Upice**	**136.09**	**334**	*e*PKP		**PKiKP**	**15 49 02.3**	**+0.4**		
UPC	**Upice**	**136.09**	**334**	*e*PKIKP		**PKiKP**	**15 49 02.3**	**+0.4**		
SIRR	**Siria**	**136.14**	**325**	⇑P		**PKPdf**	**15 49 01.1**	**+0.7**		
SURR	**Surduc**	**136.19**	**325**	⇑P		**PKPdf**	**15 49 00.7**	**+0.2**		
VYHS	**Vyhne**	**136.20**	**330**	*e*PKP		**PKiKP**	**15 49 02.4**	**+0.2**		
VYHS	**Vyhne**	**136.20**	**330**	*e*PKIKP		**PKiKP**	**15 49 02.4**	**+0.2**		
BZS	**Buzias**	**136.56**	**325**	⇑P		**PKPdf**	**15 49 01.9**	**+0.7**		
BZS	**Buzias**	**136.56**	**325**	⇑PKIKP		**PKPdf**	**15 49 01.9**	**+0.7**		
BRG	**Berggiesshubel**	**136.68**	**335**	*e*PKP		**PKiKP**	**15 49 03.2**	**+0.1**		
BRG				Amp			15 49 03.9			
	comp=Z,6.6nm,0.7s									
BRG	**Berggiesshubel**	**136.68**	**335**	*e*PKIKP		**PKiKP**	**15 49 03.2**	**+0.1**		
BRG				pmax		pmax				
	comp=Z,7.0nm,0.7s									
BRG	**Berggiesshubel**	**136.68**	**335**	*e*PKPdf		**PKiKP**	**15 49 03.2**	**+0.1**		
	baz=35,slow=2.0									
VRAC	**Vranov**	**136.70**	**332**	*e*PKP		**PKPdf**	**15 49 01.2**	**-0.2**		
CLL	**Collm**	**136.72**	**336**	*i* PKPdf		**PKPdf**	**15 49 01.1**	**-0.2**		
	comp=Z,7.0nm,0.6s									
CLL	**Collm**	**136.72**	**336**	*i* PKIKP		**PKPdf**	**15 49 01.1**	**-0.2**		
CLL				pmax		pmax				
	comp=Z,7.0nm,0.6s									
CLL	**Collm**	**136.72**	**336**	*e*PKPdf		**PKiKP**	**15 49 03.2**	**+0.1**		
	baz=35,slow=2.0									
KRUC	**Moravsky**	**136.96**	**332**	*e*PKP		**PKPdf**	**15 49 01.5**	**-0.4**		
MDVR	**Moldovita**	**137.00**	**324**	⇑P		**PKPdf**	**15 49 02.4**	**+0.3**		
MODS	**Modra-Piesok**	**137.04**	**331**	*e*PKP		**PKPdf**	**15 49 02.6**	**+0.6**		
MODS	**Modra-Piesok**	**137.04**	**331**	*e*PKIKP		**PKPdf**	**15 49 02.6**	**+0.6**		
BLKB	**Belogradchik**	**137.09**	**322**	⇓P		**PKPdf**	**15 49 02.4**	**0.0**		
EKA	**Eskdalemuir Ar**	**137.41**	**352**	PKP		**PKPdf**	**15 49 02.2**	**-0.2**		
	comp=Z,0.6nm,0.4s,baz=14,slow=1.5,SNR=6.8									
TANN	**Tannenbergstha**	**137.63**	**336**	*e*PKPdf		**PKiKP**	**15 49 05.0**	**-0.2**		
	baz=35,slow=2.0									
BOVS	**Bovan**	**137.66**	**322**	⇓P		**PKPdf**	**15 49 02.9**	**-0.4**		
WERD	**Werda**	**137.66**	**336**	*e*PKPdf		**PKiKP**	**15 49 05.0**	**-0.2**		
	baz=35,slow=2.0									
ZVC	**Zvikov**	**137.67**	**334**	*e*PKP		**PKPdf**	**15 49 03.4**	**+0.2**		
PLN	**Plauen**	**137.69**	**336**	*e*PKPdf		**PKiKP**	**15 49 05.4**	**+0.2**		
	baz=35,slow=2.0									
MORH	**Mrgy, Hungar**	**137.81**	**327**	⇓P		**PKPdf**	**15 49 03.7**	**+0.2**		
FRGS	**Fruska Gora**	**137.85**	**325**	⇑P		**PKPdf**	**15 49 04.2**	**+0.5**		
RONA	**Rosalia, Austr**	**137.98**	**331**	*i* PKP		**PKPdf**	**15 49 03.5**	**-0.4**		
	comp=Z,1.9nm,0.6s									
RONA				*i* PKiKP		**PKiKP**	**15 49 06.3**	**+0.4**		
	comp=Z,6.7nm,0.6s									
CONA	**Conrad Observa**	**138.02**	**331**	*i* PKP		**PKPdf**	**15 49 03.9**	**-0.1**		
	comp=Z,2.5nm,0.6s									
CONA				*i* PKiKP		**PKiKP**	**15 49 06.4**	**+0.4**		
	comp=Z,7.7nm,0.6s									
CKRC	**Cesky Krumlov**	**138.08**	**333**	*e*PKP		**PKPdf**	**15 49 04.5**	**+0.5**		
CKRC	**Cesky Krumlov**	**138.08**	**333**	*e*PKIKP		**PKPdf**	**15 49 04.5**	**+0.5**		
KHC	**Kasperske Hory**	**138.16**	**334**	PKPdf		**PKiKP**	**15 49 06.5**	**+0.3**		
KHC	**Kasperske Hory**	**138.16**	**334**	*e*PKP		**PKPdf**	**15 49 03.7**	**-0.4**		
KHC	**Kasperske Hory**	**138.16**	**334**	*e*PKIKP		**PKPdf**	**15 49 03.7**	**-0.4**		
GEC2	**GERESS Array S**	**138.33**	**334**	*e*PKPdf		**PKiKP**	**15 49 06.6**	**0.0**		
	baz=35,slow=2.0									
GERES	**GERESS Array B**	**138.33**	**334**	PKP		**PKPdf**	**15 49 05.3**	**+0.8**		
	comp=Z,2.6nm,0.5s,baz=44,slow=3.4,SNR=4.2									
MOA	**Molln**	**138.82**	**332**	*i* PKiKP		**PKiKP**	**15 49 07.6**	**0.0**		
	comp=Z,3.4nm,0.5s									
BIOA	**Bad Ischl, Aus**	**139.22**	**332**	*e*PKP		**PKPdf**	**15 49 05.3**	**-0.8**		
	comp=Z,7.3nm,1.2s									
BIOA				*i* PKiKP		**PKiKP**	**15 49 08.0**	**-0.4**		
	comp=Z,2.4nm,0.5s									
SOKA	**Soboth**	**139.31**	**330**	*i* PKP		**PKPdf**	**15 49 05.9**	**-0.4**		
	comp=Z,3.9nm,1.2s									
SOKA				*i* PKiKP		**PKiKP**	**15 49 08.5**	**-0.2**		
	comp=Z,8.2nm,1.3s									
FNA	**Florina**	**139.45**	**319**	PKPdf		**PKPdf**	**15 49 06.5**	**-0.3**		
FNA	**Florina**	**139.45**	**319**	PKIKP		**PKPdf**	**15 49 06.5**	**-0.3**		
BTNL	**Ternell**	**139.74**	**341**	*d*PKiKP		**PKiKP**	**15 49 09.4**	**0.0**		
MEM	**Membach**	**139.76**	**341**	*d*PKiKP		**PKiKP**	**15 49 09.6**	**+0.2**		
LESA	**Schwarzleotal**	**139.85**	**333**	*i* PKP		**PKPdf**	**15 49 07.3**	**0.0**		
	comp=Z,2.7nm,0.5s									
LESA				*i* PKiKP		**PKiKP**	**15 49 09.6**	**-0.2**		
	comp=Z,6.5nm,0.5s									
MYKA	**Terra Mystica**	**140.01**	**331**	*i* PKP		**PKPdf**	**15 49 07.2**	**-0.4**		
	comp=Z,2.5nm,1.0s									
MYKA				*i* PKiKP		**PKiKP**	**15 49 09.6**	**-0.5**		
	comp=Z,3.0nm,0.6s									
BMRD	**Maredsous**	**140.41**	**342**	*d*PKiKP		**PKiKP**	**15 49 10.8**	**+0.1**		
WTTA	**Wattenberg**	**140.43**	**334**	*i* PKP		**PKPdf**	**15 49 07.5**	**-1.0**		
	comp=Z,4.8nm,0.7s									
WTTA				*i* PKiKP		**PKiKP**	**15 49 11.2**	**+0.1**		
	comp=Z,8.5nm,0.6s									
ABTA	**Abfaltersbach**	**140.44**	**332**	*i* PKP		**PKPdf**	**15 49 08.2**	**-0.2**		
	comp=Z,5.4nm,0.6s									
MOTA	**Moosalm**	**140.59**	**334**	*i* PKP		**PKPdf**	**15 49 09.0**	**+0.3**		
	comp=Z,8.5nm,1.1s									
RETA	**Reutte**	**140.63**	**335**	*i* PKiKP		**PKiKP**	**15 49 11.0**	**-0.3**		
	comp=Z,8.9nm,1.4s									
DOU	**Dourbes**	**140.64**	**342**	*d*PKiKP		**PKiKP**	**15 49 11.3**	**+0.1**		
SQTA	**Sankt Quirin**	**140.65**	**334**	*i* PKP		**PKPdf**	**15 49 09.1**	**+0.3**		
	comp=Z,5.6nm,0.9s									
SQTA				*i* PKiKP		**PKiKP**	**15 49 11.6**	**+0.1**		
	comp=Z,6.2nm,0.5s									
UBR	**Ueberruh**	**140.74**	**335**	*e*PKPdf		**PKiKP**	**15 49 11.4**	**-0.2**		
	baz=35,slow=2.0									
FETA	**Feichten**	**141.01**	**334**	*i* PKP		**PKPdf**	**15 49 08.9**	**-0.6**		
	comp=Z,7.4nm,1.0s									
DAVA	**Damuels**	**141.15**	**335**	*i* PKP		**PKPdf**	**15 49 09.3**	**-0.5**		
	comp=Z,3.6nm,0.8s									
DAVA				*i* PKiKP		**PKiKP**	**15 49 12.7**	**+0.1**		
	comp=Z,7.5nm,0.6s									
MSSA	**Maissana**	**143.65**	**332**			PKPab	15 49 11.0	-0.3		
BNI	**Bardonecchia**	**144.26**	**336**	PKPdf		PKPbc	15 49 14.6	+0.5		
BNI	**Bardonecchia**	**144.26**	**336**	PKIKP		PKPbc	15 49 14.6	+0.5		
SSB	**Saint Sauveur**	**144.88**	**338**	PKPdf		**PKPdf**	**15 49 16.7**	**+0.4**		
SSB	**Saint Sauveur**	**144.88**	**338**	PKIKP		**PKPdf**	**15 49 16.7**	**+0.4**		
VSL	**Villasalto**	**147.36**	**327**			**PKPbc**	**15 49 23.8**	**+0.5**		
KEST	**Kesra**	**150.02**	**322**	PKPbc		**PKPbc**	**15 49 30.4**	**+0.2**		
	comp=Z,26nm,0.7s,baz=354,slow=0.3,SNR=24									
PBRG	**Braganca**	**151.13**	**350**	*e*PKPdf		**PKPdf**	**15 49 20.2**	**-6.4**		
PBRG	**Braganca**	**151.13**	**350**	*e*PKPbc		**PKPbc**	**15 49 32.8**	**+0.2**		
PBRG	**Braganca**	**151.13**	**350**	*e*PKPab		**PKPab**	**15 49 41.4**	**+0.4**		
PGAV	**Gavieira, Arco**	**151.19**	**353**	*e*PKPdf		PKPdf	15 49 18.1	-8.6		
PGAV	**Gavieira, Arco**	**151.19**	**353**	*e*PKPbc		**PKPbc**	**15 49 31.6**	**-1.2**		
POLO	**Lamas de Olo**	**151.71**	**352**	*e*PKPbc		**PKPbc**	**15 49 34.2**	**+0.2**		
PVRL	**Vila Real**	**151.79**	**352**	*e*PKPbc		**PKiKP**	**15 49 34.4**	**-0.1**		
PVRL	**Vila Real**	**151.79**	**352**	*e*PKPab		**PKPab**	**15 49 44.4**	**+0.6**		
MVO	**Moncorvo**	**151.80**	**351**	*e*PKPbc		**PKiKP**	**15 49 34.5**	**0.0**		
PTO	**Porto**	**152.04**	**353**	*e*PKPbc		**PKiKP**	**15 49 35.1**	**+0.2**		
PVIS	**Viseu**	**152.37**	**352**	*e*PKPbc		**PKPbc**	**15 49 35.5**	**0.0**		
ESBB	**Sonseca Array**	**152.60**	**345**			**PKiKP**	**15 49 36.3**	**+0.1**		
ESDC	**Sonseca Array**	**152.60**	**345**	PKPbc		**PKiKP**	**15 49 36.2**	**0.0**		
	comp=Z,9.2nm,0.8s,baz=12,slow=2.7,SNR=60									
ESDC				PKPab		**PKPab**	**15 49 47.5**	**+0.2**		
	comp=Z,6.7nm,0.8s,baz=13,slow=3.9,SNR=8.1									
MTE	**Manteigas**	**152.63**	**351**	*e*PKPbc		**PKiKP**	**15 49 36.3**	**0.0**		
PAB	**San Pablo**	**152.82**	**345**			**PKiKP**	**15 49 37.2**	**+0.5**		
PAB	**San Pablo**	**152.82**	**345**	PKIKP		**PKiKP**	**15 49 37.2**	**+0.5**		
PCAS	**Casmilo, Conde**	**153.10**	**353**	*e*PKPbc		**PKPbc**	**15 49 37.0**	**-0.1**		
PCBR	**Castelo Branco**	**153.16**	**351**	*e*PKPbc		**PKPbc**	**15 49 37.2**	**0.0**		
PMRV	**Marv??o**	**153.55**	**350**	*e*PKPbc		**PKiKP**	**15 49 38.2**	**0.0**		
PSBE	**So Bento**	**153.67**	**353**	*e*PKPbc		**PKiKP**	**15 49 38.6**	**+0.2**		
PMTG	**Montargil**	**154.03**	**352**	*e*PKPbc		**PKiKP**	**15 49 39.1**	**0.0**		
PESTR	**Estremoz**	**154.13**	**350**	*e*PKPab		**PKPab**	**15 49 54.1**	**+0.4**		
PMAFR	**Mafra**	**154.28**	**353**	*e*PKPab		**PKPab**	**15 49 54.3**	**0.0**		
EVO	**Evora**	**154.53**	**351**	*e*PKPbc		**PKiKP**	**15 49 40.8**	**+0.6**		
EVO	**Evora**	**154.53**	**351**	*e*PKPab		**PKPab**	**15 49 56.2**	**+0.8**		
PBAR	**Barrancos**	**154.71**	**349**	*e*PKPab		**PKPab**	**15 49 56.8**	**+0.6**		
PBEJ	**Beja**	**155.00**	**351**	*e*PKPab		**PKPab**	**15 49 58.2**	**+0.8**		
PNCL	**Nicolau / Gran**	**155.02**	**352**	*e*PKPab		**PKPab**	**15 49 58.5**	**+1.1**		
MESJ	**Messejana**	**155.24**	**351**	*e*PKPab		**PKPab**	**15 49 59.6**	**+1.2**		
PCVE	**Castro Verde**	**155.41**	**351**	*e*PKPab		**PKPab**	**15 50 00.0**	**+0.8**		
TORD	**Torodi Ar. Bea**	**165.78**	**271**	PKP		**PKPdf**	**15 49 44.0**	**-0.7**		
	comp=Z,5.4nm,1.2s,baz=18,slow=4.2,SNR=10									
TORD				PKPab		**PKPab**	**15 50 45.3**	**0.0**		
	comp=Z,1.2nm,0.7s,baz=84,slow=5.1,SNR=4.2									

*NEIC **23** 15:37:22.3±1.2,56.0°S±0.1°×27.6°W±0.2,h88km±9km, mb4.6/20,Error ellipse: s-maj=21.8km s-min=15.0km az=225.0*

*IDC **23** 15:37:25.7±2.2,55.96°S×27.50W,h119km±18km,mb4.3/9, mbtmp4.7/11,MS3.1/1,Error ellipse: s-maj=23.1km s-min=13.5km az=80.0*

ISC 23 15:37:24.3±0.5, 56.02S±0.08×27.7W±0.1, h112km, n52, σ1§06/55, mb4.5/15, 8C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.34**	**285**			Pn	**Pn**	**15 38 40.2**	**-1.5**
VNA1	**Neumayer--Stat**	**16.93**	**158**	⇑P		Pn	**Pn**	**15 41 13.3**	**-0.6**
VNA1				⇑ScP		**ScP**	**ScP**	**15 49 18.0**	**+0.5**
	comp=Z,5.4nm,0.7s								
VNA3	**Neumayer Olymp**	**17.12**	**160**	⇑P		**P**	**P**	**15 41 14.7**	**-1.5**
	comp=Z,63nm,0.7s								
VNA3				⇑ScP		**ScP**	**ScP**	**15 49 18.2**	**+0.3**
	comp=Z,3.8nm,0.8s								
VNA2	**Neumayer--Watz**	**17.33**	**157**	⇑P		**P**	**P**	**15 41 17.4**	**-1.1**
	comp=Z,21nm,0.5s,baz=315,slow=13								
VNA2				⇑ScP		**ScP**	**ScP**	**15 49 18.4**	**+0.1**
	baz=305,slow=4.0								
SNAA	**Sanae**	**18.89**	**156**	P		**P**	**P**	**15 41 35.5**	**0.0**
SNAA				IAmb		IAmb	IAmb	15 41 36.3	
	comp=Z,39nm,0.6s								
SNAA	**Sanae**	**18.89**	**156**	⇓P		**P**	**P**	**15 41 35.4**	**-0.3**
SNAA	comp=Z,1μm,0.6s			⇑ScP		**ScP**	**ScP**	**15 49 20.7**	**-1.1**
	comp=Z,67nm,1.2s								
SNAA	**Sanae**	**18.89**	**156**	P		**P**	**P**	**15 41 35.6**	**0.0**
	comp=Z,43nm,0.5s,baz=302,slow=10,SNR=419								
SNAA				S		**S**	**S**	**15 45 00.1**	**-4.0**
	comp=

	comp=E,1µm,0.5s							
SML				IAML		15 41 53.7		
	comp=N,1µm,0.5s							
SML	**Sawmill**	**0.76**	**72**	P	Pn	15 41 41.0	-0.7	
	baz=253							
CUT	**Chulitna**	**0.85**	**347**		Pn	15 41 42.2	-0.7	
CUT	**Chulitna**	**0.85**	**347**		Sn	15 41 54.7	+0.2	
CUT	**Chulitna**	**0.85**	**347**	P	Pn	15 41 42.2	-0.7	
	baz=167							
CUT				S	Sn	15 41 54.7	+0.2	
	baz=167							
SKT	**Skwentna**	**0.89**	**297**		Pn	15 41 42.5	-1.0	
SKT				IAML		15 41 55.7		
	comp=N,1µm,0.2s							
SKT	**Skwentna**	**0.89**	**297**		Sn	15 41 55.1	-0.5	
SKT	**Skwentna**	**0.89**	**297**	P	Pn	15 41 42.4	-1.0	
	baz=116							
SKT				S	Sn	15 41 55.1	-0.5	
	baz=116							
STLK	**Strandline Lak**	**0.95**	**266**		Pn	15 41 43.8	-0.5	
STLK					Sn	15 41 56.9	-0.1	
CAPN	**Captain Cook N**	**1.03**	**218**		Pn	15 41 46.2	+1.0	
CAPN				IAML		15 42 03.3		
	comp=E,2µm,0.8s							
CAPN				IAML		15 42 07.4		
	comp=N,1µm,0.8s							
M23K	**Glacier View**	**1.04**	**77**		Sn	15 41 59.6	+0.7	
M23K	**Glacier View**	**1.04**	**77**	P	Pn	15 41 44.9	-0.5	
	baz=259							
M23K				S	Sn	15 41 59.6	+0.7	
	baz=259							
SLKM	**Skilak Lake**	**1.09**	**190**		Sn	15 41 59.7	-0.5	
O22K	**Cooper Landing**	**1.10**	**177**		Pn	15 41 45.4	-0.8	
O22K				IAML		15 42 09.5		
	comp=E,1µm,0.4s							
O22K	**Cooper Landing**	**1.10**	**177**	P	Pn	15 41 45.5	-0.6	
	baz=357							
SPCP	**Crater Peak Br**	**1.15**	**255**		Pn	15 41 46.6	-0.4	
SPCP					Sn	15 42 02.2	+0.3	
N20K	**Mount Spurr**	**1.20**	**252**	P	Pn	15 41 47.1	-0.5	
	baz=70							
SPCR	**Spurr Chakacha**	**1.20**	**252**		Pn	15 41 46.9	-0.6	
SCM	**Sheep Creek Mo**	**1.23**	**77**		Pn	15 41 47.5	-0.4	
SCM				IAML		15 42 06.1		
	comp=E,810nm,0.7s							
SCM				IAML		15 42 08.9		
	comp=N,484nm,0.7s							
SCM	**Sheep Creek Mo**	**1.23**	**77**	P	Pn	15 41 47.5	-0.4	
	baz=259							
SPBG	**Spurr Blockage**	**1.25**	**256**		Pn	15 41 47.9	-0.4	
WAT1	**Susitna Watana**	**1.40**	**25**		Pn	15 41 49.8	-0.4	
WAT1	**Susitna Watana**	**1.40**	**25**	P	Pn	15 41 50.0	-0.2	
	baz=206							
WAT6	**Susitna Watana**	**1.41**	**44**	P	Pn	15 41 49.9	-0.6	
	baz=226							
SEW	**Seward**	**1.49**	**172**		Pn	15 41 50.1	-1.3	
SEW	**Seward**	**1.49**	**172**	P	Pn	15 41 50.9	-0.5	
	baz=353							
GLI	**Glacier Island**	**1.51**	**117**		Pn	15 41 50.8	-0.9	
GLI				IAML		15 42 11.6		
	comp=N,737nm,0.3s							
GLI				IAML		15 42 17.1		
	comp=E,596nm,0.7s							
GLI	**Glacier Island**	**1.51**	**117**	P	Pn	15 41 50.8	-0.8	
	baz=299							
M20K	**Styx River**	**1.59**	**282**		Pn	15 41 52.5	-0.4	
M20K	**Styx River**	**1.59**	**282**	P	Pn	15 41 52.5	-0.4	
	baz=100							
RDT	**Redoubt**	**1.60**	**232**		Pn	15 41 52.1	-0.9	
PPLA	**Purkeypile**	**1.72**	**321**		Pn	15 41 53.8	-0.8	
PPLA	**Purkeypile**	**1.72**	**321**	P	Pn	15 41 53.8	-0.8	
	baz=139							
RSO	**Redoubt South**	**1.80**	**233**		Pn	15 41 55.2	-0.6	
M24K	**Tolsona, Glenn**	**1.82**	**72**		Pn	15 41 56.4	+0.4	
M24K				IAML		15 42 21.0		
	comp=N,378nm,0.6s							
M24K				IAML		15 42 22.5		
	comp=E,607nm,0.7s							
M24K	**Tolsona, Glenn**	**1.82**	**72**	P	Pn	15 41 56.4	+0.4	
	baz=255							
FID	**Port Fidalgo**	**1.83**	**116**		Pn	15 41 54.7	-1.4	
FID				IAML		15 42 19.3		
	comp=N,476nm,0.4s							
FID				IAML		15 42 19.8		
	comp=E,574nm,0.3s							
KLU	**Klutina**	**1.88**	**91**		Pn	15 41 56.2	-0.7	
KLU				IAML		15 42 21.9		
	comp=N,258nm,0.4s							
KLU				IAML		15 42 29.2		
	comp=E,234nm,0.5s							
KLU	**Klutina**	**1.88**	**91**	P	Pn	15 41 56.1	-0.7	
	baz=274							
TRF	**Thorofare Moun**	**1.89**	**354**	Pn	Pn	15 41 56.6	-0.4	
TRF				IAML		15 42 37.6		
	comp=N,197nm,1.1s							
TRF	**Thorofare Moun**	**1.89**	**354**	P	Pn	15 41 56.6	-0.4	
	baz=174							
RND	**Reindeer**	**1.89**	**14**	Pn	Pn	15 41 57.2	+0.2	
DHY	**Denali Highway**	**1.90**	**36**		Pn	15 41 57.2	+0.2	
DHY	**Denali Highway**	**1.90**	**36**	P	Pn	15 41 56.7	-0.4	
	baz=219							
BRSE	**Bradley Lake S**	**1.90**	**194**		Pn	15 41 56.2	-0.8	
BRSE	**Bradley Lake S**	**1.90**	**194**	P	Pn	15 41 56.2	-0.8	
	baz=13							
P23K	**Montague Islan**	**1.99**	**142**		Pn	15 41 56.6	-1.6	
P23K	**Montague Islan**	**1.99**	**142**	P	Pn	15 41 56.6	-1.6	
	baz=324							
HIN	**Hinchinbrook I**	**2.02**	**125**		Pn	15 41 57.8	-0.8	
HIN				IAML		15 42 31.8		
	comp=N,250nm,0.9s							
HIN				IAML		15 42 32.2		
	comp=E,292nm,0.9s							
O20K	**Slope Mountain**	**2.03**	**223**		Pn	15 41 58.5	-0.3	
O20K	**Slope Mountain**	**2.03**	**223**	P	Pn	15 41 58.4	-0.3	
	baz=41							
KTH	**Kantishna Hill**	**2.04**	**346**		Pn	15 41 58.9	-0.1	
KTH				IAML		15 42 24.3		
	comp=E,202nm,0.6s							
KTH				IAML		15 42 24.8		
	comp=N,174nm,0.6s							
L20K	**Farewell, AK**	**2.10**	**297**		Pn	15 41 59.0	-0.8	
L20K	**Farewell, AK**	**2.10**	**297**	P	Pn	15 41 59.0	-0.8	
	baz=114							
CAST	**Castle Rocks**	**2.12**	**332**	Pn	Pn	15 41 59.1	-0.8	
CAST	**Castle Rocks**	**2.12**	**332**	P	Pn	15 41 59.0	-1.0	
	baz=150							
CNPM	**China Poot**	**2.17**	**199**		Pn	15 42 00.3	-0.4	
CNPM	**China Poot**	**2.17**	**199**	IAML		15 42 46.5		
	comp=E,154nm,3.2s							
CNPM				IAML		15 42 51.5		
	comp=N,182nm,3.0s							
MCK	**McKinley**	**2.20**	**11**		Pn	15 42 01.6	+0.5	
MCK	**McKinley**	**2.20**	**11**	P	Pn	15 42 01.6	+0.5	
	baz=191							
IVE	**Iliamna Volcan**	**2.21**	**226**		Pn	15 42 00.8	-0.5	
EYAK	**Cordova Ski Ar**	**2.25**	**116**		Pn	15 42 00.6	-1.1	
EYAK	**Cordova Ski Ar**	**2.25**	**116**	P	Pn	15 42 00.6	-1.1	
	baz=299							
HARP	**HAARP**	**2.36**	**68**	P	Pn	15 42 03.7	+0.4	
	baz=252							
N19K	**Bonanza Creek**	**2.37**	**253**		Pn	15 42 02.9	-0.6	
N19K	**Bonanza Creek**	**2.37**	**253**	IAML		15 42 49.0		
	comp=N,133nm,0.8s							
N19K	**Bonanza Creek**	**2.37**	**253**	P	Pn	15 42 02.8	-0.8	
	baz=69							
L19K	**White Mountain**	**2.44**	**286**		Pn	15 42 03.8	-0.7	
L19K	**White Mountain**	**2.44**	**286**	P	Pn	15 42 03.8	-0.7	
	baz=102							
PAX	**Paxson**	**2.48**	**54**		Pn	15 42 05.2	+0.2	
PAX	**Paxson**	**2.48**	**54**	P	Pn	15 42 05.2	+0.2	
	baz=238							
N25K	**Chitina, Valde**	**2.51**	**87**	Pn	Pn	15 42 04.7	-0.7	
N25K				IAML		15 42 44.8		
	comp=N,111nm,0.4s							
N25K	**Chitina, Valde**	**2.51**	**87**	P	Pn	15 42 04.5	-0.9	
	baz=272							
P19K	**Oil Pt**	**2.55**	**222**		Pn	15 42 04.9	-1.0	
P19K	**Oil Pt**	**2.55**	**222**	IAML		15 42 59.2		
	comp=N,262nm,1.8s							
P19K				IAML		15 42 59.2		
	comp=E,236nm,2.3s							
P19K	**Oil Pt**	**2.55**	**222**	P	Pn	15 42 04.9	-1.0	
	baz=39							
CHUM	**Lake Minchumin**	**2.58**	**335**		Pn	15 42 05.2	-1.0	
CHUM	**Lake Minchumin**	**2.58**	**335**	P	Pn	15 42 05.3	-0.9	
	baz=153							
BPAW	**Bear Paw Mtn.**	**2.58**	**349**	Pn	Pn	15 42 05.5	-0.9	
BPAW	**Bear Paw Mtn.**	**2.58**	**349**	P	Pn	15 42 05.5	-0.8	
	baz=168							
BMRM	**Bremner River**	**2.61**	**101**		Pn	15 42 05.1	-1.6	
BMRM	**Bremner River**	**2.61**	**101**	P	Pn	15 42 05.7	-1.0	
	baz=286							
BWN	**Browne**	**2.61**	**4**	Pn	Pn	15 42 07.2	+0.6	
BWN				IAML		15 42 54.7		
	comp=E,168nm,0.9s							
BWN				IAML		15 42 57.2		
	comp=N,245nm,1.1s							
K20K	**Telida**	**2.65**	**314**		Pn	15 42 06.2	-1.1	
K20K	**Telida**	**2.65**	**314**	IAML		15 42 59.6		
	comp=N,79nm,0.9s							
K20K				IAML		15 42 59.7		
	comp=E,133nm,0.6s							
K20K	**Telida**	**2.65**	**314**	P	Pn	15 42 06.2	-1.1	
	baz=130							
GOAT	**Goat Mountain**	**2.68**	**110**		Pn	15 42 06.4	-1.4	
WASW	**Wrangell South**	**2.72**	**80**		Pn	15 42 07.9	-0.6	
WAZA	**Wrangell Mount**	**2.75**	**77**		Pn	15 42 08.9	+0.1	
RAGM	**Ragged Mountai**	**2.79**	**113**		Pn	15 42 05.1	-4.1	
SVW2	**Sparrevohn**	**2.80**	**263**	Pn	Pn	15 42 08.2	-1.1	
SVW2				IAML		15 43 07.3		
	comp=N,88nm,4.0s							
M18K	**Stony River**	**2.86**	**271**		Pn	15 42 09.2	-0.9	
M18K	**Stony River**	**2.86**	**271**	P	Pn	15 42 09.2	-0.9	
	baz=86							
GLB	**Gilahina Butte**	**2.90**	**90**		Pn	15 42 10.0	-0.7	
HMT	**Hamilton**	**3.00**	**112**		Pn	15 42 10.7	-1.4	
NEA2	**Nenana**	**3.05**	**6**		Pn	15 42 11.9	-0.8	
N18K	**Kilae Creek**	**3.06**	**256**		Pn	15 42 11.8	-1.1	
N18K	**Kilae Creek**	**3.06**	**256**	IAML		15 43 30.1		
	comp=N,74nm,3.5s							
N18K				IAML		15 43 34.6		
	comp=E,71nm,5.0s							
N18K	**Kilae Creek**	**3.06**	**256**	P	Pn	15 42 11.8	-1.1	
	baz=70							
VRDI	**Verde Repeater**	**3.10**	**94**		Pn	15 42 08.9	-4.6	
HDA	**Harding Lake**	**3.13**	**24**		Pn	15 42 14.5	+0.6	
HDA				IAML		15 43 13.2		
	comp=N,68nm,0.4s							
MENT	**Mentasta**	**3.17**	**62**		Pn	15 42 14.5	0.0	
MENT				IAML		15 43 07.9		
	comp=N,164nm,1.0s							
MENT				IAML		15 43 12.7		
	comp=E,127nm,0.7s							
TTA	**Tatalina**	**3.18**	**298**	Pn	Pn	15 42 13.5	-1.1	
TTA				IAML		15 43 14.2		
	comp=N,87nm,4.9s							
TTA				IAML		15 43 25.1		
	comp=E,88nm,4.6s							
TTA	**Tatalina**	**3.18**	**298**	P	Pn	15 42 13.4	-1.2	
	baz=112							
CCB	**Clear Creek Bu**	**3.22**	**16**		Pn	15 42 13.9	-1.1	
J20K	**Nowinta River**	**3.27**	**325**		Pn	15 42 14.4	-1.2	
J20K	**Nowinta River**	**3.27**	**325**	IAML		15 42 40.5		
	comp=E,73nm,4.1s							
J20K				IAML		15 43 22.8		
	comp=N,64nm,1.1s							
J20K	**Nowinta River**	**3.27**	**325**	P	Pn	15 42 14.4	-1.2	
	baz=141							
L18K	**Granite Mounta**	**3.30**	**284**		Pn	15 42 15.1	-1.0	
L18K	**Granite Mounta**	**3.30**	**284**	IAML		15 42 56.9		
	comp=E,84nm,4.6s							
L18K				IAML		15 43 19.3		
	comp=N,83nm,4.0s							
L18K	**Granite Mounta**	**3.30**	**284**	P	Pn	15 42 15.1	-1.0	
	baz=98							
L26K	**Log Cabin Wild**	**3.37**	**62**	IAML		15 43 16.9		
	comp=E,102nm,0.5s							
L26K	**Log Cabin Wild**	**3.37**	**62**	IAML		15 43 23.8		
	comp=N,74nm,0.5s							
KHIT	**Khitrov Hills**	**3.41**	**107**		Pn	15 42 16.3	-1.4	
COLA	**College**	**3.43**	**14**	IAML		15 43 19.9		
	comp=N,117nm,0.5s							
COLA	**College**	**3.43**	**14**	IAML		15 43 20.6		
	comp=N,101nm,0.6s							
MDM	**Murphy Dome**	**3.47**	**11**		Pn	15 42 14.3	-4.2	
MDM				IAML		15 43 40.7		
	comp=N,50nm,4.8s							
IL31		**3.48**	**21**		Pn	15 42 15.3	-3.1	
MLY	**Manley**	**3.49**	**354**		Pn	15 42 17.9	-0.8	
MLY	**Manley**	**3.49**	**354**	P	Pn	15 42 17.9	-0.8	
	baz=173							
TGL	**Tana Glacier**	**3.50**	**101**		Pn	15 42 17.7	-1.3	
TGL	**Tana Glacier**	**3.50**	**101**	IAML		15 43 09.1		
	comp=N,75nm,0.6s							
TGL				IAML		15 43 16.5		
	comp=E,71nm,0.5s							
I23K	**Minto, Yukon-K**	**3.59**	**3**		Pn	15 42 19.6	-0.4	
I23K	**Minto, Yukon-K**	**3.59**	**3**	IAML		15 43 25.4		
	comp=E,45nm,4.5s							
I23K	**Minto, Yukon-K**	**3.59**	**3**	P	Pn	15 42 19.6	-0.4	
	baz=184							
J19K	**Poorman**	**3.59**	**315**		Pn	15 42 19.0	-1.1	
J19K	**Poorman**	**3.59**	**315**	IAML		15 42 52.8		
	comp=N,76nm,4.8s							
J19K				IAML		15 43 48.3		
	comp=E,54nm,3.8s							
J19K	**Poorman**	**3.59**	**315**	P	Pn	15 42 19.0	-1.1	
	baz=130							
M17K	**Holitna River**	**3.64**	**271**	IAML		15 44 20.4		
	comp=N,106nm,4.2s							
M17K	**Holitna River**	**3.64**	**271**	P	Pn	15 42 19.8	-1.0	
	baz=84							
KIAG	**Kiagna River**	**3.68**	**97**		Pn	15 42 20.1	-1.4	
J18K	**Innoko River**	**3.70**	**304**		Pn	15 42 20.6	-1.0	
J18K	**Innoko River**	**3.70**	**304**	IAML		15 43 19.2		
	comp=E,58nm,4.0s							
J18K				IAML		15 43 41.4		
	comp=N,47nm,4.8s							
J18K	**Innoko River**	**3.70**	**304**	P	Pn	15 42 20.6	-1.0	
	baz=118							
SNH	**Sunshine Point**	**3.71**	**109**		Pn	15 42 20.5	-1.2	
SNH	**Sunshine Point**	**3.71**	**109**	IAML		15 43 09.0		
	comp=E,106nm,4.8s							
POKR	**Poker Plat Res**	**3.71**	**16**		Pn	15 42 16.1	-5.6	
POKR	**Poker Plat Res**	**3.71**	**16**	P	Pn	15 42 20.7	-1.0	
	baz=198							
N17K	**Nushagak Hills**	**3.72**	**257**		Pn	15 42 20.8	-1.0	
N17K				IAML		15 44 34.3		
	comp=E,71nm,4.5s							
N17K				IAML		15 44 45.1		
	comp=N,73nm,4.4s							
N17K	**Nushagak Hills**	**3.72**	**257**	P	Pn	15 42 21.0	-0.9	
	baz=70							
I21K	**Tanana**	**3.74**	**346**	Pn	Pn	15 42 21.6	-0.5	
I21K				IAML		15 43 16.8		
	comp=E,87nm,4.9s							
I21K				IAML		15 43 47.1		
	comp=N,71nm,4.9s							
BARK	**Barkley Ridge**	**3.77**	**105**		Pn	15 42 21.6	-1.1	
ISLE	**Juniper Island**	**3.78**	**102**		Pn	15 42 21.4	-1.4	
ISLE	**Juniper Island**	**3.78**	**102**	IAML		15 43 27.1		
	comp=E,50nm,1.3s							
ISLE				IAML		15 43 29.1		
	comp=N,63nm,2.3s							
M27K	**Edge Creek, AK**	**3.84**	**75**		Pn	15 42 23.7	0.0	
M27K	**Edge Creek, AK**	**3.84**	**75**	IAML		15 43 12.8		
	comp=E,37nm,4.2s							
M27K	**Edge Creek, AK**	**3.84**	**75**	P	Pn	15 42 23.6	-0.1	
	baz=262							
I20K	**Naaghedeneel**	**3.85**	**329**		Pn	15 42 22.5	-1.1	
I20K	**Naaghedeneel**	**3.85**	**329**	P	Pn	15 42 22.6	-1.0	
	baz=145							
BAGL	**Bagley Icefiel**	**3.93**	**103**		Pn	15 42 23.6	-1.1	
GRNC	**Granite Creek**	**4.01**	**99**		Pn	15 42 24.7	-1.4	
GRNC	**Granite Creek**	**4.01**	**99**	IAML		15 43 12.2		
	comp=N,42nm,2.1s							
L17K	**Donlin**	**4.04**	**282**		Pn	15 42 25.1	-1.2	
L17K	**Donlin**	**4.04**	**282**	P	Pn	15 42 25.1	-1.2	
	baz=94							
KDAK	**Kodiak Island**	**4.05**	**201**		Pn	15 42 24.9	-1.5	
MESA	**MESA**	**4.11**	**107**	Pn	Pn	15 42 27.8	+0.4	
MESA				IAML		15 43 14.8		
	comp=E,83nm,0.4s							
MESA	**MESA**	**4.11**	**107**	P	Pn	15 42 26.3	-1.1	
	baz=293							
K17K	**Iditarod**	**4.13**	**290**		Pn	15 42 26.4	-1.0	
K17K	**Iditarod**	**4.13**	**290**	IAML		15 43 15.3		
	comp=N,80nm,5.0s							
K17K	**Iditarod**	**4.13**	**290**	P	Pn	15 42 26.4	-1.0	
	baz=102							
YUK2	**White River**	**4.30**	**83**		Pn	15 42 29.2	-0.7	
BVCY	**Beaver Creek**	**4.32**	**75**		Pn	15 42 30.2	+0.1	
	baz=263							
TABL	**Table Mountain**	**4.39**	**101**		Pn	15 42 30.4	-0.8	
TABL	**Table Mountain**	**4.39**	**101**	IAML		15 43 27.2		
	comp=N,39nm,4.6s							
TABL				IAML		15 43 54.8		
	comp=E,34nm,3.4s							
M16K	**Timber Creek**	**4.43**	**267**	P	Pn	15 42 30.8	-0.8	
	baz=79							
N16K	**Nishlik Lake**	**4.48**	**260**		Pn	15 42 31.4	-0.9	
N16K	**Nishlik Lake**	**4.48**	**260**	P	Pn	15 42 31.4	-0.9	
	baz=72							
YUK3	**Moose Creek**	**4.48**	**83**		Pn	15 42 32.0	-0.5	
YUK3	**Moose Creek**	**4.48**	**83**	P	Pn	15 42 32.1	-0.4	
	baz=272							
GCSA	**Galena City Sc**	**4.50**	**318**		Pn	15 42 31.4	-1.1	
GCSA	**Galena City Sc**	**4.50**	**318**	P	Pn	15 42 31.4	-1.1	
	baz=132							
H20K	**Anotteneega Mo**	**4.53**	**332**	P	Pn	15 42 31.8	-1.1	
	baz=148							
O16K	**Kokwok River B**	**4.53**	**248**		Pn	15 42 32.0	-0.9	
O16K	**Kokwok River B**	**4.53**	**248**	P	Pn	15 42 31.8	-1.1	
	baz=60							
L16K	**Owhat River**	**4.59**	**276**	Pn	Pn	15 42 32.9	-0.9	
L16K	**Owhat River**	**4.59**	**276**	P	Pn	15 42 32.5	-1.3	
	baz=87							
IMAR	**Indian Mountai**	**4.75**	**340**	Pn	Pn	15 42 35.2	-0.7	
P16K	**Nushagak River**	**4.79**	**241**		Pn	15 42 36.1	-0.3	
P16K	**Nushagak River**	**4.79**	**241**	P	Pn	15 42 36.1	-0.4	
	baz=54							
PCA	**Pinnacle**	**4.92**	**103**		Pn	15 42 37.1	-1.3	
PINM	**Pinnacle**	**4.93**	**103**	P	Pn	15 42 37.1	-1.4	
	baz=292							
H19K	**Roundabout Mou**	**4.94**	**326**		Pn	15 42 37.3	-1.2	
H19K	**Roundabout Mou**	**4.94**	**326**	IAML		15 44 53.7		
	comp=E,42nm,4.3s							
H19K				IAML		15 45 28.1		
	comp=N,43nm,4.3s							
H19K	**Roundabout Mou**	**4.94**	**326**	P	Pn	15 42 37.3	-1.2	
	baz=140							
H18K	**Honhosa River**	**5.24**	**317**		Pn	15 42 41.8	-1.0	
H18K	**Honhosa River**	**5.24**	**317**	P	Pn	15 42 41.6	-1.1	
	baz=129							
BCPM	**Bancas Point**	**5.27**	**104**	Pn	Pn	15 42 43.0	0.0	
J16K	**Anvik River**	**5.28**	**294**		Pn	15 42 41.9	-1.3	
J16K	**Anvik River**	**5.28**	**294**	P	Pn	15 42 41.9	-1.3	
	baz=104							
DAWY	**Dawson**	**5.40**	**58**		Pn	15 42 45.6	+0.6	
M29M	**Somme Creek**	**5.43**	**76**		Pn	15 42 45.3	-0.2	
M29M	**Somme Creek**	**5.43**	**76**	P	Pn	15 42 44.9	-0.5	
	baz=266							
I17K	**Unalakleet**	**5.50**	**300**	Pn	Pn	15 42 45.5	-0.6	
I17K	**Unalakleet**	**5.50**	**300**	P	Pn	15 42 45.4	-0.7	
	baz=110							
O15K	**Ungalikthiuk R**	**5.50**	**248**		Pn	15 42 45.6	-0.7	
O15K	**Ungalikthiuk R**	**5.50**	**248**	P	Pn	15 42 45.2	-1.1	
	baz=60							
K15K	**Wolf Creek Mou**	**5.56**	**283**		Pn	15 42 45.9	-1.2	
K15K	**Wolf Creek Mou**	**5.56**	**283**	P	Pn	15 42 45.9	-1.2	
	baz=92							
G19K	**Purcell Mounta**	**5.58**	**328**		Pn	15 42 46.1	-1.2	
G19K	**Purcell Mounta**	**5.58**	**328**	P	Pn	15 42 46.1	-1.2	
	baz=142							
O29M	**Mount Kennedy**	**5.64**	**98**		Pn	15 42 47.6	-0.7	
O29M	**Mount Kennedy**	**5.64**	**98**	P	Pn	15 42 47.6	-0.7	
	baz=288							
H17K	**Granite Mounta**	**5.65**	**311**		Pn	15 42 47.3	-1.0	
H17K	**Granite Mounta**	**5.65**	**311**	P	Pn	15 42 47.3	-1.0	
	baz=122							
G18K	**Tagagawik**	**5.83**	**322**		Pn	15 42 49.9	-0.9	
G18K	**Tagagawik**	**5.83**	**322**	P	Pn	15 42 49.9	-0.8	
	baz=134							
M14K	**Bethel**	**5.92**	**267**	Pn	Pn	15 42 51.7	-0.2	
N30M	**Aishikik Lake**	**6.11**	**86**		Pn	15 42 53.2	-1.5	
N30M	**Aishikik Lake**	**6.11**	**86**	P	Pn	15 42 53.2	-1.5	
	baz=277							
SKAG	**Skagway**	**7.47**	**100**	Pn	Pn	15 43 12.8	-0.4	
ANM	**Nome**	**7.65**	**300**	Pn	Pn	15 43 16.0	+0.4	
C26K	**Camden Bay**	**8.61**	**11**	P	Pn	15 43 26.7	-2.0	
	baz=196							
S32K	**Killisnoo**	**8.78**	**111**	Pn	Pn	15 43 30.9	-0.2	

IDC 23 15:41:53.7±1.3, 30.77S×178.52W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=35.1km s-min=20.7km az=115.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.60**	**19**	Pn	Pb	15 42 24.2	0.0
	57nm,0.3s,baz=88,slow=19,SNR=8.8						
RAO				Sn	Sg	15 42 47.6	+2.4
	59nm,0.3s,baz=88,slow=23,SNR=2.7						
ASAR	**Alice Springs**	**42.65**	**268**	P	P	15 49 52.2	0.0
	0.5nm,0.4s,baz=107,slow=7.6,SNR=16						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**43.67**	**273**	P	P	15 50 00.9	+0.4
	0.7nm,0.5s,baz=111,slow=8.1,SNR=27						
	0.7nm,0.5s						
QSPA	**South Pole Qui**	**59.34**	**180**	P	P	15 51 57.9	+0.6
	3.4nm,0.8s,baz=65,slow=0.7,SNR=11						
	3.4nm,0.8s						
FINES	**FINESS Array B**	**145.34**	**339**	PKPbc	PKPbc	16 01 29.4	-3.3
	3.6nm,0.8s,baz=25,slow=2.0,SNR=11						

*NEIC **23** 15:45:00.5±1.6, 23.43N×94.68E×0.07, h111km±6km, mb4.6/46, Error ellipse: s-maj=9.4km s-min=6.7km az=80.0*

*IDC **23** 15:45:01.1±2.1, 23.38N×94.68E, h115km±18km, mb3.9/22, mbtmp4.3/23, MS3.0/5, Error ellipse: s-maj=17.5km s-min=10.0km az=63.0*

*NDI **23** 15:45:01.2±2.0, 23.43N×94.58E, h110km, ML4.3, mb4.6(NEIC)*

ISC 23 15:44:59.3±0.5, 23.39N±0.04×94.58E±0.04, h106km±4km, n133, σ2s06/169, mb4.5/50, 1D, Myanmar-India border region

| Code | Station Name | Δ° | AZ° |

ZIRO eS Sn 15 46 46.5 -2.4
ZIRO IAML 15 46 51.9
comp=E,5μm,0.5s
CHTO Chiang Mai 6.11 137 Pn 15 46 27.8 +0.6
CRAI Chiangrai 6.24 119 Pn 15 46 29.7 +0.8
CM31 Chiang Mai Arr 6.38 139 Pn Pn 15 46 31.8 +0.9
CMAR Chiang Mai Arr 6.38 139 Pn 15 46 33.1 +2.2
CMAR Chiang Mai Arr 6.38 139 P Pn 15 46 31.4 +0.5
comp=E,1.2nm,0.3s,baz=314,slow=13,SNR=16
CMAR LR LR 15 49 34.0
comp=E,29nm,18.4s,baz=285,slow=43
GTK Tadong 6.67 307 eP Pn 15 46 36.6 +1.7
GTK eS Sn **15 47 43.2 -6.3**
GTK IAML 15 47 55.0
comp=E,301nm,0.5s
LSA Lhasa 6.99 335 Pn Pn 15 46 41.5 +1.9
PZH PanZhiHua 7.20 63 P Pn 15 46 46.3 +4.2
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.3s
TAPN Taplejung 7.36 304 ePg Pn 15 46 45.3 +1.0
TAPN eSn Sn **15 48 04.9 -1.5**
ODAN Odare 7.37 299 ePg Pn 15 46 45.0 +0.5
ODAN eSg Sn **15 48 03.2 -3.5**
comp=Z,1μm,0.6s
BOK Bokaro 7.98 275 eP Pn 15 46 53.2 +0.6
BOK eS Sn **15 48 16.8 -4.4**
BOK IAML 15 48 20.0
comp=N,88nm,0.6s
RAMN Ramite 8.05 298 ePg Pn 15 46 54.7 +1.0
RAMN eSn Sn **15 48 18.1 -5.1**
JIRN Jiri 8.69 301 ePg Pn 15 47 03.2 +0.7
JIRN eSg Sn **15 48 35.2 -3.6**
comp=N,214nm,0.4s
GUN Gumba 9.04 302 ePg Pn 15 47 07.6 +0.3
GUN eSg Sn **15 48 44.6 -3.0**
comp=N,152nm,0.3s
GUN eSn Sn **15 48 44.6 -3.0**
comp=N,152nm,0.3s
PKI Pulchoki 9.27 299 ePg Pn 15 47 10.0 -0.4
PKI Pulchoki 9.27 299 ePn Pn 15 47 10.0 -0.4
PKI eSn Sn **15 48 47.8 -5.2**
comp=N,82nm,0.5s
KKN Kakani 9.47 299 ePg Pn 15 47 13.6 +0.7
KKN eSg Sn **15 48 52.9 -4.7**
comp=N,360nm,0.6s
DMN Daman 9.53 298 ePg Pn 15 47 13.8 0.0
DMN eSg Sn **15 48 54.1 -5.1**
comp=N,106nm,0.5s
GKN Gorkha 10.07 299 ePg Pn 15 47 20.4 -0.7
GKN Gorkha 10.07 299 ePn Pn 15 47 20.4 -0.7
GKN eSg Sn **15 49 05.8 -6.4**
comp=N,137nm,0.4s
GKN eSn Sn 15 49 05.9 -6.3
comp=N,137nm,0.4s
KOLN Koldanda 10.82 296 ePg Pn 15 47 30.8 -0.6
KOLN eSg Sn **15 49 23.0 -7.6**
comp=N,219nm,0.4s
DANN Dangsing 10.92 299 ePg Pn 15 47 31.5 -1.2
DANN eSn Sn **15 49 27.0 -6.0**
comp=N,94nm,0.4s
DANN eSg 15 49 27.1
comp=N,94nm,0.4s
PYUN Piuthan 11.45 297 ePg Pn 15 47 38.3 -1.4
PYUN eSg Sn **15 49 38.6 -7.1**
comp=N,88nm,0.5s
PBA Port Blair 11.80 189 Pn Pn 15 47 43.4 -0.9
GOMU GeErMu 12.77 1 P Pn 15 47 56.0 -1.2
GOMU pP P 15 48 00.4 -3.8
GOMU sP 15 48 05.5
GOMU pmax pmax
comp=Z,19nm,0.8s
LZH Lanzhou 14.98 30 eP P 15 48 34.3 +5.7
LZH sP Pn 15 48 40.6 +15
LZH pmax pmax
comp=Z,11nm,1.1s
HYB Hyderabad 16.15 251 eP P 15 48 43.2 +1.7
HYB eS S **15 51 48.3 +2.9**
XAN Xi'an 16.44 47 P Pn 15 48 42.4 -1.3
XAN pmax pmax
comp=Z,14nm,0.8s
GTA Gaotai 16.58 14 eP P 15 48 48.3 +2.1
GTA pP pP 15 49 01.4 -4.3
GTA pmax pmax
comp=Z,3.0nm,1.1s
WHN Wuhan 18.99 64 P Pn 15 49 17.9 +3.4
PALK Pallekele 20.85 222 P Pn 15 49 34.8 -1.5
PALK IAmb IAmb 15 50 02.1
comp=Z,36nm,1.4s
PALK Pallekele 20.85 222 P Pn 15 49 35.5 -0.8
comp=Z,8.1nm,0.7s,baz=137,slow=8.9,SNR=5.0
PALK S **S 15 53 15.6 -4.1**
comp=Z,4.7nm,0.8s,baz=88,slow=20,SNR=1.5
comp=Z,8.1nm,0.7s
WMQ Urumqi 21.15 346 eP P 15 49 37.8 +1.9
WMQ pP pP 15 49 59.9 +3.7
WMQ pmax pmax
comp=Z,25nm,0.9s
GSI Gunungsitoli 22.15 172 P P 15 49 44.2 -2.5
GSI IAmb IAmb 15 49 55.3
comp=Z,31nm,1.3s
HHC Hu-ho-hao-te 22.51 35 eP P 15 49 47.6 -2.7
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,230nm,5.1s
KSH Kashi 22.52 320 P P 15 49 53.0 +2.6
KSH pmax pmax
comp=Z,5.0nm,0.8s
NJ2 Nanjing 23.12 63 eP P 15 49 55.0 -1.2
NJ2 pP **pP 15 50 16.3 -1.0**
NJ2 sP **sP 15 50 31.1 +0.6**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 pmax pmax
comp=Z,240nm,4.1s
MYKOM Kota Tinggi 23.28 156 P P 15 49 58.8 +0.9
MYKOM IAmb IAmb 15 49 60.0
comp=Z,22nm,0.8s
MK31 Makanchi Array 25.36 340 P P 15 50 17.9 +1.4
MK31 IAmb IAmb 15 50 20.9
comp=Z,8.5nm,0.7s
MKAR Makanchi Array 25.36 340 P P 15 50 16.9 +0.5
MKAR Makanchi Array 25.36 340 P P 15 50 18.7 +2.2
comp=Z,7.4nm,0.5s,baz=147,slow=11,SNR=73
MKAR PcP **PcP 15 53 46.8 +0.5**
comp=Z,0.2nm,0.4s,baz=139,slow=3.1,SNR=1.9
MKAR S **S 15 54 36.9 +1.8**
comp=Z,0.2nm,0.5s,baz=243,slow=16,SNR=1.3
MKAR LR LR 16 01 37.5
comp=Z,42nm,18.8s,baz=188,slow=39
comp=Z,7.4nm,0.5s
AAK Ala-Archa 25.42 324 P P 15 50 18.3 +1.1
MAKZ Makanchi 25.47 340 P P 15 50 19.4 +1.9
SONM Songino Array 26.15 18 P P 15 50 23.7 0.0
comp=Z,0.5nm,0.5s,baz=197,slow=8.9,SNR=4.1
comp=Z,0.5nm,0.5s
XLT XiLinHaoTe 27.04 36 eP P 15 50 30.5 -1.2
XLT pP pP 15 50 55.1 +0.1
XLT PP **PnPn 15 51 21.5 +0.8**
XLT pmax pmax
comp=Z,6.0nm,0.9s
XLT pmax pmax
comp=Z,130nm,5.7s
KURBB Kurchatov Arra 29.92 339 P P 15 50 58.8 +1.7
comp=Z,1.8nm,0.2s,baz=159,slow=7.2,SNR=5.2
KURBB PcP **PcP 15 53 57.7 +0.5**
comp=Z,2.1nm,0.2s,baz=169,slow=2.3,SNR=8.3
KURBB ScP **ScP 15 57 29.4 -0.5**
comp=Z,1.5nm,0.2s,baz=150,slow=2.7,SNR=5.6
comp=Z,1.8nm,0.2s
KURK Kurchatov 29.97 340 P P 15 50 58.9 +1.4
ZAA0 Zalesovo Array 31.39 349 P P 15 51 09.0 -0.9
ZAA0 IAmb IAmb 15 51 12.8
comp=Z,7.6nm,1.4s
ZALV Zalesovo Beam 31.39 349 P P 15 51 09.6 -0.4
ZALV Zalesovo Beam 31.39 349 P P 15 51 11.3 +1.4
comp=Z,1.8nm,0.4s,baz=175,slow=8.1,SNR=13
comp=Z,1.8nm,0.4s
BVAR Borovoye Array 34.83 334 P P 15 51 41.0 +1.0
comp=Z,0.4nm,0.3s,baz=131,slow=13,SNR=5.0
BVAR PcP **PcP 15 54 11.3 +0.5**
comp=Z,1.2nm,0.4s,baz=161,slow=3.9,SNR=8.2
comp=Z,0.4nm,0.3s

MDJ Mudanjiang 35.54 45 P P 15 51 49.6 +3.5
MDJ pP pP 15 52 08.1 -1.9
MDJ sP sP 15 52 18.3 -4.0
MDJ PP **PnPn 15 53 03.6 -5.1**
MDJ PcP **PcP 15 54 12.6 -0.4**
MDJ S S 15 56 52.0 -22
MDJ ScP **ScP 15 57 51.0 +1.6**
MDJ PcS **PcS 15 57 59.3 -0.9**
MDJ sS sS 15 58 00.6 +5.2
MDJ SS **SnSn 15 59 40.4 -5.1**
MDJ pmax pmax
comp=Z,6.0nm,1.6s
MDJ pmax pmax
comp=Z,190nm,5.8s
ABKAR Akbulak array 37.48 322 P P 15 52 04.1 +1.5
ABKAR PcP **PcP 15 54 18.7 -0.1**
MJAR Matsushiro Arr 39.68 60 P P 15 52 21.6 +0.4
comp=Z,1.1nm,1.0s,baz=271,slow=7.8,SNR=2.0
comp=Z,1.1nm,1.0s
JHJ Hachijo jima 2 40.72 66 LR LR 16 09 50.0
comp=Z,52nm,20.1s,baz=90,slow=37
MMRI Maumere 41.77 136 P P 15 52 37.9 -0.6
ARU Arti 42.17 331 P P 15 52 41.6 +0.3
ARU IAmb IAmb 15 52 53.0
comp=Z,11nm,1.5s
JCJ Chichijima 43.02 75 LR LR 16 10 19.4
comp=Z,80nm,21.1s,baz=80,slow=35
SOEI Soe 43.92 135 P P 15 52 54.5 -1.5
FAKI Fak Fak 45.06 120 P P 15 53 03.2 -1.8
FAKI IAmb IAmb 15 53 17.9
comp=Z,20nm,1.1s
YAK Yakutsk 45.37 22 LR LR 16 13 16.9
comp=Z,5.1nm,20.3s,baz=86,slow=37
MBWA Marble Bar 50.61 149 P P 15 53 47.7 0.0
PSA00 Pilbara Seismi 51.02 149 P P 15 53 50.1 -0.6
PSA00 Pilbara Seismi 51.02 149 P P 15 53 50.6 -0.1
PSA00 IAmb IAmb 15 53 51.7
comp=Z,4.8nm,0.8s
FITZ Fitzroy Crossi 51.19 141 P 15 53 51.9 -0.2
FITZ IAmb IAmb 15 53 53.8
comp=Z,3.2nm,0.9s
KNRA Kununurra 51.24 136 P P 15 53 52.3 -0.1
BRTR Keskin Array B 53.45 303 P P 15 54 10.1 +1.3
comp=Z,0.6nm,0.6s,baz=117,slow=5.8,SNR=2.7
comp=Z,0.6nm,0.6s
AKASG Malin Array Be 56.75 316 P P 15 54 32.5 +0.4
comp=Z,0.6nm,0.4s,baz=78,slow=6.9,SNR=9.3
comp=Z,0.6nm,0.4s
AKBB Malin Array Si 56.75 316 P P 15 54 31.9 -0.2
AKBB IAmb IAmb 15 54 48.1
comp=Z,6.6nm,1.5s
MNK Minsk 57.81 321 *i* P **P 15 54 38.4 -1.1**
comp=E,6.0nm,0.9s
MNK *i* P **P 15 54 38.4 -1.1**
comp=N,15nm,0.8s
MNK *i* P **P 15 54 38.4 -1.1**
comp=Z,9.0nm,0.9s,baz=94
MNK *i* pP **pP 15 55 05.0 -0.3**
MNK *i* PP **PP 15 56 47.6 -0.9**
MNK *i* PPP PPP 15 58 06.8
MNK *i* S **S 16 02 29.6 -1.0**
MNK *i* sS **sS 16 03 16.0 +0.9**
MNK *i* SS **SS 16 06 23.2 +0.8**
MNK *i* SSS SSS 16 08 59.4
MNK *i* LRM MLR 16 22 13.1
MNK *i* LRM MLR 16 22 13.1
MNK *i* LRM MLR 16 22 13.1
WB0 Warramunga Arr 57.86 135 P P 15 54 38.8 -1.6
WRA Warramunga Arr 57.95 135 P P 15 54 39.7 -1.2
WRA Warramunga Arr 57.95 135 P P 15 54 41.1 +0.2
comp=Z,5.2nm,0.5s,baz=321,slow=7.4,SNR=240
comp=Z,5.2nm,0.5s
WRAB Tennant Creek 57.95 135 P P 15 54 41.6 +0.6
WRAB IAmb IAmb 15 54 42.1
comp=Z,16nm,1.1s
WB2 Warramunga Arr 57.96 135 P P 15 54 39.4 -1.6
WR0 Warramunga Arr 58.10 135 P P 15 54 40.9 -1.1
WR0 IAmb IAmb 15 54 42.9
comp=Z,14nm,1.1s
MLR Muntele Rosu 58.93 310 P P 15 54 48.0 +0.4
MLR IAmb IAmb 15 54 50.5
comp=Z,4.8nm,0.7s
BURAR Bucovina Array 59.35 313 P P 15 54 50.7 +0.3
FINES FINESS Array B 59.47 329 P P 15 54 51.6 +0.8
comp=Z,4.0nm,0.8s,baz=56,slow=6.1,SNR=6.5
comp=Z,4.0nm,0.8s
NWAO Narrogin (SRO) 60.03 158 P P 15 54 55.0 0.0
AS31 Alice Springs 60.39 138 P 15 54 58.0 +0.2
AS31 IAmb IAmb 15 54 58.8
comp=Z,4.4nm,0.3s
ASAR Alice Springs 60.39 138 P 15 54 57.9 +0.2
ASAR Alice Springs 60.39 138 P P 15 54 58.3 +0.6
comp=Z,7.1nm,0.4s,baz=319,slow=6.8,SNR=313
comp=Z,7.1nm,0.4s
KMBO Kilima Mbogo 60.78 255 P P 15 55 01.8 +0.9
comp=Z,2.3nm,0.5s,baz=59,slow=12,SNR=5.2
comp=Z,2.3nm,0.5s
PMG Port Moresby 60.87 116 P P 15 55 01.0 -0.2
ARCES ARCESS Array B 60.99 338 P P 15 55 02.3 +1.2
comp=Z,5.8nm,1.0s,baz=93,slow=7.6,SNR=6.8
comp=Z,5.8nm,1.0s
AGG Agios Georgios 62.24 303 P P 15 55 08.9 -1.2
AGG IAmb IAmb 15 55 53.0
comp=Z,18nm,1.5s
SPITS Spitsbergen Ar 64.85 347 P P 15 55 27.6 +1.0
comp=Z,6.3nm,0.9s,baz=100,slow=7.1,SNR=5.9
comp=Z,6.3nm,0.9s
HFS Hagfors 65.50 327 P P 15 55 32.0 +1.0
comp=Z,3.8nm,0.6s,baz=92,slow=5.0,SNR=12
comp=Z,3.8nm,0.6s
CTAO Charters Tower 66.38 126 P P 15 55 36.4 -0.8
CTAO IAmb IAmb 15 55 48.2
comp=Z,12nm,1.4s
NC602 NORSAR Array S 66.51 328 P P 15 55 37.8 +0.2
NB2 NORSAR Subarra 66.64 328 P P 15 55 38.9 +0.5
comp=Z,1.5nm,0.7s,baz=84,slow=6.2
NOA NORSAR Array B 66.64 328 P P 15 55 38.7 +0.4
comp=Z,1.5nm,0.6s,baz=85,slow=6.3,SNR=6.2
comp=Z,1.5nm,0.6s
NC204 NORSAR Array S 66.83 329 P P 15 55 40.1 +0.5
NC204 IAmb IAmb 15 56 24.7
comp=Z,24nm,1.4s
FDMO Fiordimonte 68.40 309 P P 15 55 49.6 -0.1
FDMO IAmb IAmb 15 55 59.2
comp=Z,21nm,1.5s
BBOO Buckleboo 68.48 143 P P 15 55 49.5 -0.8
STKA Stephens Creek 71.01 139 P P 15 56 05.4 -0.3
STKA Stephens Creek 71.01 139 P P 15 56 05.7 -0.1
comp=Z,3.5nm,0.7s,baz=325,slow=5.8,SNR=7.7
comp=Z,3.5nm,0.7s
B22K Teshekpuk Lake 75.23 19 P P 15 56 29.5 -0.5
B22K IAmb IAmb 15 57 03.4
comp=Z,11nm,1.5s
EKA Eskdalemuir Ar 75.33 324 P P 15 56 31.9 +1.0
comp=Z,1.5nm,0.5s,baz=71,slow=5.4,SNR=5.9
comp=Z,1.5nm,0.5s
C23K Itkillik River 76.31 19 P P 15 56 36.2 -0.1
TOO Toolangi 77.26 141 P P 15 56 41.6 -0.4
TOO IAmb IAmb 15 56 43.9
comp=Z,13nm,1.1s
CAN Canberra 77.88 137 P P 15 56 45.6 0.0
CAN IAmb IAmb 15 57 18.7
comp=Z,23nm,1.5s
SUMG Summit 79.19 347 P P 15 56 51.8 -0.9
BMAR Burnt Mountain 79.49 20 P P 15 56 54.1 +0.1
E27K Coleen River 79.92 18 P P 15 56 55.8 -0.4
CCB Clear Creek Bu 80.04 23 P P 15 56 57.2 +0.3
IL31 80.30 22 P P 15 56 58.8 +0.6
IL31 IAmb IAmb 15 57 01.0
comp=Z,5.4nm,0.7s
ILAR Eielson Array 80.30 22 P P 15 56 58.1 -0.1
ESDC Sonseca Array 81.62 310 P P 15 57 07.5 +1.6
comp=Z,0.5nm,0.7s,baz=56,slow=5.6,SNR=4.3
comp=Z,0.5nm,0.7s
C36M Paulatuk 83.42 13 IAmb IAmb 15 57 46.3
comp=Z,5.3nm,1.2s
BOSA Boshof 84.42 236 P P 15 57 21.6 +1.1
comp=Z,10nm,0.6s,baz=52,slow=3.3,SNR=34
comp=Z,10nm,0.6s
TORD Torodi Ar. Bea 87.47 283 P P 15 57 36.9 +1.3
comp=Z,1.2nm,0.7s,baz=61,slow=5.5,SNR=8.0
comp=Z,1.2nm,0.7s
WTLY Watson Lake, Y 89.58 20 pP 15 58 12.8 +0.2
TXAR Lajitas Array 124.72 19 PKP PKPdf 16 03 47.2 -0.1
comp=Z,0.2nm,0.5s,baz=154,slow=3.0,SNR=4.1
ROSC El Rosal 149.92 337 PKPbc PKiKP 16 04 39.5 0.0
comp=Z,17nm,0.7s,baz=329,slow=19,SNR=8.4
CPUP Villa Florida 154.36 258 PKPbc PKPbc 16 04 47.7 -0.1
comp=Z,2.7nm,0.5s,baz=81,slow=3.0,SNR=11

*OSPL **23** 15:45:43.0±1.5, 18°.14N×68°.89W, h188km±17km, ML2.9*
*SDD **23** 15:45:44.8±1.5, 18°.34N×68°.86W, h169km±8km, MD3.7, ML2.9, MW3.7*
ISC 23 15:45:42.6±2.0, 18°.3N±0°.1×68°.88W±0°.05, h168km±14km, n14, σ1s 9°06/27, 10C-11D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
SADR	**Isla Saona**	**0.14**	**138**	↑*e*P*g*	**Pn**	**15 46 05.5**	**+0.5**
SADR				↑*e*S*g*	**Sn**	**15 46 21.6**	**-0.5**
SADR				IAML		15 46 24.2	
	comp=E,178nm,0.3s						
SADR				IAML		15 46 25.3	
	comp=N,313nm,0.8s						
PCDR	**Punta Cana, DR**	**0.52**	**65**	*i* P	**Pn**	**15 46 06.7**	**+0.7**
PCDR				e*S*	**Sn**	**15 46 26.2**	**+2.1**
PCDR				IAML		15 46 30.6	
	comp=Z,143nm,1.9s						
HATOM	**Hato Mayor del**	**0.68**	**316**	↓*e*P*g*	**Pn**	**15 46 07.5**	**+0.5**
HATOM				↓*e*S*g*	**Sn**	**15 46 25.0**	**-0.8**
HATOM				IAML		15 46 27.0	
	comp=N,188nm,0.3s						
HATOM				IAML		15 46 27.1	
	comp=E,208nm,0.5s						
MIDR	**Miches**	**0.70**	**347**	↑*e*P*g*	**Pn**	**15 46 07.7**	**+0.7**
MIDR				↓*e*S*g*	**Sn**	**15 46 25.0**	**-1.0**
MIDR				IAML		15 46 26.0	
	comp=E,104nm,0.5s						
MIDR				IAML		15 46 27.8	
	comp=N,120nm,0.2s						
SMDR	**Samana, DR**	**1.03**	**344**	↓*e*P*g*	**Pn**	**15 46 09.6**	**+0.3**
SMDR				↑*e*S*g*	**Sn**	**15 46 27.9**	**-2.1**
SMDR				IAML		15 46 29.1	
	comp=N,85nm,0.5s						
SMDR				IAML		15 46 30.8	
	comp=E,62nm,0.3s						
DR08	**Loma La Naviza**	**1.27**	**302**	↑*e*P*g*	**Pn**	**15 46 12.3**	**+0.8**
DR08				↓*e*S*g*	**Sn**	**15 46 32.7**	**-1.1**
DR08				IAML		15 46 35.0	
	comp=N,655nm,0.1s						
CRPR	**Cabo Rojo, PR**	**1.71**	**99**	↑*e*P*g*	**Pn**	**15 46 16.5**	**+0.9**
CRPR				↓*e*S*g*	**Sn**	**15 46 40.2**	**-0.9**
CRPR				IAML		15 46 44.6	
	comp=E,32nm,0.2s						
CRPR				IAML		15 46 47.8	
	comp=N,42nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.71**	**99**	*i* P	**Pn**	**15 46 16.1**	**+0.5**
CRPR				e*S*	**Sn**	**15 46 41.3**	**+0.2**
ABDR	**Alto Bandera**	**1.74**	**287**	↓*e*P*g*	**Pn**	**15 46 17.2**	**+0.8**
ABDR				↓*e*S*g*	**Sn**	**15 46 42.1**	**-0.3**
ABDR				IAML		15 46 43.6	
	comp=E,70nm,0.2s						
ABDR				IAML		15 46 44.8	
	comp=N,115nm,0.3s						
MLPR	**Magueyes Islan**	**1.77**	**100**	↓*e*P*g*	**Pn**	**15 46 16.9**	**+0.5**
MLPR				↑*e*S*g*	**Sn**	**15 46 41.0**	**-1.5**
MLPR				IAML		15 46 47.1	
	comp=E,30nm,0.7s						
MLPR				IAML		15 46 47.3	
	comp=N,32nm,0.9s						
AOPR	**Arecibo Observ**	**2.02**	**88**	*e*P*g*	**Pn**	**15 46 18.8**	**-0.3**
AOPR				↑*e*S*g*	**Sn**	**15 46 46.7**	**-0.6**
AOPR				IAML		15 46 52.5	
	comp=N,217nm,0.2s						
AOPR				IAML		15 46 54.5	
	comp=E,348nm,0.3s						
SC01	**Santiago de lo**	**2.08**	**303**	*e*S	**Sn**	**15 46 49.4**	**+0.8**
LOBA2	**Hotel Casa Bon**	**2.12**	**265**	↑*e*P*g*	**Pn**	**15 46 20.4**	**+0.3**
LOBA2				↑*e*S*g*	**Sn**	**15 46 47.4**	**-1.8**
SDDR	**Presa de Saban**	**2.38**	**287**	↓*e*P*g*	**Pn**	**15 46 24.6**	**+1.2**
SDDR				↓*e*S*g*	**Sn**	**15 46 53.9**	**-1.0**
SDDR				IAML		15 46 59.3	
	comp=N,20nm,0.8s						
SDDR				IAML		15 47 03.9	
	comp=E,21nm,0.8s						

*AEIC **23** 16:11:19.1±2.3, 54°.8N±0°.1×162°.3W±0°.1, h76km±7km, Error ellipse: s-maj=20.8km s-min=6.9km az=154.0*
NEIC 23 16:11:17.4±1.8, 54°.8N±0°.1×162°.3W±0°.1, h87km±10km, ML3.8/14, ML3.3(AEIC), Error ellipse: s-maj=18.2km s-min=5.1km az=152.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
DT1	**Dutton Round H**	**0.34**	**359**		Pn	16 11 30.2	-0.3
HAG	**Hague Volcano**	**0.59**	**21**		Pn	16 11 32.7	+0.2
PS4A	**Pavlof South-4**	**0.62**	**22**		Pn	16 11 33.0	+0.1
PVV	**Pavlof Volcano**	**0.67**	**24**		Pn	16 11 33.3	+0.1
FALS	**False Pass**	**0.67**	**278**		Pn	16 11 33.1	-0.1
FALS					Sn	16 11 44.4	-0.6
PN7A	**Pavlof North-7**	**0.68**	**13**		Pn	16 11 33.5	+0.1
PS1A	**Pavlof South-1**	**0.72**	**25**		Pn	16 11 33.9	+0.2
PS1A					Sn	16 11 46.4	+0.5
ISLZ	**Isanotski Laza**	**0.83**	**268**		Pn	16 11 35.2	+0.2
ISLZ					Sn	16 11 48.1	0.0
BRPK	**Brown Peak**	**0.86**	**262**		Pn	16 11 35.6	+0.3
ISNN	**Isanotski Nort**	**0.87**	**275**		Pn	16 11 35.8	+0.4
ISNN					Sn	16 11 49.5	+0.7
SDPT	**Sand Point**	**1.19**	**60**		Pn	16 11 39.5	+0.6
SDPT				IAML		16 11 56.2	
	comp=E,1μm,1.9s						
SDPT	**Sand Point**	**1.19**	**60**		Sn	16 11 56.0	+0.7
WEBT	**Westdahl Beart**	**1.45**	**264**		Pn	16 11 42.7	+0.4
CNBA	**Chernabura Isl**	**1.56**	**87**	Pn	Pn	16 11 44.3	+0.7
AKUT	**Akutan**	**2.14**	**254**		Pn	16 11 52.0	+0.8
AKUT	**Akutan**	**2.14**	**254**	IAML		16 13 17.2	
	comp=E,386nm,4.2s						
AKUT				IAML		16 13 18.4	
	comp=N,356nm,3.9s						
VNFG	**Fog Glacier, M**	**2.17**	**44**		Pn	16 11 53.0	+1.3
VNFG					Sn	16 12 18.6	+0.6
VNFG	**Fog Glacier, M**	**2.17**	**44**	IAML		16 12 35.5	
	comp=E,1μm,4.0s						
VNFG				IAML		16 12 42.7	
	comp=N,924nm,3.5s						
HSB	**Akutan Spr's B**	**2.20**	**256**		Pn	16 11 52.9	+0.8
AKGG	**Akutan Green G**	**2.24**	**257**		Pn	16 11 53.5	+0.8
ZRO	**Akutan Zero**	**2.27**	**254**		Pn	16 11 53.8	+0.8
UNV	**Unalaska Valle**	**2.65**	**251**		Pn	16 11 58.6	+0.6
CHGN	**Chignik**	**2.68**	**53**	Pn	Pn	16 11 59.8	+1.4
CHGN				IAML		16 12 57.1	
	comp=N,264nm,0.1s						
CHGN				IAML		16 13 28.4	
	comp=E,214nm,0.1s						
MNAT	**Makushin Natee**	**2.73**	**253**		Pn	16 11 59.7	+0.5
MSW	**Makushin Switc**	**2.77**	**254**		Pn	16 12 00.7	+0.9
MGOD	**Makushin Gods**	**2.87**	**252**		Pn	16 12 01.9	+0.9
MAPS	**Pakushin South**	**2.90**	**252**		Pn	16 12 02.3	+0.9
SII	**Sitkinak Islan**	**4.92**	**65**	Pn	Pn	16 12 25.8	-2.9
O16K	**Kokwok River B**	**5.34**	**23**	Pn	Pn	16 12 34.5	0.0
O16K				IAML		16 13 18.4	
	comp=N,125nm,4.6s						
OHAK	**Old Harbor**	**5.61**	**60**		Pn	16 12 37.2	-0.9
M13K	**Dall Lake**	**5.69**	**355**		Pn	16 12 39.4	+0.3
M14K	**Bethel**	**6.00**	**1**		Pn	16 12 42.4	-1.0
N17K	**Nushagak Hills**	**6.38**	**23**		Pn	16 12 47.7	-1.0
M16K	**Timber Creek**	**6.51**	**14**		Pn	16 12 49.8	-0.6
L14K	**Kuka Creek**	**6.59**	**358**		Pn	16 12 50.1	-1.4
P19K	**Oil Pt**	**6.93**	**41**		Pn	16 12 54.9	-1.2
L16K	**Owhat River**	**7.12**	**11**		Pn	16 12 57.0	-1.6
M17K	**Holitna River**	**7.12**	**19**		Pn	16 12 58.6	-0.2
SVW2	**Sparrevohn**	**7.27**	**27**		Pn	16 13 00.3	-0.5
N19K	**Bonanza Creek**	**7.35**	**31**		Pn	16 13 02.0	+0.2
K15K	**Wolf Creek Mou**	**7.56**	**3**		Pn	16 13 04.0	-0.6
L18K	**Granite Mounta**	**8.02**	**19**		Pn	16 13 10.2	-0.7
L19K	**White Mountain**	**8.38**	**25**		Pn	16 13 15.5	-0.4
J16K	**Anvik River**	**8.58**	**5**		Pn	16 13 18.3	-0.3
M20K	**Styx River**	**8.59**	**30**		Pn	16 13 20.6	+1.7
SUA	**Susitna One**	**9.06**	**38**		Pn	16 13 24.4	-0.8
SKT	**Skwentna**	**9.16**	**34**		Pn	16 13 28.7	+2.3
RC01	**Rabbit Creek A**	**9.19**	**41**		Pn	16 13 27.0	+0.1
K20K	**Telida**	**9.58**	**23**		Pn	16 13 32.4	+0.2
J19K	**Poorman**	**9.85**	**17**		Pn	16 13 33.9	-1.9
KNK	**Knik Glacier**	**9.88**	**42**		Pn	16 13 34.7	-1.5
J20K	**Nowinta River**	**10.29**	**20**		Pn	16 13 41.5	-0.3
SCM	**Sheep Creek Mo**	**10.56**	**42**		Pn	16 13 43.6	-2.0
KLU	**Klutina**	**10.94**	**45**		Pn	16 13 49.4	-1.4

M24K **Tolsona, Glenn** 11.16 42 Pn Pn 16 13 51.4 -2.4

*IDC **23** 16:15:58.1±0.6,3.˚65S×152.˚01E,h0km,mb4.0/15, mbtmp4.0/17,ML2.3/2,MS3.7/45, Error ellipse: s-maj=22.7km s-min=7.6km az=85.0*
*NEIC **23** 16:16:00.6±2.1,3.˚77S±0.˚05×151.˚92E±0.˚06,h10km±1km, mb4.7/31,Error ellipse: s-maj=13.1km s-min=3.6km az=51.0*
*DJA **23** 16:16:11.4±2.6,4.˚S±6.˚×15.˚2E±.˚,h19km±19km,M4.7/11, mB4.8/2,mb4.4/11,MLv4.8/2,Mw(mB)4.0/2*
ISC 23 16:16:00.3±0.4,3.˚73S±0.˚05×151.˚97E±0.˚07,h10km,n136, σ2s14/95,mb4.6/44,MS3.8/45,1C-1D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I40PG	**Keravat**	0.56	176	Pg	Pg	16 16 10.8	-0.6
	baz=343,slow=9.0						
KRVT	**Keravat (AS076**	0.57	174	Pg	Pg	16 16 11.0	-0.5
KRVT				Lg	Lg	16 16 19.9	
MANU	**Manus Island**	4.89	290		Pn	16 17 15.3	+1.3
PMG	**Port Moresby**	7.39	220	Pn	Pn	16 17 50.0	+1.6
PMG	**Port Moresby**	7.39	220	Pn	Pn	16 17 48.5	+0.2
	0.3nm,0.3s,baz=42,slow=12,SNR=1.5						
PMG				LR	LR	16 20 34.2	
	comp=Z,608nm,21.5s,baz=32,slow=37						
	11nm,0.9s						
HNR	**Honiara**	9.74	126	Pn	Pn	16 18 25.0	+4.4
HNR	**Honiara**	9.74	126	Pn	Pn	16 18 19.1	-1.5
	142nm,0.3s,baz=265,slow=21,SNR=2.7						
HNR				LR	LR	16 22 15.2	
	comp=Z,14µm,18.4s,baz=266,slow=39						
CTA	**Charters Tower**	17.19	198	P	Pn	16 20 00.2	-0.5
	0.1nm,0.3s,baz=31,slow=19,SNR=2.8						
CTA				LR	LR	16 26 23.7	
	comp=Z,402nm,19.0s,baz=20,slow=36						
	4.3nm,1.1s						
CTAO	**Charters Tower**	17.19	198	Pn	Pn	16 19 57.5	-3.2
GUMO	**Guam**	18.60	338	LR	LR	16 27 30.3	
	comp=Z,108nm,18.4s,baz=156,slow=37						
FAKI	**Fak Fak**	19.70	272	P	P	16 20 28.8	-1.4
FAKI				IAmb	IAmb	16 20 32.3	
	comp=Z,36nm,1.2s						
FAKI	**Fak Fak**	19.70	272	P	Pn	16 20 37.9	+6.3
	comp=Z,26nm,1.2s						
SWI	**Sorong**	20.89	277	P	Pn	16 20 51.9	+6.4
	comp=Z,33nm,1.0s						
EIDS	**Eidsvold**	21.53	182	P	P	16 20 48.6	-1.2
DZM	**Mont Dzumac**	23.01	144	eP	P	16 21 09.7	+4.0
	comp=Z,35nm,0.8s						
DZM				eS	S	16 25 18.6	+2.0
	comp=Z,95nm,28.1s						
DZM				eLR	LR	16 26 49.3	
	comp=Z,667nm,25.7s						
DZM	**Mont Dzumac**	23.01	144	P	P	16 21 05.9	+0.2
DZM				IAmb	IAmb	16 21 13.0	
	comp=Z,22nm,0.6s						
DZM	**Mont Dzumac**	23.01	144	P	P	16 21 05.5	-0.3
	comp=Z,6.2nm,0.6s,baz=317,slow=13,SNR=9.7						
DZM				LR	LR	16 29 24.8	
	comp=Z,210nm,18.7s,baz=339,slow=35						
	comp=Z,6.2nm,0.6s						
ONTNC	**Ouen Toro**	23.20	144	P	P	16 21 07.1	-0.5
WB0	**Warramunga Arr**	23.41	226	P	P	16 21 08.6	-1.2
WB0				IAmb	IAmb	16 21 31.4	
	comp=Z,22nm,1.1s						
WR0	**Warramunga Arr**	23.43	225	P	P	16 21 08.6	-1.3
WRAB	**Tennant Creek**	23.55	225	P	P	16 21 09.1	-2.0
WRAB				IAmb	IAmb	16 21 31.6	
	comp=Z,18nm,1.1s						
WB2	**Warramunga Arr**	23.55	225	P	P	16 21 11.2	0.0
WB2				IAmb	IAmb	16 21 31.8	
	comp=Z,20nm,1.1s						
WRA	**Warramunga Arr**	23.56	225	P	P	16 21 12.3	+1.0
WRA	**Warramunga Arr**	23.56	225	P	P	16 21 09.8	-1.5
	comp=Z,2.7nm,0.9s,baz=48,slow=9.4,SNR=13						
WRA				PcP	PcP	16 24 56.6	-0.1
	comp=Z,0.7nm,0.9s,baz=48,slow=1.8,SNR=2.8						
	comp=Z,2.7nm,0.9s						
LBMI	**Labuha**	24.64	277	P	P	16 21 32.1	+11
	comp=Z,53nm,1.0s						
NLAI	**Namlea**	24.83	270	P	P	16 21 31.5	+8.4
	comp=Z,9.1nm,1.1s						
KNRA	**Kununurra**	25.73	241	P	P	16 21 30.0	-1.3
ASAR	**Alice Springs**	26.41	220	P	P	16 21 36.2	-1.2
ASAR	**Alice Springs**	26.41	220	P	P	16 21 37.5	+0.1
	comp=Z,1.1nm,0.8s,baz=51,slow=8.9,SNR=13						
ASAR				PcP	PcP	16 25 03.4	+0.3
	comp=Z,0.9nm,1.0s,baz=35,slow=3.4,SNR=3.3						
ASAR				LR	LR	16 32 22.2	
	comp=Z,181nm,18.0s,baz=44,slow=37						
	comp=Z,1.1nm,0.8s						
H11S3	**WAKE ISLAND Hy**	26.42	33	T	T	16 49 25.6	
	baz=216						
H11S2	**WAKE ISLAND Hy**	26.43	33	T	T	16 49 50.3	
	baz=216						
H11S1	**WAKE ISLAND Hy**	26.44	33	T	T	16 49 28.4	
	baz=216						
WAKE	**Wake Island**	27.05	32	P	P	16 21 44.6	+1.5
SOEI	**Soe**	28.14	256	P	P	16 21 51.6	-1.6
SOEI				IAmb	IAmb	16 22 19.7	
	comp=Z,32nm,1.2s						
STKA	**Stephens Creek**	29.65	198	P	P	16 22 05.8	-0.3
	comp=Z,2.8nm,0.8s,baz=4.4,slow=13,SNR=2.3						
STKA				LR	LR	16 33 31.0	
	comp=Z,226nm,20.9s,baz=20,slow=35						
	comp=Z,2.8nm,0.8s						
JCJ	**Chichijima**	32.07	343	LR	LR	16 33 50.8	
	comp=Z,194nm,21.6s,baz=143,slow=34						
KAPI	**Kappang**	32.15	267	P	P	16 22 25.3	-3.2
KAPI				IAmb	IAmb	16 22 47.0	
	comp=Z,20nm,1.3s						
KAPI	**Kappang**	32.15	267	LR	LR	16 36 22.2	
	comp=Z,55nm,21.2s,baz=88,slow=38						
JOW	**Kunigami**	38.05	324	LR	LR	16 36 21.2	
	comp=Z,104nm,21.6s,baz=147,slow=32						
RAO	**Raoul Island**	38.20	135	LR	LR	16 36 22.0	
	comp=Z,173nm,20.6s,baz=158,slow=32						
JHJ	**Hachijo jima 2**	38.43	343	LR	LR	16 36 09.0	
	comp=Z,92nm,20.3s,baz=230,slow=32						
SBUM	**Sibu**	40.20	278	P	P	16 23 36.3	-1.2
NACB	**Ninganchiao**	40.54	315	P	P	16 23 43.1	+3.1
URZ	**Urewera**	41.32	150	LR	LR	16 41 00.5	
	comp=Z,197nm,18.2s,baz=109,slow=36						
RTZ	**Ruatahuna**	41.53	150	P	P	16 23 49.7	+1.6
JNU	**Nakatsue**	41.74	333	P	P	16 23 48.1	-1.7
JNU				IAmb	IAmb	16 23 51.1	
	comp=Z,34nm,1.4s						
JNU	**Nakatsue**	41.74	333	LR	LR	16 38 42.3	
	comp=Z,59nm,20.6s,baz=152,slow=33						
MJAR	**Matsushiro Arr**	42.08	343	PcP	PcP	16 25 46.8	-0.5
	comp=Z,1.4nm,1.0s,baz=158,slow=2.9,SNR=3.2						
RPZ	**Rata Peaks**	43.25	160	LR	LR	16 39 32.4	
	comp=Z,362nm,21.9s,baz=324,slow=33						
NWAO	**Narrogin (SRO)**	43.56	224	LR	LR	16 43 44.8	
	comp=Z,147nm,18.1s,baz=209,slow=38						
LEM	**Lembang**	44.26	264	LR	LR	16 44 43.7	
	comp=Z,38nm,20.8s,baz=192,slow=39						
TJN	**Taejon**	46.05	332	P	P	16 24 25.0	+0.6
KSRS	**Korea Array**	46.68	334	P	P	16 24 27.3	-2.0
	comp=Z,1.4nm,0.9s,baz=157,slow=8.1,SNR=5.5						
KSRS				LR	LR	16 42 25.3	
	comp=Z,62nm,21.0s,baz=135,slow=34						
	comp=Z,1.4nm,0.9s						
KSAR	**Wonju Array Be**	46.69	333	P	P	16 24 26.8	-2.6
INCN	**Inchon**	47.29	332	P	P	16 24 32.0	-2.1
NJ2	**Nanjing**	47.50	321	eP	P	16 24 37.6	+1.8
NJ2				pP	pwP	16 24 49.4	+4.9
NJ2				sP	sP	16 24 51.1	+12
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,110nm,3.8s						
ASAJ	**Asahikawa**	48.37	351	LR	LR	16 44 41.6	
	comp=Z,33nm,19.6s,baz=181,slow=36						
RAR	**Rarotonga**	49.97	115	LR	LR	16 41 06.6	
	comp=Z,36nm,20.4s,baz=302,slow=30						
USRK	**Ussuriysk Ar.**	50.98	342	P	P	16 24 59.8	-2.4
USRK	**Ussuriysk Ar.**	50.98	342	P	P	16 24 60.0	-2.3
	comp=Z,1.8nm,0.9s,baz=167,slow=9.0,SNR=5.1						
USRK				LR	LR	16 45 41.0	
	comp=Z,44nm,19.6s,baz=225,slow=35						
	comp=Z,1.8nm,0.9s						
USA0B	**Ussuriysk Arra**	50.98	342	P	P	16 24 59.9	-2.4
USA0B				IAmb	IAmb	16 25 03.0	
	comp=Z,8.9nm,1.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDJ	**Mudanjiang**	52.14	340	P	P	16 25 11.4	+0.5
MDJ				pP	pwP	16 25 19.9	+3.7
MDJ				sP	sP	16 25 26.3	+12
MDJ				PcP	PcP	16 26 19.3	-3.4
MDJ				PP	PP	16 27 10.4	+1.0
MDJ				PcS	PcS	16 30 13.5	-7.3
MDJ				ScP	ScP	16 30 16.1	-4.0
MDJ				S	S	16 32 34.0	-1.2
MDJ				sS	sS	16 32 52.3	+13
MDJ	**Mudanjiang**	52.14	340	SS	SS	16 36 08.1	-4.7
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,150nm,4.1s						
HNS	**HongShan**	53.60	323	⇑P	P	16 25 22.9	+1.0
HNS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BNX	**BinXian**	53.88	339	⇓P	P	16 25 23.6	-0.2
BNX				pmax	pmax		
	comp=Z,12nm,0.8s						
BNX				pmax	pmax		
	comp=Z,130nm,4.9s						
XAN	**Xi'an**	55.28	316	P	P	16 25 34.1	-0.2
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KLR	**Kul'dur**	55.60	344	LR	LR	16 50 03.2	
	comp=Z,27nm,18.3s,baz=206,slow=37						
CMAR	**Chiang Mai Arr**	56.68	295	P	P	16 25 43.6	-0.9
CMAR	**Chiang Mai Arr**	56.68	295	P	P	16 25 44.5	+0.1
	comp=Z,0.8nm,0.4s,baz=111,slow=5.3,SNR=8.6						
	comp=Z,0.8nm,0.4s						
CHTO	**Chiang Mai**	56.78	295	P	P	16 25 44.4	-0.9
CHTO				IAmb	IAmb	16 25 55.6	
	comp=Z,10nm,1.4s						
PETK	**Petropavlovsk-**	56.84	4	P	P	16 25 44.9	0.0
	comp=Z,1.4nm,0.8s,baz=233,slow=14,SNR=1.4						
PETK				LR	LR	16 45 56.9	
	comp=Z,122nm,21.4s,baz=194,slow=32						
	comp=Z,1.4nm,0.8s						
PZH	**PanZhiHua**	57.09	305	P	P	16 25 48.6	+1.2
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,90nm,4.9s						
XLT	**XiLinHaoTe**	57.34	330	eP	P	16 25 49.1	+0.3
XLT				pP	pwP	16 26 01.4	+7.3
XLT				sP	sP	16 26 06.3	+14
XLT				PcP	PcP	16 26 44.0	+1.2
XLT				S	S	16 33 35.8	-10
XLT				sS	sS	16 34 00.0	+10
XLT				pmax	pmax		
	comp=Z,23nm,0.8s						
XLT				pmax	pmax		
	comp=Z,66nm,4.0s						
CD2	**Chengdu**	57.42	310	P	P	16 25 47.3	-2.3
HHC	**Hu-ho-hao-te**	57.70	324	eP	P	16 25 53.1	+1.6
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,270nm,5.3s						
HEH	**HeiHe**	57.79	342	eP	P	16 25 51.3	-0.4
HEH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BTO	**Baotou**	58.46	323	eP	P	16 25 59.0	+2.3
BTO				pP	pwP	16 26 11.8	+10
BTO				sP	sP	16 26 16.9	+17
BTO				PP	PP	16 28 10.6	+4.4
BTO				pmax	pmax		
	comp=Z,17nm,1.4s						
BTO				pmax	pmax		
	comp=Z,210nm,4.6s						
PPT	**Papeete**	58.84	108	LR	LR	16 49 44.2	
	comp=Z,26nm,18.0s,baz=298,slow=34						
PPT2	**Papeete2**	58.84	108	eLR	LR	16 43 12.1	
	comp=Z,75nm,23.8s						
SHEM	**Shemya Is, Ala**	59.28	15	LR	LR	16 45 26.6	
	comp=Z,158nm,21.8s,baz=72,slow=30						
TBI	**Tubuai**	59.75	115	eLR	LR	16 43 55.1	
	comp=Z,617nm,30.5s						
LZH	**Lanzhou**	59.89	316	eP	P	16 26 08.3	+1.4
LZH				pP	pwP	16 26 18.9	+6.7
LZH				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MA2	**Magadan**	63.12	359	LR	LR	16 53 08.2	
	comp=Z,45nm,19.5s,baz=174,slow=35						
GTA	**Gaotai**	64.32	317	eP	P	16 26 37.8	+1.3
GTA				pP	pwP	16 26 42.3	+0.5
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	64.99	328	P	P	16 26 41.1	+0.5
SONM				IAmb	IAmb	16 26 43.2	
	comp=Z,3.8nm,0.9s						
SONM	**Songino Array**	64.99	328	P	P	16 26 41.3	+0.6
	comp=Z,2.2nm,0.7s,baz=147,slow=5.9,SNR=13						
SONM				LR	LR	16 52 31.3	
	comp=Z,88nm,21.9s,baz=142,slow=34						
	comp=Z,2.2nm,0.7s						
SEY	**Seymchan**	66.48	0	LR	LR	16 50 30.2	
	comp=Z,60nm,20.8s,baz=208,slow=31						
TAOE	**Nuku Hiva Isla**	67.59	98	eLR	LR	16 47 28.5	
	comp=Z,152nm,26.0s						
TAPN	**Taplejung**	69.15	301	eP	P	16 27 13.5	+5.7
	comp=Z,17nm,0.7s						
ODAN	**Odare**	69.29	300	eP	P	16 27 14.4	+5.8
	comp=Z,26nm,0.9s						
RAMN	**Ramite**	70.00	300	eP	P	16 27 18.7	+5.7
	comp=Z,4.8nm,0.6s						
JIRN	**Jiri**	70.53	301	eP	P	16 27 21.9	+5.5
GUN	**Gumba**	70.86	301	eP	P	16 27 23.7	+5.3
	comp=Z,19nm,0.7s						
PKI	**Pulchoki**	71.18	301	eP	P	16 27 25.4	+5.1
DMN	**Daman**	71.45	301	eP	P	16 27 27.5	+5.7
GKN	**Gorkha**	71.95	301	eP	P	16 27 29.9	+5.2
KOLN	**Koldanda**	72.78	300	eP	P	16 27 34.8	+5.0
	comp=Z,20nm,1.0s						
DANN	**Dangsing**	72.79	301	eP	P	16 27 34.4	+4.5
	comp=Z,12nm,0.6s						
PYUN	**Piuthan**	73.39	301	eP	P	16 27 38.3	+5.0
	comp=Z,22nm,0.9s						
VNDA	**Vanda**	73.92	178	P	P	16 27 35.5	+0.2
VNDA				IAmb	IAmb	16 27 47.7	
	comp=Z,6.1nm,1.1s						
VNDA	**Vanda**	73.92	178	P	P	16 27 41.0	+5.7
	comp=Z,0.6nm,0.6s,baz=319,slow=8.4,SNR=2.0						
VNDA				LR	LR	16 58 11.9	
	comp=Z,29nm,19.2s,baz=326,slow=34						
WMQ	**Urumqi**	74.40	317	eP	P	16 27 40.3	+1.5
TIXI	**Tiksi**	76.74	353	P	P	16 27 52.0	+0.6
MKAR	**Makanchi Array**	78.98	319	P	P	16 28 03.7	-0.9
	comp=Z,1.3nm,1.0s,baz=99,slow=6.8,SNR=5.4						
MKAR				LR	LR	17 01 18.3	
	comp=Z,41nm,21.6s,baz=72,slow=34						
	comp=Z,1.3nm,1.0s						
E19K	**Redstone River**	79.42	18	P	P	16 28 07.6	+1.1
F20K	**Avaraart Lake**	79.64	18	P	P	16 28 07.7	0.0
F20K				IAmb	IAmb	16 28 17.5	
	comp=Z,9.2nm,1.1s						
IMAR	**Indian Mountai**	79.66	20	P	P	16 28 07.1	-0.7
ZALV	**Zalesovo Beam**	79.81	326	P	P	16 28 08.0	-0.9
ZALV	**Zalesovo Beam**	79.81	326	P	P	16 28 06.8	-2.0
	comp=Z,1.9nm,0.7s,baz=111,slow=4.8,SNR=10						
ZALV				LR	LR	17 03 57.1	
	comp=Z,25nm,20.0s,baz=95,slow=36						
	comp=Z,1.9nm,0.7s						
D19K	**Kuna River**	79.81	17	P	P	16 28 08.7	+0.1
D19K				IAmb	IAmb	16 28 15.6	
	comp=Z,13nm,0.9s						
B20K	**Meade River**	81.03	16	P	P	16 28 15.9	+0.9
B20K				IAmb	IAmb	16 28 18.7	
	comp=Z,17nm,1.4s						
IL31		81.49	22	P	P	16 28 17.3	-0.3
IL31				IAmb	IAmb	16 28 24.1	
	comp=Z,8.2nm,1.0s						
ILAR	**Eielson Array**	81.49	22	P	P	16 28 19.8	+2.1
ILAR	**Eielson Array**	81.49	22	P	P	16 28 16.3	-1.4
	comp=Z,1.5nm,0.7s,baz=245,slow=5.6,SNR=24						
ILAR				LR	LR	16 57 57.3	
	comp=Z,83nm,21.6s,baz=210,slow=31						
	comp=Z,1.5nm,0.7s						
J25K	**Salcha River,**	82.00	23	P	P	16 28 20.3	-0.1
J25K				IAmb	IAmb	16 28 29.3	
	comp=Z,12nm,0.9s						
KURBB	**Kurchatov Arra**	82.45	322	P	P	16 28 22.2	-0.8
	comp=Z,1.2nm,0.8s,baz=103,slow=4.3,SNR=6.2						
	comp=Z,1.2nm,0.8s						
AAK	**Ala-Archa**	83.34	314	LR	LR	17 07 08.9	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,41nm,18.2s,baz=146,slow=37						
BMAR	**Burnt Mountain**	83.54	20	P	P	16 28 29.2	+0.8
H02S1	**DAWSON INLET T**	84.37	36	T	T	18 00 42.5	
	SNR=3.8						
QSPA	**South Pole Qui**	86.22	180	P	P	16 28 43.4	+1.4
	comp=Z,1.3nm,0.8s,baz=308,slow=0.6,SNR=6.2						
	comp=Z,1.3nm,0.8s						
MAW	**Mawson**	86.23	203	LR	LR	17 03 38.5	
	comp=Z,74nm,20.5s,baz=86,slow=33						
DLBC	**Dease Lake**	86.90	31	LR	LR	17 03 07.0	
	comp=Z,65nm,19.4s,baz=290,slow=33						
INK	**Inuvik**	87.76	21	LR	LR	17 01 57.4	
	comp=Z,60nm,21.8s,baz=12,slow=32						
BVAR	**Borovoye Array**	87.90	323	P	P	16 28 46.2	-4.0
	comp=Z,1.3nm,0.7s,baz=270,slow=1.0,SNR=4.0						
BVAR				LR	LR	17 10 33.7	
	comp=Z,30nm,18.1s,baz=94,slow=37						
YBH	**Yreka Blue Hor**	88.97	48	LR	LR	17 01 54.0	
	comp=Z,52nm,19.5s,baz=231,slow=31						
NEW	**Newport**	93.36	42	LR	LR	17 04 37.2	
	comp=Z,41nm,19.1s,baz=256,slow=31						
ELK	**Elko**	94.53	50	LR	LR	17 05 59.8	
	comp=Z,32nm,18.4s,baz=265,slow=32						
YKA	**Yellowknife Ar**	94.87	28	P	P	16 29 21.2	-1.2
	comp=Z,0.1nm,0.5s,baz=270,slow=5.2,SNR=2.2						
	comp=Z,0.1nm,0.5s						
ARU	**Arti**	94.98	326	LR	LR	17 11 45.9	
	comp=Z,66nm,22.0s,baz=125,slow=35						
AKTO	**Aktyubinsk**	95.38	320	LR	LR	17 10 40.1	
	comp=Z,44nm,21.9s,baz=103,slow=34						
LPIG	**La Paz**	98.56	66	LR	LR	17 03 48.7	
	comp=Z,62nm,21.9s,baz=29,slow=29						
PDAR	**Pinedale Array**	98.74	47	LR	LR	17 07 30.8	
	comp=Z,35nm,19.1s,baz=276,slow=31						
RES	**Resolute Bay**	99.58	14	LR	LR	17 11 27.6	
	comp=Z,31nm,20.0s,baz=9.0,slow=34						
KIRV	**Kirov**	99.71	329	LR	LR	17 15 02.5	
	comp=Z,39nm,21.9s,baz=84,slow=36						
TORD	**Torodi Ar. Bea**	149.18	289	PKPbc	PKPbc	16 35 48.7	-1.5
	comp=Z,0.4nm,0.6s,baz=72,slow=3.1,SNR=4.0						
BDFB	**Brasilia**	152.40	135	PKPbc	PKPbc	16 35 55.1	-2.8
	comp=Z,0.9nm,0.4s,baz=180,slow=6.8,SNR=1.5						

*SJA **23** 16:20:53.2±0.8,22.˚82S×68.˚95W,h121km±6km,ML3.7, MW3.7*
*GUC **23** 16:20:55.3±0.8,22.˚82S×68.˚88W,h103km±3km,ML3.9*
ISC 23 16:20:53.7±1.3,22.˚81S±0.˚03×68.˚90W±0.˚05,h115km±8km, n32,σ1s77/54,10C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	0.20	358	⇑iP	Pn	16 21 09.4	-0.8
LVC				i S	Sn	16 21 19.7	-2.9
LVC				IAML		16 21 20.9	
	15µm,0.2s						
PB06	**IPOC Station P**	0.63	280	eP	Pn	16 21 12.3	+0.1
PB06				eS	Sn	16 21 26.4	+0.3
PB06				IAML		16 21 28.2	
	comp=Z,1µm,0.1s						
PB06	**IPOC Station P**	0.63	280	⇑iP	Pn	16 21 12.4	+0.2
PB06				i S	Sn	16 21 25.5	-0.6
PB06				IAML		16 21 26.0	
	comp=N,3µm,0.1s						
AF01	**San Pedro de A**	0.68	102	⇓iP	Pn	16 21 12.7	-0.1
AF01				i S	Sn	16 21 26.1	-0.9
AF01				IAML		16 21 26.5	
	comp=N,8µm,0.1s						
PB09	**IPOC Station P**	1.06	343	eP	Pn	16 21 17.1	+0.9
PB09				eS	Sn	16 21 33.6	+0.6
PB09				IAML		16 21 38.3	
	comp=Z,1µm,0.4s						
PB09	**IPOC Station P**	1.06	343	⇑iP	Pn	16 21 17.1	+0.9
PB09				i S	Sn	16 21 33.4	+0.3
PB09				IAML		16 21 34.5	
	comp=N,2µm,0.4s						
PB05	**IPOC Station P**	1.20	268	eP	Pn	16 21 17.8	+0.3
PB05				eS	Sn	16 21 36.8	+1.2
PB05				IAML		16 21 42.5	
	comp=Z,663nm,0.4s						
PB05	**IPOC Station P**	1.20	268	⇑iP	Pn	16 21 18.4	+0.9
PB05				eS	Sn	16 21 35.7	+0.1
PB05				IAML		16 21 39.5	
	comp=E,1µm,0.3s						
PB04	**IPOC Station P**	1.25	292	eP	Pn	16 21 18.4	+0.3
PB04				eS	Sn	16 21 37.5	+0.9
PB04				IAML		16 21 42.4	
	comp=Z,1µm,0.2s						
PB04	**IPOC Station P**	1.25	292	⇑iP	Pn	16 21 18.9	+0.8
PB04				i S	Sn	16 21 37.2	+0.6
PB04				IAML		16 21 40.5	
	comp=N,2µm,0.4s						
PB07	**IPOC Station P**	1.42	320	eP	Pn	16 21 20.3	+0.3
PB07				eS	Sn	16 21 40.8	+0.9
PB07				IAML		16 21 41.4	
	comp=Z,3µm,0.2s						
PB07	**IPOC Station P**	1.42	320	⇑iP	Pn	16 21 21.0	+1.0
PB07				i S	Sn	16 21 40.5	+0.5
PB07				IAML		16 21 41.2	
	comp=N,5µm,0.4s						
PB02	**IPOC Station P**	1.75	328	eP	Pn	16 21 24.4	+0.5
PB02				eS	Sn	16 21 47.7	+0.8
PB02				IAML		16 21 54.6	
	comp=Z,2µm,0.2s						
PB02	**IPOC Station P**	1.75	328	⇑iP	Pn	16 21 25.0	+1.1
PB02				i S	Sn	16 21 47.5	+0.5
PB02				IAML		16 21 48.1	
	comp=E,2µm,0.4s						
PB01	**IPOC Station P**	1.84	343	eP	Pn	16 21 25.6	+0.5
PB01				eS	Sn	16 21 50.0	+1.0
PB01				IAML		16 21 50.6	
	comp=Z,850nm,0.2s						
PB01	**IPOC Station P**	1.84	343	⇑iP	Pn	16 21 26.3	+1.2
PB01				i S	Sn	16 21 49.5	+0.5
PB01				IAML		16 21 50.8	
	comp=E,2µm,0.5s						
PB14	**IPOC Station P**	2.27	217	eP	Pn	16 21 32.2	+1.6
PB14				eS	Sn	16 21 58.0	-1.0
PB14				IAML		16 22 08.4	
	comp=Z,218nm,0.4s						

*IDC **23** 16:23:39.5±14.0, 12°.50S×167°.08E, h140km±123km, mb3.4/9, mbtmp3.7/9, Error ellipse: s-maj=50.6km s-min=25.8km az=98.0*

ISC 23 16:23:48.4±1.0, **12°.5S**±0°.2×**166°.9E**±0°.2, **h220**km, **n10, σ0°73/11, mb3.4/9, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.19**	**226**	P		**P**	**16 29 37.8**	**-0.6**
	1.3nm,0.7s,baz=145,slow=17,SNR=1.5 1.3nm,0.7s							
WRA	**Warramunga Arr**	**32.07**	**252**	P		**P**	**16 29 54.8**	**-0.2**
	0.4nm,0.9s,baz=81,slow=8.5,SNR=2.4 0.4nm,0.9s							
ASAR	**Alice Springs**	**33.17**	**246**	P		**P**	**16 30 04.8**	**+0.2**
	0.2nm,0.5s,baz=70,slow=10,SNR=5.4							
ASAR				PcP		**PcP**	**16 32 42.2**	**0.0**
	0.4nm,0.8s,baz=83,slow=2.9,SNR=2.8 0.2nm,0.5s							
MJAR	**Matsushiro Arr**	**55.80**	**332**	P		**P**	**16 33 01.8**	**-1.1**
	0.7nm,0.7s,baz=132,slow=6.9,SNR=5.3 0.7nm,0.7s							
QSPA	**South Pole Qui**	**77.49**	**180**	P		**P**	**16 35 19.8**	**+0.3**
	1.2nm,0.9s,baz=108,slow=6.4,SNR=2.6 1.2nm,0.9s							
SONM	**Songino Array**	**80.52**	**324**	P		**P**	**16 35 37.0**	**+0.8**
	0.2nm,0.3s,baz=116,slow=6.6,SNR=2.2 0.2nm,0.3s							
ILAR	**Eielson Array**	**84.56**	**18**	P		**P**	**16 35 56.4**	**-0.1**
	1.0nm,0.5s,baz=241,slow=4.8,SNR=34 1.0nm,0.5s							
MKAR	**Makanchi Array**	**95.36**	**317**	P		**P**	**16 36 49.0**	**+1.2**
	0.5nm,0.5s,baz=86,slow=6.4,SNR=7.2 0.5nm,0.5s							
YKA	**Yellowknife Ar**	**95.77**	**27**	P		**P**	**16 36 48.5**	**-0.6**
	0.1nm,0.5s,baz=262,slow=5.3,SNR=2.4 0.1nm,0.5s							
ARCES	**ARCESS Array B**	**118.04**	**346**	PKP		**PKPdf**	**16 42 08.5**	**0.0**
	1.1nm,0.7s,baz=64,slow=2.1,SNR=1.1							

ISC 23 16:27:15.8±1.1, **44°.22N**±0°.04×**15°.63E**±0°.04, **h11**km±10km, **n17, σ0°61/27, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VIRC	**Vir**	**0.42**	**280**	*i* Pg		**Pg**	**16 27 24.1**	**-0.1**
VIRC				Sg		**Sg**	**16 27 30.6**	**+0.9**
DUGI	**Dugi Otok**	**0.47**	**241**	*e*Pg		**Pg**	**16 27 24.8**	**-0.3**
DUGI				Sg		**Sg**	**16 27 31.6**	**+0.2**
NVLJ	**Novalja**	**0.64**	**302**	*e*Pg		**Pg**	**16 27 27.3**	**-1.0**
NVLJ				Sg		**Sg**	**16 27 37.3**	**+0.5**
RABC	**Rab**	**0.81**	**311**	*e*Pg		**Pg**	**16 27 30.9**	**-0.5**
RABC				Sg		**Sb**	**16 27 42.4**	**-0.3**
RICI	**Ricice**	**1.31**	**123**	*e*Pn		**Pn**	**16 27 39.2**	**-0.8**
RICI				Sg		**Sg**	**16 27 58.9**	**+1.0**
BOJS	**Bojanci**	**1.31**	**348**	*i* Pg		**Pn**	**16 27 40.0**	**0.0**
BOJS				*e*Sg		**Sg**	**16 27 58.9**	**+0.9**
BOJS				IAML			16 28 00.4	
	comp=Z,2.4nm,0.1s							
SMRN	**Sveta Marina**	**1.33**	**308**	*e*Pg		**Pn**	**16 27 40.1**	**-0.2**
SMRN				Sg		**Sn**	**16 27 58.4**	**+0.3**
MAKA	**Makarska**	**1.37**	**132**	Sg		**Sg**	**16 28 00.4**	**+0.5**
RIY	**Rijeka**	**1.37**	**324**	Sg		**Sg**	**16 28 00.8**	**+0.8**
OZLJ	**Ozalj**	**1.40**	**355**	*i* Pn		**Pn**	**16 27 41.1**	**-0.1**
GBRS	**Gornja Briga**	**1.43**	**336**	*e*Pn		**Pb**	**16 27 42.5**	**0.0**
GBRS				*e*Sn		**Sg**	**16 28 02.8**	**+0.8**
GBRS				IAML			16 28 03.4	
	comp=Z,1.7nm,0.1s							
KNDS	**Knezji Dol**	**1.58**	**326**	*i* Pn		**Pn**	**16 27 44.3**	**+0.4**
CRES	**Cresnjev**	**1.61**	**356**	*e*Pn		**Pn**	**16 27 44.4**	**+0.2**
VISS	**Visnje**	**1.68**	**341**	*i* Pn		**Pb**	**16 27 45.9**	**-0.8**
VISS				*e*Sn		**Sb**	**16 28 08.2**	**+0.3**
VISS				IAML			16 28 10.2	
	comp=Z,4.6nm,0.2s							
PTJ	**Puntijarka**	**1.70**	**8**	*e*Pn		**Pn**	**16 27 45.0**	**-0.5**
LSTV	**Lastovo**	**1.72**	**147**	*e*Pn		**Pn**	**16 27 46.0**	**+0.3**
LSTV				Sn		**Sn**	**16 28 08.2**	**+0.6**
GOLS	**Golise**	**1.79**	**360**	*e*Pn		**Pn**	**16 27 47.0**	**+0.3**

*ISN **23** 16:31:47.7±1.2, 34°.72N×46°.30E, h18km±7km, ML3.3*
*TEH **23** 16:31:48.8, 34°.65N×46°.32E, h8km±17km, ML3.2*

ISC 23 16:31:48.6±1.2, **34°.64N**±0°.03×**46°.29E**±0°.03, **h3**km±11km, **n20, σ1°18/28, Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.10**	**55**	Pg		**Pg**	**16 31 50.8**	**+0.2**
IDHR				Sg		**Sg**	**16 31 52.9**	**+0.9**
IGHG	**Ghaleghazi**	**0.39**	**143**	Pg		**Pg**	**16 31 56.3**	**+0.2**
IGHG				Sg		**Sb**	**16 32 03.9**	**-0.8**
KGS1	**Ghasr-e-Shirin**	**0.59**	**257**	Pg		**Pg**	**16 32 00.3**	**+0.3**
KGS1				Sg		**Sb**	**16 32 10.5**	**+0.1**
ILIN	**Lien**	**0.62**	**63**	Pg		**Pg**	**16 32 00.3**	**-0.2**
ILIN				Sg		**Sb**	**16 32 09.8**	**-1.7**
KCHF	**Cheshme Sefid,**	**0.72**	**120**	Pg		**Pg**	**16 32 02.2**	**-0.3**
KCHF				Sg		**Sb**	**16 32 12.9**	**-1.4**
ILBA	**Ilam Banvizeh**	**1.02**	**184**	Pg		**Pg**	**16 32 08.1**	**0.0**
IKOM	**Komasi**	**1.11**	**114**	Pg		**Pb**	**16 32 10.0**	**-0.6**
IBDR	**Badra**	**1.56**	**191**	*e*Pg		**Pn**	**16 32 17.0**	**-0.2**
IBDR				*e*Sg		**Sg**	**16 32 39.0**	**+0.4**
IBDR				AML	AML		16 32 45.6	
	comp=N,273nm,0.4s							
IBDR				AML	AML		16 32 46.1	
	comp=E,407nm,0.4s							
IALM	**Almabolaq**	**1.56**	**81**	Pg		**Pg**	**16 32 18.4**	**-0.1**
IKFM	**Kafar-mosalman**	**1.71**	**130**	Pg		**Pg**	**16 32 21.2**	**-0.1**
BHD	**Baghdad**	**2.10**	**230**	*e*Pn		**Pn**	**16 32 24.0**	**-0.6**
BHD				*e*Sn		**Sn**	**16 32 52.0**	**+0.8**
BHD				AML	AML		16 33 00.3	
	comp=E,391nm,0.3s							
MAHB	**Mahabad**	**2.17**	**348**	Pn		**Pb**	**16 32 27.8**	**-0.8**
IHSH	**Hashtrud**	**2.77**	**16**	Pn		**Pb**	**16 32 36.3**	**-2.7**
RAFI	**Al-Rafai**	**2.92**	**183**	*e*Pn		**Pn**	**16 32 37.0**	**+1.1**
RAFI				*e*Sn		**Sn**	**16 33 12.0**	**+0.6**
IHRS	**Heris**	**3.72**	**9**	Pn		**Pn**	**16 32 49.4**	**+2.2**
AMIS	**Naft Sefid**	**3.89**	**139**	Pn		**Pn**	**16 32 50.4**	**+1.1**
IKLH	**Kolahrood**	**4.59**	**105**	Pn		**Pn**	**16 33 00.8**	**+1.7**
KRSH	**Karshahi**	**4.89**	**96**	Pn		**Pn**	**16 33 05.0**	**+1.8**
ISFB	**Sefidab**	**4.92**	**92**	Pn		**Pn**	**16 33 04.7**	**+1.1**
IZEF	**Zefreh**	**5.32**	**107**	Pn		**Pn**	**16 33 10.7**	**+1.5**

*IDC **23** 16:36:39.9±1.1, 22°.31S×175°.81W, h0km, mb3.9/7, mbtmp4.0/8, ML4.9/2, Error ellipse: s-maj=35.6km s-min=22.7km az=105.0*

ISC 23 16:36:48.8±1.1, **22°.61S**±0°.09×**175°.8W**±0°.3, **h71**km, **n15, σ1°28/13, mb4.1/7, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.88**	**195**	Pn		**Pn**	**16 38 26.5**	**-0.5**
	64nm,0.3s,baz=68,slow=11,SNR=11							
RAO				Sn		**Sn**	**16 39 42.2**	**-1.6**
	25nm,0.3s,baz=243,slow=21,SNR=1.5							
URZ	**Urewera**	**16.74**	**200**	P		**P**	**16 40 39.2**	**-0.6**
	1.5nm,0.3s,baz=26,slow=0.8,SNR=11							
URZ				Sn		Sn	16 43 33.4	-11
	0.3nm,0.3s,baz=112,slow=12,SNR=2.2 3.6nm,0.3s							
STKA	**Stephens Creek**	**38.76**	**247**	P		**P**	**16 44 08.3**	**+1.8**
	2.2nm,0.7s,baz=349,slow=19,SNR=2.3 2.2nm,0.7s							
ASAR	**Alice Springs**	**46.05**	**258**	P		**P**	**16 45 06.3**	**+0.5**
	1.3nm,0.5s,baz=96,slow=7.2,SNR=27 1.3nm,0.5s							
WRA	**Warramunga Arr**	**46.35**	**264**	P		**P**	**16 45 08.2**	**+0.1**
	0.8nm,0.7s,baz=90,slow=6.0,SNR=25 0.8nm,0.7s							
QSPA	**South Pole Qui**	**67.47**	**180**	P		**P**	**16 47 39.2**	**+2.2**
	2.3nm,0.9s,baz=14,slow=1.0,SNR=6.7 2.3nm,0.9s							
MJAR	**Matsushiro Arr**	**73.10**	**323**	P		**P**	**16 48 10.6**	**-1.0**
	0.6nm,0.8s,baz=145,slow=4.8,SNR=1.8 0.6nm,0.8s							
PETK	**Petropavlovsk-**	**78.83**	**344**	P		**P**	**16 48 42.5**	**-1.2**
	2.5nm,1.0s,baz=134,slow=4.2,SNR=1.6 2.5nm,1.0s							
H03S2	**Juan Fernandez**	**83.14**	**124**	T		T	18 20 59.2	
	baz=246,slow=74,SNR=72							
H03S1	**Juan Fernandez**	**83.15**	**124**	T		T	18 20 50.8	
	baz=246,slow=74,SNR=69							
H03S3	**Juan Fernandez**	**83.16**	**124**	T		T	18 20 58.6	
	baz=246,slow=74,SNR=74							

ILAR	**Eielson Array**	**89.93**	**12**	P		**P**	**16 49 40.3**	**+0.7**
	0.3nm,0.8s,baz=202,slow=4.5,SNR=5.8 0.3nm,0.8s							
AKASG	**Malin Array Be**	**145.83**	**331**	PKPbc		**PKPab**	**16 56 19.9**	**-0.3**
	0.6nm,0.5s,baz=42,slow=4.2,SNR=6.0							
BRTR	**Keskin Array B**	**149.75**	**311**	PKPbc		**PKPbc**	**16 56 29.7**	**-1.2**
	0.4nm,0.7s,baz=154,slow=4.8,SNR=1.8							
MMAI	**Mount Meron Ar**	**150.60**	**297**	PKPbc		**PKiKP**	**16 56 33.3**	**-0.4**
	1.0nm,0.5s,baz=58,slow=3.6,SNR=2.2							

IDC 23 16:42:54.7±4.8, **31°.85N×138°.00E, h409**km±29km, **mbtmp3.6/5, Error ellipse: s-maj=67.7km s-min=33.5km az=164.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.97**	**50**	P		P	16 43 52.0	+0.7
	175nm,0.9s,baz=197,slow=13,SNR=2.5							
JHJ				S		S	16 44 37.4	+0.4
	66nm,0.5s,baz=240,slow=20,SNR=1.3							
MJAR	**Matsushiro Arr**	**4.68**	**2**	P		P	16 44 13.6	-0.1
	2.7nm,0.8s,baz=171,slow=10,SNR=8.2							
JNU	**Nakatsue**	**6.15**	**284**	P		P	16 44 28.8	-0.2
	5.2nm,0.8s,baz=115,slow=19,SNR=2.7							
KSRS	**Korea Array**	**10.00**	**307**	P		P	16 45 12.2	+0.2
	0.6nm,0.6s,baz=122,slow=10.0,SNR=3.2							
KSRS				S		S	16 47 07.2	+1.9
	0.2nm,0.4s,baz=326,slow=45,SNR=1.9							
ASAJ	**Asahikawa**	**12.77**	**15**	P		P	16 45 42.9	+0.5
	6.6nm,1.0s,baz=197,slow=11,SNR=3.0							
USRK	**Ussuriysk Ar.**	**13.20**	**341**	P		P	16 45 46.5	-0.6
	0.7nm,0.7s,baz=139,slow=11,SNR=2.4							

*KRSC **23** 16:49:34.1±0.9, 55°.99N×160°.95E, h156km±7km, Ml3.6*
*IDC **23** 16:49:48.6±1.3, 50°.86N×156°.70E, h0km, mb3.3/3, mbtmp3.3/3, ML1.5/1, Error ellipse: s-maj=116.5km s-min=23.7km az=114.0*

ISC 23 16:49:35.9±1.0, **55°.96N**±0°.05×**160°.92E**±0°.05, **h150**km, **n36, σ0°84/54, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.09**	**313**	*e*P		**Pn**	**16 49 56.5**	**+0.4**
ZLN				*e*S		**Sn**	**16 50 12.8**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**0.13**	**263**	*e*P		**Pn**	**16 49 56.5**	**+0.3**
BZGR				*e*S		**Sn**	**16 50 12.6**	**+1.0**
CIRR	**Tsirk**	**0.19**	**329**	*e*P		**Pn**	**16 49 56.4**	**+0.1**
BZP	**Bezymyannyi-Pe**	**0.22**	**259**	*e*P		**Pn**	**16 49 56.3**	**-0.1**
BZWR	**Bezymyannyi-We**	**0.24**	**272**	*e*P		**Pn**	**16 49 56.4**	**0.0**
BZWR				*e*S		**Sn**	**16 50 13.1**	**+1.0**
BZMR	**Bezymyannaya**	**0.24**	**266**	*e*P		**Sn**	**16 49 56.6**	**+0.2**
BZMR				*e*S		**Sn**	**16 50 12.6**	**+0.6**
KIRR	**Kirishev**	**0.33**	**270**	*e*P		**Pn**	**16 49 56.4**	**-0.3**
KIRR				*e*S		**Sn**	**16 50 12.7**	**+0.2**
KRSR	**Krestovskiy**	**0.33**	**323**	*e*P		**Pn**	**16 49 56.2**	**-0.5**
KRSR				*e*S		**Sn**	**16 50 12.2**	**-0.3**
KLY	**Klyuchi**	**0.39**	**337**	*e*P		**Pn**	**16 49 56.3**	**-0.3**
KLY				*e*S		**Sn**	**16 50 13.1**	**+0.5**
KPT	**Kopyto**	**0.40**	**272**	*e*P		**Pn**	**16 49 56.7**	**-0.2**
KPT				*e*S		**Sn**	**16 50 12.9**	**+0.1**
KMNR	**Kamenistaya**	**0.43**	**243**	*e*P		**Pn**	**16 49 57.3**	**+0.2**
KMNR				*e*S		**Sn**	**16 50 14.5**	**+1.4**
KOZ	**Kozyrevsk**	**0.60**	**280**	*e*P		**Pn**	**16 49 57.5**	**-0.3**
KOZ				*e*S		**Sn**	**16 50 14.5**	**+0.1**
BDR	**Baidarnaya**	**0.64**	**14**	*e*P		**Pn**	**16 49 57.8**	**-0.3**
SMKR	**Semkarok**	**0.70**	**26**	*e*P		**Pn**	**16 49 58.1**	**-0.3**
SMKR				*e*S		**Sn**	**16 50 16.4**	**+0.7**
SRKR	**Sorokina**	**0.71**	**11**	*e*P		**Pn**	**16 49 58.1**	**-0.4**
SRDR	**Sredinnyy**	**0.77**	**299**	*e*P		**Pn**	**16 49 58.3**	**-0.6**
SRDR				*e*S		**Sn**	**16 50 15.7**	**-0.7**
TUMD	**Tumrok D**	**0.81**	**202**	*e*P		**Pn**	**16 49 59.5**	**+0.3**
TUMD				*e*S		**Sn**	**16 50 17.5**	**+0.6**
KBG	**Krutoberegovo**	**1.04**	**72**	*e*P		**Pn**	**16 50 00.5**	**-0.4**
KBG				*e*S		**Sn**	**16 50 20.3**	**+0.2**
KBTR	**Krutoberegovo**	**1.09**	**76**	*e*P		**Pn**	**16 50 01.0**	**-0.4**
KBTR				*e*S		**Sn**	**16 50 20.7**	**-0.2**
ESO	**Esso**	**1.25**	**270**	*e*P		**Pn**	**16 50 02.5**	**-0.4**
KII	**Karymskiy**	**2.10**	**204**	*e*P		**Pn**	**16 50 12.9**	**+0.7**
SPN	**Mys Shipunski**	**2.91**	**191**	*e*P		**Pn**	**16 50 20.8**	**-1.3**
SPN				*e*S		**Sn**	**16 50 56.2**	**-1.6**
KRX	**Arik**	**2.92**	**208**	*e*P		**Pn**	**16 50 23.6**	**+1.2**
BKI	**Bering**	**2.96**	**103**	*e*P		**Pn**	**16 50 23.2**	**+0.5**
BKI				*e*S		**Sn**	**16 50 58.6**	**-0.3**
SMAR	**Somma**	**2.97**	**205**	*e*P		**Pn**	**16 50 24.2**	**+1.2**
AVH	**Avacha**	**2.98**	**206**	*e*P		**Pn**	**16 50 24.3**	**+1.3**
KOK	**Koryaka**	**2.98**	**207**	*e*P		**Pn**	**16 50 24.6**	**+1.5**
DALK	**Dalny**	**3.19**	**204**	*e*P		**Pn**	**16 50 26.1**	**+0.5**
DALK				*e*S		**Sn**	**16 51 05.3**	**+1.2**
PET	**Petropavlovsk**	**3.22**	**205**	*e*P		**Pn**	**16 50 26.7**	**+0.7**
PETK	**Petropavlovsk-**	**3.42**	**215**	Pn		**Pn**	**16 50 28.1**	**-0.5**
	0.6nm,0.3s,baz=198,slow=18,SNR=20							
PETK				Sn		Sn	16 50 49.1	-20
	0.4nm,0.3s,baz=92,slow=18,SNR=5.2							
OSSR	**Ossora**	**3.50**	**18**	*e*P		**Pn**	**16 50 29.8**	**+0.3**
KRMR	**Karymshinskiy**	**3.53**	**209**	*e*P		**Pn**	**16 50 30.9**	**+0.9**
ASAK	**Asacha**	**4.00**	**208**	*e*P		**Pn**	**16 50 36.4**	**+0.3**
KDTR	**Khodutka, Kamc**	**4.48**	**203**	*e*S		**Sn**	**16 51 30.8**	**-3.3**
WRA	**Warramunga Arr**	**78.88**	**205**	P		**P**	**17 01 21.8**	**-0.4**
	0.2nm,0.5s,baz=20,slow=6.1,SNR=4.8 0.2nm,0.5s							
ASAR	**Alice Springs**	**82.57**	**205**	P		**P**	**17 01 41.9**	**+0.2**
	0.2nm,0.4s,baz=15,slow=4.6,SNR=12 0.2nm,0.4s							

*IDC **23** 17:24:25.8±1.1, 22°.79N×120°.61E, h0km, mb3.5/6, mbtmp3.5/6, MS2.6/1, Error ellipse: s-maj=48.8km s-min=20.5km az=77.0*
*JMA **23** 17:24:28.6±0.1, 22°.9N±0°.6×120°.5E±0°.4, h16km±2km, MV3.8/16, TAIWAN REGION*
*TAP **23** 17:24:28.7, 22°.90N×120°.60E, h17km, ML3.8, B*
*ASIES **23** 17:24:28.7, 22°.90N×120°.60E, h17km, ML3.8, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^21 Nm; Mrr1.76; Mθθ-0.18; Mφφ-0.83; Mrθ-0.29; Mθφ0.97; Mφr-2.72; Fault plane solution: M03.21499×10^21 NP1: ϕs177.38000°, δ76.53000°, λ108.52000°. NP2: ϕs302.20000°, δ22.76000°, λ37.03000°. Principal axes: T Plg54.7650°, Azm110.2840°; N Plg17.9900°, Azm352.9140°; P Plg29.1630°, Azm252.4740°;*

ISC 23 17:24:29.3±0.7, **22°.90N**±0°.01×**120°.57E**±0°.01, **h18**km±2km, **n154, σ0°89/257, mb3.5/6, 16C-11D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SCST	**Cishan**	**0.07**	**261**	⇑*i*P		**Pg**	**17 24 32.7**	**0.0**
	baz=262							
SCST				S		**Sg**	**17 24 36.4**	**+1.3**
	baz=262							
SLGT	**Liugui**	**0.12**	**35**	⇓*i*P		**Pg**	**17 24 33.0**	**-0.1**
	baz=32							
SLGT				*i* S		**Sg**	**17 24 36.0**	**+0.2**
	baz=32							
TWM1	**Shoushan**	**0.16**	**242**	⇑*i*P		**Pg**	**17 24 34.5**	**+0.8**
	baz=244							
TWM1				*i* S		**Sg**	**17 24 39.5**	**+2.8**
	baz=244							
SGST	**Jiashian**	**0.18**	**3**	*e*P		**Pb**	**17 24 33.0**	**-0.5**
	baz=357							
SGST				*e*S		**Sg**	**17 24 37.3**	**0.0**
	baz=357							
TSMG	**Majia**	**0.20**	**161**	⇓*i*P		**Pb**	**17 24 34.1**	**+0.1**
	baz=168							
TSMG				*i* S		**Sg**	**17 24 37.6**	**-0.1**
	baz=168							
TSPT	**Pingtung City**	**0.23**	**198**	*e*P		**Pg**	**17 24 36.0**	**+1.3**
	baz=198							
SHHT	**Tainan City**	**0.24**	**301**	⇓*i*P		**Pg**	**17 24 36.6**	**+1.7**
	baz=303							
SHHT				S		**Sg**	**17 24 43.1**	**+4.3**
	baz=303							
CHN3	**Shinhua**	**0.26**	**313**	⇓*i*P		**Pb**	**17 24 36.7**	**+1.3**
	baz=314							
CHN3				*i* S		**Sn**	**17 24 43.3**	**-0.5**
	baz=314							
SNJT	**Kaohsiung City**	**0.26**	**237**	P		**Pn**	**17 24 36.9**	**-1.3**
	baz=239							
SNJT				S		**Sn**	**17 24 44.0**	**+0.2**
	baz=239							
MASBT	**Mashibuluo**	**0.29**	**169**	⇑*i*P		**Pg**	**17 24 35.6**	**0.0**
	baz=166							
MASBT				*i* S		**Sb**	**17 24 40.2**	**-0.1**
	baz=166							
CHN1	**Nanshi**	**0.29**	**352**	⇑*i*P		**Pb**	**17 24 36.1**	**+0.2**
	baz=351							
CHN1				*i* S		**Sb**	**17 24 41.6**	**+1.2**
	baz=351							
STYT	**Tauyuan**	**0.31**	**32**	⇓*i*P		**Pg**	**17 24 36.0**	**-0.1**
	baz=35							
STYT				*i* S		**Sb**	**17 24 41.4**	**+0.2**
	baz=35							
SNST	**Tainan City**	**0.33**	**348**	P		**Pb**	**17 24 36.9**	**+0.2**
	baz=354							
SNST				S		**Sb**	**17 24 42.5**	**+0.9**
	baz=354							
STYH	**Taoyuan**	**0.33**	**34**	⇓*i*P		**Pg**	**17 24 36.6**	**+0.2**
	baz=39							
STYH				S		**Sb**	**17 24 42.0**	**+0.4**
	baz=39							
TAI1	**Yung-k'ang**	**0.35**	**294**	*e*P		**Pb**	**17 24 37.9**	**+1.0**
	baz=293							
TAI1				*e*S		**Sn**	**17 24 44.3**	**-1.6**
	baz=293							
WTP	**Ta-pu**	**0.35**	**6**	⇑*i*P		**Pg**	**17 24 36.9**	**+0.2**
	baz=3.0							
WTP				*i* S		**Sb**	**17 24 42.7**	**+0.4**
	baz=3.0							
SSHA	**Shanhua**	**0.35**	**312**	*e*P		**Pb**	**17 24 38.1**	**+1.0**
	baz=310							
SSHA				*e*S		**Sn**	**17 24 45.8**	**-0.3**
	baz=310							
TWK	**Hsinying**	**0.38**	**348**	P		**Pb**	**17 24 37.5**	**0.0**
	baz=346							
TWK				*e*S		**Sb**	**17 24 43.9**	**+0.8**
	baz=346							
WSSB	**Gushan**	**0.38**	**229**	*e*P		**Pn**	**17 24 39.0**	**-0.9**
	baz=230							
WSSB				*e*S		**Sn**	**17 24 47.3**	**+0.5**
	baz=230							
TPUB	**Ta-pu**	**0.41**	**7**	P		**Pg**	**17 24 37.6**	**-0.1**
TPUB	**Ta-pu**	**0.41**	**7**	⇑*i*P		**Pg**	**17 24 37.6**	**-0.1**
	baz=4.0							
TPUB				S		**Sb**	**17 24 44.0**	**+0.1**
	baz=4.0							
KAU	**Kaohsiung**	**0.41**	**217**	*e*P		**Pn**	**17 24 39.2**	**-1.0**
	baz=230							
KAU				*e*S		**Sn**	**17 24 46.2**	**-1.2**
	baz=230							
SCLT	**Jiali**	**0.45**	**308**	P		**Pb**	**17 24 39.3**	**+0.7**
	baz=307							
SCLT				*e*S		**Sn**	**17 24 47.1**	**-1.2**
	baz=307							
CHN4	**Tsaushan**	**0.45**	**2**	⇑*i*P		**Pg**	**17 24 38.5**	**0.0**
	baz=359							
CHN4				*e*S		**Sb**	**17 24 46.1**	**+0.9**
	baz=359							
ECL	**Taimali**	**0.46**	**130**	⇓*i*P		**Pg**	**17 24 38.5**	**-0.1**
	baz=138							
ECL				S		**Sg**	**17 24 44.6**	**-0.3**
	baz=138							
TWG	**Pinlang**	**0.47**	**99**	⇓*i*P		**Pg**	**17 24 38.8**	**0.0**
	baz=104							
TWG				S		**Sb**	**17 24 45.6**	**0.0**
	baz=104							
TWGBT	**Beinan**	**0.47**	**99**	P		**Pg**	**17 24 38.7**	**-0.1**
TWGBT	**Beinan**	**0.47**	**99**	⇓*i*P		**Pg**	**17 24 38.8**	**-0.1**
	baz=104							
TWGBT				S		**Sg**	**17 24 45.6**	**+0.3**
	baz=104							
ELDTW	**Lidau**	**0.50**	**54**	⇑*i*P		**Pg**	**17 24 39.4**	**0.0**
	baz=45							
ELDTW				S		**Sb**	**17 24 47.0**	**+0.3**
	baz=45							
TSCK	**Chigu Township**	**0.51**	**299**	*e*P		**Pb**	**17 24 39.9**	**+0.2**
	baz=298							
TSCK				*e*S		**Sn**	**17 24 49.3**	**-0.7**
	baz=298							
SCZT	**Fangliau**	**0.52**	**175**	⇑*i*P		**Pg**	**17 24 39.8**	**0.0**
	baz=171							
ICHU	**Yijhu**	**0.54**	**330**	P		**Pg**	**17 24 40.5**	**+0.5**
	baz=328							
ICHU				S		**Sn**	**17 24 49.6**	**-1.0**
	baz=328							
WCKO	**Fanlu**	**0.54**	**3**	P		**Pb**	**17 24 39.6**	**-0.6**
	baz=1.0							
WCKO				S		**Sb**	**17 24 48.2**	**+0.6**
	baz=1.0							
TTN	**Taitung**	**0.55**	**105**	P		**Pg**	**17 24 40.7**	**+0.5**
	baz=106							
TTN				*e*S		**Sn**	**17 24 49.9**	**-0.9**
	baz=106							
CHN8	**Yiju**	**0.56**	**323**	P		**Pg**	**17 24 41.1**	**+0.7**
	baz=322							
CHN8				S		**Sn**	**17 24 50.7**	**-0.4**
	baz=322							
EAST	**Anshuo**	**0.57**	**154**	⇑*i*P		**Pb**	**17 24 40.7**	**0.0**
	baz=153							
EAST				S		**Sg**	**17 24 49.6**	**+1.3**
	baz=153							
CHY	**Chiayi**	**0.61**	**347**	P		**Pg**	**17 24 41.9**	**+0.5**
	baz=346							
CHY				S		**Sn**	**17 24 51.3**	**-1.2**
	baz=346							
TAW	**Tawu**	**0.61**	**151**	P		**Pg**	**17 24 41.6**	**+0.1**
	baz=

	baz=61									
EYUL	**Yuli**	**0.82**	**57**	P		**Pb**	**17 24 45.0**	**0.0**		
	baz=64									
EYUL				S		**Sb**	**17 24 55.7**	**0.0**		
	baz=64									
YULB	**Yu-li**	**0.83**	**53**	P		**Pb**	**17 24 44.8**	**-0.3**		
YULB	**Yu-li**	**0.83**	**53**	⇑*iP*		**Pb**	**17 24 44.8**	**-0.3**		
	baz=60									
YULB				S		**Sb**	**17 24 55.5**	**-0.4**		
	baz=60									
WHYT	**Xinyi Township**	**0.84**	**18**	P		**Pb**	**17 24 45.2**	**-0.1**		
	baz=16									
WHYT				*e*S		**Sn**	**17 24 57.9**	**-0.1**		
	baz=16									
LDUT	**Ludao**	**0.86**	**105**	*e*P		**Pb**	**17 24 45.2**	**-0.4**		
	baz=95									
LDUT				*e*S		**Sg**	**17 24 58.0**	**+0.7**		
	baz=95									
HEN	**Hengchun**	**0.90**	**170**	P		**Pn**	**17 24 47.4**	**+0.4**		
	baz=161									
HEN				S		**Sn**	**17 25 01.4**	**+1.9**		
	baz=161									
SMST	**Manzhou Townsh**	**0.91**	**164**	*e*P		**Pn**	**17 24 47.2**	**+0.2**		
	baz=156									
SMST				*e*S		**Sn**	**17 25 01.1**	**+1.4**		
	baz=156									
ECBN	**Changbin**	**0.91**	**63**	*e*P		**Pn**	**17 24 47.8**	**+0.6**		
	baz=62									
ECBN				*e*S		**Sn**	**17 25 01.1**	**+1.4**		
	baz=62									
WDGT	**Dungji**	**0.92**	**293**	⇓*iP*		**Pb**	**17 24 45.9**	**-0.7**		
	baz=293									
WDGT				S		**Sb**	**17 24 58.4**	**-0.1**		
	baz=293									
EHY	**Hungye**	**0.92**	**48**	⇑*iP*		**Pb**	**17 24 46.4**	**-0.2**		
	baz=55									
EHY				S		**Sg**	**17 24 59.3**	**0.0**		
	baz=55									
WJS	**Zhushan**	**0.93**	**9**	*e*P		**Pb**	**17 24 47.2**	**+0.3**		
	baz=354									
WJS				S		**Sn**	**17 25 01.0**	**+0.7**		
	baz=354									
SSLB	**Suanglung**	**0.95**	**21**	P		**Pb**	**17 24 47.0**	**-0.3**		
SSLB	**Suanglung**	**0.95**	**21**	P		**Pb**	**17 24 46.9**	**-0.3**		
	baz=20									
SSLB				S		**Sb**	**17 24 59.4**	**-0.2**		
	baz=20									
TWK1	**Hengchun**	**0.97**	**167**	P		**Pn**	**17 24 48.1**	**+0.1**		
	baz=169									
TWK1				*e*S		**Sn**	**17 25 03.3**	**+2.0**		
	baz=169									
TWKBT	**Hengchun**	**0.98**	**167**	P		**Pg**	**17 24 48.2**	**0.0**		
	baz=169									
TWKBT				*e*S		**Sn**	**17 25 04.0**	**+2.6**		
	baz=169									
HGSD	**Ruisui**	**0.98**	**53**	⇑*iP*		**Pn**	**17 24 48.2**	**+0.1**		
	baz=47									
HGSD				S		**Sn**	**17 25 03.4**	**+1.9**		
	baz=47									
WNT	**Mingjian**	**0.98**	**6**	P		**Pb**	**17 24 47.9**	**+0.1**		
	baz=6.0									
WNT				*e*S		**Sn**	**17 25 02.2**	**+0.6**		
	baz=6.0									
VWDT	**VWDT**	**1.00**	**31**	P		**Pb**	**17 24 47.7**	**-0.3**		
	baz=30									
VWDT				*e*S		**Sg**	**17 25 02.9**	**+1.0**		
	baz=30									
WTCT	**Ta-ch'eng**	**1.00**	**344**	P		**Pb**	**17 24 47.6**	**-0.4**		
	baz=344									
WTCT				S		**Sg**	**17 25 01.8**	**-0.1**		
	baz=344									
WRL	**Guolierlin Hig**	**1.02**	**350**	*e*P		**Pb**	**17 24 48.0**	**-0.3**		
	baz=336									
WRL				S		**Sb**	**17 25 01.6**	**+0.3**		
	baz=336									
SMLT	**Sun Moon Lake**	**1.03**	**17**	P		**Pb**	**17 24 48.7**	**+0.2**		
	baz=16									
SMLT				S		**Sg**	**17 25 03.5**	**+0.7**		
	baz=16									
TYC	**Yuchr**	**1.04**	**14**	P		**Pb**	**17 24 48.6**	**-0.1**		
	baz=14									
TYC				S		**Sg**	**17 25 03.8**	**+0.8**		
	baz=14									
TSEB	**Hengchuen, Pin**	**1.04**	**163**	P		**Pg**	**17 24 50.2**	**+0.8**		
	baz=166									
TSEB				S		**Sg**	**17 25 04.2**	**+1.2**		
	baz=166									
EGFH	**Guangfu**	**1.10**	**45**	*e*P		**Pn**	**17 24 49.6**	**-0.1**		
	baz=55									
EGFH				*e*S		**Sn**	**17 25 04.5**	**+0.1**		
	baz=55									
VCHM	**Qimei**	**1.10**	**287**	P		**Pb**	**17 24 48.4**	**-1.3**		
	baz=286									
VCHM				S		**Sb**	**17 25 02.8**	**-0.9**		
	baz=286									
PHUB	**P'eng-hu**	**1.11**	**304**	P		**Pn**	**17 24 48.3**	**-1.6**		
	baz=315									
PHUB				S		**Sb**	**17 25 03.0**	**-0.9**		
	baz=315									
WARBT	**Fenglin Townsh**	**1.11**	**42**	P		**Pn**	**17 24 49.5**	**-0.4**		
	baz=32									
WARBT				S		**Sb**	**17 25 03.8**	**-0.2**		
	baz=32									
PNG	**Penghu**	**1.15**	**306**	P		**Pn**	**17 24 49.1**	**-1.4**		
	baz=305									
PNG				*e*S		**Sb**	**17 25 04.2**	**-1.0**		
	baz=305									
WCHH	**Zhanghua**	**1.18**	**359**	*e*P		**Pg**	**17 24 52.6**	**+0.5**		
	baz=359									
WCHH				*e*S		**Sg**	**17 25 08.6**	**+1.1**		
	baz=359									
OWD	**Renai**	**1.19**	**28**	P		**Pn**	**17 24 51.3**	**+0.2**		
	baz=14									
WCS	**Beigang Elemen**	**1.20**	**15**	*e*P		**Pn**	**17 24 51.1**	**0.0**		
	baz=14									
WCS				*e*S		**Sg**	**17 25 08.1**	**0.0**		
	baz=14									
WUSB	**Renai**	**1.20**	**25**	P		**Pn**	**17 24 51.3**	**0.0**		
	baz=13									
WUSB				*e*S		**Sb**	**17 25 06.3**	**-0.4**		
	baz=13									
ESL	**Shilin**	**1.21**	**41**	⇑*iP*		**Pn**	**17 24 51.3**	**+0.1**		
	baz=33									
ESL				S		**Sg**	**17 25 08.3**	**-0.2**		
	baz=33									
LAY	**Lan-yu**	**1.24**	**133**	*e*P		**Pn**	**17 24 51.1**	**-0.6**		
	baz=121									
TCU	**Taichung**	**1.25**	**4**	*e*P		**Pb**	**17 24 52.2**	**-0.1**		
	baz=4.0									
TCU				*e*S		**Sn**	**17 25 09.0**	**+0.9**		
	baz=4.0									
SHUL	**Shoufeng**	**1.27**	**46**	P		**Pg**	**17 24 53.5**	**-0.4**		
	baz=45									
SHUL				*e*S		**Sg**	**17 25 11.7**	**+1.2**		
	baz=45									
CHGB	**Renai**	**1.28**	**25**	P		**Pn**	**17 24 52.7**	**+0.2**		
	baz=12									
CHGB				S		**Sg**	**17 25 10.4**	**-0.5**		
	baz=12									
LYUB	**Lan-yu**	**1.29**	**133**	*e*P		**Pn**	**17 24 50.4**	**-1.9**		
	baz=134									
LYUB				*e*S		**Sn**	**17 25 07.6**	**-1.6**		
	baz=134									
ETM	**Tongmen**	**1.36**	**38**	P		**Pb**	**17 24 54.1**	**-0.1**		
	baz=38									
ETM				*e*S		**Sb**	**17 25 12.4**	**+1.2**		
	baz=38									
LXIB	**Xiulin Townshi**	**1.36**	**34**	⇓*iP*		**Pb**	**17 24 54.0**	**-0.3**		
	baz=34									
LXIB				S		**Sg**	**17 25 12.7**	**-0.7**		
	baz=34									
WHF	**Hehuan Shan**	**1.40**	**27**	*e*P		**Pn**	**17 24 54.6**	**+0.4**		
	baz=17									
WHF				*e*S		**Sn**	**17 25 12.4**	**0.0**		
	baz=17									
WHP	**Taichung City**	**1.42**	**14**	*e*P		**Pn**	**17 24 54.7**	**+0.5**		
	baz=14									
WHP				*e*S		**Sb**	**17 25 14.2**	**+1.2**		
	baz=14									
HWA	**Hwalien**	**1.43**	**41**	*e*P		**Pg**	**17 24 56.5**	**-0.4**		
	baz=33									
HWA				*e*S		**Sg**	**17 25 15.9**	**+0.3**		
	baz=33									
WDJ	**Dajia District**	**1.45**	**2**	*e*P		**Pn**	**17 24 55.1**	**+0.6**		
	baz=2.0									
WDJ				*e*S		**Sb**	**17 25 14.8**	**+1.1**		
	baz=2.0									
TDCB	**Techi**	**1.45**	**22**	*e*P		**Pn**	**17 24 55.2**	**+0.4**		
	baz=21									
TDCB				*e*S		**Sg**	**17 25 15.5**	**-0.8**		
	baz=21									
TWQ1	**Liyutan**	**1.46**	**7**	*e*P		**Pb**	**17 24 55.9**	**0.0**		
	baz=7.0									
TWQ1				*e*S		**Sb**	**17 25 15.2**	**+1.2**		
	baz=7.0									
TWT	**Tachien**	**1.46**	**22**	P		**Pn**	**17 24 55.2**	**+0.4**		
	baz=11									
FUSS	**Fushou**	**1.48**	**24**	P		**Pn**	**17 24 55.6**	**+0.4**		
	baz=13									
TWD	**Chiawan**	**1.51**	**38**	P		**Pb**	**17 24 56.4**	**-0.3**		
	baz=39									
TWD				*e*S		**Sb**	**17 25 15.5**	**0.0**		
	baz=39									
NSY	**Sanyi**	**1.52**	**6**	*e*P		**Pb**	**17 24 56.7**	**-0.3**		
	baz=7.0									
NSY				*e*S		**Sb**	**17 25 16.7**	**+0.8**		
	baz=7.0									
ETLH	**Xiulin Townshi**	**1.55**	**32**	*e*P		**Pb**	**17 24 57.7**	**+0.3**		
	baz=32									
ETLH				*e*S		**Sg**	**17 25 18.8**	**-0.6**		
	baz=32									
NACB	**Ninganchiao**	**1.58**	**36**	P		**Pb**	**17 24 57.3**	**-0.7**		
NACB	**Ninganchiao**	**1.58**	**36**	*e*P		**Pb**	**17 24 57.2**	**-0.7**		
	baz=36									
NACB				*e*S		**Sb**	**17 25 18.5**	**+0.9**		
	baz=36									
NNSB	**Datong**	**1.69**	**26**	*e*P		**Pn**	**17 24 58.9**	**+0.9**		
	baz=14									
NNS	**Nan Shan**	**1.70**	**25**	P		**Pb**	**17 24 59.6**	**-0.5**		
	baz=13									
NSTT	**Nanjuang**	**1.77**	**13**	*e*P		**Pn**	**17 24 59.1**	**+0.1**		
	baz=357									
LIOB	**Emei**	**1.79**	**13**	*e*P		**Pn**	**17 24 59.7**	**+0.5**		
	baz=358									
NFF	**Wufeng Townshi**	**1.80**	**16**	*e*P		**Pn**	**17 25 00.1**	**+0.7**		
	baz=1.0									
LATG	**Datong**	**1.85**	**28**	P		**Pb**	**17 25 01.6**	**-1.0**		
	baz=28									
ENA	**Nanau**	**1.86**	**35**	*e*P		**Pn**	**17 25 00.9**	**+0.7**		
	baz=35									
EWUT	**Wuta**	**1.90**	**35**	*e*P		**Pn**	**17 25 01.9**	**+1.2**		
	baz=36									
NDT	**Datong Townshi**	**1.90**	**27**	*e*P		**Pb**	**17 25 02.6**	**-0.9**		
	baz=10.0									
NSK	**Sanguang**	**1.91**	**22**	*e*P		**Pn**	**17 25 02.0**	**+1.1**		
	baz=23									
YHNB	**Yeheng**	**1.91**	**22**	P		**Pn**	**17 25 02.1**	**+1.1**		
YHNB	**Yeheng**	**1.91**	**22**	*e*P		**Pn**	**17 25 01.7**	**+0.7**		
	baz=23									
ENTT	**Nioudou**	**1.96**	**27**	*e*P		**Pb**	**17 25 03.1**	**-1.3**		
	baz=13									
NWLT	**Wulai**	**2.06**	**24**	*e*P		**Pb**	**17 25 05.5**	**-0.6**		
	baz=24									
TWC	**Suao**	**2.07**	**34**	*e*P		**Pn**	**17 25 04.4**	**+1.3**		
	baz=35									
FUSB	**Fushanzhiwuyua**	**2.07**	**26**	*e*P		**Pn**	**17 25 04.5**	**+1.3**		
	baz=9.0									
TWE	**Neicheng**	**2.07**	**29**	*e*P		**Pn**	**17 25 04.3**	**+1.2**		
	baz=47									
EOS2	**EOS2**	**2.15**	**45**	*e*P		**Pb**	**17 25 06.3**	**-1.2**		
	baz=58									
NHDH	**Xindian Distri**	**2.23**	**23**	*e*P		**Pb**	**17 25 09.6**	**+0.5**		
	baz=7.0									
TWA	**Mucha**	**2.27**	**24**	*e*P		**Pb**	**17 25 09.8**	**+0.1**		
	baz=25									
EGS		**2.30**	**32**	*e*P		**Pb**	**17 25 10.1**	**-0.2**		
	baz=33									
VWUC	**VWUC**	**2.33**	**334**	*e*P		**Pn**	**17 25 06.4**	**-0.2**		
	baz=334									
TIPB	**Shuangxi**	**2.36**	**29**	*e*P		**Pb**	**17 25 09.9**	**-1.4**		
	baz=11									
SXI1	**Grass Mountain**	**2.49**	**28**	*e*P		**Pb**	**17 25 12.8**	**-0.7**		
	baz=12									
KNMB	**Chin-men Tao**	**2.54**	**308**	*e*P		**Pn**	**17 25 10.5**	**+1.0**		
	baz=309									
JYNG	**Yonagunijimaku**	**2.67**	**54**	P		**Pn**	**17 25 13.0**	**+1.7**		
JYNG				S		**Sn**	**17 25 45.0**	**+1.8**		
YOJ	**Yonaguni jima**	**2.72**	**55**	P		**Pn**	**17 25 13.9**	**+1.8**		
YOJ	**Yonaguni jima**	**2.72**	**55**	P		**Pn**	**17 25 13.7**	**+1.6**		
YOJ				*e*S		**Sn**	**17 25 46.5**	**+1.9**		
YOJ	**Yonaguni jima**	**2.72**	**55**	*e*P		**Pn**	**17 25 13.6**	**+1.5**		
	baz=55									
YOJ				*e*S		**Sn**	**17 25 45.9**	**+1.3**		
	baz=55									
ZPLA	**Ao Xicun**	**2.79**	**292**	*e*P		**Pn**	**17 25 12.4**	**-0.6**		
	baz=294									
AXDP	**Jialang**	**3.11**	**310**	*e*P		**Pn**	**17 25 16.7**	**-0.7**		
	baz=311									
HATJ	**Hateruma jima**	**3.18**	**68**	*e*P		**Pn**	**17 25 19.5**	**+1.1**		
HATJ				*e*S		**Sn**	**17 25 57.1**	**+1.2**		
MATB	**Ma-tsu**	**3.29**	**350**	*e*P		**Pn**	**17 25 19.1**	**-0.7**		
	baz=338									
JKRS	**Kuro-shima**	**3.42**	**66**	*e*P		**Pn**	**17 25 23.7**	**+2.0**		
JKRS				S		**Sn**	**17 26 03.3**	**+1.5**		
JIJ	**Ishigaki jima**	**3.58**	**65**	P		**Pn**	**17 25 24.0**	**0.0**		
JIJ				*e*S		**Sn**	**17 26 05.7**	**-0.1**		
JISG	**Ishigakijimahi**	**3.81**	**63**	P		**Pn**	**17 25 27.7**	**+0.6**		
JISG				S		**Sn**	**17 26 11.8**	**+0.3**		
JTJ	**Tarama**	**4.16**	**65**	*e*P		**Pn**	**17 25 32.1**	**+0.2**		
JTJ				*e*S		**Sn**	**17 26 22.4**	**+2.3**		
JIRB	**Irabujima**	**4.63**	**65**	*e*P		**Pn**	**17 25 39.6**	**+1.3**		
JMJ2	**Miyako jima3**	**4.72**	**66**	*e*P		**Pn**	**17 25 41.1**	**+1.5**		
MJAR	**Matsushiro Arr**	**20.43**	**44**	LR		LR	17 38 25.5			
	comp=Z,16nm,19.5s,baz=198,slow=41									
SONM	**Songino Array**	**27.35**	**339**	P		**P**	**17 30 13.3**	**0.0**		
	0.2nm,0.5s,baz=95,slow=10,SNR=1.0									
	0.2nm,0.5s									
MKAR	**Makanchi Array**	**38.88**	**317**	P		**P**	**17 31 54.3**	**+0.6**		
	0.3nm,0.7s,baz=103,slow=6.2,SNR=1.9									
	0.3nm,0.7s									
PETK	**Petropavlovsk-**	**41.24**	**34**	Pn		**P**	**17 32 13.7**	**+0.6**		
PETK	**Petropavlovsk-**	**41.24**	**34**	P		**P**	**17 32 13.9**	**+0.8**		
	1.7nm,0.9s,baz=243,slow=6.3,SNR=6.2									
	1.7nm,0.9s									
WRA	**Warramunga Arr**	**44.65**	**161**	P		**P**	**17 32 39.0**	**-2.0**		
	1.1nm,0.7s,baz=344,slow=8.7,SNR=11									
	1.1nm,0.7s									
ASAR	**Alice Springs**	**48.06**	**163**	P		**P**	**17 33 06.8**	**-1.1**		
	0.4nm,0.5s,baz=338,slow=6.8,SNR=25									
	0.4nm,0.5s									
YKA	**Yellowknife Ar**	**84.37**	**23**	P		**P**	**17 36 58.3**	**-1.8**		
	0.1nm,0.7s,baz=308,slow=4.7,SNR=2.1									
	0.1nm,0.7s									

*AEIC **23** 17:29:17.3±0.4,51°.87N±0°.09×178°.4E±0°.1,h121km±4km, Error ellipse: s-maj=12.6km s-min=10.3km az=191.0*

NEIC 23 17:29:16.4±0.6,51°.82N±0°.09×178°.4E±0°.1,h124km±4km, ML2.7(AEIC),Error ellipse: s-maj=12.7km s-min=9.1km az=186.0,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.15**	**31**		Pn	17 29 32.9	-0.5
LSSE	**Little Sitkin**	**0.16**	**45**		Pn	17 29 33.0	-0.3
LSSE					Sn	17 29 45.8	-0.4
LSNW	**Little Sitkin**	**0.17**	**28**		Pn	17 29 33.2	-0.1
LSPA	**Little Sitkin**	**0.18**	**40**		Pn	17 29 33.3	-0.1
LSPA					Sn	17 29 46.7	+0.5
AMKA	**Amchitka**	**0.72**	**127**		Pn	17 29 36.5	+0.3
AMKA					Sn	17 29 51.1	0.0
CESW	**Semis' Southwe**	**0.73**	**83**		Pn	17 29 36.0	-0.3
CESW					Sn	17 29 50.4	-1.0
CERB	**Semis' Cerberu**	**0.78**	**81**		Sn	17 29 53.0	+1.0
CEPE	**Semis' Perret**	**0.80**	**79**		Pn	17 29 36.7	-0.1
GANO	**Gareloi North**	**1.74**	**89**		Pn	17 29 46.9	+0.1
GANE	**Gareloi Northe**	**1.76**	**89**		Pn	17 29 47.1	+0.1
TASE	**Tanaga Southea**	**2.22**	**88**		Pn	17 29 52.6	-0.1
TAPA	**Tanaga Point A**	**2.36**	**89**		Pn	17 29 54.5	+0.1
KIWB	**Kanaga Island**	**2.77**	**88**	Pn	Pn	17 29 59.8	+0.1

*IDC **23** 17:55:56.6±1.5,25°.14S×179°.69E,h515km±17km,mb3.2/7, mbtmp4.1/8,Error ellipse: s-maj=26.9km s-min=15.8km az=10.0*

*NEIC **23** 17:55:56.7±1.3,25°.3S±0°.2×179°.7E±0°.2,h516km±10km, mb4.2/15,Error ellipse: s-maj=28.0km s-min=18.2km az=224.0*

ISC 23 17:55:55.8±0.7,25°.2S±0°.1×179°.7E±0°.1,h507km,n36, σ1§01/36,mb3.8/13,South of Fiji Islands

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

RAO	**Raoul Island**	**4.57**	**153**	P		**P**	**17 57 20.6**	**+1.3**		
RAO				S		**S**	**17 58 25.0**	**-2.6**		
RAO	**Raoul Island**	**4.57**	**153**	P		**P**	**17 57 21.0**	**+1.7**		
	177nm,0.2s,baz=287,slow=20,SNR=8.5									
RAO				S		**S**	**17 58 29.9**	**+2.3**		
	78nm,0.3s,baz=52,slow=23,SNR=1.9									
MARNC	**Mare, Loyalty**	**11.31**	**287**	P		**P**	**17 58 27.6**	**+0.4**		
PINNC	**Pines Island,**	**11.48**	**280**	P		**P**	**17 58 30.2**	**+1.3**		
OUENC	**Ouen Island, N**	**12.07**	**281**	P		**P**	**17 58 35.3**	**+0.1**		
DZM	**Mont Dzumac**	**12.52**	**282**	P		**P**	**17 58 40.9**	**+0.9**		
DZM	**Mont Dzumac**	**12.52**	**282**	P		**P**	**17 58 41.6**	**+1.6**		
	4.4nm,0.7s,baz=90,slow=18,SNR=3.5									
BHW	**Baring Head**	**16.65**	**193**	P		**P**	**17 59 21.6**	**-1.2**		
QRZ	**Quartz Range**	**16.69**	**199**	P		**P**	**17 59 23.0**	**-0.2**		
CMWZ	**Cape Campbell**	**17.12**	**194**	P		**P**	**17 59 28.4**	**+0.9**		
LTZ	**Lake Taylor**	**18.57**	**197**	P		**P**	**17 59 40.1**	**-0.8**		
LTZ				IAmb		IAmb	17 59 47.2			
	comp=Z,20nm,1.2s									
EIDS	**Eidsvold**	**25.83**	**263**	P		**P**	**18 00 46.4**	**0.0**		
EIDS				IAmb		IAmb	18 00 47.8			
	comp=Z,3.7nm,0.7s									
CTA	**Charters Tower**	**31.21**	**273**	P		**P**	**18 01 34.2**	**+0.8**		
	comp=Z,6.2nm,0.4s,baz=94,slow=11,SNR=32									
	comp=Z,6.2nm,0.4s									
CTAO	**Charters Tower**	**31.21**	**273**	P		**P**	**18 01 34.2**	**+0.8**		
CTAO				IAmb		IAmb	18 01 34.8			
	comp=Z,7.1nm,0.6s									
STKA	**Stephens Creek**	**33.98**	**250**	P		**P**	**18 01 56.5**	**-0.2**		
PMG	**Port Moresby**	**34.66**	**291**	P		**P**	**18 02 02.6**	**0.0**		
PMG				IAmb		IAmb	18 02 21.7			
	comp=Z,14nm,1.0s									
AS31	**Alice Springs**	**41.54**	**262**	P		**P**	**18 02 58.1**	**-0.7**		
ASAR	**Alice Springs**	**41.55**	**262**	P		**P**	**18 02 58.4**	**-0.5**		
ASAR	**Alice Springs**	**41.55**	**262**	P		**P**	**18 02 59.2**	**+0.4**		
	comp=Z,0.7nm,0.4s,baz=90,slow=7.6,SNR=38									
	comp=Z,0.7nm,0.4s									
WR0	**Warramunga Arr**	**41.85**	**268**	P		**P**	**18 03 00.7**	**-0.5**		
WR0				IAmb		IAmb	18 03 03.8			
	comp=Z,6.0nm,1.1s									
WB0	**Warramunga Arr**	**42.04**	**268**	P		**P**	**18 03 02.4**	**-0.4**		
WB0				IAmb		IAmb	18 03 03.5			
	comp=Z,3.6nm,0.7s									
WRA	**Warramunga Arr**	**42.04**	**268**	P		**P**	**18 03 02.4**	**-0.3**		
	comp=Z,1.9nm,0.6s,baz=98,slow=6.7,SNR=37									
	comp=Z,1.9nm,0.6s									
KNRA	**Kununurra**	**48.40**	**271**	P		**P**	**18 03 51.5**	**0.0**		
FITZ	**Fitzroy Crossi**	**50.44**	**267**	P		**P**	**18 04 05.7**	**-1.0**		
QSPA	**South Pole Qui**	**64.89**	**180**	P		**P**	**18 05 44.2**	**-0.3**		
QSPA				IAmb		IAmb	18 06 17.7			
	comp=Z,3.3nm,1.4s									
QSPA	**South Pole Qui**	**64.89**	**180**	P		**P**	**18 05 45.1**	**+0.6**		
	comp=Z,0.5nm,0.5s,baz=343,slow=0.9,SNR=8.0									
	comp=Z,0.5nm,0.5s									
BELA	**Belgrano 2**	**75.19**	**173**	P		**P**	**18 06 44.8**	**-0.7**		
BELA				IAmb		IAmb	18 07 20.0			
	comp=Z,14nm,1.3s									
PETK	**Petropavlovsk-**	**80.29**	**347**	P		**P**	**18 07 12.1**	**-1.1**		
	comp=Z,2.7nm,0.9s,baz=119,slow=8.9,SNR=1.2									
	comp=Z,2.7nm,0.9s									
SNAA	**Sanae**	**83.38**	**179**	P		**P**	**18 07 28.1**	**-0.9**		
SNAA				IAmb		IAmb	18 07 49.7			
	comp=Z,4.4nm,1.4s									
NVAR	**Mina Array Bea**	**85.89**	**44**	P		**P**	**18 07 42.5**	**+0.6**		
	comp=Z,0.2nm,0.6s,baz=221,slow=8.1,SNR=3.1									
	comp=Z,0.2nm,0.6s									
TXAR	**Lajitas Array**	**91.37**	**58**	P		**P**	**18 08 08.1**	**+0.5**		
	comp=Z,0.6nm,0.8s,baz=223,slow=4.9,SNR=5.1									
	comp=Z,0.6nm,0.8s									
BVAR	**Borovoye Array**	**121.21**	**318**	PKP		**PKPdf**	**18 13 49.7**	**-0.8**		
	comp=Z,0.4nm,0.4s,baz=104,slow=6.1,SNR=3.5									
ARCES	**ARCESS Array B**	**133.09**	**348**	PKP		**PKPdf**	**18 14 12.0**	**-0.7**		
	comp=Z,5.6nm,1.1s,baz=28,slow=4.1,SNR=1.8									
NOA	**NORSAR Array B**	**143.31**	**351**	PKP		PKPab	18 14 29.1	-0.5		
	comp=Z,1.0nm,1.0s,baz=25,slow=5.4,SNR=2.0									
HFS	**Hagfors**	**143.75**	**348**	PKP		PKPbc	18 14 30.7	-0.5		
	comp=Z,2.4nm,0.3s,baz=63,slow=4.0,SNR=18									
MMAI	**Mount Meron Ar**	**147.94**	**292**	PKPbc		**PKPbc**	**18 14 44.4**	**+0.3**		
	comp=Z,0.8nm,0.4s,baz=129,slow=3.9,SNR=1.9									

*NNC **23** 18:13:03.6±0.3,42°.84N×78°.02E,h0km,mb3.1,mpv3.3, Error ellipse: s-maj=3.2km s-min=1.1km az=172.0*

*SOME **23** 18:13:04.2,42°.80N×78°.00E,h20km*

*KRNET **23** 18:13:05.0±0.1,42°.78N×77°.92E,h20km,mb2.7*

*KNET **23** 18:13:06.7±0.2,42°.75N×77°.80E,h5km±1km,ml2.2,Error ellipse: s-maj=3.6km s-min=1.8km az=163.0*

ISC 23 18:13:03.7±0.9,42°.80N±0°.02×77°.98E±0°.01,h11km±7km, n77,σ1§28/148,32C-21D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo**	**0.23**	**266**	⇓*iP*	**Pb**	**18 13 09.5**	**-0.

	84nm,0.3s									
KPKS	**Kokpek**	**0.84**	**37**	P		**Pg**	**18 13 19.1**	**-0.9**
	15nm,0.2s									
KPKS				S		**Sg**	**18 13 30.0**	**-1.0**
	32nm,0.2s									
AAA	**Alma-Ata**	**0.89**	**298**	*e*P		**Pb**	**18 13 21.3**	**+0.1**
	47nm,0.2s									
AAA				*e*S		**Sb**	**18 13 33.5**	**+0.4**
	48nm,0.2s									
AAA	**Alma-Ata**	**0.89**	**298**	P		**Pb**	**18 13 21.3**	**+0.1**
	47nm,0.2s									
AAA				S		**Sb**	**18 13 33.5**	**+0.4**
	48nm,0.2s									
IZV	**Izvestkoviy**	**1.03**	**284**	*e*P		**Pn**	**18 13 23.9**	**-0.5**
	23nm,0.2s									
IZV				*e*S		**Sn**	**18 13 38.0**	**-1.0**
	32nm,0.3s									
IZV	**Izvestkoviy**	**1.03**	**284**	P		**Pn**	**18 13 23.9**	**-0.5**
	23nm,0.2s									
IZV				S		**Sn**	**18 13 38.0**	**-1.0**
	32nm,0.3s									
TARG	**Taragay, Kyrgy**	**1.08**	**187**	⇓*i*P		**Pn**	**18 13 24.6**	**-0.6**
	baz=85									
TARG				⇓*i*S		**Sn**	**18 13 39.0**	**-1.3**
	baz=85									
SHLS	**Shalkode**	**1.14**	**71**	*e*P		Pn	18 13 30.3	+4.5
	7.0nm,0.2s									
SHLS				*e*S		**Sn**	**18 13 49.1**	**+7.5**
	22nm,0.3s									
SHLS	**Shalkode**	**1.14**	**71**	P		Pn	18 13 30.3	+4.5
	7.0nm,0.2s									
SHLS				S		**Sn**	**18 13 49.1**	**+7.5**
	22nm,0.3s									
MTBS	**Maitube**	**1.19**	**287**	*e*P		**Pg**	**18 13 26.4**	**-0.2**
	7.1nm,0.2s									
MTBS				*e*S		**Sn**	**18 13 42.4**	**-0.3**
	15nm,0.4s									
MTBS	**Maitube**	**1.19**	**287**	P		**Pg**	**18 13 26.4**	**-0.2**
	7.1nm,0.2s									
MTBS				S		**Sn**	**18 13 42.4**	**-0.3**
	15nm,0.4s									
PDGK	**Podgornoye**	**1.23**	**64**	⇑P		**Pn**	**18 13 25.5**	**-1.4**
	1.0nm,0.2s									
PDGK				⇓S		**Sb**	**18 13 40.9**	**-2.0**
	9.8nm,0.6s									
CHKK	**Chushkaly**	**1.28**	**326**	*e*P		**Pb**	**18 13 27.7**	**-0.2**
	11nm,0.1s									
CHKK				*e*S		**Sn**	**18 13 44.6**	**-0.3**
	129nm,0.3s									
CHKK	**Chushkaly**	**1.28**	**326**	P		**Pb**	**18 13 27.7**	**-0.2**
	11nm,0.1s									
CHKK				S		**Sn**	**18 13 44.6**	**-0.3**
	129nm,0.3s									
KTBS	**Karatobe**	**1.32**	**314**	*e*P		**Pg**	**18 13 28.7**	**-0.4**
	12nm,0.1s									
KTBS				*e*S		**Sg**	**18 13 46.3**	**0.0**
	33nm,0.2s									
KTBS	**Karatobe**	**1.32**	**314**	P		**Pb**	**18 13 28.5**	**-0.1**
	6.4nm,0.1s									
KTBS				P		**Pg**	**18 13 28.7**	**-0.4**
	12nm,0.1s									
KTBS				S		**Sg**	**18 13 46.2**	**0.0**
	22nm,0.3s									
KTBS				S		**Sg**	**18 13 46.3**	**0.0**
	33nm,0.2s									
BLB	**Baldybastay**	**1.35**	**15**	P		**Pb**	**18 13 28.8**	**-0.3**
	23nm,0.1s									
BLB				S		**Sb**	**18 13 46.5**	**0.0**
	33nm,0.3s									
ULHL	**Ulahol**	**1.40**	**247**	⇓P		**Pg**	**18 13 30.9**	**+0.2**
	5.6nm,0.1s,SNR=51									
ULHL				⇑S		**Sg**	**18 13 49.9**	**+1.0**
	27nm,0.1s									
ULHL	**Ulahol**	**1.40**	**247**	⇑*i*P		**Pg**	**18 13 30.1**	**-0.5**
	baz=47									
ULHL				⇑*i*S		**Sn**	**18 13 47.8**	**-0.3**
	baz=47									
ARXS	**Arharly**	**1.42**	**355**	*e*P		**Pn**	**18 13 29.7**	**+0.1**
	9.2nm,0.2s									
ARXS				*e*S		**Sn**	**18 13 48.2**	**-0.2**
	97nm,0.3s									
ARXS	**Arharly**	**1.42**	**355**	P		**Pn**	**18 13 29.7**	**+0.1**
	9.2nm,0.2s									
ARXS				S		**Sn**	**18 13 48.2**	**-0.2**
	97nm,0.3s									
KST	**Kastek**	**1.50**	**280**	*e*P		**Pg**	**18 13 32.2**	**-0.4**
	7.6nm,0.2s									
KST				*e*S		**Sg**	**18 13 52.2**	**+0.1**
	16nm,0.4s									
KST	**Kastek**	**1.50**	**280**	P		**Pg**	**18 13 32.2**	**-0.4**
	7.6nm,0.2s									
KST				S		**Sg**	**18 13 52.2**	**+0.1**
	16nm,0.4s									
KUU	**Kurty**	**1.62**	**313**	*e*P		**Pb**	**18 13 34.0**	**+0.2**
	14nm,0.3s									
KUU				*e*S		**Sg**	**18 13 55.4**	**-0.5**
	81nm,0.3s									
KUU	**Kurty**	**1.62**	**313**	P		**Pb**	**18 13 34.0**	**+0.2**
	14nm,0.3s									
KUU				S		**Sg**	**18 13 55.4**	**-0.5**
	81nm,0.3s									
DGS	**Degeres**	**1.68**	**286**	*e*P		**Pg**	**18 13 35.7**	**-0.3**
	11nm,0.3s									
DGS				*e*S		**Sg**	**18 13 58.3**	**+0.5**
	26nm,0.4s									
DGS	**Degeres**	**1.68**	**286**	P		**Pg**	**18 13 35.7**	**-0.3**
	11nm,0.3s									
DGS				S		**Sg**	**18 13 58.3**	**+0.5**
	26nm,0.4s									
TKM2	**Tokmak 2**	**1.76**	**275**	⇓P		**Pg**	**18 13 37.2**	**-0.2**
	7.0nm,0.2s,SNR=11									
TKM2				⇓S		**Sg**	**18 14 01.6**	**+1.3**
	16nm,0.1s									
TKM2	**Tokmak 2**	**1.76**	**275**	⇑*i*P		**Pb**	**18 13 36.4**	**+0.2**
	baz=75									
TKM2				⇑*i*S		**Sg**	**18 13 59.1**	**-1.2**
	baz=75									
TKM2	**Tokmak 2**	**1.76**	**275**	Pg		**Pg**	**18 13 37.4**	**-0.1**
	2.8nm,0.3s									
TKM2				Lg		Lg	18 14 03.8			
	9.9nm,0.6s									
KNOS	**Konyrlen**	**1.79**	**29**	P		**Pb**	**18 13 36.2**	**-0.4**
	16nm,0.4s									
KNOS				P		**Pb**	**18 13 36.2**	**-0.4**
	18nm,0.2s									
KNOS				S		**Sb**	**18 13 59.4**	**+0.3**
	18nm,0.2s									
KNOS				S		**Sg**	**18 14 00.0**	**-1.2**
	17nm,0.3s									
KTMS	**Ketmen**	**1.85**	**69**	*e*P		**Pb**	**18 13 37.2**	**-0.5**
	3.0nm,0.2s									
KTMS				*e*S		**Sb**	**18 14 00.8**	**-0.1**
	10.0nm,0.4s									
KTMS	**Ketmen**	**1.85**	**69**	P		**Pb**	**18 13 37.2**	**-0.5**
	3.0nm,0.2s									
KTMS				S		**Sb**	**18 14 00.8**	**-0.1**
	10.0nm,0.4s									
KRBS	**Karabastau**	**1.91**	**299**	*e*P		**Pb**	**18 13 39.0**	**+0.3**
	14nm,0.2s									
KRBS				*e*S		**Sb**	**18 14 03.7**	**+1.1**
	16nm,0.3s									
KRBS	**Karabastau**	**1.91**	**299**	Pg		**Pb**	**18 13 38.8**	**+0.1**
KRBS				P		**Pb**	**18 13 39.0**	**+0.3**
	14nm,0.2s									
KRBS				S		**Sb**	**18 14 03.7**	**+1.1**
	16nm,0.3s									
KRBS				Lg		Lg	18 14 04.0			
NRN	**Naryn**	**2.01**	**228**	⇓*i*P		**Pb**	**18 13 40.3**	**-0.2**
	baz=28									
NRN				⇓*i*S		**Sb**	**18 14 05.6**	**-0.1**
	baz=28									
DJR	**Jarkent**	**2.02**	**40**	*e*Pg		**Pb**	**18 13 40.7**	**+0.2**
	11nm,0.2s									
DJR				*e*Lg		Lg	18 14 06.8			
	28nm,0.3s									
DJR	**Jarkent**	**2.02**	**40**	Pg		**Pb**	**18 13 40.7**	**+0.2**
	11nm,0.2s									
DJR				Lg		Lg	18 14 06.8			
	28nm,0.3s									
KZA	**Kyzart**	**2.15**	**251**	⇓P		**Pg**	**18 13 44.2**	**-0.7**
	3.9nm,0.2s,SNR=6.7									
KZA				⇑S		**Sg**	**18 14 12.9**	**+0.1**
	7.8nm,0.2s									
KZA	**Kyzart**	**2.15**	**251**	⇑*i*P		**Pb**	**18 13 42.0**	**-0.9**
	baz=51									
KZA				⇑*i*S		**Sb**	**18 14 08.7**	**-1.0**
	baz=51									
TDK	**Taldyqorghan**	**2.23**	**8**	*e*Pg		**Pb**	**18 13 44.0**	**0.0**
	29nm,0.4s									
TDK				*e*Lg		Lg	18 14 12.5			
	122nm,0.7s									
TDK	**Taldyqorghan**	**2.23**	**8**	Pg		**Pb**	**18 13 44.0**	**0.0**
	29nm,0.4s									
TDK				Lg		Lg	18 14 12.5			
	122nm,0.7s									
KBK	**Karagaybulak**	**2.24**	**267**	⇑P		**Pg**	**18 13 45.8**	**-0.9**
	11nm,0.2s,SNR=32									
KBK				⇑S		**Sg**	**18 14 15.4**	**-0.3**
	35nm,0.3s									
KBK	**Karagaybulak**	**2.24**	**267**	⇑*i*P		**Pb**	**18 13 42.9**	**-1.5**
	baz=68									
KBK				⇑*i*S		**Sb**	**18 14 10.6**	**-1.6**
	baz=68									
CHMS	**Chumysh**	**2.38**	**276**	⇑*i*P		**Pb**	**18 13 44.9**	**-1.8**
	baz=76									
CHMS				⇑*i*S		**Sn**	**18 14 13.7**	**+1.6**
	baz=76									
CHMS	**Chumysh**	**2.38**	**276**	Pg		**Pg**	**18 13 47.7**	**-1.7**
	2.5nm,0.4s									
CHMS				⇑Lg		Lg	18 14 20.6			
	9.8nm,0.6s									
FRU1	**Bishkek**	**2.47**	**271**	⇓*i*P		**Pb**	**18 13 45.9**	**-2.3**
	baz=72									
FRU1				⇓*i*S		**Sb**	**18 14 16.1**	**-2.5**
	baz=72									
SGDS	**Sogindy**	**2.54**	**286**	Pg		**Pg**	**18 13 50.7**	**-1.7**
	2.7nm,0.2s									
SGDS				Lg		Lg	18 14 23.9			
	6.0nm,0.3s									
AAK	**Ala-Archa**	**2.58**	**268**	⇑P		**Pb**	**18 13 50.1**	**+0.1**
	9.5nm,0.3s,SNR=11									
AAK				⇑S		**Sg**	**18 14 24.0**	**-2.6**
	20nm,0.5s									
AAK	**Ala-Archa**	**2.58**	**268**	⇑*i*P		**Pb**	**18 13 47.6**	**-2.5**
	baz=68									
AAK				⇑*i*S		**Sn**	**18 14 18.6**	**+1.6**
	baz=68									
UCH	**Uchtor**	**2.63**	**259**	⇓P		**Pb**	**18 13 50.9**	**-0.2**
	4.3nm,0.3s,SNR=10									
UCH				⇑del			18 14 28.1			
	8.9nm,0.5s									
UCH	**Uchtor**	**2.63**	**259**	⇑*i*P		**Pb**	**18 13 48.7**	**-2.4**
	baz=59									
UCH				⇑*i*S		**Sn**	**18 14 20.2**	**+1.5**
	baz=59									
KAPS	**Kapalarasan**	**2.68**	**21**	*e*Pg		**Pb**	**18 13 51.8**	**0.0**
	8.0nm,0.4s									
KAPS				*e*Lg		Lg	18 14 26.4			
	20nm,0.3s									
KAPS	**Kapalarasan**	**2.68**	**21**	Pg		**Pb**	**18 13 51.8**	**0.0**
	8.0nm,0.4s									
KAPS				Lg		Lg	18 14 26.4			
	20nm,0.3s									
ARLS	**Aral**	**2.87**	**252**	⇓*i*P		**Pn**	**18 13 51.5**	**+1.9**
	baz=52									
ARLS				⇓*i*S		**Sn**	**18 14 25.5**	**+1.2**
	baz=52									
EKS2	**Erkin-Say**	**3.10**	**269**	⇑*i*P		**Pn**	**18 13 54.8**	**+2.0**
	baz=69									
EKS2				⇑*i*S		**Sn**	**18 14 31.1**	**+1.2**
	baz=69									
AML	**Almayashu**	**3.24**	**260**	⇑*i*P		**Pn**	**18 13 57.2**	**+2.2**
	baz=60									
AML				⇑*i*S		**Sn**	**18 14 35.1**	**+1.3**
	baz=60									
AML	**Almayashu**	**3.24**	**260**	⇓Pg		**Pb**	**18 14 02.0**	**+0.5**
	0.1nm,0.5s									
AML				⇓Lg		Lg	18 14 46.9			
	1.3nm,0.8s									
MAKZ	**Makanchi**	**4.91**	**34**	⇓Pn		**Pn**	**18 14 18.4**	**+0.8**
	0.2nm,0.5s									
MAKZ				⇓Lg		Lg	18 15 36.0			
	2.8nm,1.1s									
MK31	**Makanchi Array**	**5.04**	**36**	⇑Pn		**Pn**	**18 14 20.7**	**+1.5**
	0.3nm,0.3s,baz=211,slow=14,SNR=25									
MK31				⇓Lg		Lg	18 15 40.8			
	2.8nm,0.8s,baz=218,slow=29,SNR=3.8									
KK31	**Karatay Array**	**5.49**	**276**	⇑Pg		**Pg**	**18 14 46.5**	**-2.4**
	0.1nm,0.3s,baz=90,slow=16,SNR=6.4									
KK31				⇑Lg		Lg	18 15 57.3			
	0.7nm,0.6s,baz=82,slow=28,SNR=7.5									

*TEH **23** 18:16:16.7,34.˚14N×46.˚57E,h18km±56km,ML2.7*
*ISN **23** 18:16:17.1±1.5,34.˚20N×46.˚54E,h25km,ML2.4*
ISC 23 18:16:17.0±1.2,34.˚16N±0.˚05×46.˚58E±0.˚06,h17km±11km,
n6,σ1°30/8,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGHG	**Ghaleghazi**	**0.17**	**357**	Pg	**Pg**	**18 16 22.0**	**+0.3**
KCHF	**Cheshme Sefid,**	**0.40**	**73**	Pg	**Pg**	**18 16 25.1**	**-0.2**
IDHR	**Dehrash**	**0.56**	**344**	Pg	**Pb**	**18 16 28.0**	**-0.5**
IDHR				Sg	**Sb**	**18 16 37.2**	**+0.8**
ILBA	**Ilam Banvizeh**	**0.61**	**210**	Pg	**Pg**	**18 16 28.6**	**-0.6**
IKOM	**Komasi**	**0.77**	**88**	Pg	**Pg**	**18 16 32.2**	**+0.1**
IBDR	**Badra**	**1.18**	**208**	*e*Pg	**Pn**	**18 16 38.0**	**-0.6**
	baz=25						
IBDR				*e*Sg	**Sb**	**18 16 56.0**	**+2.2**
IBDR				AML	AML	18 17 02.4	
	comp=N,87nm,0.3s						
IBDR				AML	AML	18 17 08.3	
	comp=E,85nm,0.7s						

*IDC **23** 18:32:36.4±1.0,30.˚67N×56.˚95E,h0km,mb3.7/9,*
mbtmp3.8/13,ML3.7/4,MS3.1/6,Error ellipse:
s-maj=23.9km s-min=17.4km az=124.0
*TEH **23** 18:32:38.2,30.˚77N×57.˚23E,h8km±29km,ML4.2*
*DSN **23** 18:33:00.7±1.2,28.˚44N×53.˚52E,h10km,ML3.1/6,Error*
ellipse: s-maj=29.0km s-min=10.7km az=65.0
*OMAN **23** 18:33:04.4±2.0,28.˚68N×54.˚40E,h25km,mb3.1/6,*
ml3.4/10,Error ellipse: s-maj=24.8km s-min=10.4km
az=26.0
ISC 23 18:32:38.9±0.6,30.˚75N±0.˚04×57.˚21E±0.˚04,h11km,n84,
σ1°80/75,mb3.7/9,MS3.1/3,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRM1	**Kerman Provinc**	**0.25**	**168**	Pg	**Pg**	**18 32 43.9**	**-0.3**
ZRDN	**Zarand Kerman**	**0.62**	**291**	Pg	**Pg**	**18 32 50.7**	**-0.2**
KHGB	**Koh Gabri**	**0.73**	**240**	Pg	**Pg**	**18 32 52.7**	**-0.4**
TVBK	**TV Kerman**	**0.86**	**207**	Pg	**Pg**	**18 32 55.4**	**-0.1**
NGRK	**Negar Kerman**	**1.18**	**201**	Pg	**Pg**	**18 33 01.4**	**-0.2**
NGRK				Sg	**Sn**	**18 33 17.5**	**-0.4**
IBAF	**Bafgh**	**1.64**	**301**	Pg	**Pb**	**18 33 08.8**	**-0.3**
KBAM	**BAM**	**1.94**	**146**	Pn	**Pn**	**18 33 12.5**	**+0.7**
BSRN	**Basiran**	**2.04**	**53**	Pn	**Pn**	**18 33 13.7**	**+0.5**
IKOO	**Kooshah**	**2.26**	**42**	Pn	**Pn**	**18 33 17.6**	**+1.2**
TPRV	**Parvadeh(Tabas**	**2.31**	**349**	Pn	**Pn**	**18 33 18.1**	**+1.1**
IMEH	**Mehriz**	**2.32**	**287**	Pn	**Pn**	**18 33 18.6**	**+1.4**
ITEG	**Tejag**	**2.51**	**31**	Pn	**Pn**	**18 33 20.8**	**+1.0**
NHDN	**Nehbandan**	**2.52**	**75**	Pn	**Pn**	**18 33 20.9**	**+1.0**
BAGH	**Bagheran - Bir**	**2.64**	**39**	Pn	**Pn**	**18 33 22.1**	**+0.4**
ICHK	**Chekchek**	**2.82**	**303**	Pn	**Pn**	**18 33 25.8**	**+1.7**
KHNJ	**Kahnooj**	**2.83**	**171**	Pn	**Pn**	**18 33 26.0**	**+2.0**
TKDS	**Koohdasht(Taba**	**2.85**	**359**	Pn	**Pn**	**18 33 25.5**	**+1.1**
IDAH	**Dahanechah**	**3.01**	**48**	Pn	**Pn**	**18 33 27.6**	**+0.9**
AFRZ	**Afriz**	**3.07**	**29**	Pn	**Pn**	**18 33 28.5**	**+1.0**
ISAD	**Sadrabad**	**3.23**	**292**	Pn	**Pn**	**18 33 32.4**	**+2.6**
TNSJ	**Nastanj**	**3.24**	**351**	Pn	**Pn**	**18 33 30.9**	**+1.1**
ZHDN	**Zahedan**	**3.40**	**112**	Pn	**Pn**	**18 33 33.6**	**+1.6**
GENO	**Geno**	**3.46**	**195**	Pn	**Pn**	**18 33 35.2**	**+2.3**
ANAR	**Anarak**	**3.83**	**310**	Pn	**Pn**	**18 33 39.7**	**+1.8**
SHRT	**Shahrakht**	**3.89**	**41**	Pn	**Pn**	**18 33 39.7**	**+1.0**
IZEF	**Zefreh**	**4.67**	**298**	Pn	**Pn**	**18 33 51.7**	**+2.1**
SHME	**Shamm**	**4.78**	**192**	P	**Pn**	**18 33 53.4**	**+2.6**
SHME	**Shamm**	**4.78**	**192**	P	**Pn**	**18 33 53.8**	**+3.0**
BANOM	**Banah**	**4.88**	**190**	P	**Pn**	**18 33 55.7**	**+3.6**
BANOM	**Banah**	**4.88**	**190**	P	**Pn**	**18 33 55.8**	**+3.6**
JASK	**Jask - Hormozg**	**4.90**	**173**	Pn	**Pn**	**18 33 54.2**	**+1.7**
TBHD	**Torbat heydari**	**4.95**	**20**	Pn	**Pn**	**18 33 54.7**	**+1.3**
TBJM	**Torbat-e-JAM**	**5.21**	**29**	Pn	**Pn**	**18 33 58.2**	**+1.3**
KRSH	**Karshahi**	**5.36**	**308**	Pn	**Pn**	**18 34 00.9**	**+1.9**
MASF	**Masafi**	**5.44**	**190**	P	**Pn**	**18 34 00.1**	**+0.1**
MSFE	**Esma-Masafi**	**5.45**	**190**	P	**Pn**	**18 33 59.7**	**-0.4**
ISFB	**Sefidab**	**5.52**	**312**	Pn	**Pn**	**18 34 03.4**	**+2.3**
SBZV	**Sabzevar**	**5.63**	**3**	Pn	**Pn**	**18 34 03.9**	**+1.1**
SRVN	**Saravan**	**5.63**	**125**	Pn	**Pn**	**18 34 04.4**	**+1.7**
UOSS	**Minazif**	**5.85**	**189**	P	**Pn**	**18 34 04.5**	**-1.1**
IPAY	**Payeh**	**5.88**	**14**	Pn	**Pn**	**18 34 07.7**	**+1.6**
NAZ	**Nazwa, Dubai**	**5.90**	**194**	P	**Pn**	**18 34 03.0**	**-3.3**
HATD	**Hatta, Dubai**	**5.98**	**189**	P	**Pn**	**18 34 06.6**	**-0.8**
ASHO	**Ashiyiah**	**6.13**	**190**	P	**Pn**	**18 34 07.2**	**-2.3**
ASHO				S	Sn	18 34 59.6	-20
ASHO	**Ashiyiah**	**6.13**	**190**	P	**Pn**	**18 34 07.6**	**-1.8**
	SNR=29						
ASHO				S	Sn	18 34 59.8	-20
IFIR	**Firoozkooh**	**6.14**	**324**	Pn	**Pn**	**18 34 11.5**	**+1.7**
FAQ	**Al Faqa, Dubai**	**6.15**	**194**	P	Pn	18 34 04.4	-5.3
FAQ	**Al Faqa, Dubai**	**6.15**	**194**	P	**Pn**	**18 34 05.2**	**-4.5**
	SNR=5.2						
IVRN	**Varamin**	**6.26**	**314**	Pn	**Pn**	**18 34 13.5**	**+2.3**
IKRD	**Kardeh**	**6.31**	**17**	Pn	**Pn**	**18 34 13.5**	**+1.5**
ASUD	**Al Ashush, Dub**	**6.33**	**196**	P	Pn	18 34 07.0	-5.1
	SNR=13						
AJN	**Ajban**	**6.47**	**198**	P	Pn	18 34 07.3	-6.8
IDMV	**Damavand**	**6.48**	**319**	Pn	**Pn**	**18 34 16.5**	**+2.1**
SOHO	**SOHO**	**6.62**	**185**	P	**Pn**	**18 34 16.3**	**+0.2**
SOHO				S	Sn	18 35 15.0	-17
ALNE	**Al Ain**	**6.79**	**191**	P	**Pn**	**18 34 15.4**	**-3.1**
ALNE				S	Sn	18 35 14.0	-22
MRVT	**Maraveh tapeh**	**6.95**	**353**	Pn	**Pn**	**18 34 22.4**	**+1.7**
HOQ	**Hoqain**	**7.14**	**179**	P	Pn	18 34 28.2	+4.9
GEYT	**Alibeck**	**7.20**	**6**	Pn	**Pn**	**18 34 25.9**	**+1.9**
GEYT	0.6nm,0.3s,baz=177,slow=14,SNR=9.5						
				Lg	Lg	18 36 26.6	
	baz=204,slow=32						
	1.2nm,0.3s						
BIDO	**Bidbid**	**7.25**	**173**	P	Pn	18 34 32.8	+8.0
ARQ	**Araqi**	**7.41**	**185**	P	**Pn**	**18 34 28.0**	**+1.0**
	SNR=12						
ARQ				S	Sn	18 35 33.6	-18
WSAR	**Wadi Sarin**	**7.59**	**170**	Pn	**Pn**	**18 34 29.8**	**+0.3**
	2.8nm,0.3s,baz=357,slow=9.0,SNR=28						
WSAR				Sn	**Sn**	**18 35 54.6**	**-0.9**
	0.3nm,0.3s,baz=69,slow=17,SNR=1.0						
	10nm,0.5s						
SMDO	**Samad**	**7.70**	**174**	P	Pn	18 34 36.7	+5.6
BSY	**Bisya**	**7.97**	**180**	P	**Pn**	**18 34 38.4**	**+3.6**
BSY				S	Sn	18 35 51.2	-14
WBK	**Wadi Bani Khal**	**8.26**	**169**	Pn	**Pn**	**18 34 40.1**	**+1.4**
JLN	**Jalan Bani Buh**	**8.79**	**167**	P	Pn	18 34 56.5	+11
JLN				S	**Sn**	**18 36 25.6**	**+0.6**
MHTO	**MHTO**	**9.75**	**176**	P	**Pn**	**18 35 02.1**	**+3.0**
MHTO				S	Sn	18 36 37.1	-11
DMTO	**DMTO**	**13.14**	**190**	P	Pn	18 35 40.3	-5.2
AAK	**Ala-Archa**	**18.20**	**45**	P	**P**	**18 36 52.7**	**+0.8**
	0.1nm,0.3s,baz=259,slow=10,SNR=6.4						
AAK				LR	LR	18 44 48.5	
	comp=Z,62nm,19.2s,baz=254,slow=40						
	0.8nm,0.5s						
MMAI	**Mount Meron Ar**	**18.66**	**283**	LR	LR	18 45 32.0	
	comp=Z,46nm,18.0s,baz=100,slow=42						
EIL	**Elat**	**19.27**	**272**	LR	LR	18 45 46.5	
	comp=Z,40nm,18.8s,baz=74,slow=42						
AKTO	**Aktyubinsk**	**19.67**	**2**	P	**Pn**	**18 37 08.9**	**-0.3**
	0.6nm,0.3s,baz=184,slow=10,SNR=11						
	3.8nm,0.6s						
BRTR	**Keskin Array B**	**21.18**	**301**	P	**P**	**18 37 23.2**	**-1.2**
	0.5nm,0.6s,baz=122,slow=10,SNR=2.5						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**24.25**	**20**	P	**P**	**18 37 56.6**	**+0.9**
	4.0nm,0.8s,baz=172,slow=5.5,SNR=17						
	4.0nm,0.8s						
MKAR	**Makanchi Array**	**25.12**	**43**	P	**P**	**18 38 04.9**	**+1.1**
	1.0nm,0.6s,baz=233,slow=9.7,SNR=8.2						
MKAR				PcP	**PcP**	**18 41 36.5**	**-1.3**
	0.6nm,0.9s,baz=225,slow=1.8,SNR=2.5						
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**25.44**	**33**	P	**P**	**18 38 07.9**	**+1.4**
	2.6nm,0.8s,baz=231,slow=8.9,SNR=25						
	2.6nm,0.8s						
IDI	**Anoyia**	**27.41**	**288**	LR	LR	18 51 15.5	
	comp=Z,15nm,19.6s,baz=325,slow=41						
ZALV	**Zalesovo Beam**	**30.54**	**33**	P	**P**	**18 38 52.9**	**+0.8**
	4.3nm,0.6s,baz=239,slow=9.0,SNR=24						
	4.3nm,0.6s						
NACGM	**Naroch**	**32.43**	**327**	*e*P	**P**	**18 39 10.8**	**+2.2**
SONM	**Songino Array**	**40.97**	**51**	P	**P**	**18 40 22.3**	**+0.6**
	0.5nm,0.9s,baz=289,slow=9.0,SNR=3.8						
	0.5nm,0.9s						
ESDC	**Sonseca Array**	**49.92**	**298**	P	**P**	**18 41 30.0**	**-2.7**
	0.2nm,0.5s,baz=76,slow=6.8,SNR=2.7						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**53.86**	**264**	P	**P**	**18 41 59.3**	**-3.0**
	1.1nm,0.8s,baz=52,slow=7.8,SNR=5.4						
	1.1nm,0.8s						
KSRS	**Korea Array**	**57.70**	**63**	LR	LR	19 10 00.7	
	comp=Z,17nm,21.8s,baz=300,slow=39						
NWAO	**Narrogin (SRO)**	**85.04**	**123**	LR		19 17 37.9	
	comp=Z,48nm,20.2s,baz=246,slow=32						
YKA	**Yellowknife Ar**	**86.85**	**356**	P	**P**	**18 45 22.8**

comp=Z,5.4nm,1.1s
QSPA South Pole Qui 75.65 180 P **P** **18 57 21.3 -0.8**
QSPA South Pole Qui 75.65 180 P **P** **18 57 21.2 -1.0**
comp=Z,0.6nm,0.5s,baz=17,slow=0.9,SNR=7.9
comp=Z,0.6nm,0.5s
CMAR Chiang Mai Arr 77.38 293 P **P** **18 57 33.1 +0.8**
comp=Z,1.4nm,0.8s,baz=111,slow=4.0,SNR=10
comp=Z,1.4nm,0.8s
L19K White Mountain 81.11 16 P **P** **18 57 52.3 +1.3**
L19K IAmb IAmb 18 57 58.0
comp=Z,13nm,1.2s
I17K Unalakleet 81.18 13 P **P** **18 57 50.2 -1.0**
SUA Susitna One 81.68 18 P **P** **18 57 54.8 +0.8**
SUA IAmb IAmb 18 58 32.2
comp=Z,26nm,1.4s
SONM Songino Array 83.90 323 P **P** **18 58 06.5 +1.1**
comp=Z,0.3nm,0.8s,baz=132,slow=6.0,SNR=2.5
comp=Z,0.3nm,0.8s
IMAR Indian Mountai 84.53 14 P **P** **18 58 08.1 +0.2**
NVAR Mina Array Bea 84.93 48 P **P** **18 58 10.4 -0.5**
comp=Z,0.4nm,0.8s,baz=202,slow=4.7,SNR=2.3
comp=Z,0.4nm,0.8s
ILAR Eielson Array 85.35 17 P **P** **18 58 10.8 -1.2**
comp=Z,0.3nm,0.6s,baz=243,slow=4.7,SNR=5.7
comp=Z,0.3nm,0.6s
PDAR Pinedale Array 92.66 47 P **P** **18 58 45.9 -0.9**
comp=Z,0.5nm,0.3s,baz=208,slow=2.9,SNR=2.5
comp=Z,0.5nm,0.3s
YKA Yellowknife Ar 95.96 27 P **P** **18 59 00.7 -0.2**
comp=Z,0.1nm,0.6s,baz=263,slow=5.3,SNR=2.8
comp=Z,0.1nm,0.6s
MKAR Makanchi Array 98.89 316 P **P** **18 59 15.3 +0.9**
comp=Z,0.2nm,0.6s,baz=104,slow=5.6,SNR=2.1
comp=Z,0.2nm,0.6s
ARCES ARCESS Array B 120.60 346 PKP **PKPdf** **19 04 20.8 -0.5**
comp=Z,7.7nm,1.1s,baz=64,slow=2.0,SNR=11
FINES FINESS Array B 126.41 340 PKP **PKPdf** **19 04 32.4 -0.2**
comp=Z,4.5nm,1.1s,baz=106,slow=4.5,SNR=3.4

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*IDC **23** 18:47:53.1±1.3,33.45N×91.09E,h0km,mb3.5/5, mbtmp3.5/10,ML3.1/5,MS3.0/5,Error ellipse: s-maj=43.2km s-min=22.4km az=62.0*
ISC 23 18:47:58.2±1.0,33.6N±0.1×91.1E±0.2,h35km,n12, σ1s55/11,mb3.4/4,MS3.2/3,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**14.77**	**336**	Pn	**Pn**	**18 51 23.6**	**-0.9**
	0.1nm,0.3s,baz=154,slow=15,SNR=5.6						
MKAR				Sn	**Sn**	**18 54 04.0**	**-2.8**
	0.1nm,0.3s,baz=186,slow=25,SNR=5.7						
MKAR				LR	LR	18 57 44.4	
	comp=Z,38nm,19.2s,baz=335,slow=40						
	1.4nm,0.9s						
AAK	**Ala-Archa**	**15.84**	**310**	Pn	**Pn**	**18 51 40.1**	**+1.5**
	baz=193,slow=5.7,SNR=2.2						
AAK				LR	LR	18 58 54.4	
	comp=Z,46nm,20.5s,baz=121,slow=42						
	0.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**16.64**	**153**	Pn	**Pn**	**18 51 46.9**	**-1.8**
	0.1nm,0.3s,baz=335,slow=12,SNR=5.7						
	0.8nm,0.9s						
SONM	**Songino Array**	**18.31**	**35**	P	**Pn**	**18 52 10.5**	**+1.2**
	0.1nm,0.3s,baz=218,slow=9.1,SNR=2.6						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**19.34**	**335**	P	**P**	**18 52 21.4**	**+1.1**
	baz=145,slow=12,SNR=18						
	1.4nm,0.8s						
ZALV	**Zalesovo Beam**	**20.82**	**350**	P	**P**	**18 52 37.4**	**+1.0**
	3.8nm,0.7s,baz=171,slow=12,SNR=13						
	3.8nm,0.7s						
BVAR	**Borovoye Array**	**24.41**	**329**	P	**P**	**18 53 13.6**	**+0.4**
	1.0nm,0.8s,baz=144,slow=12,SNR=3.1						
BVAR				LR	LR	19 04 09.7	
	comp=Z,65nm,18.2s,baz=238,slow=40						
	1.0nm,0.8s						
GEYT	**Alibeck**	**27.01**	**289**	LR	LR	19 06 42.8	
	comp=Z,23nm,20.4s,baz=172,slow=42						
JOW	**Kunigami**	**32.72**	**92**	LR	LR	19 09 08.3	
	comp=Z,48nm,18.8s,baz=160,slow=39						
ASAR	**Alice Springs**	**70.04**	**138**	P	**P**	**18 59 06.3**	**-0.3**
	0.2nm,0.6s,baz=325,slow=6.0,SNR=2.0						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**82.03**	**12**	P	**P**	**19 00 15.1**	**+0.8**
	0.3nm,1.0s,baz=316,slow=5.2,SNR=3.5						
	0.3nm,1.0s						
TORD	**Torodi Ar. Bea**	**82.34**	**281**	P	**P**	**19 00 17.3**	**+0.5**
	0.4nm,0.8s,baz=42,slow=6.6,SNR=1.6						
	0.4nm,0.8s						

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*IDC **23** 18:57:34.1±1.8,17.49N×94.55W,h128km±24km,mb3.2/3, mbtmp3.4/4,Error ellipse: s-maj=76.3km s-min=18.0km az=164.0*
*MEX **23** 18:57:35.2±1.1,17.31N×94.69W,h144km±8km,MD4.3*
ISC 23 18:57:34.0±0.8,17.35N±0.05×94.63W±0.05,h145km±6km, n15,σ1s36/26,mb3.5/3,Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.36**	**223**	LR	LR	18 57 34.6	
	comp=Z,33nm,20.4s,baz=30,slow=1.0						
CMIG				P	**Pn**	**18 57 54.2**	**0.0**
	640nm,0.3s,baz=100,slow=2.2,SNR=1253						
CMIG				S	**Sn**	**18 58 08.5**	**-0.9**
CMIG	**Matias Romero**	**0.36**	**223**	*i* P	**Pn**	**18 57 54.3**	**+0.1**
CMIG				*i* S	**Sn**	**18 58 08.8**	**-0.7**
UXUV	**UXUV**	**0.47**	**94**	*i* P	**Pn**	**18 57 55.0**	**+0.4**
UXUV				*i* S	**Sn**	**18 58 09.5**	**-0.8**
TUIG	**Tuzandepetl**	**0.70**	**16**	*i* P	**Pn**	**18 57 56.4**	**+0.3**
TUIG				*i* S	**Sn**	**18 58 12.6**	**-0.3**
NILT	**Santiago Nilte**	**0.79**	**179**	*i* P	**Pn**	**18 57 57.0**	**+0.4**
NILT				*i* S	**Sn**	**18 58 13.7**	**-0.1**
NEUV	**Arroyo Zacate**	**1.17**	**288**	*i* P	**Pn**	**18 57 59.5**	**-0.4**
NEUV				*i* S	**Sn**	**18 58 18.1**	**-1.5**
PMUV	**Sontecomapan**	**1.27**	**339**	*i* P	**Pn**	**18 58 00.4**	**-0.6**
PMUV				*i* S	**Sn**	**18 58 19.2**	**-2.3**
TGIG		**1.55**	**111**	*i* P	**Pn**	**18 58 04.2**	**+0.3**
TGIG				*i* S	**Sn**	**18 58 25.8**	**-0.8**
HUIG	**Huatulco**	**2.12**	**222**	*e*P	**Pn**	**18 58 08.2**	**-2.1**
HUIG				*i* S	**Sn**	**18 58 36.7**	**-1.5**
CHUJ	**Union Juarez**	**3.31**	**132**	*i* P	**Pn**	**18 58 26.0**	**+0.6**
CHUJ				*e*S	**Sn**	**18 59 02.4**	**-2.7**
TEIG	**Tepich**	**6.66**	**64**	P	**Pn**	**18 59 08.0**	**-1.6**
	177nm,0.5s,baz=190,slow=6.1,SNR=16						
TEIG				S	**Sn**	**19 00 22.0**	**-2.3**
	98nm,0.7s,baz=287,slow=19,SNR=1.6						
TXAR	**Lajitas Array**	**14.52**	**327**	P	**Pn**	**19 00 53.1**	**+0.3**
	0.2nm,0.6s,baz=129,slow=8.3,SNR=2.0						
NVAR	**Mina Array Bea**	**29.48**	**320**	P	**P**	**19 03 27.4**	**+2.6**
	0.9nm,0.7s,baz=133,slow=9.1,SNR=7.2						
	0.9nm,0.7s						
YKA	**Yellowknife Ar**	**47.21**	**348**	P	**P**	**19 05 51.4**	**-0.5**
	0.4nm,0.8s,baz=152,slow=7.5,SNR=5.7						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**58.77**	**337**	P	**P**	**19 07 17.1**	**+0.4**
	0.4nm,0.7s,baz=126,slow=4.5,SNR=5.2						
	0.4nm,0.7s						

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*IDC **23** 19:08:56.3±2.3,49.15S×105.52E,h0km,mb3.7/4, mbtmp3.7/4,MS3.3/4,Error ellipse: s-maj=99.1km s-min=26.1km az=119.0*
ISC 23 19:08:57.3±2.1,49.1S±0.3×105.4E±0.5,h10km,n12, σ0s98/6,mb3.6/4,MS3.2/4,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.57**	**28**	T	T	19 28 34.0	
	baz=200,slow=74,SNR=13						
H01W1	**Cape Leeuwin H**	**15.58**	**28**	T	T	19 28 35.2	
	baz=200,slow=74,SNR=15						
H01W3	**Cape Leeuwin H**	**15.58**	**28**	T	T	19 28 34.2	
	baz=200,slow=74,SNR=12						
ASAR	**Alice Springs**	**33.84**	**52**	P	**P**	**19 15 39.9**	**+0.1**
	0.6nm,0.8s,baz=207,slow=8.1,SNR=4.6						
	0.6nm,0.8s						
VNDA	**Vanda**	**35.45**	**162**	P	**P**	**19 15 53.4**	**+0.2**
	0.5nm,0.7s,baz=315,slow=7.1,SNR=2.0						
VNDA				LR	LR	19 28 56.4	
	comp=Z,38nm,18.4s,baz=255,slow=34						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**37.17**	**49**	P	**P**	**19 16 09.1**	**+0.7**
	1.2nm,0.8s,baz=212,slow=8.8,SNR=5.5						
	1.2nm,0.8s						
LEM	**Lembang**	**42.16**	**3**	LR	LR	19 29 56.7	
	comp=Z,28nm,21.8s,baz=138,slow=30						
CTA	**Charters Tower**	**43.54**	**63**	LR	LR	19 34 32.2	
	comp=Z,32nm,18.9s,baz=256,slow=35						
SNAA	**Sanae**	**49.49**	**203**	P	**P**	**19 17 47.7**	**+0.4**
	1.3nm,0.9s,baz=237,slow=12,SNR=2.1						
	1.3nm,0.9s						
TGY	**Tagaytay City**	**64.39**	**17**	LR	LR	19 47 56.5	
	comp=Z,37nm,21.2s,baz=114,slow=36						
NVAR	**Mina Array Bea**	**147.09**	**92**	PKPbc	**PKPab**	**19 28 41.4**	**-0.4**
	0.5nm,0.7s,baz=220,slow=5.5,SNR=4.1						
TXAR	**Lajitas Array**	**150.33**	**121**	PKPbc	**PKPbc**	**19 28 47.2**	**-1.4**
	0.4nm,0.8s,baz=198,slow=5.7,SNR=4.3						

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*MOS **23** 19:10:58.8±0.8,55.08N×160.45W,h44km,mb5.1/73, Error ellipse: s-maj=8.2km s-min=4.4km az=95.7*
*IDC **23** 19:11:00.1±3.0,55.12N×160.57W,h40km±26km,mb4.4/29, mbtmp4.6/33,ML4.1/4,MS3.7/70,Error ellipse: s-maj=17.6km s-min=11.4km az=3.0*
*NEIC **23** 19:11:00.6±1.9,54.97N±0.06×160.36W±0.05,h44km±5km, mb4.9/145,ML4.8/26,Mwr4.7/38,ML4.6(AEIC),Error ellipse: s-maj=9.2km s-min=4.0km az=177.0,Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr0.88; Mθθ-0.16; Mϕϕ-0.72; Mrθ0.83; Mrϕ-0.27; Mθϕ0.46; Fault plane solution: M0 1.27000×10^16^ NP1: ϕs187.10000°,δ26.16000°,λ52.20000°. NP2:ϕs47.93000°, δ69.61000°,λ106.75000°. Principal axes: T 1.3715, Plg62.0000°, Azm343.0000°; N -0.2298, Plg16.0000°, Azm222.0000°; P -1.1417, Plg23.0000°, Azm125.0000°;*
*NEIC **23** 19:11:00.5,54.97N×160.36W,h44km*
*ANF **23** 19:11:01.6±0.3,54.97N×160.42W,h49km±2km,ML4.9/25, Error ellipse: s-maj=3.0km s-min=1.7km az=16.0*
*GCMT **23** 19:11:02.6±0.4,55.00N±0.04×160.15W±0.05,h55km±2km, MW4.8/70,Moment Tensor Solution. s26,c32; s70,c82; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr1.91±.17; Mθθ-1.62±.13; Mϕϕ-0.29±.13; Mrθ0.79±.09; Mϕθ-0.83±.08; Mϕr0.49±.07; Best double couple: M0 2.17500×10^16^ NP1:ϕs62.00000°,δ58.00000°,λ87.00000°. NP2: ϕs247.00000°,δ32.00000°,λ95.00000°. Principal axes: T 2.1210, Plg77.0000°, Azm322.0000°; N 0.1060, Plg3.0000°, Azm63.0000°; P -2.2280, Plg13.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*AEIC **23** 19:11:02.4±3.2,54.95N±0.05×160.38W±0.06,h26km±4km Error ellipse: s-maj=7.4km s-min=5.0km az=193.0*
*BGR **23** 19:11:08.6,56.13N×161.87W,h44km,mb4.9*
ISC 23 19:11:00.6±0.4,55.02N±0.04×160.36W±0.03,h48km±2km, h48km:pP-P,n1040,σ1s27/1033,mb4.9/212,MS3.7/75, 32C-16D,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**0.33**	**348**		**Pn**	**19 11 10.6**	**+0.7**
SDPT	**Sand Point**	**0.33**	**348**		**Sn**	**19 11 17.5**	**+1.1**
SDPT	**Sand Point**	**0.33**	**348**	P	**Pn**	**19 11 10.6**	**+0.7**
SDPT	**Sand Point**	**0.33**	**348**	P	**Pn**	**19 11 10.7**	**+0.8**
	baz=172,SNR=551						
SDPT				S	**Sn**	**19 11 17.3**	**+0.8**
	baz=172						
CHNA	**Chernabura Isl**	**0.48**	**113**	P	**Pn**	**19 11 11.6**	**+0.1**
	baz=286,SNR=478						
CHNA				S	**Sn**	**19 11 19.3**	**+0.1**
	baz=286						
CNBA	**Chernabura Isl**	**0.49**	**114**		**Pn**	**19 11 11.5**	**0.0**
CNBA					**Sn**	**19 11 19.3**	**-0.1**
CNBA				IAML		19 11 19.8	
	comp=N,44μm,0.3s						
CNBA				IAML		19 11 20.2	
	comp=E,45μm,0.7s						
PS1A	**Pavlof South-1**	**0.89**	**297**		**Pn**	**19 11 17.4**	**+0.6**
PS1A					**Sn**	**19 11 30.2**	**+1.6**
PVV	**Pavlof Volcano**	**0.89**	**294**		**Pn**	**19 11 17.4**	**+0.6**
PVV					**Sn**	**19 11 29.9**	**+1.2**
PS4A	**Pavlof South-4**	**0.92**	**291**		**Pn**	**19 11 17.7**	**+0.5**
HAG	**Hague Volcano**	**0.94**	**289**		**Pn**	**19 11 18.1**	**+0.8**
HAG	**Hague Volcano**	**0.94**	**289**	P	**Pn**	**19 11 18.2**	**+0.8**
PN7A	**Pavlof North-7**	**1.03**	**294**		**Pn**	**19 11 19.6**	**+1.0**
PN7A					**Sn**	**19 11 34.4**	**+2.4**
DT1	**Dutton Round H**	**1.11**	**275**		**Pn**	**19 11 20.1**	**+0.4**
S14K	**Fog Glacier**	**1.34**	**19**	P	**Pn**	**19 11 25.1**	**+2.1**
	baz=200,SNR=107						
VNFG	**Fog Glacier, M**	**1.34**	**19**		**Pn**	**19 11 25.1**	**+2.1**
VNFG				IAML		19 11 55.5	
	comp=N,14μm,0.7s						
VNFG				IAML		19 11 59.2	
	comp=E,13μm,0.6s						
CHGN	**Chignik**	**1.69**	**40**		**Pn**	**19 11 29.2**	**+1.6**
CHGN				IAML		19 11 55.4	
	comp=N,9μm,0.7s						
CHGN	**Chignik**	**1.69**	**40**	P	**Pn**	**19 11 29.6**	**+2.0**
	baz=220,SNR=62						
FALS	**False Pass**	**1.77**	**266**		**Pn**	**19 11 29.5**	**+0.8**
FALS	**False Pass**	**1.77**	**266**		**Sn**	**19 11 52.7**	**+2.6**
FALS	**False Pass**	**1.77**	**266**	P	**Pn**	**19 11 30.3**	**+1.6**
FALS	**False Pass**	**1.77**	**266**	P	**Pn**	**19 11 29.7**	**+1.0**
	baz=86,SNR=102						
ISLZ	**Isanotski Laza**	**1.96**	**263**		**Sn**	**19 11 57.3**	**+2.5**
ISNN	**Isanotski Nort**	**1.98**	**266**		**Pn**	**19 11 33.2**	**+1.6**
ANPB	**Aniakchak Plen**	**2.13**	**32**		**Pn**	**19 11 35.5**	**+1.8**
SSLW	**Shishaldin Wes**	**2.19**	**265**		**Pn**	**19 11 35.8**	**+1.3**
SSBA	**Shishaldin**	**2.19**	**265**		**Pn**	**19 11 36.0**	**+1.4**
AZAC	**Aniakchak**	**2.23**	**32**		**Pn**	**19 11 36.9**	**+1.9**
ANNE	**Aniakchak Nort**	**2.29**	**33**		**Pn**	**19 11 38.1**	**+2.2**
WESE	**West Dahl East**	**2.51**	**259**		**Pn**	**19 11 40.4**	**+1.4**
WEBT	**Westdahl Beart**	**2.58**	**262**		**Pn**	**19 11 41.5**	**+1.6**
WEBT					**Sn**	**19 12 12.6**	**+2.6**
WECS	**Westdahl Cape**	**2.61**	**261**		**Pn**	**19 11 41.7**	**+1.5**
CHIR	**Chirikof Islan**	**2.81**	**72**		**Pn**	**19 11 43.8**	**+0.8**
CHIR				IAML		19 12 33.5	
	comp=E,2μm,1.2s						
CHIR	**Chirikof Islan**	**2.81**	**72**	P	**Pn**	**19 11 44.2**	**+1.2**
	baz=254						
CHIR				S	**Sn**	**19 12 17.1**	**+1.5**
	baz=254						
R16K	**Pilot Point**	**2.98**	**30**		**Pn**	**19 11 46.3**	**+1.0**
R16K				IAML		19 12 28.7	
	comp=N,2μm,1.1s						
R16K				IAML		19 12 42.0	
	comp=E,3μm,1.6s						
R16K	**Pilot Point**	**2.98**	**30**	P	**Pn**	**19 11 47.2**	**+1.9**
	baz=212						
AKSA	**Akutan Strait**	**3.23**	**256**		**Pn**	**19 11 50.2**	**+1.5**
AKUT	**Akutan**	**3.27**	**256**	Pn	**Pn**	**19 11 50.3**	**+1.0**
AKUT				IAML		19 12 46.2	
	comp=N,2μm,0.6s						
AKUT	**Akutan**	**3.27**	**256**	P	**Pn**	**19 11 50.8**	**+1.5**
AHB	**Akutan Harbor**	**3.31**	**256**		**Pn**	**19 11 51.3**	**+1.6**
PLBL	**Peulik Blue Cr**	**3.33**	**35**		**Pn**	**19 11 52.8**	**+2.7**
HSB	**Akutan Spr's B**	**3.34**	**258**		**Pn**	**19 11 51.7**	**+1.5**
AKLV	**Akutan Long Va**	**3.37**	**257**		**Pn**	**19 11 52.0**	**+1.4**
AKBBA	**Akutan Broad B**	**3.38**	**256**		**Pn**	**19 11 52.3**	**+1.6**
AKV	**Akutan Volcano**	**3.38**	**257**		**Pn**	**19 11 52.5**	**+1.6**
ZRO	**Akutan Zero**	**3.40**	**256**		**Pn**	**19 11 52.7**	**+1.6**
R17K	**Ugashik Creek**	**3.43**	**38**	P	**Pn**	**19 11 54.0**	**+2.6**
	baz=221,SNR=13						
PLK3	**Peulik 3**	**3.51**	**39**		**Pn**	**19 11 55.5**	**+3.0**
UNV	**Unalaska Valle**	**3.78**	**254**		**Pn**	**19 11 57.0**	**+0.8**
UNV	**Unalaska Valle**	**3.78**	**254**	P	**Pn**	**19 11 57.0**	**+0.8**
UNV	**Unalaska Valle**	**3.78**	**254**	P	**Pn**	**19 11 57.2**	**+1.0**
	baz=70,SNR=12						
SII	**Sitkinak Islan**	**3.81**	**64**		**Pn**	**19 11 58.0**	**+1.3**
SII				IAML		19 13 19.7	
	comp=N,2μm,0.8s						
SII	**Sitkinak Islan**	**3.81**	**64**	P	**Pn**	**19 11 58.6**	**+1.9**
SII	**Sitkinak Islan**	**3.81**	**64**	P	**Pn**	**19 11 58.7**	**+2.1**
	baz=248						
MTBL	**Makushin Table**	**3.83**	**257**		**Pn**	**19 11 58.3**	**+1.2**
MNAT	**Makushin Natee**	**3.87**	**255**		**Pn**	**19 11 58.4**	**+1.0**
MSW	**Makushin Switc**	**3.91**	**256**		**Pn**	**19 11 59.0**	**+1.0**
MGOD	**Makushin Gods**	**4.00**	**255**		**Pn**	**19 12 00.4**	**+1.1**
Q17K	**Contact Creek**	**4.08**	**35**	P	**Pn**	**19 12 01.9**	**+1.5**
	baz=219,SNR=6.1						
CNTC	**Contact Creek**	**4.08**	**35**		**Pn**	**19 12 03.0**	**+2.5**
R18K	**Karluk**	**4.16**	**50**		**Pn**	**19 12 03.1**	**+1.7**
R18K				IAML		19 13 07.0	
	comp=E,1μm,0.6s						
R18K	**Karluk**	**4.16**	**50**	P	**Pn**	**19 12 03.7**	**+2.3**
	baz=234						
ANCK	**Angle Creek**	**4.17**	**38**		**Pn**	**19 12 03.3**	**+1.7**
O15K	**Ungalikthiuk R**	**4.17**	**4**		**Pn**	**19 12 03.1**	**+1.5**
O15K	**Ungalikthiuk R**	**4.17**	**4**	P	**Pn**	**19 12 03.5**	**+1.8**
	baz=184						
Q16K	**King Salmon**	**4.19**	**27**		**Pn**	**19 12 04.1**	**+2.3**
Q16K	**King Salmon**	**4.19**	**27**	P	**Pn**	**19 12 04.0**	**+2.2**
	baz=210,SNR=8.7						
P16K	**Nushagak River**	**4.22**	**17**		**Pn**	**19 12 04.1**	**+1.8**
P16K	**Nushagak River**	**4.22**	**17**	P	**Pn**	**19 12 03.7**	**+1.5**
	baz=199,SNR=7.8						
O14K	**Tigyukauivet M**	**4.27**	**354**	Pn	**Pn**	**19 12 04.3**	**+1.4**
O14K	**Tigyukauivet M**	**4.27**	**354**	P	**Pn**	**19 12 03.6**	**+0.6**
	baz=173,SNR=25						
O14K				S	**Sn**	**19 12 52.4**	**+1.1**
	baz=173						
KVTA	**Katmai Vly 10**	**4.37**	**38**		**Pn**	**19 12 07.1**	**+2.8**
OHAK	**Old Harbor**	**4.53**	**58**		**Pn**	**19 12 07.0**	**+0.6**
OHAK	**Old Harbor**	**4.53**	**58**	P	**Pn**	**19 12 07.7**	**+1.2**
	baz=243						
KAHC	**Katmai Hardscr**	**4.67**	**37**		**Pn**	**19 12 11.2**	**+2.7**
Q18K	**Katmai Hardscr**	**4.67**	**37**	P	**Pn**	**19 12 10.9**	**+2.3**
	baz=221,SNR=11						
P17K	**Kvichak River**	**4.70**	**25**		**Pn**	**19 12 10.8**	**+2.0**
P17K	**Kvichak River**	**4.70**	**25**	P	**Pn**	**19 12 11.3**	**+2.5**
	baz=208						
OKFG	**Magazine Ridge**	**4.72**	**253**		**Pn**	**19 12 10.1**	**+1.0**
KAHG	**Katmai Hook Gl**	**4.72**	**40**		**Pn**	**19 12 10.7**	**+1.4**
O16K	**Kokwok River B**	**4.74**	**14**	P	**Pn**	**19 12 11.6**	**+2.1**
	baz=196						
OKTU	**Okmok Mt. Tuli**	**4.80**	**253**		**Pn**	**19 12 11.2**	**+0.9**
N14K	**Kuskokwak Cree**	**4.97**	**352**		**Pn**	**19 12 13.8**	**+1.3**
N14K	**Kuskokwak Cree**	**4.97**	**352**	P	**Pn**	**19 12 13.4**	**+1.0**
	baz=171,SNR=83						
O17K	**Koliganek Bris**	**5.08**	**19**		**Pn**	**19 12 15.4**	**+1.4**
O17K	**Koliganek Bris**	**5.08**	**19**	P	**Pn**	**19 12 16.2**	**+2.3**
	baz=202,SNR=9.1						
KDAK	**Kodiak Island**	**5.13**	**54**	Pn	**Pn**	**19 12 15.0**	**+0.4**
KDAK				IAML		19 13 46.3	
	comp=E,468nm,0.6s						
KDAK	**Kodiak Island**	**5.13**	**54**	P	**Pn**	**19 12 17.7**	**+3.0**
	baz=240						
KDAK	**Kodiak Island**	**5.13**	**54**	P	**Pn**	**19 12 15.0**	**+0.4**
KDAK	**Kodiak Island**	**5.13**	**54**	P	**Pn**	**19 12 15.3**	**+0.6**
	comp=E,9.6nm,0.3s,baz=192,slow=4.9,SNR=53						
KDAK				S	**Sn**	**19 13 11.1**	**-1.4**
	comp=E,100nm,0.5s,baz=154,slow=23,SNR=6.2						
	comp=E,27nm,0.4s						
N15K	**Kwethluk River**	**5.16**	**1**		**Pn**	**19 12 16.4**	**+1.3**
N15K				IAML		19 14 02.4	
	comp=E,524nm,1.6s						
N15K				IAML		19 14 12.1	
	comp=N,418nm,1.3s						
N15K	**Kwethluk River**	**5.16**	**1**	P	**Pn**	**19 12 17.1**	**+2.0**
	baz=182						
Q19K	**Cape Douglas,**	**5.37**	**40**		**Pn**	**19 12 18.5**	**+0.5**
Q19K	**Cape Douglas,**	**5.37**	**40**	P	**Pn**	**19 12 20.0**	**+2.0**
	baz=226						
NIKH	**Nikolski High**	**5.42**	**251**	P	**Pn**	**19 12 20.7**	**+2.0**
	baz=65						
N16K	**Nishlik Lake**	**5.53**	**8**		**Pn**	**19 12 22.4**	**+2.2**
N16K	**Nishlik Lake**	**5.53**	**8**	P	**Pn**	**19 12 22.5**	**+2.2**
	baz=190						
O18K	**Koktuh Hills**	**5.58**	**28**	Pn	**Pn**	**19 12 23.0**	**+2.1**
O18K	**Koktuh Hills**	**5.58**	**28**	P	**Pn**	**19 12 24.0**	**+3.0**
	baz=212,SNR=10						
M13K	**Dall Lake**	**5.64**	**345**		**Pn**	**19 12 23.2**	**+1.6**
M13K	**Dall Lake**	**5.64**	**345**	P	**Pn**	**19 12 23.8**	**+2.1**
	baz=162,SNR=12						
Q20K	**Shuyak Island**	**5.66**	**47**	P	**Pn**	**19 12 24.5**	**+2.5**
	baz=234						
SYI	**Shuyak Island**	**5.66**	**47**		**Pn**	**19 12 23.3**	**+1.3**
M15K	**Kasigluk River**	**5.69**	**358**		**Pn**	**19 12 23.2**	**+0.8**
M15K	**Kasigluk River**	**5.69**	**358**	P	**Pn**	**19 12 23.7**	**+1.3**
	baz=178						
N17K	**Nushagak Hills**	**5.77**	**16**	P	**Pn**	**19 12 25.6**	**+2.0**
	baz=198						
M14K	**Bethel**	**5.81**	**352**		**Pn**	**19 12 25.1**	**+1.1**
M14K	**Bethel**	**5.81**	**352**	P	**Pn**	**19 12 25.1**	**+1.1**
	baz=171,SNR=46						
SPIA	**Saint Paul Isl**	**5.94**	**295**		**Pn**	**19 12 26.4**	**+0.6**
SPIA	**Saint Paul Isl**	**5.94**	**295**	P	**Pn**	**19 12 27.1**	**+1.3**
SPIA	**Saint Paul Isl**	**5.94**	**295**	P	**Pn**	**19 12 27.1**	**+1.3**
	baz=108						
CLCO	**Concord Point,**	**5.97**	**252**		**Pn**	**19 12 27.9**	**+1.6**
M16K	**Timber Creek**	**6.06**	**6**		**Pn**	**19 12 29.1**	**+1.6**
M16K	**Timber Creek**	**6.06**	**6**	P	**Pn**	**19 12 29.1**	**+1.6**
	baz=188,SNR=16						
O19K	**Port Alsworth**	**6.11**	**30**		**Pn**	**19 12 30.3**	**+2.2**
O19K	**Port Alsworth**	**6.11**	**30**	P	**Pn**	**19 12 31.3**	**+3.1**
	baz=214,SNR=12						
N18K	**Kilae Creek**	**6.15**	**21**	P	**Pn**	**19 12 31.1**	**+2.4**
	baz=205						
M11K	**Mekoryuk**	**6.22**	**332**		**Pn**	**19 12 30.4**	**+0.9**
M11K	**Mekoryuk**	**6.22**	**332**	P	**Pn**	**19 12 30.5**	**+0.9**
	baz=148						
IVE	**Iliamna Volcan**	**6.38**	**35**		**Pn**	**19 12 35.0**	**+3.1**
L14K	**Kuka Creek**	**6.45**	**350**	P	**Pn**	**19 12 33.8**	**+1.0**
	baz=168						
O20K	**Slope Mountain**	**6.56**	**36**	P	**Pn**	**19 12 37.0**	**+2.7**

baz=217,SNR=7.9
KOFP Korovin Flat P 8.61 257 Pn 19 13 03.9 +1.3
M22K Willow 8.62 34 P Pn 19 13 06.0 +3.5
baz=223
J18K Innoko River 8.67 11 P Pn 19 13 02.2 -1.0
baz=194
ATKA Atka Island 8.70 257 Pn 19 13 03.9 +0.3
ATKA Atka Island 8.70 257 P Pn 19 13 04.9 +1.3
Q23K Middleton Isla 8.78 54 P Pn 19 13 05.5 +0.8
baz=246
PMR Palmer 8.84 37 Pn Pn 19 13 06.6 +1.2
PMR Palmer 8.84 37 P Pn 19 13 08.1 +2.6
PMR Palmer 8.84 37 P Pn 19 13 07.2 +1.7
baz=227
PMR Palmer 8.84 37 P Pn 19 13 06.6 +1.2
I17K Unalakleet 8.89 359 Pn 19 13 06.6 +0.4
I17K Unalakleet 8.89 359 P Pn 19 13 07.8 +1.6
baz=179,SNR=6.9
PPLA Purkeypile 8.94 25 P Pn 19 13 11.5 +4.4
baz=212,SNR=8.3
K20K Telida 8.95 18 P Pn 19 13 08.9 +1.8
baz=204,SNR=12
KNK Knik Glacier 8.96 40 Pn 19 13 08.1 +0.9
KNK Knik Glacier 8.96 40 P Pn 19 13 08.3 +1.1
baz=229
GHO Glory Hole Cre 9.03 37 Pn 19 13 09.2 +1.0
CUT Chulitna 9.06 31 P Pn 19 13 10.1 +1.6
baz=220
HIN Hinchinbrook I 9.15 48 Pn 19 13 09.9 +0.1
GLI Glacier Island 9.16 45 Pn 19 13 10.7 +0.8
GLI Glacier Island 9.16 45 P Pn 19 13 11.2 +1.3
baz=236
SML Sawmill 9.26 38 Pn 19 13 12.0 +0.6
SML Sawmill 9.26 38 P Pn 19 13 13.1 +1.7
baz=228
J19K Poorman 9.31 13 P Pn 19 13 13.3 +1.3
baz=197
FID Port Fidalgo 9.35 46 Pn 19 13 12.3 -0.1
CAST Castle Rocks 9.42 23 Pn 19 13 14.0 +0.6
CAST Castle Rocks 9.42 23 P Pn 19 13 16.3 +2.9
baz=210,SNR=11
M23K Glacier View 9.47 39 P Pn 19 13 14.7 +0.6
baz=230
EYAK Cordova Ski Ar 9.55 49 P Pn 19 13 16.5 +1.2
EYAK Cordova Ski Ar 9.55 49 P Pn 19 13 16.3 +1.0
baz=241
SCM Sheep Creek Mo 9.64 40 Pn 19 13 17.2 +0.6
SCM Sheep Creek Mo 9.64 40 P Pn 19 13 17.9 +1.3
baz=231
SCM Sheep Creek Mo 9.64 40 P Pn 19 13 17.2 +0.6
H16K Elim 9.69 355 Pn 19 13 18.2 +1.0
H16K Elim 9.69 355 P Pn 19 13 18.5 +1.4
baz=174,SNR=6.7
J20K Nowinta River 9.70 16 P Pn 19 13 18.8 +1.6
baz=202,SNR=15
CHUM Lake Minchumin 9.77 21 P Pn 19 13 21.1 +2.8
baz=208
KTH Kantishna Hill 9.81 26 Pn 19 13 19.8 +0.9
GSMY Great Sitkin M 9.81 259 Pn 19 13 18.4 -0.4
WAT7 Susitna Watana 9.82 32 Pn 19 13 19.7 +0.7
DIV Divide 9.84 46 Pn 19 13 19.2 -0.1
KAIM Kayak Island 9.88 54 Pn Pn 19 13 21.1 +1.4
KAIM Kayak Island 9.88 54 P Pn 19 13 20.5 +0.8
baz=247
GSCK Great Sitkin C 9.88 259 Pn 19 13 19.5 -0.3
TRF Thorofare Moun 9.89 27 Pn 19 13 21.5 +1.5
TRF Thorofare Moun 9.89 27 P Pn 19 13 22.1 +2.2
baz=216,SNR=7.3
ANM Nome 9.89 347 Pn 19 13 21.1 +1.2
ANM Nome 9.89 347 P Pn 19 13 20.9 +0.9
baz=163,SNR=7.1
ANM Nome 9.89 347 P Pn 19 13 21.1 +1.2
GCSA Galena City Sc 9.91 9 Pn 19 13 21.3 +1.2
GCSA Galena City Sc 9.91 9 P Pn 19 13 21.7 +1.7
baz=192,SNR=10
WAT1 Susitna Watana 9.91 33 Pn 19 13 20.9 +0.8
WAT1 Susitna Watana 9.91 33 P Pn 19 13 20.6 +0.5
baz=223
H17K Granite Mounta 9.95 1 P Pn 19 13 22.5 +1.9
baz=182,SNR=27
KLU Klutina 9.98 44 Pn 19 13 21.6 +0.5
KLU Klutina 9.98 44 P Pn 19 13 21.9 +0.7
baz=236,SNR=20
WAT6 Susitna Watana 9.99 36 P Pn 19 13 22.1 +0.6
baz=226
HMT Hamilton 10.12 52 Pn 19 13 23.9 +0.9
G15K Niukluk 10.17 351 P Pn 19 13 24.9 +1.2
baz=168,SNR=14
H18K Honhosa River 10.21 5 P Pn 19 13 25.9 +1.7
baz=186,SNR=6.1
I20K Naaghedeneel 10.23 14 P Pn 19 13 27.3 +2.8
baz=199
M24K Tolsona, Glenn 10.24 40 Pn 19 13 25.4 +0.7
M24K Tolsona, Glenn 10.24 40 P Pn 19 13 25.9 +1.1
baz=232
BMRM Bremner River 10.25 48 P Pn 19 13 25.9 +1.1
baz=241
RND Reindeer 10.25 30 Pn 19 13 25.7 +0.8
RND Reindeer 10.25 30 P Pn 19 13 25.7 +0.8
BPAW Bear Paw Mtn. 10.26 24 Pn 19 13 26.2 +1.3
BPAW Bear Paw Mtn. 10.26 24 P Pn 19 13 27.7 +2.8
baz=212
G16K Koyuk River 10.45 355 Pn Pn 19 13 28.8 +1.3
G16K Koyuk River 10.45 355 P Pn 19 13 29.0 +1.5
baz=174,SNR=7.4
DHY Denali Highway 10.46 34 Pn 19 13 28.4 +0.6
DHY Denali Highway 10.46 34 P Pn 19 13 29.1 +1.3
baz=225,SNR=5.3
MCK McKinley 10.48 29 P Pn 19 13 30.1 +2.2
baz=219,SNR=7.3
GAMB Gambell 10.49 331 P Pn 19 13 29.9 +1.9
baz=142
KIWB Kanaga Island 10.51 259 Pn 19 13 29.0 +0.7
G17K Kiwalik Mounta 10.51 359 P Pn 19 13 30.6 +2.3
baz=179
N25K Chitina, Valde 10.57 45 P Pn 19 13 30.4 +1.1
baz=238
SNH Sunshine Point 10.71 54 Pn Pn 19 13 32.5 +1.3
H19K Roundabout Mou 10.71 9 P Pn 19 13 32.8 +1.7
baz=192,SNR=9.3
CRQM Cirque 10.80 51 Pn 19 13 32.4 -0.1
HARP HAARP 10.80 41 P Pn 19 13 34.0 +1.7
baz=234
WAX Waxell Ridge 10.80 53 Pn 19 13 32.8 +0.3
CRQE Cirque 10.81 51 P Pn 19 13 33.3 +0.7
baz=245
GLB Gilahina Butte 10.81 47 Pn 19 13 32.5 -0.1
H20K Anotleneega Mo 10.84 12 P Pn 19 13 34.5 +1.6
baz=197
VRDI Verde Repeater 10.87 48 Pn 19 13 33.4 0.0
F14K Arctic Creek 10.89 347 P Pn 19 13 34.6 +1.1
baz=162
F15K North Star Dit 10.92 351 P Pn 19 13 35.0 +1.0
baz=167,SNR=10.0
TGL Tana Glacier 10.94 51 Pn 19 13 34.8 +0.5
G18K Tagagawik 10.94 4 P Pn 19 13 35.7 +1.5
baz=185,SNR=12
I21K Tanana 11.00 19 P Pn 19 13 36.4 +1.4
baz=206
PAX Paxson 11.04 38 P Pn 19 13 36.8 +1.2
baz=230,SNR=7.4
ISLE Juniper Island 11.10 52 Pn 19 13 37.0 +0.5
MLY Manley 11.11 22 P Pn 19 13 39.2 +2.6
baz=210,SNR=6.3
MESA MESA 11.12 55 Pn Pn 19 13 37.0 0.0
MESA MESA 11.12 55 P Pn 19 13 38.1 +1.2
baz=250
NEA2 Nenana 11.13 26 P Pn 19 13 39.3 +2.5
baz=216
TNA Tin City 11.21 344 P Pn 19 13 39.0 +1.2
baz=157
G19K Purcell Mounta 11.27 7 P Pn 19 13 40.0 +1.3
baz=190
H21K Melozitna Rive 11.29 16 P Pn 19 13 40.2 +1.2
baz=203
GRNC Granite Creek 11.41 52 Pn 19 13 41.9 +1.0
IMAR Indian Mountai 11.46 14 Pn 19 13 42.3 +1.1
F17K Baldwin Pennin 11.47 358 P Pn 19 13 43.0 +1.7
baz=178
CCB Clear Creek Bu 11.50 28 Pn 19 13 40.5 -1.4
I23K Minto, Yukon-K 11.52 24 P Pn 19 13 43.6 +1.5
baz=213,SNR=13
HDA Harding Lake 11.56 30 Pn 19 13 42.8 +0.1
HDA Harding Lake 11.56 30 P Pn 19 13 44.1 +1.4
baz=222
HDA P Pn 19 13 44.1 +1.4

baz=222
BARN Barnard Glacie 11.58 51 Pn 19 13 43.3 +0.1
TABL Table Mountain 11.59 54 Pn 19 13 43.8 +0.5
M26K Nabesna, AK 11.63 44 P Pn 19 13 45.5 +1.8
baz=238
MDM Murphy Dome 11.64 26 Pn 19 13 42.9 -0.9
MENT Mentasta 11.65 40 Pn 19 13 43.8 -0.1
COLA College 11.67 27 P Pn 19 13 45.1 +1.0
COLA College 11.67 27 P Pn 19 13 45.6 +1.5
baz=218
CTG Chitna Glacier 11.69 52 P Pn 19 13 46.1 +1.5
baz=248,SNR=6.5
CTGM Chitina Glacie 11.69 52 Pn 19 13 44.4 -0.2
RIDG Independent Ri 11.75 36 Pn 19 13 45.1 -0.2
RIDG Independent Ri 11.75 36 P Pn 19 13 44.4 -0.9
baz=229
H22K Ishtalitna Cre 11.75 18 P Pn 19 13 47.3 +2.0
baz=206
LOGN Logan Glacier 11.79 53 Pn 19 13 45.9 -0.1
L26K Log Cabin Wild 11.84 41 P Pn 19 13 48.0 +1.4
baz=235
IL31 11.85 29 Pn 19 13 45.5 -1.1
ILAR Eielson Array 11.85 29 Pn Pn 19 13 46.1 -0.6
ILAR Eielson Array 11.85 29 P Pn 19 13 46.1 -0.6
ILAR Eielson Array 11.85 29 P Pn 19 13 45.9 -0.8
comp=N,0.8nm,0.3s,baz=215,slow=13,SNR=20
ILAR S Sn 19 15 51.8 -5.4
comp=N,2.7nm,0.9s,baz=206,slow=9.4,SNR=1.5
ILAR LR LR 19 18 52.9
comp=N,512nm,18.4s,baz=239,slow=40
comp=N,1.4nm,0.4s
PINM Pinnacle 11.91 57 P Pn 19 13 49.0 +1.5
baz=253
F19K Shaleruckik Mo 11.91 5 P Pn 19 13 47.8 +0.3
baz=187
POKR Poker Plat Res 11.97 27 P Pn 19 13 48.8 +0.5
baz=218
G21K Allakaket 11.99 13 P Pn 19 13 49.9 +1.3
baz=199,SNR=9.2
M27K Edge Creek, AK 12.06 45 P Pn 19 13 51.1 +1.5
baz=241
E17K Hotham Inlet 12.12 357 P Pn 19 13 50.8 +0.6
baz=176
BCPM Bancas Point 12.17 58 Pn 19 13 51.8 +0.8
J25K Salcha River, 12.18 32 P Pn 19 13 51.0 -0.2
baz=225
SCRK Sand Creek 12.19 36 Pn Pn 19 13 51.9 +0.5
SCRK Sand Creek 12.19 36 P Pn 19 13 52.0 +0.6
baz=230
PNL Peninsula 12.21 59 P Pn 19 13 53.1 +1.4
PNL Peninsula 12.21 59 P Pn 19 13 53.0 +1.4
baz=256
F20K Avaraart Lake 12.27 9 P Pn 19 13 53.7 +1.4
baz=193
YUK3 Moose Creek 12.40 49 P Pn 19 13 55.7 +1.4
baz=246
H24K Noodor Dome 12.44 24 P Pn 19 13 55.9 +1.2
baz=215,SNR=11
L27K Beaver Creek, 12.44 42 P Pn 19 13 56.2 +1.5
baz=238
E18K Tukpahlearik C 12.44 360 P Pn 19 13 56.3 +1.7
baz=179,SNR=6.2
BCAR Beaver Creek A 12.46 42 Pn 19 13 55.0 0.0
BVCY Beaver Creek 12.51 46 P Pn 19 13 57.7 +2.0
baz=242
YUK8 Steele Glacier 12.52 52 P Pn 19 13 57.9 +1.9
baz=249,SNR=10
E19K Redstone River 12.56 6 Pn 19 13 57.2 +0.9
E19K Redstone River 12.56 6 P Pn 19 13 58.0 +1.7
baz=188,SNR=12
G22K Bettles 12.67 16 P Pn 19 13 59.5 +1.8
baz=204
F21K Alatna River 12.67 12 P Pn 19 13 59.3 +1.5
baz=198
J26L Joseph Creek 12.68 35 P Pn 19 13 58.4 +0.4
baz=229
AMKA Amchitka 12.72 262 Pn Pn 19 13 58.3 -0.2
G23K Bananza Creek 12.73 19 Pn Pn 19 14 01.1 +2.5
G23K Bananza Creek 12.73 19 P Pn 19 13 59.9 +1.2
baz=208
O29M Mount Kennedy 12.77 57 Pn 19 14 00.5 +1.2
O29M Mount Kennedy 12.77 57 P Pn 19 14 01.0 +1.7
baz=255,SNR=18
PRP Porcupine Dome 12.80 29 Pn 19 13 59.5 -0.1
PRP Porcupine Dome 12.80 29 P Pn 19 14 00.8 +1.2
baz=222
K27K Chicken 12.89 38 P Pn 19 14 02.4 +1.6
baz=234
P29M Windy Craggy 13.03 60 P Pn 19 14 05.2 +2.4
baz=259
YUK4 Talbot Arm 13.04 52 P Pn 19 14 06.2 +3.1
baz=250
YUK6 Outpost Mounta 13.05 54 P Pn 19 14 05.0 +1.8
baz=252
F22K John River 13.11 14 P Pn 19 14 06.0 +2.2
baz=201
RDOG Red Dog Mine 13.13 356 Pn 19 14 05.5 +1.4
RDOG Red Dog Mine 13.13 356 P Pn 19 14 05.1 +1.0
baz=174
COLD Coldfoot 13.16 18 P Pn 19 14 06.5 +2.0
baz=206
G24K Hadweenzic Riv 13.25 23 P Pn 19 14 07.7 +2.0
baz=214,SNR=7.8
HYT Haines Junctio 13.42 55 Pn Pn 19 14 09.8 +1.6
E20K Nigu River 13.42 7 P Pn 19 14 10.7 +2.6
baz=190,SNR=16
C16K Lisburne Hills 13.50 352 Pn Pn 19 14 11.3 +2.3
C16K Lisburne Hills 13.50 352 P Pn 19 14 10.4 +1.3
baz=168
P30M Million Dollar 13.51 58 P Pn 19 14 10.3 +0.9
baz=258
M29M Somme Creek 13.53 48 P Pn 19 14 09.1 -0.5
baz=246,SNR=12
D19K Kuna River 13.56 4 P Pn 19 14 11.0 +1.0
baz=186
C17K DeLong Mountai 13.56 356 P Pn 19 14 10.7 +0.7
baz=173
G25K Bearman Lake 13.62 25 P Pn 19 14 11.6 +0.9
baz=217
S31K Pelican 13.62 68 Pn 19 14 11.4 +0.6
S31K Pelican 13.62 68 P Pn 19 14 11.8 +1.0
baz=268
C18K Utukok River 13.68 359 P Pn 19 14 12.4 +0.8
baz=178
E22K Anaktuvuk Pass 13.75 14 Pn Pn 19 14 14.2 +1.7
E22K Anaktuvuk Pass 13.75 14 P Pn 19 14 14.4 +1.9
baz=201,SNR=20
E21K Killik River 13.79 10 P Pn 19 14 14.3 +1.3
baz=196
N30M Aishikik Lake 13.79 53 P Pn 19 14 13.7 +0.5
baz=252
D20K Etivluk River 13.85 6 P Pn 19 14 16.0 +2.1
baz=189,SNR=9.1
F24K Squaw Lake 13.85 20 Pn Pn 19 14 14.9 +1.0
F24K Squaw Lake 13.85 20 P Pn 19 14 15.1 +1.2
baz=211
DAWY Dawson 13.90 41 Pn 19 14 14.8 +0.3
DAWY Dawson 13.90 41 P Pn 19 14 15.2 +0.6
baz=239,SNR=6.6
L29M L29M 13.94 46 P Pn 19 14 16.9 +1.7
baz=244
E23K Chandalar 14.01 17 P Pn 19 14 18.3 +2.2
baz=206
I27K Kandik River 14.02 33 P Pn 19 14 17.5 +1.3
baz=230,SNR=8.5
SIT Sitka 14.11 71 Pn Pn 19 14 17.5 +0.1
SIT Sitka 14.11 71 P Pn 19 14 17.9 +0.5
SIT Sitka 14.11 71 P Pn 19 14 17.5 +0.1
C19K Lookout Ridge 14.14 1 P Pn 19 14 19.9 +2.1
baz=182
SKAG Skagway 14.22 62 Pn 19 14 19.8 +0.9
SKAG Skagway 14.22 62 P Pn 19 14 21.0 +2.2
baz=262
E24K Your Creek 14.22 18 P Pn 19 14 20.8 +1.9
baz=209
M30M Minto, Yukon 14.29 49 P Pn 19 14 21.9 +2.0
baz=249,SNR=11
G26K Porcupine Rive 14.34 27 P Pn 19 14 22.1 +1.6
baz=221
D22K Ayikyak River 14.35 11 P Pn 19 14 22.8 +2.2
baz=198,SNR=13
F25K Christian Rive 14.39 23 P Pn 19 14 24.0 +2.9
baz=216
N31M Braeburn, Yuko 14.40 53 P Pn 19 14 22.2 +0.9
baz=254
B18K Kokolik River 14.41 358 P P 19 14 24.9 -2.2
baz=177,SNR=5.7

C21K Knifeblade Rid 14.41 8 P Pn 19 14 23.5 +2.1
baz=193,SNR=26
H27K Steamboat Moun 14.46 32 P Pn 19 14 22.7 +0.6
baz=228,SNR=11
I28M Miner Creek 14.47 36 P Pn 19 14 23.0 +0.7
baz=233
S32K Killisnoo 14.51 70 P Pn 19 14 23.7 +1.0
baz=271
BMAR Burnt Mountain 14.51 25 Pn Pn 19 14 21.9 -0.8
K29M Barlow Dome 14.51 43 P Pn 19 14 24.8 +1.9
baz=243,SNR=35
TOLK Toolik Lake Re 14.54 16 Pn 19 14 24.1 +0.9
TOLK Toolik Lake Re 14.54 16 P Pn 19 14 25.2 +2.0
baz=205,SNR=7.5
JIS Juneau Island 14.61 67 Pn 19 14 25.1 +1.0
JIS Juneau Island 14.61 67 P P 19 14 27.1 -2.3
WHY Whitehorse 14.63 57 P Pn 19 14 26.4 +1.9
baz=258
D23K Nanushuk River 14.68 14 P Pn 19 14 27.5 +2.6
baz=202,SNR=8.3
G27K Doyon Strip 14.82 30 P Pn 19 14 28.1 +1.3
baz=226,SNR=7.3
F26K Sheenjek River 14.82 25 P P 19 14 29.9 -1.8
baz=219
E25K Arctic Village 14.84 22 Pn 19 14 26.2 -0.8
E25K Arctic Village 14.84 22 P P 19 14 30.4 -1.5
baz=215,SNR=16
B21K Ikpikpuk River 14.88 8 P Pn 19 14 29.8 +2.3
baz=193
I29M Ogilvie Camp, 14.98 38 P Pn 19 14 30.4 +1.5
baz=237,SNR=12
P32M Atlin 15.05 61 P Pn 19 14 31.9 +2.0
baz=264
MAYO Mayo, Yukon 15.06 45 P Pn 19 14 31.4 +1.4
baz=246,SNR=8.4
B20K Meade River 15.11 4 P Pn 19 14 31.4 +1.0
baz=187
D24K Happy Valley 15.12 16 P Pn 19 14 31.7 +0.9
baz=206
M31M Drury Creek, Y 15.23 51 P Pn 19 14 33.5 +1.3
baz=253,SNR=26
A19K Wainwright 15.24 359 P Pn 19 14 33.0 +0.8
baz=178,SNR=10
J30M Hart River 15.31 42 Pn Pn 19 14 34.0 +0.7
J30M IAmb IAmb 19 14 41.6
comp=Z,36nm,0.7s
U33K Whale Pass 15.41 75 Pn Pn 19 14 34.9 +0.5
U33K IAmb IAmb 19 14 35.3
comp=Z,123nm,1.6s
H29M Whitestone 15.45 35 P Pn 19 14 35.5 +0.5
baz=234
C23K Itkillik River 15.50 13 P Pn 19 14 36.9 +1.4
baz=201
CRAG Craig 15.50 77 Pn Pn 19 14 36.3 +0.6
CRAG IAmb IAmb 19 14 43.2
comp=Z,185nm,2.0s
CRAG Craig 15.50 77 P Pn 19 14 37.5 +1.9
P33M Teslin, Yukon 15.57 59 P Pn 19 14 38.0 +1.4
baz=262
N32M Quiet Lake 15.59 56 P P 19 14 39.2 -1.2
baz=259
I30M Mount Dempster 15.60 40 P Pn 19 14 38.5 +1.5
baz=240,SNR=93
C24K Franklin Bluff 15.66 15 P Pn 19 14 38.1 +0.6
baz=206
B22K Teshekpuk Lake 15.68 9 P Pn 19 14 38.8 +0.9
baz=195,SNR=11
D25K Kavik River 15.69 19 P Pn 19 14 39.5 +1.4
baz=211
FARO Faro, Yukon 15.71 52 Pn 19 14 39.1 +0.7
FARO Faro, Yukon 15.71 52 P P 19 14 40.4 -1.2
baz=255,SNR=16
Q32M Nakina River 15.74 64 P Pn 19 14 39.7 +0.8
baz=268
WRAK Wrangell Islan 15.80 73 P P 19 14 41.5 -1.0
baz=276
E27K Coleen River 15.82 26 P Pn 19 14 40.9 +1.2
baz=223
F28M Old Crow 15.88 29 P Pn 19 14 41.7 +1.3
baz=227
G29M Pine Creek 15.98 33 P Pn 19 14 42.4 +0.7
baz=232,SNR=22
EPYK Eagle Plains 16.09 36 Pn 19 14 42.8 -0.4
EPYK Eagle Plains 16.09 36 P P 19 14 44.7 -1.0
baz=236,SNR=19
A22K Sinclair Lake 16.21 6 P Pn 19 14 45.8 +1.2
baz=191
S34M Telegraph Cree 16.34 68 Pn 19 14 47.3 +0.9
S34M Telegraph Cree 16.34 68 P P 19 14 47.8 -0.8
baz=272,SNR=6.0
V35K Ketchikan 16.37 77 P Pn 19 14 47.6 +0.9
baz=281
R33M Jennings River 16.43 63 P Pn 19 14 48.7 +1.1
baz=267
A21K Barrow 16.44 4 P P 19 14 49.3 -0.3
baz=188,SNR=7.0
C26K Camden Bay 16.47 19 P Pn 19 14 48.8 +1.0
baz=213
G30M tAoh Zraii Nji 16.59 34 P Pn 19 14 50.4 +0.9
baz=235,SNR=15
H31M Peel River 16.63 39 P P 19 14 51.0 -0.7
baz=242
E28M Babbage River 16.66 27 P P 19 14 52.3 +0.3
baz=226
D27M Malcolm River 16.77 24 P P 19 14 53.1 -0.2
baz=221
T35M Bob Quinn 16.89 71 P Pn 19 14 53.1 -0.1
baz=276
DLBC Dease Lake 16.91 66 P Pn 19 14 54.1 +0.6
baz=271
DLBC Dease Lake 16.91 66 P Pn 19 14 53.5 0.0
comp=Z,0.1nm,0.3s,baz=267,slow=9.9,SNR=7.5
DLBC LR LR 19 21 10.0
comp=Z,187nm,18.6s,baz=314,slow=36
comp=Z,9.1nm,1.1s
E29M Blow River 16.95 29 Pn Pn 19 14 52.9 -1.1
E29M Blow River 16.95 29 P Pn 19 14 54.7 +0.7
baz=229
F30M Barrier River 17.09 33 P P 19 14 56.4 -0.4
baz=234
G31M Satah River 17.21 36 P Pn 19 14 57.6 +0.6
baz=239,SNR=13
D28M Stokes Point 17.37 26 P P 19 15 00.2 +0.3
baz=225
F31M Tsiigehtchic 17.66 35 P Pn 19 15 02.7 +0.1
baz=238,SNR=8.0
TGTN Hyland Airport 17.94 56 P P 19 15 07.2 +0.9
baz=263,SNR=14
INK Inuvik 18.19 33 P P 19 15 08.2 -0.7
INK Inuvik 18.19 33 P P 19 15 08.7 -0.2
baz=236,SNR=11
INK Inuvik 18.19 33 P P 19 15 08.2 -0.7
INK pmax pmax
comp=Z,29nm,1.5s
INK Inuvik 18.19 33 P P 19 15 08.3 -0.6
comp=Z,2.5nm,0.3s,baz=233,slow=10,SNR=38
INK LR LR 19 23 12.7
comp=Z,469nm,19.6s,baz=183,slow=40
comp=Z,5.9nm,0.5s
BBB Bella Bella 19.25 85 LR LR 19 21 29.0
comp=Z,273nm,19.4s,baz=223,slow=32
KOTAN Kotaneelee Air 19.94 60 P P 19 15 27.8 -0.3
baz=271,SNR=5.6
BILL Bilibino 20.21 323 P P 19 15 30.8 -0.2
BILL IAmb IAmb 19 15 46.8
comp=Z,51nm,1.2s
BILL Bilibino 20.21 323 eP P 19 15 31.2 +0.2
WRGLY Wrigley 20.37 51 P P 19 15 33.7 +1.0
baz=263,SNR=25
C36M Paulatuk 21.71 35 P P 19 15 46.5 -0.5
baz=247,SNR=20
A36M Sachs Harbour 22.55 28 P P 19 15 55.5 -0.5
baz=240,SNR=6.9
HILA High Level 23.68 64 P P 19 16 08.6 +1.2
PET Petropavlovsk 23.92 282 P P 19 16 08.2 -1.4
PET IAmb IAmb 19 16 11.1
comp=Z,67nm,1.0s
PET Petropavlovsk 23.92 282 eP P 19 16 09.6 0.0
PET eS S 19 20 17.7 -4.7
PET pmax pmax
comp=Z,97nm,1.0s
PET MLR MLR
comp=Z,200nm,17.0s
YKA Yellowknife Ar 24.40 54 P P 19 16 15.0 +1.1
YKA Yellowknife Ar 24.40 54 P P 19 16 15.0 +1.1
YKA Yellowknife Ar 24.40 54 P P 19 16 15.2 +1.3
comp=Z,1.5nm,0.5s,baz=248,slow=9.8,SNR=35

YKA PcP **PcP** **19 19 52.1 +0.5**
comp=Z,0.6nm,0.4s,baz=282,slow=2.3,SNR=5.2
comp=Z,1.5nm,0.5s
PEA0B Petropavlovsk- 24.43 283 P **P** **19 16 14.1 -0.2**
PEA0B IAmb IAmb 19 16 16.1
comp=Z,29nm,0.5s
PEA0B Petropavlovsk- 24.43 283 *ce*P **P** **19 16 14.9 +0.6**
PETK Petropavlovsk- 24.43 283 P **P** **19 16 13.9 -0.4**
PETK Petropavlovsk- 24.43 283 P **P** **19 16 13.9 -0.4**
PETK Petropavlovsk- 24.43 283 P **P** **19 16 13.6 -0.6**
comp=Z,17nm,0.5s,baz=80,slow=12,SNR=140
PETK LR LR 19 25 04.0
comp=Z,101nm,21.6s,baz=85,slow=35
comp=Z,17nm,0.5s
SEY Seymchan 25.07 308 *ce*P **P** **19 16 18.6 -1.4**
SEY pmax pmax
comp=Z,23nm,2.5s
SEY Seymchan 25.07 308 LR LR 19 27 19.5
comp=Z,399nm,18.8s,baz=50,slow=39
BUCK Buck Mountain 26.21 99 P **P** **19 16 31.4 +0.7**
BUCK IAmb IAmb 19 16 46.0
comp=Z,65nm,1.7s
MA2 Magadan 26.30 300 *ce*P **P** **19 16 31.3 +0.2**
MA2 pmax pmax
comp=Z,20nm,1.7s
MA2 Magadan 26.30 300 LR LR 19 28 08.7
comp=Z,143nm,19.5s,baz=90,slow=39
H04A Detroit Lake 26.38 97 P **P** **19 16 32.8 +0.7**
HAWA Hanford 26.91 92 P **P** **19 16 38.2 +1.4**
EDM Edmonton 27.21 74 P **P** **19 16 41.3 +1.8**
EDM Edmonton 27.21 74 P **P** **19 16 41.3 +1.8**
EDM pmax pmax
comp=Z,14nm,0.9s
NEW Newport 27.30 86 P **P** **19 16 42.0 +1.6**
NEW Newport 27.30 86 P **P** **19 16 40.7 +0.4**
baz=301
NEW Newport 27.30 86 P **P** **19 16 42.0 +1.6**
NEW pmax pmax
comp=Z,12nm,1.0s
NEW Newport 27.30 86 LR LR 19 25 47.6
comp=Z,189nm,20.8s,baz=288,slow=32
J05D Fort Rock, OR 27.78 99 P **P** **19 16 45.6 +0.8**
YBH Yreka Blue Hor 27.94 103 LR LR 19 25 31.0
comp=Z,369nm,20.5s,baz=308,slow=31
MSO Missoula 29.89 86 P **P** **19 17 04.7 +1.2**
baz=303
CHMT Chamberlain Mo 30.24 86 P **P** **19 17 08.3 +1.7**
LYMT Lyon Mountain 30.76 85 P **P** **19 17 12.5 +1.2**
MFID Camas Ranch 30.79 93 P **P** **19 17 12.5 +1.1**
HLID Hailey 31.51 92 P **P** **19 17 19.1 +1.2**
HLID Hailey 31.51 92 P **P** **19 17 18.9 +1.1**
baz=308
RES Resolute Bay 31.60 27 P **P** **19 17 18.5 +0.5**
RES Resolute Bay 31.60 27 P **P** **19 17 18.5 +0.5**
RES pmax pmax
comp=Z,14nm,1.6s
EGMT Eagleton 31.64 81 P **P** **19 17 20.0 +1.1**
baz=302
NVAR Mina Array Bea 32.66 103 P **P** **19 17 29.1 +1.1**
NVAR Mina Array Bea 32.66 103 P **P** **19 17 28.7 +0.7**
comp=Z,0.7nm,0.8s,baz=296,slow=8.9,SNR=5.0
NVAR PcP **PcP** **19 20 13.6 +0.8**
comp=Z,0.6nm,0.5s,baz=298,slow=1.9,SNR=3.8
NVAR LR LR 19 28 26.9
comp=Z,218nm,21.2s,baz=310,slow=32
comp=Z,0.7nm,0.8s
ELK Elko 32.83 97 P **P** **19 17 30.2 +0.7**
ELK Elko 32.83 97 P **P** **19 17 30.2 +0.7**
ELK pmax pmax
comp=Z,9.0nm,1.1s
ELK Elko 32.83 97 LR LR 19 29 05.6
comp=Z,212nm,20.3s,baz=298,slow=33
YHH Holmes Hill 32.83 87 P **P** **19 17 29.4 -0.2**
TIXI Tiksi 33.33 327 P **P** **19 17 32.3 -0.9**
TIXI Tiksi 33.33 327 *ce*P **P** **19 17 32.9 -0.3**
TIXI Tiksi 33.33 327 LR LR 19 33 08.6
comp=Z,8.7nm,18.1s,baz=44,slow=40
RLMT Red Lodge 33.54 86 P **P** **19 17 36.3 +0.6**
RLMT IAmb IAmb 19 17 51.7
comp=Z,13nm,1.1s
RLMT Red Lodge 33.54 86 P **P** **19 17 36.2 +0.6**
baz=306
HVU Hansel Valley 33.57 93 P **P** **19 17 36.0 +0.1**
HVU Hansel Valley 33.57 93 P **P** **19 17 36.0 +0.1**
HVU pmax pmax
comp=Z,9.0nm,0.9s
TYV Tymovskoe 33.77 287 *e*P **P** **19 17 37.6 +0.3**
TYV *e*S **S** **19 22 59.8 +2.5**
TYV pmax pmax
comp=Z,35nm,0.9s
TYV pmax pmax
comp=Z,200nm,3.5s
TYV smax smax
comp=E,300nm,5.6s
BGU Big Grassy Mou 33.98 95 P **P** **19 17 40.1 +0.7**
CWC Cottonwood Cre 34.20 105 P **P** **19 17 43.7 +2.4**
baz=316
R11B Troy Canyon, C 34.25 100 P **P** **19 17 42.4 +0.6**
R11B Troy Canyon, C 34.25 100 P **P** **19 17 42.8 +1.0**
baz=314
ISA Isabella, Lake 34.55 107 P **P** **19 17 44.4 +0.1**
ISA Isabella, Lake 34.55 107 P **P** **19 17 44.4 +0.1**
ISA pmax pmax
comp=Z,3.0nm,0.9s
DUG Dugway, Tooele 34.58 95 P **P** **19 17 45.4 +0.8**
DUG IAmb IAmb 19 18 00.0
comp=Z,11nm,1.0s
DUG Dugway, Tooele 34.58 95 P **P** **19 17 44.8 +0.2**
baz=312
DUG Dugway, Tooele 34.58 95 P **P** **19 17 45.4 +0.8**
DUG pmax pmax
comp=Z,11nm,1.0s
PDAR Pinedale Array 34.80 89 P **P** **19 17 46.6 0.0**
PDAR Pinedale Array 34.80 89 P **P** **19 17 47.1 +0.6**
comp=Z,0.2nm,0.4s,baz=316,slow=5.0,SNR=2.2
PDAR LR LR 19 31 03.7
comp=Z,40nm,19.1s,baz=312,slow=34
MPMC Manual Prospec 34.81 105 P **P** **19 17 46.8 +0.1**
baz=317
TPNV Topopah Spring 34.86 103 P **P** **19 17 47.5 +0.4**
baz=316
UGL Uglegorsk 35.02 285 *e*P **P** **19 17 48.3 +0.2**
UGL pmax pmax
comp=Z,160nm,0.9s
FCC Fort Churchill 35.06 56 P **P** **19 17 49.2 +0.9**
FCC IAmb IAmb 19 18 02.8
comp=Z,21nm,1.1s
FCC Fort Churchill 35.06 56 P **P** **19 17 49.2 +0.9**
FCC pmax pmax
comp=Z,21nm,1.2s
LRMC Laurel Mtn Rad 35.12 106 P **P** **19 17 49.8 +0.5**
baz=317
YAK Yakutsk 35.51 310 P **P** **19 17 50.4 -1.8**
YAK IAmb IAmb 19 17 51.6
comp=Z,18nm,0.9s
YAK Yakutsk 35.51 310 *e*P **P** **19 17 50.4 -1.8**
YAK *e* 19 18 01.8
YAK pmax pmax
comp=Z,13nm,0.8s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK MLR MLR
comp=Z,291nm,20.0s
YAK MLR MLR
comp=E,160nm,17.0s
YAK Yakutsk 35.51 310 LR LR 19 33 42.4
comp=E,16nm,20.0s,baz=87,slow=38
BSUT Blindstream Ca 35.53 93 P **P** **19 17 54.2 +1.1**
GSC Goldstone, Bar 35.74 105 P **P** **19 17 55.3 +0.8**
GSC IAmb IAmb 19 18 30.6
comp=Z,25nm,1.9s
GSC Goldstone, Bar 35.74 105 P **P** **19 17 55.3 +0.8**
GSC pmax pmax
comp=Z,25nm,1.9s
YSS Yuzh-Sakhalins 35.80 281 *e*P **P** **19 17 54.6 -0.2**
YSS pmax pmax
comp=Z,20nm,0.9s
MSU Marysvale 36.08 97 P **P** **19 17 59.1 +1.5**
MSU Marysvale 36.08 97 P **P** **19 17 59.1 +1.5**
SRU San Rafael Swe 36.62 95 P **P** **19 18 03.9 +1.7**
SRU IAmb IAmb 19 18 17.6
comp=Z,21nm,1.0s
SRU San Rafael Swe 36.62 95 P **P** **19 18 03.9 +1.7**
SRU pmax pmax
comp=Z,21nm,1.0s
GMRC Granite Mounta 36.75 105 P **P** **19 18 03.1 -0.2**
baz=317
RSSD Black Hills 37.14 83 P **P** **19 18 07.2 +0.6**
RSSD Black Hills 37.14 83 P **P** **19 18 06.4 -0.2**
baz=307
RSSD Black Hills 37.14 83 P **P** **19 18 07.2 +0.6**
RSSD pmax pmax
comp=Z,7.0nm,0.8s
BELC Belle Mtn. Jos 37.15 106 P **P** **19 18 08.0 +1.4**
baz=318
GRNR Gornyy 37.22 290 ⇑*i*P **P** **19 18 06.0 -0.9**
GRNR pmax pmax
comp=E,3.0nm,0.9s
GRNR pmax pmax
comp=N,3.0nm,1.0s
GRNR pmax pmax
comp=Z,7.0nm,0.9s
GRNR MLR MLR
comp=E,70nm,15.0s
GRNR MLR MLR
comp=N,70nm,19.0s
GRNR MLR MLR
comp=Z,120nm,20.0s
O20A White River Ci 37.25 91 P **P** **19 18 08.4 +0.9**
baz=311
MDND Maddock 37.46 75 P **P** **19 18 10.3 +1.3**
MDND Maddock 37.46 75 P **P** **19 18 08.6 -0.4**
baz=304
IRM Iron Mountain 37.50 105 P **P** **19 18 10.7 +1.2**
baz=318
JKA Kamikawa-asahi 37.55 277 P **P** **19 18 09.5 -0.3**
JKA IAmb IAmb 19 18 11.0
comp=Z,22nm,0.9s
ASAJ Asahikawa 37.56 277 P **P** **19 18 09.5 -0.3**
ASAJ pmax pmax
comp=Z,22nm,0.9s
ASAJ Asahikawa 37.56 277 LR LR 19 34 57.7
comp=Z,53nm,18.6s,baz=34,slow=38
BC3 Big Chuckawall 37.70 106 P **P** **19 18 11.6 +0.3**
baz=318
IKP In-Ko-Pah, Jac 38.10 107 P **P** **19 18 15.4 +0.8**
baz=319
ULM Lac du Bonnet 38.18 70 P **P** **19 18 16.1 +1.2**
ULM IAmb IAmb 19 18 29.2
comp=Z,21nm,1.3s
ULM Lac du Bonnet 38.18 70 P **P** **19 18 16.2 +1.2**
ULM pmax pmax
comp=Z,21nm,1.3s
ULM Lac du Bonnet 38.18 70 P **P** **19 18 16.4 +1.5**
comp=Z,3.3nm,0.4s,baz=306,slow=10,SNR=11
ULM LR LR 19 34 04.5
comp=Z,108nm,18.1s,baz=310,slow=36
comp=Z,3.3nm,0.4s
ERM Erimo 38.55 274 P **P** **19 18 18.1 0.0**
ERM Erimo 38.55 274 P **P** **19 18 18.1 0.0**
ERM pmax pmax
comp=Z,41nm,1.1s
ISCO Idaho Springs 38.98 90 P **P** **19 18 22.8 +0.5**
baz=312
AGMN Agassiz Nation 39.27 72 P **P** **19 18 24.7 +0.5**
AGMN IAmb IAmb 19 18 38.2
comp=Z,18nm,0.8s
AGMN Agassiz Nation 39.27 72 P **P** **19 18 25.2 +1.0**
baz=305,SNR=5.9
SUSD Miller 39.83 79 P **P** **19 18 30.3 +1.4**
B35A Bob, Littlefor 40.40 71 P **P** **19 18 34.3 +0.8**
B35A IAmb IAmb 19 18 46.7
comp=Z,62nm,1.9s
ZEA Zeya 40.44 299 *e*P **P** **19 18 33.1 -0.6**
KLR Kul'dur 40.58 291 *ce*P **P** **19 18 33.9 -1.1**
KLR pmax pmax
comp=Z,6.0nm,0.7s
KLR Kul'dur 40.58 291 LR LR 19 36 12.4
comp=Z,85nm,19.7s,baz=52,slow=37
NEEM North Greenlan 40.87 18 *i*P **P** **19 18 37.7 +0.2**
NEEM IAmb IAmb 19 18 39.8
comp=Z,9.3nm,0.8s
ECSD EROS Data Cent 41.59 78 P **P** **19 18 44.3 +0.9**
ECSD EROS Data Cent 41.59 78 P **P** **19 18 44.0 +0.5**
baz=309
ANMO Albuquerque 41.85 96 P **P** **19 18 45.0 -0.8**
baz=316
ANMO Albuquerque 41.85 96 *i*P **P** **19 18 46.3 +0.5**
ANMO pmax pmax
comp=Z,1.0nm,1.1s
ANMO Albuquerque 41.85 96 LR LR 19 35 13.4
comp=Z,81nm,18.6s,baz=50,slow=35
EYMN Ely 41.85 70 P **P** **19 18 46.8 +1.3**
EYMN IAmb IAmb 19 18 59.8
comp=Z,20nm,0.7s
EYMN Ely 41.85 70 P **P** **19 18 45.9 +0.4**
baz=306
HEH HeiHe 42.30 295 *e*P **P** **19 18 47.3 -1.7**
HEH pmax pmax
comp=Z,5.0nm,0.8s
HEH pmax pmax
comp=Z,170nm,5.4s
SPMN Marine on St. 42.79 74 P **P** **19 18 54.0 +0.8**
baz=308
CBKS Cedar Bluff 43.02 86 P **P** **19 18 54.1 -1.1**
baz=313
I37A Lemond, Waseca 43.22 76 P **P** **19 18 56.5 -0.1**
FRB Frobisher Bay 43.60 40 LR LR 19 39 16.9
comp=Z,120nm,18.5s,baz=189,slow=39
N35A Tabor 44.00 81 P **P** **19 19 02.4 -0.5**
MDJ Mudanjiang 44.55 287 P **P** **19 19 05.1 -2.2**
MDJ pmax pmax
comp=Z,7.0nm,1.1s
MDJ pmax pmax
comp=Z,100nm,4.0s
MNTX Cornudas Mount 44.83 98 P **P** **19 19 10.9 +1.3**
baz=318,SNR=5.8
MSHR Mys Shultsa 45.00 284 *ce*P **P** **19 19 10.5 -0.3**
MSHR pmax pmax
comp=Z,39nm,0.9s
BNX BinXian 45.04 290 ⇓P **P** **19 19 10.5 -0.6**
BNX pmax pmax
comp=Z,10.0nm,0.9s
BNX pmax pmax
comp=Z,87nm,4.6s
MAJO Matsushiro 45.06 272 P **P** **19 19 10.3 -1.1**
MAJO Matsushiro 45.06 272 *i*P **P** **19 19 11.3 -0.1**
MAJO pmax pmax
comp=Z,46nm,1.1s
MJAR Matsushiro Arr 45.06 272 P **P** **19 19 10.9 -0.5**
comp=Z,9.5nm,0.8s,baz=36,slow=7.1,SNR=49
MJAR LR LR 19 35 55.8
comp=Z,90nm,21.8s,baz=38,slow=33
comp=Z,9.5nm,0.8s
MJB9 Matsu-Tunnel 45.06 272 P **P** **19 19 10.2 -1.2**
JFWS Jewell Farm 45.68 75 P **P** **19 19 16.2 0.0**
baz=311
L40A Anamosa 45.70 76 P **P** **19 19 16.4 0.0**
L40A IAmb IAmb 19 19 30.4
comp=Z,14nm,0.8s
ILULI Ilulissat 45.90 28 *i*P **P** **19 19 17.4 -0.2**
ILULI IAmb IAmb 19 19 22.2
comp=Z,8.0nm,0.8s
P38A Dawn 46.02 81 P **P** **19 19 18.4 -0.6**
P38A IAmb IAmb 19 19 32.6
comp=Z,21nm,0.8s
DAG Danmarks Havn 46.25 11 *i*P **P** **19 19 20.0 -0.3**
DAG IAmb IAmb 19 19 22.1
comp=Z,21nm,1.1s
WMOK Wichita Mounta 46.41 90 P **P** **19 19 22.5 +0.4**
WMOK Wichita Mounta 46.41 90 P **P** **19 19 22.5 +0.4**
WMOK pmax pmax
comp=Z,5.0nm,0.9s
SUMG Summit 46.53 21 P **P** **19 19 23.9 +0.8**
SUMG IAmb IAmb 19 20 54.8
comp=Z,20nm,1.9s
SUMG Summit 46.53 21 P **P** **19 19 23.9 +0.8**
SUMG pmax pmax
comp=Z,20nm,1.9s
SUMG Summit 46.53 21 *i*P **P** **19 19 23.8 +0.7**
SUMG IAmb IAmb 19 19 40.3
comp=Z,4.6nm,0.7s
INU Inuyama 46.58 272 P **P** **19 19 23.1 -0.3**
INU IAmb IAmb 19 19 23.7
comp=Z,13nm,0.9s
JHJ Hachijo jima 2 46.59 268 LR LR 19 36 45.8
comp=Z,53nm,21.9s,baz=84,slow=33
SPITS Spitsbergen Ar 47.04 1 P **P** **19 19 26.4 -0.1**
SPITS pmax pmax
comp=Z,163nm,1.7s
SPITS Spitsbergen Ar 47.04 1 P **P** **19 19 26.2 -0.3**
comp=Z,16nm,0.9s,baz=30,slow=4.0,SNR=11
SPITS PcP **PcP** **19 20 58.0 +0.2**
comp=Z,3.3nm,0.8s,baz=325,slow=1.8,SNR=4.6
comp=Z,16nm,0.9s
TUL3 Leonard 47.30 86 P **P** **19 19 28.9 -0.1**
baz=315
ABTX Abilene, Hawle 47.44 92 P **P** **19 19 28.9 -1.3**
baz=317
L44A Lake County Fo 47.47 74 P **P** **19 19 28.4 -1.8**
baz=312
SFJD Kangerlussuaq 47.52 30 *i*P **P** **19 19 31.0 +0.8**
SFJD IAmb IAmb 19 19 32.8
comp=Z,10nm,0.6s
SFJD Kangerlussuaq 47.52 30 P **P** **19 19 30.3 +0.1**
comp=Z,9.8nm,0.5s,baz=298,slow=5.7,SNR=11
SFJD LR LR 19 39 06.8
comp=Z,70nm,21.3s,baz=340,slow=36
comp=Z,9.8nm,0.5s
GLMI Grayling 47.52 69 P **P** **19 19 29.4 -1.2**
baz=311
TX31 Lajitas Ar. Si 47.58 99 P **P** **19 19 32.9 +1.5**
TX31 IAmb IAmb 19 19 46.4
comp=Z,13nm,1.0s
TXAR Lajitas Array 47.58 99 P **P** **19 19 33.2 +1.9**
TXAR Lajitas Array 47.58 99 P **P** **19 19 33.2 +1.9**
TXAR Lajitas Array 47.58 99 P **P** **19 19 33.0 +1.7**
comp=Z,0.6nm,0.6s,baz=304,slow=5.8,SNR=11
TXAR PcP **PcP** **19 21 01.9 +1.3**
comp=Z,0.4nm,0.4s,baz=203,slow=0.9,SNR=6.8
TXAR LR LR 19 38 22.3
comp=Z,101nm,19.6s,baz=308,slow=34
comp=Z,0.6nm,0.6s
HDIL Hopedale 47.79 77 P **P** **19 19 33.4 +0.7**
HDIL Hopedale 47.79 77 P **P** **19 19 33.0 +0.3**
baz=313
HHAR Hobbs 48.10 84 **P** **19 19 35.3 0.0**
HHAR IAmb IAmb 19 20 34.9
comp=Z,42nm,2.0s
CCM Cathedral Cave 48.40 81 P **P** **19 19 37.2 -0.2**
baz=314
ICESG Greenland Ices 48.89 24 *i*P **P** **19 19 41.5 +0.3**
ICESG IAmb IAmb 19 19 43.0
comp=Z,11nm,0.6s
FVM French Village 48.91 80 **P** **19 19 42.0 +0.6**
FVM IAmb IAmb 19 19 55.0
comp=Z,15nm,0.9s
FVM French Village 48.91 80 P **P** **19 19 42.0 +0.6**
FVM pmax pmax
comp=Z,15nm,1.0s
JCT Junction City 48.93 94 P **P** **19 19 42.1 +0.4**
baz=318
VLDQ Val d'Or 49.12 62 **P** **19 19 41.7 -1.1**
SFIN Lafayette 49.13 75 P **P** **19 19 43.7 +0.6**
baz=313
WHTX Lake Whitney, 49.16 91 P **P** **19 19 44.0 +0.6**
baz=317
FCAR Ozark Folk Cen 49.42 83 P **P** **19 19 44.9 -0.4**
FCAR IAmb IAmb 19 19 58.0
comp=Z,18nm,1.2s
JMN Monobe 49.55 273 P **P** **19 19 44.8 -1.6**
JMN IAmb IAmb 19 20 14.0
comp=Z,20nm,1.0s
JCJ Chichijima 49.72 260 LR LR 19 37 17.5
comp=Z,50nm,21.0s,baz=117,slow=32
SCHQ Schefferville 49.73 49 P **P** **19 19 47.6 +0.1**
comp=Z,7.8nm,1.1s,baz=314,slow=5.8,SNR=7.4
SCHQ LR LR 19 43 00.3
comp=Z,59nm,18.2s,baz=330,slow=39
comp=Z,7.8nm,1.1s
KS19 Wonju Array Si 50.30 281 P **P** **19 19 52.6 +0.6**
KS19 IAmb IAmb 19 21 01.4
comp=Z,15nm,0.9s
O48B Farmland 50.30 74 P **P** **19 19 51.7 -0.3**
baz=314
KSRS Korea Array 50.30 281 P **P** **19 19 51.9 -0.1**
comp=Z,8.5nm,0.9s,baz=52,slow=6.9,SNR=27
KSRS LR LR 19 42 02.2
comp=Z,32nm,19.6s,baz=60,slow=37
comp=Z,8.5nm,0.9s
KSAR Wonju Array Be 50.33 281 P **P** **19 19 51.9 -0.3**
KSAR Wonju Array Be 50.33 281 P **P** **19 19 51.9 -0.3**
SADO Sadowa 50.47 66 P **P** **19 19 53.6 +0.4**
SADO Sadowa 50.47 66 LR LR 19 41 51.0
comp=Z,63nm,21.2s,baz=279,slow=37
P49A Miami Univ. Ec 51.04 74 P **P** **19 19 57.2 -0.4**
baz=314
SCO Scoresbysund 51.30 17 P **P** **19 19 59.5 +0.5**
SCO Scoresbysund 51.30 17 P **P** **19 19 59.5 +0.5**
SCO pmax pmax
comp=Z,54nm,1.8s
TJN Taejon 51.37 280 *ce*P **P** **19 19 59.9 -0.1**
ACSO Alum Creek Sta 51.51 73 P **P** **19 20 01.2 +0.2**
ACSO IAmb IAmb 19 20 52.8
comp=Z,25nm,1.3s
ACSO Alum Creek Sta 51.51 73 P **P** **19 20 01.5 +0.4**
baz=314
JTU Tsushima 51.54 277 P **P** **19 20 01.6 +0.2**
WVT Waverly 51.69 80 P **P** **19 20 02.8 +0.3**
WVT Waverly 51.69 80 P **P** **19 20 03.2 +0.8**
baz=316
WVT Waverly 51.69 80 P **P** **19 20 02.8 +0.3**
WVT pmax pmax
comp=Z,29nm,0.8s
JNU Nakatsue 51.71 275 P **P** **19 20 02.4 -0.2**
JNU IAmb IAmb 19 20 03.9
comp=Z,12nm,0.9s
JNU Nakatsue 51.71 275 LR LR 19 41 41.1
comp=Z,14nm,21.9s,baz=120,slow=36
TRQ Mont Tremblant 51.85 62 **P** **19 20 03.8 +0.2**
M53A Wi Miller and 51.93 70 P **P** **19 20 04.0 -0.1**
baz=314
OXF Oxford 51.95 82 P **P** **19 20 04.1 -0.3**
baz=316
XLT XiLinHaoTe 52.30 295 *e*P **P** **19 20 06.9 -0.1**
XLT pP pP 19 20 20.5 +0.2
XLT sP sP 19 20 25.0 -0.9
XLT PcP **PP** **19 22 04.3 -1.2**
XLT pmax pmax
comp=Z,14nm,0.9s
XLT pmax pmax
comp=Z,100nm,6.1s
WBO Williamsburg 52.32 63 **P** **19 20 07.4 +0.4**
P52A Corning 52.40 73 P **P** **19 20 07.7 +0.1**
baz=315
O53A New Philadelph 52.47 71 P **P** **19 20 07.1 -1.1**
baz=315
CLTN Cedars of Leba 52.56 79 P **P** **19 20 09.9 +0.9**
VBMS Vicksburg 52.99 85 P **P** **19 20 11.5 -0.5**
baz=317
MCWV Mont Chateau 53.63 71 P **P** **19 20 16.2 -0.6**
baz=315
TZTN Tazewell 53.80 76 P **P** **19 20 17.0 -1.1**
baz=316
BINY Binghamton 53.91 66 P **P** **19 20 17.6 -1.1**
baz=315
ULN Ulaanbaatar 54.06 304 P **P** **19 20 19.4 -0.6**
ULN Ulaanbaatar 54.06 304 *ce*P **P** **19 20 19.6 -0.4**
ULN pmax pmax
comp=Z,6.0nm,0.8s
TKL Tuckaleechee C 54.32 77 LR LR 19 43 09.7
comp=Z,138nm,19.1s,baz=282,slow=36
SONM Songino Array 54.40 304 P **P** **19 20 22.2 -0.2**
SONM IAmb IAmb 19 20 23.9
comp=Z,7.9nm,0.8s
SONM Songino Array 54.40 304 P **P** **19 20 22.2 -0.2**
SONM pmax pmax
comp=Z,8.0nm,0.8s
SONM Songino Array 54.40 304 P **P** **19 20 22.0 -0.3**
comp=Z,9.9nm,0.9s,baz=41,slow=7.1,SNR=43
SONM PcP **PcP** **19 21 25.7 +0.1**
comp=Z,4.5nm,1.0s,baz=42,slow=3.9,SNR=6.3
SONM LR LR 19 45 48.7
comp=Z,172nm,18.1s,baz=43,slow=38
comp=Z,9.9nm,0.9s
LRAL Lakeview Retre 54.40 82 P **P** **19 20 21.6 -0.9**
baz=317
LBNH Lisbon 54.57 62 P **P** **19 20 21.7 -1.8**
baz=315
BLA Blacksburg 55.06 74 P **P** **19 20 26.0 -1.2**
baz=316
KEV Kevo 55.41 357 P **P** **19 20 28.4 -0.8**
KEV Kevo 55.41 357 P **P** **19 20 28.4 -0.8**
KEV pmax pmax
comp=Z,172nm,1.9s
ARCES ARCESS Array B 55.67 358 P **P** **19 20 30.9 -0.2**
ARCES ARCESS Array B 55.67 358 P **P** **19 20 30.9 -0.2**
ARCES pmax pmax
comp=Z,87nm,1.8s

ARCES ARCESS Array B 55.67 358 P **P** **19 20 30.1 -1.0**
comp=Z,7.6nm,0.8s,baz=17,slow=6.5,SNR=18
ARCES LR LR 19 43 17.4
comp=Z,40nm,22.0s,baz=342,slow=35
comp=Z,7.6nm,0.8s
KMSC Kings Mountain 56.06 76 P **P** **19 20 32.7 -1.6**
baz=317
GOGA Godfrey 56.13 79 P **P** **19 20 32.9 -2.0**
baz=318
BORG Borgarnes 56.49 20 LR LR 19 48 14.6
comp=Z,53nm,18.1s,baz=336,slow=40
HHC Hu-ho-hao-te 56.81 295 *e*P **P** **19 20 40.3 +0.5**
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,72nm,4.0s
LVZ Lovozero 56.89 353 P **P** **19 20 39.6 -0.2**
LVZ Lovozero 56.89 353 *i* P **P** **19 20 40.4 +0.6**
LVZ pmax pmax
comp=Z,19nm,1.0s
HNS HongShan 57.66 290 ⇓P **P** **19 20 46.4 +0.8**
HNS pmax pmax
comp=Z,18nm,0.8s
JOW Kunigami 57.90 272 LR LR 19 44 09.3
comp=Z,22nm,21.6s,baz=72,slow=34
ZAA0 Zalesovo Array 58.90 321 P **P** **19 20 53.7 -0.3**
ZALV Zalesovo Beam 58.90 321 P **P** **19 20 53.9 -0.1**
ZALV Zalesovo Beam 58.90 321 *i* P **P** **19 20 54.7 +0.7**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 58.90 321 P **P** **19 20 52.8 -1.2**
comp=Z,0.7nm,0.4s,baz=46,slow=10,SNR=6.4
ZALV PcP **PcP** **19 21 43.1 +0.3**
comp=Z,2.2nm,0.8s,baz=15,slow=3.3,SNR=7.0
ZALV LR LR 19 48 25.3
comp=Z,238nm,19.1s,baz=40,slow=38
comp=Z,0.7nm,0.4s
GUMO Guam 59.08 248 LR LR 19 43 38.5
comp=Z,26nm,19.1s,baz=94,slow=33
NJ2 Nanjing 59.33 283 *e*P **P** **19 20 57.3 0.0**
NJ2 pP **pP** **19 21 09.3 -1.5**
NJ2 sP **sP** **19 21 14.3 -2.1**
NJ2 pmax pmax
comp=Z,15nm,0.5s
NJ2 pmax pmax
comp=Z,110nm,4.6s
DGZ Jazzator, Alta 61.28 317 *i* P **P** **19 21 10.8 +0.1**
DGZ pmax pmax
comp=Z,4.0nm,0.9s
PRGR Permogore 61.89 346 *e*P **P** **19 21 12.9 -1.4**
PRGR pmax pmax
comp=Z,17nm,0.8s
CMIG Matias Romero 62.13 100 LR LR 19 45 53.0
comp=Z,62nm,21.6s,baz=8.0,slow=34
WHN Wuhan 62.99 285 P **P** **19 21 22.0 -0.1**
XAN Xi'an 63.29 292 P **P** **19 21 23.8 -0.3**
XAN pmax pmax
comp=Z,18nm,1.0s
KLMR Klimovskoe 63.40 349 *e*P **P** **19 21 22.4 -1.9**
KLMR AMP 19 21 25.1
comp=Z,30nm,1.0s
KLMR *e*pP **sP** **19 21 41.3 -2.2**
KLMR Klimovskoe 63.40 349 *e*P **P** **19 21 22.4 -1.9**
KLMR *e**PP **sP** **19 21 41.3 -2.2**
KLMR pmax pmax
comp=Z,30nm,1.0s
SEM Semipalatinsk 63.42 321 *e*P **P** **19 21 24.8 -0.2**
baz=321
SEM Semipalatinsk 63.42 321 *e*P **P** **19 21 24.7 -0.2**
TEIG Tepich 63.42 92 LR LR 19 49 43.8
comp=Z,316nm,20.7s,baz=167,slow=37
SVE Sverdlovsk 63.64 336⇑ *e*P **P** **19 21 26.4 +0.4**
SVE pmax pmax
comp=Z,21nm,1.0s
KURK Kurchatov 63.74 323 P **P** **19 21 26.4 -0.3**
KURK IAmb IAmb 19 21 28.3
comp=Z,9.0nm,1.2s
KURK Kurchatov 63.74 323*ce*P **P** **19 21 26.7 -0.1**
KURK pmax pmax
comp=Z,9.0nm,1.3s
FIA1 FINESS Array S 63.76 357 P **P** **19 21 26.3 -0.5**
FINES FINESS Array B 63.76 357*ce*P **P** **19 21 26.5 -0.3**
FINES pmax pmax
comp=Z,9.0nm,0.4s
FINES FINESS Array B 63.76 357 P **P** **19 21 26.2 -0.5**
comp=Z,8.5nm,0.5s,baz=19,slow=7.8,SNR=83
FINES LR LR 19 51 05.0
comp=Z,24nm,18.2s,baz=47,slow=38
comp=Z,8.5nm,0.5s
NACB Ninganchiao 63.78 275 P **P** **19 21 26.3 -1.2**
GTA Gaotai 63.84 302 *e*P **P** **19 21 27.6 -0.2**
GTA pP pP 19 21 41.6 +0.1
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA LR LR
comp=N,130nm,15.3s
GTA LR LR
comp=E,99nm,15.6s
GTA LR LR
comp=Z,120nm,16.7s
KURBB Kurchatov Arra 63.85 323 P **P** **19 21 26.8 -0.7**
comp=Z,4.5nm,1.0s,baz=22,slow=6.6,SNR=18
KURBB LR LR 19 51 32.8
comp=Z,207nm,18.6s,baz=181,slow=38
comp=Z,4.5nm,1.0s
NB201 NORSAR Array S 64.08 5 P **P** **19 21 28.7 -0.2**
NB2 NORSAR Subarra 64.09 5 P **P** **19 21 29.0 0.0**
comp=Z,50nm,1.4s,baz=357,slow=6.5
NB2 NORSAR Subarra 64.09 5 P **P** **19 21 29.0 0.0**
baz=357,slow=6.5
NOA NORSAR Array B 64.09 5 P **P** **19 21 28.5 -0.5**
comp=Z,5.4nm,0.8s,baz=356,slow=6.5,SNR=11
NOA LR LR 19 49 29.2
comp=Z,22nm,21.1s,baz=340,slow=36
comp=Z,5.4nm,0.8s
ZSN Zaisan 64.11 317 *e*P **P** **19 21 29.2 -0.1**
comp=Z,14nm,1.1s,baz=317
ZSN Zaisan 64.11 317 *e*P **P** **19 21 29.2 -0.1**
ZSN pmax pmax
comp=Z,14nm,1.1s
KIRV Kirov 64.24 343*ce*P **P** **19 21 30.1 +0.2**
KIRV Kirov 64.24 343 LR LR 19 51 52.7
comp=Z,52nm,21.0s,baz=9.4,slow=38
LZH Lanzhou 64.39 297 *e*P **P** **19 21 31.5 0.0**
LZH pP pP 19 21 46.1 +1.0
LZH sP sP 19 21 56.4 +5.7
LZH pmax pmax
comp=Z,18nm,1.1s
BVAR Borovoye Array 64.44 329 P **P** **19 21 29.6 -1.8**
comp=Z,9.0nm,0.9s,baz=51,slow=7.8,SNR=33
BVAR LR LR 19 53 21.6
comp=Z,72nm,18.3s,baz=35,slow=40
comp=Z,9.0nm,0.9s
BRVK Borovoye 64.44 329 P **P** **19 21 31.7 +0.4**
BRVK IAmb IAmb 19 21 32.5
comp=Z,10nm,0.9s
BRVK Borovoye 64.44 329*ce*P **P** **19 21 31.2 -0.2**
BRVK pmax pmax
comp=Z,12nm,1.0s
ARU Arti 64.47 337 P **P** **19 21 30.9 -0.7**
ARU IAmb IAmb 19 21 32.6
comp=Z,14nm,0.7s
ARU Arti 64.47 337*d* *i*P **P** **19 21 31.5 0.0**
ARU S **S** **19 30 07.9 +1.5**
ARU SS **SS** **19 34 14.7 -1.4**
ARU pmax pmax
comp=Z,27nm,1.2s
ARU Arti 64.47 337 LR LR 19 52 41.7
comp=Z,57nm,18.7s,baz=112,slow=39
HFS Hagfors 65.09 3 P **P** **19 21 35.2 -0.2**
comp=Z,9.6nm,0.5s,baz=8.5,slow=3.0,SNR=86
comp=Z,9.6nm,0.5s
KONO Kongsberg 65.39 6*ce*P **P** **19 21 35.2 -2.2**
KONO pmax pmax
comp=Z,86nm,1.7s
MK31 Makanchi Array 65.65 318 P **P** **19 21 38.8 -0.5**
MK31 Makanchi Array 65.65 318*ce*P **P** **19 21 39.8 +0.4**
MKAR Makanchi Array 65.65 318 P **P** **19 21 38.8 -0.6**
MKAR Makanchi Array 65.65 318 P **P** **19 21 38.9 -0.5**
comp=Z,1.4nm,0.5s,baz=44,slow=5.3,SNR=37
MKAR LR LR 19 52 22.2
comp=Z,143nm,20.2s,baz=27,slow=38
comp=Z,1.4nm,0.5s
MAKZ Makanchi 65.76 318 P **P** **19 21 39.3 -0.8**
MAKZ Makanchi 65.76 318 P **P** **19 21 39.3 -0.8**
MAKZ pmax pmax
comp=Z,9.0nm,1.3s
TAOE Nuku Hiva Isla 65.86 158 *e*T T 20 32 40.9
comp=Z,72nm,0.3s
ENH Enshi 65.88 289 P **P** **19 21 40.3 -0.8**
ENH IAmb IAmb 19 21 41.8
comp=Z,21nm,1.0s
WMQ Urumqi 65.90 313 *e*P **P** **19 21 41.3 +0.2**
WMQ pP sP 19 21 57.8 -2.5
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ LR LR
comp=Z,140nm,24.5s
BRZS Berezniki 66.37 326 *e*P **P** **19 21 43.9 0.0**
baz=326
BRZS Berezniki 66.37 326 *e*P **P** **19 21 43.9 0.0**
EKB Eskdalemuir 68.42 14 P **P** **19 21 57.0 +0.3**
EKA Eskdalemuir Ar 68.43 14 P **P** **19 21 57.3 +0.5**
comp=Z,5.3nm,0.5s,baz=340,slow=5.0,SNR=28
comp=Z,5.3nm,0.5s
ESK Eskdalemuir 68.44 14 P **P** **19 21 56.9 +0.1**
ESK Eskdalemuir 68.44 14 P **P** **19 21 56.9 +0.1**
ESK pmax pmax
comp=Z,169nm,1.8s
TDK Taldyqorghan 68.63 319 *e*P **P** **19 21 58.4 +0.1**
comp=Z,6.9nm,0.8s,baz=319
TDK Taldyqorghan 68.63 319 *e*P **P** **19 21 58.3 +0.1**
TDK pmax pmax
comp=Z,7.0nm,0.8s
GOMU GeErMu 68.81 303 P **P** **19 21 59.3 -0.6**
GOMU pP pP 19 22 03.8 -10
GOMU sP sP 19 22 06.5 -13
GOMU pmax pmax
comp=Z,3.0nm,0.9s
OBN Obninsk 69.35 350⇓ *e*P **P** **19 22 02.4 0.0**
OBN *e*S **S** **19 31 01.1 -4.0**
OBN pmax pmax
comp=Z,12nm,0.9s
OBN MLR MLR
comp=Z,95nm,18.0s
OBN Obninsk 69.35 350 LR LR 19 55 20.3
comp=Z,94nm,21.7s,baz=182,slow=38
PABE Paberze 69.78 357 **P** **19 22 05.1 0.0**
SHLS Shalkode 69.80 318 *e*P **P** **19 22 05.0 -0.6**
comp=Z,19nm,1.4s,baz=317
SHLS Shalkode 69.80 318 *e*P **P** **19 22 05.0 -0.6**
SHLS pmax pmax
comp=Z,19nm,1.4s
KPKS Kokpek 69.83 318 *e*P **P** **19 22 06.3 +0.4**
comp=Z,8.2nm,1.1s,baz=318
KPKS Kokpek 69.83 318 *e*P **P** **19 22 06.2 +0.4**
KPKS pmax pmax
comp=Z,8.0nm,1.1s
AKTO Aktyubinsk 70.13 335 LR LR 19 57 17.0
comp=Z,72nm,18.2s,baz=78,slow=40
CHKK Chushkaly 70.14 320 *e*P **P** **19 22 07.2 -0.4**
baz=320
CHKK Chushkaly 70.14 320 *e*P **P** **19 22 07.2 -0.4**
BTLS Baital 70.19 322 *e*P **P** **19 22 08.1 +0.2**
baz=322
BTLS Baital 70.19 322 *e*P **P** **19 22 08.0 +0.2**
SATY Saty 70.28 318 *e*P **P** **19 22 08.7 +0.1**
baz=318
SATY Saty 70.28 318 *e*P **P** **19 22 08.7 +0.1**
KUU Kurty 70.35 320 *e*P **P** **19 22 09.0 +0.1**
baz=320
KUU Kurty 70.35 320 *e*P **P** **19 22 09.0 +0.1**
GYA Guiyang 70.40 288 ⇑P **P** **19 22 09.8 +0.3**
GYA pmax pmax
comp=Z,29nm,1.0s
BELG Belogornoye 70.46 342 *i* P **P** **19 22 08.7 -0.6**
BELG pmax pmax
comp=Z,4.0nm,1.0s
BELG Belogornoye 70.46 342 LR LR 19 57 27.8
comp=Z,116nm,19.2s,baz=335,slow=40
PMOR Pomariorio Ree 70.55 167 *e*T T 20 38 39.4
comp=Z,147nm,0.2s
MNK Minsk 70.63 355 *i* P **P** **19 22 09.7 -0.6**
comp=E,5.0nm,0.8s
MNK *i* P **P** **19 22 09.7 -0.6**
comp=N,18nm,1.0s
MNK *i* P **P** **19 22 09.7 -0.6**
comp=Z,27nm,0.8s,baz=5.1
MNK *i* pP **pP** **19 22 23.9 -0.2**
MNK *i* PP **PP** **19 24 47.4 +1.0**
MNK *i* PPP PPP 19 26 30.6
MNK *i* S **S** **19 31 21.1 +1.0**
MNK *i* sS **sS** **19 31 45.5 +2.3**
MNK *i* SS **SS** **19 35 54.5 +3.4**
MNK *i* SSS SSS 19 39 16.5
MNK *i* LQ LQ 19 44 56.8
MNK *i* LR LR 19 53 58.2
MNK *i* LRM MLR 19 55 50.6
MNK *i* LRM MLR 19 56 00.0
MNK *i* LRM MLR 19 56 32.2
MNK Minsk 70.63 355 *i* P **P** **19 22 09.7 -0.6**
MNK *i **PP **pP** **19 22 23.9 -0.2**
MNK *i* 19 22 29.5
MNK *i* 19 24 47.3
MNK *i* PPP PPP
MNK *i* S **S** **19 31 21.1 +1.0**
MNK *i **S **sS** **19 31 45.5 +2.3**
MNK *i* 19 32 09.2
MNK *i* SS **SS** **19 35 54.4 +3.4**
MNK pmax pmax
comp=Z,27nm,0.9s
MNK pmax pmax
comp=E,5.0nm,0.8s
MNK pmax pmax
comp=N,18nm,1.0s
MDOK Medeo 70.71 319 *e*P **P** **19 22 11.2 -0.1**
baz=319
MDOK Medeo 70.71 319 *e*P **P** **19 22 11.1 -0.1**
AAA Alma-Ata 70.72 319 *e*P **P** **19 22 11.3 +0.1**
comp=N,9.2nm,0.7s,baz=319
AAA Alma-Ata 70.72 319 *e*P **P** **19 22 11.3 +0.1**
AAA pmax pmax
comp=Z,9.0nm,0.7s
ABKAR Akbulak array 70.74 333 P **P** **19 22 10.8 -0.3**
ABKAR IAmb IAmb 19 22 12.3
comp=Z,12nm,0.7s
VAH Vaihoa 70.81 167 *e*T T 20 39 12.7
comp=Z,15nm,0.4s
SGDS Sogindy 71.36 321 *e*P **P** **19 22 15.5 +0.4**
baz=321
SGDS Sogindy 71.36 321 *e*P **P** **19 22 15.5 +0.4**
TKM2 Tokmak 2 71.46 320 P **P** **19 22 16.3 +0.4**
SNR=7.8
LPSR Galich'ya Gora 71.56 348 *e*P **P** **19 22 13.1 -2.9**
LPSR pmax pmax
comp=Z,20nm,0.6s
CHMS Chumysh 71.70 321 P **P** **19 22 17.8 +0.6**
SNR=5.5
FRU1 Bishkek 71.91 321 P **P** **19 22 18.9 +0.5**
FRU1 IAmb IAmb 19 22 20.2
comp=Z,17nm,1.0s
FRU1 Bishkek 71.91 321 P **P** **19 22 18.9 +0.5**
FRU1 pmax pmax
comp=Z,17nm,1.0s
KBK Karagaybulak 71.93 320 P **P** **19 22 19.2 +0.6**
SNR=8.6
AAK Ala-Archa 72.11 321 P **P** **19 22 19.6 -0.1**
AAK Ala-Archa 72.11 321*ce*P **P** **19 22 19.5 -0.2**
AAK pmax pmax
comp=Z,22nm,2.5s
AAK Ala-Archa 72.11 321 LR LR 19 56 38.9
comp=Z,225nm,18.4s,baz=43,slow=38
HNR Honiara 72.30 221 LR LR 19 47 40.2
comp=Z,565nm,21.1s,baz=130,slow=30
EKS2 Erkin-Say 72.35 321 P **P** **19 22 21.7 +0.5**
SNR=8.8
VRH Novokhopyorsk 72.55 346 *e*P **P** **19 22 19.3 -2.7**
VRH pmax pmax
comp=Z,10.0nm,0.6s
NRDL Niedersach Rie 72.56 6 *e*P **P** **19 22 22.9 +1.0**
comp=Z,8.8nm,0.9s,baz=356,slow=5.8
IBBN Ibbenburen 72.58 8 *e*P **P** **19 22 23.1 +0.9**
comp=Z,24nm,1.0s,baz=356,slow=5.8
RUE Ruedersdorf 72.75 4 *e*P **P** **19 22 23.9 +0.8**
comp=Z,26nm,0.8s,baz=356,slow=5.8
FLTG Flechtingen 72.78 5 *e*P **P** **19 22 23.7 +0.3**
comp=Z,11nm,0.9s,baz=356,slow=5.8
AML Almayashu 72.84 321 P **P** **19 22 25.5 +1.1**
SNR=9.5
PPT Papeete 72.88 169 LR LR 19 47 21.2
comp=Z,75nm,19.4s,baz=2.0,slow=30
VSR Storozhevoye 72.89 347 *e*P **P** **19 22 22.0 -1.9**
VSR pmax pmax
comp=Z,20nm,0.6s
TIAR Tiarei 72.90 169 *e*T T 20 41 38.3
comp=Z,13nm,0.3s
PPT2 Papeete2 72.90 169 *e*LR LR 19 44 43.0
comp=Z,196nm,28.8s
PPT2 *e*LR LR 19 44 50.6
comp=Z,144nm,29.0s
DZA Taraz 73.02 323 *e*P **P** **19 22 24.8 -0.2**
baz=323
DZA Taraz 73.02 323 *e*P **P** **19 22 24.7 -0.2**
PZH PanZhiHua 73.03 292 P **P** **19 22 24.9 -0.4**
PZH pmax pmax
comp=Z,9.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.7s
KK31 Karatay Array 73.11 324 P **P** **19 22 25.0 -0.5**
KK31 IAmb IAmb 19 22 26.5
comp=Z,9.5nm,0.9s
KK31 Karatay Array 73.11 324 P **P** **19 22 25.0 -0.5**
KK31 pmax pmax
comp=Z,9.0nm,1.0s
KKAR Karatay Array 73.11 324 P **P** **19 22 25.0 -0.5**
KKAR Karatay Array 73.11 324 P **P** **19 22 25.0 -0.5**
VORD Divnogorie 73.11 347 *e*P **P** **19 22 23.1 -2.2**
VORD pmax pmax
comp=Z,10.0nm,0.5s
TVO Taravao 73.13 169 *e*T T 20 42 09.2
comp=Z,6.6nm,0.3s
CLZ Clausthal 73.22 6 *e*P **P** **19 22 27.0 +1.0**
comp=Z,21nm,1.1s,baz=356,slow=5.8
JTS Las Juntas de 73.27 96 LR LR 19 55 38.0
comp=Z,55nm,18.4s,baz=40,slow=36
MEH Mehetia 73.36 168 *e*T T 20 42 26.5
comp=Z,14nm,0.2s
GTTG Gottingen 73.49 6 *e*P **P** **19 22 28.5 +1.0**
comp=Z,15nm,1.0s,baz=356,slow=5.8
KASTN Kahler Asten 73.73 7 *e*P **P** **19 22 29.7 +0.7**
comp=Z,7.4nm,1.1s,baz=356,slow=5.8
ARSB Arslanbob 73.81 321 P **P** **19 22 29.5 -0.2**
ARSB Arslanbob 73.81 321 P **P** **19 22 29.5 -0.2**
ARSB pmax pmax
comp=Z,2.0nm,1.1s
CLL Collm 73.89 4 *i* P **P** **19 22 30.2 +0.3**
comp=Z,9.0nm,1.0s
CLL Collm 73.89 4 *i* P **P** **19 22 30.2 +0.3**
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 73.89 4 *e*P **P** **19 22 30.1 +0.3**
comp=Z,7.7nm,0.9s,baz=356,slow=5.8
KSH Kashi 74.26 318 P **P** **19 22 36.0 +3.6**
KSH pmax pmax
comp=Z,25nm,0.9s
FBE Freiberg 74.29 4 *e*P **P** **19 22 33.2 +0.9**
comp=Z,8.5nm,0.7s,baz=356,slow=5.8
BMRD Maredsous 74.31 10 *d*P **P** **19 22 33.7 +1.4**
comp=Z,8.2nm,1.1s
AKASG Malin Array Be 74.34 354 P **P** **19 22 31.9 -0.5**
AKASG Malin Array Be 74.34 354 P **P** **19 22 31.9 -0.5**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 74.34 354 P **P** **19 22 32.0 -0.5**
comp=Z,9.1nm,0.5s,baz=7.8,slow=5.9,SNR=68
AKASG LR LR 19 59 23.6
comp=Z,58nm,18.6s,baz=33,slow=39
comp=Z,9.1nm,0.5s
AKBB Malin Array Si 74.34 354 P **P** **19 22 32.1 -0.4**
AKBB IAmb IAmb 19 22 33.1
comp=Z,20nm,0.8s
AKBB Malin Array Si 74.34 354*ce*P **P** **19 22 32.7 +0.2**
AKBB pmax pmax
comp=Z,20nm,0.7s
KIEV Kiev 74.35 354 P **P** **19 22 32.1 -0.4**
KIEV IAmb IAmb 19 22 33.1
comp=Z,18nm,0.8s
KIEV Kiev 74.35 354 P **P** **19 22 32.1 -0.4**
KIEV pmax pmax
comp=Z,18nm,0.8s
BRG Berggiesshubel 74.36 4 *e*P **P** **19 22 33.2 +0.5**
BRG Amp 19 22 34.4
comp=Z,6.9nm,0.9s
BRG Berggiesshubel 74.36 4 P P 19 22 40.0 +7.4
BRG Amp 19 22 42.4
comp=Z,9.3nm,1.4s
BRG Berggiesshubel 74.36 4 *e*P **P** **19 22 33.1 +0.5**
BRG 19 22 52.7
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG pmax pmax
comp=Z,9.0nm,1.4s
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG Berggiesshubel 74.36 4 *e*P **P** **19 22 33.5 +0.8**
comp=Z,6.9nm,0.9s,baz=356,slow=5.8
MOX Moxa 74.49 5 *e*P **P** **19 22 34.0 +0.6**
comp=Z,14nm,1.0s,baz=356,slow=5.8
TNS Taunus Mts 74.71 7 *e*P **P** **19 22 35.9 +1.1**
comp=Z,9.6nm,0.9s,baz=356,slow=5.8
CHVC Chvalec 74.72 2 *e*P **P** **19 22 34.7 0.0**
CHVC Chvalec 74.72 2 *e*P **P** **19 22 34.7 0.0**
WERD Werda 74.72 5 *e*P **P** **19 22 35.7 +0.9**
comp=Z,8.2nm,1.1s,baz=356,slow=5.8
PVCC Panska Ves 74.73 3 *e*P **P** **19 22 35.5 +0.7**
PVCC Panska Ves 74.73 3 *e*P **P** **19 22 35.5 +0.7**
OSTC Ostas 74.75 2 *e*P **P** **19 22 36.2 +1.3**
OSTC Ostas 74.75 2 *e*P **P** **19 22 36.2 +1.3**
UPC Upice 74.80 2 *e*P **P** **19 22 34.5 -0.7**
UPC Upice 74.80 2 *e*P **P** **19 22 34.5 -0.7**
WERN Wernitzgruen 74.88 5 *e*P **P** **19 22 36.5 +0.8**
comp=Z,17nm,1.3s,baz=356,slow=5.8
NKC Novy Kostel 74.94 5 *e*P **P** **19 22 37.5 +1.5**
NKC Novy Kostel 74.94 5 *e*P **P** **19 22 37.5 +1.5**
DPC Dobruska-Polom 74.96 2 *e*P **P** **19 22 36.6 +0.4**
DPC epP **pP** **19 22 50.7 +0.6**
DPC Dobruska-Polom 74.96 2 *e*P **P** **19 22 36.6 +0.4**
DPC *e* 19 22 50.7
WLF Walferdange 75.07 9 *d*P **P** **19 22 38.0 +1.3**
WLF Walferdange 75.07 9 *e*P **P** **19 22 38.1 +1.4**
comp=Z,14nm,1.0s,baz=356,slow=5.8
OJC Ojcow 75.13 360 P **P** **19 22 37.1 0.0**
OJC Ojcow 75.13 360 P **P** **19 22 37.1 0.0**
OJC pmax pmax
comp=Z,9.0nm,1.2s
PRU Pruhonice 75.27 3 *e*P **P** **19 22 38.2 +0.3**
PRU Pruhonice 75.27 3 *e*P **P** **19 22 38.2 +0.3**
ROTZ Rotzenmuhle 75.39 5 *e*P **P** **19 22 39.6 +0.9**
comp=Z,3.3nm,1.2s,baz=356,slow=5.8
GRF Grafenberg Arr 75.42 6 *e*P **P** **19 22 39.9 +1.1**
comp=Z,7.0nm,0.7s,baz=356,slow=5.8
GRF *ep*P **pP** **19 22 52.8 +0.1**
GRF *es*P **sP** **19 22 57.4 -0.8**
LVV L'vov 75.46 357 *e*P **P** **19 22 39.0 0.0**
OKC Ostrava-Krasne 75.50 1 *e*P **P** **19 22 39.1 -0.1**
OKC Ostrava-Krasne 75.50 1 *e*P **P** **19 22 39.1 -0.1**
MORC Moravsky Berou 75.56 1⇑P **P** **19 22 40.1 +0.5**
MORC Moravsky Berou 75.56 1 *e*P **P** **19 22 39.6 0.0**
MORC Moravsky Berou 75.56 1 P **P** **19 22 40.1 +0.5**
BTK Batken 75.70 322 P **P** **19 22 40.3 -0.4**
BTK IAmb IAmb 19 22 41.8
comp=Z,11nm,0.9s
BTK Batken 75.70 322 P **P** **19 22 40.3 -0.4**
BTK pmax pmax
comp=Z,11nm,1.0s
ZVC Zvikov 75.81 4 *e*P **P** **19 22 41.4 +0.4**
LSA Lhasa 75.87 302 P **P** **19 22 42.6 +0.4**
LSA IAmb IAmb 19 22 44.7
comp=Z,21nm,0.9s
LSA Lhasa 75.87 302 P **P** **19 22 42.6 +0.4**
LSA pmax pmax
comp=Z,21nm,0.9s
SLVN Son La 75.99 287 P **P** **19 22 42.5 -0.1**
SLVN IAmb IAmb 19 22 44.1
comp=Z,11nm,0.7s
VRAC Vranov 76.01 2⇓P **P** **19 22 42.4 +0.2**
VRAC Vranov 76.01 2 *e*P **P** **19 22 42.6 +0.5**
VRAC Vranov 76.01 2 P **P** **19 22 42.3 +0.2**
WET Wettzell 76.05 5 *e*P **P** **19 22 43.2 +0.8**
comp=Z,7.1nm,1.1s,baz=356,slow=5.8
KHC Kasperske Hory 76.09 4 P **P** **19 22 43.2 +0.5**
KHC IAmb IAmb 19 22 44.9
comp=Z,11nm,1.0s
KHC Kasperske Hory 76.09 4 *e*P **P** **19 22 43.8 +1.1**
KHC *ep*P **pP** **19 22 57.4 +0.8**
KHC Kasperske Hory 76.09 4 *i* P **P** **19 22 43.3 +0.6**

KHC pmax pmax
comp=Z,24nm,0.9s
LANS Liptovska Anna 76.20 0 *eP* **P 19 22 45.0 +1.7**
LANS Liptovska Anna 76.20 0 *eP* **P 19 22 45.0 +1.7**
LANS pmax pmax
comp=Z,6.0nm,0.9s
KRUC Moravsky 76.25 2 *eP* **P 19 22 44.0 +0.5**
CLF Chambon-Foret 76.28 12 P **P 19 22 43.9 +0.2**
CLF IAmb IAmb 19 22 45.9
comp=Z,23nm,1.0s
GEC2 GERESS Array S 76.38 4 P **P 19 22 44.4 0.0**
GEC2 GERESS Array S 76.38 4 *eP* **P 19 22 45.0 +0.5**
comp=Z,8.8nm,1.1s,baz=356,slow=5.8
GERES GERESS Array B 76.38 4 P **P 19 22 44.9 +0.5**
GERES GERESS Array B 76.38 4 P **P 19 22 44.9 +0.5**
GERES GERESS Array B 76.38 4 P **P 19 22 44.3 -0.1**
comp=Z,4.5nm,0.9s,baz=349,slow=4.0,SNR=3.2
GERES LR LR 19 54 49.3
comp=Z,19nm,21.8s,baz=280,slow=34
comp=Z,4.5nm,0.9s
KOLS Kolonicke sedl 76.39 358 *eP* **P 19 22 45.8 +1.5**
KOLS Kolonicke sedl 76.39 358 *eP* **P 19 22 45.8 +1.5**
KOLS pmax pmax
comp=Z,11nm,1.1s
CKRC Cesky Krumlov 76.43 4 *eP* **P 19 22 45.4 +0.8**
CKRC Cesky Krumlov 76.43 4 *eP* **P 19 22 45.4 +0.8**
CRVS Cervenica-Dubn 76.43 359 *eP* **P 19 22 46.0 +1.5**
CRVS Cervenica-Dubn 76.43 359 *eP* **P 19 22 46.1 +1.5**
JAVC Velka Javorina 76.48 1 *eP* **P 19 22 46.5 +1.6**
BFO Black Forest 76.58 8 *eP* **P 19 22 46.1 +0.6**
comp=Z,3.8nm,1.0s,baz=356,slow=5.8
ECH Echery 76.60 9 P **P 19 22 45.9 +0.4**
ECH IAmb IAmb 19 22 47.8
comp=Z,11nm,1.0s
ECH Echery 76.60 9 P **P 19 22 45.9 +0.4**
ECH pmax pmax
comp=Z,11nm,1.0s
VYHS Vyhne 76.85 1 *eP* **P 19 22 47.7 +0.8**
VYHS Vyhne 76.85 1 *eP* **P 19 22 47.7 +0.8**
VYHS pmax pmax
comp=Z,10.0nm,0.9s
KECS Kecovo 76.86 359 *eP* **P 19 22 48.8 +1.8**
KECS Kecovo 76.86 359 *eP* **P 19 22 48.8 +1.8**
KECS pmax pmax
comp=Z,16nm,0.8s
SORM Soroca 76.95 354 ⇑P **P 19 22 46.7 -0.7**
SORM Soroca 76.95 354 P **P 19 22 46.7 -0.7**
MODS Modra-Piesok 76.96 2 *eP* **P 19 22 48.8 +1.3**
MODS Modra-Piesok 76.96 2 *eP* **P 19 22 48.8 +1.3**
MODS pmax pmax
comp=Z,27nm,0.9s
ZST Bratislava 77.13 2 *eP* **P 19 22 50.5 +2.0**
ZST Bratislava 77.13 2 *eP* **P 19 22 50.5 +2.0**
ZST pmax pmax
comp=Z,38nm,0.8s
UBR Ueberruh 77.35 7 *eP* **P 19 22 51.1 +1.2**
comp=Z,6.5nm,1.1s,baz=356,slow=5.8
CONA Conrad Observa 77.37 3 *eP* **P 19 22 51.3 +1.4**
comp=Z,10nm,0.9s
PSZ Piszkesteto 77.43 360 ⇑P **P 19 22 51.3 +1.1**
PSZ Piszkesteto 77.43 360 P **P 19 22 51.3 +1.1**
RJOB Jochberg 77.45 5 *eP* **P 19 22 51.4 +1.0**
comp=Z,11nm,0.8s,baz=356,slow=5.8
CHGR Chuyangaron 77.53 322 P **P 19 22 50.7 -0.3**
CHGR Chuyangaron 77.53 322 P **P 19 22 50.7 -0.3**
CHGR pmax pmax
comp=Z,41nm,0.7s
RETA Reutte 77.59 6 *iP* **P 19 22 52.2 +1.1**
comp=Z,6.0nm,1.2s
BUR08 Bucovina Ar. S 77.60 356 P **P 19 22 51.2 0.0**
BUR08 IAmb IAmb 19 22 54.4
comp=Z,13nm,1.4s
RONA Rosalia, Austr 77.61 2 *iP* **P 19 22 53.0 +1.8**
comp=Z,6.1nm,0.7s
BURAR Bucovina Array 77.63 356 P **P 19 22 51.7 +0.3**
MOTA Moosalm 77.75 6 *eP* **P 19 22 53.2 +1.1**
comp=Z,15nm,1.1s,SNR=5.5
LESA Schwarzleotal 77.76 5 *iP* **P 19 22 53.3 +1.2**
comp=Z,3.1nm,0.5s
WATA Walderalm 77.79 6 *iP* **P 19 22 53.5 +1.2**
comp=Z,14nm,1.0s,SNR=6.1
WTTA Wattenberg 77.86 6 *iP* **P 19 22 54.2 +1.4**
comp=Z,14nm,0.8s,SNR=6.2
WTTA Wattenberg 77.86 6 *eP* **P 19 22 53.7 +0.9**
comp=Z,17nm,1.1s,baz=356,slow=5.8
SQTA Sankt Quirin 77.88 6 *eP* **P 19 22 54.1 +1.3**
comp=Z,18nm,0.9s,SNR=8.5
ARSA Arzberg 78.04 3 *iP* **P 19 22 55.2 +1.6**
comp=Z,9.3nm,1.0s
ARSA Arzberg 78.04 3 *eP* **P 19 22 54.7 +1.1**
comp=Z,8.0nm,1.0s,baz=356,slow=5.8
FETA Feichten 78.05 6 *eP* **P 19 22 55.3 +1.5**
comp=Z,15nm,1.1s,SNR=6.9
KBA Koelnbreinsper 78.13 4 *iP* **P 19 22 56.1 +1.8**
comp=Z,22nm,1.3s
KBA Koelnbreinsper 78.13 4 *eP* **P 19 22 55.6 +1.3**
comp=Z,16nm,0.9s,baz=356,slow=5.8
DAVOX Davos/Dischmat 78.23 7 LR LR 19 58 20.7
comp=Z,21nm,21.9s,baz=36,slow=36
FUORN Ofenpass-Fuorn 78.42 7 P **P 19 22 56.5 +0.5**
FUORN IAmb IAmb 19 22 58.4
comp=Z,10nm,1.2s
ABTA Abfaltersbach 78.42 5 *iP* **P 19 22 56.7 +0.9**
comp=Z,8.7nm,1.2s
VASR Vaslui 78.47 354 ⇓P **P 19 22 56.8 +0.8**
MYKA Terra Mystica 78.59 4 *iP* **P 19 22 57.6 +0.9**
comp=Z,4.6nm,1.0s
SOKA Soboth 78.60 3 *eP* **P 19 22 58.0 +1.2**
comp=Z,20nm,1.2s,SNR=7.2
TBI Tubuai 78.61 170 *e*LR LR 19 47 22.8
comp=Z,988nm,28.0s
TBI *e*LR LR 19 47 29.0
comp=Z,580nm,26.8s
TBI Tubuai 78.61 170 *e*T T 20 49 05.3
comp=Z,54nm,0.3s
OBKA Obir 78.75 4 *iP* **P 19 22 58.8 +1.2**
comp=Z,35nm,1.1s
OBKA Obir 78.75 4 *eP* **P 19 22 58.4 +0.8**
comp=Z,16nm,0.7s,baz=356,slow=5.8
PRED Cave del Predi 78.78 4 P **P 19 22 58.0 +0.3**
PRED IAmb IAmb 19 22 59.6
comp=Z,12nm,1.2s
CRAI Chiangrai 78.82 289 P **P 19 22 58.1 -0.1**
CRAI IAmb IAmb 19 22 59.5
comp=Z,15nm,0.7s
GROS Grobnik 78.83 3 *iP* **P 19 22 58.6 +0.6**
SHL Shillong 78.92 299 P **P 19 22 57.8 -1.2**
SHL IAmb IAmb 19 22 58.9
comp=Z,13nm,1.0s
SHL Shillong 78.92 299 P **P 19 22 57.8 -1.2**
SHL pmax pmax
comp=Z,13nm,1.0s
ROBS Robic 78.97 4 *iP* **P 19 22 58.4 -0.3**
CTI Castel Tesino 79.07 6 P **P 19 22 59.2 -0.2**
CTI Castel Tesino 79.07 6 P **P 19 22 59.2 -0.2**
CTI pmax pmax
comp=Z,7.0nm,1.1s
OZUR 79.12 356 ⇓P **P 19 23 00.7 +1.1**
MORH Mrgy, Hungar 79.13 1 ⇓P **P 19 23 00.2 +0.7**
DOPR Dopca 79.27 356 ⇑P **P 19 23 01.6 +1.3**
COVR Voineasa-Covas 79.35 355 ⇓P **P 19 23 02.3 +1.4**
KIV Kislovodsk 79.47 343 ⇓P **P 19 23 02.5 +1.0**
KIV Kislovodsk 79.47 343 P **P 19 23 01.8 +0.2**
KIV IAmb IAmb 19 23 03.3
comp=Z,16nm,0.9s
KIV Kislovodsk 79.47 343 *eP* **P 19 23 02.3 +0.7**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,47nm,19.0s
TAPN Taplejung 79.50 303 *eP* **P 19 23 02.2 -0.1**
SURR Surduc 79.57 358 ⇓P **P 19 23 02.9 +0.9**
FAKI Fak Fak 79.65 250 P **P 19 23 02.4 -0.3**
FAKI IAmb IAmb 19 24 51.2
comp=Z,26nm,1.1s
KBZ Khabaz 79.65 343 *ce*P **P 19 23 03.4 +1.0**
KBZ pmax pmax
comp=Z,13nm,0.9s
KBZ Khabaz 79.65 343 P **P 19 23 02.4 0.0**
comp=Z,13nm,0.9s,baz=324,slow=2.1,SNR=17
KBZ LR LR 20 02 00.6
comp=Z,54nm,20.5s,baz=15,slow=38
comp=Z,13nm,0.9s
SHA1 Shidzhatmaz 79.68 343 *iP* **P 19 23 03.1 +0.2**
BNI Bardonecchia 79.69 9 P **P 19 23 04.0 +1.2**
BNI IAmb IAmb 19 23 23.9
comp=Z,17nm,1.4s
BNI Bardonecchia 79.69 9 P **P 19 23 04.0 +1.2**
BNI pmax pmax
comp=Z,17nm,1.4s
MLR Muntele Rosu 79.72 355 LR LR 20 03 24.9
comp=Z,36nm,18.3s,baz=304,slow=40
BZS Buzias 79.72 359 ⇑P **P 19 23 03.5 +0.7**
BZS Buzias 79.72 359 P **P 19 23 03.4 +0.7**
NCK Nalchik 79.76 343 *iP* **P 19 23 03.5 +0.4**
NCK pmax pmax
comp=Z,30nm,0.9s
TEOL Teolo 79.76 6 P **P 19 23 03.5 +0.5**
TEOL IAmb IAmb 19 23 05.3
comp=Z,25nm,0.9s
VOIR 79.81 356 ⇓P **P 19 23 04.0 +0.6**
VOIR 79.81 356 P **P 19 23 04.0 +0.6**
GUN Gumba 79.90 305 *eP* **P 19 23 04.6 +0.1**
comp=Z,118nm,1.0s
CFR Carcaliu 79.91 354 ⇑P **P 19 23 04.0 +0.1**
CFR Carcaliu 79.91 354 P **P 19 23 03.9 +0.1**
GZR Gura Zlata 79.92 358 ⇑P **P 19 23 04.5 +0.5**
GZR Gura Zlata 79.92 358 P **P 19 23 04.5 +0.5**
JIRN Jiri 79.96 304 *eP* **P 19 23 05.2 +0.3**
UBPT Khong Chiam 80.00 282 P **P 19 23 04.4 -0.3**
UBPT IAmb IAmb 19 23 06.0
comp=Z,23nm,1.0s
ODAN Odare 80.06 303 *eP* **P 19 23 05.1 -0.1**
KKN Kakani 80.29 305 *eP* **P 19 23 06.5 +0.1**
RAMN Ramite 80.36 304 *eP* **P 19 23 07.1 +0.2**
GKN Gorkha 80.41 306 *eP* **P 19 23 06.9 -0.1**
PKI Pulchoki 80.41 305 *eP* **P 19 23 06.9 -0.3**
HERR Herculane 80.44 358 ⇑P **P 19 23 07.7 +1.0**
NIL Nilore 80.45 317 P **P 19 23 07.3 +0.3**
NIL Nilore 80.45 317 P **P 19 23 07.3 +0.3**
NIL pmax pmax
comp=Z,37nm,0.8s
PGAV Gavieira, Arco 80.49 21 *eP* **P 19 23 07.9 +0.7**
comp=Z,20nm,1.3s
PGAV *ep*P **pP 19 23 21.2 0.0**
DMN Daman 80.52 305 *eP* **P 19 23 07.8 +0.1**
DANN Dangsing 80.52 306 *eP* **P 19 23 08.0 +0.2**
MDVR Moldovita 80.55 359 ⇓P **P 19 23 08.0 +0.6**
MSSA Maissana 80.66 7 P **P 19 23 07.8 -0.2**
MSSA IAmb IAmb 19 23 11.6
comp=Z,12nm,1.1s
CHTO Chiang Mai 80.75 289 P **P 19 23 08.0 -0.7**
CHTO Chiang Mai 80.75 289 P **P 19 23 08.0 -0.7**
CHTO pmax pmax
comp=Z,10.0nm,1.2s
PBRG Braganca 80.95 20 *eP* **P 19 23 11.9 +2.4**
comp=Z,12nm,1.6s
CM31 Chiang Mai Arr 81.04 289 P **P 19 23 10.2 -0.1**
CM31 IAmb IAmb 19 23 11.4
comp=Z,20nm,0.9s
CMAR Chiang Mai Arr 81.04 289 *ce*P **P 19 23 10.3 0.0**
CMAR pmax pmax
comp=Z,17nm,0.9s
CMAR Chiang Mai Arr 81.04 289 P **P 19 23 10.1 -0.2**
comp=Z,16nm,0.9s,baz=16,slow=5.5,SNR=128
CMAR LR LR 20 02 37.5
comp=Z,25nm,19.2s,baz=55,slow=38
comp=Z,16nm,0.9s
KOLN Koldanda 81.09 306 *eP* **P 19 23 10.7 0.0**
PYUN Piuthan 81.09 307 *eP* **P 19 23 10.5 -0.2**
POLO Lamas de Olo 81.16 21 *ep*P pP 19 23 26.4 +1.6
KBL Kabul 81.25 321 P **P 19 23 10.2 -1.3**
KBL IAmb IAmb 19 23 11.8
comp=Z,16nm,0.9s
KBL Kabul 81.25 321 P **P 19 23 10.2 -1.3**
KBL pmax pmax
comp=Z,16nm,0.9s
PVRL Vila Real 81.27 21 *eP* **P 19 23 13.5 +2.3**
comp=Z,20nm,1.5s
PVRL *ep*P **pP 19 23 26.9 +1.6**
MVO Moncorvo 81.51 20 *eP* **P 19 23 14.7 +2.1**
comp=Z,19nm,1.3s
MVO *ep*P **pP 19 23 28.2 +1.6**
BOVS Bovan 81.70 358 ⇓P **P 19 23 13.6 +0.2**
GEYT Alibeck 81.72 330 P **P 19 23 14.3 +0.6**
GEYT IAmb IAmb 19 23 15.8
comp=Z,17nm,0.8s
GEYT Alibeck 81.72 330 P **P 19 23 14.3 +0.6**
GEYT pmax pmax
comp=Z,17nm,0.9s
GEYT Alibeck 81.72 330 P **P 19 23 13.8 +0.1**
comp=Z,15nm,0.9s,baz=321,slow=3.7,SNR=21
GEYT LR LR 20 02 55.5
comp=Z,121nm,19.2s,baz=46,slow=38
comp=Z,15nm,0.9s
GYA0B ALIBECK ARRAY 81.72 330 P **P 19 23 14.1 +0.4**
GYA0B IAmb IAmb 19 23 15.7
comp=Z,15nm,0.9s
PVIS Viseu 81.77 21 *ep*P pP 19 23 29.5 +1.5
DZM Mont Dzumac 81.86 211 *e*LR LR 19 48 43.9
comp=Z,89nm,23.1s
DZM Mont Dzumac 81.86 211 LR LR 19 55 21.4
comp=Z,50nm,18.4s,baz=3.0,slow=32
MTE Manteigas 82.15 21 *eP* **P 19 23 18.0 +2.1**
comp=Z,14nm,2.0s
MTE *ep*P **pP 19 23 31.6 +1.6**
PCAS Casmilo, Conde 82.28 21 *eP* **P 19 23 18.1 +1.6**
comp=Z,29nm,1.5s
PCAS *ep*P **pP 19 23 32.1 +1.5**
PTBC PUERTO BERRIO, 82.33 90 *eP* **P 19 23 17.2 +0.1**
SDV Santo Domingo 82.63 85 LR LR 20 01 42.9
comp=Z,43nm,19.7s,baz=316,slow=37
PAMC Pamplona, Colo 82.70 88 *eP* **P 19 23 19.8 +0.2**
PCBR Castelo Branco 82.70 21 *eP* **P 19 23 20.0 +1.3**
comp=Z,13nm,1.7s
PCBR *ep*P **pP 19 23 33.8 +1.0**
GNI Garni 82.80 341 LR LR 20 05 14.2
comp=Z,54nm,18.6s,baz=28,slow=39
GUY2C Guyana, Caldas 82.88 91 *eP* **P 19 23 21.6 +1.1**
BARC Barichara 83.03 89 *eP* **P 19 23 21.4 +0.4**
PMRV Marv??o 83.11 21 *eP* **P 19 23 22.6 +1.7**
comp=Z,10nm,1.5s
PMRV *ep*P **pP 19 23 37.1 +2.1**
PMAFR Mafra 83.17 22 *ep*P pP 19 23 37.1 +1.8
PMTG Montargil 83.28 21 *eP* **P 19 23 23.3 +1.6**
comp=Z,12nm,1.3s
PMTG *ep*P **pP 19 23 36.5 +0.7**
YOTC Yotoco, Valle 83.32 93 *eP* **P 19 23 23.2 +0.8**
LUWI Luwuk 83.34 259 P **P 19 23.4 -0.9**
ESBB Sonseca Array 83.53 18 P **P 19 23 23.7 +0.6**
ESBB IAmb IAmb 19 23 39.2
comp=Z,8.1nm,0.8s
ESDC Sonseca Array 83.53 18 P **P 19 23 23.7 +0.6**
ESDC IAmb IAmb 19 23 39.3
comp=Z,8.4nm,0.8s
ESDC Sonseca Array 83.53 18 P **P 19 23 24.1 +1.0**
comp=Z,8.2nm,1.0s,baz=345,slow=4.8,SNR=39
ESDC LR LR 20 02 35.5
comp=Z,25nm,19.6s,baz=5.5,slow=37
comp=Z,8.2nm,1.0s
PAB San Pablo 83.59 18 P **P 19 23 24.2 +0.8**
PAB San Pablo 83.59 18 P **P 19 23 24.2 +0.8**
PAB pmax pmax
comp=Z,5.0nm,0.8s
PESTR Estremoz 83.61 21 *eP* **P 19 23 24.9 +1.4**
comp=Z,9.7nm,1.5s
PESTR *ep*P **pP 19 23 38.6 +1.0**
PESTR Estremoz 83.61 21 P **P 19 23 23.4 -0.1**
PESTR IAmb IAmb 19 23 39.1
comp=Z,9.7nm,0.9s
HRA Herat 83.74 326 P **P 19 23 23.9 -0.5**
HRA IAmb IAmb 19 23 25.8
comp=Z,17nm,1.2s
JAMC Jamundi, Valle 83.75 93 *eP* **P 19 23 26.0 +1.3**
EVO Evora 83.85 21 *eP* **P 19 23 26.8 +2.2**
comp=Z,10nm,1.5s
EVO *ep*P **pP 19 23 40.0 +1.2**
ORTC Ortega, Tolima 84.01 92 *eP* **P 19 23 26.2 +0.4**
RDO Rodhopi 84.07 356 P **P 19 23 26.1 +0.4**
BAUV El Baul 84.07 83 P **P 19 23 25.8 -0.3**
PNCL Nicolau / Gran 84.14 22 *eP* **P 19 23 27.6 +1.5**
comp=Z,24nm,1.0s
PNCL *ep*P **pP 19 23 41.5 +1.3**
POPC Popayan, Colom 84.30 94 *eP* **P 19 23 27.8 +0.3**
PBAR Barrancos 84.39 21 *eP* **P 19 23 28.9 +1.5**
comp=Z,15nm,1.0s
PBAR *ep*P **pP 19 23 42.8 +1.3**
BRTR Keskin Array B 84.86 349 P **P 19 23 30.2 +0.3**
BRTR Keskin Array B 84.86 349 *ce*P **P 19 23 30.6 +0.6**
BRTR pmax pmax
comp=Z,9.0nm,1.1s
BRTR Keskin Array B 84.86 349 P **P 19 23 30.6 +0.6**
comp=Z,8.0nm,1.1s,baz=41,slow=3.5,SNR=16
BRTR LR LR 20 06 40.9
comp=Z,44nm,19.8s,baz=350,slow=39
comp=Z,8.0nm,1.1s
BNN Bunyan 85.47 347 P **P 19 23 33.4 +0.4**
ISP Isparta 87.05 351 *ce*P **P 19 23 41.5 +0.7**
ISP pmax pmax
comp=Z,22nm,1.7s
CTAO Charters Tower 87.50 229 P **P 19 23 42.8 0.0**
CTAO IAmb IAmb 19 27 05.9
comp=Z,15nm,1.4s
CTAO Charters Tower 87.50 229 P **P 19 23 42.8 0.0**
CTAO pmax pmax
comp=Z,15nm,1.4s
KAPI Kappang 88.30 259 LR LR 19 56 31.6
comp=Z,18nm,21.7s,baz=26,slow=31
MDT Midelt 90.07 20 LR LR 20 07 47.0
comp=Z,28nm,18.9s,baz=336,slow=38
MMAI Mount Meron Ar 91.28 347 LR LR 20 08 00.1
comp=Z,27nm,21.6s,baz=328,slow=38
WRA Warramunga Arr 92.92 239 P **P 19 24 07.2 -0.9**
comp=Z,1.7nm,1.0s,baz=36,slow=5.5,SNR=6.6
comp=Z,1.7nm,1.0s
EIL Elat 94.63 347 LR LR 20 11 45.0
comp=Z,19nm,19.2s,baz=54,slow=39
MDP Montagnes des 95.87 73 LR LR 20 10 29.8
comp=Z,20nm,18.2s,baz=326,slow=37
ASAR Alice Springs 96.28 237 P **P 19 24 23.4 -0.2**
comp=Z,0.8nm,0.8s,baz=23,slow=6.5,SNR=5.0
ASAR PKKP **PKKPdf 19 41 09.3 +0.3**
comp=Z,0.2nm,0.4s,baz=210,slow=2.3,SNR=6.1
ASAR LR LR 19 59 59.8
comp=Z,41nm,21.3s,baz=14,slow=30
comp=Z,0.8nm,0.8s
LEM Lembang 96.70 268 LR LR 20 06 57.8
comp=Z,9.4nm,19.9s,baz=356,slow=35
STKA Stephens Creek 99.81 227 LR LR 20 05 56.6
comp=Z,45nm,19.9s,baz=25,slow=33
PALK Pallekele 100.00 298 LR LR 20 14 19.1
comp=Z,20nm,21.6s,baz=130,slow=38
TORD Torodi Ar. Bea 110.42 19 PKKPab PKKPab 19 40 38.5 -2.2
comp=Z,0.7nm,0.6s,baz=170,slow=2.5,SNR=6.1
H03N2 Juan Fernandez 112.12 117 T T 21 30 57.8
baz=323,slow=77
H03N1 Juan Fernandez 112.14 117 T T 21 30 59.2
baz=323,slow=77
H03N3 Juan Fernandez 112.14 117 T T 21 30 45.6
baz=323,slow=77
QSPA South Pole Qui 144.80 180 PKP PKPbc 19 30 29.8 +0.1
comp=Z,17nm,0.8s,baz=39,slow=1.6,SNR=56
BOSA Boshof 153.30 349 PKPbc **PKPbc 19 30 52.3 -0.6**
comp=Z,3.3nm,0.7s,baz=3.3,slow=2.3,SNR=8.6

AFAD ***23*** *20:07:56.0±0.0, 35.27N±27.03E, h3km±2km, ML2.8*
IDC ***23*** *20:07:57.2±2.1, 35.28N±27.19E, h0km, mb3.5/5, mbtmp3.4/7, ML3.0/2, MS3.3/1, Error ellipse: s-maj=46.5km s-min=24.7km az=177.0*
ATH ***23*** *20:07:59.9, 35.34N±27.30E, h15km±1km, ML3.4/8, Manual Solution by G.Panopoulou This location: 2020/01/09 19:41:55 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
THE ***23*** *20:08:00.9, 35.38N±27.29E, h0km±1km, ML3.1/4, Error ellipse: s-maj=2.9km s-min=1.5km az=145.0*
ISK ***23*** *20:08:01.8, 35.44N±27.22E, h15km, ML3.1/23*
ISC 23 20:08:00.1±1.1, 35.31N±0.04×27.22E±0.03, h14km±6km, n63,σ1°42/89, mb3.3/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRPA	**Karpathos**	**0.20**	**358**	P	**Pg**	**20 08 04.6**	**0.0**
KRPA				S	**Sg**	**20 08 07.8**	**+0.1**
KARP	**Karpathos**	**0.24**	**349**	Pg	**Pg**	**20 08 05.1**	**-0.3**
KARP				Sg	**Sg**	**20 08 08.7**	**-0.2**
KARP	**Karpathos**	**0.24**	**349**	P	**Pg**	**20 08 05.4**	**0.0**
KARP				S	**Sg**	**20 08 09.0**	**+0.1**
	7μm,0.3s						
KARP	**Karpathos**	**0.24**	**349**	P	**Pg**	**20 08 05.3**	**0.0**
KARP				S	**Sg**	**20 08 09.0**	**+0.1**
ZKR	**Zakros**	**0.84**	**257**	Pg	**Pb**	**20 08 17.8**	**+1.2**
ZKR				Sg	**Sn**	**20 08 31.8**	**+2.0**
ZKR	**Zakros**	**0.84**	**257**	P	**Pb**	**20 08 17.4**	**+0.9**
ZKR				S	**Sn**	**20 08 31.3**	**+1.5**
	2μm,0.5s						
ZKR	**Zakros**	**0.84**	**257**	P	**Pb**	**20 08 17.5**	**+0.9**
ZKR				S	**Sb**	**20 08 30.0**	**+2.2**
SIT2	**Siteia**	**0.91**	**264**	P	**Pb**	**20 08 18.6**	**+0.8**
SIT2				S	**Sn**	**20 08 32.2**	**+0.6**
RGE1	**Gennadi, Rhode**	**0.92**	**39**	P	**Pg**	**20 08 16.7**	**-1.2**
RGE1				S	**Sg**	**20 08 28.7**	**-1.4**
ARG	**Arkhangelos**	**1.17**	**39**	Pg	**Pb**	**20 08 22.4**	**+0.3**
ARG				Sg	**Sb**	**20 08 38.1**	**+1.0**
ARG	**Arkhangelos**	**1.17**	**39**	P	**Pg**	**20 08 21.8**	**-0.8**
ARG				S	**Sg**	**20 08 36.7**	**-1.2**
	1μm,0.8s						
ARG	**Arkhangelos**	**1.17**	**39**	P	**Pg**	**20 08 21.7**	**-1.0**
ARG				S	**Sg**	**20 08 35.2**	**-2.7**
AGNA	**Agios Nikolaos**	**1.23**	**265**	P	**Pg**	**20 08 23.6**	**-0.2**
FRMA	**Ierapetra Chan**	**1.25**	**257**	P	**Pg**	**20 08 22.7**	**-1.5**
FRMA				S	**Sn**	**20 08 42.2**	**+2.4**
	482nm,0.5s						
FRMA	**Ierapetra Chan**	**1.25**	**257**	P	**Pg**	**20 08 22.8**	**-1.4**
FRMA				S	**Sg**	**20 08 39.2**	**-1.3**
YAZI	**Mula-Dat§a-**	**1.38**	**8**	P	**Pn**	**20 08 25.0**	**0.0**
YAZI				S	**Sn**	**20 08 44.6**	**+1.5**
RDI1	**Rhodes Town Ha**	**1.40**	**35**	P	**Pn**	**20 08 24.3**	**-1.0**
DAT	**Datca**	**1.45**	**12**	Pn	**Pn**	**20 08 26.2**	**+0.2**
DAT				Sn	**Sg**	**20 08 44.8**	**-1.9**
DAT	**Datca**	**1.45**	**12**	P	**Pn**	**20 08 26.5**	**+0.5**
DAT				S	**Sb**	**20 08 45.7**	**+0.5**
DAT	**Datca**	**1.45**	**12**	P	**Pn**	**20 08 26.4**	**+0.4**
DAT				S	**Sg**	**20 08 45.5**	**-1.2**
KOSK	**Kos Island**	**1.45**	**352**	P	**Pn**	**20 08 25.6**	**-0.4**
RFTB	**Kemer-Bodrum**	**1.65**	**2**	Pn	**Pn**	**20 08 29.4**	**+0.7**
TURN	**Turunc**	**1.68**	**29**	Pn	**Pn**	**20 08 30.1**	**+0.9**
TURN	**Turunc**	**1.68**	**29**	P	**Pn**	**20 08 29.8**	**+0.6**
TURN				S	**Sg**	**20 08 54.7**	**+0.4**
TURN				*i* AML	AML	20 08 57.0	
	comp=E,94nm,0.6s						
TURN				*i* AML	AML	20 09 00.0	
	comp=N,101nm,0.4s						
RFTAA	**Mazikoy-Bodrum**	**1.74**	**14**	Pn	**Pn**	**20 08 30.5**	**+0.6**
BODT	**Bodrum**	**1.75**	**2**	Pn	**Pn**	**20 08 30.8**	**+0.7**
KSTL	**Kastelli Herak**	**1.75**	**270**	S	**Sn**	**20 08 48.7**	**-3.6**
BDRM	**Kayabasi**	**1.76**	**6**	P	**Pn**	**20 08 30.9**	**+0.6**
BDRM				*i* AML	AML	20 09 03.0	
	comp=E,54nm,0.7s						
SNT5	**Nea Kammeni, S**	**1.84**	**307**	P	**Pn**	**20 08 31.4**	**+0.1**
DALY	**Dalyan (Mula)**	**1.90**	**37**	Pn	**Pn**	**20 08 33.6**	**+1.4**
IDI	**Anoyia**	**1.90**	**270**	Pn	**Pb**	**20 08 34.7**	**0.0**
IDI	**Anoyia**	**1.90**	**270**	P	**Pn**	**20 08 34.2**	**+2.0**
IDI				S	**Sn**	**20 08 57.9**	**+1.8**
IZZE	**Mula-Seydike**	**1.98**	**55**	P	**Pn**	**20 08 34.3**	**+1.1**
IZZE				*i* AML	AML	20 09 12.0	
	comp=E,86nm,0.4s						
IZZE				*i* AML	AML	20 09 13.0	
	comp=N,152nm,0.4s						
FETY	**Fethiye**	**2.01**	**48**	Pn	**Pn**	**20 08 35.2**	**+1.5**
FETY	**Fethiye**	**2.01**	**48**	P	**Pb**	**20 08 36.1**	**-0.4**
FETY				S	**Sg**	**20 09 10.1**	**+5.3**
YER	**Yerkesik**	**2.01**	**25**	Pn	**Pn**	**20 08 34.8**	**+1.0**
MLSB	**Milas**	**2.03**	**13**	Pn	**Pn**	**20 08 34.8**	**+0.8**
SABU	**Mula-Dalaman**	**2.07**	**43**	P	**Pn**	**20 08 36.1**	**+1.5**
SABU				S	**Sg**	**20 09 07.0**	**+0.3**
SABU				*i* AML	AML	20 09 12.0	
	comp=N,127nm,0.6s						
SABU				*i* AML	AML	20 09 21.0	
	comp=E,109nm,0.8s						
MULA	**Mugla, Merkez-**	**2.14**	**24**	P	**Pn**	**20 08 36.3**	**+0.8**
MULA				S	**Sb**	**20 09 04.2**	**-0.9**
MULA				*i* AML	AML	20 09 10.0	
	comp=N,59nm,0.9s						
MULA				*i* AML	AML	20 09 13.0	
	comp=E,85nm,0.6s						
AKAS	**Kas**	**2.15**	**64**	Pn	**Pn**	**20 08 37.5**	**+1.8**
APE	**Apeiranthos**	**2.22**	**323**	Pn	**Pn**	**20 08 37.9**	**+1.3**
APE	**Apeiranthos**	**2.22**	**323**	P	**Pn**	**20 08 37.5**	**+0.9**
CAME	**Cameli-Denizli**	**2.35**	**45**	Pn	**Pn**	**20 08 39.8**	**+1.4**
GCAM	**G?zelcaml?**	**2.38**	**0**	Pn	**Pn**	**20 08 39.9**	**+1.1**

TAVA	**DENIZLI_Tavas**	**2.55**	**32**	P		**Pn**	**20 08 42.8**	**+1.6**
TAVA				S		**Sb**	**20 09 17.9**	**+0.9**
TAVA				*i* AML	AML	AML	20 09 21.0	
	comp=N,67nm,0.6s							
TAVA				*i* AML	AML	AML	20 09 22.0	
	comp=E,78nm,0.6s							
GVD	**Gavdhos**	**2.61**	**260**	Pn		**Pb**	**20 08 45.2**	**-1.5**
GVD	**Gavdhos**	**2.61**	**260**	P		**Pn**	**20 08 42.6**	**+0.7**
ELL	**Elmali**	**2.61**	**56**	Pn		**Pn**	**20 08 44.1**	**+2.0**
ESEN	**Aydn-Nazilli**	**2.64**	**20**	P		**Pn**	**20 08 43.8**	**+1.4**
ESEN				S		**Sn**	**20 09 15.0**	**+0.8**
ESEN				*i* AML	AML	AML	20 09 20.0	
	comp=N,33nm,0.9s							
ESEN				*i* AML	AML	AML	20 09 29.0	
	comp=E,30nm,0.6s							
IMMV	**Iera Moni Meta**	**2.65**	**274**	Pn		**Pn**	**20 08 45.2**	**+2.8**
IMMV	**Iera Moni Meta**	**2.65**	**274**	P		**Pn**	**20 08 43.1**	**+0.6**
APMY	**Acipayam-Deniz**	**2.73**	**37**	Pn		**Pn**	**20 08 45.4**	**+1.7**
RODP	**Rodopos**	**2.83**	**276**	P		**Pn**	**20 08 44.8**	**-0.2**
KORT	**Korkueli**	**3.04**	**55**	Pn		**Pn**	**20 08 50.0**	**+2.0**
KULA	**Kula-Manisa**	**3.40**	**19**	Pn		**Pn**	**20 08 53.7**	**+0.8**
BRTR	**Keskin Array B**	**6.74**	**47**	Pn		**Pn**	**20 09 39.4**	**+0.6**
	0.1nm,0.3s,baz=220,slow=13,SNR=2.5							
BRTR				Sn		**Sn**	**20 10 57.3**	**+1.8**
	baz=178,slow=36 0.5nm,0.6s							
MMAI	**Mount Meron Ar**	**7.16**	**106**	Pn		**Pn**	**20 09 42.0**	**-2.5**
	0.8nm,0.3s,baz=305,slow=14,SNR=7.5							
MMAI				Sn		**Sn**	**20 11 03.2**	**-2.6**
	1.1nm,0.3s,baz=311,slow=26,SNR=1.7 0.4nm,0.2s							
ESDC	**Sonseca Array**	**25.05**	**289**	P		**P**	**20 13 23.1**	**-0.9**
	0.2nm,0.7s,baz=88,slow=9.7,SNR=4.0 0.2nm,0.7s							
FINES	**FINESS Array B**	**26.16**	**359**	P		**P**	**20 13 32.7**	**-1.1**
	3.9nm,1.0s,baz=165,slow=12,SNR=1.4 3.9nm,1.0s							
AAK	**Ala-Archa**	**37.08**	**64**	LR		LR	20 33 02.4	
	comp=Z,41nm,18.3s,baz=256,slow=41							
MKAR	**Makanchi Array**	**42.28**	**57**	P		**P**	**20 15 53.4**	**+0.1**
	0.2nm,0.5s,baz=268,slow=8.1,SNR=4.7 0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**43.68**	**46**	P		**P**	**20 16 03.2**	**-1.2**
	0.3nm,0.3s,baz=276,slow=5.7,SNR=2.4 0.3nm,0.3s							
SONM	**Songino Array**	**58.08**	**51**	P		**P**	**20 17 53.6**	**+0.5**
	0.2nm,0.7s,baz=284,slow=8.3,SNR=2.3 0.2nm,0.7s							

IDC ***23*** *20:41:23.3±0.8, 6.96N×76.34W, h0km, mb3.5/7, mbtmp3.7/10, ML2.8/3, MS3.3/12, Error ellipse: s-maj=21.6km s-min=14.4km az=36.0*
UPA ***23*** *20:41:23.8±0.9, 6.75N×76.27W, h1km±4km, MW4.7*
RSNC ***23*** *20:41:26.2±2.2, 6.83N×76.33W, h0km±6km, ML3.7, Mw4.3*

ISC 23 20:41:24.9±0.9, 6.85N±0.02×76.37W±0.02, h10km±6km, n77, σ1s75/114, mb3.5/7, MS3.4/7, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBBC	**Dabeiba**	**0.23**	**44**	*e*P	**Pg**	**20 41 30.1**	**+0.3**
DBBC				*e*S	**Sg**	**20 41 34.3**	**+1.2**
DBBC	**Dabeiba**	**0.23**	**44**	*e*P	**Pg**	**20 41 30.1**	**+0.3**
DBBC				*e*S	**Sg**	**20 41 34.5**	**+1.5**
DBBC				*i*		20 41 36.8	
	comp=Z,9μm,0.2s						
MEDEC	**Medelln, Ant**	**0.96**	**126**	*e*P	**Pg**	**20 41 42.1**	**-1.4**
MEDEC				*e*S	**Sg**	**20 41 54.9**	**-1.2**
CBOC	**Ciudad Bolivar**	**1.04**	**160**	*e*P	**Pg**	**20 41 44.3**	**-0.8**
CBOC				*e*S	**Sb**	**20 41 58.6**	**-0.3**
CBOC				*i*		20 42 03.5	
	comp=Z,3μm,0.5s						
APAC	**Apartado, Choc**	**1.07**	**349**	*e*P	**Pn**	**20 41 47.0**	**+1.0**
APAC				*e*S	**Sn**	**20 42 03.1**	**+2.3**
APAC				*i*		20 42 16.5	
	comp=Z,2μm,0.4s						
SOLC	**Bahia Solano**	**1.20**	**239**	*e*P	**Pn**	**20 41 47.8**	**0.0**
SOLC				*e*S	**Sn**	**20 42 05.6**	**+1.4**
UREC	**San Jos de Ur**	**1.22**	**43**	*e*P	**Pn**	**20 41 47.4**	**-0.8**
UREC				*e*S	**Sn**	**20 42 04.4**	**-0.3**
UREC	**San Jos de Ur**	**1.22**	**43**	*e*P	**Pn**	**20 41 47.2**	**-0.9**
UREC				*e*S	**Sg**	**20 42 04.2**	**-0.2**
UREC				*i*		20 42 06.1	
	comp=Z,3μm,0.7s						
PTAC	**Punta Ardita,**	**1.46**	**282**	*e*P	**Pn**	**20 41 51.9**	**+0.5**
PTAC				*e*S	**Sg**	**20 42 13.3**	**+1.3**
PTAC	**Punta Ardita,**	**1.46**	**282**	*e*P	**Pn**	**20 41 51.9**	**+0.5**
PTAC				*e*S	**Sg**	**20 42 13.2**	**+1.3**
PTAC				*i*		20 42 17.2	
	comp=Z,526nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.63**	**67**	*e*P	**Pn**	**20 41 53.4**	**-0.4**
ZARC				*e*S	**Sn**	**20 42 14.3**	**-0.5**
ZARC				*i*		20 42 18.1	
	comp=Z,2μm,0.4s						
GUY2C	**Guyana, Caldas**	**1.90**	**148**	*e*P	**Pn**	**20 41 58.4**	**+0.6**
GUY2C				*e*S	**Sn**	**20 42 21.8**	**-0.3**
GUY2C				*i*		20 42 34.6	
	comp=Z,1μm,0.6s						
PTBC	**PUERTO BERRIO,**	**1.93**	**99**	*e*P	**Pn**	**20 41 58.2**	**+0.4**
PTBC				*e*S	**Sb**	**20 42 23.9**	**-0.4**
PTBC				*i*		20 42 26.9	
	comp=Z,616nm,0.4s						
PLMC	**San Jos del P**	**1.93**	**177**	*e*P	**Pn**	**20 41 57.7**	**-0.3**
PLMC				*e*S	**Sb**	**20 42 24.6**	**0.0**
CMAN1	**Manizales, Cal**	**1.96**	**154**	*e*S	**Sg**	**20 42 27.8**	**-0.1**
NIZA	**Niza - Manizal**	**1.99**	**153**	*e*P	**Pn**	**20 41 59.8**	**+0.8**
NIZA				*e*S	**Sb**	**20 42 26.1**	**-0.3**
LCBC	**Los crdobas,**	**2.00**	**0**	⇑*i*P	**Pb**	**20 42 00.1**	**-1.3**
LCBC				*e*S	**Sb**	**20 42 27.5**	**+1.2**
LCBC	**Los crdobas,**	**2.00**	**0**	*e*P	**Pb**	**20 42 00.0**	**-1.3**
LCBC				*e*S	**Sg**	**20 42 27.9**	**-1.3**
LCBC				*i*		20 42 47.3	
	comp=Z,209nm,0.5s						
CAPC	**Capurgana**	**2.02**	**331**	*e*P	**Pb**	**20 42 01.0**	**-0.9**
CAPC				*e*S	**Sg**	**20 42 29.9**	**-0.2**
CAPC				*i*		20 42 37.2	
	comp=Z,328nm,0.6s						
CAP2	**Capurgana**	**2.04**	**331**	*e*P	**Pb**	**20 42 00.9**	**-1.2**
CAP2				*e*S	**Sg**	**20 42 30.7**	**+0.1**
PIZC	**Pizarro, Choco**	**2.11**	**208**	*e*P	**Pb**	**20 42 02.1**	**-1.3**
PIZC				*e*S	**Sg**	**20 42 31.7**	**-1.3**
UPD2	**Meteti**	**2.35**	**316**	*e*P	**Pn**	**20 42 04.9**	**+1.3**
UPD2				*e*S	**Sb**	**20 42 38.3**	**+1.9**
UPD2	**Meteti**	**2.35**	**316**	*e*P	**Pn**	**20 42 03.3**	**-0.3**
ARMEC	**Armenia, Quind**	**2.38**	**163**	*e*S	**Sn**	**20 42 34.9**	**+1.2**
SPBC	**San Pablo de B**	**2.58**	**117**	*e*P	**Pb**	**20 42 09.1**	**-2.3**
SPBC				*e*S	**Sn**	**20 42 39.5**	**+1.2**
SPBC				*i*		20 42 49.0	
	comp=Z,206nm,0.5s						
TOTI	**Torti**	**2.82**	**317**	*e*P	**Pb**	**20 42 13.5**	**-2.0**
TOTI				*e*S	**Sb**	**20 42 50.8**	**+0.6**
YOTC	**Yotoco, Valle**	**2.85**	**179**	*e*P	**Pn**	**20 42 10.0**	**-0.6**
YOTC				*e*S	**Sn**	**20 42 42.7**	**-2.3**
YOTC				*i*		20 43 06.6	
	comp=Z,156nm,0.8s						
ROSC	**El Rosal**	**2.85**	**134**	*e*P	**Pb**	**20 42 15.3**	**-0.9**
ROSC				*e*S	**Sg**	**20 43 00.3**	**+3.6**
ROSC				*i*		20 43 05.1	
	comp=Z,264nm,0.5s						
ROSC	**El Rosal**	**2.85**	**134**	Pn	**Pn**	**20 42 12.7**	**+1.8**
	comp=Z,17nm,0.3s,baz=344,slow=5.9,SNR=25						
ROSC				Lg	Lg	20 42 55.6	
	comp=Z,63nm,0.3s,baz=186,slow=23,SNR=5.8						
ROSC				LR	LR	20 43 34.8	
	comp=Z,336nm,21.4s,baz=44,slow=45 comp=Z,33nm,0.3s						
MALC	**Bahia Malaga**	**2.98**	**199**	*e*P	**Pn**	**20 42 12.5**	**+0.2**
MALC				*e*S	**Sn**	**20 42 51.3**	**+3.2**
ORTC	**Ortega, Tolima**	**3.13**	**159**	*e*P	**Pb**	**20 42 18.8**	**-1.9**
ORTC				*e*S	**Sn**	**20 42 54.5**	**+2.7**
ORTC				*i*		20 43 15.9	
	comp=Z,204nm,0.6s						
BARC	**Barichara**	**3.18**	**94**	*e*P	**Pb**	**20 42 18.7**	**-3.0**
BARC				*e*S	**Sn**	**20 42 53.9**	**+0.6**
BARC				*i*		20 43 05.0	
	comp=Z,613nm,0.5s						
SJCC	**San Jacinto, C**	**3.25**	**21**	*e*P	**Pn**	**20 42 15.5**	**-0.6**
SJCC				*i*		20 43 20.2	
	comp=Z,68nm,0.6s						
CVER	**Cruz Verde, Cu**	**3.25**	**135**	*e*P	**Pn**	**20 42 16.9**	**+0.4**
CVER				*e*S	**Sn**	**20 42 57.4**	**+2.0**
CVER				*i*		20 43 21.6	
	comp=Z,132nm,0.6s						
OCAC	**Ocana**	**3.33**	**65**	*e*P	**Pn**	**20 42 18.4**	**+1.2**
OCAC				*e*S	**Sn**	**20 42 60.0**	**+3.1**
PRAC	**Prado**	**3.45**	**155**	*e*P	**Pn**	**20 42 21.9**	**+3.1**
PRAC				*e*S	**Sn**	**20 43 01.0**	**+1.3**
PRAC				*i*		20 43 24.8	
	comp=Z,188nm,0.5s						
CHPO	**Chepo, Panama**	**3.56**	**311**	*e*P	**Pn**	**20 42 22.1**	**+1.8**
JAMC	**Jamundi, Valle**	**3.62**	**185**	*e*P	**Pn**	**20 42 21.0**	**-0.3**
JAMC				*e*S	**Sn**	**20 43 04.7**	**+0.4**
JAMC				*i*		20 43 26.9	
	comp=Z,157nm,0.9s						
ARGC	**Ariguani, Magd**	**3.66**	**35**	*e*P	**Pn**	**20 42 25.4**	**+3.8**
ARGC				*e*S	**Sn**	**20 43 08.7**	**+3.9**
ARGC				*i*		20 43 52.4	
	comp=Z,60nm,0.6s						
PAMC	**Pamplona, Colo**	**3.68**	**82**	*e*P	**Pn**	**20 42 24.3**	**+2.0**
PAMC				*e*S	**Sn**	**20 43 07.4**	**+1.4**
PAMC				*i*		20 43 23.4	
	comp=Z,286nm,0.5s						
UPA	**Univ. de Panam**	**3.78**	**304**	*e*P	**Pn**	**20 42 23.0**	**-0.3**
UPA				*e*S	**Sn**	**20 43 04.3**	**-3.7**
VILC	**Villavicencio,**	**3.81**	**135**	*e*P	**Pb**	**20 42 29.2**	**-3.1**
VILC				*e*S	**Sn**	**20 43 11.4**	**+2.6**
VILC				*i*		20 43 34.3	
	comp=Z,113nm,0.6s						
AZU	**Azuero**	**3.98**	**284**	⇑*i*P	**Pn**	**20 42 27.3**	**+1.2**
AZU				*e*S	**Sn**	**20 43 11.9**	**-1.0**
AZU	**Azuero**	**3.98**	**284**	*e*P	**Pn**	**20 42 27.3**	**+1.2**
AZU				*e*S	**Sn**	**20 43 12.4**	**-0.5**
AZU				*i*		20 43 17.8	
	comp=Z,100nm,0.4s						
BCIP	**Isla Barro Col**	**4.13**	**304**	*e*P	**Pn**	**20 42 33.0**	**+4.8**
BCIP				*e*S	**Sn**	**20 43 17.7**	**+1.1**
BCIP	**Isla Barro Col**	**4.13**	**304**	*e*P	**Pn**	**20 42 28.7**	**+0.5**
BCIP				*e*S	**Sn**	**20 43 17.1**	**+0.5**
CHIT3	**Chitre**	**4.16**	**286**	*i* P	**Pn**	**20 42 29.6**	**+1.0**
CHIT3				*e*S	**Sn**	**20 43 16.4**	**-0.9**
BETC	**Betania**	**4.24**	**167**	*e*P	**Pn**	**20 42 32.5**	**+2.8**
BETC				*e*S	**Sn**	**20 43 20.0**	**+0.6**
BETC				*i*		20 43 34.9	
	comp=Z,66nm,0.6s						
POPC	**Popayan, Colom**	**4.29**	**184**	*e*P	**Pn**	**20 42 32.1**	**+1.5**
POPC				*e*S	**Sn**	**20 43 25.7**	**+4.9**
CACAO	**El Cacao, Vera**	**4.48**	**277**	*e*P	**Pn**	**20 42 33.9**	**+0.9**
CACAO				*e*S	**Sn**	**20 43 23.8**	**-1.5**
TAMC	**Tame, Arauca**	**4.57**	**95**	*e*P	**Pn**	**20 42 36.4**	**+2.2**
TAMC				*i*		20 43 58.9	
	comp=Z,80nm,0.6s						
GARC	**Garzon, Huila**	**4.71**	**169**	*e*P	**Pn**	**20 42 39.1**	**+2.7**
BBAC	**Balboa, Cauca**	**4.87**	**190**	*e*P	**Pn**	**20 42 41.8**	**+3.2**
BBAC				*e*S	**Sn**	**20 43 36.2**	**+1.0**
PTGC	**Puerto Gaitan,**	**4.97**	**122**	*e*P	**Pn**	**20 42 41.5**	**+1.8**
CRJC	**Cerrejon, Guaj**	**5.39**	**39**	*e*P	**Pn**	**20 42 47.0**	**+1.5**
CRJC				*e*S	**Sn**	**20 43 42.8**	**-5.0**
CRJC				*i*		20 43 46.0	
	comp=Z,58nm,0.5s						
GCUF	**Volcan Galeras**	**5.67**	**190**	*e*P	**Pn**	**20 42 50.0**	**+0.3**
GCUF				*i*		20 44 14.9	
	comp=Z,14nm,0.5s						
SDV	**Santo Domingo**	**6.03**	**70**	*e*P	Pn	20 42 59.6	+5.1
SDV				*i*		20 44 33.7	
	comp=Z,48nm,0.5s						
SDV	**Santo Domingo**	**6.03**	**70**	Pn	**Pn**	**20 42 52.2**	**-2.3**
	comp=Z,0.9nm,0.3s,baz=156,slow=20,SNR=1.8						
SDV				Sn	**Sn**	**20 44 03.3**	**-0.4**
	comp=Z,6.6nm,0.3s,baz=37,slow=20,SNR=1.9						
SDV				Lg	Lg	20 44 33.0	
	comp=Z,13nm,0.3s,baz=24,slow=8.4,SNR=6.5						
SDV				LR	LR	20 45 59.0	
	comp=Z,36nm,18.3s,baz=226,slow=46 comp=Z,3.4nm,0.2s						
PCRV	**Puerto La Cruz**	**12.07**	**73**	Pn	**Pn**	**20 44 14.8**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=333,slow=2.3,SNR=1.9						
PCRV				LR	LR	20 49 01.6	
	comp=Z,82nm,19.3s,slow=38 comp=Z,13nm,0.9s						
ATAH	**Atahualpa**	**14.04**	**188**	LR	LR	20 51 36.8	
	comp=Z,159nm,19.9s,baz=11,slow=43						
NNA	**Nana**	**18.72**	**181**	LR	LR	20 54 23.1	
	comp=Z,141nm,18.7s,baz=4.0,slow=41						
SIV	**San Ignacio**	**27.28**	**146**	LR	LR	20 58 08.6	
	comp=Z,144nm,18.4s,baz=105,slow=37						
TKL	**Tuckaleechee C**	**29.47**	**348**	LR	LR	20 58 58.6	
	comp=Z,47nm,20.7s,baz=172,slow=36						
LVC	**Limon Verde**	**30.17**	**166**	LR	LR	21 01 25.2	
	comp=Z,88nm,19.9s,baz=346,slow=40						
CPUP	**Villa Florida**	**37.80**	**151**	LR	LR	21 05 41.9	
	comp=Z,76nm,20.3s,baz=42,slow=38						
SADO	**Sadowa**	**37.85**	**357**	LR	LR	21 04 28.6	
	comp=Z,38nm,21.4s,baz=236,slow=37						
PDAR	**Pinedale Array**	**46.20**	**326**	P	**P**	**20 49 50.8**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=105,slow=6.8,SNR=3.6 comp=Z,0.3nm,0.7s						
PLCA	**Paso Flores**	**47.65**	**174**	P	**P**	**20 50 02.4**	**+0.9**
	comp=Z,1.5nm,1.0s,baz=301,slow=5.5,SNR=2.0 comp=Z,1.5nm,1.0s						
NVAR	**Mina Array Bea**	**49.20**	**316**	P	**P**	**20 50 14.3**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=132,slow=5.2,SNR=4.3 comp=Z,0.3nm,0.7s						
FRB	**Frobisher Bay**	**57.07**	**4**	LR	LR	21 14 48.2	
	comp=Z,24nm,21.1s,baz=182,slow=35						
YKA	**Yellowknife Ar**	**62.16**	**341**	P	**P**	**20 51 45.0**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=132,slow=6.8,SNR=24 comp=Z,0.9nm,0.8s						
INK	**Inuvik**	**71.93**	**341**	LR	LR	21 26 08.8	
	comp=Z,36nm,18.3s,baz=187,slow=37						
ESDC	**Sonseca Array**	**72.12**	**51**	P	**P**	**20 52 49.5**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=263,slow=6.6,SNR=1.8 comp=Z,0.3nm,0.8s						
ILAR	**Eielson Array**	**75.58**	**335**	P	**P**	**20 53 09.1**	**-0.6**
	comp=Z,0.2nm,0.8s,baz=85,slow=6.6,SNR=2.4 comp=Z,0.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.89**	**78**	P	**P**	**20 53 18.9**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=258,slow=4.1,SNR=1.9 comp=Z,0.3nm,0.5s						
ASAR	**Alice Springs**	**146.46**	**237**	PKPbc	**PKPdf**	**21 01 06.0**	**0.0**
	comp=Z,0.5nm,0.8s,baz=111,slow=3.1,SNR=5.4						
WRA	**Warramunga Arr**	**147.49**	**243**	PKPbc	**PKPdf**	**21 01 08.3**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=119,slow=2.4,SNR=3.8						

IDC ***23*** *20:41:59.1±0.8, 25.11N×96.54E, h0km, mb3.8/12, mbtmp3.8/13, ML4.2/1, MS3.2/17, Error ellipse: s-maj=44.2km s-min=13.2km az=64.0*
NDI ***23*** *20:42:00.6±3.1, 24.88N×96.86E, h30km, ML3.6, mb4.2(NEIC)*
NEIC ***23*** *20:42:01.7±1.2, 25.11N±0.05×96.45E±0.08, h10km±1km, mb4.2/14, Error ellipse: s-maj=14.6km s-min=5.1km az=237.0*

ISC 23 20:42:00.4±0.5, 25.05N±0.05×96.53E±0.03, h10km, n75, σ1s77/86, mb4.1/22, MS3.1/18, 3C-1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNCH	**TengChong**	**1.81**	**90**	Pn	**Pn**	**20 42 32.6**	**+0.8**
TNCH				⇑*i*Pg	**Pb**	**20 42 35.4**	**+1.7**
TNCH				Sn	**Sn**	**20 42 52.6**	**-2.3**
TNCH				Sg	**Sb**	**20 42 56.4**	**-0.1**
TNCH				smax	smax		
	comp=N,2μm,1.3s						
TNCH				smax	smax		
	comp=E,2μm,1.1s						
TNCH				LR	LR		
	comp=N,5μm,1.3s						
TNCH				LR	LR		
	comp=E,5μm,1.2s						
MOKO	**MOKOCHONG**	**2.22**	**305**	*e*P	**Pb**	**20 42 41.5**	**+0.7**
MOKO				*e*S	**Sb**	**20 43 11.5**	**+3.2**
MOKO				IAML		20 43 13.8	
	comp=E,2μm,0.7s						
MOKO				IAML		20 43 14.4	
	comp=N,2μm,0.7s						
KOHI	**KOHIMA**	**2.29**	**287**	*e*P	**Pb**	**20 42 41.7**	**-0.3**
KOHI				*e*S	**Sb**	**20 43 10.9**	**+0.5**
KOHI				IAML		20 43 17.7	
	comp=N,749nm,0.9s						
KOHI				IAML		20 43 17.8	
	comp=E,801nm,0.7s						
IMP	**Imphal**	**2.35**	**265**	*e*P	**Pn**	**20 42 42.1**	**+2.9**
IMP				*e*S	**Sb**	**20 43 12.0**	**-0.3**
IMP				IAML		20 43 20.2	
	comp=E,149nm,0.5s						
IMP				IAML		20 43 21.0	
	comp=N,241nm,0.7s						
MND	**Mandalay**	**3.04**	**187**		**Pn**	**20 42 48.8**	**+0.2**
ITAN	**ITANAGAR**	**3.28**	**310**	*e*P	**Pn**	**20 42 53.9**	**+2.0**
ITAN				*e*S	**Sn**	**20 43 33.0**	**+2.1**
ITAN				IAML		20 43 40.1	
	comp=E,453nm,0.7s						
SILR	**SILCHAR**	**3.40**	**266**	*e*P	**Pn**	**20 42 56.8**	**+3.3**
TEZP	**TEZPUR**	**3.71**	**296**	*e*P	**Pn**	**20 42 58.7**	**+0.9**
TEZP				IAML		20 43 45.0	
	comp=N,86nm,0.2s						
TEZP				IAML		20 43 45.1	
	comp=E,106nm,0.3s						
SAIH	**SAIHA**	**4.13**	**233**	*e*P	**Pn**	**20 43 06.4**	**+2.7**
SAIH				*e*S	**Sn**	**20 43 47.9**	**-4.2**
SAIH				IAML		20 44 07.7	
	comp=N,76nm,0.7s						
SAIH				IAML		20 44 11.1	
	comp=E,143nm,0.7s						
SHL	**Shillong**	**4.24**	**278**		**Pn**	**20 43 04.6**	**-0.6**
SHL	**Shillong**	**4.24**	**278**	*e*P	**Pn**	**20 43 06.4**	**+1.1**
SHL				*e*S	**Sn**	**20 43 57.0**	**+2.1**
SHL				IAML		20 43 59.4	
	comp=N,74nm,0.5s						
PZH	**PanZhiHua**	**4.92**	**72**	Pn	**Pn**	**20 43 17.8**	**+3.2**
PZH				Pg	**Pb**	**20 43 26.4**	**-0.4**
PZH				Sn	**Sn**	**20 44 13.5**	**+1.9**
PZH				Sg	**Sg**	**20 44 36.3**	**-2.1**
PZH				smax	smax		
	comp=N,40nm,1.2s						
PZH				smax	smax		
	comp=E,50nm,1.5s						
KMI	**Kunming**	**5.63**	**88**	⇑Pg	**Pg**	**20 43 47.9**	**-0.5**
KMI				Sg	**Sg**	**20 44 59.5**	**-1.8**
KMI				smax	smax		
	comp=N,120nm,1.1s						
KMI				smax	smax		
	comp=E,61nm,1.1s						
KMI				LR	LR		
	comp=N,1μm,7.2s						
KMI				LR	LR		
	comp=E,460nm,6.4s						
KMI				LR	LR		
	comp=Z,610nm,12.3s						
CRAI	**Chiangrai**	**5.97**	**143**	Pn	**Pn**	**20 43 29.8**	**+0.9**
CHTO	**Chiang Mai**	**6.60**	**160**	Pn	**Pn**	**20 43 39.3**	**+1.8**
LSA	**Lhasa**	**6.66**	**315**		**Pn**	**20 43 36.1**	**-2.7**
CM31	**Chiang Mai Arr**	**6.93**	**161**		**Pn**	**20 43 44.3**	**+2.1**
CMAR	**Chiang Mai Arr**	**6.93**	**161**	Pn	**Pn**	**20 43 44.5**	**+2.4**
CMAR	**Chiang Mai Arr**	**6.93**	**161**	Pn	**Pn**	**20 43 44.2**	**+2.1**
	comp=Z,1.3nm,0.3s,baz=335,slow=12,SNR=21						
CMAR				Pg	Pb	20 44 07.8	+6.8
	comp=Z,0.5nm,0.3s,baz=326,slow=16,SNR=6.7						
CMAR				Sn	**Sn**	**20 45 03.5**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=340,slow=15,SNR=4.1						
CMAR				Lg	Lg	20 45 40.4	
	comp=Z,0.3nm,0.3s,baz=1.7,slow=15,SNR=4.7 comp=Z,1.8nm,0.3s						
GTK	**Tadong**	**7.47**	**289**	*e*P	**Pn**	**20 43 50.2**	**+0.5**
GTK				*e*S	**Sn**	**20 45 13.6**	**-1.0**
GTK				IAML		20 45 19.6	
	comp=E,40nm,0.7s						
TAPN	**Taplejung**	**8.25**	**288**	*e*Pn	**Pn**	**20 44 00.7**	**+0.2**
TAPN				*e*Sn	**Sn**	**20 45 33.7**	**-0.2**
	comp=E,170nm,1.3s						
ODAN	**Odare**	**8.42**	**284**	*e*Pn	**Pn**	**20 44 03.5**	**+0.7**
RAMN	**Ramite**	**9.13**	**284**	*e*Pn	**Pn**	**20 44 13.8**	**+1.2**
JIRN	**Jiri**	**9.63**	**288**	*e*Pn	**Pn**	**20 44 19.7**	**+0.2**
JIRN				*e*Sn	**Sn**	**20 46 06.9**	**-1.1**
	comp=E,21nm,0.5s						
GUN	**Gumba**	**9.96**	**289**	*e*Pn	**Pn**	**20 44 23.8**	**-0.2**
GUN				*e*Sn	**Sn**	**20 46 13.5**	**-2.5**
	comp=E,50nm,0.7s						
PKI	**Pulchoki**	**10.29**	**287**	*e*Pn	**Pn**	**20 44 27.8**	**-0.7**
PKI				*e*Sn	**Sn**	**20 46 22.2**	**-1.9**
	comp=E,30nm,1.0s						
KKN	**Kakani**	**10.45**	**288**	*e*Pn	**Pn**	**20 44 30.7**	**+0.1**
GKN	**Gorkha**	**11.05**	**288**	*e*Pn	**Pn**	**20 44 38.5**	**-0.2**
GKN				*e*Sn	**Sn**	**20 46 39.3**	**-3.2**
DANN	**Dangsing**	**11.88**	**289**	*e*Pn	**Pn**	**20 44 48.4**	**-1.9**
DANN				*e*Sn	**Sn**	**20 46 58.0**	**-5.1**
PYUN	**Piuthan**	**12.49**	**287**	*e*Pn	**Pn**	**20 44 57.3**	**-1.3**
PYUN				*e*Sn	**Sn**	**20 47 13.5**	**-4.5**
	comp=E,45nm,1.0s						
UBPT	**Khong Chiam**	**12.84**	**138**	Pn	**Pn**	**20 45 05.2**	**+2.2**
HYB	**Hyderabad**	**18.39**	**249**	*e*P	P	20 46 24.9	+9.2
HYB				*e*S	S	20 50 01.0	+15
TIA	**Tai'an**	**20.88**	**53**	⇑P	**P**	**20 46 44.3**	**+1.5**
TIA				pmax	pmax		
	comp=Z,23nm,1.0s						
TIA				LR	LR		
	comp=N,440nm,16.2s						
TIA				LR	LR		
	comp=E,180nm,12.7s						
TIA				LR	LR		
	comp=Z,150nm,10.3s						
NIL	**Nilore**	**21.99**	**298**	P	**P**	**20 46 52.0**	**-2.9**
BJT	**Baijiatuau**	**22.22**	**43**	P	**P**	**20 46 59.6**	**+2.5**
BJT				IAmb	IA

	comp=Z,7.7nm,1.3s						
KAPI	**Kappang**	**37.45**	**140**	LR	LR	21 07 12.0	
	comp=Z,5.5nm,18.3s,baz=296,slow=40						
JHJ	**Hachijo jima 2**	**38.43**	**68**	LR	LR	21 06 53.9	
	comp=Z,27nm,18.1s,baz=30,slow=39						
ARU	**Arti**	**41.64**	**329**	P	**P**	**20 49 49.0 +0.3**	
ARU				IAmb	IAmb	20 49 57.7	
	comp=Z,4.3nm,1.0s						
BELG	**Belogornoye**	**45.73**	**320**	LR	LR	21 09 38.9	
	comp=Z,42nm,19.9s,baz=244,slow=36						
BRTR	**Keskin Array B**	**54.07**	**302**	P	**P**	**20 51 24.9 -0.6**	
	comp=Z,0.6nm,0.8s,baz=278,slow=11,SNR=1.7						
	comp=Z,0.6nm,0.8s						
AKASG	**Malin Array Be**	**56.80**	**315**	P	**P**	**20 51 44.0 -0.9**	
	comp=Z,0.1nm,0.3s,baz=77,slow=1.2,SNR=1.5						
	comp=Z,0.1nm,0.3s						
WB0	**Warramunga Arr**	**57.80**	**137**	P	**P**	**20 51 53.3 +1.1**	
WRA	**Warramunga Arr**	**57.90**	**137**	P	**P**	**20 51 52.8 -0.1**	
	comp=Z,0.4nm,0.8s,baz=327,slow=7.6,SNR=3.2						
	comp=Z,0.4nm,0.8s						
FINES	**FINESS Array B**	**59.00**	**328**	P	**P**	**20 51 59.7 -0.3**	
	comp=Z,3.4nm,0.9s,baz=86,slow=8.5,SNR=1.7						
FINES				LR	LR	21 19 46.2	
	comp=Z,20nm,18.2s,baz=228,slow=38						
	comp=Z,3.4nm,0.9s						
MLR	**Muntele Rosu**	**59.25**	**309**	LR	LR	21 24 12.1	
	comp=Z,39nm,18.2s,baz=281,slow=43						
ARCES	**ARCESS Array B**	**60.14**	**337**	P	**P**	**20 52 08.1 +0.2**	
	comp=Z,4.6nm,1.1s,baz=87,slow=7.3,SNR=2.3						
	comp=Z,4.6nm,1.1s						
ASAR	**Alice Springs**	**60.47**	**140**	P	**P**	**20 52 11.2 +0.5**	
	comp=Z,0.4nm,0.5s,baz=320,slow=6.9,SNR=7.7						
	comp=Z,0.4nm,0.5s						
VRAC	**Vranov**	**65.03**	**315**	LR	LR	21 26 37.5	
	comp=Z,11nm,19.1s,baz=335,slow=41						
NOA	**NORSAR Array B**	**66.18**	**328**	P	**P**	**20 52 49.0 +0.9**	
	comp=Z,0.7nm,0.7s,baz=99,slow=4.2,SNR=1.3						
NOA				LR	LR	21 23 41.4	
	comp=Z,32nm,18.2s,baz=50,slow=38						
	comp=Z,0.7nm,0.7s						

*UCR **23** 20:48:00.9±1.2, 9.°69N×84.°70W, h0km±2km, MW4.5*
*CATAC **23** 20:48:01.3±0.3, 9.°66N×84.°70W, h10km, ML4.1*
*IDC **23** 20:48:02.5±2.0, 10.°22N×84.°31W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=57.2km s-min=10.2km az=178.0*

ISC 23 20:48:01.3±0.9, 9.°67N±0.°03×84.°70W±0.°02, h4km±5km, n118, σ0.°65/135, mb3.5/4, 1C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JACO	**JACO, Garabito**	**0.04**	**107**	*eP*		**Pg**	**20 48 02.4**	**+0.1**
JACO				*eS*		**Sg**	**20 48 03.4**	**+0.3**
JACO	**JACO, Garabito**	**0.04**	**107**	*i P*		**Pg**	**20 48 02.1**	**-0.2**
JACO				IAML			20 48 03.6	
	comp=Z,280μm,1.0s							
ARZA	**Esparza**	**0.32**	**5**	*eP*		**Pb**	**20 48 09.4**	**-0.2**
ARZA				*eS*		**Sb**	**20 48 15.3**	**+0.3**
TRB2	**Turrubares**	**0.34**	**46**	*eP*		**Pg**	**20 48 08.6**	**+0.7**
CBL1	**Cabuya**	**0.40**	**258**	*eP*		**Pg**	**20 48 09.7**	**+0.7**
CBL1				*eS*		**Sb**	**20 48 16.9**	**-0.4**
SRA1	**San Ramn**	**0.46**	**28**	*eP*		**Pg**	**20 48 10.7**	**+0.5**
RAMO	**San Ramon**	**0.47**	**29**	*eP*		**Pb**	**20 48 11.9**	**-0.3**
TCS1	**Tacares**	**0.54**	**47**	*eP*		**Pb**	**20 48 12.5**	**-0.8**
TCS1	**Tacares**	**0.54**	**47**	*i P*		**Pg**	**20 48 12.4**	**+0.8**
TCS1				IAML			20 48 28.8	
	comp=Z,83μm,1.0s							
ACOS	**Acosta**	**0.54**	**77**	*eP*		**Pg**	**20 48 12.0**	**+0.4**
SVQ2	**Quepos**	**0.58**	**115**	*eP*		**Pg**	**20 48 12.9**	**+0.6**
SVQ2				*eS*		**Sb**	**20 48 22.2**	**-0.3**
BELE	**Belen**	**0.58**	**59**	*eP*		**Pb**	**20 48 13.9**	**-0.2**
ZARE	**Zarcero**	**0.59**	**31**	*eP*		**Pb**	**20 48 13.8**	**-0.5**
LLNJ	**Naranjito**	**0.62**	**109**	*eP*		**Pg**	**20 48 13.8**	**+0.6**
NYURE	**Nandayure**	**0.63**	**300**	*eP*		**Pg**	**20 48 14.1**	**+0.6**
ABE2	**San Pablo**	**0.64**	**87**	*eP*		**Pg**	**20 48 13.9**	**+0.4**
JUNT	**Juntas**	**0.66**	**337**	*eP*		**Pg**	**20 48 14.2**	**+0.3**
HDC	**Heredia**	**0.66**	**60**	*eP*		**Pg**	**20 48 14.3**	**+0.3**
HDC3	**Heredia 3**	**0.66**	**60**	*eP*		**Pg**	**20 48 14.6**	**+0.5**
HDC3	**Heredia 3**	**0.66**	**60**	*i P*		**Pg**	**20 48 13.9**	**-0.1**
HDC3				*i S*		**Sb**	**20 48 24.6**	**-0.5**
HDC3				IAML			20 48 32.3	
	comp=Z,16μm,1.0s							
JTS	**Las Juntas de**	**0.66**	**338**	Pg		**Pg**	**20 48 14.1**	**+0.2**
	comp=Z,318nm,0.3s,baz=104,slow=9.0,SNR=644							
JTS				Lg		Lg	20 48 24.3	
	comp=Z,407nm,0.3s,baz=255,slow=20,SNR=11							
JTS				LR		LR	20 48 37.1	
	comp=Z,198nm,19.6s,baz=105,slow=55							
JTS	**Las Juntas de**	**0.66**	**338**	*eP*		**Pg**	**20 48 14.2**	**+0.2**
AMPA	**Desamparados**	**0.66**	**71**	*eP*		**Pg**	**20 48 14.2**	**+0.2**
LUJA	**Lujan**	**0.67**	**68**	*eP*		**Pb**	**20 48 15.4**	**-0.2**
DOMI	**Santo Domingo**	**0.67**	**63**	*eP*		**Pg**	**20 48 14.7**	**+0.5**
POPE	**POPE, Guanacas**	**0.68**	**305**	*eP*		**Pg**	**20 48 14.8**	**+0.4**
POPE	**POPE, Guanacas**	**0.68**	**305**	*i P*		**Pg**	**20 48 14.2**	**-0.1**
POPE				IAML			20 48 26.1	
	comp=Z,11μm,1.0s							
CPMI	**Catarata Coope**	**0.68**	**27**	*eP*		**Pg**	**20 48 14.9**	**+0.6**
CPMI	**Catarata Coope**	**0.68**	**27**	*i P*		**Pg**	**20 48 14.5**	**+0.1**
CPMI				IAML			20 48 25.7	
	comp=Z,5μm,1.0s							
LCR2	**La Lucha 2**	**0.69**	**84**	*eP*		**Pg**	**20 48 14.4**	**0.0**
LCR2	**La Lucha 2**	**0.69**	**84**	*i P*		**Pg**	**20 48 14.1**	**-0.4**
LCR2				*i S*		**Sg**	**20 48 24.3**	**+0.9**
LCR2				IAML			20 48 25.1	
	comp=Z,6μm,1.0s							
SJS3	**Mercedes San J**	**0.69**	**68**	*eP*		**Pg**	**20 48 15.0**	**+0.5**
VPS6	**Volcano Poas**	**0.69**	**42**	*eP*		**Pg**	**20 48 15.2**	**+0.7**
POA5	**Crater Von Fra**	**0.70**	**41**	*eP*		**Pg**	**20 48 13.2**	**-1.5**
TBLN	**Tablon, Guarco**	**0.70**	**78**	*i P*		**Pg**	**20 48 14.5**	**-0.3**
TBLN				*i S*		**Sb**	**20 48 25.6**	**-0.7**
TBLN				IAML			20 48 30.9	
	comp=Z,6μm,1.0s							
SOCE	**Pocosol**	**0.71**	**6**	*eP*		**Pg**	**20 48 15.4**	**+0.5**
SOCE	**Pocosol**	**0.71**	**6**	*i P*		**Pg**	**20 48 15.0**	**+0.1**
SOCE				IAML			20 48 31.7	
	comp=Z,6μm,1.0s							
TRIO	**Tres Rios**	**0.73**	**72**	*eP*		**Pg**	**20 48 15.4**	**+0.1**
CORON	**Coronado**	**0.75**	**66**	*eP*		**Pg**	**20 48 16.1**	**+0.5**
OCM	**Ochomogo**	**0.76**	**73**	*eP*		**Pg**	**20 48 15.6**	**-0.3**
OCM	**Ochomogo**	**0.76**	**73**	*i P*		**Pg**	**20 48 15.5**	**-0.3**
OCM				*i S*		**Sb**	**20 48 27.7**	**-0.2**
OCM				IAML			20 48 30.4	
	comp=Z,3μm,1.0s							
ARE1	**Arenal 1**	**0.78**	**358**	*eP*		**Pb**	**20 48 16.9**	**-0.6**
VACR	**Volcan Arenal**	**0.79**	**1**	*eP*		**Pg**	**20 48 16.9**	**+0.4**
VACR	**Volcan Arenal**	**0.79**	**1**	*i P*		**Pg**	**20 48 16.3**	**-0.2**
VACR				IAML			20 48 36.4	
	comp=Z,4μm,1.0s							
SGBR	**La Fortuna**	**0.80**	**356**	*eP*		**Pg**	**20 48 17.0**	**+0.3**
CEDE	**Laguna Cedeo**	**0.81**	**360**	*eP*		**Pb**	**20 48 17.4**	**-0.6**
PACM	**Arenal**	**0.81**	**355**	*eP*		Pn	20 48 25.8	+6.3
INDI	**Punta indio, G**	**0.82**	**284**	*eP*		**Pg**	**20 48 16.9**	**-0.1**
INDI	**Punta indio, G**	**0.82**	**284**	*i P*		**Pg**	**20 48 16.6**	**-0.4**
INDI				IAML			20 48 32.7	
	comp=Z,8μm,1.0s							
CVIMO	**Finca Echandi**	**0.82**	**65**	*eP*		**Pg**	**20 48 17.4**	**+0.3**
REPA	**Paraso**	**0.83**	**79**	*eP*		**Pb**	**20 48 18.3**	**0.0**
NICO	**Nicoya**	**0.87**	**302**	*eP*		**Pb**	**20 48 19.2**	**+0.2**
ITAL	**Pital**	**0.88**	**28**	*eP*		**Pg**	**20 48 18.2**	**0.0**
HAYA	**Volcan Irazu**	**0.90**	**70**	*i P*		**Pg**	**20 48 18.5**	**0.0**
HAYA				IAML			20 48 36.3	
	comp=Z,5μm,1.0s							
VICA	**Volcano Irazu**	**0.90**	**70**	*eP*		**Pg**	**20 48 18.3**	**-0.2**
ICR3	**Volcano Irazu**	**0.91**	**70**	*eP*		**Pg**	**20 48 18.6**	**0.0**
PCAYA	**Pacayas**	**0.91**	**74**	*eP*		**Pb**	**20 48 20.0**	**+0.3**
CDM	**Cerro de Muert**	**0.93**	**97**	*eP*		**Pg**	**20 48 18.9**	**-0.2**
CDM	**Cerro de Muert**	**0.93**	**97**	*i P*		**Pg**	**20 48 18.8**	**-0.3**
CDM				*i S*		**Sb**	**20 48 33.6**	**+0.5**
CDM				IAML			20 48 38.2	
	comp=Z,7μm,1.0s							
PLVR	**Palo Verde**	**0.93**	**316**	*eP*		**Pg**	**20 48 19.1**	**-0.1**
BUS1	**Rivas**	**0.94**	**97**	*eP*		**Pg**	**20 48 19.0**	**-0.5**
JUD3	**Juan Diaz 3**	**0.96**	**301**	*eP*		**Pg**	**20 48 19.6**	**-0.2**
VINA	**Juan Vinas**	**0.96**	**77**	*eP*		**Pg**	**20 48 20.0**	**+0.2**
VTLA	**Turrialba Volc**	**0.96**	**70**	*eP*		**Pg**	**20 48 19.9**	**+0.1**
CVTQ	**Turrialba Volc**	**0.97**	**70**	*eP*		**Pg**	**20 48 20.2**	**+0.3**
CVTR	**Volcan Turrial**	**0.99**	**70**	*eP*		**Pg**	**20 48 20.3**	**+0.1**
CVTV	**Tajo**	**0.99**	**71**	*eP*		**Pg**	**20 48 20.5**	**+0.2**
RIFO	**Rio Frio, Sara**	**0.99**	**50**	*eP*		**Pg**	**20 48 20.2**	**-0.2**
RIFO	**Rio Frio, Sara**	**0.99**	**50**	*i P*		**Pg**	**20 48 20.0**	**-0.4**
RIFO				IAML			20 48 44.8	
	comp=Z,6μm,1.0s							
VTCV	**VTCV, Calle Va**	**1.00**	**72**	*eP*		**Pg**	**20 48 20.7**	**+0.1**
ACAL	**Aguas Claras**	**1.01**	**341**	*i P*		**Pg**	**20 48 20.5**	**-0.2**
ORTG	**Ortega, Santa**	**1.01**	**312**	*eP*		**Pg**	**20 48 20.4**	**-0.3**
ORTG	**Ortega, Santa**	**1.01**	**312**	*i P*		**Pg**	**20 48 20.1**	**-0.7**
ORTG				*i S*		**Sb**	**20 48 35.5**	**+0.3**
ORTG				IAML			20 48 36.2	
	comp=Z,4μm,1.0s							
TURIB	**Turrialba**	**1.02**	**77**	*eP*		**Pb**	**20 48 21.8**	**+0.2**
VERB	**Verbena**	**1.02**	**75**	*eP*		**Pg**	**20 48 21.0**	**+0.1**
VTLO	**VTLO**	**1.02**	**69**	*eP*		**Pg**	**20 48 20.9**	**-0.1**
RVSTA	**Santa Teresita**	**1.08**	**74**	*eP*		**Pg**	**20 48 21.9**	**-0.1**
COVE	**Coope Vega, Sa**	**1.08**	**16**	*eP*		**Pg**	**20 48 21.4**	**-0.6**
COVE	**Coope Vega, Sa**	**1.08**	**16**	*i P*		**Pg**	**20 48 20.9**	**-1.1**
COVE				IAML			20 48 42.3	
	comp=Z,4μm,1.0s							
CAMAV	**Centro de Prod**	**1.13**	**334**	*eP*		**Pg**	**20 48 22.6**	**-0.4**
VERA	**Finca Concepci**	**1.18**	**352**	*eP*		**Pg**	**20 48 23.2**	**-0.9**
OCHAL	**Ojochal**	**1.19**	**119**	*i P*		**Pg**	**20 48 22.5**	**-1.5**
OCHAL				IAML			20 48 44.1	
	comp=Z,32nm,1.0s							
LCOCO	**El Coco**	**1.20**	**70**	*eP*		**Pg**	**20 48 24.1**	**-0.1**
LIBE	**Liberia**	**1.20**	**322**	*i P*		**Pg**	**20 48 24.0**	**-0.2**
LIBE				*i S*		**Sn**	**20 48 41.5**	**0.0**
LIBE				IAML			20 48 45.4	
	comp=Z,2μm,1.0s							
VMAR	**Armenia, Volca**	**1.20**	**340**	*eP*		**Pg**	**20 48 23.9**	**-0.5**
VMAR				*eP*		**Pg**	**20 48 23.8**	**-0.5**
VMAR				*eS*		**Sb**	**20 48 40.9**	**+0.3**
VMAR	**Armenia, Volca**	**1.20**	**340**	*i P*		**Pg**	**20 48 23.5**	**-0.9**
VMAR				IAML			20 48 50.5	
	comp=Z,5μm,1.0s							
CANAL	**Canalete**	**1.20**	**343**	*eP*		**Pg**	**20 48 23.9**	**-0.5**
IRES	**Siquirres**	**1.25**	**70**	*eP*		**Pg**	**20 48 25.2**	**-0.1**
GPS3	**Bodega del ICE**	**1.26**	**329**	*eP*		**Pg**	**20 48 24.4**	**-1.0**
VRLE	**La Escondida,**	**1.29**	**329**	*i P*		**Pg**	**20 48 24.8**	**-1.2**
VRLE				IAML			20 48 49.4	
	comp=Z,2μm,1.0s							
TRT2	**Tortugero**	**1.29**	**47**	*i P*		**Pg**	**20 48 24.6**	**-1.5**
TRT2				IAML			20 48 57.0	
	comp=Z,2μm,1.0s							
GB1A	**Borinquen Arri**	**1.33**	**329**	*eP*		**Pg**	**20 48 25.7**	**-1.1**
LCHIL	**Los Chiles**	**1.35**	**359**	*eP*		**Pg**	**20 48 26.9**	**-0.4**
HZTE	**Horizontes, Gu**	**1.36**	**320**	*eP*		**Pg**	**20 48 26.3**	**-1.1**
HZTE	**Horizontes, Gu**	**1.36**	**320**	*i P*		**Pg**	**20 48 25.9**	**-1.5**
HZTE				*i S*		**Sn**	**20 48 46.0**	**+0.4**
HZTE				IAML			20 48 52.5	
	comp=Z,3μm,1.0s							
SRBA	**San Rafael, Bu**	**1.39**	**108**	*eP*		**Pg**	**20 48 27.0**	**-1.0**
SRBA	**San Rafael, Bu**	**1.39**	**108**	*i P*		**Pg**	**20 48 26.5**	**-1.5**
SRBA				*i S*		**Sg**	**20 48 46.1**	**+0.1**
SRBA				IAML			20 48 50.3	
	comp=Z,2μm,1.0s							
EDPN	**Palmar Norte**	**1.41**	**120**	*eP*		**Pn**	**20 48 27.2**	**-0.5**
DRK0	**Durika**	**1.49**	**106**	*eP*		**Pn**	**20 48 28.6**	**-0.3**
EDBA	**Buenos Aires**	**1.49**	**110**	*eP*		**Pn**	**20 48 28.1**	**-0.8**
LCRUZ	**La Cruz**	**1.67**	**327**	*eP*		**Pg**	**20 48 33.1**	**-0.3**
POTG	**Potrero Grande**	**1.68**	**112**	*eP*		**Pn**	**20 48 31.5**	**0.0**
POTG	**Potrero Grande**	**1.68**	**112**	*i P*		**Pn**	**20 48 31.2**	**-0.3**
POTG				*i S*		**Sb**	**20 48 54.7**	**+0.5**
POTG				IAML			20 48 57.3	
	comp=Z,6μm,1.0s							
JIME	**Puerto Jimenez**	**1.76**	**130**	*eP*		**Pn**	**20 48 32.0**	**-0.6**
EDAD	**Golfito**	**1.82**	**124**	*eP*		**Pn**	**20 48 32.2**	**-1.2**
BRIBI	**Bribri**	**1.82**	**91**	*eP*		**Pg**	**20 48 36.7**	**+0.5**
JAPN	**Al SSO del Vol**	**2.08**	**332**	*i P*		**Pn**	**20 48 36.8**	**-0.1**
JAPN				IAML			20 48 46.7	
	comp=Z,950nm,1.0s							
MORN	**Al O del Volca**	**2.08**	**333**	*i P*		**Pn**	**20 48 36.5**	**-0.5**
MORN				IAML			20 48 43.2	
	comp=Z,1μm,1.0s							
CCOL	**Caracol de Cor**	**2.12**	**126**	*eP*		**Pb**	**20 48 40.4**	**+0.2**
BRU2	**Volcan**	**2.17**	**114**	*i P*		**Pn**	**20 48 38.2**	**-0.1**
BRU2				IAML			20 49 14.4	
	comp=Z,2μm,1.0s							
ACON	**Acoyapa**	**2.33**	**348**	*eP*		**Pn**	**20 48 39.9**	**-0.4**
ESPN	**Las Esperanzas**	**2.54**	**9**	*i P*		**Pn**	**20 48 43.9**	**+0.7**
ESPN				IAML			20 49 29.0	
	comp=Z,680nm,1.0s							
TXAR	**Lajitas Array**	**26.42**	**320**	P		**P**	**20 53 40.2**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=148,slow=12,SNR=4.4							
TXAR				PcP		**PcP**	**20 57 07.1**	**+2.1**
	comp=Z,0.3nm,0.7s,baz=152,slow=4.1,SNR=3.9							
	comp=Z,0.2nm,0.5s							
NVAR	**Mina Array Bea**	**41.56**	**319**	P		**P**	**20 55 51.4**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=141,slow=6.6,SNR=9.5							
NVAR				PcP		**PcP**	**20 57 47.8**	**0.0**
	comp=Z,0.4nm,0.6s,baz=147,slow=3.9,SNR=2.9							
	comp=Z,1.2nm,0.8s							
YKA	**Yellowknife Ar**	**57.00**	**344**	P		**P**	**20 57 45.1**	**-2.7**
	comp=Z,0.3nm,0.8s,baz=140,slow=7.0,SNR=5.2							
	comp=Z,0.3nm,0.8s							
ESDC	**Sonseca Array**	**76.78**	**51**	P		**P**	**20 59 54.0**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=281,slow=5.3,SNR=5.7							
	comp=Z,0.7nm,0.9s							
ASAR	**Alice Springs**	**140.64**	**244**	PKP		**PKPdf**	**21 07 34.5**	**+1.5**
	comp=Z,0.4nm,1.0s,baz=98,slow=2.6,SNR=4.2							
WRA	**Warramunga Arr**	**141.00**	**250**	PKP		**PKPdf**	**21 07 34.3**	**+0.5**
	comp=Z,0.8nm,1.1s,baz=90,slow=2.5,SNR=2.4							

IDC 23 21:18:28.1±2.1, 9.°88S×118.°58E, h0km, mb3.3/2, mbtmp3.4/4, ML3.0/2, MS2.3/1, Error ellipse: s-maj=59.9km s-min=25.7km az=65.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KAPI	**Kappang**	**4.97**	**14**	Pn		Pn	21 19 44.2	+0.2
	0.8nm,0.3s,baz=126,slow=19,SNR=1.8							
KAPI				Sn		Sn	21 20 44.1	+1.8
	2.9nm,0.3s,baz=1.4,slow=22,SNR=7.3							
KAPI				LR		LR	21 21 58.8	
	comp=Z,31nm,20.1s,baz=110,slow=42							
	1.6nm,0.3s							
WRA	**Warramunga Arr**	**18.21**	**125**	P		Pn	21 22 42.0	-0.5
	baz=302,slow=13,SNR=3.3							
	0.6nm,0.8s							
ASAR	**Alice Springs**	**20.05**	**135**	P		P	21 23 03.5	+0.4
	0.8nm,0.9s,baz=324,slow=12,SNR=7.3							
	0.8nm,0.9s							
MKAR	**Makanchi Array**	**65.05**	**333**	P		P	21 29 10.1	-0.2
	0.6nm,0.9s,baz=150,slow=8.0,SNR=3.7							
	0.6nm,0.9s							

*NEIC **23** 21:22:38.2±1.8, 9.°15S±0.°07×112.°43E±0.°05, h52km±8km, mb4.2/13, Error ellipse: s-maj=10.6km s-min=7.1km az=196.0*
*DJA **23** 21:22:38.9±0.7, 9.°3S±3.°×11.°2E±.°, h25km±6km, M4.5/18, mb4.8/10, mB5.0/7, ML4.5/18, Mw(mB)4.3/7*
*IDC **23** 21:22:40.5±2.8, 8.°75S×112.°57E, h55km±26km, mb3.7/15, mbtmp4.0/16, ML4.2/1, Error ellipse: s-maj=24.1km s-min=11.8km az=52.0*

ISC 23 21:22:38.0±0.9, 9.°12S±0.°06×112.°38E±0.°03, h45km±9km, n82, σ1.°77/97, mb4.0/20, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BLJI	**Banyuglugur**	**1.82**	**41**	P		**Pn**	**21 23 08.8**	**+1.9**
BLJI				S		**Sn**	**21 23 30.2**	**+1.4**
JAGI	**Jajag, Banyuwa**	**1.87**	**70**			**Pn**	**21 23 07.8**	**+0.3**
JAGI				Sn		Sn	**21 23 27.9**	**-2.1**
JAGI	**Jajag, Banyuwa**	**1.87**	**70**	P		**Pn**	**21 23 08.4**	**+0.8**
JAGI	**Jajag, Banyuwa**	**1.87**	**70**	P		**Pn**	**21 23 07.9**	**+0.3**
JAGI				S		**Sn**	**21 23 28.8**	**-1.2**
UGM	**Wanagama**	**2.20**	**303**			**Pn**	**21 23 13.6**	**+1.5**
UGM				Sn		**Sn**	**21 23 38.0**	**-0.1**
UGM	**Wanagama**	**2.20**	**303**	P		**Pn**	**21 23 14.0**	**+1.9**
UGM	**Wanagama**	**2.20**	**303**	P		**Pn**	**21 23 13.8**	**+1.7**
UGM				S		**Sn**	**21 23 38.8**	**+0.7**
ABJI	**Asem Bagus**	**2.26**	**54**	P		**Pn**	**21 23 15.6**	**+2.7**
ABJI				S		**Sn**	**21 23 42.5**	**+2.9**
YOGI	**Yogyakarta**	**2.44**	**302**	P		**Pn**	**21 23 16.4**	**+1.0**
YOGI				S		**Sn**	**21 23 46.2**	**+2.2**
KMMI	**Kalianget**	**2.59**	**37**	P		**Pn**	**21 23 19.4**	**+1.9**
SMRI	**Semarang**	**2.82**	**317**			**Pn**	**21 23 22.6**	**+1.9**
SMRI	**Semarang**	**2.82**	**317**	P		**Pn**	**21 23 23.4**	**+2.8**
SMRI	**Semarang**	**2.82**	**317**	P		**Pn**	**21 23 23.4**	**+2.8**
DNP	**Denpasar**	**2.83**	**81**	P		**Pn**	**21 23 23.5**	**+2.7**
DNP				S		**Sn**	**21 23 57.2**	**+3.5**
SRBI	**Singaraja**	**2.98**	**70**	P		**Pn**	**21 23 24.6**	**+1.7**
SRBI				S		**Sn**	**21 23 58.7**	**+1.2**
BWJI	**Bawean**	**3.26**	**5**	P		**Pn**	**21 23 29.0**	**+2.3**
BWJI				S		**Sn**	**21 24 05.4**	**+1.1**
KPJI	**Karang Pucung**	**3.85**	**297**	P		**Pn**	**21 23 37.0**	**+2.2**
KPJI				S		**Sn**	**21 24 21.2**	**+2.4**
CMJI	**Cimerak**	**4.11**	**289**	P		**Pn**	**21 23 38.9**	**+0.5**
CMJI				S		**Sn**	**21 24 23.3**	**-1.9**
TWSI	**Taliwang, Sumb**	**4.46**	**85**	P		**Pn**	**21 23 45.2**	**+2.0**
JCJI	**Jatiwangi**	**4.84**	**302**	P		**Pn**	**21 23 47.7**	**-0.7**
BBJI	**Bungbulang**	**4.96**	**289**	P		**Pn**	**21 23 51.4**	**+1.2**
LEM	**Lembang**	**5.24**	**295**	P		**Pn**	**21 23 55.5**	**+1.4**
	69nm,0.7s,1μm0.3nm							
LEM	**Lembang**	**5.24**	**295**	P		**Pn**	**21 23 55.5**	**+1.4**
	9.1nm,0.3s,baz=68,slow=11,SNR=13							
LEM				S		**Sn**	**21 24 58.0**	**+4.7**
	56nm,0.6s,baz=198,slow=22,SNR=4.2							
	62nm,0.6s							
PLAI	**Plampang**	**5.34**	**87**	P		**Pn**	**21 23 57.6**	**+2.4**
PLAI	**Plampang**	**5.34**	**87**	P		**Pn**	**21 23 57.7**	**+2.5**
	63nm,0.6s,1μm0.4nm							
PLAI				S		**Sn**	**21 24 56.3**	**+0.8**
	63nm,0.6s,1μm0.4nm							
CNJI	**Cibinong**	**5.50**	**289**	P		**Pn**	**21 23 58.2**	**+0.7**
	38nm,0.6s,868nm0.2nm							
CNJI				S		**Sn**	**21 24 57.8**	**-1.7**
	38nm,0.6s,868nm0.2nm							
CBJI	**Citeko**	**6.10**	**296**	P		**Pn**	**21 24 04.2**	**-1.5**
	115nm,0.5s,0.5nm							
DBJI	**Dramaga**	**6.13**	**294**	P		Pn	21 24 19.8	+14
XMI	**Christmas Isla**	**6.72**	**258**	P		**Pn**	**21 24 15.9**	**+1.6**
XMIS	**Christmas Isla**	**6.77**	**258**			**Pn**	**21 24 15.1**	**+0.2**
XMIS	**Christmas Isla**	**6.77**	**258**	P		**Pn**	**21 24 15.8**	**+0.9**
CGJI	**Cibinong**	**7.08**	**290**	P		**Pn**	**21 24 19.9**	**+0.8**
	52nm,0.7s,1μm0.2nm							
BASI	**Baing, Sumba**	**8.15**	**98**	P		**Pn**	**21 24 36.2**	**+2.3**
	56nm,1.0s							
BKSI	**Bulukumba**	**8.56**	**64**	P		**Pn**	**21 24 41.1**	**+1.7**
	9.5nm,0.8s							
KASI	**Kota Agung**	**8.60**	**294**	P		**Pn**	**21 24 42.3**	**+2.3**
	25nm,1.7s							
EDFI	**Ende, Flores**	**9.21**	**88**	P		**Pn**	**21 24 49.7**	**+1.3**
	17nm,0.5s,656nm							
MMRI	**Maumere**	**9.75**	**88**	Pn		**Pn**	**21 24 56.2**	**+0.4**
MNAI	**Manna**	**10.49**	**296**	Pn		**Pn**	**21 25 07.2**	**+1.2**
MNAI	**Manna**	**10.49**	**296**	P		**Pn**	**21 25 07.1**	**+1.2**
SBUM	**Sibu**	**11.50**	**359**	Pn		**Pn**	**21 25 19.6**	**-0.1**
SOEI	**Soe**	**11.74**	**94**	Pn		**Pn**	**21 25 23.0**	**-0.2**
GIRL	**Giralia**	**13.56**	**173**	Pn		**Pn**	**21 25 45.6**	**-2.2**
MBWA	**Marble Bar**	**13.90**	**150**	Pn		**Pn**	**21 25 49.9**	**-2.6**
PSA00	**Pilbara Seismi**	**14.31**	**151**	P

PB08				*e*S	**Sn**	**21 25 13.1**	**+0.7**
PB08				IAML		21 25 13.6	
	comp=Z,2µm,0.3s						
PB08	**IPOC Station P**	**0.40**	**147**	*i*P	**Pn**	**21 25 01.1**	**-0.8**
PB08				*i* S	**Sn**	**21 25 12.6**	**+0.2**
PB08				IAML		21 25 13.3	
	comp=E,3µm,0.2s						
PX03	**IPOC Station P**	**0.64**	**201**	*e*S	**Sn**	**21 25 16.0**	**+0.7**
PX03				IAML		21 25 17.0	
	comp=N,3µm,0.2s						
HMBC	**Humberstone**	**0.67**	**225**	*i*P	**Pn**	**21 25 02.8**	**-0.9**
HMBC				*e*P		21 25 03.6	
HMBC				*e*S	**Sn**	**21 25 17.6**	**+1.7**
HMBC				IAML		21 25 18.6	
	comp=Z,4µm,0.5s						
HMBC	**Humberstone**	**0.67**	**225**	*i*P	**Pn**	**21 25 03.5**	**-0.2**
HMBC				*i* S	**Sn**	**21 25 17.5**	**+1.7**
HMBC				IAML		21 25 20.5	
	comp=N,3µm,0.3s						
TA02	**Huaiquique**	**0.84**	**237**	*i*P	**Pn**	**21 25 04.7**	**-0.6**
TA02				*e*P		21 25 05.4	
TA02				*e*S	**Sn**	**21 25 20.4**	**+1.7**
TA02				IAML		21 25 21.6	
	comp=Z,3µm,0.1s						
TA02	**Huaiquique**	**0.84**	**237**⇑	*i*P	**Pn**	**21 25 05.2**	**-0.1**
TA02				*i* S	**Sn**	**21 25 20.3**	**+1.6**
TA01	**Diego Aracena**	**1.06**	**225**	*i*P	**Pn**	**21 25 06.7**	**-1.2**
TA01				IAML		21 25 31.1	
	comp=Z,524nm,0.6s						
TA01	**Diego Aracena**	**1.06**	**225**⇑	*i*P	**Pn**	**21 25 07.3**	**-0.6**
TA01				*i* S	**Sn**	**21 25 23.8**	**+0.7**
TA01				IAML		21 25 25.3	
	comp=E,2µm,0.2s						
PX02	**IPOC Station P**	**1.14**	**317**	*i*P	**Pn**	**21 25 07.6**	**-1.2**
PX02				*i* S	**Sn**	**21 25 24.8**	**-0.1**
PX02				IAML		21 25 27.3	
	comp=N,448nm,0.3s						
PB01	**IPOC Station P**	**1.23**	**185**	*i*P	**Pn**	**21 25 08.6**	**-1.5**
PB01				IAML		21 25 28.0	
	comp=Z,2µm,0.5s						
PB01	**IPOC Station P**	**1.23**	**185**⇑	*i*P	**Pn**	**21 25 09.2**	**-0.9**
PB01				*i* S	**Sn**	**21 25 27.2**	**+0.3**
PATCX	**Punta Patache**	**1.24**	**215**	*i*P	**Pn**	**21 25 09.0**	**-1.1**
PATCX				IAML		21 25 31.9	
	comp=Z,351nm,0.3s						
PATCX	**Punta Patache**	**1.24**	**215**⇑	*i*P	**Pn**	**21 25 09.2**	**-0.9**
PATCX				*i* S	**Sn**	**21 25 27.4**	**+0.4**
PATCX				IAML		21 25 31.3	
	comp=E,810nm,0.2s						
PB16	**IPOC Station P**	**1.47**	**355**	*i*P	**Pn**	**21 25 12.7**	**-0.7**
PB16				IAML		21 25 34.8	
	comp=Z,132nm,0.3s						
PB16	**IPOC Station P**	**1.47**	**355**	*i*P	**Pn**	**21 25 13.0**	**-0.4**
PB16				*i* S	**Sn**	**21 25 33.9**	**+1.1**
PB12	**IPOC Station P**	**1.48**	**323**	*i*P	**Pn**	**21 25 11.7**	**-1.5**
PB12				IAML		21 25 36.7	
	comp=Z,261nm,0.2s						
PB12	**IPOC Station P**	**1.48**	**323**	*i*P	**Pn**	**21 25 12.2**	**-0.9**
PB12				*i* S	**Sn**	**21 25 32.3**	**-0.1**
PB12				IAML		21 25 40.1	
	comp=N,368nm,0.3s						
PB02	**IPOC Station P**	**1.58**	**198**	*i*P	**Pn**	**21 25 12.9**	**-1.5**
PB02				IAML		21 25 45.9	
	comp=Z,622nm,0.2s						
PB02	**IPOC Station P**	**1.58**	**198**	*i*P	**Pn**	**21 25 13.3**	**-1.0**
PB02				*i* S	**Sn**	**21 25 34.2**	**-0.5**
PB02				IAML		21 25 41.8	
	comp=N,787nm,0.3s						
AP01	**Chacalluta**	**1.69**	**327**	*i*P	**Pn**	**21 25 14.6**	**-1.0**
AP01				IAML		21 25 42.0	
	comp=Z,371nm,0.2s						
PB07	**IPOC Station P**	**1.97**	**194**	*i*P	**Pn**	**21 25 18.2**	**-1.3**
PB07				IAML		21 25 49.9	
	comp=Z,280nm,0.3s						
PB07	**IPOC Station P**	**1.97**	**194**	*e*P	**Pn**	**21 25 18.4**	**-1.1**
PB07				*e*S	**Sn**	**21 25 43.7**	**0.0**
PB07				IAML		21 25 45.8	
	comp=E,348nm,0.2s						
PB09	**IPOC Station P**	**1.98**	**176**	*i*P	**Pn**	**21 25 18.7**	**-1.0**
PB09				IAML		21 25 48.8	
	comp=Z,181nm,0.5s						
PB09	**IPOC Station P**	**1.98**	**176**	*e*P	**Pn**	**21 25 18.9**	**-0.8**
PB09				*i* S	**Sn**	**21 25 44.5**	**+0.4**
PB09				IAML		21 25 49.7	
	comp=N,236nm,0.3s						
PB04	**IPOC Station P**	**2.62**	**196**	*i*P	**Pn**	**21 25 27.8**	**-0.3**
PB04				IAML		21 26 19.7	
	comp=Z,139nm,0.3s						
LVC	**Limon Verde**	**2.83**	**171**	*e*P	**Pn**	**21 25 31.9**	**+0.8**
PB06	**IPOC Station P**	**2.89**	**183**	*i*P	**Pn**	**21 25 30.9**	**-0.8**
PB06				IAML		21 26 10.6	
	comp=Z,80nm,1.0s						
PB05	**IPOC Station P**	**3.13**	**194**	*i*P	**Pn**	**21 25 33.0**	**-1.8**
PB05				IAML		21 26 22.0	
	comp=Z,47nm,0.5s						
PB15	**IPOC Station P**	**3.39**	**181**	*i*P	**Pn**	**21 25 40.4**	**+2.0**
PB15				IAML		21 26 42.7	
	comp=Z,287nm,0.2s						
LPAZ	**La Paz**	**3.70**	**19**	*i*P	**Pn**	**21 25 43.7**	**+0.6**
LPAZ				IAML		21 26 46.5	
	comp=Z,2.1nm,1.6s						

NEIC ***23*** *21:26:39.9±1.0,36°.64N±0°.01×89°.99W±0°.01,h12km±3km, Error ellipse: s-maj=1.7km s-min=1.3km az=179.0*

SLM 23 21:26:39.8±1.2,36°.64N±0°.01×89°.98W±0°.01,h6km±4km, Md2.6/22,mb_Lg1.9/3(NEIC),ML2.1/24(NEIC),Error ellipse: s-maj=1.7km s-min=1.4km az=191.0,New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLDM	**Malden**	**0.05**	**107**		Pg	21 26 43.1	+1.8
BETM	**Bethany**	**0.07**	**245**		Pg	21 26 43.5	+2.0
BRNM	**Bernie**	**0.08**	**352**		Pg	21 26 44.2	+2.4
TOPM	**Tallapoosa**	**0.14**	**146**		Pg	21 26 43.0	+0.3
PARMO	**Parma**	**0.19**	**83**		Pg	21 26 43.9	+0.4
PARMO					Sg	21 26 47.0	+1.0
COKM	**Charter Oak**	**0.22**	**71**		Pg	21 26 44.5	+0.4
COKM					Sg	21 26 48.1	+1.1
CATM	**Catron**	**0.27**	**96**		Pg	21 26 45.5	+0.4
CATM					Sg	21 26 49.7	+1.0
PGVM	**Portageville**	**0.27**	**131**		Pg	21 26 45.5	+0.3
PGVM					Sg	21 26 49.8	+1.0
GUAMO	**Guam**	**0.27**	**25**		Pg	21 26 45.5	+0.3
MARMO	**Marston**	**0.28**	**113**		Pg	21 26 45.5	+0.3
MARMO					Sg	21 26 49.9	+1.0
WADM	**Wardell**	**0.31**	**151**		Pg	21 26 46.1	+0.2
KEWM	**Kewanee**	**0.32**	**80**		Pg	21 26 46.3	+0.3
KEWM					Sg	21 26 51.0	+0.7
PVMO	**Portageville**	**0.32**	**135**	Pg	Pg	21 26 46.2	+0.1
PVMO				IAML		21 26 51.5	
	comp=N,237nm,0.3s						
PVMO				IAML		21 26 54.8	
	comp=E,315nm,0.8s						
PVMO	**Portageville**	**0.32**	**135**		Sg	21 26 51.3	+1.0
MATM	**Matthews**	**0.33**	**66**		Pg	21 26 46.6	+0.3
MATM					Sg	21 26 51.6	+0.9
PENMO	**Penman**	**0.34**	**123**		Pg	21 26 46.8	+0.3
PENMO					Sg	21 26 51.9	+0.9
POBM	**Portage Bay**	**0.35**	**132**		Pg	21 26 46.9	+0.3
POBM					Sg	21 26 52.2	+1.0
NMMO	**New Madrid**	**0.35**	**98**		Pg	21 26 47.0	+0.3
NMMO					Sg	21 26 52.2	+1.0
WALK	**Watson Lake**	**0.37**	**106**		Pg	21 26 47.3	+0.3
WALK					Sg	21 26 52.8	+0.9
PBMO	**Poplar Bluff**	**0.38**	**291**		Pg	21 26 47.4	+0.2
PBMO				Sg	Sg	21 26 52.7	+0.3
PBMO				IAML		21 26 52.9	
	comp=N,277nm,0.2s						
SJMO	**Saint John's B**	**0.41**	**91**		Pg	21 26 48.0	+0.2
SJMO					Sg	21 26 54.0	+0.9
HENM	**Henderson Moun**	**0.42**	**80**		Pg	21 26 48.1	+0.2
HENM					Sg	21 26 54.2	+0.8
DWDM	**Dogwood**	**0.42**	**68**		Pg	21 26 48.3	+0.3
DWDM					Sg	21 26 54.4	+0.8
BRGM	**Braggadocio**	**0.45**	**167**		Pg	21 26 48.6	+0.2
BRGM					Sg	21 26 55.1	+0.8
WYBT	**Wynnburg**	**0.49**	**127**		Pg	21 26 49.5	+0.3
EPRM	**East Prairie**	**0.51**	**81**		Pg	21 26 49.7	+0.1
EPRM					Sg	21 26 57.0	+0.7
PEBM	**Pemiscott Bayo**	**0.54**	**169**		Pg	21 26 50.2	0.0
PEBM				Sg	Sg	21 26 57.9	+0.8
LNXT	**Lenox**	**0.67**	**143**		Pg	21 26 52.7	0.0
GLAT	**Glass**	**0.67**	**123**		Pg	21 26 52.7	0.0
GLAT				IAML		21 27 12.9	
	comp=E,86nm,1.6s						
GLAT				IAML		21 27 15.1	
	comp=N,114nm,1.6s						
GNAR	**Gosnell**	**0.68**	**182**		Pg	21 26 53.0	+0.2
GNAR				Sg	Sg	21 27 02.1	+0.5
GNAR				IAML		21 27 04.8	
	comp=N,94nm,0.4s						
GNAR				IAML		21 27 07.5	
	comp=E,80nm,0.2s						
CGM3	**Cape Girardeau**	**0.71**	**22**		Pg	21 26 53.0	-0.4
CGM3				Sg	Sg	21 27 02.3	-0.3
CGM3				IAML		21 27 03.6	
	comp=E,108nm,0.2s						
CGM3				IAML		21 27 03.9	
	comp=N,91nm,0.2s						
HALT	**Halls**	**0.90**	**144**	Pg	Pg	21 26 56.8	-0.2
HALT				IAML		21 27 14.4	
	comp=E,63nm,1.5s						
HALT				IAML		21 27 15.1	
	comp=N,51nm,1.2s						
LCAR	**Lake Charles**	**1.10**	**239**		Pg	21 27 00.1	-0.9
LCAR				Sg	Sg	21 27 14.9	-0.4
S44A	**Carbondale**	**1.20**	**29**		Pg	21 27 01.9	-1.0
S44A				Sg	Sg	21 27 17.3	-1.2
S44A				IAML		21 27 18.3	
	comp=N,38nm,0.2s						
FVM	**French Village**	**1.39**	**345**	Pn	Pn	21 27 05.1	-0.6
FVM				Sn	Sb	21 27 23.6	-0.5
CCM	**Cathedral Cave**	**1.73**	**325**	Pn	Pn	21 27 10.6	+0.1
CCM				IAmb_Lg		21 27 36.3	
	comp=Z,7.1nm,0.8s						
WVT	**Waverly**	**1.81**	**106**	Pn	Pn	21 27 11.5	0.0
WVT	**Waverly**	**1.81**	**106**		Pn	21 27 11.7	+0.2
WVT	**Waverly**	**1.81**	**106**	IAmb_Lg		21 27 36.7	
	comp=Z,10.0nm,0.7s						
FCAR	**Ozark Folk Cen**	**1.89**	**247**		Pn	21 27 13.1	+0.6
MGMO	**Mountain Grove**	**1.90**	**286**	Pn	Pn	21 27 12.7	-0.1
MGMO				IAmb_Lg		21 27 44.5	
	comp=Z,3.2nm,0.9s						
PLAL	**Pickwick Lake**	**2.27**	**136**		Pn	21 27 17.2	-0.6
WHAR	**Wooly Hollow**	**2.31**	**235**	Pn	Pn	21 27 17.8	-0.5
U40A	**Yellville**	**2.33**	**264**		Pn	21 27 20.4	+1.7
T47A	**Sharon Grove**	**2.34**	**81**	Pn	Pn	21 27 19.1	+0.4
R40A	**Maddies Statio**	**2.45**	**313**		Pn	21 27 21.6	+1.3
R40A	**Maddies Statio**	**2.45**	**313**	Pn	Pn	21 27 20.4	0.0
GMG	**Grassy Mountai**	**4.67**	**111**		Pn	21 27 48.2	-2.8

SFS ***23*** *21:27:39.0,36°.75N×2°.37W,h3km, mb3.9/5,ML3.8/18, ML3.8/17,MLv3.6/18*
LDG ***23*** *21:27:40.9±0.2,36°.91N×2°.43W,h10km,Ml3.3/8, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
IGIL ***23*** *21:27:41.7,36°.91N×2°.43W,h11km*
MDD ***23*** *21:27:41.2±0.2,36°.91N×2°.43W,h11km,mb_Lg3.6/37, Error ellipse: s-maj=2.5km s-min=1.4km az=148.0*
CNRM ***23*** *21:27:41.7,37°.00N×2°.43W,h32km,ml3.2*
INMG ***23*** *21:27:41.2±1.7,36°.97N×2°.48W,h5km±2km,ML3.2, Error ellipse: s-maj=2.3km s-min=1.5km az=151.0*

ISC 23 21:27:40.0±0.8,37°.01N±0°.02×2°.45W±0°.02,h17km±6km, n133,σ1§62/248,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**0.20**	**102**	Pg	**Pb**	**21 27 45.2**	**0.0**
ENIJ				Sg	**Sg**	**21 27 48.3**	**+0.1**
ENIJ				*i* Vmb_Lg		21 27 49.0	
ENIJ	**Nijar**	**0.20**	**102**	Sg	**Sg**	**21 27 48.1**	**0.0**
ENIJ				Pg	**Pb**	**21 27 45.2**	**0.0**
EBBR	**Berja**	**0.37**	**252**	Pg	**Pg**	**21 27 47.8**	**0.0**
EBER				Sg	**Sg**	**21 27 52.8**	**-0.3**
EBER				*i* Vmb_Lg		21 27 55.5	
EBER	**Berja**	**0.37**	**252**	Pg	**Pg**	**21 27 47.7**	**-0.2**
EBER				Sg	**Sg**	**21 27 52.4**	**-0.7**
EQUE	**Quentar**	**0.81**	**284**	Pg	**Pg**	**21 27 55.8**	**-0.1**
EQUE				Sg	**Sg**	**21 28 05.1**	**-1.6**
EQUE				*i* Vmb_Lg		21 28 10.5	
EQTA	**Presa de Quent**	**0.82**	**284**	Pg	**Pg**	**21 27 55.6**	**-0.4**
ELOR	**Lorca, Murcia**	**0.84**	**42**	Pg	**Pn**	**21 27 57.1**	**0.0**
ELOR				Sg	**Sn**	**21 28 09.5**	**+0.4**
ELOR				*i* Vmb_Lg		21 28 15.8	
TLOR	**Lorca, Murcia**	**0.88**	**43**	Pg	**Pn**	**21 27 57.9**	**+0.2**
TLOR	**Lorca, Murcia**	**0.88**	**43**	Pg	**Pn**	**21 27 57.6**	**0.0**
TLOR				Sg	**Sn**	**21 28 12.5**	**+2.4**
EQES	**Quesada**	**0.93**	**328**	Pg	**Pn**	**21 27 58.9**	**+0.5**
EQES				Sg	**Sn**	**21 28 14.3**	**+2.9**
EQES				*i* Vmb_Lg		21 28 19.4	
ELGU	**Los Guajares,**	**0.95**	**262**	Pg	**Pg**	**21 27 58.3**	**-0.3**
ELGU				Sg	**Sn**	**21 28 12.1**	**+0.2**
ELGU				*i* Vmb_Lg		21 28 17.7	
ELGU	**Los Guajares,**	**0.95**	**262**	Pg	**Pg**	**21 27 58.1**	**-0.5**
ELGU				Sg	**Sg**	**21 28 10.5**	**-0.7**
EZAR	**Zarzadilla de**	**1.05**	**35**	Pg	**Pn**	**21 28 00.5**	**+0.5**
EZAR				Sg	**Sn**	**21 28 16.1**	**+1.8**
EZAR				*i* Vmb_Lg		21 28 19.3	
EALB	**Alboran**	**1.17**	**204**	Pg	**Pb**	**21 28 01.2**	**-0.5**
EALB				*i* Vmb_Lg		21 28 19.4	
EMUR	**La Murta**	**1.27**	**49**	Pg	**Pg**	**21 28 03.9**	**-0.6**
EMUR				Sg	**Sg**	**21 28 22.6**	**+1.5**
EMUR				*i* Vmb_Lg		21 28 27.8	
EMUR	**La Murta**	**1.27**	**49**	Pn	**Pg**	**21 28 03.9**	**-0.6**
EMUR				Sn	**Sg**	**21 28 23.3**	**+2.2**
CART	**Cartagena**	**1.29**	**63**	P	**Pn**	**21 28 02.9**	**-0.3**
CART				S	**Sb**	**21 28 19.7**	**-0.4**
CART	**Cartagena**	**1.29**	**63**	Pn	**Pn**	**21 28 02.9**	**-0.3**
EGOR	**Sierra Gorda,**	**1.33**	**275**	Pg	**Pn**	**21 28 04.7**	**+0.8**
EGOR				Sg	**Sg**	**21 28 25.1**	**+2.0**
EGOR				*i* Vmb_Lg		21 28 32.3	
EGOR	**Sierra Gorda,**	**1.33**	**275**	Pn	**Pn**	**21 28 04.7**	**+0.8**
EMAL	**Malaga-Limoner**	**1.61**	**262**	Pn	**Pn**	**21 28 08.1**	**+0.5**
EMAL				Sn	**Sb**	**21 28 30.3**	**+1.2**
ETRV	**Los Montesinos**	**1.68**	**53**	Pg	**Pg**	**21 28 11.8**	**-0.4**
ETRV				*i* Vmb_Lg		21 28 46.8	
EMEL	**Melilla**	**1.76**	**194**	Pg	**Pn**	**21 28 09.2**	**-0.5**
EMEL				Sg	**Sn**	**21 28 31.7**	**+0.1**
ETOB	**Tobarra**	**1.78**	**23**	Pn	**Pb**	**21 28 12.2**	**0.0**
ETOB				Pg	**Pg**	**21 28 14.9**	**+0.7**
ETOB				Sg	**Sg**	**21 28 40.1**	**+2.7**
ETOB				*i* Vmb_Lg		21 28 42.6	
ETOB	**Tobarra**	**1.78**	**23**	Pn	**Pb**	**21 28 12.0**	**-0.2**
ETOB				Sn	**Sg**	**21 28 36.5**	**-0.9**
GOG	**Mont Gurugu**	**1.84**	**194**	P	**Pn**	**21 28 10.4**	**-0.5**
GOG	**Mont Gurugu**	**1.84**	**194**	P	**Pn**	**21 28 10.5**	**-0.4**
GOG				S	**Sn**	**21 28 33.4**	**-0.4**
EMIJ	**Mijas**	**1.92**	**257**	Pn	**Pn**	**21 28 11.6**	**-0.3**
EMIJ				Sg	**Sb**	**21 28 39.5**	**+1.3**
EMIJ	**Mijas**	**1.92**	**257**	Pn	**Pn**	**21 28 11.4**	**-0.5**
EMIJ				Sn	**Sn**	**21 28 35.8**	**+0.1**
EADA	**Adamuz**	**2.04**	**305**	Pn	**Pb**	**21 28 16.6**	**-0.1**
EADA				Pg	**Pg**	**21 28 19.0**	**-0.3**
EADA				Sg	**Sg**	**21 28 46.5**	**+0.7**
EADA				*i* Vmb_Lg		21 28 49.3	
EADA	**Adamuz**	**2.04**	**305**	Pn	**Pb**	**21 28 16.3**	**-0.4**
EADA				Sn	**Sb**	**21 28 43.7**	**+1.9**
PALE	**Palemas**	**2.16**	**214**	P	**Pn**	**21 28 15.5**	**+0.2**
PALE				S	**Sn**	**21 28 42.0**	**+0.4**
TAF	**Taforalt**	**2.19**	**179**	P	**Pn**	**21 28 16.2**	**+0.4**
TAF	**Taforalt**	**2.19**	**179**	P	**Pn**	**21 28 16.3**	**+0.6**
TAF				S	**Sn**	**21 28 44.0**	**+1.5**
TAF	**Taforalt**	**2.19**	**179**	P	**Pn**	**21 28 16.2**	**+0.4**
AFON	**Font Roja**	**2.24**	**42**	Pn	**Pn**	**21 28 17.1**	**+0.7**
AFON				Sn	**Sb**	**21 28 46.5**	**-0.9**
EBEN2	**Beniarda presa**	**2.44**	**46**	Pn	**Pn**	**21 28 19.4**	**+0.4**
EBEN2				Sn	**Sn**	**21 28 48.4**	**-0.1**
EVIV	**Cofrentes, Val**	**2.48**	**25**	Pn	**Pn**	**21 28 20.9**	**+1.2**
EVIV				Pg	**Pg**	**21 28 28.8**	**+1.1**
EVIV				Sn	**Sn**	**21 28 52.1**	**+2.5**
EVIV				Sg	**Sg**	**21 29 02.1**	**+2.2**
EVIV				*i* Vmb_Lg		21 29 06.9	
EJIF	**Jimena Fronter**	**2.49**	**258**	Pn	**Pn**	**21 28 21.7**	**+2.0**
ECAB	**El Cabril**	**2.59**	**295**	Pn	**Pn**	**21 28 22.3**	**+1.2**
ECAB				Pg	**Pg**	**21 28 29.6**	**-0.1**
ECAB				Sn	**Sn**	**21 28 53.3**	**+1.2**
ECAB				Sg	**Sg**	**21 29 02.6**	**-0.6**
ECAB				*i* Vmb_Lg		21 29 05.6	
ECAB	**El Cabril**	**2.59**	**295**	Pn	**Pn**	**21 28 22.4**	**+1.2**
CEU	**Ceuta**	**2.61**	**246**	Pn	**Pn**	**21 28 20.4**	**-0.9**
JBK	**JBK**	**2.67**	**182**	P	**Pn**	**21 28 23.0**	**+0.5**
JBK	**JBK**	**2.67**	**182**	P	**Pn**	**21 28 23.1**	**+0.6**
JBK	**JBK**	**2.67**	**182**	P	**Pn**	**21 28 23.0**	**+0.5**
SMIR	**Smir Dam**	**2.71**	**242**	P	**Pn**	**21 28 22.8**	**0.0**
SMIR				S	**Sn**	**21 28 56.0**	**+0.8**
ESPR	**Espera**	**2.73**	**268**	Pn	**Pn**	**21 28 23.6**	**+0.6**
AKLM	**AKL**	**2.75**	**205**	P	**Pn**	**21 28 24.1**	**+0.7**
AKLM	**AKL**	**2.75**	**205**	P	**Pn**	**21 28 24.3**	**+0.9**
AKLM	**AKL**	**2.75**	**205**	P	**Pn**	**21 28 24.1**	**+0.7**
AKLM				S	**Sn**	**21 28 56.2**	**-0.1**
ECHE	**Chera**	**2.83**	**24**	Pn	**Pn**	**21 28 25.6**	**+1.2**
ECHE				Pg	**Pg**	**21 28 33.7**	**-0.5**
ECHE				Sn	**Sb**	**21 29 01.8**	**-2.6**
ECHE				Sg	**Sg**	**21 29 14.1**	**+3.3**
ECHE				*i* Vmb_Lg		21 29 17.5	
ECHE	**Chera**	**2.83**	**24**	Pn	**Pb**	**21 28 28.0**	**-2.0**
ESDC	**Sonseca Array**	**2.91**	**336**	Pn	**Pn**	**21 28 27.5**	**+1.9**
ESDC				Pg	**Pg**	**21 28 35.1**	**-0.7**
ESDC				Sn	**Sn**	**21 29 00.8**	**+0.6**
ESDC				Sg	**Sg**	**21 29 14.6**	**+1.0**
ESDC				*i* Vmb_Lg		21 29 15.8	
PAB	**San Pablo**	**2.94**	**330**	P	**Pn**	**21 28 28.0**	**+2.0**
PAB	**San Pablo**	**2.94**	**330**	Pn	**Pn**	**21 28 27.1**	**+1.1**
PAB				Pg	**Pg**	**21 28 35.6**	**-0.7**
PAB				Sn	**Sn**	**21 29 01.3**	**+0.4**
PAB				Sg	**Sg**	**21 29 17.0**	**+2.6**
PAB				*i* Vmb_Lg		21 29 17.5	
CHEFC	**Chefchaouen**	**3.02**	**232**	P	**Pn**	**21 28 30.0**	**+3.0**
CHEFC	**Chefchaouen**	**3.02**	**232**	P	**Pn**	**21 28 28.3**	**+1.2**
CHEFC	**Chefchaouen**	**3.02**	**232**	P	**Pn**	**21 28 30.0**	**+3.0**
UCM	**Universidad Co**	**3.35**	**350**	Pn	**Pn**	**21 28 35.2**	**+3.6**
EMIN	**Mina Concepcio**	**3.45**	**284**	Pn	**Pn**	**21 28 33.6**	**+0.7**
EMIN				Sn	**Sn**	**21 29 15.6**	**+2.3**
EIBI	**Ibiza**	**3.61**	**55**	Pn	**Pn**	**21 28 35.0**	**-0.1**
EMOS	**Mosqueruela**	**3.69**	**24**	Pn	**Pn**	**21 28 40.0**	**+3.6**
EMOS				Pg	**Pg**	**21 28 50.5**	**-0.1**
EMOS				*i* Vmb_Lg		21 29 53.8	
ETOR	**Torete**	**3.81**	**5**	Pn	**Pn**	**21 28 40.7**	**+2.7**
ETOR				Pg	**Pg**	**21 28 53.5**	**+0.5**
ETOR				Sg	**Sg**	**21 29 44.2**	**+1.7**
ETOR				*i* Vmb_Lg		21 29 44.4	
PBAR	**Barrancos**	**3.83**	**289**	*e*Pn	**Pn**	**21 28 39.2**	**+1.1**
PBAR				*e*Sn	**Sn**	**21 29 23.3**	**+0.7**
PBAR				*e*Sg	**Sg**	**21 29 39.8**	**-3.0**
PBAR				A	A	21 29 42.6	
	29nm,0.4s						
PBAR	**Barrancos**	**3.83**	**289**	Pn	**Pn**	**21 28 39.1**	**+1.1**
LCRM	**LCR**	**3.86**	**211**	P	**Pn**	**21 28 40.2**	**+1.5**
GUD	**Guadarrama**	**3.86**	**340**	Pn	**Pn**	**21 28 41.3**	**+2.5**
GUD				Pg	**Pg**	**21 28 52.2**	**-1.8**
GUD				Sg	**Sg**	**21 29 44.0**	**0.0**
GUD				*i* Vmb_Lg		21 29 49.0	
EBAD	**Badajoz**	**4.01**	**297**	Pn	**Pn**	**21 28 41.5**	**+0.9**
EBAD	**Badajoz**	**4.01**	**297**	Pn	**Pn**	**21 28 41.6**	**+0.9**
EGRO	**El Granado**	**4.05**	**279**	Pn	**Pn**	**21 28 42.7**	**+1.5**
EGRO	**El Granado**	**4.05**	**279**	Pn	**Pn**	**21 28 42.4**	**+1.3**
EGRO				Sn	**Sn**	**21 29 28.6**	**+0.5**
EPLA	**Plasencia**	**4.17**	**318**	Pn	**Pn**	**21 28 45.4**	**+2.5**
EPLA				Pg	**Pg**	**21 28 58.0**	**-1.9**
EPLA				Sn	**Sn**	**21 29 32.3**	**+1.1**
EPLA				Sg	**Sg**	**21 29 54.3**	**+0.4**
EPLA				*i* Vmb_Lg		21 30 00.7	
PVAQ	**Vaqueiros**	**4.22**	**277**	*e*Pn	**Pn**	**21 28 44.6**	**+1.0**
PVAQ				*e*Sn	**Sn**	**21 29 32.4**	**-0.1**
PBDV	**Barranco-do-Ve**	**4.39**	**275**	*e*Pn	**Pn**	**21 28 47.6**	**+1.8**
PBDV				*e*Sn	**Sn**	**21 29 36.1**	**-0.4**
PBDV				*e*Sg	**Sg**	**21 30 03.6**	**+2.8**
PBDV				A	A	21 30 10.6	
	30nm,0.7s						
PBEJ	**Beja**	**4.42**	**285**	*e*Pn	**Pn**	**21 28 48.7**	**+2.4**
PBEJ				*e*Sn	**Sn**	**21 29 38.4**	**+1.0**
PBEJ				*e*Sg	**Sg**	**21 30 02.1**	**+0.1**
PBEJ				A	A	21 30 06.6	
	17nm,0.7s						
PESTR	**Estremoz**	**4.46**	**296**	*e*Pn	**Pn**	**21 28 48.0**	**+1.1**
PESTR				*e*Sn	**Sn**	**21 29 38.4**	**-0.1**
PESTR				*e*Sg	**Sg**	**21 30 03.6**	**+0.3**
PESTR				A	A	21 30 08.5	
	42nm,0.5s						
PESTR	**Estremoz**	**4.46**	**296**	P	**Pn**	**21 28 47.7**	**+0.8**
PESTR				S	**Sn**	**21 29 39.3**	**+0.8**
PESTR	**Estremoz**	**4.46**	**296**	Pn	**Pn**	**21 28 47.6**	**+0.7**
PCVE	**Castro Verde**	**4.50**	**280**	*e*Pn	**Pn**	**21 28 49.9**	**+2.6**
PCVE				*e*Sn	**Sn**	**21 29 38.9**

	22nm,0.5s							
PCAS	**Casmilo, Conde**	**5.63**	**304**	*e*Pn	**Pn**	**21 29 05.0**	**+2.1**
PCAS				*e*Sn	**Sn**	**21 30 05.9**	**-1.2**
PCAS				*e*Sg	**Sg**	**21 30 39.8**	**-0.9**
PCAS				A	A	21 30 45.3	
	33nm,0.6s						
PVIS	**Viseu**	**5.63**	**313**	*e*Pn	**Pn**	**21 29 05.4**	**+2.4**
PVIS	**Viseu**	**5.63**	**313**	*e*Pg	**Pg**	**21 29 25.8**	**-2.0**
PVIS				*e*Sn	**Sn**	**21 30 07.9**	**+0.6**
PVIS				*e*Sg	**Sg**	**21 30 40.9**	**+0.2**
PVIS				A	A	21 30 46.2	
	18nm,0.4s						
COI	**Coimbra**	**5.65**	**306**	*e*Pn	**Pn**	**21 29 05.5**	**+2.3**
COI				*e*Sn	**Sn**	**21 30 08.2**	**+0.5**
COI				*e*Sg	**Sg**	**21 30 40.2**	**-1.3**
PMAFR	**Mafra**	**5.74**	**292**	*e*Pn	**Pn**	**21 29 06.4**	**+2.0**
PMAFR				*e*Sn	**Sn**	**21 30 09.3**	**-0.5**
PMAFR				*e*Sg	**Sg**	**21 30 47.1**	**+3.1**
PMAFR				A	A	21 30 50.9	
	33nm,0.6s						
PMAFR	**Mafra**	**5.74**	**292**	Pn	**Pn**	**21 29 06.1**	**+1.7**
PBRG	**Braganca**	**5.83**	**327**	*e*Pn	**Pn**	**21 29 08.3**	**+2.7**
PBRG	**Braganca**	**5.83**	**327**	*e*Pg	**Pg**	**21 29 30.6**	**-0.9**
PBRG				*e*Sg	**Sg**	**21 30 46.0**	**-0.9**
PBRG				A	A	21 30 49.4	
	19nm,0.6s						
PVRL	**Vila Real**	**5.90**	**318**	*e*Pn	**Pn**	**21 29 09.5**	**+2.8**
PVRL				*e*Sn	**Sn**	**21 30 13.9**	**-0.1**
PVRL				*e*Sg	**Sg**	**21 30 49.9**	**+0.4**
PVRL				A	A	21 31 02.9	
	14nm,0.5s						
ECAL	**Calabor**	**5.93**	**327**	Pn	**Pn**	**21 29 09.8**	**+2.6**
POLO	**Lamas de Olo**	**6.01**	**318**	*e*Pn	**Pn**	**21 29 11.0**	**+2.7**
POLO				*e*Sn	**Sn**	**21 30 15.9**	**-0.9**
POLO				*e*Sg	**Sg**	**21 30 53.5**	**+0.5**
POLO				A	A	21 31 02.5	
	8.8nm,0.5s						
ETSF	**Etsaut**	**6.05**	**13**	*e*Pn	**Pn**	**21 29 10.5**	**+1.7**
ETSF				*e*Sn	**Sn**	**21 30 16.4**	**-1.3**
ETSF				*e*Sg	**Sg**	**21 30 52.3**	**-2.0**
	5.2nm,0.4s						
SJPF	**Ste Jean**	**6.17**	**8**	*e*Pn	**Pn**	**21 29 13.9**	**+3.6**
SJPF				*e*Sg	**Sg**	**21 30 55.5**	**-2.3**
	7.6nm,0.5s						
PTO	**Porto**	**6.31**	**313**	*e*Pn	**Pn**	**21 29 14.7**	**+2.4**
PCAB	**Cabril**	**6.38**	**319**	*e*Pn	**Pn**	**21 29 16.2**	**+3.0**
EPF	**Esparros**	**6.38**	**19**	*e*Pn	**Pn**	**21 29 16.5**	**+3.3**
EPF				*e*Sn	**Sn**	**21 30 23.8**	**-1.9**
EPF				*e*Sg	**Sg**	**21 31 02.3**	**-2.4**
	5.8nm,0.5s						
PGAV	**Gavieira, Arco**	**6.69**	**319**	*e*Pn	**Pn**	**21 29 19.1**	**+1.6**
PGAV				*e*Sn	**Sn**	**21 30 31.5**	**-1.8**
PGAV				*e*Sg	**Sg**	**21 31 11.7**	**-2.8**
PGAV				A	A	21 31 20.3	
	18nm,0.6s						
OUZM	**OUZ**	**7.06**	**212**	P	**Pn**	**21 29 24.7**	**+2.0**
MTLF	**Montolieu**	**7.26**	**28**	*e*Sg	**Sg**	**21 31 30.2**	**-2.6**
	3.8nm,0.6s						
OUK	**Oukaimeden**	**7.33**	**219**	P	**Pn**	**21 29 26.9**	**+0.4**
ZGR	**Zagora**	**7.37**	**202**	P	**Pn**	**21 29 27.3**	**+0.5**
MFF	**Saint Martin d**	**9.73**	**9**	*e*Pn	**Pn**	**21 30 00.3**	**+1.1**
QUIF	**Quistinic**	**10.91**	**357**	*e*Pn	**Pn**	**21 30 16.5**	**+1.3**
QUIF				*e*Sn	**Sn**	**21 32 13.6**	**-3.2**
	1.4nm,0.4s						
LPL	**La Plagne**	**10.94**	**36**	*e*Pn	**Pn**	**21 30 15.2**	**-0.8**
SGMF	**Saint Gilles**	**11.23**	**360**	*e*Pn	**Pn**	**21 30 19.4**	**-0.3**
ROSF	**Rostrenen**	**11.33**	**357**	*e*Pn	**Pn**	**21 30 22.1**	**+1.1**
ROSF				*e*Sn	**Sn**	**21 32 21.1**	**-6.1**
	0.4nm,0.2s						

*IDC **23** 21:36:57.8±1.6, 6.°08S×147.°60E, h60km±14km, mb3.9/12, mbtmp4.3/16, MS3.2/20, Error ellipse: s-maj=21.9km s-min=10.7km az=97.0*
*NEIC **23** 21:36:59.6±1.4, 6.°21S±0.°06×147.°70E±0.°08, h67km±7km, mb4.7/34, Error ellipse: s-maj=12.0km s-min=9.0km az=99.0*
*DJA **23** 21:37:00.9±2.9, 7.°S×14.°9E±.°, h24km±25km, M4.6/8, mB5.1/3, mb4.6/8, MLv4.6/2, Mw(mB)4.5/3*

ISC 23 21:37:00.3±0.4, **6.°24S**±0.°04×**147.°69E**±0.°06, **h77**km, **n128,** σ1ᵎ**59**/124, **mb4.6**/30, **1D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.19**	**190**		**Pn**	**21 37 47.6**	**-0.6**
PMG				Sn	**Sn**	**21 38 22.5**	**-2.6**
PMG	**Port Moresby**	**3.19**	**190**	P	**Pn**	**21 37 48.0**	**-0.2**
PMG	**Port Moresby**	**3.19**	**190**	P	**Pn**	**21 37 47.7**	**-0.5**
	277nm,0.5s,baz=333,slow=5.9,SNR=94						
PMG				S	**Sn**	**21 38 26.2**	**+1.1**
	433nm,0.4s,baz=211,slow=19,SNR=9.9						
PMG				LR	LR	21 39 33.9	
	comp=Z,500nm,21.7s,baz=36,slow=47						
MANU	**Manus Island**	**4.18**	**356**		**Pn**	**21 37 59.9**	**-1.9**
KRVT	**Keravat (AS076**	**4.72**	**66**	P	**Pn**	**21 38 08.1**	**-1.1**
	9.4nm,0.3s						
JAY	**Jayapura**	**7.89**	**298**	P	**Pn**	**21 38 53.5**	**+1.0**
GENI	**Genyem**	**8.33**	**295**	P	Pn	21 39 23.5	+25
SMPI	**Sarmi**	**9.90**	**295**	P	Pn	21 39 36.2	+16
	33nm,1.1s						
HNR	**Honiara**	**12.55**	**105**	Pn	**Pn**	**21 39 54.0**	**-2.0**
HNR	**Honiara**	**12.55**	**105**	P	**Pn**	**21 39 56.7**	**+0.7**
	307nm,0.5s,baz=106,slow=12,SNR=5.5						
HNR				LR	LR	21 43 28.5	
	comp=Z,770nm,21.2s,baz=278,slow=31						
CTA	**Charters Tower**	**13.83**	**186**	P	**Pn**	**21 40 13.9**	**+0.9**
CTA	**Charters Tower**	**13.83**	**186**	P	**Pn**	**21 40 13.3**	**+0.3**
	3.0nm,0.5s,baz=0.5,slow=16,SNR=2.0						
CTA				LR	LR	21 45 36.2	
	comp=Z,46nm,21.2s,baz=354,slow=37						
CTAO	**Charters Tower**	**13.83**	**186**	Pn	**Pn**	**21 40 12.4**	**-0.7**
CTAO	**Charters Tower**	**13.83**	**186**	P	**Pn**	**21 40 13.9**	**+0.9**
FAKI	**Fak Fak**	**15.74**	**281**		**Pn**	**21 40 38.2**	**+0.5**
FAKI				IAmb	IAmb	21 40 57.1	
	comp=Z,27nm,1.0s						
QIS	**Mount Isa**	**16.25**	**208**	P	**Pn**	**21 40 44.7**	**+0.7**
MTN	**Manton Dam**	**17.59**	**247**	P	**P**	**21 40 59.3**	**-1.2**
MTN	**Manton Dam**	**17.59**	**247**	P	**P**	**21 40 59.3**	**-1.2**
WB0	**Warramunga Arr**	**18.65**	**223**	P	**P**	**21 41 11.4**	**-0.8**
WRA	**Warramunga Arr**	**18.81**	**222**	P	**P**	**21 41 12.3**	**-1.6**
WRA	**Warramunga Arr**	**18.81**	**222**	P	**P**	**21 41 13.7**	**-0.2**
	comp=Z,7.9nm,0.4s,baz=51,slow=11,SNR=116						
WRA				S	**S**	**21 44 40.0**	**-3.7**
	comp=Z,14nm,1.1s,baz=43,slow=21,SNR=16						
WRA				ScP	**ScP**	**21 49 09.5**	**+2.1**
	comp=Z,4.0nm,0.9s,baz=32,slow=2.2,SNR=9.1						
EIDS	**Eidsvold**	**19.29**	**171**	P	**P**	**21 41 19.6**	**+0.5**
EIDS				IAmb	IAmb	21 41 22.5	
	comp=Z,27nm,0.8s						
EIDS	**Eidsvold**	**19.29**	**171**	P	**Pn**	**21 41 20.7**	**-0.2**
GUMO	**Guam**	**19.90**	**352**	LR	LR	21 49 11.0	
	comp=Z,56nm,19.1s,baz=176,slow=37						
QLP	**Quilpie**	**20.49**	**189**	P	**P**	**21 41 34.2**	**+2.0**
KNRA	**Kununurra**	**20.80**	**242**		**P**	**21 41 35.0**	**-0.6**
KNRA				IAmb	IAmb	21 41 54.9	
	comp=Z,86nm,1.5s						
KNRA	**Kununurra**	**20.80**	**242**	P	**P**	**21 41 34.9**	**-0.6**
KOUNC	**Koumac, New Ca**	**21.48**	**133**	P	**P**	**21 41 42.4**	**-0.4**
AS31	**Alice Springs**	**21.82**	**216**	P	**P**	**21 41 46.4**	**0.0**
ASAR	**Alice Springs**	**21.82**	**216**	P	**P**	**21 41 46.1**	**-0.3**
ASAR	**Alice Springs**	**21.82**	**216**	P	**P**	**21 41 46.8**	**+0.4**
	comp=Z,14nm,0.5s,baz=51,slow=9.3,SNR=348						
ASAR				S	**S**	**21 45 41.2**	**-2.4**
	comp=Z,6.7nm,0.8s,baz=38,slow=20,SNR=13						
ASAR				ScP	**ScP**	**21 49 16.9**	**+2.4**
	comp=Z,2.3nm,0.8s,baz=40,slow=3.4,SNR=8.8						
ASAR				LR	LR	21 50 09.3	
	comp=Z,92nm,19.8s,baz=50,slow=36						
	comp=Z,14nm,0.5s						
SANI	**Sanana**	**22.04**	**280**	P	P	21 42 02.0	+13
INKA	**Innaminka**	**22.38**	**196**	P	**P**	**21 41 53.1**	**+0.8**
SOEI	**Soe**	**23.45**	**260**	P	**P**	**21 42 03.9**	**+0.5**
SOEI				IAmb	IAmb	21 42 31.2	
	comp=Z,22nm,0.9s						
LIFNC	**LIFOU**	**23.83**	**129**	P	**P**	**21 42 05.7**	**-0.8**
LIFNC	**LIFOU**	**23.83**	**129**	P	**P**	**21 42 07.3**	**+0.8**
DZM	**Mont Dzumac**	**24.00**	**133**	P	**P**	**21 42 07.4**	**-0.7**
DZM				IAmb	IAmb	21 42 10.0	
	comp=Z,27nm,1.2s						
DZM	**Mont Dzumac**	**24.00**	**133**	P	**P**	**21 42 08.6**	**+0.5**
DZM	**Mont Dzumac**	**24.00**	**133**	LR	LR	21 49 43.8	
	comp=Z,120nm,21.0s,baz=298,slow=32						
OOD	**Oodnadatta**	**24.27**	**207**	P	**P**	**21 42 11.4**	**+1.0**
YATNC	**Mamie plateau,**	**24.32**	**132**	P	**P**	**21 42 12.4**	**+1.5**
ARMA	**Armidale**	**24.33**	**172**	P	**P**	**21 42 10.9**	**-0.1**
ARMA				IAmb	IAmb	21 42 13.8	
	comp=Z,32nm,0.6s						
ARMA	**Armidale**	**24.33**	**172**	P	**P**	**21 42 12.5**	**+1.4**
OUENC	**Ouen Island, N**	**24.50**	**133**	P	**P**	**21 42 11.2**	**-1.3**
OUENC				IAmb	IAmb	21 42 29.6	
	comp=Z,31nm,1.4s						
FITZ	**Fitzroy Crossi**	**24.53**	**239**	P	**P**	**21 42 13.5**	**+0.6**
FITZ				IAmb	IAmb	21 42 14.4	
	comp=Z,21nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.53**	**239**	P	**P**	**21 42 13.7**	**+0.8**
CMSA	**Cobar Meteorol**	**25.23**	**184**	P	**P**	**21 42 21.5**	**+2.3**
MMRI	**Maumere**	**25.35**	**263**	P	**P**	**21 42 20.0**	**-0.4**
MMRI				IAmb	IAmb	21 42 36.6	
	comp=Z,40nm,1.0s						
LUWI	**Luwuk**	**25.39**	**281**	P	**P**	**21 42 21.2**	**+0.4**
LUWI				IAmb	IAmb	21 42 48.9	
	comp=Z,33nm,0.8s						
LCRK	**Leigh Creek**	**25.67**	**199**	P	**P**	**21 42 24.0**	**+0.8**
STKA	**Stephens Creek**	**26.13**	**192**	P	**P**	**21 42 27.0**	**-0.3**
STKA	**Stephens Creek**	**26.13**	**192**	P	**P**	**21 42 29.7**	**+2.4**
STKA	**Stephens Creek**	**26.13**	**192**	P	**P**	**21 42 27.3**	**0.0**
	comp=Z,5.9nm,0.3s,baz=16,slow=7.9,SNR=26						
STKA				LR	LR	21 54 02.7	
	comp=Z,51nm,18.1s,baz=24,slow=39						
	comp=Z,5.9nm,0.3s						
WRKA	**Warakurna**	**26.35**	**223**	P	**P**	**21 42 29.8**	**+0.4**
MULG	**Mulgathing**	**27.14**	**207**	P	**P**	**21 42 37.2**	**+0.9**
KAPI	**Kappang**	**27.83**	**271**	LR	LR	21 55 14.1	
	comp=Z,20nm,19.3s,baz=100,slow=40						
YNG	**Young**	**27.92**	**179**	P	**P**	**21 42 44.6**	**+1.2**
HTT	**Hallett**	**28.25**	**196**	P	**P**	**21 42 47.8**	**+1.5**
BBOO	**Buckleboo**	**28.57**	**201**	P	**P**	**21 42 48.4**	**-0.7**
BBOO				IAmb	IAmb	21 42 51.5	
	comp=Z,51nm,1.4s						
BBOO	**Buckleboo**	**28.57**	**201**	P	**P**	**21 42 50.8**	**+1.7**
CAN	**Canberra**	**28.96**	**178**	P	**P**	**21 42 52.8**	**+0.2**
CAN				IAmb	IAmb	21 42 54.0	
	comp=Z,7.4nm,0.8s						
CAN	**Canberra**	**28.96**	**178**	P	**P**	**21 42 53.9**	**+1.3**
CNB	**Canberra Magne**	**28.97**	**177**	P	**P**	**21 42 54.6**	**+1.9**
FORT	**Forrest**	**30.58**	**215**	P	**P**	**21 43 06.7**	**-0.3**
FORT	**Forrest**	**30.58**	**215**	P	**P**	**21 43 07.9**	**+0.9**
MBWA	**Marble Bar**	**30.86**	**239**	P	**P**	**21 43 10.3**	**+0.7**
PSA00	**Pilbara Seismi**	**30.94**	**238**	P	**P**	**21 43 10.2**	**-0.1**
PSA00				IAmb	IAmb	21 43 11.4	
	comp=Z,5.7nm,0.6s						
PSA00	**Pilbara Seismi**	**30.94**	**238**	P	**P**	**21 43 10.5**	**+0.2**
MEEK	**Meekatharra**	**34.33**	**230**	P	**P**	**21 43 40.7**	**+0.9**
KMBL	**Kambalda**	**34.76**	**221**	P	**P**	**21 43 44.2**	**+0.7**
TAU	**Tasmania Unive**	**36.52**	**180**	P	**P**	**21 43 57.1**	**-1.2**
MORW	**Morawa**	**37.53**	**229**	P	**P**	**21 44 07.3**	**+0.2**
MORW				IAmb	IAmb	21 44 31.8	
	comp=Z,23nm,1.4s						
MORW	**Morawa**	**37.53**	**229**	P	**P**	**21 44 07.7**	**+0.6**
BLDU	**Ballidu**	**37.86**	**226**	P	**P**	**21 44 10.5**	**+0.6**
JOW	**Kunigami**	**37.88**	**331**	LR	LR	21 56 00.9	
	comp=Z,56nm,21.6s,baz=120,slow=30						
NWAO	**Narrogin (SRO)**	**38.82**	**223**	P	**P**	**21 44 17.7**	**-0.2**
NWAO	**Narrogin (SRO)**	**38.82**	**223**	P	**P**	**21 44 19.1**	**+1.2**
NWAO	**Narrogin (SRO)**	**38.82**	**223**	P	**P**	**21 44 18.5**	**+0.6**
NWAO	**Narrogin (SRO)**	**38.82**	**223**	LR	LR	22 00 28.4	
	comp=Z,76nm,19.5s,baz=127,slow=36						
MUN	**Mundaring**	**38.97**	**225**	P	**P**	**21 44 19.5**	**+0.3**
BBJI	**Bungbulang**	**39.77**	**266**	P	**P**	**21 44 25.2**	**-0.9**
LEM	**Lembang**	**39.81**	**267**	LR	LR	22 04 07.9	
	comp=Z,17nm,19.3s,baz=102,slow=41						
JHJ	**Hachijo jima 2**	**39.86**	**350**	LR	LR	21 59 24.4	
	comp=Z,33nm,21.0s,baz=34,slow=34						
QRZ	**Quartz Range**	**40.97**	**151**	P	**P**	**21 44 35.1**	**-0.6**
QRZ	**Quartz Range**	**40.97**	**151**	P	**P**	**21 44 37.3**	**+1.7**
TKNZ	**Takaka Hill**	**41.34**	**151**	P	**P**	**21 44 39.7**	**+1.0**
URZ	**Urewera**	**41.55**	**144**	LR	LR	22 00 59.9	
	comp=Z,63nm,18.0s,baz=204,slow=35						
THZ	**Tophouse**	**41.88**	**151**	P	**P**	**21 44 42.9**	**-0.2**
THZ				IAmb	IAmb	21 45 06.8	
	comp=Z,19nm,1.2s						
JCZ	**Jackson Bay**	**41.98**	**157**	P	**P**	**21 44 46.0**	**+2.1**
JNU	**Nakatsue**	**42.28**	**339**	LR	LR	21 59 20.8	
	comp=Z,27nm,21.1s,baz=140,slow=32						
RPZ	**Rata Peaks**	**42.59**	**155**	P	**P**	**21 44 49.2**	**+0.4**
RPZ	**Rata Peaks**	**42.59**	**155**	P	**P**	**21 44 50.0**	**+1.1**
RPZ	**Rata Peaks**	**42.59**	**155**	LR	LR	21 59 15.4	
	comp=Z,115nm,20.8s,baz=292,slow=31						
KHZ	**Kahutara**	**42.68**	**152**	P	**P**	**21 44 51.1**	**+1.6**
MJAR	**Matsushiro Arr**	**43.48**	**349**	P	**P**	**21 44 54.3**	**-1.7**
	comp=Z,3.5nm,0.9s,baz=166,slow=7.1,SNR=11						
MJAR				LR	LR	22 02 08.7	
	comp=Z,24nm,20.7s,baz=166,slow=35						
	comp=Z,3.5nm,0.9s						
NJ2	**Nanjing**	**46.97**	**326**	*e*P	**P**	**21 45 26.0**	**+2.3**
NJ2				pP	**pP**	**21 45 41.6**	**-0.8**
NJ2				sP	**sP**	**21 45 49.8**	**-1.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,140nm,4.1s						
KSRS	**Korea Array**	**47.23**	**338**	LR	LR	22 02 00.2	
	comp=Z,22nm,21.6s,baz=160,slow=32						
KULM	**Kulim**	**48.34**	**283**	P	**P**	**21 45 33.9**	**-0.8**
KULM				IAmb	IAmb	21 46 00.1	
	comp=Z,13nm,1.0s						
ASAJ	**Asahikawa**	**50.34**	**355**	LR	LR	22 03 40.3	
	comp=Z,14nm,21.5s,baz=168,slow=32						
MDJ	**Mudanjiang**	**53.18**	**344**	P	**P**	**21 46 11.3**	**+0.8**
MDJ				pP	pP	21 46 20.6	-9.0
MDJ				sP	sP	21 46 25.9	-12
MDJ				PcP	**PcP**	**21 47 19.1**	**+1.4**
MDJ				ScP	**ScP**	**21 51 13.3**	**+4.7**
MDJ				PcS	**PcS**	**21 51 15.8**	**-0.6**
MDJ				S	**S**	**21 53 37.9**	**+2.3**
MDJ				sS	sS	21 53 55.8	-12
MDJ				ScS	**ScS**	**21 55 59.8**	**+6.9**
MDJ	**Mudanjiang**	**53.18**	**344**	SS	**SKiKP**	**21 57 14.9**	**-6.0**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,82nm,5.2s						
CMAR	**Chiang Mai Arr**	**53.97**	**298**	P	**P**	**21 46 15.7**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=113,slow=5.8,SNR=1.7						
CMAR				LR	LR	22 10 19.4	
	comp=Z,8.2nm,18.9s,baz=120,slow=37						
	comp=Z,0.2nm,0.5s						
PZH	**PanZhiHua**	**55.15**	**308**	P	**P**	**21 46 28.3**	**+2.9**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
KLR	**Kul'dur**	**56.97**	**348**	LR	LR	22 08 39.4	
	comp=Z,12nm,21.1s,baz=146,slow=34						
HHC	**Hu-ho-hao-te**	**57.40**	**328**	*e*P	P	21 46 46.9	+5.8
HHC				pmax	pmax		
	comp=Z,25nm,0.6s						
HHC				pmax	pmax		
	comp=Z,190nm,4.7s						
PETK	**Petropavlovsk-**	**59.73**	**7**	P	**P**	**21 46 55.8**	**-1.1**
	comp=Z,2.5nm,0.8s,baz=148,slow=6.7,SNR=5.1						
	comp=Z,2.5nm,0.8s						
SONM	**Songino Array**	**64.95**	**331**	P	**P**	**21 47 32.4**	**+0.4**
SONM	**Songino Array**	**64.95**	**331**	P	**P**	**21 47 30.4**	**-1.7**
	comp=Z,1.0nm,0.8s,baz=159,slow=5.0,SNR=8.0						
	comp=Z,1.0nm,0.8s						
VNDA	**Vanda**	**71.63**	**177**	P	**P**	**21 48 13.3**	**+0.2**
VNDA				IAmb	IAmb	21 48 14.6	
	comp=Z,3.1nm,0.6s						
VNDA	**Vanda**	**71.63**	**177**	P	**P**	**21 48 13.6**	**+0.4**
	comp=Z,2.9nm,0.5s,baz=331,slow=7.1,SNR=38						
	comp=Z,2.9nm,0.5s						
WMQ	**Urumqi**	**73.42**	**319**	*e*P	**P**	**21 48 27.5**	**+3.0**
MK31	**Makanchi Array**	**78.12**	**320**	P	**P**	**21 48 49.0**	**-2.1**
MKAR	**Makanchi Array**	**78.12**	**320**	P	**P**	**21 48 49.1**	**-2.0**
MKAR	**Makanchi Array**	**78.12**	**320**	P	**P**	**21 48 49.0**	**-2.2**
	comp=Z,0.4nm,0.4s,baz=97,slow=8.1,SNR=14						
	comp=Z,0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**79.58**	**328**	P	**P**	**21 48 56.2**	**-2.7**
	comp=Z,0.6nm,0.5s,baz=99,slow=4.3,SNR=3.2						
	comp=Z,0.6nm,0.5s						
F20K	**Avaraart Lake**	**83.38**	**19**	P	**P**	**21 49 19.1**	**+0.4**
IMAR	**Indian Mountai**	**83.47**	**21**	P	**P**	**21 49 18.6**	**-0.6**
QSPA	**South Pole Qui**	**83.72**	**180**	P	**P**	**21 49 20.8**	**0.0**
QSPA				IAmb	IAmb	21 49 21.2	
	comp=Z,7.7nm,0.6s						
QSPA	**South Pole Qui**	**83.72**	**180**	P	**P**	**21 49 20.8**	**0.0**
	comp=Z,6.7nm,0.5s,baz=274,slow=0.4,SNR=107						
	comp=Z,6.7nm,0.5s						
BWN	**Browne**	**84.17**	**23**	P	**P**	**21 49 24.2**	**+1.4**
ILAR	**Eielson Array**	**85.43**	**23**	P	**P**	**21 49 28.9**	**-0.3**
ILAR	**Eielson Array**	**85.43**	**23**	P	**P**	**21 49 26.8**	**-2.4**
	comp=Z,0.8nm,0.7s,baz=253,slow=5.3,SNR=13						
	comp=Z,0.8nm,0.7s						
BCAR	**Beaver Creek A**	**86.86**	**25**	P	**P**	**21 49 37.2**	**+0.9**
BVAR	**Borovoye Array**	**87.37**	**324**	P	**P**	**21 49 36.4**	**-2.5**
	comp=Z,0.6nm,0.7s,baz=93,slow=8.8,SNR=2.6						
	comp=Z,0.6nm,0.7s						
ELIB	**Princess Elisa**	**94.14**	**195**	*d*P	**P**	**21 50 09.9**	**-0.4**
	comp=Z,2.3nm,0.7s						
PLCA	**Paso Flores**	**121.54**	**146**	PKP	**PKPdf**	**21 55 45.0**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=260,slow=1.8,SNR=10						
TORD	**Torodi Ar. Bea**	**145.82**	**284**	PKPbc	**PKPdf**	**21 56 30.7**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=66,slow=3.9,SNR=26						
BDFB	**Brasilia**	**153.26**	**145**	PKPbc	**PKPbc**	**21 56 50.2**	**-0.5**
	comp=Z,6.5nm,0.4s,baz=212,slow=0.2,SNR=22						

*IDC **23** 22:01:12.2±1.4, 5.°60S×150.°83E, h0km, mb2.9/2, mbtmp3.1/3, ML1.4/1, Error ellipse: s-maj=130.9km s-min=12.2km az=134.0*

ISC 23 22:01:13.1±1.1, **5.°4S**±0.°5×**150.°7E**±0.°5, **h10**km, **n6,** σ0ᵎ**65**/7, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.72**	**50**	P	**Pb**	**22 01 44.8**	**-0.1**
KRVT				Lg	Lg	22 02 07.5	
PMG	**Port Moresby**	**5.29**	**221**	Pn	**Pn**	**22 02 32.3**	**0.0**
	0.9nm,0.3s,baz=355,slow=23,SNR=1.3						
PMG				Sn	**Sn**	**22 03 32.9**	**-0.6**
	0.9nm,0.3s,baz=191,slow=18,SNR=1.7						
	2.6nm,0.4s						
WRA	**Warramunga Arr**	**21.49**	**226**	P	**P**	**22 06 02.9**	**+0.6**
	0.5nm,0.8s,baz=53,slow=11,SNR=4.1						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**24.31**	**220**	P	**P**	**22 06 31.8**	**+0.6**
	0.2nm,0.6s,baz=63,slow=8.5,SNR=4.4						
	0.2nm,0.6s						
ESDC	**Sonseca Array**	**138.95**	**330**	PKP	**PKiKP**	**22 20 43.1**	**+0.4**
	0.3nm,0.5s,baz=43,slow=2.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**148.50**	**286**	PKPbc	**PKPbc**	**22 21 00.6**	**-0.7**
	0.5nm,1.0s,baz=78,slow=1.9,SNR=1.8						

*IDC **23** 22:13:00.8±0.5, 85.°33N×91.°70E, h0km, mb4.2/24, mbtmp4.2/25, ML4.0/2, MS3.9/82, Error ellipse: s-maj=14.0km s-min=10.5km az=118.0*
*MOS **23** 22:13:00.4±1.1, 85.°37N×91.°01E, h10km, mb4.8/58, MS4.1/8, Error ellipse: s-maj=68.8km s-min=5.2km az=88.4*
*GCMT **23** 22:13:02.1±0.2, 85.°36N±0.°02×90.°3E±0.°3, h12km, MW4.9/126, Moment Tension Solution. s31,c34; s126,c176; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.06±.06; Mθθ1.93±.06; Mϕϕ1.13±.06; Mrθ-0.41±.23; Mθϕ-1.21±.05; Mrϕ0.92±.29; Best double couple: Mo3.09500×10¹⁶ NP1:ϕs134.00000°, δ54.00000°, λ-80.00000°. NP2:ϕs298.00000°, δ37.00000°, λ-103.00000°. Principal axes: T 2.9320, Plg8.0000°, Azm217.0000°; N 0.3250, Plg8.0000°, Azm309.0000°; P -3.2580, Plg79.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **23** 22:13:02.1±0.9, 85.°38N±0.°08×9.°1E±.°, h10km±1km, mb4.9/136 Error ellipse: s-maj=14.2km s-min=13.7km az=82.0*
*IEPN **23** 22:13:05.0, 84.°98N×88.°47E, h10km*
*BGR **23** 22:13:10.9, 84.°38N×90.°13E, h33km, mb4.3, Ms3.8*

ISC 23 22:13:01.5±0.3, **85.°41N**±0.°04×**90.°47E**±0.°04, **h10**km, **n705,** σ1ᵎ**79**/652, **mb4.8**/135, **MS4.0**/96, **11C-3D, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVZ	**Severnaya Zeml**	**6.33**	**161**	*i*P	**Pn**	**22 14 30.7**	**-4.0**
SVZ				*e*S	Sn	22 15 35.1	-12
	162nm,0.6s					

A22K Sinclair Lake 21.43 55 P P 22 17 50.0 +0.8
baz=348
A19K Wainwright 21.81 60 P P 22 17 54.1 +0.9
baz=348
A36M Sachs Harbour 22.04 29 P P 22 17 56.4 +0.8
A36M IAmb IAmb 22 18 00.5
comp=Z,76nm,1.1s
A36M Sachs Harbour 22.04 29 P P 22 17 56.4 +0.8
baz=353,SNR=48
B22K Teshekpuk Lake 22.19 54 P P 22 17 58.1 +0.8
B22K Teshekpuk Lake 22.19 54 P P 22 17 57.1 -0.1
baz=349,SNR=26
B20K Meade River 22.27 57 P P 22 17 59.1 +1.0
B20K IAmb IAmb 22 18 04.4
comp=Z,81nm,1.4s
B20K Meade River 22.27 57 P P 22 17 58.3 +0.2
baz=349
B18K Kokolik River 22.58 62 P P 22 18 02.0 +0.5
baz=348
B21K Ikpikpuk River 22.82 55 P P 22 18 05.7 +1.7
B21K Ikpikpuk River 22.82 55 P P 22 18 04.4 +0.4
baz=349
C23K Itkillik River 22.87 51 P P 22 18 05.0 +0.5
C23K Itkillik River 22.87 51 P P 22 18 04.8 +0.3
baz=349
C19K Lookout Ridge 22.99 60 P P 22 18 06.5 +0.6
C19K IAmb IAmb 22 18 12.4
comp=Z,32nm,1.1s
C19K Lookout Ridge 22.99 60 P P 22 18 05.5 -0.4
baz=349,SNR=6.9
C24K Franklin Bluff 23.10 50 P P 22 18 06.5 -0.3
baz=350
C26K Camden Bay 23.13 46 P P 22 18 07.2 0.0
baz=350
C21K Knifeblade Rid 23.27 55 P P 22 18 08.4 -0.2
baz=349,SNR=6.4
C18K Utukok River 23.33 61 P P 22 18 09.3 -0.1
C18K IAmb IAmb 22 18 15.3
comp=Z,61nm,1.3s
C18K Utukok River 23.33 61 P P 22 18 08.9 -0.4
baz=349,SNR=8.3
C17K DeLong Mountai 23.36 63 P P 22 18 09.2 -0.3
baz=349
C16K Lisburne Hills 23.40 65 P P 22 18 09.3 -0.6
baz=349
D20K Etivluk River 23.58 57 P P 22 18 11.9 +0.1
baz=349
D25K Kavik River 23.63 48 P P 22 18 13.1 +0.8
D25K IAmb IAmb 22 18 18.3
comp=Z,69nm,1.6s
D25K Kavik River 23.63 48 P P 22 18 11.8 -0.5
baz=350
D24K Happy Valley 23.65 50 P P 22 18 12.3 -0.1
baz=350
D22K Ayikyak River 23.68 54 P P 22 18 14.3 +1.5
D22K Ayikyak River 23.68 54 P P 22 18 13.3 +0.6
baz=350
D19K Kuna River 23.70 59 P P 22 18 13.1 +0.2
baz=349
D23K Nanushuk River 23.72 52 P P 22 18 12.9 -0.2
baz=350,SNR=6.4
RDOG Red Dog Mine 23.79 63 P P 22 18 14.6 +0.8
RDOG IAmb IAmb 22 18 17.7
comp=Z,78nm,1.8s
RDOG Red Dog Mine 23.79 63 P P 22 18 13.4 -0.4
baz=349
D27M Malcolm River 24.02 43 P P 22 18 16.2 +0.2
D27M IAmb IAmb 22 18 22.2
comp=Z,24nm,1.0s
D27M Malcolm River 24.02 43 P P 22 18 16.0 -0.1
baz=351,SNR=14
E21K Killik River 24.03 55 P P 22 18 16.4 +0.3
baz=350
E20K Nigu River 24.06 57 P P 22 18 16.3 -0.1
baz=349,SNR=6.0
TOLK Toolik Lake Re 24.11 51 P P 22 18 17.3 +0.4
TOLK IAmb IAmb 22 18 22.0
comp=Z,40nm,1.1s
TOLK Toolik Lake Re 24.11 51 P P 22 18 17.1 +0.2
baz=350,SNR=11
ICESG Greenland Ices 24.26 318 *i* P P 22 18 21.6 +3.0
E22K Anaktuvuk Pass 24.47 53 P P 22 18 20.9 +0.7
baz=350,SNR=14
E18K Tukpahlearik C 24.58 61 P P 22 18 21.7 +0.6
E18K IAmb IAmb 22 18 26.4
comp=Z,39nm,1.0s
E18K Tukpahlearik C 24.58 61 P P 22 18 21.4 +0.3
baz=349,SNR=15
E23K Chandalar 24.69 51 P P 22 18 22.8 +0.6
baz=350
YAK Yakutsk 24.71 135 P P 22 18 21.6 -0.7
YAK IAmb IAmb 22 18 31.2
comp=Z,19nm,0.7s
YAK Yakutsk 24.71 135 *eP* P 22 18 21.9 -0.4
YAK *e**PP **pwP** 22 18 27.4 -2.2
YAK *eS* **S** 22 22 45.4 +1.8
YAK pmax pmax
comp=Z,9.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK smax smax
comp=E,70nm,11.4s
YAK smax smax
comp=N,103nm,16.5s
YAK MLR MLR
comp=Z,281nm,19.0s
YAK MLR MLR
comp=N,186nm,19.0s
YAK Yakutsk 24.71 135 P P 22 18 21.1 -1.1
comp=N,0.5nm,0.8s,baz=159,slow=5.1,SNR=5.6
YAK LR LR 22 28 39.7
comp=N,14nm,19.0s,baz=328,slow=38
C36M Paulatuk 24.72 29 P P 22 18 22.9 +0.7
C36M Paulatuk 24.72 29 P P 22 18 23.4 +1.2
baz=354,SNR=36
E28M Babbage River 24.74 42 P P 22 18 23.3 +0.8
baz=351,SNR=15
E24K Your Creek 24.74 50 P P 22 18 23.8 +1.1
baz=350
E19K Redstone River 24.78 58 P P 22 18 23.6 +0.7
E19K IAmb IAmb 22 18 27.6
comp=Z,20nm,0.9s
E19K Redstone River 24.78 58 P P 22 18 24.3 +1.4
baz=350,SNR=6.0
E17K Hotham Inlet 24.83 63 P P 22 18 24.4 +1.1
baz=349
E25K Arctic Village 24.87 48 P P 22 18 24.7 +1.0
E25K Arctic Village 24.87 48 P P 22 18 24.3 +0.5
baz=351,SNR=9.2
E27K Coleen River 25.04 44 P P 22 18 25.9 +0.6
baz=351
E29M Blow River 25.04 41 P P 22 18 26.4 +1.2
E29M IAmb IAmb 22 18 30.9
comp=Z,19nm,0.9s
E29M Blow River 25.04 41 P P 22 18 26.1 +0.9
baz=352
F22K John River 25.07 54 P P 22 18 26.2 +0.6
baz=350
F21K Alatna River 25.27 55 P P 22 18 28.2 +0.8
baz=350
F20K Avaraart Lake 25.29 57 P P 22 18 28.4 +0.9
baz=350
F24K Squaw Lake 25.33 50 P P 22 18 28.5 +0.6
baz=351,SNR=11
INK Inuvik 25.34 37 P P 22 18 27.8 -0.1
INK Inuvik 25.34 37 P P 22 18 28.9 +1.0
baz=352,SNR=37
INK Inuvik 25.34 37 P P 22 18 27.8 -0.1
INK pmax pmax
comp=Z,92nm,1.4s
INK Inuvik 25.34 37 LR LR 22 29 53.8
comp=Z,108nm,18.2s,baz=4.0,slow=40
SEY Seymchan 25.35 110 *i* P P 22 18 29.0 +0.9
SEY pmax pmax
comp=Z,22nm,1.0s
SEY Seymchan 25.35 110 LR LR 22 28 17.6
comp=Z,178nm,20.5s,baz=322,slow=36
F19K Shaleruckik Mo 25.36 59 P P 22 18 29.7 +1.6
baz=350
F26K Sheenjek River 25.38 47 P P 22 18 29.1 +0.7
baz=351
F25K Christian Rive 25.39 48 P P 22 18 29.2 +0.7
baz=351
PRGR Permogore 25.44 232 *eP* P 22 18 29.1 +0.2
comp=Z,35nm,0.7s
PRGR Permogore 25.44 232 *eP* P 22 18 29.0 +0.2
PRGR pmax pmax
comp=Z,35nm,0.7s
COLD Coldfoot 25.47 52 P P 22 18 29.5 +0.3
baz=350,SNR=9.4
F17K Baldwin Pennin 25.50 62 P P 22 18 29.3 -0.1
F17K Baldwin Pennin 25.50 62 P P 22 18 29.8 +0.4
baz=350
BMAR Burnt Mountain 25.62 47 P P 22 18 30.8 +0.3
G22K Bettles 25.69 53 P P 22 18 32.0 +0.9
baz=350
F28M Old Crow 25.70 43 P P 22 18 31.4 +0.2
baz=352,SNR=14
TNA Tin City 25.89 69 P P 22 18 32.9 +0.1
baz=350
F30M Barrier River 25.92 39 P P 22 18 33.9 +0.6
baz=352
G21K Allakaket 25.96 55 P P 22 18 34.2 +0.6
baz=350,SNR=7.7
F15K North Star Dit 25.98 66 P P 22 18 34.2 +0.4
baz=350
G23K Bananza Creek 26.00 52 P P 22 18 34.7 +0.7
baz=351
F14K Arctic Creek 26.09 68 P P 22 18 35.6 +0.8
baz=350
G19K Purcell Mounta 26.09 59 P P 22 18 35.5 +0.7
baz=350
G26K Porcupine Rive 26.14 47 P P 22 18 36.3 +1.1
baz=351
G24K Hadweenzic Riv 26.17 50 P P 22 18 35.5 0.0
baz=351
G25K Bearman Lake 26.19 49 P P 22 18 36.0 +0.4
baz=351
F31M Tsiigehtchic 26.19 38 P P 22 18 36.7 +1.1
F31M Tsiigehtchic 26.19 38 P P 22 18 36.2 +0.6
baz=353,SNR=22
G18K Tagagawik 26.23 60 P P 22 18 36.8 +0.8
baz=350
G27K Doyon Strip 26.40 45 P P 22 18 39.0 +1.3
G27K IAmb IAmb 22 18 46.1
comp=Z,35nm,1.4s
G27K Doyon Strip 26.40 45 P P 22 18 37.9 +0.2
baz=352
FYU Fort Yukon 26.44 48 P P 22 18 38.5 +0.6
G16K Koyuk River 26.46 64 P P 22 18 38.5 +0.4
baz=350
IMAR Indian Mountai 26.48 56 P P 22 18 38.9 +0.6
G17K Kiwalik Mounta 26.48 62 P P 22 18 38.6 +0.4
baz=350
G29M Pine Creek 26.50 41 P P 22 18 39.0 +0.5
baz=352
G30M tAoh Zraii Nji 26.53 40 P P 22 18 39.0 +0.2
baz=352,SNR=13
KLMR Klimovskoe 26.62 238 *eP* P 22 18 41.9 +2.3
comp=Z,190nm,5.0s
KLMR Klimovskoe 26.62 238 *eP* P 22 18 38.5 -1.1
KLMR AMP 22 18 44.4
comp=Z,24nm,1.1s
KLMR LQ LQ 22 26 29.7
KLMR LQ LQ 22 26 29.7
KLMR LR LR 22 27 45.0
KLMR Klimovskoe 26.62 238 *eP* P 22 18 38.4 -1.1
KLMR pmax pmax
comp=Z,24nm,1.1s
G31M Satah River 26.68 38 P P 22 18 40.0 0.0
G31M Satah River 26.68 38 P P 22 18 40.4 +0.3
baz=353,SNR=9.9
H22K Ishtalitna Cre 26.72 54 P P 22 18 39.7 -0.7
baz=351
G15K Niukluk 26.73 66 P P 22 18 38.6 -1.9
baz=350
H19K Roundabout Mou 26.75 58 P P 22 18 40.6 -0.1
baz=350
H21K Melozitna Rive 26.86 55 P P 22 18 41.6 -0.1
baz=351
SFJD Kangerlussuaq 26.88 327 LR LR 22 28 47.3
comp=Z,288nm,20.2s,baz=356,slow=35
H20K Anotleneega Mo 26.89 57 P P 22 18 40.6 -1.4
baz=351
H18K Honhosa River 26.98 60 P P 22 18 40.3 -2.6
baz=350
H27K Steamboat Moun 26.99 45 P P 22 18 40.6 -2.3
baz=352
H24K Noodor Dome 27.00 51 P P 22 18 41.0 -2.0
baz=351
FIA1 FINESS Array S 27.02 253 P P 22 18 43.9 +0.8
FINES FINESS Array B 27.02 253 P P 22 18 43.6 +0.5
FINES FINESS Array B 27.02 253 *i* P P 22 18 44.5 +1.4
FINES pmax pmax
comp=Z,8.0nm,0.9s
FINES FINESS Array B 27.02 253 P P 22 18 44.2 +1.1
comp=Z,8.0nm,0.9s,baz=16,slow=10,SNR=11
FINES PcP PcP 22 22 04.7 +0.8
comp=Z,4.9nm,0.9s,baz=323,slow=2.1,SNR=2.4
FINES LR LR 22 30 05.8
comp=Z,372nm,18.6s,baz=30,slow=38
comp=Z,8.0nm,0.9s
ANM Nome 27.06 67 P P 22 18 41.6 -1.9
baz=350
H17K Granite Mounta 27.09 62 P P 22 18 42.4 -1.3
baz=350
EPYK Eagle Plains 27.11 40 P P 22 18 44.7 +0.7
EPYK IAmb IAmb 22 18 48.8
comp=Z,30nm,1.1s
EPYK Eagle Plains 27.11 40 P P 22 18 42.6 -1.4
baz=352,SNR=5.3
H29M Whitestone 27.17 42 P P 22 18 46.0 +1.5
H29M IAmb IAmb 22 19 01.8
comp=Z,21nm,1.1s
H29M Whitestone 27.17 42 P P 22 18 44.1 -0.4
baz=352
H16K Elim 27.22 64 P P 22 18 44.8 -0.1
baz=350
GAMB Gambell 27.36 73 P P 22 18 45.5 -0.7
baz=350
I21K Tanana 27.39 54 P P 22 18 45.7 -0.7
baz=351
BORG Borgarnes 27.43 300 LR LR 22 27 44.2
comp=Z,76nm,21.6s,baz=356,slow=32
PRP Porcupine Dome 27.46 49 P P 22 18 48.5 +1.2
PRP IAmb IAmb 22 18 57.3
comp=Z,29nm,1.3s
PRP Porcupine Dome 27.46 49 P P 22 18 46.7 -0.6
baz=352
GCSA Galena City Sc 27.49 59 P P 22 18 47.9 +0.5
baz=351
I23K Minto, Yukon-K 27.59 52 P P 22 18 47.8 -0.4
baz=351
I20K Naaghedeneel 27.61 57 P P 22 18 47.3 -1.0
baz=351
I27K Kandik River 27.61 45 P P 22 18 47.4 -1.1
baz=352
MLY Manley 27.62 53 P P 22 18 49.0 +0.4
baz=351
POKR Poker Plat Res 27.74 50 P P 22 18 50.5 +0.9
POKR IAmb IAmb 22 18 59.9
comp=Z,23nm,1.1s
POKR Poker Plat Res 27.74 50 P P 22 18 49.5 -0.2
baz=352,SNR=6.2
H31M Peel River 27.79 39 P P 22 18 50.9 +0.7
H31M Peel River 27.79 39 P P 22 18 49.1 -1.1
baz=353
MDM Murphy Dome 27.85 51 P P 22 18 52.0 +1.4
MDM IAmb IAmb 22 19 01.1
comp=Z,34nm,1.4s
I28M Miner Creek 27.85 44 P P 22 18 48.7 -2.1
baz=352
COLA College 27.96 51 P P 22 18 51.7 +0.2
COLA IAmb IAmb 22 18 57.4
comp=Z,20nm,0.9s
COLA College 27.96 51 P P 22 18 49.3 -2.2
baz=352
COLA College 27.96 51 P P 22 18 51.7 +0.2
COLA pmax pmax
comp=Z,20nm,0.9s
I29M Ogilvie Camp, 28.03 42 P P 22 18 52.1 -0.1
I29M Ogilvie Camp, 28.03 42 P P 22 18 50.0 -2.3
baz=352
I17K Unalakleet 28.07 63 P P 22 18 50.9 -1.6
baz=351
ILAR Eielson Array 28.12 50 P P 22 18 53.8 +0.8
ILAR Eielson Array 28.12 50 P P 22 18 53.8 +0.8
ILAR Eielson Array 28.12 50 P P 22 18 54.9 +1.9
comp=Z,5.6nm,0.9s,baz=349,slow=8.1,SNR=25
ILAR PcP PcP 22 22 06.7 +0.2
comp=Z,2.3nm,1.2s,baz=311,slow=3.4,SNR=4.3
ILAR LR LR 22 29 32.3
comp=Z,244nm,20.3s,baz=342,slow=35
comp=Z,5.6nm,0.9s
NEA2 Nenana 28.16 52 P P 22 18 53.0 -0.4
baz=352
J20K Nowinta River 28.24 57 P P 22 18 52.7 -1.4
baz=351
KIRV Kirov 28.25 227 *i* P P 22 18 57.5 +3.3
KIRV Kirov 28.25 227 LR LR 22 32 04.2
comp=Z,537nm,19.6s,baz=353,slow=40
I30M Mount Dempster 28.27 40 P P 22 18 53.6 -0.9
baz=353,SNR=5.2
J19K Poorman 28.32 58 P P 22 18 52.8 -2.0
baz=351
PUL Pulkovo 28.35 248 *i* P P 22 18 55.4 +0.3
PUL pmax pmax
comp=Z,39nm,0.7s
J25K Salcha River, 28.37 49 P P 22 18 53.9 -1.4
baz=352
EGAK Eagle 28.45 45 P P 22 18 55.2 -0.7
baz=352
HDA Harding Lake 28.48 50 P P 22 18 55.1 -1.1
baz=352
HDA P P 22 18 55.1 -1.1
baz=352
BPAW Bear Paw Mtn. 28.53 54 P P 22 18 55.0 -1.7
baz=351
MA2 Magadan 28.56 112 *i* P P 22 18 58.3 +1.3
MA2 Magadan 28.56 112 LR LR 22 31 18.2
comp=Z,116nm,18.5s,baz=356,slow=39
J26L Joseph Creek 28.59 47 P P 22 18 55.2 -2.1
baz=352
NOA NORSAR Array B 28.59 268 P P 22 18 59.1 +1.8
comp=Z,1.1nm,0.8s,baz=21,slow=7.6,SNR=1.9
NOA LR LR 22 30 18.4
comp=Z,140nm,19.6s,baz=10.0,slow=36
comp=Z,1.1nm,0.8s
CHUM Lake Minchumin 28.66 55 P P 22 18 55.2 -2.5
baz=351
J16K Anvik River 28.68 63 P P 22 18 55.7 -2.3
baz=351
J18K Innoko River 28.77 59 P P 22 18 56.8 -2.0
baz=351
J30M Hart River 28.92 41 P P 22 19 01.4 +1.2
J30M IAmb IAmb 22 19 17.0
comp=Z,32nm,1.7s
J30M Hart River 28.92 41 P P 22 18 57.8 -2.4
baz=353
J14K Nanvaranak Lak 28.99 66 P P 22 18 58.2 -2.5
baz=351
MCK McKinley 29.02 52 P P 22 18 58.8 -2.3
baz=352
K20K Telida 29.06 57 P P 22 18 58.5 -2.9
baz=351
SCRK Sand Creek 29.09 48 P P 22 18 58.7 -3.0
baz=352
CAST Castle Rocks 29.13 55 P P 22 19 02.8 +0.7
CAST IAmb IAmb 22 19 07.5
comp=Z,24nm,1.2s
CAST Castle Rocks 29.13 55 P P 22 18 58.8 -3.2
baz=352
K27K Chicken 29.14 46 P P 22 18 58.9 -3.2
baz=352
TRF Thorofare Moun 29.22 53 P P 22 19 00.2 -2.8
baz=352
DAWY Dawson 29.26 43 P P 22 19 03.6 +0.4
DAWY Dawson 29.26 43 P P 22 18 60.0 -3.2
baz=353
RIDG Independent Ri 29.27 48 P P 22 19 00.9 -2.3
baz=352
HFS Hagfors 29.29 265 LR LR 22 30 25.1
comp=Z,196nm,21.7s,baz=12,slow=36
TTA Tatalina 29.35 59 P P 22 19 02.3 -1.8
baz=351
K17K Iditarod 29.40 61 P P 22 19 01.5 -2.9
baz=351
SVE Sverdlovsk 29.42 214 *eP* P 22 19 05.9 +1.3
SVE pmax pmax
comp=Z,15nm,1.1s
SVE MLR MLR
comp=Z,679nm,19.0s
K29M Barlow Dome 29.58 42 P P 22 19 02.2 -3.9
baz=353
K15K Wolf Creek Mou 29.59 64 P P 22 19 02.9 -3.2
baz=351
PPLA Purkeypile 29.64 55 P P 22 19 03.9 -2.8
baz=352
DHY Denali Highway 29.77 51 P P 22 19 04.8 -3.1
baz=352
ARU Arti 29.92 216 P P 22 19 09.6 +0.6
ARU Arti 29.92 216 *c* P P 22 19 09.4 +0.4
ARU S S 22 24 07.2 +1.4
ARU pmax pmax
comp=Z,24nm,2.8s
ARU MLR MLR
comp=Z,673nm,19.0s
ARU Arti 29.92 216 LR LR 22 32 50.4
comp=Z,709nm,19.9s,baz=358,slow=40
MAYO Mayo, Yukon 29.92 40 P P 22 19 05.5 -3.5
baz=353
L20K Farewell, AK 29.95 57 P P 22 19 06.9 -2.3
baz=352
WAT1 Susitna Watana 29.95 52 P P 22 19 06.3 -2.9
baz=352
L17K Donlin 29.98 61 P P 22 19 07.2 -2.3
baz=351
PAX Paxson 30.00 49 P P 22 19 08.6 -1.2
baz=352
L18K Granite Mounta 30.01 60 P P 22 19 08.1 -1.7
baz=351
L26K Log Cabin Wild 30.07 47 P P 22 19 09.5 -0.8
baz=352
BCAR Beaver Creek A 30.12 46 P P 22 19 12.6 +1.7
L27K Beaver Creek, 30.12 46 P P 22 19 09.7 -1.1
baz=353
L19K White Mountain 30.17 58 P P 22 19 10.1 -1.2
baz=352
L15K Ungalak Mounta 30.21 64 P P 22 19 09.8 -1.7
baz=351
WAT6 Susitna Watana 30.24 51 P P 22 19 10.4 -1.6
baz=352
CUT Chulitna 30.26 54 P P 22 19 11.8 -0.1
baz=352
L29M L29M 30.28 43 P P 22 19 11.1 -1.2
baz=353
L16K Owhat River 30.32 62 P P 22 19 11.1 -1.4
baz=351
L14K Kuka Creek 30.45 66 P P 22 19 11.1 -2.6
baz=351
HARP HAARP 30.59 49 P P 22 19 11.6 -3.2
baz=352
SKT Skwentna 30.60 55 P P 22 19 12.6 -2.3
baz=352
M26K Nabesna, AK 30.71 47 P P 22 19 14.6 -1.5
baz=353
FRB Frobisher Bay 30.76 342 LR LR 22 30 18.1
comp=Z,182nm,21.4s,baz=352,slow=34
M17K Holitna River 30.77 61 P P 22 19 14.8 -1.7
baz=352
M18K Stony River 30.79 59 P P 22 19 15.0 -1.7
baz=352
M24K Tolsona, Glenn 30.81 50 P P 22 19 14.2 -2.7
baz=352
M27K Edge Creek, AK 30.82 46 P P 22 19 15.8 -1.3
baz=353
WRGLY Wrigley 30.86 30 P P 22 19 17.7 +0.5
WRGLY IAmb IAmb 22 19 21.8
comp=Z,19nm,1.0s
WRGLY Wrigley 30.86 30 P P 22 19 15.6 -1.6
baz=355,SNR=5.1
M30M Minto, Yukon 30.89 41 P P 22 19 14.6 -3.0
baz=353
M22K Willow 30.91 54 P P 22 19 15.1 -2.6
baz=352
M29M Somme Creek 30.93 43 P P 22 19 16.5 -1.6
baz=353
SML Sawmill 30.98 52 P P 22 19 16.3 -2.1
baz=352
SCM Sheep Creek Mo 31.01 51 P P 22 19 16.9 -1.8
baz=352
M23K Glacier View 31.03 52 P P 22 19 17.0 -1.8
baz=352
M16K Timber Creek 31.04 62 P P 22 19 16.5 -2.3
baz=352
MMPY Sheldon Lake, 31.12 37 P P 22 19 17.6 -2.1
baz=354
PMR Palmer 31.14 53 P P 22 19 18.0 -1.7
baz=352
M11K Mekoryuk 31.14 69 P P 22 19 17.4 -2.3
baz=351
SUA Susitna One 31.16 54 P P 22 19 18.8 -1.3

	baz=352										
M15K	**Kasigluk River**	**31.24**	**64**	P		**P**		**22 19 18.0**	**-2.6**
	baz=352										
M13K	**Dall Lake**	**31.32**	**66**	P		**P**		**22 19 18.7**	**-2.6**
	baz=351										
N20K	**Mount Spurr**	**31.33**	**56**	P		**P**		**22 19 18.8**	**-2.7**
	baz=352										
KNK	**Knik Glacier**	**31.36**	**52**	P		**P**		**22 19 18.1**	**-3.6**
	baz=352										
M31M	**Drury Creek, Y**	**31.39**	**39**	P		**P**		**22 19 19.6**	**-2.4**
	baz=354										
N25K	**Chitina, Valde**	**31.41**	**49**	P		**P**		**22 19 18.6**	**-3.6**
	baz=353										
FARO	**Faro, Yukon**	**31.41**	**38**	P		**P**		**22 19 21.0**	**-1.2**
	baz=354										
KLU	**Klutina**	**31.44**	**50**	P		**P**		**22 19 21.3**	**-1.2**
	baz=352										
YUK3	**Moose Creek**	**31.48**	**45**	P		**P**		**22 19 21.3**	**-1.7**
	baz=353										
N19K	**Bonanza Creek**	**31.56**	**58**	P		**P**		**22 19 22.0**	**-1.6**
	baz=352										
N18K	**Kilae Creek**	**31.59**	**59**	P		**P**		**22 19 22.6**	**-1.2**
	baz=352										
N16K	**Nishlik Lake**	**31.60**	**62**	P		**P**		**22 19 24.4**	**+0.6**
	baz=352										
RC01	**Rabbit Creek A**	**31.60**	**54**	P		**P**		**22 19 21.5**	**-2.3**
	baz=352										
ZAA0	**Zalesovo Array**	**31.64**	**186**	P		**P**		**22 19 24.7**	**+0.5**
ZALV	**Zalesovo Beam**	**31.64**	**186**	P		**P**		**22 19 23.9**	**-0.3**
ZALV	**Zalesovo Beam**	**31.64**	**186**	P		**P**		**22 19 24.1**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=359,slow=9.6,SNR=8.5										
ZALV					PcP		**PcP**	**22 22 15.9**	**+0.1**		
	comp=Z,1.3nm,0.7s,baz=347,slow=3.3,SNR=2.2										
ZALV					LR		LR	22 33 17.6			
	comp=Z,403nm,18.8s,baz=8.0,slow=38										
	comp=Z,1.5nm,0.5s										
N17K	**Nushagak Hills**	**31.66**	**61**	P		**P**		**22 19 23.4**	**-0.9**
	baz=352										
MCARA	**McCarthy VSAT**	**31.72**	**47**	P		**P**		**22 19 23.7**	**-1.2**
	baz=353										
CAPN	**Captain Cook N**	**31.83**	**55**	P		**P**		**22 19 25.3**	**-0.4**
	baz=352										
YKA	**Yellowknife Ar**	**31.90**	**22**	P		**P**		**22 19 27.4**	**+1.0**
	comp=Z,8.6nm,0.9s,baz=353,slow=8.4,SNR=48										
YKA					PcP		**PcP**	**22 22 16.7**	**+0.4**		
	comp=Z,2.5nm,0.9s,baz=337,slow=3.3,SNR=11										
YKA					LR		LR	22 32 22.6			
	comp=Z,496nm,19.5s,baz=340,slow=36										
	comp=Z,8.6nm,0.9s										
N14K	**Kuskokwak Cree**	**31.93**	**65**	P		**P**		**22 19 27.1**	**+0.4**
	baz=352										
GLI	**Glacier Island**	**31.98**	**51**	P		**P**		**22 19 26.1**	**-1.0**
	baz=353										
N30M	**Aishikik Lake**	**31.98**	**42**	P		**P**		**22 19 24.5**	**-2.7**
	baz=354										
YUK8	**Steele Glacier**	**32.01**	**44**	P		**P**		**22 19 25.4**	**-2.4**
	baz=353										
YUK4	**Talbot Arm**	**32.01**	**43**	P		**P**		**22 19 24.6**	**-3.0**
	baz=353										
N31M	**Braeburn, Yuko**	**32.03**	**41**	P		**P**		**22 19 24.6**	**-3.0**
	baz=354										
BMRM	**Bremner River**	**32.04**	**49**	P		**P**		**22 19 23.8**	**-3.9**
	baz=353										
O19K	**Port Alsworth**	**32.18**	**58**	P		**P**		**22 19 25.7**	**-3.2**
	baz=352										
CTG	**Chitna Glacier**	**32.24**	**46**	P		**P**		**22 19 27.1**	**-2.5**
	baz=353										
CRQE	**Cirque**	**32.35**	**48**	P		**P**		**22 19 27.4**	**-3.1**
	baz=353										
TGTN	**Hyland Airport**	**32.35**	**34**	P		**P**		**22 19 28.1**	**-2.4**
	baz=354										
EYAK	**Cordova Ski Ar**	**32.39**	**50**	P		**P**		**22 19 28.4**	**-2.3**
	baz=353										
O17K	**Koliganek Bris**	**32.41**	**61**	P		**P**		**22 19 29.1**	**-1.8**
	baz=352										
YUK6	**Outpost Mounta**	**32.43**	**43**	P		**P**		**22 19 29.3**	**-2.0**
	baz=353										
O18K	**Koktuh Hills**	**32.46**	**59**	P		**P**		**22 19 29.0**	**-2.4**
	baz=352										
N32M	**Quiet Lake**	**32.50**	**38**	P		**P**		**22 19 28.7**	**-3.0**
	baz=352										
O16K	**Kokwok River B**	**32.52**	**62**	P		**P**		**22 19 29.5**	**-2.4**
	baz=352										
OBN	**Obninsk**	**32.53**	**240**	*eP*		**P**		**22 19 32.3**	**+0.3**
OBN				*e*				22 20 46.2			
OBN				*eS*		**S**		**22 24 54.7**	**+8.0**
OBN				pmax		pmax					
	comp=Z,6.0nm,1.0s										
OBN				MLR		MLR					
	comp=Z,272nm,23.0s										
OBN	**Obninsk**	**32.53**	**240**	LR		LR		22 38 21.8			
	comp=Z,219nm,18.4s,baz=348,slow=47										
HYT	**Haines Junctio**	**32.59**	**43**	P		**P**		**22 19 32.9**	**+0.2**
HYT				IAmb		IAmb		22 19 38.2			
	comp=Z,12nm,1.1s										
HYT	**Haines Junctio**	**32.59**	**43**	P		**P**		**22 19 30.5**	**-2.2**
	baz=354										
SEW	**Seward**	**32.60**	**54**	P		**P**		**22 19 29.0**	**-3.5**
	baz=352										
O30N	**Mendenhall**	**32.73**	**41**	P		**P**		**22 19 31.0**	**-2.7**
	baz=354										
P19K	**Oil Pt**	**32.80**	**57**	P		**P**		**22 19 31.6**	**-2.7**
	baz=352										
O15K	**Ungalikthiuk R**	**32.81**	**63**	P		**P**		**22 19 32.6**	**-1.8**
	baz=352										
BRVK	**Borovoye**	**32.83**	**203**	P		**P**		**22 19 34.7**	**0.0**
BRVK				IAmb		IAmb		22 19 40.3			
	comp=Z,27nm,1.6s										
BRVK	**Borovoye**	**32.83**	**203**	*i* P		**P**		**22 19 35.5**	**+0.9**
BRVK				pmax		pmax					
	comp=Z,17nm,1.5s										
ZEA	**Zeya**	**32.85**	**139**	*eP*		**P**		**22 19 36.2**	**+1.4**
ZEA				*e*				22 30 03.9			
BVAR	**Borovoye Array**	**32.86**	**202**	P		**P**		**22 19 34.8**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=341,slow=7.8,SNR=15										
BVAR					PcP		**PcP**	**22 22 19.6**	**+0.5**		
	comp=Z,1.0nm,0.8s,baz=21,slow=2.0,SNR=2.0										
BVAR					LR		LR	22 35 31.7			
	comp=Z,456nm,18.4s,baz=13,slow=41										
	comp=Z,3.1nm,0.9s										
BRSE	**Bradley Lake S**	**32.88**	**55**	P		**P**		**22 19 32.9**	**-2.1**
	baz=352										
HOM	**Homer**	**32.90**	**56**	P		**P**		**22 19 34.4**	**-0.7**
	baz=352										
WHY	**Whitehorse**	**32.90**	**40**	P		**P**		**22 19 31.6**	**-3.7**
	baz=354										
MESA	**MESA**	**32.99**	**47**	P		**P**		**22 19 32.4**	**-3.8**
	baz=353										
O29M	**Mount Kennedy**	**33.06**	**44**	P		**P**		**22 19 34.5**	**-2.3**
	baz=354										
P16K	**Nushagak River**	**33.09**	**62**	P		**P**		**22 19 34.4**	**-2.4**
	baz=352										
KAIM	**Kayak Island**	**33.09**	**49**	P		**P**		**22 19 36.9**	**+0.1**
	baz=353										
PINM	**Pinnacle**	**33.17**	**45**	P		**P**		**22 19 36.0**	**-1.6**
	baz=353										
P30M	**Million Dollar**	**33.33**	**42**	P		**P**		**22 19 37.1**	**-1.9**
	baz=354										
P33M	**Teslin, Yukon**	**33.45**	**38**	P		**P**		**22 19 38.2**	**-1.9**
	baz=354										
Q23K	**Middleton Isla**	**33.47**	**51**	P		**P**		**22 19 35.9**	**-4.2**
	baz=353										
Q19K	**Cape Douglas,**	**33.49**	**58**	P		**P**		**22 19 36.4**	**-4.0**
	baz=352										
Q16K	**King Salmon**	**33.53**	**61**	P		**P**		**22 19 38.8**	**-1.9**
	baz=352										
PNL	**Peninsula**	**33.64**	**44**	P		P		22 19 37.5	-4.2		
	baz=354										
MNK	**Minsk**	**33.77**	**249**	*i* P		**P**		**22 19 42.1**	**-0.7**
	comp=E,7.0nm,0.9s										
MNK				*i* P		**P**		**22 19 42.1**	**-0.7**
	comp=N,16nm,1.0s										
MNK				*i* P		**P**		**22 19 42.1**	**-0.7**
	comp=Z,20nm,0.8s,baz=7.4										
MNK				*i* PP		**PnPn**		**22 20 54.4**	**-0.3**		
MNK				*i* PPP		PPP		22 21 05.5			
MNK				*i* S		**S**		**22 25 06.7**	**+0.8**		
MNK				*i* SS		**SnSn**		**22 27 12.6**	**+2.7**		
MNK				*i* SSS		SSS		22 27 28.4			
MNK				*i* LQ		LQ		22 31 07.3			
MNK				*i* LR		LR		22 33 47.5			
MNK				*i* LRM		MLR		22 34 07.9			
	comp=N,259nm,21.2s										
MNK				*i* LRM		MLR		22 34 32.5			
	comp=E,104nm,18.7s										
MNK				*i* LRM		MLR		22 34 45.3			
	comp=Z,155nm,17.0s										
MNK	**Minsk**	**33.77**	**249**	*i* P		**P**		**22 19 42.1**	**-0.7**		
MNK				*i*				22 20 54.4			
MNK				*i*				22 22 21.0			
MNK				*i* S		**S**		**22 25 06.7**	**+0.8**		
MNK				*i* SS		**SnSn**		**22 27 12.6**	**+2.7**		
MNK				*i*				22 30 07.4			
MNK				pmax		pmax					
	comp=Z,20nm,0.9s										
MNK				pmax		pmax					
	comp=N,16nm,1.0s										
MNK				pmax		pmax					
	comp=E,7.0nm,0.9s										
MNK				MLR		MLR					
	comp=N,259nm,21.0s										
MNK				MLR		MLR					
	comp=E,104nm,19.0s										
MNK				MLR		MLR					
	comp=Z,155nm,17.0s										
Q20K	**Shuyak Island**	**33.89**	**57**	P		P		22 19 39.3	-4.5		
	baz=353										
KOTAN	**Kotaneelee Air**	**33.93**	**31**	P		**P**		**22 19 41.2**	**-3.0**		
	baz=355										
MOY	**Mondy**	**33.99**	**168**	*eP*		**P**		**22 19 46.4**	**+1.5**		
MOY				pmax		pmax					
	comp=Z,36nm,1.8s										
Q17K	**Contact Creek**	**34.00**	**60**	P		**P**		**22 19 41.4**	**-3.5**		
	baz=352										
SPIA	**Saint Paul Isl**	**34.02**	**74**	P		**P**		**22 19 42.7**	**-2.2**		
	baz=352										
P32M	**Atlin**	**34.03**	**39**	P		**P**		**22 19 42.8**	**-2.2**		
	baz=354										
SKAG	**Skagway**	**34.07**	**41**	P		**P**		**22 19 42.7**	**-2.7**		
	baz=354										
R33M	**Jennings River**	**34.36**	**37**	P		**P**		**22 19 48.2**	**+0.1**		
R33M				IAmb		IAmb		22 19 53.1			
	comp=Z,15nm,1.1s										
R33M	**Jennings River**	**34.36**	**37**	P		**P**		**22 19 45.2**	**-2.9**		
	baz=354										
BELG	**Belogornoye**	**34.53**	**227**	*i* P		**P**		**22 19 50.3**	**+0.9**		
BELG				pmax		pmax					
	comp=Z,2.0nm,0.9s										
BELG	**Belogornoye**	**34.53**	**227**	LR		LR		22 36 07.5			
	comp=Z,352nm,19.9s,baz=338,slow=40										
R16K	**Pilot Point**	**34.57**	**62**	P		**P**		**22 19 47.6**	**-2.1**		
	baz=352										
R17K	**Ugashik Creek**	**34.58**	**61**	P		**P**		**22 19 46.2**	**-3.7**		
	baz=352										
P08K	**Saint George I**	**34.64**	**73**	P		**P**		**22 19 47.0**	**-3.3**		
	baz=352										
KDAK	**Kodiak Island**	**34.70**	**57**	P		**P**		**22 19 47.8**	**-3.0**		
	baz=353										
KDAK	**Kodiak Island**	**34.70**	**57**	LR		LR		22 34 04.6			
	comp=Z,312nm,19.1s,baz=28,slow=36										
Q32M	**Nakina River**	**34.73**	**38**	P		**P**		**22 19 48.0**	**-3.3**		
	baz=354										
R18K	**Karluk**	**34.79**	**59**	P		**P**		**22 19 49.2**	**-2.4**		
	baz=353										
LPSR	**Galich'ya Gora**	**34.87**	**237**	*eP*		**P**		**22 19 52.6**	**+0.2**		
LPSR				pmax		pmax					
	comp=Z,10.0nm,0.8s										
KURK	**Kurchatov**	**34.97**	**193**	P		**P**		**22 19 53.6**	**+0.5**		
KURK	**Kurchatov**	**34.97**	**193**	*ceP*		**P**		**22 19 55.6**	**+2.4**		
KURK				pmax		pmax					
	comp=Z,6.0nm,1.3s										
KURBB	**Kurchatov Arra**	**35.06**	**193**	P		**P**		**22 19 53.8**	**-0.2**		
	comp=Z,0.8nm,0.6s,baz=12,slow=7.6,SNR=9.9										
KURBB					PcP		**PcP**	**22 22 25.6**	**+0.2**		
	comp=Z,1.5nm,0.7s,baz=353,slow=2.8,SNR=6.8										
KURBB					LR		LR	22 36 23.0			
	comp=Z,596nm,21.1s,baz=356,slow=40										
	comp=Z,0.8nm,0.6s										
OHAK	**Old Harbor**	**35.21**	**58**	P		**P**		**22 19 54.4**	**-0.8**		
	baz=353										
R32K	**Eaglecrest**	**35.30**	**40**	P		**P**		**22 19 52.3**	**-3.7**		
	baz=354										
DLBC	**Dease Lake**	**35.36**	**36**	P		**P**		**22 19 57.3**	**+0.7**		
DLBC				IAmb		IAmb		22 20 02.8			
	comp=Z,13nm,0.9s										
DLBC	**Dease Lake**	**35.36**	**36**	P		**P**		**22 19 55.3**	**-1.3**		
	baz=355										
DLBC	**Dease Lake**	**35.36**	**36**	LR		LR		22 34 38.3			
	comp=Z,376nm,21.8s,baz=322,slow=37										
EKA	**Eskdalemuir Ar**	**35.40**	**280**	P		**P**		**22 19 57.4**	**+0.4**		
	comp=Z,3.0nm,0.9s,baz=17,slow=7.4,SNR=2.2										
	comp=Z,3.0nm,0.9s										
PETK	**Petropavlovsk-**	**35.51**	**107**	LR		LR		22 34 37.3			
	comp=Z,162nm,19.4s,baz=348,slow=37										
S31K	**Pelican**	**35.52**	**42**	P		**P**		**22 19 55.7**	**-2.1**		
	baz=354										
S14K	**Fog Glacier**	**35.70**	**64**	P		**P**		**22 19 57.9**	**-1.7**		
	baz=352										
CHGN	**Chignik**	**35.77**	**63**	P		**P**		**22 19 58.8**	**-1.2**		
	baz=353										
SII	**Sitkinak Islan**	**35.81**	**59**	P		**P**		**22 19 59.4**	**-1.0**		
	baz=353										
S34M	**Telegraph Cree**	**35.83**	**37**	P		**P**		**22 20 01.6**	**+1.0**		
S34M				IAmb		IAmb		22 20 06.5			
	comp=Z,22nm,1.1s										
S34M	**Telegraph Cree**	**35.83**	**37**	P		**P**		**22 19 59.9**	**-0.7**		
	baz=355										
DGZ	**Jazzator, Alta**	**35.88**	**183**	*i* P		**P**		**22 20 01.8**	**+0.5**		
DGZ				pmax		pmax					
	comp=Z,8.0nm,1.2s										
AKTO	**Aktyubinsk**	**35.93**	**216**	LR		LR		22 36 09.5			
	comp=Z,594nm,21.5s,baz=20,slow=39										
FCC	**Fort Churchill**	**36.01**	**4**	P		**P**		**22 20 03.1**	**+1.1**		
FCC				IAmb		IAmb		22 20 11.6			
	comp=Z,19nm,1.3s										
FCC	**Fort Churchill**	**36.01**	**4**	P		**P**		**22 20 03.2**	**+1.1**		
FCC				pmax		pmax					
	comp=Z,19nm,1.3s										
VRH	**Novokhopyorsk**	**36.08**	**233**	*eP*		**P**		**22 20 01.5**	**-1.3**		
VRH				pmax		pmax					
	comp=Z,10.0nm,0.7s										
VSR	**Storozhevoye**	**36.24**	**236**	*eP*		**P**		**22 20 03.4**	**-0.7**		
VSR				pmax		pmax					
	comp=Z,10.0nm,0.9s										
HEH	**HeiHe**	**36.33**	**139**	*eP*		**P**		**22 20 04.8**	**-0.1**		
HEH				pmax		pmax					
	comp=Z,4.0nm,0.8s										
HEH				pmax		pmax					
	comp=Z,170nm,4.9s										
CHIR	**Chirikof Islan**	**36.44**	**60**	P		**P**		**22 20 04.2**	**-1.6**		
	baz=353										
SIT	**Sitka**	**36.47**	**41**	P		**P**		**22 20 04.5**	**-1.5**		
	baz=354										
SDPT	**Sand Point**	**36.57**	**65**	P		**P**		**22 20 05.3**	**-1.6**		
	baz=353										
T35M	**Bob Quinn**	**36.80**	**37**	P		**P**		**22 20 08.5**	**-0.4**		
	baz=355										
FALS	**False Pass**	**36.84**	**68**	P		**P**		**22 20 07.0**	**-2.2**		
	baz=352										
ABKAR	**Akbulak array**	**37.02**	**214**	P		**P**		**22 20 11.2**	**+0.4**		
CHNA	**Chernabura Isl**	**37.15**	**64**	P		**P**		**22 20 09.6**	**-2.2**		
	baz=353										
SHEM	**Shemya Is, Ala**	**37.19**	**90**	LR		LR		22 36 24.8			
	comp=Z,90nm,18.2s,baz=308,slow=38										
WRAK	**Wrangell Islan**	**37.26**	**39**	P		**P**		**22 20 10.6**	**-2.2**		
	baz=355										
AKASG	**Malin Array Be**	**37.45**	**246**	P		**P**		**22 20 15.6**	**+1.1**		
	comp=Z,3.8nm,0.7s,baz=8.1,slow=8.6,SNR=9.2										
	comp=Z,3.8nm,0.7s										
AKBB	**Malin Array Si**	**37.45**	**246**	*ceP*		**P**		**22 20 15.2**	**+0.8**		
AKBB				pmax		pmax					
	comp=Z,25nm,2.2s										
U33K	**Whale Pass**	**37.53**	**39**	P		**P**		**22 20 12.8**	**-2.2**		
	baz=355										
KLR	**Kul'dur**	**37.59**	**135**	*ceP*		**P**		**22 20 15.4**	**-0.3**		
KLR				pmax		pmax					
	comp=Z,9.0nm,2.5s										
KLR	**Kul'dur**	**37.59**	**135**	LR		LR		22 36 26.3			
	comp=Z,184nm,18.7s,baz=356,slow=38										
UNV	**Unalaska Valle**	**37.61**	**71**	P		**P**		**22 20 12.6**	**-3.1**		
	baz=353										
ULN	**Ulaanbaatar**	**37.92**	**162**	P		**P**		**22 20 18.7**	**+0.1**		
ULN	**Ulaanbaatar**	**37.92**	**162**	*ceP*		**P**		**22 20 18.4**	**-0.2**		
ULN				pmax		pmax					
	comp=Z,9.0nm,1.7s										
SONM	**Songino Array**	**37.93**	**163**	P		**P**		**22 20 18.8**	**+0.1**		
SONM	**Songino Array**	**37.93**	**163**	P		**P**		**22 20 18.8**	**+0.1**		
SONM				pmax		pmax					
	comp=Z,7.0nm,0.8s										
SONM	**Songino Array**	**37.93**	**163**	P		**P**		**22 20 19.2**	**+0.5**		
	comp=Z,4.4nm,0.8s,baz=347,slow=7.9,SNR=18										
SONM					PcP		**PcP**	**22 22 34.8**	**+0.5**		
	comp=Z,0.6nm,0.7s,baz=334,slow=1.6,SNR=1.8										
SONM					LR		LR	22 36 32.7			
	comp=Z,144nm,18.5s,baz=18,slow=37										
	comp=Z,4.4nm,0.8s										
CLL	**Collm**	**38.10**	**263**	*i* P		**P**		**22 20 22.0**	**+2.1**		
CLL				AMS		AMS		22 35 00.0			
	comp=Z,200nm,19.2s										
CLL	**Collm**	**38.10**	**263**	*i* P		**P**		**22 20 22.0**	**+2.1**		
CLL				pmax		pmax					
	comp=Z,4.0nm,0.9s										
NIKH	**Nikolski High**	**38.30**	**74**	P		**P**		**22 20 19.3**	**-2.2**		
	baz=353										
V35K	**Ketchikan**	**38.39**	**38**	P		**P**		**22 20 20.0**	**-2.2**		
	baz=355										
OJC	**Ojcow**	**38.65**	**256**	P		**P**		**22 20 25.0**	**+0.4**		
OJC				IAmb		IAmb		22 20 40.8			
	comp=Z,23nm,1.2s										
OJC	**Ojcow**	**38.65**	**256**	P		**P**		**22 20 25.0**	**+0.4**		
OJC				pmax		pmax					
	comp=Z,23nm,1.2s										
PVCC	**Panska Ves**	**38.75**	**261**	*eP*		**P**		**22 20 30.2**	**+4.8**		
PVCC	**Panska Ves**	**38.75**	**261**	*eP*		**P**		**22 20 30.2**	**+4.8**		
HSKC	**Hora Svate Kat**	**38.77**	**263**	*eP*		P		22 20 31.0	+5.4		
DPC	**Dobruska-Polom**	**38.79**	**260**	*eP*		**P**		**22 20 28.1**	**+2.3**		
DPC	**Dobruska-Polom**	**38.79**	**260**	*eP*		**P**		**22 20 28.1**	**+2.3**		
MAKZ	**Makanchi**	**38.82**	**189**	P		**P**		**22 20 25.2**	**-0.9**		
MAKZ	**Makanchi**	**38.82**	**189**	P		**P**		**22 20 25.2**	**-0.9**		
MAKZ				pmax		pmax					
	comp=Z,5.0nm,0.8s										
MK31	**Makanchi Array**	**38.83**	**189**	P		**P**		**22 20 25.5**	**-0.7**		
MK31	**Makanchi Array**	**38.83**	**189**	*ceP*		**P**		**22 20 29.7**	**+3.5**		
MKAR	**Makanchi Array**	**38.83**	**189**	P		**P**		**22 20 26.1**	**0.0**		
MKAR	**Makanchi Array**	**38.83**	**189**	*i* P		**P**		**22 20 25.8**	**-0.4**		
MKAR				pmax		pmax					
	comp=Z,6.0nm,0.9s										
MKAR	**Makanchi Array**	**38.83**	**189**	P		**P**		**22 20 25.9**	**-0.3**		
	comp=Z,5.9nm,0.9s,baz=6.1,slow=6.5,SNR=15										
MKAR					PcP		**PcP**	**22 22 37.1**	**+0.1**		
	comp=Z,1.4nm,0.9s,baz=18,slow=2.0,SNR=1.9										
MKAR					LR		LR	22 37 42.5			
	comp=Z,286nm,18.9s,baz=2.5,slow=38										
	comp=Z,5.9nm,0.9s										
MOX	**Moxa**	**38.87**	**264**	*eL*		L		22 35 46.0			
	comp=Z,124nm,19.3s										
KRLC	**Kraliky**	**39.03**	**259**	*eP*		**P**		**22 20 31.0**	**+3.2**		
NKC	**Novy Kostel**	**39.22**	**264**	*eP*		**P**		**22 20 32.1**	**+2.8**		
NKC	**Novy Kostel**	**39.22**	**264**	*eP*		**P**		**22 20 32.1**	**+2.8**		
PRU	**Pruhonice**	**39.29**	**261**	*eP*		**P**		**22 20 32.4**	**+2.5**		
PRU	**Pruhonice**	**39.29**	**261**	*eP*		**P**		**22 20 32.4**	**+2.5**		
SCHQ	**Schefferville**	**39.64**	**340**	LR		LR		22 35 53.4			
	comp=Z,114nm,19.6s,baz=40,slow=34										
KOLS	**Kolonicke sedl**	**39.73**	**253**	*eP*		PP		22 22 05.2	+0.6		
LANS	**Liptovska Anna**	**39.73**	**256**	*eP*		**P**		**22 20 37.0**	**+3.3**		
LANS	**Liptovska Anna**	**39.73**	**256**	*eP*		**P**		**22 20 37.0**	**+3.3**		
VRAC	**Vranov**	**39.80**	**259**	LR		LR		22 37 11.4			
	comp=Z,211nm,21.9s,baz=5.0,slow=36										
GRF	**Grafenberg Arr**	**39.85**	**265**	*eP*		**P**		**22 20 39.1**	**+4.5**		
	comp=Z,7.8nm,1.0s,baz=9.7,slow=8.0										
GRF				*eL*		L		22 35 13.8			
	comp=Z,189nm,21.3s										
KHC	**Kasperske Hory**	**40.22**	**262**	*eP*		**P**		**22 20 40.3**	**+2.6**		
KHC	**Kasperske Hory**	**40.22**	**262**	*eP*		**P**		**22 20 40.3**	**+2.6**		
VYHS	**Vyhne**	**40.44**	**257**	*eP*		**P**		**22 20 41.5**	**+2.0**		
VYHS				*e*	PP		**PnPn**	**22 22 18.8**	**+2.8**		
VYHS	**Vyhne**	**40.44**	**257**	*eP*		**P**		**22 20 41.5**	**+2.0**		
VYHS				*e*				22 22 18.8			
CKRC	**Cesky Krumlov**	**40.47**	**261**	*eP*		**P**		**22 20 39.4**	**-0.4**		
CKRC	**Cesky Krumlov**	**40.47**	**261**	*eP*		**P**		**22 20 39.4**	**-0.4**		
GERES	**GERESS Array B**	**40.49**	**262**	P		**P**		**22 20 43.0**	**+2.9**		
GERES	**GERESS Array B**	**40.49**	**262**	P		**P**		**22 20 43.0**	**+2.9**		
	comp=Z,1.8nm,0.7s,baz=32,slow=5.8,SNR=2.8										
	comp=Z,1.8nm,0.7s										
MODS	**Modra-Piesok**	**40.68**	**258**	*eP*		**P**		**22 20 44.5**	**+3.0**		
MODS	**Modra-Piesok**	**40.68**	**258**	*eP*		**P**		**22 20 44.5**	**+3.0**		
BURAR	**Bucovina Array**	**40.82**	**250**	P		**P**		**22 20 43.4**	**+0.7**		
BNX	**BinXian**	**40.84**	**140**

comp=Z,473nm,18.0s
SALO Salr 43.95 265 P **P** **22 21 09.5 +1.3**
SALO IAmb IAmb 22 21 20.3
comp=Z,14nm,0.9s
TARG Taragay, Kyrgy 43.97 194 P **P** **22 21 08.9 +0.1**
TARG Taragay, Kyrgy 43.97 194 P **P** **22 21 08.9 +0.1**
TARG pmax pmax
comp=Z,8.0nm,0.8s
ULM Lac du Bonnet 44.53 6 P **P** **22 21 13.3 +0.6**
comp=Z,1.8nm,0.8s,baz=350,slow=7.3,SNR=3.4
ULM LR LR 22 40 06.2
comp=Z,232nm,18.7s,baz=360,slow=36
comp=Z,1.8nm,0.8s
HHC Hu-ho-hao-te 45.06 157 *e*P **P** **22 21 17.0 -0.1**
HHC *e*S **S** **22 27 55.0 -0.6**
HHC sS sS 22 28 02.9 +4.1
HHC Hu-ho-hao-te 45.06 157 ScS ScS 22 31 22.8 +9.1
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,290nm,5.0s
HHC LR LR
comp=N,380nm,17.6s
HHC LR LR
comp=E,340nm,12.7s
HHC LR LR
comp=Z,550nm,16.3s
BTK Batken 45.80 201 P **P** **22 21 23.4 +0.4**
BTK Batken 45.80 201 P **P** **22 21 23.4 +0.4**
BTK pmax pmax
comp=Z,6.0nm,0.8s
B08A Colville Reser 45.89 28 P **P** **22 21 24.3 +0.8**
OSSC Osservatorio P 45.98 264 P **P** **22 21 25.9 +1.6**
OSSC IAmb IAmb 22 21 40.1
comp=Z,9.7nm,0.9s
NEW Newport 46.06 25 P **P** **22 21 25.7 +0.8**
NEW Newport 46.06 25 P **P** **22 21 21.7 -3.2**
baz=357,SNR=14
NEW Newport 46.06 25 P **P** **22 21 25.7 +0.8**
NEW pmax pmax
comp=Z,33nm,1.4s
NEW Newport 46.06 25 LR LR 22 41 15.6
comp=Z,257nm,18.2s,baz=4.5,slow=37
KSH Kashi 46.21 196 P P 22 21 32.3 +6.0
GTA Gaotai 46.23 170 *e*P **P** **22 21 27.3 +0.9**
GTA sP pwP 22 21 36.0 +2.2
GTA PcP **PcP** **22 23 04.6 +2.8**
GTA S **S** **22 28 12.3 -0.3**
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA LR LR
comp=N,320nm,19.6s
GTA LR LR
comp=E,290nm,19.6s
GTA LR LR
comp=Z,420nm,20.4s
AGMN Agassiz Nation 46.48 6 P **P** **22 21 26.0 -2.2**
baz=359
EGMT Eagleton 46.52 19 P **P** **22 21 27.2 -1.4**
baz=358
EYMN Ely 46.86 2 P **P** **22 21 32.4 +1.2**
EYMN Ely 46.86 2 P **P** **22 21 28.9 -2.2**
baz=360
GNI Garni 46.90 229 LR LR 22 44 43.8
comp=Z,145nm,18.4s,baz=350,slow=41
CHGR Chuyangaron 47.25 203 P **P** **22 21 35.0 +0.6**
CHGR IAmb IAmb 22 21 59.5
comp=Z,9.1nm,1.0s
CHGR Chuyangaron 47.25 203 P **P** **22 21 35.0 +0.6**
CHGR pmax pmax
comp=Z,9.0nm,1.0s
OVMT Ovando 47.39 22 P **P** **22 21 36.8 +1.3**
MSO Missoula 47.60 23 P **P** **22 21 37.7 +0.7**
MSO Missoula 47.60 23 P **P** **22 21 35.0 -2.1**
baz=357,SNR=6.6
HAWA Hanford 47.84 28 P **P** **22 21 39.3 +0.5**
LAO LASA Array 47.94 15 P **P** **22 21 37.8 -1.8**
baz=358
BR131 Keskin Array S 48.05 240 P **P** **22 21 42.3 +1.6**
BR131 IAmb IAmb 22 21 48.7
comp=Z,26nm,1.7s
BR131 Keskin Array S 48.05 240 P **P** **22 21 42.3 +1.6**
BR131 pmax pmax
comp=Z,26nm,1.7s
BRTR Keskin Array B 48.05 240 *i* P **P** **22 21 42.9 +2.2**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 48.05 240 P **P** **22 21 42.3 +1.6**
comp=Z,3.2nm,0.9s,baz=13,slow=6.6,SNR=8.4
BRTR LR LR 22 47 32.4
comp=Z,161nm,19.7s,baz=6.0,slow=43
comp=Z,3.2nm,0.9s
GEYT Alibeck 48.40 214 P **P** **22 21 43.9 +0.6**
GEYT IAmb IAmb 22 21 58.0
comp=Z,8.7nm,1.1s
GEYT Alibeck 48.40 214 P **P** **22 21 44.6 +1.4**
comp=Z,3.5nm,0.7s,baz=17,slow=5.3,SNR=6.8
GEYT LR LR 22 44 56.9
comp=Z,243nm,20.9s,baz=16,slow=40
comp=Z,3.5nm,0.7s
HOOD Mount Hood Mea 48.83 30 P **P** **22 21 48.0 +1.4**
KSRS Korea Array 49.12 140 LR LR 22 44 29.3
comp=Z,71nm,18.1s,baz=355,slow=38
PKME Peaks-Kenny Pk 49.28 341 P **P** **22 21 49.0 -0.8**
baz=2.1
RLMT Red Lodge 49.44 18 P **P** **22 21 49.9 -1.4**
baz=358
BMO Blue Mountains 49.46 26 P **P** **22 21 53.1 +1.7**
BMO IAmb IAmb 22 22 02.9
comp=Z,25nm,1.6s
BMO Blue Mountains 49.46 26 P **P** **22 21 53.1 +1.7**
BMO pmax pmax
comp=Z,25nm,1.7s
LZH Lanzhou 49.61 166 *e*P **P** **22 21 54.4 +1.7**
LZH sP pwP 22 22 01.8 +1.7
LZH Lanzhou 49.61 166 SS SS 22 32 44.9 +13
LZH pmax pmax
comp=Z,9.0nm,1.1s
LZH LR LR
comp=N,140nm,13.6s
LZH LR LR
comp=E,320nm,13.9s
LZH LR LR
comp=Z,270nm,15.5s
YHL Hebgen Lake 49.66 20 P **P** **22 21 53.9 +0.8**
YHL IAmb IAmb 22 22 04.6
comp=Z,37nm,1.8s
TIA Tai'an 49.88 152 ⇑P **P** **22 21 55.4 +0.9**
TIA pmax pmax
comp=Z,13nm,1.0s
TIA LR LR
comp=N,220nm,20.6s
TIA LR LR
comp=E,160nm,13.2s
TIA LR LR
comp=Z,270nm,18.6s
GLMI Grayling 49.97 355 P **P** **22 21 51.4 -3.7**
baz=0.5
SADO Sadowa 49.97 350 LR LR 22 42 57.9
comp=Z,172nm,19.3s,baz=80,slow=36
LONY Lake Ozonia 50.05 346 P **P** **22 21 52.6 -3.1**
baz=1.5
H17A Grant Village 50.13 20 P **P** **22 21 55.9 -0.7**
baz=358
FLWY Flagg Ranch 50.44 20 P **P** **22 22 00.4 +1.5**
RSSD Black Hills 50.55 14 P **P** **22 22 00.4 +0.6**
RSSD IAmb IAmb 22 22 11.2
comp=Z,9.3nm,0.9s
RSSD Black Hills 50.55 14 P **P** **22 21 57.7 -2.2**
baz=358
RSSD Black Hills 50.55 14 P **P** **22 22 00.4 +0.6**
RSSD pmax pmax
comp=Z,9.0nm,0.9s
MJAR Matsushiro Arr 50.62 130 LR LR 22 45 09.3
comp=Z,68nm,18.2s,baz=5.0,slow=38
MOOW Moose Ponds 50.77 20 P **P** **22 22 02.7 +1.2**
MOOW IAmb IAmb 22 22 14.0
comp=Z,41nm,2.0s
HLID Hailey 50.85 23 P **P** **22 22 00.8 -1.2**
baz=358
J05D Fort Rock, OR 50.88 30 P **P** **22 22 03.1 +0.9**
J05D IAmb IAmb 22 22 08.0
comp=Z,9.9nm,1.0s
J08A Circle Bar Ran 50.91 27 P **P** **22 22 03.6 +1.2**
J08A IAmb IAmb 22 22 08.5
comp=Z,11nm,0.9s

ESDC Sonseca Array 51.02 278 P **P** **22 22 04.1 +0.9**
ESDC Sonseca Array 51.02 278 P **P** **22 22 05.2 +1.9**
comp=Z,0.8nm,0.7s,baz=358,slow=7.6,SNR=7.5
comp=Z,0.8nm,0.7s
ECSD EROS Data Cent 51.04 7 P **P** **22 22 03.6 +0.3**
ECSD EROS Data Cent 51.04 7 P **P** **22 22 02.3 -1.0**
baz=359
KBL Kabul 51.36 203 P **P** **22 22 05.7 -0.3**
KBL Kabul 51.36 203 P **P** **22 22 05.7 -0.3**
KBL pmax pmax
comp=Z,4.0nm,0.8s
VAE Valguarnera 51.73 260 LR LR 22 45 22.2
comp=Z,129nm,19.0s,baz=338,slow=38
BW06 Boulder Array 51.78 19 P **P** **22 22 08.1 -1.0**
baz=358
PD31 Pinedale Array 51.78 19 P **P** **22 22 10.2 +1.1**
PDAR Pinedale Array 51.78 19 P **P** **22 22 09.8 +0.7**
PDAR Pinedale Array 51.78 19 P **P** **22 22 10.9 +1.9**
comp=Z,1.9nm,1.0s,baz=32,slow=3.6,SNR=8.7
PDAR LR LR 22 44 52.9
comp=Z,279nm,19.5s,baz=360,slow=37
comp=Z,1.9nm,1.0s
WVOR Wild Horse Val 51.83 27 P **P** **22 22 10.4 +1.1**
WVOR IAmb IAmb 22 22 21.0
comp=Z,36nm,1.7s
WVOR Wild Horse Val 51.83 27 P **P** **22 22 10.4 +1.1**
WVOR pmax pmax
comp=Z,36nm,1.7s
JFWS Jewell Farm 51.89 1 P **P** **22 22 08.5 -1.1**
baz=360
HRV Adam Dziewonsk 52.09 343 P **P** **22 22 11.7 +0.6**
baz=1.8
PESTR Estremoz 52.11 282 P **P** **22 22 12.9 +1.6**
NIL Nilore 52.13 198 P **P** **22 22 11.8 +0.3**
NIL Nilore 52.13 198 P **P** **22 22 11.8 +0.3**
NIL pmax pmax
comp=Z,10.0nm,1.0s
L61B Northampton 52.17 344 P **P** **22 22 12.0 +0.3**
baz=1.7
YBH Yreka Blue Hor 52.37 31 LR LR 22 45 58.9
comp=Z,224nm,20.0s,baz=3.0,slow=38
L44A Lake County Fo 52.63 358 P **P** **22 22 14.2 -0.9**
baz=0.1
HWUT Hardware Ranch 52.88 21 P **P** **22 22 17.9 +0.6**
HWUT IAmb IAmb 22 22 29.0
comp=Z,17nm,1.2s
IDI Anoyia 53.10 249 LR LR 22 48 26.2
comp=Z,86nm,18.9s,baz=282,slow=40
M53A WI Miller and 53.32 352 P **P** **22 22 20.5 +0.3**
baz=0.9
JNU Nakatsue 53.59 137 LR LR 22 45 29.1
comp=Z,49nm,18.6s,baz=6.0,slow=36
ELK Elko 53.63 24 LR LR 22 45 37.8
comp=Z,251nm,20.0s,baz=14,slow=36
OGNE Ogallala 53.76 12 P **P** **22 22 20.4 -3.1**
baz=359
KEST Kesra 53.87 264 P **P** **22 22 25.8 +1.4**
KEST Kesra 53.87 264 P **P** **22 22 26.1 +1.7**
comp=Z,4.2nm,0.8s,baz=45,slow=1.4,SNR=5.0
KEST LR LR 22 46 09.0
comp=Z,82nm,19.0s,baz=302,slow=37
comp=Z,4.2nm,0.8s
NJ2 Nanjing 54.09 150 *e*P **P** **22 22 26.3 +0.4**
NJ2 sP **pwP** **22 22 31.9 -1.4**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 pmax pmax
comp=Z,140nm,6.2s
JHJ Hachijo jima 2 54.12 128 LR LR 22 46 17.4
comp=Z,66nm,21.0s,baz=54,slow=37
DUG Dugway, Tooele 54.26 22 P **P** **22 22 28.2 +0.9**
DUG Dugway, Tooele 54.26 22 P **P** **22 22 25.9 -1.4**
baz=358
DUG Dugway, Tooele 54.26 22 P **P** **22 22 28.2 +0.9**
DUG pmax pmax
comp=Z,7.0nm,1.1s
SFIN Lafayette 54.42 358 P **P** **22 22 25.6 -2.7**
baz=0.2
O20A White River Ci 54.44 18 P **P** **22 22 25.4 -3.3**
baz=358
O53A New Philadelph 54.51 352 P **P** **22 22 25.9 -3.0**
baz=0.8
PAHR Pah Rah Range 54.52 28 P **P** **22 22 30.7 +1.5**
PAHR IAmb IAmb 22 22 40.7
comp=Z,24nm,1.7s
O48B Farmland 54.54 356 P **P** **22 22 26.4 -2.7**
baz=0.4
ACSO Alum Creek Sta 54.55 354 P **P** **22 22 26.5 -2.7**
baz=0.6
MMAI Mount Meron Ar 54.60 238 LR LR 22 50 52.0
comp=Z,70nm,19.0s,baz=351,slow=42
CD2 Chengdu 54.77 166 P **P** **22 22 30.6 -0.4**
CD2 pP pP 22 22 33.3 +0.5
CD2 sP sP 22 22 35.3 +1.8
CD2 pmax pmax
comp=Z,10.0nm,0.6s
ISCO Idaho Springs 54.84 15 P **P** **22 22 32.6 +0.9**
ISCO IAmb IAmb 22 22 43.7
comp=Z,30nm,2.0s
ISCO Idaho Springs 54.84 15 P P 22 22 27.4 -4.3
baz=358
ISCO Idaho Springs 54.84 15 P **P** **22 22 32.6 +0.9**
ISCO pmax pmax
comp=Z,30nm,2.0s
P17A Butcher Ranch, 55.04 20 P **P** **22 22 33.8 +0.8**
MCWV Mont Chateau 55.09 351 P **P** **22 22 30.1 -3.0**
baz=0.9
PNTR Pine Nut 55.13 28 P **P** **22 22 34.1 +0.4**
PNTR IAmb IAmb 22 22 45.1
comp=Z,13nm,1.1s
P52A Corning 55.14 353 P P 22 22 27.8 -5.6
baz=0.7
P38A Dawn 55.17 4 P **P** **22 22 33.7 0.0**
AFDM Forest Hills D 55.22 30 P **P** **22 22 34.6 +0.5**
AFDM IAmb IAmb 22 22 45.6
comp=Z,22nm,1.7s
P49A Miami Univ. Ec 55.26 355 P P 22 22 24.8 -9.5
baz=0.4
KSU1 Kansas State U 55.67 7 P P 22 22 29.1 -8.2
baz=359
Q24A Divide 55.68 15 P **P** **22 22 34.9 -2.8**
baz=358
KSCO Kaye Shedlock' 55.68 12 P **P** **22 22 34.3 -3.2**
baz=359
NVAR Mina Array Bea 55.84 27 P **P** **22 22 39.7 +0.9**
NVAR Mina Array Bea 55.84 27 P **P** **22 22 40.1 +1.3**
comp=Z,1.6nm,0.9s,baz=7.3,slow=3.5,SNR=10
NVAR LR LR 22 47 46.1
comp=Z,145nm,18.1s,baz=1.5,slow=37
comp=Z,1.6nm,0.9s
CBKS Cedar Bluff 55.92 10 P **P** **22 22 36.4 -2.8**
baz=359
R11B Troy Canyon, C 56.01 25 P P 22 22 35.9 -4.1
baz=358,SNR=10
WCI Wyandotte Cave 56.57 357 P **P** **22 22 41.0 -2.7**
baz=0.3
CCM Cathedral Cave 56.75 2 P **P** **22 22 44.6 -0.4**
CCM IAmb IAmb 22 22 48.2
comp=Z,7.9nm,0.9s
CCM Cathedral Cave 56.75 2 P **P** **22 22 42.3 -2.7**
baz=360
CCM Cathedral Cave 56.75 2 P **P** **22 22 44.6 -0.4**
CCM pmax pmax
comp=Z,8.0nm,1.0s
S22A 4UR Ranch, Cre 56.86 16 P **P** **22 22 47.0 +0.8**
S22A IAmb IAmb 22 22 58.4
comp=Z,18nm,1.3s
S22A 4UR Ranch, Cre 56.86 16 P **P** **22 22 45.1 -1.1**
baz=358
SDCO Great Sand Dun 56.89 15 P **P** **22 22 45.9 -0.5**
baz=358
S39A Bolivar 57.10 4 P **P** **22 22 47.4 -0.1**
S39A IAmb IAmb 22 22 50.7
comp=Z,10nm,0.9s
TIN Tinemaha, Big 57.21 27 P **P** **22 22 47.3 -1.1**
baz=357
MVCO Mesa Verde 57.35 18 P **P** **22 22 48.4 -1.2**
baz=358
TPNV Topopah Spring 57.39 25 P **P** **22 22 48.6 -1.2**
baz=358
LCMT Little Creek M 57.42 22 P **P** **22 22 50.9 +0.9**
LCMT IAmb IAmb 22 22 55.3
comp=Z,8.8nm,1.0s
T25A Trinidad 57.52 14 P **P** **22 22 49.2 -1.5**
baz=359
CWC Cottonwood Cre 57.83 27 P **P** **22 22 51.4 -1.5**
baz=357

FURC Furnace Creek, 57.84 26 P **P** **22 22 51.5 -1.2**
baz=358
MDT Midelt 57.89 278 LR LR 22 46 33.1
comp=Z,16nm,19.0s,baz=16,slow=35
EIL Elat 57.96 238 LR LR 22 52 14.4
comp=Z,72nm,19.9s,baz=28,slow=41
GWY Greenwater Val 58.13 26 P **P** **22 22 56.6 +1.6**
GWY IAmb IAmb 22 23 06.4
comp=Z,20nm,1.3s
MPMC Manual Prospec 58.23 27 P **P** **22 22 53.9 -1.8**
baz=357,SNR=5.6
TZTN Tazewell 58.23 354 P **P** **22 22 54.8 -0.7**
baz=0.5
U49A Red Boiling Sp 58.28 356 P **P** **22 22 55.9 +0.1**
SHOC Shoshone, Teco 58.43 25 P **P** **22 22 55.6 -1.3**
baz=358
HHAR Hobbs 58.51 4 P **P** **22 22 57.2 -0.2**
HHAR IAmb IAmb 22 23 00.3
comp=Z,9.4nm,1.0s
ISA Isabella, Lake 58.59 28 P **P** **22 22 55.9 -2.2**
baz=357
WVT Waverly 58.67 358 P **P** **22 22 57.0 -1.5**
baz=0.1
OK052 Battle Ridge R 58.77 7 P **P** **22 22 59.6 +0.4**
LRMC Laurel Mtn Rad 58.80 27 P **P** **22 22 58.8 -0.8**
baz=357
TUL3 Leonard 58.86 6 P **P** **22 22 58.4 -1.5**
baz=359
TUQ Turquoise Moun 58.91 25 P **P** **22 22 59.5 -0.8**
baz=358
WUAZ Wupatki 58.97 21 P **P** **22 22 58.5 -2.3**
baz=358
GSC Goldstone, Bar 59.01 26 P **P** **22 22 58.8 -2.2**
baz=358
TKL Tuckaleechee C 59.12 355 P **P** **22 23 02.8 +1.1**
TKL Tuckaleechee C 59.12 355 P **P** **22 23 02.8 +1.1**
TKL pmax pmax
comp=Z,23nm,1.5s
TKL Tuckaleechee C 59.12 355 LR LR 22 48 28.1
comp=Z,246nm,18.9s,baz=1.5,slow=36
PZH PanZhiHua 59.13 168 P **P** **22 23 04.3 +2.4**
PZH pmax pmax
comp=Z,7.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.5s
GYA Guiyang 59.27 163 ⇓P **P** **22 23 06.1 +3.2**
GYA pmax pmax
comp=Z,26nm,0.8s
GYA pmax pmax
comp=Z,140nm,4.4s
PKM Mcpherson Peak 59.31 29 P **P** **22 23 03.7 +0.5**
baz=357
EDW2 Edwards Air Fo 59.38 27 P **P** **22 23 02.6 -1.0**
baz=357
W18A Petrified Fore 59.41 19 P **P** **22 23 01.4 -2.5**
baz=358
RRX Edison Barstow 59.43 26 P **P** **22 23 03.7 -0.1**
baz=358
CNNC Cliffs of the 59.47 349 P **P** **22 23 03.2 -0.9**
baz=1.1
HEC Hector,Ludlow 59.50 26 P **P** **22 23 03.4 -1.0**
baz=358
GMRC Granite Mounta 59.56 25 P **P** **22 23 05.6 +0.7**
baz=358
KMSC Kings Mountain 59.61 352 P **P** **22 23 05.3 +0.2**
baz=0.7
OSI Oeito Audit: C 59.62 28 P **P** **22 23 03.4 -1.8**
baz=357
ANMO Albuquerque 59.66 16 P **P** **22 23 06.5 +0.9**
ANMO IAmb IAmb 22 23 08.7
comp=Z,10nm,1.3s
ANMO Albuquerque 59.66 16 P **P** **22 23 03.6 -2.0**
baz=358
ANMO Albuquerque 59.66 16 *i* P **P** **22 23 06.4 +0.7**
ANMO pmax pmax
comp=Z,10.0nm,1.4s
ANMO Albuquerque 59.66 16 LR LR 22 49 08.4
comp=Z,363nm,20.3s,baz=88,slow=36
JOW Kunigami 59.71 141 LR LR 22 51 29.6
comp=Z,73nm,18.1s,baz=96,slow=39
AMTX Amarillo 59.81 12 P **P** **22 23 05.6 -1.0**
baz=359
SHL Shillong 59.97 179 P **P** **22 23 08.1 +0.3**
SHL IAmb IAmb 22 23 20.4
comp=Z,16nm,1.2s
SHL Shillong 59.97 179 P **P** **22 23 08.1 +0.3**
SHL pmax pmax
comp=Z,16nm,1.2s
X18A Snowflake 59.99 19 P **P** **22 23 08.8 +0.9**
WMOK Wichita Mounta 60.00 9 P **P** **22 23 07.9 +0.1**
WMOK IAmb IAmb 22 23 13.8
comp=Z,9.8nm,1.3s
WMOK Wichita Mounta 60.00 9 P **P** **22 23 07.9 +0.1**
WMOK pmax pmax
comp=Z,10.0nm,1.3s
BFSC Mount Baldy Ra 60.04 27 P **P** **22 23 06.8 -1.3**
baz=357
PDMCI Parker Dam,Lak 60.09 23 P **P** **22 23 07.8 -0.6**
baz=358
IRM Iron Mountain 60.21 24 P **P** **22 23 07.7 -1.5**
baz=358
SCZ2 Santa Cruz Isl 60.21 29 P P 22 23 05.1 -4.1
baz=357
OXF Oxford 60.28 360 P **P** **22 23 10.5 +0.9**
OXF Oxford 60.28 360 P **P** **22 23 08.8 -0.8**
baz=360
OXF Oxford 60.28 360 P **P** **22 23 10.5 +0.9**
OXF pmax pmax
comp=Z,37nm,1.1s
X40A Basin Creek Fa 60.30 3 P **P** **22 23 10.1 +0.3**
X40A IAmb IAmb 22 23 21.3
comp=Z,8.9nm,0.9s
BELC Belle Mtn. Jos 60.33 25 P **P** **22 23 07.7 -2.5**
baz=358
BC3 Big Chuckawall 60.70 25 P **P** **22 23 11.1 -1.6**
baz=358
PFO Pinyon Flats O 60.70 26 P **P** **22 23 12.0 -0.7**
baz=358
TPFO Pinon Flats 60.71 26 P **P** **22 23 10.9 -1.9**
baz=358
WLAR White Oak Lake 61.10 3 P **P** **22 23 15.8 +0.6**
GOGA Godfrey 61.36 354 P **P** **22 23 15.3 -1.7**
baz=0.5
SWSC Sam W. Stewart 61.39 25 P **P** **22 23 15.8 -1.4**
baz=358
APMT Aspermont 61.39 10 P **P** **22 23 17.7 +0.4**
APMT IAmb IAmb 22 23 23.2
comp=Z,7.9nm,0.9s
MONP2 Monument Peak 61.42 26 P **P** **22 23 15.2 -2.5**
baz=358
NHSC New Hope 61.63 351 P **P** **22 23 17.1 -1.6**
baz=0.8
IKP In-Ko-Pah, Jac 61.67 25 P **P** **22 23 19.2 -0.1**
baz=358
LRAL Lakeview Retre 61.75 358 P **P** **22 23 18.5 -1.1**
baz=0.2
PLPT Palo Pinto 61.93 8 P **P** **22 23 21.4 +0.5**
PLPT IAmb IAmb 22 23 30.9
comp=Z,13nm,1.2s
121A Cookes Peak, D 62.04 17 P **P** **22 23 19.3 -2.5**
baz=358
ABTX Abilene, Hawle 62.10 10 P **P** **22 23 20.0 -2.0**
baz=359
154A Montrose 62.15 354 P **P** **22 23 23.5 +1.2**
214A Organ Pipe Nat 62.47 22 P **P** **22 23 22.6 -2.0**
baz=358
WHTX Lake Whitney, 62.76 8 P **P** **22 23 24.5 -1.9**
baz=359
MNTX Cornudas Mount 62.92 15 P **P** **22 23 25.3 -2.3**
baz=359
WSAR Wadi Sarin 63.00 213 LR LR 22 54 38.8
comp=Z,111nm,19.5s,baz=36,slow=40
NATX Nacogdoches 63.01 5 P **P** **22 23 27.3 -0.8**
baz=360
TIGA Tifton 63.33 354 P **P** **22 23 30.3 +0.1**
baz=0.5
425A Indio Mountain 63.84 15 P **P** **22 23 34.5 +0.8**
JCT Junction City 64.23 10 P **P** **22 23 36.8 +0.5**
JCT IAmb IAmb 22 23 46.2
comp=Z,9.7nm,0.9s
JCT Junction City 64.23 10 P **P** **22 23 37.4 +1.1**
baz=359
JCT Junction City 64.23 10 P **P** **22 23 36.8 +0.5**
JCT pmax pmax
comp=Z,10.0nm,0.9s
TX31 Lajitas Ar. Si 65.31 14 P **P** **22 23 43.8 +0.5**
TXAR Lajitas Array 65.31 14 P **P** **22 23 43.5 +0.2**

TXAR	**Lajitas Array**	**65.31**	**14**	P		**P**		**22 23 43.9 +0.5**
	comp=Z,1.4nm,0.6s,baz=3.2,slow=3.8,SNR=13							
TXAR				LR		LR		22 53 05.1
	comp=Z,166nm,18.6s,baz=356,slow=37							
	comp=Z,1.4nm,0.6s							
833A	**Chaparral WMA,**	**66.39**	**9**	P		**P**		**22 23 50.9 +0.7**
	baz=359							
CHTO	**Chiang Mai**	**66.74**	**171**	P		**P**		**22 23 53.1 +0.6**
CHTO	**Chiang Mai**	**66.74**	**171**	P		**P**		**22 23 53.1 +0.6**
CHTO				pmax		pmax		
	comp=Z,4.0nm,1.1s							
CMAR	**Chiang Mai Arr**	**67.09**	**171**	*i* P		**P**		**22 23 55.2 +0.4**
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**67.09**	**171**	P		**P**		**22 23 54.8 +0.1**
	comp=Z,1.5nm,0.3s,baz=354,slow=7.3,SNR=17							
CMAR				LR		LR		22 54 50.7
	comp=Z,110nm,20.9s,baz=350,slow=38							
	comp=Z,1.5nm,0.3s							
LPIG	**La Paz**	**70.37**	**20**	LR		LR		22 56 36.5
	comp=Z,223nm,19.3s,baz=26,slow=37							
TEIG	**Tepich**	**74.51**	**359**	LR		LR		22 58 13.8
	comp=Z,1μm,20.1s,baz=178,slow=36							
SJG	**San Juan**	**76.25**	**337**	LR		LR		22 56 55.2
	comp=Z,45nm,22.0s,baz=28,slow=34							
TOA0	**Torodi Ar. Sit**	**76.88**	**270**	P		**P**		**22 24 54.4 +1.0**
TORD	**Torodi Ar. Bea**	**76.88**	**270**	P		**P**		**22 24 54.5 +1.0**
TORD				IAmb		IAmb		22 25 03.8
	comp=Z,29nm,2.0s							
TORD	**Torodi Ar. Bea**	**76.88**	**270**	P		**P**		**22 24 53.8 +0.4**
	comp=Z,2.6nm,0.8s,baz=3.2,slow=7.4,SNR=14							
TORD				LR		LR		23 02 06.9
	comp=Z,35nm,18.2s,baz=52,slow=38							
	comp=Z,2.6nm,0.8s							
CMIG	**Matias Romero**	**77.61**	**5**	LR		LR		23 02 32.7
	comp=Z,73nm,18.5s,baz=18,slow=38							
PALK	**Pallekele**	**78.23**	**190**	LR		LR		23 03 51.0
	comp=Z,100nm,18.8s,baz=97,slow=39							
DAV	**Davao City (W)**	**79.21**	**144**	LR		LR		23 04 10.7
	comp=Z,32nm,18.7s,baz=351,slow=39							
DBIC	**Dimbokro**	**83.82**	**276**	LR		LR		23 04 11.8
	comp=Z,28nm,20.6s,baz=24,slow=37							
PCRV	**Puerto La Cruz**	**84.08**	**335**	LR		LR		23 01 27.6
	comp=Z,53nm,21.6s,slow=34							
JTS	**Las Juntas de**	**84.38**	**355**	LR		LR		23 02 06.3
	comp=Z,98nm,21.3s,baz=24,slow=35							
SDV	**Santo Domingo**	**85.54**	**341**	LR		LR		23 04 05.6
	comp=Z,72nm,20.1s,baz=339,slow=36							
KMBO	**Kilima Mbogo**	**88.35**	**233**	LR		LR		23 10 07.1
	comp=Z,43nm,18.1s,baz=72,slow=39							
MDP	**Montagnes des**	**88.63**	**323**	LR		LR		23 00 53.9
	comp=Z,33nm,21.4s,baz=318,slow=32							
ROSC	**El Rosal**	**89.65**	**345**	LR		LR		23 06 44.9
	comp=Z,53nm,20.1s,baz=69,slow=36							
KAPI	**Kappang**	**90.95**	**151**	LR		LR		23 10 09.5
	comp=Z,24nm,18.7s,baz=334,slow=38							
LEM	**Lembang**	**92.37**	**163**	LR		LR		23 11 47.2
	comp=Z,64nm,18.3s,baz=343,slow=38							
HNR	**Honiara**	**97.72**	**111**	LR		LR		23 07 21.6
	comp=Z,459nm,21.9s,baz=325,slow=33							
RCBR	**Riachuelo**	**98.51**	**306**	LR		LR		23 02 43.3
	comp=Z,25nm,21.0s,baz=210,slow=30							
PPT2	**Papeete2**	**109.74**	**61**	*e*LR		LR		23 03 37.3
PPT2	comp=Z,155nm,25.0s			*e*LR		LR		23 03 40.4
	comp=Z,170nm,33.8s							
DZM	**Mont Dzumac**	**110.75**	**106**	*e*LR		LR		23 04 19.5
	comp=Z,124nm,30.8s							
TBI	**Tubuai**	**115.46**	**62**	*e*LR		LR		23 06 34.5
	comp=Z,838nm,28.2s							

NEIC ***23*** *22:58:14.5±1.3,28.˚15N±0.˚07×57.˚16E±0.˚06,h10km±1km, mb4.5/51, Error ellipse: s-maj=13.2km s-min=5.9km az=143.0*

TEH ***23*** *22:58:15.2,28.˚23N×57.˚30E,h12km±39km,ML4.3*

DSN ***23*** *22:58:16.7±1.4,27.˚91N×57.˚76E,h8km±10km, mb4.6/1, ML3.8/11, Error ellipse: s-maj=21.2km s-min=5.5km az=123.0*

MOS ***23*** *22:58:17.7±1.0,28.˚13N×57.˚21E,h54km, mb4.6/21, Error ellipse: s-maj=8.0km s-min=4.8km az=104.0*

BGR ***23*** *22:58:18.1,28.˚12N×57.˚06E,h33km, mb4.6*

OMAN ***23*** *22:58:18.6±1.2,28.˚05N×57.˚12E,h25km, mb3.9/9, ml4.1/18, Error ellipse: s-maj=10.5km s-min=5.2km az=21.0*

IDC ***23*** *22:58:19.9±1.8,28.˚06N×57.˚21E, h62km±17km, mb3.9/24, mbtmp4.2/31, MS3.4/20, Error ellipse: s-maj=12.6km s-min=10.4km az=46.0*

ISC 23 22:58:16.4±0.8, 28.˚16N±0.˚03×57.˚27E±0.˚03, h24km±6km, n320, σ1§43/356, mb4.5/100, MS3.3/20, 12C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.44**	**119**	Pg	**Pb**	**22 58 24.7**	**-0.9**
KHNJ				Sg	**Sb**	**22 58 30.9**	**-1.0**
IBND	**Bandar-abas**	**0.96**	**223**	Pg	**Pn**	**22 58 32.0**	**+0.7**
IBND				Sg	**Sb**	**22 58 50.8**	**+4.2**
GENO	**Geno**	**1.23**	**232**	Pg	**Pb**	**22 58 40.1**	**+1.0**
GENO				Sg	**Sb**	**22 58 57.0**	**+2.3**
KBAM	**BAM**	**1.42**	**47**	Pg	**Pn**	**22 58 40.8**	**0.0**
KBAM				Sg	**Sn**	**22 58 59.1**	**+0.2**
NGRK	**Negar Kerman**	**1.55**	**342**	Pg	**Pn**	**22 58 42.9**	**0.0**
TVBK	**TV Kerman**	**1.88**	**346**	Pn	**Pn**	**22 58 48.6**	**+1.3**
KHGB	**Koh Gabri**	**2.31**	**343**	Pn	**Pn**	**22 58 55.2**	**+2.0**
SHME	**Shamm**	**2.33**	**206**	*e*P	**Pn**	**22 58 54.6**	**+1.4**
	SNR=71						
SHME	**Shamm**	**2.33**	**206**	P	**Pn**	**22 58 54.9**	**+1.7**
	SNR=14						
SHME				S	**Sn**	**22 59 22.9**	**+1.8**
SHME	**Shamm**	**2.33**	**206**	Pn	**Pn**	**22 58 54.5**	**+1.4**
JASK	**Jask - Hormozg**	**2.34**	**167**	P	**Pn**	**22 58 55.5**	**+2.1**
	SNR=19						
JASK				S	**Sn**	**22 59 23.7**	**+2.3**
JASK	**Jask - Hormozg**	**2.34**	**167**	Pn	**Pn**	**22 58 55.7**	**+2.3**
BANOM	**Banah**	**2.39**	**201**	*e*P	**Pn**	**22 58 55.8**	**+1.7**
	SNR=27						
BANOM				S	**Sb**	**22 59 26.3**	**-1.5**
BANOM	**Banah**	**2.39**	**201**	P	**Pn**	**22 58 55.8**	**+1.7**
BANOM				S	**Sn**	**22 59 24.6**	**+2.0**
BANOM	**Banah**	**2.39**	**201**	Pn	**Pn**	**22 58 55.6**	**+1.6**
LAR1	**LAR**	**2.61**	**260**	Pn	**Pn**	**22 58 58.4**	**+1.3**
MASF	**Masafi**	**2.95**	**200**	P	**Pn**	**22 59 04.3**	**+2.5**
	SNR=40						
MASF				S	**Sn**	**22 59 35.8**	**-0.7**
MSFE	**Esma-Masafi**	**2.96**	**200**	*e*P	**Pn**	**22 59 04.2**	**+2.3**
	SNR=40						
MSFE	**Esma-Masafi**	**2.96**	**200**	Pn	**Pn**	**22 59 04.7**	**+2.8**
UMQ	**Umm Al-Quwin**	**2.99**	**209**	P	**Pn**	**22 59 04.8**	**+2.5**
UMQ				S	**Sn**	**22 59 36.6**	**-0.8**
UMQ	**Umm Al-Quwin**	**2.99**	**209**	Pn	**Pn**	**22 59 04.6**	**+2.3**
JHRM	**Jahrom**	**3.27**	**277**	Pn	**Pn**	**22 59 08.4**	**+2.1**
UOSS	**Minazif**	**3.34**	**197**		**Pn**	**22 59 05.6**	**-1.5**
UOSS	**Minazif**	**3.34**	**197**	*i* P	**Pn**	**22 59 09.0**	**+1.9**
	SNR=15						
UOSS	**Minazif**	**3.34**	**197**	Pn	**Pn**	**22 59 08.7**	**+1.6**
NAZ	**Nazwa, Dubai**	**3.47**	**205**	*i* P	**Pn**	**22 59 12.1**	**+3.2**
	SNR=6.3						
NAZ	**Nazwa, Dubai**	**3.47**	**205**	P	**Pn**	**22 59 10.5**	**+1.6**
	SNR=6.5						
NAZ				S	**Sn**	**22 59 47.3**	**-1.9**
NAZ	**Nazwa, Dubai**	**3.47**	**205**	Pn	**Pn**	**22 59 12.1**	**+3.2**
HATD	**Hatta, Dubai**	**3.47**	**197**	*i* P	**Pn**	**22 59 11.0**	**+2.1**
	SNR=21						
HATD	**Hatta, Dubai**	**3.47**	**197**	P	**Pn**	**22 59 11.0**	**+2.1**
	SNR=21						
HATD	**Hatta, Dubai**	**3.47**	**197**	Pn	**Pn**	**22 59 10.1**	**+1.1**
ASHO	**Ashiyiah**	**3.63**	**198**	*i* P	**Pn**	**22 59 13.1**	**+1.9**
	SNR=23						
ASHO	**Ashiyiah**	**3.63**	**198**	P	**Pn**	**22 59 14.0**	**+2.9**
	SNR=23						
ASHO	**Ashiyiah**	**3.63**	**198**	Pn	**Pn**	**22 59 13.3**	**+2.2**
FAQ	**Al Faqa, Dubai**	**3.72**	**204**	*i* P	**Pn**	**22 59 14.0**	**+1.7**
	SNR=15						
FAQ	**Al Faqa, Dubai**	**3.72**	**204**	P	**Pn**	**22 59 14.0**	**+1.7**
	SNR=14						
FAQ				S	**Sn**	**22 59 56.6**	**+1.2**
FAQ	**Al Faqa, Dubai**	**3.72**	**204**	Pn	**Pn**	**22 59 14.2**	**+1.9**
IBAF	**Bafgh**	**3.73**	**337**	Pn	**Pn**	**22 59 14.9**	**+2.3**
LMD1	**Lamerd**	**3.73**	**258**	Pn	**Pn**	**22 59 14.8**	**+2.3**
QIR1	**Qir**	**3.74**	**276**	Pn	**Pn**	**22 59 14.7**	**+2.1**
CHBR	**Chabahar**	**3.84**	**131**	Pn	**Pn**	**22 59 15.7**	**+1.8**
ASUD	**Al Ashush, Dub**	**3.92**	**207**	*i* P	**Pn**	**22 59 17.6**	**+2.4**
	SNR=32						
ASUD	**Al Ashush, Dub**	**3.92**	**207**	P	**Pn**	**22 59 17.6**	**+2.4**
	SNR=32						
ASUD				S	**Sn**	**23 00 01.3**	**+0.9**
IMEH	**Mehriz**	**3.96**	**325**	Pn	**Pn**	**22 59 17.5**	**+1.6**
NHDN	**Nehbandan**	**4.03**	**36**	Pn	**Pn**	**22 59 18.3**	**+1.6**
SOHO	**SOHO**	**4.06**	**190**	*i* P	**Pn**	**22 59 17.0**	**-0.1**
	SNR=24						
SOHO				*i* P	**Pn**	**22 59 17.0**	**-0.1**
	SNR=28						
SOHO	**SOHO**	**4.06**	**190**	P	**Pn**	**22 59 16.9**	**-0.1**
SOHO				P	**Pn**	**22 59 17.0**	**-0.1**
SOHO				S	**Sn**	**23 00 04.0**	**+0.2**
SOHO				S	**Sn**	**23 00 04.0**	**+0.2**
AJN	**Ajban**	**4.13**	**210**	*i* P	**Pn**	**22 59 19.9**	**+2.0**
	SNR=6.5						
AJN	**Ajban**	**4.13**	**210**	P	**Pn**	**22 59 19.6**	**+1.6**
	SNR=33						
AJN				S	**Sn**	**23 00 06.3**	**+0.9**
ALNE	**Al Ain**	**4.31**	**199**	*i* P	**Pn**	**22 59 22.1**	**+1.7**
	SNR=27						
ALNE	**Al Ain**	**4.31**	**199**	P	**Pn**	**22 59 22.3**	**+1.9**
	SNR=27						
NGCH	**Negor - Chabah**	**4.44**	**128**	P	**Pn**	**22 59 24.1**	**+1.9**
	SNR=14						
NGCH				S	**Sn**	**23 00 16.4**	**+3.2**
NGCH	**Negor - Chabah**	**4.44**	**128**	Pn	**Pn**	**22 59 24.0**	**+1.7**
IKOO	**Kooshah**	**4.51**	**19**	Pn	**Pn**	**22 59 25.1**	**+1.7**
HOQ	**Hoqain**	**4.56**	**180**	P	**Pn**	**22 59 24.4**	**+0.5**
	SNR=49						
HOQ				S	**Sn**	**23 00 16.0**	**-0.1**
SRVN	**Saravan**	**4.61**	**98**	Pn	**Pn**	**22 59 27.1**	**+2.4**
BIDO	**Bidbid**	**4.68**	**170**	P	**Pn**	**22 59 25.9**	**+0.3**
	SNR=32						
BIDO				S	**Sn**	**23 00 17.8**	**-1.4**
ICHK	**Chekchek**	**4.77**	**329**	Pn	**Pn**	**22 59 28.6**	**+1.7**
ARQ	**Araqi**	**4.85**	**188**	P	**Pn**	**22 59 30.2**	**+2.3**
	SNR=366						
ARQ				S	**Sn**	**23 00 25.7**	**+2.4**
	SNR=6.5						
WSAR	**Wadi Sarin**	**5.05**	**166**	P	**Pn**	**22 59 31.7**	**+1.0**
	SNR=286						
WSAR				S	**Sn**	**23 00 27.2**	**-1.0**
WSAR	**Wadi Sarin**	**5.05**	**166**	P	**Pn**	**22 59 31.6**	**+1.0**
	56nm,0.4s,baz=358,slow=9.9,SNR=311						
WSAR				S	**Sn**	**23 00 27.4**	**-0.8**
	109nm,0.3s,baz=107,slow=12,SNR=16						
SMDO	**Samad**	**5.13**	**172**	P	**Pn**	**22 59 33.0**	**+1.2**
	SNR=39						
SMDO				S	**Sn**	**23 00 31.6**	**+1.3**
AHBU	**AHRAM**	**5.30**	**279**	Pn	**Pn**	**22 59 35.8**	**+1.7**
BSY	**Bisya**	**5.39**	**181**	P	**Pn**	**22 59 38.0**	**+2.6**
	SNR=65						
BSY				S	**Sn**	**23 00 36.8**	**+0.1**
IRAM	**Rameshen**	**5.59**	**312**	Pn	**Pn**	**22 59 40.1**	**+1.9**
WBK	**Wadi Bani Khal**	**5.74**	**164**	P	**Pn**	**22 59 41.0**	**+0.9**
	SNR=17						
WBK				S	**Sn**	**23 00 44.6**	**-0.6**
WBK	**Wadi Bani Khal**	**5.74**	**164**	Pn	**Pn**	**22 59 40.9**	**+0.9**
JMDO	**Jabal Madar**	**5.81**	**172**	P	**Pn**	**22 59 43.1**	**+2.0**
	SNR=20						
JMDO				S	**Sn**	**23 00 48.2**	**+1.1**
ANAR	**Anarak**	**5.87**	**330**	Pn	**Pn**	**22 59 43.6**	**+1.6**
SHMA	**Al-Shehemyia**	**6.07**	**249**	P	**Pn**	**22 59 46.0**	**+1.3**
	SNR=27						
SHMA				S	**Sn**	**23 00 51.5**	**-1.9**
	SNR=7.6						
MZR	**Muzera**	**6.17**	**215**	S	**Sn**	**23 00 54.8**	**-1.1**
IGAR	**Gharneh**	**6.19**	**314**	Pn	**Pn**	**22 59 48.3**	**+1.8**
JLN	**Jalan Bani Buh**	**6.29**	**162**	P	**Pn**	**22 59 48.1**	**+0.5**
	SNR=14						
JLN				S	**Sn**	**23 00 56.9**	**-1.9**
IZEF	**Zefreh**	**6.36**	**319**	Pn	**Pn**	**22 59 50.2**	**+1.4**
SAKB	**Bahrain**	**6.38**	**252**	P	**Pn**	**22 59 50.5**	**+1.5**
SAKB				S	**Sn**	**23 00 58.9**	**-2.1**
IBRJ	**Brojen**	**6.41**	**307**	Pn	**Pn**	**22 59 51.5**	**+1.9**
TRNA	**Turayna**	**6.41**	**239**	P	**Pn**	**22 59 50.0**	**+0.7**
	SNR=33						
TRNA				S	**Sn**	**23 00 59.0**	**-2.8**
	SNR=40						
SMRA	**Abu-Samra**	**6.70**	**241**	P	**Pn**	**22 59 54.9**	**+1.5**
	SNR=17						
SMRA				S	**Sn**	**23 01 06.7**	**-2.3**
	SNR=15						
ZNGN	**Zangian**	**6.81**	**307**	Pn	**Pn**	**22 59 56.8**	**+1.6**
IKLH	**Kolahrood**	**7.10**	**318**	Pn	**Pn**	**23 00 00.1**	**+1.1**
IPIR	**Pirpir**	**7.12**	**311**	Pn	**Pn**	**23 00 01.0**	**+1.7**
MHTO	**MHTO**	**7.17**	**175**	P	**Pn**	**23 00 01.6**	**+1.8**
	SNR=39						
MHTO				S	**Sn**	**23 01 19.8**	**-0.6**
	SNR=9.5						
QAMS	**Qamsar**	**7.50**	**319**	Pn	**Pn**	**23 00 06.6**	**+2.0**
ISFB	**Sefidab**	**7.53**	**326**	Pn	**Pn**	**23 00 06.5**	**+1.8**
HRA	**Herat**	**7.53**	**33**	Pn	**Pn**	**23 00 04.4**	**-0.4**
AMIS	**Naft Sefid**	**7.76**	**299**	Pn	**Pn**	**23 00 08.4**	**+0.6**
IVRN	**Varamin**	**8.29**	**327**	Pn	**Pn**	**23 00 17.4**	**+2.2**
GEYT	**Alibeck**	**9.77**	**4**	Pn	**Pn**	**23 00 34.3**	**-1.1**
GEYT	**Alibeck**	**9.77**	**4**	P	Pn	23 00 40.1	+4.7
	2.5nm,0.5s,baz=186,slow=18,SNR=7.9						
GEYT				LR		23 04 58.3	
	comp=Z,242nm,19.5s,baz=181,slow=40						
GYA0	**ALIBECK ARRAY**	**9.77**	**4**	P	**Pn**	**23 00 37.3**	**+1.9**
GYA0B	**ALIBECK ARRAY**	**9.77**	**4**	Pn	**Pn**	**23 00 34.9**	**-0.5**
SHAO	**Shalim**	**10.20**	**189**	*i* P	**Pn**	**23 00 41.1**	**-0.3**
	SNR=8.3						
SHAO	**Shalim**	**10.20**	**189**	P	**Pn**	**23 00 42.0**	**+0.6**
	SNR=8.3						
DMTO	**DMTO**	**10.61**	**192**	P	**Pn**	**23 00 46.1**	**-0.8**
WHFO	**Wadi Hawf**	**10.69**	**198**	P	**Pn**	**23 00 48.0**	**-0.1**
	SNR=44						
ABTO	**Aybut**	**11.36**	**200**	P	**Pn**	**23 00 56.0**	**-1.3**
	SNR=27						
GNI	**Garni**	**15.81**	**322**		**Pn**	**23 01 56.2**	**-1.4**
GNI	**Garni**	**15.81**	**322**	*i* P	**Pn**	**23 01 57.5**	**-0.1**
GNI	**Garni**	**15.81**	**322**	P	**P**	**23 02 00.1**	**-1.1**
	10nm,0.7s,baz=100,slow=17,SNR=6.5						
GNI				LR	LR	23 08 32.6	
	comp=Z,132nm,18.5s,baz=126,slow=39						
BTK	**Batken**	**16.31**	**40**	Pn	**Pn**	**23 02 04.1**	**+0.2**
BTK	**Batken**	**16.31**	**40**	P	**Pn**	**23 02 04.1**	**+0.2**
BTK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
GURO	**Guroymak-BITLI**	**16.39**	**313**		**Pn**	**23 02 02.0**	**-3.0**
KKAR	**Karatay Array**	**18.35**	**32**		**Pn**	**23 02 29.9**	**+0.7**
KKAR	**Karatay Array**	**18.35**	**32**		**Pn**	**23 02 30.3**	**+1.0**
KKAR				IAmb	IAmb	23 02 33.8	
	comp=Z,5.5nm,1.0s						
KKAR	**Karatay Array**	**18.35**	**32**	P	**Pn**	**23 02 29.9**	**+0.7**
KKAR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARSB	**Arslanbob**	**18.38**	**40**	P	**P**	**23 02 29.6**	**0.0**
ARSB	**Arslanbob**	**18.38**	**40**	P	**P**	**23 02 29.6**	**0.0**
ARSB				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NCK	**Nalchik**	**18.86**	**328**	*i* P	**Pn**	**23 02 36.6**	**+1.2**
NCK				pmax	pmax		
	comp=Z,22nm,1.2s						
ARPR	**Arapgir-MALATY**	**19.13**	**310**	P	**P**	**23 02 37.5**	**-0.4**
ARPR				IAmb	IAmb	23 02 42.4	
	comp=Z,23nm,1.0s						
KSH	**Kashi**	**19.19**	**49**	P	**P**	**23 02 36.0**	**-2.5**
KSH				pP	Pn	23 02 39.3	-0.2
KSH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AML	**Almayashu**	**19.31**	**39**	P	**Pn**	**23 02 41.3**	**+0.1**
	SNR=18						
KBZ	**Khabaz**	**19.37**	**327**	*ce*P	**Pn**	**23 02 42.7**	**+1.3**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KBZ	**Khabaz**	**19.37**	**327**	P	**Pn**	**23 02 41.8**	**+0.4**
	comp=Z,3.5nm,0.9s,baz=120,slow=9.7,SNR=4.5						
MMAI	**Mount Meron Ar**	**19.43**	**290**	P	**Pn**	**23 02 42.3**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=90,slow=12,SNR=9.0						
MMAI				LR	LR	23 12 06.1	
	comp=Z,169nm,19.1s,baz=83,slow=43						
SHA1	**Shidzhatmaz**	**19.49**	**327**	*i* P	**Pn**	**23 02 44.5**	**+1.3**
EIL	**Elat**	**19.59**	**280**	P	**Pn**	**23 02 44.0**	**-0.4**
	comp=Z,5.4nm,0.9s,baz=55,slow=12,SNR=5.5						
KVAR	**Kislovodsk Arr**	**19.63**	**327**	P	**Pn**	**23 02 45.2**	**+0.5**
	comp=Z,5.8nm,0.8s,baz=90,slow=6.1,SNR=3.1						
KIV	**Kislovodsk**	**19.64**	**327**		**P**	**23 02 42.3**	**-1.0**
KIV				IAmb	IAmb	23 02 47.8	
	comp=Z,19nm,0.8s						
KIV	**Kislovodsk**	**19.64**	**327**	*e*P	**Pn**	**23 02 44.5**	**-0.3**
KIV				pmax	pmax		
	comp=Z,21nm,1.0s						
KIV				MLR	MLR		
	comp=Z,14nm,14.0s						
EKS2	**Erkin-Say**	**19.71**	**38**	P	**Pn**	**23 02 46.5**	**+0.8**
	SNR=6.7						
AAK	**Ala-Archa**	**20.09**	**40**	P	Pn	23 02 50.2	0.0
	SNR=8.6						
AAK	**Ala-Archa**	**20.09**	**40**	P	**P**	**23 02 49.1**	**+0.7**
AAK	**Ala-Archa**	**20.09**	**40**	*i* P	Pn	23 02 50.2	0.0
	SNR=14						
AAK	**Ala-Archa**	**20.09**	**40**	*ce*P	**P**	**23 02 48.7**	**+0.4**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AAK	**Ala-Archa**	**20.09**	**40**	P	Pn	23 02 50.0	-0.2
	comp=Z,5.6nm,0.6s,baz=220,slow=9.4,SNR=36						
AAK				LR	LR	23 12 23.5	
	comp=Z,53nm,18.6s,baz=268,slow=42						
	comp=Z,5.6nm,0.6s						
BNN	**Bunyan**	**20.76**	**306**	P	**P**	**23 02 55.6**	**0.0**
ULHL	**Ulahol**	**20.86**	**43**	P	Pn	23 02 59.1	-0.2
	SNR=5.9						
SOC	**Sochi**	**20.89**	**322**	*e*P	**P**	**23 02 55.4**	**-1.4**
SOC				*e*		23 03 16.1	
SOC				*e*PPP	PPP	23 03 24.8	
SOC				*e*S	**S**	**23 06 49.2**	**+0.7**
SOC				*e*SS	**SnSn**	**23 07 12.4**	**+2.8**
SOC				*e*SSS	SSS	23 07 24.9	
SOC				MLR	MLR		
	comp=Z,103nm,21.0s						
TKM2	**Tokmak 2**	**20.89**	**40**	P	**P**	**23 02 58.4**	**+1.2**
	SNR=7.7						
GUZR	**Guzerip!'**	**20.96**	**323**	*i* P	Pn	23 02 59.6	-0.6
GUZR				pmax	pmax		
	comp=Z,129nm,0.8s						
ABKAR	**Akbulak array**	**21.17**	**5**	P	**P**	**23 03 00.6**	**+0.8**
ABKAR	**Akbulak array**	**21.17**	**5**	P	**P**	**23 03 00.3**	**+0.6**
ABKAR				IAmb	IAmb	23 03 04.1	
	comp=Z,14nm,0.6s						
TARG	**Taragay, Kyrgy**	**21.53**	**46**	P	**P**	**23 03 04.3**	**+0.1**
TARG	**Taragay, Kyrgy**	**21.53**	**46**	P	**P**	**23 03 04.3**	**+0.1**
TARG				pmax	pmax		
	comp=Z,8.0nm,0.7s						
AKTO	**Aktyubinsk**	**22.25**	**1**	LR	LR	23 13 36.1	
	comp=Z,116nm,18.4s,baz=192,slow=41						
PYUN	**Piuthan**	**22.67**	**84**	*e*P	**P**	**23 03 19.4**	**+3.1**
	comp=Z,5.9nm,0.3s						
BR131	**Keskin Array S**	**22.68**	**307**	P	**P**	**23 03 16.1**	**-0.1**
BR131				IAmb	IAmb	23 03 18.0	
	comp=Z,11nm,0.9s						
BR131	**Keskin Array S**	**22.68**	**307**	*i* P	**P**	**23 03 16.8**	**+0.6**
BRTR	**Keskin Array B**	**22.68**	**307**	P	**P**	**23 03 15.6**	**-0.7**
BRTR	**Keskin Array B**	**22.68**	**307**	*i* P	**P**	**23 03 17.2**	**+1.0**
BRTR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BRTR	**Keskin Array B**	**22.68**	**307**	P	**P**	**23 03 17.2**	**+1.0**
	comp=Z,7.4nm,0.8s,baz=119,slow=11,SNR=31						
BRTR				LR	LR	23 13 53.6	
	comp=Z,146nm,20.2s,baz=110,slow=41						
	comp=Z,7.4nm,0.8s						
DANN	**Dangsing**	**23.32**	**83**	*e*P	**P**	**23 03 24.6**	**+1.5**
	comp=Z,19nm,0.4s						
GKN	**Gorkha**	**24.13**	**84**	*e*P	**P**	**23 03 32.2**	**+1.5**
	comp=Z,6.3nm,0.3s						
ELL	**Elmali**	**24.56**	**297**	P	**P**	**23 03 34.6**	**+0.1**
ELL	**Elmali**	**24.56**	**297**	P	**P**	**23 03 34.6**	**+0.1**
ELL				pmax	pmax		
	comp=Z,134nm,1.4s						
DMN	**Daman**	**24.59**	**85**	*e*P	**P**	**23 03 37.8**	**+2.8**
	comp=Z,5.4nm,0.3s						
KKN	**Kakani**	**24.72**	**84**	*e*P	**P**	**23 03 38.2**	**+2.0**
	comp=Z,19nm,0.5s						
PKI	**Pulchoki**	**24.86**	**85**	*e*P	**P**	**23 03 39.9**	**+2.3**
	comp=Z,7.6nm,0.4s						
GUN	**Gumba**	**25.23**	**84**	*e*P	**P**	**23 03 42.0**	**+1.1**
	comp=Z,13nm,0.4s						
BELG	**Belogornoye**	**25.26**	**346**	*i* P	**P**	**23 03 39.8**	**-0.6**
BELG				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BELG	**Belogornoye**	**25.26**	**346**	LR	LR	23 14 43.5	
	comp=Z,35nm,21.5s,baz=15,slow=39						
JIRN	**Jiri**	**25.54**	**84**	*e*P	**P**	**23 03 45.4**	**+1.7**
	comp=Z,9.8nm,0.4s						
VRH	**Novokhopyorsk**	**25.83**	**337**	*e*P	**P**	**23 03 43.9**	**-1.8**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
RAMN	**Ramite**	**26.01**	**86**	*e*P	**P**	**23 03 51.8**	**+4.0**
	comp=Z,3.5nm,0.3s						
VORD	**Divnogorie**	**26.52**	**334**	*e*P	**P**	**23 03 48.6**	**-3.3**
VORD				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BVAR	**Borovoye Array**	**26.68**	**18**	P	**P**	**23 03 54.1**	**+0.8**
	comp=Z,4.6nm,0.7s,baz=199,slow=8.5,SNR=15						
BVAR				PcP	**PcP**	**23 07 15.7**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=209,slow=2.6,SNR=2.2						
BVAR				LR	LR	23 16 02.4	
	comp=Z,149nm,18.7s,baz=211,slow=40		

DGZ	**Jazzator, Alta**	**31.49**	**39**	*i* P	**P**	**23 04 37.5**	**+1.1**		
DGZ				pmax	pmax				
	comp=Z,3.0nm,0.6s								
BUR08	**Bucovina Ar. S**	**31.59**	**317**	P	**P**	**23 04 36.8**	**-0.4**		
KBN	**Korca**	**32.34**	**302**	P	**P**	**23 04 43.0**	**-0.9**		
KBN	**Korca**	**32.34**	**302**	P	**P**	**23 04 43.0**	**-0.9**		
KBN				pmax	pmax				
	comp=Z,15nm,1.1s								
GOMU	**GeErMu**	**32.62**	**66**	P	**P**	**23 04 48.8**	**+2.1**		
GOMU				pP	pP	23 04 53.1	-1.1		
GOMU				sP	sP	23 04 57.3	0.0		
GOMU				pmax	pmax				
	comp=Z,6.0nm,1.0s								
ZAA0	**Zalesovo Array**	**32.71**	**30**	P	**P**	**23 04 46.6**	**-0.2**		
ZALV	**Zalesovo Beam**	**32.71**	**30**	P	**P**	**23 04 46.8**	**0.0**		
ZALV	**Zalesovo Beam**	**32.71**	**30**	P	**P**	**23 04 47.0**	**+0.2**		
	comp=Z,8.6nm,0.3s,baz=241,slow=9.9,SNR=58								
ZALV				PcP	**PcP**	**23 07 29.1**	**-2.8**		
	comp=Z,0.4nm,0.4s,baz=240,slow=4.4,SNR=2.3								
ZALV				LR	LR	23 20 05.1			
	comp=Z,50nm,20.3s,baz=220,slow=40								
	comp=Z,8.6nm,0.3s								
MNK	**Minsk**	**33.90**	**329**	*i* P	**P**	**23 04 56.4**	**-0.8**		
	comp=E,4.0nm,0.9s								
MNK				*i* P	**P**	**23 04 56.4**	**-0.8**		
	comp=N,23nm,1.2s								
MNK				*i* P	**P**	**23 04 56.4**	**-0.8**		
	comp=Z,5.0nm,0.7s,baz=129								
MNK				*i* PP	**PnPn**	**23 06 09.3**	**-0.8**		
MNK				*i* PPP	PPP	23 06 22.3			
MNK				*i* S	**S**	**23 10 22.0**	**+1.9**		
MNK				*i* SS	**SnSn**	**23 12 29.2**	**+2.7**		
MNK				*i* SSS	SSS	23 12 45.0			
MNK				*i* LQ	LQ	23 16 11.2			
MNK				*i* LR	LR	23 18 21.0			
MNK				*i* LRM	MLR	23 19 40.8			
	comp=Z,76nm,18.7s								
MNK				*i* LRM	MLR	23 19 45.9			
	comp=E,222nm,19.5s								
MNK				*i* LRM	MLR	23 20 13.0			
	comp=N,209nm,21.2s								
MNK	**Minsk**	**33.90**	**329**	*i* P	**P**	**23 04 56.3**	**-0.8**		
MNK				*i*		23 06 09.2			
MNK				*i*		23 07 34.4			
MNK				*i* S	**S**	**23 10 22.0**	**+1.9**		
MNK				*i* SS	**SnSn**	**23 12 29.2**	**+2.7**		
MNK				*i*		23 15 21.1			
MNK				pmax	pmax				
	comp=E,4.0nm,0.9s								
MNK				pmax	pmax				
	comp=Z,5.0nm,0.7s								
MNK				pmax	pmax				
	comp=N,23nm,1.2s								
MNK				MLR	MLR				
	comp=Z,76nm,19.0s								
MNK				MLR	MLR				
	comp=E,222nm,20.0s								
MNK				MLR	MLR				
	comp=N,209nm,21.0s								
KOLS	**Kolonicke sedl**	**33.91**	**317**	*eP*	**P**	**23 04 58.4**	**+1.0**		
KOLS	**Kolonicke sedl**	**33.91**	**317**	*eP*	**P**	**23 04 58.4**	**+1.0**		
KOLS				pmax	pmax				
	comp=Z,41nm,0.7s								
LANS	**Liptovska Anna**	**35.69**	**316**	*eP*	**P**	**23 05 13.4**	**+0.6**		
LANS	**Liptovska Anna**	**35.69**	**316**	*eP*	**P**	**23 05 13.4**	**+0.6**		
VYHS	**Vyhne**	**35.84**	**315**	*eP*	**P**	**23 05 13.8**	**-0.3**		
VYHS	**Vyhne**	**35.84**	**315**	*eP*	**P**	**23 05 13.8**	**-0.3**		
VYHS				pmax	pmax				
	comp=Z,4.0nm,0.6s								
OJC	**Ojcow**	**35.91**	**318**	P	**P**	**23 05 14.0**	**-0.6**		
OJC	**Ojcow**	**35.91**	**318**	P	**P**	**23 05 14.0**	**-0.6**		
OJC				pmax	pmax				
	comp=Z,20nm,0.8s								
PABE	**Paberze**	**36.30**	**328**	P	**P**	**23 05 17.3**	**-0.5**		
GTA	**Gaotai**	**36.79**	**61**	*eP*	**P**	**23 05 23.5**	**+1.1**		
GTA				PcP	PcP	23 07 53.3	+9.0		
GTA				pmax	pmax				
	comp=Z,8.0nm,0.8s								
KOGS	**Kog**	**36.89**	**311**	*i* P	**P**	**23 05 22.6**	**-0.4**		
RONA	**Rosalia, Austr**	**37.21**	**313**	*i* P	**P**	**23 05 25.1**	**-0.6**		
	comp=Z,7.1nm,0.5s								
BOJS	**Bojanci**	**37.34**	**309**	*i* P	**P**	**23 05 26.9**	**0.0**		
VRAC	**Vranov**	**37.51**	**316**	LR	LR	23 23 09.6			
	comp=Z,38nm,18.2s,baz=151,slow=40								
CONA	**Conrad Observa**	**37.55**	**313**	*i* P	**P**	**23 05 28.2**	**-0.5**		
	comp=Z,4.1nm,1.0s								
ARSA	**Arzberg**	**37.59**	**312**	*i* P	**P**	**23 05 28.6**	**-0.4**		
	comp=Z,5.5nm,0.8s								
ARSA	**Arzberg**	**37.59**	**312**	*eP*	**P**	**23 05 28.4**	**-0.5**		
	comp=Z,4.7nm,0.8s,baz=104,slow=8.2								
SOKA	**Soboth**	**37.76**	**311**	*i* P	**P**	**23 05 29.5**	**-1.0**		
	comp=Z,3.5nm,1.0s								
DPC	**Dobruska-Polom**	**38.03**	**317**	*eP*	**P**	**23 05 31.9**	**-0.8**		
DPC	**Dobruska-Polom**	**38.03**	**317**	*eP*	**P**	**23 05 31.9**	**-0.8**		
CAMP	**Campotosto**	**38.12**	**304**	P	**P**	**23 05 32.4**	**-1.2**		
CAMP				lAmb	lAmb	23 05 41.1			
	comp=Z,13nm,1.1s								
OSTC	**Ostas**	**38.16**	**317**	*eP*	**P**	**23 05 33.1**	**-0.7**		
OSTC	**Ostas**	**38.16**	**317**	*eP*	**P**	**23 05 33.1**	**-0.7**		
SKTS	**Skadanscina**	**38.20**	**309**	*i* P	**P**	**23 05 33.7**	**-1.0**		
CHVC	**Chvalec**	**38.27**	**317**	*eP*	**P**	**23 05 34.3**	**-0.4**		
CHVC	**Chvalec**	**38.27**	**317**	*eP*	**P**	**23 05 34.3**	**-0.4**		
FDMO	**Fiordimonte**	**38.42**	**305**	P	**P**	**23 05 35.3**	**-0.8**		
FDMO				lAmb	lAmb	23 05 37.1			
	comp=Z,15nm,1.3s								
MOA	**Molln**	**38.56**	**313**	*eP*	**P**	**23 05 36.7**	**-0.5**		
	comp=Z,6.0nm,0.6s,SNR=8.1								
MOA	**Molln**	**38.56**	**313**	*eP*	**P**	**23 05 36.6**	**-0.5**		
	comp=Z,5.7nm,0.7s,baz=104,slow=8.2								
SABO	**M.te Sabotino**	**38.57**	**309**	P	**P**	**23 05 36.2**	**-1.1**		
SABO				lAmb	lAmb	23 05 37.1			
	comp=Z,4.8nm,0.6s								
MYKA	**Terra Mystica**	**38.68**	**310**	*i* P	**P**	**23 05 37.7**	**-0.5**		
	comp=Z,2.0nm,0.5s								
PRED	**Cave del Predi**	**38.69**	**310**	P	**P**	**23 05 36.9**	**-1.5**		
PRED				lAmb	lAmb	23 05 45.4			
	comp=Z,11nm,1.3s								
CKRC	**Cesky Krumlov**	**38.80**	**314**	*eP*	**P**	**23 05 38.6**	**-0.5**		
CKRC	**Cesky Krumlov**	**38.80**	**314**	*eP*	**P**	**23 05 38.6**	**-0.5**		
BIOA	**Bad Ischl, Aus**	**38.93**	**312**	*eP*	**P**	**23 05 39.8**	**-0.5**		
	comp=Z,5.9nm,0.5s,SNR=5.5								
ZVC	**Zvikov**	**39.05**	**315**	*eP*	**P**	**23 05 40.4**	**-0.8**		
GERES	**GERESS Array B**	**39.19**	**314**	P	**P**	**23 05 41.9**	**-0.6**		
GERES	**GERESS Array B**	**39.19**	**314**	P	**P**	**23 05 41.9**	**-0.6**		
GERES	**GERESS Array B**	**39.19**	**314**	P	**P**	**23 05 41.6**	**-0.8**		
	comp=Z,2.5nm,0.7s,baz=90,slow=7.9,SNR=3.4								
GERES				PcP	**PcP**	**23 07 47.5**	**-4.0**		
	comp=Z,1.0nm,0.7s,baz=123,slow=7.2,SNR=1.3								
	comp=Z,2.5nm,0.7s								
FINES	**FINESS Array B**	**39.23**	**337**	*i* P	**P**	**23 05 42.7**	**+0.2**		
FINES				pmax	pmax				
	comp=Z,2.0nm,0.4s								
FINES	**FINESS Array B**	**39.23**	**337**	P	**P**	**23 05 42.0**	**-0.5**		
	comp=Z,2.1nm,0.4s,baz=131,slow=8.4,SNR=22								
FINES				PcP	**PcP**	**23 07 49.9**	**-1.3**		
	comp=Z,5.7nm,1.1s,baz=108,slow=4.5,SNR=1.7								
	comp=Z,2.1nm,0.4s								
STAL	**STALIGIAL**	**39.23**	**310**	P	**P**	**23 05 41.5**	**-1.4**		
STAL				lAmb	lAmb	23 05 42.2			
	comp=Z,4.4nm,0.7s								
CMAR	**Chiang Mai Arr**	**39.31**	**95**	LR	LR	23 25 33.6			
	comp=Z,19nm,18.4s,baz=295,slow=42								
KHC	**Kasperske Hory**	**39.35**	**314**	P	**P**	**23 05 43.1**	**-0.6**		
KHC				lAmb	lAmb	23 05 43.9			
	comp=Z,7.9nm,0.8s								
KHC	**Kasperske Hory**	**39.35**	**314**	*eP*	**P**	**23 05 42.9**	**-0.8**		
KHC	**Kasperske Hory**	**39.35**	**314**	*i* P	**P**	**23 05 43.2**	**-0.6**		
KHC				pmax	pmax				
	comp=Z,19nm,0.8s								
PZH	**PanZhiHua**	**39.38**	**82**	P	**P**	**23 05 47.3**	**+2.9**		
PZH				pmax	pmax				
	comp=Z,8.0nm,0.7s								
PZH				pmax	pmax				
	comp=Z,100nm,5.1s								
ABTA	**Abfaltersbach**	**39.47**	**310**	*i* P	**P**	**23 05 44.3**	**-0.5**		
	comp=Z,5.8nm,0.6s,SNR=8.4								
RJOB	**Jochberg**	**39.50**	**312**	*eP*	**P**	**23 05 44.2**	**-0.8**		
	comp=Z,5.8nm,0.7s,baz=104,slow=8.2								
LESA	**Schwarzleotal**	**39.50**	**311**	*i* P	**P**	**23 05 44.3**	**-0.8**		
	comp=Z,5.3nm,0.5s								
OSSC	**Osservatorio P**	**39.82**	**305**	P	**P**	**23 05 47.4**	**-0.3**		
OSSC				lAmb	lAmb	23 05 51.3			
	comp=Z,6.1nm,1.0s								
LZH	**Lanzhou**	**39.92**	**66**	*eP*	**P**	**23 05 49.3**	**+0.5**		
LZH				pP	pP	23 05 56.5	0.0		
LZH				pmax	pmax				
	comp=Z,11nm,1.1s								
WTTA	**Wattenberg**	**40.16**	**311**	*i* P	**P**	**23 05 49.7**	**-1.0**		
	comp=Z,11nm,0.5s,SNR=18								
WTTA	**Wattenberg**	**40.16**	**311**	*eP*	**P**	**23 05 49.4**	**-1.3**		
	comp=Z,12nm,0.7s,baz=104,slow=8.2								
WATA	**Walderalm**	**40.22**	**311**	*eP*	**P**	**23 05 49.6**	**-1.5**		
	comp=Z,4.4nm,0.6s,SNR=8.6								
CLL	**Collm**	**40.33**	**317**	*i* P	**P**	**23 05 51.5**	**-0.3**		
	comp=Z,10.0nm,1.1s								
CLL	**Collm**	**40.33**	**317**	*i* P	**P**	**23 05 51.5**	**-0.3**		
CLL				pmax	pmax				
	comp=Z,10.0nm,1.1s								
SQTA	**Sankt Quirin**	**40.44**	**311**	*i* P	**P**	**23 05 51.8**	**-1.2**		
	comp=Z,15nm,0.5s,SNR=29								
MOTA	**Moosalm**	**40.53**	**311**	*i* P	**P**	**23 05 52.2**	**-1.6**		
	comp=Z,8.2nm,0.6s,SNR=16								
SALO	**Salr**	**40.62**	**308**	P	**P**	**23 05 53.6**	**-0.7**		
SALO				lAmb	lAmb	23 05 54.9			
	comp=Z,8.2nm,0.8s								
FETA	**Feichten**	**40.72**	**310**	*i* P	**P**	**23 05 54.4**	**-0.9**		
	comp=Z,8.3nm,0.5s,SNR=28								
RETA	**Reutte**	**40.79**	**311**	*i* P	**P**	**23 05 54.3**	**-1.5**		
	comp=Z,5.8nm,0.7s								
FUORN	**Ofenpass-Fuorn**	**40.96**	**310**	P	**P**	**23 05 56.7**	**-0.7**		
FUORN				lAmb	lAmb	23 05 58.0			
	comp=Z,3.6nm,0.6s								
KEST	**Kesra**	**41.03**	**293**	P	**P**	**23 05 58.5**	**+0.5**		
	comp=Z,3.7nm,0.8s,baz=90,slow=8.1,SNR=5.0								
	comp=Z,3.7nm,0.8s								
UBR	**Ueberruh**	**41.26**	**311**	*eP*	**P**	**23 05 58.4**	**-1.3**		
	comp=Z,9.1nm,0.7s,baz=104,slow=8.2								
DAVA	**Damuels**	**41.34**	**311**	*i* P	**P**	**23 05 59.2**	**-1.2**		
	comp=Z,14nm,0.6s								
DAVA	**Damuels**	**41.34**	**311**	*eP*	**P**	**23 05 59.0**	**-1.4**		
	comp=Z,17nm,0.6s,baz=104,slow=8.2								
PLONS	**Plons/SG**	**41.63**	**310**	*eP*	**P**	**23 06 01.3**	**-1.4**		
	comp=Z,8.3nm,0.6s,baz=104,slow=8.2								
WILA	**Wila**	**42.01**	**311**	*eP*	**P**	**23 06 04.7**	**-1.1**		
	comp=Z,15nm,0.7s,baz=104,slow=8.2								
SONM	**Songino Array**	**42.59**	**49**	P	**P**	**23 06 11.3**	**+0.7**		
SONM	**Songino Array**	**42.59**	**49**	P	**P**	**23 06 11.3**	**+0.7**		
SONM				pmax	pmax				
	comp=Z,2.0nm,0.8s								
SONM	**Songino Array**	**42.59**	**49**	P	**P**	**23 06 11.2**	**+0.7**		
	comp=Z,2.2nm,0.7s,baz=262,slow=8.4,SNR=14								
	comp=Z,2.2nm,0.7s								
BALST	**Balsthal**	**42.81**	**310**	*eP*	**P**	**23 06 11.1**	**-1.2**		
	comp=Z,7.2nm,0.7s,baz=104,slow=8.2								
SENIN	**Lac Senin/Sane**	**42.95**	**309**	P	**P**	**23 06 11.9**	**-1.8**		
ULN	**Ulaanbaatar**	**43.03**	**49**	P	**P**	**23 06 14.7**	**+0.5**		
ULN				lAmb	lAmb	23 06 15.4			
	comp=Z,4.1nm,0.6s								
ULN	**Ulaanbaatar**	**43.03**	**49**	*ceP*	**P**	**23 06 14.0**	**-0.2**		
ULN				pmax	pmax				
	comp=Z,3.0nm,1.0s								
BNI	**Bardonecchia**	**43.24**	**307**	P	**P**	**23 06 14.5**	**-1.4**		
BNI	**Bardonecchia**	**43.24**	**307**	P	**P**	**23 06 14.5**	**-1.4**		
BNI				pmax	pmax				
	comp=Z,14nm,0.7s								
HFS	**Hagfors**	**43.40**	**330**	P	**P**	**23 06 15.8**	**-1.0**		
	comp=Z,2.8nm,0.4s,baz=127,slow=9.4,SNR=9.2								
HFS				LR	LR	23 26 55.9			
	comp=Z,87nm,18.9s,baz=113,slow=40								
	comp=Z,2.8nm,0.4s								
BTO	**Baotou**	**44.66**	**60**	*eP*	**P**	**23 06 27.8**	**+0.5**		
BTO				pP	pP	23 06 32.5	-2.5		
BTO				sP	sP	23 06 34.9	-3.2		
BTO				PP	**PP**	**23 08 13.3**	**+1.6**		
BTO				pmax	pmax				
	comp=Z,12nm,1.1s								
BTO				pmax	pmax				
	comp=Z,190nm,5.7s								
SSB	**Saint Sauveur**	**44.77**	**307**	P	**P**	**23 06 26.6**	**-1.4**		
SSB				lAmb	lAmb	23 06 27.6			
	comp=Z,11nm,0.8s								
SSB	**Saint Sauveur**	**44.77**	**307**	P	**P**	**23 06 26.6**	**-1.4**		
SSB				pmax	pmax				
	comp=Z,11nm,0.8s								
NOA	**NORSAR Array B**	**44.90**	**330**	P	**P**	**23 06 27.3**	**-1.6**		
	comp=Z,1.7nm,1.0s,baz=132,slow=5.6,SNR=2.2								
	comp=Z,1.7nm,1.0s								
ARCES	**ARCESS Array B**	**45.29**	**345**	P	**P**	**23 06 31.7**	**-0.1**		
	comp=Z,1.2nm,0.6s,baz=124,slow=6.0,SNR=6.0								
	comp=Z,1.2nm,0.6s								
HHC	**Hu-ho-hao-te**	**45.83**	**59**	*eP*	**P**	**23 06 37.3**	**+0.7**		
HHC				pmax	pmax				
	comp=Z,14nm,0.5s								
HHC				pmax	pmax				
	comp=Z,200nm,6.0s								
XLT	**XiLinHaoTe**	**49.09**	**55**	*eP*	**P**	**23 07 02.1**	**+0.2**		
XLT				pP	sP	23 07 17.1	+4.4		
XLT				sP	pP	23 07 26.3	+17		
XLT				PcP	**PcP**	**23 08 26.1**	**+0.8**		
XLT				pmax	pmax				
	comp=Z,4.0nm,1.0s								
XLT				pmax	pmax				
	comp=Z,56nm,4.9s								
EKA	**Eskdalemuir Ar**	**50.64**	**320**	P	**P**	**23 07 12.1**	**-1.2**		
	comp=Z,0.4nm,0.3s,baz=96,slow=7.4,SNR=6.3								
	comp=Z,0.4nm,0.3s								
ESDC	**Sonseca Array**	**51.21**	**300**	P	**P**	**23 07 17.2**	**-0.7**		
	comp=Z,0.9nm,0.5s,baz=70,slow=7.4,SNR=26								
	comp=Z,0.9nm,0.5s								
PAB	**San Pablo**	**51.52**	**300**	P	**P**	**23 07 19.4**	**-0.9**		
PAB				lAmb	lAmb	23 07 35.6			
	comp=Z,5.0nm,1.2s								
PAB	**San Pablo**	**51.52**	**300**	P	**P**	**23 07 19.4**	**-0.9**		
PAB				pmax	pmax				
	comp=Z,5.0nm,1.2s								
NJ2	**Nanjing**	**52.79**	**70**	*eP*	**P**	**23 07 30.5**	**+0.7**		
NJ2				sP	**pP**	**23 07 36.6**	**-1.0**		
NJ2				pmax	pmax				
	comp=Z,22nm,0.6s								
NJ2				pmax	pmax				
	comp=Z,130nm,3.8s								
SPITS	**Spitsbergen Ar**	**53.35**	**350**	P	**P**	**23 07 31.8**	**-1.4**		
SPITS				pmax	pmax				
	comp=Z,37nm,1.2s								
SPITS	**Spitsbergen Ar**	**53.35**	**350**	P	**P**	**23 07 31.8**	**-1.4**		
	comp=Z,18nm,1.0s,baz=118,slow=12,SNR=5.9								
	comp=Z,18nm,1.0s								
TOA0	**Torodi Ar. Sit**	**53.68**	**266**	P	**P**	**23 07 34.9**	**-1.6**		
TOA0				lAmb	lAmb	23 07 36.0			
	comp=Z,4.3nm,0.8s								
TORD	**Torodi Ar. Bea**	**53.68**	**266**	P	**P**	**23 07 35.0**	**-1.5**		
TORD				lAmb	lAmb	23 07 42.1			
	comp=Z,8.2nm,0.8s								
TORD	**Torodi Ar. Bea**	**53.68**	**266**	P	**P**	**23 07 35.2**	**-1.3**		
	comp=Z,3.8nm,0.6s,baz=61,slow=7.6,SNR=56								
TORD				LR	LR	23 32 37.5			
	comp=Z,12nm,21.9s,baz=130,slow=38								
	comp=Z,3.8nm,0.6s								
HEH	**HeiHe**	**56.46**	**46**	*eP*	**P**	**23 07 55.6**	**-0.5**		
HEH				pmax	pmax				
	comp=Z,4.0nm,0.7s								
YAK	**Yakutsk**	**57.33**	**32**	*i* P	**P**	**23 08 03.8**	**+1.7**		
TIXI	**Tiksi**	**57.75**	**21**	P	**P**	**23 08 04.6**	**-0.3**		
TIXI				lAmb	lAmb	23 08 05.7			
	comp=Z,4.3nm,0.5s								
TIXI	**Tiksi**	**57.75**	**21**	*ceP*	**P**	**23 08 04.7**	**-0.2**		
MDJ	**Mudanjiang**	**58.66**	**53**	P	P	23 08 16.3	+4.6		
MDJ				pmax	pmax				
	comp=Z,9.0nm,2.1s								
MDJ				pmax	pmax				
	comp=Z,170nm,5.7s								
KSRS	**Korea Array**	**58.87**	**61**	P	**P**	**23 08 12.2**	**-1.0**		
	comp=Z,1.2nm,0.5s,baz=278,slow=7.1,SNR=6.5								
	comp=Z,1.2nm,0.5s								
KLR	**Kul'dur**	**59.38**	**47**	*ceP*	**P**	**23 08 15.9**	**-0.7**		
KLR				pmax	pmax				
	comp=Z,6.0nm,2.5s								
LBTB	**Lobatse**	**61.03**	**213**	P	**P**	**23 08 27.5**	**-0.8**		
LBTB	**Lobatse**	**61.03**	**213**	P	**P**	**23 08 27.5**	**-0.8**		
LBTB				pmax	pmax				
	comp=Z,12nm,1.5s								
DBIC	**Dimbokro**	**62.34**	**262**	P	**P**	**23 08 34.9**	**-2.4**		
DBIC	**Dimbokro**	**62.34**	**262**	P	**P**	**23 08 34.9**	**-2.4**		
DBIC				pmax	pmax				
	comp=Z,11nm,1.3s								
BOSA	**Boshof**	**64.24**	**211**	P	**P**	**23 08 48.7**	**-1.0**		
BOSA				lAmb	lAmb	23 09 22.9			
	comp=Z,6.3nm,1.2s								
BOSA	**Boshof**	**64.24**	**211**	P	**P**	**23 08 48.7**	**-1.0**		
BOSA				pmax	pmax				
	comp=Z,6.0nm,1.2s								
SUMG	**Summit**	**65.09**	**341**	*i* P	**P**	**23 08 54.0**	**-1.0**		
MA2	**Magadan**	**67.87**	**33**	*ce*P	**P**	**23 09 13.1**	**+0.6**		
MA2				pmax	pmax				
	comp=Z,34nm,2.5s								
KAPI	**Kappang**	**68.55**	**108**	LR	LR	23 42 41.5			
	comp=Z,51nm,18.3s,baz=62,slow=39								
SFJD	**Kangerlussuaq**	**71.03**	**337**	LR	LR	23 42 52.5			
	comp=Z,40nm,18.2s,baz=158,slow=38								
TOLK	**Toolik Lake Re**	**81.48**	**10**	P	**P**	**23 10 31.4**	**+0.1**		
TOLK				lAmb	lAmb	23 10 40.6			
	comp=Z,9.9nm,1.4s								
E24K	**Your Creek**	**82.16**	**9**	P	**P**	**23 10 34.8**	**0.0**		
E24K				lAmb	lAmb	23 10 38.5			
	comp=Z,3.5nm,1.1s								
E25K	**Arctic Village**	**82.52**	**8**	P	**P**	**23 10 36.5**	**-0.2**		
E25K				lAmb	lAmb	23 11 00.8			
	comp=Z,9.7nm,1.4s								
IMAR	**Indian Mountai**	**83.19**	**12**	P	**P**	**23 10 39.4**	**-0.8**		
BMAR	**Burnt Mountain**	**83.30**	**8**	P	**P**	**23 10 40.9**	**+0.1**		
INK	**Inuvik**	**83.49**	**4**	P	**P**	**23 10 40.4**	**-1.3**		
	comp=Z,0.6nm,0.6s,baz=0.0,slow=13,SNR=4.1								
	comp=Z,0.6nm,0.6s								
ILAR	**Eielson Array**	**85.48**	**10**	P	**P**	**23 10 50.0**	**-1.8**		
ILAR	**Eielson Array**	**85.48**	**10**	P	**P**	**23 10 50.0**	**-1.8**		
	comp=Z,0.3nm,0.5s,baz=324,slow=5.0,SNR=8.9								
	comp=Z,0.3nm,0.5s								
WRA	**Warramunga Arr**	**88.47**	**113**	P	**P**	**23 11 06.5**	**-0.6**		
WRA	**Warramunga Arr**	**88.47**	**113**	P	**P**	**23 11 07.6**	**+0.5**		
	comp=Z,1.0nm,0.7s,baz=317,slow=4.1,SNR=14								
	comp=Z,1.0nm,0.7s								
WB2	**Warramunga Arr**	**88.48**	**113**	P	**P**	**23 11 06.2**	**-1.0**		
YKA	**Yellowknife Ar**	**89.43**	**356**	P	**P**	**23 11 10.6**	**-0.3**		
	comp=Z,0.9nm,0.7s,baz=358,slow=5.2,SNR=24								
YKA				LR	LR	23 57 33.7			
	comp=Z,27nm,18.6s,baz=274,slow=40								
	comp=Z,0.9nm,0.7s								
ASAR	**Alice Springs**	**90.01**	**117**	P	**P**	**23 11 14.4**	**+0.1**		
ASAR	**Alice Springs**	**90.01**	**117**	P	**P**	**23 11 14.7**	**+0.5**		
	comp=Z,0.6nm,0.6s,baz=308,slow=4.8,SNR=14								
	comp=Z,0.6nm,0.6s								
STKA	**Stephens Creek**	**99.93**	**121**	LR	LR	23 55 55.7			
	comp=Z,35nm,21.8s,baz=21,slow=35								
TXAR	**Lajitas Array**	**119.99**	**341**	PKP	**PKPdf**	**23 17 04.1**	**-1.4**		
	comp=Z,0.3nm,0.6s,baz=45,slow=0.3,SNR=6.1								

*IDC **23** 23:00:16.0±1.9, 18°.03N×145°.48E, h399km±22km, mb3.2/14, mbtmp4.0/17, Error ellipse: s-maj=21.1km s-min=14.3km az=85.0*

*NEIC **23** 23:00:16.9±1.3, 18°.0N±0°.1×145°.3E±0°.2, h397km±12km, mb4.2/23, Error ellipse: s-maj=24.1km s-min=14.5km az=121.0*

ISC 23 23:00:16.0±0.7, 17°.88N±0°.07×145°.3E±0°.1, h400km, n49, σ1s29/50, mb3.8/22, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.29**	**186**			**Pn**	**23 01 31.9**	**+1.0**
GUMO	**Guam**	**4.29**	**186**	P		**Pn**	**23 01 32.5**	**+1.6**
	41nm,0.3s,baz=257,slow=23,SNR=2.1							
GUMO				S		**S**	**23 02 26.3**	**-5.4**
	33nm,0.4s,baz=36,slow=7.6,SNR=1.8							
JCJ	**Chichijima**	**9.63**	**343**	P		**Pn**	**23 02 29.4**	**-0.2**
JHJ2	**Mitsune**	**15.97**	**343**	P		**P**	**23 03 35.7**	**-3.0**
JOW	**Kunigami**	**18.11**	**302**	P		**P**	**23 04 02.5**	**+0.8**
JOW	**Kunigami**	**18.11**	**302**	P		**P**	**23 04 03.8**	**+2.0**
	12nm,0.4s,baz=118,slow=16,SNR=6.0							
JMN	**Monobe**	**18.84**	**329**	P		**P**	**23 04 09.3**	**+0.1**
JMN				lAmb		lAmb	23 04 25.2	
	comp=Z,16nm,1.0s							
INU	**Inuyama**	**18.91**	**339**	P		**P**	**23 04 10.1**	**+0.2**
INU				lAmb		lAmb	23 04 11.8	
	comp=Z,9.1nm,0.6s							
MJAR	**Matsushiro Arr**	**19.63**	**343**	P		**P**	**23 04 14.8**	**-2.2**
	comp=Z,3.0nm,0.6s,baz=166,slow=9.2,SNR=12							
MAJO	**Matsushiro**	**19.64**	**343**			**P**	**23 04 15.4**	**-1.6

*ASRS **23** 23:15:49.5±0.3,52°N×2°×9°6E±°, h5km, MLh4.1/8, Error ellipse: s-maj=5.2km s-min=2.7km az=21.4, confirmed*
*IDC **23** 23:16:11.3±3.5,51°.82N×94°.53E, h35km±29km, mb3.7/3, mbtmp3.4/8, ML2.7/5, Error ellipse: s-maj=26.5km s-min=21.2km az=172.0*
ISC 23 23:15:58.6±0.8,**51°.93N**±0°.04×**96°.06E**±0°.04,**h10**km,**n23,** σ2ˢ**42**/37,**mb4.0**/3,**Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CERR	**Cheremushki**	**3.00**	**290**		Pg		**Pn**	**23 16 45.4**	**-0.8**
CERR					Sg		**Sb**	**23 17 25.2**	**-3.4**
MOY	**Mondy**	**3.07**	**93**		Pg		**Pb**	**23 16 51.3**	**-2.1**
MOY					Sg		**Sg**	**23 17 35.1**	**-2.2**
DJO	**Djoy, Khakassi**	**3.09**	**288**		Pg		**Pn**	**23 16 46.0**	**-1.5**
DJO					Sg		**Sb**	**23 17 28.4**	**-3.0**
MINR	**Mina**	**3.18**	**340**		Pg		**Pb**	**23 16 54.0**	**-1.2**
MINR					Sg		**Sg**	**23 17 37.9**	**-2.8**
GZL	**Zheleznogorsk**	**4.59**	**342**		Sg		**Sb**	**23 18 17.0**	**+2.5**
SHTK	**Zheleznogorsk-**	**4.64**	**343**		Pg		**Pb**	**23 17 18.1**	**-1.9**
SHTK					Sg		**Sb**	**23 18 18.4**	**+2.4**
GZLN	**Zheleznogorsk**	**4.66**	**344**		Pg		**Pb**	**23 17 19.0**	**-1.3**
GZLN					Sg		**Sb**	**23 18 20.1**	**+3.7**
LUZB	**Luzhba, Kemero**	**4.68**	**295**		Pn		**Pn**	**23 17 09.9**	**+0.6**
LUZB					Pg		**Pb**	**23 17 19.0**	**-1.8**
LUZB					Sg		**Sb**	**23 18 17.8**	**+0.7**
ZAK	**Zakamensk**	**4.80**	**106**		Pg		**Pb**	**23 17 23.8**	**+1.0**
ZAK					Sg		**Sg**	**23 18 29.4**	**-3.3**
TASR	**Tashtagol**	**5.09**	**283**		Sg		**Sb**	**23 18 31.4**	**+2.6**
CUR	**Chagan-Uzun**	**5.20**	**252**		Pn		**Pn**	**23 17 14.8**	**-1.8**
CUR					Pg		**Pb**	**23 17 29.0**	**-0.7**
CUR					Sg		**Sb**	**23 18 31.3**	**-1.0**
ULGR	**Ulagan, Altay**	**5.25**	**259**		Pn		**Pn**	**23 17 18.6**	**+1.4**
ULGR					Sg		**Sb**	**23 18 38.3**	**+4.7**
ARTR	**Artybash**	**5.45**	**272**		Pg		**Pb**	**23 17 33.8**	**0.0**
ARTR					Sg		**Sb**	**23 18 41.2**	**+2.1**
AKAR	**Aktash**	**5.56**	**256**		Pn		**Pn**	**23 17 20.1**	**-1.3**
AKAR					Pg		**Pb**	**23 17 37.9**	**+2.2**
AKAR					Sg		**Sb**	**23 18 43.1**	**+0.7**
CHBI	**Chibit, Altay**	**5.63**	**257**		Sg		**Sb**	**23 18 47.3**	**+2.8**
ZALV	**Zalesovo Beam**	**7.09**	**291**		Pn		**Pn**	**23 17 41.1**	**-1.3**
	0.3nm,0.3s,baz=101,slow=14,SNR=3.5								
ZALV					Lg		Lg	23 19 29.3	
	0.6nm,0.3s,baz=14,slow=41,SNR=4.0								
	0.5nm,0.3s								
SONM	**Songino Array**	**7.83**	**118**		Pn		**Pb**	**23 18 15.8**	**+1.3**
	0.3nm,0.3s,baz=305,slow=19,SNR=3.7								
SONM					Sn		Sb	23 19 57.4	+10
	0.3nm,0.3s,baz=299,slow=21,SNR=2.2								
	0.5nm,0.5s								
MKAR	**Makanchi Array**	**10.35**	**246**		Pn		**Pn**	**23 18 24.1**	**-2.9**
	0.1nm,0.3s,baz=60,slow=13,SNR=3.6								
MKAR					Sn		Sn	23 20 08.3	-15
	0.1nm,0.3s,baz=57,slow=29,SNR=1.9								
MKAR					Lg		Lg	23 21 14.7	
	0.1nm,0.3s,baz=39,slow=22,SNR=2.3								
	0.5nm,0.7s								
KURBB	**Kurchatov Arra**	**11.06**	**270**		Pn		**Pn**	**23 18 34.4**	**-2.3**
	baz=74,slow=16,SNR=4.6								
KURBB					Lg		Lg	23 21 35.8	
	baz=342,slow=17,SNR=2.4								
	0.1nm,0.4s								
BVAR	**Borovoye Array**	**15.66**	**284**		Pn		**Pn**	**23 19 34.5**	**-4.7**
	baz=95,slow=16,SNR=1.7								
	0.3nm,0.5s								
FINES	**FINESS Array B**	**37.77**	**313**		P		**P**	**23 23 17.4**	**+3.0**
	2.7nm,0.9s,baz=79,slow=8.8,SNR=3.8								
	2.7nm,0.9s								
GERES	**GERESS Array B**	**49.92**	**301**		P		P	23 24 56.8	+4.5
	2.6nm,0.7s,baz=64,slow=3.4,SNR=3.5								
	2.6nm,0.7s								
TORD	**Torodi Ar. Bea**	**82.44**	**282**		P		**P**	**23 28 24.0**	**+2.8**
	0.3nm,0.8s,baz=20,slow=2.8,SNR=1.4								
	0.3nm,0.8s								

*DJA **23** 23:26:02.8±1.9, 4°S×13°8E±°, h21km±17km, M4.2/7, mb4.1/4, MLv4.2/7*
*IDC **23** 23:26:04.8±3.9, 4°.47S×138°.25E, h184km±39km, mb3.3/5, mbtmp4.0/9, Error ellipse: s-maj=37.1km s-min=13.5km az=94.0*
ISC 23 23:26:02.2±0.7,**4°.35S**±0°.07×**138°.36E**±0°.08,**h150**km,**n16,** σ2ˢ**05**/19,**mb3.5**/5,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**2.37**	**8**		P		**Pn**	**23 26 41.7**	**-0.1**
SMPI					S		**Sn**	**23 27 12.6**	**+0.3**
GENI	**Genyem**	**2.51**	**46**		P		**Pn**	**23 26 44.0**	**+0.5**
GENI					S		**Sn**	**23 27 15.7**	**+0.4**
JAY	**Jayapura**	**2.97**	**52**		P		**Pn**	**23 26 51.0**	**+1.8**
MMPI	**Merauke**	**4.56**	**154**		P		**Pn**	**23 27 11.5**	**+1.7**
FAKI	**Fak Fak**	**6.26**	**283**		P		**Pn**	**23 27 32.0**	**-0.5**
	15nm,1.1s,0.1nm								
SWI	**Sorong**	**7.89**	**296**		P		**Pn**	**23 27 55.7**	**+1.4**
	20nm,0.8s,0.1nm								
PMG	**Port Moresby**	**10.07**	**120**		P		**Pn**	**23 28 26.5**	**+3.2**
	8.2nm,0.6s,baz=300,slow=16,SNR=4.5								
SOEI	**Soe**	**14.98**	**248**		P		**P**	**23 29 32.5**	**+4.1**
WRA	**Warramunga Arr**	**15.99**	**194**		P		**Pn**	**23 29 37.2**	**-1.7**
	5.9nm,0.6s,baz=16,slow=12,SNR=27								
WRA					S		Sn	23 32 23.5	-14
	1.2nm,1.0s,baz=13,slow=22,SNR=3.9								
CTA	**Charters Tower**	**17.43**	**154**		P		**Pn**	**23 29 56.6**	**+0.2**
	3.4nm,0.8s,baz=335,slow=13,SNR=4.3								
ASAR	**Alice Springs**	**19.68**	**192**		P		**P**	**23 30 19.4**	**-0.4**
	4.3nm,0.3s,baz=8.6,slow=10,SNR=94								
ASAR					S		**S**	**23 33 49.5**	**-4.3**
	1.1nm,0.7s,baz=16,slow=26,SNR=5.0								
MKAR	**Makanchi Array**	**70.87**	**323**		P		**P**	**23 37 02.3**	**-0.6**
	0.4nm,0.6s,baz=137,slow=6.9,SNR=4.2								
	0.4nm,0.6s								
KURBB	**Kurchatov Arra**	**74.86**	**325**		P		**P**	**23 37 25.4**	**-0.8**
	0.6nm,0.8s,baz=121,slow=4.9,SNR=3.9								
	0.6nm,0.8s								
BVAR	**Borovoye Array**	**80.45**	**325**		P		**P**	**23 37 56.8**	**-0.4**
	0.6nm,0.6s,baz=118,slow=7.0,SNR=5.1								
	0.6nm,0.6s								
QSPA	**South Pole Qui**	**85.61**	**180**		P		**P**	**23 38 21.8**	**-1.8**
	0.6nm,0.6s,baz=29,slow=2.9,SNR=1.8								
	0.6nm,0.6s								
ILAR	**Eielson Array**	**87.46**	**24**		P		**P**	**23 38 30.3**	**-2.2**
	0.4nm,0.7s,baz=255,slow=4.1,SNR=6.3								
	0.4nm,0.7s								

*REY **23** 23:28:14.9, 64°.67N×17°.45W, h2km*
*IDC **23** 23:28:15.5±1.0, 64°.59N×17°.57W, h0km, mb3.5/9, mbtmp3.5/10, ML3.9/1, Error ellipse: s-maj=28.2km s-min=11.5km az=5.0*
ISC 23 23:28:16.2±0.6,**64°.67N**±0°.02×**17°.48W**±0°.02,**h10**km,**n38,** σ1ˢ**82**/55,**mb3.6**/9,**Iceland**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IKIS	**Kista**	**0.04**	**283**		P		**Pg**	**23 28 16.2**	**-2.1**
	baz=280								
IKIS					S		**Sg**	**23 28 17.5**	**-2.2**
	baz=280								
IDJK	**Dyngjujokull**	**0.20**	**147**		P		**Pg**	**23 28 19.0**	**-1.4**
	baz=150								
IURH	**Urdarhals**	**0.21**	**43**		P		**Pg**	**23 28 19.4**	**-1.3**
	baz=40								
IURH					S		**Sg**	**23 28 23.0**	**-0.6**
	baz=40								
IGRF	**Grimsfjall**	**0.28**	**160**		P		**Pg**	**23 28 20.4**	**-1.4**
	baz=163								
IGRF					S		**Sg**	**23 28 25.0**	**-0.6**
	baz=163								
IBJK	**Bruarjokull**	**0.37**	**122**		P		**Pg**	**23 28 21.9**	**-1.7**
	baz=123								
IHUS	**Husbondi**	**0.38**	**191**		P		**Pg**	**23 28 22.5**	**-1.2**
	baz=194								
IHUS					S		**Sb**	**23 28 29.1**	**-2.0**
	baz=194								
ISKR	**Skrokkalda**	**0.40**	**255**		P		**Pg**	**23 28 22.8**	**-1.3**
	baz=256								
ISKR					S		**Sg**	**23 28 28.1**	**-1.4**
	baz=256								
THOR	**Thorvaldshraun**	**0.44**	**52**		P		**Pg**	**23 28 23.1**	**-1.6**
	baz=51								
THOR					S		**Sg**	**23 28 29.9**	**-0.6**
	baz=51								
IJOK	**Jokulheimar**	**0.48**	**223**		P		**Pg**	**23 28 24.0**	**-1.5**
	baz=224								
IKRE	**Kreppuhraun**	**0.49**	**75**		P		**Pg**	**23 28 23.8**	**-1.9**
	baz=75								
IKRE					S		**Sg**	**23 28 30.8**	**-1.3**
	baz=75								
IASK	**Askja**	**0.53**	**42**		P		**Pg**	**23 28 24.5**	**-1.9**
	baz=41								
IASK					S		**Sg**	**23 28 31.6**	**-1.8**
	baz=41								
IMKO	**Mokollar**	**0.58**	**57**		P		**Pg**	**23 28 25.6**	**-1.9**
	baz=56								
IMKO					S		**Sg**	**23 28 34.4**	**-0.7**
	baz=56								
IIEY	**Innrieyrar**	**0.64**	**206**		P		**Pg**	**23 28 26.7**	**-1.8**
	baz=207								
IIEY					S		**Sg**	**23 28 35.5**	**-1.4**
	baz=207								
IKSK	**Karasker**	**0.67**	**139**		P		**Pg**	**23 28 26.7**	**-2.5**
	baz=140								
IKSK					S		**Sg**	**23 28 36.4**	**-1.6**
	baz=140								
ISVA	**Svartarkot**	**0.68**	**8**		P		**Pg**	**23 28 27.3**	**-2.1**
	baz=7.0								
ISVA					S		**Sg**	**23 28 37.0**	**-1.2**
	baz=7.0								
IKAL	**Kalfafell**	**0.73**	**187**		P		**Pg**	**23 28 28.2**	**-2.0**
	baz=188								
IVSH	**V-Sauoahnukur**	**0.77**	**79**		P		**Pg**	**23 28 28.4**	**-2.6**
	baz=78								
IVSH					S		**Sg**	**23 28 38.8**	**-2.1**
	baz=78								
IFAL	**Falljokull**	**0.77**	**158**		P		**Pg**	**23 28 28.8**	**-2.2**
	baz=159								
IVAT	**Vatnsfell**	**0.79**	**233**		P		**Pg**	**23 28 29.5**	**-1.9**
	baz=234								
IKVI	**Kvisker**	**0.82**	**146**		P		**Pg**	**23 28 29.4**	**-2.6**
	baz=147								
IHOX	**Haoxl**	**0.85**	**153**		P		**Pg**	**23 28 30.4**	**-2.1**
	baz=154								
IFAG	**Fagurholsmyri**	**0.87**	**155**		P		**Pg**	**23 28 30.7**	**-2.3**
	baz=156								
IADA	**Aoalbol**	**0.89**	**66**		S		**Sg**	**23 28 42.5**	**-2.4**
	baz=65								
IADA					P		**Pg**	**23 28 30.4**	**-2.9**
	baz=65								
ISTE	**Stelbrattur**	**0.94**	**283**		P		**Pg**	**23 28 31.6**	**-2.6**
	baz=282								
ISTE					S		**Sg**	**23 28 44.9**	**-1.6**
	baz=282								
IMEL	**Melhnausar**	**0.97**	**21**		P		**Pg**	**23 28 32.0**	**-2.9**
	baz=20								
IMEL					S		**Sg**	**23 28 45.8**	**-1.7**
	baz=20								
ISNB	**Snabyli**	**1.06**	**209**		P		**Pg**	**23 28 34.0**	**-2.5**
	baz=210								
ISNB					S		**Sg**	**23 28 48.6**	**-1.7**
	baz=210								
BORG	**Borgarnes**	**1.65**	**275**		Pg		**Pn**	**23 28 43.4**	**-1.8**
	12nm,0.3s,baz=105,slow=7.2,SNR=32								
BORG					Lg		Lg	23 29 07.7	
	7.9nm,0.3s,baz=37,slow=21,SNR=15								
SCO	**Scoresbysund**	**6.09**	**346**	*i*	P		**Pn**	**23 29 44.3**	**-1.7**
EKA	**Eskdalemuir Ar**	**11.75**	**136**		Pn		**Pn**	**23 31 04.3**	**+0.6**
	baz=318,slow=14								
	0.8nm,0.5s								
ESDC	**Sonseca Array**	**26.25**	**156**		P		**P**	**23 33 51.7**	**+0.4**
	0.6nm,1.1s,baz=351,slow=16,SNR=2.1								
	0.6nm,1.1s								
YKA	**Yellowknife Ar**	**39.22**	**313**		P		**P**	**23 35 44.9**	**+0.9**
	0.4nm,0.9s,baz=41,slow=8.0,SNR=4.9								
	0.4nm,0.9s								
BVAR	**Borovoye Array**	**43.19**	**62**		P		**P**	**23 36 18.5**	**+1.8**
	1.0nm,0.9s,baz=329,slow=11,SNR=5.2								
	1.0nm,0.9s								
ILAR	**Eielson Array**	**45.69**	**332**		P		**P**	**23 36 38.7**	**+2.2**
	0.8nm,1.0s,baz=34,slow=6.6,SNR=4.9								
	0.8nm,1.0s								
KURBB	**Kurchatov Arra**	**48.15**	**58**		P		**P**	**23 36 56.8**	**+0.9**
	0.8nm,0.8s,baz=316,slow=8.4,SNR=6.5								
	0.8nm,0.8s								
MKAR	**Makanchi Array**	**52.72**	**58**		P		**P**	**23 37 31.5**	**+0.9**
	0.8nm,1.1s,baz=335,slow=6.4,SNR=3.6								
	0.8nm,1.1s								
PDAR	**Pinedale Array**	**53.18**	**293**		P		**P**	**23 37 35.0**	**+0.7**
	0.7nm,0.8s,baz=72,slow=4.8,SNR=4.7								
	0.7nm,0.8s								
SONM	**Songino Array**	**59.64**	**40**		P		**P**	**23 38 21.0**	**+1.0**
	0.4nm,0.9s,baz=328,slow=5.1,SNR=2.6								
	0.9nm,0.8s								
TXAR	**Lajitas Array**	**62.29**	**280**		P		**P**	**23 38 39.3**	**+1.1**
	0.2nm,0.7s,baz=65,slow=4.3,SNR=3.7								
	0.2nm,0.7s								

IDC 23 23:38:35.6±4.0,**20°.07S**×**168°.81E**,**h238**km±66km,**mb2.9**/2, **mbtmp3.3**/3,**Error ellipse: s-maj=257.6km s-min=45.4km az=147.0,Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.98**	**228**		P		Pn	23 39 28.1	+0.9
	3.3nm,0.8s,baz=6.1,slow=14,SNR=1.8								
DZM					S		S	23 40 07.9	-0.1
	3.1nm,0.7s,baz=233,slow=2.2,SNR=1.8								
WRA	**Warramunga Arr**	**32.36**	**264**		P		P	23 44 42.8	-0.4
	0.2nm,0.6s,baz=97,slow=8.9,SNR=7.4								
	0.2nm,0.6s								
ASAR	**Alice Springs**	**32.55**	**257**		P		P	23 44 45.0	+0.3
	0.9nm,0.8s,baz=86,slow=9.1,SNR=15								
	0.9nm,0.8s								
ESDC	**Sonseca Array**	**159.50**	**344**		PKPab		PKPab	23 58 44.3	-0.8
	0.3nm,0.7s,baz=354,slow=2.6,SNR=2.4								

*CATAC **23** 23:51:34.5±1.0, 13°.18N×89°.91W, h20km±7km, ML3.6*
*SNET **23** 23:51:35.4±1.1, 13°.23N×89°.91W, h44km±23km, ML3.4*
ISC 23 23:51:34.8±2.7,**13°.2N**±0°.1×**89°.93W**±0°.10,**h31**km±12km, **n32,** σ0ˢ**47**/48,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.67**	**44**		*e*P		**Pn**	**23 51 48.2**	**-0.1**
JAYA					*e*S		**Sn**	**23 51 58.1**	**+0.3**
JAYA					IAML			23 51 59.3	
	comp=Z,1μm,0.2s								
JAYA	**Jayaque - finc**	**0.67**	**44**	*i*	P		**Pn**	**23 51 48.1**	**-0.1**
JAYA				*i*	S		**Sn**	**23 51 58.2**	**+0.5**
JAYA					IAML			23 51 58.8	
	comp=Z,4μm,1.0s								
LALI	**Alcalda de L**	**0.67**	**62**	*e*	P		**Pn**	**23 51 48.1**	**-0.1**
LALI				*e*	S		**Sn**	**23 51 57.7**	**+0.2**
LALI	**Alcalda de L**	**0.67**	**62**	*i*	P		**Pn**	**23 51 48.0**	**-0.1**
LALI				*i*	S		**Sn**	**23 51 57.3**	**-0.2**
LALI					IAML			23 52 02.6	
	comp=Z,350nm,1.0s								
CEVE	**Cerro Verde**	**0.71**	**24**	*e*	P		**Pb**	**23 51 48.9**	**-0.1**
CEVE				*e*	S		**Sn**	**23 51 59.3**	**+0.3**
CEVE					IAML			23 52 03.3	
	comp=Z,2μm,0.3s								
CEVE	**Cerro Verde**	**0.71**	**24**	*i*	P		**Pb**	**23 51 48.9**	**-0.1**
CEVE				*i*	S		**Sn**	**23 51 59.8**	**+0.7**
CEVE					IAML			23 52 01.3	
	comp=Z,2μm,1.0s								
NUBE	**Las Nubes**	**0.74**	**11**	*i*	P		**Pb**	**23 51 49.0**	**-0.3**
NUBE				*i*	S		**Sn**	**23 51 59.1**	**-0.4**
NUBE					IAML			23 52 01.3	
	comp=Z,2μm,1.0s								
SNJE	**San Jose**	**0.76**	**24**	*e*	P		**Pb**	**23 51 49.3**	**-0.4**
SNJE				*e*	S		**Sn**	**23 52 00.2**	**+0.1**
PMON	**Piamonte**	**0.80**	**48**	*i*	P		**Pb**	**23 51 50.0**	**-0.3**
PMON					IAML			23 52 08.1	
	comp=Z,2μm,1.0s								
CEDA	**San Andres**	**0.81**	**39**	*e*	S		**Sb**	**23 52 01.4**	**+0.3**
CEDA					IAML			23 52 09.3	
	comp=Z,1μm,0.3s								
LOAL	**Lomas de Alarc**	**0.83**	**10**	*i*	P		**Pb**	**23 51 50.3**	**-0.5**
LOAL				*i*	S		**Sb**	**23 52 02.7**	**+1.0**
LOAL					IAML			23 52 03.6	
	comp=Z,4μm,1.0s								
PANCS	**Alcalda de**	**0.85**	**59**	*i*	P		**Pn**	**23 51 50.3**	**-0.3**
PANCS				*i*	S		**Sn**	**23 52 01.5**	**-0.6**
PANCS					IAML			23 52 02.8	
	comp=Z,6μm,1.0s								
SLOZ	**Alcaldia de Sa**	**0.86**	**9**	*e*	P		**Pn**	**23 51 50.6**	**-0.2**
SLOZ				*e*	S		**Sb**	**23 52 02.9**	**+0.4**
LOMA	**Loma Larga**	**0.87**	**57**	*e*	P		**Pn**	**23 51 50.9**	**-0.2**
LOMA				*e*	S		**Sb**	**23 52 03.8**	**+0.8**
LOMA	**Loma Larga**	**0.87**	**57**	*i*	P		**Pn**	**23 51 50.6**	**-0.4**
LOMA				*i*	S		**Sb**	**23 52 03.6**	**+0.7**
LOMA					IAML			23 52 08.4	
	comp=Z,1μm,1.0s								
UNIC	**Universidad Ca**	**0.88**	**24**	*i*	P		**Pn**	**23 51 50.9**	**-0.3**
UNIC					IAML			23 52 10.2	
	comp=Z,300nm,1.0s								
SJTE	**Alcalda de S**	**1.00**	**64**	*e*	P		**Pn**	**23 51 52.8**	**0.0**
SJTE				*e*	S		**Sb**	**23 52 06.0**	**-0.4**
SJTE	**Alcalda de S**	**1.00**	**64**	*i*	P		**Pn**	**23 51 52.7**	**0.0**
SJTE					IAML			23 52 09.8	
	comp=Z,990nm,1.0s								
PAVA	**Las Pavas**	**1.10**	**61**	*e*	P		**Pb**	**23 51 54.7**	**-0.6**
PAVA	**Las Pavas**	**1.10**	**61**	*i*	P		**Pn**	**23 51 54.5**	**+0.3**
PAVA					IAML			23 52 14.3	
	comp=Z,1μm,1.0s								
COEG	**Centro de Oper**	**1.11**	**66**	*e*	P		**Pn**	**23 51 54.3**	**0.0**
COEG				*e*	S		**Sb**	**23 52 09.6**	**0.0**
COEG					IAML			23 52 13.5	
	comp=Z,809nm,0.3s								
COEG	**Centro de Oper**	**1.11**	**66**	*i*	P		**Pn**	**23 51 54.4**	**+0.1**
COEG					IAML			23 52 13.2	
	comp=Z,800nm,1.0s								
TECO	**Alcaldia de Te**	**1.17**	**72**	*e*	P		**Pn**	**23 51 55.0**	**0.0**
TECO				*e*	S		**Sn**	**23 52 09.6**	**-0.4**
TECO	**Alcaldia de Te**	**1.17**	**72**	*i*	P		**Pn**	**23 51 54.8**	**-0.3**
TECO					IAML			23 51 56.0	
	comp=Z,320nm,1.0s								
UESV	**Universidad de**	**1.20**	**67**	*i*	P		**Pn**	**23 51 55.7**	**+0.2**
UESV					IAML			23 51 58.3	
	comp=Z,2μm,1.0s								
SCLA	**Alcaldia de Sa**	**1.28**	**66**	*e*	P		**Pb**	**23 51 57.5**	**-0.8**
MTO3	**Montecristo**	**1.34**	**24**	*i*	P		**Pn**	**23 51 57.2**	**-0.3**
MTO3					IAML			23 52 17.1	
	comp=Z,260nm,1.0s								
PACA	**Pacayal**	**1.59**	**79**	*i*	P		**Pb**	**23 52 02.9**	**-0.7**
PACA					IAML			23 52 29.2	
	comp=Z,3μm,1.0s								
LCND	**La Caada**	**1.99**	**86**	*e*	S		**Sn**	**23 52 30.7**	**+0.5**
LCND	**La Caada**	**1.99**	**86**	*i*	P		**Pn**	**23 52 07.5**	**+1.2**
LCND					IAML			23 52 35.8	
	comp=Z,330nm,1.0s								
CNCH	**Conchagua**	**2.04**	**87**	*i*	P		**Pn**	**23 52 07.7**	**+0.6**
CNCH					IAML			23 52 39.1	
	comp=Z,710nm,1.0s								
AMPH	**Amapala**	**2.21**	**87**	*i*	P		**Pn**	**23 52 09.5**	**+0.2**

IDC 23 23:58:44.4±3.5,**4°.93S**×**133°.63E**,**h0**km,**mb3.4**/1, **mbtmp3.1**/3,**ML3.1**/2,**Error ellipse: s-maj=173.3km s-min=31.3km az=78.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.94**	**177**		Pn		Pn	00 02 18.0	+1.0
	0.1nm,0.3s,baz=356,slow=13,SNR=9.5								
WRA					Sn		Sn	00 05 02.3	-1.1
	0.1nm,0.3s,baz=359,slow=23,SNR=2.6								
	0.1nm,0.3s								
ASAR	**Alice Springs**	**18.63**	**179**		P		P	00 03 03.3	-0.5
	baz=358,slow=9.4,SNR=1.9								
	0.2nm,0.6s								
MKAR	**Makanchi Array**	**68.56**	**325**		P		P	00 09 49.2	+0.1
	0.4nm,0.9s,baz=108,slow=8.0,SNR=1.8								
	0.4nm,0.9s								

*KRSC **24** 00:15:42.0±2.0, 49°.75N×157°.04E, h56km±24km, Ml5.4*
*GCMT **24** 00:15:42.2±0.5, 50°.08N±0°.03×156°.38E±0°.04, h116km±4km, MW4.8/92, Moment Tensor Solution. s16,c16; s92,c113; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.59±.08; Mθθ=1.47±.11; Mφφ=2.06±.09; Mrθ=-0.95±.05; Mθφ=-0.50±.11; Mφr=0.28±.06; Best double couple: M₀2.14300×10¹⁶ NP1:φs32.00000°, δ71.00000°, λ=-26.00000°. NP2:φs132.00000°, δ65.00000°, λ=-159.00000°. Principal axes: T 2.1380, Plg3.0000°, Azm83.0000°; N 0.0160, Plg58.0000°, Azm178.0000°; P =-2.1490, Plg32.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **24** 00:15:43.7±1.0, 50°.01N×155°.99E, h114km, mb4.7/38 Error ellipse: s-maj=7.3km s-min=3.3km az=74.8*
MOS Felt (III) at Severo-Kuril'sk.
*IDC **24** 00:15:44.4±0.5, 50°.08N×155°.86E, h100km±3km, mb4.2/32, mbtmp4.5/39, MS3.1/27, Error ellipse: s-maj=10.3km s-min=7.6km az=136.0*
*NEIC **24** 00:15:46.2±1.2, 50°.16N±0°.10×155°.9E±0°.1, h113km±6km, mb4.9/120, Error ellipse: s-maj=16.4km s-min=10.4km az=136.0*
ISC 24 00:15:45.1±0.4,**49°.96N**±0°.05×**156°.10E**±0°.04,**h112**km±3km, **h112**km:**pP-P,n767,** σ1ˢ**30**/810,**mb4.8**/150,**13C-12D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.72**	**1**	*e*	P		**Pn**	**00 16 02.0**	**-1.8**
SKR				*e*	S		**Sn**	**00 16 15.1**	**-2.8**
SKR	**Severo-Kuril's**	**0.72**	**1**	||| *i*	P	**Pn**	**00 16 01.7**	**-2.1**
SKR				*e*	S		**Sn**	**00 16 14.7**	**-3.2**
SKR					pmax	pmax			
	comp=Z,2μm,0.2s								
SKR					smax	smax			
	comp=E,45μm,0.3s								

KII eS Sn 00 17 43.8 -0.5
TUMD Tumrok D 5.87 25 eP Pn 00 17 08.8 -0.8
TUMR Tumrok 5.87 23 PN Pn 00 17 08.7 -1.0
ESO Esso 6.18 14 eP Pn 00 17 16.4 +2.7
KMNR Kamenistaya 6.32 22 eP Pn 00 17 16.3 +0.6
KMNR Kamenistaya 6.32 22 PN Pn 00 17 16.7 +1.0
KOZ Kozyrevsk 6.52 19 eP Pn 00 17 18.4 +0.1
KIRR Kirishev 6.53 21 eP Pn 00 17 20.9 +2.4
KIRR Kirishev 6.53 21 PN Pn 00 17 19.7 +1.2
BZP Bezymyannyi-Pe 6.54 23 eP Pn 00 17 19.1 +0.4
BZMR Bezymyannaya 6.55 22 eP Pn 00 17 19.9 +1.1
BZMR Bezymyannaya 6.55 22 PN Pn 00 17 19.7 +0.9
BZWR Bezymyannyi-We 6.57 22 eP Pn 00 17 19.5 +0.4
BZWR Bezymyannyi-We 6.57 22 PN Pn 00 17 19.6 +0.4
BZGR Bezymyannyi-Gr 6.60 23 eP Pn 00 17 20.8 +1.3
BZGR Bezymyannyi-Gr 6.60 23 PN Pn 00 17 20.2 +0.7
SRDR Sredinnyy 6.73 17 eP Pn 00 17 22.7 +1.5
SRDR Sredinnyy 6.73 17 PN Pn 00 17 22.7 +1.5
KRSR Krestovskiy 6.82 21 eP Pn 00 17 22.3 -0.1
KRSR Krestovskiy 6.82 21 PN Pn 00 17 22.5 0.0
BDR Baidarnaya 7.29 23 eP Pn 00 17 28.9 +0.1
BDR Baidarnaya 7.29 23 PN Pn 00 17 28.7 -0.1
KUR Kuril'sk 7.30 233 ePN Pn 00 17 29.4 +0.5
KUR i S Sn 00 18 49.7 -0.5
KUR pmax pmax
comp=Z,101nm,0.8s
KUR smax smax
comp=N,169nm,0.7s
KUR smax smax
comp=E,103nm,0.7s
SMKR Semkarok 7.37 24 eP Pn 00 17 28.9 -1.0
SMKR Semkarok 7.37 24 PN Pn 00 17 28.9 -1.0
KBTR Krutoberegovo 7.45 30 eP Pn 00 17 29.6 -1.4
KBTR Krutoberegovo 7.45 30 PN Pn 00 17 29.5 -1.4
KBG Krutoberegovo 7.45 30 eP Pn 00 17 30.1 -0.8
KBG Krutoberegovo 7.45 30 PN Pn 00 17 30.1 -0.8
TYV Tymovskoe 8.63 281 ePN Pn 00 17 49.2 +2.2
TYV eS Sn 00 19 22.9 +0.4
TYV pmax pmax
comp=Z,500nm,2.4s
TYV pmax pmax
comp=Z,60nm,1.2s
TYV smax smax
comp=E,400nm,6.1s
TYV smax smax
comp=N,9.0nm,1.3s
TYV smax smax
comp=E,5.0nm,1.3s
SHO Shikotan 8.79 230 ePN Pn 00 17 46.8 -2.3
SHO pmax pmax
comp=Z,29nm,0.3s
YUK Yuzh-Kuril'sk 9.16 234 c iPN Pn 00 17 53.4 -0.8
YUK S Sn 00 19 31.7 -3.7
YUK pmax pmax
comp=Z,138nm,0.4s
YUK pmax pmax
comp=N,34nm,0.2s
UGL Uglegorsk 9.17 270 ePN Pn 00 17 57.2 +2.9
UGL S Sn 00 19 36.2 +0.6
UGL pmax pmax
comp=Z,600nm,1.5s
UGL pmax pmax
comp=Z,183nm,1.0s
UGL smax smax
comp=N,56nm,0.4s
UGL smax smax
comp=E,31nm,0.4s
YSS Yuzh-Sakhalins 9.36 256 Pn Pn 00 17 58.2 +1.4
YSS Yuzh-Sakhalins 9.36 256 ePN Pn 00 17 57.2 +0.4
YSS eS Sn 00 19 44.2 +4.0
YSS pmax pmax
comp=Z,200nm,4.3s
YSS pmax pmax
comp=Z,40nm,0.7s
YSS smax smax
comp=N,20nm,1.1s
YSS smax smax
comp=E,20nm,1.1s
YSS MLR MLR
comp=Z,200nm,15.0s
YSS MLR MLR
comp=E,200nm,14.0s
RUSJ Misakicho 9.44 236 ePN Pn 00 17 58.3 +0.4
RUSJ eS Sn 00 19 44.8 +2.7
NMR Nemuro--Hokkai 9.70 231 ||i PN Pn 00 17 57.0 -4.5
MA2 Magadan 10.11 344 Pn Pn 00 18 04.4 -2.5
MA2 Magadan 10.11 344 dePN Pn 00 18 06.6 -0.3
MA2 pmax pmax
comp=Z,87nm,1.3s
MA2 Magadan 10.11 344 P Pn 00 18 06.3 -0.6
comp=Z,37nm,0.8s,baz=153,slow=9.2,SNR=30
MA2 LR LR 00 22 13.6
comp=Z,39nm,19.2s,baz=159,slow=39
JKA Kamikawa-asahi 10.90 243 Pn Pn 00 18 17.4 -0.3
ASAJ Asahikawa 10.90 243 P Pn 00 18 17.7 0.0
comp=Z,22nm,0.4s,baz=81,slow=9.5,SNR=33
SHEM Shemya Is, Ala 11.59 69 LR LR 00 23 31.9
comp=Z,42nm,18.2s,baz=292,slow=40
JEM Erimo 11.99 233 P Pn 00 18 29.6 -2.6
ERM Erimo 11.99 233 Pn Pn 00 18 29.1 -3.1
ERM Erimo 11.99 233 P Pn 00 18 29.2 -3.1
ERM Erimo 11.99 233 PN Pn 00 18 29.1 -3.1
GRNR Gornyy 12.59 281 ||i PN Pn 00 18 41.5 +1.5
GRNR pmax pmax
comp=N,7.0nm,0.7s
GRNR pmax pmax
comp=Z,6.0nm,1.1s
GRNR MLR MLR
comp=E,200nm,15.0s
GRNR MLR MLR
comp=N,300nm,18.0s
GRNR MLR MLR
comp=Z,180nm,19.0s
SEY Seymchan 13.16 353 cePN Pn 00 18 47.2 -0.2
SEY pmax pmax
comp=Z,33nm,1.7s
SEY Seymchan 13.16 353 P Pn 00 18 46.5 -0.8
comp=Z,3.7nm,0.8s,baz=132,slow=11,SNR=7.9
TEY Ternei 14.06 257 eP Pn 00 18 58.7 -0.3
KLR Kul'dur 15.79 277 i P Pn 00 19 20.9 0.0
KLR pmax pmax
comp=Z,9.0nm,1.0s
KLR Kul'dur 15.79 277 P Pn 00 19 20.8 -0.1
comp=Z,3.8nm,0.8s,baz=67,slow=13,SNR=6.5
USA0B Ussuriysk Arra 17.36 260 P P 00 19 39.1 -0.8
USA0B Ussuriysk Arra 17.36 260 P P 00 19 39.1 -0.8
USRK Ussuriysk Ar. 17.36 260 P P 00 19 38.5 -1.3
USRK Ussuriysk Ar. 17.36 260 P P 00 19 38.5 -1.3
USRK Ussuriysk Ar. 17.36 260 P P 00 19 37.2 -2.6
comp=Z,5.9nm,0.7s,baz=295,slow=39,SNR=3.2
USRK LR LR 00 25 54.6
comp=Z,68nm,18.3s,baz=63,slow=35
ZEA Zeya 18.16 293 eP Pn 00 19 49.9 +0.3
ZEA pmax pmax
comp=Z,10.0nm,0.9s
HEH HeiHe 18.36 282 eP P 00 19 50.8 +0.1
HEH pmax pmax
comp=Z,17nm,1.1s
HEH pmax pmax
comp=Z,100nm,5.1s
MJB9 Matsu-Tunnel 18.63 231 P P 00 19 54.0 +0.2
MAJO Matsushiro 18.63 231 P 00 19 53.3 -0.6
MAJO Matsushiro 18.63 231 P P 00 19 54.6 +0.7
MAJO Matsushiro 18.63 231 c iP P 00 19 53.7 -0.2
MAJO pmax pmax
comp=Z,38nm,1.5s
MJAR Matsushiro Arr 18.63 231 P P 00 19 53.6 -0.3
comp=Z,14nm,0.8s,baz=27,slow=10,SNR=32
MJAR LR LR 00 27 37.8
comp=Z,69nm,18.1s,baz=44,slow=38
MSHR Mys Shultsa 18.70 256 i P P 00 19 55.0 +0.6
MSHR pmax pmax
comp=Z,18nm,1.1s
MDJ Mudanjiang 18.71 264 Pn 00 19 56.0 -0.2
MDJ Mudanjiang 18.71 264 P Pn 00 19 57.4 +1.2
MDJ sP pP 00 20 11.3 -3.6
MDJ S Sn 00 23 24.8 -0.9
MDJ sS sS 00 23 57.1 +1.7
MDJ PcP PcP 00 24 21.1 +3.5
MDJ ScP ScP 00 27 57.5 +15
MDJ PcS PcS 00 28 02.3 +8.0
MDJ Mudanjiang 18.71 264 ScS ScS 00 31 21.5 -2.3
MDJ pmax pmax
comp=Z,31nm,0.9s
MDJ pmax pmax
comp=Z,50nm,3.9s
BILL Bilibino 18.82 12 P P 00 19 54.6 -1.0
BILL Bilibino 18.82 12 ||i eP P 00 19 54.9 -0.7
YAK Yakutsk 18.92 320 P P 00 19 55.0 -1.7
YAK Yakutsk 18.92 320 eP P 00 19 54.9 -1.7
YAK eS S 00 23 21.8 -3.6
YAK pmax pmax
comp=Z,47nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,22nm,1.3s
YAK smax smax
comp=N,89nm,1.6s
YAK smax smax
comp=E,63nm,1.6s
YAK Yakutsk 18.92 320 P P 00 19 55.5 -1.2
comp=E,1.5nm,0.8s,baz=112,slow=5.6,SNR=17
BNX BinXian 19.65 269 ||i P P 00 20 01.6 -3.2
BNX pmax pmax
comp=Z,7.0nm,0.8s
BNX pmax pmax
comp=Z,100nm,4.1s
INU Inuyama 20.17 231 P P 00 20 09.9 -0.5
INU Inuyama 20.17 231 P P 00 20 11.0 +0.6
SPIA Saint Paul Isl 21.08 57 P P 00 20 20.6 +0.6
baz=265
P08K Saint George I 21.41 59 P P 00 20 23.6 -0.1
baz=267
CN2 Changchun 21.74 265 P P 00 20 28.0 +0.8
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,200nm,13.0s
CN2 LR LR
comp=E,200nm,13.0s
CN2 LR LR
comp=Z,200nm,12.0s
NIKH Nikolski High 21.91 69 P P 00 20 29.2 +0.3
baz=277
GAMB Gambell 22.06 39 P P 00 20 30.7 +0.4
baz=247
JMN Monobe 23.04 234 P P 00 20 41.4 +0.9
UNV Unalaska Valle 23.22 66 P P 00 20 40.5 -1.4
UNV Unalaska Valle 23.22 66 P P 00 20 42.2 +0.3
baz=276
M11K Mekoryuk 23.59 49 P P 00 20 45.9 +0.7
baz=261
KSRS Korea Array 23.74 249 P P 00 20 48.6 +1.8
comp=Z,11nm,0.9s,baz=42,slow=10,SNR=27
KSRS LR LR 00 29 07.1
comp=Z,39nm,20.8s,baz=60,slow=34
comp=Z,11nm,0.9s
KSAR Wonju Array Be 23.77 249 P P 00 20 48.0 +0.9
KSAR Wonju Array Be 23.77 249 P P 00 20 48.0 +0.9
TNA Tin City 24.26 37 P P 00 20 52.4 +1.2
baz=248
F14K Arctic Creek 24.85 37 P P 00 20 56.8 +0.2
baz=250
FALS False Pass 24.92 63 P P 00 20 57.5 +0.3
baz=276
ANM Nome 24.93 40 P P 00 20 56.9 -0.5
ANM lAmb lAmb 00 21 00.5
comp=Z,36nm,1.0s
ANM Nome 24.93 40 P P 00 20 58.9 +1.5
baz=253
ANM Nome 24.93 40 P P 00 20 56.9 -0.5
ANM pmax pmax
comp=Z,36nm,1.0s
M13K Dall Lake 25.00 50 P P 00 20 58.4 +0.5
baz=264
TIXI Tiksi 25.04 340 P P 00 20 56.4 -1.8
TIXI lAmb lAmb 00 20 58.2
comp=Z,53nm,0.7s
TIXI Tiksi 25.04 340 i P P 00 20 56.4 -1.8
TIXI pmax pmax
comp=Z,39nm,0.8s
JNU Nakatsue 25.10 237 P P 00 21 00.2 +0.9
JNU lAmb lAmb 00 21 02.9
comp=Z,78nm,0.9s
JNU Nakatsue 25.10 237 P P 00 21 02.5 +3.2
JNU Nakatsue 25.10 237 LR LR 00 31 47.7
comp=Z,26nm,19.6s,baz=330,slow=38
J14K Nanvaranak Lak 25.27 44 P P 00 21 01.2 +0.9
baz=259
L14K Kuka Creek 25.43 48 P P 00 21 02.2 +0.3
baz=263
F15K North Star Dit 25.58 37 P P 00 21 04.0 +0.8
baz=252
G15K Niukluk 25.61 39 P P 00 21 03.5 +0.1
baz=254
BOD Bodaibo 25.66 304 eP P 00 21 02.1 -1.9
BOD pmax pmax
comp=Z,14nm,1.8s
M14K Bethel 25.71 49 P P 00 21 04.8 +0.3
baz=265
N14K Kuskokwak Cree 25.78 51 P P 00 21 04.6 -0.5
baz=267
O14K Tigyukauivet M 25.96 53 P P 00 21 06.7 +0.1
baz=268
L15K Ungalak Mounta 26.05 47 P P 00 21 08.0 +0.6
baz=263
K15K Wolf Creek Mou 26.11 46 P P 00 21 09.1 +1.1
baz=262
H16K Elim 26.26 40 P P 00 21 10.1 +0.8
baz=257
C16K Lisburne Hills 26.29 32 P P 00 21 09.4 -0.1
C16K lAmb lAmb 00 21 13.1
comp=Z,48nm,1.1s
C16K Lisburne Hills 26.29 32 P P 00 21 10.2 +0.7
baz=246
M15K Kasigluk River 26.33 49 P P 00 21 10.8 +0.8
baz=266
G16K Koyuk River 26.40 39 P P 00 21 11.6 +1.0
baz=255
N15K Kwethluk River 26.59 51 P P 00 21 13.9 +1.4
baz=268
J16K Anvik River 26.69 44 P P 00 21 14.7 +1.5
baz=261
I17K Unalakleet 26.75 42 P P 00 21 14.1 +0.4
baz=260
S14K Fog Glacier 26.97 59 P P 00 21 16.7 +0.8
baz=276
L16K Owhat River 27.00 47 P P 00 21 16.2 +0.2
L16K Owhat River 27.00 47 P P 00 21 16.3 +0.2
baz=265
RDOG Red Dog Mine 27.04 33 P P 00 21 16.2 -0.1
RDOG Red Dog Mine 27.04 33 P P 00 21 17.2 +0.8
baz=249
E17K Hotham Inlet 27.10 35 P P 00 21 17.9 +1.1
baz=252
C17K DeLong Mountai 27.10 32 P P 00 21 17.4 +0.5
baz=248
G17K Kiwalik Mounta 27.12 39 P P 00 21 18.0 +0.9
baz=257
F17K Baldwin Pennin 27.13 37 P P 00 21 17.9 +0.8
F17K lAmb lAmb 00 21 19.1
comp=Z,22nm,0.8s
F17K Baldwin Pennin 27.13 37 P P 00 21 18.4 +1.3
baz=254
H17K Granite Mounta 27.29 40 P P 00 21 19.4 +0.8
baz=258
O16K Kokwok River B 27.59 52 P P 00 21 22.4 +1.1
baz=271
L17K Donlin 27.60 46 P P 00 21 22.4 +1.0
baz=266
P16K Nushagak River 27.65 53 P P 00 21 21.9 +0.2
baz=272
K17K Iditarod 27.65 45 P P 00 21 22.7 +0.8
baz=264
E18K Tukpahlearik C 27.66 35 P P 00 21 22.9 +1.0
baz=253
XLT XiLinHaoTe 27.74 273 eP P 00 21 22.3 -0.6
XLT sP sP 00 22 00.0 -0.1
XLT pmax pmax
comp=Z,10.0nm,0.8s
XLT LR LR
comp=N,13nm,25.1s
XLT LR LR
comp=E,83nm,24.2s
C18K Utukok River 27.84 32 P P 00 21 23.6 0.0
C18K Utukok River 27.84 32 P P 00 21 24.1 +0.6
baz=250
B18K Kokolik River 27.90 31 P P 00 21 24.6 +0.6
baz=248
M17K Holitna River 27.95 48 P P 00 21 25.4 +0.9
baz=268
H18K Honhosa River 27.98 40 P P 00 21 25.1 +0.3
baz=260
G18K Tagagawik 28.01 38 P P 00 21 25.4 +0.4
baz=258
N17K Nushagak Hills 28.05 50 P P 00 21 25.9 +0.4
N17K lAmb lAmb 00 21 34.3
comp=Z,96nm,1.8s
N17K Nushagak Hills 28.05 50 P P 00 21 25.8 +0.4
baz=270
O17K Koliganek Bris 28.09 52 P P 00 21 26.4 +0.6
baz=271
Q16K King Salmon 28.35 54 P P 00 21 28.4 +0.4
baz=274
L18K Granite Mounta 28.36 46 P P 00 21 28.8 +0.8
baz=267
P17K Kvichak River 28.44 53 P P 00 21 30.1 +1.2
baz=273
J18K Innoko River 28.45 44 P P 00 21 29.8 +0.9
baz=264
A19K Wainwright 28.46 29 P P 00 21 29.7 +0.8
baz=248
GCSA Galena City Sc 28.54 41 P P 00 21 29.9 +0.3
baz=262
C19K Lookout Ridge 28.55 32 P P 00 21 30.1 +0.3
C19K lAmb lAmb 00 21 31.5
comp=Z,26nm,1.2s
C19K Lookout Ridge 28.55 32 P P 00 21 30.5 +0.7
baz=251,SNR=5.7
F19K Shaleruckik Mo 28.57 37 P P 00 21 29.9 0.0
F19K lAmb lAmb 00 21 32.0
comp=Z,59nm,1.9s
F19K Shaleruckik Mo 28.57 37 P P 00 21 30.4 +0.5
baz=257
R17K Ugashik Creek 28.57 56 P P 00 21 30.4 +0.3
baz=276
N18K Kilae Creek 28.69 50 P P 00 21 31.9 +0.8
baz=270
G19K Purcell Mounta 28.69 38 P P 00 21 31.7 +0.7
baz=259
TTA Tatalina 28.72 45 P P 00 21 31.6 +0.2
TTA Tatalina 28.72 45 P P 00 21 32.2 +0.8
TTA Tatalina 28.72 45 P P 00 21 31.6 +0.2
baz=266
TTA Tatalina 28.72 45 P P 00 21 31.6 +0.2
TTA pmax pmax
comp=Z,122nm,2.0s
M18K Stony River 28.73 48 P P 00 21 31.9 +0.5
baz=269
Q17K Contact Creek 28.78 55 P P 00 21 32.7 +0.7
baz=275
H19K Roundabout Mou 28.84 40 P P 00 21 32.6 +0.3
H19K lAmb lAmb 00 21 34.3
comp=Z,27nm,1.1s
H19K Roundabout Mou 28.84 40 P P 00 21 32.9 +0.6
baz=261
D19K Kuna River 28.87 33 P P 00 21 33.2 +0.6
baz=254
E19K Redstone River 28.92 35 P P 00 21 34.0 +1.0
baz=257
J19K Poorman 28.98 43 P P 00 21 33.8 +0.2
J19K Poorman 28.98 43 P P 00 21 34.4 +0.8
baz=265
CHIR Chirikof Islan 29.21 60 P P 00 21 36.6 +0.9
baz=280
L19K White Mountain 29.21 47 P P 00 21 36.3 +0.6
baz=269
Q18K Katmai Hardscr 29.21 54 P P 00 21 36.3 +0.4
baz=275
N19K Bonanza Creek 29.38 49 P P 00 21 38.2 +0.9
baz=271
F20K Avaraart Lake 29.40 37 P P 00 21 37.5 +0.2
baz=259
D20K Etivluk River 29.46 33 P P 00 21 38.4 +0.6
baz=255
O19K Port Alsworth 29.48 51 P P 00 21 38.4 +0.4
baz=273
H20K Anotleneega Mo 29.48 40 P P 00 21 38.9 +0.8
baz=263
E20K Nigu River 29.50 34 P P 00 21 38.6 +0.4
baz=256
I20K Naaghedeneel 29.56 41 P P 00 21 39.1 +0.4
baz=264
K20K Telida 29.62 44 P P 00 21 40.4 +1.1
baz=267
B20K Meade River 29.64 30 P P 00 21 40.7 +1.3
baz=252
J20K Nowinta River 29.65 43 P P 00 21 40.5 +1.0
J20K lAmb lAmb 00 22 22.7
comp=Z,62nm,1.9s
J20K Nowinta River 29.65 43 P P 00 21 40.7 +1.2
baz=266
L20K Farewell, AK 29.68 46 P P 00 21 41.1 +1.2
baz=269
SII Sitkinak Islan 29.89 58 P P 00 21 43.0 +1.2
baz=279
Q19K Cape Douglas, 29.90 53 P P 00 21 43.4 +1.6
baz=275
IMAR Indian Mountai 30.01 39 P P 00 21 42.4 -0.3
M20K Styx River 30.02 47 P P 00 21 44.3 +1.3
baz=271
G21K Allakaket 30.18 38 P P 00 21 44.7 +0.5
G21K lAmb lAmb 00 21 47.5
comp=Z,46nm,1.8s
G21K Allakaket 30.18 38 P P 00 21 45.3 +1.1
baz=262
C21K Knifeblade Rid 30.21 33 P P 00 21 45.5 +1.1
baz=256,SNR=7.8
A21K Barrow 30.24 28 P P 00 21 44.9 +0.3
baz=251,SNR=7.1
OHAK Old Harbor 30.28 56 P P 00 21 46.1 +1.0
baz=279
F21K Alatna River 30.30 37 P P 00 21 45.8 +0.6
baz=261
E21K Killik River 30.34 34 P P 00 21 46.0 +0.4
baz=258
H21K Melozitna Rive 30.36 40 P P 00 21 46.1 +0.3
baz=264
B21K Ikpikpuk River 30.39 32 P P 00 21 46.8 +0.9
baz=256
CHUM Lake Minchumin 30.43 43 P P 00 21 47.6 +1.2
baz=268
PPLA Purkeypile 30.46 45 P P 00 21 48.3 +1.4
baz=270
N20K Mount Spurr 30.48 49 P P 00 21 49.1 +2.2
baz=273
CAST Castle Rocks 30.52 44 P P 00 21 47.7 +0.5
CAST Castle Rocks 30.52 44 P P 00 21 49.1 +1.9
baz=269
Q20K Shuyak Island 30.58 54 P P 00 21 49.8 +2.1
baz=277
KDAK Kodiak Island 30.58 55 P P 00 21 47.1 -0.7
KDAK Kodiak Island 30.58 55 P P 00 21 49.2 +1.4
baz=278
KDAK Kodiak Island 30.58 55 P P 00 21 47.1 -0.7
KDAK pmax pmax
comp=Z,328nm,1.7s
A22K Sinclair Lake 30.65 29 P P 00 21 49.4 +1.2
baz=253
I21K Tanana 30.66 41 P P 00 21 49.7 +1.4
baz=266
SKT Skwentna 30.77 47 P P 00 21 51.2 +1.7
baz=272
F22K John River 30.84 36 P P 00 21 51.6 +1.6
baz=262
HOM Homer 30.86 52 P P 00 21 51.4 +1.2
baz=276
D22K Ayikyak River 30.89 33 P P 00 21 51.7 +1.2
baz=259,SNR=8.5
B22K Teshekpuk Lake 30.96 30 P P 00 21 52.2 +1.2
baz=256
H22K Ishtalitna Cre 30.96 39 P P 00 21 52.6 +1.4
baz=265
CAPN Captain Cook N 31.01 49 P P 00 21 53.0 +1.5
baz=274
G22K Bettles 31.02 37 P P 00 21 52.3 +0.8
baz=264
BPAW Bear Paw Mtn. 31.03 43 P P 00 21 52.3 +0.6
BPAW Bear Paw Mtn. 31.03 43 P P 00 21 52.8 +1.1
baz=269
KTH Kantishna Hill 31.04 44 P P 00 21 52.7 +0.8
KTH lAmb lAmb 00 21 55.1
comp=Z,35nm,1.4s
E22K Anaktuvuk Pass 31.07 35 P P 00 21 52.9 +0.9
baz=261,SNR=15
SUA Susitna One 31.17 48 P P 00 21 53.8 +0.8
baz=273
MLY Manley 31.17 41 P P 00 21 54.2 +1.2

baz=268,SNR=5.6
BRSE Bradley Lake S 31.30 51 P P 00 21 55.2 +1.0
baz=276
TRF Thorofare Moun 31.33 44 P P 00 21 55.2 +0.6
baz=270
CUT Chulitna 31.36 46 P P 00 21 55.1 +0.6
baz=272
H11N2 WAKE ISLAND Hy 31.37 160 T T 00 55 05.4
baz=348,slow=76,SNR=235
H11N1 WAKE ISLAND Hy 31.38 160 T T 00 55 05.4
baz=348,slow=76,SNR=328
H11N3 WAKE ISLAND Hy 31.38 160 T T 00 55 05.4
baz=348,slow=76,SNR=480
M22K Willow 31.45 47 P P 00 21 55.8 +0.5
baz=274
COLD Coldfoot 31.56 37 P P 00 21 57.1 +0.8
baz=264,SNR=8.3
G23K Bananza Creek 31.58 38 P P 00 21 57.0 +0.4
baz=265
D23K Nanushuk River 31.62 33 P P 00 21 58.0 +1.2
baz=261
RC01 Rabbit Creek A 31.68 49 P P 00 21 58.1 +0.7
baz=275
O22K Cooper Landing 31.74 50 P P 00 21 58.5 +0.6
baz=276
I23K Minto, Yukon-K 31.76 41 P P 00 21 59.2 +1.1
baz=269
C23K Itkillik River 31.79 32 P P 00 21 58.9 +0.6
C23K IAmb IAmb 00 21 59.5
comp=Z,21nm,0.8s
C23K Itkillik River 31.79 32 P P 00 21 59.1 +0.8
baz=260
ULN Ulaanbaatar 31.84 285 *i* P P 00 21 59.0 -0.2
ULN pmax pmax
comp=Z,2.0nm,1.4s
NEA2 Nenana 31.87 42 P P 00 21 59.3 +0.2
NEA2 IAmb IAmb 00 22 01.9
comp=Z,13nm,0.5s
NEA2 Nenana 31.87 42 P P 00 21 59.8 +0.8
baz=270
E23K Chandalar 31.88 35 P P 00 21 59.9 +0.7
baz=264
SEW Seward 31.91 50 P P 00 22 00.1 +0.7
baz=277
MCK McKinley 31.93 44 P P 00 22 00.6 +0.9
baz=271,SNR=5.6
PMR Palmer 31.93 48 P P 00 22 00.9 +1.3
baz=275
TOLK Toolik Lake Re 31.97 34 P P 00 22 00.3 +0.3
TOLK IAmb IAmb 00 22 01.1
comp=Z,14nm,0.6s
TOLK Toolik Lake Re 31.97 34 P P 00 22 00.8 +0.8
baz=263,SNR=7.4
RND Reindeer 31.97 44 P P 00 22 00.1 0.0
RND IAmb IAmb 00 22 00.7
comp=Z,14nm,0.6s
RND Reindeer 31.97 44 P P 00 22 00.1 0.0
RND pmax pmax
comp=Z,14nm,0.6s
HNS HongShan 32.05 263 ⇑P P 00 22 01.8 +0.9
HNS pmax pmax
comp=Z,13nm,1.1s
WAT1 Susitna Watana 32.13 45 P P 00 22 01.5 +0.1
baz=273
HHC Hu-ho-hao-te 32.15 271 *e*P P 00 22 02.3 +0.4
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,160nm,4.9s
SONM Songino Array 32.26 286 P P 00 22 01.8 -1.1
comp=Z,0.3nm,0.4s,baz=55,slow=7.5,SNR=2.5
SONM PcP PcP 00 24 48.6 +0.3
comp=Z,1.2nm,0.7s,baz=110,slow=2.7,SNR=6.1
KNK Knik Glacier 32.27 48 P P 00 22 03.5 +0.9
baz=275,SNR=7.5
SML Sawmill 32.30 47 P P 00 22 03.4 +0.5
SML Sawmill 32.30 47 P P 00 22 03.7 +0.8
baz=275,SNR=10.0
E24K Your Creek 32.30 35 P P 00 22 04.0 +1.2
baz=265,SNR=19
D24K Happy Valley 32.30 33 P P 00 22 03.8 +1.0
baz=263
COLA College 32.40 41 P P 00 22 03.9 +0.3
COLA IAmb IAmb 00 22 05.4
comp=Z,31nm,0.8s
COLA College 32.40 41 P P 00 22 04.9 +1.3
COLA College 32.40 41 P P 00 22 04.5 +0.9
baz=270
COLA College 32.40 41 P P 00 22 03.9 +0.3
COLA pmax pmax
comp=Z,31nm,0.9s
COLA College 32.40 41 P P 00 22 04.6 +1.0
H24K Noodor Dome 32.40 40 P P 00 22 04.9 +1.2
baz=269
C24K Franklin Bluff 32.43 32 P P 00 22 04.5 +0.7
baz=262
F24K Squaw Lake 32.48 36 P P 00 22 05.2 +0.8
baz=266,SNR=12
H11S1 WAKE ISLAND Hy 32.51 161 T T 00 56 36.2
baz=348
WAT6 Susitna Watana 32.52 46 P P 00 22 05.5 +0.6
baz=274
H11S3 WAKE ISLAND Hy 32.52 161 T T 00 56 37.0
baz=348,slow=74
H11S2 WAKE ISLAND Hy 32.53 161 T T 00 56 35.0
baz=348,slow=74
POKR Poker Plat Res 32.57 41 P P 00 22 06.8 +1.6
baz=270,SNR=10
M23K Glacier View 32.59 47 P P 00 22 06.2 +0.8
baz=275
G24K Hadweenzic Riv 32.59 38 P P 00 22 06.9 +1.5
baz=268
DHY Denali Highway 32.66 45 P P 00 22 06.9 +0.8
baz=274
SCM Sheep Creek Mo 32.77 47 P P 00 22 07.3 +0.3
SCM IAmb IAmb 00 22 09.6
comp=Z,38nm,1.1s
SCM Sheep Creek Mo 32.77 47 P P 00 22 08.4 +1.4
baz=276
SCM Sheep Creek Mo 32.77 47 P P 00 22 07.3 +0.3
SCM pmax pmax
comp=Z,38nm,1.1s
HDA Harding Lake 32.79 42 P P 00 22 06.9 -0.2
HDA IAmb IAmb 00 22 08.4
comp=Z,18nm,0.6s
HDA Harding Lake 32.79 42 P P 00 22 07.2 +0.1
baz=272,SNR=14
HDA P P 00 22 07.2 +0.1
baz=272,SNR=14
IL31 32.81 42 P P 00 22 07.5 +0.3
ILAR Eielson Array 32.81 42 P P 00 22 07.1 -0.1
ILAR Eielson Array 32.81 42 P P 00 22 07.5 +0.3
comp=Z,5.7nm,0.8s,baz=257,slow=7.8,SNR=12
ILAR PcP PcP 00 24 48.9 -0.6
comp=Z,0.6nm,0.5s,baz=291,slow=3.2,SNR=4.2
comp=Z,5.7nm,0.8s
NJ2 Nanjing 32.88 251 *e*P P 00 22 08.4 +0.2
NJ2 pP pP 00 22 32.6 -0.2
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,320nm,3.5s
GLI Glacier Island 32.98 49 P P 00 22 09.8 +1.0
baz=277
G25K Bearman Lake 33.14 38 P P 00 22 11.4 +1.4
baz=269
D25K Kavik River 33.19 33 P P 00 22 11.1 +0.5
baz=265
M24K Tolsona, Glenn 33.29 46 P P 00 22 12.4 +0.9
baz=276
K24K Donnelly Dome 33.33 43 P P 00 22 11.7 -0.2
baz=274
F25K Christian Rive 33.34 36 P P 00 22 12.6 +0.6
baz=268
PRP Porcupine Dome 33.37 40 P P 00 22 12.5 +0.2
PRP IAmb IAmb 00 22 14.3
comp=Z,22nm,0.9s
PRP Porcupine Dome 33.37 40 P P 00 22 13.5 +1.2
baz=272,SNR=9.5
E25K Arctic Village 33.40 35 P P 00 22 13.8 +1.4
baz=268,SNR=12
J25K Salcha River, 33.47 42 P P 00 22 13.0 -0.1
baz=273
KLU Klutina 33.47 48 P P 00 22 13.1 0.0
baz=277
PAX Paxson 33.53 45 P P 00 22 14.3 +0.6
baz=275

Q23K Middleton Isla 33.56 51 P P 00 22 14.5 +0.8
baz=280
EYAK Cordova Ski Ar 33.68 49 P P 00 22 15.8 +0.9
baz=279
HARP HAARP 33.73 46 P P 00 22 16.3 +1.1
baz=276
BMAR Burnt Mountain 33.75 37 P P 00 22 16.2 +0.8
RIDG Independent Ri 33.75 43 P P 00 22 15.9 +0.5
baz=275
C26K Camden Bay 33.76 32 P P 00 22 17.2 +1.8
baz=265
F26K Sheenjek River 33.92 36 P P 00 22 19.0 +2.1
baz=269
G26K Porcupine Rive 34.06 38 P P 00 22 19.5 +1.5
baz=271
N25K Chitina, Valde 34.09 47 P P 00 22 19.5 +1.0
baz=278
SCRK Sand Creek 34.11 43 P P 00 22 18.3 -0.3
SCRK IAmb IAmb 00 22 19.6
comp=Z,12nm,0.9s
SCRK Sand Creek 34.11 43 P P 00 22 18.6 -0.1
baz=275,SNR=8.2
BMRM Bremner River 34.17 48 P P 00 22 19.4 +0.2
baz=279
J26L Joseph Creek 34.25 42 P P 00 22 19.2 -0.6
baz=275
KAIM Kayak Island 34.44 50 P P 00 22 22.9 +1.5
baz=281
L26K Log Cabin Wild 34.49 45 P P 00 22 23.7 +1.8
baz=277
M26K Nabesna, AK 34.73 46 P P 00 22 25.4 +1.5
M26K IAmb IAmb 00 22 26.7
comp=Z,18nm,0.9s
M26K Nabesna, AK 34.73 46 P P 00 22 25.8 +1.8
baz=278
MCARA McCarthy VSAT 34.87 47 P P 00 22 27.0 +1.9
baz=280
E27K Coleen River 34.88 35 P P 00 22 25.8 +0.6
E27K Coleen River 34.88 35 P P 00 22 26.9 +1.7
baz=271
G27K Doyon Strip 34.90 38 P P 00 22 26.7 +1.4
baz=273
CRQE Cirque 34.94 48 P P 00 22 27.3 +1.5
baz=280,SNR=5.5
K27K Chicken 34.94 43 P P 00 22 26.8 +1.1
baz=277
BGLC Bering Glacier 34.96 50 P P 00 22 27.8 +1.9
baz=281
H27K Steamboat Moun 34.98 39 P P 00 22 27.8 +1.7
baz=274
I27K Kandik River 34.99 40 P P 00 22 28.0 +1.9
baz=275
D27M Malcolm River 35.11 34 P P 00 22 28.6 +1.4
baz=270
L27K Beaver Creek, 35.17 44 P P 00 22 30.0 +2.3
baz=278
BCAR Beaver Creek A 35.19 44 P P 00 22 29.2 +1.3
M27K Edge Creek, AK 35.25 46 P P 00 22 30.9 +2.4
baz=279
EGAK Eagle 35.26 41 P P 00 22 28.6 +0.2
EGAK IAmb IAmb 00 22 29.1
comp=Z,14nm,0.7s
EGAK Eagle 35.26 41 P P 00 22 28.7 +0.3
baz=276,SNR=8.2
F28M Old Crow 35.55 36 P P 00 22 32.6 +1.7
baz=274,SNR=12
BARN Barnard Glacie 35.57 48 P P 00 22 32.6 +1.3
BARN IAmb IAmb 00 22 33.9
comp=Z,23nm,0.8s
MESA MESA 35.60 49 P P 00 22 33.5 +1.8
baz=282
E28M Babbage River 35.64 35 P P 00 22 33.1 +1.5
baz=272,SNR=8.4
I28M Miner Creek 35.70 40 P P 00 22 33.8 +1.5
baz=276
BVCY Beaver Creek 35.71 45 P P 00 22 34.2 +1.9
baz=280,SNR=9.6
CTG Chitna Glacier 35.74 48 P P 00 22 34.5 +1.8
baz=282,SNR=6.9
D28M Stokes Point 35.90 33 P P 00 22 35.0 +1.2
baz=272
YUK3 Moose Creek 36.01 46 P P 00 22 36.4 +1.3
baz=281,SNR=6.6
DAWY Dawson 36.11 42 P P 00 22 36.5 +0.8
DAWY IAmb IAmb 00 22 38.9
comp=Z,15nm,1.3s
DAWY Dawson 36.11 42 P P 00 22 37.1 +1.4
baz=279
E29M Blow River 36.25 35 P P 00 22 38.2 +1.3
baz=274
H29M Whitestone 36.26 39 P P 00 22 38.3 +1.4
baz=277
G29M Pine Creek 36.33 37 P P 00 22 39.5 +2.0
baz=276,SNR=8.3
I29M Ogilvie Camp, 36.39 40 P P 00 22 39.3 +1.2
baz=278,SNR=15
YUK8 Steele Glacier 36.43 47 P P 00 22 41.1 +2.4
baz=282
PINM Pinnacle 36.45 49 P P 00 22 40.7 +1.9
baz=284
WHN Wuhan 36.70 254 P P 00 22 42.4 +1.4
WHN pP PP 00 24 07.9 +1.2
M29M Somme Creek 36.80 45 P P 00 22 43.7 +2.0
baz=282,SNR=14
L29M L29M 36.82 44 P P 00 22 44.2 +2.4
baz=281
EPYK Eagle Plains 36.90 38 P P 00 22 43.6 +1.1
baz=278
YUK4 Talbot Arm 36.94 47 P P 00 22 44.7 +1.6
baz=283
K29M Barlow Dome 36.96 42 P P 00 22 43.6 +0.6
baz=281
PNL Peninsula 36.97 50 P P 00 22 44.4 +1.3
PNL Peninsula 36.97 50 P P 00 22 44.7 +1.6
baz=285
G30M tAoh Zraii Nji 37.02 37 P P 00 22 44.9 +1.4
baz=278
F30M Barrier River 37.11 36 P P 00 22 46.0 +1.8
baz=277
I30M Mount Dempster 37.21 40 P P 00 22 46.4 +1.2
baz=280,SNR=25
O29M Mount Kennedy 37.22 48 P P 00 22 47.0 +1.7
baz=284
J30M Hart River 37.34 41 P P 00 22 48.3 +2.1
baz=281
GUMO Guam 37.42 198 LR LR 00 37 59.0
comp=Z,30nm,18.8s,baz=92,slow=36
M30M Minto, Yukon 37.53 44 P P 00 22 49.7 +1.9
baz=283
HYT Haines Junctio 37.60 47 P P 00 22 50.0 +1.5
HYT IAmb IAmb 00 22 51.5
comp=Z,16nm,1.0s
HYT Haines Junctio 37.60 47 P P 00 22 50.7 +2.2
baz=284,SNR=7.6
N30M Aishikik Lake 37.65 46 P P 00 22 50.5 +1.7
baz=284
MAYO Mayo, Yukon 37.72 43 P P 00 22 51.4 +2.1
baz=282
G31M Satah River 37.79 37 P P 00 22 51.2 +1.4
baz=279,SNR=7.4
P29M Windy Craggy 37.80 49 P P 00 22 51.8 +1.8
baz=286
SSLB Suanglung 37.81 239 P P 00 22 50.2 -0.4
SSLB IAmb IAmb 00 24 03.2
comp=Z,44nm,1.7s
INK Inuvik 37.87 35 P P 00 22 51.4 +0.9
INK IAmb IAmb 00 22 52.2
comp=Z,17nm,1.1s
INK Inuvik 37.87 35 P P 00 22 51.8 +1.3
baz=278,SNR=8.9
INK Inuvik 37.87 35 P P 00 22 51.4 +0.9
INK pmax pmax
comp=Z,17nm,1.2s
F31M Tsiigehtchic 37.92 36 P P 00 22 52.2 +1.4
baz=279,SNR=8.3
P30M Million Dollar 38.05 48 P P 00 22 54.4 +2.2
baz=286
N31M Braeburn, Yuko 38.25 46 P P 00 22 56.7 +2.9
baz=285
O30N Mendenhall 38.29 47 P P 00 22 56.4 +2.2
baz=286,SNR=9.7
M31M Drury Creek, Y 38.71 45 P P 00 22 59.9 +2.3
baz=285,SNR=9.2
WHY Whitehorse 38.89 47 P P 00 23 01.9 +2.6
baz=287
SKAG Skagway 39.02 49 P P 00 23 03.1 +2.9
baz=288
S31K Pelican 39.04 52 P P 00 23 01.7 +1.4

baz=289
FARO Faro, Yukon 39.17 44 P P 00 23 03.5 +2.0
baz=286,SNR=7.5
P32M Atlin 39.77 48 P P 00 23 08.3 +1.9
baz=289
R32K Eaglecrest 39.80 51 P P 00 23 09.1 +2.5
baz=290
LZH Lanzhou 39.83 270 *e*P P 00 23 09.9 +2.5
LZH pP pP 00 23 37.0 +4.2
LZH pmax pmax
comp=Z,6.0nm,1.1s
P33M Teslin, Yukon 40.00 47 P P 00 23 10.9 +2.5
baz=288,SNR=8.5
A36M Sachs Harbour 40.08 28 P P 00 23 10.0 +1.2
A36M Sachs Harbour 40.08 28 P P 00 23 10.2 +1.3
baz=281,SNR=57
Q32M Nakina River 40.67 49 P P 00 23 16.3 +2.1
baz=290
C36M Paulatuk 41.04 32 P P 00 23 17.9 +1.1
baz=285,SNR=26
R33M Jennings River 41.16 48 P P 00 23 20.9 +2.8
baz=291,SNR=7.6
WRAK Wrangell Islan 41.56 53 P P 00 23 23.6 +2.5
baz=293
S34M Telegraph Cree 41.61 50 P P 00 23 23.8 +2.2
baz=292
TGTN Hyland Airport 41.68 44 P P 00 23 24.2 +2.1
baz=290,SNR=12
DLBC Dease Lake 41.95 49 P P 00 23 26.7 +2.2
baz=292
T35M Bob Quinn 42.41 51 P P 00 23 31.0 +2.9
baz=294
ZALV Zalesovo Beam 42.41 304 P P 00 23 26.6 -1.5
ZALV PcP PcP 00 25 19.4 +0.3
ZALV Zalesovo Beam 42.41 304 *i* P P 00 23 27.0 -1.1
ZALV pmax pmax
comp=Z,2.0nm,0.3s
ZALV Zalesovo Beam 42.41 304 P P 00 23 26.3 -1.8
comp=Z,1.6nm,0.3s,baz=61,slow=6.8,SNR=14
ZALV PcP PcP 00 25 18.4 -0.7
comp=Z,2.3nm,0.4s,baz=74,slow=4.0,SNR=12
ZALV LR LR 00 42 40.8
comp=Z,17nm,19.8s,baz=35,slow=38
comp=Z,1.6nm,0.3s
DGZ Jazzator, Alta 42.84 297 *i* P P 00 23 32.0 +0.1
DGZ pmax pmax
comp=Z,8.0nm,1.1s
CD2 Chengdu 43.16 264 P P 00 23 33.1 -1.4
WRGLY Wrigley 43.18 41 P P 00 23 36.6 +2.4
baz=292,SNR=7.9
KOTAN Kotaneelee Air 44.12 45 P P 00 23 44.2 +2.4
baz=294
GYA Guiyang 44.37 257 *e*P P 00 23 45.9 +1.6
GYA pmax pmax
comp=Z,13nm,0.5s
WMQ Urumqi 45.66 290 *e*P P 00 23 55.4 +1.1
WMQ pmax pmax
comp=Z,7.0nm,0.9s
ALE Alert 46.34 6 P P 00 23 58.9 -0.1
ALE PcP PcP 00 25 32.8 +0.7
RES Resolute Bay 47.15 20 P P 00 24 05.6 +0.2
RES Resolute Bay 47.15 20 P P 00 24 05.6 +0.2
RES pmax pmax
comp=Z,14nm,1.2s
RES Resolute Bay 47.15 20 LR LR 00 45 19.0
comp=Z,19nm,20.8s,baz=23,slow=38
YKA Yellowknife Ar 47.17 39 P P 00 24 06.5 +0.8
YKA Yellowknife Ar 47.17 39 P P 00 24 06.8 +1.1
comp=Z,5.0nm,0.7s,baz=297,slow=7.9,SNR=57
YKA PcP PcP 00 25 36.0 +0.6
comp=Z,0.9nm,0.8s,baz=300,slow=3.4,SNR=3.3
comp=Z,5.0nm,0.7s
MK31 Makanchi Array 47.27 296 P P 00 24 06.2 -0.6
MK31 Makanchi Array 47.27 296 *ce*P P 00 24 07.1 +0.3
MKAR Makanchi Array 47.27 296 P P 00 24 06.2 -0.6
MKAR PcP PcP 00 25 36.2 +0.2
MKAR Makanchi Array 47.27 296 P P 00 24 06.2 -0.6
MKAR 00 25 36.2
MKAR Makanchi Array 47.27 296 P P 00 24 06.2 -0.6
comp=Z,1.8nm,0.4s,baz=45,slow=5.5,SNR=80
MKAR pP pP 00 24 29.5 -3.4
comp=Z,0.5nm,0.4s,baz=52,slow=10,SNR=2.2
MKAR PcP PcP 00 25 35.9 -0.2
comp=Z,1.3nm,0.7s,baz=80,slow=3.5,SNR=2.6
MKAR LR LR 00 47 29.4
comp=Z,44nm,18.5s,baz=84,slow=40
comp=Z,1.8nm,0.4s
KURK Kurchatov 47.28 302 P P 00 24 06.1 -0.6
KURK IAmb IAmb 00 24 07.6
comp=Z,43nm,1.4s
KURK Kurchatov 47.28 302 *ce*P P 00 24 05.3 -1.4
KURK pmax pmax
comp=Z,25nm,1.3s
KURK Kurchatov 47.28 302 P P 00 24 06.2 -0.6
KURK pP pP 00 24 34.8 +2.0
KURK PcP PcP 00 25 36.1 +0.1
KURBB Kurchatov Arra 47.38 302 P P 00 24 07.0 -0.5
comp=Z,7.0nm,0.5s,baz=64,slow=8.0,SNR=34
KURBB PcP PcP 00 25 36.2 -0.1
comp=Z,3.4nm,0.7s,baz=62,slow=3.2,SNR=11
comp=Z,7.0nm,0.5s
MAKZ Makanchi 47.45 296 P P 00 24 07.5 -0.7
MAKZ pP pP 00 24 37.3 +3.0
MAKZ PcP PcP 00 25 36.6 -0.1
PZH PanZhiHua 47.46 261 P P 00 24 09.3 +0.7
PZH pmax pmax
comp=Z,7.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.7s
KMI Kunming 47.80 259 ⇑P P 00 24 10.5 -0.8
KMI pmax pmax
comp=Z,7.0nm,1.0s
HILA High Level 48.04 45 P P 00 24 13.3 +0.8
SPB1 Spitsbergen Ar 49.80 350 P P 00 24 23.9 -1.8
SPITS Spitsbergen Ar 49.80 350 P P 00 24 23.7 -2.0
comp=Z,5.4nm,0.5s,baz=62,slow=8.9,SNR=2.6
comp=Z,5.4nm,0.5s
BVAR Borovoye Array 50.38 309 P P 00 24 29.6 -0.8
comp=Z,2.7nm,0.3s,baz=56,slow=9.1,SNR=22
BVAR PcP PcP 00 25 47.5 +0.2
comp=Z,1.7nm,0.4s,baz=62,slow=4.3,SNR=4.4
BVAR LR LR 00 47 01.1
comp=Z,28nm,18.1s,baz=50,slow=37
comp=Z,2.7nm,0.3s
BRVK Borovoye 50.42 309 P P 00 24 29.4 -1.3
BRVK IAmb IAmb 00 24 30.6
comp=Z,9.6nm,0.8s
BRVK Borovoye 50.42 309 *ce*P P 00 24 29.6 -1.1
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 50.42 309 P P 00 24 29.9 -0.7
BRVK sP sP 00 25 14.4 +5.0
BRVK PcP PcP 00 25 46.8 -0.5
NEEM North Greenlan 51.74 7 *i* P P 00 24 40.1 -0.4
NEEM IAmb IAmb 00 24 42.2
comp=Z,14nm,0.7s
EDM Edmonton 52.68 49 P P 00 24 48.4 +0.9
EDM Edmonton 52.68 49 P P 00 24 48.4 +0.9
EDM pmax pmax
comp=Z,26nm,0.6s
DAG Danmarks Havn 53.50 358 *i* P P 00 24 51.0 -2.1
DAG IAmb IAmb 00 24 53.4
comp=Z,3.9nm,0.6s
NEW Newport 53.68 56 P P 00 24 55.1 +0.1
NEW Newport 53.68 56 P P 00 24 56.6 +1.6
baz=307
NEW Newport 53.68 56 P P 00 24 55.1 +0.1
NEW pmax pmax
comp=Z,8.0nm,1.3s
ARU Arti 54.00 317 P P 00 24 55.5 -1.6
ARU IAmb IAmb 00 24 56.5
comp=Z,7.0nm,0.8s
ARU Arti 54.00 317 *d i* P P 00 24 55.3 -1.8
ARU *PP pP 00 25 24.0 +0.2
ARU 00 26 54.7
ARU S S 00 32 24.8 +0.8
ARU SS SS 00 36 03.7 -2.3
ARU pmax pmax
comp=Z,12nm,1.1s
ARU Arti 54.00 317 LR LR 00 51 55.0
comp=Z,14nm,21.9s,baz=354,slow=40
ARU Arti 54.00 317 P P 00 24 55.5 -1.6
ARU pP pP 00 25 26.6 +2.8
AAK Ala-Archa 54.21 296 P P 00 24 58.8 -0.2
AAK Ala-Archa 54.21 296 *ce*P P 00 24 58.4 -0.6
AAK pmax pmax

comp=Z,2.0nm,1.0s
AAK Ala-Archa 54.21 296 P **P** **00 24 59.2 +0.2**
comp=Z,2.2nm,0.4s,baz=157,slow=4.6,SNR=9.9
AAK LR LR 00 51 14.1
comp=Z,30nm,18.3s,baz=27,slow=39
comp=Z,2.2nm,0.4s
AAK Ala-Archa 54.21 296 P **P** **00 24 59.1 +0.2**
AAK pP **pP** **00 25 30.7 +4.9**
AAK PcP **PcP** **00 26 02.3 +0.3**
YBH Yreka Blue Hor 54.53 65 LR LR 00 47 59.3
comp=Z,14nm,18.1s,baz=26,slow=35
CMAR Chiang Mai Arr 55.06 257 *i* P **P** **00 25 08.0 +2.8**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 55.06 257 P **P** **00 25 06.5 +1.2**
comp=Z,0.9nm,0.4s,baz=29,slow=6.1,SNR=10
CMAR LR LR 00 49 07.7
comp=Z,15nm,18.4s,baz=165,slow=36
comp=Z,0.9nm,0.4s
ARCES ARCESS Array B 55.47 341 P **P** **00 25 05.5 -2.0**
comp=Z,1.7nm,0.5s,baz=43,slow=7.4,SNR=7.6
ARCES LR LR 00 55 37.5
comp=Z,13nm,18.6s,baz=211,slow=43
comp=Z,1.7nm,0.5s
KKAR Karatay Array 56.20 299 P **P** **00 25 12.0 -1.2**
KKAR Karatay Array 56.20 299 P **P** **00 25 12.0 -1.2**
PLID Pearl Lake 56.25 58 P **P** **00 25 14.5 +0.8**
PLID IAmb IAmb 00 25 16.2
comp=Z,8.0nm,0.8s
MSO Missoula 56.27 56 P **P** **00 25 14.4 +0.8**
MSO IAmb IAmb 00 25 16.1
comp=Z,11nm,1.2s
MSO Missoula 56.27 56 P **P** **00 25 16.1 +2.5**
baz=309
KIRV Kirov 56.41 323 LR LR 00 51 12.2
comp=Z,27nm,18.5s,baz=33,slow=38
CHMT Chamberlain Mo 56.58 55 P **P** **00 25 16.6 +0.6**
FFC Flin Flon 57.01 43 P **P** **00 25 19.8 +1.2**
FFC IAmb IAmb 00 25 20.8
comp=Z,26nm,1.4s
FFC Flin Flon 57.01 43 P **P** **00 25 19.8 +1.2**
FFC pmax pmax
comp=Z,26nm,1.5s
FFC Flin Flon 57.01 43 P **P** **00 25 19.8 +1.2**
FFC pP **pP** **00 25 49.9 +4.4**
SUMG Summit 57.34 5 P **P** **00 25 20.7 -0.5**
SUMG Summit 57.34 5 P **P** **00 25 20.7 -0.5**
SUMG pmax pmax
comp=Z,30nm,0.8s
SUMG Summit 57.34 5 *i* P **P** **00 25 20.0 -1.2**
SUMG IAmb IAmb 00 25 22.9
comp=Z,22nm,0.9s
EGMT Eagleton 57.69 52 P **P** **00 25 25.8 +2.2**
baz=311
AB31 Akbulak array 57.90 310 *i* P **P** **00 25 23.9 -1.0**
ABKAR Akbulak array 57.90 310 P **P** **00 25 23.8 -1.1**
ABKAR IAmb IAmb 00 25 24.9
comp=Z,14nm,1.2s
ABKAR Akbulak array 57.90 310 P **P** **00 25 23.9 -1.0**
BTK Batken 57.98 296 P **P** **00 25 25.5 -0.3**
BTK Batken 57.98 296 P **P** **00 25 25.5 -0.3**
BTK pmax pmax
comp=Z,93nm,0.4s
AKTO Aktyubinsk 58.07 312 P **P** **00 25 24.9 -1.3**
comp=Z,2.5nm,0.5s,baz=59,slow=7.3,SNR=9.6
comp=Z,2.5nm,0.5s
HLID Hailey 58.10 59 P **P** **00 25 28.5 +1.8**
baz=311,SNR=5.8
WAKR Walker 58.52 66 P **P** **00 25 31.2 +1.5**
WAKR IAmb IAmb 00 25 32.8
comp=Z,13nm,1.5s
HNR Honiara 59.24 176 LR LR 00 49 43.0
comp=Z,299nm,19.3s,baz=333,slow=34
NVAR Mina Array Bea 59.24 66 P **P** **00 25 36.1 +1.4**
NVAR Mina Array Bea 59.24 66 P **P** **00 25 36.6 +1.9**
comp=Z,1.6nm,0.5s,baz=304,slow=7.3,SNR=15
NVAR pP **pP** **00 26 00.6 -0.9**
comp=Z,2.4nm,0.9s,baz=296,slow=7.2,SNR=4.2
comp=Z,1.6nm,0.5s
ILULI Ilulissat 59.46 11 *i* P **P** **00 25 34.4 -1.0**
ILULI IAmb IAmb 00 25 36.0
comp=Z,13nm,0.8s
H17A Grant Village 59.64 56 P **P** **00 25 40.3 +2.9**
baz=312,SNR=5.5
RLMT Red Lodge 59.85 55 P **P** **00 25 41.0 +2.3**
baz=312,SNR=9.6
SCO Scoresbysund 59.86 359 P **P** **00 25 38.4 +0.3**
SCO IAmb IAmb 00 26 11.0
comp=Z,15nm,1.2s
SCO Scoresbysund 59.86 359 P **P** **00 25 38.4 +0.3**
SCO pmax pmax
comp=Z,15nm,1.2s
SCO Scoresbysund 59.86 359 *i* P **P** **00 25 36.1 -2.0**
SCO IAmb IAmb 00 25 40.2
comp=Z,3.6nm,0.8s
SIMJ Simiganj 59.96 295 P **P** **00 25 38.9 -0.6**
TPH Tonopah 60.11 65 P **P** **00 25 41.5 +0.9**
TPH Tonopah 60.11 65 P **P** **00 25 41.5 +0.9**
TPH pmax pmax
comp=Z,30nm,1.1s
DGMT Dagmar 60.17 49 P **P** **00 25 41.2 +0.5**
DGMT IAmb IAmb 00 25 43.1
comp=Z,17nm,0.8s
DGMT Dagmar 60.17 49 P **P** **00 25 42.3 +1.6**
baz=313
LAO LASA Array 60.37 52 P **P** **00 25 43.3 +1.2**
baz=313
VES Vestal, Richgr 60.50 68 P **P** **00 25 43.6 +0.6**
baz=313
CWC Cottonwood Cre 60.70 67 P **P** **00 25 46.3 +1.7**
baz=313
ICESG Greenland Ices 60.70 6 *i* P **P** **00 25 43.2 -1.1**
ICESG IAmb IAmb 00 25 46.4
comp=Z,13nm,0.6s
PKM Mcpherson Peak 60.70 70 P **P** **00 25 46.0 +1.4**
baz=313
NIL Nilore 60.78 288 P **P** **00 25 45.1 +0.1**
NIL Nilore 60.78 288 P **P** **00 25 45.1 +0.1**
NIL pmax pmax
comp=Z,126nm,1.4s
R11B Troy Canyon, C 60.88 64 P **P** **00 25 47.5 +1.7**
baz=313
ISA Isabella, Lake 60.98 68 P **P** **00 25 47.2 +0.8**
baz=313
ARVC Arvin 61.13 69 P **P** **00 25 49.1 +1.8**
baz=313
SPR3 Spring Creek 3 61.17 63 P **P** **00 25 49.3 +1.3**
DUG Dugway, Tooele 61.22 61 P **P** **00 25 50.1 +2.0**
baz=313,SNR=5.1
BW06 Boulder Array 61.28 57 P **P** **00 25 50.0 +1.4**
baz=313
PD31 Pinedale Array 61.28 57 P **P** **00 25 49.3 +0.7**
PD31 IAmb IAmb 00 25 51.2
comp=Z,9.9nm,1.1s
PDAR Pinedale Array 61.28 57 P **P** **00 25 49.8 +1.2**
PDAR Pinedale Array 61.28 57 P **P** **00 25 50.0 +1.5**
comp=Z,4.1nm,0.8s,baz=322,slow=2.4,SNR=31
PDAR pP **pP** **00 26 15.1 -0.4**
comp=Z,2.8nm,0.8s,baz=320,slow=3.0,SNR=5.5
comp=Z,4.1nm,0.8s
MPMC Manual Prospec 61.30 67 P **P** **00 25 49.7 +0.9**
baz=313
FRB Frobisher Bay 61.35 21 LR LR 00 55 35.9
comp=Z,24nm,18.1s,baz=338,slow=39
FURC Furnace Creek, 61.40 66 P **P** **00 25 51.0 +1.9**
baz=313
TPNV Topopah Spring 61.44 66 P **P** **00 25 50.3 +0.7**
TPNV Topopah Spring 61.44 66 P **P** **00 25 51.4 +1.8**
baz=313,SNR=5.1
TPNV Topopah Spring 61.44 66 P **P** **00 25 50.3 +0.7**
TPNV pmax pmax
comp=Z,5.0nm,1.0s
BELG Belogornoye 61.45 319 *i* P **P** **00 25 48.4 -0.8**
BELG pmax pmax
comp=Z,2.0nm,1.0s
LRMC Laurel Mtn Rad 61.58 68 P **P** **00 25 51.0 +0.5**
baz=313
SFJD Kangerlussuaq 61.62 12 P **P** **00 25 49.7 -0.4**
SFJD Kangerlussuaq 61.62 12 P **P** **00 25 49.7 -0.4**
SFJD pmax pmax
comp=Z,36nm,1.4s
SFJD Kangerlussuaq 61.62 12 *i* P **P** **00 25 49.0 -1.1**
SFJD IAmb IAmb 00 25 50.2
comp=Z,12nm,0.4s
SFJD Kangerlussuaq 61.62 12 LR LR 00 52 03.1
comp=Z,8.7nm,21.7s,baz=42,slow=35
SFJD Kangerlussuaq 61.62 12 P **P** **00 25 49.8 -0.4**
SFJD PcP **PcP** **00 26 30.5 -0.1**
EDW2 Edwards Air Fo 61.80 69 P **P** **00 25 52.9 +1.0**
baz=313
FINES FINESS Array B 61.97 335 *i* P **P** **00 25 51.5 -1.0**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 61.97 335 P **P** **00 25 50.4 -2.1**
comp=Z,1.4nm,0.5s,baz=33,slow=6.3,SNR=10
FINES LR LR 00 55 19.4
comp=Z,25nm,18.2s,baz=94,slow=38
comp=Z,1.4nm,0.5s
DECC Green Verdugo 62.02 69 P **P** **00 25 55.0 +1.6**
baz=314
SOEG Soedalen 62.03 3 *i* P **P** **00 25 51.2 -1.6**
SOEG IAmb IAmb 00 25 54.0
comp=Z,7.6nm,0.7s
GSC Goldstone, Bar 62.23 67 P **P** **00 25 56.1 +1.3**
baz=314
BFSC Mount Baldy Ra 62.44 69 P **P** **00 25 57.2 +0.9**
baz=314
DY2G Dye2 62.65 10 *i* P **P** **00 25 56.0 -1.3**
DY2G IAmb IAmb 00 25 59.0
comp=Z,8.9nm,0.8s
TUQ Turquoise Moun 62.66 67 P **P** **00 25 59.3 +1.5**
baz=314
SCI2 San Clemente I 62.77 70 P **P** **00 26 00.3 +2.0**
baz=314
ULM Lac du Bonnet 62.80 43 P **P** **00 25 58.7 +0.4**
ULM IAmb IAmb 00 25 59.9
comp=Z,33nm,1.9s
ULM Lac du Bonnet 62.80 43 P **P** **00 25 58.7 +0.4**
ULM pmax pmax
comp=Z,33nm,1.9s
ULM Lac du Bonnet 62.80 43 P **P** **00 25 58.4 +0.1**
comp=Z,3.9nm,0.5s,baz=326,slow=7.6,SNR=9.9
comp=Z,3.9nm,0.5s
MDND Maddock 62.82 47 P **P** **00 25 59.6 +1.1**
baz=316
HEC Hector,Ludlow 62.83 67 P **P** **00 26 00.0 +1.2**
baz=314
MURC Murrieta 63.16 69 P **P** **00 26 02.2 +1.2**
baz=314
RSSD Black Hills 63.26 53 P **P** **00 26 02.4 +0.7**
RSSD IAmb IAmb 00 26 03.4
comp=Z,8.2nm,0.8s
RSSD Black Hills 63.26 53 P **P** **00 26 02.7 +1.0**
baz=315
RSSD Black Hills 63.26 53 P **P** **00 26 02.4 +0.7**
RSSD pmax pmax
comp=Z,8.0nm,0.8s
RSSD Black Hills 63.26 53 P **P** **00 26 02.9 +1.2**
GMRC Granite Mounta 63.26 67 P **P** **00 26 03.1 +1.4**
baz=314
PFO Pinyon Flats O 63.60 69 P **P** **00 26 05.2 +1.3**
baz=314
TPFO Pinon Flats 63.60 69 P **P** **00 26 05.4 +1.4**
baz=314
BELC Belle Mtn. Jos 63.60 68 P **P** **00 26 04.7 +0.7**
baz=314
OBN Obninsk 63.77 326 *i* P **P** **00 26 08.4 +3.9**
OBN *i* 00 26 39.2
OBN pmax pmax
comp=Z,6.0nm,1.0s
O20A White River Ci 63.81 58 P **P** **00 26 07.1 +1.7**
baz=315
IRM Iron Mountain 64.00 67 P **P** **00 26 08.4 +1.9**
baz=314
MONP2 Monument Peak 64.12 69 P **P** **00 26 09.0 +1.5**
baz=315
BC3 Big Chuckawall 64.17 68 P **P** **00 26 09.0 +1.3**
baz=315
AGMN Agassiz Nation 64.23 45 P **P** **00 26 08.5 +0.8**
baz=317
ISOG Isortoq, Green 64.24 7 *i* P **P** **00 26 05.8 -1.6**
ISOG IAmb IAmb 00 26 07.5
comp=Z,15nm,0.4s
IKP In-Ko-Pah, Jac 64.47 69 P **P** **00 26 11.3 +1.7**
baz=315
PDMCI Parker Dam,Lak 64.50 67 P **P** **00 26 11.3 +1.7**
baz=315
WUAZ Wupatki 65.27 64 P **P** **00 26 16.6 +1.7**
baz=315
ISCO Idaho Springs 65.48 57 P **P** **00 26 17.4 +1.0**
ISCO Idaho Springs 65.48 57 P **P** **00 26 18.4 +2.0**
baz=316,SNR=7.1
ISCO Idaho Springs 65.48 57 P **P** **00 26 17.4 +1.0**
ISCO pmax pmax
comp=Z,8.0nm,1.1s
NC303 NORSAR Array S 65.61 342 P **P** **00 26 15.6 -0.8**
BORG Borgarnes 65.61 359 P **P** **00 26 16.3 -0.1**
BORG Borgarnes 65.61 359 P **P** **00 26 16.3 -0.1**
BORG pmax pmax
comp=Z,355nm,2.0s
MVCO Mesa Verde 65.72 61 P **P** **00 26 19.5 +1.6**
baz=316
NB2 NORSAR Subarra 65.81 342 P **P** **00 26 16.2 -1.5**
comp=Z,5.5nm,0.8s,baz=24,slow=6.5
NOA NORSAR Array B 65.81 342 P **P** **00 26 15.7 -2.1**
comp=Z,2.4nm,0.6s,baz=24,slow=6.4,SNR=9.0
NOA LR LR 00 58 33.6
comp=Z,8.8nm,18.9s,baz=300,slow=39
comp=Z,2.4nm,0.6s
HFS Hagfors 66.12 340 P **P** **00 26 18.8 -0.9**
comp=Z,1.4nm,0.3s,baz=31,slow=3.5,SNR=12
HFS LR LR 00 59 54.8
comp=Z,16nm,18.0s,baz=32,slow=40
comp=Z,1.4nm,0.3s
S22A 4UR Ranch, Cre 66.27 59 P **P** **00 26 23.8 +2.3**
baz=316
Q24A Divide 66.33 57 P **P** **00 26 23.1 +1.3**
baz=316
EYMN Ely 66.44 43 P **P** **00 26 22.6 +0.6**
baz=320
OGNE Ogallala 66.56 54 P **P** **00 26 24.7 +1.7**
baz=317
GEYT Alibeck 66.64 301 P **P** **00 26 22.8 -0.7**
comp=Z,1.8nm,0.5s,baz=66,slow=5.0,SNR=4.3
comp=Z,1.8nm,0.5s
HRA Herat 66.84 296 P **P** **00 26 24.6 -0.4**
214A Organ Pipe Nat 66.94 67 P **P** **00 26 27.5 +2.1**
baz=316
SDCO Great Sand Dun 67.01 58 P **P** **00 26 27.7 +1.6**
baz=316
ECSD EROS Data Cent 67.24 49 P **P** **00 26 27.4 +0.3**
ECSD IAmb IAmb 00 26 28.2
comp=Z,9.3nm,0.7s
ECSD EROS Data Cent 67.24 49 P **P** **00 26 27.8 +0.7**
baz=318,SNR=9.5
IVI Ivigtut 67.48 12 P **P** **00 26 28.4 +0.2**
TUC Tucson 67.89 66 P **P** **00 26 33.6 +2.1**
baz=316
SPMN Marine on St. 67.92 45 P **P** **00 26 32.0 +0.6**
baz=320
T25A Trinidad 68.05 58 P **P** **00 26 34.3 +1.7**
baz=317
BGNE Belgrade 68.21 51 P **P** **00 26 34.2 +1.0**
baz=318
ANMO Albuquerque 68.50 61 P **P** **00 26 36.3 +0.9**
ANMO Albuquerque 68.50 61 P **P** **00 26 37.5 +2.2**
baz=317
ANMO Albuquerque 68.50 61 *ce* P **P** **00 26 37.3 +1.9**
ANMO pmax pmax
comp=Z,3.0nm,0.8s
ANMO Albuquerque 68.50 61 LR LR 00 57 05.5
comp=Z,14nm,18.0s,baz=60,slow=36
ANMO Albuquerque 68.50 61 P **P** **00 26 37.0 +1.7**
ANMO PcP **pP** **00 27 01.6 -1.2**
I37A Lemond, Waseca 68.57 47 P **P** **00 26 36.3 +0.9**
121A Cookes Peak, D 69.48 64 P **P** **00 26 43.8 +2.3**
baz=317
SCHQ Schefferville 69.57 25 P **P** **00 26 41.7 +0.3**
SCHQ IAmb IAmb 00 26 42.3
comp=Z,11nm,0.6s
SCHQ Schefferville 69.57 25 P **P** **00 26 41.5 +0.1**
comp=Z,7.3nm,0.4s,baz=336,slow=6.0,SNR=55
comp=Z,7.3nm,0.4s
AKASG Malin Array Be 69.95 327 *i* P **P** **00 26 42.7 -1.1**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 69.95 327 P **P** **00 26 41.8 -2.0**
comp=Z,1.7nm,0.4s,baz=32,slow=6.4,SNR=12
AKASG LR LR 00 58 49.4
comp=Z,18nm,18.6s,baz=214,slow=37
comp=Z,1.7nm,0.4s
AKBB Malin Array Si 69.95 327 *ce* P **P** **00 26 43.1 -0.7**
AKBB pmax pmax
comp=Z,10.0nm,1.3s
KIV Kislovodsk 69.96 315 *e* P **P** **00 26 45.3 +1.2**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KBZ Khabaz 70.03 315 *i* P **P** **00 26 44.5 +0.1**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 70.03 315 P **P** **00 26 44.3 -0.1**
comp=Z,4.2nm,0.8s,baz=80,slow=1.3,SNR=9.3
comp=Z,4.2nm,0.8s
SHA1 Shidzhatmaz 70.14 315 *i* P **P** **00 26 44.3 -1.1**
SCIA State Center 70.26 48 P **P** **00 26 46.6 +0.7**
SCIA State Center 70.26 48 P **P** **00 26 46.9 +1.0**
baz=320,SNR=6.9
LEM Lembang 70.43 232 LR LR 00 57 42.4
comp=Z,58nm,22.0s,baz=249,slow=36
COP Copenhagen 70.45 339 *i* P P 00 26 37.9 -8.8
COP IAmb IAmb 00 26 39.6
comp=Z,91nm,0.8s
KSU1 Kansas State U 70.72 52 P **P** **00 26 49.0 +0.3**
baz=320
JFWS Jewell Farm 70.88 45 P **P** **00 26 49.9 +0.3**
baz=322
AMTX Amarillo 71.20 58 P **P** **00 26 53.2 +1.4**
baz=319
MSTX Muleshoe 71.28 59 P **P** **00 26 53.3 +1.0**
baz=318
MNTX Cornudas Mount 71.48 63 P **P** **00 26 55.1 +1.7**
baz=318,SNR=5.6
SMWD Samnorwood 71.82 57 P **P** **00 26 56.2 +0.7**
SMWD IAmb IAmb 00 26 57.7
comp=Z,14nm,1.1s
GLMI Grayling 71.85 41 P **P** **00 26 55.4 +0.1**
baz=324
VLDQ Val d'Or 71.97 35 P **P** **00 26 54.7 -1.3**
VLDQ IAmb IAmb 00 26 56.0
comp=Z,12nm,0.7s
WB2 Warramunga Arr 72.21 201 P **P** **00 26 58.0 +0.3**
WRA Warramunga Arr 72.22 201 P **P** **00 26 57.7 0.0**
WRA Warramunga Arr 72.22 201 P **P** **00 26 58.2 +0.5**
comp=Z,1.3nm,0.5s,baz=18,slow=6.2,SNR=36
WRA pP **pP** **00 27 23.5 -2.2**
comp=Z,5.2nm,0.9s,baz=16,slow=6.3,SNR=11
comp=Z,1.3nm,0.5s
WMOK Wichita Mounta 72.88 56 P **P** **00 27 02.2 +0.4**
WMOK Wichita Mounta 72.88 56 P **P** **00 27 02.2 +0.4**
WMOK pmax pmax
comp=Z,6.0nm,1.0s
FITZ Fitzroy Crossi 72.92 210 P **P** **00 27 03.0 +1.1**
HDIL Hopedale 73.17 46 P **P** **00 27 03.0 -0.3**
baz=322
OJC Ojcow 73.43 332 P **P** **00 27 03.9 -0.8**
OJC Ojcow 73.43 332 P **P** **00 27 03.9 -0.8**
OJC pmax pmax
comp=Z,18nm,1.5s
TUL3 Leonard 73.57 54 P **P** **00 27 06.3 +0.6**
baz=321
EKA Eskdalemuir Ar 73.65 348 P **P** **00 27 05.2 -0.6**
comp=Z,1.8nm,0.4s,baz=21,slow=5.3,SNR=18
comp=Z,1.8nm,0.4s
ESK Eskdalemuir 73.68 348 P **P** **00 27 05.4 -0.6**
ESK Eskdalemuir 73.68 348 P **P** **00 27 05.4 -0.6**
ESK pmax pmax
comp=Z,119nm,1.8s
KOLS Kolonicke sedl 73.80 330 *e* P **P** **00 27 07.1 +0.3**
KOLS Kolonicke sedl 73.80 330 *e* P **P** **00 27 07.1 +0.3**
KOLS pmax pmax
comp=Z,9.0nm,1.4s
BUR08 Bucovina Ar. S 73.95 328 P **P** **00 27 06.6 -1.2**
ABTX Abilene, Hawle 74.02 58 P **P** **00 27 09.4 +1.0**
baz=320
CCM Cathedral Cave 74.20 49 P **P** **00 27 09.9 +0.6**
baz=322
TX31 Lajitas Ar. Si 74.22 63 P **P** **00 27 11.2 +1.4**
TX31 IAmb IAmb 00 27 11.6
comp=Z,13nm,0.7s
TXAR Lajitas Array 74.22 63 P **P** **00 27 11.2 +1.4**
comp=Z,7.3nm,0.7s,baz=298,slow=4.4,SNR=76
TXAR pP **pP** **00 27 36.5 -1.0**
comp=Z,5.7nm,0.8s,baz=294,slow=4.3,SNR=8.4
comp=Z,7.3nm,0.7s
LDAQ Lac Daran 74.27 31 P **P** **00 27 09.9 +0.2**
LDAQ IAmb IAmb 00 27 11.1
comp=Z,33nm,1.4s
AAM Ann Arbor 74.30 42 P **P** **00 27 10.3 +0.5**
baz=325
SFIN Lafayette 74.33 45 P **P** **00 27 10.6 +0.5**
baz=324
LANS Liptovska Anna 74.48 332 *e* P **P** **00 27 12.0 +1.2**
LANS Liptovska Anna 74.48 332 *e* P **P** **00 27 12.0 +1.2**
LANS pmax pmax
comp=Z,6.0nm,1.2s
MORC Moravsky Berou 74.49 334 *e* P **P** **00 27 11.1 +0.2**
VRAC Vranov 75.18 334 *e* P **P** **00 27 14.1 -0.7**
VRAC Vranov 75.18 334 LR LR 01 04 50.4
comp=Z,17nm,18.1s,baz=42,slow=39
VYHS Vyhne 75.25 332 *e* P **P** **00 27 16.6 +1.3**
VYHS Vyhne 75.25 332 *e* P **P** **00 27 16.7 +1.4**
O48B Farmland 75.30 44 P **P** **00 27 16.0 +0.3**
baz=324
WBO Williamsburg 75.41 35 P **P** **00 27 15.7 -0.4**
WBO IAmb IAmb 00 30 02.2
comp=Z,50nm,1.6s
KRUC Moravsky 75.46 334 *e* P **P** **00 27 16.6 +0.2**
FCAR Ozark Folk Cen 75.46 51 P **P** **00 27 16.6 -0.1**
MLR Muntele Rosu 75.54 326 P **P** **00 27 17.1 0.0**
MLR IAmb IAmb 00 29 45.0
comp=Z,32nm,1.8s
MLR Muntele Rosu 75.54 326 P **P** **00 27 17.1 0.0**
MLR pmax pmax
comp=Z,32nm,1.8s
JCT Junction City 75.55 60 P **P** **00 27 18.0 +0.7**
baz=320
WHTX Lake Whitney, 75.69 57 P **P** **00 27 18.6 +0.6**
baz=321
ZVC Zvikov 75.73 335 *e* P **P** **00 27 18.4 +0.5**
D62A Allapoint, All 75.75 30 P **P** **00 27 18.5 +0.4**
D62A IAmb IAmb 00 27 19.6
comp=Z,13nm,0.8s
AS31 Alice Springs 75.90 201 P **P** **00 27 20.3 +1.2**
ASAR Alice Springs 75.90 201 P **P** **00 27 20.2 +1.1**
ASAR Alice Springs 75.90 201 P **P** **00 27 20.5 +1.4**
comp=Z,1.4nm,0.5s,baz=13,slow=5.3,SNR=30
ASAR pP **pP** **00 27 45.3 -2.1**
comp=Z,2.3nm,0.7s,baz=18,slow=5.5,SNR=7.7
comp=Z,1.4nm,0.5s
LONY Lake Ozonia 75.98 35 P **P** **00 27 19.3 -0.2**
baz=329
ERPA Erie 75.99 40 P **P** **00 27 18.7 -0.9**
baz=327
SRO Srobarova 76.02 332 *e* P **P** **00 27 20.1 +0.5**
SRO Srobarova 76.02 332 *e* P **P** **00 27 20.1 +0.5**
SRO pmax pmax
comp=Z,13nm,0.7s
P49A Miami Univ. Ec 76.09 44 P **P** **00 27 19.8 -0.3**
baz=325
DSB Dublin 76.11 349 P **P** **00 27 19.4 -0.6**
KHC Kasperske Hory 76.17 336 *e* P **P** **00 27 20.4 -0.1**
KHC Kasperske Hory 76.17 336 *e* P **P** **00 27 20.4 -0.1**
CKRC Cesky Krumlov 76.26 335 *e* P **P** **00 27 20.4 -0.6**
CKRC Cesky Krumlov 76.26 335 *e* P **P** **00 27 20.4 -0.6**
M53A WI Miller and 76.27 40 P **P** **00 27 19.8 -1.3**
baz=326
GERES GERESS Array B 76.40 335 P **P** **00 27 21.2 -0.7**
comp=Z,1.2nm,0.7s,baz=7.8,slow=11,SNR=2.8
GERES pP **pP** **00 27 45.6 -4.6**
comp=Z,1.9nm,0.7s,baz=218,slow=10.0,SNR=4.6
comp=Z,1.2nm,0.7s
WCI Wyandotte Cave 76.42 46 P **P** **00 27 22.3 +0.2**
WCI IAmb IAmb 00 27 23.7
comp=Z,11nm,0.8s
WCI Wyandotte Cave 76.42 46 P **P** **00 27 23.1 +1.1**
baz=324
WCI Wyandotte Cave 76.42 46 P **P** **00 27 22.3 +0.2**
WCI pmax pmax
comp=Z,11nm,0.8s
BATG Bathurst New B 76.52 28 P **P** **00 27 22.9 +0.5**
MEM Membach 76.60 341 *d* P **P** **00 27 23.0 +0.2**
CONA Conrad Observa 76.64 334 *i* P **P** **00 27 24.2 +1.0**
comp=Z,4.6nm,0.9s
RONA Rosalia, Austr 76.72 333 *i* P **P** **00 27 24.1 +0.4**
comp=Z,7.0nm,1.0s
BCLA Clavier 76.93 341 *d* P **P** **00 27 24.4 -0.3**
O53A New Philadelph 77.03 41 P **P** **00 27 24.8 -0.6**
baz=326
BNN Bunyan 77.12 316 P **P** **00 27 25.5 -0.6**

BNN					IAmb	IAmb	00 27 27.5		
	comp=Z,33nm,1.0s								
P52A	**Corning**	**77.15**	**42**	P	**P**		**00 27 26.0**	**-0.2**	
	baz=326								
BMRD	**Maredsous**	**77.15**	**342**	*d*P	**P**		**00 27 25.9**	**0.0**	
WSAR	**Wadi Sarin**	**77.15**	**291**	P	**P**		**00 27 27.3**	**+0.9**	
	comp=Z,5.3nm,0.9s,baz=90,slow=3.8,SNR=3.7								
	comp=Z,5.3nm,0.9s								
MOA	**Molin**	**77.16**	**335**	*i* P	**P**		**00 27 26.1**	**+0.1**	
	comp=Z,4.8nm,1.2s								
RCHB	**Rochefort**	**77.19**	**341**	*d*P	**P**		**00 27 25.4**	**-0.7**	
H62A	**Milan**	**77.25**	**33**	P	**P**		**00 27 27.4**	**+0.8**	
LBNH	**Lisbon**	**77.27**	**33**	P	**P**		**00 27 26.6**	**-0.1**	
	baz=331								
PKME	**Peaks-Kenny Pk**	**77.28**	**31**	P	**P**		**00 27 26.1**	**-0.6**	
	baz=332								
UOSS	**Minazif**	**77.32**	**294**	P	**P**		**00 27 26.8**	**-0.5**	
UOSS				IAmb	IAmb		00 27 27.9		
	comp=Z,29nm,1.2s								
BRTR	**Keskin Array B**	**77.37**	**318**	P	**P**		**00 27 27.6**	**+0.1**	
	comp=Z,2.3nm,0.6s,baz=40,slow=2.8,SNR=12								
	comp=Z,2.3nm,0.6s								
NATX	**Nacogdoches**	**77.37**	**56**	P	**P**		**00 27 26.7**	**-0.8**	
	baz=322								
WVT	**Waverly**	**77.39**	**48**	P	**P**		**00 27 27.6**	**+0.1**	
	baz=324								
BIOA	**Bad Ischl, Aus**	**77.47**	**335**	*i* P	**P**		**00 27 27.2**	**-0.7**	
	comp=Z,4.3nm,0.9s								
BINY	**Binghamton**	**77.52**	**37**	P	**P**		**00 27 27.4**	**-0.8**	
	baz=329								
OXF	**Oxford**	**77.91**	**50**	P	**P**		**00 27 29.2**	**-1.2**	
	baz=323								
LESA	**Schwarzleotal**	**77.98**	**336**	*e*P	**P**		**00 27 31.3**	**+0.6**	
	comp=Z,6.8nm,0.7s								
SOKA	**Soboth**	**78.01**	**334**	*e*P	**P**		**00 27 31.6**	**+0.7**	
	comp=Z,9.6nm,0.9s,SNR=6.0								
MCWV	**Mont Chateau**	**78.11**	**41**	P	**P**		**00 27 30.9**	**-0.5**	
	baz=327								
KBA	**Koelnbreinsper**	**78.11**	**335**	*i* P	**P**		**00 27 32.4**	**+0.8**	
	comp=Z,19nm,0.6s								
LMN	**Caledonia Moun**	**78.18**	**28**	P	**P**		**00 27 32.3**	**+0.5**	
OBKA	**Obir**	**78.30**	**334**	*i* P	**P**		**00 27 32.9**	**+0.4**	
	comp=Z,5.7nm,0.7s								
WATA	**Walderalm**	**78.35**	**336**	*i* P	**P**		**00 27 33.3**	**+0.5**	
	comp=Z,16nm,1.2s,SNR=8.2								
WTTA	**Wattenberg**	**78.40**	**336**	*i* P	**P**		**00 27 33.9**	**+0.7**	
	comp=Z,17nm,0.9s,SNR=12								
RETA	**Reutte**	**78.42**	**337**	*i* P	**P**		**00 27 33.6**	**+0.4**	
	comp=Z,5.6nm,1.1s								
MYKA	**Terra Mystica**	**78.44**	**335**	*i* P	**P**		**00 27 33.5**	**+0.2**	
	comp=Z,2.3nm,0.4s								
MOTA	**Moosalm**	**78.46**	**337**	*e*P	**P**		**00 27 34.0**	**+0.5**	
	comp=Z,15nm,1.1s,SNR=6.6								
SQTA	**Sankt Quirin**	**78.55**	**336**	*e*P	**P**		**00 27 34.6**	**+0.7**	
	comp=Z,18nm,1.3s,SNR=8.9								
L61B	**Northampton**	**78.56**	**35**	P	**P**		**00 27 32.3**	**-1.5**	
	baz=331								
PRED	**Cave del Predi**	**78.64**	**335**	P	**P**		**00 27 32.6**	**-1.7**	
ABTA	**Abfaltersbach**	**78.64**	**335**	*e*P	**P**		**00 27 34.6**	**+0.2**	
	comp=Z,12nm,1.1s,SNR=5.4								
DIVS	**Divibare**	**78.81**	**329**	P	**P**		**00 27 34.5**	**-0.8**	
DAVA	**Damuels**	**78.83**	**337**	*i* P	**P**		**00 27 35.7**	**+0.2**	
	comp=Z,12nm,1.2s								
FETA	**Feichten**	**78.86**	**337**	*i* P	**P**		**00 27 36.2**	**+0.6**	
	comp=Z,9.8nm,1.1s								
HRV	**Adam Dziewonsk**	**78.91**	**34**	P	**P**		**00 27 34.3**	**-1.5**	
	baz=331								
TZTN	**Tazewell**	**79.06**	**45**	P	**P**		**00 27 35.1**	**-1.7**	
	baz=326								
DAVOX	**Davos/Dischmat**	**79.30**	**337**	LR	LR		01 07 41.8		
	comp=Z,14nm,18.3s,baz=66,slow=39								
PAL	**Palisades**	**79.35**	**36**	P	**P**		**00 27 36.0**	**-2.1**	
	baz=330								
FUORN	**Ofenpass-Fuorn**	**79.35**	**337**	P	**P**		**00 27 38.8**	**+0.3**	
CTI	**Castel Tesino**	**79.52**	**336**	P	**P**		**00 27 38.4**	**-0.8**	
CTI				IAmb	IAmb		00 27 40.1		
	comp=Z,46nm,1.9s								
CTI	**Castel Tesino**	**79.52**	**336**	P	**P**		**00 27 38.4**	**-0.8**	
TUE	**Stuetta**	**79.72**	**337**	P	**P**		**00 27 40.8**	**+0.4**	
TUE				IAmb	IAmb		00 27 42.0		
	comp=Z,16nm,0.9s								
CLF	**Chambon-Foret**	**79.82**	**342**	P	**P**		**00 27 40.9**	**+0.2**	
LRAL	**Lakeview Retre**	**80.28**	**49**	P	**P**		**00 27 41.4**	**-2.0**	
	baz=325								
SENIN	**Lac Senin/Sane**	**80.32**	**339**	P	**P**		**00 27 44.0**	**+0.4**	
SENIN				IAmb	IAmb		00 27 50.3		
	comp=Z,28nm,1.1s								
PDG	**Podgorica**	**80.54**	**329**	P	**P**		**00 27 43.6**	**-1.0**	
PDG				IAmb	IAmb		00 27 44.8		
	comp=Z,13nm,0.8s								
KMSC	**Kings Mountain**	**81.23**	**44**	P	**P**		**00 27 45.9**	**-2.5**	
	baz=327								
CSS	**Mathiatis**	**81.47**	**316**	P	**P**		**00 27 49.4**	**-0.3**	
BNI	**Bardonecchia**	**81.70**	**339**	P	**P**		**00 27 51.2**	**+0.4**	
BNI	**Bardonecchia**	**81.70**	**339**	P	**P**		**00 27 51.3**	**+0.4**	
BNI				pmax	pmax				
	comp=Z,8.0nm,0.9s								
SSB	**Saint Sauveur**	**81.97**	**340**	P	**P**		**00 27 52.2**	**0.0**	
SSB				IAmb	IAmb		00 27 53.6		
	comp=Z,12nm,0.8s								
SSB	**Saint Sauveur**	**81.97**	**340**	P	**P**		**00 27 52.2**	**0.0**	
SSB				pmax	pmax				
	comp=Z,12nm,0.8s								
MMAI	**Mount Meron Ar**	**82.12**	**313**	P	**P**		**00 27 54.0**	**+0.8**	
	comp=Z,23nm,0.6s,baz=40,slow=6.6,SNR=88								
	comp=Z,23nm,0.6s								
ARG	**Arkhangelos**	**82.66**	**320**	P	**P**		**00 27 55.4**	**-0.4**	
ARG	**Arkhangelos**	**82.66**	**320**	P	**P**		**00 27 55.4**	**-0.4**	
ARG				pmax	pmax				
	comp=Z,153nm,1.4s								
ESDC	**Sonseca Array**	**89.03**	**345**	P	**P**		**00 28 26.7**	**-0.5**	
ESDC	**Sonseca Array**	**89.03**	**345**	P	**P**		**00 28 26.8**	**-0.5**	
	comp=Z,1.9nm,0.8s,baz=359,slow=4.0,SNR=20								
	comp=Z,1.9nm,0.8s								
PAB	**San Pablo**	**89.22**	**345**	P	**P**		**00 28 27.4**	**-0.8**	
PAB				IAmb	IAmb		00 28 28.6		
	comp=Z,16nm,1.6s								
PAB	**San Pablo**	**89.22**	**345**	P	**P**		**00 28 27.4**	**-0.8**	
PAB				pmax	pmax				
	comp=Z,16nm,1.6s								
KEST	**Kesra**	**89.75**	**334**	P	**P**		**00 28 31.1**	**+0.5**	
KEST	**Kesra**	**89.75**	**334**	P	**P**		**00 28 31.8**	**+1.1**	
	comp=Z,8.6nm,0.9s,baz=7.1,slow=3.2,SNR=10								
	comp=Z,8.6nm,0.9s								
TORD	**Torodi Ar. Bea**	**113.26**	**333**	PKiKP		**PKiKP**	**00 34 09.7**	**0.0**	
	comp=Z,0.2nm,0.4s,baz=26,slow=2.1,SNR=2.4								
DBIC	**Dimbokro**	**121.22**	**338**	PKP		**PKPdf**	**00 34 24.9**	**-0.1**	
	comp=Z,0.8nm,0.4s,baz=88,slow=3.0,SNR=6.2								
H03N2	**Juan Fernandez**	**136.74**	**89**	T	T		03 07 16.4		
	baz=313,slow=77,SNR=52								
H03N1	**Juan Fernandez**	**136.76**	**89**	T	T		03 07 19.5		
	baz=313,slow=77,SNR=162								
H03N3	**Juan Fernandez**	**136.76**	**89**	T	T		03 07 17.1		
	baz=313,slow=77,SNR=99								
QSPA	**South Pole Qui**	**139.70**	**180**	PKhKP	PKPpre		00 34 51.1		
	comp=Z,0.6nm,0.5s,baz=249,slow=1.3,SNR=7.5								
QSPA				PKP		**PKiKP**	**00 34 60.0**	**-0.6**	
	comp=Z,1.7nm,0.6s,baz=289,slow=1.8,SNR=10								
CPUP	**Villa Florida**	**145.14**	**60**	PKPbc		**PKPdf**	**00 35 09.3**	**+0.2**	
	comp=Z,5.6nm,0.8s,baz=313,slow=2.1,SNR=12								
CPUP				pPKPbc	pPKPab		00 35 35.5	-2.9	
	comp=Z,4.1nm,0.7s,baz=329,slow=3.7,SNR=5.2								
PLCA	**Paso Flores**	**146.43**	**92**	PKP2		**PKPbc**	**00 35 13.0**	**+0.5**	
PLCA	**Paso Flores**	**146.43**	**92**	PKPbc		**PKPbc**	**00 35 13.0**	**+0.5**	
	comp=Z,2.3nm,0.7s,baz=264,slow=5.9,SNR=8.1								
ELIB	**Princess Elisa**	**149.55**	**207**	*d*PKP		**PKiKP**	**00 35 20.4**	**-0.4**	
ELIB				*dp*PKPdf		**pPKPdf**	**00 35 46.6**	**+1.0**	

*OSPL **24** 00:22:52.5±2.2, 18°.33N×69°.39W, h103km±16km, ML2.4*
*SDD **24** 00:22:52.6±1.0, 18°.68N×69°.39W, h80km±11km, MD3.4, ML2.6, MW3.2*

ISC 24 00:22:52.3±1.8, 18°.69N±0°.09×69°.39W±0°.04, h85km±13km, n14, σ1§20/16, 2C-6D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATOM	**Hato Mayor del**	**0.10**	**7**	*ie*Pg	**Pn**	**00 23 03.8**	**-0.6**
HATOM				IAML		00 23 15.9	
	comp=N,156nm,0.2s						
MIDR	**Miches**	**0.44**	**48**	*i*P*e*Pg	**Pn**	**00 23 05.3**	**-0.7**
MIDR				IAML		00 23 17.6	
	comp=N,46nm,2.3s						
SDD	**Santo Domingo**	**0.54**	**245**	*ie*Pg	**Pn**	**00 23 06.0**	**-0.9**
SDD				IAML		00 23 19.6	
	comp=N,36nm,0.1s						
SDD	**Santo Domingo**	**0.54**	**245**	*e*S	**Sn**	**00 23 18.2**	**+0.5**
SMDR	**Samana, DR**	**0.63**	**18**	*ie*Pg	**Pn**	**00 23 06.4**	**-1.2**
SMDR				IAML		00 23 24.7	
	comp=N,144nm,0.8s						
DR08	**Loma La Naviza**	**0.65**	**295**	*ie*Pg	**Pn**	**00 23 07.0**	**-0.9**
DR08				IAML		00 23 21.9	
	comp=N,2μm,0.1s						
LOSC1	**San Cristbal**	**0.73**	**248**	*e*S	**Sn**	**00 23 21.7**	**+0.8**
NAG1	**Nagua**	**0.80**	**326**	*ie*Pg	**Pn**	**00 23 08.2**	**-1.1**
BANI	**BANI**	**0.96**	**252**	*ie*Pg	**Pn**	**00 23 10.4**	**-0.9**
BANI				IAML		00 23 33.1	
	comp=N,200nm,0.2s						
PCDR	**Punta Cana, DR**	**0.98**	**100**	*i* P	**Pn**	**00 23 10.8**	**-0.5**
PCDR				*e*S	**Sn**	**00 23 27.6**	**+2.0**
PCDR				IAML		00 23 44.8	
	comp=Z,122nm,1.6s						
LOBA2	**Hotel Casa Bon**	**1.72**	**250**	*ie*Pg	**Pn**	**00 23 19.2**	**-1.5**
SDDR	**Presa de Saban**	**1.82**	**280**	*ie*Pg	**Pn**	**00 23 22.0**	**0.0**
SDDR				IAML		00 23 49.9	
	comp=N,42nm,0.5s						
SDDR	**Presa de Saban**	**1.82**	**280**	*i* P	**Pn**	**00 23 22.3**	**+0.3**
SDDR				*e*S	**Sn**	**00 23 46.0**	**+1.5**
SDDR				IAML		00 23 55.6	
	comp=Z,23nm,2.9s						
AOPR	**Arecibo Observ**	**2.53**	**97**	*e*Pg	**Pn**	**00 23 30.3**	**-1.1**
AOPR				IAML		00 24 08.7	
	comp=N,113nm,0.3s						

*IDC **24** 00:26:09.5±3.9, 36°.47N×70°.98E, h234km±35km, mb3.2/8, mbtmp3.8/14, Error ellipse: s-maj=28.1km s-min=18.5km az=30.0*

ISC 24 00:26:11.9±1.1, 36°.8N±0°.1×71°.1E±0°.1, h250km, n24, σ1§49/26, mb3.4/8, 3C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.74**	**20**	P	**Pn**	**00 27 38.1**	**+1.0**
	SNR=86						
AML	**Almayashu**	**5.74**	**20**	⇑Pn	**Pn**	**00 27 37.8**	**+0.7**
	1.1nm,0.3s						
AML				⇑Sn	**S**	**00 28 42.1**	**-3.1**
	5.1nm,0.6s						
UCH	**Uchtor**	**6.08**	**25**	P	**Pn**	**00 27 42.6**	**+1.2**
	SNR=24						
KZA	**Kyzart**	**6.22**	**30**	P	**Pn**	**00 27 44.8**	**+1.7**
	SNR=10.0						
EKS2	**Erkin-Say**	**6.26**	**19**	P	**Pn**	**00 27 45.0**	**+1.8**
	SNR=10						
KK31	**Karatay Array**	**6.36**	**356**	Pn	**Pn**	**00 27 45.4**	**+0.9**
	5.5nm,0.5s,baz=184,slow=12,SNR=97						
KK31				⇑Sn	**S**	**00 28 55.4**	**-3.1**
	1.9nm,0.3s,baz=53,slow=28,SNR=3.6						
AAK	**Ala-Archa**	**6.44**	**23**	P	**Pn**	**00 27 47.1**	**+1.4**
	SNR=15						
AAK	**Ala-Archa**	**6.44**	**23**	P	**Pn**	**00 27 47.0**	**+1.4**
	9.3nm,0.4s,baz=180,slow=4.1,SNR=52						
AAK				S	**S**	**00 28 59.4**	**-1.2**
	9.4nm,0.7s,baz=10,slow=21,SNR=9.0						
KBK	**Karagaybulak**	**6.61**	**26**	P	S	00 29 17.1	+13
	SNR=5.8						
ULHL	**Ulahol**	**6.78**	**34**	P	**Pn**	**00 27 51.3**	**+1.3**
	SNR=8.0						
TKM2	**Tokmak 2**	**7.07**	**28**	P	**Pn**	**00 27 54.9**	**+1.3**
	SNR=7.8						
MKAR	**Makanchi Array**	**13.05**	**36**	P	**P**	**00 29 09.9**	**-0.2**
	1.0nm,0.6s,baz=212,slow=10,SNR=8.0						
KURBB	**Kurchatov Arra**	**14.86**	**19**	P	**Pn**	**00 29 30.6**	**+0.3**
	0.5nm,0.5s,baz=212,slow=12,SNR=4.2						
BVAR	**Borovoye Array**	**16.28**	**359**	P	**Pn**	**00 29 47.9**	**+0.8**
	0.8nm,0.4s,baz=158,slow=12,SNR=8.2						
AKTO	**Aktyubinsk**	**16.59**	**330**	P	**Pn**	**00 29 50.9**	**+0.2**
	1.2nm,0.3s,baz=147,slow=5.8,SNR=5.3						
ZALV	**Zalesovo Beam**	**19.66**	**25**	P	**P**	**00 30 23.2**	**+1.2**
	1.1nm,0.4s,baz=225,slow=10,SNR=8.6						
ARU	**Arti**	**21.41**	**341**	P	**P**	**00 30 41.4**	**+1.3**
	1.2nm,0.5s,baz=152,slow=12,SNR=3.2						
	1.2nm,0.5s						
FINES	**FINESS Array B**	**37.31**	**326**	P	**P**	**00 32 58.9**	**-1.0**
	6.0nm,1.0s,baz=118,slow=12,SNR=5.4						
	6.0nm,1.0s						
ARCES	**ARCESS Array B**	**40.93**	**337**	P	**P**	**00 33 31.4**	**+1.6**
	2.0nm,0.9s,baz=117,slow=7.2,SNR=7.4						
	2.0nm,0.9s						
NOA	**NORSAR Array B**	**44.21**	**323**	P	**P**	**00 33 56.8**	**+0.6**
	1.1nm,1.0s,baz=100,slow=7.7,SNR=1.6						
	1.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**65.78**	**269**	P	**P**	**00 36 29.3**	**-1.4**
	0.2nm,0.4s,baz=51,slow=6.3,SNR=8.8						
	0.2nm,0.4s						
YKA	**Yellowknife Ar**	**80.99**	**3**	P	**P**	**00 37 59.5**	**+1.1**
	0.3nm,0.7s,baz=348,slow=6.1,SNR=7.4						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**82.07**	**122**	P	**P**	**00 38 03.5**	**-1.2**
	0.5nm,1.0s,baz=323,slow=4.7,SNR=5.8						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**84.35**	**125**	P	**P**	**00 38 15.2**	**-1.0**
	0.7nm,0.8s,baz=320,slow=5.2,SNR=7.3						
	0.7nm,0.8s						

*NEIC **24** 00:31:27.1±1.4, 37°.11N±0°.01×121°.53W±0°.03, h14km±6km, Error ellipse: s-maj=3.5km s-min=1.6km az=61.0*

NCEDC 24 00:31:27.8±1.7, 37°.11N±0°.04×121°.52W±0°.07, h7km±6km, Mwr3.3/3, ML3.1/76(NEIC), Error ellipse: s-maj=9.3km s-min=2.5km az=57.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHS	**Gilroy Hot Spr**	**0.06**	**106**		Pg	00 31 29.3	-0.4
CDC	**Canada Road**	**0.09**	**163**		Pg	00 31 29.8	-0.3
HCAM	**Canada Road**	**0.09**	**163**		Pg	00 31 32.1	+2.1
CADM	**Anderson Res.**	**0.10**	**301**		Pg	00 31 30.1	-0.1
HLPM	**Lions Peak**	**0.12**	**232**		Pg	00 31 30.3	-0.1
HLPM					Sg	00 31 32.6	+0.5
HFEM	**San Felipe**	**0.16**	**144**		Pg	00 31 30.9	-0.3
JLAB	**Laurel Hill**	**0.18**	**284**		Pg	00 31 31.4	0.0
JLAB					Sg	00 31 35.1	+1.1
CCOB	**Coe Ranch Numb**	**0.19**	**320**		Pg	00 31 32.2	+0.5
CCOB					Sg	00 31 36.6	+2.2
OCR	**O'Connell Ranc**	**0.20**	**178**		Pg	00 31 33.5	+1.7
HPCM	**Pacheco Lake**	**0.20**	**105**		Pg	00 31 31.6	-0.3
PACP	**Pacheco Peak**	**0.21**	**119**		Pg	00 31 31.8	-0.3
PACP					Sg	00 31 35.5	+0.5
HCBM	**Chamberlain**	**0.21**	**212**		Pg	00 31 32.2	0.0
HCBM					Sg	00 31 35.8	+0.8
ANZ	**Anzar Road**	**0.23**	**194**		Pg	00 31 32.8	+0.3
ARN	**Arnold Ranch**	**0.24**	**357**		Pg	00 31 32.4	-0.2
ARN					Sg	00 31 36.4	+0.6
SLD	**San Luis Dam**	**0.24**	**99**		Pg	00 31 32.3	-0.3
SLD					Sg	00 31 36.3	+0.4
MHC	**Mount Hamilton**	**0.25**	**337**		Pg	00 31 32.6	-0.2
MHC					Sg	00 31 37.0	+0.8
C072	**Blauer Lane Sa**	**0.26**	**312**		Pb	00 31 34.0	-0.8
HBTM	**San Juan Bauti**	**0.26**	**186**		Pg	00 31 33.5	+0.5
HCOM	**Corn Cob Canyo**	**0.27**	**214**		Pg	00 31 33.3	+0.1
HLTM	**Lone Tree Road**	**0.28**	**143**		Pg	00 31 33.5	+0.1
C054	**Valleyhaven Wa**	**0.29**	**303**		Pg	00 31 33.5	-0.1
CMPM	**Mikes Peak**	**0.29**	**33**		Pg	00 31 33.5	-0.1
HTUM	**Tustin Road**	**0.30**	**199**		Pg	00 31 33.7	0.0
C059	**Quail Canyon R**	**0.31**	**319**		Pg	00 31 34.4	+0.5
JELB	**Ellicott, Sant**	**0.31**	**233**		Pg	00 31 34.2	+0.3
JELB					Sg	00 31 39.1	+1.1
SCCB	**Santa Clara Co**	**0.33**	**302**		Pg	00 31 34.2	-0.1
SCCB					Sb	00 31 40.0	-1.4
CMMM	**Mount Mocho**	**0.34**	**3**		Pg	00 31 34.4	-0.2
CMMM					Sg	00 31 40.0	+0.9
HERM	**Elkhorn Road**	**0.35**	**206**		Pg	00 31 34.8	+0.2
SAO	**San Andreas Ge**	**0.35**	**171**		Pg	00 31 35.0	+0.2
SAO					Sb	00 31 40.8	-1.3
FRP	**Fremont Peak**	**0.36**	**176**		Pg	00 31 35.0	+0.1
C041	**El Campo Drive**	**0.36**	**317**		Pg	00 31 35.5	+0.6
BSLM	**Silva Ranch**	**0.36**	**158**		Pg	00 31 35.0	+0.1
SCKWR	**San Luis Creek**	**0.36**	**79**		Pg	00 31 35.1	+0.2
C046	**N 16th Street**	**0.38**	**310**		Pg	00 31 35.5	+0.2
JJOM	**Saint Joseph's**	**0.38**	**284**		Pg	00 31 34.9	-0.4
CMLM	**Mount Lewis**	**0.38**	**344**		Pg	00 31 35.1	-0.1
C016	**Longford Drive**	**0.40**	**316**		Pg	00 31 36.1	+0.5
CALM	**Calaveras Res.**	**0.41**	**327**		Pg	00 31 35.5	-0.3
MTOS	**Mt Oso, Westle**	**0.42**	**21**		Pg	00 31 35.8	-0.2
BSRM	**Salinas Radio**	**0.45**	**180**		Pg	00 31 36.3	-0.2
C039	**Semillon Drive**	**0.47**	**319**		Pg	00 31 37.2	+0.2
JSJM	**St Joseph**	**0.51**	**296**		Pg	00 31 37.7	0.0
BJOM	**Mount Johnson**	**0.51**	**161**		Pg	00 31 37.7	0.0
SCZ	**Santa Cruz**	**0.52**	**170**		Pg	00 31 37.5	-0.5
C001	**Firth Court Fr**	**0.53**	**321**		Pg	00 31 38.1	+0.1
CSTL	**Corral Hollow**	**0.53**	**2**		Pg	00 31 38.2	+0.2
CSTL	**Corral Hollow**	**0.53**	**2**		Pg	00 31 38.2	+0.2
WENL	**Wente Vineyard**	**0.54**	**340**		Pg	00 31 38.3	-0.1
BPCNC	**Pine Canyon**	**0.55**	**189**		Pg	00 31 38.2	-0.1
JBMM	**Black Mountain**	**0.55**	**292**		Pg	00 31 37.8	-0.7
CVLM	**Vallecito**	**0.57**	**334**		Pg	00 31 38.9	0.0
BJCM	**Johnson Can.**	**0.57**	**170**		Pg	00 31 38.4	-0.5
CSAM	**Sandia**	**0.58**	**345**		Pg	00 31 39.3	+0.2
JFP	**Foothills Park**	**0.59**	**295**		Pg	00 31 38.9	-0.4
C048	**Posada Way Fre**	**0.60**	**321**		Pg	00 31 39.4	0.0
BVL	**Bear Valley**	**0.60**	**154**		Pg	00 31 39.3	-0.1
CBZL	**Buffer Zone**	**0.60**	**345**		Pg	00 31 40.0	+0.5
CBZL	**Buffer Zone**	**0.60**	**345**		Pb	00 31 40.0	-0.6
JSFB	**Stanford Teles**	**0.60**	**299**		Pg	00 31 39.1	-0.3
HMOM	**Monterey**	**0.60**	**212**		Pg	00 31 39.1	-0.3
C002	**Farnham Drive**	**0.61**	**317**		Pg	00 31 39.4	-0.1
BAVM	**Antelope Valle**	**0.61**	**140**		Pg	00 31 39.0	-0.5
CNIC	**Niles Canyon**	**0.61**	**324**		Pg	00 31 39.6	0.0
C062	**Calle Reynoso**	**0.63**	**331**		Pb	00 31 40.8	-0.4
C006	**Lk Pillsbury D**	**0.64**	**318**		Pg	00 31 40.2	-0.1
CYD1	**Coyote D'meter**	**0.64**	**314**		Pg	00 31 39.6	-0.6
JRSC	**Jasper Ridge**	**0.64**	**297**		Pg	00 31 39.0	-1.3
BBGB	**Big Mountain B**	**0.66**	**144**		Pg	00 31 40.2	-0.3
BBGB					Sg	00 31 50.5	-0.5
JPSM		**0.67**	**278**		Pg	00 31 40.0	-0.7
BGH	**Bear Gulch**	**0.69**	**290**		Pg	00 31 40.7	-0.5
BBNM	**San Benito**	**0.70**	**149**		Pg	00 31 41.8	+0.5
CBSNC	**Byron Hot Spri**	**0.71**	**352**		Pg	00 31 41.9	+0.4
C055	**Cottonwood Ave**	**0.72**	**319**		Pg	00 31 41.2	-0.5
HAST	**Hastings Reser**	**0.72**	**182**		Pg	00 31 41.1	-0.6
BPRM	**Ponciano Ridge**	**0.72**	**194**		Pg	00 31 41.2	-0.6
BSGM	**Shirttail Gulc**	**0.73**	**163**		Pg	00 31 40.9	-0.9
BSMM	**Soledad Missio**	**0.73**	**174**		Pg	00 31 41.4	-0.6
CMOB	**Morgan Territo**	**0.73**	**342**		Pg	00 31 42.2	+0.3
C071	**Via Corta San**	**0.75**	**319**		Pg	00 31 41.9	-0.4
CLCB	**Lake Chabot**	**0.76**	**325**		Pg	00 31 42.6	+0.1
C070	**Dillo Street S**	**0.77**	**321**		Pg	00 31 42.4	-0.1
CSLM	**San Leandro Hi**	**0.78**	**322**		Pg	00 31 42.4	-0.4
JCHM	**Cahill Ridge**	**0.79**	**301**		Pg	00 31 42.1	-1.0
LRV	**Little Rabbit**	**0.80**	**150**		Pg	00 31 42.9	-0.2
JCPM	**Coyote Point**	**0.80**	**307**		Pg	00 31 42.4	-0.8
BGC	**Bolinger Road**	**0.82**	**329**		Pg	00 31 43.5	-0.3
CMCM	**Mills College**	**0.85**	**322**		Pg	00 31 44.1	0.0
C051	**Centre Court A**	**0.85**	**318**		Pg	00 31 43.9	-0.3
C058	**Eastshore Driv**	**0.85**	**319**		Pg	00 31 43.8	-0.4
CRPB	**Russellman Par**	**0.86**	**339**		Pg	00 31 43.9	-0.4
SAC	**San Andreas**	**0.86**	**303**		Pg	00 31 43.2	-1.1
SMCB	**Saint Mary's C**	**0.86**	**327**		Pg	00 31 44.0	-0.4
JSBM	**San Bruno Moun**	**0.90**	**309**		Pg	00 31 43.7	-1.5
BPOM	**Post Ranch**	**0.90**	**193**		Pg	00 31 44.3	-0.9
MYLM	**Yosemite Lake**	**0.92**	**73**		Pg	00 31 44.4	-1.0
JMGM	**Milagra Ridge**	**0.92**	**305**		Pg	00 31 44.1	-1.5
BKS	**Berkeley--Byer**	**0.95**	**323**		Pg	00 31 45.2	-0.9
CVPM	**Vollmer Peak**	**0.95**	**324**		Pg	00 31 45.6	-0.5
BL67	**Building 67, L**	**0.96**	**323**		Pg	00 31 45

ORV	Oroville	2.44	0	Pn	Pn	00 32 07.0	-1.0		
MPK	Martis Peak	2.48	28		Pn	00 32 08.9	+0.1		
MPK				IAML		00 32 58.3			
comp=N,138nm,1.2s									
MFBM	Five Bridges	2.48	82		Pn	00 32 10.8	+2.0		
PNTR	Pine Nut	2.49	37		Pn	00 32 08.9	0.0		
MCDM	Chidago Canyon	2.49	79		Pn	00 32 10.9	+2.0		
OGOM	Van Goodin Ran	2.54	358		Pn	00 32 08.3	-1.1		
MLNR	Milner Canyon	2.58	78		Pb	00 32 12.8	-1.6		
YERR	Yerington	2.59	43		Pn	00 32 10.3	0.0		
PKM	Mcpherson Peak	2.62	148		Pn	00 32 08.8	-1.8		
LHV	Little Huntoon	2.65	64		Pn	00 32 11.5	+0.6		
LHV				IAML		00 32 58.2			
comp=E,121nm,1.0s									
BCW	Bitter Crk WRg	2.76	141		Pn	00 32 12.2	-0.4		
BCW				IAML		00 33 11.4			
comp=E,90nm,0.7s									
BCW				IAML		00 33 28.7			
comp=N,60nm,1.0s									
RYN	Ryan	2.81	57		Pn	00 32 12.5	-0.8		
RYN				IAML		00 33 00.2			
comp=N,51nm,1.2s									
RYN				IAML		00 33 04.3			
comp=E,82nm,0.6s									
ISA	Isabella, Lake	2.85	120	Pn	Pn	00 32 12.7	-1.1		
ISA				IAML		00 33 06.9			
comp=E,48nm,0.6s									
ISA				IAML		00 33 08.9			
comp=N,36nm,1.1s									
NVAR	Mina Array Bea	2.87	62		Pn	00 32 12.9	-1.3		
NV11	Mina Array Sit	2.97	63		Pn	00 32 15.6	0.0		
NV11				IAML		00 33 05.8			
comp=N,57nm,1.5s									
KCPM	Cahto Peak	3.04	328		Pn	00 32 15.3	-1.1		
PAHR	Pah Rah Range	3.08	32		Pn	00 32 16.0	-1.1		
PAHR				IAML		00 33 12.9			
comp=N,29nm,1.0s									
KVN	Kaiserville	3.32	53		Pn	00 32 19.4	-1.0		
KVN				IAML		00 33 14.1			
comp=N,42nm,0.8s									
KVN				IAML		00 33 14.5			
comp=E,60nm,0.7s									
GRAC	Grapevine Rang	3.32	91		Pn	00 32 20.0	-0.3		
GRAC				IAML		00 33 14.6			
comp=E,69nm,0.8s									
MZP	Montezuma Peak	3.34	79		Pn	00 32 20.5	-0.3		
GMN	Gold Mountain	3.41	86		Pn	00 32 21.8	+0.2		
GMN				IAML		00 33 21.4			
comp=N,34nm,1.0s									
GMN				IAML		00 33 21.9			
comp=E,23nm,0.7s									
CCAC	Calif City Air	3.44	124	Pn	Pn	00 32 22.2	+0.3		
CCAC				IAML		00 33 29.7			
comp=N,54nm,1.0s									
CCAC				IAML		00 33 32.7			
comp=E,49nm,1.1s									
KMRM	Mail Ridge	3.55	332	Pn	Pn	00 32 22.6	-0.7		
KMPM	Mount Pierce	3.88	329	Pn	Pn	00 32 26.9	-0.9		
KMPM				IAML		00 32 54.6			
comp=E,17nm,3.5s									
KMPM				IAML		00 33 47.8			
comp=N,32nm,3.3s									
QSM	Queen of Sheba	3.92	106	Pn	Pn	00 32 27.9	-0.4		
QSM				IAML		00 33 45.8			
comp=N,17nm,4.2s									
WCT	Wildcat Mounta	3.93	93		Pn	00 32 29.5	+0.8		
WCT				IAML		00 33 34.0			
comp=N,20nm,0.8s									
WCT				IAML		00 33 35.9			
comp=E,28nm,0.7s									
GWY	Greenwater Val	4.01	102		Pn	00 32 30.6	+0.9		
GWY				IAML		00 33 44.5			
comp=E,18nm,0.9s									
GWY				IAML		00 33 51.2			
comp=N,17nm,1.8s									
GSC	Goldstone, Bar	4.22	114	Pn	Pn	00 32 31.6	-1.0		
GSC				IAML		00 33 45.4			
comp=E,21nm,1.2s									
GSC				IAML		00 33 58.6			
comp=N,16nm,4.6s									
TPNV	Topopah Spring	4.22	91	Pn	Pn	00 32 32.4	-0.3		
TPNV				IAML		00 33 53.1			
comp=N,28nm,1.0s									
TPNV				IAML		00 33 55.9			
comp=N,30nm,1.2s									
R11B	Troy Canyon, C	4.86	74		Pn	00 32 39.7	-1.8		
SHPR	Sheep Range	5.14	95		Pn	00 32 44.7	-0.6		
PFO	Pinyon Flats O	5.41	129	Pn	Pn	00 32 48.4	-0.6		

*SCB **24** 01:01:14.0±1.3,21˚.86S×67˚.40W,h180km±12km,ML3.5/3, MW3.8,Error ellipse: s-maj=5.5km s-min=3.8km az=0.0*

ISC 24 01:01:14.4±1.4,21˚.87S±0˚.07×67˚.40W±0˚.05,h178km,n17, σ0§64/20,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.58	242	Pg		Pn	01 01 48.2	+0.9
MOCB	Mochara	1.75	70	Pg		Pn	01 01 50.0	+0.8
MOCB				Sg		Sn	01 02 15.4	-0.7
MOCB				IAML			01 02 18.5	
171nm,0.3s								
PB01	IPOC Station P	2.11	293	Pg		Pn	01 01 53.7	+1.1
PB01	IPOC Station P	2.11	293	*i* S		Sn	01 02 22.7	+0.5
PB01				IAML			01 02 24.6	
comp=E,407nm,0.2s								
PB07	IPOC Station P	2.31	273	Pg		Pn	01 01 55.8	+0.8
PB15	IPOC Station P	2.33	235	Pg		Pn	01 01 55.5	+0.3
PB02	IPOC Station P	2.38	283	Pg		Pn	01 01 56.2	+0.5
PB02				Sg		Sn	01 02 27.5	-0.3
PB02				IAML			01 02 28.2	
comp=E,299nm,0.3s								
PB02	IPOC Station P	2.38	283	*i* S		Sn	01 02 26.9	-0.9
PB02				IAML			01 02 29.8	
comp=E,377nm,0.2s								
PB04	IPOC Station P	2.59	259	Pg		Pn	01 01 58.5	+0.3
PB05	IPOC Station P	2.77	249	Pg		Pn	01 02 01.1	+0.8
HMBC	Humberstone	2.81	304	Pg		Pn	01 02 00.7	-0.1
HMBC				Sg		Sn	01 02 36.2	-0.7
HMBC				IAML			01 02 37.4	
comp=E,113nm,0.4s								
TA01	Diego Aracena	2.90	296	Pg		Pn	01 02 01.8	+0.1
PB11	IPOC Station P	2.97	314	Pg		Pn	01 02 03.0	+0.2
TA02	Huaiquique	3.00	301	Pg		Pn	01 02 02.6	-0.4
GO02	Mina Guanaco	3.84	211	Pg		Pn	01 02 13.1	-0.6
SOET	ToroToro	4.02	22	Pg		Pn	01 02 16.5	+0.4
AOEA	Aiquile	4.20	29	Pg		Pn	01 02 18.3	0.0

*NIED **24** 01:37:39.4,42˚.04N×142˚.60E,h62km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr2.88; Mθθ-0.58; Mφφ-2.30; Mrθ1.14; Mrφ-1.30; Mθφ2.16; Fault plane solution: M₀3.82000×10¹⁴ NP1:ϕ₁28.00000°, δ65.00000°,λ,90.00000°. NP2:ϕ₂209.00000°,δ25.00000°, λ,91.00000°.*

*JMA **24** 01:37:39.4±0.2,42˚.0N±0˚.8×142˚.6E±0˚.8,h62km±1km, MD3.8/40,MV3.5/40,S OFF URAKAWA*

JMA Felt I J1 at S OFF URAKAWA .

*IDC **24** 01:37:42.4±2.1,42˚.19N×142˚.53E,h84km±14km,mb3.6/12, mbtmp3.9/15,MS2.5/1,Error ellipse: s-maj=23.9km s-min=14.3km az=122.0*

ISC 24 01:37:39.9±0.8,42˚.05N±0˚.05×142˚.59E±0˚.04,h64km±6km, n45,σ1§01/44,mb3.9/12,12D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.26	29	P		Pn	01 37 49.4	-0.7
JNBK				*e*S		Sn	01 37 57.1	-0.4
JNBK	Urakawa-nobuka	0.26	29	A		A	01 37 49.4	
comp=E,17nm,0.7s,comp=N,17nm,0.4s								
JSHD	Hidakashinhida	0.37	346	P		Pn	01 37 50.6	-0.3
JSHD				*e*S		Sn	01 37 59.2	+0.3
JSHD	Hidakashinhida	0.37	346	A		A	01 37 50.6	
comp=E,25nm,0.6s,comp=N,13nm,0.5s								
JEM	Erimo	0.43	95	P		Pn	01 37 51.0	-0.4
JEM				*e*S		Sn	01 37 59.6	-0.1
JTHR	Tokachihiroo	0.58	66	P		Pn	01 37 52.6	-0.4
JTHR				*e*S		Sn	01 38 02.3	-0.2
JBT2	Biratori 2	0.74	347	⇓P		Pn	01 37 54.4	-0.5
JBT2				⇓*e*S		Sn	01 38 05.6	-0.3
JIAM	Iburiatsuma	0.75	319	⇓P		Pn	01 37 55.4	+0.4
JCH	Churui	0.80	45	P		Pn	01 37 55.1	-0.4
JFR	Furan	1.11	0	*e*P		Pn	01 37 59.0	-0.5
JEW	Eniwo	1.15	313	⇓P		Pn	01 37 59.9	-0.1
JKB	Kayabe	1.17	262	⇓P		Pn	01 37 59.6	-0.7
JKB				⇓*e*S		Sn	01 38 14.5	-0.9
JNB	Noboribetsu	1.22	290	⇓P		Pn	01 37 59.8	-1.1
JNB				⇓*e*S		Sn	01 38 15.5	-1.2
JOB	Onbets	1.25	47	P		Pn	01 38 02.0	+0.6
JOT	Ohata	1.33	240	⇓P		Pn	01 38 01.7	-0.7
JOT				⇓*e*S		Sn	01 38 18.9	-0.4
JAB	Ashibetsu	1.48	350	*e*P		Pn	01 38 04.4	+0.1
JISS	Ishikarishitsu	1.50	325	⇓P		Pn	01 38 04.6	+0.1
JISS				⇓*e*S		Sn	01 38 23.9	+0.7
JAR	Ashorobuto	1.52	35	*e*P		Pn	01 38 04.6	-0.3
JAR				*e*S		Sn	01 38 23.3	-0.4
ASAJ	Asahikawa	2.06	0	P		Pn	01 38 13.0	+0.8
comp=N,65nm,0.3s,baz=210,slow=12,SNR=114								
ASAJ				S		Sn	01 38 37.8	+0.9
comp=N,59nm,0.4s,baz=100,slow=26,SNR=8.5								
MJAR	Matsushiro Arr	6.47	213	P		Pn	01 39 15.0	+2.6
comp=N,0.7nm,0.5s,baz=36,slow=12,SNR=2.6								
USRK	Ussuriysk Ar.	8.04	289	P		Pn	01 39 35.0	+1.1
comp=N,3.0nm,0.8s,baz=87,slow=9.7,SNR=5.0								
KLR	Kul'dur	10.44	317	LR		LR	01 43 47.3	
comp=N,26nm,21.3s,baz=208,slow=35								
KSRS	Korea Array	12.18	253	P		Pn	01 40 34.4	+4.0
baz=324,slow=75,SNR=48								
comp=N,1.4nm,0.7s,baz=65,slow=14,SNR=4.9								
SONM	Songino Array	26.09	295	P		P	01 43 06.9	-0.7
comp=N,0.3nm,0.3s,baz=69,slow=8.3,SNR=5.0								
comp=N,0.3nm,0.3s								
H11N2	WAKE ISLAND Hy	30.31	130	T		T	02 15 16.4	
baz=324,slow=75,SNR=41								
H11N1	WAKE ISLAND Hy	30.32	130	T		T	02 15 18.1	
baz=324,slow=75,SNR=48								
H11N3	WAKE ISLAND Hy	30.33	130	T		T	02 15 20.9	
baz=324,slow=75,SNR=44								
H11S1	WAKE ISLAND Hy	31.17	132	T		T	02 16 09.1	
baz=322,slow=74								
H11S3	WAKE ISLAND Hy	31.18	132	T		T	02 16 22.4	
baz=322,slow=74								
H11S2	WAKE ISLAND Hy	31.19	132	T		T	02 16 10.0	
baz=322								
ZALV	Zalesovo Beam	39.37	308	P		P	01 45 02.8	-0.1
comp=N,1.7nm,0.6s,baz=101,slow=7.9,SNR=9.1								
comp=N,1.7nm,0.6s								
MKAR	Makanchi Array	42.40	298	P		P	01 45 27.8	-0.1
comp=N,1.2nm,0.9s,baz=72,slow=7.8,SNR=5.9								
comp=N,1.2nm,0.9s								
KURBB	Kurchatov Arra	43.78	304	P		P	01 45 38.4	-0.6
comp=N,4.3nm,0.2s,baz=76,slow=8.8,SNR=4.8								
comp=N,4.3nm,0.2s								
ILAR	Eielson Array	44.82	35	P		P	01 45 46.6	-0.4
comp=N,0.5nm,0.9s,baz=265,slow=6.2,SNR=5.5								
comp=N,0.5nm,0.9s								
BVAR	Borovoye Array	47.98	309	P		P	01 46 12.0	0.0
comp=N,0.8nm,0.4s,baz=81,slow=9.3,SNR=16								
comp=N,0.8nm,0.4s								
FINES	FINESS Array B	64.82	332	P		P	01 48 10.3	-1.2
comp=N,2.7nm,0.8s,baz=47,slow=8.4,SNR=7.9								
comp=N,2.7nm,0.8s								
KBZ	Khabaz	68.36	310	P		P	01 48 34.8	+0.4
comp=N,2.2nm,0.9s,baz=49,slow=11,SNR=2.0								
comp=N,2.2nm,0.9s								
HFS	Hagfors	69.90	335	P		P	01 48 41.9	-1.7
comp=N,1.3nm,0.6s,baz=28,slow=6.7,SNR=7.2								
comp=N,1.3nm,0.6s								
NOA	NORSAR Array B	69.92	337	P		P	01 48 43.0	-0.8
comp=N,0.7nm,0.7s,baz=85,slow=4.8,SNR=3.3								
comp=N,0.7nm,0.7s								
AKASG	Malin Array Be	70.90	322	P		P	01 48 48.9	-1.0
comp=N,0.3nm,0.3s,baz=44,slow=6.5,SNR=5.0								
comp=N,0.3nm,0.3s								
TXAR	Lajitas Array	86.37	53	P		P	01 50 16.3	+0.9
comp=N,0.4nm,0.9s,baz=286,slow=1.2,SNR=3.7								
comp=N,0.4nm,0.9s								
SNAA	Sanae	145.80	199	PKPbc		PKPbc	01 57 10.4	-0.2
baz=158,slow=5.4								
H03N2	Juan Fernandez	146.34	89	T		T	04 40 33.4	
baz=300,slow=76,SNR=6.1								
H03N3	Juan Fernandez	146.35	89	T		T	04 40 34.9	
baz=300,slow=76,SNR=8.3								
H03N1	Juan Fernandez	146.35	89	T		T	04 40 34.5	
baz=300,slow=76,SNR=6.3								

*IDC **24** 01:39:43.0±1.8,8˚.24S×125˚.27E,h0km,mb3.5/2, mbtmp3.9/4,ML4.5/2,MS3.0/2,Error ellipse: s-maj=141.1km s-min=29.6km az=62.0*

*DJA **24** 01:39:47.7±0.3,9˚.5S±2˚×12˚.5E±˚,h10km,M4.3/12,mB5.4/3, mb4.3/6,MLv4.3/12,Mw(mB)4.9/3*

ISC 24 01:39:47.7±0.8,8˚.65S±0˚.07×124˚.62E±0˚.09,h20km,n29, σ1§91/27,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SOEI	Soe	1.15	197	P		Pn	01 40 07.8	-1.0
SOEI	Soe	1.15	197	P		Pn	01 40 07.4	-1.4
MMRI	Maumere	2.35	270	P		Pn	01 40 26.2	+1.0
MMRI	Maumere	2.35	270	P		Pn	01 40 26.2	+1.0
EDFI	Ende, Flores	2.90	268	P		Pn	01 40 32.9	+0.1
BBSI	Bau Bau	3.74	327	P		Pn	01 40 45.1	+0.8
BASI	Baing, Sumba	4.28	248	P		Pn	01 40 52.6	+0.9
BKSI	Bulukumba	5.55	306	P		Pn	01 41 10.2	+1.0
18nm,0.8s,0.1nm								
PLAI	Plampang	6.76	268	P		Pn	01 41 28.8	+2.9
PLAI	Plampang	6.76	268	P		Pn	01 41 27.9	+2.0
34nm,0.8s,0.1nm								
TTSI	Tana Toraja	7.33	319	P		Pn	01 41 36.9	+3.2
MTN	Manton Dam	7.64	124	P		Pn	01 41 39.8	+1.9
TWSI	Taliwang, Sumb	7.65	269	P		Pn	01 41 40.5	+2.5
22nm,1.0s,0.1nm								
KNRA	Kununurra	8.07	150	P		Pn	01 41 44.2	+0.3
KDU	Kakadu	8.70	118	P		Pn	01 41 54.5	+2.0
FITZ	Fitzroy Crossi	9.45	174	P		Pn	01 42 01.7	-1.0
TOLI2	Tolitoli	10.42	338	P		Pn	01 42 22.2	+6.1
WRA	Warramunga Arr	14.65	141	Pn		Pn	01 43 11.1	-2.9
3.4nm,0.3s,baz=319,slow=13,SNR=140								
WRA				Sn		Sn	01 45 42.9	-13
0.8nm,0.3s,baz=320,slow=25,SNR=5.3								
9.1nm,0.4s								
WRKA	Warakurna	16.67	168	P		Pn	01 43 38.8	-1.5
ASAR	Alice Springs	17.38	150	P		Pn	01 43 47.2	-2.0
0.7nm,0.3s,baz=322,slow=11,SNR=19								
ASAR				S		Sn	01 46 48.5	-14
0.7nm,0.7s,baz=317,slow=20,SNR=2.3								
ASAR				LR		LR	01 51 51.7	
comp=Z,46nm,18.1s,baz=342,slow=42								
2.9nm,0.6s								
QIS	Mount Isa	18.70	131	P		Pn	01 44 06.0	+0.5
MEEK	Meekatharra	18.78	197	P		Pn	01 44 08.0	+1.7
OOD	Oodnadatta	21.73	153	P		P	01 44 39.5	+1.7
BLDU	Ballidu	23.07	198	P		P	01 44 52.1	0.0
MULG	Mulgathing	23.27	159	P		P	01 44 56.3	+2.3
BBOO	Buckleboo	26.27	158	P		P	01 45 23.9	+2.1
USRK	Ussuriysk Ar.	53.02	7	LR		LR	02 11 09.8	
comp=Z,14nm,21.7s,baz=347,slow=36								
SONM	Songino Array	58.51	346	P		P	01 49 39.4	-3.2
0.5nm,0.8s,baz=166,slow=8.8,SNR=2.7								
0.5nm,0.8s								
MKAR	Makanchi Array	66.81	330	P		P	01 50 36.5	-1.5
0.3nm,0.7s,baz=134,slow=6.8,SNR=4.5								
0.3nm,0.7s								

IDC 24 01:50:06.8±7.8,18˚.24S×172˚.48W,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=335.5km s-min=42.2km az=141.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	50.11	259	P		P	01 59 04.0	-0.2
0.3nm,0.5s,baz=98,slow=7.4,SNR=6.8								
0.3nm,0.5s								
ASAR	Alice Springs	50.12	254	P		P	01 59 04.2	0.0
0.6nm,0.6s,baz=89,slow=8.6,SNR=12								
0.6nm,0.6s								
ILAR	Eielson Array	85.06	11	P		P	02 02 43.8	-0.1
0.3nm,0.5s,baz=186,slow=5.4,SNR=2.0								
0.3nm,0.5s								

*IDC **24** 01:54:35.8±0.9,9˚.03S×108˚.49W,h0km,mb4.0/7, mbtmp4.0/7,MS4.2/46,Error ellipse: s-maj=51.4km s-min=21.3km az=78.0*

*NEIC **24** 01:54:38.1±1.7,9˚.1S±0˚.1×108˚.5W±0˚.2,h10km±1km, mb4.6/112,Error ellipse: s-maj=25.1km s-min=19.5km az=262.0*

ISC 24 01:54:37.3±0.5,9˚.16S±0˚.09×108˚.64W±0˚.09,h15km,n179, σ1§14/126,mb4.6/58,MS4.3/50,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RPN	Rapa Nui	17.88	182	LR		LR	02 03 30.0	
comp=Z,807nm,19.6s,baz=2.5,slow=30								
PAYG	Puerto Ayora	20.12	66	P		P	01 59 09.3	-1.6
PAYG				IAmb		IAmb	01 59 26.9	
comp=Z,42nm,1.2s								
H06S1	SOCORRO T	27.81	355	T		T	02 29 27.7	
SNR=8.4								
CMIG	Matias Romero	29.42	28	LR		LR	02 09 49.8	
comp=Z,335nm,21.1s,baz=210,slow=31								
ATAH	Atahualpa	30.00	88	LR		LR	02 09 42.1	
comp=Z,477nm,18.1s,baz=268,slow=30								
JTS	Las Juntas de	30.48	51	LR		LR	02 09 49.5	
comp=Z,1μm,20.7s,baz=269,slow=30								
BOSC	San Juan Bosco	30.55	81	P		P	02 00 50.2	-0.5
SOCE	Pocosol	30.80	51	P		P	02 00 52.1	-0.7
SOCE				IAmb		IAmb	02 01 03.6	
comp=Z,18nm,1.1s								
TAOE	Nuku Hiva Isla	31.12	268	*e*LR		LR	02 09 03.0	
comp=Z,493nm,25.1s								
SLOR	San Lorenzo -	31.15	76	P		P	02 00 54.8	-1.6
NNA	Nana	31.37	98	LR		LR	02 09 44.2	
comp=Z,179nm,20.6s,baz=268,slow=29								
ACON	Acoyapa	31.38	48	P		P	02 00 58.1	+0.3
ZAIG	Zacatecas	32.29	11	P		P	02 01 07.0	+1.0
ZAIG				IAmb		IAmb	02 01 19.1	
comp=Z,6.1nm,1.1s								
LPIG	La Paz	33.10	357	LR		LR	02 11 23.0	
comp=Z,420nm,18.5s,baz=212,slow=30								
TEIG	Tepich	35.42	34	LR		LR	02 13 48.5	
comp=Z,6μm,19.8s,baz=0.0,slow=33								
CZSB	Cruzeiro do Su	35.56	90	P		P	02 01 34.9	+0.5
CZSB				IAmb		IAmb	02 01 40.7	
comp=Z,12nm,1.2s								
PRAC	Prado	35.99	71	P		P	02 01 36.5	-1.5
PRAC				IAmb		IAmb	02 01 45.1	
comp=Z,13nm,1.2s								
H03N2	Juan Fernandez	36.50	136	T		T	02 40 13.6	
baz=308,slow=77,SNR=80								
H03N1	Juan Fernandez	36.51	136	T		T	02 40 16.2	
baz=308,slow=77,SNR=86								
H03N3	Juan Fernandez	36.51	136	T		T	02 40 14.6	
baz=308,slow=77,SNR=76								
ROSC	El Rosal	36.93	69	LR		LR	02 13 59.2	
comp=Z,348nm,20.4s,baz=253,slow=32								
833A	Chaparral WMA,	38.32	13	P		P	02 01 57.4	-0.2
833A				IAmb		IAmb	02 02 13.0	
comp=Z,7.5nm,0.7s								
TX31	Lajitas Ar. Si	38.57	7	P		P	02 02 00.9	+1.1
TXAR	Lajitas Array	38.57	7	P		P	02 02 00.8	+1.0
TXAR	Lajitas Array	38.57	7	P		P	02 02 00.6	+0.9
comp=Z,1.1nm,1.2s,baz=192,slow=10.0,SNR=7.4								
TXAR				LR		LR	02 15 02.5	
comp=Z,122nm,21.3s,baz=186,slow=32								
comp=Z,2.1nm,1.2s								
TA02	Huaiquique	38.75	111	P		P	02 02 00.7	-0.6
PB16	IPOC Station P	39.02	108	P		P	02 02 03.8	-0.5
DRIO	Del Rio	39.13	11	P		P	02 02 04.2	-0.2
DRIO				IAmb		IAmb	02 02 05.4	
comp=Z,6.3nm,1.1s								
SAND	Sanderson	39.39	9	P		P	02 02 07.4	+0.8
SAND				IAmb		IAmb	02 02 18.6	
comp=Z,6.7nm,1.1s								
ALPN	Alpine	39.60	7	P		P	02 02 09.1	+0.7
ALPN				IAmb		IAmb	02 02 10.0	
comp=Z,6.6nm,1.3s								
425A	Indio Mountain	39.87	5	P		P	02 02 11.5	+0.8
LPAZ	La Paz	40.09	104	P		P	02 02 13.1	-0.2
319A	Douglas	40.31	359	P		P	02 02 15.7	+1.4
319A				IAmb		IAmb	02 02 27.2	
comp=Z,11nm,1.3s								
LVC	Limon Verde	40.34	114	LR		LR	02 14 16.8	
comp=Z,646nm,21.8s,baz=281,slow=29								
PPT	Papeete	40.62	254	LR		LR	02 14 51.1	
comp=Z,409nm,18.3s,baz=68,slow=30								
PPT2	Papeete2	40.62	254	*e*P		P	02 02 24.7	+7.6
comp=Z,38nm,36.0s								
PPT2				*e*S		S	02 08 21.6	-5.1
comp=Z,79nm,24.5s								
PPT2				*e*LQ		LQ	02 11 38.5	
comp=Z,1μm,30.2s								
PPT2				*e*LR		LR	02 13 37.3	
comp=Z,926nm,24.8s								
BRDY	Brady	41.27	13	P		P	02 02 21.6	-0.5
BRDY				IAmb		IAmb	02 02 29.8	
comp=Z,14nm,1.2s								
TBI	Tubuai	41.49	245	*e*S		S	02 08 36.0	-3.3
comp=Z,626nm,28.0s								
TBI				*e*LR		LR	02 13 46.4	
comp=Z,4μm,27.8s								
SDV	Santo Domingo	41.88	66	P		P	02 02 27.3	-0.3
SDV				IAmb		IAmb	02 02 29.0	
comp=Z,14nm,1.2s								
SDV	Santo Domingo	41.88	66	LR		LR	02 17 07.2	
comp=Z,234nm,20.1s,baz=246,slow=32								
FW14	Alvarado	42.75	14	P		P	02 02 34.8	+0.6
FW14				IAmb		IAmb	02 02 35.4	
comp=Z,12nm,0.8s								
PLPT	Palo Pinto	42.88	13	P		P	02 02 36.1	+0.8
PLPT				IAmb		IAmb	02 02 37.0	
comp=Z,19nm,1.3s								
APMT	Aspermont	43.02	10	P		P	02 02 37.5	+1.1
APMT				IAmb		IAmb	02 02 38.9	
comp=Z,15nm,1.2s								
FW03	Perrin-Whitt E	43.16	13	P		P	02 02 38.1	+0.7
FW03				IAmb		IAmb	02 02 45.6	
comp=Z,28nm,1.4s								
CFA	Coronel Fontan	43.61	127	LR		LR

comp=Z,167nm,19.7s,baz=282,slow=32
HMU Henry Mountain 46.90 358 P **P** **02 03 07.4 0.0**
GMN Gold Mountain 46.92 351 P **P** **02 03 08.7 +1.1**
BLOK Blackwell 46.92 13 P **P** **02 03 07.8 +0.5**
KAN17 Caldwell West 47.08 12 P **P** **02 03 09.7 +1.1**
T35A Sooner Cattle 47.23 13 P **P** **02 03 09.4 -0.3**
KAN06 Argonia West S 47.26 12 P **P** **02 03 11.3 +1.3**
KAN06 IAmb IAmb 02 03 15.1
comp=Z,10nm,1.0s
U38A Gravette 47.30 16 P **P** **02 03 11.5 +1.2**
U38A IAmb IAmb 02 03 16.8
comp=Z,6.8nm,1.1s
MZP Montezuma Peak 47.33 351 P **P** **02 03 12.9 +2.1**
PCRV Puerto La Cruz 47.82 67 LR LR 02 20 47.8
comp=Z,199nm,21.0s,slow=33
Q24A Divide 47.99 4 P **P** **02 03 16.7 +0.7**
Q24A IAmb IAmb 02 03 36.5
comp=Z,4.2nm,0.9s
LHV Little Huntoon 48.06 350 P **P** **02 03 18.0 +1.9**
LHV IAmb IAmb 02 03 24.5
comp=Z,11nm,1.5s
154A Montrose 48.16 29 P **P** **02 03 16.9 -0.1**
NVAR Mina Array Bea 48.20 350 P **P** **02 03 18.8 +1.3**
NVAR Mina Array Bea 48.20 350 P **P** **02 03 18.7 +1.2**
comp=Z,0.6nm,0.7s,baz=178,slow=10,SNR=9.0
NVAR LR LR 02 19 18.0
comp=Z,500nm,19.3s,baz=168,slow=31
comp=Z,0.6nm,0.7s
SPR3 Spring Creek 3 48.20 354 P **P** **02 03 19.4 +1.7**
SPR3 IAmb IAmb 02 03 23.6
comp=Z,8.5nm,1.5s
CMB Columbia Colle 48.22 348 P **P** **02 03 17.8 +0.4**
Q09A Carvers 48.41 351 P **P** **02 03 21.4 +2.4**
P17A Butcher Ranch, 48.42 358 P **P** **02 03 19.9 +0.7**
P17A IAmb IAmb 02 03 32.1
comp=Z,9.0nm,1.3s
RYN Ryan 48.43 350 P **P** **02 03 20.4 +1.3**
RYN IAmb IAmb 02 03 27.1
comp=Z,10nm,1.4s
CBKS Cedar Bluff 48.44 9 P **P** **02 03 19.5 +0.3**
MGMO Mountain Grove 48.56 17 P **P** **02 03 20.8 +0.7**
S39A Bolivar 48.76 16 P **P** **02 03 21.8 +0.1**
S39A IAmb IAmb 02 03 33.9
comp=Z,17nm,1.4s
KVN Kaiserville 48.77 350 P **P** **02 03 22.6 +0.8**
KVN IAmb IAmb 02 03 45.1
comp=Z,7.6nm,1.5s
ISCO Idaho Springs 48.79 3 P **P** **02 03 21.9 -0.3**
ISCO IAmb IAmb 02 03 29.9
comp=Z,4.4nm,1.0s
PBMO Poplar Bluff 48.80 19 P **P** **02 03 22.7 +0.8**
PBMO IAmb IAmb 02 03 33.3
comp=Z,12nm,1.4s
YERR Yerington 48.91 349 P **P** **02 03 24.2 +1.3**
YERR IAmb IAmb 02 03 27.9
comp=Z,11nm,1.5s
MPU Maple Canyon 49.01 357 P **P** **02 03 23.9 +0.2**
O20A White River Ci 49.05 0 P **P** **02 03 24.2 +0.2**
O20A IAmb IAmb 02 03 31.9
comp=Z,10nm,1.2s
EMB Emerald Bay 49.06 348 P **P** **02 03 24.7 +0.6**
EMB IAmb IAmb 02 03 41.7
comp=Z,13nm,1.4s
PNTR Pine Nut 49.07 349 P **P** **02 03 25.3 +1.0**
PNTR IAmb IAmb 02 03 31.4
comp=Z,11nm,1.4s
PRSN Puerto Rico Se 49.17 56 P **P** **02 03 23.5 -1.5**
V48A Smith Brothers 49.17 24 P **P** **02 03 24.0 -0.8**
V48A IAmb IAmb 02 03 25.0
comp=Z,10nm,1.3s
AFDM Forest Hills D 49.22 347 P **P** **02 03 25.4 +0.2**
R40A Maddies Statio 49.62 17 P **P** **02 03 27.7 -0.4**
R40A IAmb IAmb 02 03 36.9
comp=Z,5.7nm,1.1s
PAHR Pah Rah Range 49.63 349 P **P** **02 03 29.4 +1.0**
SJG San Juan 49.94 57 LR LR 02 21 49.3
comp=Z,104nm,20.5s,baz=230,slow=33
ELK Elko 50.03 353 P **P** **02 03 31.6 +0.1**
ELK Elko 50.03 353 LR LR 02 20 39.1
comp=Z,336nm,20.2s,baz=176,slow=31
TKL Tuckaleechee C 50.38 26 LR LR 02 24 55.0
comp=Z,102nm,18.0s,baz=212,slow=36
RAR Rarotonga 50.58 250 LR LR 02 20 06.3
comp=Z,116nm,18.8s,baz=158,slow=30
CPUP Villa Florida 51.41 116 P **P** **02 03 41.5 -0.5**
comp=Z,2.8nm,0.8s,baz=266,slow=10,SNR=5.2
CPUP LR LR 02 21 54.8
comp=Z,319nm,19.4s,baz=280,slow=32
comp=Z,2.8nm,0.8s
PDAR Pinedale Array 51.68 359 P **P** **02 03 43.8 -0.2**
PDAR Pinedale Array 51.68 359 P **P** **02 03 43.3 -0.7**
comp=Z,0.6nm,0.6s,baz=178,slow=8.4,SNR=8.0
PDAR LR LR 02 22 32.2
comp=Z,282nm,19.2s,baz=192,slow=32
comp=Z,0.6nm,0.6s
YBH Yreka Blue Hor 52.27 347 LR LR 02 21 00.8
comp=Z,420nm,20.2s,baz=190,slow=30
LOHW Long Hollow 52.55 358 P **P** **02 03 50.2 -0.2**
MFID Camas Ranch 52.73 353 P **P** **02 03 52.3 +0.7**
MFID IAmb IAmb 02 03 53.6
comp=Z,6.3nm,1.0s
HLID Hailey 52.73 355 P **P** **02 03 52.4 +0.7**
K05A Summer Lake 52.84 349 P **P** **02 03 54.7 +2.2**
K05A IAmb IAmb 02 04 02.2
comp=Z,19nm,1.4s
IMW Indian Meadow 52.85 358 P **P** **02 03 52.9 +0.2**
IMW IAmb IAmb 02 04 04.2
comp=Z,6.5nm,1.0s
YHL Hebgen Lake 53.81 358 P **P** **02 04 00.6 +0.8**
YHL IAmb IAmb 02 04 07.8
comp=Z,12nm,1.4s
I07A Izee 53.90 350 P **P** **02 04 01.1 +1.0**
I07A IAmb IAmb 02 04 19.7
comp=Z,9.1nm,1.5s
G08A Pilot Rock 54.99 351 P **P** **02 04 08.7 +0.6**
C09A Chrisman Ranch 57.35 352 P **P** **02 04 25.3 +0.5**
C09A IAmb IAmb 02 04 26.5
comp=Z,6.4nm,1.2s
MDP Montagnes des 57.59 78 LR LR 02 26 49.6
comp=Z,226nm,18.5s,baz=298,slow=34
NEW Newport 57.66 353 LR LR 02 25 27.3
comp=Z,190nm,18.6s,baz=179,slow=32
BDFB Brasilia 59.40 103 LR LR 02 28 00.8
comp=Z,94nm,18.4s,baz=290,slow=34
SADO Sadowa 59.92 24 LR LR 02 30 45.1
comp=Z,88nm,18.0s,baz=242,slow=36
ULM Lac du Bonnet 60.20 9 LR LR 02 27 51.6
comp=Z,119nm,21.2s,baz=212,slow=33
EDM Edmonton 62.27 357 P **P** **02 04 58.0 -0.6**
BBB Bella Bella 63.35 347 LR LR 02 27 52.6
comp=Z,130nm,18.3s,baz=206,slow=32
PMSA Palmer Station 63.62 160 P **P** **02 05 08.5 +1.1**
PMSA Palmer Station 63.62 160 LR LR 02 24 36.9
comp=Z,140nm,20.3s,baz=294,slow=28
RAO Raoul Island 67.53 242 LR LR 02 29 00.2
comp=Z,198nm,21.0s,baz=124,slow=30
FCC Fort Churchill 68.71 8 P **P** **02 05 39.7 -0.3**
FCC IAmb IAmb 02 05 40.9
comp=Z,5.2nm,1.0s
YKA Yellowknife Ar 71.59 357 P **P** **02 05 57.0 -0.6**
comp=Z,1.6nm,0.9s,baz=169,slow=5.8,SNR=22
YKA LR LR 02 34 07.3
comp=Z,80nm,21.0s,baz=252,slow=33
comp=Z,1.6nm,0.9s
URZ Urewera 72.03 233 LR LR 02 33 24.5
comp=Z,206nm,18.1s,baz=225,slow=32
SCHQ Schefferville 72.73 24 LR LR 02 36 30.7
comp=Z,172nm,20.7s,baz=226,slow=35
KDAK Kodiak Island 75.68 337 LR LR 02 31 47.4
comp=Z,522nm,18.8s,baz=174,slow=30
K29M Barlow Dome 76.03 347 P **P** **02 06 24.8 +0.9**
K29M IAmb IAmb 02 06 26.1
comp=Z,6.0nm,1.0s
BCAR Beaver Creek A 76.37 345 P **P** **02 06 25.7 0.0**
RPZ Rata Peaks 76.73 227 LR LR 02 33 29.6
comp=Z,209nm,19.6s,baz=100,slow=30
EPYK Eagle Plains 78.09 349 P **P** **02 06 35.6 +0.3**
H29M Whitestone 78.28 348 P **P** **02 06 36.0 -0.3**
FRB Frobisher Bay 78.80 17 LR LR 02 39 59.4
comp=Z,162nm,18.8s,baz=227,slow=35
ILAR Eielson Array 79.08 344 P **P** **02 06 40.4 -0.3**
comp=Z,1.5nm,1.0s,baz=165,slow=4.5,SNR=6.8
comp=Z,1.5nm,1.0s
INK Inuvik 79.27 351 P **P** **02 06 42.8 +1.2**
INK IAmb IAmb 02 06 53.7
comp=Z,9.9nm,1.2s

I23K Minto, Yukon-K 80.04 344 P **P** **02 06 46.3 +0.5**
I23K IAmb IAmb 02 06 47.3
comp=Z,12nm,1.2s
M16K Timber Creek 80.28 338 P **P** **02 06 49.8 +2.5**
E27K Coleen River 80.62 348 P **P** **02 06 50.2 +1.1**
E27K IAmb IAmb 02 06 51.1
comp=Z,8.5nm,1.3s
BMAR Burnt Mountain 80.64 347 P **P** **02 06 49.4 +0.2**
QSPA South Pole Qui 80.92 180 P **P** **02 06 52.8 +1.9**
QSPA South Pole Qui 80.92 180 P **P** **02 06 53.4 +2.5**
comp=Z,8.3nm,1.0s,baz=110,slow=3.8,SNR=16
QSPA LR LR 02 35 37.9
comp=Z,194nm,21.1s,baz=102,slow=30
comp=Z,8.3nm,1.0s
VNDA Vanda 81.01 193 P **P** **02 06 52.5 +1.5**
VNDA Vanda 81.01 193 LR LR 02 36 18.1
comp=Z,48nm,19.2s,baz=147,slow=31
G23K Bananza Creek 81.41 345 P **P** **02 06 54.8 +1.5**
G23K IAmb IAmb 02 07 08.7
comp=Z,12nm,1.4s
DZM Mont Dzumac 81.94 249 LR LR 02 34 27.7
comp=Z,52nm,21.3s,baz=44,slow=29
RES Resolute Bay 84.12 4 LR LR 02 42 15.7
comp=Z,189nm,20.6s,baz=337,slow=34
SFJD Kangerlussuaq 86.56 20 LR LR 02 45 30.0
comp=Z,146nm,18.1s,baz=222,slow=35
H11S2 WAKE ISLAND Hy 87.86 289 T T 03 44 44.7
baz=100,slow=74,SNR=255
H11S1 WAKE ISLAND Hy 87.86 289 T T 03 44 40.0
baz=100,slow=74,SNR=180
H11S3 WAKE ISLAND Hy 87.87 289 T T 03 44 41.5
baz=100,slow=74,SNR=247
H11N3 WAKE ISLAND Hy 87.89 290 T T 03 44 42.1
baz=100,slow=75,SNR=56
H11N2 WAKE ISLAND Hy 87.90 290 T T 03 44 43.9
baz=100,slow=75,SNR=69
H11N1 WAKE ISLAND Hy 87.90 290 T T 03 44 43.0
baz=100,slow=75,SNR=44
SHEM Shemya Is, Ala 89.61 324 LR LR 02 39 05.8
comp=Z,227nm,21.0s,baz=108,slow=30
HNR Honiara 89.90 261 LR LR 02 40 09.5
comp=Z,1µm,18.7s,baz=325,slow=30
BORG Borgarnes 97.07 26 LR LR 02 50 20.0
comp=Z,49nm,19.9s,baz=263,slow=34
PETK Petropavlovsk- 99.45 322 LR LR 02 43 58.7
comp=Z,204nm,21.6s,baz=101,slow=30
KMBO Kilima Mbogo 144.52 105 PKP **PKPdf** **02 14 16.3 +1.7**
comp=Z,1.8nm,1.0s,baz=231,slow=7.7,SNR=3.8
KK31 Karatay Array 146.18 1 PKPbc **PKPab** **02 14 18.3 +0.3**
KKAR Karatay Array 146.18 1 PKPbc **PKPdf** **02 14 16.2 -0.2**
PZH PanZhiHua 146.46 305 PKPbc **PKPdf** **02 14 17.3 -0.2**
TARG Taragay, Kyrgy 147.07 351 PKPbc **PKPdf** **02 14 19.0 +0.6**
CRAI Chiangrai 149.91 295 PKPbc **PKPbc** **02 14 26.7 -1.3**
CMAR Chiang Mai Arr 151.70 292 PKPbc **PKiKP** **02 14 32.5 -0.1**
comp=Z,2.4nm,0.3s,baz=56,slow=1.1,SNR=6.3

IDC 24 02:25:57.9±1.2, 29.05S×179.00W, h346km±18km, mb2.8/2, mbtmp3.7/3, Error ellipse: s-maj=53.0km s-min=28.6km az=110.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.96**	**102**	P	Pn	02 26 43.2	+0.1
	102nm,0.3s,baz=315,slow=20,SNR=5.2						
RAO				S	S	02 27 19.5	+0.3
	62nm,0.3s,baz=35,slow=21,SNR=1.3						
URZ	**Urewera**	**9.74**	**198**	P	Pn	02 28 13.3	+0.7
	2.5nm,0.3s,baz=343,slow=3.7,SNR=10						
URZ				S	S	02 30 01.8	-1.1
	2.0nm,0.4s,baz=332,slow=10,SNR=1.7						
ASAR	**Alice Springs**	**42.33**	**266**	P	P	02 33 19.4	+0.1
	0.4nm,0.5s,baz=97,slow=6.9,SNR=16						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**43.19**	**271**	P	P	02 33 25.6	-0.6
	0.4nm,0.4s,baz=107,slow=8.0,SNR=6.1						
	0.4nm,0.4s						
BRTR	**Keskin Array B**	**151.18**	**300**	PKPbc	PKPbc	02 45 10.5	-0.4
	0.3nm,0.7s,baz=125,slow=4.3,SNR=1.6						

IDC 24 03:01:24.7±2.2, 7.16S×128.94E, h0km, mb3.1/1, mbtmp3.0/3, ML3.2/2, Error ellipse: s-maj=115.3km s-min=33.7km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.75**	**158**	Pn	Pn	03 04 40.1	-1.0
	0.1nm,0.3s,baz=336,slow=13,SNR=9.8						
WRA				Sn	Sn	03 06 59.5	-15
	0.2nm,0.3s,baz=331,slow=23,SNR=2.4						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**17.09**	**164**	P	Pn	03 05 26.1	+0.9
	0.1nm,0.3s,baz=348,slow=10,SNR=5.4						
ASAR				S	Sn	03 08 20.9	-15
	0.4nm,1.0s,baz=330,slow=37,SNR=1.5						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**67.78**	**327**	P	P	03 12 24.5	0.0
	0.1nm,0.3s,baz=122,slow=7.0,SNR=1.2						
	0.1nm,0.3s						

*JMA **24** 03:16:56.0±0.3, 38.7N±0.5×14.3E±°, h19km±4km, MV3.4/37, FAR E OFF MIYAGI PREF*
*IDC **24** 03:17:00.7±3.6, 38.68N×143.21E, h48km±30km, mb3.2/5, mbtmp3.4/7, ML2.8/2, Error ellipse: s-maj=34.0km s-min=20.2km az=100.0*
ISC 24 03:16:54.8±3.8, 38.68N±0.05×143.37E±0.09, h14km±24km, n26, σ1§67/31, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**1.39**	**287**	P	**Pn**	**03 17 19.7**	**-0.1**
OFUJ				*e*S	**Sn**	**03 17 36.7**	**-1.3**
JKMT	**Kesennumamotoy**	**1.49**	**276**	P	**Pn**	**03 17 21.2**	**+0.1**
MIYJ	**Miyakonagasawa**	**1.50**	**307**	P	**Pn**	**03 17 20.9**	**-0.5**
JIO	**Ouri**	**1.60**	**262**	P	**Pn**	**03 17 22.9**	**+0.2**
JIO				S	**Sn**	**03 17 41.8**	**-1.4**
JMK	**Ichinoseki**	**1.70**	**280**	*i* P	**Pn**	**03 17 24.7**	**+0.5**
JOM	**Ohasama**	**1.80**	**297**	P	**Pn**	**03 17 25.8**	**+0.3**
JOM				*e*S	**Sn**	**03 17 47.6**	**-0.6**
JOU	**Okura**	**2.15**	**262**	P	**Pn**	**03 17 31.1**	**+0.9**
JOU				*e*S	**Sn**	**03 17 57.1**	**+0.4**
JMM	**Marumori**	**2.19**	**249**	P	**Pn**	**03 17 31.1**	**+0.3**
JANG	**Nango**	**2.22**	**320**	P	**Pn**	**03 17 32.4**	**+1.2**
JRG	**Rokugo**	**2.25**	**289**	P	**Pn**	**03 17 32.7**	**+1.1**
JYK	**Kaneyama**	**2.37**	**277**	P	**Pn**	**03 17 34.6**	**+1.4**
JFK	**Kawauchi**	**2.37**	**237**	P	**Pn**	**03 17 33.5**	**+0.2**
JFK				*e*S	**Sn**	**03 18 01.1**	**-1.1**
JAH	**Hinai**	**2.60**	**306**	P	**Pn**	**03 17 38.3**	**+1.9**
JOTO	**OTAMA OYAMA**	**2.65**	**246**	P	**Pn**	**03 17 38.5**	**+1.4**
JTM	**Tenmabayashi**	**2.75**	**321**	*e*P	**Pb**	**03 17 41.9**	**-1.9**
MJAR	**Matsushiro Arr**	**4.62**	**244**	P	**Pn**	**03 18 07.5**	**+3.2**
	0.5nm,0.3s,baz=90,slow=14,SNR=35						
MJAR				S	**Sn**	**03 18 57.2**	**-0.6**
	0.7nm,0.4s,baz=145,slow=14,SNR=1.0						
	3.1nm,0.4s						
ASAJ	**Asahikawa**	**5.46**	**354**	P	**Pn**	**03 18 18.9**	**+3.1**
	0.3nm,0.3s,baz=323,slow=25,SNR=2.3						
ASAJ				S	**Sn**	**03 19 15.7**	**-2.7**
	4.9nm,0.7s,baz=346,slow=29,SNR=2.3						
	7.8nm,1.1s						
JHJ	**Hachijo jima 2**	**6.27**	**209**	P	**Pn**	**03 18 26.8**	**-0.1**
	21nm,0.5s,baz=332,slow=23,SNR=7.9						
JHJ				S	**Sn**	**03 19 33.8**	**-4.5**
	56nm,0.7s,baz=74,slow=19,SNR=1.8						
H11N2	**WAKE ISLAND Hy**	**27.76**	**126**	T	T	03 51 40.1	
	baz=318,slow=74,SNR=11						
H11N1	**WAKE ISLAND Hy**	**27.77**	**126**	T	T	03 51 41.3	
	baz=318,slow=74,SNR=9.1						
H11N3	**WAKE ISLAND Hy**	**27.78**	**126**	T	T	03 51 40.5	
	baz=318,slow=74,SNR=9.8						
ZALV	**Zalesovo Beam**	**41.98**	**311**	P	**P**	**03 24 45.2**	**0.0**
	0.3nm,0.6s,baz=119,slow=5.1,SNR=1.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**44.58**	**301**	P	**P**	**03 25 08.4**	**+2.0**
	0.1nm,0.4s,baz=94,slow=8.7,SNR=2.1						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**46.23**	**307**	P	**P**	**03 25 19.4**	**+0.1**
	0.4nm,0.5s,baz=79,slow=8.4,SNR=3.1						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**58.93**	**190**	P	**P**	**03 26 54.3**	**+0.7**
	0.4nm,0.5s,baz=8.4,slow=6.9,SNR=7.3						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**62.65**	**190**	P	**P**	**03 27 20.5**	**+1.5**
	0.3nm,0.7s,baz=0.8,slow=6.5,SNR=2.9						
	0.3nm,0.7s						

*CATAC **24** 03:50:50.4±0.5, 9.12N×84.46W, h5km±3km, ML3.3*
*UCR **24** 03:50:51.0±1.4, 9.21N×84.45W, h0km±6km, MW3.9*
ISC 24 03:50:50.6±1.4, 9.15N±0.04×84.46W±0.03, h8km±10km, n57, σ0§68/70, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVQ2	**Quepos**	**0.41**	**46**	*e*P	**Pg**	**03 50 59.0**	**+0.4**
SVQ2				*e*S	**Sb**	**03 51 05.8**	**-0.6**
LLNJ	**Naranjito**	**0.48**	**48**	*e*P	**Pg**	**03 51 00.2**	**+0.2**
JACO	**JACO, Garabito**	**0.55**	**339**	*e*P	**Pg**	**03 51 01.0**	**-0.2**
JACO				*e*S	**Sb**	**03 51 10.0**	**-0.5**
JACO	**JACO, Garabito**	**0.55**	**339**	*i* P	**Pg**	**03 51 01.5**	**+0.3**
JACO				*i* S	**Sb**	**03 51 10.2**	**-0.3**
JACO				IAML		03 51 11.9	
	comp=Z,1µm,1.0s						
ABE2	**San Pablo**	**0.68**	**36**	*e*P	**Pg**	**03 51 03.6**	**-0.3**
LCR2	**La Lucha 2**	**0.74**	**37**	*e*P	**Pg**	**03 51 04.5**	**-0.5**
LCR2	**La Lucha 2**	**0.74**	**37**	*i* P	**Pg**	**03 51 04.4**	**-0.5**
LCR2				*i* S	**Sg**	**03 51 14.9**	**+0.2**
LCR2				IAML		03 51 22.1	
	comp=Z,600nm,1.0s						
CBL1	**Cabuya**	**0.76**	**305**	*e*P	**Pg**	**03 51 04.4**	**-0.9**
TRB2	**Turrubares**	**0.76**	**1**	*e*P	**Pg**	**03 51 05.6**	**+0.3**
CDM	**Cerro de Muert**	**0.80**	**60**	*e*P	**Pg**	**03 51 05.6**	**-0.6**
CDM	**Cerro de Muert**	**0.80**	**60**	*i* P	**Pg**	**03 51 05.5**	**-0.6**
CDM				*i* S	**Sb**	**03 51 18.2**	**0.0**
CDM				IAML		03 51 22.4	
	comp=Z,730nm,1.0s						
OCHAL	**Ojochal**	**0.81**	**94**	*i* P	**Pg**	**03 51 06.2**	**0.0**
OCHAL				IAML		03 51 07.0	
	comp=Z,11nm,1.0s						
BUS1	**Rivas**	**0.81**	**60**	*e*P	**Pg**	**03 51 05.6**	**-0.7**
RIMA	**Rio Macho**	**0.85**	**44**	*i* P	**Pg**	**03 51 07.0**	**-0.1**
RIMA				*i* S	**Sg**	**03 51 18.6**	**+0.4**
RIMA				IAML		03 51 21.6	
	comp=Z,450nm,1.0s						
BELE	**Belen**	**0.86**	**18**	*e*P	**Pg**	**03 51 07.1**	**-0.2**
OCM	**Ochomogo**	**0.89**	**34**	*e*P	**Pg**	**03 51 07.7**	**-0.1**
OCM	**Ochomogo**	**0.89**	**34**	*i* P	**Pg**	**03 51 06.9**	**-0.9**
OCM				IAML		03 51 13.3	
	comp=Z,360nm,1.0s						
OCM				*i* S	**Sb**	**03 51 21.7**	**+1.1**
TCS1	**Tacares**	**0.90**	**10**	*e*P	**Pb**	**03 51 08.5**	**-0.1**
TCS1	**Tacares**	**0.90**	**10**	*i* P	**Pb**	**03 51 08.5**	**-0.1**
TCS1				IAML		03 51 24.2	
	comp=Z,9µm,1.0s						
HDC3	**Heredia 3**	**0.92**	**22**	*i* P	**Pg**	**03 51 08.2**	**-0.1**
HDC3				*i* S	**Sn**	**03 51 22.8**	**-0.6**
HDC3				IAML		03 51 33.5	
	comp=Z,830nm,1.0s						
SRA1	**San Ramn**	**0.93**	**359**	*e*P	**Pg**	**03 51 06.9**	**-1.7**
RAMO	**San Ramon**	**0.93**	**360**	*e*P	**Pb**	**03 51 09.5**	**+0.3**
PCAYA	**Pacayas**	**1.00**	**40**	*e*P	**Pb**	**03 51 10.9**	**+0.6**
EDPN	**Palmar Norte**	**1.01**	**101**	*e*P	**Pn**	**03 51 11.3**	**+0.2**
HAYA	**Volcan Irazu**	**1.03**	**36**	*i* P	**Pg**	**03 51 10.4**	**0.0**
HAYA				IAML		03 51 15.6	
	comp=Z,2µm,1.0s						
VICA	**Volcano Irazu**	**1.03**	**36**	*e*P	**Pg**	**03 51 10.6**	**+0.1**
ICR3	**Volcano Irazu**	**1.03**	**37**	*e*P	**Pg**	**03 51 10.1**	**-0.4**
CVTQ	**Turrialba Volc**	**1.09**	**39**	*e*P	**Pb**	**03 51 11.8**	**-0.3**
VERB	**Verbena**	**1.09**	**44**	*e*P	**Pg**	**03 51 11.3**	**-0.4**
CVTV	**Tajo**	**1.10**	**40**	*e*P	**Pg**	**03 51 11.9**	**0.0**
CVTR	**Volcan Turrial**	**1.11**	**39**	*e*P	**Pg**	**03 51 12.0**	**0.0**
CPMI	**Catarata Coope**	**1.13**	**4**	*e*P	**Pg**	**03 51 10.9**	**-1.5**
CPMI	**Catarata Coope**	**1.13**	**4**	*i* P	**Pg**	**03 51 10.9**	**-1.5**
CPMI				*i* S	**Sb**	**03 51 27.9**	**+0.4**
CPMI				IAML		03 51 32.3	
	comp=Z,360nm,1.0s						
RVSTA	**Santa Teresita**	**1.15**	**44**	*e*P	**Pg**	**03 51 12.3**	**-0.4**
EDBA	**Buenos Aires**	**1.17**	**89**	*e*P	**Pg**	**03 51 12.3**	**-0.9**
POPE	**POPE, Guanacas**	**1.20**	**319**	*i* P	**Pg**	**03 51 13.4**	**-0.4**
POPE				*i* S	**Sb**	**03 51 30.2**	**+0.8**
POPE				IAML		03 51 41.3	
	comp=Z,260nm,1.0s						
DRK0	**Durika**	**1.21**	**85**	*e*P	**Pg**	**03 51 13.0**	**-0.8**
SOCE	**Pocosol**	**1.23**	**353**	*i* P	**Pg**	**03 51 13.9**	**-0.5**
SOCE				IAML		03 51 15.7	
	comp=Z,680nm,1.0s						
INDI	**Punta indio, G**	**1.25**	**305**	*i* P	**Pg**	**03 51 14.3**	**-0.3**
INDI				*i* S	**Sb**	**03 51 31.2**	**+0.4**
INDI				IAML		03 51 44.4	
	comp=Z,150nm,1.0s						
RIFO	**Rio Frio, Sara**	**1.28**	**25**	*i* P	**Pg**	**03 51 14.5**	**-0.7**
RIFO				*i* S	**Sn**	**03 51 32.7**	**+0.5**
RIFO				IAML		03 51 51.6	
	comp=Z,750nm,1.0s						
LCOCO	**El Coco**	**1.29**	**44**	*e*P	**Pg**	**03 51 14.5**	**-0.9**
ARE1	**Arenal 1**	**1.33**	**349**	*e*P	**Pg**	**03 51 14.8**	**-1.3**
POTG	**Potrero Grande**	**1.33**	**94**	*i* P	**Pg**	**03 51 15.0**	**-1.2**
POTG				IAML		03 51 43.6	
	comp=Z,1µm,1.0s						
VACR	**Volcan Arenal**	**1.33**	**351**	*i* P	**Pg**	**03 51 15.0**	**-1.2**
VACR				IAML		03 51 42.0	
	comp=Z,380nm,1.0s						
CEDE	**Laguna Cedeo**	**1.35**	**350**	*i* P	**Pg**	**03 51 15.7**	**-0.9**
EDAD	**Golfito**	**1.37**	**111**	*e*P	**Pb**	**03 51 17.5**	**+0.8**
ORTG	**Ortega, Santa**	**1.56**	**321**	*i* P	**Pn**	**03 51 18.5**	**-0.2**
ORTG				IAML		03 51 50.6	
	comp=Z,120nm,1.0s						
TRT2	**Tortugero**	**1.57**	**27**	*i* P	**Pn**	**03 51 18.5**	**-0.4**
TRT2				*i* S	**Sg**	**03 51 41.0**	**-0.2**
TRT2				IAML		03 51 53.9	
	comp=Z,340nm,1.0s						
CDITO	**Canoas**	**1.67**	**110**	*i* P	**Pn**	**03 51 19.6**	**-0.7**
CDITO				IAML		03 51 27.4	
	comp=Z,300nm,1.0s						
CAMAV	**Centro de Prod**	**1.70**	**335**	*i* P	**Pn**	**03 51 21.6**	**+0.8**
CTCR	**Cotoan**	**1.70**	**98**	*i* P	**Pn**	**03 51 21.1**	**+0.3**
CTCR				IAML		03 51 55.8	
	comp=Z,900nm,1.0s						
VERA	**Finca Concepci**	**1.74**	**347**	*i* P	**Pb**	**03 51 22.6**	**-0.3**
VMAR	**Armenia, Volca**	**1.77**	**339**	*i* P	**Pn**	**03 51 21.8**	**+0.1**
VMAR				IAML		03 52 09.0	
	comp=Z,290nm,1.0s						
BRU2	**Volcan**	**1.79**	**101**	*i* P	**Pn**	**03 51 22.0**	**0.0**
BRU2				IAML		03 52 03.7	
	comp=Z,360nm,1.0s						
GPS3	**Bodega del ICE**	**1.83**	**331**	*i* P	**Pb**	**03 51 23.9**	**-0.5**
HZTE	**Horizontes, Gu**	**1.91**	**324**	*i* P	**Pb**	**03 51 26.0**	**+0.2**
HZTE				IAML		03 52 13.2	
	comp=Z,230nm,1.0s						
NADN	**Granada**	**3.01**	**329**	*i* P	**Pn**	**03 51 40.6**	**+1.9**

*NEIC **24** 03:55:33.4±0.9, 13.8S±0.1×167.7E±0.2, h144km±2km, mb4.2/14, Error ellipse: s-maj=26.4km s-min=19.7km az=98.0*
*IDC **24** 03:55:42.7±3.6, 14.37S×167.28E, h200km±31km, mb3.6/12, mbtmp4.2/13, Error ellipse: s-maj=21.2km s-min=19.3km az=57.0*
*NOU **24** 03:55:46.4, 14.64S×167.44E, h163km, MLv4.8/11, Vanuatu Islands*
ISC 24 03:55:42.3±0.7, 14.42S±0.08×167.4E±0.1, h200km, n47, σ1§19/47, mb4.0/15, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**3.37**	**167**	P	**Pn**	**03 56 35.6**	**-0.7**
LIFNC	**LIFOU**	**6.33**	**181**	Pn	**Pn**	**03 57 10.8**	**-3.0**
LIFNC	**LIFOU**	**6.33**	**181**	P	**Pn**	**03 57 13.2**	**-0.6**
KOUNC	**Koumac, New Ca**	**6.79**	**206**		**Pn**	**03 57 19.0**	**-0.8**
**K

CTA	Charters Tower	20.97	251	P	P	04 00 09.4	-0.7
	comp=Z,2.6nm,0.8s,baz=98,slow=9.5,SNR=4.5						
	comp=Z,2.6nm,0.8s						
STKA	Stephens Creek	29.30	229	P	P	04 01 26.8	+0.6
STKA				IAmb	IAmb	04 01 28.1	
	comp=Z,2.5nm,0.6s						
STKA	Stephens Creek	29.30	229	P	P	04 01 26.8	+0.6
	comp=Z,8.2nm,0.5s,baz=50,slow=8.7,SNR=28						
	comp=Z,8.2nm,0.5s						
TOO	Toolangi	30.18	216	P	P	04 01 34.2	+0.3
TOO				IAmb	IAmb	04 01 42.4	
	comp=Z,11nm,1.1s						
WR0	Warramunga Arr	31.85	255	P	P	04 01 47.5	-1.2
WR0				IAmb	IAmb	04 02 05.9	
	comp=Z,7.1nm,1.5s						
WB0	Warramunga Arr	31.97	256	P	P	04 01 48.8	-1.0
WB0				IAmb	IAmb	04 01 49.3	
	comp=Z,4.1nm,0.5s						
WRA	Warramunga Arr	32.04	255	P	P	04 01 48.6	-1.8
WRA	Warramunga Arr	32.04	255	P	P	04 01 49.4	-1.0
	comp=Z,1.8nm,0.6s,baz=86,slow=9.3,SNR=23						
WRA				PcP	PcP	04 04 34.8	-0.4
	comp=Z,0.8nm,0.8s,baz=74,slow=2.1,SNR=4.6						
	comp=Z,1.8nm,0.6s						
AS31	Alice Springs	32.91	249	P	P	04 01 57.1	-0.8
ASAR	Alice Springs	32.92	249	P	P	04 01 56.8	-1.2
ASAR	Alice Springs	32.92	249	P	P	04 01 56.4	-1.7
	comp=Z,2.2nm,0.5s,baz=77,slow=9.2,SNR=52						
ASAR				PcP	PcP	04 04 37.6	0.0
	comp=Z,0.4nm,0.9s,baz=58,slow=2.4,SNR=4.1						
	comp=Z,2.2nm,0.5s						
BBOO	Buckleboo	33.88	232	P	P	04 02 05.8	-0.4
KNRA	Kununurra	37.31	263	P	P	04 02 34.2	-1.4
FITZ	Fitzroy Crossi	40.21	259	P	P	04 02 58.1	-1.6
VNDA	Vanda	63.18	181	P	P	04 05 50.0	+1.5
VNDA				IAmb	IAmb	04 05 58.8	
	comp=Z,1.9nm,1.1s						
VNDA	Vanda	63.18	181	P	P	04 05 49.7	+1.2
	comp=Z,0.9nm,0.6s,baz=7.3,slow=6.6,SNR=5.6						
	comp=Z,0.9nm,0.6s						
BJT	Baijiatuao	72.10	321	P	P	04 06 38.5	-6.4
BJT				IAmb	IAmb	04 06 39.9	
	comp=Z,5.3nm,0.9s						
QSPA	South Pole Qui	75.61	180	P	P	04 07 05.5	+0.5
QSPA				IAmb	IAmb	04 07 09.2	
	comp=Z,2.4nm,0.8s						
QSPA	South Pole Qui	75.61	180	P	P	04 07 05.2	+0.2
	comp=Z,1.8nm,0.6s,baz=327,slow=0.6,SNR=21						
	comp=Z,1.8nm,0.6s						
MAW	Mawson	82.22	202	P	P	04 07 41.4	+0.7
	comp=Z,4.1nm,0.7s,baz=114,slow=6.9,SNR=3.0						
	comp=Z,4.1nm,0.7s						
SONM	Songino Array	82.33	324	P	P	04 07 41.7	0.0
	comp=Z,0.6nm,0.9s,baz=115,slow=4.6,SNR=2.7						
	comp=Z,0.6nm,0.9s						
ILAR	Eielson Array	86.19	18	P	P	04 07 59.8	-0.8
	comp=Z,0.7nm,0.7s,baz=241,slow=4.7,SNR=12						
	comp=Z,0.7nm,0.7s						
NVAR	Mina Array Bea	86.96	49	P	P	04 08 06.1	+0.8
	comp=Z,0.4nm,0.7s,baz=237,slow=8.3,SNR=2.8						
	comp=Z,0.4nm,0.7s						
O30N	Mendenhall	87.31	24	P	P	04 08 00.5	-5.7
SNAA	Sanae	93.87	183	P	P	04 08 36.1	-0.5
	comp=Z,1.1nm,0.7s,baz=194,slow=4.7,SNR=9.3						
	comp=Z,1.1nm,0.7s						
MKAR	Makanchi Array	97.08	316	P	P	04 08 51.3	-0.2
	comp=Z,0.4nm,0.7s,baz=97,slow=5.0,SNR=3.6						
	comp=Z,0.4nm,0.7s						
ARCES	ARCESS Array B	119.99	345	PKP	PKPdf	04 14 08.3	-0.1
	comp=Z,1.5nm,0.5s,baz=74,slow=2.1,SNR=14						
AKASG	Malin Array Be	130.56	326	PKP	PKiKP	04 14 30.2	+0.2
	comp=Z,0.5nm,0.5s,baz=57,slow=1.3,SNR=1.8						
KEST	Kesra	151.06	321	PKPbc	PKiKP	04 15 13.2	+0.7
	comp=Z,7.6nm,1.0s,baz=74,slow=1.3,SNR=9.2						
ESDC	Sonseca Array	153.72	345	PKPbc	PKiKP	04 15 18.3	+0.4
	comp=Z,0.5nm,0.9s,baz=11,slow=2.6,SNR=3.6						

*NOU **24** 03:56:08.0, 38˚.26S×175˚.85E, h200km, MLv3.5/10, North Island, New Zealand*
*WEL **24** 03:56:12.6±1.2, 38˚S±5˚×17˚6E±˚, h151km±11km, M2.6/46, ML2.0/8, MLv2.6/46, Error ellipse: s-maj=0.0km s-min=0.0km az=119.0, confirmed*

ISC 24 03:56:07.1±1.7, **38˚26S**±0˚.05×**175˚.88E**±0˚.05, **h198**km±9km, **n148**, σ1§41/154, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRRZ	Galatos Road	0.20	116	P	Pn	03 56 34.1	+0.8
KUTZ	Kaahu Road	0.23	190	P	Pn	03 56 34.2	+0.9
UTU	Utuhina	0.26	72	P	Pn	03 56 34.2	+0.8
TLZ	Tolley Road	0.28	255	P	Pn	03 56 34.3	+0.9
NGRZ	Ngongotaha	0.29	57	P	Pn	03 56 34.1	+0.6
HSRZ	Hossack Road	0.29	100	P	Pn	03 56 34.2	+0.8
WPRZ	Whakapapatarin	0.34	139	P	Pn	03 56 34.3	+0.8
HRRZ	Handcock Road	0.35	112	P	Pn	03 56 34.3	+0.8
KARZ	Kaharoa	0.38	51	P	Pn	03 56 34.2	+0.5
KMRZ	Kaimai	0.42	7	P	Pn	03 56 34.4	+0.6
OMRZ	Omania	0.42	69	P	Pn	03 56 34.3	+0.5
WATZ	Wairara	0.46	194	P	Pn	03 56 35.0	+1.1
PRRZ	Plateau Road	0.47	121	P	Pn	03 56 34.7	+0.8
ALRZ	Allen Road	0.47	130	P	Pn	03 56 35.0	+1.1
MKRZ	Makatiti	0.48	76	P	Pn	03 56 35.2	+1.1
RRRZ	Republican Roa	0.51	99	P	Pn	03 56 35.3	+1.3
TOZ	Tahuroa Road	0.60	331	P	Pn	03 56 35.2	+0.8
RATZ	Rangitukua	0.61	188	P	Pn	03 56 35.4	+0.9
TGRZ	Tauranga	0.61	30	P	Pn	03 56 35.0	+0.5
HATZ	Hinemaiaia	0.65	165	P	Pn	03 56 35.6	+1.0
OPRZ	Ohinepanea	0.68	52	P	Pn	03 56 35.2	+0.5
MARZ	Manawahe	0.69	67	P	Pn	03 56 35.8	+0.9
EDRZ	Edgecumbe	0.70	78	P	Pn	03 56 35.9	+1.0
MRHZ	Matea Rd	0.71	144	P	Pn	03 56 35.8	+0.8
RITZ	Rihia Road	0.72	181	P	Pn	03 56 36.5	+1.5
KATZ	Kakaramea	0.73	191	P	Pn	03 56 36.6	+1.4
MUGZ	Murupara	0.74	107	P	Pn	03 56 35.9	+0.8
HIZ	Hauiti	0.84	252	P	Pn	03 56 36.8	+1.2
HIZ	Hauiti	0.84	252	P	Pn	03 56 36.8	+1.2
NTVZ	North Tongarir	0.85	191	P	Pn	03 56 37.2	+1.4
KRVZ	Karewarewa	0.85	192	P	Pn	03 56 37.2	+1.3
TMVZ	Te Maari	0.86	189	P	Pn	03 56 37.3	+1.4
TWVZ	Taurewa	0.88	203	P	Pn	03 56 37.3	+1.3
WTVZ	West Tongariro	0.88	195	P	Pn	03 56 37.4	+1.4
ETVZ	East Tongariro	0.88	188	P	Pn	03 56 37.5	+1.5
NNVZ	North Ngauruho	0.89	193	P	Pn	03 56 37.6	+1.5
OTVZ	Oturere	0.92	190	P	Pn	03 56 37.8	+1.5
RTZ	Ruatahuna	0.94	113	P	Pn	03 56 37.3	+0.9
NGZ	Ngauruhoe	0.94	193	P	Pn	03 56 38.0	+1.6
SNVZ	South Ngauruho	0.94	191	P	Pn	03 56 38.0	+1.5
URZ	Urewera	0.97	90	P	Pn	03 56 36.9	+0.5
URZ	Urewera	0.97	90	P	Pn	03 56 36.8	+0.4
URZ				S	Sn	03 56 56.8	-2.3
COVZ	Chateau Observ	0.97	195	P	Pn	03 56 38.0	+1.4
TUVZ	Tukino	1.02	190	P	Pn	03 56 38.6	+1.7
BKZ	Black Stump Fm	1.02	152	P	Pn	03 56 38.0	+1.2
BKZ	Black Stump Fm	1.02	152	P	Pn	03 56 38.2	+1.3
BKZ	Black Stump Fm	1.02	152	P	Pn	03 56 38.1	+1.2
FWVZ	Far West T-bar	1.02	194	P	Pn	03 56 38.9	+1.8
MAVZ	Matarangi	1.04	194	P	Pn	03 56 39.2	+1.9
WHVZ	Whangaehu Hut	1.04	192	P	Pn	03 56 38.9	+1.7
TRVZ	Turoa	1.07	194	P	Pn	03 56 39.1	+1.7
WNVZ	Wahianoa	1.09	191	P	Pn	03 56 39.0	+1.6
PKVZ	Pokaka	1.11	202	P	Pn	03 56 39.1	+1.6
NMHZ	Naumai	1.11	139	P	Pn	03 56 39.7	+2.2
MOVZ	Moawhango	1.15	185	P	Pn	03 56 38.9	+1.2
MOVZ				S	Sn	03 56 59.9	-1.9
RAHZ	Arahi	1.15	125	P	Pn	03 56 39.7	+1.9
RAHZ				S	Sn	03 57 01.0	-0.6
MTVZ	Mangateitei	1.17	196	P	Pn	03 56 39.5	+1.6
VRZ	Vera Road	1.23	225	P	Pn	03 56 40.3	+2.0
RAGZ	Rawiri	1.23	101	P	Pn	03 56 39.7	+1.2
RAGZ				S	Sn	03 57 01.4	-1.4
BHHZ	Black Hill Sta	1.24	173	P	Pn	03 56 39.7	+1.2
BHHZ				S	Sn	03 57 01.5	-1.5
KWHZ	Kaweka Forest	1.24	160	P	Pn	03 56 40.2	+1.7
SNGZ	Shannon Statio	1.26	115	P	Pn	03 56 40.4	+1.8
MKAZ	Moumakai	1.29	334	P	Pn	03 56 40.0	+1.2
MWZ	Matawai	1.30	94	P	Pn	03 56 40.0	+1.0
MWZ				S	Sn	03 57 02.3	-1.4
ARHZ	Aropaoanui	1.33	139	P	Pn	03 56 41.2	+2.1
ARHZ				S	Sn	03 57 03.5	-0.6
WHHZ	Waihua	1.34	128	P	Pn	03 56 41.1	+1.9
MCHZ	McNeill Hill	1.34	152	P	Pn	03 56 41.6	+2.4
KRHZ	Kereru	1.43	165	P	Pn	03 56 41.8	+1.7
RUGZ	Raukumara Rang	1.45	79	P	Pn	03 56 40.5	+0.2
ETAZ	East Tamaki Re	1.51	330	P	Pn	03 56 41.9	+1.2
KUZ	Kuaotunu	1.52	355	P	Pn	03 56 41.8	+1.0
KUZ	Kuaotunu	1.52	355	P	Pn	03 56 41.9	+1.0
AWAZ	Awhitu Peninsu	1.54	320	P	Pn	03 56 42.4	+1.3
RIGZ	Rimuhau	1.55	107	P	Pn	03 56 42.8	+1.7
TKGZ	Te Karaka	1.56	97	P	Pn	03 56 43.0	+1.9
WIAZ	Waiheke Island	1.58	338	P	Pn	03 56 42.7	+1.4
HAZ	Te Kaha	1.59	72	P	Pn	03 56 41.8	+0.5
KNZ	Kokohu	1.60	119	P	Pn	03 56 43.1	+1.6
WAZ	Wanganui	1.65	205	P	Pn	03 56 44.5	+2.5
TWGZ	Tauwhareparae	1.66	88	P	Pn	03 56 43.9	+1.7
LREZ	Lake Rotokare	1.66	223	P	Pn	03 56 45.0	+2.9
PNHZ	Pukenui	1.67	171	P	Pn	03 56 43.8	+1.6
MBAZ	Motutapu North	1.68	332	P	Pn	03 56 43.4	+1.1
CKHZ	Cape Kidnapper	1.68	147	P	Pn	03 56 44.5	+2.3
WTAZ	Waiatarua	1.68	322	P	Pn	03 56 44.1	+1.7
PRGZ	Paritu Road	1.71	113	P	Pn	03 56 44.3	+1.8
KAHZ	Kahuranaki	1.72	153	P	Pn	03 56 44.8	+2.1
NEZ	North Egmont	1.72	234	P	Pn	03 56 45.5	+2.8
PKE	Pukeiti	1.75	237	P	Pn	03 56 45.5	+2.6
PKGZ	Pakihiroa	1.78	79	P	Pn	03 56 44.6	+1.4
KHEZ	Kahui Hut	1.78	234	P	Pn	03 56 45.2	+1.9
KHEZ	Kahui Hut	1.78	234	P	Pn	03 56 46.1	+2.8
TSZ	Takapari Road	1.80	178	P	Pn	03 56 45.1	+1.7
MHGZ	Mahia Peninsul	1.82	120	P	Pn	03 56 45.7	+2.1
CNGZ	Carnagh Statio	1.85	98	P	Pn	03 56 46.1	+2.2
WPHZ	Waipukurau	1.85	166	P	Pn	03 56 45.7	+1.8
PUZ	Puketiti	1.89	85	P	Pn	03 56 45.5	+1.2
PXZ	Pawanui	1.93	157	P	Pn	03 56 46.7	+2.1
OHWZ	Ohakea	1.99	192	P	Pn	03 56 47.7	+2.4
GRZ	Great Barrier	2.03	350	P	Pn	03 56 47.3	+1.5
MXZ	Matakaoa Point	2.04	71	P	Pn	03 56 47.5	+1.6
MXZ	Matakaoa Point	2.04	71	P	Pn	03 56 47.5	+1.6
DVHZ	Dannevirke	2.05	174	P	Pn	03 56 47.4	+1.4
WMGZ	Waiomatatini S	2.05	78	P	Pn	03 56 47.4	+1.4
PRHZ	Porangahau	2.09	164	P	Pn	03 56 48.1	+1.8
POWZ	Post Office Ro	2.13	182	P	Pn	03 56 48.2	+1.4
ANWZ	Angora Road	2.25	168	P	Pn	03 56 49.9	+1.9
PRWZ	Pori Road	2.29	178	P	Pn	03 56 50.2	+1.7
MRZ	Mangatainoka R	2.41	185	P	Pn	03 56 50.9	+1.1
BFZ	Birch Farm	2.44	173	P	Pn	03 56 51.5	+1.4
BFZ	Birch Farm	2.44	173	P	Pn	03 56 51.4	+1.4
TIWZ	Tintock	2.51	180	P	Pn	03 56 52.4	+1.4
OGWZ	Otaki Gorge	2.61	192	P	Pn	03 56 53.3	+1.3
WCZ	Waipu Caves	2.62	332	P	Pn	03 56 54.1	+1.8
HOWZ	Holdsworth Sta	2.65	186	P	Pn	03 56 53.5	+1.0
CPWZ	Castlepoint	2.66	175	P	Pn	03 56 54.3	+1.8
KIWZ	Kapiti Island	2.70	196	P	Pn	03 56 54.0	+0.9
TMWZ	Te Maipa	2.84	180	P	Pn	03 56 55.8	+1.0
MTW	Mount Morrison	2.91	186	P	Pn	03 56 56.2	+0.7
CAW	Cannon Point	2.91	192	P	Pn	03 56 56.5	+1.0
DUWZ	D'Urville Isla	2.95	210	P	Pn	03 56 57.0	+0.9
PAWZ	Paruwai Farm	3.14	186	P	Pn	03 56 58.8	+0.6
TRWZ	Traveller	3.14	183	P	Pn	03 56 59.2	+1.0
WEL	Wellington	3.14	195	P	Pn	03 56 59.1	+0.9
SNZO	South Karori	3.18	196	P	Pn	03 56 59.3	+0.7
TCW	Tory Channel	3.19	202	P	Pn	03 56 59.7	+0.8
BHW	Baring Head	3.24	194	P	Pn	03 56 60.0	+0.6
PLWZ	Palliser	3.34	188	P	Pn	03 57 01.0	+0.3
TUWZ	Tuamarina	3.50	205	P	Pn	03 57 03.2	+0.7
NNZ	Nelson	3.52	212	P	Pn	03 57 03.3	+0.5
TKNZ	Takaka Hill	3.57	218	P	Pn	03 57 04.4	+1.0
QRZ	Quartz Range	3.64	224	P	Pn	03 57 04.9	+0.6
QRZ	Quartz Range	3.64	224	P	Pn	03 57 04.7	+0.4
BSWZ	Blackbirch Sta	3.78	203	P	Pn	03 57 06.8	+0.8
MRNZ	Matariki Terra	3.95	216	P	Pn	03 57 08.4	+0.3
THZ	Tophouse	4.18	212	P	Pn	03 57 12.2	+1.1
KHZ	Kahutara	4.52	203	P	Pn	03 57 15.8	+0.6
KHZ	Kahutara	4.52	203	P	Pn	03 57 15.8	+0.6
DSZ	Denniston Nort	4.68	221	P	Pn	03 57 17.9	+0.6
GVZ	Greta Valley S	5.17	204	P	Pn	03 57 24.0	+0.4
LTZ	Lake Taylor	5.29	210	P	Pn	03 57 25.2	+0.1
INZ	Inchbonnie	5.59	216	P	Pn	03 57 29.8	+0.8
OKCZ	Okains Bay	5.86	200	P	Pn	03 57 32.3	-0.1
MQZ	McQueen's Vall	5.96	203	P	Pn	03 57 32.5	-1.1
AKCZ	Akaroa Harbour	6.04	201	P	Pn	03 57 34.2	-0.5
TMZ	Timaru	7.13	209	P	Pn	03 57 49.1	+0.3
ODZ	Otahua Downs	7.83	208	P	Pn	03 57 57.5	-0.4
CTZ	Chatham Island	7.88	136	P	Pn	03 58 03.5	+4.9

KRSC 24 03:57:11.5±1.9, **52˚.80N**×**162˚.83E**, **h42**km±39km, **MI3.5, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.72	281	eP	Pn	03 57 41.7	+2.7
SPN				eS	Sn	03 58 01.3	+1.6
NLC	Nalytchevo	2.14	281	eP	Pn	03 57 48.7	+4.1
NLC				eS	Sn	03 58 12.8	+2.8
KII	Karymskiy	2.37	303	eP	Pn	03 57 51.2	+3.3
KII				eS	Sn	03 58 17.3	+1.5
UGLR	Uglovaya	2.46	281	eP	Pn	03 57 52.9	+3.8
UGLR				eS	Sn	03 58 21.8	+3.9
SMAR	Somma	2.48	282	eP	Pn	03 57 53.9	+4.4
DALK	Dalny	2.48	277	eP	Pn	03 57 52.5	+3.1
DALK				eS	Sn	03 58 20.8	+2.5
AVH	Avacha	2.51	282	eP	Pn	03 57 54.1	+4.2
AVH				eS	Sn	03 58 23.4	+4.1
KOK	Koryaka	2.58	283	eP	Pn	03 57 54.6	+3.8
KRX	Arik	2.58	284	eP	Pn	03 57 54.6	+3.7
KRX				eS	Sn	03 58 23.5	+2.4
TUMD	Tumrok D	2.80	330	eP	Pn	03 57 57.0	+3.2
TUMD				eS	Sn	03 58 28.6	+2.3
KRMR	Karymshinskiy	2.85	272	eP	Pn	03 57 57.6	+3.2
KRMR				eS	Sn	03 58 29.8	+2.3
GRL	Gorelyy	2.91	267	eP	Pn	03 57 58.8	+3.5
GRL				eS	Sn	03 58 32.3	+3.2
ASAK	Asacha	3.04	264	eP	Pn	03 58 00.6	+3.5
BKI	Bering	3.04	36	eS	Sn	03 58 31.7	-0.3
KDTR	Khodutka, Kamc	3.08	253	eP	Pn	03 57 60.0	+2.3
KMNR	Kamenistaya	3.33	334	eP	Pn	03 58 05.8	+4.7
KMNR				eS	Sn	03 58 44.7	+5.3
BZGR	Bezymyannyi-Gr	3.38	339	eP	Pn	03 58 05.5	+3.6
BZP	Bezymyannyi-Pe	3.39	338	eP	Pn	03 58 05.0	+3.0
KBTR	Krutoberegovo	3.41	360	eP	Pn	03 58 04.6	+2.5
BZMR	Bezymyannaya	3.42	337	eP	Pn	03 58 07.4	+5.0
APC	Apacha	3.44	274	eP	Pn	03 58 07.1	+4.6
APC				eS	Sn	03 58 47.7	+5.7
BZWR	Bezymyannyi-We	3.45	338	eP	Pn	03 58 08.3	+5.5
KBG	Krutoberegovo	3.46	359	eP	Pn	03 58 05.5	+2.7
KIRR	Kirishev	3.48	336	eP	Pn	03 58 07.4	+4.2
KPT	Kopyto	3.52	335	eP	Pn	03 58 08.6	+4.9
KRSR	Krestovskiy	3.67	340	eP	Pn	03 58 09.9	+4.1
KOZ	Kozyrevsk	3.69	333	eP	Pn	03 58 11.4	+5.4
KOZ				eS	Sn	03 58 54.3	+6.1
KLY	Klyuchi	3.74	341	eP	Pn	03 58 10.0	+3.4
KLY				eS	Sn	03 58 52.4	+3.1
BDR	Baidarnaya	3.89	347	eP	Pn	03 58 13.2	+4.5
ESO	Esso	3.95	324	eP	Pn	03 58 13.7	+4.1
SRDR	Sredinnyy	3.96	334	eP	Pn	03 58 13.9	+4.1
SRKR	Sorokina	3.98	347	eS	Sn	03 59 01.9	+6.5
SKR	Severo-Kuril's	4.68	246	eP	Pn	03 58 22.1	+2.5

*JMA **24** 03:57:35.0±0.3, 30˚.7N±0˚.9×14˚2E±˚, h49km, MV3.9/29, NEAR TORISHIMA IS*
*IDC **24** 03:57:36.0±3.9, 30˚.43N×141˚.47E, h0km, mb3.6/5, mbtmp3.6/7, ML2.9/2, MS2.5/1, Error ellipse: s-maj=152.6km s-min=19.1km az=73.0*

ISC 24 03:57:35.8±1.1, **30.72N**±0˚.06×**142˚.4E**±0˚.1, **h24**km, **n21**, σ2§34/26, **mb3.5/5, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	3.23	318	eP	Pn	03 58 25.0	0.0
JHJ	Hachijo jima 2	3.25	318	Pn	Pn	03 58 23.6	-1.8
	4.5nm,0.3s,baz=284,slow=19,SNR=1.2						
JHJ				Sn	Sn	03 58 58.2	-5.0
	9.1nm,0.3s,baz=83,slow=21,SNR=1.8						
	43nm,0.7s						
CBIJ	Chichi jima	3.61	183	eS	Sn	03 59 09.6	-2.6
JCJ	Chichijima	3.61	183	Pn	Pn	03 58 27.0	-3.3
	4.0nm,0.3s,baz=13,slow=23,SNR=9.2						
JCJ				Sn	Sn	03 59 05.9	-6.3
	15nm,0.3s,baz=282,slow=23,SNR=7.0						
BSO1	Boso 1	4.10	344	eP	Pn	03 58 37.5	+1.1
BSO1				eS	Sn	03 59 23.9	+0.6
BSO3	Boso 3	4.37	339	eS	Sn	03 59 29.8	-0.5
JOD2	Odawara 2	5.31	330	eP	Pn	03 58 54.7	+1.1
JHU	Hanno	5.74	334	eS	Sn	04 00 03.4	-1.1
JYT	Yasato	5.79	342	eP	Pn	03 59 02.3	+2.2
JRY	Ryogami san	6.03	332	eP	Pn	03 59 05.0	+1.5
JHO	Hitachi	6.07	346	eP	Pn	03 59 04.3	+0.3
JHO				eS	Sn	04 00 09.5	-3.2
JAG	Ashikaga	6.19	338	eP	Pn	03 59 06.4	+0.7
JAG				eS	Sn	04 00 13.9	-1.8
JFK	Kawauchi	6.75	350	eP	Pn	03 59 13.7	+0.3
JFK				eS	Sn	04 00 24.2	-5.3
MJAR	Matsushiro Arr	6.77	330	Pn	Pn	03 59 15.3	+1.7
	0.2nm,0.3s,baz=161,slow=11,SNR=20						
MJAR				Sn	Sn	04 00 31.1	+1.2
	0.1nm,0.3s,baz=296,slow=22,SNR=1.5						
	2.3nm,0.6s						
JMK	Ichinoseki	8.27	354	eP	Pn	03 59 34.9	+0.7
JMK				eS	Sn	04 01 01.6	-5.2
KSRS	Korea Array	13.72	303	LR	LR	04 06 12.4	
	comp=Z,18nm,18.2s,baz=275,slow=39						
SONM	Songino Array	32.31	312	P	P	04 04 04.8	+1.8
	0.4nm,0.6s,baz=107,slow=7.7,SNR=2.4						
	0.4nm,0.6s						
MKAR	Makanchi Array	48.36	307	P	P	04 06 16.0	+0.4
	0.4nm,0.7s,baz=98,slow=8.9,SNR=3.7						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	50.68	312	P	P	04 06 34.0	+0.9
	0.4nm,0.2s,baz=84,slow=7.7,SNR=1.5						
	0.4nm,0.2s						
WRA	Warramunga Arr	50.96	190	P	P	04 06 36.4	+0.9
	0.4nm,0.4s,baz=6.3,slow=7.7,SNR=7.8						
	0.4nm,0.4s						
ASAR	Alice Springs	54.68	190	P	P	04 07 03.6	+0.6
	0.5nm,0.9s,baz=2.3,slow=5.0,SNR=5.7						
	0.5nm,0.9s						

*LJU **24** 04:12:49.7, 45˚.31N×14˚.76E, h15km, ML2.5*
*LDG **24** 04:12:49.0±0.2, 45˚.31N×14˚.75E, h2km, Ml3.0/22, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*IDC **24** 04:12:50.2±2.4, 45˚.36N×14˚.84E, h0km, mb3.5/1, mbtmp3.1/3, ML2.8/2, Error ellipse: s-maj=35.2km s-min=20.9km az=64.0*
*VIE **24** 04:12:50.0±0.4, 45˚.31N×14˚.77E, h15km±6km, mb2.5/14, ml2.9/18, Error ellipse: s-maj=2.4km s-min=1.2km az=173.0 29 km E of Rijeka*
*PDG **24** 04:12:50.7±0.8, 45˚.31N×14˚.70E, h6km±2km, ML3.1/6, Error ellipse: s-maj=1.6km s-min=1.1km az=90.0*
*ROM **24** 04:12:50.5±0.2, 45˚.289N±0˚.008×14˚.85E±0˚.02, h10km, ML3.2/90, Error ellipse: s-maj=1.5km s-min=0.8km az=251.0*
*RHSSO **24** 04:12:51.8±0.3, 45˚.33N×14˚.83E, h3km±1km, ML3.0/21*
*BEO **24** 04:12:51.8±0.2, 45˚.37N×14˚.75E, h0km, ML2.9/7*
*PRU **24** 04:12:53.2, 45˚.38N×14˚.93E, h10km*

ISC 24 04:12:50.6±0.9, **45˚.31N**±0˚.01×**14˚.77E**±0˚.01, **h10**km±6km, **n192**, σ1§97/308, **26C-20D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIY	Rijeka	0.20	276	ePg	Pg	04 12 54.3	-0.5
RIY	Rijeka	0.20	276	ePg	Pg	04 12 54.4	-0.4
RIY				eSg	Sg	04 12 57.7	+0.1
GBRS	Gornja Briga	0.23	7	⇓iPg	Pg	04 12 55.1	-0.2
GBRS				iSg	Sg	04 12 58.4	-0.1
GBRS				IAML		04 12 59.4	
	comp=Z,178nm,0.1s						
KNDS	Knezji Dol	0.35	309	⇑iPg	Pg	04 12 57.0	-0.6
KNDS				eSg	Sg	04 13 02.7	+0.4
KNDS				IAML		04 13 06.9	
	comp=Z,458nm,0.2s						
BOJS	Bojanci	0.39

OBKA Obir 1.21 353 ⇓ *i*Pg Pg 04 13 13.6 -0.3
OBKA *e*Sg **Sb** 04 13 30.1 +0.6
A300A Muzzana del Tu 1.26 295 P **Pn** 04 13 14.2 -0.1
A300A S **Sn** 04 13 32.2 +0.9
DUGI Dugi Otok 1.33 171 *e*Pg **Pn** 04 13 14.8 -0.4
DUGI Sg **Sn** 04 13 35.2 +2.2
SOKA Soboth 1.39 8 *e*Pg **Pb** 04 13 16.6 0.0
comp=Z,6.6nm,0.2s,SNR=14
SOKA *e*Sg **Sn** 04 13 35.2 +0.7
comp=Z,38nm,0.5s
VINO Villanova 1.41 313 ⇑P **Pb** 04 13 17.1 +0.1
VINO S **Sg** 04 13 37.4 +1.4
VINO AML AML
comp=E,806µm,0.7s
VINO AML AML
comp=N,975µm,0.3s
VINO AML AML
comp=E,806µm,1.3s
PRED Cave del Predi 1.42 324 P **Pn** 04 13 16.7 +0.2
PRED S **Sg** 04 13 37.3 +1.2
PRIJ Prijedor 1.42 103 *e*Pg **Pn** 04 13 17.0 +0.6
PRIJ *e*Sg **Sb** 04 13 35.6 +0.4
BAD Bernadia 1.42 312 P **Pn** 04 13 16.7 +0.2
BAD S **Sg** 04 13 37.4 +1.3
MOSL Moslavina 1.43 77 *i*Pg **Pg** 04 13 18.4 +0.4
MOSL Sg **Sb** 04 13 35.4 -0.3
PTCC Patocco-Chiusa 1.48 319 P **Pb** 04 13 18.2 0.0
PTCC S **Sg** 04 13 38.3 +0.2
PTCC AML AML
comp=E,427µm,0.4s
PTCC AML AML
comp=N,472µm,0.3s
GEPF Gemona 1.50 311 ⇑P **Pb** 04 13 18.4 -0.1
GEPF S **Sg** 04 13 39.4 +0.7
GEPF AML AML
comp=N,822µm,0.5s
GEPF AML AML
comp=E,700µm,0.3s
A050A Klekovaca 1.50 123 *e*Pg **Pb** 04 13 18.6 0.0
A050A *e*Sg **Sg** 04 13 38.8 0.0
ACOM Acomizza, Ital 1.52 325 ⇓P **Pb** 04 13 19.4 +0.4
ACOM AML AML
comp=N,1360µm,0.7s
ACOM AML AML
comp=E,1395µm,1.0s
ACOM AML AML
comp=N,1320µm,0.6s
ACOM AML AML
comp=E,1400µm,1.0s
MYKA Terra Mystica 1.54 330 *e*Pg **Pb** 04 13 19.4 +0.1
comp=E,22nm,0.4s,SNR=18
MYKA *e*Sg **Sg** 04 13 41.1 +1.0
comp=E,40nm,0.4s
A051A Mrakovica 1.54 100 *e*Pg **Pn** 04 13 18.7 +0.5
A051A *e*Sg **Sg** 04 13 39.6 -0.5
A301A Isiata (VE) 1.54 283 P **Pb** 04 13 19.5 +0.2
A301A S **Sg** 04 13 40.9 +0.7
BOO Bordano 1.55 312 P **Pn** 04 13 19.0 +0.8
BOO S **Sg** 04 13 41.2 +0.9
MPRI Monte Prat 1.56 308 ⇑P **Pb** 04 13 19.6 0.0
MPRI AML AML
comp=N,950µm,0.5s
MPRI AML AML
comp=E,981µm,0.8s
MPRI AML AML
comp=E,764µm,0.7s
MPRI AML AML
comp=N,951µm,0.5s
MPRI AML AML
comp=E,981µm,1.2s
MPRI AML AML
comp=E,764µm,1.3s
MPRI AML AML
comp=N,1250µm,0.5s
MORI Morici 1.59 155 *e*Pn **Pg** 04 13 20.7 -0.3
MORI Sg **Sg** 04 13 42.8 +1.2
PLRO Paularo 1.68 318 P **Pb** 04 13 21.5 -0.3
PLRO S **Sb** 04 13 43.9 +0.9
A305A Porto Tolle (R 1.69 259 P **Pn** 04 13 21.3 +1.1
STAL STALIGIAL 1.73 304 ⇑P **Pn** 04 13 21.4 +0.6
STAL AML AML
comp=E,1132µm,0.3s
STAL AML AML
comp=N,943µm,0.4s
STAL AML AML
comp=N,872µm,0.4s
STAL AML AML
comp=E,1270µm,0.3s
STAL AML AML
comp=N,943µm,1.6s
POLC Polcenigo 1.75 295 ⇑P **Pn** 04 13 22.1 +1.1
POLC S **Sg** 04 13 46.3 -0.4
POLC AML AML
comp=N,1255µm,1.6s
POLC AML AML
comp=N,1255µm,0.4s
POLC AML AML
comp=E,1130µm,0.6s
KIJV Kijevo 1.75 137 *i*Pn **Pg** 04 13 23.7 -0.4
KIJV Sn **Sg** 04 13 49.0 +2.2
CLUD Cludinico 1.75 312 ⇓P **Pn** 04 13 22.2 +1.1
CLUD S **Sn** 04 13 44.6 +1.1
CLUD AML AML
comp=E,486µm,0.6s
CLUD AML AML
comp=N,470µm,0.6s
CLUD AML AML
comp=E,504µm,0.7s
CLUD AML AML
comp=N,468µm,0.6s
CLUD AML AML
comp=E,504µm,1.3s
CLUD AML AML
comp=E,486µm,1.4s
CLUD AML AML
comp=N,470µm,1.4s
CLUD AML AML
comp=N,468µm,1.4s
ZIRJ Zirje 1.77 159 *i*Pn **Pb** 04 13 23.2 +0.1
ZIRJ Sn **Sg** 04 13 48.1 +0.8
ZOU Zoufplan 1.77 316 ⇑P **Pb** 04 13 22.8 -0.5
ZOU AML AML
comp=E,484µm,1.3s
ZOU AML AML
comp=N,620µm,1.4s
ZOU AML AML
comp=N,636µm,1.4s
ZOU AML AML
comp=E,484µm,0.7s
ZOU AML AML
comp=N,636µm,0.6s
ZOU AML AML
comp=N,620µm,0.6s
ZOU AML AML
comp=E,488µm,0.3s
BLY Banja Luka 1.80 107 *e*Pn **Pn** 04 13 22.9 +1.2
BLY *e*Sn **Sg** 04 13 48.6 +0.2
BLY Banja Luka 1.80 107 ⇑ *i*Pn **Pn** 04 13 22.5 +0.8
BLY *e*Sn **Sn** 04 13 45.9 +1.2
BLY Banja Luka 1.80 107 P **Pn** 04 13 21.6 -0.2
BLY AML AML
comp=N,154µm,1.5s
BLY AML AML
comp=E,310µm,0.5s
BLY AML AML
comp=N,154µm,0.5s
MGRS Mrkonjic Grad 1.87 118 *e*Pn **Pb** 04 13 24.2 -0.7
MGRS *e*Sn **Sb** 04 13 48.5 +0.2
FVI Forni Avoltri 1.90 314 ⇓P **Pb** 04 13 24.6 -0.8
FVI AML AML
comp=E,490µm,1.4s
FVI AML AML
comp=E,490µm,0.6s
FVI AML AML
comp=N,643µm,0.5s
CIMO Cimolais 1.91 302 ⇓P **Pn** 04 13 23.8 +0.4
CIMO S **Sn** 04 13 48.8 +1.2
CIMO AML AML
comp=E,144µm,1.0s
CIMO AML AML
comp=N,168µm,0.4s
CIMO AML AML
comp=N,178µm,0.7s
CIMO AML AML
comp=E,156µm,0.9s

PESA Pesaro 1.94 226 P **Pn** 04 13 24.0 +0.4
AOI Ancona 1.94 206 P **Pn** 04 13 24.5 +0.8
VARN Col Varnada, M 1.99 291 ⇓P **Pn** 04 13 25.0 +0.6
VARN AML AML
comp=E,838µm,0.5s
VARN AML AML
comp=N,440µm,0.5s
VARN AML AML
comp=E,819µm,0.5s
VARN AML AML
comp=N,446µm,0.5s
BLLA Bellaria 2.01 235 P **Pb** 04 13 26.3 -0.9
ARSA Arzberg 2.02 15 *e*Pg **Pb** 04 13 27.8 +0.4
comp=N,6.8nm,0.2s,SNR=7.5
ARSA Sn **Sn** 04 13 51.0 +1.0
comp=N,7.6nm,0.3s
ARSA Arzberg 2.02 15 ⇑ *i*Pn **Pb** 04 13 26.8 -0.5
ARSA *e*Sn **Sb** 04 13 52.0 -0.5
ARSA Arzberg 2.02 15 ⇑P **Pb** 04 13 28.1 +0.7
ARSA S **Sg** 04 13 54.2 -1.1
ARSA AML AML
comp=E,38µm,0.4s
ARSA AML AML
comp=N,35µm,0.8s
KBA Koelnbreinsper 2.03 331 *e*Pg **Pg** 04 13 29.1 -0.4
comp=N,7.9nm,0.3s
KBA *e*Sn **Sb** 04 13 53.1 -0.1
comp=N,30nm,0.4s
ABTA Abfaltersbach 2.13 313 *e*Pn **Pn** 04 13 27.6 +1.2
comp=N,20nm,0.3s,SNR=25
ABTA *e*Sn **Sb** 04 13 56.8 +0.8
comp=N,40nm,0.3s
FSSB Fossombrone 2.15 222 P **Pn** 04 13 28.0 +1.4
FSSB AML AML
comp=E,334µm,0.5s
FSSB AML AML
comp=N,456µm,0.9s
FSSB AML AML
comp=E,334µm,1.5s
CGRP Cima Grappa 2.16 286 ⇑P **Pn** 04 13 27.4 +0.5
CGRP AML AML
comp=N,290µm,0.7s
CGRP AML AML
comp=E,292µm,0.8s
CGRP AML AML
comp=N,296µm,0.7s
CGRP AML AML
comp=N,290µm,1.3s
CGRP AML AML
comp=E,297µm,0.4s
CGRP AML AML
comp=N,296µm,1.3s
CGRP AML AML
comp=E,292µm,1.2s
EL6 Elcito 2.31 212 P **Pn** 04 13 29.9 +1.1
FRON Frontone 2.31 220 ⇓P **Pn** 04 13 30.1 +1.3
FRON AML AML
comp=E,114µm,0.4s
FRON AML AML
comp=N,161µm,0.6s
FRON AML AML
comp=E,114µm,1.6s
FRON AML AML
comp=N,161µm,1.4s
PIEI Pieia 2.39 223 P **Pn** 04 13 30.2 +0.4
PIEI AML AML
comp=E,192µm,0.3s
PIEI AML AML
comp=N,109µm,0.6s
PIEI AML AML
comp=E,192µm,1.7s
DOB Doboj 2.43 102 *e*Pn **Pn** 04 13 32.2 +1.8
DOB *e*Sn **Sn** 04 14 01.5 +1.3
HVAR Hvar 2.45 150 P **Pn** 04 13 31.3 +0.7
RICI Ricice 2.48 136 *i*Pn **Pb** 04 13 34.0 -1.2
RICI Sn **Sg** 04 14 08.6 -1.7
LMD Lutirano 2.50 242 ⇓P **Pn** 04 13 32.0 +0.6
LMD AML AML
comp=E,158µm,0.3s
LMD AML AML
comp=N,126µm,0.8s
BIOA Bad Ischl, Aus 2.51 342 *e*Pn **Pn** 04 13 33.0 +1.5
comp=N,4.3nm,0.4s
BIOA *e*Sn **Sn** 04 14 04.9 +2.7
comp=N,10.0nm,0.3s
LESA Schwarzleotal 2.57 326 *e*Pn **Pn** 04 13 34.1 +1.8
comp=N,4.6nm,0.2s
LESA *e*Sn **Sn** 04 14 05.7 +2.0
comp=N,23nm,0.3s
MOA Molln 2.57 352 *i*Pn **Pn** 04 13 33.6 +1.3
comp=N,0.7nm,0.2s
MOA *e*Sn **Sn** 04 14 05.5 +1.8
comp=N,7.6nm,0.4s
MOA Molln 2.57 352 *e*Pn **Pn** 04 13 33.7 +1.3
MOA *e*Sn **Sn** 04 14 05.1 +1.4
DOSS Dosso del Somm 2.58 284 ⇑P **Pn** 04 13 33.2 +0.6
DOSS AML AML
comp=E,318µm,0.5s
DOSS AML AML
comp=N,230µm,0.4s
DOSS AML AML
comp=N,294µm,0.6s
DOSS AML AML
comp=E,241µm,0.3s
DOSS AML AML
comp=N,230µm,1.6s
MURB Monte Urbino 2.60 219 S **Sb** 04 14 09.4 0.0
MURB AML AML
comp=E,386µm,0.9s
MURB AML AML
comp=N,353µm,0.3s
MURB AML AML
comp=N,324µm,0.3s
MURB AML AML
comp=E,386µm,1.1s
MURB AML AML
comp=E,386µm,0.3s
RONA Rosalia, Austr 2.62 23 *e*Pn **Pn** 04 13 34.5 +1.5
comp=E,1.4nm,0.1s
RONA *e*Sn **Sn** 04 14 07.1 +2.2
comp=E,5.7nm,0.5s
CESI CESI - Serrava 2.66 211 ⇑P **Pn** 04 13 34.7 +1.0
CONA Conrad Observa 2.73 16 *e*Pn **Pn** 04 13 36.7 +2.1
comp=E,1.0nm,0.2s
RUFI Rufina 2.75 239 ⇓P **Pn** 04 13 36.7 +1.9
RUFI AML AML
comp=E,70µm,1.3s
RUFI AML AML
comp=N,75µm,1.2s
RUFI AML AML
comp=E,70µm,0.7s
GAGG Gaggia 2.78 288 ⇓P **Pn** 04 13 36.5 +1.1
GAGG AML AML
comp=E,150µm,0.8s
GAGG AML AML
comp=N,174µm,0.4s
GAGG AML AML
comp=N,120µm,0.9s
GAGG AML AML
comp=N,174µm,1.6s
GAGG AML AML
comp=E,171µm,0.8s
GAGG AML AML
comp=N,120µm,1.1s
MORH Mrgy, Hungar 2.86 70 *e*Pn **Pn** 04 13 37.5 +1.2
MORH *e*Sn **Sn** 04 14 12.0 +1.2
WTTA Wattenberg 2.92 313 *e*Pn **Pn** 04 13 39.2 +1.8
comp=N,5.0nm,0.2s
WTTA *e*Sn **Sb** 04 14 18.2 -0.7
comp=N,44nm,0.7s
MAGA Magasa 2.95 281 ⇓P **Pn** 04 13 38.5 +0.8
LSTV Lastovo 2.96 148 *e*Pn **Pn** 04 13 39.0 +1.3
SALO Salr 3.00 277 P **Pn** 04 13 39.5 +1.2
SALO AML AML
comp=E,168µm,1.5s
SALO AML AML
comp=E,150µm,0.8s
SALO AML AML
comp=N,183µm,1.0s
SALO AML AML
comp=E,168µm,0.5s
SALO AML AML
comp=N,172µm,0.7s
WATA Walderalm 3.00 314 *e*Pn **Pn** 04 13 40.5 +2.1
comp=N,4.4nm,0.2s
WATA *e*Sn **Sn** 04 14 16.9 +2.4
comp=N,14nm,0.4s

NEVS Nevesinje 3.12 129 *e*Pn **Pn** 04 13 42.4 +2.4
NEVS *e*Sn **Sn** 04 14 18.5 +1.1
SQTA Sankt Quirin 3.12 309 *i*Pn **Pn** 04 13 42.4 +2.3
comp=N,9.1nm,0.4s,SNR=9.0
SQTA *i*Sn **Sn** 04 14 20.7 +3.2
comp=N,11nm,0.3s
MOSI Grossmontoni 3.22 296 ⇓P **Pg** 04 13 51.3 -1.0
HAPS Han Pijesak,Bl 3.22 111 *e*Pn **Pn** 04 13 43.6 +2.2
HAPS Han Pijesak,Bl 3.22 111 *e*Pn **Pn** 04 13 42.8 +1.4
HAPS *e*Sn **Sn** 04 14 20.9 +1.0
STON Ston 3.22 138 *e*Pn **Pn** 04 13 43.4 +2.2
STON *e*Sn **Sn** 04 14 23.7 +4.0
STON Ston 3.22 138 *e*Pn **Pn** 04 13 42.6 +1.4
STON *e*Sn **Sn** 04 14 21.8 +2.1
STON Ston 3.22 138 ⇓P **Pn** 04 13 43.9 +2.7
STON AML AML
comp=N,74µm,1.1s
STON AML AML
comp=E,90µm,1.5s
STON AML AML
comp=N,74µm,0.9s
MOTA Moosalm 3.26 310 *e*Pn **Pn** 04 13 44.2 +2.3
comp=N,2.0nm,0.2s,SNR=6.1
MOTA *i*Sn **Sn** 04 14 23.5 +2.6
comp=N,17nm,0.5s
FETA Feichten 3.29 303 *i*Pn **Pn** 04 13 44.0 +1.7
comp=N,3.0nm,0.3s
ZONE Zone 3.30 280 ⇑P **Pn** 04 13 43.3 +0.9
ZONE AML AML
comp=E,66µm,1.1s
ZONE AML AML
comp=N,77µm,1.3s
ZONE AML AML
comp=N,77µm,0.7s
ZONE AML AML
comp=E,66µm,0.9s
ZST Bratislava 3.31 28 *e*PN **Pn** 04 13 43.1 +0.7
TEKS Tekeris 3.46 101 *e*Pn **Pn** 04 13 46.4 +1.8
TEKS *e*Sn **Sn** 04 14 27.0 +1.3
RETA Reutte 3.53 310 *i*Pn **Pn** 04 13 47.4 +1.9
comp=E,1.5nm,0.2s
RETA *i*Sn **Sn** 04 14 29.3 +2.0
comp=E,7.7nm,0.3s
CKRC Cesky Krumlov 3.53 355 *e*PN **Pn** 04 13 47.2 +1.7
CKRC *e*SN **Sn** 04 14 28.0 +0.6
FRGS Fruska Gora 3.56 91 *e*Pn **Pn** 04 13 47.1 +1.1
FRGS *e*Sn **Sn** 04 14 28.5 +0.3
MDI Monti di Nese 3.58 279 ⇑P **Pn** 04 13 46.9 +0.5
MDI AML AML
comp=N,44µm,1.0s
MDI AML AML
comp=E,49µm,1.2s
MELA Melanico ??? S 3.61 176 ⇓P **Pn** 04 13 47.2 +0.7
BBLS Lazići 3.61 112 *e*Pn **Pn** 04 13 49.3 +2.6
BBLS Lazići 3.61 112 *e*Pn **Pn** 04 13 47.6 +0.9
BBLS *e*Sn **Sn** 04 14 30.0 +0.6
GERES GERESS Array B 3.62 349 Pn **Pn** 04 13 47.3 +0.6
comp=E,0.5nm,0.3s,baz=166,slow=14,SNR=7.6
GERES Sn **Sn** 04 14 30.5 +1.0
comp=E,1.0nm,0.3s,baz=162,slow=16,SNR=4.2
GERES Lg Lg 04 14 44.5
comp=E,1.7nm,0.3s,baz=168,slow=34,SNR=3.5
comp=E,1.0nm,0.3s
TREB Trebinje 3.66 134 *e*Pn **Pn** 04 13 50.6 +3.4
TREB *e*Sn **Sn** 04 14 34.7 +4.3
TREB Trebinje 3.66 134 *e*Pn **Pn** 04 13 48.9 +1.7
TREB *e*Sn **Sn** 04 14 31.2 +0.8
RUDO Rudo 3.70 115 *e*Pn **Pn** 04 13 49.6 +1.7
RUDO *e*Sn **Sn** 04 14 32.5 +0.9
DAVOX Davos/Dischmat 3.71 295 ⇓P **Pn** 04 13 50.7 +2.5
DAVOX AML AML
comp=E,49µm,0.7s
DAVOX AML AML
comp=E,49µm,1.3s
DAVOX AML AML
comp=N,54µm,0.6s
PLE Pljevlja 3.86 119 *e*Pn **Pb** 04 13 55.3 -3.5
PLE *e*Sn **Sb** 04 14 42.3 -3.4
MSSA Maissana 3.87 257 ⇓P **Pn** 04 13 52.0 +1.8
KHC Kasperske Hory 3.91 348 *e*PG **Pg** 04 14 04.0 -1.5
KHC *e*SN **Sn** 04 14 35.8 -1.0
KHC *e*SG **Sg** 04 14 54.5 -1.6
DIVS Divibare 3.92 106 *e*Pn **Pn** 04 13 51.9 +1.0
DIVS *e*Sn **Sn** 04 14 37.3 +0.4
KRUC Moravsky 3.92 16 *e*PN **Pn** 04 13 51.3 +0.5
KRUC *e*SN **Sn** 04 14 35.9 -1.0
DAVA Damuels 3.92 302 *i*Pn **Pn** 04 13 53.0 +1.9
comp=N,0.8nm,0.2s
DAVA *e*Sn **Sn** 04 14 39.8 +2.6
comp=N,6.4nm,0.3s
HCY Herceg Novi 3.93 135 ⇓ *i*Pn **Pn** 04 13 52.8 +1.9
HCY *e*Sn **Sn** 04 14 41.5 +4.4
NKME Niksic 3.94 129 ⇑ *i*Pn **Pn** 04 13 55.0 +3.8
NKME *e*Sn **Sb** 04 14 43.7 -4.3
CEME Cevo 4.07 131 ⇑ *i*Pn **Pn** 04 13 55.8 +2.8
CEME *e*Sn **Sn** 04 14 45.2 +4.4
VRAC Vranov 4.19 17 *e*PN **Pn** 04 13 55.6 +1.0
KOME Kolasin 4.21 124 ⇑ *i*Pn **Pn** 04 13 59.5 +4.6
KOME *e*Sn **Sb** 04 14 50.9 -4.8
IVAS Ivanjica 4.22 112 *e*Pn **Pn** 04 13 57.3 +2.2
BUM Brajici-Budva 4.24 134 ⇑ *i*Pn **Pn** 04 13 58.2 +2.9
VYHS Vyhne 4.24 40 *e*PN **Pn** 04 13 58.0 +2.8
VYHS *e*SN **Sn** 04 14 43.3 -1.4
SJES Sjenica 4.26 117 *e*Pn **Pn** 04 13 58.3 +2.7
SJES Sjenica 4.26 117 *e*Pn **Pn** 04 13 57.0 +1.4
SJES *e*Sn **Sn** 04 14 45.5 0.0
PDG Podgorica 4.33 130 *e*Pn **Pn** 04 13 59.7 +3.2
PDG *e*Sn **Sn** 04 14 51.4 +4.3
PDG Podgorica 4.33 130 *e*Pn **Pn** 04 13 58.5 +2.0
PDG *e*Sn **Sn** 04 14 47.7 +0.6
PDG Podgorica 4.33 130 ⇑ *i*Pn **Pn** 04 13 59.5 +3.0
IVA Berane 4.42 122 ⇑ *i*Pn **Pb** 04 14 04.4 -4.0
DRME Dracevica, Mon 4.47 133 *e*Pn **Pn** 04 14 00.4 +2.0
DRME *e*Sn **Sn** 04 14 51.1 +0.7
DRME Dracevica, Mon 4.47 133 ⇓ *i*Pn **Pn** 04 14 00.6 +2.2
DRME *e*Sn **Sn** 04 14 54.6 +4.2
GRUS Gruza 4.48 106 *e*Pn **Pn** 04 14 01.1 +2.6
MCRV Calabrutti - M 4.53 176 P **Pn** 04 14 02.2 +2.9
MCRV AML AML
comp=E,20µm,1.6s
MCRV AML AML
comp=N,29µm,1.5s
MCRV AML AML
comp=N,29µm,0.5s
MCRV AML AML
comp=E,20µm,0.4s
ULC Ulcinj 4.66 134 ⇑ *i*Pn **Pn** 04 14 03.0 +2.0
PRU Pruhonice 4.69 358 *e*PN **Pn** 04 14 02.2 +0.8
PRU *e*SN **Sn** 04 14 54.0 -1.8
MONC Moncucco Torin 4.84 270 P **Pn** 04 14 05.3 +1.8
PGF Pioggiola 5.00 239 *e*Pn **Pn** 04 14 04.7 -1.0
PGF *e*Sn **Sn** 04 15 00.9 -2.7
comp=E,4.5nm,0.5s
SELS Selova 5.01 112 *e*Pn **Pn** 04 14 08.4 +2.5
BOVS Bovan 5.24 106 *e*Pn **Pn** 04 14 10.9 +1.9
SBF Sospel 5.43 257 *e*Pn **Pn** 04 14 10.5 -1.2
SBF *e*Sn **Sn** 04 15 09.6 -4.7
comp=E,9.3nm,0.3s
LPG La Plagne 5.65 275 *e*Pn **Pn** 04 14 15.6 +0.7
LPG *e*Sn **Sn** 04 15 15.1 -4.9
comp=E,5.7nm,0.5s
BARS Barje 5.65 114 *e*Pn **Pn** 04 14 16.4 +1.7
LPL La Plagne 5.66 275 *e*Pn **Pn** 04 14 15.7 +0.7
LPL *e*Sn **Sn** 04 15 14.6 -5.6
comp=E,3.3nm,0.4s
MBDF Montbardon 5.70 267 *e*Pn **Pn** 04 14 14.3 -1.1
MBDF *e*Sn **Sn** 04 15 16.3 -4.7
comp=E,2.9nm,0.3s
PRVS Prvonek 5.97 115 *e*Pn **Pn** 04 14 21.4 +2.3
CDF Champ du Feu 6.00 304 *e*Pn **Pn** 04 14 19.7 +0.1
CDF *e*Sn **Sn** 04 15 23.1 -5.3
comp=E,1.5nm,0.4s
HINF Hinteralfeld 6.01 298 *e*Pn **Pn** 04 14 19.7 +0.1
HINF *e*Sn **Sn** 04 15 23.4 -5.0
comp=E,3.0nm,0.4s
CLL Collm 6.12 350 *e*Sg **Sg** 04 16 04.0 -2.9
CABF La Chapelle 6.19 285 *e*Pn **Pn** 04 14 23.0 +0.9
CABF *e*Sn **Sn** 04 15 29.6 -3.4
comp=E,1.3nm,0.4s
LMR La Mourre 6.24 255 *e*Pn **Pn** 04 14 21.5 -1.3
LMR *e*Sn **Sn** 04 15 28.5 -5.7
comp=E,4.6nm,0.3s
ORIF Oris-en-Rattie 6.30 270 *e*Pn **Pn** 04 14 23.9 +0.2

ORIF				*e*Sn		**Sn**	**04 15 30.6**	**-5.2**
	comp=E,9.5nm,0.5s							
HAU	**Haudompre**	**6.39**	**298**	*e*Pn		**Pn**	**04 14 24.8**	**-0.1**
HAU				*e*Sn		**Sn**	**04 15 32.3**	**-5.6**
	comp=E,4.9nm,0.4s							
FNA	**Florina**	**6.62**	**131**	*e*Pn		**Pn**	**04 14 29.9**	**+1.9**
SMRF	**Simiane la Rot**	**6.69**	**262**	*e*Pn		**Pn**	**04 14 27.7**	**-1.3**
SMRF				*e*Sn		**Sn**	**04 15 39.4**	**-5.9**
	comp=E,1.3nm,0.4s							
VIVF	**Saint-Julien-l**	**7.16**	**270**	*e*Pn		**Pn**	**04 14 34.9**	**-0.5**
VIVF				*e*Sn		**Sn**	**04 15 52.1**	**-4.8**
	comp=E,2.4nm,0.5s							
SFTF	**Sexfontaines**	**7.29**	**297**	*e*Pn		**Pn**	**04 14 35.5**	**-1.6**
	baz=111							
MEZF	**Maizieres J'vi**	**7.38**	**299**	*e*Pn		**Pn**	**04 14 37.3**	**-1.1**
	baz=111							
MEZF				*e*Sn		**Sn**	**04 15 58.0**	**-4.2**
	comp=E,2.3nm,0.4s							
SMF	**Signal de Mont**	**7.73**	**284**	*e*Pn		**Pn**	**04 14 43.3**	**+0.1**
SMF				*e*Sn		**Sn**	**04 16 04.9**	**-5.9**
	comp=E,1.1nm,0.2s							
LOR	**Lormes**	**7.81**	**288**	*e*Pn		**Pn**	**04 14 44.5**	**+0.2**
	baz=105							
LOR				*e*Sn		**Sn**	**04 16 08.1**	**-4.6**
	comp=E,2.1nm,0.3s							
LASF	**Ste Croix**	**7.87**	**265**	*e*Pn		**Pn**	**04 14 43.3**	**-1.9**
LASF				*e*Sn		**Sn**	**04 16 09.0**	**-5.3**
	comp=E,1.6nm,0.4s							
SSF	**Saint Saulge**	**8.01**	**287**	*e*Pn		**Pn**	**04 14 47.1**	**+0.1**
SSF				*e*Sn		**Sn**	**04 16 11.7**	**-6.0**
	comp=E,4.0nm,0.7s							
AVF	**Avril sur Loir**	**8.08**	**285**	*e*Pn		**Pn**	**04 14 48.2**	**+0.2**
AVF				*e*Sn		**Sn**	**04 16 13.6**	**-5.8**
	comp=E,0.4nm,0.3s							
BGF	**Bois d'Agland**	**8.41**	**283**	*e*Pn		**Pn**	**04 14 52.5**	**+0.1**
BAIF	**Baives**	**8.56**	**308**	*e*P		**Pn**	**04 14 57.8**	**+3.2**
TCF	**Toulx Ste Croi**	**8.83**	**281**	*e*Pn		**Pn**	**04 14 58.2**	**-0.1**
CAF	**Calviac**	**8.99**	**272**	*e*Pn		**Pn**	**04 15 00.5**	**0.0**
MTLF	**Montolieu**	**9.21**	**262**	*e*Pn		**Pn**	**04 15 01.8**	**-1.7**
RJF	**Les Rejaudoux**	**9.34**	**275**	*e*Pn		**Pn**	**04 15 05.1**	**-0.2**
ESDC	**Sonseca Array**	**14.91**	**254**	Pn		**Pn**	**04 16 23.8**	**+2.4**
	baz=58,slow=11,SNR=2.4							
	comp=E,0.3nm,0.8s							
MKAR	**Makanchi Array**	**45.56**	**63**	P		**P**	**04 21 11.1**	**+0.6**
	comp=E,0.5nm,0.7s,baz=305,slow=7.2,SNR=4.1							
	comp=E,0.5nm,0.7s							

*IDC **24** 04:35:15.3±6.7,20°.89S×178°.82W,h632km±78km,mb2.9/5, mbtmp3.9/5,Error ellipse: s-maj=40.7km s-min=38.0km az=21.0*

ISC 24 04:35:14.0±1.1,**20°.8S**±0°.3×**178°.8W**±0°.2,**h619**km,**n7,** σ1**9**/**8**,**mb3.6**/5,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.98**	**244**	P		**P**	**04 41 33.5**	**+0.5**
	0.6nm,0.3s,baz=100,slow=13,SNR=2.9							
	0.6nm,0.3s							
ASAR	**Alice Springs**	**43.72**	**257**	P		**P**	**04 42 26.8**	**+0.1**
	2.0nm,0.5s,baz=96,slow=7.6,SNR=46							
ASAR				PcP		**PcP**	**04 43 59.8**	**+0.4**
	0.3nm,0.6s,baz=103,slow=4.1,SNR=5.3							
	2.0nm,0.5s							
WRA	**Warramunga Arr**	**43.82**	**263**	P		**P**	**04 42 27.3**	**-0.1**
	0.6nm,0.3s,baz=97,slow=7.4,SNR=49							
	0.6nm,0.3s							
QSPA	**South Pole Qui**	**69.24**	**180**	P		**P**	**04 45 20.1**	**-0.2**
	1.7nm,1.0s,baz=335,slow=19,SNR=3.5							
	1.7nm,1.0s							
NVAR	**Mina Array Bea**	**81.77**	**44**	P		**P**	**04 46 30.8**	**+0.9**
	0.2nm,0.5s,baz=225,slow=8.9,SNR=1.7							
	0.2nm,0.5s							
AKASG	**Malin Array Be**	**142.93**	**330**	PKP		**PKPdf**	**04 53 36.0**	**-2.2**
	0.5nm,0.3s,baz=45,slow=3.6,SNR=6.1							
BRTR	**Keskin Array B**	**146.50**	**311**	PKPbc		**PKPbc**	**04 53 47.6**	**0.0**
	0.5nm,0.6s,baz=47,slow=3.9,SNR=2.6							

*SNET **24** 04:50:00.8±1.1,13°.29N×89°.55W,h49km,ML3.9*
*CATAC **24** 04:50:00.5±0.4,13°.26N×89°.57W,h28km±3km,ML3.9*
*GCG **24** 04:50:03.6±0.4,15°.63N×89°.54W,h35km±999km,MD3.8*

ISC 24 04:50:02.1±1.7,**13°.30N**±0°.04×**89°.56W**±0°.03,**h35**km±2km, **n89**,σ1**9**/**14**/132,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.30**	**50**	*e*P		**Pn**	**04 50 09.7**	**-0.4**
LALI				*e*S		**Sn**	**04 50 16.5**	**+0.4**
LALI	**Alcalda de L**	**0.30**	**50**	*i*P		**Pn**	**04 50 09.7**	**-0.4**
LALI				*i*S		**Sn**	**04 50 16.1**	**0.0**
LALI				IAML			04 50 16.3	
	comp=Z,3μm,1.0s							
JAYA	**Jayaque - finc**	**0.37**	**17**	*i*P		**Pn**	**04 50 10.6**	**-0.6**
JAYA				*e*S		**Sn**	**04 50 18.8**	**+1.2**
JAYA	**Jayaque - finc**	**0.37**	**17**	*i*P		**Pn**	**04 50 10.5**	**-0.6**
JAYA				*i*S		**Sn**	**04 50 17.7**	**+0.2**
JAYA				IAML			04 50 21.3	
	comp=Z,16μm,1.0s							
ITCA	**Escuela Especi**	**0.46**	**36**	*e*S		**Sn**	**04 50 20.5**	**+1.1**
ITCA	**Escuela Especi**	**0.46**	**36**	*i*P		**Pn**	**04 50 11.4**	**-0.9**
ITCA				*i*S		**Sn**	**04 50 20.7**	**+1.2**
ITCA				IAML			04 50 28.0	
	comp=Z,10μm,1.0s							
MAGS	**Ministerio de**	**0.47**	**34**	*e*P		**Pn**	**04 50 11.6**	**-0.9**
MAGS				*e*S		**Sn**	**04 50 20.8**	**+1.2**
MAGS	**Ministerio de**	**0.47**	**34**	*i*P		**Pn**	**04 50 11.5**	**-0.9**
MAGS				IAML			04 50 25.4	
	comp=Z,4μm,1.0s							
PMON	**Piamonte**	**0.48**	**30**	*e*P		**Pn**	**04 50 11.9**	**-0.7**
PMON				*e*S		**Sn**	**04 50 21.1**	**+1.3**
PMON	**Piamonte**	**0.48**	**30**	*i*P		**Pn**	**04 50 11.9**	**-0.7**
PMON				*i*S		**Sn**	**04 50 21.2**	**+1.4**
PMON				IAML			04 50 26.9	
	comp=Z,13μm,1.0s							
PANCS	**Alcalda de**	**0.48**	**50**	*i*P		**Pn**	**04 50 11.3**	**-1.3**
PANCS				*i*S		**Sn**	**04 50 20.2**	**+0.3**
PANCS				IAML			04 50 20.6	
	comp=Z,16μm,1.0s							
SNET	**Serv Nac Est T**	**0.50**	**39**	*e*P		**Pn**	**04 50 12.0**	**-0.9**
SNET				*e*S		**Sn**	**04 50 21.5**	**+1.1**
SNET	**Serv Nac Est T**	**0.50**	**39**	*i*P		**Pn**	**04 50 12.0**	**-0.9**
SNET				*i*S		**Sn**	**04 50 21.5**	**+1.1**
SNET				IAML			04 50 22.3	
	comp=Z,12μm,1.0s							
LOMA	**Loma Larga**	**0.51**	**47**	*e*P		**Pn**	**04 50 12.2**	**-0.8**
LOMA				*e*S		**Sn**	**04 50 22.1**	**+1.4**
LOMA	**Loma Larga**	**0.51**	**47**	*i*P		**Pn**	**04 50 12.4**	**-0.7**
LOMA				*i*S		**Sn**	**04 50 21.4**	**+0.7**
LOMA				IAML			04 50 22.4	
	comp=Z,6μm,1.0s							
BOQS	**Boqueron**	**0.51**	**32**	*i*P		**Pn**	**04 50 12.6**	**-0.6**
SEMO	**Seminario San**	**0.52**	**39**	*e*P		**Pn**	**04 50 12.3**	**-0.9**
SEMO				*e*S		**Sn**	**04 50 21.7**	**+0.9**
SEMO	**Seminario San**	**0.52**	**39**	*i*P		**Pn**	**04 50 12.2**	**-0.9**
SEMO				IAML			04 50 27.0	
	comp=Z,15μm,1.0s							
CEDA	**San Andres**	**0.53**	**18**	*i*P		**Pn**	**04 50 12.6**	**-0.7**
CEDA				*e*S		**Sn**	**04 50 22.4**	**+1.4**
CEDA	**San Andres**	**0.53**	**18**	*i*P		**Pn**	**04 50 12.5**	**-0.7**
CEDA				*i*S		**Sn**	**04 50 22.4**	**+1.4**
CEDA				IAML			04 50 26.5	
	comp=Z,15μm,1.0s							
UTEC	**Universidad Te**	**0.53**	**41**	*e*P		**Pn**	**04 50 12.6**	**-0.7**
UTEC	**Universidad Te**	**0.53**	**41**	*i*P		**Pn**	**04 50 12.6**	**-0.7**
UTEC				*i*S		**Sn**	**04 50 22.3**	**+1.2**
UTEC				IAML			04 50 23.2	
	comp=Z,6μm,1.0s							
CEVE	**Cerro Verde**	**0.53**	**353**	*e*P		**Pn**	**04 50 12.7**	**-0.8**
CEVE	**Cerro Verde**	**0.53**	**353**	*i*P		**Pn**	**04 50 12.7**	**-0.8**
CEVE				*i*S		**Sn**	**04 50 23.1**	**+1.7**
CEVE				IAML			04 50 31.1	
	comp=Z,6μm,1.0s							
SBLS	**San Blas**	**0.54**	**353**	*e*P		**Pn**	**04 50 12.9**	**-0.8**
IGN	**Direccin Gen**	**0.56**	**42**	*i*P		**Pn**	**04 50 12.8**	**-0.9**
IGN	**Direccin Gen**	**0.56**	**42**	*i*P		**Pn**	**04 50 12.9**	**-0.9**
IGN				*i*S		**Sn**	**04 50 23.0**	**+1.1**
IGN				IAML			04 50 26.1	
	comp=Z,25μm,1.0s							
SNJE	**San Jose**	**0.57**	**355**	*e*P		**Pn**	**04 50 13.1**	**-1.0**
SNJE				*e*S		**Sn**	**04 50 13.2**	**-0.8**
UDBS	**Universidad Do**	**0.57**	**43**	*e*P		**Pn**	**04 50 13.1**	**-0.9**
UDBS	**Universidad Do**	**0.57**	**43**	*i*P		**Pn**	**04 50 13.0**	**-0.9**
UDBS				*i*S		**Sn**	**04 50 23.2**	**+1.1**
UDBS				IAML			04 50 25.5	
	comp=Z,7μm,1.0s							
AEIL	**Aeropuerto Ilo**	**0.59**	**47**	*e*P		**Pn**	**04 50 13.4**	**-0.7**
QUEZ	**Alcaldia de Qu**	**0.60**	**27**	*e*S		**Sn**	**04 50 24.0**	**+1.1**
QUEZ				*e*S		**Sn**	**04 50 24.3**	**+1.4**
QUEZ	**Alcaldia de Qu**	**0.60**	**27**	*i*S		**Sn**	**04 50 24.1**	**+1.2**
RTR	**El Retiro**	**0.60**	**352**	*e*P		**Pn**	**04 50 13.5**	**-0.9**
SJTE	**Alcalda de S**	**0.62**	**59**	*e*P		**Pn**	**04 50 13.6**	**-1.0**
SJTE	**Alcalda de S**	**0.62**	**59**	*i*P		**Pn**	**04 50 13.8**	**-0.8**
SJTE				*i*S		**Sn**	**04 50 23.9**	**+0.5**
SJTE				IAML			04 50 25.6	
	comp=Z,4μm,1.0s							
LFU	**La Fuente**	**0.62**	**44**	*e*P		**Pn**	**04 50 14.1**	**-0.6**
NUBE	**Las Nubes**	**0.64**	**340**	*e*S		**Sn**	**04 50 23.9**	**0.0**
NUBE	**Las Nubes**	**0.64**	**340**	*i*P		**Pn**	**04 50 13.5**	**-1.4**
NUBE				*i*S		**Sn**	**04 50 23.9**	**0.0**
NUBE				IAML			04 50 24.6	
	comp=Z,6μm,1.0s							
UNIC	**Universidad Ca**	**0.68**	**1**	*e*P		**Pn**	**04 50 14.6**	**-0.8**
UNIC				*e*S		**Sn**	**04 50 26.3**	**+1.5**
UNIC	**Universidad Ca**	**0.68**	**1**	*i*P		**Pn**	**04 50 14.6**	**-0.8**
UNIC				IAML			04 50 15.0	
	comp=Z,2μm,1.0s							
UNIC				*i*S		**Sn**	**04 50 26.1**	**+1.3**
LOAL	**Lomas de Alarc**	**0.73**	**343**	*i*P		**Pn**	**04 50 15.2**	**-0.8**
LOAL				*i*S		**Sn**	**04 50 27.5**	**+1.5**
LOAL				IAML			04 50 33.5	
	comp=Z,6μm,1.0s							
PAVA	**Las Pavas**	**0.73**	**56**	*e*S		**Sn**	**04 50 27.4**	**+1.3**
PAVA	**Las Pavas**	**0.73**	**56**	*i*P		**Pn**	**04 50 15.4**	**-0.7**
PAVA				*i*S		**Sn**	**04 50 27.8**	**+1.7**
PAVA				IAML			04 50 28.2	
	comp=Z,13μm,1.0s							
COEG	**Centro de Oper**	**0.73**	**64**	*i*P		**Pn**	**04 50 15.0**	**-1.1**
COEG				*e*S		**Sn**	**04 50 26.5**	**+0.4**
COEG	**Centro de Oper**	**0.73**	**64**	*i*P		**Pn**	**04 50 15.0**	**-1.1**
COEG				*i*S		**Sn**	**04 50 26.4**	**+0.3**
COEG				IAML			04 50 27.4	
	comp=Z,4μm,1.0s							
SLOZ	**Alcaldia de Sa**	**0.76**	**343**	*e*P		**Pn**	**04 50 15.4**	**-1.0**
TECO	**Alcaldia de Te**	**0.79**	**72**	*e*P		**Pn**	**04 50 15.3**	**-1.6**
TECO				*e*S		**Sn**	**04 50 27.0**	**-0.5**
TECO	**Alcaldia de Te**	**0.79**	**72**	*i*P		**Pn**	**04 50 15.1**	**-1.8**
TECO				*i*S		**Sn**	**04 50 26.7**	**-0.8**
TECO				IAML			04 50 28.5	
	comp=Z,2μm,1.0s							
UESV	**Universidad de**	**0.82**	**66**	*e*P		**Pn**	**04 50 16.2**	**-1.1**
UESV				*e*P		**Pn**	**04 50 16.4**	**-0.8**
UESV				*e*S		**Sn**	**04 50 28.6**	**+0.3**
UESV	**Universidad de**	**0.82**	**66**	*i*P		**Pn**	**04 50 16.0**	**-1.3**
UESV				IAML			04 50 34.0	
	comp=Z,2μm,1.0s							
SCLA	**Alcaldia de Sa**	**0.90**	**63**	*e*P		**Pn**	**04 50 17.5**	**-0.9**
SCLA	**Alcaldia de Sa**	**0.90**	**63**	*i*P		**Pn**	**04 50 17.7**	**-0.7**
SCLA				IAML			04 50 35.2	
	comp=Z,680nm,1.0s							
LLGN	**La Laguna**	**1.05**	**35**	*e*P		**Pn**	**04 50 19.4**	**-1.1**
LLGN	**La Laguna**	**1.05**	**35**	*i*P		**Pn**	**04 50 19.1**	**-1.3**
LLGN				IAML			04 50 19.4	
	comp=Z,610nm,1.0s							
TECA	**Tecapa**	**1.05**	**79**	*e*P		**Pn**	**04 50 18.9**	**-1.6**
MTO3	**Montecristo**	**1.11**	**10**	*i*P		**Pn**	**04 50 20.3**	**-1.1**
MTO3				*e*S		**Sn**	**04 50 36.0**	**+0.3**
MTO3	**Montecristo**	**1.11**	**10**	*i*P		**Pn**	**04 50 20.4**	**-1.1**
MTO3				IAML			04 50 20.5	
	comp=Z,720nm,1.0s							
MTO3				*i*S		**Sn**	**04 50 35.4**	**-0.3**
PACA	**Pacayal**	**1.21**	**82**	*e*P		**Pn**	**04 50 22.0**	**-0.8**
PACA	**Pacayal**	**1.21**	**82**	*i*P		**Pn**	**04 50 22.3**	**-0.4**
PACA				*i*S		**Sn**	**04 50 38.5**	**+0.5**
PACA				IAML			04 50 42.6	
	comp=Z,15μm,1.0s							
LCY	**Lacayo**	**1.24**	**84**	*e*P		**Pn**	**04 50 22.0**	**-1.0**
RANC	**El Ranchito**	**1.24**	**84**	*e*P		**Pn**	**04 50 22.0**	**-1.2**
VSM	**San Miguel**	**1.26**	**84**	*e*P		**Pn**	**04 50 22.2**	**-1.2**
NBG	**Las Nubes**	**1.49**	**329**	*e*P		**Pn**	**04 50 26.1**	**-0.6**
LCND	**La Caada**	**1.62**	**89**	*i*P		**Pn**	**04 50 26.8**	**-1.5**
LCND				*e*S		**Sn**	**04 50 47.4**	**-0.6**
LCND				*e*S		**Sn**	**04 50 48.2**	**+0.2**
LCND	**La Caada**	**1.62**	**89**	*i*P		**Pn**	**04 50 27.1**	**-1.2**
LCND				*i*S		**Sn**	**04 50 48.2**	**+0.2**
LCND				IAML			04 50 51.0	
	comp=Z,1μm,1.0s							
SARH	**Santa Rosa de**	**1.66**	**28**	*i*P		**Pn**	**04 50 28.4**	**-0.5**
CNCH	**Conchagua**	**1.68**	**90**	*e*P		**Pn**	**04 50 27.5**	**-1.6**
CNCH				*e*S		**Sn**	**04 50 50.2**	**+0.7**
CNCH	**Conchagua**	**1.68**	**90**	*i*P		**Pn**	**04 50 27.8**	**-1.3**
CNCH				IAML			04 50 56.9	
	comp=Z,2μm,1.0s							
FUG	**Fuego 3**	**1.69**	**313**	*e*P		**Pn**	**04 50 31.9**	**+2.5**
FUG				*e*S		**Sn**	**04 50 49.1**	**-0.8**
AMPH	**Amapala**	**1.85**	**90**	*i*P		**Pn**	**04 50 29.9**	**-1.4**
COMHN	**El Horno**	**2.25**	**59**	*i*P		**Pn**	**04 50 35.5**	**-1.6**
TGUH	**Tegucigalpa,Un**	**2.35**	**71**	*i*P		**Pn**	**04 50 36.7**	**-1.6**
TGUH				IAML			04 51 19.2	
	comp=Z,150nm,1.0s							
STG3	**Santiaguito 3,**	**2.41**	**306**	*e*P		**Pn**	**04 50 38.0**	**-1.2**
STG3				*e*S		**Sn**	**04 51 04.8**	**-2.7**
CRIN	**San Cristobal**	**2.52**	**103**	*i*P		**Pn**	**04 50 42.0**	**+1.4**
CRIN				IAML			04 51 26.8	
	comp=Z,1μm,1.0s							
YUSH	**Yuscaran**	**2.72**	**76**	*i*P		**Pn**	**04 50 42.0**	**-1.4**
ROCN	**Rota Cerro Neg**	**2.85**	**105**	*i*P		**Pn**	**04 50 43.0**	**-2.2**
ROCN				IAML			04 51 30.2	
	comp=Z,170nm,1.0s							
CNGA	**Al SSO del Vol**	**2.90**	**106**	*i*P		**Pn**	**04 50 46.0**	**+0.2**
CNGA				IAML			04 51 26.6	
	comp=Z,340nm,1.0s							
CNGN	**Cerro Negro**	**2.90**	**106**	*i*P		**Pn**	**04 50 45.1**	**-0.8**
CNGN				IAML			04 51 31.8	
	comp=Z,280nm,1.0s							
NISHN	**Nisperales Com**	**2.95**	**33**	*i*P		**Pn**	**04 50 45.8**	**-0.8**
MOMN	**Momotombo**	**3.07**	**106**	*i*P		**Pn**	**04 50 47.0**	**-1.3**
MOMN				IAML			04 51 33.2	
	comp=Z,10.0nm,1.0s							
MOM2	**El Cardon**	**3.12**	**106**	*i*P		**Pn**	**04 50 53.0**	**+4.2**
LIMN	**Finca el Limon**	**3.12**	**94**	*i*P		**Pn**	**04 50 47.2**	**-1.7**
LIMN				IAML			04 51 07.5	
	comp=Z,65nm,1.0s							
RCPN	**Sur Rio San Ju**	**3.38**	**86**	*i*P		**Pn**	**04 50 52.7**	**+0.2**
RCPN				IAML			04 50 58.6	
	comp=Z,0.3nm,1.0s							
JUTIH	**Juticalpa Olan**	**3.52**	**67**	*i*P		**Pn**	**04 50 53.8**	**-0.6**
MATN	**Matagalpa**	**3.56**	**95**	*i*P		**Pn**	**04 50 54.0**	**-1.0**
MATN				IAML			04 51 42.3	
	comp=Z,31nm,1.0s							
HZTE	**Horizontes, Gu**	**4.65**	**123**	*i*P		**Pn**	**04 51 11.7**	**+1.8**
ORTG	**Ortega, Santa**	**4.96**	**126**	*i*P		**Pn**	**04 51 14.8**	**+0.5**
POPE	**POPE, Guanacas**	**5.29**	**127**	*i*P		**Pn**	**04 51 18.7**	**0.0**

*IDC **24** 04:50:41.7±1.2,3°.68N×76°.75W,h102km±8km,mb3.1/7, mbtmp3.5/8,Error ellipse: s-maj=28.5km s-min=11.7km az=167.0*
*RSNC **24** 04:50:43.7±2.5,3°.87N×76°.77W,h103km±7km,ML3.9, Mw4.0*

ISC 24 04:50:42.4±0.6,**3°.87N**±0°.02×**76°.76W**±0°.03,**h101**km±5km, **n63**,σ1**9**/**63**/107,**mb3.4**/7,**10C-13D,Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YOTC	**Yotoco, Valle**	**0.43**	**75**	*i*P		**Pn**	**04 50 58.1**	**+0.1**
YOTC				*e*S		**Sn**	**04 51 10.0**	**+0.3**
YOTC				*i*			04 51 10.5	
	comp=Z,4μm,0.6s							
MALC	**Bahia Malaga**	**0.59**	**284**	*i*P		**Pn**	**04 51 01.1**	**+2.1**
MALC				*e*S		**Sn**	**04 51 15.5**	**+4.1**
MALC				*i*			04 51 18.9	
	comp=Z,2μm,0.2s							
JAMC	**Jamundi, Valle**	**0.65**	**172**	*i*P		**Pn**	**04 51 00.6**	**+0.8**
JAMC				*e*S		**Sn**	**04 51 14.3**	**+1.5**
JAMC				*i*			04 51 17.2	
	comp=Z,2μm,0.4s							
PLMC	**San Jos del P**	**1.14**	**25**	*i*P		**Pn**	**04 51 04.3**	**-0.3**
PLMC				*e*S		**Sn**	**04 51 20.4**	**-0.8**
PLMC				*i*			04 51 21.3	
	comp=Z,6μm,0.2s							
PIZC	**Pizarro, Choco**	**1.24**	**331**	*e*P		**Pn**	**04 51 07.2**	**+1.5**
PIZC				*e*S		**Sn**	**04 51 25.4**	**+2.2**
PIZC				*i*			04 51 34.8	
	comp=Z,1μm,0.5s							
ARMEC	**Armenia, Quind**	**1.29**	**58**	*e*P		**Pn**	**04 51 07.2**	**+0.7**
ARMEC				*e*S		**Sn**	**04 51 25.4**	**+0.7**
POPC	**Popayan, Colom**	**1.32**	**176**	*i*P		**Pn**	**04 51 07.5**	**+0.6**
POPC				*e*S		**Sn**	**04 51 27.0**	**+1.7**
POPC				*i*			04 51 29.3	
	comp=Z,534nm,0.2s							
ANIL	**Santa Ana**	**1.49**	**65**	*e*P		**Pn**	**04 51 09.1**	**+0.2**
ORTC	**Ortega, Tolima**	**1.51**	**88**	*i*P		**Pn**	**04 51 09.7**	**+0.8**
ORTC				*e*S		**Sn**	**04 51 29.0**	**-0.1**
ORTC				*i*			04 51 31.4	
	comp=Z,2μm,0.5s							
GR1C	**Gorgona, Isla**	**1.64**	**239**	*e*P		**Pn**	**04 51 10.4**	**-0.1**
GR1C				*e*S		**Sn**	**04 51 31.6**	**-0.3**
NIZA	**Niza - Manizal**	**1.75**	**47**	*e*P		**Pn**	**04 51 14.4**	**+2.2**
NIZA				*e*S		**Sn**	**04 51 36.8**	**+2.1**
BETC	**Betania**	**1.77**	**132**	*e*P		**Pn**	**04 51 13.5**	**+1.3**
BETC				*e*S		**Sn**	**04 51 36.4**	**+1.6**
BETC				*i*			04 51 40.4	
	comp=Z,2μm,0.5s							
RECRC	**Villamaria, Ca**	**1.78**	**52**	*e*P		**Pn**	**04 51 13.7**	**+1.0**
RECRC				*e*S		**Sn**	**04 51 36.1**	**+0.4**
PRAC	**Prado**	**1.88**	**95**	*i*P		**Pn**	**04 51 14.4**	**+0.9**
PRAC				*e*S		**Sn**	**04 51 38.5**	**+1.2**
PRAC				*i*			04 51 39.5	
	comp=Z,1μm,0.4s							
BBAC	**Balboa, Cauca**	**1.90**	**195**	*i*P		**Pn**	**04 51 15.2**	**+1.2**
BBAC				*e*S		**Sn**	**04 51 40.0**	**+2.0**
BBAC				*i*			04 51 41.9	
	comp=Z,510nm,0.3s							
GUY2C	**Guyana, Caldas**	**1.94**	**46**	*e*P		**Pn**	**04 51 15.7**	**+1.0**
GUY2C				*e*S		**Sn**	**04 51 40.6**	**+1.4**
GUY2C				*i*			04 51 43.1	
	comp=Z,965nm,0.4s							
GARC	**Garzon, Huila**	**2.10**	**143**	*e*P		**Pn**	**04 51 17.5**	**+0.9**
GARC				*e*S		**Sn**	**04 51 42.9**	**+0.3**
GARC				*i*			04 51 44.5	
	comp=Z,2μm,0.2s							
CBOC	**Ciudad Bolivar**	**2.12**	**21**	*i*P		**Pn**	**04 51 17.6**	**+0.8**
CBOC				*e*S		**Sn**	**04 51 44.2**	**+1.2**
CBOC				*i*			04 51 54.0	
	comp=Z,461nm,0.4s							
CRUC	**La Cruz**	**2.29**	**185**	*e*P		**Pn**	**04 51 20.0**	**+0.8**
CRUC				*e*S		**Sn**	**04 51 49.6**	**+2.3**
SOLC	**Bahia Solano**	**2.43**	**345**	*e*P		**Pn**	**04 51 21.2**	**+0.5**
SOLC				*e*S		**Sn**	**04 51 49.5**	**-0.4**
FLOC	**Florencia**	**2.53**	**154**	*i*P		**Pn**	**04 51 23.1**	**+1.1**
FLOC				*e*S		**Sn**	**04 51 52.7**	**+0.4**
FLOC				*i*			04 51 54.7	
	comp=Z,385nm,0.3s							
ROSC	**El Rosal**	**2.62**	**68**	*e*P		**Pn**	**04 51 26.0**	**+2.5**
ROSC				*e*S		**Sn**	**04 51 58.3**	**+3.2**
ROSC				*i*			04 51 59.7	
	comp=Z,226nm,0.4s							
ROSC	**El Rosal**	**2.62**	**68**	P		**Pn**	**04 51 25.7**	**+2.2**
	comp=Z,606nm,0.3s,baz=180,slow=6.1,SNR=295							
ROSC				S		**Sn**	**04 51 57.0**	**+1.9**
	comp=Z,272nm,0.4s,baz=13,slow=22,SNR=24							
MEDEC	**Medelln, Ant**	**2.66**	**26**	*e*P		**Pn**	**04 51 26.5**	**+2.6**
GCUF	**Volcan Galeras**	**2.69**	**193**	*e*P		**Pn**	**04 51 24.9**	**+0.4**
GCUF				*e*S		**Sn**	**04 51 56.9**	**+0.1**
GCUF				*i*			04 52 04.1	
	comp=Z,232nm,0.4s							
CVER	**Cruz Verde, Cu**	**2.76**	**76**	*e*P		**Pn**	**04 51 26.9**	**+1.5**
CVER				*e*S		**Sn**	**04 52 00.8**	**+2.3**
CVER				*i*			04 52 02.1	
	comp=Z,430nm,0.3s							
TUMC	**Tumaco**	**2.82**	**224**	*e*P		**Pn**	**04 51 25.6**	**-0.2**
TUMC				*e*S		**Sn**	**04 52 00.4**	**+1.1**
TUMC				*i*			04 52 09.7	
	comp=Z,333nm,0.4s							
VILC	**Villavicencio,**	**3.07**	**85**	*e*P		**Pn**	**04 51

ILAR Eielson Array 78.12 336 P **P** **05 02 29.8 -0.2**
comp=Z,0.4nm,0.7s,baz=121,slow=4.2,SNR=7.1
comp=Z,0.4nm,0.7s
ASAR Alice Springs 144.45 234 PKP **PKPab** **05 10 05.8 -0.5**
comp=Z,0.8nm,0.3s,baz=122,slow=3.9,SNR=29
ASAR pPKP **pPKPdf** **05 10 33.9 -1.9**
comp=Z,0.4nm,0.5s,baz=118,slow=3.6,SNR=3.3
WRA Warramunga Arr 145.73 240 PKPbc **PKPdf** **05 10 10.1 +0.1**
comp=Z,0.2nm,0.4s,baz=108,slow=3.3,SNR=5.6

NNC 24 05:00:19.9±1.9, 52°67N×87°63E, h0km, mb4.0, mpv3.6, 10C-4D, Error ellipse: s-maj=16.1km s-min=6.4km az=82.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**2.12**	**308**	⇓Pn	Pn	05 00 55.4	-1.2
	2.7nm,0.3s						
ZAA0				⇑Sn	Sn	05 01 25.1	-0.9
	5.7nm,0.3s						
KURK	**Kurchatov**	**5.94**	**254**	⇑Pn	Pn	05 01 49.3	+0.3
	2.3nm,0.7s						
KURK				⇑Sn	Sn	05 02 58.5	+0.8
	7.2nm,0.9s						
KURK				⇓Lg	Lg	05 03 29.7	
	20nm,0.7s						
KURBB	**Kurchatov Arra**	**6.03**	**254**	⇑Pn	Pn	05 01 50.8	+0.5
	3.4nm,0.3s						
KURBB				⇑Sn	Sn	05 02 59.2	-0.7
	16nm,0.7s						
KURBB				⇑Lg	Lg	05 03 31.1	
	31nm,0.7s						
MK31	**Makanchi Array**	**6.82**	**213**	⇑Pn	Pn	05 02 02.6	+1.3
	4.3nm,0.5s,baz=32,slow=12,SNR=75						
MK31				⇓Sn	Sn	05 03 21.3	+1.7
	2.4nm,0.6s,baz=36,slow=25,SNR=5.2						
MK31				⇑Lg	Lg	05 03 57.5	
	21nm,0.9s,baz=35,slow=32,SNR=3.7						
MAKZ	**Makanchi**	**6.92**	**214**	⇓Pn	Pn	05 02 03.7	+1.2
	4.3nm,0.4s						
MAKZ				⇑Sn	Sn	05 03 23.4	+1.5
	4.2nm,0.5s						
MAKZ				⇑Lg	Lg	05 03 57.1	
	14nm,1.1s						

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*IDC **24** 05:23:08.1±9.7, 0°.56N×123°.58E, h249km±95km, mb2.6/3, mbtmp3.2/3, Error ellipse: s-maj=223.8km s-min=28.1km az=62.0*
*DJA **24** 05:23:08.4±0.5, 0°S±4°×12°2E±°, h213km±4km, M3.8/10, mb4.0/2, mB4.8/1, MLv3.6/10, Mw(mB)4.1/1*
ISC 24 05:23:06.4±1.0, 0°.00N±0°.09×122°.39E±0°.07, h250km, n12, σ2°73/16, mb3.0/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.66**	**316**	P	**Pn**	**05 23 38.1**	**-1.7**
MRSI				S	**S**	**05 24 01.5**	**-4.6**
GTOI	**Gorontalo**	**0.88**	**44**	P	**Pn**	**05 23 39.4**	**-1.4**
GTOI				S	**S**	**05 24 04.3**	**-3.6**
LUWI	**Luwuk**	**1.10**	**160**	P	**Pn**	**05 23 39.9**	**-2.1**
LUWI				S	**S**	**05 24 04.4**	**-5.7**
KMSI	**Cibinong**	**1.69**	**70**	P	**Pn**	**05 23 44.9**	**-1.2**
MPSI	**Mapaga**	**2.52**	**278**	P	**Pn**	**05 23 53.8**	**0.0**
TTSI	**Tana Toraja**	**3.97**	**220**	P	**Pn**	**05 24 10.4**	**+0.5**
SANI	**Sanana**	**4.13**	**120**	P	**Pn**	**05 24 11.3**	**-0.4**
TNTI	**Ternate**	**5.03**	**81**	P	**Pn**	**05 24 23.2**	**+0.6**
LBMI	**Labuha**	**5.15**	**97**	P	**Pn**	**05 24 25.1**	**+1.1**
	77nm,0.8s,2µm0.4nm						
WRA	**Warramunga Arr**	**23.02**	**150**	P	**P**	**05 27 50.1**	**+0.3**
	0.6nm,0.9s,baz=328,slow=10,SNR=5.4						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**26.05**	**155**	P	**P**	**05 28 20.0**	**+2.8**
	0.2nm,0.5s,baz=343,slow=13,SNR=5.8						
ASAR				PcP	**PcP**	**05 31 39.9**	**+1.7**
	0.3nm,0.3s,baz=342,slow=2.1,SNR=5.9						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**58.30**	**329**	P	**P**	**05 32 37.9**	**+2.7**
	0.1nm,0.4s,baz=128,slow=8.9,SNR=2.6						
	0.1nm,0.4s						

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*IDC **24** 05:33:16.3±0.7, 46°.14N×53°.34E, h0km, mb3.8/10, mbtmp3.7/23, MLv3.4/13, Error ellipse: s-maj=16.1km s-min=6.9km az=154.0*
*NNC **24** 05:33:19.7±3.4, 46°.20N×53°.83E, h0km, mb3.9, mpv3.2, Error ellipse: s-maj=29.5km s-min=20.3km az=97.0*
ISC 24 05:33:16.6±0.5, 46°12N±0°.06×53°35E±0°.04, h10km, n28, σ2°06/39, mb3.7/10, 5C-8D, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKTO	**Aktyubinsk**	**5.33**	**34**	Pn	**Pn**	**05 34 37.2**	**+1.0**
	1.0nm,0.3s,baz=205,slow=7.6,SNR=11						
AKTO				Sn	**Sn**	**05 35 34.5**	**-3.0**
	1.4nm,0.3s,baz=197,slow=13,SNR=2.3						
AKTO				Lg	Lg	05 36 00.5	
	1.8nm,0.3s,baz=282,slow=3.4,SNR=4.0						
	2.4nm,0.3s						
AKTO	**Aktyubinsk**	**5.33**	**34**	⇑Pn	**Pn**	**05 34 36.9**	**+0.7**
	2.2nm,0.6s						
AKTO				⇓Sn	**Sn**	**05 35 36.1**	**-1.4**
	3.3nm,0.4s						
AKTO				⇑Lg	Lg	05 36 01.3	
	7.9nm,0.8s						
AB31	**Akbulak array**	**5.45**	**52**	⇓Pn	**Pn**	**05 34 39.4**	**+1.6**
	0.5nm,0.2s,baz=234,slow=12,SNR=49						
AB31				⇑Pg	**Pb**	**05 34 53.4**	**+1.6**
	4.7nm,0.6s,baz=230,slow=16,SNR=7.6						
AB31				⇓Sn	**Sn**	**05 35 39.8**	**-0.7**
	1.9nm,0.3s,baz=16,slow=26,SNR=7.9						
AB31				⇓Lg	Lg	05 36 01.7	
	15nm,0.7s,baz=223,slow=30,SNR=3.8						
BELG	**Belogornoye**	**7.31**	**331**	Pn	**Pn**	**05 35 02.6**	**-0.7**
	2.0nm,0.3s,baz=215,slow=0.4,SNR=4.6						
BELG				Sn	**Sn**	**05 36 22.8**	**-3.5**
	3.0nm,0.3s,baz=129,slow=22,SNR=10						
	4.0nm,0.3s						
KBZ	**Khabaz**	**7.79**	**256**	Pn	**Pn**	**05 35 11.8**	**+1.8**
	2.9nm,0.3s,baz=99,slow=4.1,SNR=72						
KBZ				Sn	**Sn**	**05 36 36.4**	**-1.8**
	2.8nm,0.3s,baz=344,slow=19,SNR=7.5						
	6.9nm,0.3s						
KVAR	**Kislovodsk Arr**	**7.85**	**258**	Pn	**Pn**	**05 35 12.0**	**+1.0**
	baz=108,slow=20						
KVAR				Sn	**Sn**	**05 36 37.4**	**-2.5**
	baz=42,slow=15						
	2.3nm,0.5s						
GNI	**Garni**	**8.67**	**230**	Pn	**Pn**	**05 35 22.0**	**-0.2**
	0.4nm,0.3s,baz=58,slow=24,SNR=1.0						
	1.6nm,0.4s						
GEYT	**Alibeck**	**8.92**	**155**	Pn	**Pn**	**05 35 27.5**	**+2.0**
	0.6nm,0.3s,baz=326,slow=13,SNR=1.8						
GEYT				Sn	**Sn**	**05 37 01.4**	**-4.6**
	0.4nm,0.3s,baz=342,slow=18,SNR=1.5						
	1.0nm,0.4s						
ARU	**Arti**	**10.82**	**16**	Pn	**Pn**	**05 35 49.2**	**-2.3**
	baz=182,slow=13,SNR=4.2						
ARU				Sn	Sn	05 37 40.3	-12
	baz=243,slow=21,SNR=1.4						
	2.1nm,0.3s						
KK31	**Karatay Array**	**12.60**	**98**	⇓Pn	**Pn**	**05 36 16.6**	**+0.8**
	1.1nm,0.5s,baz=303,slow=14,SNR=10						
KK31				⇓Sn	**Sn**	**05 38 31.8**	**-4.4**
	1.2nm,0.5s						
BRVK	**Borovoye**	**12.98**	**52**	⇓Pn	**Pn**	**05 36 18.3**	**-2.6**
	5.0nm,1.3s						
BRVK				⇑Sn	**Sn**	**05 38 45.0**	**-0.3**
	3.6nm,0.9s						
BVA0	**Borovoye Array**	**13.02**	**52**	⇑Pn	**Pn**	**05 36 19.6**	**-2.0**
	4.3nm,1.0s,baz=244,slow=15,SNR=8.5						
BVA0				⇓Sn	**Sn**	**05 38 45.4**	**-1.0**
	3.8nm,0.7s,baz=246,slow=24,SNR=4.2						
BVAR	**Borovoye Array**	**13.02**	**52**	Pn	**Pn**	**05 36 18.8**	**-2.8**
	0.1nm,0.3s,baz=250,slow=12,SNR=9.9						
BVAR				Sn	Sn	05 38 35.5	-11
	baz=228,slow=28,SNR=2.5						
	1.8nm,0.6s						
AAK	**Ala-Archa**	**15.51**	**95**	Pn	**Pn**	**05 36 53.9**	**-1.5**
	0.7nm,0.3s,baz=237,slow=5.3,SNR=6.5						
	1.7nm,0.4s						
BRTR	**Keskin Array B**	**15.77**	**253**	Pn	**Pn**	**05 37 00.3**	**+1.5**
	baz=64,slow=10.0,SNR=1.2						
	0.5nm,0.7s						
AKASG	**Malin Array Be**	**16.63**	**295**	Pn	**Pn**	**05 37 06.1**	**-3.5**
	0.9nm,0.3s,baz=79,slow=10,SNR=5.0						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**17.29**	**66**	Pn	**Pn**	**05 37 15.9**	**-2.1**
	0.1nm,0.3s,baz=268,slow=13,SNR=5.3						
	1.2nm,0.8s						
MKAR	**Makanchi Array**	**19.91**	**78**	P	**P**	**05 37 48.8**	**+0.5**
	0.1nm,0.3s,baz=279,slow=9.4,SNR=2.3						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**21.54**	**57**	P	**P**	**05 38 07.0**	**+1.3**
	1.4nm,0.7s,baz=271,slow=10,SNR=6.9						
	1.4nm,0.7s						
FINES	**FINESS Array B**	**22.00**	**324**	P	**P**	**05 38 10.4**	**-0.2**
	2.5nm,0.4s,baz=130,slow=12,SNR=42						
	2.5nm,0.4s						
GERES	**GERESS Array B**	**26.72**	**290**	P	**P**	**05 38 57.2**	**+1.0**
	1.8nm,0.8s,baz=62,slow=7.0,SNR=3.1						
	1.8nm,0.8s						
HFS	**Hagfors**	**27.12**	**316**	P	**P**	**05 39 00.9**	**+1.4**
	3.0nm,0.9s,baz=106,slow=9.3,SNR=1.8						
	3.0nm,0.9s						
ARCES	**ARCESS Array B**	**27.27**	**339**	P	**P**	**05 39 02.1**	**+1.4**
	1.5nm,0.8s,baz=137,slow=8.6,SNR=6.0						
	1.5nm,0.8s						
KEST	**Kesra**	**34.43**	**268**	P	**P**	**05 40 05.6**	**+1.3**
	2.9nm,0.8s,baz=90,slow=7.7,SNR=2.1						
	2.9nm,0.8s						
SONM	**Songino Array**	**35.65**	**68**	P	**P**	**05 40 17.3**	**+2.6**
	0.2nm,0.4s,baz=291,slow=12,SNR=2.3						
	0.2nm,0.4s						
ESDC	**Sonseca Array**	**41.69**	**282**	P	**P**	**05 41 06.4**	**+1.0**
	0.3nm,0.5s,baz=54,slow=8.3,SNR=14						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**54.35**	**250**	P	**P**	**05 42 43.3**	**-0.3**
	0.6nm,0.8s,baz=42,slow=7.8,SNR=6.3						
	0.6nm,0.8s						
YKA	**Yellowknife Ar**	**71.31**	**354**	P	**P**	**05 44 36.9**	**+1.0**
	0.3nm,0.7s,baz=2.3,slow=6.2,SNR=7.5						
	0.3nm,0.7s						

WEL 24 05:34:07.4±1.1, 47°S±6°×16°6E±°, h5km, M3.8/7, ML4.0/10, MLv3.8/7, Error ellipse: s-maj=0.0km s-min=0.0km az=146.7, confirmed, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**1.24**	**24**	P	Pg	05 34 29.9	-1.2
PYZ				S	Sg	05 34 47.2	+0.1
APZ	**The Paps**	**1.47**	**72**	P	Pn	05 34 33.6	-1.0
APZ				S	Sn	05 34 53.2	-1.0
RRKS	**Rarakau**	**1.56**	**43**	P	Pn	05 34 35.0	-0.7
RRKS				S	Sg	05 34 57.2	-0.1
ICCS	**Invercargill C**	**1.87**	**63**	S	Sb	05 35 05.3	-0.4
WHZ	**Wether Hill Ro**	**1.97**	**45**	P	Pn	05 34 40.6	-0.8
WHZ				S	Sn	05 35 07.2	+0.8
SYZ	**Scrubby Hill**	**2.32**	**72**	P	Pn	05 34 46.3	+0.1
SYZ				S	Sb	05 35 17.0	-1.6
MLZ	**Mavora Lakes**	**2.45**	**39**	P	Pn	05 34 47.9	-0.1
MLZ				S	Sb	05 35 20.6	-1.7
TUZ	**Tuapeka**	**2.87**	**64**	P	Pn	05 34 53.6	-0.2
TUZ				S	Sn	05 35 29.2	+0.4
MSZ	**Milford Sound**	**2.96**	**29**	P	Pn	05 34 53.6	-1.4
EAZ	**Earnscleugh**	**3.12**	**50**	P	Pn	05 34 56.7	-0.4
EAZ				S	Sn	05 35 36.0	+1.3
WKZ	**Wanaka**	**3.27**	**42**	P	Pn	05 35 00.1	+0.8
WKZ				S	Sn	05 35 40.7	+2.2
HHSZ	**Highcliff Hill**	**3.50**	**68**	P	Pn	05 35 03.1	+0.6
HHSZ				S	Sn	05 35 45.9	+1.5
JCZ	**Jackson Bay**	**3.79**	**33**	P	Pn	05 35 07.1	+0.6
JCZ				S	Sn	05 35 52.7	+1.2
ODZ	**Otahua Downs**	**3.97**	**57**	P	Pn	05 35 06.7	-2.1
ODZ				S	Sn	05 35 55.1	-0.6
LBZ	**Lake Benmore**	**4.15**	**47**	P	Pn	05 35 09.5	-1.9
LBZ				S	Sn	05 35 59.6	-0.8
FOZ	**Fox Glacier**	**4.64**	**37**	P	Pn	05 35 17.8	-0.4
FOZ				S	Sn	05 36 13.1	+0.7
INZ	**Inchbonnie**	**6.00**	**42**	P	Pn	05 35 38.2	+1.3
INZ				S	Sn	05 36 45.5	-0.5
LTZ	**Lake Taylor**	**6.36**	**47**	P	Pn	05 35 41.1	-0.7
DSZ	**Denniston Nort**	**6.95**	**39**	P	Pn	05 35 48.6	-1.3
THZ	**Tophouse**	**7.44**	**44**	P	Pn	05 35 55.0	-1.6
QRZ	**Quartz Range**	**8.02**	**39**	P	Pn	05 36 03.8	-0.7

TEH 24 05:41:43.5, 30°.78N×57°.24E, h11km±32km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRM1	**Kerman Provinc**	**0.28**	**175**	Pg	Pg	05 41 49.6	+0.3
KRM1				Sg	Sg	05 41 54.0	+0.9
ZRDN	**Zarand Kerman**	**0.64**	**287**	Pg	Pg	05 41 56.3	+0.4
KHGB	**Koh Gabri**	**0.78**	**239**	Pg	Pg	05 41 58.7	+0.2
KHGB				Sg	Sb	05 42 09.2	-0.5
TVBK	**TV Kerman**	**0.90**	**208**	Pg	Pb	05 42 01.4	+0.2
NGRK	**Negar Kerman**	**1.22**	**202**	Pg	Pg	05 42 07.4	+0.5
IBAF	**Bafgh**	**1.65**	**300**	Pg	Pg	05 42 15.1	0.0
KBAM	**BAM**	**1.95**	**147**	Pn	Pb	05 42 18.6	-0.4
BSRN	**Basiran**	**2.00**	**53**	Pn	Pb	05 42 18.7	-1.2
IKOO	**Kooshah**	**2.22**	**42**	Pn	Pn	05 42 21.7	+1.2
TPRV	**Parvadeh(Tabas**	**2.29**	**348**	Pn	Pb	05 42 23.4	-1.5
IMEH	**Mehriz**	**2.34**	**286**	Pn	Pb	05 42 24.6	-1.2
ITEG	**Tejag**	**2.47**	**31**	Pn	Pn	05 42 25.5	+1.7
NHDN	**Nehbandan**	**2.48**	**75**	Pn	Pb	05 42 26.2	-2.0
TKDS	**Koohdasht(Taba**	**2.83**	**358**	Pn	Pn	05 42 30.8	+2.1
ICHK	**Chekchek**	**2.83**	**302**	Pn	Pb	05 42 31.6	-2.6
IDAH	**Dahanechah**	**2.97**	**48**	Pn	Pn	05 42 32.5	+1.8
AFRZ	**Afriz**	**3.04**	**29**	Pn	Pn	05 42 32.7	+1.1
TNSJ	**Nastanj**	**3.22**	**351**	Pn	Pn	05 42 36.0	+1.9
GENO	**Geno**	**3.50**	**196**	Pn	Pn	05 42 41.5	+3.5
ANAR	**Anarak**	**3.83**	**310**	Pn	Pn	05 42 45.1	+2.6
SHRT	**Shahrakht**	**3.85**	**41**	Pn	Pn	05 42 45.6	+2.8
TBJM	**Torbat-e-JAM**	**5.17**	**29**	Pn	Pn	05 43 03.2	+2.2
IGLO	**Ghaloghah**	**6.38**	**334**	Pn	Pn	05 43 19.1	+1.5

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*NOU **24** 05:49:14.8, 15°.97S×167°.41E, h25km, MLv4.8/10, Vanuatu Islands*
*IDC **24** 05:49:16.8±6.0, 16°.13S×167°.41E, h54km±53km, mb3.6/7, mbtmp3.8/8, ML3.9/1, MS3.1/4, Error ellipse: s-maj=36.6km s-min=31.3km az=32.0*
ISC 24 05:49:15.1±0.9, 16°01S±0°.09×167°4E±0°.1, h39km, n16, σ1°10/15, mb3.7/6, MS2.9/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.85**	**157**	P	**Pn**	**05 49 44.9**	**+0.5**
LIFNC	**LIFOU**	**4.75**	**182**	P	**Pn**	**05 50 25.4**	**+1.2**
KOUNC	**Koumac, New Ca**	**5.42**	**213**	P	**Pn**	**05 50 34.3**	**+0.9**
DZM	**Mont Dzumac**	**6.10**	**189**	P	**Pn**	**05 50 44.4**	**+1.5**
DZM	**Mont Dzumac**	**6.10**	**189**	P	**Pn**	**05 50 43.7**	**+0.8**
	2.8nm,0.3s,baz=257,slow=9.1,SNR=26						
DZM				S	**Sn**	**05 51 50.6**	**-0.9**
	9.3nm,0.3s,baz=341,slow=22,SNR=2.0						
DZM				LR	LR	05 52 55.1	
	comp=Z,151nm,18.6s,baz=86,slow=36						
	8.3nm,0.4s						
CTA	**Carters Tower**	**20.54**	**255**	P	**P**	**05 53 50.1**	**-0.3**
	2.6nm,0.8s,baz=83,slow=8.1,SNR=2.8						
CTA				LR	LR	06 00 25.8	
	comp=Z,46nm,18.7s,baz=84,slow=33						
	2.6nm,0.8s						
PMG	**Port Moresby**	**20.83**	**286**	LR	LR	06 01 22.2	
	comp=Z,44nm,19.2s,baz=160,slow=35						
WRA	**Warramunga Arr**	**31.69**	**258**	P	**P**	**05 55 33.5**	**-1.8**
	0.2nm,0.6s,baz=88,slow=10,SNR=1.2						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**32.39**	**251**	P	**P**	**05 55 41.4**	**0.0**
	2.2nm,0.7s,baz=75,slow=9.2,SNR=46						
	2.2nm,0.7s						
NWAO	**Narrogin (SRO)**	**48.24**	**240**	LR	LR	06 18 24.9	
	comp=Z,35nm,18.6s,baz=234,slow=36						
QSPA	**South Pole Qui**	**74.03**	**180**	P	**P**	**06 00 45.8**	**-1.0**
	0.9nm,1.1s,baz=345,slow=18,SNR=1.3						
	0.9nm,1.1s						
SONM	**Songino Array**	**83.62**	**324**	P	**P**	**06 01 41.0**	**+1.5**
	0.4nm,0.5s,baz=151,slow=9.7,SNR=5.9						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**87.69**	**18**	P	**P**	**06 01 58.1**	**-1.1**
	0.2nm,0.6s,baz=246,slow=5.2,SNR=5.5						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**98.51**	**324**	P	**P**	**06 02 49.8**	**+0.4**
	0.7nm,0.6s,baz=115,slow=6.5,SNR=3.7						
	0.7nm,0.6s						
ARCES	**ARCESS Array B**	**121.52**	**345**	PKP	**PKPdf**	**06 08 04.0**	**+0.1**
	0.7nm,0.4s,baz=48,slow=1.8,SNR=8.7						
KEST	**Kesra**	**152.29**	**319**	PKPbc	**PKPbc**	**06 09 08.0**	**+0.7**
	2.5nm,0.6s,baz=81,slow=1.0,SNR=5.6						

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*SOF **24** 05:57:04.9, 39°.40N×24°.07E, h5km, MD3.2*
*ISK **24** 05:57:05.3, 39°.30N×24°.03E, h15km, ML3.1/26*
*BEO **24** 05:57:06.5±1.0, 39°.36N×23°.95E, h0km, ML2.6/4*
*THE **24** 05:57:06.4, 39°.29N×24°.02E, h12km±1km, ML3.2/14, Error ellipse: s-maj=1.3km s-min=0.7km az=30.0*
*ATH **24** 05:57:06.2, 39°.29N×24°.00E, h10km±1km, ML3.2/29, Error ellipse: s-maj=1.3km s-min=0.7km az=197.0*
*AFAD **24** 05:57:07.3±0.0, 39°.29N×24°.28E, h20km±3km, MW3.9*
ISC 24 05:57:05.6±0.9, 39°27N±0°.02×24°02E±0°.02, h11km±7km, n129, σ0°64/174, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALNA	**Alonissos**	**0.16**	**225**	P	**Pg**	**05 57 09.3**	**+0.1**
ALNA				S	**Sg**	**05 57 11.8**	**+0.1**
ALNA				AML	AML	05 57 12.9	
ALNA				AML	AML	05 57 13.9	
	comp=E,82998µm,0.4s						
SKY	**Skiros Island**	**0.57**	**133**	P	**Pb**	**05 57 17.6**	**0.0**
SKY				S	**Sb**	**05 57 25.2**	**-0.5**
	comp=E,12µm,0.1s						
SKY	**Skiros Island**	**0.57**	**133**	P	**Pb**	**05 57 17.5**	**-0.1**
SKY				S	**Sb**	**05 57 25.1**	**-0.5**
SKY				AML	AML	05 57 30.1	
	comp=E,24372µm,0.2s						
SKY				AML	AML	05 57 31.0	
	comp=N,21308µm,0.2s						
NEO	**Neokhori**	**0.62**	**274**	P	**Pg**	**05 57 17.8**	**+0.2**
NEO				S	**Sg**	**05 57 26.5**	**+0.8**
	comp=N,4µm,0.3s						
NEO	**Neokhori**	**0.62**	**274**	P	**Pg**	**05 57 17.1**	**-0.4**
NEO				S	**Sg**	**05 57 26.1**	**+0.5**
NEO				AML	AML	05 57 28.9	
	comp=E,9293µm,0.3s						
NEO				AML	AML	05 57 29.1	
	comp=N,8026µm,0.4s						
KYMI	**Kymi, Euboea I**	**0.63**	**174**	P	**Pn**	**05 57 19.5**	**-1.1**
KYMI				S	**Sn**	**05 57 30.4**	**-0.3**
	comp=N,2µm,0.3s						
KYMI	**Kymi, Euboea I**	**0.63**	**174**	P	**Pn**	**05 57 19.5**	**-1.1**
KYMI				S	**Sb**	**05 57 28.3**	**+0.7**
KYMI				AML	AML	05 57 33.4	
	comp=N,4546µm,0.4s						
KYMI				AML	AML	05 57 34.5	
	comp=E,4393µm,0.3s						
XOR	**Xorichti**	**0.65**	**279**	P	**Pg**	**05 57 17.8**	**-0.3**
XOR				S	**Sb**	**05 57 27.9**	**-0.1**
	comp=E,5µm,0.4s						
XOR	**Xorichti**	**0.65**	**279**	P	**Pg**	**05 57 17.6**	**-0.6**
XOR				S	**Sb**	**05 57 27.9**	**-0.1**
XOR				AML	AML	05 57 29.1	
	comp=N,14121µm,0.4s						
XOR				AML	AML	05 57 29.8	
	comp=E,7581µm,0.4s						
PAIG	**Paliouri**	**0.71**	**339**	Pg	**Pg**	**05 57 19.2**	**-0.2**
PAIG				Sg	**Sg**	**05 57 29.5**	**+0.8**
PAIG	**Paliouri**	**0.71**	**339**	P	**Pg**	**05 57 19.4**	**0.0**
PAIG				S	**Sb**	**05 57 30.4**	**+0.6**
	comp=E,980nm,0.1s						
EFSA	**Agios Efstrati**	**0.80**	**70**	P	**Pb**	**05 57 21.6**	**0.0**
EFSA				AML	AML	05 57 36.2	
	comp=N,2258µm,0.6s						
EFSA				AML	AML	05 57 36.5	
	comp=E,2241µm,0.3s						
OUR	**Ouranopolis**	**1.07**	**359**	Pg	**Pg**	**05 57 25.7**	**-0.4**
OUR				Sg	**Sg**	**05 57 40.3**	**+0.2**
OUR	**Ouranopolis**	**1.07**	**359**	P	**Pg**	**05 57 25.8**	**-0.4**
OUR				S	**Sg**	**05 57 40.3**	**+0.2**
	comp=E,882nm,0.4s						
OUR	**Ouranopolis**	**1.07**	**359**	P	**Pg**	**05 57 25.8**	**-0.4**
OUR				S	**Sg**	**05 57 39.6**	**-0.5**
OUR				AML	AML	05 57 43.2	
	comp=N,2212µm,0.5s						
OUR				AML	AML	05 57 43.6	
	comp=E,1345µm,0.4s						
LIA	**Limnos Island**	**1.10**	**55**	P	**Pb**	**05 57 26.8**	**+0.1**
LIA				S	**Sb**	**05 57 41.6**	**+0.5**
	comp=E,2µm,0.4s						
LIA	**Limnos Island**	**1.10**	**55**	P	**Pb**	**05 57 26.8**	**+0.1**
LIA				S	**Sb**	**05 57 41.7**	**+0.6**
LIA				AML	AML	05 57 43.0	
	comp=E,2773µm,0.4s						
LIA				AML	AML	05 57 46.5	
	comp=N,3913µm,0.4s						
AXAR	**Agios Charalam**	**1.17**	**245**	P	**Pn**	**05 57 28.6**	**+0.7**
AXAR				S	**Sn**	**05 57 44.9**	**+1.0**
	comp=N,3µm,0.8s						
AXAR	**Agios Charalam**	**1.17**	**245**	P	**Pg**	**05 57 27.2**	**-0.9**
AXAR				S	**Sn**	**05 57 44.3**	**+0.4**
AXAR				AML	AML	05 57 48.6	
	comp=E,5719µm,0.6s						
AXAR				AML	AML	05 57 48.8	
	comp=N,4611µm,0.5s						
VIL2	**Platees**	**1.20**	**209**	P	**Pn**	**05 57 28.4**	**-0.1**
VIL2				S	**Sn**	**05 57 45.1**	**+0.4**
VIL2				AML	AML	05 57 49.8	
	comp=N,3399µm,0.5s						
VIL2				AML	AML	05 57 52.7	
	comp=E,4009µm,0.4s						
PTL	**Penteli**	**1.22**	**186**	P	**Pn**	**05 57 29.7**	**+1.0**
PTL				S	**Sn**	**05 57 45.2**	**0.0**
	comp=E,812nm,0.4s						
VILL	**Villia**	**1.23**	**207**	P	**Pn**	**05 57 28.7**	**-0.1**
VILL				S	**Sb**	**05 57 45.1**	**+0.3**
	comp

MAKR	**Makrakomi, Fth**	**1.49**	**261**	P	**Pn**	**05 57 32.2**	**-0.1**
MAKR				AML	AML	05 58 00.5	
	comp=N,2934µm,0.5s						
MAKR				AML	AML	05 58 02.3	
	comp=E,2292µm,0.5s						
LTK	**Loutraki**	**1.49**	**214**	P	**Pn**	**05 57 32.3**	**0.0**
LTK				S	**Sb**	**05 57 51.7**	**-0.5**
LTK				AML	AML	05 57 58.5	
	comp=E,1954µm,0.5s						
LTK				AML	AML	05 58 05.9	
	comp=N,2285µm,0.6s						
HORT	**Hortiatis**	**1.51**	**332**	Pn	**Pn**	**05 57 31.8**	**-0.9**
HORT	**Hortiatis**	**1.51**	**332**	P	**Pn**	**05 57 32.3**	**-0.4**
HORT	**Hortiatis**	**1.51**	**332**	P	**Pn**	**05 57 32.2**	**-0.4**
HORT				AML	AML	05 57 57.4	
	comp=N,360µm,0.6s						
HORT				AML	AML	05 57 59.8	
	comp=E,278µm,0.5s						
LOUT	**Loutraki**	**1.51**	**213**	P	**Pn**	**05 57 32.7**	**0.0**
LOUT				S	**Sb**	**05 57 52.8**	**-0.1**
LOUT	**Loutraki**	**1.51**	**213**	P	**Pn**	**05 57 32.7**	**0.0**
KOKK	**Kokkinochori,**	**1.55**	**360**	P	**Pn**	**05 57 32.6**	**-0.6**
KOKK	**Kokkinochori,**	**1.55**	**360**	P	**Pn**	**05 57 32.4**	**-0.8**
THL	**Klokotos Trika**	**1.58**	**282**	P	**Pn**	**05 57 33.3**	**-0.3**
THL	**Klokotos Trika**	**1.58**	**282**	P	**Pn**	**05 57 33.0**	**-0.6**
THL				AML	AML	05 57 59.0	
	comp=E,459µm,0.8s						
THL				AML	AML	05 58 00.6	
	comp=N,842µm,0.7s						
THAL	**Thalero**	**1.62**	**221**	P	**Pn**	**05 57 34.2**	**+0.1**
THAL	**Thalero**	**1.62**	**221**	P	**Pn**	**05 57 33.9**	**-0.2**
THAL				AML	AML	05 58 03.8	
	comp=E,2676µm,0.4s						
THAL				AML	AML	05 58 04.7	
	comp=N,2434µm,0.5s						
KOCA	**Canakkale, Ayv**	**1.66**	**81**	P	**Pn**	**05 57 35.4**	**+0.6**
KOCA				S	**Sg**	**05 58 01.2**	**+2.1**
SMTH	**Samothraki Isl**	**1.68**	**44**	P	**Pn**	**05 57 33.8**	**-1.1**
GOAD	**anakkale-G¶**	**1.71**	**58**	P	**Pn**	**05 57 35.6**	**+0.1**
GOAD				S	**Sn**	**05 57 57.2**	**-0.1**
GADA	**Gvkgeada**	**1.72**	**57**	Pn	**Pn**	**05 57 35.4**	**-0.1**
EVR	**Evrytania**	**1.75**	**259**	P	**Pn**	**05 57 37.1**	**+1.0**
EVR				AML	AML	05 58 11.0	
	comp=E,595µm,0.9s						
EVR				AML	AML	05 58 11.0	
	comp=N,584µm,1.0s						
PRK	**Paraskevi**	**1.75**	**90**	P	**Pn**	**05 57 36.5**	**+0.6**
PRK	**Paraskevi**	**1.75**	**90**	P	**Pn**	**05 57 36.5**	**+0.6**
PRK				AML	AML	05 58 04.8	
	comp=N,825µm,0.7s						
PRK				AML	AML	05 58 06.7	
	comp=E,902µm,1.0s						
TRIZ	**Trizonia**	**1.76**	**240**	P	**Pn**	**05 57 36.1**	**0.0**
ANX	**Ano Chora**	**1.77**	**248**	P	**Pn**	**05 57 36.7**	**+0.5**
ANX	**Ano Chora**	**1.77**	**248**	P	**Pn**	**05 57 36.4**	**+0.2**
ANX				S	**Sn**	**05 57 58.0**	**-0.8**
ANX				AML	AML	05 58 11.6	
	comp=E,958µm,0.6s						
ANX				AML	AML	05 58 14.4	
	comp=N,821µm,0.6s						
KAVA	**Kavala**	**1.77**	**12**	P	**Pn**	**05 57 35.2**	**-1.0**
KAVA	**Kavala**	**1.77**	**12**	P	**Pn**	**05 57 35.1**	**-1.2**
ALIK	**Aliki, Aigiali**	**1.79**	**237**	P	**Pn**	**05 57 37.2**	**+0.7**
CHOS	**Chios island**	**1.82**	**118**	P	**Pb**	**05 57 38.0**	**-1.0**
CHOS				AML	AML	05 58 08.2	
	comp=N,808µm,1.0s						
CHOS				AML	AML	05 58 08.2	
	comp=E,1232µm,0.7s						
EZN	**Ezine**	**1.87**	**72**	Pn	**Pn**	**05 57 37.7**	**+0.1**
SRS	**Serrai**	**1.88**	**350**	P	**Pn**	**05 57 37.1**	**-0.7**
SRS	**Serrai**	**1.88**	**350**	*e*Pn	**Pn**	**05 57 37.1**	**-0.7**
SRS				*e*Sn	**Sn**	**05 58 01.6**	**+0.1**
SRS	**Serrai**	**1.88**	**350**	P	**Pn**	**05 57 37.0**	**-0.7**
LAKA	**Lakka**	**1.89**	**238**	P	**Pn**	**05 57 38.4**	**+0.5**
KLV	**Kalavryta, Ach**	**1.90**	**231**	P	**Pn**	**05 57 38.3**	**+0.2**
KLV	**Kalavryta, Ach**	**1.90**	**231**	P	**Pn**	**05 57 37.8**	**-0.3**
KLV				AML	AML	05 58 14.7	
	comp=E,491µm,0.7s						
KLV				AML	AML	05 58 21.1	
	comp=N,376µm,1.1s						
TNSA	**Tinos**	**1.94**	**152**	P	**Pn**	**05 57 38.7**	**+0.1**
KRND	**KRANIDI**	**2.00**	**200**	P	**Pn**	**05 57 39.3**	**0.0**
KRND				AML	AML	05 58 15.3	
	comp=N,596µm,0.4s						
KRND				AML	AML	05 58 17.2	
	comp=E,1245µm,0.5s						
BAYC	**CANAKKALE_Bayr**	**2.02**	**76**	P	**Pn**	**05 57 40.2**	**+0.6**
BAYC				S	**Sn**	**05 58 04.2**	**-0.6**
PVO	**Paravola**	**2.05**	**252**	P	**Pn**	**05 57 40.9**	**+0.9**
COMU	**Canakkale**	**2.07**	**66**	Pn	**Pn**	**05 57 39.9**	**-0.5**
KNT	**Kendrikon**	**2.08**	**336**	Pn	**Pn**	**05 57 40.2**	**-0.3**
KNT	**Kendrikon**	**2.08**	**336**	P	**Pn**	**05 57 40.2**	**-0.3**
KNT				AML	AML	05 58 17.9	
	comp=N,178µm,0.9s						
KNT				AML	AML	05 58 21.7	
	comp=E,162µm,0.8s						
NVR	**Nevrokopi**	**2.09**	**357**	P	**Pn**	**05 57 41.2**	**+0.6**
NVR	**Nevrokopi**	**2.09**	**357**	P	**Pn**	**05 57 41.0**	**+0.4**
GRG	**Griva**	**2.10**	**324**	Pn	**Pn**	**05 57 40.2**	**-0.5**
GRG	**Griva**	**2.10**	**324**	P	**Pn**	**05 57 41.0**	**+0.3**
GRG	**Griva**	**2.10**	**324**	P	**Pn**	**05 57 41.1**	**+0.3**
GRG				AML	AML	05 58 07.7	
	comp=N,203µm,0.5s						
GRG				AML	AML	05 58 08.6	
	comp=E,287µm,0.7s						
KPRO	**Kipourio**	**2.16**	**289**	P	**Pn**	**05 57 41.7**	**0.0**
CAVK	**Edirne/Enez-Ca**	**2.18**	**49**	P	**Pn**	**05 57 41.7**	**-0.2**
CAVK				S	**Sg**	**05 58 17.0**	**+1.3**
ENEZ	**Enez**	**2.20**	**47**	Pn	**Pn**	**05 57 41.8**	**-0.4**
GELI	**Tayfur-Gelibol**	**2.21**	**58**	Pn	**Pn**	**05 57 42.1**	**-0.1**
RDO	**Rodhopi**	**2.21**	**31**	Pn	**Pn**	**05 57 41.9**	**-0.4**
RDO	**Rodhopi**	**2.21**	**31**	P	**Pn**	**05 57 41.8**	**-0.5**
RDO	**Rodhopi**	**2.21**	**31**	P	**Pn**	**05 57 41.7**	**-0.5**
ALN	**Alexandroupoli**	**2.25**	**43**	Pn	**Pn**	**05 57 42.6**	**-0.3**
ALN	**Alexandroupoli**	**2.25**	**43**	P	**Pn**	**05 57 42.2**	**-0.7**
ALN	**Alexandroupoli**	**2.25**	**43**	P	**Pn**	**05 57 41.8**	**-1.0**
ALN				AML	AML	05 58 19.4	
	comp=E,160µm,1.2s						
ALN				AML	AML	05 58 20.8	
	comp=N,175µm,0.8s						
DKL	**Dikili**	**2.25**	**94**	Pn	**Pn**	**05 57 43.0**	**+0.1**
RFT7	**Candarli**	**2.28**	**97**	Pn	**Pn**	**05 57 43.4**	**+0.2**
MMB	**Musomishta**	**2.29**	**355**	*i* P	**Pn**	**05 57 42.9**	**-0.5**
VAY	**Valandovo**	**2.33**	**332**	*i* Pn	**Pb**	**05 57 46.8**	**-0.9**
ERIK	**Erikli-Kesan**	**2.38**	**53**	Pn	**Pn**	**05 57 44.4**	**-0.2**
BUHA	**Balikesir, Bur**	**2.38**	**83**	P	**Pn**	**05 57 45.4**	**+0.7**
BUHA				S	**Sg**	**05 58 22.4**	**+0.2**
LPK	**Lapseki**	**2.39**	**62**	Pn	**Pn**	**05 57 44.7**	**0.0**
CANM	**Can-anakkale**	**2.46**	**71**	Pn	**Pn**	**05 57 45.7**	**0.0**
RZN	**Rozhen**	**2.49**	**13**	*i* P	**Pn**	**05 57 45.9**	**-0.4**
APE	**Apeiranthos**	**2.50**	**151**	Pn	**Pn**	**05 57 46.4**	**+0.2**
APE	**Apeiranthos**	**2.50**	**151**	P	**Pn**	**05 57 46.7**	**+0.5**
FNA	**Florina**	**2.53**	**308**	Pn	**Pn**	**05 57 46.3**	**-0.4**
FNA	**Florina**	**2.53**	**308**	*e*Pn	**Pn**	**05 57 47.2**	**+0.5**
FNA				*e*Sn	**Sn**	**05 58 18.1**	**+0.5**
KDZ	**Kurdzhali**	**2.57**	**23**	Pn	**Pn**	**05 57 46.6**	**-0.6**
KDZ	**Kurdzhali**	**2.57**	**23**	*i* P	**Pn**	**05 57 46.8**	**-0.4**
KKB	**Krupnik**	**2.66**	**346**	*i* P	**Pn**	**05 57 48.8**	**+0.3**
EVGI	**Lefkada island**	**2.70**	**257**	P	**Pn**	**05 57 49.7**	**+0.8**
UKOP	**Uzunkopru-Edir**	**2.74**	**46**	Pn	**Pn**	**05 57 49.5**	**0.0**
KRBG	**Karabiga-Canak**	**2.77**	**65**	Pn	**Pn**	**05 57 50.5**	**+0.6**
STIP	**Stip**	**2.80**	**331**	*i* Pn	**Pn**	**05 57 50.3**	**-0.1**
RKY	**Sarkoy-Tekirda**	**2.81**	**59**	Pn	**Pn**	**05 57 50.8**	**+0.2**
VLS	**Valsamata**	**2.89**	**249**	P	**Pn**	**05 57 53.1**	**+1.4**
PLD	**Plovdiv**	**2.93**	**11**	Pn	**Pn**	**05 57 51.4**	**-0.8**
PLD	**Plovdiv**	**2.93**	**11**	*e*Pn	**Pn**	**05 57 52.5**	**+0.3**
PLD				*e*Sn	**Sn**	**05 58 27.5**	**+0.1**
PYL	**PYLOS**	**2.97**	**218**	P	**Pn**	**05 57 54.6**	**+1.9**
DIM	**Dimitrovgrad**	**3.02**	**23**	*i* P	**Pn**	**05 57 53.3**	**-0.1**
PRVS	**Prvonek**	**3.56**	**336**	*e*Pn	**Pn**	**05 58 01.2**	**+0.4**
BARS	**Barje**	**3.92**	**336**	*e*Pn	**Pn**	**05 58 06.1**	**+0.3**
ZAPS	**Zavoj**	**4.14**	**346**	*e*Pn	**Pn**	**05 58 09.4**	**+0.6**
ZAPS				*e*Sn	**Sn**	**05 58 55.8**	**-1.4**
SELS	**Selova**	**4.51**	**332**	*e*Pn	**Pn**	**05 58 13.9**	**-0.1**
IVAS	**Ivanjica**	**5.20**	**327**	*e*Pn	**Pn**	**05 58 24.1**	**+0.8**
GRUS	**Gruza**	**5.24**	**333**	*e*Pn	**Pn**	**05 58 24.4**	**+0.5**
MORH	**Mrgy, Hungar**	**7.99**	**332**	*e*Pn	**Pn**	**05 59 02.0**	**+0.4**

CATAC ***24*** *06:20:57.6±1.6,8˚.24N×82˚.88W, h1^{km}±6^{km}, ML3.3*
UCR ***24*** *06:20:58.5±1.3,8˚.30N×82˚.75W, h15^{km}±6^{km}, MW3.6*
ISC 24 06:20:58.7±2.6,**8˚3N**±0˚.1×**82˚92W**±0˚.05,**h13**^{km}±11^{km},**n33,**

σ1§24/41, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDITO	**Canoas**	**0.28**	**9**	*e*P	**Pb**	**06 21 04.6**	**-1.0**
CDITO				*e*S	**Sb**	**06 21 10.2**	**-0.1**
CDITO	**Canoas**	**0.28**	**9**	*i* P	**Pg**	**06 21 04.5**	**-0.1**
CDITO				*i* S	**Sg**	**06 21 09.1**	**+0.5**
CDITO				IAML		06 21 11.6	
	comp=Z,1µm,1.0s						
EDAD	**Golfito**	**0.43**	**325**	*e*P	**Pb**	**06 21 07.4**	**-0.9**
EDAD				*e*S	**Sb**	**06 21 15.0**	**+0.3**
JIME	**Puerto Jimenez**	**0.47**	**301**	*e*S	**Sn**	**06 21 19.5**	**+0.2**
VITO	**San Vito**	**0.53**	**354**	*e*P	**Pb**	**06 21 09.9**	**0.0**
BRU2	**Volcan**	**0.55**	**24**	*e*P	**Pg**	**06 21 08.4**	**-1.1**
BRU2				*e*S	**Sg**	**06 21 16.5**	**-0.3**
BRU2	**Volcan**	**0.55**	**24**	*i* P	**Pg**	**06 21 08.4**	**-1.1**
BRU2				*i* S	**Sg**	**06 21 16.7**	**-0.1**
BRU2				IAML		06 21 17.8	
	comp=Z,1µm,1.0s						
CTCR	**Cotoan**	**0.62**	**15**	*i* P	**Pg**	**06 21 09.6**	**-1.3**
CTCR				IAML		06 21 21.6	
	comp=Z,5µm,1.0s						
POTG	**Potrero Grande**	**0.78**	**345**	*e*P	**Pg**	**06 21 13.3**	**-0.6**
POTG	**Potrero Grande**	**0.78**	**345**	*i* P	**Pg**	**06 21 13.4**	**-0.5**
POTG				*i* S	**Sb**	**06 21 25.3**	**+0.6**
POTG				IAML		06 21 27.0	
	comp=Z,2µm,1.0s						
EDPN	**Palmar Norte**	**0.85**	**321**	*e*P	**Pb**	**06 21 15.0**	**-0.3**
EDBA	**Buenos Aires**	**0.94**	**338**	*e*P	**Pg**	**06 21 13.4**	**-3.4**
OCHAL	**Ojochal**	**1.08**	**318**	*i* P	**Pb**	**06 21 18.3**	**-0.9**
OCHAL				IAML		06 21 41.1	
	comp=Z,4.3nm,1.0s						
BRIBI	**Bribri**	**1.32**	**3**	*e*P	**Pb**	**06 21 23.4**	**-0.1**
BUS1	**Rivas**	**1.50**	**327**	*e*P	**Pn**	**06 21 24.8**	**-0.9**
CDM	**Cerro de Muert**	**1.51**	**326**	*i* P	**Pn**	**06 21 25.3**	**-0.5**
CDM				*i* S	**Sb**	**06 21 46.6**	**+0.6**
CDM				IAML		06 21 49.1	
	comp=Z,160nm,1.0s						
LLNJ	**Naranjito**	**1.66**	**315**	*e*P	**Pb**	**06 21 28.0**	**-1.1**
LCR2	**La Lucha 2**	**1.80**	**323**	*i* P	**Pb**	**06 21 30.1**	**-1.5**
LCR2				IAML		06 21 57.5	
	comp=Z,150nm,1.0s						
ABE2	**San Pablo**	**1.80**	**321**	*e*P	**Pb**	**06 21 30.1**	**-1.6**
ABE2				*e*S	**Sg**	**06 21 56.7**	**+0.1**
VERB	**Verbena**	**1.81**	**335**	*e*P	**Pn**	**06 21 29.9**	**+0.2**
RVSTA	**Santa Teresita**	**1.82**	**337**	*e*P	**Pn**	**06 21 29.5**	**-0.3**
PCAYA	**Pacayas**	**1.84**	**331**	*e*P	**Pb**	**06 21 31.9**	**-0.5**
LCOCO	**El Coco**	**1.89**	**340**	*e*P	**Pb**	**06 21 31.8**	**-1.3**
OCM	**Ochomogo**	**1.90**	**327**	*i* P	**Pb**	**06 21 31.9**	**-1.4**
OCM				IAML		06 22 00.1	
	comp=Z,170nm,1.0s						
BELE	**Belen**	**2.09**	**323**	*e*P	**Pb**	**06 21 36.3**	**-0.3**
JACO	**JACO, Garabito**	**2.19**	**308**	*i* P	**Pb**	**06 21 36.7**	**-1.6**
JACO				IAML		06 22 19.3	
	comp=Z,59nm,1.0s						
RIFO	**Rio Frio, Sara**	**2.24**	**334**	*i* P	**Pb**	**06 21 37.6**	**-1.5**
RIFO				IAML		06 22 22.8	
	comp=Z,120nm,1.0s						
SOCE	**Pocosol**	**2.67**	**321**	*i* P	**Pn**	**06 21 43.0**	**+1.5**
SOCE				IAML		06 22 25.1	
	comp=Z,170nm,1.0s						
VACR	**Volcan Arenal**	**2.78**	**321**	*i* P	**Pn**	**06 21 44.1**	**+1.2**
VACR				IAML		06 22 29.4	
	comp=Z,190nm,1.0s						
POPE	**POPE, Guanacas**	**2.91**	**307**	*i* P	**Pn**	**06 21 45.6**	**+0.9**
ORTG	**Ortega, Santa**	**3.25**	**310**	*i* P	**Pn**	**06 21 50.9**	**+1.5**
HZTE	**Horizontes, Gu**	**3.57**	**313**	*i* P	**Pn**	**06 21 56.9**	**+3.0**
ESPN	**Las Esperanzas**	**4.11**	**341**	*i* P	**Pn**	**06 22 03.4**	**+2.2**
ESPN				IAML		06 22 03.6	
	comp=Z,110nm,1.0s						

WEL 24 06:22:05.7±0.6,**33˚S**±7˚×**18˚0E**±1˚7,**h33**^{km},**M4.0/22,**
mB4.6/13,ML4.7/25,MLv4.5/22,Mw(mB)3.8/13, Error
ellipse: s-maj=0.0km s-min=0.0km az=110.1,confirmed,
South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.36**	**29**	S	Sn	06 23 56.3	-3.2
WMGZ	**Waiomatatini S**	**4.81**	**192**	P	Pn	06 23 19.4	+3.6
WMGZ				S	Sn	06 24 13.9	+3.5
HAZ	**Te Kaha**	**4.88**	**197**	P	Pn	06 23 19.8	+3.0
HAZ				S	Sn	06 24 15.3	+3.1
PKGZ	**Pakihiroa**	**4.94**	**194**	P	Pn	06 23 21.0	+3.2
PKGZ				S	Sn	06 24 14.1	+0.3
PUZ	**Puketiti**	**5.08**	**192**	P	Pn	06 23 23.1	+3.4
PUZ				S	Sn	06 24 17.7	+0.5
RUGZ	**Raukumara Rang**	**5.11**	**198**	P	Pn	06 23 23.1	+3.0
RUGZ				S	Sn	06 24 16.2	-1.7
TWGZ	**Tauwhareparae**	**5.24**	**194**	P	Pn	06 23 25.4	+3.6
TWGZ				S	Sn	06 24 22.9	+1.8
CNGZ	**Carnagh Statio**	**5.50**	**192**	P	Pn	06 23 28.2	+3.0
MWZ	**Matawai**	**5.50**	**198**	P	Pn	06 23 27.5	+2.2
MWZ				S	Sn	06 24 27.3	0.0
TKGZ	**Te Karaka**	**5.52**	**195**	P	Pn	06 23 28.6	+3.0
TKGZ				S	Sn	06 24 27.7	-0.2
URZ	**Urewera**	**5.54**	**201**	P	Pn	06 23 28.3	+2.4
URZ				S	Sn	06 24 28.1	-0.3
RIGZ	**Rimuhau**	**5.79**	**195**	P	Pn	06 23 31.5	+2.0
RIGZ				S	Sn	06 24 33.3	-1.5
MUGZ	**Murupara**	**5.85**	**203**	P	Pn	06 23 32.1	+2.0
MUGZ				S	Sn	06 24 38.5	+2.5
KNZ	**Kokohu**	**6.12**	**194**	P	Pn	06 23 34.6	+0.8
KNZ				S	Sn	06 24 41.1	-1.5
MTHZ	**Maungataniwha**	**6.17**	**201**	P	Pn	06 23 35.9	+1.3
MTHZ				S	Sn	06 24 43.4	-0.5
WHHZ	**Waihua**	**6.27**	**197**	P	Pn	06 23 32.9	-3.0
NMHZ	**Naumai**	**6.41**	**200**	P	Pn	06 23 38.5	+0.7
NMHZ				S	Sn	06 24 48.1	-1.7
MCHZ	**McNeill Hill**	**6.76**	**200**	P	Pn	06 23 42.8	+0.2
MCHZ				S	Sn	06 24 54.4	-4.0
NTVZ	**North Tongariro**	**6.79**	**207**	P	Pn	06 23 44.6	+1.5
TMVZ	**Te Maari**	**6.79**	**207**	P	Pn	06 23 44.4	+1.3
ETVZ	**East Tongariro**	**6.81**	**207**	P	Pn	06 23 44.2	+0.8
KWHZ	**Kaweka Forest**	**6.82**	**201**	P	Pn	06 23 43.2	-0.3
KWHZ				S	Sn	06 24 58.0	-2.0
OTVZ	**Oturere**	**6.85**	**207**	P	Pn	06 23 44.5	+0.5
SNVZ	**South Ngauruho**	**6.88**	**207**	P	Pn	06 23 44.9	+0.5
NGZ	**Ngauruhoe**	**6.88**	**207**	P	Pn	06 23 45.8	+1.3
BHHZ	**Black Hill Sta**	**7.00**	**203**	P	Pn	06 23 45.3	-0.7
WNVZ	**Wahianoa**	**7.01**	**207**	P	Pn	06 23 46.6	+0.3
KRHZ	**Kereru**	**7.04**	**201**	P	Pn	06 23 45.4	-1.1
KAHZ	**Kahuranaki**	**7.04**	**198**	P	Pn	06 23 45.5	-1.0
PNHZ	**Pukenui**	**7.34**	**201**	P	Pn	06 23 48.7	-1.9
PRHZ	**Porangahau**	**7.54**	**198**	P	Pn	06 23 51.5	-1.9
BFZ	**Birch Farm**	**8.04**	**199**	P	Pn	06 23 57.5	-2.7
MRZ	**Mangatainoka R**	**8.21**	**202**	P	Pn	06 23 59.3	-3.3
TIWZ	**Tintock**	**8.22**	**200**	P	Pn	06 23 59.6	-3.1
TMWZ	**Te Maipa**	**8.53**	**199**	P	Pn	06 24 03.1	-3.8

MOS ***24*** *06:31:59.3±1.1,43˚.32N×146˚.14E, h101^{km}, mb4.9/1, Error ellipse: s-maj=16.7km s-min=9.8km az=116.9*
SKHL ***24*** *06:32:00.0±0.7,43˚.30N×146˚.20E, h100^{km}±5^{km}, mb4.8/5, msh6.2/3*
JMA ***24*** *06:32:01.3±0.2,43˚.3N±0˚.5×146˚.1E±0˚.9, h88^{km}±1^{km}, MD3.8/40, MV4.1/40, OFF NEMURO PENINSULA*
JMA Felt I J1 at OFF NEMURO PENINSULA .
NIED ***24*** *06:32:01.3, 43˚.33N×146˚.09E, h88^{km}, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M$_{rr}$-3.98; M$_{\theta\theta}$2.41; M$_{\phi\phi}$1.56; M$_{r\theta}$0.92; M$_{\theta\phi}$2.17; M$_{r\phi}$2.86; Fault plane solution: M$_o$5.07000×10^{14} NP1: ϕ_s213.00000°, δ63.00000°, λ-107.00000°. NP2: ϕ_s67.00000°, δ31.00000°, λ-59.00000°.*
IDC ***24*** *06:32:02.6±2.1,43˚.99N×146˚.15E, h86^{km}±20^{km}, mb3.7/16, mbtmp4.0/19 Error ellipse: s-maj=38.2km s-min=15.4km az=4.0*
ISC 24 06:32:00.2±0.8,**43˚31N**±0˚.05×**146˚14E**±0˚.04,**h91**^{km}±5^{km},
n67,σ0˚83/73,mb4.0/17,1C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.29**	**280**	P	**Pn**	**06 32 14.3**	**+0.7**
NEM2				*e*S	**Sn**	**06 32 23.9**	**+0.1**
NMR	**Nemuro--Hokkai**	**0.30**	**281**	*e*P	**Pn**	**06 32 14.4**	**+0.7**
NMR				*e*S	**Sn**	**06 32 23.9**	**+0.1**
NMR	**Nemuro--Hokkai**	**0.30**	**281**	*e*Pn	**Pn**	**06 32 14.2**	**+0.5**
NMR				*e*S	**Sn**	**06 32 23.7**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**0.75**	**345**	*e*P	**Pn**	**06 32 17.4**	**+0.2**
YUK				AMB	AMB	06 32 18.5	
	2µm,0.3s						
YUK				*e*S	**Sn**	**06 32 29.4**	**-0.6**
YUK				A	A	06 32 33.7	
	8µm,0.3s						
YUK				A	A	06 32 33.7	
	6µm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.75**	**345**	*e*PN	**Pn**	**06 32 17.2**	**0.0**
YUK				*e*S	**Sn**	**06 32 29.3**	**-0.7**
YUK				pmax	pmax		
	comp=Z,5µm,0.2s						
YUK				pmax	pmax		
	comp=N,866nm,0.2s						
YUK				pmax	pmax		
	comp=E,2µm,0.2s						
YUK				smax	smax		
	comp=E,9µm,0.3s						
YUK				smax	smax		
	comp=N,10µm,0.2s						
JKHN	**Kushirohamanak**	**0.75**	**252**	P	**Pn**	**06 32 18.1**	**+0.9**
JKHN				*e*S	**Sn**	**06 32 30.7**	**+0.7**
JKHN	**Kushirohamanak**	**0.75**	**252**	A	A	06 32 18.1	
	comp=E,2.0nm,0.4s,comp=N,2.0nm,6.3s						
SHO	**Shikotan**	**0.75**	**42**	*e*P	**Pn**	**06 32 17.7**	**+0.5**
SHO				AMB	AMB	06 32 19.0	
	comp=N,100nm,0.2s						
SHO				*e*S	**Sn**	**06 32 29.8**	**-0.2**
SHO				A	A	06 32 30.6	
	comp=N,5µm,0.3s						
SHO				A	A	06 32 30.6	
	comp=N,6µm,0.3s						
SHO	**Shikotan**	**0.75**	**42**	*e*PN	**Pn**	**06 32 17.6**	**+0.4**
SHO				*e*S	**Sn**	**06 32 29.8**	**-0.2**
SHO				pmax	pmax		
	comp=N,45nm,0.2s						
SHO				pmax	pmax		
	comp=E,50nm,0.2s						
SHO				pmax	pmax		
	comp=Z,98nm,0.2s						
SHO				smax	smax		
	comp=N,8µm,0.2s						
SHO				smax	smax		
	comp=E,7µm,0.2s						
JNSB	**Nemuroshibetsu**	**0.94**	**300**	P	**Pn**	**06 32 19.9**	**+0.6**
JNSB				*e*S	**Sn**	**06 32 33.8**	**+0.2**
JNSB	**Nemuroshibetsu**	**0.94**	**300**	A	A	06 32 19.9	
	comp=E,4.0nm,1.1s,comp=N,7.0nm,2.5s						
JRA	**Rausu**	**0.96**	**311**	P	**Pn**	**06 32 20.2**	**+0.7**
JRA				*e*S	**Sn**	**06 32 34.4**	**+0.4**
JRA	**Rausu**	**0.96**	**311**	A	A	06 32 20.2	
	comp=E,7.0nm,0.5s,comp=N,8.0nm,0.6s						
AKK	**Akkeshi**	**0.99**	**253**	*e*P	**Pn**	**06 32 20.3**	**+0.5**
RUSJ	**Misakicho**	**1.02**	**321**	*e*PN	**Pn**	**06 32 21.0**	**+0.9**
RUSJ				*e*S	**Sn**	**06 32 36.1**	**+1.0**
JNK	**Nakash**	**1.07**	**285**	*e*P	**Pn**	**06 32 20.9**	**+0.2**
JNK				*e*S	**Sn**	**06 32 35.0**	**-1.1**
JNK	**Nakash**	**1.07**	**285**	A	A	06 32 20.9	
	comp=E,6.0nm,0.2s,comp=N,7.0nm,0.3s						
JAK	**Akkeshi**	**1.10**	**254**	P	**Pn**	**06 32 21.6**	**+0.6**
JAK				*e*S	**Sn**	**06 32 37.0**	**+0.2**
JAK	**Akkeshi**	**1.10**	**254**	A	A	06 32 21.6	
	comp=E,5.0nm,0.3s,comp=N,4.0nm,0.6s						
JAR	**Ashorobuto**	**1.73**	**270**	P	**Pn**	**06 32 29.8**	**+0.9**
JAR				*e*S	**Sn**	**06 32 51.4**	**+0.7**
JAR	**Ashorobuto**	**1.73**	**270**	A	A	06 32 29.8	
	comp=E,2.0nm,0.3s,comp=N,2.0nm,0.3s						
JOB	**Onbets**	**1.73**	**257**	*e*P	**Pn**	**06 32 29.9**	**+1.0**
JOB				*e*S	**Sn**	**06 32 51.4**	**+0.6**
JOB	**Onbets**	**1.73**	**257**	A	A	06 32 29.9	
	comp=E,4.0nm,1.0s,comp=N,4.0nm,0.3s						
JTKR	**Abashiri--Toko**	**1.75**	**293**	*e*P	**Pn**	**06 32 29.9**	**+0.9**
JTKR				*e*S	**Sn**	**06 32 51.3**	**+0.3**
JMP	**Maruseppu**	**2.13**	**290**	*e*P	**Pn**	**06 32 35.1**	**+1.0**
JMP	

YKA	**Yellowknife Ar**	**56.57**	**33**	P		**P**	**06 41 32.1**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=300,slow=7.3,SNR=5.5							
	comp=Z,0.6nm,0.9s							
ARCES	**ARCESS Array B**	**59.40**	**339**	P		**P**	**06 41 51.1**	**-1.3**
	comp=Z,3.2nm,1.1s,baz=40,slow=6.5,SNR=7.6							
	comp=Z,3.2nm,1.1s							
FINES	**FINESS Array B**	**64.92**	**333**	P		**P**	**06 42 28.6**	**-0.9**
	comp=Z,3.7nm,0.6s,baz=37,slow=8.8,SNR=10.0							
	comp=Z,3.7nm,0.6s							
ASAR	**Alice Springs**	**67.59**	**192**	pP		pP	06 43 11.8	+2.3
	comp=Z,0.5nm,0.6s,baz=8.1,slow=5.2,SNR=7.8							
NVAR	**Mina Array Bea**	**68.43**	**57**	P		**P**	**06 42 53.0**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=292,slow=5.9,SNR=8.2							
	comp=Z,0.7nm,0.7s							
KBZ	**Khabaz**	**69.53**	**311**	*e*P		**P**	**06 43 00.0**	**+1.2**
KBZ	**Khabaz**	**69.53**	**311**	P		**P**	**06 43 00.0**	**+1.2**
KBZ	**Khabaz**	**69.53**	**311**	P		**P**	**06 42 60.0**	**+1.2**
	comp=Z,1.9nm,0.6s,baz=214,slow=1.5,SNR=5.1							
	comp=Z,1.9nm,0.6s							
NOA	**NORSAR Array B**	**69.74**	**338**	P		**P**	**06 42 59.3**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=31,slow=6.6,SNR=6.4							
	comp=Z,0.8nm,0.6s							
HFS	**Hagfors**	**69.80**	**337**	P		**P**	**06 42 59.8**	**-0.4**
	comp=Z,4.0nm,0.8s,baz=29,slow=6.9,SNR=16							
	comp=Z,4.0nm,0.8s							
PDAR	**Pinedale Array**	**70.75**	**49**	P		**P**	**06 43 06.3**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=104,slow=0.6,SNR=4.0							
	comp=Z,0.4nm,0.8s							
AKASG	**Malin Array Be**	**71.49**	**323**	P		**P**	**06 43 10.3**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=40,slow=6.8,SNR=9.7							
	comp=Z,0.7nm,0.3s							
TXAR	**Lajitas Array**	**83.50**	**56**	P		**P**	**06 44 19.1**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=294,slow=3.6,SNR=7.6							
	comp=Z,0.5nm,0.7s							

*UCR **24** 06:50:27.0±1.3,9.°11N×84.°47W, h23km±11km, MW3.5*
*CATAC **24** 06:50:27.7±1.6,9.°13N×84.°40W, h5km±8km, ML2.8*

ISC 24 06:50:26.5±1.4,9.°11N±0.°06×84.°46W±0.°04, h13km, n26, σ0s77/30, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.58**	**340**	*e*P	**Pg**	**06 50 37.2**	**-0.7**
JACO				*e*S	**Sg**	**06 50 46.7**	**+1.1**
ABE2	**San Pablo**	**0.71**	**34**	*e*P	**Pg**	**06 50 39.6**	**-0.8**
ACOS	**Acosta**	**0.74**	**23**	*e*P	**Pg**	**06 50 40.2**	**-0.7**
LCR2	**La Lucha 2**	**0.77**	**36**	*e*P	**Pg**	**06 50 40.8**	**-0.7**
LCR2	**La Lucha 2**	**0.77**	**36**	*i* P	**Pg**	**06 50 40.7**	**-0.7**
LCR2				*i* S	**Sb**	**06 50 52.2**	**-0.1**
LCR2				IAML		06 50 54.6	
	comp=Z,200nm,1.0s						
CBL1	**Cabuya**	**0.78**	**307**	*e*P	**Pg**	**06 50 40.6**	**-1.0**
TRB2	**Turrubares**	**0.79**	**1**	*e*P	**Pg**	**06 50 41.5**	**-0.4**
CDM	**Cerro de Muert**	**0.81**	**58**	*e*P	**Pg**	**06 50 41.7**	**-0.7**
CDM	**Cerro de Muert**	**0.81**	**58**	*i* P	**Pg**	**06 50 41.5**	**-0.9**
CDM				*i* S	**Sb**	**06 50 54.1**	**+0.2**
CDM				IAML		06 50 56.4	
	comp=Z,170nm,1.0s						
BUS1	**Rivas**	**0.83**	**58**	*e*P	**Pg**	**06 50 42.0**	**-0.7**
TCS1	**Tacares**	**0.94**	**10**	*e*P	**Pg**	**06 50 44.3**	**-0.3**
TCS1	**Tacares**	**0.94**	**10**	*i* P	**Pg**	**06 50 44.1**	**-0.5**
TCS1				IAML		06 51 00.3	
	comp=Z,2µm,1.0s						
SRA1	**San Ramn**	**0.96**	**359**	*e*P	**Pg**	**06 50 44.3**	**-0.8**
HAYA	**Volcan Irazu**	**1.05**	**35**	*i* P	**Pb**	**06 50 46.6**	**-0.3**
HAYA				IAML		06 51 07.1	
	comp=Z,400nm,1.0s						
VERB	**Verbena**	**1.12**	**42**	*e*P	**Pb**	**06 50 47.8**	**-0.1**
CPMI	**Catarata Coope**	**1.16**	**4**	*i* P	**Pb**	**06 50 49.3**	**+0.7**
CPMI				IAML		06 51 05.2	
	comp=Z,110nm,1.0s						
DRK0	**Durika**	**1.21**	**83**	*e*P	**Pn**	**06 50 49.0**	**-0.3**
JTS	**Las Juntas de**	**1.27**	**338**	*e*P	**Pn**	**06 50 48.2**	**-1.8**
SOCE	**Pocosol**	**1.27**	**353**	*e*P	**Pn**	**06 50 49.7**	**-0.2**
SOCE	**Pocosol**	**1.27**	**353**	*i* P	**Pn**	**06 50 49.8**	**-0.2**
SOCE				IAML		06 50 54.8	
	comp=Z,210nm,1.0s						
SOCE				*i* S	**Sg**	**06 51 09.1**	**+1.6**
RIFO	**Rio Frio, Sara**	**1.31**	**24**	*i* P	**Pb**	**06 50 51.4**	**+0.4**
RIFO				IAML		06 51 18.2	
	comp=Z,190nm,1.0s						
POTG	**Potrero Grande**	**1.33**	**93**	*i* P	**Pb**	**06 50 51.6**	**+0.3**
POTG				IAML		06 51 16.1	
	comp=Z,240nm,1.0s						
ORTG	**Ortega, Santa**	**1.58**	**322**	*i* P	**Pg**	**06 50 57.3**	**+0.4**
ORTG				IAML		06 51 04.4	
	comp=Z,50nm,1.0s						
COVE	**Coope Vega, Sa**	**1.60**	**2**	*i* P	**Pb**	**06 50 56.7**	**+0.8**
COVE				IAML		06 51 35.6	
	comp=Z,76nm,1.0s						
TRT2	**Tortugero**	**1.60**	**26**	*i* P	**Pb**	**06 50 56.6**	**+0.6**
CTCR	**Cotoan**	**1.69**	**97**	*i* P	**Pg**	**06 50 59.5**	**+0.4**

*IDC **24** 06:52:20.2±1.9,34.°81N×45.°61E, h0km, mb3.8/8,*
mbtmp3.8/9, ML4.1/1, MS2.8/5, Error ellipse: s-maj=46.5km
s-min=19.4km az=168.0
*ISN **24** 06:52:24.0±1.3,34.°90N×45.°89E, h16km±8km, ML3.5*
*TEH **24** 06:52:24.3,34.°87N×45.°91E, h7km±49km, ML3.8*
*AFAD **24** 06:52:25.0±0.0,34.°78N×45.°88E, h42km, MW3.8*

ISC 24 06:52:23.1±1.3,34.°87N±0.°03×45.°82E±0.°04, h11km±10km, n51, σ1s91/57, mb3.7/8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.41**	**208**	Pg	**Pb**	**06 52 32.6**	**+0.2**
KGS1				Sg	**Sb**	**06 52 39.3**	**+0.6**
IDHR	**Dehrash**	**0.50**	**110**	Pg	**Pg**	**06 52 32.5**	**-0.4**
IDHR				Sg	**Sg**	**06 52 39.9**	**+0.4**
IGHG	**Ghaleghazi**	**0.82**	**131**	Pg	**Pg**	**06 52 38.9**	**-0.1**
ILIN	**Lien**	**0.94**	**87**	Pg	**Pg**	**06 52 40.8**	**-0.5**
ILIN				Sg	**Sg**	**06 52 53.3**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.17**	**120**	Pg	**Pg**	**06 52 45.0**	**-0.6**
ILBA	**Ilam Banvizeh**	**1.29**	**165**	Pg	**Pn**	**06 52 47.7**	**+0.7**
SDS1	**Sardasht. Az.**	**1.30**	**348**	Pg	**Pn**	**06 52 48.7**	**+1.3**
IKOM	**Komasi**	**1.56**	**116**	Pg	**Pb**	**06 52 52.7**	**+0.7**
IBZA	**Bozab**	**1.73**	**103**	Pg	**Pb**	**06 52 54.9**	**-0.2**
IBDR	**Badra**	**1.76**	**177**	*e*Pg	**Pb**	**06 52 56.0**	**+0.6**
IBDR				*e*Sg	**Sg**	**06 53 20.0**	**+0.2**
IBDR				AML	AML	06 53 25.2	
	comp=E,437nm,0.5s						
IBDR				AML	AML	06 53 32.2	
	comp=N,347nm,0.9s						
MAHB	**Mahabad**	**1.89**	**357**	Pn	**Pn**	**06 52 58.0**	**+2.5**
BHD	**Baghdad**	**2.00**	**217**	*e*Pn	**Pn**	**06 52 59.0**	**+2.2**
BHD				*e*Sn	**Sb**	**06 53 26.0**	**+1.7**
BHD				AML	AML	06 53 30.9	
	comp=E,1µm,0.3s						
IKFM	**Kafar-mosalman**	**2.15**	**128**	Pn	**Pb**	**06 53 01.1**	**-0.9**
IHSH	**Hashtrud**	**2.69**	**25**	Pn	**Pn**	**06 53 08.9**	**+2.3**
HAGD	**Aghdareh**	**2.73**	**90**	Pn	**Pn**	**06 53 09.4**	**+2.3**
IAZR	**Azarshahr**	**2.80**	**3**	Pn	**Pn**	**06 53 10.5**	**+2.4**
CUKT	**Cukurca**	**2.97**	**324**	P	**Pn**	**06 53 11.6**	**+1.2**
CUKT				S	**Sn**	**06 53 47.3**	**+1.3**
YOVA	**Hakkari_Yksek**	**2.98**	**336**	P	**Pn**	**06 53 12.3**	**+1.9**
YOVA				S	**Sn**	**06 53 48.2**	**+1.9**
RAFI	**Al-Rafai**	**3.15**	**175**	*e*Pn	**Pn**	**06 53 16.0**	**+3.4**
RAFI				*e*Sn	**Sn**	**06 53 53.0**	**+2.8**
RAFI				AML	AML	06 54 02.9	
	comp=E,223nm,0.5s						
RAFI				AML	AML	06 54 04.3	
	comp=N,156nm,0.7s						
HAKT	**HAKKARI**	**3.18**	**328**	P	**Pn**	**06 53 15.5**	**+2.2**
HAKT				S	**Sn**	**06 53 53.9**	**+2.6**
ITBZ	**Tabriz**	**3.36**	**4**	Pn	**Pn**	**06 53 19.1**	**+3.3**
IRAZ	**Razeghan**	**3.41**	**80**	Pn	**Pn**	**06 53 18.5**	**+2.1**
ISHB	**Shabestar**	**3.41**	**357**	Pn	**Pn**	**06 53 18.0**	**+1.6**
IHRS	**Heris**	**3.58**	**16**	Pn	**Pn**	**06 53 21.1**	**+2.4**
PERV	**Siirt/Pervari-**	**4.05**	**320**	P	**Pn**	**06 53 26.9**	**+1.8**
PERV				S	**Sn**	**06 54 16.4**	**+3.8**
GRMI	**Germi**	**4.26**	**22**	Pn	**Pn**	**06 53 30.5**	**+2.4**
IQOM	**Qom**	**4.32**	**89**	Pn	**Pn**	**06 53 31.2**	**+2.3**
AMIS	**Naft Sefid**	**4.32**	**137**	Pn	**Pn**	**06 53 30.1**	**+1.4**
MAKU	**Maku**	**4.56**	**349**	Pn	**Pn**	**06 53 35.0**	**+2.8**
QAMS	**Qamsar**	**4.75**	**102**	Pn	**Pn**	**06 53 37.1**	**+2.2**
IPIR	**Pirpir**	**4.75**	**116**	Pn	**Pn**	**06 53 36.3**	**+1.3**
IVRN	**Varamin**	**4.85**	**87**	Pn	**Pn**	**06 53 38.9**	**+2.8**
IKLH	**Kolahrood**	**5.02**	**106**	Pn	**Pn**	**06 53 40.7**	**+2.1**
KRSH	**Karshahi**	**5.30**	**98**	Pn	**Pn**	**06 53 44.1**	**+1.8**
ISFB	**Sefidab**	**5.32**	**94**	Pn	**Pn**	**06 53 44.1**	**+1.5**
IZEF	**Zefreh**	**5.76**	**108**	Pn	**Pn**	**06 53 50.9**	**+2.1**
GEYT	**Alibeck**	**10.37**	**69**	LR	LR	06 59 41.4	
	comp=N,47nm,18.7s,baz=16,slow=42						
EIL	**Elat**	**10.56**	**244**	LR	LR	06 59 57.4	
	comp=N,48nm,18.7s,baz=65,slow=44						
BRTR	**Keskin Array B**	**10.84**	**300**	LR	LR	06 59 58.5	
	comp=N,58nm,18.1s,baz=125,slow=43						
AKASG	**Malin Array Be**	**19.89**	**328**	P	**P**	**06 56 53.1**	**-1.2**
	comp=N,0.6nm,0.3s,baz=137,slow=9.9,SNR=11						
AKASG				LR	LR	07 07 12.7	
	comp=N,23nm,18.2s,baz=213,slow=45						
	comp=N,3.1nm,0.9s						
KOLS	**Kolonicke sedl**	**22.34**	**316**	*e*P	**P**	**06 57 21.8**	**+1.0**
VYHS	**Vyhne**	**24.16**	**312**	*e*P	**P**	**06 57 40.4**	**+1.2**
BVAR	**Borovoye Array**	**25.14**	**36**	P	**P**	**06 57 48.5**	**+0.5**
	comp=N,1.5nm,0.5s,baz=238,slow=7.3,SNR=12						
	comp=N,1.5nm,0.5s						
KURBB	**Kurchatov Arra**	**28.42**	**46**	P	**P**	**06 58 18.0**	**+0.5**
	comp=N,0.3nm,0.5s,baz=252,slow=9.1,SNR=4.1						
	comp=N,0.3nm,0.5s						
MKAR	**Makanchi Array**	**29.79**	**55**	P	**P**	**06 58 30.5**	**+0.7**
	comp=N,1.4nm,0.5s,baz=252,slow=9.5,SNR=19						
	comp=N,1.4nm,0.5s						
HFS	**Hagfors**	**32.73**	**331**	P	**P**	**06 58 54.3**	**-1.2**
	comp=N,4.3nm,0.9s,baz=141,slow=9.6,SNR=4.5						
	comp=N,4.3nm,0.9s						
ZALV	**Zalesovo Beam**	**33.20**	**43**	P	**P**	**06 58 59.0**	**-0.6**
	comp=N,0.2nm,0.3s,baz=252,slow=8.3,SNR=1.6						
	comp=N,0.2nm,0.3s						
NOA	**NORSAR Array B**	**34.25**	**331**	LR	LR	07 13 35.5	
	comp=N,18nm,20.0s,baz=250,slow=37						
EKA	**Eskdalemuir Ar**	**39.15**	**317**	P	**P**	**06 59 48.0**	**-2.6**
	comp=N,1.8nm,0.6s,baz=104,slow=8.4,SNR=6.5						
	comp=N,1.8nm,0.6s						
ESDC	**Sonseca Array**	**39.50**	**292**	P	**P**	**06 59 51.6**	**-2.1**
	comp=N,0.9nm,0.9s,baz=62,slow=8.1,SNR=6.5						
	comp=N,0.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**45.29**	**253**	P	**P**	**07 00 38.3**	**-2.8**
	comp=N,0.3nm,0.5s,baz=54,slow=7.3,SNR=2.1						
	comp=N,0.3nm,0.5s						

*IDC **24** 06:52:52.9±5.1,27.°92N×138.°97E, h314km±99km, mb2.6/2,*
mbtmp3.5/5, Error ellipse: s-maj=182.5km s-min=17.5km
az=71.0
*JMA **24** 06:52:56.8±0.1,28.°N±1.°×140.°0E±.°, h412km, MV3.4/8, W*
OFF OGASAWARA

ISC 24 06:52:56.0±0.9,28.°4N±0.°1×140.°9E±0.°2, h400km, n10, σ2s67/11, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.76**	**138**	P	Pn	06 53 54.2	+3.6
CBIJ				S	**S**	**06 54 39.0**	**+4.3**
JCJ	**Chichijima**	**1.76**	**138**	P	**Pn**	**06 53 50.2**	**-0.5**
	27nm,0.3s,baz=321,slow=22,SNR=7.3						
JCJ				S	**S**	**06 54 34.7**	**0.0**
	81nm,0.3s,baz=286,slow=18,SNR=27						
JHH2	**Haha-jima-NKT2**	**2.12**	**146**	*e*S	**S**	**06 54 43.4**	**+4.8**
BSO1	**Boso 1**	**6.23**	**1**	S	**S**	**06 55 49.8**	**+2.3**
JIE	**Ise**	**6.94**	**330**	*e*P	**Pn**	**06 54 39.5**	**+0.7**
JRY	**Ryogami san**	**7.77**	**348**	*e*P	**P**	**06 54 49.2**	**+0.5**
MJAR	**Matsushiro Arr**	**8.41**	**345**	P	**Pn**	**06 54 53.0**	**-2.6**
	0.3nm,0.3s,baz=174,slow=8.9,SNR=1.6						
USRK	**Ussuriysk Ar.**	**17.29**	**338**	P	**P**	**06 56 33.1**	**+0.4**
	3.1nm,0.7s,baz=148,slow=12,SNR=7.3						
WRA	**Warramunga Arr**	**48.48**	**188**	P	**P**	**07 00 58.8**	**-1.6**
	0.4nm,0.6s,baz=4.0,slow=7.6,SNR=4.8						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**52.20**	**188**	P	**P**	**07 01 27.6**	**-0.3**
	0.1nm,0.4s,baz=14,slow=14,SNR=5.0						
	0.1nm,0.4s						

*NNC **24** 07:11:42.5±0.5,50.°03N×78.°93E, h0km, mb3.0, mpv2.6,*
Error ellipse: s-maj=9.2km s-min=2.3km az=68.0,
Suspected Mining explosion.
*IDC **24** 07:11:43.5±1.3,50.°03N×78.°65E, h0km, mbtmp2.6/2,*
ML2.0/2, Error ellipse: s-maj=18.0km s-min=6.8km
az=70.0

ISC 24 07:11:43.9±1.0,50.°00N±0.°05×78.°67E±0.°08, h0km, n17, σ0s95/29, 17C-10D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.59**	**350**	↑P	**Pg**	**07 11 54.4**	**-0.9**
KUR07				↓S	**Sg**	**07 12 03.8**	**+0.9**
KUR06	**Kurchatov Arra**	**0.61**	**351**	↑P	**Pg**	**07 11 54.6**	**-1.1**
KUR06				↑S	**Sg**	**07 12 04.0**	**+0.5**
KUR14	**Kurchatov Arra**	**0.62**	**355**	↑P	**Pg**	**07 11 54.6**	**-1.2**
KUR14				↓S	**Sg**	**07 12 04.2**	**+0.5**
KUR15	**Kurchatov Arra**	**0.62**	**354**	↑P	**Pg**	**07 11 54.8**	**-1.1**
KUR15				↓S	**Sg**	**07 12 04.5**	**+0.5**
KURBB	**Kurchatov Arra**	**0.63**	**352**	Pg	**Pg**	**07 11 54.8**	**-1.2**
	0.7nm,0.3s,baz=174,slow=17,SNR=60						
KURBB				Lg	Lg	07 12 04.3	
	0.7nm,0.3s,baz=161,slow=33,SNR=11						
KURBB	**Kurchatov Arra**	**0.63**	**352**	↑P	**Pg**	**07 11 54.9**	**-1.1**
	6.7nm,0.3s						
KURBB				↑S	**Sg**	**07 12 04.3**	**+0.2**
	44nm,0.7s						
KUR16	**Kurchatov Arra**	**0.64**	**350**	↓P	**Pg**	**07 11 55.2**	**-0.9**
KUR16				↑S	**Sg**	**07 12 04.9**	**+0.6**
KUR17	**Kurchatov Arra**	**0.65**	**348**	↑P	**Pg**	**07 11 55.2**	**-1.1**
KUR17				↓S	**Sg**	**07 12 04.9**	**+0.3**
KUR05	**Kurchatov Arra**	**0.65**	**352**	↑P	**Pg**	**07 11 55.2**	**-1.1**
KUR05				↑S	**Sg**	**07 12 04.8**	**0.0**
KUR04	**Kurchatov Arra**	**0.67**	**353**	↑P	**Pg**	**07 11 55.6**	**-1.1**
KUR04				↑S	**Sg**	**07 12 05.0**	**-0.3**
KURK	**Kurchatov**	**0.72**	**357**	↑P	**Pg**	**07 11 56.1**	**-1.6**
	4.4nm,0.5s						
KURK				↓S	**Sg**	**07 12 06.2**	**-0.8**
	12nm,0.8s						
MAKZ	**Makanchi**	**3.88**	**144**	↓Pg	**Pb**	**07 12 52.3**	**-0.9**
	5.3nm,1.4s						
MAKZ				↓Lg	Lg	07 13 42.2	
	6.1nm,0.6s						
MK31	**Makanchi Array**	**4.01**	**142**	↑Pn	**Pn**	**07 12 46.6**	**-0.1**
	0.1nm,0.2s,baz=325,slow=13,SNR=18						
MK31				↑Pg	**Pb**	**07 12 55.0**	**-0.6**
	0.2nm,0.2s						
MK31				↑Lg	Lg	07 13 50.0	
	6.4nm,0.6s,baz=326,slow=28,SNR=12						
MKAR	**Makanchi Array**	**4.01**	**142**	Pn	**Pn**	**07 12 47.0**	**+0.3**
	0.1nm,0.3s,baz=324,slow=10,SNR=17						
MKAR				Sn	**Sn**	**07 13 36.2**	**+1.8**
	0.2nm,0.3s,baz=346,slow=23,SNR=5.3						
MKAR				Lg	Lg	07 13 50.2	
	0.8nm,0.3s,baz=326,slow=28,SNR=15						
	0.2nm,0.5s						
OTUK	**Ortayu**	**4.51**	**250**	↓Pn	**Pn**	**07 12 53.9**	**+0.3**
	3.8nm,1.4s						
OTUK				↓Lg	Lg	07 14 08.5	
	3.8nm,0.7s						
ZALV	**Zalesovo Beam**	**5.48**	**42**	Pn	**Pn**	**07 13 07.7**	**+0.9**
	0.2nm,0.3s,baz=231,slow=14,SNR=6.3						
ZALV				Sn	**Sn**	**07 14 11.5**	**+1.0**
	0.1nm,0.3s,baz=225,slow=22,SNR=1.2						
ZALV				Lg	Lg	07 14 34.9	
	0.1nm,0.3s,baz=222,slow=32,SNR=2.1						
	0.7nm,0.2s						
I46RU	**ZALESOVO INFRA**	**5.48**	**41**	I	I	07 45 40.0	
	baz=222,slow=327,SNR=3.2						

IDC 24 07:37:17.5±56.0,22.°26S×175.°10W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=1042.0km s-min=185.0km az=86.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.52**	**247**	P	P	07 44 50.2	0.0
	1.2nm,0.6s,baz=59,slow=5.9,SNR=1.6						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**46.77**	**258**	P	P	07 45 49.0	-0.2
	1.2nm,0.5s,baz=94,slow=7.4,SNR=17						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**47.05**	**263**	P	P	07 45 51.1	-0.2
	1.4nm,0.4s,baz=102,slow=8.2,SNR=26						
	1.4nm,0.4s						

IDC 24 07:37:28.3±2.8,6.°70S×128.°47E, h0km, mb3.7/1, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=305.1km s-min=31.6km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.35**	**157**	Pn	Pn	07 40 53.3	+0.4
	0.1nm,0.3s,baz=335,slow=13,SNR=4.6						
WRA				Sn	Sn	07 43 17.7	-15
	0.3nm,0.3s,baz=331,slow=23,SNR=8.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**17.66**	**163**	P	Pn	07 41 35.6	-0.4
	0.1nm,0.3s,baz=344,slow=10,SNR=6.3						
ASAR				S	Sn	07 44 40.9	-13
	0.1nm,0.5s,baz=343,slow=21,SNR=1.4						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**67.15**	**327**	P	P	07 48 24.1	+0.1
	0.4nm,0.4s,baz=112,slow=8.2,SNR=6.5						
	0.4nm,0.4s						

*NAO **24** 07:41:10.7, 35.°79N×22.°49E, h33km, mb3.8*
*IDC **24** 07:41:29.6±1.5, 38.°47N×21.°87E, h0km, mb3.6/8,*
mbtmp3.6/9, ML3.0/1, MS3.4/2, Error ellipse: s-maj=28.1km
s-min=23.6km az=155.0
*TIR **24** 07:41:30.7, 38.°42N×22.°01E, h11km±2km, Ml3.3*
*ATH **24** 07:41:31.6, 38.°39N×21.°90E, h4km±2km, ML3.1/23, Error*
ellipse: s-maj=2.0km s-min=0.7km az=177.0
*THE **24** 07:41:32.0, 38.°40N×21.°90E, h7km±1km, ML3.3/11, Error*
ellipse: s-maj=1.4km s-min=0.5km az=103.0
*BEO **24** 07:41:34.1±1.0, 38.°45N×22.°30E, h0km, ML2.9/5*

ISC 24 07:41:31.6±0.7, 38.°39N±0.°02×21.°91E±0.°02, h12km±4km, n101, σ1s13/138, mb3.8/7, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.13**	**102**	P	**Pg**	**07 41 34.6**	**-0.2**
TRIZ				S	**Sg**	**07 41 37.1**	**0.0**
	11µm,0.3s						
TRIZ	**Trizonia**	**0.13**	**102**	P	**Pg**	**07 41 34.7**	**-0.2**
TRIZ				S	**Sg**	**07 41 36.9**	**-0.2**
UPR	**University Cam**	**0.15**	**223**	P	**Pg**	**07 41 34.8**	**-0.3**
UPR				S	**Sg**	**07 41 37.8**	**+0.2**
LAKA	**Lakka**	**0.16**	**161**	P	**Pg**	**07 41 35.2**	**-0.1**
LAKA				S	**Sg**	**07 41 38.1**	**+0.2**
LAKA	**Lakka**	**0.16**	**161**	P	**Pg**	**07 41 35.2**	**-0.1**
LAKA				S	**Sg**	**07 41 36.5**	**-1.4**
LAKA				AML	AML	07 41 38.3	
	comp=E,62695µm,0.5s						
LAKA				AML	AML	07 41 40.4	
	comp=N,46574µm,0.3s						
ANX	**Ano Chora**	**0.20**	**2**	P	**Pg**	**07 41 35.8**	**-0.3**
ANX				S	**Sg**	**07 41 39.3**	**+0.2**
	comp=N,22µm,0.5s						
ANX	**Ano Chora**	**0.20**	**2**	P	**Pg**	**07 41 35.8**	**-0.3**
ANX				S	**Sg**	**07 41 39.1**	**-0.1**
ANX				AML	AML	07 41 40.0	
	comp=N,56773µm,0.6s						
ANX				AML	AML	07 41 40.3	
	comp=E,31130µm,0.4s						
ALIK	**Aliki, Aigiali**	**0.20**	**130**	P	**Pg**	**07 41 36.1**	**+0.1**
ALIK				S	**Sg**	**07 41 39.8**	**+0.8**
PVO	**Paravola**	**0.38**	**307**	P	**Pg**	**07 41 39.0**	**-0.2**
PVO	**Paravola**	**0.38**	**307**	P	**Pg**	**07 41 38.9**	**-0.3**
KLV	**Kalavryta, Ach**	**0.39**	**152**	P	**Pg**	**07 41 39.0**	**-0.4**
KLV				S	**Sg**	**07 41 46.1**	**+1.4**
	comp=E,2µm,0.2s						
KLV	**Kalavryta, Ach**	**0.39**	**152**	P	**Pg**	**07 41 39.1**	**-0.4**
KLV				AML	AML	07 41 48.5	
	comp=E,5394µm,0.3s						
KLV				AML	AML	07 41 50.7	
	comp=N,3523µm,0.3s						
DLFA	**Delphi**	**0.47**	**79**	P	**Pg**	**07 41 39.6**	**-1.1**
DLFA				AML	AML	07 41 49.8	
	comp=E,3633µm,0.6s						
DLFA				AML	AML	07 41 53.9	
	comp=N,3334µm,0.4s						
RLS	**Riolos of Patr**	**0.48**	**227**	P	**Pg**	**07 41 41.1**	**0.0**
RLS				S	**Sg**	**07 41 48.8**	**+1.2**
	comp=N,3µm,0.2s						
RLS	**Riolos of Patr**	**0.48**	**227**	P	**Pg**	**07 41 41.1**	**0.0**
RLS				S	**Sg**	**07 41 48.3**	**+0.8**
RLS				AML	AML	07 41 50.8	
	comp=N,7496µm,0.4s						
RLS				AML	AML	07 41 51.3	
	comp=E,6221µm,0.3s						
EVR	**Evrytania**	**0.53**	**351**	P	**Pb**	**07 41 42.4**	**-0.5**
EVR				S	**Sb**	**07 41 51.1**	**+0.5**
	comp=E,2µm,0.5s						
EVR	**Evrytania**	**0.53**	**351**	P	**Pb**	**07 41 42.5**	**-0.4**
EVR				S	**Sb**	**07 41 49.9**	**-0.7**
EVR				AML	AML	07 41 54.7	
	comp=N,4841µm,0.5s						
EVR				AML	AML	07 41 55.9	
	comp=E,5202µm,0.5s						
MAKR	**Makrakomi, Fth**	**0.64**	**15**	P	**Pg**	**07 41 44.0**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.64**	**15**	P	**Pg**	**07 41 43.9**	**-0.2**
MAKR				S	**Sb**	**07 41 53.5**	**-0.3**
MAKR				AML	AML	07 41 56.4	
	comp=N,10879µm,0.5s						
MAKR				AML	AML	07 42 04.2	
	comp=E,7701µm,0.9s						
THAL	**Thalero**	**0.69**	**121**	P	**Pg**	**07 41 44.8**	**-0.2**

DRAG	**Dragano-Lefkad**	**1.09**	**286**	P		**Pg**	07 41 51.3	**-1.3**
LTHK	**Lithakia**	**1.09**	**232**	P		**Pg**	**07 41 51.6**	**-1.0**
LTHK	**Lithakia**	**1.09**	**232**	P		**Pg**	07 41 51.8	**-0.7**
LTHK				AML		AML	07 42 15.6	
	comp=E,4430µm,0.5s							
LTHK				AML		AML	07 42 18.6	
	comp=N,3267µm,0.3s							
VILL	**Villia**	**1.12**	**101**	P		**Pg**	**07 41 53.6**	**+0.4**
VILL				S		**Sn**	**07 42 11.1**	**+2.5**
	comp=N,1µm,0.6s							
THL	**Klokotos Trika**	**1.17**	**4**	P		**Pg**	**07 41 53.3**	**-0.9**
THL				S		**Sn**	**07 42 10.7**	**+0.9**
	comp=N,900nm,0.7s							
THL	**Klokotos Trika**	**1.17**	**4**	P		**Pg**	**07 41 53.0**	**-1.2**
THL				S		**Sn**	**07 42 10.5**	**+0.7**
THL				AML		AML	07 42 12.7	
	comp=E,2477µm,0.8s							
THL				AML		AML	07 42 13.4	
	comp=N,1119µm,0.6s							
KEF4	**Livadi, Kephal**	**1.18**	**264**	P		**Pg**	**07 41 52.6**	**-1.7**
KEF4				S		**Sg**	**07 42 08.9**	**-0.7**
DMLN	**Damoulianata-K**	**1.22**	**263**	P		**Pg**	**07 41 54.0**	**-1.1**
KEF3	**Kipouria, Keph**	**1.25**	**262**	P		**Pg**	**07 41 54.2**	**-1.4**
KEF3				S		**Sn**	**07 42 13.2**	**+1.6**
	comp=N,3µm,0.4s							
KEF3	**Kipouria, Keph**	**1.25**	**262**	P		**Pg**	**07 41 53.9**	**-1.7**
KLMT	**Kalamata**	**1.33**	**175**	P		**Pn**	**07 41 56.2**	**+0.2**
TYRN	**Tyrnavos**	**1.34**	**11**	P		**Pn**	**07 41 56.2**	**0.0**
TYRN	**Tyrnavos**	**1.34**	**11**	P		**Pn**	**07 41 55.8**	**-0.4**
TYRN				S		**Sn**	**07 42 15.0**	**+1.1**
NEO	**Neokhori**	**1.37**	**48**	P		**Pn**	**07 41 56.8**	**+0.2**
NEO				AML		AML	07 42 24.7	
	comp=E,655µm,0.4s							
NEO				AML		AML	07 42 27.3	
	comp=N,758µm,0.5s							
XOR	**Xorichti**	**1.39**	**45**	P		**Pn**	**07 41 56.8**	**-0.1**
XOR				AML		AML	07 42 24.2	
	comp=N,1124µm,0.7s							
XOR				AML		AML	07 42 26.8	
	comp=E,766µm,0.7s							
KRND	**KRANIDI**	**1.40**	**135**	P		**Pn**	**07 41 58.2**	**+1.2**
KRND	**KRANIDI**	**1.40**	**135**	P		**Pn**	**07 41 57.9**	**+0.9**
KRND				AML		AML	07 42 25.0	
	comp=N,1392µm,0.7s							
KRND				AML		AML	07 42 27.4	
	comp=E,1730µm,0.6s							
ATH	**Athens Observa**	**1.48**	**106**	P		**Pn**	**07 41 58.3**	**+0.2**
ATH				AML		AML	07 42 23.6	
	comp=E,1439µm,0.7s							
ATH				AML		AML	07 42 24.5	
	comp=N,854µm,0.6s							
PYL	**PYLOS**	**1.50**	**185**	P		**Pn**	**07 41 58.9**	**+0.6**
PYL	**PYLOS**	**1.50**	**185**	P		**Pn**	**07 41 58.7**	**+0.4**
ATHU	**Athens Univers**	**1.53**	**105**	P		**Pn**	**07 41 59.2**	**+0.4**
VLY	**Voula,Athens**	**1.58**	**109**	P		**Pn**	**07 42 00.0**	**+0.6**
VLY	**Voula,Athens**	**1.58**	**109**	P		**Pn**	**07 41 59.7**	**+0.3**
VLY				AML		AML	07 42 31.4	
	comp=N,572µm,1.1s							
VLY				AML		AML	07 42 35.2	
	comp=E,646µm,0.5s							
KPRO	**Kipourio**	**1.62**	**345**	P		**Pn**	**07 41 59.9**	**-0.1**
KPRO				AML		AML	07 42 40.5	
	comp=N,940µm,0.8s							
KPRO				AML		AML	07 42 41.1	
	comp=E,856µm,1.0s							
IGT	**Igoumenitsa**	**1.68**	**313**	P		**Pg**	**07 42 03.3**	**-0.5**
	baz=311							
IGT				S		**Sg**	**07 42 27.4**	**+1.8**
	baz=311							
IGT				AMP				
	comp=E,1.0nm,0.7s,baz=311							
IGT	**Igoumenitsa**	**1.68**	**313**	P		**Pb**	**07 42 02.2**	**-0.2**
IGT				AML		AML	07 42 38.7	
	comp=E,535µm,0.7s							
IGT				AML		AML	07 42 45.0	
	comp=N,420µm,0.8s							
KYMI	**Kymi, Euboea I**	**1.73**	**81**	P		**Pn**	**07 42 01.7**	**+0.1**
LSK	**Leskovik**	**2.03**	**330**	P		**Pb**	**07 42 08.8**	**+0.3**
	baz=328							
LSK				S		**Sg**	**07 42 37.0**	**+0.1**
	baz=328							
LSK				AMP				
	comp=E,2.3nm,0.8s,baz=328							
SRN	**Sarande**	**2.10**	**316**	P		**Pb**	**07 42 09.2**	**-0.4**
	baz=314							
SRN				S		**Sg**	**07 42 39.1**	**-0.1**
	baz=314							
SRN				AMP				
	comp=E,0.3nm,0.8s,baz=314							
KEK	**Kerkira**	**2.11**	**309**	P		**Pn**	**07 42 08.1**	**+1.4**
THE	**Thessaloniki**	**2.38**	**20**	P		**Pn**	**07 42 11.2**	**+0.8**
	baz=18							
THE				S		**Sb**	**07 42 44.0**	**+0.3**
	baz=18							
KBN	**Korca**	**2.39**	**339**	P		**Pb**	**07 42 13.8**	**-0.9**
	baz=338							
FNA	**Florina**	**2.42**	**350**	P		**Pb**	**07 42 13.6**	**-1.7**
	baz=349							
FNA				S		**Sb**	**07 42 46.4**	**+1.3**
	baz=349							
FNA				AMP				
	comp=E,0.3nm,0.9s,baz=349							
FNA	**Florina**	**2.42**	**350**	*e*Pn		**Pb**	**07 42 14.0**	**-1.2**
FNA				*e*Sn		**Sb**	**07 42 46.1**	**+1.0**
OHR	**Ohrid**	**2.85**	**343**	*e*Pn		**Pb**	**07 42 21.5**	**-0.9**
OHR				*e*Sn		**Sb**	**07 42 56.1**	**-1.2**
OHR	**Ohrid**	**2.85**	**343**	*i* Pn		**Pg**	**07 42 24.9**	**-1.3**
OHR				*i* Sn		**Sg**	**07 43 03.1**	**-0.1**
VAY	**Valandovo**	**2.97**	**10**	*i* Pn		**Pn**	**07 42 20.9**	**+2.4**
VAY				*i* Sn		**Sb**	**07 43 00.7**	**0.0**
SRS	**Serrai**	**3.01**	**25**	*e*Pn		**Pn**	**07 42 20.7**	**+1.5**
SRS				*e*Sn		**Sn**	**07 42 54.5**	**-0.7**
STIP	**Stip**	**3.31**	**4**	*i* Pn		**Pb**	**07 42 28.9**	**-1.2**
PRVS	**Prvonek**	**4.11**	**2**	*e*Pn		**Pn**	**07 42 37.6**	**+3.3**
PRVS				*e*Sn		**Sn**	**07 43 25.2**	**+2.8**
BARS	**Barje**	**4.42**	**359**	*e*Pn		**Pn**	**07 42 41.0**	**+2.5**
SJES	**Sjenica**	**5.08**	**344**	*e*Pn		**Pn**	**07 42 51.5**	**+3.8**
SJES				*e*Sn		**Sn**	**07 43 49.3**	**+2.9**
IVAS	**Ivanjica**	**5.35**	**346**	*e*Pn		**Pn**	**07 42 54.9**	**+3.6**
ZAGS	**Zajecar**	**5.42**	**2**	*e*Pn		**Pn**	**07 42 55.2**	**+3.0**
BRTR	**Keskin Array B**	**9.22**	**78**	Pn		**Pn**	**07 43 46.0**	**+1.5**
	comp=E,0.1nm,0.3s,baz=256,slow=11,SNR=2.8							
	comp=E,0.5nm,0.4s							
ESDC	**Sonseca Array**	**20.13**	**282**	P		**P**	**07 46 04.5**	**-1.0**
	comp=E,0.3nm,0.9s,baz=76,slow=11,SNR=2.1							
	comp=E,0.3nm,0.9s							
HFS	**Hagfors**	**22.38**	**349**	P		**P**	**07 46 27.5**	**-1.9**
	comp=E,9.0nm,1.1s,baz=146,slow=9.0,SNR=5.0							
	comp=E,9.0nm,1.1s							
FINES	**FINESS Array B**	**23.22**	**5**	P		**P**	**07 46 37.8**	**-0.5**
	comp=E,3.8nm,0.8s,baz=187,slow=11,SNR=4.9							
	comp=E,3.8nm,0.8s							
NB2	**NORSAR Subarra**	**23.64**	**347**	P		**P**	**07 46 42.4**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=159,slow=9.3							
NOA	**NORSAR Array B**	**23.64**	**347**	P		**P**	**07 46 41.2**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=160,slow=9.8,SNR=5.0							
	comp=Z,0.7nm,0.7s							
EKA	**Eskdalemuir Ar**	**23.90**	**323**	P		**P**	**07 46 44.8**	**-0.2**
	comp=Z,3.7nm,1.0s,baz=126,slow=11,SNR=1.9							
	comp=Z,3.7nm,1.0s							
TORD	**Torodi Ar. Bea**	**30.90**	**221**	P		**P**	**07 47 48.1**	**0.0**
	comp=Z,0.2nm,0.4s,baz=25,slow=9.4,SNR=2.4							
	comp=Z,0.2nm,0.4s							
ARCES	**ARCESS Array B**	**31.26**	**2**	P		**P**	**07 47 49.7**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=207,slow=0.3,SNR=4.7							
	comp=Z,1.1nm,0.9s							
BORG	**Borgarnes**	**36.46**	**330**	LR		LR	08 05 09.6	
	comp=Z,30nm,19.9s,baz=297,slow=39							
MKAR	**Makanchi Array**	**44.25**	**59**	P		**P**	**07 49 41.0**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=278,slow=7.1,SNR=12							
	comp=Z,0.8nm,0.5s							
ANMO	**Albuquerque**	**92.75**	**320**	LR		LR	08 36 08.3	
	comp=Z,25nm,18.4s,baz=160,slow=35							

WEL 24 07:42:18.0±0.6, 44°S±3°×16°8E±°, h5km, M3.7/12, ML3.9/12, MLv3.7/12, Error ellipse: s-maj=0.0km s-min=0.0km az=124.5, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.25**	**195**	P		Pg	07 42 23.5	+0.5
MSZ				S		Sg	07 42 27.5	+1.3
GLNY	**Glenorchy**	**0.51**	**148**	P		Pg	07 42 26.9	-1.0
GLNY				S		Sg	07 42 34.4	-0.2
NSBS	**Neils Beach**	**0.63**	**47**	P		Pg	07 42 29.6	-0.6
NSBS				S		Sb	07 42 41.2	+0.5
JCZ	**Jackson Bay**	**0.66**	**57**	P		Pg	07 42 30.0	-0.6
QTPS	**Queenstown Pol**	**0.76**	**143**	P		Pg	07 42 32.7	+0.1
QTPS				S		Sg	07 42 42.6	+0.2
WKZ	**Wanaka**	**0.82**	**119**	P		Pg	07 42 34.1	+0.4
WKZ				S		Sb	07 42 45.8	-0.2
WNPS	**Wanaka Nationa**	**0.85**	**109**	P		Pg	07 42 33.3	-0.9
WNPS				S		Sg	07 42 45.4	+0.2
MECS	**Makarora Emerg**	**0.89**	**77**	P		Pg	07 42 35.1	-0.1
MECS				S		Sg	07 42 46.6	-0.1
MLZ	**Mavora Lakes**	**0.94**	**176**	P		Pg	07 42 35.6	-0.4
MLZ				S		Sb	07 42 50.2	+0.6
TAFS	**Te Anau Fire S**	**1.01**	**192**	P		Pg	07 42 35.3	-2.0
TAFS				S		Sg	07 42 50.3	-0.1
EAZ	**Earnscleugh**	**1.22**	**132**	P		Pg	07 42 40.9	-0.4
MOSS	**Mossburn Schoo**	**1.25**	**173**	P		Pg	07 42 41.7	-0.2
MOSS				S		Sn	07 42 59.9	+0.6
WHZ	**Wether Hill Ro**	**1.46**	**182**	P		Pn	07 42 44.2	-0.9
WHZ				S		Sn	07 43 04.7	+0.1
TWAS	**Twizel Area Sc**	**1.50**	**84**	P		Pb	07 42 46.5	+0.1
TWAS				S		Sn	07 43 05.4	-0.2
LBZ	**Lake Benmore**	**1.55**	**89**	P		Pb	07 42 46.8	-0.4
LBZ				S		Sg	07 43 07.6	-0.3
FOZ	**Fox Glacier**	**1.58**	**56**	P		Pn	07 42 44.0	-2.6
FOZ				S		Sn	07 43 07.5	+0.1
TUZ	**Tuapeka**	**1.90**	**144**	P		Pn	07 42 51.9	+0.8
TUZ				S		Sb	07 43 17.4	+0.1
ODZ	**Otahua Downs**	**1.97**	**109**	P		Pn	07 42 52.4	+0.3
PYZ	**Puysegur Point**	**1.98**	**208**	P		Pn	07 42 52.3	+0.1
GCSZ	**Gaunt Creek Bo**	**2.01**	**57**	P		Pb	07 42 54.9	0.0
GCSZ				S		Sb	07 43 20.9	+0.7
TMZ	**Timaru**	**2.14**	**90**	P		Pn	07 42 54.4	0.0
SYZ	**Scrubby Hill**	**2.25**	**160**	P		Pn	07 42 56.0	+0.2
RPZ	**Rata Peaks**	**2.30**	**73**	P		Pn	07 42 55.8	-0.8
ARCZ	**Arundel**	**2.32**	**79**	P		Pn	07 42 55.9	-1.0
HHSZ	**Highcliff Hill**	**2.33**	**129**	P		Pn	07 42 57.8	+0.7
WVZ	**Waitaha Valley**	**2.39**	**56**	P		Pn	07 42 54.8	-3.0
APZ	**The Paps**	**2.40**	**180**	P		Pn	07 42 58.3	+0.3
MHCZ	**Mount Hutt**	**2.71**	**72**	P		Pn	07 43 00.6	-1.8
WACZ	**Wakanui South**	**2.79**	**81**	P		Pn	07 43 02.1	-1.2
INZ	**Inchbonnie**	**3.02**	**57**	P		Pn	07 43 03.5	-2.9
RACZ	**Rakaia**	**3.05**	**78**	P		Pn	07 43 06.1	-0.7
OXZ	**Oxford**	**3.11**	**71**	P		Pn	07 43 05.2	-2.5
MQZ	**McQueen's Vall**	**3.42**	**79**	P		Pn	07 43 09.7	-2.2
LTZ	**Lake Taylor**	**3.50**	**63**	P		Pn	07 43 10.8	-2.3
AKCZ	**Akaroa Harbour**	**3.56**	**83**	P		Pn	07 43 11.9	-2.0
AMCZ	**Amberley**	**3.58**	**71**	P		Pn	07 43 12.3	-1.9
OKCZ	**Okains Bay**	**3.70**	**81**	P		Pn	07 43 15.5	-0.3
DSZ	**Denniston Nort**	**3.86**	**47**	P		Pn	07 43 14.7	-3.3
GVZ	**Greta Valley S**	**3.92**	**70**	P		Pn	07 43 16.4	-2.4
THZ	**Tophouse**	**4.46**	**55**	P		Pn	07 43 24.2	-2.2
MRNZ	**Matariki Terra**	**4.61**	**51**	P		Pn	07 43 26.2	-2.2
QRZ	**Quartz Range**	**4.90**	**44**	P		Pn	07 43 29.5	-2.9
TKNZ	**Takaka Hill**	**4.98**	**49**	P		Pn	07 43 31.2	-2.2
NNZ	**Nelson**	**5.08**	**53**	P		Pn	07 43 33.1	-1.7
TCW	**Tory Channel**	**5.62**	**57**	P		Pn	07 43 41.9	-0.2
DUWZ	**D'Urville Isla**	**5.67**	**52**	P		Pn	07 43 41.1	-1.7
CAW	**Cannon Point**	**6.16**	**60**	P		Pn	07 43 46.4	-3.2
KIW	**Kapiti Island**	**6.21**	**57**	P		Pn	07 43 48.7	-1.6
OGWZ	**Otaki Gorge**	**6.39**	**58**	P		Pn	07 43 53.6	+0.8
HOWZ	**Holdsworth Sta**	**6.56**	**60**	P		Pn	07 43 59.0	+3.9
NEZ	**North Egmont**	**6.87**	**43**	P		Pn	07 43 57.3	-2.1
PKE	**Pukeiti**	**6.87**	**42**	P		Pn	07 43 56.8	-2.6
NGZ	**Ngauruhoe**	**7.72**	**50**	P		Pn	07 44 11.2	0.0
WTVZ	**West Tongariro**	**7.76**	**49**	P		Pn	07 44 12.2	+0.6
OTVZ	**Oturere**	**7.76**	**50**	P		Pn	07 44 12.0	+0.2

*SKHL **24** 07:44:39.2±0.1, 44°80N×151°10E, h47km±3km, mb4.6/2*
*NIED **24** 07:44:39.2, 45°45N×150°84E, h30km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}0.12; $M_{\theta\theta}$0.86; $M_{\phi\phi}$-0.98; $M_{r\theta}$1.86; $M_{\theta\phi}$-2.08; $M_{r\phi}$3.05; Fault plane solution: M_o3.79000×10¹⁴ NP1:ϕ_s25.00000°, δ81.00000°, λ82.00000°. NP2:ϕ_s249.00000°, δ12.00000°, λ133.00000°.*
*JMA **24** 07:44:39.2±0.7, 45°N±3°×15°E±°, h30km, MV4.3/13, KURILE ISLANDS REGION*
*MOS **24** 07:44:41.8±0.9, 45°11N×150°71E, h56km, mb4.1/1, Error ellipse: s-maj=24.4km s-min=12.2km az=146.7*
*IDC **24** 07:44:46.2±3.1, 45°26N×150°54E, h82km±28km, mb3.2/5, mbtmp3.5/8, MS2.6/3, Error ellipse: s-maj=30.3km s-min=23.6km az=126.0*

ISC 24 07:44:41.0±1.0, 44°83N±0°09×150°94E±0°08, h35km, n42, σ2s20/44, mb3.7/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.22**	**282**	*e*P		**Pn**	**07 45 14.2**	**-1.1**
KUR				AMB		AMB	07 45 15.2	
	210nm,0.2s							
KUR				*e*S		**Sn**	**07 45 40.4**	**-1.0**
KUR				A		A	07 45 44.8	
	200nm,0.4s							
KUR				A		A	07 45 44.8	
	410nm,0.4s							
KUR	**Kuril'sk**	**2.22**	**282**	*e*PN		**Pn**	**07 45 14.2**	**-1.1**
KUR				*e*S		**Sn**	**07 45 40.1**	**-1.3**
KUR				pmax		pmax		
	comp=Z,211nm,0.2s							
KUR				smax		smax		
	comp=E,413nm,0.4s							
KUR				smax		smax		
	comp=N,198nm,0.2s							
SHO	**Shikotan**	**3.10**	**253**	*e*P		**Pn**	**07 45 27.2**	**-0.2**
SHO				AMB		AMB	07 45 32.0	
	comp=N,50nm,0.3s							
SHO				*e*S		**Sn**	**07 46 03.3**	**+0.1**
SHO				A		A	07 46 10.7	
	comp=N,70nm,0.2s							
SHO				A		A	07 46 10.7	
	comp=N,90nm,0.2s							
SHO	**Shikotan**	**3.10**	**253**	*e*PN		**Pn**	**07 45 27.2**	**-0.2**
SHO				*e*S		**Sn**	**07 46 06.0**	**+2.8**
SHO				pmax		pmax		
	comp=Z,52nm,0.3s							
SHO				pmax		pmax		
	comp=E,17nm,0.2s							
SHO				pmax		pmax		
	comp=N,19nm,0.3s							
SHO				smax		smax		
	comp=E,104nm,0.4s							
SHO				smax		smax		
	comp=N,95nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**3.72**	**260**	*e*P		**Pn**	**07 45 36.0**	**0.0**
YUK				AMB		AMB	07 45 39.4	
	comp=N,70nm,0.3s							
YUK				*e*S		**Sn**	**07 46 18.5**	**0.0**
YUK				A		A	07 46 28.1	
	comp=N,190nm,0.6s							
YUK				A		A	07 46 28.1	
	comp=N,240nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**3.72**	**260**	*e*PN		**Pn**	**07 45 37.0**	**+1.0**
YUK				*e*S		**Sn**	**07 46 23.2**	**+4.7**
YUK				pmax		pmax		
	comp=N,98nm,0.2s							
YUK				pmax		pmax		
	comp=E,32nm,0.2s							
YUK				pmax		pmax		
	comp=Z,72nm,0.2s							
YUK				smax		smax		
	comp=N,281nm,0.5s							
YUK				smax		smax		
	comp=E,277nm,0.5s							
NEM2	**Nemuro 2**	**4.02**	**250**	*e*P		**Pn**	**07 45 40.4**	**+0.4**
NEM2				*e*S		**Sn**	**07 46 25.6**	**-0.3**
NMR	**Nemuro--Hokkai**	**4.03**	**251**	*e*P		**Pn**	**07 45 40.1**	**0.0**
NMR				*e*S		**Sn**	**07 46 25.9**	**-0.1**
NMR	**Nemuro--Hokkai**	**4.03**	**251**	*e*PN		**Pn**	**07 45 40.1**	**0.0**
NMR				*e*S		**Sn**	**07 46 25.9**	**-0.1**
RUSJ	**Misakicho**	**4.14**	**262**	*e*PN		**Pn**	**07 45 43.9**	**+2.2**
RUSJ				*e*S		**Sn**	**07 46 34.2**	**+5.4**
JRA	**Rausu**	**4.26**	**260**	*e*P		**Pn**	**07 45 45.1**	**+1.8**
JNK	**Nakash**	**4.64**	**257**	*e*P		**Pn**	**07 45 49.8**	**+1.2**
AKK	**Akkeshi**	**4.76**	**250**	*e*P		**Pn**	**07 45 50.6**	**+0.4**
JAK	**Akkeshi**	**4.87**	**250**	*e*P		**Pn**	**07 45 51.9**	**+0.2**
JAK				*e*S		**Sn**	**07 46 46.0**	**-0.8**
JTKR	**Abashiri--Toko**	**5.11**	**263**	*e*P		**Pn**	**07 45 56.7**	**+1.7**
JAR	**Ashorobuto**	**5.39**	**256**	*e*P		**Pn**	**07 46 00.5**	**+1.6**
JOB	**Onbets**	**5.49**	**252**	*e*P		**Pn**	**07 46 01.1**	**+1.0**
JCH	**Churui**	**5.92**	**251**	*e*P		**Pn**	**07 46 06.6**	**+0.5**
JCH				*e*S		**Sn**	**07 47 12.2**	**-0.6**
JKK2	**Kamakawa 2**	**5.95**	**264**	*e*P		**Pn**	**07 46 08.4**	**+1.8**
JKA	**Kamikawa-asahi**	**6.01**	**266**	*e*P		**Pn**	**07 46 09.6**	**+2.2**
ASAJ	**Asahikawa**	**6.01**	**266**	P		**Pn**	**07 46 09.6**	**+2.1**
	comp=E,8.9nm,0.7s,baz=81,slow=21,SNR=9.2							
JNBK	**Urakawa-nobuka**	**6.47**	**250**	*e*P		**Pn**	**07 46 13.9**	**+0.2**
JANG	**Nango**	**8.25**	**241**	*e*P		**Pn**	**07 46 37.1**	**-1.1**
JANG				*e*S		**Sn**	**07 48 03.9**	**-6.3**
PETK	**Petropavlovsk-**	**9.40**	**26**	P		**Pn**	**07 46 54.9**	**+1.1**
	comp=E,4.7nm,1.0s,baz=213,slow=12,SNR=2.4							
PETK				LR		LR	07 50 14.6	
	comp=E,36nm,21.4s,baz=285,slow=36							
MJAR	**Matsushiro Arr**	**12.71**	**234**	P		**Pn**	**07 47 44.0**	**+4.8**
	comp=E,0.6nm,0.7s,baz=50,slow=15,SNR=1.3							
KLR	**Kul'dur**	**13.80**	**295**	LR		LR	07 53 12.2	
	comp=E,26nm,18.7s,baz=86,slow=38							
KSRS	**Korea Array**	**18.80**	**255**	LR		LR	07 56 05.2	
	comp=E,14nm,18.9s,baz=35,slow=36							
H11N2	**WAKE ISLAND Hy**	**28.32**	**147**	T		T	08 21 08.7	
	baz=336,slow=75,SNR=97							
H11N1	**WAKE ISLAND Hy**	**28.34**	**147**	T		T	08 21 11.6	
	baz=336,slow=75,SNR=44							
H11N3	**WAKE ISLAND Hy**	**28.34**	**147**	T		T	08 21 11.7	
	baz=336,slow=75,SNR=62							
H11S1	**WAKE ISLAND Hy**	**29.36**	**148**	T		T	08 22 34.0	
	baz=338,slow=74							
H11S3	**WAKE ISLAND Hy**	**29.37**	**148**	T		T	08 22 36.6	
	baz=338,slow=74							
H11S2	**WAKE ISLAND Hy**	**29.38**	**148**	T		T	08 22 28.3	
	baz=338							
MKAR	**Makanchi Array**	**46.49**	**298**	P		**P**	**07 53 01.2**	**-3.4**
	comp=E,0.8nm,0.8s,baz=61,slow=9.9,SNR=5.3							
	comp=E,0.8nm,0.8s							
KURK	**Kurchatov**	**47.18**	**304**	P		**P**	**07 53 07.0**	**-2.8**
KURBB	**Kurchatov Arra**	**47.27**	**304**	P		**P**	**07 53 07.0**	**-3.6**
	comp=E,0.3nm,0.4s,baz=74,slow=8.4,SNR=4.8							
	comp=E,0.3nm,0.4s							
WRA	**Warramunga Arr**	**66.21**	**197**	P		**P**	**07 55 27.0**	**+1.8**
	comp=E,1.2nm,1.1s,baz=13,slow=7.1,SNR=3.3							
	comp=E,1.2nm,1.1s							
ASAR	**Alice Springs**	**69.92**	**197**	P		**P**	**07 55 50.4**	**+2.0**
	comp=E,0.4nm,0.9s,baz=19,slow=12,SNR=4.2							
	comp=E,0.4nm,0.9s							
TXAR	**Lajitas Array**	**79.78**	**59**	P		**P**	**07 56 45.8**	**+0.1**
	comp=E,0.1nm,0.4s,baz=311,slow=4.4,SNR=1.4							
	comp=E,0.1nm,0.4s							
H03N2	**Juan Fernandez**	**140.25**	**91**	T		T	10 40 53.8	
	baz=300							
H03N3	**Juan Fernandez**	**140.26**	**91**	T		T	10 40 57.9	
	baz=300							
H03N1	**Juan Fernandez**	**140.26**	**91**	T		T	10 40 56.4	
	baz=300							

*PRE **24** 08:09:42.1±0.9, 27°01S×26°56E, h2km, ML2.7*
*IDC **24** 08:09:43.4±2.9, 26°99S×26°64E, h0km, mb3.6/1, mbtmp3.6/2, ML3.8/1, Error ellipse: s-maj=73.4km s-min=27.3km az=106.0*
*EAF **24** 08:09:45.7±1.4, 26°97S×26°64E, h11km±16km, MD3.5*
*BUL **24** 08:09:48.3±1.6, 26°97S×26°63E, h10km±19km, MD3.6*

ISC 24 08:09:42.5±1.2, 26°96S±0°02×26°54E±0°03, h10km±9km, n36, σ1s82/68, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.73**	**87**	*e*P		**Pg**	**08 09 56.8**	**0.0**
PRYS				*e*S		**Sg**	**08 10 05.4**	**-1.0**
PRYS				IAML			08 10 11.9	
	comp=Z,371nm,0.7s							
SWZ	**Schweizer**	**1.10**	**258**	*e*P		**Pg**	**08 10 03.0**	**-0.7**
SWZ				*e*S		**Sb**	**08 10 18.7**	**+0.5**
SWZ				IAML			08 10 29.1	
	comp=Z,387nm,0.6s							
KSR	**Koster**	**1.15**	**16**	*e*P		**Pb**	**08 10 05.0**	**+0.3**
KSR				*e*S		**Sn**	**08 10 22.3**	**+1.4**
KSR				IAML			08 10 25.8	
	comp=Z,1µm,0.2s							
SNKL	**Senekal, Frees**	**1.71**	**140**	*e*P		**Pb**	**08 10 13.7**	**-0.5**
SNKL				*e*S		**Sb**	**08 10 35.8**	**0.0**
SNKL				IAML			08 10 38.6	
	comp=Z,267nm,0.5s							
SLR	**Silverton**	**1.98**	**52**	*e*P		**Pb**	**08 10 18.6**	**-0.3**
SLR				*e*S		**Sb**	**08 10 43.3**	**-0.5**
SLR				IAML			08 10 46.8	
	comp=Z,190nm,0.3s							
BOSA	**Boshof**	**2.00**	**214**	*i* P		**Pb**	**08 10 19.1**	**-0.1**
BOSA				*i* S		**Sb**	**08 10 44.6**	**+0.4**
BOSA	**Boshof**	**2.00**	**214**	*e*P		**Pn**	**08 10 17.5**	**+0.9**
BOSA				*e*S		**Sn**	**08 10 42.8**	**+1.0**
BOSA

FRAZ					*e*S		**Sn**	08 12 35.0	**-2.0**
FRAZ					IAML			08 12 42.7	
	comp=Z,3.2nm,0.3s								
MATP	**Matopo**	**6.75**	**16**	*i* P			**Pn**	08 11 24.0	**+2.0**
MATP				*i* S			**Sn**	08 12 33.4	**-5.5**
MATP	**Matopo**	**6.75**	**16**	*i* P			**Pn**	08 11 24.0	**+2.0**
MATP				*i* S			**Sn**	08 12 33.4	**-5.5**
MERW	**Merweville**	**7.17**	**216**	*e*P			**Pn**	08 11 28.7	**+1.1**
MERW				*e*S			**Sn**	08 12 46.7	**-2.5**
MERW				IAML				08 13 29.1	
	comp=Z,6.2nm,0.7s								
SUR	**Sutherland**	**7.35**	**221**	*e*P			**Pn**	08 11 30.8	**+0.7**
SUR				*e*S			**Sn**	08 12 51.4	**-2.3**
SUR				IAML				08 13 39.1	
	comp=Z,3.6nm,0.7s								
TORD	**Torodi Ar. Bea**	**46.60**	**326**	P			**P**	08 18 13.5	**+2.3**
	comp=Z,0.7nm,0.8s,baz=164,slow=7.5,SNR=5.0								
	comp=Z,0.7nm,0.8s								
NVAR	**Mina Array Bea**	**148.46**	**300**	PKPbc			**PKiKP**	08 29 32.5	**+1.0**
	comp=Z,0.1nm,0.4s,baz=113,slow=4.3,SNR=2.2								

*SJA **24** 08:14:36.7±0.7, 23°.55S×71°.18W, h20km±3km, ML3.8, MW4.1*
*IDC **24** 08:14:38.0±0.9, 23°.64S×70°.95W, h0km, mb3.8/5, mbtmp4.0/9, ML4.4/3, MS3.0/3, Error ellipse: s-maj=22.6km s-min=16.6km az=143.0*
*GUC **24** 08:14:41.5±0.6, 23°.63S×70°.90W, h36km±3km, ML3.8*
ISC 24 08:14:42.0±1.7, **23°.68S**±0°.03×**71°.09W**±0°.07, **h28**km±12km, **n52**, σ2§**44**/64, **mb3.9**/5, **1C-1D, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**1.14**	**146**	*e*P	**Pn**	**08 15 01.3**	**-1.1**
PB14				*e*S	**Sn**	**08 15 09.6**	**-7.7**
PB14				IAML		08 15 25.6	
	comp=Z,826nm,0.7s						
PB14	**IPOC Station P**	**1.14**	**146**	*e*P	**Pn**	**08 15 01.1**	**-1.3**
PB14				*i* S	**Sn**	**08 15 15.9**	**-1.4**
PB05	**IPOC Station P**	**1.16**	**45**	*e*P	**Pn**	**08 14 59.2**	**-3.4**
PB05				*e*S	**Sn**	**08 15 14.6**	**-2.9**
PB05				IAML		08 15 16.3	
	comp=Z,2µm,0.4s						
PB05	**IPOC Station P**	**1.16**	**45**	⇓*i*P	**Pn**	**08 14 59.1**	**-3.4**
PB05				*i* S	**Sn**	**08 15 12.3**	**-5.2**
PB05				IAML		08 15 16.4	
	comp=N,4µm,0.6s						
PB15	**IPOC Station P**	**1.56**	**73**	*e*P	**Pn**	**08 15 05.9**	**-2.3**
PB15				*e*S	**Sn**	**08 15 28.4**	**+0.8**
PB15				IAML		08 15 30.1	
	comp=Z,2µm,0.6s						
PB15	**IPOC Station P**	**1.56**	**73**	*e*P	**Pn**	**08 15 05.8**	**-2.4**
PB04	**IPOC Station P**	**1.59**	**33**	*e*P	**Pn**	**08 15 05.3**	**-3.3**
PB04				*e*S	**Sb**	**08 15 34.3**	**+3.6**
PB04				IAML		08 15 37.5	
	comp=Z,986nm,0.6s						
PB04	**IPOC Station P**	**1.59**	**33**	*e*P	**Pn**	**08 15 05.3**	**-3.3**
PB04				*i* S	**Sn**	**08 15 27.7**	**-0.7**
PB04				IAML		08 15 36.9	
	comp=E,2µm,0.6s						
PB06	**IPOC Station P**	**1.70**	**56**	*e*P	**Pn**	**08 15 07.3**	**-2.7**
PB06				IAML		08 15 32.3	
	comp=Z,1µm,1.0s						
PB06	**IPOC Station P**	**1.70**	**56**	*e*P	**Pn**	**08 15 07.7**	**-2.3**
PB06				*i* S	**Sn**	**08 15 27.9**	**-3.1**
PB06				IAML		08 15 31.4	
	comp=N,2µm,0.5s						
GO02	**Mina Guanaco**	**2.02**	**138**	*e*P	**Pn**	**08 15 14.8**	**+0.2**
GO02				*e*S	**Sb**	**08 15 45.4**	**+2.4**
GO02	**Mina Guanaco**	**2.02**	**138**	*e*P	**Pn**	**08 15 14.8**	**+0.2**
GO02				*i* S	**Sn**	**08 15 37.9**	**-1.1**
GO02				IAML		08 15 55.5	
	comp=E,655nm,0.4s						
PB07	**IPOC Station P**	**2.24**	**30**	*e*P	**Pn**	**08 15 14.6**	**-2.9**
PB07				*e*S	**Sn**	**08 15 46.9**	**+2.7**
PB07				IAML		08 15 49.9	
	comp=Z,875nm,0.5s						
PB07	**IPOC Station P**	**2.24**	**30**	⇑*e*P	**Pn**	**08 15 14.5**	**-2.9**
PB07				*e*S	**Sn**	**08 15 43.5**	**-0.8**
PB07				IAML		08 15 53.9	
	comp=E,1µm,0.5s						
LVC	**Limon Verde**	**2.27**	**63**	*e*P	**Pn**	**08 15 16.9**	**-1.1**
LVC				*e*S	**Sn**	**08 15 46.9**	**+1.6**
LVC				IAML		08 15 51.6	
	comp=Z,596nm,1.3s						
LVC	**Limon Verde**	**2.27**	**63**	Pn	**Pn**	**08 15 16.8**	**-1.3**
	comp=Z,146nm,0.3s,baz=247,slow=13,SNR=471						
LVC				Lg	Lg	08 15 45.3	
	comp=Z,103nm,0.3s,baz=179,slow=11,SNR=6.7						
	comp=Z,634nm,0.5s						
LVC	**Limon Verde**	**2.27**	**63**	*e*P	**Pn**	**08 15 16.6**	**-1.4**
LVC				*i* S	**Sn**	**08 15 42.5**	**-2.8**
AC01	**Pan de Azucar**	**2.50**	**170**	*e*P	**Pn**	**08 15 19.9**	**-1.1**
AC01	**Pan de Azucar**	**2.50**	**170**	*e*P	**Pn**	**08 15 19.7**	**-1.3**
PB09	**IPOC Station P**	**2.53**	**43**	*e*P	**Pn**	**08 15 19.9**	**-1.6**
PB09				*e*S	**Sn**	**08 15 55.2**	**+3.7**
PB09				IAML		08 15 58.0	
	comp=Z,755nm,0.5s						
PB09	**IPOC Station P**	**2.53**	**43**	*e*P	**Pn**	**08 15 20.2**	**-1.3**
PB09				IAML		08 15 57.8	
	comp=N,743nm,0.4s						
PB02	**IPOC Station P**	**2.59**	**26**	*e*P	**Pn**	**08 15 19.2**	**-3.0**
PB02				IAML		08 16 04.1	
	comp=Z,868nm,0.4s						
PB02	**IPOC Station P**	**2.59**	**26**	*e*P	**Pn**	**08 15 19.4**	**-2.8**
AF01	**San Pedro de A**	**2.77**	**76**	*e*P	**Pn**	**08 15 27.7**	**+2.8**
PATCX	**Punta Patache**	**2.97**	**17**	*e*P	**Pn**	**08 15 24.4**	**-3.1**
PATCX	**Punta Patache**	**2.97**	**17**	*e*P	**Pn**	**08 15 24.3**	**-3.1**
PATCX				IAML		08 16 19.5	
	comp=E,340nm,0.5s						
PB01	**IPOC Station P**	**3.01**	**30**	*e*P	**Pn**	**08 15 25.9**	**-2.2**
PB01				IAML		08 16 14.0	
	comp=Z,294nm,1.1s						
PB01	**IPOC Station P**	**3.01**	**30**	*e*P	**Pn**	**08 15 25.8**	**-2.2**
PB01				IAML		08 16 13.7	
	comp=E,385nm,0.5s						
TA02	**Huaiquique**	**3.50**	**15**	*e*P	**Pb**	**08 15 41.5**	**-1.8**
TA02				IAML		08 16 41.6	
	comp=Z,170nm,1.4s						
HMBC	**Humberstone**	**3.56**	**19**	*e*P	**Pn**	**08 15 33.7**	**-1.9**
HMBC				*e*S	**Sn**	**08 16 19.1**	**+2.2**
HMBC	**Humberstone**	**3.56**	**19**	*e*P	**Pn**	**08 15 33.4**	**-2.1**
PB08	**IPOC Station P**	**3.95**	**28**	*e*P	**Pn**	**08 15 40.4**	**-0.7**
PB08				IAML		08 16 45.8	
	comp=Z,150nm,1.2s						
PB08	**IPOC Station P**	**3.95**	**28**	*e*P	**Pn**	**08 15 40.8**	**-0.3**
PB11	**IPOC Station P**	**4.12**	**19**	*e*P	**Pn**	**08 15 40.8**	**-2.5**
PB11				IAML		08 17 00.1	
	comp=Z,108nm,0.8s						
GO01	**Chusmiza**	**4.36**	**24**	*e*P	**Pn**	**08 15 46.0**	**-0.9**
GO01	**Chusmiza**	**4.36**	**24**	*e*P	**Pn**	**08 15 46.2**	**-0.7**
AC04	**Llanos de Chal**	**4.51**	**180**	*e*P	**Pn**	**08 15 46.6**	**-1.9**
AC04				IAML		08 17 15.7	
	comp=Z,37nm,1.9s						
PB12	**IPOC Station P**	**5.09**	**8**	*e*P	**Pn**	**08 15 53.9**	**-2.6**
PB12				IAML		08 17 30.5	
	comp=Z,39nm,0.6s						
AC05	**El Transito**	**5.19**	**172**	*e*P	**Pn**	**08 15 58.0**	**-0.1**
AC05				IAML		08 17 35.1	
	comp=Z,40nm,0.8s						
CFA	**Coronel Fontan**	**8.29**	**163**	Pn	**Pn**	**08 16 41.1**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=58,slow=21,SNR=1.5						
CFA				Lg	Lg	08 18 35.0	
	comp=Z,0.9nm,0.3s,baz=337,slow=12,SNR=8.6						
CFA				LR	LR	08 19 30.0	
	comp=Z,55nm,18.6s,baz=256,slow=35						
H03N1	**Juan Fernandez**	**11.91**	**213**	T	T	08 30 09.1	
	baz=40,slow=72,SNR=122						
H03N2	**Juan Fernandez**	**11.91**	**214**	T	T	08 30 09.6	
	baz=40,slow=72,SNR=101						
H03N3	**Juan Fernandez**	**11.92**	**213**	T	T	08 30 11.2	
	baz=40,slow=72,SNR=105						
SIV	**San Ignacio**	**12.13**	**53**	Pn	**Pn**	**08 17 31.5**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=234,slow=10,SNR=23						
	comp=Z,3.1nm,0.4s						
PLCA	**Paso Flores**	**17.02**	**179**	LR	LR	08 26 11.1	
	comp=Z,59nm,18.2s,baz=194,slow=41						
ATAH	**Atahualpa**	**17.88**	**336**	P	**Pn**	**08 18 50.3**	**+1.0**
	comp=Z,3.2nm,0.3s,baz=108,slow=16,SNR=7.5						
	comp=Z,7.0nm,0.3s						
SNAA	**Sanae**	**60.91**	**160**	P	**P**	**08 24 51.6**	**-0.4**
	comp=Z,1.4nm,1.1s,baz=205,slow=14,SNR=1.9						
	comp=Z,1.4nm,1.1s						

TXAR	**Lajitas Array**	**61.31**	**328**	P			**P**	**08 24 56.3**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=153,slow=7.0,SNR=5.4								
TXAR				LR			LR	08 47 48.4	
	comp=Z,19nm,19.9s,baz=7.0,slow=32								
	comp=Z,0.6nm,0.9s								
QSPA	**South Pole Qui**	**66.53**	**180**	P			**P**	**08 25 30.3**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=141,slow=18,SNR=2.3								
	comp=Z,0.7nm,0.7s								
TORD	**Torodi Ar. Bea**	**79.98**	**71**	P			**P**	**08 26 48.6**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=242,slow=4.3,SNR=6.7								
	comp=Z,1.3nm,0.8s								
YKA	**Yellowknife Ar**	**92.58**	**341**	P			**P**	**08 27 50.6**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=142,slow=4.5,SNR=7.8								
	comp=Z,0.4nm,0.8s								
MKAR	**Makanchi Array**	**148.57**	**36**	PKPbc			**PKPdf**	**08 34 24.7**	**+2.0**
	comp=Z,0.9nm,0.7s,baz=327,slow=2.0,SNR=6.8								

*IDC **24** 08:41:34.0±3.9, 10°.86S×165°.85E, h76km±35km, mb3.4/4, mbtmp3.7/5, MS3.7/1, Error ellipse: s-maj=36.7km s-min=32.9km az=137.0*
ISC 24 08:41:32.3±1.2, **10°.95S**±0°.1×**165°.9E**±0°.2, **h61**km, **n13**, σ2§**03**/8, **mb3.6**/4, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.07**	**284**	P	**Pn**	**08 42 59.6**	**+0.1**
	1µm,0.6s,baz=8.7,slow=2.6,SNR=6.9						
HNR				LR	LR	08 45 45.2	
	comp=Z,632nm,18.1s,baz=112,slow=42						
DZM	**Mont Dzumac**	**11.09**	**177**	P	**Pn**	**08 44 11.0**	**+2.8**
	1.6nm,0.3s,baz=314,slow=17,SNR=11						
DZM				S	**Sn**	**08 46 07.5**	**-3.2**
	3.1nm,0.9s,baz=298,slow=18,SNR=1.9						
H11S2	**WAKE ISLAND Hy**	**29.25**	**2**	T	T	09 17 53.0	
	baz=181,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**29.25**	**1**	T	T	09 17 53.9	
	baz=181,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**29.27**	**2**	T	T	09 17 54.8	
	baz=181,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**30.47**	**2**	T	T	09 19 25.1	
	baz=182,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**30.48**	**2**	T	T	09 19 25.0	
	baz=182,slow=76,SNR=16						
H11N2	**WAKE ISLAND Hy**	**30.49**	**2**	T	T	09 19 26.1	
	baz=182,slow=76,SNR=14						
WRA	**Warramunga Arr**	**31.69**	**250**	P	**P**	**08 47 50.5**	**+0.1**
	0.8nm,0.7s,baz=81,slow=8.6,SNR=5.1						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**33.00**	**243**	P	**P**	**08 48 01.9**	**0.0**
	0.3nm,0.6s,baz=77,slow=8.7,SNR=2.6						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**83.35**	**18**	P	**P**	**08 53 52.5**	**+0.1**
	0.4nm,0.6s,baz=237,slow=5.3,SNR=12						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**93.56**	**317**	P	**P**	**08 54 41.3**	**-0.5**
	0.3nm,0.6s,baz=98,slow=5.9,SNR=2.6						
	0.3nm,0.6s						
ARCES	**ARCESS Array B**	**116.27**	**346**	PKP	**PKPdf**	**09 00 06.9**	**-1.5**
	1.5nm,0.9s,baz=70,slow=1.4,SNR=4.2						

*SJA **24** 08:43:15.1±0.8, 35°.02S×71°.14W, h101km±3km, ML3.2, MW3.6*
*GUC **24** 08:43:17.1±0.9, 35°.00S×71°.12W, h95km±3km, ML3.3*
ISC 24 08:43:17.5±1.4, **35°.00S**±0°.04×**71°.13W**±0°.04, **h91**km±8km, **n46**, σ1§**06**/77, **6C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO02	**Sierra Bellavi**	**0.35**	**54**	*e*P	**Pn**	**08 43 30.5**	**-0.9**
BO02				*e*S	**Sn**	**08 43 42.8**	**+1.1**
BO02	**Sierra Bellavi**	**0.35**	**54**	⇓*i*P	**Pn**	**08 43 30.4**	**-0.9**
BO02				*e*S	**Sn**	**08 43 41.6**	**-0.1**
BO01	**Tunca**	**0.60**	**3**	*e*P	**Pn**	**08 43 32.7**	**-0.5**
BO01				*e*S	**Sn**	**08 43 45.3**	**+0.4**
BO01				IAML		08 43 46.0	
	comp=Z,960nm,0.1s						
BO01	**Tunca**	**0.60**	**3**	*i*P	**Pn**	**08 43 32.7**	**-0.5**
BO01				*e*S	**Sn**	**08 43 44.9**	**+0.1**
BO01				IAML		08 43 45.8	
	comp=E,2µm,0.1s						
GO05	**Huala**	**0.66**	**269**	*e*P	**Pn**	**08 43 33.6**	**0.0**
GO05				*e*S	**Sn**	**08 43 46.3**	**+0.5**
GO05	**Huala**	**0.66**	**269**	*e*P	**Pn**	**08 43 33.4**	**-0.3**
GO05				*i* S	**Sn**	**08 43 46.3**	**+0.5**
ML02	**Panimavida**	**0.80**	**197**	⇓*i*P	**Pn**	**08 43 34.6**	**-0.4**
ML02				*i* S	**Sn**	**08 43 48.5**	**+0.3**
BO03	**Pichilemu**	**0.85**	**306**	⇑*i*P	**Pn**	**08 43 36.1**	**+0.6**
BO03				*i* S	**Sn**	**08 43 50.6**	**+1.5**
BO03				IAML		08 43 54.2	
	comp=E,1µm,0.4s						
BO04	**La Punta**	**1.09**	**23**	*e*P	**Pn**	**08 43 38.0**	**-0.3**
BO04				*e*S	**Sn**	**08 43 54.2**	**+0.2**
BO04				IAML		08 43 55.8	
	comp=E,499nm,0.4s						
MT01	**Popeta**	**1.13**	**355**	*e*P	**Pn**	**08 43 38.3**	**-0.5**
MT01				*e*S	**Sn**	**08 43 55.1**	**+0.3**
MT01				IAML		08 43 59.0	
	comp=Z,239nm,0.3s						
MT01	**Popeta**	**1.13**	**355**	⇑*i*P	**Pn**	**08 43 38.2**	**-0.5**
MT01				*i* S	**Sn**	**08 43 54.5**	**-0.3**
MT01				IAML		08 43 56.8	
	comp=E,689nm,0.8s						
MT09	**Talagante**	**1.22**	**5**	⇑*i*P	**Pn**	**08 43 39.6**	**-0.4**
MT09				*i* S	**Sn**	**08 43 56.7**	**-0.2**
MT09				IAML		08 43 57.9	
	comp=N,1µm,0.3s						
MT12	**Pirque**	**1.35**	**21**	*i* P	**Pn**	**08 43 41.3**	**-0.1**
MT12				*e*S	**Sn**	**08 43 59.6**	**+0.2**
MT12				IAML		08 44 04.6	
	comp=N,380nm,0.3s						
LMEL	**Las Melosas**	**1.38**	**34**	*e*P	**Pn**	**08 43 41.8**	**-0.1**
LMEL				*i* S	**Sn**	**08 44 01.4**	**+1.1**
LMEL				IAML		08 44 04.1	
	comp=N,683nm,0.7s						
VA05	**Santo Domingo**	**1.40**	**343**	⇑*i*P	**Pn**	**08 43 41.7**	**-0.2**
VA05				IAML		08 44 02.8	
	comp=E,896nm,0.5s						
MT13	**San Alfonso**	**1.43**	**29**	*e*P	**Pn**	**08 43 42.7**	**+0.2**
MT13				*i* S	**Sn**	**08 44 02.5**	**+1.2**
MT13				IAML		08 44 04.2	
	comp=N,524nm,0.4s						
MT15	**Las Vizcachas**	**1.49**	**20**	*e*P	**Pn**	**08 43 42.7**	**-0.4**
MT15				*i* S	**Sn**	**08 44 02.8**	**+0.3**
MT15				IAML		08 44 06.1	
	comp=N,779nm,0.2s						
MT03	**Universidad Ad**	**1.58**	**19**	*e*P	**Pn**	**08 43 44.3**	**-0.1**
MT03				*e*S	**Sn**	**08 44 05.8**	**+1.0**
MT03				IAML		08 44 08.8	
	comp=Z,151nm,0.1s						
MT03	**Universidad Ad**	**1.58**	**19**	*e*P	**Pn**	**08 43 44.2**	**-0.2**
MT03				*e*S	**Sn**	**08 44 05.1**	**+0.2**
MT03				IAML		08 44 09.0	
	comp=N,282nm,0.2s						
EDS3	**Malargue**	**1.61**	**119**	*e*P	**Pn**	**08 43 44.1**	**-0.6**
EDS3				*e*S	**Sn**	**08 44 05.7**	**+0.2**
MT05	**Renca**	**1.63**	**12**	*e*P	**Pn**	**08 43 45.0**	**0.0**
MT05				*e*S	**Sn**	**08 44 06.7**	**+0.9**
MT05				IAML		08 44 08.2	
	comp=Z,274nm,0.8s						
MT05	**Renca**	**1.63**	**12**	*e*P	**Pn**	**08 43 44.9**	**-0.1**
MT05				*i* S	**Sn**	**08 44 05.8**	**-0.1**
MT05				IAML		08 44 08.2	
	comp=E,464nm,0.2s						
MT16	**CCHEN**	**1.64**	**18**	*e*P	**Pn**	**08 43 45.0**	**-0.1**
MT14	**Cerro Cal¡n**	**1.67**	**17**	*e*P	**Pn**	**08 43 45.2**	**-0.3**
MT14				*e*S	**Sn**	**08 44 06.7**	**0.0**
MT14				IAML		08 44 09.0	
	comp=E,508nm,0.7s						
MT02	**Curacav**	**1.73**	**360**	*e*P	**Pn**	**08 43 45.1**	**-1.1**
MT02				IAML		08 44 12.9	
	comp=Z,148nm,0.8s						
MT02	**Curacav**	**1.73**	**360**	*i* P	**Pn**	**08 43 45.8**	**-0.4**
MT02				*e*S	**Sn**	**08 44 07.4**	**-0.7**
MT04	**Ro Olivares**	**1.79**	**28**	*e*P	**Pn**	**08 43 47.0**	**-0.1**
MT04				IAML		08 44 13.3	
	comp=N,297nm,0.7s						
MT10	**Hacienda Santa**	**1.79**	**16**	*e*P	**Pn**	**08 43 46.7**	**-0.4**
MT10				*e*S	**Sn**	**08 44 09.8**	**+0.3**
MT10				IAML		08 44 11.5	
	comp=E,370nm,0.4s						
FCH	**Farellones**	**1.80**	**23**	*e*P	**Pn**	**08 43 46.6**	**-0.8**
FCH				IAML		08 44 11.9	
	comp=N,341nm,0.3s						

PEL	**Peldehue**	**1.88**	**11**	*e*P			**Pn**	**08 43 48.0**	**-0.2**
PEL				*e*S			**Sn**	**08 44 13.2**	**+1.5**
PEL	**Peldehue**	**1.88**	**11**	⇑*i*P			**Pn**	**08 43 47.7**	**-0.5**
PEL				*e*S			**Sn**	**08 44 11.1**	**-0.5**
PEL				IAML				08 44 13.8	
	comp=E,197nm,0.4s								
VA01	**Torpederas**	**2.02**	**347**	*e*P			**Pn**	**08 43 49.2**	**-0.7**
VA01				IAML				08 44 17.4	
	comp=Z,114nm,1.2s								
ROC1	**El Roble**	**2.02**	**3**	*e*P			**Pn**	**08 43 50.1**	**-0.1**
ROC1				*e*S			**Sn**	**08 44 14.4**	**-0.6**
ROCH	**El Roble**	**2.02**	**3**	*e*P			**Pn**	**08 43 49.8**	**-0.4**
ROCH				IAML				08 44 18.2	
	comp=N,376nm,0.6s								
RFA	**San Rafael**	**2.20**	**85**	*e*P			**Pn**	**08 43 50.7**	**-1.6**
RFA				*e*S			**Sn**	**08 44 18.6**	**-0.4**
BI05	**Punta Hualpn**	**2.42**	**223**	*e*P			**Pn**	**08 43 55.2**	**0.0**
AAGR	**Agrelo**	**2.70**	**46**	*e*P			**Pn**	**08 44 02.5**	**+3.5**
ARCO	**CERRO ARCO**	**2.82**	**41**	*e*P			**Pn**	**08 44 04.4**	**+3.7**
ARCO				*e*S			**Sn**	**08 44 30.3**	**-3.7**
ASAL	**Salagasta**	**3.07**	**39**	*e*P			**Pn**	**08 44 07.3**	**+3.3**
RTLS	**Leoncito**	**3.54**	**26**	*e*P			**Pn**	**08 44 11.4**	**+0.9**
RTLS				IAML				08 45 27.9	
	comp=Z,53nm,1.0s								
CO02	**Combarbal**	**3.78**	**2**	*e*P			**Pn**	**08 44 12.1**	**-1.6**
CO02				IAML				08 45 02.6	
	comp=Z,50nm,0.8s								
CO03	**El Pedregal**	**4.16**	**5**	*e*P			**Pn**	**08 44 18.0**	**-0.8**
CO03				IAML				08 45 10.4	
	comp=Z,29nm,1.1s								
DOCA	**Reserva Natura**	**4.39**	**24**	*e*P			**Pn**	**08 44 21.1**	**-1.0**
DOCA				*e*S			**Sn**	**08 45 12.9**	**+0.6**
ACCO	**Cerro Coronel**	**4.73**	**22**	*e*P			**Pn**	**08 44 26.0**	**-0.7**
ACCO				IAML				08 46 07.6	
	comp=Z,16nm,3.5s								
GO04	**Tololo Observa**	**4.82**	**3**	*e*P			**Pn**	**08 44 26.6**	**-1.2**
GO04				*e*S			**Sn**	**08 45 23.7**	**+1.2**
AROD	**Rodeo**	**5.01**	**17**	*e*P			**Pn**	**08 44 30.4**	**-0.2**

*NEIC **24** 08:43:58.6±1.2, 5°.3N±0°.1×92°.59E±0°.07, h10km±1km, mb4.3/9, Error ellipse: s-maj=22.8km s-min=7.0km az=204.0*
*IDC **24** 08:43:59.5±1.6, 5°.55N×92°.82E, h0km, mb3.7/3, mbtmp3.8/5, ML3.9/2, Error ellipse: s-maj=50.0km s-min=25.9km az=50.0*
ISC 24 08:44:00.9±0.7, **5°.3N**±0°.1×**92°.56E**±0°.07, **h35**km, **n34**, σ1§**40**/21, **mb4.1/7, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**4.38**	**91**	Pn	**Pn**	**08 45 05.2**	**+0.3**
GSI	**Gunungsitoli**	**6.41**	**128**	Pn	**Pn**	**08 45 33.5**	**+0.6**
KULM	**Kulim**	**8.06**	**90**	Pn	**Pn**	**08 45 55.6**	**-0.1**
PALK	**Pallekele**	**11.94**	**280**	Pn	**Pn**	**08 46 48.6**	**-0.2**
PALK	**Pallekele**	**11.94**	**280**	Pn	Pn	08 46 54.8	+6.0
	0.4nm,0.3s,baz=125,slow=0.2,SNR=1.2						
PALK				Sn	**Sn**	**08 48 58.6**	**-2.3**
	2.9nm,0.3s,baz=105,slow=20,SNR=7.6						
	2.1nm,0.3s						
MNAI	**Manna**	**14.16**	**133**	Pn	**Pn**	**08 47 18.1**	**-1.0**
CMAR	**Chiang Mai Arr**	**14.46**	**25**	Pn	**Pn**	**08 47 22.3**	**-0.9**
	0.3nm,0.3s,baz=217,slow=13,SNR=1.4						
	0.7nm,0.3s						
HYB	**Hyderabad**	**18.22**	**312**	*e*P	P	08 48 20.6	+9.3
SBUM	**Sibu**	**19.83**	**98**	P	**P**	**08 48 28.4**	**-0.4**
KAAM	**Kaadhehdhoo**	**20.11**	**257**	P	**P**	**08 48 32.7**	**+0.8**
KAAM				IAmb	IAmb	08 48 43.7	
	comp=Z,11nm,0.9s						
H08S3	**Diego Garcia H**	**23.80**	**237**	T	T	09 14 28.8	
	baz=59,slow=75,SNR=382						
H08S2	**Diego Garcia H**	**23.81**	**237**	T	T	09 14 29.9	
	baz=59,slow=75,SNR=15						
H08S1	**Diego Carcia H**	**23.82**	**237**	T	T	09 14 29.9	
	baz=59,slow=75,SNR=4.0						
GIRL	**Giralia**	**34.97**	**143**	P	**P**	**08 50 49.6**	**-0.4**
MK31	**Makanchi Array**	**42.25**	**350**	P	**P**	**08 51 51.2**	**+0.4**
MK31				IAmb	IAmb	08 52 04.3	
	comp=Z,1.7nm,1.1s						
MKAR	**Makanchi Array**	**42.25**	**350**	P	**P**	**08 51 50.9**	**+0.1**
MKAR	**Makanchi Array**	**42.25**	**350**	P	**P**	**08 51 52.6**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=169,slow=8.1,SNR=4.0						
	comp=Z,0.5nm,0.6s						
MTN	**Manton Dam**	**42.37**	**116**	P	**P**	**08 51 52.6**	**+0.4**
H01W3	**Cape Leeuwin H**	**44.87**	**155**	T	T	09 40 09.6	
	baz=328						
H01W2	**Cape Leeuwin H**	**44.88**	**155**	T	T	09 40 10.1	
	baz=328						
H01W1	**Cape Leeuwin H**	**44.89**	**155**	T	T	09 40 09.6	
	baz=328						
WB0	**Warramunga Arr**	**48.12**

SNZO	**South Karori**	**1.46**	**37**	P		**Pn**	**08 49 26.5**	**-0.2**
BHW	**Baring Head**	**1.46**	**43**	P		**Pn**	**08 49 26.3**	**-0.5**
AKCZ	**Akaroa Harbour**	**1.46**	**198**	P		**Pn**	**08 49 26.9**	**0.0**
DSZ	**Denniston Nort**	**1.49**	**299**	P		**Pn**	**08 49 27.2**	**-0.1**
WEL	**Wellington**	**1.50**	**38**	P		**Pn**	**08 49 27.4**	**0.0**
TKNZ	**Takaka Hill**	**1.52**	**343**	P		**Pn**	**08 49 28.0**	**+0.4**
TKNZ				S		**Sn**	**08 49 48.4**	**+1.4**
PLWZ	**Palliser**	**1.56**	**55**	P		**Pn**	**08 49 27.6**	**-0.7**
INZ	**Inchbonnie**	**1.57**	**260**	P		**Pn**	**08 49 28.4**	**0.0**
RACZ	**Rakaia**	**1.62**	**219**	P		**Pn**	**08 49 28.5**	**-0.5**
DUWZ	**D'Urville Isla**	**1.70**	**10**	P		**Pn**	**08 49 31.0**	**+0.8**
PAWZ	**Paruwai Farm**	**1.78**	**52**	P		**Pn**	**08 49 30.3**	**-1.0**
CAW	**Cannon Point**	**1.78**	**40**	P		**Pn**	**08 49 30.7**	**-0.6**
CAW				S		**Sn**	**08 49 52.6**	**-1.0**
MHCZ	**Mount Hutt**	**1.79**	**234**	P		**Pn**	**08 49 30.8**	**-0.6**
QRZ	**Quartz Range**	**1.82**	**335**	P		**Pn**	**08 49 32.6**	**+0.8**
QRZ	**Quartz Range**	**1.82**	**335**	P		**Pn**	**08 49 32.6**	**+0.8**
QRZ				S		**Sn**	**08 49 55.8**	**+1.1**
KIW	**Kapiti Island**	**1.92**	**33**	P		**Pn**	**08 49 32.9**	**-0.2**
WACZ	**Wakanui South**	**1.92**	**220**	P		**Pn**	**08 49 32.9**	**-0.3**
TRWZ	**Traveller**	**1.93**	**56**	P		**Pn**	**08 49 32.2**	**-1.1**
MTW	**Mount Morrison**	**1.97**	**48**	P		**Pn**	**08 49 32.7**	**-1.1**
OGWZ	**Otaki Gorge**	**2.06**	**37**	P		**Pn**	**08 49 34.5**	**-0.6**
WVZ	**Waitaha Valley**	**2.15**	**253**	P		**Pn**	**08 49 36.8**	**+0.5**
HOWZ	**Holdsworth Sta**	**2.16**	**44**	P		**Pn**	**08 49 35.7**	**-0.8**
RPZ	**Rata Peaks**	**2.20**	**235**	P		**Pn**	**08 49 36.7**	**-0.4**
RPZ	**Rata Peaks**	**2.20**	**235**	P		**Pn**	**08 49 36.6**	**-0.4**
TMWZ	**Te Maipa**	**2.23**	**53**	P		**Pn**	**08 49 36.1**	**-1.3**
ARCZ	**Arundel**	**2.27**	**229**	P		**Pn**	**08 49 37.5**	**-0.5**
MRZ	**Mangatainoka R**	**2.37**	**41**	P		**Pn**	**08 49 38.4**	**-1.0**
GCSZ	**Gaunt Creek Bo**	**2.51**	**250**	P		**Pn**	**08 49 42.1**	**+0.8**
PRWZ	**Pori Road**	**2.65**	**44**	P		**Pn**	**08 49 42.0**	**-1.2**
BFZ	**Birch Farm**	**2.71**	**49**	P		**Pn**	**08 49 42.5**	**-1.5**
BFZ	**Birch Farm**	**2.71**	**49**	P		**Pn**	**08 49 42.5**	**-1.5**
FOZ	**Fox Glacier**	**2.93**	**248**	P		**Pn**	**08 49 48.9**	**+1.9**
LBZ	**Lake Benmore**	**3.10**	**231**	P		**Pn**	**08 49 49.4**	**0.0**
PKE	**Pukeiti**	**3.30**	**6**	P		**Pn**	**08 49 54.8**	**+2.6**
ODZ	**Otahua Downs**	**3.31**	**218**	P		**Pn**	**08 49 51.6**	**-0.7**
ODZ	**Otahua Downs**	**3.31**	**218**	P		**Pn**	**08 49 51.6**	**-0.7**
WNVZ	**Wahianoa**	**3.52**	**27**	P		**Pn**	**08 49 56.1**	**+0.8**
BHHZ	**Black Hill Sta**	**3.54**	**33**	P		**Pn**	**08 49 55.4**	**-0.2**
TUVZ	**Tukino**	**3.59**	**27**	P		**Pn**	**08 49 56.7**	**+0.5**
NGZ	**Ngauruhoe**	**3.65**	**26**	P		**Pn**	**08 49 57.6**	**+0.5**
SNVZ	**South Ngauruho**	**3.66**	**26**	P		**Pn**	**08 49 57.7**	**+0.5**
OTVZ	**Oturere**	**3.69**	**27**	P		**Pn**	**08 49 57.7**	**+0.1**
NNVZ	**North Ngauruho**	**3.70**	**26**	P		**Pn**	**08 49 58.4**	**+0.7**
WTVZ	**West Tongariro**	**3.70**	**25**	P		**Pn**	**08 49 58.8**	**+1.0**
ETVZ	**East Tongariro**	**3.73**	**27**	P		**Pn**	**08 49 58.9**	**+0.9**
TMVZ	**Te Maari**	**3.74**	**27**	P		**Pn**	**08 49 58.7**	**+0.4**
NTVZ	**North Tongarir**	**3.75**	**26**	P		**Pn**	**08 49 59.3**	**+0.9**
JCZ	**Jackson Bay**	**3.82**	**244**	P		**Pn**	**08 49 59.9**	**+0.5**
JCZ	**Jackson Bay**	**3.82**	**244**	P		**Pn**	**08 49 59.2**	**-0.2**
HIZ	**Hauiti**	**4.09**	**15**	P		**Pn**	**08 50 04.6**	**+1.6**
EAZ	**Earnscleugh**	**4.12**	**227**	P		**Pn**	**08 50 03.3**	**-0.1**
TLZ	**Tolley Road**	**4.42**	**21**	P		**Pn**	**08 50 07.9**	**+0.3**
TUZ	**Tuapeka**	**4.47**	**218**	P		**Pn**	**08 50 07.9**	**-0.2**
AWAZ	**Awhitu Peninsu**	**5.48**	**9**	P		**Pn**	**08 50 23.1**	**+1.0**
MKAZ	**Moumakai**	**5.51**	**14**	P		**Pn**	**08 50 22.9**	**+0.4**

*IGIL **24** 09:22:35.7, 38°.12N × 13°.62W, h30km, ML1.4*
*MDD **24** 09:22:36.6±1.1, 38°.26N × 13°.19W, h0km, Mb4.0/7, M_mb3.3/7, Error ellipse: s-maj=10.0km s-min=8.2km az=33.0*
*INMG **24** 09:22:38.0±1.1, 38°.26N × 13°.64W, h10km, ML2.0, Error ellipse: s-maj=7.0km s-min=5.2km az=88.0*

ISC 24 09:22:33.2±3.5, 38°.33N±0°.08 × 13°.3W±0°.2, h10km, n28, σ2s12/50, 7C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.19**	**78**	*eP*	**Pb**	**09 23 27.0**	**-3.0**
PMAFR				*eS*	**Sn**	**09 24 03.9**	**+2.4**
PMAFR				A	A	09 24 24.5	
	7.7nm,0.6s						
PTEO	**Sao Teotonio**	**3.69**	**101**	*eP*	**Pn**	**09 23 31.1**	**+0.9**
PSBE	**So Bento**	**3.69**	**70**	*eS*	**Sn**	**09 24 16.2**	**+2.3**
PFVI	**Vila Bisbo**	**3.73**	**107**	*eP*	**Pn**	**09 23 32.5**	**+1.7**
PFVI				*eS*	**Sn**	**09 24 12.5**	**-2.2**
PFVI				A	A	09 24 25.6	
	6.1nm,0.7s						
PNCL	**Nicolau / Gran**	**3.75**	**92**	*eP*	**Pn**	**09 23 33.3**	**+2.2**
PNCL				*eS*	**Sn**	**09 24 15.0**	**-0.2**
PNCL				A	A	09 24 19.3	
	1.3nm,0.1s						
MORF	**Marmelete**	**3.80**	**104**	*eP*	**Pn**	**09 23 34.0**	**+2.1**
MORF				*eS*	**Sn**	**09 24 16.7**	**0.0**
MORF				A	A	09 24 22.5	
	3.6nm,0.5s						
MORF	**Marmelete**	**3.80**	**104**	*eP*	**Pn**	**09 23 33.9**	**+2.1**
MESJ	**Messejana**	**4.02**	**95**	*eP*	**Pn**	**09 23 37.5**	**+2.6**
MESJ				*eS*	**Sn**	**09 24 22.2**	**+0.2**
MESJ				A	A	09 24 31.0	
	2.3nm,0.7s						
MESJ	**Messejana**	**4.02**	**95**	*eP*	**Pn**	**09 23 37.2**	**+2.3**
MESJ				*eS*	**Sn**	**09 24 22.2**	**+0.2**
MESJ				IAML		09 24 23.8	
	comp=E,0.7nm,0.2s						
PMTG	**Montargil**	**4.02**	**78**	*eP*	**Pn**	**09 23 36.9**	**+2.0**
PMTG				*eS*	**Sn**	**09 24 22.0**	**0.0**
PMTG				A	A	09 24 37.4	
	comp=E,1.3nm,0.7s						
PCAS	**Casmilo, Conde**	**4.09**	**64**	*eP*	**Pn**	**09 23 38.8**	**+3.0**
PCAS				*eS*	**Sn**	**09 24 24.1**	**+0.3**
PCAS				A	A	09 24 34.9	
	comp=E,1.9nm,0.4s						
EVO	**Evora**	**4.14**	**86**	*eP*	**Pb**	**09 23 42.9**	**-3.3**
EVO				*eS*	**Sn**	**09 24 25.3**	**+0.4**
EVO				A	A	09 24 31.5	
	comp=E,2.3nm,0.3s						
PCVE	**Castro Verde**	**4.20**	**98**	*eP*	**Pn**	**09 23 39.5**	**+2.2**
PCVE				*eS*	**Sn**	**09 24 26.0**	**-0.4**
PCVE				A	A	09 24 35.3	
	comp=E,0.9nm,0.5s						
PBEJ	**Beja**	**4.28**	**92**	*eP*	**Pn**	**09 23 40.8**	**+2.4**
PBEJ				*eS*	**Sn**	**09 24 28.0**	**-0.3**
PBEJ				A	A	09 24 35.5	
	comp=E,1.4nm,0.3s						
PESTR	**Estremoz**	**4.49**	**81**	*eP*	**Pn**	**09 23 44.0**	**+2.7**
PESTR				*eS*	**Sn**	**09 24 33.0**	**-0.6**
PESTR				A	A	09 24 38.3	
	comp=E,0.6nm,0.3s						
PVAQ	**Vaqueiros**	**4.50**	**100**	*eP*	**Pn**	**09 23 44.0**	**+2.6**
PVAQ				*eS*	**Sn**	**09 24 32.5**	**-1.2**
EGRO	**El Granado**	**4.65**	**98**	P	**Pn**	**09 23 46.0**	**+2.5**
EGRO				⇑*iVmb_V*		09 23 46.5	
	comp=E,229nm,SNR=1.3						
EGRO				S	**Sn**	**09 24 36.2**	**-1.3**
PMRV	**Marv??o**	**4.72**	**75**	*eP*	**Pn**	**09 23 46.6**	**+2.1**
PMRV				*eS*	**Sn**	**09 24 39.7**	**+0.4**
PMRV				A	A	09 24 42.9	
	comp=E,1.5nm,1.1s						
PBAR	**Barrancos**	**4.91**	**90**	*eP*	**Pn**	**09 23 49.7**	**+2.6**
PBAR				*eS*	**Sn**	**09 24 43.3**	**-0.7**
PBAR				A	A	09 24 49.0	
	comp=E,1.5nm,0.7s						
EBAD	**Badajoz**	**4.93**	**83**	P	**Pn**	**09 23 49.9**	**+2.5**
EBAD				⇑*iVmb_V*		09 23 55.3	
	comp=E,92nm,SNR=1.4						
EBAD				S	**Sn**	**09 24 43.9**	**-0.5**
POLO	**Lamas de Olo**	**5.20**	**53**	*eS*	**Sn**	**09 24 47.6**	**-3.6**
EMIN	**Mina Concepcio**	**5.24**	**94**	P	**Pn**	**09 23 54.3**	**+2.6**
EMIN				⇑*iVmb_V*		09 23 54.6	
	comp=E,92nm,SNR=1.1						
EMIN				S	**Sn**	**09 24 54.7**	**+2.5**
PGAV	**Gavieira, Arco**	**5.28**	**45**	*ePn*	**Pn**	**09 23 54.0**	**+1.7**
PGAV				*eSn*	**Sn**	**09 24 51.9**	**-1.3**
ELOB	**Lobios**	**5.34**	**47**	P	**Pn**	**09 23 56.4**	**+3.4**
ELOB				⇑*iVmb_V*		09 23 58.0	
	comp=E,120nm,SNR=1.0						
ELOB				S	**Sn**	**09 24 52.5**	**-2.0**
MVO	**Moncorvo**	**5.58**	**58**	*eSn*	**Sn**	**09 24 58.9**	**-1.8**
ECAB	**El Cabril**	**6.20**	**90**	P	**Pn**	**09 24 07.8**	**+3.0**
ECAB				⇑*iVmb_V*		09 24 12.2	
	comp=E,56nm,SNR=0.9						
ECAB				S	**Sn**	**09 25 14.4**	**-1.2**
EADA	**Adamuz**	**6.85**	**89**	P	**Pn**	**09 24 16.3**	**+2.6**
EADA				⇑*iVmb_V*		09 24 24.3	
	comp=E,74nm,SNR=1.3						
EADA				S	**Sn**	**09 25 32.1**	**+0.3**
GUD	**Guadarrama**	**7.42**	**69**	⇑*iVmb_V*		09 24 28.7	
	comp=E,52nm,SNR=1.6						
GUD				S	**Sn**	**09 25 49.7**	**+3.6**

IDC 24 09:34:42.5±5.9, 4°.34S × 153°.34E, h81km±39km, mb3.0/3, mbtmp3.3/3, Error ellipse: s-maj=62.3km s-min=37.7km az=100.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.31**	**271**	P	Pn	09 35 04.6	-0.8
	baz=163,slow=19						
KRVT				S	Sn	09 35 22.7	0.0
	baz=38,slow=19						
WRA	**Warramunga Arr**	**24.15**	**228**	P	P	09 39 49.8	-1.4
	0.3nm,0.5s,baz=50,slow=9.6,SNR=1.7						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**26.85**	**222**	P	P	09 40 16.2	+0.5
	0.1nm,0.3s,baz=46,slow=9.1,SNR=5.3						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**80.33**	**319**	P	P	09 46 45.5	+0.6
	0.2nm,0.5s,baz=117,slow=5.7,SNR=1.9						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**150.67**	**289**	PKPbc	PKPbc	09 54 26.0	-0.4
	0.6nm,0.8s,baz=57,slow=2.0,SNR=2.9						

*IDC **24** 09:38:00.1±4.8, 14°.36S × 167°.34E, h174km±45km, mb3.2/6, mbtmp3.7/7, Error ellipse: s-maj=35.8km s-min=27.1km az=155.0*

ISC 24 09:37:59.6±1.1, 14°.3S±0°.1 × 167°.4E±0°.2, h170km, n8, σ0s74/9, mb3.4/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.75**	**186**	P	**Pn**	**09 39 50.5**	**+0.8**
	1.6nm,0.3s,baz=336,slow=11,SNR=7.5						
DZM				S	**Sn**	**09 41 16.0**	**-0.7**
	2.0nm,0.7s,baz=212,slow=21,SNR=1.3						
STKA	**Stephens Creek**	**29.32**	**229**	P	**P**	**09 43 47.2**	**+0.8**
	0.9nm,0.3s,baz=68,slow=9.5,SNR=8.2						
	0.9nm,0.3s						
WRA	**Warramunga Arr**	**32.01**	**255**	P	**P**	**09 44 09.8**	**-0.5**
	0.3nm,0.6s,baz=85,slow=8.8,SNR=4.6						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**32.90**	**249**	P	**P**	**09 44 17.3**	**-0.7**
	0.4nm,0.3s,baz=70,slow=9.7,SNR=32						
	0.4nm,0.3s						
QSPA	**South Pole Qui**	**75.69**	**180**	P	**P**	**09 49 25.4**	**-0.7**
	0.6nm,0.9s,baz=36,slow=4.8,SNR=1.6						
	0.6nm,0.9s						
SONM	**Songino Array**	**82.23**	**324**	P	**P**	**09 50 02.0**	**0.0**
	0.3nm,0.5s,baz=119,slow=5.1,SNR=1.7						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**86.12**	**18**	P	**P**	**09 50 20.9**	**-0.2**
	0.5nm,0.8s,baz=243,slow=5.0,SNR=6.8						
	0.5nm,0.8s						
ARCES	**ARCESS Array B**	**119.89**	**345**	PKP	**PKiKP**	**09 56 29.9**	**+0.6**
	0.5nm,0.3s,baz=44,slow=3.9,SNR=20						

IDC 24 10:00:54.0±292.0, 58°.20N × 54°.44E, h0km, Error ellipse: s-maj=141.8km s-min=122.2km az=35.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**8.09**	**163**	I	I	10 50 10.0	
	baz=345,slow=331,SNR=1.1						
I46RU	**ZALESOVO INFRA**	**17.40**	**91**	I	I	11 46 40.0	
	baz=296,slow=324,SNR=0.6						
I37NO	**I37NO**	**18.93**	**320**	I	I	11 47 20.0	
	baz=103,slow=330,SNR=1.2						
I34MN	**SONGINO INFRAS**	**32.17**	**86**	I	I	13 15 30.0	
	baz=307,slow=333,SNR=0.7						
I18DK	**QAANAAQ INFRAS**	**40.21**	**344**	I	I	14 11 20.0	
	baz=45,slow=340,SNR=0.9						

*NEIC **24** 10:15:05.9±2.0, 60°.7N±0°.1 × 165°.8E±0°.3, h10km±2km, mb4.1/48, Error ellipse: s-maj=25.5km s-min=20.5km az=264.0*
*KRSC **24** 10:15:08.8±0.7, 60°.69N × 166°.79E, h38km±4km, Ml4.3*
*IDC **24** 10:15:10.6±0.9, 61°.25N × 166°.85E, h0km, mb3.7/14, mbtmp3.7/16, ML4.6/1, MS2.9/5, Error ellipse: s-maj=26.1km s-min=12.2km az=172.0*
*MOS **24** 10:15:10.8±1.3, 60°.76N × 166°.61E, h34km, mb4.4/4, Error ellipse: s-maj=19.0km s-min=10.2km az=76.6*

ISC 24 10:15:10.5±0.5, 60°.81N±0°.05 × 166°.69E±0°.06, h10km, n89, σ1s46/91, mb4.0/28, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILK	**Tilichiki**	**0.45**	**217**	*eP*	**Pg**	**10 15 18.6**	**-0.7**
TILK				*eS*	**Sg**	**10 15 25.4**	**+0.2**
TILK	**Tilichiki**	**0.45**	**217**	PN	**Pg**	**10 15 18.6**	**-0.7**
TILK				S	**Sg**	**10 15 25.4**	**+0.2**
KMSK	**Kamenskaya**	**1.68**	**352**	*eP*	**Pn**	**10 15 39.5**	**-0.5**
KMSK				*eS*	**Sn**	**10 16 01.3**	**-0.3**
KMSK	**Kamenskaya**	**1.68**	**352**	PN	**Pn**	**10 15 39.5**	**-0.5**
KMSK				S	**Sn**	**10 16 01.3**	**-0.3**
OSSR	**Ossora**	**2.40**	**231**	*eP*	**Pn**	**10 15 48.6**	**-1.2**
OSSR	**Ossora**	**2.40**	**231**	PN	**Pn**	**10 15 48.6**	**-1.2**
PALN	**Palana**	**3.80**	**246**	*eP*	**Pn**	**10 16 08.6**	**-0.3**
PALN	**Palana**	**3.80**	**246**	PN	**Pn**	**10 16 08.6**	**-0.3**
KBG	**Krutoberegovo**	**5.02**	**206**	*eP*	**Pn**	**10 16 24.6**	**-1.2**
KBG	**Krutoberegovo**	**5.02**	**206**	PN	**Pn**	**10 16 24.6**	**-1.2**
SEY	**Seymchan**	**7.09**	**294**	Pn	**Pn**	**10 16 53.8**	**-0.4**
	0.9nm,0.5s,baz=67,slow=15,SNR=6.3						
SEY				Lg	Lg	10 18 56.1	
	0.4nm,0.3s,baz=33,slow=21,SNR=4.7						
SEY				LR	LR	10 20 12.5	
	comp=Z,52nm,19.7s,baz=325,slow=43						
BILL	**Bilibino**	**7.27**	**359**	Pn	**Pn**	**10 16 57.1**	**+0.5**
MA2	**Magadan**	**8.03**	**268**	PN	**Pn**	**10 17 10.0**	**+2.9**
MA2	**Magadan**	**8.03**	**268**	Pn	**Pn**	**10 17 10.0**	**+2.9**
	0.7nm,0.3s,baz=68,slow=16,SNR=5.5						
MA2				LR	LR	10 20 40.1	
	comp=Z,58nm,18.1s,baz=45,slow=40						
	4.6nm,0.5s						
PETK	**Petropavlovsk-**	**9.14**	**216**	LR	LR	10 21 14.5	
	comp=Z,64nm,19.9s,baz=64,slow=38						
GSTR	**Great Sitkin T**	**12.89**	**125**	Pn	**Pn**	**10 18 15.3**	**+1.7**
K15K	**Wolf Creek Mou**	**15.13**	**71**	P	**P**	**10 18 49.8**	**+0.5**
B20K	**Meade River**	**17.34**	**43**	Pn	**Pn**	**10 19 11.7**	**-0.6**
B20K				IAmb	IAmb	10 19 16.6	
	comp=Z,11nm,1.0s						
J19K	**Poorman**	**17.57**	**63**	P	**Pn**	**10 19 16.7**	**+1.5**
IMAR	**Indian Mountai**	**18.21**	**57**	P	**Pn**	**10 19 24.2**	**+1.2**
L19K	**White Mountain**	**18.23**	**69**	P	**Pn**	**10 19 24.0**	**+0.7**
L19K				IAmb	IAmb	10 19 26.8	
	comp=Z,16nm,1.4s						
G21K	**Allakaket**	**18.29**	**55**	P	**Pn**	**10 19 25.8**	**+1.8**
G21K				IAmb	IAmb	10 19 35.8	
	comp=Z,11nm,1.2s						
H21K	**Melozitna Rive**	**18.61**	**58**	P	**P**	**10 19 27.4**	**-0.3**
B22K	**Teshekpuk Lake**	**18.66**	**43**	P	**P**	**10 19 27.5**	**-0.6**
CAST	**Castle Rocks**	**19.22**	**64**	P	**P**	**10 19 35.9**	**+1.5**
C23K	**Itkillik River**	**19.54**	**45**	P	**P**	**10 19 37.3**	**-0.4**
KTH	**Kantishna Hill**	**19.70**	**64**	P	**P**	**10 19 41.6**	**+1.9**
KTH				IAmb	IAmb	10 19 45.7	
	comp=Z,8.1nm,1.0s						
SKT	**Skwentna**	**19.79**	**68**	P	**P**	**10 19 42.0**	**+1.4**
TOLK	**Toolik Lake Re**	**19.82**	**48**	P	**P**	**10 19 41.2**	**+0.2**
TOLK				IAmb	IAmb	10 19 43.6	
	comp=Z,7.7nm,0.9s						
TRF	**Thorofare Moun**	**20.00**	**64**	P	**P**	**10 19 43.8**	**+0.7**
TRF				IAmb	IAmb	10 19 53.7	
	comp=Z,8.1nm,1.2s						
D24K	**Happy Valley**	**20.11**	**47**	P	**P**	**10 19 45.8**	**+1.8**
D24K				IAmb	IAmb	10 19 49.8	
	comp=Z,8.8nm,1.2s						
BWN	**Browne**	**20.22**	**61**	P	**P**	**10 19 48.8**	**+3.6**
E24K	**Your Creek**	**20.22**	**50**	P	**P**	**10 19 46.0**	**+0.7**
E24K				IAmb	IAmb	10 19 49.0	
	comp=Z,7.6nm,1.2s						
F24K	**Squaw Lake**	**20.47**	**52**	P	**P**	**10 19 48.2**	**+0.3**
F24K				IAmb	IAmb	10 19 52.1	
	comp=Z,5.9nm,0.9s						
H24K	**Noodor Dome**	**20.62**	**56**	P	**P**	**10 19 51.7**	**+2.0**
H24K				IAmb	IAmb	10 20 05.4	
	comp=Z,11nm,1.5s						
RND	**Reindeer**	**20.64**	**63**	P	**P**	**10 19 52.2**	**+2.3**
RND				IAmb	IAmb	10 20 09.3	
	comp=Z,12nm,1.4s						
RND	**Reindeer**	**20.64**	**63**	P	**P**	**10 19 52.2**	**+2.3**
RND				pmax	pmax		
	comp=Z,13nm,1.4s						
CCB	**Clear Creek Bu**	**20.84**	**60**	P	**P**	**10 19 51.3**	**-0.6**
CCB				IAmb	IAmb	10 19 53.1	
	comp=Z,8.1nm,1.0s						
D25K	**Kavik River**	**20.99**	**46**	P	**P**	**10 19 52.7**	**-0.9**
D25K				IAmb	IAmb	10 19 57.6	
	comp=Z,11nm,0.8s						
IL31		**21.20**	**59**	P	**P**	**10 19 55.5**	**-0.4**
IL31				IAmb	IAmb	10 19 59.1	
	comp=Z,4.3nm,0.6s						
ILAR	**Eielson Array**	**21.20**	**59**	P	**P**	**10 19 55.6**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=276,slow=8.8,SNR=43						
	comp=Z,2.8nm,0.6s						
SML	**Sawmill**	**21.30**	**68**	P	**P**	**10 19 55.9**	**-1.0**
PRP	**Porcupine Dome**	**21.63**	**57**	P	**P**	**10 20 01.6**	**+1.0**
PRP				IAmb	IAmb	10 20 03.8	
	comp=Z,7.6nm,0.7s						
SCM	**Sheep Creek Mo**	**21.74**	**67**	P	**P**	**10 20 01.1**	**-0.6**
SCM	**Sheep Creek Mo**	**21.74**	**67**	P	**P**	**10 20 01.2**	**-0.6**
SCM				pmax	pmax		
	comp=Z,15nm,0.9s						
BMAR	**Burnt Mountain**	**21.74**	**52**	P	**P**	**10 20 02.9**	**+1.2**
J25K	**Salcha River,**	**21.87**	**59**	P	**P**	**10 20 02.0**	**-1.1**
M24K	**Tolsona, Glenn**	**22.18**	**66**	P	**P**	**10 20 07.1**	**+0.7**
J26L	**Joseph Creek**	**22.66**	**59**	P	**P**	**10 20 09.5**	**-2.1**
J26L				IAmb	IAmb	10 20 42.7	
	comp=Z,5.6nm,1.4s						
E27K	**Coleen River**	**22.79**	**49**	P	**P**	**10 20 12.7**	**-0.2**
G27K	**Doyon Strip**	**22.96**	**53**	P	**P**	**10 20 15.6**	**+0.9**
G27K				IAmb	IAmb	10 20 17.4	
	comp=Z,4.8nm,1.0s						
L26K	**Log Cabin Wild**	**23.15**	**63**	P	**P**	**10 20 15.6**	**-1.0**
K27K	**Chicken**	**23.41**	**60**	P	**P**	**10 20 17.6**	**-1.5**
K27K				IAmb	IAmb	10 20 31.9	
	comp=Z,8.7nm,1.4s						
E28M	**Babbage River**	**23.50**	**48**	P	**P**	**10 20 18.4**	**-1.7**
L27K	**Beaver Creek,**	**23.80**	**62**	P	**P**	**10 20 21.8**	**-1.3**
BCAR	**Beaver Creek A**	**23.81**	**62**	P	**P**	**10 20 22.3**	**-0.9**
I28M	**Miner Creek**	**23.93**	**56**	P	**P**	**10 20 24.4**	**0.0**
TGL	**Tana Glacier**	**24.15**	**68**	P	**P**	**10 20 23.8**	**-2.7**
G29M	**Pine Creek**	**24.35**	**52**	P	**P**	**10 20 28.0**	**-0.2**
H29M	**Whitestone**	**24.37**	**54**	P	**P**	**10 20 27.5**	**-0.8**
H29M				IAmb	IAmb	10 20 38.1	
	comp=Z,7.4nm,1.3s						
DAWY	**Dawson**	**24.53**	**59**	P	**P**	**10 20 28.6**	**-1.2**
DAWY				IAmb	IAmb	10 20 30.8	
	comp=Z,4.8nm,1.0s						
BARN	**Barnard Glacie**	**24.57**	**67**	P	**P**	**10 20 30.1**	**-0.3**
L29M	**L29M**	**25.37**	**61**	P	**P**	**10 20 36.7**	**-0.7**
L29M				IAmb	IAmb	10 20 39.7	
	comp=Z,4.9nm,0.9s						
I30M	**Mount Dempster**	**25.43**	**55**	P	**P**	**10 20 37.0**	**-1.1**
I30M				IAmb	IAmb	10 20 41.0	
	comp=Z,3.2nm,1.0s						
M29M	**Somme Creek**	**25.46**	**62**	P	**P**	**10 20 38.0**	**-0.3**
J30M	**Hart River**	**25.64**	**57**	P	**P**	**10 20 38.7**	**-1.3**
J30M				IAmb	IAmb	10 20 40.0	
	comp=Z,2.7nm,0.8s						
INK	**Inuvik**	**25.73**	**48**	P	**P**	**10 20 39.6**	**-0.9**
INK	**Inuvik**	**25.73**	**48**	P	**P**	**10 20 39.9**	**-0.7**
	comp=Z,2.0nm,0.6s,baz=296,slow=5.8,SNR=15						
	comp=Z,2.0nm,0.6s						
F31M	**Tsiigehtchic**	**25.86**	**50**	P	**P**	**10 20 40.5**	**-1.1**
F31M				IAmb	IAmb	10 20 41.5	
	comp=Z,4.0nm,0.7s						
BOD	**Bodaibo**	**26.45**	**287**	*eP*	**P**	**10 20 43.4**	**-3.8**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.4s						
C36M	**Palatuk**	**28.77**	**44**	P	**P**	**10 21 07.1**	**-0.8**
YKA	**Yellowknife Ar**	**35.26**	**52**	P	**P**	**10 22 03.7**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=303,slow=8.6,SNR=16						
	comp=Z,1.2nm,0.7s						
SONM	**Songino Array**	**36.12**	**277**	P	**P**	**10 22 15.0**	**+2.4**
SONM	**Songino Array**	**36.12**	**277**	P	**P**	**10 22 15.0**	**+2.4**
	comp=Z,0.5nm,0.8s,baz=61,slow=12,SNR=2.1						
	comp=Z,0.5nm,0.8s						
EDM	**Edmonton**	**41.60**	**63**	P	**P**	**10 22 57.9**	**-0.3**
EDM	**Edmonton**	**41.60**	**63**	P	**P**	**10 22 57.9**	**-

baz=304,slow=75,SNR=3.4
H11S1 WAKE ISLAND Hy 26.00 112 T T 10 52 58.2
baz=304,slow=75,SNR=4.7
H11S2 WAKE ISLAND Hy 26.02 112 T T 10 53 02.0
baz=304,slow=75,SNR=3.4
DAV Davao City (W) 27.93 215 LR LR 10 35 40.2
comp=Z,22nm,20.6s,baz=130,slow=35
CMAR Chiang Mai Arr 40.29 262 LR LR 10 44 10.4
comp=Z,7.0nm,18.3s,baz=140,slow=37
KURBB Kurchatov Arra 49.96 312 P **P** **10 28 47.3 -2.5**
0.2nm,0.3s,baz=90,slow=9.2,SNR=4.5
0.2nm,0.3s
WRA Warramunga Arr 50.97 189 P **P** **10 28 56.0 -1.7**
0.4nm,0.3s,baz=2.7,slow=7.6,SNR=19
WRA PcP **PcP** **10 30 14.5 +0.9**
0.5nm,0.8s,baz=2.2,slow=4.0,SNR=3.0
0.4nm,0.3s
ASAR Alice Springs 54.70 188 P **P** **10 29 23.6 -1.6**
0.3nm,0.4s,baz=1.8,slow=5.1,SNR=16
0.3nm,0.4s
BVAR Borovoye Array 54.84 316 P **P** **10 29 24.5 -1.5**
0.3nm,0.5s,baz=91,slow=7.8,SNR=2.2
0.3nm,0.5s
FINES FINESS Array B 74.28 333 P **P** **10 31 33.0 +0.3**
4.4nm,1.0s,baz=66,slow=4.7,SNR=7.2
4.4nm,1.0s

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*JMA **24** 10:39:56.2±0.1,35°N±2°×13°7E±°, h380km, MV2.6/27, ISE BAY REGION*
*IDC **24** 10:39:58.3±1.1,34°45N×136°92E, h303km±33km, mb2.7/2, mbtmp3.3/5, Error ellipse: s-maj=55.8km s-min=27.3km az=36.0*
ISC 24 10:39:59.6±1.1,34°76N±0°09×136°95E±0°07, h345km±10km, n18, σ2§01/23, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAA	**Atsumi**	**0.21**	**128**	*eP*	**Pn**	**10 40 43.5**	**+0.5**
JIE	**Ise**	**0.42**	**208**	P	**Pn**	**10 40 43.5**	**+0.2**
JYTA	**Yamagatataniai**	**0.85**	**348**	P	**Pn**	**10 40 45.3**	**+1.1**
JWY	**Kouya**	**1.24**	**245**	P	**Pn**	**10 40 46.2**	**+0.1**
JWT	**Wachi**	**1.37**	**293**	P	**Pn**	**10 40 47.4**	**+0.8**
JTNC	**Tanabenakahech**	**1.45**	**230**	P	**Pn**	**10 40 46.9**	**-0.2**
JOD2	**Odawara 2**	**1.83**	**73**	*eP*	**Pn**	**10 40 50.5**	**+1.2**
JOD2				*eS*	**S**	**10 41 32.9**	**+3.7**
JRY	**Ryogami san**	**2.03**	**51**	*eP*	**Pn**	**10 40 52.5**	**+1.8**
JRY				*eS*	**S**	**10 41 34.7**	**+2.9**
MJAR	**Matsushiro Arr**	**2.05**	**30**	P	**Pn**	**10 40 49.5**	**-1.4**
	1.8nm,0.8s,baz=209,slow=9.6,SNR=5.1						
MJAR				S	**S**	**10 41 27.6**	**-4.4**
	0.7nm,0.4s,baz=217,slow=12,SNR=2.4						
JAI	**Aioi**	**2.28**	**246**	*eP*	**Pn**	**10 40 52.5**	**-0.2**
JAG	**Ashikaga**	**2.63**	**50**	*eP*	**Pn**	**10 40 55.9**	**+0.5**
JAG				*eS*	**S**	**10 41 37.0**	**-3.2**
JSZ	**Suzu**	**2.70**	**7**	*eP*	**Pn**	**10 40 56.5**	**+0.6**
JHJ	**Hachijo jima 2**	**2.87**	**124**	P	Pn	10 40 51.8	-5.7
	56nm,0.6s,baz=232,slow=19,SNR=1.3						
JHJ				S	**S**	**10 41 40.6**	**-3.4**
	118nm,0.9s,baz=39,slow=20,SNR=2.0						
JHJ2	**Mitsune**	**2.90**	**124**	*eS*	**S**	**10 41 45.2**	**+0.8**
BSO1	**Boso 1**	**3.32**	**91**	*eP*	**Pn**	**10 41 00.9**	**-0.1**
BSO1				S	**S**	**10 41 48.7**	**-1.8**
KSRS	**Korea Array**	**7.78**	**293**	P	**P**	**10 41 51.1**	**+0.1**
	1.2nm,0.6s,baz=103,slow=13,SNR=4.9						
WRA	**Warramunga Arr**	**54.46**	**183**	P	**P**	**10 48 52.8**	**+0.3**
	0.2nm,0.3s,baz=0.7,slow=7.5,SNR=5.5						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**58.18**	**183**	P	**P**	**10 49 18.9**	**+0.3**
	0.2nm,0.8s,baz=360,slow=6.0,SNR=4.6						
	0.2nm,0.8s						

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*SJA **24** 10:43:48.6±0.7,27°47S×63°34W, h615km±8km, ML4.0, MW4.2*
*IDC **24** 10:43:55.1±0.6,27°15S×63°51W, h578km±5km, mb3.6/10, mbtmp4.5/16, Error ellipse: s-maj=14.3km s-min=10.0km az=132.0*
*VAO **24** 10:43:55.0±0.3,27°27S×63°44W, h579km, mb4.3*
*NEIC **24** 10:43:55.3±1.4,27°32S±0°10×63°4W±0°1, h574km±7km, mb4.3/14, Error ellipse: s-maj=18.0km s-min=13.9km az=104.0*
ISC 24 10:43:54.1±0.4,27°24S±0°05×63°42W±0°06, h561km, n148, σ1§68/162, mb4.3/18, 2C-1D, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUSE	**Guasayan**	**1.42**	**243**	*eP*	**P**	**10 45 05.2**	**+2.7**
AHML	**Horco Molle**	**1.77**	**285**	*eP*	**P**	**10 45 06.5**	**+2.6**
AHML				*eS*	**S**	**10 46 03.5**	**+2.9**
AHML				IAML		10 46 06.5	
	comp=Z,13nm,0.7s						
FSA	**Cafayete**	**2.55**	**296**	*eP*	**P**	**10 45 10.2**	**+2.5**
TICA	**Tres Isletas**	**2.85**	**73**	*eP*	**P**	**10 45 12.1**	**+3.0**
SLA	**San Lorenzo**	**3.13**	**323**	*eP*	**P**	**10 45 14.1**	**+3.0**
SLA				*eS*	**S**	**10 46 19.9**	**+6.2**
SLA				IAML		10 46 20.8	
	comp=Z,18nm,1.0s						
AZAP	**Zapla**	**3.35**	**333**	*eP*	**P**	**10 45 15.3**	**+2.7**
AZAP				IAML		10 47 03.1	
	comp=Z,34nm,1.7s						
ALOL	**LOMAS DE OLMED**	**3.45**	**351**	*eP*	**P**	**10 45 16.8**	**+3.8**
TINO	**Tinogasta**	**3.77**	**257**	*eP*	**P**	**10 45 17.7**	**+2.5**
ACLC	**CERRO LA CRUZ**	**3.80**	**234**	*eP*	**P**	**10 45 16.9**	**+1.5**
ACLC				*eS*	**S**	**10 46 23.0**	**+1.2**
ACLC				IAML		10 46 23.0	
	comp=Z,84nm,0.9s						
APLL	**PUNTA DE LOS L**	**4.16**	**220**	*eP*	**P**	**10 45 18.9**	**+1.0**
APLL				IAML		10 46 31.3	
	comp=Z,16nm,0.6s						
TCA	**Tanti**	**4.21**	**194**	*eP*	**P**	**10 45 19.4**	**+1.1**
TCA				IAML		10 47 09.9	
	comp=Z,15nm,0.7s						
SCCA	**San Cayetano,**	**4.27**	**95**	*eP*	**P**	**10 45 21.6**	**+3.0**
VCA	**Vinchina**	**4.48**	**250**	*eP*	**P**	**10 45 23.3**	**+2.8**
VCA				*eS*	**S**	**10 46 35.1**	**+4.0**
VCA				IAML		10 46 40.0	
	comp=Z,141nm,0.7s						
ESFA	**Espinillo Form**	**4.99**	**64**	*eP*	**P**	**10 45 27.9**	**+3.4**
CPUP	**Villa Florida**	**5.52**	**82**		**P**	**10 45 30.9**	**+1.9**
CPUP	**Villa Florida**	**5.52**	**82**	*eP*	**P**	**10 45 31.4**	**+2.4**
CPUP	**Villa Florida**	**5.52**	**82**	P	**P**	**10 45 31.4**	**+2.4**
	comp=Z,74nm,0.5s,baz=248,slow=8.7,SNR=268						
CPUP				S	**S**	**10 46 48.2**	**+1.6**
	comp=Z,5.3nm,0.6s,baz=70,slow=17,SNR=0.8						
GO02	**Mina Guanaco**	**5.91**	**289**		**P**	**10 45 35.8**	**+3.0**
CFA	**Coronel Fontan**	**6.04**	**223**	P	**P**	**10 45 35.8**	**+2.2**
	comp=Z,176nm,0.4s,baz=79,slow=13,SNR=308						
CFA				S	**S**	**10 46 56.5**	**+1.4**
	comp=Z,49nm,0.4s,baz=314,slow=20,SNR=8.6						
GO03	**Copiap**	**6.07**	**265**	P	**P**	**10 45 35.5**	**+1.6**
AC06	**Mina Casimiro**	**6.17**	**267**		**P**	**10 45 36.8**	**+2.1**
AC05	**El Transito**	**6.26**	**254**	P	**P**	**10 45 37.7**	**+2.0**
ZON	**Zonda**	**6.28**	**226**	P	**P**	**10 45 37.7**	**+2.0**
ITQB	**Itaqui**	**6.46**	**114**		**P**	**10 45 39.7**	**+2.4**
ITQB	**Itaqui**	**6.46**	**114**	*eP*	**P**	**10 45 39.0**	**+1.7**
CO01	**Juntas del Tor**	**6.47**	**244**	P	**P**	**10 45 40.5**	**+2.8**
AC01	**Pan de Azucar**	**6.51**	**278**	P	**P**	**10 45 39.4**	**+1.5**
LCO	**Las Campanas**	**6.66**	**253**	P	**P**	**10 45 41.4**	**+1.8**
LVC	**Limon Verde**	**6.79**	**312**		**P**	**10 45 42.9**	**+1.9**
LVC	**Limon Verde**	**6.79**	**312**	*eP*	**P**	**10 45 42.7**	**+1.7**
LVC	**Limon Verde**	**6.79**	**312**	P	**P**	**10 45 42.4**	**+1.4**
	comp=Z,20nm,0.5s,baz=122,slow=5.1,SNR=45						
LVC				S	**S**	**10 47 05.4**	**-2.9**
	comp=Z,16nm,0.5s,baz=234,slow=21,SNR=18						
PB15	**IPOC Station P**	**6.79**	**305**	P	**P**	**10 45 43.1**	**+2.2**
GO04	**Tololo Observa**	**7.11**	**244**		**P**	**10 45 45.4**	**+1.7**
CO03	**El Pedregal**	**7.30**	**239**	P	**P**	**10 45 46.7**	**+1.4**
UNIS	**Unistalda (Bra**	**7.59**	**106**	*eP*	**P**	**10 45 49.7**	**+1.6**
MURT	**Porto Murtinho**	**7.68**	**45**	*eP*	**P**	**10 45 51.2**	**+2.2**
CO02	**Combarbal**	**7.71**	**237**	P	**P**	**10 45 50.6**	**+1.3**
RODS	**Rosario do Sul**	**7.85**	**115**	*eP*	**P**	**10 45 52.2**	**+1.6**
CRSM	**Crissiumal (Br**	**8.34**	**94**	*eP*	**P**	**10 45 57.1**	**+1.6**
PEL	**Peldehue**	**8.61**	**225**	P	**P**	**10 45 58.7**	**+0.6**
MT16	**CCHEN**	**8.70**	**223**	P	**P**	**10 45 59.8**	**+0.9**
ROC1	**El Roble**	**8.71**	**227**	P	**P**	**10 45 59.8**	**+0.5**
MCR1	**Marechal Candi**	**8.90**	**74**	*eP*	**P**	**10 46 03.0**	**+1.9**
BDQN	**Bodoquena, MS**	**9.11**	**43**	*eP*	**P**	**10 46 04.9**	**+1.6**
BO04	**La Punta**	**9.14**	**221**	P	**P**	**10 46 04.8**	**+1.4**
GO01	**Chusmiza**	**9.21**	**324**	P	**P**	**10 46 06.5**	**+1.7**
MT09	**Talagante**	**9.22**	**223**	P	**P**	**10 46 05.0**	**+0.8**
CPSB	**Cacapava Do Su**	**9.30**	**112**	*eP*	**P**	**10 46 05.9**	**+0.8**
ALGR	**Alto Alegre (B**	**9.32**	**102**	*eP*	**P**	**10 46 06.5**	**+1.2**
FRBT	**Francisco Belt**	**9.36**	**85**	*eP*	**P**	**10 46 06.8**	**+1.1**
MT01	**Popeta**	**9.44**	**224**	P	**P**	**10 46 06.9**	**+0.5**
BBRB	**Robore, Bolivi**	**9.52**	**21**	*eP*	**P**	**10 46 09.6**	**+2.1**
PLTB	**Pedras Altas**	**9.67**	**120**	P	**P**	**10 46 08.9**	**+0.2**
PLTB	**Pedras Altas**	**9.67**	**120**	*eP*	**P**	**10 46 09.4**	**+0.7**
BO01	**Tunca**	**9.70**	**221**	P	**P**	**10 46 09.8**	**+0.8**
AQDB	**Aquidauana**	**9.76**	**48**	P	**P**	**10 46 11.2**	**+1.5**
AQDB	**Aquidauana**	**9.76**	**48**	*eP*	**P**	**10 46 11.3**	**+1.5**
ITAB	**Concordia**	**10.05**	**93**	P	**P**	**10 46 13.1**	**+0.4**
ITAB	**Concordia**	**10.05**	**93**	*eP*	**P**	**10 46 13.3**	**+0.6**
BBSD	**Serra de San D**	**10.34**	**15**	*eP*	**P**	**10 46 17.4**	**+1.6**
PTGB	**Pitanga**	**10.52**	**79**	*eP*	**P**	**10 46 18.6**	**+0.9**
TRQA	**Tornquist**	**10.85**	**174**	P	**P**	**10 46 20.0**	**-0.7**
ML02	**Paniniavida**	**10.89**	**217**	P	**P**	**10 46 21.9**	**+0.9**
RPRD	**Ribas do Rio P**	**11.15**	**55**	*eP*	**P**	**10 46 26.5**	**+2.5**
CNLB	**Canela**	**11.27**	**103**	*eP*	**P**	**10 46 26.1**	**+1.0**
RVDE	**Rio Verde (Bra**	**11.30**	**45**	*eP*	**P**	**10 46 27.3**	**+1.7**
SIV	**San Ignacio**	**11.41**	**12**	P	**P**	**10 46 27.4**	**+0.6**
	comp=Z,14nm,1.0s,baz=192,slow=8.3,SNR=42						
SIV				S	**S**	**10 48 30.2**	**-2.1**
	comp=Z,1.2nm,0.8s,baz=215,slow=8.8,SNR=4.5						
LPAZ	**La Paz**	**11.74**	**337**	P	**P**	**10 46 31.6**	**+0.7**
LDASE	**Londrina, Braz**	**11.77**	**74**	*eP*	**P**	**10 46 30.6**	**+0.2**
PTLB	**Pontes e Lacer**	**12.39**	**20**	P	**P**	**10 46 37.5**	**+0.7**
PTLB	**Pontes e Lacer**	**12.39**	**20**	*eP*	**P**	**10 46 37.5**	**+0.7**
PCMB	**Pacaembu**	**12.41**	**66**	*eP*	**P**	**10 46 37.8**	**+0.8**
PPTB	**Ponte de Pedra**	**12.42**	**41**	*eP*	**P**	**10 46 38.2**	**+1.1**
FRTB	**Fartura**	**13.12**	**76**	*eP*	**P**	**10 46 44.7**	**+0.3**
SALV	**Santo Antonio**	**13.37**	**34**	*eP*	**P**	**10 46 47.8**	**+0.8**
GO06	**Curarrehue**	**14.02**	**207**	P	**P**	**10 46 53.4**	**0.0**
ITRB	**Iturama**	**14.13**	**61**	*eP*	**P**	**10 46 55.2**	**+0.5**
VILB	**Vilhena**	**14.53**	**13**	P	**P**	**10 47 00.0**	**+1.2**
VILB	**Vilhena**	**14.53**	**13**	*eP*	**P**	**10 46 59.5**	**+0.7**
PLCA	**Paso Flores**	**14.69**	**202**	P	**P**	**10 46 59.5**	**-0.5**
PLCA	**Paso Flores**	**14.69**	**202**	*eP*	**P**	**10 47 00.1**	**0.0**
PLCA	**Paso Flores**	**14.69**	**202**	P	**P**	**10 46 59.4**	**-0.7**
	comp=Z,8.7nm,0.7s,baz=25,slow=12,SNR=26						
PLCA				ScP	**ScP**	**10 54 08.8**	**-2.8**
	comp=Z,1.7nm,0.7s,baz=325,slow=2.6,SNR=4.9						
LR05	**Currie**	**14.78**	**207**	P	**P**	**10 47 01.2**	**+0.3**
SPB	**Sao Paulo**	**14.90**	**79**	P	**P**	**10 47 03.8**	**+1.5**
SPB	**Sao Paulo**	**14.90**	**79**	*eP*	**P**	**10 47 04.4**	**+2.0**
BB19B	**Bebedouro**	**14.91**	**69**	*eP*	**P**	**10 47 02.6**	**0.0**
RCLB	**Rio Claro- Sao**	**15.20**	**75**	*eP*	**P**	**10 47 05.7**	**+0.2**
VAO	**Valinhos**	**15.49**	**78**	*eP*	**P**	**10 47 08.8**	**+0.5**
PARB	**Paraibuna**	**16.56**	**80**	*eP*	**P**	**10 47 19.2**	**+0.7**
PDRB	**Porto dos Gac**	**16.77**	**23**	*eP*	**P**	**10 47 20.3**	**-0.1**
IPMB	**Ipameri, GO**	**16.78**	**60**	*eP*	**P**	**10 47 20.7**	**+0.2**
ETMB	**Extrema**	**17.53**	**351**	*eP*	**P**	**10 47 27.9**	**+0.7**
CLDB	**Colider**	**17.80**	**25**	*eP*	**P**	**10 47 30.7**	**+0.9**
PMNB	**Patos De Minas**	**17.87**	**65**	*eP*	**P**	**10 47 31.5**	**+1.0**
BSCB	**Bom Sucesso**	**18.11**	**74**	*eP*	**P**	**10 47 34.2**	**+1.5**
SAML	**Samuel**	**18.20**	**1**	*eP*	**P**	**10 47 33.6**	**+0.2**
BDFB	**Brasilia**	**18.39**	**54**	P	**P**	**10 47 35.7**	**+0.4**
BDFB	**Brasilia**	**18.39**	**54**	*eP*	**P**	**10 47 35.4**	**+0.2**
	comp=Z,34nm,0.8s,baz=225,slow=8.6,SNR=48						
BDFB				S	**S**	**10 50 37.0**	**+1.9**
	comp=Z,3.1nm,0.7s,baz=158,slow=24,SNR=2.8						
SNDB	**Serra Nova Dou**	**18.98**	**39**	*eP*	**P**	**10 47 41.0**	**+0.5**
DIAM	**Diamantina, MG**	**20.25**	**68**	*eP*	**P**	**10 47 53.1**	**+0.9**
CZSB	**Cruzeiro do Su**	**21.31**	**334**	*eP*	**P**	**10 48 02.3**	**+0.7**
NPGB	**Novo Progresso**	**21.50**	**22**	*eP*	**P**	**10 48 03.2**	**-0.1**
JANB	**Januaria**	**21.52**	**60**	*eP*	**P**	**10 48 03.8**	**+0.3**
SJMB	**Sao Joao De Ma**	**22.14**	**72**	*eP*	**P**	**10 48 09.5**	**+0.5**
SDBA	**SAO DESIDERIO**	**22.78**	**53**	*eP*	**P**	**10 48 15.3**	**+0.5**
TEFE	**Tefe**	**23.63**	**357**	*eP*	**P**	**10 48 21.9**	**-0.4**
MALB	**Monte Alegre**	**26.73**	**21**	*eP*	**P**	**10 48 48.1**	**-1.5**
MCPB	**Macapa, AP**	**28.87**	**24**	*eP*	**P**	**10 49 08.7**	**+0.4**
BOAV	**Boa Vista**	**29.60**	**6**	P	**P**	**10 49 14.7**	**+0.1**
BOAV	**Boa Vista**	**29.60**	**6**	*eP*	**P**	**10 49 14.8**	**+0.1**
SDV	**Santo Domingo**	**36.59**	**348**	*eP*	**P**	**10 50 12.7**	**-1.0**
SNAA	**Sanae**	**55.23**	**160**	P	**P**	**10 52 31.6**	**-2.6**
QSPA	**South Pole Qui**	**62.98**	**180**	P	**P**	**10 53 26.9**	**+0.8**
	comp=Z,5.2nm,0.7s,baz=163,slow=19,SNR=35						
	comp=Z,5.2nm,0.7s						
V55A	**Taylorsville**	**64.96**	**344**	P	**P**	**10 53 39.2**	**+0.2**
V55A				IAmb	IAmb	10 53 40.8	
	comp=Z,14nm,1.0s						
CPCT	**Cooper Cave**	**65.46**	**341**	P	**P**	**10 53 41.9**	**-0.2**
CPCT				IAmb	IAmb	10 54 24.0	
	comp=Z,12nm,1.4s						
LIC	**Lamto**	**65.49**	**69⇑**	*iP*	**P**	**10 53 42.4**	**-0.4**
	comp=Z,6.0nm,0.3s						
TIC	**Toumodi**	**65.73**	**68⇑**	*iP*	**P**	**10 53 44.0**	**-0.3**
	comp=Z,7.0nm,0.2s						
KIC	**Kosan Boka**	**65.80**	**69⇓**	*iP*	**P**	**10 53 44.2**	**-0.5**
	comp=Z,14nm,0.4s						
DBIC	**Dimbokro**	**65.88**	**68**	P	**P**	**10 53 44.1**	**-1.0**
DBIC				IAmb	IAmb	10 53 45.5	
	comp=Z,14nm,0.8s						
DBIC	**Dimbokro**	**65.88**	**68**	P	**P**	**10 53 44.8**	**-0.4**
	comp=Z,7.1nm,0.3s,baz=220,slow=4.1,SNR=36						
	comp=Z,7.1nm,0.3s						
V48A	**Smith Brothers**	**66.42**	**339**	P	**P**	**10 53 47.6**	**-0.4**
V48A				IAmb	IAmb	10 54 15.7	
	comp=Z,10nm,1.5s						
WVT	**Waverly**	**67.10**	**339**	P	**P**	**10 53 51.8**	**-0.4**
WVT				IAmb	IAmb	10 53 52.1	
	comp=Z,4.1nm,0.8s						
FCAR	**Ozark Folk Cen**	**68.38**	**335**	P	**P**	**10 54 00.0**	**0.0**
VNDA	**Vanda**	**72.05**	**189**	P	**P**	**10 54 22.1**	**+0.9**
VNDA	**Vanda**	**72.05**	**189**	P	**P**	**10 54 22.3**	**+1.1**
	comp=Z,1.8nm,0.9s,baz=126,slow=4.9,SNR=7.2						
	comp=Z,1.8nm,0.9s						
TOA0	**Torodi Ar. Sit**	**74.81**	**66**	P	**P**	**10 54 37.1**	**-0.8**
TORD	**Torodi Ar. Bea**	**74.81**	**66**	P	**P**	**10 54 37.1**	**-0.8**
TORD					**P**	**10 54 37.2**	**-0.7**
TORD				IAmb	IAmb	10 54 38.2	
	comp=Z,17nm,0.7s						
TORD	**Torodi Ar. Bea**	**74.81**	**66**	P	**P**	**10 54 37.0**	**-0.8**
	comp=Z,15nm,0.6s,baz=274,slow=4.6,SNR=103						
TORD				pP	**pP**	**10 56 38.6**	**+3.7**
	comp=Z,1.1nm,0.8s,baz=276,slow=5.1,SNR=4.6						
	comp=Z,15nm,0.6s						
BOSA	**Boshof**	**76.41**	**115**	P	**P**	**10 54 46.5**	**-0.3**
	comp=Z,7.0nm,0.5s,baz=264,slow=3.2,SNR=32						
	comp=Z,7.0nm,0.5s						
LBTB	**Lobatse**	**78.15**	**112**	P	**P**	**10 54 55.8**	**-0.5**
LBTB				IAmb	IAmb	10 54 56.9	
	comp=Z,12nm,0.9s						
PDAR	**Pinedale Array**	**81.59**	**328**	P	**P**	**10 55 14.1**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=116,slow=6.1,SNR=3.2						
	comp=Z,0.3nm,0.7s						
MDT	**Midelt**	**81.80**	**47**	P	**P**	**10 55 15.9**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=270,slow=16,SNR=5.3						
	comp=Z,2.4nm,0.7s						
ULM	**Lac du Bonnet**	**82.34**	**340**	P	**P**	**10 55 16.2**	**-1.0**
	comp=Z,2.9nm,1.0s,baz=140,slow=13,SNR=3.2						
	comp=Z,2.9nm,1.0s						
LSZ	**Lusaka**	**84.55**	**104**	P	**P**	**10 55 30.9**	**+1.7**
LSZ				IAmb	IAmb	10 55 31.5	
	comp=Z,8.0nm,0.8s						
ESDC	**Sonseca Array**	**86.58**	**42**	P	**P**	**10 55 38.5**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=242,slow=2.8,SNR=9.1						
	comp=Z,0.9nm,0.7s						
YKA	**Yellowknife Ar**	**98.29**	**339**	P	Pdif	10 56 30.4	-0.7
	comp=Z,0.2nm,0.7s,baz=122,slow=4.6,SNR=3.1						
	comp=Z,0.2nm,0.7s						
ASAR	**Alice Springs**	**126.69**	**200**	PKP	**PKPdf**	**11 01 54.1**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=137,slow=1.7,SNR=5.5						
ASAR				pPKP	**pPKPdf**	**11 04 07.3**	**+1.7**
	comp=Z,0.3nm,0.8s,baz=126,slow=1.3,SNR=3.1						
ASAR				SKP		11 04 34.1	
	comp=Z,0.5nm,0.6s,baz=144,slow=2.0,SNR=7.0						
WRA	**Warramunga Arr**	**130.04**	**202**	PKP	**PKPdf**	**11 02 00.7**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=162,slow=1.7,SNR=1.8						
WRA				SKPbc	**SKPbc**	**11 04 28.9**	**-3.2**
	comp=Z,2.1nm,0.5s,baz=157,slow=3.5,SNR=44						
ABKAR	**Akbulak array**	**131.67**	**47**		**PKiKP**	**11 02 04.0**	**-0.4**
ABKAR	**Akbulak array**	**131.67**	**47**		**PKPdf**	**11 02 03.6**	**+0.3**
BVAR	**Borovoye Array**	**137.32**	**40**	PKP	**PKPdf**	**11 02 13.4**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=321,slow=2.0,SNR=4.5						
KURBB	**Kurchatov Arra**	**142.90**	**41**	PKP	**PKPdf**	**11 02 21.6**	**-2.3**
	comp=Z,5.4nm,0.8s,baz=293,slow=3.4,SNR=58						
KURBB				SKPbc	**SKPbc**	**11 05 06.1**	**-3.2**
	comp=Z,0.8nm,0.6s,baz=306,slow=2.8,SNR=6.5						
KURK	**Kurchatov**	**142.91**	**40**		**PKPdf**	**11 02 22.2**	**-1.7**
ZAA0	**Zalesovo Array**	**144.56**	**32**		**PKPab**	**11 02 27.3**	**-0.1**
ZALV	**Zalesovo Beam**	**144.56**	**32**	PKP	PKPbc	11 02 26.8	-0.1
	comp=Z,7.2nm,0.7s,baz=297,slow=4.6,SNR=32						
ZALV				SKPbc	**SKPbc**	**11 05 11.8**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=301,slow=3.7,SNR=2.2						
MKAR	**Makanchi Array**	**146.75**	**45**	PKPbc	**PKPdf**	**11 02 31.1**	**+0.5**
	comp=Z,6.7nm,0.7s,baz=288,slow=3.4,SNR=41						
MKAR				pPKPbc	pPKPab	11 04 45.5	+3.2
	comp=Z,1.3nm,0.8s,baz=298,slow=2.6,SNR=6.0						
SONM	**Songino Array**	**157.95**	**18**	PKPab	**PKPab**	**11 03 21.7**	**-2.1**
	comp=Z,0.5nm,0.6s,baz=319,slow=3.7,SNR=2.7						
PZH	**PanZhiHua**	**166.74**	**90**	PKP	**PKPdf**	**11 02 51.6**	**-4.6**

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*TEH **24** 10:57:16.3,27°80N×53°43E, h19km±20km, ML3.9*
*MOS **24** 10:57:16.7±0.9,27°77N×53°38E, h26km, mb4.4/23, Error ellipse: s-maj=8.3km s-min=6.0km az=90.0*
*NEIC **24** 10:57:17.1±2.3,27°8N±0°1×53°5E±0°1, h10km±2km, mb4.2/25, Error ellipse: s-maj=26.2km s-min=13.3km az=223.0*
*IDC **24** 10:57:20.0±3.1,27°79N×53°41E, h39km±28km, mb3.8/23, mbtmp4.0/26, ML3.5/3, MS2.8/2, Error ellipse: s-maj=15.4km s-min=13.3km az=16.0*
*DSN **24** 10:57:22.3±0.8,27°69N×53°79E, h15km, mb4.5/2, ML3.8/11, Error ellipse: s-maj=12.9km s-min=4.7km az=85.0*
*OMAN **24** 10:57:23.0±1.2,27°35N×53°47E, h10km, mb4.7/11, ml3.8/17, ms2.2/1, Error ellipse: s-maj=10.6km s-min=5.2km az=179.0*
ISC 24 10:57:18.4±0.4,27°78N±0°04×53°45E±0°03, h23km, n215, σ1§47/243, mb4.3/58, 6C-9D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LMD1	**Lamerd**	**0.50**	**210**	Pg	Pb	10 57 27.6	-1.1
LMD1				Sg	**Sb**	**10 57 35.7**	**+0.1**
JHRM	**Jahrom**	**0.73**	**9**	Pg	**Pb**	**10 57 31.1**	**-1.5**
QIR1	**Qir**	**0.78**	**333**	Pg	**Pb**	**10 57 32.1**	**-1.3**
LAR1	**LAR**	**0.83**	**97**	Pg	**Pb**	**10 57 33.9**	**-0.3**
DSBU	**Dashti - Bushe**	**2.02**	**287**	Pn	**Pn**	**10 57 52.2**	**+1.1**
SHI	**Shiraz**	**2.03**	**336**	Pn	**Pn**	**10 57 52.8**	**+1.4**
GENO	**Geno**	**2.45**	**98**	Pn	**Pn**	**10 57 58.7**	**+1.6**
ESRB	**Sir Abu**	**2.64**	**164**	Pn	**Pn**	**10 58 01.0**	**+1.4**
JRN	**Qarnain Island**	**2.87**	**191**	P	**Pn**	**10 58 05.6**	**+2.8**
JRN				S	**Sn**	**10 58 37.7**	**+1.0**
JRN	**Qarnain Island**	**2.87**	**191**	Pn	**Pn**	**10 58 05.2**	**+2.4**
SHMA	**Al-Shehemyia**	**2.93**	**230**	P	**Pn**	**10 58 05.8**	**+2.2**
	SNR=65						
SHMA				S	**Sn**	**10 58 41.1**	**+3.0**
SHME	**Shamm**	**2.96**	**125**	P	**Pn**	**10 58 04.5**	**+0.5**
SHME	**Shamm**	**2.96**	**125**	P	**Pn**	**10 58 06.2**	**+2.3**
SHME				S	**Sn**	**10 58 39.7**	**+1.0**
SHME	**Shamm**	**2.96**	**125**	Pn	**Pn**	**10 58 04.8**	**+0.8**
UMQ	**Umm Al-Quwin**	**2.99**	**138**	P	**Pn**	**10 58 07.4**	**+3.0**
UMQ				S	**Sn**	**10 58 43.2**	**+3.6**
BANOM	**Banah**	**3.15**	**125**	P	**Pn**	**10 58 06.7**	**+0.1**
BANOM	**Banah**	**3.15**	**125**	P	**Pn**	**10 58 08.8**	**+2.2**
BANOM				S	**Sn**	**10 58 45.9**	**+2.5**
BANOM	**Banah**	**3.15**	**125**	Pn	**Pn**	**10 58 08.8**	**+2.2**
SAKB	**Bahrain**	**3.16**	**236**	P	**Pn**	**10 58 09.0**

TKDS	**Koohdasht(Taba**	**6.62**	**28**	Pn		**Pn**	**10 58 55.3**	**+0.8**
ISFB	**Sefidab**	**6.63**	**351**	Pn		**Pn**	**10 58 54.2**	**-0.4**
CHBR	**Chabahar**	**6.66**	**107**	Pn		**Pn**	**10 58 55.2**	**+0.3**
TNSJ	**Nastanj**	**6.74**	**23**	Pn		**Pn**	**10 58 56.8**	**+0.8**
JMDO	**Jabal Madar**	**6.84**	**141**	P		**Pn**	**10 58 57.7**	**+0.3**
	SNR=9.3							
JMDO				S		**Sn**	**11 00 13.4**	**-1.2**
WBK	**Wadi Bani Khal**	**7.17**	**135**	P		**Pn**	**10 59 02.2**	**+0.2**
	SNR=17							
WBK				S		**Sn**	**11 00 21.2**	**-1.6**
WBK	**Wadi Bani Khal**	**7.17**	**135**	Pn		**Pn**	**10 59 02.2**	**+0.2**
IVRN	**Varamin**	**7.34**	**349**	Pn		**Pn**	**10 59 04.3**	**0.0**
JLN	**Jalan Bani Buh**	**7.79**	**135**	P		**Pn**	**10 59 10.2**	**-0.1**
JLN				P		**Pn**	**10 59 10.2**	**-0.1**
JLN				S		**Sn**	**11 00 35.2**	**-2.6**
	SNR=5.4							
JLN				S		**Sn**	**11 00 35.2**	**-2.6**
	SNR=5.4							
MHTO	**MHTO**	**7.92**	**148**	P		**Pn**	**10 59 12.6**	**+0.5**
	SNR=21							
MHTO				S		**Sn**	**11 00 37.5**	**-3.5**
	SNR=6.4							
SRVN	**Saravan**	**7.95**	**91**	Pn		**Pn**	**10 59 14.2**	**+1.5**
DQM	**DQM**	**8.66**	**154**	P		**Pn**	**10 59 22.0**	**-0.4**
	SNR=6.7							
DQM				S		**Sn**	**11 00 55.2**	**-4.2**
WHFO	**Wadi Hawf**	**9.82**	**178**	P		**Pn**	**10 59 36.8**	**-1.4**
	SNR=70							
WHFO				S		Sn	11 01 20.3	-7.5
SHAO	**Shalim**	**9.91**	**168**	P		**Pn**	**10 59 39.1**	**-0.5**
	SNR=19							
DMTO	**DMTO**	**10.11**	**172**	P		Pn	10 59 40.6	-1.7
	SNR=8.4							
RBK	**Rabkut**	**10.25**	**176**	P		**Pn**	**10 59 42.8**	**-1.4**
RBK				S		**Sn**	**11 01 36.0**	**-2.5**
ABTO	**Aybut**	**10.38**	**181**	P		Pn	10 59 44.3	-1.6
	SNR=13							
ABTO				S		Sn	11 01 35.5	-6.1
GEYT	**Alibeck**	**10.86**	**20**	Pn		**Pn**	**10 59 52.3**	**-0.2**
	0.3nm,0.3s,baz=198,slow=8.5,SNR=2.1 1.5nm,0.6s							
KBL	**Kabul**	**14.95**	**59**	P		**Pn**	**11 00 49.4**	**+0.9**
KBL	**Kabul**	**14.95**	**59**	P		**Pn**	**11 00 49.4**	**+0.9**
ARPR	**Arapgir-MALATY**	**16.90**	**316**	P		**Pn**	**11 01 16.3**	**+2.7**
ARPR				IAmb		IAmb	11 01 31.2	
	comp=Z,11nm,0.9s							
NIL	**Nilore**	**18.00**	**66**	P		**Pn**	**11 01 28.5**	**+1.4**
NIL				IAmb		IAmb	11 01 29.9	
	comp=Z,28nm,0.9s							
NIL	**Nilore**	**18.00**	**66**	P		**Pn**	**11 01 28.5**	**+1.4**
NIL				pmax		pmax		
	comp=Z,28nm,1.0s							
KBZ	**Khabaz**	**18.05**	**335**	*e*P		**Pn**	**11 01 28.7**	**+1.1**
KBZ				pmax		pmax		
	comp=Z,4.0nm,0.9s							
KBZ	**Khabaz**	**18.05**	**335**	P		**Pn**	**11 01 29.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=172,slow=13,SNR=3.8 comp=Z,2.5nm,0.9s							
KIV	**Kislovodsk**	**18.32**	**335**	*e*P		**P**	**11 01 31.4**	**+0.3**
KIV				pmax		pmax		
	comp=Z,10.0nm,1.1s							
KIV				MLR		MLR		
	comp=Z,14nm,14.0s							
BNN	**Bunyan**	**18.36**	**311**	P		**P**	**11 01 31.9**	**+0.3**
BTK	**Batken**	**18.88**	**45**	P		**P**	**11 01 37.2**	**0.0**
BTK				IAmb		IAmb	11 01 40.3	
	comp=Z,17nm,1.4s							
BTK	**Batken**	**18.88**	**45**	P		**P**	**11 01 37.2**	**0.0**
BTK				pmax		pmax		
	comp=Z,17nm,1.5s							
BR131	**Keskin Array S**	**20.28**	**311**	P		**P**	**11 01 52.9**	**+0.3**
BR131	**Keskin Array S**	**20.28**	**311**	⇓*e*P		**P**	**11 01 52.7**	**+0.1**
BRTR	**Keskin Array B**	**20.28**	**311**	P		**P**	**11 01 52.9**	**+0.3**
BRTR	**Keskin Array B**	**20.28**	**311**	P		**P**	**11 01 52.9**	**+0.3**
BRTR	**Keskin Array B**	**20.28**	**311**	P		**P**	**11 01 52.3**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=131,slow=14,SNR=9.1 comp=Z,1.6nm,0.7s							
KK31	**Karatay Array**	**20.61**	**38**	P		**P**	**11 01 56.6**	**+0.7**
KK31				IAmb		IAmb	11 01 59.6	
	comp=Z,12nm,0.9s							
KK31	**Karatay Array**	**20.61**	**38**	P		**P**	**11 01 56.6**	**+0.7**
KK31				pmax		pmax		
	comp=Z,12nm,1.0s							
KKAR	**Karatay Array**	**20.61**	**38**	P		**P**	**11 01 56.0**	**+0.1**
KKAR				IAmb		IAmb	11 01 59.6	
	comp=Z,12nm,0.9s							
KKAR	**Karatay Array**	**20.61**	**38**	P		**P**	**11 01 56.1**	**+0.1**
KKAR	**Karatay Array**	**20.61**	**38**	P		**P**	**11 01 56.1**	**+0.1**
ARSB	**Arslanbob**	**20.95**	**45**	P		**P**	**11 01 60.0**	**+0.2**
ARSB	**Arslanbob**	**20.95**	**45**	P		**P**	**11 02 00.0**	**+0.2**
ARSB				pmax		pmax		
	comp=Z,2.0nm,1.0s							
ABKAR	**Akbulak array**	**22.02**	**11**	P		**P**	**11 02 11.4**	**+0.3**
ABKAR	**Akbulak array**	**22.02**	**11**	P		**P**	**11 02 12.1**	**+1.0**
ABKAR				IAmb		IAmb	11 02 15.7	
	comp=Z,4.1nm,0.8s							
AAK	**Ala-Archa**	**22.62**	**44**			**PKPdf**	**11 02 20.9**	**-2.9**
AAK	**Ala-Archa**	**22.62**	**44**	*i* P		**P**	**11 02 22.1**	**+4.3**
	SNR=5.7							
AAK	**Ala-Archa**	**22.62**	**44**	⇑*e*P		**P**	**11 02 20.7**	**+2.9**
AAK				pmax		pmax		
	comp=Z,10.0nm,1.7s							
BOOM	**Boomskoye usch**	**23.43**	**45**	P		**P**	**11 02 25.3**	**-0.8**
BOOM				IAmb		IAmb	11 02 30.0	
	comp=Z,7.1nm,0.7s							
BOOM	**Boomskoye usch**	**23.43**	**45**	P		**P**	**11 02 25.3**	**-0.8**
BOOM				pmax		pmax		
	comp=Z,7.0nm,0.7s							
TARG	**Taragay, Kyrgy**	**24.27**	**49**	P		**P**	**11 02 30.4**	**-4.0**
TARG	**Taragay, Kyrgy**	**24.27**	**49**	P		**P**	**11 02 30.4**	**-4.0**
TARG				pmax		pmax		
	comp=Z,12nm,0.7s							
BELG	**Belogornoye**	**24.97**	**352**	⇑*e*P		**P**	**11 02 40.6**	**+0.6**
BELG				pmax		pmax		
	comp=Z,4.0nm,0.9s							
BRVK	**Borovoye**	**28.18**	**22**	P		**P**	**11 03 09.0**	**0.0**
BRVK				IAmb		IAmb	11 03 10.3	
	comp=Z,4.2nm,0.7s							
BRVK	**Borovoye**	**28.18**	**22**	*de*P		**P**	**11 03 09.6**	**+0.6**
BRVK				pmax		pmax		
	comp=Z,5.0nm,1.3s							
BVAR	**Borovoye Array**	**28.18**	**22**	P		**P**	**11 03 09.1**	**+0.1**
	comp=Z,4.8nm,0.5s,baz=213,slow=7.2,SNR=33							
BVAR				PcP		**PcP**	**11 06 22.5**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=232,slow=3.5,SNR=4.1 comp=Z,4.8nm,0.5s							
ARU	**Arti**	**28.87**	**6**	LR		LR	11 17 10.8	
	comp=Z,22nm,19.0s,baz=147,slow=41							
AKASG	**Malin Array Be**	**29.35**	**328**	P		**P**	**11 03 18.3**	**-1.1**
	comp=Z,1.6nm,0.6s,baz=136,slow=8.0,SNR=8.3 comp=Z,1.6nm,0.6s							
AKBB	**Malin Array Si**	**29.35**	**328**	⇑*e*P		**P**	**11 03 18.1**	**-1.3**
MK31	**Makanchi Array**	**29.53**	**42**	P		**P**	**11 03 21.0**	**-0.1**
MK31				IAmb		IAmb	11 03 22.5	
	comp=Z,2.7nm,1.2s							
MK31	**Makanchi Array**	**29.53**	**42**	P		**P**	**11 03 21.0**	**-0.1**
MK31				pmax		pmax		
	comp=Z,3.0nm,1.2s							
MKAR	**Makanchi Array**	**29.53**	**42**	P		**P**	**11 03 20.5**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=230,slow=9.5,SNR=4.1							
MKAR				PcP		**PcP**	**11 06 25.5**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=199,slow=0.9,SNR=2.2 comp=Z,0.8nm,0.5s							
BURAR	**Bucovina Array**	**29.59**	**320**	P		**P**	**11 03 21.5**	**-0.2**
BUR08	**Bucovina Ar. S**	**29.62**	**320**	P		**P**	**11 03 21.3**	**-0.7**
BUR08				IAmb		IAmb	11 03 59.2	
	comp=Z,5.0nm,1.4s							
KURBB	**Kurchatov Arra**	**29.71**	**33**	P		**P**	**11 03 22.3**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=234,slow=9.2,SNR=6.0 comp=Z,0.9nm,0.6s							
KURK	**Kurchatov**	**29.81**	**33**	⇓*e*P		**P**	**11 03 24.4**	**+0.9**
KURK				pmax		pmax		
	comp=Z,2.0nm,1.2s							
OBN	**Obninsk**	**29.94**	**340**	*e*P		**P**	**11 03 24.5**	**0.0**
OBN				pmax		pmax		
	comp=Z,6.0nm,1.0s							
KIRV	**Kirov**	**30.92**	**356**	⇓*e*P		**P**	**11 03 33.9**	**+0.7**
WMQ	**Urumqi**	**31.79**	**51**	*e*P		**P**	**11 03 43.4**	**+2.3**
KOLS	**Kolonicke sedl**	**31.96**	**320**	*e*P		**P**	**11 03 43.7**	**+1.2**
KOLS	**Kolonicke sedl**	**31.96**	**320**	*e*P		**P**	**11 03 43.7**	**+1.2**
KOLS				pmax		pmax		
	comp=Z,10.0nm,1.0s							
LANS	**Liptovska Anna**	**33.69**	**319**	*e*P		**P**	**11 03 58.1**	**+0.4**
LANS	**Liptovska Anna**	**33.69**	**319**	*e*P		**P**	**11 03 58.1**	**+0.4**
LANS				pmax		pmax		
	comp=Z,5.0nm,0.7s							
VYHS	**Vyhne**	**33.78**	**317**	*e*P		**P**	**11 03 57.8**	**-0.6**
VYHS	**Vyhne**	**33.78**	**317**	*e*P		**P**	**11 03 57.8**	**-0.6**
DGZ	**Jazzator, Alta**	**33.94**	**41**	*de*P		**P**	**11 04 00.9**	**+0.9**
DGZ				pmax		pmax		
	comp=Z,2.0nm,0.5s							
ZALV	**Zalesovo Beam**	**34.80**	**33**	*i* P		**P**	**11 04 07.0**	**-0.2**
ZALV				pmax		pmax		
	comp=Z,2.0nm,0.5s							
ZALV	**Zalesovo Beam**	**34.80**	**33**	P		**P**	**11 04 06.7**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=241,slow=8.8,SNR=8.5 comp=Z,2.1nm,0.5s							
RONA	**Rosalia, Austr**	**35.03**	**315**	*i* P		**P**	**11 04 09.2**	**-0.1**
	comp=Z,2.7nm,0.7s							
ARSA	**Arzberg**	**35.36**	**314**	*i* P		**P**	**11 04 11.4**	**-0.8**
	comp=Z,4.3nm,1.2s							
CONA	**Conrad Observa**	**35.38**	**315**	*i* P		**P**	**11 04 12.6**	**+0.2**
	comp=Z,3.6nm,1.4s							
DPC	**Dobruska-Polom**	**36.05**	**319**	*e*P		**P**	**11 04 17.5**	**-0.5**
DPC	**Dobruska-Polom**	**36.05**	**319**	*e*P		**P**	**11 04 17.5**	**-0.5**
OSTC	**Ostas**	**36.20**	**319**	*e*P		**P**	**11 04 19.1**	**-0.2**
OSTC	**Ostas**	**36.20**	**319**	*e*P		**P**	**11 04 19.1**	**-0.2**
MOA	**Molln**	**36.37**	**314**	*i* P		**P**	**11 04 19.9**	**-0.8**
	comp=Z,5.3nm,1.5s							
CKRC	**Cesky Krumlov**	**36.67**	**316**	*e*P		**P**	**11 04 24.2**	**+0.9**
CKRC	**Cesky Krumlov**	**36.67**	**316**	*e*P		**P**	**11 04 24.2**	**+0.9**
BIOA	**Bad Ischl, Aus**	**36.72**	**314**	*i* P		**P**	**11 04 23.3**	**-0.4**
	comp=Z,3.2nm,0.5s							
ZVC	**Zvikov**	**36.96**	**317**	*e*P		**P**	**11 04 25.4**	**-0.4**
GERES	**GERESS Array B**	**37.05**	**315**	P		**P**	**11 04 25.9**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=109,slow=8.5,SNR=4.0 comp=Z,0.9nm,0.5s							
ABTA	**Abfaltersbach**	**37.17**	**312**	*e*P		**P**	**11 04 27.3**	**-0.4**
	comp=Z,4.9nm,0.9s							
KHC	**Kasperske Hory**	**37.23**	**316**	P		**P**	**11 04 27.3**	**-0.8**
KHC				IAmb		IAmb	11 04 28.3	
	comp=Z,3.7nm,0.8s							
KHC	**Kasperske Hory**	**37.23**	**316**	*e*P		**P**	**11 04 27.5**	**-0.6**
KHC	**Kasperske Hory**	**37.23**	**316**	⇓*e*P		**P**	**11 04 27.7**	**-0.4**
KHC				pmax		pmax		
	comp=Z,8.0nm,0.7s							
LESA	**Schwarzleotal**	**37.25**	**313**	*i* P		**P**	**11 04 27.6**	**-0.8**
	comp=Z,2.4nm,0.6s							
CTI	**Castel Tesino**	**37.56**	**310**	P		**P**	**11 04 30.8**	**-0.2**
CTI	**Castel Tesino**	**37.56**	**310**	P		**P**	**11 04 30.8**	**-0.2**
CTI				pmax		pmax		
	comp=Z,6.0nm,0.6s							
WTTA	**Wattenberg**	**37.89**	**312**	*e*P		**P**	**11 04 33.2**	**-0.7**
	comp=Z,6.1nm,0.6s,SNR=5.3							
WATA	**Walderalm**	**37.95**	**312**	*i* P		**P**	**11 04 33.3**	**-1.0**
	comp=Z,4.6nm,0.5s							
SQTA	**Sant Quirin**	**38.16**	**312**	*i* P		**P**	**11 04 35.1**	**-1.0**
	comp=Z,8.1nm,0.5s							
MOTA	**Moosalm**	**38.26**	**312**	*e*P		**P**	**11 04 35.5**	**-1.5**
	comp=Z,7.6nm,0.9s							
FIA1	**FINESS Array S**	**38.31**	**339**	P		**P**	**11 04 35.3**	**-1.7**
FINES	**FINESS Array B**	**38.31**	**339**	P		**P**	**11 04 36.2**	**-0.8**
FINES	**FINESS Array B**	**38.31**	**339**	P		**P**	**11 04 36.3**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=138,slow=10,SNR=12 comp=Z,2.8nm,0.6s							
FETA	**Feichten**	**38.42**	**312**	*e*P		**P**	**11 04 37.4**	**-0.9**
	comp=Z,9.6nm,1.0s							
RETA	**Reutte**	**38.52**	**312**	*e*P		**P**	**11 04 37.8**	**-1.3**
	comp=Z,3.9nm,0.6s,SNR=6.3							
FUORN	**Ofenpass-Fuorn**	**38.63**	**311**	P		**P**	**11 04 39.7**	**-0.6**
DAVA	**Damuels**	**39.05**	**312**	*i* P		**P**	**11 04 42.7**	**-0.9**
	comp=Z,20nm,0.5s							
TUE	**Stuetta**	**39.21**	**310**	P		P	11 04 43.2	-1.8
SENIN	**Lac Senin/Sane**	**40.58**	**310**	P		P	11 04 54.6	-1.9
BNI	**Bardonecchia**	**40.78**	**308**	P		P	11 04 56.5	-1.6
BNI				IAmb		IAmb	11 04 59.0	
	comp=Z,3.9nm,1.1s							
BNI	**Bardonecchia**	**40.78**	**308**	P		P	11 04 56.5	-1.6
BNI				pmax		pmax		
	comp=Z,4.0nm,1.1s							
HFS	**Hagfors**	**42.07**	**331**	P		**P**	**11 05 07.0**	**-1.2**
HFS	**Hagfors**	**42.07**	**331**	P		**P**	**11 05 07.0**	**-1.2**
	comp=Z,2.6nm,0.7s,baz=125,slow=7.2,SNR=7.6 comp=Z,2.6nm,0.7s							
CMAR	**Chiang Mai Arr**	**42.66**	**93**	*ce*P		**P**	**11 05 15.6**	**+2.1**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**42.66**	**93**	P		**P**	**11 05 13.2**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=288,slow=9.4,SNR=4.8							
CMAR				LR		LR	11 27 17.8	
	comp=Z,9.8nm,18.9s,baz=275,slow=42 comp=Z,0.6nm,0.4s							
PZH	**PanZhiHua**	**42.78**	**80**	P		**P**	**11 05 15.4**	**+0.8**
PZH				pmax		pmax		
	comp=Z,7.0nm,0.8s							
PZH				pmax		pmax		
	comp=Z,100nm,4.6s							
NOA	**NORSAR Array B**	**43.59**	**332**	P		**P**	**11 05 19.0**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=120,slow=8.1,SNR=1.9 comp=Z,0.6nm,0.7s							
ARCES	**ARCESS Array B**	**44.83**	**346**	P		**P**	**11 05 29.8**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=161,slow=8.6,SNR=5.1 comp=Z,0.6nm,0.6s							
SONM	**Songino Array**	**45.39**	**49**	P		**P**	**11 05 35.9**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=272,slow=9.4,SNR=8.2 comp=Z,1.3nm,0.6s							
ULN	**Ulaanbaatar**	**45.83**	**49**	*de*P		**P**	**11 05 39.4**	**+0.6**
ULN				pmax		pmax		
	comp=Z,4.0nm,1.3s							
ESDC	**Sonseca Array**	**48.46**	**300**	P		**P**	**11 05 58.7**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=53,slow=7.8,SNR=8.7 comp=Z,1.1nm,0.8s							
PAB	**San Pablo**	**48.77**	**300**	P		**P**	**11 06 00.4**	**-1.3**
PAB	**San Pablo**	**48.77**	**300**	P		**P**	**11 06 00.4**	**-1.3**
PAB				pmax		pmax		
	comp=Z,6.0nm,1.2s							
HHC	**Hu-ho-hao-te**	**48.92**	**59**	*e*P		**P**	**11 06 04.0**	**+1.1**
HHC				pmax		pmax		
	comp=Z,25nm,0.6s							
HHC				pmax		pmax		
	comp=Z,190nm,4.4s							
MDT	**Midelt**	**49.85**	**291**	P		**P**	**11 06 09.8**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=100,slow=5.2,SNR=4.1 comp=Z,1.6nm,0.7s							
TOA0	**Torodi Ar. Sit**	**50.28**	**264**	P		P	11 06 11.8	-1.6
TOA0				IAmb		IAmb	11 06 15.9	
	comp=Z,6.5nm,1.4s							
TORD	**Torodi Ar. Bea**	**50.28**	**264**	P		P	11 06 11.8	-1.6
TORD				IAmb		IAmb	11 06 13.1	
	comp=Z,2.2nm,0.9s							
TORD	**Torodi Ar. Bea**	**50.28**	**264**	P		**P**	**11 06 12.2**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=60,slow=8.7,SNR=11 comp=Z,1.6nm,0.6s							
SPITS	**Spitsbergen Ar**	**53.17**	**351**	P		**P**	**11 06 32.4**	**-1.7**
	comp=Z,10nm,0.9s,baz=116,slow=6.6,SNR=1.7 comp=Z,10nm,0.9s							
DBIC	**Dimbokro**	**58.94**	**261**	P		**P**	**11 07 15.3**	**-1.0**
	comp=Z,3.1nm,0.6s,baz=70,slow=6.4,SNR=5.2 comp=Z,3.1nm,0.6s							
KLR	**Kul'dur**	**62.10**	**47**	⇓*e*P		**P**	**11 07 37.0**	**-0.4**
KLR				pmax		pmax		
	comp=Z,10.0nm,2.5s							
BOSA	**Boshof**	**62.24**	**208**	P		**P**	**11 07 38.4**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=30,slow=8.1,SNR=5.7 comp=Z,3.3nm,0.8s							
SEY	**Seymchan**	**69.56**	**29**	⇑*e*P		**P**	**11 08 25.6**	**+0.5**
SEY				pmax		pmax		
	comp=Z,3.0nm,1.0s							
ILAR	**Eielson Array**	**86.40**	**9**	P		P	11 09 56.3	-2.3
	comp=Z,0.4nm,0.7s,baz=312,slow=4.0,SNR=3.9 comp=Z,0.4nm,0.7s							
YKA	**Yellowknife Ar**	**89.54**	**354**	*ce*P		**P**	**11 10 13.3**	**-0.3**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**89.54**	**354**	P		**P**	**11 10 12.9**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=5.6,slow=4.9,SNR=10 comp=Z,0.5nm,0.7s							
WRA	**Warramunga Arr**	**91.44**	**112**	P		**P**	**11 10 22.0**	**-1.2**
WRA	**Warramunga Arr**	**91.44**	**112**	P		**P**	**11 10 22.0**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=319,slow=4.1,SNR=2.5 comp=Z,0.4nm,0.6s							
ASAR	**Alice Springs**	**92.88**	**115**	P		**P**	**11 10 28.8**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=305,slow=4.6,SNR=6.7 comp=Z,0.5nm,0.7s							

*IDC **24** 11:02:19.1±1.5, 6°.65S×146°.75E, h0km, mb3.5/2, mbtmp3.7/5, ML3.2/2, Error ellipse: s-maj=48.0km s-min=23.5km az=98.0*

ISC 24 11:02:20.9±1.4, **6°.8S**±0°.1×**146°.8E**±0°.2, **h10km, n6,** σ**0s99/7, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.65**	**172**	Pn	**Pn**	**11 03 04.4**	**+0.7**
	24nm,0.4s,baz=23,slow=14,SNR=16						
PMG				Sn	**Sb**	**11 03 39.9**	**-1.2**
	11nm,0.3s,baz=323,slow=23,SNR=1.6						
CTA	**Charters Tower**	**13.26**	**182**	Pn	**Pn**	**11 05 29.8**	**+0.5**
	baz=24,slow=16,SNR=2.8 3.2nm,1.0s						
WRA	**Warramunga Arr**	**17.83**	**222**	P	**Pn**	**11 06 29.2**	**0.0**
	0.1nm,0.3s,baz=46,slow=12,SNR=13 2.7nm,0.9s						
ASAR	**Alice Springs**	**20.88**	**215**	P	**P**	**11 07 03.7**	**+0.3**
	1.4nm,0.9s,baz=36,slow=12,SNR=19 1.4nm,0.9s						
ILAR	**Eielson Array**	**86.26**	**23**	P	**P**	**11 15 02.6**	**+0.1**
	0.3nm,0.7s,baz=260,slow=5.1,SNR=4.9 0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**145.07**	**283**	PKPbc	**PKPbc**	**11 21 57.8**	**-1.3**
	1.9nm,0.8s,baz=67,slow=4.7,SNR=7.8						

*ISN **24** 11:13:31.6±1.0, 34°.70N×45°.73E, h3km±999km, ML2.9*
*TEH **24** 11:13:33.5, 34°.68N×45°.79E, h12km, ML2.9*

ISC 24 11:13:34.8±1.7, **34°.7N**±0°.1×**45°.7E**±0°.06, **h10km, n10,** σ**1s04/14, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.24**	**218**	Pg	**Pg**	**11 13 39.3**	**-0.5**
KGS1				Sg	**Sg**	**11 13 44.3**	**+1.2**
IDHR	**Dehrash**	**0.51**	**89**	Pg	**Pg**	**11 13 44.1**	**-0.7**
IGHG	**Ghaleghazi**	**0.75**	**119**	Pg	**Pg**	**11 13 48.8**	**-0.6**
ILIN	**Lien**	**1.01**	**77**	Pg	**Pg**	**11 13 53.8**	**-0.4**
ILBA	**Ilam Banvizeh**	**1.13**	**161**	Pg	**Pn**	**11 13 55.1**	**-1.6**
KCHF	**Cheshme Sefid,**	**1.13**	**111**	Pg	**Pb**	**11 13 56.1**	**-0.4**
IKOM	**Komasi**	**1.53**	**109**	Pg	**Pn**	**11 14 03.6**	**+1.3**
IBDR	**Badra**	**1.59**	**175**	*e*Pn	**Pn**	**11 14 02.0**	**-1.0**
IBDR				*e*Sn	**Sn**	**11 14 25.0**	**+1.5**
BHD	**Baghdad**	**1.83**	**219**	*e*Pn	**Pn**	**11 14 06.0**	**-0.3**
BHD				*e*Sn	**Sn**	**11 14 30.0**	**+0.4**
RAFI	**Al-Rafai**	**2.98**	**174**	*e*Pn	**Pn**	**11 14 22.0**	**-0.1**
RAFI				*e*Sn	**Sn**	**11 14 59.0**	**+1.1**

*SJA **24** 11:17:59.1±0.5, 32°.69S×72°.26W, h7km, ML3.8, MW3.6*
*IDC **24** 11:18:00.1±1.3, 32°.84S×72°.21W, h0km, mb3.7/2, mbtmp3.6/4, ML3.5/2, MS3.1/3, Error ellipse: s-maj=40.3km s-min=34.2km az=159.0*
*GUC **24** 11:18:02.5±0.8, 32°.87S×71°.92W, h18km±2km, ML3.5*

ISC 24 11:18:01.5±1.4, **32°.87S**±0°.03×**71°.96W**±0°.05, **h12km**±8**km, n53,** σ**1s31/65, 12C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**0.31**	**121**	⇑*i* P	**Pg**	**11 18 08.5**	**+0.7**
VA01				*i* S	**Sg**	**11 18 13.0**	**+1.1**
VA01				IAML		11 18 13.8	
	comp=N,7μm,0.2s						
MT02	**Curacav**	**0.80**	**120**	⇑*i* P	**Pb**	**11 18 16.6**	**-0.6**
MT02				*i* S	**Sb**	**11 18 27.1**	**-0.8**
ROC1	**El Roble**	**0.80**	**98**	*e*P	**Pb**	**11 18 16.8**	**-0.7**
ROCH	**El Roble**	**0.81**	**98**	⇑*i* P	**Pb**	**11 18 16.8**	**-0.8**
ROCH				*i* S	**Sb**	**11 18 27.6**	**-0.9**
ROCH				IAML		11 18 29.6	
	comp=N,5μm,0.3s						
VA05	**Santo Domingo**	**0.84**	**160**	*e*P	**Pb**	**11 18 17.6**	**-0.4**
VA05				IAML		11 18 34.3	
	comp=E,4μm,0.4s						
PEL	**Peldehue**	**1.11**	**105**	*e*P	**Pb**	**11 18 21.9**	**-0.7**
PEL				*e*S	**Sn**	**11 18 37.0**	**-1.1**
PEL	**Peldehue**	**1.11**	**105**	⇑*i* P	**Pb**	**11 18 21.9**	**-0.7**
PEL				*i* S	**Sb**	**11 18 36.8**	**-0.2**
PEL				IAML		11 18 42.9	
	comp=E,3μm,0.6s						
MT05	**Renca**	**1.15**	**117**	⇑*i* P	**Pn**	**11 18 22.9**	**-0.6**
MT05				*i* S	**Sn**	**11 18 38.3**	**-0.9**
MT05				IAML		11 18 44.6	
	comp=E,3μm,0.3s						
MT01	**Popeta**	**1.16**	**149**	⇑*i* P	**Pn**	**11 18 22.8**	**-0.8**
MT01				*i* S	**Sb**	**11 18 38.1**	**-0.4**
MT01				IAML		11 18 43.8	
	comp=N,1μm,0.4s						
MT09	**Talagante**	**1.22**	**138**

H03N1 Juan Fernandez 5.86 262 T T 11 26 14.9
baz=88,slow=73,SNR=134
H03N3 Juan Fernandez 5.87 262 T T 11 26 11.2
baz=88,slow=73,SNR=161
H03N2 Juan Fernandez 5.88 263 T T 11 26 00.3
baz=88,slow=73,SNR=139
H03S1 Juan Fernandez 5.89 259 T T 11 25 39.6
baz=83,slow=75,SNR=27
H03S3 Juan Fernandez 5.89 259 T T 11 25 42.0
baz=83,slow=75,SNR=15
H03S2 Juan Fernandez 5.91 259 T T 11 25 40.2
baz=83,slow=75,SNR=32
TCA Tanti 6.43 78 *eP* **Pn 11 19 37.0 +0.9**
TCA IAML 11 21 30.9
comp=Z,25nm,0.8s
PLCA Paso Flores 7.93 172 Pn **Pn 11 19 58.3 +1.6**
comp=Z,0.2nm,0.3s,baz=343,slow=12,SNR=6.7
comp=Z,2.2nm,1.0s
AHML Horco Molle 8.35 45 *eP* Pn 11 20 08.2 +5.7
AHML IAML 11 22 35.4
comp=Z,9.7nm,3.0s
BDFB Brasilia 27.66 57 LR LR 11 35 56.2
comp=Z,52nm,18.1s,baz=329,slow=39
PDAR Pinedale Array 82.78 333 P **P 11 30 26.0 +0.5**
comp=Z,0.2nm,0.5s,baz=149,slow=9.5,SNR=2.0
comp=Z,0.2nm,0.5s
TORD Torodi Ar. Bea 83.76 70 P **P 11 30 31.1 +0.2**
comp=Z,0.6nm,0.7s,baz=242,slow=6.2,SNR=4.7
comp=Z,0.6nm,0.7s
RPZ Rata Peaks 84.55 220 LR LR 12 00 31.7
comp=Z,35nm,19.6s,baz=180,slow=30
H11S2 WAKE ISLAND Hyl 25.86 270 T T 13 56 03.1
baz=118,slow=75,SNR=8.2
H11S1 WAKE ISLAND Hyl 25.86 270 T T 13 56 02.0
baz=118,slow=75,SNR=13
H11S3 WAKE ISLAND Hyl 25.86 270 T T 13 56 04.6
baz=118,slow=75,SNR=10
BVAR Borovoye Array 146.40 42 PKPbc **PKPab 11 37 43.1 +0.3**
comp=Z,0.6nm,0.4s,baz=297,slow=3.1,SNR=4.6
KURBB Kurchatov Arra 151.99 42 PKPbc **PKiKP 11 37 56.8 +0.4**
comp=Z,0.3nm,0.5s,baz=306,slow=3.1,SNR=2.0
ZALV Zalesovo Beam 153.23 31 PKPbc **PKiKP 11 37 59.2 +0.3**
comp=Z,0.5nm,0.4s,baz=293,slow=7.7,SNR=2.8
MKAR Makanchi Array 155.96 47 PKPab **PKPab 11 38 23.2 +0.7**
comp=Z,0.3nm,0.5s,baz=306,slow=3.4,SNR=4.5

IDC ***24*** *11:21:23.1±1.9,59.°60N×151.°79W,h43km±18km,mb3.7/19, mbtmp3.9/22,ML3.8/4,MS3.1/10,Error ellipse: s-maj=17.9km s-min=13.0km az=55.0*
AEIC ***24*** *11:21:24.5±1.1,59.°47N±0.°03×151.°32W±0.°07,h45km±4km, ML3.9,ML4.1/164(NEIC),Error ellipse: s-maj=5.1km s-min=4.4km az=123.0*
NEIC ***24*** *11:21:24.1±1.1,59.°46N±0.°03×151.°32W±0.°07,h44km±5km, Error ellipse: s-maj=5.5km s-min=4.6km az=130.0*
ISC 24 11:21:23.9±0.6,59.°52N±0.°04×151.°30W±0.°03,h48km±5km, n466,σ1°06/463,mb3.9/21,MS3.0/7,Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNPM	**China Poot**	**0.03**	**77**		**Pn**	**11 21 30.9**	**-0.4**
CNPM				Sn	**Sn**	**11 21 36.6**	**-0.1**
HOM	**Homer**	**0.22**	**309**		**Pn**	**11 21 32.2**	**0.0**
HOM				Sn	**Sn**	**11 21 38.7**	**+0.6**
HOM	**Homer**	**0.22**	**309**	P	**Pn**	**11 21 32.2**	**0.0**
	baz=138						
HOM				S	**Sn**	**11 21 39.1**	**+1.0**
	baz=138						
BRLK	**Bradley Lake**	**0.32**	**40**		**Pn**	**11 21 33.1**	**-0.1**
BRLK				Sn	**Sn**	**11 21 40.0**	**+0.3**
BRLK				IAML		11 21 41.0	
	comp=E,13μm,0.2s						
BRLK				IAML		11 21 41.0	
	comp=N,11μm,0.2s						
BRSE	**Bradley Lake S**	**0.36**	**51**		**Pn**	**11 21 33.7**	**+0.2**
BRSE					**Sn**	**11 21 41.2**	**+0.9**
BRSE	**Bradley Lake S**	**0.36**	**51**	P	**Pn**	**11 21 33.7**	**+0.2**
	baz=228						
BRSE				S	**Sn**	**11 21 41.4**	**+1.0**
	baz=228						
O20K	**Slope Mountain**	**0.88**	**311**		**Pn**	**11 21 40.2**	**+0.3**
O20K					**Sn**	**11 21 52.6**	**+0.9**
O20K	**Slope Mountain**	**0.88**	**311**	P	**Pn**	**11 21 40.2**	**+0.3**
	baz=132						
O20K				S	**Sn**	**11 21 52.6**	**+0.9**
	baz=132						
P19K	**Oil Pt**	**0.99**	**279**		**Pn**	**11 21 41.4**	**-0.1**
P19K	**Oil Pt**	**0.99**	**279**		**Sn**	**11 21 55.4**	**+1.0**
P19K	**Oil Pt**	**0.99**	**279**	P	**Pn**	**11 21 41.4**	**-0.1**
	baz=100						
P19K				S	**Sn**	**11 21 55.4**	**+1.0**
	baz=100						
IVE	**Iliamna Volcan**	**1.00**	**301**		**Pn**	**11 21 41.4**	**-0.3**
IVE					**Sn**	**11 21 54.9**	**+0.1**
ILSW	**Iliamna Southw**	**1.04**	**297**		**Pn**	**11 21 41.2**	**-1.0**
AU22	**Augustine Moun**	**1.06**	**263**		**Pn**	**11 21 42.2**	**-0.1**
SYI	**Shuyak Island**	**1.07**	**212**		**Pn**	**11 21 41.9**	**-0.5**
SYI					**Sn**	**11 21 55.6**	**-0.6**
SYI	**Shuyak Island**	**1.07**	**212**	IAML		11 21 59.1	
	comp=N,4μm,0.4s						
SYI				IAML		11 21 60.0	
	comp=E,5μm,0.4s						
Q20K	**Shuyak Island**	**1.07**	**212**	P	**Pn**	**11 21 41.9**	**-0.5**
	baz=32						
Q20K				S	**Sn**	**11 21 56.0**	**-0.3**
	baz=32						
AUQ	**Augustine Qik'**	**1.09**	**262**		**Pn**	**11 21 42.9**	**0.0**
AUQ					**Sn**	**11 21 57.7**	**+0.9**
AUL	**Augustine Lava**	**1.10**	**264**		**Pn**	**11 21 42.9**	**0.0**
SEW	**Seward**	**1.10**	**57**		**Pn**	**11 21 43.3**	**+0.4**
SEW	**Seward**	**1.10**	**57**	P	**Pn**	**11 21 43.3**	**+0.4**
	baz=237						
AUCH	**Augustine Cone**	**1.11**	**263**		**Pn**	**11 21 43.0**	**0.0**
SLKM	**Skilak Lake**	**1.13**	**28**		**Pn**	**11 21 44.0**	**+0.7**
RED	**Redoubt Volcan**	**1.17**	**321**		**Pn**	**11 21 44.0**	**+0.1**
RED					**Sn**	**11 21 59.8**	**+1.0**
RDSO	**Redoubt South**	**1.19**	**323**		**Pn**	**11 21 44.4**	**+0.2**
RDSO					**Sn**	**11 22 00.2**	**+0.9**
RDT	**Redoubt**	**1.20**	**333**		**Pn**	**11 21 44.4**	**+0.1**
RSO	**Redoubt South**	**1.20**	**323**		**Pn**	**11 21 44.7**	**+0.3**
RDWB	**Redoubt West**	**1.24**	**322**		**Pn**	**11 21 45.1**	**+0.1**
RDWB					**Sn**	**11 22 01.7**	**+1.0**
O22K	**Cooper Landing**	**1.25**	**39**		**Pn**	**11 21 45.8**	**+0.9**
O22K	**Cooper Landing**	**1.25**	**39**	P	**Pn**	**11 21 45.9**	**+1.1**
	baz=219						
CAPN	**Captain Cook N**	**1.26**	**3**		**Pn**	**11 21 47.2**	**+2.3**
DFR	**Drift River**	**1.28**	**328**		**Pn**	**11 21 45.5**	**+0.1**
RDJH	**Redoubt Jeurge**	**1.31**	**326**		**Pn**	**11 21 46.2**	**+0.2**
NCT	**North Crescent**	**1.33**	**323**		**Pn**	**11 21 46.3**	**+0.2**
NCT					**Sn**	**11 22 03.6**	**+1.0**
Q19K	**Cape Douglas,**	**1.34**	**245**		**Pn**	**11 21 45.9**	**-0.4**
Q19K	**Cape Douglas,**	**1.34**	**245**		**Sn**	**11 22 03.1**	**+0.2**
Q19K	**Cape Douglas,**	**1.34**	**245**	P	**Pn**	**11 21 45.8**	**-0.4**
	baz=64						
Q19K				S	**Sn**	**11 22 03.1**	**+0.2**
	baz=64						
O19K	**Port Alsworth**	**1.67**	**295**	Pn	**Pn**	**11 21 50.8**	**+0.2**
O19K	**Port Alsworth**	**1.67**	**295**	P	**Pn**	**11 21 51.0**	**+0.4**
	baz=114						
FIS	**Fire Island**	**1.72**	**18**		**Pn**	**11 21 53.1**	**+1.8**
FIS				IAML		11 22 25.1	
	comp=E,3μm,0.8s						
N20K	**Mount Spurr**	**1.75**	**345**	P	**Pn**	**11 21 52.4**	**+0.7**
	baz=165						
N20K				S	**Sn**	**11 22 15.0**	**+2.1**
	baz=165						
SPCR	**Spurr Chakacha**	**1.75**	**345**		**Pn**	**11 21 52.4**	**+0.7**
SPCR					**Sn**	**11 22 15.0**	**+2.1**
RC01	**Rabbit Creek A**	**1.76**	**26**	Pn	**Pn**	**11 21 53.0**	**+1.2**
RC01				IAML		11 22 21.5	
	comp=E,2μm,0.5s						
RC01				IAML		11 22 23.5	
	comp=N,2μm,0.6s						
RC01	**Rabbit Creek A**	**1.76**	**26**	P	**Pn**	**11 21 52.9**	**+1.1**
	baz=207						
SPCN	**Chakachatna No**	**1.77**	**346**		**Pn**	**11 21 53.0**	**+1.0**
SPCP	**Crater Peak Br**	**1.80**	**347**		**Pn**	**11 21 53.6**	**+1.0**
SPCG	**Spurr Capps Gl**	**1.81**	**349**		**Pn**	**11 21 53.8**	**+1.1**
KAPH	**Katmai Pasha**	**1.83**	**241**		**Pn**	**11 21 52.4**	**-0.4**
KDAK	**Kodiak Island**	**1.87**	**202**	Pn	**Pn**	**11 21 51.7**	**-1.6**
KDAK				IAML		11 22 32.2	
	comp=N,1μm,0.8s						
KDAK	**Kodiak Island**	**1.87**	**202**	P	**Pn**	**11 21 52.0**	**-1.3**
	comp=N,114nm,0.3s,baz=66,slow=6.9,SNR=139						
KDAK				S	**Sn**	**11 22 21.0**	**+5.4**
	comp=N,453nm,0.4s,baz=199,slow=21,SNR=15						
KDAK				LR	LR	11 22 50.8	
	comp=N,358nm,18.7s,baz=48,slow=47						
KAHG	**Katmai Hook Gl**	**1.97**	**240**		**Pn**	**11 21 54.5**	**-0.3**
SUA	**Susitna One**	**1.97**	**8**	Pn	**Pn**	**11 21 55.9**	**+1.0**
SUA	**Susitna One**	**1.97**	**8**	P	**Pn**	**11 21 55.9**	**+1.0**
	baz=188						
SPNN	**North Sagishla**	**1.98**	**340**		**Pn**	**11 21 56.4**	**+1.4**
STLK	**Strandline Lak**	**2.00**	**353**		**Pn**	**11 21 56.7**	**+1.4**
O18K	**Koktuh Hills**	**2.01**	**281**	Pn	**Pn**	**11 21 54.9**	**-0.4**
O18K				IAML		11 22 34.3	
	comp=E,1μm,0.9s						
O18K	**Koktuh Hills**	**2.01**	**281**	P	**Pn**	**11 21 54.9**	**-0.4**
	baz=99						
P18K	**Big Mountain,**	**2.01**	**268**		**Pn**	**11 21 55.0**	**-0.4**
P18K	**Big Mountain,**	**2.01**	**268**	IAML		11 22 33.2	
	comp=N,1μm,1.2s						
P18K				IAML		11 22 33.6	
	comp=E,1μm,0.7s						
P18K	**Big Mountain,**	**2.01**	**268**	P	**Pn**	**11 21 55.0**	**-0.4**
	baz=86						
P23K	**Montague Islan**	**2.03**	**75**		**Pn**	**11 21 56.1**	**+0.6**
N19K	**Bonanza Creek**	**2.06**	**311**	Pn	**Pn**	**11 21 56.5**	**+0.5**
N19K				IAML		11 22 26.3	
	comp=E,1μm,0.7s						
N19K	**Bonanza Creek**	**2.06**	**311**	P	**Pn**	**11 21 56.4**	**+0.4**
	baz=129						
KAHC	**Katmai Hardscr**	**2.10**	**247**		**Pn**	**11 21 55.9**	**-0.7**
KAHC	**Katmai Hardscr**	**2.10**	**247**		**Pn**	**11 21 56.0**	**-0.7**
KAHC	**Katmai Hardscr**	**2.10**	**247**	P	**Pn**	**11 21 56.1**	**-0.6**
	baz=65						
Q18K	**Katmai Hardscr**	**2.10**	**247**	P	**Pn**	**11 21 56.0**	**-0.7**
	baz=65						
M22K	**Willow**	**2.32**	**14**		**Pn**	**11 22 00.5**	**+1.0**
M22K	**Willow**	**2.32**	**14**	IAML		11 22 54.9	
	comp=N,1μm,0.6s						
M22K				IAML		11 23 02.4	
	comp=E,1μm,0.8s						
PMR	**Palmer**	**2.34**	**26**	Pn	**Pn**	**11 22 00.6**	**+0.8**
PMR	**Palmer**	**2.34**	**26**	P	**Pn**	**11 22 00.7**	**+0.9**
PMR	**Palmer**	**2.34**	**26**	P	**Pn**	**11 22 00.5**	**+0.8**
	baz=208						
KVTA	**Katmai Vly 10**	**2.36**	**243**		**Pn**	**11 21 59.8**	**-0.3**
KNK	**Knik Glacier**	**2.37**	**35**		**Pn**	**11 22 01.0**	**+0.8**
KNK				IAML		11 22 40.8	
	comp=N,1μm,1.0s						
KNK				IAML		11 22 43.7	
	comp=E,1μm,0.9s						
KNK	**Knik Glacier**	**2.37**	**35**	P	**Pn**	**11 22 00.9**	**+0.7**
	baz=217						
SKT	**Skwentna**	**2.47**	**357**	Pn	**Pn**	**11 22 03.3**	**+1.7**
SKT	**Skwentna**	**2.47**	**357**	P	**Pn**	**11 22 03.3**	**+1.7**
	baz=178						
GLI	**Glacier Island**	**2.50**	**55**		**Pn**	**11 22 01.9**	**-0.1**
GLI	**Glacier Island**	**2.50**	**55**	P	**Pn**	**11 22 01.7**	**-0.3**
	baz=238						
OHAK	**Old Harbor**	**2.53**	**205**		**Pn**	**11 22 00.8**	**-1.6**
OHAK	**Old Harbor**	**2.53**	**205**	P	**Pn**	**11 22 00.9**	**-1.5**
OHAK	**Old Harbor**	**2.53**	**205**	P	**Pn**	**11 22 00.7**	**-1.7**
	baz=24						
M20K	**Styx River**	**2.54**	**340**		**Pn**	**11 22 03.7**	**+1.1**
GHO	**Glory Hole Cre**	**2.55**	**26**	Pn	**Pn**	**11 22 03.8**	**+1.1**
GHO				IAML		11 22 50.4	
	comp=E,1μm,0.9s						
ANCK	**Angle Creek**	**2.55**	**241**		**Pn**	**11 22 02.0**	**-0.8**
R18K	**Karluk**	**2.56**	**222**		**Pn**	**11 22 02.0**	**-0.8**
R18K	**Karluk**	**2.56**	**222**	IAML		11 22 39.6	
	comp=E,1μm,0.5s						
R18K				IAML		11 22 44.0	
	comp=N,1μm,0.6s						
R18K	**Karluk**	**2.56**	**222**	P	**Pn**	**11 22 02.0**	**-0.8**
	baz=39						
HIN	**Hinchinbrook I**	**2.57**	**68**		**Pn**	**11 22 02.8**	**-0.1**
HIN				IAML		11 22 51.0	
	comp=N,1μm,0.8s						
HIN				IAML		11 22 59.4	
	comp=E,1μm,0.9s						
N18K	**Kilae Creek**	**2.58**	**299**		**Pn**	**11 22 03.0**	**-0.1**
N18K	**Kilae Creek**	**2.58**	**299**	IAML		11 22 53.0	
	comp=N,671nm,0.7s						
N18K				IAML		11 22 54.4	
	comp=E,757nm,1.0s						
N18K	**Kilae Creek**	**2.58**	**299**	P	**Pn**	**11 22 03.0**	**-0.1**
	baz=116						
P17K	**Kvichak River**	**2.65**	**265**		**Pn**	**11 22 04.2**	**+0.2**
P17K	**Kvichak River**	**2.65**	**265**	P	**Pn**	**11 22 04.2**	**+0.2**
	baz=82						
SVW2	**Sparrevohn**	**2.66**	**308**	Pn	**Pn**	**11 22 04.1**	**0.0**
SVW2				IAML		11 22 56.9	
	comp=N,554nm,0.9s						
SVW2	**Sparrevohn**	**2.66**	**308**	P	**Pn**	**11 22 04.2**	**+0.1**
CNTC	**Contact Creek**	**2.69**	**244**		**Pn**	**11 22 04.4**	**-0.3**
Q17K	**Contact Creek**	**2.69**	**244**	P	**Pn**	**11 22 04.8**	**0.0**
	baz=61						
FID	**Port Fidalgo**	**2.71**	**61**		**Pn**	**11 22 04.2**	**-0.6**
FID				IAML		11 22 47.5	
	comp=E,998nm,0.8s						
FID				IAML		11 22 52.7	
	comp=N,863nm,0.9s						
SML	**Sawmill**	**2.72**	**31**	Pn	**Pn**	**11 22 06.0**	**+0.9**
SML				IAML		11 22 49.6	
	comp=N,635nm,1.1s						
SML				IAML		11 22 56.9	
	comp=E,798nm,0.7s						
SML	**Sawmill**	**2.72**	**31**	P	**Pn**	**11 22 06.0**	**+0.9**
	baz=213						
M23K	**Glacier View**	**2.88**	**36**		**Pn**	**11 22 08.1**	**+0.9**
M23K	**Glacier View**	**2.88**	**36**	P	**Pn**	**11 22 07.8**	**+0.5**
	baz=219						
Q16K	**King Salmon**	**2.89**	**255**		**Pn**	**11 22 07.0**	**-0.3**
Q16K	**King Salmon**	**2.89**	**255**	P	**Pn**	**11 22 07.0**	**-0.3**
	baz=72						
CUT	**Chulitna**	**2.94**	**9**		**Pn**	**11 22 10.2**	**+2.2**
CUT				IAML		11 23 10.7	
	comp=E,773nm,0.9s						
CUT				IAML		11 23 20.7	
	comp=N,870nm,0.8s						
CUT	**Chulitna**	**2.94**	**9**	P	**Pn**	**11 22 08.6**	**+0.6**
	baz=190						
O17K	**Koliganek Bris**	**2.95**	**277**		**Pn**	**11 22 08.2**	**+0.1**
O17K	**Koliganek Bris**	**2.95**	**277**	P	**Pn**	**11 22 08.7**	**+0.5**
	baz=93						
EYAK	**Cordova Ski Ar**	**2.97**	**67**		**Pn**	**11 22 08.2**	**-0.2**
EYAK	**Cordova Ski Ar**	**2.97**	**67**	P	**Pn**	**11 22 08.5**	**+0.1**
EYAK	**Cordova Ski Ar**	**2.97**	**67**	P	**Pn**	**11 22 08.4**	**0.0**
	baz=251						
M18K	**Stony River**	**2.99**	**313**		**Pn**	**11 22 08.9**	**+0.2**
M18K	**Stony River**	**2.99**	**313**	P	**Pn**	**11 22 08.9**	**+0.2**
	baz=130						
SCM	**Sheep Creek Mo**	**3.04**	**38**		**Pn**	**11 22 10.5**	**+1.1**
SCM				IAML		11 23 11.4	
	comp=N,599nm,0.9s						
SCM	**Sheep Creek Mo**	**3.04**	**38**	P	**Pn**	**11 22 10.5**	**+1.1**
	baz=221						
N17K	**Nushagak Hills**	**3.12**	**291**		**Pn**	**11 22 10.3**	**-0.2**
N17K	**Nushagak Hills**	**3.12**	**291**	IAML		11 23 01.6	
	comp=E,472nm,1.0s						
N17K				IAML		11 23 02.7	
	comp=N,760nm,0.9s						
N17K	**Nushagak Hills**	**3.12**	**291**	P	**Pn**	**11 22 10.6**	**0.0**
	baz=107						
L19K	**White Mountain**	**3.19**	**328**		**Pn**	**11 22 12.1**	**+0.6**
L19K	**White Mountain**	**3.19**	**328**	IAML		11 23 06.0	
	comp=N,573nm,1.4s						
L19K				IAML		11 23 18.1	
	comp=E,423nm,1.0s						
L19K	**White Mountain**	**3.19**	**328**	P	**Pn**	**11 22 12.0**	**+0.6**
	baz=146						
DIV	**Divide**	**3.19**	**57**		**Pn**	**11 22 11.7**	**+0.2**
L20K	**Farewell, AK**	**3.23**	**338**		**Pn**	**11 22 12.5**	**+0.5**
L20K	**Farewell, AK**	**3.23**	**338**	P	**Pn**	**11 22 12.4**	**+0.5**
	baz=156						
R17K	**Ugashik Creek**	**3.26**	**237**		**Pn**	**11 22 11.4**	**-1.0**
R17K				IAML		11 23 24.2	
	comp=E,360nm,1.0s						
KLU	**Klutina**	**3.31**	**51**		**Pn**	**11 22 13.9**	**+0.7**
KLU				IAML		11 23 08.1	
	comp=E,453nm,0.7s						
KLU	**Klutina**	**3.31**	**51**	P	**Pn**	**11 22 13.9**	**+0.7**
	baz=235						
PPLA	**Purkeypile**	**3.42**	**353**		**Pn**	**11 22 16.1**	**+1.4**
PPLA	**Purkeypile**	**3.42**	**353**	P	**Pn**	**11 22 16.1**	**+1.4**
	baz=173						
O16K	**Kokwok River B**	**3.46**	**274**		**Pn**	**11 22 15.5**	**+0.4**
O16K	**Kokwok River B**	**3.46**	**274**	IAML		11 23 09.6	
	comp=N,448nm,0.9s						
O16K	**Kokwok River B**	**3.46**	**274**	P	**Pn**	**11 22 15.8**	**+0.7**
	baz=89						
GOAT	**Goat Mountain**	**3.46**	**69**		**Pn**	**11 22 15.1**	**-0.1**
P16K	**Nushagak River**	**3.47**	**265**		**Pn**	**11 22 15.6**	**+0.3**
P16K	**Nushagak River**	**3.47**	**265**	P	**Pn**	**11 22 15.6**	**+0.3**
	baz=80						
WAT6	**Susitna Watana**	**3.53**	**28**		**Pn**	**11 22 17.4**	**+1.2**
WAT6	**Susitna Watana**	**3.53**	**28**	P	**Pn**	**11 22 17.4**	**+1.2**
	baz=211						
WAT7	**Susitna Watana**	**3.53**	**19**		**Pn**	**11 22 18.0**	**+1.8**
M17K	**Holitna River**	**3.58**	**304**		**Pn**	**11 22 17.0**	**+0.2**
M17K	**Holitna River**	**3.58**	**304**	P	**Pn**	**11 22 17.0**	**+0.2**
	baz=120						
WAT1	**Susitna Watana**	**3.58**	**21**		**Pn**	**11 22 18.3**	**+1.5**
WAT1	**Susitna Watana**	**3.58**	**21**	P	**Pn**	**11 22 18.3**	**+1.5**
	baz=203						
M24K	**Tolsona, Glenn**	**3.61**	**42**	Pn	**Pn**	**11 22 19.2**	**+1.9**
M24K	**Tolsona, Glenn**	**3.61**	**42**	P	**Pn**	**11 22 18.9**	**+1.6**
	baz=226						
HMT	**Hamilton**	**3.64**	**74**	Pn	**Pn**	**11 22 18.7**	**+1.1**
HMT				IAML		11 23 33.9	
	comp=N,356nm,0.7s						
BMRM	**Bremner River**	**3.64**	**64**		**Pn**	**11 22 17.4**	**-0.3**
BMRM	**Bremner River**	**3.64**	**64**	P	**Pn**	**11 22 17.5**	**-0.1**
	baz=249						
L18K	**Granite Mounta**	**3.78**	**318**		**Pn**	**11 22 19.7**	**+0.2**
L18K	**Granite Mounta**	**3.78**	**318**	IAML		11 23 24.0	
	comp=N,288nm,1.0s						
L18K				IAML		11 23 33.0	
	comp=E,245nm,1.4s						
L18K	**Granite Mounta**	**3.78**	**318**	P	**Pn**	**11 22 19.8**	**+0.3**
	baz=134						
N16K	**Nishlik Lake**	**3.87**	**288**		**Pn**	**11 22 21.2**	**+0.4**
N16K	**Nishlik Lake**	**3.87**	**288**	P	**Pn**	**11 22 21.2**	**+0.4**
	baz=102						
N25K	**Chitina, Valde**	**3.92**	**55**	Pn	**Pn**	**11 22 22.0**	**+0.5**
N25K				IAML		11 23 31.0	
	comp=N,228nm,1.3s						
N25K				IAML		11 23 31.5	
	comp=E,188nm,1.2s						
N25K	**Chitina, Valde**	**3.92**	**55**	P	**Pn**	**11 22 22.0**	**+0.5**
	baz=240						
BERG	**Berg Lake**	**3.92**	**74**		**Pn**	**11 22 22.2**	**+0.8**
BERG				IAML		11 23 45.1	
	comp=N,279nm,0.9s						
BERG				IAML		11 23 56.5	
	comp=E,345nm,0.9s						
CAST	**Castle Rocks**	**3.93**	**355**		**Pn**	**11 22 22.2**	**+0.5**
CAST	**Castle Rocks**	**3.93**	**355**	P	**Pn**	**11 22 22.4**	**+0.8**
	baz=174						
TRF	**Thorofare Moun**	**3.98**	**7**		**Pn**	**11 22 24.1**	**+1.7**
TRF	**Thorofare Moun**	**3.98**	**7**	IAML		11 23 19.5	
	comp=N,295nm,0.9s						
TRF				IAML		11 23 50.9	
	comp=E,202nm,1.2s						
TRF	**Thorofare Moun**	**3.98**	**7**	P	**Pn**	**11 22 24.1**	**+1.7**
	baz=188						
DHY	**Denali Highway**	**4.04**	**26**		**Pn**	**11 22 24.5**	**+1.3**
DHY	**Denali Highway**	**4.04**	**26**	IAML		11 23 13.2	
	comp=E,228nm,0.6s						
DHY	**Denali Highway**	**4.04**	**26**	P	**Pn**	**11 22 24.7**	**+1.5**
	baz=210						
KTH	**Kantishna Hill**	**4.05**	**2**		**Pn**	**11 22 25.0**	**+1.7**
KTH	**Kantishna Hill**	**4.05**	**2**	IAML		11 23 23.3	
	comp=E,210nm,0.8s						
KTH				IAML		11 23 33.2	
	comp=N,245nm,1.0s						
RND	**Reindeer**	**4.07**	**16**		**Pn**	**11 22 25.4**	**+1.7**
K20K	**Telida**	**4.08**	**342**		**Pn**	**11 22 24.7**	**+1.1**
K20K	**Telida**	**4.08**	**342**	IAML		11 23 38.0	
	comp=E,193nm,1.2s						
K20K	**Telida**	**4.08**	**342**	P	**Pn**	**11 22 24.7**	**+1.1**
	baz=160						
M16K	**Timber Creek**	**4.10**	**295**		**Pn**	**11 22 24.1**	**+0.2**
M16K	**Timber Creek**	**4.10**	**295**	IAML		11 23 32.6	
	comp=N,302nm,0.9s						
M16K				IAML		11 23 41.8	
	comp=E,324nm,0.8s						
M16K	**Timber Creek**	**4.10**	**295**	P	**Pn**	**11 22 24.7**	**+0.8**
	baz=109						
TTA	**Tatalina**	**4.11**	**328**		**Pn**	**11 22 24.6**	**+0.4**
TTA	**Tatalina**	**4.11**	**328**	IAML		11 23 41.2	
	comp=N,174nm,1.6s						
TTA	**Tatalina**	**4.11**	**328**	P	**Pn**	**11 22 25.1**	**+1.0**
TTA	**Tatalina**	**4.11**	**328**	P	**Pn**	**11 22 24.7**	**+0.5**
	baz=145						
KHIT	**Khitrov Hills**	**4.15**	**74**		**Pn**	**11 22 24.9**	**+0.3**
HARP	**HAARP**	**4.16**	**43**		**Pn**	**11 22 26.2**	**+1.4**
HARP	**HAARP**	**4.16**	**43**	P	**Pn**	**11 22 26.2**	**+1.4**
	baz=228						
GLB	**Gilahina Butte**	**4.18**	**59**	Pn	**Pn**	**11 22 25.4**	**+0.3**
GLB				IAML		11 23 33.0	
	comp=N,208nm,1.0s						
WACK	**Wrangell Chich**	**4.22**	**51**		**Pn**	**11 22 26.5**	**+0.7**
WASW	**Wrangell South**	**4.25**	**52**		**Pn**	**11 22 27.0**	**+0.8**
VRDI	**Verde Repeater**	**4.26**	**63**		**Pn**	**11 22 26.1**	**-0.1**
CRQM	**Cirque**	**4.26**	**70**		**Pn**	**11 22 26.3**	**-0.1**
CRQM	**Cirque**	**4.26**	**70**	IAML		11 23 48.3	
	comp=E,208nm,0.8s						
CRQM				IAML		11 23 52.2	
	comp=N,163nm,1.2s						
CRQE	**Cirque**	**4.29**	**70**	P	**Pn**	**11 22 26.5**	**0.0**
	baz=256						
L17K	**Donlin**	**4.32**	**310**		**Pn**	**11 22 26.8**	**0.0**
L17K	**Donlin**	**4.32**	**310**	P	**Pn**	**11 22 27.3**	**+0.5**
	baz=125						
SNH	**Sunshine Point**	**4.32**	**78**	Pn	**Pn**	**11 22 28.3**	**+1.3**
SNH				IAML		11 23 22.3	
	comp=E,141nm,2.5s						
SNH				IAML		11 24 51.6	
	comp=N,218nm,2.3s						
WAZA	**Wrangell Mount**	**4.34**	**51**		**Pn**	**11 22 28.6**	**+1.1**
WAX	**Waxell Ridge**	**4.34**	**74**	Pn	**Pn**	**11 22 28.0**	**+0.7**

comp=N,130nm,0.6s
MESA IAML 11 24 14.3
comp=E,108nm,1.1s
MESA MESA 4.76 78 P Pn 11 22 34.0 +0.8
baz=266
M15K Kasigluk River 4.84 288 Pn 11 22 34.5 +0.4
M15K Kasigluk River 4.84 288 P Pn 11 22 34.5 +0.4
baz=101
J20K Nowinta River 4.87 345 Pn 11 22 35.4 +1.0
J20K Nowinta River 4.87 345 IAML 11 24 14.5
comp=N,96nm,1.4s
J20K IAML 11 24 15.3
comp=E,107nm,1.2s
J20K Nowinta River 4.87 345 P Pn 11 22 35.4 +1.0
baz=163
GRNC Granite Creek 4.93 72 Pn 11 22 36.1 +0.7
GRNC Granite Creek 4.93 72 IAML 11 23 35.6
comp=N,152nm,0.7s
J19K Poorman 4.94 337 Pn 11 22 36.4 +1.0
J19K Poorman 4.94 337 P Pn 11 22 36.4 +1.0
baz=154
M26K Nabesna, AK 4.97 51 Pn 11 22 36.9 +1.0
M26K Nabesna, AK 4.97 51 IAML 11 23 54.3
comp=N,97nm,0.8s
M26K Nabesna, AK 4.97 51 P Pn 11 22 36.9 +1.0
baz=238
MENT Mentasta 5.02 44 Pn 11 22 39.0 +2.5
BARN Barnard Glacie 5.04 68 Pn 11 22 37.4 +0.5
BARN IAML 11 24 16.5
comp=E,108nm,0.9s
O14K Tigyukauivet M 5.10 271 Pn 11 22 38.1 +0.5
O14K Tigyukauivet M 5.10 271 IAML 11 24 16.8
comp=E,133nm,1.2s
O14K Tigyukauivet M 5.10 271 P Pn 11 22 37.8 +0.1
baz=83
CTG Chitna Glacier 5.17 69 P Pn 11 22 39.7 +1.0
baz=258
CTGM Chitina Glacie 5.17 69 Pn 11 22 39.2 +0.5
TABL Table Mountain 5.18 75 Pn 11 22 40.1 +1.2
TABL IAML 11 23 45.2
comp=E,81nm,1.0s
TABL IAML 11 24 28.6
comp=N,80nm,1.9s
WRH Wood River Hil 5.20 16 Pn 11 22 40.5 +1.6
WRH IAML 11 23 39.5
comp=N,79nm,1.0s
NEA2 Nenana 5.20 11 Pn 11 22 40.0 +1.0
NEA2 IAML 11 23 40.1
comp=E,86nm,0.7s
NEA2 Nenana 5.20 11 P Pn 11 22 40.3 +1.3
baz=193
L26K Log Cabin Wild 5.20 44 Pn Pn 11 22 41.0 +2.0
L26K IAML 11 24 17.5
comp=E,98nm,0.8s
L26K Log Cabin Wild 5.20 44 P Pn 11 22 40.6 +1.6
baz=231
RIDG Independent Ri 5.23 33 Pn 11 22 41.1 +1.6
RIDG Independent Ri 5.23 33 IAML 11 24 11.5
comp=N,117nm,1.4s
RIDG Independent Ri 5.23 33 P Pn 11 22 41.1 +1.6
baz=219
N14K Kuskokwak Cree 5.27 279 Pn 11 22 40.6 +0.6
N14K Kuskokwak Cree 5.27 279 P Pn 11 22 40.1 +0.1
baz=90
LOGN Logan Glacier 5.31 71 Pn 11 22 41.7 +1.1
HDA Harding Lake 5.32 21 Pn 11 22 42.1 +1.5
HDA IAML 11 23 43.6
comp=E,118nm,0.6s
SAMH Samovar Hills 5.34 79 Pn 11 22 42.3 +1.2
CCB Clear Creek Bu 5.40 16 Pn 11 22 42.7 +0.9
M27K Edge Creek, AK 5.40 54 Pn 11 22 42.7 +0.8
M27K Edge Creek, AK 5.40 54 P Pn 11 22 42.9 +0.9
baz=242
L15K Ungalak Mounta 5.47 298 Pn 11 22 43.1 +0.5
L15K Ungalak Mounta 5.47 298 P Pn 11 22 43.1 +0.5
baz=109
M14K Bethel 5.47 288 Pn Pn 11 22 44.0 +1.4
M14K Bethel 5.47 288 P Pn 11 22 42.3 -0.3
baz=99
MLY Manley 5.54 2 Pn Pn 11 22 45.2 +1.6
MLY Manley 5.54 2 P Pn 11 22 44.9 +1.2
baz=183
PCA Pinnacle 5.61 79 Pn 11 22 45.5 +0.9
PINM Pinnacle 5.61 79 P Pn 11 22 45.5 +0.9
baz=268
COLA College 5.61 15 Pn Pn 11 22 45.8 +1.2
COLA College 5.61 15 P Pn 11 22 45.8 +1.2
YUK2 White River 5.62 62 Pn 11 22 45.7 +0.8
MDM Murphy Dome 5.64 13 Pn 11 22 46.3 +1.2
IL31 5.66 20 Pn 11 22 46.9 +1.6
ILAR Eielson Array 5.66 20 Pn 11 22 47.1 +1.8
ILAR Eielson Array 5.66 20 P Pn 11 22 46.5 +1.1
comp=E,7.5nm,0.3s,baz=203,slow=14,SNR=492
ILAR S Sn 11 23 46.8 -2.1
comp=E,13nm,0.9s,baz=160,slow=14,SNR=6.0
SCRK Sand Creek 5.66 35 Pn 11 22 46.0 +0.6
SCRK Sand Creek 5.66 35 P Pn 11 22 46.1 +0.7
baz=221
I21K Tanana 5.69 357 Pn 11 22 47.2 +1.5
K15K Wolf Creek Mou 5.71 304 Pn 11 22 46.8 +0.7
K15K Wolf Creek Mou 5.71 304 P Pn 11 22 46.8 +0.7
baz=115
I23K Minto, Yukon-K 5.72 8 Pn Pn 11 22 47.4 +1.3
I23K Minto, Yukon-K 5.72 8 P Pn 11 22 47.2 +1.1
baz=190
L27K Beaver Creek, 5.78 48 Pn 11 22 47.8 +0.8
L27K Beaver Creek, 5.78 48 P Pn 11 22 47.8 +0.8
baz=236
YUK3 Moose Creek 5.79 62 Pn 11 22 48.1 +0.8
YUK3 Moose Creek 5.79 62 P Pn 11 22 48.1 +0.8
baz=251
BCAR Beaver Creek A 5.80 48 Pn Pn 11 22 48.4 +1.2
J25K Salcha River, 5.82 26 Pn 11 22 48.4 +0.9
J25K Salcha River, 5.82 26 P Pn 11 22 48.7 +1.1
baz=211
J16K Anvik River 5.85 314 Pn 11 22 47.8 0.0
J16K Anvik River 5.85 314 P Pn 11 22 47.8 0.0
baz=126
BVCY Beaver Creek 5.85 56 Pn 11 22 48.5 +0.5
BVCY Beaver Creek 5.85 56 P Pn 11 22 47.9 -0.1
baz=245
GCSA Galena City Sc 5.86 336 Pn 11 22 48.7 +0.7
GCSA Galena City Sc 5.86 336 P Pn 11 22 48.3 +0.3
baz=151
POKR Poker Plat Res 5.90 16 Pn 11 22 49.7 +1.1
POKR Poker Plat Res 5.90 16 P Pn 11 22 49.7 +1.1
baz=200
BCPM Bancas Point 5.92 81 Pn 11 22 47.8 -1.0
L14K Kuka Creek 5.93 293 Pn 11 22 49.4 +0.5
L14K Kuka Creek 5.93 293 P Pn 11 22 49.1 +0.2
baz=103
YUK8 Steele Glacier 5.99 68 Pn 11 22 51.3 +1.3
YUK8 Steele Glacier 5.99 68 P Pn 11 22 51.1 +1.1
baz=258
PNL Peninsula 6.05 83 Pn 11 22 50.9 +0.3
PNL Peninsula 6.05 83 P Pn 11 22 51.1 +0.5
PNL Peninsula 6.05 83 P Pn 11 22 51.0 +0.3
baz=273
J26L Joseph Creek 6.18 33 Pn 11 22 53.2 +0.7
J26L Joseph Creek 6.18 33 P Pn 11 22 53.3 +0.7
baz=219
H21K Melozitna Rive 6.20 354 Pn 11 22 53.2 +0.5
H21K Melozitna Rive 6.20 354 P Pn 11 22 53.5 +0.8
baz=173
H20K Anotleneega Mo 6.22 346 Pn 11 22 53.8 +0.8
H20K Anotleneega Mo 6.22 346 P Pn 11 22 53.8 +0.8
baz=163
I17K Unalakleet 6.25 318 Pn 11 22 53.4 0.0
I17K Unalakleet 6.25 318 P Pn 11 22 53.4 0.0
baz=131
K27K Chicken 6.29 40 Pn 11 22 54.8 +0.8
K27K Chicken 6.29 40 P Pn 11 22 53.8 -0.1
baz=228
H22K Ishtalitna Cre 6.40 360 Pn 11 22 56.6 +1.2
H22K Ishtalitna Cre 6.40 360 P Pn 11 22 56.6 +1.2
baz=180
O29M Mount Kennedy 6.45 78 Pn 11 22 57.4 +1.1
O29M Mount Kennedy 6.45 78 P Pn 11 22 57.4 +1.1
baz=268
SDPT Sand Point 6.48 234 P Pn 11 22 56.0 -0.5
H19K Roundabout Mou 6.48 341 Pn 11 22 57.2 +0.7
H19K Roundabout Mou 6.48 341 P Pn 11 22 56.1 -0.4
baz=156
YUK4 Talbot Arm 6.53 68 P Pn 11 22 59.1 +1.7
baz=258

H24K Noodor Dome 6.53 12 Pn 11 22 58.7 +1.4
H18K Honhosa River 6.54 333 Pn 11 22 58.1 +0.8
H18K Honhosa River 6.54 333 P Pn 11 22 58.1 +0.8
baz=147
PRP Porcupine Dome 6.58 21 Pn 11 22 59.3 +1.2
PRP Porcupine Dome 6.58 21 P Pn 11 22 59.3 +1.2
baz=206
IMAR Indian Mountai 6.59 351 Pn Pn 11 22 59.1 +1.2
YUK6 Outpost Mounta 6.60 72 Pn 11 22 59.6 +1.2
YUK6 Outpost Mounta 6.60 72 P Pn 11 22 59.6 +1.2
baz=263
YUK7 Dusty Glacier 6.67 76 Pn 11 23 00.6 +1.2
H17K Granite Mounta 6.76 327 Pn 11 23 01.7 +1.4
H17K Granite Mounta 6.76 327 P Pn 11 23 01.7 +1.4
baz=140
YUK5 Granite Creek 6.87 71 Pn 11 23 03.4 +1.4
P29M Windy Craggy 6.89 83 Pn 11 23 01.6 -0.6
P29M Windy Craggy 6.89 83 P Pn 11 23 01.6 -0.6
baz=275
M29M Somme Creek 6.90 59 Pn 11 23 03.2 +0.9
M29M Somme Creek 6.90 59 P Pn 11 23 03.1 +0.8
baz=250
HYT Haines Junctio 7.01 73 Pn 11 23 05.8 +2.0
HYT Haines Junctio 7.01 73 P Pn 11 23 05.1 +1.2
baz=265
PN7A Pavlof North-7 7.07 239 Pn 11 23 04.3 -0.4
EGAK Eagle 7.09 38 Pn 11 23 05.6 +0.7
G21K Allakaket 7.09 353 Pn 11 23 05.6 +0.7
G21K Allakaket 7.09 353 P Pn 11 23 05.8 +0.9
baz=171
G19K Purcell Mounta 7.16 341 Pn Pn 11 23 07.0 +1.3
G18K Tagagawik 7.23 335 Pn Pn 11 23 07.8 +1.0
G23K Bananza Creek 7.24 4 Pn 11 23 07.9 +0.9
G23K Bananza Creek 7.24 4 P Pn 11 23 07.9 +0.9
baz=185
DAWY Dawson 7.25 46 Pn 11 23 08.3 +1.2
P30M Million Dollar 7.26 79 Pn 11 23 08.1 +0.8
P30M Million Dollar 7.26 79 P Pn 11 23 08.1 +0.8
baz=271
N30M Aishikik Lake 7.28 68 Pn 11 23 07.8 +0.2
L29M L29M 7.29 55 Pn 11 23 08.2 +0.6
L29M L29M 7.29 55 P Pn 11 23 08.2 +0.6
baz=246
G17K Kiwalik Mounta 7.39 328 Pn 11 23 10.0 +1.0
G17K Kiwalik Mounta 7.39 328 P Pn 11 23 09.6 +0.6
baz=140
G24K Hadweenzic Riv 7.41 12 Pn 11 23 10.2 +0.9
I27K Kandik River 7.56 32 Pn 11 23 12.6 +1.2
I27K Kandik River 7.56 32 P Pn 11 23 12.6 +1.2
baz=220
FYU Fort Yukon 7.59 19 Pn Pn 11 23 13.0 +1.4
M30M Minto, Yukon 7.67 60 Pn 11 23 14.1 +1.1
M30M Minto, Yukon 7.67 60 P Pn 11 23 13.2 +0.2
baz=253
O30N Mendenhall 7.69 74 Pn 11 23 14.3 +1.1
F21K Alatna River 7.80 354 Pn 11 23 16.0 +1.5
F20K Avaraart Lake 7.82 347 Pn 11 23 15.8 +1.0
F20K Avaraart Lake 7.82 347 P Pn 11 23 15.7 +1.0
baz=163
K29M Barlow Dome 7.85 51 Pn Pn 11 23 16.3 +0.9
N31M Braeburn, Yuko 7.91 69 Pn Pn 11 23 17.7 +1.6
I28M Miner Creek 7.93 37 Pn 11 23 17.6 +1.1
I28M Miner Creek 7.93 37 P Pn 11 23 17.3 +0.8
baz=227
F22K John River 8.03 358 Pn 11 23 19.2 +1.5
F22K John River 8.03 358 P Pn 11 23 18.8 +1.1
baz=177
H27K Steamboat Moun 8.07 29 Pn 11 23 18.7 +0.4
H27K Steamboat Moun 8.07 29 P Pn 11 23 18.5 +0.2
baz=218
SKAG Skagway 8.13 84 Pn Pn 11 23 19.2 +0.1
SKAG Skagway 8.13 84 P Pn 11 23 19.7 +0.6
F24K Squaw Lake 8.17 9 Pn 11 23 20.7 +1.0
F24K Squaw Lake 8.17 9 P Pn 11 23 20.5 +0.8
baz=192
G26K Porcupine Rive 8.19 21 Pn 11 23 20.6 +0.8
G26K Porcupine Rive 8.19 21 P Pn 11 23 20.5 +0.7
baz=208
F17K Baldwin Pennin 8.28 331 Pn 11 23 22.7 +1.6
WHY Whitehorse 8.29 75 Pn Pn 11 23 22.6 +1.3
I29M Ogilvie Camp, 8.39 40 Pn 11 23 22.3 -0.4
E19K Redstone River 8.39 344 Pn 11 23 23.8 +1.1
E19K Redstone River 8.39 344 P Pn 11 23 23.2 +0.5
baz=159
BMAR Burnt Mountain 8.48 18 Pn 11 23 24.5 +0.5
F25K Christian Rive 8.48 15 Pn 11 23 24.2 +0.2
F25K Christian Rive 8.48 15 P Pn 11 23 24.4 +0.4
baz=200
G27K Doyon Strip 8.51 27 Pn 11 23 24.7 +0.4
E22K Anaktuvuk Pass 8.65 359 Pn Pn 11 23 29.1 +2.8
J30M Hart River 8.66 48 Pn Pn 11 23 28.4 +2.0
M31M Drury Creek, Y 8.67 65 Pn Pn 11 23 27.7 +1.1
E24K Your Creek 8.68 7 Pn 11 23 26.9 +0.2
E24K Your Creek 8.68 7 P Pn 11 23 26.8 +0.2
baz=190
SIT Sitka 8.77 99 P Pn 11 23 28.7 +0.9
JIS Juneau Island 8.85 91 Pn Pn 11 23 29.1 +0.2
JIS Juneau Island 8.85 91 P Pn 11 23 29.5 +0.6
P32M Atlin 8.93 82 Pn Pn 11 23 29.9 -0.1
E17K Hotham Inlet 8.93 333 Pn 11 23 31.4 +1.3
E17K Hotham Inlet 8.93 333 P Pn 11 23 30.3 +0.3
baz=143
E18K Tukpahlearik C 8.95 336 Pn 11 23 32.1 +1.9
I30M Mount Dempster 8.97 44 Pn 11 23 32.1 +1.4
S32K Killisnoo 8.99 96 Pn Pn 11 23 30.6 -0.2
E25K Arctic Village 8.99 14 Pn 11 23 31.4 +0.5
E25K Arctic Village 8.99 14 P Pn 11 23 31.6 +0.6
baz=199
E21K Kilik River 9.04 354 Pn 11 23 33.4 +1.9
FARO Faro, Yukon 9.16 65 Pn 11 23 33.1 -0.1
TOLK Toolik Lake Re 9.19 4 Pn 11 23 35.2 +1.6
TOLK Toolik Lake Re 9.19 4 P Pn 11 23 34.2 +0.6
baz=186
P33M Teslin, Yukon 9.32 78 Pn 11 23 35.3 -0.2
P33M Teslin, Yukon 9.32 78 P Pn 11 23 33.9 -1.5
baz=274
D22K Ayikyak River 9.42 357 Pn 11 23 38.0 +1.3
D19K Kuna River 9.49 345 Pn 11 23 39.2 +1.5
D23K Nanushuk River 9.49 1 Pn 11 23 38.6 +0.9
D23K Nanushuk River 9.49 1 P Pn 11 23 38.4 +0.7
baz=182
F28M Old Crow 9.57 27 Pn Pn 11 23 40.0 +1.2
F28M Old Crow 9.57 27 P Pn 11 23 37.8 -1.0
baz=217
E27K Coleen River 9.68 22 Pn 11 23 41.4 +1.1
D24K Happy Valley 9.73 5 Pn 11 23 42.4 +1.5
D25K Kavik River 10.07 10 Pn 11 23 47.4 +1.9
B21K Ikpikpuk River 10.24 353 Pn Pn 11 23 48.5 +0.6
U33K Whale Pass 10.27 101 Pn Pn 11 23 46.8 -1.6
C24K Franklin Bluff 10.30 5 Pn 11 23 48.2 -0.5
C24K Franklin Bluff 10.30 5 P Pn 11 23 48.2 -0.5
baz=188
C23K Itkillik River 10.37 1 Pn 11 23 50.9 +1.3
CRAG Craig 10.58 105 P Pn 11 23 53.2 +0.6
E29M Blow River 10.64 28 Pn 11 23 53.5 +0.1
G31M Satah River 10.65 39 Pn Pn 11 23 54.5 +1.1
D27M Malcolm River 10.72 20 Pn 11 23 55.4 +1.0
B20K Meade River 10.82 349 Pn 11 23 54.8 -0.9
B22K Teshekpuk Lake 10.90 356 Pn 11 23 55.1 -1.8
B22K Teshekpuk Lake 10.90 356 P Pn 11 23 55.1 -1.8
baz=174
DLBC Dease Lake 11.02 86 Pn Pn 11 24 00.1 +1.3
DLBC Dease Lake 11.02 86 P Pn 11 23 59.8 +1.1
comp=E,0.5nm,0.3s,baz=270,slow=11,SNR=12
DLBC S Sn 11 25 58.8 -1.6
comp=E,1.3nm,0.7s,baz=118,slow=19,SNR=1.1
comp=E,2.6nm,0.6s
INK Inuvik 11.73 34 P Pn 11 24 07.8 -0.5
comp=E,0.1nm,0.3s,baz=252,slow=11,SNR=5.5
INK LR LR 11 28 39.0
comp=E,83nm,19.4s,baz=185,slow=37
comp=E,1.9nm,0.8s
BBB Bella Bella 14.89 109 LR LR 11 29 07.9
comp=E,66nm,20.8s,baz=335,slow=31
A36M Sachs Harbour 16.24 29 P Pn 11 25 07.2 -1.0
baz=233
YKA Yellowknife Ar 17.87 65 P Pn 11 25 28.9 +0.4
comp=E,0.3nm,0.3s,baz=276,slow=10,SNR=48
YKA PcP PcP 11 30 02.0 -0.2
comp=E,0.3nm,0.7s,baz=262,slow=1.3,SNR=4.4
YKA LR LR 11 32 38.4
comp=E,114nm,20.6s,baz=306,slow=37
comp=E,3.5nm,0.9s
SHEM Shemya Is, Ala 20.26 266 LR LR 11 34 33.0

comp=E,26nm,19.0s,baz=3.0,slow=40
NEW Newport 22.80 104 P P 11 26 24.5 +2.3
comp=E,1.2nm,0.6s,baz=297,slow=11,SNR=4.0
NEW LR LR 11 34 36.4
comp=E,53nm,19.3s,baz=276,slow=34
comp=E,1.2nm,0.6s
YBH Yreka Blue Hor 25.10 122 LR LR 11 34 44.8
comp=E,60nm,19.2s,baz=290,slow=32
PETK Petropavlovsk- 28.38 280 LR LR 11 37 50.9
comp=E,24nm,21.2s,baz=81,slow=35
ELK Elko 29.25 114 P P 11 27 24.2 +2.9
comp=E,1.4nm,0.8s,baz=286,slow=8.5,SNR=5.8
ELK LR LR 11 37 31.7
comp=E,42nm,21.2s,baz=321,slow=33
comp=E,1.4nm,0.8s
NVAR Mina Array Bea 29.73 120 P P 11 27 28.0 +2.5
comp=E,0.2nm,0.6s,baz=328,slow=9.6,SNR=2.6
NVAR PcP PcP 11 30 28.9 +0.6
comp=E,0.6nm,0.8s,baz=316,slow=2.5,SNR=4.8
comp=E,0.2nm,0.6s
PDAR Pinedale Array 30.44 105 P P 11 27 34.8 +3.0
comp=E,0.4nm,0.7s,baz=310,slow=3.4,SNR=4.1
PDAR LR LR 11 39 58.3
comp=E,12nm,20.9s,baz=357,slow=36
comp=E,0.4nm,0.7s
TXAR Lajitas Array 44.01 112 P P 11 29 27.5 +1.1
comp=E,0.5nm,0.8s,baz=328,slow=8.5,SNR=5.8
TXAR PcP PcP 11 31 11.7 +0.4
comp=E,0.2nm,0.6s,baz=350,slow=3.8,SNR=1.9
comp=E,0.5nm,0.8s
ARCES ARCESS Array B 51.22 1 P P 11 30 20.4 -1.3
comp=E,3.2nm,0.7s,baz=3.4,slow=7.6,SNR=20
comp=E,3.2nm,0.7s
SONM Songino Array 55.77 307 P P 11 30 54.4 -1.1
comp=E,0.3nm,0.5s,baz=28,slow=9.6,SNR=2.4
SONM PcP PcP 11 31 54.3 +0.2
comp=E,0.6nm,0.7s,baz=59,slow=5.6,SNR=2.2
comp=E,0.3nm,0.5s
ZALV Zalesovo Beam 58.27 325 P P 11 31 12.6 -0.3
comp=E,0.6nm,0.4s,baz=22,slow=6.1,SNR=4.1
comp=E,0.6nm,0.4s
NOA NORSAR Array B 59.01 10 P P 11 31 16.9 -1.1
comp=E,2.2nm,0.8s,baz=350,slow=6.9,SNR=5.6
comp=E,2.2nm,0.8s
HHC Hu-ho-hao-te 59.17 299 *eP* P 11 31 20.8 +1.3
HHC pmax pmax
comp=Z,25nm,0.7s
HHC pmax pmax
comp=Z,210nm,5.4s
FINES FINESS Array B 59.35 1 P P 11 31 19.8 -0.5
comp=Z,5.7nm,0.7s,baz=354,slow=8.4,SNR=14
comp=Z,5.7nm,0.7s
HFS Hagfors 60.11 9 P P 11 31 25.1 -0.4
comp=Z,2.3nm,0.7s,baz=46,slow=6.4,SNR=7.3
comp=Z,2.3nm,0.7s
BVAR Borovoye Array 62.89 333 P P 11 31 43.0 -1.4
comp=Z,2.8nm,0.6s,baz=35,slow=6.9,SNR=16
comp=Z,2.8nm,0.6s
KURBB Kurchatov Arra 63.02 327 P P 11 31 43.2 -2.0
comp=Z,0.4nm,0.4s,baz=30,slow=6.3,SNR=5.1
comp=Z,0.4nm,0.4s
MKAR Makanchi Array 65.34 323 P P 11 31 59.0 -1.5
comp=Z,0.4nm,0.6s,baz=28,slow=6.9,SNR=4.5
comp=Z,0.4nm,0.6s
WMQ Urumqi 66.20 317 *eP* P 11 32 10.3 +4.1
AKASG Malin Array Be 70.14 360 P P 11 32 29.9 -0.7
comp=Z,1.7nm,0.6s,baz=2.6,slow=6.2,SNR=7.0
comp=Z,1.7nm,0.6s
GERES GERESS Array B 71.30 10 P P 11 32 37.0 -0.9
comp=Z,0.5nm,0.4s,baz=352,slow=5.9,SNR=2.2
comp=Z,0.5nm,0.4s
PZH PanZhiHua 75.61 298 P P 11 33 04.6 +1.0
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,5.1s
ESDC Sonseca Array 77.54 25 P P 11 33 14.7 +0.5
comp=Z,1.2nm,0.9s,baz=345,slow=4.5,SNR=5.8
comp=Z,1.2nm,0.9s
SDV Santo Domingo 77.66 94 LR LR 12 09 23.1
comp=Z,20nm,18.0s,baz=69,slow=37
BRTR Keskin Array B 81.03 356 P P 11 33 31.0 -2.3
comp=Z,0.7nm,0.6s,baz=317,slow=4.1,SNR=3.1
comp=Z,0.7nm,0.6s
CMAR Chiang Mai Arr 83.85 296 P P 11 33 45.0 -3.2
comp=Z,1.0nm,0.3s,baz=3.2,slow=4.8,SNR=4.7
comp=Z,1.0nm,0.3s
BOSA Boshof 149.01 6 PKPbc PKPbc 11 41 05.2 -0.9
comp=Z,1.1nm,0.5s,baz=333,slow=3.7,SNR=4.0
QSPA South Pole Qui 149.32 180 PKPbc PKPbc 11 41 04.5 -1.1
comp=Z,2.4nm,0.8s,baz=244,slow=0.6,SNR=10

*IDC **24** 11:38:03.1±0.8, 9°.11N×126°.87E, h0km, mb3.7/8, mbtmp3.7/9, ML3.9/1, MS2.9/4, Error ellipse: s-maj=34.1km s-min=16.7km az=82.0*

ISC 24 11:38:08.9±0.8, 9°.1N±0°.1×126°.9E±0°.2, h38km, n16, σ1°33/12, mb3.7/8, MS2.6/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.43**	**214**	Pn	**Pn**		**11 38 45.7**	**-0.3**
	27nm,0.3s,baz=81,slow=11,SNR=6.7							
DAV				Sn	**Sn**		**11 39 16.3**	**+1.7**
	152nm,0.3s,baz=20,slow=24,SNR=9.5							
DAV				LR	LR		11 39 49.4	
	comp=Z,422nm,19.3s,baz=4.5,slow=44							
	83nm,0.3s							
JNU	**Nakatsue**	**24.18**	**8**	LR	LR		11 53 32.3	
	comp=Z,19nm,19.0s,baz=211,slow=38							
MJAR	**Matsushiro Arr**	**29.17**	**19**	LR	LR		11 56 55.8	
	comp=Z,12nm,18.3s,baz=170,slow=39							
WRA	**Warramunga Arr**	**29.77**	**166**	P	**P**		**11 44 10.6**	**-1.5**
	0.4nm,0.7s,baz=347,slow=9.5,SNR=3.0							
	0.4nm,0.7s							
ASAR	**Alice Springs**	**33.27**	**168**	P	**P**		**11 44 41.5**	**-1.4**
	0.2nm,0.5s,baz=350,slow=6.7,SNR=10							
ASAR				PcP	**PcP**		**11 47 24.9**	**+0.1**
	0.5nm,1.0s,baz=347,slow=2.5,SNR=4.3							
	0.2nm,0.5s							
H11S3	**WAKE ISLAND Hy**	**39.63**	**72**	T	T		12 28 40.2	
	baz=261,slow=74							
H11S1	**WAKE ISLAND Hy**	**39.65**	**72**	T	T		12 28 41.0	
	baz=261							
H11S2	**WAKE ISLAND Hy**	**39.65**	**72**	T	T		12 28 43.3	
	baz=261,slow=74							
STKA	**Stephens Creek**	**43.09**	**162**	P	**P**		**11 46 05.4**	**0.0**
	1.4nm,0.5s,baz=336,slow=11,SNR=4.6							
	1.4nm,0.5s							
MKAR	**Makanchi Array**	**53.35**	**323**	P	**P**		**11 47 23.4**	**-1.0**
	0.9nm,0.8s,baz=120,slow=8.9,SNR=7.5							
	0.9nm,0.8s							
KURBB	**Kurchatov Arra**	**57.40**	**326**	P	**P**		**11 47 52.2**	**-1.3**
	0.5nm,0.4s,baz=126,slow=6.6,SNR=6.8							
	0.5nm,0.4s							
BVAR	**Borovoye Array**	**63.00**	**326**	P	**P**		**11 48 30.9**	**-0.9**
	0.4nm,0.6s,baz=116,slow=6.7,SNR=2.5							
	0.4nm,0.6s							
ILAR	**Eielson Array**	**80.20**	**26**	P	**P**		**11 50 16.4**	**+1.2**
	0.3nm,0.7s,baz=249,slow=4.7,SNR=5.8							
	0.3nm,0.7s							
PPT	**Papeete**	**86.57**	**108**	LR	LR		12 25 58.4	
	comp=Z,7.6nm,19.3s,baz=150,slow=33							
YKA	**Yellowknife Ar**	**94.55**	**24**	P	**P**		**11 51 26.6**	**+1.4**
	0.3nm,0.8s,baz=306,slow=4.5,SNR=2.9							
	0.3nm,0.8s							
PLCA	**Paso Flores**	**144.88**	**157**	PKP	**PKPdf**		**11 57 43.4**	**+1.1**
	2.0nm,0.9s,baz=214,slow=3.6,SNR=3.7							

*IDC **24** 11:51:45.8±1.3, 12°.50N×142°.81E, h0km, mb3.4/4, mbtmp3.4/5, ML3.7/1, Error ellipse: s-maj=58.1km s-min=20.8km az=124.0, South of Mariana Islands*

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.28**	**61**	Pn	Pn		11 52 25.0	+0.3
	22nm,0.3s,baz=260,slow=6.1,SNR=9.7							
GUMO				Sn	Sn		11 52 53.4	-0.1
	13nm,0.3s,baz=0.0,slow=20,SNR=2.4							
	48nm,0.3s							
H11S3	**WAKE ISLAND Hy**	**23.75**	**72**	T	T		12 21 30.2	
	baz=255							
H11S1	**WAKE ISLAND Hy**	**23.77**	**72**	T	T		12 21 29.5	
	baz=255							
H11S2	**WAKE ISLAND Hy**	**23.77**	**72**	T	T		12 21 36.6	
	baz=255							
H11N1	**WAKE ISLAND Hy**	**24.20**	**70**	T	T		12 22 00.4	
	baz=255,slow=75,SNR=5.4							
H11N2	**WAKE ISLAND Hy**	**24.21**	**70**	T	T		12 21 57.6	

baz=255,slow=75,SNR=5.1
H11N3 WAKE ISLAND Hy 24.22 70 T T 12 22 05.8
baz=255,slow=75,SNR=3.8
WRA Warramunga Arr 33.30 195 P P 11 58 24.5 -0.9
0.7nm,1.1s,baz=4.3,slow=9.4,SNR=1.9
0.7nm,1.1s
ASAR Alice Springs 36.98 194 P P 11 58 57.6 +0.4
0.2nm,0.7s,baz=20,slow=12,SNR=4.9
0.2nm,0.7s
ILAR Eielson Array 70.41 25 P P 12 03 01.4 -0.2
0.4nm,0.5s,baz=245,slow=6.2,SNR=8.8
0.4nm,0.5s
YKA Yellowknife Ar 84.74 27 P P 12 04 22.1 +0.5
0.1nm,0.4s,baz=286,slow=5.2,SNR=2.3
0.1nm,0.4s

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*IDC **24** 12:00:47.6±10.0, 51˚.15N×174˚.07W, h0km, mb3.5/3, mbtmp3.7/6, ML3.2/3, Error ellipse: s-maj=244.5km s-min=27.2km az=165.0*
*AEIC **24** 12:00:54.3±0.6, 51˚.43N±0˚.02×174˚.46W±0˚.09, h9km±6km, ML3.0, Error ellipse: s-maj=7.9km s-min=2.2km az=99.0*
*NEIC **24** 12:00:55.0±0.8, 51˚.38N±0˚.07×174˚.27W±0˚.06, h39km±93km, Error ellipse: s-maj=12.4km s-min=2.9km az=203.0*
ISC 24 12:00:55.0±1.4, **51˚.4N**±0˚.1×**174˚.26W**±0˚.07, **h38**km, **n22**, σ0s**70**/26, **mb3.6**/3, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.83**	**3**				**Pn**	**12 01 09.6**	**-0.4**
ATKA	**Atka Island**	**0.83**	**3**				**Sn**	**12 01 22.6**	**+1.6**
KOFP	**Korovin Flat P**	**0.90**	**6**				**Pn**	**12 01 11.2**	**0.0**
KOKL	**Mount Kliuchef**	**0.95**	**2**				**Pn**	**12 01 11.8**	**0.0**
KOSE	**Korovin Southe**	**0.98**	**7**				**Pn**	**12 01 12.5**	**+0.4**
KOWE	**Korovin West**	**0.99**	**0**				**Pn**	**12 01 12.4**	**+0.1**
KONE	**Korovin Northe**	**1.02**	**5**				**Pn**	**12 01 13.1**	**+0.4**
GSMY	**Great Sitkin M**	**1.30**	**301**				**Sn**	**12 01 32.5**	**-0.3**
GSMY							**Pn**	**12 01 16.5**	**-0.5**
GSTR	**Great Sitkin T**	**1.33**	**303**				**Pn**	**12 01 17.1**	**-0.1**
GSCK	**Great Sitkin C**	**1.34**	**299**				**Pn**	**12 01 33.8**	**0.0**
GSCK							**Sn**	**12 01 20.5**	**+0.1**
ADAG	**Mount Adagdak**	**1.58**	**293**				**Pn**	**12 01 23.3**	**-1.0**
KIWB	**Kanaga Island**	**1.87**	**286**	Pn			**Pn**	**12 01 24.4**	**-0.1**
KIKV	**Kanaga Island**	**1.88**	**287**				**Pn**	**12 01 31.6**	**+0.2**
TAFP	**Tanaga Falls P**	**2.38**	**284**				**Pn**	**12 02 00.7**	**+1.4**
TAFP							**Sn**	**12 01 38.2**	**+0.3**
GANE	**Gareloi Northe**	**2.85**	**281**				**Pn**	**12 02 12.3**	**+1.3**
GANE							**Sn**	**12 01 55.3**	**+1.2**
AMKA	**Amchitka**	**4.04**	**273**	Pn			**Pn**	**12 04 11.2**	**-0.2**
KDAK	**Kodiak Island**	**14.07**	**54**	Pn			**Pn**		
	0.1nm,0.3s,baz=216,slow=13,SNR=1.6								
	23nm,1.2s								
PETK	**Petropavlovsk-**	**17.22**	**287**	P			**Pn**	**12 04 51.6**	**-0.7**
	0.1nm,0.3s,baz=81,slow=14,SNR=1.7								
	3.0nm,1.0s								
ILAR	**Eielson Array**	**19.51**	**36**	P			**P**	**12 05 18.2**	**-0.3**
	0.2nm,0.3s,baz=235,slow=8.5,SNR=21								
	0.7nm,0.6s								
SONM	**Songino Array**	**49.17**	**299**	P			**P**	**12 09 39.2**	**+0.3**
	0.4nm,0.7s,baz=60,slow=8.5,SNR=2.7								
	0.4nm,0.7s								
MKAR	**Makanchi Array**	**62.23**	**311**	P			**P**	**12 11 11.7**	**-0.7**
	0.2nm,0.4s,baz=51,slow=6.5,SNR=4.6								
	0.2nm,0.4s								
BVAR	**Borovoye Array**	**62.68**	**322**	P			**P**	**12 11 15.4**	**+0.1**
	0.5nm,0.5s,baz=53,slow=7.0,SNR=5.0								
	0.5nm,0.5s								

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*IDC **24** 12:04:19.1±0.7, 29˚.88S×68˚.34W, h0km, mb3.9/5, mbtmp3.8/8, ML3.6/3, MS3.0/3, Error ellipse: s-maj=24.1km s-min=10.6km az=87.0*
*SJA **24** 12:04:19.7±0.8, 29˚.89S×68˚.23W, h10km±3km, ML3.7, MW3.7*
*NEIC **24** 12:04:25.4±2.6, 30˚.00S±0˚.06×68˚.12W±0˚.05, h54km±8km, mb4.5/9, Error ellipse: s-maj=8.8km s-min=5.3km az=206.0*
ISC 24 12:04:20.4±1.1, **29˚.90S**±0˚.02×**68˚.19W**±0˚.02, **h10**km±7km, **n87**, σ2s**00**/108, **mb4.3**/10, **San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ACDV	**Cuesta del Vie**	**0.85**	**251**	*eP*			**Pg**	**12 04 36.0**	**-0.7**
ACDV				*eS*			**Sg**	**12 04 47.8**	**-0.1**
ACDV						IAML		12 04 48.4	
	comp=Z,2μm,0.7s								
ACCO	**Cerro Coronel**	**1.02**	**228**	*eP*			**Pg**	**12 04 39.3**	**-0.8**
ACCO				*eS*			**Sg**	**12 04 53.6**	**+0.2**
ACCO						IAML		12 05 01.1	
	comp=Z,641nm,0.3s								
AROD	**Rodeo**	**1.14**	**256**	*eP*			**Pg**	**12 04 41.3**	**-1.1**
VCA	**Vinchina**	**1.16**	**359**	*eP*			**Pg**	**12 04 42.1**	**-0.6**
VCA				*eS*			**Sg**	**12 04 57.7**	**-0.1**
VCA						IAML		12 05 01.4	
	comp=Z,2μm,0.2s								
ACLC	**CERRO LA CRUZ**	**1.18**	**67**	*eP*			**Pg**	**12 04 43.0**	**0.0**
ACLC				*eS*			**Sb**	**12 04 59.6**	**+1.3**
ACLC						IAML		12 05 00.8	
	comp=Z,2μm,0.6s								
DOCA	**Reserva Natura**	**1.30**	**216**	*eP*			**Pn**	**12 04 44.5**	**-0.5**
DOCA				*eS*			**Sn**	**12 05 03.5**	**+0.9**
RTLL	**Cerro Villicun**	**1.44**	**190**	*eP*			**Pb**	**12 04 48.1**	**+0.6**
RTLL						IAML		12 05 16.1	
	comp=Z,1μm,0.9s								
APLL	**PUNTA DE LOS L**	**1.52**	**109**	*eP*			**Pn**	**12 04 48.6**	**+0.9**
APLL						IAML		12 05 13.3	
	comp=Z,166nm,0.5s								
SJA	**San Juan**	**1.65**	**191**	*eP*			**Pb**	**12 04 52.0**	**+1.0**
SJA				*eS*			**Sb**	**12 05 13.6**	**+1.7**
SJA						IAML		12 05 15.1	
	comp=Z,444nm,0.2s								
CO01	**Juntas del Tor**	**1.65**	**267**				**Pn**	**12 04 50.8**	**+1.0**
CO01	**Juntas del Tor**	**1.65**	**267**	*eP*			**Pn**	**12 04 50.4**	**+0.6**
CO01				*eS*			**Sb**	**12 05 13.1**	**+1.0**
CO01						IAML		12 05 14.9	
	comp=Z,556nm,0.6s								
ZON	**Zonda**	**1.69**	**194**	Pn			**Pn**	**12 04 51.6**	**+1.5**
ZON	**Zonda**	**1.69**	**194**	*eP*			**Pn**	**12 04 51.8**	**+1.7**
ZON						IAML		12 05 19.7	
	comp=Z,230nm,0.6s								
CFA	**Coronel Fontan**	**1.70**	**181**	*eP*			**Pn**	**12 04 51.7**	**+1.5**
CFA				*eS*			**Sb**	**12 05 14.6**	**+1.3**
CFA						IAML		12 05 16.8	
	comp=Z,459nm,0.2s								
CFA	**Coronel Fontan**	**1.70**	**181**	Pg			**Pn**	**12 04 51.7**	**+1.5**
	comp=Z,34nm,0.3s,baz=12,slow=18,SNR=152								
CFA						LR	LR	12 05 07.9	
	comp=Z,31nm,20.9s,baz=290,slow=28								
CFA						Lg	Lg	12 05 13.9	
	comp=Z,194nm,0.3s,baz=302,slow=23,SNR=18								
TINO	**Tinogasta**	**1.91**	**17**	*eP*			**Pb**	**12 04 56.1**	**+0.6**
RTCV	**Cerro Valdivia**	**1.98**	**189**	*eP*			**Pb**	**12 04 56.7**	**+0.1**
RTCV				*eS*			**Sb**	**12 05 23.2**	**+1.9**
AC05	**El Transito**	**2.10**	**300**				**Pb**	**12 04 59.2**	**+0.4**
AC05	**El Transito**	**2.10**	**300**	*eP*			**Pb**	**12 04 59.2**	**+0.4**
AC05				*eS*			**Sg**	**12 05 32.9**	**+4.8**
AC05						IAML		12 05 43.2	
	comp=Z,354nm,0.8s								
RTLS	**Leoncito**	**2.12**	**206**	*eP*			**Pb**	**12 04 58.7**	**-0.4**
RTLS				*eS*			**Sb**	**12 05 26.8**	**+1.2**
RTLS						IAML		12 05 30.0	
	comp=Z,1μm,0.3s								
GO04	**Tololo Observa**	**2.28**	**263**				**Pb**	**12 05 01.4**	**-0.4**
GO04	**Tololo Observa**	**2.28**	**263**	*eP*			**Pn**	**12 05 00.7**	**+2.4**
GO04				*eS*			**Sb**	**12 05 31.7**	**+1.6**
CO03	**El Pedregal**	**2.35**	**246**				**Pb**	**12 05 02.3**	**-0.7**
CO03	**El Pedregal**	**2.35**	**246**	*eP*			**Pb**	**12 05 02.5**	**-0.5**
CO03				*eS*			**Sb**	**12 05 34.5**	**+2.3**
CO03						IAML		12 05 39.2	
	comp=Z,673nm,0.7s								
LCO	**Las Campanas**	**2.36**	**291**				**Pb**	**12 05 03.5**	**+0.3**
LCO	**Las Campanas**	**2.36**	**291**	*eP*			**Pb**	**12 05 03.5**	**+0.3**
LCO				*eS*			**Sg**	**12 05 38.3**	**+1.9**
LCO						IAML		12 05 39.4	
	comp=Z,4μm,0.3s								
CO05	**La Serena**	**2.65**	**269**				**Pb**	**12 05 06.5**	**-1.4**
ASAL	**Salagasta**	**2.74**	**191**	*eP*			**Pb**	**12 05 08.2**	**-1.4**
ASAL				*eS*			**Sb**	**12 05 45.8**	**+2.5**
ASAL						IAML		12 05 56.7	
	comp=Z,417nm,0.6s								
CO02	**Combarbal**	**2.75**	**241**	*eP*			**Pb**	**12 05 08.4**	**-1.3**
CO02				*eS*			**Sb**	**12 05 45.5**	**+2.0**
CO02						IAML		12 05 48.5	
	comp=Z,817nm,0.7s								
GO03	**Copiap**	**2.92**	**322**	*eP*			**Pn**	**12 05 09.5**	**+2.6**
GO03				*eS*			**Sb**	**12 05 48.2**	**-0.1**
ARCO	**CERRO ARCO**	**3.00**	**192**	*eP*			**Pn**	**12 05 12.0**	**+3.8**
ARCO				*eS*			**Sb**	**12 05 54.2**	**+3.4**
ARCO						IAML		12 06 03.7	
	comp=Z,303nm,1.2s								
AC04	**Llanos de Chal**	**3.04**	**303**	Pn			**Pn**	**12 05 11.5**	**+2.9**
AC04	**Llanos de Chal**	**3.04**	**303**	*eP*			**Pn**	**12 05 11.2**	**+2.7**
AC04				*eS*			**Sg**	**12 05 55.2**	**-2.8**
AC04						IAML		12 05 57.0	
	comp=Z,94nm,0.5s								
AAGR	**Agrelo**	**3.22**	**190**	*eP*			**Pn**	**12 05 15.2**	**+4.0**
AAGR						IAML		12 06 24.2	
	comp=Z,376nm,1.2s								
TCA	**Tanti**	**3.41**	**116**	*eS*			**Sn**	**12 05 58.1**	**+3.7**
TCA						IAML		12 06 15.0	
	comp=Z,266nm,0.7s								
AVIZ	**Vizcacheras**	**3.57**	**184**	*eS*			**Sg**	**12 06 16.1**	**+1.0**
PEL	**Peldehue**	**3.87**	**213**				**Pn**	**12 05 22.5**	**+2.4**
ROC1	**El Roble**	**3.90**	**218**				**Pn**	**12 05 23.1**	**+2.4**
AHML	**Horco Molle**	**4.00**	**40**	*eP*			**Pn**	**12 05 24.1**	**+2.3**
MT03	**Universidad Ad**	**4.09**	**208**	*eP*			**Pn**	**12 05 27.1**	**+3.9**
MT03						IAML		12 06 28.3	
	comp=Z,267nm,0.8s								
MT05	**Renca**	**4.10**	**211**	Pn			**Pn**	**12 05 26.5**	**+3.3**
MT05	**Renca**	**4.10**	**211**	*eP*			**Pn**	**12 05 26.6**	**+3.3**
MT05						IAML		12 06 38.6	
	comp=Z,191nm,1.0s								
MT02	**Curacav**	**4.19**	**216**	Pn			**Pn**	**12 05 27.2**	**+2.8**
MT02	**Curacav**	**4.19**	**216**	*eP*			**Pn**	**12 05 26.8**	**+2.4**
MT02				*eS*			**Sb**	**12 06 27.4**	**+2.6**
MT02						IAML		12 06 29.4	
	comp=Z,146nm,0.8s								
FSA	**Cafayete**	**4.25**	**28**	*eS*			**Sg**	**12 06 34.6**	**-2.4**
LMEL	**Las Melosas**	**4.29**	**203**				**Pn**	**12 05 29.5**	**+3.6**
AC01	**Pan de Azucar**	**4.30**	**330**				**Pn**	**12 05 28.6**	**+2.7**
AC01	**Pan de Azucar**	**4.30**	**330**	*eP*			**Pn**	**12 05 28.1**	**+2.1**
AC01						IAML		12 06 39.7	
	comp=Z,71nm,0.8s								
MT09	**Talagante**	**4.54**	**211**				**Pn**	**12 05 31.9**	**+2.5**
BO04	**La Punta**	**4.56**	**206**				**Pn**	**12 05 32.9**	**+3.3**
MT01	**Popeta**	**4.73**	**213**	*eP*			**Pn**	**12 05 33.6**	**+1.8**
MT01				*eS*			**Sb**	**12 06 46.5**	**+6.0**
MT01						IAML		12 06 50.3	
	comp=Z,62nm,0.8s								
RFA	**San Rafael**	**4.86**	**183**	*eP*			**Pn**	**12 05 35.8**	**+2.1**
RFA				*eS*			**Sg**	**12 06 52.5**	**-4.0**
RFA						IAML		12 07 03.0	
	comp=Z,183nm,0.8s								
GO02	**Mina Guanaco**	**4.88**	**345**	Pn			**Pn**	**12 05 37.2**	**+3.0**
BO01	**Tunca**	**5.11**	**208**				**Pn**	**12 05 38.7**	**+1.7**
BO02	**Sierra Bellavi**	**5.35**	**204**	IAML				12 07 17.8	
	comp=Z,46nm,0.6s								
PB05	**IPOC Station P**	**7.25**	**345**	Pn			**Pn**	**12 06 08.6**	**+2.0**
LVC	**Limon Verde**	**7.29**	**355**	Pn			**Pn**	**12 06 08.9**	**+1.6**
LVC	**Limon Verde**	**7.29**	**355**	Pn			**Pn**	**12 06 08.3**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=203,slow=12,SNR=2.2								
LVC						Sn	**Sn**	**12 07 30.1**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=180,slow=11,SNR=1.5								
LVC						Lg	Lg	12 08 10.8	
	comp=Z,0.9nm,0.3s,baz=29,slow=11,SNR=2.0								
LVC						LR	LR	12 09 17.2	
	comp=Z,160nm,18.4s,baz=180,slow=41								
	comp=Z,2.2nm,0.4s								
PB09	**IPOC Station P**	**8.13**	**353**	Pn			**Pn**	**12 06 19.8**	**+1.2**
TRQA	**Tornquist**	**9.63**	**149**	Pn			**Pn**	**12 06 40.6**	**+1.5**
ITQB	**Itaqui**	**10.05**	**92**	Pn			**Pn**	**12 06 44.6**	**-0.3**
CPUP	**Villa Florida**	**10.23**	**72**	Pn			**Pn**	**12 06 46.4**	**-0.9**
CPUP	**Villa Florida**	**10.23**	**72**	Pn			**Pn**	**12 06 47.1**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=239,slow=14,SNR=6.4								
CPUP						Lg	Lg	12 09 50.9	
	comp=Z,0.6nm,0.3s,baz=348,slow=20,SNR=3.4								
CPUP						LR	LR	12 10 56.2	
	comp=Z,40nm,21.6s,baz=222,slow=38								
	comp=Z,1.5nm,0.5s								
PLCA	**Paso Flores**	**10.98**	**189**	Pn			**Pn**	**12 06 56.3**	**-1.3**
	baz=24,slow=20,SNR=1.6								
PLCA						Lg	Lg	12 10 07.8	
	comp=Z,0.1nm,0.3s,baz=105,slow=21,SNR=2.3								
	comp=Z,1.0nm,0.9s								
PLTB	**Pedras Altas**	**12.67**	**102**	Pn			**Pn**	**12 07 19.8**	**-1.0**
SAML	**Samuel**	**21.37**	**14**	P			**P**	**12 09 10.2**	**+2.1**
MDP	**Montagnes des**	**37.86**	**26**	LR			LR	12 27 38.6	
	comp=Z,35nm,21.4s,baz=94,slow=37								
TEIG	**Tepich**	**53.46**	**336**	P			**P**	**12 13 40.3**	**-0.6**
QSPA	**South Pole Qui**	**60.33**	**180**	P			**P**	**12 14 27.5**	**-1.8**
QSPA						IAmb	IAmb	12 14 43.4	
	comp=Z,8.2nm,1.5s								
833A	**Chaparral WMA,**	**65.12**	**330**	P			**P**	**12 15 01.2**	**-0.3**
TXAR	**Lajitas Array**	**67.93**	**327**	P			**P**	**12 15 19.1**	**-0.5**
TXAR	**Lajitas Array**	**67.93**	**327**	P			**P**	**12 15 20.0**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=153,slow=7.4,SNR=6.3								
	comp=Z,0.4nm,0.7s								
U49A	**Red Boiling Sp**	**68.10**	**345**	P			**P**	**12 15 18.9**	**-1.4**
U49A						IAmb	IAmb	12 15 23.3	
	comp=Z,8.7nm,1.2s								
WVT	**Waverly**	**68.23**	**343**	P			**P**	**12 15 20.4**	**-0.7**
VNDA	**Vanda**	**68.73**	**190**	P			**P**	**12 15 20.2**	**-3.7**
R40A	**Maddies Statio**	**71.47**	**340**	P			**P**	**12 15 40.5**	**-0.5**
R40A						IAmb	IAmb	12 15 49.7	
	comp=Z,11nm,1.5s								
P40A	**Paris**	**72.56**	**341**	P			**P**	**12 15 46.6**	**-1.0**
P40A						IAmb	IAmb	12 15 51.7	
	comp=Z,8.4nm,1.4s								
BOSA	**Boshof**	**79.02**	**117**	P			**P**	**12 16 27.1**	**+1.9**
	comp=Z,1.8nm,0.7s,baz=265,slow=4.6,SNR=7.1								
	comp=Z,1.8nm,0.7s								
TOA0	**Torodi Ar. Sit**	**79.70**	**68**	P			**P**	**12 16 28.1**	**-0.8**
TOA0						IAmb	IAmb	12 16 38.3	
	comp=Z,4.3nm,1.1s								
TORD	**Torodi Ar. Bea**	**79.70**	**68**	P			**P**	**12 16 29.2**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=276,slow=3.2,SNR=6.4								
	comp=Z,1.0nm,0.8s								
PDAR	**Pinedale Array**	**81.70**	**331**	P			**P**	**12 16 39.1**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=128,slow=7.5,SNR=14								
	comp=Z,0.8nm,0.5s								
NVAR	**Mina Array Bea**	**82.51**	**323**	P			**P**	**12 16 43.8**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=160,slow=4.9,SNR=5.4								
	comp=Z,0.7nm,0.9s								
ASAR	**Alice Springs**	**122.66**	**204**	PKP			**PKPdf**	**12 23 15.5**	**-1.5**
	comp=Z,0.2nm,0.7s,baz=152,slow=2.0,SNR=1.7								
WRA	**Warramunga Arr**	**125.90**	**206**	PKP			**PKPdf**	**12 23 22.6**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=167,slow=1.8,SNR=6.3								
KURBB	**Kurchatov Array**	**147.65**	**41**	PKPbc			**PKPbc**	**12 24 05.0**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=297,slow=4.1,SNR=4.2								
ZALV	**Zalesovo Beam**	**149.03**	**31**	PKPbc			**PKPbc**	**12 24 08.3**	**0.0**
	comp=Z,1.1nm,0.6s,baz=304,slow=4.4,SNR=5.8								
MKAR	**Makanchi Array**	**151.59**	**45**	PKPbc			**PKPbc**	**12 24 14.1**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=225,slow=1.2,SNR=5.1								

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*CATAC **24** 12:29:25.2±0.4, 10˚.60N×86˚.50W, h10km, ML4.4*
*UCR **24** 12:29:25.0±1.1, 10˚.61N×86˚.35W, h15km±10km, MW4.6*
*NEIC **24** 12:29:28.4±1.9, 10˚.74N±0˚.07×86˚.19W±0˚.07, h46km±11km, mb4.4/46, Error ellipse: s-maj=12.5km s-min=6.6km az=219.0*
*IDC **24** 12:29:29.6±1.5, 11˚.18N×85˚.84W, h49km±16km, mb3.8/8, mbtmp4.0/9, ML3.8/1, MS3.4/14, Error ellipse: s-maj=43.8km s-min=12.7km az=48.0*
ISC 24 12:29:27.5±0.9, **10˚.64N**±0˚.04×**86˚.24W**±0˚.05, **h47**km±8km, **n191**, σ1s**58**/196, **mb4.3**/32, **MS3.5**/12, **4C-1D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**0.64**	**83**				**Pn**	**12 29 39.7**	**-0.7**
HZTE						Sn	**Sn**	**12 29 51.5**	**+1.8**
HZTE	**Horizontes, Gu**	**0.64**	**83**	*eP*			**Pn**	**12 29 39.7**	**-0.7**
HZTE				*eS*			**Sn**	**12 29 51.1**	**+1.4**
HZTE	**Horizontes, Gu**	**0.64**	**83**	*i P*			**Pn**	**12 29 39.9**	**-0.5**
ELI1	**Hacienda Flor**	**0.68**	**90**	*eP*			**Pn**	**12 29 40.8**	**-0.1**
ELI1				*eS*			**Sn**	**12 29 53.4**	**+2.8**
DELF	**Filadelfia**	**0.71**	**106**	*eP*			**Pn**	**12 29 40.4**	**-0.8**
DELF				*eS*			**Sn**	**12 29 51.7**	**+0.6**
LCRUZ	**La Cruz**	**0.74**	**54**	*eP*			**Pn**	**12 29 41.5**	**-0.2**
LCRUZ				*eS*			**Sn**	**12 29 55.1**	**+3.0**
SACU	**Santa Cruz**	**0.75**	**120**	*eS*			**Sn**	**12 29 51.7**	**-0.5**
LIBE	**Liberia**	**0.78**	**92**	*i P*			**Pn**	**12 29 42.3**	**+0.1**
LIBE						IAML		12 29 42.7	
	comp=Z,11μm,1.0s								
ERIA	**Liberia**	**0.79**	**90**	*eP*			**Pn**	**12 29 42.4**	**+0.1**
ORTG	**Ortega, Santa**	**0.82**	**110**				**Pn**	**12 29 42.0**	**-0.9**
ORTG						Sn	**Sn**	**12 29 54.2**	**+0.2**
ORTG	**Ortega, Santa**	**0.82**	**110**	*eP*			**Pn**	**12 29 42.0**	**-0.9**
ORTG				*eS*			**Sn**	**12 29 54.0**	**0.0**
ORTG	**Ortega, Santa**	**0.82**	**110**	*i P*			**Pn**	**12 29 42.0**	**-0.9**
ORTG						IAML		12 29 56.0	
	comp=Z,6μm,1.0s								
JUD3	**Juan Diaz 3**	**0.84**	**124**	*eP*			**Pn**	**12 29 41.9**	**-1.2**
GB1A	**Borinquen Arri**	**0.85**	**78**	*eP*			**Pn**	**12 29 42.8**	**-0.4**
GB1A				*eS*			**Sn**	**12 29 56.2**	**+1.5**
GPS3	**Bodega del ICE**	**0.87**	**82**	⇓*iP*			**Pn**	**12 29 43.1**	**-0.5**
GPS3				*eS*			**Sn**	**12 29 56.9**	**+1.7**
VRLE	**La Escondida,**	**0.88**	**80**	*eP*			**Pn**	**12 29 42.9**	**-0.7**
VRLE	**La Escondida,**	**0.88**	**80**	*i P*			**Pn**	**12 29 43.3**	**-0.3**
VRLE						IAML		12 30 13.9	
	comp=Z,6μm,1.0s								
DUNO	**Dulce Nombre,**	**0.93**	**127**	Pn			**Pn**	**12 29 42.3**	**-1.9**
DUNO	**Dulce Nombre,**	**0.93**	**127**	*i P*			**Pn**	**12 29 45.7**	**+1.5**
PLVR	**Palo Verde**	**0.93**	**108**	*eP*			**Pn**	**12 29 43.4**	**-0.9**
NICO	**Nicoya**	**0.93**	**123**	*eP*			**Pn**	**12 29 43.7**	**-0.5**
MICM	**Guayabo**	**1.03**	**87**	*eP*			**Pn**	**12 29 45.4**	**-0.2**
MICM				*eS*			**Sn**	**12 30 01.0**	**+2.0**
CAMAV	**Centro de Prod**	**1.03**	**87**	⇑*eP*			**Pn**	**12 29 45.7**	**0.0**
CAMAV				*eS*			**Sn**	**12 30 00.8**	**+1.6**
JAPN	**Al SSO del Vol**	**1.04**	**32**	*i P*			**Pn**	**12 29 45.2**	**-0.5**
JAPN						IAML		12 29 45.7	
	comp=Z,17μm,1.0s								
OMEN	**Al SSO del Vol**	**1.06**	**35**	*i P*			**Pn**	**12 29 44.7**	**-1.2**
OMEN						IAML		12 30 06.3	
	comp=Z,10μm,1.0s								
INDI	**Punta indio, G**	**1.06**	**136**	*i P*			**Pn**	**12 29 45.0**	**-1.0**
INDI						IAML		12 30 22.3	
	comp=Z,4μm,1.0s								
MORN	**Al O del Volca**	**1.07**	**33**	*i P*			**Pn**	**12 29 45.4**	**-0.8**
MORN						IAML		12 29 45.9	
	comp=Z,22μm,1.0s								
CONN	**Concepcion**	**1.10**	**33**	*i P*			**Pn**	**12 29 46.8**	**+0.2**
CONN						IAML		12 29 47.3	
	comp=Z,56μm,1.0s								
POPE	**POPE, Guanacas**	**1.12**	**121**	*i P*			**Pn**	**12 29 46.6**	**-0.2**
POPE						IAML		12 30 12.4	
	comp=Z,6μm,1.0s								
VMAR	**Armenia, Volca**	**1.12**	**81**	*eP*			**Pn**	**12 29 47.2**	**+0.3**
VMAR				⇑*eP*			**Pn**	**12 29 47.2**	**+0.3**
VMAR				*eS*			**Sn**	**12 30 04.2**	**+2.9**
VMAR	**Armenia, Volca**	**1.12**	**81**	*i P*			**Pn**	**12 29 47.6**	**+0.7**
VMAR						IAML		12 30 22.2	
	comp=Z,11μm,1.0s								
CNAS	**Canas**	**1.15**	**100**	*eP*			**Pn**	**12 29 48.1**	**+0.9**
CANAL	**Canalete**	**1.19**	**81**	⇑*eP*			**Pn**	**12 29 47.9**	**+0.2**
CANAL				*eS*			**Sn**	**12 30 06.2**	**+3.5**
ACAL	**Aguas Claras**	**1.19**	**90**	⇑*iP*			**Pn**	**12 29 48.1**	**+0.3**
ACAL				*eS*			**Sn**	**12 30 06.5**	**+3.6**
ADRN	**Diriamba**	**1.21**	**0**	*i P*			**Pn**	**12 29 48.0**	**-0.1**
ADRN						IAML		12 30 10.5	
	comp=Z,28μm,1.0s								
MSHP	**Masachapa**	**1.22**	**346**	*i P*			**Pn**	**12 29 48.4**	**+0.3**
MSHP						IAML		12 30 13.1	
	comp=Z,1μm,1.0s								
GRNN	**Granada**	**1.31**	**12**	*i P*			**Pn**	**12 29 49.3**	**-0.1**
GRNN						IAML		12 30 17.6	
	comp=Z,7μm,1.0s								
JTS	**Las Juntas de**	**1.32**	**105**	P			**Pn**	**12 29 49.2**	**-0.3**
	comp=Z,491nm,0.3s

CRIN				*i* S		**Sn**	12 30 30.6	**+3.0**
CRIN				IAML			12 30 33.8	
	comp=Z,6µm,1.0s							
ACOS	**Acosta**	**2.21**	**112**	*e*P		**Pn**	12 30 04.1	**+2.2**
RIFO	**Rio Frio, Sara**	**2.31**	**98**	*e*P		**Pn**	12 30 05.5	**+2.4**
RIFO	**Rio Frio, Sara**	**2.31**	**98**	*i* P		**Pn**	12 30 07.2	**+4.2**
RIFO				*i* S		Sn	12 30 44.3	+14
RIFO				IAML			12 30 51.8	
	comp=Z,3µm,1.0s							
ABE2	**San Pablo**	**2.35**	**113**	*e*P		**Pn**	12 30 04.9	**+1.0**
LCR2	**La Lucha 2**	**2.38**	**112**			**Pn**	12 30 04.6	**+0.4**
LCR2	**La Lucha 2**	**2.38**	**112**	*i* P		**Pn**	12 30 03.9	**-0.3**
LLNJ	**Naranjito**	**2.41**	**119**	*e*P		**Pn**	12 30 09.1	**+4.6**
LIMN	**Finca el Limon**	**2.41**	**357**	*i* P		**Pn**	12 30 04.3	**-0.3**
LIMN				IAML			12 30 11.7	
	comp=Z,800nm,1.0s							
HAYA	**Volcan Irazu**	**2.45**	**105**	*i* P		Pn	12 30 15.2	+10
ESPN	**Las Esperanzas**	**2.45**	**51**	Pn		**Pn**	12 30 04.3	**-0.8**
TRT2	**Tortugero**	**2.47**	**92**	*i* P		**Pn**	12 30 09.5	**+4.2**
TRT2				*i* S		Sn	12 30 49.2	+15
TRT2				IAML			12 30 57.3	
	comp=Z,1µm,1.0s							
RIMA	**Rio Macho**	**2.50**	**110**			**Pn**	12 30 06.6	**+0.7**
VERB	**Verbena**	**2.60**	**105**	*e*P		**Pn**	12 30 10.5	**+3.2**
RVSTA	**Santa Teresita**	**2.64**	**104**	*e*P		**Pn**	12 30 10.6	**+2.9**
CDM	**Cerro de Muert**	**2.67**	**114**	*i* P		**Pn**	12 30 11.4	**+2.9**
CDM				*i* S		Sn	12 30 49.7	+10
CDM				IAML			12 31 08.0	
	comp=Z,650nm,1.0s							
LCOCO	**El Coco**	**2.70**	**102**	*e*P		**Pn**	12 30 10.3	**+1.8**
RCPN	**Sur Rio San Ju**	**2.87**	**3**	*i* P		**Pn**	12 30 10.7	**-0.2**
RCPN				IAML			12 30 18.8	
	comp=Z,1.3nm,1.0s							
AMPH	**Amapala**	**2.97**	**332**	*i* P		**Pn**	12 30 11.7	**-0.5**
AMPH				*i* S		**Sn**	12 30 52.9	**+6.3**
OCHAL	**Ojochal**	**2.98**	**121**	*i* P		Pn	12 30 20.1	+7.7
OCHAL				IAML			12 31 21.9	
	comp=Z,2.3nm,1.0s							
CNCH	**Conchagua**	**3.05**	**329**	*i* P		**Pn**	12 30 13.3	**0.0**
CNCH				IAML			12 31 00.8	
	comp=Z,750nm,1.0s							
DRK0	**Durika**	**3.26**	**115**	Pn		**Pn**	12 30 16.1	**-0.1**
EDBA	**Buenos Aires**	**3.27**	**116**	*e*P		Pn	12 30 21.1	+4.7
YUSH	**Yuscaran**	**3.34**	**350**	*i* P		**Pn**	12 30 19.6	**+2.2**
TGUH	**Tegucigalpa,Un**	**3.54**	**344**			**Pn**	12 30 19.5	**-0.7**
TGUH	**Tegucigalpa,Un**	**3.54**	**344**	*i* P		**Pn**	12 30 21.5	**+1.3**
TGUH				IAML			12 30 51.1	
	comp=Z,410nm,1.0s							
EDAD	**Golfito**	**3.62**	**123**	*e*P		**Pn**	12 30 23.3	**+2.1**
CCOL	**Caracol de Cor**	**3.92**	**124**	*i* P		**Pn**	12 30 27.7	**+2.6**
CCOL				IAML			12 31 48.2	
	comp=Z,650nm,1.0s							
BRU2	**Volcan**	**3.95**	**117**	Pn		**Pn**	12 30 26.2	**+0.4**
COMHN	**El Horno**	**3.99**	**341**	*i* P		**Pn**	12 30 28.0	**+1.6**
JUTIH	**Juticalpa Olan**	**4.01**	**0**	*i* P		**Pn**	12 30 27.8	**+1.3**
MTO3	**Montecristo**	**4.82**	**321**			**Pn**	12 30 37.4	**-0.3**
TEIG	**Tepich**	**9.73**	**349**	LR		LR	12 35 50.8	
	comp=Z,3µm,20.6s,baz=332,slow=41							
CMIG	**Matias Romero**	**10.56**	**308**	P		**Pn**	**12 31 57.7**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=134,slow=8.9,SNR=6.7							
	comp=Z,5.6nm,0.7s							
TLIG	**Tlapa**	**13.79**	**301**			**Pn**	12 32 40.9	**+0.4**
SDV	**Santo Domingo**	**15.48**	**95**	LR		LR	12 41 06.7	
	comp=Z,86nm,18.0s,baz=288,slow=46							
BAUV	**El Baul**	**18.02**	**94**	P		**P**	**12 33 33.3**	**-1.3**
ATAH	**Atahualpa**	**19.31**	**156**	LR		LR	12 40 30.2	
	comp=Z,164nm,18.1s,baz=318,slow=34							
SJG	**San Juan**	**20.82**	**67**	LR		LR	12 41 53.6	
	comp=Z,32nm,19.4s,baz=167,slow=37							
HKT	**Hockley**	**21.19**	**336**	P		**P**	**12 34 09.7**	**+0.7**
HKT				IAmb		IAmb	12 34 18.5	
	comp=Z,20nm,1.4s							
833A	**Chaparral WMA,**	**21.49**	**327**	P		**P**	**12 34 11.6**	**-0.7**
152A	**Waverly Hall**	**21.97**	**3**	P		**P**	**12 34 14.2**	**-3.2**
152A				IAmb		IAmb	12 34 21.2	
	comp=Z,13nm,0.8s							
LRAL	**Lakeview Retre**	**22.30**	**358**	P		**P**	**12 34 21.5**	**+0.5**
HNDO	**Hondo**	**22.39**	**329**	P		**P**	**12 34 21.6**	**-0.4**
HNDO				IAmb		IAmb	12 34 29.5	
	comp=Z,6.0nm,0.8s							
NATX	**Nacogdoches**	**22.41**	**341**	P		**P**	**12 34 21.8**	**-0.4**
NATX				IAmb		IAmb	12 34 24.5	
	comp=Z,18nm,0.8s							
435B	**Jarrell**	**22.64**	**334**	P		**P**	**12 34 23.9**	**-0.8**
435B				IAmb		IAmb	12 34 40.0	
	comp=Z,14nm,0.9s							
GOGA	**Godfrey**	**22.81**	**6**	P		**P**	**12 34 27.1**	**+0.8**
GOGA				IAmb		IAmb	12 34 28.2	
	comp=Z,14nm,1.2s							
Y49A	**Blount Mountai**	**23.11**	**360**	P		**P**	**12 34 29.6**	**+0.2**
Y49A				IAmb		IAmb	12 34 31.6	
	comp=Z,8.6nm,0.7s							
Y52A	**Lilburn**	**23.20**	**5**	P		**P**	**12 34 30.8**	**+0.5**
Y52A				IAmb		IAmb	12 34 31.9	
	comp=Z,10nm,0.8s							
JCT	**Junction City**	**23.43**	**329**	P		**P**	**12 34 31.7**	**-0.9**
WHTX	**Lake Whitney,**	**23.64**	**336**	P		**P**	**12 34 34.8**	**+0.3**
WHTX				IAmb		IAmb	12 34 37.0	
	comp=Z,12nm,0.7s							
BRDY	**Brady**	**23.70**	**332**	P		**P**	**12 34 34.3**	**-0.9**
BRDY				IAmb		IAmb	12 34 35.7	
	comp=Z,6.9nm,0.8s							
HODGE	**Hodges**	**23.76**	**8**	P		**P**	**12 34 36.0**	**+0.3**
HODGE				IAmb		IAmb	12 35 05.8	
	comp=Z,11nm,1.1s							
TREL	**Terrell**	**23.78**	**339**	P		**P**	**12 34 36.5**	**+0.7**
TREL				IAmb		IAmb	12 34 37.9	
	comp=Z,33nm,0.8s							
Z38A	**Mt. Pleasant**	**23.90**	**342**	P		**P**	**12 34 35.8**	**-1.2**
Z38A				IAmb		IAmb	12 34 37.9	
	comp=Z,11nm,0.6s							
OXF	**Oxford**	**23.94**	**354**	P		**P**	**12 34 36.4**	**-0.8**
JSC	**Jenkinsville**	**23.97**	**10**	P		**P**	**12 34 37.2**	**-0.3**
JSC				IAmb		IAmb	12 34 39.1	
	comp=Z,9.0nm,0.6s							
NNA	**Nana**	**24.34**	**157**	LR		LR	12 43 12.7	
	comp=Z,35nm,19.9s,baz=345,slow=33							
OZNA	**Ozona**	**24.46**	**328**	P		**P**	**12 34 42.1**	**-0.1**
OZNA				IAmb		IAmb	12 34 56.2	
	comp=Z,6.1nm,0.9s							
W50A	**Signal Mountai**	**24.46**	**2**	P		**P**	**12 34 41.9**	**-0.2**
W50A				IAmb		IAmb	12 34 58.5	
	comp=Z,12nm,1.1s							
FW06	**Azle**	**24.55**	**337**	P		**P**	**12 34 43.3**	**+0.4**
FW06				IAmb		IAmb	12 34 45.1	
	comp=Z,8.2nm,0.9s							
TXAR	**Lajitas Array**	**24.72**	**321**	P		**P**	**12 34 45.2**	**+0.6**
	comp=Z,3.8nm,0.6s,baz=139,slow=9.2,SNR=46							
TXAR				PcP		**PcP**	**12 38 23.3**	**+2.5**
	comp=Z,0.9nm,0.8s,baz=134,slow=2.6,SNR=7.8							
	comp=Z,3.8nm,0.6s							
TX31	**Lajitas Ar. Si**	**24.72**	**321**	P		**P**	**12 34 45.4**	**+0.8**
TX31				IAmb		IAmb	12 35 01.1	
	comp=Z,15nm,0.9s							
TKL	**Tuckaleechee C**	**25.01**	**5**	P		**P**	**12 34 47.5**	**+0.5**
TKL				IAmb		IAmb	12 34 55.2	
	comp=Z,13nm,1.2s							
V53A	**Saluda**	**25.11**	**7**	P		**P**	**12 34 48.5**	**+0.4**
V53A				IAmb		IAmb	12 35 05.3	
	comp=Z,10nm,1.1s							
WHAR	**Wooly Hollow**	**25.15**	**348**	P		**P**	**12 34 47.6**	**-0.7**
WHAR				IAmb		IAmb	12 34 48.1	
	comp=Z,13nm,0.9s							
ALPN	**Alpine**	**25.45**	**323**	P		**P**	**12 34 52.2**	**+1.0**
ALPN				IAmb		IAmb	12 35 06.3	
	comp=Z,3.6nm,0.9s							
MNHN	**Monahans**	**25.66**	**326**	P		**P**	**12 34 53.4**	**+0.3**
MNHN				IAmb		IAmb	12 35 08.9	
	comp=Z,13nm,0.9s							
FCAR	**Ozark Folk Cen**	**25.70**	**349**	P		**P**	**12 34 53.0**	**-0.3**
LCAR	**Lake Charles**	**25.70**	**351**	P		**P**	**12 34 52.1**	**-1.2**
LCAR				IAmb		IAmb	12 34 52.8	
	comp=Z,7.2nm,0.8s							
T47A	**Sharon Grove**	**26.25**	**358**	P		**P**	**12 34 57.0**	**-1.2**
T47A				IAmb		IAmb	12 34 58.3	
	comp=Z,7.5nm,0.8s							
WMOK	**Wichita Mounta**	**26.58**	**336**	P		**P**	**12 35 02.8**	**+1.5**
WMOK				IAmb		IAmb	12 35 04.6	
	comp=Z,11nm,0.8s							
Q44A	**Meyer Farm, Va**	**28.25**	**355**	P		**P**	**12 35 14.6**	**-1.6**
Q51A	**Peebles**	**28.39**	**5**	P		**P**	**12 35 17.1**	**-0.3**
O44A	**Mansfield**	**29.46**	**357**	P		**P**	**12 35 26.1**	**-0.8**
P38A	**Dawn**	**29.59**	**349**	P		**P**	**12 35 26.6**	**-1.4**
ACSO	**Alum Creek Sta**	**29.61**	**5**	P		**P**	**12 35 27.4**	**-0.9**

SAML	**Samuel**	**30.09**	**129**	P		**P**	**12 35 32.4**	**-0.3**
MDP	**Montagnes des**	**33.72**	**97**	LR		LR	12 50 59.9	
	comp=Z,103nm,18.1s,baz=264,slow=39							
SADO	**Sadowa**	**34.55**	**9**	LR		LR	12 50 16.2	
	comp=Z,78nm,20.5s,baz=232,slow=37							
F36A	**Milaca**	**35.65**	**351**	P		**P**	**12 36 19.1**	**-1.8**
SRU	**San Rafael Swe**	**35.67**	**327**	P		**P**	**12 36 22.1**	**+0.6**
SRU				IAmb		IAmb	12 36 23.6	
	comp=Z,2.9nm,0.8s							
F33A	**5 Mile Ranch,**	**36.12**	**348**	P		**P**	**12 36 22.6**	**-2.3**
PDAR	**Pinedale Array**	**37.92**	**332**	P		**P**	**12 36 40.3**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=132,slow=9.0,SNR=8.1							
PDAR				PcP		**PcP**	**12 38 57.8**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=140,slow=4.9,SNR=7.1							
	comp=Z,0.6nm,0.6s							
AGMN	**Agassiz Nation**	**38.40**	**350**	P		**P**	**12 36 42.4**	**-1.8**
AGMN				IAmb		IAmb	12 36 43.7	
	comp=Z,9.2nm,1.1s							
REDW	**Red Top Meadow**	**38.98**	**331**	P		**P**	**12 36 49.5**	**0.0**
ELK	**Elko**	**39.42**	**325**	LR		LR	12 54 47.1	
	comp=Z,36nm,18.7s,baz=137,slow=39							
NVAR	**Mina Array Bea**	**39.84**	**319**	P		**P**	**12 36 57.6**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=133,slow=7.0,SNR=11							
NVAR				PcP		**PcP**	**12 39 04.4**	**+2.4**
	comp=Z,2.2nm,0.7s,baz=138,slow=4.5,SNR=19							
	comp=Z,0.9nm,0.6s							
ULM	**Lac du Bonnet**	**40.28**	**350**	P		**P**	**12 36 57.7**	**-2.3**
	comp=Z,3.5nm,0.7s,baz=168,slow=9.9,SNR=5.9							
	comp=Z,3.5nm,0.7s							
WVOR	**Wild Horse Val**	**42.45**	**324**	P		**P**	**12 37 18.1**	**0.0**
H04A	**Detroit Lake**	**45.87**	**324**	P		**P**	**12 37 45.6**	**+0.3**
H04A				IAmb		IAmb	12 37 46.1	
	comp=Z,3.1nm,0.7s							
BDFB	**Brasilia**	**45.99**	**124**	P		**P**	**12 37 47.9**	**+1.2**
	comp=Z,4.3nm,0.8s,baz=290,slow=8.6,SNR=7.1							
	comp=Z,4.3nm,0.8s							
SCHQ	**Schefferville**	**46.68**	**15**	P		**P**	**12 37 49.1**	**-2.3**
	comp=Z,4.6nm,0.9s,baz=236,slow=9.4,SNR=5.7							
SCHQ				LR		LR	12 57 01.1	
	comp=Z,58nm,20.5s,baz=200,slow=36							
	comp=Z,4.6nm,0.9s							
PLCA	**Paso Flores**	**53.13**	**165**	LR		LR	12 58 17.6	
	comp=Z,33nm,18.6s,baz=216,slow=32							
FRB	**Frobisher Bay**	**54.49**	**10**	LR		LR	13 02 27.0	
	comp=Z,94nm,18.7s,baz=198,slow=37							
YKA	**Yellowknife Ar**	**55.66**	**345**	P		**P**	**12 38 57.4**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=140,slow=7.2,SNR=16							
YKA				PcP		**PcP**	**12 39 58.1**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=141,slow=3.9,SNR=4.6							
	comp=Z,0.8nm,0.8s							
INK	**Inuvik**	**65.28**	**342**	LR		LR	13 13 11.4	
	comp=Z,30nm,19.3s,baz=170,slow=40							
ILAR	**Eielson Array**	**68.14**	**336**	P		**P**	**12 40 21.8**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=133,slow=4.5,SNR=15							
	comp=Z,0.6nm,0.7s							
MDT	**Midelt**	**77.33**	**59**	LR		LR	13 10 08.6	
	comp=Z,47nm,20.8s,baz=310,slow=32							
ESDC	**Sonseca Array**	**77.38**	**52**	LR		LR	13 11 03.2	
	comp=Z,30nm,20.4s,baz=290,slow=32							
SPITS	**Spitsbergen Ar**	**82.23**	**12**	LR		LR	13 18 26.8	
	comp=Z,33nm,20.2s,baz=214,slow=36							
ZALV	**Zalesovo Beam**	**115.22**	**6**	PKiKP		**PKiKP**	**12 48 02.7**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=45,slow=0.2,SNR=2.4							
SONM	**Songino Array**	**120.71**	**350**	PKP		**PKPdf**	**12 48 13.8**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=356,slow=0.1,SNR=2.4							
MKAR	**Makanchi Array**	**121.91**	**9**	PKP		**PKPdf**	**12 48 15.7**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=308,slow=2.9,SNR=4.2							
ASAR	**Alice Springs**	**139.66**	**246**	PKP		**PKiKP**	**12 48 53.0**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=96,slow=1.9,SNR=8.8							
WRA	**Warramunga Arr**	**139.87**	**252**	PKP		**PKiKP**	**12 48 53.5**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=98,slow=1.7,SNR=5.9							
PZH	**PanZhiHua**	**142.27**	**348**	PKP		**PKPdf**	**12 48 54.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**150.64**	**350**	PKP		**PKPdf**	**12 49 09.1**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=315,slow=2.6,SNR=6.4							
CMAR				PKPbc		**PKiKP**	**12 49 16.5**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=345,slow=3.3,SNR=9.6							

*IDC **24** 12:48:31.8±4.2, 18.75S×169.35E, h229km±55km, mb3.1/4, mbtmp3.7/5, Error ellipse: s-maj=116.6km s-min=30.3km az=155.0*
*NOU **24** 12:48:34.3, 18.86S×169.32E, h185km, MLv3.9/9, Vanuatu Islands*
ISC 24 12:48:29.0±1.4, 18.83S±0.10×169.6E±0.2, h200km, n13, σ2s.76/14, mb3.4/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.72**	**310**	P		**Pn**	**12 49 08.6**	**+3.9**
LIFNC	**LIFOU**	**2.93**	**228**	P		**Pn**	**12 49 19.8**	**+2.0**
MARNC	**Mare, Loyalty**	**3.01**	**209**	P		**Pn**	**12 49 22.0**	**+3.3**
YATNC	**Mamie plateau,**	**4.08**	**218**	P		**Pn**	**12 49 33.7**	**+2.0**
PINNC	**Pines Island,**	**4.26**	**208**	P		**Pn**	**12 49 37.3**	**+3.4**
DZM	**Mont Dzumac**	**4.36**	**222**	P		**Pn**	**12 49 38.1**	**+2.8**
DZM	**Mont Dzumac**	**4.36**	**222**	P		**Pn**	**12 49 38.3**	**+3.0**
	15nm,0.5s,baz=45,slow=17,SNR=33							
DZM				S		**Sn**	**12 50 25.9**	**-1.7**
	7.1nm,0.4s,baz=248,slow=23,SNR=1.6							
ONTNC	**Ouen Toro**	**4.53**	**220**	P		**Pn**	**12 49 40.6**	**+3.2**
WRA	**Warramunga Arr**	**33.22**	**262**	P		**P**	**12 54 45.5**	**-1.9**
	0.3nm,0.7s,baz=90,slow=8.4,SNR=5.8							
	0.3nm,0.7s							
ASAR	**Alice Springs**	**33.53**	**255**	P		**P**	**12 54 48.6**	**-1.4**
	0.5nm,0.3s,baz=81,slow=8.6,SNR=38							
	0.5nm,0.3s							
SONM	**Songino Array**	**87.09**	**323**	P		**P**	**13 00 51.9**	**-0.2**
	0.5nm,0.6s,baz=141,slow=4.1,SNR=4.9							
	0.5nm,0.6s							
ILAR	**Eielson Array**	**89.75**	**17**	P		**P**	**13 01 03.1**	**-1.0**
	0.3nm,0.7s,baz=240,slow=4.5,SNR=6.1							
	0.3nm,0.7s							
ARCES	**ARCESS Array B**	**124.76**	**345**	PKP		**PKPdf**	**13 07 02.9**	**-1.3**
	1.0nm,0.8s,baz=57,slow=3.3,SNR=3.8							

*ISK **24** 13:31:25.8, 36.56N×26.87E, h136km±1km, ML2.4/10*
*AFAD **24** 13:31:27.7±0.0, 36.50N×26.88E, h41km±3km, MW3.7*
ISC 24 13:31:26.9±2.6, 36.54N±0.09×26.9E±0.1, h131km±18km, n20, σ0s.53/32, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KARP	**Karpathos**	**1.01**	**168**	Pg		**Pn**	**13 31 49.9**	**-0.2**
KARP				Sg		**Sn**	**13 32 07.4**	**-0.2**
ARG	**Arkhangelos**	**1.04**	**108**	Pg		**Pn**	**13 31 50.4**	**+0.1**
ARG				Sg		**Sn**	**13 32 08.4**	**+0.4**
TURN	**Turunc**	**1.11**	**77**	Pn		**Pn**	**13 31 50.7**	**-0.2**
TURN				Sn		**Sn**	**13 32 09.2**	**+0.1**
TURN	**Turunc**	**1.11**	**77**	P		**Pn**	**13 31 50.5**	**-0.3**
TURN				S		**Sn**	**13 32 08.4**	**-0.6**
TURN				*i* AML		AML	13 32 11.0	
	comp=N,14nm,0.2s							
YER	**Yerkesik**	**1.26**	**61**	Pn		**Pn**	**13 31 52.4**	**-0.1**
MULA	**Mugla, Merkez-**	**1.35**	**57**	P		**Pn**	**13 31 53.6**	**+0.2**
MULA				S		**Sn**	**13 32 14.4**	**+0.7**
MULA				*i* AML		AML	13 32 16.0	
	comp=E,30nm,0.7s							
DALY	**Dalyan (Mula)**	**1.44**	**78**	Pn		**Pn**	**13 31 54.7**	**+0.4**
ZKR	**Zakros**	**1.52**	**201**	Pn		**Pn**	**13 31 55.4**	**+0.1**
SABU	**Mula-Dalaman**	**1.69**	**80**	P		**Pn**	**13 31 57.2**	**0.0**
SABU				S		**Sn**	**13 32 19.5**	**-0.8**
TAVA	**DENIZLI_Tavas**	**1.86**	**60**	P		**Pn**	**13 31 59.2**	**-0.1**
TAVA				S		**Sn**	**13 32 23.6**	**-0.5**
TAVA				*i* AML		AML	13 32 39.0	
	comp=E,27nm,1.1s							
IZZE	**Mula-Seydike**	**1.88**	**92**	P		**Pn**	**13 31 59.0**	**-0.4**
IZZE				S		**Sn**	**13 32 23.3**	**-1.0**
IZZE				*i* AML		AML	13 32 47.0	
	comp=N,57nm,1.7s							
CAME	**Cameli-Denizli**	**1.97**	**77**	Pn		**Pn**	**13 32 00.5**	**-0.2**
DNIZ	**Denizli-Tavas-**	**2.03**	**57**	P		**Pn**	**13 32 01.1**	**-0.2**
DNIZ				S		**Sn**	**13 32 28.3**	**+0.6**
DNIZ				*i* AML		AML	13 32 44.0	
	comp=N,41nm,0.7s							
CAEL	**Denizli, Camel**	**2.03**	**73**	P		**Pn**	**13 32 01.2**	**-0.2**
CAEL				S		**Sn**	**13 32 28.3**	**+0.5**
CAEL				*i* AML		AML	13 32 30.0	
	comp=E,27nm,0.4s							
APMY	**Acipayam-Deniz**	**2.14**	**63**	Pn		**Pn**	**13 32 02.6**	**-0.1**
AKAS	**Kas**	**2.21**	**97**	Pn		**Pn**	**13 32 03.6**	**0.0**
AKAS	**Kas**	**2.21**	**97**	P		**Pn**	**13 32 03.6**	**0.0**
AKAS				S		**Sn**	**13 32 33.2**	**+1.6**
AKAS				*i* AML		AML	13 32 37.0	
	comp=E,19nm,0.3s							
GOLH	**Golhisar**	**2.25**	**71**	P		**Pn**	**13 32 04.3**	**+0.3**
GOLH				S		**Sn**	**13 32 32.9**	**+0.4**
GOLH				*i* AML		AML	13 32 34.0	
	comp=N,40nm,1.6s							
ELL	**Elmali**	**2.43**	**84**	Pn		**Pn**	**13 32 06.4**	**0.0**
KORT	**Korkueli**	**2.81**	**80**	Pn		**Pn**	**13 32 10.4**	**-0.8**

*IDC **24** 13:45:49.8±1.6, 39.40N×140.17E, h162km±16km, mb3.3/15, mbtmp3.8/18, Error ellipse: s-maj=16.8km s-min=14.8km az=85.0*
*JMA **24** 13:45:51.1±0.1, 39.4N±0.4×140.2E±0.7, h159km±1km, MV3.3/38, SOUTHERN AKITA PREF*
ISC 24 13:45:50.1±0.7, 39.42N±0.04×140.18E±0.07, h165km±5km, n33, σ1s44/48, mb3.4/15, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JYW	**Yuwa**	**0.12**	**10**	*i* P		**Pn**	**13 46 12.7**	**+0.7**
JYW				S		**Sn**	**13 46 29.5**	**+0.6**
JRG	**Rokugo**	**0.35**	**93**	*i* P		**Pn**	**13 46 13.0**	**+0.5**
JRG				S		**Sn**	**13 46 29.8**	**+0.1**
JYYZ	**Yamagatayuza**	**0.45**	**206**	P		**Pn**	**13 46 14.0**	**+1.1**
JYK	**Kaneyama**	**0.52**	**164**	*i* P		**Pn**	**13 46 13.5**	**+0.3**
JYK				*e*S		**Sn**	**13 46 31.0**	**+0.1**
JAH	**Hinai**	**0.85**	**24**	*i* P		**Pn**	**13 46 15.9**	**+0.8**
JAH				S		**Sn**	**13 46 34.4**	**0.0**
JOM	**Ohasama**	**0.86**	**86**	*i* P		**Pn**	**13 46 15.8**	**+0.5**
JOM				S		**Sn**	**13 46 34.1**	**-0.4**
JYA	**Atsumi**	**0.90**	**204**	*i* P		**Pn**	**13 46 16.1**	**+0.5**
JYA				S		**Sn**	**13 46 35.1**	**+0.1**
JMK	**Ichinoseki**	**0.93**	**120**	*i* P		**Pn**	**13 46 16.1**	**+0.3**
JMK				S		**Sn**	**13 46 34.9**	**-0.5**
JOU	**Okura**	**1.12**	**160**	*i* P		**Pn**	**13 46 17.7**	**+0.5**
JAW	**Awa shima**	**1.20**	**217**	P		**Pn**	**13 46 18.4**	**+0.5**
JAW				*e*S		**Sn**	**13 46 39.5**	**+0.1**
JANG	**Nango**	**1.40**	**47**	*i* P		**Pn**	**13 46 20.2**	**+0.5**
JANG				S		**Sn**	**13 46 42.2**	**-0.5**
JNS	**Sasagawa**	**1.73**	**203**	P		**Pn**	**13 46 23.8**	**+0.6**
JNS				*e*S		**Sn**	**13 46 48.9**	**+0.1**
JOTO	**OTAMA OYAMA**	**1.86**	**176**	P		**Pn**	**13 46 25.3**	**+0.7**
JOTO				*e*S		**Sn**	**13 46 52.4**	**+1.1**
JSD	**Sado**	**2.04**	**228**	*i* P		**Pn**	**13 46 27.1**	**+0.6**
JSD				S		**Sn**	**13 46 54.4**	**-0.3**
JOT	**Ohata**	**2.07**	**18**	P		**Pn**	**13 46 27.5**	**+0.7**
JOT				*e*S		**Sn**	**13 46 54.1**	**-1.4**
MJAR	**Matsushiro Arr**	**3.27**	**209**	P		**Pn**	**13 46 42.4**	**+1.0**
	12nm,0.4s,baz=27,slow=12,SNR=86							
ASAJ	**Asahikawa**	**5.03**	**20**	P		**Pn**	**13 47 03.0**	**-1.0**
	8.4nm,0.3s,baz=225,slow=12,SNR=53							
ASAJ				S		**Sn**	**13 47 57.6**	**-4.4**
	4.8nm,0.5s,baz=1.2,slow=34,SNR=0.9							
JHJ	**Hachijo jima 2**	**6.29**	**183**	P		**Pn**	**13 47 18.4**	**-2.4**
	360nm,1.2s,baz=48,slow=18,SNR=2.5							
JHJ				S		**Sn**	**13 48 25.4**	**-6.6**
	75nm,0.7s,baz=262,slow=21,SNR=1.6							
SONM	**Songino Array**	**25.70**	**300**	P		**P**	**13 51 03.8**	**-1.1**
	0.2nm,0.5s,baz=99,slow=9.3,SNR=1.9							
	0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**39.61**	**310**	P		**P**	**13 53 05.8**	**+0.6**
	1.3nm,0.5s,baz=79,slow=8.1,SNR=6.3							
	1.3nm,0.5s							
MKAR	**Makanchi Array**	**42.06**	**300**	P

PNHZ				S	**S**	**14 06 27.6**	**-3.6**
PKE	**Pukeiti**	**9.67**	**208**	P	Pn	14 04 49.3	+6.2
DVHZ	**Dannevirke**	**9.95**	**197**	P	**Pn**	**14 04 46.8**	**+0.4**
DVHZ				S	**S**	**14 06 35.1**	**-3.7**
ANWZ	**Angora Road**	**10.03**	**195**	P	**Pn**	**14 04 48.6**	**+1.3**
ANWZ				S	**S**	**14 06 37.9**	**-2.4**
POWZ	**Post Office Ro**	**10.14**	**198**	P	**Pn**	**14 04 49.6**	**+1.0**
POWZ				S	**S**	**14 06 39.6**	**-3.1**
PRWZ	**Pori Road**	**10.24**	**197**	P	**Pn**	**14 04 51.2**	**+1.5**
PRWZ				S	**S**	**14 06 41.3**	**-3.4**
BFZ	**Birch Farm**	**10.30**	**196**	P	**Pn**	**14 04 51.8**	**+1.5**
BFZ	**Birch Farm**	**10.30**	**196**	P	**Pn**	**14 04 51.4**	**+1.1**
BFZ				S	**S**	**14 06 42.5**	**-3.2**
MRZ	**Mangatainoka R**	**10.45**	**198**	P	**Pn**	**14 04 52.0**	**0.0**
MRZ				S	**S**	**14 06 44.0**	**-4.8**
CPWZ	**Castlepoint**	**10.53**	**195**	P	**Pn**	**14 04 55.3**	**+2.4**
CPWZ				S	**S**	**14 06 51.2**	**+0.9**
HOWZ	**Holdsworth Sta**	**10.68**	**198**	P	**Pn**	**14 04 55.0**	**+0.2**
HOWZ				S	**S**	**14 06 49.1**	**-4.6**
OGWZ	**Otaki Gorge**	**10.71**	**200**	P	**Pn**	**14 04 55.1**	**+0.1**
OGWZ				S	**S**	**14 06 50.2**	**-3.9**
TMWZ	**Te Maipa**	**10.79**	**196**	P	**Pn**	**14 04 57.3**	**+1.3**
TMWZ				S	**S**	**14 06 51.9**	**-3.8**
KIW	**Kapiti Island**	**10.82**	**200**	P	**Pn**	**14 04 56.9**	**+0.5**
KIW				S	**S**	**14 06 52.5**	**-4.0**
MTW	**Mount Morrison**	**10.93**	**198**	P	**Pn**	**14 04 57.9**	**+0.3**
MTW				S	**S**	**14 06 55.0**	**-3.6**
CAW	**Cannon Point**	**11.00**	**199**	P	**Pn**	**14 04 58.8**	**+0.3**
CAW				S	**S**	**14 06 57.1**	**-3.0**
DUWZ	**D'Urville Isla**	**11.09**	**204**	P	**Pn**	**14 04 59.2**	**-0.3**
DUWZ				S	**S**	**14 07 00.2**	**-1.8**
TRWZ	**Traveller**	**11.11**	**197**	P	**Pn**	**14 05 01.0**	**+1.3**
TRWZ				S	**S**	**14 06 59.4**	**-2.9**
BHW	**Baring Head**	**11.34**	**199**	P	**Pn**	**14 05 02.8**	**+0.5**
TCW	**Tory Channel**	**11.34**	**202**	P	**Pn**	**14 05 01.7**	**-0.6**
TCW				S	**S**	**14 07 05.8**	**-1.1**
TUWZ	**Tuamarina**	**11.64**	**203**	P	**Pn**	**14 05 05.1**	**-0.7**
QRZ	**Quartz Range**	**11.65**	**209**	P	**Pn**	**14 05 07.2**	**+1.3**
TKNZ	**Takaka Hill**	**11.65**	**207**	P	**Pn**	**14 05 06.1**	**+0.1**
KHZ	**Kahutara**	**12.66**	**202**	P	**Pn**	**14 05 17.6**	**0.0**
OUENC	**Ouen Island, N**	**14.32**	**302**	P	P	14 05 39.2	+5.0
YATNC	**Mamie plateau,**	**14.51**	**304**	P	P	14 05 41.7	+5.4
DZM	**Mont Dzumac**	**14.83**	**303**	P	P	14 05 45.5	+5.7
DZM	**Mont Dzumac**	**14.83**	**303**	P	**P**	**14 05 37.2**	**-2.6**
	3.2nm,1.0s,baz=327,slow=22,SNR=1.2						
DZM				S	**S**	**14 08 16.7**	**-1.0**
	2.0nm,0.7s,baz=124,slow=23,SNR=1.4						
JCZ	**Jackson Bay**	**15.89**	**210**	P	**P**	**14 05 53.5**	**+2.5**
CTA	**Charters Tower**	**32.07**	**281**	P	**P**	**14 08 21.8**	**+1.0**
	1.9nm,0.7s,baz=109,slow=6.0,SNR=3.0						
	1.9nm,0.7s						
STKA	**Stephens Creek**	**32.60**	**258**	P	**P**	**14 08 27.6**	**+2.4**
	2.0nm,0.5s,baz=98,slow=12,SNR=8.7						
	2.0nm,0.5s						
ASAR	**Alice Springs**	**41.26**	**268**	P	**P**	**14 09 38.6**	**+1.2**
	0.9nm,0.4s,baz=105,slow=7.3,SNR=68						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**42.29**	**274**	P	**P**	**14 09 46.5**	**+1.0**
	1.6nm,0.4s,baz=112,slow=7.9,SNR=34						
	1.6nm,0.4s						
QSPA	**South Pole Qui**	**59.32**	**180**	P	**P**	**14 11 52.2**	**+1.9**
	4.8nm,1.0s,baz=0.0,slow=0.5,SNR=21						
	4.8nm,1.0s						
PETK	**Petropavlovsk-**	**85.75**	**347**	P	**P**	**14 14 22.0**	**-1.8**
	3.0nm,1.0s,baz=79,slow=26,SNR=1.6						
	3.0nm,1.0s						
NVAR	**Mina Array Bea**	**89.78**	**44**	P	**P**	**14 14 43.8**	**+0.4**
	0.3nm,0.7s,baz=224,slow=8.9,SNR=4.4						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**116.63**	**310**	PKP	**PKPdf**	**14 20 25.8**	**-0.3**
	0.2nm,0.4s,baz=90,slow=1.4,SNR=6.5						
KURBB	**Kurchatov Arra**	**120.03**	**314**	PKP	**PKPdf**	**14 20 31.9**	**-0.5**
	0.7nm,0.3s,baz=88,slow=4.2,SNR=1.7						
BVAR	**Borovoye Array**	**125.41**	**316**	PKP	**PKPdf**	**14 20 42.6**	**-0.1**
	0.9nm,0.5s,baz=68,slow=2.3,SNR=7.2						
KBZ	**Khabaz**	**143.80**	**303**	PKP	**PKPdf**	**14 21 17.0**	**-0.1**
	4.7nm,1.3s,baz=226,slow=3.8,SNR=4.3						
FINES	**FINESS Array B**	**144.86**	**338**	PKP	**PKPdf**	**14 21 18.2**	**-0.1**
	3.6nm,0.5s,baz=65,slow=4.4,SNR=33						
NB2	**NORSAR Subarra**	**148.83**	**349**	PKP	**PKPbc**	**14 21 29.4**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=17,slow=2.7						
NOA	**NORSAR Array B**	**148.83**	**349**	PKPbc	**PKPbc**	**14 21 28.9**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=17,slow=4.2,SNR=5.8						
HFS	**Hagfors**	**149.23**	**346**	PKPbc	**PKPbc**	**14 21 29.6**	**-0.8**
	comp=Z,2.1nm,0.9s,baz=338,slow=3.1,SNR=5.4						
AKASG	**Malin Array Be**	**150.47**	**321**	PKPbc	**PKPbc**	**14 21 33.5**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=60,slow=2.0,SNR=7.6						
BRTR	**Keskin Array B**	**151.16**	**297**	PKPbc	**PKiKP**	**14 21 35.9**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=144,slow=5.0,SNR=6.3						
BRTR				PKPab	**PKPab**	**14 21 45.4**	**0.0**
	comp=Z,0.5nm,0.6s,baz=87,slow=5.8,SNR=2.2						
TORD	**Torodi Ar. Bea**	**162.36**	**186**	PKP	**PKPdf**	**14 21 44.3**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=202,slow=2.7,SNR=1.6						

*IDC **24** 14:09:07.0±0.7,5.°69S×152.°65E,h0km,mb4.1/15, mbtmp4.1/16,ML2.4/1,MS3.2/14,Error ellipse: s-maj=23.6km s-min=16.2km az=109.0*
*NEIC **24** 14:09:22.4±1.1,6.°40S±0.°06×152.°2E±0.°1,h35km±1km, mb4.9/45,Error ellipse: s-maj=18.7km s-min=9.5km az=279.0*
ISC 24 14:09:18.1±0.6,6.°6S±0.°1×152.°3E±0.°1,h23km,n85, σ2s35/60,mb4.8/38,MS3.0/12,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.80**	**241**	Pn	**Pn**	**14 10 46.6**	**+3.7**
PMG	**Port Moresby**	**5.80**	**241**	Pn	**Pn**	**14 10 46.7**	**+3.9**
	4.8nm,0.3s,baz=57,slow=7.1,SNR=18						
PMG				Sn	**Sb**	**14 12 02.9**	**-4.9**
	5.0nm,0.3s,baz=86,slow=20,SNR=8.1						
PMG				LR	LR	14 12 24.0	
	comp=Z,52nm,20.6s,baz=25,slow=30						
	36nm,0.5s						
HNR	**Honiara**	**8.09**	**111**	LR	LR	14 13 31.6	
	comp=Z,1μm,19.7s,baz=186,slow=33						
CTA	**Charters Tower**	**14.64**	**203**	LR	LR	14 18 48.2	
	comp=Z,145nm,18.2s,baz=72,slow=37						
EIDS	**Eidsvold**	**18.71**	**183**	P	**Pn**	**14 13 38.4**	**+2.8**
DZM	**Mont Dzumac**	**20.58**	**140**	Pn	Pn	14 14 02.4	+4.4
DZM	**Mont Dzumac**	**20.58**	**140**	P	**P**	**14 13 53.2**	**-2.4**
	7.7nm,0.9s,baz=134,slow=20,SNR=4.3						
DZM				LR	LR	14 21 46.3	
	comp=Z,84nm,18.0s,baz=28,slow=36						
	7.7nm,0.9s						
GUMO	**Guam**	**21.36**	**340**	LR	LR	14 21 35.7	
	comp=Z,15nm,20.1s,baz=131,slow=36						
MTN	**Manton Dam**	**21.75**	**252**	P	**P**	**14 14 11.2**	**+3.0**
MTN				IAmb	IAmb	14 14 11.3	
	comp=Z,50nm,1.4s						
WR0	**Warramunga Arr**	**21.77**	**231**	P	**P**	**14 14 10.8**	**+2.4**
WB0	**Warramunga Arr**	**21.77**	**231**	P	**P**	**14 14 10.9**	**+2.5**
WB2	**Warramunga Arr**	**21.90**	**231**	P	**P**	**14 14 12.3**	**+2.5**
WRA	**Warramunga Arr**	**21.91**	**231**	P	**P**	**14 14 10.2**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=54,slow=10,SNR=14						
WRA				PcP	**PcP**	**14 18 02.8**	**-6.1**
	comp=Z,0.2nm,0.5s,baz=59,slow=2.2,SNR=1.6						
	comp=Z,1.5nm,0.4s						
AS31	**Alice Springs**	**24.51**	**224**	P	**P**	**14 14 36.6**	**+0.6**
ASAR	**Alice Springs**	**24.51**	**224**	P	**P**	**14 14 36.5**	**+0.5**
ASAR	**Alice Springs**	**24.51**	**224**	P	**P**	**14 14 35.8**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=57,slow=9.3,SNR=24						
ASAR				PcP	**PcP**	**14 18 08.2**	**-6.1**
	comp=Z,0.5nm,0.9s,baz=72,slow=1.3,SNR=1.7						
ASAR				LR	LR	14 25 18.2	
	comp=Z,47nm,19.6s,baz=74,slow=38						
	comp=Z,2.3nm,0.8s						
KNRA	**Kununurra**	**24.77**	**247**	P	**P**	**14 14 37.2**	**-1.1**
KNRA				IAmb	IAmb	14 15 05.0	
	comp=Z,32nm,1.1s						
STKA	**Stephens Creek**	**27.07**	**200**	P	**P**	**14 15 01.6**	**+2.5**
STKA	**Stephens Creek**	**27.07**	**200**	P	**P**	**14 15 01.1**	**+2.0**
	comp=Z,1.4nm,0.6s,baz=18,slow=12,SNR=6.2						
STKA				LR	LR	14 26 41.9	
	comp=Z,90nm,19.7s,baz=30,slow=38						
	comp=Z,1.4nm,0.6s						
SOEI	**Soe**	**27.91**	**262**	P	**P**	**14 15 08.6**	**+1.7**
SOEI				IAmb	IAmb	14 15 31.5	
	comp=Z,14nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.39**	**244**	P	**P**	**14 15 09.5**	**-1.5**
DAV	**Davao City (W)**	**29.91**	**297**	LR	LR	14 27 10.7	
	comp=Z,32nm,18.3s,baz=326,slow=36						
KAPI	**Kappang**	**32.41**	**271**	LR	LR	14 31 06.8	
	comp=Z,8.1nm,18.6s,baz=66,slow=40						
FORT	**Forrest**	**33.10**	**220**	P	**P**	**14 15 54.8**	**+2.4**
FORT				IAmb	IAmb	14 15 55.6	
	comp=Z,68nm,1.6s						
PSA00	**Pilbara Seismi**	**34.71**	**241**	P	**P**	**14 16 05.0**	**-1.6**
PSA00				IAmb	IAmb	14 16 57.5	
	comp=Z,22nm,1.9s						
RPZ	**Rata Peaks**	**40.48**	**159**	LR	LR	14 33 18.0	
	comp=Z,101nm,18.4s,baz=297,slow=35						
NWAO	**Narrogin (SRO)**	**41.79**	**226**	LR	LR	14 37 23.6	
	comp=Z,46nm,18.1s,baz=179,slow=40						
LEM	**Lembang**	**44.36**	**267**	LR	LR	14 38 57.6	
	comp=Z,18nm,18.2s,baz=37,slow=40						
MJAR	**Matsushiro Arr**	**44.89**	**344**	P	P	14 17 16.2	-15
	comp=Z,0.6nm,0.6s,baz=168,slow=8.4,SNR=1.4						
MJAR				LR	LR	14 32 58.4	
	comp=Z,15nm,21.2s,baz=148,slow=32						
	comp=Z,0.6nm,0.6s						
ASAJ	**Asahikawa**	**51.23**	**351**	LR	LR	14 36 34.3	
	comp=Z,12nm,21.8s,baz=178,slow=33						
CMAR	**Chiang Mai Arr**	**58.20**	**296**	P	P	14 19 03.3	-7.6
	comp=Z,0.4nm,0.7s,baz=119,slow=5.6,SNR=2.7						
	comp=Z,0.4nm,0.7s						
PET	**Petropavlovsk**	**59.63**	**4**	P	**P**	**14 19 19.6**	**-0.6**
PEA0B	**Petropavlovsk-**	**59.65**	**4**	P	**P**	**14 19 19.2**	**-1.1**
PETK	**Petropavlovsk-**	**59.65**	**4**	P	**P**	**14 19 19.3**	**-1.0**
PETK	**Petropavlovsk-**	**59.65**	**4**	P	P	14 19 08.9	-11
	comp=Z,1.6nm,0.8s,baz=195,slow=4.5,SNR=8.4						
SONM	**Songino Array**	**67.57**	**328**	P	P	14 20 02.6	-10
	comp=Z,0.5nm,0.5s,baz=144,slow=4.7,SNR=5.0						
	comp=Z,0.5nm,0.5s						
CHGN	**Chignik**	**74.54**	**26**	P	**P**	**14 20 55.9**	**+1.1**
BILL	**Bilibino**	**75.11**	**5**	P	**P**	**14 20 59.0**	**+1.1**
BILL				IAmb	IAmb	14 21 00.5	
	comp=Z,6.7nm,0.7s						
J14K	**Nanvaranak Lak**	**76.89**	**19**	P	**P**	**14 21 10.6**	**+2.6**
K15K	**Wolf Creek Mou**	**77.25**	**20**	P	**P**	**14 21 11.4**	**+1.2**
M16K	**Timber Creek**	**77.33**	**22**	P	**P**	**14 21 11.9**	**+1.2**
M17K	**Holitna River**	**78.14**	**22**	P	**P**	**14 21 17.5**	**+2.3**
N18K	**Kilae Creek**	**78.29**	**23**	P	**P**	**14 21 18.2**	**+2.2**
G16K	**Koyuk River**	**79.12**	**18**	P	**P**	**14 21 22.2**	**+1.7**
H17K	**Granite Mounta**	**79.56**	**19**	P	**P**	**14 21 24.7**	**+1.8**
H17K				IAmb	IAmb	14 21 25.3	
	comp=Z,12nm,0.9s						
L19K	**White Mountain**	**79.59**	**22**	P	**P**	**14 21 24.8**	**+1.7**
L19K				IAmb	IAmb	14 21 26.2	
	comp=Z,10nm,0.9s						
TTA	**Tatalina**	**79.61**	**21**	P	**P**	**14 21 24.8**	**+1.4**
TTA				IAmb	IAmb	14 23 17.1	
	comp=Z,42nm,1.8s						
J18K	**Innoko River**	**79.69**	**21**	P	**P**	**14 21 25.4**	**+1.8**
J18K				IAmb	IAmb	14 22 09.4	
	comp=Z,22nm,1.6s						
F17K	**Baldwin Pennin**	**80.17**	**17**	P	**P**	**14 21 28.6**	**+2.5**
F17K				IAmb	IAmb	14 21 46.0	
	comp=Z,64nm,1.9s						
K20K	**Telida**	**80.57**	**22**	P	**P**	**14 21 30.3**	**+1.9**
K20K				IAmb	IAmb	14 22 43.2	
	comp=Z,29nm,1.6s						
RDOG	**Red Dog Mine**	**80.83**	**16**	P	**P**	**14 21 32.1**	**+2.4**
RDOG				IAmb	IAmb	14 21 33.6	
	comp=Z,20nm,1.3s						
J20K	**Nowinta River**	**81.03**	**21**	P	**P**	**14 21 32.5**	**+1.7**
J20K				IAmb	IAmb	14 21 35.2	
	comp=Z,46nm,1.9s						
H19K	**Roundabout Mou**	**81.06**	**19**	P	**P**	**14 21 32.5**	**+1.6**
H19K				IAmb	IAmb	14 23 05.1	
	comp=Z,45nm,1.9s						
MKAR	**Makanchi Array**	**81.34**	**319**	P	P	14 21 23.9	-9.0
	comp=Z,1.9nm,0.8s,baz=97,slow=5.3,SNR=10						
	comp=Z,1.9nm,0.8s						
Q23K	**Middleton Isla**	**81.64**	**27**	P	**P**	**14 21 36.2**	**+2.1**
C18K	**Utukok River**	**81.70**	**16**	P	**P**	**14 21 36.7**	**+2.3**
C18K				IAmb	IAmb	14 22 01.7	
	comp=Z,28nm,1.6s						
KTH	**Kantishna Hill**	**81.85**	**22**	P	**P**	**14 21 36.1**	**+0.8**
IMAR	**Indian Mountai**	**82.23**	**20**	P	**P**	**14 21 38.3**	**+1.2**
ZALV	**Zalesovo Beam**	**82.36**	**327**	P	P	14 21 27.6	-10
	comp=Z,1.5nm,0.6s,baz=114,slow=5.3,SNR=8.4						
	comp=Z,1.5nm,0.6s						
C19K	**Lookout Ridge**	**82.44**	**16**	P	**P**	**14 21 40.4**	**+2.1**
C19K				IAmb	IAmb	14 21 41.7	
	comp=Z,8.1nm,0.8s						
MLY	**Manley**	**82.72**	**21**	P	**P**	**14 21 41.4**	**+1.6**
E21K	**Killik River**	**83.61**	**17**	P	**P**	**14 21 46.5**	**+2.2**
E21K				IAmb	IAmb	14 21 47.1	
	comp=Z,7.4nm,0.9s						
B20K	**Meade River**	**83.68**	**15**	P	**P**	**14 21 46.1**	**+1.6**
IL31		**84.00**	**22**	P	**P**	**14 21 45.8**	**-0.4**
IL31				IAmb	IAmb	14 21 47.0	
	comp=Z,6.7nm,1.1s						
ILAR	**Eielson Array**	**84.00**	**22**	P	**P**	**14 21 46.0**	**-0.4**
ILAR	**Eielson Array**	**84.00**	**22**	P	P	14 21 33.7	-13
	comp=Z,1.2nm,0.7s,baz=243,slow=5.5,SNR=23						
	comp=Z,1.2nm,0.7s						
E22K	**Anakuvuk Pass**	**84.09**	**18**	P	**P**	**14 21 48.8**	**+2.0**
B21K	**Ikpikpuk River**	**84.14**	**16**	P	**P**	**14 21 49.0**	**+2.1**
B21K				IAmb	IAmb	14 24 03.0	
	comp=Z,29nm,1.9s						
D22K	**Ayikyak River**	**84.25**	**17**	P	**P**	**14 21 50.0**	**+2.4**
D22K				IAmb	IAmb	14 21 50.9	
	comp=Z,6.1nm,0.8s						
SCRK	**Sand Creek**	**84.74**	**23**	P	**P**	**14 21 51.8**	**+1.5**
SCRK				IAmb	IAmb	14 22 38.5	
	comp=Z,30nm,1.9s						
KZA	**Kyzart**	**84.85**	**313**	P	P	14 21 44.5	-7.2
	SNR=6.6						
KURBB	**Kurchatov Arra**	**84.89**	**322**	P	P	14 21 41.6	-10
	comp=Z,2.2nm,0.8s,baz=109,slow=4.4,SNR=10						
	comp=Z,2.2nm,0.8s						
UCH	**Uchtor**	**85.42**	**313**	P	P	14 21 47.4	-7.2
	SNR=8.0						
CHMS	**Chumysh**	**85.43**	**314**	P	P	14 21 46.1	-7.9
	SNR=6.3						
AAK	**Ala-Archa**	**85.53**	**314**	P	P	14 21 46.9	-7.8
	SNR=5.6						
AAK	**Ala-Archa**	**85.53**	**314**	P	P	14 21 45.9	-8.8
	comp=Z,4.8nm,0.8s,baz=137,slow=4.4,SNR=22						
	comp=Z,4.8nm,0.8s						
USP	**Ospenovka**	**85.67**	**314**	P	P	14 21 47.1	-8.2
	SNR=9.7						
AML	**Almayashu**	**85.99**	**313**	P	P	14 21 49.9	-7.4
	SNR=22						
BVAR	**Borovoye Array**	**90.36**	**323**	P	P	14 22 07.5	-10
	comp=Z,2.5nm,0.7s,baz=106,slow=5.7,SNR=16						
	comp=Z,2.5nm,0.7s						
NVAR	**Mina Array Bea**	**93.58**	**52**	P	P	14 22 22.5	-10
	comp=Z,1.1nm,0.9s,baz=246,slow=4.6,SNR=8.1						
	comp=Z,1.1nm,0.9s						
A36M	**Sachs Harbour**	**93.89**	**18**	P	**P**	**14 22 34.7**	**+1.4**
A36M				IAmb	IAmb	14 22 37.2	
	comp=Z,4.3nm,0.8s						
RPN	**Rapa Nui**	**94.43**	**118**	LR	LR	14 55 08.6	
	comp=Z,260nm,20.9s,baz=308,slow=29						
YKA	**Yellowknife Ar**	**97.23**	**28**	P	P	14 22 37.0	-12
	comp=Z,0.3nm,0.8s,baz=272,slow=4.8,SNR=4.4						
	comp=Z,0.3nm,0.8s						
BDFB	**Brasilia**	**150.12**	**138**	PKPbc	**PKPdf**	**14 29 01.1**	**-2.1**
	comp=Z,2.4nm,0.7s,baz=182,slow=5.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**150.33**	**285**	PKPbc	**PKPdf**	**14 29 00.8**	**-2.6**
	comp=Z,1.8nm,0.8s,baz=60,slow=3.5,SNR=10						
TORD				PKPab	**PKPbc**	**14 29 06.5**	**-2.1**
	comp=Z,1.9nm,0.7s,baz=63,slow=5.7,SNR=9.4						

*IDC **24** 14:09:44.6±0.8,34.°92S×69.°66W,h0km,mb3.9/8, mbtmp3.9/11,ML3.3/3,MS3.2/6,Error ellipse: s-maj=28.2km s-min=16.3km az=98.0*
*SJA **24** 14:09:47.7±0.8,34.°87S×69.°51W,h14km±5km,ML4.1, MW4.2*
*NEIC **24** 14:09:48.0±2.4,34.°88S±0.°02×69.°49W±0.°04,h6km±6km, mb4.3/8,Error ellipse: s-maj=5.8km s-min=2.1km az=121.0*
*GUC **24** 14:09:49.2±0.8,34.°88S×69.°56W,h13km±3km,ML3.8*
ISC 24 14:09:49.1±1.1,34.°97S±0.°03×69.°53W±0.°03,h26km±8km, n109,σ1s58/144,mb4.1/10,MS3.3/4,8C-10D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDS3	**Malargue**	**0.81**	**173**	*e*P	**Pb**	**14 10 05.2**	**+0.5**
EDS3				*e*SA		14 10 18.1	
RFA	**San Rafael**	**0.89**	**77**	*e*P	**Pb**	**14 10 04.9**	**-1.1**
RFA				*e*S	**Sb**	**14 10 16.7**	**-0.9**
RFA				IAML		14 10 17.2	
	comp=Z,24μm,0.3s						
BO02	**Sierra Bellavi**	**1.05**	**279**		**Pn**	**14 10 07.6**	**-0.6**
BO02				Sg	**Sb**	**14 10 21.9**	**0.0**
BO02	**Sierra Bellavi**	**1.05**	**279**	*e*P	**Pn**	**14 10 07.6**	**-0.6**
BO02				*e*S	**Sb**	**14 10 21.9**	**0.0**
BO02				IAML		14 10 24.4	
	comp=Z,2μm,0.6s						
BO02	**Sierra Bellavi**	**1.05**	**279**	⇓*i*P	**Pn**	**14 10 07.6**	**-0.6**
BO02				*i*S	**Sb**	**14 10 21.8**	**-0.2**
BO02				IAML		14 10 22.6	
	comp=N,5μm,0.3s						
LMEL	**Las Melosas**	**1.25**	**333**		**Pn**	**14 10 10.0**	**-1.0**
LMEL					**Sn**	**14 10 26.2**	**-0.9**
LMEL	**Las Melosas**	**1.25**	**333**	⇑*i*P	**Pn**	**14 10 10.2**	**-0.9**
LMEL				*i*S	**Sn**	**14 10 26.0**	**-1.1**
LMEL				IAML		14 10 27.8	
	comp=N,3μm,0.2s						
BO04	**La Punta**	**1.33**	**317**		**Pn**	**14 10 11.4**	**-0.5**
BO04	**La Punta**	**1.33**	**317**	*i*P	**Pn**	**14 10 11.5**	**-0.5**
BO04				*i*S	**Sn**	**14 10 28.7**	**-0.1**
BO04				IAML		14 10 29.3	
	comp=N,3μm,0.4s						
BO04				IAML		14 10 30.2	
	comp=E,3μm,0.5s						
MT13	**San Alfonso**	**1.38**	**333**	Pn	**Pn**	**14 10 12.2**	**-0.5**
MT13	**San Alfonso**	**1.38**	**333**	⇑*i*P	**Pn**	**14 10 12.3**	**-0.3**
MT13				*i*S	**Sn**	**14 10 30.1**	**0.0**
MT13				IAML		14 10 31.9	
	comp=E,2μm,0.3s						
BO01	**Tunca**	**1.41**	**294**		**Pn**	**14 10 13.3**	**+0.3**
BO01	**Tunca**	**1.41**	**294**	*e*P	**Pn**	**14 10 13.4**	**+0.4**
BO01	**Tunca**	**1.41**	**294**	⇓*i*P	**Pn**	**14 10 13.5**	**+0.4**
BO01				*i*S	**Sn**	**14 10 31.8**	**+1.1**
MT12	**Pirque**	**1.50**	**325**	*i*P	**Pn**	**14 10 14.3**	**0.0**
MT12				*i*S	**Sn**	**14 10 33.7**	**+0.7**
MT12				IAML		14 10 38.7	
	comp=E,4μm,0.6s						
MT15	**Las Vizcachas**	**1.59**	**329**	*i*P	**Pn**	**14 10 16.1**	**+0.4**
MT15				*i*S	**Sn**	**14 10 36.2**	**+0.9**
MT15				IAML		14 10 39.0	
	comp=N,2μm,0.3s						
MT04	**Ro Olivares**	**1.64**	**342**	⇑*i*P	**Pn**	**14 10 17.1**	**+0.6**
MT04				*i*S	**Sb**	**14 10 37.7**	**-1.4**
MT04				IAML		14 10 41.7	
	comp=E,989nm,0.4s						
MT03	**Universidad Ad**	**1.68**	**331**		**Pn**	**14 10 17.7**	**+0.9**
MT03	**Universidad Ad**	**1.68**	**331**	*e*P	**Pn**	**14 10 17.8**	**+0.9**
MT03				*e*SA		14 10 40.2	
MT03				IAML		14 10 41.1	
	comp=Z,2μm,0.3s						
MT03	**Universidad Ad**	**1.68**	**331**	⇑*i*P	**Pn**	**14 10 17.8**	**+0.9**
MT03				*i*S	**Sb**	**14 10 39.7**	**-0.5**
MT03				IAML		14 10 41.7	
	comp=E,2μm,0.4s						
MT09	**Talagante**	**1.70**	**314**		**Pn**	**14 10 17.7**	**+0.6**
MT09	**Talagante**	**1.70**	**314**	⇓*i*P	**Pn**	**14 10 17.8**	**+0.6**
MT09				*i*S	**Sb**	**14 10 40.1**	**-0.6**
MT09				IAML		14 10 41.4	
	comp=N,986nm,0.3s						
AVIZ	**Vizcacheras**	**1.71**	**30**	*e*P	**Pn**	**14 10 17.3**	**0.0**
ML02	**Panimavida**	**1.74**	**242**		**Pb**	**14 10 20.4**	**0.0**
ML02	**Panimavida**	**1.74**	**242**	*i*P	**Pb**	**14 10 20.3**	**0.0**
ML02				*i*S	**Sb**	**14 10 44.5**	**+2.7**
ML02				IAML		14 10 51.9	
	comp=N,2μm,0.6s						
MT16	**CCHEN**	**1.75**	**331**		**Pn**	**14 10 18.8**	**+1.0**
MT16	**CCHEN**	**1.75**	**331**	⇑*i*P	**Pn**	**14 10 18.9**	**+1.1**
MT16				*i*S	**Sb**	**14 10 41.7**	**-0.3**
MT16				IAML		14 10 43.6	
	comp=N,1μm,0.5s						
FCH	**Farellones**	**1.76**	**339**	⇑*i*P	**Pn**	**14 10 19.2**	**+1.0**
FCH				*i*S	**Sb**	**14 10 41.0**	**-1.6**
FCH				IAML		14 10 44.1	
	comp=E,2μm,0.4s						
MT14	**Cerro Calȷn**	**1.78**	**332**	⇑*i*P	**Pn**	**14 10 19.6**	**+1.4**
MT14				*i*S	**Sb**	**14 10 42.2**	**-0.8**

comp=Z,444nm,0.7s
DOCA Reserva Natura 4.03 5 *e*P **Pn** 14 10 51.0 +1.6
CO03 El Pedregal 4.23 346 **Pn** 14 10 53.9 +1.9
ACCO Cerro Coronel 4.39 5 *e*P **Pn** 14 10 55.9 +1.6
ACCO *e*S **Sb** 14 12 04.7 +6.5
ACCO IAML 14 12 11.6
comp=Z,162nm,0.3s
CO06 Fray Jorge 4.64 337 **Pn** 14 10 59.0 +1.6
AROD Rodeo 4.79 1 *e*P **Pn** 14 11 02.7 +2.9
AROD *e*S **Sb** 14 12 16.9 +7.1
ACDV Cuesta del Vie 4.80 4 *e*P **Pn** 14 11 02.0 +2.2
GO06 Curarrehue 4.86 198 Pn Pn 14 11 07.6 +7.0
GO04 Tololo Observa 4.90 347 Pn **Pn** 14 11 02.7 +1.3
CO01 Juntas del Tor 5.00 354 **Pn** 14 11 05.8 +3.1
LR05 Currie 5.61 200 **Pn** 14 11 12.7 +1.9
PLCA Paso Flores 5.81 188 Pn **Pn** 14 11 14.7 +1.0
PLCA Paso Flores 5.81 188 Pn **Pn** 14 11 14.3 +0.7
baz=339,slow=13,SNR=1.5
PLCA Lg Lg 14 12 49.9
comp=Z,5.6nm,0.3s,baz=300,slow=23,SNR=3.3
PLCA LR LR 14 13 32.2
comp=Z,68nm,18.6s,baz=240,slow=39
comp=Z,1.5nm,1.1s
LCO Las Campanas 6.02 350 **Pn** 14 11 17.7 +0.9
AC05 El Transito 6.15 354 Pn **Pn** 14 11 19.5 +1.2
TRQA Tornquist 6.81 119 Pn **Pn** 14 11 27.8 +0.4
AC04 Llanos de Chal 6.87 349 Pn **Pn** 14 11 28.9 +0.7
AC06 Mina Casimiro 7.62 354 Pn **Pn** 14 11 39.7 +1.2
LVC Limon Verde 12.33 3 Pn **Pn** 14 12 39.9 -3.3
comp=Z,0.4nm,0.3s,baz=163,slow=7.0,SNR=2.4
LVC Lg Lg 14 16 07.5
comp=Z,0.2nm,0.3s,baz=276,slow=17,SNR=1.7
LVC LR LR 14 17 37.0
comp=Z,168nm,20.3s,baz=216,slow=38
comp=Z,4.3nm,1.0s
CPUP Villa Florida 13.57 54 Pn **Pn** 14 12 57.1 -2.8
CPUP Villa Florida 13.57 54 Pn **Pn** 14 12 57.6 -2.3
CPUP Lg Lg 14 16 58.4
comp=Z,0.3nm,0.3s,baz=199,slow=9.5,SNR=6.5
comp=Z,0.8nm,0.3s,baz=166,slow=15,SNR=3.2
CPUP LR LR 14 18 26.3
comp=Z,105nm,18.0s,baz=232,slow=38
comp=Z,1.6nm,0.5s
PLTB Pedras Altas 13.69 81 Pn **Pn** 14 12 59.0 -2.5
PB16 IPOC Station P 16.57 0 Pn **Pn** 14 13 40.4 +0.2
EFI East Falkland 18.62 157 P **Pn** 14 14 06.2 +1.4
AQDB Aquidauana 18.90 44 P **P** 14 14 07.8 +0.1
AQDB IAmb IAmb 14 14 09.3
comp=Z,13nm,1.1s
SIV San Ignacio 20.36 24 P **P** 14 14 24.5 +0.8
comp=Z,2.9nm,0.7s,baz=224,slow=11,SNR=8.9
comp=Z,2.9nm,0.7s
PTLB Pontes e Lacer 21.56 28 P **P** 14 14 36.4 -0.3
ETMB Extrema 25.22 8 P **P** 14 15 14.0 +1.2
ETMB IAmb IAmb 14 15 54.3
comp=Z,4.3nm,0.9s
BDFB Brasilia 27.25 50 P **P** 14 15 34.3 +2.9
comp=Z,2.0nm,0.7s,baz=211,slow=10,SNR=3.5
BDFB LR LR 14 27 12.8
comp=Z,38nm,20.9s,baz=143,slow=38
RPN Rapa Nui 34.81 272 LR LR 14 27 03.6
comp=Z,73nm,20.8s,baz=77,slow=30
MDP Montagnes des 42.91 25 LR LR 14 36 52.3
comp=Z,36nm,19.4s,baz=324,slow=38
SNAA Sanae 49.90 158 P **P** 14 18 39.9 -0.1
comp=Z,1.5nm,0.3s,baz=22,slow=23,SNR=4.2
comp=Z,1.5nm,0.3s
QSPA South Pole Qui 55.27 180 P **P** 14 19 20.6 +0.7
QSPA IAmb IAmb 14 19 47.6
comp=Z,5.3nm,1.2s
QSPA South Pole Qui 55.27 180 P **P** 14 19 20.6 +0.7
comp=Z,0.5nm,0.6s,baz=39,slow=8.4,SNR=1.8
comp=Z,0.5nm,0.6s
TEIG Tepich 57.71 339 P **P** 14 19 37.0 -0.5
TXAR Lajitas Array 71.61 329 P **P** 14 21 07.8 -0.5
TXAR Lajitas Array 71.61 329 P **P** 14 21 07.7 -0.6
comp=Z,0.5nm,0.6s,baz=154,slow=8.1,SNR=8.2
comp=Z,0.5nm,0.6s
TX31 Lajitas Ar. Si 71.61 329 P **P** 14 21 07.6 -0.7
TX31 IAmb IAmb 14 21 15.0
comp=Z,6.6nm,1.4s
DBIC Dimbokro 73.55 69 P **P** 14 21 20.2 +0.2
comp=Z,1.5nm,0.7s,baz=218,slow=3.8,SNR=2.2
comp=Z,1.5nm,0.7s
BOSA Boshof 77.78 116 P **P** 14 21 43.9 -0.4
comp=Z,2.3nm,0.8s,baz=206,slow=2.4,SNR=6.4
comp=Z,2.3nm,0.8s
TORD Torodi Ar. Bea 82.61 68 P **P** 14 22 10.9 +0.6
comp=Z,0.7nm,0.9s,baz=252,slow=5.0,SNR=2.2
comp=Z,0.7nm,0.9s
PDAR Pinedale Array 85.58 332 P **P** 14 22 23.3 -1.7
comp=Z,0.6nm,0.8s,baz=153,slow=5.0,SNR=5.6
comp=Z,0.6nm,0.8s
OPO Ambohidratompo 99.76 121 LR LR 15 04 02.8
comp=Z,163nm,21.4s,baz=352,slow=33
ASAR Alice Springs 117.59 204 PKP **PKPdf** 14 28 33.1 -0.1
comp=Z,0.1nm,0.5s,baz=119,slow=1.8,SNR=1.5
WRA Warramunga Arr 120.87 206 PKP **PKPdf** 14 28 38.5 -1.1
comp=Z,0.3nm,0.5s,baz=163,slow=1.8,SNR=4.7
BVAR Borovoye Array 146.54 45 PKPbc **PKPbc** 14 29 27.6 +0.1
comp=Z,12nm,1.2s,baz=263,slow=3.8,SNR=4.4

*BUT **24** 14:14:59.1±0.4,46°.90N±0°.04×112°.52W±0°.05,h15km±2km, Error ellipse: s-maj=6.6km s-min=3.9km az=153.0*
NEIC 24 14:14:58.9±0.5,46°.89N±0°.06×112°.50W±0°.07,h16km±2km, ML2.7/24,ML2.6/15(BUT),Error ellipse: s-maj=8.8km s-min=6.4km az=189.0,Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.17**	**61**	Pg	Pg	14 15 03.5	+0.1
BEMT	**Mount Belmont**	**0.18**	**140**		Pg	14 15 03.8	+0.1
ELMT	**Elliston**	**0.37**	**179**		Pg	14 15 06.7	+0.2
OVMT	**Ovando**	**0.38**	**298**		Pg	14 15 06.4	-0.4
CHMT	**Chamberlain Mo**	**0.52**	**273**		Pg	14 15 09.0	-0.3
BPMT	**Black Pine Rid**	**0.79**	**236**		Pg	14 15 13.9	-0.5
MSO	**Missoula**	**0.99**	**267**		Pb	14 15 17.5	-0.2
EGMT	**Eagleton**	**2.18**	**58**	Pn	Pn	14 15 34.4	-0.2
EGMT				IAML		14 16 11.8	
	64nm,0.5s						
YHL	**Hebgen Lake**	**2.24**	**155**	Pn	Pn	14 15 35.2	-0.4
PLID	**Pearl Lake**	**3.03**	**235**	Pn	Pn	14 15 46.5	0.0
PLID				IAML		14 16 36.0	
	12nm,0.3s						
F10A	**Beach Ranch, E**	**3.39**	**256**	Pn	Pn	14 15 51.4	+0.1
NEW	**Newport**	**3.42**	**295**	Pn	Pn	14 15 51.5	-0.1
NEW				IAML		14 16 54.8	
	11nm,4.0s						
HLID	**Hailey**	**3.59**	**203**	Pn	Pn	14 15 53.1	-0.9
HLID				IAML		14 16 52.3	
	11nm,0.3s						
HLID				IAML		14 16 52.9	
	8.3nm,0.6s						
BMO	**Blue Mountains**	**3.92**	**240**	Pn	Pn	14 15 58.5	-0.1
BMO				IAML		14 16 35.6	
	5.6nm,4.7s						
BMO				IAML		14 17 01.3	
	6.4nm,4.4s						
C09A	**Chrisman Ranch**	**4.03**	**285**	Pn	Pn	14 15 59.6	-0.3
MFID	**Camas Ranch**	**4.20**	**215**	Pn	Pn	14 16 02.6	+0.3
MFID				IAML		14 17 14.0	
	13nm,0.3s						
MFID				IAML		14 17 14.1	
	15nm,0.3s						
E08A	**Dider Farm, El**	**4.53**	**267**	Pn	Pn	14 16 06.8	-0.1
E08A				IAML		14 16 43.8	
	comp=N,12nm,4.7s						
E08A				IAML		14 17 24.8	
	comp=E,10.0nm,4.2s						
HAWA	**Hanford**	**4.87**	**267**	Pn	Pn	14 16 12.2	+0.7
HAWA				IAML		14 16 54.3	
	comp=E,7.8nm,4.6s						

*NEIC **24** 14:20:56.9±1.2,36°.19N±0°.05×70°.26E±0°.09,h112km±7km, mb4.4/55, Error ellipse: s-maj=10.5km s-min=5.9km az=111.0*
*MOS **24** 14:20:56.0±0.8,36°.18N×70°.37E,h116km,mb4.3/12, Error ellipse: s-maj=8.3km s-min=3.2km az=73.4*
*IDC **24** 14:20:57.1±0.8,36°.07N×70°.40E,h122km±6km,mb3.7/21, mbtmp4.1/26,MS3.2/7, Error ellipse: s-maj=13.7km s-min=10.9km az=25.0*
*NNC **24** 14:20:57.1±2.2,36°.74N×69°.98E,h0km,mb5.1,mpv4.8,*

Error ellipse: s-maj=22.2km s-min=11.4km az=156.0
ISC 24 14:20:56.0±0.4,36°.10N±0°.04×70°.32E±0°.04,h110km,n261, σ1890/284,mb4.3/57,18C-22D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.88**	**214**	Pn	**Pn**	**14 21 29.0**	**+1.4**
KBL				Sn	**Sn**	**14 21 53.9**	**+2.2**
KBL	**Kabul**	**1.88**	**214**	PN	**Pn**	**14 21 29.0**	**+1.4**
KBL						14 21 53.9	
CHGR	**Chuyangaron**	**2.71**	**340**		**Pn**	**14 21 38.4**	**+0.2**
CHGR	**Chuyangaron**	**2.71**	**340**	PN	**Pn**	**14 21 38.4**	**+0.2**
NIL	**Nilore**	**3.43**	**135**	Pn	**Pn**	**14 21 49.6**	**+1.9**
NIL	**Nilore**	**3.43**	**135**	PN	**Pn**	**14 21 49.6**	**+1.9**
BTK	**Batken**	**3.97**	**6**	Pn	**Pn**	**14 21 56.3**	**+1.4**
BTK	**Batken**	**3.97**	**6**	PN	**Pn**	**14 21 56.3**	**+1.4**
OHH	**Osh**	**4.82**	**23**	PN	**Pn**	**14 22 08.9**	**+2.5**
JMU	**Jammu**	**5.07**	**130**	*e*P	**Pn**	**14 22 10.2**	**+0.5**
JMU				*e*S	**Sn**	**14 23 04.2**	**-3.0**
TRKS	**Terek-Say**	**5.46**	**6**	PN	**Pn**	**14 22 14.4**	**-0.7**
ARSB	**Arslanbob**	**5.61**	**21**	Pn	**Pn**	**14 22 17.4**	**+0.2**
ARSB	**Arslanbob**	**5.61**	**21**	PN	**Pn**	**14 22 17.4**	**+0.2**
KSH	**Kashi**	**5.63**	**51**	P	**Pn**	**14 22 14.5**	**-2.8**
KSH				S	Sn	14 23 04.3	-16
KSH				pmax	pmax		
	comp=Z,450nm,0.9s						
KSH				smax	smax		
	comp=N,2μm,0.8s						
KSH				smax	smax		
	comp=E,920nm,0.8s						
ARK	**Arkit**	**5.83**	**12**	PN	**Pn**	**14 22 21.3**	**+1.2**
CHM	**Chimkent**	**6.23**	**355**	*e*P	**Pn**	**14 22 25.5**	**+0.1**
	baz=353						
CHM	**Chimkent**	**6.23**	**355**	*e*PN	**Pn**	**14 22 25.5**	**+0.1**
DHRM	**DHARAMSHALA**	**6.27**	**126**	*e*P	**Pn**	**14 22 26.3**	**+0.1**
DHRM				*e*S	**Sn**	**14 23 33.8**	**-2.8**
ARLS	**Aral**	**6.54**	**27**	PN	**Pn**	**14 22 29.8**	**+0.1**
AML	**Almayashu**	**6.57**	**23**	P	**Pn**	**14 22 30.9**	**+0.6**
	SNR=344						
AML	**Almayashu**	**6.57**	**23**	PN	**Pn**	**14 22 30.1**	**-0.2**
AML	**Almayashu**	**6.57**	**23**	⇑P	**Pn**	**14 22 30.1**	**-0.2**
	comp=E,14nm,0.6s						
AML				⇓S	**Sn**	**14 23 40.3**	**-3.5**
	comp=E,118nm,0.7s						
DZA	**Taraz**	**6.83**	**6**	*e*P	**Pn**	**14 22 33.6**	**+0.1**
	baz=4.8						
DZA	**Taraz**	**6.83**	**6**	*e*PN	**Pn**	**14 22 33.6**	**+0.1**
HRA	**Herat**	**6.83**	**258**	Pn	**Pn**	**14 22 34.4**	**+0.7**
BHK	**Bhakra**	**6.90**	**131**	*e*P	**Pn**	**14 22 32.8**	**-1.7**
BHK				*e*S	**Sn**	**14 23 47.8**	**-3.7**
BHK				IAML		14 23 52.8	
	comp=E,589nm,0.2s						
NRN	**Naryn**	**6.93**	**38**	Pn	**Pn**	**14 22 34.8**	**-0.4**
NRN	**Naryn**	**6.93**	**38**	PN	**Pn**	**14 22 34.8**	**-0.4**
UCH	**Uchtor**	**6.93**	**27**	P	**Pn**	**14 22 35.7**	**+0.5**
	SNR=88						
KK31	**Karatay Array**	**6.99**	**1**		**Pn**	**14 22 35.3**	**-0.4**
KK31	**Karatay Array**	**6.99**	**1**	PN	**Pn**	**14 22 35.3**	**-0.4**
KK31	**Karatay Array**	**6.99**	**1**	⇓P	**Pn**	**14 22 35.0**	**-0.7**
	comp=E,41nm,0.5s,baz=183,slow=12,SNR=548						
KK31				⇓S	**Sn**	**14 23 48.0**	**-5.7**
	comp=E,84nm,0.7s,baz=194,slow=24,SNR=9.8						
KKAR	**Karatay Array**	**6.99**	**1**		**Pn**	**14 22 35.3**	**-0.4**
KKAR	**Karatay Array**	**6.99**	**1**		**Pn**	**14 22 35.3**	**-0.4**
KKAR	**Karatay Array**	**6.99**	**1**	PN	**Pn**	**14 22 35.3**	**-0.4**
EKS2	**Erkin-Say**	**7.08**	**21**	P	**Pn**	**14 22 37.6**	**+0.7**
	SNR=31						
KZA	**Kyzart**	**7.09**	**31**	P	**Pn**	**14 22 38.3**	**+0.9**
	SNR=34						
AAK	**Ala-Archa**	**7.28**	**25**	P	**Pn**	**14 22 40.5**	**+0.7**
	SNR=94						
AAK	**Ala-Archa**	**7.28**	**25**		**Pn**	**14 22 39.8**	**+0.1**
AAK	**Ala-Archa**	**7.28**	**25**	*c i*PN	**Pn**	**14 22 40.6**	**+0.8**
AAK				pmax	pmax		
	comp=Z,83nm,0.8s						
AAK	**Ala-Archa**	**7.28**	**25**	P	**Pn**	**14 22 40.1**	**+0.3**
	comp=Z,61nm,0.5s,baz=205,slow=9.0,SNR=83						
AAK				S	**Sn**	**14 23 59.0**	**-1.9**
	comp=Z,157nm,0.6s,baz=8.7,slow=21,SNR=11						
KBK	**Karagaybulak**	**7.46**	**27**	P	**Pn**	**14 22 43.3**	**+1.1**
	SNR=57						
FRU1	**Bishkek**	**7.48**	**25**		**Pn**	**14 22 42.2**	**-0.2**
FRU1	**Bishkek**	**7.48**	**25**	PN	**Pn**	**14 22 42.2**	**-0.2**
SMLA	**Simla**	**7.56**	**129**	*e*P	**Pn**	**14 22 42.8**	**-0.7**
SMLA				*e*S	**Sn**	**14 24 01.8**	**-5.8**
SMLA				IAML		14 24 07.3	
	comp=N,686nm,0.2s						
SMLA				IAML		14 24 07.8	
	comp=E,635nm,0.3s						
ULHL	**Ulahol**	**7.67**	**35**	P	**Pn**	**14 22 46.5**	**+1.5**
	SNR=20						
CHMS	**Chumysh**	**7.69**	**25**	P	**Pn**	**14 22 45.5**	**+0.3**
	SNR=42						
CHMS	**Chumysh**	**7.69**	**25**	PN	**Pn**	**14 22 45.2**	**0.0**
CHMS	**Chumysh**	**7.69**	**25**	⇓P	**Pn**	**14 22 45.2**	**0.0**
	comp=E,94nm,0.7s						
CHMS				⇓S	**Sn**	**14 24 07.1**	**-3.5**
	comp=E,318nm,0.8s						
BOOM	**Boomskoye usch**	**7.72**	**33**		**Pn**	**14 22 46.0**	**+0.2**
BOOM	**Boomskoye usch**	**7.72**	**33**	PN	**Pn**	**14 22 46.0**	**+0.2**
USP	**Ospenovka**	**7.85**	**23**	P	**Pn**	**14 22 48.0**	**+0.6**
	SNR=18						
TKM2	**Tokmak 2**	**7.94**	**29**	P	**Pn**	**14 22 49.1**	**+0.4**
	SNR=28						
TKM2	**Tokmak 2**	**7.94**	**29**	PN	**Pn**	**14 22 48.7**	**0.0**
TKM2	**Tokmak 2**	**7.94**	**29**	⇓P	**Pn**	**14 22 48.7**	**0.0**
	comp=E,56nm,0.8s						
TKM2				⇓S	**Sn**	**14 24 13.2**	**-3.7**
	comp=E,81nm,0.6s						
SGDS	**Sogindy**	**8.05**	**23**	*i* P	**Pn**	**14 22 50.1**	**-0.1**
	baz=22						
SGDS	**Sogindy**	**8.05**	**23**	*i* PN	**Pn**	**14 22 50.0**	**-0.1**
TARG	**Taragay, Kyrgy**	**8.10**	**44**		**Pn**	**14 22 51.1**	**+0.1**
TARG	**Taragay, Kyrgy**	**8.10**	**44**	PN	**Pn**	**14 22 51.1**	**+0.1**
TNSS	**Tian-Shan**	**8.61**	**34**	*e*P	**Pn**	**14 22 57.8**	**-0.2**
	baz=34						
TNSS	**Tian-Shan**	**8.61**	**34**	*e*PN	**Pn**	**14 22 57.8**	**-0.2**
DDI	**Dehra Dun**	**8.67**	**129**	*e*S	**Sn**	**14 24 29.7**	**-4.9**
AAA	**Alma-Ata**	**8.73**	**34**	*e*P	**Pn**	**14 22 59.9**	**+0.6**
	baz=33						
AAA	**Alma-Ata**	**8.73**	**34**	*e*PN	**Pn**	**14 22 59.8**	**+0.6**
MDOK	**Medeo**	**8.75**	**34**	*e*P	**Pn**	**14 22 59.9**	**+0.1**
	baz=34						
MDOK	**Medeo**	**8.75**	**34**	*e*PN	**Pn**	**14 22 59.8**	**+0.1**
MDOK	**Medeo**	**8.75**	**34**	⇓P	**Pn**	**14 23 00.7**	**+1.0**
	comp=E,72nm,1.2s						
MDOK				⇑S	**Sn**	**14 24 34.1**	**-2.5**
	comp=E,62nm,0.9s						
PRZ	**Przheval'sk**	**8.93**	**42**	Pn	**Pn**	**14 23 02.4**	**+0.2**
PRZ	**Przheval'sk**	**8.93**	**42**	PN	**Pn**	**14 23 02.4**	**+0.2**
KHET	**Khetri**	**9.26**	**148**	*e*P	**Pn**	**14 23 04.0**	**-2.5**
KHET				*e*S	Sn	14 24 39.2	-10
CHKK	**Chushkaly**	**9.28**	**31**	*e*P	**Pn**	**14 23 06.5**	**-0.2**
	baz=31						
CHKK	**Chushkaly**	**9.28**	**31**	*e*P	**Pn**	**14 23 06.5**	**-0.2**
SATY	**Saty**	**9.34**	**39**	*e*P	**Pn**	**14 23 07.6**	**0.0**
	baz=39						
SATY	**Saty**	**9.34**	**39**	*e*P	**Pn**	**14 23 07.5**	**0.0**
BTLS	**Baital**	**9.37**	**16**	*e*P	**Pn**	**14 23 08.0**	**+0.2**
	baz=16						
BTLS	**Baital**	**9.37**	**16**	*e*P	**Pn**	**14 23 08.0**	**+0.2**
ZHN	**Zhinishke**	**9.43**	**39**	*e*P	**Pn**	**14 23 09.2**	**+0.3**
	comp=E,6.0nm,0.8s,baz=39						
ZHN	**Zhinishke**	**9.43**	**39**	*e*P	**Pn**	**14 23 09.1**	**+0.3**
ZHN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KUDL	**Kundal**	**9.50**	**145**	*e*P	**Pn**	**14 23 08.1**	**-1.7**
KUDL				*e*S	Sn	14 24 43.9	-11
JOSI	**Joshimath**	**9.50**	**123**	*e*P	**Pn**	**14 23 09.3**	**-0.7**
JOSI				*e*S	**Sn**	**14 24 48.3**	**-6.8**
BISR	**Bishrakh**	**9.62**	**139**	*e*S	**Sn**	**14 24 49.5**	**-8.1**
UZB	**Uzynbulak**	**9.72**	**41**	*i* P	**Pn**	**14 23 13.1**	**+0.2**
	baz=41						
UZB	**Uzynbulak**	**9.72**	**41**	*i* P	**Pn**	**14 23 13.0**	**+0.2**
KPKS	**Kokpek**	**9.77**	**39**	*e*P	**Pn**	**14 23 13.4**	**-0.1**
	baz=38						
KPKS	**Kokpek**	**9.77**	**39**	*e*P	**Pn**	**14 23 13.3**	**-0.1**
GEYT	**Alibeck**	**9.93**	**284**	Pn	**Pn**	**14 23 13.9**	**-1.7**
GEYT	**Alibeck**	**9.93**	**284**	P	**Pn**	**14 23 13.9**	**-1.7**
GEYT	**Alibeck**	**9.93**	**284**	P	**Pn**	**14 23 13.4**	**-2.1**
	comp=Z,4.3nm,0.3s,baz=120,slow=12,SNR=29						
GEYT				S	**Sn**	**14 24 59.3**	**-5.7**
	comp=Z,10nm,0.6s,baz=102,slow=14,SNR=0.9						
GEYT				LR	LR	14 28 28.3	
	comp=Z,77nm,21.3s,baz=144,slow=45						

GYA0	**ALIBECK ARRAY**	**9.93**	**284**	P	**Pn**	**14 23 14.0**	**-1.6**
GYA0				S	**Sn**	**14 25 03.8**	**-1.3**
GYA0B	**ALIBECK ARRAY**	**9.93**	**284**	Pn	**Pn**	**14 23 13.7**	**-1.9**
GYA0B	**ALIBECK ARRAY**	**9.93**	**284**	⇓P	**Pn**	**14 23 14.0**	**-1.6**
GYA0B				⇑S	**Sn**	**14 25 03.8**	**-1.3**
SHLS	**Shalkode**	**9.96**	**42**	*e*P	**Pn**	**14 23 18.8**	**+2.7**
	baz=43						
SHLS	**Shalkode**	**9.96**	**42**	*e*P	**Pn**	**14 23 18.7**	**+2.7**
PDGK	**Podgornoye**	**10.09**	**42**	P	**Pn**	**14 23 17.3**	**-0.6**
PDGK				S	**Sn**	**14 25 14.9**	**+5.8**
PDGK	**Podgornoye**	**10.09**	**42**	⇓P	**Pn**	**14 23 17.3**	**-0.6**
	comp=Z,57nm,1.4s						
PDGK				⇓S	**Sn**	**14 25 14.9**	**+5.8**
	comp=E,68nm,0.9s						
AJM	**Ajmer**	**10.28**	**158**	*e*P	**Pn**	**14 23 18.4**	**-2.0**
AJM				*e*S	Sn	14 25 00.7	-13
AJM				IAML		14 25 13.1	
	comp=N,70nm,0.6s						
LGTI	**Lohaghat**	**10.66**	**126**	*e*P	**Pn**	**14 23 21.5**	**-4.0**
LGTI				*e*S	Sn	14 25 13.0	-10
LGTI				IAML		14 25 16.0	
	comp=N,310nm,1.0s						
TDK	**Taldyqorghan**	**10.80**	**32**	*e*P	**Pn**	**14 23 27.1**	**-0.3**
	baz=32						
TDK	**Taldyqorghan**	**10.80**	**32**	*e*P	**Pn**	**14 23 27.0**	**-0.3**
OTUK	**Ortayu**	**12.23**	**6**	P	**Pn**	**14 23 44.8**	**-1.4**
OTUK				S	**Sn**	**14 25 58.9**	**-1.7**
OTUK	**Ortayu**	**12.23**	**6**	⇑P	**Pn**	**14 23 44.8**	**-1.4**
	comp=N,17nm,0.8s						
OTUK				⇑S	**Sn**	**14 25 58.9**	**-1.7**
	comp=N,87nm,1.1s						
PYUN	**Piuthan**	**13.37**	**123**	*e*P	**Pn**	**14 23 57.4**	**-4.1**
PYUN				*e*S	Sn	14 26 17.5	-11
DANN	**Dangsing**	**13.74**	**120**	*e*P	**Pn**	**14 24 03.1**	**-3.4**
	comp=N,72nm,0.5s						
MAKZ	**Makanchi**	**13.80**	**36**	Pn	**Pn**	**14 24 06.2**	**-0.5**
MAKZ	**Makanchi**	**13.80**	**36**	P	**Pn**	**14 24 06.2**	**-0.5**
MAKZ	**Makanchi**	**13.80**	**36**	⇓P	**P**	**14 24 11.9**	**+0.4**
	comp=N,68nm,0.8s						
MK31	**Makanchi Array**	**13.94**	**36**	Pn	**Pn**	**14 24 08.2**	**-0.3**
MK31	**Makanchi Array**	**13.94**	**36**	*ce*P	**Pn**	**14 24 09.4**	**+0.9**
MK31	**Makanchi Array**	**13.94**	**36**	P	**P**	**14 24 12.9**	**-0.2**
	comp=N,31nm,0.8s,baz=215,slow=8.4,SNR=6.5						
MKAR	**Makanchi Array**	**13.94**	**36**	Pn	**Pn**	**14 24 08.3**	**-0.2**
MKAR	**Makanchi Array**	**13.94**	**36**	*e*P	**Pn**	**14 24 08.8**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR	**Makanchi Array**	**13.94**	**36**	P	**Pn**	**14 24 08.0**	**-0.5**
	comp=Z,4.6nm,0.6s,baz=216,slow=12,SNR=28						
MKAR				S	**Sn**	**14 26 47.1**	**+5.1**
	comp=Z,0.9nm,0.7s,baz=263,slow=18,SNR=1.1						
BRZS	**Berezniki**	**13.98**	**6**	*e*P	**Pn**	**14 24 09.2**	**+0.1**
	comp=Z,15nm,1.0s,baz=5.7						
BRZS	**Berezniki**	**13.98**	**6**	*e*P	**Pn**	**14 24 09.1**	**+0.1**
BRZS				pmax	pmax		
	comp=Z,15nm,1.0s						
KOLN	**Koldanda**	**13.99**	**123**	*e*P	**Pn**	**14 24 06.3**	**-3.3**
GKN	**Gorkha**	**14.57**	**120**	*e*P	**Pn**	**14 24 13.7**	**-3.2**
DMN	**Daman**	**15.14**	**120**	*e*P	**Pn**	**14 24 21.5**	**-2.7**
	comp=Z,62nm,0.6s						
KKN	**Kakani**	**15.15**	**119**	*e*P	**Pn**	**14 24 22.2**	**-2.1**
AB31	**Akbulak array**	**15.18**	**333**	⇑P	**Pn**	**14 24 23.3**	**-1.0**
	comp=Z,45nm,0.6s,baz=152,slow=12,SNR=626						
AB31				⇑S	**Sn**	**14 27 05.8**	**-6.1**
	comp=Z,16nm,0.8s,baz=159,slow=22,SNR=7.0						
ABKAR	**Akbulak array**	**15.18**	**333**	Pn	**Pn**	**14 24 23.6**	**-0.7**
ABKAR	**Akbulak array**	**15.18**	**333**	Pn	**Pn**	**14 24 23.6**	**-0.7**
ABKAR				IAmb	IAmb	14 24 24.7	
	comp=Z,75nm,0.7s						
PKI	**Pulchoki**	**15.37**	**119**	*e*P	**Pn**	**14 24 24.1**	**-3.1**
	comp=Z,65nm,0.7s						
WMQ	**Urumqi**	**15.38**	**55**	*e*P	**P**	**14 24 28.3**	**-0.8**
WMQ				pmax	pmax		
	comp=Z,32nm,0.9s						
GUN	**Gumba**	**15.51**	**117**	*e*P	**Pn**	**14 24 26.9**	**-2.0**
ZSN	**Zaisan**	**15.66**	**39**	*e*P	**Pn**	**14 24 30.8**	**+0.3**
	baz=39						
ZSN	**Zaisan**	**15.66**	**39**	*e*P	**Pn**	**14 24 30.7**	**+0.3**
KURBB	**Kurchatov Arra**	**15.68**	**20**	P	**Pn**	**14 24 28.6**	**-1.9**
	comp=Z,29nm,0.8s,baz=210,slow=11,SNR=23						
KURK	**Kurchatov**	**15.79**	**20**	Pn	**Pn**	**14 24 30.5**	**-1.3**
KURK				IAmb	IAmb	14 24 35.9	
	comp=Z,31nm,0.8s						
KURK	**Kurchatov**	**15.79**	**20**	⇓*e*P	**Pn**	**14 24 30.2**	**-1.6**
KURK				pmax	pmax		
	comp=Z,40nm,1.0s						
JIRN	**Jiri**	**15.88**	**118**	*e*P	**Pn**	**14 24 30.8**	**-2.8**
	comp=Z,56nm,0.4s						
SEM	**Semipalatinsk**	**16.00**	**24**	*e*P	**Pn**	**14 24 35.1**	**+0.3**
	comp=Z,15nm,1.0s,baz=23						
SEM	**Semipalatinsk**	**16.00**	**24**	*e*P	**Pn**	**14 24 35.1**	**+0.3**
SEM				pmax	pmax		
	comp=Z,15nm,1.0s						
WSAR	**Wadi Sarin**	**16.34**	**221**	P	**P**	**14 24 40.0**	**+0.1**
	comp=Z,4.7nm,0.7s,baz=53,slow=12,SNR=3.8						
AKL	**Akola**	**16.43**	**157**	*e*S	Sn	14 27 29.0	-13
RAMN	**Ramite**	**16.59**	**119**	*e*P	**Pn**	**14 24 39.5**	**-2.8**
AKTO	**Aktyubinsk**	**16.86**	**332**	P	**Pn**	**14 24 44.9**	**-0.2**
	comp=Z,19nm,0

KIV pmax pmax
comp=Z,7.0nm,0.9s
KIV MLR MLR
comp=Z,23nm,14.0s
BELG Belogornoye 22.86 323 *c* eP **P 14 25 51.4 +1.7**
BELG pmax pmax
comp=Z,4.0nm,0.9s
GTA Gaotai 23.50 73 ⇑P **P 14 25 57.4 +1.3**
GTA sP pP 14 26 09.6 -10
GTA pmax pmax
comp=Z,23nm,1.3s
VRH Novokhopyorsk 25.40 315 *e* eP **P 14 26 15.7 +2.8**
VRH pmax pmax
comp=Z,10.0nm,0.9s
KIRV Kirov 26.36 335⇑ *e* eP **P 14 26 23.5 +2.0**
VORD Divnogorie 26.71 314 *e* eP P 14 26 32.7 +8.0
VORD pmax pmax
comp=Z,8.0nm,0.9s
MOY Mondy 26.77 45 *e* eP **P 14 26 27.5 +2.0**
VSR Storozhevoye 26.88 314 *e* eP P 14 26 33.4 +7.2
VSR pmax pmax
comp=Z,7.0nm,0.9s
SONM Songino Array 29.01 55 P **P 14 26 46.7 +1.2**
SONM Songino Array 29.01 55 *e* eP **P 14 26 46.9 +1.4**
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 29.01 55 P **P 14 26 46.0 +0.6**
comp=Z,3.1nm,0.9s,baz=265,slow=9.9,SNR=18
SONM LR LR 14 39 13.5
comp=Z,36nm,19.1s,baz=151,slow=38
comp=Z,3.1nm,0.9s
BRTR Keskin Array B 29.04 288 P **P 14 26 46.4 +0.6**
BRTR Keskin Array B 29.04 288 P **P 14 26 46.9 +1.2**
comp=Z,0.6nm,0.7s,baz=46,slow=6.2,SNR=3.4
comp=Z,0.6nm,0.7s
ULN Ulaanbaatar 29.45 55 P **P 14 26 50.9 +1.5**
ULN Ulaanbaatar 29.45 55⇑ *e* eP **P 14 26 49.9 +0.5**
ULN pmax pmax
comp=Z,6.0nm,1.7s
PALK Pallekele 30.23 159 LR LR 14 38 48.2
comp=Z,48nm,19.1s,baz=95,slow=36
CMAR Chiang Mai Arr 30.75 117 *i* P **P 14 27 04.5 +3.6**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 30.75 117 P **P 14 27 01.1 +0.1**
comp=Z,0.8nm,0.7s,baz=294,slow=8.3,SNR=6.7
CMAR ScP **ScP 14 33 25.8 -2.7**
comp=Z,0.5nm,0.5s,baz=298,slow=4.7,SNR=4.3
comp=Z,0.8nm,0.7s
AKASG Malin Array Be 32.77 309 P **P 14 27 20.0 +1.7**
AKASG Malin Array Be 32.77 309 P **P 14 27 20.0 +1.7**
comp=Z,0.5nm,0.5s,baz=78,slow=8.6,SNR=2.2
comp=Z,0.5nm,0.5s
LYN LuoYang 34.23 80 *e* eP **P 14 27 33.5 +2.4**
LYN pmax pmax
comp=Z,23nm,0.6s
LYN pmax pmax
comp=Z,410nm,4.3s
PUL Pulkovo 34.92 325⇓ *e* eP **P 14 27 39.5 +2.7**
PUL pmax pmax
comp=Z,31nm,0.6s
BOD Bodaibo 36.00 39 *e* eP **P 14 27 46.2 +0.1**
BOD pmax pmax
comp=Z,8.0nm,1.4s
FINES FINESS Array B 37.51 327 P **P 14 27 59.5 +0.8**
FINES FINESS Array B 37.51 327 P **P 14 27 59.8 +1.0**
comp=Z,6.6nm,1.0s,baz=134,slow=8.2,SNR=5.0
FINES LR LR 14 45 13.3
comp=Z,48nm,18.3s,baz=206,slow=39
comp=Z,6.6nm,1.0s
ARCES ARCESS Array B 41.30 338 P **P 14 28 31.2 +1.0**
ARCES IAmb IAmb 14 29 02.2
comp=Z,7.7nm,1.1s
ARCES ARCESS Array B 41.30 338 P **P 14 28 31.2 +1.0**
ARCES pmax pmax
comp=Z,8.0nm,1.1s
ARCES ARCESS Array B 41.30 338 P **P 14 28 30.6 +0.4**
comp=Z,3.9nm,0.8s,baz=126,slow=6.3,SNR=9.1
comp=Z,3.9nm,0.8s
HEH HeiHe 42.92 52 *e* eP **P 14 28 44.0 +0.4**
HEH pmax pmax
comp=Z,21nm,0.8s
HEH pmax pmax
comp=Z,130nm,4.8s
HFS Hagfors 43.04 322 P **P 14 28 45.1 +0.7**
comp=Z,3.7nm,0.7s,baz=97,slow=12,SNR=5.5
HFS pP **pP 14 29 12.7 +2.6**
comp=Z,6.5nm,0.7s,baz=106,slow=11,SNR=5.6
comp=Z,3.7nm,0.7s
NB2 NORSAR Subarra 44.37 323 P **P 14 28 55.0 0.0**
comp=Z,5.3nm,0.9s,baz=98,slow=7.9
NOA NORSAR Array B 44.37 323 P **P 14 28 55.0 0.0**
comp=Z,2.1nm,0.8s,baz=98,slow=8.0,SNR=7.7
NOA LR LR 14 47 25.3
comp=Z,13nm,21.0s,baz=75,slow=36
comp=Z,2.1nm,0.8s
KSRS Korea Array 45.53 70 P **P 14 29 04.2 -0.2**
comp=Z,1.8nm,1.0s,baz=277,slow=6.1,SNR=2.1
KSRS LR LR 14 52 31.4
comp=Z,15nm,18.1s,baz=145,slow=42
comp=Z,1.8nm,1.0s
KLR Kul'dur 45.82 53⇓ *e* eP **P 14 29 07.4 +0.7**
KLR pmax pmax
comp=Z,10.0nm,2.5s
TIXI Tiksi 46.35 22 P **P 14 29 10.9 +0.5**
TIXI Tiksi 46.35 22⇓ *e* eP **P 14 29 11.2 +0.8**
SPITS Spitsbergen Ar 47.76 347 P **P 14 29 22.1 +0.8**
comp=Z,20nm,1.1s,baz=108,slow=14,SNR=2.0
comp=Z,20nm,1.1s
MJAR Matsushiro Arr 53.61 68 P **P 14 30 05.7 -0.2**
comp=Z,1.7nm,0.9s,baz=296,slow=9.2,SNR=2.5
comp=Z,1.7nm,0.9s
DAG Danmarks Havn 54.96 344 *i* P **P 14 30 14.9 0.0**
SEY Seymchan 55.05 34⇓ *e* eP **P 14 30 16.5 +0.6**
SEY pmax pmax
comp=Z,4.0nm,1.0s
ESDC Sonseca Array 57.16 298 P **P 14 30 31.4 0.0**
comp=Z,0.4nm,0.8s,baz=61,slow=8.0,SNR=4.2
ESDC pP **pP 14 31 00.4 +1.6**
comp=Z,0.8nm,0.8s,baz=59,slow=7.1,SNR=4.8
comp=Z,0.4nm,0.8s
BILL Bilibino 59.20 26 P **P 14 30 46.3 +1.3**
BILL IAmb IAmb 14 30 52.6
comp=Z,6.9nm,1.1s
BILL Bilibino 59.20 26⇓ *e* eP **P 14 30 45.8 +0.8**
PEA0B Petropavlovsk- 60.63 44⇓ *e* eP **P 14 30 54.1 -0.9**
TORD Torodi Ar. Bea 65.16 268 P **P 14 31 24.2 -1.4**
comp=Z,1.3nm,0.8s,baz=39,slow=7.0,SNR=4.9
comp=Z,1.3nm,0.8s
C18K Utukok River 68.82 18 P **P 14 31 48.1 +0.1**
C19K Lookout Ridge 68.87 17 P **P 14 31 49.1 +0.8**
C19K IAmb IAmb 14 31 58.1
comp=Z,4.8nm,0.8s
RES Resolute Bay 69.06 356 LR LR 15 04 15.9
comp=Z,81nm,18.9s,baz=28,slow=38
B22K Teshekpuk Lake 69.27 14 P **P 14 31 51.8 +1.2**
B22K IAmb IAmb 14 32 21.9
comp=Z,5.3nm,0.8s
D19K Kuna River 69.69 17 P **P 14 31 53.8 +0.5**
D19K IAmb IAmb 14 32 24.6
comp=Z,6.3nm,0.8s
F15K North Star Dit 70.02 21 P **P 14 31 56.4 +1.1**
C23K Itkillik River 70.24 14 P **P 14 31 56.8 +0.2**
C23K IAmb IAmb 14 32 05.8
comp=Z,7.3nm,0.9s
F17K Baldwin Pennin 70.44 20 P **P 14 31 58.2 +0.4**
D22K Ayikyak River 70.60 15 P **P 14 31 59.1 +0.2**
E19K Redstone River 70.70 18 P **P 14 31 59.7 +0.3**
E19K IAmb IAmb 14 32 07.4
comp=Z,6.2nm,1.1s
TOLK Toolik Lake Re 71.44 14 **P 14 32 04.6 +0.6**
TOLK Toolik Lake Re 71.44 14 P **P 14 32 04.5 +0.6**
TOLK IAmb IAmb 14 32 35.1
comp=Z,6.2nm,0.8s
A36M Sachs Harbour 71.65 5 P **P 14 32 05.7 +0.6**
A36M IAmb IAmb 14 32 11.3
comp=Z,6.9nm,0.8s
G19K Purcell Mounta 71.76 18 P **P 14 32 06.2 +0.3**
G19K IAmb IAmb 14 32 13.8
comp=Z,5.1nm,0.9s
E24K Your Creek 72.14 14 P **P 14 32 08.8 +0.7**
H18K Honhosa River 72.19 19 P **P 14 32 08.7 +0.3**
H18K IAmb IAmb 14 32 43.6
comp=Z,11nm,1.4s
G21K Allakaket 72.34 17 P **P 14 32 09.5 +0.2**
E25K Arctic Village 72.67 13 P **P 14 32 10.9 -0.4**

IMAR Indian Mountai 72.72 17 P **P 14 32 11.5 -0.1**
K15K Wolf Creek Mou 73.45 23 P **P 14 32 16.6 +0.6**
BMAR Burnt Mountain 73.45 13 P **P 14 32 16.9 +0.9**
E29M Blow River 73.71 11 P **P 14 32 18.2 +0.9**
J18K Innoko River 73.97 20 P **P 14 32 19.2 +0.3**
J18K IAmb IAmb 14 32 50.5
comp=Z,7.0nm,1.0s
J20K Nowinta River 74.08 19 P **P 14 32 20.0 +0.4**
J20K IAmb IAmb 14 32 28.3
comp=Z,4.6nm,0.8s
K17K Iditarod 74.10 21 P **P 14 32 19.9 +0.2**
K17K IAmb IAmb 14 32 28.8
comp=Z,9.6nm,0.9s
C36M Paulatuk 74.33 5 P **P 14 32 20.5 -0.4**
INK Inuvik 74.38 9 P **P 14 32 22.0 +0.8**
INK IAmb IAmb 14 32 30.5
comp=Z,5.2nm,0.9s
INK Inuvik 74.38 9 P **P 14 32 22.0 +0.8**
INK pmax pmax
comp=Z,5.0nm,0.9s
G27K Doyon Strip 74.54 13 P **P 14 32 23.4 +1.2**
K20K Telida 74.77 19 P **P 14 32 24.3 +0.7**
BPAW Bear Paw Mtn. 74.94 17 P **P 14 32 24.6 0.0**
BPAW IAmb IAmb 14 32 33.1
comp=Z,12nm,1.3s
L18K Granite Mounta 74.96 21 P **P 14 32 25.3 +0.7**
L18K IAmb IAmb 14 32 58.2
comp=Z,15nm,1.2s
CAST Castle Rocks 75.23 18 P **P 14 32 26.2 -0.1**
CAST IAmb IAmb 14 32 57.6
comp=Z,9.6nm,1.1s
ILAR Eielson Array 75.31 16 P **P 14 32 26.5 -0.2**
ILAR Eielson Array 75.31 16 P **P 14 32 26.5 -0.2**
ILAR Eielson Array 75.31 16 P **P 14 32 25.8 -0.8**
comp=Z,0.8nm,0.9s,baz=317,slow=3.1,SNR=7.5
ILAR pP **pP 14 32 56.8 +1.3**
comp=Z,1.6nm,1.0s,baz=320,slow=5.3,SNR=4.4
comp=Z,0.8nm,0.9s
KNRA Kununurra 75.48 122 P **P 14 32 30.4 +2.2**
H29M Whitestone 75.63 12 P **P 14 32 29.1 +0.6**
H29M IAmb IAmb 14 32 38.0
comp=Z,6.5nm,0.9s
J25K Salcha River, 75.77 15 P **P 14 32 28.9 -0.5**
RND Reindeer 76.04 17 P **P 14 32 30.4 -0.5**
RND IAmb IAmb 14 33 00.7
comp=Z,5.2nm,0.9s
RND Reindeer 76.04 17 P **P 14 32 30.4 -0.5**
RND pmax pmax
comp=Z,5.0nm,0.9s
I28M Miner Creek 76.07 13 P **P 14 32 30.9 -0.2**
I28M IAmb IAmb 14 32 39.4
comp=Z,6.2nm,1.1s
J26L Joseph Creek 76.24 14 P **P 14 32 32.2 +0.1**
I30M Mount Dempster 76.87 11 P **P 14 32 35.8 +0.2**
BOSA Boshof 77.09 220 P **P 14 32 37.5 +0.2**
comp=Z,2.2nm,0.9s,baz=34,slow=1.9,SNR=3.1
comp=Z,2.2nm,0.9s
GHO Glory Hole Cre 77.42 18 P **P 14 32 38.8 +0.1**
DAWY Dawson 77.43 13 P **P 14 32 39.1 +0.4**
DAWY IAmb IAmb 14 32 44.7
comp=Z,8.2nm,1.5s
SML Sawmill 77.53 18 P **P 14 32 39.1 -0.1**
SCM Sheep Creek Mo 77.75 17 P **P 14 32 40.4 -0.2**
SCM Sheep Creek Mo 77.75 17 P **P 14 32 40.4 -0.2**
SCM pmax pmax
comp=Z,25nm,1.2s
L27K Beaver Creek, 77.88 14 P **P 14 32 41.2 0.0**
L27K IAmb IAmb 14 32 50.7
comp=Z,6.2nm,1.1s
BCAR Beaver Creek A 77.89 14 P **P 14 32 41.9 +0.7**
M27K Edge Creek, AK 78.50 15 P **P 14 32 45.8 +1.0**
M27K IAmb IAmb 14 33 18.5
comp=Z,17nm,1.4s
YKA Yellowknife Ar 81.67 2 P **P 14 33 00.2 -1.3**
comp=Z,0.4nm,0.7s,baz=348,slow=5.5,SNR=7.3
YKA pP **pP 14 33 32.6 +1.6**
comp=Z,1.0nm,0.9s,baz=347,slow=5.4,SNR=5.4
comp=Z,0.4nm,0.7s
WRA Warramunga Arr 82.25 121 P **P 14 33 04.0 -1.2**
comp=Z,0.2nm,0.4s,baz=325,slow=4.9,SNR=4.8
comp=Z,0.2nm,0.4s
ASAR Alice Springs 84.48 124 P **P 14 33 17.2 +0.6**
comp=Z,0.8nm,0.8s,baz=320,slow=4.8,SNR=5.6
comp=Z,0.8nm,0.8s

AFAD ***24*** *14:36:23.2± 0.0, 38.˚48N × 39.˚17E, h 7km ± 3km, ML2.5*
ISK ***24*** *14:36:23.2, 38.˚51N × 39.˚18E, h 8km, ML2.6/14*
ISC 24 14:36:23.4±1.1, 38.˚49N±0.˚03×39.˚17E±0.˚02, h 8km±10km, n22, σ 0°50/35, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.43**	**23**	Pg		**Pg**	**14 36 31.9**	**-0.1**
PTK				Sg		**Sg**	**14 36 38.3**	**+0.6**
KOVA	**Elazig, Kovanc**	**0.55**	**67**	P		**Pg**	**14 36 33.5**	**-0.4**
KOVA				S		**Sb**	**14 36 43.6**	**+0.3**
MAYA	**Malatya/Merkez**	**0.61**	**254**	P		**Pg**	**14 36 35.2**	**0.0**
MAYA				S		**Sg**	**14 36 43.9**	**+0.7**
MAYA				*i*	AML	AML	14 36 47.0	
comp=E,268nm,0.3s								
TNCL	**Tunceli-Merkez**	**0.69**	**25**	P		**Pg**	**14 36 36.0**	**-0.7**
TNCL				S		**Sb**	**14 36 46.8**	**-0.5**
NARI	**Adyaman-Kaht**	**0.69**	**208**	P		**Pb**	**14 36 37.1**	**-0.5**
NARI				S		**Sb**	**14 36 47.4**	**+0.1**
ARPR	**Arapgir-MALATY**	**0.89**	**313**	Pg		**Pg**	**14 36 40.5**	**0.0**
ARPR				Sg		**Sb**	**14 36 53.4**	**+0.2**
DYBB	**Diyarbakir**	**0.93**	**125**	Pg		**Pb**	**14 36 41.5**	**-0.3**
DYBB				Sg		**Sb**	**14 36 54.9**	**+0.6**
DIYA	**Diyarbakir**	**0.94**	**127**	P		**Pb**	**14 36 41.7**	**-0.2**
DIYA				S		**Sb**	**14 36 55.1**	**+0.6**
DIYA				*i*	AML	AML	14 36 58.0	
comp=N,136nm,0.4s								
KEMA	**Kemaliye**	**0.94**	**326**	P		**Pg**	**14 36 40.7**	**-0.8**
KEMA				S		**Sb**	**14 36 55.2**	**+0.6**
HANI	**Diyarbakir_Han**	**0.97**	**94**	P		**Pg**	**14 36 41.3**	**-0.6**
HANI				S		**Sb**	**14 36 55.6**	**+0.3**
AKCD	**Akcadag**	**1.00**	**259**	P		**Pg**	**14 36 42.1**	**-0.5**
AKCD				S		**Sb**	**14 36 56.5**	**0.0**
AKCD				*i*	AML	AML	14 36 59.0	
comp=E,183nm,0.4s								
ILIC	**ilic-Erzincan**	**1.07**	**334**	Pg		**Pg**	**14 36 43.6**	**-0.3**
ILIC				Sg		**Sn**	**14 36 59.1**	**-0.7**
URFA	**Urfa**	**1.08**	**195**	Pn		**Pn**	**14 36 44.9**	**0.0**
URFA				Sn		**Sn**	**14 37 00.5**	**+0.4**
ERZN	**Erzincan**	**1.17**	**21**	Pn		**Pg**	**14 36 45.7**	**-0.3**
BNGB	**Bingl**	**1.28**	**67**	Pn		**Pg**	**14 36 47.7**	**-0.3**
DARE	**Darende-Malaty**	**1.33**	**274**	Pn		**Pn**	**14 36 47.8**	**-0.5**
YEDI	**Yedisu-Bingol**	**1.43**	**48**	Pn		**Pb**	**14 36 49.9**	**-0.4**
MAZI	**Mazidag**	**1.44**	**135**	Pn		**Pn**	**14 36 49.9**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.63**	**101**	Pn		**Pn**	**14 36 52.8**	**+0.4**
KARO	**Karliova-Bingo**	**1.68**	**60**	Pn		**Pn**	**14 36 53.4**	**+0.2**
SVSK	**Karacayir**	**2.21**	**311**	Pn		**Pn**	**14 37 01.2**	**+0.9**
RSDY	**Resadiye-TOKAT**	**2.38**	**324**	Pn		**Pn**	**14 37 03.4**	**+0.7**

IDC ***24*** *14:36:23.7± 2.9, 36.˚36S × 177.˚41E, h 265km ± 14km, mb3.0/3, mbtmp3.6/3, Error ellipse: s-maj=57.1km s-min=22.6km az=48.0*
WEL ***24*** *14:36:28.8± 1.4, 37.˚5S ± 10.˚1 × 177.˚7E ± .˚1, h 270km ± 10km, M2.9/37, ML2.6/8, MLv2.9/37, Error ellipse: s-maj=0.0km s-min=0.0km az=37.3, confirmed*
ISC 24 14:36:27.7±1.1, 36.˚90S±0.˚09×177.˚10E±0.˚08, h 286km±7km, n114, σ 0°98/119, mb3.2/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.01**	**148**	P		**Pn**	**14 37 06.0**	**-0.5**
HAZ				S		**S**	**14 37 34.9**	**-2.4**
OPRZ	**Ohinepanea**	**1.04**	**205**	P		**Pn**	**14 37 06.7**	**+0.1**
TGRZ	**Tauranga**	**1.06**	**219**	P		**Pn**	**14 37 07.5**	**+0.7**
KUZ	**Kuaotunu**	**1.12**	**278**	P		**Pn**	**14 37 06.8**	**-0.3**
MARZ	**Manawahe**	**1.13**	**197**	P		**Pn**	**14 37 07.6**	**+0.4**
RUGZ	**Raukumara Rang**	**1.15**	**157**	P		**Pn**	**14 37 06.7**	**-0.7**
MXZ	**Matakaoa Point**	**1.16**	**125**	P		**Pn**	**14 37 06.8**	**-0.5**
MXZ				S		**S**	**14 37 37.2**	**-1.6**
EDRZ	**Edgecumbe**	**1.24**	**193**	P		**Pn**	**14 37 08.8**	**+1.0**
PKGZ	**Pakihiroa**	**1.25**	**142**	P		**Pn**	**14 37 08.0**	**0.0**
PKGZ				S		**S**	**14 37 38.9**	**-0.9**
KARZ	**Kaharoa**	**1.31**	**211**	P		**Pn**	**14 37 08.9**	**+0.7**
KMRZ	**Kaimai**	**1.32**	**224**	P		**Pn**	**14 37 09.3**	**+1.0**
OMRZ	**Omania**	**1.33**	**206**	P		**Pn**	**14 37 09.5**	**+1.1**
URZ	**Urewera**	**1.35**	**180**	P		**Pn**	**14 37 07.5**	**-1.0**
67nm,0.3s,baz=340,slow=3.7,SNR=348								
URZ				S		**S**	**14 37 40.6**	**-0.2**
50nm,0.4s,baz=88,slow=5.7,SNR=21								
URZ	**Urewera**	**1.35**	**180**	P		**Pn**	**14 37 08.4**	**-0.1**
WMGZ	**Waiomatatini S**	**1.39**	**132**	P		**Pn**	**14 37 08.6**	**0.0**
WMGZ				S		**S**	**14 37 40.2**	**-1.0**
NGRZ	**Ngongotaha**	**1.40**	**211**	P		**Pn**	**14 37 08.8**	**0.0**
TARZ	**Mount Tarawera**	**1.41**	**199**	P		**Pn**	**14 37 10.2**	**+1.3**
TWGZ	**Tauwhareparae**	**1.45**	**152**	P		**Pn**	**14 37 09.7**	**+0.5**
MWZ	**Matawai**	**1.47**	**167**	P		**Pn**	**14 37 09.3**	**+0.1**
HLRZ	**Highlands Stat**	**1.47**	**204**	P		**Pn**	**14 37 10.5**	**+1.3**
PUZ	**Puketiti**	**1.48**	**142**	P		**Pn**	**14 37 09.2**	**-0.1**
RRRZ	**Republican Roa**	**1.51**	**198**	P		**Pn**	**14 37 10.3**	**+0.8**
TOZ	**Tahuroa Road**	**1.52**	**237**	P		**Pn**	**14 37 10.8**	**+1.3**
HSRZ	**Hossack Road**	**1.56**	**206**	P		**Pn**	**14 37 11.7**	**+1.9**
MKAZ	**Moumakai**	**1.57**	**262**	P		**Pn**	**14 37 10.5**	**+0.6**
WIAZ	**Waiheke Island**	**1.58**	**273**	P		**Pn**	**14 37 10.3**	**+0.3**
MUGZ	**Murupara**	**1.59**	**189**	P		**Pn**	**14 37 10.3**	**+0.2**
RAGZ	**Rawiri**	**1.61**	**171**	P		**Pn**	**14 37 10.7**	**+0.5**
HRRZ	**Handcock Road**	**1.62**	**203**	P		**Pn**	**14 37 11.5**	**+1.2**
TKGZ	**Te Karaka**	**1.64**	**159**	P		**Pn**	**14 37 10.7**	**+0.3**
PRRZ	**Plateau Road**	**1.69**	**199**	P		**Pn**	**14 37 11.5**	**+0.7**
RTZ	**Ruatahuna**	**1.71**	**183**	P		**Pn**	**14 37 11.0**	**0.0**
ETAZ	**East Tamaki Re**	**1.74**	**268**	P		**Pn**	**14 37 11.8**	**+0.6**
ALRZ	**Allen Road**	**1.76**	**200**	P		**Pn**	**14 37 12.0**	**+0.7**
MBAZ	**Motutapu North**	**1.77**	**274**	P		**Pn**	**14 37 12.0**	**+0.6**
WPRZ	**Whakapapatarin**	**1.78**	**205**	P		**Pn**	**14 37 12.4**	**+1.0**
CNGZ	**Carnagh Statio**	**1.80**	**151**	P		**Pn**	**14 37 12.3**	**+0.8**
RIGZ	**Rimuhau**	**1.87**	**164**	P		**Pn**	**14 37 12.8**	**+0.6**
KUTZ	**Kaahu Road**	**1.88**	**212**	P		**Pn**	**14 37 13.5**	**+1.3**
SNGZ	**Shannon Statio**	**1.88**	**174**	P		**Pn**	**14 37 12.7**	**+0.5**
TLZ	**Tolley Road**	**1.89**	**221**	P		**Pn**	**14 37 13.7**	**+1.4**
MTHZ	**Maungataniwha**	**1.96**	**186**	P		**Pn**	**14 37 13.1**	**+0.2**
MRHZ	**Matea Rd**	**2.00**	**196**	P		**Pn**	**14 37 13.6**	**+0.3**
RAHZ	**Arahi**	**2.01**	**180**	P		**Pn**	**14 37 13.9**	**+0.7**
WATZ	**Wairara**	**2.10**	**211**	P		**Pn**	**14 37 15.3**	**+1.2**
PRGZ	**Paritu Road**	**2.11**	**163**	P		**Pn**	**14 37 15.0**	**+0.9**
KNZ	**Kokohu**	**2.16**	**168**	P		**Pn**	**14 37 14.7**	**+0.2**
WHHZ	**Waihua**	**2.17**	**177**	P		**Pn**	**14 37 15.2**	**+0.7**
NMHZ	**Naumai**	**2.20**	**186**	P		**Pn**	**14 37 15.9**	**+1.0**
RATZ	**Rangitukua**	**2.23**	**208**	P		**Pn**	**14 37 16.0**	**+0.9**
RITZ	**Rihia Road**	**2.29**	**205**	P		**Pn**	**14 37 16.7**	**+1.0**
BKZ	**Black Stump Fm**	**2.31**	**192**	P		**Pn**	**14 37 15.9**	**0.0**
MHGZ	**Mahia Peninsul**	**2.33**	**164**	P		**Pn**	**14 37 16.8**	**+0.8**
KATZ	**Kakaramea**	**2.35**	**208**	P		**Pn**	**14 37 17.6**	**+1.3**
ARHZ	**Aropaoanui**	**2.36**	**182**	P		**Pn**	**14 37 16.9**	**+0.7**
HIZ	**Hauiti**	**2.40**	**227**	P		**Pn**	**14 37 18.6**	**+1.9**
NTVZ	**North Tongarir**	**2.46**	**207**	P		**Pn**	**14 37 18.2**	**+0.9**
TMVZ	**Te Maari**	**2.47**	**206**	P		**Pn**	**14 37 18.1**	**+0.8**
KRVZ	**Karewarewa**	**2.47**	**207**	P		**Pn**	**14 37 18.2**	**+0.8**
ETVZ	**East Tongariro**	**2.48**	**206**	P		**Pn**	**14 37 18.2**	**+0.7**
WTVZ	**West Tongariro**	**2.51**	**208**	P		**Pn**	**14 37 18.4**	**+0.7**
NNVZ	**North Ngauruho**	**2.52**	**207**	P		**Pn**	**14 37 18.4**	**+0.5**
OTVZ	**Oturere**	**2.53**	**206**	P		**Pn**	**14 37 18.9**	**+1.0**
TWVZ	**Taurewa**	**2.53**	**211**	P		**Pn**	**14 37 18.7**	**+0.8**
SNVZ	**South Ngauruho**	**2.56**	**206**	P		**Pn**	**14 37 19.0**	**+0.7**
MCHZ	**McNeill Hill**	**2.56**	**187**	P		**Pn**	**14 37 18.8**	**+0.7**
NGZ	**Ngauruhoe**	**2.56**	**207**	P		**Pn**	**14 37 19.4**	**+1.1**
KWHZ	**Kaweka Forest**	**2.57**	**192**	P		**Pn**	**14 37 18.6**	**+0.3**
TUVZ	**Tukino**	**2.62**	**205**	P		**Pn**	**14 37 19.6**	**+0.7**
WNVZ	**Wahianoa**	**2.69**	**206**	P		**Pn**	**14 37 20.1**	**+0.6**
BHHZ	**Black Hill Sta**	**2.71**	**197**	P		**Pn**	**14 37 19.5**	**0.0**
MOVZ	**Moawhango**	**2.72**	**203**	P		**Pn**	**14 37 19.7**	**+0.1**
CKHZ	**Cape Kidnapper**	**2.75**	**180**	P		**Pn**	**14 37 20.5**	**+0.6**
PKVZ	**Pokaka**	**2.76**	**210**	P		**Pn**	**14 37 20.5**	**+0.5**
MTVZ	**Mangateitei**	**2.79**	**207**	P		**Pn**	**14 37 21.1**	**+0.7**
KRHZ	**Kereru**	**2.80**	**192**	P		**Pn**	**14 37 20.4**	**0.0**
VRZ	**Vera Road**	**2.89**	**219**	P		**Pn**	**14 37 22.8**	**+1.5**
KAHZ	**Kahuranaki**	**2.89**	**183**	P		**Pn**	**14 37 21.8**	**+0.5**
PNHZ	**Pukenui**	**3.09**	**193**	P		**Pn**	**14 37 23.3**	**-0.1**
PXZ	**Pawanui**	**3.13**	**183**	P		**Pn**	**14 37 24.3**	**+0.6**
WPHZ	**Waipukurau**	**3.20**	**189**	P		**Pn**	**14 37 24.9**	**+0.5**
TSZ	**Takapari Road**	**3.27**	**196**	P		**Pn**	**14 37 25.0**	**-0.3**
WAZ	**Wanganui**	**3.30**	**210**	P		**Pn**	**14 37 26.3**	**+0.8**
OUZ	**Omahuta**	**3.30**	**300**	P		**Pn**	**14 37 25.1**	**-0.5**
PRHZ	**Porangahau**	**3.38**	**186**	P		**Pn**	**14 37 26.8**	**+0.5**
DVHZ	**Dannevirke**	**3.47**	**192**	P		**Pn**	**14 37 27.7**	**+0.4**
ANWZ	**Angora Road**	**3.58**	**188**	P		**Pn**	**14 37 29.2**	**+0.7**
POWZ	**Post Office Ro**	**3.64**	**196**	P		**Pn**	**14 37 29.4**	**+0.3**
PRWZ	**Pori Road**	**3.75**	**193**	P		**Pn**	**14 37 31.1**	**+0.8**
BFZ	**Birch Farm**	**3.83**	**190**	P		**Pn**	**14 37 31.3**	**+0.1**
MRZ	**Mangatainoka R**	**3.94**	**197**	P		**Pn**	**14 37 30.1**	**-2.2**
TIWZ	**Tintock**	**3.98**	**193**	P		**Pn**	**14 37 33.7**	**+0.8**
CPWZ	**Castlepoint**	**4.06**	**190**	P		**Pn**	**14 37 35.2**	**+1.5**
HOWZ	**Holdsworth Sta**	**4.18**	**197**	P		**Pn**	**14 37 34.7**	**-0.4**
OGWZ	**Otaki Gorge**	**4.19**	**201**	P		**Pn**	**14 37 34.3**	**-0.9**
TMWZ	**Te Maipa**	**4.30**	**192**	P		**Pn**	**14 37 37.0**	**+0.5**
MTW	**Mount Morrison**	**4.43**	**196**	P		**Pn**	**14 37 37.6**	**-0.3**
CAW	**Cannon Point**	**4.49**	**200**	P		**Pn**	**14 37 37.9**	**-0.8**
TRWZ	**Traveller**	**4.62**	**193**	P		**Pn**	**14 37 40.6**	**+0.4**
WEL	**Wellington**	**4.74**	**202**	P		**Pn**	**14 37 41.2**	**-0.3**
PLWZ	**Palliser**	**4.88**	**197**	P		**Pn**	**14 37 42.7**	**-0.4**
TUWZ	**Tuamarina**	**5.14**	**208**	P		**Pn**	**14 37 45.2**	**-1.1**
NNZ	**Nelson**	**5.19**	**213**	P		**Pn**	**14 37 45.5**	**-1.4**
TKNZ	**Takaka Hill**	**5.24**	**217**	P		**Pn**	**14 37 45.8**	**-1.6**
KHZ	**Kahutara**	**6.15**	**205**	P		**Pn**	**14 37 57.8**	**-0.5**
DSZ	**Denniston Nort**	**6.34**	**219**	P		**Pn**	**14 37 59.5**	**-1.2**
GVZ	**Greta Valley S**	**6.81**	**206**	P		**Pn**	**14 38 06.0**	**-0.4**
INZ	**Inchbonnie**	**7.26**	**215**	P		**Pn**	**14 38 10.6**	**-1.3**
MQZ	**McQueen's Vall**	**7.60**	**205**	P		**Pn**	**14 38 14.0**	**-2.0**
WKZ	**Wanaka**	**10.00**	**215**	P		**Pn**	**14 38 49.8**	**+4.0**
ASAR	**Alice Springs**	**39.25**	**277**	P		**P**	**14 43 28.6**	**-0.5**
0.6nm,0.5s,baz=118,slow=7.9,SNR=22								
0.6nm,0.5s								
WRA	**Warramunga Arr**	**40.86**	**282**	P		**P**	**14 43 40.9**	**-1.4**
0.4nm,0.6s,baz=118,slow=8.5,SNR=2.2								
0.4nm,0.6s								
QSPA	**South Pole Qui**	**53.22**	**180**	P		**P**	**14 45 18.6**	**+1.8**
0.6nm,0.6s,baz=236,slow=1.6,SNR=9.7								
0.6nm,0.6s								
FINES	**FINESS Array B**	**149.46**	**333**	PKPbc		**PKPdf**	**14 55 38.9**	**+1.6**
3.1nm,1.1s,baz=54,slow=2.4,SNR=1.3								

MOS ***24*** *14:40:01.8± 0.9, 53.˚77N × 163.˚41W, h 25km, mb4.4/14, Error ellipse: s-maj=16.5km s-

LVA Sn 14 40 50.6 -0.3
AKRB Akutan Reef Bi 1.69 293 Pn 14 40 29.6 -0.4
UNV Unalaska Valle 1.86 282 Pn 14 40 31.5 -0.9
UNV Sn 14 40 54.6 -0.7
UNV Unalaska Valle 1.86 282 P Pn 14 40 31.4 -0.9
MNAT Makushin Natee 1.97 283 Pn 14 40 33.3 -0.6
MTBL Makushin Table 1.99 285 Pn 14 40 33.8 -0.4
MREP Makushin Rep't 2.00 280 Pn 14 40 33.8 -0.5
MSW Makushin Switc 2.04 283 Pn 14 40 34.6 -0.2
MSW Sn 14 40 59.1 -0.5
MGOD Makushin Gods 2.07 280 Pn 14 40 35.2 -0.1
MAPS Pakushin South 2.11 280 Pn 14 40 35.4 -0.5
MAPS Sn 14 41 01.3 -0.2
PVV Pavlof Volcano 2.12 26 Pn 14 40 37.1 +1.2
PN7A Pavlof North-7 2.12 23 Pn 14 40 37.0 +1.0
PS1A Pavlof South-1 2.17 26 Pn 14 40 37.8 +1.2
SDPT Sand Point 2.54 42 Pn 14 40 41.7 +0.1
SDPT IAML 14 41 28.6
comp=N,737nm,1.2s
SDPT IAML 14 41 36.0
comp=E,735nm,2.2s
SDPT Sand Point 2.54 42 P Pn 14 40 42.4 +0.7
OKFG Magazine Ridge 2.68 270 Pn 14 40 42.7 -0.9
OKER Okmok East Rim 2.76 271 Pn 14 40 44.8 -0.1
OKNC Okmok New Cone 2.81 271 Pn 14 40 45.9 +0.5
OKCE Okmok Cone E 2.83 271 Pn 14 40 45.9 +0.2
NIKH Nikolski High 3.30 263 Pn 14 40 52.0 -0.2
NIKH Nikolski High 3.30 263 P Pn 14 40 51.6 -0.6
VNFG Fog Glacier, M 3.58 37 Pn 14 40 57.8 +1.6
CLCO Concord Point, 3.85 262 Pn 14 40 59.6 -0.2
CLES Cleveland East 3.95 263 Pn Pn 14 41 01.4 +0.3
CLES IAML 14 42 04.7
comp=N,546nm,1.7s
CLES IAML 14 43 29.7
comp=E,474nm,1.9s
CHGN Chignik 4.04 44 Pn Pn 14 41 02.9 +0.7
CHGN IAML 14 42 17.9
comp=N,181nm,3.0s
CHGN IAML 14 42 23.4
comp=E,173nm,2.5s
O14K Tigyukauivet M 5.90 11 Pn Pn 14 41 29.3 +1.5
ATKA Atka Island 6.65 263 Pn Pn 14 41 38.0 -0.1
ATKA Atka Island 6.65 263 P Pn 14 41 38.5 +0.4
O16K Kokwok River B 6.79 24 Pn Pn 14 41 41.9 +1.9
OHAK Old Harbor 6.88 53 Pn Pn 14 41 39.9 -1.4
OHAK Old Harbor 6.88 53 P Pn 14 41 41.5 +0.2
N15K Kwethluk River 6.94 14 Pn Pn 14 41 44.1 +2.0
M13K Dall Lake 6.94 0 Pn Pn 14 41 43.9 +1.9
M14K Bethel 7.32 6 Pn Pn 14 41 47.4 +0.1
KDAK Kodiak Island 7.49 51 Pn Pn 14 41 48.2 -1.4
KDAK Kodiak Island 7.49 51 P Pn 14 41 48.2 -1.4
KDAK Kodiak Island 7.49 51 Pn Pn 14 41 48.0 -1.6
comp=E,1.2nm,0.3s,baz=227,slow=4.6,SNR=6.7
KDAK Sn Sn 14 43 09.5 -4.3
comp=E,0.6nm,0.3s,baz=183,slow=22,SNR=1.0
comp=E,18nm,0.9s
O18K Koktuh Hills 7.82 32 Pn Pn 14 41 54.5 +0.4
L14K Kuka Creek 7.88 3 Pn 14 41 56.5 +1.5
M16K Timber Creek 7.93 16 Pn Pn 14 41 56.4 +0.7
N18K Kilae Creek 8.29 27 Pn Pn 14 42 00.5 -0.2
KIWB Kanaga Island 8.50 264 Pn Pn 14 42 04.0 +0.5
M17K Holitna River 8.56 20 Pn Pn 14 42 04.9 +0.6
ILSW Iliamna Southw 8.61 37 Pn Pn 14 42 04.3 -0.8
SVW2 Sparrevohn 8.72 26 Pn Pn 14 42 04.4 -2.1
N19K Bonanza Creek 8.79 30 Pn Pn 14 42 09.0 +1.4
K15K Wolf Creek Mou 8.88 6 Pn Pn 14 42 10.2 +1.5
L18K Granite Mounta 9.45 20 Pn Pn 14 42 16.6 +0.1
K17K Iditarod 9.64 14 Pn Pn 14 42 31.1 +1.0
L19K White Mountain 9.83 24 Pn Pn 14 42 21.3 -0.4
M20K Styx River 10.04 29 Pn Pn 14 42 26.7 +2.0
TTA Tatalina 10.23 19 Pn Pn 14 42 27.1 -0.2
TTA Tatalina 10.23 19 P Pn 14 42 27.6 +0.3
TTA Tatalina 10.23 19 P Pn 14 42 27.1 -0.2
SUA Susitna One 10.49 35 Pn Pn 14 42 30.6 -0.2
HIN Hinchinbrook I 11.52 46 Pn Pn 14 42 43.5 -1.3
J20K Nowinta River 11.73 20 Pn Pn 14 42 49.0 +1.5
SHEM Shemya Is, Ala 13.51 276 LR LR 14 47 56.4
comp=E,234nm,21.5s,baz=106,slow=35
E18K Tukpahlearik C 14.04 5 P P 14 43 27.9 +1.0
RIDG Independent Ri 14.05 36 P P 14 43 27.3 +0.3
IL31 14.08 30 Pn Pn 14 43 21.5 +1.8
ILAR Eielson Array 14.08 30 Pn Pn 14 43 17.5 -2.2
comp=E,0.1nm,0.3s,baz=212,slow=12,SNR=4.5
ILAR LR LR 14 49 09.2
comp=E,283nm,19.5s,baz=225,slow=39
comp=E,0.4nm,0.9s
E19K Redstone River 14.33 10 P P 14 43 30.6 +0.6
M27K Edge Creek, AK 14.42 43 P P 14 43 31.6 +0.4
SCRK Sand Creek 14.49 36 P P 14 43 30.9 -1.2
PNL Peninsula 14.56 55 P Pn 14 43 26.6 +0.2
F21K Alatna River 14.59 15 P 14 43 33.9 +0.8
G23K Bananza Creek 14.79 21 Pn 14 43 29.9 +0.4
BCAR Beaver Creek A 14.80 41 Pn Pn 14 43 29.5 -0.2
J26L Joseph Creek 14.96 35 Pn Pn 14 43 32.5 +0.7
E21K Killik River 15.65 13 Pn Pn 14 43 42.2 +1.5
F24K Squaw Lake 15.93 22 Pn Pn 14 43 41.0 +1.6
DAWY Dawson 16.23 40 P P 14 43 52.5 +1.3
D22K Ayikyak River 16.24 14 Pn Pn 14 43 48.9 +0.6
E24K Your Creek 16.27 20 Pn Pn 14 43 48.6 -0.1
E24K IAmb IAmb 14 44 14.7
comp=Z,11nm,1.1s
L29M L29M 16.30 44 P 14 43 54.1 +2.1
L29M IAmb IAmb 14 43 55.5
comp=Z,16nm,0.8s
TOLK Toolik Lake Re 16.54 18 Pn Pn 14 43 52.5 +0.4
TOLK IAmb IAmb 14 44 25.4
comp=Z,18nm,1.4s
BMAR Burnt Mountain 16.67 26 Pn Pn 14 43 53.2 -0.5
I28M Miner Creek 16.77 35 P 14 43 56.6 -0.6
K29M Barlow Dome 16.86 42 Pn Pn 14 43 57.2 +0.9
K29M IAmb IAmb 14 44 03.6
comp=Z,16nm,1.2s
E25K Arctic Village 16.95 23 Pn Pn 14 43 57.1 -0.1
WHY Whitehorse 16.99 54 P P 14 44 00.3 +0.6
WHY IAmb IAmb 14 44 20.0
comp=Z,16nm,1.2s
G27K Doyon Strip 17.05 30 Pn Pn 14 43 58.1 -0.5
D24K Happy Valley 17.12 18 Pn Pn 14 43 58.9 -0.4
C23K Itkillik River 17.42 15 P Pn 14 44 02.9 -0.2
C23K IAmb IAmb 14 44 14.6
comp=Z,13nm,1.0s
B22K Teshekpuk Lake 17.51 11 Pn Pn 14 44 02.1 -2.0
B22K IAmb IAmb 14 44 17.1
comp=Z,12nm,1.1s
M31M Drury Creek, Y 17.60 49 P P 14 44 08.8 +2.4
M31M IAmb IAmb 14 44 30.2
comp=Z,9.5nm,0.8s
J30M Hart River 17.65 40 Pn 14 44 06.4 +0.2
H29M Whitestone 17.74 34 Pn Pn 14 44 06.4 -0.7
H29M IAmb IAmb 14 44 31.3
comp=Z,23nm,1.5s
P33M Teslin, Yukon 17.91 56 P P 14 44 11.3 +1.4
P33M IAmb IAmb 14 44 14.0
comp=Z,12nm,0.9s
I30M Mount Dempster 17.93 39 Pn 14 44 09.8 +0.2
N32M Quiet Lake 17.95 53 Pn 14 44 09.5 -0.3
N32M IAmb IAmb 14 44 37.3
comp=Z,12nm,0.9s
FARO Faro, Yukon 18.08 49 P P 14 44 13.0 +1.4
FARO IAmb IAmb 14 44 26.2
comp=Z,12nm,1.0s
G29M Pine Creek 18.25 33 P Pn 14 44 11.8 -1.5
EPYK Eagle Plains 18.38 35 P P 14 44 13.4 -1.5
R33M Jennings River 18.75 59 Pn Pn 14 44 21.8 +2.1
R33M IAmb IAmb 14 44 39.9
comp=Z,20nm,1.4s
DLBC Dease Lake 19.20 62 P Pn 14 44 24.6 -0.5
baz=334,slow=21,SNR=3.0
comp=Z,2.4nm,0.9s
BILL Bilibino 20.44 327⇓ eP P 14 44 36.8 -0.6
INK Inuvik 20.45 32 P P 14 44 35.8 -1.7
INK IAmb IAmb 14 45 00.2
comp=Z,8.9nm,1.5s
INK Inuvik 20.45 32 P P 14 44 35.8 -1.7
INK pmax pmax
comp=Z,9.0nm,1.5s
INK Inuvik 20.45 32 P P 14 44 36.1 -1.4
comp=Z,1.0nm,0.5s,baz=217,slow=13,SNR=4.3
INK LR LR 14 53 19.4
comp=Z,150nm,18.7s,baz=354,slow=39
comp=Z,1.0nm,0.5s
PET Petropavlovsk 22.52 284⇓ eP P 14 44 59.6 -0.1
PET pmax pmax
comp=Z,18nm,1.4s
PEA0B Petropavlovsk- 23.04 285 P P 14 45 06.2 +0.9
PEA0B Petropavlovsk- 23.04 285 P P 14 45 06.2 +0.9
PEA0B pmax pmax
comp=Z,70nm,1.4s
PETK Petropavlovsk- 23.04 285 P P
comp=Z,3.2nm,0.6s,baz=72,slow=9.8,SNR=2.7
PETK LR LR 14 53 52.1
comp=Z,149nm,20.5s,baz=82,slow=36
comp=Z,3.2nm,0.6s
SEY Seymchan 24.63 310⇓ eP P 14 45 19.9 -0.4
SEY pmax pmax
comp=Z,3.0nm,1.4s
A36M Sachs Harbour 24.74 27 P P 14 45 21.3 0.0
A36M IAmb IAmb 14 45 34.8
comp=Z,9.8nm,0.9s
YKA Yellowknife Ar 26.77 51 P P 14 45 41.1 +1.5
YKA Yellowknife Ar 26.77 51 eP P 14 45 41.3 +1.6
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 26.77 51 P P 14 45 40.0 +0.4
comp=Z,1.3nm,0.8s,baz=269,slow=7.7,SNR=25
YKA LR LR 14 58 35.1
comp=Z,177nm,18.0s,baz=266,slow=42
comp=Z,1.3nm,0.8s
HAWA Hanford 28.75 86 P P 14 45 59.5 +2.0
NEW Newport 29.26 81 LR LR 14 55 41.8
comp=Z,84nm,18.9s,baz=308,slow=32
MFID Camas Ranch 32.57 88 P P 14 46 32.8 +1.4
MFID IAmb IAmb 14 46 33.4
comp=Z,4.8nm,1.0s
HLID Hailey 33.33 87 P P 14 46 39.7 +1.6
HLID IAmb IAmb 14 46 44.4
comp=Z,2.3nm,1.0s
NVAR Mina Array Bea 34.16 98 P P 14 46 46.8 +1.3
comp=Z,0.7nm,0.7s,baz=303,slow=8.8,SNR=6.2
NVAR LR LR 14 57 22.3
comp=Z,76nm,21.8s,baz=288,slow=30
comp=Z,0.7nm,0.7s
ELK Elko 34.51 92 P P 14 46 50.1 +1.7
ELK IAmb IAmb 14 46 51.4
comp=Z,2.3nm,0.8s
ELK Elko 34.51 92 P P 14 46 50.2 +1.7
ELK pmax pmax
comp=Z,2.0nm,0.9s
ELK Elko 34.51 92 LR LR 14 58 51.4
comp=Z,98nm,18.1s,baz=321,slow=33
ASAJ Asahikawa 35.96 277 LR LR 14 59 22.3
comp=Z,57nm,21.5s,baz=33,slow=32
DUG Dugway, Tooele 36.30 91 P P 14 47 05.3 +1.6
DUG IAmb IAmb 14 47 06.4
comp=Z,4.7nm,1.1s
DUG Dugway, Tooele 36.30 91 P P 14 47 05.4 +1.6
DUG pmax pmax
comp=Z,5.0nm,1.2s
PDAR Pinedale Array 36.69 85 P P 14 47 08.8 +1.7
comp=Z,0.6nm,0.8s,baz=321,slow=3.8,SNR=4.5
comp=Z,0.6nm,0.8s
TMUT Trail Mountain 37.83 90 P P 14 47 18.6 +1.7
SRU San Rafael Swe 38.36 90 P P 14 47 22.3 +1.0
SRU IAmb IAmb 14 47 23.8
comp=Z,3.1nm,0.8s
SRU San Rafael Swe 38.36 90 P P 14 47 22.3 +1.0
SRU pmax pmax
comp=Z,3.0nm,0.8s
HMU Henry Mountain 38.99 92 P P 14 47 28.3 +1.7
HMU IAmb IAmb 14 47 28.7
comp=Z,4.7nm,0.8s
O20A White River Ci 39.07 87 P P 14 47 27.9 +0.7
KLR Kul'dur 39.45 291 LR LR 15 03 55.8
comp=Z,76nm,19.3s,baz=60,slow=36
H11N2 WAKE ISLAND Hy 40.70 226 T T 15 31 24.1
baz=26,slow=76,SNR=23
H11N3 WAKE ISLAND Hy 40.70 226 T T 15 31 19.2
baz=26,slow=76,SNR=26
H11N1 WAKE ISLAND Hy 40.72 226 T T 15 31 16.8
baz=26,slow=76,SNR=27
H11S1 WAKE ISLAND Hy 41.87 225 T T 15 32 51.1
baz=25,slow=76,SNR=25
H11S2 WAKE ISLAND Hy 41.88 225 T T 15 32 55.4
baz=25,slow=76,SNR=20
H11S3 WAKE ISLAND Hy 41.89 225 T T 15 32 42.8
baz=25,slow=76,SNR=23
MJAR Matsushiro Arr 43.30 271 LR LR 15 04 09.8
comp=Z,63nm,20.8s,baz=60,slow=34
ANMO Albuquerque 43.55 92 LR LR 15 03 45.9
comp=Z,46nm,19.4s,baz=56,slow=33
FRB Frobisher Bay 45.93 38 LR LR 15 10 41.0
comp=Z,148nm,18.2s,baz=325,slow=40
KSRS Korea Array 48.80 280 P P 14 48 44.7 -0.3
comp=Z,3.2nm,1.0s,baz=46,slow=6.8,SNR=4.2
KSRS LR LR 15 10 59.1
comp=Z,22nm,18.3s,baz=130,slow=38
comp=Z,3.2nm,1.0s
TX31 Lajitas Ar. Si 49.19 95 P P 14 48 48.7 +0.4
TXAR Lajitas Array 49.19 95 P P 14 48 49.2 +0.9
TXAR Lajitas Array 49.19 95 P P 14 48 49.2 +0.9
TXAR Lajitas Array 49.19 95 P P 14 48 49.6 +1.3
comp=Z,0.8nm,0.6s,baz=304,slow=5.8,SNR=17
TXAR LR LR 15 08 03.0
comp=Z,23nm,18.9s,baz=306,slow=34
comp=Z,0.8nm,0.6s
R40A Maddies Statio 49.71 78 P P 14 48 50.4 -1.7
U38A Gravette 49.72 81 P P 14 48 51.7 -0.5
SFJD Kangerlussuaq 49.74 28 LR LR 15 10 59.6
comp=Z,51nm,18.8s,baz=322,slow=37
JNU Nakatsue 50.02 274 LR LR 15 07 50.8
comp=Z,51nm,21.8s,baz=72,slow=33
SIUC Southern Illin 51.88 76 P P 14 49 07.8 -0.5
ULN Ulaanbaatar 53.40 303 ceP P 14 49 19.5 -0.2
ULN pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 53.75 303 eP P 14 49 21.9 -0.4
SONM pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 53.75 303 P P 14 49 21.5 -0.7
comp=Z,3.0nm,1.1s,baz=51,slow=7.1,SNR=7.8
SONM LR LR 15 12 43.3
comp=Z,38nm,19.9s,baz=7.5,slow=37
comp=Z,3.0nm,1.1s
TZTN Tazewell 55.95 73 P P 14 49 37.5 -0.7
ARCES ARCESS Array B 57.11 356 eP P 14 49 50.8 +4.9
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 57.11 356 P P 14 49 44.7 -1.2
comp=Z,2.1nm,0.9s,baz=17,slow=7.5,SNR=1.8
ARCES LR LR 15 14 00.2
comp=Z,47nm,20.8s,baz=276,slow=36
comp=Z,2.1nm,0.9s
ZALV Zalesovo Beam 58.94 320 P P 14 49 57.7 -1.3
comp=Z,0.7nm,0.6s,baz=52,slow=9.3,SNR=3.5
ZALV LR LR 15 17 54.1
comp=Z,88nm,18.2s,baz=38,slow=39
comp=Z,0.7nm,0.6s
KURK Kurchatov 63.84 321 ceP P 14 50 32.7 +0.6
KURK pmax pmax
comp=Z,7.0nm,1.7s
KURBB Kurchatov Arra 63.95 321 P P 14 50 31.9 -1.0
comp=Z,2.5nm,1.0s,baz=34,slow=6.9,SNR=8.4
KURBB LR LR 15 21 31.3
comp=Z,69nm,18.0s,baz=174,slow=39
comp=Z,2.5nm,1.0s
BVAR Borovoye Array 64.79 327 P P 14 50 36.5 -1.8
comp=Z,1.9nm,0.7s,baz=45,slow=7.0,SNR=12
BVAR LR LR 15 23 29.3
comp=Z,46nm,19.7s,baz=36,slow=40
comp=Z,1.9nm,0.7s
BRVK Borovoye 64.79 327 ceP P 14 50 38.5 +0.2
BRVK pmax pmax
comp=Z,8.0nm,2.5s
KIRV Kirov 65.16 342 LR LR 15 23 50.9
comp=Z,60nm,18.5s,baz=24,slow=40
FINES FINESS Array B 65.16 355 ceP P 14 50 43.7 +3.1
FINES pmax pmax
comp=Z,2.0nm,1.0s
FINES FINESS Array B 65.16 355 P P 14 50 37.6 -2.9
comp=Z,2.8nm,0.9s,baz=138,slow=23,SNR=1.6
FINES LR LR 15 18 23.0
comp=Z,26nm,21.7s,baz=8.0,slow=35
comp=Z,2.8nm,0.9s
ARU Arti 65.16 336 c iP P 14 50 41.6 +0.9
ARU 14 51 12.8
ARU 14 53 01.4
ARU S S 14 59 24.8 +2.8
ARU SS SS 15 03 33.4 -0.1
ARU pmax pmax
comp=Z,17nm,3.9s
ARU Arti 65.16 336 LR LR 15 22 25.8
comp=Z,30nm,18.7s,baz=158,slow=39
TAOE Nuku Hiva Isla 65.18 155 eLR LR 15 10 03.5
comp=Z,47nm,30.1s
NC303 NORSAR Array S 65.55 3 P P 14 50 43.2 +0.1
MKAR Makanchi Array 65.56 317 eP P 14 50 45.7 +2.3
MKAR pmax pmax
comp=Z,1.0nm,1.1s
MKAR Makanchi Array 65.56 317 P P 14 50 42.0 -1.5
comp=Z,0.5nm,0.7s,baz=54,slow=8.1,SNR=4.6
MKAR LR LR 15 20 37.5
comp=Z,66nm,18.1s,baz=34,slow=37
comp=Z,0.5nm,0.7s
HFS Hagfors 66.70 2 P P 14 50 50.0 -0.5
HFS Hagfors 66.70 2 P P 14 50 50.0 -0.5
comp=Z,4.2nm,0.8s,baz=39,slow=9.6,SNR=3.1
comp=Z,4.2nm,0.8s
PMOR Pomariorio Ree 69.51 164 eT T 16 07 34.3
comp=Z,3.7nm,0.2s
OBN Obninsk 70.50 348 i P P 14 51 12.5 -1.8
OBN pmax pmax
comp=Z,7.0nm,1.1s
OBN Obninsk 70.50 348 LR LR 15 27 39.3
comp=Z,43nm,18.0s,baz=342,slow=41
AKTO Aktyubinsk 70.73 333 LR LR 15 26 01.9
comp=Z,34nm,19.5s,baz=74,slow=39
ABKAR Akbulak array 71.26 332 P P 14 51 18.4 -0.6
BELG Belogornoye 71.34 341 LR LR 15 25 04.6
comp=Z,48nm,20.2s,baz=326,slow=38
PPT Papeete 71.77 166 LR LR 15 16 11.1
comp=Z,56nm,21.3s,baz=319,slow=30
PPT2 Papeete2 71.79 166 eLR LR 15 12 56.9
comp=Z,56nm,23.8s
AAK Ala-Archa 72.12 319 ceP P 14 51 25.5 +1.0
AAK pmax pmax
comp=Z,4.0nm,1.7s
AAK Ala-Archa 72.12 319 P P 14 51 23.7 -0.8
comp=Z,1.0nm,0.6s,baz=234,slow=2.8,SNR=3.8
comp=Z,1.0nm,0.6s
KK31 Karatay Array 73.24 322 P P 14 51 31.1 +0.1
KK31 IAmb IAmb 14 51 41.9
comp=Z,3.1nm,1.1s
KK31 Karatay Array 73.24 322 P P 14 51 31.1 +0.1
KK31 pmax pmax
comp=Z,3.0nm,1.1s
KKAR Karatay Array 73.24 322 P P 14 51 30.7 -0.3
KKAR IAmb IAmb 14 51 41.9
comp=Z,3.0nm,1.1s
KKAR Karatay Array 73.24 322 P P 14 51 30.7 -0.3
KKAR pmax pmax
comp=Z,3.0nm,1.1s
AKASG Malin Array Be 75.63 352 eP P 14 51 43.5 -1.2
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 75.63 352 P P 14 51 43.3 -1.4
comp=Z,1.4nm,0.7s,baz=8.2,slow=5.2,SNR=5.5
comp=Z,1.4nm,0.7s
AKBB Malin Array Si 75.63 352⇑ eP P 14 51 47.7 +3.0
GERES GERESS Array B 78.01 2 P P 14 51 58.2 -0.1
comp=Z,0.6nm,0.5s,baz=19,slow=6.4,SNR=2.1
comp=Z,0.6nm,0.5s
VYHS Vyhne 78.37 358 eP P 14 51 59.2 -1.0
VYHS Vyhne 78.37 358 eP P 14 51 59.2 -1.0
BURAR Bucovina Array 79.00 354 P P 14 52 03.0 -0.8
GUN Gumba 79.25 303 eP P 14 52 05.4 -0.4
comp=Z,25nm,1.0s
JIRN Jiri 79.30 302 eP P 14 52 05.8 -0.3
comp=Z,15nm,0.6s
RAMN Ramite 79.67 301 eP P 14 52 07.8 -0.2
comp=Z,13nm,0.8s
CMAR Chiang Mai Arr 79.80 287 eP P 14 52 08.4 -0.1
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 79.80 287 P P 14 52 08.1 -0.4
comp=Z,0.5nm,0.3s,baz=12,slow=5.5,SNR=9.7
CMAR LR LR 15 28 12.5
comp=Z,20nm,21.6s,baz=180,slow=36
comp=Z,0.5nm,0.3s
DANN Dangsing 79.94 304 eP P 14 52 09.4 -0.1
comp=Z,28nm,0.8s
FUORN Ofenpass-Fuorn 80.12 4 P P 14 52 10.5 +0.4
FUORN IAmb IAmb 14 52 23.1
comp=Z,3.2nm,1.1s
KVAR Kislovodsk Arr 80.38 341 LR LR 15 33 28.7
comp=Z,32nm,19.4s,baz=78,slow=40
PYUN Piuthan 80.53 305 eP P 14 52 11.9 -0.6
comp=Z,19nm,0.9s
KBZ Khabaz 80.55 341 LR LR 15 33 40.9
comp=Z,31nm,18.3s,baz=16,slow=40
ESDC Sonseca Array 85.52 16 P P 14 52 37.8 -0.2
comp=Z,0.2nm,0.7s,baz=338,slow=4.9,SNR=1.7
comp=Z,0.2nm,0.7s
BRTR Keskin Array B 85.99 347 P P 14 52 39.5 -0.9
comp=Z,1.2nm,0.9s,baz=74,slow=6.6,SNR=4.0
comp=Z,1.2nm,0.9s

JMA ***24*** *14:58:19.6±0.1,24°.9N±0'.6×122°.5E±0'.4, h26km±2km, MV3.2/9, NW OFF ISHIGAKIJIMA IS*
TAP ***24*** *14:58:19.1,24°.89N×122°.45E, h18km, ML3.3, C*
ISC 24 14:58:18.6±1.1,24°.86N±0'.02×122°.46E±0'.02, h16km±8km, n110, ₙ0°82/179, 14C-6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.46**	**289**	P	**Pb**		**14 58 28.3**	**-0.1**
	baz=285							
TWB1				S	**Sb**		**14 58 34.4**	**-0.5**
	baz=285							
EGS		**0.48**	**269**	P	**Pb**		**14 58 28.8**	**0.0**
	baz=255							
EGS				*i* S	**Sb**		**14 58 36.1**	**+0.5**
	baz=255							
EOS2	**EOS2**	**0.48**	**206**	*i* P	**Pn**		**14 58 30.1**	**-0.7**
	baz=204							
EOS2				S	**Sn**		**14 58 38.0**	**-0.9**
	baz=204							
EOS3	**EOS3**	**0.58**	**193**	P	**Pn**		**14 58 31.8**	**-0.3**
	baz=198							
EOS3				S	**Sn**		**14 58 41.3**	**0.0**
	baz=198							
SXI1	**Grass Mountain**	**0.58**	**294**	*i* P	**Pb**		**14 58 31.0**	**+0.5**
	baz=291							
SXI1				*e*S	**Sn**		**14 58 39.9**	**-1.8**
	baz=291							
TIPB	**Shuangxi**	**0.59**	**281**	⇑P	**Pb**		**14 58 30.8**	**+0.1**
	baz=278							
TIPB				*e*S	**Sb**		**14 58 39.4**	**+0.6**
	baz=278							
JYNG	**Yonagunijimaku**	**0.60**	**133**	P	**Pb**		**14 58 30.9**	**+0.2**
JYNG				*e*S	**Sb**		**14 58 39.1**	**+0.2**
TWC	**Suao**	**0.61**	**246**	*e*P	**Pb**		**14 58 30.7**	**-0.3**
	baz=242							
TWC				*e*S	**Sg**		**14 58 38.3**	**-0.5**
	baz=242							
ESAO	**Su ao**	**0.63**	**244**	*i* P	**Pb**		**14 58 31.4**	**+0.2**
	baz=240							
ESAO				*e*S	**Sb**		**14 58 39.6**	**-0.2**
	baz=240							
YOJ	**Yonaguni jima**	**0.64**	**128**	P	**Pb**		**14 58 31.6**	**+0.3**
YOJ	**Yonaguni jima**	**0.64**	**128**	P	**Pb**		**14 58 31.6**	**+0.3**
YOJ				*e*S	**Sg**		**14 58 39.9**	**+0.4**
YOJ	**Yonaguni jima**	**0.64**	**128**	*e*P	**Pb**		**14 58 31.7**	**+0.4**
	baz=121							
YOJ				S	**Sg**		**14 58 40.1**	**+0.6**
	baz=121							
NWF	**Wu-fen Shan**	**0.66**	**289**	*e*P	**Pn**		**14 58 32.5**	**-0.8**
	baz=286							
NWF				*i* S	**Sb**		**14 58 41.5**	**+0.8**
	baz=286							
WFSB	**Wu-fen Shan**	**0.66**	**289**	P	**Pn**		**14 58 32.5**	**-0.7**
	baz=286							
WFSB				S	**Sn**		**14 58 41.8**	**-1.5**
	baz=286							
TNOU	**National Taiwa**	**0.69**	**295**	P	**Pb**		**14 58 32.3**	**0.0**
	baz=292							
TNOU				*i* S	**Sb**		**14 58 42.0**	**+0.3**
	baz=292							
NDS	**Dongshan**	**0.72**	**252**	⇓P	**Pn**		**14 58 33.4**	**-0.7**
	baz=249							
NDS				*e*S	**Sb**		**14 58 42.4**	**+0.1**
	baz=249							
TWE	**Neicheng**	**0.74**	**260**	P	**Pb**		**14 58 33.5**	**+0.4**
	baz=256							
TWE				*e*S	**Sb**		**14 58 43.2**	**+0.3**
	baz=256							
EOS4	**EOS4**	**0.74**	**190**	⇓P	**Pn**		**14 58 34.1**	**-0.1**

	baz=177						
EOS4				*e*S	**Sn**	**14 58 45.1**	**+0.1**
	baz=177						
EWUT	**Wuta**	**0.75**	**237**	P	**Pb**	**14 58 33.3**	**+0.1**
	baz=234						
EWUT				*e*S	**Sg**	**14 58 42.5**	**-0.5**
	baz=234						
ENA	**Nanau**	**0.78**	**237**	P	**Pb**	**14 58 34.0**	**+0.1**
	baz=234						
ENA				*e*S	**Sb**	**14 58 45.3**	**+1.0**
	baz=234						
FUSB	**Fushanzhiwuyua**	**0.80**	**263**	*e*P	**Pb**	**14 58 34.5**	**+0.2**
	baz=260						
FUSB				*e*S	**Sb**	**14 58 45.3**	**+0.4**
	baz=260						
TWA	**Mucha**	**0.81**	**279**	*e*P	**Pn**	**14 58 35.5**	**+0.1**
	baz=276						
TWA				*i* S	**Sb**	**14 58 45.7**	**+0.7**
	baz=276						
EAHA	**Aohua**	**0.84**	**232**	⇑P	**Pb**	**14 58 35.2**	**+0.3**
	baz=242						
EAHA				*e*S	**Sn**	**14 58 47.4**	**-0.5**
	baz=242						
ENTT	**Nioudou**	**0.84**	**255**	P	**Pb**	**14 58 35.2**	**+0.3**
	baz=252						
ENTT				*e*S	**Sb**	**14 58 46.3**	**+0.2**
	baz=252						
PCYT	**Pengchaiyu**	**0.85**	**335**	*e*P	**Pg**	**14 58 33.8**	**-1.3**
	baz=318						
NHDH	**Xindian Distri**	**0.86**	**277**	P	**Pn**	**14 58 35.7**	**-0.3**
	baz=275						
NHDH				S	**Sb**	**14 58 47.0**	**+0.5**
	baz=275						
YM08	**YM08**	**0.86**	**293**	*e*P	**Pn**	**14 58 36.2**	**+0.1**
	baz=291						
YM01	**YM01**	**0.86**	**290**	*e*P	**Pn**	**14 58 36.2**	**+0.1**
	baz=287						
YM01				S	**Sb**	**14 58 46.7**	**+0.2**
	baz=287						
NWLT	**Wulai**	**0.88**	**265**⇑	*e*P	**Pn**	**14 58 36.4**	**+0.1**
	baz=262						
NWLT				S	**Sb**	**14 58 47.2**	**+0.2**
	baz=262						
TAP	**Taipei**	**0.89**	**282**	S	**Sn**	**14 58 48.3**	**-0.8**
	baz=279						
TWY	**Chenhua**	**0.89**	**298**⇓	*e*P	**Pn**	**14 58 36.9**	**+0.5**
	baz=296						
TWY				*e*S	**Sn**	**14 58 49.1**	**+0.1**
	baz=296						
TATO	**Taipei**	**0.89**	**278**	P	**Pn**	**14 58 37.2**	**+0.6**
NDT	**Datong Townshi**	**0.90**	**254**	*e*P	**Pn**	**14 58 36.5**	**-0.2**
	baz=251						
NDT				S	**Sb**	**14 58 48.3**	**+0.6**
	baz=251						
LATG	**Datong**	**0.91**	**250**	⇑P	**Pn**	**14 58 36.6**	**-0.3**
	baz=247						
LATG				S	**Sn**	**14 58 49.4**	**-0.4**
	baz=247						
NTST	**Danshui**	**0.97**	**289**	*e*P	**Pn**	**14 58 40.2**	**+2.6**
	baz=286						
NTST				*e*S	**Sn**	**14 58 51.8**	**+0.8**
	baz=286						
TWS1	**Kuangyinshan**	**0.98**	**285**	*e*P	**Pn**	**14 58 38.8**	**+1.1**
	baz=282						
TWS1				*e*S	**Sn**	**14 58 51.6**	**+0.2**
	baz=282						
YHNB	**Yeheng**	**1.01**	**260**	P	**Pn**	**14 58 38.3**	**+0.1**
YHNB	**Yeheng**	**1.01**	**260**	⇓P	**Pn**	**14 58 38.2**	**0.0**
	baz=243						
YHNB				S	**Sg**	**14 58 51.0**	**-0.4**
	baz=243						
NSK	**Sanguang**	**1.02**	**260**	*i* P	**Pn**	**14 58 38.5**	**+0.1**
	baz=243						
NSK				*e*S	**Sg**	**14 58 51.3**	**-0.5**
	baz=243						
ETL	**Fush Village**	**1.03**	**228**	*i* P	**Pn**	**14 58 38.9**	**+0.4**
	baz=236						
ETL				*e*S	**Sn**	**14 58 53.8**	**+1.1**
	baz=236						
NACB	**Ninganchiao**	**1.04**	**230**	P	**Pb**	**14 58 38.4**	**+0.1**
NACB	**Ninganchiao**	**1.04**	**230**	⇓P	**Pb**	**14 58 38.2**	**-0.1**
	baz=237						
NACB				*e*S	**Sn**	**14 58 53.6**	**+0.7**
	baz=237						
NNSB	**Datong**	**1.07**	**247**	*e*P	**Pn**	**14 58 39.6**	**+0.5**
	baz=233						
NNSB				*i* S	**Sg**	**14 58 53.1**	**-0.4**
	baz=233						
NNS	**Nan Shan**	**1.08**	**248**	⇑P	**Pn**	**14 58 40.0**	**+0.8**
	baz=234						
NNS				*e*S	**Sn**	**14 58 54.0**	**+0.1**
	baz=234						
ETLH	**Xiulin Townshi**	**1.10**	**234**	*e*P	**Pb**	**14 58 39.3**	**-0.2**
	baz=232						
ETLH				*e*S	**Sg**	**14 58 54.2**	**-0.2**
	baz=232						
TWD	**Chiawan**	**1.11**	**226**	P	**Pg**	**14 58 40.4**	**+0.3**
	baz=232						
TWD				*e*S	**Sn**	**14 58 56.7**	**+2.2**
	baz=232						
NCUH	**Zhongli**	**1.17**	**276**	*e*P	**Pg**	**14 58 43.3**	**+2.1**
	baz=274						
HWA	**Hwalien**	**1.18**	**222**	*e*P	**Pb**	**14 58 43.2**	**+1.9**
	baz=220						
NFF	**Wufeng Townshi**	**1.24**	**260**	*e*P	**Pb**	**14 58 42.0**	**+0.2**
	baz=258						
NFF				*i* S	**Sg**	**14 58 58.2**	**-0.7**
	baz=258						
ETM	**Tongmen**	**1.25**	**225**	P	**Pg**	**14 58 42.7**	**-0.1**
	baz=206						
ETM				*e*S	**Sg**	**14 59 00.8**	**+1.6**
	baz=206						
FUSS	**Fushou**	**1.27**	**242**	*e*P	**Pb**	**14 58 42.3**	**0.0**
	baz=239						
FUSS				S	**Sg**	**14 58 59.6**	**0.0**
	baz=239						
LXIB	**Xiulin Townshi**	**1.27**	**229**	*i* P	**Pg**	**14 58 42.8**	**-0.4**
	baz=227						
LXIB				*e*S	**Sg**	**14 59 02.0**	**+2.4**
	baz=227						
WHF	**Hehuan Shan**	**1.30**	**237**	⇑P	**Pg**	**14 58 43.8**	**0.0**
	baz=248						
WHF				*e*S	**Sg**	**14 59 01.6**	**+0.7**
	baz=248						
TWT	**Tachien**	**1.32**	**243**	*i* P	**Pg**	**14 58 44.0**	**0.0**
	baz=241						
TWT				S	**Sg**	**14 59 01.8**	**+0.5**
	baz=241						
TDCB	**Techi**	**1.33**	**243**	P	**Pg**	**14 58 43.8**	**-0.5**
	baz=241						
TDCB				S	**Sg**	**14 59 01.3**	**-0.4**
	baz=241						
LIOB	**Emei**	**1.33**	**261**	*i* P	**Pb**	**14 58 43.2**	**-0.1**
	baz=259						
LIOB				S	**Sn**	**14 59 00.4**	**+0.3**
	baz=259						
SBCB	**Hsinchu**	**1.34**	**268**	S	**Sg**	**14 59 01.3**	**-0.8**
	baz=265						
SHUL	**Shoufeng**	**1.34**	**218**	⇑P	**Pb**	**14 58 43.8**	**+0.3**
	baz=199						
NSTT	**Nanjuang**	**1.35**	**261**	P	**Pb**	**14 58 43.6**	**+0.1**
	baz=258						
NSTT				*e*S	**Sg**	**14 59 02.5**	**+0.3**
	baz=258						
ESL	**Shilin**	**1.40**	**222**	*i* P	**Pn**	**14 58 44.0**	**+0.5**
	baz=221						
ESL				S	**Sg**	**14 59 03.7**	**-0.2**
	baz=221						
CHGB	**Renai**	**1.42**	**236**	*e*P	**Pg**	**14 58 45.8**	**-0.2**
	baz=247						
CHGB				*i* S	**Sg**	**14 59 03.9**	**-0.6**
	baz=247						
OWD	**Renai**	**1.48**	**233**	*e*P	**Pg**	**14 58 46.6**	**-0.5**
	baz=243						
OWD				*i* S	**Sb**	**14 59 05.2**	**+0.7**
	baz=243						
WHP	**Taichung City**	**1.50**	**248**	*e*P	**Pg**	**14 58 47.4**	**0.0**
	baz=246						
WHP				S	**Sg**	**14 59 06.3**	**-0.6**
	baz=246						
WUSB	**Renai**	**1.50**	**235**⇑	*i* P	**Pb**	**14 58 46.6**	**+0.4**
	baz=245						
WUSB				*e*S	**Sg**	**14 59 07.3**	**+0.3**
	baz=245						
WARBT	**Fenglin Townsh**	**1.50**	**221**	P	**Pn**	**14 58 45.7**	**+0.7**
	baz=220						
WARBT				S	**Sn**	**14 59 04.5**	**+0.2**
	baz=220						
EGFH	**Guangfu**	**1.52**	**219**	*e*P	**Pb**	**14 58 46.3**	**-0.1**
	baz=201						
NSY	**Sanyi**	**1.61**	**255**	*e*S	**Sg**	**14 59 11.6**	**+1.1**
	baz=268						
TWQ1	**Liyutan**	**1.62**	**252**	*e*P	**Pg**	**14 58 49.9**	**+0.1**
	baz=250						
WCS	**Beigang Elemen**	**1.62**	**241**	⇑P	**Pg**	**14 58 49.2**	**-0.6**
	baz=239						
WCS				S	**Sg**	**14 59 09.7**	**-1.3**
	baz=239						
VWDT	**VWDT**	**1.63**	**228**	⇑P	**Pb**	**14 58 48.3**	**-0.1**
	baz=210						
VWDT				*e*S	**Sg**	**14 59 11.1**	**-0.2**
	baz=210						
HGSD	**Ruisui**	**1.66**	**215**	P	**Pn**	**14 58 47.8**	**+0.7**
	baz=200						
JISG	**Ishigakijimahi**	**1.70**	**99**	P	**Pn**	**14 58 47.9**	**+0.3**
JISG				S	**Sn**	**14 59 08.6**	**-0.6**
EHY	**Hungye**	**1.70**	**218**	P	**Pn**	**14 58 47.7**	**0.0**
	baz=217						
SMLT	**Sun Moon Lake**	**1.73**	**236**	*e*P	**Pg**	**14 58 51.3**	**-0.5**
	baz=218						
WDJ	**Dajia District**	**1.74**	**253**	*e*P	**Pg**	**14 58 51.3**	**-0.7**
	baz=252						
SSLB	**Suanglung**	**1.74**	**233**	P	**Pb**	**14 58 50.4**	**+0.1**
SSLB	**Suanglung**	**1.74**	**233**	*e*P	**Pg**	**14 58 51.7**	**-0.4**
	baz=215						
SSLB				*e*S	**Sg**	**14 59 13.6**	**-1.1**
	baz=215						
TYC	**Yuchr**	**1.75**	**237**	⇑P	**Pb**	**14 58 50.8**	**+0.5**
	baz=219						
YULB	**Yu-li**	**1.81**	**216**	P	**Pn**	**14 58 49.6**	**+0.5**
YULB	**Yu-li**	**1.81**	**216**	P	**Pn**	**14 58 49.2**	**+0.1**
	baz=215						
TWF1	**Yuli**	**1.84**	**216**	P	**Pn**	**14 58 49.5**	**-0.1**
	baz=214						
WHYT	**Xinyi Township**	**1.87**	**232**	P	**Pb**	**14 58 52.6**	**+0.2**
	baz=217						
WJS	**Zhushan**	**1.89**	**237**	P	**Pb**	**14 58 53.3**	**+0.5**
	baz=219						
WJS				*e*S	**Sg**	**14 59 21.3**	**+1.8**
	baz=219						
WNT	**Mingjian**	**1.89**	**239**	*e*P	**Pb**	**14 58 53.8**	**+0.9**
	baz=257						
WNT				*e*S	**Sg**	**14 59 20.1**	**+0.5**
	baz=257						
FULB	**Fuli**	**1.97**	**213**	*e*P	**Pn**	**14 58 52.7**	**+1.3**
	baz=197						
ALS	**Alishan**	**2.02**	**229**	P	**Pb**	**14 58 54.8**	**-0.5**
	baz=211						
EHD	**Haiduan**	**2.05**	**214**	P	**Pn**	**14 58 52.0**	**-0.5**
	baz=213						
WGK	**Gukeng**	**2.09**	**237**	P	**Pb**	**14 58 56.4**	**+0.2**
	baz=252						
WDLH	**Douliu**	**2.11**	**237**	P	**Pb**	**14 58 55.8**	**-0.7**
	baz=251						
WDLH				*e*S	**Sg**	**14 59 25.2**	**-1.2**
	baz=251						
ELDTW	**Lidau**	**2.12**	**219**	P	**Pn**	**14 58 54.5**	**+0.9**
	baz=204						
EDH	**Donghe**	**2.16**	**210**	P	**Pn**	**14 58 54.1**	**+0.2**
	baz=197						
EDH				S	**Sn**	**14 59 19.5**	**-0.9**
	baz=197						
WCKO	**Fanlu**	**2.21**	**231**	P	**Pb**	**14 58 57.9**	**-0.3**
	baz=214						
WCKO				*e*S	**Sg**	**14 59 27.9**	**-1.8**
	baz=214						
CHN4	**Tsaushan**	**2.27**	**229**	P	**Pb**	**14 58 58.7**	**-0.6**
	baz=212						
STYH	**Taoyuan**	**2.28**	**223**	⇑P	**Pb**	**14 58 58.1**	**-1.4**
	baz=208						
STYH				*e*S	**Sb**	**14 59 28.0**	**+0.6**
	baz=208						
TPUB	**Ta-pu**	**2.28**	**228**	P	**Pb**	**14 58 58.7**	**-0.8**
TPUB	**Ta-pu**	**2.28**	**228**	P	**Pb**	**14 58 58.2**	**-1.3**
	baz=212						
TPUB				*e*S	**Sb**	**14 59 27.7**	**+0.2**
	baz=212						
WTP	**Ta-pu**	**2.33**	**227**	P	**Pb**	**14 58 59.0**	**-1.3**
	baz=211						
WTP				*e*S	**Sb**	**14 59 29.6**	**+0.7**
	baz=211						
TWGBT	**Beinan**	**2.39**	**212**	*e*P	**Pn**	**14 58 58.0**	**+0.8**
	baz=211						
TWG	**Pinlang**	**2.40**	**212**	*e*P	**Pn**	**14 58 58.1**	**+0.9**
	baz=211						
TWK	**Hsinying**	**2.40**	**229**	P	**Pb**	**14 59 00.5**	**-1.1**
	baz=213						
SNST	**Tainan City**	**2.43**	**228**⇑	*e*P	**Pb**	**14 59 01.3**	**-0.6**
	baz=212						
CHN1	**Nanshi**	**2.43**	**227**	⇑P	**Pb**	**14 59 00.8**	**-1.2**
	baz=226						
SGST	**Jiashian**	**2.47**	**225**	P	**Pn**	**14 59 00.2**	**+2.0**
	baz=208						
ICHU	**Yijhu**	**2.49**	**234**	*e*P	**Pb**	**14 59 02.8**	**-0.2**
	baz=233						
SLGT	**Liugui**	**2.49**	**222**	⇓P	**Pb**	**14 59 01.6**	**-1.5**
	baz=222						
SLGT				*e*S	**Sb**	**14 59 34.0**	**+0.5**
	baz=222						
SCST	**Cishan**	**2.67**	**223**	*e*P	**Pb**	**14 59 05.5**	**-0.5**
	baz=222						
TSMG	**Majia**	**2.71**	**218**	P	**Pb**	**14 59 04.6**	**-2.2**
	baz=204						
TSMG				*e*S	**Sb**	**14 59 39.1**	**-0.8**
	baz=204						
MASBT	**Mashibuluo**	**2.79**	**217**	P	**Pb**	**14 59 05.9**	**-2.3**
	baz=205						
MASBT				*e*S	**Sb**	**14 59 41.1**	**-1.2**
	baz=205						
EAST	**Anshuo**	**2.87**	**211**	*e*P	**Pb**	**14 59 07.0**	**-2.6**
	baz=210						
SCZT	**Fangliau**	**3.00**	**215**	*e*P	**Pb**	**14 59 09.7**	**-1.9**
	baz=201						
SABA	**Saba**	**0.56**	**220**		**Pn**	**15 13 08.1**	**+2.3**
SABA				Sn	**Sn**	**15 13 17.9**	**+2.0**
SABA	**Saba**	**0.56**	**220**	*e*P	**Pn**	**15 13 08.5**	**+2.8**
MBFL	**Flemmings, Mon**	**1.44**	**154**	*e*P	**Pn**	**15 13 18.3**	**+2.0**
MBFL				*e*S	**Sn**	**15 13 37.9**	**+3.3**
ANBD	**Bethesda, Anti**	**1.45**	**134**	*e*P	**Pn**	**15 13 17.4**	**+1.1**
ANBD				*e*S	**Sn**	**15 13 36.2**	**+1.5**
MLYT	**Lee's Yard**	**1.47**	**154**	*e*P	**Pn**	**15 13 19.0**	**+2.3**
MLYT				*e*S	**Sn**	**15 13 37.8**	**+2.4**
ABD	**La Joyeuse, An**	**2.05**	**140**		**Pn**	**15 13 25.3**	**+1.0**
ABD	**La Joyeuse, An**	**2.05**	**140**	*e*P	**Pn**	**15 13 25.4**	**+1.0**
ABD				*e*S	**Sn**	**15 13 50.0**	**+1.0**
GDHS	**Morne Mazeau,**	**2.06**	**149**		**Pn**	**15 13 25.9**	**+1.4**
CBE	**Ff, Capester**	**2.31**	**149**		**Pn**	**15 13 29.6**	**+1.7**
CBE	**Ff, Capester**	**2.31**	**149**	*e*P	**Pn**	**15 13 29.6**	**+1.7**
CBE				*e*S	**Sn**	**15 13 57.6**	**+2.2**
GDSD	**La Dsirade Is**	**2.44**	**135**	Pn	**Pn**	**15 13 30.1**	**+0.5**
H05N1	**Guadeloupe/Mar**	**2.44**	**135**	P	**Pn**	**15 13 30.5**	**+0.8**
H05N1				S	**Sn**	**15 13 58.8**	**+0.2**
TDBA	**Terre de Bas,**	**2.49**	**152**	*e*P	**Pn**	**15 13 32.6**	**+2.3**
MAGL	**Barre de l'ile**	**2.58**	**144**		**Pn**	**15 13 32.7**	**+1.2**
MAGL	**Barre de l'ile**	**2.58**	**144**	*e*P	**Pn**	**15 13 33.2**	**+1.7**
SJG	**San Juan**	**3.13**	**272**	Pn	**Pn**	**15 13 40.7**	**+1.8**
SJG	**San Juan**	**3.13**	**272**	*e*P	**Pn**	**15 13 40.8**	**+1.8**
SJG	**San Juan**	**3.13**	**272**	P	**Pn**	**15 13 40.7**	**+1.8**
SJG	**San Juan**	**3.13**	**272**	*e*P	**Pn**	**15 13 40.8**	**+1.8**
SJG				*e*S	**Sn**	**15 14 16.6**	**+1.4**
SJG	**San Juan**	**3.13**	**272**	P	**Pn**	**15 13 40.8**	**+1.9**
	2μm,0.4s,baz=86,slow=12,SNR=1023						
SJG				S	**Sn**	**15 14 16.8**	**+1.6**
	3μm,0.3s,baz=189,slow=17,SNR=22						
SVN	**Savane Anatole**	**3.58**	**153**		**Pn**	**15 13 47.0**	**+1.8**
SVN	**Savane Anatole**	**3.58**	**153**	*e*P	**Pn**	**15 13 47.1**	**+1.8**
PCM	**Pelee Case Pet**	**3.59**	**154**	*e*P	**Pn**	**15 13 47.1**	**+1.8**
CXM	**Morne La Croix**	**3.61**	**153**	*e*P	**Pn**	**15 13 47.7**	**+2.0**
BAMF	**Morne Balai**	**3.62**	**153**	*e*P	**Pn**	**15 13 47.4**	**+1.7**
GBMF	**Grand Be**	**3.62**	**153**	*e*P	**Pn**	**15 13 47.5**	**+1.7**
PML	**Morne Lenard**	**3.63**	**153**	*e*P	**Pn**	**15 13 47.6**	**+1.7**
FDF	**Fort de France**	**3.69**	**153**		**Pn**	**15 13 48.1**	**+1.5**
FDF	**Fort de France**	**3.69**	**153**	P	**Pn**	**15 13 48.1**	**+1.5**
FDF	**Fort de France**	**3.69**	**153**	*e*P	**Pn**	**15 13 47.7**	**+1.1**
FDF				*e*S	**Sn**	**15 14 29.7**	**+0.7**
AOPR	**Arecibo Observ**	**3.71**	**275**	*e*P	**Pn**	**15 13 47.4**	**+0.4**
AOPR				*e*S	**Sn**	**15 14 29.9**	**+0.5**
ILAM	**Ilet Lapin Mar**	**3.78**	**149**		**Pn**	**15 13 48.7**	**+0.9**
ILAM	**Ilet Lapin Mar**	**3.78**	**149**	*e*P	**Pn**	**15 13 48.5**	**+0.7**
ILAM				*e*S	**Sn**	**15 14 30.4**	**-0.8**
ZAM	**Aeronautique**	**3.88**	**153**	*e*P	**Pn**	**15 13 50.5**	**+1.2**
LPMF	**Morne Lapointe**	**3.91**	**152**	*e*P	**Pn**	**15 13 50.5**	**+0.9**
BIM	**Bigot**	**3.92**	**154**	Pn	**Pn**	**15 13 51.6**	**+1.9**
BIM	**Bigot**	**3.92**	**154**	*e*P	**Pn**	**15 13 51.6**	**+1.9**
BIM				*e*S	**Sn**	**15 14 35.7**	**+1.2**
MVM	**Montagne Vaucl**	**3.96**	**151**	*e*P	**Pn**	**15 13 51.6**	**+1.3**
CRPR	**Cabo Rojo, PR**	**4.04**	**270**	*i* P	**Pn**	**15 13 52.8**	**+1.4**
CRPR				*e*S	**Sn**	**15 14 39.5**	**+2.0**
CRPR				IAML		15 14 57.8	
	comp=Z,4μm,1.1s						
AGPR	**Aguadilla, PR**	**4.06**	**276**	*i* P	**Pn**	**15 13 52.1**	**+0.5**
AGPR				*e*S	**Sn**	**15 14 36.8**	**-1.2**
AGPR				IAML		15 14 42.6	
	comp=Z,2μm,0.5s						
MPOM	**Morne Pois Mar**	**4.07**	**152**	Pn	**Pn**	**15 13 53.1**	**+1.3**
MPOM	**Morne Pois Mar**	**4.07**	**152**	*e*P	**Pn**	**15 13 53.1**	**+1.3**
MPOM	**Morne Pois Mar**	**4.07**	**152**	*e*S	**Sn**	**15 14 39.0**	**+0.7**
H05S1	**Guadeloupe/Mar**	**4.10**	**151**	P	**Pn**	**15 13 53.5**	**+1.3**
H05S1				S	**Sn**	**15 14 39.6**	**+0.7**
SLBI	**Saint Lucia, B**	**4.40**	**155**	*e*P	**Pn**	**15 13 58.0**	**+1.7**
SLBI	**Saint Lucia, B**	**4.40**	**155**	*e*S	**Sn**	**15 14 48.5**	**+2.1**
SLCP	**Castries, St.**	**4.41**	**156**	*e*S	**Sn**	**15 14 47.6**	**+1.1**
SLDE	**Delcer**	**4.57**	**157**	*e*P	**Pn**	**15 14 01.4**	**+2.8**
SSV	**Crater Summit**	**4.97**	**161**	*e*P	**Pn**	**15 14 05.9**	**+1.7**
SVB	**Belmont**	**5.00**	**162**	*e*P	**Pn**	**15 14 06.7**	**+2.2**
SVB	**Belmont**	**5.00**	**162**	*e*S	**Sn**	**15 15 02.3**	**+1.2**
SVOC	**Richmond Hill,**	**5.12**	**162**	*e*P	**Pn**	**15 14 07.8**	**+1.6**
SVOC	**Richmond Hill,**	**5.12**	**162**	*e*S	**Sn**	**15 15 05.6**	**+1.6**
PCDR	**Punta Cana, DR**	**5.26**	**276**	*i* P	**Pn**	**15 14 09.5**	**+1.4**
GCMP	**Grenada, Carri**	**5.71**	**166**	*e*P	**Pn**	**15 14 15.8**	**+1.6**
BCHC	**Barbados, Cave**	**5.80**	**147**	*e*P	**Pn**	**15 14 17.0**	**+1.5**
BCHC	**Barbados, Cave**	**5.80**	**147**	*e*S	**Sn**	**15 15 20.1**	**-0.5**
BBGH	**Gun Hill**	**5.83**	**146**	Pn	**Pn**	**15 14 18.1**	**+2.2**
BBGH	**Gun Hill**	**5.83**	**146**	*e*P	**Pn**	**15 14 16.5**	**+0.6**
BBGH	**Gun Hill**	**5.83**	**146**	*e*P	**Pn**	**15 14 17.1**	**+1.3**
BBGH	**Gun Hill**	**5.83**	**146**	*e*S	**Sn**	**15 15 21.0**	**-0.3**
GRSS	**Sisters**	**5.85**	**168**	*e*P	**Pn**	**15 14 19.0**	**+2.9**
GRHS	**Sauteurs**	**5.92**	**168**	*e*P	**Pn**	**15 14 19.3**	**+2.3**
GRHS	**Sauteurs**	**5.92**	**168**	*e*S	**Sn**	**15 15 24.8**	**+1.4**
GRGR	**Grenville**	**6.00**	**169**	Pn	**Pn**	**15 14 20.3**	**+2.1**
GRGR	**Grenville**	**6.00**	**169**	*e*P	**Pn**	**15 14 19.4**	**+1.2**
LONA1	**Toro Cenizo, N**	**6.77**	**282**	*i* P	**Pn**	**15 14 28.9**	**+0.3**
LONA1				*e*S	**Sn**	**15 15 38.8**	**-5.4**
TRN	**Trinidad (W)**	**7.50**	**169**	*e*P	**Pn**	**15 14 42.2**	**+3.5**
TRN	**Trinidad (W)**	**7.50**	**169**	*e*S	**Sn**	**15 16 01.6**	**-0.6**
SC01	**Santiago de lo**	**7.58**	**282**	*i* P	**Pn**	**15 14 40.4**	**+0.7**
PCRV	**Puerto La Cruz**	**8.02**	**193**	P	**Pn**	**15 14 48.0**	**+2.2**
	comp=Z,46nm,0.5s,baz=2.6,slow=5.8,SNR=39						
PCRV				LR	LR	15 17 59.6	
	comp=Z,162nm,19.6s,slow=38						
SDDR	**Presa de Saban**	**8.05**	**278**	Pn	**Pn**	**15 14 46.1**	**0.0**
SDDR	**Presa de Saban**	**8.05**	**278**	*e*P	**Pn**	**15 14 46.2**	**0.0**
SDDR	**Presa de Saban**	**8.05**	**278**	*e*P	**Pn**	**15 14 46.5**	**+0.3**
SDDR	**Presa de Saban**	**8.05**	**278**	*e*S	**Sn**	**15 16 14.2**	**-1.6**
SDDR	**Presa de Saban**	**8.05**	**278**	*i* P	**Pn**	**15 14 46.5**	**+0.3**
SDDR				*e*S	**Sn**	**15 16 13.8**	**-1.9**
LOPP1	**Punta Rusia, P**	**8.09**	**284**	*i* P	**Pn**	**15 14 46.5**	**-0.2**
LOPP1				*e*S	**Sn**	**15 16 12.8**	**-3.9**
LOPE2	**Hotel El Peder**	**8.45**	**271**	*i* P	**Pn**	**15 14 53.2**	**+1.5**
LODA1	**ITESIL, Dajabo**	**8.51**	**281**	*i* P	**Pn**	**15 14 51.4**	**-1.0**
LODA1				*e*S	**Sn**	**15 16 21.1**	**-5.7**
LODA1				IAML		15 16 24.3	
	comp=Z,2μm,0.7s						
AUA1	**Aruba**	**8.83**	**232**	Pn	**Pn**	**15 14 55.8**	**-1.1**
PAPH	**Port-au-Prince**	**8.98**	**274**	Pn	**Pn**	**15 14 58.2**	**-0.6**
BAUV	**El Baul**	**10.36**	**210**	Pn	**Pn**	**15 15 15.5**	**-2.3**
BAUV	**El Baul**	**10.36**	**210**	*e*P	**Pn**	**15 15 19.3**	**+1.5**
BAUV	**El Baul**	**10.36**	**210**	*e*S	**Sn**	**15 17 09.8**	**-2.5**
URIC	**Uribia, Colomb**	**10.85**	**236**	*e*P	**Pn**	**15 15 28.4**	**+4.0**
SDV	**Santo Domingo**	**11.84**	**221**	Pn	**Pn**	**15 15 39.5**	**+1.4**
SDV	**Santo Domingo**	**11.84**	**221**	*e*P	**Pn**	**15 15 39.6**	**+1.5**
SDV	**Santo Domingo**	**11.84**	**221**	*e*P	**Pn**	**15 15 40.0**	**+1.9**
SDV	**Santo Domingo**	**11.84**	**221**	P	**Pn**	**15 15 39.6**	**+1.5**
	comp=Z,35nm,0.5s,baz=51,slow=24,SNR=38						
SDV				S	**Sn**	**15 17 46.9**	**-1.6**
	comp=Z,64nm,0.8s,baz=356,slow=19,SNR=7.2						
SDV				LR	LR	15 20 34.8	
	comp=Z,167nm,21.8s,baz=37,slow=39						
CRJC	**Cerrejon, Guaj**	**11.95**	**236**	*e*P	**Pn**	**15 15 40.3**	**+0.7**
SMRC	**Santa Marta, M**	**12.95**	**240**	*e*P	**Pn**	**15 15 51.0**	**-2.0**
LL6C	**La Loma 6 Bece**	**13.05**	**232**	*e*P	**Pn**	**15 15 54.7**	**+0.3**
ARGC	**Ariguani, Magd**	**13.72**	**235**	*e*P	**Pn**	**15 16 05.6**	**+2.3**
MTDJ	**Mount Denham**	**13.95**	**273**	Pn	**Pn**	**15 16 04.9**	**-1.5**
OCAC	**Ocana**	**14.10**	**228**	*e*P	**Pn**	**15 16 08.2**	**-0.1**
PAMC	**Pamplona, Colo**	**14.33**	**223**	*e*P	**Pn**	**15 16 13.0**	**+1.3**
BBSR	**BB Station**	**14.35**	**354**		Pn	15 16 05.8	-5.6
SJCC	**San Jacinto, C**	**14.44**	**237**	*e*P	**Pn**	**15 16 13.8**	**+1.1**
TAMC	**Tame, Arauca**	**14.47**	**218**	*e*P	**Pn**	**15 16 14.4**	**+1.4**
ZARC	**Zaragoza, Cauc**	**15.71**	**230**	*e*P	**Pn**	**15 16 28.1**	**-0.8**
BOAV	**Boa Vista**	**15.73**	**171**	P	**Pn**	**15 16 28.2**	**-1.0**
BOAV	**Boa Vista**	**15.73**	**171**	*e*P	**Pn**	**15 16 29.0**	**-

CBOC Ciudad Bolivar 17.65 228 eP P 15 16 53.1 -0.2
GUY2C Guyana, Caldas 17.66 225 eP Pn 15 16 52.6 -1.1
CAMR Camarioca 18.03 289 P P 15 16 57.1 -0.1
PTAC Punta Ardita, 18.16 235 eP Pn 15 17 01.1 +1.9
PRAC Prado 18.49 221 eP P 15 17 01.2 -1.2
PLMC San Jos del P 18.52 227 eP P 15 17 03.1 +0.4
UPA Univ. de Panam 18.54 243 eP P 15 17 03.0 +0.2
ORTC Ortega, Tolima 18.57 222 eP Pn 15 17 04.0 -0.2
BCIP Isla Barro Col 18.70 244 P Pn 15 17 05.5 -0.3
BCIP Isla Barro Col 18.70 244 eP Pn 15 17 05.3 -0.5
BCIP Isla Barro Col 18.70 244 P Pn 15 17 05.5 -0.3
YOTC Yotoco, Valle 19.23 225 eP Pn 15 17 11.5 -0.7
SOR Soroa 19.45 287 P P 15 17 13.2 +0.4
SOR Soroa 19.45 287 P P 15 17 13.2 +0.4
BETC Betania 19.64 220 eP Pn 15 17 16.9 0.0
DWPF Disney Wildern 19.78 304 P P 15 17 15.6 -0.6
DWPF IAmb IAmb 15 17 18.5
comp=Z,157nm,0.9s
DWPF Disney Wildern 19.78 304 P P 15 17 17.0 +0.8
baz=116
AZU Azuero 19.78 241 eP P 15 17 13.6 -2.8
JAMC Jamundi, Valle 20.02 224 eP P 15 17 19.8 +0.6
GARC Garzon, Huila 20.06 220 eP P 15 17 20.1 +0.4
CACAO El Cacao, Vera 20.51 241 eP P 15 17 24.8 +0.5
POPC Popayan, Colom 20.52 223 eP P 15 17 24.1 -0.6
FLOC Florencia 20.63 219 eP P 15 17 21.8 -3.8
MCPB Macapa, AP 21.16 149 eP P 15 17 31.4 0.0
GR1C Gorgona, Isla 21.18 227 eP P 15 17 31.4 -0.2
BBAC Balboa, Cauca 21.29 223 eP P 15 17 32.9 0.0
BRU2 Volcan 21.35 247 IAmb IAmb 15 17 43.5
comp=Z,125nm,1.0s
CRUC La Cruz 21.44 222 eP P 15 17 35.4 +0.7
ESPN Las Esperanzas 21.49 257 P P 15 17 35.2 +0.4
ESPN IAmb IAmb 15 17 40.8
comp=Z,170nm,1.7s
456A Hilliard 21.49 310 P P 15 17 34.9 +0.3
TEFE Tefe 21.50 185 eP P 15 17 35.3 +0.5
MALB Monte Alegre 21.52 156 eP P 15 17 36.1 +1.1
TRT2 Tortugero 21.54 253 IAML 15 17 39.7
comp=Z,160nm,1.0s
TRT2 Tortugero 21.54 253 i P P P 15 17 35.9 +0.6
NHSC New Hope 21.60 317 P P 15 17 35.8 0.0
NHSC IAmb IAmb 15 17 40.5
comp=Z,164nm,1.1s
NHSC New Hope 21.60 317 P P 15 17 37.1 +1.3
baz=130,SNR=9.0
POTG Potrero Grande 21.61 248 i P P P 15 17 37.5 +1.3
CDITO Canoas 21.61 247 IAmb IAmb 15 17 56.3
comp=Z,106nm,1.0s
CDITO Canoas 21.61 247 i P P P 15 17 39.2 +3.1
CNNC Cliffs of the 21.71 325 P P 15 17 38.3 +1.3
baz=138
SRBA San Rafael, Bu 21.75 249 P P 15 17 37.9 +0.3
SRBA IAmb IAmb 15 17 41.8
comp=Z,74nm,0.9s
SRBA San Rafael, Bu 21.75 249 i P P P 15 17 39.1 +1.4
Y58A Scranton 21.80 320 IAmb IAmb 15 17 40.4
comp=Z,122nm,0.9s
RIFO Rio Frio, Sara 21.80 252 IAML 15 17 41.9
comp=Z,270nm,1.0s
RIFO Rio Frio, Sara 21.80 252 i P P P 15 17 39.5 +1.3
W59A Clinton 21.96 324 IAmb IAmb 15 17 42.5
comp=Z,116nm,1.4s
CDM Cerro de Muert 21.97 250 i S pP 15 18 03.9 +8.4
CDM Cerro de Muert 21.97 250 i P P 15 17 42.7 +2.3
RIMA Rio Macho 21.97 251 IAmb IAmb 15 17 44.6
comp=Z,103nm,0.9s
RIMA Rio Macho 21.97 251 IAML 15 17 44.4
comp=Z,150nm,1.0s
RIMA Rio Macho 21.97 251 i P P P 15 17 42.6 +2.4
X58A Rowland 22.04 321 IAmb IAmb 15 18 01.4
comp=Z,70nm,0.5s
OCHAL Ojochal 22.06 249 i P P 15 17 50.4 +10
OCHAL Ojochal 22.06 249 IAML 15 17 50.3
comp=Z,2,2nm,1.0s
TBLN Tablon, Guarco 22.07 251 IAML 15 18 37.9
comp=Z,220nm,1.0s
TBLN Tablon, Guarco 22.07 251 i P P P 15 17 42.1 +0.9
COVE Coope Vega, Sa 22.09 254 IAmb IAmb 15 17 55.8
comp=Z,97nm,0.8s
COVE Coope Vega, Sa 22.09 254 IAML 15 17 55.5
comp=Z,150nm,1.0s
COVE Coope Vega, Sa 22.09 254 i P P P 15 17 42.2 +1.0
COVE Coope Vega, Sa 22.09 254 i S pP 15 17 48.4 -7.7
HDC3 Heredia 3 22.10 252 IAML 15 17 45.4
comp=Z,250nm,1.0s
HDC3 Heredia 3 22.10 252 i P P P 15 17 43.0 +1.5
HDC Heredia 22.10 252 IAmb IAmb 15 17 45.7
comp=Z,124nm,0.9s
HDC Heredia 22.10 252 eP P 15 17 43.3 +1.8
LCR2 La Lucha 2 22.11 251 IAmb IAmb 15 17 45.4
comp=Z,180nm,1.3s
LCR2 La Lucha 2 22.11 251 i S pP 15 18 01.1 +4.4
LCR2 La Lucha 2 22.11 251 i P P 15 17 43.1 +1.4
LCR2 La Lucha 2 22.11 251 IAML 15 17 45.0
comp=Z,100nm,1.0s
CPMI Catarata Coope 22.23 253 IAML 15 17 47.5
comp=Z,180nm,1.0s
CPMI Catarata Coope 22.23 253 i P P P 15 17 43.3 +0.3
Y57A Sumter 22.32 319 IAmb IAmb 15 17 47.0
comp=Z,106nm,0.7s
ACON Acoyapa 22.37 257 IAmb IAmb 15 17 47.8
comp=Z,126nm,1.3s
ACON Acoyapa 22.37 257 eP P P 15 17 44.9 +0.6
ACON Acoyapa 22.37 257 i P P P 15 17 44.9 +0.6
SOCE Pocosol 22.41 253 IAmb IAmb 15 17 48.6
comp=Z,142nm,0.9s
SOCE Pocosol 22.41 253 IAML 15 17 48.2
comp=Z,180nm,1.0s
SOCE Pocosol 22.41 253 i P P P 15 17 45.7 +0.9
VACR Volcan Arenal 22.43 253 IAML 15 17 48.1
comp=Z,270nm,1.0s
VACR Volcan Arenal 22.43 253 i P P P 15 17 43.2 -1.8
255A Hazlehurst 22.46 312 IAmb IAmb 15 18 05.7
comp=Z,78nm,0.6s
U59A Littleton 22.50 327 IAmb IAmb 15 18 08.3
comp=Z,36nm,0.4s
TULM Tulcn-Chalpat 22.63 222 eP P 15 17 48.3 +0.7
VMAR Armenia, Volca 22.70 255 i S pP 15 18 07.9 +5.1
VMAR Armenia, Volca 22.70 255 i P P 15 17 49.0 +1.1
VMAR Armenia, Volca 22.70 255 IAML 15 17 50.9
comp=Z,180nm,1.0s
JACO JACO, Garabito 22.73 251 IAML 15 18 06.5
comp=Z,79nm,1.0s
JACO JACO, Garabito 22.73 251 i P P P 15 17 49.2 +1.1
JTS Las Juntas de 22.75 253 P P 15 17 47.3 -1.0
JTS IAmb IAmb 15 17 51.7
comp=Z,69nm,1.1s
JTS Las Juntas de 22.75 253 eP P 15 17 47.9 -0.4
JTS Las Juntas de 22.75 253d i P P P 15 17 48.2 -0.1
BIRD Birdtown, Kers 22.78 320 IAmb IAmb 15 17 51.4
comp=Z,73nm,0.8s
V58A Windy Hill, Pi 22.79 324 P P 15 17 48.8 +0.2
CONN Concepcion 22.92 257 IAML 15 17 56.6
comp=Z,2µm,1.0s
CONN Concepcion 22.92 257 i P P P 15 17 55.5 +5.4
VRLE La Escondida, 22.94 255 IAML 15 17 52.6
comp=Z,130nm,1.0s
VRLE La Escondida, 22.94 255 i P P P 15 17 50.6 +0.2
TIGA Tifton 23.01 309 P P 15 17 51.7 +1.0
baz=120,SNR=9.4
553A Crawfordville 23.05 306 IAmb IAmb 15 17 54.7
comp=Z,171nm,1.2s
LIBE Liberia 23.09 254 IAML 15 18 30.3
comp=Z,2µm,1.0s
LIBE Liberia 23.09 254 i P P P 15 17 51.8 +0.1
POPE POPE, Guanacas 23.12 253 IAML 15 18 18.7
comp=Z,80nm,1.0s
POPE POPE, Guanacas 23.12 253 i P P P 15 17 51.7 -0.3
HZTE Horizontes, Gu 23.18 255 IAML 15 18 36.6
comp=Z,130nm,1.0s
HZTE Horizontes, Gu 23.18 255 i P P P 15 17 52.8 +0.2
ORTG Ortega, Santa 23.18 254 IAmb IAmb 15 17 54.8
comp=Z,76nm,0.8s
ORTG Ortega, Santa 23.18 254 IAML 15 17 54.9
comp=Z,110nm,1.0s
ORTG Ortega, Santa 23.18 254 i P P P 15 17 52.0 -0.7
IMBA Imbabura, San 23.23 222 IAmb IAmb 15 18 22.6
comp=Z,71nm,0.8s
ITTB Itaituba 23.36 162 eP P P 15 17 54.6 +0.3
OTAV Otavalo 23.42 223 P P P 15 17 54.4 -0.9
OTAV Otavalo 23.42 223 eP P P 15 17 55.3 0.0
OTAV Otavalo 23.42 223 eP P P 15 17 54.4 -0.9
OTAV Otavalo 23.42 223 eP P P 15 17 55.6 +0.3

PAC1 Pacto, Paraso 23.62 223 eP P P 15 17 56.1 -0.7
CNGN Cerro Negro 23.64 260 IAmb IAmb 15 17 59.7
comp=Z,112nm,1.0s
CNGN Cerro Negro 23.64 260 eP P P 15 17 58.1 +1.3
KMSC Kings Mountain 23.65 320 P P P 15 17 57.5 +0.9
baz=131,SNR=12
PAULI Pauline 23.74 318 IAmb IAmb 15 17 59.5
comp=Z,58nm,0.8s
CBN Corbin Frederi 23.75 331 P P P 15 17 58.9 +1.3
baz=144
TGUH Tegucigalpa,Un 23.79 264 P P P 15 17 58.4 +0.1
TGUH IAmb IAmb 15 18 01.5
comp=Z,151nm,1.1s
CRIN San Cristobal 23.91 261 eP P P 15 17 59.6 +0.3
GOGA Godfrey 23.98 314 P P P 15 17 58.6 -1.1
GOGA Godfrey 23.98 314 P P P 15 18 00.6 +0.9
baz=124,SNR=17
GOGA Godfrey 23.98 314 P P P 15 17 58.6 -1.1
GOGA pmax pmax
comp=Z,56nm,1.0s
352A Blakely 24.02 308 IAmb IAmb 15 18 02.4
comp=Z,87nm,0.8s
V55A Taylorsville 24.05 321 P P P 15 18 01.4 +1.1
TEIG Tepich 24.10 279 P P P 15 18 01.3 +0.4
TEIG IAmb IAmb 15 18 12.8
comp=Z,48nm,0.8s
TEIG Tepich 24.10 279 eP P P 15 18 01.5 +0.6
TEIG Tepich 24.10 279 LR LR 15 28 37.6
comp=Z,738nm,18.5s,baz=194,slow=39
PIAT Ana Tenorio 24.25 220 eP P P 15 18 01.9 -0.9
M65A Busby, Falmout 24.36 346 P P P 15 18 04.0 +1.0
baz=162
152A Waverly Hall 24.46 311 IAmb IAmb 15 18 07.2
comp=Z,166nm,1.4s
BLA Blacksburg 24.54 325 P P P 15 18 05.4 +0.6
BLA IAmb IAmb 15 18 36.3
comp=Z,68nm,0.6s
BLA Blacksburg 24.54 325 P P P 15 18 06.0 +1.2
baz=136,SNR=16
BLA Blacksburg 24.54 325 P P P 15 18 05.4 +0.6
BLA pmax pmax
comp=Z,68nm,0.6s
BG3 Lake Jocassee 24.56 317 IAmb IAmb 15 18 08.9
comp=Z,89nm,0.9s
Y52A Lilburn 24.65 314 IAmb IAmb 15 18 09.4
comp=Z,64nm,0.8s
PAL Palisades 24.77 340 P P P 15 18 04.9 -1.8
PAL IAmb IAmb 15 18 34.1
comp=Z,69nm,0.6s
PAL Palisades 24.77 340 P P 15 18 08.0 +1.3
baz=154
PAL Palisades 24.77 340 P P P 15 18 04.9 -1.8
PAL pmax pmax
comp=Z,69nm,0.6s
U54A Nelsons Funny 24.86 322 IAmb IAmb 15 18 41.3
comp=Z,60nm,0.7s
LUPA Lehigh Univers 24.92 337 IAmb IAmb 15 18 38.7
comp=Z,49nm,0.6s
R55A Marlinton 25.17 327 IAmb IAmb 15 18 43.6
comp=Z,51nm,0.5s
250A Grady 25.27 308 IAmb IAmb 15 18 16.3
comp=Z,126nm,1.1s
HRV Adam Dziewonsk 25.47 345 P P 15 18 14.0 +0.8
baz=160
BRAL Brewton 25.50 305 P P 15 18 14.2 +0.6
baz=115
TKL Tuckaleechee C 25.51 318 LR LR 15 28 17.8
comp=Z,135nm,19.9s,baz=129,slow=36
MTO3 Montecristo 25.69 266 IAmb IAmb 15 18 18.5
comp=Z,95nm,0.9s
L61B Northampton 25.71 343 P P 15 18 16.1 +0.7
baz=158
TZTN Tazewell 25.92 319 P P 15 18 18.9 +1.5
baz=130,SNR=9.6
COHC Cochancay 26.01 220 eP P 15 18 13.5 -4.8
NPGB Novo Progresso 26.02 163 eP P 15 18 19.4 +1.1
MCWV Mont Chateau 26.08 329 P P 15 18 20.1 +1.4
baz=141
FPAL Fort Paine 26.09 313 IAmb IAmb 15 18 23.9
comp=Z,40nm,0.8s
R53A Hurricane 26.19 324 IAmb IAmb 15 18 22.1
comp=Z,43nm,0.8s
M57A Sunshine Farm, 26.23 335 IAmb IAmb 15 18 55.0
comp=Z,36nm,0.5s
Y49A Blount Mountai 26.29 311 IAmb IAmb 15 18 25.7
comp=Z,75nm,1.1s
LRAL Lakeview Retre 26.31 309 IAmb IAmb 15 18 26.4
comp=Z,71nm,0.8s
LRAL Lakeview Retre 26.31 309 P P 15 18 22.4 +1.6
baz=119,SNR=39
BINY Binghamton 26.54 338 P P 15 18 24.4 +1.5
baz=151
S51A Beattyville 26.66 321 IAmb IAmb 15 18 26.1
comp=Z,77nm,0.7s
SWET Sewanee 26.68 314 IAmb IAmb 15 18 29.8
comp=Z,34nm,0.6s
SAML Samuel 26.83 181 P P 15 18 23.9 -1.7
SAML Samuel 26.83 181 P P 15 18 23.9 -1.7
SAML pmax pmax
comp=Z,11nm,0.6s
SAML Samuel 26.83 181 eP P 15 18 24.7 -1.0
T50A Nancy 27.03 319 IAmb IAmb 15 18 29.7
comp=Z,48nm,0.8s
LBNH Lisbon 27.20 346 P P 15 18 30.3 +1.6
baz=161
O53A New Philadelph 27.20 328 P P 15 18 30.2 +1.4
baz=139
P52A Corning 27.22 326 IAmb IAmb 15 19 11.4
comp=Z,132nm,1.6s
P52A Corning 27.22 326 P P 15 18 29.9 +0.9
baz=137,SNR=7.4
PRPB Parauapebas 27.30 151 eP P 15 18 31.0 +1.1
CZSB Cruzeiro do Su 27.40 202 P P 15 18 30.9 +0.1
CZSB IAmb IAmb 15 18 57.5
comp=Z,49nm,0.9s
CZSB Cruzeiro do Su 27.40 202 eP P 15 18 31.3 +0.6
CZSB Cruzeiro do Su 27.40 202 eP P 15 18 31.3 +0.6
Q51A Peebles 27.45 324 IAmb IAmb 15 19 13.6
comp=Z,40nm,0.7s
346A Big Creek Wild 27.48 304 IAmb IAmb 15 18 33.8
comp=Z,38nm,0.8s
R50A Paris 27.52 321 IAmb IAmb 15 19 31.0
comp=Z,43nm,0.9s
PKME Peaks-Kenny Pk 27.66 350 P P 15 18 34.3 +1.6
baz=167
146A Union 27.67 307 IAmb IAmb 15 18 36.9
comp=Z,72nm,1.1s
M53A WI Miller and 27.86 331 P P 15 18 35.1 +0.5
baz=141
ETMB Extrema 27.89 187 P P 15 18 34.2 -0.8
ETMB Extrema 27.89 187 eP P 15 18 34.6 -0.5
MCRA Macar, Loja 27.94 219 eP P 15 18 35.5 -0.2
PLAL Pickwick Lake 28.04 312 IAmb IAmb 15 18 43.3
comp=Z,35nm,0.7s
ERPA Erie 28.08 332 P P 15 18 37.7 +1.1
baz=143
ACSO Alum Creek Sta 28.11 326 IAmb IAmb 15 18 39.4
comp=Z,85nm,1.4s
ACSO Alum Creek Sta 28.11 326 P P 15 18 38.0 +1.1
baz=136,SNR=6.3
LONY Lake Ozonia 28.25 342 P P 15 18 38.2 +0.2
baz=156
WVT Waverly 28.47 314 P P 15 18 40.7 +0.6
WVT IAmb IAmb 15 18 46.9
comp=Z,26nm,0.6s
WVT Waverly 28.47 314 P P 15 18 41.0 +0.9
baz=123
WVT Waverly 28.47 314 P P 15 18 40.7 +0.6
WVT pmax pmax
comp=Z,26nm,0.6s
Y45A Yeager Farm, C 28.58 309 P P 15 18 42.3 +1.2
Y45A IAmb IAmb 15 18 43.9
comp=Z,96nm,1.3s
P49A Miami Univ. Ec 28.58 323 IAmb IAmb 15 18 42.9
comp=Z,47nm,0.6s
P49A Miami Univ. Ec 28.58 323 P P 15 18 42.1 +1.0
baz=132,SNR=12
VBMS Vicksburg 28.63 305 P P 15 18 41.9 +0.3
VBMS IAmb IAmb 15 18 44.2
comp=Z,46nm,0.8s
VBMS Vicksburg 28.63 305 P P 15 18 43.1 +1.5
baz=113
WCI Wyandotte Cave 28.68 319 P P 15 18 43.1 +1.1
WCI Wyandotte Cave 28.68 319 P P 15 18 43.3 +1.3
baz=128
WCI Wyandotte Cave 28.68 319 P P 15 18 43.1 +1.1
WCI pmax pmax
comp=Z,35nm,1.0s
OXF Oxford 28.77 310 P P 15 18 43.4 +0.5
baz=118,SNR=25
P48A Milroy 28.94 322 IAmb IAmb 15 18 45.5
comp=Z,33nm,0.6s
O48B Farmland 29.32 324 P P 15 18 48.2 +0.7
baz=132
USIN University of 29.39 317 IAmb IAmb 15 18 50.5
comp=Z,60nm,0.8s
BLO Bloomington 29.41 321 IAmb IAmb 15 18 50.8
comp=Z,46nm,0.7s
T45A Paducah 29.50 315 IAmb IAmb 15 18 51.4
comp=Z,57nm,0.8s
143A Socs Landing, 29.51 305 IAmb IAmb 15 18 51.9
comp=Z,65nm,0.9s
CLDB Colider 29.58 166 eP P 15 18 51.3 +1.2
SADO Sadowa 29.92 336 LR LR 15 32 36.8
comp=Z,110nm,18.1s,baz=200,slow=40
AAM Ann Arbor 29.96 328 IAmb IAmb 15 18 55.8
comp=Z,53nm,1.2s
AAM Ann Arbor 29.96 328 P P 15 18 54.2 +0.9
baz=137
PDRB Porto dos Gac 30.09 168 eP P 15 18 54.9 +0.2
L48A N Adams 30.10 327 IAmb IAmb 15 18 56.7
comp=Z,63nm,1.1s
P46A Rosedale 30.10 321 IAmb IAmb 15 18 57.2
comp=Z,61nm,0.8s
OLIL Olney 30.12 318 IAmb IAmb 15 18 57.1
comp=Z,57nm,0.9s
SIUC Southern Illin 30.26 316 IAmb IAmb 15 18 58.5
comp=Z,64nm,1.1s
S44A Carbondale 30.28 316 IAmb IAmb 15 18 58.5
comp=Z,62nm,1.0s
CGM3 Cape Girardeau 30.34 315 IAmb IAmb 15 18 58.7
comp=Z,35nm,1.0s
SFIN Lafayette 30.51 322 IAmb IAmb 15 19 00.4
comp=Z,32nm,0.8s
SFIN Lafayette 30.51 322 P P 15 18 59.2 +1.0
baz=130,SNR=8.3
VILB Vilhena 30.92 175 P P 15 19 01.6 -0.4
VILB IAmb IAmb 15 19 03.5
comp=Z,64nm,1.2s
VILB Vilhena 30.92 175 eP P 15 19 02.7 +0.7
WLAR White Oak Lake 31.21 306 IAmb IAmb 15 19 07.1
comp=Z,55nm,1.0s
J47A Sunmer 31.23 328 IAmb IAmb 15 19 07.0
comp=Z,42nm,0.8s
WHAR Wooly Hollow 31.24 309 IAmb IAmb 15 19 06.7
comp=Z,50nm,1.0s
X40A Basin Creek Fa 31.31 307 IAmb IAmb 15 19 07.3
comp=Z,36nm,0.7s
NATX Nacogdoches 31.77 302 P P 15 19 10.9 +1.5
baz=108,SNR=5.7
CCM Cathedral Cave 31.80 315 P P 15 19 10.0 +0.4
CCM IAmb IAmb 15 19 11.2
comp=Z,80nm,1.2s
CCM Cathedral Cave 31.80 315 P P 15 19 10.3 +0.8
baz=121
CCM Cathedral Cave 31.80 315 P P 15 19 10.0 +0.4
CCM pmax pmax
comp=Z,81nm,1.3s
CCM Cathedral Cave 31.80 315 ⇓P P 15 19 10.3 +0.8
HDIL Hopedale 31.94 320 P P 15 19 11.9 +1.1
baz=127,SNR=12
SNDB Serra Nova Dou 31.95 158 eP P 15 19 12.0 +1.0
MGMO Mountain Grove 32.07 312 IAmb IAmb 15 19 13.7
comp=Z,52nm,1.0s
L44A Lake County Fo 32.14 324 P P 15 19 13.5 +1.0
baz=131,SNR=5.5
HKT Hockley 32.25 298 P P 15 19 14.2 +0.7
HKT IAmb IAmb 15 19 15.8
comp=Z,35nm,1.4s
HKT Hockley 32.25 298d i P P 15 19 14.1 +0.7
HKT pmax pmax
comp=Z,35nm,1.5s
HKT Hockley 32.25 298 P P 15 19 14.4 +0.9
HKT ScP ScP 15 25 38.3 +0.5
GLMI Grayling 32.30 330 P P 15 19 14.8 +1.0
baz=139,SNR=12
R40A Maddies Statio 32.62 314 IAmb IAmb 15 19 18.1
comp=Z,31nm,1.0s
PAYG Puerto Ayora 32.77 238 P P 15 19 18.2 -0.1
PAYG IAmb IAmb 15 19 21.1
comp=Z,32nm,1.1s
PAYG Puerto Ayora 32.77 238 P P 15 19 19.0 +0.7
PAYG ScP ScP 15 25 40.1 +0.2
237A Washetta, Mont 32.78 301 IAmb IAmb 15 19 20.7
comp=Z,64nm,1.1s
S39A Bolivar 33.06 313 IAmb IAmb 15 19 22.1
comp=Z,24nm,0.8s
P40A Paris 33.11 316 IAmb IAmb 15 19 22.5
comp=Z,46nm,0.8s
E46A Sault Ste Mari 33.34 333 IAmb IAmb 15 19 25.3
comp=Z,34nm,0.7s
PTLB Pontes e Lacer 33.49 173 eP P 15 19 23.9 -0.5
RLO Rose Lookout 33.62 309 P 15 19 26.0 +0.5
RLO IAmb IAmb 15 19 26.9
comp=Z,33nm,0.7s
I42A Draeger Farm, 33.82 325 IAmb IAmb 15 19 29.2
comp=Z,42nm,0.9s
SIV San Ignacio 33.88 177 LR LR 15 34 30.2
comp=Z,104nm,18.6s,baz=83,slow=38
435B Jarrell 33.92 299 P P 15 19 28.7 +0.6
baz=104
JFWS Jewell Farm 33.94 323 IAmb IAmb 15 19 30.0
comp=Z,28nm,0.7s
JFWS Jewell Farm 33.94 323 P P 15 19 29.2 +1.0
baz=128,SNR=9.5
TLIG Tlapa 33.97 275 IAmb IAmb 15 19 31.1
comp=Z,33nm,0.8s
L40A Anamosa 34.00 321 IAmb IAmb 15 19 30.2
comp=Z,36nm,0.8s
TUL3 Leonard 34.09 308 P P 15 19 30.6 +1.0
baz=113,SNR=23
WHTX Lake Whitney, 34.12 301 P P 15 19 30.4 +0.5
baz=106
HBVL Hebbronville 34.16 292 IAmb IAmb 15 19 32.5
comp=Z,63nm,1.5s
EF01 Eagle Ford 01 34.24 295 IAmb IAmb 15 19 32.4
comp=Z,84nm,1.3s
Z35A Perchaven, San 34.34 303 IAmb IAmb 15 19 33.9
comp=Z,38nm,0.8s
SALV Santo Antonio 34.47 168 eP P 15 19 34.0 +1.0
FW06 Azle 34.47 302 IAmb IAmb 15 19 35.5
comp=Z,40nm,0.9s
FW07 Weatherford 34.58 302 IAmb IAmb 15 19 35.5
comp=Z,38nm,0.6s
H07S1 FLORES T-PHASE 34.68 46 T T 15 56 06.9
SNR=16
F42A Maple Grove Fa 34.69 328 IAmb IAmb 15 19 36.5
comp=Z,22nm,0.8s
FW03 Perrin-Whitt E 34.90 302 IAmb IAmb 15 20 56.9
comp=Z,37nm,0.4s
833A Chaparral WMA, 34.98 294 IAmb IAmb 15 19 40.7
comp=Z,25nm,0.9s
833A Chaparral WMA, 34.98 294 P P 15 19 37.3 0.0
baz=99
PLPT Palo Pinto 35.04 302 IAmb IAmb 15 19 39.3
comp=Z,33nm,0.7s
SDBA SAO DESIDERIO 35.08 148 eP P 15 19 39.1 +0.8
HNDO Hondo 35.09 296 IAmb IAmb 15 19 39.9
comp=Z,41nm,0.9s
BBSD Serra de San D 35.09 176 eP P 15 19 38.0 -0.3
SCIA State Center 35.13 319 P P 15 19 39.2 +0.7
baz=123
BRDY Brady 35.22 299 IAmb IAmb 15 19 40.5
comp=Z,44nm,0.8s
G40A Rib Lake 35.42 326 IAmb IAmb 15 19 43.2
comp=Z,31nm,0.7s
WTFS Witchita Falls 35.43 303 IAmb IAmb 15 19 43.0
comp=Z,23nm,0.8s
RCBR Riachuelo 35.65 129 eP P 15 19 43.4 +0.2
RCBR Riachuelo 35.65 129 LR LR 15 32 49.9
comp=Z,44nm,19.3s,baz=298,slow=34
JCT Junction City 35.72 297 P P 15 19 44.2 +0.5
baz=102,SNR=32
KSU1 Kansas State U 36.00 313 IAmb IAmb 15 19 46.8
comp=Z,32nm,1.0s
KSU1 Kansas State U 36.00 313 P P 15 19 45.8 -0.2
baz=116,SNR=7.8
ABTX Abilene, Hawle 36.07 301 P P 15 19 47.2 +0.5
baz=105,SNR=24
BBRB Robore, Bolivi 36.23 175 eP P 15 19 48.3 +0.3
PP1B Ponte de Pedra 36.29 167 eP P 15 19 49.7 +1.1
BDFB Brasilia 36.54 156 P P 15 19 52.3 +1.5
BDFB Brasilia 36.54 156 P P 15 19 52.3 +1.5
BDFB pmax pmax

comp=Z,48nm,0.8s
BDFB Brasilia 36.54 156 P **P** **15 19 52.5 +1.7**
comp=Z,44nm,0.5s,baz=323,slow=7.3,SNR=82
BDFB PcP **PcP** **15 22 13.3 +0.2**
comp=Z,3.5nm,0.6s,baz=302,slow=1.9,SNR=3.0
BDFB LR LR 15 35 47.3
comp=Z,73nm,18.5s,baz=348,slow=38
comp=Z,44nm,0.5s
APMT Aspermont 36.64 302 IAmb IAmb 15 19 53.1
comp=Z,142nm,2.0s
SPMN Marine on St. 36.82 324 IAmb IAmb 15 19 54.4
comp=Z,25nm,0.6s
SPMN Marine on St. 36.82 324 P **P** **15 19 53.2 +0.4**
baz=128,SNR=11
SCHQ Schefferville 36.84 356 P **P** **15 19 53.7 +0.8**
comp=Z,3.7nm,0.6s,baz=174,slow=7.9,SNR=7.4
SCHQ LR LR 15 34 03.6
comp=Z,57nm,19.2s,baz=190,slow=34
comp=Z,3.7nm,0.6s
OZNA Ozona 36.92 298 IAmb IAmb 15 19 55.1
comp=Z,49nm,0.7s
E38A The Farm, Brul 37.01 327 IAmb IAmb 15 19 56.1
comp=Z,24nm,0.7s
SGCY Sterling City 37.13 299 IAmb IAmb 15 19 56.8
comp=Z,43nm,1.1s
SN01 Snyder 1 37.15 301 IAmb IAmb 15 19 57.3
comp=Z,30nm,0.8s
L34A Svendsen Farm, 37.18 317 IAmb IAmb 15 19 57.9
comp=Z,49nm,1.1s
SMWD Samnorwood 37.23 305 IAmb IAmb 15 19 57.9
comp=Z,30nm,0.9s
DKNS Dickens 37.38 302 IAmb IAmb 15 19 59.0
comp=Z,25nm,0.8s
SAND Sanderson 37.60 296 IAmb IAmb 15 20 00.8
comp=Z,19nm,0.9s
F36A Milaca 37.61 324 IAmb IAmb 15 20 01.0
comp=Z,27nm,0.8s
JANB Januaria 37.64 150 *e*P **P** **15 20 01.1 +1.0**
RVDE Rio Verde (Bra 37.66 168 *e*P **P** **15 20 01.6 +1.4**
POST Post 37.70 301 IAmb IAmb 15 20 01.8
comp=Z,59nm,0.8s
EYMN Ely 37.87 328 P **P** **15 20 02.1 +0.4**
baz=132
C2SB Chapadao do Su 37.90 164 *e*P **P** **15 20 03.4 +1.3**
GO01 Chusmiza 38.00 190 IAmb IAmb 15 20 03.0
comp=Z,25nm,0.7s
BGNE Belgrade 38.08 315 P **P** **15 20 04.3 +0.7**
baz=117,SNR=6.4
CBKS Cedar Bluff 38.11 311 P **P** **15 20 04.8 +0.9**
baz=112,SNR=9.5
ECSD EROS Data Cent 38.22 319 IAmb IAmb 15 20 06.2
comp=Z,34nm,0.8s
ECSD EROS Data Cent 38.22 319 P **P** **15 20 05.3 +0.6**
baz=121,SNR=28
AMTX Amarillo 38.30 304 IAmb IAmb 15 20 07.2
comp=Z,36nm,1.0s
AMTX Amarillo 38.30 304 P **P** **15 20 05.8 +0.2**
baz=106
ODSA Odessa 38.35 299 IAmb IAmb 15 20 07.0
comp=Z,82nm,0.8s
MNHN Monahans 38.38 298 IAmb IAmb 15 20 07.0
comp=Z,23nm,0.8s
IPMB Ipameri, GO 38.60 157 *e*P **P** **15 20 09.0 +0.8**
TXAR Lajitas Array 38.84 295 P **P** **15 20 10.5 +0.3**
comp=Z,8.5nm,0.6s,baz=108,slow=7.2,SNR=96
TXAR PcP **PcP** **15 22 21.0 +0.9**
comp=Z,1.4nm,0.6s,baz=108,slow=5.8,SNR=1.9
TXAR ScP **ScP** **15 26 02.1 0.0**
comp=Z,2.6nm,0.8s,baz=121,slow=6.4,SNR=12
TXAR LR LR 15 41 31.9
comp=Z,12nm,19.0s,baz=76,slow=44
comp=Z,8.5nm,0.6s
TX31 Lajitas Ar. Si 38.84 295 IAmb IAmb 15 20 13.3
comp=Z,29nm,0.7s
AQDB Aquidauana 38.93 169 IAmb IAmb 15 20 13.3
comp=Z,19nm,0.7s
AQDB Aquidauana 38.93 169 *e*P **P** **15 20 11.7 +0.9**
MSTX Muleshoe 38.94 302 IAmb IAmb 15 20 13.0
comp=Z,44nm,1.1s
MSTX Muleshoe 38.94 302 P **P** **15 20 11.5 +0.5**
baz=104,SNR=13
ALPN Alpine 38.96 296 IAmb IAmb 15 20 12.7
comp=Z,36nm,1.1s
GDU01 Guandu, BA 39.05 142 *e*P **P** **15 20 12.9 +1.1**
PATCX Punta Patache 39.29 191 IAmb IAmb 15 20 35.3
comp=Z,28nm,0.8s
RPRD Ribas do Rio P 39.34 166 *e*P **P** **15 20 15.7 +1.5**
PB01 IPOC Station P 39.40 190 IAmb IAmb 15 20 13.9
comp=Z,40nm,1.3s
ITRB Iturama 39.48 161 *e*P **P** **15 20 16.4 +1.0**
RTBA Rita Blanca 39.56 306 IAmb IAmb 15 20 36.4
comp=Z,41nm,1.4s
PB02 IPOC Station P 39.73 190 IAmb IAmb 15 20 29.4
comp=Z,22nm,0.8s
MURT Porto Murtinho 39.80 172 *e*P **P** **15 20 18.2 +0.1**
SUSD Miller 40.04 319 P **P** **15 20 20.0 +0.2**
baz=119,SNR=6.1
425A Indio Mountain 40.17 297 IAmb IAmb 15 20 23.6
comp=Z,33nm,0.7s
KSCO Kaye Shedlock' 40.28 310 P **P** **15 20 22.8 +0.7**
baz=110,SNR=13
AGMN Agassiz Nation 40.35 326 IAmb IAmb 15 20 23.6
comp=Z,34nm,0.7s
AGMN Agassiz Nation 40.35 326 P **P** **15 20 22.7 +0.3**
baz=127
HPIG 40.37 291 IAmb IAmb 15 20 24.7
comp=Z,22nm,0.8s
OGNE Ogallala 40.55 313 IAmb IAmb 15 20 26.0
comp=Z,32nm,0.7s
OGNE Ogallala 40.55 313 P **P** **15 20 23.7 -0.5**
baz=112,SNR=5.9
MNTX Cornudas Mount 40.64 298 P **P** **15 20 25.6 +0.6**
baz=99,SNR=37
DIAM Diamantina, MG 40.75 151 *e*P **P** **15 20 26.9 +0.8**
LVC Limon Verde 40.85 189 P **P** **15 20 25.2 -1.9**
LVC Limon Verde 40.85 189 *e*P **P** **15 20 25.2 -1.9**
LVC Limon Verde 40.85 189 *e*P **P** **15 20 25.5 -1.7**
LVC Limon Verde 40.85 189 LR LR 15 38 48.8
comp=Z,96nm,19.9s,baz=356,slow=38
LVC Limon Verde 40.85 189 P **P** **15 20 25.4 -1.7**
PCMB Pacaembu 41.02 163 *e*P **P** **15 20 29.1 +1.0**
T25A Trinidad 41.05 306 IAmb IAmb 15 20 30.6
comp=Z,31nm,0.8s
T25A Trinidad 41.05 306 P **P** **15 20 29.6 +1.1**
baz=106,SNR=24
AF01 San Pedro de A 41.09 187 P **P** **15 20 27.9 -1.1**
GUA01 Guaratinga, BA 41.23 145 *e*P **P** **15 20 30.9 +1.0**
BB19B Bebedouro 41.34 160 *e*P **P** **15 20 31.8 +1.0**
ULM Lac du Bonnet 41.55 328 IAmb IAmb 15 20 33.0
comp=Z,32nm,0.6s
ULM Lac du Bonnet 41.55 328 P **P** **15 20 32.0 -0.2**
baz=295,SNR=79
ULM LR LR 15 38 13.1
comp=Z,29nm,0.5s,baz=131,slow=8.2
comp=Z,92nm,18.8s,baz=131,slow=37
comp=Z,29nm,0.5s
BRIGG Briggsdale 42.04 311 IAmb IAmb 15 20 39.1
comp=Z,32nm,0.7s
SDCO Great Sand Dun 42.05 307 IAmb IAmb 15 20 39.8
comp=Z,23nm,0.8s
SDCO Great Sand Dun 42.05 307 P **P** **15 20 37.3 +0.5**
baz=106,SNR=45
ANMO Albuquerque 42.13 302 P **P** **15 20 38.2 +0.8**
ANMO IAmb IAmb 15 20 39.7
comp=Z,22nm,0.8s
ANMO Albuquerque 42.13 302 P **P** **15 20 37.8 +0.4**
baz=102
ANMO Albuquerque 42.13 302 *d i*P **P** **15 20 38.5 +1.1**
ANMO pmax pmax
comp=Z,25nm,1.0s
ANMO Albuquerque 42.13 302 LR LR 15 40 13.8
comp=Z,58nm,21.6s,baz=200,slow=39
ANMO Albuquerque 42.13 302 P **P** **15 20 38.7 +1.3**
ANMO pP **pP** **15 20 57.1 +1.8**
ANMO ScP **ScP** **15 26 16.1 +1.1**
Q24A Divide 42.13 309 P **P** **15 20 38.0 +0.5**
baz=107,SNR=7.4
MDND Maddock 42.17 323 P **P** **15 20 37.5 +0.2**
baz=122
SJMB Sao Joao De Ma 42.29 149 *e*P **P** **15 20 39.7 +1.2**
Y22D IRIS PASSCAL I 42.33 301 IAmb IAmb 15 20 44.7
comp=Z,72nm,1.1s
Y22D IRIS PASSCAL I 42.33 301 P **P** **15 20 39.8 +0.9**
baz=101
BSCB Bom Sucesso 42.67 155 *e*P **P** **15 20 42.8 +1.1**
ISCO Idaho Springs 42.73 310 P **P** **15 20 43.3 +1.0**
baz=108,SNR=15
LDASE Londrina, Braz 42.76 164 *e*P **P** **15 20 43.2 +0.9**

121A Cookes Peak, D 42.79 299 IAmb IAmb 15 20 45.8
comp=Z,28nm,0.9s
121A Cookes Peak, D 42.79 299 P **P** **15 20 44.4 +1.6**
baz=98,SNR=17
RCLB Rio Claro- Sao 42.93 159 *e*P **P** **15 20 45.1 +1.3**
ESFA Espinillo Form 42.96 174 *e*P **P** **15 20 43.6 -0.3**
S22A 4UR Ranch, Cre 43.06 306 P **P** **15 20 45.9 +0.8**
baz=105,SNR=17
MCR1 Marechal Candi 43.12 168 *e*P **P** **15 20 45.6 +0.4**
FRTB Fartura 43.15 162 *e*P **P** **15 20 46.7 +1.3**
RSSD Black Hills 43.16 316 P **P** **15 20 45.8 +0.2**
RSSD Black Hills 43.16 316 P **P** **15 20 46.2 +0.5**
baz=114
RSSD Black Hills 43.16 316 P **P** **15 20 45.8 +0.2**
RSSD pmax pmax
comp=Z,9.0nm,0.7s
RSSD Black Hills 43.16 316 P **P** **15 20 46.6 +1.0**
RIB01 Linhares ES 43.20 148 *e*P **P** **15 20 46.7 +0.9**
N23A Red Feather La 43.31 311 P **P** **15 20 47.3 +0.3**
N23A Red Feather La 43.31 311 P **P** **15 20 47.8 +0.8**
baz=109,SNR=6.3
PMOZ Porto Moniz, M 43.45 61 P **P** **15 20 46.2 -1.8**
GO02 Mina Guanaco 43.45 189 P **P** **15 20 46.7 -1.5**
GO02 IAmb IAmb 15 20 49.6
comp=Z,24nm,0.7s
SMCO Snowmass 43.55 308 P **P** **15 20 48.8 -0.3**
VAO Valinhos 43.66 159 *e*P **P** **15 20 50.8 +1.1**
PTGB Pitanga 43.80 166 *e*P **P** **15 20 50.8 +0.1**
319A Douglas 43.90 297 IAmb IAmb 15 20 54.7
comp=Z,47nm,0.9s
SPB Sao Paulo 44.05 159 P **P** **15 20 52.9 +0.3**
SPB IAmb IAmb 15 22 22.0
comp=Z,74nm,2.0s
SPB Sao Paulo 44.05 159 P **P** **15 20 53.7 +1.0**
SLBS Sierra La Lagu 44.20 286 P **P** **15 20 54.6 +0.6**
SLBS IAmb IAmb 15 20 56.9
comp=Z,49nm,1.4s
MVCO Mesa Verde 44.23 305 P **P** **15 20 54.6 +0.3**
MVCO Mesa Verde 44.23 305 P **P** **15 20 54.5 +0.1**
baz=103
K22A Casper 44.30 313 P **P** **15 20 55.2 +0.4**
K22A IAmb IAmb 15 20 56.8
comp=Z,41nm,1.1s
K22A Casper 44.30 313 P **P** **15 20 55.2 +0.4**
baz=110,SNR=16
CPUP Villa Florida 44.45 173 P **P** **15 20 54.1 -1.7**
CPUP IAmb IAmb 15 20 55.5
comp=Z,23nm,0.6s
CPUP Villa Florida 44.45 173 P **P** **15 20 54.1 -1.7**
CPUP pmax pmax
comp=Z,23nm,0.6s
CPUP Villa Florida 44.45 173 P **P** **15 20 54.5 -1.3**
comp=Z,22nm,0.5s,baz=356,slow=7.2,SNR=90
CPUP LR LR 15 40 10.7
comp=Z,48nm,19.6s,baz=22,slow=37
comp=Z,22nm,0.5s
CPUP Villa Florida 44.45 173 P **P** **15 20 54.7 -1.1**
CPUP PcP **PcP** **15 22 38.7 +0.4**
PARB Paraibuna 44.45 157 *e*P **P** **15 20 57.2 +1.3**
LPIG La Paz 44.52 286 LR LR 15 41 54.8
comp=Z,28nm,21.6s,baz=49,slow=39
PET01 Itanhaem-SP 44.75 160 *e*P **P** **15 20 59.1 +0.9**
O20A White River Ci 44.76 309 P **P** **15 20 59.7 +1.3**
baz=106,SNR=7.7
FRBT Francisco Belt 44.79 167 *e*P **P** **15 20 58.0 -0.6**
W18A Petrified Fore 44.80 302 IAmb IAmb 15 21 01.2
comp=Z,40nm,1.0s
W18A Petrified Fore 44.80 302 P **P** **15 20 59.9 +1.0**
baz=100,SNR=14
X18A Snowflake 44.88 301 IAmb IAmb 15 21 02.2
comp=Z,63nm,1.5s
DGMT Dagmar 45.14 322 P **P** **15 21 01.3 +0.1**
DGMT IAmb IAmb 15 21 32.1
comp=Z,58nm,1.6s
DGMT Dagmar 45.14 322 P **P** **15 21 01.4 +0.2**
baz=118
TUC Tucson 45.27 298 P **P** **15 21 03.8 +1.2**
TUC IAmb IAmb 15 21 24.3
comp=Z,41nm,1.2s
TUC Tucson 45.27 298 P **P** **15 21 03.8 +1.2**
baz=96
TUC Tucson 45.27 298 P **P** **15 21 03.8 +1.2**
TUC pmax pmax
comp=Z,41nm,1.2s
TUC Tucson 45.27 298 P **P** **15 21 04.2 +1.7**
TUC pP **pP** **15 21 22.6 +1.9**
TUC ScP **ScP** **15 26 28.6 +0.9**
LAO LASA Array 45.61 319 P **P** **15 21 06.1 +1.2**
baz=114
FRB Frobisher Bay 45.82 356 LR LR 15 40 23.4
comp=Z,38nm,18.1s,baz=174,slow=36
RDMU Red Mountain 45.85 309 IAmb IAmb 15 21 09.0
comp=Z,33nm,1.2s
CRSM Crissiumal (Br 46.08 169 *e*P **P** **15 21 07.9 -0.8**
X16A Lo Mia Camp, P 46.08 301 IAmb IAmb 15 21 12.1
comp=Z,25nm,1.2s
WUAZ Wupatki 46.19 302 IAmb IAmb 15 21 12.6
comp=Z,33nm,0.9s
WUAZ Wupatki 46.19 302 P **P** **15 21 10.9 +1.1**
baz=99,SNR=22
SRU San Rafael Swe 46.21 307 IAmb IAmb 15 21 11.8
comp=Z,16nm,0.6s
P17A Butcher Ranch, 46.45 308 IAmb IAmb 15 21 14.1
comp=Z,68nm,1.5s
PD31 Pinedale Array 46.45 312 IAmb IAmb 15 21 32.7
comp=Z,45nm,1.1s
PDAR Pinedale Array 46.45 312 P **P** **15 21 12.5 +0.6**
comp=Z,20nm,0.7s,baz=116,slow=9.0,SNR=195
PDAR pP **pP** **15 21 30.8 +0.7**
comp=Z,30nm,0.9s,baz=111,slow=8.4,SNR=13
PDAR PcP **PcP** **15 22 45.8 +0.3**
comp=Z,2.1nm,0.5s,baz=116,slow=5.2,SNR=6.0
PDAR ScP **ScP** **15 26 32.9 +0.3**
comp=Z,0.4nm,0.7s,baz=108,slow=6.0,SNR=2.8
PDAR LR LR 15 41 05.9
comp=Z,68nm,19.9s,baz=120,slow=36
comp=Z,20nm,0.7s
BW06 Boulder Array 46.46 312 IAmb IAmb 15 21 32.7
comp=Z,60nm,1.2s
BW06 Boulder Array 46.46 312 P **P** **15 21 12.8 +1.0**
baz=107,SNR=34
FCC Fort Churchill 46.62 338 P **P** **15 21 11.9 -0.6**
FCC Fort Churchill 46.62 338 P **P** **15 21 11.9 -0.6**
FCC pmax pmax
comp=Z,9.0nm,0.7s
BSUT Blindstream Ca 46.72 309 IAmb IAmb 15 21 16.4
comp=Z,38nm,1.0s
TMUT Trail Mountain 46.77 307 IAmb IAmb 15 21 16.8
comp=Z,21nm,0.8s
214A Organ Pipe Nat 46.95 297 P **P** **15 21 17.0 +1.3**
baz=95,SNR=6.2
RLMT Red Lodge 47.00 315 IAmb IAmb 15 21 18.4
comp=Z,70nm,1.4s
RLMT Red Lodge 47.00 315 P **P** **15 21 17.4 +1.3**
baz=110,SNR=22
U15A North Rim 47.07 303 IAmb IAmb 15 21 19.8
comp=Z,37nm,1.3s
AC05 El Transito 47.16 189 IAmb IAmb 15 21 17.0
comp=Z,22nm,1.0s
FFC Flin Flon 47.23 330 P **P** **15 21 17.3 -0.1**
FFC Flin Flon 47.23 330 *e*P **P** **15 21 17.0 -0.4**
FFC Flin Flon 47.23 330 P **P** **15 21 17.2 -0.1**
FFC pP **pP** **15 21 35.6 0.0**
MPU Maple Canyon 47.25 308 IAmb IAmb 15 21 20.2
comp=Z,23nm,1.0s
Y14A Wickenburg 47.31 300 IAmb IAmb 15 21 21.2
comp=Z,29nm,0.8s
TCUT Toone Canyon 47.34 310 IAmb IAmb 15 21 20.6
comp=Z,29nm,0.7s
LOHW Long Hollow 47.44 313 IAmb IAmb 15 21 39.8
comp=Z,15nm,0.7s
UNIS Unistalda (Bra 47.45 171 *e*P **P** **15 21 18.2 -1.2**
YMR Madison River 48.00 314 IAmb IAmb 15 21 46.7
comp=Z,22nm,0.8s
CCUT Cedar City 48.09 305 IAmb IAmb 15 21 27.2
comp=Z,24nm,1.0s
SPUT South Promonto 48.15 310 IAmb IAmb 15 21 26.9

comp=Z,25nm,0.7s
W13A Hualapai Mount 48.16 301 IAmb IAmb 15 21 28.3
comp=Z,21nm,0.9s
DUG Dugway, Tooele 48.17 308 IAmb IAmb 15 21 27.5
comp=Z,30nm,0.9s
DUG Dugway, Tooele 48.17 308 P **P** **15 21 26.4 +1.3**
baz=102,SNR=39
CO01 Juntas del Tor 48.26 188 IAmb IAmb 15 21 26.9
comp=Z,30nm,1.4s
PDMCI Parker Dam,Lak 48.28 300 P **P** **15 21 27.2 +1.3**
baz=96,SNR=7.9
EGMT Eagleton 48.34 319 P **P** **15 21 27.5 +1.3**
baz=112,SNR=5.9
HVU Hansel Valley 48.49 310 IAmb IAmb 15 21 29.4
comp=Z,28nm,0.8s
BLYC Blythe 48.54 299 IAmb IAmb 15 21 49.0
comp=Z,20nm,0.9s
GO04 Tololo Observa 48.55 189 IAmb IAmb 15 21 28.3
comp=Z,27nm,0.7s
RODS Rosario do Sul 48.69 171 *e*P **P** **15 21 28.0 -0.9**
NEE2 Needles Airpor 48.72 301 P **P** **15 21 30.6 +1.3**
baz=96
GLA Glamis 48.74 298 P **P** **15 21 31.2 +1.7**
baz=94
V12A Nelson 49.02 302 IAmb IAmb 15 21 34.5
comp=Z,14nm,0.8s
CPSB Cacapava Do Su 49.03 169 *e*P **P** **15 21 31.0 -0.5**
IRM Iron Mountain 49.10 300 P **P** **15 21 34.3 +2.1**
baz=95,SNR=32
CO03 El Pedregal 49.19 189 IAmb IAmb 15 21 33.1
comp=Z,32nm,0.8s
BC3 Big Chuckawall 49.31 299 P **P** **15 21 35.6 +1.7**
baz=95,SNR=22
VTX Valle De La Tr 49.44 296 IAmb IAmb 15 21 37.8
comp=Z,19nm,1.0s
Q12A Willow Creek R 49.48 306 IAmb IAmb 15 21 38.0
comp=Z,32nm,0.9s
SWSC Sam W. Stewart 49.54 298 P **P** **15 21 37.3 +1.7**
baz=94,SNR=6.7
SFJD Kangerlussuaq 49.56 6 LR LR 15 42 36.9
comp=Z,26nm,19.0s,baz=171,slow=36
GMRC Granite Mounta 49.58 301 P **P** **15 21 37.4 +1.4**
baz=95,SNR=18
DY2G Dye2 49.60 9 *i*P **P** **15 21 35.4 -0.3**
DY2G IAmb IAmb 15 21 37.8
comp=Z,15nm,0.7s
YUH Yuha Desert 49.63 298 IAmb IAmb 15 21 57.7
comp=Z,23nm,0.9s
ZON Zonda 49.63 187 IAmb IAmb 15 21 37.2
comp=Z,15nm,0.8s
IKP In-Ko-Pah, Jac 49.79 298 P **P** **15 21 39.1 +1.6**
baz=93
BELC Belle Mtn. Jos 49.79 299 P **P** **15 21 39.3 +1.7**
baz=95,SNR=16
TUQ Turquoise Moun 49.86 301 P **P** **15 21 39.9 +1.8**
baz=96,SNR=32
R11B Troy Canyon, C 49.95 305 P **P** **15 21 40.5 +1.6**
baz=98,SNR=18
S11A Rachel 49.98 304 IAmb IAmb 15 21 42.3
comp=Z,32nm,1.0s
MONP2 Monument Peak 50.06 298 P **P** **15 21 41.6 +1.8**
baz=93,SNR=23
PMD Palm Desert 50.08 299 IAmb IAmb 15 21 42.4
comp=Z,17nm,0.8s
HLID Hailey 50.09 312 P **P** **15 21 41.0 +1.2**
baz=104,SNR=18
ELK Elko 50.09 308 IAmb IAmb 15 21 42.1
comp=Z,47nm,1.4s
ELK Elko 50.09 308 LR LR 15 44 00.9
comp=Z,53nm,20.8s,baz=110,slow=37
HEC Hector,Ludlow 50.14 301 P **P** **15 21 42.0 +1.9**
baz=95,SNR=9.9
TPFO Pinon Flats 50.14 299 P **P** **15 21 41.5 +1.3**
baz=94
PFO Pinyon Flats O 50.14 299 P **P** **15 21 40.8 +0.5**
PFO IAmb IAmb 15 22 01.6
comp=Z,34nm,1.6s
PFO Pinyon Flats O 50.14 299 P **P** **15 21 41.8 +1.5**
baz=94
PFO Pinyon Flats O 50.14 299 *e*P **P** **15 21 40.8 +0.5**
PFO Pinyon Flats O 50.14 299 P **P** **15 21 42.0 +1.7**
PFO pP **pP** **15 22 00.9 +2.2**
SHOC Shoshone, Teco 50.19 302 P **P** **15 21 42.1 +1.6**
baz=96,SNR=13
BAR Barrett 50.26 298 IAmb IAmb 15 21 43.6
comp=Z,19nm,1.1s
TPNV Topopah Spring 50.29 303 IAmb IAmb 15 21 44.4
comp=Z,28nm,0.9s
TPNV Topopah Spring 50.29 303 P **P** **15 21 43.0 +1.6**
baz=97,SNR=56
PLTB Pedras Altas 50.32 170 *e*P **P** **15 21 41.3 -0.1**
GWY Greenwater Val 50.54 302 IAmb IAmb 15 21 45.4
comp=Z,16nm,0.7s
GSC Goldstone, Bar 50.56 301 IAmb IAmb 15 21 46.0
comp=Z,22nm,1.1s
GSC Goldstone, Bar 50.56 301 P **P** **15 21 44.9 +1.5**
baz=95,SNR=20
WCT Wildcat Mounta 50.57 303 IAmb IAmb 15 21 46.3
comp=Z,27nm,1.0s
BBRC Big Bear Solar 50.57 300 P **P** **15 21 45.1 +1.5**
baz=94
MSO Missoula 50.63 316 P **P** **15 21 44.6 +0.9**
baz=107
109C Camp Elliot, M 50.64 298 IAmb IAmb 15 21 46.3
comp=Z,24nm,1.0s
109C Camp Elliot, M 50.64 298 P **P** **15 21 45.5 +1.6**
baz=93,SNR=5.1
RRX Edison Barstow 50.68 301 P **P** **15 21 45.9 +1.7**
baz=95
FURC Furnace Creek, 50.72 303 P **P** **15 21 46.4 +2.0**
baz=96,SNR=5.5
MURC Murrieta 50.75 299 P **P** **15 21 46.5 +1.7**
baz=94,SNR=12
ELS Elsinore Mount 50.95 299 IAmb IAmb 15 22 07.3
comp=Z,14nm,0.8s
MFID Camas Ranch 51.06 312 IAmb IAmb 15 22 08.3
comp=Z,19nm,1.1s
PSBE So Bento 51.16 54 *e*pP pP 15 22 10.4 +4.4
BFSC Mount Baldy Ra 51.18 300 P **P** **15 21 49.5 +1.4**
baz=94,SNR=13
GRAC Grapevine Rang 51.18 303 P **P** **15 21 49.9 +1.9**
baz=96,SNR=25
MPMC Manual Prospec 51.19 302 P **P** **15 21 49.7 +1.5**
baz=95,SNR=19
LRMC Laurel Mtn Rad 51.29 301 P **P** **15 21 50.3 +1.4**
baz=95,SNR=19
ROC1 El Roble 51.34 189 IAmb IAmb 15 22 15.1
comp=Z,44nm,1.2s
MESJ Messejana 51.39 56 *e*P **P** **15 21 50.7 +1.3**
comp=Z,39nm,1.7s
MESJ *e*pP **pP** **15 22 09.5 +1.7**
PCAS Casmilo, Conde 51.47 53 *e*P **P** **15 21 50.8 +0.8**
comp=Z,21nm,1.5s
PCAS *e*pP **sP** **15 22 12.6 -3.9**
EDW2 Edwards Air Fo 51.50 300 P **P** **15 21 51.7 +1.4**
baz=94,SNR=26
PCVE Castro Verde 51.51 56 *e*P **P** **15 21 50.8 +0.5**
comp=Z,36nm,1.6s
CCAC Calif City Air 51.54 301 IAmb IAmb 15 21 53.3
comp=Z,32nm,0.8s
PMTG Montargil 51.54 54 *e*P **P** **15 21 51.1 +0.6**
comp=Z,20nm,1.6s
PMTG *e*pP **sP** **15 22 13.5 -3.6**
PASC Pasadena Art C 51.61 300 IAmb IAmb 15 21 53.3
comp=Z,16nm,0.8s
FMP Fort Macarthur 51.67 299 P **P** **15 21 53.3 +1.7**
baz=93
PBEJ Beja 51.69 56 *e*P **P** **15 21 52.6 +1.0**
comp=Z,21nm,1.8s
CWC Cottonwood Cre 51.70 302 P **P** **15 21 53.1 +1.1**
baz=95
MT16 CCHEN 51.71 188 IAmb IAmb 15 21 54.0
comp=Z,32nm,0.8s
DECC Green Verdugo 51.74 300 P **P** **15 21 53.2 +1.0**
baz=93
CIS Catalina Islan 51.76 299 P **P** **15 21 53.7 +1.4**
baz=93
SCI2 San Clemente I 51.85 298 P **P** **15 21 53.6 +0.7**
baz=92
TIN Tinemaha, Big 51.88 303 P **P** **15 21 54.5 +1.2**
baz=96
ISA Isabella, Lake 51.95 301 P **P** **15 21 54.9 +1.1**
baz=94,SNR=9.3
PGAV Gavieira, Arco 51.95 51 *e*pP pP 15 22 10.6 -1.3
NV11 Mina Array Sit 51.97 305 IAmb IAmb 15 21 56.3
comp=Z,37nm,1.1s
PVIS Viseu 52.03 52 *e*P **P** **15 21 54.2 0.0**
PVIS *e*pP **pP** **15 22 14.8 +2.3**

OSI	**Osito Audit: C**	**52.08**	**300**	P		**P**		**15 21 55.5**	**+0.8**	
	baz=93									
NVAR	**Mina Array Bea**	**52.08**	**305**	P		**P**		**15 21 55.6**	**+0.8**	
	comp=Z,15nm,0.7s,baz=96,slow=6.6,SNR=83									
NVAR				pP		**pP**		**15 22 14.7**	**+1.4**	
	comp=Z,3.4nm,0.7s,baz=92,slow=6.3,SNR=4.9									
NVAR				ScP		**ScP**		**15 26 56.9**	**+0.2**	
	comp=Z,0.8nm,0.6s,baz=124,slow=5.3,SNR=5.0									
NVAR				LR		LR		15 44 06.7		
	comp=Z,51nm,22.0s,baz=96,slow=36									
	comp=Z,15nm,0.7s									
LMEL	**Las Melosas**	**52.08**	**188**	IAmb		IAmb		15 22 02.9		
	comp=Z,21nm,0.8s									
ARVC	**Arvin**	**52.20**	**301**	P		**P**		**15 21 57.1**	**+1.6**	
	baz=94,SNR=6.5									
PCBR	**Castelo Branco**	**52.22**	**53**	*e*pP		pP		15 22 21.0	+7.1	
LHV	**Little Huntoon**	**52.22**	**305**	IAmb		IAmb		15 21 58.3		
	comp=Z,25nm,0.8s									
PMRV	**Marv??o**	**52.23**	**54**	*e*P		**P**		**15 21 55.6**	**-0.1**	
	comp=Z,17nm,1.2s									
PMRV				*ep*P		**pP**		**15 22 15.6**	**+1.6**	
MTE	**Manteigas**	**52.24**	**53**	*e*P		**P**		**15 21 56.4**	**+0.6**	
	comp=Z,19nm,1.5s									
PVRL	**Vila Real**	**52.25**	**51**	*e*P		**P**		**15 21 56.5**	**+0.7**	
	comp=Z,30nm,1.7s									
RYN	**Ryan**	**52.28**	**305**	IAmb		IAmb		15 21 58.2		
	comp=Z,13nm,0.7s									
PBAR	**Barrancos**	**52.35**	**55**	*e*P		**P**		**15 21 57.4**	**+0.8**	
	comp=Z,20nm,1.7s									
PBAR				*ep*P		**sP**		**15 22 20.2**	**-3.1**	
BMO	**Blue Mountains**	**52.41**	**313**	IAmb		IAmb		15 22 16.8		
	comp=Z,34nm,1.6s									
MLAC	**Mammoth, Mammo**	**52.41**	**304**	P		**P**		**15 21 58.6**	**+1.2**	
	baz=96									
VES	**Vestal, Richgr**	**52.46**	**302**	P		**P**		**15 21 58.8**	**+1.4**	
	baz=94,SNR=9.1									
OMMB	**Old Mammoth Mi**	**52.54**	**304**	IAmb		IAmb		15 22 00.9		
	comp=Z,24nm,0.9s									
MDPB	**Devils Postpil**	**52.61**	**304**	IAmb		IAmb		15 22 01.4		
	comp=Z,19nm,0.8s									
BCW	**Bitter Crk WRg**	**52.67**	**300**	IAmb		IAmb		15 22 01.9		
	comp=Z,27nm,0.8s									
SNCC	**San Nicolas Is**	**52.68**	**298**	P		**P**		**15 22 00.2**	**+1.1**	
	baz=92									
VOG	**Valley Oaks Go**	**52.73**	**302**	P		**P**		**15 22 00.3**	**+0.9**	
	baz=94									
BO01	**Tunca**	**52.74**	**189**	IAmb		IAmb		15 21 59.9		
	comp=Z,21nm,0.8s									
MVO	**Moncorvo**	**52.74**	**52**	*e*P		**P**		**15 22 00.7**	**+1.2**	
	comp=Z,28nm,1.9s									
SCZ2	**Santa Cruz Isl**	**52.80**	**299**	P		**P**		**15 22 01.1**	**+1.1**	
	baz=92									
SBC	**Santa Barbara**	**52.89**	**300**	P		**P**		**15 22 01.3**	**+0.8**	
	baz=93									
WVOR	**Wild Horse Val**	**52.90**	**310**	IAmb		IAmb		15 22 23.6		
	comp=Z,21nm,1.3s									
J08A	**Circle Bar Ran**	**52.94**	**311**	IAmb		IAmb		15 22 02.7		
	comp=Z,26nm,0.9s									
WAKR	**Walker**	**52.98**	**305**	IAmb		IAmb		15 22 04.2		
	comp=Z,21nm,0.9s									
PKM	**Mcpherson Peak**	**52.99**	**300**	P		**P**		**15 22 02.9**	**+1.3**	
	baz=93,SNR=10									
ICESG	**Greenland Ices**	**53.03**	**10**	*i* P		**P**		**15 22 00.9**	**-0.6**	
PBRG	**Braganca**	**53.05**	**51**	*e*P		**P**		**15 22 02.5**	**+0.7**	
	comp=Z,16nm,1.8s									
PBRG				*ep*P		**sP**		**15 22 25.1**	**-3.1**	
BO02	**Sierra Bellavi**	**53.09**	**188**	IAmb		IAmb		15 22 04.1		
	comp=Z,29nm,0.8s									
NEW	**Newport**	**53.09**	**317**	P		**P**		**15 22 02.4**	**+0.5**	
	baz=105,SNR=19									
NEW	**Newport**	**53.09**	**317**	LR		LR		15 45 56.5		
	comp=Z,116nm,19.8s,baz=107,slow=37									
SMMC	**Simmler**	**53.17**	**301**	P		**P**		**15 22 04.2**	**+1.5**	
	baz=93,SNR=20									
MPK	**Martis Peak**	**53.52**	**306**	IAmb		IAmb		15 22 08.1		
	comp=Z,36nm,1.2s									
EMB	**Emerald Bay**	**53.54**	**305**	IAmb		IAmb		15 22 07.9		
	comp=Z,14nm,0.7s									
C09A	**Chrisman Ranch**	**53.73**	**316**	IAmb		IAmb		15 22 26.7		
	comp=Z,37nm,1.6s									
I07A	**Izee**	**53.80**	**312**	IAmb		IAmb		15 22 09.1		
	comp=Z,24nm,0.9s									
MDT	**Midelt**	**54.01**	**62**	LR		LR		15 39 40.2		
	comp=Z,42nm,20.5s,baz=282,slow=30									
BBGB	**Big Mountain B**	**54.09**	**302**	IAmb		IAmb		15 22 16.2		
	comp=Z,31nm,0.8s									
H10N3	**ASCENSION HYDR**	**54.23**	**114**	T		T		16 20 34.4		
	baz=299,slow=75,SNR=1600									
H10N2	**ASCENSION HYDR**	**54.23**	**114**	T		T		16 20 37.8		
	baz=299,slow=75,SNR=1010									
H10N1	**ASCENSION HYDR**	**54.25**	**114**	T		T		16 20 44.0		
	baz=299,slow=75,SNR=77									
BORG	**Borgarnes**	**54.28**	**21**	LR		LR		15 41 30.6		
	comp=Z,24nm,21.8s,baz=46,slow=32									
SAO	**San Andreas Ge**	**54.42**	**303**	IAmb		IAmb		15 22 13.9		
	comp=Z,17nm,1.1s									
E07A	**Sunnyside**	**54.51**	**315**	IAmb		IAmb		15 22 33.4		
	comp=Z,24nm,1.5s									
K05A	**Summer Lake**	**54.59**	**310**	IAmb		IAmb		15 22 15.3		
	comp=Z,34nm,0.9s									
H10S3	**ASCENSION HYDR**	**54.63**	**115**	T		T		16 21 13.1		
	baz=284,slow=74,SNR=935									
H10S2	**ASCENSION HYDR**	**54.65**	**115**	T		T		16 21 12.7		
	baz=296,slow=74,SNR=110									
PINE	**Pine Mountain**	**54.78**	**311**	IAmb		IAmb		15 22 36.3		
	comp=Z,18nm,1.1s									
G06A	**Carlson Farm,**	**54.80**	**313**	IAmb		IAmb		15 22 36.3		
	comp=Z,63nm,1.8s									
ESDC	**Sonseca Array**	**54.89**	**54**	P		**P**		**15 22 15.2**	**0.0**	
ESDC	**Sonseca Array**	**54.89**	**54**	P		**P**		**15 22 14.8**	**-0.4**	
	comp=Z,2.5nm,1.0s,baz=263,slow=7.5,SNR=15									
ESDC				pP		**pP**		**15 22 34.5**	**+0.8**	
	comp=Z,3.7nm,0.9s,baz=256,slow=7.7,SNR=4.4									
ESDC				LR		LR		15 39 34.7		
	comp=Z,40nm,21.6s,baz=284,slow=29									
	comp=Z,2.5nm,1.0s									
J05D	**Fort Rock, OR**	**54.92**	**311**	IAmb		IAmb		15 22 36.1		
	comp=Z,66nm,1.7s									
I05D	**Terrebonne, OR**	**55.15**	**312**	IAmb		IAmb		15 22 39.0		
	comp=Z,32nm,1.2s									
LTY	**Liberty**	**55.20**	**315**	IAmb		IAmb		15 22 38.2		
	comp=Z,72nm,1.9s									
H04A	**Detroit Lake**	**55.80**	**312**	IAmb		IAmb		15 22 42.1		
	comp=Z,23nm,0.9s									
YBH	**Yreka Blue Hor**	**55.81**	**309**	IAmb		IAmb		15 22 22.3		
	comp=Z,23nm,0.8s									
TRQA	**Tornquist**	**55.82**	**179**	P		**P**		**15 22 21.9**	**+0.2**	
TRQA				IAmb		IAmb		15 22 23.4		
	comp=Z,13nm,0.8s									
TRQA	**Tornquist**	**55.82**	**179**	P		**P**		**15 22 21.9**	**+0.2**	
TRQA				pmax		pmax				
	comp=Z,13nm,0.8s									
HOPS	**Hopland Field**	**55.85**	**305**	IAmb		IAmb		15 22 25.0		
	comp=Z,33nm,1.0s									
HUMO	**Hull Mountain**	**56.09**	**310**	IAmb		IAmb		15 22 25.2		
	comp=Z,13nm,0.7s									
H04D	**Lebanon**	**56.16**	**312**	IAmb		IAmb		15 22 25.3		
	comp=Z,28nm,1.0s									
SUMG	**Summit**	**56.31**	**9**	*e*P		**P**		**15 22 25.5**	**+0.3**	
KHMM	**Horse Mountain**	**56.49**	**307**	IAmb		IAmb		15 22 48.2		
	comp=Z,14nm,0.7s									
COR	**Corvallis**	**56.57**	**312**	P		**P**		**15 22 28.5**	**+1.5**	
K02D	**Willamette Mer**	**56.62**	**310**	IAmb		IAmb		15 22 32.0		
	comp=Z,13nm,0.7s									
KRMB	**Red Mountain**	**56.68**	**308**	IAmb		IAmb		15 22 29.6		
	comp=Z,19nm,0.8s									
YKA	**Yellowknife Ar**	**56.88**	**334**	*i* P		**P**		**15 22 28.7**	**-0.2**	
YKA				pmax		pmax				
	comp=Z,4.0nm,0.7s									
YKA	**Yellowknife Ar**	**56.88**	**334**	P		**P**		**15 22 28.5**	**-0.4**	
	comp=Z,3.0nm,0.7s,baz=110,slow=7.3,SNR=45									
YKA				pP		**pP**		**15 22 46.4**	**-1.3**	
	comp=Z,7.7nm,0.7s,baz=108,slow=7.3,SNR=15									
YKA				LR		LR		15 46 24.2		
	comp=Z,76nm,20.2s,baz=354,slow=35									
	comp=Z,3.0nm,0.7s									
TIC	**Toumodi**	**57.42**	**94**	⇑ *i* P		**P**		**15 22 33.8**	**+0.2**	
	comp=Z,56nm,0.8s									
LIC	**Lamto**	**57.54**	**94**	⇑ *i* P		**P**		**15 22 34.6**	**+0.2**	
	comp=Z,74nm,0.7s									
DBIC	**Dimbokro**	**57.57**	**94**	P		**P**		**15 22 34.1**	**-0.5**	
DBIC	**Dimbokro**	**57.57**	**94**	P		**P**		**15 22 34.1**	**-0.5**	
DBIC				pmax		pmax				
	comp=Z,51nm,0.8s									
DBIC	**Dimbokro**	**57.57**	**94**	P		**P**		**15 22 34.6**	**0.0**	
	comp=Z,43nm,0.7s,baz=280,slow=7.8,SNR=69									
DBIC				LR		LR		15 42 28.2		
	comp=Z,77nm,22.0s,baz=239,slow=31									
	comp=Z,43nm,0.7s									
DBIC	**Dimbokro**	**57.57**	**94**	P		**P**		**15 22 35.0**	**+0.5**	
KIC	**Kosan Boka**	**57.77**	**94**	⇑ *i*P		**P**		**15 22 36.5**	**+0.5**	
	comp=Z,78nm,0.7s									
EKA	**Eskdalemuir Ar**	**58.19**	**35**	P		**P**		**15 22 37.6**	**-0.6**	
	comp=Z,5.1nm,0.8s,baz=292,slow=5.6,SNR=8.7									
EKA				pP		**pP**		**15 22 58.2**	**+1.5**	
	comp=Z,4.7nm,0.7s,baz=291,slow=3.3,SNR=5.1									
	comp=Z,5.1nm,0.8s									
PLCA	**Paso Flores**	**58.92**	**187**	IAmb		IAmb		15 22 44.5		
	comp=Z,13nm,0.8s									
PLCA	**Paso Flores**	**58.92**	**187**	*e*P		**P**		**15 22 43.6**	**+0.1**	
PLCA	**Paso Flores**	**58.92**	**187**	P		**P**		**15 22 43.1**	**-0.4**	
	comp=Z,7.8nm,0.7s,baz=5.0,slow=7.1,SNR=23									
PLCA				LR		LR		15 52 26.8		
	comp=Z,68nm,20.7s,baz=10,slow=40									
	comp=Z,7.8nm,0.7s									
PLCA	**Paso Flores**	**58.92**	**187**	P		**P**		**15 22 43.5**	**0.0**	
RES	**Resolute Bay**	**59.25**	**351**	LR		LR		15 50 10.4		
	comp=Z,59nm,18.0s,baz=46,slow=38									
NEEM	**North Greenlan**	**59.71**	**3**	*e*P		**P**		**15 22 45.4**	**-3.4**	
CLF	**Chambon-Foret**	**60.20**	**45**	P		**P**		**15 22 52.2**	**0.0**	
CLF	**Chambon-Foret**	**60.20**	**45**	P		**P**		**15 22 53.1**	**+0.9**	
KOTAN	**Kotaneelee Air**	**60.25**	**330**	P		**P**		**15 22 53.5**	**+1.1**	
	baz=106									
BBB	**Bella Bella**	**60.79**	**320**	LR		LR		15 49 47.7		
	comp=Z,70nm,18.8s,baz=95,slow=36									
WRGLY	**Wrigley**	**60.91**	**333**	IAmb		IAmb		15 23 18.1		
	comp=Z,23nm,0.9s									
WRGLY	**Wrigley**	**60.91**	**333**	P		**P**		**15 22 57.5**	**+0.7**	
	baz=108									
SSB	**Saint Sauveur**	**61.56**	**48**	P		**P**		**15 23 02.8**	**+1.2**	
DOU	**Dourbes**	**61.93**	**42**	*d*P		**P**		**15 23 04.2**	**+0.3**	
BMRD	**Maredsous**	**62.06**	**42**	*d*P		**P**		**15 23 03.7**	**-1.1**	
TOA0	**Torodi Ar. Sit**	**62.11**	**84**	P		**P**		**15 23 05.2**	**-0.5**	
TOA0				IAmb		IAmb		15 23 06.7		
	comp=Z,27nm,1.3s									
TORD	**Torodi Ar. Bea**	**62.11**	**84**	P		**P**		**15 23 03.4**	**-2.3**	
TORD				IAmb		IAmb		15 23 06.7		
	comp=Z,19nm,1.2s									
TORD	**Torodi Ar. Bea**	**62.11**	**84**	P		**P**		**15 23 05.0**	**-0.7**	
	comp=Z,8.1nm,0.8s,baz=295,slow=6.6,SNR=38									
TORD				pP		**pP**		**15 23 24.0**	**-0.1**	
	comp=Z,6.9nm,0.7s,baz=303,slow=6.5,SNR=8.5									
TORD				LR		LR		15 45 48.4		
	comp=Z,66nm,21.9s,baz=320,slow=32									
	comp=Z,8.1nm,0.8s									
BGES	**Gesves**	**62.27**	**42**	*d*P		**P**		**15 23 06.2**	**0.0**	
RCHB	**Rochefort**	**62.34**	**42**	*d*P		**P**		**15 23 06.6**	**-0.1**	
WTLY	**Watson Lake, Y**	**62.55**	**329**	P		**P**		**15 23 09.0**	**+1.0**	
	baz=102									
TGTN	**Hyland Airport**	**62.61**	**331**	P		**P**		**15 23 09.7**	**+1.3**	
	baz=103									
T35M	**Bob Quinn**	**62.74**	**325**	P		**P**		**15 23 09.9**	**+0.7**	
	baz=99									
DAG	**Danmarks Havn**	**62.82**	**10**	*i* P		**P**		**15 23 09.0**	**-0.4**	
DAG				IAmb		IAmb		15 23 10.4		
	comp=Z,4.0nm,0.9s									
DLBC	**Dease Lake**	**62.86**	**327**	P		**P**		**15 23 11.7**	**+1.6**	
	baz=100,SNR=5.9									
DLBC	**Dease Lake**	**62.86**	**327**	LR		LR		15 50 57.0		
	comp=Z,87nm,20.2s,baz=98,slow=36									
WLF	**Walferdange**	**62.90**	**43**	*d*P		**P**		**15 23 10.4**	**0.0**	
C36M	**Paulatuk**	**63.22**	**340**	P		**P**		**15 23 13.6**	**+1.5**	
	baz=111									
V35K	**Ketchikan**	**63.27**	**323**	P		**P**		**15 23 13.2**	**+0.5**	
	baz=97									
S34M	**Telegraph Cree**	**63.35**	**326**	P		**P**		**15 23 13.8**	**+0.6**	
	baz=98									
ECH	**Echery**	**63.49**	**45**	P		**P**		**15 23 13.6**	**-0.8**	
ECH	**Echery**	**63.49**	**45**	P		**P**		**15 23 13.6**	**-0.8**	
ECH				pmax		pmax				
	comp=Z,11nm,1.0s									
ECH	**Echery**	**63.49**	**45**	P		**P**		**15 23 14.4**	**0.0**	
ECH				sP		**sP**		**15 23 42.2**	**+0.6**	
ECH				PcP		**PcP**		**15 23 50.3**	**-0.2**	
R33M	**Jennings River**	**63.50**	**328**	P		**P**		**15 23 14.1**	**-0.3**	
	baz=99									
AHRW	**Bad Neuenahr-A**	**63.55**	**42**	*e*P		**P**		**15 23 16.2**	**+1.5**	
	comp=Z,20nm,1.0s,baz=269,slow=6.3									
AHRW				*ep*P		**sP**		**15 23 40.3**	**-1.7**	
TAM	**Tamanrasset**	**63.77**	**73**	P		**P**		**15 23 17.4**	**+0.6**	
TAM	**Tamanrasset**	**63.77**	**73**	P		**P**		**15 23 17.4**	**+0.6**	
TAM				pmax		pmax				
	comp=Z,13nm,0.9s									
TAM	**Tamanrasset**	**63.77**	**73**	P		**P**		**15 23 18.8**	**+2.0**	
WRAK	**Wrangell Islan**	**63.81**	**325**	P		**P**		**15 23 15.9**	**-0.3**	
	baz=97									
COYC	**Coyhaique**	**63.87**	**187**	P		**P**		**15 23 17.1**	**+0.4**	
Q32M	**Nakina River**	**64.10**	**327**	P		**P**		**15 23 18.5**	**+0.1**	
	baz=98									
CRAG	**Craig**	**64.14**	**323**	P		**P**		**15 23 19.2**	**+0.7**	
	baz=96									
U33K	**Whale Pass**	**64.20**	**324**	P		**P**		**15 23 19.1**	**+0.2**	
	baz=96									
BFO	**Black Forest**	**64.27**	**45**	P		**P**		**15 23 19.6**	**0.0**	
KASTN	**Kahler Asten**	**64.43**	**41**	*e*P		**P**		**15 23 20.9**	**+0.4**	
	comp=Z,8.8nm,0.9s,baz=269,slow=6.3									
KASTN				*ep*P		**sP**		**15 23 44.6**	**-3.1**	
ALE	**Alert**	**64.51**	**0**	P		**P**		**15 23 20.4**	**-0.2**	
ALE				pP		**pP**		**15 23 40.5**	**+0.9**	
ALE				sP		**sP**		**15 23 49.1**	**+1.5**	
A36M	**Sachs Harbour**	**64.53**	**342**	IAmb		IAmb		15 23 42.0		
	comp=Z,15nm,0.8s									
A36M	**Sachs Harbour**	**64.53**	**342**	P		**P**		**15 23 21.7**	**+1.0**	
	baz=111,SNR=6.5									
P33M	**Teslin, Yukon**	**64.55**	**329**	P		**P**		**15 23 22.1**	**+0.9**	
	baz=98,SNR=9.1									
N32M	**Quiet Lake**	**64.81**	**330**	P		**P**		**15 23 23.2**	**+0.4**	
	baz=98									
P32M	**Atlin**	**64.92**	**328**	P		**P**		**15 23 23.5**	**-0.1**	
	baz=97									
FARO	**Faro, Yukon**	**65.10**	**331**	P		**P**		**15 23 24.9**	**+0.2**	
	baz=99									
S32K	**Killisnoo**	**65.13**	**326**	P		**P**		**15 23 26.0**	**+1.1**	
	baz=95									
R32K	**Eaglecrest**	**65.18**	**326**	P		**P**		**15 23 25.0**	**-0.2**	
	baz=96									
DAVA	**Damuels**	**65.31**	**46**	*i* P		**P**		**15 23 27.1**	**+0.7**	
	comp=Z,13nm,0.9s									
DAVA				*i* sP		**sP**		**15 23 51.3**	**-2.4**	
	comp=Z,17nm,0.8s									
DAVOX	**Davos/Dischmat**	**65.31**	**46**	LR		LR		15 46 48.5		
	comp=Z,33nm,21.5s,baz=264,slow=31									
KEST	**Kesra**	**65.44**	**58**	P		**P**		**15 23 27.8**	**+0.4**	
	comp=Z,11nm,0.8s,baz=246,slow=3.6,SNR=9.9									
KEST				pP		**pP**		**15 23 47.2**	**+0.7**	
	comp=Z,13nm,0.8s,baz=233,slow=4.4,SNR=3.6									
	comp=Z,11nm,0.8s									
SIT	**Sitka**	**65.50**	**325**	P		**P**		**15 23 27.8**	**+0.6**	
	baz=94									
NRDL	**Niedersach Rie**	**65.54**	**40**	*e*P		**P**		**15 23 28.5**	**+1.0**	
	comp=Z,43nm,1.7s,baz=269,slow=6.3									
M31M	**Drury Creek, Y**	**65.58**	**331**	IAmb		IAmb		15 23 49.7		
	comp=Z,34nm,0.8s									
M31M	**Drury Creek, Y**	**65.58**	**331**	P		**P**		**15 23 28.0**	**+0.3**	
	baz=98									
WHY	**Whitehorse**	**65.62**	**329**	P		**P**		**15 23 28.0**	**-0.1**	
	baz=96									
SKAG	**Skagway**	**65.72**	**328**	P		**P**		**15 23 29.4**	**+0.7**	
	baz=96									
ASSE	**Asse, Remlinge**	**65.87**	**40**	*ep*P		pP		15 23 54.3	+5.5	
FETA	**Feichten**	**65.89**	**46**	*e*P		**P**		**15 23 30.8**	**+0.6**	
FETA				*es*P		**sP**		**15 23 54.8**	**-2.7**	
	comp=Z,19nm,1.0s									
RETA	**Reutte**	**65.90**	**45**	*e*P		**P**		**15 23 30.8**	**+0.7**	
	comp=Z,7.8nm,0.8s									
RETA				*es*P		**sP**		**15 23 53.7**	**-3.8**	
	comp=Z,12nm,0.9s									
S31K	**Pelican**	**66.06**	**326**	P		**P**		**15 23 30.8**	**0.0**	
	baz=94									
MOTA	**Moosalm**	**66.14**	**46**	*e*P		**P**		**15 23 31.9**	**+0.1**	
MOTA				*es*P		**sP**		**15 23 56.2**	**-2.9**	
	comp=Z,10nm,0.9s									
F31M	**Tsiigehtchic**	**66.14**	**337**	P		**P**		**15 23 31.5**	**+0.3**	
	baz=101									
SQTA	**Sankt Quirin**	**66.21**	**46**	*i* P		**P**		**15 23 32.4**	**+0.2**	
SQTA				*es*P		**sP**		**15 23 56.7**	**-2.8**	
	comp=Z,6.6nm,0.8s									
	comp=Z,7.6nm,0.6s									
O30N	**Mendenhall**	**66.23**	**329**	P		**P**		**15 23 32.8**	**+0.8**	
	baz=95									
INK	**Inuvik**	**66.23**	**337**	P		**P**		**15 23 31.4**	**-0.3**	
INK				IAmb		IAmb		15 23 52.7		
	comp=Z,34nm,1.0s									
INK	**Inuvik**	**66.23**	**337**	P		**P**		**15 23 31.6**	**-0.1**	
	baz=101									
INK	**Inuvik**	**66.23**	**337**	P		**P**		**15 23 31.4**	**-0.3**	
INK				pmax		pmax				
	comp=Z,34nm,1.0s									
INK	**Inuvik**	**66.23**	**337**	LR		LR		15 53 20.2		
	comp=Z,37nm,19.0s,baz=176,slow=37									
G31M	**Satah River**	**66.25**	**336**	P		**P**		**15 23 31.8**	**-0.1**	
G31M				IAmb		IAmb		15 23 52.9		
	comp=Z,24nm,0.8s									
G31M	**Satah River**	**66.25**	**336**	P		**P**		**15 23 31.9**	**-0.1**	
	baz=100									
MAYO	**Mayo, Yukon**	**66.44**	**332**	P		**P**		**15 23 33.9**	**+0.7**	
	baz=97									
WATA	**Walderalm**	**66.46**	**46**	*e*P		**P**		**15 23 33.8**	**0.0**	
	comp=Z,6.0nm,1.0s									
WATA				*es*P		**sP**		**15 23 58.7**	**-2.5**	
	comp=Z,6.1nm,0.9s									
WTTA	**Wattenberg**	**66.50**	**46**	*e*P		**P**		**15 23 34.1**	**-0.1**	
	comp=Z,4.9nm,0.8s									
WTTA				*i* sP		**sP**		**15 23 58.5**	**-3.0**	
	comp=Z,4.4nm,0.7s									
P30M	**Million Dollar**	**66.60**	**328**	P		**P**		**15 23 35.1**	**+0.7**	
	baz=94									
NB2	**NORSAR Subarra**	**66.66**	**31**	P		**P**		**15 23 35.4**	**+0.7**	
	comp=Z,25nm,1.2s,baz=266,slow=6.5									
NB2	**NORSAR Subarra**	**66.66**	**31**	P		**P**		**15 23 35.4**	**+0.7**	
	baz=266,slow=6.5									
NOA	**NORSAR Array B**	**66.66**	**31**	P		**P**		**15 23 34.9**	**+0.2**	
	comp=Z,4.2nm,0.8s,baz=265,slow=6.4,SNR=13									
NOA				pP		**pP**		**15 23 54.6**	**+0.6**	
	comp=Z,4.7nm,0.8s,baz=265,slow=6.4,SNR=7.4									
NOA				LR		LR		15 49 48.6		
	comp=Z,23nm,19.0s,baz=275,slow=33									
	comp=Z,4.2nm,0.8s									
M30M	**Minto, Yukon**	**66.74**	**331**	IAmb		IAmb		15 23 57.2		
	comp=Z,40nm,1.1s									
M30M	**Minto, Yukon**	**66.74**	**331**	P		**P**		**15 23 36.0**	**+0.8**	
	baz=96									
J30M	**Hart River**	**66.75**	**333**	P		**P**		**15 23 36.0**	**+0.7**	
	baz=97									
MANZ	**Manzenberg**	**66.76**	**43**	*e*P		**P**		**15 23 36.0**	**+0.5**	
	comp=Z,3.4nm,1.0s,baz=269,slow=6.3									
MANZ				*ep*P		**sP**		**15 23 59.9**	**-3.0**	
N30M	**Aishikik Lake**	**66.77**	**330**	P		**P**		**15 23 36.1**	**+0.7**	
	baz=95									
ROTZ	**Rotzenmuhle**	**66.83**	**43**	*e*P		**P**		**15 23 36.7**	**+0.7**	
	comp=Z,0.7nm,0.9s,baz=269,slow=6.3									
I30M	**Mount Dempster**	**66.85**	**334**	P		**P**		**15 23 36.4**	**+0.4**	
	baz=97									
HYT	**Haines Junctio**	**66.92**	**329**	P		**P**		**15 23 37.1**	**+0.6**	
	baz=94									
F30M	**Barrier River**	**66.95**	**337**	P		**P**		**15 23 36.6**	**+0.2**	
	baz=99									
P29M	**Windy Craggy**	**66.96**	**328**	P		**P**		**15 23 37.2**	**+0.5**	
	baz=94									
TANN	**Tannenbergstha**	**66.99**	**42**	*e*P		**P**		**15 23 37.4**	**+0.4**	
	comp=Z,4.2nm,1.1s,baz=269,slow=6.3									
G30M	**tAoh Zrail Nji**	**67.02**	**336**	P		**P**		**15 23 37.3**	**+0.4**	
	baz=98									
ABTA	**Abfaltersbach**	**67.12**	**46**	*e*P		**P**		**15 23 37.8**	**-0.1**	
	comp=Z,4.4nm,0.9s									
ABTA				*i* sP		**sP**		**15 24 02.1**	**-3.2**	
	comp=Z,6.4nm,0.9s									
EPYK	**Eagle Plains**	**67.14**	**335**	P		**P**		**15 23 38.1**	**+0.5**	
	baz=97									
K29M	**Barlow Dome**	**67.19**	**332**	IAmb		IAmb		15 24 01.0		
	comp=Z,24nm,0.8s									
K29M	**Barlow Dome**	**67.19**	**332**	P		**P**		**15 23 39.2**	**+1.0**	
	baz=96									
LESA	**Schwarzleotal**	**67.20**	**45**	*i* P		**P**		**15 23

baz=92
MOA Molln 68.26 45 esP sP 15 24 07.9 -4.6
comp=Z,6.6nm,1.4s
D28M Stokes Point 68.26 338 P P 15 23 45.3 +0.8
baz=97
PRU Pruhonice 68.33 43 eP P 15 23 45.9 +0.5
PRU Pruhonice 68.33 43 eP P 15 23 45.9 +0.5
I28M Miner Creek 68.36 334 P P 15 23 45.8 +0.4
baz=94
YUK3 Moose Creek 68.40 330 P P 15 23 45.3 -0.6
baz=92
E28M Babbage River 68.47 337 P P 15 23 45.6 -0.4
baz=96
F28M Old Crow 68.50 336 P P 15 23 46.3 +0.1
baz=95
OBKA Obir 68.53 46 eP P 15 23 45.8 -1.1
comp=Z,4.5nm,1.1s
OBKA i sP PcP 15 24 10.8 -0.8
comp=Z,8.3nm,0.9s
LJU Ljubljana 68.55 47 eP P 15 23 47.2 +0.3
LJU i pP PcP 15 24 11.4 -0.1
BVCY Beaver Creek 68.61 331 P P 15 23 47.3 +0.3
baz=92
CTG Chitna Glacier 68.80 329 P P 15 23 49.0 +0.7
baz=91
EGAK Eagle 68.84 333 P P 15 23 49.0 +0.8
baz=92
PDKS Podkum 68.87 47 i P P 15 23 49.1 +0.2
H27K Steamboat Moun 69.06 335 P P 15 23 49.7 0.0
baz=93
I27K Kandik River 69.07 334 P P 15 23 49.8 0.0
baz=92
L27K Beaver Creek, 69.07 331 IAmb IAmb 15 24 11.6
comp=Z,34nm,0.8s
L27K Beaver Creek, 69.07 331 P P 15 23 50.9 +1.1
baz=91
M27K Edge Creek, AK 69.08 331 IAmb IAmb 15 24 12.3
comp=Z,31nm,0.9s
M27K Edge Creek, AK 69.08 331 P P 15 23 50.8 +0.7
baz=91
G27K Doyon Strip 69.14 335 P P 15 23 49.8 -0.4
baz=93
ARSA Arzberg 69.15 46 i P P 15 23 50.2 -0.4
comp=Z,2.9nm,0.8s
ARSA es P PcP 15 24 14.2 +0.2
comp=Z,7.1nm,0.8s
E27K Coleen River 69.19 337 P P 15 23 50.6 +0.1
baz=93
K27K Chicken 69.21 332 IAmb IAmb 15 24 13.1
comp=Z,48nm,1.0s
K27K Chicken 69.21 332 P P 15 23 51.6 +1.0
baz=91
UPC Upice 69.25 42 eP P 15 23 51.3 +0.2
UPC Upice 69.25 42 eP P 15 23 51.3 +0.2
CHVC Chvalec 69.27 42 eP P 15 23 51.7 +0.4
CHVC Chvalec 69.27 42 eP P 15 23 51.7 +0.4
VAE Valguarnera 69.31 56 LR LR 15 48 44.7
comp=Z,54nm,21.5s,baz=336,slow=31
CONA Conrad Observa 69.32 45 eP P 15 23 51.0 -0.8
comp=Z,5.7nm,1.6s
CONA es P PcP 15 24 15.5 +0.6
comp=Z,4.4nm,0.8s
OSTC Ostas 69.38 42 eP P 15 23 52.4 +0.5
OSTC Ostas 69.38 42 eP P 15 23 52.4 +0.5
DPC Dobruska-Polom 69.46 42 eP P 15 23 52.8 +0.3
DPC epP PcP 15 24 15.9 +0.6
DPC Dobruska-Polom 69.46 42 eP P 15 23 52.8 +0.3
DPC e*PP PcP 15 24 15.9 +0.6
KBS Kingsbay 69.48 11⇓ eP P 15 23 52.9 +0.8
KBS pmax pmax
comp=Z,42nm,1.1s
KBS Kingsbay 69.48 11 P P 15 23 54.3 +2.2
KRUC Moravsky 69.59 44 eP P 15 23 53.2 -0.1
KRUC e 15 24 17.3
M26K Nabesna, AK 69.60 331 P P 15 23 54.8 +1.6
baz=90
RONA Rosalia, Austr 69.63 45 i P P 15 23 53.0 -0.6
comp=Z,5.7nm,1.4s
RONA es P PcP 15 24 15.7 -0.4
comp=Z,5.1nm,0.9s
CRQE Cirque 69.66 329 P P 15 23 54.4 +0.8
baz=89
VRAC Vranov 69.70 43 eP P 15 23 53.9 -0.1
VRAC e 15 24 18.0
VRAC Vranov 69.70 43 LR LR 15 51 53.5
comp=Z,21nm,18.9s,baz=265,slow=34
L26K Log Cabin Wild 69.77 331 P P 15 23 55.3 +1.2
baz=90
J26L Joseph Creek 69.86 333 P P 15 23 54.7 -0.1
baz=90
G26K Porcupine Rive 69.98 336 P P 15 23 55.7 +0.4
baz=91
SCRK Sand Creek 70.05 332 P P 15 23 56.6 +0.7
SCRK lAmb lAmb 15 24 17.9
comp=Z,86nm,1.8s
SCRK Sand Creek 70.05 332 P P 15 23 56.3 +0.4
baz=90
F26K Sheenjek River 70.14 336 P P 15 23 56.8 +0.5
baz=91
MODS Modra-Piesok 70.23 44 eP P 15 23 57.6 +0.4
MODS e 15 24 22.2
MODS Modra-Piesok 70.23 44 eP P 15 23 57.6 +0.4
MODS e 15 24 22.2
SPITS Spitsbergen Ar 70.24 12 P P 15 23 57.2 +0.5
comp=Z,11nm,0.9s,baz=330,slow=8.3,SNR=4.9
comp=Z,11nm,0.9s
MORC Moravsky Berou 70.28 43 eP P 15 23 58.0 +0.5
KAIM Kayak Island 70.34 328 P P 15 23 58.5 +0.9
baz=88
N25K Chitina, Valde 70.37 330 P P 15 23 58.3 +0.4
baz=88
BMRM Bremner River 70.39 329 P P 15 23 59.0 +1.0
baz=88
C26K Camden Bay 70.46 339 P P 15 23 59.5 +1.3
baz=91
MAUC Maruska 70.50 43 eP P 15 23 59.8 +0.9
MAUC eP P 15 23 59.9 +1.0
MAUC epP sP 15 24 23.8 -2.6
HARP HAARP 70.61 331 P P 15 24 00.0 +0.7
baz=88
J25K Salcha River, 70.64 333 P P 15 23 59.9 +0.4
baz=89
E25K Arctic Village 70.68 337 P P 15 23 59.8 +0.2
baz=90
PRP Porcupine Dome 70.69 334 P P 15 23 59.4 -0.4
baz=89
F25K Christian Rive 70.71 336 P P 15 24 00.7 +0.9
baz=90
PAX Paxson 70.73 331 P P 15 24 00.8 +0.7
baz=88
K24K Donnelly Dome 70.85 332 P P 15 24 00.2 -0.5
baz=88
D25K Kavik River 70.97 338 P P 15 24 01.8 +0.5
baz=89
EYAK Cordova Ski Ar 70.97 329 P P 15 24 02.4 +0.9
baz=87
KLU Klutina 71.01 330 P P 15 24 02.3 +0.5
baz=87
M24K Tolsona, Glenn 71.10 330 P P 15 24 02.2 -0.1
baz=87
VYHS Vyhne 71.25 44 eP P 15 24 03.6 +0.2
VYHS Vyhne 71.25 44 eP P 15 24 03.6 +0.2
ILAR Eielson Array 71.29 333 pP pP 15 24 23.4 +0.6
ILAR Eielson Array 71.29 333 P P 15 24 02.9 -0.4
comp=Z,2.2nm,0.5s,baz=96,slow=4.1,SNR=89
ILAR pP PcP 15 24 22.7 0.0
comp=Z,11nm,0.9s,baz=106,slow=4.2,SNR=19
ILAR LR LR 15 57 28.7
comp=Z,48nm,18.7s,baz=96,slow=38
comp=Z,2.2nm,0.5s
HDA Harding Lake 71.33 333 P P 15 24 03.9 +0.3
baz=87
HDA P P 15 24 03.9 +0.3
baz=87
Q23K Middleton Isla 71.34 328 P P 15 24 02.6 -1.0
baz=86
G24K Hadweenzic Riv 71.45 335 P P 15 24 03.8 -0.4
baz=88
POKR Poker Plat Res 71.51 334 lAmb lAmb 15 24 26.2
comp=Z,36nm,1.2s
POKR Poker Plat Res 71.51 334 P P 15 24 05.1 +0.5
baz=87
F24K Squaw Lake 71.57 336 P P 15 24 05.8 +0.7
baz=87
DHY Denali Highway 71.60 331 P P 15 24 05.0 -0.3
baz=86
GLI Glacier Island 71.61 329 P P 15 24 05.5 +0.1
baz=86
H24K Noodor Dome 71.65 334 lAmb lAmb 15 24 27.3
comp=Z,24nm,1.0s
H24K Noodor Dome 71.65 334 P P 15 24 04.9 -0.6
baz=87
SCM Sheep Creek Mo 71.66 330 P P 15 24 04.5 -1.1
baz=86
COLA College 71.70 333 P P 15 24 05.7 0.0
baz=86
COLA College 71.70 333 P P 15 24 05.8 +0.1
COLA pP pP 15 24 25.6 +0.5
COLA sP sP 15 24 34.7 +1.4
C24K Franklin Bluff 71.77 339 P P 15 24 06.0 0.0
baz=87
E24K Your Creek 71.78 337 P P 15 24 06.1 -0.2
baz=87
WAT6 Susitna Watana 71.80 331 P P 15 24 05.9 -0.7
baz=86
P23K Montague Islan 71.83 328 P P 15 24 07.1 +0.4
baz=85
D24K Happy Valley 71.84 338 P P 15 24 05.3 -1.3
baz=87
M23K Glacier View 71.85 330 P P 15 24 06.4 -0.3
baz=86
MDM Murphy Dome 71.85 333 lAmb lAmb 15 24 28.1
comp=Z,42nm,1.0s
SML Sawmill 72.14 330 P P 15 24 09.5 +1.0
baz=85
TOLK Toolik Lake Re 72.14 337 P P 15 24 08.1 -0.3
baz=86
WAT1 Susitna Watana 72.15 331 P P 15 24 09.1 +0.5
baz=85
E23K Chandalar 72.20 337 P P 15 24 09.3 +0.5
baz=86
KNK Knik Glacier 72.23 330 P P 15 24 09.4 +0.4
baz=85
NEA2 Nenana 72.24 333 P P 15 24 09.3 +0.3
baz=85
MCK McKinley 72.25 332 P P 15 24 10.0 +0.9
baz=85
I23K Minto, Yukon-K 72.32 334 P P 15 24 09.3 -0.1
baz=85
C23K Itkillik River 72.43 339 lAmb lAmb 15 24 32.0
comp=Z,38nm,1.1s
C23K Itkillik River 72.43 339 P P 15 24 11.0 +1.0
baz=86
G23K Bananza Creek 72.46 335 P P 15 24 11.2 +0.9
baz=85
COLD Coldfoot 72.49 336 P P 15 24 10.6 +0.2
baz=85
D23K Nanushuk River 72.52 338 P P 15 24 09.7 -0.9
baz=85
PMR Palmer 72.53 330 P P 15 24 10.8 0.0
baz=84
ARCES ARCESS Array B 72.67 22 P P 15 24 11.5 0.0
comp=Z,5.8nm,0.8s,baz=271,slow=4.8,SNR=15
ARCES pP pP 15 24 30.3 -0.7
comp=Z,10nm,0.7s,baz=283,slow=5.7,SNR=8.9
comp=Z,5.8nm,0.8s
SEW Seward 72.84 328 P P 15 24 12.9 +0.3
baz=84
RC01 Rabbit Creek A 72.88 329 P P 15 24 13.0 +0.1
baz=84
TRF Thorofare Moun 72.88 332 P P 15 24 13.1 +0.1
baz=84
MLY Manley 72.91 334 P P 15 24 13.0 -0.1
baz=84
CRVS Cervenica-Dubn 72.93 43 eP P 15 24 14.3 +0.9
CRVS e 15 24 41.5
CRVS Cervenica-Dubn 72.93 43 eP P 15 24 14.3 +0.9
CRVS e 15 24 41.5
O22K Cooper Landing 72.94 329 P P 15 24 12.6 -0.6
baz=84
CUT Chulitna 72.98 331 P P 15 24 14.6 +1.2
baz=84
M22K Willow 72.99 330 P P 15 24 14.4 +0.9
baz=84
E22K Anaktuvuk Pass 73.01 337 lAmb lAmb 15 24 35.0
comp=Z,27nm,0.9s
E22K Anaktuvuk Pass 73.01 337 P P 15 24 13.7 +0.1
baz=84
G22K Bettles 73.02 336 P P 15 24 13.8 +0.2
baz=84
H22K Ishlatinta Cre 73.08 335 P P 15 24 15.0 +1.0
baz=84
BPAW Bear Paw Mtn. 73.12 333 lAmb lAmb 15 24 35.9
comp=Z,39nm,0.9s
BPAW Bear Paw Mtn. 73.12 333 P P 15 24 14.5 +0.3
baz=84
F22K John River 73.22 336 P P 15 24 14.9 +0.1
baz=83
D22K Ayikyak River 73.25 338 P P 15 24 15.2 +0.3
baz=83
SUA Susitna One 73.32 330 P P 15 24 16.8 +1.2
baz=83
B22K Teshekpuk Lake 73.34 339 P P 15 24 16.6 +1.3
baz=83
I21K Tanana 73.42 334 P P 15 24 16.1 +0.2
baz=83
BRSE Bradley Lake S 73.53 328 P P 15 24 17.1 +0.4
baz=82
CAPN Captain Cook N 73.60 329 P P 15 24 17.1 0.0
baz=82
SKT Skwentna 73.62 331 P P 15 24 16.7 -0.5
baz=82
CAST Castle Rocks 73.69 332 P P 15 24 16.8 -0.8
baz=82
H21K Melozitna Rive 73.70 334 P P 15 24 17.3 -0.3
baz=82
CHUM Lake Minchumin 73.72 333 P P 15 24 15.8 -1.9
baz=82
F21K Alatna River 73.76 336 P P 15 24 16.0 -2.0
baz=82
A22K Sinclair Lake 73.77 340 P P 15 24 17.2 -0.7
baz=82
E21K Killik River 73.77 337 P P 15 24 18.0 0.0
baz=82
PPLA Purkeypile 73.80 332 P P 15 24 18.4 -0.1
baz=82
FINES FINESS Array B 73.82 30 P P 15 24 18.5 +0.1
comp=Z,5.3nm,0.7s,baz=266,slow=3.9,SNR=17
FINES pP pP 15 24 38.3 +0.4
comp=Z,4.6nm,0.7s,baz=190,slow=4.0,SNR=3.3
comp=Z,5.3nm,0.7s
B21K Ikpikpuk River 73.84 339 lAmb lAmb 15 24 40.1
comp=Z,30nm,1.1s
B21K Ikpikpuk River 73.84 339 P P 15 24 18.7 +0.4
baz=82
G21K Allakaket 73.86 335 lAmb lAmb 15 24 40.6
comp=Z,34nm,1.1s
G21K Allakaket 73.86 335 P P 15 24 18.4 -0.2
baz=82
C21K Knifeblade Rid 73.97 338 P P 15 24 19.4 +0.3
baz=82
N20K Mount Spurr 74.05 330 P P 15 24 19.7 -0.2
baz=82
A21K Barrow 74.24 340 P P 15 24 20.6 -0.1
baz=80
M20K Styx River 74.39 331 P P 15 24 22.1 +0.3
baz=81
O20K Slope Mountain 74.42 329 P P 15 24 22.8 +0.7
baz=81
J20K Nowinta River 74.48 333 P P 15 24 22.1 0.0
baz=81
I20K Naaghedeneel 74.52 334 P P 15 24 23.0 +0.6
baz=81
Q20K Shuyak Island 74.54 327 P P 15 24 22.6 -0.1
baz=81
H20K Anotleneega Mo 74.57 334 P P 15 24 23.0 +0.2
baz=80
K20K Telida 74.58 332 P P 15 24 22.4 -0.4
baz=80
VSU Vasula 74.60 33⇓ eP P 15 24 20.6 -2.3
VSU pmax pmax
comp=Z,22nm,0.9s
E20K Nigu River 74.61 337 P P 15 24 23.0 +0.1
baz=80
L20K Farewell, AK 74.64 331 P P 15 24 22.0 -1.2
baz=80
B20K Meade River 74.65 339 P P 15 24 23.1 0.0
baz=80
F20K Avaraart Lake 74.65 336 P P 15 24 23.5 +0.5
baz=80
D20K Etivluk River 74.69 338 P P 15 24 23.2 -0.2
baz=80
KDAK Kodiak Island 74.78 326 P P 15 24 24.1 +0.1
baz=80
KDAK Kodiak Island 74.78 326 LR LR 16 00 26.7
comp=Z,50nm,18.0s,baz=101,slow=38
P19K Oil Pt 74.80 328 P P 15 24 24.8 +0.6
baz=80
Q19K Cape Douglas, 75.13 328 P P 15 24 27.1 +1.1
baz=80
L19K White Mountain 75.14 331 P P 15 24 26.2 +0.2
baz=80
J19K Poorman 75.15 333 P P 15 24 27.6 +1.6
baz=79
E19K Redstone River 75.15 337 P P 15 24 26.6 +0.6
baz=79
N19K Bonanza Creek 75.21 330 P P 15 24 25.9 -0.7
baz=80
H19K Roundabout Mou 75.21 335 P P 15 24 26.5 +0.2
baz=79
NACGM Naroch 75.23 37 eP P 15 24 28.0 +1.4
comp=Z,38nm,0.9s,baz=281
O19K Port Alsworth 75.24 329 P P 15 24 27.3 +0.7
baz=80
OHAK Old Harbor 75.25 326 P P 15 24 28.4 +1.7
baz=80
D19K Kuna River 75.27 338 P P 15 24 27.4 +0.7
baz=78
G19K Purcell Mounta 75.35 335 P P 15 24 27.7 +0.6
baz=79
F19K Shaleruckik Mo 75.48 336 P P 15 24 29.1 +1.2
baz=78
TTA Tatalina 75.52 332 P P 15 24 30.2 +1.9
baz=79
GCSA Galena City Sc 75.54 334 P P 15 24 27.0 -1.2
baz=78
C19K Lookout Ridge 75.67 338 P P 15 24 28.0 -1.0
baz=77
M18K Stony River 75.72 330 P P 15 24 29.0 -0.4
baz=78
J18K Innoko River 75.73 332 P P 15 24 29.2 -0.2
baz=78
R18K Karluk 75.80 326 P P 15 24 30.4 +0.5
baz=79
APA Apatity 75.84 23⇓ iP P 15 24 21.3 -8.6
APA pmax pmax
comp=Z,7.0nm,1.1s
SII Sitkinak Islan 75.86 325 P P 15 24 31.6 +1.4
baz=79
N18K Kilae Creek 75.91 330 pP pP 15 24 50.6 +0.5
baz=78
A19K Wainwright 75.92 340 P P 15 24 31.5 +1.2
baz=76
MNK Minsk 75.94 37 i P P 15 24 30.1 -0.6
comp=E,2.0nm,0.9s
MNK i P P 15 24 30.1 -0.6
comp=N,4.0nm,0.9s
MNK i P P 15 24 30.1 -0.6
comp=Z,24nm,0.9s,baz=281
MNK i pP pP 15 24 46.7 -3.6
MNK i sP pP 15 24 51.3 +0.9
MNK i PP PP 15 27 12.1 -10
MNK i PPP PPP 15 29 25.3
MNK i S S 15 34 07.5 -0.1
MNK i SS SS 15 38 43.0 -18
MNK Minsk 75.94 37 i P P 15 24 30.1 -0.6
MNK i 15 24 40.6
MNK i *SP pP 15 24 51.2 +0.9
MNK i S S 15 34 07.5 -0.1
MNK pmax pmax
comp=Z,24nm,0.9s
MNK pmax pmax
comp=N,4.0nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.9s
L18K Granite Mounta 75.97 331 pP pP 15 24 51.0 +0.6
baz=78
G18K Tagagawik 76.03 335 pP pP 15 24 51.2 +0.6
baz=77
H18K Honhosa River 76.07 334 pP pP 15 24 52.1 +1.2
baz=77
C18K Utukok River 76.34 338 pP pP 15 24 52.8 +0.3
baz=76
B18K Kokolik River 76.37 339 pP pP 15 24 53.5 +0.9
baz=75
E18K Tukpahlearik C 76.43 337 pP pP 15 24 53.5 +0.6
baz=76
P17K Kvichak River 76.49 328 pP pP 15 24 54.4 +1.0
baz=78
MLR Muntele Rosu 76.53 46 lAmb lAmb 15 25 05.1
comp=Z,30nm,1.1s
K17K Iditarod 76.59 332 pP pP 15 24 55.5 +1.6
baz=77
O17K Koliganek Bris 76.69 329 pP pP 15 24 55.4 +0.8
baz=77
L17K Donlin 76.73 331 pP pP 15 24 56.1 +1.4
baz=77
H17K Granite Mounta 76.76 334 pP pP 15 24 55.9 +1.0
baz=76
CHIR Chirikof Islan 76.79 325 pP pP 15 24 56.3 +1.1
baz=77
R17K Ugashik Creek 76.81 327 pP pP 15 24 56.3 +1.1
baz=77
F17K Baldwin Pennin 76.92 336 pP pP 15 24 57.2 +1.5
baz=75
G17K Kiwalik Mounta 76.92 335 P P 15 24 36.2 +0.1
baz=75
E17K Hotham Inlet 76.97 337 P P 15 24 36.0 -0.3
baz=75
C17K DeLong Mountai 77.09 338 pP pP 15 24 57.6 +1.0
baz=74
RDOG Red Dog Mine 77.11 338 pP pP 15 24 57.3 +0.5
baz=74
O16K Kokwok River B 77.23 329 pP pP 15 24 57.7 +0.2
baz=76
D17K Noatak River 77.27 337 pP pP 15 24 58.5 +0.8
baz=74
M16K Timber Creek 77.30 330 pP pP 15 24 58.1 +0.2
baz=76
P16K Nushagak River 77.31 328 pP pP 15 24 58.8 +0.8
baz=76
N16K Nishlik Lake 77.34 330 pP pP 15 24 59.3 +1.0
baz=76
I17K Unalakleet 77.36 333 pP pP 15 24 59.5 +1.3
baz=75
L16K Owhat River 77.37 331 pP pP 15 25 00.6 +2.3
baz=76
R16K Pilot Point 77.44 327 pP pP 15 25 00.0 +1.2
baz=76
J16K Anvik River 77.47 333 pP pP 15 24 60.0 +1.1
baz=75
AKASG Malin Array Be 77.54 41 P P 15 24 39.6 -0.2
comp=Z,2.0nm,0.6s,baz=277,slow=4.7,SNR=13
AKASG pP pP 15 24 59.6 +0.1
comp=Z,3.0nm,0.8s,baz=276,slow=4.8,SNR=2.0
AKASG LR LR 15 57 08.5
comp=Z,23nm,18.6s,baz=220,slow=34
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 77.54 41⇑ eP P 15 24 39.6 -0.2
G16K Koyuk River 77.64 335 pP pP 15 25 01.5 +1.7
baz=74
H16K Elim 77.80 334 pP pP 15 25 01.8 +1.1
baz=74
C16K Lisburne Hills 77.92 338 pP pP 15 25 03.3 +2.0
baz=72
K15K Wolf Creek Mou 78.15 332 pP pP 15 25 05.4 +2.7
baz=74
O15K Ungalikthiuk R 78.19 329 P P 15 24 43.1 -0.1
baz=75
G15K Niukluk 78.44 335 pP pP 15 25 06.3 +2.1
baz=72
F15K North Star Dit 78.46 336 pP pP 15 25 07.3 +3.0
baz=72
M14K Bethel 78.79 330 pP pP 15 25 08.6 +2.4
baz=73
S14K Fog Glacier 78.82 326 pP pP 15 25 09.0 +2.3
baz=74
O14K Tigyukauivet M 78.88 329 pP pP 15 25 09.0 +2.2
baz=74
N14K Kuskokwak Cree 78.89 330 pP pP 15 25 09.2 +2.4
baz=73
L14K Kuka Creek 78.95 331 pP pP 15 25 08.1 +1.0
baz=73
ANM Nome 79.11 335 pP pP 15 25 09.1 +1.1
baz=71
F14K Arctic Creek 79.20 336 pP pP 15 25 10.0 +1.6
baz=70
TNA Tin City 79.79 336 pP pP 15 25 14.0 +2.4
baz=69
KLMR Klimovskoe 80.28 29 eP P 15 24 53.4 -1.2
KLMR AMP 15 24 55.8
comp=Z,19nm,1.1s
KLMR epP pP 15 25 14.0 -0.4

KLMR	**Klimovskoe**	**80.28**	**29**	*e*P	**P**	**15 24 53.3**	**-1.3**
KLMR				*e**PP	**pP**	**15 25 14.0**	**-0.4**
KLMR				pmax	pmax		
	comp=Z,19nm,1.1s						
OBN	**Obninsk**	**80.64**	**35**	*i* P	**P**	**15 24 57.1**	**+0.5**
OBN				*i* *PP	**pP**	**15 25 17.3**	**+0.9**
OBN				pmax	pmax		
	comp=Z,17nm,0.8s						
TAOE	**Nuku Hiva Isla**	**80.80**	**258**	*e*LR	LR	15 50 28.1	
	comp=Z,124nm,30.5s						
PRGR	**Permogore**	**82.73**	**27**	*e*P	**P**	**15 25 07.5**	**0.0**
PRGR				pmax	pmax		
	comp=Z,16nm,0.9s						
LPSR	**Galich'ya Gora**	**82.79**	**37**	*e*P	**P**	**15 25 04.9**	**-3.1**
LPSR				pmax	pmax		
	comp=Z,30nm,1.0s						
VORR	**Voronezh**	**83.27**	**38**	*e*P	**P**	**15 25 10.2**	**-0.3**
VORR				pmax	pmax		
	comp=Z,70nm,0.4s						
VSR	**Storozhevoye**	**83.41**	**38**	*e*P	**P**	**15 25 09.9**	**-1.3**
VSR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BR131	**Keskin Array S**	**83.51**	**50**	*e*P	**P**	**15 25 12.3**	**+0.1**
BRTR	**Keskin Array B**	**83.51**	**50**	P	**P**	**15 25 12.6**	**+0.4**
	comp=Z,4.7nm,0.8s,baz=266,slow=4.7,SNR=22						
BRTR				pP	**pP**	**15 25 33.0**	**+0.9**
	comp=Z,5.2nm,0.8s,baz=276,slow=4.8,SNR=7.4						
BRTR				LR	LR	15 57 33.4	
	comp=Z,20nm,21.2s,baz=294,slow=32						
	comp=Z,4.7nm,0.8s						
VORD	**Divnogorie**	**83.57**	**38**	*e*P	**P**	**15 25 10.6**	**-1.5**
VORD				pmax	pmax		
	comp=Z,20nm,0.8s						
VRH	**Novokhopyorsk**	**84.91**	**38**	*e*P	**P**	**15 25 17.2**	**-1.6**
VRH				pmax	pmax		
	comp=Z,30nm,0.8s						
KIRV	**Kirov**	**85.78**	**29⇓**	*e*P	**P**	**15 25 23.3**	**+0.3**
KIRV	**Kirov**	**85.78**	**29**	LR	LR	15 59 42.0	
	comp=Z,20nm,21.5s,baz=258,slow=33						
SOC	**Sochi**	**86.50**	**45**	*e*P	**P**	**15 25 27.1**	**+0.2**
SOC				*e*		15 28 47.7	
SOC				*e*PPP	PPP	15 30 41.3	
SOC				*e*S	**SKSac**	**15 35 47.0**	**-0.1**
SOC				*e*SS	**SS**	**15 41 40.1**	**+1.4**
SOC				*e*SSS	SSS	15 45 10.2	
MMAI	**Mount Meron Ar**	**87.01**	**56**	P	**P**	**15 25 30.3**	**+0.5**
	comp=Z,3.5nm,0.6s,baz=343,slow=3.0,SNR=2.8						
	comp=Z,3.5nm,0.6s						
BILL	**Bilibino**	**87.06**	**343⇑**	*e*P	**P**	**15 25 30.0**	**+0.9**
ARPR	**Arapgir-MALATY**	**87.15**	**50**	IAmb	IAmb	15 25 33.1	
	comp=Z,25nm,1.1s						
TSUM	**Tsumeb**	**87.22**	**111**	P	**P**	**15 25 31.6**	**+0.7**
BELG	**Belogornoye**	**87.74**	**35⇓**	*e*P	**P**	**15 25 33.1**	**+0.4**
BELG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
EIL	**Elat**	**87.76**	**60**	LR	LR	15 59 37.1	
	comp=Z,26nm,21.0s,baz=246,slow=32						
KIV	**Kislovodsk**	**88.34**	**44**	*e*P	**P**	**15 25 34.7**	**-1.2**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KBZ	**Khabaz**	**88.58**	**44⇑**	*e*P	**P**	**15 25 37.5**	**+0.7**
KBZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KBZ	**Khabaz**	**88.58**	**44**	P	**P**	**15 25 37.6**	**+0.8**
	comp=Z,2.7nm,0.8s,baz=331,slow=6.6,SNR=5.0						
KBZ				LR	LR	16 02 07.2	
	comp=Z,17nm,21.3s,baz=120,slow=33						
	comp=Z,2.7nm,0.8s						
TIXI	**Tiksi**	**90.16**	**356⇑**	*e*P	**P**	**15 25 45.0**	**+1.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ARU	**Arti**	**91.11**	**28**	P	**P**	**15 25 48.4**	**0.0**
ARU						15 29 27.2	
ARU				S	**SKSac**	**15 36 14.2**	**+0.2**
ARU				SS	**SS**	**15 42 40.0**	**-4.7**
MAK	**Makhachkala**	**91.94**	**44**	*e*P	**P**	**15 25 52.4**	**-0.1**
MAK				*e**PP	**pP**	**15 26 11.7**	**-1.0**
MAK				*e**SP	**sP**	**15 26 19.6**	**-1.0**
MAK				*e*		15 29 32.1	
MAK				*e*PPP	PPP	15 31 35.0	
MAK				*e*		15 36 18.5	
MAK				*e*SS	SS	15 43 02.4	+4.9
MAK				*e*SSS	SSS	15 46 42.1	
MAK				pmax	pmax		
	comp=Z,293nm,1.9s						
PPT2	**Papeete2**	**92.32**	**252**	*e*LR	LR	15 55 32.6	
	comp=Z,125nm,28.2s						
PPT2				*e*LR	LR	15 55 38.3	
	comp=Z,143nm,28.0s						
SHEM	**Shemya Is, Ala**	**94.07**	**329**	LR	LR	16 08 26.0	
	comp=Z,28nm,20.5s,baz=335,slow=35						
SUR	**Sutherland**	**94.33**	**122**	LR	LR	16 00 18.0	
	comp=Z,44nm,20.9s,baz=330,slow=30						
SEY	**Seymchan**	**94.68**	**345**	LR	LR	16 11 41.5	
	comp=Z,22nm,19.6s,baz=306,slow=37						
ABKAR	**Akbulak array**	**96.03**	**34**	P	**P**	**15 26 11.6**	**+0.5**
LBTB	**Lobatse**	**96.10**	**114**	LR	LR	16 03 10.3	
	comp=Z,28nm,18.4s,baz=292,slow=31						
BOSA	**Boshof**	**96.85**	**118**	P	**P**	**15 26 15.7**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=268,slow=2.9,SNR=6.8						
	comp=Z,2.3nm,0.8s						
MA2	**Magadan**	**97.93**	**343**	LR	LR	16 15 15.1	
	comp=Z,13nm,18.3s,baz=66,slow=38						
SNAA	**Sanae**	**98.15**	**164**	P	Pdif	15 26 20.9	+0.7
	comp=Z,0.8nm,0.2s,baz=351,slow=13,SNR=5.2						
SNAA				LR	LR	16 16 39.7	
	comp=Z,25nm,18.0s,baz=4.5,slow=39						
	comp=Z,0.8nm,0.2s						
BVAR	**Borovoye Array**	**98.53**	**26**	P	Pdif	15 26 23.1	+0.7
	comp=Z,0.4nm,0.6s,baz=353,slow=5.8,SNR=2.3						
	comp=Z,0.4nm,0.6s						
KMBO	**Kilima Mbogo**	**99.97**	**88**	LR	LR	16 10 53.5	
	comp=Z,37nm,18.5s,baz=84,slow=35						
KURBB	**Kurchatov Arra**	**103.66**	**24**	PKKP	PKKPdf	15 42 54.6	+8.8
	comp=Z,0.4nm,0.3s,baz=152,slow=4.2,SNR=4.1						
MKAR	**Makanchi Array**	**108.22**	**24**	PKKP	**PKKPdf**	**15 42 36.3**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=156,slow=6.2,SNR=4.9						
WMQ	**Urumqi**	**112.78**	**23**	*e*P	**PKiKP**	**15 31 20.8**	**+0.2**
SONM	**Songino Array**	**113.71**	**8**	PKKPbc	PKKPbc	15 42 03.8	-3.0
	comp=Z,0.3nm,0.4s,baz=165,slow=5.6,SNR=2.5						
MAW	**Mawson**	**119.83**	**159**	PKP	**PKPdf**	**15 31 33.0**	**-0.1**
	comp=Z,5.9nm,0.8s,baz=338,slow=2.2,SNR=3.9						
HHC	**Hu-ho-hao-te**	**121.17**	**5**	*e*P	**PKPdf**	**15 31 31.8**	**-5.0**
BTO	**Baotou**	**121.27**	**6**	*e*PKP	**PKPdf**	**15 31 34.3**	**-2.7**
BTO				PP	**PP**	**15 33 06.5**	**-0.5**
BTO	**Baotou**	**121.27**	**6**	SS	SS	15 49 28.0	-6.3
BTO				pmax	pmax		
	comp=Z,17nm,1.0s						
BTO				pmax	pmax		
	comp=Z,290nm,4.9s						
MJAR	**Matsushiro Arr**	**122.16**	**340**	PKP	**PKPdf**	**15 31 38.4**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=85,slow=9.8,SNR=1.9						
MJAR				pPKP	**pPKPdf**	**15 31 59.3**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=96,slow=0.8,SNR=2.7						
URZ	**Urewera**	**124.38**	**236**	PKP	**PKiKP**	**15 31 43.2**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=72,slow=13,SNR=2.5						
NJ2	**Nanjing**	**130.15**	**358**	*e*P	**PKPdf**	**15 31 53.9**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PZH	**PanZhiHua**	**133.25**	**19**	PKP	**PKPdf**	**15 31 59.1**	**-1.2**
CMAR	**Chiang Mai Arr**	**139.55**	**27**	PKP	**PKPdf**	**15 32 10.3**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=313,slow=2.7,SNR=7.6						
PMG	**Port Moresby**	**149.63**	**282**	PKPbc	**PKPbc**	**15 32 33.9**	**-0.2**
	comp=Z,2.9nm,0.5s,baz=27,slow=6.8,SNR=1.1						
CTA	**Charters Tower**	**152.42**	**261**	PKPbc	**PKiKP**	**15 32 41.0**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=51,slow=9.9,SNR=2.2						
CTA				PKPab	**PKPab**	**15 32 51.5**	**+0.6**
	comp=Z,3.1nm,0.5s,baz=95,slow=5.4,SNR=15						
PSI	**Prapat**	**152.58**	**43**	PKIKP	**PKPbc**	**15 32 40.7**	**-0.5**
RPSI	**Rantau Prapat**	**152.66**	**43**		**PKPbc**	**15 32 40.7**	**-0.5**
STKA	**Stephens Creek**	**153.98**	**233**	PKP	**PKPdf**	**15 32 33.9**	**-1.6**
	comp=Z,2.1nm,0.8s,baz=37,slow=4.3,SNR=4.2						
STKA				PKPbc	**PKiKP**	**15 32 43.8**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=21,slow=0.9,SNR=9.4						
STKA				PKPab	**PKPab**	**15 32 57.0**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=112,slow=7.1,SNR=5.7						
ASAR	**Alice Springs**	**163.37**	**248**	PKP	**PKPdf**	**15 32 46.2**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=110,slow=1.1,SNR=11						
ASAR				pPKP	**pPKPdf**	**15 33 06.5**	**-1.4**
	comp=Z,1.9nm,1.0s,baz=97,slow=1.2,SNR=7.0						
ASAR				PKPab	**PKPab**	**15 33 37.7**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=105,slow=4.2,SNR=13						
ASAR				pPKPab	**pPKPab**	**15 33 57.3**	**-1.0**
	comp=Z,2.9nm,0.7s,baz=111,slow=4.4,SNR=5.7						
WRA	**Warramunga Arr**	**163.62**	**261**		**PKPdf**	**15 32 46.7**	**-0.6**
WRA	**Warramunga Arr**	**163.62**	**261**	PKIKP	**PKPdf**	**15 32 46.7**	**-0.6**
WRA	**Warramunga Arr**	**163.62**	**261**	PKP	**PKPdf**	**15 32 46.0**	**-1.2**
	comp=Z,2.8nm,1.1s,baz=67,slow=1.0,SNR=11						
WRA				pPKP	**pPKPdf**	**15 33 07.3**	**-1.0**
	comp=Z,3.4nm,0.9s,baz=58,slow=0.9,SNR=8.9						
WRA				PKPab	**PKPab**	**15 33 38.8**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=93,slow=4.0,SNR=12						

*IDC **24** 15:14:43.1±1.1,23˚.25N×120˚.17E,h0km,mb3.3/7, mbtmp3.4/8,ML3.1/1,MS2.5/1,Error ellipse: s-maj=44.6km s-min=19.5km az=66.0*
*JMA **24** 15:14:45.2±0.1,23˚.6N±0˚.3×120˚.7E±0˚.5,h0km,MV3.8/15, TAIWAN REGION*
*TAP **24** 15:14:46.2,23˚.59N×120˚.72E,h17km,ML4.3,B*
*ASIES **24** 15:14:46.2,23˚.59N×120˚.72E,h17km,ML4.3,Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}2.15; $M_{\theta\theta}$-1.03; $M_{\phi\phi}$0.94; $M_{r\theta}$-1.87; $M_{\theta\phi}$-4.33; $M_{\phi r}$1.16; Fault plane solution: $M_0$5.18572×10^{21} NP1: ϕ_s272.01000°,δ73.62000°,λ152.18000°. NP2: ϕ_s10.47000°,δ63.40000°,λ18.38000°. Principal axes: T Plg31.0630°, Azm228.9000°; N Plg58.0530°, Azm63.8920°; P Plg6.7330°, Azm322.9780°;*

ISC 24 15:14:46.0±0.8,23˚.60N±0˚.01×120˚.70E±0˚.01,h19km±2km, n172,σ1s09/299,mb3.5/6,59C-31D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ALS	**Alishan**	**0.14**	**133**	⇓*i*P		**Pg**		**15 14 50.7**	**+0.2**
	baz=133								
ALS				*i* S		**Sg**		**15 14 53.9**	**+0.4**
	baz=133								
WGK	**Gukeng**	**0.15**	**304**	⇓*i*P		**Pg**		**15 14 51.2**	**+0.9**
	baz=305								
WGK				S		**Sg**		**15 14 55.2**	**+1.9**
	baz=305								
WDLH	**Douliu**	**0.17**	**301**	⇓*i*P		**Pg**		**15 14 51.6**	**+1.1**
	baz=301								
WDLH				*i* S		**Sg**		**15 14 56.3**	**+2.6**
	baz=301								
WHYT	**Xinyi Township**	**0.17**	**57⇑**	*i*P		**Pg**		**15 14 51.0**	**+0.3**
	baz=48								
WHYT				*i* S		**Sg**		**15 14 54.2**	**+0.3**
	baz=48								
WCKO	**Fanlu**	**0.18**	**207⇑**	*i*P		**Pg**		**15 14 51.2**	**+0.4**
	baz=209								
WCKO				*i* S		**Sg**		**15 14 54.9**	**+0.8**
	baz=209								
CHN2	**Minshiung**	**0.21**	**251**	P		**Pg**		**15 14 52.2**	**+1.0**
	baz=257								
CHN2				*i* S		**Sg**		**15 14 57.0**	**+2.2**
	baz=257								
WJS	**Zhushan**	**0.22**	**8⇑**	*i*P		**Pg**		**15 14 52.2**	**+0.9**
	baz=353								
WJS				*i* S		**Sg**		**15 14 56.9**	**+1.9**
	baz=353								
CHN4	**Tsaushan**	**0.27**	**201⇑**	*i*P		**Pg**		**15 14 52.6**	**+0.5**
	baz=206								
CHN4				*i* S		**Sg**		**15 14 57.7**	**+1.4**
	baz=206								
CHY	**Chiayi**	**0.27**	**247**	⇑P		**Pg**		**15 14 52.9**	**+0.8**
	baz=251								
CHY				S		**Sg**		**15 14 58.7**	**+2.4**
	baz=251								
WNT	**Mingjian**	**0.27**	**358**	⇓*i*P		**Pg**		**15 14 53.2**	**+1.0**
	baz=355								
WNT				S		**Sg**		**15 14 58.5**	**+2.1**
	baz=355								
WTK	**Tuku**	**0.29**	**287**	⇓P		**Pb**		**15 14 53.7**	**+1.0**
	baz=288								
WTK				S		**Sn**		**15 14 59.9**	**-1.3**
	baz=288								
SSLB	**Suanglung**	**0.30**	**52**	P		**Pg**		**15 14 52.7**	**+0.1**
SSLB	**Suanglung**	**0.30**	**52⇑**	*i*P		**Pg**		**15 14 52.9**	**+0.3**
	baz=47								
SSLB				S		**Sb**		**15 14 57.8**	**+0.5**
	baz=47								
TPUB	**Ta-pu**	**0.31**	**191**	P		**Pg**		**15 14 52.9**	**+0.2**
TPUB	**Ta-pu**	**0.31**	**191⇑**	*i*P		**Pg**		**15 14 53.0**	**+0.3**
	baz=196								
TPUB				S		**Sb**		**15 14 58.0**	**+0.5**
	baz=196								
TYC	**Yuchr**	**0.33**	**26⇑**	*i*P		**Pb**		**15 14 54.0**	**+0.6**
	baz=23								
TYC				S		**Sb**		**15 14 59.8**	**+1.4**
	baz=23								
SMLT	**Sun Moon Lake**	**0.34**	**34⇑**	*i*P		**Pb**		**15 14 54.0**	**+0.5**
	baz=30								
SMLT				S		**Sb**		**15 14 59.6**	**+1.1**
	baz=30								
WTP	**Ta-pu**	**0.36**	**192⇑**	*i*P		**Pg**		**15 14 54.0**	**+0.3**
	baz=195								
WTP				S		**Sb**		**15 14 59.8**	**+0.5**
	baz=195								
TWK	**Hsinying**	**0.39**	**210⇑**	*i*P		**Pb**		**15 14 54.6**	**+0.3**
	baz=212								
TWK				S		**Sb**		**15 15 00.9**	**+0.9**
	baz=212								
WRL	**Guolierlin Hig**	**0.42**	**316⇓**	*e*P		**Pb**		**15 14 55.3**	**+0.5**
	baz=315								
WRL				*e*S		**Sb**		**15 15 02.7**	**+1.9**
	baz=315								
SNST	**Tainan City**	**0.42**	**206⇑**	*i*P		**Pb**		**15 14 55.2**	**+0.3**
	baz=210								
SNST				S		**Sb**		**15 15 02.3**	**+1.3**
	baz=210								
VWDT	**VWDT**	**0.43**	**70⇑**	*i*P		**Pb**		**15 14 55.7**	**+0.6**
	baz=66								
VWDT				S		**Sb**		**15 15 02.0**	**+0.7**
	baz=66								
WSF	**Szhu**	**0.44**	**275**	⇓P		**Pb**		**15 14 55.6**	**+0.5**
	baz=276								
WSF				*i* S		**Sb**		**15 15 03.1**	**+1.7**
	baz=276								
STYH	**Taoyuan**	**0.44**	**170**	⇓*i*P		**Pg**		**15 14 55.1**	**+0.1**
	baz=166								
STYH				S		**Sg**		**15 15 01.2**	**+0.2**
	baz=166								
WSL	**Shuilin Townsh**	**0.44**	**260⇑**	*e*P		**Pb**		**15 14 56.0**	**+0.8**
	baz=262								
WSL				S		**Sn**		**15 15 03.8**	**-0.9**
	baz=262								
CHN1	**Nanshi**	**0.44**	**200⇑**	*i*P		**Pg**		**15 14 55.5**	**+0.4**
	baz=204								
CHN1				*i* S		**Sb**		**15 15 02.5**	**+0.9**
	baz=204								
ICHU	**Yijhu**	**0.45**	**238**	⇑P		**Pb**		**15 14 56.2**	**+0.8**
	baz=241								
ICHU				*i* S		**Sn**		**15 15 04.2**	**-0.8**
	baz=241								
WTCT	**Ta-ch'eng**	**0.46**	**304**	⇓*i*P		**Pb**		**15 14 56.1**	**+0.5**
	baz=305								
WTCT				*i* S		**Sn**		**15 15 04.0**	**-1.3**
	baz=305								
WCHH	**Zhanghua**	**0.49**	**345**	⇓*i*P		**Pb**		**15 14 57.1**	**+1.0**
	baz=343								
WCHH				*i* S		**Sn**		**15 15 05.2**	**-0.9**
	baz=343								
WCS	**Beigang Elemen**	**0.49**	**24⇑**	*i*P		**Pb**		**15 14 56.6**	**+0.5**
	baz=31								
WCS				*i* S		**Sb**		**15 15 04.2**	**+1.2**
	baz=31								
ELDTW	**Lidau**	**0.51**	**144**	⇓*i*P		**Pb**		**15 14 56.4**	**+0.1**
	baz=145								
CHN8	**Yiju**	**0.51**	**240⇑**	*i*P		**Pg**		**15 14 57.1**	**+0.7**
	baz=243								
CHN8				S		**Sn**		**15 15 06.0**	**-0.6**
	baz=243								
SGST	**Jiashian**	**0.53**	**191⇑**	*i*P		**Pb**		**15 14 56.2**	**-0.5**
	baz=194								
SGST				*i* S		**Sg**		**15 15 04.2**	**+0.4**
	baz=194								
TCU	**Taichung**	**0.54**	**358**	⇓P		**Pg**		**15 14 58.0**	**+1.1**
	baz=357								
TCU				S		**Sn**		**15 15 06.3**	**-1.1**
	baz=357								
WUSB	**Renai**	**0.55**	**45⇑**	*i*P		**Pb**		**15 14 57.2**	**+0.3**
	baz=42								
WUSB				S		**Sb**		**15 15 04.8**	**+0.3**
	baz=42								
OWD	**Renai**	**0.56**	**51⇑**	*i*P		**Pg**		**15 14 57.8**	**+0.5**
	baz=49								
OWD				*e*S		**Sg**		**15 15 05.6**	**+0.7**
	baz=49								
EHY	**Hungye**	**0.58**	**99⇓**	*i*P		**Pg**		**15 14 58.1**	**+0.4**
	baz=98								
EHY				*i* S		**Sg**		**15 15 06.3**	**+0.8**
	baz=98								
YULB	**Yu-li**	**0.59**	**111**	P		**Pb**		**15 14 57.7**	**+0.1**
YULB	**Yu-li**	**0.59**	**111⇓**	*i*P		**Pb**		**15 14 58.0**	**+0.3**
	baz=110								
YULB				*i* S		**Sb**		**15 15 05.9**	**+0.3**
	baz=110								
SSHA	**Shanhua**	**0.60**	**219**	⇑P		**Pg**		**15 14 59.0**	**+1.1**
	baz=222								
SSHA				*i* S		**Sn**		**15 15 09.3**	**+0.7**
	baz=222								
CHN3	**Shinhua**	**0.61**	**210⇑**	*i*P		**Pn**		**15 14 59.4**	**-0.2**
	baz=225								
CHN3				S		**Sn**		**15 15 09.1**	**+0.2**
	baz=225								
TWF1	**Yuli**	**0.61**	**114⇓**	*i*P		**Pg**		**15 14 58.4**	**+0.3**
	baz=121								
TWF1				*i* S		**Sg**		**15 15 06.7**	**+0.5**
	baz=121								
SLGT	**Liugui**	**0.61**	**184⇑**	*i*P		**Pg**		**15 14 58.6**	**+0.5**
	baz=177								
SLGT				S		**Sg**		**15 15 07.3**	**+1.1**
	baz=177								
EYUL	**Yuli**	**0.63**	**114⇓**	*i*P		**Pg**		**15 14 58.8**	**+0.3**
	baz=121								
EYUL				S		**Sb**		**15 15 07.1**	**+0.5**
	baz=121								
SCLT	**Jiali**	**0.63**	**227⇑**	*i*P		**Pg**		**15 14 59.2**	**+0.8**
	baz=229								
SCLT				S		**Sn**		**15 15 09.8**	**+0.4**
	baz=229								
CHGB	**Renai**	**0.63**	**44⇑**	*i*P		**Pb**		**15 14 58.8**	**+0.3**
	baz=41								
CHGB				S		**Sb**		**15 15 07.3**	**+0.3**
	baz=41								
WARBT	**Fenglin Townsh**	**0.64**	**80⇑**	*i*P		**Pb**		**15 14 59.0**	**+0.4**
	baz=78								
WARBT				*i* S		**Sb**		**15 15 07.4**	**+0.2**
	baz=78								
EHD	**Haiduan**	**0.65**	**134⇓**	*i*P		**Pb**		**15 14 59.1**	**+0.4**
	baz=141								
EHD				*e*S		**Sg**		**15 15 07.9**	**+0.3**
	baz=141								
SHHT	**Tainan City**	**0.66**	**209⇑**	*i*P		**Pn**		**15 15 00.5**	**+0.1**
	baz=224								
SHHT				S		**Sn**		**15 15 11.2**	**+1.0**
	baz=224								
EGFH	**Guangfu**	**0.67**	**84⇑**	*i*P		**Pg**		**15 14 59.6**	**+0.3**
	baz=76								
EGFH				S		**Sb**		**15 15 08.3**	**+0.3**
	baz=76								
HGSD	**Ruisui**	**0.68**	**99**	⇓P		**Pg**		**15 15 00.2**	**+0.8**
	baz=98								
HGSD				S		**Sg**		**15 15 09.6**	**+1.2**
	baz=98								
FULB	**Fuli**	**0.68**	**126⇓**	*i*P		**Pg**		**15 15 00.3**	**+0.8**
	baz=126								
FULB				*e*S		**Sg**		**15 15 09.6**	**+1.0**
	baz=126								
ECS	**Chishang**	**0.70**	**136⇓**	*i*P		**Pg**		**15 15 00.2**	**+0.5**
	baz=137								
ECS				*e*S		**Sg**		**15 15 09.7**	**+0.6**
	baz=137								
TAI1	**Yung-k'ang**	**0.71**	**218**	P		**Pn**		**15 15 01.0**	**+0.1**
	baz=219								
TAI1				*e*S		**Sn**		**15 15 11.7**	**+0.4**
	baz=219								
ESL	**Shilin**	**0.71**	**73⇑**	*i*P		**Pg**		**15 15 00.3**	**+0.3**
	baz=71								
ESL				*e*S		**Sg**		**15 15 09.8**	**+0.4**
	baz=71								
WHP	**Taichung City**	**0.71**	**19⇑**	*i*P		**Pg**		**15 15 00.5**	**+0.5**
	baz=17								
WHP				*e*S		**Sg**		**15 15 10.9**	**+1.4**
	baz=17								
TSCK	**Chigu Township**	**0.72**	**231⇑**	*i*P		**Pg**		**15 15 00.5**	**+0.4**
	baz=233								
TSCK				*e*S		**Sn**		**15 15 12.3**	**+0.6**
	baz=233								
SCST	**Cishan**	**0.74**	**195⇑**	*e*P		**Pn**		**15 15 01.7**	**+0.3**
	baz=197								
SCST				S		**Sn**		**15 15 13.5**	**+1.4**
	baz=197								
WDJ	**Dajia District**	**0.74**	**356⇓**	*i*P		**Pn**		**15 15 01.7**	**+0.2**
	baz=343								
WDJ				*i* S		**Sn**		**15 15 13.1**	**+0.8**
	baz=343								
TWQ1	**Liyutan**	**0.74**	**5**	⇑P		**Pg**		**15 15 01.4**	**+0.7**
	baz=4.0								
TWQ1				S		**Sn**		**15 15 12.5**	**+0.1**
	baz=4.0								
ECBN	**Changbin**	**0.75**	**112**	*e*P		**Pn**		**15 15 02.0**	**+0.5**
	baz=112								
WHF	**Hehuan Shan**	**0.75**	**44⇑**	*e*P		**Pg**		**15 15 01.3**	**+0.4**
	baz=50								
WHF				*i* S		**Sg**		**15 15 11.3**	**+0.4**
	baz=50								
CHKH	**Chenggong**	**0.76**	**122⇓**	*e*P		**Pn**		**15 15 01.7**	**0.0**
	baz=128								
CHKH				*e*S		**Sn**		**15 15 12.3**	**-0.4**
	baz=128								
TDCB	**Techi**	**0.77**	**33**	⇑P		**Pb**		**15 15 01.0**	**0.0**
	baz=37								
TDCB				S		**Sg**		**15 15 12.1**	**+0.5**
	baz=37								
LXIB	**Xiulin Townshi**	**0.78**	**57⇑**	*i*P		**Pb**		**15 15 01.5**	**+0.5**
	baz=46								
LXIB				*e*S		**Sb**		**15 15 11.5**	**+0.2**
	baz=46								
TEGC	**Jichi Village**	**0.78**	**82**	*e*P		**Pn**		**15 15 02.3**	**+0.4**
	baz=81								
TEGC				*e*S		**Sn**		**15 15 12.8**	**-0.3**
	baz=81

	baz=73								
ETLH	**Xiulin Townshi**	**0.94**	**50**	⇑	*i*	P	**Pb**	**15 15 03.9**	**+0.2**
	baz=43								
ETLH					*e*	S	**Sn**	**15 15 17.4**	**+0.2**
	baz=43								
TTN	**Taitung**	**0.94**	**154**		*e*	P	**Pg**	**15 15 05.3**	**+1.0**
	baz=164								
TTN						S	**Sn**	**15 15 19.5**	**+2.4**
	baz=164								
TWD	**Chiawan**	**0.95**	**60**	⇑	*i*	P	**Pb**	**15 15 04.3**	**+0.4**
	baz=59								
TWD						S	**Sb**	**15 15 16.7**	**+0.6**
	baz=59								
MASBT	**Mashibuluo**	**0.99**	**183**			P	**Pn**	**15 15 05.0**	**+0.1**
	baz=185								
MASBT						S	**Sn**	**15 15 18.5**	**+0.2**
	baz=185								
NACB	**Ninganchiao**	**1.00**	**55**			P	**Pb**	**15 15 05.1**	**+0.4**
NACB	**Ninganchiao**	**1.00**	**55**	⇑	*i*	P	**Pb**	**15 15 04.6**	**-0.1**
	baz=54								
NACB					*i*	S	**Sb**	**15 15 18.0**	**+0.5**
	baz=54								
WDGT	**Dungji**	**1.01**	**250**	⇑	*i*	P	**Pb**	**15 15 04.6**	**-0.3**
	baz=251								
WDGT					*i*	S	**Sb**	**15 15 17.9**	**+0.1**
	baz=251								
ETL	**Fush Village**	**1.01**	**57**		*e*	P	**Pb**	**15 15 04.6**	**-0.4**
	baz=55								
ETL					*e*	S	**Sn**	**15 15 18.9**	**-0.1**
	baz=55								
ECL	**Taimali**	**1.03**	**167**	⇓	*i*	P	**Pn**	**15 15 05.7**	**+0.2**
	baz=158								
ECL						S	**Sn**	**15 15 19.6**	**+0.2**
	baz=158								
NNSB	**Datong**	**1.03**	**37**	⇑	*i*	P	**Pb**	**15 15 05.4**	**0.0**
	baz=42								
NNSB					*e*	S	**Sb**	**15 15 18.5**	**-0.2**
	baz=42								
PHUB	**P'eng-hu**	**1.03**	**265**	⇑	*i*	P	**Pb**	**15 15 05.0**	**-0.3**
	baz=266								
PHUB						S	**Sb**	**15 15 18.5**	**0.0**
	baz=266								
WSSB	**Gushan**	**1.04**	**203**		*e*	P	**Pg**	**15 15 06.3**	**+0.1**
	baz=217								
WSSB					*e*	S	**Sg**	**15 15 22.4**	**+2.6**
	baz=217								
NNS	**Nan Shan**	**1.04**	**36**	⇑	*i*	P	**Pb**	**15 15 05.6**	**+0.1**
	baz=23								
NNS					*e*	S	**Sb**	**15 15 18.9**	**+0.2**
	baz=23								
PNG	**Penghu**	**1.05**	**268**			P	**Pb**	**15 15 05.2**	**-0.3**
	baz=269								
PNG					*e*	S	**Sb**	**15 15 19.1**	**+0.2**
	baz=269								
NSTT	**Nanjuang**	**1.06**	**15**		*e*	P	**Pn**	**15 15 06.5**	**+0.6**
	baz=5.0								
NSTT						S	**Sn**	**15 15 20.6**	**+0.5**
	baz=5.0								
LIOB	**Emei**	**1.08**	**16**		*e*	P	**Pg**	**15 15 06.9**	**0.0**
	baz=15								
LIOB					*i*	S	**Sg**	**15 15 21.8**	**+0.7**
	baz=15								
NFF	**Wufeng Townshi**	**1.09**	**21**	⇑	*i*	P	**Pb**	**15 15 07.0**	**+0.6**
	baz=5.0								
NFF					*i*	S	**Sn**	**15 15 21.2**	**+0.2**
	baz=5.0								
LDUT	**Ludao**	**1.17**	**142**		*e*	P	**Pb**	**15 15 07.9**	**+0.4**
	baz=127								
LDUT					*i*	S	**Sg**	**15 15 24.4**	**+0.5**
	baz=127								
EAHA	**Aohua**	**1.20**	**53**		*e*	P	**Pb**	**15 15 08.4**	**+0.4**
	baz=51								
EAHA					*e*	S	**Sg**	**15 15 25.2**	**+0.4**
	baz=51								
LATG	**Datong**	**1.20**	**39**	⇑		P	**Pn**	**15 15 08.2**	**+0.3**
	baz=38								
LATG					*i*	S	**Sn**	**15 15 24.2**	**+0.5**
	baz=38								
SBCB	**Hsinchu**	**1.21**	**13**		*e*	P	**Pb**	**15 15 08.9**	**+0.5**
	baz=12								
SBCB					*e*	S	**Sg**	**15 15 25.6**	**+0.2**
	baz=12								
HSN	**Hsinchu**	**1.22**	**12**		*e*	P	**Pg**	**15 15 10.4**	**+0.8**
	baz=356								
HSN					*e*	S	**Sg**	**15 15 26.4**	**+0.8**
	baz=356								
EAST	**Anshuo**	**1.22**	**173**		*e*	P	**Pb**	**15 15 08.9**	**+0.4**
	baz=174								
EAST					*e*	S	**Sg**	**15 15 26.0**	**+0.4**
	baz=174								
SCZT	**Fangliau**	**1.23**	**183**	⇑	*i*	P	**Pb**	**15 15 08.7**	**+0.1**
	baz=184								
SCZT						S	**Sg**	**15 15 26.0**	**+0.2**
	baz=184								
NSK	**Sanguang**	**1.23**	**29**		*e*	P	**Pb**	**15 15 08.9**	**+0.3**
	baz=20								
NSK					*e*	S	**Sn**	**15 15 24.7**	**+0.4**
	baz=20								
VCHM	**Qimei**	**1.23**	**252**		*i*	P	**Pn**	**15 15 07.8**	**-0.3**
	baz=253								
VCHM						S	**Sg**	**15 15 25.5**	**-0.3**
	baz=253								
YHNB	**Yeheng**	**1.23**	**30**			P	**Pb**	**15 15 09.3**	**+0.6**
YHNB	**Yeheng**	**1.23**	**30**	⇑	*i*	P	**Pb**	**15 15 09.0**	**+0.3**
	baz=19								
YHNB						S	**Sb**	**15 15 24.2**	**0.0**
	baz=19								
NDT	**Datong Townshi**	**1.24**	**37**	⇑	*i*	P	**Pb**	**15 15 09.1**	**+0.2**
	baz=36								
NDT						S	**Sn**	**15 15 25.8**	**+1.1**
	baz=36								
TAW	**Tawu**	**1.25**	**172**		*e*	P	**Pb**	**15 15 09.9**	**+0.9**
	baz=184								
TAW					*e*	S	**Sg**	**15 15 26.4**	**-0.3**
	baz=184								
ENA	**Nanau**	**1.26**	**49**	⇑		P	**Pb**	**15 15 09.3**	**+0.2**
	baz=48								
TAWH	**Dawu Township**	**1.27**	**172**	⇓		P	**Pb**	**15 15 10.0**	**+0.7**
	baz=173								
TAWH					*i*	S	**Sg**	**15 15 27.4**	**+0.2**
	baz=173								
EWUT	**Wuta**	**1.30**	**50**	⇑	*e*	P	**Pb**	**15 15 09.8**	**0.0**
	baz=48								
EWUT						S	**Sg**	**15 15 28.0**	**0.0**
	baz=48								
ENTT	**Nioudou**	**1.30**	**37**		*e*	P	**Pb**	**15 15 10.3**	**+0.4**
	baz=30								
ENTT					*i*	S	**Sg**	**15 15 28.6**	**+0.3**
	baz=30								
NWLT	**Wulai**	**1.38**	**32**	⇓	*e*	P	**Pb**	**15 15 11.7**	**+0.5**
	baz=41								
NWLT					*i*	S	**Sb**	**15 15 29.3**	**+0.7**
	baz=41								
SLIU	**Shizi**	**1.38**	**176**			P	**Pb**	**15 15 11.2**	**0.0**
	baz=178								
SLIU					*e*	S	**Sg**	**15 15 30.7**	**-0.1**
	baz=178								
NDS	**Dongshan**	**1.39**	**42**		*e*	P	**Pb**	**15 15 12.0**	**+0.7**
	baz=41								
NDS					*e*	S	**Sg**	**15 15 30.6**	**-0.3**
	baz=41								
FUSB	**Fushanzhiwuyua**	**1.41**	**35**		*e*	P	**Pb**	**15 15 12.2**	**+0.4**
	baz=29								
FUSB					*e*	S	**Sg**	**15 15 31.7**	**0.0**
	baz=29								
TWE	**Neicheng**	**1.42**	**38**	⇑	*i*	P	**Pb**	**15 15 12.5**	**+0.6**
	baz=38								
TWE					*e*	S	**Sg**	**15 15 31.9**	**-0.2**
	baz=38								
ESAO	**Su ao**	**1.43**	**47**		*e*	P	**Pb**	**15 15 12.2**	**+0.2**
	baz=46								
ESAO					*e*	S	**Sg**	**15 15 32.0**	**-0.2**
	baz=46								
NCUH	**Zhongli**	**1.43**	**18**		*e*	P	**Pg**	**15 15 13.8**	**+0.2**
	baz=3.0								
NCUH					*e*	S	**Sg**	**15 15 32.1**	**-0.2**
	baz=3.0								
TWC	**Suao**	**1.45**	**46**	⇓		P	**Pb**	**15 15 13.1**	**+0.6**
	baz=46								
TWC					*e*	S	**Sb**	**15 15 31.4**	**+0.9**
	baz=46								
ILA	**Ilan**	**1.50**	**39**		*e*	P	**Pg**	**15 15 15.0**	**0.0**
	baz=39								
ILA					*e*	S	**Sg**	**15 15 34.7**	**+0.1**
	baz=39								
NHDH	**Xindian Distri**	**1.55**	**29**		*e*	P	**Pb**	**15 15 15.2**	**+1.0**
	baz=28								
NHDH					*e*	S	**Sg**	**15 15 36.8**	**+0.7**
	baz=28								
EOS4	**EOS4**	**1.57**	**71**		*e*	P	**Pb**	**15 15 13.9**	**-0.3**
	baz=69								
HEN	**Hengchun**	**1.59**	**179**		*e*	P	**Pb**	**15 15 16.0**	**+1.3**
	baz=180								
TWA	**Mucha**	**1.59**	**30**		*e*	P	**Pb**	**15 15 15.0**	**+0.2**
	baz=30								
TWA					*e*	S	**Sb**	**15 15 35.8**	**+1.2**
	baz=30								
TWS1	**Kuangyinshan**	**1.63**	**24**		*e*	P	**Pb**	**15 15 15.3**	**-0.1**
	baz=12								
TWS1					*e*	S	**Sb**	**15 15 37.2**	**+1.5**
	baz=12								
TWK1	**Hengchun**	**1.66**	**176**		*e*	P	**Pn**	**15 15 14.9**	**+0.9**
	baz=177								
EGS		**1.67**	**42**		*e*	P	**Pb**	**15 15 17.0**	**+0.8**
	baz=30								
NTST	**Danshui**	**1.70**	**24**		*e*	P	**Pn**	**15 15 15.8**	**+1.2**
	baz=5.0								
TIPB	**Shuangxi**	**1.71**	**37**		*e*	P	**Pb**	**15 15 17.4**	**+0.6**
	baz=22								
YM01	**YM01**	**1.73**	**27**		*e*	P	**Pb**	**15 15 16.6**	**-0.6**
	baz=9.0								
YM01					*e*	S	**Sb**	**15 15 38.5**	**-0.1**
	baz=9.0								
LAY	**Lan-yu**	**1.75**	**153**		*e*	P	**Pn**	**15 15 16.5**	**+1.2**
	baz=153								
ANP	**Anpu**	**1.75**	**25**		*e*	P	**Pb**	**15 15 17.0**	**-0.5**
	baz=25								
ANP					*e*	S	**Sb**	**15 15 40.2**	**+1.1**
	baz=25								
NWF	**Wu-fen Shan**	**1.77**	**34**		*e*	P	**Pb**	**15 15 18.8**	**+0.9**
	baz=33								
NWF						S	**Sb**	**15 15 40.9**	**+1.3**
	baz=33								
WFSB	**Wu-fen Shan**	**1.77**	**34**		*e*	P	**Pb**	**15 15 18.0**	**+0.2**
	baz=33								
WFSB					*e*	S	**Sb**	**15 15 39.2**	**-0.3**
	baz=33								
YM08	**YM08**	**1.78**	**27**		*e*	P	**Pb**	**15 15 17.6**	**-0.3**
	baz=9.0								
VWUC	**VWUC**	**1.79**	**321**		*e*	P	**Pn**	**15 15 15.5**	**-0.4**
	baz=321								
LYUB	**Lan-yu**	**1.79**	**153**		*e*	P	**Pn**	**15 15 15.3**	**-0.6**
	baz=153								
TWB1	**Santiao Chiao**	**1.83**	**40**		*e*	P	**Pb**	**15 15 18.8**	**-0.1**
	baz=21								
TWB1					*e*	S	**Sb**	**15 15 42.4**	**+1.0**
	baz=21								
SXI1	**Grass Mountain**	**1.83**	**36**		*e*	P	**Pn**	**15 15 18.1**	**+1.5**
	baz=21								
TWY	**Chenhua**	**1.86**	**26**		*e*	P	**Pb**	**15 15 19.5**	**+0.1**
	baz=9.0								
KNM	**Kinmen**	**2.22**	**292**		*e*	P	**Pn**	**15 15 23.3**	**+1.5**
	baz=290								
JYNG	**Yonagunijimaku**	**2.22**	**67**		S		**Sb**	**15 15 51.8**	**-1.0**
KNMB	**Chin-men Tao**	**2.28**	**293**		*e*	P	**Pn**	**15 15 22.3**	**-0.3**
	baz=292								
YOJ	**Yonaguni jima**	**2.28**	**68**		S		**Sb**	**15 15 53.2**	**-1.3**
QZH	**Quanzhou**	**2.34**	**305**		Pn		**Pn**	**15 15 23.8**	**+0.4**
QZH					Sn		**Sn**	**15 15 50.8**	**-0.8**
QZH					smax	smax			
	comp=N,640nm,0.5s								
QZH					smax	smax			
	comp=E,790nm,0.7s								
MATB	**Ma-tsu**	**2.63**	**345**		*e*	P	**Pn**	**15 15 26.9**	**-0.6**
	baz=344								
ZPLA	**Ao Xicun**	**2.72**	**277**		*e*	P	**Pn**	**15 15 28.7**	**0.0**
	baz=277								
AXDP	**Jialang**	**2.80**	**298**		*e*	P	**Pn**	**15 15 29.7**	**-0.2**
	baz=298								
HATJ	**Hateruma jima**	**2.88**	**80**		S		**Sb**	**15 16 08.8**	**-2.9**
MHZQ	**Yeshan**	**2.91**	**329**		*e*	P	**Pn**	**15 15 31.5**	**+0.2**
	baz=328								
DSXP	**Dongshan**	**3.00**	**273**		*e*	P	**Pn**	**15 15 32.5**	**0.0**
	baz=272								
LYJJ	**Jianjiangzhen**	**3.06**	**344**		*e*	P	**Pn**	**15 15 33.1**	**-0.2**
	baz=342								
JKRS	**Kuro-shima**	**3.10**	**78**		*e*	P	**Pn**	**15 15 36.6**	**+2.8**
JKRS						S	**Sn**	**15 16 13.6**	**+3.2**
JIJ	**Ishigaki jima**	**3.24**	**76**		P		**Pn**	**15 15 37.0**	**+1.1**
JIJ						S	**Sn**	**15 16 15.6**	**+1.6**
XPSS	**Dashiqiu**	**3.34**	**352**		*e*	P	**Pn**	**15 15 37.1**	**-0.2**
	baz=350								
JISG	**Ishigakijimahi**	**3.44**	**73**		P		**Pn**	**15 15 41.0**	**+2.3**
JISG					*e*	S	**Sn**	**15 16 20.2**	**+1.2**
JTJ	**Tarama**	**3.80**	**73**		S		**Sn**	**15 16 32.0**	**+4.2**
JMJ2	**Miyako jima3**	**4.38**	**74**		S		**Sn**	**15 16 45.6**	**+3.6**
GZH	**Guangzhou**	**6.78**	**267**		P		**Pn**	**15 16 21.1**	**-3.3**
GZH					S		**Sn**	**15 17 35.5**	**-5.6**
GZH					smax	smax			
	comp=N,140nm,0.8s								
GZH					smax	smax			
	comp=E,140nm,0.9s								
KSRS	**Korea Array**	**15.14**	**23**		Pn		**P**	**15 18 26.6**	**+2.8**
	comp=E,0.1nm,0.3s,baz=208,slow=12,SNR=1.7								
	comp=E,0.9nm,0.7s								
CMAR	**Chiang Mai Arr**	**20.93**	**260**		P		**P**	**15 19 21.9**	**-5.9**
	comp=E,0.2nm,0.3s,baz=65,slow=9.6,SNR=2.3								
	comp=E,0.2nm,0.3s								
GUMO	**Guam**	**24.95**	**109**		LR		LR	15 27 58.7	
	comp=E,12nm,19.9s,baz=91,slow=32								
SONM	**Songino Array**	**26.73**	**338**		P		**P**	**15 20 24.2**	**-0.2**
	comp=E,0.3nm,0.8s,baz=145,slow=10,SNR=1.8								
	comp=E,0.3nm,0.8s								
MKAR	**Makanchi Array**	**38.45**	**317**		P		**P**	**15 22 05.5**	**-1.1**
	comp=E,0.3nm,0.7s,baz=110,slow=9.9,SNR=1.6								
	comp=E,0.3nm,0.7s								
ZALV	**Zalesovo Beam**	**40.49**	**328**		P		**P**	**15 22 23.7**	**+0.2**
	comp=E,0.7nm,0.6s,baz=120,slow=8.7,SNR=4.2								
	comp=E,0.7nm,0.6s								
WRA	**Warramunga Arr**	**45.28**	**162**		P		**P**	**15 23 00.5**	**-2.2**
	comp=E,0.5nm,0.6s,baz=343,slow=8.9,SNR=6.0								
	comp=E,0.5nm,0.6s								
BVAR	**Borovoye Array**	**47.84**	**321**		P		**P**	**15 23 23.7**	**+1.3**
	comp=E,0.3nm,0.6s,baz=99,slow=13,SNR=2.0								
	comp=E,0.3nm,0.6s								
ASAR	**Alice Springs**	**48.71**	**164**		P		**P**	**15 23 28.2**	**-1.1**
	comp=E,0.5nm,0.7s,baz=342,slow=7.8,SNR=7.8								
	comp=E,0.5nm,0.7s								

*IDC **24** 15:20:10.5±5.2, 19°.50S×175°.09W, h0km, mb4.3/4, mbtmp4.3/4, Error ellipse: s-maj=142.5km s-min=98.7km az=169.0*
*NEIC **24** 15:20:17.3±1.8, 19°.7S±0°.3×174°.53W±0°.06, h81km±14km, mb4.5/15, Error ellipse: s-maj=46.1km s-min=6.9km az=183.0*

ISC 24 15:20:13.0±1.3,**19°.6S**±0°.3×**174°.3W**±0°.1,**h61**km,**n21,**
σ1§22/22,mb4.5/9,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAR	**Rarotonga**	**13.70**	**99**		Pn	**P**	**15 23 30.5**	**-0.6**
DSZ	**Denniston Nort**	**25.08**	**205**		P	**P**	**15 25 33.5**	**+1.7**
OXZ	**Oxford**	**26.34**	**203**		P	**P**	**15 25 42.7**	**-0.5**
OXZ					IAmb	IAmb	15 25 47.9	
	comp=Z,48nm,1.5s							
EIDS	**Eidsvold**	**32.47**	**253**		P	**P**	**15 26 37.7**	**-0.1**
EIDS					IAmb	IAmb	15 27 16.5	
	comp=Z,9.2nm,1.2s							
CTA	**Charters Tower**	**37.08**	**262**		P	**P**	**15 27 17.4**	**-0.2**
	comp=Z,2.5nm,0.5s,baz=100,slow=8.9,SNR=12							
	comp=Z,2.5nm,0.5s							
CTAO	**Charters Tower**	**37.08**	**262**		P	**P**	**15 27 17.6**	**0.0**
CTAO					IAmb	IAmb	15 27 43.9	
	comp=Z,8.9nm,1.3s							
STKA	**Stephens Creek**	**41.35**	**244**		P	**P**	**15 27 53.2**	**+0.1**
STKA	**Stephens Creek**	**41.35**	**244**		P	**P**	**15 27 52.6**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=82,slow=13,SNR=6.3							
	comp=Z,2.2nm,0.8s							
BBOO	**Buckleboo**	**46.10**	**243**		P	**P**	**15 28 30.6**	**-0.7**
WR0	**Warramunga Arr**	**48.02**	**260**		P	**P**	**15 28 45.1**	**-1.2**
WR0					IAmb	IAmb	15 29 01.7	
	comp=Z,4.1nm,1.1s							
AS31	**Alice Springs**	**48.14**	**255**		P	**P**	**15 28 45.9**	**-1.4**
ASAR	**Alice Springs**	**48.15**	**255**		P	**P**	**15 28 46.0**	**-1.3**
ASAR	**Alice Springs**	**48.15**	**255**		P	**P**	**15 28 46.5**	**-0.8**
	comp=Z,3.6nm,0.6s,baz=91,slow=8.2,SNR=105							
ASAR					PcP	**PcP**	**15 30 17.7**	**+3.6**
	comp=Z,0.2nm,0.6s,baz=96,slow=4.2,SNR=1.8							
	comp=Z,3.6nm,0.6s							
WB0	**Warramunga Arr**	**48.18**	**261**		P	**P**	**15 28 46.5**	**-1.2**
WB0					IAmb	IAmb	15 28 47.4	
	comp=Z,4.0nm,0.6s							
WB2	**Warramunga Arr**	**48.20**	**260**		P	**P**	**15 28 46.8**	**-1.0**
WB2					IAmb	IAmb	15 28 47.5	
	comp=Z,4.7nm,0.9s							
WRA	**Warramunga Arr**	**48.21**	**260**		P	**P**	**15 28 46.8**	**-1.0**
	comp=Z,1.8nm,0.3s,baz=95,slow=8.5,SNR=116							
	comp=Z,1.8nm,0.3s							
MTN	**Manton Dam**	**52.67**	**269**		P	**P**	**15 29 21.9**	**+0.3**
FORT	**Forrest**	**52.88**	**246**		P	**P**	**15 29 21.9**	**-1.0**
KNRA	**Kununurra**	**54.23**	**264**		P	**P**	**15 29 33.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**56.63**	**261**		P	**P**	**15 29 50.5**	**+0.3**
MBWA	**Marble Bar**	**61.48**	**256**		P	**P**	**15 30 22.9**	**-0.8**

*TIR **24** 15:22:05.7, 41°.17N×20°.79E, h1km±1km, Ml2.4*
*SKO **24** 15:22:06.1, 41°.14N×20°.74E, h15km, ML2.7*
*THE **24** 15:22:07.4, 41°.17N×20°.79E, h2km±31km, ML2.2/6, Error ellipse: s-maj=31.1km s-min=0.5km az=0.0*
*BEO **24** 15:22:07.9±0.3, 41°.13N×20°.78E, h4km±3km, ML2.5/8*

ISC 24 15:22:07.3±0.9,**41°.17N**±0°.02×**20°.77E**±0°.02,**h4**km±6km,
n45,σ1§19/78,9C-4D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHR	**Ohrid**	**0.06**	**161**		*e*Pg	**Pg**	**15 22 08.7**	**+0.1**
OHR					*e*Sg	**Sg**	**15 22 09.9**	**+0.3**
OHR	**Ohrid**	**0.06**	**161**	⇑	*i*Pg	**Pg**	**15 22 08.8**	**+0.2**
OHR					*i* Sg	**Sg**	**15 22 10.0**	**+0.4**
OHR					*e*Lg	Lg	15 22 10.1	
	comp=N,13μm,0.3s							
OHR					*e*Lg	Lg	15 22 10.4	
	comp=E,7μm,0.6s							
KBN	**Korca**	**0.54**	**179**		P	**Pg**	**15 22 17.4**	**-0.3**
	baz=181							
KBN					S	**Sg**	**15 22 25.8**	**+1.1**
	baz=181							
KBN					AMP			
	comp=E,0.9nm,0.4s,baz=181							
KBN	**Korca**	**0.54**	**179**		P	**Pg**	**15 22 17.4**	**-0.3**
KBN					S	**Sg**	**15 22 25.6**	**+0.9**
	comp=E,470nm,0.7s							
PHP	**Peshkopia**	**0.58**	**334**		P	**Pg**	**15 22 17.7**	**-0.7**
	baz=334							
PHP					S	**Sb**	**15 22 27.0**	**-1.4**
	baz=334							
PHP					AMP			
	comp=E,0.3nm,0.2s,baz=334							
PHP	**Peshkopia**	**0.58**	**334**		P	**Pg**	**15 22 17.7**	**-0.7**
PHP					S	**Sb**	**15 22 27.1**	**-1.4**
	comp=E,322nm,0.2s							
FNA	**Florina**	**0.59**	**130**		P	**Pg**	**15 22 18.5**	**-0.2**
	baz=130							
FNA					S	**Sg**	**15 22 27.2**	**+0.7**
	baz=130							
FNA					AMP			
	comp=E,5.1nm,0.3s,baz=130							
FNA	**Florina**	**0.59**	**130**		P	**Pg**	**15 22 18.4**	**-0.3**
FNA					S	**Sg**	**15 22 27.0**	**+0.6**
	comp=E,3μm,0.3s							
FNA	**Florina**	**0.59**	**130**		*e*Pg	**Pg**	**15 22 18.5**	**-0.2**
FNA					*e*Sg	**Sg**	**15 22 27.0**	**+0.6**
FNA	**Florina**	**0.59**	**130**	⇑	*i*Pg	**Pg**	**15 22 18.4**	**-0.3**
FNA					*i* Sg	**Sg**	**15 22 27.1**	**+0.7**
TIR	**Tirane**	**0.71**	**285**	⇑	P	**Pg**	**15 22 21.1**	**+0.2**
TIR				⇑	S	**Sb**	**15 22 32.4**	**+0.1**
TIR	**Tirane**	**0.71**	**285**		P	**Pg**	**15 22 20.2**	**-0.6**
	baz=285							
TIR					S	**Sb**	**15 22 32.1**	**-0.2**
	baz=285							
TIR					AMP			
	comp=E,0.5nm,0.3s,baz=285							
TIR	**Tirane**	**0.71**	**285**		P	**Pg**	**15 22 20.7**	**-0.1**
TIR					S	**Sb**	**15 22 31.8**	**-0.5**
	comp=E,148nm,0.4s							
TIR	**Tirane**	**0.71**	**285**		*e*Pg	**Pg**	**15 22 20.8**	**-0.1**
TIR					*e*Sg	**Sb**	**15 22 31.1**	**-1.2**
NEST	**Nestorio**	**0.78**	**164**		P	**Pg**	**15 22 21.8**	**-0.4**
NEST					S	**Sb**	**15 22 33.8**	**-0.5**
	comp=E,192nm,0.4s							
SKO	**Skopje**	**0.95**	**32**		*e*Pg	**Pb**	**15 22 25.8**	**-0.5**
SKO					*e*Sg	**Sn**	**15 22 39.3**	**-2.0**
SKO	**Skopje**	**0.95**	**32**		*i* Pg	**Pg**	**15 22 25.2**	**-0.2**
SKO					*i* Sg	**Sb**	**15 22 39.0**	**-0.2**
LSK	**Leskovik**	**1.02**	**187**		P	**Pg**	**15 22 25.9**	**-0.9**
	baz=189							
LSK					S	**Sb**	**15 22 41.2**	**-0.2**
	baz=189							
STIP	**Stip**	**1.19**	**63**		*i* Pg	**Pg**	**15 22 32.7**	**+2.7**
STIP					*i* Sg	**Sn**	**15 22 52.5**	**+5.3**
GRG	**Griva**	**1.25**	**99**		P	**Pn**	**15 22 30.2**	**-1.3**
GRG					S	**Sn**	**15 22 49.0**	**+0.2**
	comp=E,85nm,0.6s							
GRG	**Griva**	**1.25**	**99**		*i* Pg	**Pn**	**15 22 30.2**	**-1.3**
GRG					*i* Sg	**Sn**	**15 22 49.0**	**+0.2**
BCI	**Bajram Curri**	**1.31**	**336**		P	**Pn**	**15 22 31.8**	**-0.5**
	baz=337							
BCI					S	**Sg**	**15 22 52.4**	**+3.0**
	baz=337							
BCI					AMP			
	comp=E,0.6nm,0.5s,baz=337							
VAY	**Valandovo**	**1.36**	**83**		*e*Pg	**Pn**	**15 22 32.4**	**-0.6**
VAY					*e*Sg	**Sg**	**15 22 51.0**	**-0.1**
VAY	**Valandovo**	**1.36**	**83**		*i* Pg	**Pn**	**15 22 32.5**	**-0.6**
VAY					*i* Sg	**Sg**	**15 22 51.5**	**+0.5**
VAY					*e*Lg	Lg	15 22 52.4	
	comp=N,46nm,0.5s							
VAY					*e*Lg	Lg	15 22 52.8	
	comp=E,19nm,0.3s							
ULC	**Ulcinj**	**1.40**	**305**		*i* Pg	**Pn**	**15 22 32.4**	**-1.2**
SRN	**Sarande**	**1.41**	**205**		P	**Pg**	**15 22 34.5**	**+0.2**
	baz=206							
SRN					S	**Sg**	**15 22 54.8**	**+2.2**
	baz=206							
SRN					AMP			
	comp=N,0.3nm,0.9s,baz=206							
PRVS	**Prvonek**	**1.66**	**36**		*e*Pn	**Pg**	**15 22 38.5**	**-0.5**
PRVS			

LEM Lembang 1.51 53 P **Pn** **15 42 35.8 +3.3**
4µm,0.5s,baz=331,slow=6.5,SNR=487
LEM S **Sn** **15 42 53.5 +2.4**
1µm,0.6s,baz=172,slow=23,SNR=7.1
LEM LR LR 15 43 11.8
comp=Z,653nm,19.8s,baz=206,slow=58
TNG Tangerang 1.57 9 P **Pn** **15 42 36.3 +3.1**
SBJI Serang 1.62 351 P **Pn** **15 42 36.9 +2.9**
SBJI S **Sn** **15 42 56.8 +3.1**
CMJI Cimerak 2.04 92 P **Pn** **15 42 41.2 +1.6**
JCJI Jatiwangi 2.23 57 P **Pn** **15 42 42.4 +0.1**
KPJI Karang Pucung 2.55 81 P **Pn** **15 42 49.7 +3.1**
XMI Christmas Isla 2.79 194 P **Pn** **15 42 51.3 +1.3**
XMIS Christmas Isla 2.83 195 Pn **Pn** **15 42 51.5 +1.0**
XMIS Sn **Sn** **15 43 22.5 -0.9**
XMIS Christmas Isla 2.83 195 P **Pn** **15 42 51.5 +1.0**
KASI Kota Agung 2.90 319 P **Pn** **15 42 55.0 +3.6**
LWLI Liwa 3.56 319 P **Pn** **15 43 04.7 +4.0**
SMRI Semarang 4.07 81 Pn **Pn** **15 43 11.7 +4.1**
SMRI Semarang 4.07 81 P **Pn** **15 43 12.1 +4.5**
UGM Wanagama 4.09 93 **Pn** **15 43 08.9 +0.9**
UGM Wanagama 4.09 93 P Pn 15 43 00.7 -7.3
UGM Wanagama 4.09 93 P **Pn** **15 43 10.2 +2.2**
MNAI Manna 4.79 314 Pn **Pn** **15 43 20.3 +2.8**
MNAI Manna 4.79 314 P **Pn** **15 43 20.8 +3.2**
MNAI Manna 4.79 314 P **Pn** **15 43 20.7 +3.2**
PMBI Palembang 5.04 341 Pn Pn 15 43 26.2 +5.3
COCO West Island 10.40 244 Pn **Pn** **15 44 35.9 +1.3**
GSI Gunungsitoli 12.57 315 Pn **Pn** **15 45 01.5 -2.8**
GSI Gunungsitoli 12.57 315 P **Pn** **15 45 03.3 -1.0**
KAPI Kappang 13.55 79 LR LR 15 50 54.6
comp=Z,79nm,20.4s,baz=262,slow=40
MMRI Maumere 15.71 94 P **P** **15 45 51.2 +0.9**
MMRI IAmb IAmb 15 46 05.3
comp=Z,86nm,1.5s
GIRL Giralia 16.63 154 Pn **Pn** **15 45 58.5 +0.2**
KKM Kota Kinabalu 16.83 36 P **P** **15 46 03.6 +0.8**
KKM IAmb IAmb 15 46 27.7
comp=Z,46nm,1.3s
MBWA Marble Bar 18.55 137 P **Pn** **15 46 22.3 +0.2**
PSA00 Pilbara Seismi 18.91 138 P **P** **15 46 26.1 +0.4**
PSA00 IAmb IAmb 15 46 50.9
comp=Z,29nm,1.5s
FITZ Fitzroy Crossi 21.38 121 P **P** **15 46 52.7 +0.3**
DAV Davao City (W) 24.13 53 LR LR 15 59 24.6
comp=Z,42nm,18.4s,baz=270,slow=44
MTN Manton Dam 24.85 104 P **P** **15 47 26.7 -0.6**
FAKI Fak Fak 26.18 81 P **P** **15 47 39.2 -0.1**
FAKI IAmb IAmb 15 47 52.0
comp=Z,13nm,1.2s
NWAO Narrogin (SRO) 27.01 160 LR LR 15 58 11.8
comp=Z,61nm,21.6s,baz=295,slow=35
CMAR Chiang Mai Arr 27.04 344 P **P** **15 47 44.5 -2.6**
comp=Z,1.1nm,0.6s,baz=180,slow=8.3,SNR=15
CMAR LR LR 15 57 40.3
comp=Z,18nm,21.1s,baz=165,slow=35
comp=Z,1.1nm,0.6s
H01W3 Cape Leeuwin H 27.94 166 T T 16 17 42.9
baz=344,slow=76,SNR=103
H01W1 Cape Leeuwin H 27.95 166 T T 16 17 50.7
baz=344,slow=76,SNR=83
H01W2 Cape Leeuwin H 27.96 166 T T 16 17 40.8
baz=344,slow=76,SNR=157
WB0 Warramunga Arr 29.65 117 P **P** **15 48 12.3 +1.9**
WB0 IAmb IAmb 15 48 45.5
comp=Z,8.2nm,1.3s
WRA Warramunga Arr 29.66 117 P **P** **15 48 11.8 +1.3**
WRA Warramunga Arr 29.66 117 P **P** **15 48 11.0 +0.5**
comp=Z,0.3nm,0.4s,baz=292,slow=11,SNR=7.9
WRA PcP **PcP** **15 51 15.4 +0.9**
comp=Z,0.5nm,0.7s,baz=311,slow=2.0,SNR=1.7
comp=Z,0.3nm,0.4s
WRAB Tennant Creek 29.67 117 P **P** **15 48 11.5 +0.9**
WR0 Warramunga Arr 29.85 117 P **P** **15 48 12.4 +0.3**
WR0 IAmb IAmb 15 48 18.4
comp=Z,7.3nm,1.2s
AS31 Alice Springs 30.76 124 P **P** **15 48 21.3 +1.1**
ASAR Alice Springs 30.76 124 P **P** **15 48 21.2 +1.0**
ASAR Alice Springs 30.76 124 P **P** **15 48 21.7 +1.5**
comp=Z,0.4nm,0.4s,baz=304,slow=8.4,SNR=17
ASAR PcP **PcP** **15 51 18.5 +1.2**
comp=Z,0.3nm,0.5s,baz=303,slow=2.4,SNR=1.2
ASAR LR LR 16 00 43.7
comp=Z,36nm,20.9s,baz=356,slow=36
comp=Z,0.4nm,0.4s
H08S2 Diego Garcia H 33.59 268 T T 16 24 06.9
baz=93,slow=76,SNR=23
H08S3 Diego Garcia H 33.60 268 T T 16 24 15.0
baz=93,slow=76,SNR=468
H08S1 Diego Garcia H 33.61 268 T T 16 24 12.2
baz=93,slow=76,SNR=12
PMG Port Moresby 40.33 95 P **P** **15 49 43.5 +1.2**
PMG IAmb IAmb 15 49 43.6
comp=Z,11nm,1.1s
CTA Charters Tower 40.48 112 P **P** **15 49 45.4 +1.9**
comp=Z,5.4nm,1.1s,baz=261,slow=16,SNR=5.6
CTA LR LR 16 07 53.4
comp=Z,19nm,18.1s,baz=262,slow=38
comp=Z,5.4nm,1.1s
CTAO Charters Tower 40.48 112 P **P** **15 49 45.3 +1.8**
CTAO IAmb IAmb 15 49 46.7
comp=Z,4.2nm,0.9s
STKA Stephens Creek 40.60 131 P **P** **15 49 46.3 +1.9**
STKA Stephens Creek 40.60 131 P **P** **15 49 46.7 +2.3**
comp=Z,4.0nm,0.6s,baz=304,slow=9.2,SNR=9.3
comp=Z,4.0nm,0.6s
MJAR Matsushiro Arr 53.21 32 P **P** **15 51 18.5 -4.3**
comp=Z,0.6nm,0.6s,baz=214,slow=10,SNR=2.4
comp=Z,0.6nm,0.6s
SONM Songino Array 55.33 360 P **P** **15 51 36.3 -1.9**
comp=Z,0.8nm,0.4s,baz=177,slow=9.4,SNR=7.1
SONM PcP **PcP** **15 52 38.4 0.0**
comp=Z,0.6nm,0.4s,baz=181,slow=3.9,SNR=4.6
SONM LR LR 16 15 48.3
comp=Z,36nm,21.2s,baz=117,slow=37
comp=Z,0.8nm,0.4s
WSAR Wadi Sarin 55.92 305 P **P** **15 51 44.8 +2.0**
comp=Z,2.6nm,0.6s,baz=169,slow=3.3,SNR=4.8
comp=Z,2.6nm,0.6s
USA0B Ussuriysk Arra 56.63 22 P **P** **15 51 45.9 -1.4**
USRK Ussuriysk Ar. 56.63 22 P **P** **15 51 45.9 -1.5**
USRK Ussuriysk Ar. 56.63 22 P **P** **15 51 44.8 -2.6**
comp=Z,1.5nm,0.5s,baz=189,slow=5.3,SNR=10
comp=Z,1.5nm,0.5s
ARSB Arslanbob 57.65 331 P **P** **15 51 54.2 -0.6**
ARSB IAmb IAmb 15 51 55.2
comp=Z,1.7nm,0.6s
CHGR Chuyangaron 57.69 326 P **P** **15 51 53.6 -1.5**
MKAR Makanchi Array 58.37 341 P **P** **15 51 57.3 -2.4**
comp=Z,1.1nm,0.5s,baz=141,slow=8.5,SNR=1.7
comp=Z,1.1nm,0.5s
KK31 Karatay Array 60.20 330 P **P** **15 52 12.3 0.0**
KK31 IAmb IAmb 15 52 26.0
comp=Z,8.2nm,1.3s
KKAR Karatay Array 60.20 330 P **P** **15 52 12.3 0.0**
KKAR IAmb IAmb 15 52 26.0
comp=Z,8.2nm,1.3s
H04N2 CROZET ISLANDS 60.32 221 T T 16 58 07.0
baz=67,slow=75,SNR=429
H04N1 CROZET ISLANDS 60.33 221 T T 16 58 07.2
baz=67,slow=75,SNR=351
H04N3 CROZET ISLANDS 60.34 221 T T 16 58 05.9
baz=67,slow=75,SNR=147
H04S1 CROZET ISLANDS 60.50 220 T T 16 58 19.4
baz=75
H04S3 CROZET ISLANDS 60.51 220 T T 16 58 17.7
baz=75
H04S2 CROZET ISLANDS 60.52 220 T T 16 58 20.3
baz=75
GEYT Alibeck 63.91 319 P **P** **15 52 38.0 +0.6**
GEYT IAmb IAmb 15 52 54.2
comp=Z,6.7nm,1.1s
GEYT Alibeck 63.91 319 P **P** **15 52 37.7 +0.3**
comp=Z,1.4nm,0.4s,baz=141,slow=7.4,SNR=5.1
comp=Z,1.4nm,0.4s
GYA0B ALIBECK ARRAY 63.91 319 P **P** **15 52 38.1 +0.7**
ZALV Zalesovo Beam 64.09 346 P **P** **15 52 34.7 -3.4**
comp=Z,1.2nm,0.4s,baz=158,slow=6.1,SNR=4.5
comp=Z,1.2nm,0.4s
BVAR Borovoye Array 67.81 337 P **P** **15 53 01.5 -0.6**
comp=Z,5.3nm,0.5s,baz=126,slow=7.6,SNR=8.5
comp=Z,5.3nm,0.5s
BRVK Borovoye 67.87 337 P **P** **15 53 02.6 +0.1**
ABKAR Akbulak array 69.73 330 P **P** **15 53 14.0 -0.2**
PET Petropavlovsk 74.94 30 P **P** **15 53 43.8 -1.3**
KVAR Kislovodsk Arr 77.02 318 LR LR 16 31 09.4
comp=Z,266nm,21.9s,baz=256,slow=38
BRTR Keskin Array B 81.87 312 P **P** **15 54 23.0 -1.0**
BRTR Keskin Array B 81.87 312 P **P** **15 54 24.1 +0.1**
comp=Z,0.8nm,0.7s,baz=143,slow=7.7,SNR=5.3
comp=Z,0.8nm,0.7s
AKASG Malin Array Be 87.89 322 P **P** **15 54 55.0 +1.2**
comp=Z,0.7nm,0.5s,baz=90,slow=4.5,SNR=2.9
comp=Z,0.7nm,0.5s
FINES FINESS Array B 92.13 332 P **P** **15 55 12.7 -0.6**
comp=Z,6.5nm,1.1s,baz=117,slow=8.0,SNR=1.6
comp=Z,6.5nm,1.1s
ARCES ARCESS Array B 94.01 340 P **P** **15 55 21.1 -0.8**
comp=Z,0.7nm,0.6s,baz=100,slow=5.0,SNR=1.3
comp=Z,0.7nm,0.6s
H09N1 TRISTAN DA CUN 107.49 227 T T 17 58 47.8
SNR=25
PDAR Pinedale Array 132.94 36 PKP **PKPdf** **16 01 19.5 -0.6**
comp=Z,0.1nm,0.5s,baz=328,slow=3.2,SNR=2.0
CPUP Villa Florida 142.63 204 PKP **PKPdf** **16 01 37.4 -0.7**
comp=Z,0.9nm,0.5s,baz=81,slow=2.6,SNR=3.9
TXAR Lajitas Array 144.50 49 PKP PKPbc 16 01 40.7 +0.7
comp=Z,0.5nm,0.7s,baz=273,slow=0.9,SNR=8.0

*NNC **24** 15:42:36.7±2.0,37.00N×70.49E,h0km,mb5.3,mpv5.2,*
Error ellipse: s-maj=20.3km s-min=10.9km az=155.0
*MOS **24** 15:42:37.5±0.9,36.52N×70.89E,h166km,mb4.7/28,Error*
ellipse: s-maj=5.6km s-min=3.1km az=81.9
*IDC **24** 15:42:38.8±0.5,36.40N×70.84E,h169km±4km,mb3.9/26,*
mbtmp4.5/32,MS3.0/2,Error ellipse: s-maj=10.5km
s-min=8.0km az=21.0
*NEIC **24** 15:42:39.6±1.2,36.55N±0.06×70.84E±0.09,h166km±5km,*
mb4.6/153,Error ellipse: s-maj=9.9km s-min=8.2km
az=80.0
*BGR **24** 15:42:50.4,36.16N×68.91E,h176km±1km,mb4.4*
ISC 24 15:42:38.1±0.4,**36.52N**±0.03×**70.83E**±0.03,**h160**km±3km,
h160km**pP-P,n728,**σ1**45/787,mb4.6**/141,**17C-10D,**
Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.46**	**217**		**Pn**	**15 43 20.8**	**+1.3**
KBL	**Kabul**	**2.46**	**217**	P	**Pn**	**15 43 20.9**	**+1.3**
SNR=181							
KBL	**Kabul**	**2.46**	**217**	PN	**Pn**	**15 43 20.8**	**+1.3**
CHGR	**Chuyangaron**	**2.51**	**329**		**Pn**	**15 43 20.9**	**+0.9**
CHGR	**Chuyangaron**	**2.51**	**329**	PN	**Pn**	**15 43 20.9**	**+0.9**
NIL	**Nilore**	**3.49**	**145**	Pn	**Pn**	**15 43 33.4**	**+1.3**
NIL	**Nilore**	**3.49**	**145**	PN	**Pn**	**15 43 33.4**	**+1.3**
BTK	**Batken**	**3.53**	**360**	Pn	**Pn**	**15 43 34.5**	**+1.9**
BTK	**Batken**	**3.53**	**360**	PN	**Pn**	**15 43 34.5**	**+1.9**
OHH	**Osh**	**4.28**	**20**	PN	**Pn**	**15 43 43.4**	**+1.1**
TRKS	**Terek-Say**	**5.00**	**3**	PN	**Pn**	**15 43 52.0**	**+0.1**
KSH	**Kashi**	**5.04**	**52**	P	**Pn**	**15 43 48.8**	**-3.5**
KSH				S	**Sn**	**15 44 41.6**	**-8.7**
KSH				pmax	pmax		
comp=Z,470nm,0.6s							
KSH				smax	smax		
comp=N,3µm,0.9s							
KSH				smax	smax		
comp=E,2µm,0.6s							
ARSB	**Arslanbob**	**5.08**	**19**		**Pn**	**15 43 52.7**	**-0.1**
ARSB	**Arslanbob**	**5.08**	**19**	PN	**Pn**	**15 43 52.7**	**-0.1**
ARK	**Arkit**	**5.34**	**9**	PN	**Pn**	**15 43 56.7**	**+0.5**
THN	**Thein Dam**	**5.74**	**134**	*e*P	**Pn**	**15 44 01.6**	**+0.2**
THN				*e*S	**Sn**	**15 45 04.2**	**-2.4**
THN				IAML		15 45 07.0	
comp=E,3µm,0.4s							
THN				IAML		15 45 09.3	
comp=N,1µm,0.4s							
AML	**Almayashu**	**6.02**	**21**	P	**Pn**	**15 44 06.2**	**+0.7**
SNR=1311							
AML	**Almayashu**	**6.02**	**21**	PN	**Pn**	**15 44 03.5**	**-2.0**
AML	**Almayashu**	**6.02**	**21**	⇓P	**Pn**	**15 44 03.5**	**-2.0**
comp=N,51nm,0.6s							
AML				⇑S	**Sn**	**15 45 11.5**	**-2.5**
comp=N,489nm,0.7s							
DHRM	**DHARAMSHALA**	**6.21**	**132**	*e*P	**Pn**	**15 44 07.7**	**-0.3**
DHRM				*e*S	**Sn**	**15 45 15.3**	**-3.0**
DHRM				IAML		15 45 19.0	
comp=N,5µm,0.4s							
NRN	**Naryn**	**6.34**	**38**		**Pn**	**15 44 10.2**	**+0.5**
NRN	**Naryn**	**6.34**	**38**	PN	**Pn**	**15 44 10.2**	**+0.5**
UCH	**Uchtor**	**6.37**	**25**	P	**Pn**	**15 44 10.6**	**+0.4**
SNR=120							
DZA	**Taraz**	**6.37**	**3**	*e*P	**Pn**	**15 44 10.6**	**+0.7**
baz=2.8							
DZA				*i* S	**Sn**	**15 45 23.4**	**+1.6**
baz=2.8							
DZA	**Taraz**	**6.37**	**3**	*e*PN	**Pn**	**15 44 10.5**	**+0.7**
KZA	**Kyzart**	**6.52**	**30**	P	**Pn**	**15 44 11.8**	**-0.3**
SNR=117							
EKS2	**Erkin-Say**	**6.54**	**19**	P	**Pn**	**15 44 12.9**	**+0.8**
SNR=162							
KK31	**Karatay Array**	**6.58**	**358**		**Pn**	**15 44 13.0**	**+0.5**
KK31	**Karatay Array**	**6.58**	**358**	PN	**Pn**	**15 44 13.0**	**+0.5**
KK31	**Karatay Array**	**6.58**	**358**	⇓P	**Pn**	**15 44 11.0**	**-1.5**
comp=N,222nm,0.5s,baz=187,slow=12,SNR=3792							
KK31				⇑S	**Sn**	**15 45 22.1**	**-4.6**
comp=N,422nm,0.6s,baz=170,slow=14,SNR=18							
KKAR	**Karatay Array**	**6.58**	**358**		**Pn**	**15 44 12.9**	**+0.5**
KKAR	**Karatay Array**	**6.58**	**358**		**Pn**	**15 44 13.0**	**+0.5**
KKAR	**Karatay Array**	**6.58**	**358**	PN	**Pn**	**15 44 13.0**	**+0.5**
AAK	**Ala-Archa**	**6.73**	**24**	P	**Pn**	**15 44 15.7**	**+1.0**
SNR=74							
AAK	**Ala-Archa**	**6.73**	**24**		**Pn**	**15 44 15.3**	**+0.7**
AAK	**Ala-Archa**	**6.73**	**24**	*i* P	**Pn**	**15 44 15.7**	**+1.0**
SNR=140							
AAK	**Ala-Archa**	**6.73**	**24**	P	**Pn**	**15 44 15.9**	**+1.2**
comp=N,76nm,0.5s,baz=196,slow=7.1,SNR=261							
AAK				S	**Sn**	**15 45 28.3**	**-2.2**
comp=N,453nm,0.7s,baz=299,slow=17,SNR=9.5							
AAK				LR	LR	15 46 46.5	
comp=N,62nm,21.8s,baz=200,slow=36							
BHK	**Bhakra**	**6.89**	**136**	*e*P	**Pn**	**15 44 15.9**	**-0.9**
BHK				*e*S	**Sn**	**15 45 29.7**	**-4.5**
BHK				IAML		15 45 34.1	
comp=N,1µm,0.4s							
KBK	**Karagaybulak**	**6.90**	**26**	P	**Pn**	**15 44 18.0**	**+1.0**
SNR=54							
FRU1	**Bishkek**	**6.93**	**24**		**Pn**	**15 44 18.1**	**+1.0**
FRU1	**Bishkek**	**6.93**	**24**	PN	**Pn**	**15 44 18.2**	**+1.0**
ULHL	**Ulahol**	**7.08**	**35**	P	**Pn**	**15 44 19.3**	**-0.2**
SNR=28							
CHMS	**Chumysh**	**7.14**	**24**	P	**Pn**	**15 44 20.5**	**+0.5**
SNR=53							
CHMS	**Chumysh**	**7.14**	**24**	PN	**Pn**	**15 44 20.1**	**+0.2**
CHMS	**Chumysh**	**7.14**	**24**	⇑P	**Pn**	**15 44 20.1**	**+0.2**
comp=N,101nm,0.8s							
CHMS				⇑S	**Sn**	**15 45 37.6**	**-2.5**
comp=N,493nm,0.8s							
USP	**Ospenovka**	**7.30**	**22**	P	**Pn**	**15 44 22.6**	**+0.4**
SNR=92							
HRA	**Herat**	**7.33**	**256**	Pn	**Pn**	**15 44 23.1**	**+0.4**
TKM2	**Tokmak 2**	**7.37**	**28**	P	**Pn**	**15 44 23.9**	**+0.7**
SNR=44							
TKM2	**Tokmak 2**	**7.37**	**28**	PN	**Pn**	**15 44 23.0**	**-0.2**
TKM2	**Tokmak 2**	**7.37**	**28**	⇓P	**Pn**	**15 44 23.7**	**+0.5**
comp=N,76nm,0.6s							
TKM2				⇓S	**Sn**	**15 45 42.5**	**-3.4**
comp=N,232nm,0.8s							
TARG	**Taragay, Kyrgy**	**7.51**	**44**		**Pn**	**15 44 25.0**	**-0.2**
TARG	**Taragay, Kyrgy**	**7.51**	**44**	PN	**Pn**	**15 44 25.0**	**-0.2**
SGDS	**Sogindy**	**7.51**	**22**	*i* P	**Pn**	**15 44 24.6**	**-0.3**
baz=21							
SGDS	**Sogindy**	**7.51**	**22**	*i* PN	**Pn**	**15 44 24.6**	**-0.3**
SMLA	**Simla**	**7.53**	**134**	*e*P	**Pn**	**15 44 23.9**	**-1.3**
SMLA				*e*S	**Sn**	**15 45 42.6**	**-6.9**
SMLA				IAML		15 45 48.4	
comp=N,1µm,0.5s							
TNSS	**Tian-Shan**	**8.03**	**34**	*e*P	**Pn**	**15 44 31.8**	**-0.3**
baz=34							
TNSS	**Tian-Shan**	**8.03**	**34**	*e*PN	**Pn**	**15 44 31.8**	**-0.3**
AAA	**Alma-Ata**	**8.15**	**33**	*e*P	**Pn**	**15 44 33.9**	**+0.4**
baz=33							
AAA	**Alma-Ata**	**8.15**	**33**	*e*PN	**Pn**	**15 44 33.8**	**+0.4**
MDOK	**Medeo**	**8.17**	**34**	*e*P	**Pn**	**15 44 33.9**	**+0.1**
baz=33							
MDOK				*i* S	**Sn**	**15 46 05.5**	**+0.5**
baz=33							
MDOK	**Medeo**	**8.17**	**34**	*e*PN	**Pn**	**15 44 33.9**	**+0.1**
MDOK	**Medeo**	**8.17**	**34**	⇑P	**Pn**	**15 44 34.0**	**+0.1**
comp=N,73nm,0.8s							
MDOK				⇑S	**Sn**	**15 46 01.7**	**-3.4**
comp=N,135nm,1.4s							
ANVS	**Anan'yevo**	**8.17**	**38**	PN	**Pn**	**15 44 34.7**	**+0.8**
KNDC	**Almaty**	**8.18**	**33**	PN	**Pn**	**15 44 35.1**	**+1.3**
KNDC	**Almaty**	**8.18**	**33**	⇓P	**Pn**	**15 44 35.1**	**+1.3**
comp=N,263nm,0.9s							
KNDC				⇑S	**Sn**	**15 46 04.2**	**-0.9**
comp=N,300nm,1.3s							
PRZ	**Przheval'sk**	**8.34**	**42**	Pn	**Pn**	**15 44 36.3**	**+0.2**
PRZ	**Przheval'sk**	**8.34**	**42**	PN	**Pn**	**15 44 36.3**	**+0.2**
KUU	**Kurty**	**8.48**	**28**	*e*P	**Pn**	**15 44 37.1**	**-0.6**
baz=28							
KUU	**Kurty**	**8.48**	**28**	*e*PN	**Pn**	**15 44 37.1**	**-0.6**
DDI	**Dehra Dun**	**8.64**	**134**	*e*S	**Sn**	**15 46 09.7**	**-6.6**
CHKK	**Chushkaly**	**8.70**	**31**	*e*P	**Pn**	**15 44 39.9**	**-0.8**
baz=30							
CHKK	**Chushkaly**	**8.70**	**31**	*e*PN	**Pn**	**15 44 39.9**	**-0.8**
SATY	**Saty**	**8.75**	**39**	*e*P	**Pn**	**15 44 41.8**	**+0.4**
comp=N,11nm,0.8s,baz=39							
SATY	**Saty**	**8.75**	**39**	*e*PN	**Pn**	**15 44 41.8**	**+0.4**
SATY				pmax	pmax		
comp=Z,11nm,0.8s							
ZHN	**Zhinishke**	**8.84**	**39**	*e*P	**Pn**	**15 44 42.4**	**-0.3**
baz=39							
ZHN	**Zhinishke**	**8.84**	**39**	*e*PN	**Pn**	**15 44 42.3**	**-0.3**
BTLS	**Baital**	**8.85**	**15**	*i* P	**Pn**	**15 44 42.4**	**-0.3**
comp=Z,5.8nm,0.3s,baz=14							
BTLS				*i* S	**Sn**	**15 46 21.5**	**+0.5**
baz=14							
BTLS	**Baital**	**8.85**	**15**	*i* PN	**Pn**	**15 44 42.3**	**-0.3**
BTLS				pmax	pmax		
comp=Z,6.0nm,0.3s							
UZB	**Uzynbulak**	**9.13**	**41**	*e*P	**Pn**	**15 44 46.0**	**-0.5**
comp=Z,6.9nm,0.4s,baz=41							
UZB	**Uzynbulak**	**9.13**	**41**	*e*P	**Pn**	**15 44 46.0**	**-0.5**
UZB				pmax	pmax		
comp=Z,7.0nm,0.4s							
KPKS	**Kokpek**	**9.18**	**39**	*e*P	**Pn**	**15 44 46.8**	**-0.4**
comp=Z,12nm,0.5s,baz=38							
KPKS	**Kokpek**	**9.18**	**39**	*e*P	**Pn**	**15 44 46.7**	**-0.4**
KPKS				pmax	pmax		
comp=Z,12nm,0.5s							
SHLS	**Shalkode**	**9.37**	**42**	*e*P	**Pn**	**15 44 51.8**	**+2.0**
baz=43							
SHLS	**Shalkode**	**9.37**	**42**	*e*P	**Pn**	**15 44 51.7**	**+2.0**
KHET	**Khetri**	**9.41**	**152**	*e*P	**Pn**	**15 44 48.1**	**-2.2**
KHET				*e*S	Sn	15 46 25.0	-10
NDI	**New Delhi**	**9.49**	**144**	*e*P	**Pn**	**15 44 49.4**	**-1.9**
NDI				*e*S	Sn	15 46 26.9	-10
NDI				IAML		15 46 32.4	
comp=N,176nm,0.6s							
PDGK	**Podgornoye**	**9.50**	**42**	P	**Pn**	**15 44 50.7**	**-0.8**
PDGK				S	**Sn**	**15 46 38.8**	**+1.8**
PDGK	**Podgornoye**	**9.50**	**42**	⇑P	**Pn**	**15 44 50.7**	**-0.8**
comp=N,11nm,0.5s							
PDGK				⇑S	**Sn**	**15 46 38.8**	**+1.8**
comp=N,104nm,1.4s							
BISR	**Bishrakh**	**9.69**	**143**	*e*S	**Sn**	**15 46 35.2**	**-6.3**
SONA	**Sohna**	**9.79**	**146**	*e*P	**Pn**	**15 44 54.0**	**-1.2**
SONA				*e*S	Sn	15 46 34.7	-9.2
TDK	**Taldyqorghan**	**10.23**	**32**	*e*P	**Pn**	**15 44 59.9**	**-1.0**
comp=N,7.0nm,0.4s,baz=31							
TDK	**Taldyqorghan**	**10.23**	**32**	*e*P	**Pn**	**15 44 59.9**	**-1.0**
TDK				pmax	pmax		
comp=Z,7.0nm,0.4s							
GEYT	**Alibeck**	**10.24**	**282**	Pn	**Pn**	**15 44 59.8**	**-1.3**
GEYT	**Alibeck**	**10.24**	**282**	P	**Pn**	**15 45 00.2**	**-0.9**
comp=Z,6.1nm,0.3s,baz=87,slow=14,SNR=35							
GEYT				S	**Sn**	**15 46 50.4**	**-4.2**
comp=Z,15nm,0.6s,baz=93,slow=18,SNR=1.5							
GYA0	**ALIBECK ARRAY**	**10.24**	**282**	P	**Pn**	**15 44 59.8**	**-1.3**
GYA0				S	**Sn**	**15 46 50.5**	**-4.1**
GYA0B	**ALIBECK ARRAY**	**10.24**	**282**	Pn	**Pn**	**15 44 60.0**	**-1.1**
GYA0B	**ALIBECK ARRAY**	**10.24**	**282**	⇓P	**Pn**	**15 44 59.8**	**-1.3**
GYA0B				⇑S	**Sn**	**15 46 50.5**	**-4.1**
PTH	**Pithoragarh**	**10.50**	**129**	*e*P	**Pn**	**15 45 01.5**	**-3.2**
PTH				*e*S	Sn	15 46 49.1	-12
AJM	**Ajmer**	**10.53**	**161**	*e*P	**Pn**	**15 45 03.6**	**-1.4**
AJM				*e*S	Sn	15 46 49.0	-13
AJM				IAML		15 46 56.3	
comp=N,90nm,0.3s							
LGTI	**Lohaghat**	**10.59**	**129**	*e*P	**Pn**	**15 45 02.6**	**-3.1**
LGTI				IAML		15 46 56.1	
comp=N,289nm,0.6s							
OTUK	**Ortayu**	**11.77**	**5**	P	**Pn**	**15 45 19.4**	**-1.5**
OTUK				S	**Sn**	**15 47 26.3**	**-4.8**
OTUK	**Ortayu**	**11.77**	**5**	⇑P	**Pn**	**15 45 19.4**	**-1.5**
comp=N,23nm,0.8s							
OTUK				⇑S	**Sn**	**15 47 26.3**	**-4.8**
comp=N,105nm,0.9s							
MAKZ	**Makanchi**	**13.21**	**36**	Pn	**Pn**	**15 45 39.9**	**+0.3**
MAKZ				P	**P**	**15 45 44.1**	**+0.4**
MAKZ	**Makanchi**	**13.21**	**36**	⇓P	**P**	**15 45 43.9**	**+0.3**
comp=N,74nm,0.6s							
PYUN	**Piuthan**	**13.27**	**126**	*e*P	**Pn**	**15 45 37.6**	**-3.0**
PYUN				*e*S	Sn	15 47 54.9	-13
MK31	**Makanchi Array**	**13.35**	**36**	Pn	**Pn**	**15 45 40.9**	**-0.4**
MK31	**Makanchi Array**	**13.35**	**36**	P	**Pn**	**15 45 40.9**	**-0.4**
MK31	**Makanchi Array**	**13.35**	**36**	⇓P	**P**	**15 45 44.3**	**-0.9**
comp=N,54nm,0.8s,baz=219,slow=9.2,SNR=8.5							
MKAR	**Makanchi Array**	**13.35**	**36**	Pn	**Pn**	**15 45 41.1**	**-0.2**
MKAR	**Makanchi Array**	**13.35**	**36**	P	**Pn**	**15 45 41.4**	**+0.1**
comp=N,34nm,0.7s,baz=204,slow=9.9,SNR=41							
MKAR				S	**S**	**15 48 15.3**	**-3.5**
comp=N,4.3nm,0.9s,baz=243,slow=13,SNR=1.7							
BRZS	**Berezniki**	**13.52**	**5**	*e*P	**Pn**	**15 45 43.5**	**+0.1**
baz=4.9							
BRZS	**Berezniki**	**13.52**	**5**	*e*P	**Pn**	**15 45 43.4**	**+0.1**
DANN	**Dangsing**	**13.61**	**123**	*e*P	**Pn**	**15 45 42.2**	**-2.9**
DANN				*e*S	Sn	15 48 03.3	-13
NGCH	**Negor - Chabah**	**13.88**	**219**	P	**Pn**	**15 45 49.6**	**+1.5**
KOLN	**Koldanda**	**13.89**	**125**	*e*P	**Pn**	**15 45 45.4**	**-3.0**
GKN	**Gorkha**	**14.43**	**122**	*e*P	**Pn**	**15 45 52.7**	**-2.5**
comp=N,347nm,0.6s							
GKN				*e*S	Sn	15 48 23.4	-12
WMQ	**Urumqi**	**14.79**	**55**	*e*P	**Pn**	**15 45 59.6**	**+0.1**
WMQ				pmax	pmax		
comp=Z,21nm,0.7s							
AB31	**Akbulak array**	**15.00**	**331**	P	**Pn**	**15 46 01.3**	**-0.6**
AB31				S	**Sn**	**15 48 41.4**	**-7.2**
AB31	**Akbulak array**	**15.00**	**331**	P	**Pn**	**15 46 01.3**	**-0.6**
comp=Z,11nm,0.5s,baz=145,slow=12,SNR=453							
AB31				S	**Sn**	**15 48 41.4**	**

JIRN eS Sn 15 48 53.9 -13
comp=Z,30nm,0.9s
BANOM **Banah 16.30 234** P **Pn** **15 46 18.4 +0.4**
BANOM **Banah 16.30 234** P **Pn** **15 46 18.4 +0.4**
SHME **Shamm 16.31 234** P **Pn** **15 46 18.5 +0.4**
SHME **Shamm 16.31 234** P **Pn** **15 46 18.9 +0.8**
RAMN **Ramite 16.44 121** eP **P** **15 46 18.5 -1.4**
RAMN eS S 15 49 10.7 -12
BVA0 **Borovoye Array 16.50 359** P **Pn** **15 46 22.4 +2.1**
BVA0 **Borovoye Array 16.50 359** ⇑P **Pn** **15 46 22.4 +2.1**
comp=Z,41nm,1.1s,baz=165,slow=11,SNR=123
BVAR **Borovoye Array 16.50 359** P **P** **15 46 19.8 -0.2**
comp=Z,14nm,0.5s,baz=166,slow=10,SNR=47
BVAR S **S** **15 49 18.9 -4.1**
comp=Z,20nm,0.7s,baz=164,slow=22,SNR=8.4
BRVK **Borovoye 16.54 359** P **P** **15 46 19.9 -0.5**
BRVK **Borovoye 16.54 359** P **P** **15 46 19.9 -0.5**
BRVK pmax pmax
comp=Z,39nm,0.7s
BRVK **Borovoye 16.54 359** ⇑P **Pn** **15 46 22.0 +1.4**
comp=Z,45nm,0.8s
AKL **Akola 16.66 159** eP **Pn** **15 46 24.2 +1.8**
AKTO **Aktyubinsk 16.69 330** P **Pn** **15 46 23.0 +0.4**
comp=Z,88nm,0.8s,baz=158,slow=9.3,SNR=162
AKTO S **S** **15 49 20.1 -7.3**
comp=Z,17nm,0.8s,baz=189,slow=17,SNR=3.4
AKTO Aktyubinsk 16.69 330 ⇑P **Pn** **15 46 22.7 +0.1**
comp=Z,50nm,0.7s
AKTO ⇑S **S** **15 49 24.4 -2.9**
comp=Z,67nm,1.1s
MASF Masafi 16.77 233 P **Pn** **15 46 24.5 +0.7**
SNR=6.9
MSFE Esma-Masafi 16.78 233 *i* P **Pn** **15 46 25.2 +1.3**
SNR=9.8
WSAR Wadi Sarin 16.93 222 P **Pn** **15 46 26.7 +1.1**
SNR=6.8
WSAR Wadi Sarin 16.93 222 P **Pn** **15 46 25.9 +0.3**
comp=Z,32nm,0.8s,baz=67,slow=12,SNR=26
WSAR S **S** **15 49 27.3 -5.9**
comp=Z,2.1nm,0.7s,baz=96,slow=5.6,SNR=1.6
TAPN Taplejung 16.98 118 eP **P** **15 46 25.6 -0.2**
comp=Z,224nm,0.6s
TAPN eS S 15 49 22.5 -12
BIDO Bidbid 16.98 224 P **Pn** **15 46 25.5 +0.3**
UOSS Minazif 17.05 231 **P** **15 46 26.6 +0.3**
UOSS IAmb IAmb 15 46 28.4
comp=Z,38nm,0.9s
UOSS Minazif 17.05 231 *i* P **P** **15 46 26.4 +0.2**
SNR=16
UOSS Minazif 17.05 231 P **Pn** **15 46 27.0 0.0**
ODAN Odare 17.05 120 eP **P** **15 46 26.8 +0.3**
comp=Z,290nm,1.1s
ODAN eS S 15 49 24.2 -12
HATD Hatta, Dubai 17.18 231 *i* P **Pn** **15 46 28.7 +0.1**
SNR=10
HATD Hatta, Dubai 17.18 231 P **Pn** **15 46 29.2 +0.6**
WBK Wadi Bani Khal 17.26 220 P **Pn** **15 46 31.5 +1.9**
SNR=17
ASHO Ashiyiah 17.32 231 *i* P **Pn** **15 46 30.4 0.0**
SNR=32
ASHO Ashiyiah 17.32 231 P **Pn** **15 46 31.1 +0.7**
SNR=19
NAZ Nazwa, Dubai 17.36 233 *i* P **P** **15 46 30.0 +0.3**
SNR=7.6
NAZ Nazwa, Dubai 17.36 233 P **Pn** **15 46 31.0 +0.3**
SMDO Samad 17.39 223 P **Pn** **15 46 31.8 +0.6**
SNR=5.3
HOQ Hoqain 17.39 226 P **Pn** **15 46 31.9 +0.8**
JLN Jalan Bani Buh 17.42 218 P **Pn** **15 46 32.4 +0.9**
SNR=14
SOHO SOHO 17.43 229 *i* P **Pn** **15 46 32.0 +0.3**
SNR=5.6
SOHO SOHO 17.43 229 P **Pn** **15 46 31.9 +0.3**
FAQ Al Faqa, Dubai 17.57 232 P **Pn** **15 46 32.8 -0.5**
FAQ Al Faqa, Dubai 17.57 232 P **Pn** **15 46 32.9 -0.5**
ASUD Al Ashush, Dub 17.83 233 *i* P **Pn** **15 46 35.8 -0.5**
SNR=6.1
ASUD Al Ashush, Dub 17.83 233 P **Pn** **15 46 36.1 -0.2**
JMDO Jabal Madar 17.91 222 P **Pn** **15 46 38.2 +0.8**
SNR=9.6
ALNE Al Ain 17.97 230 *i* P **Pn** **15 46 37.4 -0.7**
SNR=17
ALNE Al Ain 17.97 230 P **Pn** **15 46 37.8 -0.2**
SNR=7.5
ARQ Araqi 18.04 227 P **Pn** **15 46 39.0 +0.1**
AJN Ajban 18.09 233 *i* P **Pn** **15 46 38.7 -0.7**
SNR=10
AJN Ajban 18.09 233 P **Pn** **15 46 39.0 -0.5**
SNR=5.2
BSY Bisya 18.11 224 P **Pn** **15 46 39.9 +0.2**
BOK Bokaro 18.14 130 eP **P** **15 46 38.8 +0.5**
BOK eS S 15 49 46.2 -12
LSA Lhasa 18.31 106 P **P** **15 46 40.4 -0.2**
LSA Lhasa 18.31 106 P **Pn** **15 46 44.2 +1.7**
LSA Lhasa 18.31 106 P **P** **15 46 40.4 -0.2**
LSA pmax pmax
comp=Z,15nm,0.7s
MHTO MHTO 19.12 219 P **Pn** **15 46 51.7 +0.2**
SNR=17
JRN Qarnain Island 19.26 238 P **P** **15 46 49.8 -0.6**
GOMU GeErMu 19.31 84 P **Pn** **15 46 56.1 +2.1**
GOMU pP Pn 15 46 58.3 +4.3
GOMU pmax pmax
comp=Z,7.0nm,0.6s
ZAA0 Zalesovo Array 19.95 25 P **P** **15 46 57.6 +0.1**
ZALV Zalesovo Beam 19.95 25 P **P** **15 46 57.7 +0.2**
ZALV Zalesovo Beam 19.95 25 P **P** **15 46 57.8 +0.3**
comp=Z,77nm,0.4s,baz=223,slow=11,SNR=513
ZALV S **S** **15 50 30.1 -2.8**
comp=Z,6.3nm,0.8s,baz=209,slow=15,SNR=3.3
comp=Z,77nm,0.4s
SHMA Al-Shehemyia 20.01 243 P **P** **15 46 58.6 +0.1**
MZR Muzera 20.17 233 P **P** **15 47 00.9 +0.8**
DQM DQM 20.23 219 P **P** **15 47 02.0 +1.3**
SAKB Bahrain 20.25 244 P **P** **15 47 01.1 +0.1**
TRNA Turayna 20.53 241 P **P** **15 47 02.9 -1.0**
GNI Garni 20.76 288 P **P** **15 47 07.5 +1.0**
comp=Z,8.1nm,0.9s,baz=5.2,slow=23,SNR=2.5
comp=Z,8.1nm,0.9s
SMRA Abu-Samra 20.79 241 P **P** **15 47 06.2 -0.6**
ARU Arti 21.57 341 P **P** **15 47 15.4 +0.7**
ARU Arti 21.57 341 *c* *i*P **P** **15 47 15.5 +0.7**
ARU *PP **pP** **15 47 41.8 -1.8**
ARU S **S** **15 51 06.0 +2.7**
ARU pmax pmax
comp=Z,72nm,0.9s
ARU Arti 21.57 341 P **P** **15 47 15.6 +0.8**
comp=Z,22nm,0.5s,baz=152,slow=6.2,SNR=49
ARU S **S** **15 51 11.3 +8.1**
comp=Z,3.1nm,0.5s,baz=136,slow=21,SNR=1.7
comp=Z,22nm,0.5s
AKH Akhalkalaki 21.77 291 P **P** **15 47 17.1 -0.2**
AKH IAmb IAmb 15 47 53.5
comp=Z,32nm,0.8s
AKH Akhalkalaki 21.77 291 P **P** **15 47 17.1 -0.2**
AKH pmax pmax
comp=Z,32nm,0.8s
KBZ Khabaz 22.47 297 P **P** **15 47 24.4 +0.5**
comp=Z,4.1nm,0.9s,baz=102,slow=13,SNR=6.3
comp=Z,4.1nm,0.9s
KIV Kislovodsk 22.66 298 P **P** **15 47 26.3 +0.5**
KIV IAmb IAmb 15 47 55.7
comp=Z,17nm,0.6s
KIV Kislovodsk 22.66 298 eP **P** **15 47 26.1 +0.3**
KIV eS **S** **15 51 24.2 +2.6**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,21nm,14.0s
SHAO Shalim 22.80 220 P **P** **15 47 25.8 -1.4**
GTA Gaotai 22.99 74 eP **P** **15 47 30.0 +1.1**
GTA sP pP 15 48 10.0 +10
GTA pmax pmax
comp=Z,9.0nm,0.9s
DMTO DMTO 23.41 221 P **P** **15 47 31.2 -1.5**
WHFO Wadi Hawf 23.88 224 P **P** **15 47 37.1 +0.1**
RBK Rabkut 23.98 222 P **P** **15 47 38.1 +0.1**
ABTO Aybut 24.60 224 P **P** **15 47 43.6 0.0**
ABTO P **P** **15 47 43.6 0.0**
VORD Divnogorie 26.73 313 eP **P** **15 48 02.0 -0.4**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 26.89 313 eP **P** **15 48 03.1 -0.8**
VSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 27.54 316 eP **P** **15 48 09.5 -0.1**

LPSR pmax pmax
comp=Z,30nm,0.9s
SONM Songino Array 28.43 55 P **P** **15 48 18.4 +0.6**
SONM Songino Array 28.43 55 P **P** **15 48 18.7 +0.9**
comp=Z,2.7nm,0.8s,baz=259,slow=9.1,SNR=17
comp=Z,2.7nm,0.8s
BRTR Keskin Array B 29.30 288 P **P** **15 48 25.0 -0.6**
comp=Z,1.3nm,0.7s,baz=100,slow=9.1,SNR=7.1
BRTR pP **pP** **15 49 01.7 +2.3**
comp=Z,1.5nm,0.7s,baz=98,slow=9.4,SNR=3.9
comp=Z,1.3nm,0.7s
MOS Moscow 29.56 321 eP **P** **15 48 27.5 0.0**
MOS *e* 15 48 57.9
MOS pmax pmax
comp=Z,41nm,0.7s
PRGR Permogore 29.70 336 eP **P** **15 48 28.7 +0.1**
PRGR pmax pmax
comp=Z,22nm,0.6s
OBN Obninsk 29.83 319 P **P** **15 48 30.9 +1.1**
OBN Obninsk 29.83 319 *i* P **P** **15 48 30.3 +0.4**
OBN *i* *PP **pP** **15 49 03.5 -0.4**
OBN *i* 15 49 33.6
OBN pmax pmax
comp=Z,18nm,1.1s
CHTO Chiang Mai 30.35 118 P **P** **15 48 36.1 +1.2**
CHTO Chiang Mai 30.35 118 P **P** **15 48 36.1 +1.2**
CHTO pmax pmax
comp=Z,4.0nm,1.0s
PALK Pallekele 30.48 160 P **P** **15 48 37.0 +0.9**
PALK IAmb IAmb 15 49 04.5
comp=Z,32nm,1.5s
PALK Pallekele 30.48 160 P **P** 15 48 30.1 -5.9
PALK Pallekele 30.48 160 P **P** **15 48 37.0 +0.9**
PALK pmax pmax
comp=Z,32nm,1.5s
CRAI Chiangrai 30.48 114 P **P** **15 48 36.6 +0.6**
CMAR Chiang Mai Arr 30.58 118 P **P** **15 48 37.6 +0.7**
comp=Z,2.6nm,0.8s,baz=299,slow=8.0,SNR=19
CMAR pP **pP** **15 49 12.1 +0.3**
comp=Z,2.4nm,1.0s,baz=303,slow=9.3,SNR=3.8
CMAR ScP **ScP** **15 54 56.3 -2.8**
comp=Z,0.6nm,0.8s,baz=297,slow=4.0,SNR=4.4
comp=Z,2.6nm,0.8s
KLMR Klimovskoe 31.39 331 eP **P** **15 48 40.8 -2.8**
KLMR AMP 15 48 46.6
comp=Z,28nm,1.6s
KLMR Klimovskoe 31.39 331 eP **P** **15 48 40.7 -2.8**
KLMR pmax pmax
comp=Z,28nm,1.6s
AKASG Malin Array Be 32.83 309 P **P** **15 48 57.0 +0.8**
AKASG Malin Array Be 32.83 309 P **P** **15 48 57.0 +0.8**
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 32.83 309 P **P** **15 48 57.0 +0.8**
comp=Z,2.9nm,0.5s,baz=81,slow=7.1,SNR=49
AKASG pP **pP** **15 49 32.5 +2.1**
comp=Z,2.2nm,0.5s,baz=86,slow=7.1,SNR=3.4
comp=Z,2.9nm,0.5s
AKBB Malin Array Si 32.83 309 P **P** **15 48 56.5 +0.3**
AKBB IAmb IAmb 15 48 58.0
comp=Z,12nm,0.7s
AKBB Malin Array Si 32.83 309 P **P** **15 48 56.5 +0.3**
AKBB pmax pmax
comp=Z,12nm,0.7s
KIEV Kiev 32.84 309 P **P** **15 48 56.5 +0.2**
KIEV IAmb IAmb 15 48 58.0
comp=Z,10nm,0.7s
KIEV Kiev 32.84 309 P **P** **15 48 56.5 +0.2**
KIEV pmax pmax
comp=Z,10.0nm,0.7s
KMPD K-Podol'skiy 34.37 305 P **P** **15 49 11.0 +1.4**
NACGM **Naroch 35.10 316** eP **P** **15 49 17.7 +1.9**
BURAR **Bucovina Array 35.16 303** P **P** **15 49 17.9 +1.4**
BUR08 **Bucovina Ar. S 35.17 303** P **P** **15 49 18.1 +1.5**
BOD Bodaibo 35.42 39 eP **P** **15 49 18.7 +0.3**
BOD *e* 15 49 57.1
BOD pmax pmax
comp=Z,13nm,1.3s
VSU Vasula 36.08 322 eP **P** **15 49 24.9 +0.8**
PABE Paberze 36.81 316 P **P** **15 49 31.4 +1.2**
PABE Paberze 36.81 316 eP **P** **15 49 32.4 +2.2**
VSVD Vaisvydziai 36.92 317 eP **P** **15 49 32.6 +1.4**
SUW Suwalki 37.00 314 eP **P** **15 49 32.9 +1.0**
KOLS Kolonicke sedl 37.15 305 eP **P** **15 49 35.5 +2.2**
KOLS Kolonicke sedl 37.15 305 eP **P** **15 49 35.5 +2.2**
FINES FINESS Array B 37.39 326 P **P** **15 49 36.1 +1.0**
comp=Z,6.4nm,0.4s,baz=120,slow=9.8,SNR=96
FINES pP **pP** **15 50 12.4 +2.4**
comp=Z,5.3nm,0.8s,baz=110,slow=10,SNR=2.5
FINES LR LR 16 05 30.9
comp=Z,46nm,18.6s,baz=154,slow=37
comp=Z,6.4nm,0.4s
MTSE Matsula 37.62 321 eP **P** **15 49 38.7 +1.7**
MEF Metsahovi 37.76 324 eP **P** **15 49 39.7 +1.5**
PBUR Paburge 38.03 317 eP **P** **15 49 42.3 +1.8**
OJC Ojcow 38.78 307 P **P** **15 49 47.7 +0.8**
OJC IAmb IAmb 15 49 49.1
comp=Z,12nm,1.2s
OJC Ojcow 38.78 307 P **P** **15 49 47.7 +0.8**
OJC pmax pmax
comp=Z,12nm,1.2s
LANS Liptovska Anna 39.00 305 eP **P** **15 49 51.5 +2.8**
LANS Liptovska Anna 39.00 305 eP **P** **15 49 51.6 +2.8**
RAF Rauma 39.24 324 eP **P** **15 49 51.4 +0.9**
MAUC Maruska 40.07 306 eP **P** **15 49 59.9 +2.3**
MORC Moravsky Berou 40.24 306 P **P** **15 50 00.7 +1.6**
MORC Moravsky Berou 40.24 306 eP **P** **15 50 00.8 +1.8**
MORC Moravsky Berou 40.24 306 P **P** **15 50 00.7 +1.6**
MORC pmax pmax
comp=Z,5.0nm,0.8s
VADS Vadso 40.25 339 eP **P** **15 50 00.0 +1.3**
KEV Kevo 40.73 338 P **P** **15 50 03.8 +1.1**
KEV IAmb IAmb 15 50 04.6
comp=Z,21nm,1.0s
KEV Kevo 40.73 338 P **P** **15 50 03.8 +1.1**
KEV pmax pmax
comp=Z,21nm,1.0s
VRAC Vranov 40.88 306 eP **P** **15 50 06.1 +1.9**
DPC Dobruska-Polom 41.01 307 eP **P** **15 50 07.5 +2.2**
DPC Dobruska-Polom 41.01 307 eP **P** **15 50 07.5 +2.2**
KRUC Moravsky 41.02 305 eP **P** **15 50 08.5 +3.1**
ARA0 ARCESS Array S 41.07 338 eP **P** **15 50 07.0 +1.4**
ARCES **ARCESS Array B 41.07 338** P **P** **15 50 06.7 +1.2**
ARCES **ARCESS Array B 41.07 338** P **P** **15 50 06.8 +1.3**
comp=Z,11nm,0.4s,baz=113,slow=7.9,SNR=205
comp=Z,11nm,0.4s
OSTC Ostas 41.07 308 eP **P** **15 50 08.3 +2.5**
OSTC Ostas 41.07 308 eP **P** **15 50 08.3 +2.5**
CHVC Chvalec 41.17 308 eP **P** **15 50 08.7 +2.0**
CHVC Chvalec 41.17 308 eP **P** **15 50 08.7 +2.0**
RONA Rosalia, Austr 41.18 303 *i* P **P** **15 50 08.5 +1.8**
comp=Z,4.2nm,1.0s
UPC Upice 41.20 308 eP **P** **15 50 08.7 +1.8**
UPC Upice 41.20 308 eP **P** **15 50 08.7 +1.8**
VIKU Vikbolandet 41.23 320 eP **P** **15 50 07.6 +0.7**
KULM Kulim 41.39 132 P **P** **15 50 09.2 +0.5**
KULM IAmb IAmb 15 50 49.1
comp=Z,27nm,1.3s
CONA Conrad Observa 41.45 304 *i* P **P** **15 50 11.1 +2.1**
comp=Z,6.6nm,1.0s
KTK1 Kautokeino 41.54 336 eP **P** **15 50 10.5 +1.2**
SOKA Soboth 42.14 302 *i* P **P** **15 50 16.7 +2.1**
comp=Z,5.0nm,0.8s
HAMF Hammerfest 42.16 339 eP **P** **15 50 16.0 +1.7**
PRU Pruhonice 42.17 307 eP **P** **15 50 16.7 +2.0**
PRU Pruhonice 42.17 307 eP **P** **15 50 16.7 +2.0**
HEH HeiHe 42.34 53 eP **P** **15 50 16.8 +0.7**
HEH pmax pmax
comp=Z,21nm,0.9s
HEH pmax pmax
comp=Z,220nm,4.4s
PSI Prapat 42.39 136 P **P** **15 50 15.8 -1.2**
PSI pmax pmax
comp=Z,7.0nm,0.8s
CKRC Cesky Krumlov 42.41 305 eP **P** **15 50 19.2 +2.5**
CKRC Cesky Krumlov 42.41 305 eP **P** **15 50 19.2 +2.5**
SGRT San Giovanni R 42.43 295 P **P** **15 50 17.8 +0.8**
SGRT IAmb IAmb 15 50 35.0
comp=Z,30nm,1.4s
ZVC Zvikov 42.44 306 eP **P** **15 50 18.9 +2.0**
RPSI Rantau Prapat 42.48 136 P **P** **15 50 15.8 -1.7**
BRG Berggiesshubel 42.50 308 *i* P **P** **15 50 19.2 +1.8**
BRG Amp 15 50 20.0
comp=Z,6.0nm,0.6s

BRG pP **pP** **15 50 57.0 +4.1**
BRG Amp 15 50 58.7
comp=Z,3.0nm,0.7s
BRG Berggiesshubel 42.50 308 *i* P **P** **15 50 19.1 +1.8**
BRG 15 50 57.0
BRG pmax pmax
comp=Z,6.0nm,0.6s
BRG pmax pmax
comp=Z,3.0nm,0.7s
BRG Berggiesshubel 42.50 308 eP **P** **15 50 19.2 +1.8**
comp=Z,6.0nm,0.6s,baz=82,slow=8.0
BRG epP **pP** **15 50 57.8 +4.9**
MOA Molln 42.53 304 eP **P** **15 50 19.4 +1.7**
comp=Z,4.2nm,1.0s
DEL Delary 42.55 317 eP **P** **15 50 18.7 +1.0**
JETT Jettan, Norway 42.68 336 eP **P** **15 50 20.0 +1.3**
GERES GERESS Array B 42.81 305 P **P** **15 50 20.3 +0.3**
comp=Z,0.9nm,0.7s,baz=110,slow=7.4,SNR=2.5
comp=Z,0.9nm,0.7s
KHC Kasperske Hory 42.86 306 eP **P** **15 50 21.5 +1.1**
KHC Kasperske Hory 42.86 306 eP **P** **15 50 21.5 +1.1**
FBE Freiberg 42.87 308 eP **P** **15 50 22.6 +2.3**
comp=Z,11nm,0.9s,baz=82,slow=8.0
FBE epP **pP** **15 51 00.5 +4.5**
GSI Gunungsitoli 42.90 139 P **P** **15 50 21.8 +0.8**
HFS Hagfors 42.97 322 P **P** **15 50 21.6 +0.7**
comp=Z,27nm,0.7s,baz=99,slow=9.8,SNR=65
HFS pP **pP** **15 50 58.2 +1.4**
comp=Z,4.8nm,0.5s,baz=109,slow=11,SNR=3.1
comp=Z,27nm,0.7s
PRED Cave del Predi 43.18 302 P **P** **15 50 22.6 -0.4**
TRO Tromso 43.19 336 eP **P** **15 50 23.8 +1.2**
MODW Modelwitz 43.43 308 eP **P** **15 50 26.7 +1.8**
comp=Z,3.0nm,0.8s,baz=82,slow=8.0
SCHF Schoenfels 43.49 308 eP **P** **15 50 27.3 +1.9**
comp=Z,9.8nm,1.4s,baz=82,slow=8.0
HKWD Heukewalde 43.57 308 eP **P** **15 50 28.0 +2.1**
comp=Z,3.8nm,0.8s,baz=82,slow=8.0
WERD Werda 43.57 308 eP **P** **15 50 28.0 +2.0**
comp=Z,5.9nm,1.1s,baz=82,slow=8.0
ZEITZ Schloss Moritz 43.64 309 epP pP 15 51 06.3 +4.0
LESA Schwarzleotal 43.65 303 eP **P** **15 50 28.2 +1.4**
comp=Z,2.5nm,0.5s
ROTZ Rotzenmuhle 43.69 307 eP **P** **15 50 29.3 +2.4**
comp=Z,1.8nm,1.2s,baz=82,slow=8.0
FAUS Fauske 43.72 333 eP **P** **15 50 28.2 +1.4**
STEI Steigen 43.89 333 eP **P** **15 50 29.5 +1.3**
MOX Moxa 43.99 308 eP **P** **15 50 31.3 +1.9**
comp=Z,4.4nm,0.9s,baz=82,slow=8.0
WIMM Wimmelburg 43.99 309 eP **P** **15 50 30.9 +1.6**
comp=Z,9.0nm,0.7s,baz=82,slow=8.0
YAK Yakutsk 44.02 35 P **P** **15 50 29.2 -0.2**
YAK IAmb IAmb 15 50 30.9
comp=Z,17nm,0.6s
YAK Yakutsk 44.02 35 eP **P** **15 50 29.2 -0.2**
YAK pmax pmax
comp=Z,18nm,0.9s
NC405 NORSAR Array S 44.05 323 P **P** **15 50 30.2 +0.6**
NC602 NORSAR Array S 44.09 323 P **P** **15 50 30.6 +0.7**
NC602 IAmb IAmb 15 50 31.0
comp=Z,15nm,0.9s
NC602 NORSAR Array S 44.09 323 eP **P** **15 50 30.1 +0.2**
NC303 NORSAR Array S 44.23 323 P **P** **15 50 32.2 +1.2**
NB201 NORSAR Array S 44.24 323 P **P** **15 50 31.8 +0.6**
NB201 IAmb IAmb 15 50 32.7
comp=Z,20nm,0.8s
NB2 NORSAR Subarra 44.28 323 P **P** **15 50 31.7 +0.2**
comp=Z,27nm,0.8s,baz=97,slow=7.9
NB2 NORSAR Subarra 44.28 323 P **P** **15 50 31.7 +0.2**
baz=97,slow=7.9
NOA NORSAR Array B 44.28 323 P **P** **15 50 31.9 +0.4**
comp=Z,17nm,0.7s,baz=96,slow=7.8,SNR=70
NOA pP **pP** **15 51 08.5 +0.9**
comp=Z,3.7nm,0.7s,baz=96,slow=8.0,SNR=3.2
comp=Z,17nm,0.7s
KONS Konsvik 44.33 331 eP **P** **15 50 33.0 +1.3**
STOK Stokkvaagen 44.33 331 eP **P** **15 50 32.7 +1.0**
NAO01 NORSAR Array S 44.42 323 P **P** **15 50 33.1 +0.5**
NAO01 IAmb IAmb 15 50 54.8
comp=Z,34nm,1.4s
NBO00 NORSAR Array S 44.49 323 P **P** **15 50 33.7 +0.5**
NC204 NORSAR Array S 44.52 323 P **P** **15 50 34.3 +0.9**
LOF Lofoten 44.56 333 eP **P** **15 50 34.2 +0.6**
BSEG Bad Segeberg 44.58 313 eP **P** **15 50 35.9 +2.1**
comp=Z,19nm,0.8s,baz=82,slow=8.0
MOTA Moosalm 44.72 303 eP **P** **15 50 36.1 +0.8**
comp=Z,5.1nm,0.9s
RETA Reutte 44.92 304 *i* P **P** **15 50 38.1 +1.3**
comp=Z,3.8nm,1.2s
KS19 Wonju Array Si 44.94 71 P **P** **15 50 38.0 +0.9**
KS19 IAmb IAmb 15 50 58.2
comp=Z,41nm,1.4s
GTTG Gottingen 44.95 309 eP **P** **15 50 38.9 +2.0**
comp=Z,8.9nm,0.8s,baz=82,slow=8.0
KSAR Wonju Array Be 44.97 71 P **P** **15 50 38.2 +0.9**
KSAR Wonju Array Be 44.97 71 P **P** **15 50 38.2 +0.9**
KONO Kongsberg 44.98 321 P **P** **15 50 37.9 +0.9**
KONO IAmb IAmb 15 50 50.9
comp=Z,38nm,1.4s
KONO Kongsberg 44.98 321 P **P** **15 50 37.9 +0.9**
KONO pmax pmax
comp=Z,38nm,1.4s
KSRS Korea Array 45.00 71 P **P** **15 50 37.6 +0.1**
comp=Z,1.7nm,0.6s,baz=287,slow=6.6,SNR=15
comp=Z,1.7nm,0.6s
DOMB Dombas 45.40 324 eP **P** **15 50 41.4 +1.1**
FUORN **Ofenpass-Fuorn 45.40 303** P **P** **15 50 42.0 +1.1**
DAVA Damuels 45.55 304 *i* P **P** **15 50 42.9 +1.0**
comp=Z,5.3nm,0.6s
TIXI Tiksi 45.80 22 P **P** **15 50 43.8 +0.5**
TIXI Tiksi 45.80 22 P **P** **15 50 43.8 +0.5**
TIXI pmax pmax
comp=Z,19nm,0.5s
TUE Stuetta 46.05 302 P **P** **15 50 46.2 +0.4**
MYKOM **Kota Tinggi 46.09 131** P **P** **15 50 47.1 +0.8**
USRK Ussuriysk Ar. 46.27 61 P **P** **15 50 47.1 -0.3**
comp=Z,1.7nm,0.7s,baz=271,slow=8.4,SNR=2.5
comp=Z,1.7nm,0.7s
SPB2 Spitsbergen Ar 47.44 347 P **P** **15 50 57.7 +1.8**
SPA0 Spitsbergen Ar 47.44 347 eP **P** **15 50 58.0 +2.1**
SPITS Spitsbergen Ar 47.44 347 P **P** **15 50 57.9 +1.9**
comp=Z,6.6nm,0.4s,baz=125,slow=10,SNR=34
comp=Z,6.6nm,0.4s
SENIN Lac Senin/Sane 47.46 303 P **P** **15 50 57.0 +0.2**
SENIN IAmb IAmb 15 50 59.7
comp=Z,15nm,0.8s
KBS Kingsbay 48.56 347 P **P** **15 51 06.2 +1.7**
KBS Kingsbay 48.56 347 eP **P** **15 51 06.3 +1.8**
KBS Kingsbay 48.56 347 P **P** **15 51 06.2 +1.7**
KBS pmax pmax
comp=Z,28nm,0.8s
KMBO Kilima Mbogo 48.75 227 P **P** **15 51 06.6 -0.5**
comp=Z,1.2nm,0.5s,baz=23,slow=16,SNR=3.2
comp=Z,1.2nm,0.5s
EKA Eskdalemuir Ar 52.18 316 P **P** **15 51 32.0 0.0**
comp=Z,7.1nm,0.9s,baz=85,slow=9.3,SNR=5.7
comp=Z,7.1nm,0.9s
MBAR Mbarara 52.41 234 P **P** **15 51 35.1 +0.6**
MBAR IAmb IAmb 15 51 35.9
comp=Z,8.8nm,0.8s
MBAR Mbarara 52.41 234 P **P** **15 51 31.8 -2.6**
MBAR Mbarara 52.41 234 P **P** **15 51 35.1 +0.6**
MBAR pmax pmax
comp=Z,9.0nm,0.8s
JSD Sado 52.57 67 P **P** **15 51 35.7 +0.5**
JSD IAmb IAmb 15 51 36.5
comp=Z,6.5nm,0.6s
MJAR Matsushiro Arr 53.07 68 P **P** **15 51 38.3 -0.6**
comp=Z,0.5nm,0.6s,baz=300,slow=9.6,SNR=1.9
comp=Z,0.5nm,0.6s
DAG Danmarks Havn 54.67 344 *i* P **P** **15 51 50.0 +0.2**
DAG IAmb IAmb 15 51 52.3
comp=Z,22nm,0.8s
ESDC Sonseca Array 57.33 298 P **P** **15 52 09.5 +0.1**
comp=Z,0.6nm,0.6s,baz=58,slow=7.2,SNR=7.3
ESDC pP **pP** **15 52 49.0 +2.2**
comp=Z,1.4nm,0.9s,baz=59,slow=7.1,SNR=4.8
comp=Z,0.6nm,0.6s
BILL Bilibino 58.65 26 P **P** **15 52 19.0 +1.0**
BILL IAmb IAmb 15 52 20.2
comp=Z,14nm,1.1s
NEEM North Greenlan 60.98 348 *i* P **P** **15 52 32.3 -1.9**
NEEM IAmb IAmb 15 52 37.4
comp=Z,15nm,0.7s
SUMG Summit 61.00 341 **P** **15 52 36.0 +1.5**
SUMG Summit 61.00 341 P **P** **15 52 36.0 +1.5**

SUMG pmax pmax
comp=Z,24nm,0.8s
SUMG Summit 61.00 341 *i* P **P** **15 52 35.0 +0.5**
SUMG IAmb IAmb 15 52 37.1
comp=Z,16nm,0.7s
VOI Vohitsoka 62.40 205 P **P** **15 52 44.9 +0.8**
VOI IAmb IAmb 15 53 20.8
comp=Z,16nm,1.1s
ICESG Greenland Ices 63.14 338 *i* P **P** **15 52 48.2 -0.5**
ICESG IAmb IAmb 15 52 51.1
comp=Z,8.2nm,0.7s
TOA0 Torodi Ar. Sit 65.58 269 P **P** **15 53 03.7 -1.3**
TOA0 IAmb IAmb 15 53 05.1
comp=Z,4.5nm,0.5s
TORD Torodi Ar. Bea 65.58 269 P **P** **15 53 03.5 -1.5**
TORD Torodi Ar. Bea 65.58 269 P **P** **15 53 03.4 -1.7**
comp=Z,4.1nm,0.4s,baz=49,slow=6.3,SNR=68
TORD pP **pP** **15 53 43.8 +0.3**
comp=Z,2.1nm,0.8s,baz=47,slow=6.3,SNR=2.7
comp=Z,4.1nm,0.4s
ILULI Ilulissat 66.33 341 P **P** **15 53 08.0 -0.9**
ILULI Ilulissat 66.33 341 P **P** **15 53 08.0 -0.9**
ILULI pmax pmax
comp=Z,39nm,1.3s
DY2G Dye2 66.71 337 *i* P **P** **15 53 10.2 -1.5**
DY2G IAmb IAmb 15 53 13.9
comp=Z,13nm,0.7s
A19K Wainwright 67.18 17 P **P** **15 53 15.5 +1.2**
baz=317
A21K Barrow 67.33 15 P **P** **15 53 16.2 +1.0**
baz=320
C16K Lisburne Hills 67.48 20 P **P** **15 53 16.4 +0.2**
C16K Lisburne Hills 67.48 20 P **P** **15 53 17.0 +0.8**
baz=314
B18K Kokolik River 67.62 18 P **P** **15 53 18.5 +1.4**
baz=316
C17K DeLong Mountai 67.91 19 P **P** **15 53 19.9 +1.0**
baz=315
A22K Sinclair Lake 67.91 15 P **P** **15 53 20.0 +1.2**
baz=322
B20K Meade River 68.22 16 P **P** **15 53 21.9 +1.1**
B20K IAmb IAmb 15 53 22.8
comp=Z,17nm,0.9s
B20K Meade River 68.22 16 P **P** **15 53 21.7 +0.9**
baz=320
RDOG Red Dog Mine 68.28 19 P **P** **15 53 22.6 +1.3**
baz=316
C18K Utukok River 68.29 18 P **P** **15 53 22.2 +0.9**
C18K Utukok River 68.29 18 P **P** **15 53 22.2 +0.9**
baz=317
C19K Lookout Ridge 68.35 17 P **P** **15 53 22.8 +1.2**
C19K Lookout Ridge 68.35 17 P **P** **15 53 22.4 +0.8**
baz=318
D17K Noatak River 68.49 19 P **P** **15 53 23.5 +1.0**
baz=316
TNA Tin City 68.59 22 P **P** **15 53 24.1 +1.0**
baz=312
RES Resolute Bay 68.67 356 P **P** **15 53 24.0 +0.5**
RES Resolute Bay 68.67 356 P **P** **15 53 24.0 +0.5**
RES pmax pmax
comp=Z,6.0nm,1.1s
B22K Teshekpuk Lake 68.76 15 P **P** **15 53 25.1 +1.0**
B22K Teshekpuk Lake 68.76 15 P **P** **15 53 25.1 +1.0**
baz=323
B21K Ikpikpuk River 69.08 15 P **P** **15 53 26.9 +0.8**
B21K IAmb IAmb 15 53 28.2
comp=Z,14nm,0.9s
B21K Ikpikpuk River 69.08 15 P **P** **15 53 27.1 +1.0**
baz=322
F14K Arctic Creek 69.14 22 P **P** **15 53 27.5 +1.0**
baz=314
D19K Kuna River 69.16 17 P **P** **15 53 27.5 +0.8**
D19K Kuna River 69.16 17 P **P** **15 53 27.2 +0.5**
baz=320
FAKI Fak Fak 69.21 110 P **P** **15 53 27.6 -0.2**
FAKI IAmb IAmb 15 54 10.6
comp=Z,9.3nm,1.1s
E17K Hotham Inlet 69.28 19 P **P** **15 53 27.9 +0.5**
baz=317
D20K Etivluk River 69.35 17 P **P** **15 53 28.7 +0.9**
baz=321
E18K Tukpahlearik C 69.35 19 P **P** **15 53 28.4 +0.7**
E18K IAmb IAmb 15 53 29.4
comp=Z,15nm,1.1s
E18K Tukpahlearik C 69.35 19 P **P** **15 53 28.5 +0.7**
baz=318
C21K Kniveblade Rid 69.41 16 P **P** **15 53 29.1 +0.9**
baz=322
F15K North Star Dit 69.47 21 P **P** **15 53 29.6 +0.9**
F15K North Star Dit 69.47 21 P **P** **15 53 29.6 +0.9**
baz=315
C23K Itkillik River 69.73 14 P **P** **15 53 31.3 +1.2**
C23K Itkillik River 69.73 14 P **P** **15 53 31.3 +1.2**
baz=325
E20K Nigu River 69.80 17 P **P** **15 53 31.4 +0.7**
baz=321
F17K Baldwin Pennin 69.90 20 P **P** **15 53 31.1 -0.1**
F17K Baldwin Pennin 69.90 20 P **P** **15 53 32.4 +1.2**
baz=317
ANM Nome 70.06 22 P **P** **15 53 33.2 +1.0**
baz=315
D22K Ayikyak River 70.09 15 P **P** **15 53 33.4 +1.0**
D22K IAmb IAmb 15 53 34.3
comp=Z,10nm,1.1s
D22K Ayikyak River 70.09 15 P **P** **15 53 33.4 +1.0**
baz=324
E21K Killik River 70.16 16 P **P** **15 53 33.1 +0.3**
E21K IAmb IAmb 15 53 34.3
comp=Z,13nm,0.9s
E21K Killik River 70.16 16 P **P** **15 53 33.9 +1.1**
baz=323
G15K Niukluk 70.16 22 P **P** **15 53 33.7 +0.9**
baz=316
E19K Redstone River 70.17 18 P **P** **15 53 33.2 +0.4**
E19K Redstone River 70.17 18 P **P** **15 53 33.6 +0.7**
baz=320
C24K Franklin Bluff 70.20 14 P **P** **15 53 34.0 +1.1**
baz=327
G16K Koyuk River 70.36 21 P **P** **15 53 35.1 +1.0**
baz=317
D23K Nanushuk River 70.44 15 P **P** **15 53 35.8 +1.4**
baz=326
D24K Happy Valley 70.65 14 P **P** **15 53 36.7 +0.9**
baz=327
C26K Camden Bay 70.72 12 P **P** **15 53 37.5 +1.4**
baz=330
G17K Kiwalik Mounta 70.77 20 P **P** **15 53 37.4 +0.9**
baz=318
F20K Avaraart Lake 70.86 18 P **P** **15 53 37.2 +0.2**
F20K Avaraart Lake 70.86 18 P **P** **15 53 37.3 +0.2**
baz=322
E22K Anaktuvuk Pass 70.88 16 P **P** **15 53 37.7 +0.5**
E22K IAmb IAmb 15 53 38.9
comp=Z,11nm,1.1s
E22K Anaktuvuk Pass 70.88 16 P **P** **15 53 37.8 +0.5**
baz=325,SNR=5.4
TOLK Toolik Lake Re 70.93 15 P **P** **15 53 38.5 +1.0**
TOLK Toolik Lake Re 70.93 15 P **P** **15 53 37.6 0.0**
baz=326,SNR=6.0
H16K Elim 70.95 21 P **P** **15 53 37.2 -0.4**
baz=317
D25K Kavik River 70.97 13 P **P** **15 53 38.7 +1.0**
baz=329
G18K Tagagawik 71.01 19 P **P** **15 53 39.2 +1.2**
baz=320
A36M Sachs Harbour 71.19 5 P **P** **15 53 39.8 +0.9**
A36M Sachs Harbour 71.19 5 P **P** **15 53 39.8 +0.9**
baz=346,SNR=20
G19K Purcell Mounta 71.23 19 P **P** **15 53 39.9 +0.6**
G19K IAmb IAmb 15 53 40.7
comp=Z,11nm,0.8s
G19K Purcell Mounta 71.23 19 P **P** **15 53 40.1 +0.8**
baz=321
F21K Alatna River 71.25 17 P **P** **15 53 40.2 +0.7**
F21K IAmb IAmb 15 53 42.5
comp=Z,9.3nm,0.9s
F21K Alatna River 71.25 17 P **P** **15 53 40.5 +1.1**
baz=324
F22K John River 71.32 16 P **P** **15 53 40.7 +0.9**
baz=325
H17K Granite Mounta 71.40 20 P **P** **15 53 40.8 +0.5**
baz=319
E23K Chandalar 71.41 15 P **P** **15 53 41.6 +1.1**
baz=327
E24K Your Creek 71.63 15 P **P** **15 53 42.6 +0.9**
E24K IAmb IAmb 15 53 43.6
comp=Z,12nm,1.1s
E24K Your Creek 71.63 15 P **P** **15 53 42.9 +1.2**
baz=328
H18K Honhosa River 71.66 20 P **P** **15 53 42.6 +0.7**
baz=320
G21K Allakaket 71.82 17 P **P** **15 53 43.1 +0.3**
G21K Allakaket 71.82 17 P **P** **15 53 43.6 +0.8**
baz=324
H19K Roundabout Mou 71.88 19 P **P** **15 53 44.0 +0.9**
H19K Roundabout Mou 71.88 19 P **P** **15 53 44.0 +0.9**
baz=322
J14K Nanvaranak Lak 71.93 23 P **P** **15 53 43.8 +0.4**
baz=316
G22K Bettles 71.95 16 P **P** **15 53 44.1 +0.6**
baz=325
D27M Malcolm River 71.97 11 P **P** **15 53 44.5 +0.8**
baz=334
COLD Coldfoot 71.98 16 P **P** **15 53 44.5 +0.8**
baz=326,SNR=9.8
E25K Arctic Village 72.16 14 P **P** **15 53 45.7 +0.9**
E25K Arctic Village 72.16 14 P **P** **15 53 45.8 +0.9**
baz=330,SNR=5.2
IMAR Indian Mountai 72.19 18 P **P** **15 53 45.3 +0.3**
F24K Squaw Lake 72.22 15 P **P** **15 53 46.1 +0.9**
F24K Squaw Lake 72.22 15 P **P** **15 53 46.2 +0.9**
baz=328
D28M Stokes Point 72.23 11 P **P** **15 53 46.6 +1.4**
baz=335
H20K Anotleneega Mo 72.31 18 P **P** **15 53 46.6 +0.9**
baz=323,SNR=6.3
GCSA Galena City Sc 72.38 19 P **P** **15 53 47.2 +1.2**
baz=321
J16K Anvik River 72.44 22 P **P** **15 53 47.5 +0.9**
J16K IAmb IAmb 15 53 52.0
comp=Z,20nm,1.2s
J16K Anvik River 72.44 22 P **P** **15 53 47.5 +0.9**
baz=319
G23K Bananza Creek 72.45 16 P **P** **15 53 47.7 +1.0**
baz=326
F25K Chrisna River 72.60 14 P **P** **15 53 48.4 +0.9**
baz=330
H21K Melozitna River 72.69 17 P **P** **15 53 48.7 +0.8**
H21K IAmb IAmb 15 53 49.6
comp=Z,11nm,1.1s
H21K Melozitna Rive 72.69 17 P **P** **15 53 48.5 +0.5**
baz=324,SNR=5.5
E28M Babbage River 72.77 11 P **P** **15 53 49.6 +1.2**
E28M IAmb IAmb 15 53 50.9
comp=Z,20nm,1.4s
E28M Babbage River 72.77 11 P **P** **15 53 49.5 +1.1**
baz=335,SNR=6.1
F26K Sheenjek River 72.80 13 P **P** **15 53 50.5 +1.8**
baz=331
E27K Coleen River 72.81 12 P **P** **15 53 50.0 +1.4**
E27K IAmb IAmb 15 53 51.0
comp=Z,14nm,1.1s
E27K Coleen River 72.81 12 P **P** **15 53 50.1 +1.4**
baz=333
H22K Ishtalitna Cre 72.83 17 P **P** **15 53 50.1 +1.3**
baz=326
BMAR Burnt Mountain 72.95 14 P **P** **15 53 50.8 +1.2**
I20K Naaghedeneel 72.97 19 P **P** **15 53 50.4 +0.8**
baz=323
G24K Hadweenzic Riv 73.01 15 P **P** **15 53 50.7 +0.8**
baz=329
E29M Blow River 73.22 11 P **P** **15 53 52.0 +1.0**
E29M IAmb IAmb 15 53 53.5
comp=Z,18nm,1.2s
E29M Blow River 73.22 11 P **P** **15 53 52.0 +1.0**
baz=336
L14K Kuka Creek 73.25 24 P **P** **15 53 52.7 +1.5**
baz=318
I21K Tanana 73.28 17 P **P** **15 53 52.5 +1.1**
baz=325
J19K Poorman 73.31 19 P **P** **15 53 52.5 +0.8**
J19K IAmb IAmb 15 53 53.7
comp=Z,12nm,1.0s
J19K Poorman 73.31 19 P **P** **15 53 52.8 +1.2**
baz=322
L15K Ungalak Mounta 73.38 23 P **P** **15 53 52.8 +0.8**
baz=318
J18K Innoko River 73.43 20 P **P** **15 53 53.1 +0.7**
J18K Innoko River 73.43 20 P **P** **15 53 53.0 +0.6**
baz=322
SPIA Saint Paul Isl 73.45 30 P **P** **15 53 53.3 +0.8**
baz=313
G26K Porcupine Rive 73.52 13 P **P** **15 53 53.9 +1.1**
baz=332
J20K Nowinta River 73.55 19 P **P** **15 53 53.7 +0.7**
J20K Nowinta River 73.55 19 P **P** **15 53 53.7 +0.7**
baz=324
K17K Iditarod 73.56 21 P **P** **15 53 54.1 +1.0**
K17K Iditarod 73.56 21 P **P** **15 53 54.0 +0.9**
baz=321
F28M Old Crow 73.62 12 P **P** **15 53 54.2 +0.8**
baz=335
H24K Noodor Dome 73.66 16 P **P** **15 53 55.0 +1.3**
H24K Noodor Dome 73.66 16 P **P** **15 53 54.9 +1.1**
baz=328
MLY Manley 73.69 17 P **P** **15 53 54.8 +0.9**
baz=326
C36M Paulatuk 73.87 5 P **P** **15 53 55.2 +0.5**
C36M Paulatuk 73.87 5 P **P** **15 53 55.5 +0.8**
baz=348,SNR=32
INK Inuvik 73.90 9 P **P** **15 53 56.1 +1.1**
INK IAmb IAmb 15 53 56.6
comp=Z,11nm,0.7s
INK Inuvik 73.90 9 P **P** **15 53 56.0 +1.1**
baz=340,SNR=14
INK Inuvik 73.90 9 P **P** **15 53 56.1 +1.1**
INK pmax pmax
comp=Z,11nm,0.7s
I23K Minto, Yukon-K 73.92 16 P **P** **15 53 56.2 +1.1**
I23K IAmb IAmb 15 53 56.7
comp=Z,13nm,1.2s
I23K Minto, Yukon-K 73.92 16 P **P** **15 53 56.7 +1.6**
baz=327
M14K Bethel 73.92 24 P **P** **15 53 56.4 +1.2**
baz=318
L16K Owhat River 73.98 22 P **P** **15 53 56.9 +1.3**
L16K IAmb IAmb 15 54 24.9
comp=Z,21nm,1.4s
L16K Owhat River 73.98 22 P **P** **15 53 56.9 +1.3**
baz=320
L17K Donlin 74.01 22 P **P** **15 53 57.1 +1.3**
baz=321
G27K Doyon Strip 74.04 13 P **P** **15 53 57.2 +1.3**
G27K IAmb IAmb 15 53 58.3
comp=Z,7.9nm,0.8s
G27K Doyon Strip 74.04 13 P **P** **15 53 57.4 +1.5**
baz=333,SNR=8.2
TTA Tatalina 74.05 20 P **P** **15 53 57.4 +1.3**
baz=322
K20K Telida 74.23 19 P **P** **15 53 58.1 +1.0**
K20K IAmb IAmb 15 53 59.0
comp=Z,21nm,1.1s
K20K Telida 74.23 19 P **P** **15 53 58.2 +1.2**
baz=324
F30M Barrier River 74.25 10 P **P** **15 53 58.2 +1.2**
baz=338
CHUM Lake Minchumin 74.26 18 P **P** **15 53 57.9 +0.8**
baz=325
MDM Murphy Dome 74.33 16 P **P** **15 53 58.4 +0.7**
MDM IAmb IAmb 15 53 59.3
comp=Z,14nm,1.1s
POKR Poker Plat Res 74.38 16 P **P** **15 53 59.0 +1.2**
POKR IAmb IAmb 15 53 59.9
comp=Z,17nm,1.1s
POKR Poker Plat Res 74.38 16 P **P** **15 53 58.8 +0.9**
baz=329,SNR=7.3
M15K Kasigluk River 74.38 24 P **P** **15 53 58.6 +0.8**
baz=319
BPAW Bear Paw Mtn. 74.41 18 P **P** **15 53 58.4 +0.3**
BPAW IAmb IAmb 15 53 59.8
comp=Z,9.4nm,1.0s
BPAW Bear Paw Mtn. 74.41 18 P **P** **15 53 58.9 +0.8**
baz=326
L18K Granite Mounta 74.42 21 P **P** **15 53 59.0 +0.9**
L18K Granite Mounta 74.42 21 P **P** **15 53 58.7 +0.6**
baz=322
PRP Porcupine Dome 74.44 15 P **P** **15 53 58.7 +0.3**
baz=330
NEA2 Nenana 74.45 17 P **P** **15 53 58.6 +0.3**
NEA2 IAmb IAmb 15 54 00.2
comp=Z,20nm,1.1s
NEA2 Nenana 74.45 17 P **P** **15 53 58.6 +0.3**
baz=328
COLA College 74.49 16 P **P** **15 53 58.9 +0.5**
COLA IAmb IAmb 15 54 00.0
comp=Z,16nm,0.8s
COLA College 74.49 16 P **P** **15 53 58.6 +0.2**
baz=328
COLA College 74.49 16 P **P** **15 53 58.9 +0.5**
COLA pmax pmax
comp=Z,16nm,0.8s
G29M Pine Creek 74.56 11 P **P** **15 53 59.8 +0.9**
G29M IAmb IAmb 15 54 17.3
comp=Z,15nm,1.4s
G29M Pine Creek 74.56 11 P **P** **15 53 59.8 +0.9**
baz=336
H27K Steamboat Moun 74.58 13 P **P** **15 53 59.9 +0.9**
baz=334,SNR=8.8
LBTB Lobatse 74.61 222 P **P** **15 54 00.3 +0.5**
LBTB Lobatse 74.61 222 P **P** **15 54 00.3 +0.5**
LBTB pmax pmax
comp=Z,8.0nm,1.2s
N14K Kuskokwak Cree 74.63 24 P **P** **15 54 00.4 +1.1**
baz=318
M16K Timber Creek 74.67 23 P **P** **15 54 00.8 +1.2**
baz=320
F31M Tsiigehtchic 74.69 10 P **P** **15 54 00.5 +0.9**
F31M IAmb IAmb 15 54 01.4
comp=Z,18nm,1.1s
F31M Tsiigehtchic 74.69 10 P **P** **15 54 00.8 +1.2**
baz=340,SNR=8.2
CAST Castle Rocks 74.70 19 P **P** **15 54 00.6 +0.8**
CAST IAmb IAmb 15 54 01.5
comp=Z,20nm,1.0s
CAST Castle Rocks 74.70 19 P **P** **15 54 00.9 +1.1**
baz=325,SNR=8.3
G30M tAoh Zraii Nji 74.77 11 P **P** **15 54 01.3 +1.2**
G30M IAmb IAmb 15 54 01.9
comp=Z,12nm,0.9s
G30M tAoh Zraii Nji 74.77 11 P **P** **15 54 00.8 +0.7**
baz=338
IL31 74.79 16 P **P** **15 53 59.7 -0.5**
ILAR Eielson Array 74.79 16 P **P** **15 53 59.7 -0.6**
ILAR Eielson Array 74.79 16 P **P** **15 54 00.1 -0.2**
comp=Z,3.9nm,0.9s,baz=318,slow=5.0,SNR=41
ILAR pP **pP** **15 54 40.5 +0.3**
comp=Z,1.6nm,0.9s,baz=324,slow=3.6,SNR=4.5
ILAR PP **PP** **15 56 48.7 -0.2**
comp=Z,1.2nm,0.9s,baz=319,slow=8.2,SNR=5.0
comp=Z,3.9nm,0.9s
M17K Holitna River 74.84 22 P **P** **15 54 02.2 +1.6**
M17K Holitna River 74.84 22 P **P** **15 54 01.5 +0.9**
baz=322
KTH Kantishna Hill 74.88 18 P **P** **15 54 01.3 +0.4**
KTH IAmb IAmb 15 54 02.2
comp=Z,17nm,1.0s
N15K Kwethluk River 74.97 24 P **P** **15 54 01.5 +0.1**
baz=320
L19K White Mountain 74.97 20 P **P** **15 54 02.2 +0.9**
L19K IAmb IAmb 15 54 03.0
comp=Z,12nm,1.2s
L19K White Mountain 74.97 20 P **P** **15 54 02.0 +0.7**
baz=323
L20K Farewell, AK 75.00 20 P **P** **15 54 01.9 +0.4**
baz=324
HDA Harding Lake 75.09 16 P **P** **15 54 01.4 -0.5**
baz=329
HDA P **P** **15 54 01.4 -0.5**
baz=329
G31M Satah River 75.11 10 P **P** **15 54 02.6 +0.7**
G31M IAmb IAmb 15 54 03.1
comp=Z,8.4nm,0.7s
G31M Satah River 75.11 10 P **P** **15 54 02.3 +0.3**
baz=339,SNR=5.7
PPLA Purkeypile 75.11 19 P **P** **15 54 02.4 +0.2**
baz=325
I27K Kandik River 75.13 13 P **P** **15 54 03.1 +0.9**
baz=334
TRF Thorofare Moun 75.13 18 P **P** **15 54 01.8 -0.6**
baz=327
H29M Whitestone 75.14 12 P **P** **15 54 03.4 +1.2**
H29M IAmb IAmb 15 54 03.8
comp=Z,9.6nm,0.7s
H29M Whitestone 75.14 12 P **P** **15 54 02.8 +0.6**
baz=336
N16K Nishlik Lake 75.16 23 P **P** **15 54 02.6 +0.2**
baz=321
MCK McKinley 75.22 17 P **P** **15 54 03.4 +0.7**
baz=328
M18K Stony River 75.25 21 P **P** **15 54 03.1 +0.3**
baz=323
J25K Salcha River, 75.26 15 P **P** **15 54 03.3 +0.4**
J25K Salcha River, 75.26 15 P **P** **15 54 03.4 +0.4**
baz=331
EPYK Eagle Plains 75.26 11 P **P** **15 54 03.5 +0.5**
EPYK Eagle Plains 75.26 11 P **P** **15 54 03.2 +0.2**
baz=337
O14K Tigyukauivet M 75.28 25 P **P** **15 54 03.0 0.0**
baz=319
KNRA Kununurra 75.35 122 P **P** **15 54 03.9 -0.2**
RND Reindeer 75.51 17 P **P** **15 54 04.8 +0.3**
RND IAmb IAmb 15 54 17.1
comp=Z,16nm,1.4s
RND Reindeer 75.51 17 P **P** **15 54 04.8 +0.3**
RND pmax pmax
comp=Z,16nm,1.4s
I28M Miner Creek 75.57 13 P **P** **15 54 05.2 +0.3**
I28M IAmb IAmb 15 54 06.2
comp=Z,7.8nm,0.8s
I28M Miner Creek 75.57 13 P **P** **15 54 04.9 +0.1**
baz=335
N17K Nushagak Hills 75.61 22 P **P** **15 54 05.7 +0.7**
baz=322
M20K Styx River 75.69 20 P **P** **15 54 06.7 +1.2**
M20K IAmb IAmb 15 54 12.1
comp=Z,15nm,1.4s
M20K Styx River 75.69 20 P **P** **15 54 06.1 +0.6**
baz=325
J26L Joseph Creek 75.73 15 P **P** **15 54 06.5 +0.8**
J26L Joseph Creek 75.73 15 P **P** **15 54 06.5 +0.8**
baz=332
K24K Donnelly Dome 75.88 16 P **P** **15 54 06.8 +0.3**
baz=330,SNR=5.2
I29M Ogilvie Camp, 75.93 12 P **P** **15 54 07.3 +0.5**
I29M IAmb IAmb 15 54 08.1
comp=Z,9.6nm,1.0s
I29M Ogilvie Camp, 75.93 12 P **P** **15 54 07.5 +0.8**
baz=336,SNR=5.9
EGAK Eagle 75.95 14 P **P** **15 54 07.3 +0.5**
baz=334
CUT Chulitna 76.01 18 P **P** **15 54 07.3 +0.1**
CUT Chulitna 76.01 18 P **P** **15 54 07.2 +0.1**
baz=327
SKT Skwentna 76.04 19 P **P** **15 54 07.6 +0.2**
SKT Skwentna 76.04 19 P **P** **15 54 07.9 +0.5**
baz=326
O16K Kokwok River B 76.06 23 P **P** **15 54 07.8 +0.3**
baz=321
WAT1 Susitna Watana 76.08 17 P **P** **15 54 07.5 -0.1**
baz=328
SCRK Sand Creek 76.11 15 P **P** **15 54 08.2 +0.4**
SCRK IAmb IAmb 15 54 09.5
comp=Z,11nm,1.2s
SCRK Sand Creek 76.11 15 P **P** **15 54 07.7 -0.2**
baz=332
RIDG Independent Ri 76.14 16 P **P** **15 54 08.0 +0.1**
baz=331
DHY Denali Highway 76.14 17 P **P** **15 54 08.3 +0.1**
DHY IAmb IAmb 15 54 11.1
comp=Z,8.7nm,0.8s
DHY Denali Highway 76.14 17 P **P** **15 54 08.0 -0.2**
baz=329
N19K Bonanza Creek 76.18 21 P **P** **15 54 08.4 +0.1**
baz=324
O17K Koliganek Bris 76.23 23 P **P** **15 54 08.5 +0.1**
baz=322
I30M Mount Dempster 76.38 11 P **P** **15 54 10.0 +0.6**
I30M IAmb IAmb 15 54 10.9
comp=Z,8.4nm,0.8s
I30M Mount Dempster 76.38 11 P **P** **15 54 09.3 -0.1**
baz=338
K27K Chicken 76.45 14 P **P** **15 54 10.4 +0.7**
K27K IAmb IAmb 15 54 11.8
comp=Z,11nm,1.0s
K27K Chicken 76.45 14 P **P** **15 54 10.3 +0.6**
baz=333
WAT6 Susitna Watana 76.48 17 P **P** **15 54 10.0 -0.1**
baz=329
N20K Mount Spurr 76.50 20 P **P** **15 54 10.3 +0.1**
baz=326
P16K Nushagak River 76.53 24 P **P** **15 54 11.0 +0.9**

baz=322
M22K Willow 76.60 19 P P 15 54 11.2 +0.8
baz=327
PAX Paxson 76.67 16 P P 15 54 11.7 +0.7
baz=331
SUA Susitna One 76.68 19 P P 15 54 11.7 +0.6
baz=327
O19K Port Alsworth 76.73 21 P P 15 54 11.7 +0.4
baz=324
O18K Koktuh Hills 76.74 22 P P 15 54 11.6 +0.2
baz=324
GHO Glory Hole Cre 76.89 18 P P 15 54 12.7 +0.4
GHO IAmb IAmb 15 54 19.6
comp=Z,26nm,1.2s
P17K Kvichak River 76.89 23 P P 15 54 13.0 +0.9
baz=323
DAWY Dawson 76.93 13 P P 15 54 13.0 +0.6
DAWY IAmb IAmb 15 54 14.0
comp=Z,10nm,1.1s
DAWY Dawson 76.93 13 P P 15 54 12.9 +0.6
baz=335
PMR Palmer 76.99 18 P P 15 54 13.5 +0.9
baz=328
J30M Hart River 76.99 12 P P 15 54 13.4 +0.5
J30M Hart River 76.99 12 P P 15 54 13.5 +0.6
baz=338
SML Sawmill 77.00 18 P P 15 54 13.2 +0.4
SML IAmb IAmb 15 54 14.0
comp=Z,17nm,0.9s
SML Sawmill 77.00 18 P P 15 54 13.7 +0.8
baz=329
M23K Glacier View 77.17 18 P P 15 54 13.9 +0.2
baz=329
SCM Sheep Creek Mo 77.23 17 P P 15 54 14.5 +0.4
SCM IAmb IAmb 15 54 38.1
comp=Z,17nm,1.1s
SCM Sheep Creek Mo 77.23 17 P P 15 54 14.8 +0.6
baz=329
SCM Sheep Creek Mo 77.23 17 P P 15 54 14.5 +0.4
SCM pmax pmax
comp=Z,17nm,1.1s
Q16K King Salmon 77.24 23 P P 15 54 15.2 +1.1
baz=323
HARP HAARP 77.24 16 P P 15 54 15.2 +1.0
baz=331
RC01 Rabbit Creek A 77.26 19 P P 15 54 14.8 +0.6
RC01 IAmb IAmb 15 54 22.1
comp=Z,29nm,1.4s
RC01 Rabbit Creek A 77.26 19 P P 15 54 14.5 +0.2
baz=328
M24K Tolsona, Glenn 77.27 17 P P 15 54 15.4 +1.1
M24K Tolsona, Glenn 77.27 17 P P 15 54 15.3 +0.9
baz=330
UNV Unalaska Valle 77.31 31 P P 15 54 15.9 +1.3
baz=316
KNK Knik Glacier 77.31 18 P P 15 54 15.3 +0.8
KNK Knik Glacier 77.31 18 P P 15 54 15.2 +0.7
baz=328
O20K Slope Mountain 77.31 21 P P 15 54 15.0 +0.4
baz=325
L27K Beaver Creek, 77.37 15 P P 15 54 16.2 +1.3
baz=334
BCAR Beaver Creek A 77.37 15 P P 15 54 16.1 +1.2
K29M Barlow Dome 77.47 12 P P 15 54 16.5 +1.1
K29M Barlow Dome 77.47 12 P P 15 54 16.6 +1.1
baz=337
P19K Oil Pt 77.49 21 P P 15 54 16.6 +1.0
baz=325
BOSA Boshof 77.68 220 P P 15 54 17.0 -0.1
BOSA Boshof 77.68 220 P P 15 54 17.0 -0.1
BOSA pmax pmax
comp=Z,9.0nm,1.2s
BOSA Boshof 77.68 220 P P 15 54 16.4 -0.7
comp=Z,3.2nm,0.7s,baz=3.1,slow=3.5,SNR=8.7
comp=Z,3.2nm,0.7s
M26K Nabesna, AK 77.72 15 P P 15 54 17.7 +0.8
baz=333
O22K Cooper Landing 77.78 19 P P 15 54 18.3 +1.2
baz=328
Q18K Katmai Hardscr 77.78 23 P P 15 54 18.5 +1.2
baz=324
FALS False Pass 77.80 29 P P 15 54 18.0 +0.7
baz=318
KLU Klutina 77.86 17 P P 15 54 18.5 +0.8
baz=330
MAYO Mayo, Yukon 77.97 12 P P 15 54 19.6 +1.5
baz=338
M27K Edge Creek, AK 77.99 15 P P 15 54 19.8 +1.3
M27K IAmb IAmb 15 54 20.7
comp=Z,10nm,0.9s
M27K Edge Creek, AK 77.99 15 P P 15 54 18.7 +0.3
baz=334
L29M L29M 78.04 13 P P 15 54 18.3 -0.3
baz=336
N25K Chitina, Valde 78.07 16 P P 15 54 20.3 +1.5
N25K IAmb IAmb 15 54 32.8
comp=Z,11nm,1.1s
N25K Chitina, Valde 78.07 16 P P 15 54 18.7 -0.1
baz=332
GLI Glacier Island 78.11 18 P P 15 54 18.7 -0.2
baz=330
BRSE Bradley Lake S 78.12 20 P P 15 54 19.3 +0.2
baz=327
S14K Fog Glacier 78.14 26 P P 15 54 18.6 -0.7
baz=321
BVCY Beaver Creek 78.15 14 P P 15 54 19.0 -0.2
baz=334
R17K Ugashik Creek 78.15 24 P P 15 54 19.0 -0.2
baz=323
SEW Seward 78.17 19 P P 15 54 19.1 -0.2
baz=328
CHGN Chignik 78.53 26 P P 15 54 21.0 -0.3
baz=322
SDPT Sand Point 78.53 27 P P 15 54 21.8 +0.5
baz=320
M29M Somme Creek 78.59 13 P P 15 54 21.8 +0.1
baz=336
Q20K Shuyak Island 78.60 21 P P 15 54 21.9 +0.2
baz=326
EYAK Cordova Ski Ar 78.73 17 P P 15 54 21.9 -0.4
baz=331
M30M Minto, Yukon 78.77 13 P P 15 54 22.5 -0.1
baz=338
P23K Montague Islan 78.79 18 P P 15 54 22.8 +0.1
baz=330
YUK3 Moose Creek 78.81 15 P P 15 54 23.1 0.0
baz=335
R18K Karluk 78.83 23 P P 15 54 22.7 -0.2
baz=324
CRQE Cirque 79.17 16 P P 15 54 24.3 -0.6
baz=333
KDAK Kodiak Island 79.23 22 P P 15 54 25.1 0.0
baz=326
CTG Chitna Glacier 79.36 15 P P 15 54 25.7 -0.2
baz=334
CTGM Chitina Glacie 79.36 15 P P 15 54 27.0 +1.0
CTGM IAmb IAmb 15 54 35.5
comp=Z,15nm,1.1s
WAX Waxell Ridge 79.49 16 P P 15 54 27.6 +1.1
M31M Drury Creek, Y 79.53 12 P P 15 54 27.0 +0.3
baz=340
Q23K Middleton Isla 79.56 18 P P 15 54 26.8 0.0
baz=330
YUK4 Talbot Arm 79.56 14 P P 15 54 25.7 -1.4
baz=336
KAIM Kayak Island 79.59 17 P P 15 54 26.9 -0.1
baz=332
FARO Faro, Yukon 79.67 11 P P 15 54 27.8 +0.3
FARO Faro, Yukon 79.67 11 P P 15 54 27.6 +0.1
baz=340
BGLC Bering Glacier 79.69 17 P P 15 54 27.9 +0.4
baz=333
N30M Aishikik Lake 79.75 13 P P 15 54 28.3 +0.3
baz=338
CHIR Chirikof Islan 79.86 25 P P 15 54 29.9 +1.4
baz=324
WRGLY Wrigley 79.93 7 P P 15 54 30.4 +1.6
baz=348
N31M Braeburn, Yuko 79.96 13 P P 15 54 30.1 +1.1
baz=338
YUK6 Outpost Mounta 79.99 14 P P 15 54 30.3 +0.8
baz=336
HYT Haines Junctio 80.26 14 P P 15 54 32.1 +1.3
HYT IAmb IAmb 15 55 05.1
comp=Z,15nm,1.4s
HYT Haines Junctio 80.26 14 P P 15 54 31.7 +0.9
baz=337

PINM Pinnacle 80.38 15 P P 15 54 32.1 +0.8
baz=335
O29M Mount Kennedy 80.53 14 P P 15 54 32.7 +0.5
baz=336
O30N Mendenhall 80.57 13 P P 15 54 33.6 +1.3
O30N Mendenhall 80.57 13 P P 15 54 32.6 +0.2
baz=338
N32M Quiet Lake 80.73 11 P P 15 54 32.6 -0.6
baz=341
WHY Whitehorse 80.89 12 P P 15 54 33.4 -0.8
baz=339
PNL Peninsula 80.95 15 P P 15 54 33.5 -0.9
baz=336
P30M Million Dollar 81.02 14 P P 15 54 33.8 -0.9
baz=338
TGTN Hyland Airport 81.06 9 P P 15 54 34.7 -0.2
baz=345
YKA Yellowknife Ar 81.23 3 P P 15 54 36.1 +0.4
comp=Z,3.6nm,0.8s,baz=349,slow=5.4,SNR=50
YKA pP pP 15 55 17.1 +0.9
comp=Z,1.5nm,0.6s,baz=348,slow=5.6,SNR=5.1
comp=Z,3.6nm,0.8s
P33M Teslin, Yukon 81.66 12 P P 15 54 38.8 +0.6
P33M IAmb IAmb 15 54 40.1
comp=Z,15nm,1.1s
P33M Teslin, Yukon 81.66 12 P P 15 54 38.8 +0.6
baz=341
WRA Warramunga Arr 82.12 122 P P 15 54 39.5 -1.5
comp=Z,2.0nm,0.7s,baz=324,slow=4.9,SNR=37
WRA pP pP 15 55 22.4 +0.3
comp=Z,1.4nm,0.8s,baz=324,slow=5.0,SNR=3.4
comp=Z,2.0nm,0.7s
WB2 Warramunga Arr 82.13 122 P P 15 54 39.7 -1.4
WB2 IAmb IAmb 15 55 20.1
comp=Z,14nm,1.4s
WR0 Warramunga Arr 82.27 122 P P 15 54 40.3 -1.5
R33M Jennings River 82.73 11 P P 15 54 44.2 +0.4
baz=342
Q32M Nakina River 82.94 12 P P 15 54 46.0 +1.0
Q32M IAmb IAmb 15 55 04.2
comp=Z,17nm,1.4s
R32K Eaglecrest 83.20 13 P P 15 54 45.7 -0.3
baz=340
S34M Telegraph Cree 84.13 12 P P 15 54 51.6 +0.8
baz=342
AS31 Alice Springs 84.38 125 P P 15 54 51.8 -0.7
ASAR Alice Springs 84.38 125 P P 15 54 51.9 -0.6
ASAR Alice Springs 84.38 125 P P 15 54 51.9 -0.6
ASAR Alice Springs 84.38 125 P P 15 54 51.0 -1.5
comp=Z,1.2nm,0.5s,baz=316,slow=4.6,SNR=29
ASAR pP pP 15 55 33.9 -0.1
comp=Z,2.2nm,0.9s,baz=311,slow=4.9,SNR=5.6
comp=Z,1.2nm,0.5s
V35K Ketchikan 86.51 13 P P 15 55 02.4 -0.2
baz=342
PKME Peaks-Kenny Pk 90.98 333 P P 15 55 23.9 +0.1
baz=331
LBNH Lisbon 92.81 334 P P 15 55 32.0 -0.4
baz=29
LONY Lake Ozonia 93.37 336 P P 15 55 35.0 +0.1
baz=27
HRV Adam Dziewonsk 94.18 333 P P 15 55 38.7 0.0
baz=29
EYMN Ely 94.44 348 P P 15 55 40.0 +0.2
baz=14
L61B Nothampton 94.64 334 P P 15 55 40.4 -0.4
baz=29
M53A WI Miller and 98.14 339 P P 15 55 55.9 -0.8
baz=23
MVCO Mesa Verde 106.63 359 P PKiKP 16 00 43.8 -0.8
baz=0.6
TUL3 Leonard 106.87 349 P PKiKP 16 00 43.6 -1.1
baz=11
PLCA Paso Flores 149.71 250 PKPbc PKPbc 16 02 08.6 -0.2
comp=Z,2.7nm,1.0s,baz=11,slow=6.9,SNR=4.7

*NEIC **24** 15:44:14.3±1.6,24.7°S±0.1°×175.8°W±0.1°,h14km±7km, mb4.3/10,Error ellipse: s-maj=21.5km s-min=13.0km az=126.0*
*IDC **24** 15:44:16.0±3.0,24.30°S×176.54°W,h0km,mb4.1/3, mbtmp4.1/3,Error ellipse: s-maj=154.3km s-min=46.5km az=159.0*

ISC 24 15:44:16.4±0.9,24.7°S±0.1°×175.9°W±0.1°,h30km,n25, σ1§19/20,mb4.3/7,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.94**	**201**	Pn	**Pn**	**15 45 27.1**	**-1.5**
NIUE	**Niue**	**7.81**	**46**	Pn	**Pn**	**15 46 07.5**	**-0.6**
DZM	**Mont Dzumac**	**16.46**	**275**	Pn	**Pn**	**15 48 04.9**	**-0.4**
LTZ	**Lake Taylor**	**20.57**	**206**	P	**P**	**15 48 54.1**	**+1.4**
LTZ				IAmb	IAmb	15 48 56.1	
	comp=Z,10nm,1.0s						
EIDS	**Eidsvold**	**29.93**	**262**	P	**P**	**15 50 22.8**	**+0.8**
EIDS				IAmb	IAmb	15 50 24.6	
	comp=Z,5.2nm,0.9s						
CTA	**Charters Tower**	**35.26**	**270**	P	**P**	**15 51 09.2**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=99,slow=11,SNR=6.8						
	comp=Z,1.8nm,0.6s						
CTAO	**Charters Tower**	**35.26**	**270**	P	**P**	**15 51 09.2**	**+0.5**
AS31	**Alice Springs**	**45.65**	**260**	P	**P**	**15 52 33.4**	**-1.1**
ASAR	**Alice Springs**	**45.65**	**260**	P	**P**	**15 52 34.0**	**-0.6**
ASAR	**Alice Springs**	**45.65**	**260**	P	**P**	**15 52 33.1**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=91,slow=6.6,SNR=22						
ASAR				PcP	**PcP**	**15 54 15.5**	**+3.0**
	comp=Z,0.4nm,1.0s,baz=117,slow=4.2,SNR=4.4						
	comp=Z,0.7nm,0.4s						
WR0	**Warramunga Arr**	**45.94**	**266**	P	**P**	**15 52 35.5**	**-1.4**
WR0				IAmb	IAmb	15 52 39.2	
	comp=Z,4.7nm,1.1s						
WB2	**Warramunga Arr**	**46.12**	**265**	P	**P**	**15 52 37.3**	**-1.0**
WB2				IAmb	IAmb	15 52 38.5	
	comp=Z,4.3nm,0.8s						
WB0	**Warramunga Arr**	**46.13**	**266**	P	**P**	**15 52 37.6**	**-0.8**
WRA	**Warramunga Arr**	**46.13**	**265**	P	**P**	**15 52 36.8**	**-1.5**
	comp=Z,3.0nm,0.7s,baz=104,slow=8.0,SNR=22						
	comp=Z,3.0nm,0.7s						
KNRA	**Kununurra**	**52.46**	**269**	P	**P**	**15 53 26.8**	**0.0**
SBA	**Scott Base**	**53.89**	**184**	P	**P**	**15 53 36.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**54.54**	**265**	P	**P**	**15 53 42.1**	**+0.1**
FITZ				IAmb	IAmb	15 54 07.3	
	comp=Z,3.5nm,1.4s						
H03S2	**Juan Fernandez**	**82.03**	**123**	T	T	17 26 49.1	
	baz=242,slow=74,SNR=8.9						
H03S1	**Juan Fernandez**	**82.05**	**123**	T	T	17 26 58.6	
	baz=242,slow=74,SNR=7.1						
H03S3	**Juan Fernandez**	**82.05**	**123**	T	T	17 26 50.1	
	baz=242,slow=74,SNR=7.9						
H03N2	**Juan Fernandez**	**82.19**	**123**	T	T	17 28 04.0	
	baz=241						
H03N3	**Juan Fernandez**	**82.19**	**123**	T	T	17 28 09.2	
	baz=241,slow=74						
H03N1	**Juan Fernandez**	**82.20**	**123**	T	T	17 27 58.1	
	baz=241,slow=74						
HFS	**Hagfors**	**143.92**	**352**	PKP	**PKiKP**	**16 03 51.9**	**+0.1**
	comp=Z,7.1nm,1.1s,baz=33,slow=3.4,SNR=6.7						
AKASG	**Malin Array Be**	**147.59**	**330**	PKPbc	**PKPab**	**16 03 59.4**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=45,slow=4.1,SNR=7.1						

KRSC 24 16:03:08.8±1.1,48.86N×156.61E,h42km±23km,MI3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.86**	**350**	*eP*	Pn	16 03 39.5	+1.4
SKR				*eS*	Sn	16 04 02.5	+2.1
PAU	**Pauzhetka**	**2.62**	**3**	*eS*	Sn	16 04 22.9	+3.8
KDTR	**Khodutka, Kamc**	**3.10**	**17**	*eP*	Pn	16 03 59.0	+3.8
KDTR				*eS*	Sn	16 04 35.0	+4.0
ASAK	**Asacha**	**3.63**	**13**	*eP*	Pn	16 04 05.7	+3.2
GRL	**Gorelyy**	**3.82**	**14**	*eP*	Pn	16 04 09.4	+4.2
KRMR	**Karymshinskiy**	**4.09**	**13**	*eP*	Pn	16 04 13.2	+4.3
DALK	**Dalny**	**4.40**	**17**	*eP*	Pn	16 04 16.4	+3.5
AVH	**Avacha**	**4.62**	**16**	*eP*	Pn	16 04 20.7	+4.6
KOK	**Koryaka**	**4.62**	**15**	*eP*	Pn	16 04 20.8	+4.6
KRX	**Arik**	**4.69**	**15**	*eP*	Pn	16 04 22.1	+5.0
SPN	**Mys Shipunski**	**4.76**	**26**	*eP*	Pn	16 04 22.8	+4.8
SPN				*eS*	Sn	16 05 16.3	+4.3
TUMD	**Tumrok D**	**6.77**	**19**	*eP*	Pn	16 04 50.1	+4.5

*IDC **24** 17:33:35.2±0.4,15.37S×172.97W,h0km,mb4.6/24, mbtmp4.6/25,ML3.8/1,MS4.7/52,Error ellipse: s-maj=16.6km s-min=13.3km az=134.0*
*BJI **24** 17:33:35.8,15.43S×173.06W,h5km,mb5.0/36,mB5.7/23, Ms5.1/17,Ms7 4.8/19*
*NEIC **24** 17:33:36.8,15.34S×172.93W,h10km*
*MOS **24** 17:33:39.4±1.6,15.42S×172.93W,h32km,mb5.1/16, MS5.0/6,Error ellipse: s-maj=10.2km s-min=8.8km az=68.4*
*NEIC **24** 17:33:40.8±1.4,15.36S±0.08×172.9W±0.1,h38km±4km, mb5.1/94,Mwb5.5/44,Mww5.5/15,Error ellipse: s-maj=16.8km s-min=10.5km az=105.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-2.08; $M_{\theta\theta}$1.10; $M_{\phi\phi}$0.98; $M_{r\theta}$-0.64; $M_{\theta\phi}$-0.53; $M_{\phi r}$0.84; Fault plane solution: $M_0$2.15000×10^{17} NP1:ϕ_s309.29000°, δ30.30000°,λ-96.36000°. NP2:ϕ_s136.64000°,δ59.90000°, λ-86.29000°. Principal axes: T 1.8457, Plg15.0000°, Azm224.0000°; N 0.5211, Plg3.0000°, Azm315.0000°; P -2.3667, Plg75.0000°, Azm57.0000°;*
*NEIC **24** 17:33:41,15.36S×172.94W,h50km*
*NEIC **24** 17:33:41,15.36S×172.32W,h50km,Moment Tensor Solution. Duration: 2§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.61; $M_{\theta\theta}$1.08; $M_{\phi\phi}$0.52; $M_{r\theta}$-0.64; $M_{\theta\phi}$-0.86; $M_{\phi r}$0.61; Fault plane solution: $M_0$1.88000×10^{17} NP1: ϕ_s129.69000°,δ59.02000°,λ-86.03000°. NP2: ϕ_s302.01000°,δ31.21000°,λ-96.58000°. Principal axes: T 1.9295, Plg14.0000°, Azm217.0000°; N -0.0968, Plg3.0000°, Azm308.0000°; P -1.8326, Plg76.0000°, Azm51.0000°;*
*NOU **24** 17:33:42.5,15.34S×172.43W,h56km,mb5.2/24,Samoa Islands Region*
*BGR **24** 17:33:44.1,15.72S×172.14W,h61km±5km*
*GCMT **24** 17:33:46.2±0.1,15.33S±0.01×172.60W±0.01,h49km, MW5.5/144,Moment Tensor Solution. s144,c257; s135,c246; Duration: 1§3 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.54±.02; $M_{\theta\theta}$1.46±.02; $M_{\phi\phi}$0.07±.02; $M_{r\theta}$-0.64±.02; $M_{\theta\phi}$-0.69±.01; $M_{\phi r}$0.71±.02; Best double couple: $M_0$1.91000×10^{17} NP1:ϕ_s126.00000°,δ60.00000°, λ-75.00000°. NP2:ϕ_s278.00000°,δ33.00000°, λ-114.00000°. Principal axes: T 1.9670, Plg14.0000°, Azm205.0000°; N -0.1170, Plg13.0000°, Azm299.0000°; P -1.8530, Plg71.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 17:33:41.6±0.3,15.46S±0.04×172.87W±0.05,h45km±2km, h44km:pP-P,n796,σ1§44/741,mb5.0/101,**MS4.8**/74, **31C-25D,Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.87**	**35**		Pn	17 34 07.5	-3.7
AFI				Sn	**Sn**	**17 34 27.1**	**-6.5**
AFI	**Afiamalu**	**1.87**	**35**	P	**Pn**	**17 34 08.0**	**-3.2**
AFI	**Afiamalu**	**1.87**	**35**	P	Pn	17 34 07.5	-3.7
AFI	**Afiamalu**	**1.87**	**35**	P	Pn	17 34 07.5	-3.7
AFI						17 34 27.1	
NIUE	**Niue**	**4.56**	**142**	P	**Pn**	**17 34 46.2**	**-2.0**
	baz=4.4,SNR=100						
NIUE	**Niue**	**4.56**	**142**		**Pn**	**17 34 46.0**	**-2.2**
NIUE				Sn	**Sn**	**17 35 33.7**	**-6.2**
NIUE	**Niue**	**4.56**	**142**	P	**Pn**	**17 34 46.7**	**-1.5**
FUTU	**Fugatoga**	**5.21**	**282**	P	Pn	17 35 04.5	+7.5
TAVE	**Taveuni**	**6.88**	**259**	P	Pn	17 35 26.5	+6.6
DGTI	**Dogotuki**	**7.16**	**262**	P	Pn	17 35 30.2	+6.3
RAR	**Rarotonga**	**13.68**	**117**	Pn	**Pn**	**17 36 52.7**	**-0.4**
RAR	**Rarotonga**	**13.68**	**117**	Pn	**Pn**	**17 36 51.2**	**-1.9**
	4.6nm,0.3s,baz=225,slow=6.2,SNR=3.7						
RAR				Sn	Sn	17 39 11.4	-12
	2.2nm,0.3s,baz=43,slow=12,SNR=1.2						
RAR				LR	LR	17 40 57.9	
	comp=Z,2μm,18.2s,baz=316,slow=32						
	16nm,0.5s						
MARNC	**Mare, Loyalty**	**19.07**	**249**	P	**P**	**17 38 00.4**	**-0.1**
LIFNC	**LIFOU**	**19.62**	**251**	P	**P**	**17 38 03.3**	**-3.2**
LIFNC				IAmb	IAmb	17 38 31.8	
	comp=Z,113nm,0.9s						
PINNC	**Pines Island,**	**19.91**	**246**	P	**P**	**17 38 06.4**	**-3.2**
YATNC	**Mamie plateau,**	**20.25**	**248**	P	Pn	17 38 18.9	+3.4
OUENC	**Ouen Island, N**	**20.39**	**247**	P	**P**	**17 38 12.3**	**-2.5**
OUENC				IAmb	IAmb	17 38 33.2	
	comp=Z,110nm,1.0s						
OUENC	**Ouen Island, N**	**20.39**	**247**	P	Pn	17 38 20.6	+3.4
DZM	**Mont Dzumac**	**20.65**	**248**	*eP*	**P**	**17 38 12.9**	**-4.9**
	comp=Z,120nm,38.4s						
DZM	**Mont Dzumac**	**20.65**	**248**	*eP*	Pn	17 38 23.9	+3.5
	comp=Z,246nm,1.4s						
DZM				*eS*	**S**	**17 42 02.7**	**-3.6**
	comp=Z,1μm,30.9s						
DZM				*eLR*	LR	17 43 22.9	
	comp=Z,10μm,26.4s						
DZM	**Mont Dzumac**	**20.65**	**248**		**P**	**17 38 16.4**	**-1.4**
DZM	**Mont Dzumac**	**20.65**	**248**	P	Pn	17 38 21.8	+1.4
DZM	**Mont Dzumac**	**20.65**	**248**	P	**P**	**17 38 16.5**	**-1.2**
	comp=Z,6.3nm,1.0s,baz=91,slow=21,SNR=5.1						
DZM				LR	LR	17 45 14.4	
	comp=Z,4μm,21.2s,baz=88,slow=34						
	comp=Z,6.3nm,1.0s						
ONTNC	**Ouen Toro**	**20.70**	**248**	P	**P**	**17 38 14.2**	**-4.1**
KOUNC	**Koumac, New Ca**	**22.30**	**254**	P	**P**	**17 38 32.8**	**-2.6**
KOUNC	**Koumac, New Ca**	**22.30**	**254**	P	**P**	**17 38 39.6**	**+4.2**
PAE	**Paea**	**22.43**	**99**	*eP*	P	17 38 49.3	+13
	comp=Z,48nm,1.2s						
PAE	**Paea**	**22.43**	**99**	*eT*	T	18 00 42.7	
	comp=Z,13nm,0.4s						
PPT	**Papeete**	**22.43**	**99**	P	**P**	**17 38 37.6**	**+0.8**
	comp=Z,65nm,0.9s,baz=230,slow=18,SNR=1.7						
PPT				LR	LR	17 44 48.2	
	comp=Z,1μm,20.0s,baz=266,slow=30						
	comp=Z,65nm,0.9s						
PPT2	**Papeete2**	**22.43**	**99**	*eP*	P	17 38 44.9	+8.0
	comp=Z,800nm,28.8s						
PPT2				*eS*	**S**	**17 42 42.5**	**+1.9**
	comp=Z,2μm,27.5s						
PPT2				*eLR*	LR	17 43 51.6	
	comp=Z,4μm,24.8s						
PPT2				*eLR*	LR	17 43 58.9	
	comp=Z,2μm,22.2s						
PPT2	**Papeete2**	**22.43**	**99**	*eT*	T	18 00 37.4	
	comp=Z,9.5nm,0.3s						
TVO	**Taravao**	**22.75**	**99**	*eT*	T	18 01 29.3	
	comp=Z,5.3nm,0.3s						
OUZ	**Omahuta**	**23.12**	**209**	P	**P**	**17 38 46.8**	**+3.0**
XMAS	**Kiritimati**	**23.14**	**43**	P	**P**	**17 38 40.0**	**-4.1**
MXZ	**Matakaoa Point**	**23.36**	**198**	P	**P**	**17 38 47.9**	**+1.8**
TBI	**Tubuai**	**23.41**	**113**	*eP*	P	17 38 59.9	+13
	comp=Z,2μm,32.0s						
TBI				*eS*	**S**	**17 43 04.1**	**+7.2**
	comp=Z,5μm,31.8s						
TBI				*eLR*	LR	17 44 24.5	
	comp=Z,15μm,25.5s						
TBI				*eLR*	LR	17 44 27.1	
	comp=Z,3μm,23.5s						
TBI	**Tubuai**	**23.41**	**113**	*eT*	T	18 02 15.3	
	comp=Z,22nm,0.3s						
KUZ	**Kuaotunu**	**23.51**	**203**	P	**P**	**17 38 49.6**	**+2.1**
PMOR	**Pomariorio Ree**	**24.10**	**92**	*eP*	P	17 39 03.6	+10
	comp=Z,203nm,1.1s						
PMOR	**Pomariorio Ree**	**24.10**	**92**	*eT*	T	18 03 03.3	
	comp=Z,8.9nm,0.3s						
VAH	**Vaihoa**	**24.34**	**93**	*eP*	P	17 39 11.2	+16
	comp=Z,141nm,1.2s						
URZ	**Urewera**	**24.37**	**199**	P	**P**	**17 38 56.6**	**+1.1**
	comp=Z,90nm,0.6s						
TOZ	**Tahuroa Road**	**24.45**	**203**	P	**P**	**17 38 57.8**	**+1.5**
TOZ				IAmb	IAmb	17 39 21.6	
	comp=Z,45nm,0.9s						
RTZ	**Ruatahuna**	**24.74**	**199**	P	**P**	**17 38 59.5**	**+0.6**
HIZ	**Hauiti**	**25.38**	**203**	P	**P**	**17 39 03.0**	**-1.7**
HIZ	**Hauiti**	**25.38**	**203**	P	**P**	**17 39 08.4**	**+3.7**
BKZ	**Black Stump Fm**	**25.40**	**200**	P	**P**	**17 39 06.2**	**+1.3**
BKZ	**Black Stump Fm**	**25.40**	**200**	P	**P**	**17 39 07.0**	**+2.1**
BFZ	**Birch Farm**	**26.86**	**199**	P	**P**	**17 39 20.3**	**+2.3**
BFZ				IAmb	IAmb	17 39 40.3	
	comp=Z,42nm,0.8s						
BFZ	**Birch Farm**	**26.86**	**199**	P	**P**	**17 39 20.1**	**+2.1**
	comp=Z,69nm,0.8s						
MRZ	**Mangatainoka R**	**27.05**	**200**	P	**P**	**17 39 20.4**	**+0.6**
HNR	**Honiara**	**27.20**	**280**	LR	LR	17 48 41.9	
	comp=Z,26μm,20.6s,baz=124,slow=34						
SNZO	**South Karori**	**27.92**	**200**	P	**P**	**17 39 30.5**	**+3.0**
TCW	**Tory Channel**	**27.98**	**201**	P	**P**	**17 39 27.1**	**-0.9**

QRZ **Quartz Range** 28.28 204 P **P** 17 39 32.4 +1.6
TUWZ **Tuamarina** 28.28 201 P **P** 17 39 32.8 +2.0
TKNZ **Takaka Hill** 28.29 203 P **P** 17 39 30.4 -0.5
BSWZ **Blackbirch Sta** 28.56 201 P **P** 17 39 34.1 +0.9
THZ **Tophouse** 28.95 202 P **P** 17 39 36.8 0.0
GVZ **Greta Valley S** 29.96 201 P **P** 17 39 46.7 +1.1
LTZ **Lake Taylor** 30.07 202 P **P** 17 39 46.6 -0.1
LTZ IAmb IAmb 17 40 07.9
comp=Z,21nm,0.7s
INZ **Inchbonnie** 30.32 203 P **P** 17 39 48.8 0.0
INZ IAmb IAmb 17 40 03.8
comp=Z,44nm,0.9s
RPZ **Rata Peaks** 31.32 203 LR LR 17 53 18.9
comp=Z,2μm,18.2s,baz=40,slow=38
TAOE **Nuku Hiva Isla** 32.62 82 eP P 17 40 17.9 +8.3
comp=Z,199nm,27.7s
TAOE eS **S** 17 45 22.9 +0.2
comp=Z,463nm,29.2s
TAOE eLR LR 17 48 30.8
comp=Z,3μm,25.5s
TAOE **Nuku Hiva Isla** 32.62 82 eT T 18 13 56.8
comp=Z,61nm,0.2s
WHZ **Wether Hill Ro** 34.34 204 P **P** 17 40 24.9 +0.8
EIDS **Eidsvold** 35.10 248 P P 17 40 37.2 +6.4
baz=36,SNR=3.6
ARMA **Armidale** 35.75 239 P **P** 17 40 33.6 -3.0
CTA **Charters Tower** 39.13 257 LR LR 17 54 46.1
comp=Z,1μm,21.3s,baz=84,slow=32
CTAO **Charters Tower** 39.13 257 P **P** 17 41 06.8 +1.6
CTAO **Charters Tower** 39.13 257 P **P** 17 41 06.8 +1.6
CTAO pmax pmax
comp=Z,11nm,1.4s
H11S2 **WAKE ISLAND Hy** 39.28 328 T T 18 21 38.7
baz=146,slow=76,SNR=126
H11S3 **WAKE ISLAND Hy** 39.29 328 T T 18 21 35.7
baz=146,slow=76,SNR=88
H11S1 **WAKE ISLAND Hy** 39.30 328 T T 18 21 46.7
baz=146,slow=76,SNR=64
CAN **Canberra** 39.40 233 P **P** 17 41 07.4 +0.1
CAN IAmb IAmb 17 41 27.3
comp=Z,37nm,1.4s
CAN **Canberra** 39.40 233 P **P** 17 41 07.4 +0.1
CAN pmax pmax
comp=Z,37nm,1.4s
PMG **Port Moresby** 39.45 274 LR LR 17 55 29.5
comp=Z,561nm,20.1s,baz=108,slow=33
H11N3 **WAKE ISLAND Hy** 40.22 330 T T 18 24 01.9
baz=148,slow=76,SNR=63
H11N1 **WAKE ISLAND Hy** 40.22 330 T T 18 24 19.6
baz=148,slow=76,SNR=7.9
H11N2 **WAKE ISLAND Hy** 40.23 330 T T 18 24 13.7
baz=148,slow=76,SNR=7.1
MTSU **Mount Surprise** 41.01 260 P **P** 17 41 23.0 +2.2
baz=41,SNR=4.8
QLP **Quilpie** 41.37 247 P **P** 17 41 23.5 -0.1
baz=42,SNR=3.6
TOO **Toolangi** 42.82 231 P **P** 17 41 34.0 -1.4
TOO IAmb IAmb 17 41 49.1
comp=Z,49nm,1.4s
TOO **Toolangi** 42.82 231 P **P** 17 41 34.0 -1.4
TOO pmax pmax
comp=Z,49nm,1.4s
STKA **Stephens Creek** 44.45 240 P **P** 17 41 47.5 -1.0
baz=45,SNR=6.9
STKA **Stephens Creek** 44.45 240 P **P** 17 41 47.1 -1.4
STKA **Stephens Creek** 44.45 240⇑ eP **P** 17 41 46.4 -2.1
STKA **Stephens Creek** 44.45 240 P **P** 17 41 46.7 -1.8
comp=Z,5.8nm,0.9s,baz=95,slow=7.3,SNR=8.1
STKA LR LR 17 57 59.6
comp=Z,1μm,21.4s,baz=78,slow=33
comp=Z,5.8nm,0.9s
HTT **Hallett** 46.95 239 P **P** 17 42 08.6 +0.4
baz=47,SNR=3.5
BBOO **Buckleboo** 49.22 240 P **P** 17 42 25.0 -0.8
BBOO IAmb IAmb 17 42 45.2
comp=Z,14nm,0.8s
WR0 **Warramunga Arr** 50.14 257 P **P** 17 42 32.0 -1.0
WB0 **Warramunga Arr** 50.29 257 P **P** 17 42 32.5 -1.6
WB0 IAmb IAmb 17 42 45.7
comp=Z,18nm,1.1s
WB2 **Warramunga Arr** 50.32 257 P **P** 17 42 33.1 -1.2
WB2 IAmb IAmb 17 42 45.9
comp=Z,19nm,1.1s
WRAB **Tennant Creek** 50.32 257 P **P** 17 42 32.4 -1.9
WRAB IAmb IAmb 17 42 45.8
comp=Z,21nm,1.2s
WRAB **Tennant Creek** 50.32 257 eP **P** 17 42 32.4 -1.9
WRA **Warramunga Arr** 50.33 257 P **P** 17 42 32.8 -1.6
WRA **Warramunga Arr** 50.33 257 P **P** 17 42 32.8 -1.6
WRA pmax pmax
comp=Z,2.0nm,1.2s
WRA **Warramunga Arr** 50.33 257 P **P** 17 42 32.9 -1.5
comp=Z,1.9nm,0.5s,baz=91,slow=6.7,SNR=30
WRA PP **PP** 17 44 29.3 -0.9
comp=Z,1.2nm,0.7s,baz=87,slow=4.0,SNR=4.6
WRA S **S** 17 49 38.0 -6.5
comp=Z,0.5nm,0.9s,baz=84,slow=14,SNR=2.7
comp=Z,1.9nm,0.5s
AS31 **Alice Springs** 50.58 252 P **P** 17 42 34.9 -1.3
ASAR **Alice Springs** 50.58 252 P **P** 17 42 34.6 -1.7
comp=Z,7.6nm,0.7s,baz=87,slow=7.6,SNR=70
ASAR S **S** 17 49 43.2 -4.7
comp=Z,1.0nm,0.9s,baz=90,slow=15,SNR=5.0
ASAR LR LR 18 02 18.2
comp=Z,3μm,21.6s,baz=100,slow=34
comp=Z,7.6nm,0.7s
GUMO **Guam** 50.80 302 LR LR 17 58 55.7
comp=Z,176nm,21.8s,baz=126,slow=30
KDU **Kakadu** 52.98 266 P **P** 17 42 55.2 +1.0
baz=53,SNR=6.5
MTN **Manton Dam** 54.24 265 P **P** 17 43 04.5 +1.1
baz=55,SNR=4.7
WRKA **Warakurna** 55.66 250 P **P** 17 43 12.6 -1.1
baz=56,SNR=28
FORT **Forrest** 55.84 243 P **P** 17 43 13.8 -1.1
JCJ **Chichijima** 60.76 314 P **P** 17 43 46.2 -2.9
JCJ **Chichijima** 60.76 314 LR LR 18 05 21.4
comp=Z,400nm,21.0s,baz=118,slow=31
SBA **Scott Base** 63.23 185 P **P** 17 44 04.3 -0.6
SBA **Scott Base** 63.23 185 P **P** 17 44 04.3 -0.6
SBA pmax pmax
comp=Z,34nm,1.2s
SBA **Scott Base** 63.23 185 P **P** 17 44 07.2 +2.2
SBA pP **pwP** 17 44 20.1 -0.2
VNDA **Vanda** 63.37 186 P **P** 17 44 07.4 +1.5
VNDA IAmb IAmb 17 44 21.7
comp=Z,27nm,1.5s
VNDA **Vanda** 63.37 186 P **P** 17 44 07.4 +1.5
VNDA pmax pmax
comp=Z,27nm,1.5s
VNDA **Vanda** 63.37 186 P **P** 17 44 08.0 +2.1
comp=Z,2.0nm,0.8s,baz=25,slow=5.9,SNR=6.7
VNDA LR LR 18 07 25.7
comp=Z,198nm,21.9s,baz=358,slow=32
comp=Z,2.0nm,0.8s
VNDA **Vanda** 63.37 186 P **P** 17 44 08.8 +2.9
MEEK **Meekatharra** 64.27 248 P **P** 17 44 10.8 -2.0
baz=65,SNR=5.2
KLBR **Kellerberrin** 64.66 242 P **P** 17 44 14.0 -1.2
baz=65,SNR=5.0
DAV **Davao City (W)** 64.94 286 LR LR 18 11 05.8
comp=Z,228nm,18.7s,baz=93,slow=35
NWAO **Narrogin (SRO)** 65.03 241 LR LR 18 10 18.3
comp=Z,679nm,21.7s,baz=74,slow=34
NWAO **Narrogin (SRO)** 65.03 241 P P 17 44 12.0 -5.6
NWAO pP pP 17 44 25.4 -4.6
NWAO sP sP 17 44 30.6 -4.3
KAPI **Kappang** 66.89 271 LR LR 18 12 14.2
comp=Z,226nm,21.4s,baz=104,slow=35
NIKH **Nikolski High** 68.24 3 P **P** 17 44 38.6 +1.2
baz=184
CCD **Concordia, Ant** 68.54 194 P **P** 17 44 41.4 +1.8
CCD pP **pwP** 17 44 55.1 -0.4
CCD sP **sP** 17 44 59.9 +3.6
SHEM **Shemya Is, Ala** 68.83 352 LR LR 18 08 09.7
comp=Z,1μm,22.0s,baz=166,slow=30
UNV **Unalaska Valle** 69.24 4 P **P** 17 44 44.6 +1.0
baz=187
MJAR **Matsushiro Arr** 69.31 320 P **P** 17 44 44.6 0.0
comp=Z,7.1nm,1.0s,baz=152,slow=5.9,SNR=10
MJAR LR LR 18 09 46.8
comp=Z,612nm,21.6s,baz=115,slow=31
comp=Z,7.1nm,1.0s
MAJO **Matsushiro** 69.32 320⇑ eP **P** 17 44 44.2 -0.3
MAJO pmax pmax
comp=Z,7.0nm,1.0s
MAJO **Matsushiro** 69.32 320 P **P** 17 44 45.0 +0.4
MAJO pP **pP** 17 44 58.3 +1.5
SCZ2 **Santa Cruz Isl** 70.61 45 P **P** 17 44 53.2 +0.7
baz=235
JOW **Kunigami** 70.93 306 LR LR 18 09 26.8
comp=Z,366nm,21.8s,baz=198,slow=30
PKM **Mcpherson Peak** 71.00 44 P **P** 17 44 55.4 +0.3
baz=235
SKR **Severo-Kuril's** 71.25 340 eP P 17 45 04.2 +8.2
SKR eS **SKiKP** 17 54 39.1 +6.1
SKR pmax pmax
comp=Z,200nm,10.9s
SKR MLR MLR
comp=Z,400nm,17.0s
FMP **Fort Macarthur** 71.36 46 P **P** 17 44 57.7 +0.6
baz=236
TGY **Tagaytay City** 71.73 291 LR LR 18 11 50.4
comp=Z,553nm,21.6s,baz=106,slow=32
ASAJ **Asahikawa** 71.86 328 LR LR 18 13 41.2
comp=Z,158nm,19.7s,baz=145,slow=34
VES **Vestal, Richgr** 72.03 44 P **P** 17 45 01.1 +0.1
baz=235
MURC **Murrieta** 72.07 46 P **P** 17 45 01.6 +0.2
baz=237
BFSC **Mount Baldy Ra** 72.09 46 P **P** 17 45 01.9 +0.3
baz=236
JNU **Nakatsue** 72.21 313 LR LR 18 10 09.2
comp=Z,288nm,21.6s,baz=124,slow=30
EDW2 **Edwards Air Fo** 72.22 45 P **P** 17 45 02.6 +0.3
baz=236,SNR=5.4
MONP2 **Monument Peak** 72.23 47 P **P** 17 45 02.9 +0.3
baz=238
IKP **In-Ko-Pah, Jac** 72.32 48 P **P** 17 45 02.8 -0.2
baz=238
ISA **Isabella, Lake** 72.34 44 P **P** 17 45 02.7 -0.3
baz=235
S14K **Fog Glacier** 72.34 8 P **P** 17 45 03.9 +1.3
baz=194
SPIA **Saint Paul Isl** 72.39 1 P **P** 17 45 04.5 +1.8
baz=183
CHIR **Chirikof Islan** 72.48 10 P **P** 17 45 04.0 +0.7
baz=198
PET **Petropavlovsk** 72.49 342 eP **P** 17 45 03.0 -0.4
PET e 17 45 20.2
PET e 17 47 47.9
PET eS **S** 17 54 24.2 +0.1
PET ePPS PPS 17 55 17.1
PET pmax pmax
comp=Z,400nm,8.3s
PET pmax pmax
comp=Z,200nm,8.3s
PET MLR MLR
comp=Z,400nm,19.0s
PET MLR MLR
comp=Z,600nm,20.0s
CHGN **Chignik** 72.51 8 P **P** 17 45 04.8 +1.4
baz=195
PFO **Pinyon Flats O** 72.59 47 P **P** 17 45 04.9 +0.2
baz=237
TPFO **Pinon Flats** 72.59 47 P **P** 17 45 04.7 +0.1
baz=237
BBRC **Big Bear Solar** 72.62 46 P **P** 17 45 05.2 +0.3
baz=237
SWSC **Sam W. Stewart** 72.70 48 P **P** 17 45 05.6 +0.5
baz=238
LRMC **Laurel Mtn Rad** 72.77 45 P **P** 17 45 06.2 +0.5
baz=236
PEA0B **Petropavlovsk-** 72.84 342⇑ eP **P** 17 45 04.9 -0.6
PETK **Petropavlovsk-** 72.84 342 P **P** 17 45 04.3 -1.2
PETK **Petropavlovsk-** 72.84 342 P **P** 17 45 04.3 -1.2
PETK **Petropavlovsk-** 72.84 342 P **P** 17 45 04.6 -0.9
comp=Z,17nm,0.9s,baz=132,slow=6.9,SNR=12
PETK LR LR 18 13 43.9
comp=Z,232nm,20.1s,baz=151,slow=33
comp=Z,17nm,0.9s
RRX **Edison Barstow** 72.90 45 P **P** 17 45 06.9 +0.5
baz=237
CWC **Cottonwood Cre** 73.04 44 P **P** 17 45 07.5 +0.2
baz=236
BELC **Belle Mtn. Jos** 73.12 47 P **P** 17 45 07.8 0.0
baz=238
MPMC **Manual Prospec** 73.22 44 P **P** 17 45 08.8 +0.4
baz=236,SNR=9.3
MLAC **Mammoth, Mammo** 73.23 42 P **P** 17 45 08.6 +0.2
baz=235
GSC **Goldstone, Bar** 73.27 45 P **P** 17 45 08.2 -0.3
baz=237
TIN **Tinemaha, Big** 73.29 43 P **P** 17 45 09.3 +0.6
baz=235
BC3 **Big Chuckawall** 73.32 47 P **P** 17 45 08.6 -0.3
baz=238
HEC **Hector,Ludlow** 73.33 46 P **P** 17 45 09.2 +0.2
baz=237
YBH **Yreka Blue Hor** 73.34 37 LR LR 18 09 47.1
comp=Z,1μm,21.5s,baz=246,slow=30
SII **Sitkinak Islan** 73.43 11 P **P** 17 45 10.1 +1.1
baz=199
QSM **Queen of Sheba** 73.59 45 P **P** 17 45 08.2 -2.1
GMRC **Granite Mounta** 73.78 46 P **P** 17 45 11.6 0.0
baz=238
YSS **Yuzh-Sakhalins** 73.79 330 eP **P** 17 45 10.2 -1.0
YSS e 17 45 26.1
YSS eS **SKiKP** 17 54 35.6 -1.4
YSS eSS **SS** 17 59 22.7 -1.4
YSS pmax pmax
comp=Z,30nm,1.4s
IRM **Iron Mountain** 73.80 47 P **P** 17 45 12.0 +0.4
baz=238
GRAC **Grapevine Rang** 73.83 43 P **P** 17 45 12.0 +0.2
baz=236
FURC **Furnace Creek,** 73.87 44 P **P** 17 45 12.7 +0.8
baz=236
TUQ **Turquoise Moun** 73.94 45 P **P** 17 45 12.6 +0.1
baz=237,SNR=5.8
SHOC **Shoshone, Teco** 73.95 45 P **P** 17 45 12.9 +0.5
baz=237
NVAR **Mina Array Bea** 74.03 42 P **P** 17 45 13.6 +0.4
comp=Z,3.5nm,0.8s,baz=224,slow=7.7,SNR=26
NVAR LR LR 18 10 34.6
comp=Z,1μm,21.0s,baz=240,slow=30
comp=Z,3.5nm,0.8s
113A **Mohawk Valley,** 74.07 49 P **P** 17 45 12.2 -1.0
R17K **Ugashik Creek** 74.10 9 P **P** 17 45 14.7 +1.9
baz=197
OHAK **Old Harbor** 74.22 11 P **P** 17 45 14.9 +1.4
baz=200
R18K **Karluk** 74.34 10 P **P** 17 45 15.5 +1.3
baz=198
214A **Organ Pipe Nat** 74.36 50 P **P** 17 45 15.3 +0.4
baz=240
TPNV **Topopah Spring** 74.55 44 P **P** 17 45 16.8 +0.7
TPNV **Topopah Spring** 74.55 44 P **P** 17 45 16.9 +0.7
baz=237
TPNV **Topopah Spring** 74.55 44 P **P** 17 45 16.8 +0.7
TPNV pmax pmax
comp=Z,9.0nm,1.1s
QSPA **South Pole Qui** 74.58 180 P **P** 17 45 16.4 +0.5
QSPA IAmb IAmb 17 45 38.0
comp=Z,30nm,0.9s
QSPA **South Pole Qui** 74.58 180 P **P** 17 45 17.3 +1.5
comp=Z,9.6nm,1.0s,baz=28,slow=3.4,SNR=21
comp=Z,9.6nm,1.0s
PDMCI **Parker Dam,Lak** 74.59 47 P **P** 17 45 16.7 +0.5
baz=239
Q17K **Contact Creek** 74.78 9 P **P** 17 45 18.3 +1.5
baz=197
KDAK **Kodiak Island** 74.88 11 P **P** 17 45 19.0 +1.8
baz=200
KDAK **Kodiak Island** 74.88 11 P **P** 17 45 17.5 +0.2
comp=Z,10nm,0.6s,baz=207,slow=4.4,SNR=8.0
KDAK LR LR 18 11 03.3
comp=Z,2μm,20.2s,baz=229,slow=30
comp=Z,10nm,0.6s
K05A **Summer Lake** 75.01 37 P **P** 17 45 17.6 -1.1
K05A IAmb IAmb 17 45 42.0
comp=Z,40nm,1.2s
O14K **Tigyukauivet M** 75.05 6 P **P** 17 45 20.1 +1.9
baz=192
Q16K **King Salmon** 75.06 9 P **P** 17 45 20.1 +1.8
baz=196
O15K **Ungalikthiuk R** 75.13 7 P **P** 17 45 20.2 +1.4
baz=193
P16K **Nushagak River** 75.22 8 P **P** 17 45 20.4 +1.2
baz=195
Q18K **Katmai Hardscr** 75.28 10 P **P** 17 45 20.9 +1.1
baz=198
P17K **Kvichak River** 75.59 9 P **P** 17 45 22.6 +1.2
baz=196
PINE **Pine Mountain** 75.64 36 P **P** 17 45 21.1 -1.2
N14K **Kuskokwak Cree** 75.66 6 P **P** 17 45 23.1 +1.4
baz=191
Q20K **Shuyak Island** 75.69 11 P **P** 17 45 23.4 +1.4
baz=200
R11B **Troy Canyon, C** 75.75 43 P **P** 17 45 23.5 +0.4
baz=237,SNR=5.2
Q19K **Cape Douglas,** 75.77 10 P **P** 17 45 23.6 +1.1
baz=199
P18K **Big Mountain,** 75.96 9 P **P** 17 45 22.9 -0.6
baz=198
M13K **Dall Lake** 76.00 5 P **P** 17 45 25.2 +1.6
baz=190
TUC **Tucson** 76.03 50 P **P** 17 45 24.8 +0.2
baz=241
O17K **Kolganek Bris** 76.05 8 P **P** 17 45 25.4 +1.4
baz=196
N15K **Kwethluk River** 76.07 7 P **P** 17 45 24.7 +0.6
baz=193
O18K **Koktuh Hills** 76.40 9 P **P** 17 45 25.9 -0.1
O18K **Koktuh Hills** 76.40 9 P **P** 17 45 26.4 +0.3
baz=198
M14K **Bethel** 76.45 5 P **P** 17 45 26.9 +0.7
M14K **Bethel** 76.45 5 P **P** 17 45 27.2 +1.0
baz=191
N16K **Nishlik Lake** 76.52 7 P **P** 17 45 27.6 +0.9
baz=194
M15K **Kasigluk River** 76.52 6 P **P** 17 45 27.9 +1.2
baz=192
P19K **Oil Pt** 76.53 10 P **P** 17 45 27.1 +0.3
baz=200
KSRS **Korea Array** 76.56 315 P **P** 17 45 27.4 +0.1
comp=Z,4.5nm,0.9s,baz=134,slow=5.9,SNR=7.5
KSRS LR LR 18 13 41.3
comp=Z,224nm,21.9s,baz=115,slow=32
comp=Z,4.5nm,0.9s
HOM **Homer** 76.81 11 P **P** 17 45 28.7 +0.4
baz=201
ILSW **Iliamna Southw** 76.86 10 P **P** 17 45 27.6 -1.1
O19K **Port Alsworth** 76.87 9 P **P** 17 45 28.8 +0.2
baz=198
L14K **Kuka Creek** 76.97 5 P **P** 17 45 30.2 +1.0
baz=190
GNW **Green Mountain** 77.03 32 **P** 17 45 27.3 -2.5
GNW IAmb IAmb 17 45 51.9
comp=Z,23nm,1.3s
M16K **Timber Creek** 77.03 7 P **P** 17 45 29.6 +0.1
M16K **Timber Creek** 77.03 7 P **P** 17 45 30.8 +1.3
baz=194
O20K **Slope Mountain** 77.04 10 P **P** 17 45 30.2 +0.5
baz=200
BRSE **Bradley Lake S** 77.06 11 P **P** 17 45 30.4 +0.7
baz=202
N18K **Kilae Creek** 77.10 8 P **P** 17 45 30.6 +0.7
baz=197
WUAZ **Wupatki** 77.16 47 P **P** 17 45 30.7 -0.4
baz=240
ELK **Elko** 77.29 41 LR LR 18 12 14.0
comp=Z,1μm,21.4s,baz=221,slow=30
L15K **Ungalak Mounta** 77.41 6 P **P** 17 45 32.5 +0.9
baz=191
M17K **Holitna River** 77.58 8 P **P** 17 45 33.9 +1.3
baz=195
SEW **Seward** 77.64 12 P **P** 17 45 34.5 +1.6
baz=203
L16K **Owhat River** 77.64 6 P **P** 17 45 32.4 -0.5
L16K IAmb IAmb 17 45 55.6
comp=Z,35nm,1.5s
L16K **Owhat River** 77.64 6 P **P** 17 45 34.0 +1.1
baz=193
Q23K **Middleton Isla** 77.68 14 P **P** 17 45 34.9 +1.7
baz=206
BBB **Bella Bella** 77.71 26 LR LR 18 13 08.0
comp=Z,501nm,19.0s,baz=234,slow=30
USRK **Ussuriysk Ar.** 77.74 323 P **P** 17 45 33.3 -0.6
comp=Z,9.1nm,1.2s,baz=125,slow=7.6,SNR=2.9
comp=Z,9.1nm,1.2s
M18K **Stony River** 77.88 8 P **P** 17 45 35.0 +0.7
baz=197
QZH **Quanzhou** 77.92 300⇑ iP **P** 17 45 35.3 0.0
QZH S **SKSac** 17 55 36.6 -9.4
QZH LR LR
comp=Z,490nm,23.0s
CAPN **Captain Cook N** 77.94 11 P **P** 17 45 35.6 +1.1
baz=201
P23K **Montague Islan** 77.97 13 P **P** 17 45 35.2 +0.4
baz=205
K15K **Wolf Creek Mou** 78.01 5 P **P** 17 45 35.7 +0.8
baz=191
MSU **Marysvale** 78.11 44 P **P** 17 45 36.0 -0.4
MSU **Marysvale** 78.11 44 P **P** 17 45 36.0 -0.4
LEM **Lembang** 78.14 266 LR LR 18 20 06.6
comp=Z,372nm,20.5s,baz=135,slow=36
N20K **Mount Spurr** 78.16 10 P **P** 17 45 37.0 +1.0
baz=200
L17K **Donlin** 78.19 7 P **P** 17 45 37.1 +1.2
baz=194
CRAG **Craig** 78.20 22 P **P** 17 45 36.7 +0.6
baz=219
J14K **Nanvaranak Lak** 78.30 4 P **P** 17 45 37.6 +1.2
baz=189
121A **Cookes Peak, D** 78.38 51 P **P** 17 45 37.9 -0.1
baz=243
121A **Cookes Peak, D** 78.38 51 P **P** 17 45 39.4 +1.4
baz=243
L18K **Granite Mounta** 78.47 8 P **P** 17 45 37.7 +0.2
L18K IAmb IAmb 17 45 57.5
comp=Z,23nm,1.1s
L18K **Granite Mounta** 78.47 8 P **P** 17 45 38.6 +1.1
baz=196
RC01 **Rabbit Creek A** 78.50 11 P **P** 17 45 39.4 +1.7
baz=203
DUG **Dugway, Tooele** 78.56 43 P **P** 17 45 38.9 +0.2
baz=238,SNR=5.3
V35K **Ketchikan** 78.64 23 P **P** 17 45 40.0 +1.4
baz=220
M20K **Styx River** 78.66 9 P **P** 17 45 38.9 +0.2
baz=199
SUA **Susitna One** 78.66 11 P **P** 17 45 38.4 -0.3
SUA IAmb IAmb 17 46 05.7
comp=Z,30nm,1.0s
SUA **Susitna One** 78.66 11 P **P** 17 45 38.5 -0.3
baz=202
SIT **Sitka** 78.70 20 P **P** 17 45 39.1 +0.2
baz=217
U33K **Whale Pass** 78.71 21 P **P** 17 45 39.4 +0.5
baz=219
K17K **Iditarod** 78.76 7 P **P** 17 45 40.0 +1.0
baz=194
EYAK **Cordova Ski Ar** 78.82 13 P **P** 17 45 39.8 +0.3
baz=207
GLI **Glacier Island** 78.83 13 P **P** 17 45 39.9 +0.4
baz=205
GAMB **Gambell** 78.99 1 P **P** 17 45 41.4 +1.2
baz=181
SKT **Skwentna** 79.01 10 P **P** 17 45 39.5 -1.0
SKT IAmb IAmb 17 46 08.0
comp=Z,22nm,1.2s
SKT **Skwentna** 79.01 10 P **P** 17 45 41.0 +0.5
baz=201
KNK **Knik Glacier** 79.04 12 P **P** 17 45 40.6 -0.1
KNK IAmb IAmb 17 46 03.0
comp=Z,37nm,1.4s
KNK **Knik Glacier** 79.04 12 P **P** 17 45 42.0 +1.3
baz=204
M22K **Willow** 79.04 11 P **P** 17 45 41.7 +1.1
baz=202
J16K **Anvik River** 79.07 6 P **P** 17 45 42.1 +1.3
baz=192
PMR **Palmer** 79.08 11 P **P** 17 45 41.5 +0.7
baz=203
L20K **Farewell, AK** 79.11 9 P **P** 17 45 42.6 +1.6
baz=199
S31K **Pelican** 79.14 19 P **P** 17 45 42.0 +0.8
baz=216
WRAK **Wrangell Islan** 79.22 22 P **P** 17 45 42.6 +1.0
baz=220
TTA **Tatalina** 79.24 8 P **P** 17 45 42.1 +0.3
TTA IAmb IAmb 17 46 01.4
comp=Z,20nm,1.2s
TTA **Tatalina** 79.24 8 P **P** 17 45 43.2 +1.4
baz=197
TTA **Tatalina** 79.24 8 P **P** 17 45 42.1 +0.3
TTA pmax pmax
comp=Z,20nm,1.2s
S32K **Killisnoo** 79.28 20 P **P** 17 45 43.8 +1.8
baz=218

GHO **Glory Hole Cre** 79.28 11 P P 17 45 41.5 -0.5
GHO IAmb IAmb 17 46 08.6
comp=Z,19nm,1.0s
T33K **Petersburg** 79.31 21 P P 17 45 43.6 +1.4
baz=219
HLID **Hailey** 79.35 39 P P 17 45 43.5 +0.5
baz=237
MDJ **Mudanjiang** 79.39 322 P P 17 45 44.3 +1.4
MDJ PcP PcP 17 45 49.6 -1.3
MDJ pP pP 17 45 55.3 0.0
MDJ S S 17 55 46.8 +6.3
MDJ pmax pmax
comp=Z,14nm,2.1s
MDJ pmax pmax
comp=Z,220nm,4.8s
MDJ LR LR
comp=Z,430nm,8.2s
MDJ LR LR
comp=Z,420nm,8.9s
MDJ LR LR
comp=Z,740nm,16.2s
MESA **MESA** 79.39 15 P P 17 45 43.9 +1.0
baz=210
SML **Sawmill** 79.43 12 P P 17 45 42.4 -0.4
SML IAmb IAmb 17 46 10.3
comp=Z,34nm,1.3s
SML **Sawmill** 79.43 12 P P 17 45 43.6 +0.8
baz=204
GRNR **Gornyy** 79.45 330 eP P 17 45 36.1 -7.0
BMRM **Bremner River** 79.45 14 P P 17 45 44.6 +1.6
baz=208
M23K **Glacier View** 79.53 12 P P 17 45 44.7 +1.3
baz=205
CRQE **Cirque** 79.61 14 P P 17 45 44.0 0.0
baz=209
CUT **Chulitna** 79.62 10 P P 17 45 43.2 -0.5
CUT **Chulitna** 79.62 10 P P 17 45 43.8 0.0
baz=202
PNL **Peninsula** 79.63 17 P P 17 45 44.2 +0.3
baz=213
KLU **Klutina** 79.63 13 P P 17 45 43.5 -0.5
baz=206
SCM **Sheep Creek Mo** 79.65 12 P P 17 45 43.7 -0.4
SCM **Sheep Creek Mo** 79.65 12 P P 17 45 43.7 -0.4
SCM pmax pmax
comp=Z,79nm,1.5s
I17K **Unalakleet** 79.65 5 P P 17 45 43.7 -0.3
baz=192
J18K **Innoko River** 79.67 7 P P 17 45 44.6 +0.6
baz=196
PPLA **Purkeypile** 79.76 9 P P 17 45 43.7 -1.0
PINM **Pinnacle** 79.76 16 P P 17 45 44.5 -0.2
baz=212
MNTX **Cornudas Mount** 79.85 53 P P 17 45 44.8 -1.0
baz=245
MNTX **Cornudas Mount** 79.85 53 P P 17 45 47.5 +1.7
baz=245
K20K **Telida** 79.92 8 IAmb IAmb 17 45 48.5
comp=Z,23nm,1.1s
K20K **Telida** 79.92 8 P P 17 45 46.0 +0.5
baz=198
GRNC **Granite Creek** 79.92 15 P P 17 45 44.4 -1.3
GRNC IAmb IAmb 17 46 12.0
comp=Z,28nm,1.2s
R32K **Eaglecrest** 79.94 19 P P 17 45 45.7 0.0
baz=218
ANM **Nome** 79.98 3 P P 17 45 45.8 +0.1
baz=187
PV05 **Paradox Valley** 80.00 46 P P 17 45 46.4 -0.4
PV05 IAmb IAmb 17 46 14.0
comp=Z,35nm,1.4s
MVCO **Mesa Verde** 80.01 47 P P 17 45 46.0 -0.8
baz=242
N25K **Chitina, Valde** 80.02 13 P P 17 45 45.8 -0.3
N25K IAmb IAmb 17 46 13.9
comp=Z,16nm,0.9s
N25K **Chitina, Valde** 80.02 13 P P 17 45 45.8 -0.3
baz=208
P29M **Windy Craggy** 80.06 17 P P 17 45 46.8 +0.5
baz=214
M24K **Tolsona, Glenn** 80.13 12 P P 17 45 46.9 +0.2
M24K IAmb IAmb 17 46 14.7
comp=Z,22nm,0.8s
M24K **Tolsona, Glenn** 80.13 12 P P 17 45 47.3 +0.7
baz=206
TX31 **Lajitas Ar. Si** 80.22 56 P P 17 45 49.6 +1.7
baz=246
TXAR **Lajitas Array** 80.22 56 P P 17 45 48.2 +0.3
comp=Z,2.2nm,0.9s,baz=230,slow=7.8,SNR=18
TXAR LR LR 18 14 46.2
comp=Z,446nm,19.4s,baz=234,slow=31
comp=Z,2.2nm,0.9s
CTG **Chitna Glacier** 80.23 15 P P 17 45 47.8 +0.5
baz=211
WAT6 **Susitna Watana** 80.25 12 P P 17 45 47.3 -0.1
baz=205
H16K **Elim** 80.26 5 P P 17 45 48.2 +1.0
baz=190
CAST **Castle Rocks** 80.27 9 P P 17 45 48.1 +0.7
baz=200
J19K **Poorman** 80.32 8 P P 17 45 48.1 +0.6
baz=197
WAT1 **Susitna Watana** 80.33 11 P P 17 45 47.8 +0.1
baz=204
MA2 **Magadan** 80.38 342 LR LR 18 17 08.8
comp=Z,319nm,20.4s,baz=140,slow=33
O29M **Mount Kennedy** 80.39 17 P P 17 45 48.5 +0.4
baz=214
T35M **Bob Quinn** 80.40 22 P P 17 45 48.1 -0.1
baz=222
ANMO **Albuquerque** 80.45 50 P P 17 45 48.1 -1.1
baz=244
ANMO **Albuquerque** 80.45 50 P P 17 45 50.4 +1.2
baz=244
ANMO **Albuquerque** 80.45 50⇓ eP P 17 45 50.2 +1.0
ANMO pmax pmax
comp=Z,6.0nm,1.2s
ANMO **Albuquerque** 80.45 50 LR LR 18 13 25.5
comp=Z,623nm,21.9s,baz=324,slow=30
NEW **Newport** 80.47 34 P P 17 45 48.1 -0.7
baz=234
NEW **Newport** 80.47 34 LR LR 18 14 57.5
comp=Z,719nm,20.0s,baz=220,slow=31
G15K **Niukluk** 80.49 4 P P 17 45 48.8 +0.4
baz=189
KTH **Kantishna Hill** 80.58 10 P P 17 45 48.2 -0.8
KTH IAmb IAmb 17 46 16.9
comp=Z,19nm,1.0s
TRF **Thorofare Moun** 80.59 10 P P 17 45 47.3 -2.0
TRF IAmb IAmb 17 46 06.7
comp=Z,20nm,0.9s
TRF **Thorofare Moun** 80.59 10 P P 17 45 49.2 0.0
baz=202
HARP **HAARP** 80.61 13 P P 17 45 49.2 0.0
baz=207
NJ2 **Nanjing** 80.61 307 eP P 17 45 50.8 +1.0
NJ2 pP PcP 17 45 53.3 -3.2
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
SKAG **Skagway** 80.64 18 P P 17 45 49.5 +0.2
baz=217
J20K **Nowinta River** 80.69 8 P P 17 45 49.8 +0.3
baz=198
P30M **Million Dollar** 80.69 17 P P 17 45 49.7 0.0
baz=215
H17K **Granite Mounta** 80.76 6 P P 17 45 50.5 +0.6
baz=193
DHY **Denali Highway** 80.77 11 P P 17 45 49.7 -0.5
baz=205
S34M **Telegraph Cree** 80.79 21 P P 17 45 50.5 +0.3
baz=221
RND **Reindeer** 80.80 11 P P 17 45 49.8 -0.5
RND IAmb IAmb 17 45 52.9
comp=Z,21nm,1.0s
RND **Reindeer** 80.80 11 P P 17 45 49.8 -0.5
RND pmax pmax
comp=Z,21nm,1.0s
F14K **Arctic Creek** 80.84 3 P P 17 45 50.9 +0.6
baz=186
KLR **Kul'dur** 80.85 327⇓ eP P 17 45 50.7 0.0
KLR pmax pmax
comp=Z,30nm,3.0s
KLR **Kul'dur** 80.85 327 LR LR 18 16 12.1
comp=Z,368nm,21.7s,baz=130,slow=32
TNA **Tin City** 80.86 2 P P 17 45 50.8 +0.4
baz=185
GCSA **Galena City Sc** 80.89 7 P P 17 45 50.6 +0.1
baz=196
YUK8 **Steele Glacier** 80.90 15 P P 17 45 50.7 -0.4
baz=212
YUK6 **Outpost Mounta** 80.98 16 P P 17 45 50.0 -1.5
baz=214
G16K **Koyuk River** 81.00 4 P P 17 45 50.7 -0.4
baz=190
PAX **Paxson** 81.05 12 P P 17 45 51.9 +0.3
baz=207
BPAW **Bear Paw Mtn.** 81.08 10 P P 17 45 52.1 +0.4
baz=201
M26K **Nabesna, AK** 81.08 14 P P 17 45 52.4 +0.6
baz=209
MCK **McKinley** 81.09 11 P P 17 45 51.2 -0.4
MCK **McKinley** 81.09 11 P P 17 45 51.4 -0.3
baz=203,SNR=8.4
MCK **McKinley** 81.09 11 P P 17 45 51.3 -0.4
MCK pmax pmax
comp=Z,36nm,1.0s
H18K **Honhosa River** 81.12 6 P P 17 45 53.1 +1.2
baz=194
HYT **Haines Junctio** 81.12 17 P P 17 45 52.4 +0.4
baz=214
YUK3 **Moose Creek** 81.14 15 P P 17 45 52.5 +0.2
baz=212
F15K **North Star Dit** 81.16 3 P P 17 45 52.6 +0.6
baz=188
Q32M **Nakina River** 81.21 20 P P 17 45 53.2 +0.5
baz=220
I20K **Naaghedeneel** 81.23 8 P P 17 45 53.3 +1.0
baz=198
P32M **Atlin** 81.24 19 P P 17 45 52.8 +0.2
baz=218
YUK4 **Talbot Arm** 81.24 16 P P 17 45 53.3 +0.5
baz=213
G17K **Kiwalik Mounta** 81.25 5 P P 17 45 53.5 +1.1
baz=192
BNX **BinXian** 81.29 322 ⇓P P 17 45 53.8 +0.6
BNX pmax pmax
comp=Z,21nm,0.8s
BNX pmax pmax
comp=Z,160nm,4.3s
M27K **Edge Creek, AK** 81.30 14 P P 17 45 53.3 +0.3
baz=210
MSO **Missoula** 81.42 36 P P 17 45 53.7 -0.3
baz=237
S22A **4UR Ranch, Cre** 81.44 47 P P 17 45 54.5 0.0
baz=243
CN2 **Changchun** 81.46 320 P P 17 45 55.4 +1.3
CN2 S S 17 56 04.3 +2.0
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,500nm,18.0s
O30N **Mendenhall** 81.47 17 P P 17 45 54.4 +0.6
baz=216
L26K **Log Cabin Wild** 81.55 13 P P 17 45 54.7 +0.6
baz=209
O20A **White River Ci** 81.56 44 P P 17 45 54.7 -0.3
baz=242
DLBC **Dease Lake** 81.57 21 P P 17 45 54.9 +0.4
baz=222
DLBC **Dease Lake** 81.57 21 P P 17 45 54.8 +0.4
comp=Z,3.5nm,0.8s,baz=243,slow=12,SNR=4.3
comp=Z,3.5nm,0.8s
BVCY **Beaver Creek** 81.59 14 P P 17 45 54.7 +0.3
baz=211
H19K **Roundabout Mou** 81.69 7 P P 17 45 55.4 +0.6
baz=196
WHY **Whitehorse** 81.73 18 P P 17 45 55.2 -0.1
baz=217
K24K **Donnelly Dome** 81.74 12 P P 17 45 55.5 +0.3
baz=206
N30M **Aishikik Lake** 81.76 16 P P 17 45 55.3 -0.1
N30M **Aishikik Lake** 81.76 16 P P 17 45 55.2 -0.1
baz=215
G18K **Tagagawik** 81.81 6 P P 17 45 56.0 +0.6
baz=194
H20K **Anotleneega Mo** 81.85 7 P P 17 45 56.1 +0.4
baz=198
NEA2 **Nenana** 81.86 10 P P 17 45 55.9 +0.2
baz=203
RIDG **Independent Ri** 81.87 12 P P 17 45 55.5 -0.4
baz=207
L27K **Beaver Creek,** 81.93 14 P P 17 45 56.5 +0.3
baz=210
BCAR **Beaver Creek A** 81.94 14 P P 17 45 55.7 -0.5
I21K **Tanana** 81.94 9 P P 17 45 56.6 +0.4
baz=200
BW06 **Boulder Array** 81.97 42 P P 17 45 56.5 -0.6
baz=240,SNR=7.5
PDAR **Pinedale Array** 81.97 42 P P 17 45 57.2 +0.1
comp=Z,7.1nm,1.2s,baz=215,slow=3.4,SNR=18
PDAR LR LR 18 16 16.7
comp=Z,894nm,20.0s,baz=232,slow=31
comp=Z,7.1nm,1.2s
R33M **Jennings River** 81.97 20 P P 17 45 57.0 +0.4
baz=221
MLY **Manley** 81.99 9 P P 17 45 55.9 -0.6
MLY IAmb IAmb 17 45 58.6
comp=Z,13nm,0.9s
MLY **Manley** 81.99 9 P P 17 45 56.7 +0.2
baz=202,SNR=6.6
P33M **Teslin, Yukon** 82.01 19 P P 17 45 56.5 -0.2
baz=219
HDA **Harding Lake** 82.06 11 P P 17 45 56.7 -0.1
baz=205,SNR=7.4
HDA P P 17 45 56.7 -0.1
baz=205,SNR=7.4
F17K **Baldwin Pennin** 82.12 5 P P 17 45 57.5 +0.5
F17K IAmb IAmb 17 46 16.4
comp=Z,15nm,0.8s
F17K **Baldwin Pennin** 82.12 5 P P 17 45 56.8 -0.2
baz=191
CCB **Clear Creek Bu** 82.13 11 P P 17 45 56.3 -0.8
H17A **Grant Village** 82.14 40 P P 17 45 57.2 -0.8
baz=240
N31M **Braeburn, Yuko** 82.14 17 P P 17 45 57.3 0.0
baz=216
M29M **Somme Creek** 82.21 15 P P 17 45 58.2 +0.4
baz=213
G19K **Purcell Mounta** 82.22 6 P P 17 45 57.4 -0.1
G19K IAmb IAmb 17 46 16.5
comp=Z,19nm,0.9s
G19K **Purcell Mounta** 82.22 6 P P 17 45 57.9 +0.3
baz=195
SCRK **Sand Creek** 82.26 12 P P 17 45 57.8 -0.2
SCRK IAmb IAmb 17 46 26.1
comp=Z,15nm,1.0s
SCRK **Sand Creek** 82.26 12 P P 17 45 58.1 +0.1
baz=208
H21K **Melozitna Rive** 82.28 8 P P 17 45 58.1 +0.2
baz=200
I23K **Minto, Yukon-K** 82.32 10 P P 17 45 57.6 -0.5
baz=203,SNR=7.7
COLA **College** 82.33 10 P P 17 45 57.8 -0.4
baz=204
MDM **Murphy Dome** 82.34 10 P P 17 45 57.9 -0.3
MDM IAmb IAmb 17 46 00.8
comp=Z,40nm,1.4s
SDCO **Great Sand Dun** 82.38 48 P P 17 45 58.8 -0.7
baz=244
SDCO **Great Sand Dun** 82.38 48 P P 17 46 00.2 +0.8
baz=244
ILAR **Eielson Array** 82.41 11 P P 17 45 57.5 -1.1
ILAR **Eielson Array** 82.41 11 P P 17 45 57.5 -1.1
ILAR **Eielson Array** 82.41 11 P P 17 45 57.6 -0.9
comp=Z,2.3nm,0.7s,baz=215,slow=6.1,SNR=31
ILAR LR LR 18 19 42.7
comp=Z,419nm,18.2s,baz=198,slow=34
comp=Z,2.3nm,0.7s
IL03 **Eielson Array** 82.41 11 P P 17 45 57.8 -0.8
IMAR **Indian Mountai** 82.46 8 P P 17 45 59.0 +0.2
J25K **Salcha River,** 82.55 12 P P 17 45 58.1 -1.3
J25K **Salcha River,** 82.55 12 P P 17 46 00.1 +0.6
baz=207,SNR=8.5
POKR **Poker Plat Res** 82.62 11 P P 17 45 59.2 -0.5
POKR **Poker Plat Res** 82.62 11 P P 17 45 59.4 -0.3
baz=205,SNR=8.5
H22K **Ishtalitna Cre** 82.70 9 P P 17 46 00.3 +0.2
baz=201,SNR=5.7
E17K **Hotham Inlet** 82.71 4 P P 17 46 00.6 +0.5
baz=191
SEY **Seymchan** 82.71 345⇑ eP P 17 46 00.7 +0.5
SEY pmax pmax
comp=Z,8.0nm,1.1s
SEY **Seymchan** 82.71 345 LR LR 18 17 37.6
comp=Z,637nm,21.1s,baz=163,slow=32
K27K **Chicken** 82.71 13 P P 17 46 00.4 +0.2
baz=210
M30M **Minto, Yukon** 82.76 16 P P 17 45 59.6 -0.9
M30M **Minto, Yukon** 82.76 16 P P 17 46 00.8 +0.2
baz=215
MSTX **Muleshoe** 82.79 52 P P 17 46 00.6 -0.8
baz=246
MSTX **Muleshoe** 82.79 52 P P 17 46 03.0 +1.5
baz=246
J26L **Joseph Creek** 82.81 12 P P 17 46 00.7 -0.1
baz=208
F19K **Shaleruckik Mo** 82.82 6 P P 17 46 00.7 0.0
baz=195
L29M **L29M** 82.86 15 P P 17 46 01.2 +0.2
L29M **L29M** 82.86 15 P P 17 46 01.7 +0.7
baz=214
T25A **Trinidad** 82.89 49 P P 17 46 01.6 -0.5
baz=245
G21K **Allakaket** 83.00 8 P P 17 46 02.5 +0.9
baz=199
M31M **Drury Creek, Y** 83.11 17 P P 17 46 02.0 -0.3
baz=217
E18K **Tukpahlearik C** 83.14 5 IAmb IAmb 17 46 21.3
comp=Z,20nm,0.9s
E18K **Tukpahlearik C** 83.14 5 P P 17 46 03.0 +0.7
baz=192
Q24A **Divide** 83.16 47 P P 17 46 02.3 -1.2
baz=244
H24K **Noodor Dome** 83.20 10 P P 17 46 04.0 +1.2
baz=204
ISCO **Idaho Springs** 83.20 46 P P 17 46 02.5 -1.2
baz=244
ISCO **Idaho Springs** 83.20 46 P P 17 46 05.1 +1.4
baz=244
F20K **Avaraart Lake** 83.24 7 P P 17 46 03.8 +0.9
baz=197
833A **Chaparral WMA,** 83.30 58 P P 17 46 03.7 -0.3
baz=249
RLMT **Red Lodge** 83.31 40 P P 17 46 03.8 -0.2
baz=240,SNR=8.5
PRP **Porcupine Dome** 83.33 11 P P 17 46 03.5 0.0
baz=206,SNR=5.8
DAWY **Dawson** 83.35 14 P P 17 46 02.2 -1.4
DAWY IAmb IAmb 17 46 22.2
comp=Z,12nm,0.9s
DAWY **Dawson** 83.35 14 P P 17 46 03.9 +0.4
baz=212
QIZ **Qiongzhong** 83.40 292 P P 17 46 04.1 -0.7
QIZ S SKSac 17 56 25.9 +1.8
QIZ LR LR
comp=Z,430nm,19.6s
CMIG **Matias Romero** 83.42 70 LR LR 18 14 40.9
comp=Z,677nm,20.2s,baz=233,slow=30
FARO **Faro, Yukon** 83.43 17 P P 17 46 05.0 +1.0
baz=218
N23A **Red Feather La** 83.47 45 P P 17 46 03.9 -1.1
baz=243
E19K **Redstone River** 83.48 6 P P 17 46 04.3 +0.2
baz=195
EGAK **Eagle** 83.56 13 P P 17 46 05.0 +0.5
baz=211
RDOG **Red Dog Mine** 83.60 4 P P 17 46 05.3 +0.7
baz=190
K29M **Barlow Dome** 83.62 15 P P 17 46 05.3 +0.2
baz=214
G22K **Bettles** 83.65 8 P P 17 46 05.2 +0.2
baz=201
G23K **Bananza Creek** 83.67 9 P P 17 46 05.4 +0.2
baz=202
F21K **Alatna River** 83.67 7 P P 17 46 05.2 0.0
baz=199
C16K **Lisburne Hills** 83.68 3 P P 17 46 05.3 +0.3
baz=187
HEH **HeiHe** 83.74 326 eP P 17 46 07.4 +1.6
HEH pmax pmax
comp=Z,7.0nm,1.4s
HEH pmax pmax
comp=Z,190nm,5.5s
JCT **Junction City** 83.76 56 P P 17 46 05.4 -1.0
baz=248
MAYO **Mayo, Yukon** 83.83 16 P P 17 46 05.9 -0.1
BELA **Belgrano 2** 83.87 172 P P 17 46 06.2 +0.1
BELA IAmb IAmb 17 46 29.3
comp=Z,17nm,1.1s
K22A **Casper** 83.88 43 P P 17 46 07.4 +0.4
baz=243
K22A **Casper** 83.88 43 P P 17 46 08.2 +1.3
baz=243
PMSA **Palmer Station** 83.91 156 LR LR 18 14 12.1
comp=Z,347nm,21.8s,baz=281,slow=29
AMTX **Amarillo** 83.98 51 P P 17 46 07.1 -0.5
baz=247
AMTX **Amarillo** 83.98 51 P P 17 46 08.8 +1.2
baz=247
F22K **John River** 84.11 8 P P 17 46 07.7 +0.4
baz=200
COLD **Coldfoot** 84.12 9 P P 17 46 07.7 +0.3
baz=202,SNR=6.2
I27K **Kandik River** 84.18 13 P P 17 46 07.8 0.0
baz=210
C18K **Utukok River** 84.30 4 P P 17 46 08.1 -0.2
baz=191
E20K **Nigu River** 84.36 6 P P 17 46 09.6 +1.0
baz=196
D19K **Kuna River** 84.40 5 IAmb IAmb 17 46 27.5
comp=Z,20nm,0.9s
D19K **Kuna River** 84.40 5 P P 17 46 08.8 0.0
baz=194
I28M **Miner Creek** 84.41 13 P P 17 46 07.8 -1.2
I28M **Miner Creek** 84.41 13 P P 17 46 09.5 +0.5
baz=212
TGTN **Hyland Airport** 84.46 20 P P 17 46 09.3 0.0
baz=223
EGMT **Eagleton** 84.47 37 P P 17 46 09.2 -0.5
baz=240
J30M **Hart River** 84.52 15 P P 17 46 09.7 +0.1
J30M **Hart River** 84.52 15 P P 17 46 10.1 +0.4
baz=215
BILL **Billbino** 84.64 352 eP P 17 46 09.3 -0.7
ABTX **Abilene, Hawle** 84.68 54 P P 17 46 10.1 -0.9
baz=248
ABTX **Abilene, Hawle** 84.68 54 P P 17 46 12.4 +1.3
baz=248
I29M **Ogilvie Camp,** 84.70 14 P P 17 46 10.4 0.0
baz=213
H27K **Steamboat Moun** 84.74 12 P P 17 46 11.1 +0.5
baz=210
F24K **Squaw Lake** 84.74 9 P P 17 46 11.1 +0.5
baz=204
E22K **Anaktuvuk Pass** 84.75 8 P P 17 46 11.2 +0.5
E22K IAmb IAmb 17 46 29.5
comp=Z,21nm,0.9s
E22K **Anaktuvuk Pass** 84.75 8 P P 17 46 11.7 +1.1
baz=200
D20K **Etivluk River** 84.75 6 P P 17 46 11.4 +0.8
baz=196
E21K **Killik River** 84.78 7 P P 17 46 10.9 +0.2
baz=198
H03N2 **Juan Fernandez** 84.84 123 T T 19 19 21.6
baz=258,slow=73,SNR=4.5
H03N3 **Juan Fernandez** 84.84 123 T T 19 19 21.5
baz=258,slow=73,SNR=5.3
H03N1 **Juan Fernandez** 84.86 123 T T 19 19 22.8
baz=258,slow=73,SNR=4.2
C19K **Lookout Ridge** 84.87 5 P P 17 46 12.0 +0.8
baz=193
KOTAN **Kotaneelee Air** 84.92 22 P P 17 46 12.4 +0.8
baz=227
G26K **Porcupine Rive** 84.93 11 P P 17 46 12.4 +0.9
baz=208,SNR=19
B18K **Kokolik River** 84.96 4 P P 17 46 12.0 +0.4
baz=191
E23K **Chandalar** 84.98 9 P P 17 46 12.2 +0.4
baz=202
I30M **Mount Dempster** 85.04 15 P P 17 46 12.7 +0.4
baz=215
E24K **Your Creek** 85.16 9 P P 17 46 12.7 +0.1
baz=204
F25K **Christian Rive** 85.18 10 P P 17 46 12.8 0.0
baz=206,SNR=8.3
BMAR **Burnt Mountain** 85.22 11 P P 17 46 12.3 -0.7
G27K **Doyon Strip** 85.22 12 P P 17 46 13.2 +0.3
baz=210
D22K **Ayikyak River** 85.35 7 P P 17 46 14.0 +0.5

baz=200
C21K Knifeblade Rid 85.37 6 P P 17 46 14.3 +0.7
baz=198
H29M Whitestone 85.41 13 P P 17 46 14.3 +0.4
H29M IAmb IAmb 17 46 37.1
comp=Z,18nm,1.0s
H29M Whitestone 85.41 13 P P 17 46 14.3 +0.4
baz=213,SNR=6.6
TOLK Toolik Lake Re 85.53 8 P P 17 46 15.5 +1.0
TOLK Toolik Lake Re 85.53 8 P P 17 46 14.6 +0.1
baz=203
F26K Sheenjek River 85.53 11 P P 17 46 15.1 +0.6
baz=208,SNR=9.0
435B Jarrell 85.65 57 P P 17 46 15.5 -0.4
baz=249
E25K Arctic Village 85.67 10 P P 17 46 15.8 +0.6
baz=206,SNR=8.3
D23K Nanushuk River 85.68 8 P P 17 46 16.0 +0.8
baz=202
ZEA Zeya 85.73 329 *e*P **P 17 46 16.4 +0.6**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
B21K Ikpikpuk River 85.83 6 P P 17 46 16.4 +0.5
baz=198
A19K Wainwright 85.84 4 P P 17 46 16.5 +0.6
baz=192
BJI Beijing 85.88 313 P P 17 46 18.6 +1.8
BJI S **S 17 56 51.9 +5.0**
BJI pmax pmax
comp=Z,7.0nm,1.3s
HNS HongShan 85.89 310 ⇓P **P 17 46 19.4 +2.5**
HNS S S 17 56 58.1 +11
HNS pmax pmax
comp=Z,15nm,1.3s
HNS LR LR
comp=Z,360nm,20.8s
HNS LR LR
comp=Z,350nm,21.1s
EPYK Eagle Plains 85.90 14 P P 17 46 17.0 +0.6
baz=215,SNR=5.3
LAO LASA Array 85.93 39 P P 17 46 16.6 -0.4
baz=243
B20K Meade River 85.96 5 P P 17 46 17.4 +0.9
baz=195
G29M Pine Creek 86.06 13 P P 17 46 18.0 +0.8
baz=214
D24K Happy Valley 86.11 8 P P 17 46 17.4 +0.1
baz=203
WMOK Wichita Mounta 86.13 53 P P 17 46 17.7 -0.5
baz=248
RSSD Black Hills 86.16 42 P P 17 46 18.1 -0.3
RSSD IAmb IAmb 17 46 47.0
comp=Z,20nm,1.3s
RSSD Black Hills 86.16 42 P P 17 46 17.5 -0.9
baz=244
RSSD Black Hills 86.16 42 P P 17 46 18.1 -0.3
RSSD pmax pmax
comp=Z,20nm,1.3s
WHTX Lake Whitney, 86.18 56 P P 17 46 18.0 -0.5
baz=249
F28M Old Crow 86.27 12 P P 17 46 17.3 -0.8
F28M IAmb IAmb 17 46 40.7
comp=Z,8.8nm,0.8s
F28M Old Crow 86.27 12 P P 17 46 18.8 +0.7
baz=212,SNR=5.7
E27K Coleen River 86.43 11 IAmb IAmb 17 46 42.0
comp=Z,15nm,1.1s
E27K Coleen River 86.43 11 P P 17 46 19.1 +0.1
baz=210
C23K Itkillik River 86.50 8 IAmb IAmb 17 46 39.0
comp=Z,17nm,0.9s
C23K Itkillik River 86.50 8 P P 17 46 19.6 +0.4
baz=202
LYN LuoYang 86.50 307 *e*P **P 17 46 21.3 +1.3**
LYN pmax pmax
comp=Z,14nm,0.6s
LYN pmax pmax
comp=Z,510nm,4.4s
G30M tAoh Zraii Nji 86.52 14 P P 17 46 19.8 +0.4
baz=215
D25K Kavik River 86.62 9 P P 17 46 19.9 0.0
baz=206
B22K Teshekpuk Lake 86.65 6 P P 17 46 20.0 +0.2
baz=199
C24K Franklin Bluff 86.65 8 P P 17 46 20.0 +0.1
baz=203
HKT Hockley 86.78 58⇓ *e*P **P 17 46 20.9 -0.5**
HKT pmax pmax
comp=Z,5.0nm,2.2s
APG El Apazote 86.85 74 LR LR 18 17 35.3
comp=Z,32nm,20.4s,baz=278,slow=30
G31M Satah River 86.93 14 P P 17 46 20.5 -0.7
G31M Satah River 86.93 14 P P 17 46 21.8 +0.5
baz=217,SNR=6.8
A22K Sinclair Lake 87.12 6 P P 17 46 22.9 +0.7
baz=197
F30M Barrier River 87.13 13 P P 17 46 22.8 +0.5
baz=216
E28M Babbage River 87.18 12 P P 17 46 22.6 0.0
baz=212
WRGLY Wrigley 87.25 20 P P 17 46 22.9 -0.1
baz=227
E29M Blow River 87.33 12 P P 17 46 23.2 -0.1
baz=214
C26K Camden Bay 87.39 9 P P 17 46 24.0 +0.6
baz=207
D27M Malcolm River 87.46 11 P P 17 46 23.4 -0.6
baz=211
F31M Tsiigehtchic 87.47 14 P P 17 46 23.8 -0.1
baz=218,SNR=12
MAW Mawson 87.90 198 P P 17 46 24.8 -1.4
comp=Z,3.0nm,0.4s,baz=205,slow=5.5,SNR=8.2
MAW LR LR 18 21 56.8
comp=Z,765nm,21.7s,baz=118,slow=33
comp=Z,3.0nm,0.4s
DGMT Dagmar 87.96 38 P P 17 46 26.0 -0.8
baz=244
INK Inuvik 88.20 14 P P 17 46 26.7 -0.7
INK IAmb IAmb 17 46 47.9
comp=Z,24nm,1.4s
INK Inuvik 88.20 14 P P 17 46 27.7 +0.3
baz=218,SNR=7.4
INK Inuvik 88.20 14 P P 17 46 26.0 -1.4
INK Inuvik 88.20 14 P P 17 46 25.9 -1.4
comp=Z,6.4nm,0.9s,baz=205,slow=6.0,SNR=16
INK LR LR 18 18 41.7
comp=Z,751nm,21.8s,baz=182,slow=31
comp=Z,6.4nm,0.9s
NATX Nacogdoches 88.33 57 P P 17 46 28.1 -0.8
baz=251
GYA Guiyang 88.52 298 *e*P **P 17 46 33.3 +3.2**
GYA pmax pmax
comp=Z,9.0nm,0.7s
GYA pmax pmax
comp=Z,280nm,5.8s
TUL3 Leonard 88.83 52 P P 17 46 29.8 -1.3
baz=250
XAN Xi'an 89.08 306 ⇑P **P 17 46 34.4 +2.0**
XAN pmax pmax
comp=Z,14nm,1.5s
PLCA Paso Flores 89.09 132 LR LR 18 17 56.9
comp=Z,340nm,20.1s,baz=247,slow=30
HHC Hu-ho-hao-te 89.44 313 *e*P **P 17 46 34.8 +0.7**
HHC sP pP 17 46 43.8 -2.7
HHC S **S 17 57 23.4 +2.1**
HHC pmax pmax
comp=Z,25nm,0.8s
HHC pmax pmax
comp=Z,280nm,5.2s
HHC LR LR
comp=Z,260nm,19.1s
HHC LR LR
comp=Z,350nm,19.1s
HHC LR LR
comp=Z,290nm,18.3s
YKA Yellowknife Ar 89.95 23 P P 17 46 35.7 -0.1
comp=Z,3.2nm,0.8s,baz=240,slow=4.6,SNR=40
comp=Z,3.2nm,0.8s
TEIG Tepich 90.33 69 LR LR 18 18 57.3
comp=Z,3µm,21.8s,baz=10.0,slow=30
BTO Baotou 90.46 312 *e*P **P 17 46 39.8 +1.0**
BTO pP **PcP 17 46 44.5 +4.6**
BTO sP **pP 17 46 46.8 -4.5**
BTO PP **P 17 50 16.5 +2.5**
BTO S **S 17 57 36.8 +6.1**
BTO sS **pS 17 57 40.8 -5.7**
BTO SS **SS 18 03 35.5 +3.1**

BTO pmax pmax
comp=Z,14nm,0.4s
BTO pmax pmax
comp=Z,460nm,4.1s
JTS Las Juntas de 90.72 80 LR LR 18 17 09.4
comp=Z,510nm,21.6s,baz=270,slow=29
ECSD EROS Data Cent 90.94 45 P **P 17 46 40.3 -0.6**
baz=250
C36M Paulatuk 91.28 15 P **P 17 46 42.0 +0.3**
baz=227
ELIB Princess Elisa 92.12 185 *d*P **P 17 46 43.1 -2.9**
CD2 Chengdu 92.28 301 P **P 17 46 46.6 -0.8**
ATAH Atahualpa 92.41 98 LR LR 18 19 45.2
comp=Z,534nm,19.1s,baz=251,slow=30
NNA Nana 92.55 103 LR LR 18 19 18.0
comp=Z,98nm,20.6s,baz=234,slow=30
TROLL Troll, Antarti 92.69 179 ⇓P **P 17 46 50.3 +1.6**
comp=Z,582nm,0.9s
TROLL ⇓PP PP 17 50 21.9 -8.2
VNA3 Neumayer Olymp 92.75 175 ⇓P **P 17 46 50.1 +1.3**
comp=Z,9.1nm,0.8s
PZH PanZhiHua 92.76 297 P **P 17 46 50.3 +0.5**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,100nm,5.7s
SNAA Sanae 92.82 177 P **P 17 46 49.9 +0.7**
comp=Z,2.5nm,1.0s,baz=204,slow=3.2,SNR=3.9
SNAA LR LR 18 23 02.7
comp=Z,241nm,20.8s,baz=199,slow=32
comp=Z,2.5nm,1.0s
A36M Sachs Harbour 92.84 13 P **P 17 46 48.8 -0.2**
baz=226
CCM Cathedral Cave 92.97 51 P **P 17 46 49.3 -1.0**
baz=253
AGMN Agassiz Nation 93.00 41 P **P 17 46 49.6 -0.7**
baz=250
CMAR Chiang Mai Arr 93.12 288 P **P 17 46 48.8 -2.7**
CMAR Chiang Mai Arr 93.12 288 *i* P **P 17 46 52.7 +1.2**
CMAR pmax pmax
comp=Z,1.0nm,1.0s
CMAR Chiang Mai Arr 93.12 288 P **P 17 46 52.2 +0.7**
comp=Z,0.5nm,0.9s,baz=134,slow=1.3,SNR=4.4
CMAR PKiKP **PKiKP 17 51 38.7 +0.2**
comp=Z,0.2nm,0.4s,baz=304,slow=0.7,SNR=4.6
CMAR LR LR 18 23 04.2
comp=Z,120nm,21.8s,baz=125,slow=32
comp=Z,0.5nm,0.9s
VNA2 Neumayer--Watz 93.25 175 ⇓P **P 17 46 52.1 +1.0**
comp=Z,4.6nm,0.7s,baz=182,slow=3.0
OXF Oxford 93.37 55 P **P 17 46 51.1 -1.1**
baz=254
VNA1 Neumayer--Stat 93.45 175 ⇓P **P 17 46 52.6 +0.6**
comp=Z,13nm,1.0s
ULM Lac du Bonnet 93.66 39 P **P 17 46 53.5 +0.2**
comp=Z,2.7nm,0.9s,baz=268,slow=5.2,SNR=4.8
ULM LR LR 18 22 02.9
comp=Z,1µm,21.9s,baz=242,slow=31
comp=Z,2.7nm,0.9s
LZH Lanzhou 93.67 306 *e*P **P 17 46 56.0 +2.1**
LZH S **S 17 58 08.0 +8.1**
LZH pmax pmax
comp=Z,13nm,1.0s
LZH LR LR
comp=Z,330nm,9.8s
LZH LR LR
comp=Z,340nm,11.3s
LZH LR LR
comp=Z,280nm,11.7s
SPMN Marine on St. 94.01 44 P **P 17 46 54.4 -0.6**
baz=252
BRAL Brewton 94.37 59 P **P 17 46 55.2 -1.7**
baz=255
ULN Ulaanbaatar 94.82 318⇑ *e*P **P 17 46 59.1 +0.3**
ULN pmax pmax
comp=Z,3.0nm,1.0s
WVT Waverly 95.05 54 P **P 17 46 58.6 -1.4**
baz=255
JFWS Jewell Farm 95.09 47 P **P 17 46 58.9 -1.1**
baz=254
TNCH TengChong 95.18 294 *e*P **P 17 47 01.3 +0.3**
TNCH pmax pmax
comp=Z,10.0nm,3.3s
TIXI Tiksi 95.20 344⇑ *e*P **P 17 46 59.7 -0.1**
TIXI pmax pmax
comp=Z,5.0nm,0.6s
SONM Songino Array 95.23 318 P **P 17 47 01.1 +0.4**
comp=Z,0.7nm,0.9s,baz=100,slow=5.4,SNR=4.6
SONM LR LR 18 25 02.9
comp=Z,190nm,21.9s,baz=106,slow=32
comp=Z,0.7nm,0.9s
LVC Limon Verde 96.53 115 LR LR 18 21 53.3
comp=Z,158nm,20.6s,baz=234,slow=30
SFIN Lafayette 96.70 50 P **P 17 47 05.8 -1.5**
baz=256
GTA Gaotai 97.61 309 *e*P Pdif 17 47 13.0 +1.2
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA LR LR
comp=Z,120nm,19.6s
GTA LR LR
comp=Z,180nm,19.6s
GTA LR LR
comp=Z,260nm,20.7s
TKL Tuckaleechee C 98.13 55 LR LR 18 24 39.1
comp=Z,631nm,21.3s,baz=267,slow=31
ROSC El Rosal 99.50 88 P **Pdif 17 47 21.4 +0.4**
comp=Z,4.4nm,0.3s,baz=330,slow=23,SNR=1.6
ROSC LR LR 18 22 51.4
comp=Z,272nm,21.1s,baz=261,slow=30
ZALV Zalesovo Beam 109.58 322 PKiKP **PKiKP 17 52 07.1 -0.1**
comp=Z,0.5nm,0.6s,baz=113,slow=3.7,SNR=2.0
ZALV PP **PP 17 52 37.7 -0.9**
comp=Z,0.4nm,0.4s,baz=108,slow=3.2,SNR=2.4
MKAR Makanchi Array 111.23 315 PKiKP **PKiKP 17 52 09.1 -1.5**
comp=Z,1.1nm,0.9s,baz=70,slow=4.0,SNR=4.6
KURK Kurchatov 113.52 319 *i* PKiKP **PKiKP 17 52 14.2 -0.6**
KURBB Kurchatov Arra 113.58 319 PKiKP **PKiKP 17 52 14.2 -0.8**
comp=Z,1.4nm,0.9s,baz=108,slow=1.7,SNR=8.9
KSH Kashi 115.92 307 PKP **PKiKP 17 52 22.3 +2.4**
BVAR Borovoye Array 118.24 322 PKP **PKPdf 17 52 23.7 -0.1**
comp=Z,2.5nm,0.9s,baz=56,slow=3.7,SNR=7.8
ARU Arti 123.66 329 *i* PKiKP **PKiKP 17 52 35.1 +0.7**
ARU 17 54 18.7
ARU 17 59 46.4
ARU SS SS 18 10 59.2 -2.0
ARCES ARCESS Array B 124.74 352 PKP **PKPdf 17 52 35.4 -0.5**
comp=Z,2.4nm,0.9s,baz=344,slow=1.8,SNR=11
ABKAR Akbulak array 125.59 320 PKPdf **PKPdf 17 52 37.5 -0.5**
GEYT Alibeck 129.95 307 PKIKP **PKiKP 17 52 48.0 +0.4**
GEYT Alibeck 129.95 307 PKP **PKiKP 17 52 48.0 +0.4**
comp=Z,1.8nm,0.8s,baz=78,slow=7.5,SNR=2.1
FINES FINESS Array B 132.11 348 PKP **PKPdf 17 52 50.0 0.0**
comp=Z,2.1nm,0.9s,baz=45,slow=3.0,SNR=8.5
BOSA Boshof 132.81 202 PKIKP **PKPdf 17 52 53.0 +0.3**
BOSA Boshof 132.81 202 PKP **PKPdf 17 52 53.0 +0.3**
comp=Z,1.4nm,0.8s,baz=63,slow=1.1,SNR=3.5
HFS Hagfors 135.14 355 PKP **PKPdf 17 52 55.1 -0.7**
comp=Z,1.9nm,0.8s,baz=348,slow=6.2,SNR=1.8
MAK Makhachkala 135.98 317 *e*P **Pdif 17 49 55.9 -6.2**
MAK *i* 17 52 54.9
MAK *e* 17 55 33.1
MAK *e* 18 00 03.5
MAK pmax pmax
comp=Z,159nm,1.3s
NACGM Naroch 137.79 343 *e*PKP **PKiKP 17 53 02.7 -0.1**
comp=Z,31nm,0.9s,baz=29
KIV Kislovodsk 138.57 321 *i* PKiKP **PKiKP 17 53 04.4 -0.5**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,251nm,24.0s
AKASG Malin Array Be 140.59 338 PKP **PKPdf 17 53 04.7 -1.4**
comp=Z,1.3nm,0.8s,baz=29,slow=2.6,SNR=5.5
ANN Anapa 141.14 325 *e*PKHKP PKPpre 17 52 54.1
ANN pmax pmax
comp=Z,224nm,1.1s
ARPR Arapgir-MALATY 143.92 317 PKPdf PKPbc 17 53 10.8 +0.3
CLL Collm 143.93 354 AMS AMS 19 01 00.0
comp=Z,300nm,20.0s
CLL Collm 143.93 354 *i* PKiKP **PKPdf 17 53 11.6 -0.4**
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 143.93 354 *i* PKPdf **PKPdf 17 53 11.6 -0.4**
comp=Z,6.0nm,0.9s
CLL Collm 143.93 354 *i* sPKPdf sPKPdf 17 53 28.6 -0.9
comp=Z,23nm,1.4s

CLL Collm 143.93 354 *e*PP PP 17 56 26.0 +1.0
CLL Collm 143.93 354 *e*SSS SSS 18 20 36.0
BRG Berggiesshubel 144.25 353 Amp 17 53 37.6
comp=Z,5.2nm,0.9s
BRG Berggiesshubel 144.25 353 *e*PKP PKiKP 17 53 26.3 +10
UPC Upice 144.31 350 *e*PKP **PKPdf 17 53 12.5 -0.3**
UPC Upice 144.31 350 *e*PKIKP **PKPdf 17 53 12.5 -0.3**
KOLS Kolonicke sedl 144.38 343 *e* PKiKP 17 53 31.3 +15
KOLS Kolonicke sedl 144.38 343 *e*PKIKP **PKPdf 17 53 12.4 -0.6**
KOLS Kolonicke sedl 144.38 343 *e*PKP **PKPdf 17 53 12.4 -0.6**
DPC Dobruska-Polom 144.41 350 *e*PKP PKPbc 17 53 11.8 +0.3
DPC *ep*PKP pPKPdf 17 53 29.3 +3.4
DPC AMS AMS 18 55 40.0
comp=Z,400nm,21.7s
DPC Dobruska-Polom 144.41 350 *e*PKIKP PKPbc 17 53 11.8 +0.3
DPC MLR MLR
comp=Z,400nm,21.7s
BUR08 Bucovina Ar. S 144.59 339 PKPdf **PKPdf 17 53 14.0 +0.5**
KRLC Kraliky 144.60 349 AMS AMS 18 56 30.0
comp=Z,500nm,22.3s
BURAR Bucovina Array 144.61 339 ⇑P PKPbc 17 53 12.7 +0.4
BURAR Bucovina Array 144.61 339 PKPdf **PKPdf 17 53 13.2 -0.3**
BURAR Bucovina Array 144.61 339 ⇑PKHKP PKPpre 17 53 09.5
CRVS Cervenica-Dubn 144.64 344 *e* PKiKP 17 53 31.3 +14
CRVS Cervenica-Dubn 144.64 344 *e*PKIKP PKPbc 17 53 12.8 +0.6
CRVS Cervenica-Dubn 144.64 344 *e*PKP PKPbc 17 53 12.8 +0.6
MOX Moxa 144.72 355 *e*PKPbc **PKPdf 17 53 13.1 -0.4**
baz=6.1,slow=3.0
MOX *ep*PKPbc **pPKPdf 17 53 30.5 +4.1**
baz=9.2,slow=2.8
BEBN Eben Emael 144.73 2 *d*PKPdf **PKPab 17 53 11.5 -0.8**
MORC Moravsky Berou 144.74 348 *e*PKP PKPbc 17 53 13.0 +0.4
WERD Werda 144.85 354 *ep*PKPbc PKiKP 17 53 31.0 +13
baz=9.2,slow=2.8
TANN Tannenbergstha 144.87 354 *e*PKPbc PKPbc 17 53 13.2 +0.2
baz=6.1,slow=3.0
LANS Liptovska Anna 144.92 346 *e* PKiKP 17 53 32.1 +14
LANS Liptovska Anna 144.92 346 *e*PKIKP **PKPdf 17 53 15.0 +1.1**
LANS Liptovska Anna 144.92 346 *e*PKP **PKPdf 17 53 15.0 +1.1**
MEM Membach 144.93 1 *d*PKPdf PKPbc 17 53 13.2 +0.1
GUNZ Gunzen 144.93 354 *e*PKPbc **PKPdf 17 53 13.6 -0.3**
baz=6.1,slow=3.0
BSTI Sart Tilman 144.94 2 *d*PKPdf PKPbc 17 53 13.4 +0.3
WERN Wernitzgruen 145.00 354 *e*PKPbc **PKPdf 17 53 14.3 +0.3**
baz=6.1,slow=3.0
WERN *ep*PKPbc sPKPab 17 53 31.8 +1.5
baz=9.2,slow=2.8
PRU Pruhonice 145.04 352 *e*PKP **PKPbc 17 53 13.2 -0.2**
PRU AMS AMS 19 02 10.0
comp=Z,400nm,17.0s
PRU Pruhonice 145.04 352 *e*PKIKP **PKPbc 17 53 13.2 -0.2**
PRU MLR MLR
comp=Z,400nm,17.0s
MAUC Maruska 145.07 348 *e*PKP **PKPbc 17 53 13.1 -0.5**
BCLA Clavier 145.10 2 *d*PKPdf **PKPbc 17 53 11.6 -2.0**
BGES Gesves 145.13 2 *d*PKPdf **PKPbc 17 53 13.2 -0.5**
BHOU Houvegnez 145.18 1 *d*PKPdf **PKPbc 17 53 12.5 -1.5**
BMRD Maredsous 145.19 3 *d*PKPdf **PKPdf 17 53 15.1 +0.9**
KECS Kecovo 145.28 344 *e* PKiKP 17 53 34.3 +16
KECS Kecovo 145.28 344 *e*PKIKP **PKPdf 17 53 15.3 +0.8**
KECS Kecovo 145.28 344 *e*PKP **PKPdf 17 53 15.3 +0.8**
TNS Taunus Mts 145.31 359 *e*PKPbc **PKPbc 17 53 14.5 +0.1**
baz=6.1,slow=3.0
MANZ Manzenberg 145.33 354 *e*PKPbc **PKPbc 17 53 14.3 -0.1**
baz=6.1,slow=3.0
VRAC Vranov 145.37 349 ⇑P **PKPbc 17 53 13.5 -1.0**
VRAC Vranov 145.37 349 *e*PKP **PKPab 17 53 14.9 +0.2**
VRAC Vranov 145.37 349 ⇑PKP2 **PKPbc 17 53 13.5 -1.0**
DOU Dourbes 145.39 3 *d*PKPdf **PKPbc 17 53 14.2 -0.4**
CFR Carcaliu 145.48 333 ⇑P **PKPab 17 53 15.4 +0.2**
CFR Carcaliu 145.48 333 ⇑PKIKP **PKPab 17 53 15.4 +0.2**
VRI Vrincioaia 145.51 336 ⇓P **PKPab 17 53 15.6 +0.2**
VRI Vrincioaia 145.51 336 ⇓PKIKP **PKPab 17 53 15.6 +0.2**
ROTZ Rotzenmuhle 145.53 354 *e*PKPbc **PKPbc 17 53 15.1 0.0**
baz=6.1,slow=3.0
ROTZ *ep*PKPbc sPKPbc 17 53 33.3 +1.1
baz=9.2,slow=2.8
TREC Trest 145.57 350 AMS AMS 18 56 10.0
comp=Z,500nm,17.4s
JAVC Velka Javorina 145.59 348 *e*PKP **PKPab 17 53 16.9 +1.3**
TPGR Topolog 145.61 333 ⇓P **PKPab 17 53 15.9 +0.1**
ZVC Zvikov 145.62 352 *e*PKP **PKPab 17 53 15.9 +0.3**
ZVC *ex* x 17 53 32.6
KRUC Moravsky 145.64 349 *e*PKP **PKPab 17 53 15.8 +0.1**
VYHS Vyhne 145.68 346 *e*PKP **PKPab 17 53 15.4 +0.5**
VYHS *e* 17 53 33.1
VYHS *e* 18 07 15.1
VYHS Vyhne 145.68 346 *e*PKP2 **PKPab 17 53 16.4 +0.5**
OZUR 145.69 337 ⇑P **PKPab 17 53 16.0 -0.1**
GRF Grafenberg Arr 145.70 355 *e*PKPbc **PKPab 17 53 16.2 +0.2**
baz=6.1,slow=3.0
GRF *ep*PKPbc sPKPbc 17 53 34.2 +1.5
baz=9.2,slow=2.8
WLF Walferdange 145.88 1 *d*PKP **PKPab 17 53 16.8 +0.3**
WLF Walferdange 145.88 1 *e*PKPbc **PKPab 17 53 17.0 +0.4**
baz=6.1,slow=3.0
WLF *ep*PKPbc **sPKPdf 17 53 34.7 +1.7**
baz=9.2,slow=2.8
DOPR Dopca 145.95 337 ⇓P **PKPab 17 53 16.9 -0.1**
HARR Harsova 145.96 333 ⇑P **PKPab 17 53 17.4 +0.4**
HARR Harsova 145.96 333 ⇑PKP2 **PKPab 17 53 17.4 +0.4**
SMOL Smolenice 145.97 348 *e*PKP2 **PKPab 17 53 18.1 +1.1**
KMBO Kilima Mbogo 145.97 244 PKPbc **PKPab 17 53 18.4 0.0**
comp=Z,4.1nm,0.8s,baz=83,slow=5.3,SNR=9.0
KHC Kasperske Hory 146.01 352 *e*PKP **PKPbc 17 53 16.9 +0.3**
KHC *ex* x 17 53 34.9
KHC AMS AMS 18 58 10.0
comp=Z,600nm,18.5s
KHC Kasperske Hory 146.01 352 *de*PKP2 **PKPbc 17 53 16.7 +0.1**
WET Wettzell 146.08 353 *e*PKPbc **PKPab 17 53 17.4 0.0**
baz=6.1,slow=3.0
WET *ep*PKPbc **sPKPdf 17 53 35.1 +1.8**
baz=9.2,slow=2.8
MODS Modra-Piesok 146.13 348 *e*PKP **PKPab 17 53 18.2 +0.6**
MODS *e* 17 53 35.7
MODS Modra-Piesok 146.13 348 *e*PKP2 **PKPab 17 53 18.2 +0.6**
MLR Muntele Rosu 146.13 336 ⇑P **PKPab 17 53 18.4 +0.6**
MLR Muntele Rosu 146.13 336 ⇑PKP2 **PKPab 17 53 18.4 +0.6**
MARR Marisel-Cluj 146.14 340 ⇑P **PKPbc 17 53 17.4 +0.3**
ISR Istrita 146.20 335 ⇑P **PKPab 17 53 18.8 +0.8**
ISR Istrita 146.20 335 ⇑PKP2 **PKPab 17 53 18.8 +0.8**
CKRC Cesky Krumlov 146.21 351 *e*PKP **PKPbc 17 53 17.2 0.0**
CKRC *ex* x 17 53 35.5
CKRC AMS AMS 18 56 30.0
comp=Z,600nm,16.8s
CKRC Cesky Krumlov 146.21 351 *e*PKP2 **PKPbc 17 53 17.2 0.0**
CKRC MLR MLR
comp=Z,600nm,16.8s
GEC2 GERESS Array S 146.27 352 *e*PKPbc **PKPab 17 53 18.7 +0.5**
baz=6.1,slow=3.0
GEC2 *ep*PKPbc **sPKPdf 17 53 35.1 +1.3**
baz=9.2,slow=2.8
GERES GERESS Array B 146.27 352 PKPbc **PKPbc 17 53 17.7 +0.2**
comp=Z,9.4nm,1.1s,baz=20,slow=4.3,SNR=12
SRO Srobarova 146.44 346 *e*PKP **PKPab 17 53 19.2 +0.5**
SRO *e* 17 53 36.7
SRO Srobarova 146.44 346 *e*PKP2 **PKPab 17 53 19.2 +0.5**
BR131 Keskin Array S 146.52 321⇑ *e*PKP2 **PKPdf 17 53 17.8 +0.7**
VOIR 146.52 337 ⇑P **PKPbc 17 53 18.7 +0.4**
VOIR 146.52 337 ⇑PKP2 **PKPbc 17 53 18.7 +0.4**
BRTR Keskin Array B 146.52 321 PKPbc **PKPab 17 53 20.1 +0.5**
BRTR Keskin Array B 146.52 321 PKP2 **PKPbc 17 53 19.0 +0.4**
BRTR Keskin Array B 146.52 321 PKPbc **PKPbc 17 53 18.9 +0.4**
comp=Z,12nm,0.9s,baz=126,slow=2.4,SNR=42
STU Stuttgart 146.74 358 *e*PKPbc **PKPab 17 53 19.6 -0.3**
baz=6.1,slow=3.0
STU *ep*PKPbc **sPKPdf 17 53 36.9 +2.4**
baz=9.2,slow=2.8
ARR Arges 146.74 337 ⇓P **PKPbc 17 53 19.5 +0.6**
CONA Conrad Observa 146.83 349 *ep*PKP **PKPab 17 53 19.8 -0.6**
comp=Z,11nm,0.9s,SNR=6.9
CONA *i* pPKiKP sPKPbc 17 53 37.9 +1.7
comp=Z,39nm,1.1s
RONA Rosalia, Austr 146.97 349 *ep*PKP **PKPab 17 53 20.3 -0.6**
comp=Z,18nm,1.3s,SNR=6.9
RONA *ep*PKiKP sPKPbc 17 53 38.1 +1.5
comp=Z,38nm,1.2s
MOA Molln 147.17 351 *e*PKP **PKPbc 17 53 20.8 +0.8**
comp=Z,8.6nm,1.5s,SNR=4.8
MOA *ep*PKiKP **sPKPdf 17 53 38.1 +2.9**
comp=Z,45nm,1.3s
MOA Molln 147.17 351 *ep*PKPbc pPKPbc 17 53 37.2 +4.7
baz=9.2,slow=2.8
BFO Black Forest 147.21 359 *e*PKPbc **PKPbc 17 53 20.3 +0.2**

baz=6.1,slow=3.0
FUR Furstenfeldbru 147.21 355 *e*PKPbc **PKPab 17 53 21.0 -0.8**
baz=6.1,slow=3.0
GZR Gura Zlata 147.38 339 ⇑P **PKPab 17 53 21.8 -0.8**
GZR Gura Zlata 147.38 339 ⇑PKP2 **PKPab 17 53 21.8 -0.8**
BIOA Bad Ischl, Aus 147.41 352 *i* PKP **PKPbc 17 53 21.1 +0.5**
comp=Z,15nm,1.1s
BIOA *ep*PKiKP **sPKPbc 17 53 39.8 +2.0**
comp=Z,26nm,1.3s
RJOB Jochberg 147.47 353 *e*PKPbc **PKPbc 17 53 21.9 +1.0**
baz=6.1,slow=3.0
ARSA Arzberg 147.54 349 *e*PKP **PKPbc 17 53 21.6 +0.6**
comp=Z,12nm,1.6s
ARSA *ep*PKiKP **sPKPdf 17 53 39.0 +3.2**
comp=Z,30nm,1.2s
ARSA Arzberg 147.54 349 *e*PKPbc **PKPbc 17 53 21.6 +0.6**
baz=6.1,slow=3.0
BZS Buzias 147.56 341 ⇑P **PKiKP 17 53 22.2 -1.0**
BZS Buzias 147.56 341 ⇑PKP2 **PKiKP 17 53 22.2 -1.0**
UBR Ueberruh 147.78 356 *e*PKPbc **PKPbc 17 53 22.7 +1.0**
baz=6.1,slow=3.0
LESA Schwarzleotal 147.80 353 *i* pPKP **PKiKP 17 53 23.7 -0.1**
comp=Z,10.0nm,1.5s
LESA *ep*PKiKP **sPKPbc 17 53 40.8 +1.9**
comp=Z,36nm,1.3s
MORH Mrgy, Hungar 147.86 345 ⇑P **PKPbc 17 53 22.7 +0.9**
RETA Reutte 147.92 355 *i* PKP **PKPbc 17 53 22.7 +0.6**
comp=Z,17nm,1.2s
RETA *i* pPKiKP **sPKPbc 17 53 40.2 +1.0**
comp=Z,41nm,1.7s
WATA Walderalm 148.00 354 *e*PKP **PKPbc 17 53 23.0 +0.5**
comp=Z,16nm,1.5s,SNR=5.6
WATA *i* pPKiKP **pPKPab 17 53 40.2 +2.7**
comp=Z,28nm,1.1s
MOTA Moosalm 148.04 355 *e*PKiKP **PKPbc 17 53 23.0 +0.5**
comp=Z,14nm,1.0s,SNR=9.0
MOTA *ep*PKiKP **pPKPab 17 53 40.5 +2.8**
comp=Z,39nm,1.5s
WTTA Wattenberg 148.07 354 *i* PKiKP **PKPbc 17 53 23.3 +0.6**
comp=Z,16nm,1.2s
WTTA *i* pPKP **pPKPab 17 53 40.6 +2.8**
comp=Z,40nm,1.3s
WTTA Wattenberg 148.07 354 *e*PKPbc **PKPbc 17 53 22.2 -0.4**
baz=6.1,slow=3.0
WTTA *ep*PKPbc **pPKPab 17 53 40.4 +2.5**
baz=9.2,slow=2.8
SQTA Sankt Quirin 148.15 355 *e*PKiKP **PKPbc 17 53 23.4 +0.6**
comp=Z,8.7nm,1.0s
SQTA *ep*PKP **pPKPab 17 53 40.7 +2.6**
comp=Z,29nm,1.3s
SOKA Soboth 148.18 350 *i* pPKP **PKPbc 17 53 23.0 +0.1**
comp=Z,11nm,1.1s
SOKA *ep*PKP **pPKPab 17 53 40.4 +2.2**
comp=Z,43nm,1.2s
DAVA Damuels 148.18 356 *i* PKiKP **PKPbc 17 53 23.4 +0.5**
comp=Z,16nm,1.1s
DAVA *i* pPKP **sPKPbc 17 53 41.1 +1.1**
comp=Z,47nm,1.2s
DAVA Damuels 148.18 356 *e*PKPbc **PKPbc 17 53 22.8 -0.1**
baz=6.1,slow=3.0
DAVA *ep*PKPbc **pPKPab 17 53 40.6 +2.3**
baz=9.2,slow=2.8
FETA Feichten 148.39 355 *e*PKiKP **PKPbc 17 53 24.2 +0.7**
comp=Z,11nm,1.0s,SNR=6.8
FETA *ep*PKP **pPKPab 17 53 40.3 +1.2**
comp=Z,22nm,1.1s
OBKA Obir 148.43 350 *ep*PKP **PKPbc 17 53 23.4 -0.1**
comp=Z,5.9nm,1.2s
OBKA *ep*PKP **pPKPab 17 53 40.9 +1.7**
comp=Z,17nm,1.1s
MYKA Terra Mystica 148.45 351 *ep*PKP **PKPbc 17 53 23.3 -0.2**
comp=Z,8.3nm,1.1s
MYKA *ep*PKP **pPKPab 17 53 40.8 +1.6**
comp=Z,33nm,1.5s
ABTA Abfaltersbach 148.48 353 *ep*PKP **PKPbc 17 53 23.4 -0.2**
comp=Z,13nm,1.0s,SNR=8.3
ABTA *ep*PKP **pPKPab 17 53 41.1 +1.7**
comp=Z,35nm,1.2s
LJU Ljubljana 148.88 350 *e*PKPbc **PKPbc 17 53 24.7 +0.1**
LJU *i* 17 53 42.5
MMAI Mount Meron Ar 149.00 309 PKPbc **PKPbc 17 53 25.6 +0.2**
comp=Z,16nm,1.0s,baz=29,slow=12,SNR=5.2
BOJS Bojanci 149.28 349 *i* PKPbc **PKiKP 17 53 26.6 -0.1**
BOJS *e* 17 53 43.7
LODK Lodwar 149.74 250 PKPab **PKiKP 17 53 28.6 -0.1**
SALO Salr 149.80 355 **PKPbc 17 53 26.7 -0.2**
SSB Saint Sauveur 150.19 4 **PKiKP 17 53 29.2 +0.5**
PGAV Gavieira, Arco 150.43 24 *e*PKPdf **PKPbc 17 53 28.4 -0.2**
PGAV Gavieira, Arco 150.43 24 *e*PKPab PKPab 17 53 51.8 +17
PGAV Gavieira, Arco 150.43 24 *e*LR LR 18 51 04.2
comp=Z,537nm,20.0s
BNI Bardonecchia 150.50 1 **PKPdf 17 53 25.4 +2.0**
BNI Bardonecchia 150.50 1 PKIKP **PKPdf 17 53 25.4 +2.0**
POLO Lamas de Olo 151.12 24 *e*PKPdf **PKiKP 17 53 30.9 +0.1**
POLO Lamas de Olo 151.12 24 *e*PKPab PKPab 17 53 49.0 +11
PBRG Braganca 151.14 22 *e*PKPdf **PKiKP 17 53 30.9 +0.1**
PBRG Braganca 151.14 22 *e*PKPab PKPab 17 53 48.5 +11
PDG Podgorica 151.17 341 **PKPdf 17 53 23.3 -1.0**
PVRL Vila Real 151.24 24 *e*PKPdf **PKiKP 17 53 31.0 0.0**
PVRL Vila Real 151.24 24 *e*PKPab PKPab 17 53 49.3 +11
MVO Moncorvo 151.60 23 *e*PKPdf **PKiKP 17 53 32.0 +0.2**
MVO Moncorvo 151.60 23 *e*PKPab PKPab 17 53 50.2 +10
MVO Moncorvo 151.60 23 eLR LR 18 45 15.9
comp=Z,303nm,22.0s
PVIS Viseu 151.65 25 *e*PKPdf **PKiKP 17 53 32.2 +0.3**
PCAS Casmilo, Conde 151.96 26 *e*PKPab PKPab 17 53 55.8 +14
PMOZ Porto Moniz, M 151.97 48 eLR LR 18 44 58.8
comp=Z,457nm,20.0s
MTE Manteigas 152.06 24 *e*PKPdf **PKiKP 17 53 33.2 +0.5**
MTE Manteigas 152.06 24 *e*PKPab PKPab 17 53 58.5 +17
MTE Manteigas 152.06 24 eLR LR 18 51 14.9
comp=Z,327nm,20.0s
PSBE So Bento 152.27 27 *e*PKPdf **PKiKP 17 53 33.9 +0.7**
PCBR Castelo Branco 152.56 25 *e*PKPdf **PKPbc 17 53 31.2 -2.2**
PCBR Castelo Branco 152.56 25 *e*PKPab PKPab 17 53 59.5 +16
PMTG Montargil 152.89 27 *e*PKPdf **PKPbc 17 53 34.3 +0.1**
INTR Introdacqua 152.90 349 **PKPbc 17 53 33.4 -0.9**
PMRV Marv??o 152.94 25 *e*PKPdf **PKiKP 17 53 35.3 +0.8**
PMRV Marv??o 152.94 25 *e*PKPab PKPab 17 54 00.5 +15
PMRV Marv??o 152.94 25 eLR LR 18 50 39.8
comp=Z,429nm,22.0s
PESTR Estremoz 153.33 26 *e*PKPdf **PKPab 17 53 48.7 +1.5**
PNCL Nicolau / Gran 153.54 29 *e*PKPab PKPab 17 54 02.0 +14
MESJ Messejana 153.90 28 *e*PKPab PKPab 17 54 02.5 +13
ESDC Sonseca Array 154.00 20 PKP **PKPdf 17 53 28.9 +0.2**
comp=Z,0.8nm,0.9s,baz=340,slow=2.9,SNR=6.4
ESDC PKPbc **PKPbc 17 53 36.8 +0.1**
comp=Z,1.4nm,1.0s,baz=333,slow=2.8,SNR=8.1
ESDC PKPab **PKPab 17 53 49.6 -0.5**
comp=Z,2.7nm,1.1s,baz=1.9,slow=4.5,SNR=4.1
PBAR Barrancos 154.15 26 *e*PKPab **PKPab 17 53 55.1 +4.5**
PCVE Castro Verde 154.15 28 *e*PKPab **PKPab 17 53 53.0 +2.3**
KEST Kesra 159.71 355 PKPab **PKPab 17 54 14.3 -0.4**
comp=Z,4.7nm,1.0s,baz=309,slow=3.4,SNR=4.1
DBIC Dimbokro 165.36 125 PKPab **PKPab 17 54 40.5 +0.5**
comp=Z,1.8nm,0.8s,baz=181,slow=5.6,SNR=3.5
TORD Torodi Ar. Bea 174.25 113 **PKPdf 17 53 43.6 -3.8**
TORD Torodi Ar. Bea 174.25 113 PKP **PKPdf 17 53 47.1 -0.2**
comp=Z,2.0nm,1.1s,baz=212,slow=2.1,SNR=5.8
TORD PKPab **PKPab 17 55 19.5 0.0**
comp=Z,1.3nm,0.9s,baz=269,slow=4.2,SNR=4.1
TORD PP **PP 17 59 12.5 +0.7**
comp=Z,0.5nm,0.9s,baz=254,slow=5.2,SNR=3.0

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*IDC **24** 17:45:28.3±3.1,56˚92N×154˚89W,h16km±18km,mb3.7/22, mbtmp3.9/23,ML3.9/1,MS3.9/3,Error ellipse: s-maj=19.6km s-min=13.6km az=4.0*
*NEIC **24** 17:45:30.7±1.1,56˚74N±0˚04×154˚42W±0˚08, h53km±11km,Error ellipse: s-maj=7.8km s-min=4.9km az=130.0*
*AEIC **24** 17:45:31.8±1.5,56˚79N±0˚04×154˚46W±0˚07,h44km±8km, ML4.0,mb4.1/3(NEIC),ML4.3/60(NEIC),Error ellipse: s-maj=6.8km s-min=4.9km az=147.0*
ISC 24 17:45:30.5±1.4,56˚88N±0˚04×154˚50W±0˚03,h33km±7km, n258,σt§47/259,mb3.9/23,MS4.3/4,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.36**	**151**			**Sn**	**17 45 46.4**	**+1.2**
SII	**Sitkinak Islan**	**0.36**	**151**			**Pn**	**17 45 39.5**	**0.0**
SII	**Sitkinak Islan**	**0.36**	**151**	IAML			17 45 47.5	
	comp=N,97μm,0.5s							
SII				IAML			17 45 48.2	
	comp=E,109μm,0.4s							
SII	**Sitkinak Islan**	**0.36**	**151**	P		**Pn**	**17 45 39.9**	**+0.4**
SII	**Sitkinak Islan**	**0.36**	**151**	P		**Pn**	**17 45 39.8**	**+0.3**
	baz=327							
SII				S		**Sn**	**17 45 46.6**	**+1.3**
	baz=327							
R18K	**Karluk**	**0.69**	**2**			**Pn**	**17 45 45.5**	**+1.7**
R18K	**Karluk**	**0.69**	**2**	P		**Pn**	**17 45 45.6**	**+1.7**
	baz=180							
OHAK	**Old Harbor**	**0.75**	**62**			**Pn**	**17 45 45.8**	**+1.1**
OHAK						**Sn**	**17 45 56.8**	**+1.9**
OHAK	**Old Harbor**	**0.75**	**62**	P		**Pn**	**17 45 46.1**	**+1.4**
OHAK	**Old Harbor**	**0.75**	**62**	P		**Pn**	**17 45 45.8**	**+1.1**
	baz=236							
OHAK				S		**Sn**	**17 45 56.8**	**+1.9**
	baz=236							
CHIR	**Chirikof Islan**	**1.23**	**211**			**Sn**	**17 46 05.2**	**-1.5**
CHIR	**Chirikof Islan**	**1.23**	**211**			**Pn**	**17 45 50.5**	**-0.7**
CHIR	**Chirikof Islan**	**1.23**	**211**	IAML			17 46 10.9	
	comp=N,6μm,1.0s							
CHIR				IAML			17 46 18.4	
	comp=E,6μm,1.0s							
CHIR	**Chirikof Islan**	**1.23**	**211**	P		**Pn**	**17 45 50.6**	**-0.7**
	baz=33							
PLK3	**Peulik 3**	**1.26**	**311**			**Pb**	**17 45 53.5**	**-0.2**
R17K	**Ugashik Creek**	**1.28**	**308**			**Pb**	**17 45 53.5**	**-0.5**
R17K	**Ugashik Creek**	**1.28**	**308**			**Sb**	**17 46 11.2**	**+1.2**
R17K	**Ugashik Creek**	**1.28**	**308**	P		**Pb**	**17 45 53.5**	**-0.5**
	baz=128							
R17K				S		**Sb**	**17 46 11.2**	**+1.2**
	baz=128							
KDAK	**Kodiak Island**	**1.38**	**48**			**Pn**	**17 45 54.2**	**+0.8**
KDAK				IAML			17 46 18.9	
	comp=E,3μm,0.8s							
KDAK				IAML			17 46 19.1	
	comp=E,3μm,0.8s							
KDAK	**Kodiak Island**	**1.38**	**48**	Pn		**Pb**	**17 45 54.3**	**-1.4**
	comp=E,151nm,0.3s,baz=248,slow=7.1,SNR=635							
KDAK				Pg		Pn	17 45 58.0	+4.7
	comp=E,366nm,0.3s,baz=242,slow=8.3,SNR=81							
KDAK				Sn		**Sn**	**17 46 11.4**	**+1.0**
	comp=E,168nm,0.3s,baz=251,slow=14,SNR=5.0							
KDAK				Lg		Lg	17 46 16.3	
	comp=E,399nm,0.3s,baz=153,slow=24,SNR=11							
KDAK				LR		LR	17 46 33.6	
	comp=E,232nm,21.6s,baz=189,slow=43							
ACHA	**Angle Creek He**	**1.41**	**342**			**Pb**	**17 45 55.4**	**-0.8**
KCE	**Katmai Mt Cerb**	**1.42**	**345**			**Pb**	**17 45 56.3**	**-0.1**
ANCK	**Angle Creek**	**1.43**	**338**			**Pb**	**17 45 55.8**	**-0.7**
ANCK						**Sb**	**17 46 15.5**	**+1.0**
PLK1	**Peulik 1**	**1.47**	**310**			**Pb**	**17 45 56.5**	**-0.7**
PLBL	**Peulik Blue Cr**	**1.50**	**304**			**Pb**	**17 45 57.3**	**-0.5**
KVTA	**Katmai Vly 10**	**1.57**	**345**			**Pb**	**17 45 57.7**	**-1.1**
Q17K	**Contact Creek**	**1.58**	**332**	P		**Pb**	**17 45 57.8**	**-1.3**
	baz=152							
KAHG	**Katmai Hook Gl**	**1.62**	**359**			**Pb**	**17 45 58.9**	**-0.9**
KAHG						**Sb**	**17 46 20.2**	**+0.3**
KAPH	**Katmai Pasha**	**1.73**	**3**			**Pb**	**17 46 00.3**	**-1.3**
KAHC	**Katmai Hardscr**	**1.80**	**352**	P		**Pb**	**17 46 01.1**	**-1.7**
	baz=171							
Q18K	**Katmai Hardscr**	**1.80**	**352**	P		**Pb**	**17 46 01.0**	**-1.8**
	baz=171							
R16K	**Pilot Point**	**1.81**	**294**			**Pb**	**17 46 00.7**	**-2.2**
R16K	**Pilot Point**	**1.81**	**294**	IAML			17 46 29.8	
	comp=N,2μm,0.7s							
R16K				IAML			17 46 51.4	
	comp=E,2μm,0.8s							
R16K	**Pilot Point**	**1.81**	**294**	P		**Pb**	**17 46 00.7**	**-2.2**
	baz=113							
Q20K	**Shuyak Island**	**2.07**	**32**	P		**Pn**	**17 46 04.5**	**+1.6**
	baz=212							
SYI	**Shuyak Island**	**2.07**	**32**			**Pn**	**17 46 04.5**	**+1.6**
ANPB	**Aniakchak Plen**	**2.08**	**269**			**Pn**	**17 46 03.9**	**+0.9**
Q19K	**Cape Douglas,**	**2.11**	**12**			**Pn**	**17 46 05.2**	**+1.8**
Q19K				IAML			17 46 44.5	
	comp=E,2μm,0.8s							
Q19K				IAML			17 46 58.7	
	comp=N,2μm,0.8s							
Q19K	**Cape Douglas,**	**2.11**	**12**	P		**Pb**	**17 46 05.5**	**-2.6**
	baz=192							
Q16K	**King Salmon**	**2.14**	**328**			**Pn**	**17 46 05.4**	**+1.6**
Q16K	**King Salmon**	**2.14**	**328**	P		**Pb**	**17 46 06.1**	**-2.5**
	baz=147							
CHGN	**Chignik**	**2.24**	**257**			**Pn**	**17 46 05.7**	**+0.6**
CHGN				IAML			17 46 38.4	
	comp=N,2μm,0.7s							
CHGN				IAML			17 46 38.5	
	comp=E,2μm,0.6s							
CHGN	**Chignik**	**2.24**	**257**	P		**Pn**	**17 46 05.8**	**+0.6**
	baz=76							
P17K	**Kvichak River**	**2.54**	**337**			**Pn**	**17 46 10.8**	**+1.5**
P17K	**Kvichak River**	**2.54**	**337**	P		**Pn**	**17 46 11.5**	**+2.2**
	baz=156							
AUJK	**Augustine Jueg**	**2.55**	**13**			**Pn**	**17 46 11.9**	**+2.5**
P18K	**Big Mountain,**	**2.55**	**352**			**Pn**	**17 46 11.7**	**+2.2**
P18K				IAML			17 46 49.8	
	comp=E,882nm,0.8s							
P18K	**Big Mountain,**	**2.55**	**352**	P		**Pn**	**17 46 11.6**	**+2.2**
	baz=171							
AUCH	**Augustine Cone**	**2.55**	**12**			**Pn**	**17 46 11.7**	**+2.1**
P16K	**Nushagak River**	**2.85**	**321**			**Pn**	**17 46 14.8**	**+1.3**
P16K	**Nushagak River**	**2.85**	**321**	P		**Pn**	**17 46 14.8**	**+1.3**
	baz=138							
P19K	**Oil Pt**	**2.86**	**13**			**Pn**	**17 46 16.1**	**+2.3**
P19K				IAML			17 47 15.5	
	comp=N,718nm,0.6s							
P19K				IAML			17 47 15.7	
	comp=E,780nm,0.6s							
P19K	**Oil Pt**	**2.86**	**13**	P		**Pn**	**17 46 15.7**	**+2.0**
	baz=193							
O18K	**Koktuh Hills**	**3.01**	**353**			**Pn**	**17 46 18.2**	**+2.4**
O18K	**Koktuh Hills**	**3.01**	**353**	P		**Pn**	**17 46 17.4**	**+1.6**
	baz=172							
CNPM	**China Poot**	**3.17**	**32**			**Pn**	**17 46 19.6**	**+1.7**
HOM	**Homer**	**3.17**	**27**			**Pn**	**17 46 20.0**	**+2.0**
HOM				IAML			17 47 35.2	
	comp=N,1μm,0.7s							
HOM	**Homer**	**3.17**	**27**	P		**Pn**	**17 46 19.8**	**+1.8**
	baz=208							
ILSW	**Iliamna Southw**	**3.20**	**12**			**Pn**	**17 46 20.3**	**+1.8**
O17K	**Koliganek Bris**	**3.21**	**336**			**Pn**	**17 46 20.1**	**+1.6**
O17K	**Koliganek Bris**	**3.21**	**336**	P		**Pn**	**17 46 20.9**	**+2.4**
	baz=154							
O16K	**Kokwok River B**	**3.32**	**327**	Pn		**Pn**	**17 46 21.4**	**+1.4**
O16K				IAML			17 47 18.0	
	comp=E,714nm,1.2s							
O16K				IAML			17 47 18.9	
	comp=N,682nm,0.6s							
O16K	**Kokwok River B**	**3.32**	**327**	P		**Pn**	**17 46 21.9**	**+1.9**
	baz=144							
O19K	**Port Alsworth**	**3.33**	**2**			**Pn**	**17 46 22.2**	**+2.1**
O19K	**Port Alsworth**	**3.33**	**2**	P		**Pn**	**17 46 22.2**	**+2.1**
	baz=181							
O20K	**Slope Mountain**	**3.36**	**16**			**Pn**	**17 46 23.1**	**+2.5**
O20K	**Slope Mountain**	**3.36**	**16**	P		**Pn**	**17 46 23.1**	**+2.5**
	baz=197							
BRLK	**Bradley Lake**	**3.47**	**32**			**Pn**	**17 46 22.8**	**+0.8**
BRLK				IAML			17 47 02.5	
	comp=E,371nm,0.2s							
BRSE	**Bradley Lake S**	**3.49**	**33**	P		**Pn**	**17 46 23.5**	**+1.1**
	baz=215							
O15K	**Ungalikthiuk R**	**3.65**	**311**			**Pn**	**17 46 25.8**	**+1.3**
O15K	**Ungalikthiuk R**	**3.65**	**311**	P		**Pn**	**17 46 25.8**	**+1.3**
	baz=128							
RED	**Redoubt Volcan**	**3.67**	**14**			**Pn**	**17 46 26.6**	**+1.8**
SDPT	**Sand Point**	**3.68**	**248**	Pn		**Pn**	**17 46 25.7**	**+0.8**
SDPT	**Sand Point**	**3.68**	**248**	P		**Pn**	**17 46 26.2**	**+1.3**
RSO	**Redoubt South**	**3.71**	**14**			**Pn**	**17 46 27.5**	**+2.4**
RDWB	**Redoubt West**	**3.72**	**13**			**Pn**	**17 46 27.5**	**+1.8**
NCT	**North Crescent**	**3.79**	**12**			**Pn**	**17 46 28.4**	**+1.9**
RDJH	**Redoubt Jeurge**	**3.83**	**13**			**Pn**	**17 46 29.1**	**+1.9**
DFR	**Drift River**	**3.84**	**14**			**Pn**	**17 46 29.3**	**+2.0**
RDT	**Redoubt**	**3.87**	**16**			**Pn**	**17 46 29.3**	**+1.7**
N18K	**Kilae Creek**	**3.88**	**350**			**Pn**	**17 46 29.5**	**+1.7**
N18K	**Kilae Creek**	**3.88**	**350**	IAML			17 47 42.5	
	comp=E,316nm,1.3s							
N18K	**Kilae Creek**	**3.88**	**350**	P		**Pn**	**17 46 29.7**	**+1.9**
	baz=169							
N17K	**Nushagak Hills**	**3.92**	**340**	Pn		**Pn**	**17 46 30.0**	**+1.8**
N17K				IAML			17 47 44.0	
	comp=E,362nm,1.1s							
N17K				IAML			17 47 44.1	
	comp=N,314nm,0.8s							
N17K	**Nushagak Hills**	**3.92**	**340**	P		**Pn**	**17 46 30.1**	**+1.8**
	baz=158							
N19K	**Bonanza Creek**	**3.95**	**0**			**Pn**	**17 46 30.9**	**+2.2**
N19K	**Bonanza Creek**	**3.95**	**0**	IAML			17 47 38.1	
	comp=E,306nm,0.8s							
N19K				IAML			17 47 55.1	
	comp=N,245nm,0.7s							
N19K	**Bonanza Creek**	**3.95**	**0**	P		**Pn**	**17 46 30.9**	**+2.2**
	baz=180							
SEW	**Seward**	**4.18**	**37**	P		**Pn**	**17 46 31.9**	**+0.1**
	baz=220							
SVW2	**Sparrevohn**	**4.27**	**353**	Pn		**Pn**	**17 46 34.9**	**+1.9**
SVW2				IAML			17 47 45.2	
	comp=E,209nm,0.9s							
SVW2				IAML			17 47 45.8	
	comp=N,192nm,0.5s							
SVW2	**Sparrevohn**	**4.27**	**353**	P		**Pn**	**17 46 34.8**	**+1.7**
SLKM	**Skilak Lake**	**4.27**	**30**			**Pn**	**17 46 33.8**	**+0.7**
N15K	**Kwethluk River**	**4.41**	**321**	Pn		**Pn**	**17 46 36.7**	**+1.7**
N15K				IAML			17 47 57.6	
	comp=N,377nm,1.1s							
N15K				IAML			17 48 02.1	
	comp=E,295nm,0.9s							
N15K	**Kwethluk River**	**4.41**	**321**	P		**Pn**	**17 46 37.0**	**+2.0**
	baz=136							
PN7A	**Pavlof North-7**	**4.43**	**254**			**Pn**	**17 46 36.2**	**+0.8**
N20K	**Mount Spurr**	**4.49**	**14**	P		**Pn**	**17 46 37.8**	**+1.6**
	baz=196							
SPCN	**Chakachatna No**	**4.52**	**14**			**Pn**	**17 46 38.5**	**+1.9**
SPBG	**Spurr Blockage**	**4.53**	**13**			**Pn**	**17 46 38.5**	**+1.7**
SPCP	**Crater Peak Br**	**4.57**	**14**			**Pn**	**17 46 39.0**	**+1.7**
M18K	**Stony River**	**4.68**	**352**			**Pn**	**17 46 40.5**	**+1.9**
M18K	**Stony River**	**4.68**	**352**	P		**Pn**	**17 46 40.5**	**+1.9**
	baz=171							
M16K	**Timber Creek**	**4.75**	**333**			**Pn**	**17 46 41.6**	**+1.9**
M16K				IAML			17 48 07.7	
	comp=N,199nm,2.5s							
M16K				IAML			17 48 08.6	
	comp=E,207nm,0.7s							
M16K	**Timber Creek**	**4.75**	**333**	P		**Pn**	**17 46 41.6**	**+1.9**
	baz=149							
M17K	**Holitna River**	**4.78**	**343**			**Pn**	**17 46 42.2**	**+2.1**
M17K	**Holitna River**	**4.78**	**343**	P		**Pn**	**17 46 41.9**	**+1.9**
	baz=160							
STLK	**Strandline Lak**	**4.83**	**15**			**Pn**	**17 46 42.5**	**+1.7**
RC01	**Rabbit Creek A**	**4.89**	**28**			**Pn**	**17 46 42.6**	**+1.0**
RC01	**Rabbit Creek A**	**4.89**	**28**	P		**Pn**	**17 46 42.5**	**+1.0**
	baz=212							
SUA	**Susitna One**	**4.99**	**21**			**Pn**	**17 46 44.7**	**+1.6**
SUA				IAML			17 47 57.8	
	comp=N,234nm,1.1s							
SUA				IAML			17 47 58.8	
	comp=E,171nm,1.1s							
SUA	**Susitna One**	**4.99**	**21**	P		**Pn**	**17 46 44.8**	**+1.8**
	baz=204							
M20K	**Styx River**	**5.07**	**7**			**Pn**	**17 46 46.6**	**+2.5**
L19K	**White Mountain**	**5.32**	**358**			**Pn**	**17 46 50.1**	**+2.6**
SKT	**Skwentna**	**5.34**	**15**	Pn		**Pn**	**17 46 48.7**	**+1.0**
SKT	**Skwentna**	**5.34**	**15**	P		**Pn**	**17 46 48.7**	**+1.0**
	baz=197							
FALS	**False Pass**	**5.41**	**252**	P		**Pn**	**17 46 51.3**	**+2.6**
HIN	**Hinchinbrook I**	**5.47**	**46**			**Pn**	**17 46 49.6**	**0.0**
L18K	**Granite Mounta**	**5.47**	**349**	Pn		**Pn**	**17 46 51.8**	**+2.2**
PMR	**Palmer**	**5.47**	**28**			**Pn**	**17 46 50.1**	**+0.6**
PMR	**Palmer**	**5.47**	**28**	P		**Pn**	**17 46 50.1**	**+0.6**
PMR	**Palmer**	**5.47**	**28**	P		**Pn**	**17 46 50.0**	**+0.6**
	baz=212							
L16K	**Owhat River**	**5.47**	**334**			**Pn**	**17 46 51.0**	**+1.5**
L16K	**Owhat River**	**5.47**	**334**	P		**Pn**	**17 46 50.6**	**+1.0**
	baz=150							
M14K	**Bethel**	**5.49**	**318**	Pn		**Pn**	**17 46 51.8**	**+2.1**
KNK	**Knik Glacier**	**5.51**	**32**			**Pn**	**17 46 50.7**	**+0.6**
KNK	**Knik Glacier**	**5.51**	**32**	P		**Pn**	**17 46 50.6**	**+0.5**
	baz=216							
GLI	**Glacier Island**	**5.55**	**41**			**Pn**	**17 46 50.1**	**-0.6**
GLI	**Glacier Island**	**5.55**	**41**	P		**Pn**	**17 46 50.4**	**-0.3**
	baz=226							
GHO	**Glory Hole Cre**	**5.68**	**28**			**Pn**	**17 46 53.4**	**+0.9**
FID	**Port Fidalgo**	**5.70**	**44**			**Pn**	**17 46 51.8**	**-0.8**
EYAK	**Cordova Ski Ar**	**5.86**	**47**			**Pn**	**17 46 54.5**	**-0.3**
EYAK	**Cordova Ski Ar**	**5.86**	**47**	P		**Pn**	**17 46 54.8**	**0.0**
EYAK	**Cordova Ski Ar**	**5.86**	**47**	P		**Pn**	**17 46 54.8**	**0.0**
	baz=234							
SML	**Sawmill**	**5.86**	**30**			**Pn**	**17 46 55.9**	**+0.9**
CUT	**Chulitna**	**5.94**	**19**	Pn		**Pn**	**17 46 57.9**	**+1.9**
CUT	**Chulitna**	**5.94**	**19**	P		**Pn**	**17 46 56.6**	**+0.6**
	baz=203							
KAIM	**Kayak Island**	**6.12**	**56**	Pn		**Pn**	**17 46 59.2**	**+0.8**
TTA	**Tatalina**	**6.12**	**354**			**Pn**	**17 47 01.0**	**+2.5**
TTA	**Tatalina**	**6.12**	**354**	P		**Pn**	**17 47 01.0**	**+2.5**
TTA	**Tatalina**	**6.12**	**354**	P		**Pn**	**17 46 59.4**	**+0.9**
	baz=172							
L14K	**Kuka Creek**	**6.14**	**320**			**Pn**	**17 47 00.5**	**+1.8**
SCM	**Sheep Creek Mo**	**6.17**	**33**			**Pn**	**17 46 59.9**	**+0.6**
SCM	**Sheep Creek Mo**	**6.17**	**33**	P		**Pn**	**17 47 00.1**	**+0.8**
	baz=219							
DIV	**Divide**	**6.20**	**43**			**Pn**	**17 47 00.2**	**+0.5**
RAGM	**Ragged Mountai**	**6.22**	**51**	Pn		**Pn**	**17 47 00.8**	**+0.9**
GOAT	**Goat Mountain**	**6.30**	**50**			**Pn**	**17 47 01.2**	**+0.3**
KLU	**Klutina**	**6.39**	**40**			**Pn**	**17 47 02.9**	**+0.7**
KLU	**Klutina**	**6.39**	**40**	P		**Pn**	**17 47 02.7**	**+0.5**
	baz=227							
K20K	**Telida**	**6.50**	**2**	Pn		**Pn**	**17 47 05.9**	**+2.2**
BMRM	**Bremner River**	**6.56**	**47**			**Pn**	**17 47 04.4**	**-0.2**
BMRM	**Bremner River**	**6.56**	**47**	P		**Pn**	**17 47 04.7**	**+0.1**
	baz

PNL	**Peninsula**	**8.44**	**64**	P		**Pn**	**17 47 29.8**	**-0.4**
CCB	**Clear Creek Bu**	**8.45**	**20**	Pn		**Pn**	**17 47 30.1**	**-0.3**
H17K	**Granite Mounta**	**8.50**	**344**			**Pn**	**17 47 33.1**	**+2.0**
H18K	**Honhosa River**	**8.51**	**349**			**Pn**	**17 47 33.7**	**+2.5**
YUK2	**White River**	**8.53**	**49**			**Pn**	**17 47 33.0**	**+1.4**
COLA	**College**	**8.65**	**19**	P		**Pn**	**17 47 33.0**	**0.0**
I23K	**Minto, Yukon-K**	**8.66**	**15**			**Pn**	**17 47 33.1**	**-0.1**
I23K	**Minto, Yukon-K**	**8.66**	**15**	P		**Pn**	**17 47 33.8**	**+0.5**
	baz=199							
YUK3	**Moose Creek**	**8.69**	**50**			**Pn**	**17 47 34.6**	**+0.7**
YUK3	**Moose Creek**	**8.69**	**50**	P		**Pn**	**17 47 34.6**	**+0.7**
	baz=241							
H19K	**Roundabout Mou**	**8.73**	**355**	Pn		**Pn**	**17 47 36.5**	**+2.3**
IL31		**8.74**	**22**	Pn		**Pn**	**17 47 34.5**	**+0.2**
ILAR	**Eielson Array**	**8.74**	**22**	Pn		**Pn**	**17 47 34.4**	**0.0**
	comp=E,1.1nm,0.3s,baz=214,slow=14,SNR=25							
ILAR				Sn		**Sn**	**17 49 05.8**	**-5.8**
	comp=E,0.4nm,0.3s,baz=195,slow=14,SNR=0.8							
ILAR				LR		LR	17 51 38.7	
	comp=E,107nm,18.1s,baz=110,slow=42							
SCRK	**Sand Creek**	**8.81**	**32**	Pn		**Pn**	**17 47 36.0**	**+0.7**
H21K	**Melozitna Rive**	**8.85**	**5**			**Pn**	**17 47 37.0**	**+1.2**
L27K	**Beaver Creek,**	**8.87**	**40**	Pn		**Pn**	**17 47 37.3**	**+1.2**
BCAR	**Beaver Creek A**	**8.88**	**40**	Pn		**Pn**	**17 47 37.3**	**+0.9**
J25K	**Salcha River,**	**8.95**	**26**	Pn		**Pn**	**17 47 37.6**	**+0.4**
IMAR	**Indian Mountai**	**9.14**	**2**	Pn		**Pn**	**17 47 41.5**	**+1.6**
P29M	**Windy Craggy**	**9.26**	**66**	Pn		**Pn**	**17 47 41.6**	**+0.1**
S31K	**Pelican**	**9.91**	**76**	Pn		**Pn**	**17 47 49.8**	**-0.6**
F20K	**Avaraart Lake**	**10.22**	**357**			**Pn**	**17 47 57.6**	**+2.9**
SIT	**Sitka**	**10.47**	**81**	P		**Pn**	**17 47 57.2**	**-0.8**
JIS	**Juneau Island**	**10.89**	**74**	P		**Pn**	**17 48 03.4**	**-0.3**
ATKA	**Atka Island**	**12.34**	**256**	P		**Pn**	**17 48 27.2**	**+3.6**
INK	**Inuvik**	**14.87**	**31**	Pn		**Pn**	**17 48 59.9**	**+1.9**
	comp=E,0.4nm,0.3s,baz=209,slow=12,SNR=9.2							
	comp=E,2.8nm,0.5s							
C36M	**Paulatuk**	**18.31**	**35**	P		**P**	**17 49 39.9**	**-1.4**
C36M				IAmb		IAmb	17 49 44.1	
	comp=Z,10nm,0.7s							
A36M	**Sachs Harbour**	**19.38**	**27**	P		**Pn**	**17 49 53.9**	**-0.3**
A36M				IAmb		IAmb	17 49 58.6	
	comp=Z,22nm,0.8s							
YKA	**Yellowknife Ar**	**20.64**	**58**	P		**P**	**17 50 04.5**	**-2.2**
YKA	**Yellowknife Ar**	**20.64**	**58**	P		**P**	**17 50 07.8**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=273,slow=10,SNR=11							
	comp=Z,0.9nm,0.7s							
BILL	**Bilibino**	**20.87**	**318**	P		**P**	**17 50 07.3**	**-1.9**
BILL				IAmb		IAmb	17 50 23.6	
	comp=Z,4.8nm,0.9s							
PETK	**Petropavlovsk-**	**27.23**	**283**	P		**P**	**17 51 09.3**	**-1.7**
	comp=Z,1.8nm,0.6s,baz=68,slow=14,SNR=14							
	comp=Z,1.8nm,0.6s							
NVAR	**Mina Array Bea**	**30.08**	**112**	P		**P**	**17 51 38.4**	**+1.7**
	comp=Z,1.0nm,0.7s,baz=305,slow=9.0,SNR=8.6							
	comp=Z,1.0nm,0.7s							
PDAR	**Pinedale Array**	**31.61**	**97**	P		**P**	**17 51 52.2**	**+2.0**
	comp=Z,0.8nm,0.6s,baz=314,slow=5.0,SNR=11							
	comp=Z,0.8nm,0.6s							
TXAR	**Lajitas Array**	**44.76**	**106**	P		**P**	**17 53 42.6**	**+2.0**
	comp=Z,0.7nm,0.9s,baz=308,slow=4.2,SNR=7.5							
	comp=Z,0.7nm,0.9s							
SPITS	**Spitsbergen Ar**	**45.08**	**3**	P		**P**	**17 53 42.8**	**+0.2**
	comp=Z,6.2nm,0.9s,baz=35,slow=5.3,SNR=9.6							
	comp=Z,6.2nm,0.9s							
MJAR	**Matsushiro Arr**	**48.23**	**275**	P		**P**	**17 54 06.4**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=45,slow=6.3,SNR=1.3							
	comp=Z,0.6nm,0.6s							
KSRS	**Korea Array**	**53.12**	**284**	P		**P**	**17 54 42.7**	**-1.9**
	comp=Z,1.2nm,0.7s,baz=45,slow=7.1,SNR=2.3							
	comp=Z,1.2nm,0.7s							
ARCES	**ARCESS Array B**	**53.89**	**360**	P		**P**	**17 54 49.4**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=36,slow=7.8,SNR=0.9							
	comp=Z,0.9nm,0.8s							
SONM	**Songino Array**	**56.00**	**307**	P		**P**	**17 55 03.8**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=50,slow=6.8,SNR=2.8							
	comp=Z,0.5nm,0.6s							
HHC	**Hu-ho-hao-te**	**58.93**	**298**	*e*P		**P**	**17 55 27.1**	**+0.9**
HHC				pmax		pmax		
	comp=Z,18nm,0.6s							
HHC				pmax		pmax		
	comp=Z,110nm,4.6s							
HHC				LR		LR		
	comp=N,240nm,17.6s							
HHC				LR		LR		
	comp=E,350nm,18.2s							
HHC				LR		LR		
	comp=Z,540nm,19.1s							
ZALV	**Zalesovo Beam**	**59.43**	**324**	P		**P**	**17 55 28.8**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=46,slow=6.2,SNR=2.6							
	comp=Z,0.5nm,0.5s							
NB2	**NORSAR Subarra**	**61.89**	**8**	P		**P**	**17 55 45.8**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=350,slow=6.9							
NOA	**NORSAR Array B**	**61.89**	**8**	P		**P**	**17 55 46.0**	**0.0**
	comp=Z,0.7nm,0.8s,baz=330,slow=4.4,SNR=1.1							
	comp=Z,0.7nm,0.8s							
FINES	**FINESS Array B**	**62.02**	**360**	P		**P**	**17 55 46.9**	**+0.1**
	comp=Z,5.1nm,1.0s,baz=8.9,slow=9.8,SNR=2.4							
	comp=Z,5.1nm,1.0s							
HFS	**Hagfors**	**62.96**	**7**	P		**P**	**17 55 53.2**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=17,slow=4.3,SNR=11							
	comp=Z,3.8nm,0.9s							
KURBB	**Kurchatov Arra**	**64.28**	**326**	P		**P**	**17 55 59.9**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=27,slow=6.5,SNR=2.3							
	comp=Z,0.2nm,0.3s							
BVAR	**Borovoye Array**	**64.46**	**332**	P		**P**	**17 56 03.0**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=29,slow=7.6,SNR=4.2							
	comp=Z,1.0nm,0.7s							
EKA	**Eskdalemuir Ar**	**65.75**	**17**	P		**P**	**17 56 12.0**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=332,slow=5.9,SNR=2.2							
	comp=Z,0.9nm,0.5s							
MKAR	**Makanchi Array**	**66.38**	**321**	P		**P**	**17 56 15.2**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=43,slow=7.8,SNR=1.7							
	comp=Z,0.2nm,0.5s							
WMQ	**Urumqi**	**66.96**	**316**	*e*P		**P**	**17 56 22.5**	**+3.0**
WMQ				LR		LR		
	comp=Z,150nm,29.3s							
AKASG	**Malin Array Be**	**72.74**	**358**	P		**P**	**17 56 54.3**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=3.7,slow=5.5,SNR=3.1							
	comp=Z,0.5nm,0.4s							
SJG	**San Juan**	**74.14**	**81**	LR		LR	18 31 33.3	
	comp=Z,171nm,19.3s,baz=231,slow=37							
PZH	**PanZhiHua**	**75.28**	**296**	P		**P**	**17 57 09.6**	**-0.6**
PZH				pmax		pmax		
	comp=Z,8.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,90nm,4.7s							
KBZ	**Khabaz**	**78.70**	**347**	P		**P**	**17 57 29.5**	**+0.6**
	comp=Z,2.3nm,1.0s,baz=79,slow=5.2,SNR=2.2							
	comp=Z,2.3nm,1.0s							
ESDC	**Sonseca Array**	**80.64**	**23**	P		**P**	**17 57 40.6**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=340,slow=5.7,SNR=3.4							
	comp=Z,0.6nm,0.8s							
PCRV	**Puerto La Cruz**	**81.49**	**85**	LR		LR	18 31 09.8	
	comp=Z,149nm,21.7s,slow=34							
CMAR	**Chiang Mai Arr**	**83.42**	**294**	P		**P**	**17 57 53.4**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=13,slow=5.1,SNR=2.5							
	comp=Z,0.3nm,0.6s							
QSPA	**South Pole Qui**	**146.67**	**180**	PKPbc		**PKPbc**	**18 05 07.0**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=214,slow=1.4,SNR=6.4							

VIE 24 17:51:38.9±0.5, 45°13'N×14°74'E, h6km, mb1.6/1, ml1.8/1, 1D, Error ellipse: s-maj=3.3km s-min=1.6km az=169.0
35 km SE of Rijeka, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIY	**Rijeka**	**0.26**	**317**	*i* Pg	Pg	17 51 44.1	0.0
RIY				Sg	Sg	17 51 47.1	-0.6
RABC	**Rab**	**0.38**	**175**	*e*Pg	Pb	17 51 47.8	-0.3
RABC				Sg	Sb	17 51 55.8	+1.5
GBRS	**Gornja Briga**	**0.40**	**7**	↓*i* Pg	Pg	17 51 47.3	+0.5
GBRS				*e*Sg	Sg	17 51 52.4	+0.4
GBRS				IAML		17 51 54.3	
	comp=Z,9.0nm,0.1s						
SMRN	**Sveta Marina**	**0.42**	**257**	*e*Pg	Pb	17 51 48.1	-0.7
SMRN				Sg	Sg	17 51 53.9	+1.3
KNDS	**Knezji Dol**	**0.47**	**328**	*i* Pg	Pg	17 51 48.1	+0.1
KNDS				IAML		17 51 56.2	
	comp=Z,6.7nm,0.1s						
BOJS	**Bojanci**	**0.52**	**44**	*i* Pg	Pb	17 51 49.9	-0.6
BOJS				*e*Sg	Sb	17 51 57.0	-1.2
BOJS				IAML		17 51 57.8	
	comp=Z,5.5nm,0.1s						
NVLJ	**Novalja**	**0.58**	**171**	*e*Pg	Pb	17 51 52.1	+0.7
NVLJ				Sg	Sn	17 52 02.4	-1.0
SKDS	**Skadanscina**	**0.66**	**309**	*i* Pg	Pg	17 51 51.2	-0.4
SKDS				*e*Sg	Sg	17 52 00.5	+0.4
SKDS				IAML		17 52 01.9	
	comp=Z,3.0nm,0.1s						
VISS	**Visnje**	**0.68**	**6**	*e*Pg	Pg	17 51 52.2	+0.3
VISS				IAML		17 52 02.6	
	comp=Z,1.5nm,0.1s						
PLIT	**Plitvice**	**0.68**	**112**	Sg	Sb	17 52 04.0	+1.2
OZLJ	**Ozalj**	**0.70**	**47**	Sg	Sg	17 52 02.1	+0.5
VIRC	**Vir**	**0.87**	**165**	*e*Pg	Pn	17 51 57.2	-0.4
VIRC				Sg	Sn	17 52 12.3	+1.6
UDBI	**Udbina**	**0.95**	**129**	Sg	Sn	17 52 13.8	+1.0
DUGI	**Dugi Otok**	**1.16**	**169**	*e*Pn	Pn	17 52 02.5	+0.8
DUGI				Sn	Sn	17 52 21.2	+3.2
OBKA	**Obir**	**1.38**	**355**	*e*Pg	Pg	17 52 05.8	+0.3
	comp=Z,0.3nm,0.1s						
OBKA				*e*Sg	Sn	17 52 25.1	+1.6
	comp=Z,3.0nm,0.3s						
MORI	**Morici**	**1.44**	**151**	Sn	Sg	17 52 31.0	+5.7
ZIRJ	**Zirje**	**1.61**	**156**	Sn	Sg	17 52 35.9	+5.1

*IDC **24** 18:02:32.4±1.8, 53°.40N×163°.66W, h0km, mb3.5/6, mbtmp3.5/8, ML2.9/2, Error ellipse: s-maj=45.3km s-min=20.7km az=172.0*
*AEIC **24** 18:02:36.1±1.6, 53°.46N±0°.08×163°.5W±0°.1, h37km±9km, Error ellipse: s-maj=12.2km s-min=7.2km az=147.0*
*NEIC **24** 18:02:36.0±1.1, 53°.45N±0°.03×163°.43W±0°.07, h26km±6km, mb3.5/9, ML3.2(AEIC), Error ellipse: s-maj=6.3km s-min=4.8km az=68.0*
ISC 24 18:02:35.8±2.7, 53°.45N±0°.08×163°.39W±0°.05, h26km±19km, n58, σ1§60/62, mb3.5/6, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRPK	**Brown Peak**	**1.22**	**350**		**Pn**	**18 02 57.0**	**-0.1**
WESE	**West Dahl East**	**1.25**	**326**		**Pn**	**18 02 57.1**	**-0.5**
ISLZ	**Isanotski Laza**	**1.30**	**352**		**Pn**	**18 02 58.0**	**-0.2**
ISLZ					**Sn**	**18 03 14.8**	**+0.1**
SSLS	**Shishaldin Sou**	**1.32**	**344**		**Pn**	**18 02 58.2**	**-0.3**
SSLS					**Sb**	**18 03 16.3**	**-0.1**
SSLW	**Shishaldin Wes**	**1.40**	**342**		**Pn**	**18 02 59.4**	**-0.2**
SSBA	**Shishaldin**	**1.40**	**342**		**Pn**	**18 02 59.3**	**-0.4**
SSBA					**Sn**	**18 03 17.3**	**+0.1**
WEBT	**Westdahl Beart**	**1.40**	**325**		**Pn**	**18 02 59.1**	**-0.5**
WEBT					**Sb**	**18 03 18.4**	**-0.3**
ISNN	**Isanotski Nort**	**1.41**	**351**		**Pn**	**18 03 00.0**	**+0.3**
ISNN					**Sb**	**18 03 19.8**	**+0.8**
FALS	**False Pass**	**1.41**	**359**		**Pn**	**18 02 59.5**	**-0.2**
SSLN	**Shishaldin Nor**	**1.42**	**346**		**Pn**	**18 03 00.6**	**+0.8**
AKSA	**Akutan Strait**	**1.54**	**298**		**Pn**	**18 03 08.0**	**-0.6**
AKUT	**Akutan**	**1.57**	**297**		**Pn**	**18 03 01.6**	**-0.3**
AKBBA	**Akutan Broad B**	**1.65**	**294**		**Pn**	**18 03 02.6**	**-0.4**
AKV	**Akutan Volcano**	**1.67**	**295**		**Pn**	**18 03 03.1**	**-0.3**
AKLV	**Akutan Long Va**	**1.69**	**296**		**Pn**	**18 03 03.1**	**-0.4**
AKLV					**Sn**	**18 03 24.1**	**-0.1**
LVA	**Lava Point**	**1.73**	**296**		**Pn**	**18 03 04.0**	**-0.1**
UNV	**Unalaska Valle**	**1.90**	**283**		**Pn**	**18 03 05.5**	**-0.9**
MNAT	**Makushin Natee**	**2.01**	**284**		**Pn**	**18 03 07.5**	**-0.5**
MNAT					**Sn**	**18 03 31.3**	**-0.9**
MTBL	**Makushin Table**	**2.03**	**286**		**Pn**	**18 03 08.3**	**+0.1**
MSW	**Makushin Switc**	**2.07**	**284**		**Pn**	**18 03 08.4**	**-0.5**
MSW					**Sn**	**18 03 33.6**	**-0.2**
MGOD	**Makushin Gods**	**2.11**	**281**		**Pn**	**18 03 09.1**	**-0.2**
MAPS	**Pakushin South**	**2.15**	**281**		**Pn**	**18 03 09.8**	**0.0**
MAPS					**Sn**	**18 03 35.5**	**-0.1**
PN7A	**Pavlof North-7**	**2.15**	**22**		**Pn**	**18 03 11.2**	**+1.2**
SDPT	**Sand Point**	**2.56**	**41**		**Pn**	**18 03 12.2**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**2.79**	**271**		**Pn**	**18 03 18.9**	**+0.3**
OKRE	**Okmok R'deer P**	**2.86**	**273**		**Pn**	**18 03 19.9**	**+0.2**
NIKH	**Nikolski High**	**3.32**	**264**		**Pn**	**18 03 25.9**	**0.0**
CLCO	**Concord Point,**	**3.88**	**263**		**Pn**	**18 03 34.5**	**+0.9**
KDAK	**Kodiak Island**	**7.50**	**50**	Pn	**Pn**	**18 04 23.1**	**-0.2**
	0.3nm,0.3s,baz=148,slow=17,SNR=1.3						
KDAK				Sn	**Sn**	**18 05 40.4**	**-7.0**
	baz=60,slow=4.7						
	33nm,1.2s						
N17K	**Nushagak Hills**	**7.86**	**23**	Pn	**Pn**	**18 04 24.9**	**-3.4**
L14K	**Kuka Creek**	**7.93**	**2**	Pn	**Pn**	**18 04 32.3**	**+3.2**
M16K	**Timber Creek**	**7.96**	**16**	Pn	**Pn**	**18 04 31.1**	**+1.4**
SYI	**Shuyak Island**	**8.04**	**46**	Pn	**Pn**	**18 04 31.5**	**+0.8**
M26K	**Nabesna, AK**	**14.00**	**42**	Pn	**Pn**	**18 05 48.1**	**-4.1**
ILAR	**Eielson Array**	**14.11**	**30**	Pn	**Pn**	**18 05 54.3**	**+0.7**
	baz=225,slow=13,SNR=1.4						
	0.1nm,0.5s						
J26L	**Joseph Creek**	**14.99**	**35**	Pn	**Pn**	**18 06 02.9**	**-2.7**
M29M	**Somme Creek**	**15.90**	**46**	Pn	**Pn**	**18 06 18.5**	**+0.9**
DAWY	**Dawson**	**16.25**	**40**	P	**P**	**18 06 25.4**	**+0.5**
DAWY				IAmb	IAmb	18 06 47.0	
	comp=Z,5.6nm,1.5s						
L29M	**L29M**	**16.32**	**44**	Pn	**Pn**	**18 06 21.8**	**-1.0**
L29M				IAmb	IAmb	18 06 34.0	
	comp=Z,3.3nm,0.8s						
BMAR	**Burnt Mountain**	**16.70**	**26**	Pn	**Pn**	**18 06 25.1**	**-2.5**
I28M	**Miner Creek**	**16.79**	**35**	P	**P**	**18 06 31.2**	**+0.3**
B20K	**Meade River**	**16.86**	**7**	Pn	**Pn**	**18 06 26.0**	**-3.6**
B20K				IAmb	IAmb	18 06 32.8	
	comp=Z,8.0nm,1.4s						
K29M	**Barlow Dome**	**16.88**	**42**	P	**P**	**18 06 34.5**	**+2.7**
K29M				IAmb	IAmb	18 06 43.9	
	comp=Z,5.8nm,1.2s						
B22K	**Teshekpuk Lake**	**17.55**	**11**	Pn	**Pn**	**18 06 37.8**	**-0.3**
H29M	**Whitestone**	**17.76**	**34**	Pn	**Pn**	**18 06 39.2**	**-1.7**
I30M	**Mount Dempster**	**17.95**	**38**		**Pn**	**18 06 43.7**	**+0.4**
I30M				IAmb	IAmb	18 07 18.8	
	comp=Z,4.8nm,1.3s						
PETK	**Petropavlovsk-**	**23.08**	**285**	P	**P**	**18 07 38.7**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=84,slow=13,SNR=7.0						
	comp=Z,3.0nm,0.9s						
YKA	**Yellowknife Ar**	**26.78**	**51**	P	**P**	**18 08 15.4**	**+2.3**
	comp=Z,0.2nm,0.7s,baz=270,slow=8.0,SNR=2.9						
	comp=Z,0.2nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**40.69**	**226**	T	T	18 53 53.1	
	baz=27,slow=76,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**40.69**	**226**	T	T	18 53 59.8	
	baz=27,slow=76,SNR=6.0						
H11N1	**WAKE ISLAND Hy**	**40.70**	**226**	T	T	18 54 00.6	
	baz=27,slow=76,SNR=3.7						
H11S1	**WAKE ISLAND Hy**	**41.85**	**225**	T	T	18 55 34.2	
	baz=26						
H11S2	**WAKE ISLAND Hy**	**41.87**	**225**	T	T	18 55 29.0	
	baz=26						
H11S3	**WAKE ISLAND Hy**	**41.87**	**225**	T	T	18 55 18.1	
	baz=26						
TXAR	**Lajitas Array**	**49.16**	**95**	P	**P**	**18 11 23.3**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=309,slow=6.3,SNR=3.6						
	comp=Z,0.2nm,0.6s						
SONM	**Songino Array**	**53.80**	**303**	P	**P**	**18 11 55.0**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=45,slow=6.3,SNR=2.4						
	comp=Z,0.4nm,0.9s						
KURBB	**Kurchatov Arra**	**64.00**	**321**	P	**P**	**18 13 07.0**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=38,slow=8.2,SNR=3.1						
	comp=Z,0.5nm,0.3s						
MKAR	**Makanchi Array**	**65.61**	**317**	P	**P**	**18 13 16.5**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=39,slow=6.5,SNR=2.0						
	comp=Z,0.3nm,0.7s						

*UCR **24** 18:04:12.3±1.3, 6°.59N×82°.33W, h12km±29km, MW3.8*
*CATAC **24** 18:04:12.6±0.5, 6°.64N×82°.50W, h0km, mb4.8, ML4.2*
*UPA **24** 18:04:13.7±1.3, 6°.54N×82°.32W, h20km±24km, MW4.4*
*IDC **24** 18:04:20.8±13.0, 8°.55N×81°.73W, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=376.4km s-min=122.5km az=15.0*
ISC 24 18:04:11.2±1.4, 6°.45N±0°.10×82°.40W±0°.04, h10km, n52, σ1§53/80, mb3.3/4, 1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CACAO	**El Cacao, Vera**	**1.76**	**60**	*e*P	**Pn**	**18 04 40.6**	**-1.3**
CACAO				*e*S	**Sn**	**18 05 01.3**	**-3.1**
DVD	**David**	**1.97**	**358**	*e*P	**Pn**	**18 04 44.1**	**-0.6**
DVD				*e*S	**Sn**	**18 05 06.5**	**-2.9**
CCOL	**Caracol de Cor**	**2.02**	**344**	*e*P	**Pn**	**18 04 43.6**	**-1.8**
CCOL	**Caracol de Cor**	**2.02**	**344**	*i* P	**Pn**	**18 04 44.0**	**-1.5**
CCOL				IAML		18 04 44.6	
	comp=Z,1μm,1.0s						
CCOL				*i* S	**Sn**	**18 05 09.0**	**-1.8**
GUAL3	**Gualaca, Chiri**	**2.07**	**3**	*e*P	**Pn**	**18 04 45.5**	**-0.6**
GUAL3				*e*S	**Sn**	**18 05 08.8**	**-3.1**
CDITO	**Canoas**	**2.16**	**347**	*e*P	**Pn**	**18 04 45.9**	**-1.5**
CDITO	**Canoas**	**2.16**	**347**	*i* P	**Pn**	**18 04 45.8**	**-1.5**
CDITO				*i* S	**Sn**	**18 05 10.0**	**-4.1**
CDITO				IAML		18 05 20.0	
	comp=Z,470nm,1.0s						
BCO2	**Palmira**	**2.25**	**357**	*e*P	**Pn**	**18 04 48.9**	**+0.2**
BCO2				*e*S	**Sn**	**18 05 15.1**	**-1.7**
EDAD	**Golfito**	**2.31**	**341**	*e*P	**Pn**	**18 04 46.9**	**-2.6**
LNBQ3	**Los Naranjos,**	**2.32**	**359**	*e*P	**Pn**	**18 04 50.0**	**+0.2**
LNBQ3				*e*S	**Sn**	**18 05 17.3**	**-1.1**
BRU2	**Volcan**	**2.34**	**353**	*i* P	**Pn**	**18 04 50.0**	**0.0**
BRU2				*e*S	**Sn**	**18 05 17.9**	**-1.0**
BRU2	**Volcan**	**2.34**	**353**	*e*P	**Pn**	**18 04 49.3**	**-0.7**
BRU2	**Volcan**	**2.34**	**353**	*i* P	**Pn**	**18 04 49.8**	**-0.2**
BRU2				*i* S	**Sn**	**18 05 16.4**	**-2.5**
BRU2				IAML		18 05 29.6	
	comp=Z,960nm,1.0s						
ACHO3	**Achotines, Los**	**2.41**	**66**	*e*P	**Pn**	**18 04 49.6**	**-1.1**
CHIT3	**Chitre**	**2.47**	**53**	*e*P	**Pn**	**18 04 50.8**	**-0.8**
CHIT3				*e*S	**Sn**	**18 05 19.5**	**-2.3**
CHGR2	**Aguacate**	**2.48**	**6**	*e*P	**Pn**	**18 04 51.3**	**-0.5**
CHGR2				*e*S	**Sn**	**18 05 22.3**	**+0.1**
AZU	**Azuero**	**2.49**	**58**	↓*i* P	**Pn**	**18 04 51.1**	**-0.8**
AZU				*e*S	**Sn**	**18 05 19.2**	**-3.2**
AZU	**Azuero**	**2.49**	**58**	*e*P	**Pn**	**18 04 50.4**	**-1.5**
POTG	**Potrero Grande**	**2.68**	**345**	*i* P	**Pn**	**18 04 54.0**	**-0.5**
POTG				*i* S	**Sn**	**18 05 26.2**	**-0.9**
POTG				IAML		18 05 30.9	
	comp=Z,1μm,1.0s						
EDBA	**Buenos Aires**	**2.83**	**342**	*e*P	**Pn**	**18 04 56.1**	**-0.5**
OCHAL	**Ojochal**	**2.90**	**335**	*i* P	**Pn**	**18 04 56.1**	**-1.5**
OCHAL				IAML		18 05 19.7	
	comp=Z,9.3nm,1.0s						
DRK0	**Durika**	**2.91**	**343**	*e*P	**Pn**	**18 04 56.8**	**-1.1**
SRBA	**San Rafael, Bu**	**2.92**	**341**	*i* P	**Pn**	**18 04 56.8**	**-1.1**
SRBA				IAML		18 04 59.9	
	comp=Z,180nm,1.0s						
SRBA				*i* S	**Sn**	**18 05 31.5**	**-1.6**
CNI2	**El Empalme, Bo**	**2.95**	**359**	*e*P	**Pn**	**18 04 59.3**	**+1.1**
CNI2				*e*S	**Sn**	**18 05 34.2**	**+0.5**
BUS1	**Rivas**	**3.36**	**337**	*e*P	**Pn**	**18 05 02.9**	**-1.4**
CDM	**Cerro de Muert**	**3.36**	**336**	*i* P	**Pn**	**18 05 03.5**	**-0.8**
CDM				*i* S	**Sn**	**18 05 43.4**	**-1.2**
CDM				IAML		18 05 53.4	
	comp=Z,210nm,1.0s						
RIMA	**Rio Macho**	**3.60**	**336**	*i* P	**Pn**	**18 05 06.3**	**-1.0**
RIMA				IAML		18 05 08.1	
	comp=Z,100nm,1.0s						
RIMA				*i* S	**Sn**	**18 05 48.9**	**-1.1**
ABE2	**San Pablo**	**3.62**	**333**	*e*P	**Pn**	**18 05 07.0**	**-0.7**
ABE2				*e*S	**Sn**	**18 05 50.0**	**-0.7**
LCR2	**La Lucha 2**	**3.63**	**334**	*i* P	**Pn**	**18 05 07.4**	**-0.4**
LCR2				IAML		18 05 08.2	
	comp=Z,200nm,1.0s						
LCR2				*i* S	**Sn**	**18 05 48.8**	**-2.1**
BCIP	**Isla Barro Col**	**3.70**	**43**	*e*P	**Pn**	**18 05 08.4**	**-0.2**
BCIP				*e*S	**Sn**	**18 05 52.0**	**-0.2**
BCIP	**Isla Barro Col**	**3.70**	**43**	*i* P	**Pn**	**18 05 09.0**	**+0.5**
BCIP				IAML		18 05 15.0	
	comp=Z,140nm,1.0s						
BCIP				*i* S	**Sn**	**18 05 55.1**	**+2.8**
TBLN	**Tablon, Guarco**	**3.70**	**335**	*i* P	**Pn**	**18 05 08.0**	**-0.8**
TBLN				*i* S	**Sn**	**18 05 50.1**	**-2.5**
TBLN				IAML		18 06 03.0	
	comp=Z,160nm,1.0s						
RVSTA	**Santa Teres

SPSI	**Sidrap Palu**	**6.49**	**303**	P		**Pn**	**18 12 35.6**	**-0.4**
	12nm,1.0s,0.0nm							
LBMI	**Labuha**	**7.25**	**18**	P		**Pn**	**18 12 45.0**	**+0.4**
	31nm,1.5s,1μm0.2nm							
PLAI	**Plampang**	**7.47**	**260**	P		**Pn**	**18 12 45.7**	**-1.5**
PLAI	**Plampang**	**7.47**	**260**	P		**Pn**	**18 12 44.5**	**-2.7**
	63nm,0.7s,723nm0.4nm							
MTN	**Manton Dam**	**7.84**	**133**			**Pn**	**18 12 51.0**	**-0.5**
KMSI	**Cibinong**	**8.18**	**351**	P		**P**	**18 12 56.5**	**-0.6**
	311nm,0.7s,3μm							
TWSI	**Taliwang, Sumb**	**8.33**	**261**	P		**Pn**	**18 12 54.5**	**-2.8**
	18nm,0.7s							
FAKI	**Fak Fak**	**8.38**	**57**	Pn		**Pn**	**18 12 55.1**	**-2.8**
FAKI	**Fak Fak**	**8.38**	**57**	P		**Pn**	**18 12 55.4**	**-2.5**
	38nm,0.6s							
TNTI	**Ternate**	**8.55**	**15**	P		**Pn**	**18 12 59.6**	**-0.3**
TNTI	**Ternate**	**8.55**	**15**	P		**Pn**	**18 12 59.6**	**-0.3**
	46nm,0.8s							
MRSI	**Marisa**	**8.63**	**338**	P		**P**	**18 13 01.6**	**-0.6**
	53nm,0.7s							
KNRA	**Kununurra**	**8.78**	**157**			**Pn**	**18 13 02.4**	**-0.1**
KNRA	**Kununurra**	**8.78**	**157**	P		**Pn**	**18 13 02.7**	**+0.2**
SWI	**Sorong**	**8.98**	**42**	P		**Pn**	**18 13 02.5**	**-2.3**
	31nm,0.9s							
KMPI	**Kaimana, Papua**	**9.29**	**66**	P		**Pn**	**18 13 06.8**	**-1.8**
	70nm,0.7s							
TOLI2	**Tolitoli**	**9.68**	**333**	P		**P**	**18 13 15.2**	**+1.3**
TOLI2	**Tolitoli**	**9.68**	**333**	P		**P**	**18 13 14.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**10.48**	**178**	P		**Pn**	**18 13 22.5**	**0.0**
FITZ	**Fitzroy Crossi**	**10.48**	**178**	P		**Pn**	**18 13 22.4**	**0.0**
JAGI	**Jajag, Banyuwa**	**10.99**	**265**	Pn		**P**	**18 13 25.3**	**-3.2**
MBWA	**Marble Bar**	**14.52**	**201**	P		**P**	**18 14 08.6**	**+1.3**
PSA00	**Pilbara Seismi**	**14.86**	**200**	P		**P**	**18 14 12.7**	**+1.7**
PSA00	**Pilbara Seismi**	**14.86**	**200**	P		**P**	**18 14 12.1**	**+1.0**
WB0	**Warramunga Arr**	**15.05**	**145**			**P**	**18 14 13.3**	**+0.3**
WB0				IAmb		IAmb	18 14 23.3	
	comp=Z,7.7nm,1.1s							
WRAB	**Tennant Creek**	**15.16**	**145**	P		**P**	**18 14 13.7**	**-0.5**
WRAB				IAmb		IAmb	18 14 18.2	
	comp=Z,9.6nm,0.6s							
WRA	**Warramunga Arr**	**15.16**	**145**	P		**P**	**18 14 13.9**	**-0.4**
WRA	**Warramunga Arr**	**15.16**	**145**	P		**P**	**18 14 14.1**	**-0.2**
	comp=Z,4.2nm,0.6s,baz=321,slow=12,SNR=52							
WRA				S		**S**		**18 16 57.7 +1.5**
	comp=Z,8.7nm,1.1s,baz=319,slow=23,SNR=11							
WB2	**Warramunga Arr**	**15.16**	**145**	P		**P**	**18 14 14.4**	**0.0**
WR0	**Warramunga Arr**	**15.29**	**145**	P		**P**	**18 14 15.8**	**+0.1**
WR0				IAmb		IAmb	18 14 20.0	
	comp=Z,8.0nm,1.0s							
AS31	**Alice Springs**	**18.05**	**153**	P		**P**	**18 14 46.3**	**+0.9**
AS31				IAmb		IAmb	18 14 53.6	
	comp=Z,3.3nm,0.5s							
ASAR	**Alice Springs**	**18.05**	**153**	P		**P**	**18 14 46.2**	**+0.8**
ASAR	**Alice Springs**	**18.05**	**153**	P		**P**	**18 14 46.0**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=328,slow=9.5,SNR=65							
ASAR				S		**S**		**18 17 53.8 +0.7**
	comp=Z,5.7nm,0.9s,baz=348,slow=25,SNR=14							
ASAR				ScP		**ScP**		**18 22 00.7 +0.4**
	comp=Z,0.5nm,0.6s,baz=322,slow=2.4,SNR=3.3							
PMG	**Port Moresby**	**21.78**	**96**	P		**P**	**18 15 21.1**	**-0.6**
PMG				IAmb		IAmb	18 15 23.5	
	comp=Z,14nm,1.1s							
PMG	**Port Moresby**	**21.78**	**96**	P		**P**	**18 15 21.1**	**-0.6**
	comp=Z,5.0nm,0.4s,baz=124,slow=5.4,SNR=6.3							
	comp=Z,5.0nm,0.4s							
BBOO	**Buckleboo**	**27.07**	**160**	P		**P**	**18 16 09.1**	**+0.2**
BBOO				IAmb		IAmb	18 16 28.0	
	comp=Z,24nm,1.3s							
STKA	**Stephens Creek**	**28.61**	**150**	P		**P**	**18 16 23.1**	**+0.6**
STKA	**Stephens Creek**	**28.61**	**150**	P		**P**	**18 16 22.8**	**+0.3**
	comp=Z,2.5nm,0.5s,baz=324,slow=8.7,SNR=17							
	comp=Z,2.5nm,0.5s							
NACB	**Ninganchiao**	**31.74**	**354**	P		P	18 16 42.5	-7.4
CMAR	**Chiang Mai Arr**	**36.61**	**315**	P		**P**	**18 17 32.5**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=145,slow=6.9,SNR=7.1							
CMAR				ScP		**ScP**		**18 22 58.8 +2.3**
	comp=Z,0.5nm,0.8s,baz=156,slow=4.6,SNR=4.4							
	comp=Z,0.6nm,0.6s							
DZM	**Mont Dzumac**	**42.23**	**115**	P		**P**	**18 18 17.5**	**+0.1**
DZM				IAmb		IAmb	18 18 48.5	
	comp=Z,22nm,1.4s							
MJAR	**Matsushiro Arr**	**45.53**	**15**	P		**P**	**18 18 42.6**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=182,slow=8.4,SNR=1.1							
	comp=Z,0.6nm,0.6s							
CASY	**Casey**	**59.50**	**187**	P		**P**	**18 20 22.6**	**-1.3**
MKAR	**Makanchi Array**	**66.18**	**329**	P		**P**	**18 21 08.5**	**+0.7**
MKAR	**Makanchi Array**	**66.18**	**329**	P		**P**	**18 21 08.7**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=124,slow=8.2,SNR=10.0							
	comp=Z,0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**70.58**	**331**	P		**P**	**18 21 35.3**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=135,slow=5.4,SNR=6.9							
	comp=Z,0.3nm,0.4s							
VNDA	**Vanda**	**72.50**	**172**	P		**P**	**18 21 46.3**	**+0.7**
VNDA				IAmb		IAmb	18 22 02.3	
	comp=Z,8.4nm,1.4s							
VNDA	**Vanda**	**72.50**	**172**	P		**P**	**18 21 46.4**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=322,slow=9.0,SNR=7.1							
	comp=Z,1.2nm,0.9s							
BVAR	**Borovoye Array**	**76.07**	**329**	P		**P**	**18 22 07.9**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=141,slow=9.3,SNR=2.0							
	comp=Z,0.2nm,0.4s							
QSPA	**South Pole Qui**	**82.42**	**180**	P		**P**	**18 22 40.5**	**+0.1**
QSPA	**South Pole Qui**	**82.42**	**180**	P		**P**	**18 22 41.4**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=12,slow=1.6,SNR=5.8							
	comp=Z,1.6nm,0.7s							
PDAR	**Pinedale Array**	**120.64**	**44**	PKP		**PKPdf**	**18 29 08.1**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=355,slow=2.1,SNR=1.8							
TORD	**Torodi Ar. Bea**	**124.25**	**281**	PKP		**PKPdf**	**18 29 15.4**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=77,slow=4.0,SNR=2.2							
CPUP	**Villa Florida**	**146.22**	**176**	PKPbc		**PKPbc**	**18 29 57.4**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=111,slow=7.3,SNR=5.7							

IDC 24 18:30:34.7±1.7, 34.70S×108.23W, h0km, mb3.5/3, mbtmp3.5/3, MS3.7/3, Error ellipse: s-maj=208.2km s-min=34.2km az=90.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**24.20**	**96**	T	T	19 02 10.4	
	baz=257,slow=75,SNR=89						
H03S1	**Juan Fernandez**	**24.21**	**96**	T	T	19 02 11.4	
	baz=257,slow=75,SNR=73						
H03S3	**Juan Fernandez**	**24.21**	**96**	T	T	19 02 10.8	
	baz=257,slow=75,SNR=80						
H03N2	**Juan Fernandez**	**24.26**	**95**	T	T	19 02 09.4	
	baz=265,slow=73,SNR=9.5						
H03N3	**Juan Fernandez**	**24.27**	**95**	T	T	19 02 11.8	
	baz=265,slow=73,SNR=12						
H03N1	**Juan Fernandez**	**24.28**	**95**	T	T	19 02 15.7	
	baz=265,slow=73,SNR=17						
LVC	**Limon Verde**	**36.33**	**81**	LR	LR	18 48 28.7	
	comp=Z,138nm,19.3s,baz=246,slow=30						
NNA	**Nana**	**36.37**	**59**	LR	LR	18 49 20.5	
	comp=Z,78nm,18.4s,baz=210,slow=31						
RAR	**Rarotonga**	**47.01**	**273**	LR	LR	18 52 20.0	
	comp=Z,95nm,20.6s,baz=315,slow=28						
QSPA	**South Pole Qui**	**55.50**	**180**	P	P	18 40 11.3	+0.1
	0.6nm,0.8s,baz=107,slow=11,SNR=1.3						
	0.6nm,0.8s						
NVAR	**Mina Array Bea**	**73.36**	**352**	P	P	18 42 09.1	+0.6
	0.7nm,0.9s,baz=186,slow=7.3,SNR=4.5						
	0.7nm,0.9s						
PDAR	**Pinedale Array**	**77.11**	**359**	P	P	18 42 29.4	-0.6
	0.3nm,0.8s,baz=172,slow=7.3,SNR=2.2						
	0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**150.94**	**243**	PKPbc	PKPbc	18 50 29.4	-0.5
	0.5nm,0.4s,baz=208,slow=1.7,SNR=4.2						

*IDC **24** 18:41:20.4±0.4, 50.10N×88.07E, h0km, mb4.2/27, mbtmp4.2/35, ML3.7/7, MS3.6/2, Error ellipse: s-maj=9.9km s-min=7.4km az=178.0*

*MOS **24** 18:41:20.6±1.4, 49.97N×87.91E, h10km, mb4.3/10, Error ellipse: s-maj=6.4km s-min=5.3km az=80.9*

*ASRS **24** 18:41:21.3±0.3, 50°N±1°×8°8E±°, h10km, MLh4.7/16, Error ellipse: s-maj=3.0km s-min=2.9km az=114.9, confirmed*

*NEIC **24** 18:41:21.7±1.7, 49.96N±0.07×88.0E±0.2, h10km±1km, mb4.3/38, Error ellipse: s-maj=16.8km s-min=12.0km az=103.0*

*NNC **24** 18:41:23.2±1.3, 50.13N×87.78E, h0km, mb4.8, mpv4.6, Error ellipse: s-maj=11.8km s-min=5.2km az=99.0*

*BJI **24** 18:41:24.5, 49.98N×87.74E, h38km, mb4.5/17, mB4.8/8, ML4.4/7, Ms4.0/8, Ms7 3.6/7*

ISC 24 18:41:21.2±1.1, 50.05N±0.02×87.91E±0.02, h4km±6km, n209, σ1.89/263, mb4.3/46, 28C-19D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUR	**Chagan-Uzun**	**0.29**	**79**	↑Pg	**Pg**	**18 41 27.1**	**+0.3**
CUR				Sg	**Sb**	18 41 32.0	-2.3
CUR	**Chagan-Uzun**	**0.29**	**79**	PG	**Pg**	**18 41 27.0**	**+0.3**
CUR						18 41 31.5	
AKAR	**Aktash**	**0.33**	**326**	↓Pg	**Pg**	**18 41 27.7**	**+0.1**
AKAR				Sg	**Sg**	18 41 32.5	+0.5
AKAR	**Aktash**	**0.33**	**326**	PG	**Pg**	**18 41 27.7**	**+0.1**
CHBI	**Chibit, Altay**	**0.38**	**316**	↓Pg	**Pg**	18 41 28.4	0.0
CHBI				Sg	**Sg**	18 41 33.3	0.0
DGZ	**Jazzator, Alta**	**0.46**	**222**	↓Pg	**Pg**	18 41 29.3	-0.8
DGZ				Sg	**Sg**	18 41 34.5	-1.6
DGZ	**Jazzator, Alta**	**0.46**	**222**	PG	**Pg**	18 41 29.2	-0.8
DGZ						18 41 34.4	
ULGR	**Ulagan, Altay**	**0.58**	**3**	↓Pg	**Pb**	**18 41 34.3**	**+0.3**
ULGR				Sg	**Sb**	18 41 42.6	0.0
ULGR	**Ulagan, Altay**	**0.58**	**3**	PG	**Pb**	18 41 34.2	+0.3
ULGR						18 41 42.5	
ELDR	**Elanda**	**1.65**	**316**	↑Pg	**Pn**	**18 41 51.0**	**+0.1**
ELDR				Sg	**Sg**	18 42 13.4	-0.7
ELDR	**Elanda**	**1.65**	**316**	PN	**Pb**	18 41 51.5	-0.6
ELDR						18 42 13.4	
ARTR	**Artybash**	**1.80**	**347**	Pg	**Pg**	**18 41 55.2**	**-0.4**
ARTR				Sg	**Sg**	18 42 20.2	+1.2
UKR	**Ust'-Kan**	**2.19**	**295**	Pg	**Pb**	**18 42 01.6**	**+0.2**
UKR				Sg	**Sg**	18 42 30.9	-0.7
UKR	**Ust'-Kan**	**2.19**	**295**	PN	**Pb**	**18 42 01.6**	**+0.2**
UKR						18 42 29.8	
GALT	**Gorno-Altaysk,**	**2.28**	**328**	Pg	**Pb**	**18 42 03.3**	**+0.4**
GALT				Sg	**Sg**	18 42 35.2	+0.7
GALT	**Gorno-Altaysk,**	**2.28**	**328**	PN	**Pg**	18 42 03.5	-1.4
GALT						18 42 33.3	
TASR	**Tashtagol**	**2.72**	**360**	Pg	**Pb**	**18 42 10.3**	**0.0**
TASR				Sg	**Sg**	18 42 47.2	-1.2
TASR	**Tashtagol**	**2.72**	**360**	PN	**Pb**	**18 42 10.0**	**-0.4**
TASR						18 42 47.2	
ELT	**Eltsovka**	**3.38**	**343**	Pn	**Pn**	**18 42 17.1**	**+2.3**
ELT				Pg	**Pg**	18 42 25.7	-0.3
ELT				Sg	**Sg**	18 43 09.3	-0.5
MALIN	**Malinovka, Kuz**	**3.40**	**354**	Pn	**Pn**	**18 42 16.8**	**+1.7**
MALIN				Pg	**Pg**	18 42 24.3	-2.1
MALIN				Sg	**Sg**	18 43 08.3	-2.1
DJO	**Djoy, Khakassi**	**3.43**	**36**	Pn	**Pb**	**18 42 18.5**	**-4.1**
DJO				Pg	**Pg**	18 42 25.0	-1.9
DJO				Sg	**Sg**	18 43 14.6	+3.2
DJO	**Djoy, Khakassi**	**3.43**	**36**	PN	**Pg**	**18 42 25.0**	**-1.9**
DJO						18 43 11.2	
TAIL	**Tailep, Kuzbas**	**3.44**	**353**	Pg	**Pg**	**18 42 24.8**	**-2.1**
TAIL				Sg	**Sg**	18 43 12.6	+1.2
CERR	**Cheremushki**	**3.56**	**37**	Pn	**Pb**	**18 42 21.8**	**-3.0**
CERR				Pg	**Pg**	18 42 28.7	-0.7
CERR				Sg	**Sg**	18 43 17.2	+1.6
CERR	**Cheremushki**	**3.56**	**37**	PN	**Pg**	**18 42 28.7**	**-0.7**
LUZB	**Luzhba, Kemero**	**3.67**	**9**	Pn	**Pn**	**18 42 21.8**	**+3.1**
LUZB				Sg	**Sg**	18 43 18.7	-0.3
VCHU	**Verkh-Chumysh,**	**4.02**	**348**	Pn	**Pn**	**18 42 26.8**	**+3.3**
VCHU				Pg	**Pg**	18 42 37.5	-0.6
ERU	**Erunakovo, Kuz**	**4.11**	**356**	Pg	**Pg**	**18 42 39.7**	**-0.2**
ERU				Sg	**Sg**	18 43 33.9	+0.7
KOTO	**Kotino, Kuzbas**	**4.19**	**352**	Pg	**Pg**	**18 42 39.6**	**-1.8**
KOTO				Sg	**Sg**	18 43 35.4	-0.3
BJR3	**Bachatsky-3 (S**	**4.32**	**346**	Pn	**Pn**	**18 42 30.9**	**+3.2**
BJR3				Pg	**Pg**	18 42 42.7	-1.2
BJR3				Sg	**Sg**	18 43 40.5	+0.6
ZAA0	**Zalesovo Array**	**4.35**	**335**		**Pn**	**18 42 29.7**	**+1.7**
ZAA0	**Zalesovo Array**	**4.35**	**335**	↓Pn	**Pn**	**18 42 29.4**	**+1.4**
	8.2nm,0.6s						
ZAA0				↑Sn	**Sn**	**18 43 21.0**	**+1.8**
	14nm,0.5s						
ZAA0				↑Lg	Lg	18 43 37.8	
	43nm,0.6s						
ZALV	**Zalesovo Beam**	**4.35**	**335**		**Pn**	**18 42 29.7**	**+1.7**
ZALV				Sn	**Sn**	18 43 18.9	-0.2
ZALV	**Zalesovo Beam**	**4.35**	**335**	Pn	**Pn**	**18 42 29.6**	**+1.6**
	24nm,0.3s,baz=157,slow=13,SNR=390						
ZALV				Sn	**Sn**	**18 43 20.2**	**+1.1**
	31nm,0.3s,baz=150,slow=21,SNR=7.4						
ZALV				Lg	Lg	18 43 38.5	
	35nm,0.3s,baz=173,slow=29,SNR=6.6						
	81nm,0.4s						
BJR1	**Bachatsky 1, K**	**4.35**	**345**	Pn	**Pn**	**18 42 30.6**	**+2.5**
BJR1				Pg	**Pg**	18 42 42.8	-1.7
BJR1				Sg	**Sg**	18 43 41.0	+0.1
BJR2	**Bachatsky-2, K**	**4.38**	**346**	Pn	**Pn**	**18 42 31.6**	**+3.1**
BJR2				Pg	**Pg**	18 42 43.4	-1.6
BJR2				Sg	**Sg**	18 43 41.2	-0.6
POMOR	**Pomortsevo, Ku**	**4.45**	**350**	Pn	Pb	18 42 34.7	-5.1
POMOR				Pg	**Pg**	18 42 46.3	-0.1
POMOR				Sg	**Sg**	18 43 47.7	+3.7
MK31	**Makanchi Array**	**4.96**	**231**		**Pn**	**18 42 39.8**	**+3.3**
MK31	**Makanchi Array**	**4.96**	**231**	*c i*PN	**Pn**	**18 42 39.5**	**+3.1**
MK31	**Makanchi Array**	**4.96**	**231**	↑Pn	**Pn**	**18 42 39.6**	**+3.1**
	150nm,0.6s,baz=59,slow=13,SNR=2334						
MK31				↑Pg	**Pg**	**18 42 54.3**	**-1.8**
	32nm,0.4s,baz=0.0,slow=0.1,SNR=6.0						
MK31				↑Sn	**Sn**	**18 43 38.4**	**+4.1**
	96nm,0.6s,baz=56,slow=27,SNR=7.6						
MK31				↓Lg	Lg	18 43 58.5	
	121nm,0.5s,baz=53,slow=25,SNR=6.2						
MKAR	**Makanchi Array**	**4.96**	**231**	*e*PN	**Pn**	**18 42 39.7**	**+3.3**
MKAR				pmax	pmax		
	comp=Z,60nm,0.3s						
MKAR	**Makanchi Array**	**4.96**	**231**	Pn	**Pn**	**18 42 39.8**	**+3.3**
	comp=Z,94nm,0.3s,baz=63,slow=13,SNR=571						
MKAR				Sn	**Sn**	**18 43 37.4**	**+3.1**
	comp=Z,24nm,0.3s,baz=61,slow=9.9,SNR=8.5						
MKAR				Lg	Lg	18 43 56.2	
	comp=Z,20nm,0.3s,baz=50,slow=25,SNR=3.3						
MAKZ	**Makanchi**	**5.11**	**233**		**Pn**	**18 42 41.7**	**+3.2**
MAKZ	**Makanchi**	**5.11**	**233**	PN	**Pn**	**18 42 41.7**	**+3.2**
MAKZ	**Makanchi**	**5.11**	**233**	↓Pn	**Pn**	**18 42 41.2**	**+2.7**
	comp=Z,70nm,0.5s						
MAKZ				↑Pg	**Pg**	**18 42 56.8**	**-2.2**
	comp=Z,38nm,0.5s						
MAKZ				↑Sn	**Sn**	**18 43 41.5**	**+3.5**
	comp=Z,46nm,0.4s						
MAKZ				↑Lg	Lg	18 44 03.4	
	comp=Z,107nm,0.6s						
KHAR	**Kharino, NSO,**	**5.29**	**332**	Pn	**Pn**	**18 42 41.6**	**+0.7**
KHAR				Pg	**Pg**	18 43 00.7	-1.7
KHAR				Sg	**Sg**	18 44 12.5	+1.7
KEM	**Kemerovo**	**5.42**	**349**	Pn	**Pn**	**18 42 45.8**	**+3.1**
KEM				Pg	**Pg**	18 43 02.8	-2.1
KEM				Sg	**Sg**	18 44 12.9	-2.2
NVSII	**Novosibirsk**	**5.59**	**331**	Pn	**Pn**	**18 42 45.6**	**+0.6**
NVSII				Pg	**Pg**	18 43 06.4	-1.7
NVSII				Sg	**Sg**	18 44 22.4	+2.0
KURK	**Kurchatov**	**5.98**	**280**		**Pn**	**18 42 52.0**	**+1.6**
KURK	**Kurchatov**	**5.98**	**280**	*d i*PN	**Pn**	**18 42 51.9**	**+1.5**
KURK				pmax	pmax		
	comp=Z,93nm,1.0s						
KURK	**Kurchatov**	**5.98**	**280**	↑Pn	**Pn**	**18 42 51.8**	**+1.4**
	comp=Z,57nm,0.7s						
KURK				↑Sn	**Sn**	**18 44 00.4**	**+1.0**
	comp=Z,80nm,0.7s						
KURK				↓Lg	Lg	18 44 29.2	
	comp=Z,95nm,0.5s						
KURBB	**Kurchatov Arra**	**6.04**	**279**	PN	**Pn**	**18 42 52.7**	**+1.5**
KURBB				S	**Sn**	**18 44 02.3**	**+1.6**
KURBB	**Kurchatov Arra**	**6.04**	**279**	Pn	**Pn**	**18 42 53.0**	**+1.8**
	comp=Z,5.8nm,0.3s,baz=92,slow=14,SNR=392						
KURBB				Sn	**Sn**	**18 44 01.9**	**+1.2**
	comp=Z,3.8nm,0.3s,baz=78,slow=21,SNR=4.1						
KURBB				Lg	Lg	18 44 29.3	
	comp=Z,6.0nm,0.3s,baz=85,slow=32,SNR=7.3						
	comp=Z,46nm,0.5s						
KURBB	**Kurchatov Arra**	**6.04**	**279**	↓Pn	**Pn**	**18 42 52.7**	**+1.5**
	comp=Z,136nm,0.8s						
KURBB				↑Sn	**Sn**	**18 44 02.3**	**+1.6**
	comp=Z,146nm,0.5s						
KURBB				↑Lg	Lg	18 44 31.1	
	comp=Z,354nm,0.7s						
WMQ	**Urumqi**	**6.23**	**181**	*e*P	**Pn**	**18 42 56.3**	**+2.4**
WMQ				S	**Sn**	**18 44 06.8**	**+1.2**
WMQ				smax	smax		
	comp=Z,130nm,1.1s						
WMQ				smax	smax		
	comp=Z,200nm,1.1s						
WMQ				LR	LR		
	comp=Z,360nm,6.3s						
WMQ				LR	LR		
	comp=Z,140nm,8.1s						
MOY	**Mondy**	**8.44**	**74**	*e*P	Pn	18 43 29.0	+4.8
PDGK	**Podgornoye**	**8.86**	**224**	P	**Pn**	**18 43 30.0**	**-0.1**
PDGK	**Podgornoye**	**8.86**	**224**	↑Pn	**Pn**	**18 43 30.3**	**+0.1**
	comp=Z,13nm,0.5s						
PDGK				↓Sn	**Sn**	**18 45 15.7**	**+5.2**
	comp=Z,42nm,0.8s						
PDGK				↓Lg	Lg	18 46 07.4	
	comp=Z,72nm,1.1s						
PRZ	**Przheval'sk**	**10.02**	**225**		**Pn**	**18 43 45.1**	**-1.0**
PRZ	**Przheval'sk**	**10.02**	**225**	P	**Pn**	**18 43 45.1**	**-1.0**
MDOK	**Medeo**	**10.15**	**231**	P	**Pn**	**18 43 48.1**	**+0.3**
MDOK				S	**Sn**	**18 45 49.1**	**+6.9**
MDOK	**Medeo**	**10.15**	**231**	↓Pn	**Pn**	**18 43 48.1**	**+0.3**
	comp=Z,8.6nm,0.4s						
MDOK				↓Sn	**Sn**	**18 45 49.1**	**+6.9**
	comp=Z,19nm,0.6s						
MDOK				↑Lg	Lg	18 46 42.6	
	comp=Z,39nm,1.0s						
OTUK	**Ortayu**	**10.36**	**266**	P	**Pn**	**18 43 50.0**	**-0.6**
OTUK	**Ortayu**	**10.36**	**266**	↑Pn	**Pn**	**18 43 50.2**	**-0.4**
	comp=Z,12nm,0.5s						
OTUK				↑Sn	**Sn**	**18 45 53.0**	**+5.9**
	comp=Z,7.6nm,0.5s						
OTUK				↑Lg	Lg	18 46 48.6	
	comp=Z,54nm,1.2s						
TARG	**Taragay, Kyrgy**	**10.89**	**224**		**Pn**	**18 44 00.2**	**+2.1**
TARG	**Taragay, Kyrgy**	**10.89**	**224**	P	**Pn**	**18 44 00.2**	**+2.1**
BVA0	**Borovoye Array**	**11.31**	**292**	P	**Pn**	**18 44 02.9**	**-0.6**
BVA0				S	**Sn**	**18 46 10.9**	**+0.6**
BVA0	**Borovoye Array**	**11.31**	**292**	Pn	**Pn**	**18 44 02.9**	**-0.6**
	comp=Z,9.7nm,0.6s,baz=105,slow=14,SNR=122						
BVA0				↓Sn	**Sn**	**18 46 10.9**	**+0.6**
	comp=Z,9.2nm,0.5s,baz=113,slow=25,SNR=4.9						
BVAR	**Borovoye Array**	**11.31**	**292**	Pn	**Pn**	**18 44 03.0**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=104,slow=15,SNR=110						
BVAR				Sn	**Sn**	**18 46 05.7**	**-4.6**
	comp=Z,0.6nm,0.3s,baz=95,slow=21,SNR=8.8						
BVAR				Lg	Lg	18 47 13.4	
	baz=105,slow=32						
	comp=Z,15nm,0.4s						
BRVK	**Borovoye**	**11.38**	**292**		**Pn**	**18 44 02.9**	**-1.5**
BRVK	**Borovoye**	**11.38**	**292**	*de*P	**Pn**	**18 44 04.3**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BRVK	**Borovoye**	**11.38**	**292**	↓Pn	**Pn**	**18 44 04.3**	**-0.1**
	comp=Z,11nm,0.6s						
BRVK				↑Sn	**Sn**	**18 46 11.3**	**-0.6**
	comp=Z,10nm,0.6s						
USP	**Ospenovka**	**11.43**	**239**	P	**Pn**	**18 44 09.6**	**+4.4**
	SNR=14						
KBK	**Karagaybulak**	**11.60**	**235**	P	**Pn**	**18 44 10.8**	**+3.2**
	SNR=23						
FRU1	**Bishkek**	**11.67**	**237**	Pn	**Pn**	**18 44 05.2**	**-3.2**
FRU1	**Bishkek**	**11.67**	**237**	P	**Pn**	**18 44 05.2**	**-3.2**
KZA	**Kyzart**	**11.86**	**233**	P	**Pn**	**18 44 15.3**	**+4.0**
	SNR=7.5						
AAK	**Ala-Archa**	**11.86**	**236**	P	**Pn**	**18 44 12.8**	**+1.7**
	SNR=5.6						
AAK	**Ala-Archa**	**11.86**	**236**		**Pn**	**18 44 11.2**	**0.0**
AAK	**Ala-Archa**	**11.86**	**236**	*e*P	**Pn**	**18 44 12.5**	**+1.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AAK	**Ala-Archa**	**11.86**	**236**	Pn	**Pn**	**18 44 12.7**	**+1.5**
	comp=Z,1.7nm,0.3s,baz=86,slow=6.5,SNR=14						
AAK				Sn	**Sn**	**18 46 19.8**	**-4.1**
	comp=Z,0.4nm,0.3s,baz=138,slow=20,SNR=1.4						
AAK				Lg	Lg	18 47 32.2	
	comp=Z,0.4nm,0.3s,baz=15,slow=23,SNR=1.8						
	comp=Z,5.1nm,0.4s						

comp=Z,3.3nm,0.8s,baz=47,slow=6.5,SNR=9.0
comp=Z,3.3nm,0.8s
GYA0 ALIBECK ARRAY 24.45 252 P **P** 18 46 39.8 -1.2
GYA0B ALIBECK ARRAY 24.45 252 P **P** 18 46 39.8 -1.2
HRA Herat 24.45 240 **P** 18 46 40.3 -1.0
HRA IAmb IAmb 18 46 44.4
comp=Z,3.9nm,0.6s
HEH HeiHe 25.11 74 *eP* **P** 18 46 48.1 +1.3
HEH pmax pmax
comp=Z,8.0nm,0.6s
HEH pmax pmax
comp=Z,160nm,3.8s
BELG Belogornoye 25.12 291 *c iP* **P** 18 46 48.4 +1.6
BELG pmax pmax
comp=Z,6.0nm,1.2s
YAK Yakutsk 25.73 46 P **P** 18 46 52.1 -0.2
PZH PanZhiHua 25.81 151 P **P** 18 46 55.8 +2.3
PZH pmax pmax
comp=Z,9.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.1s
TIXI Tiksi 28.44 26↑ *eP* **P** 18 47 18.0 +1.4
TIXI pmax pmax
comp=Z,5.0nm,1.0s
USA0B Ussuriysk Arra 30.21 84 P P 18 47 37.7 +5.2
USA0B IAmb IAmb 18 48 14.8
comp=Z,6.2nm,0.9s
USA0B Ussuriysk Arra 30.21 84 P P 18 47 37.7 +5.2
USA0B pmax pmax
comp=Z,6.0nm,0.9s
USRK Ussuriysk Ar. 30.21 84 P **P** 18 47 32.8 +0.3
comp=Z,2.5nm,0.7s,baz=108,slow=6.2,SNR=4.5
comp=Z,2.5nm,0.7s
KBZ Khabaz 31.02 276↑ *eP* **P** 18 47 40.8 +1.1
KBZ pmax pmax
comp=Z,1.0nm,0.9s
KBZ Khabaz 31.02 276 P **P** 18 47 41.1 +1.4
comp=Z,1.2nm,0.8s,baz=45,slow=17,SNR=1.7
comp=Z,1.2nm,0.8s
KIV Kislovodsk 31.05 276 *eP* **P** 18 47 42.0 +1.9
KIV pmax pmax
comp=Z,5.0nm,1.0s
KSRS Korea Array 31.14 98 *eP* **P** 18 47 42.0 +1.2
KSRS pmax pmax
comp=Z,2.0nm,0.6s
KSRS Korea Array 31.14 98 P **P** 18 47 39.7 -1.1
comp=Z,1.3nm,0.6s,baz=299,slow=7.3,SNR=6.0
KSRS LR LR 19 01 16.9
comp=Z,36nm,19.1s,baz=350,slow=39
comp=Z,1.3nm,0.6s
CMAR Chiang Mai Arr 32.73 160 *eP* **P** 18 47 55.9 +1.0
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 32.73 160 P **P** 18 47 55.2 +0.3
comp=Z,0.9nm,0.7s,baz=340,slow=8.5,SNR=8.6
comp=Z,0.9nm,0.7s
ARCES ARCESS Array B 34.85 327 P **P** 18 48 12.7 -0.2
comp=Z,6.3nm,1.2s,baz=78,slow=8.6,SNR=1.8
comp=Z,6.3nm,1.2s
FINES FINESS Array B 35.25 313 *eP* **P** 18 48 20.3 +3.9
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 35.25 313 P **P** 18 48 16.1 -0.3
comp=Z,4.0nm,1.0s,baz=60,slow=8.2,SNR=2.6
FINES PcP **PcP** 18 50 46.4 -0.5
comp=Z,1.6nm,0.6s,baz=117,slow=6.6,SNR=6.0
comp=Z,4.0nm,1.0s
NACGM Naroch 36.50 302 *eP* P 18 48 22.2 -5.0
comp=Z,32nm,0.9s,baz=71
AKASG Malin Array Be 36.58 294 P **P** 18 48 27.9 0.0
AKASG Malin Array Be 36.58 294 P **P** 18 48 28.1 +0.2
comp=Z,1.1nm,0.5s,baz=62,slow=9.1,SNR=15
comp=Z,1.1nm,0.5s
AKBB Malin Array Si 36.58 294 P **P** 18 48 27.1 -0.8
AKBB IAmb IAmb 18 48 30.3
comp=Z,4.7nm,1.0s
AKBB Malin Array Si 36.58 294↑ *eP* **P** 18 48 29.1 +1.2
KIEV Kiev 36.59 294 P **P** 18 48 27.1 -0.9
KIEV IAmb IAmb 18 48 29.0
comp=Z,8.9nm,1.4s
KIEV Kiev 36.59 294 P **P** 18 48 27.1 -0.9
KIEV pmax pmax
comp=Z,9.0nm,1.4s
BR131 Keskin Array S 39.02 276 **P** 18 48 48.9 +0.1
BR131 IAmb IAmb 18 48 50.5
comp=Z,5.2nm,0.6s
BR131 Keskin Array S 39.02 276 *d iP* **P** 18 48 49.7 +0.8
BRTR Keskin Array B 39.02 276 **P** 18 48 49.3 +0.4
BRTR Keskin Array B 39.02 276 P **P** 18 48 49.9 +1.0
comp=Z,4.6nm,0.7s,baz=64,slow=5.1,SNR=23
comp=Z,4.6nm,0.7s
BUR08 Bucovina Ar. S 40.27 292 **P** 18 48 59.9 +0.7
BUR08 IAmb IAmb 18 49 03.1
comp=Z,4.0nm,0.8s
BURAR Bucovina Array 40.27 292 P **P** 18 48 58.9 -0.3
KOLS Kolonicke sedl 41.41 295 *eP* **P** 18 49 12.6 +4.2
KOLS Kolonicke sedl 41.41 295 *eP* **P** 18 49 12.6 +4.2
HFS Hagfors 41.45 313 P **P** 18 49 09.0 +0.4
HFS Hagfors 41.45 313 P **P** 18 49 09.0 +0.4
comp=Z,3.7nm,0.8s,baz=86,slow=9.1,SNR=5.5
comp=Z,3.7nm,0.8s
PETK Petropavlovsk- 41.91 58 P **P** 18 49 10.7 -1.7
comp=Z,2.8nm,0.9s,baz=289,slow=4.4,SNR=1.4
comp=Z,2.8nm,0.9s
NC405 NORSAR Array S 42.02 315 P **P** 18 49 13.8 +0.6
NC405 IAmb IAmb 18 49 30.6
comp=Z,12nm,1.2s
NC602 NORSAR Array S 42.23 315 P **P** 18 49 14.8 -0.1
NB2 NORSAR Subarra 42.27 315 P **P** 18 49 14.7 -0.6
comp=Z,3.0nm,1.0s,baz=69,slow=8.6
NOA NORSAR Array B 42.27 315 *eP* **P** 18 49 15.5 +0.2
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 42.27 315 P **P** 18 49 14.8 -0.6
comp=Z,0.8nm,0.7s,baz=64,slow=7.7,SNR=8.9
comp=Z,0.8nm,0.7s
NC204 NORSAR Array S 42.39 316 P **P** 18 49 17.0 +0.6
VYHS Vyhne 43.62 296 *eP* **P** 18 49 28.0 +1.6
VYHS Vyhne 43.62 296 *eP* **P** 18 49 28.0 +1.6
CLL Collm 45.54 302 *i* P **P** 18 49 42.0 +0.4
CLL Collm 45.54 302 *i* P **P** 18 49 42.0 +0.4
FUORN Ofenpass-Fuorn 49.54 298 P **P** 18 50 11.8 -1.3
FUORN IAmb IAmb 18 50 14.6
comp=Z,2.1nm,0.7s
FDMO Fiordimonte 49.94 292 P **P** 18 50 16.3 +0.4
FDMO IAmb IAmb 18 50 35.1
comp=Z,3.2nm,0.9s
NRCA Norcia 50.04 292 P **P** 18 50 17.1 +0.2
NRCA IAmb IAmb 18 50 24.7
comp=Z,4.2nm,1.2s
EKA Eskdalemuir Ar 51.65 313 P **P** 18 50 28.6 0.0
comp=Z,0.8nm,0.4s,baz=67,slow=6.8,SNR=9.1
comp=Z,0.8nm,0.4s
B22K Teshekpuk Lake 52.08 22 P **P** 18 50 32.0 +0.4
D19K Kuna River 52.12 25 P **P** 18 50 30.6 -1.4
D19K IAmb IAmb 18 50 51.7
comp=Z,7.3nm,1.4s
B21K Ikpikpuk River 52.28 23 IAmb IAmb 18 50 38.3
comp=Z,4.4nm,0.7s
F17K Baldwin Pennin 52.57 28 P **P** 18 50 36.3 +1.0
E22K Anaktuvuk Pass 54.05 24 P **P** 18 50 46.3 0.0
E22K IAmb IAmb 18 51 05.9
comp=Z,5.5nm,1.5s
H18K Honhosa River 54.32 28 P **P** 18 50 47.8 -0.4
IMAR Indian Mountai 55.09 26 P **P** 18 50 53.7 -0.1
J18K Innoko River 56.02 29 P **P** 18 51 01.4 +0.9
K17K Iditarod 56.04 31 P **P** 18 51 01.7 +1.1
K17K IAmb IAmb 18 51 09.1
comp=Z,4.4nm,0.8s
BMAR Burnt Mountain 56.38 22 P **P** 18 51 04.0 +0.9
E29M Blow River 57.07 18 P **P** 18 51 08.6 +0.7
CAST Castle Rocks 57.48 28 P **P** 18 51 11.6 +0.7
ILAR Eielson Array 57.90 24 *eP* **P** 18 51 14.0 +0.2
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR Eielson Array 57.90 24 P **P** 18 51 13.0 -0.8
comp=Z,1.0nm,0.6s,baz=322,slow=5.9,SNR=20
comp=Z,1.0nm,0.6s
ESDC Sonseca Array 61.98 299 P **P** 18 51 41.6 -0.6
ESDC Sonseca Array 61.98 299 P **P** 18 51 42.3 0.0
comp=Z,1.5nm,0.6s,baz=44,slow=6.4,SNR=30
comp=Z,1.5nm,0.6s
YKA Yellowknife Ar 66.39 11 P **P** 18 52 09.4 -1.3
YKA Yellowknife Ar 66.39 11 P **P** 18 52 10.3 -0.5
comp=Z,0.6nm,0.6s,baz=339,slow=7.0,SNR=11
comp=Z,0.6nm,0.6s

KMBO Kilima Mbogo 66.81 237 LR LR 19 23 30.9
comp=Z,130nm,21.7s,baz=286,slow=38
SCHQ Schefferville 73.37 345 P **P** 18 52 53.0 -0.9
comp=Z,1.4nm,0.4s,baz=304,slow=3.1,SNR=9.1
comp=Z,1.4nm,0.4s
FITZ Fitzroy Crossi 75.58 143 P **P** 18 53 05.0 -2.0
TORD Torodi Ar. Bea 77.63 276 P **P** 18 53 16.2 -2.7
TORD IAmb IAmb 18 53 21.5
comp=Z,1.6nm,0.8s
TORD Torodi Ar. Bea 77.63 276 P **P** 18 53 18.4 -0.4
comp=Z,1.8nm,0.7s,baz=30,slow=4.7,SNR=14
comp=Z,1.8nm,0.7s
ULM Lac du Bonnet 80.03 2 P **P** 18 53 30.6 -0.9
comp=Z,1.9nm,0.7s,baz=348,slow=14,SNR=3.4
comp=Z,1.9nm,0.7s
WB0 Warramunga Arr 80.73 136 P P 18 53 30.7 -4.8
WRA Warramunga Arr 80.86 136 P **P** 18 53 35.5 -0.8
comp=Z,2.1nm,0.7s,baz=341,slow=5.8,SNR=18
comp=Z,2.1nm,0.7s
ASAR Alice Springs 83.94 138 P **P** 18 53 51.5 -0.8
comp=Z,1.9nm,0.6s,baz=334,slow=5.3,SNR=36
comp=Z,1.9nm,0.6s
PDAR Pinedale Array 86.31 13 P **P** 18 54 03.8 -0.6
comp=Z,0.6nm,0.5s,baz=32,slow=2.3,SNR=11
comp=Z,0.6nm,0.5s
DBIC Dimbokro 86.72 276 P **P** 18 54 06.2 -0.3
comp=Z,2.2nm,0.8s,baz=67,slow=5.9,SNR=3.8
comp=Z,2.2nm,0.8s
CTA Charters Tower 86.73 127 P **P** 18 54 06.8 +0.5
comp=Z,2.0nm,0.9s,baz=297,slow=2.3,SNR=1.9
comp=Z,2.0nm,0.9s
NVAR Mina Array Bea 88.92 20 P **P** 18 54 17.2 +0.2
comp=Z,0.5nm,0.7s,baz=340,slow=3.0,SNR=6.1
comp=Z,0.5nm,0.7s
STKA Stephens Creek 94.41 137 P **P** 18 54 40.6 -1.3
comp=Z,1.5nm,0.6s,baz=352,slow=2.5,SNR=5.0
comp=Z,1.5nm,0.6s
BOSA Boshof 95.96 232 P **P** 18 54 49.5 +0.3
comp=Z,2.2nm,0.9s,baz=66,slow=12,SNR=2.3
comp=Z,2.2nm,0.9s
CPUP Villa Florida 144.35 299 PKPdf **PKPab** 19 00 55.5 -0.9
CPUP Villa Florida 144.35 299 PKP **PKPab** 19 00 56.1 -0.3
comp=Z,7.2nm,0.7s,baz=47,slow=3.8,SNR=24
BELA Belgrano 2 145.13 198 PKPbc **PKPbc** 19 00 56.9 -0.9

IDC 24 18:42:37.3±4.5, 5.76°S×147.74°E, h189km±48km, mb2.8/2, mbtmp3.4/4, Error ellipse: s-maj=91.4km s-min=30.4km az=130.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.66**	**189**	P		18 43 35.8	+1.3
	9.1nm,0.3s,baz=22,slow=9.2,SNR=29						
PMG				S	Sn	18 44 19.5	+0.1
	13nm,0.4s,baz=201,slow=23,SNR=12						
WRA	**Warramunga Arr**	**19.19**	**222**	P	P	18 46 46.4	-0.5
	0.9nm,0.7s,baz=48,slow=12,SNR=19						
ASAR	**Alice Springs**	**22.23**	**215**	P	P	18 47 19.1	+0.4
	0.7nm,0.6s,baz=51,slow=8.8,SNR=31						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**84.98**	**23**	P	P	18 54 50.6	-0.3
	0.2nm,0.7s,baz=246,slow=6.8,SNR=1.6						
	0.2nm,0.7s						

IDC 24 18:52:32.0±1.8, 53.18°S×21.05°E, h0km, mb3.7/3, mbtmp3.8/3, MS3.4/1, Error ellipse: s-maj=57.4km s-min=43.0km az=92.0, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H04S2	**CROZET ISLANDS**	**20.70**	**85**	T	T	19 17 46.4	
	baz=240						
H04S3	**CROZET ISLANDS**	**20.70**	**85**	T	T	19 17 44.8	
	baz=240						
H04S1	**CROZET ISLANDS**	**20.71**	**85**	T	T	19 17 54.7	
	baz=240						
SNAA	**Sanae**	**21.30**	**201**	P	P	18 57 21.0	+1.2
	2.5nm,0.9s,baz=28,slow=13,SNR=6.7						
	2.5nm,0.9s						
QSPA	**South Pole Qui**	**37.05**	**180**	P	P	18 59 42.4	-0.9
	1.3nm,0.7s,baz=266,slow=6.2,SNR=8.2						
QSPA				LR	LR	19 13 30.9	
	comp=Z,52nm,19.1s,baz=234,slow=34						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**84.01**	**122**	P	P	19 05 04.8	+0.5
	0.7nm,1.0s,baz=202,slow=7.0,SNR=4.2						
	0.7nm,1.0s						
PDAR	**Pinedale Array**	**145.97**	**273**	PKPbc	PKPdf	19 12 11.7	-0.6
	0.2nm,0.6s,baz=121,slow=4.3,SNR=2.9						
NVAR	**Mina Array Bea**	**148.54**	**259**	PKPbc	PKPbc	19 12 20.0	-0.4
	0.2nm,0.5s,baz=160,slow=2.9,SNR=3.5						

*PGC **24** 19:15:03.9±0.2, 60.23N×143.22W, h0km, ML3.4, ML3.5/24, 197km Ese of Valdez, Ak Southern Alaska*
*NEIC **24** 19:15:04.5±1.9, 60.25N±0.04×143.08W±0.08, h10km±6km, Error ellipse: s-maj=6.0km s-min=5.9km az=145.0, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr1.38; Mθθ0.44; Mϕϕ -1.82; Mrθ-0.28; Mθϕ-4.22; Mϕr1.31; Fault plane solution: M0 4.72000×10^14^ NP1: ϕs261.24000°, δ69.40000°, λ170.03000°. NP2: ϕs354.78000°, δ80.67000°, λ20.89000°. Principal axes: T 4.0797, Plg21.0000°, Azm220.0000°; N 1.0940, Plg67.0000°, Azm18.0000°; P -5.1738, Plg8.0000°, Azm127.0000°;*
*AEIC **24** 19:15:04.6±1.9, 60.30N±0.04×143.10W±0.04, h7km±6km, ML3.4, ML3.5/167(NEIC), Mwr3.7/42(NEIC) Error ellipse: s-maj=6.3km s-min=2.5km az=162.0*
*NEIC **24** 19:15:04.6, 60.30N×143.15W, h9km*
*IDC **24** 19:15:07.1±2.7, 60.16N×142.84W, h30km±21km, mb3.5/6, mbtmp3.6/11, ML3.3/5, Error ellipse: s-maj=19.9km s-min=10.5km az=29.0*

ISC 24 19:15:04.3±0.8, 60.27N±0.02×143.08W±0.02, h8km±6km, n304, σ1°04/334, mb3.8/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRIN	**Grindle Hills**	**0.12**	**273**		**Pg**	**19 15 06.5**	**-0.6**
GRIN					**Sg**	**19 15 08.8**	**-0.1**
SNH	**Sunshine Point**	**0.15**	**128**		**Pg**	**19 15 07.8**	**+0.3**
SNH				IAML		19 15 13.0	
	comp=N,16μm,0.7s						
SNH				IAML		19 15 13.9	
	comp=E,12μm,0.8s						
KHIT	**Khitrov Hills**	**0.19**	**333**		**Pg**	**19 15 07.9**	**-0.3**
KHIT					**Sg**	**19 15 11.0**	**0.0**
WAX	**Waxell Ridge**	**0.21**	**32**		**Pg**	**19 15 08.7**	**+0.2**
WAX					**Sg**	**19 15 12.9**	**+1.4**
WAX	**Waxell Ridge**	**0.21**	**32**	IAML		19 15 14.2	
	comp=E,20μm,0.5s						
WAX				IAML		19 15 14.5	
	comp=N,33μm,0.6s						
BARK	**Barkley Ridge**	**0.32**	**66**		**Pg**	**19 15 11.2**	**+0.6**
BERG	**Berg Lake**	**0.33**	**291**		**Pg**	**19 15 10.7**	**-0.2**
CYK	**Cape Yakataga**	**0.35**	**123**		**Pb**	**19 15 12.7**	**-0.1**
SUCK	**Suckling Hills**	**0.40**	**240**		**Pb**	**19 15 14.5**	**+0.8**
SUCK	**Suckling Hills**	**0.40**	**240**	IAML		19 15 26.0	
	comp=E,7μm,0.6s						
SUCK				IAML		19 15 26.4	
	comp=N,5μm,0.6s						
NICHA	**Nichawak Mount**	**0.45**	**266**		**Pg**	**19 15 13.8**	**+0.8**
CRQE	**Cirque**	**0.48**	**359**	P	**Pg**	**19 15 13.2**	**-0.5**
	baz=180						
CRQE				S	**Sg**	**19 15 20.2**	**+0.3**
	baz=180						
CRQM	**Cirque**	**0.48**	**356**		**Pg**	**19 15 13.2**	**-0.6**
CRQM	**Cirque**	**0.48**	**356**		**Sg**	**19 15 20.2**	**+0.1**
ISLE	**Juniper Island**	**0.49**	**48**		**Pg**	**19 15 13.9**	**+0.1**
ISLE	**Juniper Island**	**0.49**	**48**	IAML		19 15 25.9	
	comp=N,3μm,0.8s						
TGL	**Tana Glacier**	**0.50**	**14**		**Pg**	**19 15 13.6**	**-0.4**
BAGL	**Bagley Icefiel**	**0.54**	**66**		**Pg**	**19 15 15.1**	**+0.4**
MESA	**MESA**	**0.57**	**99**		**Pb**	**19 15 16.5**	**-0.1**
MESA	**MESA**	**0.57**	**99**	IAML		19 15 34.6	
	comp=E,3μm,0.8s						
MESA	**MESA**	**0.57**	**99**	P	**Pb**	**19 15 16.5**	**-0.1**
	baz=282						
MESA	**MESA**	**0.57**	**99**	P	**Pg**	**19 15 16.0**	**+0.6**
MESA				S	**Sg**	**19 15 24.1**	**+1.3**
HMT	**Hamilton**	**0.59**	**277**		**Pg**	**19 15 16.4**	**+0.6**
KIAG	**Kiagna River**	**0.74**	**28**		**Pg**	**19 15 18.1**	**-0.5**
KIAG					**Sg**	**19 15 29.4**	**+1.1**
KIAG	**Kiagna River**	**0.74**	**28**	P	**Pg**	**19 15 18.1**	**-0.5**
KIAG				S	**Sg**	**19 15 29.1**	**+0.8**
KAIM	**Kayak Island**	**0.76**	**243**	Pg	**Pb**	**19 15 19.7**	**0.0**
KAIM	**Kayak Island**	**0.76**	**243**	P	**Pb**	**19 15 19.7**	**0.0**
	baz=60						
GRNC	**Granite Creek**	**0.80**	**54**		**Pg**	**19 15 19.3**	**-0.4**
GRNC				IAML		19 15 33.5	
	comp=N,2μm,0.8s						
GRNC	**Granite Creek**	**0.80**	**54**	P	**Pg**	**19 15 19.4**	**-0.4**
RAGM	**Ragged Mountai**	**0.80**	**279**		**Pg**	**19 15 20.2**	**+0.5**
PTPK	**Patty Peak**	**0.96**	**18**		**Pg**	**19 15 22.2**	**-0.7**
PTPK					**Sg**	**19 15 36.2**	**+0.8**
PTPK	**Patty Peak**	**0.96**	**18**	P	**Pg**	**19 15 22.1**	**-0.7**
VRDI	**Verde Repeater**	**0.97**	**349**		**Pg**	**19 15 22.2**	**-0.8**
VRDI				IAML		19 15 37.4	
	comp=E,1μm,0.7s						
TABL	**Table Mountain**	**0.98**	**79**		**Pg**	**19 15 23.1**	**0.0**
TABL	**Table Mountain**	**0.98**	**79**	IAML		19 15 39.9	
	comp=N,1μm,0.8s						
TABL				IAML		19 15 40.0	
	comp=E,938nm,0.6s						
TABL	**Table Mountain**	**0.98**	**79**	P	**Pg**	**19 15 22.9**	**-0.2**
TABL				S	**Sg**	**19 15 36.3**	**+0.6**
BMRM	**Bremner River**	**1.03**	**313**		**Pg**	**19 15 22.4**	**-1.6**
BMRM					**Sg**	**19 15 37.7**	**+0.4**
BMRM	**Bremner River**	**1.03**	**313**	P	**Pg**	**19 15 22.8**	**-1.2**
	baz=132						
BMRM				S	**Sg**	**19 15 37.7**	**+0.4**
	baz=132						
BARN	**Barnard Glacie**	**1.05**	**41**		**Pg**	**19 15 23.5**	**-1.0**
BARN				IAML		19 15 43.1	
	comp=E,959nm,0.7s						
CTG	**Chitna Glacier**	**1.10**	**50**	P	**Pb**	**19 15 24.6**	**-1.0**
	baz=233						
CTG				S	**Sb**	**19 15 40.9**	**+0.7**
	baz=233						
CTGM	**Chitina Glacie**	**1.10**	**50**		**Pb**	**19 15 24.5**	**-1.2**
CTGM					**Sb**	**19 15 40.9**	**+0.6**
CTGM	**Chitina Glacie**	**1.10**	**50**	IAML		19 15 44.0	
	comp=N,964nm,1.2s						
CTGM	**Chitina Glacie**	**1.10**	**50**	P	**Pb**	**19 15 24.5**	**-1.2**
CTGM				S	**Sg**	**19 15 40.7**	**+0.9**
SAMH	**Samovar Hills**	**1.16**	**96**	P	**Pb**	**19 15 26.6**	**+0.1**
SAMH				S	**Sn**	**19 15 42.3**	**-0.5**
LOGN	**Logan Glacier**	**1.16**	**61**		**Pb**	**19 15 25.7**	**-1.1**
LOGN	**Logan Glacier**	**1.16**	**61**	IAML		19 15 45.1	
	comp=N,945nm,1.0s						
LOGN				IAML		19 15 47.2	
	comp=E,681nm,0.7s						
LOGN	**Logan Glacier**	**1.16**	**61**	P	**Pb**	**19 15 25.8**	**-0.9**
LOGN				S	**Sg**	**19 15 42.6**	**+0.9**
GLB	**Gilahina Butte**	**1.23**	**343**		**Sb**	**19 15 43.9**	**+0.2**
GLB	**Gilahina Butte**	**1.23**	**343**		**Pn**	**19 15 25.9**	**-1.9**
GLB	**Gilahina Butte**	**1.23**	**343**	IAML		19 15 44.3	
	comp=E,881nm,0.6s						
GLB				IAML		19 15 48.5	
	comp=N,964nm,0.3s						
EYAK	**Cordova Ski Ar**	**1.35**	**283**	P	**Pn**	**19 15 29.1**	**-0.3**
EYAK	**Cordova Ski Ar**	**1.35**	**283**	P	**Pn**	**19 15 28.7**	**-0.8**
	baz=100						
PCA	**Pinnacle**	**1.42**	**96**	P	**Pn**	**19 15 30.4**	**0.0**
PCA				S	**Sg**	**19 15 50.2**	**+0.3**
PINM	**Pinnacle**	**1.42**	**96**	P	**Pn**	**19 15 30.5**	**0.0**
	baz=279						
N25K	**Chitina, Valde**	**1.53**	**332**		**Pn**	**19 15 31.4**	**-0.5**
N25K				IAML		19 15 55.9	
	comp=N,857nm,0.7s						
N25K	**Chitina, Valde**	**1.53**	**332**	P	**Pn**	**19 15 31.1**	**-0.8**
	baz=150						
DIV	**Divide**	**1.58**	**304**	Pn	**Pn**	**19 15 32.0**	**-0.6**
HIN	**Hinchinbrook I**	**1.71**	**276**		**Pn**	**19 15 33.3**	**-1.0**
FID	**Port Fidalgo**	**1.75**	**287**		**Pn**	**19 15 34.6**	**-0.3**
FID				IAML		19 16 02.6	
	comp=N,616nm,0.6s						
FID				IAML		19 16 04.3	
	comp=E,577nm,0.5s						
BCPM	**Bancas Point**	**1.75**	**99**		**Pn**	**19 15 35.2**	**+0.3**
WACK	**Wrangell Chich**	**1.82**	**341**		**Pn**	**19 15 36.4**	**+0.3**
KLU	**Klutina**	**1.85**	**313**		**Pn**	**19 15 36.3**	**0.0**
KLU	**Klutina**	**1.85**	**313**	P	**Pn**	**19 15 36.3**	**0.0**
	baz=130						
MID	**Middleton Isla**	**1.85**	**244**	Pn	**Pn**	**19 15 35.4**	**-0.9**
MID				IAML		19 16 08.3	
	comp=E,675nm,2.6s						
MID				IAML		19 16 11.3	
	comp=N,439nm,1.2s						
MID	**Middleton Isla**	**1.85**	**244**	P	**Pn**	**19 15 35.7**	**-0.6**
Q23K	**Middleton Isla**	**1.86**	**244**	Pn	**Pn**	**19 15 34.7**	**-1.6**
Q23K				IAML		19 16 16.3	
	comp=N,496nm,1.1s						
Q23K	**Middleton Isla**	**1.86**	**244**	P	**Pn**	**19 15 34.7**	**-1.6**
	baz=61						
YUK2	**White River**	**1.87**	**35**		**Pn**	**19 15 37.4**	**+0.8**
YUK2	**White River**	**1.87**	**35**	Pn	**Pn**	**19 15 37.7**	**+1.1**
YUK2				Sn	**Sn**	**19 16 01.3**	**+0.9**
WAZA	**Wrangell Mount**	**1.88**	**344**		**Pn**	**19 15 37.7**	**+0.7**
YUK8	**Steele Glacier**	**1.92**	**57**		**Pb**	**19 15 38.8**	**-0.7**
YUK8	**Steele Glacier**	**1.92**	**57**	P	**Pb**	**19 15 38.8**	**-0.7**
	baz=240						
YUK8	**Steele Glacier**	**1.92**	**57**	Pn	**Pn**	**19 15 38.7**	**+1.3**
YUK8				Sn	**Sb**	**19 16 04.6**	**+0.9**
PNL	**Peninsula**	**1.95**	**107**	P	**Pn**	**19 15 37.7**	**0.0**
PNL	**Peninsula**	**1.95**	**107**	P	**Pn**	**19 15 37.5**	**-0.1**
	baz=290						
PNL	**Peninsula**	**1.95**	**107**	Pn	**Pn**	**19 15 37.6**	**0.0**
PNL				Sn	**Sb**	**19 16 03.7**	**-0.7**
YUK3	**Moose Creek**	**1.97**	**39**		**Pn**	**19 15 39.4**	**+1.2**
YUK3	**Moose Creek**	**1.97**	**39**	P	**Pn**	**19 15 39.3**	**+1.2**
	baz=222						
YUK3	**Moose Creek**	**1.97**	**39**	Pn	**Pn**	**19 15 39.2**	**+1.0**
YUK3				Sn	**Sb**	**19 16 05.8**	**+0.5**
YUK3				Sg	**Sg**	**19 16 08.8**	**+1.2**
GLI	**Glacier Island**	**2.08**	**289**		**Pn**	**19 15 38.1**	**-1.2**
GLI				IAML		19 16 18.3	
	comp=E,324nm,0.6s						
GLI	**Glacier Island**	**2.08**	**289**	P	**Pn**	**19 15 38.2**	**-1.2**
	baz=105						
M26K	**Nabesna, AK**	**2.13**	**1**		**Pn**	**19 15 41.5**	**+1.3**
M26K	**Nabesna, AK**	**2.13**	**1**	P	**Pn**	**19 15 41.5**	**+1.3**
	baz=181						
M27K	**Edge Creek, AK**	**2.17**	**15**		**Pn**	**19 15 42.3**	**+1.5**
M27K	**Edge Creek, AK**	**2.17**	**15**	IAML		19 16 19.9	
	comp=N,219nm,0.8s						
M27K	**Edge Creek, AK**	**2.17**	**15**	P	**Pn**	**19 15 42.2**	**+1.4**
	baz=196						
M27K	**Edge Creek, AK**	**2.17**	**15**	Pn	**Pn**	**19 15 41.5**	**+0.7**
M27K				Sg	**Sb**	**19 16 13.1**	**+2.2**
P23K	**Montague Islan**	**2.18**	**265**		**Pn**	**19 15 39.8**	**-1.0**
P23K	**Montague Islan**	**2.18**	**265**	P	**Pn**	**19 15 39.8**	**-1.0**
	baz=80						
O29M	**Mount Kennedy**	**2.24**	**87**	IAML		19 16 16.9	
	comp=E,409nm,0.7s						
O29M				IAML		19 16 24.6	
	comp=N,324nm,1.0s						
O29M	**Mount Kennedy**	**2.24**	**87**	P	**Pn**	**19 15 42.6**	**+0.9**
	baz=272						
O29M	**Mount Kennedy**	**2.24**	**87**	Pn	**Pn**	**19 15 42.6**	**+0.9**
O29M				Sn	**Sb**	**19 16 11.7**	**-1.3**
HARP	**HAARP**	**2.36**	**336**		**Pn**	**19 15 44.5**	**+1.2**
HARP	**HAARP**	**2.36**	**336**	P	**Pn**	**19 15 44.5**	**+1.2**
	baz=154						
M24K	**Tolsona, Glenn**	**2.37**	**322**		**Pn**	**19 15 45.0**	**+1.5**
M24K	**Tolsona, Glenn**	**2.37**	**322**	P	**Pn**	**19 15 44.8**	**+1.3**
	baz=139						
BVCY	**Beaver Creek**	**2.40**	**25**		**Pn**	**19 15 45.4**	**+1.5**
BVCY	**Beaver Creek**	**2.40**	**25**	P	**Pn**	**19 15 45.2**	**+1.4**
	baz=208						
BVCY	**Beaver Creek**	**2.40**	**25**	Pn	**Pn**	**19 15 45.6**	**+1.8**
BVCY				Sn	**Sn**	**19 16 15.5**	**+2.1**
YUK6	**Outpost Mounta**	**2.42**	**72**	P	**Pn**	**19 15 45.7**	**+1.4**
	baz=256						
YUK6	**Outpost Mounta**	**2.42**	**72**	Pn	**Pn**	**19 15 45.8**	**+1.4**
YUK6				Sn	**Sn**	**19 16 15.9**	**+1.7**
YUK4

MENT				IAML			19 16 39.4	
	comp=E,216nm,0.8s							
YUK5	**Granite Creek**	**2.71**	**69**	Pn	**Pn**		**19 15 49.7**	**+1.5**
YUK5				Sn	**Sn**		**19 16 21.8**	**+0.7**
P29M	**Windy Craggy**	**2.76**	**101**		**Pn**		**19 15 49.2**	**+0.3**
P29M	**Windy Craggy**	**2.76**	**101**	IAML			19 16 31.1	
	comp=E,228nm,0.4s							
P29M				IAML			19 16 32.6	
	comp=N,204nm,0.6s							
P29M	**Windy Craggy**	**2.76**	**101**	P	**Pn**		**19 15 49.2**	**+0.3**
	baz=286							
P29M	**Windy Craggy**	**2.76**	**101**	Pn	**Pn**		**19 15 49.1**	**+0.3**
P29M				Sn	**Sn**		**19 16 23.6**	**+1.2**
L26K	**Log Cabin Wild**	**2.76**	**357**		**Pn**		**19 15 51.0**	**+2.1**
HYT	**Haines Junctio**	**2.81**	**76**		**Pn**		**19 15 50.5**	**+1.0**
HYT				IAML			19 16 45.3	
	comp=E,120nm,1.6s							
HYT	**Haines Junctio**	**2.81**	**76**	P	**Pn**		**19 15 50.8**	**+1.2**
	baz=262							
HYT	**Haines Junctio**	**2.81**	**76**	Pn	**Pn**		**19 15 50.5**	**+1.0**
HYT				Sn	**Sn**		**19 16 25.3**	**+1.7**
L27K	**Beaver Creek,**	**2.86**	**11**		**Pn**		**19 15 50.4**	**+0.2**
L27K	**Beaver Creek,**	**2.86**	**11**	Pn	**Pn**		**19 15 51.0**	**+0.9**
L27K				Sn	**Sn**		**19 16 26.1**	**+1.3**
BCAR	**Beaver Creek A**	**2.87**	**12**		**Pn**		**19 15 50.9**	**+0.6**
KNK	**Knik Glacier**	**2.87**	**296**		**Pn**		**19 15 49.8**	**-0.5**
KNK				IAML			19 16 45.5	
	comp=N,228nm,0.6s							
KNK	**Knik Glacier**	**2.87**	**296**	P	**Pn**		**19 15 50.7**	**+0.4**
	baz=111							
PAX	**Paxson**	**2.94**	**338**		**Pn**		**19 15 52.1**	**+0.9**
PAX	**Paxson**	**2.94**	**338**	P	**Pn**		**19 15 52.2**	**+0.9**
	baz=156							
SML	**Sawmill**	**2.98**	**303**		**Pn**		**19 15 50.7**	**-1.2**
SML				IAML			19 16 48.2	
	comp=E,182nm,0.8s							
SML				IAML			19 16 50.2	
	comp=N,208nm,1.7s							
SML	**Sawmill**	**2.98**	**303**	P	**Pn**		**19 15 51.6**	**-0.3**
	baz=118							
P30M	**Million Dollar**	**3.06**	**90**		**Pn**		**19 15 53.8**	**+0.9**
P30M	**Million Dollar**	**3.06**	**90**	P	**Pn**		**19 15 53.8**	**+0.9**
	baz=276							
P30M	**Million Dollar**	**3.06**	**90**	Pn	**Pn**		**19 15 53.5**	**+0.6**
M29M	**Somme Creek**	**3.11**	**44**		**Pn**		**19 15 54.4**	**+0.7**
M29M	**Somme Creek**	**3.11**	**44**	P	**Pn**		**19 15 54.4**	**+0.7**
	baz=228							
M29M	**Somme Creek**	**3.11**	**44**	Pn	**Pn**		**19 15 54.8**	**+1.1**
M29M				Sn	**Sn**		**19 16 32.7**	**+1.6**
N30M	**Aishikik Lake**	**3.16**	**65**		**Pn**		**19 15 55.2**	**+0.9**
N30M	**Aishikik Lake**	**3.16**	**65**	P	**Pn**		**19 15 55.2**	**+0.9**
	baz=251							
N30M	**Aishikik Lake**	**3.16**	**65**	Pn	**Pn**		**19 15 55.1**	**+0.8**
SEW	**Seward**	**3.19**	**270**		**Pn**		**19 15 52.8**	**-1.8**
SEW	**Seward**	**3.19**	**270**	P	**Pn**		**19 15 52.9**	**-1.8**
	baz=84							
GHO	**Glory Hole Cre**	**3.22**	**300**		**Pn**		**19 15 55.4**	**+0.3**
WAT6	**Susitna Watana**	**3.22**	**318**		**Pn**		**19 15 55.6**	**+0.4**
WAT6	**Susitna Watana**	**3.22**	**318**	P	**Pn**		**19 15 55.6**	**+0.4**
	baz=134							
PMR	**Palmer**	**3.24**	**297**		**Pn**		**19 15 55.9**	**+0.6**
PMR				IAML			19 16 48.2	
	comp=N,131nm,0.6s							
PMR				IAML			19 16 53.4	
	comp=E,117nm,0.9s							
PMR	**Palmer**	**3.24**	**297**	P	**Pn**		**19 15 55.9**	**+0.6**
O22K	**Cooper Landing**	**3.31**	**276**		**Pn**		**19 15 55.3**	**-1.0**
O22K	**Cooper Landing**	**3.31**	**276**	P	**Pn**		**19 15 54.8**	**-1.5**
	baz=90							
RC01	**Rabbit Creek A**	**3.38**	**287**	P	**Pn**		**19 15 56.5**	**-0.7**
	baz=101							
DHY	**Denali Highway**	**3.48**	**326**		**Pn**		**19 15 57.1**	**-1.7**
DHY				IAML			19 16 56.7	
	comp=N,111nm,0.9s							
DHY				IAML			19 16 57.5	
	comp=E,85nm,1.1s							
DHY	**Denali Highway**	**3.48**	**326**	P	**Pn**		**19 15 58.7**	**-0.1**
	baz=142							
O30N	**Mendenhall**	**3.49**	**79**		**Pn**		**19 15 58.6**	**-0.2**
O30N				IAML			19 16 57.9	
	comp=N,68nm,0.7s							
O30N	**Mendenhall**	**3.49**	**79**	P	**Pn**		**19 15 59.4**	**+0.5**
	baz=265							
L29M	**L29M**	**3.69**	**38**		**Pn**		**19 16 03.0**	**+1.4**
L29M				IAML			19 17 11.9	
	comp=E,67nm,1.9s							
L29M	**L29M**	**3.69**	**38**	Pn	**Pn**		**19 16 02.6**	**+1.0**
SCRK	**Sand Creek**	**3.74**	**354**		**Pn**		**19 16 04.0**	**+1.6**
SCRK	**Sand Creek**	**3.74**	**354**	P	**Pn**		**19 16 02.2**	**-0.1**
	baz=173							
K24K	**Donnelly Dome**	**3.76**	**341**		**Pn**		**19 16 02.4**	**-0.2**
K24K	**Donnelly Dome**	**3.76**	**341**	P	**Pn**		**19 16 02.4**	**-0.2**
	baz=159							
N31M	**Braeburn, Yuko**	**3.77**	**68**		**Pn**		**19 16 02.9**	**+0.2**
N31M				IAML			19 17 09.3	
	comp=N,118nm,1.1s							
N31M				IAML			19 17 15.4	
	comp=E,85nm,1.6s							
N31M	**Braeburn, Yuko**	**3.77**	**68**	Pn	**Pn**		**19 16 03.7**	**+1.0**
WAT7	**Susitna Watana**	**3.77**	**315**		**Pn**		**19 16 02.8**	**+0.1**
K27K	**Chicken**	**3.80**	**7**		**Pn**		**19 16 03.2**	**+0.2**
K27K	**Chicken**	**3.80**	**7**	Pn	**Pn**		**19 16 03.1**	**+0.1**
K27K				Sn	**Sn**		**19 16 48.1**	**+0.3**
M30M	**Minto, Yukon**	**3.80**	**50**		**Pn**		**19 16 04.4**	**+1.3**
M30M				IAML			19 17 08.4	
	comp=E,53nm,1.0s							
M30M	**Minto, Yukon**	**3.80**	**50**	P	**Pn**		**19 16 04.7**	**+1.6**
	baz=236							
M30M	**Minto, Yukon**	**3.80**	**50**	Pn	**Pn**		**19 16 03.8**	**+0.7**
SUA	**Susitna One**	**3.94**	**291**		**Pn**		**19 16 04.3**	**-0.7**
SUA				IAML			19 17 25.2	
	comp=N,81nm,2.2s							
SUA				IAML			19 17 26.1	
	comp=E,87nm,4.2s							
BRLK	**Bradley Lake**	**3.95**	**266**	Pn	**Pn**		**19 16 03.8**	**-1.4**
BRLK				IAML			19 16 35.7	
	comp=N,76nm,3.7s							
BRLK				IAML			19 17 01.2	
	comp=E,85nm,2.7s							
SKAG	**Skagway**	**3.99**	**98**	P	**Pn**		**19 16 07.3**	**+1.7**
CUT	**Chulitna**	**4.07**	**305**		**Pn**		**19 16 06.9**	**+0.2**
WHY	**Whitehorse**	**4.08**	**81**	Pn	**Pn**		**19 16 06.8**	**-0.1**
WHY				IAML			19 17 23.4	
	comp=N,44nm,1.1s							
WHY	**Whitehorse**	**4.08**	**81**	Pn	**Pn**		**19 16 07.3**	**+0.3**
WHY				Sn	**Sn**		**19 16 56.0**	**+1.1**
RND	**Reindeer**	**4.17**	**321**		**Pn**		**19 16 08.7**	**+0.5**
RND				IAML			19 17 11.2	
	comp=E,82nm,1.0s							
RND				IAML			19 17 17.6	
	comp=N,69nm,1.2s							
CNPM	**China Poot**	**4.18**	**263**	Pn	**Pn**		**19 16 08.2**	**-0.1**
CNPM				IAML			19 17 04.8	
	comp=E,77nm,4.8s							
CNPM				IAML			19 18 37.2	
	comp=N,80nm,4.0s							
DAWY	**Dawson**	**4.18**	**23**		**Pn**		**19 16 09.3**	**+1.0**
DAWY	**Dawson**	**4.18**	**23**	Pn	**Pn**		**19 16 09.2**	**+0.9**
S31K	**Pelican**	**4.22**	**120**		**Pn**		**19 16 10.4**	**+1.6**
S31K				IAML			19 17 28.6	
	comp=N,63nm,1.1s							
S31K				IAML			19 17 42.8	
	comp=E,61nm,2.1s							
J26L	**Joseph Creek**	**4.25**	**357**		**Pn**		**19 16 10.7**	**+1.4**
K29M	**Barlow Dome**	**4.43**	**34**	Pn	**Pn**		**19 16 13.7**	**+1.8**
K29M				IAML			19 17 36.0	
	comp=E,37nm,1.7s							
K29M	**Barlow Dome**	**4.43**	**34**	Pn	**Pn**		**19 16 12.6**	**+0.7**
MCK	**McKinley**	**4.43**	**324**		**Pn**		**19 16 13.5**	**+1.8**
MCK	**McKinley**	**4.43**	**324**	P	**Pn**		**19 16 13.5**	**+1.8**
	baz=139							
SKT	**Skwentna**	**4.44**	**296**		**Pn**		**19 16 11.2**	**-0.6**
SKT				IAML			19 17 20.9	
	comp=N,67nm,0.9s							
SKT				IAML			19 17 23.2	
	comp=E,57nm,0.6s							
SKT	**Skwentna**	**4.44**	**296**	P	**Pn**		**19 16 13.6**	**+1.7**
	baz=109							
STLK	**Strandline Lak**	**4.45**	**290**		**Pn**		**19 16 11.1**	**-0.9**
J25K	**Salcha River,**	**4.48**	**347**		**Pn**		**19 16 12.2**	**-0.2**
BESE	**Bessie Mountai**	**4.53**	**108**	Pn	**Pn**		**19 16 13.3**	**+0.2**
SPCP	**Crater Peak Br**	**4.56**	**287**		**Pn**		**19 16 12.3**	**-1.3**
TRF	**Thorofare Moun**	**4.67**	**316**		**Pn**		**19 16 16.0**	**+0.9**
TRF	**Thorofare Moun**	**4.67**	**316**	P	**Pn**		**19 16 16.4**	**+1.3**
	baz=130							

MAYO	**Mayo, Yukon**	**4.75**	**42**		**Pn**		**19 16 17.7**	**+1.5**
P32M	**Atlin**	**4.76**	**94**	Pn	**Pn**		**19 16 15.6**	**-0.7**
P32M				IAML			19 17 49.0	
	comp=N,24nm,1.1s							
P32M				IAML			19 18 03.3	
	comp=E,32nm,4.5s							
P32M	**Atlin**	**4.76**	**94**	Pn	**Pn**		**19 16 16.7**	**+0.4**
RSO	**Redoubt South**	**4.81**	**276**	Pn	**Pn**		**19 16 17.9**	**+0.8**
R32K	**Eaglecrest**	**4.83**	**111**	Pn	**Pn**		**19 16 17.7**	**+0.6**
R32K				IAML			19 17 45.4	
	comp=E,32nm,4.7s							
R32K				IAML			19 17 49.5	
	comp=N,33nm,2.5s							
IL31		**4.85**	**340**		**Pn**		**19 16 18.3**	**+1.0**
ILAR	**Eielson Array**	**4.85**	**340**		**Pn**		**19 16 18.5**	**+1.1**
ILAR	**Eielson Array**	**4.85**	**340**	Pn	**Pn**		**19 16 18.7**	**+1.3**
	comp=N,1.6nm,0.3s,baz=170,slow=13,SNR=99							
ILAR				Sn	**Sn**		**19 17 13.3**	**-0.3**
	comp=N,0.9nm,0.3s,baz=167,slow=19,SNR=4.7							
ILAR				Lg	Lg		19 17 32.2	
	comp=N,0.9nm,0.3s,baz=167,slow=19,SNR=4.5							
	comp=N,3.2nm,0.4s							
JIS	**Juneau Island**	**4.89**	**110**	Pn	**Pn**		**19 16 18.2**	**+0.2**
JIS				IAML			19 17 48.1	
	comp=N,36nm,2.2s							
JIS				IAML			19 17 54.8	
	comp=E,49nm,2.5s							
JIS	**Juneau Island**	**4.89**	**110**	P	**Pn**		**19 16 19.2**	**+1.3**
CCB	**Clear Creek Bu**	**4.91**	**335**		**Pn**		**19 16 18.0**	**-0.2**
CCB				IAML			19 17 10.0	
	comp=E,22nm,4.9s							
KTH	**Kantishna Hill**	**4.96**	**315**		**Pn**		**19 16 20.1**	**+1.2**
N32M	**Quiet Lake**	**4.99**	**76**	Pn	**Pn**		**19 16 20.1**	**+0.6**
N32M	**Quiet Lake**	**4.99**	**76**	Pn	**Pn**		**19 16 20.0**	**+0.6**
PPLA	**Purkeypile**	**5.08**	**305**		**Pn**		**19 16 21.6**	**+0.8**
PPLA	**Purkeypile**	**5.08**	**305**	P	**Pn**		**19 16 22.5**	**+1.7**
	baz=117							
FARO	**Faro, Yukon**	**5.09**	**63**		**Pn**		**19 16 20.2**	**-0.6**
FARO				IAML			19 17 50.6	
	comp=N,30nm,1.6s							
FARO	**Faro, Yukon**	**5.09**	**63**	Pn	**Pn**		**19 16 22.1**	**+1.3**
P33M	**Teslin, Yukon**	**5.11**	**86**		**Pn**		**19 16 21.2**	**0.0**
P33M				IAML			19 17 51.2	
	comp=N,26nm,1.1s							
P33M				IAML			19 17 58.1	
	comp=E,24nm,5.0s							
P33M	**Teslin, Yukon**	**5.11**	**86**	Pn	**Pn**		**19 16 21.5**	**+0.4**
COLA	**College**	**5.12**	**337**	P	**Pn**		**19 16 21.9**	**+0.8**
M20K	**Styx River**	**5.14**	**293**	Pn	**Pn**		**19 16 21.1**	**-0.4**
M20K				IAML			19 18 06.8	
	comp=N,31nm,3.8s							
NEA2	**Nenana**	**5.15**	**330**		**Pn**		**19 16 22.1**	**+0.5**
NEA2				IAML			19 17 46.5	
	comp=E,26nm,3.7s							
NEA2				IAML			19 17 46.8	
	comp=N,28nm,1.8s							
SIT	**Sitka**	**5.17**	**125**	Pn	**Pn**		**19 16 21.8**	**-0.1**
SIT	**Sitka**	**5.17**	**125**	P	**Pn**		**19 16 21.4**	**-0.5**
S32K	**Killisnoo**	**5.23**	**119**	Pn	**Pn**		**19 16 24.2**	**+1.6**
S32K				IAML			19 17 31.0	
	comp=N,39nm,2.8s							
S32K				IAML			19 17 57.9	
	comp=E,31nm,3.4s							
POKR	**Poker Plat Res**	**5.26**	**339**	Pn	**Pn**		**19 16 22.1**	**-1.0**
POKR	**Poker Plat Res**	**5.26**	**339**	IAML			19 18 08.8	
	comp=N,22nm,3.2s							
POKR				IAML			19 18 13.0	
	comp=E,23nm,3.1s							
MDM	**Murphy Dome**	**5.27**	**335**		**Pn**		**19 16 23.9**	**+0.7**
MDM				IAML			19 17 48.9	
	comp=N,25nm,1.1s							
MDM				IAML			19 17 58.8	
	comp=E,36nm,1.4s							
CAST	**Castle Rocks**	**5.30**	**310**	Pn	**Pn**		**19 16 24.4**	**+0.7**
CAST				IAML			19 17 42.6	
	comp=N,35nm,4.0s							
CAST				IAML			19 17 55.3	
	comp=E,32nm,0.9s							
CAST	**Castle Rocks**	**5.30**	**310**	P	**Pn**		**19 16 25.3**	**+1.6**
	baz=122							
BPAW	**Bear Paw Mtn.**	**5.33**	**319**		**Pn**		**19 16 23.4**	**-0.6**
BPAW				IAML			19 17 16.8	
	comp=E,31nm,4.1s							
BPAW	**Bear Paw Mtn.**	**5.33**	**319**	P	**Pn**		**19 16 25.5**	**+1.4**
	baz=132							
J30M	**Hart River**	**5.33**	**33**	Pn	**Pn**		**19 16 25.4**	**+1.2**
J30M				IAML			19 17 35.8	
	comp=N,24nm,3.7s							
J30M				IAML			19 17 36.1	
	comp=E,28nm,0.7s							
J30M	**Hart River**	**5.33**	**33**	Pn	**Pn**		**19 16 24.8**	**+0.6**
J30M				Sn	**Sn**		**19 17 25.2**	**-0.6**
PRP	**Porcupine Dome**	**5.38**	**349**	Pn	**Pn**		**19 16 23.7**	**-1.1**
PRP				IAML			19 18 05.4	
	comp=E,27nm,1.4s							
PRP				IAML			19 18 08.1	
	comp=N,22nm,3.1s							
I28M	**Miner Creek**	**5.39**	**14**	Pn	**Pn**		**19 16 25.4**	**+0.5**
I28M				IAML			19 17 38.0	
	comp=N,29nm,0.6s							
I28M				IAML			19 18 08.4	
	comp=E,31nm,4.2s							
I28M	**Miner Creek**	**5.39**	**14**	Pn	**Pn**		**19 16 25.7**	**+0.7**
I28M				Sn	**Sn**		**19 17 25.3**	**-1.8**
I27K	**Kandik River**	**5.39**	**6**	Pn	**Pn**		**19 16 25.5**	**+0.6**
KDAK	**Kodiak Island**	**5.51**	**247**	Pn	**Pn**		**19 16 25.8**	**-0.7**
KDAK	**Kodiak Island**	**5.51**	**247**	Pn	**Pn**		**19 16 25.5**	**-1.0**
	comp=E,2.7nm,0.3s,baz=81,slow=7.5,SNR=74							
KDAK				Sn	**Sn**		**19 17 25.1**	**-4.8**
	comp=E,0.5nm,0.3s,baz=302,slow=22,SNR=1.5							
	comp=E,8.4nm,0.3s							
Q19K	**Cape Douglas,**	**5.53**	**260**	Pn	**Pn**		**19 16 27.3**	**+0.4**
Q32M	**Nakina River**	**5.64**	**99**	Pn	**Pn**		**19 16 27.0**	**-1.5**
Q32M	**Nakina River**	**5.64**	**99**	Pn	**Pn**		**19 16 28.6**	**+0.1**
N19K	**Bonanza Creek**	**5.66**	**280**	Pn	**Pn**		**19 16 28.6**	**-0.1**
I23K	**Minto, Yukon-K**	**5.68**	**332**		**Pn**		**19 16 29.4**	**+0.6**
I30M	**Mount Dempster**	**5.84**	**29**	Pn	**Pn**		**19 16 32.0**	**+0.8**
MLY	**Manley**	**5.94**	**327**		**Pn**		**19 16 32.3**	**-0.1**
H24K	**Noodor Dome**	**5.99**	**341**	Pn	**Pn**		**19 16 34.0**	**+0.8**
H27K	**Steamboat Moun**	**6.02**	**6**	Pn	**Pn**		**19 16 34.4**	**+0.8**
K20K	**Telida**	**6.06**	**305**	Pn	**Pn**		**19 16 34.6**	**+0.5**
OHAK	**Old Harbor**	**6.13**	**245**	Pn	**Pn**		**19 16 33.6**	**-1.4**
OHAK	**Old Harbor**	**6.13**	**245**	P	**Pn**		**19 16 33.6**	**-1.4**
R33M	**Jennings River**	**6.17**	**93**	Pn	**Pn**		**19 16 35.6**	**-0.1**
R33M	**Jennings River**	**6.17**	**93**	Pn	**Pn**		**19 16 36.5**	**+0.8**
SVW2	**Sparrevohn**	**6.20**	**283**	Pn	**Pn**		**19 16 35.1**	**-0.9**
SVW2	**Sparrevohn**	**6.20**	**283**	P	**Pn**		**19 16 35.1**	**-0.9**
H29M	**Whitestone**	**6.33**	**18**	Pn	**Pn**		**19 16 39.1**	**+1.3**
H29M	**Whitestone**	**6.33**	**18**	Pn	**Pn**		**19 16 38.8**	**+1.0**
I21K	**Tanana**	**6.40**	**324**		**Pn**		**19 16 38.3**	**-0.4**
J20K	**Nowinta River**	**6.48**	**312**	Pn	**Pn**		**19 16 39.5**	**-0.3**
G27K	**Doyon Strip**	**6.59**	**5**	Pn	**Pn**		**19 16 41.0**	**-0.3**
G27K	**Doyon Strip**	**6.59**	**5**	Pn	**Pn**		**19 16 42.4**	**+1.0**
S34M	**Telegraph Cree**	**6.59**	**106**	Pn	**Pn**		**19 16 41.2**	**-0.2**
S34M	**Telegraph Cree**	**6.59**	**106**	Pn	**Pn**		**19 16 42.0**	**+0.6**
S34M				Sn	**Sn**		**19 17 54.8**	**-1.8**
TTA	**Tatalina**	**6.72**	**299**	Pn	**Pn**		**19 16 43.4**	**+0.3**
TTA	**Tatalina**	**6.72**	**299**	P	**Pn**		**19 16 43.5**	**+0.3**
L18K	**Granite Mounta**	**6.85**	**292**	Pn	**Pn**		**19 16 44.6**	**-0.3**
DLBC	**Dease Lake**	**6.92**	**100**	Pn	**Pn**		**19 16 44.5**	**-1.5**
	comp=E,0.3nm,0.3s,baz=166,slow=17,SNR=1.4							
DLBC				Pg	**Pb**		**19 17 01.5**	**-3.2**
	comp=E,0.4nm,0.3s,baz=330,slow=27,SNR=2.2							
DLBC				Sn	**Sn**		**19 17 58.9**	**-6.0**
	comp=E,0.3nm,0.3s,baz=238,slow=13,SNR=1.7							
DLBC				Lg	Lg		19 18 40.9	
	comp=E,0.4nm,0.3s,baz=103,slow=14,SNR=3.1							
	comp=E,0.9nm,0.4s							
DLBC	**Dease Lake**	**6.92**	**100**	Pn	**Pn**		**19 16 46.8**	**+0.8**
J19K	**Poorman**	**6.96**	**308**	Pn	**Pn**		**19 16 46.3**	**-0.1**
H21K	**Melozitna Rive**	**6.98**	**325**		**Pn**		**19 16 46.6**	**-0.1**
N17K	**Nushagak Hills**	**7.00**	**278**		**Pn**		**19 16 45.6**	**-1.3**
G29M	**Pine Creek**	**7.03**	**16**	Pn	**Pn**		**19 16 48.0**	**+0.6**
M17K	**Holitna River**	**7.11**	**285**	Pn	**Pn**		**19 16 46.9**	**-1.6**
G23K	**Bananza Creek**	**7.17**	**337**	Pn	**Pn**		**19 16 48.5**	**-0.7**
J18K	**Innoko River**	**7.20**	**302**	Pn	**Pn**		**19 16 49.5**	**-0.1**
BMAR	**Burnt Mountain**	**7.21**	**355**		**Pn**		**19 16 50.5**	**+0.6**
TGTN	**Hyland Airport**	**7.33**	**74**	Pn	**Pn**		**19 16 52.2**	**+0.7**
G30M	**tAoh Zraii Nji**	**7.39**	**21**	Pn	**Pn**		**19 16 52.1**	**-0.2**
G30M	**tAoh Zraii Nji**	**7.39**	**21**	Pn	**Pn**		**19 16 53.2**	**+0.9**
T35M	**Bob Quinn**	**7.46**	**111**	Pn	**Pn**		**19 16 52.0**	**-1.3**
T35M	**Bob Quinn**	**7.46**	**111**	Pn	**Pn**		**19 16 54.2**	**+0.9**
IMAR	**Indian Mountai**	**7.49**	**324**	Pn	**Pn**		**19 16 54.0**	**+0.4**
F28M	**Old Crow**	**7.50**	**9**	Pn	**Pn**		**19 16 54.7**	**+0.8**

COLD	**Coldfoot**	**7.66**	**339**	Pn	**Pn**		**19 16 56.2**	**+0.3**
K17K	**Iditarod**	**7.68**	**295**	Pn	**Pn**		**19 16 56.8**	**+0.5**
G31M	**Satah River**	**7.73**	**27**		**Pn**		**19 16 58.0**	**+1.0**
G31M	**Satah River**	**7.73**	**27**	Pn	**Pn**		**19 16 57.7**	**+0.7**
G21K	**Allakaket**	**7.81**	**328**	Pn	**Pn**		**19 16 58.6**	**+0.5**
M16K	**Timber Creek**	**7.84**	**282**	Pn	**Pn**		**19 16 58.1**	**-0.4**
E25K	**Arctic Village**	**7.95**	**353**	Pn	**Pn**		**19 17 01.5**	**+1.5**
E27K	**Coleen River**	**7.97**	**4**	Pn	**Pn**		**19 17 00.4**	**+0.1**
E27K	**Coleen River**	**7.97**	**4**	Pn	**Pn**		**19 17 00.7**	**+0.4**
F30M	**Barrier River**	**8.03**	**20**	Pn	**Pn**		**19 17 00.8**	**-0.2**
H19K	**Roundabout Mou**	**8.05**	**317**	Pn	**Pn**		**19 17 00.6**	**-0.7**
L16K	**Owhat River**	**8.10**	**287**	Pn	**Pn**		**19 17 02.3**	**+0.3**
E29M	**Blow River**	**8.45**	**13**	Pn	**Pn**		**19 17 07.2**	**+0.4**
N15K	**Kwethluk River**	**8.47**	**277**	Pn	**Pn**		**19 17 08.7**	**+1.6**
E28M	**Babbage River**	**8.50**	**9**	Pn	**Pn**		**19 17 08.1**	**+0.6**
H18K	**Honhose River**	**8.54**	**311**	Pn	**Pn**		**19 17 08.8**	**+0.6**
G19K	**Purcell Mounta**	**8.63**	**319**	Pn	**Pn**		**19 17 09.4**	**+0.2**
F20K	**Avaraart Lake**	**8.80**	**326**		**Pn**		**19 17 11.8**	**+0.2**
D27M	**Malcolm River**	**9.05**	**5**	Pn	**Pn**		**19 17 15.2**	**+0.1**
INK	**Inuvik**	**9.05**	**23**	Pn	**Pn**		**19 17 16.3**	**+1.3**
	comp=E,0.1nm,0.3s,baz=156,slow=20,SNR=2.8							
	comp=E,0.7nm,0.7s							
INK	**Inuvik**	**9.05**	**23**	Pn	**Pn**		**19 17 15.1**	**0.0**
K15K	**Wolf Creek Mou**	**9.11**	**291**	Pn	**Pn**		**19 17 16.7**	**+0.9**
O14K	**Tigyukauivet M**	**9.23**	**272**	Pn	**Pn**		**19 17 17.7**	**+0.2**
L14K	**Kuka Creek**	**9.63**	**285**	Pn	**Pn**		**19 17 22.8**	**-0.2**
C36M	**Paulatuk**	**12.11**	**33**		**Pn**		**19 17 58.9**	**+2.1**
HOLB	**Holberg**	**12.81**	**132**	Pn	**Pn**		**19 18 05.0**	**-1.5**
YKA	**Yellowknife Ar**	**13.77**	**68**	Pn	**Pn**		**19 18 18.1**	**-1.3**
	comp=E,0.1nm,0.3s,baz=267,slow=13,SNR=4.1							
	comp=E,0.1nm,0.5s							
FINES	**FINESS Array B**	**58.32**	**6**	P	**P**		**19 24 58.8**	**-0.2**
	comp=E,2.8nm,0.9s,baz=358,slow=17,SNR=4.7							
	comp=E,2.8nm,0.9s							
SONM	**Songino Array**	**58.47**	**312**	P	**P**		**19 25 01.8**	**+1.3**
	comp=E,0.2nm,0.5s,baz=38,slow=7.3,SNR=2.7							
	comp=E,0.2nm,0.5s							
BVAR	**Borovoye Array**	**63.91**	**338**	P	**P**		**19 25 37.4**	**+0.4**
	comp=E,0.2nm,0.4s,baz=358,slow=8.1,SNR=2.5							
	comp=E,0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**64.47**	**332**	P	**P**		**19 25 40.6**	**-0.1**
	comp=E,0.5nm,0.3s,baz=27,slow=6.2,SNR=1.9							
	comp=E,0.5nm,0.3s							
MKAR	**Makanchi Array**	**67.08**	**328**	P	**P**		**19 25 57.0**	**-0.7**
	comp=E,0.3nm,0.5s,baz=39,slow=6.4,SNR=5.4							
	comp=E,0.3nm,0.5s							
ESDC	**Sonseca Array**	**74.90**	**32**	P	**P**		**19 26 46.1**	**+0.9**
	comp=E,0.4nm,0.7s,baz=354,slow=6.2,SNR=4.9							
	comp=E,0.4nm,0.7s							

VAO ***24*** *19:33:16.5±0.4, 14°.29S×74°.23W, h10km, mb4.8*
NEIC ***24*** *19:33:19.8±2.3, 14°.19S±0°.07×74°.35W±0°.09, h66km±5km, mb5.0/153, Mww4.7/20, Error ellipse: s-maj=13.8km s-min=9.1km az=60.0*
MOS ***24*** *19:33:19.8±1.2, 14°.13S×74°.33W, h84km, mb4.7/7, Error ellipse: s-maj=14.7km s-min=7.0km az=120.4*
NEIC ***24*** *19:33:20, 14°.20S×74°.54W, h70km, Moment Tensor Solution. Duration: 1s2 Moment tensor: Scale 10^16 Nm; Mrr=0.62; Mθθ=0.11; Mϕϕ=0.73; Mrθ=0.

VACA Villa Angela C 18.45 138 eP Pn 19 37 31.3 -0.3
CLDB Colider 18.45 82 eP P 19 37 30.4 -0.1
PTGC Puerto Gaitan, 18.45 7 eP P 19 37 29.0 -1.5
ANIL Santa Ana 18.63 357 eP P 19 37 32.0 -0.8
VA01 Torpederas 18.87 173 Pn 19 37 37.4 +0.9
VA01 IAmb IAmb 19 38 19.8
comp=Z,43nm,0.7s
AQDB Aquidauana 18.88 112 Pn 19 37 36.2 -0.5
AQDB Aquidauana 18.88 112 eP P 19 37 36.0 +0.8
ROSC El Rosal 18.95 0 P Pn 19 37 40.2 +2.2
comp=Z,22nm,0.5s,baz=254,slow=21,SNR=5.2
PP1B Ponte de Pedra 19.06 103 eP P 19 37 37.3 +0.2
PLMC San Jos del P 19.11 354 eP P 19 37 36.2 -1.6
RVDE Rio Verde (Bra 19.23 107 eP Pn 19 37 40.5 -0.5
GUY2C Guyana, Caldas 19.36 357 eP Pn 19 37 43.1 +0.2
MT09 Talagante 19.70 172 P P 19 37 44.3 +0.2
SPBC San Pablo de B 19.76 1 eP Pn 19 37 46.6 -0.7
SCCA San Cayetano, 19.78 135 eP Pn 19 37 46.2 -1.1
CPUP Villa Florida 19.99 130 P P 19 37 47.6 +0.4
CPUP Villa Florida 19.99 130 P P 19 37 47.6 +0.4
CPUP pmax pmax
comp=Z,26nm,1.0s
CPUP Villa Florida 19.99 130 eP P 19 37 47.8 +0.6
CPUP Villa Florida 19.99 130 P P 19 37 47.9 +0.6
comp=Z,20nm,0.9s,baz=310,slow=10,SNR=28
comp=Z,20nm,0.9s
NPGB Novo Progresso 20.01 71 eP P 19 37 47.1 -0.5
CBOC Ciudad Bolivar 20.04 355 eP P 19 37 47.7 -0.3
PTBC PUERTO BERRIO, 20.64 360 eP P 19 37 53.6 -0.7
RPRD Ribas do Rio P 20.69 110 eP Pn 19 37 56.5 -1.4
BO02 Sierra Bellavi 20.72 172 P P 19 37 55.8 +0.7
BARC Barichara 20.73 3 eP P 19 37 54.4 -1.0
ITTB Itaituba 20.84 64 eP P 19 37 55.6 -0.8
C2SB Chapadao do Su 21.14 105 eP P 19 38 00.8 +1.2
DBBC Dabeiba 21.19 355 eP P 19 38 01.6 +1.3
BOAV Boa Vista 21.49 41 P P 19 38 02.5 -0.9
BOAV IAmb IAmb 19 38 09.6
comp=Z,50nm,1.1s
BOAV Boa Vista 21.49 41 eP P 19 38 07.9 +4.5
PAMC Pamplona, Colo 21.50 5 eP P 19 38 03.9 -0.1
PTAC Punta Ardita, 21.52 351 eP P 19 38 04.1 +0.5
MCR1 Marechal Candi 21.70 121 eP P 19 38 06.9 +1.3
UREC San Jos de Ur 21.88 357 eP P 19 38 10.0 +2.5
APAC Apartado, Choc 22.10 354 eP P 19 38 11.5 +1.7
OCAC Ocana 22.36 3 eP P 19 38 11.1 -1.6
ITQB Itaqui 22.48 136 eP P 19 38 14.3 +0.6
SNDB Serra Nova Dou 22.60 87 eP P 19 38 14.6 -0.6
CRSM Crissiumal (Br 23.09 128 eP P 19 38 20.1 +0.1
FRBT Francisco Belt 23.14 124 eP P 19 38 21.5 +1.0
PCMB Pacaembu 23.18 112 eP P 19 38 21.8 +1.0
UNIS Unistalda (Bra 23.19 133 eP P 19 38 21.2 +0.4
SDV Santo Domingo 23.27 9 P P 19 38 20.7 -1.2
SDV Santo Domingo 23.27 9 eP P 19 38 20.9 -1.0
MALB Monte Alegre 23.39 60 eP P 19 38 24.7 +2.0
PTGB Pitanga 23.45 120 eP P 19 38 24.4 +1.0
ITRB Iturama 23.61 107 eP P 19 38 25.2 +0.4
LDASE Londrina, Braz 23.81 116 eP P 19 38 27.2 +0.6
RODS Rosario do Sul 23.86 135 eP P 19 38 28.3 +1.4
BAUV El Baul 23.88 16 P P 19 38 26.4 -0.7
SJCC San Jacinto, C 23.99 358 eP P 19 38 27.5 -0.7
ITAB Concordia 24.45 125 P P 19 38 29.7 -2.6
ITAB IAmb IAmb 19 38 56.4
comp=Z,70nm,1.3s
ITAB Concordia 24.45 125 eP P 19 38 33.1 +0.8
ALGR Alto Alegre (B 24.53 130 eP P 19 38 33.5 +0.4
SRBA San Rafael, Bu 24.96 339 P P 19 38 38.9 +1.8
CPSB Cacapava Do Su 25.12 133 eP P 19 38 39.5 +1.1
FRTB Fartura 25.15 115 eP P 19 38 41.5 +2.7
IPMB Ipameri, GO 25.41 102 eP P 19 38 40.8 -0.4
BDFB Brasilia 25.52 97 P P 19 38 42.8 +0.6
BDFB Brasilia 25.52 97 P P 19 38 42.8 +0.6
BDFB pmax pmax
comp=Z,6.0nm,0.9s
BDFB Brasilia 25.52 97 P P 19 38 42.4 +0.2
comp=Z,3.7nm,0.6s,baz=256,slow=11,SNR=6.9
BDFB LR LR 19 50 13.3
comp=Z,84nm,20.2s,baz=332,slow=40
comp=Z,3.7nm,0.6s
BB19B Bebedouro 25.54 109 eP P 19 38 43.5 +1.2
PLTB Pedras Altas 25.81 136 eP P 19 38 48.1 +3.5
MCPB Macapa, AP 26.05 60 eP P 19 38 48.4 +1.5
TRQA Tornquist 26.16 157 P P 19 38 47.2 -0.4
TRQA Tornquist 26.16 157 P P 19 38 47.2 -0.4
TRQA pmax pmax
comp=Z,18nm,1.0s
JTS Las Juntas de 26.53 336⇑ eP P 19 38 52.3 +1.1
JTS Las Juntas de 26.53 336 LR LR 19 49 26.5
comp=Z,97nm,19.2s,baz=127,slow=36
PLCA Paso Flores 26.61 173 P P 19 38 52.6 +0.8
PLCA Paso Flores 26.61 173 eP P 19 38 52.6 +0.8
PLCA Paso Flores 26.61 173 eP P 19 38 53.8 +2.0
PLCA Paso Flores 26.61 173 P P 19 38 52.2 +0.4
comp=Z,4.4nm,0.8s,baz=335,slow=12,SNR=7.3
PLCA pP pP 19 39 15.5 +1.9
comp=Z,3.1nm,0.8s,baz=340,slow=13,SNR=3.5
comp=Z,4.4nm,0.8s
RCLB Rio Claro- Sao 26.73 112 eP P 19 38 55.8 +2.8
SPB Sao Paulo 27.10 114 eP P 19 38 59.3 +3.0
PMNB Patos De Minas 27.14 103 eP P 19 38 57.5 +0.7
VAO Valinhos 27.37 113 eP P 19 39 01.6 +2.7
PET01 Itanhaem-SP 27.43 115 eP P 19 39 01.6 +2.3
PARB Paraibuna 28.65 113 eP P 19 39 12.8 +2.5
MDP Montagnes des 28.89 50 LR LR 19 51 53.3
comp=Z,118nm,18.5s,baz=239,slow=38
BSCB Bom Sucesso 28.98 108 eP P 19 39 13.6 +0.4
MTDJ Mount Denham 32.41 354 P P 19 39 41.1 -2.2
RPN Rapa Nui 34.99 243 LR LR 19 51 07.1
comp=Z,92nm,18.7s,baz=52,slow=30
TEIG Tepich 36.87 338 P P 19 40 22.3 +0.7
CAMR Camarioca 37.69 349 P P 19 40 28.6 +0.1
CAMR IAmb IAmb 19 40 55.9
comp=Z,56nm,1.0s
EFI East Falkland 39.59 164⇑ eP P 19 40 40.6 -3.5
EFI pmax pmax
comp=Z,159nm,1.8s
154A Montrose 47.33 350 P P 19 41 46.4 0.0
baz=168
250A Grady 47.34 346 P P 19 41 45.9 -0.7
baz=164
HBVL Hebbronville 47.34 330 IAmb IAmb 19 41 48.2
comp=Z,13nm,0.7s
NHSC New Hope 47.40 353 P P 19 41 46.9 -0.1
baz=172
NHSC New Hope 47.40 353 P P 19 41 46.9 -0.1
baz=172
152A Waverly Hall 47.68 348 IAmb IAmb 19 41 49.2
comp=Z,16nm,0.8s
152A Waverly Hall 47.68 348 P P 19 41 48.1 -1.1
baz=166
GOGA Godfrey 48.17 350 P P 19 41 51.6 -1.3
baz=168
LRAL Lakeview Retre 48.52 346 P P 19 41 54.4 -1.3
LRAL IAmb IAmb 19 41 55.9
comp=Z,18nm,1.2s
LRAL Lakeview Retre 48.52 346 P P 19 41 55.1 -0.6
baz=164
LRAL Lakeview Retre 48.52 346 P P 19 41 54.4 -1.3
baz=164
HKT Hockley 48.55 335⇑ eP P 19 41 56.1 +0.2
HKT pmax pmax
comp=Z,4.0nm,1.2s
Y52A Lilburn 48.71 349 P P 19 41 56.3 -0.8
baz=168
Y52A P P 19 41 56.3 -0.8
baz=168
833A Chaparral WMA, 48.75 330 P P 19 41 56.5 -1.0
833A IAmb IAmb 19 41 58.9
comp=Z,15nm,0.9s
833A Chaparral WMA, 48.75 330 P P 19 41 57.8 +0.2
baz=147
833A Chaparral WMA, 48.75 330 P P 19 41 57.7 +0.2
baz=147
HODGE Hodges 48.78 351 P P 19 41 57.2 -0.4
baz=170
Z47A Carrollton 48.95 345 P P 19 41 58.0 -0.9
baz=162,SNR=6.3
BIRD Birdtown, Kers 48.95 353 P P 19 41 58.2 -0.8
BIRD IAmb IAmb 19 41 59.5
comp=Z,17nm,0.9s
BIRD Birdtown, Kers 48.95 353 P P 19 41 58.8 -0.1
baz=172
Y49A Blount Mountai 49.18 347 P P 19 41 59.4 -1.3
baz=164
PAULI Pauline 49.29 352 IAmb IAmb 19 42 02.1
comp=Z,20nm,1.0s
PAULI Pauline 49.29 352 P P 19 41 59.8 -1.8
baz=170
W57A Gilead 49.41 354 IAmb IAmb 19 42 02.5
comp=Z,17nm,0.9s
W57A Gilead 49.41 354 P P 19 42 01.1 -1.2
baz=173
W57A P P 19 42 01.1 -1.2
baz=173
X51A Calhoun 49.54 349 P P 19 42 02.4 -1.0
baz=167
X51A P P 19 42 02.4 -1.0
baz=167
KMSC Kings Mountain 49.55 353 IAmb IAmb 19 42 03.6
comp=Z,17nm,0.8s
KMSC Kings Mountain 49.55 353 P P 19 42 03.4 -0.1
baz=171
KMSC Kings Mountain 49.55 353 P P 19 42 02.8 -0.7
baz=171
CASEE Lake Jocassee 49.63 351 P P 19 42 03.3 -0.8
baz=169
NATX Nacogdoches 49.70 337 P P 19 42 05.3 +0.6
baz=154
HNDO Hondo 49.70 331 IAmb IAmb 19 42 06.2
comp=Z,40nm,0.8s
W52A Murphy 49.89 350 P P 19 42 05.5 -0.6
baz=168
V58A Windy Hill, Pi 49.96 355 P P 19 42 06.1 -0.4
baz=174
V58A P P 19 42 06.1 -0.4
baz=174
Y45A Yeager Farm, C 49.97 343 P P 19 42 05.6 -1.1
baz=161
435B Jarrell 50.01 334 P P 19 42 07.0 -0.1
baz=150
V55A Taylorsville 50.23 353 P P 19 42 08.5 -0.1
baz=171
V55A P P 19 42 08.5 -0.1
baz=171
W50A Signal Mountai 50.25 348 IAmb IAmb 19 42 08.3
comp=Z,15nm,0.8s
W50A Signal Mountai 50.25 348 P P 19 42 08.0 -0.8
baz=166
SWET Sewanee 50.39 348 IAmb IAmb 19 42 09.1
comp=Z,14nm,0.8s
OXF Oxford 50.54 344 P P 19 42 10.5 -0.5
baz=161
OXF Oxford 50.54 344 P P 19 42 09.7 -1.3
baz=161
V52A Sevierville 50.56 350 P P 19 42 10.1 -1.1
baz=168,SNR=6.9
U56A King 50.63 354 P P 19 42 11.9 +0.2
baz=172
U56A P P 19 42 11.9 +0.2
baz=172
V51A Loudon 50.65 350 P P 19 42 11.2 -0.6
baz=167
JCT Junction City 50.74 331 P P 19 42 12.3 -0.4
baz=148
U54A Nelsons Funny 50.97 352 P P 19 42 13.1 -1.2
baz=171
U54A P P 19 42 13.1 -1.2
baz=171
WHTX Lake Whitney, 51.01 335 P P 19 42 14.9 +0.3
baz=151
V48A Smith Brothers 51.08 347 IAmb IAmb 19 42 14.8
comp=Z,18nm,0.8s
V48A Smith Brothers 51.08 347 P P 19 42 13.7 -1.3
baz=164,SNR=6.8
T57A Hurt 51.16 355 P P 19 42 15.3 -0.3
baz=174,SNR=5.7
T57A P P 19 42 15.3 -0.3
baz=174,SNR=5.7
TZTN Tazewell 51.24 351 P P 19 42 15.4 -0.8
baz=169
SLBS Sierra La Lagu 51.27 317 P P 19 42 15.5 -1.3
SLBS IAmb IAmb 19 42 19.1
comp=Z,18nm,1.1s
BLA Blacksburg 51.49 354 P P 19 42 17.5 -0.6
baz=172
U49A Red Boiling Sp 51.61 348 P P 19 42 17.7 -1.2
baz=166
WVT Waverly 51.68 346 P P 19 42 17.8 -1.7
WVT IAmb IAmb 19 42 18.6
comp=Z,10.0nm,0.9s
WVT Waverly 51.68 346 P P 19 42 17.9 -1.6
baz=163
WVT Waverly 51.68 346 P P 19 42 17.4 -2.1
baz=163
WVT Waverly 51.68 346 P P 19 42 17.8 -1.7
WVT pmax pmax
comp=Z,10.0nm,1.0s
TX31 Lajitas Ar. Si 51.73 327 P P 19 42 19.8 -0.3
TX31 IAmb IAmb 19 42 21.2
comp=Z,19nm,0.9s
TX31 Lajitas Ar. Si 51.73 327 P P 19 42 20.1 0.0
baz=143,SNR=19
TXAR Lajitas Array 51.73 327 P P 19 42 19.8 -0.3
comp=Z,6.6nm,0.8s,baz=152,slow=8.6,SNR=68
TXAR pP pP 19 42 44.0 -0.2
comp=Z,2.7nm,1.0s,baz=155,slow=11,SNR=2.1
comp=Z,6.6nm,0.8s
S57A Dark Hollow, R 51.90 355 P P 19 42 20.2 -0.9
baz=174
S57A P P 19 42 20.2 -0.9
baz=174
PLPT Palo Pinto 52.08 334 IAmb IAmb 19 42 23.6
comp=Z,26nm,1.5s
S54A Dingess, Beckl 52.17 353 P P 19 42 22.5 -0.6
baz=172,SNR=5.0
S54A P P 19 42 22.5 -0.6
baz=172,SNR=5.0
CBN Corbin Frederi 52.24 357 P P 19 42 23.4 -0.1
baz=176
LCAR Lake Charles 52.48 343 P P 19 42 24.3 -1.2
baz=159,SNR=5.0
ABTX Abilene, Hawle 52.49 333 P P 19 42 25.4 -0.2
baz=149
ABTX Abilene, Hawle 52.49 333 P P 19 42 25.4 -0.2
baz=149,SNR=8.1
MNHN Monahans 52.88 329 IAmb IAmb 19 42 29.6
comp=Z,35nm,1.4s
PBMO Poplar Bluff 52.95 344 IAmb IAmb 19 42 56.5
comp=Z,17nm,1.2s
PBMO Poplar Bluff 52.95 344 P P 19 42 27.6 -1.3
baz=160
R50A Paris 53.07 350 IAmb IAmb 19 42 29.7
comp=Z,18nm,1.0s
R50A Paris 53.07 350 P P 19 42 28.8 -0.9
baz=168,SNR=5.3
R50A P P 19 42 28.8 -0.9
baz=168,SNR=5.3
Q56A Snyder Ridge, 53.19 355 P P 19 42 30.5 -0.1
baz=174
Q56A P P 19 42 30.5 -0.1
baz=174
R49A Shelbyville 53.22 349 P P 19 42 29.8 -1.0
baz=167
R49A P P 19 42 29.8 -1.0
baz=167
U40A Yellville 53.26 341 P P 19 42 30.0 -1.2
baz=158,SNR=9.3
U40A P P 19 42 30.0 -1.2
baz=158,SNR=9.3
Q54A Coxs Mills 53.28 354 P P 19 42 29.4 -1.9
baz=172
Q54A P P 19 42 29.4 -1.9
baz=172
APMT Aspermont 53.29 333 IAmb IAmb 19 42 33.8
comp=Z,17nm,0.8s
WCI Wyandotte Cave 53.37 348 P P 19 42 30.5 -1.4
WCI Wyandotte Cave 53.37 348 P P 19 42 30.8 -1.1
baz=166
WCI Wyandotte Cave 53.37 348 P P 19 42 30.6 -1.4
baz=166,SNR=16
WCI Wyandotte Cave 53.37 348 P P 19 42 30.5 -1.4
WCI pmax pmax
comp=Z,38nm,1.0s
SDMD Soldier's Deli 53.42 358 P P 19 42 32.6 +0.4
baz=177
S44A Carbondale 53.51 345 P P 19 42 31.6 -1.3
baz=162,SNR=5.5
HHAR Hobbs 53.53 340 IAmb IAmb 19 42 33.6
comp=Z,13nm,0.9s
425A Indio Mountain 53.57 327 IAmb IAmb 19 42 34.8
comp=Z,20nm,1.1s
POST Post 53.70 332 IAmb IAmb 19 42 36.1
comp=Z,19nm,0.9s
U38A Gravette 53.82 340 IAmb IAmb 19 42 35.8
comp=Z,12nm,0.9s
U38A Gravette 53.82 340 P P 19 42 34.8 -0.5
baz=156
TUL3 Leonard 53.83 338 P P 19 42 35.5 +0.1
baz=154
TUL3 Leonard 53.83 338 P P 19 42 35.2 -0.1
baz=154,SNR=9.6
MCWV Mont Chateau 53.86 355 P P 19 42 35.7 +0.2
baz=173
P51A Williamsport 54.05 352 P P 19 42 35.6 -1.2
baz=170
P51A P P 19 42 35.6 -1.2
baz=170
P52A Corning 54.08 353 P P 19 42 36.1 -0.9
baz=171
FVM French Village 54.08 344 P P 19 42 36.4 -0.7
baz=161
TUPA Temple Univers 54.13 359 P P 19 42 37.9 +0.5
baz=179
OLIL Olney 54.23 347 P P 19 42 36.9 -1.3
baz=164
P49A Miami Univ. Ec 54.35 350 P P 19 42 37.6 -1.5
baz=168
CCM Cathedral Cave 54.37 344 P P 19 42 39.0 -0.2
CCM IAmb IAmb 19 42 39.1
comp=Z,19nm,1.4s
CCM Cathedral Cave 54.37 344 P P 19 42 37.9 -1.4
baz=160
CCM Cathedral Cave 54.37 344 P P 19 42 39.0 -0.2
CCM pmax pmax
comp=Z,19nm,1.4s
MNTX Cornudas Mount 54.50 327 P P 19 42 39.9 -0.5
baz=142
MNTX Cornudas Mount 54.50 327 P P 19 42 39.8 -0.5
baz=142,SNR=7.7
O52A Adamsville 54.52 353 P P 19 42 39.1 -1.1
baz=171
O52A P P 19 42 39.1 -1.1
baz=171
O53A New Philadelph 54.58 354 P P 19 42 40.0 -0.7
baz=172
Q44A Meyer Farm, Va 54.60 346 P P 19 42 39.6 -1.3
baz=162,SNR=11
S39A Bolivar 54.63 342 IAmb IAmb 19 42 41.3
comp=Z,25nm,1.1s
S39A Bolivar 54.63 342 P P 19 42 40.2 -0.9
baz=157,SNR=12
UPAO U. Pittsburgh 54.69 355 P P 19 42 41.4 0.0
baz=173
ACSO Alum Creek Sta 54.77 352 P P 19 42 41.3 -0.9
baz=170
ACSO Alum Creek Sta 54.77 352 P P 19 42 41.2 -0.9
baz=170
SMWD Samorwood 54.86 334 IAmb IAmb 19 42 43.5
comp=Z,41nm,1.2s
R40A Maddies Statio 54.87 343 IAmb IAmb 19 42 42.9
comp=Z,36nm,1.5s
R40A Maddies Statio 54.87 343 P P 19 42 42.0 -0.9
baz=159
P46A Rosedale 54.89 348 P P 19 42 41.6 -1.3
baz=165
T35A Sooner Cattle 54.99 338 IAmb IAmb 19 42 45.2
comp=Z,18nm,1.1s
T35B Sooner Cattle 54.99 338 P P 19 42 43.9 +0.1
baz=154
MSTX Muleshoe 55.03 331 IAmb IAmb 19 42 44.9
comp=Z,29nm,1.5s
MSTX Muleshoe 55.03 331 P P 19 42 44.4 +0.2
baz=146
O48B Farmland 55.13 350 P P 19 42 43.6 -1.1
baz=167,SNR=5.3
O48B Farmland 55.13 350 P P 19 42 43.3 -1.4
baz=167,SNR=5.3
PAMR Moraine State 55.15 355 P P 19 42 44.5 -0.3
baz=173
SFIN Lafayette 55.60 348 P P 19 42 46.7 -1.4
baz=165
N49A Columbus Grove 55.62 351 P P 19 42 47.1 -1.1
baz=168
N49A P P 19 42 47.1 -1.1
baz=168
PAOC Oil Creek Stat 55.69 355 P P 19 42 48.3 -0.4
baz=174
M53A WI Miller and 55.70 354 P P 19 42 48.3 -0.4
baz=173
L59A Walton 56.15 359 P P 19 42 52.0 0.0
baz=179
L59A P P 19 42 52.0 0.0
baz=179
L56A Greenwood 56.17 357 P P 19 42 51.2 -0.9
baz=176
L56A P P 19 42 51.2 -0.9
baz=176
BINY Binghamton 56.17 359 P P 19 42 51.9 -0.3
BINY Binghamton 56.17 359 P P 19 42 52.6 +0.5
baz=178
BINY Binghamton 56.17 359 P P 19 42 52.4 +0.3
baz=178
HDIL Hopedale 56.24 346 P P 19 42 51.3 -1.3
baz=162
ERPA Erie 56.31 355 P P 19 42 52.3 -0.8
baz=173
121A Cookes Peak, D 56.42 326 P P 19 42 54.9 +0.6
baz=140
121A Cookes Peak, D 56.42 326 P P 19 42 55.1 +0.8
baz=140,SNR=9.8
L61B Northampton 56.43 2 P P 19 42 53.6 -0.3
baz=182
P38A Dawn 56.48 342 IAmb IAmb 19 42 54.4
comp=Z,8.2nm,0.8s
WVNY West Valley, N 56.49 356 P P 19 42 54.1 -0.3
baz=175
HRV Adam Dziewonsk 56.52 3 P P 19 42 55.5 +0.9
baz=183
HCNY Howe Caverns 56.65 360 P P 19 42 56.5 +1.0
baz=180
KSU1 Kansas State U 56.98 339 P P 19 42 57.4 -0.5
baz=154
R32A Long Quarter, 57.12 337 P P 19 42 58.9 -0.1
baz=152,SNR=5.3
J57A Williamstown 57.38 359 P P 19 43 00.7 0.0
baz=178
J57A P P 19 43 00.7 0.0
baz=178
ANMO Albuquerque 57.61 329 P P 19 43 02.5 -0.2
baz=142
ANMO Albuquerque 57.61 329 P P 19 43 02.6 -0.1
baz=142,SNR=7.9
ANMO Albuquerque 57.61 329⇓ eP P 19 43 02.6 -0.1
ANMO pmax pmax
comp=Z,6.0nm,1.2s
CBKS Cedar Bluff 57.86 337 P P 19 43 04.3 +0.2
baz=151
TUC Tucson 57.93 324 P P 19 43 05.1 +0.2
baz=137
TUC Tucson 57.93 324 P P 19 43 05.2 +0.4
LBNH Lisbon 58.24 2 P P 19 43 07.3 +0.7
baz=183
T25A Trinidad 58.40 332 P P 19 43 08.3 +0.1
baz=145
SCIA State Center 58.50 344 P P 19 43 08.9 +0.4
baz=158
LONY Lake Ozonia 58.57 360 P P 19 43 09.6 +0.6
baz=180
JFWS Jewell Farm 58.70 346 P P 19 43 09.9 0.0
baz=162
214A Organ Pipe Nat 58.87 322 IAmb IAmb 19 43 13.1
comp=Z,16nm,1.0s
214A Organ Pipe Nat 58.87 322 P P 19 43 12.2 +0.9
baz=135
G62A West of Eustis 59.28 3 P P 19 43 14.5 +0.7
baz=184
G62A P P 19 43 14.5 +0.7
baz=184
SDCO Great Sand Dun 59.39 332 P P 19 43 16.0 +0.9
baz=144
SDCO Great Sand Dun 59.39 332 P P 19 43 15.2 +0.1
baz=144,SNR=15
PKME Peaks-Kenny Pk 59.40 4 P P 19 43 15.8 +1.2
baz=186
W18A Petrified Fore 59.44 327 P P 19 43 16.3 +0.9
baz=139
BGNE Belgrade 59.57 339 P P 19 43 16.3 +0.4
baz=153
X16A Lo Mia Camp, P 59.85 325 IAmb IAmb 19 43 20.1
comp=Z,12nm,1.0s
S22A 4UR Ranch, Cre 60.02 331 IAmb IAmb 19 43 20.9

comp=Z,12nm,1.4s
S22A 4UR Ranch, Cre 60.02 331 P P 19 43 19.8 +0.4
baz=143
Q24A Divide 60.23 333 P P 19 43 21.4 +0.6
baz=145
Y14A Wickenburg 60.39 323 IAmb IAmb 19 43 23.5
comp=Z,11nm,0.8s
MVCO Mesa Verde 60.41 329 IAmb IAmb 19 43 23.4
comp=Z,22nm,1.4s
MVCO Mesa Verde 60.41 329 P P 19 43 22.5 +0.5
baz=141
OGNE Ogallala 60.58 336 P P 19 43 23.5 +0.5
baz=149
OGNE Ogallala 60.58 336 P P 19 43 22.9 -0.1
baz=149
WUAZ Wupatki 60.62 326 IAmb IAmb 19 43 25.4
comp=Z,19nm,1.1s
WUAZ Wupatki 60.62 326 P P 19 43 24.7 +1.3
baz=138
GLA Glamis 60.84 321 P P 19 43 25.3 +0.5
baz=134
ISCO Idaho Springs 61.12 333 IAmb IAmb 19 43 28.1
comp=Z,14nm,1.5s
ISCO Idaho Springs 61.12 333 P P 19 43 26.8 -0.1
baz=145
ISCO Idaho Springs 61.12 333 P P 19 43 26.7 -0.1
baz=145
ISCO Idaho Springs 61.12 333 P P 19 43 27.5 +0.6
BLYC Blythe 61.15 322 IAmb IAmb 19 43 28.8
comp=Z,15nm,0.9s
ECSD EROS Data Cent 61.16 342 IAmb IAmb 19 43 27.0
comp=Z,20nm,1.1s
ECSD EROS Data Cent 61.16 342 P P 19 43 26.4 -0.3
baz=155
ECSD EROS Data Cent 61.16 342 P P 19 43 25.6 -1.1
baz=155,SNR=10.0
D62A Allapoint, All 61.22 4 P P 19 43 27.5 +0.5
baz=186
D62A P P 19 43 27.5 +0.5
baz=186
PDMCI Parker Dam,Lak 61.31 323 P P 19 43 28.7 +0.8
baz=135
IKP In-Ko-Pah, Jac 61.36 320 P P 19 43 29.2 +0.8
baz=133
SWSC Sam W. Stewart 61.37 321 P P 19 43 28.9 +0.6
baz=133
SPMN Marine on St. 61.49 345 P P 19 43 28.3 -0.6
baz=160,SNR=5.4
SPMN Marine on St. 61.49 345 P P 19 43 27.9 -1.0
baz=160,SNR=5.4
BC3 Big Chuckawall 61.64 321 P P 19 43 31.3 +1.0
baz=134,SNR=16
MONP2 Monument Peak 61.71 320 P P 19 43 31.7 +0.8
baz=133
IRM Iron Mountain 61.80 322 P P 19 43 32.4 +1.1
baz=134,SNR=20
NEE2 Needles Airpor 61.92 323 P P 19 43 33.3 +1.3
baz=135
LDAQ Lac Daran 61.98 2 P P 19 43 31.2 -1.0
109C Camp Elliot, M 62.14 320 P P 19 43 34.8 +1.3
baz=132
N23A Red Feather La 62.16 333 P P 19 43 34.9 +1.1
baz=145
BELC Belle Mtn. Jos 62.21 321 P P 19 43 35.5 +1.4
baz=133,SNR=6.9
TPFO Pinon Flats 62.22 321 P P 19 43 35.3 +1.1
baz=133,SNR=10
PFO Pinyon Flats O 62.22 321 P P 19 43 34.0 -0.2
PFO IAmb IAmb 19 43 36.3
comp=Z,16nm,1.0s
PFO Pinyon Flats O 62.22 321 P P 19 43 35.6 +1.4
baz=133,SNR=11
PFO Pinyon Flats O 62.22 321 eP P 19 43 35.0 +0.8
F36A Milaca 62.27 345 P P 19 43 33.5 -0.6
baz=159,SNR=7.2
KNB Kanab 62.52 326 IAmb IAmb 19 43 38.5
comp=Z,23nm,1.3s
GMRC Granite Mounta 62.54 322 P P 19 43 37.3 +1.0
baz=134,SNR=5.9
O20A White River Ci 62.58 331 P P 19 43 37.5 +0.9
baz=143
MURC Murrieta 62.67 320 P P 19 43 38.0 +0.9
baz=132
V12A Nelson 62.73 324 P P 19 43 37.1 -0.4
MTPU Mount Pierson 62.93 327 P P 19 43 38.0 -1.1
F33A 5 Mile Ranch, 62.99 343 P P 19 43 38.2 -0.7
baz=156,SNR=6.9
TUQ Turquoise Moun 63.15 323 P P 19 43 41.2 +0.9
baz=134,SNR=7.3
CIS Catalina Islan 63.30 319 P P 19 43 42.3 +1.0
baz=131
BFSC Mount Baldy Ra 63.38 321 P P 19 43 42.8 +0.9
baz=132
FMP Fort Macarthur 63.43 320 P P 19 43 42.9 +0.9
baz=131
GSC Goldstone, Bar 63.58 322 IAmb IAmb 19 43 45.1
comp=Z,7.4nm,0.8s
GSC Goldstone, Bar 63.58 322 P P 19 43 44.2 +1.0
baz=133,SNR=8.8
SHOC Shoshone, Teco 63.68 323 P P 19 43 44.9 +1.3
baz=134
EYMN Ely 63.76 347 IAmb IAmb 19 43 43.9
comp=Z,19nm,1.1s
EYMN Ely 63.76 347 P P 19 43 43.5 -0.4
baz=161
EYMN Ely 63.76 347 P P 19 43 42.4 -1.5
baz=161
K22A Casper 63.84 334 P P 19 43 45.2 +0.4
baz=145
K22A Casper 63.84 334 P P 19 43 45.2 +0.4
baz=145
SNCC San Nicolas Is 63.91 319 P P 19 43 46.3 +1.1
baz=130
EDW2 Edwards Air Fo 64.02 321 P P 19 43 46.9 +0.9
baz=132,SNR=12
RSSD Black Hills 64.06 337 P P 19 43 46.9 +0.6
baz=148
RSSD Black Hills 64.06 337 P P 19 43 46.5 +0.2
baz=148,SNR=6.6
RSSD Black Hills 64.06 337 P P 19 43 46.2 -0.1
LRMC Laurel Mtn Rad 64.23 322 P P 19 43 48.6 +1.2
baz=132,SNR=7.4
OSI Osito Audit: C 64.29 320 P P 19 43 49.0 +1.2
baz=131
TPNV Topopah Spring 64.39 324 P P 19 43 49.7 +1.2
baz=134,SNR=11
FURC Furnace Creek, 64.41 323 P P 19 43 49.8 +1.5
baz=134,SNR=6.1
SCZ2 Santa Cruz Isl 64.46 319 P P 19 43 49.6 +0.8
baz=130
WCT Wildcat Mounta 64.50 323 IAmb IAmb 19 43 51.5
comp=Z,13nm,0.9s
MPMC Manual Prospec 64.50 322 P P 19 43 49.9 +0.6
baz=133,SNR=10
B35A Bob, Littlefor 64.65 346 P P 19 43 48.8 -0.9
baz=159,SNR=6.6
ARVC Arvin 64.69 321 P P 19 43 51.6 +1.3
baz=131
SPR3 Spring Creek 3 64.78 326 IAmb IAmb 19 43 52.8
comp=Z,15nm,1.3s
ISA Isabella, Lake 64.83 321 P P 19 43 52.4 +1.2
baz=132,SNR=7.4
DUG Dugway, Tooele 64.86 328 P P 19 43 52.1 +0.6
DUG IAmb IAmb 19 43 54.2
comp=Z,19nm,1.1s
DUG Dugway, Tooele 64.86 328 P P 19 43 52.4 +0.9
baz=138,SNR=22
DUG Dugway, Tooele 64.86 328 P P 19 43 52.1 +0.6
DUG pmax pmax
comp=Z,19nm,1.1s
R11B Troy Canyon, C 65.00 325 P P 19 43 53.3 +0.9
baz=135,SNR=9.8
GRAC Grapevine Rang 65.07 323 P P 19 43 54.0 +1.2
baz=133
Q12A Willow Creek R 65.08 326 IAmb IAmb 19 43 55.0
comp=Z,21nm,1.3s
CWC Cottonwood Cre 65.11 322 P P 19 43 54.3 +1.1
baz=132
AGMN Agassiz Nation 65.12 344 IAmb IAmb 19 43 53.3
comp=Z,24nm,0.9s
AGMN Agassiz Nation 65.12 344 P P 19 43 52.5 -0.3
baz=157,SNR=14
AGMN Agassiz Nation 65.12 344 P P 19 43 52.2 -0.6
baz=157,SNR=14
PKM Mcpherson Peak 65.14 320 P P 19 43 53.6 +0.2
baz=130
BW06 Boulder Array 65.27 332 P P 19 43 54.1 -0.1
baz=142,SNR=5.2

PDAR Pinedale Array 65.27 332 P P 19 43 53.5 -0.6
comp=Z,2.7nm,1.0s,baz=141,slow=5.7,SNR=15
PDAR pP pP 19 44 18.5 -0.6
comp=Z,0.4nm,0.6s,baz=130,slow=9.8,SNR=1.6
comp=Z,2.7nm,1.0s
VES Vestal, Richgr 65.32 321 P P 19 43 55.1 +0.8
baz=131,SNR=6.3
MDND Maddock 65.78 342 P P 19 43 57.6 +0.6
baz=153,SNR=14
MDND Maddock 65.78 342 P P 19 43 57.5 +0.4
baz=153,SNR=14
MLAC Mammoth, Mammo 66.36 323 P P 19 44 01.7 +0.4
baz=132
OMMB Old Mammoth Mi 66.44 323 IAmb IAmb 19 44 03.9
comp=Z,14nm,1.2s
NVAR Mina Array Bea 66.59 324 P P 19 44 03.2 +0.5
comp=Z,3.4nm,1.1s,baz=143,slow=6.6,SNR=17
NVAR pP pP 19 44 28.3 +0.6
comp=Z,1.5nm,0.8s,baz=132,slow=6.7,SNR=4.1
comp=Z,3.4nm,1.1s
ULM Lac du Bonnet 66.93 345 P P 19 44 03.5 -0.8
comp=Z,22nm,0.9s,baz=157,slow=6.1,SNR=35
comp=Z,22nm,0.9s
H17A Grant Village 67.00 333 P P 19 44 05.9 +0.6
baz=142
RLMT Red Lodge 67.01 334 IAmb IAmb 19 44 06.5
comp=Z,24nm,1.3s
RLMT Red Lodge 67.01 334 P P 19 44 05.5 +0.3
baz=143,SNR=11
LAO LASA Array 67.06 337 P P 19 44 05.7 +0.4
baz=146
PNTR Pine Nut 67.78 323 IAmb IAmb 19 44 12.7
comp=Z,26nm,1.5s
DGMT Dagmar 67.82 339 P P 19 44 10.8 +0.7
baz=149,SNR=7.4
DGMT Dagmar 67.82 339 P P 19 44 10.5 +0.5
baz=149,SNR=7.4
HLID Hailey 68.16 330 P P 19 44 13.4 +1.0
baz=138,SNR=9.8
VNA3 Neumayer Olymp 68.58 162 ⇑P P 19 44 15.1 +0.6
comp=Z,4.9nm,1.0s
VNA3 ⇓pP PcP 19 44 39.9 +1.0
comp=Z,3.6nm,0.8s
MFID Camas Ranch 68.76 329 IAmb IAmb 19 44 18.1
comp=Z,27nm,0.9s
VNA1 Neumayer--Stat 68.83 161 ⇑P P 19 44 17.9 +2.0
comp=Z,9.7nm,0.9s
VNA1 ⇓pP PcP 19 44 40.3 +0.4
comp=Z,8.7nm,1.3s
SCHQ Schefferville 69.09 5 P P 19 44 17.4 -0.4
comp=Z,8.2nm,0.9s,baz=164,slow=5.9,SNR=5.3
comp=Z,8.2nm,0.9s
VNA2 Nenayer--Watz 69.18 161 ⇑P P 19 44 19.7 +1.4
comp=Z,4.4nm,0.7s,baz=288,slow=6.0
VNA2 ⇓pP pP 19 44 43.6 +0.4
comp=Z,3.0nm,0.7s,baz=273,slow=6.0
ORV Oroville 69.19 323 P P 19 44 19.5 +0.8
ORV IAmb IAmb 19 44 21.1
comp=Z,28nm,1.2s
ORV Oroville 69.19 323 P P 19 44 19.5 +0.8
ORV pmax pmax
comp=Z,28nm,1.3s
WVOR Wild Horse Val 69.52 327 P P 19 44 21.7 +0.9
EGMT Eagleton 69.53 335 IAmb IAmb 19 44 21.9
comp=Z,20nm,0.9s
EGMT Eagleton 69.53 335 P P 19 44 21.3 +0.6
baz=143,SNR=8.5
MSO Missoula 70.39 332 IAmb IAmb 19 44 28.6
comp=Z,16nm,1.1s
MSO Missoula 70.39 332 P P 19 44 26.9 +0.9
baz=139,SNR=13
SNAA Sanae 70.80 161 P P 19 44 28.3 +0.1
SNAA Sanae 70.80 161 ⇑P P 19 44 29.4 +1.2
comp=Z,131nm,0.6s
SNAA ⇓pP pP 19 44 53.1 -0.2
comp=Z,163nm,0.8s
SNAA Sanae 70.80 161 ⇑eP P 19 44 28.2 +0.1
SNAA pmax pmax
comp=Z,9.0nm,0.9s
SNAA Sanae 70.80 161 P P 19 44 28.4 +0.3
comp=Z,8.1nm,0.9s,baz=298,slow=5.8,SNR=23
SNAA pP pP 19 44 54.1 +0.9
comp=Z,6.6nm,0.8s,baz=285,slow=4.9,SNR=7.5
comp=Z,8.1nm,0.9s
K05A Summer Lake 70.94 326 IAmb IAmb 19 44 35.4
comp=Z,12nm,1.1s
I07A Izee 71.11 327 IAmb IAmb 19 44 32.8
comp=Z,18nm,1.1s
F10A Beach Ranch, E 71.29 330 IAmb IAmb 19 44 34.3
comp=Z,16nm,0.9s
J05D Fork, OR 71.50 326 IAmb IAmb 19 44 34.8
comp=Z,15nm,1.1s
G08A Pilot Rock 71.67 329 IAmb IAmb 19 44 35.6
comp=Z,10nm,0.9s
PINE Pine Mountain 71.68 326 IAmb IAmb 19 44 36.4
comp=Z,13nm,0.8s
DBIC Dimbokro 72.03 78 pP pP 19 45 02.8 +1.1
comp=Z,3.5nm,1.0s,baz=243,slow=3.4,SNR=3.2
DBIC LR LR 20 15 54.5
comp=Z,42nm,18.3s,baz=220,slow=35
E09A Wood Farm, Sta 72.12 330 IAmb IAmb 19 44 37.8
comp=Z,17nm,0.9s
I05D Terrebonne, OR 72.26 327 IAmb IAmb 19 44 39.5
comp=Z,20nm,0.8s
TROLL Troll, Antarti 72.51 161 ⇑P P 19 44 40.0 +1.4
comp=Z,285nm,1.1s
TROLL ⇓pP pP 19 45 03.7 -0.1
comp=Z,267nm,0.9s
HAWA Hanford 72.72 329 IAmb IAmb 19 44 42.0
comp=Z,14nm,0.8s
NEW Newport 72.90 332 P P 19 44 41.9 +0.9
baz=136
NEW Newport 72.90 332 P P 19 44 41.3 +0.3
FCC Fort Churchill 74.50 349 IAmb IAmb 19 44 50.4
comp=Z,13nm,0.8s
GNW Green Mountain 75.17 328 P P 19 44 54.2 0.0
GNW IAmb IAmb 19 44 55.8
comp=Z,14nm,0.9s
NVL N'lazarevskaya 75.42 160 eP P 19 44 58.7 +3.4
NVL pmax pmax
comp=Z,15nm,0.9s
QSPA South Pole Qui 75.91 180 P P 19 44 59.5 +1.1
comp=Z,6.3nm,0.7s,baz=155,slow=2.2,SNR=28
QSPA pP pP 19 45 24.5 +0.7
comp=Z,2.7nm,0.7s,baz=175,slow=6.5,SNR=3.4
comp=Z,6.3nm,0.7s
FRB Frobisher Bay 77.87 3 P P 19 45 08.5 -0.5
ELIB Princess Elisa 78.96 162 dP P 19 45 16.7 +1.4
TORD Torodi Ar. Bea 80.10 74 P P 19 45 21.8 -0.5
TORD Torodi Ar. Bea 80.10 74 P P 19 45 21.8 -0.5
comp=Z,2.0nm,0.8s,baz=276,slow=4.4,SNR=9.0
TORD pP pP 19 45 48.9 +0.9
comp=Z,3.6nm,1.1s,baz=291,slow=4.4,SNR=4.7
TORD LR LR 20 19 22.2
comp=Z,42nm,19.1s,baz=196,slow=34
comp=Z,2.0nm,0.8s
MDT Midelt 81.35 53 LR LR 20 22 17.2
comp=Z,21nm,18.1s,baz=58,slow=36
YKA Yellowknife Ar 82.68 342 P P 19 45 34.5 -0.4
comp=Z,5.8nm,0.9s,baz=138,slow=5.3,SNR=59
YKA pP pP 19 46 01.4 +0.8
comp=Z,1.5nm,0.8s,baz=139,slow=5.5,SNR=2.8
comp=Z,5.8nm,0.9s
VNDA Vanda 83.03 190 P P 19 45 37.4 +0.7
comp=Z,2.2nm,1.0s,baz=136,slow=9.0,SNR=4.7
comp=Z,2.2nm,1.0s
KOTAN Kotaneelee Air 84.11 337 P P 19 45 43.6 +1.3
baz=132
V35K Ketchikan 84.29 331 P P 19 45 44.5 +1.2
baz=125
ESDC Sonseca Array 84.53 47 P P 19 45 44.9 -0.1
ESDC Sonseca Array 84.53 47 P P 19 45 45.5 +0.5
comp=Z,2.4nm,0.9s,baz=255,slow=5.4,SNR=16
ESDC pP pP 19 46 11.8 +0.8
comp=Z,2.6nm,1.0s,baz=256,slow=5.0,SNR=6.7
ESDC LR LR 20 22 05.2
comp=Z,23nm,18.8s,baz=290,slow=35
comp=Z,2.4nm,0.9s
T35M Bob Quinn 84.64 333 P P 19 45 46.1 +1.0
baz=126
DLBC Dease Lake 85.41 334 P P 19 45 50.3 +1.3
baz=127
S34M Telegraph Cree 85.57 333 P P 19 45 50.8 +1.2
baz=126
R33M Jennings River 86.37 335 P P 19 45 55.0 +1.2
baz=126
TGTN Hyland Airport 86.59 337 P P 19 45 56.0 +1.2
baz=128

Q32M Nakina River 86.67 334 P P 19 45 56.1 +0.8
baz=125
SUR Sutherland 86.80 122 LR LR 20 21 11.5
comp=Z,42nm,19.5s,baz=237,slow=33
P33M Teslin, Yukon 87.61 335 IAmb IAmb 19 46 00.9
comp=Z,13nm,1.1s
P33M Teslin, Yukon 87.61 335 P P 19 46 00.1 +0.4
baz=124
N32M Quiet Lake 88.24 336 P P 19 46 03.6 +0.9
baz=124
WHY Whitehorse 88.71 335 P P 19 46 05.9 +0.9
baz=122
FARO Faro, Yukon 88.95 336 P P 19 46 06.9 +1.0
baz=124
O30N Mendenhall 89.27 334 P P 19 46 08.2 +0.8
baz=121
P30M Million Dollar 89.31 334 P P 19 46 08.4 +0.7
baz=121
M31M Drury Creek, Y 89.35 336 P P 19 46 08.4 +0.6
baz=123
P29M Windy Craggy 89.40 333 P P 19 46 08.6 +0.5
baz=120
N31M Braeburn, Yuko 89.52 335 P P 19 46 09.3 +0.7
baz=122
RES Resolute Bay 89.67 355 IAmb IAmb 19 46 10.3
comp=Z,8.7nm,0.9s
RES Resolute Bay 89.67 355 P P 19 46 09.4 +0.5
SUMG Summit 89.80 10 P P 19 46 10.5 +0.4
SUMG Summit 89.80 10 P P 19 46 10.5 +0.4
SUMG pmax pmax
comp=Z,28nm,1.1s
HYT Haines Junctio 89.90 334 P P 19 46 10.9 +0.4
baz=120
N30M Aishikik Lake 90.04 335 P P 19 46 12.1 +1.0
baz=120
O29M Mount Kennedy 90.10 333 P P 19 46 11.6 +0.2
baz=119
PNL Peninsula 90.15 333 P P 19 46 12.4 +0.9
baz=118
YUK6 Outpost Mounta 90.32 334 P P 19 46 12.9 +0.3
baz=119
M30M Minto, Yukon 90.50 336 IAmb IAmb 19 46 14.4
comp=Z,5.4nm,0.9s
M30M Minto, Yukon 90.50 336 P P 19 46 13.7 +0.6
baz=121
YUK4 Talbot Arm 90.64 334 P P 19 46 14.7 +0.7
baz=119
PINM Pinnacle 90.73 333 P P 19 46 15.7 +1.4
baz=118
YUK8 Steele Glacier 91.08 334 P P 19 46 16.8 +0.7
baz=118
M29M Somme Creek 91.10 335 P P 19 46 17.4 +1.4
baz=119
L29M L29M 91.29 336 P P 19 46 17.6 +0.8
baz=120
J30M Hart River 91.35 338 P P 19 46 18.0 +0.8
baz=121
K29M Barlow Dome 91.42 337 P P 19 46 18.3 +0.8
baz=120
BOSA Boshof 91.51 120 LR LR 20 25 06.3
comp=Z,27nm,19.4s,baz=258,slow=34
YUK3 Moose Creek 91.61 334 P P 19 46 19.0 +0.5
baz=118
I30M Mount Dempster 91.70 338 P P 19 46 19.0 +0.2
baz=121
G31M Satah River 91.88 340 P P 19 46 19.5 +0.1
baz=123
F31M Tsiigehtchic 91.99 341 P P 19 46 19.9 0.0
baz=123
BVCY Beaver Creek 92.07 335 P P 19 46 20.1 -0.3
baz=117
DAWY Dawson 92.25 336 IAmb IAmb 19 46 22.0
comp=Z,7.2nm,0.9s
DAWY Dawson 92.25 336 P P 19 46 21.4 +0.2
baz=118
A36M Sachs Harbour 92.40 346 P P 19 46 21.6 0.0
baz=131
INK Inuvik 92.40 341 IAmb IAmb 19 46 22.6
comp=Z,8.4nm,1.1s
INK Inuvik 92.40 341 P P 19 46 22.5 +0.7
baz=124
EPYK Eagle Plains 92.42 339 P P 19 46 22.3 +0.3
baz=121
M27K Edge Creek, AK 92.47 334 P P 19 46 21.9 -0.5
baz=116
I29M Ogilvie Camp, 92.47 338 P P 19 46 22.8 +0.6
baz=119
MCARA McCarthy VSAT 92.53 333 P P 19 46 23.3 +0.7
baz=115
KAIM Kayak Island 92.54 332 P P 19 46 23.5 +0.9
baz=114
G30M tAoh Zraii Nji 92.56 340 P P 19 46 21.8 -0.8
baz=121
F30M Barrier River 92.75 340 P P 19 46 24.1 +0.7
baz=122
L27K Beaver Creek, 92.76 335 P P 19 46 24.0 +0.4
baz=116
H29M Whitestone 92.92 339 P P 19 46 24.0 -0.2
baz=119
M26K Nabesna, AK 92.95 334 P P 19 46 24.9 +0.3
baz=115
BMRM Bremner River 93.05 333 P P 19 46 25.5 +0.5
baz=114
I28M Miner Creek 93.11 338 P P 19 46 25.0 -0.2
baz=118
G29M Pine Creek 93.14 339 P P 19 46 25.7 +0.5
baz=120
Q23K Middleton Isla 93.24 331 P P 19 46 26.3 +0.5
baz=112
K27K Chicken 93.29 336 P P 19 46 26.4 +0.4
baz=116
L26K Log Cabin Wild 93.37 335 P P 19 46 26.6 +0.2
baz=115
EYAK Cordova Ski Ar 93.40 332 P P 19 46 26.6 0.0
baz=113
I27K Kandik River 93.81 337 P P 19 46 28.5 +0.1
baz=116
E29M Blow River 93.83 341 IAmb IAmb 19 46 28.9
comp=Z,6.4nm,0.8s
E29M Blow River 93.83 341 P P 19 46 28.6 +0.3
baz=120
KLU Klutina 93.85 333 P P 19 46 28.8 +0.1
baz=113
HARP HAARP 93.87 334 P P 19 46 29.0 +0.3
baz=113
P23K Montague Islan 93.95 331 P P 19 46 29.5 +0.4
baz=112
SCRK Sand Creek 94.03 336 P P 19 46 29.8 +0.2
baz=114
H27K Steamboat Moun 94.06 338 P P 19 46 30.1 +0.6
baz=116
J26L Joseph Creek 94.08 336 P P 19 46 30.1 +0.4
baz=115
F28M Old Crow 94.11 340 P P 19 46 29.8 +0.1
baz=118
PAX Paxson 94.23 334 P P 19 46 30.0 -0.5
baz=113
G27K Canyon Strip 94.36 339 P P 19 46 30.7 -0.2
baz=116
J25K Salcha River, 94.83 336 P P 19 46 33.8 +0.6
baz=113
E27K Coleen River 94.95 340 P P 19 46 33.4 -0.2
baz=116
SML Sawmill 95.03 333 P P 19 46 34.1 0.0
baz=111
D27M Malcolm River 95.22 341 P P 19 46 35.0 +0.2
baz=117
PRP Porcupine Dome 95.25 337 P P 19 46 35.3 +0.2
baz=113
HDA Harding Lake 95.39 335 P P 19 46 35.7 +0.1
baz=112
HDA P P 19 46 35.7 +0.1
baz=112
WAT1 Susitna Watana 95.49 334 P P 19 46 36.5 +0.3
baz=110
ILAR Eielson Array 95.50 336 P P 19 46 35.5 -0.6
comp=Z,0.8nm,0.8s,baz=151,slow=2.9,SNR=12
ILAR PP PP 19 50 24.1 -4.1
comp=Z,0.4nm,0.8s,baz=112,slow=7.7,SNR=4.4
comp=Z,0.8nm,0.8s
F26K Sheenjek River 95.61 339 P P 19 46 36.9 +0.3
baz=114
KDAK Kodiak Island 95.74 328 P P 19 46 37.5 +0.2
baz=107
M22K Willow 95.81 332 P P 19 46 37.9 +0.4
baz=109
POKR Poker Plat Res 95.84 336 P P 19 46 38.0 +0.3
baz=111

OHAK	Old Harbor	95.94	328	P	P	19 46 38.2	0.0
	baz=107						
MCK	McKinley	95.96	334	P	P	19 46 38.2	-0.1
	baz=110						
F25K	Christian Rive	96.10	339	P	P	19 46 39.1	+0.3
	baz=112						
SII	Sitkinak Islan	96.22	327	P	P	19 46 39.3	-0.3
	baz=106						
H24K	Noodor Dome	96.27	337	P	P	19 46 39.4	-0.2
	baz=111						
E25K	Arctic Village	96.28	339	P	P	19 46 40.1	+0.5
	baz=112						
NEA2	Nenana	96.31	335	P	P	19 46 40.4	+0.6
	baz=110						
DAVOX	Davos/Dischmat	96.37	43	LR	LR	20 28 46.9	
	comp=Z,17nm,18.9s,baz=270,slow=34						
G24K	Hadweenzic Riv	96.43	337	P	P	19 46 41.4	+1.1
	baz=111						
TRF	Thorofare Moun	96.44	334	P	P	19 46 41.4	+0.8
	baz=109						
SKT	Skwentna	96.52	332	P	P	19 46 41.7	+0.9
	baz=108						
N20K	Mount Spurr	96.59	332	P	P	19 46 41.8	+0.5
	baz=107						
I23K	Minto, Yukon-K	96.62	336	P	P	19 46 41.4	+0.3
	baz=109						
P19K	Oil Pt	96.62	330	P	P	19 46 41.3	0.0
	baz=107						
C26K	Camden Bay	96.76	341	P	P	19 46 41.7	0.0
	baz=113						
CHIR	Chirikof Islan	96.80	326	P	P	19 46 42.8	+0.6
	baz=105						
F24K	Squaw Lake	96.87	338	P	P	19 46 41.8	-0.6
	baz=110						
BPAW	Bear Paw Mtn.	96.94	335	P	P	19 46 42.5	-0.2
	baz=108						
D25K	Kavik River	97.00	340	P	P	19 46 42.9	0.0
	baz=112						
MLY	Manley	97.13	335	P	P	19 46 43.5	-0.1
	baz=108						
CAST	Castle Rocks	97.20	334	P	P	19 46 43.8	-0.1
	baz=107						
E24K	Your Creek	97.28	339	P	Pdif	19 46 44.5	+0.2
	baz=110						
G23K	Bananza Creek	97.39	337	P	P	19 46 44.7	+0.1
	baz=109						
P18K	Big Mountain,	97.53	329	P	Pdif	19 46 45.8	+0.3
	baz=105						
COLD	Coldfoot	97.62	338	P	Pdif	19 46 46.1	+0.4
	baz=108						
H22K	Ishtalitna Cre	97.65	336	P	P	19 46 45.9	+0.1
	baz=108						
E23K	Chandalar	97.67	338	P	P	19 46 45.8	-0.2
	baz=109						
TOLK	Toolik Lake Re	97.85	339	P	P	19 46 46.8	+0.1
	baz=109						
C24K	Franklin Bluff	97.91	340	P	Pdif	19 46 48.0	+1.1
	baz=110						
G22K	Bettles	98.01	337	P	Pdif	19 46 47.7	+0.3
	baz=107						
LSZ	Lusaka	98.04	108	LR	LR	20 30 02.3	
	comp=Z,23nm,18.8s,baz=278,slow=35						
L19K	White Mountain	98.08	332	P	P	19 46 47.6	-0.3
	baz=105						
N18K	Kilae Creek	98.17	331	P	Pdif	19 46 48.5	+0.1
	baz=104						
J20K	Nowinta River	98.29	334	P	P	19 46 48.8	+0.1
	baz=105						
D23K	Nanushuk River	98.33	339	P	P	19 46 48.5	-0.4
	baz=108						
M18K	Stony River	98.34	331	P	Pdif	19 46 49.7	+0.6
	baz=104						
F22K	John River	98.43	338	P	Pdif	19 46 49.9	+0.6
	baz=107						
E22K	Anaktuvuk Pass	98.48	338	P	P	19 46 49.6	0.0
	baz=107						
G21K	Allakaket	98.66	337	P	P	19 46 50.4	0.0
	baz=106						
F21K	Alatna River	98.84	337	P	P	19 46 51.3	+0.1
	baz=106						
J19K	Poorman	98.87	334	P	P	19 46 51.4	+0.1
	baz=104						
H20K	Anotleneega Mo	98.93	335	P	Pdif	19 46 51.8	+0.2
	baz=104						
O16K	Kokwok River B	98.99	329	P	Pdif	19 46 52.2	+0.3
	baz=103						
D22K	Ayikyak River	99.00	339	P	Pdif	19 46 52.2	+0.4
	baz=106						
J18K	Innoko River	99.22	333	P	**Pdif**	19 46 52.6	-0.3
	baz=103						
E21K	Kilik River	99.34	338	P	**Pdif**	19 46 53.6	+0.2
	baz=105						
SDPT	Sand Point	99.37	325	P	**Pdif**	19 46 53.4	-0.3
	baz=101						
N16K	Nishlik Lake	99.51	330	P	**Pdif**	19 46 54.0	-0.3
	baz=102						
H19K	Roundabout Mou	99.58	335	P	**Pdif**	19 46 54.4	0.0
	baz=103						
L17K	Donlin	99.64	332	P	**Pdif**	19 46 55.0	+0.3
	baz=102						
B22K	Teshekpuk Lake	99.64	340	P	**Pdif**	19 46 54.9	+0.3
	baz=105						
A22K	Sinclair Lake	100.31	341	P	**Pdif**	19 46 58.8	+1.2
	baz=104						
B20K	Meade River	100.81	340	P	**Pdif**	19 47 00.4	+0.6
	baz=102						
L15K	Ungalak Mounta	101.03	331	P	**Pdif**	19 47 01.1	+0.1
	baz=99						
I17K	Unalakleet	101.04	333	P	**Pdif**	19 47 01.0	+0.1
	baz=100						
E17K	Hotham Inlet	102.00	336	P	**Pdif**	19 47 05.8	+0.6
	baz=98						
NACGM	Naroch	107.94	37	*e*Pdif	**Pdif**	19 47 35.8	+4.0
	comp=Z,34nm,0.9s,baz=270						
TIXI	Tiksi	120.93	352	⇑*i*PKIKP	**PKPdf**	19 52 02.0	-0.9
ABKAR	Akbulak array	128.95	37	PKPdf	**PKiKP**	19 52 19.5	-0.1
BRVK	Borovoye	132.25	28	⇑*i*PKIKP	**PKiKP**	19 52 26.2	+0.1
BVAR	Borovoye Array	132.32	28	PKP	**PKPdf**	19 52 24.9	-0.4
	comp=Z,17nm,0.9s,baz=245,slow=3.1,SNR=7.7						
ASAR	Alice Springs	133.26	217	PKP	**PKPdf**	19 52 27.8	-0.2
	comp=Z,1.1nm,0.8s,baz=119,slow=2.1,SNR=13						
ASAR				pPKP	**pPKPdf**	19 52 55.4	+0.2
	comp=Z,0.3nm,0.6s,baz=110,slow=1.8,SNR=1.6						
WRA	Warramunga Arr	135.81	220	PKP	**PKPdf**	19 52 33.1	+0.3
	comp=Z,2.0nm,0.8s,baz=149,slow=1.6,SNR=12						
WRA				pPKP	**pPKPdf**	19 53 00.8	+0.8
	comp=Z,1.4nm,0.9s,baz=149,slow=1.8,SNR=4.1						
ZALV	Zalesovo Beam	137.14	18	PKP	**PKPdf**	19 52 34.7	+0.5
	comp=Z,9.3nm,0.9s,baz=299,slow=3.1,SNR=29						
ZALV				pPKP	**pPKPdf**	19 53 02.3	+0.9
	comp=Z,2.7nm,0.8s,baz=316,slow=4.1,SNR=3.6						
KURK	Kurchatov	137.56	25	⇑*i*PKIKP	**PKPdf**	19 52 35.9	+0.9
KURBB	Kurchatov Arra	137.59	25	PKP	**PKPdf**	19 52 34.9	-0.2
	comp=Z,2.7nm,0.9s,baz=313,slow=2.7,SNR=15						
KURBB				pPKP	**pPKPdf**	19 53 04.1	+1.8
	comp=Z,1.5nm,0.8s,baz=307,slow=2.8,SNR=4.3						
MKAR	Makanchi Array	142.13	26	PKhKP	PKPpre	19 52 40.0	
	comp=Z,1.5nm,0.9s,baz=336,slow=2.7,SNR=4.6						
MKAR				pPKP	pPKPdf	19 53 11.2	+0.4
	comp=Z,1.1nm,0.9s,baz=321,slow=3.7,SNR=2.8						
MJAR	Matsushiro Arr	143.40	313	PKhKP	PKPpre	19 52 42.0	
	comp=Z,3.3nm,1.0s,baz=82,slow=2.6,SNR=3.1						
MJAR				PKP	**PKPdf**	19 52 46.4	+0.3
	comp=Z,1.8nm,0.8s,baz=78,slow=2.1,SNR=5.0						
ZAK	Zakamensk	143.90	3	*e*PKHKP	PKPpre	19 52 33.8	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
SONM	Songino Array	146.50	359	PKPdf	**PKPdf**	19 52 51.3	+0.1
SONM	Songino Array	146.50	359	PKP2	**PKPdf**	19 52 51.3	+0.1
SONM	Songino Array	146.50	359	PKPbc	**PKPbc**	19 52 53.3	+0.5
	comp=Z,9.4nm,0.8s,baz=322,slow=1.9,SNR=61						
SONM				pPKPbc	pPKPab	19 53 21.3	+1.0
	comp=Z,2.4nm,0.9s,baz=318,slow=2.1,SNR=2.6						
KSRS	Korea Array	149.53	323	PKPbc	**PKPbc**	19 53 00.8	-0.1
	comp=Z,6.6nm,0.9s,baz=355,slow=1.2,SNR=10						
HYB	Hyderabad	153.79	79	*e*PKiKP	**PKiKP**	19 53 12.1	+0.7
GTA	Gaotai	154.41	10	*e*PKPbc	**PKPdf**	19 53 05.1	+1.3
GTA				pPKP	PKiKP	19 53 12.8	+0.6
GTA				PKPab	**PKPab**	19 53 26.8	+0.2
PZH	PanZhiHua	167.27	16	PKP	**PKPdf**	19 53 16.3	-1.6

*IDC **24** 19:40:42.1±3.1, 19°.21N×145°.20E, h199km±29km, mb3.1/4, mbtmp3.7/5, Error ellipse: s-maj=63.0km s-min=21.3km az=100.0*
*NEIC **24** 19:40:52.3±1.1, 18°.9N±0°.1×145°.5E±0°.3, h284km±11km, mb3.9/16, Error ellipse: s-maj=39.6km s-min=10.8km az=108.0*

ISC 24 19:40:44.5±0.8, 19°.02N±0°.08×145°.3E±0°.2, h214km, n24, σt1s27/25, mb3.8/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	5.41	184	P	Pn	19 42 05.0	+0.5
	159nm,1.1s,baz=36,slow=13,SNR=2.0						
GUMO				S	S	19 43 09.2	+1.5
	33nm,0.6s,baz=180,slow=20,SNR=1.5						
MTN	Manton Dam	34.59	205	P	P	19 47 14.1	+0.8
PEA0B	Petropavlovsk-	35.37	13	P	P	19 47 22.1	+2.6
PETK	Petropavlovsk-	35.37	13	P	P	19 47 22.4	+2.9
WB0	Warramunga Arr	39.99	196	P	P	19 47 58.3	-0.3
WR0	Warramunga Arr	40.14	196	P	P	19 47 59.8	0.0
WR0				IAmb	IAmb	19 48 18.9	
	comp=Z,1.6nm,0.8s						
WRAB	Tennant Creek	40.16	196	P	P	19 48 00.6	+0.6
WRAB				IAmb	IAmb	19 48 01.9	
	comp=Z,3.7nm,1.0s						
WB2	Warramunga Arr	40.17	196	P	P	19 48 00.6	+0.6
WB2				IAmb	IAmb	19 48 18.5	
	comp=Z,6.7nm,0.9s						
WRA	Warramunga Arr	40.18	196	P	P	19 48 00.7	+0.6
WRA	Warramunga Arr	40.18	196	P	P	19 48 00.5	+0.4
	comp=Z,0.8nm,0.4s,baz=18,slow=8.9,SNR=21						
	comp=Z,0.8nm,0.4s						
FITZ	Fitzroy Crossi	41.62	209	P	P	19 48 13.1	+1.2
AS31	Alice Springs	43.85	195	P	P	19 48 29.9	+0.1
ASAR	Alice Springs	43.85	195	P	P	19 48 30.1	+0.4
	comp=Z,0.6nm,0.5s,baz=16,slow=6.2,SNR=21						
	comp=Z,0.6nm,0.5s						
DZM	Mont Dzumac	45.78	152	P	P	19 48 44.9	-0.1
DZM				IAmb	IAmb	19 48 51.0	
	comp=Z,2.9nm,0.9s						
CAN	Canberra	54.15	176	P	P	19 49 46.2	-1.5
CAN				IAmb	IAmb	19 50 03.2	
	comp=Z,6.1nm,1.1s						
O14K	Tigyukauivet M	55.44	30	P	P	19 49 57.4	+0.9
MWH	Moku'aweowe	55.57	79	P	P	19 49 57.2	-1.6
M14K	Bethel	55.72	28	P	P	19 49 58.9	+0.4
M14K				IAmb	IAmb	19 50 00.0	
	comp=Z,7.8nm,0.9s						
J14K	Nanvaranak Lak	55.90	26	P	P	19 50 00.9	+1.1
J14K				IAmb	IAmb	19 50 14.5	
	comp=Z,6.2nm,1.1s						
G21K	Allakaket	61.36	24	P	P	19 50 37.3	-0.1
KNK	Knik Glacier	62.15	30	P	P	19 50 42.9	+0.2
KNK				IAmb	IAmb	19 50 57.6	
	comp=Z,5.6nm,1.0s						
M24K	Tolsona, Glenn	63.35	29	P	P	19 50 50.2	-0.5
ILAR	Eielson Array	63.54	26	P	P	19 50 50.1	-1.7
	comp=Z,0.1nm,0.7s,baz=256,slow=5.8,SNR=1.5						
	comp=Z,0.1nm,0.7s						
BVAR	Borovoye Array	65.98	320	P	P	19 51 05.7	-2.1
	comp=Z,0.4nm,0.7s,baz=79,slow=7.8,SNR=2.6						
	comp=Z,0.4nm,0.7s						

*NIED **24** 20:06:13.3, 29°.45N×143°.52E, h0km, MW4.2, Moment Tensor Solution. s1 Moment tensor: Scale 10^15 Nm; Mrr0.98; Mθθ-0.35; Mφφ-0.63; Mrθ0.66; Mθφ-0.49; Mφr2.27; Fault plane solution: M0 2.56000×10^15 NP1:φs18.00000°, δ79.00000°, λ83.00000°. NP2:φs232.00000°, δ13.00000°, λ123.00000°.*
*JMA **24** 20:06:13.3±0.4, 29°.5N±0°.5×14°.4E±°, h0km, MV4.6/22, FAR E OFF IZU ISLANDS*
*IDC **24** 20:06:19.2±0.6, 29°.24N×142°.42E, h0km, mb4.1/19, mbtmp4.1/22, ML3.3/3, MS3.2/2, Error ellipse: s-maj=20.0km s-min=14.5km az=78.0*
*MOS **24** 20:06:21.4±1.1, 29°.28N×142°.40E, h24km, mb4.6/16, Error ellipse: s-maj=15.6km s-min=6.4km az=119.2*
*NEIC **24** 20:06:25.9±1.2, 29°.28N±0°.1×142°.3E±0°.2, h36km±10km, mb4.5/22, Error ellipse: s-maj=22.1km s-min=14.4km az=91.0*

ISC 24 20:06:21.3±0.5, 29°.28N±0°.05×142°.3E±0°.1, h10km, n90, σt1s34/97, mb4.4/36, 9C-5D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	Chichijima	2.18	183	Pn	Pn	20 06 54.1	-3.6
	4.6nm,0.3s,baz=251,slow=22,SNR=5.9						
JCJ				Sn	Sn	20 07 20.3	-4.4
	12nm,0.3s,baz=297,slow=19,SNR=4.1						
JOD2	Odawara 2	6.56	336	*e*P	Pn	20 07 58.4	+0.6
JHU	Hanno	7.03	339	*e*P	Pn	20 08 03.0	-1.3
JRY	Ryogami san	7.30	338	P	Pn	20 08 08.5	+0.4
JRY				S	Sn	20 09 28.0	-3.1
JHO	Hitachi	7.45	349	*e*P	Pn	20 08 08.0	-2.1
JAG	Ashikaga	7.52	342	*e*P	Pn	20 08 09.8	-1.1
JAG				*e*S	Sn	20 09 30.6	-5.6
MJAO	Matsu Arr-Jizo	8.01	336	*e*P	Pn	20 08 18.2	+0.5
MJAR	Matsushiro Arr	8.02	336	Pn	Pn	20 08 18.2	+0.4
	0.4nm,0.3s,baz=160,slow=10,SNR=68						
MJAR				Sn	Sn	20 09 47.3	-1.3
	0.1nm,0.3s,baz=162,slow=20,SNR=2.9						
	13nm,0.7s						
MAJO	Matsushiro	8.02	336	Pn	Pn	20 08 18.4	+0.6
MAJO	Matsushiro	8.02	336	‖*e*P	Pn	20 08 18.5	+0.6
MJB9	Matsu-Tunnel	8.02	336	Pn	Pn	20 08 19.8	+1.8
JMM	Marumori	8.65	352	Pn	Pn	20 08 25.8	-0.7
KSRS	Korea Array	14.52	308	Pn	Pn	20 09 49.2	+2.5
	0.2nm,0.3s,baz=109,slow=12,SNR=7.3						
	2.6nm,0.8s						
USRK	Ussuriysk Ar.	17.01	334	P	Pn	20 10 19.3	+0.1
	1.8nm,0.6s,baz=138,slow=9.7,SNR=1.7						
KLR	Kul'dur	21.49	341	*ce*P	P	20 11 12.7	+2.6
KLR				pmax	pmax		
	comp=Z,7.0nm,1.7s						
KLR	Kul'dur	21.49	341	P	P	20 11 10.6	+0.5
	comp=Z,1.8nm,0.6s,baz=137,slow=8.1,SNR=9.4						
	comp=Z,1.8nm,0.6s						
ZEA	Zeya	26.80	340	*e*P	P	20 12 02.2	+0.8
ULN	Ulaanbaatar	32.85	314	P	P	20 12 56.2	+0.9
ULN				IAmb	IAmb	20 12 57.8	
	comp=Z,4.5nm,0.7s						
ULN	Ulaanbaatar	32.85	314	‖*e*P	P	20 12 56.4	+1.1
ULN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SONM	Songino Array	33.25	314	P	P	20 12 59.9	+1.1
SONM	Songino Array	33.25	314	*e*P	P	20 13 00.2	+1.4
SONM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SONM	Songino Array	33.25	314	P	P	20 12 58.9	+0.1
	comp=Z,3.4nm,0.7s,baz=115,slow=8.4,SNR=24						
SONM				LR	LR	20 27 14.7	
	comp=Z,24nm,19.9s,baz=318,slow=38						
	comp=Z,3.4nm,0.7s						
MOY	Mondy	37.88	318	*e*P	P	20 13 39.8	+1.4
PMG	Port Moresby	38.75	172	‖*e*P	P	20 13 49.8	+3.9
PMG				pmax	pmax		
	comp=Z,8.0nm,1.7s						
CRAI	Chiangrai	38.97	266	P	P	20 13 48.0	+0.1
CRAI				IAmb	IAmb	20 13 49.7	
	comp=Z,5.5nm,0.8s						
CHTO	Chiang Mai	40.76	265	P	P	20 14 02.3	-0.4
CHTO	Chiang Mai	40.76	265	P	P	20 14 02.3	-0.4
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CMAR	Chiang Mai Arr	40.90	265	P	P	20 14 03.6	-0.3
CMAR	Chiang Mai Arr	40.90	265	P	P	20 14 04.3	+0.4
	comp=Z,1.1nm,0.7s,baz=45,slow=8.3,SNR=12						
	comp=Z,1.1nm,0.7s						
BILL	Bilibino	41.31	13	‖*e*P	P	20 14 07.3	+0.7
TIXI	Tiksi	43.05	354	P	P	20 14 19.3	-1.5
TIXI				IAmb	IAmb	20 14 24.0	
	comp=Z,11nm,0.9s						
TIXI	Tiksi	43.05	354	P	P	20 14 19.3	-1.5
TIXI				pmax	pmax		
	comp=Z,11nm,0.9s						
MYKOM	Kota Tinggi	45.67	240	P	P	20 14 41.8	-0.7
DGZ	Jazzator, Alta	45.86	312	*ci*P	P	20 14 45.2	+1.4
DGZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TAPN	Taplejung	47.74	282	*e*P	P	20 15 05.1	+6.1
	comp=Z,8.7nm,1.0s						
ZAA0	Zalesovo Array	47.93	318	P	P	20 15 00.2	+0.5
ZAA0				IAmb	IAmb	20 15 01.7	
	comp=Z,3.2nm,0.6s						
ZALV	Zalesovo Beam	47.93	318	P	P	20 15 00.5	+0.7
ZALV	Zalesovo Beam	47.93	318	*e*P	P	20 15 00.9	+1.2
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV	Zalesovo Beam	47.93	318	P	P	20 15 00.2	+0.5
	comp=Z,2.4nm,0.5s,baz=102,slow=6.7,SNR=14						
ZALV				PcP	PcP	20 16 27.9	-0.1
	comp=Z,0.7nm,0.5s,baz=117,slow=5.4,SNR=2.3						
	comp=Z,2.4nm,0.5s						
GUN	Gumba	49.16	283	*e*P	P	20 15 11.0	+1.0
	comp=Z,2.6nm,0.4s						
MK31	Makanchi Array	49.20	308	P	P	20 15 10.2	+0.6
MK31				IAmb	IAmb	20 15 12.9	
	comp=Z,3.8nm,0.9s						
MK31	Makanchi Array	49.20	308	*de*P	P	20 15 10.2	+0.6
MKAR	Makanchi Array	49.20	308	P	P	20 15 10.0	+0.3
	comp=Z,2.7nm,0.8s,baz=91,slow=9.2,SNR=20						
MKAR				PcP	PcP	20 16 32.3	-0.5
	comp=Z,0.3nm,0.7s,baz=90,slow=5.8,SNR=1.3						
	comp=Z,2.7nm,0.8s						
MAKZ	Makanchi	49.41	308	P	P	20 15 12.0	+0.7
MAKZ				IAmb	IAmb	20 15 52.0	
	comp=Z,6.7nm,1.4s						
MAKZ	Makanchi	49.41	308	P	P	20 15 12.0	+0.7
MAKZ				pmax	pmax		
	comp=Z,7.0nm,1.4s						
WRAB	Tennant Creek	49.53	190	P	P	20 15 12.2	-0.1
WRAB				IAmb	IAmb	20 15 23.6	
	comp=Z,4.2nm,0.8s						
WRAB	Tennant Creek	49.53	190	P	P	20 15 12.2	-0.1
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRA	Warramunga Arr	49.54	190	P	P	20 15 11.0	-1.4
WRA	Warramunga Arr	49.54	190	*e*P	P	20 15 12.3	-0.1
WRA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WRA	Warramunga Arr	49.54	190	P	P	20 15 11.9	-0.5
	comp=Z,3.5nm,0.7s,baz=9.5,slow=8.0,SNR=30						
WRA				PcP	PcP	20 16 35.0	+0.8
	comp=Z,0.4nm,0.5s,baz=3.8,slow=3.9,SNR=1.6						
	comp=Z,3.5nm,0.7s						
GKN	Gorkha	50.19	283	*e*P	P	20 15 18.1	+0.5
	comp=Z,1.9nm,0.4s						
DANN	Dangsing	50.84	284	*e*P	P	20 15 21.6	-1.1
KURK	Kurchatov	51.56	313	P	P	20 15 28.3	+0.9
KURK	Kurchatov	51.56	313	*ci*P	P	20 15 28.0	+0.6
KURK				pmax	pmax		
	comp=Z,15nm,1.0s						
PYUN	Piuthan	51.56	284	*e*P	P	20 15 27.7	-0.3
	comp=Z,13nm,0.7s						
KURBB	Kurchatov Arra	51.62	313	P	P	20 15 28.2	+0.5
	comp=Z,8.8nm,0.6s,baz=91,slow=7.0,SNR=101						
	comp=Z,8.8nm,0.6s						
ASAR	Alice Springs	53.26	190	P	P	20 15 39.5	-0.7
	comp=Z,0.4nm,0.7s,baz=359,slow=5.1,SNR=7.9						
	comp=Z,0.4nm,0.7s						
AAK	Ala-Archa	55.13	304	P	P	20 15 53.4	-0.6
AAK	Ala-Archa	55.13	304	‖*e*P	P	20 15 54.5	+0.5
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
D24K	Happy Valley	55.45	24	P	P	20 15 56.6	+1.0
D24K				IAmb	IAmb	20 15 58.9	
	comp=Z,6.7nm,1.1s						
F24K	Squaw Lake	55.58	26	P	P	20 15 57.6	+0.9
F24K				IAmb	IAmb	20 15 59.6	
	comp=Z,2.6nm,0.8s						
ILAR	Eielson Array	55.75	29	P	P	20 15 56.6	-1.3
	comp=Z,0.6nm,0.7s,baz=253,slow=6.4,SNR=6.7						
	comp=Z,0.6nm,0.7s						
BVAR	Borovoye Array	56.53	316	P	P	20 16 04.4	+0.8
	comp=Z,6.3nm,0.5s,baz=92,slow=7.8,SNR=42						
	comp=Z,6.3nm,0.5s						
BRVK	Borovoye	56.59	317	P	P	20 16 03.8	-0.3
BRVK				IAmb	IAmb	20 16 08.4	
	comp=Z,7.0nm,0.8s						
BRVK	Borovoye	56.59	317	*ce*P	P	20 16 04.9	+0.8
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KK31	Karatay Array	57.92	305	P	P	20 16 14.2	+0.5
KK31				IAmb	IAmb	20 16 15.6	
	comp=Z,4.7nm,0.7s						
KK31	Karatay Array	57.92	305	P	P	20 16 14.2	+0.5
KK31				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KKAR	Karatay Array	57.92	305	P	P	20 16 12.6	-1.1
KKAR				IAmb	IAmb	20 16 15.6	
	comp=Z,4.6nm,0.7s						
KKAR	Karatay Array	57.92	305	P	P	20 16 12.6	-1.1
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CHGR	Chuyangaron	59.94	300	P	P	20 16 28.1	+0.2
CHGR	Chuyangaron	59.94	300	P	P	20 16 28.1	+0.2
CHGR				pmax	pmax		
	comp=Z,18nm,0.8s						
ARU	Arti	62.78	322	P	P	20 16 47.2	+0.5
ARU	Arti	62.78	322	*ci*P	P	20 16 47.1	+0.5
ARU						20 17 21.5	
ARU						20 19 00.7	
ARU				S	S	20 25 15.4	-0.1
ARU				SS	SS	20 29 18.5	-1.3
ARU				pmax	pmax		
	comp=Z,49nm,4.3s						
ABKAR	Akbulak array	63.67	314	P	P	20 16 53.1	+0.5
KIRV	Kirov	66.96	325	‖*e*P	P	20 17 15.9	+2.1
GEYT	Alibeck	68.43	302	P	P	20 17 23.7	+0.1
	comp=Z,2.1nm,0.8s,baz=69,slow=9.6,SNR=4.2						
	comp=Z,2.1nm,0.8s						
YKA	Yellowknife Ar	70.17	29	P	P	20 17 33.6	-0.2
	comp=Z,0.4nm,0.7s,baz=297,slow=6.1,SNR=5.6						
	comp=Z,0.4nm,0.7s						
FINES	FINESS Array B	76.04	334	*e*P	P	20 18 09.2	+0.6
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	FINESS Array B	76.04	334	P	P	20 18 06.9	-1.6
	comp=Z,2.3nm,0.9s,baz=111,slow=4.9,SNR=4.6						
	comp=Z,2.3nm,0.9s						
KBZ	Khabaz	76.61	313	‖*e*P	P	20 18 13.4	+1.3
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KBZ	Khabaz	76.61	313	P	P	20 18 12.7	+0.5
	comp=Z,4.4nm,0.8s,baz=115,slow=0.1,SNR=9.0						
	comp=Z,4.4nm,0.8s						
NVAR	Mina Array Bea	79.08	52	P	P	20 18 26.5	+0.2
	comp=Z,0.9nm,0.8s,baz=277,slow=5

AKSA	**Akutan Strait**	**3.43**	**285**			Pn	20 13 44.5	-0.1
AKSA						Sn	20 14 21.3	-4.0
AKUT	**Akutan**	**3.48**	**285**	Pn		Pn	20 13 46.1	+0.9
AKUT				IAML			20 14 37.5	
	comp=E,131nm,2.7s							
AKUT				IAML			20 14 50.9	
	comp=N,153nm,4.3s							
CHIR	**Chirikof Islan**	**3.55**	**45**			Pn	20 13 45.9	-0.3
UNV	**Unalaska Valle**	**3.87**	**279**			Pn	20 13 50.5	-0.1
MNAT	**Makushin Natee**	**3.98**	**280**			Pn	20 13 51.9	-0.2
MREP	**Makushin Rep't**	**4.01**	**279**			Pn	20 13 52.7	+0.1
MSW	**Makushin Swit'c**	**4.04**	**280**			Pn	20 13 53.1	+0.1
MAPS	**Pakushin South**	**4.12**	**279**			Pn	20 13 54.0	-0.1
R17K	**Ugashik Creek**	**4.75**	**25**	Pn		Pn	20 14 02.4	-0.2
R17K				IAML			20 15 09.6	
	comp=N,112nm,3.9s							
R17K				IAML			20 15 56.3	
	comp=E,100nm,4.8s							
OHAK	**Old Harbor**	**5.45**	**42**			Pn	20 14 11.9	-0.4
ANCK	**Angle Creek**	**5.47**	**26**			Pn	20 14 12.6	0.0
P16K	**Nushagak River**	**5.78**	**11**			Pn	20 14 17.0	+0.3
KAHC	**Katmai Hardscr**	**5.99**	**26**			Pn	20 14 19.7	-0.1
KDAK	**Kodiak Island**	**6.11**	**41**			Pn	20 14 20.8	-0.6
Q19K	**Cape Douglas,**	**6.61**	**30**	Pn		Pn	20 14 28.6	+0.3
O18K	**Koktuh Hills**	**7.01**	**20**	Pn		Pn	20 14 34.5	+0.7
M13K	**Dall Lake**	**7.27**	**347**	Pn		Pn	20 14 38.2	+0.9
N17K	**Nushagak Hills**	**7.33**	**11**	Pn		Pn	20 14 37.3	-0.8
M16K	**Timber Creek**	**7.68**	**4**			Pn	20 14 43.3	+0.4
SVW2	**Sparrevohn**	**8.10**	**16**	Pn		Pn	20 14 47.0	-1.7
BRLK	**Bradley Lake**	**8.15**	**35**	Pn		Pn	20 14 48.6	-0.7
M17K	**Holitna River**	**8.16**	**9**	Pn		Pn	20 14 49.9	+0.4
L18K	**Granite Mounta**	**9.04**	**10**	Pn		Pn	20 15 01.9	+0.4
L19K	**White Mountain**	**9.24**	**15**	Pn		Pn	20 15 04.0	-0.3
K17K	**Iditarod**	**9.40**	**5**	Pn		Pn	20 15 06.7	+0.2
SUA	**Susitna One**	**9.52**	**28**	Pn		Pn	20 15 09.2	+1.1
RC01	**Rabbit Creek A**	**9.53**	**32**	Pn		Pn	20 15 09.1	+0.9
SKT	**Skwentna**	**9.74**	**24**	Pn		Pn	20 15 12.4	+1.2
TTA	**Tatalina**	**9.81**	**11**	Pn		Pn	20 15 11.5	-0.6
J16K	**Anvik River**	**9.93**	**359**	Pn		Pn	20 15 13.7	-0.1
GHO	**Glory Hole Cre**	**10.30**	**31**	Pn		Pn	20 15 19.4	+0.5
FID	**Port Fidalgo**	**10.43**	**40**	Pn		Pn	20 15 20.3	-0.2
SML	**Sawmill**	**10.51**	**32**	Pn		Pn	20 15 21.2	-0.5
KAIM	**Kayak Island**	**10.80**	**46**	Pn		Pn	20 15 25.6	-0.6
SCM	**Sheep Creek Mo**	**10.86**	**34**	Pn		Pn	20 15 26.3	-0.1
RAGM	**Ragged Mountai**	**10.93**	**44**	Pn		Pn	20 15 26.0	-1.5
KLU	**Klutina**	**11.11**	**37**	Pn		Pn	20 15 30.2	+0.2
J20K	**Nowinta River**	**11.24**	**13**	Pn		Pn	20 15 33.7	+2.0
TRF	**Thorofare Moun**	**11.30**	**23**	Pn		Pn	20 15 30.2	-2.4
M24K	**Tolsona, Glenn**	**11.44**	**35**	Pn		Pn	20 15 35.0	+0.6
RND	**Reindeer**	**11.62**	**26**	Pn		Pn	20 15 35.8	-1.0
WAX	**Waxell Ridge**	**11.74**	**46**	Pn		Pn	20 15 38.2	-0.3
GLB	**Gilahina Butte**	**11.88**	**41**	Pn		Pn	20 15 39.7	-0.7
GRNC	**Granite Creek**	**12.35**	**46**	Pn		Pn	20 15 48.2	+1.2
O29M	**Mount Kennedy**	**13.60**	**51**	Pn		Pn	20 16 05.6	+1.7
BCAR	**Beaver Creek A**	**13.61**	**37**	Pn		Pn	20 16 05.1	+1.1
P29M	**Windy Craggy**	**13.78**	**54**	Pn		Pn	20 16 06.9	+0.6
J26L	**Joseph Creek**	**13.96**	**31**	Pn		Pn	20 16 07.4	-1.5
M29M	**Somme Creek**	**14.55**	**43**	Pn		Pn	20 16 17.8	+0.8
D19K	**Kuna River**	**15.19**	**3**	P		P	20 16 31.2	+0.7
E21K	**Killik River**	**15.38**	**8**	P		Pn	20 16 33.8	+1.1
E21K				IAmb		IAmb	20 17 00.1	
	comp=Z,5.3nm,1.4s							
I28M	**Miner Creek**	**15.74**	**32**	P		P	20 16 36.5	-0.2
C19K	**Lookout Ridge**	**15.78**	**1**	P		P	20 16 37.1	0.0
C19K				IAmb		IAmb	20 16 56.2	
	comp=Z,4.9nm,1.4s							
D22K	**Ayikyak River**	**15.93**	**10**	P		P	20 16 39.7	+1.0
B20K	**Meade River**	**16.74**	**3**	Pn		Pn	20 16 44.6	-0.7
B20K				IAmb		IAmb	20 17 07.4	
	comp=Z,2.6nm,0.8s							
C23K	**Itkillik River**	**17.07**	**11**	Pn		Pn	20 16 47.7	-1.8
C23K				IAmb		IAmb	20 16 53.9	
	comp=Z,4.9nm,0.8s							
G31M	**Satah River**	**18.46**	**33**	P		Pn	20 17 06.9	+0.2
G31M				IAmb		IAmb	20 17 10.8	
	comp=Z,6.0nm,0.7s							
C36M	**Paulatuk**	**22.98**	**32**	P		P	20 17 54.5	-0.9

*GUC **24** 20:15:22.9±0.8,28°.69S×71°.35W, h36^{km}±5^{km}, ML3.4*
*IDC **24** 20:15:37.0±11.0, 19°.92S×70°.55W, h0^{km}, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=468.4km s-min=50.6km az=24.0*

ISC 24 20:15:22.1±1.2, 28°.69S±0°.03×71°.43W±0°.10, h21^{km}±5^{km}, n18, σ1^{s}39/23, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AC04	**Llanos de Chal**	**0.58**	**33**	*i* P	**Pb**	**20 15 33.8**	**+0.1**
AC04				*i* S	**Sb**	**20 15 41.5**	**+0.1**
AC04				IAML		20 15 42.0	
	comp=N,3μm,0.3s						
LCO	**Las Campanas**	**0.71**	**117**	*i* P	**Pb**	**20 15 35.5**	**-0.6**
LCO				*i* S	**Sb**	**20 15 45.0**	**-0.5**
AC05	**El Transito**	**1.02**	**98** ⇓	*i* P	**Pn**	**20 15 40.6**	**-0.8**
CO05	**La Serena**	**1.23**	**172**	*e*P	**Pn**	**20 15 44.8**	**+0.7**
CO05				*i* S	**Sn**	**20 15 59.9**	**-0.2**
CO05				IAML		20 16 04.3	
	comp=E,1μm,0.7s						
GO03	**Copiap**	**1.52**	**44** ⇑	*i* P	**Pn**	**20 15 48.1**	**0.0**
GO03				*i* S	**Sn**	**20 16 07.3**	**0.0**
GO03				IAML		20 16 10.4	
	comp=E,836nm,0.4s						
GO04	**Tololo Observa**	**1.57**	**160**	*i* P	**Pn**	**20 15 49.5**	**+0.5**
GO04				*i* S	**Sn**	**20 16 09.8**	**+0.9**
GO04				IAML		20 16 15.8	
	comp=E,2μm,0.4s						
AC06	**Mina Casimiro**	**1.64**	**36** ⇑	*i* P	**Pn**	**20 15 50.2**	**+0.5**
AC06				*i* S	**Sn**	**20 16 11.1**	**+1.1**
AC06				IAML		20 16 14.4	
	comp=E,605nm,0.5s						
CO01	**Juntas del Tor**	**1.73**	**138** ⇓	*i* P	**Pn**	**20 15 52.2**	**+1.0**
CO01				*i* S	**Sn**	**20 16 14.1**	**+1.3**
CO01				IAML		20 16 16.0	
	comp=N,490nm,0.2s						
CO06	**Fray Jorge**	**1.98**	**185**	*i* P	**Pn**	**20 15 54.2**	**-0.2**
CO03	**El Pedregal**	**2.23**	**163**	*i* P	**Pn**	**20 15 58.9**	**+0.9**
CO03				IAML		20 16 36.5	
	comp=E,452nm,0.4s						
CO02	**Combarbal**	**2.53**	**172**	*e*P	**Pn**	**20 16 02.5**	**+0.4**
AC01	**Pan de Azucar**	**2.64**	**16** ⇑	*i* P	**Pn**	**20 16 02.0**	**-1.4**
AC01				IAML		20 16 48.9	
	comp=E,147nm,0.2s						
GO02	**Mina Guanaco**	**3.88**	**25**	*e*P	**Pn**	**20 16 19.7**	**-1.0**
GO02				*e*S	**Sn**	**20 17 10.8**	**+5.0**
TORD	**Torodi Ar. Bea**	**81.92**	**70**	P	**P**	**20 27 39.6**	**-1.0**
	comp=E,0.4nm,0.7s,baz=255,slow=4.2,SNR=4.4						
	comp=E,0.4nm,0.7s						
H11S2	**WAKE ISLAND Hyl**	**26.21**	**273**	T	T	22 53 28.2	
	baz=95						
H11S1	**WAKE ISLAND Hyl**	**26.22**	**273**	T	T	22 53 26.4	
	baz=95						
H11S3	**WAKE ISLAND Hyl**	**26.23**	**273**	T	T	22 53 24.2	
	baz=95						
ZALV	**Zalesovo Beam**	**149.38**	**28**	PKP	**PKPbc**	**20 35 08.6**	**-0.4**
	comp=E,0.7nm,0.5s,baz=339,slow=3.6,SNR=3.9						

*IDC **24** 20:30:40.3±0.7, 27°.23S×66°.56E, h0^{km}, mb4.1/13, mbtmp4.1/13, MS3.3/5, Error ellipse: s-maj=21.2km s-min=20.7km az=97.0*

ISC 24 20:30:41.9±0.7, 27°.2S±0°.1×66°.6E±0°.1, h10^{km}, n20, σ0^{s}39/15, mb4.2/13, MS3.3/5, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H04N2	**CROZET ISLANDS**	**22.22**	**208**	T	T	20 58 35.7	
	baz=37,slow=74,SNR=484						
H04N1	**CROZET ISLANDS**	**22.23**	**208**	T	T	20 58 33.9	
	baz=37,slow=74,SNR=451						
H04N3	**CROZET ISLANDS**	**22.24**	**208**	T	T	20 58 32.2	
	baz=37,slow=74,SNR=650						
BOSA	**Boshof**	**36.39**	**258**	P	**P**	**20 37 46.3**	**-0.4**
	4.2nm,1.1s,baz=92,slow=16,SNR=3.0						
BOSA				LR	LR	20 49 16.0	
	comp=Z,31nm,19.8s,baz=44,slow=31 4.2nm,1.1s						
PALK	**Pallekele**	**36.94**	**24**	LR	LR	20 49 46.4	
	comp=Z,53nm,19.6s,baz=319,slow=31						
MAW	**Mawson**	**40.45**	**182**	LR	LR	20 52 06.2	
	comp=Z,62nm,18.6s,baz=38,slow=32						
CMAR	**Chiang Mai Arr**	**55.22**	**38**	P	**P**	**20 40 15.4**	**+0.1**
	1.3nm,1.0s,baz=226,slow=6.0,SNR=7.6						
CMAR				LR	LR	21 01 07.9	
	comp=Z,16nm,18.4s,baz=290,slow=33 1.3nm,1.0s						
SNAA	**Sanae**	**57.92**	**200**	P	**P**	**20 40 34.1**	**+0.2**
	2.5nm,1.0s,baz=342,slow=20,SNR=3.9 2.5nm,1.0s						
ASAR	**Alice Springs**	**60.26**	**103**	P	**P**	**20 40 50.6**	**-0.2**
	3.4nm,0.9s,baz=248,slow=6.8,SNR=25 3.4nm,0.9s						
WRA	**Warramunga Arr**	**61.90**	**99**	P	**P**	**20 41 02.0**	**0.0**
	3.5nm,0.9s,baz=251,slow=6.5,SNR=14 3.5nm,0.9s						
QSPA	**South Pole Qui**	**62.90**	**180**	P	**P**	**20 41 08.7**	**+0.6**
	2.2nm,0.8s,baz=188,slow=1.2,SNR=8.2 2.2nm,0.8s						
STKA	**Stephens Creek**	**64.23**	**114**	P	**P**	**20 41 16.8**	**-0.6**
	1.5nm,0.8s,baz=263,slow=8.1,SNR=2.4 1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**74.60**	**294**	P	**P**	**20 42 21.8**	**+0.2**
	1.0nm,1.2s,baz=105,slow=5.2,SNR=1.3 1.0nm,1.2s						
MKAR	**Makanchi Array**	**75.05**	**11**	P	**P**	**20 42 23.5**	**-0.1**
	0.6nm,0.7s,baz=207,slow=7.6,SNR=4.5 0.6nm,0.7s						
BVAR	**Borovoye Array**	**79.99**	**2**	P	**P**	**20 42 50.8**	**-0.2**
	0.8nm,0.7s,baz=170,slow=7.3,SNR=4.3						
BVAR				LR	LR	21 16 38.3	
	comp=Z,28nm,19.3s,baz=148,slow=34 0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**82.38**	**11**	P	**P**	**20 43 04.0**	**+0.3**
	2.5nm,0.8s,baz=204,slow=3.8,SNR=10.0 2.5nm,0.8s						
SONM	**Songino Array**	**82.87**	**26**	P	**P**	**20 43 07.0**	**+0.5**
	1.2nm,0.9s,baz=209,slow=5.2,SNR=7.1 1.2nm,0.9s						
ESDC	**Sonseca Array**	**93.46**	**313**	P	**P**	**20 43 57.6**	**-0.1**
	0.6nm,1.1s,baz=113,slow=3.5,SNR=3.2 0.6nm,1.1s						
YKA	**Yellowknife Ar**	**144.74**	**1**	PKP	**PKPab**	**20 50 17.2**	**+0.1**
	1.1nm,0.8s,baz=340,slow=3.4,SNR=14						
ULM	**Lac du Bonnet**	**153.38**	**334**	PKPbc	**PKPbc**	**20 50 39.5**	**-0.7**
	1.8nm,0.8s,baz=347,slow=19,SNR=3.1						

IDC 24 20:36:59.6±2.4, 1°.86N×127°.34E, h0^{km}, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=183.9km s-min=28.8km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.73**	**163**	P	P	20 42 03.6	+0.2
	0.6nm,0.5s,baz=342,slow=11,SNR=8.1 0.6nm,0.5s						
ASAR	**Alice Springs**	**26.17**	**166**	P	P	20 42 35.7	-0.2
	0.3nm,0.8s,baz=345,slow=10,SNR=1.6 0.3nm,0.8s						
MKAR	**Makanchi Array**	**59.43**	**326**	P	P	20 47 04.1	-0.1
	0.2nm,0.6s,baz=115,slow=6.9,SNR=1.9 0.2nm,0.6s						

*IDC **24** 20:43:51.7±3.0, 11°.09N×62°.29W, h80^{km}±30^{km}, mb3.4/5, mbtmp3.9/7, MS2.2/1, Error ellipse: s-maj=34.7km s-min=22.2km az=38.0*
*TRN **24** 20:43:53.3, 10°.68N×62°.44W, h126^{km}, mb4.8*
*FUNV **24** 20:43:55.5, 10°.77N×62°.47W, h92^{km}, MW3.8*

ISC 24 20:43:52.7±0.8, 10°.73N±0°.04×62°.51W±0°.04, h105^{km}±7^{km}, n34, σ2^{s}16/54, mb3.6/5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRUV	**Carupano**	**0.72**	**266**	*e*P	**Pn**	**20 44 12.1**	**+1.3**
CRUV				*e*S	**Sn**	**20 44 23.8**	**-0.5**
TRN	**Trinidad (W)**	**1.09**	**94**	*e*P	**Pn**	**20 44 17.1**	**+2.6**
TRN				*e*S	**Sn**	**20 44 32.5**	**+1.6**
GRGR	**Grenville**	**1.62**	**31**	*e*P	**Pn**	**20 44 22.5**	**+1.8**
GRGR				*e*S	**Sn**	**20 44 44.6**	**+2.4**
CUMV	**Cumana_UDO**	**1.68**	**260**	*e*P	**Pn**	**20 44 24.4**	**+2.9**
CUMV				*e*S	**Sn**	**20 44 44.8**	**+1.4**
GRHS	**Sauteurs**	**1.71**	**30**	*e*P	**Pn**	**20 44 23.6**	**+1.7**
GRHS				*e*S	**Sn**	**20 44 45.1**	**+1.1**
GRSS	**Sisters**	**1.79**	**29**	*e*P	**Pn**	**20 44 24.9**	**+2.1**
GRSS				*e*S	**Sn**	**20 44 48.5**	**+2.8**
PCRV	**Puerto La Cruz**	**2.16**	**255**	*e*P	**Pn**	**20 44 29.8**	**+2.1**
PCRV				*e*S	**Sn**	**20 44 54.4**	**0.0**
PCRV	**Puerto La Cruz**	**2.16**	**255**	P	**Pn**	**20 44 30.0**	**+2.4**
	88nm,0.3s,baz=49,slow=14,SNR=321						
PCRV				S	**Sn**	**20 44 54.6**	**+0.3**
	102nm,0.3s,baz=122,slow=5.3,SNR=21						
PCRV				LR	LR	20 45 26.5	
	comp=Z,50nm,19.1s,slow=39						
SVB	**Belmont**	**2.81**	**26**	*e*P	**Pn**	**20 44 37.5**	**+1.4**
SVB				*e*S	**Sn**	**20 45 10.7**	**+1.2**
PRGV	**PARIAGUAN**	**2.88**	**227**	*e*P	**Pn**	**20 44 39.4**	**+2.4**
PRGV				*e*S	**Sn**	**20 45 12.0**	**+1.0**
SLBI	**Saint Lucia, B**	**3.60**	**24**	*e*P	**Pn**	**20 44 49.0**	**+1.4**
SLBI				*e*S	**Sn**	**20 45 28.0**	**-0.3**
MERV	**Las Mercedes**	**4.01**	**249**	*e*P	**Pn**	**20 44 54.1**	**+2.0**
MERV				*e*S	**Sn**	**20 45 38.1**	**-0.1**
BIM	**Bigot**	**4.02**	**20**	*e*P	**Pn**	**20 44 52.7**	**+0.4**
BIM	**Bigot**	**4.02**	**20**	*e*S	**Sn**	**20 45 37.7**	**-0.7**
MPOM	**Morne Pois Mar**	**4.03**	**23**	*e*P	**Pn**	**20 44 54.2**	**+1.9**
MPOM				*e*S	**Sn**	**20 45 38.4**	**-0.2**
TACV	**Tcata**	**4.48**	**263**	*e*P	**Pn**	**20 45 00.3**	**+1.8**
TACV				*e*S	**Sn**	**20 45 48.8**	**-0.9**
LUEV	**Luepa**	**4.97**	**168**	*e*P	**Pn**	**20 45 07.0**	**+1.8**
LUEV				*e*S	**Sn**	**20 45 59.4**	**-2.1**
BENV	**Beln**	**5.07**	**262**	*e*P	**Pn**	**20 45 08.4**	**+2.0**
BENV				*e*S	**Sn**	**20 46 02.4**	**-1.4**
CACV	**CAICARA DEL OR**	**5.07**	**232**	*e*P	Pn	20 45 03.1	-3.3
CACV				*e*S	Sn	20 45 54.4	-10
TURV	**Turiamo**	**5.25**	**267**	*e*P	**Pn**	**20 45 10.7**	**+1.9**
TURV				*e*S	**Sn**	**20 46 06.5**	**-1.7**
CBE	**Ff, Capester**	**5.38**	**9**	*e*P	**Pn**	**20 45 12.2**	**+1.8**
CBE	**Ff, Capester**	**5.38**	**9**	*e*S	**Sn**	**20 46 09.5**	**-1.8**
BAUV	**El Baul**	**5.73**	**252**	*e*P	**Pn**	**20 45 16.1**	**+0.7**
BAUV				*e*S	**Sn**	**20 46 17.9**	**-2.0**
BAUV	**El Baul**	**5.73**	**252**	*e*P	**Pn**	**20 45 15.8**	**+0.4**
BAUV	**El Baul**	**5.73**	**252**	*e*S	**Sn**	**20 46 18.4**	**-1.5**
TEPV	**Terepaima**	**6.62**	**264**	*e*P	**Pn**	**20 45 28.8**	**+1.3**
TEPV				*e*S	**Sn**	**20 46 38.0**	**-3.5**
SDV	**Santo Domingo**	**8.21**	**258**	P	**Pn**	**20 45 47.9**	**-1.4**
	2.2nm,0.5s,baz=3.6,slow=13,SNR=3.8						
SDV				S	**Sn**	**20 47 15.6**	**-5.0**
	9.5nm,0.4s,baz=44,slow=18,SNR=9.9						
SOCV	**Socops**	**8.59**	**254**	*e*P	**Pn**	**20 45 54.2**	**0.0**
SOCV				*e*S	Sn	20 47 22.9	-6.5
MDP	**Montagnes des**	**11.26**	**119**	P	**Pn**	**20 46 28.8**	**-1.6**
	13nm,0.8s,baz=309,slow=14,SNR=15						
MDP				S	**Sn**	**20 48 27.2**	**-7.1**
	8.5nm,0.3s,baz=42,slow=19,SNR=16						
SIV	**San Ignacio**	**26.59**	**177**	P	**P**	**20 49 25.7**	**+4.4**
	0.9nm,0.5s,baz=345,slow=7.8,SNR=6.9 0.9nm,0.5s						
TXAR	**Lajitas Array**	**42.59**	**302**	P	**P**	**20 51 39.8**	**+1.2**
	0.1nm,0.3s,baz=116,slow=9.4,SNR=5.2 0.1nm,0.3s						
PDAR	**Pinedale Array**	**51.81**	**317**	P	**P**	**20 52 50.6**	**+0.5**
	0.5nm,0.6s,baz=117,slow=9.3,SNR=7.5 0.5nm,0.6s						
ILAR	**Eielson Array**	**77.97**	**334**	P	**P**	**20 55 39.2**	**+0.1**
	0.2nm,0.6s,baz=77,slow=3.9,SNR=4.2 0.2nm,0.6s						
FINES	**FINESS Array B**	**79.99**	**29**	P	**P**	**20 55 50.7**	**+0.6**
	5.0nm,1.1s,baz=286,slow=5.6,SNR=3.6 5.0nm,1.1s						

*ASRS **24** 21:25:26.8±0.3, 50°.N±2°.×8°.8E±°, h10^{km}, MLh3.6/10, Error ellipse: s-maj=3.8km s-min=3.1km az=167.4, confirmed*
*IDC **24** 21:25:29.7±1.6, 50°.08N×87°.84E, h0^{km}, mbtmp3.6/6, ML3.2/6, Error ellipse: s-maj=15.4km s-min=13.1km az=91.0*
*NNC **24** 21:25:30.3±2.3, 50°.12N×87°.76E, h0^{km}, mb3.8, mpv3.4, Error ellipse: s-maj=20.5km s-min=8.3km az=104.0*

ISC 24 21:25:29.8±0.7, 50°.04N±0°.03×87°.87E±0°.03, h10^{km}, n24, σ1^{s}90/47, 12C-8D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUR	**Chagan-Uzun**	**0.31**	**79**	⇑Pg	**Pg**	**21 25 33.9**	**-2.3**
CUR				Sg	**Sg**	**21 25 38.2**	**-2.1**
AKAR	**Aktash**	**0.32**	**330**	⇓Pg	**Pg**	**21 25 34.6**	**-1.7**
AKAR				Sg	**Sg**	**21 25 39.6**	**-1.1**
CHBI	**Chibit, Altay**	**0.36**	**319**	Pg	**Pg**	**21 25 35.3**	**-1.7**
CHBI				Sg	**Sg**	**21 25 40.2**	**-1.6**
DGZ	**Jazzator, Alta**	**0.45**	**220**	⇓Pg	**Pg**	**21 25 36.1**	**-2.4**
DGZ				Sg	**Sg**	**21 25 41.6**	**-2.9**
ULGR	**Ulagan, Altay**	**0.58**	**5**	⇓Pg	**Pb**	**21 25 41.1**	**-1.1**
ULGR				Sg	**Sb**	**21 25 49.4**	**-1.2**
ELDR	**Elanda**	**1.64**	**317**	Pg	**Pn**	**21 25 58.2**	**-0.5**
ELDR				Sg	**Sg**	**21 26 21.3**	**-1.0**
ARTR	**Artybash**	**1.80**	**348**	Pg	**Pb**	**21 26 02.4**	**-0.5**
ARTR				Sg	**Sg**	**21 26 28.2**	**+0.6**
UKR	**Ust'-Kan**	**2.17**	**296**	Pg	**Pb**	**21 26 08.2**	**-1.0**
UKR				Sg	**Sg**	**21 26 37.9**	**-1.7**
GALT	**Gorno-Altaysk,**	**2.27**	**328**	Pg	**Pb**	**21 26 10.7**	**-0.2**
GALT				Sg	**Sg**	**21 26 42.4**	**-0.4**
TASR	**Tashtagol**	**2.72**	**0**	Pg	**Pb**	**21 26 17.7**	**-0.9**
TASR				Sg	**Sb**	**21 26 53.6**	**+1.7**
ELT	**Eltsovka**	**3.38**	**343**	Pg	**Pn**	**21 26 24.4**	**+1.8**
ELT				Sg	**Sb**	**21 27 12.2**	**+1.3**
DJO	**Djoy, Khakassi**	**3.45**	**36**	Pg	**Pb**	**21 26 31.9**	**+0.9**
DJO				Sg	**Sg**	**21 27 18.6**	**-2.0**
CERR	**Cheremushki**	**3.58**	**37**	Pg	**Pb**	**21 26 34.9**	**+1.7**
CERR				Sg	**Sg**	**21 27 23.7**	**-1.0**
ZAA0	**Zalesovo Array**	**4.34**	**335**	⇑Pn	**Pn**	**21 26 36.3**	**+0.5**
	0.6nm,0.5s						
ZAA0				⇓Pg	**Pb**	**21 26 47.7**	**+1.5**
	0.9nm,0.6s						
ZAA0				⇑Sn	**Sn**	**21 27 26.7**	**+0.2**
	1.2nm,0.5s						
ZAA0				⇑Lg	Lg	21 27 44.9	
	6.0nm,0.9s						
ZALV	**Zalesovo Beam**	**4.34**	**335**	Pn	**Pn**	**21 26 36.5**	**+0.7**
	2.1nm,0.3s,baz=154,slow=13,SNR=33						
ZALV				Sn	**Sn**	**21 27 29.1**	**+2.7**
	2.0nm,0.3s,baz=155,slow=22,SNR=6.9						
ZALV				Lg	Lg	21 27 47.2	
	3.3nm,0.3s,baz=158,slow=26,SNR=9.1 7.0nm,0.4s						
MK31	**Makanchi Array**	**4.94**	**231**	⇑Pn	**Pn**	**21 26 46.4**	**+2.4**
	9.4nm,0.6s,baz=59,slow=12,SNR=5.6						
MK31				⇓Sn	**Sn**	**21 27 43.8**	**+2.7**
	12nm,0.7s,baz=54,slow=26,SNR=6.8						
MK31				⇓Lg	Lg	21 28 04.8	
	7.7nm,0.5s,baz=51,slow=30,SNR=5.2						
MKAR	**Makanchi Array**	**4.94**	**231**	Pn	**Pn**	**21 26 46.5**	**+2.5**
	4.7nm,0.3s,baz=55,slow=15,SNR=69						
MKAR				Sn	**Sn**	**21 27 44.1**	**+3.0**
	3.7nm,0.3s,baz=56,slow=23,SNR=12						
MKAR				Lg	Lg	21 28 04.3	
	1.7nm,0.3s,baz=52,slow=26,SNR=2.6 7.2nm,0.3s						
MAKZ	**Makanchi**	**5.09**	**233**	⇓Pn	**Pn**	**21 26 48.5**	**+2.4**
	6.3nm,0.5s						
MAKZ				⇑Sn	**Sn**	**21 27 48.0**	**+3.1**
	3.5nm,0.3s						
MAKZ				⇑Lg	Lg	21 28 08.3	
	13nm,0.5s						
KURK	**Kurchatov**	**5.96**	**280**	⇑Pn	**Pn**	**21 26 59.4**	**+1.4**
	4.7nm,0.7s						
KURK				⇑Sn	**Sn**	**21 28 07.8**	**+1.6**
	6.1nm,0.7s						
KURK				⇓Lg	Lg	21 28 35.7	
	9.0nm,0.5s						
KURBB	**Kurchatov Arra**	**6.01**	**279**	Pn	**Pn**	**21 26 59.9**	**+1.2**
	0.5nm,0.3s,baz=92,slow=15,SNR=56						
KURBB				Sn	**Sn**	**21 28 09.9**	**+2.3**
	0.4nm,0.3s,baz=85,slow=27,SNR=6.0						
KURBB				Lg	Lg	21 28 36.7	
	0.4nm,0.3s,baz=85,slow=32,SNR=6.7 3.4nm,0.4s						
KURBB	**Kurchatov Arra**	**6.01**	**279**	⇑Pn	**Pn**	**21 26 59.9**	**+1.2**
	4.2nm,0.3s						
KURBB				⇑Sn	**Sn**	**21 28 09.7**	**+2.2**
	18nm,0.8s						
KURBB				⇑Lg	Lg	21 28 36.6	
	30nm,0.7s						
BVAR	**Borovoye Array**	**11.29**	**292**	Pn	**Pn**	**21 28 09.4**	**-1.6**
	0.1nm,0.3s,baz=104,slow=14,SNR=15						
BVAR				Sn	**Sn**	**21 30 12.2**	**-5.0**
	baz=94,slow=22,SNR=6.0 1.2nm,0.5s						
SONM	**Songino Array**	**12.38**	**93**	Pn	**Pn**	**21 28 26.5**	**+0.4**
	0.1nm,0.3s,baz=289,slow=13,SNR=2.3						
SONM

0.6nm,0.6s,baz=134,slow=4.2,SNR=2.2
0.6nm,0.6s

PGC 24 22:49:32.0±0.0, 44°04N×128°60W, h10km, MLSn3.6/6, Mw4.3/6, 593km Ssw of Uclulet, Bc Off Coast Of Oregon, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NC27	**ODP1027**	**3.77**	**9**	Pn	Pn	22 50 27.4	-2.4
NCBC	**Barkley Canyon**	**4.70**	**20**	Pn	Pn	22 50 42.3	-0.5
NC89	**ODP889**	**4.78**	**14**	Pn	Pn	22 50 43.8	-0.2
OCP	**Olym-Cheeka Pk**	**5.07**	**32**	Pn	Pn	22 50 48.3	+0.2
OBC	**Olympics--Boni**	**5.08**	**37**	Pn	Pn	22 50 48.3	0.0
STW	**Striped Peak**	**5.35**	**38**	Pn	Pn	22 50 52.5	+0.6
PTRF	**Port Renfrew**	**5.35**	**31**	Pn	Pn	22 50 51.7	-0.3
PTRF				Sn	Sn	22 51 51.3	-2.3
B928	**Bamfield**	**5.36**	**25**	Pn	Pn	22 50 52.0	+0.1
B928				Sn	Sn	22 51 50.5	-3.1
OZB	**Mount Ozzard**	**5.36**	**22**	Pn	Pn	22 50 52.4	+0.3
PFB	**Port Renfrew**	**5.37**	**31**	Pn	Pn	22 50 51.9	-0.3
PFB				Sn	Sn	22 51 51.7	-2.3
TOFB	**Tofino**	**5.44**	**19**	Pn	Pn	22 50 53.0	0.0
SYMB	**Survey Mountai**	**5.61**	**35**	Pn	Pn	22 50 55.4	-0.1
SYMB				Sn	Sn	22 51 58.3	-1.7
B926	**Mesachie Lake**	**5.69**	**31**	Pn	Pn	22 50 56.3	-0.2
B926				Sn	Sn	22 51 59.8	-2.0
CLRS	**Cowichan Lake**	**5.69**	**31**	Pn	Pn	22 50 56.4	-0.2
CLRS				Sn	Sn	22 51 59.5	-2.3
VGZ	**Gonzales**	**5.70**	**38**	Pn	Pn	22 50 56.7	0.0
B009	**North Saanich**	**5.82**	**36**	Pn	Pn	22 50 58.4	+0.1
B009				Sn	Sn	22 52 02.9	-2.2
B010	**North Saanich**	**5.82**	**36**	Pn	Pn	22 50 58.2	-0.1
B010				Sn	Sn	22 52 02.9	-2.2
PGC	**Sidney**	**5.82**	**36**	Pn	Pn	22 50 58.2	-0.1
PGC				Sn	Sn	22 52 03.4	-1.7
B011	**North Saanich**	**5.82**	**36**	Pn	Pn	22 50 58.3	-0.1
B011				Sn	Sn	22 52 03.8	-1.3
PA01	**PA01 North**	**5.83**	**36**	Sn	Sn	22 52 03.9	-1.4
GOBB	**Galiano Island**	**6.03**	**34**	Pn	Pn	22 51 01.5	+0.3
GOBB				Sn	Sn	22 52 08.3	-2.0
NLLB	**Nanaimo Lost L**	**6.08**	**30**	Pn	Pn	22 51 01.9	0.0
NLLB				Sn	Sn	22 52 09.2	-2.3
MCW	**Mount Constitu**	**6.12**	**39**	Pn	Pn	22 51 01.7	-0.8
SPLB	**Strathcona Par**	**6.19**	**18**	Pn	Pn	22 51 03.9	+0.5
JCW	**Jim Creek**	**6.22**	**46**	Pn	Pn	22 51 04.5	+0.6
CMW	**Cultus Mountai**	**6.27**	**43**	Pn	Pn	22 51 05.0	+0.3
WOSB	**Woss**	**6.28**	**12**	Pn	Pn	22 51 05.1	+0.4
TXB	**Texada**	**6.33**	**25**	Pn	Pn	22 51 06.5	+1.1
CBB	**Campbell River**	**6.38**	**19**	Pn	Pn	22 51 06.7	+0.6
SHB	**Sechelt**	**6.43**	**29**	Pn	Pn	22 51 07.9	+1.0
SHB				Sn	Sn	22 52 17.2	-3.1
MAYB	**Maynard**	**6.44**	**8**	Pn	Pn	22 51 07.5	+0.6
BIB	**Bowen Island**	**6.48**	**32**	Pn	Pn	22 51 08.0	+0.6
NCRB	**Newcastle Ridg**	**6.59**	**14**	Pn	Pn	22 51 10.5	+1.4
NCSB	**Newcastle Ridg**	**6.59**	**14**	Pn	Pn	22 51 10.4	+1.3
GPW	**Glacier Peak**	**6.59**	**49**	Pn	Pn	22 51 09.2	0.0
RPW	**Rockport**	**6.60**	**46**	Pn	Pn	22 51 09.5	+0.4
MBW	**Mount Baker**	**6.62**	**42**	Pn	Pn	22 51 09.7	+0.1
HNBB	**Haney**	**6.68**	**36**	Pn	Pn	22 51 10.9	+0.7

IDC 24 22:54:56.0±2.5, 52°16N×175°56W, h0km, mb3.6/4, mbtmp3.7/6, ML4.3/2, Error ellipse: s-maj=45.5km s-min=40.8km az=171.0
NEIC 24 22:55:18.3±1.0, 52°4N±0°1×174°52W±0°08, h160km±3km, mb3.9/41, ML3.8(AEIC), Error ellipse: s-maj=19.3km s-min=6.6km az=176.0
AEIC 24 22:55:19.4±4.5, 52°1N±0°1×174°39W±0°09, h154km±4km, Error ellipse: s-maj=21.9km s-min=7.2km az=168.0
ISC 24 22:55:17.6±0.7, 52°6N±0°1×174°58W±0°05, h150km, n102, σ1§20/102, mb3.7/13, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWE	**Korovin West**	**0.32**	**141**		**Pn**	**22 55 39.5**	**+1.3**
KOKL	**Mount Kliuchef**	**0.37**	**141**		**Pn**	**22 55 39.8**	**+1.4**
KOKL					**Sn**	**22 55 57.2**	**+2.9**
KOFP	**Korovin Flat P**	**0.45**	**139**		**Pn**	**22 55 39.7**	**+0.9**
ATKA	**Atka Island**	**0.47**	**150**	Pn	**Pn**	**22 55 39.2**	**+0.4**
ATKA	**Atka Island**	**0.47**	**150**		**Sn**	**22 55 55.8**	**+1.0**
GSTR	**Great Sitkin T**	**1.04**	**241**		**Pn**	**22 55 43.8**	**+1.1**
GSTR					**Sn**	**22 56 03.0**	**+1.1**
GSMY	**Great Sitkin M**	**1.07**	**238**		**Pn**	**22 55 43.8**	**+0.8**
GSCK	**Great Sitkin C**	**1.14**	**239**		**Pn**	**22 55 44.5**	**+0.9**
ADAG	**Mount Adagdak**	**1.39**	**244**		**Pn**	**22 55 47.1**	**+1.1**
KIKV	**Kanaga Island**	**1.75**	**246**		**Pn**	**22 55 51.0**	**+1.1**
KIKV					**Sn**	**22 56 16.3**	**+1.7**
KIWB	**Kanaga Island**	**1.75**	**245**		**Pn**	**22 55 50.9**	**+1.1**
TAFP	**Tanaga Falls P**	**2.21**	**252**		**Pn**	**22 55 56.1**	**+1.0**
TAFP					**Sn**	**22 56 25.6**	**+1.6**
TASE	**Tanaga Southea**	**2.26**	**251**		**Pn**	**22 55 57.1**	**+1.3**
GAEA	**Gareloi East**	**2.69**	**254**		**Pn**	**22 56 02.4**	**+1.3**
GANO	**Gareloi North**	**2.72**	**255**		**Pn**	**22 56 02.7**	**+1.4**
CLCO	**Concord Point,**	**2.96**	**85**		**Pn**	**22 56 05.6**	**+1.3**
NIKH	**Nikolski High**	**3.50**	**82**		**Pn**	**22 56 11.7**	**+0.5**
NIKH					**Sn**	**22 56 52.1**	**-0.6**
CEPE	**Semis' Perret**	**3.60**	**262**		**Pn**	**22 56 14.2**	**+1.6**
CESW	**Semis' Southwe**	**3.67**	**261**		**Pn**	**22 56 15.2**	**+1.7**
OKCE	**Okmok Cone E**	**3.96**	**76**		**Pn**	**22 56 18.6**	**+1.4**
AMKA	**Amchitka**	**3.98**	**254**		**Pn**	**22 56 18.1**	**+0.7**
OKER	**Okmok East Rim**	**4.03**	**75**		**Pn**	**22 56 19.9**	**+1.7**
OKFG	**Magazine Ridge**	**4.11**	**76**		**Pn**	**22 56 20.8**	**+1.7**
LSPA	**Little Sitkin**	**4.25**	**264**		**Pn**	**22 56 22.9**	**+1.9**
MAPS	**Pakushin South**	**4.75**	**72**		**Pn**	**22 56 28.6**	**+1.1**
MGOD	**Makushin Gods**	**4.78**	**73**		**Pn**	**22 56 29.1**	**+1.1**
MSW	**Makushin Switc**	**4.86**	**71**		**Pn**	**22 56 30.0**	**+1.0**
MNAT	**Makushin Natee**	**4.91**	**72**		**Pn**	**22 56 31.0**	**+1.3**
UNV	**Unalaska Valle**	**5.01**	**73**		**Pn**	**22 56 32.2**	**+1.3**
ZRO	**Akutan Zero**	**5.36**	**71**		**Pn**	**22 56 37.5**	**+1.8**
AKBBA	**Akutan Broad B**	**5.39**	**71**		**Pn**	**22 56 37.4**	**+1.4**
AHB	**Akutan Harbor**	**5.46**	**71**		**Pn**	**22 56 38.9**	**+1.9**
AKSA	**Akutan Strait**	**5.53**	**70**		**Pn**	**22 56 39.6**	**+1.7**
WESE	**West Dahl East**	**6.24**	**69**		**Pn**	**22 56 48.5**	**+1.1**
SSBA	**Shishaldin**	**6.58**	**67**		**Pn**	**22 56 52.9**	**+1.0**
ISNN	**Isanotski Nort**	**6.79**	**67**		**Pn**	**22 56 56.3**	**+1.7**
ISLZ	**Isanotski Laza**	**6.80**	**68**		**Pn**	**22 56 55.8**	**+1.0**
FALS	**False Pass**	**6.99**	**67**		**Pn**	**22 56 59.1**	**+1.8**
PN7A	**Pavlof North-7**	**7.93**	**64**		**Pn**	**22 57 11.6**	**+1.6**
SDPT	**Sand Point**	**8.75**	**66**		**Pn**	**22 57 20.1**	**-0.6**
KDAK	**Kodiak Island**	**13.56**	**59**	Pn	**Pn**	**22 58 21.4**	**-2.2**
	2.1nm,0.3s,baz=286,slow=4.3,SNR=15						
KDAK				Sn	**Sn**	**23 00 55.4**	**+2.0**
	0.3nm,0.3s,baz=303,slow=23,SNR=2.2 5.2nm,0.4s						
RSO	**Redoubt South**	**14.32**	**48**		**Pn**	**22 58 33.1**	**-0.3**
CNPM	**China Poot**	**14.70**	**53**	Pn	**Pn**	**22 58 39.3**	**+1.2**
PPLA	**Purkeypile**	**15.68**	**40**		**P**	**22 58 52.2**	**+1.1**
KTH	**Kantishna Hill**	**16.51**	**39**		**P**	**22 59 02.3**	**+2.2**
TRF	**Thorofare Moun**	**16.70**	**40**	P	**Pn**	**22 59 04.0**	**+1.4**
H21K	**Melozitna Rive**	**17.06**	**32**	P	**Pn**	**22 59 07.3**	**+0.5**
RND	**Reindeer**	**17.25**	**41**	P	**P**	**22 59 08.6**	**+0.2**
MCK	**McKinley**	**17.37**	**40**	P	**Pn**	**22 59 11.0**	**+0.4**
MCK				IAmb	IAmb	22 59 12.0	
	comp=Z,7.5nm,1.0s						
DHY	**Denali Highway**	**17.72**	**43**	P	**Pn**	**22 59 14.8**	**0.0**
DHY				IAmb	IAmb	22 59 16.9	
	comp=Z,7.9nm,1.0s						
D19K	**Kuna River**	**17.76**	**20**	P	**Pn**	**22 59 16.0**	**+0.9**
D19K				IAmb	IAmb	22 59 54.5	
	comp=Z,9.0nm,1.4s						
MDM	**Murphy Dome**	**18.24**	**37**	P	**Pn**	**22 59 20.5**	**-0.3**
MDM				IAmb	IAmb	22 59 23.8	
	comp=Z,5.0nm,1.2s						
CCB	**Clear Creek Bu**	**18.24**	**38**	P	**P**	**22 59 20.3**	**+1.2**
CCB				IAmb	IAmb	22 59 22.7	
	comp=Z,2.9nm,0.7s						
HDA	**Harding Lake**	**18.46**	**40**	P	**Pn**	**22 59 23.0**	**-0.4**
PAX	**Paxson**	**18.48**	**45**	P	**P**	**22 59 22.8**	**+0.9**
PAX				IAmb	IAmb	22 59 26.7	
	comp=Z,12nm,1.4s						
IL31		**18.65**	**39**	P	**P**	**22 59 22.5**	**-1.0**
ILAR	**Eielson Array**	**18.65**	**39**	P	**P**	**22 59 24.7**	**+1.2**
ILAR	**Eielson Array**	**18.65**	**39**	P	**P**	**22 59 22.5**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=230,slow=11,SNR=30 comp=Z,1.0nm,0.7s						
IL03	**Eielson Array**	**18.66**	**39**	P	**P**	**22 59 24.4**	**+0.8**
H24K	**Noodor Dome**	**18.82**	**35**	P	**Pn**	**22 59 27.0**	**-0.6**
H24K				IAmb	IAmb	22 59 29.0	
	comp=Z,4.2nm,0.9s						
WAX	**Waxell Ridge**	**19.01**	**53**	P	**P**	**22 59 27.3**	**-0.2**
J25K	**Salcha River,**	**19.16**	**40**	P	**P**	**22 59 28.6**	**-0.6**
J25K				IAmb	IAmb	22 59 32.4	
	comp=Z,4.3nm,0.6s						
D22K	**Ayikyak River**	**19.31**	**24**	P	**Pn**	**22 59 32.7**	**-0.5**
B21K	**Ikpikpuk River**	**19.42**	**21**	P	**Pn**	**22 59 33.5**	**-1.0**
B21K				IAmb	IAmb	22 59 38.5	
	comp=Z,5.2nm,1.2s						
SCRK	**Sand Creek**	**19.47**	**42**	P	**P**	**22 59 32.9**	**+0.4**
J26L	**Joseph Creek**	**19.83**	**41**	P	**P**	**22 59 36.7**	**+0.3**
BCAR	**Beaver Creek A**	**20.11**	**46**	P	**P**	**22 59 39.9**	**+0.6**
K27K	**Chicken**	**20.27**	**43**	P	**P**	**22 59 41.8**	**+0.8**
K27K				IAmb	IAmb	22 59 48.0	
	comp=Z,6.9nm,1.1s						
I26K	**Coal Creek Min**	**20.31**	**39**	P	**P**	**22 59 42.2**	**+0.8**
I26K				IAmb	IAmb	23 00 19.9	
	comp=Z,7.2nm,1.2s						
C23K	**Itkillik River**	**20.51**	**24**	P	**P**	**22 59 45.5**	**+2.0**
C23K				IAmb	IAmb	22 59 47.2	
	comp=Z,10nm,1.4s						
BMAR	**Burnt Mountain**	**20.77**	**33**	P	**P**	**22 59 48.3**	**+1.9**
DAWY	**Dawson**	**21.41**	**44**	P	**P**	**22 59 54.2**	**+0.9**
DAWY				IAmb	IAmb	23 00 34.2	
	comp=Z,3.9nm,1.2s						
I28M	**Miner Creek**	**21.61**	**40**	P	**P**	**22 59 55.9**	**+0.4**
I28M				IAmb	IAmb	23 00 23.8	
	comp=Z,7.2nm,1.4s						
K29M	**Barlow Dome**	**22.16**	**45**	P	**P**	**23 00 01.4**	**+0.3**
K29M				IAmb	IAmb	23 00 02.2	
	comp=Z,2.7nm,0.8s						
F28M	**Old Crow**	**22.46**	**35**	P	**P**	**23 00 04.9**	**+1.1**
F28M				IAmb	IAmb	23 00 24.5	
	comp=Z,4.9nm,1.5s						
H29M	**Whitestone**	**22.48**	**39**	P	**P**	**23 00 04.3**	**+0.3**
H29M				IAmb	IAmb	23 00 31.4	
	comp=Z,4.1nm,1.4s						
J30M	**Hart River**	**22.83**	**44**	P	**P**	**23 00 08.2**	**+0.7**
I30M	**Mount Dempster**	**22.97**	**42**	P	**P**	**23 00 08.3**	**-0.4**
E29M	**Blow River**	**23.46**	**34**	P	**P**	**23 00 14.0**	**+1.0**
E29M				IAmb	IAmb	23 00 41.3	
	comp=Z,4.8nm,1.4s						
G30M	**tAoh Zrail Nji**	**23.54**	**38**	P	**P**	**23 00 14.5**	**+0.6**
G30M				IAmb	IAmb	23 00 34.7	
	comp=Z,7.6nm,1.5s						
INK	**Inuvik**	**24.94**	**35**	P	**P**	**23 00 26.9**	**+0.5**
INK	**Inuvik**	**24.94**	**35**	P	**P**	**23 00 26.8**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=226,slow=9.6,SNR=6.0 comp=Z,0.5nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**35.84**	**211**	T	T	23 39 01.9	
	baz=18						
H11N3	**WAKE ISLAND Hy**	**35.85**	**211**	T	T	23 39 09.6	
	baz=18,slow=74						
H11N1	**WAKE ISLAND Hy**	**35.86**	**211**	T	T	23 39 08.0	
	baz=18,slow=74						
NEW	**Newport**	**36.02**	**73**	P	**P**	**23 02 03.8**	**-0.2**
NEW				IAmb	IAmb	23 02 39.8	
	comp=Z,2.9nm,1.1s						
H11S1	**WAKE ISLAND Hy**	**37.05**	**210**	T	T	23 40 27.8	
	baz=17						
H11S2	**WAKE ISLAND Hy**	**37.07**	**210**	T	T	23 40 47.5	
	baz=17						
H11S3	**WAKE ISLAND Hy**	**37.07**	**210**	T	T	23 40 21.3	
	baz=17						
PAHR	**Pah Rah Range**	**39.39**	**86**	P	**P**	**23 02 33.3**	**+0.8**
MCMT	**McKenzie Canyo**	**40.33**	**76**	P	**P**	**23 02 39.4**	**-0.9**
NVAR	**Mina Array Bea**	**40.85**	**87**	P	**P**	**23 02 45.2**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=299,slow=8.0,SNR=3.6 comp=Z,0.4nm,0.6s						
TPNV	**Topopah Spring**	**43.04**	**87**	P	**P**	**23 03 01.4**	**-1.0**
LCMT	**Little Creek M**	**44.83**	**85**	P	**P**	**23 03 15.9**	**-0.7**
SRU	**San Rafael Swe**	**45.13**	**81**	P	**P**	**23 03 17.6**	**-1.4**
U15A	**North Rim**	**45.79**	**85**	P	**P**	**23 03 23.9**	**-0.5**
U15A				IAmb	IAmb	23 03 26.2	
	comp=Z,4.5nm,1.3s						
TX31	**Lajitas Ar. Si**	**55.92**	**85**	P	**P**	**23 04 39.4**	**-0.5**
TXAR	**Lajitas Array**	**55.92**	**85**	P	**P**	**23 04 39.2**	**-0.7**
TXAR	**Lajitas Array**	**55.92**	**85**	P	**P**	**23 04 39.7**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=309,slow=5.9,SNR=7.1 comp=Z,0.3nm,0.5s						
R40A	**Maddies Statio**	**56.41**	**69**	P	**P**	**23 04 40.1**	**-3.0**
ABKAR	**Akbulak array**	**68.47**	**325**	P	**P**	**23 06 01.6**	**-1.4**
EKA	**Eskdalemuir Ar**	**72.18**	**5**	P	**P**	**23 06 25.5**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=319,slow=3.2,SNR=1.0 comp=Z,0.9nm,0.7s						

IDC 24 22:58:13.6±8.3, 30°44S×178°02W, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=349.4km s-min=64.2km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.09**	**267**	P	P	23 06 15.6	-0.1
	0.1nm,0.4s,baz=109,slow=7.8,SNR=4.4 0.1nm,0.4s						
WRA	**Warramunga Arr**	**44.08**	**272**	P	P	23 06 23.6	-0.2
	0.3nm,0.4s,baz=110,slow=8.1,SNR=2.5 0.3nm,0.4s						
FINES	**FINESS Array B**	**145.18**	**340**	PKPbc	PKPbc	23 17 51.2	-0.8
	2.4nm,0.9s,baz=54,slow=2.4,SNR=3.4						

MEX 24 23:22:30.3±1.0, 16°20N×95°40W, h59km±13km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.80**	**238**	*i* P	Pn	23 22 44.1	-1.6
HUIG				*i* S	Sn	23 22 55.3	-1.8
NILT	**Santiago Nilte**	**0.84**	**64**	*i* P	Pn	23 22 41.4	-4.8
NILT				*i* S	Sn	23 22 53.1	-4.8
CMIG	**Matias Romero**	**1.02**	**29**	*i* P	Pn	23 22 44.4	-4.2
CMIG				*i* S	Sn	23 22 56.7	-5.3
NEUV	**Arroyo Zacate**	**1.55**	**346**	*i* P	Pn	23 22 54.1	-1.6
NEUV				*i* S	Sn	23 23 13.2	-1.7
TGIG		**2.26**	**75**	*i* P	Pn	23 23 06.2	+0.8
TGIG				*i* S	Sn	23 23 31.5	-0.7

SJA 24 23:42:10.9±0.7, 22°72S×68°61W, h104km±3km, ML3.4, MW3.6
GUC 24 23:42:12.4±0.9, 22°67S×68°68W, h107km±4km, ML3.4
ISC 24 23:42:11.2±1.4, 22°67S±0°03×68°59W±0°05, h109km±8km, n32, σ1§72/55, 7C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.30**	**281**	*eP*	**Pn**	**23 42 27.0**	**-0.3**
LVC				*eS*	**Sn**	**23 42 38.7**	**-0.7**
LVC				IAML		23 42 39.1	
	comp=Z,825nm,0.6s						
LVC	**Limon Verde**	**0.30**	**281**	*i* P	**Pn**	**23 42 27.1**	**-0.2**
LVC				*i* S	**Sn**	**23 42 37.8**	**-1.5**
AF01	**San Pedro de A**	**0.47**	**127**	*i*↓P	**Pn**	**23 42 29.1**	**+1.0**
AF01				*i* S	**Sn**	**23 42 41.7**	**+0.9**
AF01				IAML		23 42 57.6	
	comp=E,2μm,0.4s						
PB06	**IPOC Station P**	**0.91**	**268**	*eP*	**Pn**	**23 42 31.3**	**-0.3**
PB06				*eS*	**Sn**	**23 42 46.7**	**-0.2**
PB06				IAML		23 42 47.6	
	comp=Z,2μm,0.2s						
PB06	**IPOC Station P**	**0.91**	**268**	*i*↑P	**Pn**	**23 42 31.3**	**-0.3**
PB06				*i* S	**Sn**	**23 42 46.1**	**-0.8**
PB06				IAML		23 42 47.2	
	comp=N,2μm,0.1s						
PB15	**IPOC Station P**	**0.97**	**237**	*eP*	**Pn**	**23 42 31.9**	**-0.4**
PB15				*eS*	**Sn**	**23 42 48.2**	**0.0**
PB15	**IPOC Station P**	**0.97**	**237**	*i*↑P	**Pn**	**23 42 32.5**	**+0.2**
PB15				*eS*	**Sn**	**23 42 47.9**	**-0.3**
PB09	**IPOC Station P**	**1.06**	**325**	*eP*	**Pn**	**23 42 33.5**	**+0.3**
PB09				*eS*	**Sn**	**23 42 50.7**	**+1.0**
PB09				IAML		23 42 56.2	
	comp=Z,320nm,0.8s						
PB09	**IPOC Station P**	**1.06**	**325**	*i*↑P	**Pn**	**23 42 34.2**	**+1.0**
PB09				*i* S	**Sn**	**23 42 50.0**	**+0.3**
PB09				IAML		23 42 51.4	
	comp=E,468nm,0.3s						
PB04	**IPOC Station P**	**1.48**	**283**	*eP*	**Pn**	**23 42 37.9**	**0.0**
PB04				*eS*	**Sn**	**23 42 58.1**	**-0.1**
PB04				IAML		23 43 02.9	
	comp=Z,451nm,0.2s						
PB04	**IPOC Station P**	**1.48**	**283**	*i*↑P	**Pn**	**23 42 37.6**	**-0.3**
PB04				*i* S	**Sn**	**23 42 57.5**	**-0.6**
PB04				IAML		23 42 59.9	
	comp=N,691nm,0.1s						
PB05	**IPOC Station P**	**1.50**	**263**	*eP*	**Pn**	**23 42 37.8**	**-0.3**
PB05				*eS*	**Sn**	**23 42 58.4**	**-0.1**
PB05				IAML		23 43 00.8	
	comp=Z,196nm,0.2s						
PB05	**IPOC Station P**	**1.50**	**263**	*i*↑P	**Pn**	**23 42 37.8**	**-0.3**
PB05				*i* S	**Sn**	**23 42 57.5**	**-1.0**
PB05				IAML		23 43 03.2	
	comp=E,336nm,0.4s						
PB07	**IPOC Station P**	**1.53**	**308**	*eP*	**Pn**	**23 42 38.9**	**+0.5**
PB07				*eS*	**Sn**	**23 42 59.5**	**+0.4**
PB07				IAML		23 43 00.0	
	comp=Z,529nm,0.2s						
PB07	**IPOC Station P**	**1.53**	**308**	*i*↑P	**Pn**	**23 42 38.8**	**+0.3**
PB07				*eS*	**Sn**	**23 42 58.2**	**-0.9**
PB07				IAML		23 43 02.2	
	comp=N,504nm,0.6s						
PB02	**IPOC Station P**	**1.81**	**318**	*eP*	**Pn**	**23 42 42.7**	**+0.8**
PB02				*eS*	**Sn**	**23 43 06.3**	**+1.0**
PB02				IAML		23 43 09.6	
	comp=Z,514nm,0.3s						
PB02	**IPOC Station P**	**1.81**	**318**	*i*↑P	**Pn**	**23 42 42.5**	**+0.6**
PB02				IAML		23 43 10.1	
	comp=E,495nm,0.4s						
PB01	**IPOC Station P**	**1.82**	**333**	*eP*	**Pn**	**23 42 43.1**	**+1.0**
PB01				*eS*	**Sn**	**23 43 07.0**	**+1.5**
PB01				IAML		23 43 07.2	
	comp=Z,238nm,0.2s						
PB01	**IPOC Station P**	**1.82**	**333**	*i*↓P	**Pn**	**23 42 43.0**	**+0.9**
PB01				*i* S	**Sn**	**23 43 06.5**	**+1.0**
PB01				IAML		23 43 08.1	
	comp=E,442nm,0.3s						
PATCX	**Punta Patache**	**2.35**	**321**	*eP*	**Pn**	**23 42 49.5**	**+0.8**
PATCX				*eS*	**Sn**	**23 43 21.6**	**+4.2**
PATCX				IAML		23 43 24.2	
	comp=Z,175nm,0.4s						
PATCX	**Punta Patache**	**2.35**	**321**	*eP*	**Pn**	**23 42 49.1**	**+0.4**
PATCX				IAML		23 43 24.1	
	comp=N,337nm,0.4s						
PB14	**IPOC Station P**	**2.56**	**220**	*eP*	**Pn**	**23 42 51.9**	**+0.2**
PB14				*eS*	**Sn**	**23 43 22.5**	**-0.2**
PB14				IAML		23 43 31.0	
	comp=Z,185nm,0.3s						
PB14	**IPOC Station P**	**2.56**	**220**	*eP*	**Pn**	**23 42 52.5**	**+0.8**
TA01	**Diego Aracena**	**2.57**	**324**	*eP*	**Pn**	**23 42 51.8**	**+0.3**
PB08	**IPOC Station P**	**2.57**	**348**	*eP*	**Pn**	**23 42 53.4**	**+1.4**
PB08				*eS*	**Sn**	**23 43 14.8**	**-8.4**
PB08	**IPOC Station P**	**2.57**	**348**	*i* P	**Pn**	**23 42 53.9**	**+1.9**
GO02	**Mina Guanaco**	**2.64**	**200**	*eP*	**Pn**	**23 42 53.3**	**+0.5**
GO02				*eS*	**Sn**	**23 43 24.3**	**-0.4**
GO02				IAML		23 43 34.7	
	comp=Z,148nm,0.1s						
GO02	**Mina Guanaco**	**2.64**	**200**	*eP*	**Pn**	**23 42 53.0**	**+0.2**
YJA	**Yavi**	**2.89**	**81**	*eP*	**Pn**	**23 42 56.3**	**+0.2**
GO01	**Chusmiza**	**3.04**	**349**	*eP*	**Pn**	**23 42 59.9**	**+1.7**
GO01				*eS*	**Sn**	**23 43 28.7**	**-5.7**
PB11	**IPOC Station P**	**3.06**	**341**	*eP*	**Pn**	**23 42 57.9**	**-0.3**
PB11				*eS*	Sn	23 43 21.8	-13
PB11				IAML		23 43 50.3	
	comp=Z,47nm,0.3s						
PB16	**IPOC Station P**	**4.40**	**349**	*eP*	**Pn**	**23 43 18.4**	**+1.9**
PB16				*eS*	Sn	23 44 24.8	+18
PB16				IAML		23 44 35.2	
	comp=Z,18nm,0.4s						

SJA 25 00:09:52.3±0.7, 19°18S×70°06W, h35km±3km, ML3.4, MW3.5
GUC 25 00:09:54.5±0.5, 19°18S×70°04W, h38km±2km, ML3.5
ISC 25 00:09:54.5±5.9, 19°17S±0°03×70°09W±0°05, h38km±9km, n30, σ1§65/47, 5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**0.60**	**338**	*eP*	**Pn**	**00 10 06.0**	**-0.7**
PB12				*eS*	**Sn**	**00 10 15.4**	**+0.1**
PB12				IAML		00 10 15.8	
	comp=Z,3μm,0.2s						
PB12	**IPOC Station P**	**0.60**	**338**	*i*↓P	**Pn**	**00 10 06.3**	**-0.5**
PB12				*eS*	**Sn**	**00 10 15.2**	**-0.1**
PB12				IAML		00 10 15.9	
	comp=E,8μm,0.2s						
PB11	**IPOC Station P**	**0.71**	**145**	*eP*	**Pn**	**00 10 06.4**	**-1.8**
PB11				*eS*	**Pn**	**00 10 07.2**	**-1.1**
PB11				IAML		00 10 18.6	
	comp=Z,2μm,0.1s						
PB11	**IPOC Station P**	**0.71**	**145**	*i*↓P	**Pn**	**00 10 07.2**	**-1.1**
PB11				*eS*	**Sn**	**00 10 16.9**	**-1.

PB05 IAML 00 11 50.9
comp=Z,32nm,0.4s

IDC 25 00:18:34.8±27.0, 18°17'S×174°83'W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=492.7km s-min=156.8km az=73.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.77**	**261**	P	P	00 25 44.7	+0.3
	0.7nm,0.4s,baz=91,slow=7.4,SNR=5.5						
	0.7nm,0.4s						
STKA	**Stephens Creek**	**41.51**	**242**	P	P	00 26 24.6	+0.6
	1.0nm,0.8s,baz=85,slow=6.9,SNR=3.8						
	1.0nm,0.8s						
WRA	**Warramunga Arr**	**47.94**	**259**	P	P	00 27 14.8	-0.7
	0.2nm,0.3s,baz=97,slow=7.5,SNR=12						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**48.00**	**254**	P	P	00 27 15.6	-0.3
	4.0nm,0.5s,baz=94,slow=8.3,SNR=111						
	4.0nm,0.5s						

IDC 25 00:24:05.0±10.0, 18°06S×178°16W, h631km±120km, mb2.6/4, mbtmp3.5/4, Error ellipse: s-maj=115.0km s-min=40.0km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.84**	**260**	P	P	00 31 25.4	0.0
	0.4nm,0.4s,baz=98,slow=6.8,SNR=5.1						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**44.98**	**254**	P	P	00 31 26.4	0.0
	0.3nm,0.4s,baz=90,slow=8.6,SNR=20						
ASAR				PcP	PcP	00 32 53.5	-0.1
	0.3nm,0.8s,baz=100,slow=3.4,SNR=4.3						
	0.3nm,0.4s						
TXAR	**Lajitas Array**	**85.87**	**58**	P	P	00 35 40.5	+0.6
	0.2nm,0.6s,baz=224,slow=5.2,SNR=3.9						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**85.98**	**13**	P	P	00 35 38.9	-0.6
	0.3nm,1.0s,baz=212,slow=4.5,SNR=5.0						
	0.3nm,1.0s						

IDC 25 00:25:58.5±2.3, 3°58S×152°04E, h0km, mb3.5/4, mbtmp3.5/4, MS3.0/5, Error ellipse: s-maj=111.3km s-min=30.3km az=120.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**9.77**	**127**	LR	LR	00 32 10.9	
	comp=Z,2μm,21.0s,baz=319,slow=38						
CTA	**Charters Tower**	**17.35**	**199**	LR	LR	00 36 16.6	
	comp=Z,40nm,18.2s,baz=68,slow=36						
DZM	**Mont Dzumac**	**23.09**	**144**	LR	LR	00 38 12.1	
	comp=Z,93nm,20.7s,baz=66,slow=32						
WRA	**Warramunga Arr**	**23.72**	**225**	P	P	00 31 12.6	+0.1
	0.8nm,0.9s,baz=52,slow=9.6,SNR=3.6						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**26.57**	**220**	P	P	00 31 38.9	+0.4
	0.2nm,0.7s,baz=60,slow=8.8,SNR=2.1						
	0.2nm,0.7s						
KAPI	**Kappang**	**32.23**	**266**	LR	LR	00 45 58.9	
	comp=Z,19nm,21.8s,baz=47,slow=37						
LEM	**Lembang**	**44.34**	**264**	LR	LR	00 55 06.5	
	comp=Z,16nm,18.6s,baz=106,slow=39						
MA2	**Magadan**	**62.97**	**359**	LR	LR	01 06 46.7	
	comp=Z,8.1nm,18.1s,baz=260,slow=39						
ILAR	**Eielson Array**	**81.32**	**22**	P	P	00 38 16.9	+0.4
	0.8nm,1.1s,baz=246,slow=5.7,SNR=2.1						
	0.8nm,1.1s						
BVAR	**Borovoye Array**	**87.82**	**323**	P	P	00 38 49.0	-0.7
	0.6nm,0.7s,baz=100,slow=5.3,SNR=5.5						
	0.6nm,0.7s						

*IDC **25** 00:48:57.5±3.4, 31°18S×177°80W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=74.4km s-min=27.0km az=116.0*

ISC 25 00:48:57.4±2.8, 31°4S±0°1×177°1W±0°4, h35km, n6, σ1ᵎ22/5, mb3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.23**	**342**	Pn	**Pn**	**00 49 30.9**	**-1.0**
	39nm,0.3s,baz=71,slow=22,SNR=2.0						
RAO				Sn	**Sn**	**00 49 59.2**	**+1.1**
	53nm,0.3s,baz=131,slow=22,SNR=2.3						
URZ	**Urewera**	**8.33**	**213**	Pn	Pn	00 51 01.1	+5.5
	0.3nm,0.3s,baz=238,slow=14,SNR=1.9						
URZ				Sn	**Sn**	**00 52 28.6**	**+0.2**
	3.1nm,0.3s,baz=272,slow=19,SNR=12						
STKA	**Stephens Creek**	**34.99**	**258**	P	P	00 55 48.4	+2.0
	1.6nm,0.8s,baz=96,slow=10,SNR=2.1						
	1.6nm,0.8s						
ASAR	**Alice Springs**	**43.80**	**268**	P	P	00 57 00.6	+0.5
	0.5nm,0.5s,baz=108,slow=7.2,SNR=16						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**44.88**	**273**	P	**P**	**00 57 08.4**	**-0.3**
	0.5nm,0.3s,baz=111,slow=8.1,SNR=29						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**146.32**	**340**	PKPbc	**PKiKP**	**01 08 37.5**	**+0.8**
	1.6nm,0.7s,baz=41,slow=4.7,SNR=6.4						

IDC 25 00:52:40.8±14.0, 17°23S×178°57W, h514km±122km, mb3.4/4, mbtmp4.2/5, Error ellipse: s-maj=134.5km s-min=38.8km az=40.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.91**	**249**	P	P	00 55 50.7	+0.6
	2.2nm,0.6s,baz=313,slow=22,SNR=1.9						
STKA	**Stephens Creek**	**38.83**	**240**	P	P	00 59 21.8	+0.4
	1.9nm,0.4s,baz=92,slow=10,SNR=20						
	1.9nm,0.4s						
WRA	**Warramunga Arr**	**44.61**	**259**	P	P	01 00 06.5	-0.9
	0.8nm,0.5s,baz=96,slow=7.2,SNR=18						
WRA				PcP	PcP	01 01 39.5	+0.2
	0.4nm,0.9s,baz=100,slow=3.2,SNR=2.4						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**44.83**	**254**	P	P	01 00 08.9	-0.1
	8.7nm,0.3s,baz=84,slow=8.4,SNR=7.8						
ASAR				PcP	PcP	01 01 40.3	+0.2
	0.5nm,0.6s,baz=108,slow=3.7,SNR=2.9						
	8.7nm,0.3s						
QSPA	**South Pole Qui**	**72.82**	**180**	P	P	01 03 16.6	-0.2
	1.5nm,0.9s,baz=33,slow=0.8,SNR=5.4						
	1.5nm,0.9s						

*NNC **25** 00:53:41.0±0.3, 44°22N×77°26E, h0km, mb2.7, mpv3.2, Error ellipse: s-maj=2.4km s-min=1.3km az=157.0*
*SOME **25** 00:53:41.6, 44°27N×77°22E, h20km*

ISC 25 00:53:40.9±1.1, 44°26N±0°03×77°25E±0°02, h11km±10km, n36, σ0ᵎ58/66, 2C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARXS	**Arharly**	**0.42**	**96**	*eP*	**Pg**	**00 53 50.3**	**+1.1**
	5.9nm,0.1s						
ARXS				*eS*	**Sb**	**00 53 56.3**	**-0.4**
	148nm,0.1s						
CHKK	**Chushkaly**	**0.45**	**205**	*eP*	**Pg**	**00 53 50.1**	**+0.4**
	2.3nm,0.1s						
CHKK				*eS*	**Sg**	**00 53 56.2**	**+0.6**
	109nm,0.3s						
KTBS	**Karatobe**	**0.69**	**217**	*eP*	**Pg**	**00 53 54.4**	**+0.2**
	4.0nm,0.1s						
KTBS				*eS*	**Sg**	**00 54 03.7**	**+0.5**
	44nm,0.3s						
KUU	**Kurty**	**0.75**	**241**	P	**Pg**	**00 53 55.5**	**0.0**
	4.5nm,0.1s						
KUU				S	**Sg**	**00 54 05.5**	**+0.2**
	55nm,0.2s						
KURS	**Kuram**	**1.02**	**139**	*eP*	**Pg**	**00 54 00.1**	**-0.4**
	5.2nm,0.1s						
KURS				*eS*	**Sg**	**00 54 13.4**	**-0.4**
	8.1nm,0.1s						
KURS	**Kuram**	**1.02**	**139**	P	**Pg**	**00 54 00.3**	**-0.2**
	5.2nm,0.1s						
KURS				S	**Sg**	**00 54 13.8**	**0.0**
	8.1nm,0.1s						
KOTS	**Kotyrbulak**	**1.03**	**186**	*eP*	**Pg**	**00 54 00.6**	**-0.2**
	4.3nm,0.1s						
KOTS				*eS*	**Sg**	**00 54 14.2**	**0.0**
	48nm,0.1s						
KOTS	**Kotyrbulak**	**1.03**	**186**	P	**Pg**	**00 54 00.5**	**-0.2**
	4.3nm,0.1s						
KOTS				S	**Sb**	**00 54 14.3**	**-0.2**
	48nm,0.1s						
MDOK	**Medeo**	**1.11**	**188**	*eP*	**Pg**	**00 54 01.5**	**-0.7**
	5.4nm,0.1s						
MDOK				*eS*	**Sg**	**00 54 15.9**	**-0.7**
	19nm,0.1s						
MDOK	**Medeo**	**1.11**	**188**	P	**Pg**	**00 54 01.7**	**-0.5**
	1.0nm,0.2s						
MDOK				Pg	**Pg**	**00 54 01.7**	**-0.5**
	5.4nm,0.1s						
MDOK				⇑S	**Sg**	**00 54 16.1**	**-0.5**
	4.1nm,0.2s						
MDOK				Lg	Lg	00 54 16.3	
	18nm,0.1s						
TDK	**Taldyqorghan**	**1.11**	**48**	*eP*	**Pb**	**00 54 00.9**	**-1.3**
	11nm,0.2s						
TDK				*eS*	**Sg**	**00 54 14.3**	**-2.3**
	19nm,0.1s						
TNSS	**Tian-Shan**	**1.24**	**190**	*eP*	**Pb**	**00 54 04.2**	**-0.4**
	2.5nm,0.1s						
TNSS				*eS*	**Sg**	**00 54 20.5**	**-0.5**
	9.1nm,0.1s						
TNSS	**Tian-Shan**	**1.24**	**190**	P	**Pb**	**00 54 04.3**	**-0.4**
	3.1nm,0.1s						
TNSS				S	**Sg**	**00 54 20.7**	**-0.3**
	9.2nm,0.1s						
KRBS	**Karabastau**	**1.27**	**244**	P	Pn	**00 54 04.6**	**-0.1**
	5.4nm,0.1s						
KRBS				S	Sb	**00 54 21.2**	**0.0**
	17nm,0.1s						
MTBS	**Maitube**	**1.28**	**208**	*eP*	Pn	**00 54 04.8**	**0.0**
	5.1nm,0.1s						
MTBS				*eS*	Sb	**00 54 21.5**	**0.0**
	38nm,0.2s						
MTBS	**Maitube**	**1.28**	**208**	P	Pn	**00 54 04.8**	**0.0**
	5.1nm,0.1s						
MTBS				S	Sb	**00 54 21.5**	**0.0**
	38nm,0.2s						
KPKS	**Kokpek**	**1.31**	**127**	*eP*	Pn	**00 54 04.7**	**-0.5**
	3.2nm,0.1s						
KPKS				*eS*	Sb	**00 54 21.5**	**-0.9**
	8.5nm,0.1s						
KPKS	**Kokpek**	**1.31**	**127**	P	Pn	**00 54 05.0**	**-0.1**
	3.8nm,0.1s						
KPKS				S	Sb	**00 54 21.9**	**-0.4**
	7.9nm,0.2s						
IZV	**Izvestkoviy**	**1.31**	**201**	*eP*	Pn	**00 54 05.4**	**+0.1**
	0.9nm,0.1s						
IZV				*eS*	Sb	**00 54 22.6**	**+0.1**
	17nm,0.2s						
IZV	**Izvestkoviy**	**1.31**	**201**	P	Pn	**00 54 05.4**	**+0.1**
	0.9nm,0.1s						
IZV				S	Sb	**00 54 22.6**	**+0.1**
	17nm,0.1s						
KNOS	**Konyrlen**	**1.39**	**85**	P	Pn	**00 54 06.9**	**+0.5**
	3.9nm,0.1s						
KNOS				S	Sb	**00 54 25.0**	**+0.3**
	14nm,0.2s						
ZHN	**Zhinishke**	**1.39**	**141**	*eP*	Pn	**00 54 06.5**	**+0.2**
	4.1nm,0.1s						
ZHN				*eS*	Sb	**00 54 24.6**	**-0.2**
	16nm,0.1s						
ZHN	**Zhinishke**	**1.39**	**141**	P	Pn	**00 54 06.6**	**+0.2**
	4.1nm,0.1s						
ZHN				S	Sb	**00 54 24.6**	**-0.2**
	16nm,0.1s						
SATY	**Saty**	**1.47**	**145**	*eP*	Pb	**00 54 08.2**	**0.0**
	7.2nm,0.1s						
SATY				*eS*	Sb	**00 54 27.6**	**+0.7**
	34nm,0.1s						
SATY	**Saty**	**1.47**	**145**	P	Pn	**00 54 08.1**	**+0.7**
	7.2nm,0.1s						
SATY				S	Sb	**00 54 27.2**	**+0.3**
	34nm,0.2s						
DGS	**Degeres**	**1.48**	**227**	*eP*	Pn	**00 54 08.0**	**+0.4**
	10nm,0.3s						
DGS				*eS*	Sn	**00 54 27.2**	**+0.2**
	20nm,0.4s						
DGS	**Degeres**	**1.48**	**227**	P	Pn	**00 54 07.9**	**+0.4**
	10nm,0.2s						
KST	**Kastek**	**1.54**	**218**	*eP*	Pb	**00 54 09.2**	**-0.3**
	3.7nm,0.2s						
KST				*eS*	Sb	**00 54 29.0**	**+0.1**
	15nm,0.4s						
KST	**Kastek**	**1.54**	**218**	P	Pb	**00 54 09.3**	**-0.1**
	2.6nm,0.3s						
KST				S	Sb	**00 54 29.3**	**+0.3**
	16nm,0.2s						
UZB	**Uzymbulak**	**1.70**	**130**	S	Sb	**00 54 34.8**	**+1.1**
	5.8nm,0.1s						
KAPS	**Kapalarasan**	**1.82**	**55**	*eP*	Pb	**00 54 14.6**	**+0.4**
	0.6nm,0.0s						
KAPS				*eS*	Sb	**00 54 38.4**	**+1.4**
	8.6nm,0.1s						
DJR	**Jarkent**	**1.82**	**87**	*eP*	Pb	**00 54 14.3**	**-0.1**
	1.3nm,0.1s						
DJR				*eS*	Sb	**00 54 37.9**	**+0.6**
	9.2nm,0.2s						
PDGK	**Podgornoye**	**1.87**	**119**	S	Sb	**00 54 38.8**	**+0.2**
	1.4nm,0.1s						
PDGK	**Podgornoye**	**1.87**	**119**	⇑Pn	Pn	**00 54 14.3**	**+1.4**
	1.8nm,0.6s						
PDGK				⇓Sn	Sb	**00 54 38.8**	**+0.2**
	2.3nm,0.5s						
SGDS	**Sogindy**	**2.06**	**248**	Lg	Lg	00 54 44.6	
	5.4nm,0.3s						
BTLS	**Baital**	**2.42**	**290**	Lg	Lg	00 54 55.9	
	1.8nm,0.1s						

*IDC **25** 01:02:19.6±1.4, 31°32S×180°00E, h376km±14km, mb3.7/5, mbtmp4.5/7, Error ellipse: s-maj=22.0km s-min=18.1km az=49.0*
*WEL **25** 01:02:23.9±0.9, 32°S±7°×17°9W±1°7, h327km±13km, M4.4/14, mB4.8/11, ML4.8/2, MLv4.9/14, Mw(mB)4.1/11, Error ellipse: s-maj=0.0km s-min=0.0km az=108.7, confirmed*

ISC 25 01:02:19.0±0.8, 31°39S±0°08×179°9E±0°1, h350km, n54, σ2ᵎ08/73, mb3.9/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.86**	**43**	P	**Pn**	**01 03 19.5**	**+2.3**
GLKZ				S	**S**	**01 04 05.1**	**+1.2**
RAO	**Raoul Island**	**2.87**	**42**	P	**Pn**	**01 03 19.3**	**+2.0**
	196nm,0.3s,baz=72,slow=12,SNR=6.4						
RAO				S	**S**	**01 04 04.3**	**+0.3**
	209nm,0.3s,baz=105,slow=23,SNR=2.4						
MXZ	**Matakaoa Point**	**6.29**	**191**	P	**Pn**	**01 03 55.8**	**+2.8**
MXZ				S	**S**	**01 05 09.2**	**-0.2**
WCZ	**Waipu Caves**	**6.46**	**224**	P	Pn	01 04 02.0	+7.0
OUZ	**Omahuta**	**6.49**	**232**	P	Pn	01 04 02.8	+7.4
TWGZ	**Tauwhareparae**	**6.94**	**192**	P	**Pn**	**01 04 02.9**	**+2.2**
TWGZ				S	**S**	**01 05 23.3**	**-0.1**
MWZ	**Matawai**	**7.19**	**195**	P	**Pn**	**01 04 05.3**	**+1.8**
MWZ				S	**S**	**01 05 28.9**	**+0.4**
CNGZ	**Carnagh Statio**	**7.21**	**190**	P	**Pn**	**01 04 06.5**	**+2.8**
URZ	**Urewera**	**7.21**	**198**	P	**Pn**	**01 04 04.9**	**+1.1**
	42nm,0.3s,baz=348,slow=3.8,SNR=98						
URZ				S	**S**	**01 05 29.8**	**+0.7**
	29nm,0.3s,baz=336,slow=23,SNR=21						
URZ	**Urewera**	**7.21**	**198**	P	**Pn**	**01 04 04.9**	**+1.1**
URZ				S	**S**	**01 05 29.1**	**+0.1**
TKGZ	**Te Karaka**	**7.22**	**193**	P	**Pn**	**01 04 05.9**	**+2.0**
TKGZ				S	**S**	**01 05 29.2**	**0.0**
TARZ	**Mount Tarawera**	**7.37**	**201**	P	**Pn**	**01 04 09.1**	**+3.4**
RAGZ	**Rawiri**	**7.37**	**195**	P	**Pn**	**01 04 09.4**	**+3.8**
RAGZ				S	**S**	**01 05 33.4**	**+1.0**
RIGZ	**Rimuhau**	**7.50**	**193**	P	**Pn**	**01 04 08.2**	**+1.0**
RIGZ				S	**S**	**01 05 34.9**	**-0.3**
MUGZ	**Murupara**	**7.51**	**199**	P	**Pn**	**01 04 10.6**	**+3.3**
RTZ	**Ruatahuna**	**7.58**	**197**	P	**Pn**	**01 04 10.3**	**+2.1**
TLZ	**Tolley Road**	**7.78**	**206**	P	**Pn**	**01 04 15.3**	**+4.8**
KNZ	**Kokohu**	**7.82**	**193**	P	**Pn**	**01 04 11.2**	**+0.3**
KNZ				S	**S**	**01 05 40.2**	**-1.9**
RAHZ	**Arahi**	**7.84**	**196**	P	**Pn**	**01 04 13.0**	**+1.7**
RAHZ				S	**S**	**01 05 43.0**	**+0.3**
WHHZ	**Waihua**	**7.96**	**195**	P	**Pn**	**01 04 15.8**	**+3.1**
WHHZ				S	**S**	**01 05 44.6**	**-0.6**
WATZ	**Wairara**	**8.05**	**204**	P	**P**	**01 04 17.7**	**+1.0**
HIZ	**Hauiti**	**8.21**	**209**	P	**P**	**01 04 21.8**	**+3.4**
NTVZ	**North Tongarir**	**8.42**	**203**	P	**Pn**	**01 04 21.2**	**+3.1**
NTVZ				S	**S**	**01 05 57.0**	**+1.6**
TMVZ	**Te Maari**	**8.42**	**203**	P	**Pn**	**01 04 20.9**	**+2.7**
KRVZ	**Karewarewa**	**8.43**	**203**	P	**P**	**01 04 22.0**	**+1.1**
ETVZ	**East Tongariro**	**8.44**	**203**	P	**Pn**	**01 04 20.2**	**+1.8**
MCHZ	**McNeill Hill**	**8.44**	**197**	P	**Pn**	**01 04 20.3**	**+2.0**
MCHZ				S	**S**	**01 05 54.7**	**-0.9**
WTVZ	**West Tongariro**	**8.46**	**203**	P	**Pn**	**01 04 21.0**	**+2.4**
NNVZ	**North Ngauruho**	**8.47**	**203**	P	**Pn**	**01 04 21.8**	**+3.1**
TWVZ	**Taurewa**	**8.47**	**204**	P	**Pn**	**01 04 21.9**	**+3.1**
KWHZ	**Kaweka Forest**	**8.49**	**198**	P	**Pn**	**01 04 19.6**	**+0.7**
KWHZ				S	**S**	**01 05 55.9**	**-1.0**
SNVZ	**South Ngauruho**	**8.51**	**203**	P	**Pn**	**01 04 20.7**	**+1.5**
NGZ	**Ngauruhoe**	**8.51**	**203**	P	**Pn**	**01 04 21.5**	**+2.2**
CKHZ	**Cape Kidnapper**	**8.55**	**195**	P	**Pn**	**01 04 21.9**	**+2.3**
CKHZ				S	**S**	**01 05 56.9**	**-1.3**
TUVZ	**Tukino**	**8.58**	**202**	P	**Pn**	**01 04 23.1**	**+3.1**
TRVZ	**Turoa**	**8.64**	**203**	P	**Pn**	**01 04 22.8**	**+1.9**
WNVZ	**Wahianoa**	**8.65**	**203**	P	**Pn**	**01 04 21.8**	**+0.9**
BHHZ	**Black Hill Sta**	**8.65**	**200**	P	**Pn**	**01 04 21.2**	**+0.3**
BHHZ				S	**S**	**01 05 57.9**	**-2.5**
MOVZ	**Moawhango**	**8.67**	**202**	P	**Pn**	**01 04 22.5**	**+1.3**
KRHZ	**Kereru**	**8.71**	**198**	P	**Pn**	**01 04 22.0**	**+0.5**
KRHZ				S	**S**	**01 05 58.8**	**-2.9**
KAHZ	**Kahuranaki**	**8.73**	**195**	P	**Pn**	**01 04 22.8**	**+1.0**
KAHZ				S	**S**	**01 06 03.7**	**+1.7**
PXZ	**Pawanui**	**8.96**	**195**	P	**Pn**	**01 04 24.7**	**+0.3**
PNHZ	**Pukenui**	**9.01**	**198**	P	**Pn**	**01 04 24.6**	**-0.5**
WPHZ	**Waipukurau**	**9.09**	**197**	P	**Pn**	**01 04 27.4**	**+1.4**
TSZ	**Takapari Road**	**9.21**	**199**	P	**Pn**	**01 04 28.1**	**+0.7**
PRHZ	**Porangahau**	**9.23**	**196**	P	**Pn**	**01 04 28.2**	**+0.4**
RPZ	**Rata Peaks**	**14.14**	**207**	S	**S**	**01 07 51.8**	**-5.7**
	9.2nm,0.8s,baz=48,slow=23,SNR=1.9						
STKA	**Stephens Creek**	**32.48**	**259**	P	**P**	**01 08 18.7**	**+0.6**
	1.9nm,0.3s,baz=104,slow=9.5,SNR=17						
	1.9nm,0.3s						
ASAR	**Alice Springs**	**41.24**	**269**	P	**P**	**01 09 29.8**	**-1.5**
	12nm,0.3s,baz=98,slow=7.4,SNR=9.7						
ASAR				PcP	**sP**	**01 11 19.8**	**+1.5**
	0.2nm,0.6s,baz=121,slow=4.8,SNR=1.7						
	12nm,0.3s						
WRA	**Warramunga Arr**	**42.33**	**274**	P	**P**	**01 09 38.7**	**-1.4**
	1.7nm,0.3s,baz=112,slow=7.9,SNR=64						
	1.7nm,0.3s						
QSPA	**South Pole Qui**	**58.72**	**180**	P	**P**	**01 11 40.3**	**-0.5**
	2.4nm,0.5s,baz=44,slow=0.9,SNR=18						
	2.4nm,0.5s						
SNAA	**Sanae**	**77.20**	**179**	P	**P**	**01 13 31.4**	**-3.3**
	0.5nm,0.6s,baz=133,slow=1.8,SNR=6.3						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**145.41**	**338**	PKPbc	**PKPdf**	**01 21 12.4**	**-2.4**
	0.9nm,0.3s,baz=48,slow=4.0,SNR=24						
MMAI	**Mount Meron Ar**	**149.97**	**283**	PKPbc	**PKPbc**	**01 21 26.9**	**-1.8**
	6.0nm,1.0s,baz=64,slow=6.6,SNR=1.7						

*MDD **25** 01:14:27.8±0.3, 35°45N×3°77W, h0km, mb_Lg2.3/20, Error ellipse: s-maj=2.7km s-min=2.0km az=171.0*
*INMG **25** 01:14:28.3±1.5, 35°45N×3°78W, h3km, ML2.0, Error ellipse: s-maj=3.2km s-min=2.7km az=152.0*
*CNRM **25** 01:14:29.7, 35°41N×3°78W, h29km, ml2.4*
*SFS **25** 01:14:29.7, 35°42N×3°73W, h25km, ML2.5/7, ML2.6/7, MLv2.4/7*
*IGIL **25** 01:14:29.1, 35°44N×3°75W, h0km, ML1.6*

ISC 25 01:14:28.8±1.0, 35°45N±0°02×3°72W±0°02, h23km±10km, n59, σ1ᵎ13/105, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.29**	**217**	P	**Pb**	**01 14 35.6**	**-0.1**
PALE				S	**Sb**	**01 14 40.0**	**-0.2**
PVLZ	**Peæn de**	**0.55**	**240**	Pg	**Pb**	**01 14 39.9**	**+0.1**
PVLZ				Sg	**Sb**	**01 14 47.7**	**+0.5**
GOG	**Mont Gurugu**	**0.64**	**111**	P	**Pn**	**01 14 42.6**	**+0.1**
GOG				S	**Sb**	**01 14 50.1**	**+0.2**
EMEL	**Melilla**	**0.64**	**103**	Pg	**Pb**	**01 14 40.4**	**-1.0**
EMEL				Sg	**Sb**	**01 14 49.4**	**-0.5**
EALB	**Alboran**	**0.74**	**49**	Pg	**Pn**	**01 14 42.5**	**-1.4**
EALB				Sg	**Sb**	**01 14 52.9**	**+0.1**
EALB				*i* Vmb_Lg		01 14 55.0	
EALB	**Alboran**	**0.74**	**49**	Sg	**Sn**	**01 14 53.4**	**-1.1**
EALB				Pg	**Pb**	**01 14 43.5**	**+0.4**
AKLM	**AKL**	**0.95**	**187**	P	**Pb**	**01 14 47.8**	**+1.2**
AKLM				S	**Sn**	**01 14 57.9**	**-1.8**
CHAS	**Isla Isabel II**	**1.09**	**104**	Pn	**Pn**	**01 14 48.4**	**-0.2**
CHAS				Sn	**Sn**	**01 15 01.9**	**-1.1**
TAF	**Taforalt**	**1.25**	**120**	P	**Pb**	**01 14 51.8**	**+0.1**
CHEFC	**Chefchaouen**	**1.37**	**256**	P	**Pn**	**01 14 53.1**	**+0.5**
SMIR	**Smir Dam**	**1.37**	**280**	P	**Pn**	**01 14 52.6**	**0.0**
SMIR				S	**Sn**	**01 15 11.0**	**+0.9**
EMIJ	**Mijas**	**1.40**	**323**	Pg	**Pn**	**01 14 52.8**	**-0.2**
EMIJ				Sg	**Sn**	**01 15 10.9**	**0.0**
EMIJ				*i* Vmb_Lg		01 15 23.0	
EMIJ	**Mijas**	**1.40**	**323**	Sn	**Sn**	**01 15 10.0**	**-0.8**
EMIJ				Pn	**Pn**	**01 14 53.2**	**+0.2**
ELGU	**Los Guajares,**	**1.42**	**3**	Pn	**Pn**	**01 14 53.0**	**-0.3**
ELGU				Sn	**Sn**	**01 15 10.7**	**-0.6**
ELGU				*i* Vmb_Lg		01 15 15.4	
ECEU	**Ceuta**	**1.42**	**289**	Pg	**Pn**	**01 14 52.6**	**-0.7**
ECEU				Sg	**Sn**	**01 15 08.8**	**-2.4**
ECEU				*i* Vmb_Lg		01 15 11.7	
ECEU	**Ceuta**	**1.42**	**289**	Pn	**Pn**	**01 14 52.9**	**-0.4**
ECEU				Sn	**Sn**	**01 15 09.4**	**-1.9**
EMAL	**Malaga-Limoner**	**1.43**	**337**	Sn	**Sn**	**01 15 11.3**	**-0.1**
JBK	**JBK**	**1.46**	**139**	P	**Pn**	**01 14 54.2**	**+0.1**
EBER	**Berja**	**1.59**	**25**	Pn	**Pn**	**01 14 56.2**	**+0.4**
EBER				Sn	**Sb**	**01 15 17.5**	**0.0**
EBER				*i* Vmb_Lg		01 15 20.5	
EBER	**Berja**	**1.59**	**25**	Pn	**Pn**	**01 14 56.1**	**+0.2**
EBER				Sn	**Sn**	**01 15 15.9**	**+0.1**
EGOR	**Sierra Gorda,**	**1.69**	**349**	Pn	**Pn**	**01 14 57.0**	**-0.1**
EGOR				Sn	**Sb**	**01 15 19.6**	**-0.5**
EGOR				*i* Vmb_Lg		01 15 29.4	
EJIF	**Jimena Fronter**	**1.73**	**306**	Pn	**Pn**	**01 14 58.0**	**+0.4**
EJIF				Sn	**Sn**	**01 15 18

PAB	**San Pablo**	**4.12 353**	Pn	**Pn**	**01 15 30.9**	**+0.5**
PAB			Sn	**Sn**	**01 16 17.0**	**-0.9**
EBAD	**Badajoz**	**4.22 322**	Pn	**Pn**	**01 15 31.5**	**-0.2**
EBAD			Sn	**Sn**	**01 16 19.6**	**-0.7**
EBAD			*i* Vmb_Lg		01 16 28.2	
ESDC	**Sonseca Array**	**4.22 357**	Pn	**Pn**	**01 15 30.6**	**-1.2**
MESJ	**Messejana**	**4.33 305**	*e*P	**Pn**	**01 15 34.0**	**+0.7**
MESJ			*e*S	**Sn**	**01 16 22.5**	**-0.6**
MESJ			A	A	01 16 35.2	
	1.9nm,0.4s					
MESJ	**Messejana**	**4.33 305**	*e*P	**Pn**	**01 15 33.9**	**+0.7**
MESJ			*e*S	**Sn**	**01 16 21.7**	**-1.4**
MESJ			IAML		01 16 26.6	
	comp=E,1.2nm,0.3s					
MORF	**Marmelete**	**4.39 296**	*e*P	**Pn**	**01 15 33.1**	**-1.0**
MORF			*e*S	**Sn**	**01 16 24.0**	**-0.5**
MORF			A	A	01 16 28.3	
	comp=E,2.4nm,0.7s					
MORF	**Marmelete**	**4.39 296**	*e*P	**Pn**	**01 15 34.9**	**+0.8**
PFVI	**Vila Bisbo**	**4.45 294**	*e*P	**Pn**	**01 15 37.2**	**+2.3**
PFVI			*e*S	**Sn**	**01 16 24.6**	**-1.5**
PFVI			A	A	01 16 44.1	
	comp=E,5.7nm,0.8s					
PFVI	**Vila Bisbo**	**4.45 294**	P	**Pn**	**01 15 35.7**	**+0.8**
PTEO	**Sao Teotonio**	**4.54 299**	*e*P	**Pn**	**01 15 38.6**	**+2.5**
PTEO			*e*S	**Sn**	**01 16 28.5**	**+0.3**
PESTR	**Estremoz**	**4.60 319**	*e*P	**Pn**	**01 15 39.9**	**+2.9**
PESTR			*e*S	**Sn**	**01 16 29.4**	**-0.4**
PESTR			A	A	01 16 39.4	
	comp=E,1.2nm,0.6s					
PESTR	**Estremoz**	**4.60 319**	P	**Pn**	**01 15 37.4**	**+0.3**
PESTR			*S*	**Sn**	**01 16 29.0**	**-0.8**
EVO	**Evora**	**4.61 313**	*e*P	**Pn**	**01 15 39.1**	**+2.0**
EVO			*e*S	**Sn**	**01 16 28.7**	**-1.2**
EVO			A	A	01 16 38.0	
	comp=E,3.0nm,0.3s					
PNCL	**Nicolau / Gran**	**4.69 306**	*e*P	**Pn**	**01 15 39.2**	**+1.1**
PNCL			*e*S	**Sn**	**01 16 30.7**	**-1.0**
PNCL			A	A	01 16 32.9	
	comp=E,1.2nm,0.3s					
PMRV	**Marv??o**	**4.93 325**	*e*S	**Sn**	**01 16 38.9**	**+1.1**
PMTG	**Montargil**	**5.09 316**	*e*P	**Pn**	**01 15 45.9**	**+2.2**
PMTG			*e*S	**Sn**	**01 16 42.9**	**+1.1**
OUZM	**OUZ**	**5.20 210**	P	**Pn**	**01 15 46.7**	**+1.4**
OUZM			S	**Sn**	**01 16 43.5**	**-1.1**
OUK	**Oukaimeden**	**5.47 221**	P	**Pn**	**01 15 51.8**	**+2.5**
PSBE	**So Bento**	**5.72 317**	*e*P	**Pn**	**01 15 54.9**	**+2.5**

*IDC **25** 01:20:55.0±1.5,51°.23S×139°.22E,h0km,mb3.7/3, mbtmp3.7/4,ML3.3/1,MS3.2/3,Error ellipse: s-maj=135.2km s-min=24.3km az=89.0*

ISC 25 01:20:56.2±1.3,51°.2S±0°.1×139°.7E±0°.7,h10km,n20, σ1§40/13,mb3.7/3,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**19.37**	**5**	P	**Pn**	**01 25 23.1**	**+0.1**
	0.1nm,0.3s,baz=180,slow=12,SNR=3.9						
STKA				LR	LR	01 31 52.9	
	comp=Z,73nm,18.9s,baz=207,slow=34						
	3.6nm,0.9s						
H01W1	**Cape Leeuwin H**	**24.60**	**302**	T	T	01 51 26.6	
	baz=138,slow=75,SNR=52						
H01W2	**Cape Leeuwin H**	**24.60**	**302**	T	T	01 51 30.1	
	baz=138,slow=75,SNR=56						
H01W3	**Cape Leeuwin H**	**24.61**	**302**	T	T	01 51 33.3	
	baz=138,slow=75,SNR=41						
ASAR	**Alice Springs**	**27.86**	**349**	P	**P**	**01 26 44.5**	**-1.4**
	0.5nm,0.8s,baz=170,slow=9.2,SNR=6.5						
ASAR				LR	LR	01 37 06.8	
	comp=Z,39nm,19.1s,baz=130,slow=35						
	0.5nm,0.8s						
CTA	**Charters Tower**	**31.49**	**12**	LR	LR	01 39 24.5	
	comp=Z,34nm,18.4s,baz=128,slow=35						
WRA	**Warramunga Arr**	**31.49**	**350**	P	**P**	**01 27 17.4**	**-0.7**
	1.1nm,1.0s,baz=179,slow=8.5,SNR=5.4						
	1.1nm,1.0s						
QSPA	**South Pole Qui**	**38.90**	**180**	P	**P**	**01 28 20.7**	**-0.9**
	1.4nm,0.8s,baz=346,slow=7.7,SNR=4.9						
	1.4nm,0.8s						
H04S1	**CROZET ISLANDS**	**54.40**	**238**	T	T	02 29 13.5	
	baz=129,slow=75,SNR=22						
H04S2	**CROZET ISLANDS**	**54.41**	**237**	T	T	02 29 10.4	
	baz=129,slow=75,SNR=24						
H04S3	**CROZET ISLANDS**	**54.42**	**238**	T	T	02 29 11.8	
	baz=129,slow=75,SNR=22						
RONA	**Rosalia, Austr**	**143.81**	**287**	*i* PKP	**PKiKP**	**01 40 37.2**	**+3.1**
	0.3nm,0.3s						
ARCES	**ARCESS Array B**	**144.92**	**326**	PKP	**PKPdf**	**01 40 33.2**	**+1.3**
	2.8nm,0.9s,baz=70,slow=3.0,SNR=2.3						
KBA	**Koelnbreinsper**	**145.31**	**285**	*e*PKP	**PKiKP**	**01 40 38.7**	**+1.3**
	0.7nm,0.5s						
ABTA	**Abfaltersbach**	**145.67**	**284**	*e*PKP	**PKiKP**	**01 40 39.4**	**+1.3**
	0.3nm,0.4s						
GERES	**GERESS Array B**	**145.87**	**288**	PKPbc	**PKPab**	**01 40 34.5**	**-1.0**
	0.7nm,0.8s,baz=114,slow=4.4,SNR=2.2						
SPITS	**Spitsbergen Ar**	**146.30**	**342**	PKPbc	**PKPab**	**01 40 36.1**	**0.0**
	7.2nm,0.8s,baz=80,slow=1.6,SNR=6.0						
SQTA	**Sankt Quirin**	**146.68**	**284**	*e*PKP	**PKiKP**	**01 40 40.5**	**+0.4**
	0.4nm,0.3s						
MOTA	**Moosalm**	**146.80**	**284**	*e*PKP	**PKiKP**	**01 40 40.8**	**+0.3**
	0.7nm,0.5s						
RETA	**Reutte**	**147.07**	**284**	*i* PKP	**PKiKP**	**01 40 41.5**	**+0.6**
	0.4nm,0.3s						

*IDC **25** 01:42:57.8±2.5,63°.00S×154°.15E,h0km,mb4.2/4, mbtmp4.2/4,MS4.1/21,Error ellipse: s-maj=180.3km s-min=22.3km az=77.0*

*NEIC **25** 01:42:58.4±2.9,63°.1S±0°.1×154°.7E±0°.5,h10km±1km, mb4.6/16,Error ellipse: s-maj=44.1km s-min=7.9km az=65.0*

*GCMT **25** 01:43:01.4±0.3,62°.69S±0°.01×155°.53E±0°.05,h18km±1km, MW5.0/74,Moment Tensor Solution. s24,c27; s74,c104; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.82±.20; Mθθ3.27±.16; Mϕϕ-2.45±.15; Mrθ-0.73±.35; Mrϕ-2.18±.13; Mθϕ0.54±.39; Best double couple: M◎3.68800×10^16 NP1:ϕ◎334.00000°,δ88.00000°,λ12.00000°. NP2: ϕ◎243.00000°,δ78.00000°,λ178.00000°. Principal axes: T 4.1580, Plg10.0000°, Azm199.0000°; N -0.9420, Plg78.0000°, Azm344.0000°; P -3.2190, Plg7.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 01:42:58.3±0.7,62°.97S±0°.08×155°.1E±0°.2,h10km,n60, σ1§67/32,mb4.5/10,MS4.0/22,5C,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.77**	**174**		**Pn**	**01 46 24.4**	**-2.6**
VNDA	**Vanda**	**14.77**	**174**	Pn	**Pn**	**01 46 24.6**	**-2.4**
	0.3nm,0.3s,baz=346,slow=12,SNR=27						
VNDA				Sn	Sn	01 49 01.4	-9.0
	baz=277,slow=16,SNR=1.4						
VNDA				LR	LR	01 51 42.9	
	comp=Z,1μm,19.4s,baz=360,slow=36						
SBA	**Scott Base**	**15.39**	**171**	Pn	**Pn**	**01 46 33.9**	**-1.2**
SBA				IAmb	IAmb	01 46 56.0	
	comp=Z,32nm,1.2s						
RPZ	**Rata Peaks**	**21.39**	**33**	LR	LR	01 54 21.8	
	comp=Z,764nm,20.1s,baz=194,slow=32						
QSPA	**South Pole Qui**	**27.11**	**180**	P	**P**	**01 48 41.5**	**+0.3**
QSPA				IAmb	IAmb	01 48 45.9	
	comp=Z,16nm,1.1s						
QSPA	**South Pole Qui**	**27.11**	**180**	P	**P**	**01 48 42.6**	**+1.5**
	comp=Z,8.7nm,1.0s,baz=4.6,slow=2.9,SNR=20						
QSPA				LR	LR	01 59 46.2	
	comp=Z,360nm,20.0s,baz=15,slow=37						
	comp=Z,8.7nm,1.0s						
URZ	**Urewera**	**28.11**	**39**	LR	LR	01 58 45.9	
	comp=Z,374nm,18.7s,baz=291,slow=33						
STKA	**Stephens Creek**	**32.29**	**338**	P	**P**	**01 49 27.4**	**+0.4**
STKA	**Stephens Creek**	**32.29**	**338**	P	**P**	**01 49 27.2**	**+0.2**
	comp=Z,3.1nm,1.1s,baz=165,slow=14,SNR=2.8						
STKA				LR	LR	02 01 01.1	
	comp=Z,175nm,18.4s,baz=162,slow=34						
	comp=Z,3.1nm,1.1s						
BBOO	**Buckleboo**	**32.51**	**329**	P	**P**	**01 49 30.0**	**+1.1**
MAW	**Mawson**	**35.44**	**221**	LR	LR	02 04 49.1	
	comp=Z,681nm,19.6s,baz=118,slow=37						
EIDS	**Eidsvold**	**37.69**	**354**	P	**P**	**01 50 15.4**	**+1.8**
EIDS				IAmb	IAmb	01 50 16.4	
	comp=Z,12nm,1.5s						
H01W1	**Cape Leeuwin H**	**37.81**	**298**	T	T	02 30 42.4	
	baz=150,slow=75,SNR=49						
H01W2	**Cape Leeuwin H**	**37.81**	**298**	T	T	02 30 40.5	
	baz=150,slow=75,SNR=50						
H01W3	**Cape Leeuwin H**	**37.82**	**298**	T	T	02 30 41.0	
	baz=150,slow=75,SNR=44						
NWAO	**Narrogin (SRO)**	**38.33**	**304**	LR	LR	02 02 42.4	
	comp=Z,325nm,18.9s,baz=192,slow=31						
DZM	**Mont Dzumac**	**41.59**	**16**	*e*S	**S**	**01 57 00.0**	**-2.2**
	comp=Z,73nm,30.3s						
DZM				*e*LR	LR	02 01 10.6	
	comp=Z,557nm,22.1s						
DZM	**Mont Dzumac**	**41.59**	**16**	LR	LR	02 04 16.6	
	comp=Z,416nm,20.0s,baz=204,slow=31						
ASAR	**Alice Springs**	**41.80**	**330**	P	**P**	**01 50 48.1**	**+0.2**
ASAR	**Alice Springs**	**41.80**	**330**	P	**P**	**01 50 47.8**	**0.0**
	comp=Z,2.6nm,1.0s,baz=165,slow=8.6,SNR=20						
ASAR				LR	LR	02 05 33.1	
	comp=Z,189nm,19.1s,baz=160,slow=33						
	comp=Z,2.6nm,1.0s						
AS31	**Alice Springs**	**41.80**	**330**	P	**P**	**01 50 48.0**	**+0.2**
MORW	**Morawa**	**42.24**	**305**	P	**P**	**01 50 50.2**	**-1.2**
MORW				IAmb	IAmb	01 51 10.2	
	comp=Z,23nm,1.4s						
CTA	**Charters Tower**	**43.28**	**348**	LR	LR	02 06 17.7	
	comp=Z,175nm,18.8s,baz=130,slow=32						
CTAO	**Charters Tower**	**43.28**	**348**	P	**P**	**01 50 59.1**	**-0.8**
CTAO				IAmb	IAmb	01 51 07.1	
	comp=Z,18nm,1.5s						
TROLL	**Troll, Antarti**	**43.99**	**192**	⇑P	**P**	**01 51 07.8**	**+2.5**
	comp=Z,208nm,0.9s						
SNAA	**Sanae**	**44.78**	**190**	P	**P**	**01 51 09.5**	**-1.9**
SNAA				IAmb	IAmb	01 51 15.5	
	comp=Z,10nm,1.3s						
SNAA	**Sanae**	**44.78**	**190**	⇑P	**P**	**01 51 14.7**	**+3.2**
SNAA	**Sanae**	**44.78**	**190**	LR	LR	02 10 35.9	
	comp=Z,908nm,20.1s,baz=174,slow=37						
WR0	**Warramunga Arr**	**45.24**	**332**	P	**P**	**01 51 15.0**	**-0.6**
WB2	**Warramunga Arr**	**45.30**	**332**	P	**P**	**01 51 14.9**	**-1.1**
WRA	**Warramunga Arr**	**45.30**	**332**	P	**P**	**01 51 15.2**	**-0.8**
WRA	**Warramunga Arr**	**45.30**	**332**	P	**P**	**01 51 15.0**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=164,slow=7.0,SNR=12						
	comp=Z,1.2nm,0.6s						
WRAB	**Tennant Creek**	**45.30**	**332**	P	**P**	**01 51 14.4**	**-1.7**
WB0	**Warramunga Arr**	**45.46**	**332**	P	**P**	**01 51 16.2**	**-1.1**
WB0				IAmb	IAmb	01 51 24.6	
	comp=Z,7.3nm,1.1s						
VNA3	**Neumayer Olymp**	**45.65**	**187**	⇑P	**P**	**01 51 21.0**	**+2.8**
VNA2	**Neumayer--Watz**	**45.83**	**188**	⇑P	**P**	**01 51 22.7**	**+3.0**
	baz=148,slow=8.0						
VNA1	**Neumayer--Stat**	**46.15**	**188**	⇑P	P	01 51 26.3	+4.2
PSA00	**Pilbara Seismi**	**47.76**	**313**	P	**P**	**01 51 35.5**	**+0.2**
PSA00				IAmb	IAmb	01 51 39.1	
	comp=Z,4.7nm,1.1s						
FITZ	**Fitzroy Crossi**	**49.24**	**322**	P	**P**	**01 51 47.4**	**+0.7**
HNR	**Honiara**	**53.56**	**6**	LR	LR	02 10 58.0	
	comp=Z,3μm,19.0s,baz=148,slow=31						
PMG	**Port Moresby**	**53.78**	**350**	LR	LR	02 12 05.0	
	comp=Z,205nm,20.2s,baz=152,slow=32						
PPT	**Papeete**	**59.00**	**66**	LR	LR	02 16 16.4	
	comp=Z,42nm,18.2s,baz=5.5,slow=34						
KAPI	**Kappang**	**63.36**	**320**	LR	LR	02 17 46.1	
	comp=Z,77nm,21.2s,baz=164,slow=33						
LEM	**Lembang**	**65.70**	**307**	LR	LR	02 17 51.9	
	comp=Z,72nm,20.5s,baz=32,slow=32						
H03S1	**Juan Fernandez**	**74.35**	**136**	T	T	03 16 43.1	
	baz=201,slow=74,SNR=9.7						
H03S2	**Juan Fernandez**	**74.35**	**136**	T	T	03 16 41.4	
	baz=201,slow=74,SNR=10.0						
H03S3	**Juan Fernandez**	**74.36**	**136**	T	T	03 16 42.7	
	baz=201,slow=74,SNR=8.4						
GUMO	**Guam**	**76.74**	**350**	LR	LR	02 27 51.3	
	comp=Z,26nm,18.1s,baz=100,slow=35						
H08S2	**Diego Garcia H**	**79.89**	**273**	T	T	03 23 35.7	
	baz=155,slow=76						
H08S1	**Diego Carcia H**	**79.89**	**273**	T	T	03 23 34.9	
	baz=155						
H08S3	**Diego Garcia H**	**79.91**	**273**	T	T	03 23 35.9	
	baz=155,slow=76						
LBTB	**Lobatse**	**83.67**	**225**	LR	LR	02 30 12.5	
	comp=Z,56nm,18.9s,baz=157,slow=34						
PALK	**Pallekele**	**89.44**	**287**	LR	LR	02 31 05.5	
	comp=Z,87nm,18.1s,baz=262,slow=32						
JCJ	**Chichijima**	**90.35**	**348**	LR	LR	02 31 58.4	
	comp=Z,112nm,21.9s,baz=139,slow=33						
LSZ	**Lusaka**	**91.84**	**231**	LR	LR	02 33 07.5	
	comp=Z,65nm,20.9s,baz=142,slow=33						
JNU	**Nakatsue**	**97.71**	**340**	LR	LR	02 38 14.0	
	comp=Z,38nm,20.8s,baz=162,slow=34						
YKA	**Yellowknife Ar**	**142.08**	**49**	PKP	**PKPdf**	**02 02 29.7**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=227,slow=3.0,SNR=3.4						
A36M	**Sachs Harbour**	**145.06**	**32**		**PKPab**	**02 02 34.7**	**+1.3**
ESDC	**Sonseca Array**	**153.51**	**218**	PKPbc	**PKiKP**	**02 02 55.2**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=203,slow=1.0,SNR=2.5						
CLL	**Collm**	**156.76**	**258**	*e*PKPab	**PKPab**	**02 03 20.0**	**-2.0**
CLL				AMS	AMS	03 02 00.0	
	comp=Z,100nm,18.0s						

*NOU **25** 02:09:07.6,37°.04S×177°.28E,h263km,MLv4.1/10,Off E. Coast of N. Island, N.Z.*

*WEL **25** 02:09:14.4±0.9,37°.5S±0°.6×177°.7E±°,h190km±8km,M3.2/38, ML3.2/8,MLv3.2/38,Error ellipse: s-maj=0.0km s-min=0.0km az=40.8,confirmed*

ISC 25 02:09:07.0±1.7,37°.01S±0°.09×177°.12E±0°.08,h248km±9km, n164,σ2§36/174,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WHRZ	**Whale Island**	**0.85**	**188**	P	**Pn**	**02 09 44.7**	**+3.7**
HAZ	**Te Kaha**	**0.91**	**145**	P	**Pn**	**02 09 42.8**	**+1.5**
HAZ				S	S	02 10 05.5	-2.8
OPRZ	**Ohinepanea**	**0.94**	**208**	P	**Pn**	**02 09 42.7**	**+1.3**
TGRZ	**Tauranga**	**0.99**	**224**	P	**Pn**	**02 09 42.9**	**+1.2**
MARZ	**Manawahe**	**1.03**	**200**	P	**Pn**	**02 09 44.0**	**+2.0**
RUGZ	**Raukumara Rang**	**1.05**	**155**	P	**Pn**	**02 09 43.3**	**+1.0**
RUGZ				S	S	02 10 06.2	-3.8
MXZ	**Matakaoa Point**	**1.09**	**120**	P	**Pn**	**02 09 44.4**	**+2.1**
MXZ	**Matakaoa Point**	**1.09**	**120**	P	**Pn**	**02 09 44.4**	**+2.1**
MXZ				S	S	02 10 08.5	-1.6
KUZ	**Kuaotunu**	**1.15**	**283**	P	**Pn**	**02 09 43.5**	**+0.8**
PKGZ	**Pakihiroa**	**1.16**	**139**	P	**Pn**	**02 09 45.2**	**+2.4**
PKGZ				S	S	02 10 09.2	-1.8
KARZ	**Kaharoa**	**1.22**	**214**	P	**Pn**	**02 09 45.4**	**+2.3**
OMRZ	**Omania**	**1.24**	**208**	P	**Pn**	**02 09 46.1**	**+2.8**
URZ	**Urewera**	**1.24**	**180**	P	**Pn**	**02 09 44.6**	**+1.4**
URZ	**Urewera**	**1.24**	**180**	P	**Pn**	**02 09 44.7**	**+1.5**
WMGZ	**Waiomatatini S**	**1.31**	**128**	P	**Pn**	**02 09 46.4**	**+2.7**
WMGZ				S	S	02 10 11.7	-0.9
TARZ	**Mount Tarawera**	**1.31**	**202**	P	**Pn**	**02 09 46.6**	**+2.7**
TWGZ	**Tauwhareparae**	**1.35**	**150**	P	**Pn**	**02 09 46.9**	**+2.9**
TWGZ				S	S	02 10 13.3	+0.1
MWZ	**Matawai**	**1.36**	**166**	P	**Pn**	**02 09 45.9**	**+1.8**
MWZ				S	S	02 10 12.1	-1.4
HLRZ	**Highlands Stat**	**1.38**	**206**	P	**Pn**	**02 09 47.4**	**+3.1**
PUZ	**Puketiti**	**1.39**	**140**	P	**Pn**	**02 09 46.9**	**+2.6**
PUZ				S	S	02 10 12.5	-1.2
RRRZ	**Republican Roa**	**1.41**	**200**	P	**Pn**	**02 09 47.0**	**+2.5**
HSRZ	**Hossack Road**	**1.47**	**208**	P	**Pn**	**02 09 48.1**	**+3.2**
TOZ	**Tahuroa Road**	**1.48**	**240**	P	**Pn**	**02 09 46.8**	**+1.9**
MUGZ	**Murupara**	**1.49**	**191**	P	**Pn**	**02 09 47.0**	**+2.0**
MUGZ				S	S	02 10 11.8	-3.2
RAGZ	**Rawiri**	**1.50**	**171**	P	**Pn**	**02 09 47.4**	**+2.3**
HRRZ	**Handcock Road**	**1.53**	**206**	P	**Pn**	**02 09 48.1**	**+2.7**
TKGZ	**Te Karaka**	**1.54**	**158**	P	**Pn**	**02 09 48.0**	**+2.7**
TKGZ				S	S	02 10 14.3	-1.3
GRZ	**Great Barrier**	**1.54**	**299**	P	**Pn**	**02 09 46.7**	**+1.2**
GRRZ	**Galatos Road**	**1.56**	**211**	P	**Pn**	**02 09 48.3**	**+2.7**
MKAZ	**Moumakai**	**1.57**	**266**	P	**Pn**	**02 09 47.4**	**+1.8**
PRRZ	**Plateau Road**	**1.59**	**201**	P	**Pn**	**02 09 48.2**	**+2.4**
RTZ	**Ruatahuna**	**1.60**	**184**	P	**Pn**	**02 09 47.9**	**+1.9**
WIAZ	**Waiheke Island**	**1.61**	**277**	P	**Pn**	**02 09 47.6**	**+1.7**
ALRZ	**Allen Road**	**1.67**	**201**	P	**Pn**	**02 09 49.0**	**+2.6**
WPRZ	**Whakapapatarin**	**1.69**	**206**	P	**Pn**	**02 09 49.7**	**+3.2**
CNGZ	**Carnagh Statio**	**1.70**	**150**	P	**Pn**	**02 09 50.2**	**+3.5**
ETAZ	**East Tamaki Re**	**1.76**	**271**	P	**Pn**	**02 09 49.3**	**+2.1**
RIGZ	**Rimuhau**	**1.77**	**163**	P	**Pn**	**02 09 50.2**	**+3.0**
SNGZ	**Shannon Statio**	**1.77**	**174**	P	**Pn**	**02 09 49.7**	**+2.4**
KUTZ	**Kaahu Road**	**1.80**	**215**	P	**Pn**	**02 09 51.1**	**+3.6**
MBAZ	**Motutapu North**	**1.80**	**277**	P	**Pn**	**02 09 49.5**	**+2.0**
TLZ	**Tolley Road**	**1.82**	**223**	P	**Pn**	**02 09 50.2**	**+2.5**
MTHZ	**Maungataniwha**	**1.85**	**187**	P	**Pn**	**02 09 50.1**	**+2.1**
MTHZ				S	S	**02 10 19.0**	**-1.4**
ABAZ	**Army Bay**	**1.88**	**282**	P	**Pn**	**02 09 50.4**	**+2.2**
RAHZ	**Arahi**	**1.90**	**181**	P	**Pn**	**02 09 51.0**	**+2.6**
MRHZ	**Matea Rd**	**1.90**	**197**	P	**Pn**	**02 09 50.5**	**+2.1**
HBAZ	**Herne Bay Bore**	**1.92**	**274**	P	**Pn**	**02 09 50.7**	**+2.1**
AWAZ	**Awhitu Peninsu**	**1.98**	**268**	P	**Pn**	**02 09 51.3**	**+2.1**
PRGZ	**Paritu Road**	**2.00**	**163**	P	**Pn**	**02 09 52.2**	**+2.9**
WATZ	**Wairara**	**2.02**	**213**	P	**Pn**	**02 09 52.4**	**+2.9**
WTAZ	**Waiatarua**	**2.04**	**271**	P	**Pn**	**02 09 52.0**	**+2.3**
HATZ	**Hinemaiaia**	**2.04**	**203**	P	**Pn**	**02 09 52.0**	**+2.4**
RVAZ	**Riverhead Bore**	**2.05**	**276**	P	**Pn**	**02 09 51.7**	**+1.9**
KNZ	**Kokohu**	**2.05**	**168**	P	**Pn**	**02 09 52.5**	**+2.8**
WHHZ	**Waihua**	**2.06**	**178**	P	**Pn**	**02 09 52.7**	**+2.9**
NMHZ	**Naumai**	**2.10**	**187**	P	**Pn**	**02 09 53.1**	**+2.9**
RATZ	**Rangitukua**	**2.14**	**210**	P	**Pn**	**02 09 53.3**	**+2.8**
RITZ	**Rihia Road**	**2.20**	**207**	P	**Pn**	**02 09 54.0**	**+2.9**
BKZ	**Black Stump Fm**	**2.21**	**193**	P	**Pn**	**02 09 53.0**	**+1.8**
BKZ	**Black Stump Fm**	**2.21**	**193**	P	**Pn**	**02 09 53.1**	**+1.9**
MHGZ	**Mahia Peninsul**	**2.22**	**164**	P	**Pn**	**02 09 54.6**	**+3.2**
ARHZ	**Aropaoanui**	**2.25**	**182**	P	**Pn**	**02 09 54.5**	**+2.9**
KATZ	**Kakaramea**	**2.26**	**209**	P	**Pn**	**02 09 54.4**	**+2.6**
HIZ	**Hauiti**	**2.34**	**229**	P	**Pn**	**02 09 55.5**	**+3.1**
HIZ	**Hauiti**	**2.34**	**229**	P	**Pn**	**02 09 55.6**	**+3.1**
NTVZ	**North Tongarir**	**2.37**	**208**	P	**Pn**	**02 09 55.5**	**+2.6**
TMVZ	**Te Maari**	**2.38**	**208**	P	**Pn**	**02 09 55.5**	**+2.6**
KRVZ	**Karewarewa**	**2.38**	**209**	P	**Pn**	**02 09 55.9**	**+2.8**
ETVZ	**East Tongariro**	**2.39**	**207**	P	**Pn**	**02 09 55.7**	**+2.6**
WTVZ	**West Tongariro**	**2.42**	**209**	P	**Pn**	**02 09 56.1**	**+2.7**
NNVZ	**North Ngauruho**	**2.43**	**209**	P	**Pn**	**02 09 56.2**	**+2.8**
OTVZ	**Oturere**	**2.44**	**208**	P	**Pn**	**02 09 56.4**	**+2.8**
TWVZ	**Taurewa**	**2.45**	**212**	P	**Pn**	**02 09 56.6**	**+3.0**
MCHZ	**McNeill Hill**	**2.45**	**188**	P	**Pn**	**02 09 56.4**	**+2.9**
SNVZ	**South Ngauruho**	**2.46**	**209**	P	**Pn**	**02 09 56.7**	**+2.8**
KWHZ	**Kaweka Forest**	**2.47**	**193**	P	**Pn**	**02 09 56.2**	**+2.4**
NGZ	**Ngauruhoe**	**2.47**	**209**	P	**Pn**	**02 09 56.8**	**+2.9**
WCZ	**Waipu Caves**	**2.48**	**295**	P	**Pn**	**02 09 56.1**	**+2.2**
COVZ	**Chateau Observ**	**2.51**	**209**	P	**Pn**	**02 09 57.2**	**+2.9**
TUVZ	**Tukino**	**2.53**	**207**	P	**Pn**	**02 09 57.1**	**+2.6**
FWVZ	**Far West T-bar**	**2.56**	**208**	P	**Pn**	**02 09 57.7**	**+2.8**
MAVZ	**Matarangi**	**2.56**	**208**	P	**Pn**	**02 09 58.0**	**+3.0**
WHVZ	**Whangaehu Hut**	**2.57**	**208**	P	**Pn**	**02 09 57.6**	**+2.6**
TRVZ	**Turoa**	**2.60**	**208**	P	**Pn**	**02 09 58.0**	**+2.7**
WNVZ	**Wahianoa**	**2.60**	**207**	P	**Pn**	**02 09 57.8**	**+2.5**
BHHZ	**Black Hill Sta**	**2.61**	**198**	P	**Pn**	**02 09 57.2**	**+2.0**
MOVZ	**Moawhango**	**2.62**	**204**	P	**Pn**	**02 09 57.3**	**+1.9**
CKHZ	**Cape Kidnapper**	**2.64**	**181**	P	**Pn**	**02 09 58.4**	**+2.9**
PKVZ	**Pokaka**	**2.67**	**211**	P	**Pn**	**02 09 58.7**	**+2.9**
KRHZ	**Kereru**	**2.69**	**192**	P	**Pn**	**02 09 58.2**	**+2.2**
MTVZ	**Mangateitei**	**2.70**	**208**	P	**Pn**	**02 09 59.2**	**+3.1**
KAHZ	**Kahuranaki**	**2.78**	**184**	P	**Pn**	**02 09 59.9**	**+2.9**
VRZ	**Vera Road**	**2.81**	**221**	P	**Pn**	**02 10 01.0**	**+3.7**
PNHZ	**Pukenui**	**2.98**	**194**	P	**Pn**	**02 10 01.2**	**+2.1**
PXZ	**Pawanui**	**3.02**	**184**	P	**Pn**	**02 10 01.9**	**+2.5**
WPHZ	**Waipukurau**	**3.09**	**190**	P	**Pn**	**02 10 02.7**	**+2.4**
TSZ	**Takapari Road**	**3.17**	**196**	P	**Pn**	**02 10 03.4**	**+2.1**
WAZ	**Wanganui**	**3.21**	**211**	P	**Pn**	**02 10 04.5**	**+2.9**
LREZ	**Lake Rotokare**	**3.25**	**220**	P	**Pn**	**02 10 05.8**	**+3.8**
PRHZ	**Porangahau**	**3.27**	**187**	P	**Pn**	**02 10 04.6**	**+2.4**
NEZ	**North Egmont**	**3.28**	**226**

NWAO Narrogin (SRO) 32.81 100 LR LR 02 28 00.6
comp=Z,110nm,21.4s,baz=328,slow=31
MAW Mawson 35.26 190 LR LR 02 29 26.8
comp=Z,81nm,18.9s,baz=47,slow=31
LEM Lembang 38.25 53 LR LR 02 33 21.2
comp=Z,14nm,18.7s,baz=270,slow=35
LBTB Lobatse 45.98 266 P P 02 19 37.2 -0.4
KAPI Kappang 48.13 63 LR LR 02 36 17.5
comp=Z,28nm,21.8s,baz=226,slow=31
LSZ Lusaka 48.26 280 P P 02 19 55.3 -0.2
LSZ IAmb IAmb 02 19 58.2
comp=Z,4.8nm,0.8s
KNRA Kununurra 49.06 82 P P 02 20 02.3 +0.7
ASAR Alice Springs 49.67 94 P P 02 20 06.9 +0.7
ASAR Alice Springs 49.67 94 P P 02 20 06.3 +0.1
comp=Z,1.4nm,0.8s,baz=249,slow=6.0,SNR=14
ASAR LR LR 02 39 29.9
comp=Z,34nm,19.0s,baz=234,slow=34
comp=Z,1.4nm,0.8s
AS31 Alice Springs 49.67 94 P P 02 20 06.5 +0.3
WRA Warramunga Arr 51.65 90 P P 02 20 21.4 +0.2
WRA Warramunga Arr 51.65 90 P P 02 20 21.3 +0.1
comp=Z,3.1nm,0.8s,baz=245,slow=7.4,SNR=10.0
comp=Z,3.1nm,0.8s
WB2 Warramunga Arr 51.66 90 P P 02 20 20.4 -0.9
WB2 IAmb IAmb 02 20 48.2
comp=Z,11nm,1.4s
WB0 Warramunga Arr 51.78 90 P P 02 20 21.0 -1.1
WB0 IAmb IAmb 02 20 23.1
comp=Z,5.5nm,0.8s
WR0 Warramunga Arr 51.81 90 P P 02 20 22.3 0.0
WR0 IAmb IAmb 02 20 23.3
comp=Z,5.0nm,0.9s
STKA Stephens Creek 52.90 107 LR LR 02 39 44.6
comp=Z,73nm,21.0s,baz=205,slow=32
SNAA Sanae 55.69 202 P P 02 20 50.6 +0.5
SNAA IAmb IAmb 02 21 00.1
comp=Z,7.2nm,1.5s
SNAA Sanae 55.69 202 P P 02 20 50.9 +0.8
comp=Z,0.9nm,0.8s,baz=111,slow=14,SNR=2.6
comp=Z,0.9nm,0.8s
VNDA Vanda 56.29 165 P P 02 20 54.7 +0.5
VNDA Vanda 56.29 165 P P 02 20 54.9 +0.7
comp=Z,0.6nm,0.8s,baz=281,slow=7.3,SNR=1.6
VNDA LR LR 02 42 04.2
comp=Z,63nm,20.4s,baz=280,slow=33
comp=Z,0.6nm,0.8s
QSPA South Pole Qui 56.66 180 P P 02 20 57.4 +0.2
QSPA IAmb IAmb 02 21 01.6
comp=Z,3.7nm,0.9s
QSPA South Pole Qui 56.66 180 P P 02 20 58.5 +1.2
comp=Z,2.5nm,0.9s,baz=318,slow=2.2,SNR=7.6
QSPA LR LR 02 42 54.9
comp=Z,53nm,20.4s,baz=286,slow=34
comp=Z,2.5nm,0.9s
WSAR Wadi Sarin 59.31 339 LR LR 02 41 55.9
comp=Z,83nm,18.5s,baz=218,slow=31
CTA Charters Tower 61.52 96 LR LR 02 45 59.7
comp=Z,67nm,19.7s,baz=264,slow=34
PMG Port Moresby 67.62 87 LR LR 02 51 42.2
comp=Z,65nm,18.1s,baz=247,slow=36
AAK Ala-Archa 75.82 357 LR LR 02 52 57.2
comp=Z,53nm,20.6s,baz=198,slow=33
KK31 Karatay Array 76.52 354 P 02 23 04.0 0.0
KK31 IAmb IAmb 02 23 12.9
comp=Z,2.8nm,0.9s
KKAR Karatay Array 76.52 354 P P 02 23 03.7 -0.2
MMAI Mount Meron Ar 77.28 324 LR LR 02 54 00.8
comp=Z,28nm,18.3s,baz=184,slow=33
MKAR Makanchi Array 80.01 3 P P 02 23 22.9 -0.3
MKAR Makanchi Array 80.01 3 P P 02 23 22.3 -0.9
comp=Z,0.3nm,0.7s,baz=197,slow=4.5,SNR=2.0
comp=Z,0.3nm,0.7s
BRTR Keskin Array B 83.55 327 P P 02 23 42.1 -0.2
comp=Z,0.7nm,0.8s,baz=159,slow=4.8,SNR=2.2
comp=Z,0.7nm,0.8s
KURBB Kurchatov Arra 83.74 0 P P 02 23 41.0 -1.7
comp=Z,0.4nm,0.2s,baz=201,slow=6.2,SNR=1.6
comp=Z,0.4nm,0.2s
SONM Songino Array 84.90 19 P P 02 23 50.0 +1.1
comp=Z,0.4nm,0.7s,baz=184,slow=7.1,SNR=2.5
comp=Z,0.4nm,0.7s
TORD Torodi Ar. Bea 85.96 289 P P 02 23 56.5 +1.7
comp=Z,0.9nm,0.8s,baz=94,slow=5.0,SNR=6.7
comp=Z,0.9nm,0.8s
BVAR Borovoye Array 86.39 355 P P 02 23 56.5 +0.5
comp=Z,0.1nm,0.4s,baz=160,slow=4.6,SNR=1.4
comp=Z,0.1nm,0.4s
ZALV Zalesovo Beam 87.28 4 P P 02 23 59.9 -0.3
comp=Z,0.5nm,0.3s,baz=245,slow=3.0,SNR=2.7
comp=Z,0.5nm,0.3s
YKA Yellowknife Ar 149.91 12 PKPbc PKPbc 02 31 01.4 -2.2
comp=Z,0.2nm,0.8s,baz=350,slow=2.5,SNR=2.1

NEIC ***25*** *02:17:12.0±2.0, 11°.3S±0°.1×77°.66W±0°.08, h79km±12km, mb4.2/3, Error ellipse: s-maj=19.1km s-min=7.3km az=212.0*

ISC 25 02:17:13.3±1.8, 11°.2S±0°.1×77°.4W±0°.2, h50km, n21, σ2s10, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**0.98**	**145**				**Pn**	**02 17 32.8**	**+1.9**
NNA							**Sn**	**02 17 45.0**	**+1.2**
CZSB	**Cruzeiro do Su**	**5.77**	**54**	Pn			**Pn**	**02 18 38.3**	**+1.8**
MCRA	**Macar, Loja**	**7.22**	**339**	Pn			**Pn**	**02 18 55.4**	**-1.0**
MCRA	**Macar, Loja**	**7.22**	**339**	*eP*			**Pn**	**02 18 57.5**	**+1.2**
BOSC	**San Juan Bosco**	**8.05**	**352**	Pn			**Pn**	**02 19 07.2**	**-0.6**
COHC	**Cochancay**	**8.85**	**348**	Pn			**Pn**	**02 19 19.8**	**+1.2**
COHC	**Cochancay**	**8.85**	**348**	*eP*			**Pn**	**02 19 22.6**	**+4.0**
CHSH	**Refugio Sur-Vo**	**9.73**	**351**	Pn			**Pn**	**02 19 32.1**	**+0.8**
ETMB	**Extrema**	**11.10**	**84**	Pn			**Pn**	**02 19 50.1**	**+0.6**
PULU	**Pululahua**	**11.18**	**354**	Pn			**Pn**	**02 19 50.9**	**-0.1**
OTAV	**Otavalo**	**11.39**	**355**	Pn			**Pn**	**02 19 50.6**	**-3.2**
OTAV	**Otavalo**	**11.39**	**355**	*eP*			**Pn**	**02 19 52.1**	**-1.8**
IMBA	**Imbabura, San**	**11.41**	**356**	Pn			**Pn**	**02 19 53.7**	**-0.4**
CUSE	**Cuicocha Este**	**11.45**	**355**	*eP*			**Pn**	**02 19 51.3**	**-3.4**
PAC1	**Pacto, Paraso**	**11.45**	**353**	*eP*			Pn	02 19 46.3	-8.2
BONI	**La Bonita**	**11.55**	**359**	*eP*			**Pn**	**02 19 59.3**	**+3.3**
TULM	**Tulcn-Chalpat**	**11.82**	**358**	Pn			Pn	02 19 55.0	-4.8
TULM	**Tulcn-Chalpat**	**11.82**	**358**	*eP*			Pn	02 19 55.4	-4.4
SAML	**Samuel**	**14.19**	**82**	Pn			**Pn**	**02 20 31.3**	**-0.4**
BOAV	**Boa Vista**	**21.55**	**52**	P			**P**	**02 21 57.5**	**-1.2**
BOAV				IAmb			IAmb	02 22 32.9	
	comp=Z,11nm,1.5s								
UALR	**University of**	**47.84**	**343**	P			P	02 25 40.5	-5.7
UALR				IAmb			IAmb	02 25 52.8	
	comp=Z,13nm,1.5s								

CATAC ***25*** *02:18:06.6±0.5, 6°.15N×82°.71W, h0km, MB5.7, ML5.4*

IDC ***25*** *02:18:07.9±1.8, 6°.36N×82°.69W, h0km, mb3.9/8, mbtmp4.2/12, ML3.5/4, MS4.0/45, Error ellipse: s-maj=49.6km s-min=16.9km az=23.0*

UPA ***25*** *02:18:08.2±3.0, 6°.18N×82°.61W, h13km±29km, MW4.9*

UCR ***25*** *02:18:09.6±1.3, 6°.28N×82°.56W, h20km, MW5.1*

GCMT ***25*** *02:18:10.9±0.2, 6°.08N±0°.01×82°.58W±0°.01, h21km, MW5.1/140, Moment Tensor Solution. s70,c100; s140,c217; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr0.45±.14; Mθθ-0.79±.11; Mϕϕ0.33±.13; Mrθ0.82±.21; Mθϕ6.03±.11; Mrϕ-0.01±.21; Best double couple: M≈6.11100×10^16 NP1:ϕ=87.00000°, δ90.00000°, λ8.00000°. NP2:ϕ=357.00000°, δ82.00000°, λ180.00000°. Principal axes: T 5.8840, Plg6.0000°, Azm313.0000°; N 0.4540, Plg82.0000°, Azm91.0000°; P -6.3380, Plg5.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***25*** *02:18:11.9±1.4, 6°.52N±0°.09×82°.67W±0°.08, h10km±1km, mb4.5/113 Error ellipse: s-maj=18.0km s-min=10.7km az=218.0*

ISC 25 02:18:10.4±2.0, 6°.44N±0°.05×82°.68W±0°.04, h11km±11km, n313, σ1s63/273, mb4.5/59, MS4.1/42, South of Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LIMO3	**Limones**	**1.67**	**354**	*eP*			**Pn**	**02 18 39.5**	**0.0**
LIMO3				*eS*			**Sg**	**02 19 02.6**	**-1.5**
PTPM	**Petroterminale**	**1.77**	**354**	*eP*			**Pn**	**02 18 40.5**	**-0.5**
PTPM				*eS*			**Sg**	**02 19 06.5**	**-0.8**
GMAL	**Guarumal, Vera**	**1.95**	**47**	*eP*			**Pn**	**02 18 41.8**	**-1.7**
GMAL				*eS*			**Sn**	**02 19 08.6**	**+0.6**
GMAL	**Guarumal, Vera**	**1.95**	**47**	*eP*			**Pn**	**02 18 41.9**	**-1.7**
PEDE3	**Pedregal, Chir**	**1.95**	**8**	*eP*			**Pn**	**02 18 44.3**	**+0.8**
PEDE3				*eS*			**Sg**	**02 19 11.0**	**-2.2**
DVD	**David**	**2.00**	**7**	*eP*			**Pn**	**02 18 44.4**	**+0.2**
DVD				*eS*			**Sb**	**02 19 11.6**	**-0.1**
CACAO	**El Cacao, Vera**	**2.02**	**63**	*eP*			**Pn**	**02 18 41.1**	**-3.3**
CACAO				*eS*			**Sn**	**02 19 06.0**	**-3.7**
CACAO	**El Cacao, Vera**	**2.02**	**63**	*eP*			**Pn**	**02 18 41.2**	**-3.3**
PIRO	**Carate, Puerto**	**2.06**	**342**	*i P*			**Pn**	**02 18 44.2**	**-0.8**
PIRO				*i S*			**Sb**	**02 19 14.0**	**+0.5**
PIRO				IAML				02 19 19.8	
	comp=Z,10μm,1.0s								
GUAL3	**Gualaca, Chiri**	**2.12**	**10**	*eP*			**Pn**	**02 18 46.3**	**+0.5**
GUAL3				*eS*			**Sn**	**02 19 11.9**	**-0.2**
CDITO	**Canoas**	**2.13**	**355**				**Pn**	**02 18 45.9**	**-0.1**
CDITO	**Canoas**	**2.13**	**355**	*i P*			**Pn**	**02 18 46.2**	**+0.1**
CDITO				*eS*			**Sb**	**02 19 14.5**	**-1.1**
CDITO	**Canoas**	**2.13**	**355**	*eP*			**Pn**	**02 18 45.4**	**-0.6**
CDITO				*eS*			**Sb**	**02 19 15.1**	**-0.5**
CDITO	**Canoas**	**2.13**	**355**	*i P*			**Pn**	**02 18 46.1**	**+0.1**
CDITO				*i S*			**Sg**	**02 19 16.5**	**-2.5**
CDITO				IAML				02 19 22.0	
	comp=Z,8μm,1.0s								
RSUS3	**Rio de Jesus,**	**2.15**	**44**	*eP*			**Pn**	**02 18 45.0**	**-1.3**
RSUS3				*eS*			**Sb**	**02 19 14.5**	**-1.8**
JIME	**Puerto Jimenez**	**2.18**	**343**	*eP*			**Pn**	**02 18 47.2**	**+0.5**
FITO	**Golfito**	**2.23**	**348**	*eP*			**Pn**	**02 18 47.2**	**-0.1**
PTAR3	**Potrerillos Ar**	**2.25**	**5**	*eP*			**Pn**	**02 18 49.5**	**+1.7**
PTAR3				*eS*			**Sb**	**02 19 18.0**	**-1.1**
EDAD	**Golfito**	**2.25**	**348**	*eP*			**Pn**	**02 18 47.1**	**-0.6**
BCO2	**Palmira**	**2.27**	**4**	*eP*			**Pn**	**02 18 48.4**	**+0.3**
BCO2				*eS*			**Sb**	**02 19 18.6**	**-1.2**
BRU2	**Volcan**	**2.34**	**360**	Pn			**Pn**	**02 18 49.3**	**+0.2**
BRU2	**Volcan**	**2.34**	**360**	*eP*			**Pn**	**02 18 49.5**	**+0.4**
BRU2				*eS*			**Sb**	**02 19 19.9**	**-1.9**
BRU2	**Volcan**	**2.34**	**360**	*eP*			**Pn**	**02 18 49.0**	**0.0**
BRU2	**Volcan**	**2.34**	**360**	*i P*			**Pn**	**02 18 49.3**	**+0.2**
BRU2				*i S*			**Sb**	**02 19 21.6**	**-0.2**
BRU2				IAML				02 19 25.3	
	comp=Z,12μm,1.0s								
MLIR3	**Monte Lirio, C**	**2.35**	**357**	*eP*			**Pn**	**02 18 50.2**	**+1.1**
MLIR3				*eS*			**Sg**	**02 19 23.9**	**-2.0**
LNBQ3	**Los Naranjos,**	**2.35**	**6**	*eP*			**Pn**	**02 18 49.3**	**+0.1**
LNBQ3				*eS*			**Sb**	**02 19 18.6**	**+0.5**
BC3P	**Paso Ancho**	**2.37**	**2**	*eP*			**Pn**	**02 18 50.3**	**+0.9**
STIA3	**Santiago, Vera**	**2.37**	**46**	*eP*			**Pn**	**02 18 49.3**	**0.0**
STIA3				*eS*			**Sn**	**02 19 18.9**	**+0.6**
VITO	**San Vito**	**2.38**	**353**	*eP*			**Pn**	**02 18 51.1**	**+1.5**
SFRA3	**San Francisco,**	**2.47**	**43**	*eP*			**Pn**	**02 18 50.5**	**-0.2**
SFRA3				*eS*			**Sn**	**02 19 20.4**	**-0.5**
CHGR2	**Aguacate**	**2.54**	**12**	*eP*			**Pn**	**02 18 52.2**	**+0.6**
CHGR2				*eS*			**Sb**	**02 19 25.8**	**-1.6**
EDPN	**Palmar Norte**	**2.62**	**343**	*eP*			**Pn**	**02 18 53.0**	**+0.2**
EDPN				*eS*			**Sb**	**02 19 28.0**	**-1.8**
POTG	**Potrero Grande**	**2.64**	**351**	*eP*			**Pn**	**02 18 53.3**	**+0.3**
POTG	**Potrero Grande**	**2.64**	**351**	*i P*			**Pn**	**02 18 53.8**	**+0.8**
POTG				*i S*			**Sb**	**02 19 30.8**	**+0.6**
POTG				IAML				02 19 33.9	
	comp=Z,16μm,1.0s								
ACHO3	**Achotines, Los**	**2.67**	**69**	*eP*			Pn	02 18 49.6	-3.8
ACHO3				*eS*			**Sn**	**02 19 22.3**	**-3.6**
CHIT3	**Chitre**	**2.71**	**56**	*eP*			**Pn**	**02 18 52.2**	**-1.7**
CHIT3				*eS*			**Sn**	**02 19 24.6**	**-2.0**
CRIS3	**El Cristo, Coc**	**2.73**	**48**	*eP*			**Pn**	**02 18 54.2**	**0.0**
CRIS3				*eS*			**Sn**	**02 19 28.6**	**+1.4**
AZU	**Azuero**	**2.74**	**60**	*eP*			**Pn**	**02 18 51.9**	**-2.4**
AZU				*eS*			**Sn**	**02 19 25.5**	**-2.1**
AZU	**Azuero**	**2.74**	**60**	*eP*			**Pn**	**02 18 51.3**	**-3.1**
AZU	**Azuero**	**2.74**	**60**	*eP*			**Pn**	**02 18 51.5**	**-2.9**
AZU				*eS*			**Sn**	**02 19 25.2**	**-2.4**
EDBA	**Buenos Aires**	**2.77**	**348**	*eP*			**Pn**	**02 18 55.4**	**+0.5**
OCHAL	**Ojochal**	**2.81**	**340**	*i P*			**Pn**	**02 18 55.0**	**-0.4**
OCHAL				*i S*			**Sb**	**02 19 34.6**	**-0.6**
OCHAL				IAML				02 19 36.1	
	comp=Z,93nm,1.0s								
DRK0	**Durika**	**2.86**	**349**				**Pn**	**02 18 56.6**	**+0.3**
DRK0	**Durika**	**2.86**	**349**	*eP*			**Pn**	**02 18 56.8**	**+0.6**
CNI2	**El Empalme, Bo**	**2.98**	**4**	*eP*			**Pn**	**02 19 00.1**	**+2.5**
CNI2				*eS*			**Sb**	**02 19 39.0**	**-0.9**
PNME	**Penonome**	**3.10**	**49**	*eP*			**Pn**	**02 18 58.8**	**-0.5**
PNME				*eS*			**Sn**	**02 19 38.0**	**+1.6**
PNME	**Penonome**	**3.10**	**49**	*eP*			**Pn**	**02 18 59.1**	**-0.2**
RGM0	**Gandoca**	**3.13**	**1**	Pn			**Pn**	**02 19 00.9**	**+1.2**
BRIBI	**Bribri**	**3.17**	**357**	*eP*			**Pn**	**02 19 03.7**	**+3.4**
CDM	**Cerro de Muert**	**3.28**	**341**	*i P*			**Pn**	**02 19 02.4**	**+0.2**
CDM				*i S*			**Sb**	**02 19 46.7**	**-2.3**
CDM				IAML				02 19 47.9	
	comp=Z,12μm,1.0s								
SVQ2	**Quepos**	**3.32**	**334**	*eP*			**Pn**	**02 19 02.4**	**+0.1**
LLNJ	**Naranjito**	**3.33**	**335**	*eP*			**Pn**	**02 19 02.7**	**+0.3**
LLNJ				*eS*			**Sn**	**02 19 45.0**	**+3.0**
RIMA	**Rio Macho**	**3.51**	**341**				**Pn**	**02 19 05.6**	**+0.5**
ABE2	**San Pablo**	**3.52**	**337**	*eP*			**Pn**	**02 19 05.5**	**+0.2**
LCR2	**La Lucha 2**	**3.54**	**338**				**Pn**	**02 19 05.7**	**+0.3**
LCR2	**La Lucha 2**	**3.54**	**338**	*i P*			**Pn**	**02 19 05.8**	**+0.3**
LCR2				*i S*			**Sb**	**02 19 52.9**	**-3.3**
LCR2				IAML				02 19 53.5	
	comp=Z,4μm,1.0s								
VINA	**Juan Vinas**	**3.59**	**343**	*eP*			**Pn**	**02 19 07.1**	**+0.8**
VERB	**Verbena**	**3.63**	**344**	*eP*			**Pn**	**02 19 08.0**	**+1.3**
RVSTA	**Santa Teresita**	**3.65**	**345**	*eP*			**Pn**	**02 19 08.7**	**+1.8**
ACOS	**Acosta**	**3.65**	**336**	*eP*			**Pn**	**02 19 06.6**	**-0.3**
OCM	**Ochomogo**	**3.66**	**340**	*i P*			**Pn**	**02 19 08.1**	**+0.9**
OCM				*i S*			**Sb**	**02 19 55.2**	**-4.7**
OCM				IAML				02 19 57.4	
	comp=Z,7μm,1.0s								
HAYA	**Volcan Irazu**	**3.70**	**342**	*i P*			**Pn**	**02 19 10.6**	**+2.6**
HAYA				*i S*			**Sb**	**02 19 57.7**	**-3.6**
HAYA				IAML				02 20 02.9	
	comp=Z,9μm,1.0s								
CVTR	**Volcan Turrial**	**3.72**	**343**	*eP*			**Pn**	**02 19 09.1**	**+0.9**
LCOCO	**El Coco**	**3.73**	**347**	*eP*			**Pn**	**02 19 09.4**	**+1.5**
JACO	**JACO, Garabito**	**3.76**	**329**				**Pn**	**02 19 07.6**	**-0.8**
JACO	**JACO, Garabito**	**3.76**	**329**	*i P*			**Pn**	**02 19 07.6**	**-0.8**
JACO				IAML				02 19 09.3	
	comp=Z,1μm,1.0s								
JACO				*i S*			**Sn**	**02 19 55.4**	**+2.8**
HDC	**Heredia**	**3.82**	**338**				**Pn**	**02 19 09.9**	**+0.6**
HDC3	**Heredia 3**	**3.82**	**338**	*i P*			**Pn**	**02 19 11.1**	**+1.8**
HDC3				*i S*			**Sb**	**02 19 59.3**	**-4.9**
HDC3				IAML				02 20 11.1	
	comp=Z,7μm,1.0s								
BCIP	**Isla Barro Col**	**3.91**	**46**	Pn			**Pn**	**02 19 10.4**	**-0.1**
BCIP	**Isla Barro Col**	**3.91**	**46**	*eP*			**Pn**	**02 19 10.1**	**-0.4**
BCIP				*eS*			**Sn**	**02 19 59.1**	**+2.6**
BCIP	**Isla Barro Col**	**3.91**	**46**	*eP*			**Pn**	**02 19 10.2**	**-0.3**
BCIP	**Isla Barro Col**	**3.91**	**46**	*eP*			**Pn**	**02 19 09.6**	**-0.9**
BCIP	**Isla Barro Col**	**3.91**	**46**	*i P*			**Pn**	**02 19 10.3**	**-0.2**
BCIP				IAML				02 20 23.2	
	comp=Z,1μm,1.0s								
TCS1	**Tacares**	**3.92**	**336**	*i P*			**Pn**	**02 19 12.6**	**+1.8**
TCS1				IAML				02 20 12.6	
	comp=Z,25μm,1.0s								
CBL1	**Cabuya**	**3.94**	**323**	*eP*			**Pn**	**02 19 09.5**	**-1.4**
UPA	**Univ. de Panam**	**4.02**	**51**	*eP*			**Pn**	**02 19 12.3**	**+0.4**
UPA				*eS*			**Sn**	**02 19 59.5**	**+0.6**
UPA	**Univ. de Panam**	**4.02**	**51**	*eP*			**Pn**	**02 19 11.2**	**-0.7**
RIFO	**Rio Frio, Sara**	**4.05**	**342**	*eP*			**Pn**	**02 19 13.4**	**+1.1**
RIFO	**Rio Frio, Sara**	**4.05**	**342**	*i P*			**Pn**	**02 19 15.6**	**+3.2**
RIFO				*i S*			**Sb**	**02 20 05.9**	**-4.9**
RIFO				IAML				02 20 21.3	
	comp=Z,3μm,1.0s								
CPMI	**Catarata Coope**	**4.17**	**336**	*i P*			**Pn**	**02 19 16.5**	**+2.2**
CPMI				*i S*			**Sb**	**02 20 09.3**	**-5.3**
CPMI				IAML				02 20 29.5	
	comp=Z,1μm,1.0s								
SOCE	**Pocosol**	**4.37**	**334**				**Pn**	**02 19 17.1**	**+0.4**
SOCE	**Pocosol**	**4.37**	**334**	*i P*			**Pn**	**02 19 18.2**	**+1.4**
SOCE				*i S*			**Sn**	**02 20 13.6**	**+5.9**
SOCE				IAML				02 20 26.6	
	comp=Z,2μm,1.0s								
INDI	**Punta indio, G**	**4.41**	**321**	*i P*			**Pn**	**02 19 16.9**	**-0.4**
INDI				IAML				02 19 18.4	
	comp=Z,810nm,1.0s								
INDI				*i S*			**Sn**	**02 20 09.8**	**+1.2**
JTS	**Las Juntas de**	**4.44**	**330**				**Pn**	**02 19 17.3**	**-0.4**
JTS	**Las Juntas de**	**4.44**	**330**	*eP*			**Pn**	**02 19 18.3**	**+0.5**
JTS				*eS*			**Sn**	**02 20 12.6**	**+3.1**
JTS	**Las Juntas de**	**4.44**	**330**	*eP*			**Pn**	**02 19 17.6**	**-0.2**
JTS	**Las Juntas de**	**4.44**	**330**	Pn			**Pn**	**02 19 17.6**	**-0.2**
	comp=Z,64nm,0.3s,baz=85,slow=4.8,SNR=155								
JTS				LR			LR	02 20 01.0	
	comp=Z,898nm,20.5s,baz=158,slow=25								
JTS				Sn			**Sn**	**02 20 12.1**	**+2.6**
	comp=Z,142nm,0.3s,baz=235,slow=22,SNR=4.3								
VACR	**Volcan Arenal**	**4.47**	**334**	*i P*			**Pn**	**02 19 19.6**	**+1.4**
VACR				IAML				02 20 22.3	
	comp=Z,3μm,1.0s								
ARE1	**Arenal 1**	**4.48**	**333**				**Pn**	**02 19 18.5**	**+0.2**
ARE1	**Arenal 1**	**4.48**	**333**	*eP*			**Pn**	**02 19 19.1**	**+0.8**
CEDE	**Laguna Cedeo**	**4.50**	**334**	*eP*			**Pn**	**02 19 20.0**	**+1.4**
COVE	**Coope Vega, Sa**	**4.58**	**338**				**Pn**	**02 19 20.2**	**+0.5**
COVE	**Coope Vega, Sa**	**4.58**	**338**	*i P*			**Pn**	**02 19 22.3**	**+2.6**
COVE				IAML				02 20 45.5	
	comp=Z,3μm,1.0s								
ORTG	**Ortega, Santa**	**4.77**	**325**	Pn			**Pn**	**02 19 22.1**	**-0.3**
ORTG	**Ortega, Santa**	**4.77**	**325**	*i P*			**Pn**	**02 19 22.5**	**+0.1**
ORTG				IAML				02 20 36.9	
	comp=Z,640nm,1.0s								
ACAL	**Aguas Claras**	**4.78**	**331**	*eP*			**Pn**	**02 19 23.7**	**+1.2**
PTAC	**Punta Ardita,**	**4.89**	**81**	*eP*			**Pn**	**02 19 21.0**	**-2.9**
CAMAV	**Centro de Prod**	**4.91**	**330**	*eP*			**Pn**	**02 19 26.1**	**+1.7**
CANAL	**Canalete**	**4.96**	**332**	*eP*			**Pn**	**02 19 26.1**	**+1.2**
VMAR	**Armenia, Volca**	**4.97**	**331**	*eP*			**Pn**	**02 19 26.2**	**+1.2**
VMAR	**Armenia, Volca**	**4.97**	**331**	*i P*			**Pn**	**02 19 28.5**	**+3.4**
VMAR				IVmB_BB				02 20 28.4	
	comp=Z,6μm,1.0s								
VMAR				IAML				02 20 58.4	
	comp=Z,2μm,1.0s								
GPS3	**Bodega del ICE**	**5.04**	**328**	*eP*			**Pn**	**02 19 27.9**	**+1.8**
VRLE	**La Escondida,**	**5.07**	**329**	*i P*			**Pn**	**02 19 29.2**	**+2.6**
VRLE				IVmB_BB				02 19 30.6	
	comp=Z,8μm,1.0s								
VRLE				IAML				02 20 39.0	
	comp=Z,570nm,1.0s								
UPD2	**Meteti**	**5.08**	**65**	*eP*			**Pn**	**02 19 28.4**	**+1.9**
GB1A	**Borinquen Arri**	**5.12**	**329**	*eP*			**Pn**	**02 19 29.2**	**+2.0**
HZTE	**Horizontes, Gu**	**5.13**	**326**	Pn			**Pn**	**02 19 28.6**	**+1.3**
HZTE	**Horizontes, Gu**	**5.13**	**326**	*i P*			**Pn**	**02 19 29.2**	**+1.9**
HZTE				IVmB_BB				02 19 32.1	
	comp=Z,10μm,1.0s								
HZTE				IAML				02 20 36.1	
	comp=Z,1μm,1.0s								
SOLC	**Bahia Solano**	**5.25**	**92**	*eP*			Pn	02 19 24.7	-4.1
PIZC	**Pizarro, Choco**	**5.49**	**105**	*eP*			Pn	02 19 29.0	-3.3
CONN	**Concepcion**	**5.87**	**331**	*i P*			**Pn**	**02 19 35.1**	**-2.3**
CONN				IAML				02 20 20.6	
	comp=Z,3μm,1.0s								
CONN				IVmB_BB				02 20 20.6	
	comp=Z,19μm,1.0s								
ESPN	**Las Esperanzas**	**5.94**	**345**				**Pn**	**02 19 39.7**	**+1.3**
ACON	**Acoyapa**	**6.02**	**336**				**Pn**	**02 19 40.4**	**+0.9**
ACON	**Acoyapa**	**6.02**	**336**	*eP*			**Pn**	**02 19 40.0**	**+0.5**
ACON	**Acoyapa**	**6.02**	**336**	*i P*			**Pn**	**02 19 39.9**	**+0.4**
ACON				IAML				02 20 56.3	
	comp=Z,280nm,1.0s								
APAC	**Apartado, Choc**	**6.23**	**76**	*eP*			**Pn**	**02 19 44.3**	**+1.9**
DBBC	**Dabeiba**	**6.45**	**84**	*eP*			**Pn**	**02 19 42.5**	**-3.1**
PLMC	**San Jos del P**	**6.55**	**103**	*eP*			Pn	02 19 42.3	-4.5
CBOC	**Ciudad Bolivar**	**6.66**	**95**	*eP*			**Pn**	**02 19 45.3**	**-3.1**
BOAB	**BOACO BROADBAN**	**6.66**	**334**				**Pn**	**02 19 49.6**	**+1.2**
BOAB	**BOACO BROADBAN**	**6.66**	**334**	*i P*			**Pn**	**02 19 49.5**	**+1.2**
BOAB				IVmB_BB				02 20 39.4	
	comp=Z,930nm,1.0s								
BOAB				IAML				02 21 43.9	
	comp=Z,180nm,1.0s								
LCBC	**Los crdobas,**	**6.70**	**69**	*eP*			**Pn**	**02 19 52.1**	**+3.2**
YOTC	**Yotoco, Valle**	**6.76**	**111**	*eP*			Pn	02 19 43.5	-6.4
JAMC	**Jamundi, Valle**	**6.79**	**118**	*eP*			Pn	02 19 44.3	-6.0
BBAC	**Balboa, Cauca**	**6.97**	**129**	*eP*			Pn	02 19 45.3	-7.5
POPC	**Popayan, Colom**	**7.13**	**123**	*eP*			Pn	02 19 47.9	-7.0
MATN	**Matagalpa**	**7.20**	**334**	Pn	

435B **Jarrell** 27.97 332 P P 02 24 00.8 -0.4
435B IAmb IAmb 02 24 15.6
comp=Z,10.0nm,1.0s
DRIO Del Rio 28.45 326 P P 02 24 06.0 +0.5
DRIO IAmb IAmb 02 24 26.3
comp=Z,6.3nm,1.1s
JCT Junction City 28.82 328 P P 02 24 08.7 -0.2
JCT IAmb IAmb 02 24 26.7
comp=Z,11nm,1.3s
TKL Tuckaleechee C 29.10 358 LR LR 02 36 14.1
comp=Z,346nm,18.1s,baz=182,slow=37
TA02 Huaiquique 29.27 155 P P 02 24 14.2 +1.4
VILB Vilhena 29.50 131 P P 02 24 17.7 +2.8
VILB IAmb IAmb 02 24 20.1
comp=Z,7.3nm,1.0s
MDP Montagnes des 29.91 91 LR LR 02 37 12.9
comp=Z,226nm,19.6s,baz=282,slow=38
PLPT Palo Pinto 30.01 333 P P 02 24 19.2 -0.2
PLPT IAmb IAmb 02 24 32.8
comp=Z,12nm,1.2s
TXAR Lajitas Array 30.18 322 P P 02 24 21.3 +0.3
TXAR Lajitas Array 30.18 322 P P 02 24 21.6 +0.6
comp=Z,0.9nm,0.9s,baz=128,slow=11,SNR=4.9
TXAR LR LR 02 36 58.5
comp=Z,138nm,19.1s,baz=116,slow=37
comp=Z,0.9nm,0.9s
LCAR Lake Charles 30.50 346 P P 02 24 22.6 -0.9
ALPN Alpine 30.90 323 P P 02 24 26.3 -1.1
ALPN IAmb IAmb 02 24 30.2
comp=Z,8.6nm,1.0s
MNHN Monahans 31.10 325 P P 02 24 29.3 +0.2
MNHN IAmb IAmb 02 24 31.8
comp=Z,7.6nm,1.2s
APMT Aspermont 31.27 331 P P 02 24 30.9 +0.4
APMT IAmb IAmb 02 24 32.4
comp=Z,8.8nm,1.1s
LPIG La Paz 31.81 306 LR LR 02 34 45.4
comp=Z,325nm,19.8s,baz=124,slow=31
LVC Limon Verde 31.86 155 LR LR 02 37 20.8
comp=Z,91nm,21.9s,baz=334,slow=36
DKNS Dickens 31.94 330 IAmb IAmb 02 24 38.5
comp=Z,12nm,1.1s
425A Indio Mountain 32.01 322 P P 02 24 37.4 +0.2
S39A Bolivar 32.58 344 IAmb IAmb 02 24 42.7
comp=Z,7.3nm,1.1s
121A Cookes Peak, D 34.94 321 P P 02 25 03.4 +0.7
R32A Long Quarter, 35.00 338 IAmb IAmb 02 25 15.9
comp=Z,12nm,1.1s
RTBA Rita Blanca 35.05 331 IAmb IAmb 02 25 05.5
comp=Z,12nm,0.9s
BNM Barren Site 35.37 324 P P 02 25 07.0 +0.5
ANMO Albuquerque 35.85 326 P P 02 25 11.0 +0.5
ANMO IAmb IAmb 02 25 14.2
comp=Z,15nm,1.4s
ANMO Albuquerque 35.85 326 LR LR 02 41 40.2
comp=Z,318nm,19.5s,baz=220,slow=39
T25A Trinidad 36.42 330 IAmb IAmb 02 25 18.9
comp=Z,11nm,0.9s
TUC Tucson 36.72 318 P P 02 25 18.2 +0.3
SDCO Great Sand Dun 37.44 330 IAmb IAmb 02 25 27.7
comp=Z,9.1nm,1.1s
X18A Snowflake 37.62 322 P P 02 25 26.3 +0.7
X18A IAmb IAmb 02 25 29.3
comp=Z,7.6nm,1.0s
214A Organ Pipe Nat 37.88 316 IAmb IAmb 02 25 31.0
comp=Z,8.3nm,0.9s
S22A 4UR Ranch, Cre 38.12 328 IAmb IAmb 02 25 33.6
comp=Z,8.0nm,1.1s
Q24A Divide 38.22 331 IAmb IAmb 02 25 33.8
comp=Z,9.8nm,1.1s
SADO Sadowa 38.31 4 LR LR 02 40 09.6
comp=Z,245nm,20.9s,baz=228,slow=34
X16A Lo Mia Camp, P 38.48 320 P P 02 25 33.7 +0.9
MVCO Mesa Verde 38.62 326 P P 02 25 34.5 +0.4
MVCO IAmb IAmb 02 25 37.5
comp=Z,10.0nm,0.9s
113A Mohawk Valley, 39.01 316 P P 02 25 36.6 -0.5
ISCO Idaho Springs 39.10 332 P P 02 25 38.9 +0.8
WUAZ Wupatki 39.14 322 IAmb IAmb 02 25 42.7
comp=Z,11nm,1.1s
Y14A Wickenburg 39.19 318 P P 02 25 39.1 +0.4
PV12 Saucer Basin, 39.59 327 P P 02 25 43.1 +0.9
PV12 IAmb IAmb 02 25 45.6
comp=Z,14nm,0.8s
H03N2 Juan Fernandez 39.82 175 T T 03 07 40.0
baz=356
H03N1 Juan Fernandez 39.82 175 T T 03 07 42.5
baz=356
H03N3 Juan Fernandez 39.83 175 T T 03 07 40.2
baz=356
U15A North Rim 40.30 322 IAmb IAmb 02 25 52.1
comp=Z,9.1nm,1.2s
HMU Henry Mountain 40.40 325 IAmb IAmb 02 25 52.4
comp=Z,10nm,0.9s
W13A Hualapai Mount 40.47 319 P P 02 25 49.6 0.0
W13A IAmb IAmb 02 25 53.1
comp=Z,9.0nm,1.1s
O20A White River Ci 40.64 329 IAmb IAmb 02 26 33.1
comp=Z,22nm,1.5s
BDFB Brasilia 40.74 123 LR LR 02 43 14.1
comp=Z,369nm,18.1s,baz=307,slow=37
CPUP Villa Florida 40.81 144 LR LR 02 43 17.8
comp=Z,371nm,21.2s,baz=320,slow=37
SRU San Rafael Swe 41.10 326 IAmb IAmb 02 25 57.6
comp=Z,12nm,0.9s
PMD Palm Desert 41.31 315 P P 02 25 57.5 +1.3
P17A Butcher Ranch, 41.47 327 IAmb IAmb 02 26 00.7
comp=Z,6.9nm,0.9s
V12A Nelson 41.48 319 P P 02 25 58.0 +0.3
V12A IAmb IAmb 02 26 00.9
comp=Z,7.9nm,1.0s
K22A Casper 41.77 333 IAmb IAmb 02 26 02.8
comp=Z,8.2nm,1.1s
RPN Rapa Nui 42.18 217 LR LR 02 38 55.1
comp=Z,244nm,19.1s,baz=32,slow=30
BSUT Blindstream Ca 42.24 328 IAmb IAmb 02 26 07.2
comp=Z,10nm,1.3s
CTU Camp Tracy 42.88 327 P P 02 26 09.5 +0.3
CTU IAmb IAmb 02 26 12.7
comp=Z,8.2nm,1.1s
TCUT Toone Canyon 43.00 328 IAmb IAmb 02 26 13.2
comp=Z,11nm,1.0s
WCT Wildcat Mounta 43.27 319 P P 02 26 12.9 +0.6
BW06 Boulder Array 43.27 331 IAmb IAmb 02 26 15.6
comp=Z,13nm,1.4s
PD31 Pinedale Array 43.27 331 P P 02 26 12.8 +0.4
PD31 IAmb IAmb 02 26 15.7
comp=Z,12nm,1.4s
PDAR Pinedale Array 43.27 331 P P 02 26 12.7 +0.3
comp=Z,1.3nm,0.8s,baz=144,slow=8.9,SNR=13
PDAR LR LR 02 46 16.9
comp=Z,266nm,18.9s,baz=140,slow=39
comp=Z,1.3nm,0.8s
SPUT South Promonto 43.69 327 P P 02 26 16.2 +0.5
SPUT IAmb IAmb 02 26 18.6
comp=Z,12nm,1.2s
BGU Big Grassy Mou 43.74 326 IAmb IAmb 02 26 19.0
comp=Z,7.9nm,1.2s
GMN Gold Mountain 43.97 319 P P 02 26 18.0 -0.1
AHID Auburn Hatcher 44.03 330 IAmb IAmb 02 26 36.5
comp=Z,8.6nm,1.1s
TPAW Teton Pass 44.49 331 IAmb IAmb 02 26 26.0
comp=Z,11nm,1.3s
MOOW Moose Ponds 44.58 331 P P 02 26 23.0 +0.1
FLWY Flagg Ranch 44.81 331 P P 02 26 25.4 +0.7
FLWY IAmb IAmb 02 26 45.7
comp=Z,9.3nm,1.1s
ELK Elko 44.86 325 P P 02 26 25.3 +0.1
ELK Elko 44.86 325 LR LR 02 45 29.1
comp=Z,298nm,21.3s,baz=135,slow=36
RLMT Red Lodge 44.94 333 IAmb IAmb 02 26 28.0
comp=Z,8.6nm,1.0s
ULM Lac du Bonnet 45.05 348 P P 02 26 25.6 -0.6
comp=Z,5.7nm,0.9s,baz=157,slow=7.9,SNR=8.5
comp=Z,5.7nm,0.9s
YFT Old Faithful 45.15 332 IAmb IAmb 02 26 42.5
comp=Z,9.2nm,1.0s
NV11 Mina Array Sit 45.21 320 P P 02 26 28.0 +0.1
NV11 IAmb IAmb 02 26 30.8
comp=Z,4.4nm,1.0s
NVAR Mina Array Bea 45.30 320 P P 02 26 29.1 +0.4
comp=Z,2.5nm,0.9s,baz=136,slow=7.1,SNR=16
NVAR PcP PcP 02 28 07.2 -1.2
comp=Z,0.3nm,0.5s,baz=126,slow=4.6,SNR=2.1
NVAR LR LR 02 46 08.6
comp=Z,295nm,18.3s,baz=124,slow=37
comp=Z,2.5nm,0.9s

LHV Little Huntoon 45.33 320 IAmb IAmb 02 26 32.1
comp=Z,9.0nm,1.2s
YMR Madison River 45.38 332 IAmb IAmb 02 26 32.3
comp=Z,7.5nm,1.0s
YHH Holmes Hill 45.41 332 P P 02 26 31.2 +1.7
QLMT Earthquake Lak 45.72 331 P P 02 26 32.8 +1.0
WAKR Walker 46.07 319 P P 02 26 35.7 +0.9
WAKR IAmb IAmb 02 26 37.8
comp=Z,7.7nm,1.2s
HLID Hailey 46.30 328 IAmb IAmb 02 26 54.4
comp=Z,4.1nm,1.1s
LRM Limekiln Ridge 46.94 332 P P 02 26 41.1 -0.4
BEMT Mount Belmont 47.57 333 P P 02 26 46.5 +0.1
RCBR Riachuelo 48.25 104 LR LR 02 48 41.2
comp=Z,138nm,19.6s,baz=312,slow=38
MSO Missoula 48.38 332 IAmb IAmb 02 26 54.7
comp=Z,5.0nm,1.0s
SCHQ Schefferville 49.91 12 LR LR 02 49 42.4
comp=Z,95nm,20.1s,baz=148,slow=38
YBH Yreka Blue Hor 49.95 321 LR LR 02 48 15.4
comp=Z,235nm,22.0s,baz=133,slow=36
NEW Newport 50.91 331 LR LR 02 51 09.5
comp=Z,237nm,18.0s,baz=130,slow=39
FRB Frobisher Bay 58.11 7 LR LR 02 53 07.0
comp=Z,224nm,18.7s,baz=195,slow=36
BBB Bella Bella 58.86 329 LR LR 02 54 40.3
comp=Z,108nm,21.8s,baz=144,slow=37
TAOE Nuku Hiva Isla 59.26 256 eS S 02 36 13.2 -8.1
comp=Z,64nm,27.3s
TAOE eLR LR 02 45 28.3
comp=Z,217nm,27.3s
YKA Yellowknife Ar 60.64 344 P P 02 28 20.3 -0.9
comp=Z,1.3nm,0.8s,baz=140,slow=6.5,SNR=21
YKA LR LR 02 57 34.8
comp=Z,106nm,18.6s,baz=200,slow=39
comp=Z,1.3nm,0.8s
DLBC Dease Lake 63.33 334 LR LR 02 59 35.9
comp=Z,203nm,18.5s,baz=116,slow=39
SFJD Kangerlussuaq 64.32 13 LR LR 02 57 02.2
comp=Z,128nm,21.1s,baz=219,slow=36
PPT2 Papeete2 70.21 249 eS S 02 38 47.0 +11
comp=Z,57nm,26.2s
PPT2 Papeete2 70.21 249 eLR LR 02 50 27.4
comp=Z,205nm,24.8s
PPT2 eLR LR 02 50 36.9
comp=Z,170nm,27.2s
INK Inuvik 70.33 342 P P 02 29 23.7 -0.1
INK Inuvik 70.33 342 LR LR 03 03 43.8
comp=Z,205nm,18.4s,baz=185,slow=39
A36M Sachs Harbour 70.52 347 P P 02 29 23.8 -1.0
G29M Pine Creek 71.02 340 P P 02 29 28.1 0.0
TBI Tubuai 71.56 243 eS S 02 38 48.4 -3.2
comp=Z,597nm,35.0s
TBI Tubuai 71.56 243 eLR LR 02 51 16.2
comp=Z,2μm,31.0s
F28M Old Crow 71.99 340 P P 02 29 33.2 -0.7
F28M IAmb IAmb 02 29 46.9
comp=Z,6.1nm,1.1s
BORG Borgarnes 72.25 23 LR LR 02 57 58.7
comp=Z,89nm,20.6s,baz=213,slow=33
IL03 Eielson Array 73.37 336 P P 02 29 41.5 -0.7
ILAR Eielson Array 73.39 336 P P 02 29 41.7 -0.5
ILAR Eielson Array 73.39 336 P P 02 29 41.1 -1.1
comp=Z,0.9nm,0.7s,baz=113,slow=3.8,SNR=11
ILAR LR LR 03 05 37.6
comp=Z,100nm,19.4s,baz=82,slow=39
comp=Z,0.9nm,0.7s
BMAR Burro Mountain 73.54 339 P P 02 29 44.4 +1.2
D25K Kavik River 74.90 341 P P 02 29 51.1 0.0
D25K IAmb IAmb 02 29 59.8
comp=Z,6.0nm,0.9s
F21K Alatna River 76.71 338 P P 02 30 01.9 +0.4
F21K IAmb IAmb 02 30 03.4
comp=Z,3.9nm,0.9s
ESDC Sonseca Array 77.24 51 P P 02 30 04.3 -0.8
comp=Z,0.6nm,0.8s,baz=256,slow=5.1,SNR=2.4
ESDC LR LR 02 58 38.8
comp=Z,111nm,19.2s,baz=263,slow=31
comp=Z,0.6nm,0.8s
B21K Ikpikpuk River 77.75 340 P P 02 30 06.8 -0.3
B21K IAmb IAmb 02 30 08.0
comp=Z,2.4nm,0.8s
JMIC Jan Mayen 78.81 19 LR LR 03 04 00.4
comp=Z,66nm,20.6s,baz=278,slow=35
RAR Rarotonga 80.38 247 LR LR 02 57 41.7
comp=Z,105nm,19.6s,baz=168,slow=30
TORD Torodi Ar. Bea 83.11 78 P P 02 30 36.9 -0.1
comp=Z,0.3nm,0.7s,baz=299,slow=5.2,SNR=2.1
comp=Z,0.3nm,0.7s
SPITS Spitsbergen Ar 85.60 12 LR LR 03 10 01.8
comp=Z,114nm,20.8s,baz=258,slow=36
NOA NORSAR Array B 86.31 29 LR LR 03 07 22.0
comp=Z,26nm,19.7s,baz=280,slow=34
DAVOX Davos/Dischmat 87.11 43 LR LR 03 07 02.5
comp=Z,34nm,18.2s,baz=258,slow=34
HFS Hagfors 87.64 30 LR LR 03 09 34.3
comp=Z,40nm,18.1s,baz=260,slow=35
VAE Valguarnera 91.73 52 LR LR 03 06 51.9
comp=Z,84nm,19.3s,baz=228,slow=32
SNAA Sanae 92.88 162 LR LR 03 13 06.3
comp=Z,52nm,20.1s,baz=301,slow=36
FINES FINESS Array B 93.20 27 LR LR 03 09 22.3
comp=Z,47nm,20.6s,baz=294,slow=33
MLR Muntele Rosu 98.29 42 LR LR 03 12 27.3
comp=Z,38nm,18.4s,baz=281,slow=33
AKASG Malin Array Be 98.62 37 LR LR 03 11 10.0
comp=Z,60nm,20.7s,baz=222,slow=32
SEY Seymchan 99.28 338 LR LR 03 21 51.1
comp=Z,78nm,19.4s,baz=19,slow=38
H11S2 WAKE ISLAND Hyl 07.27 292 T T 04 32 28.7
baz=77,slow=75,SNR=6.0
H11S1 WAKE ISLAND Hyl 07.27 292 T T 04 32 31.1
baz=77,slow=75,SNR=17
H11S3 WAKE ISLAND Hyl 07.29 292 T T 04 32 32.4
baz=77,slow=75,SNR=17
DZM Mont Dzumac 111.72 249 eLR LR 03 09 52.4
comp=Z,73nm,24.4s
ASAR Alice Springs 140.90 240 PKP PKPdf 02 37 40.9 -0.7
comp=Z,0.4nm,0.7s,baz=48,slow=0.9,SNR=5.7
WRA Warramunga Arr 141.65 246 PKhKP PKPpre 02 37 35.9
comp=Z,0.2nm,0.7s,baz=100,slow=2.2,SNR=1.6

IDC 25 02:38:14.2±2.2, 2°.43S × 127°.45E, h0 km, mb 3.2/2, mbtmp 3.2/3, ML 3.1/1, Error ellipse: s-maj=150.8km s-min=28.4km az=66.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.66**	**159**	P	Pn	02 42 34.5	+0.3
	0.1nm,0.3s,baz=338,slow=11,SNR=4.9						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**22.02**	**164**	P	P	02 43 09.8	-0.7
	0.4nm,0.6s,baz=344,slow=12,SNR=8.7						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**63.04**	**327**	P	P	02 48 43.5	+0.2
	0.2nm,0.5s,baz=109,slow=8.1,SNR=1.3						
	0.2nm,0.5s						

IDC 25 02:41:31.3±3.4, 30°.97S × 178°.01W, h41 km±26 km, mb 3.8/4, mbtmp4.0/5, ML 3.4/1, Error ellipse: s-maj=45.6km s-min=15.8km az=112.0

ISC 25 02:41:30.5±1.8, 31°.1S±0°.1 × 177°.9W±0°.3, h46 km, n8, σ1s 67°/10, mb 4.0/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.84**	**359**	P	Pn	**02 41 59.9**	**+0.3**
	161nm,0.3s,baz=69,slow=22,SNR=2.5						
RAO				S	Sn	02 42 19.3	-2.5
	334nm,0.3s,baz=110,slow=22,SNR=5.9						
URZ	**Urewera**	**8.24**	**209**	P	Pn	**02 43 27.7**	**+0.3**
	0.5nm,0.3s,baz=79,slow=13,SNR=1.9						
URZ				S	Sn	**02 44 56.1**	**-3.0**
	3.5nm,0.3s,baz=216,slow=18,SNR=2.3						
	8.9nm,1.0s						
CTA	**Charters Tower**	**34.01**	**280**	P	P	**02 48 10.7**	**+0.6**
	1.1nm,0.5s,baz=128,slow=12,SNR=2.4						
	1.1nm,0.5s						
STKA	**Stephens Creek**	**34.42**	**258**	P	P	**02 48 14.9**	**+1.3**
	1.2nm,0.7s,baz=93,slow=12,SNR=4.2						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**43.17**	**268**	P	P	**02 49 27.4**	**+0.4**
	2.1nm,0.7s,baz=105,slow=7.2,SNR=36						
	2.1nm,0.7s						
WRA	**Warramunga Arr**	**44.22**	**273**	P	P	**02 49 35.3**	**-0.1**
	1.8nm,0.6s,baz=112,slow=7.8,SNR=17						
	1.8nm,0.6s						
FINES	**FINESS Array B**	**145.84**	**340**	PKPbc	**PKPdf**	**03 01 04.4**	**+1.1**
	1.4nm,0.6s,baz=43,slow=4.6,SNR=14						
NOA	**NORSAR Array B**	**149.46**	**351**	PKPbc	**PKPbc**	**03 01 13.4**	**-0.5**
	1.5nm,1.0s,baz=25,slow=6.4,SNR=2.9						

IDC 25 02:49:28.0±5.7, 5°.68S × 147°.55E, h184 km±59 km, mb 2.5/1, mbtmp 3.3/3, Error ellipse: s-maj=114.3km s-min=48.7km az=120.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.72**	**186**	P	Pn	02 50 26.8	+1.1
	20nm,0.3s,baz=347,slow=5.5,SNR=22						
PMG				S	Sn	02 51 10.7	-0.3
	15nm,0.3s,baz=129,slow=20,SNR=5.6						
WRA	**Warramunga Arr**	**19.13**	**221**	P	P	02 53 37.2	0.0
	0.3nm,0.4s,baz=45,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**22.19**	**215**	P	P	02 54 10.0	+0.6
	0.2nm,0.5s,baz=52,slow=8.2,SNR=8.1						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**145.54**	**285**	PKPbc	PKPdf	03 08 44.2	-1.0
	baz=63,slow=3.8,SNR=5.8						

SNET 25 03:17:59.8±0.6, 14°.42N × 91°.18W, h92 km±19 km, ML 3.9
CATAC 25 03:18:00.3±0.5, 14°.13N × 91°.29W, h65 km±9 km, ML 3.7
GCG 25 03:18:03.0±0.4, 14°.33N × 91°.26W, h60 km±9 km, MD 3.7

ISC 25 03:17:59.4±1.7, 14°.14N±0°.09 × 91°.31W±0°.06, h90 km±10 km, n31, σ0s 92°/55, 2C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SULM	**Suchitepequez,**	**0.30**	**303**	*i* P	**Pn**	**03 18 13.1**	**+0.2**
SULM				*eS*	**Sn**	**03 18 23.1**	**+0.2**
FUG	**Fuego 3**	**0.54**	**56**	↓ *i* P	**Pn**	**03 18 14.8**	**+0.1**
FUG				*eS*	**Sn**	**03 18 25.5**	**-0.7**
STG3	**Santiaguito 3,**	**0.62**	**336**	*eP*	**Pn**	**03 18 15.5**	**0.0**
STG3				*eS*	**Sn**	**03 18 30.1**	**+2.7**
SOKI	**Kika Raxquin**	**0.68**	**352**	*i* P	**Pn**	**03 18 16.0**	**-0.3**
SOKI				*i* S	**Sn**	**03 18 27.3**	**-1.5**
SOKI				IAML		03 18 31.5	
	comp=Z,4μm,1.0s						
PCG	**Pacaya**	**0.72**	**70**	*i* P	**Pn**	**03 18 17.2**	**+0.8**
PCG				*eS*	**Sn**	**03 18 30.0**	**+0.8**
GUMI	**Mixco**	**0.83**	**54**	*i* P	**Pn**	**03 18 17.3**	**-0.2**
GUMI				*i* S	**Sn**	**03 18 30.2**	**-0.8**
GUMI				IAML		03 18 37.2	
	comp=Z,4μm,1.0s						
GCG4	**OSOP**	**0.87**	**59**	*i* P	**Pn**	**03 18 18.0**	**+0.1**
GCG4				IAML		03 18 18.4	
	comp=Z,2μm,1.0s						
GCG4				*i* S	**Sn**	**03 18 30.6**	**-1.1**
NBG	**Las Nubes**	**1.03**	**64**	↑ *eP*	**Pn**	**03 18 21.0**	**+1.3**
NBG				*eS*	**Sn**	**03 18 34.9**	**-0.1**
SMCA	**Catarina**	**1.03**	**314**	*i* P	**Pn**	**03 18 18.4**	**-1.1**
SMCA				*i* S	**Sn**	**03 18 33.0**	**-1.6**
SMCA				IAML		03 18 34.4	
	comp=Z,2μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.48**	**94**	*eP*	**Pn**	**03 18 24.8**	**-0.2**
SLOZ				*eS*	**Sn**	**03 18 44.5**	**+0.1**
LOAL	**Lomas de Alarc**	**1.49**	**95**	*i* P	**Pn**	**03 18 24.8**	**-0.2**
LOAL				*i* S	**Sn**	**03 18 44.2**	**-0.3**
LOAL				IAML		03 18 50.2	
	comp=Z,2μm,1.0s						
NUBE	**Las Nubes**	**1.50**	**99**	*eP*	**Pn**	**03 18 25.1**	**-0.2**
NUBE				*eS*	**Sn**	**03 18 44.8**	**-0.1**
NUBE	**Las Nubes**	**1.50**	**99**	*i* P	**Pn**	**03 18 24.9**	**-0.4**
NUBE				*i* S	**Sn**	**03 18 44.2**	**-0.7**
NUBE				IAML		03 18 47.2	
	comp=Z,830nm,1.0s						
RTR	**El Retiro**	**1.63**	**98**	*eP*	**Pn**	**03 18 27.2**	**+0.2**
SBLS	**San Blas**	**1.66**	**100**	*eP*	**Pn**	**03 18 28.2**	**+0.8**
CEVE	**Cerro Verde**	**1.66**	**101**	*eP*	**Pn**	**03 18 28.3**	**+0.9**
CEVE				*eS*	**Sn**	**03 18 50.5**	**+1.8**
CEVE				IAML		03 18 55.0	
	comp=Z,1μm,0.3s						
SNJE	**San Jose**	**1.67**	**99**	*eP*	**Pn**	**03 18 27.6**	**0.0**
SNJE				*eS*	**Sn**	**03 18 50.0**	**+1.1**
UNIC	**Universidad Ca**	**1.71**	**95**	*i* P	**Pn**	**03 18 27.5**	**-0.4**
UNIC				*i* S	**Sn**	**03 18 48.4**	**-1.2**
UNIC				IAML		03 19 30.0	
	comp=Z,230nm,1.0s						
JAYA	**Jayaque - finc**	**1.87**	**105**	*eP*	**Pn**	**03 18 30.0**	**-0.1**
JAYA				*eS*	**Sn**	**03 18 53.7**	**+0.3**
JAYA				IAML		03 18 56.1	
	comp=Z,669nm,0.2s						
JAYA	**Jayaque - finc**	**1.87**	**105**	*i* P	**Pn**	**03 18 29.9**	**-0.1**
JAYA				*i* S	**Sn**	**03 18 52.3**	**-1.0**
JAYA				IAML		03 18 55.9	
	comp=Z,2μm,1.0s						
MTO3	**Montecristo**	**1.90**	**82**	*eP*	**Pn**	**03 18 30.0**	**-0.5**
PMON	**Piamonte**	**1.98**	**102**	*eP*	**Pn**	**03 18 32.0**	**+0.5**
PMON	**Piamonte**	**1.98**	**102**	*i* P	**Pn**	**03 18 31.6**	**+0.2**
PMON				*i* S	**Sn**	**03 18 55.3**	**-0.6**
PMON				IAML		03 19 02.5	
	comp=Z,630nm,1.0s						
LALI	**Alcalda de L**	**2.03**	**108**	*eP*	**Pn**	**03 18 32.9**	**+0.8**
LOMA	**Loma Larga**	**2.13**	**103**	*eP*	**Pn**	**03 18 34.5**	**+1.1**
LOMA	**Loma Larga**	**2.13**	**103**	*i* P	**Pn**	**03 18 33.9**	**+0.4**
LOMA				*i* S	**Sn**	**03 19 00.0**	**+0.5**
LOMA				IAML		03 19 03.3	
	comp=Z,330nm,1.0s						
PANCS	**Alcalda de**	**2.13**	**104**	*i* P	**Pn**	**03 18 34.1**	**+0.7**
PANCS				IAML		03 18 48.3	
	comp=Z,2μm,1.0s						
PANCS				*i* S	**Sn**	**03 18 59.1**	**-0.3**
CCIG	**Comitan**	**2.28**	**339**	*i* P	**Pn**	**03 18 36.8**	**+1.3**
CCIG				*i* S	**Sn**	**03 19 03.4**	**+0.4**
CCIG				IAML		03 19 24.4	
	comp=Z,130nm,1.0s						
COEG	**Centro de Oper**	**2.41**	**102**	*i* P	**Pn**	**03 18 38.1**	**+1.0**
COEG				*i* S	**Sn**	**03 19 05.6**	**-0.4**
COEG				IAML		03 19 18.4	
	comp=Z,170nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.54**	**100**	*eP*	**Pn**	**03 18 39.1**	**+0.3**
SCLA	**Alcaldia de Sa**	**2.54**	**100**	*i* P	**Pn**	**03 18 38.2**	**-0.6**
SCLA				*i* S	**Sn**	**03 19 06.4**	**-2.7**
SCLA				IAML		03 20 20.8	
	comp=Z,71nm,1.0s						

DSN 25 03:34:12.0±2.4, 30°.98N × 58°.20E, h10 km, ML 3.8/9, Ms 2.8/5, Error ellipse: s-maj=116.8km s-min=23.2km az=107.0
OMAN 25 03:34:13.6±0.1, 31°.22N × 57°.27E, h10 km, mb 4.7/19, ml 3.3/2, ms 2.7/7, Error ellipse: s-maj=2.1km s-min=1.4km az=269.0
NEIC 25 03:34:15.9±1.6, 30°.81N±0°.06 × 57°.32E±0°.08, h10 km±1 km, mb 4.4/29, Error ellipse: s-maj=15.1km s-min=4.6km az=314.0
TEH 25 03:34:15.9, 30°.77N × 57°.40E, h12 km±69 km, ML 4.3
MOS 25 03:34:17.8±1.7, 30°.64N × 57°.39E, h39 km, mb 4.6/11, Error ellipse: s-maj=8.6km s-min=6.3km az=102.7
IDC 25 03:34:21.5±2.2, 30°.70N × 57°.31E, h52 km±22 km, mb 3.7/19, mbtmp3.9/23, ML 3.8/4, MS 3.5/21, Error ellipse: s-maj=14.1km s-min=11.9km az=89.0

ISC 25 03:34:16.7±0.4, 30°.89N±0°.03 × 57°.32E±0°.03, h10 km, n198, σ2s 44°/214, mb 4.1/54, MS 3.5/21, 5C-6D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRM1	**Kerman Provinc**	**0.38**	**186**	Pg	Pg	03 34 21.4	-2.9
ZRDN	**Zarand Kerman**	**0.68**	**277**	Pg	**Pb**	**03 34 30.7**	**0.0**
KHGB	**Koh Gabri**	**0.89**	**235**	Pg	**Pg**	**03 34 32.6**	**-1.2**
TVBK	**TV Kerman**	**1.02**	**208**	Pg	**Pg**	**03 34 34.1**	**-2.2**
TVBK				Sg	**Sg**	**03 34 47.1**	**-2.5**
NGRK	**Negar Kerman**	**1.34**	**202**	Pg	**Pn**	**03 34 39.6**	**-2.2**
NGRK				Sg	**Sb**	**03 34 54.9**	**-4.6**
IBAF	**Bafgh**	**1.66**	**296**	Pg	**Pg**	**03 34 48.2**	**-0.3**
BSRN	**Basiran**	**1.88**	**55**	Pn	**Pb**	**03 34 49.8**	**-1.5**
KBAM	**BAM**	**2.00**	**150**	Pn	**Pb**	**03 34 49.4**	**-1.3**
IKOO	**Kooshah**	**2.10**	**43**	Pn	**Pb**	**03 34 53.4**	**-1.7**
TPRV	**Parvadeh(Tabas**	**2.20**	**346**	Pn	**Pb**	**03 34 55.6**	**-1.1**
ITEG	**Tejag**	**2.35**	**31**	Pn	**Pb**	**03 34 57.1**	**-2.1**
IMEH	**Mehriz**	**2.37**	**283**	Pn	**Pb**	**03 34 58.3**	**-1.4**
NHDN	**Nehbandan**	**2.40**	**77**	Pn	**Pb**	**03 34 56.6**	**+0.4**
TKDS	**Koohdasht(Taba**	**2.73**	**357**	Pn	**Pb**	**03 35 02.8**	**-2.9**
ICHK	**Chekchek**	**2.83**	**299**	Pn	**Pb**	**03 35 05.0**	**-2.5**
IDAH	**Dahanechah**	**2.85**	**49**	Pn	**Pn**	**03 35 03.9**	**+1.4**

AFRZ Afriz 2.91 29 Pn **Pn** 03 35 04.7 +1.5
KHNJ Kahnooj 2.95 173 Pn **Pn** 03 35 03.3 -0.3
TNSJ Nastanj 3.13 349 Pn **Pn** 03 35 07.8 +1.6
ZHDN Zahedan 3.37 115 Pn **Pn** 03 35 09.0 -0.5
GENO Geno 3.61 196 Pn **Pn** 03 35 13.6 +0.7
SHRT Shahrakht 3.73 42 Pn **Pn** 03 35 16.5 +2.1
ANAR Anarak 3.82 308 Pn **Pn** 03 35 17.8 +2.2
IRAM Ramesheh 4.32 284 Pn **Pn** 03 35 25.1 +2.4
IZEF Zefreh 4.69 297 Pn **Pn** 03 35 30.6 +2.8
IGAR Gharneh 4.75 290 Pn **Pn** 03 35 31.4 +2.9
SHME Shamm 4.93 192 P **Pn** 03 35 31.8 +0.9
SHME Shamm 4.93 192 P **Pn** 03 35 32.0 +1.2
SHME S **Sn** 03 36 34.2 +6.3
JASK Jask - Hormozg 5.02 174 P **Pn** 03 35 33.5 +1.4
SNR=12
JASK S **Sn** 03 36 36.9 +6.7
JASK Jask - Hormozg 5.02 174 Pn **Pn** 03 35 31.9 -0.2
BANOM Banah 5.02 191 P **Pn** 03 35 33.9 +1.7
BANOM S **Sn** 03 36 36.2 +5.9
KRSH Karshahi 5.35 306 Pn **Pn** 03 35 39.1 +2.3
HRA Herat 5.43 49 Pn **Pn** 03 35 39.1 +1.2
IKLH Kolahrood 5.44 298 Pn **Pn** 03 35 41.5 +3.4
SBZV Sabzevar 5.49 2 Pn **Pn** 03 35 42.3 +3.5
ISFB Sefidab 5.50 310 Pn **Pn** 03 35 41.7 +2.8
MASF Masafi 5.59 191 P **Pn** 03 35 41.7 +1.7
SNR=13
MASF S **Sn** 03 36 50.6 +6.3
MSFE Esma-Masafi 5.60 191 P **Pn** 03 35 40.9 +0.8
MSFE S **Sn** 03 36 48.4 +3.8
SRVN Saravan 5.64 127 Pn **Pn** 03 35 41.0 +0.3
UOSS Minazif 6.00 190 Pn **Pn** 03 35 43.4 -2.1
UOSS Minazif 6.00 190 P **Pn** 03 35 44.6 -1.0
UOSS Minazif 6.00 190 P **Pn** 03 35 47.1 +1.5
UOSS S **Sn** 03 37 01.1 +6.8
NAZ Nazwa, Dubai 6.05 194 P **Pn** 03 35 46.4 +0.1
NAZ Nazwa, Dubai 6.05 194 P **Pn** 03 35 48.1 +1.8
SNR=9.7
NAZ S **Sn** 03 37 02.7 +7.0
HATD Hatta, Dubai 6.13 190 P **Pn** 03 35 48.6 +1.2
HATD Hatta, Dubai 6.13 190 P **Pn** 03 35 49.4 +2.0
HATD S **Sn** 03 37 04.1 +6.5
ASHO Ashiyiah 6.28 191 P **Pn** 03 35 49.3 -0.1
ASHO Ashiyiah 6.28 191 P **Pn** 03 35 51.0 +1.5
SNR=15
ASHO S **Sn** 03 37 07.0 +5.7
FAQ Al Faqa, Dubai 6.30 194 P **Pn** 03 35 49.5 -0.3
IGLO Ghaloghah 6.31 334 Pn **Pn** 03 35 53.2 +3.1
IDMV Damavand 6.44 318 Pn **Pn** 03 35 54.1 +2.2
NGCH Negor - Chabah 6.46 148 P **Pn** 03 35 51.7 -0.2
ASUD Al Ashush, Dub 6.48 196 P **Pn** 03 35 50.5 -1.6
ASUD Al Ashush, Dub 6.48 196 P **Pn** 03 35 53.7 +1.6
ASUD S **Sn** 03 37 12.2 +6.0
AJN Ajban 6.63 199 P **Pn** 03 35 55.5 +1.3
SOHO SOHO 6.76 186 P **Pn** 03 35 53.2 -2.8
SOHO SOHO 6.76 186 P **Pn** 03 35 57.3 +1.3
SOHO P **Pn** 03 35 57.3 +1.3
SOHO S **Sn** 03 37 18.7 +5.6
SOHO S **Sn** 03 37 18.7 +5.6
MRVT Maraveh tapeh 6.83 352 Pn **Pn** 03 35 59.9 +2.9
ALE Al Ain 6.94 192 P **Pn** 03 35 57.1 -1.4
ALNE Al Ain 6.94 192 P **Pn** 03 36 00.6 +2.0
ALNE P **Pn** 03 36 00.6 +2.0
ALNE S **Sn** 03 37 23.5 +5.9
ALNE S **Sn** 03 37 23.5 +5.9
GEYT Alibeck 7.06 5 Pn **Pn** 03 36 01.2 +1.1
GEYT Alibeck 7.06 5 P Pn 03 36 04.7 +4.6
0.7nm,0.3s,baz=173,slow=16,SNR=2.7
GEYT S **Sn** 03 37 27.3 +6.8
12nm,0.8s,baz=218,slow=18,SNR=3.0
1.5nm,0.3s
GYA0B ALIBECK ARRAY 7.06 5 Pn **Pn** 03 36 01.6 +1.5
JRN Qarnain Island 7.12 215 P **Pn** 03 36 01.7 +0.8
HOQ Hoqain 7.27 180 P **Pn** 03 36 04.8 +1.7
HOQ S **Sn** 03 37 32.7 +6.9
ARQ Araqi 7.55 186 P **Pn** 03 36 08.5 +1.5
ARQ P **Pn** 03 36 08.5 +1.5
WSAR Wadi Sarin 7.71 171 P **Pn** 03 36 10.1 +1.1
SNR=10
WSAR S **Sn** 03 37 42.2 +5.8
WSAR Wadi Sarin 7.71 171 P **Pn** 03 36 07.5 -1.5
2.6nm,0.3s,baz=11,slow=9.9,SNR=35
WSAR S **Sn** 03 37 35.0 -1.4
5.8nm,0.7s,baz=92,slow=14,SNR=1.4
27nm,0.7s
SMDO Samad 7.82 175 P **Pn** 03 36 12.5 +1.8
SMDO P **Pn** 03 36 12.5 +1.8
BSY Bisya 8.11 181 P **Pn** 03 36 16.0 +1.4
SNR=9.5
BSY P **Pn** 03 36 16.0 +1.4
SNR=9.5
TRNA Turayna 8.17 223 P **Pn** 03 36 15.0 -0.4
SNR=5.9
TRNA S **Sn** 03 37 47.7 0.0
WBK Wadi Bani Khal 8.37 169 P **Pn** 03 36 19.0 +0.8
SNR=6.8
WBK S **Sn** 03 37 59.5 +6.6
WBK Wadi Bani Khal 8.37 169 Pn **Pn** 03 36 16.9 -1.3
SMRA Abu-Samra 8.39 225 P **Pn** 03 36 18.1 -0.3
SNR=10
JMDO Jabal Madar 8.51 175 P **Pn** 03 36 21.5 +1.5
JLN Jalan Bani Buh 8.90 167 P **Pn** 03 36 27.1 +1.7
JLN P **Pn** 03 36 27.1 +1.7
MHTO MHTO 9.88 176 P **Pn** 03 36 40.2 +1.4
MHTO P **Pn** 03 36 40.2 +1.4
KBL Kabul 10.53 67 Pn **Pn** 03 36 46.3 -1.5
KBL Kabul 10.53 67 P **Pn** 03 36 46.3 -1.5
CHGR Chuyangaron 12.44 48 Pn **Pn** 03 37 12.2 -1.6
CHGR Chuyangaron 12.44 48 P **Pn** 03 37 12.2 -1.6
BTK Batken 14.29 47 Pn **Pn** 03 37 38.7 -0.6
BTK Batken 14.29 47 P **Pn** 03 37 38.7 -0.6
GURO Guroymak-BITLI 14.70 305 **P** 03 37 50.0 -1.1
KARS Kars 15.09 314 P **P** 03 37 54.3 -1.0
KARS Kars 15.09 314 P **P** 03 37 54.3 -1.0
KARS pmax pmax
comp=Z,67nm,1.4s
KK31 Karatay Array 16.09 37 Pn **Pn** 03 38 02.6 -0.4
KK31 Karatay Array 16.09 37 P **Pn** 03 38 02.6 -0.4
KK31 pmax pmax
comp=Z,3.0nm,1.3s
KKAR Karatay Array 16.09 37 P **P** 03 38 05.5 -0.9
KKAR Karatay Array 16.09 37 Pn **Pn** 03 38 02.2 -0.9
KKAR IAmb IAmb 03 38 41.7
comp=Z,3.4nm,1.3s
KKAR Karatay Array 16.09 37 *e*P **P** 03 38 06.4 0.0
KBZ Khabaz 17.17 322⇓ *e*P P 03 38 25.5 +7.3
KBZ pmax pmax
comp=Z,20nm,3.5s
KIV Kislovodsk 17.44 322 **P** 03 38 20.9 -0.5
AAK Ala-Archa 18.04 45 Pn **Pn** 03 38 25.2 -2.5
AAK Ala-Archa 18.04 45⇓ *e*P **P** 03 38 28.1 0.0
AAK pmax pmax
comp=Z,8.0nm,2.1s
AAK Ala-Archa 18.04 45 P **P** 03 38 30.4 +2.3
comp=Z,0.2nm,0.3s,baz=218,slow=13,SNR=1.9
AAK LR LR 03 46 34.5
comp=Z,158nm,19.1s,baz=206,slow=40
comp=Z,1.9nm,0.7s
ABKAR Akbulak array 18.46 5 P **Pn** 03 38 30.2 -2.3
AKTO Aktyubinsk 19.54 1 P **Pn** 03 38 45.9 +0.3
comp=Z,0.3nm,0.3s,baz=178,slow=10,SNR=4.5
AKTO LR LR 03 47 55.4
comp=Z,181nm,18.0s,baz=201,slow=41
comp=Z,1.4nm,0.5s
ANN Anapa 20.89 317 P Pn 03 39 02.3 +0.8
ANN *e*S Sn 03 43 07.9 +11
ANN pmax pmax
comp=Z,111nm,1.0s
BR131 Keskin Array S 21.20 301 P **P** 03 39 01.4 -1.2
BR131 IAmb IAmb 03 39 07.1
comp=Z,14nm,1.2s
BR131 Keskin Array S 21.20 301 *de*P **P** 03 39 04.1 +1.6
BRTR Keskin Array B 21.20 301 P **P** 03 39 00.8 -1.7
BRTR Keskin Array B 21.20 301 *ce*P **P** 03 39 04.4 +1.9
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 21.20 301 P **P** 03 39 03.3 +0.8
comp=Z,4.2nm,1.0s,baz=117,slow=9.8,SNR=13
BRTR LR LR 03 48 09.1
comp=Z,67nm,20.3s,baz=120,slow=39
comp=Z,4.2nm,1.0s
BR231 Keskin MP Arra 21.86 301 P **P** 03 39 09.4 -0.3
BR231 IAmb IAmb 03 39 39.3
comp=Z,6.4nm,0.8s

BELG Belogornoye 22.64 344 P **P** 03 39 20.5 +2.8
comp=Z,13nm,0.9s,baz=186,slow=17,SNR=4.9
BELG LR LR 03 51 03.8
comp=Z,82nm,18.3s,baz=124,slow=44
comp=Z,13nm,0.9s
ISP Isparta 23.13 295 P **P** 03 39 22.3 -0.8
ISP IAmb IAmb 03 39 27.5
comp=Z,23nm,1.1s
ISP Isparta 23.13 295⇓ *e*P **P** 03 39 20.2 -2.9
ISP pmax pmax
comp=Z,17nm,1.7s
ATD Arta Tunnel 23.47 218 LR LR 03 50 11.8
comp=Z,5.7nm,21.2s,baz=26,slow=41
ELL Elmali 23.47 292 P **P** 03 39 24.5 -2.1
ELL Elmali 23.47 292 P **P** 03 39 24.5 -2.1
ELL pmax pmax
comp=Z,36nm,0.8s
BRVK Borovoye 24.09 19 P **P** 03 39 32.7 +0.5
BRVK Borovoye 24.09 19⇓ *e*P **P** 03 39 34.6 +2.4
BRVK pmax pmax
comp=Z,2.0nm,1.0s
BVAR Borovoye Array 24.09 20 P **P** 03 39 33.5 +1.3
comp=Z,2.4nm,0.8s,baz=205,slow=6.6,SNR=12
BVAR PcP **PcP** 03 43 13.2 -0.1
comp=Z,0.7nm,0.6s,baz=256,slow=3.1,SNR=3.6
BVAR LR LR 03 50 17.6
comp=Z,197nm,19.0s,baz=205,slow=39
comp=Z,2.4nm,0.8s
MKAR Makanchi Array 24.96 43 P **P** 03 39 37.4 -2.9
MKAR Makanchi Array 24.96 43 *e*P **P** 03 39 39.0 -1.3
MKAR Makanchi Array 24.96 43 P **P** 03 39 41.3 +1.0
comp=Z,0.7nm,0.7s,baz=224,slow=9.8,SNR=4.4
MKAR LR LR 03 51 04.7
comp=Z,139nm,18.7s,baz=219,slow=40
comp=Z,0.7nm,0.7s
KURBB Kurchatov Arra 25.28 33 P **P** 03 39 44.5 +1.4
comp=Z,1.2nm,0.8s,baz=232,slow=8.6,SNR=9.4
KURBB LR LR 03 51 07.5
comp=Z,146nm,21.1s,baz=162,slow=40
comp=Z,1.2nm,0.8s
KURK Kurchatov 25.38 33 P **P** 03 39 42.5 -1.5
KURK Kurchatov 25.38 33⇓ *e*P **P** 03 39 45.8 +1.8
KURK pmax pmax
comp=Z,3.0nm,1.0s
ARU Arti 25.55 2 *c i*P **P** 03 39 51.7 +6.2
ARU 03 40 31.4
ARU SS 03 45 37.3
ARU pmax pmax
comp=Z,4.0nm,1.0s
ARU Arti 25.55 2 LR LR 03 50 40.5
comp=Z,54nm,19.1s,baz=166,slow=38
ALN Alexandroupoli 27.11 300 P **P** 03 39 57.1 -2.6
ALN IAmb IAmb 03 40 02.4
comp=Z,8.0nm,1.2s
ALN Alexandroupoli 27.11 300 P **P** 03 39 57.1 -2.6
ALN pmax pmax
comp=Z,8.0nm,1.2s
WMQ Urumqi 27.22 53 *e*P **P** 03 40 00.0 -0.8
KIRV Kirov 28.22 351⇑ *e*P P 03 40 14.0 +4.6
KIRV Kirov 28.22 351 LR LR 03 53 48.6
comp=Z,119nm,19.1s,baz=176,slow=41
OBN Obninsk 28.36 335 **P** 03 40 10.2 -0.6
OBN Obninsk 28.36 335⇓ *e*P **P** 03 40 13.5 +2.8
OBN pmax pmax
comp=Z,12nm,1.4s
OBN MLR MLR
comp=Z,51nm,15.0s
AKASG Malin Array Be 28.78 322 P **P** 03 40 15.7 +1.1
comp=Z,0.2nm,0.3s,baz=121,slow=8.1,SNR=5.6
comp=Z,0.2nm,0.3s
ZAA0 Zalesovo Array 30.37 33 P **P** 03 40 28.6 0.0
ZALV Zalesovo Beam 30.37 33 P **P** 03 40 27.9 -0.7
ZALV Zalesovo Beam 30.37 33 *i* P **P** 03 40 29.8 +1.2
ZALV pmax pmax
comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam 30.37 33 P **P** 03 40 29.0 +0.4
comp=Z,2.2nm,0.8s,baz=234,slow=8.9,SNR=8.6
ZALV LR LR 03 54 37.3
comp=Z,95nm,20.2s,baz=242,slow=40
comp=Z,2.2nm,0.8s
MNK Minsk 31.61 327 *i* P **P** 03 40 39.9 +0.4
comp=E,7.0nm,1.6s
MNK *i* P **P** 03 40 39.9 +0.4
comp=N,22nm,1.7s
MNK *i* P **P** 03 40 39.9 +0.4
comp=Z,7.0nm,0.7s,baz=128
MNK *i* S S 03 45 59.9 +12
MNK *i* SS **SS** 03 47 59.8 -3.7
MNK *i* LQ LQ 03 51 04.9
MNK *i* LR LR 03 54 06.7
MNK Minsk 31.61 327 *i* P **P** 03 40 39.9 +0.4
MNK *i* SS SS 03 47 59.8 -3.7
MNK pmax pmax
comp=E,7.0nm,1.6s
MNK pmax pmax
comp=N,22nm,1.7s
MNK pmax pmax
comp=Z,7.0nm,0.7s
KOLS Kolonicke sedl 31.99 314 *e*P **P** 03 40 46.4 +3.5
KOLS Kolonicke sedl 31.99 314 *e*P **P** 03 40 46.5 +3.5
SUW Suwalki 33.66 323 P **P** 03 40 58.0 +0.5
SUW Suwalki 33.66 323 P **P** 03 40 58.0 +0.5
SUW pmax pmax
comp=Z,23nm,0.8s
OJC Ojcow 33.95 316 P **P** 03 41 00.7 +0.6
OJC IAmb IAmb 03 41 04.7
comp=Z,18nm,1.5s
OJC Ojcow 33.95 316 P **P** 03 41 00.7 +0.6
OJC pmax pmax
comp=Z,18nm,1.5s
VYHS Vyhne 34.00 312 *e*P **P** 03 41 05.0 +4.5
VYHS Vyhne 34.00 312 *e*P **P** 03 41 05.0 +4.5
ARSA Arzberg 35.85 309 *e*P **P** 03 41 16.6 0.0
comp=Z,0.2nm,0.2s
FINES FINES Array B 36.76 335 P **P** 03 41 24.5 +0.4
comp=Z,2.2nm,0.6s,baz=133,slow=9.9,SNR=14
FINES LR LR 03 59 56.3
comp=Z,40nm,18.1s,baz=66,slow=42
comp=Z,2.2nm,0.6s
MOA Molln 36.80 310 *e*P **P** 03 41 26.1 +1.4
comp=Z,0.5nm,0.4s
SABO M.te Sabotino 36.93 307 P **P** 03 41 24.6 -1.2
SABO IAmb IAmb 03 41 25.9
comp=Z,4.2nm,1.0s
KMBO Kilima Mbogo 37.12 215 P **P** 03 41 26.7 -1.2
comp=Z,1.4nm,0.8s,baz=28,slow=15,SNR=2.8
KMBO LR LR 03 57 27.3
comp=Z,38nm,21.4s,baz=72,slow=38
comp=Z,1.4nm,0.8s
GEC2 GERESS Array S 37.38 311 P **P** 03 41 28.8 -0.9
GEC2 IAmb IAmb 03 41 42.0
comp=Z,5.5nm,1.5s
GERES GERESS Array B 37.38 311 P **P** 03 41 29.3 -0.4
GERES GERESS Array B 37.38 311 P **P** 03 41 30.6 +0.9
comp=Z,1.7nm,0.8s,baz=106,slow=9.8,SNR=6.4
comp=Z,1.7nm,0.8s
KHC Kasperske Hory 37.52 312⇑ *e*P **P** 03 41 31.3 +0.5
KHC pmax pmax
comp=Z,4.0nm,1.0s
STAL STALIGIAL 37.58 307 P **P** 03 41 30.6 -0.7
STAL IAmb IAmb 03 41 54.0
comp=Z,7.3nm,1.4s
LESA Schwarzleotal 37.78 309 *e*P **P** 03 41 34.0 +1.0
comp=Z,1.4nm,0.5s
ABTA Abfaltersbach 37.79 308 *e*pP **P** 03 41 34.1 +1.0
comp=Z,0.6nm,0.4s
CLL Collm 38.40 315 P **P** 03 41 37.6 -0.4
CLL IAmb IAmb 03 41 41.1
comp=Z,7.4nm,1.2s
CLL Collm 38.40 315 *i* P **P** 03 41 39.8 +1.7
comp=Z,7.0nm,1.1s
CLL Collm 38.40 315 *i* P **P** 03 41 39.8 +1.7
CLL pmax pmax
comp=Z,7.0nm,1.1s
WTTA Wattenberg 38.46 308 *e*P **P** 03 41 39.1 +0.2
comp=Z,0.7nm,0.4s
WATA Walderalm 38.51 309 *e*P **P** 03 41 39.3 0.0
comp=Z,0.7nm,0.4s
SQTA Sankt Quirin 38.74 308 *e*P **P** 03 41 41.4 +0.2
comp=Z,1.7nm,0.5s
MOTA Moosalm 38.83 308 *e*P **P** 03 41 42.3 +0.3
comp=Z,1.6nm,0.8s
PZH PanZhiHua 39.02 85 P P 03 41 33.3 -11
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,3.5s
FETA Feichten 39.04 308 *i* P **P** 03 41 44.0 +0.3
comp=Z,1.5nm,0.5s
RETA Reutte 39.08 309 *e*P **P** 03 41 43.5 -0.5
comp=Z,0.8nm,0.4s
CMAR Chiang Mai Arr 39.58 98 P **P** 03 41 48.0 -0.4
comp=Z,1.3nm,0.3s,baz=278,slow=6.1,SNR=1.4
comp=Z,1.3nm,0.3s
DAVOX Davos/Dischmat 39.59 307 P **P** 03 41 47.8 -0.6
comp=Z,1.8nm,0.6s,baz=117,slow=14
comp=Z,1.8nm,0.6s
DAVA Damuels 39.65 308 *e*P **P** 03 41 47.9 -0.9
comp=Z,2.2nm,0.6s
SONM Songino Array 40.81 51 P **P** 03 41 59.0 +0.6
SONM Songino Array 40.81 51 P **P** 03 41 59.0 +0.6
comp=Z,0.6nm,1.0s,baz=292,slow=7.6,SNR=2.2
comp=Z,0.6nm,1.0s
SENIN Lac Senin/Sane 41.32 307 P **P** 03 42 01.5 -1.3
ARCES ARCESS Array B 42.69 344 P **P** 03 42 14.5 +1.2
comp=Z,7.0nm,1.2s,baz=150,slow=9.8,SNR=4.4
ARCES LR LR 04 02 50.6
comp=Z,36nm,18.2s,baz=274,slow=40
comp=Z,7.0nm,1.2s
NC204 NORSAR Array S 42.88 329 P **P** 03 42 14.7 -0.4
NC204 IAmb IAmb 03 42 25.8
comp=Z,21nm,1.3s
SSB Saint Sauveur 43.20 305 P **P** 03 42 18.2 +0.3
SSB IAmb IAmb 03 42 26.1
comp=Z,15nm,1.5s
SSB Saint Sauveur 43.20 305 P **P** 03 42 18.2 +0.3
SSB pmax pmax
comp=Z,15nm,1.5s
HHC Hu-ho-hao-te 44.45 62 *e*P P 03 42 21.5 -6.6
HHC pmax pmax
comp=Z,22nm,0.5s
HHC pmax pmax
comp=Z,220nm,5.5s
ESK Eskdalemuir 48.63 318 P **P** 03 42 59.1 -1.4
ESK Eskdalemuir 48.63 318 P **P** 03 42 59.1 -1.4
ESK pmax pmax
comp=Z,35nm,1.4s
ESDC Sonseca Array 49.94 298 P **P** 03 43 10.2 -0.6
comp=Z,0.6nm,0.7s,baz=73,slow=7.5,SNR=6.2
comp=Z,0.6nm,0.7s
PVAQ Vaqueiros 53.28 296 P **P** 03 43 33.6 -2.2
PVAQ IAmb IAmb 03 44 08.0
comp=Z,3.9nm,1.0s
MESJ Messejana 53.57 296 P **P** 03 43 35.6 -2.3
MESJ Messejana 53.57 296 P **P** 03 43 35.6 -2.3
MESJ pmax pmax
comp=Z,31nm,1.5s
TOA0 Torodi Ar. Sit 53.96 264 P **P** 03 43 39.2 -1.9
TOA0 IAmb IAmb 03 43 43.2
comp=Z,3.1nm,0.8s
TORD Torodi Ar. Bea 53.96 264 P **P** 03 43 38.9 -2.1
TORD IAmb IAmb 03 43 43.1
comp=Z,2.2nm,0.8s
TORD Torodi Ar. Bea 53.96 264 P **P** 03 43 40.3 -0.8
comp=Z,2.9nm,0.8s,baz=52,slow=8.1,SNR=19
comp=Z,2.9nm,0.8s
KLR Kul'dur 57.52 48 LR LR 04 11 53.0
comp=Z,52nm,19.7s,baz=252,slow=39
BORG Borgarnes 57.72 330 LR LR 04 12 29.3
comp=Z,26nm,19.1s,baz=57,slow=40
DBIC Dimbokro 62.77 261 LR LR 04 13 12.7
comp=Z,33nm,18.1s,baz=103,slow=37
LBTB Lobatse 63.34 212 LR LR 04 11 44.3
comp=Z,30nm,20.5s,baz=20,slow=36
SEY Seymchan 65.20 30 LR LR 04 16 47.6
comp=Z,112nm,18.6s,baz=322,slow=39
MA2 Magadan 65.58 34 LR LR 04 17 12.5
comp=Z,29nm,18.9s,baz=278,slow=39
SUR Sutherland 71.79 212 LR LR 04 19 57.8
comp=Z,65nm,18.4s,baz=33,slow=38
A36M Sachs Harbour 77.39 1 P **P** 03 46 11.2 -0.3
A36M IAmb IAmb 03 46 14.6
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 86.72 356 P **P** 03 47 02.0 +1.4
YKA Yellowknife Ar 86.72 356 P **P** 03 47 01.9 +1.4
comp=Z,0.3nm,0.8s,baz=3.4,slow=5.7,SNR=5.9
YKA LR LR 04 30 56.6
comp=Z,31nm,19.3s,baz=324,slow=39
comp=Z,0.3nm,0.8s
WRA Warramunga Arr 89.52 114 P **P** 03 47 12.2 -2.3
comp=Z,0.5nm,0.8s,baz=318,slow=4.4,SNR=2.7
comp=Z,0.5nm,0.8s
ASAR Alice Springs 91.20 117 P **P** 03 47 19.6 -2.8
comp=Z,0.5nm,0.8s,baz=303,slow=3.2,SNR=4.6
comp=Z,0.5nm,0.8s

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*IDC **25** 03:38:07.9S 1.7,2.37N×95.58E,h0km,mb4.0/9, mbtmp4.0/10,ML4.8/1,Error ellipse: s-maj=71.4km s-min=18.2km az=56.0*
*DJA **25** 03:38:11.6±2.0,3.7N±10.7×9.6E±1.7,h10km,M4.2/3, mb4.6/1,MLv4.0/3*
*NEIC **25** 03:38:14.3± 1.0,2.53N±0.08×95.9E±0.1,h30km±7km, mb4.4/10,Error ellipse: s-maj=20.8km s-min=11.1km az=73.0*

ISC 25 03:38:12.4±0.8,2.51N±0.09×95.8E±0.1,h25km,n44, σ0s75/33,mb4.2/14,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**1.84**	**18**	P		**Pn**	**03 38 41.7**	**-0.8**
GSI	**Gunungsitoli**	**2.12**	**124**			**Pn**	**03 38 46.3**	**+0.1**
GSI	**Gunungsitoli**	**2.12**	**124**	P		**Pn**	**03 38 46.5**	**+0.3**
GSI				S		**Sn**	**03 39 10.8**	**-1.0**
RPSI	**Rantau Prapat**	**3.10**	**86**	Pn		**Pn**	**03 39 00.2**	**+0.5**
PBSI	**Pulau Batu**	**3.53**	**136**	S		**Sn**	**03 39 45.5**	**-1.2**
IPM	**Ipoh**	**5.55**	**69**	Pn		**Pn**	**03 39 33.5**	**0.0**
KULM	**Kulim**	**5.55**	**60**	Pn		**Pn**	**03 39 33.0**	**-0.5**
MNAI	**Manna**	**9.86**	**134**	Pn		**Pn**	**03 40 32.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**16.14**	**11**	Pn		**P**	**03 41 59.1**	**-1.8**
	1.3nm,0.3s,baz=198,slow=12,SNR=7.2							
	2.0nm,0.3s							
H08S2	**Diego Garcia H**	**25.37**	**246**	T		T	04 09 50.6	
	baz=68,slow=76,SNR=16							
H08S3	**Diego Garcia H**	**25.37**	**246**	T		T	04 09 51.3	
	baz=68,slow=76,SNR=440							
H08S1	**Diego Garcia H**	**25.39**	**246**	T		T	04 09 53.8	
	baz=68,slow=76,SNR=6.1							
FITZ	**Fitzroy Crossi**	**35.80**	**126**	P		**P**	**03 45 09.9**	**-0.1**
FITZ						IAmb	IAmb	03 45 32.8
	comp=Z,4.9nm,1.5s							
H01W3	**Cape Leeuwin H**	**40.97**	**157**	T		T	04 29 30.8	
	baz=332,slow=76,SNR=106							
H01W2	**Cape Leeuwin H**	**40.98**	**157**	T		T	04 29 31.7	
	baz=332,slow=76,SNR=116							
H01W1	**Cape Leeuwin H**	**40.99**	**157**	T		T	04 29 32.2	
	baz=332,slow=76,SNR=111							
BJT	**Baijiatuan**	**41.65**	**24**	P		**P**	**03 46 00.3**	**+1.5**
WB0	**Warramunga Arr**	**43.85**	**122**	P		**P**	**03 46 16.8**	**-0.2**
WB0						IAmb	IAmb	03 46 53.6
	comp=Z,6.0nm,1.3s							
WRA	**Warramunga Arr**	**43.89**	**122**	P		**P**	**03 46 17.2**	**-0.1**
WRA	**Warramunga Arr**	**43.89**	**122**	P		**P**	**03 46 17.8**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=298,slow=9.5,SNR=11							
	comp=Z,0.6nm,0.6s							
ASAR	**Alice Springs**	**45.27**	**127**	P		**P**	**03 46 28.3**	**0.0**
ASAR	**Alice Springs**	**45.27**	**127**	P		**P**	**03 46 28.4**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=299,slow=7.9,SNR=14							
	comp=Z,0.5nm,0.5s							
MK31	**Makanchi Array**	**45.66**	**347**	P		**P**	**03 46 31.6**	**+0.5**
MK31						IAmb	IAmb	03 47 12.7
	comp=Z,9.9nm,1.4s							
MKAR	**Makanchi Array**	**45.66**	**347**	P		**P**	**03 46 31.1**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=154,slow=8.8,SNR=19							
	comp=Z,1.7nm,0.5s							
SONM	**Songino Array**	**46.07**	**10**	P		**P**	**03 46 34.1**	**-0.3**
SONM						IAmb	IAmb	03 46 41.7
	comp=Z,3.1nm,0.9s							
SONM	**Songino Array**	**46.07**	**10**	P		**P**	**03 46 34.2**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=188,slow=9.2,SNR=15							
	comp=Z,1.6nm,0.6s							
KK31	**Karatay Array**	**46.29**	**334**	P		**P**	**03 46 36.7**	**+0.6**
KKAR	**Karatay Array**	**46.29**	**334**	P		**P**	**03 46 37.0**	**+0.9**
KURBB	**Kurchatov Arra**	**50.13**	**346**	P		**P**	**03 47 05.9**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=167,slow=6.8,SNR=6.8							
	comp=Z,0.8nm,0.6s							
ZAA0	**Zalesovo Array**	**52.07**	**352**	P		**P**	**03 47 20.5**	**+0.4**
ZAA0						IAmb	IAmb	03 47 21.1
	comp=Z,5.3nm,1.2s							
ZALV	**Zalesovo Beam**	**52.07**	**352**	P		**P**	**03 47 20.1**	**+0.1**
ZALV	**Zalesovo Beam**	**52.07**	**352**	P		**P**	**03 47 20.2**	**+0.2**

comp=Z,1.7nm,0.5s,baz=174,slow=4.5,SNR=8.9
comp=Z,1.7nm,0.5s
USA0B Ussuriysk Arra 52.39 32 P **P** **03 47 23.9 +1.3**
CTAO Charters Tower 54.31 117 P **P** **03 47 37.6 +0.4**
CTAO IAmb IAmb 03 48 18.6
comp=Z,8.3nm,1.5s
BVAR Borovoye Array 54.58 341 P **P** **03 47 38.4 -0.2**
comp=Z,1.9nm,0.8s,baz=138,slow=10,SNR=9.2
comp=Z,1.9nm,0.6s
ABKAR Akbulak array 55.73 332 P **P** **03 47 45.7 -1.2**
AKTO Aktyubinsk 57.44 332 P **P** **03 47 57.8 -1.3**
comp=Z,0.7nm,0.5s,baz=135,slow=7.1,SNR=2.4
comp=Z,0.7nm,0.5s
H04N2 CROZET ISLANDS 62.09 213 T T 04 55 56.7
baz=52,slow=75,SNR=2368
H04N1 CROZET ISLANDS 62.10 213 T T 04 55 57.2
baz=52,slow=75,SNR=1853
H04N3 CROZET ISLANDS 62.11 213 T T 04 55 57.0
baz=52,slow=75,SNR=2004
H04S1 CROZET ISLANDS 62.45 212 T T 04 56 21.1
baz=52,slow=75,SNR=121
H04S3 CROZET ISLANDS 62.47 212 T T 04 56 19.4
baz=52,slow=75,SNR=253
H04S2 CROZET ISLANDS 62.47 212 T T 04 56 23.0
baz=52,slow=75,SNR=145
ARCES ARCESS Array B 80.85 340 P **P** **03 50 23.2 -0.7**
comp=Z,2.4nm,1.0s,baz=98,slow=5.0,SNR=4.5
comp=Z,2.4nm,1.0s

IDC 25 04:03:15.3±2.1, 41°.71N×126°.92E, h0km, mb3.5/1, mbtmp3.2/4, ML2.6/3, Error ellipse: s-maj=35.0km s-min=14.5km az=110.0, North Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**4.32**	**169**	Pn	Pn	04 04 24.1	+1.9
	0.3nm,0.3s,baz=355,slow=13,SNR=2.1						
KSRS				Pg	Pg	04 04 35.9	-2.1
	1.1nm,0.3s,baz=350,slow=18,SNR=8.9						
KSRS				Lg	Lg	04 05 33.7	
	3.6nm,0.3s,baz=349,slow=30,SNR=11						
	0.5nm,0.2s						
I45RU	**USSURIYSK INFR**	**4.47**	**54**	I	I	04 28 50.0	
	0.1nm,0.9s,baz=231,slow=340,SNR=2.1						
USRK	**Ussuriysk Ar.**	**4.48**	**54**	Pn	Pn	04 04 24.3	-0.1
	0.1nm,0.3s,baz=237,slow=16,SNR=1.3						
USRK				Pg	Pb	04 04 35.7	+1.0
	0.4nm,0.3s,baz=239,slow=13,SNR=5.0						
USRK				Lg	Lg	04 05 38.6	
	1.4nm,0.3s,baz=235,slow=27,SNR=8.4						
	1.0nm,0.7s						
KLR	**Kul'dur**	**8.25**	**23**	Pn	Pn	04 05 16.8	+0.7
	0.3nm,0.3s,baz=216,slow=14,SNR=4.5						
KLR				Lg	Lg	04 07 38.4	
	0.1nm,0.3s,baz=218,slow=17,SNR=1.4						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**65.36**	**173**	P	P	04 13 58.3	-1.1
	0.6nm,1.1s,baz=339,slow=6.1,SNR=4.5						
	0.6nm,1.1s						

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*IDC **25** 04:03:20.6±1.2, 30°.70N×57°.36E, h0km, mb3.6/8, mbtmp3.6/10, ML3.2/2, MS2.8/6, Error ellipse: s-maj=25.3km s-min=18.3km az=113.0*
*TEH **25** 04:03:20.4, 30°.79N×57°.35E, h9km±29km, ML3.9*
ISC 25 04:03:23.2±0.7, 30°.74N±0°.04×57°.31E±0°.04, h15km, n40, σ1s06/41, mb3.5/8, MS2.7/3, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRM1	**Kerman Provinc**	**0.23**	**188**	Pg	**Pg**	**04 03 26.7**	**-1.8**
KRM1				Sg	**Sg**	**04 03 31.4**	**-0.8**
ZRDN	**Zarand Kerman**	**0.70**	**289**	Pg	**Pg**	**04 03 34.8**	**-2.1**
KHGB	**Koh Gabri**	**0.80**	**244**	Pg	**Pg**	**04 03 37.2**	**-1.6**
TVBK	**TV Kerman**	**0.89**	**112**	Pg	**Pg**	**04 03 39.5**	**-0.9**
NGRK	**Negar Kerman**	**1.20**	**205**	Pg	**Pn**	**04 03 44.9**	**-0.8**
IBAF	**Bafgh**	**1.72**	**300**	Pg	**Pn**	**04 03 53.0**	**+0.3**
KBAM	**BAM**	**1.88**	**148**	Pn	**Pn**	**04 03 55.2**	**+0.3**
BSRN	**Basiran**	**1.98**	**51**	Pn	**Pn**	**04 03 55.8**	**-0.5**
IKOO	**Kooshah**	**2.22**	**40**	Pn	**Pn**	**04 03 59.6**	**0.0**
TPRV	**Parvadeh(Tabas**	**2.34**	**347**	Pn	**Pn**	**04 04 00.6**	**-0.7**
IMEH	**Mehriz**	**2.40**	**286**	Pn	**Pn**	**04 04 03.0**	**+0.8**
NHDN	**Nehbandan**	**2.44**	**74**	Pn	**Pn**	**04 04 02.3**	**-0.3**
ITEG	**Tejag**	**2.48**	**29**	Pn	**Pn**	**04 04 03.0**	**-0.2**
KHNJ	**Kahnooj**	**2.80**	**173**	Pn	**Pn**	**04 04 09.6**	**+2.1**
TKDS	**Koohdasht(Taba**	**2.87**	**357**	Pn	**Pn**	**04 04 08.0**	**-0.6**
IDAH	**Dahanechah**	**2.96**	**47**	Pn	**Pn**	**04 04 10.0**	**+0.1**
AFRZ	**Afriz**	**3.05**	**28**	Pn	**Pn**	**04 04 10.7**	**-0.2**
TNSJ	**Nastanj**	**3.27**	**350**	Pn	**Pn**	**04 04 13.8**	**-0.2**
ZHDN	**Zahedan**	**3.31**	**113**	Pn	**Pn**	**04 04 14.6**	**-0.1**
SHRT	**Shahrakht**	**3.85**	**40**	Pn	**Pn**	**04 04 21.9**	**0.0**
ANAR	**Anarak**	**3.90**	**310**	Pn	**Pn**	**04 04 23.4**	**+0.6**
IRAM	**Rameshieh**	**4.35**	**285**	Pn	**Pn**	**04 04 30.6**	**+1.6**
IZEF	**Zefreh**	**4.75**	**298**	Pn	**Pn**	**04 04 35.1**	**+0.6**
KRSH	**Karshahi**	**5.44**	**308**	Pn	**Pn**	**04 04 45.1**	**+1.3**
SRVN	**Saravan**	**5.56**	**125**	Pn	**Pn**	**04 04 47.2**	**+1.8**
ISFB	**Sefidab**	**5.59**	**311**	Pn	**Pn**	**04 04 46.8**	**+0.8**
SBZV	**Sabzevar**	**5.64**	**2**	Pn	**Pn**	**04 04 47.4**	**+0.7**
MRVT	**Maraveh tapeh**	**6.98**	**352**	Pn	**Pn**	**04 05 05.0**	**+0.1**
GEYT	**Alibeck**	**7.21**	**5**	Pn	**Pn**	**04 05 09.5**	**+1.5**
	0.2nm,0.3s,baz=171,slow=10,SNR=1.4						
GEYT				Sn	**Sn**	**04 06 31.9**	**+2.3**
	0.9nm,0.3s,baz=186,slow=26,SNR=1.8						
GEYT				Lg	Lg	04 07 12.4	
	0.9nm,0.3s,baz=218,slow=51,SNR=1.4						
GEYT				LR	LR	04 07 28.7	
	comp=Z,25nm,20.6s,baz=173,slow=34						
	1.3nm,0.3s						
WSAR	**Wadi Sarin**	**7.56**	**171**	Pn	**Pn**	**04 05 13.1**	**+0.2**
	0.6nm,0.3s,baz=20,slow=12,SNR=7.9						
WSAR				Sn	**Sn**	**04 06 40.1**	**+1.8**
	baz=233,slow=20						
WSAR				LR	LR	04 08 10.8	
	comp=Z,59nm,19.1s,baz=328,slow=39						
	4.8nm,0.6s						
AKTO	**Aktyubinsk**	**19.68**	**1**	LR	LR	04 17 01.6	
	comp=Z,58nm,18.5s,baz=269,slow=42						
BRTR	**Keskin Array B**	**21.27**	**301**	P	**P**	**04 08 10.2**	**+1.2**
	1.1nm,0.8s,baz=127,slow=14,SNR=4.4						
	1.1nm,0.8s						
BELG	**Belogornoye**	**22.78**	**345**	LR	LR	04 20 02.7	
	comp=Z,24nm,18.5s,baz=121,slow=44						
BVAR	**Borovoye Array**	**24.23**	**19**	P	**P**	**04 08 39.4**	**+0.1**
	0.5nm,0.5s,baz=210,slow=10.0,SNR=1.8						
BVAR				LR	LR	04 18 57.3	
	comp=Z,36nm,18.4s,baz=235,slow=39						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**25.08**	**43**	P	**P**	**04 08 47.2**	**+0.1**
	0.7nm,0.9s,baz=229,slow=9.1,SNR=2.2						
	0.7nm,0.9s						
KURBB	**Kurchatov Arra**	**25.41**	**33**	P	**P**	**04 08 48.7**	**-1.2**
	0.4nm,0.8s,baz=229,slow=8.5,SNR=3.1						
	0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**30.50**	**33**	P	**P**	**04 09 34.9**	**-0.6**
	0.7nm,0.5s,baz=235,slow=8.6,SNR=5.1						
ZALV				LR	LR	04 22 19.8	
	comp=Z,15nm,19.9s,baz=316,slow=37						
	0.7nm,0.5s						
FINES	**FINESS Array B**	**36.89**	**335**	P	**P**	**04 10 30.7**	**-0.2**
	1.1nm,0.6s,baz=111,slow=7.6,SNR=5.0						
	1.1nm,0.6s						
GERES	**GERESS Array B**	**37.47**	**312**	P	**P**	**04 10 36.5**	**+0.4**
	0.9nm,0.7s,baz=115,slow=6.6,SNR=4.1						
	0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**53.94**	**264**	P	**P**	**04 12 45.9**	**-0.7**
	1.0nm,0.8s,baz=50,slow=8.2,SNR=7.7						
	1.0nm,0.8s						

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*NEIC **25** 04:08:35.3±3.2, 41°.91N±0°.03×119°.61W±0°.03, h5km±1km, Error ellipse: s-maj=5.7km s-min=3.5km az=170.0*
REN 25 04:08:36.4±2.7, 41°.88N±0°.02×119°.58W±0°.03, h2km±2km, ML2.7/4, ML2.6/66(NEIC), Error ellipse: s-maj=3.6km s-min=2.8km az=143.0, Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKVW	**Lakeview**	**0.68**	**301**		Pg	04 09 48.8	-0.5
LKVW					Sg	04 08 58.9	+0.7
WVOR	**Wild Horse Val**	**0.89**	**51**		Pg	04 08 53.8	+0.3
WVOR				Sg	Sg	04 09 05.8	+0.8
WVOR				IAML		04 09 09.6	
	129nm,0.5s						
WVOR				IAML		04 09 09.9	
	132nm,0.8s						
PLTX	**Planet X, Gerl**	**1.18**	**176**		Pg	04 08 59.1	+0.2
K05A	**Summer Lake**	**1.29**	**311**		Pg	04 09 00.1	-1.0
K05A					Sg	04 09 16.7	-1.2
K05A				IAML		04 09 21.1	
	comp=E,66nm,0.9s						
K05A				IAML		04 09 21.6	
	comp=N,99nm,0.9s						
LASM	**Arnica Sink**	**1.52**	**260**		Pn	04 09 03.9	-1.0
LASM					Sg	04 09 24.1	-1.2
J08A	**Circle Bar Ran**	**1.69**	**29**		Pn	04 09 07.3	+0.3
J08A				IAML		04 09 32.7	
	comp=N,50nm,0.6s						
J08A				IAML		04 09 33.6	
	comp=E,54nm,0.6s						
LBCM	**Butte Creek Ri**	**1.69**	**233**		Pn	04 09 06.3	-0.8
K04D	**Chiloquin, OR**	**1.78**	**295**	Pn	Pn	04 09 06.8	-1.5
K04D				IAML		04 09 37.1	
	comp=E,82nm,1.1s						
K04D				IAML		04 09 46.3	
	comp=N,84nm,0.7s						
BMRR	**Black Mountain**	**1.85**	**197**		Pn	04 09 08.1	-1.2
J05D	**Fort Rock, OR**	**1.86**	**319**	Pn	Pn	04 09 08.9	-0.5
J05D				IAML		04 09 45.0	
	comp=N,38nm,2.8s						
L04D	**Klamath Falls**	**2.06**	**280**	Pn	Pn	04 09 10.1	-2.0
L04D				IAML		04 09 46.2	
	comp=E,41nm,1.1s						
BEKR	**Beckworth**	**2.10**	**197**		Pb	04 09 15.3	+0.1
PINE	**Pine Mountain**	**2.16**	**333**	Pn	Pn	04 09 12.3	-1.3
PINE				IAML		04 09 27.8	
	comp=E,33nm,4.7s						
PINE				IAML		04 10 12.2	
	comp=N,24nm,3.6s						
PAHR	**Pah Rah Range**	**2.18**	**176**	Pn	Pn	04 09 12.4	-1.4
I07A	**Izee**	**2.20**	**1**	Pn	Pn	04 09 13.6	-0.5
I07A				IAML		04 09 47.0	
	comp=N,35nm,0.6s						
I07A				IAML		04 09 56.2	
	comp=E,24nm,1.5s						
LOY	**Loyalton**	**2.28**	**193**		Pb	04 09 18.8	+0.5
BMN	**Battle Mountai**	**2.29**	**128**		Pn	04 09 15.2	-0.2
YBH	**Yreka Blue Hor**	**2.35**	**267**		Pn	04 09 14.9	-1.2
MPK	**Martis Peak**	**2.61**	**188**	Pn	Pn	04 09 19.2	-0.6
HUMO	**Hull Mountain**	**2.61**	**287**	Pn	Pn	04 09 19.5	-0.1
I05D	**Terrebonne, OR**	**2.77**	**333**	Pn	Pn	04 09 21.3	-0.6
I05D				IAML		04 10 12.1	
	comp=N,34nm,5.0s						
PNTR	**Pine Nut**	**2.79**	**180**	Pn	Pn	04 09 20.4	-1.8
PNTR				IAML		04 10 11.6	
	comp=N,18nm,0.8s						
PNTR				IAML		04 10 13.3	
	comp=E,14nm,0.8s						
YERR	**Yerington**	**2.90**	**175**	Pn	Pn	04 09 21.9	-1.9
YERR				IAML		04 10 10.6	
	comp=N,12nm,1.0s						
YERR				IAML		04 10 19.9	
	comp=E,19nm,3.7s						
DBO	**Dodson Butte**	**2.98**	**296**	Pn	Pn	04 09 24.3	-0.4
KVN	**Kaiserville**	**3.04**	**158**	Pn	Pn	04 09 24.5	-1.2
AFDM	**Forest Hills D**	**3.12**	**200**	Pn	Pn	04 09 26.9	+0.3
K02D	**Willamette Mer**	**3.14**	**286**	Pn	Pn	04 09 27.6	+0.6
MFID	**Camas Ranch**	**3.16**	**60**	Pn	Pn	04 09 26.0	-1.3
MFID				IAML		04 10 18.7	
	comp=E,25nm,0.4s						
MFID				IAML		04 10 20.4	
	comp=E,24nm,0.6s						
I03D	**Drain, OR**	**3.32**	**304**	Pn	Pn	04 09 28.2	-1.0
RYN	**Ryan**	**3.35**	**166**	Pn	Pn	04 09 28.8	-1.1
RYN				IAML		04 10 32.0	
	comp=N,8.4nm,1.1s						
RYN				IAML		04 10 32.6	
	comp=E,9.3nm,1.9s						
BMO	**Blue Mountains**	**3.40**	**28**	Pn	Pn	04 09 30.9	+0.3
BMO				IAML		04 10 58.2	
	comp=E,8.3nm,5.0s						
BUCK	**Buck Mountain**	**3.41**	**314**	Pn	Pn	04 09 30.2	-0.5
G08A	**Pilot Rock**	**3.44**	**7**	Pn	Pn	04 09 31.0	-0.1
G08A				IAML		04 10 22.8	
	comp=E,10nm,4.4s						
G08A				IAML		04 11 38.0	
	comp=N,9.0nm,4.5s						
G06A	**Carlson Farm,**	**3.44**	**347**	Pn	Pn	04 09 31.3	+0.2
G06A				IAML		04 10 18.5	
	comp=E,16nm,4.5s						
G06A				IAML		04 11 17.4	
	comp=N,15nm,3.6s						
LHV	**Little Huntoon**	**3.72**	**167**	Pn	Pn	04 09 35.3	+0.5
LHV				IAML		04 10 37.3	
	comp=N,12nm,3.2s						
LHV				IAML		04 10 56.5	
	comp=E,14nm,4.0s						
HLID	**Hailey**	**4.16**	**64**	Pn	Pn	04 09 38.3	-2.7
HLID				IAML		04 10 51.4	
	comp=E,9.4nm,0.8s						
HLID				IAML		04 11 08.6	
	comp=E,7.7nm,4.7s						
TPH	**Tonopah**	**4.21**	**154**	Pn	Pn	04 09 39.7	-2.1
BGU	**Big Grassy Mou**	**5.02**	**99**	Pn	Pn	04 09 50.4	-2.4
BGU				IAML		04 12 29.5	
	comp=N,6.1nm,4.5s						
BPMT	**Black Pine Rid**	**6.34**	**42**	Pn	Pn	04 10 12.2	+1.2

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*IDC **25** 04:49:59.7±0.6, 3°.49S×131°.37E, h0km, mb4.3/13, mbtmp4.3/14, ML2.6/1, MS3.5/10, Error ellipse: s-maj=38.8km s-min=13.6km az=65.0*
*DJA **25** 04:50:05.0±0.2, 3°.5±3°×13°.1E±°, h58km±7km, M4.3/9, mb4.4/5, MLv4.2/9*
*NEIC **25** 04:50:05.7±2.0, 3°.61S±0°.07×131°.28E±0°.07, h35km±7km, mb4.5/29, Error ellipse: s-maj=14.0km s-min=3.0km az=137.0*
ISC 25 04:50:03.2±0.4, 3°.61S±0°.05×131°.29E±0°.04, h24km, n104, σ1s87/99, mb4.4/21, MS3.4/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.18**	**54**		**Pn**	**04 50 24.8**	**+0.5**
FAKI	**Fak Fak**	**1.18**	**54**	P	**Pn**	**04 50 25.3**	**+1.1**
FAKI	**Fak Fak**	**1.18**	**54**	P	**Pn**	**04 50 24.5**	**+0.2**
FAKI				S	**Sn**	**04 50 38.9**	**-0.7**
BNDI	**Bandanaira**	**1.65**	**237**	P	**Pn**	**04 50 30.7**	**-0.1**
BNDI	**Bandanaira**	**1.65**	**237**	P	**Pb**	**04 50 32.9**	**-0.1**
BNDI				S	**Sb**	**04 50 56.1**	**+2.7**
KMPI	**Kaimana, Papua**	**2.41**	**91**	P	**Pn**	**04 50 42.3**	**+1.1**
KMPI				S	**Sn**	**04 51 09.9**	**-0.1**
SWI	**Sorong**	**2.73**	**359**	P	**Pn**	**04 50 44.7**	**-0.9**
NLAI	**Namlea**	**4.20**	**275**	P	**Pn**	**04 51 07.3**	**+1.5**
SAUI	**Saumlaki**	**4.34**	**180**	Pn	**Pn**	**04 51 08.5**	**+0.7**
SAUI	**Saumlaki**	**4.34**	**180**	P	**Pn**	**04 51 10.9**	**+3.1**
LBMI	**Labuha**	**4.80**	**308**	P	**Pn**	**04 51 12.8**	**-1.3**
SANI	**Sanana**	**5.52**	**286**	P	**Pn**	**04 51 22.9**	**-1.1**
SANI	**Sanana**	**5.52**	**286**	P	**Pn**	**04 51 22.1**	**-1.9**
	25nm,0.5s,0.2nm						
LUWI	**Luwuk**	**8.88**	**286**	P	Pn	04 52 26.1	+16
KDU	**Kakadu**	**9.09**	**173**	P	**Pn**	**04 52 12.6**	**-0.5**
MTN	**Manton Dam**	**9.18**	**181**	Pn	**Pn**	**04 52 14.2**	**0.0**
MTN	**Manton Dam**	**9.18**	**181**	P	**Pn**	**04 52 13.9**	**-0.3**
SOEI	**Soe**	**9.27**	**228**	Pn	**Pn**	**04 52 15.5**	**-0.1**
SOEI	**Soe**	**9.27**	**228**	P	**Pn**	**04 52 19.9**	**+4.3**
	88nm,1.4s						
EDFI	**Ende, Flores**	**10.82**	**241**	P	**Pn**	**04 52 39.6**	**+2.7**
	16nm,1.1s						
KNRA	**Kununurra**	**12.25**	**192**	Pn	**Pn**	**04 52 53.8**	**-2.5**
PLAI	**Plampang**	**14.39**	**248**	P	**Pn**	**04 53 25.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**15.43**	**201**	Pn	**Pn**	**04 53 36.4**	**-3.1**
FITZ	**Fitzroy Crossi**	**15.43**	**201**	P	**Pn**	**04 53 36.9**	**-2.6**
WB0	**Warramunga Arr**	**16.34**	**170**	Pn	**Pn**	**04 53 46.4**	**-4.9**
WB0				IAmb	IAmb	04 53 55.5	
	comp=Z,18nm,0.9s						
WRAB	**Tennant Creek**	**16.50**	**170**	Pn	**Pn**	**04 53 48.3**	**-4.9**
WRA	**Warramunga Arr**	**16.50**	**170**	Pn	**Pn**	**04 53 48.2**	**-5.1**
WRA	**Warramunga Arr**	**16.50**	**170**	P	**Pn**	**04 53 48.6**	**-4.7**
	comp=Z,0.6nm,0.3s,baz=348,slow=13,SNR=22						
WRA				Sn	Sn	04 56 45.0	-11
	comp=Z,1.2nm,0.3s,baz=354,slow=23,SNR=9.5						
WB2	**Warramunga Arr**	**16.51**	**170**	Pn	**Pn**	**04 53 48.5**	**-4.8**
WR0	**Warramunga Arr**	**16.56**	**169**	Pn	**Pn**	**04 53 50.3**	**-3.7**
PMG	**Port Moresby**	**16.78**	**111**	Pn	**Pn**	**04 53 55.3**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=321,slow=14,SNR=1.7						
	comp=Z,4.7nm,0.5s						
JAGI	**Jajag, Banyuwa**	**17.71**	**253**	Pn	**Pn**	**04 54 07.8**	**-0.7**
JAGI				IAmb	IAmb	04 54 20.5	
	comp=Z,39nm,1.2s						
JAGI	**Jajag, Banyuwa**	**17.71**	**253**	P	**Pn**	**04 54 08.2**	**-0.3**
KKM	**Kota Kinabalu**	**17.85**	**302**	P	**P**	**04 54 11.9**	**+1.1**
QIS	**Mount Isa**	**18.69**	**155**	P	**P**	**04 54 20.9**	**+0.9**
AS31	**Alice Springs**	**20.10**	**173**	P	**P**	**04 54 37.0**	**+1.6**
AS31					IAmb	IAmb	04 54 42.8
	comp=Z,11nm,0.4s						
ASAR	**Alice Springs**	**20.10**	**173**	P	**P**	**04 54 37.1**	**+1.7**
ASAR	**Alice Springs**	**20.10**	**173**	P	**P**	**04 54 36.4**	**+1.0**
	comp=Z,15nm,0.7s,baz=355,slow=11,SNR=204						
ASAR					S	**S**	**04 58 14.0**	**-6.2**
	comp=Z,1.3nm,0.5s,baz=357,slow=27,SNR=4.5						
	comp=Z,15nm,0.7s						
AS01	**Alice Springs**	**20.10**	**173**	P	**P**	**04 54 36.3**	**+0.9**
MBWA	**Marble Bar**	**20.75**	**212**	P	**P**	**04 54 40.8**	**-1.6**
MBWA					IAmb	IAmb	04 54 48.9
	comp=Z,12nm,1.1s						
MBWA	**Marble Bar**	**20.75**	**212**	P	**P**	**04 54 41.2**	**-1.3**
PSA00	**Pilbara Seismi**	**21.03**	**211**	P	**P**	**04 54 43.5**	**-2.0**
PSA00					IAmb	IAmb	04 54 48.9
	comp=Z,32nm,1.4s						
PSA00	**Pilbara Seismi**	**21.03**	**211**	P	**P**	**04 54 44.7**	**-0.8**
WRKA	**Warakurna**	**21.50**	**187**	P	**P**	**04 54 51.3**	**+0.8**
GUMO	**Guam**	**21.76**	**38**	LR	LR	05 03 35.0	
	comp=Z,56nm,18.5s,baz=140,slow=38						
CTA	**Charters Tower**	**21.93**	**139**	P	**P**	**04 54 56.9**	**+1.7**
	comp=Z,8.6nm,0.8s,baz=320,slow=11,SNR=14						
CTA					LR	LR	05 04 54.2
	comp=Z,126nm,19.2s,baz=287,slow=41						
	comp=Z,8.6nm,0.8s						
CTAO	**Charters Tower**	**21.93**	**139**	P	**P**	**04 54 53.7**	**-1.5**
CTAO					IAmb	IAmb	04 54 57.8
	comp=Z,9.5nm,0.8s						
OOD	**Oodnadatta**	**24.41**	**171**	P	**P**	**04 55 21.4**	**+1.4**
INKA	**Innaminka**	**25.64**	**160**	P	**P**	**04 55 33.2**	**+2.1**
MEEK	**Meekatharra**	**25.92**	**207**	P	**P**	**04 55 32.6**	**-1.1**
MULG	**Mulgathing**	**26.66**	**175**	P	**P**	**04 55 41.2**	**+0.9**
FORT	**Forest**	**27.20**	**186**	P	**P**	**04 55 45.6**	**+0.4**
FORT	**Forest**	**27.20**	**186**	P	**P**	**04 55 46.1**	**+0.9**
LCRK	**Leigh Creek**	**27.48**	**167**	P	**P**	**04 55 49.6**	**+1.8**
TWGBT	**Beinan**	**28.10**	**340**	P	**P**	**04 55 54.7**	**+1.4**
KMBL	**Kambalda**	**29.00**	**197**	P	**P**	**04 56 01.0**	**-0.3**
HNR	**Honiara**	**29.04**	**103**	LR	LR	05 08 37.6	
	comp=Z,537nm,21.2s,baz=320,slow=39						
MORW	**Morawa**	**29.17**	**208**	P	**P**	**04 56 01.6**	**-1.2**
MORW					IAmb	IAmb	04 56 01.6
	comp=Z,7.8nm,1.2s						
MORW	**Morawa**	**29.17**	**208**	P	**P**	**04 56 03.5**	**+0.7**
BBOO	**Buckleboo**	**29.39**	**172**	P	**P**	**04 56 04.9**	**+0.1**
BBOO					IAmb	IAmb	04 56 33.0
	comp=Z,34nm,1.5s						
BBOO	**Buckleboo**	**29.39**	**172**	P	**P**	**04 56 05.3**	**+0.6**
STKA	**Stephens Creek**	**29.74**	**162**	P	**P**	**04 56 08.8**	**+1.0**
STKA	**Stephens Creek**	**29.74**	**162**	P	**P**	**04 56 09.0**	**+1.1**
STKA	**Stephens Creek**	**29.74**	**162**	P	**P**	**04 56 09.1**	**+1.3**
	comp=Z,2.5nm,0.7s,baz=335,slow=11,SNR=7.6						
	comp=Z,2.5nm,0.7s						
BLDU	**Ballidu**	**30.18**	**206**	P	**P**	**04 56 11.7**	**-0.1**
JOW	**Kunigami**	**30.40**	**355**	LR	LR	05 07 55.7	
	comp=Z,107nm,21.2s,baz=305,slow=36						
CMSA	**Cobar Meteorol**	**30.91**	**156**	P	**P**	**04 56 19.9**	**+1.7**
MUN	**Mundaring**	**31.58**	**205**	P	**P**	**04 56 24.4**	**+0.3**
NWAO	**Narrogin (SRO)**	**32.00**	**203**	P	**P**	**04 56 27.2**	**-0.6**
NWAO					IAmb	IAmb	04 56 54.6
	comp=Z,21nm,1.4s						
JCJ	**Chichijima**	**32.29**	**18**	LR	LR	05 08 11.5	
	comp=Z,78nm,18.9s,baz=116,slow=34						
CAN	**Canberra**	**35.56**	**155**	P	**P**	**04 57 01.1**	**+2.3**
CAN	**Canberra**	**35.56**	**155**	P	**P**	**04 57 01.0**	**+2.2**
JNU	**Nakatsue**	**36.53**	**359**	LR	LR	05 13 58.5	
	comp=Z,45nm,18.2s,baz=178,slow=40						
CMAR	**Chiang Mai Arr**	**38.68**	**306**	P	**P**	**04 57 26.2**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=131,slow=7.4,SNR=8.9						
	comp=Z,1.8nm,0.5s						
MJAR	**Matsushiro Arr**	**40.46**	**9**	LR	LR	05 13 46.5	
	comp=Z,58nm,18.6s,baz=180,slow=35						
KSRS	**Korea Array**	**40.98**	**356**	LR	LR	05 15 01.7	
	comp=Z,34nm,19.5s,baz=175,slow=37						
MLZ	**Mawora Lakes**	**52.59**	**148**	P	**P**	**04 59 15.9**	**+0.8**
MCQ	**Macquarie Isla**	**55.50**	**161**	P	**P**	**04 59 35.0**	**-1.1**
SONM	**Songino Array**	**55.69**	**340**	P	**P**	**04 59 37.9**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=160,slow=6.3,SNR=5.8						
	comp=Z,0.4nm,0.4s						
PETK	**Petropavlovsk-**	**60.73**	**18**	LR	LR	05 22 44.2	
	comp=Z,22nm,22.0s,baz=194,slow=32						
MK31	**Makanchi Array**	**66.14**	**325**	P	**P**	**05 00 49.0**	**+0.2**
MK31					IAmb	IAmb	05 00 50.0
	comp=Z,2.6nm,0.9s						
MKAR	**Makanchi Array**	**66.14**	**325**	P	**P**	**05 00 48.7**	**-0.1**
MKAR	**Makanchi Array**	**66.14**	**325**	P	**P**	**05 00 49.0**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=122,slow=7.8,SNR=15						
	comp=Z,2.9nm,0.8s						
AMKA	**Amchitka**	**68.30**	**30**	P	**P**	**05 01 02.0**	**-0

RUGZ	**Raukumara Rang**	**1.34**	**240**	P	**Pn**	**04 52 21.0**	**+0.7**
RUGZ				S	**Sb**	**04 52 37.0**	**-0.9**
CNGZ	**Carnagh Statio**	**1.39**	**212**	P	**Pn**	**04 52 22.7**	**+1.7**
MWZ	**Matawai**	**1.64**	**231**	P	**Pn**	**04 52 25.0**	**+0.5**
RIGZ	**Rimuhau**	**1.77**	**217**	P	**Pn**	**04 52 25.0**	**-1.4**
RAGZ	**Rawiri**	**1.81**	**228**	P	**Pn**	**04 52 26.4**	**-0.4**
URZ	**Urewera**	**1.87**	**239**	P	**Pn**	**04 52 28.0**	**+0.5**
URZ	**Urewera**	**1.87**	**239**	P	**Pn**	**04 52 28.1**	**+0.5**
SNGZ	**Shannon Statio**	**2.05**	**223**	P	**Pn**	**04 52 30.4**	**+0.3**
KNZ	**Kokohu**	**2.07**	**213**	P	**Pn**	**04 52 30.1**	**-0.3**
MHGZ	**Mahia Peninsul**	**2.09**	**207**	P	**Pn**	**04 52 31.3**	**+0.7**
RTZ	**Ruatahuna**	**2.15**	**232**	P	**Pn**	**04 52 32.4**	**+0.8**
RAHZ	**Arahi**	**2.29**	**225**	P	**Pn**	**04 52 33.6**	**+0.3**
TARZ	**Mount Tarawera**	**2.29**	**245**	P	**Pn**	**04 52 34.1**	**+0.7**
WHHZ	**Waihua**	**2.32**	**220**	P	**Pn**	**04 52 33.9**	**+0.1**
MTHZ	**Maungataniwha**	**2.38**	**229**	P	**Pn**	**04 52 35.3**	**+0.6**
NMHZ	**Naumai**	**2.57**	**225**	P	**Pn**	**04 52 37.5**	**+0.2**
ARHZ	**Aropaoanui**	**2.58**	**220**	P	**Pn**	**04 52 37.6**	**+0.2**
MRHZ	**Matea Rd**	**2.64**	**234**	P	**Pn**	**04 52 38.3**	**+0.1**
KUZ	**Kuaotunu**	**2.79**	**280**	P	**Pn**	**04 52 39.6**	**-0.7**
BKZ	**Black Stump Fm**	**2.79**	**227**	P	**Pn**	**04 52 40.5**	**+0.1**
BKZ	**Black Stump Fm**	**2.79**	**227**	P	**Pn**	**04 52 40.4**	**0.0**
MCHZ	**McNeill Hill**	**2.87**	**221**	P	**Pn**	**04 52 41.2**	**-0.2**
KWHZ	**Kaweka Forest**	**3.01**	**224**	P	**Pn**	**04 52 42.7**	**-0.7**
KAHZ	**Kahuranaki**	**3.06**	**215**	P	**Pn**	**04 52 43.1**	**-0.8**
KRHZ	**Kereru**	**3.19**	**222**	P	**Pn**	**04 52 44.8**	**-1.0**
TMVZ	**Te Maari**	**3.26**	**235**	P	**Pn**	**04 52 46.6**	**-0.1**
BHHZ	**Black Hill Sta**	**3.26**	**227**	P	**Pn**	**04 52 46.2**	**-0.5**
ETVZ	**East Tongariro**	**3.26**	**235**	P	**Pn**	**04 52 46.4**	**-0.5**
NTVZ	**North Tongarir**	**3.27**	**236**	P	**Pn**	**04 52 46.7**	**-0.2**
KRVZ	**Karewarewa**	**3.29**	**236**	P	**Pn**	**04 52 47.0**	**-0.2**
NNVZ	**North Ngauruho**	**3.32**	**236**	P	**Pn**	**04 52 47.7**	**-0.1**
SNVZ	**South Ngauruho**	**3.34**	**235**	P	**Pn**	**04 52 47.4**	**-0.5**
NGZ	**Ngauruhoe**	**3.36**	**235**	P	**Pn**	**04 52 47.8**	**-0.4**
WNVZ	**Wahianoa**	**3.44**	**233**	P	**Pn**	**04 52 49.1**	**-0.3**
PNHZ	**Pukenui**	**3.48**	**221**	P	**Pn**	**04 52 48.4**	**-1.4**
HIZ	**Hauiti**	**3.60**	**249**	P	**Pn**	**04 52 52.4**	**+1.0**
HIZ	**Hauiti**	**3.60**	**249**	P	**Pn**	**04 52 52.3**	**+1.0**
BFZ	**Birch Farm**	**4.06**	**213**	P	**Pn**	**04 52 55.7**	**-2.0**
WCZ	**Waipu Caves**	**4.09**	**288**	P	**Pn**	**04 52 58.1**	**0.0**
MRZ	**Mangatainoka R**	**4.35**	**219**	P	**Pn**	**04 52 59.3**	**-2.4**
OUZ	**Omahuta**	**4.94**	**293**	P	**Pn**	**04 53 10.3**	**+0.5**
OUZ	**Omahuta**	**4.94**	**293**	P	**Pn**	**04 53 09.7**	**0.0**

TEH 25 04:59:04.8, 30.72N×57.29E, h12km±64km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.21**	**183**	Pg	Pg	04 59 09.8	+0.2
ZRDN	**Zarand Kerman**	**0.69**	**291**	Pg	Pg	04 59 18.3	0.0
KHGB	**Koh Gabri**	**0.78**	**244**	Pg	Pb	04 59 20.5	+0.1
KHGB				Sg	Sb	04 59 31.8	+0.8
TVBK	**TV Kerman**	**0.86**	**212**	Pg	Pn	04 59 22.5	-0.6
NGRK	**Negar Kerman**	**1.17**	**204**	Pg	Pg	04 59 28.1	+0.7
IBAF	**Bafgh**	**1.71**	**301**	Pg	Pg	04 59 37.1	-0.5
KBAM	**BAM**	**1.87**	**147**	Pn	Pb	04 59 38.0	-1.1
BSRN	**Basiran**	**2.01**	**51**	Pn	Pn	04 59 39.4	+0.8
IKOO	**Kooshah**	**2.25**	**40**	Pn	Pn	04 59 42.7	+0.6
TPRV	**Parvadeh(Tabas**	**2.36**	**348**	Pn	Pn	04 59 45.2	+1.8
IMEH	**Mehriz**	**2.39**	**287**	Pn	Pb	04 59 46.5	-1.4
NHDN	**Nehbandan**	**2.47**	**73**	Pn	Pn	04 59 46.6	+1.6
ITEG	**Tejag**	**2.50**	**29**	Pn	Pn	04 59 47.4	+1.8
KHNJ	**Kahnooj**	**2.78**	**172**	Pn	Pn	04 59 51.4	+2.2
TKDS	**Koohdasht(Taba**	**2.89**	**357**	Pn	Pn	04 59 52.6	+1.8
ICHK	**Chekchek**	**2.89**	**303**	Pn	Pb	04 59 53.9	-2.5
AFRZ	**Afriz**	**3.07**	**28**	Pn	Pn	04 59 54.8	+1.5
IMON	**Monand**	**3.19**	**39**	Pn	Pn	04 59 56.6	+1.5
TNSJ	**Nastanj**	**3.29**	**350**	Pn	Pn	04 59 58.1	+1.9
ZHDN	**Zahedan**	**3.33**	**112**	Pn	Pn	04 59 58.4	+1.6
SHRT	**Shahrakht**	**3.88**	**40**	Pn	Pn	05 00 06.1	+1.8
ANAR	**Anarak**	**3.90**	**310**	Pn	Pn	05 00 07.9	+3.2
IRAM	**Ramesheh**	**4.34**	**286**	Pn	Pn	05 00 13.6	+2.9
IZEF	**Zefreh**	**4.75**	**299**	Pn	Pn	05 00 18.7	+2.3
ISFB	**Sefidab**	**5.59**	**312**	Pn	Pn	05 00 30.4	+2.5

*WEL **25** 05:06:06.1±0.3, 39˚S±4˚×17˚5E±˚, h16km±4km, M4.0/31, ML4.4/30, MLv4.0/31, Error ellipse: s-maj=0.0km s-min=0.0km az=176.8, confirmed*
*NOU **25** 05:06:07.5, 39˚.16S×174˚.86E, h40km, MLv3.8/11, North Island, New Zealand*
ISC 25 05:06:06.6±0.9, 39˚22S±0˚.02×174˚99E±0˚.02, h28km±7km, n167, σ0s87/182, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.21**	**299**	P	**Pb**	**05 06 12.7**	**+0.1**
VRZ				S	**Sb**	**05 06 17.8**	**+1.1**
PKVZ	**Pokaka**	**0.28**	**103**	P	**Pb**	**05 06 13.4**	**-0.2**
PKVZ				S	**Sb**	**05 06 18.5**	**+0.1**
TWVZ	**Taurewa**	**0.38**	**66**	P	**Pb**	**05 06 14.8**	**-0.3**
MTVZ	**Mangateitei**	**0.40**	**114**	P	**Pb**	**05 06 15.0**	**-0.4**
MTVZ				S	**Sb**	**05 06 21.2**	**-0.2**
COVZ	**Chateau Observ**	**0.43**	**87**	P	**Pb**	**05 06 15.6**	**-0.2**
FWVZ	**Far West T-bar**	**0.44**	**94**	P	**Pb**	**05 06 15.8**	**-0.3**
FWVZ				S	**Sb**	**05 06 22.5**	**0.0**
TRVZ	**Turoa**	**0.44**	**100**	P	**Pb**	**05 06 15.8**	**-0.3**
TRVZ				S	**Sb**	**05 06 22.0**	**-0.5**
MAVZ	**Matarangi**	**0.44**	**96**	P	**Pb**	**05 06 16.0**	**-0.3**
MAVZ				S	**Sb**	**05 06 22.5**	**-0.3**
WHVZ	**Whangaehu Hut**	**0.47**	**97**	P	**Pb**	**05 06 16.2**	**-0.3**
WHVZ				S	**Sb**	**05 06 22.7**	**-0.6**
NGZ	**Ngauruhoe**	**0.48**	**84**	P	**Pb**	**05 06 16.4**	**-0.2**
NGZ				S	**Sb**	**05 06 23.5**	**+0.1**
WTVZ	**West Tongariro**	**0.48**	**77**	P	**Pb**	**05 06 16.4**	**-0.2**
WTVZ				S	**Sb**	**05 06 23.4**	**0.0**
WNVZ	**Wahianoa**	**0.48**	**103**	P	**Pb**	**05 06 16.5**	**-0.2**
WNVZ				S	**Sb**	**05 06 23.2**	**-0.4**
NNVZ	**North Ngauruho**	**0.49**	**79**	P	**Pb**	**05 06 16.7**	**-0.1**
NNVZ				S	**Sb**	**05 06 23.8**	**+0.1**
SNVZ	**South Ngauruho**	**0.51**	**86**	P	**Pb**	**05 06 17.0**	**-0.1**
LREZ	**Lake Rotokare**	**0.51**	**243**	P	**Pb**	**05 06 17.0**	**-0.1**
LREZ				S	**Sn**	**05 06 25.7**	**-0.2**
TUVZ	**Tukino**	**0.52**	**95**	P	**Pb**	**05 06 17.3**	**0.0**
KRVZ	**Karewarewa**	**0.52**	**76**	P	**Pb**	**05 06 17.1**	**-0.2**
KRVZ				S	**Sb**	**05 06 24.8**	**+0.2**
OTVZ	**Oturere**	**0.53**	**84**	P	**Pb**	**05 06 17.4**	**0.0**
OTVZ				S	**Sb**	**05 06 25.1**	**+0.2**
WAZ	**Wanganui**	**0.53**	**181**	P	**Pb**	**05 06 17.0**	**-0.4**
MHEZ	**Mangahewa**	**0.54**	**286**	P	**Pb**	**05 06 17.9**	**+0.3**
NTVZ	**North Tongarir**	**0.55**	**77**	P	**Pb**	**05 06 17.6**	**-0.1**
NTVZ				S	**Sb**	**05 06 25.2**	**-0.1**
TMVZ	**Te Maari**	**0.56**	**79**	P	**Pb**	**05 06 18.0**	**0.0**
ETVZ	**East Tongariro**	**0.56**	**81**	P	**Pb**	**05 06 18.0**	**0.0**
KATZ	**Kakaramea**	**0.60**	**66**	P	**Pb**	**05 06 18.6**	**-0.1**
DREZ	**Durham Road**	**0.62**	**273**	P	**Pb**	**05 06 18.9**	**+0.1**
MOVZ	**Moawhango**	**0.62**	**107**	P	**Pb**	**05 06 18.7**	**-0.4**
PREZ	**Palmer Road**	**0.66**	**259**	P	**Pb**	**05 06 19.7**	**+0.2**
NEZ	**North Egmont**	**0.70**	**266**	P	**Pb**	**05 06 20.1**	**-0.1**
RATZ	**Rangitukua**	**0.70**	**60**	P	**Pb**	**05 06 20.3**	**-0.1**
HIZ	**Hauiti**	**0.72**	**351**	P	**Pb**	**05 06 20.7**	**-0.2**
HIZ	**Hauiti**	**0.72**	**351**	P	**Pb**	**05 06 20.5**	**0.0**
RITZ	**Rihia Road**	**0.72**	**70**	P	**Pb**	**05 06 20.7**	**+0.1**
KHEZ	**Kahui Hut**	**0.76**	**264**	P	**Pn**	**05 06 21.8**	**+0.2**
KHEZ	**Kahui Hut**	**0.76**	**264**	P	**Pb**	**05 06 21.4**	**+0.1**
WATZ	**Wairara**	**0.77**	**49**	P	**Pb**	**05 06 21.3**	**-0.2**
PKE	**Pukeiti**	**0.78**	**272**	P	**Pb**	**05 06 21.6**	**0.0**
BHHZ	**Black Hill Sta**	**0.87**	**108**	P	**Pb**	**05 06 22.2**	**-1.0**
NBEZ	**Newall Road No**	**0.87**	**267**	P	**Pb**	**05 06 23.0**	**-0.1**
NMEZ	**Namu Road**	**0.89**	**257**	P	**Pb**	**05 06 23.2**	**-0.1**
HATZ	**Hinemaiaia**	**0.92**	**69**	P	**Pb**	**05 06 23.5**	**-0.4**
WHTZ	**Whakaora**	**0.94**	**54**	P	**Pn**	**05 06 24.9**	**+1.0**
KUTZ	**Kaahu Road**	**0.98**	**42**	P	**Pb**	**05 06 24.4**	**-0.6**
TLZ	**Tolley Road**	**0.99**	**26**	P	**Pb**	**05 06 24.1**	**-1.0**
POIZ	**Poihipi**	**1.01**	**54**	P	**Pb**	**05 06 26.4**	**+1.0**
OHWZ	**Ohakea**	**1.01**	**166**	P	**Pn**	**05 06 24.9**	**0.0**
ARAZ	**Aratiatia Land**	**1.06**	**56**	P	**Pb**	**05 06 26.7**	**+0.4**
TSZ	**Takapari Road**	**1.12**	**138**	P	**Pn**	**05 06 26.7**	**+0.2**
KWHZ	**Kaweka Forest**	**1.13**	**101**	P	**Pn**	**05 06 26.6**	**+0.1**
KRHZ	**Kereru**	**1.15**	**112**	P	**Pn**	**05 06 27.0**	**+0.2**
WPRZ	**Whakapapatarin**	**1.15**	**53**	P	**Pn**	**05 06 27.1**	**+0.2**
PNHZ	**Pukenui**	**1.16**	**127**	P	**Pn**	**05 06 27.0**	**0.0**
BKZ	**Black Stump Fm**	**1.17**	**88**	P	**Pb**	**05 06 28.4**	**+0.3**
BKZ	**Black Stump Fm**	**1.17**	**88**	P	**Pn**	**05 06 27.4**	**+0.3**
MRHZ	**Matea Rd**	**1.18**	**71**	P	**Pn**	**05 06 27.1**	**-0.1**
GRRZ	**Galatos Road**	**1.23**	**45**	P	**Pn**	**05 06 28.0**	**0.0**
ALRZ	**Allen Road**	**1.24**	**58**	P	**Pn**	**05 06 28.3**	**+0.2**
HRRZ	**Handcock Road**	**1.31**	**51**	P	**Pb**	**05 06 29.9**	**-0.6**
POWZ	**Post Office Ro**	**1.31**	**153**	P	**Pn**	**05 06 29.7**	**+0.7**
PRRZ	**Plateau Road**	**1.31**	**57**	P	**Pb**	**05 06 30.4**	**-0.1**
HSRZ	**Hossack Road**	**1.34**	**47**	P	**Pb**	**05 06 31.1**	**+0.1**
MCHZ	**McNeill Hill**	**1.34**	**100**	P	**Pb**	**05 06 31.4**	**+0.4**
WPHZ	**Waipukurau**	**1.40**	**127**	P	**Pb**	**05 06 31.9**	**-0.1**
DVHZ	**Dannevirke**	**1.40**	**140**	P	**Pb**	**05 06 31.7**	**-0.4**
UTU	**Utuhina**	**1.41**	**42**	P	**Pb**	**05 06 32.7**	**+0.5**
NMHZ	**Naumai**	**1.42**	**85**	P	**Pb**	**05 06 33.0**	**+0.7**
HLRZ	**Highlands Stat**	**1.44**	**48**	P	**Pb**	**05 06 33.4**	**+0.7**
NGRZ	**Ngongotaha**	**1.46**	**40**	P	**Pb**	**05 06 33.1**	**0.0**
RRRZ	**Republican Roa**	**1.48**	**54**	P	**Pb**	**05 06 33.8**	**+0.3**
MTHZ	**Maungataniwha**	**1.49**	**76**	P	**Pb**	**05 06 33.3**	**-0.2**
MRZ	**Mangatainoka R**	**1.50**	**163**	P	**Pn**	**05 06 32.3**	**+0.6**
PRWZ	**Pori Road**	**1.53**	**151**	P	**Pb**	**05 06 33.8**	**-0.4**
TARZ	**Mount Tarawera**	**1.54**	**51**	P	**Pb**	**05 06 35.6**	**+1.1**
TOZ	**Tahuroa Road**	**1.54**	**15**	P	**Pn**	**05 06 31.8**	**-0.4**
KARZ	**Kaharoa**	**1.55**	**40**	P	**Pb**	**05 06 34.9**	**+0.3**
OMRZ	**Omania**	**1.55**	**44**	P	**Pb**	**05 06 35.5**	**+0.8**
ARHZ	**Aropaoanui**	**1.56**	**92**	P	**Pb**	**05 06 34.8**	**+0.2**
KAHZ	**Kahuranaki**	**1.56**	**112**	P	**Pb**	**05 06 35.7**	**+0.8**
MUGZ	**Murupara**	**1.58**	**62**	P	**Pb**	**05 06 35.0**	**0.0**
OGWZ	**Otaki Gorge**	**1.60**	**175**	P	**Pn**	**05 06 33.3**	**+0.3**
KIW	**Kapiti Island**	**1.64**	**182**	P	**Pn**	**05 06 33.6**	**+0.1**
PRHZ	**Porangahau**	**1.64**	**130**	P	**Pb**	**05 06 35.4**	**-0.7**
PXZ	**Pawanui**	**1.65**	**120**	P	**Pb**	**05 06 37.7**	**+1.4**
RAHZ	**Arahi**	**1.66**	**80**	P	**Pb**	**05 06 36.6**	**+0.2**
RTZ	**Ruatahuna**	**1.67**	**69**	P	**Pb**	**05 06 37.6**	**+1.0**
CKHZ	**Cape Kidnapper**	**1.67**	**106**	P	**Pb**	**05 06 38.7**	**+2.1**
ANWZ	**Angora Road**	**1.68**	**138**	P	**Pb**	**05 06 37.3**	**+0.5**
TIWZ	**Tintock**	**1.69**	**156**	P	**Pb**	**05 06 36.4**	**-0.7**
HOWZ	**Holdsworth Sta**	**1.72**	**167**	P	**Pn**	**05 06 35.7**	**+1.0**
BFZ	**Birch Farm**	**1.75**	**147**	P	**Pn**	**05 06 35.6**	**-0.3**
BFZ	**Birch Farm**	**1.75**	**147**	P	**Pn**	**05 06 36.4**	**+0.4**
WHHZ	**Waihua**	**1.75**	**86**	P	**Pb**	**05 06 39.5**	**+1.5**
DUWZ	**D'Urville Isla**	**1.78**	**207**	P	**Pn**	**05 06 35.6**	**+0.1**
TGRZ	**Tauranga**	**1.79**	**34**	P	**Pn**	**05 06 35.4**	**-0.3**
OPRZ	**Ohinepanea**	**1.84**	**42**	P	**Pb**	**05 06 40.0**	**+0.4**
CAW	**Cannon Point**	**1.88**	**178**	P	**Pn**	**05 06 37.7**	**+0.8**
SNGZ	**Shannon Statio**	**1.88**	**77**	P	**Pb**	**05 06 39.4**	**-0.9**
URZ	**Urewera**	**1.92**	**60**	P	**Pb**	**05 06 39.5**	**-1.3**
URZ	**Urewera**	**1.92**	**60**	P	**Pb**	**05 06 39.5**	**-1.3**
CPWZ	**Castlepoint**	**1.92**	**152**	P	**Pb**	**05 06 42.6**	**+1.6**
MTW	**Mount Morrison**	**1.97**	**169**	P	**Pn**	**05 06 39.1**	**+0.9**
TMWZ	**Te Maipa**	**2.00**	**160**	P	**Pn**	**05 06 39.5**	**+1.0**
TCW	**Tory Channel**	**2.06**	**195**	P	**Pn**	**05 06 39.4**	**+0.1**
WEL	**Wellington**	**2.06**	**185**	P	**Pn**	**05 06 40.4**	**+1.0**
KNZ	**Kokohu**	**2.10**	**85**	P	**Pb**	**05 06 42.0**	**-1.9**
SNZO	**South Karori**	**2.10**	**186**	P	**Pn**	**05 06 40.7**	**+0.9**
MKAZ	**Moumakai**	**2.12**	**4**	P	**Pn**	**05 06 40.0**	**-0.2**
MWZ	**Matawai**	**2.17**	**67**	P	**Pb**	**05 06 43.5**	**-1.7**
AWAZ	**Awhitu Peninsu**	**2.17**	**353**	P	**Pn**	**05 06 41.5**	**+0.6**
MYRZ	**Mayor Island**	**2.17**	**27**	P	**Pb**	**05 06 47.9**	**+2.7**
PAWZ	**Paruwai Farm**	**2.18**	**171**	P	**Pb**	**05 06 44.7**	**-0.7**
BHW	**Baring Head**	**2.18**	**182**	P	**Pn**	**05 06 42.3**	**+1.3**
RIGZ	**Rimuhau**	**2.22**	**77**	P	**Pb**	**05 06 44.1**	**-1.9**
TRWZ	**Traveller**	**2.24**	**166**	P	**Pn**	**05 06 42.9**	**+1.2**
ETAZ	**East Tamaki Re**	**2.27**	**359**	P	**Pn**	**05 06 42.4**	**+0.3**
PRGZ	**Paritu Road**	**2.27**	**83**	P	**Pn**	**05 06 44.1**	**+1.9**
WTAZ	**Waiatarua**	**2.31**	**352**	P	**Pn**	**05 06 43.9**	**+1.1**
NNZ	**Nelson**	**2.34**	**211**	P	**Pn**	**05 06 43.9**	**+0.7**
TUWZ	**Tuamarina**	**2.34**	**200**	P	**Pn**	**05 06 45.5**	**+2.3**
PLWZ	**Palliser**	**2.35**	**175**	P	**Pn**	**05 06 43.9**	**+0.6**
EPAZ	**Eden Park BICE**	**2.35**	**355**	P	**Pn**	**05 06 43.9**	**+0.6**
HBAZ	**Herne Bay Bore**	**2.38**	**355**	P	**Pn**	**05 06 44.3**	**+0.6**
TKNZ	**Takaka Hill**	**2.39**	**220**	P	**Pn**	**05 06 44.0**	**+0.2**
WIAZ	**Waiheke Island**	**2.43**	**3**	P	**Pn**	**05 06 44.6**	**+0.2**
RUGZ	**Raukumara Rang**	**2.45**	**60**	P	**Pn**	**05 06 45.7**	**+0.9**
MBAZ	**Motutapu North**	**2.45**	**358**	P	**Pn**	**05 06 44.9**	**+0.2**
RVAZ	**Riverhead Bore**	**2.47**	**352**	P	**Pn**	**05 06 45.5**	**+0.5**
QRZ	**Quartz Range**	**2.48**	**229**	P	**Pn**	**05 06 44.5**	**-0.6**
QRZ	**Quartz Range**	**2.48**	**229**	P	**Pn**	**05 06 44.5**	**-0.6**
KUZ	**Kuaotunu**	**2.54**	**13**	P	**Pn**	**05 06 45.2**	**-0.7**
KUZ	**Kuaotunu**	**2.54**	**13**	P	**Pn**	**05 06 45.0**	**-0.9**
TWGZ	**Tauwhareparae**	**2.56**	**67**	P	**Pb**	**05 06 50.2**	**-1.6**
CMWZ	**Cape Campbell**	**2.59**	**193**	P	**Pb**	**05 06 51.3**	**-1.0**
ABAZ	**Army Bay**	**2.62**	**357**	P	**Pn**	**05 06 47.5**	**+0.4**
BSWZ	**Blackbirch Sta**	**2.63**	**199**	P	**Pn**	**05 06 48.6**	**+1.5**
HAZ	**Te Kaha**	**2.63**	**57**	P	**Pn**	**05 06 48.6**	**+1.4**
PKGZ	**Pakihiroa**	**2.76**	**62**	P	**Pb**	**05 06 52.6**	**-2.6**
MRNZ	**Matariki Terra**	**2.76**	**217**	P	**Pn**	**05 06 49.4**	**+0.4**
GRZ	**Great Barrier**	**2.99**	**7**	P	**Pn**	**05 06 51.5**	**-0.6**
THZ	**Tophouse**	**2.99**	**211**	P	**Pn**	**05 06 53.1**	**+0.9**
WMGZ	**Waiomatatini S**	**3.03**	**63**	P	**Pn**	**05 06 54.5**	**+1.9**
MXZ	**Matakaoa Point**	**3.09**	**59**	P	**Pn**	**05 06 53.8**	**+0.4**
MXZ	**Matakaoa Point**	**3.09**	**59**	P	**Pn**	**05 06 54.8**	**+2.4**
WCZ	**Waipu Caves**	**3.32**	**351**	P	**Pn**	**05 06 56.9**	**+0.4**
KHZ	**Kahutara**	**3.37**	**199**	P	**Pn**	**05 06 57.5**	**+0.1**
KHZ	**Kahutara**	**3.37**	**199**	P	**Pn**	**05 06 57.7**	**+0.3**
DSZ	**Denniston Nort**	**3.50**	**223**	P	**Pn**	**05 06 59.1**	**-0.1**
GVZ	**Greta Valley S**	**4.02**	**201**	P	**Pn**	**05 07 06.1**	**-0.2**
LTZ	**Lake Taylor**	**4.11**	**209**	P	**Pn**	**05 07 07.5**	**0.0**
OUZ	**Omahuta**	**4.15**	**344**	P	**Pn**	**05 07 08.0**	**0.0**
OUZ	**Omahuta**	**4.15**	**344**	P	**Pn**	**05 07 08.2**	**+0.2**
INZ	**Inchbonnie**	**4.41**	**216**	P	**Pn**	**05 07 11.6**	**0.0**
OXZ	**Oxford**	**4.66**	**208**	P	**Pn**	**05 07 14.3**	**-0.8**
OKCZ	**Okains Bay**	**4.72**	**197**	P	**Pn**	**05 07 15.1**	**-0.8**
AKCZ	**Akaroa Harbour**	**4.90**	**198**	P	**Pn**	**05 07 17.1**	**-1.3**
WVZ	**Waitaha Valley**	**5.01**	**218**	P	**Pn**	**05 07 20.2**	**+0.3**
MHCZ	**Mount Hutt**	**5.01**	**210**	P	**Pn**	**05 07 20.5**	**+0.6**
WACZ	**Wakanui South**	**5.27**	**206**	P	**Pn**	**05 07 22.3**	**-1.2**
RPZ	**Rata Peaks**	**5.37**	**212**	P	**Pn**	**05 07 26.0**	**+1.1**
GCSZ	**Gaunt Creek Bo**	**5.39**	**213**	P	**Pn**	**05 07 25.2**	**+0.1**
ARCZ	**Arundel**	**5.52**	**210**	P	**Pn**	**05 07 25.3**	**-1.6**
FOZ	**Fox Glacier**	**5.80**	**220**	P	**Pn**	**05 07 30.6**	**-0.2**
TMZ	**Timaru**	**5.95**	**209**	P	**Pn**	**05 07 31.6**	**-1.2**
LBZ	**Lake Benmore**	**6.28**	**213**	P	**Pn**	**05 07 41.1**	**+3.8**
ODZ	**Otahua Downs**	**6.65**	**208**	P	**Pn**	**05 07 41.6**	**-0.8**
JCZ	**Jackson Bay**	**6.71**	**222**	P	**Pn**	**05 07 42.8**	**-0.5**
WKZ	**Wanaka**	**7.15**	**217**	P	**Pn**	**05 07 49.9**	**+0.6**
MLZ	**Mavora Lakes**	**7.97**	**217**	P	**Pn**	**05 08 03.0**	**+2.4**

*TIR **25** 05:13:47.4, 38˚.23N×26˚.32E, h4km±38km, Ml4.3*
*IDC **25** 05:13:49.3±0.6, 38˚.65N×26˚.69E, h0km, mb4.3/22, mbtmp4.3/35, ML4.1/13, MS3.8/35, Error ellipse: s-maj=11.0km s-min=10.2km az=170.0*
*ATH **25** 05:13:50.6, 38˚.58N×26˚.77E, h11km, Mw4.6, Moment Tensor Solution. s13 Moment tensor: Mrr0.49; Mθθ5.32; Mφφ-5.81; Mrθ-1.95; Mθφ-6.03; Mrφ-0.99; Fault plane solution: NP1:φ69.00000°, δ90.00000°, λ-165.00000°.*
*GCMT **25** 05:13:50.3±0.5, 38˚.30N±0˚.03×26˚.55E±0˚.03, h19km±2km, MW4.9/73, Moment Tensor Solution. s17,c20; s73,c90; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.99±.19; Mθθ0.99±.14; Mφφ0.00±.13; Mrθ-2.18±.46; Mθφ-2.21±.13; Mφr-0.29±.27; Best double couple: Mo3.26700×10^16 NP1:φ91.00000°, δ78.00000°, λ-133.00000°. NP2: φ348.00000°, δ44.00000°, λ-17.00000°. Principal axes: T 3.3580, Plg21.0000°, Azm212.0000°; N -0.1810, Plg42.0000°, Azm102.0000°; P -3.1770, Plg41.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **25** 05:13:50.5±1.1, 38˚.68N×26˚.78E, h18km, mb4.6/15, MS4.0/7 Error ellipse: s-maj=5.3km s-min=3.1km az=93.8*
*THE **25** 05:13:50.9, 38˚.59N×26˚.74E, h9km, ML4.8/17, Error ellipse: s-maj=0.7km s-min=0.3km az=285.0*
*ISK **25** 05:13:50.0, 38˚.58N×26˚.74E, h18km, ML4.8/32*
*PDG **25** 05:13:50.5±1.0, 38˚.57N×26˚.67E, h18km±1km, ML4.7/4, Error ellipse: s-maj=0.7km s-min=1.0km az=0.0*
*MED_RC **25** 05:13:51.0±0.3, 38˚.60N×26˚.84E, h20km±1km, MW4.7/26, Moment Tensor Solution.Mantle waves: s26,c33; Duration: 1s1 Moment tensor: Scale 1016Nm; Mrr-0.43±.07; Mθθ1.07±.06; Mφφ-0.64±.04; Mrθ-0.44±.06; Mθφ-0.89±.05; Mφr-0.03±.05; Best double couple: Mo1.31000×1016 NP1:φ70.00000°, δ85.00000°, λ-158.00000°. NP2:φ338.00000°, δ69.00000°, λ-5.00000°. Principal axes: T 1.5300, Plg11.0000°, Azm202.0000°; N -0.4400, Plg68.0000°, Azm82.0000°; P -1.0900, Plg19.0000°, Azm296.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*AFAD **25** 05:13:51.4±0.0, 38˚.57N×26˚.72E, h10km, MW4.8*
*NEIC **25** 05:13:51.3±1.7, 38˚.58N±0˚.05×26˚.74E±0˚.07, h10km±1km, mb4.6/35, Error ellipse: s-maj=10.1km s-min=8.0km az=68.0*
*GII **25** 05:13:57.1±0.0, 37˚.85N×27˚.27E, h1km, Mm4.5/6*
*NAO **25** 05:14:00.9, 40˚.12N×29˚.11E, h33km, mb4.2*
*BGR **25** 05:14:01.9, 39˚.07N×26˚.15E, h33km, Ms3.3*
ISC 25 05:13:51.1±0.8, 38˚58N±0˚.01×26˚76E±0˚.01, h13km±5km, n712, σ1s55/805, mb4.6/63, MS3.9/31, 46C-69D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOCM	**Foa**	**0.14**	**351**	Pg	**Pg**	**05 13 53.8**	**-0.8**
KARB	**zmir-Karabur**	**0.28**	**288**	P	**Pg**	**05 13 56.7**	**-0.3**
KARB				S	**Sg**	**05 14 01.0**	**0.0**
CAND	**Candarli**	**0.38**	**5**	Pg	**Pg**	**05 13 58.3**	**-0.4**
CAND				Sg	**Sb**	**05 14 04.5**	**-0.9**
ZEYE	**Izmir, Urla-Ze**	**0.39**	**211**	P	**Pg**	**05 13 58.6**	**-0.3**
ZEYE				S	**Sb**	**05 14 05.7**	**-0.2**
RFT7	**Candarli**	**0.40**	**19**	Pg	**Pg**	**05 13 58.6**	**-0.5**
CESE	**eme**	**0.44**	**236**	Pg	**Pg**	**05 13 59.4**	**-0.3**
ZEDA	**zmir-Bergama**	**0.46**	**33**	P	**Pg**	**05 14 00.1**	**-0.2**
ZEDA				S	**Sb**	**05 14 07.3**	**-0.6**
DKL	**Dikili**	**0.51**	**13**	Pg	**Pg**	**05 14 00.6**	**-0.5**
EAG2	**Marmaro, Chios**	**0.51**	**266**	P	**Pg**	**05 14 00.6**	**-

comp=E,10154µm,0.5s
LPK Lapseki 1.79 0 Pn **Pn** 05 14 21.2 -0.5
LIA Limnos Island 1.80 318 P **Pn** 05 14 21.2 -0.6
LIA S **Sn** 05 14 43.6 -0.8
comp=E,24µm,0.6s
LIA Limnos Island 1.80 318 P **Pn** 05 14 21.2 -0.6
LIA AML AML 05 14 49.8
comp=N,36292µm,0.6s
LIA AML AML 05 14 51.2
comp=E,58504µm,0.5s
MULA Mugla, Merkez- 1.81 136 P **Pn** 05 14 21.6 -0.4
MULA S **Sg** 05 14 50.4 +1.1
SIMA Simav-Kutahya 1.81 73 Pn **Pn** 05 14 21.9 -0.2
GELI Tayfur-Gelibol 1.83 353 Pn **Pn** 05 14 21.6 -0.6
KRBG Karabiga-Canak 1.86 13 Pn **Pn** 05 14 21.9 -0.7
YER Yerkesik 1.88 140 Pn **Pn** 05 14 22.8 -0.2
YER Yerkesik 1.88 140 P **Pn** 05 14 22.6 -0.4
YER S **Sn** 05 14 46.6 0.0
DAT Datca 1.96 160 Pn **Pn** 05 14 23.1 -1.0
DAT Datca 1.96 160 P **Pn** 05 14 23.1 -1.0
DAT S **Sg** 05 14 55.0 +1.0
DAT Datca 1.96 160 P **Pn** 05 14 23.3 -0.8
DAT S **Sn** 05 14 48.4 -0.2
EDC Edincik 1.96 26 Pn **Pn** 05 14 23.1 -1.0
YAZI Mula-Dat§a- 1.97 164 P **Pn** 05 14 23.3 -0.9
NISR Nisiros 1.98 171 P **Pn** 05 14 24.4 +0.1
NISR S **Sn** 05 14 49.6 +0.5
comp=E,8µm,1.4s
NISR Nisiros 1.98 171 P **Pn** 05 14 24.3 -0.1
TAVA DENIZLI_Tavas 2.03 122 P **Pn** 05 14 24.7 -0.4
DNIZ Denizli-Tavas- 2.04 117 P **Pn** 05 14 25.2 +0.1
BAND Balkesir-Ban 2.06 30 P **Pn** 05 14 24.4 -1.0
BAND S **Sn** 05 14 51.5 +0.6
KYMI Kymi, Euboea I 2.08 272 P **Pn** 05 14 26.2 +0.5
KYMI S **Sn** 05 14 50.2 -1.3
comp=E,5µm,0.7s
KYMI Kymi, Euboea I 2.08 272 P **Pn** 05 14 25.8 +0.1
KYMI AML AML 05 15 08.1
comp=N,12652µm,0.9s
KYMI AML AML 05 15 09.7
comp=E,8490µm,0.6s
SMTH Samothraki Isl 2.12 334 P **Pn** 05 14 25.5 -0.7
SMTH S **Sn** 05 14 52.0 -0.3
comp=E,6µm,0.4s
SMTH Samothraki Isl 2.12 334 P **Pn** 05 14 25.5 -0.7
SMTH AML AML 05 15 00.7
comp=E,13431µm,0.4s
SMTH AML AML 05 15 03.5
comp=N,9199µm,0.4s
SART Tekirdag 2.13 9 P **Pn** 05 14 26.1 -0.4
SART S **Sb** 05 14 57.7 +1.6
EMET Ktahya-Emet 2.15 67 P **Pn** 05 14 26.7 0.0
EMET S **Sg** 05 14 58.8 -1.4
TURN Turunc 2.15 146 Pn **Pn** 05 14 26.0 -0.6
TURN Turunc 2.15 146 P **Pn** 05 14 25.7 -0.9
TURN S **Sg** 05 15 02.0 +1.7
PASA Karahalli, USA 2.16 95 P **Pn** 05 14 26.8 0.0
CAVK Edirne/Enez-Ca 2.16 348 P **Pn** 05 14 26.6 -0.1
CAVK S **Sn** 05 14 53.2 -0.2
GDZ Gediz 2.19 76 P **Pn** 05 14 28.4 +1.1
GDZ S **Sg** 05 15 02.6 +1.1
ENEZ Enez 2.21 348 P **Pn** 05 14 27.3 -0.1
ENEZ S **Sn** 05 14 53.3 -1.2
comp=N,21µm,0.8s
DION Dionisos Attik 2.28 258 P **Pn** 05 14 28.6 +0.2
DION S **Sn** 05 14 56.2 -0.1
comp=N,13µm,0.6s
DION Dionisos Attik 2.28 258 P **Pn** 05 14 28.2 -0.2
DION AML AML 05 15 06.1
comp=E,16568µm,0.6s
DION AML AML 05 15 09.7
comp=N,17837µm,0.5s
DALY Dalyan (Mula) 2.31 139 Pn **Pn** 05 14 28.7 -0.2
ALNA Alonissos 2.33 285 P **Pn** 05 14 28.5 -0.5
ALNA AML AML 05 15 11.0
comp=N,11735µm,1.1s
ALNA AML AML 05 15 13.0
comp=E,8215µm,0.5s
PTL Penteli 2.33 258 P **Pn** 05 14 29.4 +0.2
PTL S **Sn** 05 14 56.2 -1.6
comp=E,6µm,0.5s
ALN Alexandroupoli 2.38 347 Pn **Pn** 05 14 29.1 -0.7
ALN Alexandroupoli 2.38 347 P **Pn** 05 14 29.3 -0.5
ALN S **Sn** 05 14 57.6 -1.2
comp=E,6µm,0.6s
ALN Alexandroupoli 2.38 347 P **Pn** 05 14 29.1 -0.7
ALN Alexandroupoli 2.38 347 P **Pn** 05 14 29.1 -0.7
ALN S **Sn** 05 14 57.8 -1.1
ALN AML AML 05 15 08.2
comp=E,9780µm,0.5s
ALN AML AML 05 15 09.8
comp=N,15744µm,0.6s
INCE Denizli-Bozkur 2.39 110 P **Pn** 05 14 29.9 -0.1
THT2 Imerovigli 2.39 207 P **Pn** 05 14 28.4 -1.5
ULDT Uludag 2.42 49 P **Pn** 05 14 30.4 -0.1
ULDT S **Sg** 05 15 07.7 -1.1
ATHU Athens Univers 2.42 256 P **Pn** 05 14 29.4 -0.9
ATHU Athens Univers 2.42 256 P **Pn** 05 14 29.1 -1.2
SNT5 Nea Kammeni, S 2.44 207 P **Pn** 05 14 28.7 -1.7
VLY Voula,Athens 2.44 254 P **Pn** 05 14 29.8 -0.9
BNAZ Uak-Banaz 2.45 87 P **Pn** 05 14 30.9 +0.1
ATH Athens Observa 2.47 257 P **Pn** 05 14 30.2 -0.8
ATH Athens Observa 2.47 257 P **Pn** 05 14 30.4 -0.6
ATH AML AML 05 15 13.2
comp=E,10467µm,0.5s
ATH AML AML 05 15 16.8
comp=N,12780µm,1.0s
SABU Mula-Dalaman 2.48 134 P **Pn** 05 14 31.6 +0.4
CAEL Denizli, Camel 2.50 125 P **Pb** 05 14 35.5 -0.3
IGD Bursa 2.53 48 P **Pn** 05 14 31.4 -0.6
THAS Thassos island 2.56 323 P **Pn** 05 14 31.4 -0.9
DOMA Ktahya-Doman 2.58 61 P **Pn** 05 14 31.9 -0.8
DOMA S **Sg** 05 15 12.2 -1.9
GOLH Golhisar 2.59 120 P **Pn** 05 14 33.9 +1.1
ARG Arkhangelos 2.60 155 **Pn** 05 14 32.6 -0.2
ARG Arkhangelos 2.60 155 P **Pn** 05 14 32.6 -0.2
ARG Arkhangelos 2.60 155 P **Pn** 05 14 32.6 -0.2
ARG Arkhangelos 2.60 155 P **Pn** 05 14 32.3 -0.4
ARG AML AML 05 15 19.4
comp=N,8023µm,1.1s
ARG AML AML 05 15 24.9
comp=E,9050µm,1.2s
ANDZ Kutahya, Merke 2.62 68 P **Pn** 05 14 33.9 +0.7
ANDZ S **Sg** 05 15 14.0 -1.2
MHLO Agia Marina, M 2.66 225 P **Pn** 05 14 31.9 -1.7
MHLO Agia Marina, M 2.66 225 P **Pn** 05 14 31.9 -1.7
KZIL AFYON_Kizioren 2.68 96 P **Pn** 05 14 34.3 +0.3
RDO Rodhopi 2.73 340 Pn **Pn** 05 14 34.3 -0.3
RDO Rodhopi 2.73 340 P **Pn** 05 14 34.2 -0.4
RDO Rodhopi 2.73 340 P **Pn** 05 14 33.9 -0.7
VILL Villia 2.74 262 P **Pn** 05 14 34.3 -0.5
PAIG Paliouri 2.74 300 P **Pn** 05 14 34.0 -0.8
BRDR BURDUR-Merkez 2.75 108 P **Pn** 05 14 35.0 0.0
VIL2 Platees 2.77 263 P **Pn** 05 14 34.2 -0.9
OUR Ouranopolis 2.77 310 P **Pn** 05 14 34.7 -0.5
AFYO Afyonkarahisar 2.78 85 P **Pn** 05 14 38.3 +2.9
NEO Neokhori 2.85 286 P **Pn** 05 14 35.4 -0.9
NEO Neokhori 2.85 286 P **Pn** 05 14 35.4 -0.9
ELBA Catalca 2.87 26 P **Pn** 05 14 37.5 +0.9
BILE Bilecik/Merkez 2.89 56 P **Pn** 05 14 36.6 -0.3
XOR Xorichti 2.89 287 P **Pn** 05 14 35.9 -0.9
KAVA Kavala 2.97 325 P **Pn** 05 14 37.4 -0.5
KARP Karpathos 3.04 174 Pn **Pn** 05 14 38.2 -0.7
KARP Karpathos 3.04 174 P **Pn** 05 14 38.3 -0.7
KARP Karpathos 3.04 174 P **Pn** 05 14 37.3 -1.6
ISK Istanbul-Kandi 3.05 35 P **Pn** 05 14 37.9 -1.1
ISK Istanbul-Kandi 3.05 35 *e*P **Pn** 05 14 39.8 +0.8
ISP Isparta 3.06 103 Pn **Pn** 05 14 39.5 +0.3
ISP Isparta 3.06 103 *de*P **Pn** 05 14 39.2 -0.1
ISP pmax pmax
comp=Z,169nm,0.6s
ISP Isparta 3.06 103 P **Pn** 05 14 39.5 +0.3
KOKK Kokkinochori, 3.09 317 P **Pn** 05 14 38.9 -0.6
KRND KRANIDI 3.09 248 P **Pn** 05 14 39.1 -0.4
ELL Elmali 3.10 125 Pn **Pn** 05 14 40.9 +1.1
ELL Elmali 3.10 125 P **Pn** 05 14 40.9 +1.1
AXAR Agios Charalam 3.21 275 P **Pn** 05 14 41.1 -0.2
AXAR Agios Charalam 3.21 275 P **Pn** 05 14 41.0 -0.3
EDRB Edirne 3.27 360 P **Pn** 05 14 41.9 -0.1
THAL Thalero 3.27 262 P **Pn** 05 14 41.5 -0.4
THAL Thalero 3.27 262 P **Pn** 05 14 41.6 -0.4
KSL Kastellorizon 3.31 136 P **Pn** 05 14 42.2 -0.3

SOH Sokhos 3.45 312 P **Pn** 05 14 44.8 +0.2
HORT Hortiatis 3.47 307 P **Pn** 05 14 45.0 +0.1
ZKR Zakros 3.48 187 P **Pn** 05 14 44.2 -0.8
ZKR Zakros 3.48 187 P **Pn** 05 14 44.4 -0.6
AGG Agios Georgios 3.49 279 Pn **Pn** 05 14 44.5 -0.6
AGG Agios Georgios 3.49 279 P **Pn** 05 14 44.7 -0.4
AGG Agios Georgios 3.49 279 P **Pn** 05 14 44.5 -0.6
SRS Serrai 3.52 317 P **Pn** 05 14 45.0 -0.4
GUR Goura 3.53 261 P **Pn** 05 14 45.4 -0.4
IACM Heraklion 3.53 203 P **Pn** 05 14 45.3 -0.4
NVR Nevrokopi 3.55 322 P **Pn** 05 14 46.8 +0.9
THE Thessaloniki 3.58 306 P **Pn** 05 14 46.5 +0.2
baz=314
THE S **Sb** 05 15 34.2 -3.3
baz=314
THE AMP
comp=E,1.0nm,1.0s,baz=314
THE Thessaloniki 3.58 306 P **Pn** 05 14 46.4 +0.2
MAKR Makrakomi, Fth 3.64 278 P **Pn** 05 14 47.5 +0.3
MAKR Makrakomi, Fth 3.64 278 P **Pn** 05 14 47.7 +0.5
FRMA Ierapetra Chan 3.65 193 P **Pn** 05 14 46.3 -0.9
ALIK Aliki, Agiali 3.66 266 P **Pn** 05 14 47.9 +0.5
KLV Kalavryta, Ach 3.66 263 P **Pn** 05 14 47.2 -0.3
TRIZ Trizonia 3.68 268 P **Pn** 05 14 47.6 -0.1
TYRN Tyrnavos 3.69 289 P **Pn** 05 14 48.1 +0.2
LAKA Lakka 3.77 266 P **Pn** 05 14 49.1 +0.1
LAKA Lakka 3.77 266 P **Pn** 05 14 49.0 +0.1
ANX Ano Chora 3.79 272 P **Pn** 05 14 49.5 +0.2
EFP Efpalio 3.81 269 P **Pn** 05 14 49.6 +0.2
THL Klokotos Trika 3.82 286 P **Pn** 05 14 49.7 +0.1
ANKY Antikythira Is 3.86 227 P **Pn** 05 14 49.1 -1.1
EVR Evrytania 3.88 277 P **Pn** 05 14 50.9 +0.3
UPR University Cam 3.91 267 P **Pn** 05 14 50.8 -0.1
MDUB Mudurnu 3.92 60 Pn **Pn** 05 14 51.2 +0.1
KNT Kendrikon 3.93 312 P **Pn** 05 14 51.6 +0.4
KLMT Kalamata 4.01 249 P **Pn** 05 14 52.7 +0.4
KLMT Kalamata 4.01 249 P **Pn** 05 14 52.4 +0.1
PVO Paravola 4.10 272 P **Pn** 05 14 54.2 +0.8
GRG Griva 4.11 307 P **Pn** 05 14 53.9 +0.3
RLS Riolos of Patr 4.19 265 P **Pn** 05 14 55.0 +0.3
VAY Valandovo 4.23 312 *i* P **Pn** 05 14 55.5 +0.4
PYL PYLOS 4.32 249 P **Pn** 05 14 57.1 +0.7
PYL PYLOS 4.32 249 P **Pn** 05 14 52.4 -4.0
ELND Elena 4.40 352 ⇓P **Pn** 05 14 57.4 -0.2
KPRO Kipourio 4.41 290 P **Pn** 05 14 58.2 +0.5
PENT Pentalofos 4.64 292 P **Pn** 05 15 01.1 +0.1
STIP Stip 4.69 313 *i* P **Pn** 05 15 00.8 -0.7
FNA Florina 4.70 300 Pn **Pn** 05 15 02.3 +0.6
FNA Florina 4.70 300 P **Pn** 05 15 02.6 +0.8
baz=306
FNA Florina 4.70 300 P **Pn** 05 15 02.7 +1.0
FNA Florina 4.70 300 P **Pn** 05 15 02.3 +0.6
JAN Janina 4.72 285 P **Pn** 05 15 04.9 +2.9
NYDR Nydri-Lefkada 4.75 274 P **Pn** 05 15 05.0 +2.7
LKD2 Lefkada island 4.78 274 P **Pn** 05 15 05.8 +3.0
baz=279
LKD2 S **Sn** 05 15 57.2 -0.8
baz=279
LKD2 AMP
comp=E,0.8nm,1.8s,baz=279
LKD2 Lefkada island 4.78 274 P **Pn** 05 15 05.5 +2.7
TSLK Tsoukalades, L 4.78 275 P **Pn** 05 15 04.5 +1.7
EVGI Lefkada island 4.78 272 P **Pn** 05 15 04.9 +2.1
NEST Nestorio 4.78 294 P **Pn** 05 15 03.4 +0.5
LOZB Loznitsa 4.79 359 ⇓P **Pn** 05 15 02.5 -0.4
DRAG Dragano-Lefkad 4.84 273 P **Pn** 05 15 05.6 +1.9
BR231 Keskin MP Arra 4.84 73 P **Pn** 05 15 05.5 +1.7
ANTO Ankara 4.86 73 ⇑P **Pn** 05 15 09.1 +5.1
ANTO Ankara 4.86 73 P **Pn** 05 15 04.5 +0.5
ANTO Ankara 4.86 73 P **Pn** 05 15 04.5 +0.5
RAZG Razgrad 4.99 358 ⇑P **Pn** 05 15 05.5 -0.1
LSK Leskovik 5.02 290 P **Pn** 05 15 08.1 +1.9
baz=296
LSK S **Sn** 05 16 07.2 +3.1
baz=296
LSK AMP
comp=E,1.6nm,0.9s,baz=296
LSK Leskovik 5.02 290 P **Pn** 05 15 08.3 +2.1
KBN Korca 5.04 296 **Pn** 05 15 08.2 +1.7
KBN Korca 5.04 296 P **Pn** 05 15 08.0 +1.5
baz=301
KBN Korca 5.04 296 P **Pn** 05 15 08.0 +1.5
KBN Korca 5.04 296 P **Pn** 05 15 08.2 +1.7
IGT Igoumenitsa 5.09 283 P **Pn** 05 15 09.9 +2.9
baz=288
IGT Igoumenitsa 5.09 283 P **Pn** 05 15 09.7 +2.6
ZIMR 5.18 349 ⇑P **Pn** 05 15 08.5 +0.2
ZIMR 5.18 349 P **Pn** 05 15 08.5 +0.2
SKO Skopje 5.29 311 *i* P **Pn** 05 15 11.0 +1.1
SRN Sarande 5.41 286 P **Pn** 05 14 14.1 +2.7
baz=291
SRN S **Sn** 05 16 15.7 +2.3
baz=291
SRN Sarande 5.41 286 P **Pn** 05 15 14.2 +2.8
MANR Mangalia 5.41 14 ⇑P **Pn** 05 15 11.8 +0.3
BR131 Keskin Array S 5.47 76 **Pn** 05 15 13.9 +1.5
BR131 Keskin Array S 5.47 76 *c* iP **Pn** 05 15 13.4 +1.0
BRTR Keskin Array B 5.47 76 **Pn** 05 15 13.9 +1.5
BRTR Keskin Array B 5.47 76 *i* P **Pn** 05 15 13.6 +1.2
BRTR pmax pmax
comp=Z,29nm,0.5s
BRTR Keskin Array B 5.47 76 Pn **Pn** 05 15 13.6 +1.2
comp=Z,9.4nm,0.3s,baz=252,slow=13,SNR=84
BRTR Pg **Pg** 05 15 33.2 -2.7
comp=Z,4.8nm,0.3s,baz=259,slow=13,SNR=13
BRTR Sn **Sn** 05 16 12.7 -2.6
comp=Z,1.1nm,0.3s,baz=266,slow=19,SNR=0.7
BRTR Lg Lg 05 16 45.5
baz=267,slow=17
BRTR LR LR 05 17 36.2
comp=Z,926nm,18.2s,baz=268,slow=41
comp=Z,26nm,0.5s
KEK Kerkira 5.53 284 **Pn** 05 15 14.4 +1.4
KEK Kerkira 5.53 284 P **Pn** 05 15 13.9 +0.8
ICOR Ion Corvin 5.59 8 ⇑P **Pn** 05 15 14.2 +0.3
SGRR Singureni 5.67 354 ⇑P **Pn** 05 15 14.9 -0.1
VLAD Vladila 5.70 343 ⇓P **Pn** 05 15 15.4 0.0
MFTR Murfatlar 5.73 12 ⇓P **Pn** 05 15 16.0 +0.2
PHP Peshkopia 5.75 305 P **Pn** 05 15 17.2 +1.0
CVDA Cernavoda 5.83 9 ⇑P **Pn** 05 15 17.7 +0.5
VLO Vlora 5.92 291 **Pn** 05 15 20.9 +2.4
VLO Vlora 5.92 291 P **Pn** 05 15 20.9 +2.4
TIR Tirane 5.97 300 **Pn** 05 15 20.9 +1.7
TIR Tirane 5.97 300 P **Pn** 05 15 22.3 +3.1
baz=305
TIR Tirane 5.97 300 P **Pn** 05 15 20.6 +1.4
TIR Tirane 5.97 300 P **Pn** 05 15 20.9 +1.7
TIRR Tirgusor 6.00 11 ⇓P **Pn** 05 15 19.6 +0.1
TIRR Tirgusor 6.00 11 Pn **Pn** 05 15 19.4 -0.2
TIRR Tirgusor 6.00 11 P **Pn** 05 15 19.4 -0.2
TLBR Topalu 6.04 9 ⇓P **Pn** 05 15 20.4 +0.4
SULR 6.11 357 ⇑P **Pn** 05 15 21.3 +0.3
HARR Harsova 6.17 8 ⇓P **Pn** 05 15 21.8 0.0
HARR Harsova 6.17 8 P **Pn** 05 15 21.8 0.0
BCI Bajram Curri 6.35 309 P **Pn** 05 15 26.0 +1.6
baz=313
PUNG Punghina 6.38 334 ⇑P **Pn** 05 15 23.9 -0.8
JURR Jurilovca 6.38 14 ⇓P **Pn** 05 15 25.5 +0.7
CSS Mathiatis 6.39 122 Pn **Pn** 05 15 25.5 +0.5
CSS Mathiatis 6.39 122 P **Pn** 05 15 24.0 -1.0
STFAR Stefanesti-Arg 6.42 349 ⇓P **Pn** 05 15 26.2 +0.9
ISR Istrita 6.54 359 ⇑P **Pn** 05 15 27.6 +0.6
ISR Istrita 6.54 359 P **Pn** 05 15 27.6 +0.6
PVY Plav 6.55 310 ⇑*i*Pn **Pn** 05 15 27.2 0.0
PVY *i* Sn **Sn** 05 16 39.4 -2.3
SCTE Santa Cesarea 6.60 286 Pn **Pn** 05 15 28.8 +1.0
SCTE Santa Cesarea 6.60 286 P **Pn** 05 15 29.1 +1.4
baz=290
SRE Strehaia 6.63 338 ⇓P **Pn** 05 15 28.1 -0.2
SRE Strehaia 6.63 338 P **Pn** 05 15 28.0 -0.2
ULC Ulcinj 6.67 303 ⇑*i*Pn **Pn** 05 15 29.0 +0.3
CFR Carcaliu 6.67 8 ⇓P **Pn** 05 15 28.1 -0.7
CFR Carcaliu 6.67 8 P **Pn** 05 15 28.1 -0.7
IVA Berane 6.75 312 ⇓*i*Pn **Pn** 05 15 31.8 +1.9
TLCR 6.78 12 ⇓P **Pn** 05 15 30.5 +0.2
TLCR 6.78 12 P **Pn** 05 15 30.4 +0.2
RMGR Halanga-Turnu 6.80 335 ⇓P **Pn** 05 15 30.0 -0.5
DRME Dracevica, Mon 6.81 304 ⇓*i*P **Pn** 05 15 32.8 +2.1
DRME Dracevica, Mon 6.81 304 ⇑*i*Pn **Pn** 05 15 30.9 +0.2
DRME *i* Sn **Sn** 05 16 45.6 -2.5
NEHR Nehoiu 6.85 357 ⇑P **Pn** 05 15 32.1 +0.8
DJES Djerdap 6.86 334 **Pn** 05 15 30.7 -0.6

PDG Podgorica 6.89 306 Pn **Pn** 05 15 33.6 +1.9
PDG Podgorica 6.89 306 ⇓*i*P **Pn** 05 15 34.2 +2.5
PDG Podgorica 6.89 306 ⇑*i*Pn **Pn** 05 15 31.8 +0.1
PDG *i* Sn **Sn** 05 16 47.8 -2.2
MLR Muntele Rosu 6.93 355 ⇓P **Pn** 05 15 33.4 +0.9
MLR Muntele Rosu 6.93 355 P **Pn** 05 15 33.4 +0.9
MLR Muntele Rosu 6.93 355 Pn **Pn** 05 15 33.5 +1.1
comp=Z,2.6nm,0.3s,baz=198,slow=5.7,SNR=22
MLR Sn **Sn** 05 16 50.4 -0.8
comp=Z,19nm,0.3s,baz=67,slow=13,SNR=5.6
comp=Z,58nm,0.8s
SCHLR Schela 6.93 6 ⇓P **Pn** 05 15 32.1 -0.2
KOME Kolasin 6.96 310 ⇑*i*Pn **Pn** 05 15 34.9 +2.1
SCHL Schela 6.96 6 ⇓P **Pn** 05 15 33.4 +0.7
ARR Arges 6.97 348 ⇓P **Pn** 05 15 32.8 -0.1
VOIR 6.97 350 ⇑P **Pn** 05 15 32.8 -0.1
VOIR 6.97 350 P **Pn** 05 15 32.8 -0.1
GIUM Giurgiulesti 6.99 8 ⇓P **Pn** 05 15 33.2 +0.1
NEGRR Negrea 7.00 6 ⇑P **Pn** 05 15 33.9 +0.6
SLCR Slobozia Conac 7.05 6 ⇑P **Pn** 05 15 34.2 +0.3
BUM Brajici-Budva 7.06 304 ⇓*i*Pn **Pn** 05 15 34.1 0.0
TATR Tatarca 7.08 7 ⇑P **Pn** 05 15 34.9 +0.6
HERR Herculane 7.08 334 ⇑P **Pn** 05 15 33.7 -0.7
BNN Bunyan 7.11 85 **Pn** 05 15 36.8 +1.8
CEME Cevo 7.16 306 ⇓*i*Pn **Pn** 05 15 35.8 +0.2
CEME *i* Sn **Sn** 05 16 55.0 -1.8
LOT Lotru 7.22 343 ⇓P **Pn** 05 15 35.2 -1.1
MDVR Moldovita 7.26 330 ⇓P **Pn** 05 15 36.4 -0.4
NKME Niksic 7.26 308 ⇓*i*Pn **Pn** 05 15 39.4 +2.5
PLOR Plostina 7.27 359 ⇓P **Pn** 05 15 37.4 +0.4
PLOR Plostina 7.27 359 P **Pn** 05 15 37.4 +0.4
COVR Voineasa-Covas 7.27 357 ⇑P **Pn** 05 15 38.1 +1.0
VRI Vrincioaia 7.28 360 ⇑P **Pn** 05 15 38.3 +1.1
VRI Vrincioaia 7.28 360 P **Pn** 05 15 38.2 +1.1
PANC Panciu 7.29 2 ⇓P **Pn** 05 15 37.8 +0.5
PLE Pljevlja 7.32 313 ⇓*i*Pn **Pn** 05 15 39.4 +1.6
VLDR Vladesti 7.33 7 ⇑P **Pn** 05 15 38.5 +0.8
VARL Varlezi 7.36 6 ⇓P **Pn** 05 15 39.3 +1.1
HCY Herceg Novi 7.39 304 ⇓*i*P **Pn** 05 15 39.7 +1.1
HCY Herceg Novi 7.39 304 ⇓*i*Pn **Pn** 05 15 39.7 +1.1
GZR Gura Zlata 7.43 338 ⇑P **Pn** 05 15 38.6 -0.6
GZR Gura Zlata 7.43 338 P **Pn** 05 15 38.5 -0.6
DOPR Dopca 7.45 353 ⇑P **Pn** 05 15 40.3 +0.8
TURR Turia 7.49 356 ⇑P **Pn** 05 15 41.4 +1.3
DIVS Divibare 7.50 319 **Pn** 05 15 40.1 -0.1
DIVS Divibare 7.50 319 ⇓*i*P **Pn** 05 15 40.0 -0.3
RUDO Rudo 7.51 314 *e*P **Pn** 05 15 40.5 +0.2
BOSR Bodos 7.54 354 ⇓P **Pn** 05 15 41.6 +1.0
OZUR 7.55 355 ⇑P **Pn** 05 15 41.9 +1.1
BRY Bratogost 7.59 307 ⇓*i*P **Pn** 05 15 43.6 +2.1
BRY Bratogost 7.59 307 ⇓*i*Pn **Pn** 05 15 43.8 +2.3
TREB Trebinje 7.61 306 *e*P **Pn** 05 15 43.1 +1.4
TIP Timpagrande 7.82 278 ⇑P **Pn** 05 15 45.5 +0.9
TIP Timpagrande 7.82 278 **Pn** 05 15 45.5 +0.9
SEV Sevastopol' 7.90 39 ⇓*e*P **Pn** 05 15 45.7 +0.2
SEV *i* S **Sn** 05 17 09.6 -5.1
SEV pmax pmax
comp=Z,34nm,0.4s
SEV smax smax
comp=N,13nm,0.4s
SEV smax smax
comp=E,34nm,0.4s
TESR Tescani 7.93 359 ⇓P **Pn** 05 15 47.1 +1.0
SURR Surduc 7.95 336 ⇓P **Pn** 05 15 46.3 0.0
LEOM Leova 7.97 7 ⇓P **Pn** 05 15 46.1 -0.4
LEOM Leova 7.97 7 P **Pn** 05 15 46.1 -0.4
BANR Banloc 7.98 330 ⇑P **Pn** 05 15 46.4 -0.3
HAPS Han Pijesak,BI 8.05 316 ⇓*i*P **Pn** 05 15 48.3 +0.6
NEVS Nevesinje 8.07 309 *e*P **Pn** 05 15 50.6 +2.6
VASR Vaslui 8.10 5 ⇑P **Pn** 05 15 49.7 +1.4
YAL Yalta 8.10 41 *e*P **Pn** 05 15 48.4 +0.1
YAL *e*S **Sn** 05 17 15.4 -4.3
YAL pmax pmax
comp=Z,28nm,0.4s
YAL smax smax
comp=N,17nm,0.5s
YAL smax smax
comp=E,34nm,0.4s
STON Ston 8.10 305 ⇓*i*P **Pn** 05 15 48.7 +0.3
PURM Purcari 8.27 15 ⇑P **Pn** 05 15 50.5 -0.1
ALU Alushta 8.36 41 *e*P **Pn** 05 15 52.6 +0.7
ALU *e*S **Sn** 05 17 22.3 -3.9
ALU pmax pmax
comp=Z,15nm,0.4s
ALU smax smax
comp=N,61nm,0.3s
ALU smax smax
comp=E,39nm,0.3s
GAZ Gaziantep 8.39 96 Pn **Pn** 05 15 54.4 +2.0
SIM Simferopol' 8.41 38 *e*P **Pn** 05 15 52.6 0.0
SIM *e*S **Sn** 05 17 21.6 -5.8
SIM pmax pmax
comp=Z,60nm,0.8s
SIM MLR MLR
comp=Z,206nm,17.0s
MILM Milestii Mici 8.47 10 *e*P **Pn** 05 15 51.0 -2.4
comp=Z,900nm,0.6s
MILM Milestii Mici 8.47 10 *i* PP **Pn** 05 15 56.0 +2.6
MILM *e*S **Sn** 05 17 25.0 -3.8
MILM *e*L L 05 17 49.0
MILM LqM 05 18 49.0
comp=Z,2µm,15.0s
MILM LRM MLR 05 19 20.0
comp=Z,1µm,10.8s
MILM Milestii Mici 8.47 10 ⇑P **Pn** 05 15 52.8 -0.6
MILM Milestii Mici 8.47 10 *e*P **Pn** 05 15 51.0 -2.4
MILM *e*S **Sn** 05 17 25.0 -3.8
MILM pmax pmax
comp=Z,900nm,0.6s
MILM MLR MLR
comp=Z,1µm,12.5s
MILM MLR MLR
comp=N,1µm,10.8s
MARR Marisel-Cluj 8.53 343 ⇓P **Pn** 05 15 53.6 -0.6
CEL Celeste 8.53 271 **Pn** 05 15 54.2 -0.2
SIRR Siria 8.56 336 ⇓P **Pn** 05 15 53.6 -1.0
CUC Castrocucco 8.60 283 **Pn** 05 15 56.8 +1.5
ARCR ARCALIA 8.68 349 ⇓P **Pn** 05 15 55.4 -1.0
SUDU Sudak 8.81 42 ⇓*e*P **Pn** 05 15 57.7 -0.4
SUDU *e*S **Sn** 05 17 30.7 -6.6
SUDU pmax pmax
comp=Z,23nm,0.4s
SUDU smax smax
comp=N,80nm,0.7s
SUDU smax smax
comp=E,29nm,0.4s
MMC7 Mount Meron ar 8.94 126 Pn **Pn** 05 15 59.1 -0.9
MMA0B Mount Meron ar 8.95 126 Pn **Pn** 05 15 59.3 -0.8
MMA0B Sn **Sn** 05 17 35.0 -5.8
MMAI Mount Meron Ar 8.95 126 Pn **Pn** 05 15 59.3 -0.8
comp=E,18nm,0.3s,baz=306,slow=12,SNR=26
MMAI Sn **Sn** 05 17 36.4 -4.4
comp=E,6.5nm,0.3s,baz=306,slow=24,SNR=3.0
MMAI LR LR 05 20 10.2
comp=E,513nm,20.1s,baz=284,slow=42
comp=E,21nm,0.3s
GEM Giv'at Ha'Em 8.99 124 Pn **Pn** 05 16 00.1 -0.5
GEM Sn **Sn** 05 17 35.8 -6.0
GEM Giv'at Ha'Em 8.99 124 P **Pn** 05 16 00.3 -0.3
SGRT San Giovanni R 9.01 294 **Pn** 05 15 59.4 -1.5
BURAR Bucovina Array 9.10 353 **Pn** 05 16 03.3 +1.1
BUR08 Bucovina Ar. S 9.13 353 **Pn** 05 16 03.5 +0.9
KSHT Keshet 9.23 124 Pn **Pn** 05 16 03.4 -0.6
KSHT Sn **Sn** 05 17 41.9 -5.9
MGRS Mrkonjic Grad 9.31 312 *e*P **Pn** 05 16 06.9 +2.0
MMLI Mount Malkishu 9.35 128 Pn **Pn** 05 16 04.8 -0.7
MMLI Sn **Sn** 05 17 44.3 -6.2
SHMJ Saham 9.37 126 P **Pn** 05 16 05.3 -0.5
BLY Banja Luka 9.45 314 ⇓*i*P **Pn** 05 16 08.1 +1.3
QRNJ Al-Qirein 9.51 128 P **Pn** 05 16 05.4 -2.3
HMDT Nahal Hemdat 9.54 129 Pn **Pn** 05 16 07.4 -0.7
HMDT Sn **Sn** 05 17 49.0 -6.2
A050A Klekovaca 9.67 311 ⇓*i*P **Pn** 05 16 11.0 +1.1
UJAP Al Uja 9.71 130 Pn **Pn** 05 16 09.9 -0.5
UJAP Sn **Sn** 05 17 53.2 -6.2
A051A Mrakovica 9.76 314 ⇓*i*P **Pn** 05 16 11.9 +0.7
VAE Valguarnera 9.80 267 Pn **Pn** 05 16 12.8 +1.0
comp=E,1.1nm,0.3s,baz=161,slow=7.6,SNR=8.4
VAE Sn **Sn** 05 17 58.8 -3.0
baz=289,slow=11
comp=E,14nm,0.8s
RAFF Raffo Rosso 9.89 266 **Pn** 05 16 13.1 +0.1

KZIT **Kziot** 9.90 138 Pn **Pn** 05 16 11.7 -1.4
KZIT Sn **Sn** 05 17 57.4 -6.7
DSI Dead Sea 9.94 132 Pn **Pn** 05 16 12.4 -1.2
DSI Sn **Sn** 05 17 58.6 -6.4
DSI Dead Sea 9.94 132 P Pn 05 16 21.1 +7.5
YTIR Yattir 9.94 134 Pn **Pn** 05 16 12.8 -0.9
YTIR Sn **Sn** 05 17 59.2 -5.9
HSUJ Al Zarqa 10.05 127 P **Pn** 05 16 12.9 -2.3
MSBI Mazada 10.11 133 Pn **Pn** 05 16 15.0 -0.9
MSBI Sn **Sn** 05 18 02.7 -6.5
ANN Anapa 10.11 49 *e*P **Pn** 05 16 13.1 -2.8
ANN *e*S **Sn** 05 18 07.6 -1.6
ANN pmax pmax
comp=Z,142nm,1.0s
WDD Wied Dalam 10.13 258 **Pn** 05 16 16.7 +0.5
INTR Introdacqua 10.40 293 **Pn** 05 16 20.0 +0.1
KARJ KARJ 10.43 133 P Pn 05 16 08.5 -12
ASF Jabal al Asfar 10.45 125 P **Pn** 05 16 18.7 -2.1
PSZ Piszkesteto 10.59 334 **Pn** 05 16 21.9 -0.6
PSZ Piszkesteto 10.59 334 P **Pn** 05 16 21.9 -0.6
PRNI Paran 10.66 138 Pn **Pn** 05 16 22.5 -1.0
PRNI Sn **Sn** 05 18 16.8 -5.9
KRMI Paran Flat 10.70 140 Pn **Pn** 05 16 22.3 -1.8
KRMI Sn Sn 05 18 15.5 -8.2
CLTB Caltabellotta 10.72 269 **Pn** 05 16 25.4 +1.0
KOLS Kolonicke sedl 10.85 344 *e*PN **Pn** 05 16 27.5 +1.5
KOLS *e* 05 21 31.1
KOLS Kolonicke sedl 10.85 344 *e*P **Pn** 05 16 27.5 +1.5
AQU L'Aquila 10.85 295 **Pn** 05 16 25.9 -0.2
AQU L'Aquila 10.85 295 P **Pn** 05 16 25.9 -0.2
KECS Kecovo 10.89 337 *e*PN **Pn** 05 16 29.6 +3.0
KECS Kecovo 10.89 337 *e*P **Pn** 05 16 29.6 +3.0
CAMP Campotosto 10.90 295 **Pn** 05 16 26.2 -0.6
HRFI Mount Harif 10.93 139 Pn **Pn** 05 16 26.2 -0.9
HRFI Sn **Sn** 05 18 21.9 -7.4
SOC Sochi 10.98 59 *e*P **Pn** 05 16 27.1 -0.7
SOC *e* 05 18 31.8
SOC MLR MLR
comp=Z,367nm,17.0s
BOJS Bojanci 11.00 313⇓ *i*P **Pn** 05 16 27.2 -0.8
KOGS Kog 11.04 319 *i* Pn **Pn** 05 16 28.8 +0.2
MBRI Mt Berech 11.06 140 Pn **Pn** 05 16 28.1 -0.9
MBRI Sn **Sn** 05 18 26.1 -6.5
MBRI Mt Berech 11.06 140 P **Pn** 05 16 27.9 -1.1
CRES Cresnjev 11.07 314 *e*P **Pn** 05 16 29.5 +0.5
SRO Srobarova 11.09 329 *e*PN **Pn** 05 16 30.0 +0.7
SRO Srobarova 11.09 329 *e*P **Pn** 05 16 30.0 +0.7
GUMA Gualdo di Mace 11.11 298 **Pn** 05 16 29.1 -0.5
EIL Elat 11.18 140 Pn **Pn** 05 16 29.5 -1.1
EIL Sn **Sn** 05 18 29.5 -5.9
EIL Elat 11.18 140 Pn **Pn** 05 16 29.6 -0.9
comp=Z,2.4nm,0.3s,baz=334,slow=3.3,SNR=22
EIL Sn **Sn** 05 18 29.5 -5.9
comp=Z,2.3nm,0.3s,baz=43,slow=17,SNR=2.0
comp=Z,5.9nm,0.3s
AQBJ Aqaba 11.18 140 P **Pn** 05 16 27.6 -3.0
NRCA Norcia 11.19 297 **Pn** 05 16 30.6 -0.2
LEGS Legarje 11.22 315 *i* Pn **Pn** 05 16 31.6 +0.5
FDMO Fiordimonte 11.27 298 **Pn** 05 16 31.5 -0.4
LVV L'vov 11.41 351 *e*P **Pn** 05 16 32.2 -1.4
LVV *e*S **Sn** 05 18 38.2 -2.6
LVV pmax pmax
comp=Z,30nm,1.1s
LVV MLR MLR
comp=E,800nm,8.6s
LVV MLR MLR
comp=N,1μm,9.8s
LVV MLR MLR
comp=Z,1μm,9.6s
VYHS Vyhne 11.45 332 *e*PN **Pn** 05 16 33.6 -0.6
VYHS *e* 05 21 47.6
VYHS Vyhne 11.45 332 *e*P **Pn** 05 16 33.6 -0.6
PDKS Podkum 11.47 314 *i* Pn **Pn** 05 16 34.8 +0.3
CESX Cesi 11.51 295 **Pn** 05 16 34.8 -0.2
CEY Cerknica 11.61 312⇓ *i*P **Pn** 05 16 36.2 -0.2
LANS Liptovska Anna 11.80 336 *e*PN **Pn** 05 16 41.5 +2.5
LANS Liptovska Anna 11.80 336 *e*P **Pn** 05 16 41.5 +2.5
SOKA Soboth 11.82 317 *e*Pn **Pn** 05 16 39.7 +0.2
comp=Z,4.0nm,0.5s,SNR=8.3
RONA Rosalia, Austr 11.88 323 *e*Pn **Pn** 05 16 40.4 +0.2
comp=Z,10nm,0.6s,SNR=7.9
ZST Bratislava 11.89 327 *e*PN **Pn** 05 16 41.8 +1.5
ZST Bratislava 11.89 327 *e*P **Pn** 05 16 41.8 +1.5
ARSA Arzberg 11.95 320 *e*Pn **Pn** 05 16 40.7 -0.3
comp=Z,11nm,0.7s,SNR=12
MODS Modra-Piesok 11.96 328 *e*PN **Pn** 05 16 41.9 +0.7
MODS Modra-Piesok 11.96 328 *e*P **Pn** 05 16 41.9 +0.7
OBKA Obir 11.98 315 *e*Pn **Pn** 05 16 42.1 +0.5
comp=Z,9.7nm,0.9s
OBKA Obir 11.98 315⇓ *i*P **Pn** 05 16 42.4 +0.8
JAVC Velka Javorina 12.19 330 *e*PN **Pn** 05 16 43.6 -0.8
SABO M.te Sabotino 12.22 311 **Pn** 05 16 44.1 -0.8
KIEV Kiev 12.24 7 ⇓P **Pn** 05 16 45.0 0.0
KIEV Kiev 12.24 7 **Pn** 05 16 46.2 +1.2
KIEV Kiev 12.24 7 P **Pn** 05 16 45.0 0.0
AKASG Malin Array Be 12.25 7 Pn **Pn** 05 16 41.7 -3.4
comp=Z,1.5nm,0.3s,baz=200,slow=11,SNR=8.9
AKASG Sn **Sn** 05 18 55.5 -5.9
comp=Z,1.4nm,0.3s,baz=204,slow=22,SNR=3.3
AKASG LR LR 05 21 43.3
comp=Z,337nm,19.4s,baz=212,slow=39
comp=Z,0.5nm,0.4s
AKBB Malin Array Si 12.25 7 **Pn** 05 16 46.6 +1.5
AKBB Malin Array Si 12.25 7⇓ *e*P **Pn** 05 16 44.9 -0.2
CONA Conrad Observa 12.25 323 *e*Pn **Pn** 05 16 45.7 +0.5
comp=Z,9.6nm,0.9s,SNR=9.2
PRED Cave del Predi 12.50 313 **Pn** 05 16 48.3 -0.3
MAUC Maruska 12.54 332 *e*P **Pn** 05 16 48.5 -0.7
MYKA Terra Mystica 12.56 314 *e*P **Pn** 05 16 50.7 +1.2
comp=Z,9.1nm,0.6s,SNR=12
OSSC Osservatorio P 12.70 298 **Pn** 05 16 50.5 -0.9
OKC Ostrava-Krasne 12.83 334 AMS AMS 05 22 50.0
comp=Z,1μm,10.4s
KRUC Moravsky 12.86 328 *e*PN **Pn** 05 16 52.1 -1.4
STAL STALIGIÁL 12.90 311 **Pn** 05 16 53.5 -0.6
CLUD Cludinico 12.90 312 **Pn** 05 16 54.5 +0.4
VRAC Vranov 12.97 329 *e*PN **Pn** 05 16 53.8 -1.3
VRAC Vranov 12.97 329 Pn **Pn** 05 16 52.7 -2.4
comp=Z,0.2nm,0.3s,baz=159,slow=12,SNR=6.3
VRAC LR LR 05 22 08.0
comp=Z,289nm,19.4s,baz=140,slow=39
comp=Z,4.6nm,1.0s
MOA Molin 12.98 320 *e*Pn **Pn** 05 16 55.7 +0.5
comp=Z,15nm,1.5s,SNR=6.3
KBA Koelnbreinsper 12.99 315 *e*Pn **Pn** 05 16 54.7 -0.8
comp=Z,8.0nm,0.6s
MORC Moravsky Berou 12.99 332 **Pn** 05 16 55.8 +0.5
MORC Moravsky Berou 12.99 332 *e*PN **Pn** 05 16 55.0 -0.3
MORC Moravsky Berou 12.99 332 P **Pn** 05 16 55.8 +0.5
TEOL Teolo 13.10 306 **Pn** 05 16 55.7 -1.1
KIV Kislovodsk 13.13 61 *e*P Pn 05 16 52.1 -5.2
KIV pmax pmax
comp=Z,10.0nm,0.9s
KIV MLR MLR
comp=Z,92nm,13.0s
ZCCA Zocca 13.16 301 **Pn** 05 16 57.3 -0.4
BIOA Bad Ischl, Aus 13.20 318 *e*Pn **Pn** 05 16 58.3 +0.1
comp=Z,25nm,1.5s,SNR=14
KBZ Khabaz 13.20 62⇑ *e*P **Pn** 05 16 58.2 +0.1
KBZ Khabaz 13.20 62 Pn **Pn** 05 16 59.3 +1.1
comp=Z,0.1nm,0.3s,baz=260,slow=14,SNR=0.9
KBZ LR LR 05 23 24.4
comp=Z,288nm,18.4s,baz=252,slow=44
comp=Z,1.1nm,0.8s
ABTA Abfaltersbach 13.27 313 *e*Pn **Pn** 05 16 59.1 -0.1
comp=Z,27nm,0.6s,SNR=21
CTI Castel Tesino 13.43 309 **Pn** 05 17 00.2 -1.2
CTI Castel Tesino 13.43 309 P **Pn** 05 17 00.2 -1.2
KRLC Kraliky 13.52 331 AMS AMS 05 23 20.0
comp=Z,1μm,11.9s
LESA Schwarzleotal 13.56 315 *e*Pn **Pn** 05 17 03.2 +0.1
comp=Z,9.5nm,0.5s
CKRC Cesky Krumlov 13.62 323 *e*P **Pn** 05 17 05.8 +2.0
CKRC *ex* x 05 17 13.2
CKRC AMS AMS 05 23 00.0
comp=Z,1μm,10.4s
CKRC Cesky Krumlov 13.62 323 *e*P **Pn** 05 17 05.8 +2.0
CKRC MLR MLR
comp=Z,1μm,10.4s
PRMA PARMA 13.75 302 **Pn** 05 17 06.5 +0.9
DPC Dobruska-Polom 13.91 331 *e*P **Pn** 05 17 08.0 +0.1
DPC *ex* x 05 17 16.9
DPC Dobruska-Polom 13.91 331 *e*P **Pn** 05 17 08.0 +0.1

GEC2 GERESS Array S 13.92 322 *e*P **P** 05 17 18.0 +1.7
comp=Z,24nm,0.8s,baz=129,slow=11
GERES GERESS Array B 13.92 322 **Pn** 05 17 06.8 -1.3
GERES GERESS Array B 13.92 322 P **Pn** 05 17 06.8 -1.3
GERES GERESS Array B 13.92 322 Pn **Pn** 05 17 08.2 +0.1
comp=Z,0.2nm,0.3s,baz=134,slow=19,SNR=5.8
GERES LR LR 05 22 10.6
comp=Z,149nm,20.7s,baz=135,slow=36
comp=Z,1.3nm,0.7s
SALO Salr 13.94 305 **Pn** 05 17 07.1 -1.2
WTTA Wattenberg 14.05 313 *e*Pn **Pn** 05 17 10.9 +0.9
comp=Z,26nm,0.4s,SNR=19
ZVC Zvikov 14.11 324 *e*P **Pn** 05 17 10.9 +0.4
ZVC *ex* x 05 17 19.5
ZVC AMS AMS 05 23 20.0
comp=Z,1μm,9.6s
OSTC Ostas 14.12 331 *e*P **P** 05 17 19.3 +1.0
OSTC Ostas 14.12 331 *e*P **P** 05 17 19.3 +1.0
WATA Walderalm 14.13 313 *e*Pn **Pn** 05 17 11.0 0.0
comp=Z,16nm,0.5s,SNR=10
MSSA Maissana 14.13 299 Pn **Pn** 05 17 10.2 -0.8
UPC Upice 14.16 331 AMS AMS 05 23 30.0
comp=Z,1μm,7.5s
KEST Kesra 14.17 264 **Pn** 05 17 11.6 0.0
KEST Kesra 14.17 264 Pn **Pn** 05 17 12.0 +0.4
comp=Z,0.1nm,0.3s,baz=56,slow=15,SNR=5.6
KEST LR LR 05 23 59.8
comp=Z,247nm,18.3s,baz=69,slow=43
comp=Z,6.6nm,1.0s
KHC Kasperske Hory 14.18 322 **Pn** 05 17 11.7 +0.1
KHC Kasperske Hory 14.18 322 *e*P **Pn** 05 17 12.3 +0.8
KHC *e*pP **P** 05 17 20.4 +1.4
KHC AMS AMS 05 23 20.0
comp=Z,1μm,8.9s
KHC Kasperske Hory 14.18 322⇑ *e*P **Pn** 05 17 08.9 -2.6
GOPC GO Pecny, Ondr 14.19 327 *e*P **P** 05 17 20.2 +1.0
GOPC AMS AMS 05 23 20.0
comp=Z,800nm,9.6s
GOPC GO Pecny, Ondr 14.19 327 *e*P **P** 05 17 20.2 +1.0
GOPC MLR MLR
comp=Z,800nm,9.6s
CHVC Chvalec 14.21 331 *e*P **Pn** 05 17 11.7 -0.2
CHVC *ex* x 05 17 20.4
CHVC Chvalec 14.21 331 *e*P **Pn** 05 17 11.7 -0.2
SQTA Sankt Quirin 14.28 312 *e*Pn **Pn** 05 17 13.0 0.0
comp=Z,34nm,0.5s,SNR=29
PRU Pruhonice 14.35 327 *e*P **Pn** 05 17 13.5 -0.4
PRU *e*pP **P** 05 17 21.5 +0.6
PRU AMS AMS 05 23 30.0
comp=Z,1μm,8.9s
PRU Pruhonice 14.35 327 *e*P **Pn** 05 17 13.5 -0.4
PRU MLR MLR
comp=Z,1μm,8.9s
MOTA Moosalm 14.40 312 *e*Pn **Pn** 05 17 14.9 +0.1
comp=Z,17nm,0.6s,SNR=17
FETA Feichten 14.46 311 *e*Pn **Pn** 05 17 15.2 -0.3
comp=Z,66nm,1.4s,SNR=12
PRA Prague 14.46 327 AMS AMS 05 23 50.0
comp=Z,1μm,8.7s
WET Wettzell 14.53 321 *e*P **P** 05 17 24.2 +1.3
comp=Z,36nm,0.9s,baz=129,slow=11
FUORN Ofenpass-Fuorn 14.55 309 **Pn** 05 17 16.7 -0.1
RETA Reutte 14.68 312 *e*Pn **Pn** 05 17 18.1 -0.3
comp=Z,6.2nm,0.4s
PVCC Panska Ves 14.75 328 *e*P **P** 05 17 26.4 +1.1
PVCC Panska Ves 14.75 328 *e*P **P** 05 17 26.4 +1.1
FUR Furstenfeldbru 14.76 315 *e*P **P** 05 17 26.5 +1.0
comp=Z,45nm,0.7s,baz=129,slow=11
DAVOX Davos/Dischmat 14.85 309 Pn **Pn** 05 17 20.4 -0.6
comp=Z,1.0nm,0.3s,baz=148,slow=16,SNR=20
comp=Z,9.7nm,0.7s
TUE Stuetta 15.05 307 **Pn** 05 17 23.5 0.0
DAVA Damuels 15.09 311 *e*Pn **Pn** 05 17 23.5 -0.6
comp=Z,43nm,1.2s
UBR Ueberruh 15.16 312 *e*P **P** 05 17 31.1 +1.1
comp=Z,84nm,0.8s,baz=129,slow=11
VORD Divnogorie 15.22 32 *e*P **Pn** 05 17 24.8 -0.8
VORD pmax pmax
comp=Z,10.0nm,0.4s
BRG Berggiesshubel 15.27 328 *i* P **P** 05 17 32.4 +1.3
BRG Amp 05 17 33.4
comp=Z,18nm,1.0s
BRG Berggiesshubel 15.27 328 P **P** 05 17 37.0 +6.0
BRG Amp 05 17 38.1
comp=Z,7.2nm,0.9s
BRG Amp 05 24 29.0
comp=E,0.4nm,6.3s
BRG Amp 05 24 34.0
comp=Z,1.0nm,14.0s
BRG Amp 05 24 38.0
comp=N,1.2nm,10.9s
BRG Berggiesshubel 15.27 328 *i* P **P** 05 17 32.4 +1.3
BRG pmax pmax
comp=Z,18nm,1.0s
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG MLR MLR
comp=E,396nm,6.3s
BRG MLR MLR
comp=Z,1μm,14.0s
BRG MLR MLR
comp=N,1μm,10.9s
BRG Berggiesshubel 15.27 328 *e*P **P** 05 17 31.9 +0.8
comp=N,18nm,1.0s,baz=129,slow=11
ROTZ Rotzenmuhle 15.27 322 *e*P **P** 05 17 31.7 +0.6
comp=N,3.7nm,1.0s,baz=129,slow=11
HSKC Hora Svate Kat 15.29 326 *e*P **Pn** 05 17 24.9 -1.7
HSKC *ex* x 05 17 32.0
HSKC AMS AMS 05 24 10.0
comp=N,1μm,8.5s
VSR Storozhevoye 15.37 31 *e*P **Pn** 05 17 25.3 -2.2
VSR pmax pmax
comp=Z,10.0nm,0.5s
MANZ Manzenberg 15.46 322 *e*P **P** 05 17 34.5 +1.2
baz=129,slow=11
NKC Novy Kostel 15.47 323 AMS AMS 05 24 10.0
comp=Z,900nm,12.4s
WERN Wernitzgruen 15.54 324 *e*P **P** 05 17 35.5 +1.3
baz=129,slow=11
FBE Freiberg 15.55 327 *e*P **P** 05 17 35.7 +1.5
baz=129,slow=11
TANN Tannenbergstha 15.59 324 *e*P **P** 05 17 35.6 +0.9
baz=129,slow=11
GUNZ Gunzen 15.61 324 *e*P **P** 05 17 36.1 +1.2
baz=129,slow=11
WERD Werda 15.68 324 *e*P **P** 05 17 36.8 +1.1
baz=129,slow=11
GRF Grafenberg Arr 15.71 320 *e*P **P** 05 17 37.1 +1.1
baz=129,slow=11
GRF *e*L L 05 23 10.0
comp=Z,178nm,19.4s
VORR Voronezh 15.74 30 *e*P **P** 05 17 34.7 -1.5
VORR pmax pmax
comp=Z,39nm,1.9s
PLN Plauen 15.78 324 *e*P **P** 05 17 38.1 +1.3
baz=129,slow=11
MNK Minsk 15.95 2 *i* P **P** 05 17 39.9 +1.3
comp=E,5.0nm,0.9s
MNK *i* P **P** 05 17 39.9 +1.3
comp=N,50nm,1.1s
MNK *i* P **P** 05 17 39.9 +1.3
comp=Z,64nm,1.3s,baz=184
MNK *i* PP **PnPn** 05 17 48.5 +4.9
MNK *i* S **S** 05 20 41.0 -4.5
MNK *i* SS **SnSn** 05 20 52.0 +7.5
MNK *i* LQ LQ 05 22 22.2
MNK *i* LR LR 05 23 07.9
MNK *i* LRM MLR 05 23 26.3
comp=N,339nm,19.3s
MNK *i* LRM MLR 05 23 29.8
comp=E,379nm,18.7s
MNK *i* LRM MLR 05 23 29.8
comp=Z,275nm,18.5s
MNK Minsk 15.95 2*c* *i*P **P** 05 17 39.8 +1.3
CLL Collm 15.99 327 **Pn** 05 17 33.9 -1.7
CLL Collm 15.99 327 *i* P **Pn** 05 17 35.9 +0.3
comp=Z,20nm,1.3s
CLL *i* x x 05 17 39.8
CLL *i* PP **PnPn** 05 17 45.7 +1.5
CLL AMS AMS 05 24 00.0
comp=Z,300nm,21.6s
CLL Collm 15.99 327 *i* P **Pn** 05 17 35.9 +0.3
CLL pmax pmax
comp=Z,20nm,1.3s
CLL MLR MLR
comp=Z,300nm,21.6s

CLL Collm 15.99 327 *e*P **P** 05 17 39.8 +0.8
baz=129,slow=11
MOX Moxa 16.14 323 *e*P **P** 05 17 42.8 +2.0
baz=129,slow=11
MOX *e*L L 05 25 26.9
comp=Z,246nm,20.4s
BNI Bardonecchia 16.29 300 **Pn** 05 17 40.3 +0.7
BNI IAmb IAmb 05 17 46.8
comp=Z,33nm,1.1s
BNI Bardonecchia 16.29 300 P **Pn** 05 17 40.3 +0.7
BNI pmax pmax
comp=Z,33nm,1.1s
SENIN Lac Senin/Sane 16.30 305 Pn **Pn** 05 17 39.2 -0.6
SENIN IAmb IAmb 05 17 49.8
comp=Z,79nm,0.8s
NACGM Naroch 16.33 0 *e*P **Pn** 05 17 36.5 -3.4
comp=E,1μm,0.7s
LPSR Galich'ya Gora 16.37 27 *e*P **Pn** 05 17 37.8 -2.7
LPSR pmax pmax
comp=Z,30nm,0.8s
VRH Novokhopyorsk 16.44 35 *e*P **Pn** 05 17 39.9 -1.5
VRH pmax pmax
comp=Z,30nm,0.8s
BFO Black Forest 16.52 312 **Pn** 05 17 41.8 -0.6
BFO Black Forest 16.52 312 P **Pn** 05 17 41.8 -0.6
BFO pmax pmax
comp=Z,18nm,0.9s
BFO Black Forest 16.52 312 *e*P **P** 05 17 45.6 +0.6
baz=129,slow=11
ISAL Salakas 17.01 359 *e*P **P** 05 17 50.9 +0.6
PABE Paberze 17.04 355 *e*P **P** 05 17 50.7 +0.1
ECH Echery 17.15 310 **Pn** 05 17 49.5 -0.9
ECH Echery 17.15 310 P **Pn** 05 17 49.5 -0.9
ECH pmax pmax
comp=Z,14nm,0.9s
IZAR Zarasai 17.18 359 *e*P **P** 05 17 53.2 +1.0
TNS Taunus Mts 17.46 318 *e*P **P** 05 17 56.9 +1.5
baz=129,slow=11
FLTG Flechtingen 17.49 327 *e*P **P** 05 17 56.7 +1.1
baz=129,slow=11
VSVD Vaisvydziai 17.51 355 *e*P **P** 05 17 56.4 +0.6
GTTG Gottingen 17.52 323 *e*P **P** 05 17 59.2 +3.3
baz=129,slow=11
CLZ Clausthal 17.53 324 *e*P **P** 05 17 57.9 +1.8
baz=129,slow=11
OBN Obninsk 17.82 19⇑ *i*P **P** 05 17 59.8 +0.5
OBN S **Sn** 05 21 20.0 +3.1
OBN pmax pmax
comp=Z,18nm,0.8s
OBN MLR MLR
comp=Z,296nm,14.0s
OBN Obninsk 17.82 19 P **Pn** 05 17 57.2 -1.3
comp=Z,3.3nm,0.3s,baz=173,slow=16,SNR=1.7
OBN LR LR 05 25 50.6
comp=Z,174nm,19.1s,baz=192,slow=41
comp=Z,10nm,0.3s
KASTN Kahler Asten 18.05 320 *e*P **P** 05 18 04.0 +2.1
baz=129,slow=11
NRDL Niedersach Rie 18.09 326 *e*P **P** 05 18 04.6 +2.3
baz=129,slow=11
AHRW Bad Neuenahr-A 18.36 317 *e*P **P** 05 18 07.5 +2.2
baz=129,slow=11
WLF Walferdange 18.42 314 *d*P **Pn** 05 18 06.9 +0.9
comp=Z,14nm,1.2s
WLF Walferdange 18.42 314 *e*P **Pn** 05 18 07.2 +1.2
baz=129,slow=11
RETH Rethem/Aller, 18.59 325 *e*P **Pn** 05 18 09.6 +1.6
baz=129,slow=11
MOS Moscow 18.65 19 *e*P **P** 05 18 04.4 -4.0
MOS *e*S Sn 05 21 25.2 -12
BUG Bochum--Univer 18.77 320 *e*P **Pn** 05 18 12.2 +2.0
baz=129,slow=11
BTNL Ternell 18.90 316 *d*P **Pn** 05 18 13.0 +1.2
MEM Membach 18.98 316 *d*P **Pn** 05 18 13.6 +0.8
comp=Z,11nm,0.9s
BSEG Bad Segeberg 19.03 329 *e*P **Pn** 05 18 13.3 0.0
comp=Z,21nm,0.8s,baz=129,slow=11
RCHB Rochefort 19.18 314 *d*P **Pn** 05 18 16.8 +1.6
BSTI Sart Tilman 19.20 316 *d*P **Pn** 05 18 16.4 +0.9
comp=Z,2.9nm,1.1s
LUNU Lund 19.26 337 *i* P **Pn** 05 18 18.9 +2.9
BCLA Clavier 19.27 315 *d*P **Pn** 05 18 16.4 +0.1
comp=Z,13nm,1.0s
BGES Gesves 19.37 315 *d*P **Pn** 05 18 17.9 +0.4
comp=Z,11nm,1.1s
BMRD Maredsous 19.51 314 *d*P **Pn** 05 18 18.8 -0.4
comp=Z,6.4nm,0.9s
DOU Dourbes 19.51 313 *d*P **P** 05 18 17.3 -0.6
comp=Z,13nm,0.9s
BJUU Bjuv 19.76 337 *i* P **P** 05 18 19.8 -0.7
DEL Delary 19.84 339 *i* P **P** 05 18 20.8 -0.6
VSU Vasula 19.90 360 *e*P **P** 05 18 23.1 +1.0
VSU Vasula 19.90 360⇑ *e*P **P** 05 18 22.6 +0.6
VSU pmax pmax
comp=Z,28nm,1.6s
BELG Belogornoye 20.02 40⇑ *e*P **P** 05 18 22.1 -1.3
BELG pmax pmax
comp=Z,5.0nm,1.1s
BELG Belogornoye 20.02 40 P **P** 05 18 23.0 -0.4
comp=Z,1.0nm,0.3s,baz=229,slow=3.5,SNR=6.4
BELG LR LR 05 27 19.1
comp=Z,110nm,19.5s,baz=185,slow=40
comp=Z,15nm,0.7s
CLF Chambon-Foret 20.10 306 P **P** 05 18 24.5 +0.2
MTSE Matsula 20.24 356 *e*P **P** 05 18 25.9 +0.2
BORU Boraas 21.15 339 *i* P **P** 05 18 33.8 -1.9
ONAU Onsala 21.20 337 *i* P **P** 05 18 35.8 -0.3
MEF Metsahovi 21.71 357 *e*P **P** 05 18 42.6 +1.1
FINES FINESS Array B 22.89 359 P **P** 05 18 54.3 +0.1
FINES FINESS Array B 22.89 359 *i* P **P** 05 18 54.5 +0.3
FINES pmax pmax
comp=Z,15nm,0.9s
FINES FINESS Array B 22.89 359 P **P** 05 18 54.0 -0.3
comp=Z,15nm,0.9s,baz=157,slow=11,SNR=34
FINES LR LR 05 27 39.2
comp=Z,175nm,19.7s,baz=175,slow=36
comp=Z,15nm,0.9s
HFS Hagfors 23.11 343 P **P** 05 18 54.9 -1.6
comp=Z,1.7nm,0.5s,baz=150,slow=12,SNR=10.0
HFS LR LR 05 28 24.0
comp=Z,321nm,18.8s,baz=160,slow=38
comp=Z,1.7nm,0.5s
KLMR Klimovskoe 23.69 16 *e*P **P** 05 19 01.9 -0.3
KLMR *e*P **P** 05 19 01.9 -0.3
KLMR *e*P **P** 05 19 01.9 -0.3
KLMR AMP 05 19 06.3
comp=Z,36nm,1.2s
KLMR S **S** 05 23 17.4 +0.8
KLMR S **S** 05 23 17.4 +0.8
KLMR LQ LQ 05 26 28.4
KLMR LQ LQ 05 26 28.4
KLMR LR LR 05 27 55.1
KLMR Klimovskoe 23.69 16 *e*P **P** 05 19 01.9 -0.3
KLMR S **S** 05 23 17.4 +0.8
KLMR pmax pmax
comp=Z,36nm,1.2s
KONO Kongsberg 23.75 338⇓ *e*P **P** 05 19 02.3 -0.5
KONO pmax pmax
comp=Z,17nm,1.2s
ESBB Sonseca Array 23.80 282 P **P** 05 19 04.3 +0.7
ESBB IAmb IAmb 05 19 06.4
comp=Z,30nm,1.2s
ESDC Sonseca Array 23.80 282 P **P** 05 19 03.8 +0.2
ESDC IAmb IAmb 05 19 06.3
comp=Z,20nm,1.4s
ESDC Sonseca Array 23.80 282 P **P** 05 19 02.7 -1.0
comp=Z,10nm,0.9s,baz=72,slow=9.7,SNR=47
ESDC LR LR 05 28 30.0
comp=Z,87nm,18.9s,baz=85,slow=37
comp=Z,10nm,0.9s
PAB San Pablo 24.12 282 P **P** 05 19 07.1 +0.5
PAB IAmb IAmb 05 19 09.4
comp=Z,28nm,1.1s
PAB San Pablo 24.12 282 P **P** 05 19 07.1 +0.5
PAB pmax pmax
comp=Z,28nm,1.2s
NAO01 NORSAR Array S 24.41 341 P **P** 05 19 08.9 0.0
NC405 NORSAR Array S 24.43 342 P **P** 05 19 08.7 -0.6
NC405 IAmb IAmb 05 19 26.1
comp=Z,34nm,1.3s
NB2 NORSAR Subarra 24.49 342 P **P** 05 19 08.4 -1.4
comp=Z,7.6nm,0.9s,baz=144,slow=10
NOA NORSAR Array B 24.49 342 P **P** 05 19 08.7 -1.1
comp=Z,5.6nm,1.0s,baz=150,slow=11,SNR=11
NOA LR LR 05 30 26.8
comp=Z,196nm,20.8s,baz=160,slow=41

comp=Z,5.6nm,1.0s
NBO00 NORSAR Array S 24.59 341 P P 05 19 10.8 +0.1
KIRV Kirov 24.79 29⇓ eP P 05 19 14.8 +2.4
AKTO Aktyubinsk 25.05 52 P P 05 19 16.6 +1.6
comp=Z,4.6nm,0.7s,baz=251,slow=12,SNR=17
comp=Z,4.6nm,0.7s
PBRG Braganca 25.70 288 eP P 05 19 20.8 -0.1
comp=Z,30nm,1.6s
PBRG epP sP 05 19 33.1 +6.6
PRGR Permogore 25.87 21 eP P 05 19 23.8 +1.7
PRGR pmax pmax
comp=Z,45nm,0.8s
MVO Moncorvo 25.97 286 eP P 05 19 23.5 +0.1
comp=Z,25nm,1.7s
MVO epP sP 05 19 36.7 +7.7
EKA Eskdalemuir Ar 26.12 320 P P 05 19 25.2 +0.6
comp=Z,3.4nm,0.6s,baz=113,slow=12,SNR=18
comp=Z,3.4nm,0.6s
PBAR Barrancos 26.41 280 eP P 05 19 25.5 -1.9
comp=Z,30nm,1.4s
MTE Manteigas 26.44 285 eP P 05 19 27.9 +0.2
comp=Z,33nm,1.7s
PMRV Marv??o 26.46 283 eP P 05 19 27.9 +0.1
comp=Z,33nm,1.5s
PCBR Castelo Branco 26.47 284 eP P 05 19 28.4 +0.6
comp=Z,24nm,1.6s
PCBR epP sP 05 19 40.2 +6.8
PVRL Vila Real 26.47 287 eP P 05 19 28.4 +0.5
comp=Z,17nm,2.2s
POLO Lamas de Olo 26.52 287 eP P 05 19 29.1 +0.7
comp=Z,12nm,1.6s
PESTR Estremoz 26.71 281 eP P 05 19 30.0 -0.1
comp=Z,26nm,1.1s
PESTR Estremoz 26.71 281 P P 05 19 29.9 -0.2
PESTR IAmb IAmb 05 19 30.8
comp=Z,12nm,0.8s
PGAV Gavieira, Arco 26.82 288 eP P 05 19 30.7 -0.5
comp=Z,30nm,1.2s
PBEJ Beja 27.08 280 eP P 05 19 33.8 +0.4
comp=Z,25nm,1.4s
PTO Porto 27.15 287 eP P 05 19 35.1 +1.1
comp=Z,24nm,1.5s
PMTG Montargil 27.16 282 eP P 05 19 33.7 -0.4
comp=Z,22nm,1.4s
PCVE Castro Verde 27.30 279 eP P 05 19 36.5 +1.1
comp=Z,40nm,1.8s
PBDV Barranco-do-Ve 27.31 278 eP P 05 19 34.5 -1.0
comp=Z,70nm,1.5s
MESJ Messejana 27.40 279 eP P 05 19 37.3 +1.1
comp=Z,24nm,1.7s
ARU Arti 27.57 39 *c i* P P 05 19 38.4 +0.8
ARU 05 20 19.7
ARU S S 05 24 21.6 +3.2
ARU SS SnSn 05 25 33.0 +3.9
ARU pmax pmax
comp=Z,16nm,1.4s
PNCL Nicolau / Gran 27.58 280 eP P 05 19 39.6 +1.8
comp=Z,22nm,1.5s
ARCES ARCESS Array B 31.02 359 P P 05 20 08.1 -0.1
ARCES IAmb IAmb 05 20 12.7
comp=Z,15nm,1.2s
ARCES ARCESS Array B 31.02 359 P P 05 20 08.0 -0.1
ARCES ARCESS Array B 31.02 359 P P 05 20 08.0 -0.1
comp=Z,5.0nm,0.9s,baz=165,slow=5.0,SNR=7.5
comp=Z,5.0nm,0.9s
BRVK Borovoye 33.05 50⇓ eP P 05 20 25.9 -0.2
BRVK pmax pmax
comp=Z,6.0nm,1.3s
TOA0 Torodi Ar. Sit 33.70 228 P P 05 20 32.2 +0.2
TOA0 IAmb IAmb 05 20 41.9
comp=Z,6.8nm,0.8s
TORD Torodi Ar. Bea 33.70 228 P P 05 20 32.0 -0.1
TORD IAmb IAmb 05 20 48.9
comp=Z,4.6nm,0.8s
TORD Torodi Ar. Bea 33.70 228 P P 05 20 32.3 +0.3
comp=Z,3.3nm,0.7s,baz=35,slow=9.2,SNR=26
TORD PcP **PcP 05 23 13.7 +1.9**
comp=Z,1.0nm,0.8s,baz=39,slow=2.8,SNR=3.2
comp=Z,3.3nm,0.7s
LODK Lodwar 35.86 165 P P 05 20 51.4 +0.6
AAK Ala-Archa 36.09 68 LR LR 05 38 05.8
comp=Z,369nm,18.5s,baz=279,slow=40
KURBB Kurchatov Arra 38.03 54 P P 05 21 08.9 +0.1
comp=Z,6.2nm,0.8s,baz=279,slow=8.6,SNR=19
comp=Z,6.2nm,0.8s
KURK Kurchatov 38.09 54 P P 05 21 09.8 +0.5
KURK IAmb IAmb 05 21 15.4
comp=Z,5.1nm,0.8s
KURK Kurchatov 38.09 54⇑ eP P 05 21 09.5 +0.2
KURK pmax pmax
comp=Z,2.0nm,0.7s
BORG Borgarnes 38.23 329 LR LR 05 39 27.7
comp=Z,240nm,18.9s,baz=110,slow=40
SPITS Spitsbergen Ar 39.95 357 P P 05 21 24.8 +0.3
comp=Z,11nm,0.9s,baz=134,slow=10,SNR=2.1
SPITS LR LR 05 38 06.8
comp=Z,94nm,19.2s,baz=144,slow=37
comp=Z,11nm,0.9s
SCO Scoresbysund 40.65 337 P P 05 21 31.8 +1.4
SCO IAmb IAmb 05 21 32.8
comp=Z,10nm,0.9s
SCO Scoresbysund 40.65 337 P P 05 21 31.8 +1.4
SCO pmax pmax
comp=Z,10.0nm,0.9s
MK31 Makanchi Array 40.89 60 P P 05 21 33.3 +0.5
MK31 Makanchi Array 40.89 60⇓ eP P 05 21 34.1 +1.3
MKAR Makanchi Array 40.89 60 P P 05 21 33.9 +1.1
MKAR Makanchi Array 40.89 60 P P 05 21 33.2 +0.4
comp=Z,3.0nm,0.8s,baz=279,slow=6.4,SNR=12
MKAR LR LR 05 41 12.9
comp=Z,137nm,18.0s,baz=250,slow=40
comp=Z,3.0nm,0.8s
ZAA0 Zalesovo Array 41.76 49 P P 05 21 40.1 +0.4
ZALV Zalesovo Beam 41.76 49 P P 05 21 39.8 +0.1
ZALV Zalesovo Beam 41.76 49 P P 05 21 39.8 +0.1
ZALV Zalesovo Beam 41.76 49 P P 05 21 39.6 -0.2
comp=Z,3.9nm,0.7s,baz=267,slow=9.4,SNR=12
comp=Z,3.9nm,0.7s
DBIC Dimbokro 42.72 230 P P 05 21 48.5 +0.5
DBIC IAmb IAmb 05 22 06.8
comp=Z,18nm,1.4s
DBIC Dimbokro 42.72 230 P P 05 21 48.5 +0.5
DBIC pmax pmax
comp=Z,18nm,1.4s
DBIC Dimbokro 42.72 230 P P 05 21 48.0 0.0
comp=Z,4.1nm,0.9s,baz=46,slow=7.9,SNR=7.1
comp=Z,4.1nm,0.9s
DGZ Jazzator, Alta 43.82 55⇓ eP P 05 21 58.1 +1.3
DGZ pmax pmax
comp=Z,2.0nm,0.7s
WMQ Urumqi 45.24 63 eP P 05 22 10.8 +2.7
WMQ LR LR
comp=N,640nm,16.9s
WMQ LR LR
comp=E,410nm,16.1s
WMQ LR LR
comp=Z,170nm,19.3s
SUMG Summit 46.28 338 P P 05 22 17.2 +0.9
SUMG IAmb IAmb 05 22 24.9
comp=Z,4.3nm,1.0s
SUMG Summit 46.28 338 P P 05 22 17.2 +0.9
SUMG pmax pmax
comp=Z,4.0nm,1.0s
SFJD Kangerlussuaq 50.33 330 LR LR 05 46 47.8
comp=Z,99nm,18.2s,baz=96,slow=39
SONM Songino Array 56.37 53 P P 05 23 33.0 +1.0
SONM Songino Array 56.37 53 P P 05 23 33.0 +1.0
comp=Z,0.8nm,0.9s,baz=288,slow=8.1,SNR=2.6
comp=Z,0.8nm,0.9s
FRB Frobisher Bay 58.40 329 LR LR 05 51 27.0
comp=Z,90nm,18.3s,baz=36,slow=39
LZH Lanzhou 59.60 66 eP P 05 23 52.4 -2.5
LZH sP sP 05 24 01.3 +0.7
LZH pmax pmax
comp=Z,12nm,1.2s
LZH LR LR
comp=N,320nm,16.9s
LZH LR LR
comp=E,380nm,16.9s
LZH LR LR
comp=Z,280nm,17.3s
SCHQ Schefferville 61.44 319 P P 05 24 06.2 -0.7
comp=Z,12nm,0.8s,baz=56,slow=8.0,SNR=13
SCHQ LR LR 05 48 29.4
comp=Z,50nm,22.0s,baz=199,slow=34
comp=Z,12nm,0.8s
CD2 Chengdu 62.03 71 P P 05 24 10.8 -0.6
YAK Yakutsk 62.29 31 LR LR 05 54 19.7
comp=Z,5.0nm,18.5s,baz=273,slow=39
HHC Hu-ho-hao-te 62.71 58 eP P 05 24 17.3 +1.5
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,260nm,4.8s
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,240nm,4.1s
HHC LR LR
comp=N,260nm,12.9s
HHC LR LR
comp=E,310nm,12.2s
HHC LR LR
comp=Z,240nm,13.0s
PZH PanZhiHua 62.77 77 P P 05 24 21.9 +5.5
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.0s
HIA Hailar 63.74 47⇑ eP P 05 24 23.2 +0.8
HIA pmax pmax
comp=Z,4.0nm,0.9s
BATG Bathurst New B 64.62 311 P P 05 24 28.3 +0.2
CMAR Chiang Mai Arr 64.97 86 P P 05 24 32.9 +2.0
comp=Z,1.2nm,0.3s,baz=300,slow=7.9,SNR=6.0
comp=Z,1.2nm,0.3s
D62A Allapoint, All 66.47 312 P P 05 24 40.5 +0.3
A36M Sachs Harbour 67.98 351 P P 05 24 49.9 +0.7
BILL Bilibino 69.44 15⇓ eP P 05 24 58.9 +0.5
SEY Seymchan 69.92 23⇓ eP P 05 25 01.8 +0.3
SEY pmax pmax
comp=Z,3.0nm,1.4s
FRNY Flat Rock 70.35 312 P P 05 25 04.7 +0.3
KLR Kul'dur 70.36 42 LR LR 06 02 00.2
comp=Z,94nm,18.1s,baz=286,slow=41
FCC Fort Churchill 71.30 332 P P 05 25 10.2 +0.3
FCC Fort Churchill 71.30 332 P P 05 25 10.2 +0.3
FCC pmax pmax
comp=Z,3.0nm,1.0s
NJ2 Nanjing 72.33 63 eP P 05 25 16.3 -0.3
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
C18K Utukok River 72.93 3 P P 05 25 20.3 +0.7
C18K IAmb IAmb 05 25 33.6
comp=Z,14nm,1.5s
SADO Sadowa 73.56 314 LR LR 05 57 30.4
comp=Z,72nm,18.7s,baz=24,slow=36
YKA Yellowknife Ar 74.59 342 *i* P P **05 25 28.8 -0.6**
YKA pmax pmax
comp=Z,4.0nm,1.0s
YKA Yellowknife Ar 74.59 342 P P 05 25 28.9 -0.5
comp=Z,2.9nm,0.9s,baz=33,slow=5.4,SNR=24
comp=Z,2.9nm,0.9s
KSRS Korea Array 75.21 54 P P 05 25 33.6 +0.2
comp=Z,1.6nm,0.8s,baz=328,slow=4.3,SNR=2.8
KSRS LR LR 06 02 58.1
comp=Z,201nm,19.3s,baz=285,slow=39
comp=Z,1.6nm,0.8s
I30M Mount Dempster 75.69 353 P P 05 25 35.9 0.0
I30M IAmb IAmb 05 25 36.7
comp=Z,3.8nm,0.8s
J30M Hart River 76.32 353 P P 05 25 40.2 +0.7
J30M IAmb IAmb 05 25 40.8
comp=Z,5.5nm,0.8s
ILAR Eielson Array 76.86 357 P P 05 25 41.4 -1.0
comp=Z,0.4nm,0.8s,baz=339,slow=4.8,SNR=4.8
comp=Z,0.4nm,0.8s
ULM Lac du Bonnet 78.18 326 P P 05 25 48.9 -1.1
comp=Z,4.5nm,0.8s,baz=60,slow=5.2,SNR=6.4
ULM LR LR 06 00 56.1
comp=Z,89nm,18.1s,baz=20,slow=36
comp=Z,4.5nm,0.8s
HILA High Level 78.62 342 P P 05 25 52.6 +0.4
M29M Somme Creek 78.62 353 P P 05 25 52.7 +0.4
M29M IAmb IAmb 05 25 54.0
comp=Z,10.0nm,1.0s
JNU Nakatsue 79.79 56 LR LR 06 09 47.2
comp=Z,24nm,20.2s,baz=300,slow=42
R33M Jennings River 80.65 349 P P 05 26 04.6 +1.1
R33M IAmb IAmb 05 26 06.1
comp=Z,9.8nm,1.1s
SJG San Juan 81.14 286 LR LR 05 58 54.3
comp=Z,14nm,21.0s,baz=98,slow=33
MJAR Matsushiro Arr 82.11 49 LR LR 06 06 11.7
comp=Z,73nm,18.3s,baz=318,slow=38
TKL Tuckaleechee C 82.15 310 LR LR 06 04 45.6
comp=Z,66nm,18.6s,baz=92,slow=37
BBB Bella Bella 86.99 345 LR LR 06 05 22.5
comp=Z,56nm,18.2s,baz=4.5,slow=36
NEW Newport 87.77 337 LR LR 06 07 20.3
comp=Z,67nm,18.0s,baz=20,slow=37
BDFB Brasilia 88.17 248 P P 05 26 42.6 +0.5
comp=Z,1.4nm,0.7s,baz=60,slow=8.8,SNR=3.0
comp=Z,1.4nm,0.7s
PDAR Pinedale Array 89.84 329 P P 05 26 48.7 -1.2
comp=Z,0.3nm,0.8s,baz=69,slow=5.2,SNR=2.6
PDAR LR LR 06 11 13.5
comp=Z,49nm,21.7s,baz=31,slow=38
comp=Z,0.3nm,0.8s
ANMO Albuquerque 94.98 323 LR LR 06 12 21.0
comp=Z,35nm,18.4s,baz=124,slow=37
YBH Yreka Blue Hor 95.36 338 LR LR 06 14 41.2
comp=Z,68nm,18.3s,baz=30,slow=38
NVAR Mina Array Bea 96.91 333 LR LR 06 14 11.1
comp=Z,95nm,18.8s,baz=22,slow=37
TXAR Lajitas Array 98.11 318 LR LR 06 12 00.9
comp=Z,33nm,18.0s,baz=355,slow=36
WRA Warramunga Arr 115.68 96 PKP PKiKP 05 32 34.1 +0.6
comp=Z,0.3nm,0.7s,baz=329,slow=2.9,SNR=1.9
ASAR Alice Springs 117.37 99 PKP PKPdf 05 32 36.4 -0.3
comp=Z,0.9nm,0.9s,baz=330,slow=3.2,SNR=3.7

ATH 25 05:14:07.0±1.0, 34°39N×23°42E, h14km, ML3.5/6, Manual Solution by M.Kolligri This location: 2019/12/30 10:42:34 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 8 km; Longitude uncertainty: 4 km, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.71**	**51**	P	P	Pb	05 14 21.6	+0.4
GVD				S	S	Sb	05 14 31.2	+0.3
IMMV	**Iera Moni Meta**	**1.17**	**23**	P	Pn	Pn	05 14 27.6	-1.4
IMMV				S	Sg	Sg	05 14 45.1	+0.4
RODP	**Rodopos**	**1.20**	**13**	P	Pn	Pn	05 14 29.0	-0.4
CHAN	**Chania**	**1.24**	**24**	P	Pb	Pb	05 14 30.1	-0.1
TMBK	**Timbaki Herakl**	**1.30**	**58**	P	Pb	Pb	05 14 31.3	0.0
PRNS	**Prines Rethymn**	**1.32**	**42**	P	Pn	Pn	05 14 29.6	-1.5
ANKY	**Antikythira Is**	**1.48**	**356**	P	Pn	Pn	05 14 32.7	-0.5

*BGR **25** 05:14:54.8,29.°11N×56.°94E, h33km, mb4.5*
*IDC **25** 05:15:07.8±0.7, 31.°22N×56.°20E, h0km, mb4.0/18, mbtmp4.1/21, ML3.6/3, MS3.8/4, Error ellipse: s-maj=15.8km s-min=14.5km az=9.0*
*TEH **25** 05:15:07.5, 31.°40N×56.°28E, h5km±8km, ML4.4*
*NEIC **25** 05:15:10.0±1.7, 31.°34N±0.°02×56.°20E±0.°09, h10km±1km, mb4.3/25, Error ellipse: s-maj=13.7km s-min=4.0km az=91.0*
ISC 25 05:15:10.0±0.4, **31°34N**±0°03×**56°27E**±0°04, **h10**km, **n198,** σ1°**24**/188, **mb4.4**/53, **MS3.5**/6, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.43**	**148**	Pg	**Pg**		**05 15 17.3**	**-1.3**
IBAF	**Bafgh**	**0.65**	**293**	Pg	Pg		05 15 20.1	-2.5
KHGB	**Koh Gabri**	**0.98**	**169**	Pg	**Pg**		**05 15 27.3**	**-1.5**
KRM1	**Kerman Provinc**	**1.20**	**134**	Pg	**Pb**		**05 15 32.1**	**-0.9**
TVBK	**TV Kerman**	**1.41**	**162**	Pg	**Pn**		**05 15 36.1**	**0.0**
IMEH	**Mehriz**	**1.42**	**273**	Pg	**Pn**		**05 15 35.2**	**-0.9**
TPRV	**Parvadeh(Tabas**	**1.72**	**12**	Pg	**Pn**		**05 15 39.8**	**-0.3**
NGRK	**Negar Kerman**	**1.73**	**167**	Pg	**Pn**		**05 15 41.9**	**+1.4**
ICHK	**Chekchek**	**1.82**	**300**	Pg	**Pn**		**05 15 41.6**	**0.0**
ISAD	**Sadrabad**	**2.28**	**285**	Pn	**Pn**		**05 15 49.4**	**+1.4**
TKDS	**Koohdasht(Taba**	**2.38**	**17**	Pn	**Pn**		**05 15 48.9**	**-0.3**
BSRN	**Basiran**	**2.52**	**75**	Pn	**Pn**		**05 15 51.4**	**+0.3**
IKOO	**Kooshah**	**2.57**	**64**	Pn	**Pn**		**05 15 52.2**	**+0.3**
ITEG	**Tejag**	**2.62**	**53**	Pn	**Pn**		**05 15 52.2**	**-0.3**
TNSJ	**Nastanj**	**2.63**	**6**	Pn	**Pn**		**05 15 52.2**	**-0.5**
ANAR	**Anarak**	**2.83**	**311**	Pn	**Pn**		**05 15 55.8**	**+0.3**
KBAM	**BAM**	**2.90**	**139**	Pn	**Pn**		**05 15 57.5**	**+1.2**
AFRZ	**Afriz**	**3.12**	**47**	Pn	**Pn**		**05 15 58.9**	**-0.5**
NHDN	**Nehbandan**	**3.24**	**88**	Pn	**Pn**		**05 16 01.2**	**+0.2**
IRAM	**Ramesheh**	**3.35**	**279**	Pn	**Pn**		**05 16 03.4**	**+0.7**
IDAH	**Dahanechah**	**3.36**	**65**	Pn	**Pn**		**05 16 02.6**	**-0.2**
KHNJ	**Kahnooj**	**3.60**	**159**	Pn	**Pn**		**05 16 06.9**	**+0.9**
JHRM	**Jahrom**	**3.66**	**220**	Pn	**Pn**		**05 16 08.1**	**+1.2**
IZEF	**Zefreh**	**3.69**	**296**	Pn	**Pn**		**05 16 08.1**	**+0.8**
IGAR	**Gharneh**	**3.75**	**288**	Pn	**Pn**		**05 16 09.1**	**+1.0**
IBND	**Bandar-abas**	**3.88**	**176**	Pn	**Pn**		**05 16 10.6**	**+0.8**
GENO	**Geno**	**3.93**	**181**	Pn	**Pn**		**05 16 11.8**	**+1.3**
SHRT	**Shahrakht**	**4.11**	**55**	Pn	**Pn**		**05 16 12.9**	**+0.1**
IBRJ	**Brojen**	**4.31**	**279**	Pn	**Pn**		**05 16 16.4**	**+0.5**
KRSH	**Karshahi**	**4.36**	**308**	Pn	**Pn**		**05 16 17.0**	**+0.4**
ZHDN	**Zahedan**	**4.38**	**115**	Pn	**Pn**		**05 16 17.6**	**+0.9**
IKLH	**Kolahrood**	**4.43**	**298**	Pn	**Pn**		**05 16 18.6**	**+1.0**
ISFB	**Sefidab**	**4.53**	**313**	Pn	**Pn**		**05 16 19.3**	**+0.5**
IANJ	**Anjilo**	**4.56**	**335**	Pn	**Pn**		**05 16 19.2**	**-0.2**
QAMS	**Qamsar**	**4.76**	**301**	Pn	**Pn**		**05 16 22.8**	**+0.7**
TBHD	**Torbat heydari**	**4.76**	**31**	Pn	**Pn**		**05 16 22.7**	**+0.7**
ILAS	**Lasjerd**	**4.89**	**326**	Pn	**Pn**		**05 16 24.1**	**+0.3**
AHBU	**AHRAM**	**4.96**	**241**	Pn	**Pn**		**05 16 25.8**	**+1.2**
SBZV	**Sabzevar**	**5.16**	**12**	Pn	**Pn**		**05 16 27.6**	**+0.1**
IFIR	**Firoozkooh**	**5.20**	**327**	Pn	**Pn**		**05 16 28.6**	**+0.5**
DSBU	**Dashti - Bushe**	**5.26**	**237**	Pn	**Pn**		**05 16 30.1**	**+1.3**
SHME	**Shamm**	**5.27**	**181**	P	Pn		05 16 35.2	+6.4
IVRN	**Varamin**	**5.27**	**315**	Pn	**Pn**		**05 16 29.5**	**+0.6**
BANOM	**Banah**	**5.40**	**180**	P	**Pn**		**05 16 35.0**	**+4.4**
IDMV	**Damavand**	**5.51**	**321**	Pn	**Pn**		**05 16 33.1**	**+0.7**
IGLO	**Ghaloghah**	**5.54**	**339**	Pn	**Pn**		**05 16 32.6**	**-0.1**
JASK	**Jask - Hormozg** SNR=11	**5.63**	**165**	P	**Pn**		**05 16 36.6**	**+2.9**
JASK	**Jask - Hormozg**	**5.63**	**165**	Pn	**Pn**		**05 16 35.3**	**+1.5**
IAKL	**Akhelmad**	**5.64**	**21**	Pn	**Pn**		**05 16 34.7**	**+0.5**
JRKH	**Jarkhoshk**	**5.69**	**36**	Pn	**Pn**		**05 16 34.9**	**+0.2**
IHSB	**Hasanabad**	**5.84**	**316**	Pn	**Pn**		**05 16 37.1**	**+0.3**
HRA	**Herat**	**5.88**	**57**	Pn	**Pn**		**05 16 37.5**	**+0.2**
IPRN	**Peran**	**5.88**	**327**	Pn	**Pn**		**05 16 38.0**	**+0.6**
MASF	**Masafi** SNR=11	**5.95**	**181**	P	**Pn**		**05 16 40.2**	**+2.0**
IMND	**Minoodasht**	**5.95**	**353**	Pn	**Pn**		**05 16 38.6**	**+0.5**
AMIS	**Naft Sefid**	**5.97**	**275**	Pn	**Pn**		**05 16 39.5**	**+1.0**
IKRD	**Kardeh**	**6.06**	**26**	Pn	**Pn**		**05 16 40.3**	**+0.4**
MRVT	**Maraveh tapeh**	**6.31**	**359**	Pn	**Pn**		**05 16 43.6**	**+0.4**
NAZ	**Nazwa, Dubai** SNR=7.4	**6.35**	**185**	P	**Pn**		**05 16 46.0**	**+2.3**
UOSS	**Minazif**	**6.37**	**181**	Pn	**Pn**		**05 16 45.6**	**+1.6**
UOSS	**Minazif**	**6.37**	**181**	P	Pn		05 16 50.9	+6.9
IEMG	**Emamgholi**	**6.37**	**17**	Pn	**Pn**		**05 16 44.7**	**+0.4**
MZPU	**Pul - Mazandar**	**6.42**	**324**	Pn	**Pn**		**05 16 45.5**	**+0.7**
HATD	**Hatta, Dubai** SNR=5.4	**6.49**	**181**	P	Pn		05 16 53.3	+7.7
FAQ	**Al Faqa, Dubai** SNR=7.3	**6.60**	**185**	P	**Pn**		**05 16 50.5**	**+3.5**
ASHO	**Ashiyiah** SNR=11	**6.63**	**182**	P	Pn		05 16 52.9	+5.3
SRVN	**Saravan**	**6.63**	**125**	Pn	**Pn**		**05 16 48.8**	**+1.2**
IRAZ	**Razeghan**	**6.67**	**309**	Pn	**Pn**		**05 16 49.2**	**+0.9**
ASUD	**Al Ashush, Dub**	**6.74**	**187**	P	**Pn**		**05 16 51.6**	**+2.6**
KLST	**Kelardasht - M**	**6.74**	**321**	Pn	**Pn**		**05 16 50.1**	**+0.8**
GEYT	**Alibeck**	**6.75**	**13**	Pn	**Pn**		**05 16 49.9**	**+0.8**
GEYT	**Alibeck** 0.6nm,0.3s,baz=186,slow=12,SNR=36	**6.75**	**13**	Pn	**Pn**		**05 16 50.9**	**+1.8**
GEYT				Sn	**Sn**		**05 18 11.9**	**+5.8**
GEYT	1.2nm,0.3s,baz=149,slow=23,SNR=6.5			Lg	Lg		05 18 44.7	
	1.0nm,0.3s,baz=38,slow=7.5,SNR=1.2 37nm,1.0s							
GYA0B	**ALIBECK ARRAY**	**6.75**	**13**	Pn	**Pn**		**05 16 49.8**	**+0.6**
CHBR	**Chabahar**	**6.82**	**146**	Pn	**Pn**		**05 16 51.0**	**+0.9**
AJN	**Ajban**	**6.84**	**190**	P	Pn		05 16 56.7	+6.2
JRN	**Qarnain Island**	**7.05**	**206**	P	**Pn**		**05 16 54.1**	**+0.8**
SHMA	**Al-Shehemyia**	**7.18**	**222**	P	**Pn**		**05 16 56.4**	**+1.4**
SOHO	**SOHO**	**7.18**	**178**	P	**Pn**		**05 16 59.4**	**+4.3**
SOHO				P	**Pn**		**05 16 59.4**	**+4.3**
ALNE	**Al Ain** SNR=5.6	**7.27**	**184**	P	Pn		05 17 02.1	+5.8
SAKB	**Bahrain**	**7.34**	**225**	P	**Pn**		**05 16 59.1**	**+1.9**
NGCH	**Negor - Chabah**	**7.34**	**143**	Pn	**Pn**		**05 16 58.2**	**+1.0**
HOQ	**Hoqain** SNR=5.2	**7.78**	**173**	P	**Pn**		**05 17 02.9**	**-0.5**
HOQ				P	**Pn**		**05 17 02.9**	**-0.5**
	SNR=5.2							
BIDO	**Bidbid**	**7.96**	**168**	P	**Pn**		**05 17 06.0**	**+0.2**
ARQ	**Araqi**	**7.97**	**178**	P	**Pn**		**05 17 09.1**	**+3.1**
SMRA	**Abu-Samra**	**8.14**	**218**	P	**Pn**		**05 17 10.6**	**+2.4**
WSAR	**Wadi Sarin** SNR=9.6	**8.34**	**165**	P	**Pn**		**05 17 11.5**	**+0.5**
WSAR	**Wadi Sarin** 1.7nm,0.3s,baz=15,slow=13,SNR=41	**8.34**	**165**	Pn	**Pn**		**05 17 09.7**	**-1.3**
WSAR				Sn	**Sn**		**05 18 43.3**	**-1.9**
	0.4nm,0.3s,baz=88,slow=23,SNR=0.9 36nm,0.8s							
SMDO	**Samad**	**8.40**	**169**	P	**Pn**		**05 17 13.5**	**+1.6**
SMDO				P	**Pn**		**05 17 13.5**	**+1.6**
BSY	**Bisya**	**8.60**	**174**	P	**Pn**		**05 17 18.1**	**+3.4**
WBK	**Wadi Bani Khal** SNR=5.2	**9.02**	**164**	P	**Pn**		**05 17 20.9**	**+0.5**
WBK	**Wadi Bani Khal**	**9.02**	**164**	Pn	**Pn**		**05 17 20.8**	**+0.5**
JMDO	**Jabal Madar**	**9.08**	**169**	P	**Pn**		**05 17 22.6**	**+1.4**
JLN	**Jalan Bani Buh** SNR=17	**9.57**	**162**	P	**Pn**		**05 17 28.1**	**+0.2**
JLN				P	**Pn**		**05 17 28.1**	**+0.2**
	SNR=17							
GRMI	**Germi**	**10.13**	**320**	Pn	**Pn**		**05 17 36.0**	**+0.4**
IHRS	**Heris**	**10.29**	**315**	Pn	**Pn**		**05 17 39.3**	**+1.4**
MHTO	**MHTO** SNR=6.1	**10.42**	**171**	P	**Pn**		**05 17 40.7**	**+1.1**
KBL	**Kabul**	**11.20**	**70**	Pn	**Pn**		**05 17 50.3**	**0.0**
SHAO	**Shalim**	**13.27**	**183**	P	**Pn**		**05 18 17.6**	**-1.0**
WHFO	**Wadi Hawf**	**13.55**	**190**	P	Pn		05 18 19.2	-3.2
DMTO	**DMTO**	**13.62**	**185**	P	**Pn**		**05 18 22.5**	**-0.8**
ABTO	**Aybut**	**14.18**	**192**	P	**Pn**		**05 18 30.6**	**-0.5**
ABTO				P	**Pn**		**05 18 30.6**	**-0.5**
NIL	**Nilore**	**14.52**	**76**	Pn	**Pn**		**05 18 35.3**	**-0.3**
BTK	**Batken**	**14.66**	**50**	Pn	Pn		05 18 35.6	-2.0
KK31	**Karatay Array**	**16.30**	**40**	Pn	**Pn**		**05 18 57.9**	**-1.1**
KKAR	**Karatay Array**	**16.30**	**40**		**Pn**		**05 18 57.0**	**-2.0**
KKAR	**Karatay Array**	**16.30**	**40**	Pn	**Pn**		**05 18 58.1**	**-0.9**
KKAR				IAmb	IAmb		05 19 06.3	
	comp=Z,4.5nm,1.2s							
ARPR	**Arapgir-MALATY**	**16.55**	**303**	Pn	**Pn**		**05 19 01.9**	**-0.5**
ARSB	**Arslanbob**	**16.73**	**49**	Pn	**Pn**		**05 19 03.3**	**-1.2**
ABKAR	**Akbulak array**	**18.11**	**8**	P	**Pn**		**05 19 20.9**	**-0.7**
ABKAR	**Akbulak array**	**18.11**	**8**	P	**Pn**		**05 19 20.7**	**-0.8**
AAK	**Ala-Archa** comp=Z,0.2nm,0.3s,baz=238,slow=12,SNR=5.3 comp=Z,1.2nm,0.6s	**18.38**	**47**	P	**Pn**		**05 19 25.7**	**+0.7**
EIL	**Eilat** comp=Z,495nm,18.4s,baz=37,slow=42	**18.45**	**270**	LR	LR		05 28 07.1	
BOOM	**Boomskoye usch**	**19.22**	**49**	Pn	**P**		**05 19 35.8**	**+1.4**
TARG	**Taragay, Kyrgy**	**20.12**	**53**	P	**P**		**05 19 44.6**	**+0.1**
BRTR	**Keskin Array B**	**20.19**	**301**	P	**P**		**05 19 45.1**	**+0.2**
BRTR	**Keskin Array B** comp=Z,6.8nm,1.0s,baz=118,slow=12,SNR=7.1	**20.19**	**301**	P	**P**		**05 19 45.8**	**+0.8**
BRTR				LR	LR		05 27 58.8	
	comp=Z,242nm,21.1s,baz=182,slow=38 comp=Z,6.8nm,1.0s							
BELG	**Belogornoye** comp=Z,38nm,1.0s,baz=98,slow=2.4,SNR=4.8 comp=Z,38nm,1.0s	**21.97**	**346**	P	**P**		**05 20 04.3**	**+0.5**
ATD	**Arta Tunnel** comp=Z,6.3nm,19.5s,baz=18,slow=38	**23.29**	**215**	LR	LR		05 29 49.8	
BRVK	**Borovoye**	**23.98**	**21**	P	**P**		**05 20 25.4**	**+0.9**
BRVK	comp=Z,8.4nm,1.2s			IAmb	IAmb		05 20 26.6	
BVAR	**Borovoye Array**	**23.98**	**21**	P	**P**		**05 20 25.8**	**+1.3**
BVAR	**Borovoye Array** comp=Z,6.8nm,0.9s,baz=214,slow=6.8,SNR=22	**23.98**	**21**	P	**P**		**05 20 25.8**	**+1.3**
BVAR				PcP	**PcP**		**05 24 06.1**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=273,slow=2.6,SNR=2.9 comp=Z,6.8nm,0.9s							
MK31	**Makanchi Array**	**25.27**	**45**	P	**P**		**05 20 36.5**	**+0.1**
MK31	comp=Z,11nm,1.4s			IAmb	IAmb		05 20 40.9	
MKAR	**Makanchi

comp=Z,4.1nm,1.0s
WMQ Urumqi 27.68 54 *e*P **P** **05 20 59.5 +1.3**
WMQ LR LR
comp=N,510nm,14.3s
WMQ LR LR
comp=E,420nm,10.1s
WMQ LR LR
comp=Z,120nm,21.7s
ZAA0 Zalesovo Array 30.49 34 P **P** **05 21 22.7 -0.3**
ZAA0 IAmb IAmb 05 21 43.5
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 30.49 34 P **P** **05 21 22.4 -0.6**
ZALV Zalesovo Beam 30.49 34 P **P** **05 21 23.3 +0.4**
comp=Z,2.0nm,0.6s,baz=237,slow=8.7,SNR=12
comp=Z,2.0nm,0.6s
RONA Rosalia, Austr 34.45 310 *e*P **P** **05 21 57.9 +0.1**
comp=Z,4.5nm,0.9s
CONA Conrad Observa 34.79 310 *e*P **P** **05 22 00.8 -0.1**
comp=Z,7.5nm,1.6s
ARSA Arzberg 34.87 309 *e*P **P** **05 22 01.2 -0.2**
comp=Z,2.9nm,1.0s
ARSA Arzberg 34.87 309 *e*P **P** **05 22 02.3 +0.9**
comp=Z,29nm,1.9s,baz=103,slow=8.3
DPC Dobruska-Polom 35.15 314 *e*P **P** **05 22 03.7 -0.1**
CHVC Chvalec 35.38 315 *e*P **P** **05 22 06.7 +0.9**
MOA Molln 35.82 310 *e*P **P** **05 22 09.3 -0.3**
comp=Z,6.8nm,1.0s
MOA Molln 35.82 310 *e*P **P** **05 22 10.1 +0.5**
comp=Z,6.6nm,1.0s,baz=103,slow=8.3
NRCA Norcia 35.93 301 P **P** **05 22 09.7 -1.0**
FDMO Fiordimonte 35.96 301 P **P** 05 22 09.0 -1.9
FDMO IAmb IAmb 05 22 14.7
comp=Z,7.9nm,1.1s
CKRC Cesky Krumlov 36.01 311 *e*P **P** **05 22 11.8 +0.6**
GTA Gaotai 36.13 65 *e*P **P** **05 22 14.0 +1.6**
GTA pmax pmax
comp=Z,6.0nm,1.8s
GTA LR LR
comp=N,160nm,14.5s
GTA LR LR
comp=E,170nm,14.5s
GTA LR LR
comp=Z,230nm,16.0s
BIOA Bad Ischl, Aus 36.21 309 *e*P **P** **05 22 12.5 -0.4**
comp=Z,8.5nm,1.0s
ZVC Zvikov 36.23 312 *e*P **P** **05 22 13.7 +0.7**
KBA Koelnbreinsper 36.29 308 *e*P **P** **05 22 13.4 -0.4**
comp=Z,4.7nm,1.0s
KBA Koelnbreinsper 36.29 308 *e*P **P** **05 22 13.8 +0.1**
comp=Z,8.1nm,1.1s,baz=103,slow=8.3
GEC2 GERESS Array S 36.41 311 P **P** **05 22 14.1 -0.6**
GEC2 GERESS Array S 36.41 311 *e*P **P** **05 22 14.6 -0.1**
comp=Z,9.3nm,1.0s,baz=103,slow=8.3
GERES GERESS Array B 36.41 311 P **P** **05 22 13.8 -0.9**
GERES GERESS Array B 36.41 311 P **P** **05 22 14.9 +0.3**
comp=Z,5.2nm,0.9s,baz=99,slow=8.5,SNR=16
comp=Z,5.2nm,0.9s
KHC Kasperske Hory 36.55 312 P **P** **05 22 14.8 -1.1**
KHC IAmb IAmb 05 22 17.4
comp=Z,7.5nm,1.0s
KHC Kasperske Hory 36.55 312 *e*P **P** **05 22 16.5 +0.7**
STAL STALIGIAL 36.59 307 P **P** **05 22 15.4 -0.8**
STAL IAmb IAmb 05 22 17.8
comp=Z,7.9nm,1.2s
RJOB Jochberg 36.77 309 *e*P **P** **05 22 17.8 0.0**
comp=Z,10.0nm,1.0s,baz=103,slow=8.3
ABTA Abfaltersbach 36.80 307 *e*P **P** **05 22 18.0 0.0**
comp=Z,6.0nm,1.0s,SNR=5.9
LESA Schwarzleotal 36.80 309 *e*P **P** **05 22 17.0 -1.0**
comp=Z,2.4nm,1.0s
KMBO Kilima Mbogo 36.99 213 LR LR 05 37 27.9
comp=Z,70nm,18.8s,baz=308,slow=36
WET Wettzell 37.00 311 *e*P **P** **05 22 19.6 0.0**
comp=Z,5.1nm,1.0s,baz=103,slow=8.3
CLL Collm 37.44 315 *e*P **P** **05 22 25.0 +1.7**
comp=Z,9.0nm,1.1s
CLL Collm 37.44 315 *e*P **P** **05 22 23.9 +0.6**
comp=Z,9.3nm,1.2s,baz=103,slow=8.3
WTTA Wattenberg 37.47 308 *e*P **P** **05 22 23.0 -0.8**
comp=Z,11nm,0.9s,SNR=12
WTTA Wattenberg 37.47 308 *e*P **P** **05 22 22.7 -1.2**
comp=Z,16nm,1.0s,baz=103,slow=8.3
WATA Walderalm 37.52 308 *e*P **P** **05 22 23.1 -1.1**
comp=Z,8.7nm,1.0s,SNR=5.7
SQTA Sankt Quirin 37.75 308 *e*P **P** **05 22 25.2 -1.0**
comp=Z,5.4nm,0.7s
MOTA Moosalm 37.84 308 *e*P **P** **05 22 25.7 -1.2**
comp=Z,9.0nm,0.9s,SNR=9.8
FUR Furstenfeldbru 37.85 310 *e*P **P** **05 22 27.0 +0.1**
comp=Z,13nm,1.2s,baz=103,slow=8.3
FETA Feichten 38.05 308 *e*P **P** **05 22 27.9 -0.8**
comp=Z,9.0nm,0.9s
RETA Reutte 38.09 308 *e*P **P** **05 22 27.9 -1.1**
comp=Z,5.8nm,0.9s,SNR=6.7
GRF Grafenberg Arr 38.17 312 *e*P **P** **05 22 30.4 +0.8**
comp=Z,12nm,1.2s,baz=103,slow=8.3
FUORN Ofenpass-Fuorn 38.31 307 P **P** **05 22 30.2 -0.9**
FUORN IAmb IAmb 05 22 32.1
comp=Z,4.3nm,1.0s
UBR Ueberruh 38.56 309 *e*P **P** **05 22 32.2 -0.6**
comp=Z,18nm,1.0s,baz=103,slow=8.3
DAVOX Davos/Dischmat 38.59 307 P **P** **05 22 32.8 -0.6**
comp=Z,4.4nm,0.6s,baz=116,slow=10,SNR=11
comp=Z,4.4nm,0.6s
DAVA Damuels 38.66 308 *e*P **P** **05 22 32.3 -1.5**
comp=Z,18nm,0.9s
DAVA Damuels 38.66 308 *e*P **P** **05 22 32.6 -1.2**
comp=Z,21nm,0.9s,baz=103,slow=8.3
TUE Stuetta 38.93 307 P **P** **05 22 35.6 -0.6**
TUE IAmb IAmb 05 22 40.7
comp=Z,5.0nm,0.8s
PZH PanZhiHua 39.88 85 P **P** **05 22 46.0 +1.7**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.0s
TNS Taunus Mts 40.03 312 *e*P **P** **05 22 45.5 +0.3**
baz=103,slow=8.3
HFS Hagfors 40.23 328 P **P** **05 22 46.6 +0.1**
comp=Z,1.4nm,0.8s,baz=120,slow=10,SNR=1.4
comp=Z,1.4nm,0.8s
SENIN Lac Senin/Sane 40.33 306 P **P** **05 22 46.9 -1.0**
CMAR Chiang Mai Arr 40.54 98 P **P** **05 22 48.9 -0.8**
comp=Z,0.9nm,0.3s,baz=298,slow=8.3,SNR=4.3
comp=Z,0.9nm,0.3s
ECH Echery 40.59 309 P **P** **05 22 48.6 -1.1**
ECH IAmb IAmb 05 22 50.7
comp=Z,12nm,1.1s
BNI Bardonecchia 40.69 304 P **P** **05 22 50.1 -0.6**
SONM Songino Array 41.23 52 P **P** **05 22 55.1 -0.1**
comp=Z,0.4nm,0.7s,baz=263,slow=12,SNR=2.6
comp=Z,0.4nm,0.7s
WLF Walferdange 41.42 311 *e*P **P** **05 22 56.7 +0.2**
baz=103,slow=8.3
NOA NORSAR Array B 41.73 329 P P 05 22 57.2 -1.7
comp=Z,0.7nm,0.8s,baz=113,slow=8.3,SNR=2.4
comp=Z,0.7nm,0.8s
SSB Saint Sauveur 42.21 304 P **P** **05 23 02.0 -1.1**
SSB IAmb IAmb 05 23 03.6
comp=Z,9.4nm,1.0s
HHC Hu-ho-hao-te 45.03 62 *e*P P 05 23 23.8 -2.2
EKA Eskdalemuir Ar 47.67 318 P P 05 23 44.3 -2.1
comp=Z,2.3nm,0.8s,baz=104,slow=7.7,SNR=3.2
comp=Z,2.3nm,0.8s
ESDC Sonseca Array 48.93 297 P P 05 23 54.8 -1.6
comp=Z,0.7nm,0.9s,baz=78,slow=7.5,SNR=4.3
comp=Z,0.7nm,0.9s
TOA0 Torodi Ar. Sit 53.12 263 P **P** **05 24 28.3 +0.2**
TOA0 IAmb IAmb 05 24 29.6
comp=Z,3.0nm,0.8s
TORD Torodi Ar. Bea 53.12 263 P **P** **05 24 27.9 -0.3**
TORD IAmb IAmb 05 24 28.9
comp=Z,1.8nm,0.8s
TORD Torodi Ar. Bea 53.12 263 P **P** **05 24 27.7 -0.5**
comp=Z,2.3nm,0.8s,baz=60,slow=7.8,SNR=9.5
comp=Z,2.3nm,0.8s
LSZ Lusaka 53.62 214 LR LR 05 46 37.7
comp=Z,87nm,18.2s,baz=30,slow=35
HEH HeiHe 54.95 48 *e*P **P** **05 24 41.8 +0.8**
HEH pmax pmax
comp=Z,5.0nm,0.9s
A36M Sachs Harbour 76.95 0 P **P** **05 27 02.1 -0.1**
YKA Yellowknife Ar 86.21 356 P **P** **05 27 50.5 -0.8**
comp=Z,0.6nm,0.8s,baz=3.6,slow=5.1,SNR=4.5
comp=Z,0.6nm,0.8s
WRA Warramunga Arr 90.52 113 P **P** **05 28 11.8 -0.8**
comp=Z,1.1nm,1.0s,baz=310,slow=4.1,SNR=4.0
comp=Z,1.1nm,1.0s

ASAR Alice Springs 92.21 116 P **P** **05 28 19.1 -1.2**
comp=Z,0.8nm,0.9s,baz=300,slow=5.2,SNR=6.9
comp=Z,0.8nm,0.9s

TEH ***25*** *05:25:36.0,31.˝41N×56.˝28E,h5km±14km,ML4.6*
IDC ***25*** *05:25:36.1±0.7,31.˝23N×56.˝21E,h0km,mb4.1/26, mbtmp4.2/31,ML4.0/5,MS3.7/18,Error ellipse: s-maj=15.1km s-min=11.7km az=0.0*
BGR ***25*** *05:25:36.3,29.˚34N×55.˚20E,h33km,mb4.5*
MOS ***25*** *05:25:36.3±0.9,31.˚34N×56.˚23E,h9km,mb4.6/23,Error ellipse: s-maj=6.6km s-min=4.9km az=106.6*
OMAN ***25*** *05:25:36.8±1.4,31.˚53N×56.˚68E,h10km±38km,mb4.9/25, ms3.0/6,Error ellipse: s-maj=39.9km s-min=10.5km az=19.0*
NEIC ***25*** *05:25:38.3±1.3,31.˚28N±0.˚02×56.˚27E±0.˚09,h10km±1km, mb4.6/42,Error ellipse: s-maj=13.5km s-min=3.2km az=272.0*
DSN ***25*** *05:25:39.4±1.1,31.˚29N×57.˚13E,h15km,ML4.2/9,Error ellipse: s-maj=60.3km s-min=10.8km az=97.0*

ISC 25 05:25:38.8±0.4,**31.˚38N**±0.˚04×**56.˚31E**±0.˚04,**h10km,n320,** σ1ˢ**54**/325,**mb4.5**/91,**MS3.5**/18,**11C-3D,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.46**	**155**		Pg	**Pg**		**05 25 46.5**	**-1.3**
IBAF	**Bafgh**	**0.67**	**288**		Pg	Pg		05 25 48.5	-3.2
KHGB	**Koh Gabri**	**1.01**	**172**		Pg	Pg		05 25 56.3	-2.0
KRM1	**Kerman Provinc**	**1.20**	**136**		Pg	**Pb**		**05 26 00.8**	**-1.1**
TVBK	**TV Kerman**	**1.44**	**164**		Pg	**Pn**		**05 26 04.6**	**-0.7**
IMEH	**Mehriz**	**1.45**	**271**		Pg	Pn		05 26 03.2	-2.1
TPRV	**Parvadeh(Tabas**	**1.67**	**11**		Pg	**Pn**		**05 26 08.0**	**-0.3**
NGRK	**Negar Kerman**	**1.77**	**168**		Pn	**Pn**		**05 26 10.6**	**+0.8**
ICHK	**Chekchek**	**1.83**	**299**		Pg	**Pn**		**05 26 09.8**	**-0.7**
ISAD	**Sadrabad**	**2.30**	**284**		Pn	**Pn**		**05 26 17.4**	**+0.4**
TKDS	**Koohdasht(Taba**	**2.33**	**17**		Pn	**Pn**		**05 26 17.4**	**+0.1**
BSRN	**Basiran**	**2.47**	**76**		Pn	**Pn**		**05 26 19.4**	**+0.2**
IKOO	**Kooshah**	**2.52**	**65**		Pn	**Pn**		**05 26 20.4**	**+0.4**
ITEG	**Tejag**	**2.56**	**53**		Pn	**Pn**		**05 26 20.5**	**-0.1**
TNSJ	**Nastanj**	**2.59**	**6**		Pn	**Pn**		**05 26 20.7**	**-0.1**
ANAR	**Anarak**	**2.83**	**310**		Pn	**Pn**		**05 26 24.0**	**-0.3**
KBAM	**BAM**	**2.91**	**140**		Pn	**Pn**		**05 26 25.6**	**+0.4**
AFRZ	**Afriz**	**3.06**	**48**		Pn	**Pn**		**05 26 27.3**	**-0.2**
NHDN	**Nehbandan**	**3.20**	**89**		Pn	**Pn**		**05 26 30.0**	**+0.7**
IDAH	**Dahanechah**	**3.31**	**65**		Pn	**Pn**		**05 26 31.0**	**+0.1**
IRAM	**Ramesheh**	**3.38**	**278**		Pn	**Pn**		**05 26 31.7**	**-0.1**
KHNJ	**Kahnooj**	**3.63**	**160**		Pn	**Pn**		**05 26 36.3**	**+1.2**
IZEF	**Zefreh**	**3.70**	**295**		Pn	**Pn**		**05 26 36.5**	**+0.2**
JHRM	**Jahrom**	**3.72**	**220**		Pn	**Pn**		**05 26 37.1**	**+0.7**
IGAR	**Gharneh**	**3.77**	**287**		Pn	**Pn**		**05 26 37.1**	**-0.1**
IBND	**Bandar-abas**	**3.92**	**177**		Pn	**Pn**		**05 26 39.4**	**+0.3**
GENO	**Geno**	**3.97**	**182**		Pn	**Pn**		**05 26 40.3**	**+0.4**
SHRT	**Shahrakht**	**4.05**	**55**		Pn	**Pn**		**05 26 41.5**	**+0.6**
IBRJ	**Brojen**	**4.34**	**278**		Pn	**Pn**		**05 26 45.3**	**+0.3**
KRSH	**Karshahi**	**4.36**	**307**		Pn	**Pn**		**05 26 45.6**	**+0.3**
IKLH	**Kolahrood**	**4.45**	**297**		Pn	**Pn**		**05 26 47.2**	**+0.7**
ISFB	**Sefidab**	**4.53**	**312**		Pn	**Pn**		**05 26 47.6**	**+0.1**
IANJ	**Anjilo**	**4.54**	**334**		Pn	**Pn**		**05 26 47.8**	**0.0**
ZNGN	**Zangian**	**4.70**	**280**		Pn	**Pn**		**05 26 50.3**	**+0.2**
TBHD	**Torbat heydari**	**4.71**	**31**		Pn	**Pn**		**05 26 50.6**	**+0.5**
QAMS	**Qamsar**	**4.77**	**301**		Pn	**Pn**		**05 26 50.0**	**-0.9**
IPIR	**Pirpir**	**4.78**	**287**		Pn	**Pn**		**05 26 52.3**	**+1.1**
ILAS	**Lasjerd**	**4.88**	**326**		Pn	**Pn**		**05 26 52.9**	**+0.5**
AHBU	**AHRAM**	**5.01**	**241**		Pn	**Pn**		**05 26 54.3**	**+0.2**
SBZV	**Sabzevar**	**5.11**	**12**		Pn	**Pn**		**05 26 56.4**	**+0.8**
IVRN	**Varamin**	**5.27**	**314**		Pn	**Pn**		**05 26 58.5**	**+0.8**
SHME	**Shamm**	**5.31**	**182**		P	**Pn**		**05 26 58.1**	**-0.1**
SHME	**Shamm**	**5.31**	**182**		P	**Pn**		**05 26 58.3**	**+0.1**
SHME					S	**Sn**		**05 28 02.7**	**+3.2**
DSBU	**Dashti - Bushe**	**5.32**	**237**		Pn	**Pn**		**05 26 58.2**	**-0.1**
BANOM	**Banah**	**5.44**	**180**		P	**Pn**		**05 27 00.2**	**+0.3**
BANOM	**Banah**	**5.44**	**180**		P	**Pn**		**05 27 00.4**	**+0.4**
BANOM					S	**Sn**		**05 28 06.2**	**+3.6**
IDMV	**Damavand**	**5.50**	**321**		Pn	**Pn**		**05 27 00.6**	**-0.5**
IGLO	**Ghaloghah**	**5.51**	**339**		Pn	**Pn**		**05 27 01.6**	**+0.5**
IALA	**Alasht**	**5.52**	**329**		Pn	**Pn**		**05 27 01.7**	**+0.3**
IAKL	**Akhelmad**	**5.59**	**21**		Pn	**Pn**		**05 27 02.8**	**+0.5**
JRKH	**Jarkhoshk**	**5.63**	**36**		Pn	**Pn**		**05 27 03.9**	**+1.2**
JASK	**Jask - Hormozg** SNR=26	**5.66**	**166**		P	**Pn**		**05 27 04.7**	**+1.7**
JASK	**Jask - Hormozg**	**5.66**	**166**		Pn	**Pn**		**05 27 04.0**	**+1.0**
HRA	**Herat**	**5.82**	**57**		Pn	**Pn**		**05 27 06.2**	**+0.8**
IHSB	**Hasanabad**	**5.84**	**315**		Pn	**Pn**		**05 27 05.8**	**+0.3**
IPRN	**Peran**	**5.87**	**327**		Pn	**Pn**		**05 27 07.4**	**+1.5**
MASF	**Masafi** SNR=16	**5.99**	**181**		P	**Pn**		**05 27 08.5**	**+1.0**
MASF					S	**Sn**		**05 28 20.7**	**+4.5**
MSFE	**Esma-Masafi**	**6.00**	**181**		P	**Pn**		**05 27 08.2**	**+0.5**
AMIS	**Naft Sefid**	**6.00**	**275**		Pn	**Pn**		**05 27 07.6**	**-0.1**
IKRD	**Kardeh**	**6.00**	**25**		Pn	**Pn**		**05 27 09.0**	**+1.1**
MRVT	**Maraveh tapeh**	**6.27**	**358**		Pn	**Pn**		**05 27 12.1**	**+0.7**
IEMG	**Emamgholi**	**6.32**	**17**		Pn	**Pn**		**05 27 12.5**	**+0.1**
NAZ	**Nazwa, Dubai** SNR=17	**6.39**	**185**		P	**Pn**		**05 27 14.2**	**+1.1**
NAZ					S	**Sn**		**05 28 31.4**	**+5.2**
MZPU	**Pul - Mazandar**	**6.40**	**323**		Pn	**Pn**		**05 27 14.6**	**+1.3**
UOSS	**Minazif**	**6.41**	**181**		Pn	Pn		05 27 11.8	-1.5
UOSS	**Minazif**	**6.41**	**181**		P	**Pn**		**05 27 13.1**	**-0.3**
UOSS	**Minazif**	**6.41**	**181**		P	**Pn**		**05 27 13.9**	**+0.6**
UOSS					S	**Sn**		**05 28 30.4**	**+3.8**
HATD	**Hatta, Dubai**	**6.53**	**181**		P	**Pn**		**05 27 15.3**	**+0.4**
HATD	**Hatta, Dubai** SNR=11	**6.53**	**181**		P	**Pn**		**05 27 16.1**	**+1.1**
HATD					S	**Sn**		**05 28 33.4**	**+3.8**
SRVN	**Saravan**	**6.63**	**125**		Pn	**Pn**		**05 27 17.4**	**+1.0**
FAQ	**Al Faqa, Dubai**	**6.64**	**186**		P	**Pn**		**05 27 17.1**	**+0.6**
FAQ	**Al Faqa, Dubai** SNR=7.7	**6.64**	**186**		P	**Pn**		**05 27 17.7**	**+1.3**
FAQ					S	**Sn**		**05 28 35.2**	**+3.0**
ASHO	**Ashiyiah**	**6.67**	**182**		P	**Pn**		**05 27 16.9**	**-0.1**
ASHO					S	**Sn**		**05 28 33.8**	**+0.6**
ASHO	**Ashiyiah** SNR=21	**6.67**	**182**		P	**Pn**		**05 27 17.4**	**+0.5**
ASHO					S	**Sn**		**05 28 35.4**	**+2.3**
IRAZ	**Razeghan**	**6.67**	**309**		Pn	**Pn**		**05 27 18.0**	**+0.9**
GEYT	**Alibeck**	**6.70**	**12**		Pn	**Pn**		**05 27 18.6**	**+1.3**
GEYT	**Alibeck** 1.4nm,0.3s,baz=186,slow=13,SNR=31	**6.70**	**12**		Pn	**Pn**		**05 27 18.9**	**+1.6**
GEYT					Sn	**Sn**		**05 28 37.1**	**+3.4**
GEYT	1.0nm,0.3s,baz=200,slow=43,SNR=1.2				Lg	Lg		05 29 15.5	
GYA0	0.2nm,0.3s,baz=108,slow=15,SNR=1.1 23nm,0.7s **ALIBECK ARRAY**	**6.70**	**12**		P	**Pn**		**05 27 18.6**	**+1.3**
GYA0B	**ALIBECK ARRAY**	**6.70**	**12**		Pn	**Pn**		**05 27 18.6**	**+1.4**
KLST	**Kelardasht - M**	**6.73**	**321**		Pn	**Pn**		**05 27 19.0**	**+1.1**
ASUD	**Al Ashush, Dub**	**6.78**	**188**		P	**Pn**		**05 27 19.5**	**+1.0**
ASUD	**Al Ashush, Dub**	**6.78**	**188**		P	**Pn**		**05 27 21.4**	**+3.0**
ASUD					S	**Sn**		**05 28 40.6**	**+4.8**
CHBR	**Chabahar**	**6.83**	**146**		Pn	**Pn**		**05 27 19.7**	**+0.6**
AJN	**Ajban**	**6.89**	**190**		P	**Pn**		**05 27 21.2**	**+1.3**
AJN					P	**Pn**		**05 27 21.2**	**+1.3**
AJN					S	**Sn**		**05 28 43.3**	**+5.0**
AJN					S	**Sn**		**05 28 43.3**	**+5.0**
JRN	**Qarnain Island**	**7.10**	**206**		P	**Pn**		**05 27 24.1**	**+1.4**
JRN					S	**Sn**		**05 28 49.8**	**+6.2**
SOHO	**SOHO**	**7.22**	**178**		P	**Pn**		**05 27 23.4**	**-1.0**
SOHO	**SOHO**	**7.22**	**178**		P	**Pn**		**05 27 25.4**	**+1.0**
SOHO					P	**Pn**		**05 27 25.4**	**+1.0**
SHMA	**Al-Shehemyia**	**7.23**	**222**		P	**Pn**		**05 27 27.9**	**+3.3**
ALNE	**Al Ain**	**7.31**	**184**		P	**Pn**		**05 27 24.8**	**-0.9**
ALNE	**Al Ain**	**7.31**	**184**		P	**Pn**		**05 27 26.4**	**+0.7**
ALNE					S	**Sn**		**05 28 52.9**	**+4.1**
NGCH	**Negor - Chabah** SNR=5.1	**7.35**	**143**		P	**Pn**		**05 27 26.5**	**+0.3**
NGCH	**Negor - Chabah**	**7.35**	**143**		Pn	**Pn**		**05 27 25.9**	**-0.3**
SAKB	**Bahrain**	**7.39**	**225**		P	**Pn**		**05 27 29.2**	**+2.4**
JIR1	**Jirandeh**	**7.57**	**316**		Pn	**Pn**		**05 27 29.9**	**+0.5**
HOQ	**Hoqain** SNR=8.8	**7.82**	**173**		P	**Pn**		**05 27 32.5**	**-0.2**
HOQ					P	**Pn**		**05 27 32.5**	**-0.2**
BIDO	**Bidbid** SNR=5.3	**7.99**	**168**		P	**Pn**		**05 27 34.4**	**-0.6**
ARQ	**Araqi**	**8.02**	**179**		P	**Pn**		**05 27 35.9**	**+0.6**
SMRA	**Abu-Samra**	**8.19**	**218**		P	**Pn**		**05 27 40.0**	**+2.3**
WSAR	**Wadi Sarin** SNR=29	**8.37**	**165**		P	**Pn**		**05 27 40.2**	**0.0**
WSAR	**Wadi Sarin**	**8.37**	**165**		Pn	**Pn**		**05 27 39.0**	**-1.2**
WSAR	6.2nm,0.3s,baz=9.9,slow=9.7,SNR=52				Sn	Sn		05 29 07.1	-7.7
SMDO	baz=72,slow=12 60nm,0.7s **Samad** SNR=8.6	**8.43**	**169**		P	**Pn**		**05 27 40.9**	**-0.3**
SMDO					P	**Pn**		**05 27 40.9**	**-0.3**
BSY	SNR=8.6 **Bisya** SNR=5.5	**8.64**	**175**		P	**Pn**		**05 27 46.0**	**+2.1**
WBK	**Wadi Bani Khal** SNR=7.7	**9.05**	**164**		P	**Pn**		**05 27 49.1**	**-0.5**
WBK	SNR=7.7				P	**Pn**		**05 27 49.1**	**-0.5**
WBK	**Wadi Bani Khal**	**9.05**	**164**		Pn	**Pn**		**05 27 48.9**	**-0.7**
JMDO	**Jabal Madar** SNR=10	**9.12**	**169**		P	**Pn**		**05 27 50.4**	**-0.1**
JLN	**Jalan Bani Buh** SNR=7.8	**9.60**	**162**		P	**Pn**		**05 27 56.6**	**-0.5**
JLN	SNR=7.8				P	**Pn**		**05 27 56.6**	**-0.5**
GRMI	**Germi**	**10.12**	**319**		Pn	**Pn**		**05 28 05.3**	**+1.0**
MHTO	**MHTO** SNR=22	**10.46**	**171**		P	**Pn**		**05 28 08.9**	**+0.1**
GNI	**Garni**	**12.83**	**316**		Pn	**Pn**		**05 28 40.9**	**-0.4**
GNI	**Garni**	**12.83**	**316**		P	**Pn**		**05 28 40.9**	**-0.4**
GNI	**Garni** comp=Z,209nm,19.1s,baz=108,slow=41	**12.83**	**316**		LR	LR		05 34 28.7	
SHAO	**Shalim**	**13.31**	**183**		P	Pn		05 28 45.1	-2.8
GURO	**Guroymak-BITLI**	**13.71**	**305**					**05 28 52.0**	**-1.3**
NIL	**Nilore**	**14.48**	**77**		Pn	**Pn**		**05 29 05.7**	**+1.9**
NIL	**Nilore**	**14.48**	**77**		P	**Pn**		**05 29 05.7**	**+1.9**
BTK	**Batken**	**14.61**	**50**		Pn	**Pn**		**05 29 04.7**	**-0.9**
BTK	**Batken**	**14.61**	**50**		P	**Pn**		**05 29 04.7**	**-0.9**
KK31	**Karatay Array**	**16.25**	**40**		Pn	**Pn**		**05 29 26.9**	**-0.2**
KK31	**Karatay Array**	**16.25**	**40**		P	**Pn**		**05 29 26.9**	**-0.2**
KK31	comp=Z,4.0nm,0.9s				pmax	pmax			
KKAR	**Karatay Array**	**16.25**	**40**		Pn	**Pn**		**05 29 26.9**	**-0.2**
KKAR	**Karatay Array**	**16.25**	**40**		P	**Pn**		**05 29 26.9**	**-0.2**
KBZ	**Khabaz**	**16.25**	**323**	*i*	*e*P	**Pn**		**05 29 25.1**	**-2.0**
KIV	**Kislovodsk**	**16.52**	**323**		*e*P	**Pn**		**05 29 30.1**	**-0.5**
KIV	comp=Z,17nm,1.0s				pmax	pmax			
KIV	comp=Z,52nm,13.0s				MLR	MLR			
ARPR	**Arapgir-MALATY**	**16.56**	**303**					**05 29 31.0**	**-0.3**
ARPR	comp=Z,62nm,1.4s				IAmb	IAmb		05 29 37.9	
ARSB	**Arslanbob**	**16.67**	**49**			**Pn**		**05 29 33.1**	**+0.5**
ARSB	**Arslanbob**	**16.67**	**49**		P	**Pn**		**05 29 33.1**	**+0.5**
ARSB	comp=Z,2.0nm,1.0s				pmax	pmax			
MMAI	**Mount Meron Ar** comp=Z,0.8nm,0.3s,baz=91,slow=15,SNR=1.9	**17.77**	**281**		P	**Pn**		**05 29 45.7**	**-0.6**
MMAI	comp=Z,494nm,18.3s,baz=59,slow=42				LR	LR		05 38 06.2	
SOC	comp=Z,4.5nm,0.8s **Sochi**	**17.90**	**318**		*e*P	**Pn**		**05 29 47.8**	**0.0**
SOC					*e*			05 33 11.4	
SOC	comp=Z,63nm,1.1s				pmax	pmax			
SOC	comp=Z,92nm,11.0s				MLR	MLR			
KSH	**Kashi**	**17.94**	**58**		P	**Pn**		**05 29 47.8**	**-0.6**
ABKAR	**Akbulak array**	**18.07**	**8**		P	**Pn**		**05 29 49.9**	**+0.1**
AAK	**Ala-Archa**	**18.32**	**47**			**Pn**		**05 29 52.6**	**-0.6**
AAK	**Ala-Archa**	**18.32**	**47**	*de*	P	**Pn**		**05 29 54.3**	**+1.1**
AAK	comp=Z,11nm,1.7s				pmax	pmax			
AAK	**Ala-Archa** comp=Z,0.3nm,0.3s,baz=242,slow=11,SNR=6.2 comp=Z,1.8nm,0.5s	**18.32**	**47**		P	**Pn**		**05 29 54.0**	**+0.9**
EIL	**Elat** comp=Z,841nm,18.1s,baz=78,slow=42	**18.48**	**270**		LR	LR		05 38 35.1	
NRN	**Naryn**	**18.72**	**52**		P	**P**		**05 29 57.7**	**-0.1**
NRN	**Naryn**	**18.72**	**52**		P	**P**		**05 29 57.7**	**-0.1**
NRN	comp=Z,6.0nm,1.0s				pmax	pmax			
AKTO	**Aktyubinsk** comp=Z,0.4nm,0.3s,baz=186,slow=9.6,SNR=25	**19.08**	**3**		P	**P**		**05 30 01.7**	**+0.4**
AKTO	comp=Z,167nm,20.6s,baz=252,slow=42 comp=Z,8.6nm,0.7s				LR	LR		05 39 07.8	
BOOM	**Boomskoye usch**	**19.17**	**49**		P	**P**		**05 30 02.2**	**-0.4**
BOOM	**Boomskoye usch**	**19.17**	**49**		P	**P**		**05 30 02.2**	**-0.4**
BOOM	comp=Z,5.0nm,0.9s				pmax	pmax			
ANN	**Anapa**	**19.94**	**318**		*e*P	P		05 30 06.3	-4.5
ANN	comp=Z,195nm,1.2s				pmax	pmax			
BR131	**Keskin Array S**	**20.20**	**301**			**P**		**05 30 12.7**	**-1.1**
BR131	comp=Z,30nm,1.3s				IAmb	IAmb		05 30 17.6	
BR131	**Keskin Array S**	**20.20**	**301**	*de*	P	**P**		**05 30 13.9**	**+0.1**
BRTR	**Keskin Array B**	**20.20**	**301**		P	**P**		**05 30 13.4**	**-0.5**
BRTR	**Keskin Array B**	**20.20**	**301**	*i*	P	**P**		**05 30 14.3**	**+0.5**
BRTR	comp=Z,10.0nm,0.9s				pmax	pmax			
BRTR	**Keskin Array B** comp=Z,18nm,1.1s,baz=116,slow=14,SNR=23	**20.20**	**301**		P	**P**		**05 30 14.3**	**+0.5**
BRTR	comp=Z,354nm,18.1s,baz=100,slow=39 comp=Z,18nm,1.1s				LR	LR		05 38 51.1	
ANTO	**Ankara**	**20.86**	**300**		P	**P**		**05 30 19.9**	**-1.1**
ANTO	comp=Z,30nm,1.0s				IAmb	IAmb		05 30 24.0	
ANTO	**Ankara**	**20.86**	**300**		P	**P**		**05 30 19.9**	**-1.1**
ANTO	comp=Z,31nm,1.0s				pmax	pmax			
BR231	**Keskin MP Arra**	**20.87**	**300**		P	**P**		**05 30 20.8**	**-0.3**
BR231	comp=Z,28nm,0.9s				IAmb	IAmb		05 30 28.2	
BELG	**Belog

ARU pmax pmax
comp=Z,15nm,1.7s
ARU Arti 25.09 3 LR LR 05 41 28.6
comp=Z,148nm,19.9s,baz=199,slow=38
MK31 Makanchi Array 25.21 45 P **P 05 31 05.0 +0.4**
MK31 IAmb IAmb 05 31 22.2
comp=Z,9.0nm,1.2s
MK31 Makanchi Array 25.21 45‖ *eP* **P 05 31 05.0 +0.4**
MKAR Makanchi Array 25.21 45 P **P 05 31 05.3 +0.7**
comp=Z,2.9nm,0.6s,baz=231,slow=12,SNR=20
comp=Z,2.9nm,0.6s
KURBB Kurchatov Arra 25.34 34 P **P 05 31 06.3 +0.6**
comp=Z,1.5nm,0.3s,baz=234,slow=9.5,SNR=17
comp=Z,1.5nm,0.3s
KURK Kurchatov 25.45 34 P **P 05 31 06.9 +0.3**
KURK Kurchatov 25.45 34‖ *eP* **P 05 31 07.0 +0.3**
KURK pmax pmax
comp=Z,6.0nm,1.0s
PKI Pulchoki 25.58 91 *eP* **P 05 31 09.9 +1.4**
comp=Z,11nm,0.6s
GUN Gumba 25.89 90 *eP* **P 05 31 15.5 +4.1**
comp=Z,22nm,0.9s
JMB Yambol 26.13 303 *eP* **P 05 31 19.7 +6.7**
OBN Obninsk 27.55 335‖ *eP* **P 05 31 25.6 +0.1**
OBN *e**PP **pP 05 31 28.6 -0.7**
OBN *i* *SP **sP 05 31 30.8 0.0**
OBN S S 05 32 12.0
OBN pmax pmax 05 35 57.0 -10
comp=Z,17nm,1.2s
KIRV Kirov 27.61 352 LR LR 05 44 35.5
comp=Z,138nm,19.9s,baz=174,slow=41
WMQ Urumqi 27.62 54 *eP* **P 05 31 24.3 -2.2**
WMQ pP pP 05 31 32.6 +2.3
WMQ pmax pmax
comp=Z,21nm,0.9s
WMQ LR LR
comp=N,510nm,14.3s
WMQ LR LR
comp=E,260nm,18.1s
WMQ LR LR
comp=Z,170nm,19.9s
MOS Moscow 27.68 337 *eP* **P 05 31 25.2 -1.5**
MOS *e* 05 32 15.2
AKASG Malin Array Be 27.85 322 P **P 05 31 28.4 0.0**
comp=Z,1.2nm,0.6s,baz=125,slow=8.5,SNR=11
comp=Z,1.2nm,0.6s
AKBB Malin Array Si 27.85 322 P **P 05 31 27.8 -0.5**
AKBB IAmb IAmb 05 31 31.0
comp=Z,17nm,1.3s
AKBB Malin Array Si 27.85 322‖ *eP* **P 05 31 27.9 -0.5**
KIEV Kiev 27.86 322 P **P 05 31 27.8 -0.6**
KIEV IAmb IAmb 05 31 31.0
comp=Z,16nm,1.3s
KIEV Kiev 27.86 322 P **P 05 31 27.8 -0.6**
KIEV pmax pmax
comp=Z,15nm,1.3s
DGZ Jazzator, Alta 29.60 43‖ *eP* **P 05 31 44.7 +0.6**
DGZ pmax pmax
comp=Z,3.0nm,0.9s
ZAA0 Zalesovo Array 30.43 34 P **P 05 31 50.7 -0.5**
ZALV Zalesovo Beam 30.43 34 P **P 05 31 50.3 -1.0**
ZALV Zalesovo Beam 30.43 34 P **P 05 31 50.9 -0.3**
comp=Z,2.5nm,0.5s,baz=239,slow=8.8,SNR=15
comp=Z,2.5nm,0.5s
KOLS Kolonicke sedl 31.03 314 *eP* **P 05 31 59.5 +2.9**
KOLS Kolonicke sedl 31.03 314 *eP* **P 05 31 59.5 +2.9**
KOLS pmax pmax
comp=Z,19nm,1.0s
NACGM Naroch 31.48 327 *eP* **P 05 32 00.1 -0.3**
comp=Z,15nm,0.8s,baz=126
CRVS Cervenica-Dubn 31.52 314 *eP* **P 05 32 04.4 +3.5**
CRVS Cervenica-Dubn 31.52 314 *eP* **P 05 32 04.4 +3.5**
LANS Liptovska Anna 32.83 313 *eP* **P 05 32 15.7 +3.2**
LANS Liptovska Anna 32.83 313 *eP* **P 05 32 15.7 +3.2**
VYHS Vyhne 33.03 312 *eP* **P 05 32 14.4 +0.3**
VYHS Vyhne 33.03 312 *eP* **P 05 32 14.4 +0.3**
JAVC Velka Javorina 33.87 312 *eP* **P 05 32 22.5 +0.9**
MODS Modra-Piesok 33.99 311 *eP* **P 05 32 23.2 +0.7**
MODS Modra-Piesok 33.99 311 *eP* **P 05 32 23.2 +0.7**
MORC Moravsky Berou 34.22 314 P **P 05 32 24.4 -0.2**
MORC IAmb IAmb 05 32 29.7
comp=Z,4.7nm,1.0s
MORC Moravsky Berou 34.22 314 *eP* **P 05 32 24.0 -0.6**
MORC Moravsky Berou 34.22 314 P **P 05 32 24.4 -0.2**
MORC pmax pmax
comp=Z,5.0nm,1.0s
RONA Rosalia, Austr 34.45 310 *eP* **P 05 32 26.3 -0.4**
comp=Z,2.3nm,0.7s,SNR=5.1
VRAC Vranov 34.68 313 *eP* **P 05 32 27.3 -1.2**
VRAC Vranov 34.68 313 P P 05 32 26.3 -2.2
comp=Z,2.1nm,0.8s,baz=99,slow=8.3,SNR=3.8
VRAC LR LR 05 48 49.5
comp=Z,94nm,19.1s,baz=101,slow=40
comp=Z,2.1nm,0.8s
KRUC Moravsky 34.73 312 *eP* **P 05 32 28.0 -1.0**
CONA Conrad Observa 34.79 310 *eP* **P 05 32 29.4 -0.2**
comp=Z,4.4nm,1.3s
ARSA Arzberg 34.87 309 *eP* **P 05 32 29.3 -0.8**
comp=Z,1.3nm,0.6s
ARSA Arzberg 34.87 309 *eP* **P 05 32 30.4 +0.3**
comp=Z,2.6nm,0.9s,baz=105,slow=8.4
DPC Dobruska-Polom 35.15 314 *eP* **P 05 32 33.0 +0.4**
DPC Dobruska-Polom 35.15 314 *eP* **P 05 32 33.0 +0.4**
TREC Trest 35.37 312 *eP* **P 05 32 34.7 +0.2**
TREC Trest 35.37 312 *eP* **P 05 32 34.7 +0.2**
OBKA Obir 35.38 307 *eP* **P 05 32 34.5 -0.1**
comp=Z,11nm,1.5s,baz=105,slow=8.4
CHVC Chvalec 35.38 315 *eP* **P 05 32 34.5 0.0**
CHVC Chvalec 35.38 315 *eP* **P 05 32 34.5 0.0**
AQU L'Aquila 35.69 300 P **P 05 32 36.7 -0.7**
AQU L'Aquila 35.69 300 P **P 05 32 36.7 -0.7**
AQU pmax pmax
comp=Z,18nm,1.1s
GUMA Gualdo di Mace 35.79 301 P **P 05 32 36.7 -1.5**
GUMA IAmb IAmb 05 32 42.1
comp=Z,8.8nm,0.8s
MOA Molln 35.82 310 *eP* **P 05 32 37.9 -0.5**
comp=Z,4.2nm,1.0s
MOA Molln 35.82 310 *eP* **P 05 32 38.0 -0.4**
comp=Z,6.5nm,1.1s,baz=105,slow=8.4
NRCA Norcia 35.94 301 P **P 05 32 38.1 -1.4**
NRCA IAmb IAmb 05 32 43.5
comp=Z,6.9nm,0.9s
FINES FINESS Array B 35.95 336 P **P 05 32 39.2 0.0**
comp=Z,2.5nm,0.9s,baz=129,slow=11,SNR=2.1
comp=Z,2.5nm,0.9s
FDMO Fiordimonte 35.97 301 P **P 05 32 38.4 -1.3**
FDMO IAmb IAmb 05 32 44.2
comp=Z,7.2nm,0.9s
CKRC Cesky Krumlov 36.01 311 *eP* **P 05 32 39.9 0.0**
CKRC Cesky Krumlov 36.01 311 *eP* **P 05 32 39.9 0.0**
GTA Gaotai 36.08 65 *eP* **P 05 32 42.4 +1.6**
GTA sP sP 05 32 49.0 +2.9
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA LR LR
comp=N,210nm,17.8s
GTA LR LR
comp=E,250nm,18.2s
GTA LR LR
comp=Z,340nm,18.2s
PRU Pruhonice 36.15 313 *eP* **P 05 32 42.7 +1.6**
PRU Pruhonice 36.15 313 *eP* **P 05 32 42.7 +1.6**
BIOA Bad Ischl, Aus 36.21 309 *eP* **P 05 32 41.3 -0.4**
comp=Z,4.2nm,0.9s
ZVC Zvikov 36.23 312 *eP* **P 05 32 41.2 -0.6**
KBA Koelnbreinsper 36.29 308 *eP* **P 05 32 41.7 -0.9**
comp=Z,4.6nm,0.8s
KBA Koelnbreinsper 36.29 308 *eP* **P 05 32 41.9 -0.7**
comp=Z,6.8nm,1.0s,baz=105,slow=8.4
GEC2 GERESS Array S 36.40 311 P **P 05 32 42.7 -0.7**
GEC2 IAmb IAmb 05 32 45.8
comp=Z,12nm,1.1s
GEC2 GERESS Array S 36.40 311 *eP* **P 05 32 43.0 -0.5**
comp=Z,12nm,1.1s,baz=105,slow=8.4
GERES GERESS Array B 36.40 311 P **P 05 32 43.3 -0.1**
GERES GERESS Array B 36.40 311 P **P 05 32 42.9 -0.5**
comp=Z,7.6nm,1.0s,baz=106,slow=9.8,SNR=17
GERES LR LR 05 49 29.8
comp=Z,42nm,18.1s,baz=140,slow=39
comp=Z,7.6nm,1.0s
KHC Kasperske Hory 36.55 312 P **P 05 32 44.3 -0.3**
KHC IAmb IAmb 05 32 47.7
comp=Z,17nm,1.2s
KHC Kasperske Hory 36.55 312‖ *eP* **P 05 32 44.2 -0.4**
KHC Kasperske Hory 36.55 312‖ *eP* **P 05 32 42.9 -1.7**
KHC pmax pmax
comp=Z,31nm,1.1s
STAL STALIGIAL 36.59 307 P **P 05 32 43.8 -1.2**
STAL IAmb IAmb 05 32 45.7
comp=Z,13nm,1.3s
BRG Berggiesshubel 36.75 314 *eP* **P 05 32 47.7 +1.5**
comp=Z,5.5nm,0.9s,baz=105,slow=8.4
RJOB Jochberg 36.77 309 *eP* **P 05 32 45.7 -0.9**
comp=Z,8.8nm,1.0s,baz=105,slow=8.4
LESA Schwarzleotal 36.80 309 *eP* **P 05 32 45.9 -0.9**
comp=Z,3.6nm,0.9s
ABTA Abfaltersbach 36.80 307 *eP* **P 05 32 45.8 -1.1**
comp=Z,4.4nm,0.9s
WET Wettzell 37.00 311 *eP* **P 05 32 47.5 -0.9**
comp=Z,11nm,1.1s,baz=105,slow=8.4
TEOL Teolo 37.20 305 P **P 05 32 48.3 -1.8**
TEOL IAmb IAmb 05 32 52.1
comp=Z,16nm,1.2s
CLL Collm 37.44 315 *i* P **P 05 32 53.6 +1.6**
comp=Z,12nm,1.0s
CLL Collm 37.44 315 *i* P **P 05 32 53.6 +1.6**
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 37.44 315 *eP* **P 05 32 53.5 +1.5**
comp=Z,9.9nm,0.9s,baz=105,slow=8.4
WTTA Wattenberg 37.47 308 *eP* **P 05 32 51.3 -1.3**
comp=Z,11nm,0.9s,SNR=10
WTTA Wattenberg 37.47 308 *eP* **P 05 32 51.3 -1.3**
comp=Z,17nm,1.0s,baz=105,slow=8.4
WATA Walderalm 37.52 308 *eP* **P 05 32 51.4 -1.6**
comp=Z,17nm,0.9s,SNR=12
SQTA Sankt Quirin 37.75 308 *eP* **P 05 32 53.7 -1.2**
comp=Z,9.9nm,0.8s,SNR=4.4
MOTA Moosalm 37.84 308 *eP* **P 05 32 54.7 -1.1**
comp=Z,12nm,0.9s,SNR=13
FETA Feichten 38.05 308 *eP* **P 05 32 56.1 -1.4**
comp=Z,16nm,0.9s,SNR=18
RETA Reutte 38.09 308 *eP* **P 05 32 56.0 -1.7**
comp=Z,6.9nm,0.9s,SNR=7.0
GRA1 Grafenberg Arr 38.17 312 P **P 05 32 58.0 -0.3**
GRF Grafenberg Arr 38.17 312 P **P 05 32 58.0 -0.3**
GRF pmax pmax
comp=Z,23nm,1.1s
GRF Grafenberg Arr 38.17 312 *eP* **P 05 32 58.6 +0.3**
comp=Z,22nm,1.1s,baz=105,slow=8.4
GRFO Grafenberg 38.17 312 P **P 05 32 57.0 -1.3**
GRFO Grafenberg 38.17 312 P **P 05 32 57.0 -1.3**
GRFO pmax pmax
comp=Z,23nm,1.1s
FUORN Ofenpass-Fuorn 38.32 307 P **P 05 32 59.2 -0.6**
UBR Ueberruh 38.56 309 *eP* **P 05 33 00.3 -1.3**
comp=Z,11nm,0.9s,baz=105,slow=8.4
DAVOX Davos/Dischmat 38.60 307 P **P 05 33 01.0 -1.2**
DAVOX Davos/Dischmat 38.60 307 P **P 05 33 01.0 -1.2**
comp=Z,6.1nm,0.8s,baz=98,slow=6.7,SNR=20
comp=Z,6.1nm,0.8s
DAVA Damuels 38.66 308 *eP* **P 05 33 01.1 -1.6**
comp=Z,14nm,0.8s
DAVA Damuels 38.66 308 *eP* **P 05 33 01.1 -1.6**
comp=Z,17nm,0.9s,baz=105,slow=8.4
TUE Stuetta 38.93 306 P **P 05 33 04.1 -0.8**
TUE IAmb IAmb 05 33 09.0
comp=Z,8.0nm,0.7s
KEST Kesra 39.09 289 P **P 05 33 04.5 -1.7**
comp=Z,2.4nm,0.9s,baz=90,slow=4.0,SNR=2.1
comp=Z,2.4nm,0.9s
CLZ Clausthal 39.16 315 *eP* **P 05 33 08.2 +1.6**
comp=Z,20nm,1.4s,baz=105,slow=8.4
STU Stuttgart 39.32 310 *eP* **P 05 33 08.6 +0.7**
comp=Z,19nm,1.1s,baz=105,slow=8.4
PZH PanZhiHua 39.84 85 P **P 05 33 14.0 +1.3**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.0s
TNS Taunus Mts 40.03 312 *eP* **P 05 33 14.6 +0.7**
comp=Z,14nm,0.9s,baz=105,slow=8.4
HFS Hagfors 40.22 328 P **P 05 33 14.6 -0.6**
comp=Z,2.0nm,0.7s,baz=152,slow=6.5,SNR=1.8
HFS LR LR 05 51 37.5
comp=Z,68nm,19.6s,baz=98,slow=39
comp=Z,2.0nm,0.7s
SENIN Lac Senin/Sane 40.33 306 P **P 05 33 15.2 -1.4**
CMAR Chiang Mai Arr 40.51 98 *i* P **P 05 33 18.2 0.0**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 40.51 98 P **P 05 33 17.1 -1.0**
comp=Z,1.6nm,0.3s,baz=291,slow=8.1,SNR=7.4
CMAR LR LR 05 52 42.1
comp=Z,88nm,20.1s,baz=290,slow=40
comp=Z,1.6nm,0.3s
BNI Bardonecchia 40.70 304 P **P 05 33 18.1 -1.5**
BNI Bardonecchia 40.70 304 P **P 05 33 18.1 -1.5**
BNI pmax pmax
comp=Z,22nm,1.0s
SONM Songino Array 41.18 52 P **P 05 33 24.0 +0.4**
SONM Songino Array 41.18 52 P **P 05 33 24.0 +0.4**
comp=Z,0.4nm,0.5s,baz=282,slow=7.1,SNR=4.1
comp=Z,0.4nm,0.5s
ULN Ulaanbaatar 41.62 52‖ *eP* **P 05 33 25.7 -1.5**
ULN pmax pmax
comp=Z,5.0nm,1.7s
NOA NORSAR Array B 41.71 329 P **P 05 33 26.9 -0.7**
comp=Z,1.0nm,0.8s,baz=114,slow=8.1,SNR=3.7
NOA LR LR 05 53 19.2
comp=Z,60nm,18.2s,baz=165,slow=40
comp=Z,1.0nm,0.8s
SSB Saint Sauveur 42.21 304 P **P 05 33 31.4 -0.5**
SSB IAmb IAmb 05 33 33.4
comp=Z,15nm,1.0s
SSB Saint Sauveur 42.21 304 P **P 05 33 31.4 -0.5**
SSB pmax pmax
comp=Z,15nm,1.0s
XAN Xi'an 43.95 72 P P 05 33 43.6 -2.5
XAN pmax pmax
comp=Z,6.0nm,1.1s
HHC Hu-ho-hao-te 44.98 62 *eP* P 05 33 52.6 -1.7
HHC pmax pmax
comp=Z,32nm,0.6s
HHC pmax pmax
comp=Z,230nm,4.9s
HHC LR LR
comp=N,500nm,12.3s
HHC LR LR
comp=E,410nm,12.8s
HHC LR LR
comp=Z,410nm,12.6s
LYN LuoYang 46.71 70 *eP* **P 05 34 09.3 +1.3**
LYN sP pP 05 34 14.3 +2.4
LYN pmax pmax
comp=Z,14nm,0.7s
LYN pmax pmax
comp=Z,390nm,4.2s
EKA Eskdalemuir Ar 47.66 318 P **P 05 34 14.0 -1.1**
EKA Eskdalemuir Ar 47.66 318 P **P 05 34 14.0 -1.1**
comp=Z,2.6nm,0.7s,baz=101,slow=7.1,SNR=4.9
comp=Z,2.6nm,0.7s
ESDC Sonseca Array 48.94 297 P P 05 34 23.4 -1.9
comp=Z,2.1nm,1.1s,baz=62,slow=6.6,SNR=7.1
comp=Z,2.1nm,1.1s
NJ2 Nanjing 52.52 72 *eP* **P 05 34 51.1 -1.2**
NJ2 pmax pmax
comp=Z,11nm,0.5s
TOA0 Torodi Ar. Sit 53.16 263 P **P 05 34 55.5 -1.7**
TOA0 IAmb IAmb 05 34 57.2
comp=Z,4.4nm,0.8s
TORD Torodi Ar. Bea 53.16 263 P **P 05 34 55.5 -1.7**
TORD Torodi Ar. Bea 53.16 263 P P 05 34 55.1 -2.2
comp=Z,3.8nm,0.7s,baz=48,slow=7.4,SNR=33
TORD LR LR 05 59 53.9
comp=Z,113nm,18.4s,baz=60,slow=39
comp=Z,3.8nm,0.7s
KSRS Korea Array 58.10 63 P **P 05 35 32.0 -0.5**
KSRS Korea Array 58.10 63 P **P 05 35 31.9 -0.5**
comp=Z,2.0nm,0.7s,baz=278,slow=7.1,SNR=6.2
comp=Z,2.0nm,0.7s
USRK Ussuriysk Ar. 59.19 54 P **P 05 35 40.2 +0.2**
comp=Z,1.6nm,0.7s,baz=192,slow=28,SNR=2.5
comp=Z,1.6nm,0.7s
DBIC Dimbokro 62.00 260 P P 05 35 57.3 -2.2
comp=Z,3.2nm,1.1s,baz=52,slow=4.8,SNR=3.2
DBIC LR LR 06 05 01.2
comp=Z,166nm,18.7s,baz=32,slow=38
comp=Z,3.2nm,1.1s
SFJD Kangerlussuaq 67.75 336 LR LR 06 07 15.4
comp=Z,34nm,20.7s,baz=50,slow=37
KAPI Kappang 70.37 109 LR LR 06 10 42.3
comp=Z,13nm,18.2s,baz=301,slow=38
SUR Sutherland 71.76 211 LR LR 06 08 46.7
comp=Z,89nm,18.2s,baz=5.5,slow=36
SOEI Soe 76.75 110 P **P 05 37 29.8 -1.1**
A36M Sachs Harbour 76.91 0 P **P 05 37 30.5 -0.3**
A36M IAmb IAmb 05 37 32.1
comp=Z,4.6nm,0.8s
G19K Purcell Mounta 79.46 13 P **P 05 37 44.2 -0.8**
G19K IAmb IAmb 05 37 46.5
comp=Z,8.7nm,1.3s
E25K Arctic Village 79.46 8 P **P 05 37 45.6 +0.5**
E25K IAmb IAmb 05 38 09.9
comp=Z,6.1nm,1.4s
IMAR Indian Mountai 80.22 12 P **P 05 37 48.5 -0.7**
ILAR Eielson Array 82.46 10 P **P 05 38 00.2 -0.9**
comp=Z,0.3nm,0.8s,baz=316,slow=4.3,SNR=6.1
comp=Z,0.3nm,0.7s
MORW Morawa 82.71 130 P **P 05 38 01.3 -1.6**
CAST Castle Rocks 82.86 12 P **P 05 38 03.1 -0.1**
NWAO Narrogin (SRO) 86.03 133 P **P 05 38 18.4 -1.2**
NWAO Narrogin (SRO) 86.03 133 P **P 05 38 18.4 -1.2**
NWAO pmax pmax
comp=Z,58nm,1.3s
YKA Yellowknife Ar 86.17 356 P **P 05 38 19.6 -0.3**
comp=Z,0.7nm,0.8s,baz=359,slow=5.2,SNR=12
comp=Z,0.7nm,0.8s
WRA Warramunga Arr 90.50 113 *i* P **P 05 38 41.4 +0.1**
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 90.50 113 P **P 05 38 40.1 -1.1**
comp=Z,1.0nm,0.9s,baz=319,slow=4.0,SNR=7.2
comp=Z,1.0nm,0.9s
ASAR Alice Springs 92.20 116 P **P 05 38 47.8 -1.3**
comp=Z,1.4nm,0.8s,baz=307,slow=4.8,SNR=14
comp=Z,1.4nm,0.8s

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*IDC **25** 05:30:16.7±2.0,38°.39N×26°.51E,h0km,mb3.4/1, mbtmp3.6/7,ML3.5/6, Error ellipse: s-maj=25.8km s-min=18.8km az=49.0*
*ISK **25** 05:30:19.8,38°.59N×26°.75E,h19km,ML3.9/33*
*ATH **25** 05:30:21.0,38°.58N×26°.75E,h14km±1km,ML3.9/13, Error ellipse: s-maj=1.8km s-min=1.0km az=284.0*
*THE **25** 05:30:20.9,38°.59N×26°.74E,h10km,ML3.9/9, Error ellipse: s-maj=0.9km s-min=0.3km az=279.0*
*AFAD **25** 05:30:21.2±0.2,38°.60N×26°.73E,h13km,MW3.9*
ISC 25 05:30:20.2±0.9,**38°.60N**±0°.02×**26°.77E**±0°.02,**h18**km±4km,
n151,σ0s96/189,**11C-6D,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FOCM	**Foa**	**0.12**	**345**	Pg	**Pg**	**05 30 23.8**	**-0.3**
KARB	**zmir-Karabur**	**0.29**	**283**	P	**Pg**	**05 30 26.8**	**+0.2**
KARB				S	**Sg**	**05 30 30.8**	**-0.1**
CAND	**Candarli**	**0.36**	**4**	Pg	**Pg**	**05 30 28.2**	**+0.4**
CAND				Sg	**Sb**	**05 30 33.7**	**+0.3**
RFT7	**Candarli**	**0.38**	**18**	Pg	**Pg**	**05 30 26.9**	**-1.2**
RFT7				Sg	**Sb**	**05 30 34.6**	**+0.6**
ZEYE	**Izmir, Urla-Ze**	**0.42**	**211**	P	**Pg**	**05 30 28.8**	**0.0**
ZEYE				S	**Sg**	**05 30 34.9**	**+0.3**
ZEDA	**zmir-Bergama**	**0.44**	**33**	P	**Pb**	**05 30 29.8**	**+0.3**
ZEDA				S	**Sb**	**05 30 35.9**	**+0.1**
CESE	**eme**	**0.46**	**234**	Pg	**Pg**	**05 30 29.5**	**0.0**
DKL	**Dikili**	**0.48**	**12**	Pg	**Pg**	**05 30 29.9**	**-0.1**
DKL				Sg	**Sb**	**05 30 37.5**	**+0.5**
EAG3	**Mitilini, Lesv**	**0.51**	**342**	P	**Pg**	**05 30 30.7**	**+0.2**
EAG3				S	**Sb**	**05 30 37.9**	**+0.1**
EAG3				AML	AML	05 30 38.7	
	comp=N,50276μm,0.5s						
EAG3				AML	AML	05 30 39.0	
	comp=E,45273μm,0.7s						
EAG2	**Marmaro, Chios**	**0.52**	**264**	P	**Pg**	**05 30 31.0**	**+0.3**
EAG2				S	**Sg**	**05 30 37.1**	**-0.7**
EAG2				AML	AML	05 30 38.9	
EAG2				AML	AML	05 30 39.6	
GMLD	**Gumuldur**	**0.53**	**168**	Pg	**Pg**	**05 30 30.6**	**-0.3**
GMLD				Sg	**Sg**	**05 30 38.5**	**+0.4**
LESV	**Lesvos island,**	**0.53**	**342**	P	**Pg**	**05 30 31.3**	**+0.3**
LESV				S	**Sb**	**05 30 38.8**	**+0.4**
	comp=E,48μm,0.5s						
DGB	**zmir**	**0.55**	**171**	P	**Pg**	**05 30 31.3**	**0.0**
DGB				S	**Sg**	**05 30 37.4**	**-1.3**
CHOS	**Chios island**	**0.60**	**250**	P	**Pg**	**05 30 32.5**	**+0.3**
CHOS				S	**Sg**	**05 30 40.3**	**0.0**
	comp=E,25μm,0.2s						
CHOS	**Chios island**	**0.60**	**250**	P	**Pg**	**05 30 32.5**	**+0.3**
CHOS				S	**Sg**	**05 30 40.0**	**-0.2**
CHOS				AML	AML	05 30 43.6	
	comp=E,50329μm,0.3s						
CHOS				AML	AML	05 30 44.2	
	comp=N,48076μm,0.2s						
AYVA	**Ayvalik**	**0.71**	**355**	P	**Pg**	**05 30 34.2**	**-0.1**
AYVA				S	**Sg**	**05 30 43.4**	**-0.3**
PRK	**Paraskevi**	**0.76**	**329**	P	**Pg**	**05 30 35.3**	**+0.2**
PRK				S	**Sb**	**05 30 46.0**	**+1.2**
	comp=N,69μm,0.5s						
PRK	**Paraskevi**	**0.76**	**329**	P	**Pg**	**05 30 35.2**	**+0.2**
PRK				S	**Sb**	**05 30 46.2**	**+1.4**
PRK				AML	AML	05 30 48.1	
PRK				AML	AML	05 30 49.0	
AKHS	**Akhisar**	**0.86**	**71**	P	**Pg**	**05 30 37.5**	**+0.4**
AKHS				S	**Sg**	**05 30 48.7**	**+0.3**
AKS	**Akhisar**	**0.86**	**71**	Pg	**Pb**	**05 30 37.4**	**+0.7**
AKS				Sg	**Sn**	**05 30 50.2**	**+0.6**
SMG	**Samos**	**0.89**	**177**	P	**Pb**	**05 30 37.2**	**+0.1**
SMG				S	**Sg**	**05 30 50.5**	**+1.2**
	comp=N,15μm,0.3s						
SMG	**Samos**	**0.89**	**177**	P	**Pb**	**05 30 37.5**	**+0.3**
SMG				AML	AML	05 30 52.8	
	comp=N,32852μm,0.4s						
SMG				AML	AML	05 30 53.1	
	comp=E,25478μm,0.3s						
GOMA	**Golmarmara-Man**	**0.90**	**83**	Pg	**Pg**	**05 30 38.4**	**+0.6**
BUHA	**Balikesir, Bur**	**0.93**	**15**	P	**Pb**	**05 30 38.5**	**+0.6**
SIGR	**SIGRI**	**0.94**	**311**	Pg	**Pg**	**05 30 38.8**	**+0.2**
SIGR				Sg	**Sg**	**05 30 51.5**	**+0.5**
SIGR	**SIGRI**	**0.94**	**311**	P	**Pb**	**05 30 38.6**	**+0.6**
SIGR				S	**Sn**	**05 30 51.9**	**+0.3**
	comp=E,6μm,0.5s						
SIGR	**SIGRI**	**0.94**	**311**	P	**Pb**	**05 30 38.6**	**+0.6**
SIGR				S	**Sb**	**05 30 50.9**	**+0.7**
SIGR				AML	AML	05 30 52.5	
	comp=E,12928μm,0.5s						
SIGR				AML	AML	05 30 57.6	
	comp=N,10403μm,0.5s						
PSRA	**Psara**	**0.95**	**267**	P	**Pb**	**05 30 38.6**	**+0.5**
PSRA				S	**Sb**	**05 30 50.7**	**+0.3**
PSRA				AML	AML	05 30 53.7	
	comp=N,39241μm,0.2s						
PSRA				AML	AML	05 30 53.9	
	comp=E,39287μm,0.2s						
GCAM	**G?zelcaml?**	**0.97**	**158**	Pg	**Pb**	**05 30 38.9**	**+0.5**
GCAM	**G?zelcaml?**	**0.97**	**158**	P	**Pb**	**05 30 39.0**	**+0.5**
GPNR	**Gulpinar-Canak**	**0.99**	**330**	Pg	**Pb**	**05 30 38.8**	**-0.1**
KOCA	**Canakkale, Ayv**	**1.03**	**332**	P	**Pb**	**05 30 40.2**	**+0.7**
KOCA				S	**Sb**	**05 30 52.8**	**+0.1**
IZMR	**zmir-demi**	**1.04**	**116**	P	**Pb**	**05 30 40.4**	**+0.8**
IZMR				P	**Pn**	**05 30 40.5**	**+0.7**
STEP	**BALIKESIR_Sava**	**1.07**	**43**	P	**Pb**	**05 30 40.8**	**+0.5**
STEP				S	**Sb**	**05 30 54.4**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**1.16**	**351**	P	**Pn**	**05 30 41.8**	**+0.3**
BAYC				S	**Sb**	**05 30 55.5**	**-0.8**
DDIM	**Aydin, Didim**	**1.20**	**162**	P	**Pn**	**05 30 42.6**	**+0.5**
EZN	**Ezine**	**1.27**	**344**	Pn	**Pn**	**05 30 43.3**	**+0.2**
EZN	**Ezine**	**1.27**	**344**	P	**Pn**	**05 30 43.4**	**+0.3**
EZN				S	**Sn**	**05 31 00.6**	**+0.8**
	comp=E,3μm,0.8s						
BALY	**Balya**	**1.32**	**30**	P	**Pn**	**05 30 44.4**	**+0.6**
KIRA	**zmir-Kiraz**	**1.34**	**107**	P	**Pn**	**05 30 45.0**	**+0.8**
MANT	**Manisa**	**1.41**	**94**	P	**Pn**	**05 30 45.9**	**+0.7**
CANM	**Can-anakkale**	**1.43**	**9**	Pn	**Pn**	**05 30 45.7**	**+0.4**
BKES	**Balkesir-Mer**	**1.45**	**38**	P	**Pn**	**05 30 46.1**	**+0.6**
ESEN	**Aydn-Nazilli**	**1.48**	**122**	P	**Pn**	**05 30 46.7**	**+0.8**
KULA	**Kula-Manisa**	**1.48**	**93**	Pn	**Pn**	**05 30 46.4**	**+0.3**
KULA	**Kula-Manisa**	**1.48**	**93**	P	**Pn**	**05 30 46.8**	**+0.7**
KULA				S	**Sb**	**05 31 06.7**	**+0.8**
CNKL	**anakkale-Mer**	**1.50**	**349**	P	**Pn**	**05 30 46.5**	**+0.3**
CNKL				P	**Pb**	**05 30 46.8**	**-0.7**
CNKL				S	**Sn**	**05 31 03.5**	**-1.7**
COMU	**Canakkale**	**1.52**	**351**	Pn	**Pn**	**05 30 46.6**	**+0.1**

ECEA	**Canakkale, Ece**	**1.52**	**342**	P	**Pn**	**05 30 46.8 +0.3**
MLSB	**Milas**	**1.52**	**148**	Pn	**Pn**	**05 30 46.8 +0.2**
YKAV	**Yalikavak-Bodr**	**1.52**	**165**	Pn	**Pn**	**05 30 47.0 +0.4**
BODT	**Bodrum**	**1.59**	**164**	Pn	**Pn**	**05 30 47.8 +0.3**
BODT	**Bodrum**	**1.59**	**164**	P	**Pn**	**05 30 47.9 +0.4**
BODT				S	**Sn**	**05 31 09.0 +1.4**
GONE	**Gonen-Balikesi**	**1.61**	**26**	Pn	**Pn**	**05 30 48.3 +0.5**
BDRM	**Kayabasi**	**1.62**	**161**	P	**Pn**	**05 30 48.2 +0.2**
KLNA	**Kalymnos**	**1.65**	**174**	P	**Pn**	**05 30 48.4 +0.2**
KLNA	comp=N,3413μm,0.2s			AML	AML	05 31 20.2
KLNA	comp=E,6102μm,0.2s			AML	AML	05 31 21.7
TNSA	**Tinos**	**1.65**	**231**	P	**Pn**	**05 30 48.0 -0.3**
EFSA	**Agios Efstrati**	**1.68**	**305**	P	**Pn**	**05 30 49.4 +0.7**
EFSA	comp=E,2234μm,0.6s			AML	AML	05 31 16.4
EFSA	comp=N,2453μm,0.6s			AML	AML	05 31 17.6
RFTB	**Kemer-Bodrum**	**1.68**	**166**	Pn	**Pn**	**05 30 48.9 +0.2**
GOAD	**anakkale-G¶**	**1.70**	**337**	P	**Pn**	**05 30 49.0 0.0**
GOAD				S	**Sn**	**05 31 08.4 -1.9**
GADA	**Gvkgeada**	**1.73**	**337**	Pn	**Pn**	**05 30 49.6 +0.2**
DST	**Dursunbey**	**1.75**	**54**	Pn	**Pn**	**05 30 50.2 +0.8**
SKY	**Skiros Island**	**1.76**	**280**	P	**Pn**	**05 30 50.2 +0.4**
SKY	**Skiros Island**	**1.76**	**280**	P	**Pn**	**05 30 50.2 +0.4**
SKY	comp=N,881μm,0.6s			AML	AML	05 31 19.2
SKY	comp=E,1659μm,0.8s			AML	AML	05 31 21.1
LPK	**Lapseki**	**1.77**	**360**	Pn	**Pn**	**05 30 50.4 +0.4**
RFTAA	**Mazikoy-Bodrum**	**1.77**	**154**	Pn	**Pn**	**05 30 50.2 +0.2**
LIA	**Limnos Island**	**1.79**	**317**	P	**Pn**	**05 30 51.0 +0.7**
LIA	**Limnos Island**	**1.79**	**317**	P	**Pn**	**05 30 51.0 +0.7**
LIA	comp=E,5478μm,0.6s			AML	AML	05 31 14.2
LIA	comp=N,4052μm,0.7s			AML	AML	05 31 22.3
SIMA	**Simav-Kutahya**	**1.79**	**74**	Pn	**Pn**	**05 30 50.9 +0.5**
GELI	**Tayfur-Gelibol**	**1.81**	**353**	Pn	**Pn**	**05 30 50.9 +0.4**
APE	**Apeiranthos**	**1.81**	**213**	⇑P	**Pn**	**05 30 49.8 -0.8**
APE	**Apeiranthos**	**1.81**	**213**	Pn	**Pn**	**05 30 49.8 -0.8**
APE	**Apeiranthos**	**1.81**	**213**	P	**Pn**	**05 30 49.9 -0.8**
APE	comp=N,710nm,0.3s			S	**Sn**	**05 31 13.5 +0.3**
APE	**Apeiranthos**	**1.81**	**213**	P	**Pn**	**05 30 49.8 -0.8**
KRBG	**Karabiga-Canak**	**1.84**	**13**	Pn	**Pn**	**05 30 51.5 +0.6**
YER	**Yerkesik**	**1.89**	**140**	Pn	**Pn**	**05 30 52.1 +0.5**
YER	**Yerkesik**	**1.89**	**140**	P	**Pn**	**05 30 52.4 +0.8**
EDC	**Edincik**	**1.94**	**25**	Pn	**Pn**	**05 30 52.8 +0.5**
EDC	**Edincik**	**1.94**	**25**	*eP*	**P**	**05 30 52.6 -6.4**
DAT	**Datca**	**1.97**	**161**	Pn	**Pn**	**05 30 53.0 +0.2**
DAT	**Datca**	**1.97**	**161**	P	**Pn**	**05 30 53.1 +0.2**
KYMI	**Kymi, Euboea I**	**2.09**	**272**	P	**Pn**	**05 30 54.8 +0.4**
KYMI	**Kymi, Euboea I**	**2.09**	**272**	P	**Pn**	**05 30 55.1 +0.7**
KYMI	comp=N,674μm,0.7s			AML	AML	05 31 32.9
KYMI	comp=E,782μm,0.9s			AML	AML	05 31 32.9
SMTH	**Samothraki Isl**	**2.10**	**333**	P	**Pn**	**05 30 55.3 +0.7**
SMTH	**Samothraki Isl**	**2.10**	**333**	P	**Pn**	**05 30 55.2 +0.6**
SMTH	comp=E,907μm,0.6s			AML	AML	05 31 28.3
SMTH	comp=N,874μm,0.6s			AML	AML	05 31 31.1
TURN	**Turunc**	**2.16**	**147**	Pn	**Pn**	**05 30 55.7 +0.4**
ENEZ	**Enez**	**2.19**	**348**	P	**Pn**	**05 30 56.9 +1.2**
DION	**Dionisos Attik**	**2.29**	**258**	P	**Pn**	**05 30 58.4 +1.2**
DION	**Dionisos Attik**	**2.29**	**258**	P	**Pn**	**05 30 58.3 +1.2**
DALY	**Dalyan (Mula)**	**2.32**	**139**	Pn	**Pn**	**05 30 58.4 +0.9**
PTL	**Penteli**	**2.35**	**257**	P	**Pn**	**05 30 59.3 +1.3**
ALN	**Alexandroupoli**	**2.36**	**347**	P	**Pn**	**05 30 58.9 +0.8**
ALN	**Alexandroupoli**	**2.36**	**347**	P	**Pn**	**05 30 58.8 +0.7**
THT2	**Imerovigli**	**2.41**	**207**	P	**Pn**	**05 30 58.5 -0.3**
ATHU	**Athens Univers**	**2.43**	**256**	P	**Pn**	**05 30 59.8 +0.7**
ATHU	**Athens Univers**	**2.43**	**256**	P	**Pn**	**05 30 59.3 +0.2**
SNT5	**Nea Kammeni, S**	**2.45**	**207**	P	**Pn**	**05 30 59.3 +0.1**
VLY	**Voula,Athens**	**2.46**	**253**	P	**Pn**	**05 30 59.6 +0.2**
VLY	**Voula,Athens**	**2.46**	**253**	P	**Pn**	**05 30 59.6 +0.2**
THAS	**Thassos island**	**2.56**	**322**	P	**Pn**	**05 31 01.3 +0.5**
THAS	**Thassos island**	**2.56**	**322**	P	**Pn**	**05 31 01.1 +0.3**
ARG	**Arkhangelos**	**2.61**	**155**	P	**Pn**	**05 31 02.5 +0.9**
ARG	**Arkhangelos**	**2.61**	**155**	P	**Pn**	**05 31 02.4 +0.9**
MHLO	**Agia Marina, M**	**2.68**	**225**	P	**Pn**	**05 31 02.0 -0.4**
RDO	**Rodhopi**	**2.72**	**340**	P	**Pn**	**05 31 04.0 +1.1**
RDO	**Rodhopi**	**2.72**	**340**	P	**Pn**	**05 31 04.0 +1.1**
PAIG	**Paliouri**	**2.74**	**300**	P	**Pn**	**05 31 03.9 +0.6**
VILL	**Villia**	**2.75**	**262**	P	**Pn**	**05 31 04.2 +0.7**
OUR	**Ouranopolis**	**2.77**	**310**	P	**Pn**	**05 31 04.7 +1.0**
VIL2	**Platees**	**2.78**	**263**	P	**Pn**	**05 31 04.3 +0.4**
KAVA	**Kavala**	**2.96**	**325**	P	**Pn**	**05 31 07.2 +0.9**
ISK	**Istanbul-Kandi**	**3.03**	**35**	P	**Pn**	**05 31 07.9 +0.6**
LTK	**Loutraki**	**3.05**	**260**	P	**Pn**	**05 31 08.2 +0.7**
KOKK	**Kokkinochori,**	**3.08**	**317**	P	**Pn**	**05 31 08.7 +0.7**
AXAR	**Agios Charalam**	**3.22**	**274**	P	**Pn**	**05 31 11.0 +1.0**
EDRB	**Edirne**	**3.25**	**360**	P	**Pn**	**05 31 11.0 +0.8**
THAL	**Thalero**	**3.28**	**261**	P	**Pn**	**05 31 11.9 +1.2**
HORT	**Hortiatis**	**3.47**	**306**	P	**Pn**	**05 31 14.4 +1.0**
AGG	**Agios Georgios**	**3.50**	**278**	P	**Pn**	**05 31 14.7 +1.0**
AGG	**Agios Georgios**	**3.50**	**278**	P	**Pn**	**05 31 14.5 +0.8**
SRS	**Serrai**	**3.51**	**317**	P	**Pn**	**05 31 14.9 +1.0**
NVR	**Nevrokopi**	**3.54**	**322**	P	**Pn**	**05 31 16.0 +1.6**
THE	**Thessaloniki**	**3.57**	**306**	P	**Pn**	**05 31 15.5 +0.8**
ALIK	**Aliki, Aigiali**	**3.67**	**266**	P	**Pn**	**05 31 17.7 +1.6**
ANX	**Ano Chora**	**3.80**	**271**	P	**Pn**	**05 31 19.4 +1.4**
KNT	**Kendrikon**	**3.93**	**312**	P	**Pn**	**05 31 21.4 +1.7**
GRG	**Griva**	**4.11**	**306**	P	**Pn**	**05 31 24.0 +1.8**
ELND	**Elena**	**4.38**	**351**	⇑P	**Pn**	**05 31 26.7 +0.9**
STIP	**Stip**	**4.68**	**313**	*i* Pn	**Pn**	**05 31 30.7 +0.7**
RAZG	**Razgrad**	**4.97**	**358**	⇓P	**Pn**	**05 31 34.8 +0.9**
BRTR	**Keskin Array B**	**5.46**	**76**	Pn	**Pn**	**05 31 43.4 +2.6**
BRTR	comp=N,0.4nm,0.3s,baz=253,slow=14,SNR=14			Pg	**Pg**	**05 32 02.9 -1.8**
BRTR	comp=N,0.7nm,0.3s,baz=263,slow=16,SNR=15			Sn	**Sn**	**05 32 44.0 +0.9**
BRTR	comp=N,0.2nm,0.3s,baz=252,slow=23,SNR=1.1			Lg	Lg	05 33 18.1
ICOR	**Ion Corvin**	**5.57**	**8**	⇑P	**Pn**	**05 31 44.1 +1.9**
BLKB	**Belogradchik**	**5.90**	**330**	⇓P	**Pn**	**05 31 48.4 +1.7**
TLBR	**Topalu**	**6.02**	**9**	⇑P	**Pn**	**05 31 48.3 0.0**
CFR	**Carcaliu**	**6.65**	**8**	⇑P	**Pn**	**05 31 57.8 +0.7**
MLR	**Muntele Rosu**	**6.92**	**355**	Pn	**Pn**	**05 32 02.5 +1.7**
MLR	comp=N,0.6nm,0.3s,baz=212,slow=9.5,SNR=4.5			Sn	**Sn**	**05 33 18.0 -1.0**
MLR	comp=N,0.7nm,0.3s,baz=116,slow=22,SNR=1.1 baz=298,slow=23			Lg	Lg	05 34 01.5
NEGRR	**Negrea**	**6.98**	**6**	⇓P	**Pn**	**05 32 03.0 +1.4**
HERR	**Herculane**	**7.07**	**334**	⇑P	**Pn**	**05 32 03.6 +0.8**
MDVR	**Moldovita**	**7.24**	**330**	⇑P	**Pn**	**05 32 06.5 +1.3**
VLDR	**Vladesti**	**7.31**	**7**	⇑P	**Pn**	**05 32 06.8 +0.8**
GZR	**Gura Zlata**	**7.41**	**338**	⇑P	**Pn**	**05 32 08.3 +0.7**
TURR	**Turia**	**7.47**	**356**	⇓P	**Pn**	**05 32 10.0 +1.7**
OZUR		**7.53**	**355**	⇑P	**Pn**	**05 32 10.8 +1.7**
MDB	**Medias**	**7.74**	**348**	⇑P	**Pn**	**05 32 12.7 +0.7**
BZS	**Buzias**	**7.99**	**333**	⇓P	**Pn**	**05 32 16.3 +0.9**
MILM	**Milestii Mici**	**8.45**	**10**	⇓*e*P	**Pn**	**05 32 23.0 +1.3**
MMAI	**Mount Meron Ar**	**8.95**	**126**	Pn	**Pn**	**05 32 28.9 +0.2**
MMAI	comp=N,1.5nm,0.3s,baz=303,slow=13,SNR=5.3			Sn	**Sn**	**05 34 04.7 -4.4**
VAE	**Valguarnera**	**9.81**	**267**	Pn	**Pn**	**05 32 36.5 -4.0**
EIL	**Elat**	**11.19**	**140**	Pn	**Pn**	**05 32 57.4 -1.9**
AKASG	**Malin Array Be**	**12.23**	**7**	Pn	**Pn**	**05 33 16.8 +3.4**
FINES	**FINESS Array B**	**22.88**	**359**	P	**P**	**05 35 23.4 +0.9**

comp=N,0.4nm,0.3s,baz=86,slow=19,SNR=2.4
comp=N,5.1nm,0.8s
comp=N,0.3nm,0.3s,baz=342,slow=19,SNR=1.4
comp=N,2.8nm,0.6s
comp=N,0.2nm,0.3s,baz=195,slow=13,SNR=2.3
comp=N,0.2nm,0.5s
comp=N,0.9nm,0.6s,baz=160,slow=12,SNR=3.8
comp=N,0.9nm,0.6s

ROM 25 05:30:22.9±0.1,**42°957N**±0°003×**13°036E**±0°004, **h10**km,**ML1.2/8,5C-2D,Error ellipse: s-maj=0.3km**

s-min=0.3km az=291.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.09**	**25**	⇑P	Pg	05 30 26.0	+0.5
FDMO				S	Sg	05 30 27.9	+0.6
FDMO	comp=N,319μm,0.2s			AML	AML		
FDMO	comp=E,226μm,0.1s			AML	AML		
CESI	**CESI - Serrava**	**0.11**	**297**	⇓P	Pg	05 30 26.2	+0.5
CESI				S	Sg	05 30 28.4	+0.7
CESI	comp=E,348μm,0.3s			AML	AML		
CESI	comp=N,636μm,0.1s			AML	AML		
NRCA	**Norcia**	**0.14**	**155**	P	Pg	05 30 26.7	+0.6
NRCA				S	Sg	05 30 29.2	+0.8
NRCA	comp=E,73μm,0.1s			AML	AML		
NRCA	comp=N,94μm,0.1s			AML	AML		
T1221	**Campello sul C**	**0.17**	**235**	⇑P	Pg	05 30 27.2	+0.5
T1221				S	Sg	05 30 30.1	+0.9
CSP1	**Cessapalombo**	**0.18**	**42**	P	Pg	05 30 27.2	+0.2
CSP1				S	Sg	05 30 30.8	+1.1
MMO1	**Montemonaco**	**0.22**	**105**	⇑P	Pg	05 30 28.1	+0.6
MMO1				S	Sg	05 30 31.9	+1.2
GUMA	**Gualdo di Mace**	**0.24**	**64**	⇑P	Pg	05 30 28.8	+0.9
GUMA	comp=E,58μm,0.5s			AML	AML		
GUMA	comp=N,40μm,1.3s			AML	AML		
GUMA	comp=E,58μm,1.5s			AML	AML		
SNTG	**Esanatoglia**	**0.31**	**347**	P	Pb	05 30 29.9	-0.7
SNTG				S	Sg	05 30 34.3	+1.1
MF5	**Montefalcone A**	**0.31**	**84**	⇑P	Pb	05 30 30.2	-0.5
EL6	**Elcito**	**0.38**	**7**	⇓P	Pg	05 30 30.8	+0.4
EL6				S	Sb	05 30 36.8	-1.0

KRSC 25 05:33:00.2±1.5,**49°18N×156°76E,h16**km±27km,**MI3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.56**	**345**	*e*P	Pn	05 33 27.5	+0.2
PAU	**Pauzhetka**	**2.29**	**1**	*e*S	Sb	05 34 07.7	-1.5
KDTR	**Khodutka, Kamc**	**2.77**	**17**	*e*P	Pb	05 33 46.6	-2.6
KDTR				*e*S	Sb	05 34 20.2	-2.6
GRL	**Gorelyy**	**3.48**	**13**	*e*P	Pb	05 33 57.7	-3.8
UGLR	**Uglovaya**	**4.24**	**17**	*e*P	Pn	05 34 08.6	+4.4
AVH	**Avacha**	**4.28**	**16**	*e*P	Pn	05 34 07.9	+3.2
SMAR	**Somma**	**4.29**	**17**	*e*P	Pn	05 34 09.8	+4.8
SPN	**Mys Shipunski**	**4.43**	**26**	*e*P	Pn	05 34 10.5	+3.8

*DJA **25** 05:39:07.1±0.2,7°S±2°×13°0E±°,h147km±4km, M4.6/12, mB5.2/9,mb4.5/12,MLv4.7/11,Mw(mB)4.6/9*
*IDC **25** 05:39:08.7±5.9, 7°11S×129°38E,h160km±55km,mb3.5/5, mbtmp4.1/7,Error ellipse: s-maj=69.8km s-min=21.9km az=67.0*

ISC 25 05:39:06.4±0.7,**6°89S**±0°07×**129°65E**±0°08,**h139**km,**n20,** σ1°**70**/20,**mb3.7**/4,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.96**	**124**	P	**Pn**	**05 39 42.9**	**+2.5**
SAUI				S	**Sn**	**05 40 09.2**	**+2.7**
BNDI	**Bandanaira**	**2.37**	**6**	P	**Pn**	**05 39 48.3**	**+3.0**
FAKI	**Fak Fak**	**4.72**	**33**	P	**Pn**	**05 40 15.6**	**-0.3**
KMPI	**Kaimana, Papua**	**5.16**	**52**	P	**Pn**	**05 40 22.2**	**+0.5**
SOEI	**Soe**	**6.04**	**242**	P	**Pn**	**05 40 34.8**	**+1.2**
SWI	**Sorong**	**6.20**	**15**	P	**Pn**	**05 40 34.9**	**-0.8**
LBMI	**Labuha**	**6.57**	**341**	P	**Pn**	**05 40 41.6**	**+0.9**
EDFI	**Ende, Flores**	**8.10**	**256**	P	**Pn**	**05 41 02.7**	**+1.4**
BASI	**Baing, Sumba**	**9.56**	**249**	P	**Pn**	**05 41 22.4**	**+1.7**
PLAI	**Plampang**	**11.92**	**260**	P	**Pn**	**05 41 49.1**	**-2.9**
WRA	**Warramunga Arr**	**13.75**	**161**	P	**Pn**	**05 42 13.7**	**-1.9**
WRA				S	Sn	05 44 37.6	-10
MTKI	**Muara Teweh, K**	**15.85**	**291**	P	**P**	**05 42 43.6**	**+0.7**
ASAR	**Alice Springs**	**17.17**	**167**	P	**P**	**05 42 57.6**	**+0.1**
ASAR				S	S	05 45 55.9	-14
PWJI	**Pagerwojo**	**17.73**	**265**	P	**Pn**	**05 43 06.0**	**+1.3**
CTA	**Charters Tower**	**20.77**	**131**	P	Pn	05 43 38.2	-2.3
STKA	**Stephens Creek**	**27.25**	**157**	P	**P**	**05 44 37.7**	**+0.2**
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**05 49 50.8**	**+0.6**
VNDA	**Vanda**	**72.60**	**173**	P	**P**	**05 50 17.1**	**-0.9**
QSPA	**South Pole Qui**	**83.08**	**180**	P	**P**	**05 51 15.7**	**-0.7**
CPUP	**Villa Florida**	**146.29**	**169**	PKPbc	**PKPdf**	**05 58 28.4**	**-1.8**

comp=N,0.4nm,0.3s,baz=253,slow=14,SNR=14
comp=N,0.7nm,0.3s,baz=263,slow=16,SNR=15
comp=N,0.2nm,0.3s,baz=252,slow=23,SNR=1.1
comp=N,0.2nm,0.3s,baz=262,slow=25,SNR=5.9
comp=N,1.4nm,0.4s
comp=N,0.6nm,0.3s,baz=212,slow=9.5,SNR=4.5
comp=N,0.7nm,0.3s,baz=116,slow=22,SNR=1.1
baz=298,slow=23
comp=N,5.6nm,0.7s
comp=N,0.4nm,0.3s,baz=253,slow=14,SNR=14
comp=N,0.7nm,0.3s,baz=308,slow=11,SNR=6.2
2.1nm,0.7s
comp=N,0.8s,baz=329,slow=8.2,SNR=8.9
3.2nm,0.8s
comp=N,0.8s,baz=116,slow=7.7,SNR=11
0.8nm,0.6s
1.5nm,1.1s,baz=305,slow=6.6,SNR=5.9
1.5nm,1.1s
0.7nm,0.6s,baz=297,slow=2.3,SNR=6.6
0.7nm,0.6s
2.3nm,0.9s,baz=183,slow=3.6,SNR=4.4

*IDC **25** 06:21:15.2±2.1,15°76N×94°89W,h0km,mb3.3/2, mbtmp3.6/4,ML3.5/2,MS3.5/4,Error ellipse: s-maj=31.0km s-min=20.7km az=76.0*
*MEX **25** 06:21:17.3±1.1, 15°50N×94°94W,h16km±10km,MD4.3*
*NEIC **25** 06:21:20.8±1.9, 15°80N±0°10×94°80W±0°05,h35km±20km, mb4.0/26,Md4.2/20(MEX),Error ellipse: s-maj=14.0km s-min=7.3km az=181.0*

ISC 25 06:21:15.4±2.1,**15°63N**±0°05×**94°91W**±0°03,**h14**km±14km, **n78,**σ2**°27**/101,**MS3.4/3,Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.98**	**17**	*i* P	**Pb**	**06 21 33.0**	**-1.2**
NILT				*e*S	**Sg**	**06 21 45.3**	**-1.8**
CARR	**Arriaga**	**1.14**	**57**	*e*P	**Pn**	**06 21 35.0**	**-2.0**
CARR				*e*S	**Sb**	**06 21 48.5**	**-3.2**
HUIG	**Huatulco**	**1.16**	**277**	*e*P	**Pn**	**06 21 35.2**	**-2.0**
HUIG				*e*S	**Sb**	**06 21 48.1**	**-4.1**
CMIG	**Matias Romero**	**1.46**	**1**	Pg	**Pn**	**06 21 40.5**	**-0.9**
CMIG	177nm,0.3s,baz=182,slow=14,SNR=1783			Lg	Lg	06 21 58.1	
CMIG	331nm,0.3s,baz=96,slow=20,SNR=40			LR	LR	06 22 18.3	
CMIG	comp=Z,265nm,21.7s,baz=173,slow=48						
CMIG	**Matias Romero**	**1.46**	**1**	*e*P	**Pn**	**06 21 40.4**	**-0.9**
CMIG				*e*S	**Sn**	**06 21 58.0**	**-2.3**
PCIG		**1.63**	**87**		**Pn**	**06 21 42.5**	**-1.3**
PCIG		**1.63**	**87**	*i* P	**Pn**	**06 21 42.5**	**-1.3**
PCIG				*e*S	**Sn**	**06 22 01.6**	**-3.0**
UXUV	**UXUV**	**1.84**	**24**	*e*P	**Pn**	**06 21 46.5**	**-0.1**
UXUV				*e*S	**Sn**	**06 22 07.9**	**-1.7**
TGIG		**2.07**	**56**		**Pn**	**06 21 49.6**	**-0.2**
TGIG		**2.07**	**56**	*e*P	**Pn**	**06 21 49.6**	**-0.2**
TGIG				*e*S	**Sn**	**06 22 14.8**	**-0.6**
TGBT	**Tuxtla Gutierr**	**2.09**	**57**	*e*P	**Pn**	**06 21 50.1**	**+0.1**
TGBT				*e*S	**Sn**	**06 22 15.6**	**-0.3**
PEIG	**Puerto Escondi**	**2.18**	**280**	*e*P	**Pn**	**06 21 49.6**	**-1.7**
PEIG				*e*S	**Sn**	**06 22 12.5**	**-5.7**
OXLC	**Oaxaca**	**2.24**	**310**	*e*P	**Pn**	**06 21 52.8**	**+0.5**
OXLC				*e*S	**Sn**	**06 22 18.6**	**-1.1**
NEUV	**Arroyo Zacate**	**2.24**	**338**	*e*P	**Pn**	**06 21 52.2**	**+0.1**
NEUV				*e*S	**Sn**	**06 22 19.2**	**-0.5**
VHO	**Vista Hermosa**	**2.26**	**310**	*e*P	**Pn**	**06 21 52.7**	**+0.1**
VHO				*e*S	**Sn**	**06 22 18.3**	**-2.1**
PATR	**El Naranjo**	**2.63**	**101**	*e*P	**Pn**	**06 21 56.5**	**-1.3**
PATR				*e*S	**Sn**	**06 22 25.9**	**-3.7**
THIG		**2.65**	**105**	*e*P	**Pn**	**06 21 56.5**	**-1.3**
PAVE	**Pavencul**	**2.67**	**99**	*e*P	**Pn**	**06 21 57.7**	**-0.6**
PAVE				*e*S	**Sn**	**06 22 27.5**	**-3.1**

CCIG	**Comitan**	**2.75**	**76**		**Pn**	**06 22 01.2 +1.9**
CCIG	**Comitan**	**2.75**	**76**	*e*P	**Pn**	**06 22 00.1 +0.8**
CCIG				*e*S	**Sn**	**06 22 34.8 +2.4**
CHUJ	**Union Juarez**	**2.76**	**101**	*e*P	**Pn**	**06 21 58.6 -0.9**
CHUJ				*e*S	**Sn**	**06 22 29.0 -3.6**
YOIG	**Yosondua**	**2.81**	**296**	*e*P	**Pn**	**06 22 00.7 +0.5**
YOIG				*e*S	**Sn**	**06 22 31.2 -2.8**
PMUV	**Sontecomapan**	**2.91**	**356**	*e*P	**Pn**	**06 21 59.5 -1.9**
PMUV				*e*S	**Sn**	**06 22 33.2 -3.0**
TXIG	**Tlaxiaco**	**3.18**	**301**	*e*P	**Pn**	**06 22 06.5 +1.1**
TXIG				*e*S	**Sn**	**06 22 38.7 -4.6**
PNIG	**Pinotepa**	**3.18**	**284**	*e*P	**Pn**	**06 22 04.2 -0.9**
PNIG				*e*S	**Sn**	**06 22 36.0 -6.9**
TOIG	**Toxpalan**	**3.21**	**320**	*e*P	**Pn**	**06 22 07.8 +2.3**
TOIG				*e*S	**Sn**	**06 22 43.6 +0.1**
HLIG	**Huajuapan de L**	**3.53**	**309**	*e*P	**Pn**	**06 22 11.3 +1.2**
HLIG				*e*S	**Sn**	**06 22 49.4 -2.4**
TPIG	**Tehuac#an**	**3.63**	**320**	*e*P	**Pn**	**06 22 14.0 +2.6**
TPIG				*e*S	**Sn**	**06 22 53.6 -0.6**
FTIG	**Fresnillo de T**	**3.83**	**307**	*e*P	**Pn**	**06 22 15.4 +1.3**
FTIG				*e*S	**Sn**	**06 22 56.0 -3.0**
TLIG	**Tlapa**	**4.00**	**299**		**Pn**	**06 22 17.6 +1.2**
UNM	**Universidad Na**	**5.49**	**313**	Pn	**Pn**	**06 22 38.0 +1.0**
MTO3	**Montecristo**	**5.50**	**102**		**Pn**	**06 22 39.6 +2.4**
MOIG	**Morelia**	**7.21**	**305**	Pn	**Pn**	**06 23 00.9 +0.2**
TGUH	**Tegucigalpa,Un**	**7.55**	**101**		**Pn**	**06 23 05.9 +0.6**
TEIG	**Tepich**	**7.80**	**53**		**Pn**	**06 23 07.4 -1.1**
TEIG	**Tepich**	**7.80**	**53**	Pn	**Pn**	**06 23 07.6 -0.9**
TEIG	31nm,0.3s,baz=252,slow=12,SNR=25			Sn	**Sn**	**06 24 28.2 -8.5**
TEIG	61nm,0.3s,baz=118,slow=18,SNR=7.5			LR	LR	06 26 32.5
CRIN	**San Cristobal**	**8.16**	**110**	Pn	**Pn**	**06 23 16.0 +2.4**
HZTE	**Horizontes, Gu**	**10.30**	**117**	Pn	**Pn**	**06 23 43.5 +0.6**
ORTG	**Ortega, Santa**	**10.59**	**118**		**Pn**	**06 23 50.5 +3.6**
DUNO	**Dulce Nombre,**	**10.71**	**120**		**Pn**	**06 23 52.5 +4.0**
ESPN	**Las Esperanzas**	**10.85**	**107**	Pn	**Pn**	**06 23 52.4 +2.0**
JTS	**Las Juntas de**	**11.06**	**117**	Pn	**Pn**	**06 23 54.8 +1.5**
JTS	**Las Juntas de**	**11.06**	**117**	Pn	**Pn**	**06 23 57.3 +4.0**
JACO	**JACO, Garabito**	**11.63**	**119**	Pn	**Pn**	**06 24 03.3 +2.3**
LCR2	**La Lucha 2**	**12.14**	**118**		**Pn**	**06 24 13.0 +4.7**
RIMA	**Rio Macho**	**12.25**	**117**	Pn	**Pn**	**06 24 13.9 +4.1**
833A	**Chaparral WMA,**	**13.30**	**343**		**Pn**	**06 24 25.3 +1.4**
HNDO	**Hondo**	**14.41**	**345**		**Pn**	**06 24 40.6 +1.5**
435B	**Jarrell**	**15.29**	**351**		**Pn**	**06 24 51.5 +0.6**
JCT	**Junction City**	**15.45**	**344**		**Pn**	**06 24 54.1 +1.1**
JCT	comp=Z,11nm,1.2s			IAmb	IAmb	06 25 35.4
SAND	**Sanderson**	**15.73**	**336**	Pn	**Pn**	**06 24 58.8 +2.1**
SAND	comp=Z,5.9nm,1.5s			IAmb	IAmb	06 25 12.1
TXAR	**Lajitas Array**	**15.85**	**331**	Pn	**P**	**06 25 00.7 -1.4**
	baz=149,slow=12,SNR=3.5 comp=Z,1.4nm,0.8s					
TX31	**Lajitas Ar. Si**	**15.85**	**331**		**Pn**	**06 25 00.0 +1.7**
BRDY	**Brady**	**16.03**	**347**	Pn	**Pn**	**06 25 00.9 +0.3**
BRDY	comp=Z,9.2nm,1.0s			IAmb	IAmb	06 25 11.8
OZNA	**Ozona**	**16.25**	**341**	Pn	**Pn**	**06 25 04.0 +0.6**
OZNA	comp=Z,7.3nm,0.7s			IAmb	IAmb	06 25 11.6
WHTX	**Lake Whitney,**	**16.46**	**352**		**Pn**	**06 25 06.8 +0.9**
WHTX	comp=Z,9.1nm,0.7s			IAmb	IAmb	06 25 10.7
ALPN	**Alpine**	**16.72**	**333**		**P**	**06 25 10.9 -0.8**
ALPN	comp=Z,5.3nm,0.7s			IAmb	IAmb	06 25 12.0
FW13	**Cleburne**	**16.81**	**353**		**Pn**	**06 25 11.1 +0.7**
FW13	comp=Z,8.8nm,0.8s			IAmb	IAmb	06 25 15.7
FW14	**Alvarado**	**16.83**	**353**		**Pn**	**06 25 11.4 +0.7**
FW14	comp=Z,13nm,0.7s			IAmb	IAmb	06 25 26.6
SGCY	**Sterling City**	**17.18**	**342**		**P**	**06 25 17.6 +0.9**
SGCY	comp=Z,8.7nm,0.6s			IAmb	IAmb	06 25 21.6
FW06	**Azle**	**17.44**	**353**	P	**P**	**06 25 19.1 -0.4**
FW06	comp=Z,22nm,1.5s			IAmb	IAmb	06 25 43.4
ABTX	**Abilene, Hawle**	**17.46**	**347**	P	**P**	**06 25 19.4 -0.4**
ABTX	comp=Z,9.7nm,0.8s			IAmb	IAmb	06 25 31.4
FW03	**Perrin-Whitt E**	**17.57**	**351**	P	**Pn**	**06 25 20.5 +0.5**
FW03	comp=Z,25nm,1.4s			IAmb	IAmb	06 25 30.8
425A	**Indio Mountain**	**17.69**	**330**	P	**P**	**06 25 24.1 +1.6**
SN01	**Snyder 1**	**18.00**	**344**	P	**P**	**06 25 27.1 +1.4**
SN01	comp=Z,5.1nm,0.7s			IAmb	IAmb	06 25 35.7
WTFS	**Witchita Falls**	**18.35**	**351**	P	**P**	**06 25 30.0 +0

CWC				S		Sg	06 43 13.9	-0.2	
	baz=210								
WCSM	**Coso Springs S**	**0.50**	**87**			**Pg**	**06 43 07.5**	**0.0**	
WCSM						**Sg**	**06 43 14.4**	**+0.3**	
WBSM	**Bird Springs**	**0.51**	**157**			**Pg**	**06 43 07.6**	**-0.1**	
WBSM						**Sg**	**06 43 14.5**	**+0.2**	
TOW	**Tower One**	**0.54**	**111**			**Pg**	**06 43 08.7**	**+0.4**	
TOW						**Sb**	**06 43 17.0**	**-0.8**	
VES	**Vestal, Richgr**	**0.59**	**254**			**Pg**	**06 43 09.3**	**+0.1**	
VES						**Sg**	**06 43 17.6**	**+0.7**	
VES	**Vestal, Richgr**	**0.59**	**254**	P		**Pg**	**06 43 09.3**	**+0.1**	
	baz=74,SNR=280								
VES				S		**Sg**	**06 43 16.9**	**0.0**	
	baz=74								
SRTC	**Snort**	**0.60**	**121**			**Pg**	**06 43 09.9**	**+0.4**	
SRTC						**Sb**	**06 43 18.9**	**-0.7**	
CLC	**China Lake**	**0.67**	**106**			**Pg**	**06 43 10.5**	**-0.1**	
CLC						**Sg**	**06 43 19.7**	**+0.3**	
CGO	**Cerro Gordo**	**0.72**	**41**			**Pg**	**06 43 11.8**	**0.0**	
CGO						Pn	06 43 21.8	+6.9	
MPMC	**Manual Prospec**	**0.73**	**85**			**Pg**	**06 43 11.7**	**-0.2**	
MPMC	**Manual Prospec**	**0.73**	**85**	P		**Pg**	**06 43 11.7**	**-0.2**	
	baz=266,SNR=249								
MPMC				Sb		**Sb**	**06 43 23.1**	**-0.2**	
	baz=266								
LRMC	**Laurel Mtn Rad**	**0.78**	**132**			**Pg**	**06 43 12.4**	**-0.3**	
LRMC						Pn	06 43 22.8	+7.4	
LRMC	**Laurel Mtn Rad**	**0.78**	**132**	P		**Pg**	**06 43 12.5**	**-0.3**	
	baz=312,SNR=138								
LRMC				S		**Sg**	**06 43 23.1**	**+0.3**	
	baz=312								
TEJ	**El Tejon**	**0.81**	**198**			**Pg**	**06 43 12.8**	**-0.6**	
TEJ						Pn	06 43 23.3	+7.4	
DTP	**Desert Tortois**	**0.86**	**149**			**Pg**	**06 43 14.0**	**-0.3**	
DTP						Pn	06 43 25.6	+9.0	
VOG	**Valley Oaks Go**	**0.87**	**292**			**Pg**	**06 43 14.0**	**-0.6**	
VOG						**Sg**	**06 43 25.6**	**-0.1**	
VOG	**Valley Oaks Go**	**0.87**	**292**	P		**Pg**	**06 43 13.9**	**-0.6**	
	baz=112,SNR=9.7								
VOG				S		**Sg**	**06 43 25.7**	**-0.1**	
	baz=112								
BAKC	**Calstate**	**0.88**	**222**			**Pg**	**06 43 13.9**	**-0.9**	
BAKC						**Sb**	**06 43 27.2**	**-0.3**	
ARVC	**Arvin**	**0.95**	**203**			**Pg**	**06 43 15.7**	**-0.3**	
ARVC						**Sg**	**06 43 27.7**	**-0.7**	
ARVC	**Arvin**	**0.95**	**203**	P		**Pg**	**06 43 15.8**	**-0.3**	
	baz=22,SNR=96								
ARVC				S		**Sg**	**06 43 28.0**	**-0.4**	
	baz=22								
CCCA	**Chr Cany lake**	**0.96**	**120**			**Pg**	**06 43 16.3**	**+0.1**	
CCCA						**Sb**	**06 43 29.8**	**0.0**	
TIN	**Tinemaha, Big**	**1.05**	**7**			**Pg**	**06 43 17.8**	**-0.3**	
TIN	**Tinemaha, Big**	**1.05**	**7**	P		**Pg**	**06 43 17.8**	**-0.3**	
	baz=187,SNR=19								
TIN				S		**Sg**	**06 43 32.1**	**+0.3**	
	baz=187								
EDW2	**Edwards Air Fo**	**1.17**	**164**			**Pg**	**06 43 19.3**	**-0.9**	
EDW2						**Sg**	**06 43 35.1**	**-0.2**	
EDW2	**Edwards Air Fo**	**1.17**	**164**	P		**Pg**	**06 43 19.3**	**-0.9**	
	baz=344,SNR=55								
EDW2				S		**Sg**	**06 43 34.7**	**-0.6**	
	baz=344								
QSM	**Queen of Sheba**	**1.23**	**91**	Pg		**Pg**	**06 43 20.6**	**-0.8**	
QSM				IAML			06 43 44.3		
	comp=E,106nm,0.6s								
QSM				IAML			06 43 45.3		
	comp=N,111nm,0.6s								
GRAC	**Grapevine Rang**	**1.29**	**39**			**Pg**	**06 43 22.1**	**-0.4**	
GRAC				Sg		**Sb**	**06 43 39.5**	**+0.2**	
GRAC	**Grapevine Rang**	**1.29**	**39**	P		**Pg**	**06 43 22.1**	**-0.4**	
	baz=220,SNR=66								
GRAC				S		**Sb**	**06 43 39.4**	**+0.1**	
	baz=220								
FURC	**Furnace Creek,**	**1.31**	**69**	P		**Pn**	**06 43 22.6**	**-0.1**	
	baz=250,SNR=102								
FURC				S		**Sb**	**06 43 40.7**	**+0.7**	
	baz=250								
HYS	**Haystack Butte**	**1.32**	**149**			**Pn**	**06 43 23.0**	**+0.1**	
CRGC	**Crocker Grade**	**1.33**	**236**			**Pn**	**06 43 22.8**	**-0.2**	
CRGC						**Sb**	**06 43 40.9**	**+0.3**	
BCW	**Bitter Crk WRg**	**1.35**	**219**			**Pn**	**06 43 22.5**	**-0.9**	
CARC	**Carrizo Plain**	**1.38**	**240**			**Pn**	**06 43 23.8**	**+0.2**	
CARC						**Sn**	**06 43 42.6**	**+0.4**	
SBB	**Saddle Back Bu**	**1.39**	**161**			**Pn**	**06 43 23.6**	**-0.3**	
SBB						**Sg**	**06 43 41.9**	**-0.7**	
GWY	**Greenwater Val**	**1.40**	**82**			**Pn**	**06 43 23.0**	**-1.1**	
GWY				IAML			06 43 46.5		
	comp=E,87nm,1.0s								
GWY				IAML			06 43 54.5		
	comp=N,75nm,1.1s								
OSI	**Osito Audit: C**	**1.41**	**191**			**Pb**	**06 43 24.7**	**0.0**	
OSI	**Osito Audit: C**	**1.41**	**191**	P		**Pn**	**06 43 24.0**	**-0.2**	
	baz=11,SNR=56								
OSI				S		**Sn**	**06 43 44.0**	**+0.9**	
	baz=11								
FRI	**Friant**	**1.45**	**313**			**Pn**	**06 43 23.6**	**-1.1**	
SGV	**South Grapevin**	**1.46**	**48**			**Pn**	**06 43 24.8**	**-0.1**	
GSC	**Goldstone, Bar**	**1.47**	**118**			**Pn**	**06 43 24.3**	**-0.6**	
GSC				IAML			06 43 46.8		
	comp=E,170nm,0.5s								
GSC				IAML			06 43 47.5		
	comp=N,100nm,0.4s								
GSC	**Goldstone, Bar**	**1.47**	**118**	P		**Pn**	**06 43 24.3**	**-0.6**	
	baz=299,SNR=283								
GSC				S		**Sb**	**06 43 44.4**	**-0.1**	
	baz=299								
SMMC	**Simmler**	**1.48**	**243**			**Pn**	**06 43 24.8**	**-0.3**	
SMMC	**Simmler**	**1.48**	**243**	P		**Pn**	**06 43 24.5**	**-0.6**	
	baz=62,SNR=28								
SMMC				S		**Sb**	**06 43 44.5**	**-0.4**	
	baz=62								
TRAM	**Private Proper**	**1.57**	**259**			**Pn**	**06 43 26.4**	**+0.1**	
GMN	**Gold Mountain**	**1.58**	**35**			**Pn**	**06 43 26.6**	**0.0**	
RRX	**Edison Barstow**	**1.60**	**134**	P		**Pn**	**06 43 26.3**	**-0.3**	
	baz=315								
RRX				S		**Sn**	**06 43 47.6**	**0.0**	
	baz=315								
PKM	**Mcpherson Peak**	**1.61**	**227**	P		**Pn**	**06 43 26.6**	**-0.4**	
	baz=46,SNR=8.7								
PKM				S		**Sn**	**06 43 47.9**	**-0.3**	
	baz=46								
WCT	**Wildcat Mounta**	**1.62**	**60**			**Pn**	**06 43 26.8**	**-0.3**	
MLAC	**Mammoth, Mammo**	**1.66**	**348**			**Pb**	**06 43 28.9**	**-0.1**	
MLAC	**Mammoth, Mammo**	**1.66**	**348**	Pb		**Pb**	**06 43 28.5**	**-0.5**	
	baz=168								
OMMB	**Old Mammoth Mi**	**1.68**	**343**			**Pn**	**06 43 28.6**	**+0.6**	
OMMB				IAML			06 43 59.1		
	comp=E,67nm,0.7s								
OMMB				IAML			06 44 01.1		
	comp=N,65nm,0.7s								
MCSM	**Casa Diablo Ho**	**1.70**	**346**			**Pb**	**06 43 29.6**	**0.0**	
SHOC	**Shoshone, Teco**	**1.71**	**93**	P		**Pn**	**06 43 27.3**	**-0.9**	
	baz=274,SNR=69								
MDPB	**Devils Postpil**	**1.72**	**341**			**Pn**	**06 43 29.2**	**+0.7**	
MDPB				IAML			06 43 58.5		
	comp=E,118nm,0.4s								
MDPB				IAML			06 44 00.6		
	comp=N,137nm,0.5s								
DECC	**Green Verdugo**	**1.75**	**179**	Pb		**Pb**	**06 43 30.2**	**-0.2**	
	baz=358								
DECC				S		**Sn**	**06 43 52.1**	**+0.7**	
	baz=358								
PSMM	**Smith Mountain**	**1.79**	**273**			**Pn**	**06 43 30.3**	**+0.9**	
PASC	**Pasadena Art C**	**1.84**	**175**			**Pn**	**06 43 30.0**	**0.0**	
PASC				IAML			06 44 01.5		
	comp=N,43nm,0.7s								
PASC				IAML			06 44 06.8		
	comp=E,53nm,0.5s								
BFSC	**Mount Baldy Ra**	**1.86**	**161**	P		**Pn**	**06 43 30.1**	**-0.3**	
	baz=341,SNR=11								
BFSC				Sb		**Sb**	**06 43 56.6**	**+0.7**	
	baz=341								
MZP	**Montezuma Peak**	**1.87**	**25**			**Pn**	**06 43 30.9**	**+0.2**	
SSK	**Sunset Peak**	**1.88**	**162**			**Pn**	**06 43 30.8**	**+0.1**	
SBC	**Santa Barbara**	**1.90**	**215**	Pb		**Pb**	**06 43 32.6**	**-0.3**	
	baz=34								
SBC				Sb		**Sg**	**06 43 58.6**	**-0.3**	
	baz=34								
TPNV	**Topopah Spring**	**1.96**	**61**			**Pn**	**06 43 31.9**	**0.0**	
TPNV				IAML			06 43 42.4		
	comp=E,57nm,0.6s								
TPNV				IAML			06 43 42.6		
	comp=E,48nm,0.5s								
TPNV	**Topopah Spring**	**1.96**	**61**	P		**Pn**	**06 43 31.8**	**0.0**	
	baz=242,SNR=120								
PSRC	**Puddingstone R**	**1.97**	**166**			**Pn**	**06 43 32.4**	**+0.7**	
PMPB	**Monarch Peak**	**1.97**	**277**			**Pn**	**06 43 31.8**	**0.0**	
HEC	**Hector,Ludlow**	**2.04**	**124**	P		**Pn**	**06 43 32.2**	**-0.6**	
	baz=306,SNR=28								
HEC				Sb		**Sb**	**06 44 02.1**	**+0.9**	
	baz=306								
DSCC	**Desert Studies**	**2.05**	**114**			**Pb**	**06 43 35.5**	**0.0**	
PANM	**San Antonio Re**	**2.06**	**264**			**Pn**	**06 43 33.4**	**+0.4**	
TUQ	**Turquoise Moun**	**2.08**	**105**	P		**Pn**	**06 43 32.5**	**-0.9**	
	baz=286,SNR=45								
BBRC	**Big Bear Solar**	**2.11**	**145**	Pg		**Pg**	**06 43 37.9**	**-0.4**	
	baz=326,SNR=23								
BBRC				Sb		**Sg**	**06 44 04.7**	**-1.0**	
	baz=326								
BBGB	**Big Mountain B**	**2.22**	**286**			**Pn**	**06 43 35.6**	**+0.3**	
ELS	**Elsinore Mount**	**2.48**	**161**			**Pn**	**06 43 39.0**	**+0.2**	
GMRC	**Granite Mounta**	**2.54**	**118**	P		**Pn**	**06 43 38.7**	**-1.0**	
	baz=299,SNR=16								
GMRC				Sb		**Sb**	**06 44 17.1**	**+1.8**	
	baz=299								
HAST	**Hastings Reser**	**2.59**	**279**			**Pn**	**06 43 40.2**	**-0.1**	
MURC	**Murrieta**	**2.59**	**157**	P		**Pn**	**06 43 40.2**	**-0.1**	
	baz=338								
MURC				Sb		**Sg**	**06 44 19.2**	**-1.8**	
	baz=338								
CIS	**Catalina Islan**	**2.60**	**181**	P		**Pn**	**06 43 40.0**	**-0.4**	
	baz=0.4								
CIS				Sb		**Sb**	**06 44 19.1**	**+2.1**	
	baz=0.4								
SHPR	**Sheep Range**	**2.65**	**78**			**Pn**	**06 43 41.3**	**0.0**	
TPC	**Twentynine Pal**	**2.69**	**134**			**Pn**	**06 43 41.5**	**-0.3**	
BELC	**Belle Mtn. Jos**	**2.80**	**135**	P		**Pn**	**06 43 43.3**	**0.0**	
	baz=316,SNR=7.5								
BELC				Sb		**Sg**	**06 44 25.8**	**-1.9**	
	baz=316								
PFO	**Pinyon Flats O**	**2.87**	**146**			**Pn**	**06 43 44.0**	**-0.2**	
PFO				IAML			06 44 31.7		
	comp=E,19nm,0.7s								
PFO				IAML			06 44 33.5		
	comp=E,17nm,0.8s								
PFO	**Pinyon Flats O**	**2.87**	**146**	P		**Pn**	**06 43 44.0**	**-0.2**	
	baz=327,SNR=12								
PFO				S		**Sn**	**06 44 19.3**	**+0.3**	
	baz=327								
PMD	**Palm Desert**	**2.87**	**144**			**Pn**	**06 43 43.9**	**-0.2**	
PMD				IAML			06 44 29.6		
	comp=E,22nm,0.5s								
PMD				IAML			06 44 33.3		
	comp=N,18nm,0.7s								
V12A	**Nelson**	**2.88**	**94**			**Pn**	**06 43 43.4**	**-1.0**	
FRD	**Ford Ranch, An**	**2.90**	**149**			**Pn**	**06 43 44.9**	**+0.2**	
PRN	**Pahroc Range**	**3.02**	**61**			**Pn**	**06 43 46.7**	**+0.3**	
PRN				IAML			06 44 40.5		
	comp=N,21nm,0.5s								
PRN				IAML			06 44 44.9		
	comp=E,24nm,0.8s								
IRM	**Iron Mountain**	**3.23**	**124**	P		**Pn**	**06 43 48.0**	**-1.2**	
	baz=306								
R11B	**Troy Canyon, C**	**3.24**	**43**	Pg		**Pg**	**06 43 58.6**	**-1.3**	
	baz=224								
R11B				S		**Sn**	**06 44 28.6**	**+0.3**	
	baz=224								
109C	**Camp Elliot, M**	**3.28**	**161**	Sb		**Sb**	**06 44 39.0**	**+2.3**	
	baz=342								
BC3	**Big Chuckawall**	**3.36**	**133**	Pg		**Pg**	**06 44 01.9**	**-0.4**	
	baz=315,SNR=6.2								
MONP2	**Monument Peak**	**3.50**	**152**	Sb		**Sb**	**06 44 46.2**	**+3.0**	
	baz=333								
BAR	**Barrett**	**3.61**	**156**	Pn		**Pn**	**06 43 54.4**	**+0.1**	
BAR				IAML			06 44 50.3		
	comp=E,13nm,0.6s								
BAR				IAML			06 44 59.7		
	comp=N,9.1nm,0.8s								
SWSC	**Sam W. Stewart**	**3.72**	**144**	P		**Pn**	**06 43 54.7**	**-1.2**	
	baz=326								
BLYC	**Blythe**	**3.89**	**124**			**Pn**	**06 43 57.4**	**-0.8**	
BLYC				IAML			06 44 49.9		
	comp=N,9.2nm,4.0s								
BLYC				IAML			06 45 06.8		
	comp=E,12nm,3.8s								
CBX	**Cerro Bola**	**3.95**	**158**	Pn		**Pn**	**06 43 59.8**	**+0.7**	
LCMT	**Little Creek M**	**4.26**	**75**			**Pn**	**06 44 03.6**	**+0.2**	
SPR3	**Spring Creek 3**	**4.40**	**46**			**Pn**	**06 44 06.0**	**+0.5**	
ESJX	**Sierra Juarez**	**4.47**	**152**			**Pn**	**06 44 06.6**	**+0.3**	
SZCU	**Shurtz Canyon**	**4.54**	**68**			**Pn**	**06 44 07.8**	**+0.5**	
KNB	**Kanab**	**4.59**	**76**			**Pn**	**06 44 09.0**	**+1.0**	
MVU	**Marysvale**	**5.52**	**61**	Pn		**Pn**	**06 44 20.6**	**-0.2**	

*SOME **25** 06:54:09.6,41.°28N×74.°83E,h15km*
*NNC **25** 06:54:10.9±1.1,41.°33N×74.°92E,h0km,mb3.8,mpv3.4,*
Error ellipse: s-maj=8.4km s-min=5.6km az=161.0
*KNET **25** 06:54:11.0±0.8,41.°42N×74.°76E,h13km±4km,ml1.8,Error*
ellipse: s-maj=5.9km s-min=3.6km az=7.0
*KRNET **25** 06:54:12.1±0.1,41.°49N×74.°73E,h25km,mb2.5*
ISC 25 06:54:11.1±1.2,**41.°42N**±0.°04×**74.°81E**±0.°02,**h13**km±10km,
n49,σ1°16/66,23C-13D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARLS	**Aral**	**0.57**	**321**	⇓	*e*P	**Pg**	**06 54 21.9**	**-0.3**
	baz=21							
ARLS				⇓	*e*S	**Sg**	**06 54 28.4**	**-1.4**
	baz=21							
KZA	**Kyzart**	**0.73**	**27**	⇑	P	**Pb**	**06 54 25.5**	**-0.5**
	9.9nm,0.1s,SNR=19							
KZA				⇑	S	**Sb**	**06 54 36.7**	**+0.6**
	21nm,0.1s							
UCH	**Uchtor**	**0.83**	**345**	⇑	P	**Pb**	**06 54 27.5**	**-0.1**
	7.6nm,0.2s,SNR=24							
UCH				⇓	S	**Sn**	**06 54 40.4**	**-0.9**
	16nm,0.2s							
NRN	**Naryn**	**0.90**	**89**	⇓	*i*P	**Pn**	**06 54 29.8**	**+0.1**
	baz=94							
NRN				⇓	*i*S	**Sn**	**06 54 42.3**	**-0.5**
	baz=94							
AML	**Almayashu**	**1.09**	**311**	⇑	P	**Pb**	**06 54 31.4**	**-0.6**
	6.7nm,0.1s,SNR=15							
AML				⇑	S	**Sg**	**06 54 46.9**	**+0.5**
	20nm,0.2s							
AAK	**Ala-Archa**	**1.23**	**349**	⇑	P	**Pg**	**06 54 34.8**	**-0.1**
	4.0nm,0.1s							
AAK				⇓	S	**Sg**	**06 54 52.1**	**+1.1**
	19nm,0.2s							
KBK	**Karagaybulak**	**1.24**	**5**	⇑	P	**Pg**	**06 54 34.8**	**-0.1**
	20nm,0.1s,SNR=56							
KBK				⇑	S	**Sg**	**06 54 52.8**	**+1.8**
	71nm,0.1s							
ULHL	**Ulahol**	**1.35**	**52**	⇑	P	**Pn**	**06 54 35.6**	**-0.3**
	16nm,0.2s,SNR=40							
BOOM	**Boomskoye usch**	**1.36**	**38**	⇑	*i*P	**Pg**	**06 54 36.7**	**-0.5**
	baz=42							
BOOM				⇑	*i*S	**Sg**	**06 54 54.5**	**-0.5**
	baz=42							
ARSB	**Arslanbob**	**1.38**	**266**	⇑	*e*P	**Pn**	**06 54 36.1**	**0.0**
	baz=64							
ARSB				⇑	*e*S	**Sn**	**06 54 54.2**	**-0.1**
	baz=64							
EKS2	**Erkin-Say**	**1.45**	**329**	⇓	P	**Pb**	**06 54 38.6**	**+0.5**
	2.4nm,0.2s,SNR=11							
EKS2				⇓	S	**Sg**	**06 54 58.9**	**+0.9**
	3.6nm,0.2s							
SFK	**Sufi-Kurgan**	**1.72**	**215**	⇑	*e*P	**Pb**	**06 54 43.5**	**+0.8**
	baz=13							
SFK				⇑	*e*S	**Sb**	**06 55 05.6**	**+1.2**
	baz=13							
MRKS	**Merke**	**1.77**	**319**		*e*P	**Pb**	**06 54 43.9**	**+0.5**
	6.0nm,0.2s							
MRKS					*e*S	**Sg**	**06 55 08.6**	**+0.6**
	10nm,0.3s							
OHH	**Osh**	**1.77**	**240**	⇑	*e*P	**Pb**	**06 54 43.6**	**+0.1**
	baz=37							
OHH				⇑	*e*S	**Sb**	**06 55 06.0**	**+0.3**
	baz=37							
KST	**Kastek**	**1.83**	**28**		*e*P	**Pg**	**06 54 45.5**	**-0.7**
	8.6nm,0.2s							
KST					*e*S	**Sg**	**06 55 11.4**	**+1.4**
	24nm,0.2s							
KST	**Kastek**	**1.83**	**28**	Pg		**Pg**	**06 54 45.5**	**-0.7**
	8.6nm,0.2s							
KST				Lg		Lg	06 55 11.4	
	20nm,0.2s							
USP	**Ospenovka**	**1.85**	**353**	⇓	P	**Pg**	**06 54 46.0**	**-0.6**
	5.9nm,0.2s,SNR=12							
USP				⇑	S	**Sg**	**06 55 11.9**	**+1.1**
	21nm,0.3s							
DGS	**Degeres**	**1.95**	**21**	*e*Pg		**Pg**	**06 54 47.8**	**-0.8**
	12nm,0.2s							
DGS				*e*Lg		Lg	06 55 15.4	
	20nm,0.4s							
DGS	**Degeres**	**1.95**	**21**	Pg		**Pg**	**06 54 47.8**	**-0.8**
	12nm,0.2s							
DGS				Lg		Lg	06 55 15.4	
	20nm,0.4s							
SGDS	**Sogindy**	**2.03**	**356**	Pg		**Pg**	**06 54 49.2**	**-0.8**
	8.5nm,0.2s							
SGDS				Lg		Lg	06 55 17.8	
	11nm,0.2s							
MTBS	**Maitube**	**2.09**	**35**	*e*Pg		**Pg**	**06 54 50.0**	**-1.1**
	9.8nm,0.2s							
MTBS				*e*Lg		Lg	06 55 19.0	
	21nm,0.2s							
MTBS	**Maitube**	**2.09**	**35**	Pg		**Pg**	**06 54 50.0**	**-1.1**
	9.8nm,0.2s							
MTBS				Lg		Lg	06 55 19.0	
	21nm,0.2s							
TNSS	**Tian-Shan**	**2.26**	**44**	⇓	*i*Pg	**Pg**	**06 54 53.0**	**-1.6**
	12nm,0.3s							
TNSS				*e*Lg		Lg	06 55 24.3	
	7.8nm,0.3s							
TNSS	**Tian-Shan**	**2.26**	**44**	Pg		**Pg**	**06 54 53.0**	**-1.6**
	12nm,0.3s							
TNSS				Lg		Lg	06 55 24.3	
	7.8nm,0.3s							
TARG	**Taragay, Kyrgy**	**2.27**	**81**	⇑	*e*P	**Pb**	**06 54 51.6**	**-0.6**
	baz=83							
TARG				⇑	*i*S	**Sb**	**06 55 20.1**	**-0.2**
	baz=83							
KRBS	**Karabastau**	**2.36**	**16**	*e*Pg		**Pg**	**06 54 55.1**	**-1.2**
	4.9nm,0.4s							
KRBS				*e*Lg		Lg	06 55 28.0	
	22nm,0.3s							
KRBS	**Karabastau**	**2.36**	**16**	Pg		**Pg**	**06 54 55.1**	**-1.2**
	4.9nm,0.4s							
KRBS				Lg		Lg	06 55 28.0	
	22nm,0.3s							
MDOK	**Medeo**	**2.41**	**43**	*e*Pg		**Pb**	**06 54 55.2**	**+0.9**
	11nm,0.2s							
MDOK				*e*Lg		Lg	06 55 28.1	
	7.8nm,0.2s							
MDOK	**Medeo**	**2.41**	**43**	Pg		**Pb**	**06 54 55.2**	**+0.9**
	11nm,0.2s							
MDOK				Lg		Lg	06 55 28.1	
	7.8nm,0.2s							
KOTS	**Kotyrbulak**	**2.49**	**43**	*e*Pg		**Pb**	**06 54 56.9**	**+1.1**
	8.7nm,0.3s							
KOTS				*e*Lg		Lg	06 55 30.9	
	18nm,0.4s							
KOTS	**Kotyrbulak**	**2.49**	**43**	Pg		**Pb**	**06 54 56.9**	**+1.1**
	8.7nm,0.3s							
KOTS				Lg		Lg	06 55 31.0	
	18nm,0.4s							
ANVS	**Anan'yevo**	**2.52**	**57**	⇑	*i*P	**Pb**	**06 54 54.5**	**-1.9**
	baz=58							
ANVS				⇑	*i*S	**Sb**	**06 55 25.3**	**-2.1**
	baz=58							
KTBS	**Karatobe**	**2.67**	**31**	*e*Pg		**Pb**	**06 55 00.2**	**+1.4**
	4.1nm,0.3s							
KTBS				*e*Lg		Lg	06 55 36.8	
	22nm,0.4s							
KTBS	**Karatobe**	**2.67**	**31**	Pg		**Pb**	**06 55 00.2**	**+1.4**
	4.1nm,0.3s							
KTBS				Lg		Lg	06 55 36.8	
	22nm,0.4s							
KUU	**Kurty**	**2.71**	**24**	*e*Pg		**Pb**	**06 55 00.9**	**+1.4**
	2.2nm,0.2s							
KUU				*e*Lg		Lg	06 55 37.9	
	24nm,0.3s							
TRKS	**Terek-Say**	**2.76**	**273**	⇓	*i*P	**Pn**	**06 54 56.4**	**+1.3**
	baz=71							
TRKS				⇓	*i*S	**Sn**	**06 55 28.8**	**+0.4**
	baz=71							
CHKK	**Chushkaly**	**2.91**	**33**	*e*Pg		**Pb**	**06 55 04.6**	**+1.7**
	3.0nm,0.1s							
CHKK				*e*Lg		Lg	06 55 44.0	
	18nm,0.2s							
SATY	**Saty**	**3.13**	**57**	*e*Pg		**Pb**	**06 55 07.7**	**+1.0**
	2.9nm,0.2s							
SATY				*e*Lg		Lg	06 55 49.8	
	8.0nm,0.1s							
SATY	**Saty**	**3.13**	**57**	Pg		**Pb**	**06 55 07.7**	**+1.0**
	2.9nm,0.2s							
SATY				Lg		Lg	06 55 49.8	
	8.0nm,0.1s							
ZHN	**Zhinishke**	**3.21**	**56**	*e*Pg		**Pb**	**06 55 08.6**	**+0.6**
	12nm,0.6s							
ZHN				*e*Lg		Lg	06 55 51.0	
	12nm,0.1s							
ZHN	**Zhinishke**	**3.21**	**56**	Pg		**Pb**	**06 55 08.6**	**+0.6**
	12nm,0.6s							
ZHN				Lg		Lg	06 55 51.0	
	12nm,0.1s							
KPKS	**Kokpek**	**3.52**	**53**	*e*Pg		**Pb**	**06 55 13.8**	**+0.5**
	2.6nm,0.3s							
KPKS				⇑	*i*Lg	Lg	06 56 00.3	
	7.1nm,0.3s							
ARXS	**Arharly**	**3.56**	**38**	*e*Pg		**Pb**	**06 55 16.0**	**+2.0**
	3.4nm,0.2s							
ARXS				*e*Lg		Lg	06 56 03.9	
	14nm,0.2s							
ARXS	**Arharly**	**3.56**	**38**	Pg		**Pb**	**06 55 16.0**	**+2.0**
	3.4nm,0.2s							
ARXS				Lg		Lg	06 56 03.9	
	14nm,0.2s							
UZB	**Uzynbulak**	**3.57**	**60**	*e*Pg		**Pb**	**06 55 15.0**	**+0.8**
	3.4nm,0.2s							
UZB				*e*Lg		Lg	06 56 02.1	
	3.7nm,0.2s				

	74nm,0.2s							
SATY	**Saty**	**1.42**	**17**	P	**Pg**	**06 58 40.2**	**0.0**
	17nm,0.1s							
SATY				S	**Sg**	**06 58 59.2**	**+0.6**
	74nm,0.2s							
TNSS	**Tian-Shan**	**1.49**	**334**	*e*P	**Pb**	**06 58 41.6**	**+0.1**
	baz=35							
TNSS				*e*S	**Sb**	**06 59 01.3**	**+0.5**
	baz=35							
TNSS	**Tian-Shan**	**1.49**	**334**	*e*P	**Pb**	**06 58 41.6**	**+0.1**
	18nm,0.1s							
TNSS				*e*S	**Sb**	**06 59 01.3**	**+0.5**
	25nm,0.2s							
TNSS	**Tian-Shan**	**1.49**	**334**	P	**Pb**	**06 58 41.6**	**+0.1**
	18nm,0.1s							
TNSS				S	**Sb**	**06 59 01.3**	**+0.5**
	25nm,0.2s							
ZHN	**Zhinishke**	**1.53**	**16**	*e*P	**Pg**	**06 58 42.2**	**-0.2**
	baz=17							
ZHN				*e*S	**Sg**	**06 59 02.6**	**+0.4**
	baz=17							
ZHN	**Zhinishke**	**1.53**	**16**	*e*P	**Pg**	**06 58 42.2**	**-0.2**
	24nm,0.2s							
ZHN				*e*S	**Sg**	**06 59 02.5**	**+0.4**
	158nm,0.2s							
ZHN	**Zhinishke**	**1.53**	**16**	P	**Pg**	**06 58 42.2**	**-0.2**
	24nm,0.2s							
ZHN				S	**Sg**	**06 59 02.5**	**+0.4**
	158nm,0.2s							
MDOK	**Medeo**	**1.58**	**338**	*e*P	**Pb**	**06 58 43.0**	**+0.2**
	baz=39							
MDOK				*e*S	**Sb**	**06 59 03.8**	**+0.8**
	baz=39							
MDOK	**Medeo**	**1.58**	**338**	*e*P	**Pb**	**06 58 43.0**	**+0.2**
	34nm,0.3s							
MDOK				*e*S	**Sb**	**06 59 03.8**	**+0.8**
	26nm,0.2s							
MDOK	**Medeo**	**1.58**	**338**	P	**Pb**	**06 58 42.9**	**+0.2**
	21nm,0.5s							
MDOK				Pg	**Pb**	**06 58 42.9**	**+0.2**
	34nm,0.3s							
MDOK				Lg	Lg	06 59 03.8	
	26nm,0.2s							
MDOK				S	**Sb**	**06 59 04.0**	**+1.0**
	19nm,0.5s							
IZV	**Izvestkoviy**	**1.62**	**326**	*e*P	**Pb**	**06 58 43.4**	**-0.1**
	baz=27							
IZV				*e*S	**Sb**	**06 59 04.6**	**+0.4**
	baz=27							
IZV	**Izvestkoviy**	**1.62**	**326**	*e*P	**Pb**	**06 58 43.4**	**-0.1**
	6.7nm,0.1s							
IZV				*e*S	**Sb**	**06 59 04.5**	**+0.4**
	42nm,0.1s							
IZV	**Izvestkoviy**	**1.62**	**326**	P	**Pb**	**06 58 43.3**	**-0.1**
	6.7nm,0.1s							
IZV				S	**Sb**	**06 59 04.5**	**+0.4**
	42nm,0.1s							
KOTS	**Kotyrbulak**	**1.62**	**341**	*e*P	**Pb**	**06 58 43.9**	**+0.3**
	baz=42							
KOTS				*e*S	**Sb**	**06 59 05.5**	**+1.1**
	baz=42							
KOTS	**Kotyrbulak**	**1.62**	**341**	*e*P	**Pb**	**06 58 43.9**	**+0.3**
	35nm,0.1s							
KOTS				*e*S	**Sb**	**06 59 05.5**	**+1.1**
	104nm,0.2s							
BOOM	**Boomskoye usch**	**1.63**	**300**	⇑*i*P	**Pb**	**06 58 43.3**	**-0.3**
	baz=0.0							
BOOM				⇑*i*S	**Sb**	**06 59 05.0**	**+0.6**
	baz=0.0							
UZB	**Uzynbulak**	**1.68**	**31**	*e*P	**Pg**	**06 58 45.0**	**-0.4**
	baz=32							
UZB				*e*S	**Sg**	**06 59 07.3**	**+0.1**
	baz=32							
UZB	**Uzynbulak**	**1.68**	**31**	*e*P	**Pg**	**06 58 45.0**	**-0.4**
	18nm,0.2s							
UZB				*e*S	**Sg**	**06 59 07.3**	**+0.1**
	24nm,0.1s							
MTBS	**Maitube**	**1.77**	**324**	*e*P	**Pb**	**06 58 45.8**	**-0.2**
	baz=25							
MTBS				*e*S	**Sb**	**06 59 08.8**	**+0.3**
	baz=25							
MTBS	**Maitube**	**1.77**	**324**	*e*P	**Pb**	**06 58 45.8**	**-0.2**
	14nm,0.1s							
MTBS				*e*S	**Sb**	**06 59 08.8**	**+0.3**
	54nm,0.1s							
KURS	**Kuram**	**1.80**	**7**	*e*P	**Pg**	**06 58 47.1**	**-0.5**
	baz=8.0							
KURS				*e*S	**Sg**	**06 59 11.1**	**+0.2**
	baz=8.0							
KURS	**Kuram**	**1.80**	**7**	*e*P	**Pg**	**06 58 47.1**	**-0.5**
	21nm,0.3s							
KURS				*e*S	**Sg**	**06 59 11.1**	**+0.2**
	19nm,0.3s							
KPKS	**Kokpek**	**1.87**	**19**	*e*P	**Pg**	**06 58 47.6**	**-1.2**
	baz=20							
KPKS				*e*S	**Sg**	**06 59 11.8**	**-1.2**
	baz=20							
KPKS	**Kokpek**	**1.87**	**19**	*e*P	**Pg**	**06 58 47.6**	**-1.2**
	22nm,0.2s							
KPKS				*e*S	**Sg**	**06 59 11.9**	**-1.2**
	52nm,0.2s							
SHLS	**Shalkode**	**1.88**	**39**	*e*P	**Pg**	**06 58 51.7**	**+2.6**
	baz=46							
SHLS				*e*S	**Sg**	**06 59 19.0**	**+5.5**
	baz=46							
SHLS	**Shalkode**	**1.88**	**39**	*e*Pg	**Pg**	**06 58 51.7**	**+2.6**
	39nm,0.1s							
SHLS				*e*Lg	Lg	06 59 19.0	
	33nm,0.2s							
KST	**Kastek**	**1.94**	**314**	*e*P	**Pb**	**06 58 48.8**	**-0.1**
	baz=15							
KST				*e*S	**Sb**	**06 59 13.8**	**+0.5**
	baz=15							
KST	**Kastek**	**1.94**	**314**	*e*P	**Pb**	**06 58 48.8**	**-0.1**
	8.2nm,0.2s							
KST				*e*S	**Sb**	**06 59 13.8**	**+0.5**
	47nm,0.2s							
KZA	**Kyzart**	**1.98**	**282**	⇑P	**Pg**	**06 58 50.9**	**-0.1**
	9.7nm,0.3s							
KZA				⇑S	**Sb**	**06 59 16.4**	**+1.6**
	16nm,0.4s							
PDGK	**Podgornoye**	**2.03**	**36**	Lg	Lg	06 59 17.2	
	12nm,0.2s							
PDGK	**Podgornoye**	**2.03**	**36**	⇑Pn	**Pg**	**06 58 51.6**	**-0.3**
	6.7nm,0.4s							
PDGK				⇓Sn	**Sg**	**06 59 18.6**	**+0.4**
	15nm,0.6s							
TKM2	**Tokmak 2**	**2.07**	**307**	⇑P	**Pb**	**06 58 51.4**	**+0.2**
	30nm,0.3s,SNR=20							
TKM2				⇓S	**Sb**	**06 59 18.1**	**+0.9**
	27nm,0.2s							
DGS	**Degeres**	**2.18**	**316**	*e*P	**Pb**	**06 58 53.0**	**+0.1**
	baz=16							
DGS				*e*S	**Sb**	**06 59 21.1**	**+0.9**
	baz=16							
DGS	**Degeres**	**2.18**	**316**	*e*Pg	**Pb**	**06 58 53.0**	**+0.1**
	22nm,0.3s							
DGS				*e*Lg	Lg	06 59 21.1	
	24nm,0.2s							
KTBS	**Karatobe**	**2.19**	**337**	*e*P	**Pb**	**06 58 52.9**	**-0.1**
	baz=38							
KTBS				*e*S	**Sb**	**06 59 21.2**	**+0.8**
	baz=38							
KTBS	**Karatobe**	**2.19**	**337**	*e*Pg	**Pb**	**06 58 52.9**	**-0.1**
	32nm,0.4s							
KTBS				*e*Lg	Lg	06 59 21.2	
	44nm,0.1s							
CHKK	**Chushkaly**	**2.24**	**344**	*e*Pg	**Pb**	**06 58 54.2**	**+0.2**
	35nm,0.2s							
CHKK				*e*Lg	Lg	06 59 23.1	
	112nm,0.2s							
KBK	**Karagaybulak**	**2.36**	**295**	⇑P	**Pb**	**06 58 56.7**	**+0.6**
	4.0nm,0.2s,SNR=11							
KBK				⇓S	**Sb**	**06 59 26.6**	**+1.1**
	30nm,0.4s							
KUU	**Kurty**	**2.46**	**334**	*e*Pg	**Pb**	**06 58 58.1**	**+0.5**
	14nm,0.4s							
KUU				*e*Lg	Lg	06 59 30.1	
	36nm,0.3s							
ARXS	**Arharly**	**2.51**	**360**	*e*Pg	**Pb**	**06 58 59.3**	**+0.7**
	23nm,0.3s							
ARXS				*e*Lg	Lg	06 59 32.1	
	61nm,0.3s							
KTMS	**Ketmen**	**2.54**	**46**	*e*Pg	**Pg**	**06 58 59.9**	**-1.9**
	5.3nm,0.2s							
KTMS				*e*Lg	Lg	06 59 32.9	
	11nm,0.2s							
KRBS	**Karabastau**	**2.56**	**322**	*e*Pg	**Pb**	**06 58 59.3**	**-0.1**
	15nm,0.2s							
KRBS				*e*Lg	Lg	06 59 31.9	
	28nm,0.2s							
ARLS	**Aral**	**2.64**	**275**	⇑*e*P	**Pb**	**06 58 58.5**	**-2.4**
	baz=74							
ARLS				⇑*e*S	**Sn**	**06 59 30.9**	**+2.1**
	baz=74							
AAK	**Ala-Archa**	**2.67**	**292**	⇑P	**Pb**	**06 59 01.7**	**+0.4**
	4.5nm,0.3s,SNR=5.7							
KNOS	**Konyrlen**	**2.83**	**20**	Lg	Lg	06 59 41.8	
	15nm,0.2s							
SGDS	**Sogindy**	**2.95**	**307**	Lg	Lg	06 59 44.3	
	32nm,0.4s							
DJR	**Jarkent**	**2.99**	**28**	*e*Pg	**Pg**	**06 59 07.9**	**-2.4**
	2.7nm,0.1s							
DJR				*e*Lg	Lg	06 59 46.9	
	27nm,0.3s							
MRKS	**Merke**	**3.59**	**288**	*e*Pg	**Pb**	**06 59 17.8**	**+0.8**
	3.3nm,0.2s							
MRKS				*e*Lg	Lg	07 00 03.9	
	5.9nm,0.2s							
KAPS	**Kapalarasan**	**3.74**	**16**	*e*Pg	**Pg**	**06 59 21.7**	**-3.1**
	3.4nm,0.1s							
KAPS				*e*Lg	Lg	07 00 10.4	
	8.3nm,0.1s							
BTLS	**Baital**	**4.34**	**322**	*e*Pg	**Pb**	**06 59 32.1**	**+2.4**
	2.4nm,0.4s							
BTLS				*e*Lg	Lg	07 00 28.4	
	3.9nm,0.3s							

AFAD ***25*** *07:09:06.7±0.0,38.°60N×26.°73E,h16km±1km,ML2.0*
THE ***25*** *07:09:07.9,38.°60N×26.°67E,h17km±1km,ML2.3/7,Error ellipse: s-maj=1.7km s-min=0.6km az=257.0*
ATH ***25*** *07:09:07.2,38.°61N×26.°74E,h11km±3km,ML2.5/5,Error ellipse: s-maj=3.9km s-min=1.0km az=256.0*
ISK ***25*** *07:09:08.7,38.°73N×26.°71E,h5km,ML2.1/15*

ISC 25 07:09:07.0±0.9,38.°60N±0.°02×26.°73E±0.°02,h17km±7km, n53,σ0s83/87,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FOCM	**Foa**	**0.12**	**0**	P	Pg	**Pb**	**07 09 09.9**	**-0.9**
KARB	**zmir-Karabur**	**0.26**	**285**	P	*e*	**Pb**	**07 09 13.0**	**-0.2**
KARB				*i* AML		AML	07 09 17.0	
	comp=N,297nm,0.1s							
KARB				*i* AML		AML	07 09 17.0	
	comp=E,286nm,0.4s							
KARB				S		**Sb**	**07 09 17.1**	**-0.2**
CAND	**Candarli**	**0.36**	**9**	Pg		**Pg**	**07 09 13.9**	**-0.7**
RFT7	**Candarli**	**0.39**	**23**	Pg		**Pg**	**07 09 14.7**	**-0.4**
ZEDA	**zmir-Bergama**	**0.46**	**36**	P		**Pg**	**07 09 16.0**	**-0.3**
ZEDA				*i* AML		AML	07 09 22.0	
	comp=E,209nm,0.5s							
ZEDA				S		**Sg**	**07 09 22.4**	**-0.1**
ZEDA				*i* AML		AML	07 09 23.0	
	comp=N,440nm,0.3s							
EAG2	**Marmaro, Chios**	**0.49**	**264**	P		**Pg**	**07 09 17.3**	**+0.5**
EAG2				S		**Sg**	**07 09 24.1**	**+0.5**
DKL	**Dikili**	**0.49**	**16**	Pg		**Pg**	**07 09 16.6**	**-0.3**
EAG3	**Mitilini, Lesv**	**0.50**	**346**	P		**Pg**	**07 09 16.7**	**-0.4**
EAG3				S		**Sg**	**07 09 23.2**	**-0.7**
DGB	**zmir**	**0.56**	**168**	P		**Pb**	**07 09 18.1**	**-0.2**
DGB				S		**Sb**	**07 09 26.0**	**0.0**
DGB				*i* AML		AML	07 09 30.0	
	comp=N,68nm,0.6s							
DGB				*i* AML		AML	07 09 30.0	
	comp=E,82nm,0.2s							
CHOS	**Chios island**	**0.57**	**248**	P		**Pb**	**07 09 18.8**	**+0.2**
CHOS				S		**Sb**	**07 09 26.3**	**-0.1**
	472nm,0.3s							
CHOS	**Chios island**	**0.57**	**248**	P		**Pb**	**07 09 18.8**	**+0.2**
CHOS				S		**Sb**	**07 09 26.2**	**-0.3**
CHOS				AML		AML	07 09 31.6	
	comp=N,753μm,0.3s							
CHOS				AML		AML	07 09 31.6	
	comp=E,1149μm,0.3s							
AYVA	**Ayvalik**	**0.71**	**358**	P		**Pb**	**07 09 20.4**	**-0.5**
AYVA				S		**Sb**	**07 09 29.5**	**-0.9**
AYVA				*i* AML		AML	07 09 33.0	
	comp=E,73nm,0.4s							
AYVA				*i* AML		AML	07 09 33.0	
	comp=E,72nm,0.5s							
PRK	**Paraskevi**	**0.74**	**331**	P		**Pb**	**07 09 21.3**	**-0.2**
PRK				S		**Sg**	**07 09 32.1**	**+0.8**
	comp=E,998nm,0.4s							
PRK	**Paraskevi**	**0.74**	**331**	P		**Pb**	**07 09 21.3**	**-0.2**
PRK				S		**Sb**	**07 09 31.1**	**-0.1**
PRK				AML		AML	07 09 33.6	
	comp=N,2670μm,0.5s							
PRK				AML		AML	07 09 35.4	
	comp=E,1320μm,0.4s							
SMG	**Samos**	**0.89**	**175**	P		**Pb**	**07 09 24.3**	**+0.3**
SMG				S		**Sg**	**07 09 37.0**	**+0.9**
	comp=E,302nm,0.3s							
SMG	**Samos**	**0.89**	**175**	P		**Pb**	**07 09 24.1**	**0.0**
SMG				S		**Sg**	**07 09 36.5**	**+0.4**
SMG				AML		AML	07 09 39.0	
	comp=N,782μm,0.4s							
SMG				AML		AML	07 09 39.3	
	comp=E,425μm,0.2s							
PSRA	**Psara**	**0.92**	**267**	P		**Pb**	**07 09 24.7**	**+0.3**
PSRA				S		**Sg**	**07 09 36.9**	**0.0**
PSRA				AML		AML	07 09 39.6	
	comp=N,457μm,0.2s							
PSRA				AML		AML	07 09 40.5	
	comp=E,736μm,0.2s							
SIGR	**SIGRI**	**0.92**	**312**	Pg		**Pb**	**07 09 24.9**	**+0.4**
SIGR				Sg		**Sb**	**07 09 36.7**	**+0.3**
SIGR	**SIGRI**	**0.92**	**312**	P		**Pb**	**07 09 24.6**	**+0.1**
SIGR				S		**Sb**	**07 09 36.6**	**+0.3**
	comp=E,172nm,0.5s							
SIGR	**SIGRI**	**0.92**	**312**	P		**Pb**	**07 09 24.8**	**+0.4**
SIGR				S		**Sb**	**07 09 36.6**	**+0.3**
SIGR				AML		AML	07 09 38.6	
	comp=E,305μm,0.5s							
SIGR				AML		AML	07 09 39.3	
	comp=N,375μm,0.4s							
BUHA	**Balikesir, Bur**	**0.94**	**17**	P		**Pb**	**07 09 24.8**	**-0.1**
BUHA				S		**Sb**	**07 09 37.9**	**+0.9**
BUHA				*i* AML		AML	07 09 39.0	
	comp=N,117nm,0.6s							
BUHA				*i* AML		AML	07 09 42.0	
	comp=N,68nm,0.3s							
GPNR	**Gulpinar-Canak**	**0.97**	**332**	Pg		**Pb**	**07 09 25.4**	**0.0**
GCAM	**G?zelcaml?**	**0.98**	**156**	P		Pb	07 09 13.1	-12
GCAM				S		**Sg**	**07 09 39.1**	**+0.2**
KOCA	**Canakkale, Ayv**	**1.01**	**333**	P		**Pb**	**07 09 26.1**	**0.0**
KOCA				S		**Sn**	**07 09 40.2**	**-0.1**
IZMR	**zmir-demi**	**1.07**	**115**	P		**Pb**	**07 09 25.9**	**-1.1**
IZMR				S		**Sb**	**07 09 41.1**	**+0.5**
IZMR				*i* AML		AML	07 09 47.0	
	comp=N,12nm,0.6s							
IZMR				*i* AML		AML	07 09 52.0	
	comp=N,10nm,1.2s							
STEP	**BALIKESIR_Sava**	**1.09**	**44**	P		**Pb**	**07 09 27.3**	**-0.3**
STEP				S		**Sn**	**07 09 43.0**	**+0.7**
STEP				*i* AML		AML	07 09 44.0	
	comp=N,118nm,0.5s							
STEP				*i* AML		AML	07 09 44.0	
	comp=N,116nm,0.3s							
BAYC	**CANAKKALE_Bayr**	**1.15**	**353**	P		**Pn**	**07 09 27.5**	**-0.9**
BAYC				S		**Sb**	**07 09 42.6**	**-0.5**
BAYC				*i* AML		AML	07 09 44.0	
	comp=N,56nm,0.3s							
EZN	**Ezine**	**1.27**	**346**	Pn		**Pn**	**07 09 30.4**	**+0.5**
EZN	**Ezine**	**1.27**	**346**	P		**Pn**	**07 09 30.0**	**+0.1**
EZN				S		**Sb**	**07 09 46.3**	**-0.1**
	comp=N,55nm,0.3s							
BALY	**Balya**	**1.33**	**31**	P		**Pn**	**07 09 31.0**	**+0.1**
BALY				S		**Sb**	**07 09 49.9**	**+1.4**
BALY				*i* AML		AML	07 09 53.0	
	comp=N,55nm,0.4s							
BALY				*i* AML		AML	07 09 55.0	
	comp=N,38nm,0.2s							
KIRA	**zmir-Kiraz**	**1.37**	**106**	P		**Pn**	**07 09 27.4**	**-4.1**
KIRA				S		**Sg**	**07 09 52.4**	**+1.0**
CANM	**Can-anakkale**	**1.43**	**10**	Pn		**Pb**	**07 09 33.9**	**+0.6**
MANT	**Manisa**	**1.44**	**94**	P		**Pn**	**07 09 32.3**	**-0.2**
MANT				S		**Sb**	**07 09 52.5**	**+1.0**
MANT				*i* AML		AML	07 09 58.0	
	comp=N,8.9nm,0.5s							
MANT				*i* AML		AML	07 09 58.0	
	comp=N,6.3nm,0.2s							
BKES	**Balkesir-Mer**	**1.47**	**39**	P		**Pn**	**07 09 33.0**	**+0.3**
BKES				S		**Sn**	**07 09 51.3**	**-0.2**
BKES				*i* AML		AML	07 09 56.0	
	comp=N,28nm,0.5s							
BKES				*i* AML		AML	07 09 57.0	
	comp=N,18nm,0.2s							
CNKL	**anakkale-Mer**	**1.49**	**350**	P		**Pn**	**07 09 31.8**	**-1.2**
CNKL				S		**Sn**	**07 09 50.9**	**-1.2**
CNKL				*i* AML		AML	07 09 55.0	
	comp=N,16nm,0.3s							
CNKL				*i* AML		AML	07 09 56.0	
	comp=N,20nm,0.4s							
GONE	**Gonen-Balikesi**	**1.63**	**27**	Pn		**Pb**	**07 09 37.1**	**+0.5**
GOAD	**anakkale-G¶**	**1.69**	**338**	P		**Pn**	**07 09 35.8**	**+0.1**
GOAD				S		**Sn**	**07 09 55.6**	**-1.3**
GOAD				*i* AML		AML	07 10 02.0	
	comp=N,36nm,0.6s							
DURS	**Dursunbey**	**1.69**	**53**	P		**Pn**	**07 09 36.0**	**+0.2**
DURS				S		**Sn**	**07 09 56.6**	**-0.5**
DURS				*i* AML		AML	07 10 01.0	
	comp=N,18nm,0.2s							
DURS				*i* AML		AML	07 10 04.0	
	comp=N,16nm,0.6s							
GADA	**Gvkgeada**	**1.72**	**338**	Pn		**Pb**	**07 09 38.3**	**+0.2**
LIA	**Limnos Island**	**1.77**	**318**	P		**Pn**	**07 09 36.6**	**-0.2**
LIA				S		**Sn**	**07 09 57.9**	**-1.0**
	comp=N,75nm,0.5s							
LIA	**Limnos Island**	**1.77**	**318**	P		**Pn**	**07 09 37.1**	**+0.3**
USAK	**Uak-Merkez**	**1.79**	**86**	P		**Pn**	**07 09 38.6**	**+1.3**
USAK				S		**Sn**	**07 09 59.5**	**-0.2**
USAK				*i* AML		AML	07 10 20.0	
	comp=N,46nm,1.1s							
GELI	**Tayfur-Gelibol**	**1.81**	**354**	Pn		**Pb**	**07 09 39.4**	**-0.3**
KRBG	**Karabiga-Canak**	**1.85**	**14**	Pn		**Pb**	**07 09 40.0**	**-0.3**
EDC	**Edincik**	**1.95**	**26**	Pn		**Pb**	**07 09 41.8**	**-0.4**
BAND	**Balkesir-Ban**	**2.05**	**31**	P		**Pn**	**07 09 41.9**	**+1.2**
BAND				S		**Sn**	**07 10 06.7**	**+0.8**
BAND				*i* AML		AML	07 10 15.0	
	comp=N,28nm,0.2s							
BAND				*i* AML		AML	07 10 17.0	
	comp=N,17nm,0.3s							
ERIK	**Erikli-Kesan**	**2.08**	**355**	Pn		**Pb**	**07 09 43.3**	**-0.9**
SMTH	**Samothraki Isl**	**2.09**	**334**	P		**Pn**	**07 09 41.0**	**-0.2**
SMTH	**Samothraki Isl**	**2.09**	**334**	P		**Pn**	**07 09 41.2**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.12**	**9**	Pn		**Pn**	**07 09 43.6**	**+1.9**
GDZ	**Gediz**	**2.20**	**76**	P		**Pb**	**07 09 45.7**	**-0.8**
GDZ				S		**Sb**	**07 10 15.1**	**+1.6**
GDZ				*i* AML		AML	07 10 19.0	
	comp=N,3.9nm,0.6s							
ALN	**Alexandroupoli**	**2.36**	**347**	Pn		**Pn**	**07 09 47.1**	**+2.2**
ULDT	**Uludag**	**2.42**	**50**	P		**Pb**	**07 09 51.5**	**+1.3**
ULDT				S		**Sn**	**07 10 14.6**	**-0.7**

JMA ***25*** *07:19:21.2±0.2,36.°2N±0.°9×129.°5E±0.°7,h15km,MV3.8/16, S KOREAN PENINSULA REG*
NIED ***25*** *07:19:21.2,36.°15N×129.°45E,h15km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr0.07; Mθθ2.38; Mϕϕ-2.45; Mrθ-0.11; Mθϕ-0.80; Mϕr2.46; Fault plane solution: M03.35000×1014 NP1: ϕs145.00000°,δ82.00000°,λ-36.00000°. NP2: ϕs241.00000°,δ54.00000°,λ-170.00000°.*
IDC ***25*** *07:19:22.6±1.6,36.°06N×129.°30E,h0km,mb3.4/1, mbtmp3.6/3,ML3.1/2,MS2.7/2 Error ellipse: s-maj=28.8km s-min=11.2km az=59.0*
KMA ***25*** *07:19:22.4±0.2,36.°11N×129.°36E,h10km±2km,Error ellipse: s-maj=2.0km s-min=1.1km az=86.0*
KEA ***25*** *07:19:25.4,36.°18N×129.°23E,h18km,ML3.9/5*

ISC 25 07:19:21.3±0.9,36.°10N±0.°03×129.°29E±0.°04,h14km±7km, n25,σ1s51/38,South Korea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KSPHA	**Pohang**	**0.11**	**35**	P		**Pg**	**07 19 24.8**	**+0.3**
KSPHA				S		**Sg**	**07 19 26.5**	**-0.2**
YOCB	**Yeongcheon**	**0.30**	**246**	P		**Pb**	**07 19 29.5**	**+1.0**
	SNR=203							
YOCB				P		**Pb**	**07 19 29.5**	**+1.0**
	SNR=203							
KSADO	**Andong**	**0.41**	**318**	P		**Pb**	**07 19 31.2**	**+0.9**
	SNR=233							
KSADO				P		**Pb**	**07 19 31.2**	**+0.9**
	SNR=233							
YODB	**Yeongdeok**	**0.44**	**12**	P		**Pb**	**07 19 30.8**	**0.0**
	SNR=1012							
YODB				P		**Pb**	**07 19 30.8**	**0.0**
	SNR=1012							
KSDAG	**Daegu**	**0.46**	**224**	P		**Pb**	**07 19 32.2**	**+1.0**
	SNR=275							
KSDAG				P		**Pb**	**07 19 32.2**	**+1.0**
	SNR=275							
YEYB	**Yeongyang**	**0.55**	**343**	P		**Pb**	**07 19 33.3**	**+0.6**
	SNR=716							
YEYB				P		**Pb**	**07 19 33.3**	**+0.6**
	SNR=716							
EUSB	**Uiseong**	**0.55**	**298**	P		**Pb**	**07 19 33.8**	**+1.1**
	SNR=194							
EUSB				P		**Pb**	**07 19 33.8**	**+1.1**
	SNR=194							
KSULJ	**Uljin**	**0.60**	**9**	P		**Pb**	**07 19 33.8**	**+0.2**
	SNR=1212							
KSULJ				P		**Pb**	**07 19 33.8**	**+0.2**
	SNR=1212							
JTU	**Tsushima**	**1.58**	**177**	*e*P		**Pb**	**07 19 49.7**	**-0.5**
KSRS	**Korea Array**	**1.74**	**321**	Pg		**Pg**	**07 19 54.9**	**+0.2**
	32nm,0.3s,baz=136,slow=17,SNR=166							
KSRS				Lg		Lg	07 20 18.7	
	148nm,0.3s,baz=141,slow=30,SNR=68							
JTSM	**Tsushimamitsu**	**1.76**	**177**	*e*P		**Pb**	**07 19 52.5**	**-0.8**
JTSM				*e*S		**Sb**	**07 20 14.6**	**-0.7**
JHGM	**Hagimishima**	**2.00**	**131**	*e*P		**Pn**	**07 19 54.6**	**0.0**
JHGM				*e*S		**Sn**	**07 20 19.3**	**-0.3**
JTY	**Toyota**	**2.34**	**141**	*e*P		**Pn**	**07 19 59.5**	**+0.1**
JGT2	**ShimaneMisato**	**2.82**	**111**	*e*P		**Pn**	**07 20 05.5**	**-0.4**
JGT2				*e*S		**Sn**	**07 20 39.1**	**-0.5**
JNU	**Nakatsue**	**3.25**	**156**	Pn		**Pn**	**07 20 13.8**	**+2.0**
	2.1nm,0.3s,baz=318,slow=18,SNR=5.8							
JNU				Pg		**Pg**	**07 20 22.2**	**-1.3**
	7.4nm,0.3s,baz=304,slow=5.5,SNR=13							
JNU				Lg		Lg	07 21 02.9	
	3.7nm,0.3s,baz=172,slow=17,SNR=2.6							
	6.5nm,0.3s							
JHS	**Saijyo**	**3.31**	**108**	*e*P		**Pn**	**07 20 12.4**	**-0.2**
WOSN	**Wonsan**	**3.40**	**335**	Pg		**Pg**	**07 20 25.0**	**-1.3**
WOSN				Sg		**Sg**	**07 21 08.3**	**-2.1**
WOSN				AML		AML		
	comp=N,202nm,0.6s							
WOSN				AML		AML		
	comp=E,447nm,0.7s							
WOSN				AML		AML		
	comp=Z,304nm,0.9s							
**

SONM	**Songino Array**	**20.59**	**312**	P	Pn	07 24 04.6	+2.5
	comp=Z,2.4nm,1.2s,baz=121,slow=11,SNR=5.0						
SONM				LR	LR	07 33 16.5	
	comp=Z,19nm,19.8s,baz=93,slow=40						
	comp=Z,2.4nm,1.2s						
MA2	**Magadan**	**27.31**	**24**	LR	LR	07 35 37.1	
	comp=Z,20nm,18.5s,baz=256,slow=36						

IDC ***25*** *07:19:43.0±7.2,4˚.50N×96˚.18E,h0km,mb3.7/4, mbtmp3.7/4,MS3.1/10,Error ellipse: s-maj=251.4km s-min=31.6km az=70.0*
DJA ***25*** *07:19:44.5±0.9,5˚N±3˚×9˚6E±˚,h10km,M4.6/7,mb4.7/2, MLv4.5/7*
ISC 25 07:19:43.3±1.2,4˚.62N±0˚.05×96˚.1E±0˚.1,h10km,n21,
σ2º16/12,mb3.9/4,MS3.1/7,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.45**	**140**	P	**Pn**	**07 19 55.2**	**-0.6**
MLSI				S	**Sb**	**07 20 03.2**	**+3.1**
LHMI	**Lhok Sumawe**	**1.03**	**54**	P	**Pg**	**07 20 02.1**	**-0.9**
LHMI				S	**Sg**	**07 20 15.1**	**-1.3**
KCSI	**Kotacane, Aceh**	**1.98**	**123**	P	**Pg**	**07 20 21.1**	**-0.1**
KCSI				S	**Sg**	**07 20 48.6**	**+1.8**
GSI	**Gunungsitoli**	**3.60**	**156**	P	**Pb**	**07 20 42.5**	**-4.5**
PBSI	**Pulau Batu**	**5.12**	**155**	P	Pn	07 21 03.3	+3.3
CMAR	**Chiang Mai Arr**	**14.03**	**11**	Pn	**P**	**07 23 11.2**	**+1.0**
	0.6nm,0.3s,baz=193,slow=12,SNR=1.8						
CMAR				LR	LR	07 28 45.3	
	comp=Z,42nm,21.4s,baz=185,slow=38						
PALK	**Pallekele**	**15.56**	**281**	LR	LR	07 28 19.1	
	comp=Z,44nm,19.2s,baz=226,slow=33						
LEM	**Lembang**	**16.15**	**135**	LR	LR	07 30 40.8	
	comp=Z,82nm,21.3s,baz=153,slow=41						
KAPI	**Kappang**	**25.47**	**124**	LR	LR	07 35 44.1	
	comp=Z,44nm,19.0s,baz=256,slow=38						
DAV	**Davao City (W)**	**29.41**	**84**	LR	LR	07 40 32.3	
	comp=Z,15nm,19.8s,baz=325,slow=43						
AAK	**Ala-Archa**	**42.46**	**336**	LR	LR	07 46 40.4	
	comp=Z,48nm,19.7s,baz=180,slow=38						
JNU	**Nakatsue**	**43.06**	**44**	LR	LR	07 46 32.5	
	comp=Z,21nm,18.6s,baz=229,slow=37						
SONM	**Songino Array**	**43.95**	**10**	P	**P**	**07 27 52.6**	**+2.0**
	0.5nm,0.6s,baz=199,slow=8.8,SNR=3.8						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**44.80**	**124**	P	**P**	**07 27 57.8**	**+0.1**
	0.8nm,0.6s,baz=303,slow=9.1,SNR=9.9						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**46.34**	**129**	P	**P**	**07 28 10.1**	**+0.2**
	1.2nm,0.8s,baz=297,slow=7.6,SNR=16						
ASAR				LR	LR	07 48 05.3	
	comp=Z,24nm,21.1s,baz=295,slow=37						
	1.2nm,0.8s						
AKTO	**Aktyubinsk**	**55.73**	**331**	LR	LR	07 55 08.3	
	comp=Z,22nm,19.4s,baz=220,slow=38						
STKA	**Stephens Creek**	**56.45**	**133**	P	**P**	**07 29 26.4**	**+0.8**
	1.0nm,0.6s,baz=315,slow=10.0,SNR=3.2						
	1.0nm,0.6s						
H04N2	**CROZET ISLANDS**	**64.01**	**213**	T	T	08 38 24.2	
	baz=51,slow=75,SNR=9.6						
H04N1	**CROZET ISLANDS**	**64.02**	**213**	T	T	08 38 15.6	
	baz=51,slow=75,SNR=12						
H04N3	**CROZET ISLANDS**	**64.03**	**213**	T	T	08 38 16.6	
	baz=51,slow=75,SNR=9.3						
ARCES	**ARCESS Array B**	**78.98**	**340**	LR	LR	08 09 48.5	
	comp=Z,45nm,18.2s,baz=198,slow=38						

IDC ***25*** *07:28:46.3±1.2,0˚.21S×17˚.58W,h0km,mb3.8/7, mbtmp3.9/8,ML4.5/1,MS3.1/8,Error ellipse: s-maj=55.4km s-min=23.5km az=148.0*
ISC 25 07:28:46.8±1.0,0˚.5S±0˚.3×17˚.5W±0˚.2,h10km,n23,
σ1º02/13,mb4.0/7,MS3.1/7,2C-1D,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**7.87**	**158**	T	T	07 39 29.4	
	baz=339,slow=74						
H10N3	**ASCENSION HYDR**	**7.88**	**158**	T	T	07 39 56.6	
	baz=339,slow=74						
H10N1	**ASCENSION HYDR**	**7.89**	**158**	T	T	07 39 48.2	
	baz=339,slow=74						
LIC	**Lamto**	**14.11**	**62**	*e*	**Pn**	**07 32 09.0**	**+2.0**
	6.2nm,0.3s						
TIC	**Toumodi**	**14.32**	**60**	*i*	**Pn**	**07 32 10.9**	**+1.1**
	16nm,0.3s						
KIC	**Kosan Boka**	**14.43**	**62**	*i*	**Pn**	**07 32 11.5**	**+0.2**
	14nm,0.5s						
DBIC	**Dimbokro**	**14.47**	**60**	Pn	**Pn**	**07 32 11.0**	**-0.9**
	2.2nm,0.3s,baz=246,slow=14,SNR=23						
DBIC				Sn	Sn	07 34 36.8	-16
	0.3nm,0.3s,baz=161,slow=17,SNR=1.9						
DBIC				LR	LR	07 36 33.7	
	comp=Z,69nm,20.1s,baz=209,slow=32						
	7.5nm,0.4s						
TORD	**Torodi Ar. Bea**	**23.35**	**54**	P	**P**	**07 33 55.0**	**-0.7**
	6.0nm,0.7s,baz=241,slow=9.7,SNR=21						
	6.0nm,0.7s						
BDFB	**Brasilia**	**33.68**	**242**	P	**P**	**07 35 28.0**	**-0.5**
	2.4nm,0.8s,baz=84,slow=8.4,SNR=3.8						
	2.4nm,0.8s						
MDT	**Midelt**	**35.29**	**19**	LR	LR	07 49 05.2	
	comp=Z,36nm,21.5s,baz=286,slow=35						
MDP	**Montagnes des**	**35.55**	**279**	LR	LR	07 47 13.8	
	comp=Z,27nm,18.3s,baz=172,slow=31						
ESDC	**Sonseca Array**	**41.85**	**16**	LR	LR	07 54 06.2	
	comp=Z,23nm,19.6s,baz=121,slow=36						
CPUP	**Villa Florida**	**46.15**	**233**	LR	LR	07 57 12.4	
	comp=Z,19nm,18.1s,baz=54,slow=37						
SUR	**Sutherland**	**48.04**	**135**	LR	LR	07 54 27.2	
	comp=Z,30nm,18.7s,baz=337,slow=32						
LBTB	**Lobatse**	**48.22**	**124**	LR	LR	07 53 50.6	
	comp=Z,28nm,21.6s,baz=42,slow=31						
SJG	**San Juan**	**51.28**	**294**	LR	LR	07 53 51.9	
	comp=Z,18nm,21.3s,baz=112,slow=30						
GERES	**GERESS Array B**	**56.04**	**24**	P	**P**	**07 38 25.5**	**-0.5**
	0.6nm,0.7s,baz=212,slow=9.0,SNR=2.6						
	0.6nm,0.7s						
BRTR	**Keskin Array B**	**61.41**	**43**	P	**P**	**07 39 02.5**	**-1.2**
	0.4nm,0.3s,baz=255,slow=5.5,SNR=2.6						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**70.08**	**21**	P	**P**	**07 39 59.3**	**+0.4**
	0.4nm,0.4s,baz=212,slow=4.9,SNR=1.2						
	0.4nm,0.4s						
TXAR	**Lajitas Array**	**86.91**	**299**	P	**P**	**07 41 33.6**	**+1.0**
	0.4nm,0.8s,baz=108,slow=5.8,SNR=2.9						
	0.4nm,0.8s						
YKA	**Yellowknife Ar**	**93.74**	**333**	P	**P**	**07 42 03.9**	**+0.2**
	0.2nm,0.9s,baz=91,slow=4.9,SNR=2.3						
	0.2nm,0.9s						
ASAR	**Alice Springs**	**143.27**	**133**	PKP	**PKPdf**	**07 48 23.3**	**+0.9**
	0.2nm,0.6s,baz=208,slow=1.3,SNR=1.6						
WRA	**Warramunga Arr**	**145.72**	**128**	PKPbc	**PKiKP**	**07 48 30.4**	**-0.4**
	0.4nm,0.9s,baz=234,slow=2.4,SNR=2.5						

IDC ***25*** *07:58:01.8±1.1,13˚.71N×92˚.53E,h0km,mb3.7/7, mbtmp3.7/7,MS2.8/3,Error ellipse: s-maj=56.9km s-min=19.4km az=54.0*
ISC 25 07:58:06.2±1.1,13˚.8N±0˚.3×92˚.6E±0˚.3,h29km,n13,
σ0º61/7,mb3.8/7,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.70**	**52**	LR	LR	08 03 33.1	
	comp=Z,50nm,19.9s,baz=245,slow=43						
PALK	**Pallekele**	**13.33**	**242**	LR	LR	08 05 25.0	
	comp=Z,46nm,20.4s,baz=153,slow=33						
AAK	**Ala-Archa**	**32.76**	**335**	LR	LR	08 19 18.2	
	comp=Z,28nm,20.9s,baz=202,slow=39						
MKAR	**Makanchi Array**	**34.06**	**347**	P	**P**	**08 04 48.7**	**+0.9**
	0.3nm,0.5s,baz=148,slow=8.5,SNR=2.3						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**38.51**	**346**	P	**P**	**08 05 25.9**	**0.0**
	0.5nm,0.7s,baz=161,slow=7.6,SNR=4.7						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**40.57**	**353**	P	**P**	**08 05 42.1**	**-0.8**
	0.6nm,0.6s,baz=181,slow=8.2,SNR=2.2						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**52.99**	**128**	P	**P**	**08 07 20.6**	**-0.1**
	0.7nm,0.5s,baz=296,slow=9.5,SNR=24						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**54.91**	**132**	P	**P**	**08 07 34.9**	**+0.3**
	1.1nm,0.4s,baz=310,slow=7.1,SNR=38						
	1.1nm,0.4s						

BRTR	**Keskin Array B**	**57.53**	**308**	P	**P**	**08 07 53.3**	**+0.1**
	1.0nm,0.8s,baz=97,slow=6.1,SNR=4.2						
	1.0nm,0.8s						
H04N2	**CROZET ISLANDS**	**70.03**	**209**	T	T	09 25 45.6	
	baz=42,slow=75,SNR=7.7						
H04N1	**CROZET ISLANDS**	**70.03**	**209**	T	T	09 25 50.7	
	baz=42,slow=75,SNR=5.3						
H04N3	**CROZET ISLANDS**	**70.04**	**209**	T	T	09 25 38.2	
	baz=42,slow=75,SNR=5.9						
TORD	**Torodi Ar. Bea**	**87.78**	**283**	P	**P**	**08 10 53.0**	**-0.2**
	0.4nm,0.7s,baz=78,slow=5.2,SNR=2.4						
	0.4nm,0.7s						

NEIC ***25*** *08:01:16.5±1.4,50˚.33N±0˚.10×174˚.82W±0˚.07, h34km±13km,mb3.9/39,ML3.6(AEIC),Error ellipse: s-maj=15.5km s-min=2.6km az=158.0*
AEIC ***25*** *08:01:17.6±1.8,50˚.3N±0˚.1×174˚.75W±0˚.10,h10km±5km, Error ellipse: s-maj=14.8km s-min=9.1km az=182.0*
ISC 25 08:01:14.0±1.8,50˚.3N±0˚.1×174˚.87W±0˚.06,h21km,n75,
σ0º92/75,mb3.8/6,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSCK	**Great Sitkin C**	**1.93**	**336**		**Pn**	**08 01 46.0**	**+0.3**
GSCK					**Sn**	**08 02 08.7**	**-0.6**
GSMY	**Great Sitkin M**	**1.94**	**338**		**Pn**	**08 01 45.9**	**+0.2**
GSTR	**Great Sitkin T**	**1.98**	**338**	Pn	**Pn**	**08 01 46.7**	**+0.4**
ATKA	**Atka Island**	**1.99**	**12**		**Pn**	**08 01 46.0**	**-0.4**
ATKA	**Atka Island**	**1.99**	**12**	P	**Pn**	**08 01 46.1**	**-0.3**
KOFP	**Korovin Flat P**	**2.07**	**13**		**Pn**	**08 01 47.7**	**0.0**
KOKL	**Mount Kliuchef**	**2.11**	**11**		**Pn**	**08 01 48.1**	**+0.1**
KOKL					**Sn**	**08 02 12.5**	**-1.2**
KIWB	**Kanaga Island**	**2.15**	**319**	Pn	**Pn**	**08 01 48.2**	**-0.4**
KOSE	**Korovin Southe**	**2.15**	**13**		**Pn**	**08 01 49.0**	**+0.3**
KIRH	**Kanaga Island**	**2.16**	**320**		**Pn**	**08 01 49.6**	**+0.9**
KONE	**Korovin Northe**	**2.19**	**12**		**Pn**	**08 01 49.4**	**+0.2**
TASE	**Tanaga Southea**	**2.55**	**309**		**Pn**	**08 01 55.7**	**+1.6**
TAFP	**Tanaga Falls P**	**2.56**	**311**		**Pn**	**08 01 55.7**	**+1.4**
TAFP					**Sn**	**08 02 24.7**	**-0.1**
GANE	**Gareloi Northe**	**2.92**	**304**		**Pn**	**08 02 00.8**	**+1.6**
AMKA	**Amchitka**	**3.86**	**289**		**Pn**	**08 02 12.8**	**+0.6**
CLES	**Cleveland East**	**4.03**	**49**		**Pn**	**08 02 14.4**	**0.0**
CLCO	**Concord Point,**	**4.09**	**50**		**Pn**	**08 02 15.3**	**0.0**
NIKH	**Nikolski High**	**4.63**	**52**		**Pn**	**08 02 21.7**	**-0.9**
NIKH	**Nikolski High**	**4.63**	**52**	P	**Pn**	**08 02 22.8**	**+0.2**
MAPS	**Pakushin South**	**6.04**	**51**		**Pn**	**08 02 42.1**	**0.0**
MNAT	**Makushin Natee**	**6.21**	**51**		**Pn**	**08 02 44.9**	**+0.4**
UNV	**Unalaska Valle**	**6.28**	**52**		**Pn**	**08 02 45.9**	**+0.5**
UNV	**Unalaska Valle**	**6.28**	**52**	P	**Pn**	**08 02 46.1**	**+0.8**
AKUT	**Akutan**	**6.80**	**52**	Pn	**Pn**	**08 02 53.6**	**+1.2**
AKUT	**Akutan**	**6.80**	**52**	P	**Pn**	**08 02 54.3**	**+1.8**
FALS	**False Pass**	**8.35**	**52**	P	**Pn**	**08 03 16.4**	**+2.7**
SDPT	**Sand Point**	**10.09**	**54**	Pn	**Pn**	**08 03 38.5**	**+1.0**
SDPT	**Sand Point**	**10.09**	**54**	P	**Pn**	**08 03 39.2**	**+1.7**
R17K	**Ugashik Creek**	**13.12**	**49**	Pn	**Pn**	**08 04 17.7**	**-1.3**
K15K	**Wolf Creek Mou**	**14.11**	**26**	Pn	**Pn**	**08 04 32.9**	**+0.5**
L16K	**Owhat River**	**14.29**	**31**	Pn	**Pn**	**08 04 34.8**	**-0.1**
N17K	**Nushagak Hills**	**14.32**	**37**	Pn	**Pn**	**08 04 37.1**	**+1.7**
OHAK	**Old Harbor**	**14.50**	**53**	P	**Pn**	**08 04 38.6**	**+0.8**
O18K	**Koktuh Hills**	**14.74**	**42**	Pn	**Pn**	**08 04 40.9**	**-0.2**
N18K	**Kilae Creek**	**14.93**	**38**	Pn	**Pn**	**08 04 43.5**	**0.0**
SVW2	**Sparrevohn**	**15.29**	**37**	Pn	**Pn**	**08 04 48.0**	**-0.4**
K17K	**Iditarod**	**15.41**	**30**	Pn	**Pn**	**08 04 49.8**	**-0.1**
K17K					IAmb	IAmb	08 05 10.8
	comp=Z,7.9nm,1.2s						
SYI	**Shuyak Island**	**15.46**	**49**	Pn	**Pn**	**08 04 47.2**	**-3.3**
N19K	**Bonanza Creek**	**15.57**	**40**	Pn	**Pn**	**08 04 52.5**	**+0.4**
L19K	**White Mountain**	**16.23**	**35**	Pn	**Pn**	**08 05 00.6**	**0.0**
L19K					IAmb	IAmb	08 05 40.7
	comp=Z,9.7nm,1.4s						
TTA	**Tatalina**	**16.31**	**32**	Pn	**Pn**	**08 05 01.0**	**-0.5**
H18K	**Honhosa River**	**17.24**	**24**		**P**	**08 05 14.9**	**+0.3**
K20K	**Telida**	**17.25**	**33**		**P**	**08 05 14.3**	**-0.5**
SKT	**Skwentna**	**17.40**	**39**		**P**	**08 05 16.1**	**-0.3**
SKT					IAmb	IAmb	08 05 44.8
	comp=Z,10nm,1.5s						
RC01	**Rabbit Creek A**	**17.71**	**43**	P	**Pn**	**08 05 18.3**	**-0.8**
CAST	**Castle Rocks**	**18.00**	**34**	P	**P**	**08 05 23.5**	**+0.5**
GHO	**Glory Hole Cre**	**18.37**	**41**	P	**P**	**08 05 25.8**	**-1.4**
GHO					IAmb	IAmb	08 05 28.3
	comp=Z,10nm,0.9s						
KTH	**Kantishna Hill**	**18.50**	**35**	P	**P**	**08 05 28.2**	**-0.3**
KTH					IAmb	IAmb	08 05 35.8
	comp=Z,18nm,1.5s						
SML	**Sawmill**	**18.64**	**42**	P	**P**	**08 05 29.7**	**-0.4**
SML					IAmb	IAmb	08 05 52.7
	comp=Z,16nm,1.2s						
TRF	**Thorofare Moun**	**18.68**	**36**	P	**Pn**	**08 05 32.0**	**+1.0**
TRF					IAmb	IAmb	08 05 54.6
	comp=Z,13nm,1.4s						
BPAW	**Bear Paw Mtn.**	**18.79**	**33**	P	**Pn**	**08 05 33.4**	**+1.1**
SCM	**Sheep Creek Mo**	**19.08**	**42**	P	**P**	**08 05 34.9**	**0.0**
SCM					IAmb	IAmb	08 05 37.5
	comp=Z,11nm,1.0s						
H21K	**Melozitna Rive**	**19.19**	**28**	P	**Pn**	**08 05 38.1**	**+1.1**
E19K	**Redstone River**	**19.37**	**21**	P	**Pn**	**08 05 39.0**	**-0.2**
KLU	**Klutina**	**19.56**	**44**	P	**P**	**08 05 39.6**	**-0.6**
C18K	**Utukok River**	**19.62**	**15**	P	**P**	**08 05 41.1**	**+0.4**
C18K					IAmb	IAmb	08 05 54.4
	comp=Z,5.8nm,1.4s						
M24K	**Tolsona, Glenn**	**19.69**	**42**	P	**P**	**08 05 41.6**	**0.0**
I23K	**Minto, Yukon-K**	**19.98**	**32**	P	**Pn**	**08 05 45.8**	**-0.7**
I23K					IAmb	IAmb	08 05 50.2
	comp=Z,12nm,1.4s						
D19K	**Kuna River**	**20.04**	**18**	P	Pn	08 05 46.3	-0.9
N25K	**Chitina, Valde**	**20.19**	**44**	P	Pn	08 05 48.3	-0.8
N25K					IAmb	IAmb	08 06 00.3
	comp=Z,7.7nm,1.1s						
CCB	**Clear Creek Bu**	**20.25**	**34**	P	**P**	**08 05 48.3**	**+0.7**
CCB					IAmb	IAmb	08 06 04.1
	comp=Z,4.2nm,1.3s						
MDM	**Murphy Dome**	**20.27**	**33**	P	**P**	**08 05 48.6**	**+0.8**
MDM					IAmb	IAmb	08 06 09.0
	comp=Z,4.4nm,1.2s						
HDA	**Harding Lake**	**20.44**	**36**	P	Pn	08 05 51.0	-0.9
GLB	**Gilahina Butte**	**20.49**	**45**	P	**P**	**08 05 51.1**	**+0.8**
GLB					IAmb	IAmb	08 06 19.9
	comp=Z,8.7nm,1.2s						
VRDI	**Verde Repeater**	**20.59**	**46**	P	**P**	**08 05 51.9**	**+0.4**
IL31		**20.65**	**35**	P	**P**	**08 05 51.3**	**-0.6**
ILAR	**Eielson Array**	**20.65**	**35**	P	**P**	**08 05 52.7**	**+0.7**
TGL	**Tana Glacier**	**20.74**	**47**	P	**P**	**08 05 54.0**	**+0.9**
H24K	**Noodor Dome**	**20.89**	**32**	P	**P**	**08 05 55.3**	**+0.8**
H24K					IAmb	IAmb	08 06 04.5
	comp=Z,7.3nm,1.4s						
J25K	**Salcha River,**	**21.13**	**36**	P	**P**	**08 05 56.7**	**-0.5**
J25K					IAmb	IAmb	08 06 01.7
	comp=Z,3.8nm,1.0s						
M26K	**Nabesna, AK**	**21.18**	**43**	P	**P**	**08 05 59.0**	**+1.3**
M26K					IAmb	IAmb	08 06 11.4
	comp=Z,14nm,1.5s						
PRP	**Porcupine Dome**	**21.53**	**34**	P	**P**	**08 06 02.3**	**+0.7**
PRP					IAmb	IAmb	08 06 45.2
	comp=Z,5.7nm,1.4s						
D22K	**Ayikyak River**	**21.55**	**22**	P	**P**	**08 06 02.2**	**+0.6**
D22K					IAmb	IAmb	08 06 06.1
	comp=Z,5.1nm,1.4s						
B21K	**Ikpikpuk River**	**21.69**	**19**	P	**P**	**08 06 03.0**	**0.0**
B21K					IAmb	IAmb	08 06 22.5
	comp=Z,4.0nm,1.4s						
J26L	**Joseph Creek**	**21.77**	**37**	P	**P**	**08 06 03.6**	**-0.5**
J26L					IAmb	IAmb	08 06 08.5
	comp=Z,3.7nm,0.8s						

IDC ***25*** *08:04:03.9±8.1,37˚.14S×177˚.68E,h0km,mb3.8/3, mbtmp3.8/3,Error ellipse: s-maj=142.4km s-min=15.4km az=92.0*
NOU ***25*** *08:04:04.4,37˚.64S×178˚.66E,h94km,MLv3.9/9,Off E. Coast of N. Island, N.Z.*
WEL ***25*** *08:04:09.4±0.8,38˚S±6˚×17˚8E±˚,h60km±7km,M3.4/24, ML3.6/24,MLv3.4/24,Error ellipse: s-maj=0.0km s-min=0.0km az=14.6,confirmed*
ISC 25 08:04:09.6±1.1,37.67S±0˚.05×178˚.14E±0˚.06,h78km±7km,
n119,σ0º94/127,mb3.9/3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.17**	**51**	P	**Pn**	**08 04 20.2**	**-0.7**
MXZ	**Matakaoa Point**	**0.17**	**51**	P	**Pn**	**08 04 20.3**	**-0.7**
PKGZ	**Pakihiroa**	**0.22**	**193**	P	**Pn**	**08 04 20.6**	**-0.7**
PKGZ				S	**Sn**	**08 04 29.3**	**-0.7**
WMGZ	**Waiomatatini S**	**0.26**	**124**	P	**Pn**	**08 04 21.3**	**-0.1**
WMGZ				S	**Sn**	**08 04 30.7**	**+0.6**
HAZ	**Te Kaha**	**0.30**	**253**	P	**Pn**	**08 04 21.0**	**-0.6**
HAZ				S	**Sn**	**08 04 29.8**	**-0.6**
PUZ	**Puketiti**	**0.41**	**167**	P	**Pn**	**08 04 22.1**	**-0.3**
RUGZ	**Raukumara Rang**	**0.47**	**231**	P	**Pn**	**08 04 22.1**	**-0.9**
TWGZ	**Tauwhareparae**	**0.52**	**194**	P	**Pn**	**08 04 23.6**	**+0.2**
TWGZ				S	**Sn**	**08 04 35.1**	**+1.6**
WIZ	**White Island**	**0.77**	**281**	P	**Pn**	**08 04 24.8**	**-1.0**
WSRZ	**White Island S**	**0.78**	**281**	P	**Pn**	**08 04 25.3**	**-0.7**
TKGZ	**Te Karaka**	**0.80**	**197**	P	**Pn**	**08 04 26.2**	**+0.1**
TKGZ				S	**Sn**	**08 04 39.3**	**+0.8**
CNGZ	**Carnagh Statio**	**0.81**	**176**	P	**Pn**	**08 04 26.8**	**+0.5**
MWZ	**Matawai**	**0.82**	**216**	P	**Pn**	**08 04 26.3**	**-0.1**
MWZ				S	**Sn**	**08 04 39.0**	**+0.1**
WHRZ	**Whale Island**	**0.94**	**258**	P	**Pn**	**08 04 27.0**	**-0.8**
RAGZ	**Rawiri**	**1.00**	**215**	P	**Pn**	**08 04 28.6**	**0.0**
URZ	**Urewera**	**1.00**	**234**	P	**Pn**	**08 04 27.7**	**-0.8**
URZ	**Urewera**	**1.00**	**234**	Pg	**Pn**	**08 04 27.7**	**-0.8**
	41nm,0.3s,baz=350,slow=5.2,SNR=434						
URZ				Lg	Lg	08 04 42.2	
	153nm,0.3s,baz=208,slow=16,SNR=21						
URZ	**Urewera**	**1.00**	**234**	P	**Pn**	**08 04 27.7**	**-0.8**
URZ				S	**Sn**	**08 04 42.2**	**-0.4**
RIGZ	**Rimuhau**	**1.07**	**196**	P	**Pn**	**08 04 29.5**	**+0.1**
RIGZ				S	**Sn**	**08 04 44.9**	**+0.6**
EDRZ	**Edgecumbe**	**1.19**	**248**	P	**Pn**	**08 04 30.1**	**-0.8**
MARZ	**Manawahe**	**1.20**	**254**	P	**Pn**	**08 04 29.8**	**-1.2**
PRGZ	**Paritu Road**	**1.27**	**189**	P	**Pn**	**08 04 31.5**	**-0.3**
OPRZ	**Ohinepanea**	**1.27**	**262**	P	**Pn**	**08 04 30.6**	**-1.2**
SNGZ	**Shannon Statio**	**1.27**	**209**	P	**Pn**	**08 04 32.2**	**+0.3**
RTZ	**Ruatahuna**	**1.31**	**224**	P	**Pn**	**08 04 32.0**	**-0.5**
MUGZ	**Murupara**	**1.35**	**233**	P	**Pn**	**08 04 32.3**	**-0.6**
KNZ	**Kokohu**	**1.40**	**195**	P	**Pn**	**08 04 32.8**	**-0.7**
MKRZ	**Makatiti**	**1.40**	**250**	P	**Pn**	**08 04 33.6**	**0.0**
TARZ	**Mount Tarawera**	**1.41**	**246**	P	**Pn**	**08 04 33.3**	**-0.4**
LIRZ	**Lichensteins R**	**1.43**	**256**	P	**Pn**	**08 04 33.5**	**-0.4**
RRRZ	**Republican Roa**	**1.45**	**242**	P	**Pn**	**08 04 33.5**	**-0.6**
OMRZ	**Omania**	**1.47**	**252**	P	**Pn**	**08 04 33.6**	**-0.8**
MHGZ	**Mahia Peninsul**	**1.49**	**187**	P	**Pn**	**08 04 34.6**	**-0.1**
TGRZ	**Tauranga**	**1.49**	**267**	P	**Pn**	**08 04 33.6**	**-1.1**
HLRZ	**Highlands Stat**	**1.53**	**247**	P	**Pn**	**08 04 34.9**	**-0.3**
KARZ	**Kaharoa**	**1.54**	**256**	P	**Pn**	**08 04 34.6**	**-0.8**
MTHZ	**Maungataniwha**	**1.56**	**221**	P	**Pn**	**08 04 35.4**	**-0.3**
WHHZ	**Waihua**	**1.57**	**207**	P	**Pn**	**08 04 36.1**	**+0.3**
NGRZ	**Ngongotaha**	**1.60**	**254**	P	**Pn**	**08 04 36.0**	**-0.3**
PRRZ	**Plateau Road**	**1.61**	**239**	P	**Pn**	**08 04 35.6**	**-0.6**
UTU	**Utuhina**	**1.62**	**251**	P	**Pn**	**08 04 37.0**	**+0.6**
HSRZ	**Hossack Road**	**1.63**	**246**	P	**Pn**	**08 04 36.5**	**0.0**
HRRZ	**Handcock Road**	**1.63**	**243**	P	**Pn**	**08 04 36.0**	**-0.6**
ALRZ	**Allen Road**	**1.67**	**237**	P	**Pn**	**08 04 36.5**	**-0.6**
GRRZ	**Galatos Road**	**1.74**	**246**	P	**Pn**	**08 04 37.8**	**-0.2**
NMHZ	**Naumai**	**1.77**	**216**	P	**Pn**	**08 04 38.6**	**+0.2**
MRHZ	**Matea Rd**	**1.79**	**229**	P	**Pn**	**08 04 38.2**	**-0.5**
ARHZ	**Aropaoanui**	**1.82**	**209**	P	**Pn**	**08 04 38.8**	**-0.3**
THQ2	**Tauhara North**	**1.84**	**237**	P	**Pn**	**08 04 39.3**	**-0.1**
BKZ	**Black Stump Fm**	**1.98**	**220**	P	**Pn**	**08 04 40.7**	**-0.4**
BKZ	**Black Stump Fm**	**1.98**	**220**	P	**Pn**	**08 04 40.7**	**-0.4**
KUTZ	**Kaahu Road**	**2.00**	**245**	P	**Pn**	**08 04 41.2**	**-0.3**
TOZ	**Tahuroa Road**	**2.09**	**268**	P	**Pn**	**08 04 42.0**	**-0.7**
MCHZ	**McNeill Hill**	**2.10**	**212**	P	**Pn**	**08 04 42.5**	**-0.2**
KUZ	**Kuaotunu**	**2.14**	**295**	P	**Pn**	**08 04 42.0**	**-1.3**
KUZ	**Kuaotunu**	**2.14**	**295**	P	**Pn**	**08 04 42.1**	**-1.3**
WATZ	**Wairara**	**2.16**	**241**	P	**Pn**	**08 04 43.3**	**-0.3**
KWHZ	**Kaweka Forest**	**2.

MLZ					IAmb	IAmb	08 10 56.8		
	comp=Z,65nm,1.3s								
VNDA	**Vanda**	**18.48**	**172**	P	**Pn**		**08 10 57.8**	**+1.0**	
VNDA	**Vanda**	**18.48**	**172**	P	**P**		**08 10 56.3**	**-0.4**	
	comp=Z,0.1nm,0.3s,baz=334,slow=11,SNR=12								
VNDA				LR	LR		08 17 32.0		
	comp=Z,526nm,18.8s,baz=344,slow=35								
	comp=Z,2.1nm,0.8s								
SBA	**Scott Base**	**19.21**	**169**	P	**Pn**		**08 11 06.2**	**+0.5**	
RPZ	**Rata Peaks**	**20.66**	**49**	LR	LR		08 17 54.7		
	comp=Z,428nm,19.1s,baz=186,slow=32								
TOO	**Toolangi**	**22.19**	**352**	P	**P**		**08 11 37.0**	**-0.3**	
TOO				IAmb	IAmb		08 11 43.7		
	comp=Z,22nm,0.9s								
MRNZ	**Matariki Terra**	**23.29**	**49**	P	**P**		**08 11 50.0**	**+1.3**	
URZ	**Urewera**	**27.69**	**52**	LR	LR		08 22 41.8		
	comp=Z,268nm,18.7s,baz=54,slow=34								
STKA	**Stephens Creek**	**28.22**	**346**	P	**P**		**08 12 33.1**	**-0.7**	
	comp=Z,2.6nm,1.0s,baz=115,slow=10,SNR=3.4								
	comp=Z,2.6nm,1.0s								
BBOO	**Buckleboo**	**28.23**	**336**	P	**P**		**08 12 34.3**	**+0.3**	
BBOO				IAmb	IAmb		08 12 35.9		
	comp=Z,11nm,1.0s								
QSPA	**South Pole Qui**	**30.50**	**180**	P	**P**		**08 12 54.4**	**+0.4**	
	comp=Z,2.0nm,0.8s,baz=72,slow=1.5,SNR=6.1								
QSPA				LR	LR		08 25 07.2		
	comp=Z,269nm,19.1s,baz=12,slow=36								
	comp=Z,2.0nm,0.8s								
FORT	**Forrest**	**32.22**	**324**	P	**P**		**08 13 09.4**	**+0.2**	
H01W1	**Cape Leeuwin H**	**33.73**	**301**	T	T		08 48 54.0		
	baz=146,slow=74,SNR=96								
H01W2	**Cape Leeuwin H**	**33.74**	**301**	T	T		08 48 51.2		
	baz=146,slow=74,SNR=91								
H01W3	**Cape Leeuwin H**	**33.75**	**301**	T	T		08 48 54.0		
	baz=146,slow=74,SNR=88								
NWAO	**Narrogin (SRO)**	**34.13**	**307**	LR	LR		08 23 39.4		
	comp=Z,306nm,21.8s,baz=41,slow=30								
EIDS	**Eidsvold**	**34.23**	**3**	P	**P**		**08 13 28.0**	**+1.2**	
EIDS				IAmb	IAmb		08 13 29.4		
	comp=Z,8.8nm,1.1s								
MAW	**Mawson**	**36.19**	**220**	LR	LR		08 27 10.9		
	comp=Z,126nm,22.0s,baz=108,slow=34								
ASAR	**Alice Springs**	**37.53**	**336**	P	**P**		**08 13 54.8**	**-0.4**	
ASAR	**Alice Springs**	**37.53**	**336**	P	**P**		**08 13 54.6**	**-0.6**	
	comp=Z,5.0nm,0.8s,baz=164,slow=10,SNR=50								
ASAR				PcP	**PcP**		**08 16 12.4**	**-0.7**	
	comp=Z,0.3nm,0.8s,baz=140,slow=0.7,SNR=2.1								
	comp=Z,5.0nm,0.8s								
AS31	**Alice Springs**	**37.54**	**336**	P	**P**		**08 13 54.7**	**-0.5**	
DZM	**Mont Dzumac**	**39.40**	**25**	*e*S	**S**		**08 20 14.4**	**+2.1**	
	comp=Z,67nm,28.6s								
DZM				*e*LR	LR		08 25 11.9		
	comp=Z,583nm,26.0s								
DZM	**Mont Dzumac**	**39.40**	**25**	LR	LR		08 27 47.8		
	comp=Z,253nm,19.1s,baz=217,slow=32								
CTA	**Charters Tower**	**39.53**	**355**	P	**P**		**08 14 12.0**	**+0.1**	
	comp=Z,5.9nm,0.9s,baz=175,slow=9.0,SNR=9.4								
CTA				LR	LR		08 28 44.0		
	comp=Z,173nm,18.2s,baz=175,slow=34								
	comp=Z,5.9nm,0.9s								
CTAO	**Charters Tower**	**39.53**	**355**		**P**		**08 14 12.9**	**+1.0**	
KOUNC	**Koumac, New Ca**	**40.44**	**22**	P	**P**		**08 14 20.3**	**+0.9**	
KOUNC				IAmb	IAmb		08 14 22.4		
	comp=Z,27nm,1.1s								
LIFNC	**LIFOU**	**40.83**	**26**	P	**P**		**08 14 21.1**	**-1.5**	
WR0	**Warramunga Arr**	**41.02**	**338**	P	**P**		**08 14 23.7**	**-0.5**	
WR0				IAmb	IAmb		08 14 25.8		
	comp=Z,14nm,1.1s								
WRA	**Warramunga Arr**	**41.07**	**338**	P	**P**		**08 14 24.7**	**0.0**	
WRA	**Warramunga Arr**	**41.07**	**338**	P	**P**		**08 14 23.4**	**-1.3**	
	comp=Z,8.2nm,1.0s,baz=166,slow=7.1,SNR=37								
	comp=Z,8.2nm,1.0s								
KNRA	**Kununurra**	**46.40**	**332**	P	**P**		**08 15 08.1**	**+0.5**	
SNAA	**Sanae**	**47.59**	**192**	LR	LR		08 33 43.4		
	comp=Z,59nm,21.7s,baz=168,slow=34								
MTN	**Manton Dam**	**48.61**	**336**	P	**P**		**08 15 25.1**	**+0.3**	
HNR	**Honiara**	**50.69**	**13**	LR	LR		08 32 53.0		
	comp=Z,2µm,20.3s,baz=172,slow=31								
RAR	**Rarotonga**	**52.44**	**66**	LR	LR		08 33 53.9		
	comp=Z,53nm,20.1s,baz=174,slow=31								
H04S2	**CROZET ISLANDS**	**54.51**	**237**	T	T		09 16 09.3		
	baz=140,slow=75,SNR=8.3								
H04S1	**CROZET ISLANDS**	**54.52**	**237**	T	T		09 16 04.3		
	baz=140,slow=75,SNR=11								
H04S3	**CROZET ISLANDS**	**54.53**	**237**	T	T		09 16 00.7		
	baz=140,slow=75,SNR=8.4								
FAKI	**Fak Fak**	**58.07**	**340**	P	**P**		**08 16 34.8**	**+0.5**	
PPT	**Papeete**	**60.43**	**74**	LR	LR		08 36 55.9		
	comp=Z,32nm,21.7s,baz=36,slow=30								
LEM	**Lembang**	**61.44**	**311**	LR	LR		08 40 32.0		
	comp=Z,122nm,21.1s,baz=237,slow=33								
GUMO	**Guam**	**73.03**	**355**	LR	LR		08 48 14.5		
	comp=Z,7.3nm,19.2s,baz=175,slow=34								
SUR	**Sutherland**	**79.03**	**222**	LR	LR		08 51 44.4		
	comp=Z,40nm,18.7s,baz=162,slow=34								
BOSA	**Boshof**	**80.84**	**227**	LR	LR		08 51 17.0		
	comp=Z,40nm,18.6s,baz=194,slow=33								
LBTB	**Lobatse**	**83.96**	**229**	LR	LR		08 50 55.5		
	comp=Z,61nm,18.8s,baz=158,slow=32								
PALK	**Pallekele**	**85.71**	**292**	LR	LR		08 54 14.4		
	comp=Z,29nm,18.2s,baz=277,slow=33								
CMAR	**Chiang Mai Arr**	**87.92**	**313**	LR	LR		08 56 46.0		
	comp=Z,32nm,19.4s,baz=175,slow=34								
LSZ	**Lusaka**	**91.66**	**236**	LR	LR		08 56 57.8		
	comp=Z,39nm,18.8s,baz=147,slow=33								
MJAR	**Matsushiro Arr**	**96.24**	**351**	LR	LR		09 00 56.6		
	comp=Z,19nm,21.6s,baz=176,slow=34								
NNA	**Nana**	**99.58**	**134**	LR	LR		08 56 54.3		
	comp=Z,27nm,18.6s,baz=185,slow=30								
AKASG	**Malin Array Be**	**145.81**	**282**	PKPbc	**PKPdf**		**08 26 17.4**	**-1.2**	
	comp=Z,0.9nm,0.5s,baz=102,slow=3.9,SNR=3.8								
FINES	**FINESS Array B**	**152.80**	**299**	PKPbc	**PKPbc**		**08 26 35.1**	**-1.5**	
	comp=Z,3.0nm,1.1s,baz=151,slow=6.3,SNR=1.9								

*IDC **25** 08:11:47.2±2.4,5°.89S×151°.19E,h74km±18km, mb3.1/3, mbtmp3.5/4, Error ellipse: s-maj=94.3km s-min=10.1km az=128.0*
ISC 25 08:11:44.5±1.5,**6°.2S**±0°.2×**151°.7E**±0°.3,**h50**km,**n6,** σ1§**40**/9, **mb3.3**/3,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.94**	**11**	P	**Pn**	**08 12 15.3**	**+0.3**
	baz=180,slow=20						
KRVT				S	**Sn**	**08 12 38.4**	**0.0**
	baz=142,slow=20						
PMG	**Port Moresby**	**5.47**	**234**	P	**Pn**	**08 13 04.0**	**+0.5**
	4.4nm,0.3s,baz=41,slow=11,SNR=2.9						
PMG				S	**Sn**	**08 14 04.7**	**-0.4**
	9.2nm,0.5s,baz=55,slow=20,SNR=3.4						
WRA	**Warramunga Arr**	**21.66**	**229**	P	**P**	**08 16 29.6**	**-1.4**
	0.6nm,0.4s,baz=53,slow=10,SNR=9.2						
WRA				PcP	**PcP**	**08 20 31.2**	**+0.1**
	0.3nm,0.9s,baz=44,slow=2.2,SNR=2.1						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**24.34**	**223**	P	**P**	**08 16 58.0**	**+0.1**
	0.6nm,0.6s,baz=59,slow=9.1,SNR=12						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**83.90**	**22**	P	**P**	**08 24 07.2**	**-1.5**
	0.4nm,1.0s,baz=224,slow=3.8,SNR=1.7						
	0.4nm,1.0s						
TORD	**Torodi Ar. Bea**	**149.64**	**285**	PKPbc	**PKPdf**	**08 31 27.7**	**+2.7**
	0.5nm,0.6s,baz=56,slow=3.7,SNR=3.6						

*IDC **25** 08:40:07.0±1.2, 17°.27N×121°.36E, h0km, mb3.5/5, mbtmp3.6/6, ML4.8/2, Error ellipse: s-maj=70.6km s-min=16.9km az=71.0*
ISC 25 08:40:12.0±1.1,**17°.29N**±0°.09×**121°.6E**±0°.2,**h40**km,**n7,** σ1§**21**/8,**mb3.6**/5,**Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**3.24**	**192**	Pn	**Pn**	**08 40 59.5**	**-0.9**
	30nm,0.3s,baz=335,slow=23,SNR=1.5						
TGY				Sn	**Sn**	**08 41 38.5**	**+0.7**
	40nm,0.3s,baz=60,slow=20,SNR=2.0						
	82nm,0.3s						
DAV	**Davao City (W)**	**10.87**	**159**	Pn	**Pn**	**08 42 44.0**	**-1.1**
	26nm,0.3s,baz=264,slow=4.6,SNR=1.6						
SONM	**Songino Array**	**32.92**	**341**	P	**P**	**08 46 43.6**	**+1.0**
	0.7nm,0.7s,baz=168,slow=7.4,SNR=4.8						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**39.05**	**161**	P	**P**	**08 47 35.6**	**+0.4**
	0.5nm,0.7s,baz=340,slow=9.0,SNR=4.8						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**42.44**	**163**	P	**P**	**08 48 04.4**	**+1.3**
	0.7nm,0.6s,baz=337,slow=7.2,SNR=19						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**43.75**	**321**	P	**P**	**08 48 13.2**	**-0.3**
	0.2nm,0.5s,baz=122,slow=8.8,SNR=2.9						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**47.77**	**324**	P	**P**	**08 48 43.7**	**-1.4**
	0.5nm,0.6s,baz=120,slow=8.9,SNR=4.9						
	0.5nm,0.6s						

*IDC **25** 08:44:21.0±1.2,34°.64N×23°.43E,h0km,mb3.9/11, mbtmp3.8/17,ML3.8/6,MS2.6/1,Error ellipse: s-maj=23.5km s-min=18.2km az=6.0*
*THE **25** 08:44:21.6,34°.22N×23°.34E,h13km±1km,ML3.2/6,Error ellipse: s-maj=3.7km s-min=1.1km az=144.0*
ISC 25 08:44:24.8±1.3,**34°.33N**±0°.08×**23°.47E**±0°.06,**h40**km±13km, **n35,** σ1§**61**/41,**mb3.8**/11,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.72**	**45**	P	**Pn**	**08 44 38.1**	**-0.4**
GVD				S	**Sn**	**08 44 51.0**	**+2.6**
	4µm,0.4s						
GVDS	**Gavdos**	**0.72**	**45**	P	**Pn**	**08 44 37.7**	**-0.9**
GVDS				S	**Sn**	**08 44 50.0**	**+1.5**
	3µm,0.4s						
IMMV	**Iera Moni Meta**	**1.20**	**20**	P	**Pn**	**08 44 44.1**	**-1.1**
IMMV				S	**Sn**	**08 45 03.0**	**+2.7**
	1µm,0.5s						
RODP	**Rodopos**	**1.25**	**11**	P	**Pn**	**08 44 45.7**	**-0.1**
RODP				S	**Sn**	**08 45 04.5**	**+3.1**
	195nm,0.5s						
PRNS	**Prines Rethymn**	**1.33**	**39**	P	**Pn**	**08 44 46.7**	**-0.3**
PRNS				S	**Sn**	**08 45 05.6**	**+2.1**
	418nm,0.7s						
ANKY	**Antikythira Is**	**1.54**	**355**	P	**Pn**	**08 44 49.6**	**-0.2**
ANKY				S	**Sn**	**08 45 10.7**	**+2.1**
	380nm,0.8s						
MHLO	**Agia Marina, M**	**2.47**	**18**	P	**Pn**	**08 45 02.0**	**-0.6**
KRND	**KRANIDI**	**3.06**	**355**	P	**Pn**	**08 45 10.2**	**-0.4**
APE	**Apeiranthos**	**3.21**	**31**	P	**Pn**	**08 45 11.9**	**-0.8**
VLY	**Voula,Athens**	**3.52**	**4**	P	**Pn**	**08 45 16.1**	**-1.0**
GUR	**Goura**	**3.71**	**346**	P	**Pn**	**08 45 18.6**	**-1.1**
PTL	**Penteli**	**3.72**	**5**	P	**Pn**	**08 45 19.7**	**-0.1**
DION	**Dionisos Attik**	**3.76**	**6**	P	**Pn**	**08 45 20.2**	**-0.1**
VILL	**Villia**	**3.83**	**358**	P	**Pn**	**08 45 20.2**	**-1.1**
TRIZ	**Trizonia**	**4.18**	**345**	P	**Pn**	**08 45 26.4**	**+0.3**
ANX	**Ano Chora**	**4.43**	**344**	P	**Pn**	**08 45 29.1**	**-0.5**
BRTR	**Keskin Array B**	**9.75**	**54**	Pn	**Pn**	**08 46 43.4**	**+0.8**
	0.1nm,0.3s,baz=236,slow=16,SNR=4.0						
	1.0nm,0.6s						
MMAI	**Mount Meron Ar**	**10.03**	**94**	Pn	**Pn**	**08 46 47.7**	**+1.3**
	1.3nm,0.3s,baz=300,slow=12,SNR=2.2						
	0.6nm,0.3s						
EIL	**Elat**	**10.79**	**112**	Pn	**Pn**	**08 46 57.4**	**+0.6**
	0.2nm,0.3s,baz=260,slow=11,SNR=1.7						
EIL				Sn	**Sn**	**08 48 53.2**	**-3.1**
	0.3nm,0.3s,baz=342,slow=20,SNR=1.4						
	4.3nm,0.8s						
MLR	**Muntele Rosu**	**11.31**	**9**	LR	LR	08 51 43.5	
	comp=Z,32nm,19.7s,baz=280,slow=40						
KEST	**Kesra**	**11.67**	**281**	Pn		**08 47 07.5**	**-1.3**
	0.3nm,0.3s,baz=128,slow=19,SNR=1.3						
	0.7nm,0.4s						
GERES	**GERESS Array B**	**16.22**	**336**	Pn	**Pn**	**08 48 09.2**	**-0.5**
	0.3nm,0.3s,baz=160,slow=12,SNR=5.7						
	0.7nm,0.5s						
KHC	**Kasperske Hory**	**16.51**	**337**	*e*P	**P**	**08 48 16.0**	**+0.5**
AKASG	**Malin Array Be**	**16.89**	**13**	Pn	**Pn**	**08 48 14.9**	**-3.2**
	1.3nm,0.3s,baz=204,slow=9.8,SNR=8.2						
	0.6nm,0.4s						
HFS	**Hagfors**	**26.60**	**349**	P	**P**	**08 49 58.1**	**-0.9**
	2.2nm,0.5s,baz=163,slow=11,SNR=18						
	2.2nm,0.5s						
FINES	**FINESS Array B**	**27.18**	**3**	P	**P**	**08 50 01.4**	**-2.9**
	6.0nm,1.2s,baz=163,slow=15,SNR=1.5						
	6.0nm,1.2s						
NOA	**NORSAR Array B**	**27.87**	**347**	P	**P**	**08 50 09.1**	**-1.4**
	1.2nm,1.1s,baz=169,slow=12,SNR=1.8						
	1.2nm,1.1s						
EKA	**Eskdalemuir Ar**	**27.94**	**327**	P	**P**	**08 50 10.9**	**-0.3**
	0.8nm,0.4s,baz=126,slow=8.4,SNR=3.4						
	0.8nm,0.4s						
TORD	**Torodi Ar. Bea**	**28.90**	**228**	P	**P**	**08 50 23.2**	**+3.2**
	0.7nm,0.7s,baz=36,slow=9.6,SNR=4.6						
	0.7nm,0.7s						
ARCES	**ARCESS Array B**	**35.27**	**1**	P	**P**	**08 51 13.4**	**-2.0**
	0.6nm,0.5s,baz=160,slow=3.9,SNR=5.1						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**37.92**	**46**	P	**P**	**08 51 37.6**	**-0.5**
	0.3nm,0.5s,baz=282,slow=6.9,SNR=2.5						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**42.72**	**50**	P	**P**	**08 52 18.1**	**+0.3**
	0.7nm,0.4s,baz=273,slow=8.6,SNR=9.6						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**45.39**	**56**	P	**P**	**08 52 40.5**	**+1.2**
	2.0nm,0.4s,baz=268,slow=7.9,SNR=43						
	2.0nm,0.4s						
ZALV	**Zalesovo Beam**	**46.58**	**46**	P	**P**	**08 52 48.7**	**+0.2**
	1.0nm,0.4s,baz=266,slow=8.5,SNR=2.3						
	1.0nm,0.4s						
SONM	**Songino Array**	**61.08**	**50**	P	**P**	**08 54 36.3**	**+1.5**
	0.7nm,0.5s,baz=282,slow=7.1,SNR=8.0						
	0.7nm,0.5s						

*KRNET **25** 09:07:59.1±0.1, 43°.66N×69°.84E, mb2.8*
*NNC **25** 09:08:03.5±0.3, 43°.28N×69°.82E, h0km, mb3.4, mpv3.4, Error ellipse: s-maj=2.3km s-min=1.7km az=19.0, Suspected Mining explosion.*
*SOME **25** 09:08:06.6, 43°.30N×69°.97E*
ISC 25 09:08:04.5±2.3,**43°.39N**±0°.07×**69°.9E**±0°.1,**h0**km,**n20,** σ0§**85**/33,**7C-5D,Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK09	**Karatay Array**	**0.50**	**122**	P	**Pg**	**09 08 13.7**	**-0.3**
KK09				S	**Sg**	**09 08 21.2**	**+0.8**
KK08	**Karatay Array**	**0.50**	**124**	P	**Pg**	**09 08 13.7**	**-0.4**
KK08				S	**Sg**	**09 08 21.2**	**+0.7**
KK04	**Karatay Array**	**0.51**	**123**	P	**Pg**	**09 08 13.8**	**-0.4**
KK04				S	**Sg**	**09 08 21.4**	**+0.6**
KK03	**Karatay Array**	**0.51**	**124**	P	**Pg**	**09 08 13.8**	**-0.5**
KK03				S	**Sg**	**09 08 21.2**	**+0.4**
KK01	**Karatay Array**	**0.51**	**123**	P	**Pg**	**09 08 13.8**	**-0.5**
KK01				S	**Sg**	**09 08 21.2**	**+0.3**
KK02	**Karatay Array**	**0.52**	**123**	P	**Pg**	**09 08 14.1**	**-0.3**
KK02				S	**Sg**	**09 08 21.2**	**+0.2**
KK05	**Karatay Array**	**0.52**	**121**	P	**Pg**	**09 08 13.8**	**-0.6**
KK05				S	**Sg**	**09 08 21.4**	**+0.3**
KK31	**Karatay Array**	**0.52**	**123**	⇑P	**Pg**	**09 08 14.0**	**-0.4**
	4.4nm,0.3s,baz=289,slow=16,SNR=53						
KK31				⇓S	**Sg**	**09 08 21.4**	**+0.3**
	10nm,0.3s						
KKAR	**Karatay Array**	**0.52**	**123**	⇑*i*P	**Pg**	**09 08 13.5**	**-0.9**
	baz=38						
KKAR				⇑*i*S	**Sb**	**09 08 24.0**	**-0.5**
	baz=38						
KK07	**Karatay Array**	**0.52**	**125**	P	**Pg**	**09 08 13.7**	**-0.8**
KK07				S	**Sg**	**09 08 21.5**	**+0.4**
KK06	**Karatay Array**	**0.53**	**123**	P	**Pg**	**09 08 14.1**	**-0.5**
KK06				S	**Sg**	**09 08 21.4**	**-0.1**
TRKS	**Terek-Say**	**2.06**	**154**	⇓*e*P	**Pb**	**09 08 42.0**	**-1.0**
	baz=55						
TRKS				⇓*i*S	**Sg**	**09 09 13.2**	**+2.4**
	baz=55						
ARK	**Arkit**	**2.19**	**136**	⇑*i*P	**Pn**	**09 08 42.3**	**0.0**
	baz=39						
ARK				⇑*i*S	**Sg**	**09 09 13.9**	**-0.9**
	baz=39						
MRKS	**Merke**	**2.50**	**104**	Lg	Lg	09 09 26.4	
	9.2nm,0.5s						
ARSB	**Arslanbob**	**3.06**	**131**	⇓*e*P	**Pn**	**09 08 54.3**	**-0.1**
	baz=34						
ARSB				⇓*e*S	**Sn**	**09 09 34.3**	**+2.5**
	baz=34						
BTLS	**Baital**	**3.40**	**59**	Pg	**Pg**	**09 09 10.1**	**+0.5**
	1.1nm,0.2s						
BTLS				Lg	Lg	09 09 55.3	
	2.7nm,0.3s						
SGDS	**Sogindy**	**3.43**	**87**	Pg	**Pg**	**09 09 10.0**	**-0.2**
	1.7nm,0.2s						
SGDS				Lg	Lg	09 09 55.4	
	4.7nm,0.3s						
ARLS	**Aral**	**3.59**	**114**	⇑*e*P	**Pn**	**09 09 01.0**	**-0.6**
	baz=17						
ARLS				⇑*e*S	**Sn**	**09 09 45.7**	**+1.0**
	baz=17						
DGS	**Degeres**	**4.27**	**90**	Pg	**Pg**	**09 09 25.6**	**-0.7**
	2.3nm,0.0s						
DGS				Lg	Lg	09 10 22.1	
	4.1nm,0.6s						
KST	**Kastek**	**4.43**	**92**	Lg	Lg	09 10 25.7	
	6.8nm,0.4s						

*ISN **25** 09:16:55.5±0.3, 33°.51N×46°.36E, h25km, ML2.8*
TEH 25 09:17:04.9, 33°.45N×46°.30E, h19km±85km,**ML2.6, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.20**	**336**	Pg	Pg	09 17 10.8	+0.8
ILBA				Sg	Sg	09 17 15.1	+1.7
IBDR	**Badra**	**0.46**	**223**	*e*Pg	Pg	09 17 06.0	-8.3
	baz=42						
IBDR				*e*Sg	Sg	09 17 14.0	-6.6
IBDR				AML	AML	09 17 27.9	
	comp=E,463nm,0.7s						
IBDR				AML	AML	09 17 29.1	
	comp=N,573nm,0.6s						
IGHG	**Ghaleghazi**	**0.91**	**14**	Pg	Pn	09 17 24.5	+1.6
IKOM	**Komasi**	**1.24**	**54**	Pg	Pg	09 17 29.9	+0.9
IDHR	**Dehrash**	**1.25**	**3**	Pg	Pg	09 17 29.9	+0.7
ILIN	**Lien**	**1.57**	**20**	Pg	Pg	09 17 35.3	+0.2

IDC 25 09:23:04.2±6.7,**32°.40S×179°.70E, h416**km±79km,**mb2.7**/3, **mbtmp3.7**/4,**Error ellipse: s-maj=90.1km s-min=44.2km az=12.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.22**	**199**	P	P	09 24 40.4	+1.2
	9.8nm,0.3s,baz=340,slow=3.9,SNR=77						
URZ				S	S	09 25 56.5	-0.9
	6.5nm,0.3s,baz=169,slow=14,SNR=5.7						
CTA	**Charters Tower**	**32.27**	**284**	P	P	09 28 57.2	+0.6
	0.7nm,0.5s,baz=98,slow=7.1,SNR=1.8						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**41.09**	**270**	P	P	09 30 09.8	-0.1
	0.2nm,0.7s,baz=106,slow=7.4,SNR=4.3						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**42.27**	**276**	P	P	09 30 18.9	-0.3
	0.5nm,0.3s,baz=113,slow=7.9,SNR=17						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**146.28**	**337**	PKPbc	PKPdf	09 41 55.1	+1.0
	2.6nm,1.0s,baz=67,slow=4.7,SNR=3.7						

*BER **25** 09:27:17.9±0.7, 76°.55N×0°.67E, h4km±17km, mb(Pn)3.5, ML1.6(DNK), Confirmed Earthquake*
*DNK **25** 09:27:19.6±1.3, 76°.51N×0°.97E, h36km±165km, ML1.6*
ISC 25 09:27:19.1±2.8,**76°.6N**±0°.3×**0°.63E**±0°.09,**h35**km,**n8,** σ1§**44**/12,**Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRBB	**Barentsburg B**	**3.32**	**57**	*e*P	**Pn**	**09 28 09.8**	**+1.3**
KBS	**Kingsbay**	**3.33**	**41**	*i* P	**Pn**	**09 28 09.3**	**+0.8**
KBS				*e*S	**Sn**	**09 28 47.6**	**+0.8**
KBS				IAML		09 29 00.6	
	comp=Z,5.2nm,0.6s						
KBS	**Kingsbay**	**3.33**	**41**	*i* P	**Pn**	**09 28 09.3**	**+0.8**
KBS				*e*S	**Sn**	**09 28 45.1**	**-1.6**
SPA0	**Spitsbergen Ar**	**3.77**	**58**	*e*P	**Pn**	**09 28 14.9**	**+0.2**
SPA0				IAML		09 29 07.3	
	comp=Z,3.9nm,0.8s						
DAG	**Danmarks Havn**	**4.45**	**281**	*e*	**Pn**	**09 28 22.4**	**-1.4**
	baz=84,slow=16						
DAG				*i* P		09 28 24.4	
DAG				*i* S	**Sn**	**09 29 13.5**	**-0.8**
DAG				IAML		09 29 17.4	
	comp=Z,3.2nm,0.4s						
DAG	**Danmarks Havn**	**4.45**	**281**	*e*	**Pn**	**09 28 22.4**	**-1.4**
	baz=84,slow=16						
DAG				*i* P		09 28 24.4	
DAG				*i* S	**Sn**	**09 29 13.5**	**-0.8**
DAG				IAML		09 29 17.4	
	comp=Z,3.2nm,0.4s						
NEEM	**North Greenlan**	**11.32**	**299**	*e*P	**Pn**	**09 30 00.2**	**+1.9**
NEEM	**North Greenlan**	**11.32**	**299**	*e*P	**Pn**	**09 30 00.2**	**+1.9**

*NIED **25** 09:31:30.2, 27°.16N×130°.23E, h55km, MW3.7, Moment Tensor Solution. s1 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.67; $M_{\theta\theta}$1.28; $M_{\phi\phi}$2.39; $M_{r\theta}$-0.20; $M_{\theta\phi}$0.79; $M_{\phi r}$1.97; Fault plane solution: $M_0$3.76000×10^{14} NP1: ϕ_s193.00000°,δ60.00000°,λ-101.00000°. NP2: ϕ_s34.00000°,δ32.00000°,λ-71.00000°.*
JMA 25 09:31:30.2±0.1,**27°.2N**±0°.5×**130°.2E**±0°.6,**h55**km,**MV3.7**/23, **NEAR MINAMI-DAITOJIMA IS,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**1.18**	**349**	*e*P

s-maj=36.2km s-min=18.8km az=154.0
*NEIC **25** 10:21:05.8±1.3,21.55S±0.07×168.85E±0.04,h10km±1km, mb4.5/28,Error ellipse: s-maj=11.8km s-min=6.5km az=6.0*
*BGR **25** 10:21:09.6,21.55S×169.60E,h33km*
ISC 25 10:21:08.2±0.5,**21.47S**±0.07×**168.78E**±0.06,**h29**km,**n133, s1§15/133,mb4.5/29,MS3.4/4,2C-1D,Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.70**	**269**		**Pb**	**10 21 20.6**	**-1.2**
MARNC				Sg	**Sb**	**10 21 31.5**	**+0.4**
MARNC	**Mare, Loyalty**	**0.70**	**269**	P	**Pb**	**10 21 20.6**	**-1.2**
LIFNC	**LIFOU**	**1.59**	**295**		**Pn**	**10 21 32.0**	**-2.4**
LIFNC	**LIFOU**	**1.59**	**295**	P	**Pn**	**10 21 32.4**	**-2.0**
PINNC	**Pines Island,**	**1.68**	**227**		**Pn**	**10 21 34.4**	**-1.3**
YATNC	**Mamie plateau,**	**1.85**	**251**	P	**Pn**	**10 21 37.0**	**-1.0**
OUENC	**Ouen Island, N**	**2.03**	**242**		**Pn**	**10 21 40.4**	**-0.1**
OUENC	**Ouen Island, N**	**2.03**	**242**	P	**Pn**	**10 21 40.6**	**+0.1**
DZM	**Mont Dzumac**	**2.25**	**254**		**Pn**	**10 21 43.9**	**+0.4**
DZM	**Mont Dzumac**	**2.25**	**254**	P	**Pn**	**10 21 44.0**	**+0.4**
DZM	**Mont Dzumac**	**2.25**	**254**	Pn	**Pn**	**10 21 43.5**	**-0.1**
	12nm,0.3s,baz=97,slow=9.3,SNR=289						
DZM				Sn	**Sn**	**10 22 11.2**	**+0.7**
	67nm,0.3s,baz=258,slow=23,SNR=10.0						
	118nm,0.4s						
ONTNC	**Ouen Toro**	**2.31**	**248**		**Pn**	**10 21 44.6**	**+0.2**
ONTNC	**Ouen Toro**	**2.31**	**248**	P	**Pn**	**10 21 46.2**	**+1.8**
NOUC	**Port Laguerre**	**2.39**	**254**	P	**Pn**	**10 21 46.5**	**+1.2**
KOUNC	**Koumac, New Ca**	**4.29**	**281**	Pn	**Pn**	**10 22 12.3**	**+0.6**
KOUNC	**Koumac, New Ca**	**4.29**	**281**	P	**Pn**	**10 22 12.2**	**+0.6**
HNR	**Honiara**	**14.68**	**323**	LR	LR	10 29 05.0	
	comp=Z,2µm,18.3s,baz=132,slow=32						
EIDS	**Eidsvold**	**16.70**	**253**	Pn	**Pn**	**10 24 59.8**	**-0.4**
ARMA	**Armidale**	**17.80**	**236**		**P**	**10 25 14.2**	**-0.3**
URZ	**Urewera**	**18.21**	**159**	LR	LR	10 31 04.0	
	comp=Z,182nm,18.6s,baz=100,slow=33						
RTZ	**Ruatahuna**	**18.49**	**159**	P	**P**	**10 25 21.0**	**-1.0**
RTZ				IAmb	IAmb	10 25 33.7	
	comp=Z,25nm,1.0s						
MRZ	**Mangatainoka R**	**19.99**	**165**	P	**P**	**10 25 37.4**	**-0.9**
MRZ				IAmb	IAmb	10 25 46.5	
	comp=Z,16nm,1.0s						
CTA	**Charters Tower**	**21.10**	**270**	P	**P**	**10 25 51.2**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=91,slow=11,SNR=6.2						
CTA				LR	LR	10 32 26.8	
	comp=Z,93nm,19.1s,baz=93,slow=32						
	comp=Z,4.0nm,0.8s						
CTAO	**Charters Tower**	**21.10**	**270**	P	**P**	**10 25 49.7**	**-0.9**
CTAO				IAmb	IAmb	10 25 58.2	
	comp=Z,10nm,0.9s						
PMG	**Port Moresby**	**24.00**	**297**	P	**P**	**10 26 20.4**	**-0.3**
PMG				IAmb	IAmb	10 26 21.9	
	comp=Z,16nm,0.9s						
STKA	**Stephens Creek**	**26.34**	**241**	P	**P**	**10 26 42.4**	**+0.6**
STKA	**Stephens Creek**	**26.34**	**241**	P	**P**	**10 26 42.9**	**+1.1**
	comp=Z,4.0nm,0.8s,baz=100,slow=13,SNR=8.5						
STKA				LR	LR	10 36 44.6	
	comp=Z,116nm,18.8s,baz=25,slow=36						
	comp=Z,4.0nm,0.8s						
BBOO	**Buckleboo**	**31.11**	**242**	P	**P**	**10 27 25.1**	**+0.8**
BBOO				IAmb	IAmb	10 27 35.7	
	comp=Z,8.9nm,1.1s						
WR0	**Warramunga Arr**	**32.02**	**266**	P	**P**	**10 27 32.5**	**+0.1**
WR0				IAmb	IAmb	10 27 32.6	
	comp=Z,4.0nm,0.9s						
WB0	**Warramunga Arr**	**32.19**	**267**	P	**P**	**10 27 33.7**	**-0.2**
WB0				IAmb	IAmb	10 27 34.9	
	comp=Z,5.8nm,0.9s						
WB2	**Warramunga Arr**	**32.20**	**266**	P	**P**	**10 27 33.8**	**-0.2**
WB2				IAmb	IAmb	10 27 43.4	
	comp=Z,9.2nm,0.9s						
WRAB	**Tennant Creek**	**32.21**	**266**	P	**P**	**10 27 33.9**	**-0.1**
WRAB				IAmb	IAmb	10 27 45.3	
	comp=Z,6.0nm,1.1s						
WRA	**Warramunga Arr**	**32.21**	**266**	P	**P**	**10 27 33.6**	**-0.5**
WRA	**Warramunga Arr**	**32.21**	**266**	P	**P**	**10 27 33.5**	**-0.6**
	comp=Z,3.3nm,0.9s,baz=98,slow=7.8,SNR=22						
WRA				PcP	**PcP**	**10 30 21.9**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=101,slow=3.6,SNR=3.1						
	comp=Z,3.3nm,0.9s						
AS31	**Alice Springs**	**32.23**	**259**	P	**P**	**10 27 34.7**	**+0.4**
ASAR	**Alice Springs**	**32.23**	**259**	P	**P**	**10 27 34.4**	**+0.2**
ASAR	**Alice Springs**	**32.23**	**259**	P	**P**	**10 27 34.0**	**-0.2**
	comp=Z,4.3nm,0.7s,baz=96,slow=8.8,SNR=61						
ASAR				PcP	**PcP**	**10 30 22.0**	**-0.5**
	comp=Z,0.6nm,1.0s,baz=106,slow=2.3,SNR=5.0						
ASAR				LR	LR	10 39 37.2	
	comp=Z,80nm,21.7s,baz=104,slow=34						
	comp=Z,4.3nm,0.7s						
MTN	**Manton Dam**	**36.90**	**277**	P	**P**	**10 28 14.5**	**-0.2**
MTN				IAmb	IAmb	10 28 36.7	
	comp=Z,26nm,1.1s						
FORT	**Forrest**	**37.55**	**247**	P	**P**	**10 28 20.3**	**+0.3**
KNRA	**Kununurra**	**38.29**	**272**	P	**P**	**10 28 25.9**	**-0.5**
FAKI	**Fak Fak**	**40.01**	**292**	P	**P**	**10 28 40.6**	**-0.2**
FAKI				IAmb	IAmb	10 28 41.2	
	comp=Z,10nm,0.8s						
FITZ	**Fitzroy Crossi**	**40.64**	**267**	P	**P**	**10 28 47.0**	**+1.0**
PSA00	**Pilbara Seismi**	**45.37**	**260**	P	**P**	**10 29 25.1**	**+0.8**
PSA00				IAmb	IAmb	10 29 25.9	
	comp=Z,7.1nm,1.1s						
MBWA	**Marble Bar**	**45.54**	**261**	P	**P**	**10 29 25.5**	**-0.1**
NWAO	**Narrogin (SRO)**	**46.84**	**245**	P	**P**	**10 29 35.2**	**-0.5**
TOLI2	**Tolitoli**	**51.96**	**289**	P	**P**	**10 30 14.7**	**-0.4**
TOLI2				IAmb	IAmb	10 30 16.3	
	comp=Z,16nm,1.0s						
HLP	**Hilina Pali**	**53.63**	**43**	P	**P**	**10 30 26.4**	**-0.9**
UWE	**Uwekahuna**	**53.73**	**43**	P	**P**	**10 30 28.2**	**+0.1**
QSPA	**South Pole Qui**	**68.60**	**180**	P	**P**	**10 32 07.4**	**-0.9**
NJ2	**Nanjing**	**71.51**	**317**	*e*P	**P**	**10 32 28.0**	**+1.6**
NJ2				pP	**pP**	**10 32 31.0**	**-3.3**
NJ2				sP	**pwP**	**10 32 32.8**	**-6.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**73.52**	**333**	P	**P**	**10 32 39.3**	**+1.2**
USRK	**Ussuriysk Ar.**	**73.52**	**333**	P	**P**	**10 32 38.6**	**+0.5**
	comp=Z,4.8nm,0.8s,baz=168,slow=4.1,SNR=9.5						
	comp=Z,4.8nm,0.8s						
MDJ	**Mudanjiang**	**74.87**	**332**	P	**P**	**10 32 49.5**	**+3.5**
MDJ				pmax	pmax		
	comp=Z,16nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,570nm,6.5s						
CMAR	**Chiang Mai Arr**	**79.03**	**295**	P	**P**	**10 33 11.4**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=128,slow=3.8,SNR=5.3						
	comp=Z,1.3nm,0.6s						
BELA	**Belgrano 2**	**79.93**	**175**	P	**P**	**10 33 13.6**	**-0.4**
BELA				IAmb	IAmb	10 33 14.2	
	comp=Z,4.7nm,0.8s						
PZH	**PanZhiHua**	**80.55**	**303**	P	**P**	**10 33 22.0**	**+3.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,3.9s						
HHC	**Hu-ho-hao-te**	**81.63**	**320**	*e*P	**P**	**10 33 26.0**	**+2.3**
HHC				pmax	pmax		
	comp=Z,29nm,0.6s						
HHC				pmax	pmax		
	comp=Z,300nm,5.0s						
LZH	**Lanzhou**	**83.90**	**312**	*e*P	**P**	**10 33 35.3**	**-0.3**
LZH				pP	pP	10 33 45.5	+1.9
LZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TROLL	**Troll, Antarti**	**86.29**	**184**	⇑P	**P**	**10 33 47.2**	**+0.1**
	comp=Z,201nm,0.5s						
SNAA	**Sanae**	**86.93**	**183**	P	**P**	**10 33 48.8**	**-1.4**
SNAA				IAmb	IAmb	10 33 57.0	
	comp=Z,5.5nm,1.1s						
SNAA	**Sanae**	**86.93**	**183**	P	**P**	**10 33 48.3**	**-1.8**
	comp=Z,0.9nm,0.3s,baz=121,slow=24,SNR=5.4						
	comp=Z,0.9nm,0.3s						
VNA3	**Neumayer Olymp**	**87.53**	**181**	⇓P	**P**	**10 33 52.5**	**-0.5**
	comp=Z,2.9nm,0.6s						
VNA2	**Neumayer--Watz**	**87.82**	**181**	⇑P	**P**	**10 33 53.9**	**-0.5**
	comp=Z,4.0nm,0.6s,baz=180,slow=5.0						
SONM	**Songino Array**	**88.74**	**323**	P	**P**	**10 33 58.7**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=128,slow=3.4,SNR=7.0						
	comp=Z,1.1nm,0.7s						
NVAR	**Mina Array Bea**	**90.59**	**49**	P	**P**	**10 34 07.5**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=231,slow=8.0,SNR=6.2						
	comp=Z,0.6nm,0.8s						
LPIG	**La Paz**	**90.76**	**64**	LR	LR	11 04 46.8	
	comp=Z,20nm,21.7s,baz=242,slow=29						
ILAR	**Eielson Array**	**92.47**	**17**	P	**P**	**10 34 18.4**	**+2.5**
	comp=Z,0.3nm,0.7s,baz=250,slow=4.5,SNR=5.5						
	comp=Z,0.3nm,0.7s						
WMQ	**Urumqi**	**98.43**	**314**	*e*P	Pdif	10 34 44.5	+0.8
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
MORC	**Moravsky Berou**	**143.74**	**328**	*e*PKP	**PKPdf**	**10 40 40.5**	**+0.1**
VYHS	**Vyhne**	**143.90**	**326**	*e*PKP	**PKPdf**	**10 40 40.1**	**-0.6**
DPC	**Dobruska-Polom**	**143.95**	**330**	*e*PKP	PKPbc	10 40 39.7	+1.1
UPC	**Upice**	**143.98**	**330**	*e*PKP	PKPbc	10 40 39.9	+1.3
JAVC	**Velka Javorina**	**144.27**	**327**	*e*PKP	**PKPdf**	**10 40 42.9**	**+1.5**
VRAC	**Vranov**	**144.52**	**328**	*e*PKP	**PKPdf**	**10 40 41.3**	**-0.4**
SRO	**Srobarova**	**144.59**	**325**	*e*PKP	**PKPdf**	**10 40 42.6**	**+0.7**
PVCC	**Pansia Ves**	**144.62**	**331**	*e*PKP	**PKPdf**	**10 40 42.5**	**+0.6**
FLTG	**Flechtingen**	**144.64**	**336**	*e*PKPbc	**PKPdf**	**10 40 41.5**	**-0.3**
	baz=39,slow=2.9						
BRG	**Berggiesshubel**	**144.65**	**332**	*i* PKP	**PKPdf**	**10 40 41.8**	**0.0**
BRG				Amp		10 40 43.5	
	comp=Z,18nm,1.0s						
BRG	**Berggiesshubel**	**144.65**	**332**	*e*PKPbc	**PKPdf**	**10 40 41.9**	**0.0**
	baz=39,slow=2.9						
CLL	**Collm**	**144.73**	**334**	*i* PKPbc	**PKPdf**	**10 40 41.9**	**-0.1**
	comp=Z,19nm,1.1s						
CLL	**Collm**	**144.73**	**334**	*e*PKPbc	**PKPdf**	**10 40 41.9**	**-0.1**
	baz=39,slow=2.9						
KRUC	**Moravsky**	**144.78**	**328**	*e*PKP	**PKPdf**	**10 40 42.6**	**+0.4**
MODS	**Modra-Piesok**	**144.78**	**327**	*e*PKP	**PKPdf**	**10 40 43.2**	**+1.0**
FBE	**Freiberg**	**144.87**	**333**	*e*PKPbc	**PKPdf**	**10 40 42.9**	**+0.7**
	baz=39,slow=2.9						
NRDL	**Niedersach Rie**	**144.93**	**337**	*e*PKPbc	**PKPdf**	**10 40 42.8**	**+0.6**
	baz=39,slow=2.9						
ZST	**Bratislava**	**144.99**	**326**	*e*PKP	**PKPdf**	**10 40 44.3**	**+1.8**
ASSE	**Asse, Remlinge**	**145.01**	**336**	*e*PKPbc	**PKPdf**	**10 40 43.1**	**+0.8**
	baz=39,slow=2.9						
PRU	**Pruhonice**	**145.02**	**331**	*e*PKP	**PKPdf**	**10 40 43.1**	**+0.5**
HSKC	**Hora Svate Kat**	**145.07**	**332**	*e*PKP	**PKPdf**	**10 40 43.0**	**+0.3**
CLZ	**Clausthal**	**145.35**	**336**	*e*PKPbc	**PKPab**	**10 40 44.5**	**+1.3**
	baz=39,slow=2.9						
ZVC	**Zvikov**	**145.57**	**330**	*e*PKP	**PKPab**	**10 40 45.2**	**+1.2**
TANN	**Tannenbergstha**	**145.62**	**333**	*e*PKPbc	**PKPab**	**10 40 45.4**	**+1.1**
	baz=39,slow=2.9						
EKA	**Eskdalemuir Ar**	**145.65**	**352**	PKPbc	**PKPdf**	**10 40 43.8**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=346,slow=1.8,SNR=5.4						
WERD	**Werda**	**145.67**	**333**	*e*PKPbc	**PKPab**	**10 40 45.3**	**+0.9**
	baz=39,slow=2.9						
PLN	**Plauen**	**145.70**	**333**	*e*PKPbc	**PKPab**	**10 40 45.6**	**+1.1**
	baz=39,slow=2.9						
GUNZ	**Gunzen**	**145.72**	**333**	*e*PKPbc	**PKPab**	**10 40 45.9**	**+1.3**
	baz=39,slow=2.9						
RONA	**Rosalia, Austr**	**145.72**	**326**	*e*pPKP	**PKPab**	**10 40 45.8**	**+1.2**
	comp=Z,11nm,1.0s,SNR=9.9						
GTTG	**Gottingen**	**145.74**	**336**	*e*PKPbc	**PKPab**	**10 40 45.6**	**+1.1**
	baz=39,slow=2.9						
WERN	**Wernitzgruen**	**145.76**	**333**	*e*PKPbc	**PKPab**	**10 40 46.2**	**+1.4**
	baz=39,slow=2.9						
CONA	**Conrad Observa**	**145.79**	**327**	*e*pPKP	**PKPab**	**10 40 46.2**	**+1.2**
	comp=Z,14nm,0.9s,SNR=10						
MOX	**Moxa**	**145.80**	**334**	*e*PKPbc	**PKPab**	**10 40 45.7**	**+0.8**
	baz=39,slow=2.9						
CKRC	**Cesky Krumlov**	**145.95**	**329**	*e*PKP	**PKPbc**	**10 40 45.5**	**+0.6**
KHC	**Kasperske Hory**	**146.07**	**330**	*e*PKP	**PKPab**	**10 40 46.6**	**+0.7**
MANZ	**Manzenberg**	**146.10**	**333**	*e*PKPbc	**PKPab**	**10 40 46.9**	**+1.0**
	baz=39,slow=2.9						
GEC2	**GERESS Array S**	**146.22**	**330**	*e*PKPbc	**PKPab**	**10 40 47.0**	**+0.4**
	baz=39,slow=2.9						
GERES	**GERESS Array B**	**146.22**	**330**	PKPbc	**PKPab**	**10 40 47.0**	**+0.4**
	comp=Z,9.7nm,0.8s,baz=29,slow=3.0,SNR=36						
ROTZ	**Rotzenmuhle**	**146.22**	**332**	*e*PKPbc	**PKPab**	**10 40 47.2**	**+0.7**
	baz=39,slow=2.9						
UBBA	**Unterbreizbach**	**146.31**	**336**	*e*PKPbc	**PKPab**	**10 40 47.4**	**+0.8**
	baz=39,slow=2.9						
WET	**Wettzell**	**146.38**	**331**	*e*PKPbc	**PKPab**	**10 40 47.4**	**+0.3**
	baz=39,slow=2.9						
ARSA	**Arzberg**	**146.41**	**326**	*e*PKP	**PKPbc**	**10 40 46.7**	**+0.3**
	comp=Z,5.9nm,1.4s						
KASTN	**Kahler Asten**	**146.59**	**337**	*e*PKPbc	**PKPab**	**10 40 47.9**	**+0.1**
	baz=39,slow=2.9						
MOA	**Molln**	**146.64**	**328**	*e*PKP	**PKPab**	**10 40 48.0**	**-0.1**
	comp=Z,10nm,1.5s						
GRF	**Grafenberg Arr**	**146.70**	**333**	*e*PKPbc	**PKPab**	**10 40 48.6**	**+0.3**
	baz=39,slow=2.9						
BUG	**Bochum--Univer**	**146.79**	**339**	*e*PKPbc	**PKPab**	**10 40 48.7**	**+0.2**
	baz=39,slow=2.9						
SOKA	**Soboth**	**147.04**	**326**	*e*pPKP	**PKPbc**	**10 40 48.9**	**+0.6**
	comp=Z,7.3nm,1.0s						
BIOA	**Bad Ischl, Aus**	**147.06**	**329**	*e*pPKP	**PKPbc**	**10 40 49.0**	**+0.8**
	comp=Z,5.1nm,0.9s						
OBKA	**Obir**	**147.40**	**326**	*e*pPKP	**PKPbc**	**10 40 49.7**	**+0.3**
	comp=Z,4.4nm,0.9s						
RJOB	**Jochberg**	**147.43**	**329**	*e*PKPbc	**PKPbc**	**10 40 50.1**	**+0.7**
	baz=39,slow=2.9						
KBA	**Konbreinsper**	**147.63**	**328**	*i* pPKP	**PKPbc**	**10 40 50.2**	**+0.2**
	comp=Z,9.3nm,0.9s						
LESA	**Schwarzleotal**	**147.71**	**329**	*i* pPKP	**PKPbc**	**10 40 50.7**	**+0.5**
	comp=Z,7.2nm,0.6s						
MYKA	**Terra Mystica**	**147.79**	**327**	*i* pPKP	**PKPbc**	**10 40 50.4**	**0.0**
	comp=Z,6.0nm,0.8s						
STU	**Stuttgart**	**148.25**	**334**	*e*PKPbc	**PKiKP**	**10 40 52.8**	**-0.3**
	baz=39,slow=2.9						
ABTA	**Abfaltersbach**	**148.27**	**328**	*e*PKP	**PKPbc**	**10 40 51.8**	**+0.2**
	comp=Z,10.0nm,0.8s,SNR=6.6						
WATA	**Walderalm**	**148.29**	**330**	*e*PKP	**PKPbc**	**10 40 52.2**	**+0.4**
	comp=Z,8.6nm,1.1s						
WTTA	**Wattenberg**	**148.32**	**330**	*e*PKP	**PKPbc**	**10 40 52.5**	**+0.6**
	comp=Z,10nm,1.1s						
MOTA	**Moosalm**	**148.51**	**330**	*e*PKP	**PKPbc**	**10 40 52.9**	**+0.5**
	comp=Z,11nm,0.8s,SNR=5.4						
SQTA	**Sankt Quirin**	**148.55**	**330**	*e*PKP	**PKPbc**	**10 40 53.0**	**+0.6**
	comp=Z,10nm,0.7s						
RETA	**Reutte**	**148.56**	**331**	*e*PKP	**PKPbc**	**10 40 52.9**	**+0.5**
	comp=Z,3.8nm,0.7s						
WLF	**Walferdange**	**148.67**	**338**	*e*PKPbc	**PKiKP**	**10 40 54.3**	**+0.4**
	baz=39,slow=2.9						
UBR	**Ueberruh**	**148.71**	**332**	*e*PKPbc	**PKPbc**	**10 40 53.6**	**+0.9**
	baz=39,slow=2.9						
FETA	**Feichten**	**148.92**	**330**	*e*PKiKP	**PKPbc**	**10 40 54.2**	**+0.8**
	comp=Z,11nm,0.9s						
BFO	**Black Forest**	**148.95**	**334**	*e*PKPbc	**PKiKP**	**10 40 54.2**	**-0.4**
	baz=39,slow=2.9						
DAVA	**Damuels**	**149.10**	**331**	*e*PKiKP	**PKPbc**	**10 40 54.7**	**+0.8**
	comp=Z,9.3nm,1.0s						

*IDC **25** 10:21:39.8±5.0,4.70S×153.63E,h64km±36km,mb3.5/8, mbtmp3.8/9,ML1.7/1,Error ellipse: s-maj=39.3km s-min=19.3km az=93.0*
ISC 25 10:21:42.8±1.2,**4.7S**±0.1×**153.4E**±0.1,**h85**km,**n11, s0§75/13,mb3.6/8,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.43**	**284**	P	**Pn**	**10 22 06.0**	**-1.4**
	baz=143,slow=20						
KRVT				S	**Sn**	**10 22 26.9**	**+0.9**
	baz=142,slow=19						
PMG	**Port Moresby**	**7.80**	**232**	P	**Pn**	**10 23 32.7**	**-0.8**
	0.6nm,0.3s,baz=45,slow=5.7,SNR=1.7						
PMG				S	**Sn**	**10 25 00.7**	**+0.3**
	6.2nm,0.4s,baz=147,slow=6.1,SNR=5.1						
	6.9nm,0.7s						
WRA	**Warramunga Arr**	**24.00**	**229**	P	**P**	**10 26 50.1**	**+0.4**
	0.5nm,0.5s,baz=53,slow=9.9,SNR=12						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**26.67**	**223**	P	**P**	**10 27 14.4**	**+0.4**
	0.2nm,0.7s,baz=55,slow=9.0,SNR=5.7						
	0.2nm,0.7s						
SONM	**Songino Array**	**66.53**	**327**	P	**P**	**10 32 24.9**	**+1.1**
	0.2nm,0.4s,baz=156,slow=7.4,SNR=1.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**80.62**	**319**	P	**P**	**10 33 46.5**	**+0.2**
	1.8nm,0.9s,baz=90,slow=8.4,SNR=6.5						
	1.8nm,0.9s						
ZALV	**Zalesovo Beam**	**81.38**	**326**	P	**P**	**10 33 49.8**	**-0.3**
	0.4nm,0.3s,baz=111,slow=7.9,SNR=1.9						
	0.4nm,0.3s						
ILAR	**Eielson Array**	**81.80**	**22**	P	**P**	**10 33 51.6**	**-0.4**
	0.2nm,0.7s,baz=254,slow=5.9,SNR=2.4						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**84.07**	**322**	P	**P**	**10 34 04.2**	**+0.1**
	0.6nm,0.2s,baz=117,slow=4.7,SNR=6.4						
	0.6nm,0.2s						
BVAR	**Borovoye Array**	**89.50**	**323**	P	**P**	**10 34 30.2**	**-0.2**
	2.2nm,0.7s,baz=98,slow=6.0,SNR=9.4						
	2.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.84**	**289**	PKPbc	**PKPbc**	**10 41 26.7**	**+0.1**
	1.2nm,0.7s,baz=50,slow=3.3,SNR=8.0						

*IDC **25** 10:22:16.9±1.6,35.25S×71.62W,h0km,mb3.7/3,*

mbtmp3.6/5,ML3.4/2,Error ellipse: s-maj=53.9km s-min=33.4km az=89.0
*SJA **25** 10:22:25.4±0.6,35.13S×71.21W,h95km±3km,ML3.6, MW3.6*
*GUC **25** 10:22:28.7±0.7,35.02S×71.01W,h88km±3km,ML3.8*
ISC 25 10:22:28.3±1.0,**35.05S**±0.04×**71.02W**±0.04,**h87**km±6km, **n41,s0§79/72,mb3.6/3,4C-1D,Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO02	**Sierra Bellavi**	**0.32**	**37**	*e*P	**Pn**	**10 22 41.2**	**-0.4**
BO02				*e*S	**Sn**	**10 22 53.4**	**+1.9**
BO02	**Sierra Bellavi**	**0.32**	**37**	*e*P	**Pn**	**10 22 41.4**	**-0.2**
BO02				*e*S	**Sn**	**10 22 51.6**	**+0.1**
BO02				IAML		10 22 52.9	
	comp=E,11µm,0.2s						
BO01	**Tunca**	**0.66**	**355**	*e*P	**Pn**	**10 22 43.8**	**-0.3**
BO01				*e*S	**Sn**	**10 22 56.1**	**+0.2**
BO01				IAML		10 22 57.1	
	comp=Z,2µm,0.3s						
BO01	**Tunca**	**0.66**	**355**	⇑*i*P	**Pn**	**10 22 43.8**	**-0.3**
BO01				*e*S	**Sn**	**10 22 55.8**	**-0.1**
BO01				IAML		10 22 56.7	
	comp=E,4µm,0.2s						
GO05	**Huala**	**0.75**	**273**	*e*P	**Pn**	**10 22 45.0**	**-0.1**
GO05				*e*S	**Sn**	**10 22 58.0**	**+0.4**
ML02	**Panimavida**	**0.79**	**205**	⇓*i*P	**Pn**	**10 22 45.6**	**+0.1**
ML02				*e*S	**Sn**	**10 22 59.3**	**+1.1**
ML02				IAML		10 23 00.4	
	comp=N,4µm,0.4s						
BO03	**Pichilemu**	**0.95**	**305**	⇑*i*P	**Pn**	**10 22 47.5**	**+0.3**
BO03				*e*S	**Sn**	**10 23 01.7**	**+0.3**
BO03				IAML		10 23 06.8	
	comp=E,3µm,0.4s						
BO04	**La Punta**	**1.11**	**18**	*e*P	**Pn**	**10 22 48.9**	**-0.2**
BO04				*e*S	**Sn**	**10 23 04.8**	**+0.1**
BO04				IAML		10 23 07.0	
	comp=N,2µm,0.4s						
MT01	**Popeta**	**1.20**	**351**	⇑*i*P	**Pn**	**10 22 49.6**	**-0.5**
MT01				*e*S	**Sn**	**10 23 05.9**	**-0.6**
MT01				IAML		10 23 11.5	
	comp=E,3µm,0.2s						
MT09	**Talagante**	**1.27**	**1**	⇑*i*P	**Pn**	**10 22 50.9**	**-0.3**
MT09				*e*S	**Sn**	**10 23 08.2**	**-0.1**
MT09				IAML		10 23 09.4	
	comp=E,4µm,0.4s						
MT12	**Pirque**	**1.37**	**17**	*e*P	**Pn**	**10 22 52.5**	**+0.2**
MT12				*e*S	**Sn**	**10 23 10.7**	**+0.3**
MT12				IAML		10 23 12.5	
	comp=E,1µm,0.5s						
LMEL	**Las Melosas**	**1.37**	**30**	*e*P	**Pn**	**10 22 52.8**	**+0.3**
LMEL				*e*S	**Sn**	**10 23 10.6**	**-0.1**
LMEL				IAML		10 23 15.4	
	comp=E,2µm,0.2s						
MT13	**San Alfonso**	**1.43**	**25**	*e*P	**Pn**	**10 22 53.6**	**+0.5**
MT13				*e*S	**Sn**	**10 23 11.9**	**-0.1**
MT13				IAML		10 23 14.8	
	comp=E,2µm,0.3s						
EDS3	**Malargue**	**1.50**	**119**	*e*P	**Pn**	**10 22 54.2**	**+0.1**
MT15	**Las Vizcachas**	**1.51**	**16**	*e*P	**Pn**	**10 22 53.9**	**-0.1**
MT15				*e*S	**Sn**	**10 23 13.4**	**-0.1**
MT15				IAML		10 23 17.5	
	comp=E,4µm,0.3s						
MT03	**Universidad Ad**	**1.61**	**15**	*e*P	**Pn**	**10 22 55.6**	**+0.2**
MT03				*e*S	**Sn**	**10 23 18.0**	**+2.1**
MT03				IAML		10 23 23.5	
	comp=Z,734nm,0.3s						
MT03	**Universidad Ad**	**1.61**	**15**	*e*P	**Pn**	**10 22 55.4**	**0.0**
MT03				*e*S	**Sn**	**10 23 15.7**	**-0.1**
MT03				IAML		10 23 20.6	
	comp=E,1µm,0.3s						
**MT16

MLIR3				*e*S	**Sn**	**10 23 24.6**	**-0.4**
LNBQ3	**Los Naranjos,**	**0.98**	**169**	*e*S	**Sb**	**10 23 23.0**	**-0.3**
BCO2	**Palmira**	**1.04**	**175**	*e*P	**Pb**	**10 23 11.0**	**-0.3**
BCO2				*e*S	**Sb**	**10 23 24.6**	**-0.5**
CDM	**Cerro de Muert**	**1.14**	**260**	*i* P	**Pb**	**10 23 11.9**	**-1.2**
CDM				IAML		10 23 12.8	
	comp=Z,470nm,1.0s						
CDM				*i* S	**Sb**	**10 23 27.1**	**-1.0**
OCHAL	**Ojochal**	**1.20**	**237**	*i* P	**Pn**	**10 23 13.7**	**-0.2**
OCHAL				IAML		10 23 14.4	
	comp=Z,7.1nm,1.0s						
OCHAL				*i* S	**Sb**	**10 23 30.5**	**+1.0**
CDITO	**Canoas**	**1.21**	**191**	*e*P	**Pb**	**10 23 14.3**	**+0.3**
CDITO				*e*S	**Sb**	**10 23 30.2**	**+0.6**
CDITO	**Canoas**	**1.21**	**191**	*i* P	**Pn**	**10 23 13.3**	**-0.7**
CDITO				*i* S	**Sb**	**10 23 29.9**	**+0.3**
CDITO				IAML		10 23 37.0	
	comp=Z,450nm,1.0s						
RIMA	**Rio Macho**	**1.22**	**270**	*i* P	**Pn**	**10 23 13.2**	**-1.1**
RIMA				*i* S	**Sb**	**10 23 29.4**	**-0.7**
RIMA				IAML		10 23 30.3	
	comp=Z,330nm,1.0s						
GUAL3	**Gualaca, Chiri**	**1.27**	**165**	*e*P	**Pb**	**10 23 14.8**	**-0.2**
DVD	**David**	**1.33**	**172**	*e*P	**Pb**	**10 23 15.9**	**-0.2**
DVD				*e*S	**Sb**	**10 23 33.4**	**+0.2**
LCR2	**La Lucha 2**	**1.36**	**269**	*i* P	**Pn**	**10 23 15.8**	**-0.4**
LCR2				IAML		10 23 16.4	
	comp=Z,200nm,1.0s						
LCR2				*i* S	**Sn**	**10 23 33.5**	**-0.8**
RIFO	**Rio Frio, Sara**	**1.39**	**293**	*i* P	**Pn**	**10 23 16.1**	**-0.4**
RIFO				*i* S	**Sn**	**10 23 33.9**	**-0.9**
RIFO				IAML		10 23 36.2	
	comp=Z,250nm,1.0s						
HDC3	**Heredia 3**	**1.48**	**279**	*i* P	**Pn**	**10 23 17.4**	**-0.4**
HDC3				*i* S	**Sn**	**10 23 37.9**	**+0.6**
HDC3				IAML		10 23 41.9	
	comp=Z,100nm,1.0s						
PTPM	**Petroterminale**	**1.57**	**189**	*e*P	**Pb**	**10 23 20.1**	**0.0**
PTPM				*e*S	**Sg**	**10 23 42.0**	**+0.4**
TCS1	**Tacares**	**1.67**	**280**	*i* P	**Pn**	**10 23 20.3**	**-0.1**
TCS1				IAML		10 23 47.4	
	comp=Z,890nm,1.0s						
COVE	**Coope Vega, Sa**	**1.99**	**299**	*i* P	**Pn**	**10 23 25.6**	**+0.9**
COVE				IAML		10 23 26.2	
	comp=Z,120nm,1.0s						
COVE				*i* S	**Sn**	**10 23 50.4**	**+0.8**
JACO	**JACO, Garabito**	**2.00**	**267**	*i* P	**Pn**	**10 23 25.6**	**+0.7**
JACO				*i* S	**Sn**	**10 23 51.2**	**+1.2**
JACO				IAML		10 24 21.6	
	comp=Z,69nm,1.0s						
POPE	**POPE, Guanacas**	**2.61**	**277**	*i* P	**Pn**	**10 23 33.8**	**+0.5**
POPE				*i* S	**Sn**	**10 24 05.8**	**+0.7**
POPE				IAML		10 24 49.9	
	comp=Z,45nm,1.0s						
BCIP	**Isla Barro Col**	**2.82**	**102**	*i* P	**Pn**	**10 23 35.9**	**-0.2**
BCIP				*i* S	**Sn**	**10 24 09.6**	**-0.6**
BCIP				IAML		10 25 11.4	
	comp=Z,99nm,1.0s						
ORTG	**Ortega, Santa**	**2.85**	**282**	*i* P	**Pn**	**10 23 37.5**	**+0.8**
ORTG				IAML		10 23 53.0	
	comp=Z,36nm,1.0s						
ORTG				*i* S	**Sn**	**10 24 12.2**	**+1.1**

IDC 25 10:29:41.8±2.3, **64°50S**×**172°51W**, *h*0km, **mb3.4**/2, **mbtmp3.4**/3, **MS3.7**/12, **Error ellipse: s-maj=68.6km s-min=56.1km az=62.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**15.26**	**201**	Pn	Pn	10 33 18.7	+0.6
	1.5nm,1.0s,baz=47,slow=16,SNR=3.2						
VNDA				LR	LR	10 37 30.2	
	comp=Z,94nm,21.0s,baz=49,slow=31						
RPZ	**Rata Peaks**	**22.80**	**328**	LR	LR	10 42 25.7	
	comp=Z,132nm,18.1s,baz=166,slow=34						
QSPA	**South Pole Qui**	**25.60**	**180**	LR	LR	10 43 40.4	
	comp=Z,83nm,18.7s,baz=50,slow=33						
URZ	**Urewera**	**26.99**	**342**	LR	LR	10 44 07.7	
	comp=Z,212nm,20.8s,baz=318,slow=32						
PMSA	**Palmer Station**	**40.91**	**142**	LR	LR	10 52 14.5	
	comp=Z,219nm,18.1s,baz=254,slow=33						
STKA	**Stephens Creek**	**43.11**	**297**	LR	LR	10 51 58.5	
	comp=Z,191nm,20.2s,baz=202,slow=31						
SNAA	**Sanae**	**43.91**	**175**	LR	LR	10 54 55.1	
	comp=Z,105nm,18.4s,baz=180,slow=34						
DZM	**Mont Dzumac**	**44.64**	**332**	LR	LR	10 54 19.9	
	comp=Z,96nm,18.2s,baz=204,slow=33						
H01W1	**Cape Leeuwin H**	**52.02**	**268**	T	T	11 35 29.1	
	baz=148						
H01W2	**Cape Leeuwin H**	**52.03**	**268**	T	T	11 35 29.3	
	baz=148,slow=74						
H01W3	**Cape Leeuwin H**	**52.04**	**268**	T	T	11 35 35.6	
	baz=148,slow=74						
CTA	**Charters Tower**	**52.14**	**308**	LR	LR	10 57 09.7	
	comp=Z,109nm,21.4s,baz=90,slow=32						
ASAR	**Alice Springs**	**53.46**	**293**	P	P	10 39 03.4	-0.1
	0.3nm,0.7s,baz=158,slow=8.0,SNR=5.2						
ASAR				LR	LR	10 59 04.1	
	comp=Z,46nm,21.2s,baz=166,slow=33						
	0.3nm,0.7s						
RPN	**Rapa Nui**	**54.34**	**78**	LR	LR	10 57 16.3	
	comp=Z,30nm,18.4s,baz=152,slow=30						
WRA	**Warramunga Arr**	**56.64**	**296**	P	P	10 39 26.5	0.0
	0.5nm,0.9s,baz=155,slow=5.6,SNR=3.0						
	0.5nm,0.9s						
PLCA	**Paso Flores**	**58.81**	**120**	LR	LR	10 58 50.6	
	comp=Z,58nm,20.1s,baz=186,slow=30						
ILAR	**Eielson Array**	**130.33**	**14**	PKP	PKPdf	10 48 52.0	-0.1
	0.4nm,0.8s,baz=204,slow=2.0,SNR=4.7						
BVAR	**Borovoye Array**	**146.88**	**280**	PKPbc	PKPdf	10 49 23.4	+0.7
	1.5nm,0.7s,baz=144,slow=1.2,SNR=6.0						

*IDC **25** 10:33:43.8±1.1, 64°.53S×171°.89W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=61.6km s-min=27.7km az=38.0*

ISC 25 10:33:44.8±1.1, **64°.5S**±0°.3×**171°.8W**±0°.3, **h10**km, **n12**, σ0**§45/8**, **mb3.9**/4, **Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**43.91**	**175**	P	**P**	**10 41 51.0**	**+0.1**
	0.6nm,0.3s,baz=193,slow=13,SNR=3.1						
	0.6nm,0.3s						
H01W1	**Cape Leeuwin H**	**52.32**	**267**	T	T	11 39 34.1	
	baz=149,slow=76,SNR=7.1						
H01W2	**Cape Leeuwin H**	**52.32**	**267**	T	T	11 39 33.8	
	baz=149,slow=76,SNR=6.6						
H01W3	**Cape Leeuwin H**	**52.34**	**267**	T	T	11 39 36.7	
	baz=149,slow=76,SNR=6.1						
ASAR	**Alice Springs**	**53.72**	**293**	P	**P**	**10 43 07.4**	**+0.6**
	1.2nm,1.0s,baz=150,slow=7.7,SNR=6.9						
	1.2nm,1.0s						
WRA	**Warramunga Arr**	**56.90**	**295**	P	**P**	**10 43 29.6**	**-0.2**
	1.6nm,1.0s,baz=164,slow=5.6,SNR=5.0						
	1.6nm,1.0s						
CFA	**Coronel Fontan**	**67.47**	**116**	P	**P**	**10 44 40.7**	**+0.2**
	2.4nm,1.0s,baz=243,slow=16,SNR=2.1						
	2.4nm,1.0s						
ILAR	**Eielson Array**	**130.24**	**14**	PKP	**PKiKP**	**10 52 54.4**	**+0.2**
	0.7nm,0.8s,baz=211,slow=2.1,SNR=7.0						
MKAR	**Makanchi Array**	**137.42**	**282**	PKP	**PKPdf**	**10 53 06.7**	**-0.7**
	0.9nm,1.0s,baz=134,slow=4.2,SNR=3.5						
KURBB	**Kurchatov Arra**	**141.96**	**283**	PKhKP	PKPpre	10 53 11.3	
	0.4nm,0.2s,baz=119,slow=2.4,SNR=2.3						
BVAR	**Borovoye Array**	**147.17**	**280**	PKPbc	**PKPbc**	**10 53 26.8**	**0.0**
	1.9nm,0.6s,baz=139,slow=3.2,SNR=11						
BRTR	**Keskin Array B**	**151.09**	**223**	PKPbc	**PKiKP**	**10 53 37.6**	**-0.2**
	1.4nm,0.8s,baz=142,slow=6.3,SNR=6.2						

*NEIC **25** 10:36:31.5±1.3, 18°.6N±0°.1×68°.73W±0°.05, h139km±12km, ML3.8/25, Md3.6/12(RSPR), Error ellipse: s-maj=20.8km s-min=5.4km az=189.0*

*RSPR **25** 10:36:32.6, 18°.58N×68°.70W, h131km±1km, MD3.6/12*

*OSPL **25** 10:36:33.6±3.1, 18°.53N×68°.71W, h141km±19km, ML3.6*

*SDD **25** 10:36:33.0±2.3, 18°.53N×68°.76W, h142km±9km, MD4.0, ML3.9, MW4.6*

ISC 25 10:36:31.2±1.0, **18°.59N**±0°.07×**68°.71W**±0°.03, **h141**km±7km, **n95**, σ1**§11**/117, **24C-6D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.32**	**104**	⇑*e*P	**Pn**	**10 36 50.6**	**-0.1**
PCDR	**Punta Cana, DR**	**0.32**	**104**	*i* P	**Pn**	**10 36 50.4**	**-0.3**
PCDR					**Sn**	**10 37 04.2**	**-1.2**
PCDR				IAML		10 37 07.8	
	comp=E,1μm,0.6s						
PCDR	**Punta Cana, DR**	**0.32**	**104**	⇑*e*Pg	**Pn**	**10 36 50.3**	**-0.3**
PCDR				⇑*e*Sg	**Sn**	**10 37 06.6**	**+1.3**
PCDR				IAML		10 37 09.0	
	comp=E,1μm,0.2s						
PCDR				IAML		10 37 10.4	
	comp=N,3μm,0.5s						
PCDR	**Punta Cana, DR**	**0.32**	**104**	*i* P	**Pn**	**10 36 50.6**	**-0.1**
PCDR				*e*S	**Sn**	**10 37 04.8**	**-0.6**
PCDR				IAML		10 37 07.0	
	comp=Z,1μm,0.3s						
SADR	**Isla Saona**	**0.41**	**190**	⇑*e*Pg	**Pn**	**10 36 50.5**	**-0.6**
SADR				⇑*e*Sg	**Sn**	**10 37 05.5**	**-0.5**
SADR				IAML		10 37 05.7	
	comp=E,6μm,0.3s						
SADR				IAML		10 37 06.4	
	comp=N,12μm,0.6s						
MIDR	**Miches**	**0.51**	**320**	⇑*e*Pg	**Pn**	**10 36 52.0**	**+0.5**
MIDR				*e*Sg	**Sn**	**10 37 07.2**	**+0.3**
MIDR				IAML		10 37 08.1	
	comp=E,2μm,0.3s						
MIDR				IAML		10 37 08.7	
	comp=N,1μm,0.1s						
SPM1	**San Pedro UASD**	**0.59**	**256**	⇓*e*Pg	**Pn**	**10 36 51.6**	**-0.4**
SPM1				*e*Sg	**Sn**	**10 37 06.8**	**-0.8**
SPM1				IAML		10 37 08.7	
	comp=N,5μm,0.3s						
HATOM	**Hato Mayor del**	**0.67**	**287**	⇑*e*Pg	**Pn**	**10 36 52.1**	**-0.4**
HATOM				⇓*e*Sg	**Sn**	**10 37 08.0**	**-0.7**
HATOM				IAML		10 37 08.8	
	comp=E,3μm,0.5s						
HATOM				IAML		10 37 09.0	
	comp=N,2μm,0.3s						
SMDR	**Samana, DR**	**0.83**	**327**	⇑*e*Pg	**Pn**	**10 36 53.7**	**+0.1**
SMDR				⇑*e*Sg	**Sn**	**10 37 11.5**	**+0.8**
SMDR				IAML		10 37 12.0	
	comp=E,910nm,0.2s						
SMDR				IAML		10 37 19.2	
	comp=N,958nm,0.4s						
IDE	**Isla Desecheo**	**1.19**	**100**	*e*P	**Pn**	**10 36 57.4**	**+0.6**
IDE	**Isla Desecheo**	**1.19**	**100**	*e*S	**Sn**	**10 37 15.9**	**-0.5**
IDE	**Isla Desecheo**	**1.19**	**100**		**Pn**	**10 36 57.4**	**+0.6**
IDE					**Sn**	**10 37 15.9**	**-0.5**
DR08	**Loma La Naviza**	**1.30**	**287**	⇑*e*Pg	**Pn**	**10 36 57.9**	**-0.1**
DR08				⇓*e*Sg	**Sn**	**10 37 17.4**	**-1.0**
DR08				IAML		10 37 19.0	
	comp=N,11μm,0.2s						
LOSC1	**San Cristbal**	**1.34**	**262**	*i* P	**Pn**	**10 36 58.4**	**0.0**
LOSC1				*e*S	**Sn**	**10 37 18.9**	**-0.2**
LOSC1				IAML		10 37 19.6	
	comp=Z,2μm,0.3s						
LONA1	**Toro Cenizo, N**	**1.35**	**306**	*i* P	**Pn**	**10 36 58.8**	**+0.4**
LONA1				*e*S	**Sn**	**10 37 19.6**	**+0.4**
LONA1				IAML		10 37 20.6	
	comp=Z,1μm,0.4s						
AGPR	**Aguadilla, PR**	**1.52**	**94**	⇑*e*P	**Pn**	**10 37 01.1**	**+0.9**
AGPR	**Aguadilla, PR**	**1.52**	**94**		**Pn**	**10 37 01.0**	**+0.7**
AGPR					**Sn**	**10 37 23.6**	**+1.3**
AGPR				IAML		10 37 29.7	
	comp=N,847nm,0.5s						
AGPR				IAML		10 37 31.0	
	comp=E,810nm,0.4s						
AGPR	**Aguadilla, PR**	**1.52**	**94**	*e*Pg	**Pn**	**10 37 01.1**	**+0.9**
AGPR				⇓*e*Sg	**Sn**	**10 37 23.7**	**+1.3**
AGPR				IAML		10 37 28.1	
	comp=E,730nm,0.2s						
AGPR				IAML		10 37 29.1	
	comp=N,582nm,0.2s						
AGPR	**Aguadilla, PR**	**1.52**	**94**	*i* P	**Pn**	**10 37 01.2**	**+0.9**
AGPR				*e*S	**Sn**	**10 37 23.7**	**+1.3**
AGPR				IAML		10 37 32.5	
	comp=Z,494nm,0.2s						
PRSN	**Puerto Rico Se**	**1.53**	**104**	⇑*e*P	**Pn**	**10 37 01.9**	**+1.6**
PRSN	**Puerto Rico Se**	**1.53**	**104**	*e*S	**Sn**	**10 37 22.2**	**-0.4**
PRSN	**Puerto Rico Se**	**1.53**	**104**		**Pn**	**10 37 00.2**	**-0.2**
PRSN				IAML		10 37 34.7	
	comp=E,627nm,0.2s						
PRSN				IAML		10 37 34.9	
	comp=N,826nm,0.3s						
BANI	**BANI**	**1.58**	**263**	*e*Pg	**Pn**	**10 37 01.3**	**+0.3**
BANI				IAML		10 37 29.3	
	comp=N,2μm,0.2s						
BANI				IAML		10 37 31.4	
	comp=E,947nm,0.4s						
LSP	**Las Mesas**	**1.59**	**105**	⇑*e*P	**Pn**	**10 37 01.8**	**+0.7**
LSP	**Las Mesas**	**1.59**	**105**	*e*S	**Sn**	**10 37 24.3**	**+0.3**
LSP	**Las Mesas**	**1.59**	**105**		**Pn**	**10 37 01.8**	**+0.7**
LSP					**Sn**	**10 37 24.3**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.63**	**111**	⇑*e*P	**Pn**	**10 37 01.6**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.63**	**111**		**Pn**	**10 37 01.6**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.63**	**111**	⇑*e*Pg	**Pn**	**10 37 01.5**	**+0.2**
CRPR				⇑*e*Sg	**Sn**	**10 37 24.9**	**+0.4**
CRPR				IAML		10 37 29.9	
	comp=E,260nm,0.2s						
CRPR				IAML		10 37 34.2	
	comp=N,227nm,0.7s						
CRPR	**Cabo Rojo, PR**	**1.63**	**111**	*i* P	**Pn**	**10 37 01.6**	**+0.2**
CRPR				*e*S	**Sn**	**10 37 24.5**	**0.0**
CRPR				*e*		10 37 24.5	
CRPR				IAML		10 37 29.4	
	comp=Z,323nm,0.8s						
MLPR	**Magueyes Islan**	**1.70**	**111**	⇓*e*P	**Pn**	**10 37 02.0**	**-0.2**
MLPR	**Magueyes Islan**	**1.70**	**111**	*e*S	**Sn**	**10 37 26.6**	**+0.7**
MLPR	**Magueyes Islan**	**1.70**	**111**	Pn	**Pn**	**10 37 01.9**	**-0.2**
ABDR	**Alto Bandera**	**1.83**	**277**	IAML		10 37 32.3	
	comp=N,889nm,0.2s						
ABDR				IAML		10 37 32.8	
	comp=E,974nm,0.3s						
GBPR	**Guanica, Bosqu**	**1.84**	**109**	⇑*e*P	**Pn**	**10 37 04.6**	**+0.7**
GBPR	**Guanica, Bosqu**	**1.84**	**109**		**Pn**	**10 37 04.6**	**+0.7**
AOPR	**Arecibo Observ**	**1.87**	**97**	⇑*e*P	**Pn**	**10 37 04.5**	**+0.2**
AOPR	**Arecibo Observ**	**1.87**	**97**	*e*S	**Sn**	**10 37 29.8**	**+0.2**
AOPR	**Arecibo Observ**	**1.87**	**97**	Pn	**Pn**	**10 37 04.5**	**+0.2**
OBIP	**Obispado Ponce**	**2.07**	**105**	⇑*e*P	**Pn**	**10 37 06.9**	**+0.3**
OBIP	**Obispado Ponce**	**2.07**	**105**	*e*S	**Sn**	**10 37 34.2**	**+0.5**
OBIP	**Obispado Ponce**	**2.07**	**105**		**Pn**	**10 37 06.8**	**+0.3**
SC01	**Santiago de lo**	**2.08**	**294**		**Pn**	**10 37 07.4**	**+0.7**
SC01	**Santiago de lo**	**2.08**	**294**	*e*Pg	**Pn**	**10 37 07.5**	**+0.7**
SC01				IAML		10 37 44.6	
	comp=E,807nm,0.3s						
SC01				IAML		10 37 46.0	
	comp=N,781nm,0.8s						
SC01	**Santiago de lo**	**2.08**	**294**	*i* P	**Pn**	**10 37 07.4**	**+0.7**
SC01				*i* P		10 37 35.8	
CELP	**Cerrillos**	**2.09**	**104**	Pn	**Pn**	**10 37 06.8**	**0.0**
CELP				IAML		10 37 36.6	
	comp=N,417nm,0.4s						
CELP				IAML		10 37 42.0	
	comp=E,338nm,0.3s						
LOBA2	**Hotel Casa Bon**	**2.32**	**258**	*e*Pg	**Pn**	**10 37 08.9**	**-0.7**
LOBA2				IAML		10 37 37.5	
	comp=E,275nm,0.8s						
LOBA2				IAML		10 37 38.4	
	comp=N,162nm,0.2s						
MADR	**Mao Valverde**	**2.46**	**294**	*e*Pg	**Pn**	**10 37 11.0**	**-0.4**
MADR				IAML		10 37 49.7	
	comp=E,939nm,0.5s						
MADR				IAML		10 37 50.5	
	comp=N,1μm,0.3s						
SDDR	**Presa de Saban**	**2.48**	**279**		**Pn**	**10 37 12.4**	**+0.8**
SDDR				IAML		10 37 47.4	
	comp=N,378nm,0.6s						
SDDR	**Presa de Saban**	**2.48**	**279**	⇑*e*Pg	**Pn**	**10 37 12.7**	**+1.2**
SDDR				IAML		10 37 47.2	
	comp=E,333nm,0.6s						
SDDR				IAML		10 37 49.6	
	comp=N,503nm,1.0s						
SDDR	**Presa de Saban**	**2.48**	**279**	*i* P	**Pn**	**10 37 12.8**	**+1.2**
SDDR				*e*S	**Sn**	**10 37 43.6**	**+0.9**
SDDR				IAML		10 37 49.2	
	comp=Z,219nm,0.3s						
SDDR	**Presa de Saban**	**2.48**	**279**	*e*P	**Pn**	**10 37 12.1**	**+0.5**
SDDR				*e*S	**Sn**	**10 37 43.5**	**+0.8**
SDDR				IAML		10 37 47.2	
	comp=Z,325nm,0.5s						
SDDR				IAML		10 37 48.6	
	comp=Z,459nm,0.7s						
SJG	**San Juan**	**2.48**	**101**	⇑*e*P	**Pn**	**10 37 10.8**	**-0.7**
SJG	**San Juan**	**2.48**	**101**	*e*S	**Sn**	**10 37 39.5**	**-3.1**
SJG	**San Juan**	**2.48**	**101**		**Pn**	**10 37 11.1**	**-0.4**
SJG				IAML		10 37 45.7	
	comp=Z,307nm,0.4s						
SJG				IAML		10 37 47.2	
	comp=Z,310nm,0.3s						
GCPR	**Guaynabo City**	**2.51**	**96**	Pn	**Pn**	**10 37 11.5**	**-0.4**
GCPR				IAML		10 37 44.3	
	comp=E,234nm,0.4s						
GCPR				IAML		10 37 45.0	
	comp=N,197nm,0.3s						
IGPR	**InterUniversit**	**2.55**	**104**	⇑*e*P	**Pn**	**10 37 13.0**	**+0.5**
IGPR	**InterUniversit**	**2.55**	**104**	*e*S	**Sn**	**10 37 42.9**	**-1.3**
IGPR	**InterUniversit**	**2.55**	**104**		**Pn**	**10 37 13.0**	**+0.5**
IGPR					**Sn**	**10 37 42.9**	**-1.3**
LOPE2	**Hotel El Peder**	**2.94**	**260**	⇓*e*Pg	**Pn**	**10 37 18.1**	**+0.7**
LOPE2				IAML		10 38 01.9	
	comp=N,224nm,0.8s						
LOPE2	**Hotel El Peder**	**2.94**	**260**	*i* P	**Pn**	**10 37 18.1**	**+0.7**
LOPE2				*e*S	**Sn**	**10 37 52.6**	**-0.5**
JIDR	**Jimani**	**2.98**	**269**	⇑*e*Pg	**Pn**	**10 37 18.6**	**+0.7**
JIDR				IAML		10 37 56.5	
	comp=N,218nm,0.5s						
JIDR				IAML		10 37 57.3	
	comp=E,278nm,0.6s						
PAPH	**Port-au-Prince**	**3.41**	**269**		**Pn**	**10 37 23.8**	**+0.3**
PAPH				IAML		10 38 16.2	
	comp=E,256nm,0.6s						
PAPH	**Port-au-Prince**	**3.41**	**269**	*e*P	**Pn**	**10 37 23.6**	**+0.1**
PAPH				*e*S	**Sn**	**10 38 04.1**	**+0.2**
MASC	**Masc**	**5.45**	**288**	*e*P	**Pn**	**10 37 47.9**	**-2.5**
AUA1	**Aruba**	**6.18**	**192**	Pn	**Pn**	**10 37 58.8**	**-1.4**
GTBY	**Guantanamo Bay**	**6.19**	**283**	Pn	**Pn**	**10 37 59.1**	**-1.3**
GTBY	**Guantanamo Bay**	**6.19**	**283**	*e*P	**Pn**	**10 37 58.3**	**-2.0**
NMDO	**Nuevo Mundo**	**6.23**	**289**	*e*P	**Pn**	**10 37 56.9**	**-4.0**
MOAC	**Moa**	**6.24**	**290**	*e*P	**Pn**	**10 37 58.3**	**-2.7**
HATO	**Hato, Curacao**	**6.38**	**182**	Pn	**Pn**	**10 38 02.5**	**-0.5**
RCC	**Rio Carpintero**	**6.75**	**283**	*e*P	**Pn**	**10 38 05.1**	**-2.7**
MARVS	**Santiago de Cu**	**6.94**	**283**	*e*P	**Pn**	**10 38 06.7**	**-3.7**
BIM	**Bigot**	**8.37**	**118**	Pn	**Pn**	**10 38 29.8**	**+0.2**
MTDJ	**Mount Denham**	**8.39**	**269**	Pn	**Pn**	**10 38 29.8**	**-0.1**
BAUV	**El Baul**	**9.61**	**176**		**Pn**	**10 38 46.1**	**-0.1**
SDV	**Santo Domingo**	**9.83**	**191**		**Pn**	**10 38 49.7**	**+0.4**
SDV	**Santo Domingo**	**9.83**	**191**	*e*P	**Pn**	**10 38 49.7**	**+0.4**
OCAC	**Ocana**	**11.23**	**204**	*e*P	**Pn**	**10 39 06.5**	**-1.3**
PAMC	**Pamplona, Colo**	**11.84**	**200**	*e*P	**Pn**	**10 39 15.2**	**-1.0**
TAMC	**Tame, Arauca**	**12.45**	**194**	*e*P	**Pn**	**10 39 24.1**	**+0.4**
UREC	**San Jos de Ur**	**12.66**	**213**	*e*P	**Pn**	**10 39 27.7**	**+1.3**
BARC	**Barichara**	**12.70**	**201**	*e*P	**Pn**	**10 39 29.2**	**+2.1**
PTBC	**PUERTO BERRIO,**	**13.23**	**206**	*e*P	**Pn**	**10 39 33.3**	**-0.4**
DBBC	**Dabeiba**	**13.63**	**213**	*e*P	**Pn**	**10 39 38.8**	**-0.1**
SPBC	**San Pablo de B**	**13.89**	**203**	*e*P	**Pn**	**10 39 42.6**	**+0.3**
CBOC	**Ciudad Bolivar**	**14.52**	**210**	*e*P	**P**	**10 39 53.9**	**+0.9**
ROSC	**El Rosal**	**14.73**	**203**		**Pn**	**10 39 52.4**	**-0.8**
GUY2C	**Guyana, Caldas**	**14.79**	**207**	*e*P	**P**	**10 39 56.2**	**-0.1**
CVER	**Cruz Verde, Cu**	**14.94**	**201**	*e*P	**P**	**10 39 59.5**	**+1.6**
VILC	**Villaviencio,**	**15.20**	**199**	*e*P	**P**	**10 40 01.6**	**+1.1**
ANIL	**Santa Ana**	**15.47**	**206**	*e*P	**P**	**10 40 07.4**	**+3.8**
PLMC	**San Jos del P**	**15.49**	**209**	*e*P	**P**	**10 40 05.5**	**+2.0**
ORTC	**Ortega, Tolima**	**15.93**	**204**	*e*P	**Pn**	**10 40 08.7**	**+0.9**
PRAC	**Prado**	**15.98**	**203**	*e*P	**P**	**10 40 10.2**	**+1.2**

DJA 25 11:08:14.4±0.4, **8°S**±0°.8×**11°8E**±°, **h145**km±5km, **M4.0**/10, **mb4.1**/1, **MLv3.9**/10, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.58**	**231**	P	Pn	11 08 36.6	+1.0
PLAI				S	Sn	11 08 53.3	+1.6
TWSI	**Taliwang, Sumb**	**1.36**	**258**	P	Pn	11 08 42.6	+0.5
TWSI				S	Sn	11 09 04.5	+1.2
BASI	**Baing, Sumba**	**2.90**	**127**	P	Pn	11 09 00.7	+0.4
DNP	**Denpasar**	**2.99**	**266**	P	Pn	11 09 00.8	-0.7
SRBI	**Singaraja**	**3.01**	**277**	P	Pn	11 09 02.4	+0.7
EDFI	**Ende, Flores**	**3.43**	**95**	P	Pn	11 09 07.7	+0.4
BKSI	**Bulukumba**	**3.64**	**31**	P	Pn	11 09 09.6	-0.3
MMRI	**Maumere**	**3.97**	**93**	P	Pn	11 09 14.2	+0.1
ABJI	**Asem Bagus**	**4.01**	**279**	P	Pn	11 09 15.0	+0.3
JAGI	**Jajag, Banyuwa**	**4.03**	**270**	P	Pn	11 09 14.4	-0.6
SOEI	**Soe**	**6.10**	**103**	P	Pn	11 09 41.8	-0.7

*IDC **25** 11:16:56.9±6.3, 22°.58N×95°.53E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=572.0km s-min=29.7km az=59.0*

ISC 25 11:17:01.4±1.3, **22°.2N**±0°.4×**94°.8E**±0°.3, **h35**km, **n8**, σ2**§59**/9, **mb3.6**/3, **Myanmar**

| Code |

ARCES	**ARCES Array B**	**3.68**	**304**	Pn	**Pn**	**11 28 06.3**	**+0.6**	
	comp=Z,0.8nm,0.3s,baz=119,slow=14,SNR=139							
ARCES				Pg	**Pb**	**11 28 13.7**	**+0.3**	
	comp=Z,1.2nm,0.3s,baz=117,slow=17,SNR=20							
ARCES				Sn	**Sn**	**11 28 48.2**	**-1.5**	
	comp=Z,0.6nm,0.3s,baz=118,slow=25,SNR=5.5							
ARCES				Lg	Lg	11 29 00.7		
	comp=Z,2.2nm,0.3s,baz=112,slow=35,SNR=8.4							
	comp=Z,1.3nm,0.3s							
RMF	**Romuvaara**	**3.89**	**209**	PN	**Pn**	**11 28 08.7**	**+0.2**	
KLF	**Kolari**	**3.96**	**268**	PN	**Pn**	**11 28 09.8**	**+0.3**	
KLF				SG	**Sg**	**11 29 11.1**	**-3.5**	
HEF	**Hetta**	**4.02**	**285**	PN	**Pn**	**11 28 10.4**	**+0.2**	
HEF				SG	**Sb**	**11 29 11.1**	**+2.9**	
TOF	**Tornio**	**4.21**	**252**	PG	**Pb**	**11 28 23.7**	**+1.4**	
TOF				SN	**Sn**	**11 29 01.5**	**-1.1**	
OUL	**Oulu**	**4.23**	**236**	PG	**Pb**	**11 28 23.9**	**+1.2**	
KTK1	**Kautokeino**	**4.27**	**293**	PN	**Pn**	**11 28 14.3**	**+0.6**	
KTK1				SN	**Sn**	**11 29 04.6**	**+0.4**	
PAJU	**Pajala**	**4.33**	**266**	PN	**Pn**	**11 28 14.6**	**0.0**	
LANU	**Lannavaara**	**4.62**	**280**	PN	**Pn**	**11 28 17.9**	**-0.8**	
LANU				SG	**Sb**	**11 29 30.5**	**+4.9**	
FINES	**FINESS Array B**	**7.16**	**213**	Pn	**Pn**	**11 28 54.3**	**+0.9**	
	comp=Z,0.1nm,0.3s,baz=30,slow=13,SNR=5.4							
FINES				Sn	**Sn**	**11 30 11.7**	**-3.6**	
	comp=Z,0.1nm,0.3s,baz=30,slow=22,SNR=1.2							
FINES				Lg	Lg	11 30 48.0		
	comp=Z,0.2nm,0.3s,baz=40,slow=24,SNR=2.4							
	comp=Z,0.9nm,0.7s							
SPITS	**Spitsbergen Ar**	**11.68**	**342**	Pn	**Pn**	**11 29 53.2**	**-1.9**	
	baz=138,slow=18							
SPITS				Sn	Sn	11 31 57.5	-8.5	
	baz=148,slow=29							
	comp=Z,1nm,0.9s							
HFS	**Hagfors**	**11.71**	**240**	Pn	**Pn**	**11 29 53.1**	**-2.6**	
	comp=Z,0.1nm,0.3s,baz=44,slow=17,SNR=1.3							
	comp=Z,1.1nm,0.7s							
NOA	**NORSAR Array B**	**11.90**	**247**	Pn	**Pn**	**11 29 55.2**	**-3.1**	
	baz=46,slow=11,SNR=3.4							
	comp=Z,0.5nm,0.8s							

*IDC **25** 11:28:40.7±0.9, 27°70'S×74°03'E, h0km, mb4.1/10, mbtmp4.1/10, MS3.1/1, Error ellipse: s-maj=26.8km s-min=22.0km az=81.0*

ISC 25 11:28:42.8±0.8, 27°7'S±0°1×74°0'E±0°2, h13km, n25, σ0s67/12, mb4.0/11, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**20.00**	**356**	T	T	11 54 01.9	
	baz=175						
H08S1	**Diego Carcia H**	**20.00**	**355**	T	T	11 54 08.9	
	baz=175						
H08S3	**Diego Garcia H**	**20.02**	**356**	T	T	11 54 02.1	
	baz=175						
H04N2	**CROZET ISLANDS**	**25.46**	**218**	T	T	12 00 33.7	
	baz=52,slow=74,SNR=823						
H04N1	**CROZET ISLANDS**	**25.47**	**218**	T	T	12 00 36.8	
	baz=52,slow=74,SNR=877						
H04N3	**CROZET ISLANDS**	**25.48**	**218**	T	T	12 00 33.3	
	baz=52,slow=74,SNR=868						
H04S1	**CROZET ISLANDS**	**25.83**	**216**	T	T	12 01 00.7	
	baz=51,slow=76,SNR=10						
H04S3	**CROZET ISLANDS**	**25.84**	**216**	T	T	12 01 00.6	
	baz=51,slow=76,SNR=11						
H04S2	**CROZET ISLANDS**	**25.84**	**216**	T	T	12 01 02.1	
	baz=51,slow=76,SNR=17						
H01W2	**Cape Leeuwin H**	**34.83**	**112**	T	T	12 12 13.3	
	baz=271						
H01W3	**Cape Leeuwin H**	**34.83**	**112**	T	T	12 12 07.5	
	baz=271						
H01W1	**Cape Leeuwin H**	**34.85**	**112**	T	T	12 12 13.5	
	baz=271						
PALK	**Pallekele**	**35.36**	**11**	LR	LR	11 46 17.9	
	comp=Z,31nm,19.6s,baz=303,slow=30						
MAW	**Mawson**	**40.50**	**187**	P	**P**	**11 36 21.4**	**+0.5**
	6.1nm,0.8s,baz=332,slow=11,SNR=5.8						
	6.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**51.84**	**31**	P	**P**	**11 37 50.1**	**-0.8**
	0.6nm,0.4s,baz=215,slow=7.3,SNR=3.0						
ASAR	**Alice Springs**	**53.66**	**100**	P	**P**	**11 38 04.6**	**+0.2**
	4.6nm,0.9s,baz=250,slow=6.5,SNR=34						
	4.6nm,0.9s						
WRA	**Warramunga Arr**	**55.25**	**96**	P	**P**	**11 38 15.7**	**-0.4**
	3.1nm,0.8s,baz=253,slow=7.4,SNR=18						
	3.1nm,0.8s						
STKA	**Stephens Creek**	**57.93**	**112**	P	**P**	**11 38 34.8**	**-0.1**
	1.3nm,0.9s,baz=301,slow=12,SNR=1.7						
	1.3nm,0.9s						
QSPA	**South Pole Qui**	**62.43**	**180**	P	**P**	**11 39 04.6**	**-0.8**
	2.4nm,0.9s,baz=268,slow=2.1,SNR=5.2						
	2.4nm,0.9s						
CTA	**Charters Tower**	**65.65**	**101**	P	**P**	**11 39 27.9**	**+0.8**
	1.9nm,0.8s,baz=64,slow=21,SNR=3.0						
	1.9nm,0.8s						
MKAR	**Makanchi Array**	**74.52**	**6**	P	**P**	**11 40 21.1**	**+0.3**
	1.3nm,0.9s,baz=201,slow=9.1,SNR=5.9						
	1.3nm,0.9s						
SONM	**Songino Array**	**80.62**	**21**	P	**P**	**11 40 55.7**	**+0.6**
	0.4nm,0.7s,baz=193,slow=4.4,SNR=3.0						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**80.94**	**290**	P	**P**	**11 40 57.5**	**+0.2**
	0.6nm,0.9s,baz=108,slow=9.4,SNR=3.5						
	0.6nm,0.9s						
ZALV	**Zalesovo Beam**	**81.84**	**6**	P	**P**	**11 41 01.6**	**+0.4**
	1.0nm,0.8s,baz=198,slow=4.1,SNR=2.2						
	1.0nm,0.8s						
YKA	**Yellowknife Ar**	**144.74**	**7**	PKP	**PKPdf**	**11 48 17.6**	**-1.1**
	0.5nm,0.8s,baz=342,slow=2.9,SNR=6.2						

*UPP **25** 11:38:12.5±0.1, 67°19N×20°70E, h0km, ML2.3, Confirmed Induced event*

*IDC **25** 11:38:13.7±0.9, 67°15N×21°08E, h0km, mbtmp3.0/4, ML2.1/4, Error ellipse: s-maj=15.5km s-min=7.6km az=114.0*

*HEL **25** 11:38:13.3±0.0, 67°19N×20°67E, h0km, ML2.2, ML2.3(UPP), Confirmed Induced event*

ISC 25 11:38:12.7±0.7, 67°19N±0°02×20°67E±0°02, h0km, n52, σ0s90/84, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**208**	P	**Pg**	**11 38 14.5**	**+0.3**
DUNU				S	**Sg**	**11 38 15.7**	**+0.5**
DUNU	**Dundret**	**0.08**	**208**	*i* P	**Pg**	**11 38 14.5**	**+0.3**
DUNU				*i* S	**Sg**	**11 38 15.7**	**+0.5**
RATU	**Laukkuluspa**	**0.76**	**327**	P	**Pg**	**11 38 26.9**	**-0.3**
RATU	**Laukkuluspa**	**0.76**	**327**	*i* P	**Pg**	**11 38 26.9**	**-0.3**
KUA	**Kurravaara**	**0.78**	**351**	P	**Pg**	**11 38 27.1**	**-0.4**
KUA				S	**Sg**	**11 38 38.0**	**+0.5**
KUA	**Kurravaara**	**0.78**	**351**	*i* P	**Pg**	**11 38 27.1**	**-0.4**
KUA				*i* S	**Sg**	**11 38 38.0**	**+0.5**
SALU	**Saltoluokta**	**0.86**	**284**	P	**Pg**	**11 38 28.8**	**-0.3**
SALU	**Saltoluokta**	**0.86**	**284**	*i* P	**Pg**	**11 38 28.8**	**-0.3**
ERTU	**Ertsjaerv**	**0.88**	**136**	P	**Pg**	**11 38 28.9**	**-0.6**
ERTU	**Ertsjaerv**	**0.88**	**136**	*e*P	**Pg**	**11 38 28.8**	**-0.6**
ERTU				*e*S	**Sg**	**11 38 40.7**	**-0.2**
PAJU	**Pajala**	**0.97**	**99**	*e*P	**Pg**	**11 38 30.5**	**-0.7**
PAJU				*e*SB	**Sg**	**11 38 44.3**	**+0.5**
LANU	**Lannavaara**	**1.00**	**30**	P	**Pg**	**11 38 31.2**	**-0.6**
LANU	**Lannavaara**	**1.00**	**30**	*e*P	**Pg**	**11 38 31.1**	**-0.7**
LANU				*e*SB	**Sg**	**11 38 44.9**	**+0.3**
HARU	**Harads**	**1.04**	**173**	P	**Pg**	**11 38 31.6**	**-0.9**
HARU				S	**Sg**	**11 38 45.8**	**-0.2**
HARU	**Harads**	**1.04**	**173**	*e*P	**Pg**	**11 38 31.6**	**-0.9**
HARU				*e*S	**Sg**	**11 38 45.8**	**-0.2**
KOVU	**Salmi**	**1.05**	**350**	P	**Pg**	**11 38 32.2**	**-0.6**
KOVU	**Salmi**	**1.05**	**350**	*e*P	**Pg**	**11 38 32.2**	**-0.6**
KLF	**Kolari**	**1.28**	**87**	*e*P	**Pg**	**11 38 36.2**	**-1.1**
KLF				*e*SB	**Sg**	**11 38 53.5**	**-0.3**
HEF	**Hetta**	**1.67**	**42**	*e*P	**Pn**	**11 38 42.9**	**-0.2**
HEF	**Hetta**	**1.67**	**42**	*e*P	**Pn**	**11 38 42.7**	**-0.4**
HEF				*e*SG	**Sn**	**11 39 04.8**	**-0.4**
KALU	**Kalix**	**1.72**	**140**	P	**Pn**	**11 38 43.7**	**0.0**
KALU	**Kalix**	**1.72**	**140**	*e*P	**Pn**	**11 38 43.5**	**-0.2**
KALU				*e*SN	**Sb**	**11 39 07.3**	**+0.2**
SJUU	**Sjulsmark**	**1.73**	**167**	P	**Pn**	**11 38 43.9**	**-0.1**
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	**Pn**	**11 38 43.9**	**-0.1**
KIF	**Kilpisjarvi**	**1.82**	**2**	*e*P	**Pb**	**11 38 46.1**	**-0.6**
KIF	**Kilpisjarvi**	**1.82**	**2**	*e*P	**Pn**	**11 38 45.7**	**+0.6**
KIF				*e*SG	**Sg**	**11 39 11.6**	**+0.6**
KIF				MSG		11 39 13.0	
	comp=Z,15nm,0.2s						
TOF	**Tornio**	**1.84**	**126**	*e*P	**Pn**	**11 38 45.8**	**+0.4**
TOF				*e*SG	**Sb**	**11 39 11.0**	**+0.4**
TOF				MSG		11 39 12.1	
	comp=Z,22nm,0.3s						
LILU	**Lilltraesk**	**1.94**	**190**	P	**Pn**	**11 38 47.1**	**+0.2**
LILU	**Lilltraesk**	**1.94**	**190**	*e*P	**Pn**	**11 38 47.1**	**+0.2**
KTK1	**Kautokeino**	**2.07**	**27**	*e*PB	**Pb**	**11 38 49.8**	**-1.1**
KTK1				*e*SG	**Sb**	**11 39 17.6**	**+0.4**
RNF	**Rovaniemi**	**2.19**	**103**	*e*PB	**Pn**	**11 38 51.0**	**+0.8**
RNF				*e*SG	**Sb**	**11 39 21.0**	**+0.3**
RNF				MSG		11 39 22.5	
	comp=Z,12nm,0.2s						
SGF	**Sodankyl**	**2.29**	**81**	*e*P	**Pn**	**11 38 52.5**	**+1.0**
SGF				*e*SG	**Sb**	**11 39 23.9**	**+0.4**
TRO	**Tromso**	**2.53**	**346**	*e*PB	**Pb**	**11 38 57.9**	**-1.0**
TRO				*e*S	**Sn**	**11 39 27.9**	**+1.4**
BURU	**Burvik**	**2.64**	**173**	*e*P	**Pn**	**11 38 57.2**	**+0.8**
BURU				*e*SG	**Sb**	**11 39 34.4**	**+0.9**
ARA0	**ARCESS Array S**	**2.96**	**35**	*e*P	**Pn**	**11 39 01.8**	**+1.0**
ARA0				*e*S	**Sn**	**11 39 36.9**	**-0.1**
ARCES	**ARCESS Array B**	**2.96**	**35**	Pn	**Pn**	**11 39 01.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=215,slow=13,SNR=50						
ARCES				Sn	**Sn**	**11 39 37.3**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=217,slow=25,SNR=9.8						
	comp=Z,0.7nm,0.3s						
OBF4	**Vikkela, Lumij**	**3.00**	**141**	*e*P	**Pn**	**11 39 01.8**	**+0.5**
OUL	**Oulu**	**3.00**	**132**	*e*P	**Pn**	**11 39 02.1**	**+0.8**
OUF	**Merijarvi**	**3.29**	**148**	*e*PG	**Pb**	**11 39 11.3**	**-0.6**
OUF				*e*SG	**Sb**	**11 39 55.3**	**+2.8**
UMAU	**Umeaa**	**3.33**	**180**	*e*P	**Pn**	**11 39 06.3**	**+0.5**
UMAU				*e*S	**Sn**	**11 39 45.7**	**-0.2**
KEV	**Kevo**	**3.48**	**39**	*e*P	**Pn**	**11 39 08.7**	**+0.8**
KEV				*e*S	**Sn**	**11 39 50.2**	**+0.6**
VRF	**Varrio**	**3.49**	**77**	*e*PG	**Pb**	**11 39 15.6**	**+0.4**
VRF				*e*SG	**Sb**	**11 39 59.4**	**+1.3**
OLKF	**Oulanka, Finla**	**3.57**	**100**	*e*P	**Pn**	**11 39 10.0**	**+0.8**
OLKF				*e*S	**Sn**	**11 39 53.5**	**+1.5**
MSF	**Maaselka**	**3.59**	**107**	*e*PG	**Pb**	**11 39 17.4**	**+0.5**
MSF				*e*SG	**Sb**	**11 40 03.0**	**+2.2**
KUI6	**Riekki**	**3.86**	**103**	*e*P	**Pn**	**11 39 13.6**	**+0.4**
KUI6				*e*S	**Sn**	**11 40 00.2**	**+1.0**
VAF	**Ylistaro**	**4.25**	**168**	*e*P	**Pn**	**11 39 19.4**	**+0.8**
HEMU	**Hemsoen**	**4.67**	**195**	*e*P	**Pn**	**11 39 25.1**	**+0.8**
HEMU				*e*S	**Sn**	**11 40 18.5**	**-0.6**
KPF	**Kankaanpaa**	**5.42**	**173**	*e*P	**Pn**	**11 39 35.0**	**+0.5**
JOF	**Joensuu**	**6.21**	**129**	*e*P	**Pn**	**11 39 45.4**	**-0.1**
FINES	**FINESS Array B**	**6.23**	**155**	Pn	**Pn**	**11 39 46.4**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=349,slow=14,SNR=11						
FINES				Sn	**Sn**	**11 40 55.4**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=348,slow=25,SNR=6.6						
FINES				Lg	Lg	11 41 27.3	
	comp=Z,0.4nm,0.3s,baz=345,slow=28,SNR=6.3						
	comp=Z,0.8nm,0.3s						
NOA	**NORSAR Array B**	**7.42**	**218**	Pn	**Pn**	**11 40 02.9**	**+0.7**
	baz=19,slow=10,SNR=1.5						
NOA				Sn	**Sn**	**11 41 25.9**	**-1.1**
	baz=38,slow=23,SNR=1.6						
NOA				Lg	Lg	11 42 11.0	
	baz=44,slow=26,SNR=3.6						
	comp=Z,0.5nm,0.9s						
HFS	**Hagfors**	**7.73**	**207**	Pn	**Pn**	**11 40 04.7**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=24,slow=14,SNR=2.5						
HFS				Sn	**Sn**	**11 41 30.7**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=24,slow=22,SNR=5.2						
	comp=Z,3.8nm,1.0s						

IDC 25 11:39:03.4±2.7, 4°03N×126°74E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=224.8km s-min=29.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.96**	**163**	P	P	11 44 28.0	-0.8
	0.2nm,0.5s,baz=341,slow=10,SNR=7.4						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**28.39**	**166**	P	P	11 45 00.7	+0.9
	0.3nm,1.0s,baz=344,slow=12,SNR=1.8						
	0.3nm,1.0s						
MKAR	**Makanchi Array**	**57.32**	**325**	P	P	11 48 53.3	0.0
	0.3nm,0.7s,baz=124,slow=7.2,SNR=2.6						
	0.3nm,0.7s						

*NEIC **25** 11:52:58.9±2.7, 3°64N±0°07×127°33E±0°05, h18km±6km, mb4.4/20, Error ellipse: s-maj=11.7km s-min=5.2km az=212.0*

*IDC **25** 11:53:08.4±2.3, 3°44N×127°55E, h120km±20km, mb3.7/10, mbtmp4.1/11, MS3.7/2, Error ellipse: s-maj=64.3km s-min=11.4km az=69.0*

ISC 25 11:52:57.0±0.5, 3°65N±0°06×127°3E±0°1, h10km, n46, σ1s49/41, mb4.3/18, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.86**	**178**	Pn	**Pn**	**11 53 43.1**	**+0.4**
DAV	**Davao City (W)**	**3.80**	**333**	Pn	**Pn**	**11 53 55.9**	**+0.3**
DAV	**Davao City (W)**	**3.80**	**333**	P	**Pg**	**11 54 09.9**	**+0.1**
	118nm,0.5s,baz=120,slow=14,SNR=2.2						
DAV				S	**Sg**	**11 54 57.1**	**-1.9**
	115nm,0.4s,baz=246,slow=17,SNR=3.6						
LUWI	**Luwuk**	**6.49**	**224**	Pn	Pn	11 54 37.6	+5.0
TOLI2	**Tolitoli**	**6.98**	**249**		**Pn**	**11 54 40.2**	**+0.8**
FAKI	**Fak Fak**	**8.20**	**143**	Pn	**Pn**	**11 54 58.2**	**+2.1**
MYLDM	**Lahad Datu**	**8.89**	**280**	Pn	Pn	11 55 10.1	+4.4
KAPI	**Kappang**	**11.44**	**221**	LR	LR	12 01 17.6	
	comp=Z,54nm,18.3s,baz=34,slow=43						
MTN	**Manton Dam**	**16.83**	**167**	P	**Pn**	**11 56 52.1**	**-0.8**
MTN				IAmb	IAmb	11 57 30.2	
	comp=Z,52nm,1.4s						
KNRA	**Kununurra**	**19.26**	**176**	P	**Pn**	**11 57 21.6**	**-1.2**
GUMO	**Guam**	**19.97**	**59**	LR	LR	12 04 04.8	
	comp=Z,55nn,20.3s,baz=272,slow=33						
YULB	**Yu-li**	**20.46**	**344**	P	**P**	**11 57 33.8**	**-1.1**
TPUB	**Ta-pu**	**20.57**	**342**		**P**	**11 57 36.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**21.68**	**184**	P	**P**	**11 57 49.8**	**+1.8**
PMG	**Port Moresby**	**23.67**	**123**	LR	LR	12 07 08.1	
	comp=Z,16nn,19.3s,baz=258,slow=36						
WB0	**Warramunga Arr**	**24.30**	**164**	P	**P**	**11 58 13.0**	**-1.9**
WB0				IAmb	IAmb	11 58 28.4	
	comp=Z,6.3nm,0.8s						
WRAB	**Tennant Creek**	**24.45**	**164**	P	**P**	**11 58 14.5**	**-1.6**
WRAB				IAmb	IAmb	11 58 40.5	
	comp=Z,9.1nm,1.1s						
WRA	**Warramunga Arr**	**24.45**	**164**	P	**P**	**11 58 14.3**	**-1.9**
WRA	**Warramunga Arr**	**24.45**	**164**	P	**P**	**11 58 13.5**	**-2.7**
	comp=Z,2.2nm,0.8s,baz=343,slow=10,SNR=13						
	comp=Z,2.2nm,0.8s						
WB2	**Warramunga Arr**	**24.45**	**164**	P	**P**	**11 58 14.2**	**-2.1**
WB2				IAmb	IAmb	11 58 15.8	
	comp=Z,18nm,1.4s						
WR0	**Warramunga Arr**	**24.52**	**163**	P	**P**	**11 58 14.6**	**-2.3**
WR0				IAmb	IAmb	11 58 42.0	
	comp=Z,12nm,1.4s						
AS31	**Alice Springs**	**27.91**	**167**	P	**P**	**11 58 47.2**	**-0.3**
ASAR	**Alice Springs**	**27.91**	**167**	P	**P**	**11 58 48.3**	**+0.8**
ASAR	**Alice Springs**	**27.91**	**167**	P	**P**	**11 58 45.0**	**-2.4**
	comp=Z,0.3nm,0.5s,baz=342,slow=6.8,SNR=10						
	comp=Z,0.3nm,0.5s						
STKA	**Stephens Creek**	**37.86**	**160**	P	**P**	**12 00 11.7**	**-2.5**
STKA	**Stephens Creek**	**37.86**	**160**	P	**P**	**12 00 11.2**	**-3.0**
	comp=Z,1.6nm,0.8s,baz=333,slow=9.9,SNR=6.6						
	comp=Z,1.6nm,0.8s						
KLR	**Kul'dur**	**45.57**	**4**	P	**P**	**12 01 18.0**	**+1.0**
	comp=Z,2.1nm,0.8s,baz=188,slow=2.1,SNR=4.0						
	comp=Z,2.1nm,0.8s						
SONM	**Songino Array**	**47.55**	**341**	P	**P**	**12 01 31.4**	**-1.4**
SONM				IAmb	IAmb	12 01 36.2	
	comp=Z,3.0nm,1.2s						
SONM	**Songino Array**	**47.55**	**341**	P	**P**	**12 01 33.5**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=156,slow=8.6,SNR=9.0						
	comp=Z,1.6nm,0.9s						
MK31	**Makanchi Array**	**57.94**	**325**	P	**P**	**12 02 49.8**	**+0.2**
MK31				IAmb	IAmb	12 03 10.1	
	comp=Z,4.1nm,1.1s						
MKAR	**Makanchi Array**	**57.94**	**325**	P	**P**	**12 02 50.0**	**+0.4**
MKAR	**Makanchi Array**	**57.94**	**325**	P	**P**	**12 02 50.6**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=118,slow=7.8,SNR=11						
	comp=Z,0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**60.91**	**333**	P	**P**	**12 03 09.8**	**0.0**
	comp=Z,1.0nm,0.5s,baz=106,slow=4.8,SNR=6.8						
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**62.10**	**327**	P	**P**	**12 03 18.6**	**+0.6**
	comp=Z,1.8nm,0.4s,baz=127,slow=6.4,SNR=8.5						
	comp=Z,1.8nm,0.4s						
BVAR	**Borovoye Array**	**67.69**	**327**	P	**P**	**12 03 54.7**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=131,slow=6.8,SNR=9.9						
	comp=Z,2.4nm,0.8s						
BRVK	**Borovoye**	**67.76**	**327**	P	**P**	**12 03 55.0**	**+0.1**
BRVK				IAmb	IAmb	12 03 57.8	
	comp=Z,4.9nm,1.1s						
NRIK	**Noril'sk**	**70.64**	**346**	P	**P**	**12 04 12.4**	**0.0**
	comp=Z,2.6nm,0.6s,baz=134,slow=4.3,SNR=7.5						
	comp=Z,2.6nm,0.6s						
ABKAR	**Akbulak array**	**72.56**	**321**	P	**P**	**12 04 24.5**	**+0.1**
ARU	**Arti**	**75.30**	**328**	P	**P**	**12 04 40.9**	**+0.6**
E19K	**Redstone River**	**81.09**	**22**	P	**P**	**12 05 14.0**	**+1.8**
E19K				IAmb	IAmb	12 05 16.6	
	comp=Z,6.0nm,1.0s						
VNDA	**Vanda**	**83.28**	**173**	P	**P**	**12 05 23.3**	**-0.1**
H24K	**Noodor Dome**	**84.56**	**24**	P	**P**	**12 05 32.0**	**+1.8**
H24K				IAmb	IAmb	12 05 34.2	
	comp=Z,5.0nm,1.4s						
IL31	**Eielson Array**	**84.93**	**25**	P	**P**	**12 05 33.9**	**+1.9**
ILAR	**Eielson Array**	**84.93**	**25**	P	**P**	**12 05 32.8**	**+0.7**
MLR	**Muntele Rosu**	**95.34**	**316**	LR	LR	12 54 56.6	
	comp=Z,164nm,19.3s,baz=128,slow=39						
TORD	**Torodi Ar. Bea**	**123.47**	**288**	PKP	**PKPdf**	**12 11 53.9**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=86,slow=1.9,SNR=2.2						

*SKHL **25** 12:00:56.9±0.2, 48°20N×155°20E, h55km±5km, mb5.1/8*
*KRSC **25** 12:00:57.2±2.4, 48°32N×156°66E, h16km±33km, Ml4.8*
*MOS **25** 12:00:58.2±1.0, 48°45N×154°92E, h55km, mb4.7/18, MS3.6/5, Error ellipse: s-maj=8.9km s-min=4.0km az=77.9*
*IDC **25** 12:01:00.6±2.5, 48°48N×154°78E, h64km±21km, mb3.7/21, mbtmp4.1/26, MS3.7/19, Error ellipse: s-maj=19.7km s-min=12.4km az=158.0*
*NEIC **25** 12:01:00.1±1.6, 48°43N±0°09×154°8E±0°1, h55km±5km, mb4.6/27, Error ellipse: s-maj=13.7km s-min=9.9km az=165.0*
*BGR **25** 12:01:02.9, 49°02N×154°38E, h33km, mb4.9*

ISC 25 12:00:58.1±0.5, 48°33N±0°05×155°03E±0°05, h43km, n254, σ1s34/253, mb4.4/64, MS3.8/18, 6C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.46**	**16**	*e*P	**Pn**	**12 01 35.6**	**0.0**
SKR				*e*S	**Sn**	**12 02 04.3**	**-0.1**
SKR	**Severo-Kuril's**	**2.46**	**16**	*e*P	**Pn**	**12 01 35.0**	**-0.6**
SKR				AMB	AMB	12 01 38.4	
	140nm,0.2s						
SKR				*e*S	**Sn**	**12 02 03.4**	**-1.0**
SKR				A	A	12 02 12.0	
	510nm,0.4s						
SKR				A	A	12 02 12.0	
	700nm,0.4s						
SKR	**Severo-Kuril's**	**2.46**	**16**	*ce*PN	**Pn**	**12 01 36.4**	**+0.8**
PAU	**Pauzhetka**	**3.34**	**19**	*e*P	**Pn**	**12 01 48.7**	**+0.9**
PAU				*e*S	**Sn**	**12 02 26.9**	**+0.7**
PAU	**Pauzhetka**	**3.34**	**19**	*e*P	**Pn**	**12 01 48.7**	**+0.9**
PAU				AMB	AMB	12 01 51.8	
	140nm,0.4s						
PAU				*e*S	**Sn**	**12 02 27.2**	**+1.0**
PAU				A	A	12 02 41.4	
	520nm,0.4s						
PAU				A	A	12 02 41.4	
	460nm,0.4s						
PAU	**Pauzhetka**	**3.34**	**19**	PN	**Pn**	**12 01 48.7**	**+0.9**
PAU				S	**Sn**	**12 02 26.9**	**+0.7**
KDTR	**Khodutka, Kamc**	**4.00**	**28**	*e*P	**Pn**	**12 01 56.3**	**-0.5**
KDTR				*e*S	**Sn**	**12 02 40.8**	**-1.5**
KDTR	**Khodutka, Kamc**	**4.00**	**28**	PN	**Pn**	**12 01 56.3**	**-0.5**
KDTR				S	**Sn**	**12 02 40.8**	**-1.5**
ASAK	**Asacha**	**4.45**	**23**	*e*P	**Pn**	**12 02 03.9**	**+0.8**
ASAK	**Asacha**	**4.45**	**23**	PN	**Pn**	**12 02 03.9**	**+0.8**
GRL	**Gorelyy**	**4.65**	**24**	*e*P	**Pn**	**12 02 06.6**	**+0.8**
GRL	**Gorelyy**	**4.65**	**24**	PN	**Pn**	**12 02 06.6**	**+0.8**
RUS	**Russkaya**	**4.67**	**27**	*e*P	**Pn**	**12 02 04.9**	**-1.1**
RUS				*e*S	**Sn**	**12 02 57.5**	**-1.4**
RUS	**Russkaya**	**4.67**	**27**	PN	**Pn**	**12 02 04.9**	**-1.1**
RUS				S	**Sn**	**12 02 57.5**	**-1.4**
APC	**Apacha**	**4.79**	**16**	*e*P	**Pn**	**12 02 09.8**	**+2.1**
APC	**Apacha**	**4.79**	**16**	PN	**Pn**	**12 02 09.8**	**+2.1**
KRMR

YUK AMB AMB 12 02 47.9
comp=E,100nm,0.4s
YSS Yuzh-Sakhalins 8.41 265 Pn **Pn 12 02 56.8 -0.5**
YSS Yuzh-Sakhalins 8.41 265 *eP* **Pn 12 02 59.0 +1.8**
YSS AMB AMB 12 03 02.7
comp=E,20nm,0.5s
YSS *eS* **Sn 12 04 28.9 -1.8**
YSS A A 12 04 40.2
comp=E,50nm,0.5s
YSS A A 12 04 40.2
comp=E,40nm,0.5s
YSS AMS AMS 12 05 47.0
comp=E,4µm,20.0s
YSS Yuzh-Sakhalins 8.41 265 *e*PN **Pn 12 02 59.1 +1.8**
YSS pmax pmax
comp=Z,90nm,1.4s
YSS MLR MLR
comp=Z,4µm,22.0s
TYV Tymovskoe 8.43 292 *eP* **Pn 12 02 59.9 +2.3**
TYV AMB AMB 12 03 03.2
comp=Z,20nm,0.7s
TYV *eS* **Sn 12 04 31.4 +0.1**
TYV A A 12 04 34.8
comp=Z,10.0nm,0.6s
TYV A A 12 04 34.8
comp=Z,10.0nm,0.6s
TYV A A 12 04 35.3
comp=Z,600nm,6.0s
TYV A A 12 04 35.3
comp=Z,400nm,6.0s
TYV Tymovskoe 8.43 292 *e*PN **Pn 12 02 59.9 +2.3**
TYV pmax pmax
comp=Z,47nm,1.3s
SRDR Sredinnyy 8.50 18 *eP* **Pn 12 03 02.5 +4.0**
SRDR Sredinnyy 8.50 18 PN **Pn 12 03 02.5 +4.0**
KBTR Krutoberegovo 9.21 28 *eP* **Pn 12 03 07.8 -0.5**
KBTR Krutoberegovo 9.21 28 PN **Pn 12 03 07.8 -0.5**
OKH Okha 9.25 309 *eP* **Pn 12 03 10.9 +2.2**
OKH AMB AMB 12 03 12.6
comp=Z,40nm,0.3s
OKH *eS* **Sn 12 04 51.5 +0.2**
OKH A A 12 04 58.8
comp=Z,30nm,0.6s
OKH A A 12 04 58.8
comp=Z,70nm,0.6s
OKH AMS AMS 12 08 05.8
comp=Z,1µm,15.0s
OKH AMS AMS 12 08 05.8
comp=Z,600nm,15.0s
OKH Okha 9.25 309 *de*PN **Pn 12 03 10.8 +2.1**
OKH MLR MLR
comp=E,1µm,14.0s
OKH MLR MLR
comp=Z,600nm,15.0s
JKA Kamikawa-asahi 9.59 249 Pn **Pn 12 03 14.6 +1.1**
ASAJ Asahikawa 9.59 249 P **Pn 12 03 15.2 +1.7**
comp=Z,21nm,0.5s,baz=70,slow=15,SNR=17
ASAJ S **Sn 12 05 04.4 +4.5**
comp=Z,18nm,1.0s,baz=75,slow=30,SNR=1.2
ASAJ LR LR 12 06 40.3
comp=Z,508nm,19.0s,baz=116,slow=36
NKL Nikolayevsk 10.29 303 *eP* **Pn 12 03 25.7 +2.7**
NKL AMB AMB 12 03 27.5
comp=Z,10.0nm,0.7s
ERM Erimo 10.49 237 Pn **Pn 12 03 28.3 +2.5**
ERM Erimo 10.49 237 PN **Pn 12 03 28.3 +2.5**
MA2 Magadan 11.54 349 Pn **Pn 12 03 41.6 +1.5**
MA2 Magadan 11.54 349 *eP* **Pn 12 03 41.6 +1.5**
MA2 Magadan 11.54 349 PN **Pn 12 03 41.6 +1.5**
MA2 Magadan 11.54 349 P **Pn 12 03 39.9 -0.1**
comp=Z,3.1nm,0.4s,baz=143,slow=20,SNR=4.3
MA2 LR LR 12 08 38.8
comp=Z,402nm,18.6s,baz=178,slow=40
JTM Tenmabayashi 12.48 238 Pn Pn 12 03 48.6 -4.4
SHEM Shemya Is, Ala 12.89 63 LR LR 12 08 47.1
comp=Z,218nm,21.4s,baz=304,slow=36
SEY Seymchan 14.71 355 P **Pn 12 04 23.0 -0.1**
comp=Z,5.0nm,1.0s,baz=171,slow=19,SNR=4.3
SEY LR LR 12 10 12.7
comp=Z,396nm,21.3s,baz=130,slow=38
KLR Kul'dur 15.37 282 P **P 12 04 34.1 -1.7**
comp=Z,8.0nm,1.1s,baz=58,slow=11,SNR=8.1
KLR LR LR 12 10 32.6
comp=Z,352nm,19.8s,baz=86,slow=38
USA0B Ussuriysk Arra 16.44 264 P **P 12 04 48.7 +0.9**
USA0B Ussuriysk Arra 16.44 264 P **P 12 04 48.7 +0.9**
USA0B pmax pmax
comp=Z,13nm,0.7s
USRK Ussuriysk Ar. 16.44 264 P **P 12 04 47.5 -0.3**
USRK Ussuriysk Ar. 16.44 264 P **Pn 12 04 47.5 -0.3**
USRK Ussuriysk Ar. 16.44 264 P **Pn 12 04 46.0 +0.5**
comp=Z,8.9nm,0.7s,baz=69,slow=11,SNR=15
USRK LR LR 12 10 36.0
comp=Z,207nm,20.1s,baz=55,slow=35
MJA0 Matsu Arr-Jizo 17.05 232 *eP* **Pn 12 04 51.1 -2.2**
MJA0 pmax pmax
comp=Z,4.0nm,0.9s
MJAR Matsushiro Arr 17.07 233 P **Pn 12 04 48.7 -4.8**
comp=Z,4.4nm,0.9s,baz=33,slow=14,SNR=6.6
MDJ Mudanjiang 17.88 268 P **Pn 12 05 03.0 -0.5**
MDJ pmax pmax
comp=Z,18nm,1.8s
MDJ pmax pmax
comp=Z,620nm,5.2s
HEH HeiHe 18.08 286 *eP* **P 12 05 06.5 +0.7**
HEH pmax pmax
comp=Z,16nm,0.9s
ZEA Zeya 18.23 298 *eP* **Pn 12 05 10.3 +2.8**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=E,500nm,17.0s
ZEA MLR MLR
comp=Z,500nm,16.0s
YAK Yakutsk 19.76 323 *eP* **Pn 12 05 26.1 +0.2**
YAK Yakutsk 19.76 323 *eP* **Pn 12 05 26.1 +0.2**
YAK *eS* **Sn 12 09 05.7 -1.0**
YAK pmax pmax
comp=Z,14nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK smax smax
comp=E,279nm,3.9s
YAK MLR MLR
comp=Z,202nm,20.0s
YAK Yakutsk 19.76 323 P **P 12 05 22.4 -1.6**
comp=Z,0.4nm,0.5s,baz=112,slow=1.7,SNR=1.9
YAK LR LR 12 12 45.8
comp=Z,8.8nm,21.7s,baz=126,slow=36
KSRS Korea Array 22.52 251 P **P 12 05 53.6 -0.4**
comp=Z,13nm,0.9s,baz=50,slow=9.5,SNR=16
KSRS LR LR 12 14 11.5
comp=Z,237nm,18.9s,baz=60,slow=35
comp=Z,13nm,0.9s
KSAR Wonju Array Be 22.56 251 P **P 12 05 53.2 -1.2**
KSAR Wonju Array Be 22.56 251 P **P 12 05 53.2 -1.2**
JCJ Chichijima 23.45 210 LR LR 12 13 44.9
comp=Z,45nm,20.9s,baz=12,slow=32
JNU Nakatsue 23.65 239 P **P 12 06 04.6 -0.8**
JNU Nakatsue 23.65 239 LR LR 12 15 28.0
comp=Z,142nm,18.1s,baz=39,slow=37
TIXI Tiksi 26.35 342 LR LR 12 18 11.0
comp=Z,10nm,18.0s,baz=140,slow=39
C18K Utukok River 29.60 31 P **P 12 06 59.3 +0.6**
H11N2 WAKE ISLAND Hy 30.10 157 T T 12 38 42.8
baz=345,slow=76,SNR=121
H11N1 WAKE ISLAND Hy 30.12 157 T T 12 38 49.5
baz=345,slow=76,SNR=204
H11N3 WAKE ISLAND Hy 30.12 157 T T 12 38 53.6
baz=345,slow=76,SNR=129
H11S1 WAKE ISLAND Hy 31.22 158 T T 12 40 15.6
baz=345,slow=76,SNR=1372
H11S3 WAKE ISLAND Hy 31.23 158 T T 12 40 14.8
baz=345,slow=76,SNR=1591
H11S2 WAKE ISLAND Hy 31.24 158 T T 12 40 15.5
baz=345,slow=76,SNR=1375
HHC Hu-ho-hao-te 31.50 273 *eP* **P 12 07 15.8 0.0**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,110nm,3.6s
HHC LR LR
comp=N,340nm,15.7s
HHC LR LR
comp=E,490nm,15.3s
HHC LR LR
comp=Z,590nm,15.7s
ULN Ulaanbaatar 31.64 287 *eP* **P 12 07 15.9 -1.1**
ULN Ulaanbaatar 31.64 287 *ceP* **P 12 07 15.9 -1.1**
ULN pmax pmax
comp=Z,9.0nm,2.5s
NJ2 Nanjing 31.71 252 *eP* **P 12 07 18.0 +0.4**
NJ2 pP **pP 12 07 28.3 -0.9**
NJ2 pmax pmax
comp=Z,13nm,0.5s
IMAR Indian Mountai 31.72 37 P **P 12 07 17.2 -0.2**
SONM Songino Array 32.06 288 P **P 12 07 19.0 -1.8**
SONM Songino Array 32.06 288 P **P 12 07 19.0 -1.8**
comp=Z,0.7nm,0.7s,baz=130,slow=14,SNR=5.7
comp=Z,0.7nm,0.7s
B21K Ikpikpuk River 32.14 30 P **P 12 07 22.3 +1.3**
B21K IAmb IAmb 12 07 22.7
comp=Z,19nm,1.3s
E22K Anaktuvuk Pass 32.81 34 P **P 12 07 28.5 +1.5**
ILAR Eielson Array 34.50 40 *eP* **P 12 07 42.7 +1.1**
ILAR pmax pmax
comp=Z,1.0nm,1.1s
ILAR Eielson Array 34.50 40 P **P 12 07 42.3 +0.7**
comp=Z,0.9nm,1.1s,baz=275,slow=8.5,SNR=6.1
ILAR LR LR 12 24 46.7
comp=Z,109nm,18.2s,baz=258,slow=41
comp=Z,0.9nm,1.1s
NRIK Noril'sk 38.09 328 LR LR 12 25 20.1
comp=Z,87nm,18.9s,baz=131,slow=38
LZH Lanzhou 39.15 271 *eP* **P 12 08 22.0 +0.4**
LZH pP pP 12 08 35.5 +2.1
LZH pmax pmax
comp=Z,9.0nm,1.4s
F31M Tsiigehtchic 39.65 35 P **P 12 08 28.1 +3.0**
A36M Sachs Harbour 41.85 27 P **P 12 08 44.9 +1.6**
A36M IAmb IAmb 12 08 45.8
comp=Z,6.3nm,0.9s
ZALV Zalesovo Beam 42.76 305 LR LR 12 27 29.1
comp=Z,106nm,20.8s,baz=97,slow=37
DGZ Jazzator, Alta 42.99 298 *i* P **P 12 08 52.2 -0.8**
DGZ pmax pmax
comp=Z,1.0nm,0.3s
GYA Guiyang 43.33 258 P **P 12 08 55.3 -0.7**
GYA pmax pmax
comp=Z,18nm,1.3s
GOMU GeErMu 45.09 278 P **P 12 09 09.5 -0.8**
GOMU pP pP 12 09 13.5 -8.7
GOMU sP sP 12 09 16.0 -11
GOMU PP **PP 12 11 00.3 +4.3**
GOMU S S 12 14 59.5 -47
GOMU pmax pmax
comp=Z,4.0nm,0.8s
GOMU LR LR
comp=N,260nm,11.5s
GOMU LR LR
comp=E,200nm,11.6s
GOMU LR LR
comp=Z,180nm,12.2s
WMQ Urumqi 45.57 291 *eP* **P 12 09 13.0 -0.7**
WMQ pmax pmax
comp=Z,9.0nm,0.9s
PZH PanZhiHua 46.53 262 P **P 12 09 23.8 +2.4**
PZH pmax pmax
comp=Z,20nm,0.8s
MK31 Makanchi Array 47.38 297 P **P 12 09 26.5 -1.2**
MK31 IAmb IAmb 12 09 26.8
comp=Z,4.7nm,1.1s
MK31 Makanchi Array 47.38 297 P **P 12 09 26.5 -1.2**
MK31 pmax pmax
comp=Z,5.0nm,1.1s
MKAR Makanchi Array 47.38 297 P **P 12 09 26.3 -1.4**
MKAR Makanchi Array 47.38 297 *eP* **P 12 09 26.4 -1.4**
MKAR Makanchi Array 47.38 297 *eP* **P 12 09 26.4 -1.4**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 47.38 297 P **P 12 09 25.8 -1.9**
comp=Z,1.8nm,0.7s,baz=41,slow=3.4,SNR=16
comp=Z,1.8nm,0.7s
KURK Kurchatov 47.58 303 *eP* **P 12 09 28.5 -0.7**
KURK Kurchatov 47.58 303 *ceP* **P 12 09 28.5 -0.7**
KURK pmax pmax
comp=Z,11nm,1.4s
KURBB Kurchatov Arra 47.67 303 P **P 12 09 28.1 -1.8**
comp=Z,2.1nm,0.7s,baz=66,slow=8.4,SNR=9.0
comp=Z,2.1nm,0.7s
YKA Yellowknife Ar 48.88 38 *eP* **P 12 09 40.2 +1.2**
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 48.88 38 P **P 12 09 39.5 +0.5**
comp=Z,1.6nm,0.9s,baz=298,slow=7.7,SNR=14
comp=Z,1.6nm,0.9s
RES Resolute Bay 48.92 19 P **P 12 09 39.8 +0.6**
RES IAmb IAmb 12 10 02.4
comp=Z,8.1nm,1.5s
RES Resolute Bay 48.92 19 P **P 12 09 39.8 +0.6**
RES pmax pmax
comp=Z,8.0nm,1.5s
RES Resolute Bay 48.92 19 LR LR 12 32 04.9
comp=Z,96nm,20.4s,baz=5.5,slow=38
BVAR Borovoye Array 50.86 309 P **P 12 09 53.0 -1.3**
BVAR Borovoye Array 50.86 309 P **P 12 09 53.0 -1.3**
comp=Z,0.9nm,0.4s,baz=44,slow=8.8,SNR=8.0
comp=Z,0.9nm,0.4s
BRVK Borovoye 50.90 309 P **P 12 09 54.6 +0.1**
BRVK Borovoye 50.90 309 *ceP* **P 12 09 52.8 -1.7**
BRVK pmax pmax
comp=Z,7.0nm,1.9s
SPITS Spitsbergen Ar 51.28 350 P **P 12 09 55.7 -1.4**
comp=Z,4.3nm,0.9s,baz=67,slow=11,SNR=0.8
comp=Z,4.3nm,0.9s
BOOM Boomskoye usch 53.51 295 P **P 12 10 13.4 -0.9**
BOOM IAmb IAmb 12 10 14.4
comp=Z,4.0nm,1.0s
BOOM Boomskoye usch 53.51 295 P **P 12 10 13.4 -0.9**
BOOM pmax pmax
comp=Z,4.0nm,1.0s
CHTO Chiang Mai 53.74 257 P **P 12 10 16.2 +0.2**
CHTO Chiang Mai 53.74 257 P **P 12 10 16.2 +0.2**
CHTO pmax pmax
comp=Z,12nm,1.1s
CMAR Chiang Mai Arr 54.00 257 P **P 12 10 17.9 0.0**
comp=Z,0.6nm,0.3s,baz=30,slow=7.5,SNR=6.5
AAK Ala-Archa 54.30 296 *eP* **P 12 10 18.9 -1.1**
AAK Ala-Archa 54.30 296 *i* P **P 12 10 18.9 -1.1**
AAK pmax pmax
comp=Z,13nm,3.9s
JIRN Jiri 56.11 275 *eP* **P 12 10 33.2 -0.3**
comp=Z,6.3nm,0.3s
GUN Gumba 56.15 275 *eP* **P 12 10 33.1 -0.7**
RAMN Ramite 56.31 274 *eP* **P 12 10 34.9 +0.1**
comp=Z,5.2nm,0.3s
PKI Pulchoki 56.69 275 *eP* **P 12 10 36.9 -0.7**
ARCES ARCESS Array B 56.78 341 P **P 12 10 35.8 -1.5**
comp=Z,4.7nm,1.0s,baz=47,slow=7.9,SNR=2.3
ARCES LR LR 12 40 27.5
comp=Z,136nm,18.9s,baz=36,slow=42
comp=Z,4.7nm,1.0s
GKN Gorkha 56.92 276 *eP* **P 12 10 38.6 -0.4**
comp=Z,12nm,0.4s
DANN Dangsing 57.27 277 *eP* **P 12 10 41.4 -0.2**
comp=Z,29nm,0.8s
GDXM Geysers 57.60 66 P **P 12 10 46.1 +2.6**
KOLN Koldanda 57.76 277 *e*Pg **P 12 10 44.3 -0.7**
PYUN Piuthan 57.95 277 *eP* **P 12 10 45.7 -0.6**
SUMG Summit 59.02 5 P **P 12 10 52.8 -0.6**
SUMG Summit 59.02 5 P **P 12 10 52.8 -0.6**
SUMG pmax pmax
comp=Z,12nm,1.2s
SUMG Summit 59.02 5 *i* P **P 12 10 53.0 -0.4**
NVAR Mina Array Bea 60.56 64 P **P 12 11 05.0 +0.8**
comp=Z,0.2nm,0.5s,baz=316,slow=4.1,SNR=3.5
comp=Z,0.2nm,0.5s
PD31 Pinedale Array 62.77 56 P **P 12 11 20.4 +1.3**
PD31 IAmb IAmb 12 11 21.2
comp=Z,3.9nm,1.1s
PDAR Pinedale Array 62.77 56 P **P 12 11 19.9 +0.8**
PDAR Pinedale Array 62.77 56 P **P 12 11 19.8 +0.7**
comp=Z,2.6nm,1.1s,baz=299,slow=3.1,SNR=10
comp=Z,2.6nm,1.1s
FRB Frobisher Bay 63.12 20 LR LR 12 40 34.6
comp=Z,86nm,21.4s,baz=334,slow=38
FINES FINESS Array B 63.16 335 *eP* **P 12 11 21.1 +0.1**
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 63.16 335 P **P 12 11 20.4 -0.6**
comp=Z,1.4nm,0.8s,baz=35,slow=7.0,SNR=6.2
comp=Z,1.4nm,0.8s
SFJD Kangerlussuaq 63.36 11 LR LR 12 40 59.9
comp=Z,88nm,19.8s,baz=0.5,slow=38
MPU Maple Canyon 63.44 59 P **P 12 11 24.2 +0.7**
RSSD Black Hills 64.81 51 P **P 12 11 33.4 +0.9**
RSSD Black Hills 64.81 51 P **P 12 11 33.4 +0.9**
RSSD pmax pmax
comp=Z,11nm,1.2s
NOA NORSAR Array B 67.14 342 P **P 12 11 46.4 -0.5**
comp=Z,0.9nm,0.8s,baz=47,slow=8.5,SNR=4.3
NOA LR LR 12 45 21.1
comp=Z,56nm,20.1s,baz=105,slow=40
comp=Z,0.9nm,0.8s
HFS Hagfors 67.42 340 P **P 12 11 48.5 -0.1**
comp=Z,3.1nm,1.0s,baz=60,slow=8.5,SNR=2.0
comp=Z,3.1nm,1.0s
ANMO Albuquerque 69.91 60 *ce*P **P 12 12 06.2 +1.4**
ANMO pmax pmax
comp=Z,7.0nm,2.5s
AKASG Malin Array Be 70.94 327 P **P 12 12 09.8 -0.8**
comp=Z,0.2nm,0.3s,baz=32,slow=4.9,SNR=2.0
comp=Z,0.2nm,0.3s
SCHQ Schefferville 71.34 24 LR LR 12 47 03.1
comp=Z,43nm,19.6s,baz=348,slow=39
ASAR Alice Springs 74.13 200 P **P 12 12 30.6 +0.8**
comp=Z,4.2nm,1.0s,baz=16,slow=5.7,SNR=1.3
comp=Z,4.2nm,1.0s
STHS Stebnicka Huta 74.79 331 *eP* **P 12 12 32.2 -1.2**
STHS Stebnicka Huta 74.79 331 *eP* **P 12 12 32.2 -1.2**
KOLS Kolonicke sedl 74.86 330 *eP* **P 12 12 34.1 +0.2**
KOLS Kolonicke sedl 74.86 330 *eP* **P 12 12 34.2 +0.3**
KOLS pmax pmax
comp=Z,4.0nm,1.0s
EKA Eskdalemuir Ar 75.10 347 P **P 12 12 34.1 -1.0**
comp=Z,0.4nm,0.3s,baz=19,slow=5.4,SNR=9.0
comp=Z,0.4nm,0.3s
DPC Dobruska-Polom 75.48 334 *eP* **P 12 12 37.2 -0.3**
DPC Dobruska-Polom 75.48 334 *eP* **P 12 12 37.2 -0.3**
CLL Collm 75.55 336 P **P 12 12 36.8 -0.9**
CLL IAmb IAmb 12 12 38.9
comp=Z,12nm,1.2s
CLL Collm 75.55 336 *i* P **P 12 12 37.1 -0.6**
comp=Z,8.0nm,1.0s
CLL Collm 75.55 336 *i* P **P 12 12 37.1 -0.6**
CLL pmax pmax
comp=Z,8.0nm,1.0s
LANS Liptovska Anna 75.59 332 *eP* **P 12 12 38.0 0.0**
LANS Liptovska Anna 75.59 332 *eP* **P 12 12 38.1 0.0**
LANS pmax pmax
comp=Z,4.0nm,1.1s
TX31 Lajitas Ar. Si 75.59 62 P **P 12 12 38.8 +0.3**
TX31 IAmb IAmb 12 12 40.2
comp=Z,6.6nm,0.9s
TXAR Lajitas Array 75.59 62 P **P 12 12 38.5 +0.1**
TXAR Lajitas Array 75.59 62 P **P 12 12 38.6 +0.1**
TXAR Lajitas Array 75.59 62 P **P 12 12 39.2 +0.7**
comp=Z,1.8nm,0.8s,baz=299,slow=4.1,SNR=19
comp=Z,1.8nm,0.8s
KRLC Kraliky 75.59 334 *eP* **P 12 12 38.1 0.0**
KRLC Kraliky 75.59 334 *eP* **P 12 12 38.1 0.0**
MORC Moravsky Berou 75.63 333 P **P 12 12 38.2 -0.1**
MORC IAmb IAmb 12 12 39.5
comp=Z,9.6nm,1.1s
MORC Moravsky Berou 75.63 333 *eP* **P 12 12 38.4 +0.1**
MORC Moravsky Berou 75.63 333 P **P 12 12 38.2 -0.1**
MORC pmax pmax
comp=Z,10.0nm,1.1s
PRU Pruhonice 76.32 335 *eP* **P 12 12 42.8 +0.6**
PRU Pruhonice 76.32 335 *eP* **P 12 12 42.8 +0.6**
VRAC Vranov 76.33 333 *eP* **P 12 12 42.5 +0.2**
VYHS Vyhne 76.36 332 *eP* **P 12 12 43.1 +0.6**
VYHS Vyhne 76.36 332 *eP* **P 12 12 43.1 +0.6**
JAVC Velka Javorina 76.41 333 *eP* **P 12 12 43.1 +0.3**
KRUC Moravsky 76.61 333 *eP* **P 12 12 43.7 -0.1**
ZVC Zvikov 76.91 335 *eP* **P 12 12 45.9 +0.4**
SRO Srobarova 77.13 332 *eP* **P 12 12 47.3 +0.5**
SRO Srobarova 77.13 332 *eP* **P 12 12 47.3 +0.5**
KHC Kasperske Hory 77.36 335 P **P 12 12 47.9 -0.2**
KHC IAmb IAmb 12 12 49.6
comp=Z,8.9nm,1.1s
KHC Kasperske Hory 77.36 335 *eP* **P 12 12 48.3 +0.2**
KHC Kasperske Hory 77.36 335 *ceP* **P 12 12 49.1 +1.0**
KHC pmax pmax
comp=Z,26nm,1.7s
CKRC Cesky Krumlov 77.44 335 *eP* **P 12 12 48.4 -0.1**
CKRC Cesky Krumlov 77.44 335 *eP* **P 12 12 48.4 -0.1**
GRF Grafenberg Arr 77.49 337 *eP* **P 12 12 49.1 +0.3**
comp=Z,16nm,1.5s,baz=24,slow=5.0
GERES GERESS Array B 77.59 335 *eP* **P 12 12 49.8 +0.3**
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 77.59 335 P **P 12 12 48.8 -0.6**
comp=Z,1.1nm,0.8s,baz=46,slow=8.4,SNR=5.3
comp=Z,1.1nm,0.8s
CONA Conrad Observa 77.78 333 *eP* **P 12 12 49.9 -0.7**
comp=Z,4.5nm,1.1s
RONA Rosalia, Austr 77.86 333 *eP* **P 12 12 51.5 +0.6**
comp=Z,4.0nm,0.9s,SNR=5.2
BR131 Keskin Array S 78.11 318 P **P 12 12 51.6 -1.0**
BR131 IAmb IAmb 12 12 53.4
comp=Z,12nm,1.4s
BR131 Keskin Array S 78.11 318 P **P 12 12 51.6 -1.0**
BR131 pmax pmax
comp=Z,12nm,1.4s
BRTR Keskin Array B 78.11 318 P **P 12 12 52.5 0.0**
BRTR Keskin Array B 78.11 318 *eP* **P 12 12 53.0 +0.4**
BRTR pmax pmax
comp=Z,4.0nm,1.1s
BRTR Keskin Array B 78.11 318 P **P 12 12 51.6 -1.0**
comp=Z,3.0nm,1.0s,baz=27,slow=2.2,SNR=7.6
comp=Z,3.0nm,1.0s
ARSA Arzberg 78.49 333 *eP* **P 12 12 54.0 -0.4**
comp=Z,5.4nm,1.4s
BIOA Bad Ischl, Aus 78.65 335 *i* P **P 12 12 55.3 +0.1**
comp=Z,3.0nm,0.8s
SOKA Soboth 79.16 333 *eP* **P 12 12 58.1 0.0**
comp=Z,8.4nm,1.3s,SNR=6.2
LESA Schwarzleotal 79.17 335 *eP* **P 12 12 58.2 0.0**
comp=Z,4.2nm,0.9s
KBA Koelnbreinsper 79.29 334 *eP* **P 12 12 59.1 +0.2**
comp=Z,13nm,1.0s
WATA Walderalm 79.55 336 *eP* **P 12 13 00.1 -0.2**
comp=Z,21nm,1.4s,SNR=5.3
WTTA Wattenberg 79.60 336 *eP* **P 12 13 00.7 0.0**
comp=Z,12nm,1.0s,SNR=6.8
MYKA Terra Mystica 79.61 334 *eP* **P 12 13 00.1 -0.5**
comp=Z,5.3nm,1.1s
MOTA Moosalm 79.67 336 *eP* **P 12 13 01.3 +0.3**
comp=Z,15nm,1.1s,SNR=6.3
SQTA Sankt Quirin 79.76 336 *eP* **P 12 13 01.9 +0.4**
comp=Z,9.0nm,1.0s
PRED Cave del Predi 79.80 334 P **P 12 12 59.6 -2.0**
ABTA Abfaltersbach 79.83 335 *eP* **P 12 13 01.7 -0.1**
comp=Z,4.9nm,1.2s
FETA Feichten 80.07 336 *eP* **P 12 13 03.6 +0.4**
comp=Z,5.2nm,1.1s,SNR=6.9
TAOE Nuku Hiva Isla 80.40 115 *e*LR LR 12 38 27.7
comp=Z,118nm,23.0s
FUORN Ofenpass-Fuorn 80.57 336 P **P 12 13 05.5 -0.5**
FUORN IAmb IAmb 12 13 07.8
comp=Z,9.3nm,1.2s
PMOR Pomariorio Ree 80.85 125 *e*T T 13 42 19.2
comp=Z,3.3nm,0.2s
TUE Stuetta 80.95 337 P **P 12 13 07.7 -0.2**
TUE IAmb IAmb 12 13 09.4
comp=Z,7.6nm,0.9s
PPT2 Papeete2 82.08 128 *e*LR LR 12 39 05.1
comp=Z,103nm,22.2s
MMAI Mount Meron Ar 82.72 313 P **P 12 13 15.3 -2.1**
comp=Z,0.9nm,0.4s,baz=54,slow=2.7,SNR=2.6
comp=Z,0.9nm,0.4s
FDMO Fiordimonte 83.04 333 P **P 12 13 18.1 -0.6**
FDMO IAmb IAmb 12 13 32.5
comp=Z,6.8nm,1.1s
TBI Tubuai 86.92 131 *e*LR LR 12 41 19.6
comp=Z,585nm,24.8s
H03N2 Juan Fernandez 137.46 90 T T 14 53 27.7
baz=310,slow=77,SNR=44
H03N1 Juan Fernandez 137.47 90 T T 14 53 29.0
baz=310,slow=77,SNR=44
H03N3 Juan Fernandez 137.47 90 T T 14 53 28.4
baz=310,slow=77,SNR=58
QSPA South Pole Qui 138.07 180 PKP **PKPdf 12 20 16.8 -0.1**
comp=Z,0.6nm,0.3s,baz=274,slow=5.7,SNR=2.6
CPUP Villa Florida 146.56 61 PKPbc **PKPdf 12 20 33.9 +0.8**

comp=Z,3.0nm,1.1s,baz=270,slow=4.0,SNR=2.8
PLCA Paso Flores 147.04 94 PKPbc **PKPdf 12 20 34.3 +0.7**
comp=Z,3.7nm,1.1s,baz=304,slow=7.3,SNR=3.5
ELIB Princess Elisa 147.78 206 *d*PKPdf **PKPdf 12 20 35.1 +1.2**
ELIB *d*PKP **PKiKP 12 20 39.9 +1.1**

BJI ***25*** *12:02:25.5,27.˙86S×73.˙60E,h10km,mb4.9/61,mB5.5/37, Ms5.4/55,Ms7 5.2/53*
MOS ***25*** *12:02:26.3±0.8,27.˙79S×74.˙10E,h5km,mb5.2/49, MS4.9/4, Error ellipse: s-maj=10.1km s-min=6.1km az=93.8*
IDC ***25*** *12:02:27.0±0.4,27.˙82S×74.˙04E,h0km,mb4.8/33, mbtmp4.8/33,MS4.8/49,Error ellipse: s-maj=13.2km s-min=11.5km az=46.0*
NEIC ***25*** *12:02:29.6,27.˙69S×74.˙01E,h18km, Moment Tensor Solution. Duration: 2s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.84; $M_{\theta\theta}$0.91; $M_{\phi\phi}$0.93; $M_{r\theta}$0.24; $M_{r\phi}$-0.68; $M_{\theta\phi}$0.95; Fault plane solution: $M_0$1.94000×10^{17} NP1: ϕ_s156.24000°,δ56.88000°,λ-68.63000°. NP2: ϕ_s300.63000°,δ38.75000°,λ-119.19000°. Principal axes: T 1.6884, Plg10.0000°, Azm231.0000°; N 0.5119, Plg18.0000°, Azm324.0000°; P -2.2003, Plg70.0000°, Azm114.0000°;*
NEIC ***25*** *12:02:29.6,27.˙89S×74.˙01E,h18km*
GCMT ***25*** *12:02:29.6±0.1,27.˙82S±0.˙01×74.˙02E±0.˙01,h12km, MW5.4/159,Moment Tensor Solution. s112,c154; s159,c304; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.57±.02; $M_{\theta\theta}$0.66±.02; $M_{\phi\phi}$0.90±.02; $M_{r\theta}$-0.06±.04; $M_{r\phi}$-0.70±.01; $M_{\theta\phi}$0.45±.05; Best double couple: $M_0$1.59400×10^{17} NP1:ϕ_s148.00000°,δ53.00000°, λ-80.00000°. NP2:ϕ_s312.00000°,δ38.00000°, λ-102.00000°. Principal axes: T 1.5380, Plg7.0000°, Azm231.0000°; N 0.1090, Plg8.0000°, Azm322.0000°; P -1.6490, Plg80.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***25*** *12:02:29.6±2.1,27.˙9S±0.˙1×74.˙0E±0.˙1,h10km±1km, mb5.2/94,Ms_20 5.1/113,Mww5.5/37 Error ellipse: s-maj=17.1km s-min=15.4km az=183.0*
ISC 25 12:02:29.1±0.7,**27.˙90S**±0.˙05×**73.˙93E**±0.˙05,**h13**km±3km, **n532,**σ1ş33/503,**mb5.1**/145,**MS5.0**/121,**34C-14D, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**17.84**	**288**		**Pn**	**12 06 38.0**	**+0.7**
H08S2	**Diego Garcia H**	**20.19**	**356**	T	T	12 27 46.5	
	baz=177,slow=76,SNR=64						
H08S1	**Diego Carcia H**	**20.19**	**356**	T	T	12 27 44.0	
	baz=177,slow=76,SNR=23						
H08S3	**Diego Garcia H**	**20.21**	**356**	T	T	12 27 53.3	
	baz=177,slow=76,SNR=937						
PAF	**Port-aux-Franc**	**21.61**	**187**	IAMs_20	IAMs_20	12 12 49.3	
	comp=Z,7μm,22.0s						
FOMA	**Nahampoana Res**	**24.29**	**271**	IAMs_20	IAMs_20	12 14 39.7	
	comp=Z,4μm,19.0s						
H04N2	**CROZET ISLANDS**	**25.25**	**218**	T	T	12 34 22.2	
	baz=52,slow=74						
H04N1	**CROZET ISLANDS**	**25.26**	**218**	T	T	12 34 21.4	
	baz=52,slow=74						
H04N3	**CROZET ISLANDS**	**25.27**	**218**	T	T	12 34 21.0	
	baz=52,slow=74						
VOI	**Vohitsoka**	**25.30**	**278**	P	**P**	**12 07 57.0**	**+1.3**
VOI				IAmb	IAmb	12 08 16.4	
	comp=Z,41nm,1.3s						
VOI	**Vohitsoka**	**25.30**	**278**	P	**P**	**12 07 59.1**	**+3.5**
CRZF	**Crozet Islands**	**25.38**	**217**	IAMs_20	IAMs_20	12 14 39.4	
	comp=Z,4μm,21.0s						
H04S1	**CROZET ISLANDS**	**25.62**	**217**	T	T	12 34 45.4	
	baz=51,slow=76,SNR=330						
H04S3	**CROZET ISLANDS**	**25.63**	**217**	T	T	12 34 50.8	
	baz=51,slow=76,SNR=573						
H04S2	**CROZET ISLANDS**	**25.64**	**217**	T	T	12 34 49.7	
	baz=51,slow=76,SNR=409						
COCO	**West Island**	**26.52**	**58**	IAMs_20	IAMs_20	12 15 33.1	
	comp=Z,4μm,20.0s						
XMIS	**Christmas Isla**	**34.45**	**66**	IAMs_20	IAMs_20	12 19 15.4	
	comp=Z,3μm,21.0s						
H01W2	**Cape Leeuwin H**	**34.84**	**112**	T	T	12 46 15.7	
	baz=272,slow=74,SNR=53						
H01W3	**Cape Leeuwin H**	**34.84**	**112**	T	T	12 46 00.4	
	baz=272,slow=74,SNR=62						
H01W1	**Cape Leeuwin H**	**34.86**	**112**	T	T	12 46 01.5	
	baz=272,slow=74,SNR=76						
PPSI	**Pulau Pagai**	**35.28**	**49**	P	**P**	**12 09 24.5**	**+0.6**
	comp=Z,137nm,1.2s						
PALK	**Pallekele**	**35.57**	**12**	P	**P**	**12 09 27.3**	**+0.9**
PALK				IAmb	IAmb	12 09 34.9	
	comp=Z,102nm,1.8s						
PALK	**Pallekele**	**35.57**	**12**	IAMs_20	IAMs_20	12 20 33.5	
	comp=Z,2μm,20.0s						
PALK	**Pallekele**	**35.57**	**12**	P	**P**	**12 09 27.3**	**+0.9**
PALK				pmax	pmax		
	comp=Z,102nm,1.8s						
PALK	**Pallekele**	**35.57**	**12**	LR	LR	12 20 44.9	
	comp=Z,2μm,19.8s,baz=295,slow=31						
MNAI	**Manna**	**36.21**	**55**	IAMs_20	IAMs_20	12 20 56.1	
	comp=Z,2μm,20.0s						
MUN	**Mundaring**	**36.69**	**107**	P	**P**	**12 09 37.1**	**+1.2**
	baz=37,SNR=3.8						
MUN	**Mundaring**	**36.69**	**107**	P	**P**	**12 09 36.9**	**+1.0**
GIRL	**Giralia**	**36.70**	**91**	IAMs_20	IAMs_20	12 21 13.6	
	comp=Z,3μm,20.0s						
GSI	**Gunungsitoli**	**36.86**	**42**	IAMs_20	IAMs_20	12 21 44.8	
	comp=Z,4μm,19.0s						
MORW	**Morawa**	**36.89**	**102**	P	**P**	**12 09 38.6**	**+1.0**
	baz=37,SNR=4.6						
MORW	**Morawa**	**36.89**	**102**	P	**P**	**12 09 37.9**	**+0.2**
MORW	**Morawa**	**36.89**	**102**	P	**P**	**12 09 38.6**	**+1.0**
BLDU	**Ballidu**	**37.26**	**105**	P	**P**	**12 09 41.2**	**+0.4**
NWAO	**Narrogin (SRO)**	**37.48**	**109**	LR	LR	12 22 43.7	
	comp=Z,1μm,18.4s,baz=252,slow=32						
KLBR	**Kellerberrin**	**38.04**	**106**	P	**P**	**12 09 47.7**	**+0.4**
	baz=38,SNR=8.0						
LEM	**Lembang**	**38.16**	**63**	P	**P**	**12 09 47.5**	**-1.3**
	comp=Z,13nm,0.4s,baz=295,slow=22,SNR=1.6						
LEM				LR	LR	12 21 54.4	
	comp=Z,2μm,21.7s,baz=202,slow=31 comp=Z,13nm,0.4s						
BKNI	**Bangkinang**	**38.26**	**47**	P	**P**	**12 09 51.0**	**+1.7**
BKNI				IAMs_20	IAMs_20	12 22 11.9	
	comp=Z,3μm,20.0s						
PMBI	**Palembang**	**38.50**	**55**	IAMs_20	IAMs_20	12 22 19.3	
	comp=Z,3μm,20.0s						
RPSI	**Rantau Prapat**	**38.78**	**42**	P	**P**	**12 09 54.6**	**+0.9**
PSI	**Prapat**	**38.86**	**42**	P	**P**	**12 09 55.9**	**+1.4**
PSI	**Prapat**	**38.86**	**42**	P	**P**	**12 09 54.6**	**+0.1**
PSI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KPJI	**Karang Pucung**	**38.91**	**65**	P	**P**	**12 09 56.7**	**+1.9**
	comp=Z,37nm,1.2s						
MEEK	**Meekatharra**	**39.57**	**99**	P	**P**	**12 10 00.8**	**+0.5**
	baz=40,SNR=4.8						
MEEK	**Meekatharra**	**39.57**	**99**	P	**P**	**12 10 00.7**	**+0.4**
LHMI	**Lhok Sumawe**	**39.72**	**38**	IAMs_20	IAMs_20	12 22 36.9	
	comp=Z,4μm,21.0s						
UGM	**Wanagama**	**39.86**	**67**	IAMs_20	IAMs_20	12 22 05.0	
	comp=Z,2μm,22.0s						
SMRI	**Semarang**	**40.28**	**66**	IAMs_20	IAMs_20	12 22 44.2	
	comp=Z,3μm,22.0s						
MAW	**Mawson**	**40.29**	**187**	P	**P**	**12 10 06.4**	**+0.7**
	comp=Z,8.2nm,1.0s,baz=51,slow=16,SNR=5.2						
MAW				LR	LR	12 22 46.9	
	comp=Z,2μm,21.6s,baz=6.5,slow=30 comp=Z,8.2nm,1.0s						
MYKOM	**Kota Tinggi**	**41.21**	**49**	IAMs_20	IAMs_20	12 23 55.0	
	comp=Z,3μm,21.0s						
KMBL	**Kambalda**	**41.57**	**107**	P	**P**	**12 10 17.0**	**+0.2**
KULM	**Kulim**	**41.87**	**42**	P	**P**	**12 10 18.9**	**-0.3**
KULM				IAmb	IAmb	12 10 26.8	
	comp=Z,46nm,1.2s						
KULM				IAMs_20	IAMs_20	12 24 26.7	
	comp=Z,2μm,20.0s						
MATP	**Matopo**	**41.93**	**270**	P	**P**	**12 10 21.1**	**+1.2**
	comp=Z,3.2nm,0.7s,baz=116,slow=11,SNR=11						
MATP				LR	LR	12 24 47.3	
	comp=Z,1μm,20.4s,baz=85,slow=32 comp=Z,3.2nm,0.7s						
PSA00	**Pilbara Seismi**	**41.99**	**92**	P	**P**	**12 10 20.0**	**-0.3**
PSA00				IAmb	IAmb	12 10 27.0	
	comp=Z,30nm,1.1s						
PSA00	**Pilbara Seismi**	**41.99**	**92**	P	**P**	**12 10 19.6**	**-0.7**
PSA00				IAmb	IAmb	12 10 27.0	
	comp=Z,18nm,1.1s						
PSA00	**Pilbara Seismi**	**41.99**	**92**	P	**P**	**12 10 20.3**	**0.0**
MBWA	**Marble Bar**	**42.02**	**91**	P	**P**	**12 10 20.2**	**-0.3**
MBWA				IAmb	IAmb	12 10 27.3	
	comp=Z,35nm,1.1s						
MBWA	**Marble Bar**	**42.02**	**91**	IAMs_20	IAMs_20	12 24 20.7	
	comp=Z,2μm,20.0s						
MBWA	**Marble Bar**	**42.02**	**91**	P	**P**	**12 10 20.6**	**+0.1**
JAGI	**Jajag, Banyuwa**	**42.55**	**71**	P	**P**	**12 10 25.8**	**+0.9**
	comp=Z,38nm,1.1s						
BOSA	**Boshof**	**42.64**	**257**	P	**P**	**12 10 26.8**	**+1.1**
	comp=Z,9.8nm,1.0s,baz=100,slow=8.5,SNR=6.2						
BOSA				LR	LR	12 24 30.0	
	comp=Z,3μm,21.5s,baz=106,slow=31 comp=Z,9.8nm,1.0s						
KIBK	**Kibwezi**	**42.66**	**300**	P	**P**	**12 10 27.0**	**+1.1**
LBTB	**Lobatse**	**43.15**	**262**	P	**P**	**12 10 30.9**	**+1.1**
LBTB				IAmb	IAmb	12 10 33.1	
	comp=Z,41nm,1.5s						
LBTB	**Lobatse**	**43.15**	**262**	P	**P**	**12 10 30.9**	**+1.1**
LBTB				pmax	pmax		
	comp=Z,41nm,1.5s						
LBTB	**Lobatse**	**43.15**	**262**	LR	LR	12 24 52.7	
	comp=Z,807nm,20.2s,baz=100,slow=31						
SRBI	**Singaraja**	**43.65**	**71**	P	**P**	**12 10 34.1**	**+0.4**
	comp=Z,60nm,1.4s,comp=Z,834nm						
KMBO	**Kilima Mbogo**	**44.05**	**301**	P	**P**	**12 10 39.1**	**+1.9**
KMBO	**Kilima Mbogo**	**44.05**	**301**	*i* P	**P**	**12 10 38.7**	**+1.4**
KMBO				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KMBO	**Kilima Mbogo**	**44.05**	**301**	P	**P**	**12 10 36.2**	**-1.0**
	comp=Z,4.1nm,1.1s,baz=91,slow=6.5,SNR=5.9						
KMBO				LR	LR	12 25 09.0	
	comp=Z,604nm,20.9s,baz=94,slow=31 comp=Z,4.1nm,1.1s						
LSZ	**Lusaka**	**44.11**	**277**	P	**P**	**12 10 38.6**	**+1.0**
LSZ				IAmb	IAmb	12 10 40.9	
	comp=Z,32nm,1.4s						
LSZ				IAMs_20	IAMs_20	12 26 40.8	
	comp=Z,2μm,20.0s						
LSZ	**Lusaka**	**44.11**	**277**	P	**P**	**12 10 38.6**	**+1.0**
LSZ				pmax	pmax		
	comp=Z,32nm,1.4s						
LSZ	**Lusaka**	**44.11**	**277**	LR	LR	12 26 43.0	
	comp=Z,2μm,19.8s,baz=122,slow=33						
TWSI	**Taliwang, Sumb**	**44.71**	**73**	P	**P**	**12 10 42.7**	**+0.4**
	comp=Z,17nm,1.1s						
HYB	**Hyderabad**	**45.27**	**6**	*e*P	**P**	**12 10 47.0**	**+0.4**
KSM	**Kuching**	**45.53**	**56**	P	**P**	**12 10 48.1**	**-0.7**
KSM				IAmb	IAmb	12 10 51.0	
	comp=Z,62nm,1.4s						
KSM	**Kuching**	**45.53**	**56**	P	**P**	**12 10 48.6**	**-0.2**
SUR	**Sutherland**	**45.77**	**251**	P	**P**	**12 10 52.4**	**+1.6**
SUR	**Sutherland**	**45.77**	**251**	LR	LR	12 25 55.5	
	comp=Z,4μm,21.3s,baz=105,slow=31						
FORT	**Forrest**	**46.89**	**107**	P	**P**	**12 11 00.1**	**+0.7**
SBUM	**Sibu**	**47.60**	**57**	P	**P**	**12 11 04.5**	**-0.6**
SBUM				IAmb	IAmb	12 11 06.8	
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	**48.29**	**90**	P	**P**	**12 11 10.7**	**+0.3**
	baz=48,SNR=8.1						
WRKA	**Warakurna**	**48.42**	**100**	P	**P**	**12 11 11.9**	**+0.5**
	baz=48,SNR=8.3						
LODK	**Lodwar**	**48.46**	**304**	P	**P**	**12 11 14.0**	**+2.2**
EDFI	**Ende, Flores**	**48.81**	**77**	P	**P**	**12 11 14.7**	**+0.1**
	comp=Z,22nm,1.4s,comp=Z,570nm						
BKB	**Balikpapan**	**48.88**	**65**	IAMs_20	IAMs_20	12 29 51.5	
	comp=Z,2μm,18.0s						
KAPI	**Kappang**	**49.09**	**71**	P	**P**	**12 11 15.5**	**-1.1**
KAPI				IAmb	IAmb	12 11 16.8	
	comp=Z,31nm,1.1s						
KAPI	**Kappang**	**49.09**	**71**	P	**P**	**12 11 15.5**	**-1.1**
KAPI				pmax	pmax		
	comp=Z,31nm,1.2s						
KAPI	**Kappang**	**49.09**	**71**	LR	LR	12 28 15.8	
	comp=Z,772nm,21.9s,baz=204,slow=32						
ATD	**Arta Tunnel**	**49.42**	**318**	P	**P**	**12 11 20.6**	**+1.5**
ATD				IAmb	IAmb	12 11 22.6	
	comp=Z,51nm,1.2s						
ATD	**Arta Tunnel**	**49.42**	**318**	LR	LR	12 28 15.1	
	comp=Z,26nm,21.1s,baz=166,slow=31						
SOEI	**Soe**	**50.56**	**79**	P	**P**	**12 11 26.9**	**-1.1**
SOEI				IAMs_20	IAMs_20	12 30 47.4	
	comp=Z,2μm,20.0s						
SOEI	**Soe**	**50.56**	**79**	P	**P**	**12 11 29.0**	**+1.1**
WIN	**Windhoek**	**51.30**	**262**	IAMs_20	IAMs_20	12 31 31.3	
	comp=Z,2μm,18.0s						
ELIB	**Princess Elisa**	**51.87**	**198**	*d*P	**P**	**12 11 38.5**	**+1.5**
	comp=Z,11nm,1.2s						
KNRA	**Kununurra**	**51.97**	**89**	P	**P**	**12 11 38.1**	**-0.2**
TSUM	**Tsumeb**	**52.00**	**267**	P	**P**	**12 11 39.5**	**+0.8**
CM31	**Chiang Mai Arr**	**52.06**	**31**	P	**P**	**12 11 38.9**	**+0.1**
CM31				IAmb	IAmb	12 11 40.3	
	comp=Z,33nm,1.1s						
CMAR	**Chiang Mai Arr**	**52.06**	**31**	P	**P**	**12 11 39.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**52.06**	**31**	P	**P**	**12 11 38.7**	**-0.1**
	comp=Z,16nm,0.4s,baz=213,slow=6.7,SNR=23						
CMAR				LR	LR	12 31 00.4	
	comp=Z,1μm,19.3s,baz=215,slow=33 comp=Z,16nm,0.4s						
MULG	**Mugathing**	**52.06**	**108**	P	**P**	**12 11 38.5**	**-0.4**
CHTO	**Chiang Mai**	**52.37**	**30**	P	**P**	**12 11 40.9**	**-0.3**
CHTO				IAmb	IAmb	12 11 43.2	
	comp=Z,80nm,1.6s						
CHTO	**Chiang Mai**	**52.37**	**30**	IAMs_20	IAMs_20	12 33 01.2	
	comp=Z,1μm,18.0s						
CHTO	**Chiang Mai**	**52.37**	**30**	P	**P**	**12 11 40.9**	**-0.3**
CHTO	**Chiang Mai**	**52.37**	**30**	P	**P**	**12 11 40.9**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,80nm,1.7s						
WSAR	**Wadi Sarin**	**52.94**	**342**	LR	LR	12 30 05.3	
	comp=Z,595nm,18.5s,baz=175,slow=31						
KKM	**Kota Kinabalu**	**52.95**	**57**	IAMs_20	IAMs_20	12 34 07.0	
	comp=Z,2μm,20.0s						
BBOO	**Buckleboo**	**53.17**	**112**	P	**P**	**12 11 47.4**	**+0.3**
	baz=53,SNR=6.1						
BBOO	**Buckleboo**	**53.17**	**112**	P	**P**	**12 11 46.1**	**-0.9**
BBOO				IAmb	IAmb	12 11 48.1	
	comp=Z,46nm,1.3s						
BBOO	**Buckleboo**	**53.17**	**112**	P	**P**	**12 11 46.5**	**-0.6**
TOLI2	**Tolitoli**	**53.40**	**65**	P	**P**	**12 11 47.8**	**-1.1**
TOLI2				IAmb	IAmb	12 11 54.9	
	comp=Z,42nm,1.2s						
TOLI2				IAMs_20	IAMs_20	12 32 07.8	
	comp=Z,1μm,20.0s						
TOLI2	**Tolitoli**	**53.40**	**65**	P	**P**	**12 11 47.8**	**-1.1**
ASAR	**Alice Springs**	**53.71**	**100**	P	**P**	**12 11 50.0**	**-1.2**
ASAR	**Alice Springs**	**53.71**	**100**	P	**P**	**12 11 50.5**	**-0.7**
	comp=Z,44nm,0.9s,baz=250,slow=6.2,SNR=254						
ASAR				PcP	**PcP**	**12 12 56.3**	**-1.1**
	comp=Z,3.1nm,0.8s,baz=255,slow=2.8,SNR=0.9						
ASAR				LR	LR	12 31 24.6	
	comp=Z,1μm,21.7s,baz=274,slow=32 comp=Z,44nm,0.9s						
AS31	**Alice Springs**	**53.71**	**100**	P	**P**	**12 11 50.1**	**-1.1**
AS31				IAmb	IAmb	12 11 58.1	
	comp=Z,18nm,0.9s						
NONG	**Nongkai**	**53.74**	**35**	P	**P**	**12 11 51.1**	**-0.1**
MND	**Mandalay**	**54.05**	**26**	P	**P**	**12 11 53.3**	**-0.2**
OOD	**Oodnadatta**	**54.06**	**105**	P	**P**	**12 11 52.8**	**-0.8**
MYLDM	**Lahad Datu**	**54.11**	**60**	IAMs_20	IAMs_20	12 33 33.6	
	comp=Z,2μm,21.0s						
NVL	**N'lazarevskaya**	**54.80**	**201**	*e*P	**P**	**12 12 01.7**	**+3.3**
NVL				*e*S	**S**	**12 19 38.7**	**+0.1**
NVL				pmax	pmax		
	comp=Z,23nm,1.1s						
NVL				smax	smax		
	comp=E,828nm,15.4s						
MTN	**Manton Dam**	**55.22**	**86**	P	**P**	**12 12 01.8**	**-0.5**
MTN	**Manton Dam**	**55.22**	**86**	P	**P**	**12 12 02.4**	**+0.2**
WRA	**Warramunga Arr**	**55.32**	**96**	P	**P**	**12 12 02.1**	**-0.8**
WRA	**Warramunga Arr**	**55.32**	**96**	P	**P**	**12 12 02.1**	**-0.8**
WRA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
WRA	**Warramunga Arr**	**55.32**	**96**	P	**P**	**12 12 02.1**	**-0.8**
	comp=Z,36nm,0.9s,baz=251,slow=7.6,SNR=128						
WRA				PcP	**PcP**	**12 13 03.0**	**-0.6**
	comp=Z,3.8nm,0.9s,baz=252,slow=2.5,SNR=1.2 comp=Z,36nm,0.9s						
WB2	**Warramunga Arr**	**55.33**	**96**	P	**P**	**12 12 02.2**	**-0.8**
WRAB	**Tennant Creek**	**55.33**	**96**	P	**P**	**12 12 02.4**	**-0.6**
WRAB	**Tennant Creek**	**55.33**	**96**	P	**P**	**12 12 02.4**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,64nm,1.0s						
HTT	**Hallett**	**55.38**	**113**	P	**P**	**12 12 04.5**	**+1.3**
WB0	**Warramunga Arr**	**55.43**	**96**	P	**P**	**12 12 02.8**	**-0.9**
WR0	**Warramunga Arr**	**55.49**	**96**	P	**P**	**12 12 03.2**	**-0.9**
LCRK	**Leigh Creek**	**55.51**	**109**	P	**P**	**12 12 04.6**	**+0.5**
RAMN	**Ramite**	**55.88**	**14**	*e*P	**P**	**12 12 06.4**	**-0.5**
ODAN	**Odare**	**55.96**	**15**	*e*P	**P**	**12 12 06.2**	**-1.3**
KOLN	**Koldanda**	**56.12**	**10**	*e*P	**P**	**12 12 07.4**	**-1.2**
	comp=Z,184nm,2.4s						
DMN	**Daman**	**56.22**	**12**	*e*P	**P**	**12 12 08.5**	**-0.9**
PKI	**Pulchoki**	**56.24**	**12**	*e*P	**P**	**12 12 08.6**	**-1.0**
PYUN	**Piuthan**	**56.35**	**10**	*e*P	**P**	**12 12 09.3**	**-0.9**
	comp=Z,84nm,1.0s						
KDU	**Kakadu**	**56.47**	**87**	P	**P**	**12 12 11.0**	**-0.2**
	baz=56,SNR=7.2						
KDU	**Kakadu**	**56.47**	**87**	P	**P**	**12 12 11.0**	**-0.2**
JIRN	**Jiri**	**56.48**	**13**	*e*P	**P**	**12 12 10.5**	**-0.8**
	comp=Z,49nm,1.2s						
TAPN	**Taplejung**	**56.50**	**15**	*e*P	**P**	**12 12 10.7**	**-0.7**
	comp=Z,81nm,1.1s						
GKN	**Gorkha**	**56.52**	**11**	*e*P	**P**	**12 12 10.4**	**-1.0**
GUN	**Gumba**	**56.66**	**13**	*e*P	**P**	**12 12 12.1**	**-0.5**
	comp=Z,144nm,1.3s						
DANN	**Dangsing**	**56.72**	**10**	*e*P	**P**	**12 12 11.7**	**-1.2**
	comp=Z,67nm,1.0s						
SLVN	**Son La**	**56.88**	**34**	IAMs_20	IAMs_20	12 32 17.3	
	comp=Z,2μm,22.0s						
SAUI	**Saumlaki**	**57.53**	**81**	IAMs_20	IAMs_20	12 33 03.9	
	comp=Z,1μm,22.0s						
TNCH	**TengChong**	**57.70**	**27**	P	P	12 12 29.3	+9.5
TNCH				pP	PcP	12 12 49.5	-23
TNCH				S	**S**	**12 20 10.0**	**-8.5**
TNCH				sS	sS	12 21 01.8	+38
TNCH				pmax	pmax		
	comp=Z,350nm,4.9s						
TNCH				LR	LR		
	comp=N,500nm,15.9s						
TNCH				LR	LR		
	comp=E,590nm,13.8s						
TNCH				LR	LR		
	comp=Z,670nm,19.9s						
STKA	**Stephens Creek**	**57.94**	**112**	P	**P**	**12 12 21.4**	**0.0**
	baz=58,SNR=14						
STKA	**Stephens Creek**	**57.94**	**112**	P	**P**	**12 12 21.1**	**-0.3**
STKA	**Stephens Creek**	**57.94**	**112**	P	**P**	**12 12 21.4**	**0.0**
STKA	**Stephens Creek**	**57.94**	**112**	P	**P**	**12 12 21.1**	**-0.3**
STKA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
STKA	**Stephens Creek**	**57.94**	**112**	P	**P**	**12 12 20.4**	**-1.1**
	comp=Z,17nm,0.9s,baz=264,slow=6.1,SNR=20						
STKA				LR	LR	12 35 23.5	
	comp=Z,1μm,18.1s,baz=259,slow=34 comp=Z,17nm,0.9s						
TROLL	**Troll, Antarti**	**57.99**	**200**	⇑P	**P**	**12 12 22.6**	**+1.4**
	comp=Z,545nm,0.8s						
QIZ	**Qiongzhong**	**58.18**	**41**	IAMs_20	IAMs_20	12 34 37.8	
	comp=Z,2μm,20.0s						
QIZ	**Qiongzhong**	**58.18**	**41**	P	**P**	**12 12 25.3**	**+2.3**
QIZ				S	**S**	**12 20 29.3**	**+4.8**
QIZ				LR	LR		
	comp=Z,1μm,19.4s						
QIZ				LR	LR		
	comp=Z,1μm,20.0s						
QIZ				LR	LR		
	comp=Z,2μm,19.0s						
INKA	**Innaminka**	**58.37**	**107**	P	**P**	**12 12 25.0**	**+0.5**
KMI	**Kunming**	**59.57**	**30**	⇑P	**P**	**12 12 34.0**	**+1.1**
KMI				S	**S**	**12 20 45.0**	**+2.1**
KMI				pmax	pmax		
	comp=Z,22nm,1.4s						
KMI				LR	LR		
	comp=Z,940nm,23.0s						
KMI				LR	LR		
	comp=Z,930nm,22.7s						
KMI				LR	LR		
	comp=Z,2μm,27.2s						
LSA	**Lhasa**	**59.59**	**17**	IAMs_20	IAMs_20	12 40 22.8	
	comp=Z,1μm,18.0s						
SNAA	**Sanae**	**59.63**	**201**	P	**P**	**12 12 33.3**	**+0.7**
SNAA				IAmb	IAmb	12 12 45.1	
	comp=Z,15nm,1.0s						
SNAA				IAMs_20	IAMs_20	12 34 59.6	
	comp=Z,1μm,18.0s						
SNAA	**Sanae**	**59.63**	**201**	⇑P	**P**	**12 12 33.7**	**+1.1**
	comp=Z,223nm,0.8s						
SNAA	**Sanae**	**59.63**	**201**	*ce*P	**P**	**12 12 33.0**	**+0.4**
SNAA				pmax	pmax		
	comp=Z,11nm,1.0s						
SNAA	**Sanae**	**59.63**	**201**	P	**P**	**12 12 33.3**	**+0.7**
	comp=Z,5.0nm,0.9s,baz=128,slow=8.8,SNR=9.1						
SNAA				LR	LR	12 35 19.7	
	comp=Z,1μm,18.0s,baz=75,slow=33 comp=Z,5.0nm,0.9s						
TOO	**Toolangi**	**59.66**	**119**	P	**P**	**12 12 34.6**	**+1.2**
	baz=60,SNR=6.8						
TOO	**Toolangi**	**59.66**	**119**	P	**P**	**12 12 32.5**	**-0.9**
TOO				IAmb	IAmb	12 12 35.5	
	comp=Z,32nm,1.1s						
TOO	**Toolangi**	**59.66**	**119**	P	**P**	**12 12 34.6**	**+1.2**
TOO	**Toolangi**	**59.66**	**119**	P	**P**	**12 12 32.5**	**-0.9**
TOO				pmax	pmax		
	comp=Z,32nm,1.1s						
QIS	**Mount Isa**	**59.73**	**99**	P	**P**	**12 12 34.1**	**+0.2**
	baz=60,SNR=7.4						
QIS	**Mount Isa**	**59.73**	**99**	P	**P**	**12 12 34.2**	**+0.2**
PZH	**PanZhiHua**	**60.34**	**29**	P	**P**	**12 12 37.

GYA pmax pmax
comp=Z,22nm,1.1s
GYA LR LR
comp=Z,1µm,18.8s
GYA LR LR
comp=Z,960nm,19.5s
GYA LR LR
comp=Z,2µm,23.3s
CAN Canberra 62.97 118 P **P** **12 12 55.9 +0.1**
CAN Canberra 62.97 118 P **P** **12 12 57.1 +1.3**
CAN Canberra 62.97 118 P **P** **12 12 55.9 +0.1**
CAN pmax pmax
comp=Z,50nm,1.3s
HKPS Hong Kong Po S 63.22 42 IAMs_20 IAMs_20 12 40 27.3
comp=Z,1µm,19.0s
AULRC Lightning Ridg 63.91 111 P **P** **12 13 02.2 +0.1**
MTSU Mount Surprise 64.75 98 P **P** **12 13 08.6 +0.9**
baz=65,SNR=5.8
CD2 Chengdu 65.04 28 P **P** **12 13 08.3 -0.9**
CD2 sP pwP 12 13 14.3 -2.2
CD2 PP **PP** **12 15 33.0 +0.4**
CD2 S **S** **12 21 54.8 +3.6**
CD2 sS sS 12 22 01.5 +5.2
CD2 SKS **SKSac** **12 23 04.5 +0.5**
CD2 SS **SS** **12 26 09.0 +5.1**
CD2 pmax pmax
comp=Z,20nm,1.3s
CD2 pmax pmax
comp=Z,200nm,8.4s
CD2 LR LR
comp=Z,940nm,17.9s
CD2 LR LR
comp=Z,980nm,17.7s
CD2 LR LR
comp=Z,960nm,16.3s
CTA Charters Tower 65.70 101 P **P** **12 13 13.7 -0.2**
comp=Z,24nm,1.0s,baz=238,slow=7.3,SNR=26
CTA LR LR 12 38 38.9
comp=Z,2µm,21.8s,baz=250,slow=33
comp=Z,24nm,1.0s
CTAO Charters Tower 65.70 101 P **P** **12 13 13.6 -0.3**
CTAO Charters Tower 65.70 101 IAMs_20 IAMs_20 12 38 15.1
comp=Z,2µm,22.0s
CTAO Charters Tower 65.70 101 P **P** **12 13 14.3 +0.4**
CTAO Charters Tower 65.70 101 P **P** **12 13 13.6 -0.3**
CTAO pmax pmax
comp=Z,39nm,1.1s
AUPHS Peel High Scho 65.76 114 P **P** **12 13 14.7 +0.6**
CHGR Chuyangaron 66.36 356 P **P** **12 13 16.6 -1.0**
CHGR IAmb IAmb 12 13 17.2
comp=Z,18nm,1.0s
CHGR Chuyangaron 66.36 356 P **P** **12 13 16.7 -1.0**
CHGR pmax pmax
comp=Z,18nm,1.0s
ARMA Armidale 66.59 113 P **P** **12 13 20.6 +1.1**
baz=66,SNR=6.8
ARMA Armidale 66.59 113 P **P** **12 13 19.5 0.0**
ARMA Armidale 66.59 113 P **P** **12 13 20.5 +1.0**
BELA Belgrano 2 66.71 193 P **P** **12 13 19.6 +0.2**
BELA IAmb IAmb 12 13 31.0
comp=Z,25nm,1.5s
GOMU GeErMu 66.72 18 P **P** **12 13 20.8 +0.4**
GOMU pP sP 12 13 23.5 -1.0
GOMU sP pwP 12 13 26.5 -1.1
GOMU S **S** **12 22 17.3 +5.0**
GOMU pmax pmax
comp=Z,3.0nm,0.7s
GOMU LR LR
comp=Z,760nm,20.6s
GOMU LR LR
comp=Z,470nm,19.2s
GOMU LR LR
comp=Z,840nm,20.6s
ENH Enshi 67.08 33 IAMs_20 IAMs_20 12 38 43.9
comp=Z,2µm,22.0s
KSH Kashi 67.09 2 P **P** **12 13 19.8 -2.5**
KSH S **S** **12 22 12.8 -3.3**
KSH pmax pmax
comp=Z,14nm,0.9s
KSH LR LR
comp=Z,620nm,21.0s
KSH LR LR
comp=Z,1µm,19.6s
KSH LR LR
comp=Z,1µm,22.2s
GEYT Alibeck 67.14 346 P **P** **12 13 22.0 -0.6**
GEYT IAmb IAmb 12 13 41.4
comp=Z,17nm,1.4s
GEYT Alibeck 67.14 346 P **P** **12 13 22.5 -0.1**
comp=Z,1.9nm,0.8s,baz=126,slow=7.5,SNR=4.6
GEYT LR LR 12 38 33.4
comp=Z,877nm,21.6s,baz=157,slow=32
comp=Z,1.9nm,0.8s
KNMB Chin-men Tao 67.42 44 IAMs_20 IAMs_20 12 41 00.6
comp=Z,2µm,19.0s
TABU Tabubil 67.50 84 P **P** **12 13 26.3 +0.8**
BTK Batken 67.67 357 P **P** **12 13 25.1 -0.8**
BTK IAmb IAmb 12 13 28.9
comp=Z,52nm,1.8s
BTK Batken 67.67 357 P **P** **12 13 25.1 -0.8**
BTK pmax pmax
comp=Z,52nm,1.8s
GENI Genyem 67.84 81 P **P** **12 13 28.1 +0.6**
EIDS Eidsvold 67.89 108 P **P** **12 13 28.0 +0.3**
baz=68,SNR=5.0
EIDS Eidsvold 67.89 108 P **P** **12 13 27.1 -0.6**
EIDS IAmb IAmb 12 13 34.7
comp=Z,24nm,1.1s
EIDS Eidsvold 67.89 108 P **P** **12 13 28.2 +0.5**
EIL Elat 68.31 324 LR LR 12 39 53.2
comp=Z,692nm,19.0s,baz=73,slow=33
SSLB Suanglung 68.53 46 IAMs_20 IAMs_20 12 38 26.0
comp=Z,1µm,21.0s
NACB Ninganchiao 69.21 46 IAMs_20 IAMs_20 12 42 50.2
comp=Z,2µm,20.0s
TARG Taragay, Kyrgy 69.37 3 P **P** **12 13 36.4 -0.5**
TARG Taragay, Kyrgy 69.37 3 P **P** **12 13 36.4 -0.5**
TARG pmax pmax
comp=Z,5.0nm,0.8s
YHNB Yeheng 69.43 46 IAMs_20 IAMs_20 12 39 17.8
comp=Z,1µm,20.0s
LZH Lanzhou 69.61 26 *e*P **P** **12 13 38.8 +0.6**
LZH sP pwP 12 13 50.0 +4.5
LZH S **S** **12 22 46.0 -0.3**
LZH pmax pmax
comp=Z,15nm,1.4s
LZH pmax pmax
comp=Z,330nm,4.1s
LZH LR LR
comp=Z,1µm,18.6s
LZH LR LR
comp=Z,1µm,18.9s
LZH LR LR
comp=Z,2µm,19.9s
AML Almayashu 69.68 360 P **P** **12 13 39.2 +0.4**
SNR=11
WHN Wuhan 69.76 37 P **P** **12 13 40.0 +1.0**
ULHL Ulahol 69.83 2 P **P** **12 13 40.0 +0.5**
SNR=22
XAN Xi'an 69.95 30 P **P** **12 13 39.5 -0.8**
XAN pP pwP 12 13 45.0 -2.6
XAN S **S** **12 22 55.0 +4.8**
XAN pmax pmax
comp=Z,25nm,1.1s
XAN LR LR
comp=Z,1µm,18.7s
XAN LR LR
comp=Z,1µm,19.0s
XAN LR LR
comp=Z,3µm,21.6s
BOOM Boomskoye usch 70.06 2 P **P** **12 13 40.1 -0.8**
BOOM Boomskoye usch 70.06 2 P **P** **12 13 40.1 -0.8**
BOOM pmax pmax
comp=Z,15nm,1.4s
AAK Ala-Archa 70.19 0 P **P** **12 13 42.3 +0.7**
SNR=6.7
AAK Ala-Archa 70.19 0 P **P** **12 13 41.7 +0.1**
AAK IAmb IAmb 12 14 01.8
comp=Z,24nm,1.4s
AAK Ala-Archa 70.19 0 IAMs_20 IAMs_20 12 41 09.7
comp=Z,1µm,20.0s
AAK Ala-Archa 70.19 0*ce*P **P** **12 13 41.3 -0.3**
AAK pmax pmax
comp=Z,6.0nm,1.2s
AAK Ala-Archa 70.19 0 P **P** **12 13 41.0 -0.7**
comp=Z,8.0nm,1.1s,baz=210,slow=9.1,SNR=14

AAK LR LR 12 42 51.1
comp=Z,1µm,18.2s,baz=182,slow=35
comp=Z,8.0nm,1.1s
EKS2 Erkin-Say 70.21 360 P **P** **12 13 42.3 +0.6**
SNR=8.8
KBK Karagaybulak 70.21 1 P **P** **12 13 40.1 -1.7**
SNR=5.2
TKM2 Tokmak 2 70.48 1 P **P** **12 13 43.8 +0.3**
SNR=22
KK31 Karatay Array 70.72 357 P **P** **12 13 44.6 -0.1**
KK31 IAmb IAmb 12 13 46.2
comp=Z,14nm,0.9s
KK31 Karatay Array 70.72 357 P **P** **12 13 44.6 -0.1**
KK31 pmax pmax
comp=Z,14nm,0.9s
KKAR Karatay Array 70.72 357 P **P** **12 13 44.8 +0.1**
KKAR IAmb IAmb 12 13 46.2
comp=Z,14nm,0.9s
KKAR Karatay Array 70.72 357 P **P** **12 13 44.8 +0.1**
KKAR 12 13 44.8
KKAR pmax pmax
comp=Z,14nm,0.9s
SATY Saty 70.72 3 *e*P **P** **12 13 44.3 -0.6**
comp=Z,11nm,1.3s,baz=3.4
SATY Saty 70.72 3 *e*P **P** **12 13 44.2 -0.6**
SATY pmax pmax
comp=Z,11nm,1.3s
MDOK Medeo 70.77 2 *i* P **P** **12 13 44.7 -0.5**
baz=2.3
MDOK *e*S **S** **12 22 59.9 +0.3**
baz=2.3
MDOK Medeo 70.77 2 *i* P **P** **12 13 44.6 -0.5**
MDOK *e*S **S** **12 22 59.9 +0.3**
MMAI Mount Meron Ar 70.77 326 LR LR 12 41 45.6
comp=Z,488nm,18.1s,baz=105,slow=33
AAA Alma-Ata 70.81 2 *e*P **P** **12 13 45.3 0.0**
baz=2.2
AAA Alma-Ata 70.81 2 *e*P **P** **12 13 45.3 0.0**
USP Ospenovka 70.81 0 P **P** **12 13 45.8 +0.5**
SNR=16
ZHN Zhinishke 70.83 3 *e*P **P** **12 13 44.9 -0.6**
baz=3.4
ZHN Zhinishke 70.83 3 *e*P **P** **12 13 44.9 -0.6**
UZB Uzynbulak 70.85 4 *e*P **P** **12 13 45.2 -0.5**
baz=3.8
UZB Uzynbulak 70.85 4 *e*P **P** **12 13 45.2 -0.5**
PMG Port Moresby 70.88 91 P **P** **12 13 45.8 -0.6**
PMG Port Moresby 70.88 91 IAMs_20 IAMs_20 12 44 28.6
comp=Z,1µm,19.0s
PMG Port Moresby 70.88 91 P **P** **12 13 47.1 +0.7**
PMG Port Moresby 70.88 91*ce*P **P** **12 13 46.5 +0.1**
PMG pmax pmax
comp=Z,61nm,1.1s
PMG Port Moresby 70.88 91 P **P** **12 13 46.2 -0.1**
comp=Z,24nm,0.9s,baz=314,slow=5.3,SNR=8.8
comp=Z,24nm,0.9s
SHLS Shalkode 70.89 4 *e*P **P** **12 13 46.0 +0.2**
baz=4.5
SHLS Shalkode 70.89 4 *e*P **P** **12 13 46.0 +0.2**
SGDS Sogindy 71.00 1⇓*i*P **P** **12 13 46.2 -0.3**
comp=Z,14nm,1.2s,baz=0.4
SGDS Sogindy 71.00 1*d i*P **P** **12 13 46.2 -0.3**
SGDS pmax pmax
comp=Z,14nm,1.2s
KPKS Kokpek 71.15 4⇓*i*P **P** **12 13 46.6 -0.8**
comp=Z,13nm,1.3s,baz=3.5
KPKS Kokpek 71.15 4*d i*P **P** **12 13 46.6 -0.8**
KPKS pmax pmax
comp=Z,13nm,1.3s
GTA Gaotai 71.18 21 *e*P **P** **12 13 48.0 +0.3**
GTA PcP **PcP** **12 14 08.3 +0.6**
GTA S **S** **12 23 08.5 +4.0**
GTA pmax pmax
comp=Z,8.0nm,1.3s
GTA LR LR
comp=Z,430nm,22.5s
GTA LR LR
comp=Z,460nm,21.4s
GTA LR LR
comp=Z,520nm,23.3s
CHKK Chushkaly 71.45 2 *e*P **P** **12 13 48.2 -0.9**
CHKK Chushkaly 71.45 2 *e*P **P** **12 13 48.2 -0.9**
KUU Kurty 71.47 2⇓*i*P **P** **12 13 48.5 -0.7**
baz=1.7
KUU Kurty 71.47 2*d i*P **P** **12 13 48.5 -0.7**
ARXS Arharly 71.85 3 *e*P **P** **12 13 50.5 -1.1**
LYN LuoYang 72.02 33 *e*P **P** **12 13 53.0 +0.3**
LYN PP **PP** **12 16 39.5 +6.4**
LYN S **S** **12 23 14.0 -0.1**
LYN sS SKiKP 12 23 21.8 -8.1
LYN pmax pmax
comp=Z,21nm,1.0s
LYN pmax pmax
comp=Z,440nm,5.7s
LYN LR LR
comp=Z,2µm,21.3s
LYN LR LR
comp=Z,1µm,19.6s
LYN LR LR
comp=Z,3µm,23.4s
WMQ Urumqi 72.47 10 *e*P **P** **12 13 55.0 -0.3**
WMQ pP pwP 12 14 01.0 -1.7
WMQ PcP **PcP** **12 14 12.5 -0.5**
WMQ pmax pmax
comp=Z,20nm,1.5s
WMQ LR LR
comp=Z,680nm,19.1s
WMQ LR LR
comp=Z,330nm,19.1s
WMQ LR LR
comp=Z,630nm,25.7s
GURO Guroymak-BITLI 72.52 334 P **P** **12 13 56.2 +0.4**
BTLS Baital 72.59 0⇓*i*P **P** **12 13 55.5 -0.3**
comp=Z,16nm,1.1s,baz=360
BTLS Baital 72.59 0*d i*P **P** **12 13 55.5 -0.3**
BTLS pmax pmax
comp=Z,16nm,1.1s
TDK Taldyqorghan 72.66 3 *e*P **P** **12 13 55.7 -0.7**
comp=Z,16nm,1.1s,baz=3.2
TDK Taldyqorghan 72.66 3 *e*P **P** **12 13 55.6 -0.7**
TDK pmax pmax
comp=Z,18nm,1.1s
NJ2 Nanjing 73.36 39 *e*P **P** **12 14 00.8 +0.1**
NJ2 pP **pwP** **12 14 06.5 -1.6**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 LR LR
comp=Z,1µm,14.9s
NJ2 LR LR
comp=Z,1µm,17.5s
NJ2 LR LR
comp=Z,2µm,17.1s
SSE Sheshan 73.97 41 P **P** **12 14 04.5 +0.2**
SSE S **S** **12 23 39.3 +2.9**
SSE pmax pmax
comp=Z,15nm,0.8s
SSE pmax pmax
comp=Z,74nm,5.1s
SSE LR LR
comp=Z,470nm,20.1s
SSE LR LR
comp=Z,400nm,20.6s
MANU Manus Island 74.42 84 P **P** **12 14 08.4 +1.0**
MAK Makhachkala 74.59 340 *e*P **P** **12 14 04.0 -3.6**
MAK *e*S **S** **12 23 38.4 -4.4**
MAK pmax pmax
comp=Z,166nm,1.0s
MAKZ Makanchi 74.71 6 IAMs_20 IAMs_20 12 45 12.2
comp=Z,1µm,20.0s
MK31 Makanchi Array 74.72 6 P **P** **12 14 07.5 -0.9**
MK31 Makanchi Array 74.72 6 P **P** **12 14 07.5 -0.9**
MK31 pmax pmax
comp=Z,10.0nm,1.0s
MKAR Makanchi Array 74.72 6 P **P** **12 14 06.8 -1.6**
MKAR Makanchi Array 74.72 6 *e*P **P** **12 14 06.8 -1.6**
MKAR Makanchi Array 74.72 6 P **P** **12 14 06.4 -2.0**
comp=Z,7.5nm,0.8s,baz=186,slow=6.8,SNR=20
MKAR LR LR 12 45 14.8
comp=Z,916nm,20.5s,baz=191,slow=34
comp=Z,7.5nm,0.8s
HNS HongShan 75.39 33⇓P **P** **12 14 12.5 +0.1**
HNS S **S** **12 23 53.8 +1.8**
HNS pmax pmax
comp=Z,29nm,1.3s
HNS LR LR
comp=Z,670nm,20.3s
HNS LR LR
comp=Z,1µm,20.7s
HNS LR LR
comp=Z,1µm,22.7s
JOW Kunigami 75.40 49 LR LR 12 42 51.2
comp=Z,756nm,22.0s,baz=182,slow=32
TIA Tai'an 75.64 35 P **P** **12 14 13.0 -0.9**
TIA pmax pmax
comp=Z,19nm,1.2s
ZSN Zaisan 75.64 8 *e*P **P** **12 14 12.1 -1.6**
comp=Z,9.8nm,1.1s,baz=7.5
ZSN Zaisan 75.64 8 *e*P **P** **12 14 12.9 -0.8**
ZSN pmax pmax
comp=Z,10.0nm,1.1s
BTO Baotou 75.95 28 *e*P **P** **12 14 16.5 +0.8**
BTO pP **pwP** **12 14 21.3 -1.8**
BTO sP **PcP** **12 14 23.5 -4.6**
BTO PP **PP** **12 17 09.3 +2.7**
BTO S **S** **12 24 00.5 +2.2**
BTO sS **sS** **12 24 06.5 +3.0**
BTO SS **SS** **12 28 56.3 +4.7**
BTO pmax pmax
comp=Z,31nm,0.9s
BTO pmax pmax
comp=Z,650nm,4.8s
BTO LR LR
comp=Z,1µm,17.6s
BTO LR LR
comp=Z,1µm,19.7s
BTO LR LR
comp=Z,1µm,19.5s
RPZ Rata Peaks 76.06 132 LR LR 12 40 06.2
comp=Z,347nm,21.9s,baz=240,slow=30
HHC Hu-ho-hao-te 76.79 28 *e*P **P** **12 14 22.8 +2.3**
HHC S **S** **12 24 09.5 +1.9**
HHC sS sS 12 24 17.0 +4.3
HHC ScS **ScS** **12 24 36.5 -0.3**
HHC pmax pmax
comp=Z,23nm,0.7s
HHC pmax pmax
comp=Z,280nm,4.3s
HHC LR LR
comp=Z,2µm,18.6s
HHC LR LR
comp=Z,1µm,18.3s
HHC LR LR
comp=Z,1µm,20.4s
KIV Kislovodsk 77.02 337 *e*P **P** **12 14 21.7 0.0**
KIV pmax pmax
comp=Z,12nm,1.0s
BRTR Keskin Array B 77.03 329 P **P** **12 14 21.9 0.0**
BRTR Keskin Array B 77.03 329 P **P** **12 14 22.0 0.0**
BRTR Keskin Array B 77.03 329 P **P** **12 14 22.4 +0.4**
comp=Z,2.9nm,0.9s,baz=148,slow=7.3,SNR=11
BRTR LR LR 12 46 39.0
comp=Z,648nm,19.1s,baz=140,slow=34
comp=Z,2.9nm,0.9s
BR131 Keskin Array S 77.03 329 P **P** **12 14 21.3 -0.6**
BR131 IAmb IAmb 12 14 23.5
comp=Z,38nm,1.8s
BR131 Keskin Array S 77.03 329 P **P** **12 14 21.3 -0.6**
BR131 pmax pmax
comp=Z,38nm,1.8s
ABKAR Akbulak array 77.81 351 P **P** **12 14 24.8 -1.0**
ABKAR Akbulak array 77.81 351 P **P** **12 14 25.2 -0.7**
ABKAR IAmb IAmb 12 14 26.1
comp=Z,11nm,1.1s
BJT Baijiatuau 78.16 32 P **P** **12 14 27.5 -0.5**
BJT Baijiatuau 78.16 32 IAMs_20 IAMs_20 12 48 00.2
comp=Z,766nm,21.0s
BJT Baijiatuau 78.16 32 P **P** **12 14 27.5 -0.5**
BJT pmax pmax
comp=Z,13nm,1.1s
BJT MLR MLR
comp=Z,800nm,21.0s
DGZ Jazzator, Alta 78.18 9 *i* P **P** **12 14 26.8 -1.3**
DGZ pmax pmax
comp=Z,8.0nm,1.2s
KURBB Kurchatov Arra 78.28 3 P **P** **12 14 28.2 -0.2**
comp=Z,4.3nm,0.7s,baz=194,slow=5.8,SNR=22
KURBB LR LR 12 47 30.8
comp=Z,746nm,19.5s,baz=188,slow=35
comp=Z,4.3nm,0.7s
KURK Kurchatov 78.38 3 P **P** **12 14 28.4 -0.5**
KURK Kurchatov 78.38 3 IAMs_20 IAMs_20 12 47 20.3
comp=Z,782nm,20.0s
KURK Kurchatov 78.38 3*ce*P **P** **12 14 28.4 -0.5**
KURK pmax pmax
comp=Z,24nm,1.5s
AKTO Aktyubinsk 79.25 350 P **P** **12 14 32.8 -1.0**
comp=Z,3.8nm,0.9s,baz=172,slow=4.3,SNR=7.9
AKTO LR LR 12 49 40.2
comp=Z,390nm,18.3s,baz=105,slow=36
comp=Z,3.8nm,0.9s
BVAR Borovoye Array 80.64 358 P **P** **12 14 40.7 -0.6**
comp=Z,6.1nm,0.9s,baz=165,slow=6.9,SNR=20
BVAR LR LR 12 48 51.3
comp=Z,783nm,20.1s,baz=170,slow=35
comp=Z,6.1nm,0.9s
BRVK Borovoye 80.67 358 P **P** **12 14 41.3 -0.1**
BRVK Borovoye 80.67 358 IAMs_20 IAMs_20 12 48 48.2
comp=Z,993nm,21.0s
BRVK Borovoye 80.67 358*ce*P **P** **12 14 40.8 -0.6**
BRVK pmax pmax
comp=Z,13nm,1.1s
SONM Songino Array 80.84 21 P **P** **12 14 41.8 -0.8**
SONM IAmb IAmb 12 14 43.9
comp=Z,39nm,1.9s
SONM Songino Array 80.84 21 P **P** **12 14 42.2 -0.5**
comp=Z,3.6nm,0.8s,baz=111,slow=8.4,SNR=18
comp=Z,3.6nm,0.8s
TOA0 Torodi Ar. Sit 80.92 290 P **P** **12 14 43.2 -0.5**
TORD Torodi Ar. Bea 80.92 290 P **P** **12 14 43.3 -0.3**
TORD Torodi Ar. Bea 80.92 290 P **P** **12 14 43.8 +0.1**
comp=Z,5.5nm,1.1s,baz=90,slow=4.2,SNR=18
TORD LR LR 12 50 12.6
comp=Z,503nm,18.3s,baz=128,slow=35
comp=Z,5.5nm,1.1s
KOUNC Koumac, New Ca 80.95 108 P **P** **12 14 42.5 -1.4**
KOUNC IAmb IAmb 12 14 51.0
comp=Z,26nm,1.0s
KOUNC Koumac, New Ca 80.95 108 P **P** **12 14 44.2 +0.4**
ULN Ulaanbaatar 81.08 22 P **P** **12 14 42.7 -1.3**
ULN Ulaanbaatar 81.08 22 IAMs_20 IAMs_20 12 49 06.5
comp=Z,614nm,21.0s
ULN Ulaanbaatar 81.08 22*ce*P **P** **12 14 43.1 -0.9**
ULN pmax pmax
comp=Z,13nm,1.2s
JNU Nakatsue 81.26 45 LR LR 12 47 55.1
comp=Z,1µm,21.1s,baz=204,slow=34
ALN Alexandroupoli 81.58 325 P **P** **12 14 46.6 0.0**
ALN Alexandroupoli 81.58 325 P **P** **12 14 46.6 0.0**
ALN pmax pmax
comp=Z,77nm,1.7s
TOZ Tahuroa Road 81.79 128 P **P** **12 14 47.8 -0.1**
TOZ IAmb IAmb 12 14 57.0
comp=Z,21nm,1.1s
NOUC Port Laguerre 81.94 111 P **P** **12 14 48.9 -0.2**
RDO Rodhopi 82.02 325 P **P** **12 14 48.3 -0.5**
RDO IAmb IAmb 12 15 00.8
comp=Z,16nm,1.1s
PMSA Palmer Station 82.03 197 LR LR 12 50 37.6
comp=Z,296nm,18.0s,baz=136,slow=35
ZAA0 Zalesovo Array 82.05 6 P **P** **12 14 47.2 -1.4**
ZAA0 IAmb IAmb 12 14 48.7
comp=Z,32nm,1.8s
ZALV Zalesovo Beam 82.05 6 P **P** **12 14 47.0 -1.7**
ZALV Zalesovo Beam 82.05 6 P **P** **12 14 47.5 -1.1**
comp=Z,4.1nm,0.7s,baz=195,slow=5.3,SNR=15
ZALV LR LR 12 50 52.9
comp=Z,738nm,18.1s,baz=200,slow=36
comp=Z,4.1nm,0.7s
DZM Mont Dzumac 82.07 111 *e*S **S** **12 25 03.6 -1.0**
comp=Z,132nm,26.7s
DZM *e*SS **SS** **12 30 20.4 -3.2**
comp=Z,129nm,28.4s
DZM Mont Dzumac 82.07 111 *e*LR LR 12 40 23.4
comp=Z,1µm,22.2s
DZM Mont Dzumac 82.07 111 P **P** **12 14 49.1 -0.8**
DZM IAmb IAmb 12 14 51.3
comp=Z,19nm,1.1s
DZM Mont Dzumac 82.07 111 P **P** **12 14 50.8 +0.9**
DZM Mont Dzumac 82.07 111 P **P** **12 14 50.2 +0.3**
comp=Z,5.8nm,0.7s,baz=232,slow=15,SNR=4.3
DZM LR LR 12 50 13.7

comp=Z,826nm,18.8s,baz=242,slow=35
comp=Z,5.8nm,0.7s
HNR Honiara 82.16 97 P **P** **12 14 49.7 -0.6**
HNR Honiara 82.16 97 P **P** **12 14 51.7 +1.4**
HNR Honiara 82.16 97 P **P** **12 14 49.9 -0.4**
comp=Z,1μm,1.0s,baz=246,slow=2.4,SNR=5.5
ZAK Zakamensk 82.16 18 *eP* **P** **12 14 46.6 -2.9**
ZAK pmax pmax
comp=Z,5.0nm,1.6s
KSAR Wonju Array Be 82.37 40 P **P** **12 14 50.0 -0.8**
KSAR Wonju Array Be 82.37 40 P **P** **12 14 50.0 -0.8**
KSRS Korea Array 82.40 41 P **P** **12 14 50.9 0.0**
comp=Z,8.2nm,0.8s,baz=230,slow=5.1,SNR=22
KSRS LR LR 12 49 25.0
comp=Z,1μm,20.3s,baz=230,slow=34
comp=Z,8.2nm,0.8s
YATNC Mamie plateau, 82.45 111 P **P** **12 14 53.3 +1.6**
URZ Urewera 82.64 129 LR LR 12 44 15.6
comp=Z,236nm,21.7s,baz=360,slow=30
BELG Belogornoye 83.20 344 LR LR 12 51 18.4
comp=Z,234nm,20.3s,baz=155,slow=35
DBIC Dimbokro 83.27 281 P **P** **12 14 56.3 +0.3**
DBIC IAmb IAmb 12 15 00.2
comp=Z,27nm,1.6s
DBIC Dimbokro 83.27 281 P **P** **12 14 56.3 +0.3**
DBIC pmax pmax
comp=Z,27nm,1.7s
DBIC Dimbokro 83.27 281 P **P** **12 14 57.9 +1.9**
comp=Z,6.6nm,1.1s,baz=156,slow=1.7,SNR=3.8
DBIC LR LR 12 49 40.0
comp=Z,1μm,19.8s,baz=108,slow=34
comp=Z,6.6nm,1.1s
VRH Novokhopyorsk 83.72 340 *eP* **P** **12 14 56.3 -1.1**
VRH pmax pmax
comp=Z,29nm,1.4s
CFR Carcaliu 83.83 329 ⇑P **P** **12 14 58.2 +0.1**
CFR Carcaliu 83.83 329 P **P** **12 14 58.2 +0.1**
FNA Florina 83.93 323 P **P** **12 14 58.1 -0.8**
FNA Florina 83.93 323 P **P** **12 14 58.1 -0.8**
FNA pmax pmax
comp=Z,8.0nm,1.1s
KBN Korca 84.13 322 P **P** **12 14 59.9 0.0**
KBN Korca 84.13 322 P **P** **12 14 59.9 0.0**
KBN pmax pmax
comp=Z,54nm,1.5s
VORD Divnogorie 84.27 339 *eP* **P** **12 14 57.5 -2.7**
VORD pmax pmax
comp=Z,10.0nm,0.5s
VSR Storozhevoye 84.52 339 *eP* P 12 14 55.7 -5.8
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORR Voronezh 84.90 339 *eP* **P** **12 15 02.9 -0.5**
VORR pmax pmax
comp=Z,19nm,1.3s
VRI Vrincioaia 85.00 329 ⇑P **P** **12 15 05.2 +1.1**
VRI Vrincioaia 85.00 329 P **P** **12 15 05.2 +1.1**
ARU Arti 85.00 352 P **P** **12 15 03.2 -0.6**
ARU IAmb IAmb 12 15 05.3
comp=Z,36nm,1.5s
ARU Arti 85.00 352 *d iP* **P** **12 15 02.4 -1.4**
ARU S **SKSac** **12 25 25.0 -2.7**
ARU pmax pmax
comp=Z,35nm,1.6s
ARU MLR MLR
comp=Z,505nm,18.0s
ARU Arti 85.00 352 P **P** **12 15 03.9 +0.1**
comp=Z,1.8nm,0.3s,baz=177,slow=4.7,SNR=12
ARU LR LR 12 52 06.6
comp=Z,552nm,19.2s,baz=154,slow=35
comp=Z,1.8nm,0.3s
PLOR Plostina 85.02 329 ⇑P **P** **12 15 04.7 +0.5**
PLOR Plostina 85.02 329 P **P** **12 15 04.7 +0.5**
MLR Muntele Rosu 85.07 328 ⇑P **P** **12 15 05.8 +1.2**
MLR Muntele Rosu 85.07 328 P **P** **12 15 05.4 +0.8**
MLR Muntele Rosu 85.07 328 P **P** **12 15 05.4 +0.8**
MLR pmax pmax
comp=Z,93nm,1.6s
SVE Sverdlovsk 85.14 353 ⇓*eP* **P** **12 15 05.3 +0.8**
SVE pmax pmax
comp=Z,38nm,1.5s
COVR Voineasa-Covas 85.22 329 ⇑P **P** **12 15 05.6 +0.4**
BLKB Belogradchik 85.28 325 ⇑P **P** **12 15 06.1 +0.5**
VOIR 85.45 328 ⇑P **P** **12 15 06.4 -0.1**
VOIR 85.45 328 P **P** **12 15 06.3 -0.1**
TURR Turia 85.47 329 ⇓P **P** **12 15 06.6 +0.2**
TESR Tescani 85.52 329 ⇓P **P** **12 15 07.1 +0.4**
CN2 Changchun 85.54 35 *eP* **P** **12 15 05.8 -1.0**
CN2 *eS* **S** **12 25 36.3 -1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,700nm,14.0s
CN2 LR LR
comp=Z,600nm,14.0s
CN2 LR LR
comp=Z,1μm,17.0s
ARR Arges 85.60 328 ⇑P **P** **12 15 07.4 +0.2**
OZUR 85.60 329 ⇑P **P** **12 15 07.2 +0.1**
DOPR Dopca 85.69 328 ⇑P **P** **12 15 07.7 +0.2**
VAE Valguarnera 85.69 317 P **P** **12 15 06.9 -0.9**
comp=Z,3.8nm,0.5s,baz=178,slow=20,SNR=1.7
comp=Z,3.8nm,0.5s
LPSR Galich'ya Gora 85.79 339 *eP* **P** **12 15 05.7 -2.1**
LPSR pmax pmax
comp=Z,20nm,1.3s
PDG Podgorica 86.22 323 P **P** **12 15 10.4 +0.2**
CLTB Caltabellotta 86.48 316 IAMs_20 IAMs_20 12 56 06.9
comp=Z,674nm,18.0s
GZR Gura Zlata 86.51 327 ⇑P **P** **12 15 12.5 +0.8**
GZR Gura Zlata 86.51 327 P **P** **12 15 12.4 +0.8**
MDVR Moldovita 86.59 326 ⇑P **P** **12 15 11.9 -0.2**
DEV Deva 86.80 327 ⇑P **P** **12 15 14.4 +1.3**
DEV Deva 86.80 327 P **P** **12 15 14.3 +1.3**
DIVS Divibare 86.98 324 P **P** **12 15 14.2 +0.1**
HIA Hailar 86.99 28 IAMs_20 IAMs_20 13 00 42.0
comp=Z,823nm,18.0s
BURAR Bucovina Array 87.00 329 ⇑P **P** **12 15 15.3 +1.2**
BURAR Bucovina Array 87.00 329 P **P** **12 15 14.9 +0.8**
BURAR Bucovina Array 87.00 329 P **P** **12 15 15.2 +1.2**
BUR08 Bucovina Ar. S 87.03 329 P **P** **12 15 14.4 +0.1**
BUR08 IAmb IAmb 12 16 30.6
comp=Z,39nm,1.9s
SURR Surduc 87.09 327 ⇑P **P** **12 15 15.4 +1.0**
BZS Buzias 87.24 326 ⇑P **P** **12 15 15.7 +0.5**
BZS Buzias 87.24 326 P **P** **12 15 15.6 +0.5**
MARR Marisel-Cluj 87.27 328 ⇑P **P** **12 15 15.7 +0.3**
AKASG Malin Array Be 87.66 333 P **P** **12 15 16.0 -1.1**
AKASG IAmb IAmb 12 15 18.3
comp=Z,42nm,1.9s
AKASG Malin Array Be 87.66 333 P **P** **12 15 16.4 -0.6**
comp=Z,6.8nm,0.8s,baz=139,slow=4.1,SNR=28
comp=Z,6.8nm,0.8s
AKBB Malin Array Si 87.66 333 P **P** **12 15 16.2 -0.8**
AKBB IAmb IAmb 12 15 18.1
comp=Z,20nm,1.0s
AKBB Malin Array Si 87.66 333 P **P** **12 15 16.2 -0.8**
AKBB pmax pmax
comp=Z,20nm,1.0s
KIEV Kiev 87.66 333 ⇑P **P** **12 15 17.9 +0.8**
KIEV Kiev 87.66 333 P **P** **12 15 16.6 -0.4**
KIEV IAmb IAmb 12 15 18.1
comp=Z,18nm,1.0s
KIEV Kiev 87.66 333 *eP* **P** **12 15 16.6 -0.4**
KEST Kesra 87.80 313 P **P** **12 15 19.0 +0.8**
KEST Kesra 87.80 313 P **P** **12 15 19.1 +1.0**
comp=Z,18nm,1.1s,baz=142,slow=9.3,SNR=9.4
KEST LR LR 12 54 49.8
comp=Z,412nm,18.1s,baz=78,slow=36
comp=Z,18nm,1.1s
BNX BinXian 87.90 34 ⇑P **P** **12 15 17.0 -1.3**
BNX pmax pmax
comp=Z,14nm,1.2s
BNX pmax pmax
comp=Z,480nm,6.0s
MJAR Matsushiro Arr 88.08 47 P **P** **12 15 18.7 -0.7**
comp=Z,7.1nm,0.9s,baz=228,slow=5.0,SNR=8.6
comp=Z,7.1nm,0.9s
KIRV Kirov 88.55 347 LR LR 12 53 29.5
comp=Z,232nm,20.3s,baz=142,slow=35
OBN Obninsk 88.67 340 ⇑*iP* **P** **12 15 22.4 +0.7**
OBN *e* 12 18 52.4
OBN *eSS* SS 12 32 05.3 +5.4
OBN SSS SSS 12 35 41.0
OBN pmax pmax
comp=Z,34nm,1.6s
OBN MLR MLR
comp=Z,215nm,17.0s
OBN Obninsk 88.67 340 LR LR 12 53 59.7
comp=Z,236nm,20.3s,baz=155,slow=35
MOS Moscow 88.88 340 *eP* **P** **12 15 21.3 -1.4**
MOS pmax pmax
comp=Z,44nm,1.3s
INTR Introdacqua 88.90 320 P **P** **12 15 22.1 -1.1**
MORH Mrgy, Hungar 89.14 325 ⇑P **P** **12 15 24.3 +0.2**
LVV L'vov 89.16 330 *eP* **P** **12 15 23.2 -1.0**
LVV pmax pmax
comp=Z,80nm,1.4s
USRK Ussuriysk Ar. 89.23 38 P **P** **12 15 23.4 -1.3**
comp=Z,8.6nm,1.1s,baz=197,slow=5.8,SNR=4.5
USRK LR LR 12 54 52.4
comp=Z,1μm,19.3s,baz=206,slow=35
comp=Z,8.6nm,1.1s
KOLS Kolonicke sedl 89.30 329 *eP* **P** **12 15 25.8 +0.9**
KOLS Kolonicke sedl 89.30 329 *eP* **P** **12 15 25.8 +0.9**
KOLS pmax pmax
comp=Z,7.0nm,1.1s
CAMP Campotosto 89.52 320 P **P** **12 15 25.8 -0.4**
CAMP IAmb IAmb 12 15 27.2
comp=Z,33nm,1.6s
CRVS Cervenica-Dubn 89.65 328 *eP* **P** **12 15 27.4 +0.9**
CRVS Cervenica-Dubn 89.65 328 *eP* **P** **12 15 27.4 +0.9**
CRVS pmax pmax
comp=Z,28nm,1.4s
VYHS Vyhne 90.61 327 *eP* **P** **12 15 31.5 +0.5**
VYHS Vyhne 90.61 327 *eP* **P** **12 15 31.5 +0.5**
VYHS pmax pmax
comp=Z,31nm,1.7s
LANS Liptovska Anna 90.76 328 *eP* **P** **12 15 32.9 +1.2**
LANS Liptovska Anna 90.76 328 *eP* **P** **12 15 32.9 +1.2**
LANS pmax pmax
comp=Z,5.0nm,1.3s
RAO Raoul Island 90.84 124 LR LR 12 50 02.2
comp=Z,245nm,18.4s,baz=124,slow=31
HEH HeiHe 91.08 31 *eP* **P** **12 15 32.0 -1.1**
HEH pmax pmax
comp=Z,12nm,0.8s
SOKA Soboth 91.30 324 *eP* **P** **12 15 35.1 +0.7**
comp=Z,5.4nm,1.6s
RONA Rosalia, Austr 91.33 325 *eP* **P** **12 15 35.1 +0.7**
comp=Z,6.0nm,1.2s
ARSA Arzberg 91.42 325 *eP* **P** **12 15 35.6 +0.8**
comp=Z,6.5nm,1.2s
OBKA Obir 91.45 324 *eP* **P** **12 15 35.8 +0.7**
comp=Z,4.8nm,1.2s
CONA Conrad Observa 91.70 325 *eP* **P** **12 15 36.6 +0.5**
comp=Z,1.6nm,0.9s
NACGM Naroch 91.85 335 *eP* **P** **12 15 35.3 -1.3**
comp=Z,9.0nm,0.7s,baz=139
VRAC Vranov 92.25 327 LR LR 12 57 09.3
comp=Z,96nm,19.6s,baz=98,slow=36
KLR Kul'dur 92.43 34 LR LR 12 58 23.6
comp=Z,473nm,18.8s,baz=212,slow=36
MOA Molln 92.46 324 *eP* **P** **12 15 40.1 +0.5**
comp=Z,4.8nm,1.4s
KLMR Klimovskoe 92.77 344 *eP* **P** **12 15 37.6 -3.1**
KLMR AMP 12 15 43.0
comp=Z,32nm,1.3s
KLMR *ePP* **PP** **12 19 15.7 -7.6**
KLMR LR LR 12 52 20.4
KLMR Klimovskoe 92.77 344 *eP* **P** **12 15 37.5 -3.1**
KLMR pmax pmax
comp=Z,32nm,1.3s
ZEA Zeya 93.46 29 *eP* **P** **12 15 43.4 -0.6**
ZEA MLR MLR
comp=Z,900nm,16.0s
WTTA Wattenberg 93.47 323 *eP* **P** **12 15 44.9 +0.4**
comp=Z,4.8nm,1.3s
WATA Walderalm 93.55 323 *eP* **P** **12 15 45.2 +0.4**
comp=Z,12nm,1.6s
MOTA Moosalm 93.81 323 *eP* **P** **12 15 46.4 +0.4**
comp=Z,7.4nm,1.5s
ASAJ Asahikawa 95.22 42 LR LR 13 00 03.1
comp=Z,282nm,18.0s,baz=216,slow=36
CLL Collm 95.30 327 *eSS* SS 12 33 48.0 +12
CLL AMS AMS 13 01 00.0
comp=Z,100nm,21.1s
AVE Averroes 98.21 303 IAMs_20 IAMs_20 13 01 47.9
comp=Z,395nm,18.0s
ESDC Sonseca Array 98.78 310 LR LR 13 01 37.4
comp=Z,272nm,18.3s,baz=126,slow=36
RCBR Riachuelo 104.58 255 IAMs_20 IAMs_20 12 54 27.6
comp=Z,877nm,21.0s
TBI Tubuai 114.06 136 *e*LR LR 12 55 21.0
comp=Z,692nm,33.2s
TBI *e*LR LR 12 55 25.2
comp=Z,2μm,31.8s
PPT2 Papeete2 118.20 132 *e*LR LR 12 57 10.1
comp=Z,701nm,27.0s
PPT2 *e*LR LR 12 57 26.2
comp=Z,465nm,29.2s
KIWB Kanaga Island 122.89 44 PKPdf **PKiKP** **12 21 25.8 +0.9**
ETMB Extrema 126.21 232 PKPdf **PKPdf** **12 21 32.7 +0.4**
ANM Nome 127.94 28 IAMs_20 IAMs_20 13 19 33.6
comp=Z,551nm,21.0s
C19K Lookout Ridge 128.55 22 **PKiKP** **12 21 36.2 +0.4**
E18K Tukpahlearik C 128.88 24 **PKPdf** **12 21 35.4 -0.3**
D19K Kuna River 129.30 22 **PKiKP** **12 21 37.3 0.0**
E19K Redstone River 130.05 23 **PKiKP** **12 21 38.9 +0.2**
I17K Unalakleet 130.10 28 PKPdf **PKiKP** **12 21 39.6 +0.7**
F19K Shaleruckik Mo 130.12 24 **PKiKP** **12 21 38.9 0.0**
G19K Purcell Mounta 130.67 25 **PKiKP** **12 21 40.5 +0.5**
TAOE Nuku Hiva Isla 130.79 133 *e*LR LR 13 03 07.0
comp=Z,211nm,22.8s
D22K Ayikyak River 130.85 20 **PKiKP** **12 21 40.5 +0.1**
F21K Alatna River 131.44 22 PKPdf **PKPdf** **12 21 40.6 0.0**
E22K Anaktuvuk Pass 131.52 21 **PKPdf** **12 21 41.3 +0.5**
E22K IAMs_20 IAMs_20 13 20 41.9
comp=Z,611nm,21.0s
TOLK Toolik Lake Re 131.93 20 PKPdf **PKiKP** **12 21 42.5 -0.1**
IMAR Indian Mountai 131.96 24 PKPdf **PKiKP** **12 21 43.2 +0.5**
ILAR Eielson Array 135.04 23 PKP **PKPdf** **12 21 46.1 -1.3**
comp=Z,1.3nm,0.9s,baz=306,slow=3.2,SNR=8.2
PRP Porcupine Dome 135.06 22 **PKiKP** **12 21 49.4 +0.2**
J26L Joseph Creek 136.35 22 **PKPdf** **12 21 50.2 +0.2**
EPYK Eagle Plains 137.13 18 PKPdf **PKPdf** **12 21 51.4 0.0**
BCAR Beaver Creek A 137.87 23 PKPdf **PKPdf** **12 21 53.0 +0.2**
I30M Mount Dempster 138.08 19 PKPdf **PKPdf** **12 21 54.2 +1.0**
MCRA Macar, Loja 139.22 222 PKPdf **PKPdf** **12 21 57.2 +0.3**
MCRA Macar, Loja 139.22 222 *eP* **PKPdf** **12 21 55.7 -1.1**
SMRT St. Maarten 139.40 265 IAMs_20 IAMs_20 13 13 48.8
comp=Z,461nm,22.0s
OTAV Otavalo 141.83 229 IAMs_20 IAMs_20 13 20 16.9
comp=Z,446nm,20.0s
ROSC El Rosal 142.09 239 PKP **PKPdf** **12 22 02.0 -0.4**
comp=Z,4.2nm,0.4s,baz=298,slow=20,SNR=2.2
PTBC PUERTO BERRIO 143.28 241 *eP* PKPab 12 22 00.6 +0.8
CBOC Ciudad Bolivar 144.03 238 *eP* **PKPab** **12 22 02.6 -0.3**
R33M Jennings River 144.16 22 PKPdf PKPbc 12 22 03.1 +0.6
ZARC Zaragoza, Cauc 144.18 241 *eP* **PKPab** **12 22 01.5 -1.8**
CRJC Cerrejon, Guaj 144.65 248 *eP* **PKPab** **12 22 05.3 +0.2**
UREC San Jos de Ur 144.87 241 *eP* **PKPbc** **12 22 06.1 +0.2**
DBBC Dabeiba 144.93 239 *eP* **PKPbc** **12 22 06.5 +0.3**
YKA Yellowknife Ar 144.95 7 PKPdf **PKPab** **12 22 03.3 -1.3**
YKA Yellowknife Ar 144.95 7 PKiKP **PKPab** **12 22 04.0 -0.6**
YKA Yellowknife Ar 144.95 7 PKP **PKPab** **12 22 04.0 -0.6**
comp=Z,4.8nm,0.9s,baz=339,slow=3.6,SNR=44
YKA PP **PP** **12 25 23.5 +0.5**
comp=Z,1.1nm,1.1s,baz=349,slow=5.0,SNR=3.6
DLBC Dease Lake 145.21 22 **PKPbc** **12 22 05.5 -0.3**
FLDN Fort Liard 145.56 15 **PKPab** **12 22 06.9 0.0**
T35M Bob Quinn 146.26 24 **PKPab** **12 22 09.2 -0.6**
PAYG Puerto Ayora 147.80 211 **PKPdf** **12 22 09.9 -1.9**
PAYG Puerto Ayora 147.80 211 *eP* **PKPdf** **12 22 13.8 +2.0**
FFC Flin Flon 153.03 355 PKPdf **PKPdf** **12 22 18.9 +0.3**
FFC PKPab **PKPab** **12 22 35.9 -1.4**
EDM Edmonton 154.13 10 PKPdf **PKPdf** **12 22 19.0 -1.4**
EDM PKPab **PKPab** **12 22 42.2 +0.1**
EDM Edmonton 154.13 10 PKP2 **PKPab** **12 22 42.2 +0.1**
EDM 13 22 19.0
ULM Lac du Bonnet 156.36 344 PKPab **PKPab** **12 22 51.2 -0.4**
comp=Z,1.9nm,0.8s,baz=177,slow=22,SNR=1.8
GNW Green Mountain 156.41 29 PKPdf **PKPdf** **12 22 22.6 -0.9**
GNW **PKPab** **12 22 52.1 +0.2**
EGMT Eagleton 159.70 7 PKPdf **PKPdf** **12 22 27.0 -0.7**
MSO Missoula 160.11 16 PKPdf **PKPdf** **12 22 28.3 0.0**
MSO PKPab **PKPab** **12 23 07.2 -1.0**
CHMT Chamberlain Mo 160.19 15 PKPdf **PKPdf** **12 22 27.1 -1.4**
CHMT **PKPab** **12 23 07.7 -0.8**
PLID Pearl Lake 161.10 22 PKPdf **PKPdf** **12 22 28.9 -0.6**
PLID PKPab **PKPab** **12 23 11.2 -1.4**
J08A Circle Bar Ran 161.60 30 PKPdf **PKPdf** **12 22 29.2 -0.7**
J08A PKPab **PKPab** **12 23 14.8 0.0**
ORV Oroville 162.71 44 PKPdf **PKPdf** **12 22 28.6 -2.5**
ORV PKPab **PKPab** **12 23 18.0 -1.6**
ORV Oroville 162.71 44 PKIKP **PKPdf** **12 22 28.6 -2.5**
ORV 12 23 18.0
MPK Martis Peak 163.76 42 PKPdf **PKPdf** **12 22 33.5 +1.0**
MPK **PKPab** **12 23 22.0 -2.6**
BW06 Boulder Array 164.90 10 **PKPdf** **12 22 32.2 -1.1**
BW06 PKPab **PKPab** **12 23 28.3 -1.0**
PD31 Pinedale Array 164.90 10 **PKPdf** **12 22 32.2 -1.1**
PD31 PKPab **PKPab** **12 23 27.8 -1.5**
PDAR Pinedale Array 164.90 10 PKP **PKPdf** **12 22 32.9 -0.4**
comp=Z,2.7nm,1.2s,baz=243,slow=0.7,SNR=10
PDAR PKPab **PKPab** **12 23 28.6 -0.7**
comp=Z,0.2nm,0.8s,baz=70,slow=35,SNR=2.0
LCAR Lake Charles 164.96 307 PKPdf **PKPdf** **12 22 32.4 -0.8**
LCAR **PKPab** **12 23 28.7 -1.0**
KVN Kaiserville 165.03 39 **PKPdf** **12 22 32.9 -0.6**
KVN PKPab **PKPab** **12 23 29.2 -0.9**
KVN Kaiserville 165.03 39 PKP2 **PKPab** **12 23 29.2 -0.9**
KVN 13 22 32.9
RYN Ryan 165.08 41 PKPdf **PKPdf** **12 22 33.1 -0.3**
RYN **PKPab** **12 23 29.0 -1.3**
ELK Elko 165.12 28 PKPdf **PKPdf** **12 22 32.8 -0.8**
ELK PKPab **PKPab** **12 23 29.3 -1.2**
ELK Elko 165.12 28 PKIKP **PKPdf** **12 22 32.8 -0.8**
ELK 12 23 29.3
NVAR Mina Array Bea 165.34 41 **PKPdf** **12 22 34.2 +0.4**
NVAR PKPab **PKPab** **12 23 30.7 -0.8**
NVAR Mina Array Bea 165.34 41 PKP **PKPdf** **12 22 34.1 +0.4**
comp=Z,1.2nm,0.9s,baz=241,slow=2.6,SNR=10
NVAR PKPab **PKPab** **12 23 31.4 -0.1**
comp=Z,2.6nm,0.8s,baz=295,slow=4.9,SNR=16
U15A North Rim 170.00 30 PKPdf **PKPdf** **12 22 36.7 -0.5**
U15A PKPab **PKPab** **12 23 51.5 -0.7**
X16A Lo Mia Camp, P 172.04 34 PKPdf **PKPdf** **12 22 39.5 +1.3**
X16A PKPab **PKPab** **12 24 00.9 -0.2**
HSIG 175.56 74 PKPdf **PKPdf** **12 22 39.7 +0.3**
HSIG **PKPab** **12 24 14.9 -2.1**
TXAR Lajitas Array 177.45 305 PKP **PKPdf** **12 22 40.7 +0.9**
comp=Z,2.5nm,1.2s,baz=177,slow=2.5,SNR=6.9
TXAR PKPab PKPab 12 24 26.1 +0.8
comp=Z,1.1nm,1.0s,baz=66,slow=3.1,SNR=6.7

*ASRS **25** 12:08:13.8, 54.°1N±0.°9×86.°4E±0.°9, h5km±1km, MLh3.2/5, confirmed*
*IDC **25** 12:08:15.6±1.4, 54.°14N×86.°42E, h0km, mb3.3/1, mbtmp3.4/5, ML3.1/4, Error ellipse: s-maj=12.4km s-min=11.4km az=70.0*
ISC 25 12:08:15.5±0.9, 54.°16N±0.°03×86.°41E±0.°03, h9km±7km, n18, σ1s20/31, 3C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BJR3	**Bachatsky-3 (S**	**0.17**	**295**	⇑P	**Pg**		**12 08 18.4**	**-0.6**
BJR3				S	**Sg**		**12 08 22.0**	**+0.5**
VCHU	**Verkh-Chumysh,**	**0.20**	**175**	⇓P	**Pg**		**12 08 18.9**	**-0.8**
VCHU				S	**Sg**		**12 08 23.1**	**+0.6**
BJR1	**Bachatsky 1, K**	**0.23**	**290**	⇑P	**Pg**		**12 08 19.7**	**-0.5**
BJR1				S	**Sg**		**12 08 24.4**	**+0.9**
POMOR	**Pomortsevo, Ku**	**0.26**	**15**	⇓P	**Pb**		**12 08 22.5**	**+0.1**
POMOR				S	**Sb**		**12 08 27.0**	**0.0**
KOTO	**Kotino, Kuzbas**	**0.30**	**84**	⇓P	**Pg**		**12 08 21.0**	**-0.5**
KOTO				S	**Sb**		**12 08 27.0**	**-1.2**
ERU	**Erunakovo, Kuz**	**0.57**	**91**	⇓P	**Pb**		**12 08 27.3**	**-0.4**
ERU				Sg	**Sb**		**12 08 35.7**	**-0.3**
ELT	**Eltsovka**	**0.90**	**187**	⇑P	**Pb**		**12 08 32.3**	**-1.1**
ELT				S	**Sb**		**12 08 45.4**	**-0.1**
ZALV	**Zalesovo Beam**	**0.96**	**258**	Pg	**Pg**		**12 08 33.3**	**-0.7**
	5.3nm,0.3s,baz=75,slow=17,SNR=66							
ZALV				Lg	Lg		12 08 47.5	
	32nm,0.3s,baz=81,slow=30,SNR=14							
KEM	**Kemerovo**	**1.20**	**351**	P	**Pg**		**12 08 37.5**	**-1.1**
BALAH	**Balakhonka, Ku**	**1.48**	**351**	P	**Pn**		**12 08 41.3**	**-0.9**
BALAH				S	**Sg**		**12 09 03.6**	**+0.6**
LUZB	**Luzhba, Kemero**	**1.55**	**108**	⇓P	**Pn**		**12 08 42.8**	**-0.5**
LUZB				Sg	**Sg**		**12 09 05.3**	**-0.1**
TASR	**Tashtagol**	**1.65**	**147**	P	**Pn**		**12 08 44.6**	**-0.1**
BRCR	**Berchikul'**	**1.85**	**36**	Pg	**Pn**		**12 08 47.7**	**+0.2**
BRCR				Sg	**Sn**		**12 09 12.2**	**+1.3**
KURBB	**Kurchatov Arra**	**5.98**	**237**	Pn	**Pn**		**12 09 47.1**	**+2.9**
	0.2nm,0.3s,baz=55,slow=14,SNR=9.7							
KURBB				Sn	**Sn**		**12 10 52.9**	**+0.2**
	0.1nm,0.3s,baz=40,slow=15,SNR=1.0							
KURBB				Lg	Lg		12 11 25.9	
	0.3nm,0.3s,baz=57,slow=26,SNR=7.6							
	2.6nm,0.6s							
MKAR	**Makanchi Array**	**7.83**	**201**	Pn	**Pn**		**12 10 12.1**	**+2.6**
	0.7nm,0.3s,baz=23,slow=13,SNR=12							
MKAR				Sn	**Sn**		**12 11 38.8**	**+0.6**
	0.4nm,0.3s,baz=24,slow=28,SNR=7.0							
MKAR				Lg	Lg		12 12 21.6	
	0.3nm,0.3s,baz=23,slow=25,SNR=13							
	1.4nm,0.4s							
BVAR	**Borovoye Array**	**9.60**	**270**	Pn	**Pn**		**12 10 34.8**	**+1.0**
	baz=76,slow=14,SNR=1.6							
BVAR				Sn	**Sn**		**12 12 18.6**	**-3.1**
	0.1nm,0.3s,baz=72,slow=27,SNR=5.9							
	0.6nm,0.4s							
AAK	**Ala-Archa**	**13.96**	**219**	Pn	**Pn**		**12 11 32.1**	**-1.4**
	0.2nm,0.3s,baz=35,slow=18,SNR=1.4							
	0.7nm,0.4s							
ILAR	**Eielson Array**	**54.55**	**25**	P	**P**		**12 17 43.5**	**+0.2**
	0.3nm,0.7s,baz=319,slow=4.6,SNR=4.4							
	0.3nm,0.7s							

*SJA **25** 12:21:27.2±0.7, 21.°91S×67.°18W, h205km±6km, ML3.5, MW3.4*
*SCB **25** 12:21:29.3±1.1, 21.°98S×67.°23W, h179km±9km, ML3.5/2, MW3.5, Error ellipse: s-maj=3.6km s-min=3.0km az=0.0*
*GUC **25** 12:21:30.1±0.5, 21.°94S×67.°48W, h213km±5km, ML3.9*
ISC 25 12:21:27.0±1.5, 21.°99S±0.°04×67.°22W±0.°03, h209km±11km, n69, σ1s55/106, 10C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.30**	**223**	Pg	**Pn**		**12 22 00.3**	**+0.1**
YJA	**Yavi**	**1.59**	**97**	*eP*	**Pn**		**12 22 03.5**	**+0.7**
YJA				*eS*	**Sn**		**12 22 29.2**	**-1.3**
MOCB	**Mochara**	**1.65**	**64**	Pg	**Pn**		**12 22 03.9**	**+0.6**
MOCB				Sg	**Sn**		**12 22 29.1**	**-2.3**
MOCB				IAML			12 22 29.9	
	340nm,0.6s							
LVC	**Limon Verde**	**1.68**	**248**	*eP*	**Pn**		**12 22 04.7**	**+1.2**
LVC				*eS*	**Sn**		**12 22 32.3**	**+0.4**
LVC	**Limon Verde**	**1.68**	**248**	⇑*iP*	**Pn**		**12 22 04.7**	**+1.2**
LVC				*i S*	**Sn**		**12 22 31.0**	**-0.9**
LVC				IAML			12 22 32.4	
	720nm,1.0s							
PB09	**IPOC Station P**	**1.89**	**275**	Pg	**Pn**		**12 22 06.3**	**+1.1**
PB09	**IPOC Station P**	**1.89**	**275**	*eP*	**Pn**		**12 22 06.6**	**+1.4**
PB09				*eS*	**Sn**		**12 22 36.0**	**+1.1**
PB09	**IPOC Station P**	**1.89**	**275**	⇑*iP*	**Pn**		**12 22 06.7**	**+1.4**
HJA	**Humahuaca**	**2.07**	**126**	*eP*	**Pn**		**12 22 06.7**	**-0.5**
HJA				*eS*			12 22 21.0	
HJA				IAML			12 22 51.5	
	comp=Z,69nm,0.4s							
PB06	**IPOC Station P**	**2.29**	**251**	Pg	**Pn**		**12 22 10.4**	**+1.1**
PB06	**IPOC Station P**	**2.29**	**251**	*eP*	**Pn**		**12 22 10.3**	**+1.1**
PB06				*eS*			12 22 32.4	
PB06				IAML			12 22 49.0	
	comp=Z,68nm,0.2s							
PB06	**IPOC Station P**	**2.29**	**251**	*i* P	**Pn**		**12 22 10.2**	**+0.9**
PB06				*i* S	**Sn**		**12 22 41.3**	**-1.0**
PB06				IAML			12 22 43.6	
	comp=E,233nm,0.2s							
PB01	**IPOC Station P**	**2.31**	**294**	Pg	**Pn**		**12 22 10.4**	**+0.9**
PB01	**IPOC Station P**	**2.31**	**294**	*eP*	**Pn**		**12 22 09.8**	**+0.3**
PB01				*eS*	**Sn**		**12 22 42.4**	**-0.2**
PB01				IAML			12 22 42.6	
	comp=Z,173nm,0.2s							
PB01	**IPOC Station P**	**2.31**	**294**	⇑*iP*	**Pn**		**12 22 10.4**	**+0.9**
PB01				*i* S	**Sn**		**12 22 41.7**	**-0.9**
PB01				IAML			12 22 42.5	
	comp=N,435nm,0.4s							
AOVT	**TarijaAcel**	**2.38**	**80**	Pg	**Pn**		**12 22 11.4**	**+1.0**

PB15	**IPOC Station P**	**2.41 239**	Pg		**Pn**	**12 22 12.0 +1.4**
PB15	**IPOC Station P**	**2.41 239**	*e*P		**Pn**	**12 22 12.7 +2.0**
PB15			*e*S		**Sn**	**12 22 44.9 +0.1**
PB15			IAML			12 22 50.6
	comp=Z,434nm,0.2s					
PB15	**IPOC Station P**	**2.41 239**	*e*P		**Pn**	**12 22 12.0 +1.4**
PB15			*i* S		**Sn**	**12 22 44.5 -0.2**
PB15			IAML			12 22 49.9
	comp=N,699nm,0.3s					
PB07	**IPOC Station P**	**2.49 276**	Pg		**Pn**	**12 22 12.8 +1.3**
PB07	**IPOC Station P**	**2.49 276**	*e*P		**Pn**	**12 22 12.6 +1.1**
PB07			*e*S		**Sn**	**12 22 45.8 -0.5**
PB07			IAML			12 22 46.5
	comp=Z,207nm,0.3s					
PB07	**IPOC Station P**	**2.49 276**	*i* P		**Pn**	**12 22 12.4 +0.9**
PB07			*i* S		**Sn**	**12 22 44.4 -1.8**
PB07			IAML			12 22 46.4
	comp=E,412nm,0.6s					
PB02	**IPOC Station P**	**2.58 285**	Pg		**Pn**	**12 22 13.5 +1.1**
PB02	**IPOC Station P**	**2.58 285**	*e*P		**Pn**	**12 22 13.2 +0.7**
PB02			*e*S		**Sn**	**12 22 46.5 -1.3**
PB02			IAML			12 22 47.4
	comp=Z,417nm,0.4s					
PB02	**IPOC Station P**	**2.58 285** ⇑	*i* P		**Pn**	**12 22 13.1 +0.7**
PB02			*i* S		**Sn**	**12 22 45.8 -2.0**
PB02			IAML			12 22 48.4
	comp=E,487nm,0.1s					
PB08	**IPOC Station P**	**2.58 315**	Pg		**Pn**	**12 22 14.4 +1.7**
PB08			Sg		**Sn**	**12 22 47.9 -0.5**
PB08			IAML			12 22 50.0
	comp=E,92nm,0.2s					
PB08	**IPOC Station P**	**2.58 315**	*e*P		**Pn**	**12 22 14.6 +1.9**
PB08			*e*S		**Sn**	**12 22 50.0 +1.6**
PB08			IAML			12 22 52.0
	comp=Z,46nm,0.4s					
PB08	**IPOC Station P**	**2.58 315** ⇑	*i* P		**Pn**	**12 22 14.5 +1.9**
PB08			*i* S		**Sn**	**12 22 47.9 -0.5**
PB04	**IPOC Station P**	**2.73 262**	Pg		**Pn**	**12 22 15.5 +1.3**
PB04	**IPOC Station P**	**2.73 262**	*e*P		**Pn**	**12 22 15.4 +1.2**
PB04			*e*S		**Sn**	**12 22 49.6 -1.5**
PB04			IAML			12 22 51.0
	comp=Z,119nm,0.2s					
PB04	**IPOC Station P**	**2.73 262**	*e*P		**Pn**	**12 22 15.1 +0.8**
PB04			*e*S		**Sn**	**12 22 49.0 -2.1**
PB04			IAML			12 22 55.4
	comp=E,152nm,0.2s					
PB05	**IPOC Station P**	**2.89 252**	Pg		**Pn**	**12 22 17.2 +1.3**
PB05	**IPOC Station P**	**2.89 252**	*e*P		**Pn**	**12 22 16.8 +1.0**
PB05			*e*S		**Sn**	**12 22 52.9 -1.3**
PB05			IAML			12 22 58.5
	comp=Z,41nm,0.2s					
PB05	**IPOC Station P**	**2.89 252**	*i* P		**Pn**	**12 22 16.9 +1.0**
PB05			*i* S		**Sn**	**12 22 52.1 -2.1**
GO01	**Chusmiza**	**2.96 321**	Pg		**Pn**	**12 22 18.7 +1.5**
GO01	**Chusmiza**	**2.96 321**	*e*P		**Pn**	**12 22 18.9 +1.7**
GO01			*e*S		**Sn**	**12 22 58.7 +2.4**
GO01	**Chusmiza**	**2.96 321** ⇑	*i* P		**Pn**	**12 22 18.6 +1.5**
PATCX	**Punta Patache**	**2.97 293**	*e*P		**Pn**	**12 22 17.8 +1.0**
PATCX			*e*S		**Sn**	**12 22 54.4 -1.4**
PATCX	**Punta Patache**	**2.97 293**	*i* P		**Pn**	**12 22 17.4 +0.5**
PATCX			*i* S		**Sn**	**12 22 54.0 -1.8**
PATCX			IAML			12 22 55.4
	comp=N,344nm,0.2s					
AZAP	**Zapla**	**2.98 139**	*e*P		**Pn**	**12 22 18.7 +1.6**
HMBC	**Humberstone**	**3.02 304**	Pg		**Pn**	**12 22 18.1 +0.7**
HMBC	**Humberstone**	**3.02 304**	*e*P		**Pn**	**12 22 18.0 +0.5**
HMBC			*e*S		**Sn**	**12 22 55.1 -1.8**
HMBC	**Humberstone**	**3.02 304** ⇑	*i* P		**Pn**	**12 22 18.0 +0.5**
HMBC			*i* S		**Sn**	**12 22 54.4 -2.5**
HMBC			IAML			12 22 55.9
	comp=N,230nm,0.7s					
TA01	**Diego Aracena**	**3.10 297**	Pg		**Pn**	**12 22 19.2 +0.9**
TA01	**Diego Aracena**	**3.10 297**	*e*P		**Pn**	**12 22 18.8 +0.5**
TA01			*e*S		**Sn**	**12 22 56.0 -2.5**
TA01			IAML			12 22 57.0
	comp=Z,88nm,0.7s					
TA01	**Diego Aracena**	**3.10 297** ⇑	*i* P		**Pn**	**12 22 18.7 +0.5**
TA01			*i* S		**Sn**	**12 22 55.9 -2.5**
TA01			IAML			12 22 56.5
	comp=N,127nm,0.3s					
SLA	**San Lorenzo**	**3.14 150**	*e*P		**Pn**	**12 22 21.8 +2.9**
PB11	**IPOC Station P**	**3.18 314**	Pg		**Pn**	**12 22 20.4 +1.0**
PB11			Sg		**Sn**	**12 22 58.4 -2.0**
PB11	**IPOC Station P**	**3.18 314**	*e*P		**Pn**	**12 22 20.1 +0.8**
PB11			*e*S		**Sn**	**12 22 59.8 -0.6**
PB11			IAML			12 23 01.2
	comp=Z,117nm,0.1s					
PB11	**IPOC Station P**	**3.18 314** ⇑	*i* P		**Pn**	**12 22 20.2 +0.8**
PB11			*i* S		**Sn**	**12 22 58.4 -2.0**
PB11			IAML			12 23 00.5
	comp=E,311nm,0.1s					
TA02	**Huaiquique**	**3.21 302**	Pg		**Pn**	**12 22 20.2 +0.6**
TA02	**Huaiquique**	**3.21 302**	*e*P		**Pn**	**12 22 19.8 +0.2**
TA02			IAML			12 23 03.9
	comp=Z,132nm,0.1s					
TA02	**Huaiquique**	**3.21 302**	*e*P		**Pn**	**12 22 20.1 +0.5**
SOEO	**Opoqueri**	**3.47 350**	Pg		**Pn**	**12 22 24.8 +1.7**
ALOL	**LOMAS DE OLMED**	**3.50 122**	*e*P		**Pn**	**12 22 23.8 +0.8**
ALOL			*e*S		**Sn**	**12 23 04.7 -2.3**
GO02	**Mina Guanaco**	**3.83 214**	Pg		**Pn**	**12 22 29.5 +2.2**
GO02	**Mina Guanaco**	**3.83 214**	*e*P		**Pn**	**12 22 29.3 +1.9**
GO02			*e*S		**Sn**	**12 23 14.6 -0.2**
GO02	**Mina Guanaco**	**3.83 214** ⇓	*i* P		**Pn**	**12 22 29.2 +1.9**
SOTI	**Planta Incahua**	**3.97 58**	Pg		**Pn**	**12 22 30.2 +1.3**
SOET	**ToroToro**	**4.08 19**	Pg		**Pn**	**12 22 32.1 +1.7**
PB16	**IPOC Station P**	**4.22 329**	Pg		**Pn**	**12 22 34.5 +2.1**
PB16	**IPOC Station P**	**4.22 329**	*e*P		**Pn**	**12 22 34.6 +2.1**
PB16			IAML			12 23 27.3
	comp=Z,17nm,0.4s					
PB16	**IPOC Station P**	**4.22 329** ⇑	*i* P		**Pn**	**12 22 34.6 +2.1**
PB16			*i* S		**Sn**	**12 23 23.1 -0.8**
PB12	**IPOC Station P**	**4.45 318**	*e*P		**Pn**	**12 22 34.4 -0.4**
PB12			*e*S		**Sn**	**12 23 25.1 -3.1**
PB12			IAML			12 23 28.2
	comp=Z,27nm,0.2s					
PB12	**IPOC Station P**	**4.45 318**	*e*P		**Pn**	**12 22 34.4 -0.4**
PB12			*e*S		**Sn**	**12 23 24.5 -3.7**
AC01	**Pan de Azucar**	**5.16 216**	*e*P		**Pn**	**12 22 44.5 +0.9**
AC01			*e*S		**Sn**	**12 23 40.0 -4.3**
AC01			IAML			12 23 46.5
	comp=Z,22nm,1.1s					
BBOE	**La Paz, Chanca**	**5.20 352**	Pg		**Pn**	**12 22 46.6 +1.8**
BBOD	**La Paz, Gloria**	**5.48 346**	Pg		**Pn**	**12 22 50.5 +2.2**
LPAZ	**La Paz**	**5.74 351**	Pg		**Pn**	**12 22 53.7 +2.0**

*IDC **25** 12:28:47.5±11.0, 6.°84S×129.°38E, h136km±114km, mb3.3/2, mbtmp4.0/4, ML4.2/2, Error ellipse: s-maj=137.0km s-min=42.4km az=62.0*

ISC 25 12:28:50.0±1.2, **7.°03S**±0.°08×**129.°5E**±0.°2, **h150**km, **n12, σ3^{s}45/10, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.00**	**118**	P	Pn	12 29 32.3	+7.1
FAKI	**Fak Fak**	**4.91**	**34**	P	**Pn**	**12 30 02.2**	**0.0**
SOEI	**Soe**	**5.86**	**242**	P	Pn	12 30 17.5	+2.6
MTN	**Manton Dam**	**5.99**	**165**	P	**Pn**	**12 30 20.3**	**+3.7**
KDU	**Kakadu**	**6.33**	**153**	P	**Pn**	**12 30 24.9**	**+3.8**
KNRA	**Kununurra**	**8.62**	**185**	P	**Pn**	**12 30 54.0**	**+2.3**
WRA	**Warramunga Arr**	**13.66**	**160**	P	**Pn**	**12 31 57.7**	**0.0**
	0.9nm,0.3s,baz=342,slow=13,SNR=22						
WRA				S	**Sn**	**12 34 24.7**	**-4.3**
	1.7nm,0.5s,baz=329,slow=24,SNR=9.4						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**17.07**	**166**	P	**Pn**	**12 32 41.7**	**+1.9**
	2.4nm,0.3s,baz=337,slow=9.4,SNR=291						
ASAR				S	**S**	**12 35 44.9**	**-4.7**
	0.2nm,0.3s,baz=343,slow=25,SNR=4.3						
	13nm,0.6s						
STKA	**Stephens Creek**	**27.17**	**157**	P	**P**	**12 34 19.9**	**+0.5**
	1.3nm,0.7s,baz=333,slow=9.9,SNR=3.5						
	1.3nm,0.7s						
GUN	**Gumba**	**54.61**	**311**	*e*P	P	12 38 08.8	+5.1
	4.7nm,0.3s						
PKI	**Pulchoki**	**54.78**	**311**	*e*P	P	12 38 09.3	+4.4
	3.2nm,0.2s						
MKAR	**Makanchi Array**	**67.99**	**327**	P	**P**	**12 39 30.6**	**-2.3**
	0.3nm,0.5s,baz=134,slow=7.5,SNR=1.9						
	0.3nm,0.5s						

*SOME **25** 12:35:05.0, 39.°10N×75.°55E, h15km*

*NNC **25** 12:35:10.2±3.1, 39.°29N×75.°96E, h0km, mb3.8, mpv3.8, Error ellipse: s-maj=23.5km s-min=13.1km az=146.0*

*IDC **25** 12:35:13.3±7.9, 38.°74N×75.°70E, h158km±48km, mb3.3/4, mbtmp3.6/7, MS4.2/2, Error ellipse: s-maj=78.5km s-min=27.4km az=15.0*

ISC 25 12:35:11.7±1.9, **38.°6N**±0.°2×**75.°5E**±0.°1, **h150**km, **n27, σ0^{s}95/26, mb3.6/4, 1C-2D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**3.48**	**357**	P	**Pn**	**12 36 05.4**	**-0.1**
	SNR=8.5						
ULHL	**Ulahol**	**3.69**	**9**	P	**Pn**	**12 36 08.0**	**0.0**
	SNR=17						
UCH	**Uchtor**	**3.70**	**349**	P	**Pn**	**12 36 08.5**	**+0.2**
	SNR=5.4						
AML	**Almayashu**	**3.78**	**339**	P	**Pn**	**12 36 09.3**	**-0.1**
	SNR=6.5						
AAK	**Ala-Archa**	**4.10**	**350**	P	**Pn**	**12 36 14.0**	**+0.7**
	1.6nm,0.3s,baz=151,slow=7.3,SNR=8.9						
AAK				S	**Sn**	**12 37 01.6**	**+0.3**
	5.8nm,0.4s,baz=253,slow=20,SNR=6.2						
TKM2	**Tokmak 2**	**4.32**	**1**	P	**Pn**	**12 36 17.0**	**+0.8**
	SNR=7.7						
KST	**Kastek**	**4.45**	**5**	*e*Pg	**Pn**	**12 36 18.4**	**+0.5**
	6.1nm,0.2s						
KST				*e*Lg	Lg	12 37 11.3	
	13nm,0.5s						
KST	**Kastek**	**4.45**	**5**	Pg	**Pn**	**12 36 18.4**	**+0.5**
	6.1nm,0.2s						
KST				Lg	Lg	12 37 11.3	
	13nm,0.5s						
MRKS	**Merke**	**4.48**	**338**	*e*Pg	**Pn**	**12 36 18.9**	**+0.7**
	2.2nm,0.0s						
MRKS				*e*Lg	Lg	12 37 12.0	
	13nm,1.2s						
MRKS	**Merke**	**4.48**	**338**	Pg	**Pn**	**12 36 18.9**	**+0.7**
	2.2nm,0.0s						
MRKS				Lg	Lg	12 37 12.0	
	13nm,1.2s						
TNSS	**Tian-Shan**	**4.57**	**14**	*e*Pg	**Pn**	**12 36 19.5**	**-0.2**
	3.8nm,0.1s						
TNSS				*e*Lg	Lg	12 37 13.3	
	2.8nm,0.4s						
TNSS	**Tian-Shan**	**4.57**	**14**	Pg	**Pn**	**12 36 19.5**	**-0.2**
	3.8nm,0.1s						
TNSS				Lg	Lg	12 37 13.3	
	2.8nm,0.4s						
DGS	**Degeres**	**4.64**	**3**	*e*Pg	**Pn**	**12 36 20.9**	**+0.5**
	2.5nm,0.3s						
DGS				*e*Lg	Lg	12 37 15.6	
	6.3nm,0.7s						
DGS	**Degeres**	**4.64**	**3**	Pg	**Pn**	**12 36 20.9**	**+0.5**
	2.5nm,0.3s						
DGS				Lg	Lg	12 37 15.6	
	6.3nm,0.7s						
KK31	**Karatay Array**	**5.87**	**322**	⇑P	**Pn**	**12 36 35.2**	**-1.3**
	1.2nm,0.3s,baz=127,slow=11,SNR=34						
KK31				⇓S	**Sn**	**12 37 40.5**	**-2.4**
	7.2nm,0.4s,baz=129,slow=20						
MKAR	**Makanchi Array**	**9.60**	**29**	P	**Pn**	**12 37 24.6**	**-1.6**
	0.5nm,0.5s,baz=200,slow=14,SNR=7.1						
KURBB	**Kurchatov Arra**	**12.21**	**9**	P	**P**	**12 38 07.3**	**+0.7**
	1.7nm,0.3s,baz=198,slow=11,SNR=6.6						
BVAR	**Borovoye Array**	**14.85**	**348**	P	**P**	**12 38 37.8**	**+1.8**
	0.9nm,0.5s,baz=151,slow=9.9,SNR=6.5						
RAMN	**Ramite**	**14.90**	**138**	*e*P	Pn	12 38 25.3	-10
AB31	**Akbulak array**	**15.42**	**319**	⇓P	**Pn**	**12 38 40.1**	**-1.0**
	0.5nm,0.5s,baz=128,slow=13,SNR=13						
ZALV	**Zalesovo Beam**	**16.63**	**20**	P	**P**	**12 38 55.5**	**0.0**
	1.2nm,0.4s,baz=214,slow=10,SNR=8.1						
SONM	**Songino Array**	**24.21**	**58**	P	**P**	**12 40 13.8**	**-0.6**
	1.0nm,0.8s,baz=253,slow=12,SNR=5.1						
	1.0nm,0.8s						
FINES	**FINESS Array B**	**37.82**	**323**	P	**P**	**12 42 14.1**	**+0.9**
	3.1nm,1.1s,baz=111,slow=11,SNR=3.4						
	3.1nm,1.1s						
ARCES	**ARCESS Array B**	**40.64**	**336**	P	**P**	**12 42 37.4**	**+1.0**
	1.7nm,0.8s,baz=114,slow=10.0,SNR=3.6						
	1.7nm,0.8s						
SPITS	**Spitsbergen Ar**	**46.30**	**346**	LR	LR	13 09 05.7	
	comp=Z,295nm,19.5s,baz=58,slow=44						
BORG	**Borgarnes**	**58.57**	**330**	LR	LR	13 10 41.8	
	comp=Z,179nm,19.9s,baz=80,slow=36						
YKA	**Yellowknife Ar**	**78.92**	**5**	P	**P**	**12 46 57.2**	**-0.8**
	0.2nm,0.5s,baz=349,slow=5.4,SNR=4.9						
	0.2nm,0.5s						

*BJI **25** 12:47:33.0, 3.°41N×126.°69E, h45km, mb4.9/69, mB5.4/38, Ms4.8/57, Ms7 4.7/55*

*MOS **25** 12:47:36.5±1.1, 4.°00N×126.°44E, h32km, mb5.4/63, Error ellipse: s-maj=9.1km s-min=4.1km az=115.6*

*NEIC **25** 12:47:39.4±1.5, 4.°00N±0.°06×126.°52E±0.°08, h34km±3km, mb5.3/146, Mww5.1/21, Error ellipse: s-maj=11.8km s-min=7.8km az=68.0*

*NEIC **25** 12:47:39.5, 4.°00N×126.°92E, h36km, Moment Tensor Solution. Duration: 1ᵍ9 Moment tensor: Scale 10^{16}Nm; M_{rr}4.78; $M_{\theta\theta}$0.70; $M_{\phi\phi}$-5.48; $M_{r\theta}$0.16; $M_{\theta\phi}$0.77; $M_{r\phi}$3.59; Fault plane solution: $M_0$6.31000×10^{16} NP1: ϕ_s359.13000°, δ62.47000°, λ96.40000°. NP2: ϕ_s165.48000°, δ28.21000°, λ77.92000°. Principal axes: T 5.9416, Plg72.0000°, Azm284.0000°; N 0.7327, Plg6.0000°, Azm176.0000°; P -6.6743, Plg17.0000°, Azm84.0000°;*

*DJA **25** 12:47:39.1±0.3, 4.°N±2.°×12.°7E±°, h34km±3km, M5.1/72, mb5.2/72, mB5.5/37, MLv5.4/12, Mw5.2/22, Mw(mB)5.0/37, MwMwp5.0/8, Mwp5.3/8*

*NEIC **25** 12:47:39.5, 4.°00N×126.°52E, h36km*

*GCMT **25** 12:47:40.4±0.2, 4.°03N±0.°01×126.°82E±0.°01, h30km, MW5.2/112, Moment Tensor Solution. s69,c96; s112,c170; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.81±.20; $M_{\theta\theta}$1.28±.12; $M_{\phi\phi}$-6.09±.14; $M_{r\theta}$0.55±.19; $M_{\theta\phi}$-0.02±.09; $M_{r\phi}$4.87±.24; Best double couple: $M_0$7.33500×10^{16} NP1:ϕ_s5.00000°, δ66.00000°, λ95.00000°. NP2:ϕ_s173.00000°, δ24.00000°, λ79.00000°. Principal axes: T 6.7170, Plg69.0000°, Azm285.0000°; N 1.2370, Plg5.0000°, Azm183.0000°; P -7.9540, Plg21.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **25** 12:47:40.1±1.4, 3.°98N×126.°35E, h48km±12km, mb4.6/43, mbtmp4.8/45, ML4.0/2, MS4.4/50 Error ellipse: s-maj=15.3km s-min=9.1km az=84.0*

ISC 25 12:47:39.5±0.3, **4.°00N**±0.°03×**126.°60E**±0.°04, **h41**km±2km, **h42**km:**pP-P, n954, σ1ᵍ28/993, mb5.2/181, MS4.5/77, 22C-15D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.11**	**254**	P	**Pn**	**12 47 58.4**	**-0.2**
SGSI				S	**Sn**	**12 48 14.0**	**+1.3**
DAV	**Davao City (W)**	**3.22**	**342**		**Pn**	**12 48 27.1**	**-0.4**
DAV	**Davao City (W)**	**3.22**	**342**	P	Pn	12 48 33.0	+5.5
DAV	**Davao City (W)**	**3.22**	**342**	P	**Pn**	**12 48 28.9**	**+1.4**
	24nm,0.3s,baz=148,slow=2.4,SNR=18						
DAV				S	**Sn**	**12 49 05.0**	**+0.4**
	2μm,0.8s,baz=285,slow=20,SNR=8.1						
	75nm,0.3s						
TNTI	**Ternate**	**3.29**	**167**	Pn	**Pn**	**12 48 28.2**	**-0.5**
TNTI	**Ternate**	**3.29**	**167**	P	**Pn**	**12 48 29.2**	**+0.6**
TNTI	**Ternate**	**3.29**	**167**	P	**Pn**	**12 48 29.0**	**+0.4**
TNTI				S	**Sn**	**12 49 06.9**	**+0.3**
KMSI	**Cibinong**	**4.29**	**218**	P	**Pn**	**12 48 43.5**	**+1.2**
KMSI				S	**Sn**	**12 49 33.0**	**+1.9**
LBMI	**Labuha**	**4.69**	**169**	P	**Pn**	**12 48 48.3**	**+0.5**
SANI	**Sanana**	**6.04**	**186**	P	**Pn**	**12 49 04.5**	**-1.8**
	163nm,0.7s,2μm0.9nm						
LUWI	**Luwuk**	**6.30**	**217**	Pn	Pn	12 49 14.1	+4.2
LUWI	**Luwuk**	**6.30**	**217**	P	Pn	12 49 14.1	+4.2
LUWI	**Luwuk**	**6.30**	**217**	P	Pn	12 49 14.0	+4.1
TOLI2	**Tolitoli**	**6.48**	**244**	Pn	**Pn**	**12 49 12.0**	**-0.4**
TOLI2	**Tolitoli**	**6.48**	**244**	P	**Pn**	**12 49 12.6**	**+0.2**
SWI	**Sorong**	**6.71**	**136**	P	**Pn**	**12 49 15.6**	**+0.1**
	316nm,1.1s,3μm5μm1.0nm						
NLAI	**Namlea**	**7.21**	**176**	P	**Pn**	**12 49 22.4**	**0.0**
	84nm,0.6s,6μm0.6nm						
MPSI	**Mapaga**	**7.62**	**242**	P	**Pn**	**12 49 28.7**	**+0.7**
	121nm,1.0s,1μm6μm1.2nm						
MYLDM	**Lahad Datu**	**8.16**	**279**		**Pn**	**12 49 39.3**	**+3.9**
I39PW	**PALAU INFRASON**	**8.65**	**66**	I	I	13 39 10.0	
	baz=246,slow=308,SNR=2.8						
FAKI	**Fak Fak**	**8.89**	**140**	Pn	**Pn**	**12 49 46.2**	**+0.6**
FAKI	**Fak Fak**	**8.89**	**140**	P	Pn	**12 49 46.7**	**+1.2**
FAKI	**Fak Fak**	**8.89**	**140**	P	**Pn**	**12 49 44.9**	**-0.6**
	137nm,1.3s,2μm3μm						
BNDI	**Bandanaira**	**9.09**	**159**	P	**Pn**	**12 49 50.3**	**+2.2**
BNDI	**Bandanaira**	**9.09**	**159**	P	**Pn**	**12 49 49.0**	**+0.9**
	299nm,1.2s,7μm						
TTSI	**Tana Toraja**	**9.74**	**224**	P	**Pn**	**12 49 59.2**	**+2.1**
	154nm,1.0s,3μm						
SPSI	**Sidrap Palu**	**10.45**	**221**	P	**Pn**	**12 50 07.0**	**+0.2**
	78nm,1.2s,2μm						
KKM	**Kota Kinabalu**	**10.54**	**282**	Pn	Pn	12 50 13.3	+5.1
KKM	**Kota Kinabalu**	**10.54**	**282**	P	**Pn**	**12 50 11.9**	**+3.7**
BKB	**Balikpapan**	**11.01**	**242**	Pn	**Pn**	**12 50 17.8**	**+3.2**
KAPI	**Kappang**	**11.27**	**217**	Pn	**Pn**	**12 50 20.7**	**+2.7**
KAPI	**Kappang**	**11.27**	**217**	P	**Pn**	**12 50 20.7**	**+2.7**
KAPI	**Kappang**	**11.27**	**217**	P	**Pn**	**12 50 17.8**	**-0.2**
	0.8nm,0.3s,baz=10.0,slow=7.6,SNR=3.4						
KAPI				S	**Sn**	**12 52 28.8**	**+6.1**
	7.4nm,0.3s,baz=84,slow=19,SNR=1.3						
KAPI				LR	LR	12 55 20.1	
	comp=Z,4μm,18.8s,baz=44,slow=42						
	8.4nm,0.8s						
BKSI	**Bulukumba**	**11.29**	**215**	P	**Pn**	**12 50 17.4**	**-1.0**
	26nm,0.8s,815nm						
TGY	**Tagaytay City**	**11.49**	**331**	P	**Pn**	**12 50 20.2**	**-0.9**
	121nm,0.3s,baz=249,slow=15,SNR=1.5						
TGY				LR	LR	12 55 28.2	
	comp=Z,5μm,18.6s,baz=144,slow=41						
SAUI	**Saumlaki**	**12.79**	**158**		**Pn**	**12 50 38.8**	**-0.1**
SAUI	**Saumlaki**	**12.79**	**158**	P	**Pn**	**12 50 42.3**	**+3.4**
SAUI	**Saumlaki**	**12.79**	**158**	P	**Pn**	**12 50 38.1**	**-0.8**
	267nm,1.0s						
SMPI	**Sarmi**	**13.49**	**116**	P	**Pn**	**12 50 48.3**	**-0.1**
	106nm,1.2s						
EDFI	**Ende, Flores**	**13.58**	**201**	P	**Pn**	**12 50 50.3**	**+0.6**
	132nm,1.1s,1μm						
SOEI	**Soe**	**13.86**	**190**	P	**Pn**	**12 50 55.1**	**+1.5**
SOEI	**Soe**	**13.86**	**190**	P	**Pn**	**12 50 54.3**	**+0.7**
	117nm,0.9s,2μm						
BBKI	**Banjar Baru**	**13.89**	**238**	P	**Pn**	**12 50 55.9**	**+2.0**
	217nm,1.7s,5μm						
SBUM	**Sibu**	**14.44**	**264**	Pn	**Pn**	**12 51 01.6**	**+0.3**
GENI	**Genyem**	**15.06**	**116**	P	**P**	**12 51 14.1**	**-0.2**
GENI	**Genyem**	**15.06**	**116**	P	**Pn**	**12 51 09.3**	**-0.3**
	847nm,1.1s,10μm						
BASI	**Baing, Sumba**	**15.34**	**203**	P	**Pn**	**12 51 14.0**	**+0.7**
	251nm,1.2s,4μm5μm						
PLAI	**Plampang**	**15.48**	**215**	P	**Pn**	**12 51 16.5**	**+1.5**
PLAI	**Plampang**	**15.48**	**215**	P	**Pn**	**12 51 16.6**	**+1.5**
	287nm,0.8s,2μm						
JAY	**Jayapura**	**15.51**	**114**	P	**Pn**	**12 51 15.8**	**+0.3**
	147nm,1.1s,2μm						
STKI	**Sintang**	**15.61**	**256**	P	**P**	**12 51 19.2**	**-1.2**
	64nm,1.0s						
TWSI	**Taliwang, Sumb**	**15.94**	**217**	P	**P**	**12 51 22.7**	**-1.3**
	123nm,0.8s,2μm						
KSM	**Kuching**	**16.46**	**262**	P	**P**	**12 51 29.5**	**-0.4**
KSM	**Kuching**	**16.46**	**262**	P	**P**	**12 51 29.1**	**-0.8**
SRBI	**Singaraja**	**16.52**	**223**	P	**P**	**12 51 30.2**	**-0.3**
	175nm,1.6s,3μm						
TABU	**Tabubil**	**17.27**	**122**	P	**P**	**12 51 39.1**	**+0.3**
MTN	**Manton Dam**	**17.33**	**165**	P	**Pn**	**12 51 34.1**	**-4.3**
	baz=17,SNR=14						
MTN	**Manton Dam**	**17.33**	**165**		**Pn**	**12 51 37.9**	**-0.5**
MTN	**Manton Dam**	**17.33**	**165**	P	**Pn**	**12 51 39.0**	**+0.6**
JAGI	**Jajag, Banyuwa**	**17.54**	**225**	P	**Pn**	**12 51 41.4**	**+0.3**
JAGI	**Jajag, Banyuwa**	**17.54**	**225**	P	**P**	**12 51 43.6**	**+1.9**
JAGI	**Jajag, Banyuwa**	**17.54**	**225**	P	**P**	**12 51 43.0**	**+1.3**
	118nm,1.4s,2μm						
KDU	**Kakadu**	**17.57**	**161**	P	**Pn**	**12 51 40.1**	**-1.3**
	baz=18,SNR=15						
MMPI	**Merauke**	**18.50**	**132**	P	**Pn**	**12 51 54.0**	**+1.2**
NGJI	**Ngawi**	**18.86**	**233**	P	**Pn**	**12 52 00.1**	**+2.9**
TWGBT	**Beinan**	**19.46**	**345**	P	**P**	**12 52 03.1**	**+0.3**
TWG	**Pinlang**	**19.46**	**345**	P	**P**	**12 52 02.0**	**-0.9**
DLV	**T Lat**	**19.58**	**295**	P	**P**	**12 52 03.4**	**-1.1**
DLV				IAmb	IAmb	12 52 11.2	
	comp=Z,150nm,1.0s						
KNRA	**Kununurra**	**19.66**	**174**	P	**P**	**12 52 04.6**	**-0.5**
	baz=20,SNR=31						
KNRA	**Kununurra**	**19.66**	**174**		**P**	**12 52 05.0**	**-0.1**
KNRA				IAmb	IAmb	12 52 19.9	
	comp=Z,100nm,0.7s						
KNRA	**Kununurra**	**19.66**	**174**	P	**P**	**12 52 05.8**	**+0.7**
YULB	**Yu-li**	**19.95**	**346**	P	**P**	**12 52 06.5**	**-1.7**
YULB	**Yu-li**	**19.95**	**346**	P	**P**	**12 52 07.9**	**-0.3**
TPUB	**Ta-pu**	**20.04**	**344**	P	**P**	**12 52 07.8**	**-1.4**
TPUB				IAmb	IAmb	12 52 10.5	
	comp=

BKNI Bangkinang 25.80 262 P P 12 53 14.4 +7.4
MBWA Marble Bar 25.89 195 P **P** **12 53 07.7 0.0**
MBWA IAmb IAmb 12 53 22.5
comp=Z,70nm,1.1s
MBWA Marble Bar 25.89 195 P **P** **12 53 08.1 +0.4**
KULM Kulim 25.89 274 P **P** **12 53 08.8 +0.9**
KULM IAmb IAmb 12 53 30.6
comp=Z,113nm,1.3s
PSA00 Pilbara Seismi 26.26 194 P **P** **12 53 11.1 +0.1**
PSA00 IAmb IAmb 12 53 26.9
comp=Z,118nm,1.0s
PSA00 Pilbara Seismi 26.26 194 P **P** **12 53 10.4 -0.6**
PSA00 IAmb IAmb 12 53 26.9
comp=Z,117nm,1.0s
PSA00 Pilbara Seismi 26.26 194 P **P** **12 53 11.8 +0.8**
PDSI Padang 26.57 260 P **P** **12 53 14.7 +0.7**
comp=Z,36nm,1.1s
NONG Nongkai 26.88 303 P **P** **12 53 16.4 -0.3**
NAYO Nakonayok 26.95 294 P **P** **12 53 20.0 +2.7**
JCJ Chichijima 27.38 31 P **P** **12 53 20.8 -0.3**
comp=Z,99nm,0.7s,baz=305,slow=15,SNR=3.8
JCJ LR LR 13 02 28.0
comp=Z,544nm,21.0s,baz=242,slow=32
comp=Z,99nm,0.7s
SSE Sheshan 27.43 350 P **P** **12 53 22.0 +0.5**
SSE S **S** **12 58 00.8 +1.6**
SSE pmax pmax
comp=Z,12nm,1.0s
SSE pmax pmax
comp=Z,240nm,3.7s
SSE LR LR
comp=Z,300nm,17.7s
SSE LR LR
comp=Z,220nm,17.7s
QIS Mount Isa 27.54 153 P **P** **12 53 22.7 +0.1**
baz=28,SNR=43
QIS Mount Isa 27.54 153 P **P** **12 53 23.2 +0.6**
PSI Prapat 27.65 268 P **P** **12 53 23.9 +0.1**
PSI Prapat 27.65 268 P **P** **12 53 22.9 -0.9**
PSI pmax pmax
comp=Z,17nm,0.9s
RPSI Rantau Prapat 27.66 268 P **P** **12 53 22.9 -0.8**
MTSU Mount Surprise 28.09 142 P **P** **12 53 28.6 +1.1**
baz=28,SNR=19
AS31 Alice Springs 28.40 166 P **P** **12 53 29.5 -0.8**
ASAR Alice Springs 28.40 166 P **P** **12 53 30.6 +0.3**
ASAR Alice Springs 28.40 166 P **P** **12 53 30.6 +0.3**
ASAR Alice Springs 28.40 166 P **P** **12 53 29.6 -0.7**
comp=Z,3.3nm,0.5s,baz=351,slow=8.9,SNR=72
ASAR PcP **PcP** **12 56 42.0 -0.2**
comp=Z,1.0nm,0.6s,baz=338,slow=2.2,SNR=1.2
ASAR S **S** **12 58 15.2 +0.4**
comp=Z,1.1nm,0.8s,baz=347,slow=20,SNR=2.6
ASAR ScP **SS** **13 00 17.7 +1.6**
comp=Z,0.9nm,0.9s,baz=343,slow=2.9,SNR=1.9
ASAR LR LR 13 07 27.8
comp=Z,413nm,18.1s,baz=356,slow=42
comp=Z,3.3nm,0.5s
WHN Wuhan 28.83 338 P **P** **12 53 34.3 +0.4**
WHN sP **pwP** **12 53 51.0 +4.2**
NJ2 Nanjing 28.84 346 *e*P **P** **12 53 36.5 +2.5**
NJ2 pP **pwP** **12 53 46.3 -0.7**
NJ2 sP **sP** **12 53 54.0 +4.6**
NJ2 pmax pmax
comp=Z,16nm,0.5s
NJ2 LR LR
comp=Z,610nm,15.2s
NJ2 LR LR
comp=Z,920nm,14.2s
NJ2 LR LR
comp=Z,870nm,17.3s
WRKA Warakurna 28.91 177 P **P** **12 53 34.3 -0.5**
baz=29,SNR=61
WRKA Warakurna 28.91 177 P **P** **12 53 34.9 +0.1**
JNU Nakatsue 29.25 7 P **P** **12 53 37.3 -0.4**
comp=Z,8.1nm,0.7s,baz=103,slow=12,SNR=2.9
JNU LR LR 13 05 25.9
comp=Z,431nm,20.2s,baz=188,slow=36
comp=Z,8.1nm,0.7s
CMAR Chiang Mai Arr 30.62 300 P **P** **12 53 49.9 -0.2**
CMAR Chiang Mai Arr 30.62 300 *ce*P **P** **12 53 50.2 +0.1**
CMAR pmax pmax
comp=Z,8.0nm,0.8s
CMAR Chiang Mai Arr 30.62 300 P **P** **12 53 49.3 -0.8**
comp=Z,7.6nm,0.9s,baz=114,slow=7.1,SNR=38
CMAR PcP **PcP** **12 56 48.5 +0.6**
comp=Z,2.7nm,1.1s,baz=116,slow=2.3,SNR=2.2
CMAR ScP **ScP** **13 00 26.6 -0.9**
comp=Z,3.5nm,1.0s,baz=133,slow=1.9,SNR=11
CMAR LR LR 13 06 06.6
comp=Z,712nm,20.9s,baz=235,slow=36
comp=Z,7.6nm,0.9s
ENH Enshi 30.73 330 P **P** **12 53 49.3 -1.6**
ENH IAmb IAmb 12 54 04.9
comp=Z,45nm,1.0s
ENH Enshi 30.73 330 P **P** **12 53 51.3 +0.4**
CTA Charters Tower 30.75 142 LR LR 13 07 31.4
comp=Z,226nm,19.3s,baz=317,slow=39
CTAO Charters Tower 30.75 142 P **P** **12 53 50.5 -0.7**
CTAO Charters Tower 30.75 142 P **P** **12 53 51.7 +0.5**
CTAO Charters Tower 30.75 142 P **P** **12 53 50.5 -0.7**
CTAO pmax pmax
comp=Z,35nm,1.2s
CTAO Charters Tower 30.75 142 P **P** **12 53 51.7 +0.5**
CTAO pP **pP** **12 54 01.9 -0.1**
CHTO Chiang Mai 30.77 301 P **P** **12 53 50.7 -0.7**
CHTO IAmb IAmb 12 53 57.9
comp=Z,36nm,0.9s
CHTO Chiang Mai 30.77 301 P **P** **12 53 51.6 +0.2**
CHTO Chiang Mai 30.77 301 P **P** **12 53 50.7 -0.7**
CHTO pmax pmax
comp=Z,36nm,0.9s
CHTO Chiang Mai 30.77 301 P **P** **12 53 51.5 +0.1**
CHTO pP **pP** **12 54 01.5 -0.1**
CHTO sP **sP** **12 54 05.6 -0.5**
KMI Kunming 31.10 315 ⇑P **P** **12 53 56.3 +1.9**
KMI pmax pmax
comp=Z,14nm,1.4s
KMI LR LR
comp=Z,460nm,14.1s
KMI LR LR
comp=Z,630nm,27.8s
KMI LR LR
comp=Z,1μm,27.3s
MEEK Meekatharra 31.42 194 P **P** **12 53 56.7 -0.3**
baz=32,SNR=14
MEEK Meekatharra 31.42 194 P **P** **12 53 56.6 -0.3**
JHJ Hachijo jima 2 31.48 22 LR LR 13 04 43.7
comp=Z,584nm,21.9s,baz=106,slow=32
TJN Taejon 32.23 1 P **P** **12 54 06.6 +2.7**
TJN Taejon 32.23 1 *i*P **P** **12 54 03.8 -0.1**
PZH PanZhiHua 32.66 316 P **P** **12 54 07.8 -0.2**
PZH S **S** **12 59 19.3 -2.4**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,70nm,4.1s
PZH LR LR
comp=Z,620nm,22.2s
PZH LR LR
comp=Z,560nm,21.9s
PZH LR LR
comp=Z,1μm,24.0s
OOD Oodnadatta 32.80 165 P **P** **12 54 08.4 -0.6**
LYN LuoYang 33.11 338 *e*P **P** **12 54 12.0 +0.3**
LYN pmax pmax
comp=Z,49nm,0.5s
LYN pmax pmax
comp=Z,500nm,4.9s
LYN LR LR
comp=Z,1μm,22.7s
LYN LR LR
comp=Z,680nm,18.2s
LYN LR LR
comp=Z,2μm,22.7s
TIA Tai'an 33.23 346 P **P** **12 54 11.8 -0.9**
TIA pmax pmax
comp=Z,17nm,1.4s
TIA pmax pmax
comp=Z,500nm,10.8s
TIA LR LR
comp=Z,650nm,21.2s
TIA LR LR
comp=Z,770nm,17.3s
TIA LR LR
comp=Z,870nm,23.0s

KSAR Wonju Array Be 33.31 2 P **P** **12 54 14.3 +1.0**
KSAR Wonju Array Be 33.31 2 P **P** **12 54 14.3 +1.0**
KSRS Korea Array 33.32 2 P **P** **12 54 13.6 +0.2**
comp=Z,7.4nm,0.9s,baz=179,slow=10,SNR=18
KSRS PcP **PcP** **12 56 55.5 +0.7**
comp=Z,2.9nm,0.8s,baz=187,slow=2.4,SNR=4.9
comp=Z,7.4nm,0.9s
MJAR Matsushiro Arr 34.10 17 P **P** **12 54 20.8 +0.4**
comp=Z,2.9nm,0.7s,baz=182,slow=8.5,SNR=4.8
MJAR PcP **PcP** **12 56 57.8 +0.7**
comp=Z,2.7nm,0.7s,baz=170,slow=2.2,SNR=2.4
MJAR LR LR 13 06 41.3
comp=Z,365nm,21.7s,baz=210,slow=33
comp=Z,2.9nm,0.7s
XAN Xi'an 34.12 333 ⇑P **P** **12 54 19.0 -1.6**
XAN S **S** **12 59 40.3 -3.6**
XAN pmax pmax
comp=Z,49nm,1.4s
XAN pmax pmax
comp=Z,420nm,8.9s
XAN LR LR
comp=Z,2μm,15.2s
XAN LR LR
comp=Z,1μm,18.7s
XAN LR LR
comp=Z,2μm,17.1s
XAN Xi'an 34.12 333 P **P** **12 54 19.2 -1.4**
XAN pP **pP** **12 54 28.6 -2.8**
XAN sP **sP** **12 54 33.1 -3.0**
CD2 Chengdu 34.35 324 P **P** **12 54 22.5 -0.1**
CD2 pP sP 12 54 36.0 -1.7
CD2 sP pwP 12 54 42.5 +6.0
CD2 S **S** **12 59 48.5 +0.9**
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 LR LR
comp=Z,1μm,19.0s
CD2 LR LR
comp=Z,970nm,18.4s
CD2 LR LR
comp=Z,1μm,19.8s
INKA Innaminka 34.38 157 P **P** **12 54 23.1 +0.3**
MORW Morawa 34.41 196 P **P** **12 54 23.7 +0.7**
baz=34,SNR=3.3
MORW Morawa 34.41 196 P **P** **12 54 23.0 0.0**
MORW IAmb IAmb 12 54 38.3
comp=Z,56nm,1.2s
MORW Morawa 34.41 196 P **P** **12 54 23.9 +0.9**
MND Mandalay 34.56 304 P **P** **12 54 24.7 +0.3**
FORT Forrest 34.61 178 P **P** **12 54 25.9 +1.2**
baz=35,SNR=9.1
FORT Forrest 34.61 178 P **P** **12 54 24.2 -0.5**
FORT Forrest 34.61 178 P **P** **12 54 25.9 +1.2**
MULG Mulgathing 34.83 169 P **P** **12 54 26.4 -0.2**
QLP Quilpie 34.86 152 P **P** **12 54 26.7 -0.3**
baz=35,SNR=8.4
QLP Quilpie 34.86 152 P **P** **12 54 27.1 +0.1**
HNS HongShan 34.98 343 ⇓P **P** **12 54 27.8 -0.1**
HNS pP **pwP** **12 54 40.0 -1.0**
HNS *e*S **S** **12 59 56.3 -0.7**
HNS pmax pmax
comp=Z,46nm,0.9s
HNS LR LR
comp=Z,670nm,22.3s
HNS LR LR
comp=Z,1μm,19.9s
HNS LR LR
comp=Z,1μm,19.8s
KMBL Kambalda 35.45 187 P **P** **12 54 31.8 -0.2**
baz=36,SNR=6.4
KMBL Kambalda 35.45 187 P **P** **12 54 32.1 +0.1**
BLDU Ballidu 35.69 195 P **P** **12 54 32.2 -1.9**
baz=36,SNR=6.2
BLDU Ballidu 35.69 195 P **P** **12 54 32.2 -1.9**
HNR Honiara 35.81 112 LR LR 13 08 25.1
comp=Z,9μm,21.1s,baz=286,slow=35
LCRK Leigh Creek 36.01 163 P **P** **12 54 38.0 +1.2**
KLBR Kellerberrin 36.38 193 P **P** **12 54 39.6 -0.3**
baz=36,SNR=9.9
BJT Baijiatuan 37.08 347 P **P** **12 54 45.7 -0.1**
BJT IAmb IAmb 12 54 55.2
comp=Z,76nm,1.1s
BJT Baijiatuan 37.08 347 P **P** **12 54 47.7 +1.9**
BJT Baijiatuan 37.08 347 P **P** **12 54 45.7 -0.1**
BJT pmax pmax
comp=Z,76nm,1.1s
BJT Baijiatuan 37.08 347 P **P** **12 54 47.3 +1.5**
BJI Beijing 37.10 347 P **P** **12 54 45.5 -0.4**
BJI sP **sP** **12 55 01.5 +0.1**
BJI pmax pmax
comp=Z,33nm,1.1s
BJI LR LR
comp=Z,220nm,16.6s
BJI LR LR
comp=Z,220nm,17.7s
BJI LR LR
comp=Z,310nm,20.4s
MUN Mundaring 37.12 195 P **P** **12 54 46.6 +0.4**
baz=37,SNR=4.7
MUN Mundaring 37.12 195 P **P** **12 54 46.7 +0.5**
EIDS Eidsvold 37.64 142 P **P** **12 54 50.2 -0.6**
baz=38,SNR=29
EIDS Eidsvold 37.64 142 P **P** **12 54 50.4 -0.4**
EIDS Eidsvold 37.64 142 P **P** **12 54 50.1 -0.6**
BBOO Buckleboo 37.69 167 P **P** **12 54 50.7 -0.4**
baz=38,SNR=24
BBOO Buckleboo 37.69 167 P **P** **12 54 50.7 -0.4**
BBOO Buckleboo 37.69 167 P **P** **12 54 50.7 -0.4**
SNY Shenyang 37.76 356 ⇑P **P** **12 54 52.5 +1.0**
SNY pmax pmax
comp=Z,29nm,0.7s
NWAO Narrogin (SRO) 37.78 193 P **P** **12 54 51.8 -0.1**
baz=38,SNR=9.6
NWAO P **P** **12 54 51.8 -0.1**
baz=38,SNR=9.6
NWAO Narrogin (SRO) 37.78 193 P **P** **12 54 51.3 -0.5**
NWAO Narrogin (SRO) 37.78 193 P **P** **12 54 51.7 -0.1**
NWAO IAmb IAmb 12 54 59.4
comp=Z,44nm,1.1s
NWAO Narrogin (SRO) 37.78 193 P **P** **12 54 51.7 -0.1**
NWAO Narrogin (SRO) 37.78 193 P **P** **12 54 51.5 -0.3**
NWAO Narrogin (SRO) 37.78 193 P **P** **12 54 51.7 -0.1**
NWAO pmax pmax
comp=Z,44nm,1.1s
LZH Lanzhou 38.21 330 *e*P **P** **12 54 55.5 -0.1**
LZH pP sP 12 55 09.5 -1.2
LZH pmax pmax
comp=Z,41nm,1.3s
LZH LR LR
comp=Z,1μm,16.1s
LZH LR LR
comp=Z,1μm,16.2s
LZH LR LR
comp=Z,1μm,18.2s
STKA Stephens Creek 38.42 159 P **P** **12 54 57.4 +0.1**
baz=38,SNR=88
STKA Stephens Creek 38.42 159 P **P** **12 54 57.4 +0.1**
STKA Stephens Creek 38.42 159 *i*P **P** **12 54 57.3 0.0**
STKA Stephens Creek 38.42 159 *i*P **P** **12 54 56.4 -0.9**
STKA Stephens Creek 38.42 159 P **P** **12 54 57.4 +0.1**
comp=Z,56nm,0.7s,baz=340,slow=7.8,SNR=87
comp=Z,56nm,0.7s
MSHR Mys Shultsa 38.63 5 *i*P **P** **12 54 59.3 +0.5**
MSHR pmax pmax
comp=Z,25nm,0.9s
HTT Hallett 39.01 164 P **P** **12 55 02.6 +0.4**
baz=39,SNR=10
HTT Hallett 39.01 164 P **P** **12 55 03.1 +0.9**
AULRC Lightning Ridg 39.06 150 P **P** **12 55 02.4 -0.2**
HHC Hu-ho-hao-te 39.10 342 *e*P **P** **12 55 05.3 +2.3**
HHC sP sP 12 55 24.0 +5.4
HHC PP **PnPn** **12 56 40.5 +4.5**
HHC S **S** **13 01 02.0 +2.1**
HHC pmax pmax
comp=Z,32nm,0.7s
HHC pmax pmax
comp=Z,510nm,4.3s
HHC LR LR
comp=Z,1μm,20.4s
HHC LR LR
comp=Z,650nm,20.8s
HHC LR LR
comp=Z,2μm,19.0s
BTO Baotou 39.39 340 *e*P **P** **12 55 08.0 +2.6**
BTO pP **sP** **12 55 20.3 -0.7**

BTO sP pwP 12 55 25.5 +7.0
BTO PP **PnPn** **12 56 44.0 +4.6**
BTO S **S** **13 01 07.0 +2.8**
BTO sS **sS** **13 01 28.5 +5.5**
BTO SS **SS** **13 03 57.3 -2.2**
BTO pmax pmax
comp=Z,14nm,0.6s
BTO pmax pmax
comp=Z,620nm,5.3s
BTO LR LR
comp=Z,2μm,20.0s
BTO LR LR
comp=Z,1μm,21.2s
BTO LR LR
comp=Z,2μm,23.1s
RKGY Rocky Gully 39.46 193 P **P** **12 55 07.6 +1.7**
baz=40,SNR=5.2
CN2 Changchun 39.65 359 *e*P **P** **12 55 06.5 -0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CMSA Cobar Meteorol 39.74 154 P **P** **12 55 08.6 +0.3**
baz=40,SNR=30
CMSA Cobar Meteorol 39.74 154 P **P** **12 55 08.1 -0.2**
USA0B Ussuriysk Arra 40.32 6 *i*P **P** **12 55 13.9 +1.0**
USRK Ussuriysk Ar. 40.32 6 P **P** **12 55 13.0 +0.1**
comp=Z,14nm,0.9s,baz=188,slow=7.7,SNR=12
USRK LR LR 13 11 19.5
comp=Z,338nm,21.7s,baz=183,slow=35
comp=Z,14nm,0.9s
MDJ Mudanjiang 40.54 3 P **P** **12 55 14.5 -0.3**
MDJ IAmb IAmb 12 55 46.2
comp=Z,70nm,1.3s
MDJ Mudanjiang 40.54 3 P **P** **12 55 16.0 +1.3**
MDJ Mudanjiang 40.54 3 P **P** **12 55 15.5 +0.8**
MDJ pmax pmax
comp=Z,22nm,1.1s
MDJ pmax pmax
comp=Z,860nm,8.9s
MDJ Mudanjiang 40.54 3 P **P** **12 55 15.8 +1.1**
XLT XiLinHaoTe 40.81 348 *e*P **P** **12 55 17.3 +0.2**
XLT sP sP 12 55 34.5 +1.9
XLT pmax pmax
comp=Z,39nm,0.9s
XLT pmax pmax
comp=Z,620nm,5.8s
XLT LR LR
comp=Z,700nm,17.3s
XLT LR LR
comp=Z,490nm,21.3s
BNX BinXian 41.58 1 ⇑P **P** **12 55 23.5 +0.2**
BNX pmax pmax
comp=Z,10.0nm,0.9s
BNX pmax pmax
comp=Z,500nm,3.8s
ARMA Armidale 41.76 147 P **P** **12 55 25.7 +0.6**
baz=42,SNR=22
ARMA Armidale 41.76 147 P **P** **12 55 25.5 +0.4**
ARMA IAmb IAmb 12 55 31.7
comp=Z,71nm,1.2s
ARMA Armidale 41.76 147 P **P** **12 55 25.9 +0.8**
AUPHS Peel High Scho 41.89 148 P **P** **12 55 26.7 +0.6**
LSA Lhasa 42.16 311 P **P** **12 55 28.8 -0.1**
LSA Lhasa 42.16 311 P **P** **12 55 28.8 -0.1**
LSA pmax pmax
comp=Z,17nm,0.7s
LSA Lhasa 42.16 311 P **P** **12 55 30.0 +1.1**
LSA pP **pwP** **12 55 40.4 -2.5**
ASAJ Asahikawa 42.38 17 P **P** **12 55 29.9 +0.1**
comp=Z,22nm,1.1s,baz=316,slow=20,SNR=1.6
ASAJ LR LR 13 13 57.7
comp=Z,456nm,20.0s,baz=277,slow=37
comp=Z,22nm,1.1s
GTA Gaotai 42.80 329 *e*P **P** **12 55 32.5 -1.0**
GTA pP pP 12 55 43.5 -0.6
GTA pmax pmax
comp=Z,7.0nm,1.3s
GTA LR LR
comp=Z,630nm,20.4s
GTA LR LR
comp=Z,940nm,20.7s
GTA LR LR
comp=Z,1μm,21.1s
ARPS Mount Arapiles 42.98 162 P **P** **12 55 34.4 -0.3**
baz=43,SNR=22
YNG Young 43.28 153 P **P** **12 55 38.6 +1.3**
GOMU GeErMu 43.40 322 P **P** **12 55 39.0 +0.4**
GOMU pmax pmax
comp=Z,9.0nm,1.2s
GOMU LR LR
comp=Z,460nm,16.1s
GOMU LR LR
comp=Z,500nm,16.1s
GOMU LR LR
comp=Z,900nm,17.4s
MGCD Mangrove Creek 43.68 150 P **P** **12 55 42.4 +2.0**
baz=44,SNR=5.8
TAPN Taplejung 43.75 306 *e*P **P** **12 55 39.8 -1.8**
comp=Z,41nm,0.7s
ODAN Odare 43.81 305 *e*P **P** **12 55 39.9 -2.1**
KOUNC Koumac, New Ca 44.30 125 P **P** **12 55 47.0 +1.3**
CAN Canberra 44.41 154 P **P** **12 55 47.8 +1.4**
CAN IAmb IAmb 12 55 52.9
comp=Z,51nm,1.0s
CAN Canberra 44.41 154 P **P** **12 55 47.6 +1.2**
CAN Canberra 44.41 154 P **P** **12 55 47.8 +1.4**
CAN pmax pmax
comp=Z,51nm,1.0s
CAN Canberra 44.41 154 P **P** **12 55 47.6 +1.2**
RAMN Ramite 44.49 305 *e*P **P** **12 55 46.3 -1.1**
comp=Z,55nm,0.8s
CNB Canberra Magne 44.57 153 P **P** **12 55 47.9 +0.2**
baz=45,SNR=4.4
CNB Canberra Magne 44.57 153 P **P** **12 55 49.4 +1.7**
TOO Toolangi 44.94 159 P **P** **12 55 51.9 +1.5**
baz=45,SNR=9.8
TOO Toolangi 44.94 159 P **P** **12 55 52.0 +1.5**
TOO IAmb IAmb 12 56 05.0
comp=Z,102nm,1.6s
TOO Toolangi 44.94 159 P **P** **12 55 51.6 +1.1**
TOO Toolangi 44.94 159 P **P** **12 55 52.0 +1.5**
TOO pmax pmax
comp=Z,102nm,1.7s
YSS Yuzh-Sakhalins 45.02 16 *e*P **P** **12 55 52.1 +1.1**
YSS pmax pmax
comp=Z,50nm,1.3s
JIRN Jiri 45.11 306 *e*P **P** **12 55 51.0 -1.5**
comp=Z,69nm,0.8s
AUSMG Snowy Mountain 45.16 155 P **P** **12 55 53.5 +1.1**
KLR Kul'dur 45.28 5 *ce*P **P** **12 55 50.6 -2.5**
KLR pmax pmax
comp=Z,31nm,1.0s
KLR Kul'dur 45.28 5 P **P** **12 55 53.1 +0.1**
comp=Z,8.4nm,0.8s,baz=199,slow=5.9,SNR=13
KLR LR LR 13 14 05.6
comp=Z,337nm,21.4s,baz=196,slow=35
comp=Z,8.4nm,0.8s
GUN Gumba 45.46 306 *e*P **P** **12 55 53.9 -1.4**
comp=Z,79nm,0.7s
HIA Hailar 45.48 354 P **P** **12 55 55.5 +0.8**
HIA IAmb IAmb 12 55 57.9
comp=Z,63nm,1.2s
HIA Hailar 45.48 354 P **P** **12 55 56.6 +1.9**
HIA Hailar 45.48 354 P **P** **12 55 55.5 +0.8**
HIA pmax pmax
comp=Z,63nm,1.2s
HIA Hailar 45.48 354 P **P** **12 55 56.8 +2.1**
HIA pP **sP** **12 56 07.8 -2.5**
PKI Pulchoki 45.71 305 *e*P **P** **12 55 55.2 -2.0**
PALK Pallekele 45.77 276 LR LR 13 14 52.8
comp=Z,315nm,22.0s,baz=254,slow=36
KKN Kakani 45.90 305 *e*P **P** **12 55 56.5 -2.1**
DMN Daman 45.97 305 *e*P **P** **12 55 57.6 -1.6**
HEH HeiHe 46.10 1 *e*P **P** **12 55 59.5 0.0**
HEH pmax pmax
comp=Z,31nm,1.3s
NOUC Port Laguerre 46.70 126 P **P** **12 56 05.6 +1.0**
NOUC Port Laguerre 46.70 126 P **P** **12 56 05.5 +0.9**
NOUC sP **sP** **12 56 19.5 -1.5**
DZM Mont Dzumac 46.80 125 *e*P **P** **12 56 05.7 +0.2**
comp=Z,160nm,1.2s
DZM *e*S **S** **13 02 48.2 -5.1**
comp=Z,310nm,31.9s
DZM *e*SS **SS** **13 06 26.4 +6.1**
comp=Z,293nm,25.9s
DZM *e*LR LR 13 09 07.5
comp=Z,516nm,24.4s

DZM Mont Dzumac 46.80 125 P **P** **12 56 06.6 +1.1**
DZM Mont Dzumac 46.80 125 P **P** **12 56 06.4 +0.9**
DZM Mont Dzumac 46.80 125 P **P** **12 56 06.5 +0.9**
ULN Ulaanbaatar 46.83 342 P **P** **12 56 05.1 -0.3**
ULN IAmb IAmb 12 56 20.2
comp=Z,51nm,1.3s
ULN Ulaanbaatar 46.83 342 *ce*P **P** **12 56 04.8 -0.6**
ULN pmax pmax
comp=Z,48nm,1.4s
ULN Ulaanbaatar 46.83 342 P **P** **12 56 04.8 -0.6**
ULN pP **pP** **12 56 14.6 -2.0**
ULN sP **sP** **12 56 19.1 -2.0**
LIFNC LIFOU 46.85 123 P **P** **12 56 06.0 +0.2**
LIFNC LIFOU 46.85 123 P **P** **12 56 07.1 +1.3**
ONTNC Ouen Toro 46.92 126 P **P** **12 56 06.8 +0.5**
ONTNC Ouen Toro 46.92 126 P **P** **12 56 07.8 +1.5**
SONM Songino Array 47.00 341 P **P** **12 56 06.2 -0.6**
SONM Songino Array 47.00 341 P **P** **12 56 06.2 -0.6**
comp=Z,7.0nm,0.7s,baz=161,slow=7.9,SNR=19
SONM PcP **PcP** **12 57 39.1 +0.4**
comp=Z,2.2nm,0.6s,baz=134,slow=4.2,SNR=1.3
SONM LR LR 13 17 14.3
comp=Z,431nm,21.0s,baz=158,slow=38
comp=Z,7.0nm,0.7s
YATNC Mamie plateau, 47.15 125 P **P** **12 56 09.8 +1.6**
KOLN Koldanda 47.26 305 *e*P **P** **12 56 08.1 -1.2**
OUENC Ouen Island, N 47.28 126 P **P** **12 56 08.4 -0.8**
OUENC IAmb IAmb 12 56 11.3
comp=Z,60nm,1.2s
OUENC Ouen Island, N 47.28 126 P **P** **12 56 10.8 +1.6**
DANN Dangsing 47.35 305 *e*P **P** **12 56 08.6 -1.5**
comp=Z,128nm,0.7s
PINNC Pines Island, 47.87 125 P **P** **12 56 14.4 +0.7**
PINNC Pines Island, 47.87 125 P **P** **12 56 15.6 +1.9**
PYUN Piuthan 47.89 305 *e*P **P** **12 56 12.8 -1.3**
HYB Hyderabad 48.90 290 *e*P **P** **12 56 21.6 -0.3**
HYB *es*P **sP** **12 56 36.2 -1.0**
HYB *e*PcP **PcP** **12 57 46.9 +1.0**
HYB *e*S **S** **13 03 23.5 +0.3**
CIT Chita 49.08 349 *e*P **P** **12 56 24.0 +1.3**
CIT *e* 12 56 32.0
CIT *e* 12 56 39.8
CIT pmax pmax
comp=Z,154nm,1.9s
ZEA Zeya 49.59 1 *e*P **P** **12 56 26.6 +0.2**
ZEA pmax pmax
comp=Z,20nm,0.9s
ZAK Zakamensk 50.23 341 *e*P **P** **12 56 29.2 -2.3**
ZAK pmax pmax
comp=Z,10.0nm,1.5s
IRK Irkutsk 51.53 343 *e*P **P** **12 56 42.0 +0.8**
IRK pmax pmax
comp=Z,87nm,1.9s
MOY Mondy 52.09 340 *e*P **P** **12 56 46.0 +0.5**
MOY pmax pmax
comp=Z,52nm,2.7s
WMQ Urumqi 52.43 325 *e*P **P** **12 56 47.3 -0.8**
WMQ pP pwP 12 57 02.8 0.0
WMQ sP sP 12 57 09.5 +6.1
WMQ PcP **PcP** **12 58 00.0 +1.5**
WMQ pmax pmax
comp=Z,11nm,1.7s
WMQ LR LR
comp=Z,1μm,17.7s
WMQ LR LR
comp=Z,820nm,18.5s
WMQ LR LR
comp=Z,740nm,19.5s
BOD Bodaibo 54.58 352 *e*P **P** **12 57 05.0 +1.5**
BOD pmax pmax
comp=Z,70nm,1.6s
PEA0B Petropavlovsk- 55.23 22 *ce*P **P** **12 57 08.1 -0.2**
PETK Petropavlovsk- 55.23 22 P **P** **12 57 09.2 +0.9**
comp=Z,16nm,0.9s,baz=188,slow=4.8,SNR=12
PETK LR LR 13 19 52.6
comp=Z,220nm,21.4s,baz=217,slow=35
comp=Z,16nm,0.9s
ZSN Zaisan 56.21 327 *e*P **P** **12 57 14.9 -0.6**
baz=327
ZSN Zaisan 56.21 327 *e*P **P** **12 57 14.9 -0.6**
WUS Wushi 56.28 318 P **P** **12 57 16.2 0.0**
WUS pP **pP** **12 57 27.8 +0.5**
DGZ Jazzator, Alta 56.30 330 *i*P **P** **12 57 14.9 -1.3**
DGZ pmax pmax
comp=Z,13nm,0.8s
SHLS Shalkode 57.06 320 *e*P **P** **12 57 18.9 -2.9**
comp=Z,23nm,1.3s,baz=320
SHLS Shalkode 57.06 320 *e*P **P** **12 57 18.8 -2.9**
SHLS pmax pmax
comp=Z,23nm,1.3s
PDGK Podgornoye 57.12 320 P **P** **12 57 20.2 -2.0**
MK31 Makanchi Array 57.26 325 P **P** **12 57 22.2 -0.7**
MK31 Makanchi Array 57.26 325 *i*P **P** **12 57 21.7 -1.3**
MK31 pmax pmax
comp=Z,19nm,0.8s
MKAR Makanchi Array 57.26 325 P **P** **12 57 22.0 -1.0**
MKAR Makanchi Array 57.26 325 P **P** **12 57 22.0 -1.0**
MKAR Makanchi Array 57.26 325 P **P** **12 57 21.9 -1.0**
comp=Z,11nm,0.6s,baz=122,slow=8.1,SNR=77
MKAR ScP **ScP** **13 02 12.5 -1.1**
comp=Z,2.8nm,1.1s,baz=154,slow=3.1,SNR=2.7
MKAR LR LR 13 23 42.6
comp=Z,897nm,18.3s,baz=123,slow=38
comp=Z,11nm,0.6s
UZB Uzynbulak 57.33 320 *e*P **P** **12 57 22.7 -1.0**
comp=Z,30nm,1.8s,baz=320
UZB Uzynbulak 57.33 320 *e*P **P** **12 57 22.7 -1.0**
UZB pmax pmax
comp=Z,30nm,1.8s
PRZ Przheval'sk 57.42 319 P **P** **12 57 24.4 +0.1**
PRZ IAmb IAmb 12 57 26.9
comp=Z,44nm,1.2s
PRZ Przheval'sk 57.42 319 P **P** **12 57 24.4 +0.1**
PRZ pmax pmax
comp=Z,44nm,1.2s
MAKZ Makanchi 57.45 325 P **P** **12 57 23.2 -1.1**
MAKZ IAmb IAmb 12 57 40.3
comp=Z,27nm,0.9s
MAKZ Makanchi 57.45 325 P **P** **12 57 23.2 -1.1**
MAKZ pmax pmax
comp=Z,27nm,0.9s
MAKZ Makanchi 57.45 325 P **P** **12 57 23.3 -1.0**
MAKZ pP **pP** **12 57 34.5 -1.4**
MAKZ sP **sP** **12 57 39.5 -1.0**
TARG Taragay, Kyrgy 57.46 318 P **P** **12 57 24.9 0.0**
TARG Taragay, Kyrgy 57.46 318 P **P** **12 57 25.0 0.0**
TARG pmax pmax
comp=Z,110nm,2.0s
NIL Nilore 57.66 308 P **P** **12 57 24.9 -1.1**
NIL IAmb IAmb 12 58 01.9
comp=Z,43nm,1.0s
NIL Nilore 57.66 308 P **P** **12 57 24.9 -1.1**
NIL pmax pmax
comp=Z,43nm,1.0s
NIL Nilore 57.66 308 P **P** **12 57 25.3 -0.7**
SATY Saty 57.69 320 *e*P **P** **12 57 25.3 -0.9**
comp=Z,16nm,1.0s,baz=320
SATY Saty 57.69 320 *e*P **P** **12 57 25.3 -0.9**
SATY pmax pmax
comp=Z,16nm,1.0s
KPKS Kokpek 57.70 320 *e*P **P** **12 57 24.1 -2.2**
comp=Z,28nm,1.9s,baz=320
KPKS Kokpek 57.70 320 *e*P **P** **12 57 24.0 -2.2**
KPKS pmax pmax
comp=Z,28nm,1.9s
ZHN Zhinishke 57.72 320 *e*P **P** **12 57 25.9 -0.6**
baz=320
ZHN Zhinishke 57.72 320 *e*P **P** **12 57 25.8 -0.6**
KSH Kashi 57.76 315 P **P** **12 57 27.5 +0.7**
KSH pP pP 12 57 37.8 0.0
KSH sP sP 12 57 45.3 +3.0
KSH pmax pmax
comp=Z,20nm,1.4s
KSH LR LR
comp=Z,330nm,17.7s
KSH LR LR
comp=Z,350nm,18.0s
KSH LR LR
comp=Z,600nm,18.4s
YAK Yakutsk 57.95 2 P **P** **12 57 28.3 +0.8**
YAK Yakutsk 57.95 2 *e*P **P** **12 57 28.2 +0.8**
YAK *e**PP **sP** **12 57 44.9 +0.9**
YAK *e*S **S** **13 05 24.4 -0.1**
YAK *e**SS sS 13 05 51.3 +8.1
YAK *e* 13 07 10.1
YAK *e*SS **SS** **13 09 24.2 +8.2**
YAK pmax pmax
comp=Z,67nm,0.9s
YAK pmax pmax
comp=N,22nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,130nm,3.4s
YAK pmax pmax
comp=N,138nm,3.3s
YAK pmax pmax
comp=E,271nm,3.9s
YAK smax smax
comp=N,258nm,3.3s
YAK smax smax
comp=E,154nm,2.5s
YAK Yakutsk 57.95 2 P **P** **12 57 28.2 +0.8**
comp=E,4.0nm,1.0s,baz=165,slow=2.8,SNR=20
YAK LR LR 13 23 41.8
comp=E,8.2nm,19.8s,baz=169,slow=37
YAK Yakutsk 57.95 2 P **P** **12 57 28.0 +0.6**
MA2 Magadan 58.48 14 *i*P **P** **12 57 30.6 -0.6**
MA2 pmax pmax
comp=Z,4.0nm,0.3s
MA2 Magadan 58.48 14 LR LR 13 27 03.6
comp=Z,184nm,18.5s,baz=218,slow=40
MA2 Magadan 58.48 14 P **P** **12 57 31.6 +0.4**
ARXS Arrarly 58.61 321 *e*P **P** **12 57 31.4 -1.1**
MDOK Medeo 58.62 319 *e*P **P** **12 57 30.7 -2.0**
baz=319
MDOK Medeo 58.62 319 *e*P **P** **12 57 30.7 -2.0**
TDK Taldyqorghan 58.63 322 *e*P **P** **12 57 31.4 -1.2**
baz=322
TDK Taldyqorghan 58.63 322 *e*P **P** **12 57 31.3 -1.2**
AAA Alma-Ata 58.72 319 *e*P **P** **12 57 32.2 -1.1**
baz=319
AAA Alma-Ata 58.72 319 *e*P **P** **12 57 32.2 -1.1**
ULHL Ulahol 58.74 318 P **P** **12 57 33.2 -0.4**
SNR=9.6
CHKK Chushkaly 58.97 320 *e*P **P** **12 57 33.1 -1.9**
baz=320
CHKK Chushkaly 58.97 320 *e*P **P** **12 57 33.9 -1.1**
BOOM Boomskoye usch 59.04 318 P **P** **12 57 35.1 -0.6**
BOOM Boomskoye usch 59.04 318 P **P** **12 57 35.1 -0.6**
BOOM pmax pmax
comp=Z,10.0nm,0.9s
KZA Kyzart 59.33 317 P **P** **12 57 39.1 +1.1**
SNR=9.2
KUU Kurty 59.41 320 *e*P **P** **12 57 36.8 -1.3**
baz=320
KUU Kurty 59.41 320 *e*P **P** **12 57 36.7 -1.3**
TKM2 Tokmak 2 59.46 318 P **P** **12 57 38.4 -0.3**
SNR=8.5
UCH Uchtor 59.89 317 P **P** **12 57 42.0 +0.1**
SNR=19
AAK Ala-Archa 60.07 318 P **P** **12 57 42.6 -0.1**
SNR=7.1
AAK Ala-Archa 60.07 318 P **P** **12 57 42.5 -0.2**
AAK Ala-Archa 60.07 318 *ce*P **P** **12 57 42.1 -0.7**
AAK pmax pmax
comp=Z,26nm,1.7s
AAK Ala-Archa 60.07 318 P **P** **12 57 42.9 +0.1**
AAK pP **pP** **12 57 53.8 -0.1**
ZAA0 Zalesovo Array 60.29 333 P **P** **12 57 43.4 -0.5**
ZALV Zalesovo Beam 60.29 333 P **P** **12 57 42.3 -1.5**
ZALV Zalesovo Beam 60.29 333 P **P** **12 57 42.1 -1.7**
comp=Z,4.6nm,0.5s,baz=125,slow=6.8,SNR=18
ZALV LR LR 13 25 31.1
comp=Z,373nm,18.5s,baz=148,slow=38
comp=Z,4.6nm,0.5s
SGDS Sogindy 60.33 319 *e*P **P** **12 57 42.7 -1.7**
baz=319
SGDS Sogindy 60.33 319 *e*P **P** **12 57 42.6 -1.7**
USP Ospenovka 60.33 318 P **P** **12 57 45.5 +1.1**
SNR=18
AML Almayashu 60.41 317 P **P** **12 57 44.8 -0.5**
SNR=21
EKS2 Erkin-Say 60.56 318 P **P** **12 57 47.0 +1.0**
SNR=14
ARSB Arslanbob 60.58 316 P **P** **12 57 45.8 -0.4**
ARSB Arslanbob 60.58 316 P **P** **12 57 45.8 -0.4**
ARSB pmax pmax
comp=Z,26nm,1.8s
KBL Kabul 61.26 307 P **P** **12 57 49.5 -1.6**
KBL IAmb IAmb 12 57 50.9
comp=Z,34nm,1.2s
KBL Kabul 61.26 307 P **P** **12 57 49.5 -1.6**
KBL pmax pmax
comp=Z,34nm,1.3s
BTLS Baital 61.39 320 *e*P **P** **12 57 49.9 -1.6**
baz=320
BTLS Baital 61.39 320 *e*P **P** **12 57 49.8 -1.6**
KURBB Kurchatov Arra 61.44 327 P **P** **12 57 50.6 -1.1**
comp=Z,29nm,0.8s,baz=124,slow=6.3,SNR=46
comp=Z,29nm,0.8s
KURK Kurchatov 61.45 327 P **P** **12 57 51.1 -0.6**
KURK Kurchatov 61.45 327 *ce*P **P** **12 57 50.5 -1.2**
KURK pmax pmax
comp=Z,46nm,0.8s
KURK Kurchatov 61.45 327 P **P** **12 57 50.5 -1.2**
KURK pP **pP** **12 58 01.6 -1.8**
TOZ Tahuroa Road 61.46 137 P **P** **12 57 54.2 +2.1**
TOZ IAmb IAmb 12 57 56.3
comp=Z,17nm,0.8s
SEY Seymchan 61.80 13 *ce*P **P** **12 57 53.7 -0.2**
SEY pmax pmax
comp=Z,33nm,1.7s
SEY Seymchan 61.80 13 LR LR 13 23 57.2
comp=Z,259nm,21.3s,baz=208,slow=35
LBZ Lake Benmore 61.98 146 P **P** **12 57 54.6 -0.9**
RPZ Rata Peaks 62.05 145 LR LR 13 24 50.5
comp=Z,388nm,19.6s,baz=308,slow=36
SHEM Shemya Is, Ala 62.30 30 LR LR 13 20 49.0
comp=Z,208nm,21.0s,baz=290,slow=32
CHGR Chuyangaron 62.39 312 P **P** **12 57 56.9 -1.6**
CHGR Chuyangaron 62.39 312 P **P** **12 57 56.9 -1.6**
CHGR pmax pmax
comp=Z,99nm,1.4s
TUWZ Tuamarina 62.44 141 P **P** **12 57 58.9 +0.3**
SIMJ Simiganj 62.50 312 P **P** **12 57 58.6 -0.7**
URZ Urewera 62.83 137 LR LR 13 24 51.4
comp=Z,571nm,20.6s,baz=42,slow=35
BKZ Black Stump Fm 62.87 138 P **P** **12 58 02.3 +0.7**
RTZ Ruatahuna 62.92 137 P **P** **12 58 02.9 +1.0**
KK31 Karatay Array 62.95 317 P **P** **12 58 01.9 0.0**
KK31 IAmb IAmb 12 58 03.0
comp=Z,26nm,1.1s
KK31 Karatay Array 62.95 317 *i*P **P** **12 58 01.0 -1.0**
KKAR Karatay Array 62.95 317 P **P** **12 58 01.9 0.0**
KKAR IAmb IAmb 12 58 03.0
comp=Z,26nm,1.1s
KKAR Karatay Array 62.95 317 P **P** **12 58 01.6 -0.4**
KKAR Karatay Array 62.95 317 P **P** **12 58 02.0 0.0**
KKAR pmax pmax
comp=Z,26nm,1.1s
AFI Afiamalu 63.65 108 P **P** **12 58 07.5 +0.3**
AFI Afiamalu 63.65 108 P **P** **12 58 07.5 +0.3**
AFI pmax pmax
comp=Z,90nm,1.3s
HRA Herat 66.67 306 P **P** **12 58 25.3 -1.4**
BVA0 Borovoye Array 67.03 327 P **P** **12 58 27.8 -0.5**
BVAR Borovoye Array 67.03 327 P **P** **12 58 26.9 -1.4**
comp=Z,9.5nm,0.8s,baz=126,slow=5.9,SNR=33
BVAR PcP **PcP** **12 59 00.2 +3.8**
comp=Z,35nm,0.9s,baz=124,slow=7.4,SNR=5.9
BVAR PKiKP **PKiKP** **13 04 55.6 -0.1**
comp=Z,1.7nm,0.8s,baz=180,slow=6.7,SNR=6.3
comp=Z,9.5nm,0.8s
BRVK Borovoye 67.10 327 P **P** **12 58 28.8 +0.1**
BRVK Borovoye 67.10 327 *i*P **P** **12 58 27.1 -1.6**
BRVK pmax pmax
comp=Z,61nm,0.8s
BRVK Borovoye 67.10 327 P **P** **12 58 27.4 -1.3**
BRVK pP **pP** **12 58 38.9 -1.5**
BRVK sP **sP** **12 58 43.8 -1.2**
TIXI Tiksi 67.58 1 P **P** **12 58 31.7 +0.3**
TIXI Tiksi 67.58 1 P **P** **12 58 32.0 +0.6**
comp=Z,0.3nm,0.3s,baz=162,slow=5.2,SNR=8.9
TIXI PcP **PcP** **12 59 00.7 +2.4**
comp=Z,0.4nm,0.5s,baz=220,slow=2.6,SNR=3.9
WSAR Wadi Sarin 68.20 293 LR LR 13 30 00.7
comp=Z,132nm,20.5s,baz=86,slow=37
NRIK Noril'sk 70.14 346 *ce*P **P** **12 58 47.4 0.0**
NRIK pmax pmax
comp=Z,109nm,1.8s
NRIK Noril'sk 70.14 346 P **P** **12 58 47.4 0.0**
comp=Z,16nm,0.5s,baz=128,slow=6.4,SNR=33
NRIK LR LR 13 32 41.4
comp=Z,462nm,18.7s,baz=154,slow=38
comp=Z,16nm,0.5s
GEYT Alibeck 70.62 309 P **P** **12 58 51.4 +0.3**
GEYT IAmb IAmb 12 59 05.9
comp=Z,20nm,0.9s
GEYT Alibeck 70.62 309 P **P** **12 58 51.4 +0.3**
GEYT pmax pmax
comp=Z,20nm,1.0s
GEYT Alibeck 70.62 309 P **P** **12 58 50.6 -0.4**
comp=Z,11nm,1.0s,baz=116,slow=6.8,SNR=15
GEYT LR LR 13 34 19.6
comp=Z,266nm,19.6s,baz=89,slow=40
comp=Z,11nm,1.0s
GYA0B ALIBECK ARRAY 70.62 309 P **P** **12 58 51.0 -0.1**
GYA0B IAmb IAmb 12 59 08.5
comp=Z,25nm,1.1s
DRV Dumont d'Urvil 71.15 174 P **P** **12 58 53.7 +0.2**
DRV pP **pP** **12 59 05.1 -0.3**
NIKH Nikolski High 71.67 35 P **P** **12 58 56.5 -0.5**
baz=252
AB31 Akbulak array 71.86 321 *i*P **P** **12 58 56.4 -1.8**
ABKAR Akbulak array 71.86 321 P **P** **12 58 57.5 -0.7**
ABKAR Akbulak array 71.86 321 P **P** **12 58 57.6 -0.6**
SPIA Saint Paul Isl 72.34 31 P **P** **12 59 00.1 -0.8**
baz=249
P08K Saint George I 72.49 31 P **P** **12 59 01.3 -0.5**
baz=250
UNV Unalaska Valle 73.28 35 P **P** **12 59 05.7 -0.8**
baz=253,SNR=5.1
AKTO Aktyubinsk 73.37 322 P **P** **12 59 05.7 -1.5**
comp=Z,7.8nm,0.6s,baz=100,slow=7.0,SNR=18
AKTO LR LR 13 33 54.0
comp=Z,643nm,19.9s,baz=99,slow=38
comp=Z,7.8nm,0.6s
SVE Sverdlovsk 73.67 328 *e*P **P** **12 59 10.0 +1.2**
SVE pmax pmax
comp=Z,36nm,0.9s
AKUT Akutan 73.78 35 P **P** **12 59 08.9 -0.5**
GAMB Gambell 74.21 24 P **P** **12 59 11.4 -0.3**
baz=246
ARU Arti 74.64 328 P **P** **12 59 13.5 -1.0**
ARU IAmb IAmb 12 59 28.9
comp=Z,25nm,0.8s
ARU Arti 74.64 328 *d*/P **P** **12 59 14.0 -0.5**
ARU 13 01 55.5
ARU S **S** **13 08 49.3 +2.0**
ARU SS **SS** **13 13 36.6 +1.6**
ARU pmax pmax
comp=Z,23nm,1.4s
ARU Arti 74.64 328 P **P** **12 59 12.5 -2.0**
comp=Z,7.5nm,0.6s,baz=137,slow=4.1,SNR=12
comp=Z,7.5nm,0.6s
FALS False Pass 75.29 34 P **P** **12 59 17.5 -0.7**
baz=256
M11K Mekoryuk 75.40 28 P **P** **12 59 18.8 +0.1**
baz=252
RAR Rarotonga 76.26 113 LR LR 13 30 54.1
comp=Z,72nm,20.8s,baz=324,slow=34
TNA Tin City 76.39 23 P **P** **12 59 24.4 +0.1**
baz=249
M13K Dall Lake 76.76 29 P **P** **12 59 27.0 +0.5**
baz=254
F14K Arctic Creek 76.99 23 P **P** **12 59 27.9 +0.3**
baz=251
SDPT Sand Point 77.05 34 P **P** **12 59 27.6 -0.5**
SDPT Sand Point 77.05 34 P **P** **12 59 28.4 +0.2**
baz=258
ANM Nome 77.08 24 P **P** **12 59 28.5 +0.3**
baz=252
J14K Nanvaranak Lak 77.31 26 P **P** **12 59 29.7 +0.2**
baz=254
L14K Kuka Creek 77.32 28 P **P** **12 59 30.5 +0.9**
L14K Kuka Creek 77.32 28 P **P** **12 59 30.3 +0.7**
baz=255
N14K Kuskokwak Cree 77.44 29 P **P** **12 59 30.5 +0.3**
baz=256
O14K Tigyukauivet M 77.49 30 P **P** **12 59 30.8 +0.2**
baz=257
M14K Bethel 77.51 28 P **P** **12 59 31.1 +0.4**
M14K IAmb IAmb 12 59 33.4
comp=Z,49nm,1.1s
M14K Bethel 77.51 28 P **P** **12 59 30.9 +0.3**
baz=256,SNR=7.4
F15K North Star Dit 77.72 23 P **P** **12 59 32.7 +0.9**
baz=252
S14K Fog Glacier 77.75 33 P **P** **12 59 31.5 -0.7**
baz=259
G15K Niukluk 77.75 24 P **P** **12 59 31.7 -0.2**
baz=253
L15K Ungalak Mounta 77.96 28 P **P** **12 59 33.3 +0.1**
baz=256
K15K Wolf Creek Mou 78.09 27 P **P** **12 59 34.6 +0.6**
K15K IAmb IAmb 12 59 37.0
comp=Z,42nm,1.1s
K15K Wolf Creek Mou 78.09 27 P **P** **12 59 34.5 +0.6**
baz=256
M15K Kasigluk River 78.10 29 P **P** **12 59 34.0 0.0**
baz=257,SNR=6.7
O15K Ungalikthiuk R 78.19 30 P **P** **12 59 34.1 -0.4**
baz=258
N15K Kwethluk River 78.28 29 P **P** **12 59 36.0 +1.0**
N15K IAmb IAmb 12 59 37.6
comp=Z,44nm,1.1s
N15K Kwethluk River 78.28 29 P **P** **12 59 35.4 +0.4**
baz=258,SNR=6.3
C16K Lisburne Hills 78.28 21 P **P** **12 59 34.8 -0.1**
baz=251
CHGN Chignik 78.37 33 P **P** **12 59 35.9 +0.4**
CHGN Chignik 78.37 33 P **P** **12 59 35.5 0.0**
baz=260
H16K Elim 78.39 25 P **P** **12 59 35.8 +0.3**
baz=255,SNR=6.3
G16K Koyuk River 78.55 24 P **P** **12 59 36.4 +0.1**
baz=254
J16K Anvik River 78.75 26 P **P** **12 59 38.0 +0.4**
J16K IAmb IAmb 12 59 40.7
comp=Z,30nm,1.2s
J16K Anvik River 78.75 26 P **P** **12 59 38.3 +0.8**
baz=256
I17K Unalakleet 78.85 26 P **P** **12 59 39.3 +1.3**
I17K IAmb IAmb 12 59 41.3
comp=Z,50nm,1.2s
I17K Unalakleet 78.85 26 P **P** **12 59 38.8 +0.7**
baz=256,SNR=13
L16K Owhat River 78.90 28 P **P** **12 59 39.2 +0.8**
L16K IAmb IAmb 12 59 41.2
comp=Z,50nm,1.2s
L16K Owhat River 78.90 28 P **P** **12 59 39.4 +1.0**
baz=258,SNR=9.7
N16K Nishlik Lake 78.98 29 P **P** **12 59 39.6 +0.7**
baz=259
M16K Timber Creek 79.00 29 P **P** **12 59 40.2 +1.2**
M16K IAmb IAmb 12 59 41.7
comp=Z,45nm,1.1s
M16K Timber Creek 79.00 29 P **P** **12 59 40.1 +1.2**
baz=258,SNR=6.5
RDOG Red Dog Mine 79.08 21 P **P** **12 59 40.0 +0.7**
RDOG Red Dog Mine 79.08 21 P **P** **12 59 39.5 +0.2**
baz=253,SNR=6.9
P16K Nushagak River 79.09 31 P **P** **12 59 38.8 -0.6**
baz=260
C17K DeLong Mountai 79.11 21 P **P** **12 59 40.2 +0.8**
baz=253,SNR=7.0
O16K Kokwok River B 79.15 30 P **P** **12 59 39.6 -0.2**
baz=259
E17K Hotham Inlet 79.21 22 P **P** **12 59 40.4 +0.4**
baz=254,SNR=15
F17K Baldwin Pennin 79.26 23 P **P** **12 59 41.2 +1.0**
F17K IAmb IAmb 12 59 43.9
comp=Z,49nm,1.6s
F17K Baldwin Pennin 79.26 23 P **P** **12 59 40.8 +0.6**
baz=255
G17K Kiwalik Mounta 79.26 24 P **P** **12 59 40.6 +0.3**
baz=256
MAK Makhachkala 79.31 313 *e*P **P** **12 59 42.0 +1.0**
MAK *e* 13 02 45.8
MAK *e*S **S** **13 09 40.6 +2.0**
MAK *e*SS **SS** **13 14 51.5 +5.5**
MAK pmax pmax
comp=Z,102nm,0.7s
MAK MLR MLR
comp=Z,186nm,17.0s

H17K **Granite Mounta** 79.43 25 P P 12 59 41.4 +0.1
baz=257
L17K **Donlin** 79.54 28 P P 12 59 42.1 +0.3
baz=259,SNR=8.7
K17K **Iditarod** 79.65 27 P P 12 59 43.3 +0.8
K17K IAmb IAmb 12 59 45.7
comp=Z,54nm,1.1s
K17K **Iditarod** 79.65 27 P P 12 59 42.8 +0.3
baz=259
R17K **Ugashik Creek** 79.69 32 P P 12 59 42.0 -0.7
baz=261
Q16K **King Salmon** 79.72 31 P P 12 59 42.9 0.0
baz=261
E18K **Tukpahlearik C** 79.76 22 P P 12 59 43.5 +0.5
baz=256,SNR=18
N17K **Nushagak Hills** 79.76 29 P P 12 59 43.5 +0.3
baz=260
M17K **Holitna River** 79.80 28 P P 12 59 43.9 +0.6
M17K IAmb IAmb 12 59 46.0
comp=Z,40nm,1.2s
M17K **Holitna River** 79.80 28 P P 12 59 44.3 +1.0
baz=260
B18K **Kokolik River** 79.84 20 P P 12 59 43.8 +0.5
baz=254,SNR=9.5
C18K **Utukok River** 79.86 21 P P 12 59 44.0 +0.4
C18K **Utukok River** 79.86 21 P P 12 59 43.8 +0.2
baz=255,SNR=7.8
P17K **Kvichak River** 79.91 31 P P 12 59 43.7 -0.2
baz=261
KIRV **Kirov** 79.93 329 *e*P P 12 59 44.8 +0.8
KIRV **Kirov** 79.93 329 P P 12 59 42.5 -1.5
comp=Z,28nm,0.8s,baz=17,slow=3.4,SNR=8.0
comp=Z,28nm,0.8s
Q17K **Contact Creek** 80.05 32 P P 12 59 44.4 -0.5
baz=262,SNR=5.1
BELG **Belogornoye** 80.12 322 *i* P P 12 59 43.9 -1.2
BELG pmax pmax
comp=Z,10.0nm,0.9s
BELG **Belogornoye** 80.12 322 P P 12 59 44.0 -1.1
comp=Z,28nm,1.0s,baz=178,slow=2.9,SNR=8.3
BELG LR LR 13 37 39.2
comp=Z,159nm,19.2s,baz=111,slow=38
comp=Z,28nm,1.0s
H18K **Honhosa River** 80.12 24 P P 12 59 44.8 -0.1
baz=258,SNR=7.8
G18K **Tagagawik** 80.16 24 P P 12 59 45.3 +0.1
baz=258,SNR=9.3
L18K **Granite Mounta** 80.29 28 P P 12 59 47.4 +1.4
L18K IAmb IAmb 12 59 48.5
comp=Z,37nm,1.2s
L18K **Granite Mounta** 80.29 28 P P 12 59 46.3 +0.4
baz=260,SNR=7.6
A19K **Wainwright** 80.31 19 P P 12 59 46.1 +0.3
baz=255
N18K **Kilae Creek** 80.42 29 P P 12 59 46.5 -0.2
baz=261
J18K **Innoko River** 80.50 26 P P 12 59 47.1 0.0
baz=260
C19K **Lookout Ridge** 80.54 20 P P 12 59 48.8 +1.6
C19K IAmb IAmb 13 00 11.3
comp=Z,47nm,1.1s
C19K **Lookout Ridge** 80.54 20 P P 12 59 47.4 +0.2
baz=256,SNR=24
P18K **Big Mountain,** 80.55 31 P P 12 59 47.9 +0.5
baz=262
Q18K **Katmai Hardscr** 80.56 31 P P 12 59 47.6 0.0
baz=262
M18K **Stony River** 80.58 28 P P 12 59 47.6 +0.1
baz=261
O18K **Koktuh Hills** 80.63 30 P P 12 59 48.8 +1.0
O18K IAmb IAmb 12 59 50.1
comp=Z,46nm,1.1s
O18K **Koktuh Hills** 80.63 30 P P 12 59 48.1 +0.3
baz=262,SNR=6.5
GCSA **Galena City Sc** 80.66 25 P P 12 59 47.8 0.0
baz=260,SNR=9.2
F19K **Shaleruckik Mo** 80.70 23 P P 12 59 48.5 +0.5
F19K IAmb IAmb 12 59 52.3
comp=Z,49nm,1.9s
F19K **Shaleruckik Mo** 80.70 23 P P 12 59 48.6 +0.6
baz=258
TTA **Tatalina** 80.72 27 P P 12 59 49.1 +0.7
TTA IAmb IAmb 12 59 50.4
comp=Z,36nm,1.4s
TTA **Tatalina** 80.72 27 P P 12 59 48.7 +0.4
baz=261,SNR=7.9
TTA **Tatalina** 80.72 27 P P 12 59 49.1 +0.7
TTA pmax pmax
comp=Z,37nm,1.4s
G19K **Purcell Mounta** 80.84 24 P P 12 59 48.6 -0.2
G19K **Purcell Mounta** 80.84 24 P P 12 59 49.1 +0.3
baz=259
D19K **Kuna River** 80.92 21 P P 12 59 50.4 +1.1
baz=258
H19K **Roundabout Mou** 80.98 24 P P 12 59 49.6 +0.1
baz=260,SNR=19
E19K **Redstone River** 81.03 22 P P 12 59 50.4 +0.6
baz=259
J19K **Poorman** 81.07 26 P P 12 59 50.1 0.0
baz=261,SNR=12
O19K **Port Alsworth** 81.12 30 P P 12 59 50.7 +0.3
baz=263
N19K **Bonanza Creek** 81.12 29 P P 12 59 50.9 +0.4
baz=262
L19K **White Mountain** 81.14 28 P P 12 59 51.1 +0.6
L19K IAmb IAmb 13 00 07.4
comp=Z,37nm,1.2s
L19K **White Mountain** 81.14 28 P P 12 59 51.4 +0.9
baz=262
GNI **Garni** 81.21 310 LR LR 13 43 29.4
comp=Z,49nm,19.0s,baz=90,slow=41
OPO **Ambohidratompo** 81.26 251 P P 12 59 50.5 -1.7
comp=Z,3.9nm,0.5s,baz=89,slow=2.4,SNR=5.7
comp=Z,3.9nm,0.5s
OHAK **Old Harbor** 81.30 33 P P 12 59 52.2 +0.8
baz=264
Q19K **Cape Douglas,** 81.30 31 P P 12 59 52.2 +0.8
baz=263
D20K **Etivluk River** 81.50 21 P P 12 59 53.1 +0.8
baz=259
F20K **Avaraart Lake** 81.53 23 P P 12 59 53.8 +1.4
F20K IAmb IAmb 12 59 55.6
comp=Z,41nm,1.4s
F20K **Avaraart Lake** 81.53 23 P P 12 59 53.2 +0.8
baz=260,SNR=20
B20K **Meade River** 81.57 20 P P 12 59 53.4 +0.9
baz=258
E20K **Nigu River** 81.57 22 P P 12 59 53.2 +0.5
baz=260,SNR=18
H20K **Anotleneega Mo** 81.62 24 P P 12 59 53.6 +0.6
baz=261
L20K **Farewell, AK** 81.63 27 P P 12 59 53.5 +0.4
baz=263
K20K **Telida** 81.66 27 P P 12 59 53.8 +0.5
baz=262,SNR=12
I20K **Naaghedeneel** 81.68 25 P P 12 59 53.6 +0.3
baz=262,SNR=8.4
KDAK **Kodiak Island** 81.73 32 P P 12 59 53.8 +0.1
baz=264
KDAK **Kodiak Island** 81.73 32 LR LR 13 30 29.1
comp=Z,360nm,21.4s,baz=279,slow=31
J20K **Nowinta River** 81.74 26 P P 12 59 54.1 +0.5
baz=262
M20K **Styx River** 81.90 28 P P 12 59 55.3 +0.7
M20K IAmb IAmb 13 00 20.0
comp=Z,33nm,0.9s
M20K **Styx River** 81.90 28 P P 12 59 54.9 +0.3
baz=263
Q20K **Shuyak Island** 81.92 31 P P 12 59 54.6 0.0
baz=264
O20K **Slope Mountain** 81.95 30 P P 12 59 54.9 0.0
baz=264
A21K **Barrow** 82.01 18 P P 12 59 55.6 +0.8
baz=259,SNR=18
VOI **Vohitsoka** 82.05 247 P P 12 59 55.2 -1.0
VOI IAmb IAmb 13 00 14.0
comp=Z,76nm,1.8s
VOI **Vohitsoka** 82.05 247 P P 13 00 00.7 +4.4
IMAR **Indian Mountai** 82.15 24 P P 12 59 56.8 +1.0
NCK **Nalchik** 82.19 313 *i* P P 12 59 55.1 -1.3
NCK pmax pmax
comp=Z,19nm,0.4s
PRGR **Permogore** 82.21 332 *e*P P 12 59 54.3 -1.8
PRGR pmax pmax
comp=Z,46nm,0.8s
C21K **Knifeblade Rid** 82.23 21 P P 12 59 56.4 +0.3
baz=261,SNR=8.2

N20K **Mount Spurr** 82.27 29 P P 12 59 56.4 -0.2
baz=264
G21K **Allakaket** 82.32 23 P P 12 59 57.5 +0.9
G21K IAmb IAmb 13 00 38.1
comp=Z,27nm,1.1s
G21K **Allakaket** 82.32 23 P P 12 59 57.1 +0.5
baz=262,SNR=17
B21K **Ikpikpuk River** 82.37 20 P P 12 59 57.5 +0.8
B21K IAmb IAmb 13 00 19.3
comp=Z,30nm,0.8s
B21K **Ikpikpuk River** 82.37 20 P P 12 59 57.0 +0.3
baz=261
HOM **Homer** 82.40 30 P P 12 59 57.6 +0.5
baz=265
E21K **Killik River** 82.42 22 P P 12 59 57.4 +0.2
baz=262
F21K **Alatna River** 82.43 23 P P 12 59 57.7 +0.5
baz=262
PPLA **Purkeypile** 82.45 27 P P 12 59 57.7 +0.1
baz=264
A22K **Sinclair Lake** 82.47 19 P P 12 59 57.9 +0.6
baz=260
H21K **Melozitna Rive** 82.50 24 P P 12 59 58.1 +0.5
H21K **Melozitna Rive** 82.50 24 P P 12 59 58.0 +0.5
baz=263,SNR=16
CHUM **Lake Minchumin** 82.50 26 P P 12 59 58.3 +0.7
baz=264,SNR=7.6
CAST **Castle Rocks** 82.55 27 P P 12 59 58.0 0.0
baz=264,SNR=9.2
SKT **Skwentna** 82.67 28 P P 12 59 57.9 -0.6
SKT IAmb IAmb 13 00 12.8
comp=Z,29nm,1.1s
SKT **Skwentna** 82.67 28 P P 12 59 58.8 +0.3
baz=265,SNR=8.2
KBZ **Khabaz** 82.70 313 *i* P P 12 59 57.8 -1.2
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ **Khabaz** 82.70 313 P P 12 59 57.5 -1.6
comp=Z,3.5nm,1.0s,baz=67,slow=7.7,SNR=2.3
KBZ LR LR 13 42 40.6
comp=Z,147nm,18.1s,baz=75,slow=40
comp=Z,3.5nm,1.0s
I21K **Tanana** 82.78 25 P P 13 00 00.1 +1.1
I21K IAmb IAmb 13 00 01.7
comp=Z,37nm,1.1s
I21K **Tanana** 82.78 25 P P 12 59 59.5 +0.5
baz=264,SNR=15
KIV **Kislovodsk** 82.86 314 *e*P P 12 59 56.7 -3.3
KIV pmax pmax
comp=Z,7.0nm,1.0s
BRSE **Bradley Lake S** 82.86 30 P P 12 59 59.3 -0.3
baz=266
B22K **Teshekpuk Lake** 82.88 20 P P 13 00 00.5 +1.0
B22K IAmb IAmb 13 00 21.7
comp=Z,20nm,0.8s
B22K **Teshekpuk Lake** 82.88 20 P P 13 00 00.0 +0.6
baz=262
D22K **Ayikyak River** 82.94 21 P P 13 00 01.0 +1.1
D22K IAmb IAmb 13 00 03.3
comp=Z,58nm,1.8s
D22K **Ayikyak River** 82.94 21 P P 13 00 00.8 +0.9
baz=263
F22K **John River** 82.96 23 P P 13 00 00.3 +0.3
baz=264
SUA **Susitna One** 82.99 29 P P 13 00 00.5 +0.1
SUA IAmb IAmb 13 00 05.9
comp=Z,30nm,1.1s
SUA **Susitna One** 82.99 29 P P 13 00 00.8 +0.4
baz=266,SNR=5.7
KTH **Kantishna Hill** 83.09 27 P P 13 00 02.1 +1.3
KTH IAmb IAmb 13 00 03.8
comp=Z,54nm,1.3s
BPAW **Bear Paw Mtn.** 83.11 26 P P 13 00 01.5 +0.7
baz=265,SNR=14
H22K **Ishtalitna Cre** 83.11 24 P P 13 00 01.6 +0.9
baz=264,SNR=14
G22K **Bettles** 83.16 23 P P 13 00 01.8 +0.8
baz=264
E22K **Anaktuvuk Pass** 83.17 22 P P 13 00 01.6 +0.5
baz=264
CUT **Chulitna** 83.29 28 P P 13 00 01.8 +0.1
baz=266
MLY **Manley** 83.29 25 P P 13 00 02.8 +1.0
MLY **Manley** 83.29 25 P P 13 00 01.9 +0.1
baz=265,SNR=16
M22K **Willow** 83.31 28 P P 13 00 01.4 -0.4
baz=266
TRF **Thorofare Moun** 83.36 27 P P 13 00 01.5 -0.8
baz=266,SNR=11
O22K **Cooper Landing** 83.42 30 P P 13 00 02.6 +0.2
baz=266
RC01 **Rabbit Creek A** 83.45 29 P P 13 00 02.3 -0.3
RC01 IAmb IAmb 13 00 17.6
comp=Z,29nm,1.0s
RC01 **Rabbit Creek A** 83.45 29 P P 13 00 02.6 0.0
baz=266
SEW **Seward** 83.53 30 P P 13 00 02.9 -0.1
baz=267
D23K **Nanushuk River** 83.67 21 P P 13 00 04.1 +0.5
baz=265
VRH **Novokhopyorsk** 83.69 321 *e*P P 13 00 03.4 -0.6
VRH pmax pmax
comp=Z,45nm,1.9s
COLD **Coldfoot** 83.70 23 P P 13 00 04.3 +0.6
baz=265,SNR=25
VNDA **Vanda** 83.71 173 P P 13 00 03.3 -0.2
VNDA **Vanda** 83.71 173 P P 13 00 03.7 +0.1
comp=Z,1.9nm,0.5s,baz=318,slow=7.0,SNR=26
VNDA LR LR 13 37 37.4
comp=Z,80nm,19.1s,baz=336,slow=36
comp=Z,1.9nm,0.5s
G23K **Bananza Creek** 83.73 23 P P 13 00 04.2 +0.3
baz=266
PMR **Palmer** 83.77 29 P P 13 00 04.2 0.0
PMR **Palmer** 83.77 29 P P 13 00 04.7 +0.5
baz=267,SNR=7.0
PMR **Palmer** 83.77 29 P P 13 00 04.2 0.0
PMR pmax pmax
comp=Z,56nm,1.2s
BWN **Browne** 83.78 26 P P 13 00 04.4 +0.2
C23K **Itkillik River** 83.78 20 P P 13 00 04.8 +0.7
baz=265
I23K **Minto, Yukon-K** 83.89 25 P P 13 00 05.8 +1.1
I23K **Minto, Yukon-K** 83.89 25 P P 13 00 05.2 +0.5
baz=266,SNR=20
MAW **Mawson** 83.96 200 P P 13 00 04.9 -0.1
comp=Z,2.6nm,0.8s,baz=344,slow=6.3,SNR=1.2
comp=Z,2.6nm,0.8s
NEA2 **Nenana** 83.97 26 P P 13 00 05.7 +0.5
baz=267
MCK **McKinley** 83.98 26 P P 13 00 05.4 +0.1
baz=267,SNR=14
E23K **Chandalar** 83.99 22 P P 13 00 06.0 +0.7
baz=266
RND **Reindeer** 84.00 27 P P 13 00 05.1 -0.3
RND **Reindeer** 84.00 27 P P 13 00 05.1 -0.3
RND pmax pmax
comp=Z,42nm,1.2s
TOLK **Toolik Lake Re** 84.05 21 P P 13 00 06.6 +1.1
TOLK **Toolik Lake Re** 84.05 21 P P 13 00 06.3 +0.7
baz=266,SNR=23
KNK **Knik Glacier** 84.09 29 P P 13 00 06.2 +0.3
KNK **Knik Glacier** 84.09 29 P P 13 00 06.0 +0.2
baz=268,SNR=6.6
WAT1 **Susitna Watana** 84.11 27 P P 13 00 06.7 +0.7
baz=267
SML **Sawmill** 84.17 28 P P 13 00 06.3 +0.1
SML **Sawmill** 84.17 28 P P 13 00 06.6 +0.3
baz=268,SNR=7.5
D24K **Happy Valley** 84.35 21 P P 13 00 08.2 +1.1
baz=266,SNR=26
E24K **Your Creek** 84.41 22 P P 13 00 08.6 +1.1
E24K IAmb IAmb 13 00 22.7
comp=Z,29nm,1.3s
E24K **Your Creek** 84.41 22 P P 13 00 08.5 +1.0
baz=267
C24K **Franklin Bluff** 84.43 20 P P 13 00 07.9 +0.5
baz=266
M23K **Glacier View** 84.45 28 P P 13 00 08.5 +0.8
baz=268
WAT6 **Susitna Watana** 84.47 28 P P 13 00 08.1 +0.1
baz=268,SNR=11
COLA **College** 84.51 25 P P 13 00 07.8 0.0
COLA **College** 84.51 25 P P 13 00 08.2 +0.4
baz=268
COLA **College** 84.51 25 P P 13 00 07.9 0.0
COLA pmax pmax
comp=Z,12nm,0.9s
CCB **Clear Creek Bu** 84.52 26 P P 13 00 07.4 -0.5
CCB IAmb IAmb 13 00 22.2
comp=Z,37nm,1.2s
H24K **Noodor Dome** 84.54 24 P P 13 00 09.4 +1.3
H24K IAmb IAmb 13 00 11.4
comp=Z,37nm,1.3s
H24K **Noodor Dome** 84.54 24 P P 13 00 08.2 +0.1
baz=268,SNR=12
P23K **Montague Islan** 84.56 30 P P 13 00 08.4 +0.2
baz=269
F24K **Squaw Lake** 84.61 23 P P 13 00 08.9 +0.5
baz=268
SCM **Sheep Creek Mo** 84.64 28 P P 13 00 09.0 +0.3
SCM **Sheep Creek Mo** 84.64 28 P P 13 00 09.2 +0.4
baz=268
SCM **Sheep Creek Mo** 84.64 28 P P 13 00 09.0 +0.3
SCM pmax pmax
comp=Z,88nm,1.2s
DHY **Denali Highway** 84.66 27 P P 13 00 09.5 +0.6
DHY IAmb IAmb 13 00 25.5
comp=Z,36nm,1.4s
DHY **Denali Highway** 84.66 27 P P 13 00 09.7 +0.8
baz=268
POKR **Poker Plat Res** 84.70 25 P P 13 00 09.9 +1.0
baz=268
G24K **Hadweenzic Riv** 84.74 23 P P 13 00 10.7 +1.7
G24K **Hadweenzic Riv** 84.74 23 P P 13 00 09.9 +0.8
baz=268,SNR=11
HDA **Harding Lake** 84.88 26 P P 13 00 09.3 -0.5
HDA **Harding Lake** 84.88 26 P P 13 00 10.7 +0.9
baz=269
HDA P P 13 00 10.7 +0.9
baz=269
IL31 84.92 25 P P 13 00 09.7 -0.2
IL31 IAmb IAmb 13 00 24.8
comp=Z,20nm,1.2s
ILAR **Eielson Array** 84.92 25 P P 13 00 09.7 -0.3
ILAR **Eielson Array** 84.92 25 P P 13 00 09.7 -0.3
ILAR **Eielson Array** 84.92 25 P P 13 00 09.5 -0.5
comp=Z,5.2nm,1.1s,baz=248,slow=5.5,SNR=19
comp=Z,5.2nm,1.1s
SOC **Sochi** 85.01 313 *e*P P 13 00 08.0 -2.9
SOC *e* 13 03 24.5
SOC *e*PPP PPP 13 05 17.7
SOC *e*S **SKSac** **13 10 29.3 -3.1**
Q23K **Middleton Isla** 85.08 31 P P 13 00 11.2 +0.4
baz=270
KLMR **Klimovskoe** 85.11 331 *e*P P 13 00 06.0 -5.0
KLMR AMP 13 00 15.2
comp=Z,117nm,1.0s
KLMR **Klimovskoe** 85.11 331 *e*P P 13 00 06.0 -5.0
KLMR pmax pmax
comp=Z,117nm,1.0s
M24K **Tolsona, Glenn** 85.19 28 P P 13 00 11.4 0.0
baz=270
VORD **Divnogorie** 85.22 321 *e*P P 13 00 10.2 -1.5
VORD pmax pmax
comp=Z,20nm,1.1s
D25K **Kavik River** 85.23 21 P P 13 00 11.9 +0.4
baz=269
VORR **Voronezh** 85.27 321 *e*P P 13 00 11.3 -0.7
VORR pmax pmax
comp=Z,40nm,1.3s
G25K **Bearman Lake** 85.28 23 P P 13 00 12.0 +0.3
baz=269
VSR **Storozhevoye** 85.30 321 *e*P P 13 00 12.6 +0.5
VSR pmax pmax
comp=Z,20nm,1.3s
KLU **Klutina** 85.31 29 P P 13 00 12.3 +0.3
baz=270
PPT **Papeete** 85.32 108 LR LR 13 30 03.8
comp=Z,76nm,21.2s,baz=276,slow=30
PPT2 **Papeete2** 85.32 108 *e*LR LR 13 27 13.0
comp=Z,459nm,26.8s
PPT2 *e*LR LR 13 27 20.0
comp=Z,319nm,27.2s
K24K **Donnelly Dome** 85.39 26 P P 13 00 12.9 +0.5
baz=270
EYAK **Cordova Ski Ar** 85.39 30 P P 13 00 12.5 +0.2
baz=270
LPSR **Galich'ya Gora** 85.43 322 *e*P P 13 00 10.9 -1.9
LPSR pmax pmax
comp=Z,10.0nm,0.6s
F25K **Christian Rive** 85.47 23 P P 13 00 14.0 +1.2
baz=270,SNR=7.4
PRP **Porcupine Dome** 85.51 25 P P 13 00 13.5 +0.4
baz=270
E25K **Arctic Village** 85.51 22 P P 13 00 14.2 +1.3
E25K IAmb IAmb 13 00 32.5
comp=Z,30nm,1.2s
E25K **Arctic Village** 85.51 22 P P 13 00 13.3 +0.5
baz=270,SNR=13
PAX **Paxson** 85.52 27 P P 13 00 13.4 +0.3
baz=270,SNR=5.9
J25K **Salcha River,** 85.57 26 P P 13 00 12.6 -0.7
J25K **Salcha River,** 85.57 26 P P 13 00 13.8 +0.4
baz=270
HARP **HAARP** 85.67 28 P P 13 00 14.8 +1.0
baz=270
C26K **Camden Bay** 85.75 20 P P 13 00 13.9 -0.1
baz=270,SNR=8.8
RIDG **Independent Ri** 85.80 26 P P 13 00 14.3 -0.1
baz=271
BMAR **Burnt Mountain** 85.88 23 P P 13 00 16.5 +1.7
N25K **Chitina, Valde** 85.94 29 P P 13 00 15.6 +0.3
baz=271
BMRM **Bremner River** 85.95 29 P P 13 00 15.4 +0.1
baz=271
TBI **Tubuai** 86.02 114 *e*LR LR 13 27 32.6
comp=Z,2µm,28.5s
F26K **Sheenjek River** 86.05 22 P P 13 00 16.0 +0.4
baz=271
KAIM **Kayak Island** 86.06 30 P P 13 00 15.9 +0.2
baz=271
MOS **Moscow** 86.15 325 *e*P P 13 00 14.3 -1.9
MOS *e*S **SKSac** **13 10 36.9 -2.1**
MOS pmax pmax
comp=Z,91nm,1.1s
SCRK **Sand Creek** 86.18 26 P P 13 00 16.9 +0.4
baz=271
G26K **Porcupine Rive** 86.20 23 P P 13 00 16.5 +0.3
baz=271
J26L **Joseph Creek** 86.35 26 P P 13 00 17.5 +0.3
baz=272
L26K **Log Cabin Wild** 86.49 27 P P 13 00 18.2 +0.3
baz=272
I26K **Coal Creek Min** 86.50 25 P P 13 00 18.1 +0.3
baz=272
M26K **Nabesna, AK** 86.67 28 P P 13 00 18.9 +0.1
baz=272
CRQE **Cirque** 86.69 29 P P 13 00 19.3 +0.2
baz=272
OBN **Obninsk** 86.77 325 P P 13 00 18.5 -0.8
OBN **Obninsk** 86.77 325 *d* *i*P P 13 00 19.0 -0.3
OBN *i* *PP **pP** 13 00 26.6 -4.7
OBN *i* *SP **pwP** 13 00 32.7 -0.7
OBN S **SKSac** **13 10 41.0 -1.9**
OBN *i* SS **SS** **13 16 39.0 +3.1**
OBN SSS SSS 13 20 01.0
OBN pmax pmax
comp=Z,46nm,1.2s
OBN MLR MLR
comp=Z,419nm,20.0s
OBN **Obninsk** 86.77 325 P P 13 00 17.2 -2.1
comp=Z,26nm,0.5s,baz=64,slow=6.4,SNR=14
OBN LR LR 13 41 16.0
comp=Z,428nm,20.3s,baz=126,slow=37
comp=Z,26nm,0.5s
E27K **Coleen River** 86.99 22 P P 13 00 20.4 +0.2
baz=273
K27K **Chicken** 87.02 26 P P 13 00 21.0 +0.6
baz=273
G27K **Doyon Strip** 87.05 23 P P 13 00 20.6 +0.1
baz=273
H27K **Steamboat Moun** 87.13 24 P P 13 00 21.4 +0.4
baz=273
I27K **Kandik River** 87.13 25 P P 13 00 21.1 +0.2
baz=273
D27M **Malcolm River** 87.16 21 P P 13 00 21.5 +0.5
baz=274
L27K **Beaver Creek,** 87.18 27 P P 13 00 21.6 +0.4
baz=273
M27K **Edge Creek, AK** 87.20 28 P P 13 00 21.9 +0.5
baz=273
BCAR **Beaver Creek A** 87.20 27 P P 13 00 20.8 -0.6
EGAK **Eagle** 87.37 25 P P 13 00 22.9 +0.8

baz=274
CTG Chitna Glacier 87.54 29 P P 13 00 23.8 +0.7
baz=274
F28M Old Crow 87.68 22 P P 13 00 23.3 -0.2
F28M IAmb IAmb 13 00 38.4
comp=Z,13nm,0.9s
F28M Old Crow 87.68 22 P P 13 00 24.6 +1.0
baz=275
E28M Babbage River 87.72 21 P P 13 00 24.4 +0.7
E28M IAmb IAmb 13 00 39.4
comp=Z,12nm,1.0s
E28M Babbage River 87.72 21 P P 13 00 24.8 +1.1
baz=275
I28M Miner Creek 87.84 25 P P 13 00 25.4 +1.0
baz=275
YUK3 Moose Creek 87.90 28 P P 13 00 25.7 +0.8
baz=275
D28M Stokes Point 87.94 21 P P 13 00 26.1 +1.5
baz=276
PINM Pinnacle 88.14 30 P P 13 00 26.6 +0.7
baz=275
DAWY Dawson 88.19 26 P P 13 00 26.6 +0.6
baz=275
YUK8 Steele Glacier 88.28 29 P P 13 00 26.9 +0.1
baz=275
E29M Blow River 88.35 22 P P 13 00 26.7 0.0
baz=277
H29M Whitestone 88.41 24 P P 13 00 27.1 +0.1
baz=276
G29M Pine Creek 88.47 23 P P 13 00 27.6 +0.3
baz=277
I29M Ogilvie Camp, 88.53 25 P P 13 00 28.2 +0.6
baz=276
PNL Peninsula 88.61 30 P P 13 00 28.5 +0.4
baz=276
M29M Somme Creek 88.78 28 P P 13 00 29.4 +0.4
baz=276
YUK4 Talbot Arm 88.81 29 P P 13 00 29.7 +0.5
baz=276
MMAI Mount Meron Ar 88.85 303 P P 13 00 27.5 -2.4
comp=Z,1.4nm,0.4s,baz=74,slow=8.8,SNR=1.9
comp=Z,1.4nm,0.4s
L29M L29M 88.86 27 P P 13 00 30.0 +0.8
baz=277
YUK6 Outpost Mounta 88.99 29 P P 13 00 30.8 +0.7
baz=276
K29M Barlow Dome 89.04 26 P P 13 00 30.6 +0.4
baz=277
EPYK Eagle Plains 89.05 24 P P 13 00 30.8 +0.7
baz=278
G30M tAoh Zraii Nji 89.16 23 P P 13 00 31.3 +0.7
baz=278
F30M Barrier River 89.24 22 P P 13 00 31.9 +1.0
baz=277
I30M Mount Dempster 89.35 25 P P 13 00 31.8 +0.2
baz=278
HYT Haines Junctio 89.42 29 P P 13 00 32.3 +0.3
baz=277
KMBO Kilima Mbogo 89.42 269 P P 13 00 32.1 -1.1
KMBO Kilima Mbogo 89.42 269 *i* P P 13 00 32.5 -0.7
KMBO pmax pmax
comp=Z,6.0nm,0.9s
KMBO Kilima Mbogo 89.42 269 P P 13 00 30.5 -2.7
comp=Z,4.1nm,1.0s,baz=45,slow=5.9,SNR=7.1
KMBO LR LR 13 37 23.5
comp=Z,140nm,21.4s,baz=93,slow=34
comp=Z,4.1nm,1.0s
P29M Windy Craggy 89.45 30 P P 13 00 32.7 +0.7
baz=277
J30M Hart River 89.46 25 P P 13 00 32.5 +0.4
baz=278
EIL Elat 89.48 300 LR LR 13 47 23.3
comp=Z,175nm,19.0s,baz=66,slow=40
M30M Minto, Yukon 89.53 27 P P 13 00 32.3 -0.1
baz=278
BR131 Keskin Array S 89.75 310 *i* P P 13 00 33.2 -0.8
BRTR Keskin Array B 89.75 310 P P 13 00 32.6 -1.4
BRTR Keskin Array B 89.75 310 *i* P P 13 00 36.5 +2.5
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 89.75 310 P P 13 00 32.2 -1.8
comp=Z,1.4nm,0.7s,baz=128,slow=2.4,SNR=4.4
BRTR LR LR 13 47 07.7
comp=Z,114nm,19.4s,baz=85,slow=40
comp=Z,1.4nm,0.7s
P30M Million Dollar 89.78 30 P P 13 00 33.5 -0.1
baz=278
MAYO Mayo, Yukon 89.79 26 P P 13 00 33.6 +0.1
baz=279
G31M Satah River 89.93 23 P P 13 00 34.1 0.0
baz=280
INK Inuvik 89.96 21 P P 13 00 34.2 0.0
INK Inuvik 89.96 21 P P 13 00 34.1 -0.1
baz=281
INK Inuvik 89.96 21 P P 13 00 34.2 0.0
INK pmax pmax
comp=Z,9.0nm,1.1s
F31M Tsiigehtchic 90.04 22 P P 13 00 34.5 -0.1
baz=280
O30N Mendenhall 90.11 29 P P 13 00 34.7 -0.5
baz=278
ARCES ARCES Array B 90.15 340 P P 13 00 34.4 -0.7
comp=Z,8.5nm,0.9s,baz=76,slow=5.1,SNR=11
ARCES LR LR 13 46 45.0
comp=Z,209nm,18.1s,baz=92,slow=39
comp=Z,8.5nm,0.9s
N31M Braeburn, Yuko 90.16 28 P P 13 00 35.0 -0.3
baz=279
SPITS Spitsbergen Ar 90.19 349 P P 13 00 34.7 -0.5
comp=Z,4.7nm,0.6s,baz=108,slow=7.2,SNR=5.6
SPITS LR LR 13 46 14.2
comp=Z,371nm,20.3s,baz=34,slow=39
comp=Z,4.7nm,0.6s
S31K Pelican 90.45 32 P P 13 00 36.6 -0.1
baz=278
SKAG Skagway 90.69 30 P P 13 00 37.3 -0.4
baz=279
M31M Drury Creek, Y 90.69 28 P P 13 00 37.6 -0.2
baz=280
WHY Whitehorse 90.72 29 P P 13 00 37.7 -0.3
baz=279
SIT Sitka 91.06 33 P P 13 00 39.7 +0.1
baz=279
FARO Faro, Yukon 91.17 27 P P 13 00 40.7 +0.7
baz=281
R32K Eaglecrest 91.30 31 P P 13 00 40.4 -0.3
baz=280
S32K Kiliisnoo 91.40 32 P P 13 00 40.6 -0.4
baz=280
P32M Atlin 91.48 30 P P 13 00 41.0 -0.5
baz=280
N32M Quiet Lake 91.50 29 P P 13 00 41.7 +0.2
baz=281
FINES FINESS Array B 91.54 332 P P 13 00 40.7 -0.9
comp=Z,7.8nm,0.8s,baz=52,slow=5.2,SNR=17
comp=Z,7.8nm,0.8s
AKASG Malin Array Be 91.60 321 P P 13 00 40.5 -1.7
comp=Z,4.9nm,0.8s,baz=68,slow=4.7,SNR=13
AKASG LR LR 13 44 27.2
comp=Z,272nm,20.6s,baz=38,slow=37
comp=Z,4.9nm,0.8s
AKBB Malin Array Si 91.60 321 P P 13 00 41.0 -1.2
AKBB IAmb IAmb 13 01 01.2
comp=Z,22nm,1.2s
AKBB Malin Array Si 91.60 321 *ce*P P 13 00 40.6 -1.6
AKBB pmax pmax
comp=Z,19nm,1.5s
KIEV Kiev 91.61 321 ⇑P P 13 00 43.4 +1.1
KIEV Kiev 91.61 321 P P 13 00 41.0 -1.2
KIEV IAmb IAmb 13 01 01.3
comp=Z,19nm,1.2s
KIEV Kiev 91.61 321 P P 13 00 41.0 -1.2
KIEV pmax pmax
comp=Z,19nm,1.3s
A36M Sachs Harbour 91.77 17 P P 13 00 42.9 +0.4
baz=289
VSU Vasula 91.77 329 *i* P P 13 00 42.1 -0.7
VSU pmax pmax
comp=Z,25nm,0.9s
P33M Teslin, Yukon 91.81 29 P P 13 00 42.3 -0.8
baz=281
MNK Minsk 91.83 325 *i* P P 13 00 40.7 -2.4
comp=E,5.0nm,1.0s
MNK *i* P P 13 00 40.7 -2.4
comp=N,9.0nm,0.7s
MNK *i* P P 13 00 40.7 -2.4
comp=Z,22nm,1.7s,baz=80
MNK *i* pP pP 13 00 53.7 -1.4
MNK *i* PP PP 13 04 34.0 +12
MNK *i* PPP PPP 13 06 36.0
MNK *i* S SKSac 13 11 08.7 -4.0
MNK *i* SS SS 13 17 47.5 -1.9
MNK *i* SSS SSS 13 21 28.1
MNK *i* LQ LQ 13 33 48.3
MNK *i* LR LR 13 40 07.8
MNK *i* LRM MLR 13 44 20.8
comp=Z,438nm,19.6s
MNK *i* LRM MLR 13 44 25.9
comp=E,131nm,18.9s
MNK *i* LRM MLR 13 44 36.1
comp=N,222nm,29.6s
MNK Minsk 91.83 325 *e*P P 13 00 40.7 -2.4
Q32M Nakina River 92.33 31 P P 13 00 45.3 -0.3
baz=282
NACGM Naroch 92.39 325 *e*P P 13 00 44.5 -1.3
comp=E,822nm,0.8s
U33K Whale Pass 92.43 33 P P 13 00 45.5 -0.4
baz=281
CRAG Craig 92.55 34 P P 13 00 46.1 -0.3
baz=281
SORM Soroca 92.55 318 ⇓P P 13 00 45.4 -1.2
WRAK Wrangell Islan 92.79 33 P P 13 00 47.2 -0.3
baz=282
R33M Jennings River 92.89 30 P P 13 00 47.8 -0.4
baz=283
C36M Paulatuk 93.00 20 P P 13 00 48.9 +0.6
baz=290
S34M Telegraph Cree 93.13 31 P P 13 00 49.6 +0.5
baz=283
V35K Ketchikan 93.42 34 P P 13 00 50.6 +0.1
baz=282
DLBC Dease Lake 93.58 31 P P 13 00 52.7 +1.4
baz=284
DLBC Dease Lake 93.58 31 LR LR 13 37 12.2
comp=E,352nm,20.9s,baz=298,slow=32
TGTN Hyland Airport 93.67 28 P P 13 00 53.3 +1.7
baz=285
T35M Bob Quinn 93.80 32 P P 13 00 53.7 +1.4
baz=283
TAOE Nuku Hiva Isla 93.81 99 *e*LR LR 13 31 24.9
QSPA Nuku Hiva Isla 93.81 99 *e*LR LR 13 31 24.9
comp=E,483nm,24.3s
QSPA South Pole Qui 93.90 180 P P 13 00 53.0 +0.4
QSPA IAmb IAmb 13 01 19.1
comp=Z,14nm,0.9s
QSPA South Pole Qui 93.90 180 P P 13 00 53.8 +1.2
comp=Z,1.2nm,0.2s,baz=296,slow=3.5,SNR=6.0
comp=Z,1.2nm,0.2s
TESR Tescani 93.95 317 ⇑P P 13 00 53.0 -0.2
VRI Vrincioaia 94.01 316 ⇓P P 13 00 53.3 -0.2
PLOR Plostina 94.07 316 ⇑P P 13 00 53.8 0.0
TURR Turia 94.47 317 ⇑P P 13 00 53.1 -2.5
MLR Muntele Rosu 94.62 316 ⇓P P 13 00 55.2 -1.2
BURAR Bucovina Array 94.72 318 ⇓P P 13 00 56.3 -0.5
DOPR Dopca 94.91 317 ⇓P P 13 00 55.6 -2.0
ARR Arges 95.55 316 ⇓P P 13 01 01.0 +0.4
BMR Baia Mare 95.84 319 ⇓P P 13 01 01.8 0.0
KOTAN Kotaneelee Air 96.06 28 P P 13 01 03.2 +0.7
baz=289
FLDN Fort Liard 96.29 28 P P 13 01 03.9 +0.4
baz=289
MARR Marisel-Cluj 96.31 318 ⇓P P 13 01 04.0 -0.1
KOLS Kolonicke sedl 96.36 320 *e*PDIFF P 13 01 03.9 -0.2
KOLS Kolonicke sedl 96.36 320 *e*P P 13 01 03.9 -0.2
GZR Gura Zlata 96.82 316 ⇓P P 13 01 04.3 -2.1
CRVS Cervenica-Dubn 96.88 320 *e*PDIFF P 13 01 06.9 +0.4
CRVS Cervenica-Dubn 96.88 320 *e*P P 13 01 06.9 +0.4
STHS Stebnicka Huta 96.90 321 *e*PDIFF P 13 01 06.0 -0.6
STHS Stebnicka Huta 96.90 321 *e*P P 13 01 06.0 -0.6
DAG Danmarks Havn 96.97 352 *i* P P 13 01 06.0 -0.3
HERR Herculane 97.19 316 ⇓P P 13 01 07.2 -0.7
SURR Surduc 97.19 317 ⇑P P 13 01 07.5 -0.5
BLKB Belogradchik 97.28 315 ⇑P P 13 01 04.1 -4.4
BZS Buzias 97.57 317 ⇓P P 13 01 09.3 -0.3
MDVR Moldovita 97.69 316 ⇑P P 13 01 08.5 -1.8
HFS Hagfors 97.72 332 P P 13 01 08.6 -1.4
comp=Z,1.3nm,0.5s,baz=112,slow=6.6,SNR=7.1
HFS LR LR 13 49 44.5
comp=Z,290nm,18.0s,baz=70,slow=38
comp=Z,1.3nm,0.5s
LANS Liptovska Anna 98.09 321 *e*PDIFF Pdif 13 01 13.5 +1.5
LANS Liptovska Anna 98.09 321 *e*P Pdif 13 01 13.5 +1.5
NB2 NORSAR Subarra 98.49 334 P P 13 01 11.8 -1.7
comp=Z,11nm,1.1s,baz=70,slow=4.6
NB2 NORSAR Subarra 98.49 334 P P 13 01 11.8 -1.7
baz=70,slow=4.6
NOA NORSAR Array B 98.49 334 P P 13 01 11.8 -1.7
comp=Z,0.8nm,0.6s,baz=74,slow=5.3,SNR=3.9
NOA LR LR 13 50 29.8
comp=Z,291nm,18.7s,baz=60,slow=38
comp=Z,0.8nm,0.6s
VYHS Vyhne 98.67 320 *e*PDIFF P 13 01 14.2 -0.3
VYHS Vyhne 98.67 320 *e*P P 13 01 14.2 -0.3
MATP Matopo 98.97 250 LR LR 13 43 46.9
comp=Z,112nm,18.8s,baz=61,slow=34
MAUC Maruska 99.06 321 *e*PDIFF Pdif 13 01 16.7 +0.4
MORC Moravsky Berou 99.12 322 *e*PDIFF Pdif 13 01 17.1 +0.5
LSZ Lusaka 99.15 255 LR LR 13 42 35.6
comp=Z,290nm,21.6s,baz=118,slow=33
JAVC Velka Javorina 99.31 321 *e*PDIFF Pdif 13 01 18.6 +1.1
YKA Yellowknife Ar 99.31 24 *ce*P Pdif 13 01 17.7 +0.7
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 99.31 24 P Pdif 13 01 17.2 +0.2
comp=Z,0.5nm,0.8s,baz=296,slow=4.5,SNR=6.4
comp=Z,0.5nm,0.8s
MORH Mrgy, Hungar 99.42 318 ⇓P Pdif 13 01 16.4 -1.5
KRLC Kraliky 99.49 322 *e*PDIFF Pdif 13 01 18.3 +0.1
KRLC Kraliky 99.49 322 *e*P Pdif 13 01 18.3 +0.1
DPC Dobruska-Polom 99.69 322 *e*PDIFF Pdif 13 01 18.5 -0.6
DPC Dobruska-Polom 99.69 322 *e*P Pdif 13 01 18.5 -0.6
OSTC Ostas 99.69 323 *e*PDIFF Pdif 13 01 22.1 +3.0
UPC Upice 99.83 323 *e*PDIFF Pdif 13 01 20.3 +0.6
UPC Upice 99.83 323 *e*P Pdif 13 01 20.3 +0.6
VRAC Vranov 99.85 321 *e*PDIFF Pdif 13 01 20.3 +0.5
VRAC Vranov 99.85 321 P Pdif 13 01 19.7 -0.1
comp=Z,3.2nm,0.9s,baz=74,slow=7.6,SNR=4.5
VRAC LR LR 13 50 09.3
comp=Z,121nm,18.3s,baz=64,slow=38
comp=Z,3.2nm,0.9s
KRUC Mavsky 100.05 321 *e*PDIFF Pdif 13 01 21.0 +0.3
PRU Pruhonice 100.89 322 *e*PDIFF Pdif 13 01 24.0 -0.4
PRU AMS AMS 13 49 40.0
comp=Z,400nm,18.4s
PRU Pruhonice 100.89 322 *e*P Pdif 13 01 24.0 -0.4
PRU MLR MLR
comp=Z,400nm,18.4s
BRG Berggiesshubel 100.95 323 *e*P Pdif 13 01 24.6 0.0
BRG Amp 13 01 27.2
comp=Z,8.2nm,1.0s
BRG Berggiesshubel 100.95 323 *e*P Pdif 13 01 24.6 0.0
BRG pmax pmax
comp=Z,8.0nm,1.0s
ZVC Zvikov 101.29 322 *e*PDIFF Pdif 13 01 26.2 0.0
CLL Collm 101.35 324 *i* Pdif Pdif 13 01 26.8 +0.4
CLL AMS AMS 13 50 00.0
comp=Z,300nm,19.7s
CLL Collm 101.35 324 *i* P Pdif 13 01 26.8 +0.4
CLL pmax pmax
comp=Z,7.0nm,1.0s
SOKA Soboth 101.67 319 *e*Pdiff Pdif 13 01 27.1 -1.0
comp=Z,2.6nm,1.1s
KHC Kasperske Hory 101.77 322 *e*PDIFF Pdif 13 01 27.3 -1.1
KHC Kasperske Hory 101.77 322 *e*P Pdif 13 01 27.3 -1.1
MOA Molln 101.78 320 *e*Pdiff Pdif 13 01 28.1 -0.4
comp=Z,5.5nm,1.3s
GERES GERESS Array B 101.80 322 P Pdif 13 01 28.4 -0.2
comp=Z,1.8nm,0.8s,baz=28,slow=6.0,SNR=7.2
OBKA Obir 102.04 319 *e*Pdiff Pdif 13 01 28.8 -0.9
comp=Z,0.3nm,0.5s
LESA Schwarzleotal 102.93 320 *e*Pdiff Pdif 13 01 32.8 -0.9
comp=Z,6.9nm,1.7s
WTTA Wattenberg 103.65 321 *e*Pdiff Pdif 13 01 36.1 -0.9
comp=Z,6.8nm,1.0s
SQTA Sankt Quirin 103.94 321 *e*Pdiff Pdif 13 01 37.8 -0.4
comp=Z,8.7nm,1.6s
NEW Newport 104.10 38 P Pdif 13 01 38.5 -0.2
baz=293
MSO Missoula 106.65 39 P PKiKP 13 06 00.5 -0.1
baz=295
NVAR Mina Array Bea 106.83 48 Pdiff Pdif 13 01 52.1 +0.7
comp=Z,0.1nm,0.5s,baz=272,slow=3.3,SNR=4.7
NVAR PKKPab PKKPdf 13 17 34.0 +1.1
comp=Z,0.4nm,0.6s,baz=138,slow=3.4,SNR=2.6
SBC Santa Barbara 106.99 52 P PKiKP 13 06 01.8 +0.3
baz=287
ARVC Arvin 107.48 51 P PKiKP 13 06 02.3 0.0
baz=288
EGMT Eagleton 108.65 36 P PKiKP 13 06 04.6 +0.3
baz=299
BFSC Mount Baldy Ra 108.67 52 P PKiKP 13 06 04.4 -0.4
baz=289
R11B Troy Canyon, C 108.86 47 P PKiKP 13 06 04.5 -0.6
baz=291
BELC Belle Mtn. Jos 110.05 52 P PKiKP 13 06 07.2 -0.3
baz=290
IRM Iron Mountain 110.67 51 P PKiKP 13 06 07.2 -1.3
baz=290
BW06 Boulder Array 111.24 41 P PKiKP 13 06 08.6 -1.0
baz=297
PDAR Pinedale Array 111.24 41 PKKPab PKKPab 13 17 14.5 -1.7
comp=Z,1.2nm,0.8s,baz=122,slow=6.1,SNR=8.5
LAO LASA Array 111.39 36 P PKiKP 13 06 09.8 +0.3
baz=302
PDMCI Parker Dam,Lak 111.39 51 P PKiKP 13 06 09.7 -0.1
baz=291
WUAZ Wupatki 113.05 49 P PKiKP 13 06 12.7 -0.4
baz=293
K22A Casper 113.26 40 P PKiKP 13 06 13.2 -0.1
baz=300
214A Organ Pipe Nat 113.27 53 P PKiKP 13 06 13.6 +0.2
baz=291
O20A White River Ci 113.33 43 P PKiKP 13 06 13.7 +0.1
baz=298
RSSD Black Hills 114.06 38 P PKPdf 13 06 14.7 -0.2
baz=302
MVCO Mesa Verde 114.46 46 P PKPdf 13 06 15.3 -0.6
baz=296
N23A Red Feather La 114.50 41 P PKiKP 13 06 15.4 -0.4
baz=300
TUC Tucson 114.74 52 P PKPdf 13 06 16.2 -0.1
baz=292
ISCO Idaho Springs 115.26 42 P PKiKP 13 06 17.1 -0.3
baz=300
S22A 4UR Ranch, Cre 115.40 45 P PKiKP 13 06 17.4 -0.3
baz=298
ANMO Albuquerque 116.94 47 P PKPdf 13 06 20.6 -0.1
baz=297
OGNE Ogallala 117.02 40 P PKPdf 13 06 19.8 -0.7
baz=303
EYMN Ely 118.46 28 P PKPdf 13 06 22.4 -0.6
baz=316
ECSD EROS Data Cent 118.64 34 P PKPdf 13 06 22.5 -0.9
baz=309
MNTX Cornudas Mount 119.18 50 P PKPdf 13 06 23.9 -0.9
baz=296
CBKS Cedar Bluff 119.66 41 P PKPdf 13 06 24.8 -0.7
baz=304
SCHQ Schefferville 120.33 9 PKP PKiKP 13 06 29.5 +3.1
comp=Z,4.3nm,0.9s,baz=6.3,slow=9.2,SNR=2.2
AMTX Amarillo 120.42 45 P PKPdf 13 06 26.4 -0.8
baz=300
KSU1 Kansas State U 121.48 39 P PKPdf 13 06 28.7 -0.4
baz=307
TXAR Lajitas Array 121.54 52 PKP PKiKP 13 06 29.9 +0.3
comp=Z,1.0nm,0.8s,baz=2.7,slow=0.0,SNR=8.6
JFWS Jewell Farm 122.65 32 P PKiKP 13 06 31.6 +0.3
baz=315
TORD Torodi Ar. Bea 122.71 288 PKP PKPdf 13 06 31.2 -0.8
comp=Z,1.9nm,0.8s,baz=89,slow=1.9,SNR=6.2
ABTX Abilene, Hawle 123.03 47 P PKPdf 13 06 32.4 +0.2
baz=301
TUL3 Leonard 123.90 41 P PKiKP 13 06 35.0 +1.0
baz=306
GLMI Grayling 123.95 26 P PKPdf 13 06 33.5 -0.1
baz=322
JCT Junction City 123.98 49 P PKiKP 13 06 34.3 +0.2
baz=300
L44A Lake County Fo 124.38 31 P PKiKP 13 06 35.7 +0.9
baz=317
S39A Bolivar 124.39 38 PKPdf PKiKP 13 06 35.8 +0.9
HDIL Hopedale 124.81 33 P PKiKP 13 06 36.5 +0.9
baz=315
WHTX Lake Whitney, 124.94 46 P PKiKP 13 06 36.8 +0.7
baz=302
833A Chaparral WMA, 125.33 51 P PKPdf 13 06 36.5 -0.2
baz=299
CCM Cathedral Cave 125.41 36 P PKiKP 13 06 37.7 +0.8
baz=312
SFIN Lafayette 126.11 32 P PKPdf 13 06 38.0 +0.2
baz=317
AAM Ann Arbor 126.36 28 P PKPdf 13 06 38.5 +0.2
baz=322
O48B Farmland 127.20 30 P PKPdf 13 06 39.5 -0.4
baz=319
LONY Lake Ozonia 128.01 19 P PKPdf 13 06 41.6 +0.2
baz=333
ERPA Erie 128.13 25 P PKiKP 13 06 42.2 0.0
baz=326
ACSO Alum Creek Sta 128.29 29 P PKPdf 13 06 42.3 +0.3
baz=321
M53A WI Miller and 128.39 26 P PKPdf 13 06 41.9 -0.2
baz=324
WVT Waverly 128.72 36 P PKPdf 13 06 42.8 -0.1
baz=314
PKME Peaks-Kenny Pk 128.94 14 P PKPdf 13 06 43.3 +0.3
baz=340
O53A New Philadelph 129.11 27 P PKPdf 13 06 43.3 -0.3
baz=323
P52A Corning 129.16 29 P PKiKP 13 06 44.4 0.0
baz=322
MCWV Mont Chateau 130.21 27 P PKiKP 13 06 47.3 +0.8
baz=325
DBIC Dimbokro 130.39 282 PKP PKPdf 13 06 46.2 -0.5
comp=Z,1.5nm,0.8s,baz=72,slow=6.4,SNR=1.7
L61B Northampton 130.57 19 P PKiKP 13 06 47.4 +0.2
baz=334
HRV Adam Dziewonsk 130.87 18 P PKiKP 13 06 47.5 -0.2
baz=336
KMSC Kings Mountain 133.05 32 P PKPdf 13 06 50.5 -0.6
baz=320
NHSC New Hope 135.23 32 P PKPdf 13 06 54.8 -0.5
baz=321
PLCA Paso Flores 140.30 159 PKP PKPdf 13 07 06.1 +1.5
comp=Z,1.5nm,1.0s,baz=218,slow=14,SNR=1.8
PAYG Puerto Ayora 143.00 86 *eP* PKiKP 13 07 27.3 +14
BOAB BOACO BROADBAN 144.01 63 PKPbc 13 07 10.3 +0.7
ACON Acoyapa 144.65 63 *eP* PKPab 13 07 10.3 -1.2
JTS Las Juntas de 145.52 65 *eP* PKPdf 13 07 13.9 -0.5
GTBY Guantanamo Bay 148.06 41 *eP* PKPbc 13 07 21.4 -0.2
ZON Zonda 149.06 154 PKPdf 13 07 16.6 -3.3
ZON PKPab PKiKP 13 07 26.0 +0.8
ZON Zonda 149.06 154 PKHKP PKPpre 13 07 16.6
ZON 13 07 26.0
BCIP Isla Barro Col 150.58 64 *eP* PKPdf 13 07 19.0 -3.7
SDDR Presa de Saban 151.16 37 *eP* PKiKP 13 07 30.4 +0.4
PLTB Pedras Altas 152.38 180 PKPdf PKPdf 13 07 23.0 -2.0
PLTB PKPab sPKPdf 13 07 41.5 -0.9
MCRA Macar, Loja 153.52 92 *eP* PKiKP 13 07 35.4 +0.4
GO02 Mina Guanaco 153.83 145 PKPdf PKPdf 13 07 25.1 -2.5
GO02 PKPbc PKiKP 13 07 36.5 +0.9
GO02 PKPab 13 07 49.4 +0.9
COHC Cochancay 154.14 87 *eP* PKiKP 13 07 41.1 +4.9
SJCC San Jacinto, C 154.29 57 *eP* PKPab 13 07 52.0 +1.6
OTAV Otavalo 154.62 81 *eP* PKiKP 13 07 44.2 +6.5
PIAT Ana Tenorio 154.99 84 *eP* PKiKP 13 07 45.3 +6.8
TULM Tulcn-Chalpat 155.19 80 *eP* PKPab 13 07 44.7 -10
JAMC Jamundi, Valle 155.67 73 *eP* PKPdf 13 07 40.9 +11
ZARC Zaragoza, Cauc 155.74 62 *eP* PKPdf 13 07 29.5 -0.7
POPC Popayan, Colom 155.85 75 *eP* PKPdf 13 07 40.2 +10
GUY2C Guyana, Caldas 156.23 68 *eP* PKPab 13 07 51.7 -7.6
PTBC PUERTO BERRIO 156.52 64 *eP* PKPdf 13 07 35.8 +4.6
ROSC El Rosal 157.33 67 PKP PKPdf 13 07 32.7 0.0
comp=Z,1.9nm,0.3s,baz=295,slow=2.2,SNR=1.6
ROSC PKPab PKPab 13 08 06.4 +2.4
comp=Z,6.4nm,0.6s,baz=118,slow=15,SNR=4.5
CPUP Villa Florida 157.48 171 PKP PKPdf 13 07 32.4 +0.4
comp=Z,2.7nm,1.1s,baz=252,slow=3.2,SNR=1.7
CPUP PKPab PKPab 13 08 04.4 +0.9
comp=Z,1.3nm,0.8s,baz=190,slow=5.3,SNR=3.1
BARC Barichara 157.62 62 *eP* PKPab 13 08 02.1 -2.9
PAMC Pamplona, Colo 157.69 60 *eP* PKPab 13 08 06.7 +1.1
VILC Villavicencio, 158.18 69 *eP* PKPab 13 08 10.1 +2.7
SAML Samuel 169.11 117 *eP* PKPdf 13 07 49.3 +5.9

IDC **25** *12:50:18.7±1.2,20.˚43S×65.˚94E,h0km,mb4.1/11,*
mbtmp4.1/11,MS4.3/30,Error ellipse: s-maj=41.5km
s-min=26.4km az=25.0
GCMT **25** *12:50:22.0±0.2,20.˚08S±0.˚02×66.˚25E±0.˚02,h12km,*

MW5.0/112,Moment Tensor Solution. s34,c41; s112,c148; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.44±.08; $M_{\theta\theta}$ 1.05±.09; $M_{\phi\phi}$2.39±.08; $M_{r\theta}$-0.59±.37; $M_{\theta\phi}$-1.12±.07; $M_{r\phi}$0.79±.35; Best double couple: $M_0$3.37900×10^{16} NP1:ϕ_s149.00000°, δ53.00000°, λ-92.00000°. NP2:ϕ_s332.00000°, δ37.00000°, λ-87.00000°. Principal axes: T 3.1690, Plg8.0000°, Azm240.00000°; N 0.4180, Plg2.0000°, Azm150.0000°; P -3.5880, Plg81.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function

ISC 25 12:50:20.3±1.2,20°.4S±0°.3×66°.0E±0°.2,h10km,n48, σ1^{s}09/15,mb4.3/11,MS4.4/31,Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**14.14**	**27**	T	T	13 07 35.8	
	baz=205,slow=75,SNR=8.7						
H08S2	**Diego Garcia H**	**14.15**	**27**	T	T	13 07 36.1	
	baz=205,slow=75,SNR=10						
H08S3	**Diego Garcia H**	**14.16**	**27**	T	T	13 07 41.8	
	baz=205,slow=75,SNR=333						
H04N2	**CROZET ISLANDS**	**28.22**	**201**	T	T	13 26 13.3	
	baz=29,slow=75,SNR=276						
H04N1	**CROZET ISLANDS**	**28.23**	**201**	T	T	13 26 16.8	
	baz=29,slow=75,SNR=275						
H04N3	**CROZET ISLANDS**	**28.24**	**201**	T	T	13 26 12.6	
	baz=29,slow=75,SNR=284						
KMBO	**Kilima Mbogo**	**33.97**	**301**	LR	LR	13 08 06.2	
	comp=Z,356nm,19.8s,baz=99,slow=31						
MATP	**Matopo**	**35.07**	**263**	LR	LR	13 09 24.5	
	comp=Z,230nm,19.7s,baz=64,slow=33						
LSZ	**Lusaka**	**36.27**	**272**	LR	LR	13 10 34.8	
	comp=Z,590nm,19.9s,baz=122,slow=34						
LBTB	**Lobatse**	**37.43**	**255**	LR	LR	13 10 16.4	
	comp=Z,480nm,21.0s,baz=90,slow=32						
BOSA	**Boshof**	**37.80**	**249**	LR	LR	13 10 15.8	
	comp=Z,413nm,20.5s,baz=34,slow=32						
ATD	**Arta Tunnel**	**39.03**	**322**	LR	LR	13 11 52.9	
	comp=Z,6.9nm,19.5s,baz=78,slow=33						
SUR	**Sutherland**	**41.90**	**244**	LR	LR	13 12 30.9	
	comp=Z,722nm,18.4s,baz=92,slow=32						
LEM	**Lembang**	**42.52**	**78**	LR	LR	13 13 36.7	
	comp=Z,558nm,18.5s,baz=133,slow=33						
NWAO	**Narrogin (SRO)**	**47.08**	**116**	LR	LR	13 14 37.0	
	comp=Z,524nm,21.2s,baz=0.5,slow=31						
MAW	**Mawson**	**47.25**	**182**	LR	LR	13 14 19.9	
	comp=Z,200nm,19.5s,baz=7.5,slow=30						
CMAR	**Chiang Mai Arr**	**50.35**	**42**	P	**P**	**12 59 17.4**	**-0.4**
	0.4nm,0.3s,baz=229,slow=6.9,SNR=2.2						
CMAR				LR	LR	13 18 14.9	
	comp=Z,392nm,19.2s,baz=230,slow=33 0.4nm,0.3s						
KAPI	**Kappang**	**54.39**	**81**	LR	LR	13 19 54.6	
	comp=Z,131nm,20.8s,baz=263,slow=33						
EIL	**Elat**	**58.05**	**328**	LR	LR	13 21 33.6	
	comp=Z,125nm,21.3s,baz=67,slow=32						
ASAR	**Alice Springs**	**62.53**	**107**	P	**P**	**13 00 45.8**	**+1.0**
	1.8nm,0.8s,baz=264,slow=6.2,SNR=4.1						
ASAR				LR	LR	13 24 06.1	
	comp=Z,499nm,20.3s,baz=286,slow=32 1.8nm,0.8s						
WRA	**Warramunga Arr**	**63.72**	**103**	P	**P**	**13 00 51.6**	**-1.1**
	2.0nm,0.8s,baz=261,slow=6.0,SNR=3.2 2.0nm,0.8s						
DAV	**Davao City (W)**	**64.61**	**71**	LR	LR	13 26 21.2	
	comp=Z,178nm,21.1s,baz=208,slow=33						
STKA	**Stephens Creek**	**67.66**	**117**	LR	LR	13 26 45.8	
	comp=Z,244nm,19.9s,baz=282,slow=32						
MKAR	**Makanchi Array**	**68.47**	**12**	P	**P**	**13 01 24.2**	**+1.7**
	3.5nm,0.9s,baz=145,slow=3.5,SNR=4.1 3.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**71.43**	**292**	P	**P**	**13 01 40.6**	**-0.8**
	1.1nm,1.2s,baz=132,slow=2.1,SNR=3.8						
TORD				LR	LR	13 32 14.3	
	comp=Z,150nm,18.6s,baz=120,slow=35 1.1nm,1.2s						
KURBB	**Kurchatov Arra**	**71.56**	**8**	P	**P**	**13 01 40.1**	**-1.2**
	0.6nm,0.2s,baz=200,slow=6.8,SNR=1.6 0.6nm,0.2s						
BVAR	**Borovoye Array**	**73.20**	**3**	P	**P**	**13 01 52.2**	**+1.0**
	3.4nm,0.8s,baz=216,slow=9.0,SNR=3.7 3.4nm,0.8s						
CTA	**Charters Tower**	**74.51**	**106**	LR	LR	13 32 20.6	
	comp=Z,290nm,18.3s,baz=270,slow=34						
DBIC	**Dimbokro**	**74.57**	**283**	LR	LR	13 33 13.6	
	comp=Z,273nm,19.0s,baz=125,slow=34						
ZALV	**Zalesovo Beam**	**75.78**	**11**	P	**P**	**13 02 04.6**	**-1.5**
	2.7nm,0.9s,baz=211,slow=5.5,SNR=2.7 2.7nm,0.9s						
JOW	**Kunigami**	**76.46**	**54**	LR	LR	13 33 29.6	
	comp=Z,104nm,20.8s,baz=198,slow=34						
SONM	**Songino Array**	**76.98**	**27**	P	**P**	**13 02 14.1**	**+0.9**
	2.3nm,1.0s,baz=222,slow=3.9,SNR=2.1 2.3nm,1.0s						
AKASG	**Malin Array Be**	**77.83**	**337**	P	**P**	**13 02 17.7**	**0.0**
	0.6nm,0.6s,baz=132,slow=4.6,SNR=1.9 0.6nm,0.6s						
PMG	**Port Moresby**	**78.58**	**96**	LR	LR	13 33 28.6	
	comp=Z,222nm,21.4s,baz=244,slow=33						
JNU	**Nakatsue**	**81.63**	**50**	LR	LR	13 37 48.1	
	comp=Z,217nm,19.6s,baz=218,slow=35						
KSRS	**Korea Array**	**81.87**	**45**	LR	LR	13 38 47.0	
	comp=Z,168nm,19.2s,baz=245,slow=36						
GUMO	**Guam**	**84.56**	**73**	LR	LR	13 36 29.8	
	comp=Z,45nm,21.6s,baz=260,slow=33						
USRK	**Ussuriysk Ar.**	**88.07**	**41**	LR	LR	13 42 57.3	
	comp=Z,108nm,19.9s,baz=228,slow=36						
ESDC	**Sonseca Array**	**88.38**	**314**	P	**P**	**13 03 13.8**	**+1.1**
	0.4nm,0.7s,baz=96,slow=2.6,SNR=2.5 0.4nm,0.7s						
MJAR	**Matsushiro Arr**	**88.55**	**50**	LR	LR	13 43 33.1	
	comp=Z,133nm,18.7s,baz=234,slow=36						
HNR	**Honiara**	**90.45**	**100**	LR	LR	13 38 27.7	
	comp=Z,1μm,21.6s,baz=212,slow=32						
KLR	**Kul'dur**	**90.52**	**37**	LR	LR	13 43 09.8	
	comp=Z,194nm,21.7s,baz=227,slow=35						
DZM	**Mont Dzumac**	**91.65**	**114**	LR	LR	13 41 47.0	
	comp=Z,232nm,19.7s,baz=222,slow=34						
ASAJ	**Asahikawa**	**94.81**	**45**	LR	LR	13 47 20.2	
	comp=Z,99nm,18.0s,baz=84,slow=36						
RCBR	**Riachuelo**	**99.04**	**260**	LR	LR	13 46 45.9	
	comp=Z,99nm,18.1s,baz=74,slow=34						
ULM	**Lac du Bonnet**	**146.90**	**339**	PKPbc	**PKPdf**	**13 10 01.7**	**+0.7**
	6.1nm,1.0s,baz=27,slow=6.8,SNR=3.0						
NVAR	**Mina Array Bea**	**161.64**	**11**	PKP	**PKPdf**	**13 10 21.5**	**-0.7**
	0.1nm,0.5s,baz=222,slow=1.2,SNR=1.8						
NVAR				PKPab	**pPKPab**	**13 11 08.5**	**-0.7**
	0.1nm,0.4s,baz=1.8,slow=2.8,SNR=2.3						
TXAR	**Lajitas Array**	**167.05**	**316**	PKPab	**PKPab**	**13 11 30.9**	**-0.1**
	0.1nm,0.5s,baz=38,slow=3.4,SNR=2.4						

*IDC **25** 13:04:55.5±0.7, 19°.79S×66°.57E, h0km, mb3.9/14, mbtmp3.9/14, MS4.0/11, Error ellipse: s-maj=23.5km s-min=19.6km az=69.0*

*NEIC **25** 13:04:56.0±1.3, 20°.0S±0°.1×66°.3E±0°.1, h10km±1km, mb4.8/9, Error ellipse: s-maj=21.4km s-min=17.2km az=179.0*

*GCMT **25** 13:05:06.0±0.3, 19°.95S±0°.04×66°.23E±0°.02, h17km±1km, MW4.9/87, Moment Tensor Solution. s15,c17; s87,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.02±.20; $M_{\theta\theta}$0.89±.13; $M_{\phi\phi}$2.13±.13; $M_{r\theta}$0.96±.38; $M_{\theta\phi}$-0.95±.07; $M_{r\phi}$0.65±.33; Best double couple: $M_0$3.01400×10^{16} NP1:ϕ_s168.00000°, δ49.00000°, λ-67.00000°. NP2: ϕ_s315.00000°, δ46.00000°, λ-114.00000°. Principal axes: T 2.6500, Plg1.0000°, Azm242.0000°; N 0.7250, Plg17.0000°, Azm333.0000°; P -3.3770, Plg73.0000°, Azm148.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 13:04:57.3±0.5,19°.9S±0°.1×66°.32E±0°.10,h16km,n47, σ1^{s}33/31,mb4.1/16,MS4.0/11,Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**2.78**	**273**	Pn	**Pn**	**13 05 37.7**	**-3.5**
RER	**Riviere de l'E**	**9.98**	**261**	Pn	Pn	13 07 14.3	-5.9
H08S1	**Diego Garcia H**	**13.59**	**27**	T	T	13 22 22.3	
	baz=205,slow=75,SNR=4.5						
H08S2	**Diego Garcia H**	**13.60**	**27**	T	T	13 22 23.1	
	baz=205,slow=75,SNR=6.2						
H08S3	**Diego Garcia H**	**13.61**	**27**	T	T	13 22 23.8	
	baz=205,slow=75,SNR=73						
H04N2	**CROZET ISLANDS**	**28.76**	**201**	T	T	13 41 01.5	
	baz=29,slow=75,SNR=280						
H04N1	**CROZET ISLANDS**	**28.76**	**201**	T	T	13 40 58.3	
	baz=29,slow=75,SNR=295						
H04N3	**CROZET ISLANDS**	**28.78**	**201**	T	T	13 40 57.0	
	baz=29,slow=75,SNR=232						
PAF	**Port-aux-Franc**	**29.52**	**175**	P	**P**	**13 11 01.4**	**+0.6**
LSZ	**Lusaka**	**36.59**	**271**	LR	LR	13 25 21.0	
	comp=Z,262nm,21.2s,baz=124,slow=33						
GSI	**Gunungsitoli**	**37.21**	**59**	P	**P**	**13 12 07.2**	**-1.0**
LBTB	**Lobatse**	**37.87**	**255**	LR	LR	13 25 13.6	
	comp=Z,198nm,18.7s,baz=92,slow=32						
BOSA	**Boshof**	**38.27**	**249**	P	**P**	**13 12 16.9**	**-0.3**
BOSA	**Boshof**	**38.27**	**249**	LR	LR	13 25 02.0	
	comp=Z,216nm,20.1s,baz=136,slow=31						
LEM	**Lembang**	**42.10**	**78**	LR	LR	13 28 13.6	
	comp=Z,180nm,19.2s,baz=74,slow=33						
SUR	**Sutherland**	**42.40**	**244**	LR	LR	13 27 07.7	
	comp=Z,336nm,19.8s,baz=98,slow=31						
NWAO	**Narrogin (SRO)**	**46.98**	**117**	LR	LR	13 28 52.1	
	comp=Z,169nm,21.3s,baz=66,slow=31						
MAW	**Mawson**	**47.71**	**182**	LR	LR	13 30 37.1	
	comp=Z,114nm,18.4s,baz=34,slow=32						
CMAR	**Chiang Mai Arr**	**49.80**	**42**	P	**P**	**13 13 49.7**	**+0.1**
	0.5nm,0.7s,baz=236,slow=9.5,SNR=4.4						
CMAR				LR	LR	13 31 52.2	
	comp=Z,180nm,21.7s,baz=225,slow=33 0.5nm,0.7s						
KAPI	**Kappang**	**53.99**	**82**	LR	LR	13 37 04.3	
	comp=Z,54nm,18.4s,baz=251,slow=36						
ASAR	**Alice Springs**	**62.34**	**107**	P	**P**	**13 15 17.9**	**-1.6**
ASAR	**Alice Springs**	**62.34**	**107**	P	**P**	**13 15 18.6**	**-1.0**
	1.5nm,0.8s,baz=261,slow=6.1,SNR=12						
ASAR				LR	LR	13 38 42.2	
	comp=Z,224nm,20.9s,baz=309,slow=33 1.5nm,0.8s						
WRA	**Warramunga Arr**	**63.50**	**103**	P	**P**	**13 15 26.2**	**-1.0**
	1.9nm,0.9s,baz=258,slow=6.0,SNR=6.6 1.9nm,0.9s						
SNAA	**Sanae**	**64.70**	**199**	P	**P**	**13 15 34.1**	**-0.2**
SNAA				IAmb	IAmb	13 15 50.4	
	comp=Z,12nm,1.4s						
SNAA	**Sanae**	**64.70**	**199**	P	**P**	**13 15 37.3**	**+3.0**
	comp=Z,3.0nm,1.1s,baz=72,slow=4.7,SNR=3.9 comp=Z,3.0nm,1.1s						
BRTR	**Keskin Array B**	**66.73**	**333**	P	**P**	**13 15 48.0**	**+0.1**
BRTR	**Keskin Array B**	**66.73**	**333**	P	**P**	**13 15 49.2**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=144,slow=7.2,SNR=5.2 comp=Z,0.6nm,0.5s						
STKA	**Stephens Creek**	**67.57**	**117**	LR	LR	13 41 22.4	
	comp=Z,137nm,19.6s,baz=219,slow=32						
MKAR	**Makanchi Array**	**67.96**	**12**	P	**P**	**13 15 55.6**	**+0.3**
MKAR	**Makanchi Array**	**67.96**	**12**	P	**P**	**13 15 54.8**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=212,slow=6.6,SNR=5.3 comp=Z,1.0nm,0.8s						
ABKAR	**Akbulak array**	**69.11**	**356**	P	**P**	**13 16 02.8**	**+0.4**
QSPA	**South Pole Qui**	**70.18**	**180**	P	**P**	**13 16 08.0**	**-1.2**
QSPA	**South Pole Qui**	**70.18**	**180**	P	**P**	**13 16 11.0**	**+1.8**
	comp=Z,2.1nm,1.0s,baz=259,slow=5.3,SNR=4.3 comp=Z,2.1nm,1.0s						
TAU	**Tasmania Unive**	**70.24**	**130**	P	**P**	**13 16 08.2**	**-1.6**
KURBB	**Kurchatov Arra**	**71.06**	**8**	P	**P**	**13 16 14.8**	**+0.5**
	comp=Z,0.6nm,0.2s,baz=204,slow=6.7,SNR=1.0 comp=Z,0.6nm,0.2s						
TORD	**Torodi Ar. Bea**	**71.57**	**292**	P	**P**	**13 16 19.7**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=99,slow=4.5,SNR=1.9 comp=Z,0.2nm,0.6s						
AGG	**Agios Georgios**	**71.65**	**325**	P	**P**	**13 16 17.6**	**-0.6**
AGG				IAmb	IAmb	13 18 11.3	
	comp=Z,9.5nm,1.4s						
BVAR	**Borovoye Array**	**72.73**	**3**	P	**P**	**13 16 23.0**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=168,slow=7.6,SNR=6.6 comp=Z,1.2nm,0.8s						
DBIC	**Dimbokro**	**74.79**	**283**	P	**P**	**13 16 39.8**	**+2.5**
	comp=Z,1.8nm,0.8s,baz=88,slow=11,SNR=3.2 comp=Z,1.8nm,0.8s						
ZAA0	**Zalesovo Array**	**75.28**	**11**	P	**P**	**13 16 38.3**	**-0.9**
ZALV	**Zalesovo Beam**	**75.28**	**11**	P	**P**	**13 16 38.5**	**-0.7**
ZALV	**Zalesovo Beam**	**75.28**	**11**	P	**P**	**13 16 39.2**	**0.0**
	comp=Z,1.4nm,0.8s,baz=202,slow=4.1,SNR=5.5 comp=Z,1.4nm,0.8s						
SONM	**Songino Array**	**76.43**	**26**	P	**P**	**13 16 46.7**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=209,slow=7.5,SNR=5.5 comp=Z,0.6nm,0.5s						
AKASG	**Malin Array Be**	**77.55**	**337**	P	**P**	**13 16 52.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=139,slow=4.9,SNR=5.5 comp=Z,0.2nm,0.3s						
CAMP	**Campotosto**	**78.98**	**323**	P	**P**	**13 17 00.5**	**0.0**
CAMP				IAmb	IAmb	13 17 17.6	
	comp=Z,18nm,1.6s						
NVAR	**Mina Array Bea**	**161.13**	**11**	PKPab	**PKPab**	**13 25 41.5**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=298,slow=3.8,SNR=2.2						
TXAR	**Lajitas Array**	**166.95**	**318**	PKPab	**PKPab**	**13 26 06.5**	**0.0**
	comp=Z,0.2nm,0.7s,baz=90,slow=3.6,SNR=2.4						

*NEIC **25** 13:11:41.8±1.2, 18°.9S±0°.1×170°.5E±0°.1, h249km±10km, mb4.4/27, Error ellipse: s-maj=20.7km s-min=16.2km az=145.0*

*NOU **25** 13:11:48.7, 19°.28S×169°.94E, h269km, mb4.2/35, Vanuatu Islands*

*IDC **25** 13:11:52.0±2.2, 19°.34S×169°.54E, h278km±18km, mb3.5/8, mbtmp4.1/9, Error ellipse: s-maj=35.7km s-min=21.4km az=138.0*

ISC 25 13:11:48.4±0.9,19°.30S±0°.08×169°.8E±0°.1,h250km,n84, σ1^{s}57/74,mb4.3/21,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.19**	**316**	P	**Pn**	**13 12 36.0**	**+3.3**
MARNC	**Mare, Loyalty**	**2.72**	**217**		**Pn**	**13 12 40.1**	**+2.2**
MARNC	**Mare, Loyalty**	**2.72**	**217**	P	**Pn**	**13 12 40.3**	**+2.4**
LIFNC	**LIFOU**	**2.81**	**238**		**Pn**	**13 12 40.5**	**+1.7**
LIFNC	**LIFOU**	**2.81**	**238**	P	**Pn**	**13 12 40.7**	**+1.8**
YATNC	**Mamie plateau,**	**3.86**	**224**	P	**Pn**	**13 12 51.9**	**+1.3**
PINNC	**Pines Island,**	**3.96**	**213**		**Pn**	**13 12 53.9**	**+2.2**
PINNC	**Pines Island,**	**3.96**	**213**	P	**Pn**	**13 12 54.1**	**+2.4**
OUENC	**Ouen Island, N**	**4.15**	**221**		**Pn**	**13 12 56.4**	**+2.4**
OUENC	**Ouen Island, N**	**4.15**	**221**	P	**Pn**	**13 12 56.7**	**+2.7**
DZM	**Mont Dzumac**	**4.17**	**228**		**Pn**	**13 12 56.7**	**+2.4**
DZM	**Mont Dzumac**	**4.17**	**228**	P	**Pn**	**13 12 56.9**	**+2.6**
DZM	**Mont Dzumac**	**4.17**	**228**	P	**Pn**	**13 12 56.9**	**+2.6**
	85nm,0.6s,baz=58,slow=18,SNR=160						
DZM				S	**S**	**13 13 49.0**	**+2.2**
	24nm,0.6s,baz=352,slow=22,SNR=2.2						
NOUC	**Port Laguerre**	**4.29**	**229**	P	**Pn**	**13 12 58.3**	**+2.7**
ONTNC	**Ouen Toro**	**4.32**	**226**		**Pn**	**13 12 58.5**	**+2.4**
ONTNC	**Ouen Toro**	**4.32**	**226**	P	**Pn**	**13 12 58.8**	**+2.8**
KOUNC	**Koumac, New Ca**	**5.33**	**256**		**Pn**	**13 13 10.6**	**+2.3**
KOUNC	**Koumac, New Ca**	**5.33**	**256**	P	**Pn**	**13 13 10.9**	**+2.7**
HNR	**Honiara**	**13.68**	**314**	P	**Pn**	**13 14 54.0**	**+1.2**
	577nm,0.6s,baz=113,slow=2.3,SNR=5.0						
EIDS	**Eidsvold**	**18.32**	**247**	P	**P**	**13 15 45.6**	**+1.0**
EIDS				IAmb	IAmb	13 15 48.9	
	comp=Z,5.9nm,0.5s						
EIDS	**Eidsvold**	**18.32**	**247**	P	**P**	**13 15 45.8**	**+1.2**
ARMA	**Armidale**	**19.82**	**233**	P	**P**	**13 16 01.7**	**+0.9**
ARMA				IAmb	IAmb	13 16 37.7	
	comp=Z,16nm,1.3s						
ARMA	**Armidale**	**19.82**	**233**	P	**P**	**13 16 01.6**	**+0.9**
CTAO	**Charters Tower**	**22.17**	**264**		**P**	**13 16 23.9**	**-0.2**
CTAO				IAmb	IAmb	13 16 25.3	
	comp=Z,13nm,1.1s						
CTAO	**Charters Tower**	**22.17**	**264**	P	**P**	**13 16 24.2**	**0.0**
CNB	**Canberra Magne**	**24.09**	**224**	P	**P**	**13 16 42.1**	**+0.6**
CMSA	**Cobar Meteorol**	**24.88**	**236**	P	**P**	**13 16 48.6**	**0.0**
CTZ	**Chatham Island**	**26.90**	**158**	P	P	13 17 00.9	-5.6
TOO	**Toolangi**	**27.94**	**224**	P	**P**	**13 17 15.1**	**-0.8**
TOO				IAmb	IAmb	13 17 51.3	
	comp=Z,22nm,1.4s						
TOO	**Toolangi**	**27.94**	**224**	P	**P**	**13 17 15.9**	**0.0**
STKA	**Stephens Creek**	**28.25**	**238**	P	**P**	**13 17 18.3**	**-0.4**
STKA	**Stephens Creek**	**28.25**	**238**	P	**P**	**13 17 18.6**	**-0.1**
STKA	**Stephens Creek**	**28.25**	**238**	P	**P**	**13 17 18.8**	**+0.1**
	comp=Z,3.9nm,0.6s,baz=64,slow=9.5,SNR=17 comp=Z,3.9nm,0.6s						
QIS	**Mount Isa**	**28.39**	**262**	P	**P**	**13 17 20.1**	**0.0**
LCRK	**Leigh Creek**	**30.62**	**243**	P	**P**	**13 17 39.4**	**-0.2**
HTT	**Hallett**	**30.89**	**237**	P	**P**	**13 17 41.6**	**-0.4**
OOD	**Oodnadatta**	**32.30**	**248**	P	**P**	**13 17 54.4**	**+0.1**
BBOO	**Buckleboo**	**33.00**	**239**	P	**P**	**13 17 59.5**	**-0.8**
BBOO				IAmb	IAmb	13 18 34.2	
	comp=Z,16nm,1.1s						
BBOO	**Buckleboo**	**33.00**	**239**	P	**P**	**13 17 59.7**	**-0.6**
WR0	**Warramunga Arr**	**33.17**	**263**		**P**	**13 18 00.1**	**-1.9**
WR0				IAmb	IAmb	13 18 16.2	
	comp=Z,9.8nm,1.2s						
WB0	**Warramunga Arr**	**33.33**	**263**	P	**P**	**13 18 01.3**	**-2.0**
WB0				IAmb	IAmb	13 18 02.2	
	comp=Z,5.2nm,0.8s						
WB2	**Warramunga Arr**	**33.35**	**263**	P	**P**	**13 18 01.4**	**-2.0**
WB2				IAmb	IAmb	13 18 33.8	
	comp=Z,9.6nm,1.4s						
WRAB	**Tennant Creek**	**33.35**	**263**	P	**P**	**13 18 01.5**	**-2.0**
WRA	**Warramunga Arr**	**33.36**	**263**	P	**P**	**13 18 01.8**	**-1.8**
	comp=Z,2.1nm,0.4s,baz=86,slow=7.8,SNR=69						
WRA				PcP	**PcP**	**13 20 38.4**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=91,slow=3.9,SNR=2.4 comp=Z,2.1nm,0.4s						
AS31	**Alice Springs**	**33.62**	**256**	P	**P**	**13 18 04.5**	**-1.3**
AS31				IAmb	IAmb	13 18 05.1	
	comp=Z,9.1nm,0.5s						
ASAR	**Alice Springs**	**33.62**	**256**	P	**P**	**13 18 04.5**	**-1.2**
	comp=Z,15nm,0.6s,baz=82,slow=9.3,SNR=219						
ASAR				PcP	**PcP**	**13 20 38.4**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=69,slow=2.2,SNR=1.3 comp=Z,15nm,0.6s						
MULG	**Mulgathing**	**34.10**	**244**	P	**P**	**13 18 09.0**	**-0.8**
KDU	**Kakadu**	**36.42**	**275**	P	**P**	**13 18 28.5**	**-1.1**
MTN	**Manton Dam**	**37.64**	**274**	P	**P**	**13 18 39.0**	**-0.9**
MTN	**Manton Dam**	**37.64**	**274**	P	**P**	**13 18 39.4**	**-0.5**
WRKA	**Warakurna**	**38.74**	**254**	P	**P**	**13 18 48.1**	**-0.9**
KNRA	**Kununurra**	**39.23**	**269**	P	**P**	**13 18 51.3**	**-1.9**
FORT	**Forrest**	**39.29**	**245**	P	**P**	**13 18 52.1**	**-1.4**
FORT				IAmb	IAmb	13 19 10.6	
	comp=Z,17nm,1.0s						
FORT	**Forrest**	**39.29**	**245**	P	**P**	**13 18 52.3**	**-1.2**
FAKI	**Fak Fak**	**40.13**	**289**	P	**P**	**13 18 59.0**	**-1.6**
FAKI				IAmb	IAmb	13 19 29.1	
	comp=Z,17nm,1.2s						
FAKI	**Fak Fak**	**40.13**	**289**	P	**P**	**13 18 59.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**41.76**	**264**	P	**P**	**13 19 13.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**41.76**	**264**	P	**P**	**13 19 13.8**	**+0.1**
PSA00	**Pilbara Seismi**	**46.70**	**258**	P	**P**	**13 19 51.4**	**-1.3**
PSA00	**Pilbara Seismi**	**46.70**	**258**	P	**P**	**13 19 52.0**	**-0.8**
MBWA	**Marble Bar**	**46.85**	**259**	P	**P**	**13 19 53.0**	**-0.9**
MBWA	**Marble Bar**	**46.85**	**259**	P	**P**	**13 19 53.2**	**-0.8**
MEEK	**Meekatharra**	**47.43**	**251**	P	**P**	**13 19 57.4**	**-1.0**
NWAO	**Narrogin (SRO)**	**48.65**	**243**	P	**P**	**13 20 06.3**	**-1.2**
NWAO				IAmb	IAmb	13 20 26.9	
	comp=Z,30nm,1.4s						
MORW	**Morawa**	**49.63**	**248**	P	**P**	**13 20 14.0**	**-1.1**
TOLI2	**Tolitoli**	**52.19**	**287**	P	**P**	**13 20 31.8**	**-2.5**
TOLI2				IAmb	IAmb	13 20 44.9	
	comp=Z,10nm,1.0s						
TOLI2	**Tolitoli**	**52.19**	**287**	P	**P**	**13 20 33.5**	**-0.7**
XMIS	**Christmas Isla**	**62.32**	**268**	P	P	13 21 42.0	-2.9
MJAR	**Matsushiro Arr**	**63.05**	**332**	P	**P**	**13 21 49.1**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=176,slow=7.7,SNR=1.3 comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**79.01**	**294**	P	**P**	**13 23 25.9**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=132,slow=4.2,SNR=8.0 comp=Z,1.1nm,0.8s						
KNK	**Knik Glacier**	**87.09**	**19**	P	P	13 23 55.5	-10
H17K	**Granite Mounta**	**87.13**	**12**	P	P	13 23 56.7	-9.0
H17K				IAmb	IAmb	13 24 17.5	
	comp=Z,7.6nm,1.4s						
SONM	**Songino Array**	**87.58**	**323**	P	**P**	**13 24 08.9**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=142,slow=7.6,SNR=1.7 comp=Z,0.2nm,0.3s						
NVAR	**Mina Array Bea**	**88.45**	**48**	P	**P**	**13 24 14.3**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=229,slow=8.0,SNR=4.6 comp=Z,0.3nm,0.5s						
RUBB	**Prince Rupert**	**89.39**	**30**	P	P	13 24 06.0	-10
MDM	**Murphy Dome**	**89.92**	**17**	P	P	13 24 10.2	-8.6
MDM				IAmb	IAmb	13 24 14.5	
	comp=Z,5.6nm,1.4s						
ILAR	**Eielson Array**	**90.14**	**17**	P	**P**	**13 24 19.9**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=239,slow=5.4,SNR=1.9 comp=Z,0.2nm,0.7s						
H03S2	**Juan Fernandez**	**95.92**	**129**	T	T	15 10 47.3	
	baz=242,slow=74,SNR=30						
H03S1	**Juan Fernandez**	**95.94**	**129**	T	T	15 10 43.0	
	baz=242,slow=74,SNR=34						
H03S3	**Juan Fernandez**	**95.94**	**129**	T	T	15 10 48.3	
	baz=242,slow=74,SNR=37						
H03N3	**Juan Fernandez**	**96.10**

COEG	**Centro de Oper**	**3.70**	**333**	*i* P	**Pn**	**13 20 07.3**	**+0.6**
COEG				IAML		13 20 14.5	
	comp=Z,95nm,1.0s						
SCLA	**Alcaldia de Sa**	**3.71**	**335**	*i* Pg	**Pn**	**13 20 08.3**	**+1.5**
SCLA	**Alcaldia de Sa**	**3.71**	**335**	*i* P	**Pn**	**13 20 08.2**	**+1.4**
SCLA				IAML		13 20 09.2	
	comp=Z,160nm,1.0s						
TGUH	**Tegucigalpa,Un**	**3.72**	**358**	*e*P	**Pn**	**13 20 07.0**	**-0.1**
TGUH	**Tegucigalpa,Un**	**3.72**	**358**	*i* P	**Pn**	**13 20 08.8**	**+1.7**
TGUH				IAML		13 20 10.3	
	comp=Z,130nm,1.0s						
SJTE	**Alcalda de S**	**3.75**	**331**	*i* P	**Pn**	**13 20 07.6**	**+0.1**
SJTE				IAML		13 20 13.0	
	comp=Z,150nm,1.0s						
PAVA	**Las Pavas**	**3.81**	**333**	*i* P	**Pn**	**13 20 09.0**	**+0.7**
PAVA				IAML		13 20 10.1	
	comp=Z,430nm,1.0s						
PMON	**Piamonte**	**3.99**	**328**	*i* P	**Pn**	**13 20 09.8**	**-1.0**
PMON				IAML		13 20 11.0	
	comp=Z,380nm,1.0s						
JAYA	**Jayaque - finc**	**4.01**	**326**	*i* P	**Pn**	**13 20 10.1**	**-1.0**
JAYA				IAML		13 20 14.8	
	comp=Z,640nm,1.0s						
COMHN	**El Horno**	**4.12**	**354**	*i* P	**Pn**	**13 20 13.9**	**+1.2**
COMHN				*i* S	**Sn**	**13 20 54.1**	**-7.0**
POTG	**Potrero Grande**	**4.16**	**107**	*i* P	**Pn**	**13 20 13.5**	**+0.4**
POTG				IAML		13 20 18.2	
	comp=Z,610nm,1.0s						
UNIC	**Universidad Ca**	**4.34**	**327**	*i* P	**Pn**	**13 20 15.5**	**0.0**
UNIC				IAML		13 20 16.9	
	comp=Z,240nm,1.0s						
NUBE	**Las Nubes**	**4.40**	**324**	*i* P	**Pn**	**13 20 15.1**	**-1.4**
NUBE				IAML		13 20 24.2	
	comp=Z,320nm,1.0s						
CTCR	**Cotoan**	**4.54**	**108**	*i* P	**Pn**	**13 20 17.2**	**-1.3**
CTCR				IAML		13 20 20.1	
	comp=Z,2µm,1.0s						
SARH	**Santa Rosa de**	**4.71**	**341**	*i* P	**Pn**	**13 20 23.5**	**+2.9**

*IDC **25** 13:20:09.8±0.9,49˚.78N×18˚.54E,h0km,mbtmp3.1/6, ML2.8/5, Error ellipse: s-maj=15.9km s-min=8.3km az=158.0*
*VIE **25** 13:20:10.8±0.3,49˚.79N×18˚.49E,h0km,mb2.4/7,ml2.2/7, Error ellipse: s-maj=6.0km s-min=1.9km az=154.0 18 km ESE of Ostrava Suspected Mining induced.*
*IPEC **25** 13:20:10.9±0.2,49˚.82N×18˚.56E,h1km, ML2.4/4, Error ellipse: s-maj=1.7km s-min=1.1km az=163.0*
*PRU **25** 13:20:12.8,49˚.79N×18˚.43E,h0km,Mining Induced Event Csm, E=5.7e+05*

ISC 25 13:20:10.0±0.7, 49°.84N±0'.03×18°.54E±0'.02, h0km, n43, σ1§30/69, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.25**	**269**	*e*PG		**Pb**	**13 20 16.5**	**-1.0**
OKC				*e*SG		**Sg**	**13 20 20.7**	**+2.6**
	comp=Z,363nm,0.7s							
MORC	**Moravsky Berou**	**0.65**	**265**	*e*Pg		**Pb**	**13 20 23.6**	**-0.6**
	baz=86							
MORC				*e*Sg		**Sg**	**13 20 31.2**	**+0.4**
	74nm,0.6s,baz=86							
MAUC	**Maruska**	**0.66**	**224**	*e*PG		**Pg**	**13 20 23.6**	**+0.9**
OJC	**Ojcow**	**0.90**	**65**	*e*Pg		**Pb**	**13 20 28.2**	**-0.2**
OJC				*e*Sg		**Sb**	**13 20 40.5**	**-0.4**
LANS	**Liptovska Anna**	**0.92**	**138**	*e*PG		**Pb**	**13 20 28.4**	**-0.5**
LANS				*e*SG		**Sb**	**13 20 41.5**	**-0.1**
LANS				*e*LG		Lg	13 20 43.6	
JAVC	**Velka Javorina**	**1.14**	**210**	*e*Pg		**Pb**	**13 20 32.7**	**+0.2**
	baz=31							
KRLC	**Kraliky**	**1.16**	**282**	*e*PG		**Pg**	**13 20 32.1**	**-0.1**
KRLC				*e*SG		**Sb**	**13 20 49.0**	**+0.5**
NIE	**Niedzica**	**1.22**	**110**	*e*Pg		**Pn**	**13 20 34.3**	**-0.1**
NIE				*e*Sg		**Sn**	**13 20 51.7**	**+0.1**
VYHS	**Vyhne**	**1.36**	**172**	*e*PG		**Pg**	**13 20 35.4**	**-0.7**
VYHS				*e*SG		**Sn**	**13 20 55.3**	**+0.2**
VRAC	**Vranov**	**1.37**	**248**	Pg		**Pg**	**13 20 36.2**	**-0.2**
	11nm,0.3s,baz=70,slow=15,SNR=105							
VRAC				Lg		Lg	13 20 53.9	
	11nm,0.3s,baz=117,slow=16,SNR=11							
VRAC	**Vranov**	**1.37**	**248**	*e*Pg		**Pg**	**13 20 36.6**	**+0.3**
	baz=67							
VRAC				*e*Sg		**Sg**	**13 20 54.3**	**+0.2**
	48nm,0.5s,baz=67							
DPC	**Dobruska-Polom**	**1.52**	**290**	*e*PG		**Pn**	**13 20 38.9**	**+0.5**
DPC				*e*SG		**Sn**	**13 20 59.7**	**+0.8**
	comp=Z,28nm,0.6s							
KRUC	**Moravsky**	**1.60**	**242**	*e*PG		**Pn**	**13 20 40.0**	**+0.4**
KRUC				*e*SG		**Sn**	**13 21 01.4**	**+0.5**
KRUC	**Moravsky**	**1.60**	**242**	*e*Pg		**Pn**	**13 20 39.9**	**+0.4**
	baz=61							
KRUC				*e*Sg		**Sn**	**13 21 01.3**	**+0.4**
	36nm,0.6s,baz=61							
OSTC	**Ostas**	**1.66**	**297**	*e*PG		**Pb**	**13 20 41.5**	**+0.1**
OSTC				*e*SG		**Sg**	**13 21 03.9**	**+0.7**
	comp=Z,53nm,0.9s							
MODS	**Modra-Piesok**	**1.69**	**210**	*e*PG		**Pn**	**13 20 40.6**	**-0.2**
MODS				*e*SG		**Sn**	**13 21 02.7**	**-0.4**
KSP	**Ksiaz**	**1.75**	**306**	*e*Pg		**Pn**	**13 20 42.0**	**+0.3**
KSP				*e*Sg		**Sb**	**13 21 06.0**	**+0.4**
UPC	**Upice**	**1.75**	**293**	*e*PG		**Pb**	**13 20 43.3**	**+0.2**
UPC				*e*SG		**Sg**	**13 21 06.9**	**+0.5**
CHVC	**Chvalec**	**1.76**	**296**	*e*PG		**Pb**	**13 20 43.2**	**0.0**
CHVC				*e*SG		**Sg**	**13 21 07.0**	**+0.4**
	comp=Z,34nm,0.6s							
STHS	**Stebnicka Huta**	**1.81**	**103**	*e*PN		**Pg**	**13 20 44.6**	**-0.1**
STHS				*e*SN		**Sg**	**13 21 09.7**	**+1.6**
KECS	**Kecovo**	**1.87**	**136**	*e*PN		**Pn**	**13 20 43.6**	**+0.4**
KECS				*e*SN		**Sb**	**13 21 08.2**	**-0.6**
KECS				*e*LG		Lg	13 21 11.4	
CRVS	**Cervenica-Dubn**	**2.13**	**115**	*e*PG		**Pg**	**13 20 50.5**	**-0.3**
GOPC	**GO Pecny, Ondr**	**2.43**	**273**	*e*PN		**Pn**	**13 20 50.5**	**-0.5**
GOPC				*e*PG		**Pg**	**13 20 56.1**	**-0.4**
PRU	**Pruhonice**	**2.59**	**275**	*e*PG		**Pb**	**13 20 57.0**	**-0.3**
PRU				*e*SG		**Sb**	**13 21 31.4**	**+1.8**
	comp=Z,15nm,0.7s							
KOLS	**Kolonicke sedl**	**2.60**	**109**	*e*PG		**Pg**	**13 21 01.7**	**+1.8**
CONA	**Conrad Observa**	**2.60**	**224**	*e*Pn		**Pn**	**13 20 52.8**	**-0.6**
	1.7nm,0.3s							
RONA	**Rosalia, Austr**	**2.61**	**216**	*e*Pn		**Pn**	**13 20 53.5**	**+0.1**
	7.3nm,0.5s							
CKRC	**Cesky Krumlov**	**2.95**	**251**	*e*PG		**Pb**	**13 21 04.3**	**+0.9**
CKRC				*e*SG		**Sg**	**13 21 43.0**	**-1.7**
	comp=Z,16nm,0.7s							
BRG	**Berggiesshubel**	**3.12**	**291**	Pg		**Pb**	**13 21 07.9**	**+1.6**
BRG				Sg		**Sg**	**13 21 50.9**	**+0.8**
BRG				Amp			13 21 55.5	
	comp=Z,10nm,0.7s							
BRG				Amp			13 50 23.0	
	comp=E,0.3nm,15.3s							
BRG				Amp			13 50 24.0	
	comp=N,0.2nm,18.0s							
BRG				Amp			13 50 29.0	
	comp=Z,0.4nm,18.0s							
ARSA	**Arzberg**	**3.28**	**219**	*e*Pn		**Pn**	**13 21 02.8**	**+0.1**
	comp=Z,1.0nm,0.4s							
KHC	**Kasperske Hory**	**3.31**	**259**	*e*PN		**Pn**	**13 21 03.4**	**+0.3**
KHC				*e*PG		**Pb**	**13 21 10.2**	**+0.6**
KHC				*e*SG		**Sb**	**13 21 53.7**	**+3.2**
	comp=Z,111nm,0.5s							
GERES	**GERESS Array B**	**3.32**	**254**	Pn		**Pn**	**13 21 02.6**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=77,slow=14,SNR=3.5							
GERES				Pg		**Pb**	**13 21 09.3**	**-0.4**
	comp=Z,1.8nm,0.3s,baz=76,slow=14,SNR=23							
GERES				Sn		**Sn**	**13 21 36.9**	**-6.4**
	comp=Z,0.9nm,0.3s,baz=69,slow=27,SNR=4.8							
GERES				Lg		Lg	13 21 54.0	
	comp=Z,1.2nm,0.3s,baz=72,slow=31,SNR=7.5							
	comp=Z,0.3nm,0.2s							
HSKC	**Hora Svate Kat**	**3.37**	**285**	*e*SG		**Sg**	**13 21 58.4**	**+0.2**
MOA	**Molln**	**3.45**	**236**	*e*Pn		**Pn**	**13 21 04.6**	**-0.5**
	comp=Z,0.5nm,0.3s							
CLL	**Collm**	**3.82**	**295**	*e*Pg		**Pg**	**13 21 21.0**	**-2.2**
CLL				*e*Sg		**Sg**	**13 22 15.0**	**+2.3**
	comp=Z,14nm,1.1s							
SOKA	**Soboth**	**3.94**	**218**	*e*Pn		**Pn**	**13 21 13.1**	**+1.3**
	comp=Z,0.4nm,0.4s							
OBKA	**Obir**	**4.27**	**220**	*e*Pn		**Pn**	**13 21 16.5**	**+0.2**
	comp=Z,0.7nm,0.4s							
KBA	**Koelnbreinsper**	**4.42**	**233**	*e*Pn		**Pn**	**13 21 19.2**	**+0.7**
	comp=Z,0.6nm,0.3s							
DAVOX	**Davos/Dischmat**	**6.54**	**245**	Pn		**Pn**	**13 21 47.6**	**0.0**
	comp=Z,0.3nm,0.3s,baz=82,slow=15,SNR=2.6							
DAVOX				Sn		**Sn**	**13 23 00.2**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=180,slow=20,SNR=1.7			Lg	Lg		13 23 35.4	
	comp=Z,0.6nm,0.3s							
MLR	**Muntele Rosu**	**6.63**	**128**	Pn		**Pn**	**13 21 49.0**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=130,slow=17,SNR=1.9							
	comp=Z,2.1nm,0.5s							
AKASG	**Malin Array Be**	**6.91**	**79**	Pn		**Pn**	**13 21 49.3**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=260,slow=14,SNR=1.8							
	comp=Z,0.1nm,0.3s							
HFS	**Hagfors**	**10.68**	**347**	Pn		Pn	13 22 38.9	-5.2
	comp=Z,1.2nm,0.7s,baz=129,slow=13,SNR=1.6							
FINES	**FINESS Array B**	**12.37**	**17**	Pn		Pn	13 23 01.4	-5.7
	comp=Z,0.1nm,0.3s,baz=196,slow=13,SNR=6.2							
	comp=Z,1.9nm,0.8s							

*SJA **25** 13:22:35.1±0.6,21˚.66S×68˚.50W,h141km±3km, ML3.9, MW3.8*
*IDC **25** 13:22:35.6±1.0,21˚.79S×67˚.89W,h104km±15km, mb3.7/4, mbtmp4.0/6, Error ellipse: s-maj=59.7km s-min=14.0km az=130.0*
*NEIC **25** 13:22:36.0±0.9,21˚.64S±0˚.05×68˚.39W±0˚.08,h126km±8km, mb4.3/3, Error ellipse: s-maj=11.2km s-min=6.8km az=82.0*
*GUC **25** 13:22:36.9±0.8,21˚.66S×68˚.44W,h128km±4km, ML4.2*

ISC 25 13:22:35.2±0.7, 21°.66S±0'.03×68°.50W±0'.05, h140km±6km, n81, σ1§10/120, mb3.8/4, 9C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.71**	**259**			**Pn**	**13 22 57.5**	**+0.6**
PB09					Sn	**Sn**	**13 23 13.1**	**-0.2**
PB09	**IPOC Station P**	**0.71**	**259**	*e*P		**Pn**	**13 22 57.7**	**+0.8**
PB09				*e*S		**Sn**	**13 23 14.1**	**+0.7**
PB09				IAML			13 23 17.6	
	comp=Z,1µm,0.2s							
PB09	**IPOC Station P**	**0.71**	**259**	⇑*i*P		**Pn**	**13 22 57.7**	**+0.8**
PB09				*i* S		**Sn**	**13 23 13.4**	**+0.1**
LVC	**Limon Verde**	**1.02**	**202**			**Pn**	**13 23 00.1**	**+0.4**
LVC					Sn	**Sn**	**13 23 17.7**	**-0.5**
LVC	**Limon Verde**	**1.02**	**202**	*e*P		**Pn**	**13 23 00.2**	**+0.6**
LVC				*e*S		**Sn**	**13 23 18.8**	**+0.6**
LVC	**Limon Verde**	**1.02**	**202**	P		**Pn**	**13 23 00.2**	**+0.6**
	comp=Z,68nm,0.4s,baz=23,slow=6.9,SNR=209							
LVC				S		**Sn**	**13 23 17.4**	**-0.8**
	comp=Z,193nm,0.3s,baz=123,slow=22,SNR=64							
LVC	**Limon Verde**	**1.02**	**202**	*e*P		**Pn**	**13 22 59.8**	**+0.1**
LVC				*e*S		**Sn**	**13 23 17.9**	**-0.3**
PB01	**IPOC Station P**	**1.11**	**303**			**Pn**	**13 23 00.5**	**+0.4**
PB01					Sn	**Sn**	**13 23 18.6**	**-0.5**
PB01	**IPOC Station P**	**1.11**	**303**	*e*P		**Pn**	**13 23 00.6**	**+0.4**
PB01				*e*S		**Sn**	**13 23 19.8**	**+0.7**
PB01				IAML			13 23 21.1	
	comp=Z,1µm,0.2s							
PB01	**IPOC Station P**	**1.11**	**303**	⇑*i*P		**Pn**	**13 23 00.6**	**+0.4**
PB01				*i* S		**Sn**	**13 23 19.2**	**+0.1**
PB01				IAML			13 23 20.9	
	comp=E,4µm,0.2s							
PB07	**IPOC Station P**	**1.29**	**267**			**Pn**	**13 23 02.7**	**+0.6**
PB07	**IPOC Station P**	**1.29**	**267**	*e*P		**Pn**	**13 23 02.8**	**+0.8**
PB07				*e*S		**Sn**	**13 23 22.8**	**+0.4**
PB07				IAML			13 23 24.5	
	comp=Z,3µm,0.3s							
PB07	**IPOC Station P**	**1.29**	**267**	⇑*i*P		**Pn**	**13 23 02.9**	**+0.8**
PB07				*i* S		**Sn**	**13 23 22.4**	**0.0**
PB07				IAML			13 23 23.5	
	comp=N,8µm,0.2s							
AF01	**San Pedro de A**	**1.32**	**167**			**Pn**	**13 23 02.2**	**-0.3**
PB02	**IPOC Station P**	**1.35**	**284**			**Pn**	**13 23 03.3**	**+0.7**
PB02	**IPOC Station P**	**1.35**	**284**	*e*P		**Pn**	**13 23 03.2**	**+0.7**
PB02				*e*S		**Sn**	**13 23 23.8**	**+0.5**
PB02				IAML			13 23 25.1	
	comp=Z,4µm,0.4s							
PB02	**IPOC Station P**	**1.35**	**284**	*i* P		**Pn**	**13 23 03.2**	**+0.7**
PB02				*i* S		**Sn**	**13 23 23.4**	**+0.2**
PB02				IAML			13 23 28.1	
	comp=E,5µm,0.3s							
PB06	**IPOC Station P**	**1.44**	**223**			**Pn**	**13 23 04.6**	**+1.0**
PB06	**IPOC Station P**	**1.44**	**223**	*e*P		**Pn**	**13 23 04.7**	**+1.0**
PB06				*e*S		**Sn**	**13 23 26.6**	**+1.4**
PB06				IAML			13 23 28.3	
	comp=Z,775nm,0.2s							
PB06	**IPOC Station P**	**1.44**	**223**	⇑*i*P		**Pn**	**13 23 04.6**	**+1.0**
PB06				*i* S		**Sn**	**13 23 25.6**	**+0.4**
PB06				IAML			13 23 27.7	
	comp=E,1µm,0.1s							
PB08	**IPOC Station P**	**1.63**	**338**			**Pn**	**13 23 07.0**	**+1.1**
PB08	**IPOC Station P**	**1.63**	**338**	*e*P		**Pn**	**13 23 07.0**	**+1.1**
PB08				*e*S		**Sn**	**13 23 30.5**	**+1.3**
PB08				IAML			13 23 32.4	
	comp=Z,355nm,0.3s							
PB08	**IPOC Station P**	**1.63**	**338**	⇑*i*P		**Pn**	**13 23 07.1**	**+1.1**
PB08				*i* S		**Sn**	**13 23 30.0**	**+0.7**
PX03	**IPOC Station P**	**1.64**	**319**	*e*P		**Pn**	**13 23 05.7**	**0.0**
PX03				*e*S		**Sn**	**13 23 28.6**	**-0.3**
PB04	**IPOC Station P**	**1.68**	**246**			**Pn**	**13 23 07.0**	**+0.9**
PB04	**IPOC Station P**	**1.68**	**246**	*e*P		**Pn**	**13 23 07.0**	**+0.9**
PB04				*e*S		**Sn**	**13 23 30.0**	**+0.2**
PB04				IAML			13 23 32.1	
	comp=Z,2µm,0.1s							
PB04	**IPOC Station P**	**1.68**	**246**	⇑*i*P		**Pn**	**13 23 07.0**	**+0.9**
PB04				*i* S		**Sn**	**13 23 29.6**	**-0.2**
PB04				IAML			13 23 31.5	
	comp=N,1µm,0.2s							
PATCX	**Punta Patache**	**1.75**	**298**			**Pn**	**13 23 07.8**	**+0.8**
PATCX	**Punta Patache**	**1.75**	**298**	*e*P		**Pn**	**13 23 07.9**	**+0.8**
PATCX				*e*S		**Sn**	**13 23 32.2**	**+0.9**
PATCX	**Punta Patache**	**1.75**	**298**	⇑*i*P		**Pn**	**13 23 07.7**	**+0.8**
PATCX				*i* S		**Sn**	**13 23 31.4**	**+0.2**
PATCX				IAML			13 23 33.4	
	comp=N,4µm,0.3s							
PB15	**IPOC Station P**	**1.79**	**210**			**Pn**	**13 23 08.1**	**+0.6**
PB15	**IPOC Station P**	**1.79**	**210**	*e*P		**Pn**	**13 23 09.1**	**+1.6**
PB15				*e*S		**Sn**	**13 23 33.9**	**+1.6**
PB15				IAML			13 23 38.9	
	comp=Z,2µm,0.2s							
PB15	**IPOC Station P**	**1.79**	**210**	*e*P		**Pn**	**13 23 08.8**	**+1.3**
PB15				*e*S		**Sn**	**13 23 33.3**	**+1.1**
HMBC	**Humberstone**	**1.89**	**316**	*e*P		**Pn**	**13 23 08.9**	**+0.3**
HMBC				*e*S		**Sn**	**13 23 34.5**	**+0.3**
HMBC	**Humberstone**	**1.89**	**316**	*i* P		**Pn**	**13 23 08.8**	**+0.2**
HMBC				*i* S		**Sn**	**13 23 34.0**	**-0.1**
HMBC				IAML			13 23 35.4	
	comp=E,2µm,0.2s							
TA01	**Diego Aracena**	**1.91**	**304**			**Pn**	**13 23 09.4**	**+0.7**
TA01	**Diego Aracena**	**1.91**	**304**	*e*P		**Pn**	**13 23 09.4**	**+0.7**
TA01				*e*S		**Sn**	**13 23 35.2**	**+0.9**
TA01				IAML			13 23 38.8	
	comp=Z,524nm,0.3s							
TA01	**Diego Aracena**	**1.91**	**304**	*i* P		**Pn**	**13 23 09.1**	**+0.4**
TA01				*i* S		**Sn**	**13 23 34.4**	**+0.1**
TA01				IAML			13 23 36.3	
	comp=E,925nm,0.5s							
PB05	**IPOC Station P**	**1.98**	**233**			**Pn**	**13 23 10.6**	**+0.9**
PB05	**IPOC Station P**	**1.98**	**233**	*e*P		**Pn**	**13 23 10.5**	**+0.9**
PB05				*e*S		**Sn**	**13 23 36.3**	**+0.3**
PB05				IAML			13 23 37.1	
	comp=Z,434nm,0.3s							
PB05	**IPOC Station P**	**1.98**	**233**	*i* P		**Pn**	**13 23 10.6**	**+0.9**
PB05				*i* S		**Sn**	**13 23 35.8**	**-0.2**
TA02	**Huaiquique**	**2.06**	**312**			**Pn**	**13 23 10.8**	**+0.3**
TA02	**Huaiquique**	**2.06**	**312**	*e*P		**Pn**	**13 23 11.0**	**+0.6**
TA02				*e*S		**Sn**	**13 23 37.8**	**+0.4**
TA02				IAML			13 23 41.4	
	comp=Z,644nm,0.6s							
TA02	**Huaiquique**	**2.06**	**312**	*e*P		**Pn**	**13 23 11.2**	**+0.7**
GO01	**Chusmiza**	**2.08**	**342**	*e*P		**Pn**	**13 23 12.1**	**+0.8**
GO01				*e*S		**Sn**	**13 23 40.3**	**+1.5**
GO01	**Chusmiza**	**2.08**	**342**	⇑*i*P		**Pn**	**13 23 11.9**	**+0.6**
GO01				*e*S		**Sn**	**13 23 39.5**	**+0.7**
PB11	**IPOC Station P**	**2.18**	**330**			**Pn**	**13 23 12.0**	**0.0**
PB11	**IPOC Station P**	**2.18**	**330**	*e*P		**Pn**	**13 23 12.3**	**+0.2**
PB11				*e*S		**Sn**	**13 23 40.6**	**+0.2**
PB11				IAML			13 23 42.3	
	comp=Z,541nm,0.9s							
PB11	**IPOC Station P**	**2.18**	**330**	⇑*i*P		**Pn**	**13 23 12.4**	**+0.2**
PB11				*i* S		**Sn**	**13 23 40.3**	**-0.1**
PB11				IAML			13 23 42.4	
	comp=E,2µm,0.8s							
YJA	**Yavi**	**2.82**	**101**	*e*P		**Pn**	**13 23 21.9**	**+1.6**
YJA				*e*S		**Sn**	**13 23 56.4**	**+1.4**
HJA	**Humahuaca**	**3.25**	**119**	*e*P		Pn	13 23 39.6	+14
HJA				*e*S		Sn	13 24 24.0	+19
PB14	**IPOC Station P**	**3.44**	**210**			**Pn**	**13 23 26.9**	**-1.3**
PB14	**IPOC Station P**	**3.44**	**210**	*e*P		**Pn**	**13 23 27.7**	**-0.4**
PB14				*e*S		**Sn**	**13 24 08.0**	**-1.1**
PB14				IAML			13 24 10.9	
	comp=Z,87nm,0.2s							
PB16	**IPOC Station P**	**3.44**	**344**	*e*P		**Pn**	**13 23 29.6**	**+1.1**
PB16				*e*S		**Sn**	**13 24 09.6**	**0.0**
PB16	**IPOC Station P**	**3.44**	**344**	*e*P		**Pn**	**13 23 29.7**	**+1.2**
PB12	**IPOC Station P**	**3.48**	**330**			**Pn**	**13 23 26.9**	**-1.6**
PB12	**IPOC Station P**	**3.48**	**330**	*e*P		**Pn**	**13 23 27.8**	**-0.7**
PB12				*e*S		**Sn**	**13 24 09.5**	**-0.4**
PB12				IAML			13 24 15.0	
	comp=Z,107nm,0.5s							
PB12	**IPOC Station P**	**3.48**	**330**	*e*P		**Pn**	**13 23 27.5**	**-1.1**
GO02	**Mina Guanaco**	**3.63**	**196**			**Pn**	**13 23 29.4**	**-1.3**
GO02	**Mina Guanaco**	**3.63**	**196**	*e*P		**Pn**	**13 23 31.6**	**+0.9**
GO02				*e*S		**Sn**	**13 24 15.0**	**+1.4**
GO02	**Mina Guanaco**	**3.63**	**196**	*e*P		**Pn**	**13 23 31.4**	**+0.7**
PB18	**Visviri**	**4.15**	**347**	Pn		**Pn**	**13 23 36.8**	**-1.0**
AC01	**Pan de Azucar**	**4.87**	**203**	Pn		**Pn**	**13 23 45.9**	**-0.8**
AC01	**Pan de Azucar**	**4.87**	**203**	*e*P		**Pn**	**13 23 45.9**	**-0.8**
LPAZ	**La Paz**	**5.35**	**4**	Pn		**Pn**	**13 23 55.8**	**+2.0**
GO03	**Copiap**	**6.12**	**195**	Pn		**Pn**	**13 24 02.1**	**-1.4**
AC04	**Llanos de Chal**	**6.93**	**199**	Pn		**Pn**	**13 24 11.2**	**-3.0**
AC05	**El Transito**	**7.33**	**192**	Pn		**Pn**	**13 24 17.9**	**-1.8**
LCO	**Las Campanas**	**7.59**	**195**	Pn		**Pn**	**13 24 20.4**	**-2.9**
SIV	**San Ignacio**	**9.01**	**53**	P		**Pn**	**13 24 39.2**	**-3.1**
	comp=Z,4.2nm,0.3s,baz=246,slow=10.0,SNR=35							
SIV				S		Sn	13 26 13.1	-9.2
	comp=Z,1.4nm,0.8s,baz=323,slow=22,SNR=2.4							
CO03	**El Pedregal**	**9.35**	**192**	Pn		**Pn**	**13 24 43.8**	**-3.1**
PTLB	**Pontes e Lacer**	**10.81**	**57**	Pn		**Pn**	**13 25 03.0**	**-3.2**
BI05	**Punta Hualpn**	**15.58**	**194**	Pn		**Pn**	**13 26 04.7**	**-2.5**
BI05				IAmb		IAmb	13 26 47.4	
	comp=Z,39nm,1.0s							
PLTB	**Pedras Altas**	**16.67**	**130**			**Pn**	**13 26 21.1**	**+0.4**
PLTB				IAmb		IAmb	13 26 49.6	
	comp=Z,8.2nm,1.2s							
TRQA	**Tornquist**	**17.29**	**162**			**Pn**	**13 26 28.8**	**+0.7**
TRQA				IAmb		IAmb	13 27 09.6	
	comp=Z,25nm,1.5s							
PLCA	**Paso Flores**	**19.10**	**185**	P		**Pn**	**13 26 49.1**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=20,slow=13,SNR=1.9							
SNAA	**Sanae**	**62.01**	**161**	P		**P**	**13 32 43.0**	**+2.7**
	comp=Z,0.7nm,0.6s,baz=237,slow=12,SNR=2.0							
	comp=Z,0.7nm,0.6s							
DBIC	**Dimbokro**	**68.41**	**73**	P		**P**	**13 33 23.8**	**+1.3**
	comp=Z,3.6nm,0.8s,baz=228,slow=4.9,SNR=6.0							
	comp=Z,3.6nm,0.8s							
QSPA	**South Pole Qui**	**68.53**	**180**	P		P	13 33 26.0	+3.5
	comp=Z,0.6nm,0.4s,baz=225,slow=5.7,SNR=20							
	comp=Z,0.6nm,0.4s							
TORD	**Torodi Ar. Bea**	**77.05**	**70**	P		**P**	**13 34 14.6**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=255,slow=5.2,SNR=11							
	comp=Z,0.8nm,0.5s							
MKAR	**Makanchi Array**	**145.53**	**36**	PKPbc		**PKiKP**	**13 42 00.6**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=292,slow=2.7,SNR=4.7							

*NOU **25** 13:25:27.0,19˚.45S×179˚.63E,h35km,mb5.1/20, South of Fiji Islands*
*NEIC **25** 13:25:53.8±1.2,17˚.9S±0˚.1×178˚.5W±0˚.1,h583km±3km, mb4.4/67, Error ellipse: s-maj=19.3km s-min=14.5km az=138.0*
*IDC **25** 13:25:57.9±3.0,17˚.82S×178˚.74W,h618km±36km, mb3.4/12,mbtmp4.4/13, Error ellipse: s-maj=18.1km s-min=16.7km az=9.0*

ISC 25 13:25:53.6±0.4, 17.82S±0'.09×178°.57W±0'.08, h579km, n112, σ1§14/114, mb4.4/49, 3D, Fiji Islands region

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

PSA00	**Pilbara Seismi**	**57.78**	**255**	P	**P**	**13 34 50.1**	**-0.6**
PSA00				IAmb	IAmb	13 34 51.3	
	comp=Z,14nm,0.7s						
MBWA	**Marble Bar**	**57.95**	**256**	P	**P**	**13 34 51.1**	**-0.7**
MBWA				IAmb	IAmb	13 34 54.6	
	comp=Z,14nm,1.3s						
NWAO	**Narrogin (SRO)**	**59.12**	**242**	P	**P**	**13 34 59.2**	**-0.3**
NWAO				IAmb	IAmb	13 35 03.2	
	comp=Z,22nm,1.4s						
MORW	**Morawa**	**60.38**	**246**	P	**P**	**13 35 07.3**	**-0.7**
VNDA	**Vanda**	**60.52**	**185**	P	**P**	**13 35 07.8**	**-0.1**
VNDA	**Vanda**	**60.52**	**185**	P	**P**	**13 35 08.7**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=21,slow=6.1,SNR=5.9						
	comp=Z,0.6nm,0.7s						
KAPI	**Kappang**	**61.53**	**274**	P	**P**	**13 35 15.5**	**-0.2**
	comp=Z,3.0nm,0.3s,baz=73,slow=8.5,SNR=1.8						
	comp=Z,3.0nm,0.3s						
GIRL	**Giralia**	**62.77**	**253**	P	**P**	**13 35 22.7**	**-0.9**
JAGI	**Jajag, Banyuwa**	**65.89**	**269**	P	**P**	**13 35 42.6**	**-0.9**
UGM	**Wanagama**	**69.50**	**268**	P	**P**	**13 36 05.5**	**0.0**
SSLB	**Suanglung**	**72.06**	**303**	P	**P**	**13 36 20.2**	**-0.1**
QSPA	**South Pole Qui**	**72.23**	**180**	P	**P**	**13 36 20.5**	**-0.1**
QSPA				IAmb	IAmb	13 36 22.1	
	comp=Z,5.9nm,0.9s						
QSPA	**South Pole Qui**	**72.23**	**180**	P	**P**	**13 36 21.3**	**+0.7**
	comp=Z,4.8nm,0.8s,baz=0.0,slow=0.8,SNR=29						
	comp=Z,4.8nm,0.8s						
NJ2	**Nanjing**	**77.77**	**310**	*e*P	**P**	**13 36 53.3**	**+1.4**
NJ2				sP	**PcP**	**13 36 57.0**	**-2.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PNTR	**Pine Nut**	**78.98**	**43**	P	**P**	**13 36 57.8**	**-0.7**
NVAR	**Mina Array Bea**	**79.47**	**44**	P	**P**	**13 37 02.6**	**+1.5**
	comp=Z,1.3nm,0.7s,baz=224,slow=9.2,SNR=14						
	comp=Z,1.3nm,0.7s						
O18K	**Koktuh Hills**	**79.70**	**12**	P	**P**	**13 37 02.0**	**+0.4**
O18K				IAmb	IAmb	13 37 21.2	
	comp=Z,46nm,1.4s						
M16K	**Timber Creek**	**80.14**	**10**	P	**P**	**13 37 05.2**	**+1.5**
M16K				IAmb	IAmb	13 37 45.7	
	comp=Z,21nm,1.5s						
CNPM	**China Poot**	**80.24**	**14**	P	**P**	**13 37 04.9**	**+0.5**
ILSW	**Iliamna Southw**	**80.24**	**13**	P	**P**	**13 37 04.9**	**+0.5**
ILSW				IAmb	IAmb	13 37 43.1	
	comp=Z,20nm,1.4s						
L18K	**Granite Mounta**	**81.64**	**10**	P	**P**	**13 37 12.6**	**+1.1**
L18K				IAmb	IAmb	13 37 39.7	
	comp=Z,7.2nm,1.3s						
I07A	**Izee**	**81.84**	**39**	P	**P**	**13 37 14.0**	**+0.9**
J16K	**Anvik River**	**82.06**	**8**	P	**P**	**13 37 14.8**	**+1.2**
J16K				IAmb	IAmb	13 37 27.1	
	comp=Z,7.3nm,1.4s						
SUA	**Susitna One**	**82.08**	**13**	P	**P**	**13 37 13.9**	**+0.1**
SUA				IAmb	IAmb	13 37 26.3	
	comp=Z,15nm,1.4s						
BELA	**Belgrano 2**	**82.27**	**173**	P	**P**	**13 37 14.1**	**-0.5**
BELA				IAmb	IAmb	13 37 15.1	
	comp=Z,6.1nm,0.9s						
PMR	**Palmer**	**82.56**	**14**	P	**P**	**13 37 16.2**	**+0.1**
PMR				IAmb	IAmb	13 37 20.6	
	comp=Z,10nm,1.3s						
GHO	**Glory Hole Cre**	**82.76**	**14**	P	**P**	**13 37 17.6**	**+0.3**
GHO				IAmb	IAmb	13 37 19.1	
	comp=Z,8.7nm,1.0s						
J18K	**Innoko River**	**82.80**	**10**	P	**P**	**13 37 18.2**	**+0.9**
K20K	**Telida**	**83.15**	**11**	P	**P**	**13 37 19.6**	**+0.5**
SCM	**Sheep Creek Mo**	**83.18**	**14**	P	**P**	**13 37 19.5**	**+0.2**
SCM				IAmb	IAmb	13 37 50.8	
	comp=Z,33nm,1.4s						
J19K	**Poorman**	**83.47**	**10**	P	**P**	**13 37 21.5**	**+0.8**
N25K	**Chitina, Valde**	**83.66**	**16**	P	**P**	**13 37 22.1**	**+0.4**
N25K				IAmb	IAmb	13 37 23.1	
	comp=Z,5.2nm,0.8s						
GLB	**Gilahina Butte**	**83.73**	**16**	P	**P**	**13 37 22.4**	**+0.4**
GLB				IAmb	IAmb	13 37 52.4	
	comp=Z,13nm,1.4s						
J20K	**Nowinta River**	**83.89**	**10**	P	**P**	**13 37 23.5**	**+0.8**
TRF	**Thorofare Moun**	**83.96**	**12**	P	**P**	**13 37 22.9**	**-0.4**
TRF				IAmb	IAmb	13 37 28.2	
	comp=Z,12nm,1.4s						
RND	**Reindeer**	**84.22**	**13**	P	**P**	**13 37 25.1**	**+0.7**
RND				IAmb	IAmb	13 37 28.3	
	comp=Z,5.1nm,1.1s						
Q32M	**Nakina River**	**85.36**	**22**		**P**	**13 37 31.5**	**+1.2**
Q32M				IAmb	IAmb	13 37 48.9	
	comp=Z,15nm,1.4s						
CCB	**Clear Creek Bu**	**85.53**	**13**	P	**P**	**13 37 30.5**	**-0.1**
ILAR	**Eielson Array**	**85.84**	**13**	P	**P**	**13 37 31.9**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=224,slow=5.2,SNR=11						
	comp=Z,0.4nm,0.5s						
J25K	**Salcha River,**	**86.04**	**14**	P	**P**	**13 37 33.4**	**+0.2**
TXAR	**Lajitas Array**	**86.08**	**58**		**P**	**13 37 36.5**	**+2.2**
TXAR	**Lajitas Array**	**86.08**	**58**	P	**P**	**13 37 36.3**	**+2.1**
	comp=Z,1.3nm,0.8s,baz=224,slow=6.4,SNR=16						
	comp=Z,1.3nm,0.8s						
J26L	**Joseph Creek**	**86.36**	**14**		**P**	**13 37 36.0**	**+1.3**
E19K	**Redstone River**	**86.48**	**8**	P	**P**	**13 37 35.3**	**+0.2**
M30M	**Minto, Yukon**	**86.60**	**18**	P	**P**	**13 37 36.5**	**+0.6**
M30M				IAmb	IAmb	13 37 47.7	
	comp=Z,6.7nm,1.4s						
HHC	**Hu-ho-hao-te**	**87.10**	**315**	*e*P	**P**	**13 37 38.0**	**-0.8**
HHC				pmax	pmax		
	comp=Z,25nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,4.0s						
PD31	**Pinedale Array**	**87.39**	**43**		**P**	**13 37 40.8**	**+0.5**
PDAR	**Pinedale Array**	**87.39**	**43**		**P**	**13 37 40.5**	**+0.2**
PDAR	**Pinedale Array**	**87.39**	**43**	P	**P**	**13 37 41.2**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=217,slow=4.0,SNR=11						
	comp=Z,0.7nm,0.6s						
D22K	**Ayikyak River**	**88.45**	**9**	P	**P**	**13 37 45.1**	**+0.8**
BMAR	**Burnt Mountain**	**88.61**	**12**	P	**P**	**13 37 45.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**88.71**	**290**	P	**P**	**13 37 47.1**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=125,slow=3.2,SNR=9.2						
	comp=Z,1.1nm,0.7s						
H29M	**Whitestone**	**89.03**	**15**		**P**	**13 37 48.1**	**+1.1**
H29M				IAmb	IAmb	13 38 13.3	
	comp=Z,5.5nm,1.5s						
ELIB	**Princess Elisa**	**89.23**	**187**	*d*P	**P**	**13 37 48.2**	**-0.1**
	comp=Z,4.4nm,0.8s						
TROLL	**Troll, Antarti**	**90.39**	**180**	⇓P	**P**	**13 37 53.4**	**-0.2**
	comp=Z,175nm,0.7s						
SNAA	**Sanae**	**90.69**	**179**	P	**P**	**13 37 54.2**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=205,slow=12,SNR=6.2						
	comp=Z,1.6nm,0.9s						
VNA3	**Neumayer Olymp**	**90.83**	**176**	⇓P	**P**	**13 37 55.6**	**+0.1**
	comp=Z,8.8nm,0.7s						
BVAR	**Borovoye Array**	**116.68**	**321**	PKP	**PKPdf**	**13 43 32.2**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=66,slow=3.5,SNR=3.7						
BRTR	**Keskin Array B**	**144.61**	**315**	PKP	**PKPab**	**13 44 26.1**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=45,slow=0.5,SNR=5.3						
CLL	**Collm**	**145.35**	**347**	*i* PKPbc	**PKPab**	**13 44 28.5**	**-0.1**
MMAI	**Mount Meron Ar**	**145.97**	**303**	PKPbc	**PKPbc**	**13 44 30.1**	**+0.4**
	comp=Z,5.0nm,0.7s,baz=72,slow=6.4,SNR=4.8						
VYHS	**Vyhne**	**146.28**	**339**	*e*PKP	**PKPbc**	**13 44 31.1**	**+1.1**
GERES	**GERESS Array B**	**147.49**	**345**	PKPbc	**PKiKP**	**13 44 34.1**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=36,slow=2.8,SNR=5.8						

*CATAC **25** 13:43:36.9±0.7, 12°.57N×88°.20W, h30km±8km, ML3.3*
*SNET **25** 13:43:37.7±1.0, 12°.69N×88°.16W, h64km±10km, ML3.6*
ISC 25 13:43:37.5±1.6, **12°.6N**±0°.1×**88°.18W**±0°.06, **h60**km±25km, **n41**, σ0**58**/54, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**0.70**	**59**	*i* P	**Pn**	**13 43 51.3**	**-0.6**
CSGN				IAML		13 44 09.0	
	comp=Z,3μm,1.0s						
CNCH	**Conchagua**	**0.74**	**27**	*e*P	**Pn**	**13 43 52.2**	**-0.2**
CNCH				*e*S	**Sn**	**13 44 03.6**	**+0.2**
CNCH				IAML		13 44 06.9	
	comp=Z,4μm,0.1s						
CNCH	**Conchagua**	**0.74**	**27**	*i* P	**Pn**	**13 43 52.3**	**-0.2**
CNCH				*i* S	**Sn**	**13 44 03.7**	**+0.3**
CNCH				IAML		13 44 05.4	
	comp=Z,4μm,1.0s						
LCND	**La Caada**	**0.75**	**22**	*e*P	**Pn**	**13 43 52.1**	**-0.3**
LCND				*e*S	**Sn**	**13 44 03.3**	**0.0**
LCND				IAML		13 44 06.9	
	comp=Z,2μm,0.3s						
VSM	**San Miguel**	**0.82**	**353**	*e*P	**Pn**	**13 43 53.4**	**-0.2**
VSM				*e*S	**Sn**	**13 44 06.1**	**+0.8**
RANC	**El Ranchito**	**0.83**	**352**	*e*P	**Pn**	**13 43 53.2**	**-0.4**
CNRM	**Centro Naciona**	**0.86**	**0**	*i* P	**Pn**	**13 43 53.2**	**-0.6**
CNRM				*i* S	**Sn**	**13 44 06.3**	**+0.5**
CNRM				IAML		13 44 09.9	
	comp=Z,4μm,1.0s						
PACA	**Pacayal**	**0.87**	**351**	*e*P	**Pn**	**13 43 53.8**	**-0.2**
PACA				*e*S	**Sn**	**13 44 06.0**	**-0.1**
PACA				IAML		13 44 08.4	
	comp=Z,10μm,0.2s						
PACA	**Pacayal**	**0.87**	**351**	*i* P	**Pn**	**13 43 53.6**	**-0.4**
PACA				*i* S	**Sn**	**13 44 06.7**	**+0.6**
PACA				IAML		13 44 08.0	
	comp=Z,10μm,1.0s						
PQSS	**Presa 15 de Se**	**1.08**	**340**	*e*P	**Pn**	**13 43 56.6**	**0.0**
PQSS				IAML		13 44 12.4	
	comp=Z,378nm,0.2s						
PQSS	**Presa 15 de Se**	**1.08**	**340**	*i* P	**Pn**	**13 43 56.4**	**-0.2**
PQSS				*i* S	**Sn**	**13 44 11.5**	**+0.8**
PQSS				IAML		13 44 12.3	
	comp=Z,750nm,1.0s						
TECO	**Alcaldia de Te**	**1.09**	**328**	*e*P	**Pn**	**13 43 56.4**	**-0.5**
TECO	**Alcaldia de Te**	**1.09**	**328**	*i* P	**Pn**	**13 43 56.2**	**-0.7**
TECO				*i* S	**Sn**	**13 44 10.4**	**-0.8**
TECO				IAML		13 44 12.0	
	comp=Z,690nm,1.0s						
CRIN	**San Cristobal**	**1.10**	**85**	*e*P	**Pn**	**13 43 57.0**	**-0.1**
CRIN	**San Cristobal**	**1.10**	**85**	*i* P	**Pn**	**13 43 57.2**	**+0.2**
CRIN				*i* S	**Sn**	**13 44 12.8**	**+1.3**
CRIN				IAML		13 44 14.6	
	comp=Z,1μm,1.0s						
UESV	**Universidad de**	**1.18**	**330**	*e*P	**Pn**	**13 43 58.0**	**0.0**
UESV	**Universidad de**	**1.18**	**330**	*i* P	**Pn**	**13 43 57.7**	**-0.3**
UESV				*i* S	**Sn**	**13 44 13.0**	**-0.3**
UESV				IAML		13 44 16.3	
	comp=Z,480nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.21**	**334**	*e*P	**Pn**	**13 43 58.5**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.21**	**334**	*i* P	**Pn**	**13 43 58.2**	**-0.3**
SCLA				*i* S	**Sn**	**13 44 14.1**	**+0.1**
SCLA				IAML		13 44 16.6	
	comp=Z,320nm,1.0s						
COEG	**Centro de Oper**	**1.22**	**326**	*e*P	**Pn**	**13 43 58.0**	**-0.6**
COEG	**Centro de Oper**	**1.22**	**326**	*i* P	**Pn**	**13 43 57.8**	**-0.7**
COEG				IAML		13 44 17.5	
	comp=Z,360nm,1.0s						
SJTE	**Alcalda de S**	**1.29**	**321**	*e*P	**Pn**	**13 43 59.2**	**-0.2**
SJTE	**Alcalda de S**	**1.29**	**321**	*i* P	**Pn**	**13 43 59.0**	**-0.5**
SJTE				IAML		13 44 18.5	
	comp=Z,700nm,1.0s						
PAVA	**Las Pavas**	**1.32**	**326**	*e*P	**Pn**	**13 44 00.5**	**+0.5**
PAVA	**Las Pavas**	**1.32**	**326**	*i* P	**Pn**	**13 44 00.3**	**+0.3**
PAVA				IAML		13 44 18.9	
	comp=Z,500nm,1.0s						
LOMA	**Loma Larga**	**1.41**	**317**	*i* P	**Pn**	**13 44 01.1**	**-0.1**
LOMA				IAML		13 44 20.0	
	comp=Z,460nm,1.0s						
CNGA	**Al SSO del Vol**	**1.44**	**94**	*i* P	**Pn**	**13 44 00.8**	**-0.7**
CNGA				IAML		13 44 22.5	
	comp=Z,490nm,1.0s						
CNGN	**Cerro Negro**	**1.45**	**94**	*i* P	**Pn**	**13 43 59.4**	**-2.2**
CNGN				*i* S	**Sn**	**13 44 20.7**	**+1.1**
CNGN				IAML		13 44 24.2	
	comp=Z,350nm,1.0s						
PMON	**Piamonte**	**1.56**	**315**	*e*P	**Pn**	**13 44 03.0**	**-0.1**
PMON	**Piamonte**	**1.56**	**315**	*i* P	**Pn**	**13 44 02.9**	**-0.3**
PMON				IAML		13 44 27.3	
	comp=Z,470nm,1.0s						
COPN	**Copaltepe**	**1.61**	**105**	*i* P	**Pn**	**13 44 03.3**	**-0.4**
COPN				IAML		13 44 25.0	
	comp=Z,250nm,1.0s						
MOMN	**Momotombo**	**1.61**	**97**	*i* P	**Pn**	**13 44 03.5**	**-0.3**
MOMN				IAML		13 44 28.2	
	comp=Z,8.5nm,1.0s						
JAYA	**Jayaque - finc**	**1.62**	**310**	*e*P	**Pn**	**13 44 03.6**	**-0.4**
JAYA				IAML		13 44 25.4	
	comp=Z,300nm,0.2s						
JAYA	**Jayaque - finc**	**1.62**	**310**	*i* P	**Pn**	**13 44 04.6**	**+0.6**
JAYA				IAML		13 44 25.3	
	comp=Z,670nm,1.0s						
MOM3	**MOM3**	**1.62**	**93**	*i* P	**Pn**	**13 44 03.6**	**-0.3**
MOM3				IAML		13 44 23.3	
	comp=Z,14nm,1.0s						
MOM2	**El Cardon**	**1.66**	**96**	*i* P	**Pn**	**13 44 04.4**	**0.0**
MOM2				IAML		13 44 08.9	
	comp=Z,110nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.69**	**31**	*e*P	**Pn**	**13 44 05.0**	**+0.1**
TGUH	**Tegucigalpa,Un**	**1.69**	**31**	*i* P	**Pn**	**13 44 04.6**	**-0.3**
TGUH				IAML		13 44 31.5	
	comp=Z,230nm,1.0s						
LIMN	**Finca el Limon**	**1.82**	**75**	*i* P	**Pn**	**13 44 05.9**	**-0.8**
LIMN				IAML		13 44 08.0	
	comp=Z,180nm,1.0s						
NUBE	**Las Nubes**	**2.02**	**310**	*i* P	**Pn**	**13 44 09.5**	**0.0**
NUBE				IAML		13 44 35.5	
	comp=Z,230nm,1.0s						
RCPN	**Sur Rio San Ju**	**2.23**	**66**	*i* P	**Pn**	**13 44 11.4**	**-0.8**
RCPN				IAML		13 44 39.9	
	comp=Z,1.5nm,1.0s						

RSNC 25 14:00:41.0±1.1, **6°.85N×73°.15W, h148**km±4km, **ML3.1, Mw3.5, 5C-4D, Fault plane solution: NP1:**ϕ23.00000°, δ75.00000°, λ-24.00000°, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**187**	⇓*i* P	Pn	14 01 01.0	-0.5
BARC				*e*S	Sn	14 01 16.3	-0.8
BARC				*i*		14 01 17.3	
	comp=Z,453nm,0.2s						
PAMC	**Pamplona, Colo**	**0.66**	**43**	⇑*e*P	Pn	14 01 03.9	+0.3
PAMC				*e*S	Sn	14 01 20.7	-0.1
PAMC				*i*		14 01 23.2	
	comp=Z,135nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.33**	**257**	⇑*i* P	Pn	14 01 07.4	-1.3
PTBC				*e*S	Sn	14 01 28.7	-1.1
PTBC				*i*		14 01 35.8	
	comp=Z,117nm,0.2s						
OCAC	**Ocana**	**1.39**	**353**	*e*P	Pn	14 01 09.1	-0.3
OCAC				*e*S	Sn	14 01 31.2	-0.1
OCAC				*i*		14 01 35.0	
	comp=Z,346nm,0.2s						
TAMC	**Tame, Arauca**	**1.41**	**107**	⇓*i* P	Pn	14 01 09.5	0.0
TAMC				*e*S	Sn	14 01 30.8	-0.5
TAMC				*i*		14 01 38.4	
	comp=Z,54nm,0.3s						
SPBC	**San Pablo de B**	**1.50**	**218**	⇑*i* P	Pn	14 01 09.8	-0.8
SPBC				*e*S	Sn	14 01 32.3	-0.9
SPBC				*i*		14 01 36.4	
	comp=Z,221nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.81**	**291**	*e*P	Pn	14 01 13.5	-0.3
ZARC				*e*S	Sn	14 01 38.9	-0.1
ZARC				*i*		14 01 45.3	
	comp=Z,167nm,0.3s						
ROSC	**El Rosal**	**2.31**	**210**	⇓*e*P	Pn	14 01 21.0	+0.9
ROSC				*e*S	Sn	14 01 51.3	+1.1
CVER	**Cruz Verde, Cu**	**2.49**	**202**	*e*P	Pn	14 01 22.6	+0.2
CVER				*e*S	Sn	14 01 53.9	-0.3
CVER				*i*		14 02 04.5	
	comp=Z,76nm,0.7s						
UREC	**San Jos de Ur**	**2.53**	**291**	*e*P	Pn	14 01 21.1	-1.2
UREC				*e*S	Sn	14 01 52.4	-1.9
UREC				*i*		14 02 00.2	
	comp=Z,113nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.73**	**234**	*e*P	Pn	14 01 25.1	-0.2
GUY2C				*e*S	Sn	14 02 00.4	+0.9
GUY2C				*i*		14 02 07.5	
	comp=Z,72nm,0.6s						
VILC	**Villavicencio,**	**2.77**	**191**	*e*P	Pn	14 01 24.9	-0.7
VILC				*e*S	Sn	14 01 58.8	-1.2
VILC				*i*		14 02 01.9	
	comp=Z,128nm,0.3s						
PTGC	**Puerto Gaitan,**	**2.82**	**159**	⇓*i* P	Pn	14 01 24.2	-1.8
PTGC				*e*S	Sn	14 01 58.0	-2.9
PTGC				*i*		14 02 01.4	
	comp=Z,44nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.01**	**251**	*e*P	Pn	14 01 28.5	-0.1
CBOC				*e*S	Sn	14 02 03.9	-1.3
CBOC				*i*		14 02 10.6	
	comp=Z,22nm,0.5s						
DBBC	**Dabeiba**	**3.04**	**273**	*e*P	Pn	14 01 28.8	-0.1
DBBC				*e*S	Sn	14 02 03.9	-2.0
DBBC				*i*		14 02 06.9	
	comp=Z,49nm,0.2s						
ARGC	**Ariguani, Magd**	**3.18**	**340**	*e*P	Pn	14 01 31.1	+0.5
ARGC				*e*S	Sn	14 02 10.9	+1.9
ARGC				*i*		14 02 16.2	
	comp=Z,18nm,0.2s						
SDV	**Santo Domingo**	**3.21**	**51**	⇑*i* P	Pn	14 01 30.7	-0.5
SDV				*e*S	Sn	14 02 07.4	-2.6
SDV				*i*		14 02 11.2	
	comp=Z,24nm,0.3s						
ANIL	**Santa Ana**	**3.24**	**224**	*e*P	Pn	14 01 31.9	+0.3
ANIL				*e*S	Sn	14 02 12.2	+1.3
PRAC	**Prado**	**3.56**	**209**	*e*P	Pn	14 01 34.9	-0.7
PRAC				*e*S	Sn	14 02 16.8	-1.1
PRAC				*i*		14 02 21.3	
	comp=Z,71nm,0.4s						
ORTC	**Ortega, Tolima**	**3.59**	**216**	*e*P	Pn	14 01 35.2	-0.7
ORTC				*e*S	Sn	14 02 18.0	-0.5
ORTC				*i*		14 02 25.0	
	comp=Z,42nm,0.6s						
SJCC	**San Jacinto, C**	**3.63**	**327**	*e*P	Pn	14 01 34.7	-1.8
SJCC				*e*S	Sn	14 02 18.3	-1.2
SJCC				*i*		14 02 30.9	
	comp=Z,21nm,0.6s						
PLMC	**San Jos del P**	**3.67**	**238**	⇑*e*P	Pn	14 01 36.5	-0.5
PLMC				*e*S	Sn	14 02 21.7	+1.4
PLMC				*i*		14 02 27.1	
	comp=Z,20nm,0.6s						
CRJC	**Cerrejon, Guaj**	**4.15**	**4**	*e*P	Pn	14 01 41.4	-1.9
CRJC				*e*S	Sn	14 02 29.1	-2.7
CRJC				*i*		14 02 33.7	
	comp=Z,35nm,0.4s						
YOTC	**Yotoco, Valle**	**4.27**	**228**	*e*P	Pn	14 01 43.5	-1.4
YOTC				*e*S	Sn	14 02 35.2	+0.7
SMRC	**Santa Marta, M**	**4.42**	**346**	*e*P	Pn	14 01 47.4	+0.7
SMRC				*e*S	Sn	14 02 35.3	-2.5
SMRC				*i*		14 02 37.6	
	comp=Z,11nm,0.2s						
CAPC	**Capurgana**	**4.53**	**293**	*e*P	Pn	14 01 47.6	-0.5
CAPC				*e*S	Sn	14 02 36.6	-3.8
CAPC				*i*		14 02 39.4	
	comp=Z,18nm,0.2s						
URIC	**Uribia, Colomb**	**4.96**	**13**	*e*P	Pn	14 01 48.3	-5.5
URIC				*e*S	Sn	14 02 50.8	+0.2
URIC				*i*		14 03 05.8	
	comp=Z,6.9nm,0.3s						
MALC	**Bahia Malaga**	**5.03**	**236**	*e*P	Pn	14 01 55.3	+0.5
POPC	**Popayan, Colom**	**5.54**	**220**	*e*P	Pn	14 02 00.3	-1.5
FLOC	**Florencia**	**5.80**	**206**	*e*P	Pn	14 02 03.6	-1.5
FLOC				*e*S	Sn	14 03 08.5	-2.3

*NEIC **25** 14:22:51.2±0.9, 20°.13N×0°.04×155°.67W±0°.04, h40km±3km, Error ellipse: s-maj=6.3km s-min=4.2km az=222.0*
HVO 25 14:22:53.4±1.1, **20°.13N**±0°.03×**155°.66W**±0°.04, **h31**km±7km, **ML2.1**/5, **ML2.5**/40(NEIC), **Error ellipse: s-maj=6.4km s-min=3.8km az=53.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HPAH	**Hawaii Prepara**	**0.10**	**198**		Pb	14 22 58.1	-0.8
HPAH	**Hawaii Prepara**	**0.10**	**198**		Sn	14 23 01.7	-0.7
HPAH	**Hawaii Prepara**	**0.10**	**198**	IAML		14 23 01.6	
	comp=E,153nm,0.2s						
MHA	**Mahukona**	**0.23**	**285**		Pb	14 22 59.5	-0.5
MHA					Sb	14 23 04.1	-0.5
MHA	**Mahukona**	**0.23**	**285**	Pg	Pb	14 22 59.4	-0.6
POHA	**Pohakuloa**	**0.39**	**162**		Sb	14 23 06.6	-1.9
POHA	**Pohakuloa**	**0.39**	**162**		Pb	14 23 01.2	-1.2
POHA				IAML		14 23 06.8	
	comp=E,613nm,0.3s						
POHA				IAML		14 23 06.8	
	comp=E,807nm,0.2s						
HUH	**Hualalai**	**0.47**	**200**		Pb	14 23 02.5	-1.2
HUH					Pn	14 23 09.2	+4.9
HUH	**Hualalai**	**0.47**	**200**	IAML		14 23 13.5	
	comp=E,226nm,0.2s						
HUH				IAML		14 23 13.5	
	comp=N,230nm,0.6s						
HMH	**Humu'ula Sheep**	**0.55**	**162**		Pb	14 23 03.2	-1.7
HMH					Pn	14 23 10.4	+5.0
KHLU	**Kahalu`u**	**0.58**	**202**		Pb	14 23 03.1	-2.1
KHLU					Sb	14 23 10.4	-2.9
KHLU	**Kahalu`u**	**0.58**	**202**	IAML		14 23 10.9	
	comp=E,75nm,0.1s						
KHLU				IAML		14 23 11.0	
	comp=N,125nm,0.1s						
ALEP	**Alea Permanent**	**0.58**	**178**		Pb	14 23 03.9	-1.6
ALEP					Pn	14 23 11.6	+5.7
MLOA	**Mauna Loa Obse**	**0.59**	**172**		Sb	14 23 12.1	-2.0
MLOA	**Mauna Loa Obse**	**0.59**	**172**	Pn	Pb	14 23 04.2	-1.5
MLOA	**Mauna Loa Obse**	**0.59**	**172**	IAML		14 23 12.5	
	comp=N,150nm,0.4s						
MLOA				IAML		14 23 12.8	
	comp=E,126nm,1.3s						
MWH	**Moku'aweowe**	**0.64**	**174**		Pn	14 23 12.8	+5.8
MWH	**Moku'aweowe**	**0.64**	**174**		Pb	14 23 04.3	-2.2
MWH				IAML		14 23 21.1	
	comp=N,155nm,1.2s						
MWH	**Moku'aweowe**	**0.64**	**174**	IAML		14 23 11.0	
	comp=E,278nm,1.4s						
MLH	**Mauna Loa**	**0.68**	**157**		Pb	14 23 04.9	-2.2
MLH					Pn	14 23 13.2

IBDR	**Badra**	**1.46**	**174**	*e*Pn	**Pb**	**14 29 38.0 -0.4**
IBDR				*e*Sn	**Sn**	**14 29 59.0 +1.9**
IBDR				AML	AML	14 30 02.1
	comp=E,219nm,0.6s					
IBDR				AML	AML	14 30 05.8
	comp=N,148nm,0.6s					
IKOM	**Komasi**	**1.51**	**104**	Pg	**Pb**	**14 29 41.1 +1.6**
BHD	**Baghdad**	**1.71**	**222**	*e*Pn	**Pn**	**14 29 41.0 -0.3**
BHD				*e*Sn	**Sb**	**14 30 04.0 -0.6**
RAFI	**Al-Rafai**	**2.85**	**174**	*e*Pn	**Pn**	**14 29 58.0 +1.1**
RAFI				*e*Sn	**Sn**	**14 30 31.5 +0.1**

AEIC ***25*** *14:42:07.6±1.3,63°54N±0°02×150°90W±0°07,h11km±6km, ML3.3,ML3.5/170(NEIC),Error ellipse: s-maj=4.3km s-min=2.2km az=89.0*

NEIC ***25*** *14:42:07.5±1.4,63°54N±0°03×150°90W±0°07,h11km±7km, Error ellipse: s-maj=5.1km s-min=3.7km az=62.0*

ISC 25 14:42:07.4±0.9,63°52N±0°03×150°93W±0°02,h12km±6km, n220,σ0°80/230,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTH	**Kantishna Hill**	**0.03**	**6**	Pg	**Pg**	**14 42 09.3**	**-0.3**
KTH				IAML		14 42 11.2	
	comp=N,25μm,0.7s						
TRF	**Thorofare Moun**	**0.30**	**104**	Pg	**Pg**	**14 42 13.6**	**+0.1**
TRF	**Thorofare Moun**	**0.30**	**104**	P	**Pg**	**14 42 13.8**	**+0.3**
	baz=286						
TRF				S	**Sg**	**14 42 18.1**	**+0.5**
	baz=286						
CAST	**Castle Rocks**	**0.53**	**259**		**Pg**	**14 42 17.2**	**-0.5**
CAST	**Castle Rocks**	**0.53**	**259**	IAML		14 42 24.1	
	comp=N,894nm,0.3s						
CAST				IAML		14 42 24.2	
	comp=E,2μm,0.3s						
CAST	**Castle Rocks**	**0.53**	**259**	P	**Pg**	**14 42 17.2**	**-0.5**
	baz=77						
CAST				S	**Sg**	**14 42 23.9**	**-0.8**
	baz=77						
BPAW	**Bear Paw Mtn.**	**0.58**	**357**		**Pg**	**14 42 18.5**	**-0.2**
BPAW	**Bear Paw Mtn.**	**0.58**	**357**		**Sg**	**14 42 26.2**	**-0.1**
BPAW	**Bear Paw Mtn.**	**0.58**	**357**	P	**Pg**	**14 42 18.9**	**+0.3**
	baz=177						
BPAW				S	**Sg**	**14 42 26.6**	**+0.3**
	baz=177						
CHUM	**Lake Minchumin**	**0.71**	**301**		**Pg**	**14 42 21.1**	**-0.1**
CHUM					**Sg**	**14 42 30.3**	**-0.2**
CHUM	**Lake Minchumin**	**0.71**	**301**	P	**Pg**	**14 42 21.1**	**-0.1**
	baz=119						
CHUM				S	**Sg**	**14 42 30.2**	**-0.2**
	baz=119						
PPLA	**Purkeypile**	**0.85**	**223**	P	**Pg**	**14 42 22.9**	**-0.9**
	baz=41						
MCK	**McKinley**	**0.92**	**76**		**Pg**	**14 42 24.6**	**-0.4**
MCK	**McKinley**	**0.92**	**76**		**Sn**	**14 42 38.4**	**-0.8**
MCK	**McKinley**	**0.92**	**76**	P	**Pg**	**14 42 24.7**	**-0.2**
	baz=258						
MCK				S	**Sn**	**14 42 38.4**	**-0.8**
	baz=258						
BWN	**Browne**	**0.92**	**44**		**Pn**	**14 42 25.8**	**-0.3**
BWN				IAML		14 42 42.1	
	comp=N,2μm,0.8s						
BWN				IAML		14 42 48.5	
	comp=E,1μm,0.8s						
RND	**Reindeer**	**0.94**	**96**	Pg	**Pg**	**14 42 24.7**	**-0.8**
CUT	**Chulitna**	**1.16**	**165**		**Pb**	**14 42 28.9**	**-0.5**
CUT				IAML		14 42 55.6	
	comp=E,1μm,0.4s						
CUT	**Chulitna**	**1.16**	**165**	P	**Pb**	**14 42 29.2**	**-0.2**
	baz=345						
WAT7	**Susitna Watana**	**1.17**	**125**		**Pb**	**14 42 29.1**	**-0.5**
WAT7					**Sb**	**14 42 44.4**	**-0.4**
WAT1	**Susitna Watana**	**1.28**	**122**		**Pn**	**14 42 31.1**	**-0.1**
WAT1					**Sb**	**14 42 47.8**	**-0.1**
WAT1	**Susitna Watana**	**1.28**	**122**	P	**Pn**	**14 42 31.1**	**-0.1**
	baz=304						
WAT1				S	**Sb**	**14 42 47.8**	**-0.1**
	baz=304						
NEA2	**Nenana**	**1.35**	**36**		**Pn**	**14 42 31.1**	**-1.0**
NEA2	**Nenana**	**1.35**	**36**	P	**Pn**	**14 42 31.2**	**-0.8**
	baz=218						
K20K	**Telida**	**1.42**	**265**		**Pn**	**14 42 32.4**	**-0.7**
K20K				IAML		14 42 52.7	
	comp=N,558nm,0.5s						
K20K	**Telida**	**1.42**	**265**	P	**Pn**	**14 42 33.2**	**+0.2**
	baz=82						
MLY	**Manley**	**1.52**	**3**	Pn	**Pn**	**14 42 34.0**	**-0.3**
MLY	**Manley**	**1.52**	**3**	P	**Pn**	**14 42 34.2**	**-0.1**
	baz=183						
J20K	**Nowinta River**	**1.57**	**296**	Pn	**Pn**	**14 42 34.6**	**-0.4**
J20K				IAML		14 42 58.7	
	comp=N,753nm,0.5s						
J20K	**Nowinta River**	**1.57**	**296**	P	**Pn**	**14 42 34.8**	**-0.3**
	baz=113						
J20K				S	**Sb**	**14 42 56.8**	**+0.7**
	baz=113						
WRH	**Wood River Hil**	**1.57**	**52**		**Pn**	**14 42 34.2**	**-0.9**
SKT	**Skwentna**	**1.57**	**190**	Pn	**Pn**	**14 42 35.4**	**+0.3**
SKT				IAML		14 42 58.4	
	comp=N,789nm,0.5s						
SKT	**Skwentna**	**1.57**	**190**	P	**Pn**	**14 42 35.8**	**+0.6**
	baz=9.8						
DHY	**Denali Highway**	**1.67**	**104**		**Pn**	**14 42 37.4**	**+0.8**
DHY				IAML		14 43 02.5	
	comp=N,635nm,0.6s						
DHY				IAML		14 43 03.6	
	comp=E,573nm,0.5s						
DHY	**Denali Highway**	**1.67**	**104**	P	**Pn**	**14 42 37.4**	**+0.8**
	baz=287						
I21K	**Tanana**	**1.72**	**345**		**Pn**	**14 42 37.3**	**+0.1**
I21K	**Tanana**	**1.72**	**345**	P	**Pn**	**14 42 37.4**	**+0.2**
	baz=164						
WAT6	**Susitna Watana**	**1.73**	**122**		**Pn**	**14 42 37.6**	**+0.1**
WAT6	**Susitna Watana**	**1.73**	**122**	P	**Pn**	**14 42 37.6**	**+0.1**
	baz=305						
I23K	**Minto, Yukon-K**	**1.77**	**22**		**Pn**	**14 42 37.4**	**-0.3**
I23K				IAML		14 43 05.8	
	comp=E,508nm,0.5s						
I23K	**Minto, Yukon-K**	**1.77**	**22**	P	**Pn**	**14 42 37.5**	**-0.2**
	baz=204						
CCB	**Clear Creek Bu**	**1.78**	**49**		**Pn**	**14 42 37.1**	**-0.7**
CCB				IAML		14 43 04.3	
	comp=E,372nm,0.5s						
CCB				IAML		14 43 04.5	
	comp=N,370nm,0.4s						
M22K	**Willow**	**1.82**	**168**		**Pn**	**14 42 38.4**	**0.0**
M22K	**Willow**	**1.82**	**168**	P	**Pn**	**14 42 38.7**	**+0.3**
	baz=348						
MDM	**Murphy Dome**	**1.86**	**38**		**Pn**	**14 42 38.3**	**-0.8**
MDM				IAML		14 43 05.8	
	comp=E,370nm,0.6s						
MDM				IAML		14 43 06.2	
	comp=N,438nm,0.5s						
COLA	**College**	**1.91**	**43**		**Pn**	**14 42 39.0**	**-0.7**
COLA	**College**	**1.91**	**43**	P	**Pn**	**14 42 39.2**	**-0.5**
M20K	**Styx River**	**1.94**	**213**		**Pn**	**14 42 40.6**	**+0.4**
M20K				IAML		14 43 08.8	
	comp=E,354nm,0.5s						
M20K				IAML		14 43 12.0	
	comp=N,344nm,0.5s						
HDA	**Harding Lake**	**1.97**	**61**		**Pn**	**14 42 39.8**	**-0.7**
HDA				IAML		14 43 10.6	
	comp=E,306nm,0.4s						
HDA	**Harding Lake**	**1.97**	**61**	P	**Pn**	**14 42 40.1**	**-0.5**
	baz=245						
HDA				P	**Pn**	**14 42 40.1**	**-0.5**
	baz=245						
GHO	**Glory Hole Cre**	**1.99**	**151**	Pn	**Pn**	**14 42 40.8**	**-0.1**
GHO				IAML		14 43 09.4	
	comp=E,502nm,0.5s						
GHO				IAML		14 43 14.8	
	comp=N,412nm,0.7s						
I20K	**Naaghedeneel**	**2.01**	**311**		**Pn**	**14 42 41.4**	**+0.3**
SUA	**Susitna One**	**2.07**	**178**	Pn	**Pn**	**14 42 42.4**	**+0.3**
SUA	**Susitna One**	**2.07**	**178**	P	**Pn**	**14 42 42.8**	**+0.8**
	baz=358						
STLK	**Strandline Lak**	**2.08**	**192**		**Pn**	**14 42 42.8**	**+0.7**
SML	**Sawmill**	**2.10**	**144**	Pn	**Pn**	**14 42 42.5**	**+0.1**
SML				IAML		14 43 16.9	
	comp=E,314nm,1.3s						
SML	**Sawmill**	**2.10**	**144**	P	**Pn**	**14 42 42.6**	**+0.2**
	baz=326						
PMR	**Palmer**	**2.11**	**156**	Pn	**Pn**	**14 42 42.8**	**+0.4**
PMR				IAML		14 43 15.0	
	comp=E,422nm,0.6s						
PMR				IAML		14 43 17.3	
	comp=N,252nm,1.0s						
PMR	**Palmer**	**2.11**	**156**	P	**Pn**	**14 42 43.0**	**+0.5**
PMR	**Palmer**	**2.11**	**156**	P	**Pn**	**14 42 43.3**	**+0.8**
	baz=338						
J19K	**Poorman**	**2.14**	**285**		**Pn**	**14 42 42.5**	**-0.4**
IL31		**2.17**	**53**		**Pn**	**14 42 42.6**	**-0.6**
ILAR	**Eielson Array**	**2.17**	**53**	Pn	**Pn**	**14 42 42.7**	**-0.6**
POKR	**Poker Plat Res**	**2.21**	**42**		**Pn**	**14 42 43.2**	**-0.7**
POKR	**Poker Plat Res**	**2.21**	**42**	P	**Pn**	**14 42 43.5**	**-0.4**
	baz=225						
L19K	**White Mountain**	**2.25**	**235**	P	**Pn**	**14 42 44.1**	**-0.3**
	baz=51						
M23K	**Glacier View**	**2.28**	**138**		**Pn**	**14 42 45.5**	**+0.7**
M23K	**Glacier View**	**2.28**	**138**	P	**Pn**	**14 42 45.0**	**+0.2**
	baz=321						
H21K	**Melozitna Rive**	**2.29**	**340**		**Pn**	**14 42 44.6**	**-0.4**
SPCG	**Spurr Capps Gl**	**2.30**	**193**		**Pn**	**14 42 46.5**	**+1.3**
K24K	**Donnelly Dome**	**2.31**	**81**		**Pn**	**14 42 46.4**	**+1.0**
K24K	**Donnelly Dome**	**2.31**	**81**	P	**Pn**	**14 42 46.4**	**+1.0**
	baz=266						
SPNN	**North Nagishla**	**2.32**	**202**		**Pn**	**14 42 47.0**	**+1.6**
SPCP	**Crater Peak Br**	**2.34**	**195**		**Pn**	**14 42 46.9**	**+1.1**
SPBG	**Spurr Blockage**	**2.37**	**197**		**Pn**	**14 42 48.2**	**+2.0**
SCM	**Sheep Creek Mo**	**2.38**	**134**		**Pn**	**14 42 46.5**	**+0.3**
SCM				IAML		14 43 27.3	
	comp=N,282nm,1.4s						
SCM				IAML		14 43 28.9	
	comp=E,201nm,1.2s						
SCM	**Sheep Creek Mo**	**2.38**	**134**	P	**Pn**	**14 42 47.0**	**+0.8**
	baz=317						
TTA	**Tatalina**	**2.38**	**258**	Pn	**Pn**	**14 42 46.0**	**-0.2**
TTA	**Tatalina**	**2.38**	**258**	P	**Pn**	**14 42 45.7**	**-0.5**
TTA	**Tatalina**	**2.38**	**258**	P	**Pn**	**14 42 46.6**	**+0.4**
	baz=73						
SPCN	**Chakachatna No**	**2.38**	**195**		**Pn**	**14 42 47.8**	**+1.6**
N20K	**Mount Spurr**	**2.41**	**195**	P	**Pn**	**14 42 48.0**	**+1.4**
	baz=14						
SPCR	**Spurr Chakacha**	**2.41**	**195**		**Pn**	**14 42 48.0**	**+1.4**
KNK	**Knik Glacier**	**2.41**	**150**		**Pn**	**14 42 46.8**	**+0.2**
KNK				IAML		14 43 24.7	
	comp=N,318nm,0.6s						
KNK	**Knik Glacier**	**2.41**	**150**	P	**Pn**	**14 42 48.4**	**+1.7**
	baz=333						
RC01	**Rabbit Creek A**	**2.51**	**167**	Pn	**Pn**	**14 42 48.9**	**+1.0**
RC01	**Rabbit Creek A**	**2.51**	**167**	P	**Pn**	**14 42 49.1**	**+1.2**
	baz=348						
PAX	**Paxson**	**2.53**	**100**	P	**Pn**	**14 42 49.4**	**+1.0**
	baz=285						
J18K	**Innoko River**	**2.60**	**271**		**Pn**	**14 42 48.4**	**-0.7**
J18K				IAML		14 43 31.9	
	comp=N,235nm,0.6s						
J18K				IAML		14 43 36.1	
	comp=E,153nm,0.6s						
M24K	**Tolsona, Glenn**	**2.60**	**121**	Pn	**Pn**	**14 42 50.6**	**+1.2**
M24K				IAML		14 43 31.6	
	comp=N,229nm,0.9s						
M24K	**Tolsona, Glenn**	**2.60**	**121**	P	**Pn**	**14 42 50.8**	**+1.4**
	baz=305						
H24K	**Noodor Dome**	**2.67**	**28**		**Pn**	**14 42 49.4**	**-0.7**
J25K	**Salcha River,**	**2.68**	**63**		**Pn**	**14 42 49.9**	**-0.4**
IMAR	**Indian Mountai**	**2.75**	**335**	Pn	**Pn**	**14 42 51.3**	**+0.1**
GCSA	**Galena City Sc**	**2.88**	**298**	P	**Pn**	**14 42 54.3**	**+1.3**
	baz=112						
L18K	**Granite Mounta**	**2.95**	**246**	Pn	**Pn**	**14 42 53.5**	**-0.4**
L18K				IAML		14 43 48.7	
	comp=N,122nm,1.0s						
PRP	**Porcupine Dome**	**3.08**	**47**	Pn	**Pn**	**14 42 55.4**	**-0.5**
PRP				IAML		14 43 47.0	
	comp=N,128nm,0.5s						
PRP				IAML		14 43 49.1	
	comp=E,120nm,0.7s						
PRP	**Porcupine Dome**	**3.08**	**47**	P	**Pn**	**14 42 55.8**	**-0.1**
	baz=292						
KLU	**Klutina**	**3.09**	**129**	P	**Pn**	**14 42 57.4**	**+1.4**
	baz=314						
O22K	**Cooper Landing**	**3.11**	**169**	P	**Pn**	**14 42 57.8**	**+1.7**
	baz=350						
SCRK	**Sand Creek**	**3.12**	**79**	Pn	**Pn**	**14 42 56.6**	**+0.1**
SCRK	**Sand Creek**	**3.12**	**79**	P	**Pn**	**14 42 56.9**	**+0.4**
	baz=265						
H19K	**Roundabout Mou**	**3.12**	**313**		**Pn**	**14 42 56.8**	**+0.5**
N19K	**Bonanza Creek**	**3.19**	**213**	Pn	**Pn**	**14 42 57.6**	**+0.2**
N19K				IAML		14 43 52.4	
	comp=E,110nm,1.1s						
N19K				IAML		14 43 54.7	
	comp=N,107nm,0.7s						
RSO	**Redoubt South**	**3.19**	**196**		**Pn**	**14 42 58.0**	**+0.4**
G21K	**Allakaket**	**3.20**	**341**	Pn	**Pn**	**14 42 57.6**	**+0.2**
G23K	**Bananza Creek**	**3.22**	**6**		**Pn**	**14 42 58.1**	**+0.3**
G23K				IAML		14 43 48.9	
	comp=E,89nm,0.7s						
SVW2	**Sparrevohn**	**3.26**	**224**	Pn	**Pn**	**14 42 58.2**	**-0.2**
SVW2				IAML		14 43 54.9	
	comp=E,134nm,0.7s						
SVW2				IAML		14 44 01.3	
	comp=N,114nm,0.8s						
SVW2	**Sparrevohn**	**3.26**	**224**	P	**Pn**	**14 42 58.5**	**+0.2**
J26L	**Joseph Creek**	**3.39**	**70**		**Pn**	**14 43 00.1**	**0.0**
J26L				IAML		14 44 00.2	
	comp=E,72nm,0.5s						
DIV	**Divide**	**3.40**	**133**		**Pn**	**14 43 01.9**	**+1.6**
K17K	**Iditarod**	**3.45**	**260**		**Pn**	**14 43 00.6**	**-0.2**
K17K				IAML		14 44 07.0	
	comp=N,83nm,1.2s						
K17K				IAML		14 44 07.1	
	comp=E,70nm,1.3s						
L26K	**Log Cabin Wild**	**3.46**	**95**		**Pn**	**14 43 01.7**	**+0.7**
L26K				IAML		14 44 03.8	
	comp=E,137nm,0.5s						
SEW	**Seward**	**3.50**	**168**	P	**Pn**	**14 43 03.6**	**+2.0**
	baz=349						
G24K	**Hadweenzic Riv**	**3.51**	**23**	Pn	**Pn**	**14 43 01.1**	**-0.6**
G24K				IAML		14 44 04.2	
	comp=N,66nm,0.7s						
H18K	**Honhosa River**	**3.62**	**300**		**Pn**	**14 43 03.6**	**+0.3**
H18K				IAML		14 44 04.5	
	comp=N,80nm,0.6s						
H18K				IAML		14 44 12.9	
	comp=E,71nm,0.9s						
N18K	**Kilae Creek**	**3.69**	**221**	Pn	**Pn**	**14 43 04.5**	**+0.3**
N18K				IAML		14 44 04.2	
	comp=E,89nm,0.8s						
N18K				IAML		14 44 07.4	
	comp=N,66nm,0.8s						
M17K	**Holitna River**	**3.70**	**238**	Pn	**Pn**	**14 43 03.6**	**-0.6**
M17K				IAML		14 44 18.0	
	comp=E,111nm,0.8s						
O19K	**Port Alsworth**	**3.71**	**207**	Pn	**Pn**	**14 43 05.2**	**+0.8**
G19K	**Purcell Mounta**	**3.72**	**318**	Pn	**Pn**	**14 43 04.4**	**-0.2**
G19K				IAML		14 44 11.1	
	comp=N,101nm,0.6s						
G19K	**Purcell Mounta**	**3.72**	**318**	P	**Pn**	**14 43 05.1**	**+0.5**
	baz=132						
COLD	**Coldfoot**	**3.73**	**4**		**Pn**	**14 43 04.8**	**+0.1**
COLD	**Coldfoot**	**3.73**	**4**	P	**Pn**	**14 43 05.5**	**+0.8**
	baz=185						
HIN	**Hinchinbrook I**	**3.77**	**144**	Pn	**Pn**	**14 43 05.3**	**0.0**
HIN				IAML		14 44 10.2	
	comp=E,108nm,1.0s						
HIN				IAML		14 44 14.4	
	comp=N,80nm,1.3s						
I26K	**Coal Creek Min**	**3.82**	**59**		**Pn**	**14 43 05.8**	**-0.2**
I26K				IAML		14 44 17.7	
	comp=E,79nm,0.8s						
EYAK	**Cordova Ski Ar**	**3.85**	**138**	P	**Pn**	**14 43 08.7**	**+2.3**
F21K	**Alatna River**	**3.86**	**345**		**Pn**	**14 43 07.3**	**+0.7**
F21K				IAML		14 44 09.2	
	comp=N,75nm,0.5s						
F21K				IAML		14 44 15.2	
	comp=E,99nm,0.6s						
FYU	**Fort Yukon**	**3.89**	**36**	Pn	**Pn**	**14 43 06.5**	**-0.4**
FYU				IAML		14 44 15.6	
	comp=N,86nm,1.0s						
FYU				IAML		14 44 20.7	
	comp=E,79nm,0.8s						
BMRM	**Bremner River**	**3.92**	**128**	P	**Pn**	**14 43 09.1**	**+1.8**
	baz=314						
K27K	**Chicken**	**3.96**	**79**		**Pn**	**14 43 08.0**	**+0.1**
F20K	**Avaraart Lake**	**4.07**	**332**	Pn	**Pn**	**14 43 10.1**	**+0.8**
F20K				IAML		14 44 17.8	
	comp=E,81nm,0.4s						
G18K	**Tagagawik**	**4.08**	**309**	Pn	**Pn**	**14 43 10.2**	**+0.7**
G18K				IAML		14 44 00.3	
	comp=E,49nm,0.7s						
G18K				IAML		14 44 22.3	
	comp=N,55nm,0.9s						
L27K	**Beaver Creek,**	**4.13**	**92**		**Pn**	**14 43 10.8**	**+0.5**
L27K	**Beaver Creek,**	**4.13**	**92**	P	**Pn**	**14 43 11.1**	**+0.8**
	baz=281						
BCAR	**Beaver Creek A**	**4.15**	**92**	Pn	**Pn**	**14 43 11.1**	**+0.5**
H17K	**Granite Mounta**	**4.17**	**294**		**Pn**	**14 43 11.3**	**+0.5**
H17K				IAML		14 44 03.3	
	comp=E,66nm,0.7s						
H17K				IAML		14 44 23.3	
	comp=N,49nm,0.9s						
VRDI	**Verde Repeater**	**4.17**	**120**	Pn	**Pn**	**14 43 11.2**	**+0.2**
F24K	**Squaw Lake**	**4.21**	**16**		**Pn**	**14 43 11.8**	**+0.5**
F24K				IAML		14 44 19.2	
	comp=E,49nm,0.6s						
F24K				IAML		14 44 22.8	
	comp=N,40nm,0.8s						
O18K	**Koktuh Hills**	**4.21**	**211**	Pn	**Pn**	**14 43 11.8**	**+0.5**
O18K				IAML		14 44 22.4	
	comp=N,64nm,0.7s						
O18K				IAML		14 44 28.3	
	comp=E,56nm,0.8s						
N17K	**Nushagak Hills**	**4.21**	**227**	Pn	**Pn**	**14 43 11.6**	**+0.3**
N17K				IAML		14 44 23.7	
	comp=N,62nm,0.6s						
N17K				IAML		14 44 31.8	
	comp=E,63nm,1.0s						
L16K	**Owhat River**	**4.35**	**249**	Pn	**Pn**	**14 43 12.1**	**-1.1**
L16K				IAML		14 44 30.9	
	comp=N,32nm,0.9s						
L16K				IAML		14 44 35.3	
	comp=E,46nm,0.9s						
J16K	**Anvik River**	**4.36**	**271**	Pn	**Pn**	**14 43 12.5**	**-0.8**
J16K				IAML		14 44 24.3	
	comp=E,37nm,0.7s						
J16K				IAML		14 44 29.4	
	comp=N,43nm,1.0s						
I17K	**Unalakleet**	**4.36**	**279**	Pn	**Pn**	**14 43 13.4**	**+0.1**
I17K				IAML		14 44 29.4	
	comp=N,37nm,0.9s						
I17K				IAML		14 44 29.9	
	comp=E,60nm,0.7s						
I17K	**Unalakleet**	**4.36**	**279**	P	**Pn**	**14 43 13.5**	**+0.2**
	baz=90						
F19K	**Shaleruckik Mo**	**4.40**	**322**		**Pn**	**14 43 14.4**	**+0.6**
F19K				IAML		14 44 30.3	
	comp=N,53nm,1.2s						
F19K				IAML		14 44 33.6	
	comp=E,54nm,1.0s						
EGAK	**Eagle**	**4.46**	**69**		**Pn**	**14 43 14.8**	**+0.1**
EGAK				IAML		14 44 34.5	
	comp=E,59nm,0.5s						
M16K	**Timber Creek**	**4.51**	**240**	Pn	**Pn**	**14 43 14.4**	**-1.1**
M16K				IAML		14 44 45.3	
	comp=N,38nm,0.8s						
CRQE	**Cirque**	**4.61**	**124**	P	**Pn**	**14 43 18.3**	**+1.3**
	baz=311						
P18K	**Big Mountain,**	**4.63**	**208**	Pn	**Pn**	**14 43 17.8**	**+0.7**
BERG	**Berg Lake**	**4.64**	**129**	Pn	**Pn**	**14 43 17.5**	**+0.3**
E24K	**Your Creek**	**4.68**	**11**		**Pn**	**14 43 18.6**	**+0.9**
E24K				IAML		14 44 37.6	
	comp=N,34nm,0.9s						
E24K				IAML		14 44 42.8	
	comp=E,45nm,0.8s						
E24K	**Your Creek**	**4.68**	**11**	P	**Pn**	**14 43 18.5**	**+0.7**
	baz=194						
BMAR	**Burnt Mountain**	**4.73**	**31**	Pn	**Pn**	**14 43 17.8**	**-0.6**
E19K	**Redstone River**	**4.74**	**329**	P	**Pn**	**14 43 19.7**	**+1.1**
	baz=143						
KAIM	**Kayak Island**	**4.75**	**136**	Pn	**Pn**	**14 43 19.8**	**+1.0**
Q20K	**Shuyak Island**	**4.98**	**189**	P	**Pn**	**14 43 24.3**	**+2.4**
	baz=7.6						
K15K	**Wolf Creek Mou**	**5.00**	**260**	Pn	**Pn**	**14 43 21.6**	**-0.5**
K15K				IAML		14 44 53.9	
	comp=N,24nm,1.0s						
H16K	**Elim**	**5.09**	**288**	P	**Pn**	**14 43 24.0**	**+0.7**
	baz=98						
G27K	**Doyon Strip**	**5.11**	**46**		**Pn**	**14 43 23.2**	**-0.5**
E25K	**Arctic Village**	**5.11**	**23**	Pn	**Pn**	**14 43 23.5**	**-0.2**
E25K				IAML		14 44 56.6	
	comp=N,22nm,1.1s						
E25K	**Arctic Village**	**5.11**	**23**	P	**Pn**	**14 43 24.2**	**+0.5**
	baz=208						
I28M	**Miner Creek**	**5.13**	**63**	Pn	**Pn**	**14 43 24.4**	**+0.4**
I28M				IAML		14 44 56.1	
	comp=N,24nm,1.4s						
I28M				IAML		14 44 59.0	
	comp=E,28nm,0.6s						
I28M	**Miner Creek**	**5.13**	**63**	P	**Pn**	**14 43 24.8**	**+0.8**
	baz=253						
DAWY	**Dawson**	**5.14**	**79**	Pn	**Pn**	**14 43 24.2**	**0.0**
TOLK	**Toolik Lake Re**	**5.17**	**6**	P	**Pn**	**14 43 26.5**	**+2.0**
	baz=187						
O16K	**Kokwok River B**	**5.22**	**224**	Pn	**Pn**	**14 43 24.8**	**-0.4**
O16K				IAML		14 45 02.9	
	comp=E,30nm,1.3s						
O16K				IAML		14 45 05.9	
	comp=N,22nm,1.3s						
F17K	**Baldwin Pennin**	**5.27**	**308**	Pn	**Pn**	**14 43 26.8**	**+1.0**
F17K				IAML		14 44 57.8	
	comp=N,34nm,1.5s						
F17K	**Baldwin Pennin**	**5.27**	**308**	P	**Pn**	**14 43 27.0**	**+1.3**
	baz=119						
Q18K	**Katmai Hardscr**	**5.28**	**204**	P	**Pn**	**14 43 27.3**	**+1.3**
	baz=20						
G16K	**Koyuk River**	**5.29**	**296**		**Pn**	**14 43 26.5**	**+0.4**
G16K				IAML		14 45 00.9	
	comp=E,18nm,1.0s						
G16K				IAML		14 45 04.7	
	comp=N,28nm,1.3s						
D22K	**Ayikyak River**	**5.43**	**353**	P	**Pn**	**14 43 29.9**	**+1.9**
	baz=172						
D20K	**Etivluk River**	**5.70**	**339**	P	**Pn**	**14 43 33.2**	**+1.5**
	baz=153						
J14K	**Nanvaranak Lak**	**5.78**	**268**	Pn	**Pn**	**14 43 32.3**	**-0.5**
D19K	**Kuna River**	**5.78**	**333**	P	**Pn**	**14 43 34.2**	**+1.3**
	baz=146						
L29M	**L29M**	**5.78**	**88**	Pn	**Pn**	**14 43 32.8**	**-0.2**
M29M	**Somme Creek**	**5.79**	**95**		**Pn**	**14 43 33.1**	**+0.1**
M29M	**Somme Creek**	**5.79**	**95**	P	**Pn**	**14 43 33.6**	**+0.6**
	baz=286						
E17K	**Hotham Inlet**	**5.79**	**313**	P	**Pn**	**14 43 34.1**	**+1.1**
	baz=123						
Q17K	**Contact Creek**	**5.80**	**207**	P	**Pn**	**14 43 35.0**	**+1.7**
	baz=22						
KDAK	**Kodiak Island**	**5.82**	**189**	Pn	**Pn**	**14 43 33.7**	**+0.4**
M14K	**Bethel**	**5.87**	**247**	Pn	**Pn**	**14 43 34.6**	**+0.5**
K29M	**Barlow Dome**	**5.97**	**81**	Pn

F31M	**Tsiigehtchic**	**8.14**	**54**	Pn	**Pn**	**14 44 04.1**	**-1.1**
SKAG	**Skagway**	**8.49**	**112**	P	**Pn**	**14 44 12.3**	**+2.3**
INK	**Inuvik**	**8.56**	**48**	Pn	**Pn**	**14 44 11.1**	**+0.2**
R32K	**Eaglecrest**	**9.55**	**116**	Pn	**Pn**	**14 44 25.4**	**+0.8**
JIS	**Juneau Island**	**9.61**	**116**	Pn	**Pn**	**14 44 25.9**	**+0.6**
JIS	**Juneau Island**	**9.61**	**116**	P	**Pn**	**14 44 26.1**	**+0.8**
SIT	**Sitka**	**10.08**	**123**	Pn	**Pn**	**14 44 32.8**	**+1.1**
SIT	**Sitka**	**10.08**	**123**	P	**Pn**	**14 44 33.4**	**+1.7**
A36M	**Sachs Harbour**	**12.78**	**38**	Pn	**Pn**	**14 45 08.9**	**+0.4**

NEIC ***25*** *14:47:21.2±1.1, 18°.65N±0°.08×145°.4E±0°.2, h186km±7km, mb4.4/178, Error ellipse: s-maj=23.1km s-min=12.0km az=92.0*

IDC ***25*** *14:47:23.4±1.4, 18°.67N×145°.62E, h215km±13km, mb3.6/16, mbtmp4.1/19, Error ellipse: s-maj=18.6km s-min=9.0km az=86.0*

ISC 25 14:47:22.2±0.4, 18°.68N±0°.05×145°.4E±0°.1, h200km, n214, σ0§90/218, mb4.3/105, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.09**	**186**	Pn	**Pn**	**14 48 34.2**	**-3.6**
GUMO	**Guam**	**5.09**	**186**	P	**Pn**	**14 48 38.8**	**+1.0**
	79nm,0.8s,baz=348,slow=14,SNR=10						
GUMO				S	**Sn**	**14 49 39.7**	**+2.2**
	43nm,0.2s,baz=350,slow=22,SNR=6.1						
JCJ	**Chichijima**	**8.88**	**341**	Pn	**Pn**	**14 49 29.9**	**+3.1**
JCJ	**Chichijima**	**8.88**	**341**	P	**Pn**	**14 49 27.8**	**+1.0**
	24nm,0.3s,baz=164,slow=18,SNR=1.1						
JCJ				S	**Sn**	**14 51 02.2**	**-4.2**
	38nm,0.6s,baz=124,slow=23,SNR=1.4						
MJAR	**Matsushiro Arr**	**18.88**	**342**	P	**Pn**	**14 51 29.7**	**-0.8**
	2.2nm,0.8s,baz=165,slow=9.4,SNR=5.7						
JMM	**Marumori**	**19.53**	**349**	P	**Pn**	**14 51 37.0**	**-1.2**
KSRS	**Korea Array**	**24.16**	**324**	P	**P**	**14 52 21.7**	**+1.8**
	1.0nm,0.8s,baz=136,slow=8.1,SNR=2.4						
	1.0nm,0.8s						
FAKI	**Fak Fak**	**25.07**	**212**	P	**P**	**14 52 28.2**	**-0.3**
JKA	**Kamikawa-asahi**	**25.46**	**355**	P	**P**	**14 52 33.9**	**+2.2**
MTN	**Manton Dam**	**34.34**	**205**	P	**P**	**14 53 50.3**	**+0.3**
PETK	**Petropavlovsk-**	**35.67**	**13**	P	**P**	**14 54 01.6**	**+0.5**
KNRA	**Kununurra**	**37.87**	**207**	P	**P**	**14 54 19.9**	**0.0**
CTAO	**Charters Tower**	**38.54**	**179**	P	**P**	**14 54 25.8**	**+0.2**
WB0	**Warramunga Arr**	**39.71**	**196**		**P**	**14 54 35.9**	**+0.7**
WB0				IAmb	IAmb	14 54 37.2	
	comp=Z,6.2nm,0.6s						
WR0	**Warramunga Arr**	**39.85**	**196**	P	**P**	**14 54 37.2**	**+0.7**
WRAB	**Tennant Creek**	**39.88**	**196**	P	**P**	**14 54 37.5**	**+0.8**
WB2	**Warramunga Arr**	**39.88**	**196**	P	**P**	**14 54 37.6**	**+0.9**
WB2				IAmb	IAmb	14 54 38.2	
	comp=Z,9.1nm,1.1s						
WRA	**Warramunga Arr**	**39.89**	**196**	P	**P**	**14 54 35.7**	**-1.1**
WRA	**Warramunga Arr**	**39.89**	**196**	P	**P**	**14 54 37.4**	**+0.6**
	comp=Z,2.3nm,0.3s,baz=18,slow=8.7,SNR=66						
WRA				PcP	**PcP**	**14 56 38.6**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=19,slow=3.8,SNR=1.6						
WRA				ScP	**ScP**	**15 00 04.9**	**-3.5**
	comp=Z,0.6nm,0.8s,baz=9.0,slow=3.8,SNR=3.7						
	comp=Z,2.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**41.39**	**209**	P	**P**	**14 54 50.3**	**+1.3**
SONM	**Songino Array**	**42.97**	**322**	P	**P**	**14 55 02.3**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=126,slow=7.3,SNR=3.0						
	comp=Z,0.3nm,0.5s						
AS31	**Alice Springs**	**43.56**	**195**	P	**P**	**14 55 06.6**	**+0.1**
ASAR	**Alice Springs**	**43.56**	**195**	P	**P**	**14 55 06.8**	**+0.3**
ASAR	**Alice Springs**	**43.56**	**195**	P	**P**	**14 55 07.0**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=14,slow=6.7,SNR=26						
ASAR				ScP	**ScP**	**15 00 19.5**	**-3.5**
	comp=Z,0.6nm,0.8s,baz=21,slow=4.9,SNR=5.5						
	comp=Z,0.5nm,0.4s						
OUENC	**Ouen Island, N**	**45.92**	**152**	P	**P**	**14 55 25.7**	**+0.6**
OUENC				IAmb	IAmb	14 55 32.9	
	comp=Z,13nm,1.1s						
ATKA	**Atka Island**	**45.96**	**34**	P	**P**	**14 55 25.1**	**+0.1**
CLES	**Cleveland East**	**48.56**	**35**	P	**P**	**14 55 45.3**	**+0.2**
ARMA	**Armidale**	**49.19**	**173**	P	**P**	**14 55 50.0**	**-0.2**
ARMA				IAmb	IAmb	14 56 05.7	
	comp=Z,18nm,1.4s						
STKA	**Stephens Creek**	**50.40**	**184**	P	**P**	**14 55 58.9**	**-0.3**
STKA	**Stephens Creek**	**50.40**	**184**	P	**P**	**14 55 59.0**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=2.4,slow=8.1,SNR=4.2						
	comp=Z,0.5nm,0.4s						
AKUT	**Akutan**	**51.35**	**35**	P	**P**	**14 56 05.8**	**-0.2**
BBOO	**Buckleboo**	**51.98**	**190**	P	**P**	**14 56 10.0**	**-0.9**
SDPT	**Sand Point**	**54.65**	**35**	P	**P**	**14 56 30.0**	**-0.1**
O14K	**Tigyukauivet M**	**55.67**	**30**	P	**P**	**14 56 37.9**	**+0.6**
L14K	**Kuka Creek**	**55.89**	**27**	P	**P**	**14 56 39.6**	**+0.8**
L14K				IAmb	IAmb	14 57 15.6	
	comp=Z,12nm,1.2s						
M14K	**Bethel**	**55.96**	**28**	P	**P**	**14 56 40.4**	**+1.0**
CHGN	**Chignik**	**56.06**	**34**	P	**P**	**14 56 40.0**	**-0.1**
J14K	**Nanvaranak Lak**	**56.15**	**26**	P	**P**	**14 56 41.4**	**+0.7**
J14K				IAmb	IAmb	14 56 44.4	
	comp=Z,16nm,1.4s						
ANM	**Nome**	**56.32**	**23**	P	**P**	**14 56 42.9**	**+1.0**
N15K	**Kwethluk River**	**56.57**	**29**	P	**P**	**14 56 44.6**	**+0.9**
K15K	**Wolf Creek Mou**	**56.79**	**27**	P	**P**	**14 56 46.0**	**+0.7**
F15K	**North Star Dit**	**57.17**	**22**	P	**P**	**14 56 48.4**	**+0.6**
F15K				IAmb	IAmb	14 57 19.6	
	comp=Z,6.0nm,1.0s						
O16K	**Kokwok River B**	**57.30**	**30**	P	**P**	**14 56 49.4**	**+0.5**
O16K				IAmb	IAmb	14 56 58.4	
	comp=Z,12nm,1.2s						
M16K	**Timber Creek**	**57.41**	**28**	P	**P**	**14 56 50.0**	**+0.4**
M16K				IAmb	IAmb	14 56 50.9	
	comp=Z,8.8nm,1.0s						
L16K	**Owhat River**	**57.44**	**28**	P	**P**	**14 56 47.9**	**-1.9**
L16K				IAmb	IAmb	14 56 57.0	
	comp=Z,17nm,1.4s						
R17K	**Ugashik Creek**	**57.52**	**33**	P	**P**	**14 56 48.9**	**-1.5**
J16K	**Anvik River**	**57.60**	**26**	P	**P**	**14 56 52.0**	**+1.1**
J16K				IAmb	IAmb	14 57 09.2	
	comp=Z,16nm,1.4s						
I17K	**Unalakleet**	**57.82**	**25**	P	**P**	**14 56 53.4**	**+1.0**
I17K				IAmb	IAmb	14 56 53.8	
	comp=Z,9.3nm,1.1s						
ZALV	**Zalesovo Beam**	**57.85**	**323**	P	**P**	**14 56 53.6**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=109,slow=8.0,SNR=6.4						
	comp=Z,1.4nm,0.6s						
N17K	**Nushagak Hills**	**58.05**	**29**	P	**P**	**14 56 55.0**	**+1.0**
M17K	**Holitna River**	**58.24**	**28**	P	**P**	**14 56 56.3**	**+0.9**
MKAR	**Makanchi Array**	**58.26**	**314**	P	**P**	**14 56 57.1**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=89,slow=7.1,SNR=7.4						
	comp=Z,0.5nm,0.5s						
C16K	**Lisburne Hills**	**58.27**	**19**	P	**P**	**14 56 56.0**	**+0.6**
C16K				IAmb	IAmb	14 57 22.5	
	comp=Z,14nm,1.5s						
K17K	**Iditarod**	**58.34**	**27**	P	**P**	**14 56 57.1**	**+1.1**
K17K				IAmb	IAmb	14 56 57.5	
	comp=Z,7.7nm,0.9s						
SII	**Sitkinak Islan**	**58.38**	**34**	P	**P**	**14 56 57.2**	**+0.7**
H17K	**Granite Mounta**	**58.57**	**24**	P	**P**	**14 56 57.8**	**+0.2**
H17K				IAmb	IAmb	14 56 59.3	
	comp=Z,5.0nm,0.9s						
N18K	**Kilae Creek**	**58.70**	**29**	P	**P**	**14 56 59.4**	**+0.8**
F17K	**Baldwin Pennin**	**58.74**	**22**	P	**P**	**14 56 59.2**	**+0.6**
F17K				IAmb	IAmb	14 57 00.3	
	comp=Z,5.2nm,0.8s						
O18K	**Koktuh Hills**	**58.77**	**31**	P	**P**	**14 56 59.8**	**+0.7**
L18K	**Granite Mounta**	**58.86**	**28**	P	**P**	**14 56 59.3**	**-0.3**
L18K				IAmb	IAmb	14 57 11.0	
	comp=Z,15nm,1.5s						
SVW2	**Sparrevohn**	**58.98**	**29**	P	**P**	**14 57 01.1**	**+0.6**
SVW2				IAmb	IAmb	14 57 22.6	
	comp=Z,12nm,1.3s						
OHAK	**Old Harbor**	**59.03**	**34**	P	**P**	**14 57 01.8**	**+1.0**
H18K	**Honhosa River**	**59.26**	**24**	P	**P**	**14 57 02.5**	**+0.1**
H18K				IAmb	IAmb	14 57 30.1	
	comp=Z,10nm,1.4s						
Q19K	**Cape Douglas,**	**59.28**	**32**	P	**P**	**14 57 03.7**	**+1.1**
O19K	**Port Alsworth**	**59.30**	**30**	P	**P**	**14 57 03.5**	**+0.8**
TTA	**Tatalina**	**59.40**	**27**	P	**P**	**14 57 03.8**	**+0.4**
N19K	**Bonanza Creek**	**59.40**	**30**	P	**P**	**14 57 04.3**	**+0.8**
N19K				IAmb	IAmb	14 57 05.1	
	comp=Z,5.9nm,0.9s						
E18K	**Tukpahlearik C**	**59.41**	**21**	P	**P**	**14 57 04.0**	**+0.7**
G18K	**Tagagawik**	**59.45**	**23**	P	**P**	**14 57 03.9**	**+0.2**
G18K				IAmb	IAmb	14 57 12.2	
	comp=Z,5.9nm,1.4s						
KDAK	**Kodiak Island**	**59.53**	**33**	P	**P**	**14 57 04.3**	**+0.1**
L19K	**White Mountain**	**59.66**	**28**	P	**P**	**14 57 05.5**	**+0.4**
L19K				IAmb	IAmb	14 57 33.9	
	comp=Z,8.5nm,1.4s						
C18K	**Utukok River**	**59.79**	**20**	P	**P**	**14 57 06.1**	**+0.2**
J19K	**Poorman**	**59.93**	**26**	P	**P**	**14 57 07.3**	**+0.4**
G19K	**Purcell Mounta**	**60.14**	**23**	P	**P**	**14 57 09.0**	**+0.7**
H19K	**Roundabout Mou**	**60.15**	**24**	P	**P**	**14 57 09.0**	**+0.7**
H19K				IAmb	IAmb	14 57 30.6	
	comp=Z,9.2nm,1.4s						
M20K	**Styx River**	**60.34**	**29**	P	**P**	**14 57 10.6**	**+0.8**
M20K				IAmb	IAmb	14 57 45.3	
	comp=Z,12nm,1.4s						
K20K	**Telida**	**60.37**	**27**	P	**P**	**14 57 10.8**	**+0.9**
K20K				IAmb	IAmb	14 57 11.6	
	comp=Z,6.5nm,1.0s						
C19K	**Lookout Ridge**	**60.52**	**20**	P	**P**	**14 57 11.9**	**+1.0**
C19K				IAmb	IAmb	14 57 12.6	
	comp=Z,5.7nm,0.7s						
J20K	**Nowinta River**	**60.60**	**26**	P	**P**	**14 57 12.5**	**+1.0**
J20K				IAmb	IAmb	14 57 12.9	
	comp=Z,3.0nm,0.6s						
E19K	**Redstone River**	**60.60**	**22**	P	**P**	**14 57 12.5**	**+1.1**
E19K				IAmb	IAmb	14 57 14.2	
	comp=Z,4.8nm,1.1s						
CNPM	**China Poot**	**60.63**	**32**	P	**P**	**14 57 11.2**	**-0.6**
D19K	**Kuna River**	**60.73**	**21**	P	**P**	**14 57 12.6**	**+0.3**
BRLK	**Bradley Lake**	**60.85**	**31**	P	**P**	**14 57 12.4**	**-0.9**
F20K	**Avaraart Lake**	**60.98**	**23**	P	**P**	**14 57 14.4**	**+0.5**
F20K				IAmb	IAmb	14 57 15.2	
	comp=Z,5.4nm,1.1s						
SKT	**Skwentna**	**61.09**	**29**	P	**P**	**14 57 14.3**	**-0.6**
SKT				IAmb	IAmb	14 57 19.1	
	comp=Z,12nm,1.3s						
KURBB	**Kurchatov Arra**	**61.14**	**318**	P	**P**	**14 57 15.6**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=93,slow=7.2,SNR=10.0						
	comp=Z,1.1nm,0.5s						
CAST	**Castle Rocks**	**61.24**	**27**	P	**P**	**14 57 16.1**	**+0.3**
CAST				IAmb	IAmb	14 57 16.7	
	comp=Z,6.3nm,0.6s						
IMAR	**Indian Mountai**	**61.35**	**24**	P	**P**	**14 57 16.6**	**+0.1**
H21K	**Melozitna Rive**	**61.61**	**25**	P	**P**	**14 57 18.9**	**+0.6**
H21K				IAmb	IAmb	14 57 20.2	
	comp=Z,5.8nm,1.3s						
B20K	**Meade River**	**61.68**	**19**	P	**P**	**14 57 19.1**	**+0.6**
B20K				IAmb	IAmb	14 57 20.2	
	comp=Z,7.1nm,0.7s						
RC01	**Rabbit Creek A**	**61.71**	**30**	P	**P**	**14 57 18.6**	**-0.3**
KTH	**Kantishna Hill**	**61.78**	**27**	P	**P**	**14 57 19.7**	**+0.3**
F21K	**Alatna River**	**61.87**	**23**	P	**P**	**14 57 20.1**	**+0.2**
BPAW	**Bear Paw Mtn.**	**61.90**	**26**	P	**P**	**14 57 20.3**	**+0.1**
BPAW				IAmb	IAmb	14 57 21.2	
	comp=Z,4.9nm,0.6s						
TRF	**Thorofare Moun**	**62.03**	**27**	P	**P**	**14 57 20.7**	**-0.5**
PMR	**Palmer**	**62.11**	**29**	P	**P**	**14 57 20.9**	**-0.6**
GHO	**Glory Hole Cre**	**62.24**	**29**	P	**P**	**14 57 22.2**	**-0.4**
MLY	**Manley**	**62.26**	**26**	P	**P**	**14 57 22.6**	**0.0**
MLY				IAmb	IAmb	14 57 23.7	
	comp=Z,4.1nm,0.6s						
KNK	**Knik Glacier**	**62.38**	**30**	P	**P**	**14 57 23.2**	**-0.3**
SML	**Sawmill**	**62.53**	**29**	P	**P**	**14 57 24.2**	**-0.2**
RND	**Reindeer**	**62.64**	**28**	P	**P**	**14 57 24.5**	**-0.7**
RND				IAmb	IAmb	14 57 26.2	
	comp=Z,6.3nm,1.1s						
D22K	**Ayikyak River**	**62.71**	**21**	P	**P**	**14 57 26.3**	**+0.8**
D22K				IAmb	IAmb	14 57 27.6	
	comp=Z,5.6nm,0.8s						
E22K	**Anaktuvuk Pass**	**62.77**	**22**	P	**P**	**14 57 26.5**	**+0.6**
E22K				IAmb	IAmb	14 57 27.5	
	comp=Z,4.5nm,0.8s						
I23K	**Minto, Yukon-K**	**62.85**	**26**	P	**P**	**14 57 26.7**	**+0.3**
SCM	**Sheep Creek Mo**	**63.00**	**29**	P	**P**	**14 57 27.7**	**+0.1**
G23K	**Bananza Creek**	**63.00**	**24**	P	**P**	**14 57 28.4**	**+0.9**
G23K				IAmb	IAmb	14 57 36.3	
	comp=Z,5.6nm,1.3s						
FID	**Port Fidalgo**	**63.20**	**31**	P	**P**	**14 57 28.9**	**0.0**
DHY	**Denali Highway**	**63.22**	**28**	P	**P**	**14 57 29.5**	**+0.4**
DHY				IAmb	IAmb	14 58 09.5	
	comp=Z,5.5nm,1.2s						
KLU	**Klutina**	**63.60**	**30**	P	**P**	**14 57 31.8**	**+0.3**
KLU				IAmb	IAmb	14 57 41.5	
	comp=Z,9.7nm,1.1s						
H24K	**Noodor Dome**	**63.62**	**25**	P	**P**	**14 57 31.8**	**+0.3**
H24K				IAmb	IAmb	14 57 32.7	
	comp=Z,2.4nm,0.6s						
TOLK	**Toolik Lake Re**	**63.71**	**22**	P	**P**	**14 57 32.7**	**+0.6**
TOLK				IAmb	IAmb	14 57 33.7	
	comp=Z,3.8nm,0.7s						
C23K	**Itkillik River**	**63.72**	**20**	P	**P**	**14 57 32.7**	**+0.6**
C23K				IAmb	IAmb	14 57 33.7	
	comp=Z,6.7nm,0.8s						
IL31		**63.79**	**26**	P	**P**	**14 57 31.2**	**-1.4**
IL31				IAmb	IAmb	14 57 32.5	
	comp=Z,11nm,1.4s						
ILAR	**Eielson Array**	**63.79**	**26**	P	**P**	**14 57 31.0**	**-1.6**
ILAR	**Eielson Array**	**63.79**	**26**	P	**P**	**14 57 31.1**	**-1.5**
	comp=Z,2.1nm,0.7s,baz=248,slow=6.4,SNR=44						
	comp=Z,2.1nm,0.7s						
E24K	**Your Creek**	**63.95**	**22**	P	**P**	**14 57 34.2**	**+0.5**
E24K				IAmb	IAmb	14 57 35.2	
	comp=Z,3.1nm,0.7s						
F24K	**Squaw Lake**	**64.02**	**23**	P	**P**	**14 57 34.7**	**+0.5**
F24K				IAmb	IAmb	14 57 36.0	
	comp=Z,4.7nm,1.1s						
N25K	**Chitina, Valde**	**64.24**	**30**	P	**P**	**14 57 35.9**	**+0.2**
N25K				IAmb	IAmb	14 57 36.6	
	comp=Z,3.4nm,0.7s						
J25K	**Salcha River,**	**64.39**	**27**	P	**P**	**14 57 35.5**	**-1.2**
PRP	**Porcupine Dome**	**64.50**	**26**	P	**P**	**14 57 37.0**	**-0.5**
GLB	**Gilahina Butte**	**64.59**	**30**	P	**P**	**14 57 38.3**	**+0.4**
GLB				IAmb	IAmb	14 57 44.7	
	comp=Z,14nm,1.4s						
VRDI	**Verde Repeater**	**64.73**	**30**	P	**P**	**14 57 38.7**	**-0.3**
VRDI				IAmb	IAmb	14 57 40.3	
	comp=Z,7.6nm,1.0s						
CRQM	**Cirque**	**64.83**	**31**	P	**P**	**14 57 39.7**	**0.0**
SCRK	**Sand Creek**	**64.88**	**27**	P	**P**	**14 57 39.4**	**-0.4**
TGL	**Tana Glacier**	**64.98**	**31**	P	**P**	**14 57 40.3**	**-0.3**
D25K	**Kavik River**	**65.01**	**21**	P	**P**	**14 57 41.0**	**+0.5**
D25K				IAmb	IAmb	14 57 41.6	
	comp=Z,4.6nm,0.8s						
J26L	**Joseph Creek**	**65.14**	**27**	P	**P**	**14 57 41.0**	**-0.5**
J26L				IAmb	IAmb	14 57 41.5	
	comp=Z,3.4nm,0.7s						
BMAR	**Burnt Mountain**	**65.25**	**24**	P	**P**	**14 57 43.0**	**+1.0**
I26K	**Coal Creek Min**	**65.44**	**26**	P	**P**	**14 57 42.0**	**-1.2**
I26K				IAmb	IAmb	14 57 56.0	
	comp=Z,6.0nm,1.3s						
GRNC	**Granite Creek**	**65.50**	**31**	P	**P**	**14 57 44.3**	**+0.3**
M27K	**Edge Creek, AK**	**65.61**	**29**	P	**P**	**14 57 44.7**	**+0.1**
M27K				IAmb	IAmb	14 58 09.4	
	comp=Z,9.2nm,1.4s						
BFZ	**Birch Farm**	**65.66**	**155**	P	**P**	**14 57 46.9**	**+1.9**
L27K	**Beaver Creek,**	**65.71**	**29**	P	**P**	**14 57 45.1**	**-0.1**
L27K				IAmb	IAmb	14 57 49.3	
	comp=Z,6.1nm,1.5s						
CTGM	**Chitina Glacie**	**65.73**	**31**	P	**P**	**14 57 45.6**	**+0.2**
CTGM				IAmb	IAmb	14 58 10.4	
	comp=Z,8.2nm,1.2s						
BCAR	**Beaver Creek A**	**65.73**	**29**	P	**P**	**14 57 45.2**	**-0.1**
BVAR	**Borovoye Array**	**66.30**	**320**	P	**P**	**14 57 49.6**	**+0.6**
	comp=Z,2.0nm,0.5s,baz=92,slow=7.5,SNR=14						
	comp=Z,2.0nm,0.5s						
RPZ	**Rata Peaks**	**66.40**	**160**	P	**P**	**14 57 47.9**	**-1.7**
	comp=Z,6.8nm,0.8s,baz=315,slow=11,SNR=1.7						
	comp=Z,6.8nm,0.8s						
E27K	**Coleen River**	**66.49**	**23**	P	**P**	**14 57 50.3**	**+0.3**
E27K				IAmb	IAmb	14 58 07.2	
	comp=Z,6.7nm,1.4s						
I28M	**Miner Creek**	**66.80**	**26**	P	**P**	**14 57 51.9**	**-0.1**
F28M	**Old Crow**	**67.06**	**24**	P	**P**	**14 57 53.8**	**+0.2**
M29M	**Somme Creek**	**67.20**	**29**	P	**P**	**14 57 55.4**	**+0.7**
M29M				IAmb	IAmb	14 57 56.2	
	comp=Z,3.5nm,0.8s						
E28M	**Babbage River**	**67.31**	**23**	P	**P**	**14 57 55.6**	**+0.6**
E28M				IAmb	IAmb	14 57 56.8	
	comp=Z,7.3nm,1.4s						
L29M	**L29M**	**67.39**	**29**	P	**P**	**14 57 56.5**	**+0.8**
L29M				IAmb	IAmb	14 57 57.6	
	comp=Z,5.7nm,0.8s						
P29M	**Windy Craggy**	**67.44**	**32**	P	**P**	**14 57 56.8**	**+0.7**
P29M				IAmb	IAmb	14 58 37.4	
	comp=Z,16nm,1.4s						
I29M	**Ogilvie Camp,**	**67.47**	**26**	P	**P**	**14 57 56.4**	**+0.2**
H29M	**Whitestone**	**67.51**	**25**	P	**P**	**14 57 56.6**	**+0.2**
HYT	**Haines Junctio**	**67.59**	**31**	P	**P**	**14 57 58.3**	**+1.2**
HYT				IAmb	IAmb	14 57 58.9	
	comp=Z,4.3nm,0.7s						
G29M	**Pine Creek**	**67.71**	**24**	P	**P**	**14 57 58.2**	**+0.6**
K29M	**Barlow Dome**	**67.71**	**28**	P	**P**	**14 57 58.3**	**+0.5**
K29M				IAmb	IAmb	14 57 59.2	
	comp=Z,3.0nm,0.7s						
N30M	**Aishikik Lake**	**67.81**	**30**	P	**P**	**14 57 59.1**	**+0.7**
N30M				IAmb	IAmb	14 57 59.6	
	comp=Z,3.4nm,0.7s						
E29M	**Blow River**	**67.88**	**23**	P	**P**	**14 57 58.5**	**-0.1**
M30M	**Minto, Yukon**	**67.98**	**29**	P	**P**	**14 57 58.9**	**-0.6**
EPYK	**Eagle Plains**	**68.19**	**25**	P	**P**	**14 58 00.6**	**0.0**
EPYK				IAmb	IAmb	14 58 01.4	
	comp=Z,3.7nm,0.8s						
J30M	**Hart River**	**68.26**	**27**	P	**P**	**14 58 01.4**	**+0.1**
SKAG	**Skagway**	**68.67**	**33**	P	**P**	**14 58 03.9**	**+0.2**
SKAG				IAmb	IAmb	14 58 30.4	
	comp=Z,15nm,1.5s						
WHY	**Whitehorse**	**68.88**	**31**	P	**P**	**14 58 06.0**	**+0.9**
WHY				IAmb	IAmb	14 58 35.5	
	comp=Z,8.1nm,1.4s						
M31M	**Drury Creek, Y**	**69.10**	**30**	P	**P**	**14 58 06.6**	**+0.2**
JIS	**Juneau Island**	**69.18**	**34**	P	**P**	**14 58 07.5**	**+0.6**
G31M	**Satah River**	**69.19**	**25**	P	**P**	**14 58 06.7**	**-0.1**
G31M				IAmb	IAmb	14 58 07.1	
	comp=Z,5.4nm,0.7s						
P32M	**Atlin**	**69.48**	**32**	P	**P**	**14 58 09.2**	**+0.4**
P32M				IAmb	IAmb	14 58 29.6	
	comp=Z,15nm,1.5s						
INK	**Inuvik**	**69.50**	**23**	P	**P**	**14 58 08.1**	**-0.5**
INK				IAmb	IAmb	14 58 09.1	
	comp=Z,3.7nm,0.8s						
FARO	**Faro, Yukon**	**69.59**	**30**	P	**P**	**14 58 09.2**	**-0.1**
P33M	**Teslin, Yukon**	**69.91**	**32**	P	**P**	**14 58 11.2**	**-0.2**
P33M				IAmb	IAmb	14 58 15.3	
	comp=Z,7.1nm,1.1s						
Q32M	**Nakina River**	**70.26**	**33**	P	**P**	**14 58 14.3**	**+0.6**
Q32M				IAmb	IAmb	14 58 20.2	
	comp=Z,7.2nm,1.3s						
R33M	**Jennings River**	**70.89**	**33**	P	**P**	**14 58 18.1**	**+0.6**
R33M				IAmb	IAmb	14 58 40.2	
	comp=Z,7.1nm,1.4s						
S34M	**Telegraph Cree**	**70.93**	**34**	P	**P**	**14 58 18.4**	**+0.9**
S34M				IAmb	IAmb	14 58 26.8	
	comp=Z,12nm,1.3s						
DLBC	**Dease Lake**	**71.46**	**34**	P	**P**	**14 58 21.0**	**+0.2**
DLBC				IAmb	IAmb	14 58 36.0	
	comp=Z,5.7nm,1.1s						
T35M	**Bob Quinn**	**71.49**	**35**	P	**P**	**14 58 21.0**	**0.0**
T35M				IAmb	IAmb	14 58 29.8	
	comp=Z,15nm,1.4s						
A36M	**Sachs Harbour**	**72.19**	**19**	P	**P**	**14 58 24.4**	**-0.3**
A36M				IAmb	IAmb	14 58 25.7	
	comp=Z,4.4nm,0.9s						
C36M	**Paulatuk**	**72.87**	**22**	P	**P**	**14 58 28.0**	**-0.8**
C36M				IAmb	IAmb	14 58 28.7	
	comp=Z,4.0nm,0.6s						
ABKAR	**Akbulak array**	**73.15**	**317**	P	**P**	**14 58 30.9**	**0.0**
NLWA	**Neilton Lookou**	**76.98**	**44**	P	**P**	**14 58 53.4**	**+0.5**
YKA	**Yellowknife Ar**	**78.14**	**28**	P	**P**	**14 58 58.0**	**-0.9**
YKA	**Yellowknife Ar**	**78.14**	**28**	P	**P**	**14 58 58.4**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=290,slow=5.6,SNR=22						
	comp=Z,1.6nm,0.7s						
LTY	**Liberty**	**79.12**	**44**	P	**P**	**14 59 04.3**	**-0.4**
L04D	**Klamath Falls**	**79.35**	**49**	P	**P**	**14 59 05.9**	**-0.2**
L04D				IAmb	IAmb	14 59 08.8	
	comp=Z,17nm,1.3s						
J05D	**Fort Rock, OR**	**79.82**	**48**	P	**P**	**14 59 08.3**	**-0.3**
J05D				IAmb	IAmb	14 59 09.8	
	comp=Z,4.8nm,0.8s						
PINE	**Pine Mountain**	**79.88**	**47**	P	**P**	**14 59 09.5**	**+0.5**
PINE				IAmb	IAmb	14 59 11.3	
	comp=Z,7.9nm,1.0s						
HAWA	**Hanford**	**80.11**	**44**	P	**P**	**14 59 10.1**	**+0.2**
HAWA				IAmb	IAmb	14 59 19.0	
	comp=Z,9.4nm,1.4s						
K05A	**Summer Lake**	**80.21**	**48**	P	**P**	**14 59 11.1**	**+0.3**
NEW	**Newport**	**81.12**	**42**	P	**P**

BLY	**Banja Luka**	**1.06**	**345**	*e*Pg	**Pb**	**14 57 58.8**	**-0.7**
BLY				*e*Sg	**Sn**	**14 58 15.1**	**-0.5**
BLY	**Banja Luka**	**1.06**	**345**	*i*Pg	**Pg**	**14 57 58.6**	**-0.2**
BLY				*e*Sg	**Sb**	**14 58 12.8**	**-1.0**
LSTV	**Lastovo**	**1.07**	**207**	*e*Pg	**Pg**	**14 57 57.2**	**-1.6**
HAPS	**Han Pijesak,Bl**	**1.07**	**70**	*e*Pg	**Pb**	**14 57 59.3**	**-0.3**
HAPS				*e*Sg	**Sg**	**14 58 13.0**	**+0.2**
HAPS	**Han Pijesak,Bl**	**1.07**	**70**	*i*Pg	**Pg**	**14 57 58.7**	**-0.2**
HAPS				*e*Sg	**Sb**	**14 58 13.5**	**-0.6**
BRY	**Bratogost**	**1.09**	**139**	*e*Pg	**Pg**	**14 57 59.2**	**0.0**
BRY				*e*Sg	**Sb**	**14 58 14.6**	**0.0**
DBRK	**Dubrovnik**	**1.14**	**158**	*e*Pg	**Pg**	**14 57 59.6**	**-0.6**
DBRK				Sg	**Sn**	**14 58 18.2**	**+0.9**
TREB	**Trebinje**	**1.16**	**150**	*e*Pg	**Pg**	**14 58 00.1**	**-0.5**
TREB				*e*Sg	**Sn**	**14 58 17.5**	**-0.3**
TREB	**Trebinje**	**1.16**	**150**	*e*Pg	**Pg**	**14 58 00.7**	**+0.1**
TREB				*e*Sg	**Sb**	**14 58 16.9**	**+0.4**
RUDO	**Rudo**	**1.32**	**94**	*e*Pg	**Pn**	**14 58 02.1**	**-1.6**
RUDO				*e*Sg	**Sn**	**14 58 22.2**	**+0.4**
RUDO	**Rudo**	**1.32**	**94**	*e*Pg	**Pn**	**14 58 02.4**	**-1.3**
RUDO				*e*Sg	**Sn**	**14 58 21.9**	**+0.1**
BBLS	**Lazići**	**1.34**	**83**	*e*Pg	**Pn**	**14 58 03.9**	**-0.3**
BBLS				*e*Sg	**Sn**	**14 58 24.3**	**+1.7**
BBLS	**Lazići**	**1.34**	**83**	*i*Pg	**Pn**	**14 58 03.8**	**-0.4**
BBLS				*e*Sg	**Sn**	**14 58 22.6**	**0.0**
MORI	**Morici**	**1.35**	**277**	*e*Pg	**Pn**	**14 58 03.7**	**-0.5**
MORI				Sg	**Sn**	**14 58 23.8**	**+1.2**
A051A	**Mrakovica**	**1.38**	**340**	*i*Pg	**Pn**	**14 58 04.0**	**-0.6**
A051A				*e*Sg	**Sn**	**14 58 22.9**	**-0.4**
ZIRJ	**Zirje**	**1.39**	**268**	*i* Pg	**Pn**	**14 58 03.9**	**-0.8**
ZIRJ				Sg	**Sn**	**14 58 24.6**	**+1.0**
HCY	**Herceg Novi**	**1.44**	**151**	*e*Pg	**Pn**	**14 58 05.4**	**-0.1**
HCY				*e*Sg	**Sg**	**14 58 25.7**	**+0.9**
UDBI	**Udbina**	**1.52**	**303**	*i* Pn	**Sg**	**14 58 06.4**	**-0.3**
UDBI				Sg	**Sg**	**14 58 29.9**	**+2.5**
TEKS	**Tekeris**	**1.64**	**59**	*e*Pg	**Pb**	**14 58 09.0**	**-0.3**
TEKS				*e*Sg	**Sg**	**14 58 32.0**	**+0.9**
TEKS	**Tekeris**	**1.64**	**59**	*e*Pn	**Pb**	**14 58 09.0**	**-0.3**
TEKS				*e*Sn	**Sg**	**14 58 30.7**	**-0.4**
A251A	**Rujevac**	**1.69**	**327**	*e*Pn	**Pb**	**14 58 09.6**	**-0.5**
A251A				Sn	**Sg**	**14 58 33.1**	**+0.6**
PDG	**Podgorica**	**1.79**	**135**	*e*Pn	**Pb**	**14 58 11.4**	**-0.4**
PDG				*e*Sn	**Sb**	**14 58 35.1**	**+0.4**
DIVS	**Divibare**	**1.80**	**77**	*e*Pg	**Pg**	**14 58 12.4**	**-0.4**
DIVS				*e*Sg	**Sg**	**14 58 37.2**	**+1.1**
DIVS	**Divibare**	**1.80**	**77**	*e*Pn	**Pb**	**14 58 11.3**	**-0.7**
DIVS				*e*Sn	**Sb**	**14 58 35.2**	**+0.2**
PLIT	**Plitvice**	**1.81**	**310**	*e*Pn	**Pb**	**14 58 11.0**	**-1.2**
PLIT				Sn	**Sg**	**14 58 36.7**	**+0.2**
SJES	**Sjenica**	**1.81**	**104**	*e*Pn	**Pn**	**14 58 11.2**	**+0.5**
SJES				*e*Sn	**Sb**	**14 58 35.9**	**+0.4**
SJES	**Sjenica**	**1.81**	**104**	*e*Pn	**Pb**	**14 58 12.0**	**-0.3**
SJES				*e*Sn	**Sb**	**14 58 35.2**	**-0.3**
DUGI	**Dugi Otok**	**1.83**	**279**	*e*Pg	**Pb**	**14 58 12.6**	**0.0**
IVAS	**Ivanjica**	**1.89**	**93**	*e*Pn	**Pn**	**14 58 11.8**	**+0.2**
IVAS				*e*Sn	**Sn**	**14 58 35.7**	**-0.3**
VIRC	**Vir**	**1.90**	**288**	*e*Pg	**Pb**	**14 58 13.7**	**+0.1**
DRME	**Dracevica, Mon**	**1.94**	**142**	*i*Pn	**Pb**	**14 58 14.2**	**-0.2**
DRME				*e*Sn	**Sb**	**14 58 38.3**	**-0.7**
NVLJ	**Novalja**	**2.11**	**294**	*e*Pn	**Pb**	**14 58 16.9**	**-0.4**
TRUS	**Trudelj**	**2.12**	**75**	*e*Pn	**Pn**	**14 58 15.4**	**+0.7**
BOJS	**Bojanci**	**2.43**	**318**	*i*Pn	**Pn**	**14 58 19.8**	**+0.8**
BOJS				*e*Sn	**Sn**	**14 58 49.6**	**+0.4**
CRES	**Cresnjev**	**2.58**	**325**	*e*Pn	**Pn**	**14 58 21.2**	**0.0**
CRES				*e*Sn	**Sn**	**14 58 53.7**	**+0.6**
SELS	**Selova**	**2.64**	**100**	*e*Pn	**Pn**	**14 58 21.5**	**-0.4**
CER	**Cerknica**	**3.01**	**313**	*e*Pn	**Pn**	**14 58 28.1**	**+1.1**
SOKA	**Soboth**	**3.46**	**330**	*e*Pn	**Pn**	**14 58 33.5**	**+0.3**
	0.9nm,0.4s						
SOKA				*e*Sn	**Sn**	**14 59 14.8**	**+0.1**
	1.2nm,0.5s						
OBKA	**Obir**	**3.51**	**324**	*e*Sn	**Sn**	**14 59 15.8**	**-0.2**
ARSA	**Arzberg**	**3.81**	**339**	*e*Pn	**Pn**	**14 58 38.1**	**+0.1**
	2.0nm,0.4s						
RONA	**Rosalia, Austr**	**4.08**	**348**	*e*Pn	**Pn**	**14 58 41.5**	**-0.2**
	0.5nm,0.2s						
CONA	**Conrad Observa**	**4.37**	**345**	*e*Pn	**Pn**	**14 58 46.3**	**+0.5**
	0.3nm,0.2s						
CONA				*e*Sn	**Sn**	**14 59 38.1**	**+0.8**
	1.0nm,0.4s						
MOA	**Molln**	**4.73**	**332**	*e*Pn	**Pn**	**14 58 52.1**	**+1.5**
	0.7nm,0.3s						

IDC ***25*** *14:59:41.3±1.0,39˚.16S×176˚.22E,h156km±9km, mb3.5/2, mbtmp4.0/4, MS3.4/1, Error ellipse: s-maj=36.8km s-min=13.2km az=127.0*

NOU ***25*** *14:59:42.4,38˚.78S×175˚.80E, h166km, MLv4.2/14, North Island, New Zealand*

NEIC ***25*** *14:59:43.5±1.7,38˚.78S±0˚.05×175˚.78E±0˚.07, h149km±6km, mb4.2/7, Error ellipse: s-maj=7.8km s-min=7.4km az=210.0*

WEL ***25*** *14:59:45.2±1.0,39˚.5±7˚×17˚.6E±˚, h136km±7km, M3.1/27, ML3.0/22, MLv3.1/27, Error ellipse: s-maj=0.0km s-min=0.0km az=127.4, confirmed*

ISC 25 14:59:43.4±0.7, 38.78S±0.04×175.76E±0.04, h160km±5km, n218, σ1§13/229, mb4.1/6, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.07**	**345**	P	**Pn**	**15 00 04.5**	**-0.4**
RATZ	**Rangitukua**	**0.09**	**172**	P	**Pn**	**15 00 04.4**	**-0.4**
WHTZ	**Whakaora**	**0.19**	**55**	P	**Pn**	**15 00 04.9**	**-0.2**
KATZ	**Kakaramea**	**0.20**	**193**	P	**Pn**	**15 00 04.9**	**-0.2**
RITZ	**Rihia Road**	**0.22**	**158**	P	**Pn**	**15 00 05.0**	**0.0**
POIZ	**Poihipi**	**0.26**	**57**	P	**Pn**	**15 00 04.9**	**-0.2**
HATZ	**Hinemaiaia**	**0.29**	**114**	P	**Pn**	**15 00 04.7**	**-0.4**
HATZ				S	**Sn**	**15 00 19.7**	**-2.1**
KUTZ	**Kaahu Road**	**0.29**	**10**	P	**Pn**	**15 00 04.8**	**-0.5**
ARAZ	**Aratiatia Land**	**0.32**	**63**	P	**Pn**	**15 00 05.1**	**-0.2**
NTVZ	**North Tongarir**	**0.33**	**191**	P	**Pn**	**15 00 05.4**	**0.0**
KRVZ	**Karewarewa**	**0.33**	**196**	P	**Pn**	**15 00 05.3**	**-0.1**
THQ2	**Tauhara North**	**0.34**	**72**	P	**Pn**	**15 00 05.1**	**-0.3**
TMVZ	**Te Maari**	**0.34**	**187**	P	**Pn**	**15 00 05.5**	**0.0**
TMVZ				S	**Sn**	**15 00 21.8**	**-0.7**
ETVZ	**East Tongariro**	**0.36**	**186**	P	**Pn**	**15 00 05.6**	**+0.1**
WTVZ	**West Tongariro**	**0.36**	**201**	P	**Pn**	**15 00 05.5**	**-0.1**
NNVZ	**North Ngauruho**	**0.37**	**197**	P	**Pn**	**15 00 05.5**	**-0.1**
TWVZ	**Taurewa**	**0.39**	**220**	P	**Pn**	**15 00 05.6**	**0.0**
TWVZ				S	**Sn**	**15 00 21.8**	**-0.8**
OTVZ	**Oturere**	**0.39**	**190**	P	**Pn**	**15 00 05.7**	**0.0**
OTVZ				S	**Sn**	**15 00 22.7**	**-0.2**
WPRZ	**Whakapapatarin**	**0.41**	**51**	P	**Pn**	**15 00 04.9**	**-0.7**
NGZ	**Ngauruhoe**	**0.42**	**197**	P	**Pn**	**15 00 05.8**	**0.0**
SNVZ	**South Ngauruho**	**0.42**	**192**	P	**Pn**	**15 00 05.9**	**+0.1**
COVZ	**Chateau Observ**	**0.46**	**201**	P	**Pn**	**15 00 05.8**	**-0.1**
TLZ	**Tolley Road**	**0.48**	**339**	P	**Pn**	**15 00 05.4**	**-0.5**
TLZ				S	**Sn**	**15 00 21.5**	**-1.5**
TUVZ	**Tukino**	**0.50**	**189**	P	**Pn**	**15 00 06.5**	**+0.4**
FWVZ	**Far West T-bar**	**0.51**	**198**	P	**Pn**	**15 00 06.3**	**+0.1**
ALRZ	**Allen Road**	**0.51**	**65**	P	**Pn**	**15 00 05.3**	**-0.7**
ALRZ				S	**Sn**	**15 00 21.1**	**-2.1**
GRRZ	**Galatos Road**	**0.51**	**33**	P	**Pn**	**15 00 05.5**	**-0.5**
MAVZ	**Matarangi**	**0.52**	**197**	P	**Pn**	**15 00 06.5**	**+0.1**
MRHZ	**Matea Rd**	**0.52**	**97**	P	**Pn**	**15 00 05.5**	**-0.6**
MRHZ				S	**Sn**	**15 00 20.7**	**-2.7**
WHVZ	**Whangaehu Hut**	**0.52**	**194**	P	**Pn**	**15 00 06.5**	**+0.2**
TRVZ	**Turoa**	**0.55**	**197**	P	**Pn**	**15 00 06.9**	**+0.4**
HRRZ	**Handcock Road**	**0.56**	**47**	P	**Pn**	**15 00 05.7**	**-0.7**
WNVZ	**Wahianoa**	**0.56**	**193**	P	**Pn**	**15 00 06.8**	**+0.4**
PRRZ	**Plateau Road**	**0.57**	**61**	P	**Pn**	**15 00 05.5**	**-0.8**
HSRZ	**Hossack Road**	**0.60**	**40**	P	**Pn**	**15 00 05.9**	**-0.6**
PKVZ	**Pokaka**	**0.60**	**212**	P	**Pn**	**15 00 06.9**	**+0.3**
MOVZ	**Moawhango**	**0.63**	**180**	P	**Pn**	**15 00 06.8**	**+0.1**
MTVZ	**Mangateitei**	**0.65**	**200**	P	**Pn**	**15 00 07.3**	**+0.5**
UTU	**Utuhina**	**0.69**	**30**	P	**Pn**	**15 00 06.4**	**-0.6**
BKZ	**Black Stump Fm**	**0.69**	**124**		**Pn**	**15 00 06.9**	**-0.2**
BKZ					**Sn**	**15 00 22.8**	**-2.3**
BKZ	**Black Stump Fm**	**0.69**	**124**	P	**Pn**	**15 00 07.1**	**0.0**
BKZ	**Black Stump Fm**	**0.69**	**124**	P	**Pn**	**15 00 07.1**	**0.0**
HLRZ	**Highlands Stat**	**0.70**	**42**	P	**Pn**	**15 00 07.1**	**0.0**
RRRZ	**Republican Roa**	**0.74**	**54**	P	**Pn**	**15 00 06.4**	**-0.9**
BHHZ	**Black Hill Sta**	**0.75**	**162**	P	**Pn**	**15 00 07.6**	**+0.2**
HIZ	**Hauiti**	**0.75**	**290**		**Pn**	**15 00 07.1**	**-0.2**
HIZ					**Sn**	**15 00 24.0**	**-1.6**
HIZ	**Hauiti**	**0.75**	**290**	P	**Pn**	**15 00 07.2**	**-0.2**
HIZ	**Hauiti**	**0.75**	**290**	P	**Pn**	**15 00 07.2**	**-0.2**
NGRZ	**Ngongotaha**	**0.75**	**27**	P	**Pn**	**15 00 06.7**	**-0.7**
TARZ	**Mount Tarawera**	**0.80**	**48**	P	**Pn**	**15 00 07.3**	**-0.5**
OMRZ	**Omania**	**0.82**	**36**	P	**Pn**	**15 00 07.1**	**-0.8**
KWHZ	**Kaweka Forest**	**0.83**	**142**	P	**Pn**	**15 00 08.5**	**+0.5**
KARZ	**Kaharoa**	**0.84**	**27**	P	**Pn**	**15 00 07.2**	**-0.8**
MUGZ	**Murupara**	**0.85**	**70**	P	**Pn**	**15 00 06.9**	**-1.1**
MTHZ	**Maungataniwha**	**0.85**	**96**	P	**Pn**	**15 00 07.9**	**-0.2**
VRZ	**Vera Road**	**0.85**	**246**	P	**Pn**	**15 00 08.5**	**+0.5**
NMHZ	**Naumai**	**0.88**	**112**	P	**Pn**	**15 00 09.1**	**+0.8**
KMRZ	**Kaimai**	**0.94**	**9**	P	**Pn**	**15 00 05.7**	**-3.1**
RTZ	**Ruatahuna**	**0.97**	**81**		**Pn**	**15 00 08.2**	**-0.8**
RTZ					**Sn**	**15 00 25.7**	**-2.9**
RTZ	**Ruatahuna**	**0.97**	**81**	P	**Pn**	**15 00 08.5**	**-0.5**
KRHZ	**Kereru**	**0.99**	**151**	P	**Pn**	**15 00 09.8**	**+0.7**
MCHZ	**McNeill Hill**	**0.99**	**133**	P	**Pn**	**15 00 10.3**	**+1.2**
EDRZ	**Edgecumbe**	**1.02**	**49**	P	**Pn**	**15 00 08.5**	**-0.9**
RAHZ	**Arahi**	**1.05**	**98**	P	**Pn**	**15 00 09.9**	**+0.4**
TOZ	**Tahuroa Road**	**1.06**	**349**		**Pn**	**15 00 09.0**	**-0.7**
TOZ	**Tahuroa Road**	**1.06**	**349**	P	**Pn**	**15 00 09.1**	**-0.5**
ARHZ	**Aropaoanui**	**1.08**	**117**	P	**Pn**	**15 00 10.6**	**+0.8**
TGRZ	**Tauranga**	**1.12**	**21**	P	**Pn**	**15 00 09.3**	**-0.9**
OPRZ	**Ohinepanea**	**1.12**	**34**	P	**Pn**	**15 00 09.2**	**-1.0**
WAZ	**Wanganui**	**1.15**	**211**	P	**Pn**	**15 00 11.2**	**+0.8**
MHEZ	**Mangahewa**	**1.16**	**254**	P	**Pn**	**15 00 11.4**	**+1.0**
URZ	**Urewera**	**1.18**	**65**	P	**Pn**	**15 00 09.5**	**-1.2**
URZ	**Urewera**	**1.18**	**65**	P	**Pn**	**15 00 09.2**	**-1.5**
	173nm,0.4s,baz=332,slow=7.4,SNR=489						
URZ				S	**Sn**	**15 00 27.8**	**-3.8**
	504nm,0.4s,baz=317,slow=7.7,SNR=8.5						
URZ				LR	LR	15 00 43.8	
	comp=Z,71nm,18.6s,baz=306,slow=55						
URZ	**Urewera**	**1.18**	**65**	P	**Pn**	**15 00 09.5**	**-1.2**
PNHZ	**Pukenui**	**1.19**	**163**	P	**Pn**	**15 00 11.4**	**+0.7**
WHHZ	**Waihua**	**1.19**	**105**	P	**Pn**	**15 00 11.2**	**+0.5**
SNGZ	**Shannon Statio**	**1.24**	**91**	P	**Pn**	**15 00 11.4**	**+0.2**
LREZ	**Lake Rotokare**	**1.26**	**237**	P	**Pn**	**15 00 12.5**	**+1.1**
DREZ	**Durham Road**	**1.28**	**251**	P	**Pn**	**15 00 12.4**	**+0.8**
TSZ	**Takapari Road**	**1.29**	**173**	P	**Pn**	**15 00 12.5**	**+0.8**
RAGZ	**Rawiri**	**1.33**	**78**	P	**Pn**	**15 00 11.8**	**-0.3**
KAHZ	**Kahuranaki**	**1.34**	**140**	P	**Pn**	**15 00 13.2**	**+1.0**
CKHZ	**Cape Kidnapper**	**1.35**	**131**	P	**Pn**	**15 00 13.2**	**+1.0**
PREZ	**Palmer Road**	**1.37**	**245**	P	**Pn**	**15 00 13.5**	**+1.0**
NEZ	**North Egmont**	**1.39**	**249**	P	**Pn**	**15 00 13.7**	**+1.0**
WPHZ	**Waipukurau**	**1.39**	**158**	P	**Pn**	**15 00 13.5**	**+0.8**
PKE	**Pukeiti**	**1.44**	**253**	P	**Pn**	**15 00 13.9**	**+0.7**
KHEZ	**Kahui Hut**	**1.45**	**229**	P	**Pn**	**15 00 14.2**	**+0.8**
KHEZ	**Kahui Hut**	**1.45**	**249**	P	**Pn**	**15 00 14.1**	**+0.8**
MWZ	**Matawai**	**1.46**	**73**	P	**Pn**	**15 00 12.6**	**-0.8**
OHWZ	**Ohakea**	**1.47**	**193**	P	**Pn**	**15 00 14.7**	**+1.3**
KNZ	**Kokohu**	**1.52**	**100**	P	**Pn**	**15 00 13.9**	**0.0**
PXZ	**Pawanui**	**1.52**	**146**	P	**Pn**	**15 00 14.7**	**+0.8**
NBEZ	**Newall Road No**	**1.55**	**251**	P	**Pn**	**15 00 15.0**	**+0.8**
DVHZ	**Dannevirke**	**1.56**	**168**	P	**Pn**	**15 00 14.8**	**+0.5**
RIGZ	**Rimuhau**	**1.57**	**88**	P	**Pn**	**15 00 14.4**	**-0.1**
NMEZ	**Namu Road**	**1.59**	**246**	P	**Pn**	**15 00 15.4**	**+0.8**
POWZ	**Post Office Ro**	**1.61**	**180**	P	**Pn**	**15 00 15.5**	**+0.6**
PRHZ	**Porangahau**	**1.64**	**156**	P	**Pn**	**15 00 16.0**	**+0.8**
PRGZ	**Paritu Road**	**1.67**	**96**	P	**Pn**	**15 00 15.6**	**+0.1**
TKGZ	**Te Karaka**	**1.67**	**79**	P	**Pn**	**15 00 15.5**	**0.0**
RUGZ	**Raukumara Rang**	**1.71**	**62**	P	**Pn**	**15 00 14.5**	**-1.6**
MHGZ	**Mahia Peninsul**	**1.72**	**103**	P	**Pn**	**15 00 16.4**	**+0.3**
MKAZ	**Moumakai**	**1.73**	**344**	P	**Pn**	**15 00 15.6**	**-0.6**
ANWZ	**Angora Road**	**1.77**	**162**	P	**Pn**	**15 00 17.4**	**+0.9**
PRWZ	**Pori Road**	**1.79**	**175**	P	**Pn**	**15 00 17.4**	**+0.7**
TWGZ	**Tauwhareparae**	**1.84**	**72**	P	**Pn**	**15 00 17.2**	**-0.3**
MRZ	**Mangatainoka R**	**1.89**	**184**		**Pn**	**15 00 18.0**	**+0.1**
MRZ	**Mangatainoka R**	**1.89**	**184**	P	**Pn**	**15 00 18.2**	**+0.3**
HAZ	**Te Kaha**	**1.89**	**58**	P	**Pn**	**15 00 16.4**	**-1.5**
AWAZ	**Awhitu Peninsu**	**1.92**	**332**	P	**Pn**	**15 00 17.9**	**-0.4**
ETAZ	**East Tamaki Re**	**1.93**	**340**	P	**Pn**	**15 00 17.8**	**-0.6**
BFZ	**Birch Farm**	**1.94**	**169**		**Pn**	**15 00 18.8**	**+0.3**
BFZ	**Birch Farm**	**1.94**	**169**	P	**Pn**	**15 00 18.9**	**+0.4**
BFZ	**Birch Farm**	**1.94**	**169**	P	**Pn**	**15 00 18.9**	**+0.4**
CNGZ	**Carnagh Statio**	**1.94**	**82**	P	**Pn**	**15 00 18.6**	**+0.1**
TIWZ	**Tintock**	**2.00**	**177**	P	**Pn**	**15 00 19.6**	**+0.4**
KUZ	**Kuaotunu**	**2.03**	**359**	P	**Pn**	**15 00 18.5**	**-1.0**
KUZ	**Kuaotunu**	**2.03**	**359**	P	**Pn**	**15 00 18.6**	**-0.9**
PKGZ	**Pakihiroa**	**2.03**	**65**	P	**Pn**	**15 00 18.8**	**-0.7**
WIAZ	**Waiheke Island**	**2.04**	**346**	P	**Pn**	**15 00 19.0**	**-0.6**
EPAZ	**Eden Park BICE**	**2.06**	**337**	P	**Pn**	**15 00 19.4**	**-0.5**
WTAZ	**Waiatarua**	**2.06**	**333**	P	**Pn**	**15 00 19.8**	**-0.1**
HBAZ	**Herne Bay Bore**	**2.09**	**337**	P	**Pn**	**15 00 19.6**	**-0.5**
PUZ	**Puketiti**	**2.09**	**71**	P	**Pn**	**15 00 19.1**	**-1.0**
OGWZ	**Otaki Gorge**	**2.09**	**192**	P	**Pn**	**15 00 20.5**	**+0.4**
MBAZ	**Motutapu North**	**2.12**	**341**	P	**Pn**	**15 00 19.9**	**-0.6**
HOWZ	**Holdsworth Sta**	**2.13**	**185**	P	**Pn**	**15 00 20.6**	**0.0**
CPWZ	**Castlepoint**	**2.16**	**171**	P	**Pn**	**15 00 21.9**	**+0.9**
KIW	**Kapiti Island**	**2.18**	**197**	P	**Pn**	**15 00 21.2**	**0.0**
RVAZ	**Riverhead Bore**	**2.21**	**335**	P	**Pn**	**15 00 21.2**	**-0.4**
ABAZ	**Army Bay**	**2.29**	**341**	P	**Pn**	**15 00 22.1**	**-0.4**
WMGZ	**Waiomatatini S**	**2.30**	**66**	P	**Pn**	**15 00 21.6**	**-1.0**
TMWZ	**Te Maipa**	**2.33**	**178**	P	**Pn**	**15 00 23.0**	**0.0**
MXZ	**Matakaoa Point**	**2.35**	**60**	Pn	**Pn**	**15 00 22.5**	**-0.6**
MXZ	**Matakaoa Point**	**2.35**	**60**	P	**Pn**	**15 00 22.6**	**-0.6**
MXZ	**Matakaoa Point**	**2.35**	**60**	P	**Pn**	**15 00 22.6**	**-0.6**
MTW	**Mount Morrison**	**2.39**	**185**	P	**Pn**	**15 00 23.4**	**-0.3**
CAW	**Cannon Point**	**2.39**	**193**	P	**Pn**	**15 00 23.6**	**-0.1**
DUWZ	**D'Urville Isla**	**2.47**	**214**	P	**Pn**	**15 00 24.5**	**-0.2**
GRZ	**Great Barrier**	**2.52**	**355**	P	**Pn**	**15 00 24.8**	**-0.7**
PAWZ	**Paerau Farm**	**2.62**	**185**	P	**Pn**	**15 00 26.2**	**-0.3**
WEL	**Wellington**	**2.62**	**197**	P	**Pn**	**15 00 26.2**	**-0.2**
TRWZ	**Traveller**	**2.62**	**181**	P	**Pn**	**15 00 26.3**	**-0.1**
SNZO	**South Karori**	**2.66**	**197**		**Pn**	**15 00 26.3**	**-0.6**
SNZO	**South Karori**	**2.66**	**197**	P	**Pn**	**15 00 26.3**	**-0.6**
MSWZ	**Moikau Station**	**2.67**	**188**	Pn	**Pn**	**15 00 26.6**	**-0.4**
TCW	**Tory Channel**	**2.69**	**205**		**Pn**	**15 00 26.6**	**-0.6**
TCW	**Tory Channel**	**2.69**	**205**	P	**Pn**	**15 00 26.9**	**-0.4**
BHW	**Baring Head**	**2.72**	**194**		**Pn**	**15 00 27.0**	**-0.6**
BHW	**Baring Head**	**2.72**	**194**	P	**Pn**	**15 00 27.1**	**-0.5**
PLWZ	**Palliser**	**2.82**	**188**		**Pn**	**15 00 28.0**	**-0.9**
PLWZ	**Palliser**	**2.82**	**188**	P	**Pn**	**15 00 28.3**	**-0.7**
TUWZ	**Tuamarina**	**2.99**	**207**		**Pn**	**15 00 30.4**	**-0.7**
TUWZ	**Tuamarina**	**2.99**	**207**	P	**Pn**	**15 00 30.6**	**-0.4**
WCZ	**Waipu Caves**	**3.05**	**338**	P	**Pn**	**15 00 31.5**	**-0.3**
NNZ	**Nelson**	**3.05**	**216**	Pn	**Pn**	**15 00 30.9**	**-0.8**
NNZ	**Nelson**	**3.05**	**216**	P	**Pn**	**15 00 31.1**	**-0.6**
TKNZ	**Takaka Hill**	**3.12**	**223**		**Pn**	**15 00 31.4**	**-1.2**
TKNZ	**Takaka Hill**	**3.12**	**223**	P	**Pn**	**15 00 31.8**	**-0.8**
CMWZ	**Cape Campbell**	**3.20**	**201**	P	**Pn**	**15 00 33.8**	**+0.2**
QRZ	**Quartz Range**	**3.22**	**229**	Pn	**Pn**	**15 00 32.6**	**-1.3**
QRZ	**Quartz Range**	**3.22**	**229**	P	**Pn**	**15 00 32.9**	**-1.0**
QRZ	**Quartz Range**	**3.22**	**229**	P	**Pn**	**15 00 32.8**	**-1.1**
BSWZ	**Blackbirch Sta**	**3.27**	**206**		**Pn**	**15 00 33.9**	**-0.6**
BSWZ	**Blackbirch Sta**	**3.27**	**206**	P	**Pn**	**15 00 34.0**	**-0.5**
MRNZ	**Matariki Terra**	**3.49**	**220**		**Pn**	**15 00 35.9**	**-1.4**
MRNZ	**Matariki Terra**	**3.49**	**220**	P	**Pn**	**15 00 36.2**	**-1.1**
THZ	**Tophouse**	**3.70**	**215**	Pn	**Pn**	**15 00 39.2**	**-0.8**
THZ	**Tophouse**	**3.70**	**215**	P	**Pn**	**15 00 39.5**	**-0.6**
OUZ	**Omahuta**	**3.95**	**333**	P	**Pn**	**15 00 43.6**	**+0.3**
OUZ	**Omahuta**	**3.95**	**333**	P	**Pn**	**15 00 43.4**	**+0.2**
KHZ	**Kahutara**	**4.01**	**204**		**Pn**	**15 00 43.2**	**-0.7**
KHZ	**Kahutara**	**4.01**	**204**	P	**Pn**	**15 00 43.3**	**-0.7**
KHZ	**Kahutara**	**4.01**	**204**	P	**Pn**	**15 00 43.2**	**-0.7**
DSZ	**Denniston Nort**	**4.24**	**224**	Pn	**Pn**	**15 00 45.6**	**-1.3**
DSZ	**Denniston Nort**	**4.24**	**224**	P	**Pn**	**15 00 45.7**	**-1.3**
GVZ	**Greta Valley S**	**4.67**	**205**	Pn	**Pn**	**15 00 51.2**	**-1.4**
GVZ	**Greta Valley S**	**4.67**	**205**	P	**Pn**	**15 00 51.3**	**-1.2**
LTZ	**Lake Taylor**	**4.80**	**212**	Pn	**Pn**	**15 00 52.4**	**-1.9**
LTZ	**Lake Taylor**	**4.80**	**212**	P	**Pn**	**15 00 52.4**	**-1.9**
AMCZ	**Amberley**	**4.99**	**207**	Pn	**Pn**	**15 00 55.2**	**-1.6**
INZ	**Inchbonnie**	**5.13**	**218**	Pn	**Pn**	**15 00 56.5**	**-2.1**
INZ	**Inchbonnie**	**5.13**	**218**	P	**Pn**	**15 00 56.5**	**-2.1**
OKCZ	**Okains Bay**	**5.34**	**201**	P	**Pn**	**15 00 59.8**	**-1.7**
OXZ	**Oxford**	**5.34**	**211**	Pn	**Pn**	**15 00 59.2**	**-2.3**
MQZ	**McQueen's Vall**	**5.45**	**204**	Pn	**Pn**	**15 01 00.1**	**-2.8**
AKCZ	**Akaroa Harbour**	**5.53**	**202**	P	**Pn**	**15 01 01.9**	**-2.0**
RACZ	**Rakaia**	**5.65**	**208**	P	**Pn**	**15 01 03.1**	**-2.3**
MHCZ	**Mount Hutt**	**5.71**	**212**	P	**Pn**	**15 01 05.0**	**-1.3**
RPZ	**Rata Peaks**	**6.08**	**214**	Pn	**Pn**	**15 01 09.3**	**-1.9**
RPZ	**Rata Peaks**	**6.08**	**214**	P	**Pn**	**15 01 10.2**	**-0.9**
RPZ	**Rata Peaks**	**6.08**	**214**	P	**Pn**	**15 01 09.4**	**-1.7**
	3.1nm,0.3s,baz=329,slow=2.3,SNR=16						
RPZ				S	**Sn**	**15 02 14.4**	**-5.5**
	25nm,0.6s,baz=304,slow=23,SNR=25						
RPZ	**Rata Peaks**	**6.08**	**214**	P	**Pn**	**15 01 09.4**	**-1.7**
GCSZ	**Gaunt Creek Bo**	**6.12**	**220**	P	**Pn**	**15 01 10.1**	**-1.5**
ARCZ	**Arundel**	**6.21**	**212**	P	**Pn**	**15 01 10.8**	**-2.1**
ODZ	**Otahua Downs**	**7.33**	**210**	Pn	**Pn**	**15 01 25.9**	**-1.9**
ODZ	**Otahua Downs**	**7.33**	**210**	P	**Pn**	**15 01 26.3**	**-1.5**
ODZ	**Otahua Downs**	**7.33**	**210**	P	**Pn**	**15 01 25.5**	**-2.3**
JCZ	**Jackson Bay**	**7.45**	**222**	P	**Pn**	**15 01 28.4**	**-1.0**
CTZ	**Chatham Island**	**7.58**	**133**	P	**Pn**	**15 01 36.2**	**+5.1**
WKZ	**Wanaka**	**7.87**	**218**	P	**Pn**	**15 01 32.7**	**-2.2**
WHZ	**Wether Hill Ro**	**9.16**	**217**	P	**Pn**	**15 01 50.3**	**-1.8**
DCZ	**Deep Cove**	**9.24**	**221**	Pn	**Pn**	**15 01 51

	comp=Z,0.7nm,0.3s							
PALK	**Pallekele**	**44.95**	**270**	LR	LR	15 29 39.3		
	comp=Z,74nm,18.9s,baz=196,slow=38							
PETK	**Petropavlovsk-**	**49.68**	**24**	P	**P**	**15 10 23.2**	**+1.9**	
PETK	comp=Z,5.3nm,1.1s,baz=209,slow=11,SNR=1.2			LR	LR	15 30 58.5		
	comp=Z,26nm,20.7s,baz=272,slow=35							
	comp=Z,5.3nm,1.1s							
DZM	**Mont Dzumac**	**50.99**	**129**	LR	LR	15 32 00.6		
	comp=Z,35nm,18.4s,baz=30,slow=36							
MK31	**Makanchi Array**	**51.91**	**323**	P	**P**	**15 10 37.5**	**-0.7**	
MK31	comp=Z,3.2nm,0.9s			IAmb	IAmb	15 10 38.9		
MKAR	**Makanchi Array**	**51.91**	**323**	P	**P**	**15 10 37.6**	**-0.6**	
MKAR	**Makanchi Array**	**51.91**	**323**	P	**P**	**15 10 37.8**	**-0.4**	
	comp=Z,3.4nm,0.8s,baz=118,slow=7,9,SNR=24							
MKAR				PcP	**PcP**	**15 11 50.0**	**-0.4**	
	comp=Z,1.8nm,0.8s,baz=116,slow=5.9,SNR=2.4							
MKAR				LR	LR	15 33 57.6		
	comp=Z,67nm,18.9s,baz=94,slow=37							
	comp=Z,3.4nm,0.8s							
MAKZ	**Makanchi**	**52.10**	**323**	P	**P**	**15 10 39.2**	**-0.4**	
TARG	**Taragay, Kyrgy**	**52.57**	**315**	P	**P**	**15 10 43.1**	**-0.6**	
TARG	comp=Z,2.7nm,0.7s			IAmb	IAmb	15 11 22.1		
ZAA0	**Zalesovo Array**	**54.52**	**331**	P	**P**	**15 10 56.4**	**-0.9**	
ZAA0				IAmb	IAmb	15 11 19.6		
	comp=Z,3.6nm,0.9s							
ZALV	**Zalesovo Beam**	**54.52**	**331**	P	**P**	**15 10 56.2**	**-1.1**	
	comp=Z,1.2nm,0.4s,baz=119,slow=6.9,SNR=7.0							
	comp=Z,1.2nm,0.4s							
AAK	**Ala-Archa**	**55.19**	**315**	LR	LR	15 36 15.5		
	comp=Z,90nm,21.9s,baz=92,slow=38							
KURK	**Kurchatov**	**55.95**	**326**	P	**P**	**15 11 07.2**	**-0.4**	
KURK	comp=Z,5.2nm,0.8s			IAmb	IAmb	15 11 08.2		
KURBB	**Kurchatov Arra**	**55.96**	**325**	P	**P**	**15 11 07.0**	**-0.6**	
	comp=Z,3.5nm,0.7s,baz=126,slow=6.8,SNR=32							
	comp=Z,3.5nm,0.7s							
KKAR	**Karatay Array**	**58.12**	**315**	P	**P**	**15 11 22.0**	**-1.1**	
BVAR	**Borovoye Array**	**61.55**	**325**	P	**P**	**15 11 45.5**	**-0.9**	
	comp=Z,1.7nm,0.7s,baz=116,slow=8.6,SNR=6.4							
BVAR				LR	LR	15 38 06.5		
	comp=Z,24nm,21.6s,baz=116,slow=36							
	comp=Z,1.7nm,0.7s							
BRVK	**Borovoye**	**61.62**	**325**	P	**P**	**15 11 46.6**	**-0.3**	
BRVK	comp=Z,2.9nm,0.8s			IAmb	IAmb	15 12 04.8		
NRIK	**Noril'sk**	**63.95**	**346**	P	**P**	**15 12 01.9**	**-0.2**	
NRIK				IAmb	IAmb	15 12 35.5		
	comp=Z,6.7nm,1.2s							
NRIK	**Noril'sk**	**63.95**	**346**	P	**P**	**15 12 01.4**	**-0.7**	
	comp=Z,1.8nm,0.6s,baz=164,slow=7.4,SNR=3.9							
	comp=Z,1.8nm,0.6s							
GEYT	**Alibeck**	**66.40**	**307**	LR	LR	15 45 25.4		
	comp=Z,54nm,18.5s,baz=60,slow=40							
ABKAR	**Akbulak array**	**66.75**	**319**	P	**P**	**15 12 19.3**	**-1.3**	
URZ	**Urewera**	**67.79**	**139**	LR	LR	15 43 45.5		
	comp=Z,34nm,18.5s,baz=106,slow=37							
AKTO	**Aktyubinsk**	**68.20**	**320**	LR	LR	15 44 34.7		
	comp=Z,110nm,18.6s,baz=167,slow=38							
E18K	**Tukpahlearik C**	**74.15**	**23**	P	**P**	**15 13 07.2**	**+1.8**	
E18K				IAmb	IAmb	15 13 50.3		
	comp=Z,12nm,1.4s							
C18K	**Utukok River**	**74.19**	**21**	P	**P**	**15 13 07.3**	**+1.6**	
KIRV	**Kirov**	**74.34**	**328**	LR	LR	15 46 41.3		
	comp=Z,25nm,18.1s,baz=178,slow=36							
C19K	**Lookout Ridge**	**74.85**	**21**	P	**P**	**15 13 11.4**	**+1.9**	
C19K	comp=Z,4.2nm,0.8s			IAmb	IAmb	15 13 32.0		
D19K	**Kuna River**	**75.27**	**22**	P	**P**	**15 13 13.5**	**+1.5**	
D19K	comp=Z,4.9nm,1.1s			IAmb	IAmb	15 13 25.1		
E19K	**Redstone River**	**75.44**	**23**	P	**P**	**15 13 14.9**	**+2.0**	
E19K	comp=Z,3.2nm,0.9s			IAmb	IAmb	15 13 22.5		
H19K	**Roundabout Mou**	**75.49**	**25**	P	**P**	**15 13 15.4**	**+2.2**	
H19K	comp=Z,5.4nm,1.2s			IAmb	IAmb	15 13 30.7		
B20K	**Meade River**	**75.85**	**20**	P	**P**	**15 13 16.4**	**+1.2**	
B20K	comp=Z,3.3nm,0.8s			IAmb	IAmb	15 13 36.8		
F20K	**Avaraart Lake**	**75.96**	**23**	P	**P**	**15 13 17.8**	**+2.0**	
F20K	comp=Z,5.2nm,1.3s			IAmb	IAmb	15 13 29.2		
IMAR	**Indian Mountai**	**76.64**	**24**	P	**P**	**15 13 21.4**	**+1.6**	
B21K	**Ikpikpuk River**	**76.67**	**21**	P	**P**	**15 13 21.6**	**+1.8**	
B21K	comp=Z,5.1nm,0.9s			IAmb	IAmb	15 13 41.2		
G21K	**Allakaket**	**76.79**	**24**	P	**P**	**15 13 22.6**	**+2.0**	
G21K	comp=Z,6.4nm,1.2s			IAmb	IAmb	15 13 34.1		
H21K	**Melozitna Rive**	**77.01**	**25**	P	**P**	**15 13 23.5**	**+1.7**	
H21K	comp=Z,7.3nm,1.4s			IAmb	IAmb	15 13 33.7		
KBZ	**Khabaz**	**78.07**	**313**	LR	LR	15 53 06.2		
	comp=Z,28nm,19.0s,baz=274,slow=40							
C23K	**Itkillik River**	**78.08**	**21**	P	**P**	**15 13 29.6**	**+1.9**	
C23K	comp=Z,4.1nm,0.6s			IAmb	IAmb	15 13 30.9		
D24K	**Happy Valley**	**78.69**	**21**	P	**P**	**15 13 32.5**	**+1.4**	
D24K	comp=Z,5.4nm,1.1s			IAmb	IAmb	15 13 42.6		
CCB	**Clear Creek Bu**	**79.09**	**26**	P	**P**	**15 13 34.5**	**+1.1**	
CCB	comp=Z,5.2nm,1.4s			IAmb	IAmb	15 14 06.4		
SCM	**Sheep Creek Mo**	**79.38**	**29**	P	**P**	**15 13 35.4**	**+0.3**	
ILAR	**Eielson Array**	**79.48**	**26**	P	**P**	**15 13 35.1**	**-0.5**	
	comp=Z,0.3nm,0.7s,baz=252,slow=4.4,SNR=5.7							
ILAR				LR	LR	15 49 44.4		
	comp=Z,9.9nm,20.2s,baz=320,slow=36							
	comp=Z,0.3nm,0.7s							
CRQM	**Cirque**	**81.47**	**30**	P	**P**	**15 13 45.9**	**-0.6**	
G29M	**Pine Creek**	**82.90**	**23**	P	**P**	**15 13 55.0**	**+1.4**	
G29M	comp=Z,6.1nm,1.2s			IAmb	IAmb	15 14 36.5		
SPITS	**Spitsbergen Ar**	**83.96**	**349**	P	**P**	**15 13 58.1**	**-0.8**	
	comp=Z,19nm,0.9s,baz=67,slow=13,SNR=3.8							
SPITS				LR	LR	15 57 50.1		
	comp=Z,39nm,18.6s,baz=102,slow=40							
ARCES	**ARCESS Array B**	**84.11**	**340**	P	**P**	**15 13 59.8**	**0.0**	
	comp=Z,1.1nm,0.7s,baz=75,slow=5.3,SNR=5.3							
	comp=Z,1.1nm,0.7s							
BRTR	**Keskin Array B**	**85.39**	**309**	P	**P**	**15 14 05.5**	**-1.6**	
	comp=Z,1.1nm,0.8s,baz=60,slow=5.8,SNR=4.8							
	comp=Z,1.1nm,0.8s							
FINES	**FINESS Array B**	**85.79**	**332**	P	**P**	**15 14 07.1**	**-1.2**	
FINES	**FINESS Array B**	**85.79**	**332**	P	**P**	**15 14 07.3**	**-1.0**	
	comp=Z,2.2nm,0.8s,baz=62,slow=3.7,SNR=9.8							
	comp=Z,2.2nm,0.8s							
A36M	**Sachs Harbour**	**85.93**	**17**	P	**P**	**15 14 08.6**	**-0.2**	
AKASG	**Malin Array Be**	**86.44**	**321**	P	**P**	**15 14 10.4**	**-1.4**	
	comp=Z,0.2nm,0.3s,baz=73,slow=3.6,SNR=4.7							
	comp=Z,0.2nm,0.3s							
PPT	**Papeete**	**87.73**	**108**	LR	LR	15 46 06.8		
	comp=Z,18nm,21.8s,baz=360,slow=30							
KMBO	**Kilima Mbogo**	**89.07**	**269**	LR	LR	15 55 30.0		
	comp=Z,38nm,18.2s,baz=90,slow=36							
MAW	**Mawson**	**89.67**	**200**	P	**P**	**15 14 27.3**	**+0.6**	
BURAR	**Bucovina Array**	**89.71**	**318**	P	**P**	**15 14 27.3**	**-0.3**	
NOA	**NORSAR Array B**	**92.66**	**334**	LR	LR	16 00 38.9		
	comp=Z,27nm,20.5s,baz=40,slow=38							
YKA	**Yellowknife Ar**	**93.80**	**24**	P	**P**	**15 14 47.1**	**+1.1**	
	comp=Z,0.5nm,0.8s,baz=302,slow=4.6,SNR=6.5							
	comp=Z,0.5nm,0.8s							
VRAC	**Vranov**	**94.64**	**322**	LR	LR	16 00 27.1		
	comp=Z,29nm,18.1s,baz=68,slow=37							
YBH	**Yreka Blue Hor**	**98.53**	**45**	LR	LR	15 53 12.5		
	comp=Z,16nm,19.4s,baz=266,slow=31							
DAVOX	**Davos/Dischmat**	**99.78**	**321**	LR	LR	16 05 41.3		
	comp=Z,45nm,18.3s,baz=82,slow=38							
TORD	**Torodi Ar. Bea**	**120.11**	**292**	PKP	**PKPdf**	**15 20 19.8**	**-1.1**	
	comp=Z,0.5nm,0.3s,baz=77,slow=2.1,SNR=12							

*DJA **25** 15:25:46.9±0.4,3°N±3°×12°8E±°, h96km±8km, M4.6/12, mb4.6/10, mB5.0/6, MLv4.8/12, Mw(mB)4.3/6*
*IDC **25** 15:25:48.0±2.1,3°.08N×127°.71E, h98km±19km, mb3.8/18, mbtmp4.2/20, MS2.9/3, Error ellipse: s-maj=25.0km s-min=9.8km az=77.0*
*NEIC **25** 15:25:49.2±1.3,3°.11N±0°.06×127°.6E±0°.1, h97km±8km, mb4.5/69, Error ellipse: s-maj=15.2km s-min=9.2km az=80.0*
ISC 25 15:25:48.6±0.4,3°.10N±0°.04×127°.60E±0°.06,h100km,n124, σ1§**14**/133,**mb4.4**/52,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.15**	**286**	P	**Pn**	**15 26 21.5**	**-1.6**
SGSI				S	**Sn**	**15 26 47.5**	**-2.1**
TNTI	**Ternate**	**2.32**	**186**		**Pn**	**15 26 26.1**	**+0.7**
TNTI	**Ternate**	**2.32**	**186**	P	**Pn**	**15 26 26.4**	**+1.0**
TNTI				S	**Sn**	**15 26 56.7**	**+3.2**
LBMI	**Labuha**	**3.71**	**182**	P	**Pn**	**15 26 45.1**	**+1.2**
KMSI	**Cibinong**	**4.40**	**235**	P	**Pn**	**15 26 53.1**	**-0.1**
KMSI				S	**Sn**	**15 27 47.1**	**+3.7**
DAV	**Davao City (W)**	**4.43**	**333**	Pn	**Pn**	**15 26 53.8**	**+0.1**
DAV	**Davao City (W)**	**4.43**	**333**	P	**Pn**	**15 26 53.9**	**+0.3**
	120nm,0.3s,baz=150,slow=1.2,SNR=7.0						
DAV				S	**Sn**	**15 27 46.9**	**+2.7**
	153nm,0.4s,baz=122,slow=21,SNR=1.7						
SANI	**Sanana**	**5.36**	**198**	P	**Pn**	**15 27 04.8**	**-1.4**
	30nm,0.5s,4µm0.7nm						
SWI	**Sorong**	**5.37**	**137**	P	**Pn**	**15 27 06.7**	**+0.3**
	170nm,0.5s,2µm0.8nm						
SWI				S	**Sn**	**15 28 06.6**	**-0.3**
	170nm,0.5s,2µm0.8nm						
MRSI	**Marisa**	**6.23**	**245**	P	**Pn**	**15 27 18.4**	**+0.4**
	134nm,0.7s,1µm0.4nm						
NLAI	**Namlea**	**6.31**	**185**	P	**Pn**	**15 27 20.2**	**+1.0**
	15nm,0.4s,3µm0.2nm						
TOLI2	**Tolitoli**	**7.09**	**254**	Pn	**Pn**	**15 27 29.4**	**-0.4**
FAKI	**Fak Fak**	**7.57**	**142**		**Pn**	**15 27 36.8**	**+0.5**
FAKI	**Fak Fak**	**7.57**	**142**	P	**Pn**	**15 27 36.8**	**+0.5**
	58nm,0.9s,763nm0.2nm						
MPSI	**Mapaga**	**8.17**	**251**	P	**Pn**	**15 27 44.6**	**+0.1**
	14nm,0.6s						
MYLDM	**Lahad Datu**	**9.31**	**283**	Pn	**Pn**	**15 28 01.3**	**+1.4**
TTSI	**Tana Toraja**	**9.88**	**232**	P	**Pn**	**15 28 05.5**	**-2.3**
	15nm,6s						
BKSI	**Bulukumba**	**11.21**	**222**	P	**Pn**	**15 28 25.9**	**+0.1**
KAPI	**Kappang**	**11.24**	**224**	Pn	**Pn**	**15 28 26.1**	**-0.1**
KAPI	**Kappang**	**11.24**	**224**	P	**Pn**	**15 28 25.6**	**-0.6**
	4.7nm,0.4s,baz=67,slow=7.7,SNR=4.2						
KAPI				S	**Sn**	**15 30 27.2**	**-2.7**
	2.4nm,0.4s,baz=204,slow=21,SNR=1.4						
KKM	**Kota Kinabalu**	**11.72**	**285**	Pn	**Pn**	**15 28 34.7**	**+2.0**
SBUM	**Sibu**	**15.38**	**268**	P	**Pn**	**15 29 22.1**	**+1.9**
KNRA	**Kununurra**	**18.69**	**177**	P	**P**	**15 29 58.3**	**-0.8**
KNRA				IAmb	IAmb	15 30 26.7	
	comp=Z,24nm,1.2s						
YULB	**Yu-li**	**21.08**	**344**	P	**P**	**15 30 24.0**	**-1.0**
YULB				IAmb	IAmb	15 31 06.8	
	comp=Z,59nm,1.5s						
FITZ	**Fitzroy Crossi**	**21.15**	**185**	P	**P**	**15 30 23.5**	**-2.2**
TPUB	**Ta-pu**	**21.19**	**342**	P	**P**	**15 30 24.8**	**-1.3**
SSLB	**Suanglung**	**21.55**	**343**	P	**P**	**15 30 28.0**	**-2.0**
SSLB				IAmb	IAmb	15 30 32.8	
	comp=Z,23nm,1.1s						
YHNB	**Yeheng**	**22.27**	**345**	P	**P**	**15 30 38.4**	**+0.7**
PMG	**Port Moresby**	**23.11**	**123**	LR	LR	15 40 56.3	
	comp=Z,54nm,18.1s,baz=332,slow=40						
WB0	**Warramunga Arr**	**23.68**	**164**	P	**P**	**15 30 50.4**	**-0.9**
WRAB	**Tennant Creek**	**23.83**	**164**	P	**P**	**15 30 51.7**	**-0.9**
WRA	**Warramunga Arr**	**23.83**	**164**	P	**P**	**15 30 51.5**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=344,slow=10.0,SNR=22						
WRA				PcP	**PcP**	**15 34 33.6**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=339,slow=2.2,SNR=1.2						
	comp=Z,1.4nm,0.5s						
WB2	**Warramunga Arr**	**23.84**	**164**	P	**P**	**15 30 51.9**	**-0.8**
WR0	**Warramunga Arr**	**23.90**	**164**	P	**P**	**15 30 52.3**	**-1.0**
PSA00	**Pilbara Seismi**	**25.66**	**197**	P	**P**	**15 31 09.4**	**+0.1**
PSA00				IAmb	IAmb	15 31 44.8	
	comp=Z,18nm,1.4s						
IPM	**Ipoh**	**26.55**	**274**	P	**P**	**15 31 17.7**	**+0.3**
AS31	**Alice Springs**	**27.30**	**167**	P	**P**	**15 31 23.8**	**-0.2**
ASAR	**Alice Springs**	**27.30**	**167**	P	**P**	**15 31 23.9**	**-0.1**
ASAR	**Alice Springs**	**27.30**	**167**	P	**P**	**15 31 22.8**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=347,slow=7.0,SNR=15						
ASAR				PcP	**PcP**	**15 34 41.5**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=352,slow=2.3,SNR=13						
ASAR				LR	LR	15 41 35.2	
	comp=Z,50nm,20.9s,baz=248,slow=35						
	comp=Z,0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**31.94**	**301**	P	**P**	**15 32 05.6**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=117,slow=3.1,SNR=1.3						
	comp=Z,0.5nm,0.5s						
FORT	**Forrest**	**33.69**	**179**	P	**P**	**15 32 19.7**	**-0.5**
MORW	**Morawa**	**33.85**	**198**	P	**P**	**15 32 21.4**	**-0.2**
MORW				IAmb	IAmb	15 32 49.8	
	comp=Z,18nm,1.4s						
KSRS	**Korea Array**	**34.20**	**0**	P	**P**	**15 32 24.4**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=174,slow=9.6,SNR=4.6						
KSRS				LR	LR	15 45 09.1	
	comp=Z,5.2nm,21.7s,baz=25,slow=34						
	comp=Z,1.9nm,0.8s						
MJAR	**Matsushiro Arr**	**34.69**	**15**	P	**P**	**15 32 26.7**	**-2.1**
	comp=Z,2.6nm,0.7s,baz=185,slow=11,SNR=4.5						
	comp=Z,2.6nm,0.7s						
BBOO	**Buckleboo**	**36.60**	**168**	P	**P**	**15 32 44.7**	**-0.4**
STKA	**Stephens Creek**	**37.24**	**160**	P	**P**	**15 32 50.3**	**-0.2**
STKA	**Stephens Creek**	**37.24**	**160**	P	**P**	**15 32 49.6**	**-0.9**
	comp=Z,1.5nm,0.4s,baz=335,slow=8.8,SNR=18						
STKA				PcP	**PcP**	**15 35 08.4**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=337,slow=5.2,SNR=3.4						
	comp=Z,1.5nm,0.4s						
USA0B	**Ussuriysk Arra**	**41.12**	**5**	P	**P**	**15 33 22.8**	**+0.2**
USA0B				IAmb	IAmb	15 33 57.3	
	comp=Z,15nm,1.3s						
USRK	**Ussuriysk Ar.**	**41.12**	**5**	P	**P**	**15 33 23.0**	**+0.3**
USRK	**Ussuriysk Ar.**	**41.12**	**5**	P	**P**	**15 33 22.7**	**0.0**
	comp=Z,3.1nm,0.7s,baz=190,slow=6.7,SNR=5.8						
	comp=Z,3.1nm,0.7s						
XLT	**XiLinHaoTe**	**41.90**	**348**	*e*P	**P**	**15 33 31.0**	**+1.8**
XLT				pP	pP	15 33 53.5	+1.9
XLT				sP	sP	15 34 08.8	+6.2
XLT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,360nm,5.6s						
KLR	**Kul'dur**	**46.10**	**4**	P	**P**	**15 34 01.6**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=198,slow=3.2,SNR=6.0						
	comp=Z,2.1nm,0.7s						
JIRN	**Jiri**	**46.45**	**306**	*e*P	**P**	**15 34 07.8**	**+1.7**
GUN	**Gumba**	**46.80**	**306**	*e*P	**P**	**15 34 10.4**	**+1.5**
ULN	**Ulaanbaatar**	**47.99**	**341**	P	**P**	**15 34 17.9**	**+0.3**
SONM	**Songino Array**	**48.17**	**341**	P	**P**	**15 34 19.8**	**+0.9**
SONM	**Songino Array**	**48.17**	**341**	P	**P**	**15 34 19.2**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=153,slow=9.7,SNR=6.6						
SONM				PcP	**PcP**	**15 35 44.8**	**0.0**
	comp=Z,0.7nm,0.7s,baz=114,slow=3.5,SNR=2.3						
	comp=Z,1.3nm,0.6s						
KOLN	**Koldanda**	**48.60**	**305**	*e*P	**P**	**15 34 25.3**	**+2.7**
DANN	**Dangsing**	**48.69**	**306**	*e*P	**P**	**15 34 24.8**	**+1.4**
	comp=Z,13nm,0.6s						
PYUN	**Piuthan**	**49.22**	**305**	*e*P	**P**	**15 34 29.3**	**+1.9**
	comp=Z,7.9nm,0.7s						
PEA0B	**Petropavlovsk-**	**55.69**	**21**	P	**P**	**15 35 14.5**	**0.0**
PETK	**Petropavlovsk-**	**55.69**	**21**	P	**P**	**15 35 14.1**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=205,slow=3.0,SNR=7.1						
	comp=Z,1.7nm,0.6s						
MK31	**Makanchi Array**	**58.57**	**325**	P	**P**	**15 35 35.4**	**+0.5**
MK31				IAmb	IAmb	15 35 56.8	
	comp=Z,3.4nm,1.1s						
MKAR	**Makanchi Array**	**58.57**	**325**	P	**P**	**15 35 35.5**	**+0.6**
	comp=Z,3.6nm,0.6s,baz=116,slow=8.0,SNR=39						
	comp=Z,3.6nm,0.6s						
MAKZ	**Makanchi**	**58.76**	**325**	P	**P**	**15 35 37.1**	**+0.9**
MAKZ				IAmb	IAmb	15 35 37.5	
	comp=Z,3.8nm,0.7s						
ZALV	**Zalesovo Beam**	**61.55**	**333**	P	**P**	**15 35 54.4**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=115,slow=6.7,SNR=5.2						
	comp=Z,0.7nm,0.4s						
ARSB	**Arslanbob**	**61.92**	**316**	P	**P**	**15 35 57.8**	**-0.2**
KURBB	**Kurchatov Arra**	**62.74**	**327**	P	**P**	**15 36 03.2**	**+0.1**
	comp=Z,4.3nm,0.7s,baz=127,slow=6.2,SNR=36						
	comp=Z,4.3nm,0.7s						
KURK	**Kurchatov**	**62.74**	**327**	P	**P**	**15 36 03.3**	**+0.2**
KURK				IAmb	IAmb	15 36 04.2	
	comp=Z,5.3nm,0.8s						
KKAR	**Karatay Array**	**64.29**	**317**	P	**P**	**15 36 13.6**	**+0.1**
GSTR	**Great Sitkin T**	**67.44**	**34**	P	**P**	**15 36 32.5**	**-1.0**
BVAR	**Borovoye Array**	**68.32**	**327**	P	**P**	**15 36 39.0**	**0.0**
	comp=Z,1.9nm,0.4s,baz=121,slow=6.1,SNR=15						
	comp=Z,1.9nm,0.4s						
BRVK	**Borovoye**	**68.39**	**327**	P	**P**	**15 36 39.4**	**0.0**
BRVK				IAmb	IAmb	15 37 10.0	
	comp=Z,3.7nm,0.8s						
ABKAR	**Akbulak array**	**73.19**	**321**	P	**P**	**15 37 08.5**	**-0.1**
AKUT	**Akutan**	**73.95**	**34**	P	**P**	**15 37 12.9**	**0.0**
SDPT	**Sand Point**	**77.23**	**34**	P	**P**	**15 37 31.5**	**-0.1**
L14K	**Kuka Creek**	**77.65**	**28**	P	**P**	**15 37 34.7**	**+0.9**
L14K				IAmb	IAmb	15 37 35.6	
	comp=Z,12nm,1.1s						
M14K	**Bethel**	**77.82**	**28**	P	**P**	**15 37 35.9**	**+1.2**
M14K				IAmb	IAmb	15 37 36.6	
	comp=Z,8.2nm,0.7s						
K15K	**Wolf Creek Mou**	**78.44**	**27**	P	**P**	**15 37 38.5**	**+0.3**
K15K				IAmb	IAmb	15 37 42.5	
	comp=Z,18nm,1.4s						
G16K	**Koyuk River**	**78.97**	**24**	P	**P**	**15 37 41.9**	**+0.9**
J16K	**Anvik River**	**79.11**	**26**	P	**P**	**15 37 43.4**	**+1.5**
J16K				IAmb	IAmb	15 37 44.5	
	comp=Z,9.3nm,1.2s						
L16K	**Owhat River**	**79.23**	**28**	P	**P**	**15 37 43.4**	**+0.8**
L16K				IAmb	IAmb	15 37 43.6	
	comp=Z,17nm,1.4s						
M16K	**Timber Creek**	**79.31**	**28**	P	**P**	**15 37 43.9**	**+0.9**
M16K				IAmb	IAmb	15 38 03.0	
	comp=Z,11nm,1.3s						
F17K	**Baldwin Pennin**	**79.70**	**23**	P	**P**	**15 37 46.4**	**+1.4**
F17K				IAmb	IAmb	15 38 11.8	
	comp=Z,12nm,1.5s						
H17K	**Granite Mounta**	**79.83**	**24**	P	**P**	**15 37 46.2**	**+0.4**
H17K				IAmb	IAmb	15 37 55.6	
	comp=Z,5.8nm,1.3s						
K17K	**Iditarod**	**80.00**	**27**	P	**P**	**15 37 48.2**	**+1.5**
E18K	**Tukpahlearik C**	**80.22**	**22**	P	**P**	**15 37 48.9**	**+1.1**
E18K				IAmb	IAmb	15 37 50.1	
	comp=Z,5.9nm,0.8s						
C18K	**Utukok River**	**80.34**	**21**	P	**P**	**15 37 49.3**	**+0.8**
H18K	**Honhosa River**	**80.52**	**24**	P	**P**	**15 37 50.5**	**+1.0**
H18K				IAmb	IAmb	15 38 06.8	
	comp=Z,6.3nm,1.4s						
L18K	**Granite Mounta**	**80.63**	**27**	P	**P**	**15 37 51.1**	**+1.1**
L18K				IAmb	IAmb	15 38 16.5	
	comp=Z,9.4nm,1.4s						
J18K	**Innoko River**	**80.86**	**26**	P	**P**	**15 37 52.2**	**+0.9**
C19K	**Lookout Ridge**	**81.03**	**20**	P	**P**	**15 37 53.4**	**+1.3**
C19K				IAmb	IAmb	15 37 54.5	
	comp=Z,5.7nm,0.8s						
TTA	**Tatalina**	**81.07**	**27**	P	**P**	**15 37 53.3**	**+0.8**
G19K	**Purcell Mounta**	**81.26**	**23**	P	**P**	**15 37 53.9**	**+0.5**
G19K				IAmb	IAmb	15 37 56.1	
	comp=Z,7.4nm,1.1s						
D19K	**Kuna River**	**81.40**	**21**	P	**P**	**15 37 54.8**	**+0.7**
D19K				IAmb	IAmb	15 37 55.9	
	comp=Z,4.8nm,0.7s						
N19K	**Bonanza Creek**	**81.42**	**29**	P	**P**	**15 37 55.8**	**+1.4**
N19K				IAmb	IAmb	15 38 15.9	
	comp=Z,17nm,1.4s						
L19K	**White Mountain**	**81.47**	**28**	P	**P**	**15 37 55.3**	**+0.8**
L19K				IAmb	IAmb	15 38 28.9	
	comp=Z,11nm,1.4s						
E19K	**Redstone River**	**81.48**	**22**	P	**P**	**15 37 56.0**	**+1.4**
E19K				IAmb	IAmb	15 37 57.5	
	comp=Z,6.3nm,0.8s						
KDAK	**Kodiak Island**	**81.96**	**32**	P	**P**	**15 37 57.8**	**+0.6**
F20K	**Avaraart Lake**	**81.97**	**23**	P	**P**	**15 37 58.7**	**+1.6**
M20K	**Styx River**	**82.22**	**28**	P	**P**	**15 37 59.7**	**+1.1**
IMAR	**Indian Mountai**	**82.57**	**24**	P	**P**	**15 38 01.2**	**+1.0**
VNDA	**Vanda**	**82.69**	**173**	P	**P**	**15 38 01.2**	**+0.6**
VNDA				IAmb	IAmb	15 38 29.5	
	comp=Z,5.4nm,1.4s						
VNDA	**Vanda**	**82.69**	**173**	P	**P**	**15 38 00.5**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=325,slow=7.5,SNR=11						
	comp=Z,0.9nm,0.5s						
G21K	**Allakaket**	**82.75**	**23**	P	**P**	**15 38 02.8**	**+1.6**
G21K				IAmb	IAmb	15 38 03.2	
	comp=Z,4.4nm,0.9s						
CNPM	**China Poot**	**82.86**	**31**	P	**P**	**15 38 02.5**	**+0.6**
B21K	**Ikpikpuk River**	**82.86**	**20**	P	**P**	**15 38 02.7**	**+1.0**
B21K				IAmb	IAmb	15 38 04.2	
	comp=Z,4.1nm,0.8s						
H21K	**Melozitna Rive**	**82.90**	**24**	P	**P**	**15 38 03.4**	**+1

	comp=E,220nm,1.0s							
KNHH	**Kane Nui o Ham**	**0.40**	**47**			Pn	16 07 08.9	-1.4
MLOA	**Mauna Loa Obse**	**0.44**	**348**		Pn	Pn	16 07 09.2	-1.8
STCH	**Steam Cracks**	**0.44**	**51**			Pn	16 07 09.3	-1.3
STCH	**Steam Cracks**	**0.44**	**51**		IAML		16 07 17.7	
	comp=E,267nm,0.9s							
STCH					IAML		16 07 27.6	
	comp=N,266nm,1.0s							
ALEP	**Alea Permanent**	**0.46**	**341**			Pn	16 07 09.4	-1.7
ALEP						Sn	16 07 16.5	-2.6
HMH	**Humu'ula Sheep**	**0.49**	**360**			Pn	16 07 09.1	-2.4
HMH					IAML		16 07 24.6	
	comp=E,224nm,1.1s							
HMH					IAML		16 07 25.0	
	comp=N,188nm,1.1s							
JOKA	**Jonika Flow**	**0.56**	**54**			Pn	16 07 10.9	-1.1
KHLU	**Kahalu`u**	**0.62**	**321**			Pn	16 07 10.7	-2.1
HUH	**Hualalai**	**0.66**	**330**			Pn	16 07 11.7	-1.8
HUH					IAML		16 07 36.6	
	comp=E,180nm,1.1s							
HUH					IAML		16 07 40.3	
	comp=N,172nm,1.1s							
HPAH	**Hawaii Prepara**	**0.94**	**348**		Pn	Pn	16 07 15.2	-1.9
MHA	**Mahukona**	**1.15**	**340**		Pn	Pn	16 07 17.7	-2.0

RSNC 25 16:12:28.1±1.3, 11°46N×73°11W, h16km±4km, ML3.4, Mw3.8, 1C-2D, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRJC	**Cerrejon, Guaj**	**0.49**	**153**	⇓*i*P	Pg	16 12 38.0	+0.1
CRJC				*e*S	Sg	16 12 44.8	+0.2
CRJC				*i*		16 12 46.1	
	comp=Z,3μm,0.3s						
URIC	**Uribia, Colomb**	**1.12**	**78**	⇑*i*P	Pb	16 12 47.8	-1.3
URIC				*e*S	Sb	16 13 02.4	-1.0
URIC				*i*		16 13 05.0	
	comp=Z,706nm,0.7s						
SMRC	**Santa Marta, M**	**1.14**	**255**	*e*P	Pn	16 12 47.6	-1.7
SMRC				*e*S	Sb	16 13 04.1	+0.2
SMRC				*i*		16 13 08.0	
	comp=Z,916nm,0.3s						
LL6C	**La Loma 6 Bece**	**1.72**	**185**	⇓*i*P	Pn	16 12 55.6	-1.9
LL6C				*i*		16 13 36.5	
	comp=Z,180nm,0.5s						
LL5C	**La Loma 5 El P**	**1.81**	**200**	*e*P	Pn	16 12 57.0	-1.6
LL5C				*e*S	Sn	16 13 21.1	0.0
LL5C				*i*		16 13 38.3	
	comp=Z,295nm,0.5s						
ARGC	**Ariguani, Magd**	**1.95**	**215**	*e*P	Pn	16 12 59.3	-1.3
ARGC				*e*S	Sn	16 13 23.1	-1.7
SJCC	**San Jacinto, C**	**2.56**	**233**	*e*P	Pn	16 13 09.5	+0.5
SJCC				*e*S	Sn	16 13 41.1	+1.1
SJCC				*i*		16 13 50.2	
	comp=Z,211nm,0.5s						
OCAC	**Ocana**	**3.21**	**184**	*e*P	Pn	16 13 16.9	-1.2
OCAC				*e*S	Sn	16 13 56.9	+0.9
SDV	**Santo Domingo**	**3.53**	**136**	*e*P	Pn	16 13 23.3	+0.8
SDV				*e*S	Sn	16 14 02.3	-1.8
SDV				*i*		16 14 31.7	
	comp=Z,34nm,0.6s						
PAMC	**Pamplona, Colo**	**4.12**	**174**	*e*P	Pn	16 13 29.3	-1.5
PAMC				*e*S	Sn	16 14 18.6	-0.3
PAMC				*i*		16 14 28.0	
	comp=Z,49nm,0.5s						
ZARC	**Zaragoza, Cauc**	**4.31**	**204**	*e*P	Pn	16 13 32.7	-0.4
ZARC				*e*S	Sn	16 14 23.4	+0.4
ZARC				*i*		16 14 36.7	
	comp=Z,96nm,0.5s						
UREC	**San Jos de Ur**	**4.39**	**213**	*e*P	Pn	16 13 38.4	+4.2
UREC				*e*S	Sn	16 14 22.6	-2.6
UREC				*i*		16 14 25.8	
	comp=Z,22nm,0.3s						
BARC	**Barichara**	**4.84**	**181**	*e*P	Pn	16 13 41.0	+0.4
BARC				*e*S	Sn	16 14 36.8	+0.4
BARC				*i*		16 14 48.2	
	comp=Z,112nm,0.5s						
PTBC	**PUERTO BERRIO,**	**5.07**	**195**	*e*P	Pn	16 13 44.7	+1.2
PTBC				*e*S	Sn	16 14 40.2	-1.6
PTBC				*i*		16 14 56.6	
	comp=Z,36nm,0.6s						
TAMC	**Tame, Arauca**	**5.16**	**165**	*e*P	Pn	16 13 43.1	-1.7
TAMC				*e*S	Sn	16 14 42.3	-1.8
TAMC				*i*		16 15 02.8	
	comp=Z,17nm,0.5s						
DBBC	**Dabeiba**	**5.38**	**215**	*e*P	Pn	16 13 49.0	+1.2
DBBC				*e*S	Sn	16 14 44.1	-5.3
DBBC				*i*		16 14 52.5	
	comp=Z,12nm,0.4s						
SPBC	**San Pablo de B**	**5.85**	**189**	*e*P	Pn	16 13 55.3	+1.0
SPBC				*e*S	Sn	16 15 00.3	-0.9
SPBC				*i*		16 15 15.5	
	comp=Z,27nm,0.5s						
CBOC	**Ciudad Bolivar**	**6.26**	**208**	*e*P	Pn	16 14 02.1	+2.1
CBOC				*e*S	Sn	16 15 09.7	-1.7
CBOC				*i*		16 15 26.1	
	comp=Z,9.1nm,0.6s						
GUY2C	**Guyana, Caldas**	**6.59**	**200**	*e*P	Pn	16 14 06.8	+2.0
GUY2C				*e*S	Sn	16 15 19.9	0.0
GUY2C				*i*		16 15 51.1	
	comp=Z,28nm,0.6s						
ROSC	**El Rosal**	**6.69**	**190**	*e*P	Pn	16 14 08.6	+2.5
ROSC				*e*S	Sn	16 15 17.9	-4.3
ROSC				*i*		16 15 33.7	
	comp=Z,18nm,0.5s						
CVER	**Cruz Verde, Cu**	**6.96**	**188**	*e*P	Pn	16 14 12.6	+2.7
CVER				*e*S	Sn	16 15 36.0	+6.8
CVER				*i*		16 15 48.5	
	comp=Z,19nm,0.5s						
PLMC	**San Jos del P**	**7.23**	**206**	*e*P	Pn	16 14 14.0	+0.6
PLMC				*i*		16 16 10.9	
	comp=Z,7.8nm,0.6s						
VILC	**Villavicencio,**	**7.33**	**185**	*e*P	Pn	16 14 13.8	-0.8
VILC				*e*S	Sn	16 15 35.8	-1.8
VILC				*i*		16 15 55.6	
	comp=Z,22nm,0.5s						
ORTC	**Ortega, Tolima**	**7.80**	**196**	*e*P	Pn	16 14 20.5	-0.5
ORTC				*e*S	Sn	16 15 54.1	+5.0
ORTC				*i*		16 16 05.3	
	comp=Z,11nm,0.7s						
PRAC	**Prado**	**7.90**	**193**	*e*P	Pn	16 14 24.4	+1.9
PRAC				*e*S	Sn	16 15 59.2	+7.6
PRAC				*i*		16 16 09.4	
	comp=Z,12nm,0.5s						
YOTC	**Yotoco, Valle**	**8.09**	**204**	*e*P	Pn	16 14 24.3	-0.9
YOTC				*e*S	Sn	16 15 56.0	-0.5
YOTC				*i*		16 16 09.3	
	comp=Z,2.0nm,0.6s						

*IDC **25** 16:18:26.2±1.1, 13°.58N×146°.26E, h0km, mb3.7/10, mbtmp3.7/10, Error ellipse: s-maj=24.8km s-min=21.3km az=119.0*

ISC 25 16:18:27.6±1.1, 13°.6N±0°.2×146°.3E±0°.1, h10km, n17, σ0.56/12, mb3.8/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.38**	**270**	Pn	**Pn**	**16 18 52.8**	**-0.2**
	88nm,0.3s,baz=127,slow=7.0,SNR=48						
GUMO				Sn	**Sb**	**16 19 11.4**	**+0.3**
	52nm,0.3s,baz=354,slow=22,SNR=6.0						
H11S3	**WAKE ISLAND Hy**	**20.20**	**73**	T	T	16 42 09.8	
	baz=256						
H11S1	**WAKE ISLAND Hy**	**20.22**	**73**	T	T	16 42 13.7	
	baz=256						
H11S2	**WAKE ISLAND Hy**	**20.22**	**73**	T	T	16 42 10.1	
	baz=256						
H11N1	**WAKE ISLAND Hy**	**20.65**	**70**	T	T	16 42 50.5	
	baz=246						
H11N2	**WAKE ISLAND Hy**	**20.66**	**70**	T	T	16 42 48.3	
	baz=246						
H11N3	**WAKE ISLAND Hy**	**20.67**	**70**	T	T	16 42 50.1	
	baz=246						
KSRS	**Korea Array**	**28.87**	**329**	P	**P**	**16 24 25.8**	**-0.6**
	0.9nm,0.8s,baz=139,slow=12,SNR=1.9						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**35.33**	**200**	P	**P**	**16 25 23.5**	**+0.2**
	0.8nm,1.1s,baz=23,slow=9.5,SNR=2.8						
	0.8nm,1.1s						
ASAR	**Alice Springs**	**38.95**	**198**	P	**P**	**16 25 53.7**	**-0.4**
	0.3nm,0.8s,baz=9.1,slow=12,SNR=5.0						
	0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**45.66**	**283**	P	**P**	**16 26 49.2**	**+0.3**
	0.4nm,0.6s,baz=87,slow=6.3,SNR=4.9						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**62.43**	**324**	P	**P**	**16 28 50.8**	**0.0**
	0.4nm,0.4s,baz=100,slow=6.0,SNR=2.5						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**62.45**	**316**	P	**P**	**16 28 51.8**	**+0.6**
	0.4nm,0.4s,baz=95,slow=7.7,SNR=9.9						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**65.52**	**320**	P	**P**	**16 29 11.3**	**+0.1**
	0.8nm,0.6s,baz=101,slow=6.7,SNR=9.6						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**67.99**	**25**	P	**P**	**16 29 27.5**	**+0.8**
	0.2nm,0.7s,baz=251,slow=5.3,SNR=5.0						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**70.78**	**322**	P	**P**	**16 29 44.8**	**+0.6**
	1.3nm,0.5s,baz=104,slow=7.0,SNR=8.2						
	1.3nm,0.5s						
FINES	**FINESS Array B**	**91.74**	**335**	P	**P**	**16 31 34.4**	**-0.9**
	1.8nm,1.0s,baz=72,slow=6.2,SNR=7.7						
	1.8nm,1.0s						

*IDC **25** 16:53:27.5±2.4, 5°.24S×147°.87E, h195km±23km, mb3.5/2, mbtmp4.1/5, Error ellipse: s-maj=64.3km s-min=14.3km az=120.0*

*NEIC **25** 16:53:29.8±0.6, 5°.4S±0°.1×148°.3E±0°.2, h212km±10km, mb4.5/20, Error ellipse: s-maj=24.3km s-min=16.5km az=106.0*

ISC 25 16:53:28.4±1.0, 5°.4S±0°.1×148°.2E±0°.1, h200km, n36, σ1§11/39, mb4.4/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.13**	**194**		**Pn**	**16 54 33.4**	**+1.6**
PMG	**Port Moresby**	**4.13**	**194**	P	**Pn**	**16 54 32.8**	**+1.1**
	6.3nm,0.3s,baz=12,slow=4.9,SNR=11						
PMG				S	**Sn**	**16 55 21.2**	**-0.4**
	52nm,0.6s,baz=347,slow=5.3,SNR=7.8						
CTA	**Charters Tower**	**14.74**	**187**	P	**Pn**	**16 56 48.4**	**+0.9**
CTA	**Charters Tower**	**14.74**	**187**	P	**Pn**	**16 56 48.0**	**+0.5**
	2.4nm,0.6s,baz=5.3,slow=12,SNR=8.5						
CTAO	**Charters Tower**	**14.74**	**187**	P	**Pn**	**16 56 48.4**	**+0.9**
CTAO	**Charters Tower**	**14.74**	**187**	P	**Pn**	**16 56 48.3**	**+0.9**
QIS	**Mount Isa**	**17.24**	**208**	P	**P**	**16 57 17.1**	**+1.1**
MTN	**Manton Dam**	**18.40**	**245**	P	**P**	**16 57 30.4**	**+1.7**
MTN				IAmb	IAmb	16 57 50.0	
	comp=Z,31nm,1.2s						
WB0	**Warramunga Arr**	**19.62**	**222**	P	**P**	**16 57 42.2**	**+0.3**
WB0				IAmb	IAmb	16 57 43.4	
	comp=Z,7.0nm,0.7s						
WR0	**Warramunga Arr**	**19.66**	**221**	P	**P**	**16 57 42.7**	**+0.4**
WR0				IAmb	IAmb	16 57 43.2	
	comp=Z,12nm,0.5s						
WRAB	**Tennant Creek**	**19.77**	**222**	P	**P**	**16 57 43.6**	**+0.2**
WB2	**Warramunga Arr**	**19.77**	**222**	P	**P**	**16 57 43.9**	**+0.4**
WB2				IAmb	IAmb	16 57 44.8	
	comp=Z,14nm,0.6s						
WRA	**Warramunga Arr**	**19.78**	**222**	P	**P**	**16 57 43.8**	**+0.2**
	comp=Z,8.8nm,0.5s,baz=44,slow=11,SNR=178						
WRA				S	**S**	**17 01 10.8**	**-4.8**
	comp=Z,1.6nm,0.6s,baz=51,slow=18,SNR=2.7						
EIDS	**Eidsvold**	**20.06**	**172**	P	**P**	**16 57 46.1**	**-0.3**
EIDS				IAmb	IAmb	16 57 48.6	
	comp=Z,9.6nm,1.3s						
QLP	**Quilpie**	**21.42**	**190**	P	**P**	**16 58 01.2**	**+0.4**
KNRA	**Kununurra**	**21.65**	**240**	P	**P**	**16 58 04.6**	**+1.3**
AS31	**Alice Springs**	**22.80**	**216**		**P**	**16 58 14.3**	**+0.2**
ASAR	**Alice Springs**	**22.81**	**216**	P	**P**	**16 58 14.1**	**0.0**
	comp=Z,3.9nm,0.3s,baz=45,slow=8.7,SNR=234						
ASAR				S	**S**	**17 02 08.6**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=28,slow=20,SNR=8.0						
	comp=Z,3.9nm,0.3s						
INKA	**Innaminka**	**23.34**	**197**	P	**P**	**16 58 19.0**	**+0.2**
AULRC	**Lightning Ridg**	**23.92**	**180**	P	**P**	**16 58 23.2**	**-0.9**
DZM	**Mont Dzumac**	**24.22**	**135**	P	**P**	**16 58 27.0**	**0.0**
DZM				IAmb	IAmb	16 58 28.3	
	comp=Z,6.2nm,0.9s						
ARMA	**Armidale**	**25.11**	**173**	P	**P**	**16 58 34.5**	**-0.5**
ARMA				IAmb	IAmb	16 59 06.9	
	comp=Z,20nm,1.4s						
FITZ	**Fitzroy Crossi**	**25.41**	**238**	P	**P**	**16 58 38.0**	**+0.3**
STKA	**Stephens Creek**	**27.07**	**192**	P	**P**	**16 58 50.8**	**-1.7**
CAN	**Canberra**	**29.80**	**179**	P	**P**	**16 59 16.3**	**-0.4**
FORT	**Forrest**	**31.57**	**214**	P	**P**	**16 59 31.9**	**-0.3**
MBWA	**Marble Bar**	**31.75**	**238**	P	**P**	**16 59 33.8**	**-0.1**
MBWA				IAmb	IAmb	17 00 03.6	
	comp=Z,20nm,1.4s						
PSA00	**Pilbara Seismi**	**31.83**	**237**	P	**P**	**16 59 34.2**	**-0.4**
PSA00				IAmb	IAmb	17 00 02.3	
	comp=Z,8.4nm,1.4s						
MORW	**Morawa**	**38.47**	**229**	P	**P**	**17 00 31.3**	**+0.1**
MORW				IAmb	IAmb	17 01 05.6	
	comp=Z,18nm,1.4s						
PLWZ	**Palliser**	**43.36**	**150**	P	**P**	**17 01 10.5**	**-0.5**
MLZ	**Mavora Lakes**	**43.44**	**160**	P	**P**	**17 01 11.5**	**0.0**
VNDA	**Vanda**	**72.45**	**177**	P	**P**	**17 04 31.7**	**-0.8**
IMAR	**Indian Mountai**	**82.50**	**21**	P	**P**	**17 05 28.7**	**+0.5**
ILAR	**Eielson Array**	**84.45**	**23**	P	**P**	**17 05 37.6**	**-0.6**
ILAR	**Eielson Array**	**84.45**	**23**	P	**P**	**17 05 36.8**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=256,slow=4.7,SNR=8.2						
	comp=Z,0.3nm,0.6s						
J25K	**Salcha River,**	**84.98**	**23**	P	**P**	**17 05 40.8**	**-0.1**

TAP 25 17:18:46.9, 22°.26N×121°.22E, h31km±1km, ML1.8, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAW	**Tawu**	**0.32**	**288**	P	Pb	17 18 54.6	0.0
	baz=293						
TAW				S	Sb	17 19 00.0	+0.1
	baz=293						
TAWH	**Dawu Township**	**0.32**	**285**	*i* P	Pb	17 18 54.5	-0.1
	baz=289						
TAWH				S	Sb	17 19 00.1	+0.1
	baz=289						
EAST	**Anshuo**	**0.36**	**290**	*i* P	Pb	17 18 55.2	-0.1
	baz=294						
EAST				S	Sb	17 19 01.4	+0.2
	baz=294						
SLIU	**Shizi**	**0.39**	**264**	*e*P	Pb	17 18 54.4	-1.3
	baz=263						
SLIU				*e*S	Sb	17 18 60.0	-1.8
	baz=263						
ECL	**Taimali**	**0.42**	**324**	*e*P	Pn	17 18 56.4	-0.3
	baz=326						
ECL				*e*S	Sn	17 19 03.8	+0.4
	baz=326						
LYUB	**Lan-yu**	**0.42**	**127**	P	Pb	17 18 55.4	-0.8
	baz=122						
LYUB				*e*S	Sb	17 19 01.9	-0.6
	baz=122						
SMST	**Manzhou Townsh**	**0.43**	**236**	*e*P	Pb	17 18 55.2	-1.0
	baz=230						
SMST				*e*S	Sb	17 19 02.3	-0.3
	baz=230						
TSEB	**Hengchuen, Pin**	**0.46**	**220**	P	Pn	17 18 57.1	-0.2
	baz=226						
TSEB				S	Sn	17 19 04.8	+0.3
	baz=226						
LDUT	**Ludao**	**0.47**	**29**	*e*P	Pn	17 18 57.4	-0.1
	baz=38						
LDUT				*e*S	Sn	17 19 05.5	+0.7
	baz=38						
TWKBT	**Hengchun**	**0.49**	**230**	P	Pb	17 18 57.2	0.0
	baz=227						
TWKBT				S	Sn	17 19 04.8	-0.4
	baz=227						
TWK1	**Hengchun**	**0.49**	**231**	P	Pb	17 18 57.2	-0.1
	baz=226						
TTN	**Taitung**	**0.50**	**352**	*i* P	Pn	17 18 57.7	-0.1
	baz=3.0						
HEN	**Hengchun**	**0.51**	**241**	P	Pb	17 18 57.1	-0.4
	baz=236						
HEN				S	Sn	17 19 05.6	-0.1
	baz=236						
SCZT	**Fangliau**	**0.57**	**282**	*e*P	Pb	17 18 57.7	-0.7
	baz=281						
SCZT				S	Sn	17 19 07.7	+0.6
	baz=281						
MASBT	**Mashibuluo**	**0.65**	**303**	*i* P	Pn	17 19 00.0	+0.2
	baz=306						

*NEIC **25** 17:23:45.0±1.1, 15°.66S±0°.08×174°.1W±0°.1, h118km±7km, mb4.4/50, Error ellipse: s-maj=14.8km s-min=10.9km az=95.0*

*IDC **25** 17:23:47.2±3.4, 15°.53S×174°.09W, h138km±30km, mb3.9/14, mbtmp4.3/15, Error ellipse: s-maj=19.2km s-min=13.3km az=136.0*

*NOU **25** 17:24:14.9, 14°.06S×172°.26W, h81km, MLv3.7/4, Samoa Islands*

ISC 25 17:23:42.2±0.4, 15°.64S±0°.06×174°.15W±0°.06, h94km, n96, σ1§22/94, mb4.3/35, 3C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.87**	**53**	Pn	**Pn**	**17 24 29.8**	**+3.7**
AFI				Sn	**Sn**	**17 24 50.0**	**+0.1**
AFI	**Afiamalu**	**2.87**	**53**	P	**Pn**	**17 24 30.1**	**+4.0**
NIUE	**Niue**	**5.29**	**131**	Pn	**Pn**	**17 25 01.6**	**+2.9**
NIUE				Sn	**Sn**	**17 25 57.1**	**-1.3**
RAR	**Rarotonga**	**14.72**	**114**	P	**P**	**17 27 10.1**	**+0.8**
	9.1nm,0.4s,baz=144,slow=19,SNR=1.0						
OUENC	**Ouen Island, N**	**19.18**	**247**	P	**P**	**17 27 59.5**	**+1.0**
OUENC				IAmb	IAmb	17 28 09.4	
	comp=Z,18nm,1.1s						
DZM	**Mont Dzumac**	**19.44**	**248**	*e*S	**S**	**17 31 36.7**	**+0.3**
	comp=Z,32nm,25.0s						
DZM	**Mont Dzumac**	**19.44**	**248**	P	**Pn**	**17 28 07.3**	**+3.7**
	comp=Z,1.8nm,0.5s,baz=97,slow=19,SNR=1.8						
ONTNC	**Ouen Toro**	**19.50**	**247**		**P**	**17 28 00.6**	**-1.4**
PPT2	**Papeete2**	**23.62**	**98**	*e*sS	sS	17 33 50.3	+23
	comp=Z,118nm,33.2s						
RTZ	**Ruatahuna**	**24.18**	**197**	P	**P**	**17 28 49.8**	**-0.1**
RTZ				IAmb	IAmb	17 29 19.3	
	comp=Z,30nm,1.3s						
TBI	**Tubuai**	**24.48**	**112**	*e*sS	sS	17 33 40.6	-1.2
	comp=Z,681nm,41.8s						
BFZ	**Birch Farm**	**26.31**	**197**	P	**P**	**17 29 09.7**	**+0.7**
QRZ	**Quartz Range**	**27.63**	**202**	P	**P**	**17 29 22.1**	**+1.2**
KHZ	**Kahutara**	**28.71**	**199**	P	**P**	**17 29 29.7**	**-0.7**
MLZ	**Mavora Lakes**	**33.18**	**203**	P	**P**	**17 30 09.2**	**-0.7**
CAN	**Canberra**	**38.31**	**232**	P	**P**	**17 30 53.9**	**+0.1**
H11S2	**WAKE ISLAND Hy**	**38.80**	**330**	T	T	18 10 33.6	
	baz=155,slow=74,SNR=5.2						
H11S3	**WAKE ISLAND Hy**	**38.82**	**330**	T	T	18 10 45.3	
	baz=155,slow=74,SNR=3.5						
H11S1	**WAKE ISLAND Hy**	**38.82**	**330**	T	T	18 10 34.3	
	baz=155,slow=74,SNR=3.1						
STKA	**Stephens Creek**	**43.29**	**240**	P	**P**	**17 31 36.0**	**+1.3**
STKA	**Stephens Creek**	**43.29**	**240**	P	**P**	**17 31 35.8**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=94,slow=11,SNR=8.2						
	comp=Z,0.9nm,0.5s						
BBOO	**Buckleboo**	**48.07**	**240**	P	**P**	**17 32 12.0**	**-0.4**
BBOO				IAmb	IAmb	17 32 26.3	
	comp=Z,20nm,1.4s						
WB0	**Warramunga Arr**	**49.05**	**257**	P	**P**	**17 32 20.2**	**+0.1**
WB0				IAmb	IAmb	17 32 21.8	
	comp=Z,7.7nm,1.1s						
WRA	**Warramunga Arr**	**49.09**	**257**	P	**P**	**17 32 20.1**	**-0.3**
WRA	**Warramunga Arr**	**49.09**	**257**	P	**P**	**17 32 21.2**	**+0.8**
	comp=Z,1.3nm,0.4s,baz=92,slow=6.9,SNR=78						
WRA				ScP	**ScP**	**17 37 24.8**	**-4.9**
	comp=Z,0.2nm,0.8s,baz=90,slow=5.9,SNR=4.8						
	comp=Z,1.3nm,0.4s						
AS31	**Alice Springs**	**49.35**	**252**	P	**P**	**17 32 22.3**	**-0.1**
AS31				IAmb	IAmb	17 32 24.3	
	comp=Z,2.5nm,0.7s						
ASAR	**Alice Springs**	**49.35**	**252**	P	**P**	**17 32 22.9**	**+0.5**
ASAR	**Alice Springs**	**49.35**	**252**	P	**P**	**17 32 23.1**	**+0.6**
	comp=Z,8.4nm,0.6s,baz=88,slow=7.8,SNR=218						
	comp=Z,8.4nm,0.6s						
GUMO	**Guam**	**49.86**	**303**	P	**P**	**17 32 27.1**	**+0.8**
MTN	**Manton Dam**	**52.99**	**266**	P	**P**	**17 32 49.7**	**0.0**
FAKI	**Fak Fak**	**54.23**	**278**	P	**P**	**17 32 59.3**	**+0.5**
FORT	**Forrest**	**54.66**	**243**	P	**P**	**17 33 01.6**	**-0.1**
SOEI	**Soe**	**60.20**	**268**	P	**P**	**17 33 41.4**	**+0.5**
PSA00	**Pilbara Seismi**	**62.44**	**254**	P	**P**	**17 33 54.5**	**-1.4**
PSA00				IAmb	IAmb	17 34 04.6	
	comp=Z,7.7nm,1.4s						
SBA	**Scott Base**	**62.96**	**184**	P	**P**	**17 33 59.4**	**+1.1**
VNDA	**Vanda**	**63.07**	**186**	P	**P**	**17 34 00.2**	**+1.2**
VNDA				IAmb	IAmb	17 34 01.6	
	comp=Z,3.8nm,1.0s						
VNDA	**Vanda**	**63.07**	**186**	P	**P**	**17 34 00.5**	**+1.4**
	comp=Z,2.4nm,0.9s,baz=2.2,slow=6.0,SNR=9.9						
	comp=Z,2.4nm,0.9s						
MJAR	**Matsushiro Arr**	**68.66**	**320**	P	**P**	**17 34 35.8**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=220,slow=1.4,SNR=2.9						
	comp=Z,1.9nm,0.7s						
JSD	**Sado**	**69.59**	**322**	P	**P**	**17 34 42.8**	**+1.5**
JSD				IAmb	IAmb	17 34 43.5	
	comp=Z,7.2nm,0.6s						
PETK	**Petropavlovsk-**	**72.64**	**343**	P	**P**	**17 34 59.3**	**0.0**
PETK	**Petropavlovsk-**	**72.64**	**343**	P	**P**	**17 34 59.0**	**-0.4**
	comp=Z,3.9nm,0.8s,baz=127,slow=9.4,SNR=2.1						
	comp=Z,3.9nm,0.8s						
KMRM	**Mail Ridge**	**72.69**	**38**	P	**P**	**17 34 59.0**	**-1.0**
CHGN	**Chignik**	**72.87**	**9**	P	**P**	**17 35 00.6**	**0.0**
CMB	**Columbia Colle**	**73.42**	**42**	P	**P**	**17 35 03.5**	**-0.9**
CMB				IAmb	IAmb	17 35 04.9	
	comp=Z,5.9nm,1.1s						
QSPA	**South Pole Qui**	**74.41**	**180**	P	**P**	**17 35 10.1**	**+0.3**
QSPA				IAmb	IAmb	17 35 11.4	
	comp=Z,12nm,0.8s						
QSPA	**South Pole Qui**	**74.41**	**180**	P	**P**	**17 35 10.7**	**+0.9**
	comp=Z,13nm,0.9s,baz=35,slow=1.5,SNR=27						
	comp=Z,13nm,0.9s						
PNTR	**Pine Nut**	**74.54**	**41**	P	**P**	**17 35 10.5**	**-0.6**
PNTR				IAmb	IAmb	17 35 11.8	
	comp=Z,6.8nm,0.9s						
RYN	**Ryan**	**74.96**	**42**	P	**P**	**17 35 13.0**	**-0.4**
NVAR	**Mina Array Bea**	**74.99**	**42**	P	**P**	**17 35 12.7**	**-1.0**
	comp=Z,3.9nm,0.9s,baz=228,slow=9.5,SNR=19						
	comp=Z,3.9nm,0.9s						
PAHR	**Pah Rah Range**	**75.03**	**41**	P	**P**	**17 35 13.4**	**-0.4**
PAHR				IAmb	IAmb	17 35 14.6	
	comp=Z,6.3nm,1.2s			

comp=Z,360nm,4.7s
YKA Yellowknife Ar 90.60 24 P **P 17 36 33.0 -0.6**
comp=Z,0.4nm,0.8s,baz=248,slow=4.4,SNR=5.1
comp=Z,0.4nm,0.8s
ELIB Princess Elisa 91.83 185 *d*P **P 17 36 37.8 -1.7**
comp=Z,4.5nm,0.9s
CMAR Chiang Mai Arr 92.00 288 P **P 17 36 41.9 +0.7**
comp=Z,0.7nm,0.8s,baz=102,slow=3.4,SNR=4.7
comp=Z,0.7nm,0.8s
TROLL Troll, Antarti 92.54 179 ⇑P **P 17 36 42.7 -0.1**
comp=Z,112nm,0.7s
VNA3 Neumayer Olymp 92.68 175 ⇑P **P 17 36 43.1 -0.2**
comp=Z,3.1nm,0.6s
SNAA Sanae 92.70 177 P **P 17 36 43.2 -0.3**
VNA2 Neumayer--Watz 93.17 176 ⇑P **P 17 36 45.7 +0.1**
baz=198,slow=4.0
ARCES ARCESS Array B 124.74 352 PKP **PKPdf 17 42 29.5 -0.8**
comp=Z,1.8nm,0.8s,baz=0.0,slow=0.3,SNR=4.1
CLL Collm 143.96 352 *e*PKPdf **PKPdf 17 43 08.0 +1.4**
CLL AMS AMS 19 14 00.0
comp=N,300nm,19.6s
CLL AMS AMS 19 14 00.0
comp=E,300nm,19.7s
CLL AMS AMS 19 14 00.0
comp=Z,500nm,19.9s
CRVS Cervenica-Dubn 144.45 342 *e*PKP **PKiKP 17 43 10.7 -0.5**
VYHS Vyhne 145.54 345 *e*PKP **PKPab 17 43 09.7 -0.3**
GERES GERESS Array B 146.26 351 PKPbc **PKPbc 17 43 11.5 -0.5**
comp=Z,0.9nm,0.8s,baz=45,slow=2.9,SNR=3.8
CONA Conrad Observa 146.76 348 *i* PKP **PKPdf 17 43 10.8 -0.8**
comp=Z,0.3nm,0.3s
RONA Rosalia, Austr 146.88 347 *i* PKP **PKPdf 17 43 11.0 -0.7**
comp=Z,0.7nm,0.5s
MOA Molln 147.14 350 *i* PKP **PKPdf 17 43 11.9 -0.3**
comp=Z,0.1nm,0.1s
ARSA Arzberg 147.47 348 *i* PKP **PKPdf 17 43 13.6 +0.9**
comp=Z,0.2nm,0.2s
RETA Reutte 147.98 354 *i* PKP **PKPdf 17 43 14.3 +0.6**
comp=Z,0.6nm,0.4s
MOTA Moosalm 148.09 353 *e*PKP **PKPdf 17 43 13.0 -1.0**
comp=Z,1.2nm,0.6s
WTTA Wattenberg 148.10 353 *i* PKP **PKPdf 17 43 12.9 -1.1**
comp=Z,1.6nm,0.5s
SOKA Soboth 148.12 348 *e*PKP **PKPdf 17 43 13.4 -0.5**
comp=Z,0.4nm,0.4s
OBKA Obir 148.38 349 *e*PKP **PKPdf 17 43 13.8 -0.6**
comp=Z,0.2nm,0.2s
MYKA Terra Mystica 148.43 350 *i* PKP **PKPbc 17 43 16.1 -1.9**
comp=Z,1.0nm,0.4s
ABTA Abfaltersbach 148.49 351 *e*PKP **PKPbc 17 43 17.0 -1.2**
comp=Z,3.7nm,0.9s
TORD Torodi Ar. Bea 175.27 121 PKPab **PKPab 17 45 16.8 -1.9**
comp=Z,0.9nm,0.9s,baz=270,slow=3.7,SNR=3.9

*IDC **25** 17:36:49.8±2.2,4°.76S×128°.46E,h0km,mb3.5/1,*
mbtmp3.5/3,ML3.5/2,Error ellipse: s-maj=133.9km
s-min=31.0km az=67.0
*DJA **25** 17:37:08.9±0.4,5°.S±4°×13°.0E±°,h186km±5km,M3.9/13,*
mb3.8/3,MLv4.0/13
ISC 25 17:37:08.2±0.9,**4.78S**±0°.08×**129°.75E**±0°.08,**h200**km,**n21,**
σ**1**ş**75/24,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.30**	**32**	P		**Pn**	**17 37 34.6**	**-0.2**
BNDI	**Bandanaira**	**0.30**	**32**	P		**Pn**	**17 37 34.4**	**-0.4**
BNDI				S		**Sn**	**17 37 54.7**	**-0.6**
NLAI	**Namlea**	**3.05**	**300**	P		**Pn**	**17 37 59.8**	**+1.3**
FAKI	**Fak Fak**	**3.11**	**54**	P		**Pn**	**17 37 59.3**	**+0.1**
FAKI	**Fak Fak**	**3.11**	**54**	P		**Pn**	**17 37 59.3**	**+0.1**
SAUI	**Saumlaki**	**3.54**	**154**	P		**Pn**	**17 38 04.7**	**+0.3**
KMPI	**Kaimana, Papua**	**4.10**	**74**	P		**Pn**	**17 38 11.5**	**+0.2**
SWI	**Sorong**	**4.17**	**21**	P		**Pn**	**17 38 11.5**	**-0.7**
SANI	**Sanana**	**4.63**	**306**	P		**Pn**	**17 38 16.5**	**-1.4**
SANI	**Sanana**	**4.63**	**306**	P		**Pn**	**17 38 16.1**	**-1.8**
LBMI	**Labuha**	**4.68**	**331**	P		**Pn**	**17 38 17.8**	**-0.9**
TNTI	**Ternate**	**6.00**	**337**	P		**Pn**	**17 38 35.1**	**-0.5**
	23nm,1.1s,0.1nm							
SOEI	**Soe**	**7.35**	**227**	P		**Pn**	**17 38 54.1**	**+0.9**
MTN	**Manton Dam**	**8.13**	**170**	P		**Pn**	**17 39 02.9**	**-0.3**
KDU	**Kakadu**	**8.31**	**161**	P		**Pn**	**17 39 04.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**13.83**	**197**	P		**Pn**	**17 40 17.5**	**+1.3**
WRA	**Warramunga Arr**	**15.72**	**164**	Pn		**P**	**17 40 38.2**	**-1.0**
	0.2nm,0.3s,baz=338,slow=13,SNR=18							
WRA				Sn		**S**	**17 43 27.5**	**-6.4**
	0.3nm,0.3s,baz=336,slow=22,SNR=8.2							
	0.4nm,0.5s							
QIS	**Mount Isa**	**18.38**	**149**	P		**P**	**17 41 10.3**	**+1.9**
ASAR	**Alice Springs**	**19.20**	**168**	P		**P**	**17 41 18.9**	**+1.6**
	0.3nm,0.3s,baz=345,slow=11,SNR=42							
ASAR				S		**S**	**17 44 44.8**	**+0.6**
	0.5nm,0.6s,baz=347,slow=17,SNR=6.0							
	0.8nm,0.4s							
WRKA	**Warakurna**	**20.19**	**184**	P		**P**	**17 41 29.2**	**+1.4**
MKAR	**Makanchi Array**	**66.24**	**326**	P		**P**	**17 47 35.1**	**+0.3**
	0.4nm,0.7s,baz=124,slow=7.9,SNR=2.7							
	0.4nm,0.7s							

*ISK **25** 17:40:41.1,37°.29N×38°.62E,h4km,ML3.7/24*
*AFAD **25** 17:40:41.3±0.0,37°.28N×38°.62E,h8km±1km,MW3.7*
ISC 25 17:40:42.0±1.0,**37°.29N**±0°.02×**38°.62E**±0°.02,**h6**km±9km,
n52, σ**0**ş**63/84,Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.22**	**48**	Pg		**Pg**	**17 40 45.9**	**-0.4**
ATAB	**Bozova**	**0.31**	**304**	P		**Pg**	**17 40 48.2**	**+0.1**
ATAB				S		**Sg**	**17 40 52.8**	**+0.5**
ATAB				*i* AML		AML	17 40 53.0	
	comp=E,1μm,0.3s							
ATAB				*i* AML		AML	17 40 54.0	
	comp=N,1μm,0.3s							
SANL	**SANLIURFA_Merk**	**0.32**	**112**	P		**Pg**	**17 40 48.0**	**-0.3**
SANL				S		**Sg**	**17 40 52.4**	**-0.1**
SANL				*i* AML		AML	17 40 53.0	
	comp=N,9μm,0.4s							
SANL				*i* AML		AML	17 40 57.0	
	comp=E,8μm,0.5s							
HANM	**anlurfa/Hi**	**0.35**	**36**	P		**Pg**	**17 40 48.6**	**-0.3**
HANM				S		**Sg**	**17 40 53.5**	**-0.1**
HANM				*i* AML		AML	17 40 56.0	
	comp=N,1μm,0.5s							
HANM				*i* AML		AML	17 40 57.0	
	comp=E,3μm,0.6s							
SURC	**SANLIURFA_SURC**	**0.41**	**181**	P		**Pg**	**17 40 49.9**	**-0.1**
SURC				S		**Sg**	**17 40 56.0**	**+0.6**
SURC				*i* AML		AML	17 41 01.0	
	comp=E,6μm,0.3s							
SURC				*i* AML		AML	17 41 02.0	
	comp=N,7μm,0.6s							
AZEY	**Adyaman-Merk**	**0.59**	**330**	P		**Pg**	**17 40 53.4**	**-0.1**
AZEY				S		**Sg**	**17 41 00.8**	**-0.4**
AZEY				*i* AML		AML	17 41 05.0	
	comp=E,825nm,0.3s							
AZEY				*i* AML		AML	17 41 09.0	
	comp=N,997nm,0.5s							
NARI	**Adyaman-Kaht**	**0.60**	**11**	P		**Pg**	**17 40 53.3**	**-0.3**
NARI				S		**Sg**	**17 41 01.0**	**-0.4**
NARI				*i* AML		AML	17 41 07.0	
	comp=N,673nm,0.9s							
NARI				*i* AML		AML	17 41 19.0	
	comp=E,640nm,1.2s							
NZIP	**Nizip/Gaziante**	**0.80**	**252**	P		**Pg**	**17 40 57.3**	**0.0**
NZIP				S		**Sg**	**17 41 07.9**	**+0.3**
NZIP				*i* AML		AML	17 41 12.0	
	comp=E,3μm,0.7s							
NZIP				*i* AML		AML	17 41 15.0	
	comp=N,2μm,0.4s							
GZT	**Gaziantep**	**0.84**	**274**	P		**Pg**	**17 40 58.1**	**-0.1**
GZT				S		**Sg**	**17 41 10.3**	**+1.2**
GZT				*i* AML		AML	17 41 15.0	
	comp=N,2μm,0.3s							
GZT				*i* AML		AML	17 41 17.0	
	comp=E,2μm,0.4s							
AKCA	**Adyaman/G¶l**	**0.89**	**304**	P		**Pg**	**17 40 58.8**	**-0.4**
AKCA				*i* AML		AML	17 41 16.0	
	comp=N,2μm,0.5s							
AKCA				*i* AML		AML	17 41 17.0	
	comp=E,2μm,0.4s							
MAYA	**Malatya/Merkez**	**1.04**	**352**	P		**Pg**	**17 41 01.4**	**-0.6**
MAYA				S		**Sb**	**17 41 16.6**	**+0.2**
MAYA				*i* AML		AML	17 41 18.0	
	comp=N,819nm,0.5s							
MAYA				*i* AML		AML	17 41 20.0	
	comp=E,808nm,0.6s							
GAZ	**Gaziantep**	**1.13**	**264**	Pn		**Pg**	**17 41 03.3**	**-0.4**
GAZ				Sn		**Sb**	**17 41 19.5**	**+0.5**
AKCD	**Akcadag**	**1.14**	**331**	P		**Pg**	**17 41 03.5**	**-0.4**
AKCD				S		**Sg**	**17 41 18.3**	**-0.4**
AKCD				*i* AML		AML	17 41 22.0	
	comp=N,2μm,0.4s							
AKCD				*i* AML		AML	17 41 22.0	
	comp=E,2μm,0.4s							
KHMN	**Narli-Kahraman**	**1.17**	**275**	Pn		**Pg**	**17 41 03.7**	**-0.7**
KHMN				Sn		**Sb**	**17 41 20.8**	**+0.8**
KAHM	**Kahramanmaras,**	**1.32**	**280**	P		**Pn**	**17 41 05.6**	**-1.4**
KAHM				S		**Sb**	**17 41 24.2**	**-0.1**
KAHM				*i* AML		AML	17 41 25.0	
	comp=E,551nm,0.3s							
KAHM				*i* AML		AML	17 41 28.0	
	comp=N,997nm,0.4s							
DIYA	**Diyarbakir**	**1.35**	**62**	P		**Pg**	**17 41 08.0**	**+0.1**
DIYA				S		**Sn**	**17 41 25.5**	**-0.1**
HCB	**Kahramanmara**	**1.36**	**273**	P		**Pn**	**17 41 06.2**	**-1.4**
HCB				S		**Sb**	**17 41 24.6**	**-1.0**
HCB				*i* AML		AML	17 41 29.0	
	comp=E,698nm,0.4s							
HCB				*i* AML		AML	17 41 34.0	
	comp=N,570nm,0.7s							
KHMR	**Kahramanmara**	**1.36**	**273**	P		**Pn**	**17 41 06.2**	**-1.4**
KHMR				P		**Pb**	**17 41 07.8**	**-0.1**
KHMR				S		**Sb**	**17 41 24.7**	**-1.0**
KHMR				S		**Sn**	**17 41 25.6**	**-0.5**
KHMR				*i* AML		AML	17 41 29.0	
	comp=E,548nm,0.5s							
KHMR				*i* AML		AML	17 41 29.0	
	comp=E,546nm,0.5s							
KHMR				*i* AML		AML	17 41 33.0	
	comp=N,444nm,0.7s							
KHMR				*i* AML		AML	17 41 34.0	
	comp=N,446nm,0.7s							
DYBB	**Diyarbakir**	**1.38**	**61**	Pn		**Pb**	**17 41 08.1**	**-0.1**
DYBB				Sn		**Sg**	**17 41 26.9**	**+0.7**
KMRS	**Kahramanmaras**	**1.39**	**279**	Pn		**Pn**	**17 41 07.9**	**0.0**
KMRS				Sn		**Sg**	**17 41 27.4**	**+0.9**
MAZI	**Mazidag**	**1.47**	**83**	Pn		**Pn**	**17 41 08.6**	**-0.5**
MAZI				Sn		**Sg**	**17 41 29.4**	**+0.3**
DARE	**Darende-Malaty**	**1.56**	**325**	Pn		**Pn**	**17 41 10.7**	**+0.3**
KAMA	**Osmaniye**	**1.56**	**267**	P		**Pn**	**17 41 10.4**	**+0.1**
KAMA				S		**Sn**	**17 41 29.6**	**-1.4**
KAMA				*i* AML		AML	17 41 36.0	
	comp=N,364nm,0.6s							
KAMA				*i* AML		AML	17 41 37.0	
	comp=E,375nm,0.6s							
KOVA	**Elazig, Kovanc**	**1.70**	**33**	P		**Pn**	**17 41 12.2**	**0.0**
KOVA				S		**Sn**	**17 41 34.3**	**0.0**
KOVA				*i* AML		AML	17 41 43.0	
	comp=E,225nm,0.7s							
KOVA				*i* AML		AML	17 41 50.0	
	comp=N,150nm,0.8s							
PTK	**Pertek**	**1.71**	**21**	Pn		**Pn**	**17 41 12.1**	**-0.4**
CUGUR	**Gurin_SVAS**	**1.78**	**324**	P		**Pg**	**17 41 16.1**	**-0.1**
CUGUR				S		**Sb**	**17 41 37.5**	**-0.2**
HANI	**Diyarbakir_Han**	**1.80**	**51**	P		**Pn**	**17 41 13.3**	**-0.3**
HANI				S		**Sb**	**17 41 37.8**	**-0.4**
HANI				*i* AML		AML	17 41 47.0	
	comp=N,484nm,0.5s							
HANI				*i* AML		AML	17 41 50.0	
	comp=E,307nm,0.7s							
ARPR	**Arapgir-MALATY**	**1.81**	**353**	Pn		**Pn**	**17 41 13.7**	**-0.2**
ANDN	**Andirin**	**1.83**	**280**	P		**Pn**	**17 41 14.2**	**+0.1**
ANDN				S		**Sb**	**17 41 39.0**	**-0.2**
ANDN				*i* AML		AML	17 41 44.0	
	comp=N,708nm,0.4s							
ANDN				*i* AML		AML	17 41 47.0	
	comp=E,694nm,0.5s							
RHAN	**Hatay/Reyhanl**	**1.92**	**238**	P		**Pn**	**17 41 15.7**	**+0.5**
RHAN				S		**Sb**	**17 41 41.3**	**-0.3**
RHAN				*i* AML		AML	17 41 49.0	
	comp=E,1μm,0.5s							
RHAN				*i* AML		AML	17 41 58.0	
	comp=N,1μm,0.7s							
TNCL	**Tunceli-Merkez**	**1.96**	**22**	P		**Pn**	**17 41 15.5**	**-0.4**
TNCL				S		**Sb**	**17 41 43.9**	**+0.9**
KEMA	**Kemaliye**	**1.97**	**357**	P		**Pn**	**17 41 16.2**	**+0.2**
KEMA				S		**Sn**	**17 41 42.0**	**+0.9**
KEMA				*i* AML		AML	17 41 48.0	
	comp=E,241nm,0.6s							
KEMA				*i* AML		AML	17 41 50.0	
	comp=N,151nm,0.5s							
SARI	**SarD1z-Kayseri**	**2.07**	**303**	Pn		**Pn**	**17 41 18.2**	**+0.8**
SAIM	**ADANA**	**2.13**	**289**	P		**Pn**	**17 41 17.5**	**-0.7**
SAIM				S		**Sb**	**17 41 48.5**	**+0.9**
ILIC	**ilic-Erzincan**	**2.15**	**359**	Pn		**Pn**	**17 41 18.8**	**+0.2**
TAHT	**Tahtakopru-Hat**	**2.16**	**246**	Pn		**Pn**	**17 41 19.2**	**+0.7**
BTMN	**Batman**	**2.19**	**73**	P		**Pn**	**17 41 18.8**	**-0.2**
BTMN				S		**Sb**	**17 41 49.9**	**+0.5**
SVAN	**Silvan-Diyarba**	**2.22**	**67**	Pn		**Pn**	**17 41 18.8**	**-0.5**
SVAN	**Silvan-Diyarba**	**2.22**	**67**	P		**Pn**	**17 41 19.0**	**-0.3**
SVAN				S		**Sb**	**17 41 49.0**	**-1.2**
KOZT	**Kozan**	**2.23**	**276**	Pn		**Pn**	**17 41 20.5**	**+1.0**
CEYT	**Ceyhan**	**2.31**	**264**	Pn		**Pn**	**17 41 21.2**	**+0.6**
BNGB	**Bingl**	**2.35**	**43**	Pn		**Pn**	**17 41 21.9**	**+0.7**
ERZN	**Erzincan**	**2.45**	**20**	Pn		**Pn**	**17 41 23.0**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.62**	**35**	Pn		**Pn**	**17 41 25.7**	**+0.7**
BNN	**Bunyan**	**2.69**	**306**	Pn		**Pn**	**17 41 26.2**	**+0.3**
YAHY	**KAYSERI_Yahyal**	**2.70**	**288**	P		**Pn**	**17 41 26.1**	**0.0**
KARO	**Karlieva-Bingo**	**2.77**	**43**	Pn		**Pn**	**17 41 28.1**	**+0.9**
KARA	**Karaisali**	**2.84**	**270**	Pn		**Pn**	**17 41 28.6**	**+0.7**
VRTB	**Varto-Mus**	**2.91**	**49**	Pn		**Pn**	**17 41 30.1**	**+1.1**
CMRD	**Camardi-Nigde**	**2.91**	**278**	Pn		**Pn**	**17 41 28.6**	**-0.3**
SVSK	**Karacayir**	**2.91**	**335**	Pn		**Pn**	**17 41 29.8**	**+1.0**
GURO	**Guroymak-BITLI**	**2.98**	**64**	Pn		**Pn**	**17 41 30.8**	**+0.9**

*IDC **25** 17:41:37.3±2.0,12°.09N×143°.80E,h46km±19km,mb4.0/19,*
mbtmp4.3/19,MS3.4/5,Error ellipse: s-maj=20.2km
s-min=12.9km az=105.0
*NEIC **25** 17:41:38.4±1.8,12°.25N±0°.07×143°.8E±0°.1,h44km±7km,*
mb4.7/102,Error ellipse: s-maj=21.5km s-min=9.5km
az=104.0
ISC 25 17:41:35.4±0.5,**12°.18N**±0°.07×**143°.77E**±0°.08,**h26**km,**n358,**
σ**0**ş**77/329,mb4.7/73,MS3.1/5,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.76**	**37**	P		**Pn**	**17 42 04.3**	**0.0**
	1μm,0.3s,baz=47,slow=3.3,SNR=124							
GUMO				S		**Sb**	**17 42 28.6**	**-0.2**
	2μm,0.5s,baz=338,slow=22,SNR=7.9							
GUMO				LR		LR	17 42 58.8	
	comp=Z,1μm,20.9s,baz=232,slow=45							
MANU	**Manus Island**	**14.58**	**166**	Pn		**Pn**	**17 44 59.6**	**-0.5**
JOW	**Kunigami**	**20.60**	**317**	LR		LR	17 53 22.7	
	comp=Z,78nm,20.6s,baz=104,slow=34							
H11N1	**WAKE ISLAND Hy**	**23.44**	**68**	T		T	18 11 16.9	
	baz=255,slow=75							
H11N2	**WAKE ISLAND Hy**	**23.45**	**68**	T		T	18 11 14.6	
	baz=255,slow=75							
H11N3	**WAKE ISLAND Hy**	**23.46**	**68**	T		T	18 11 15.3	
	baz=255,slow=75							
JNU	**Nakatsue**	**23.95**	**333**	LR		LR	17 55 00.9	
	comp=Z,60nm,19.8s,baz=124,slow=33							
SSLB	**Suanglung**	**24.54**	**301**	P		**P**	**17 46 52.8**	**-0.3**
SSLB						IAmb	IAmb	17 47 24.4
	comp=Z,41nm,1.4s							
YHNB	**Yeheng**	**24.56**	**304**	P		**P**	**17 46 51.9**	**-1.6**
MJAR	**Matsushiro Arr**	**24.77**	**349**	P		**P**	**17 46 55.7**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=174,slow=12,SNR=3.0							
MJAR				LR		LR	17 56 12.5	
	comp=Z,196nm,18.5s,baz=180,slow=35							
	comp=Z,2.7nm,0.8s							
KSRS	**Korea Array**	**28.89**	**333**	P		**P**	**17 47 34.4**	**+2.3**
	comp=Z,1.8nm,0.6s,baz=137,slow=9.1,SNR=8.4							
KSRS				LR		LR	17 59 33.5	
	comp=Z,43nm,18.2s,baz=145,slow=37							
	comp=Z,1.8nm,0.6s							
WB0	**Warramunga Arr**	**33.06**	**196**	P		**P**	**17 48 11.0**	**+1.9**
WRA	**Warramunga Arr**	**33.24**	**196**	P		**P**	**17 48 09.6**	**-1.1**
	comp=Z,0.0nm,0.7s,baz=20,slow=9.7,SNR=15							
	comp=Z,2.0nm,0.7s							
BJT	**Baijiatuao**	**36.90**	**324**	P		**P**	**17 48 40.9**	**-1.1**
BJT						IAmb	IAmb	17 48 44.4
	comp=Z,4.9nm,0.7s							
AS31	**Alice Springs**	**36.91**	**195**	P		**P**	**17 48 44.8**	**+2.5**
ASAR	**Alice Springs**	**36.91**	**195**	P		**P**	**17 48 44.3**	**+2.0**
ASAR	**Alice Springs**	**36.91**	**195**	P		**P**	**17 48 41.4**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=18,slow=12,SNR=12							
	comp=Z,0.7nm,0.9s							
KLR	**Kul'dur**	**38.26**	**347**	LR		LR	18 03 34.7	
	comp=Z,105nm,20.9s,baz=96,slow=34							
LZH	**Lanzhou**	**43.09**	**310**	*e*P		**P**	**17 49 34.5**	**+0.8**
LZH				pP		pwP	17 49 46.0	+0.6
LZH				pmax		pmax		
	comp=Z,19nm,1.5s							
CMAR	**Chiang Mai Arr**	**43.59**	**284**	P		**P**	**17 49 36.5**	**-1.4**
CMAR	**Chiang Mai Arr**	**43.59**	**284**	P		**P**	**17 49 38.1**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=92,slow=6.2,SNR=7.3							
	comp=Z,0.7nm,0.6s							
STKA	**Stephens Creek**	**43.86**	**183**	P		**P**	**17 49 38.2**	**-1.4**
	comp=Z,3.0nm,1.1s,baz=5.7,slow=4.5,SNR=2.8							
	comp=Z,3.0nm,1.1s							
SONM	**Songino Array**	**47.28**	**326**	P		**P**	**17 50 07.3**	**+0.6**
SONM	**Songino Array**	**47.28**	**326**	P		**P**	**17 50 06.3**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=137,slow=6.9,SNR=4.7							
SONM				PcP		**PcP**	**17 51 37.6**	**0.0**
	comp=Z,0.2nm,0.5s,baz=116,slow=3.4,SNR=2.6							
	comp=Z,1.7nm,0.6s							
GTA	**Gaotai**	**47.32**	**313**	*e*P		**P**	**17 50 08.0**	**+0.8**
GTA				pmax		pmax		
	comp=Z,5.0nm,0.8s							
MORW	**Morawa**	**48.98**	**213**	P		**P**	**17 50 21.2**	**+1.3**
MORW				IAmb		IAmb	17 50 35.5	
	comp=Z,9.1nm,1.0s							
YAK	**Yakutsk**	**50.80**	**351**	P		**P**	**17 50 32.7**	**-0.5**
YAK				IAmb		IAmb	17 50 34.6	
	comp=Z,7.6nm,0.7s							
LSA	**Lhasa**	**51.70**	**298**	P		**P**	**17 50 42.3**	**+1.2**
TAPN	**Taplejung**	**54.45**	**295**	*e*P		**P**	**17 51 01.4**	**+0.1**
	comp=Z,5.4nm,0.6s							
NIKH	**Nikolski High**	**55.43**	**3**	P		**P**	**17 51 07.3**	**-0.3**
	baz=241							
JIRN	**Jiri**	**55.82**	**295**	*e*P		**P**	**17 51 11.5**	**+0.2**
	comp=Z,11nm,0.6s							
GUN	**Gumba**	**56.11**	**295**	*e*P		**P**	**17 51 13.5**	**+0.2**
	comp=Z,19nm,0.8s							
PKI	**Pulchoki**	**56.51**	**295**	*e*P		**P**	**17 51 15.8**	**-0.3**
DMN	**Daman**	**56.78**	**295**	*e*P		**P**	**17 51 17.8**	**-0.2**
GKN	**Gorkha**	**57.21**	**295**	*e*P		**P**	**17 51 20.4**	**-0.5**
DANN	**Dangsing**	**58.01**	**296**	*e*P		**P**	**17 51 26.6**	**-0.1**
	comp=Z,21nm,0.6s							
KOLN	**Koldanda**	**58.12**	**295**	*e*P		**P**	**17 51 27.3**	**-0.1**
PYUN	**Piuthan**	**58.67**	**295**	*e*P		**P**	**17 51 31.0**	**-0.2**
	comp=Z,18nm,0.7s							
FALS	**False Pass**	**59.15**	**32**	P		**P**	**17 51 33.3**	**-0.5**
	baz=245							
SDPT	**Sand Point**	**60.90**	**33**	P		**P**	**17 51 44.6**	**-1.2**
	baz=248							
M13K	**Dall Lake**	**61.65**	**27**	P		**P**	**17 51 50.1**	**-0.7**
	baz=242							
MK31	**Makanchi Array**	**61.76**	**317**	P		**P**	**17 51 52.1**	**+0.3**
MKAR	**Makanchi Array**	**61.76**	**317**	P		**P**	**17 51 51.8**	**0.0**
MKAR	**Makanchi Array**	**61.76**	**317**	P		**P**	**17 51 52.6**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=89,slow=9.2,SNR=13							
	comp=Z,1.4nm,0.6s							
MAKZ	**Makanchi**	**61.98**	**317**	P		**P**	**17 51 53.6**	**+0.3**
MAKZ				IAmb		IAmb	17 51 57.6	
	comp=Z,4.6nm,0.8s							
ZAA0	**Zalesovo Array**	**62.15**	**325**	P		**P**	**17 51 53.6**	**-0.7**
ZALV	**Zalesovo Beam**	**62.15**	**325**	P		**P**	**17 51 53.4**	**-0.8**
ZALV	**Zalesovo Beam**	**62.15**	**325**	P		**P**	**17 51 53.8**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=106,slow=8.0,SNR=6.4							
ZALV				PcP		**PcP**	**17 52 33.9**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=137,slow=2.9,SNR=4.6							
	comp=Z,1.2nm,0.6s							
N14K	**Kuskokwak Cree**	**62.17**	**28**	P		**P**	**17 51 55.0**	**+0.7**
	baz=244							
CHGN	**Chignik**	**62.33**	**32**	P		**P**	**17 51 55.9**	**+0.5**
	baz=249							
L14K	**Kuka Creek**	**62.37**	**26**	P		**P**	**17 51 54.9**	**-0.6**
	baz=243							
ANM	**Nome**	**62.89**	**22**	P		**P**	**17 51 59.1**	**+0.1**
	baz=238							
N15K	**Kwethluk River**	**63.00**	**28**	P		**P**	**17 51 59.5**	**-0.4**
	baz=246							
K15K	**Wolf Creek Mou**	**63.29**	**25**	P		**P**	**17 52 01.4**	**-0.3**
	baz=243							
G15K	**Niukluk**	**63.61**	**22**	P		**P**	**17 52 03.5**	**-0.3**
	baz=240							
CHIR	**Chirikof Islan**	**63.65**	**33**	P		**P**	**17 52 03.9**	**-0.3**
	baz=252							
O16K	**Kokwok River B**	**63.70**	**29**	P		**P**	**17 52 05.0**	**+0.5**
	baz=248							
N16K	**Nishlik Lake**	**63.73**	**28**	P		**P**	**17 52 05.1**	**+0.4**
	baz=247							
R17K	**Ugashik Creek**	**63.84**	**31**	P		**P**	**17 52 05.8**	**+0.4**
	baz=250							
M16K	**Timber Creek**	**63.86**	**27**	P		**P**	**17 52 05.8**	**+0.2**
	baz=246							
L16K	**Owhat River**	**63.92**	**26**	P		**P**	**17 52 05.6**	**-0.2**
	baz=246							
H16K	**Elim**	**64.10**	**23**	P		**P**	**17 52 07.3**	**+0.3**
	baz=242							
J16K	**Anvik River**	**64.12**	**24**	P		**P**	**17 52 06.2**	**-1.0**
	baz=244							
Q17K	**Contact Creek**	**64.30**	**31**	P		**P**	**17 52 07.9**	**-0.7**
	baz=250							
P17K	**Kvichak River**	**64.34**	**30**	P		**P**	**17 52 08.4**	**-0.3**
	baz

G18K	Tagagawik	66.02	22	P	P	17 52 19.5	0.0	
G18K	Tagagawik baz=245	66.02	22	P	P	17 52 19.2	-0.2	
P19K	Oil Pt baz=252	66.05	30	P	P	17 52 19.7	-0.1	
L19K	White Mountain baz=250	66.12	27	P	P	17 52 20.2	0.0	
GCSA	Galena City Sc baz=247	66.22	24	P	P	17 52 21.1	+0.4	
C18K	Utukok River baz=241	66.40	19	P	P	17 52 21.4	-0.6	
J19K	Poorman baz=248	66.44	25	P	P	17 52 21.7	-0.5	
O20K	Slope Mountain baz=253	66.47	29	P	P	17 52 21.5	-1.0	
B18K	Kokolik River baz=240	66.57	18	P	P	17 52 22.8	-0.2	
L20K	Farewell, AK baz=251	66.64	27	P	P	17 52 23.5	-0.1	
H19K	Roundabout Mou baz=247	66.70	23	P	P	17 52 23.8	0.0	
G19K	Purcell Mounta	66.70	22	P	P	17 52 23.5	-0.4	
G19K	comp=Z,4.7nm,0.8s			IAmb	IAmb	17 52 24.7		
G19K	Purcell Mounta baz=246	66.70	22	P	P	17 52 23.6	-0.2	
M20K	Styx River baz=252	66.78	27	P	P	17 52 24.6	+0.1	
K20K	Telida baz=250	66.86	26	P	P	17 52 24.8	-0.1	
J20K	Nowinta River	67.11	25	P	P	17 52 26.9	+0.5	
J20K	comp=Z,5.9nm,0.9s			IAmb	IAmb	17 52 28.8		
J20K	Nowinta River baz=250	67.11	25	P	P	17 52 26.5	+0.1	
C19K	Lookout Ridge	67.13	19	P	P	17 52 27.1	+0.4	
C19K	comp=Z,8.1nm,0.9s			IAmb	IAmb	17 52 28.6		
C19K	Lookout Ridge baz=242,SNR=6.5	67.13	19	P	P	17 52 27.6	+0.9	
NIL	Nilore	67.19	301	P	P	17 52 28.1	+0.4	
E19K	Redstone River	67.19	21	P	P	17 52 27.4	+0.5	
E19K	Redstone River baz=245	67.19	21	P	P	17 52 27.3	+0.3	
I20K	Naaghedeneel baz=249	67.19	24	P	P	17 52 28.2	+1.3	
A19K	Wainwright baz=240	67.21	18	P	P	17 52 28.3	+1.3	
H20K	Anotleneega Mo baz=248	67.29	23	P	P	17 52 28.6	+1.0	
D19K	Kuna River	67.34	20	P	P	17 52 28.5	+0.6	
D19K	comp=Z,11nm,1.2s			IAmb	IAmb	17 52 28.8		
D19K	Kuna River baz=244	67.34	20	P	P	17 52 28.1	+0.2	
PPLA	Purkeypile baz=252	67.52	26	P	P	17 52 29.3	0.0	
SKT	Skwentna baz=253	67.53	28	P	P	17 52 29.1	-0.1	
F20K	Avaraart Lake baz=247	67.56	22	P	P	17 52 29.6	+0.3	
ARSB	Arslanbob	67.65	310	P	P	17 52 30.9	+0.4	
CAST	Castle Rocks	67.72	26	P	P	17 52 30.1	-0.3	
CAST	comp=Z,4.1nm,0.8s			IAmb	IAmb	17 52 30.7		
CAST	Castle Rocks baz=252	67.72	26	P	P	17 52 30.3	-0.1	
SUA	Susitna One baz=254	67.75	28	P	P	17 52 30.2	-0.5	
CHUM	Lake Minchumin baz=252	67.77	25	P	P	17 52 30.4	-0.3	
E20K	Nigu River baz=246	67.88	20	P	P	17 52 32.1	+0.7	
D20K	Etivluk River baz=246	67.93	20	P	P	17 52 32.0	+0.4	
O22K	Cooper Landing baz=255	67.97	29	P	P	17 52 31.8	-0.1	
SEW	Seward baz=256	68.00	30	P	P	17 52 32.3	+0.2	
M22K	Willow baz=254	68.11	28	P	P	17 52 32.3	-0.5	
RC01	Rabbit Creek A baz=255	68.11	29	P	P	17 52 32.3	-0.6	
H21K	Melozitna Rive baz=250	68.16	24	P	P	17 52 33.3	+0.2	
G21K	Allakaket baz=249	68.18	23	P	P	17 52 33.1	-0.2	
B20K	Meade River	68.30	19	P	P	17 52 34.1	+0.3	
B20K	Meade River baz=244	68.30	19	P	P	17 52 34.7	+0.8	
BPAW	Bear Paw Mtn.	68.40	25	P	P	17 52 33.9	-0.7	
BPAW	comp=Z,5.0nm,0.9s			IAmb	IAmb	17 52 35.2		
BPAW	Bear Paw Mtn. baz=253	68.40	25	P	P	17 52 34.3	-0.3	
F21K	Alatna River baz=249	68.44	22	P	P	17 52 35.0	+0.2	
TRF	Thorofare Moun baz=254	68.50	26	P	P	17 52 35.2	-0.3	
PMR	Palmer	68.53	28	P	P	17 52 34.2	-1.2	
PMR	Palmer baz=255	68.53	28	P	P	17 52 34.9	-0.5	
GHO	Glory Hole Cre	68.67	28	P	P	17 52 34.5	-1.9	
C21K	Knifeblade Rid baz=247	68.71	20	P	P	17 52 37.0	+0.5	
E21K	Killik River	68.71	21	P	P	17 52 35.9	-0.6	
E21K	Killik River baz=248	68.71	21	P	P	17 52 36.8	+0.2	
MLY	Manley	68.78	24	P	P	17 52 36.3	-0.7	
MLY	comp=Z,10.0nm,1.3s			IAmb	IAmb	17 52 38.1		
MLY	Manley baz=253	68.78	24	P	P	17 52 36.7	-0.3	
H22K	Ishtalitna Cre baz=252	68.79	24	P	P	17 52 37.0	-0.1	
KNK	Knik Glacier baz=256	68.80	29	P	P	17 52 36.7	-0.5	
SML	Sawmill	68.95	28	P	P	17 52 37.9	-0.2	
SML	Sawmill baz=256	68.95	28	P	P	17 52 37.7	-0.4	
B21K	Ikpikpuk River	68.95	19	P	P	17 52 37.9	-0.1	
B21K	comp=Z,4.8nm,0.8s			IAmb	IAmb	17 52 39.1		
B21K	Ikpikpuk River baz=247	68.95	19	P	P	17 52 38.5	+0.6	
P23K	Montague Islan baz=258	68.98	30	P	P	17 52 39.1	+0.9	
F22K	John River baz=250	69.02	22	P	P	17 52 39.4	+0.9	
A21K	Barrow baz=245	69.03	17	P	P	17 52 39.0	+0.6	
BWN	Browne	69.06	26	P	P	17 52 38.8	+0.1	
G22K	Bettles baz=251	69.07	22	P	P	17 52 37.4	-1.3	
WAT1	Susitna Watana baz=256	69.10	27	P	P	17 52 38.9	-0.1	
RND	Reindeer	69.11	26	P	P	17 52 37.8	-1.4	
RND	comp=Z,13nm,1.3s			IAmb	IAmb	17 53 08.0		
MCK	McKinley baz=255	69.17	26	P	P	17 52 38.8	-0.6	
D22K	Ayikyak River	69.31	20	P	P	17 52 40.7	+0.5	
D22K	comp=Z,4.7nm,0.6s			IAmb	IAmb	17 52 41.8		
D22K	Ayikyak River baz=249,SNR=7.1	69.31	20	P	P	17 52 40.8	+0.5	
E22K	Anaktuvuk Pass	69.36	21	P	P	17 52 40.6	0.0	
E22K	comp=Z,4.3nm,0.7s			IAmb	IAmb	17 52 41.9		
E22K	Anaktuvuk Pass baz=250,SNR=5.7	69.36	21	P	P	17 52 41.5	+1.0	
I23K	Minto, Yukon-K	69.37	25	P	P	17 52 40.7	+0.1	
I23K	Minto, Yukon-K baz=254	69.37	25	P	P	17 52 40.8	+0.2	
Q23K	Middleton Isla baz=259	69.38	31	P	P	17 52 41.0	+0.3	
A22K	Sinclair Lake baz=246	69.39	18	P	P	17 52 41.2	+0.6	
WAT6	Susitna Watana baz=256	69.40	27	P	P	17 52 40.5	-0.6	
SCM	Sheep Creek Mo	69.42	28	P	P	17 52 41.3	+0.2	
SCM	Sheep Creek Mo baz=257	69.42	28	P	P	17 52 40.4	-0.7	
G23K	Bananza Creek	69.56	23	P	P	17 52 42.1	+0.3	
G23K	comp=Z,5.3nm,0.9s			IAmb	IAmb	17 52 43.2		
G23K	Bananza Creek	69.56	23	P	P	17 52 41.9	+0.1	
	baz=253							
B22K	Teshekpuk Lake	69.61	19	P	P	17 52 41.5	-0.4	
B22K	Teshekpuk Lake baz=248	69.61	19	P	P	17 52 42.5	+0.6	
COLD	Coldfoot baz=252,SNR=6.5	69.65	22	P	P	17 52 43.2	+0.9	
DHY	Denali Highway baz=256	69.68	27	P	P	17 52 42.9	+0.1	
KLU	Klutina baz=258	70.00	29	P	P	17 52 44.4	-0.3	
D23K	Nanushuk River baz=251	70.02	20	P	P	17 52 45.1	+0.5	
E23K	Chandalar baz=253	70.11	22	P	P	17 52 46.1	+0.8	
POKR	Poker Plat Res baz=256	70.15	25	P	P	17 52 45.8	+0.3	
H24K	Noodor Dome comp=Z,8.6nm,1.1s	70.15	24	IAmb	IAmb	17 52 46.6		
H24K	Noodor Dome baz=255	70.15	24	P	P	17 52 45.7	+0.2	
HDA	Harding Lake baz=256	70.18	26	P	P	17 52 45.1	-0.6	
HDA	baz=256			P	P	17 52 45.1	-0.6	
IL31		70.29	25	P	P	17 52 44.5	-1.7	
IL31	comp=Z,4.2nm,0.8s			IAmb	IAmb	17 52 45.1		
ILAR	Eielson Array	70.29	25	P	P	17 52 44.7	-1.6	
ILAR	Eielson Array comp=Z,2.7nm,0.5s,baz=250,slow=5.7,SNR=79 comp=Z,2.7nm,0.5s	70.29	25	P	P	17 52 44.5	-1.8	
TOLK	Toolik Lake Re	70.31	21	P	P	17 52 47.0	+0.6	
TOLK	comp=Z,6.9nm,0.8s			IAmb	IAmb	17 53 03.5		
TOLK	Toolik Lake Re baz=252,SNR=5.2	70.31	21	P	P	17 52 46.3	-0.1	
C23K	Itkillik River comp=Z,12nm,0.9s	70.33	20	IAmb	IAmb	17 52 48.0		
C23K	Itkillik River baz=251	70.33	20	P	P	17 52 47.1	+0.7	
BVAR	Borovoye Array comp=Z,3.7nm,0.5s,baz=104,slow=8.1,SNR=31 comp=Z,3.7nm,0.5s	70.36	322	P	P	17 52 47.0	+0.1	
BRVK	Borovoye	70.43	322	P	P	17 52 47.6	+0.3	
KAIM	Kayak Island baz=260	70.44	31	P	P	17 52 47.4	+0.2	
PAX	Paxson baz=258	70.51	27	P	P	17 52 47.4	-0.4	
E24K	Your Creek comp=Z,5.0nm,0.9s	70.53	22	IAmb	IAmb	17 52 50.2		
E24K	Your Creek baz=254	70.53	22	P	P	17 52 48.4	+0.6	
BMRM	Bremner River baz=260	70.53	29	P	P	17 52 48.7	+0.8	
G24K	Hadweenzic Riv baz=255	70.53	23	P	P	17 52 47.7	-0.1	
HARP	HAARP baz=259	70.53	28	P	P	17 52 48.0	+0.1	
F24K	Squaw Lake baz=254	70.59	22	P	P	17 52 48.8	+0.6	
D24K	Happy Valley baz=253,SNR=18	70.72	20	P	P	17 52 49.5	+0.7	
J25K	Salcha River, baz=258	70.89	26	P	P	17 52 48.9	-1.2	
C24K	Franklin Bluff baz=253	70.93	20	P	P	17 52 50.3	+0.3	
RIDG	Independent Ri baz=259	70.94	26	P	P	17 52 50.4	+0.1	
PRP	Porcupine Dome baz=257	71.02	25	P	P	17 52 49.4	-1.5	
CRQE	Cirque baz=261	71.22	30	P	P	17 52 51.9	-0.3	
SCRK	Sand Creek	71.36	26	P	P	17 52 52.6	-0.4	
SCRK	Sand Creek baz=259	71.36	26	P	P	17 52 52.2	-0.8	
F25K	Christian Rive baz=257,SNR=6.4	71.44	22	P	P	17 52 53.7	+0.4	
L26K	Log Cabin Wild baz=260	71.47	27	P	P	17 52 53.1	-0.4	
M26K	Nabesna, AK baz=261	71.53	28	P	P	17 52 53.2	-0.7	
E25K	Arctic Village comp=Z,9.9nm,1.2s	71.59	22	IAmb	IAmb	17 52 56.0		
E25K	Arctic Village baz=256,SNR=7.1	71.59	22	P	P	17 52 54.6	+0.4	
D25K	Kavik River comp=Z,9.4nm,0.8s	71.60	21	IAmb	IAmb	17 52 55.6		
D25K	Kavik River baz=255	71.60	21	P	P	17 52 54.6	+0.4	
J26L	Joseph Creek comp=Z,4.8nm,0.8s	71.63	26	IAmb	IAmb	17 52 54.6		
J26L	Joseph Creek baz=260	71.63	26	P	P	17 52 54.4	-0.2	
I26K	Coal Creek Min baz=260	71.95	25	P	P	17 52 55.4	-0.9	
G26K	Porcupine Rive baz=259	72.01	23	P	P	17 52 57.7	+1.1	
F26K	Sheenjek River baz=258	72.03	22	P	P	17 52 57.5	+0.6	
M27K	Edge Creek, AK baz=262	72.03	28	P	P	17 52 57.2	+0.1	
CTG	Chitna Glacier baz=263	72.10	30	P	P	17 52 58.1	+0.6	
L27K	Beaver Creek, baz=262	72.16	27	P	P	17 52 58.0	+0.3	
K27K	Chicken baz=261	72.19	26	P	P	17 52 58.9	+1.1	
C26K	Camden Bay baz=256	72.25	20	P	P	17 52 59.5	+1.5	
BVCY	Beaver Creek baz=263	72.51	28	P	P	17 53 00.3	+0.4	
PINM	Pinnacle baz=264	72.53	31	P	P	17 53 01.1	+1.1	
YUK3	Moose Creek baz=263	72.62	29	P	P	17 53 00.5	-0.2	
I27K	Kandik River baz=261	72.64	25	P	P	17 53 00.5	0.0	
EGAK	Eagle baz=262	72.70	26	P	P	17 53 00.7	-0.1	
H27K	Steamboat Moun baz=261,SNR=8.8	72.77	24	P	P	17 53 02.2	+0.9	
G27K	Doyon Strip baz=261	72.81	24	P	P	17 53 01.9	+0.3	
YUK8	Steele Glacier baz=264	72.90	29	P	P	17 53 02.7	+0.2	
PNL	Peninsula baz=265	72.92	31	P	P	17 53 01.8	-0.5	
E27K	Coleen River comp=Z,5.7nm,0.9s	73.06	22	IAmb	IAmb	17 53 04.2		
E27K	Coleen River baz=260	73.06	22	P	P	17 53 03.6	+0.6	
I28M	Miner Creek comp=Z,5.0nm,0.8s	73.31	25	IAmb	IAmb	17 53 08.2		
I28M	Miner Creek baz=263	73.31	25	P	P	17 53 04.5	0.0	
DAWY	Dawson	73.37	27	P	P	17 53 05.4	+0.5	
DAWY	comp=Z,8.6nm,1.1s			IAmb	IAmb	17 53 06.2		
DAWY	Dawson baz=264	73.37	27	P	P	17 53 05.2	+0.3	
O29M	Mount Kennedy baz=265	73.39	31	P	P	17 53 05.6	+0.4	
YUK4	Talbot Arm baz=265	73.44	29	P	P	17 53 06.6	+1.1	
D27M	Malcolm River comp=Z,7.9nm,0.7s	73.47	21	IAmb	IAmb	17 53 07.2		
D27M	Malcolm River baz=260	73.47	21	P	P	17 53 06.5	+1.1	
F28M	Old Crow comp=Z,6.3nm,0.7s	73.62	23	IAmb	IAmb	17 53 07.8		
F28M	Old Crow baz=262,SNR=8.7	73.62	23	P	P	17 53 07.0	+0.8	
M29M	Somme Creek baz=265	73.62	28	P	P	17 53 07.2	+0.7	
P29M	Windy Craggy baz=266	73.76	31	P	P	17 53 08.0	+0.7	
L29M	L29M comp=Z,10nm,0.9s	73.84	28	IAmb	IAmb	17 53 09.5		
L29M	L29M baz=265	73.84	28	P	P	17 53 08.6	+1.0	
E28M	Babbage River comp=Z,8.8nm,0.9s	73.88	22	IAmb	IAmb	17 53 09.7		
E28M	Babbage River baz=262	73.88	22	P	P	17 53 08.9	+1.1	
HYT	Haines Junctio baz=266	73.95	30	P	P	17 53 09.1	+0.6	
I29M	Ogilvie Camp,	73.97	25	P	P	17 53 08.3	0.0	
I29M	Ogilvie Camp, baz=264	73.97	25	P	P	17 53 08.9	+0.6	
H29M	Whitestone baz=264	74.04	24	P	P	17 53 09.4	+0.7	
K29M	Barlow Dome comp=Z,5.9nm,0.8s	74.17	27	IAmb	IAmb	17 53 11.4		
K29M	Barlow Dome baz=265	74.17	27	P	P	17 53 10.3	+0.7	
P30M	Million Dollar baz=267	74.18	31	P	P	17 53 10.9	+1.2	
N30M	Aishikik Lake baz=266	74.20	29	P	P	17 53 10.6	+0.8	
G29M	Pine Creek baz=264	74.25	24	P	P	17 53 10.8	+0.8	
D28M	Stokes Point baz=263	74.27	21	P	P	17 53 11.3	+1.4	
M30M	Minto, Yukon baz=266	74.41	28	P	P	17 53 11.9	+1.0	
E29M	Blow River baz=264,SNR=6.9	74.46	22	P	P	17 53 11.8	+0.7	
O30N	Mendenhall baz=267	74.64	30	P	P	17 53 13.1	+0.7	
EPYK	Eagle Plains baz=265	74.72	24	P	P	17 53 12.7	+0.1	
R31K	City Hall, Gus baz=268	74.73	33	P	P	17 53 12.9	+0.1	
J30M	Hart River comp=Z,5.0nm,0.8s	74.74	26	IAmb	IAmb	17 53 14.4		
J30M	Hart River baz=266	74.74	26	P	P	17 53 13.2	+0.2	
I30M	Mount Dempster baz=266	74.77	25	P	P	17 53 12.8	-0.3	
N31M	Braeburn, Yuko baz=268	74.83	29	P	P	17 53 13.9	+0.5	
MAYO	Mayo, Yukon baz=267	74.88	27	P	P	17 53 14.5	+0.9	
G30M	tAoh Zraii Nji comp=Z,11nm,0.9s	74.96	24	IAmb	IAmb	17 53 15.2		
G30M	tAoh Zraii Nji baz=266	74.96	24	P	P	17 53 14.4	+0.3	
SKAG	Skagway baz=268	74.98	31	P	P	17 53 14.8	+0.5	
F30M	Barrier River baz=266	75.18	23	P	P	17 53 15.6	+0.3	
WHY	Whitehorse baz=268	75.23	30	P	P	17 53 16.4	+0.5	
M31M	Drury Creek, Y baz=269	75.51	29	P	P	17 53 17.1	-0.2	
G31M	Satah River baz=267,SNR=16	75.72	24	P	P	17 53 18.9	+0.5	
P32M	Atlin baz=270	75.80	31	P	P	17 53 19.5	+0.4	
F31M	Tsiigehtchic comp=Z,7.2nm,0.7s	75.95	23	IAmb	IAmb	17 53 20.2		
F31M	Tsiigehtchic baz=268	75.95	23	P	P	17 53 19.7	0.0	
FARO	Faro, Yukon baz=270	76.00	29	P	P	17 53 20.3	+0.2	
INK	Inuvik	76.07	22	P	P	17 53 20.2	-0.1	
INK	comp=Z,12nm,0.8s			IAmb	IAmb	17 53 21.1		
INK	Inuvik baz=268,SNR=12	76.07	22	P	P	17 53 20.5	+0.2	
N32M	Quiet Lake comp=Z,16.1nm,1.2s	76.12	30	IAmb	IAmb	17 53 22.9		
N32M	Quiet Lake baz=270	76.12	30	P	P	17 53 21.0	+0.1	
P33M	Teslin, Yukon baz=270	76.25	31	P	P	17 53 22.2	+0.5	
Q32M	Nakina River baz=271	76.55	32	P	P	17 53 24.7	+1.2	
WRAK	Wrangell Islan baz=272	76.57	35	P	P	17 53 24.4	+1.0	
ABKAR	Akbulak array	76.86	318	P	P	17 53 24.8	-0.5	
ABKAR	Akbulak array comp=Z,2.9nm,0.8s	76.86	318	IAmb	IAmb	17 53 25.3		
R33M	Jennings River baz=272	77.21	32	P	P	17 53 28.2	+1.0	
ARU	Arti	77.31	325	P	P	17 53 26.3	-1.3	
ARU	comp=Z,8.6nm,1.2s			IAmb	IAmb	17 53 31.1		
AKTO	Aktyubinsk comp=Z,1.6nm,0.7s,baz=86,slow=4.2,SNR=4.9 comp=Z,1.6nm,0.7s	78.02	319	P	P	17 53 31.4	-0.4	
WTLY	Watson Lake, Y baz=274,SNR=5.8	78.27	31	P	P	17 53 33.9	+1.0	
TGTN	Hyland Airport baz=274	78.42	29	P	P	17 53 34.2	+0.4	
A36M	Sachs Harbour baz=275	78.81	18	P	P	17 53 36.2	+0.6	
C36M	Paulatuk comp=Z,8.4nm,0.8s	79.46	21	IAmb	IAmb	17 53 39.8		
C36M	Paulatuk baz=276	79.46	21	P	P	17 53 38.8	-0.4	
KOTAN	Kotaneelee Air baz=278	80.62	30	P	P	17 53 46.1	+0.4	
YKA	Yellowknife Ar comp=Z,1.4nm,0.5s,baz=286,slow=5.3,SNR=42 comp=Z,1.4nm,0.5s	84.59	27	P	P	17 54 06.5	+0.2	
C09A	Chrisman Ranch comp=Z,4.4nm,0.8s	86.35	42	IAmb	IAmb	17 54 17.9		
E09A	Wood Farm, Sta comp=Z,2.7nm,0.7s	86.75	43	IAmb	IAmb	17 54 20.1		
NEW	Newport baz=285	86.99	41	P	P	17 54 19.7	+1.1	
BMO	Blue Mountains comp=Z,4.9nm,0.9s	87.74	45	IAmb	IAmb	17 54 25.1		
EDM	Edmonton comp=Z,7.8nm,1.5s	87.91	36	IAmb	IAmb	17 54 54.8		
ARCES	ARCSS Array B comp=Z,3.0nm,0.6s,baz=71,slow=7.6,SNR=24 comp=Z,3.0nm,0.6s	88.08	342	P	P	17 54 23.2	-0.2	
PKM	Mcpherson Peak baz=284	88.31	55	P	P	17 54 24.4	-1.0	
PLID	Pearl Lake comp=Z,2.6nm,0.8s	88.57	44	IAmb	IAmb	17 54 28.5		
NVAR	Mina Array Bea comp=Z,2.2nm,0.7s,baz=262,slow=5.4,SNR=25 comp=Z,2.2nm,0.7s	88.63	51	P	P	17 54 27.8	+0.9	
CWC	Cottonwood Cre baz=285	89.30	53	P	P	17 54 30.4	+0.4	
LRMC	Laurel Mtn Rad baz=285	89.86	54	P	P	17 54 33.3	+0.7	
MPMC	Manual Prospec baz=285	89.86	53	P	P	17 54 33.3	+0.6	
HLID	Hailey baz=287	90.09	45	P	P	17 54 34.1	+0.6	
BFSC	Mount Baldy Ra baz=285	90.19	55	P	P	17 54 36.0	+1.9	
FURC	Furnace Creek, baz=285	90.24	53	P	P	17 54 35.3	+1.2	
ELK	Elko	90.31	48	P	P	17 54 32.5	-2.2	
ELK	comp=Z,3.2nm,1.1s			IAmb	IAmb	17 54 37.9		
WCT	Wildcat Mounta comp=Z,3.4nm,1.1s	90.34	52	IAmb	IAmb	17 54 48.5		
TPNV	Topopah Spring baz=286	90.59	52	P	P	17 54 37.1	+1.1	
GSC	Goldstone, Bar baz=285	90.59	54	P	P	17 54 36.9	+0.9	
R11B	Troy Canyon, C comp=Z,5.0nm,1.5s	90.72	51	IAmb	IAmb	17 54 40.1		
R11B	Troy Canyon, C baz=286	90.72	51	P	P	17 54 37.4	+0.8	
MURC	Murrieta baz=285	90.73	56	P	P	17 54 36.6	0.0	
SHOC	Shoshone, Teco baz=286	90.85	53	P	P	17 54 38.2	+1.2	
HEC	Hector,Ludlow baz=286	91.09	54	P	P	17 54 39.7	+1.5	
TUQ	Turquoise Moun baz=286	91.25	53	P	P	17 54 40.7	+1.6	
PFO	Pinyon Flats O baz=286	91.32	55	P	P	17 54 41.2	+1.8	
TPFO	Pinon Flats baz=286	91.32	55	P	P	17 54 41.0	+1.6	
MONP2	Monument Peak baz=286	91.54	56	P	P	17 54 41.9	+1.4	
BELC	Belle Mtn. Jos baz=286	91.58	55	P	P	17 54 41.7	+1.1	
GMRC	Granite Mounta baz=286	91.64	54	P	P	17 54 42.2	+1.3	
FINES	FINESS Array B comp=Z,5.6nm,0.7s,baz=72,slow=5.7,SNR=29 comp=Z,5.6nm,0.7s	91.97	335	P	P	17 54 40.3	-1.4	
V12A	Nelson	92.01	53	P	P	17 54 43.1	+0.5	
V12A	comp=Z,3.3nm,1.0s			IAmb	IAmb	17 54 44.9		
BC3	Big Chuckawall baz=286	92.11	55	P	P	17 54 45.1	+2.1	

IRM	**Iron Mountain**	**92.22**	**55**	P	**P**	17 54 45.1	**+1.7**
	baz=286						
DUG	**Dugway, Tooele**	**92.24**	**48**	P	**P**	17 54 43.6	**+0.1**
DUG	**Dugway, Tooele**	**92.24**	**48**	P	**P**	17 54 44.9	**+1.3**
	baz=288						
YNR	**Norris Junctio**	**92.29**	**43**	P	**P**	17 54 41.5	**-2.3**
H17A	**Grant Village**	**92.46**	**44**	P	**P**	17 54 45.8	**+1.2**
	baz=290						
PDMCI	**Parker Dam,Lak**	**92.98**	**54**	P	**P**	17 54 48.1	**+1.3**
	baz=287						
RLMT	**Red Lodge**	**93.09**	**43**	P	**P**	17 54 48.9	**+1.4**
	baz=291						
PDAR	**Pinedale Array**	**93.71**	**45**	P	**P**	17 54 50.1	**-0.3**
	comp=Z,0.2nm,0.7s,baz=127,slow=2.2,SNR=2.2						
	comp=Z,0.2nm,0.7s						
LAO	**LASA Array**	**94.49**	**40**		**P**	17 54 54.0	**+0.3**
LAO	**LASA Array**	**94.49**	**40**	P	**P**	17 54 54.3	**+0.6**
	baz=293						
214A	**Organ Pipe Nat**	**94.73**	**56**	P	**P**	17 54 55.2	**+0.2**
	baz=288						
NOA	**NORSAR Array B**	**97.97**	**339**	P	**P**	17 55 07.9	**-1.2**
	comp=Z,1.0nm,0.8s,baz=49,slow=4.7,SNR=3.0						
	comp=Z,1.0nm,0.8s						
JFWS	**Jewell Farm**	**106.25**	**38**	P	**PKiKP**	17 59 57.2	**-0.7**
	baz=305						
L44A	**Lake County Fo**	**108.08**	**38**	P	**PKiKP**	18 00 00.3	**-1.0**
	baz=306						
DBIC	**Dimbokro**	**143.61**	**299**	PKP	PKPab	18 01 06.1	**+0.6**
	comp=Z,1.5nm,0.6s,baz=20,slow=5.3,SNR=4.5						

*KRNET **25** 17:45:17.8±0.1,39.37N×74.81E,mb3.0*
*SOME **25** 17:45:19.0,39.70N×74.60E,h5km*
*NNC **25** 17:45:28.0±2.5,40.19N×74.61E,h0km,mb3.6,mpv3.3,*
Error ellipse: s-maj=23.1km s-min=8.0km az=179.0
ISC 25 17:45:18.1±1.8,**39.64N**±0.07×**74.99E**±0.03,**h2km**±12km,
n47,σ1§28/59,16C-12D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.21**	**288**	⇓*i*P		**Pg**		**17 45 40.7**	**-0.5**
	baz=3.0								
SFK				⇓*i*S		**Sb**		**17 45 57.6**	**-0.3**
	baz=3.0								
OHH	**Osh**	**1.91**	**298**	⇑*e*P		**Pb**		**17 45 54.0**	**+0.3**
	baz=7.0								
OHH				⇑*e*S		**Sg**		**17 46 20.2**	**+0.8**
	baz=7.0								
ARLS	**Aral**	**2.27**	**347**	⇑*i*P		**Pg**		**17 46 01.6**	**-0.1**
	baz=52								
ARLS				⇑*i*S		**Sg**		**17 46 33.7**	**+2.5**
	baz=52								
ARSB	**Arslanbob**	**2.27**	**318**	⇑*i*P		**Pb**		**17 46 00.4**	**+0.5**
	baz=25								
ARSB				⇑*i*S		**Sg**		**17 46 31.3**	**+0.1**
	baz=25								
KZA	**Kyzart**	**2.44**	**4**	P		**Pg**		**17 46 05.2**	**+0.3**
	SNR=7.0								
DRK	**Karamyk**	**2.47**	**267**	⇓*e*P		**Pn**		**17 45 59.9**	**+0.3**
	baz=74								
DRK				⇓*e*S		**Sn**		**17 46 30.2**	**-0.3**
	baz=74								
UCH	**Uchtor**	**2.61**	**352**	P		**Pg**		**17 46 07.9**	**-0.2**
	SNR=38								
AML	**Almayashu**	**2.67**	**339**	P		**Pg**		**17 46 07.9**	**-1.5**
	SNR=12								
ULHL	**Ulahol**	**2.77**	**20**	P		**Pg**		**17 46 10.4**	**-0.7**
	SNR=11								
TARG	**Taragay, Kyrgy**	**2.99**	**45**	⇓*i*P		**Pb**		**17 46 12.8**	**+0.6**
	baz=43								
TARG				⇓*i*S		**Sg**		**17 46 52.9**	**-1.2**
	baz=43								
KBK	**Karagaybulak**	**3.01**	**359**	P		**Pb**		**17 46 13.7**	**+1.1**
	SNR=19								
AAK	**Ala-Archa**	**3.02**	**353**	P		**Pb**		**17 46 13.6**	**+1.0**
	SNR=16								
ARK	**Arkit**	**3.15**	**314**	⇑*i*P		**Pb**		**17 46 12.1**	**-2.8**
	baz=19								
ARK				⇑*i*S		**Sb**		**17 46 51.7**	**-2.1**
	baz=19								
EKS2	**Erkin-Say**	**3.15**	**343**	P		**Pb**		**17 46 15.5**	**+0.6**
	SNR=11								
BTK	**Batken**	**3.24**	**279**	⇑*i*P		**Pn**		**17 46 11.0**	**+1.0**
	baz=84								
BTK				⇑*i*S		**Sn**		**17 46 49.6**	**+0.4**
	baz=84								
TKM2	**Tokmak 2**	**3.31**	**8**	P		**Pb**		**17 46 17.6**	**0.0**
	SNR=49								
CHMS	**Chumysh**	**3.36**	**357**	P		**Pb**		**17 46 18.1**	**-0.2**
	SNR=10								
MRKS	**Merke**	**3.38**	**337**	*e*Pg		**Pb**		**17 46 18.9**	**+0.2**
	5.3nm,0.5s								
MRKS				*e*Lg		Lg		17 47 01.8	
	22nm,0.6s								
MRKS	**Merke**	**3.38**	**337**	Pg		**Pb**		**17 46 18.8**	**+0.2**
	5.3nm,0.5s								
MRKS				Lg		Lg		17 47 02.3	
	22nm,0.6s								
KST	**Kastek**	**3.48**	**12**	*e*Pg		**Pg**		**17 46 23.0**	**-1.7**
	15nm,0.5s								
KST				*e*Lg		Lg		17 47 09.0	
	63nm,0.6s								
KST	**Kastek**	**3.48**	**12**	Pg		**Pg**		**17 46 23.5**	**-1.2**
	15nm,0.5s								
TRKS	**Terek-Say**	**3.49**	**304**	⇓*e*P		**Pn**		**17 46 15.5**	**+2.0**
	baz=8.0								
TRKS				⇓*i*S		**Sn**		**17 46 57.4**	**+2.0**
	baz=8.0								
IZV	**Izvestkoviy**	**3.60**	**19**	*e*Pg		**Pg**		**17 46 27.4**	**+0.2**
	5.1nm,0.1s								
IZV				*e*Lg		Lg		17 47 16.6	
	28nm,0.3s								
IZV	**Izvestkoviy**	**3.60**	**19**	Pg		**Pg**		**17 46 27.3**	**+0.1**
	5.1nm,0.1s								
IZV				Lg		Lg		17 47 16.6	
	23nm,0.6s								
DGS	**Degeres**	**3.65**	**9**	*e*Pg		**Pg**		**17 46 26.4**	**-1.6**
	13nm,0.3s								
DGS				*e*Lg		Lg		17 47 14.9	
	16nm,1.3s								
MTBS	**Maitube**	**3.65**	**17**	*e*Pg		**Pg**		**17 46 27.5**	**-0.5**
	4.8nm,0.4s								
MTBS				*e*Lg		Lg		17 47 16.8	
	21nm,0.5s								
MTBS	**Maitube**	**3.65**	**17**	Pg		**Pg**		**17 46 27.5**	**-0.5**
	4.8nm,0.4s								
MTBS				Lg		Lg		17 47 16.8	
	21nm,0.5s								
TNSS	**Tian-Shan**	**3.70**	**23**	*e*Pg		**Pg**		**17 46 28.8**	**-0.2**
	3.5nm,0.3s								
TNSS				*e*Lg		Lg		17 47 19.1	
	8.9nm,0.3s								
TNSS	**Tian-Shan**	**3.70**	**23**	Pg		**Pg**		**17 46 28.8**	**-0.2**
	3.5nm,0.3s								
TNSS				Lg		Lg		17 47 19.1	
	8.9nm,0.8s								
ANVS	**Anan'yevo**	**3.73**	**32**	⇑*e*P		**Pb**		**17 46 23.1**	**-1.7**
	baz=31								
ANVS				⇑*e*S		**Sb**		**17 47 10.8**	**+0.3**
	baz=31								
MDOK	**Medeo**	**3.84**	**23**	Pn		**Pb**		**17 46 23.7**	**-2.9**
	3.0nm,0.7s								
MDOK				⇓Pg		**Pg**		**17 46 31.4**	**-0.4**
	3.9nm,0.6s								
MDOK				⇑Lg		Lg		17 47 18.1	
	15nm,0.6s								
KOTS	**Kotyrbulak**	**3.93**	**23**	*e*Pg		**Pg**		**17 46 33.3**	**-0.1**
	5.3nm,0.6s								
KOTS				*e*Lg		Lg		17 47 26.8	
	49nm,0.6s								
KOTS	**Kotyrbulak**	**3.93**	**23**	Pg		**Pg**		**17 46 33.3**	**-0.1**
	5.3nm,0.6s								
KOTS				Lg		Lg		17 47 26.8	
	49nm,0.6s								
KTBS	**Karatobe**	**4.26**	**17**	*e*Pg		**Pg**		**17 46 38.9**	**-0.8**
	3.1nm,0.3s								
KTBS				*e*Lg		Lg		17 47 36.4	
	19nm,0.8s								
KTBS	**Karatobe**	**4.26**	**17**	Pg		**Pg**		**17 46 38.9**	**-0.8**
	3.1nm,0.3s								
KTBS				Lg		Lg		17 47 36.4	
	19nm,0.8s								
SATY	**Saty**	**4.27**	**36**	*e*Pg		**Pg**		**17 46 40.1**	**+0.2**
	1.7nm,0.3s								
SATY				*e*Lg		Lg		17 47 38.7	
	16nm,0.4s								
SATY	**Saty**	**4.27**	**36**	Pg		**Pg**		**17 46 40.2**	**+0.2**
	1.7nm,0.3s								
SATY				Lg		Lg		17 47 38.7	
	16nm,0.4s								
KUU	**Kurty**	**4.37**	**13**	*e*Pg		**Pg**		**17 46 40.6**	**-1.2**
	4.5nm,0.7s								
KUU				*e*Lg		Lg		17 47 39.6	
	40nm,1.2s								
KUU	**Kurty**	**4.37**	**13**	Pg		**Pg**		**17 46 40.6**	**-1.2**
	4.5nm,0.7s								
KUU				Lg		Lg		17 47 39.6	
	40nm,1.2s								
CHKK	**Chushkaly**	**4.47**	**19**	*e*Pg		**Pg**		**17 46 43.0**	**-0.7**
	0.5nm,0.0s								
CHKK				*e*Lg		Lg		17 47 43.8	
	13nm,0.4s								
CHKK	**Chushkaly**	**4.47**	**19**	Pg		**Pg**		**17 46 43.0**	**-0.7**
	0.5nm,0.0s								
CHKK				Lg		Lg		17 47 43.8	
	13nm,0.4s								
KURS	**Kuram**	**4.52**	**31**	*e*Pg		**Pg**		**17 46 45.1**	**+0.3**
	4.2nm,1.1s								
KURS				*e*Lg		Lg		17 47 46.9	
	5.7nm,1.0s								
KURS	**Kuram**	**4.52**	**31**	Pg		**Pg**		**17 46 45.1**	**+0.3**
	4.2nm,1.1s								
KURS				Lg		Lg		17 47 46.9	
	5.7nm,1.0s								
KPKS	**Kokpek**	**4.72**	**35**	*e*Pg		**Pg**		**17 46 47.1**	**-1.4**
	2.0nm,0.5s								
KPKS				*e*Lg		Lg		17 47 50.6	
	40nm,0.5s								
KPKS	**Kokpek**	**4.72**	**35**	Pg		**Pg**		**17 46 47.1**	**-1.4**
	2.0nm,0.5s								
KPKS				Lg		Lg		17 47 50.6	
	40nm,0.5s								
KK31	**Karatay Array**	**4.83**	**317**	⇓Pn		**Pn**		**17 46 34.3**	**+2.6**
	1.3nm,0.5s,baz=140,slow=14,SNR=3.9								
KK31				⇑Sn		**Sn**		**17 47 24.0**	**-4.2**
	2.3nm,0.5s,baz=130,slow=26								
KK31				⇑Lg		Lg		17 47 39.5	
	1.2nm,0.3s								
PDGK	**Podgornoye**	**5.00**	**41**	⇓Pn		Pb		17 46 41.9	-4.5
	5.3nm,1.6s								
PDGK				⇓Pg		**Pg**		**17 46 55.0**	**+1.2**
	4.0nm,0.8s								
PDGK				⇑Lg		Lg		17 48 00.5	
	13nm,0.9s								

*TEH **25** 17:49:40.0,30.82N×57.21E,h9km±24km,ML3.7*
*IDC **25** 17:49:40.6±1.1,30.71N×57.09E,h0km,mb3.5/8,*
mbtmp3.6/12,ML3.8/4,Error ellipse: s-maj=23.5km
s-min=17.8km az=119.0
ISC 25 17:49:42.1±0.6,**30.77N**±0.04×**57.19E**±0.04,**h10km**,**n46,**
σ1§13/48,mb3.4/8,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.27**	**165**	Pg		**Pg**		**17 49 46.8**	**-0.9**
ZRDN	**Zarand Kerman**	**0.60**	**290**	Pg		**Pg**		**17 49 52.3**	**-1.5**
KHGB	**Koh Gabri**	**0.73**	**238**	Pg		**Pg**		**17 49 55.0**	**-1.2**
TVBK	**TV Kerman**	**0.86**	**206**	Pg		**Pg**		**17 49 58.3**	**-0.4**
CHMN	**Cheshme madani**	**0.95**	**161**	Pg		**Pg**		**17 49 59.6**	**-0.8**
NGRK	**Negar Kerman**	**1.19**	**200**	Pg		**Pb**		**17 50 04.2**	**-0.7**
IBAF	**Bafgh**	**1.61**	**301**	Pg		**Pn**		**17 50 10.8**	**0.0**
KBAM	**BAM**	**1.96**	**146**	Pn		**Pn**		**17 50 16.8**	**+1.3**
BSRN	**Basiran**	**2.04**	**54**	Pn		**Pn**		**17 50 16.1**	**-0.5**
IKOO	**Kooshah**	**2.27**	**43**	Pn		**Pn**		**17 50 19.8**	**0.0**
TPRV	**Parvadeh(Tabas**	**2.30**	**349**	Pn		**Pn**		**17 50 20.0**	**-0.1**
IMEH	**Mehriz**	**2.30**	**286**	Pn		**Pn**		**17 50 20.7**	**+0.5**
ITEG	**Tejag**	**2.50**	**32**	Pn		**Pn**		**17 50 22.5**	**-0.5**
NHDN	**Nehbandan**	**2.53**	**75**	Pn		**Pn**		**17 50 23.4**	**+0.1**
TKDS	**Koohdasht(Taba**	**2.84**	**359**	Pn		**Pn**		**17 50 27.5**	**-0.1**
KHNJ	**Kahnooj**	**2.84**	**171**	Pn		**Pb**		**17 50 30.7**	**-2.2**
IDAH	**Dahanechah**	**3.01**	**49**	Pn		**Pn**		**17 50 29.7**	**-0.4**
AFRZ	**Afriz**	**3.07**	**30**	Pn		**Pn**		**17 50 30.1**	**-0.7**
TNSJ	**Nastanj**	**3.23**	**351**	Pn		**Pn**		**17 50 32.9**	**0.0**
ZHDN	**Zahedan**	**3.42**	**113**	Pn		**Pn**		**17 50 35.8**	**+0.2**
GENO	**Geno**	**3.47**	**195**	Pn		**Pn**		**17 50 38.8**	**+2.5**
ANAR	**Anarak**	**3.81**	**310**	Pn		**Pn**		**17 50 41.0**	**+0.1**
IRAM	**Ramesheh**	**4.25**	**285**	Pn		**Pn**		**17 50 48.4**	**+1.4**
IZEF	**Zefreh**	**4.65**	**298**	Pn		**Pn**		**17 50 53.8**	**+1.2**
JASK	**Jask - Hormozg**	**4.92**	**173**	Pn		**Pn**		**17 50 58.1**	**+2.1**
TBJM	**Torbat-e-JAM**	**5.21**	**30**	Pn		**Pn**		**17 51 00.4**	**+0.2**
KRSH	**Karshahi**	**5.34**	**308**	Pn		**Pn**		**17 51 02.3**	**+0.3**
IKLH	**Kolahrood**	**5.40**	**300**	Pn		**Pn**		**17 51 05.1**	**+2.1**
ISFB	**Sefidab**	**5.50**	**312**	Pn		**Pn**		**17 51 04.1**	**0.0**
SBZV	**Sabzevar**	**5.62**	**3**	Pn		**Pn**		**17 51 06.6**	**+0.7**
SRVN	**Saravan**	**5.66**	**125**	Pn		**Pn**		**17 51 08.8**	**+2.5**
IAKL	**Akhelmad**	**5.97**	**12**	Pn		**Pn**		**17 51 12.1**	**+1.3**
IFIR	**Firoozkooh**	**6.12**	**324**	Pn		**Pn**		**17 51 12.8**	**0.0**
IDMV	**Damavand**	**6.46**	**319**	Pn		**Pn**		**17 51 18.3**	**+0.8**
GEYT	**Alibeck**	**7.19**	**6**	Pn		**Pn**		**17 51 28.2**	**+0.9**
	0.4nm,0.3s,baz=193,slow=20,SNR=1.9								
GEYT				Sn		**Sn**		**17 52 51.5**	**+2.5**
	0.3nm,0.3s,baz=119,slow=33,SNR=1.2								
GEYT				Lg		Lg		17 53 31.6	
	baz=201,slow=24								
	0.9nm,0.4s								
WSAR	**Wadi Sarin**	**7.61**	**170**	Pn		**Pn**		**17 51 33.5**	**+0.5**
	1.4nm,0.3s,baz=1.8,slow=7.7,SNR=22								
WSAR				Sn		**Sn**		**17 52 58.6**	**-0.7**
	baz=67,slow=23								
	8.9nm,0.5s								
KVAR	**Kislovodsk Arr**	**17.46**	**323**	Pn		**Pn**		**17 53 45.6**	**-0.1**
	baz=345,slow=19								
	7.4nm,0.9s								
MMAI	**Mount Meron Ar**	**18.63**	**283**	P		**Pn**		**17 54 00.9**	**+0.6**
	0.4nm,0.3s,baz=269,slow=38,SNR=1.8								
	0.2nm,0.3s								
BRTR	**Kekin Array B**	**21.16**	**301**	P		**P**		**17 54 27.9**	**+0.3**
	1.5nm,1.0s,baz=115,slow=10,SNR=5.8								
	1.5nm,1.0s								
BVAR	**Borovoye Array**	**24.24**	**20**	P		**P**		**17 54 59.6**	**+0.6**
	1.0nm,0.5s,baz=199,slow=7.5,SNR=4.8								
	1.0nm,0.5s								
MKAR	**Makanchi Array**	**25.12**	**43**	P		**P**		**17 55 08.6**	**+1.5**
	0.2nm,0.6s,baz=232,slow=11,SNR=1.9								
	0.2nm,0.6s								
KURBB	**Kurchatov Arra**	**25.44**	**33**	P		**P**		**17 55 10.7**	**+0.8**
	0.3nm,0.5s,baz=209,slow=11,SNR=1.2								
	0.3nm,0.5s								
ZALV	**Zalesovo Beam**	**30.53**	**33**	P		**P**		**17 55 55.9**	**+0.5**
	0.4nm,0.5s,baz=243,slow=9.5,SNR=2.7								
	0.4nm,0.5s								
GERES	**GERES Array B**	**37.38**	**312**	P		**P**		**17 56 54.7**	**-0.3**
	0.5nm,0.6s,baz=113,slow=9.9,SNR=3.7								
	0.5nm,0.6s								
TORD	**Torodi Ar. Bea**	**53.84**	**264**	P		**P**		**17 59 03.8**	**-1.7**
	1.3nm,0.7s,baz=54,slow=8.0,SNR=10								
	1.3nm,0.7s								
YKA	**Yellowknife Ar**	**86.83**	**356**	P		**P**		**18 02 27.4**	**+1.0**
	0.1nm,0.5s,baz=16,slow=5.8,SNR=4.1								
	0.1nm,0.5s								

*MOS **25** 17:56:02.6±1.1,7.30S×161.46E,h12km,mb5.4/33,Error*
ellipse: s-maj=9.4km s-min=7.2km az=68.7
*NEIC **25** 17:56:03.9,7.29S×161.53E,h24km*
*IDC **25** 17:56:03.1±0.5,7.32S×161.40E,h0km,mb4.7/21,*
mbtmp4.7/23,ML4.7/2,MS4.6/52,Error ellipse:
s-maj=20.0km s-min=12.4km az=107.0
*NEIC **25** 17:56:03.9,7.19S×161.63E,h24km,Moment Tensor*
Solution. Duration: 2§2 Moment tensor: Scale 10^{16}Nm;
M_{rr}-1.98; $M_{\theta\theta}$2.33; $M_{\phi\phi}$-0.35; $M_{r\theta}$5.96; $M_{\theta\phi}$2.84; $M_{\phi r}$0.57;
Fault plane solution: M_o6.92000×10^{16} NP1:
ϕ_s265.05000°,δ79.56000°,λ-68.69000°. NP2:ϕ_s19.95000°,
δ23.62000°,λ-153.13000°. Principal axes: T 7.4272,
Plg31.0000°, Azm338.0000°; N -1.0229, Plg21.0000°,
Azm81.0000°; P -6.4043, Plg51.0000°, Azm199.0000°;
*BJI **25** 17:56:04.5,7.10S×161.32E,h12km,mb4.8/63,mB5.5/31,*
Ms5.0/30,Ms7 4.7/35
*NEIC **25** 17:56:06.1±1.6,7.33S±0.08×161.49E±0.10,h22km±4km,*
mb5.3/231,Mww5.2/16,Error ellipse: s-maj=14.4km
s-min=11.2km az=95.0
*GCMT **25** 17:56:09.1±0.2,7.35S±0.01×161.50E±0.01,h35km±1km,*
MW5.2/119,Moment Tensor Solution. s80,c117;
s119,c185; Duration: 1§0 Moment tensor: Scale 10^{16}
Nm; M_{rr}-2.52±.19; $M_{\theta\theta}$2.88±.13; $M_{\phi\phi}$-0.36±.14;
$M_{r\theta}$5.47±.20; $M_{\theta\phi}$4.47±.12; $M_{\phi r}$-0.27±.15; Best double
couple: M_o7.53400×10^{16} NP1:ϕ_s270.00000°,δ78.00000°,
λ-54.00000°. NP2:ϕ_s16.00000°,δ38.00000°,
λ-160.00000°. Principal axes: T 7.9790, Plg24.0000°,
Azm333.0000°; N -0.8940, Plg35.0000°, Azm81.0000°; P
-7.0900, Plg45.0000°, Azm216.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function
ISC 25 17:56:05.6±0.3,**7.33S**±0.04×**161.37E**±0.05,**h10km**,**n747,**
σ1§31/565,mb5.2/182,MS4.7/75,15C-3D,
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.51**	**214**	P		**Pn**		**17 56 47.5**	**+0.9**
HNR	**Honiara**	**2.51**	**214**	P		**Pn**		**17 56 48.3**	**+1.7**
HNR	**Honiara**	**2.51**	**214**	P		**Pn**		**17 56 47.5**	**+0.9**
HNR	**Honiara**	**2.51**	**214**	Pn		**Pn**		**17 56 47.7**	**+1.2**
	5μm,0.3s,baz=175,slow=2.0,SNR=565								
HNR				LR		LR		17 57 13.6	
	comp=Z,20μm,20.8s,baz=190,slow=28								
HNR				Sn		**Sn**		**17 57 17.7**	**+0.5**
	12μm,0.3s,baz=89,slow=6.4,SNR=9.1								
BULU	**Kimbe**	**11.13**	**279**	P		**Pn**		**17 58 49.5**	**+4.6**
KAVG	**Kavieng**	**11.53**	**294**	P		**Pn**		**17 58 54.0**	**+3.6**
DVP	**Devils Point**	**12.28**	**148**	P		**Pn**		**17 59 05.0**	**+4.3**
KOUNC	**Koumac, New Ca**	**13.44**	**168**	Pn		Pn		17 59 14.6	-1.9
PMG	**Port Moresby**	**14.21**	**261**	Pn		**Pn**		**17 59 29.9**	**+2.8**
PMG	**Port Moresby**	**14.21**	**261**	P		**Pn**		**17 59 31.2**	**+4.2**
PMG	**Port Moresby**	**14.21**	**261**	*ce*P		**Pn**		**17 59 29.6**	**+2.6**
PMG				pmax		pmax			
	comp=Z,98nm,1.7s								
PMG	**Port Moresby**	**14.21**	**261**	Pn		**Pn**		**17 59 30.1**	**+3.0**
	comp=Z,0.4nm,0.3s,baz=88,slow=8.1,SNR=12								
PMG				Sn		**Sn**		**18 02 06.6**	**+1.7**
	baz=284,slow=6.9								
PMG				LR		LR		18 04 49.0	
	comp=Z,1μm,19.7s,baz=70,slow=37								
PATS	**Pohnpei**	**14.40**	**348**	P		Pn		17 59 27.2	-2.6
	baz=15,SNR=16								
PATS	**Pohnpei**	**14.40**	**348**	Pn		Pn		17 59 26.8	-2.9
LIFNC	**LIFOU**	**14.52**	**158**	Pn		**Pn**		**17 59 30.3**	**-1.0**
LIFNC	**LIFOU**	**14.52**	**158**	P		Pn		17 59 36.7	+5.4
MANU	**Manus Island**	**14.91**	**290**			Pn		17 59 34.8	-1.9
MANU	**Manus Island**	**14.91**	**290**	P		**Pn**		**17 59 38.1**	**+1.5**
NOUC	**Port Laguerre**	**15.43**	**163**	P		**Pn**		**17 59 45.2**	**+1.6**
DZM	**Mont Dzumac**	**15.45**	**162**	*e*P		**Pn**		**17 59 43.6**	**-0.2**
	comp=Z,286nm,1.4s								
DZM				*e*LR		LR		18 03 26.4	
	comp=Z,5μm,26.2s								
DZM	**Mont Dzumac**	**15.45**	**162**	Pn		**Pn**		**17 59 40.5**	**-3.3**
DZM	**Mont Dzumac**	**15.45**	**162**	P		**Pn**		**17 59 45.9**	**+2.1**
DZM	**Mont Dzumac**	**15.45**	**162**	Pn		**Pn**		**17 59 44.6**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=26,slow=8.3,SNR=35								
DZM				Sn		**Sn**		**18 02 30.6**	**-4.6**
	comp=Z,0.3nm,0.3s,baz=227,slow=19,SNR=1.2								
DZM				LR		LR		18 05 27.3	
	comp=Z,2μm,19.7s,baz=348,slow=36								
	comp=Z,12nm,0.9s								
MARNC	**Mare, Lifou**	**15.47**	**156**	Pn		**Pn**		**17 59 40.5**	**-3.5**
ONTNC	**Ouen Toro**	**15.67**	**162**			**Pn**		**17 59 44.5**	**-2.1**
ONTNC	**Ouen Toro**	**15.67**	**162**	P		**Pn**		**17 59 50.4**	**+3.7**
OUENC	**Ouen Island, N**	**15.90**	**161**			**Pn**		**17 59 47.1**	**-2.5**
OUENC	**Ouen Island, N**	**15.90**	**161**	P		**P**		**17 59 54.9**	**+1.6**
PINNC	**Pines Island,**	**16.28**	**160**	Pn		**Pn**		**17 59 51.4**	**-3.1**
PINNC				IAmb		IAmb		18 00 00.2	
	comp=Z,290nm,1.9s								
AUAYR	**Ayr State High**	**18.21**	**227**	P		**Pn**		**18 00 20.2**	**+1.5**
CTA	**Charters Tower**	**19.38**	**228**	P		**P**		**18 00 32.8**	**+1.1**
	comp=Z,6.3nm,0.3s,baz=47,slow=10,SNR=188								
CTA				S		**Sn**		**18 04 06.8**	**-3.5**
	comp=Z,5.0nm,0.8s,baz=0.8,slow=22,SNR=2.0								
CTA				LR		LR		18 07 18.9	
	comp=Z,2μm,21.7s,baz=56,slow=35								
	comp=Z,95nm,0.8s								
CTAO	**Charters Tower**	**19.38**	**228**	P		**P**		**18 00 33.0**	**+1.2**
CTAO	**Charters Tower**	**19.38**	**228**	P		**P**		**18 00 33.5**	**+1.8**
CTAO	**Charters Tower**	**19.38**	**228**	P		**P**		**18 00 33.0**	**+1.2**
CTAO				pmax		pmax			
	comp=Z,513nm,1.6s								
MTSU	**Mount Surprise**	**19.77**	**236**	P		**P**		**18 00 38.2**	**+2.0**
	baz=19,SNR=287								
DGTI	**Dogotuki**	**20.05**	**118**	P		Pn		18 00 43.2	+2.3
TABU	**Tabubil**	**20.13**	**275**	P		**P**		**18 00 43.0**	**+2.9**
EIDS	**Eidsvold**	**20.45**	**208**	P		**P**		**18 00 43.9**	**+0.5**
	baz=20,SNR=76								
EIDS	**Eidsvold**	**20.45**	**208**	P		**P**		**18 00 43.8**	**+0.5**
EIDS	**Eidsvold**	**20.45**	**208**	P		**P

STKA **Stephens Creek** **30.59 214** P P 18 02 17.9 -2.0
STKA **Stephens Creek** **30.59 214** P **P** 18 02 19.2 -0.7
STKA **Stephens Creek** **30.59 214** *i* P P 18 02 17.3 -2.6
STKA **Stephens Creek** **30.59 214** P **P** 18 02 19.0 -0.9
comp=Z,18nm,0.9s,baz=11,slow=8.5,SNR=25
STKA LR LR 18 15 14.8
comp=Z,3μm,18.6s,baz=33,slow=38
comp=Z,18nm,0.9s
AS31 Alice Springs **30.95 235** P P 18 02 20.6 -2.6
ASAR Alice Springs **30.95 235** P P 18 02 20.3 -2.8
ASAR Alice Springs **30.95 235** P P 18 02 20.3 -2.9
ASAR Alice Springs **30.95 235** P **P** 18 02 21.4 -1.8
comp=Z,16nm,0.8s,baz=63,slow=10,SNR=163
ASAR PcP **PcP** 18 05 18.6 -1.1
comp=Z,0.9nm,0.6s,baz=87,slow=3.1,SNR=1.5
ASAR LR LR 18 14 38.5
comp=Z,1μm,19.7s,baz=68,slow=36
comp=Z,16nm,0.8s
AUSMG **Snowy Mountain** **31.21 200** P **P** 18 02 26.0 +0.7
MILA Mila **31.61 199** P **P** 18 02 29.3 +0.5
baz=31,SNR=3.6
MILA Mila **31.61 199** P **P** 18 02 29.1 +0.3
LCRK Leigh Creek **31.62 220** P **P** 18 02 27.8 -1.1
OOD Oodnadatta **31.70 227** P **P** 18 02 28.7 -1.0
AUMAG **Moama Anglican** **32.42 206** P **P** 18 02 36.7 +0.9
TOZ Tahuroa Road **32.87 159** P **P** 18 02 38.4 -1.4
KNRA Kununurra **32.97 253** P **P** 18 02 39.9 -1.0
baz=33,SNR=50
KNRA Kununurra **32.97 253** P **P** 18 02 39.2 -1.7
KNRA Kununurra **32.97 253** P **P** 18 02 40.5 -0.4
HTT Hallett **33.26 216** P **P** 18 02 42.0 -1.4
baz=33,SNR=4.7
HTT Hallett **33.26 216** P **P** 18 02 42.9 -0.4
TOO Toolangi **33.38 203** P **P** 18 02 44.1 -0.2
baz=33,SNR=5.3
TOO Toolangi **33.38 203** P **P** 18 02 42.5 -1.7
TOO Toolangi **33.38 203** P **P** 18 02 45.1 +0.8
TOO Toolangi **33.38 203** P **P** 18 02 42.5 -1.7
TOO pmax pmax
comp=Z,93nm,1.6s
URZ Urewera **33.92 157** LR LR 18 14 24.1
comp=Z,866nm,20.8s,baz=84,slow=32
RTZ Ruatahuna **34.19 158** P P 18 02 49.4 -2.0
ARPS Mount Arapiles **34.28 208** P **P** 18 02 51.7 -0.4
baz=34,SNR=13
MULG Mulgathing **34.31 225** P **P** 18 02 51.2 -1.2
NLAI Namlea **34.35 275** P **P** 18 02 53.3 +0.3
comp=Z,18nm,1.4s,comp=Z,2μm
LBMI Labuha **34.41 280** P **P** 18 02 53.6 +0.1
comp=Z,116nm,0.9s,comp=Z,2μm
BKZ Black Stump Fm **34.50 159** P **P** 18 02 52.9 -1.1
BKZ IAmb IAmb 18 03 03.2
comp=Z,28nm,0.7s
BKZ Black Stump Fm **34.50 159** P **P** 18 02 55.6 +1.6
BBOO Buckleboo **34.56 219** P **P** 18 02 52.9 -1.6
baz=34,SNR=21
BBOO Buckleboo **34.56 219** P **P** 18 02 53.0 -1.6
BBOO IAmb IAmb 18 02 54.1
comp=Z,43nm,0.9s
BBOO Buckleboo **34.56 219** P **P** 18 02 53.7 -0.9
MRNZ Matariki Terra **35.40 165** P **P** 18 03 00.2 -1.6
TCW Tory Channel **35.64 163** P **P** 18 03 02.9 -0.9
THZ Tophouse **35.78 165** P **P** 18 03 04.0 -1.0
AULHS **Lilydale High** **36.05 198** P **P** 18 03 08.3 +1.1
WRKA Warakurna **36.16 237** P P 18 03 06.6 -1.9
baz=36,SNR=29
WRKA Warakurna **36.16 237** P **P** 18 03 06.9 -1.6
FITZ Fitzroy Crossi **36.38 249** P P 18 03 08.6 -1.9
baz=36,SNR=11
FITZ Fitzroy Crossi **36.38 249** P P 18 03 08.3 -2.2
FITZ Fitzroy Crossi **36.38 249** P **P** 18 03 09.2 -1.2
LTZ Lake Taylor **36.59 166** P **P** 18 03 10.4 -1.6
SOEI Soe **36.75 264** P **P** 18 03 12.8 -1.1
SOEI Soe **36.75 264** P **P** 18 03 13.6 -0.2
SOEI Soe **36.75 264** P **P** 18 03 14.7 +0.9
comp=Z,100nm,1.0s
OXZ Oxford **37.06 167** P P 18 03 14.0 -1.8
MOO Moorlands **37.14 197** P **P** 18 03 17.6 +1.0
baz=37,SNR=5.4
MOO Moorlands **37.14 197** P **P** 18 03 17.4 +0.8
JCZ Jackson Bay **37.17 171** P **P** 18 03 19.7 +2.8
RPZ Rata Peaks **37.22 168** IAmb IAmb 18 03 20.0
comp=Z,58nm,0.9s
RPZ Rata Peaks **37.22 168** LR LR 18 19 08.4
comp=Z,798nm,18.9s,baz=332,slow=37
TAU Tasmania Unive **37.53 197** P **P** 18 03 19.5 -0.4
TAU IAmb IAmb 18 03 21.1
comp=Z,79nm,1.3s
TAU Tasmania Unive **37.53 197** P **P** 18 03 19.5 -0.4
TAU pmax pmax
comp=Z,79nm,1.3s
DAV Davao City (W) **38.45 291** LR LR 18 19 20.3
comp=Z,368nm,18.1s,baz=120,slow=36
BBSI Bau Bau **38.59 270** P **P** 18 03 29.3 +0.1
comp=Z,30nm,1.1s,comp=Z,564nm
MMRI Maumere **38.76 265** P **P** 18 03 29.0 -1.7
MMRI Maumere **38.76 265** P **P** 18 03 30.3 -0.4
MMRI Maumere **38.76 265** P **P** 18 03 30.1 -0.6
comp=Z,354nm,1.0s,comp=Z,3μm
FORT Forrest **38.92 229** P P 18 03 29.8 -2.0
FORT IAmb IAmb 18 04 01.4
comp=Z,53nm,1.1s
JCJ Chichijima **38.95 332** LR LR 18 18 37.4
comp=Z,598nm,18.3s,baz=146,slow=35
EDFI Ende, Flores **39.30 265** P P 18 03 33.5 -1.8
comp=Z,152nm,0.9s,comp=Z,1μm
BASI Baing, Sumba **40.39 263** P **P** 18 03 44.7 +0.4
comp=Z,187nm,0.8s
BKSI Bulukumba **41.03 270** P **P** 18 03 50.4 +0.8
comp=Z,17nm,0.8s
TOLI2 Tolitoli **41.35 280** P **P** 18 03 50.6 -1.5
TOLI2 Tolitoli **41.35 280** P **P** 18 03 51.6 -0.6
KAPI Kappang **41.43 271** P **P** 18 03 51.9 -0.9
KAPI IAmb IAmb 18 04 06.3
comp=Z,73nm,1.3s
KAPI Kappang **41.43 271** P **P** 18 03 51.9 -0.9
KAPI pmax pmax
comp=Z,73nm,1.3s
KAPI Kappang **41.43 271** LR LR 18 24 12.3
comp=Z,194nm,18.7s,baz=103,slow=41
MPSI Mapaga **42.05 279** P **P** 18 03 58.1 +0.2
comp=Z,22nm,0.8s
PSA00 Pilbara Seismi **42.47 246** P P 18 03 59.5 -1.8
PSA00 Pilbara Seismi **42.47 246** P **P** 18 03 59.6 -1.6
PSA00 IAmb IAmb 18 04 01.0
comp=Z,46nm,0.8s
PSA00 Pilbara Seismi **42.47 246** P **P** 18 03 59.9 -1.4
MBWA Marble Bar **42.48 247** P P 18 03 59.6 -1.8
MBWA IAmb IAmb 18 04 01.0
comp=Z,77nm,0.9s
MBWA Marble Bar **42.48 247** P **P** 18 04 00.0 -1.4
PLAI Plampang **43.17 265** P **P** 18 04 06.7 -0.3
PLAI Plampang **43.17 265** P **P** 18 04 05.3 -1.7
comp=Z,61nm,0.7s
KMBL Kambalda **43.90 232** P **P** 18 04 11.8 -0.9
baz=44,SNR=11
KMBL Kambalda **43.90 232** P **P** 18 04 11.6 -1.1
TWSI Taliwang, Sumb **44.05 265** P **P** 18 04 12.4 -1.7
comp=Z,43nm,0.8s
MYLDM **Lahad Datu** **44.54 285** P **P** 18 04 17.4 -0.6
MEEK Meekatharra **44.89 239** P **P** 18 04 20.2 -0.5
baz=44,SNR=78
MEEK Meekatharra **44.89 239** P **P** 18 04 20.4 -0.3
JHJ Hachijo jima 2 **45.16 334** LR LR 18 23 41.4
comp=Z,582nm,18.2s,baz=326,slow=37
BBKI Banjar Baru **46.46 272** P P 18 04 47.7 +14
JOW Kunigami **46.72 318** LR LR 18 23 31.4
comp=Z,745nm,19.6s,baz=120,slow=35
JAGI Jajag, Banyuwa **46.76 265** P P 18 04 32.5 -3.1
JAGI Jajag, Banyuwa **46.76 265** P **P** 18 04 36.3 +0.7
JAGI Jajag, Banyuwa **46.76 265** P P 18 04 33.3 -2.3
comp=Z,132nm,0.7s,comp=Z,1μm
KKM Kota Kinabalu **46.97 285** P **P** 18 04 36.6 -0.7
KKM Kota Kinabalu **46.97 285** P **P** 18 04 37.9 +0.5
KLBR Kellerberrin **47.24 233** P **P** 18 04 38.4 -0.7
baz=47,SNR=11
BLDU Ballidu **47.74 235** P **P** 18 04 41.9 -1.2
baz=47,SNR=10
BLDU Ballidu **47.74 235** P **P** 18 04 42.8 -0.2
MORW Morawa **47.79 237** P **P** 18 04 42.6 -0.9
baz=47,SNR=9.6
MORW Morawa **47.79 237** P P 18 04 41.6 -1.9
MORW Morawa **47.79 237** P **P** 18 04 43.7 +0.2
NWAO Narrogin (SRO) **48.14 232** P **P** 18 04 45.2 -0.9
baz=48,SNR=9.7
NWAO P **P** 18 04 45.2 -0.9
baz=48,SNR=9.7
NWAO Narrogin (SRO) **48.14 232** P P 18 04 44.1 -2.0
NWAO Narrogin (SRO) **48.14 232** P P 18 04 44.1 -2.0
NWAO Narrogin (SRO) **48.14 232** P **P** 18 04 45.8 -0.3
NWAO Narrogin (SRO) **48.14 232** P P 18 04 44.1 -2.0
NWAO pmax pmax
comp=Z,56nm,1.2s
NWAO Narrogin (SRO) **48.14 232** LR LR 18 26 08.2
comp=Z,830nm,18.4s,baz=54,slow=38
JMN Monobe **48.45 329** P **P** 18 04 47.0 -1.4
JMN Monobe **48.45 329** P **P** 18 04 49.7 +1.2
MUN Mundaring **48.60 233** P **P** 18 04 49.6 -0.1
baz=48,SNR=3.6
MUN Mundaring **48.60 233** P **P** 18 04 49.7 0.0
MJAR Matsushiro Arr **48.75 335** P **P** 18 04 49.9 -0.8
comp=Z,3.0nm,0.7s,baz=173,slow=8.7,SNR=5.8
MJAR LR LR 18 24 23.7
comp=Z,494nm,20.7s,baz=138,slow=35
comp=Z,3.0nm,0.7s
PPT Papeete **48.84 107** LR LR 18 23 00.2
comp=Z,133nm,18.5s,baz=270,slow=33
PPT2 Papeete2 **48.84 107** *e*S **S** 18 12 01.8 +6.1
comp=Z,114nm,24.8s
PPT2 *e*SS **SS** 18 15 28.7 +2.2
comp=Z,112nm,26.0s
PPT2 *e*LQ LQ 18 16 27.1
comp=Z,1μm,29.5s
PPT2 *e*LR LR 18 18 23.2
comp=Z,181nm,24.8s
PPT2 *e*LR LR 18 18 31.5
comp=Z,116nm,24.5s
RKGY Rocky Gully **48.98 230** P **P** 18 04 52.5 -0.1
baz=49,SNR=10
JNU Nakatsue **49.58 326** P **P** 18 04 55.9 -1.2
JNU Nakatsue **49.58 326** P **P** 18 04 57.4 +0.2
JNU Nakatsue **49.58 326** LR LR 18 25 40.2
comp=Z,274nm,18.5s,baz=154,slow=36
TBI Tubuai **49.76 114** *e*LR LR 18 19 14.8
comp=Z,1μm,27.8s
KSM Kuching **51.68 278** P **P** 18 05 12.2 -1.1
KSM IAmb IAmb 18 05 44.2
comp=Z,34nm,1.0s
LEM Lembang **53.31 267** LR LR 18 31 38.8
comp=Z,131nm,18.3s,baz=212,slow=40
ASAJ Asahikawa **53.95 343** LR LR 18 25 30.5
comp=Z,1μm,21.8s,baz=159,slow=33
CBJI Citeko **54.10 267** P P 18 05 43.1 +12
KSRS Korea Array **54.42 327** P **P** 18 05 32.9 -0.2
comp=Z,4.4nm,0.7s,baz=139,slow=7.6,SNR=14
KSRS LR LR 18 27 19.9
comp=Z,417nm,19.8s,baz=135,slow=34
comp=Z,4.4nm,0.7s
KSAR Wonju Array Be **54.43 327** P **P** 18 05 32.3 -0.8
KSAR Wonju Array Be **54.43 327** P **P** 18 05 32.3 -0.8
CGJI Cibinong **55.24 267** P P 18 05 37.7 -1.8
comp=Z,96nm,0.7s
NJ2 Nanjing **56.36 316** *e*P **P** 18 05 48.5 +1.3
NJ2 pP **pP** 18 05 51.5 +1.6
NJ2 pmax pmax
comp=Z,17nm,0.5s
QIZ Qiongzhong **57.13 298** P **P** 18 05 52.8 -0.1
QIZ S **S** 18 13 49.5 +1.0
QIZ LR LR
comp=Z,500nm,18.4s
USA0B Ussuriysk Arra **57.75 335** IAmb IAmb 18 05 58.2
comp=Z,36nm,1.1s
USA0B Ussuriysk Arra **57.75 335** *i* P P 18 05 54.5 -2.3
USRK Ussuriysk Ar. **57.75 335** P **P** 18 05 56.6 -0.2
comp=Z,20nm,0.8s,baz=139,slow=6.4,SNR=30
USRK LR LR 18 29 11.1
comp=Z,503nm,20.0s,baz=154,slow=34
comp=Z,20nm,0.8s
TAOE Nuku Hiva Isla **57.87 96** *e*LR LR 18 22 45.9
comp=Z,334nm,40.1s
WHN Wuhan **58.71 312** P **P** 18 06 04.3 +0.5
MDJ Mudanjiang **59.10 334** IAmb IAmb 18 06 07.5
comp=Z,35nm,1.2s
MDJ Mudanjiang **59.10 334** P **P** 18 06 07.0 +0.7
MDJ Mudanjiang **59.10 334** P **P** 18 06 06.5 +0.2
MDJ pmax pmax
comp=Z,31nm,2.0s
MDJ pmax pmax
comp=Z,410nm,4.6s
PET Petropavlovsk **60.17 358** *ce*P **P** 18 06 12.0 -1.4
PET pmax pmax
comp=Z,114nm,2.5s
PETK Petropavlovsk- **60.29 357** P **P** 18 06 13.7 -0.5
comp=Z,22nm,1.0s,baz=140,slow=7.2,SNR=7.9
PETK LR LR 18 27 41.7
comp=Z,783nm,21.8s,baz=178,slow=32
comp=Z,22nm,1.0s
CN2 Changchun **60.38 331** *e*P **P** 18 06 14.5 -0.6
CN2 *e*S **S** 18 14 28.0 -2.0
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,700nm,13.0s
SHEM Shemya Is, Ala **60.81 9** LR LR 18 29 32.6
comp=Z,406nm,19.4s,baz=192,slow=33
BNX BinXian **60.95 333** ⇓P **P** 18 06 18.5 -0.4
BNX pmax pmax
comp=Z,36nm,1.0s
BNX pmax pmax
comp=Z,610nm,6.0s
KLR Kul'dur **62.00 338** *ce*P P 18 06 24.2 -1.7
KLR pmax pmax
comp=Z,27nm,1.7s
KLR Kul'dur **62.00 338** LR LR 18 30 26.9
comp=Z,610nm,21.6s,baz=155,slow=33
LYN LuoYang **62.18 315** ⇓P **P** 18 06 27.5 0.0
LYN sP pP 18 06 32.5 +2.3
LYN pmax pmax
comp=Z,19nm,0.7s
LYN pmax pmax
comp=Z,210nm,5.1s
LYN LR LR
comp=Z,480nm,15.5s
LYN LR LR
comp=Z,590nm,21.0s
LYN LR LR
comp=Z,840nm,21.3s
ENH Enshi **62.22 310** IAmb IAmb 18 06 39.7
comp=Z,33nm,1.2s
ENH Enshi **62.22 310** P **P** 18 06 27.3 -0.5
HNS HongShan **62.26 319** ⇓P **P** 18 06 28.3 +0.4
HNS *e*S **S** 18 14 51.3 -2.7
HNS pmax pmax
comp=Z,26nm,1.2s
HNS LR LR
comp=Z,280nm,16.7s
HNS LR LR
comp=Z,520nm,18.3s
HNS LR LR
comp=Z,540nm,19.1s
NONG Nongkai **62.75 295** P **P** 18 06 32.0 +0.4
GYA Guiyang **62.77 305** P P 18 06 29.0 -2.7
GYA pmax pmax
comp=Z,16nm,0.8s
XAN Xi'an **64.44 313** ⇑P **P** 18 06 41.8 -0.8
XAN pP pP 18 06 47.0 +1.7
XAN pmax pmax
comp=Z,15nm,1.1s
XAN LR LR
comp=Z,450nm,17.5s
XAN LR LR
comp=Z,390nm,18.1s
XAN LR LR
comp=Z,770nm,17.1s
HEH HeiHe **64.47 337** *e*P **P** 18 06 41.8 -0.5
HEH pmax pmax
comp=Z,25nm,0.8s
NIKH Nikolski High **65.19 19** P **P** 18 06 46.6 -0.3
baz=213
XLT XiLinHaoTe **65.36 326** *e*P **P** 18 06 49.0 +0.6
XLT PcP **PcP** 18 07 23.5 +3.0
XLT pmax pmax
comp=Z,29nm,1.0s
XLT pmax pmax
comp=Z,280nm,4.1s
XLT LR LR
comp=Z,65nm,12.3s
XLT LR LR
comp=Z,550nm,12.4s
XLT LR LR
comp=Z,630nm,24.6s
SRDT SRDT **65.39 289** P **P** 18 06 49.4 +0.4
KMI Kunming **65.51 302** ⇑P **P** 18 06 50.8 +0.9
KMI S **S** 18 15 37.5 +2.1
KMI pmax pmax
comp=Z,19nm,1.5s
KMI LR LR
comp=Z,240nm,20.9s
HHC Hu-ho-hao-te **66.23 321** *e*P **P** 18 06 55.3 +1.2
HHC pmax pmax
comp=Z,26nm,0.5s
HHC pmax pmax
comp=Z,440nm,5.6s
HHC LR LR
comp=Z,690nm,16.6s
HHC LR LR
comp=Z,1μm,16.9s
HHC LR LR
comp=Z,920nm,16.7s
CMAR Chiang Mai Arr **66.67 294** P **P** 18 06 57.2 0.0
comp=Z,8.1nm,0.9s,baz=110,slow=4.4,SNR=30
CMAR LR LR 18 34 12.4
comp=Z,103nm,20.6s,baz=70,slow=34
comp=Z,8.1nm,0.9s
UNV Unalaska Valle **66.70 20** P **P** 18 07 00.0 +3.4
UNV Unalaska Valle **66.70 20** P **P** 18 06 56.2 -0.4
baz=215
CHTO Chiang Mai **66.78 294** P **P** 18 06 57.0 -0.9
CHTO IAmb IAmb 18 07 15.0
comp=Z,34nm,1.6s
CHTO Chiang Mai **66.78 294** P **P** 18 06 58.0 +0.1
CHTO Chiang Mai **66.78 294** P **P** 18 06 57.0 -0.9
CHTO pmax pmax
comp=Z,34nm,1.6s
PZH PanZhiHua **66.85 303** P **P** 18 06 58.0 -0.3
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,90nm,4.5s
CD2 Chengdu **66.93 308** P **P** 18 06 57.5 -1.2
CD2 pP pP 18 07 02.3 +0.9
CD2 sP sP 18 07 04.0 +1.6
CD2 S **S** 18 15 51.5 -0.6
CD2 pmax pmax
comp=Z,30nm,1.0s
CD2 LR LR
comp=Z,300nm,12.6s
CD2 LR LR
comp=Z,380nm,15.7s
CD2 LR LR
comp=Z,440nm,17.7s
HIA Hailar **67.05 332** IAmb IAmb 18 07 00.1
comp=Z,16nm,0.9s
HIA Hailar **67.05 332** P **P** 18 06 59.8 +0.8
BTO Baotou **67.08 320** *e*P **P** 18 07 01.0 +1.5
BTO pP **pP** 18 07 05.8 +3.6
BTO sP **pwP** 18 07 08.0 +3.7
BTO PP **PP** 18 09 31.3 +3.9
BTO pmax pmax
comp=Z,22nm,1.1s
BTO pmax pmax
comp=Z,450nm,4.8s
MA2 Magadan **67.23 354** P **P** 18 06 58.9 -1.0
MA2 Magadan **67.23 354** *ce*P P 18 06 56.8 -3.1
MA2 pmax pmax
comp=Z,77nm,2.5s
MA2 Magadan **67.23 354** LR LR 18 33 08.5
comp=Z,460nm,20.6s,baz=158,slow=33
ZEA Zeya **67.30 339** *e*P **P** 18 07 00.6 +0.1
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=E,10.0nm,1.1s
ZEA pmax pmax
comp=Z,20nm,1.3s
SPIA Saint Paul Isl **68.35 16** P **P** 18 07 06.7 -0.3
baz=210
FALS False Pass **68.58 21** P **P** 18 07 07.8 -0.7
baz=218
TNCH TengChong **69.06 300** ⇑P **P** 18 07 11.8 -0.6
TNCH pP pP 18 07 16.3 +1.1
TNCH S **S** 18 16 15.5 -2.7
TNCH sS pS 18 16 24.8 +3.3
TNCH SS **SS** 18 20 45.0 +0.6
TNCH pmax pmax
comp=Z,13nm,1.5s
TNCH pmax pmax
comp=Z,170nm,4.9s
TNCH LR LR
comp=Z,270nm,4.4s
TNCH LR LR
comp=Z,330nm,4.6s
TNCH LR LR
comp=Z,120nm,9.0s
LZH Lanzhou **69.08 313** ⇑P **P** 18 07 12.8 +0.5
LZH sP pwP 18 07 21.5 +4.4
LZH pmax pmax
comp=Z,15nm,1.3s
LZH LR LR
comp=Z,360nm,18.9s
LZH LR LR
comp=Z,450nm,19.2s
LZH LR LR
comp=Z,510nm,18.5s
SDPT Sand Point **70.04 22** P **P** 18 07 19.7 +2.2
SDPT Sand Point **70.04 22** P **P** 18 07 17.3 -0.2
baz=220
VNDA Vanda **70.15 180** P **P** 18 07 17.1 -0.9
VNDA IAmb IAmb 18 07 19.2
comp=Z,40nm,1.2s
VNDA Vanda **70.15 180** P **P** 18 07 17.1 -0.9
VNDA pmax pmax
comp=Z,40nm,1.3s
VNDA Vanda **70.15 180** P **P** 18 07 17.8 -0.2
comp=Z,10nm,0.9s,baz=349,slow=6.4,SNR=37
comp=Z,10nm,0.9s
MND Mandalay **70.24 296** P **P** 18 07 19.4 -0.1
SEY Seymchan **70.40 356** *ce*P **P** 18 07 18.4 -1.2
SEY pmax pmax
comp=Z,27nm,1.7s
SEY Seymchan **70.40 356** LR LR 18 35 02.5
comp=Z,637nm,21.2s,baz=186,slow=33
SBA Scott Base **70.54 179** P **P** 18 07 19.7 -0.6
SBA Scott Base **70.54 179** P **P** 18 07 19.7 -0.6
SBA pmax pmax
comp=Z,60nm,1.5s
S14K Fog Glacier **71.09 22** P **P** 18 07 23.4 -0.6
baz=221
CHGN Chignik **71.52 22** P **P** 18 07 25.7 -0.8
baz=222
M11K Mekoryuk **72.20 16** P **P** 18 07 30.5 +0.1
baz=214
CHIR Chirikof Islan **72.26 24** P **P** 18 07 30.9 -0.1
baz=225
O14K Tigyukauivet M **72.77 19** P **P** 18 07 32.9 -1.1
baz=219
R16K Pilot Point **72.77 22** P **P** 18 07 33.7 -0.2
baz=223
ULN Ulaanbaatar **72.79 325** P **P** 18 07 33.6 -1.0
ULN IAmb IAmb 18 07 58.5
comp=Z,22nm,1.0s
ULN Ulaanbaatar **72.79 325** *ce*P **P** 18 07 34.0 -0.5
ULN pmax pmax
comp=Z,25nm,1.7s
M13K Dall Lake **73.04 17** P **P** 18 07 35.0 -0.4
baz=217
SONM Songino Array **73.15 325** P **P** 18 07 36.3 -0.3
comp=Z,3.7nm,0.8s,baz=138,slow=5.7,SNR=23
SONM LR LR 18 38 13.8
comp=Z,460nm,21.9s,baz=120,slow=35
comp=Z,3.7nm,0.8s
N14K Kuskokwak Cree **73.16 18** P **P** 18 07 35.7 -0.5
baz=218
R17K Ugashik Creek **73.26 22** P **P** 18 07 36.5 -0.4
baz=224
YAK Yakutsk **73.38 345** P **P** 18 07 36.1 -1.3
YAK Yakutsk **73.38 345** *e*P **P** 18 07 36.5 -0.9
YAK pmax pmax
comp=Z,28nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.1s

YAK pmax pmax
comp=E,5.0nm,1.0s
YAK Yakutsk 73.38 345 LR LR 18 36 33.0
comp=E,29nm,21.8s,baz=118,slow=33
GTA Gaotai 73.39 315 *eP* **P 18 07 38.5 +0.3**
GTA sP pwP 18 07 49.3 +6.2
GTA pmax pmax
comp=E,11nm,1.7s
GTA LR LR
comp=E,220nm,22.2s
GTA LR LR
comp=E,260nm,23.3s
GTA LR LR
comp=E,320nm,24.4s
P16K Nushagak River 73.70 21 P **P 18 07 38.9 -0.5**
baz=222
M14K Bethel 73.72 18 P **P 18 07 39.6 +0.1**
baz=218
GAMB Gambell 73.78 12 P **P 18 07 39.4 -0.4**
baz=208
N15K Kwethluk River 73.86 19 P **P 18 07 40.3 -0.1**
baz=220
Q17K Contact Creek 73.90 22 P **P 18 07 40.2 -0.5**
baz=224
Q16K King Salmon 73.91 21 P **P 18 07 40.6 -0.1**
baz=224
R18K Karluk 73.95 23 P **P 18 07 40.3 -0.6**
baz=226
L14K Kuka Creek 73.98 17 P **P 18 07 41.2 +0.2**
baz=217
M15K Kasigluk River 74.07 18 P **P 18 07 42.1 +0.5**
baz=219
OHAK Old Harbor 74.17 24 P **P 18 07 41.8 -0.4**
baz=227
P17K Kvichak River 74.37 21 P **P 18 07 41.9 -1.4**
baz=224
Q18K Katmai Hardscr 74.50 22 P **P 18 07 43.5 -0.8**
baz=225
N16K Nishlik Lake 74.52 19 P **P 18 07 43.4 -0.8**
baz=221
L15K Ungalak Mounta 74.60 17 P **P 18 07 44.7 +0.1**
baz=218
KDAK Kodiak Island 74.83 24 P **P 18 07 46.2 +0.1**
baz=228
KDAK Kodiak Island 74.83 24 LR LR 18 37 57.0
comp=E,492nm,18.1s,baz=248,slow=34
J14K Nanvaranak Lak 74.86 16 P **P 18 07 46.4 +0.3**
baz=216
M16K Timber Creek 74.87 19 P **P 18 07 46.1 -0.1**
baz=221
P18K Big Mountain, 74.94 21 P **P 18 07 46.2 -0.6**
baz=225
K15K Wolf Creek Mou 75.07 17 P **P 18 07 47.1 -0.3**
baz=218
N17K Nushagak Hills 75.08 20 P **P 18 07 47.8 +0.3**
baz=223
Q19K Cape Douglas, 75.20 22 P **P 18 07 48.3 +0.1**
baz=226
L16K Owhat River 75.23 18 P **P 18 07 46.7 -1.5**
L16K IAmb IAmb 18 07 59.4
comp=Z,19nm,0.8s
L16K Owhat River 75.23 18 P **P 18 07 48.7 +0.4**
baz=220
BILL Bilibino 75.27 2⇑ *eP* **P 18 07 47.7 -0.7**
BILL pmax pmax
comp=Z,35nm,1.3s
O18K Koktuh Hills 75.28 21 P **P 18 07 48.2 -0.4**
baz=225
BOD Bodaibo 75.38 336 *eP* **P 18 07 48.2 -1.0**
BOD pmax pmax
comp=Z,13nm,1.6s
Q20K Shuyak Island 75.46 23 P **P 18 07 49.6 -0.1**
baz=228
N18K Kilae Creek 75.63 20 P **P 18 07 50.6 -0.1**
baz=224
M17K Holitna River 75.64 19 P **P 18 07 50.8 +0.1**
baz=222
O19K Port Alsworth 75.83 21 P **P 18 07 53.0 +1.2**
baz=226
P19K Oil Pt 75.85 22 P **P 18 07 51.5 -0.5**
baz=227
ANM Nome 75.89 14 IAmb IAmb 18 08 03.5
comp=Z,22nm,0.9s
ANM Nome 75.89 14 P **P 18 07 51.8 -0.2**
baz=214
L17K Donlin 75.92 18 P **P 18 07 52.1 -0.1**
baz=221
SVW2 Sparrevohn 76.04 20 P **P 18 07 54.1 +1.1**
J16K Anvik River 76.11 17 P **P 18 07 54.1 +0.7**
baz=219
N19K Bonanza Creek 76.21 21 P **P 18 07 53.6 -0.4**
baz=225
ZAK Zakamensk 76.21 326 *eP* **P 18 07 52.7 -1.6**
ZAK pmax pmax
comp=Z,8.0nm,1.4s
M18K Stony River 76.24 20 P **P 18 07 54.0 0.0**
baz=224
K17K Iditarod 76.35 18 P **P 18 07 54.5 -0.2**
baz=221
O20K Slope Mountain 76.37 22 P **P 18 07 54.9 -0.1**
baz=227
F14K Arctic Creek 76.42 13 P **P 18 07 55.4 +0.4**
baz=213
HOM Homer 76.45 22 P **P 18 07 55.1 -0.2**
baz=228
L18K Granite Mounta 76.49 19 IAmb IAmb 18 08 07.3
comp=Z,31nm,0.8s
L18K Granite Mounta 76.49 19 P **P 18 07 55.6 +0.1**
baz=223
I17K Unalakleet 76.56 16 IAmb IAmb 18 08 07.7
comp=Z,30nm,0.9s
I17K Unalakleet 76.56 16 P **P 18 07 56.3 +0.5**
baz=219
G15K Niukluk 76.57 14 P **P 18 07 56.4 +0.6**
baz=215
H16K Elim 76.74 15 P **P 18 07 57.5 +0.7**
baz=217
BRSE Bradley Lake S 76.85 23 P **P 18 07 57.9 +0.3**
baz=229
F15K North Star Dit 77.01 14 P **P 18 07 58.8 +0.4**
baz=214
L19K White Mountain 77.06 19 P **P 18 07 58.0 -0.8**
baz=225
TTA Tatalina 77.22 19 P P 18 07 57.8 -1.9
TTA IAmb IAmb 18 08 11.0
comp=Z,20nm,1.0s
TTA Tatalina 77.22 19 P **P 18 08 02.5 +2.8**
TTA Tatalina 77.22 19 P **P 18 07 59.1 -0.6**
baz=223
TTA Tatalina 77.22 19 P P 18 07 57.8 -1.9
TTA pmax pmax
comp=Z,20nm,1.0s
N20K Mount Spurr 77.28 21 P **P 18 08 00.4 +0.4**
baz=227
G16K Koyuk River 77.31 15 IAmb IAmb 18 08 11.4
comp=Z,27nm,0.8s
G16K Koyuk River 77.31 15 P **P 18 08 00.6 +0.5**
baz=217
CAPN Captain Cook N 77.38 22 P **P 18 08 00.5 0.0**
baz=228
J18K Innoko River 77.40 18 IAmb IAmb 18 08 11.7
comp=Z,17nm,0.9s
J18K Innoko River 77.40 18 P **P 18 08 01.4 +0.8**
baz=223
M20K Styx River 77.43 20 IAmb IAmb 18 08 12.1
comp=Z,23nm,0.9s
M20K Styx River 77.43 20 P **P 18 08 01.3 +0.4**
baz=226
SEW Seward 77.58 23 P **P 18 08 01.4 -0.2**
baz=230
H17K Granite Mounta 77.59 16 IAmb IAmb 18 08 13.0
comp=Z,22nm,0.8s
H17K Granite Mounta 77.59 16 P **P 18 08 02.0 +0.4**
baz=219
L20K Farewell, AK 77.59 20 P **P 18 08 01.3 -0.5**
baz=226
O22K Cooper Landing 77.72 22 P **P 18 08 02.6 +0.2**
baz=230
G17K Kiwalik Mounta 77.83 15 P **P 18 08 03.2 +0.3**
baz=218
SUA Susitna One 77.98 21 P **P 18 08 03.6 -0.4**
baz=229
SKT Skwentna 78.05 21 P **P 18 08 04.5 +0.2**
baz=228
RC01 Rabbit Creek A 78.11 22 P **P 18 08 04.7 +0.1**
baz=230
J19K Poorman 78.12 18 P **P 18 08 04.9 +0.3**
baz=224

K20K Telida 78.14 19 IAmb IAmb 18 08 16.2
comp=Z,24nm,0.9s
K20K Telida 78.14 19 P **P 18 08 04.1 -0.7**
baz=225
H18K Honhosa River 78.18 16 P **P 18 08 03.9 -1.0**
baz=221
GCSA Galena City Sc 78.29 17 P **P 18 08 05.8 +0.3**
baz=222
P23K Montague Islan 78.32 24 P **P 18 08 04.6 -1.1**
baz=232
M22K Willow 78.40 21 P **P 18 08 05.0 -1.1**
baz=229
F17K Baldwin Pennin 78.42 14 IAmb IAmb 18 08 20.7
comp=Z,26nm,1.1s
F17K Baldwin Pennin 78.42 14 P **P 18 08 06.3 +0.1**
baz=218
PPLA Purkeypile 78.44 20 P **P 18 08 06.2 -0.4**
baz=227
PMR Palmer 78.66 22 P **P 18 08 09.1 +1.5**
PMR Palmer 78.66 22 P **P 18 08 07.2 -0.4**
baz=230
G18K Tagagawik 78.67 16 P **P 18 08 07.9 +0.3**
baz=220
J20K Nowinta River 78.70 18 IAmb IAmb 18 08 19.4
comp=Z,23nm,1.0s
CUT Chulitna 78.78 21 P **P 18 08 07.9 -0.3**
baz=229
KNK Knik Glacier 78.79 22 P **P 18 08 08.3 -0.1**
baz=231
E17K Hotham Inlet 78.79 14 P **P 18 08 08.5 +0.2**
baz=217,SNR=8.2
CAST Castle Rocks 78.83 19 IAmb IAmb 18 08 18.7
comp=Z,25nm,0.8s
CAST Castle Rocks 78.83 19 P **P 18 08 07.4 -1.2**
baz=227,SNR=5.9
C16K Lisburne Hills 78.99 12 P **P 18 08 09.7 +0.5**
baz=214
H19K Roundabout Mou 79.00 17 IAmb IAmb 18 08 20.5
comp=Z,26nm,0.9s
H19K Roundabout Mou 79.00 17 P **P 18 08 09.0 -0.3**
baz=223
TAPN Taplejung 79.03 300 *eP* **P 18 08 12.3 +1.5**
comp=Z,47nm,1.3s
I20K Naaghedeneel 79.04 18 P **P 18 08 08.6 -1.0**
I20K IAmb IAmb 18 08 21.3
comp=Z,41nm,1.0s
I20K Naaghedeneel 79.04 18 P **P 18 08 10.2 +0.6**
baz=225
CHUM Lake Minchumin 79.08 19 P **P 18 08 09.4 -0.4**
baz=227,SNR=7.5
SML Sawmill 79.09 22 P P 18 08 08.0 -2.0
SML IAmb IAmb 18 08 23.9
comp=Z,39nm,0.9s
SML Sawmill 79.09 22 P **P 18 08 08.8 -1.3**
baz=231
ODAN Odare 79.19 299 *eP* **P 18 08 13.1 +1.5**
G19K Purcell Mounta 79.28 16 IAmb IAmb 18 08 22.2
comp=Z,26nm,0.9s
G19K Purcell Mounta 79.28 16 P **P 18 08 10.8 -0.1**
baz=222
M23K Glacier View 79.30 22 P **P 18 08 10.7 -0.5**
baz=231
EYAK Cordova Ski Ar 79.31 24 P **P 18 08 11.0 -0.2**
baz=234
KTH Kantishna Hill 79.31 20 IAmb IAmb 18 08 21.5
comp=Z,22nm,0.9s
RDOG Red Dog Mine 79.33 13 IAmb IAmb 18 08 22.3
comp=Z,22nm,0.8s
E18K Tukpahlearik C 79.35 14 IAmb IAmb 18 08 22.4
comp=Z,19nm,0.8s
E18K Tukpahlearik C 79.35 14 P **P 18 08 11.2 -0.1**
baz=218,SNR=6.2
H20K Anotleneega Mo 79.42 17 P **P 18 08 11.3 -0.4**
baz=224
TRF Thorofare Moun 79.46 20 P P 18 08 10.2 -2.0
TRF IAmb IAmb 18 08 23.7
comp=Z,22nm,0.8s
TRF Thorofare Moun 79.46 20 P **P 18 08 11.7 -0.5**
baz=229
SCM Sheep Creek Mo 79.48 22 P **P 18 08 12.0 -0.2**
baz=232
F19K Shaleruckik Mo 79.61 15 P **P 18 08 12.8 +0.1**
baz=221
C17K Denog Mountai 79.61 13 P **P 18 08 13.1 +0.4**
baz=216
BPAW Bear Paw Mtn. 79.66 19 P **P 18 08 13.6 +0.5**
baz=228
WAT1 Susitna Watana 79.66 21 P **P 18 08 13.7 +0.6**
baz=230
KLU Klutina 79.80 23 P **P 18 08 13.5 -0.5**
baz=233
RND Reindeer 79.92 20 IAmb IAmb 18 08 28.3
comp=Z,36nm,1.1s
BMRM Brenner River 80.01 24 P **P 18 08 15.4 +0.3**
baz=234
I21K Tanana 80.07 18 IAmb IAmb 18 08 26.4
comp=Z,24nm,0.9s
I21K Tanana 80.07 18 P **P 18 08 15.1 -0.2**
baz=227
M24K Tolsona, Glenn 80.08 22 P **P 18 08 14.6 -0.9**
baz=233
MCK McKinley 80.10 20 P **P 18 08 14.7 -0.8**
baz=230,SNR=8.1
H21K Melozitna Rive 80.15 18 P **P 18 08 15.9 +0.2**
baz=226
C18K Utukok River 80.19 13 P **P 18 08 16.2 +0.3**
baz=218
BWN Browne 80.21 20 IAmb IAmb 18 08 26.4
comp=Z,43nm,1.0s
E19K Redstone River 80.22 15 P **P 18 08 16.4 +0.3**
baz=222
DHY Denali Highway 80.23 21 P **P 18 08 15.3 -1.1**
DHY Denali Highway 80.23 21 P **P 18 08 15.9 -0.5**
baz=232
F20K Avaraart Lake 80.31 16 P **P 18 08 15.9 -0.6**
baz=223
MLY Manley 80.36 19 P **P 18 08 16.5 -0.3**
baz=228,SNR=6.8
N25K Chitina, Valde 80.38 23 P **P 18 08 16.8 -0.4**
baz=234
JIRN Jiri 80.41 300 *eP* **P 18 08 18.4 0.0**
CRQE Cirque 80.49 24 P **P 18 08 16.9 -0.9**
baz=236
G21K Allakaket 80.55 17 P **P 18 08 17.3 -0.6**
baz=225
NEA2 Nenana 80.61 19 IAmb IAmb 18 08 28.1
comp=Z,28nm,0.8s
NEA2 Nenana 80.61 19 P **P 18 08 17.0 -1.2**
baz=230,SNR=7.4
HARP HAARP 80.63 22 P **P 18 08 17.9 -0.5**
baz=234
GUN Gumba 80.74 300 *eP* **P 18 08 19.6 -0.5**
comp=Z,35nm,0.9s
H22K Ishtalitna Cre 80.74 18 P **P 18 08 18.2 -0.7**
baz=227
D19K Kuna River 80.78 14 IAmb IAmb 18 08 29.9
comp=Z,20nm,0.8s
D19K Kuna River 80.78 14 P **P 18 08 18.4 -0.7**
baz=221
PAX Paxson 80.86 22 P **P 18 08 19.0 -0.7**
baz=233
I23K Minto, Yukon-K 80.88 19 IAmb IAmb 18 08 30.4
comp=Z,15nm,0.8s
I23K Minto, Yukon-K 80.88 19 P **P 18 08 19.0 -0.6**
baz=229
C19K Lookout Ridge 80.91 13 IAmb IAmb 18 08 31.0
comp=Z,20nm,0.9s
C19K Lookout Ridge 80.91 13 P **P 18 08 19.0 -0.8**
baz=219
F21K Alatna River 81.05 16 P **P 18 08 20.3 -0.2**
baz=225
PKI Pulchoki 81.07 299 *eP* **P 18 08 21.3 -0.6**
E20K Nigu River 81.08 15 P **P 18 08 20.6 -0.1**
baz=222,SNR=7.2
MDM Murphy Dome 81.12 19 IAmb IAmb 18 08 30.8
comp=Z,26nm,0.9s
COLA College 81.19 20 P P 18 08 19.3 -1.9
COLA IAmb IAmb 18 08 31.0
comp=Z,33nm,0.8s
COLA College 81.19 20 P **P 18 08 21.6 +0.4**
COLA College 81.19 20 P **P 18 08 21.0 -0.3**
baz=231
COLA College 81.19 20 P P 18 08 19.3 -1.9
COLA pmax pmax
comp=Z,33nm,0.8s
HDA Harding Lake 81.21 20 IAmb IAmb 18 08 31.6
comp=Z,32nm,1.0s
HDA Harding Lake 81.21 20 P **P 18 08 21.2 -0.2**
baz=232,SNR=10
HDA P **P** **18 08 21.2 -0.2**
baz=232,SNR=10
K24K Donnelly Dome 81.25 21 P **P 18 08 20.9 -0.7**
baz=233
D20K Etivluk River 81.31 14 P **P 18 08 21.5 -0.4**
baz=222
PINM Pinnacle 81.33 26 P **P 18 08 21.0 -1.1**
baz=239
CTG Chitna Glacier 81.33 25 P P 18 08 20.6 -1.7
baz=237
G22K Bettles 81.40 17 P **P 18 08 22.6 +0.3**
baz=227
A19K Wainwright 81.45 12 P **P 18 08 22.1 -0.4**
baz=218,SNR=6.5
IL31 81.45 20 IAmb IAmb 18 08 33.2
comp=Z,23nm,0.9s
ILAR Eielson Array 81.45 20 P **P 18 08 21.2 -1.5**
comp=Z,2.6nm,0.6s,baz=248,slow=5.2,SNR=48
ILAR LR LR 18 39 39.0
comp=Z,338nm,20.5s,baz=230,slow=32
comp=Z,2.6nm,0.6s
M26K Nabesna, AK 81.46 23 P **P 18 08 22.6 -0.3**
baz=236
PNL Peninsula 81.47 26 P **P 18 08 21.6 -1.3**
baz=239
POKR Poker Plat Res 81.48 19 IAmb IAmb 18 08 32.5
comp=Z,22nm,0.8s
POKR Poker Plat Res 81.48 19 P **P 18 08 22.1 -0.8**
baz=231
MENT Mentasta 81.49 22 P **P 18 08 23.6 +0.6**
RIDG Independent Ri 81.54 21 P **P 18 08 22.5 -0.8**
baz=234
F22K John River 81.61 16 P **P 18 08 23.2 -0.3**
baz=226
L26K Log Cabin Wild 81.68 22 P **P 18 08 24.1 +0.1**
baz=235
TIXI Tiksi 81.68 350 P **P 18 08 22.3 -1.4**
TIXI IAmb IAmb 18 08 38.4
comp=Z,42nm,1.7s
TIXI Tiksi 81.68 350 *eP* **P 18 08 23.6 -0.1**
TIXI pmax pmax
comp=Z,17nm,1.3s
TIXI Tiksi 81.68 350 LR LR 18 44 44.4
comp=Z,13nm,19.6s,baz=175,slow=36
G23K Bananza Creek 81.70 18 P **P 18 08 23.7 -0.3**
baz=229
PALK Pallekele 81.74 278 P **P 18 08 24.8 -0.5**
PALK IAmb IAmb 18 08 38.5
comp=Z,32nm,1.1s
PALK Pallekele 81.74 278 P **P 18 08 24.8 -0.5**
PALK pmax pmax
comp=Z,32nm,1.1s
PALK Pallekele 81.74 278 LR LR 18 45 29.8
comp=Z,82nm,22.0s,baz=209,slow=36
E21K Killik River 81.78 15 P **P 18 08 23.3 -1.1**
baz=225
H24K Noodor Dome 81.79 19 P **P 18 08 24.0 -0.5**
baz=231
GKN Gorkha 81.83 300 *eP* **P 18 08 24.8 -0.9**
M27K Edge Creek, AK 81.87 23 IAmb IAmb 18 08 36.6
comp=Z,55nm,1.5s
M27K Edge Creek, AK 81.87 23 P **P 18 08 24.0 -1.1**
baz=237
J25K Salcha River, 81.88 20 IAmb IAmb 18 08 35.6
comp=Z,28nm,0.8s
J25K Salcha River, 81.88 20 P **P 18 08 23.8 -1.2**
baz=233
COLD Coldfoot 81.99 17 P **P 18 08 24.2 -1.3**
baz=228
SCRK Sand Creek 81.99 21 IAmb IAmb 18 08 36.6
comp=Z,22nm,0.9s
SCRK Sand Creek 81.99 21 P **P 18 08 24.1 -1.6**
baz=235,SNR=12
S31K Pelican 82.09 28 P P 18 08 24.4 -1.7
baz=242
C21K Knifeblade Rid 82.09 14 P **P 18 08 26.0 0.0**
baz=224,SNR=8.4
SIT Sitka 82.11 30 P **P 18 08 25.2 -1.0**
baz=243
YUK3 Moose Creek 82.12 24 P **P 18 08 26.1 -0.4**
baz=238
E22K Anaktuvuk Pass 82.14 16 P **P 18 08 26.7 +0.4**
baz=227
YUK8 Steele Glacier 82.15 25 P **P 18 08 26.0 -0.7**
baz=239
O29M Mount Kennedy 82.15 26 P **P 18 08 26.2 -0.5**
baz=240
B20K Meade River 82.15 13 IAmb IAmb 18 08 38.8
comp=Z,24nm,1.1s
B20K Meade River 82.15 13 P **P 18 08 26.1 -0.1**
baz=221
P29M Windy Craggy 82.19 27 P **P 18 08 25.9 -0.8**
baz=241
L27K Beaver Creek, 82.27 23 P **P 18 08 26.2 -0.9**
baz=237
PRP Porcupine Dome 82.36 20 P **P 18 08 26.3 -1.3**
PRP Porcupine Dome 82.36 20 P **P 18 08 27.6 -0.1**
baz=233
D22K Ayikyak River 82.43 15 IAmb IAmb 18 08 39.1
comp=Z,21nm,0.8s
D22K Ayikyak River 82.43 15 P **P 18 08 27.8 +0.1**
baz=226
J26L Joseph Creek 82.44 21 IAmb IAmb 18 08 38.9
comp=Z,14nm,0.8s
J26L Joseph Creek 82.44 21 P **P 18 08 28.0 -0.1**
baz=235
G24K Hadweenzic Riv 82.47 18 IAmb IAmb 18 08 39.0
comp=Z,30nm,0.8s
G24K Hadweenzic Riv 82.47 18 P **P 18 08 28.0 0.0**
baz=231
B21K Ikpikpuk River 82.47 14 IAmb IAmb 18 08 39.0
comp=Z,21nm,0.8s
B21K Ikpikpuk River 82.47 14 P **P 18 08 28.6 +0.8**
baz=224
YUK6 Outpost Mounta 82.56 25 P **P 18 08 28.9 0.0**
baz=240
YUK4 Talbot Arm 82.64 25 P **P 18 08 28.9 -0.3**
baz=240
QSPA South Pole Qui 82.64 180 P **P 18 08 27.6 -1.6**
QSPA IAmb IAmb 18 08 28.8
comp=Z,21nm,1.1s
QSPA South Pole Qui 82.64 180 P **P 18 08 28.0 -1.2**
comp=Z,13nm,1.0s,baz=340,slow=2.0,SNR=23
QSPA LR LR 18 41 34.4
comp=Z,322nm,21.1s,baz=42,slow=33
comp=Z,13nm,1.0s
S32K Killisnoo 82.66 29 P **P 18 08 29.0 -0.1**
baz=244
DANN Dangsing 82.66 300 *eP* **P 18 08 29.3 -0.9**
KOLN Koldanda 82.68 299 *eP* **P 18 08 29.1 -1.1**
comp=Z,83nm,1.5s
E23K Chandalar 82.70 17 P **P 18 08 29.1 -0.2**
baz=229
K27K Chicken 82.71 22 IAmb IAmb 18 08 45.6
comp=Z,20nm,1.2s
K27K Chicken 82.71 22 P **P 18 08 28.8 -0.5**
baz=236
P30M Million Dollar 82.77 26 P **P 18 08 28.9 -0.9**
baz=242
U33K Whale Pass 82.81 31 P **P 18 08 29.3 -0.6**
baz=245
F24K Squaw Lake 82.86 17 P **P 18 08 29.1 -0.9**
baz=231
HYT Haines Junctio 82.87 26 P **P 18 08 28.9 -1.5**
HYT IAmb IAmb 18 08 46.0
comp=Z,18nm,1.0s
HYT Haines Junctio 82.87 26 P **P 18 08 29.7 -0.7**
baz=241
G25K Bearman Lake 82.94 18 P **P 18 08 29.9 -0.5**
baz=232
D23K Nanushuk River 83.02 16 P **P 18 08 30.5 -0.3**
baz=228
E24K Your Creek 83.04 17 P **P 18 08 30.6 -0.4**
baz=230
R32K Eaglecrest 83.04 29 P **P 18 08 30.0 -1.1**
baz=244
I26K Coal Creek Min 83.05 20 IAmb IAmb 18 08 45.0
comp=Z,24nm,0.9s
I26K Coal Creek Min 83.05 20 P **P 18 08 31.1 +0.1**
baz=235
JIS Juneau Island 83.11 29 P **P 18 08 32.5 +1.1**
SKAG Skagway 83.19 27 P **P 18 08 32.5 +0.7**
A21K Barrow 83.26 13 P **P 18 08 31.5 -0.5**
baz=222
V35K Ketchikan 83.27 32 P **P 18 08 31.5 -0.8**
baz=247
M29M Somme Creek 83.27 24 P **P 18 08 31.3 -1.1**

	baz=240							
B22K	**Teshekpuk Lake**	**83.27**	**14**	P	**P**	**18 08 30.6**	**-1.4**	
B22K				IAmb	IAmb	18 08 44.6		
	comp=Z,19nm,1.1s							
B22K	**Teshekpuk Lake**	**83.27**	**14**	P	**P**	**18 08 31.4**	**-0.6**	
	baz=225							
PYUN	**Piuthan**	**83.27**	**299**	*e*P	**P**	**18 08 31.9**	**-1.4**	
	comp=Z,46nm,1.2s							
WRAK	**Wrangell Islan**	**83.33**	**31**	P	**P**	**18 08 31.0**	**-1.6**	
	baz=246							
N30M	**Aishikik Lake**	**83.35**	**25**	P	P	18 08 30.8	-2.0	
	baz=241							
A22K	**Sinclair Lake**	**83.39**	**13**	P	**P**	**18 08 31.8**	**-0.8**	
	baz=223							
WMQ	**Urumqi**	**83.43**	**316**	*e*P	**P**	**18 08 34.5**	**+0.9**	
WMQ				pmax	pmax			
	comp=Z,16nm,1.3s							
WMQ				LR	LR			
	comp=Z,700nm,20.1s							
WMQ				LR	LR			
	comp=Z,460nm,25.9s							
O30N	**Mendenhall**	**83.45**	**26**	P	**P**	**18 08 32.1**	**-1.2**	
	baz=242							
EGAK	**Eagle**	**83.46**	**21**	P	**P**	**18 08 32.2**	**-1.0**	
	baz=237							
F25K	**Christian Rive**	**83.58**	**18**	P	**P**	**18 08 32.5**	**-1.3**	
	baz=233							
C23K	**Itkillik River**	**83.62**	**15**	P	P	18 08 31.9	-1.9	
	baz=228							
D24K	**Happy Valley**	**83.64**	**16**	P	**P**	**18 08 32.6**	**-1.4**	
	baz=230							
DAWY	**Dawson**	**83.73**	**22**	P	**P**	**18 08 33.7**	**-0.9**	
DAWY				IAmb	IAmb	18 08 47.4		
	comp=Z,12nm,0.9s							
DAWY	**Dawson**	**83.73**	**22**	P	**P**	**18 08 33.4**	**-1.2**	
	baz=239							
L29M	**L29M**	**83.73**	**23**	P	P	18 08 32.9	-1.8	
L29M				IAmb	IAmb	18 08 46.2		
	comp=Z,16nm,0.9s							
L29M	**L29M**	**83.73**	**23**	P	**P**	**18 08 34.0**	**-0.7**	
	baz=240							
I27K	**Kandik River**	**83.75**	**21**	P	**P**	**18 08 33.5**	**-1.2**	
	baz=237							
G26K	**Porcupine Rive**	**83.78**	**19**	P	**P**	**18 08 34.7**	**0.0**	
	baz=234							
BMAR	**Burnt Mountain**	**83.81**	**18**	P	P	18 08 33.1	-1.9	
N31M	**Braeburn, Yuko**	**83.92**	**25**	IAmb	IAmb	18 08 47.8		
	comp=Z,22nm,0.8s							
N31M	**Braeburn, Yuko**	**83.92**	**25**	P	**P**	**18 08 34.1**	**-1.5**	
	baz=242							
E25K	**Arctic Village**	**83.92**	**18**	P	**P**	**18 08 34.8**	**-0.7**	
	baz=233							
WHY	**Whitehorse**	**83.93**	**26**	P	**P**	**18 08 34.6**	**-1.2**	
	baz=243							
P32M	**Atlin**	**83.99**	**28**	P	**P**	**18 08 35.0**	**-1.0**	
	baz=244							
M30M	**Minto, Yukon**	**84.01**	**24**	IAmb	IAmb	18 08 48.0		
	comp=Z,11nm,0.9s							
M30M	**Minto, Yukon**	**84.01**	**24**	P	**P**	**18 08 36.0**	**-0.1**	
	baz=241							
C24K	**Franklin Bluff**	**84.04**	**16**	P	**P**	**18 08 36.2**	**+0.2**	
	baz=230							
BBB	**Bella Bella**	**84.05**	**36**	LR	LR	18 39 02.7		
	comp=Z,347nm,19.9s,baz=257,slow=31							
F26K	**Sheenjek River**	**84.10**	**18**	P	**P**	**18 08 37.1**	**+0.6**	
	baz=234							
I28M	**Miner Creek**	**84.25**	**21**	P	**P**	**18 08 37.2**	**-0.1**	
	baz=238							
K29M	**Barlow Dome**	**84.33**	**23**	IAmb	IAmb	18 08 50.4		
	comp=Z,15nm,0.9s							
K29M	**Barlow Dome**	**84.33**	**23**	P	**P**	**18 08 37.3**	**-0.6**	
	baz=241							
G27K	**Doyon Strip**	**84.40**	**19**	P	**P**	**18 08 37.8**	**-0.1**	
	baz=237							
Q32M	**Nakina River**	**84.40**	**28**	P	**P**	**18 08 37.9**	**-0.5**	
	baz=246							
D25K	**Kavik River**	**84.43**	**16**	P	**P**	**18 08 38.4**	**+0.3**	
	baz=232							
YBH	**Yreka Blue Hor**	**84.46**	**47**	LR	LR	18 38 21.5		
	comp=Z,286nm,21.5s,baz=236,slow=30							
S34M	**Telegraph Cree**	**84.53**	**30**	P	**P**	**18 08 38.4**	**-0.4**	
	baz=247							
T35M	**Bob Quinn**	**84.61**	**31**	P	**P**	**18 08 38.9**	**-0.3**	
	baz=248							
P33M	**Teslin, Yukon**	**84.66**	**27**	P	**P**	**18 08 39.2**	**-0.3**	
	baz=245							
I29M	**Ogilvie Camp,**	**84.79**	**21**	P	**P**	**18 08 38.7**	**-1.3**	
I29M				IAmb	IAmb	18 08 50.9		
	comp=Z,18nm,0.8s							
I29M	**Ogilvie Camp,**	**84.79**	**21**	P	**P**	**18 08 39.5**	**-0.5**	
	baz=240							
M31M	**Drury Creek, Y**	**84.83**	**25**	IAmb	IAmb	18 08 51.1		
	comp=Z,19nm,0.9s							
M31M	**Drury Creek, Y**	**84.83**	**25**	P	**P**	**18 08 39.3**	**-1.0**	
	baz=244							
MAYO	**Mayo, Yukon**	**84.85**	**24**	P	**P**	**18 08 39.8**	**-0.5**	
	baz=242							
N32M	**Quiet Lake**	**84.94**	**26**	P	**P**	**18 08 39.9**	**-0.9**	
	baz=245							
AFDM	**Forest Hills D**	**85.07**	**50**	P	P	18 08 39.5	-2.5	
J30M	**Hart River**	**85.14**	**23**	P	**P**	**18 08 41.4**	**-0.5**	
	baz=242							
E27K	**Coleen River**	**85.18**	**18**	IAmb	IAmb	18 08 53.5		
	comp=Z,12nm,0.8s							
E27K	**Coleen River**	**85.18**	**18**	P	**P**	**18 08 42.8**	**+0.9**	
	baz=236							
R33M	**Jennings River**	**85.19**	**28**	IAmb	IAmb	18 08 56.8		
	comp=Z,28nm,1.4s							
R33M	**Jennings River**	**85.19**	**28**	P	**P**	**18 08 41.9**	**-0.3**	
	baz=247							
C26K	**Camden Bay**	**85.20**	**16**	P	**P**	**18 08 41.5**	**-0.3**	
	baz=233							
H29M	**Whitestone**	**85.20**	**21**	P	**P**	**18 08 41.6**	**-0.4**	
	baz=240							
DLBC	**Dease Lake**	**85.27**	**29**	P	**P**	**18 08 42.2**	**-0.4**	
	baz=248							
DLBC	**Dease Lake**	**85.27**	**29**	LR	LR	18 42 06.8		
	comp=Z,389nm,18.4s,baz=282,slow=32							
FARO	**Faro, Yukon**	**85.28**	**25**	IAmb	IAmb	18 08 49.8		
	comp=Z,44nm,1.6s							
FARO	**Faro, Yukon**	**85.28**	**25**	P	**P**	**18 08 42.8**	**+0.3**	
	baz=245							
DGZ	**Jazzator, Alta**	**85.31**	**321**	*i* P	P	18 08 40.8	-2.3	
DGZ				pmax	pmax			
	comp=Z,14nm,1.4s							
HYB	**Hyderabad**	**85.37**	**288**	*e*P	**P**	**18 08 43.2**	**-0.7**	
HYB				*es*P	**pwP**	**18 08 52.2**	**+3.4**	
HYB				*e*PP	**PP**	**18 12 00.4**	**-1.7**	
F28M	**Old Crow**	**85.42**	**19**	P	P	18 08 41.1	-1.9	
F28M				IAmb	IAmb	18 08 57.4		
	comp=Z,29nm,1.7s							
F28M	**Old Crow**	**85.42**	**19**	P	**P**	**18 08 42.6**	**-0.5**	
	baz=238							
I30M	**Mount Dempster**	**85.44**	**22**	IAmb	IAmb	18 08 57.3		
	comp=Z,11nm,0.8s							
I30M	**Mount Dempster**	**85.44**	**22**	P	**P**	**18 08 43.3**	**0.0**	
	baz=242							
G29M	**Pine Creek**	**85.67**	**20**	IAmb	IAmb	18 08 57.3		
	comp=Z,27nm,1.0s							
G29M	**Pine Creek**	**85.67**	**20**	P	**P**	**18 08 44.1**	**-0.3**	
	baz=240							
VES	**Vestal, Richgr**	**85.86**	**53**	P	P	18 08 44.1	-1.8	
	baz=258							
EPYK	**Eagle Plains**	**85.86**	**21**	P	**P**	**18 08 45.2**	**-0.1**	
	baz=241							
CIS	**Catalina Islan**	**85.90**	**56**	P	**P**	**18 08 45.5**	**-0.8**	
	baz=258							
D27M	**Malcolm River**	**85.95**	**18**	IAmb	IAmb	18 08 57.4		
	comp=Z,20nm,0.8s							
D27M	**Malcolm River**	**85.95**	**18**	P	**P**	**18 08 45.9**	**+0.2**	
	baz=237							
E28M	**Babbage River**	**86.05**	**18**	IAmb	IAmb	18 08 57.7		
	comp=Z,16nm,1.0s							
E28M	**Babbage River**	**86.05**	**18**	P	**P**	**18 08 46.7**	**+0.6**	
	baz=238							
ISA	**Isabella, Lake**	**86.31**	**54**	P	**P**	**18 08 47.1**	**-1.1**	
	baz=258							
G30M	**tAoh Zraii Nji**	**86.33**	**20**	IAmb	IAmb	18 08 55.0		
	comp=Z,36nm,1.4s							
G30M	**tAoh Zraii Nji**	**86.33**	**20**	P	**P**	**18 08 47.6**	**0.0**	
	baz=242							
PAHR	**Pah Rah Range**	**86.44**	**49**	P	P	18 08 44.9	-4.1	
PAHR				IAmb	IAmb	18 09 00.2		
	comp=Z,39nm,1.8s							
E29M	**Blow River**	**86.45**	**19**	P	**P**	**18 08 48.0**	**-0.1**	
	baz=240							
MAW	**Mawson**	**86.50**	**202**	LR	LR	18 42 14.6		
	comp=Z,590nm,21.9s,baz=92,slow=32							
EDW2	**Edwards Air Fo**	**86.53**	**54**	P	P	18 08 47.7	-1.7	
	baz=259							
D28M	**Stokes Point**	**86.67**	**18**	P	**P**	**18 08 48.7**	**-0.4**	
	baz=239							
BFSC	**Mount Baldy Ra**	**86.68**	**55**	P	**P**	**18 08 48.8**	**-1.4**	
	baz=259							
CWC	**Cottonwood Cre**	**86.77**	**53**	P	P	18 08 48.6	-2.0	
	baz=259							
F30M	**Barrier River**	**86.77**	**20**	P	**P**	**18 08 49.2**	**-0.5**	
	baz=242							
109C	**Camp Elliot, M**	**86.88**	**56**	P	**P**	**18 08 49.8**	**-1.2**	
	baz=259							
LRMC	**Laurel Mtn Rad**	**86.90**	**54**	P	**P**	**18 08 50.0**	**-1.2**	
	baz=259							
MURC	**Murrieta**	**86.94**	**56**	P	**P**	**18 08 50.6**	**-0.8**	
	baz=259							
G31M	**Satah River**	**86.98**	**21**	P	P	18 08 48.8	-1.9	
G31M				IAmb	IAmb	18 09 03.3		
	comp=Z,14nm,0.9s							
G31M	**Satah River**	**86.98**	**21**	P	**P**	**18 08 50.2**	**-0.5**	
	baz=243							
NVAR	**Mina Array Bea**	**87.00**	**51**	P	**P**	**18 08 51.0**	**-0.7**	
	comp=Z,1.7nm,0.8s,baz=240,slow=5.9,SNR=12							
NVAR				LR	LR	18 40 15.6		
	comp=Z,332nm,20.4s,baz=272,slow=30							
	comp=Z,1.7nm,0.8s							
MPMC	**Manual Prospec**	**87.17**	**53**	P	**P**	**18 08 51.2**	**-1.4**	
	baz=259							
TGTN	**Hyland Airport**	**87.22**	**27**	P	**P**	**18 08 52.7**	**+0.6**	
	baz=249							
KVN	**Kaiserville**	**87.28**	**50**	P	P	18 08 50.1	-3.0	
KVN	**Kaiserville**	**87.28**	**50**	P	P	18 08 50.1	-3.0	
KVN				pmax	pmax			
	comp=Z,13nm,1.3s							
I07A	**Izee**	**87.31**	**45**	IAmb	IAmb	18 09 04.5		
	comp=Z,15nm,1.1s							
F31M	**Tsiigehtchic**	**87.40**	**20**	IAmb	IAmb	18 11 00.6		
	comp=Z,9.8nm,0.7s							
MONP2	**Monument Peak**	**87.45**	**57**	P	**P**	**18 08 53.5**	**-0.6**	
	baz=260							
PFO	**Pinyon Flats O**	**87.54**	**56**	P	**P**	**18 08 53.1**	**-1.3**	
	baz=260							
TPFO	**Pinon Flats**	**87.55**	**56**	P	**P**	**18 08 52.8**	**-1.6**	
	baz=260							
IKP	**In-Ko-Pah, Jac**	**87.66**	**57**	P	**P**	**18 08 53.4**	**-1.5**	
	baz=260							
FURC	**Furnace Creek,**	**87.74**	**53**	P	**P**	**18 08 55.8**	**+0.7**	
	baz=259							
INK	**Inuvik**	**87.85**	**20**	IAmb	IAmb	18 09 02.4		
	comp=Z,12nm,1.2s							
INK	**Inuvik**	**87.85**	**20**	P	**P**	**18 08 56.1**	**+1.2**	
	baz=244							
INK	**Inuvik**	**87.85**	**20**	LR	LR	18 44 22.7		
	comp=Z,438nm,20.0s,baz=185,slow=33							
HEC	**Hector,Ludlow**	**87.86**	**55**	P	**P**	**18 08 55.5**	**-0.4**	
	baz=260							
MK31	**Makanchi Array**	**87.88**	**318**	IAmb	IAmb	18 09 05.7		
	comp=Z,7.2nm,0.8s							
MK31	**Makanchi Array**	**87.88**	**318**	*ce*P	P	18 08 53.8	-1.8	
MKAR	**Makanchi Array**	**87.88**	**318**	P	P	18 08 53.8	-1.8	
MKAR	**Makanchi Array**	**87.88**	**318**	P	P	18 08 53.8	-1.8	
MKAR	**Makanchi Array**	**87.88**	**318**	P	**P**	**18 08 54.5**	**-1.1**	
	comp=Z,2.7nm,0.4s,baz=89,slow=6.5,SNR=67							
MKAR				LR	LR	18 48 44.8		
	comp=Z,214nm,21.1s,baz=86,slow=36							
	comp=Z,2.7nm,0.4s							
G08A	**Pilot Rock**	**87.95**	**44**	P	P	18 08 53.5	-2.5	
G08A				IAmb	IAmb	18 09 07.3		
	comp=Z,27nm,1.6s							
SWSC	**Sam W. Stewart**	**87.97**	**57**	P	**P**	**18 08 57.3**	**+1.0**	
	baz=260							
BELC	**Belle Mtn. Jos**	**87.99**	**56**	P	**P**	**18 08 57.4**	**+0.9**	
	baz=260							
ZALV	**Zalesovo Beam**	**88.05**	**325**	*i* P	**P**	**18 08 55.0**	**-1.1**	
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ZALV	**Zalesovo Beam**	**88.05**	**325**	P	**P**	**18 08 54.5**	**-1.7**	
	comp=Z,0.7nm,0.5s,baz=91,slow=8.0,SNR=4.2							
ZALV				LR	LR	18 47 27.3		
	comp=Z,274nm,21.6s,baz=98,slow=35							
	comp=Z,0.7nm,0.5s							
MAKZ	**Makanchi**	**88.09**	**318**	P	**P**	**18 08 55.5**	**-1.1**	
MAKZ				IAmb	IAmb	18 09 06.7		
	comp=Z,8.2nm,0.8s							
MAKZ	**Makanchi**	**88.09**	**318**	P	**P**	**18 08 55.5**	**-1.1**	
MAKZ				pmax	pmax			
	comp=Z,8.0nm,0.9s							
SHOC	**Shoshone, Teco**	**88.11**	**54**	P	**P**	**18 08 58.0**	**+1.1**	
	baz=260							
TUQ	**Turquoise Moun**	**88.30**	**54**	P	**P**	**18 08 58.9**	**+0.9**	
	baz=260							
TPNV	**Topopah Spring**	**88.31**	**53**	P	P	18 08 59.2	-2.6	
TPNV	**Topopah Spring**	**88.31**	**53**	P	**P**	18 08 59.5	-2.3	
BLYC				IAmb	IAmb	18 09 13.7		
	comp=Z,14nm,1.4s							
F10A	**Beach Ranch, E**	**89.28**	**44**	IAmb	IAmb	18 09 15.7		
	comp=Z,16nm,0.9s							
PDMCI	**Parker Dam,Lak**	**89.56**	**55**	P	**P**	**18 09 03.4**	**-0.3**	
	baz=261							
ELK	**Elko**	**89.76**	**49**	P	**P**	**18 09 03.2**	**-1.6**	
ELK	**Elko**	**89.76**	**49**	P	**P**	**18 09 03.2**	**-1.6**	
ELK				pmax	pmax			
	comp=Z,6.0nm,1.1s							
ELK	**Elko**	**89.76**	**49**	LR	LR	18 40 38.6		
	comp=Z,139nm,21.3s,baz=254,slow=30							
Q12A	**Willow Creek R**	**89.78**	**51**	P	P	18 09 01.6	-3.3	
Q12A				IAmb	IAmb	18 09 16.6		
	comp=Z,29nm,1.6s							
MFID	**Camas Ranch**	**89.79**	**46**	P	P	18 09 02.1	-2.7	
MFID				IAmb	IAmb	18 09 16.2		
	comp=Z,38nm,1.9s							
NEW	**Newport**	**89.80**	**41**	LR	LR	18 41 02.4		
	comp=Z,431nm,21.7s,baz=252,slow=30							
W13A	**Hualapai Mount**	**89.89**	**55**	IAmb	IAmb	18 09 14.3		
	comp=Z,18nm,1.4s							
214A	**Organ Pipe Nat**	**90.31**	**58**	IAmb	IAmb	18 09 18.6		
	comp=Z,32nm,1.8s							
214A	**Organ Pipe Nat**	**90.31**	**58**	P	**P**	**18 09 07.3**	**0.0**	
	baz=260							
CCUT	**Cedar City**	**90.69**	**52**	IAmb	IAmb	18 09 21.2		
	comp=Z,22nm,1.5s							
LCMT	**Little Creek M**	**90.70**	**53**	IAmb	IAmb	18 09 21.7		
	comp=Z,14nm,1.2s							
HLID	**Hailey**	**90.83**	**46**	P	P	18 09 06.1	-3.6	
HLID				IAmb	IAmb	18 09 21.4		
	comp=Z,32nm,1.6s							
HLID	**Hailey**	**90.83**	**46**	P	**P**	**18 09 10.7**	**+1.0**	
	baz=261							
KNB	**Kanab**	**91.03**	**53**	P	P	18 09 07.1	-3.7	
KNB	**Kanab**	**91.03**	**53**	P	P	18 09 07.1	-3.7	
KNB				pmax	pmax			
	comp=Z,47nm,1.6s							
KURK	**Kurchatov**	**91.05**	**321**	P	P	18 09 08.0	-2.2	
KURK				IAmb	IAmb	18 09 36.5		
	comp=Z,16nm,1.6s							
KURK	**Kurchatov**	**91.05**	**321**	*i* P	P	18 09 06.5	-3.8	
KURK				pmax	pmax			
	comp=Z,24nm,3.9s							
KURBB	**Kurchatov Arra**	**91.09**	**321**	P	**P**	**18 09 09.5**	**-1.0**	
	comp=Z,1.0nm,0.2s,baz=102,slow=3.8,SNR=5.0							
KURBB				LR	LR	18 54 21.5		
	comp=Z,211nm,18.2s,baz=151,slow=38							
	comp=Z,1.0nm,0.2s							
NRIK	**Noril'sk**	**91.17**	**340**	*ce*P	P	18 09 06.9	-3.5	
NRIK				pmax	pmax			
	comp=Z,7.0nm,1.0s							
NRIK	**Noril'sk**	**91.17**	**340**	P	**P**	**18 09 08.9**	**-1.5**	
	comp=Z,3.0nm,0.8s,baz=106,slow=4.7,SNR=5.0							
NRIK				LR	LR	18 48 51.0		
	comp=Z,756nm,21.2s,baz=73,slow=35							
	comp=Z,3.0nm,0.8s							
U15A	**North Rim**	**91.37**	**54**	IAmb	IAmb	18 09 21.1		
	comp=Z,18nm,1.3s							
C36M	**Paulatuk**	**91.43**	**20**	P	**P**	**18 09 13.1**	**+1.5**	
	baz=253							
LPIG	**La Paz**	**91.43**	**66**	LR	LR	18 46 42.6		
	comp=Z,195nm,18.0s,baz=222,slow=33							
DUG	**Dugway, Tooele**	**91.50**	**50**	P	**P**	**18 09 12.5**	**-0.4**	
	baz=262							
MTPU	**Mount Pierson**	**91.68**	**52**	IAmb	IAmb	18 09 27.2		
	comp=Z,10nm,0.9s							
MSU	**Marysvale**	**91.75**	**52**	P	P	18 09 10.6	-3.6	
MSU	**Marysvale**	**91.75**	**52**	P	P	18 09 10.6	-3.6	
A36M	**Sachs Harbour**	**91.85**	**17**	IAmb	IAmb	18 09 25.3		
	comp=Z,11nm,0.8s							
A36M	**Sachs Harbour**	**91.85**	**17**	P	**P**	**18 09 14.8**	**+1.3**	
	baz=252							
SPUT	**South Promonto**	**91.93**	**49**	IAmb	IAmb	18 09 26.4		
	comp=Z,13nm,1.3s							
WUAZ	**Wupatki**	**91.99**	**55**	IAmb	IAmb	18 09 40.8		
	comp=Z,9.5nm,1.1s							
WUAZ	**Wupatki**	**91.99**	**55**	P	**P**	**18 09 15.6**	**+0.3**	
	baz=262							
NLU	**North Lily Min**	**92.03**	**50**	IAmb	IAmb	18 09 32.3		
	comp=Z,14nm,1.3s							
TUC	**Tucson**	**92.06**	**58**	P	**P**	**18 09 15.6**	**+0.1**	
	baz=263							
CTU	**Camp Tracy**	**92.37**	**49**	IAmb	IAmb	18 09 30.1		
	comp=Z,8.2nm,1.0s							
MPU	**Maple Canyon**	**92.37**	**50**	P	P	18 09 13.2	-3.8	
MPU				IAmb	IAmb	18 09 25.8		
	comp=Z,18nm,1.4s							
AAK	**Ala-Archa**	**92.62**	**312**	*i* P	P	18 09 13.8	-4.2	
AAK				pmax	pmax			
	comp=Z,12nm,2.7s							
AAK	**Ala-Archa**	**92.62**	**312**	LR	LR	18 54 50.4		
	comp=Z,166nm,18.0s,baz=76,slow=38							
BSUT	**Blindstream Ca**	**93.10**	**50**	IAmb	IAmb	18 09 37.9		
	comp=Z,14nm,1.1s							
W18A	**Petrified Fore**	**93.27**	**55**	P	**P**	**18 09 21.0**	**-0.2**	
	baz=263							
IMW	**Indian Meadow**	**93.37**	**46**	P	P	18 09 18.5	-3.1	
H17A	**Grant Village**	**93.69**	**46**	P	**P**	**18 09 23.1**	**+0.1**	
	baz=263							
YKA	**Yellowknife Ar**	**93.69**	**28**	P	P	18 09 20.0	-2.3	
YKA	**Yellowknife Ar**	**93.69**	**28**	P	P	18 09 20.0	-2.2	
YKA	**Yellowknife Ar**	**93.69**	**28**	P	**P**	**18 09 21.1**	**-1.1**	
	comp=Z,1.0nm,0.8s,baz=260,slow=4.6,SNR=13							
YKA				LR	LR	18 45 17.2		
	comp=Z,447nm,20.1s,baz=262,slow=32							
	comp=Z,1.0nm,0.8s							
RDMU	**Red Mountain**	**94.00**	**50**	IAmb	IAmb	18 09 33.0		
	comp=Z,18nm,1.2s							
BW06	**Boulder Array**	**94.24**	**48**	P	**P**	**18 09 25.1**	**-0.5**	
	baz=264							
PDAR	**Pinedale Array**	**94.24**	**48**	P	**P**	**18 09 25.0**	**-0.6**	
	comp=Z,2.6nm,0.7s,baz=236,slow=2.1,SNR=28							
PDAR				LR	LR	18 46 25.3		
	comp=Z,244nm,19.3s,baz=289,slow=32							
	comp=Z,2.6nm,0.7s							
BELA	**Belgrano 2**	**94.45**	**177**	P	P	18 09 23.5	-2.1	
BELA				IAmb	IAmb	18 09 44.3		
	comp=Z,12nm,1.1s							
O20A	**White River Ci**	**94.97**	**50**	P	**P**	**18 09 29.3**	**+0.4**	
	baz=265							
S22A	**4UR Ranch, Cre**	**95.86**	**53**	P	**P**	**18 09 32.8**	**-0.4**	
	baz=265							
ANMO	**Albuquerque**	**95.93**	**56**	P	**P**	**18 09 33.2**	**-0.2**	
	baz=265							
ANMO	**Albuquerque**	**95.93**	**56**	*i* P	P	18 09 29.8	-3.6	
ANMO				pmax	pmax			
	comp=Z,1.0nm,1.0s							
ANMO	**Albuquerque**	**95.93**	**56**	LR	LR	18 45 16.9		
	comp=Z,421nm,20.7s,baz=21,slow=31							
BVAR	**Borovoye Array**	**96.39**	**323**	P	P	18 09 32.8	-2.1	
	comp=Z,1.5nm,0.5s,baz=91,slow=4.9,SNR=16							
BVAR				LR	LR	18 52 42.7		
	comp=Z,371nm,21.9s,baz=83,slow=35							
	comp=Z,1.5nm,0.5s							
BRVK	**Borovoye**	**96.45**	**323**	P	P	18 09 32.6	-2.5	
BRVK	**Borovoye**	**96.45**	**323**	*ce*P	**P**	**18 09 33.6**	**-1.5**	
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.7s							
SDCO	**Great Sand Dun**	**96.91**	**53**	P	**P**	**18 09 38.4**	**+0.5**	
	baz=266							
TXAR	**Lajitas Array**	**97.86**	**61**	P	**P**	**18 09 40.6**	**-1.6**	
	comp=Z,0.2nm,0.7s,baz=163,slow=1.3,SNR=2.2							
TXAR				LR	LR	18 46 02.0		
	comp=Z,150nm,21.5s,baz=288,slow=31							
	comp=Z,0.2nm,0.7s							
MAK	**Makhachkala**	**112.38**	**313**	*i* P	**Pdif**	**18 10 36.5**	**-10**	
MAK				*e*		18 21 15.8		
MAK				*e*SS	SS	18 31 02.6	-5.2	
MAK				*e*SSS	SSS	18 35 16.0		
MAK				pmax	pmax			
	comp=Z,374nm,2.1s							
KIV	**Kislovodsk**	**115.56**	**315**	*i* PKIKP	**PKiKP**	**18 14 44.8**	**-3.6**	
KIV				pmax	pmax			
	comp=Z,10.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,257nm,22.0s							
NACGM	**Naroch**	**120.38**	**332**	*e*PKP	**PKPdf**	**18 14 58.4**	**+1.2**	
	comp=Z,30nm,0.8s,baz=55							
KRLC	**Kraliky**	**128.16**	**332**	AMS	AMS	19 10 50.0		
	comp=Z,400nm,22.5s							
DPC	**Dobruska-Polom**	**128.18**	**332**	AMS	AMS	19 10 10.0		
	comp=Z,400nm,20.9s							
UPC	**Upice**	**128.22**	**332**	AMS	AMS	19 15 00.0		
	comp=Z,500nm,18.8s							
SDV	**Santo Domingo**	**128.53**	**84**	PKPdf	**PKPdf**	**18 15 12.0**	**-2.2**	
PVCC	**Panska Ves**	**128.85**	**333**	AMS	AMS	19 13 10.0		
	comp=Z,600nm,22.5s							
PRA	**Prague**	**129.24**	**333**	AMS	AMS	19 14 10.0		
	comp=Z,500nm,20.9s							
PRU	**Pruhonice**	**129.25**	**333**	AMS	AMS	19 14 30.0		
	comp=Z,500nm,18.2s							
CPUP	**Villa Florida**	**129.70**	**133**	PKP	**PKPdf**	**18 15 14.8**	**-1.2**	
	comp=Z,2.3nm,1.0s,baz=303,slow=5.5,SNR=3.6							
ZVC	**Zvikov**	**129.81**	**333**	AMS	AMS	19 13 40.0		
	comp=Z,500nm,19.9s							
MOX	**Moxa**	**130.04**	**335**	*e*L	L	19 12 42.2		
	comp=Z,422nm,21.5s							
CKRC	**Cesky Krumlov**	**130.19**	**332**	AMS	AMS	19 11 50.0		
	comp=Z,400nm,16.4s							
KHC	**Kasperske Hory**	**130.31**	**333**	*

HRY	**Holter Researc**	**0.51**	**111**	Pg	Pg	18 02 27.1	+0.2
BPMT	**Black Pine Rid**	**0.79**	**234**	Pg	Pg	18 02 31.6	-0.4
MSO	**Missoula**	**0.97**	**266**		Pb	18 02 35.3	-0.2
MSO	**Missoula**	**0.97**	**266**	IAML		18 02 51.8	
	353nm,0.4s						
MSO				IAML		18 02 52.4	
	422nm,0.5s						
LRM	**Limekiln Ridge**	**1.08**	**177**	Pg	Pg	18 02 37.7	0.0
MCMT	**McKenzie Canyo**	**2.08**	**186**	Pn	Pn	18 02 51.1	-0.6
EGMT	**Eagleton**	**2.19**	**58**		Pn	18 02 54.1	+1.2
EGMT				IAML		18 03 28.0	
	104nm,0.6s						
EGMT				IAML		18 03 29.5	
	129nm,0.3s						
QLMT	**Earthquake Lak**	**2.21**	**159**	Pn	Pn	18 02 53.9	+0.6
YHL	**Hebgen Lake**	**2.25**	**155**		Pb	18 02 56.0	-1.5
YHL				IAML		18 03 32.5	
	comp=E,71nm,1.0s						
YHL				IAML		18 03 33.2	
	comp=N,76nm,0.9s						
GCMT	**Greycliff**	**2.27**	**118**	Pn	Pn	18 02 55.7	+1.6
YHH	**Holmes Hill**	**2.42**	**150**		Pn	18 02 56.5	+0.3
YMR	**Madison River**	**2.48**	**153**		Pn	18 02 58.2	+1.1
YMR				IAML		18 03 47.5	
	comp=N,46nm,1.0s						
YMP	**Mirror Lake Pl**	**2.72**	**142**	Pn	Pn	18 03 02.7	+2.2
YMP				IAML		18 03 47.8	
	comp=E,39nm,0.6s						
RLMT	**Red Lodge**	**2.88**	**127**		Pn	18 03 05.3	+2.7
RLMT				IAML		18 03 54.6	
	comp=E,35nm,0.8s						
PLID	**Pearl Lake**	**3.02**	**234**		Pn	18 03 04.5	0.0
IMW	**Indian Meadow**	**3.21**	**159**		Pn	18 03 06.1	-1.0
IMW				IAML		18 04 00.1	
	comp=E,50nm,0.5s						
IMW				IAML		18 04 00.8	
	comp=E,24nm,1.1s						
F10A	**Beach Ranch, E**	**3.38**	**256**		Pn	18 03 10.3	+1.0
MOOW	**Moose Ponds**	**3.39**	**158**	Pn	Pn	18 03 11.3	+1.7
NEW	**Newport**	**3.40**	**295**	Pn	Pn	18 03 09.2	-0.2
NEW				IAML		18 04 06.7	
	comp=E,30nm,0.4s						
HLID	**Hailey**	**3.59**	**202**		Pn	18 03 13.4	+1.1
HLID				IAML		18 04 11.2	
	comp=E,23nm,0.4s						
HLID				IAML		18 04 12.0	
	comp=E,20nm,0.5s						
E09A	**Wood Farm, Sta**	**3.89**	**266**	Pn	Pn	18 03 16.9	+0.8
E09A				IAML		18 04 26.6	
	comp=N,26nm,0.8s						
E09A				IAML		18 04 26.6	
	comp=E,21nm,0.4s						
BMO	**Blue Mountains**	**3.92**	**240**		Pn	18 03 17.2	+0.5
C09A	**Chrisman Ranch**	**4.01**	**285**	Pn	Pn	18 03 19.6	+1.7
MFID	**Camas Ranch**	**4.20**	**215**		Pn	18 03 21.2	+0.7
MFID				IAML		18 04 33.7	
	comp=E,19nm,0.7s						
LAO	**LASA Array**	**4.33**	**91**		Pn	18 03 21.1	-1.3
E08A	**Dider Farm, El**	**4.51**	**267**	Pn	Pn	18 03 25.2	+0.5
E08A				IAML		18 04 53.5	
	comp=E,18nm,3.2s						
E08A				IAML		18 05 26.7	
	comp=N,17nm,4.8s						
G08A	**Pilot Rock**	**4.76**	**253**	Pn	Pn	18 03 26.5	-1.7
G08A				IAML		18 04 43.9	
	comp=E,11nm,4.5s						
G08A				IAML		18 05 32.4	
	comp=N,12nm,4.7s						
HAWA	**Hanford**	**4.85**	**267**	Pn	Pn	18 03 30.1	+0.7
HAWA				IAML		18 05 31.3	
	comp=N,16nm,4.7s						
E07A	**Sunnyside**	**5.05**	**269**	Pn	Pn	18 03 32.9	+0.7
F07A	**Phinny Hill Vi**	**5.22**	**262**	Pn	Pn	18 03 34.1	-0.3
MXC	**Moxie City**	**5.35**	**269**	Pn	Pn	18 03 35.0	-1.3

IDC 25 18:10:14.5±2.0, 3°33S×143°75E, h0km, mb3.1/2, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=111.9km s-min=31.1km az=115.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.89**	**208**	P	P	18 14 36.2	-0.6
	0.1nm,0.3s,baz=31,slow=11,SNR=5.5						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**22.35**	**204**	P	P	18 15 14.9	+0.7
	0.3nm,0.7s,baz=28,slow=12,SNR=6.5						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**84.34**	**24**	P	P	18 22 48.0	-0.2
	0.2nm,0.6s,baz=263,slow=5.2,SNR=1.6						
	0.2nm,0.6s						

*MOS **25** 18:17:48.8±3.2, 52°.42N×132°.45E, h7km, mb4.0/1, Error ellipse: s-maj=18.1km s-min=11.3km az=93.7*
MOS Felt (III) at Ogodzha.
*SKHL **25** 18:17:49.0±0.4, 52°.38N×133°.01E, h12km±4km, mb4.8/8*
SKHL Felt (II-III) at Ogodzha.
*IDC **25** 18:17:49.2±0.9, 52°.35N×132°.72E, h0km, mb3.6/6, mbtmp3.6/10, ML3.2/4, Error ellipse: s-maj=23.1km s-min=13.4km az=99.0*

ISC 25 18:17:50.6±0.6, 52°45N±0°.04×133°04E±0°.03, h10km, n24, σ2ş35/35, mb3.5/6, 1C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKMR	**Ekimchan**	**0.62**	**355**	*i*Pg	**Pg**	**18 18 01.5**	**-1.2**
EKMR				AMB	AMB	18 18 01.7	
	588nm,0.4s						
EKMR				*e*Sg	**Sg**	**18 18 10.6**	**-0.2**
EKMR				A	A	18 18 12.3	
	6μm,0.6s						
GRNR	**Gornyy**	**2.70**	**127**	*e*Pn	**Pn**	**18 18 31.8**	**-2.3**
GRNR				*e*Pg	**Pn**	**18 18 38.2**	**+4.1**
GRNR				AMB	AMB	18 18 43.2	
	130nm,0.3s						
GRNR				*e*Sn	**Sn**	**18 19 04.2**	**-2.6**
GRNR				*e*Sg	**Sb**	**18 19 11.3**	**-0.9**
GRNR				A	A	18 19 13.5	
	1μm,0.5s						
GRNR	**Gornyy**	**2.70**	**127**	*e*P	**Pn**	**18 18 38.2**	**+4.1**
GRNR				*e*		18 19 10.8	
GRNR				pmax	pmax		
	comp=E,90nm,0.3s						
GRNR				pmax	pmax		
	comp=N,60nm,0.2s						
GRNR				pmax	pmax		
	comp=Z,130nm,0.4s						
GRNR				smax	smax		
	comp=N,380nm,0.4s						
GRNR				MLR	MLR		
	comp=E,2μm,18.0s						
GRNR				MLR	MLR		
	comp=N,560nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,910nm,17.0s						
KLR	**Kul'dur**	**3.33**	**195**	*e*Pn	Pn	18 18 40.7	-2.1
KLR				*e*Pg	**Pb**	**18 18 48.8**	**-1.0**
KLR				*e*Sg	**Sn**	**18 19 28.4**	**+6.1**
KLR	**Kul'dur**	**3.33**	**195**	Pn	**Pn**	**18 18 40.9**	**-1.9**
	comp=Z,3.8nm,0.3s,baz=14,slow=12,SNR=31						
KLR				Lg	Lg	18 19 28.2	
	comp=Z,59nm,0.3s,baz=291,slow=16,SNR=17						
	comp=Z,9.0nm,0.2s						
BMKR	**Bomnak**	**3.37**	**314**	*e*Pn	**Pn**	**18 18 42.5**	**-0.8**
BMKR				*e*Pg	**Pb**	**18 18 49.9**	**-0.6**
BMKR				AMB	AMB	18 18 52.2	
	comp=Z,397nm,0.6s						
BMKR				*e*Sg	**Sb**	**18 19 34.8**	**+3.3**
BMKR				A	A	18 19 37.4	
	comp=Z,990nm,0.7s						
ZEA	**Zeya**	**3.72**	**293**	*e*Pn	**Pn**	**18 18 46.9**	**-1.2**
ZEA				*e*Pg	**Pb**	**18 18 56.4**	**0.0**
ZEA				AMB	AMB	18 18 58.1	
	comp=Z,62nm,0.4s						
ZEA				*e*Sg	**Sb**	**18 19 44.9**	**+3.4**
ZEA				A	A	18 19 47.2	
	comp=Z,559nm,1.0s						
ZEA				A	A	18 19 51.4	
	comp=Z,1μm,0.7s						
ZEA	**Zeya**	**3.72**	**293**	*e*P	**Pn**	**18 18 47.0**	**-1.2**
ZEA				*e*		18 19 32.2	
ZEA				pmax	pmax		
	comp=Z,70nm,0.4s						
ZEA				smax	smax		
	comp=N,600nm,0.7s						
ZEA				smax	smax		
	comp=N,650nm,1.0s						
KHBR	**Khabarovsk**	**4.19**	**161**	*e*Pn	**Pn**	**18 18 53.3**	**-1.2**
KHBR				*e*Pg	**Pb**	**18 19 05.2**	**+0.9**
KHBR				AMB	AMB	18 19 05.5	
	comp=N,52nm,0.4s						
KHBR				*e*Sg	**Sb**	**18 19 57.5**	**+2.6**
KHBR				A	A	18 20 00.3	
	comp=N,350nm,0.4s						
KHBR				A	A	18 20 00.3	
	comp=N,380nm,0.4s						
NKL	**Nikolayevsk**	**4.69**	**78**	*e*Pn	**Pn**	**18 18 59.6**	**-1.8**
NKL				*e*Pg	**Pb**	**18 19 14.8**	**+2.0**
NKL				AMB	AMB	18 19 16.1	
	comp=N,58nm,0.6s						
NKL				*e*Sg	**Sg**	**18 20 16.7**	**-4.3**
NKL				A	A	18 20 21.4	
	comp=N,445nm,0.7s						
NKL	**Nikolayevsk**	**4.69**	**78**	*e*P	**Pb**	**18 19 14.8**	**+2.0**
NKL				pmax	pmax		
	comp=E,38nm,0.4s						
NKL				pmax	pmax		
	comp=N,36nm,0.5s						
NKL				pmax	pmax		
	comp=Z,55nm,0.5s						
TEY	**Ternei**	**7.79**	**161**	*e*Sg	Sb	18 21 50.0	+12
TEY				A	A	18 21 55.5	
	comp=Z,39nm,0.6s						
TUP	**Tupik**	**8.06**	**289**	*e*Pn	**Pn**	**18 19 45.6**	**-2.1**
TUP				*e*Sg	Sg	18 22 02.2	-6.9
USRK	**Ussuriysk Ar.**	**8.29**	**185**	Pn	**Pn**	**18 19 49.8**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=267,slow=40,SNR=1.7						
USRK				Lg	Lg	18 22 03.1	
	comp=Z,0.6nm,0.3s,baz=351,slow=20,SNR=4.4						
	comp=Z,0.7nm,0.5s						
GRTR	**Gornotajezhnoj**	**8.77**	**184**	*e*Sg	Sg	18 22 21.7	-10
GRTR				A	A	18 22 33.0	
	comp=Z,40nm,1.0s						
YAK	**Yakutsk**	**9.77**	**351**	Pn	**Pn**	**18 20 09.9**	**-1.1**
	baz=238,slow=2.5						
YAK				Lg	Lg	18 22 48.1	
	comp=Z,0.1nm,0.3s,baz=77,slow=22,SNR=9.8						
SEY	**Seymchan**	**14.66**	**37**	Pn	**Pn**	**18 21 20.5**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=351,slow=22,SNR=4.2						
SEY				Lg	Lg	18 25 37.1	
	comp=Z,1.0nm,0.3s,baz=203,slow=24,SNR=6.2						
	comp=Z,0.9nm,0.5s						
PETK	**Petropavlovsk-**	**14.92**	**78**	Pn	**Pn**	**18 21 22.7**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=296,slow=11,SNR=1.2						
	comp=Z,1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**28.49**	**292**	P	**P**	**18 23 44.2**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=80,slow=12,SNR=1.8						
	comp=Z,0.3nm,0.5s						
MKAR	**Manchi Array**	**32.79**	**281**	P	**P**	**18 24 22.1**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=62,slow=5.6,SNR=4.7						
	comp=Z,0.7nm,0.8s						
BVAR	**Borovoye Array**	**36.86**	**297**	P	**P**	**18 24 58.6**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=74,slow=11,SNR=2.0						
	comp=Z,0.4nm,0.6s						
ILAR	**Eielson Array**	**40.55**	**40**	P	**P**	**18 25 29.9**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=290,slow=7.5,SNR=6.0						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**52.57**	**325**	P	**P**	**18 27 02.3**	**-1.5**
	comp=Z,3.9nm,1.0s,baz=62,slow=8.9,SNR=3.7						
	comp=Z,3.9nm,1.0s						
ASAR	**Alice Springs**	**75.80**	**179**	P	**P**	**18 29 37.2**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=6.1,slow=5.7,SNR=5.8						
	comp=Z,0.4nm,0.7s						

*IDC **25** 18:26:16.1±1.9, 57°.23S×142°.94W, h0km, mb3.8/4, mbtmp3.8/4, MS3.8/12, Error ellipse: s-maj=63.8km s-min=34.8km az=51.0*
*GCMT **25** 18:26:19.0±0.3, 56°.82S±0°.03×141°.76W±0°.03, h27km±1km, MW5.0/72, Moment Tensor Solution. s18,c19; s72,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.28±.18; $M_{\theta\theta}$1.76±.17; $M_{\phi\phi}$-2.04±.16; $M_{r\theta}$1.37±.27; $M_{\theta\phi}$1.82±.09; $M_{\phi r}$1.57±.27; Best double couple: M_o3.33900×10^{16} NP1:ϕ22.00000°, δ83.00000°, λ144.00000°. NP2: ϕ117.00000°, δ54.00000°, λ9.00000°. Principal axes: T 3.5820, Plg30.0000°, Azm333.0000°; N -0.4850, Plg53.0000°, Azm192.0000°; P -3.0950, Plg19.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 25 18:26:16.9±1.9, 57°.1S×142°.7W±0°.4, h10km, n34, σ1ş40/6, mb3.9/4, MS3.9/16, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**31.72**	**275**	LR	LR	18 42 30.1	
	comp=Z,149nm,19.9s,baz=116,slow=31						
URZ	**Urewera**	**32.35**	**288**	LR	LR	18 43 08.7	
	comp=Z,162nm,21.6s,baz=156,slow=31						
QSPA	**South Pole Qui**	**33.03**	**180**	P	**P**	**18 32 53.2**	**+1.1**
	0.6nm,0.4s,baz=65,slow=2.0,SNR=2.4						
	0.6nm,0.4s						
TBI	**Tubuai**	**34.10**	**349**	*e*LR	LR	18 41 32.4	
	comp=Z,2μm,30.8s						
TBI	**Tubuai**	**34.10**	**349**	*e*T	T	19 08 21.7	
	21nm,0.3s						
RAR	**Rarotonga**	**38.01**	**334**	LR	LR	18 46 07.3	
	comp=Z,98nm,19.6s,baz=138,slow=31						
RPN	**Rapa Nui**	**38.17**	**52**	LR	LR	18 45 26.4	
	comp=Z,122nm,21.0s,baz=54,slow=30						
MEH	**Mehetia**	**39.39**	**352**	*e*T	T	19 15 00.8	
	16nm,0.2s						
PPT2	**Papeete2**	**39.81**	**350**	*e*LR	LR	18 44 11.2	
	comp=Z,363nm,25.8s						
PPT2				*e*LR	LR	18 44 19.2	
	comp=Z,245nm,28.2s						
PPT	**Papeete**	**39.83**	**350**	LR	LR	18 46 06.1	
	comp=Z,190nm,18.2s,baz=239,slow=30						
VAH	**Vaihoa**	**41.98**	**353**	*e*T	T	19 18 11.5	
	12nm,0.3s						
TAOE	**Nuku Hiva Isla**	**48.19**	**3**	*e*LR	LR	18 48 04.6	
	comp=Z,267nm,23.9s						
H03S2	**Juan Fernandez**	**48.30**	**90**	T	T	19 26 17.8	
	baz=219,slow=75						
H03S1	**Juan Fernandez**	**48.30**	**90**	T	T	19 26 18.9	
	baz=219,slow=75						
H03S3	**Juan Fernandez**	**48.31**	**90**	T	T	19 26 19.4	
	baz=219,slow=75						
SNAA	**Sanae**	**48.45**	**164**	P	**P**	**18 34 57.6**	**-1.3**
	1.1nm,0.5s,baz=216,slow=11,SNR=2.5						
	1.1nm,0.5s						
H03N3	**Juan Fernandez**	**48.59**	**89**	T	T	19 26 31.4	
	baz=223,slow=72,SNR=26						
H03N2	**Juan Fernandez**	**48.59**	**89**	T	T	19 26 40.5	
	baz=223,slow=72,SNR=31						
H03N1	**Juan Fernandez**	**48.60**	**89**	T	T	19 26 35.1	
	baz=223,slow=72,SNR=22						
DZM	**Mont Dzumac**	**50.77**	**292**	*e*LR	LR	18 50 08.7	
	comp=Z,138nm,24.8s						
MAW	**Mawson**	**54.15**	**192**	LR	LR	18 55 44.3	
	comp=Z,140nm,19.6s,baz=142,slow=33						
CTA	**Charters Tower**	**63.09**	**274**	LR	LR	19 00 09.6	
	comp=Z,39nm,18.2s,baz=114,slow=32						
ASAR	**Alice Springs**	**66.92**	**262**	P	**P**	**18 37 08.7**	**-0.7**
	0.6nm,0.7s,baz=140,slow=6.4,SNR=7.1						
	0.6nm,0.7s						
H01W1	**Cape Leeuwin H**	**67.96**	**240**	T	T	19 52 40.2	
	baz=143,slow=76,SNR=26						
H01W2	**Cape Leeuwin H**	**67.96**	**240**	T	T	19 52 37.6	
	baz=143,slow=76,SNR=30						
H01W3	**Cape Leeuwin H**	**67.98**	**240**	T	T	19 52 35.6	
	baz=143,slow=76,SNR=25						
NWAO	**Narrogin (SRO)**	**68.09**	**243**	LR	LR	19 00 44.9	
	comp=Z,49nm,20.6s,baz=208,slow=30						
WRA	**Warramunga Arr**	**69.70**	**265**	P	**P**	**18 37 26.4**	**-0.4**
	0.8nm,0.9s,baz=141,slow=5.7,SNR=3.7						
	0.8nm,0.9s						
ATAH	**Atahualpa**	**70.23**	**72**	LR	LR	19 03 07.0	
	comp=Z,75nm,18.6s,baz=253,slow=31						
ROSC	**El Rosal**	**82.53**	**69**	LR	LR	19 08 13.8	
	comp=Z,113nm,19.1s,baz=172,slow=30						
KAPI	**Kappang**	**89.93**	**261**	LR	LR	19 16 24.9	
	comp=Z,51nm,21.1s,baz=162,slow=34						
DAV	**Davao City (W)**	**96.83**	**272**	LR	LR	19 23 01.7	
	comp=Z,25nm,18.6s,baz=332,slow=35						
ILAR	**Eielson Array**	**121.61**	**358**	PKP	**PKiKP**	**18 45 09.2**	**-0.1**
	0.4nm,0.9s,baz=186,slow=4.5,SNR=2.0						
MKAR	**Makanchi Array**	**150.94**	**269**	PKPbc	**PKiKP**	**18 46 10.9**	**+1.5**
	0.8nm,0.8s,baz=116,slow=3.4,SNR=7.0						

IDC 25 18:26:28.7±9.0, 4°08N×124°14E, h549km±118km, mb2.9/4, mbtmp3.9/4, Error ellipse: s-maj=256.9km s-min=26.0km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.89**	**158**	P	P	18 31 17.5	0.0
	0.7nm,0.4s,baz=336,slow=9.6,SNR=11						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**29.17**	**161**	P	P	18 31 46.0	-0.2
	0.7nm,0.5s,baz=339,slow=7.3,SNR=17						
	0.7nm,0.5s						
STKA	**Stephens Creek**	**39.42**	**156**	P	P	18 33 11.6	-0.2
	1.7nm,0.9s,baz=331,slow=13,SNR=2.4						
	1.7nm,0.9s						
MKAR	**Makanchi Array**	**55.82**	**326**	P	P	18 35 14.2	-0.1
	0.5nm,0.3s,baz=124,slow=7.9,SNR=17						
MKAR				PcP	PcP	18 36 04.9	-0.3
	0.3nm,0.6s,baz=117,slow=5.7,SNR=3.6						
	0.5nm,0.3s						

DJA 25 18:30:14.6±0.5, 10°S±4°×11°3E±°, h10km, M4.3/13, mb5.2/1, mB6.9/1, MLv3.9/13, Mw(mB)6.8/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.73**	**51**	P	Pn	18 30 43.6	-1.2
JAGI				S	Sn	18 31 06.8	-0.2
PWJI	**Pagerwojo**	**1.83**	**327**	P	Pn	18 30 44.9	-1.3
BLJI	**Banyuglugur**	**1.98**	**23**	P	Pn	18 30 48.5	+0.2
BLJI				S	Sn	18 31 14.4	+1.2
ABJI	**Asem Bagus**	**2.27**	**39**	P	Pn	18 30 53.4	+1.2
ABJI				S	Sn	18 31 21.9	+1.7
DNP	**Denpasar**	**2.54**	**70**	P	Pn	18 30 55.3	-0.7
NGJI	**Ngawi**	**2.57**	**329**	P	Pn	18 30 56.9	+0.6
NGJI				S	Sn	18 31 27.8	+0.2
KMMI	**Kalianget**	**2.77**	**25**	P	Pn	18 30 58.5	-0.5
UGM	**Wanagama**	**2.79**	**306**	P	Pn	18 31 00.2	+0.8
SRBI	**Singaraja**	**2.81**	**58**	P	Pn	18 30 59.6	0.0
YOGI	**Yogyakarta**	**3.03**	**305**	P	Pn	18 31 03.2	+0.5
SMRI	**Semarang**	**3.43**	**317**	P	Pn	18 31 07.0	-1.2
TWSI	**Taliwang, Sumb**	**4.12**	**79**	P	Pn	18 31 18.3	+0.7
KPJI	**Karang Pucung**	**4.43**	**300**	P	Pn	18 31 22.8	+0.9
LHSI	**Lahat**	**10.84**	**301**	P	Pn	18 32 49.3	-0.7
	106nm,1.1s						
KRJI	**Kerinci**	**13.51**	**303**	P	Pn	18 33 26.4	-0.1

*TEH **25** 18:37:46.9, 31°.41N×56°.29E, h6km±12km, ML4.0*
*IDC **25** 18:37:47.8±1.2, 31°.34N×56°.40E, h0km, mb3.5/8, mbtmp3.6/12, ML3.9/5, MS3.5/2, Error ellipse: s-maj=23.0km s-min=18.3km az=121.0*

ISC 25 18:37:48.8±0.6, 31°42N±0°.03×56°30E±0°.03, h10km, n69, σ1ş86/67, mb3.6/7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.49**	**156**	Pg	**Pg**	**18 37 57.0**	**-1.5**
IBAF	**Bafgh**	**0.65**	**285**	Pg	**Pg**	**18 37 59.7**	**-1.7**
KHGB	**Koh Gabri**	**1.05**	**172**	Pg	**Pg**	**18 38 06.9**	**-2.2**
KRM1	**Kerman Provinc**	**1.24**	**137**	Pg	**Pg**	**18 38 11.5**	**-1.2**
IMEH	**Mehriz**	**1.44**	**269**	Pg	**Pg**	**18 38 14.4**	**-2.1**
TVBK	**TV Kerman**	**1.48**	**164**	Pg	**Pg**	**18 38 15.6**	**-1.7**
TPRV	**Parvadeh(Tabas**	**1.64**	**11**	Pg	**Pg**	**18 38 19.0**	**-1.3**
ICHK	**Chekchek**	**1.81**	**298**	Pg	**Pg**	**18 38 20.9**	**-2.6**
NGRK	**Negar Kerman**	**1.81**	**168**	Pn	**Pb**	**18 38 20.9**	**-1.4**
CHMN	**Cheshme madani**	**1.89**	**145**	Pn	**Pg**	**18 38 22.8**	**-2.2**
ISAD	**Sadrabad**	**2.28**	**283**	Pn	**Pb**	**18 38 28.0**	**-2.2**
TKDS	**Koohdasht(Taba**	**2.30**	**17**	Pn	**Pb**	**18 38 28.2**	**-2.3**
BSRN	**Basiran**	**2.47**	**77**	Pn	**Pb**	**18 38 30.1**	**-3.3**
IKOO	**Kooshah**	**2.51**	**66**	Pn	**Pb**	**18 38 30.9**	**-3.2**
ITEG	**Tejag**	**2.55**	**54**	Pn	**Pb**	**18 38 31.4**	**-3.4**
TNSJ	**Nastanj**	**2.55**	**6**	Pn	**Pb**	**18 38 31.4**	**-3.4**
ANAR	**Anarak**	**2.80**	**310**	Pn	**Pb**	**18 38 35.1**	**-4.0**
KBAM	**BAM**	**2.94**	**140**	Pn	**Pn**	**18 38 36.4**	**+0.7**
AFRZ	**Afriz**	**3.05**	**48**	Pn	**Pn**	**18 38 37.9**	**+0.7**
NHDN	**Nehbandan**	**3.21**	**89**	Pn	**Pn**	**18 38 40.5**	**+1.1**
IDAH	**Dahanechah**	**3.30**	**66**	Pn	**Pn**	**18 38 41.9**	**+1.0**
IRAM	**Ramesheh**	**3.36**	**278**	Pn	**Pn**	**18 38 42.8**	**+1.1**
IZEF	**Zefreh**	**3.67**	**295**	Pn	**Pn**	**18 38 47.4**	**+1.5**
IGAR	**Gharneh**	**3.75**	**286**	Pn	**Pn**	**18 38 47.7**	**+0.7**
GENO	**Geno**	**4.01**	**182**	Pn	**Pn**	**18 38 51.5**	**+1.0**
KRSH	**Karshahi**	**4.33**	**307**	Pn	**Pn**	**18 38 56.8**	**+1.9**
ZHDN	**Zahedan**	**4.39**	**116**	Pn	**Pn**	**18 38 56.5**	**+0.8**
IKLH	**Kolahrood**	**4.42**	**297**	Pn	**Pn**	**18 38 57.4**	**+1.2**
ISFB	**Sefidab**	**4.49**	**312**	Pn	**Pn**	**18 38 58.3**	**+1.3**
IANJ	**Anjilo**	**4.50**	**334**	Pn	**Pn**	**18 38 58.8**	**+1.4**
ZNGN	**Zangian**	**4.69**	**280**	Pn	**Pn**	**18 39 01.3**	**+1.3**
QAMS	**Qamsar**	**4.74**	**300**	Pn	**Pn**	**18 39 02.1**	**+1.5**
IPIR	**Pirpir**	**4.76**	**287**	Pn	**Pn**	**18 39 03.0**	**+2.1**
ILAS	**Lasjerd**	**4.84**	**326**	Pn	**Pn**	**18 39 03.5**	**+1.6**
SBZV	**Sabzevar**	**5.08**	**12**	Pn	**Pn**	**18 39 07.0**	**+1.8**
TBJM	**Torbat-e-JAM**	**5.11**	**40**	Pn	**Pn**	**18 39 07.2**	**+1.6**
IFIR	**Firoozkooh**	**5.15**	**326**	Pn	**Pn**	**18 39 07.6**	**+1.4**
IVRN	**Varamin**	**5.23**	**314**	Pn	**Pn**	**18 39 08.7**	**+1.5**
IMOG	**Moghan**	**5.32**	**28**	Pn	**Pn**	**18 39 10.6**	**+1.9**
DSBU	**Dashti - Bushe**	**5.33**	**236**	Pn	**Pn**	**18 39 09.3**	**+0.8**
IDMV	**Damavand**	**5.47**	**320**	Pn	**Pn**	**18 39 11.8**	**+1.2**
IGLO	**Ghaloghah**	**5.47**	**339**	Pn	**Pn**	**18 39 13.1**	**+2.5**
IPAY	**Payeh**	**5.50**	**23**	Pn	**Pn**	**18 39 13.0**	**+2.1**
IQOM	**Qom**	**5.56**	**309**	Pn	**Pn**	**18 39 13.2**	**+1.3**
IAKL	**Akhelmad**	**5.56**	**21**	Pn	**Pn**	**18 39 13.8**	**+1.9**
JASK	**Jask - Hormozg**	**5.70**	**166**	Pn	**Pn**	**18 39 14.8**	**+1.3**
IPRN	**Peran**	**5.83**	**327**	Pn	**Pn**	**18 39 18.0**	**+2.6**
IMYA	**Miami**	**5.84**	**32**	Pn	**Pn**	**18 39 18.6**	**+3.0**
IKRD	**Kardeh**	**5.97**	**26**	Pn	**Pn

NOU 25 18:54:31.2, 22.05S×170.76E, h0km, MLv3.8/9, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	2.60	282	P	Pn	18 55 14.2	-0.3
PINNC	**Pines Island,**	3.12	259	P	Pn	18 55 21.7	+0.1
LIFNC	**LIFOU**	3.52	290	P	Pn	18 55 26.8	-0.3
YATNC	**Mamie plateau,**	3.59	269	P	Pn	18 55 27.3	-0.8
OUENC	**Ouen Island, N**	3.65	264	P	Pn	18 55 28.8	-0.2
ONTNC	**Ouen Toro**	4.00	266	P	Pn	18 55 33.7	-0.1
DZM	**Mont Dzumac**	4.00	269	P	Pn	18 55 33.3	-0.6
NOUC	**Port Laguerre**	4.13	268	P	Pn	18 55 36.3	+0.7
KOUNC	**Koumac, New Ca**	6.22	283	P	Pn	18 56 04.8	+0.5

*ISK **25** 18:55:00.6, 38.59N×26.72E, h15km, ML3.4/37*
*AFAD **25** 18:55:01.0±0.0, 38.60N×26.71E, h10km±1km, MW3.5*
*ATH **25** 18:55:01.2, 38.59N×26.75E, h13km±1km, ML3.2/18, Error ellipse: s-maj=1.6km s-min=0.9km az=248.0*
*THE **25** 18:55:01.4, 38.58N×26.70E, h8km, ML3.3/12, Error ellipse: s-maj=1.0km s-min=0.4km az=265.0*
ISC 25 18:55:01.1±0.8, 38.58N±0.01×26.73E±0.02, h14km±6km, n125, σ0.59/181, 9C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOCM	**Foa**	0.13	2	Pg	**Pg**	**18 55 03.8**	**-0.8**
KARB	**zmir-Karabur**	0.26	288	P	**Pg**	**18 55 06.9**	**+0.3**
KARB				S	**Sg**	**18 55 10.7**	**+0.3**
KARB				*i* AML	AML	18 55 11.0	
	comp=N,2μm,0.2s						
KARB				*i* AML	AML	18 55 11.0	
	comp=E,4μm,0.3s						
CAND	**Candarli**	0.38	9	Pg	**Pg**	**18 55 09.0**	**+0.3**
CAND				Sg	**Sg**	**18 55 13.9**	**0.0**
ZEYE	**Izmir, Urla-Ze**	0.39	207	P	**Pg**	**18 55 09.0**	**+0.2**
ZEYE				S	**Sb**	**18 55 15.0**	**-0.5**
ZEYE				*i* AML	AML	18 55 15.0	
	comp=E,5μm,0.3s						
ZEYE				*i* AML	AML	18 55 17.0	
	comp=N,4μm,0.4s						
RFT7	**Candarli**	0.40	22	Pg	**Pg**	**18 55 09.2**	**0.0**
RFT7				Sg	**Sg**	**18 55 15.4**	**+0.7**
CESE	**eme**	0.42	233	Pg	**Pg**	**18 55 09.7**	**+0.2**
CESE				Sg	**Sb**	**18 55 15.9**	**-0.6**
ZEDA	**zmir-Bergama**	0.47	35	P	**Pg**	**18 55 10.5**	**+0.1**
ZEDA				*i* AML	AML	18 55 17.0	
	comp=N,7μm,0.2s						
ZEDA				S	**Sg**	**18 55 17.3**	**+0.5**
ZEDA				*i* AML	AML	18 55 18.0	
	comp=E,3μm,0.2s						
EAG2	**Marmaro, Chios**	0.49	266	P	**Pg**	**18 55 11.0**	**+0.3**
EAG2				S	**Sb**	**18 55 18.2**	**-0.2**
EAG2				AML	AML	18 55 23.2	
	comp=N,45765μm,0.6s						
EAG2				AML	AML	18 55 23.9	
	comp=E,47772μm,0.3s						
DKL	**Dikili**	0.51	16	Pg	**Pg**	**18 55 11.1**	**0.0**
EAG3	**Mitilini, Lesv**	0.52	346	P	**Pg**	**18 55 10.6**	**-0.7**
EAG3				S	**Sg**	**18 55 18.4**	**+0.2**
EAG3				AML	AML	18 55 24.1	
	comp=E,11011μm,0.3s						
EAG3				AML	AML	18 55 24.6	
	comp=N,8483μm,0.2s						
GMLD	**Gumuldur**	0.53	163	Pg	**Pg**	**18 55 11.6**	**+0.1**
GMLD				Sg	**Sg**	**18 55 19.3**	**+0.8**
LESV	**Lesvos island,**	0.54	346	P	**Pg**	**18 55 11.7**	**0.0**
LESV				S	**Sg**	**18 55 19.4**	**+0.5**
	comp=N,15μm,0.4s						
DGB	**zmir**	0.54	167	P	**Pg**	**18 55 11.7**	**-0.1**
DGB				S	**Sg**	**18 55 18.6**	**-0.4**
DGB				*i* AML	AML	18 55 19.0	
	comp=N,1μm,0.2s						
DGB				*i* AML	AML	18 55 20.0	
	comp=N,2μm,0.2s						
CHOS	**Chios island**	0.56	250	P	**Pb**	**18 55 12.6**	**-0.2**
CHOS				S	**Sg**	**18 55 20.1**	**+0.5**
	comp=N,8μm,0.3s						
CHOS	**Chios island**	0.56	250	P	**Pb**	**18 55 12.6**	**-0.2**
CHOS				S	**Sb**	**18 55 20.4**	**-0.2**
CHOS				AML	AML	18 55 24.9	
	comp=N,16593μm,0.4s						
CHOS				AML	AML	18 55 26.5	
	comp=E,13966μm,0.2s						
AYVA	**Ayvalik**	0.73	358	P	**Pg**	**18 55 15.0**	**-0.2**
AYVA				S	**Sg**	**18 55 24.1**	**-0.7**
AYVA				*i* AML	AML	18 55 28.0	
	comp=E,1μm,0.2s						
AYVA				*i* AML	AML	18 55 28.0	
	comp=E,991nm,0.4s						
PRK	**Paraskevi**	0.75	332	P	**Pg**	**18 55 15.5**	**-0.2**
PRK				S	**Sb**	**18 55 26.9**	**+0.8**
	comp=E,7μm,0.4s						
PRK	**Paraskevi**	0.75	332	P	**Pg**	**18 55 15.6**	**-0.2**
PRK				S	**Sb**	**18 55 26.2**	**+0.1**
PRK				AML	AML	18 55 29.1	
	comp=N,11378μm,0.3s						
PRK				AML	AML	18 55 29.4	
	comp=E,16001μm,0.4s						
SMG	**Samos**	0.88	174	P	**Pg**	**18 55 17.6**	**-0.5**
SMG				S	**Sb**	**18 55 30.5**	**+0.8**
	comp=E,4μm,0.4s						
SMG	**Samos**	0.88	174	P	**Pg**	**18 55 17.6**	**-0.5**
SMG				S	**Sb**	**18 55 30.7**	**+1.0**
SMG				AML	AML	18 55 34.1	
	comp=E,6904μm,0.3s						
SMG				AML	AML	18 55 34.2	
	comp=N,9700μm,0.4s						
AKS	**Akhisar**	0.90	70	Pg	**Pg**	**18 55 18.2**	**-0.3**
AKHS	**Akhisar**	0.90	70	P	**Pg**	**18 55 18.5**	**0.0**
AKHS				S	**Sg**	**18 55 29.7**	**-0.7**
AKHS				*i* AML	AML	18 55 33.0	
	comp=N,758nm,0.3s						
AKHS				*i* AML	AML	18 56 01.0	
	comp=N,1.2nm,1.2s						
PSRA	**Psara**	0.91	268	P	**Pb**	**18 55 18.9**	**+0.2**
PSRA				S	**Sb**	**18 55 31.1**	**+0.4**
PSRA				AML	AML	18 55 34.6	
	comp=E,8140μm,0.3s						
PSRA				AML	AML	18 55 35.1	
	comp=N,5776μm,0.3s						
SIGR	**SIGRI**	0.93	313	Pg	**Pb**	**18 55 19.1**	**+0.2**
SIGR				Sg	**Sb**	**18 55 31.7**	**+0.7**
SIGR	**SIGRI**	0.93	313	P	**Pg**	**18 55 18.9**	**-0.1**
SIGR				S	**Sb**	**18 55 31.1**	**0.0**
	comp=N,2μm,0.5s						
SIGR	**SIGRI**	0.93	313	P	**Pg**	**18 55 18.9**	**-0.1**
SIGR				S	**Sb**	**18 55 31.8**	**+0.7**
SIGR				AML	AML	18 55 34.0	
	comp=E,5633μm,0.5s						
SIGR				AML	AML	18 55 35.4	
	comp=N,3776μm,0.5s						
GOMA	**Golmarmara-Man**	0.94	82	Pg	**Pg**	**18 55 19.3**	**0.0**
BUHA	**Balikesir, Bur**	0.96	16	P	**Pg**	**18 55 19.0**	**-0.6**
BUHA				S	**Sg**	**18 55 32.1**	**0.0**
GCAM	**G?zelcaml?**	0.97	155	Pg	**Pb**	**18 55 19.6**	**0.0**
GCAM	**G?zelcaml?**	0.97	155	P	**Pb**	**18 55 19.7**	**+0.1**
GCAM				S	**Sg**	**18 55 31.8**	**-0.6**
GPNR	**Gulpinar-Canak**	0.99	332	Pg	**Pg**	**18 55 20.2**	**0.0**
KOCA	**Canakkale, Ayv**	1.03	334	P	**Pg**	**18 55 20.9**	**0.0**
KOCA				S	**Sb**	**18 55 34.1**	**0.0**
IZMR	**zmir-demi**	1.06	114	P	**Pb**	**18 55 21.5**	**+0.2**
IZMR				P	**Pb**	**18 55 21.5**	**+0.2**
IZMR				S	**Sb**	**18 55 34.0**	**-1.0**
IZMR				S	**Sg**	**18 55 34.3**	**-1.1**
STEP	**BALIKESIR_Sava**	1.11	44	P	**Pb**	**18 55 21.9**	**-0.1**
STEP				S	**Sb**	**18 55 35.6**	**-0.8**
BAYC	**CANAKKALE_Bayr**	1.17	353	P	**Pb**	**18 55 22.5**	**-0.5**
BAYC				S	**Sb**	**18 55 37.0**	**-1.1**
DDIM	**Aydin, Didim**	1.20	160	P	**Pn**	**18 55 23.0**	**-0.4**
DDIM				S	**Sb**	**18 55 38.9**	**+0.1**
EZN	**Ezine**	1.28	346	Pn	**Pn**	**18 55 24.2**	**-0.4**
EZN	**Ezine**	1.28	346	P	**Pn**	**18 55 23.9**	**-0.7**
EZN				S	**Sn**	**18 55 41.8**	**+0.3**
	comp=N,952nm,0.5s						
BALY	**Balya**	1.35	31	P	**Pn**	**18 55 25.9**	**+0.3**
BALY				S	**Sn**	**18 55 43.8**	**+0.5**
KIRA	**zmir-Kiraz**	1.37	106	P	**Pb**	**18 55 26.6**	**0.0**
KIRA				S	**Sn**	**18 55 43.4**	**-0.5**
KIRA				*i* AML	AML	18 55 48.0	
	comp=N,402nm,0.2s						
KIRA				*i* AML	AML	18 55 48.0	
	comp=N,391nm,0.3s						
MANT	**Manisa**	1.44	93	P	**Pn**	**18 55 27.1**	**+0.1**
MANT				S	**Sb**	**18 55 46.9**	**+0.8**
CANM	**Can-anakkale**	1.45	10	Pn	**Pn**	**18 55 27.1**	**+0.2**
BKES	**Balkesir-Mer**	1.48	39	P	**Pn**	**18 55 27.4**	**0.0**
BKES				S	**Sn**	**18 55 46.2**	**-0.4**
BKES				*i* AML	AML	18 55 51.0	
	comp=N,524nm,0.7s						
BKES				*i* AML	AML	18 55 53.0	
	comp=N,402nm,0.3s						
ESEN	**Aydn-Nazilli**	1.50	121	P	**Pn**	**18 55 27.8**	**+0.2**
ESEN				S	**Sn**	**18 55 47.0**	**+0.1**
ESEN				*i* AML	AML	18 55 53.0	
	comp=N,323nm,0.4s						
ESEN				*i* AML	AML	18 55 54.0	
	comp=N,196nm,0.3s						
CNKL	**anakkale-Mer**	1.50	350	P	**Pn**	**18 55 27.5**	**-0.2**
CNKL				S	**Sn**	**18 55 45.4**	**-1.7**
CNKL				*i* AML	AML	18 55 52.0	
	comp=N,458nm,0.5s						
CNKL				*i* AML	AML	18 55 56.0	
	comp=N,318nm,0.5s						
KULA	**Kula-Manisa**	1.52	92	Pn	**Pn**	**18 55 28.8**	**+0.9**
KULA	**Kula-Manisa**	1.52	92	P	**Pn**	**18 55 28.1**	**+0.2**
KULA				S	**Sb**	**18 55 49.0**	**+0.8**
YKAV	**Yalikavak-Bodr**	1.52	163	Pn	**Pn**	**18 55 28.6**	**+0.7**
ECEA	**Canakkale, Ece**	1.52	344	P	**Pn**	**18 55 28.4**	**+0.5**
ECEA				S	**Sn**	**18 55 47.5**	**0.0**
COMU	**Canakkale**	1.53	353	Pn	**Pn**	**18 55 28.0**	**0.0**
MLSB	**Milas**	1.53	147	Pn	**Pn**	**18 55 27.9**	**-0.1**
BODT	**Bodrum**	1.59	163	Pn	**Pn**	**18 55 28.5**	**-0.3**
BODT	**Bodrum**	1.59	163	P	**Pn**	**18 55 28.5**	**-0.3**
BODT				S	**Sn**	**18 55 49.4**	**+0.3**
TNSA	**Tinos**	1.61	230	P	**Pn**	**18 55 28.2**	**-1.0**
TNSA				AML	AML	18 55 53.8	
	comp=E,806μm,0.6s						
TNSA				AML	AML	18 55 55.6	
	comp=N,894μm,0.5s						
BDRM	**Kayabasi**	1.62	159	P	**Pn**	**18 55 29.0**	**-0.2**
GONE	**Gonen-Balikesi**	1.64	27	Pn	**Pn**	**18 55 29.9**	**+0.4**
RFTB	**Kemer-Bodrum**	1.67	165	Pn	**Pn**	**18 55 29.6**	**-0.3**
DURS	**Dursunbey**	1.70	53	P	**Pn**	**18 55 30.6**	**+0.2**
DURS				S	**Sn**	**18 55 50.8**	**-1.2**
GOAD	**anakkale-G¶**	1.70	338	P	**Pn**	**18 55 30.5**	**+0.1**
GOAD				S	**Sn**	**18 55 50.0**	**-1.9**
GADA	**Gvkgeada**	1.73	338	Pn	**Pn**	**18 55 30.7**	**-0.1**
RFTAA	**Mazikoy-Bodrum**	1.78	153	Pn	**Pn**	**18 55 31.1**	**-0.3**
LIA	**Limnos Island**	1.78	318	P	**Pn**	**18 55 31.7**	**+0.3**
LIA				S	**Sn**	**18 55 54.0**	**+0.2**
	comp=N,1μm,0.8s						
LIA	**Limnos Island**	1.78	318	P	**Pn**	**18 55 31.6**	**+0.3**
LIA				S	**Sn**	**18 55 53.1**	**-0.7**
LIA				AML	AML	18 56 00.8	
	comp=N,2553μm,0.8s						
LIA				AML	AML	18 56 05.2	
	comp=E,2488μm,0.9s						
APE	**Apeiranthos**	1.78	212	⇑P	**Pn**	**18 55 30.9**	**-0.6**
APE				S	**Sn**	**18 55 53.6**	**-0.4**
APE	**Apeiranthos**	1.78	212	Pn	**Pn**	**18 55 30.4**	**-1.1**
APE	**Apeiranthos**	1.78	212	P	**Pn**	**18 55 30.5**	**-1.1**
APE				S	**Sn**	**18 55 53.9**	**-0.1**
	comp=E,225nm,0.4s						
APE	**Apeiranthos**	1.78	212	P	**Pn**	**18 55 30.4**	**-1.1**
APE				AML	AML	18 56 04.7	
	comp=E,336μm,0.3s						
APE				AML	AML	18 56 07.0	
	comp=N,414μm,0.2s						
LPK	**Lapseki**	1.79	1	Pn	**Pn**	**18 55 31.7**	**+0.1**
DST	**Dursunbey**	1.79	55	Pn	**Pn**	**18 55 31.6**	**-0.1**
USAK	**Uak-Merkez**	1.80	85	P	**Pb**	**18 55 34.0**	**+0.2**
USAK				*i* AML	AML	18 55 58.0	
	comp=N,44nm,1.5s						
USAK				*i* AML	AML	18 55 59.0	
	comp=N,53nm,0.5s						
GELI	**Tayfur-Gelibol**	1.82	354	Pn	**Pn**	**18 55 32.3**	**+0.3**
SIMA	**Simav-Kutahya**	1.83	73	Pn	**Pn**	**18 55 33.2**	**+0.9**
KRBG	**Karabiga-Canak**	1.86	14	Pn	**Pn**	**18 55 32.5**	**-0.1**
YER	**Yerkesik**	1.90	139	Pn	**Pn**	**18 55 33.3**	**+0.1**
YER	**Yerkesik**	1.90	139	P	**Pn**	**18 55 33.2**	**+0.1**
DAT	**Datca**	1.97	160	Pn	**Pn**	**18 55 33.8**	**-0.4**
DAT	**Datca**	1.97	160	P	**Pn**	**18 55 33.9**	**-0.3**
DAT				S	**Sn**	**18 55 57.2**	**-1.5**
DAT	**Datca**	1.97	160	P	**Pn**	**18 55 33.8**	**-0.4**
EDC	**Edincik**	1.97	26	Pn	**Pn**	**18 55 33.9**	**-0.2**
KYMI	**Kymi, Euboea I**	2.06	272	P	**Pn**	**18 55 35.4**	**+0.1**
KYMI	**Kymi, Euboea I**	2.06	272	P	**Pn**	**18 55 35.8**	**+0.5**
KYMI				AML	AML	18 56 16.5	
	comp=E,147μm,0.7s						
KYMI				AML	AML	18 56 20.0	
	comp=N,150μm,0.7s						
BAND	**Balkesir-Ban**	2.06	31	P	**Pn**	**18 55 35.6**	**+0.3**
BAND				S	**Sn**	**18 56 00.9**	**0.0**
ENZZ	**Sultanice-Enez**	2.07	348	Pn	**Pn**	**18 55 36.3**	**+0.8**
ERIK	**Erikli-Kesan**	2.09	356	Pn	**Pn**	**18 55 36.4**	**+0.7**
SMTH	**Samothraki Isl**	2.10	334	P	**Pn**	**18 55 36.0**	**+0.1**
SMTH				S	**Sn**	**18 56 03.0**	**+1.2**
	comp=N,150nm,0.2s						
SMTH	**Samothraki Isl**	2.10	334	P	**Pn**	**18 55 35.9**	**0.0**
SMTH				S	**Sn**	**18 56 00.3**	**-1.5**
SMTH				AML	AML	18 56 11.4	
	comp=N,326μm,0.3s						
SMTH				AML	AML	18 56 12.9	
	comp=E,270μm,0.2s						
KCTX	**Karacabey (Bur**	2.10	36	Pn	**Pn**	**18 55 36.5**	**+0.6**
RKY	**Sarkoy-Tekirda**	2.13	9	Pn	**Pn**	**18 55 36.2**	**-0.1**
GEDZ	**Gediz**	2.15	77	Pn	**Pn**	**18 55 37.8**	**+1.2**
ENEZ	**Enez**	2.20	349	Pn	**Pn**	**18 55 37.8**	**+0.6**
ENEZ	**Enez**	2.20	349	P	**Pn**	**18 55 37.8**	**+0.6**
ENEZ				S	**Sn**	**18 56 04.9**	**+0.8**
	comp=E,452nm,0.4s						
ORLT	**Orhaneli**	2.23	48	Pn	**Pn**	**18 55 38.9**	**+1.2**
DION	**Dionisos Attik**	2.25	258	P	**Pn**	**18 55 39.0**	**+1.0**
DION	**Dionisos Attik**	2.25	258	P	**Pn**	**18 55 38.9**	**+1.0**
DION				AML	AML	18 56 23.4	
	comp=E,349μm,0.4s						
DION				AML	AML	18 56 30.5	
	comp=N,346μm,0.5s						
TVSB	**Tavsanli**	2.30	67	Pn	**Pn**	**18 55 39.4**	**+0.7**
ALN	**Alexandroupoli**	2.37	347	Pn	**Pn**	**18 55 39.7**	**+0.1**
ALN	**Alexandroupoli**	2.37	347	P	**Pn**	**18 55 39.7**	**+0.1**
ALN				S	**Sn**	**18 56 08.8**	**+0.4**
	comp=N,170nm,0.4s						
ALN	**Alexandroupoli**	2.37	347	P	**Pn**	**18 55 39.6**	**+0.1**
ALN				AML	AML	18 56 18.8	
	comp=N,421μm,0.6s						
ALN				AML	AML	18 56 19.1	
	comp=E,263μm,0.3s						
SNT5	**Nea Kammeni, S**	2.42	206	P	**Pn**	**18 55 39.6**	**-0.6**
SNT5				AML	AML	18 56 28.2	
	comp=N,319μm,0.2s						
SNT5				AML	AML	18 56 28.3	
	comp=E,674μm,0.3s						
VLY	**Voula,Athens**	2.42	253	P	**Pn**	**18 55 40.3**	**0.0**
THAS	**Thassos island**	2.55	323	P	**Pn**	**18 55 42.0**	**0.0**
THAS				S	**Sn**	**18 56 12.9**	**+0.1**
	comp=E,108nm,0.6s						
THAS	**Thassos island**	2.55	323	P	**Pn**	**18 55 41.9**	**0.0**
THAS				AML	AML	18 56 29.9	
	comp=N,202μm,0.7s						
THAS				AML	AML	18 56 30.0	
	comp=E,232μm,0.5s						
ARG	**Arkhangelos**	2.61	154	P	**Pn**	**18 55 42.9**	**0.0**
RDO	**Rodhopi**	2.72	341	Pn	**Pn**	**18 55 44.8**	**+0.4**
RDO	**Rodhopi**	2.72	341	P	**Pn**	**18 55 44.5**	**+0.1**
RDO				AML	AML	18 56 19.5	
	comp=N,115μm,0.3s						
RDO				AML	AML	18 56 33.7	
	comp=E,92μm,0.5s						
PAIG	**Paliouri**	2.72	301	P	**Pn**	**18 55 44.2**	**-0.2**
OUR	**Ouranopolis**	2.75	310	P	**Pn**	**18 55 45.1**	**+0.3**
OUR	**Ouranopolis**	2.75	310	P	**Pn**	**18 55 45.2**	**+0.3**
OUR				AML	AML	18 56 31.9	
	comp=N,314μm,0.5s						
OUR				AML	AML	18 56 32.5	
	comp=E,388μm,0.5s						
KAVA	**Kavala**	2.95	325	P	**Pn**	**18 55 47.9**	**+0.3**
KOKK	**Kokkinochori,**	3.07	318	P	**Pn**	**18 55 49.4**	**+0.2**
KOKK	**Kokkinochori,**	3.07	318	P	**Pn**	**18 55 49.3**	**+0.2**
SRS	**Serrai**	3.50	317	P	**Pn**	**18 55 55.3**	**+0.2**
NVR	**Nevrokopi**	3.53	322	P	**Pn**	**18 55 57.2**	**+1.6**
ELND	**Elena**	4.39	352	⇑P	**Pn**	**18 56 07.2**	**-0.1**
ELND				S	**Sn**	**18 56 57.9**	**-0.4**
RAZG	**Razgrad**	4.98	358	⇑P	**Pn**	**18 56 16.2**	**+0.7**
BLKB	**Belogradchik**	5.89	330	⇑P	**Pn**	**18 56 28.6**	**+0.6**
BOVS	**Bovan**	6.31	325	⇓P	**Pn**	**18 56 34.2**	**+0.5**
MLR	**Muntele Rosu**	6.93	355	⇓P	**Pn**	**18 56 43.9**	**+1.6**
VOIR		6.96	350	⇑P	**Pn**	**18 56 43.6**	**+0.9**
MDVR	**Moldovita**	7.24	330	⇑P	**Pn**	**18 56 46.0**	**-0.5**
PLOR	**Plostina**	7.26	360	⇑P	**Pn**	**18 56 47.8**	**+0.9**
GZR	**Gura Zlata**	7.41	338	⇓P	**Pn**	**18 56 48.9**	**0.0**
BZS	**Buzias**	7.99	333	⇑P	**Pn**	**18 56 55.9**	**-0.8**
MARR	**Marisel-Cluj**	8.51	343	⇑P	**Pn**	**18 57 05.2**	**+1.2**
BURAR	**Bucovina Array**	9.10	354	P	**Pn**	**18 57 12.5**	**+0.5**

*ISK **25** 18:56:50.9, 38.60N×26.71E, h6km, ML2.2/11*
*AFAD **25** 18:56:51.1±0.0, 38.56N×26.76E, h8km±2km, ML2.3*
*THE **25** 18:56:51.5, 38.58N×26.73E, h8km±1km, ML2.5/5, Error ellipse: s-maj=1.8km s-min=0.4km az=274.0*
ISC 25 18:56:51.1±0.9, 38.58N±0.02×26.73E±0.03, h11km±9km, n25, σ0.46/36, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOCM	**Foa**	0.14	1	Pg	**Pg**	**18 56 53.9**	**-0.4**
KARB	**zmir-Karabur**	0.26	289	P	**Pg**	**18 56 56.8**	**+0.3**
KARB				S	**Sg**	**18 57 00.5**	**+0.4**
KARB				*i* AML	AML	18 57 01.0	
	comp=N,328nm,0.2s						
KARB				*i* AML	AML	18 57 01.0	
	comp=E,532nm,0.2s						
CAND	**Candarli**	0.38	9	Pg	**Pg**	**18 56 58.7**	**0.0**
ZEYE	**Izmir, Urla-Ze**	0.38	208	P	**Pg**	**18 56 58.9**	**+0.3**
ZEYE				*i* AML	AML	18 57 05.0	
	comp=E,413nm,0.3s						
ZEYE				S	**Sb**	**18 57 05.2**	**-0.5**
ZEYE				*i* AML	AML	18 57 07.0	
	comp=N,373nm,0.2s						
RFT7	**Candarli**	0.41	21	Pg	**Pg**	**18 56 58.6**	**-0.6**
RFT7				Sg	**Sg**	**18 57 05.0**	**+0.4**
ZEDA	**zmir-Bergama**	0.47	35	P	**Pg**	**18 57 00.3**	**-0.1**
ZEDA				*i* AML	AML	18 57 07.0	
	comp=N,339nm,0.3s						
ZEDA				S	**Sg**	**18 57 07.1**	**+0.4**
ZEDA				*i* AML	AML	18 57 08.0	
	comp=E,172nm,0.3s						
DKL	**Dikili**	0.51	16	Pg	**Pg**	**18 57 01.2**	**+0.1**
GMLD	**Gumuldur**	0.52	164	Pg	**Pb**	**18 57 02.2**	**0.0**
DGB	**zmir**	0.54	167	P	**Pg**	**18 57 01.7**	**+0.1**
DGB				S	**Sg**	**18 57 08.4**	**-0.3**
LESV	**Lesvos island,**	0.55	346	P	**Pg**	**18 57 01.9**	**+0.2**
LESV				S	**Sb**	**18 57 10.1**	**-0.4**
	1μm,0.3s						
CHOS	**Chios island**	0.56	250	P	**Pb**	**18 57 02.6**	**-0.4**
CHOS				S	**Sb**	**18 57 10.5**	**-0.5**
	712nm,0.3s						
PRK	**Paraskevi**	0.76	332	P	**Pb**	**18 57 06.2**	**-0.1**
PRK				S	**Sb**	**18 57 17.2**	**+0.6**
	405nm,0.4s						
SMG	**Samos**	0.87	174	P	**Pg**	**18 57 08.1**	**+0.2**
SMG				S	**Sb**	**18 57 20.5**	**+0.7**
	258nm,0.3s						
SIGR	**SIGRI**	0.93	313	Pg	**Pg**	**18 57 08.9**	**-0.1**
SIGR	**SIGRI**	0.93	313	P	**Pg**	**18 57 09.1**	**+0.1**
SIGR				S	**Sb**	**18 57 22.5**	**+1.0**
	160nm,0.6s						
GCAM	**G?zelcaml?**	0.96	155	Pg	**Pg**	**18 57 09.7**	**+0.1**
GPNR	**Gulpinar-Canak**	0.99	332	Pg	**Pg**	**18 57 09.3**	**-0.9**
KOCA	**Canakkale, Ayv**	1.03	334	P	**Pb**	**18 57 11.3**	**+0.3**
KOCA				S	**Sg**	**18 57 23.8**	**-0.6**
EZN	**Ezine**	1.29	346	Pn	**Pn**	**18 57 15.4**	**+0.5**
EZN	**Ezine**	1.29	346	P	**Pn**	**18 57 14.4**	**-0.5**
KULA	**Kula-Manisa**	1.52	92	Pn	**Pb**	**18 57 19.5**	**+0.3**
KULA	**Kula-Manisa**	1.52	92	P	**Pn**	**18 57 17.6**	**-0.6**
COMU	**Canakkale**	1.53	353	Pn	**Pn**	**18 57 19.0**	**+0.6**
BODT	**Bodrum**	1.58	163	P	**Pn**	**18 57 18.6**	**-0.4**
LIA	**Limnos Island**	1.78	318	P	**Pn**	**18 57 21.5**	**-0.3**

*UPP **25** 18:56:55.9±0.1, 67.19N×20.68E, h0km, ML3.4, Confirmed Induced event*
*IDC **25** 18:56:56.6±0.7, 67.14N×20.88E, h0km, mb3.2/1, mbtmp3.5/7, ML3.1/6, Error ellipse: s-maj=12.9km s-min=6.6km az=112.0*
*HEL **25** 18:56:56.7±0.0, 67.18N×20.67E, h1km, ML2.7, ML3.4(UPP), Confirmed Induced event*
*DNK **25** 18:56:56.4±0.6, 67.18N×20.66E, h0km, ML3.4(UPP), Suspected explosion*
ISC 25 18:56:55.6±0.6, 67.19N±0.02×20.72E±0.02, h0km, n75, σ1.8/18/117, 32D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	0.09	220	⇓P	**Pg**	**18 56 57.8**	**+0.5**
DUNU				S	**Sg**	**18 56 58.9**	**+0.4**
DUNU	**Dundret**	0.09	220	⇓P	**Pg**	**18 56 57.8**	**+0.5**
DUNU				S	**Sg**	**18 56 58.9**	**+0.4**
DUNU	**Dundret**	0.09	220	⇓*i*P	**Pg**	**18 56 57.8**	**+0.5**
DUNU				*i* S	**Sg**	**18 56 58.9**	**+0.4**
RATU	**Laukkuluspa**	0.77	326	⇓P	**Pg**	**18 57 10.3**	**-0.1**
RATU				S	**Sg**	**18 57 20.6**	**+0.3**
RATU	**Laukkuluspa**	0.77	326	⇓P	**Pg**	**18 57 10.3**	**-0.1**
RATU				S	**Sg**	**18 57 20.6**	**+0.3**
RATU	**Laukkuluspa**	0.77	326	⇓*i*P	**Pg**	**18 57 10.3**	**-0.1**
RATU				*i* S	**Sg**	**18 57 20.6**	**+0.3**
KUA	**Kurravaara**	0.78	349	⇓

	comp=Z,62nm,0.2s								
LILU	**Lilltraesk**	**1.95**	**191**	⇓	*e*P		**Pn**	**18 57 30.3**	**+0.4**
LILU	**Lilltraesk**	**1.95**	**191**	⇓	*e*P		**Pn**	**18 57 30.3**	**+0.4**
LILU	**Lilltraesk**	**1.95**	**191**	⇓	*e*P		**Pn**	**18 57 30.3**	**+0.4**
KTK1	**Kautokeino**	**2.06**	**26**		*e*P		**Pb**	**18 57 33.2**	**-0.6**
KTK1					*e*S		**Sb**	**18 57 59.3**	**-0.6**
RNF	**Rovaniemi**	**2.17**	**103**		*e*P		**Pn**	**18 57 34.3**	**+1.4**
RNF					MSG			18 58 06.0	
	comp=Z,114nm,0.3s								
SGF	**Sodankyl**	**2.27**	**81**		*e*P		**Pn**	**18 57 35.4**	**+1.1**
SGF					*e*SB		**Sb**	**18 58 06.2**	**+0.4**
SGF					MSG			18 58 08.2	
	comp=Z,51nm,0.2s								
TRO	**Tromso**	**2.54**	**346**		*e*P		**Pn**	**18 57 39.0**	**+1.0**
TRO					*e*SG		**Sb**	**18 58 14.5**	**+0.8**
BURU	**Burvik**	**2.63**	**174**		*e*P		**Pn**	**18 57 40.5**	**+1.2**
BURU					*e*S		**Sn**	**18 58 12.3**	**+0.4**
RANF	**Ranua**	**2.70**	**113**		*e*P		**Pn**	**18 57 41.2**	**+1.1**
ARA0	**ARCESS Array S**	**2.95**	**35**		*e*P		**Pn**	**18 57 44.6**	**+1.0**
ARA0					*e*S		**Sn**	**18 58 20.7**	**+1.1**
ARCES	**ARCESS Array B**	**2.95**	**35**		Pn		**Pn**	**18 57 44.6**	**+1.0**
	comp=Z,3.1nm,0.3s,baz=215,slow=13,SNR=354								
ARCES					Sn		**Sn**	**18 58 22.0**	**+2.4**
	comp=Z,5.7nm,0.3s,baz=214,slow=23,SNR=11								
	comp=Z,11nm,0.4s								
OUL	**Oulu**	**2.98**	**133**		*e*P		**Pn**	**18 57 45.5**	**+1.4**
OUL					*e*SG		**Sb**	**18 58 28.3**	**+1.8**
OBF4	**Vikkela, Lumij**	**2.99**	**141**		*e*P		**Pn**	**18 57 45.4**	**+1.2**
OUF	**Merijarvi**	**3.28**	**148**		*e*P		**Pn**	**18 57 49.4**	**+1.2**
OUF					*e*SG		**Sb**	**18 58 38.2**	**+3.1**
UMAU	**Umeaa**	**3.32**	**180**		*e*P		**Pn**	**18 57 49.6**	**+0.9**
KEV	**Kevo**	**3.46**	**39**		*e*P		**Pn**	**18 57 51.6**	**+1.0**
KEV					MSG			18 58 46.0	
	comp=Z,27nm,0.2s								
VRF	**Varrio**	**3.47**	**77**		*e*P		**Pn**	**18 57 51.8**	**+1.0**
OLKF	**Oulanka, Finla**	**3.55**	**100**		*e*P		**Pn**	**18 57 52.8**	**+0.9**
OLKF					*e*SG		**Sg**	**18 58 47.6**	**-1.9**
MSF	**Maaselka**	**3.57**	**107**		*e*P		**Pn**	**18 57 53.1**	**+1.0**
MSF					*e*SG		**Sg**	**18 58 47.4**	**-2.7**
KU6	**Riekki**	**3.84**	**104**		*e*P		**Pn**	**18 57 57.0**	**+1.2**
KU6					*e*SG		**Sg**	**18 58 56.7**	**-2.2**
VAF	**Ylistaro**	**4.25**	**168**		*e*P		**Pn**	**18 58 02.8**	**+1.4**
HEMU	**Hemsoen**	**4.68**	**195**		*e*P		**Pn**	**18 58 07.9**	**+0.6**
HEMU					*e*SG		**Sb**	**18 59 19.9**	**+4.8**
RMF	**Romuvaara**	**4.83**	**124**		*e*P		**Pn**	**18 58 10.7**	**+1.1**
NIF	**Nilsia**	**4.84**	**139**		*e*P		**Pn**	**18 58 11.0**	**+1.4**
SUF	**Sumiainen**	**5.05**	**150**		*e*P		**Pn**	**18 58 13.8**	**+1.4**
KPF	**Kankaanpaa**	**5.41**	**173**		*e*P		**Pn**	**18 58 18.0**	**+0.5**
JOF	**Joensuu**	**6.20**	**129**		*e*P		**Pn**	**18 58 29.1**	**+0.9**
FINES	**FINESS Array B**	**6.22**	**156**		Pn		**Pn**	**18 58 29.7**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=347,slow=12,SNR=69								
FINES					Sn		**Sn**	**18 59 37.5**	**-2.8**
	comp=Z,0.8nm,0.3s,baz=346,slow=23,SNR=3.5								
FINES					Lg		Lg	19 00 11.4	
	comp=Z,4.9nm,0.3s,baz=342,slow=30,SNR=12								
	comp=Z,4.2nm,0.4s								
AAL	**Aland**	**7.05**	**183**		*e*P		**Pn**	**18 58 39.9**	**0.0**
MEF	**Metsahovi**	**7.19**	**165**		*e*P		**Pn**	**18 58 42.7**	**+0.9**
NOA	**NORSAR Array B**	**7.44**	**218**		Pn		**Pn**	**18 58 45.1**	**-0.2**
	baz=28,slow=11,SNR=15								
NOA					Sn		**Sn**	**19 00 06.3**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=38,slow=21,SNR=5.6								
NOA					Lg		Lg	19 00 50.6	
	comp=Z,0.1nm,0.3s,baz=37,slow=24,SNR=6.2								
	comp=Z,0.2nm,0.3s								
HFS	**Hagfors**	**7.74**	**207**		Pn		**Pn**	**18 58 47.9**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=24,slow=12,SNR=27								
HFS					Sn		**Sn**	**19 00 13.4**	**-4.1**
	comp=Z,1.1nm,0.3s,baz=26,slow=24,SNR=8.7								
HFS					Lg		Lg	19 00 58.8	
	comp=Z,1.0nm,0.3s,baz=29,slow=27,SNR=3.7								
	comp=Z,1.2nm,0.3s								
KLMR	**Klimovskoe**	**10.37**	**119**		*e*P		**Pn**	**18 59 22.8**	**-2.6**
	comp=Z,30nm,2.1s								
KLMR					*e*S		Sn	19 01 12.1	-10
SPITS	**Spitsbergen Ar**	**11.12**	**355**		Pn		**Pn**	**18 59 35.2**	**-0.3**
	baz=170,slow=18								
	comp=Z,12nm,0.9s								
AKASG	**Malin Array Be**	**17.08**	**161**		P		**Pn**	**19 00 55.5**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=346,slow=13,SNR=3.1								
	comp=Z,0.5nm,0.5s								
TORD	**Torodi Ar. Bea**	**55.45**	**203**		P		**P**	**19 06 31.2**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=19,slow=7.6,SNR=1.8								
	comp=Z,0.3nm,0.8s								

*CATAC **25** 19:30:47.7±0.3, 12°.47N×87°.57W, h40km±6km, ML3.6*
*SNET **25** 19:30:49.2±2.6, 12°.61N×87°.63W, h32km, ML3.9*
ISC 25 19:30:47.9±1.4, 12°.48N±0°.06×87°.58W±0°.04, h57km±13km, n45, σ0°82/55, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHNN	**El Viejo**	**0.47**	**72**	*i* P			**Pn**	**19 30 58.5**	**-0.8**
CHNN				*i* S			**Sn**	**19 31 07.7**	**+0.1**
CHNN				IAML				19 31 08.5	
	comp=Z,8μm,1.0s								
CSGN	**Cosiguina Volc**	**0.50**	**3**	*i* P			**Pn**	**19 30 58.6**	**-1.1**
CSGN				IAML				19 30 59.3	
	comp=Z,34μm,1.0s								
CRIN	**San Cristobal**	**0.57**	**67**	⇓	*e*P			**19 31 00.8**	**+0.3**
CRIN					*e*S		**Sn**	**19 31 11.0**	**+1.4**
CRIN	**San Cristobal**	**0.57**	**67**	*i* P			**Pn**	**19 31 00.6**	**+0.1**
CRIN				IAML				19 31 01.0	
	comp=Z,21μm,1.0s								
CRIN				*i* S			**Sn**	**19 31 11.9**	**+2.3**
POLN	**Al Sur del Vol**	**0.77**	**77**	*i* P			**Pn**	**19 31 02.2**	**-0.7**
POLN				*i* S			**Sn**	**19 31 13.8**	**-0.1**
POLN				IAML				19 31 15.5	
	comp=Z,24nm,1.0s								
AMPH	**Amapala**	**0.81**	**355**	*i* P			**Pn**	**19 31 02.5**	**-0.8**
AMPH				*i* S			**Sn**	**19 31 15.0**	**+0.3**
CNCH	**Conchagua**	**0.83**	**343**	*e*P			**Pn**	**19 31 03.1**	**-0.6**
CNCH				*e*S			**Sn**	**19 31 15.2**	**-0.2**
CNGA	**Al SSO del Vol**	**0.86**	**89**	*i* P			**Pn**	**19 31 03.5**	**-0.6**
CNGA				*i* S			**Sn**	**19 31 15.9**	**-0.1**
CNGA				IAML				19 31 17.5	
	comp=Z,3μm,1.0s								
CNGN	**Cerro Negro**	**0.86**	**88**	*e*P			**Pn**	**19 31 03.8**	**-0.3**
CNGN				*e*S			**Sn**	**19 31 16.2**	**+0.2**
CNGN	**Cerro Negro**	**0.86**	**88**	*i* P			**Pn**	**19 31 03.0**	**-1.1**
CNGN				IAML				19 31 23.2	
	comp=Z,3μm,1.0s								
LCND	**La Caada**	**0.88**	**340**	*e*P			**Pn**	**19 31 03.7**	**-0.6**
MOMN	**Momotombo**	**1.02**	**94**	*i* P			**Pn**	**19 31 05.4**	**-0.8**
MOMN				IAML				19 31 23.2	
	comp=Z,84nm,1.0s								
MOM2	**El Cardon**	**1.07**	**92**	*i* P			**Pn**	**19 31 05.9**	**-0.9**
MOM2				IAML				19 31 23.8	
	comp=Z,1μm,1.0s								
LCY	**Lacayo**	**1.17**	**324**	*e*P			**Pn**	**19 31 07.6**	**-0.5**
RANC	**El Ranchito**	**1.17**	**324**	*e*P			**Pn**	**19 31 07.7**	**-0.6**
PACA	**Pacayal**	**1.22**	**324**	*e*P			**Pn**	**19 31 08.4**	**-0.5**
PACA	**Pacayal**	**1.22**	**324**	*i* P			**Pn**	**19 31 08.6**	**-0.3**
PACA				IAML				19 31 25.3	
	comp=Z,18μm,1.0s								
ALJI	**Alcalda de J**	**1.28**	**311**	*i* P			**Pn**	**19 31 11.2**	**+1.7**
ALJI				IAML				19 31 27.4	
	comp=Z,990nm,1.0s								
LIMN	**Finca el Limon**	**1.32**	**64**	*i* P			**Pn**	**19 31 09.7**	**-0.5**
LIMN				IAML				19 31 29.1	
	comp=Z,890nm,1.0s								
TISN	**Laguna Tiscapa**	**1.33**	**104**	*i* P			**Pn**	**19 31 08.1**	**-2.1**
TISN				IAML				19 31 26.3	
	comp=Z,100nm,1.0s								
TECA	**Tecapa**	**1.35**	**319**	*e*P			**Pn**	**19 31 10.5**	**-0.1**
TECA				*e*S			**Sn**	**19 31 27.2**	**-0.6**
PQSS	**Presa 15 de Se**	**1.48**	**320**	*e*P			**Pn**	**19 31 12.0**	**-0.3**
PQSS	**Presa 15 de Se**	**1.48**	**320**	*i* P			**Pn**	**19 31 11.8**	**-0.5**
PQSS				IAML				19 31 35.1	
	comp=Z,390nm,1.0s								
TGUH	**Tegucigalpa,Un**	**1.60**	**11**	*e*P			**Pn**	**19 31 14.2**	**+0.2**
TGUH				*e*S			**Sn**	**19 31 34.2**	**+0.6**
TGUH	**Tegucigalpa,Un**	**1.60**	**11**	*i* P			**Pn**	**19 31 13.8**	**-0.2**
TGUH				IAML				19 31 14.5	
	comp=Z,520nm,1.0s								
YUSH	**Yuscaran**	**1.64**	**26**	*i* P			**Pn**	**19 31 14.5**	**0.0**
UESV	**Universidad de**	**1.64**	**315**	*i* P			**Pn**	**19 31 13.6**	**-0.9**
UESV				IAML				19 31 38.5	
	comp=Z,470nm,1.0s								
SCLA	**Alcaldia de Sa**	**1.65**	**318**	*e*P			**Pn**	**19 31 14.4**	**-0.2**
MATN	**Matagalpa**	**1.68**	**74**	*i* P			**Pn**	**19 31 14.5**	**-0.5**
MATN				IAML				19 31 49.9	
	comp=Z,190nm,1.0s								
COEG	**Centro de Oper**	**1.70**	**312**	*e*P			**Pn**	**19 31 14.7**	**-0.6**
COEG	**Centro de Oper**	**1.70**	**312**	*i* P			**Pn**	**19 31 14.7**	**-0.6**
COEG				IAML				19 31 39.6	
	comp=Z,680nm,1.0s								
RCPN	**Sur Rio San Ju**	**1.79**	**54**	*i* P			**Pn**	**19 31 15.8**	**-0.7**
RCPN				IAML				19 31 16.7	
	comp=Z,7.8nm,1.0s								
SJTE	**Alcalda de S**	**1.79**	**309**	*e*P			**Pn**	**19 31 15.4**	**-1.1**
SJTE	**Alcalda de S**	**1.79**	**309**	*i* P			**Pn**	**19 31 15.2**	**-1.3**
SJTE				IAML				19 31 43.4	
	comp=Z,580nm,1.0s								
BOAB	**BOACO BROADBAN**	**1.87**	**91**	*i* P			**Pn**	**19 31 16.6**	**-1.0**
BOAB				IAML				19 31 41.4	
	comp=Z,150nm,1.0s								
LOMA	**Loma Larga**	**1.93**	**307**	*e*P			**Pn**	**19 31 17.6**	**-0.9**
LOMA	**Loma Larga**	**1.93**	**307**	*i* P			**Pn**	**19 31 17.4**	**-1.1**
LOMA				IAML				19 31 44.6	
	comp=Z,960nm,1.0s								
PMON	**Piamonte**	**2.09**	**306**	*e*P			**Pn**	**19 31 20.4**	**-0.2**
PMON	**Piamonte**	**2.09**	**306**	*i* P			**Pn**	**19 31 21.0**	**+0.4**
PMON				IAML				19 31 50.4	
	comp=Z,890nm,1.0s								
JUTIH	**Juticalpa Olan**	**2.56**	**31**	*i* P			**Pn**	**19 31 27.3**	**+0.4**
NUBE	**Las Nubes**	**2.56**	**304**	*e*P			**Pn**	**19 31 26.5**	**-0.6**
NUBE	**Las Nubes**	**2.56**	**304**	*i* P			**Pn**	**19 31 28.2**	**+1.0**
NUBE				IAML				19 32 00.6	
	comp=Z,380nm,1.0s								
ORTG	**Ortega, Santa**	**2.96**	**135**	*i* P			**Pn**	**19 31 32.7**	**+0.2**
ORTG				IAML				19 32 23.4	
	comp=Z,71nm,1.0s								
INDI	**Punta indio, G**	**3.30**	**142**	*i* P			**Pn**	**19 31 37.3**	**+0.2**
INDI				IAML				19 32 31.4	
	comp=Z,140nm,1.0s								
POPE	**POPE, Guanacas**	**3.31**	**136**	*i* P			**Pn**	**19 31 37.6**	**+0.4**
POPE				IAML				19 32 33.0	
	comp=Z,140nm,1.0s								

*AEIC **25** 19:46:30.2±2.4, 55°.53N±0°.04×135°.06W±0°.07, h26km±7km, Error ellipse: s-maj=6.9km s-min=4.7km az=148.0*
*IDC **25** 19:46:31.0±1.2, 55°.51N×134°.92W, h0km, mb3.2/1, mbtmp3.5/6, ML3.2/5, MS3.0/2, Error ellipse: s-maj=13.7km s-min=9.9km az=62.0*
*NEIC **25** 19:46:32.3±1.7, 55°.48N±0°.05×135°.00W±0°.09, h15km±6km, mb3.7/6, ML3.8/56, ML3.6(AEIC), Mwr4.1(OTT), Error ellipse: s-maj=8.3km s-min=6.6km az=209.0*
*PGC **25** 19:46:32.0±1.1, 55°.54N×135°.12W, h10km, mb3.7, ML3.6, MLSn4.0/23, Mw4.6/23, 168km south of Sitka, Ak Off Coast Of Southeastern Alaska*
*NEIC **25** 19:46:32, 55°.54N×135°.12W, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.30; $M_{\theta\theta}$-0.98; $M_{\phi\phi}$-0.23; $M_{r\theta}$-0.45; $M_{\theta\phi}$0.59; $M_{\phi r}$-0.55; Fault plane solution: $M_0$1.50000×10^{15} NP1:ϕ_s276.00000°, δ53.00000°, λ59.00000°. NP2:ϕ_s141.00000°, δ47.00000°, λ124.00000°. Principal axes: T 1.5969, Plg65.0000°, Azm124.0000°; N -0.2566, Plg24.0000°, Azm296.0000°; P -1.3403, Plg3.0000°, Azm27.0000°;*
*ANF **25** 19:46:34.3±0.5, 55°.72N×134°.86W, h10km, ML4.0/25 Error ellipse: s-maj=4.8km s-min=2.6km az=15.0*
ISC 25 19:46:31.0±1.4, 55°.51N±0°.03×135°.04W±0°.04, h11km±9km, n269, σ1°39/300, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**1.09**	**91**				**Pg**	**19 46 51.7**	**-0.2**
CRAG				IAML				19 47 16.2	
	comp=N,3μm,0.6s								
CRAG	**Craig**	**1.09**	**91**				**Sg**	**19 47 06.2**	**+0.2**
CRAG	**Craig**	**1.09**	**91**	P			**Pg**	**19 46 51.8**	**0.0**
	baz=273,SNR=201								
CRAG				S			**Sb**	**19 47 06.8**	**+0.9**
	baz=273								
U33K	**Whale Pass**	**1.24**	**60**				**Pn**	**19 46 54.2**	**+0.1**
U33K				IAML				19 47 10.9	
	comp=N,3μm,0.7s								
U33K				IAML				19 47 12.3	
	comp=E,2μm,0.6s								
U33K	**Whale Pass**	**1.24**	**60**				**Sb**	**19 47 09.9**	**-0.3**
U33K	**Whale Pass**	**1.24**	**60**	P			**Pn**	**19 46 53.1**	**-1.0**
	baz=242,SNR=37								
U33K				S			**Sb**	**19 47 09.4**	**-0.9**
	baz=242								
SIT	**Sitka**	**1.56**	**354**				**Pn**	**19 46 57.2**	**-1.4**
SIT				IAML				19 47 26.5	
	comp=E,893nm,0.8s								
SIT	**Sitka**	**1.56**	**354**	P			**Pn**	**19 46 57.2**	**-1.4**
	baz=176,SNR=49								
SIT				S			**Sn**	**19 47 19.1**	**+0.4**
	baz=176								
LIB	**Langara Island**	**1.70**	**137**	Pn			**Pn**	**19 47 00.4**	**0.0**
T33K	**Petersburg**	**1.75**	**41**				**Pn**	**19 47 01.9**	**+0.7**
T33K							**Sb**	**19 47 24.6**	**-0.3**
T33K	**Petersburg**	**1.75**	**41**	P			**Pn**	**19 47 01.5**	**+0.3**
	baz=224,SNR=22								
T33K				S			**Sn**	**19 47 23.5**	**+0.1**
	baz=224								
WRAK	**Wrangell Islan**	**1.77**	**58**				**Sb**	**19 47 25.9**	**+0.6**
WRAK	**Wrangell Islan**	**1.77**	**58**				**Pn**	**19 47 01.0**	**-0.4**
WRAK	**Wrangell Islan**	**1.77**	**58**	P			**Pn**	**19 47 01.2**	**-0.2**
	baz=241,SNR=23								
WRAK				S			**Sb**	**19 47 25.2**	**-0.2**
	baz=241								
WRAK	**Wrangell Islan**	**1.77**	**58**	Pn			**Pn**	**19 47 01.3**	**-0.2**
WRAK				Sn			**Sn**	**19 47 23.0**	**-0.8**
V35K	**Ketchikan**	**1.96**	**94**				**Pn**	**19 47 04.2**	**+0.2**
V35K				IAML				19 47 36.9	
	comp=E,675nm,0.7s								
V35K				IAML				19 47 43.4	
	comp=N,828nm,0.5s								
V35K	**Ketchikan**	**1.96**	**94**	P			**Pn**	**19 47 04.2**	**+0.2**
	baz=276,SNR=69								
V35K				S			**Sb**	**19 47 32.1**	**+1.2**
	baz=276								
NDB	**Naden**	**1.98**	**141**	Pn			**Pn**	**19 47 04.9**	**+0.6**
S32K	**Killisnoo**	**1.98**	**7**				**Pn**	**19 47 03.6**	**-0.7**
S32K	**Killisnoo**	**1.98**	**7**	P			**Pn**	**19 47 03.6**	**-0.7**
	baz=189,SNR=22								
S32K				S			**Sn**	**19 47 27.5**	**-1.6**
	baz=189								
MASB	**Masset**	**2.30**	**129**	Pn			**Pn**	**19 47 09.7**	**+1.0**
S31K	**Pelican**	**2.55**	**345**	Pn			**Pn**	**19 47 11.6**	**-0.5**
S31K	**Pelican**	**2.55**	**345**	P			**Pn**	**19 47 11.4**	**-0.6**
	baz=166								
S31K				S			**Sn**	**19 47 42.3**	**-0.7**
	baz=166								
DIB	**Dawson Inlet,**	**2.75**	**146**				**Pn**	**19 47 15.7**	**+0.7**
DIB				IAML				19 48 07.9	
	comp=E,597nm,0.8s								
DIB	**Dawson Inlet,**	**2.75**	**146**	Pn			**Pn**	**19 47 15.2**	**+0.2**
DIB				Sn			**Sn**	**19 47 48.4**	**+0.2**
R32K	**Eaglecrest**	**2.79**	**6**				**Pn**	**19 47 14.5**	**-0.9**
R32K	**Eaglecrest**	**2.79**	**6**	P			**Pn**	**19 47 14.8**	**-0.7**
	baz=187,SNR=18								
R32K				S			**Sn**	**19 47 47.2**	**-1.8**
	baz=187								
JIS	**Juneau Island**	**2.80**	**7**				**Pn**	**19 47 15.5**	**0.0**
JIS				IAML				19 48 03.2	
	comp=E,254nm,0.8s								
JIS				IAML				19 48 08.5	
	comp=N,237nm,0.6s								
U35K	**Hyder**	**2.86**	**80**				**Pn**	**19 47 17.8**	**+1.3**
U35K	**Hyder**	**2.86**	**80**	Pb			**Pb**	**19 47 22.7**	**+0.8**
	baz=264								
U35K				Sb			**Sb**	**19 47 57.9**	**+0.9**
	baz=264								
R31K	**City Hall, Gus**	**2.94**	**353**	Sg			**Sg**	**19 48 03.5**	**-1.8**
	baz=173								
RUBB	**Prince Rupert**	**3.00**	**111**				**Pn**	**19 47 17.2**	**-1.2**
RUBB				IAML				19 48 12.7	
	comp=E,415nm,0.6s								
RUBB	**Prince Rupert**	**3.00**	**111**	Pn			**Pn**	**19 47 18.2**	**-0.2**
RUBB				Sn			**Sn**	**19 47 53.5**	**-0.8**
T35M	**Bob Quinn**	**3.05**	**59**				**Pn**	**19 47 20.4**	**+1.3**
T35M	**Bob Quinn**	**3.05**	**59**	P			**Pn**	**19 47 20.2**	**+1.1**
	baz=244								
T35M				Sg			**Sg**	**19 48 06.9**	**-2.0**
	baz=244								
T35M	**Bob Quinn**	**3.05**	**59**	Pn			**Pn**	**19 47 18.4**	**-0.7**
BESE	**Bessie Mountai**	**3.08**	**2**				**Pn**	**19 47 19.4**	**-0.1**
BESE	**Bessie Mountai**	**3.08**	**2**	Pn			**Pn**	**19 47 19.4**	**-0.1**
HG1B	**Mitchell Dam**	**3.09**	**145**	Pn			**Pn**	**19 47 20.6**	**+1.0**
S34M	**Telegraph Cree**	**3.23**	**40**				**Pn**	**19 47 22.0**	**+0.4**
S34M	**Telegraph Cree**	**3.23**	**40**	P			**Pn**	**19 47 22.5**	**+1.0**
	baz=224,SNR=16								
S34M				Sb			**Sb**	**19 48 08.6**	**+1.0**
	baz=224								
S34M	**Telegraph Cree**	**3.23**	**40**	Pn			**Pn**	**19 47 21.9**	**+0.4**
BNAB	**Bonilla**	**3.26**	**126**				**Pn**	**19 47 21.8**	**-0.1**
BNAB	**Bonilla**	**3.26**	**126**	Pn			**Pn**	**19 47 21.9**	**-0.1**
GRNB	**Grenville Isla**	**3.39**	**117**	Pn			**Pn**	**19 47 22.6**	**-1.1**
GRNB				IAML				19 48 33.1	
	comp=N,250nm,0.8s								
GRNB	**Grenville Isla**	**3.39**	**117**	Pn			**Pn**	**19 47 23.6**	**-0.1**
GRNB				Sn			**Sn**	**19 48 03.0**	**-0.8**
BAIB	**Barry Inlet**	**3.52**	**145**	Pn			**Pn**	**19 47 26.1**	**+0.6**
BAIB				Sn			**Sn**	**19 48 06.4**	**-0.7**
BNB	**Barry Inlet**	**3.52**	**145**				**Pn**	**19 47 26.3**	**+0.8**
BNB	**Barry Inlet**	**3.52**	**145**	Pn			**Pn**	**19 47 26.3**	**+0.8**
BNKB	**Banks Island**	**3.71**	**124**	Pn			**Pn**	**19 47 28.1**	**0.0**
BNKB				Sn			**Sn**	**19 48 10.2**	**-1.6**
Q32M	**Nakina River**	**3.77**	**22**				**Pn**	**19 47 30.6**	**+1.4**
Q32M				IAML				19 48 36.8	
	comp=N,155nm,1.1s								
Q32M				IAML				19 48 49.3	
	comp=E,137nm,1.0s								
Q32M	**Nakina River**	**3.77**	**22**	P			**Pn**	**19 47 29.8**	**+0.7**
	baz=205								
Q32M				Sg			**Sg**	**19 48 30.7**	**-1.3**
	baz=205								
Q32M	**Nakina River**	**3.77**	**22**	Pn			**Pn**	**19 47 28.9**	**-0.3**
HG4B	**Hotspring**	**3.94**	**143**	Pn			**Pn**	**19 47 32.4**	**+1.1**
HG4B	**Hotspring**	**3.94**	**143**	Pn			**Pn**	**19 47 32.2**	**+0.9**
SKAG	**Skagway**	**3.96**	**358**				**Pn**	**19 47 32.6**	**+1.0**
SKAG	**Skagway**	**3.96**	**358**	P			**Pn**	**19 47 32.5**	**+0.9**
	baz=178								
SKAG				Sg			**Sg**	**19 48 37.6**	**-0.6**
	baz=178								
KITB	**Kitimat**	**3.97**	**109**	Pn			**Pn**	**19 47 32.0**	**+0.3**
KITB				Sn			**Sn**	**19 48 17.7**	**-0.4**
DLBC	**Dease Lake**	**4.02**	**41**				**Pn**	**19 47 33.1**	**+0.7**
DLBC				IAML				19 48 43.8	
	comp=N,212nm,0.7s								
DLBC				IAML				19 48 44.2	
	comp=E,152nm,1.3s								
DLBC	**Dease Lake**	**4.02**	**41**	P			**Pn**	**19 47 33.4**	**+1.0**
	baz=226								
DLBC				Sg			**Sg**	**19 48 37.8**	**-1.9**
	baz=226								
DLBC	**Dease Lake**	**4.02**	**41**	Pn			**Pn**	**19 47 33.5**	**+1.1**
	comp=E,0.6nm,0.3s,baz=219,slow=13,SNR=12								
DLBC				Pg			**Pb**	**19 47 41.4**	**-0.2**
	comp=E,1.5nm,0.3s,baz=218,slow=14,SNR=8.9								
DLBC				Sn			**Sn**	**19 48 19.4**	**+0.1**
	comp=E,5.7nm,0.3s,baz=210,slow=18,SNR=5.4								
DLBC				Lg			Lg	19 48 35.7	
	comp=E,11nm,0.3s,baz=96,slow=7.5,SNR=10								
	comp=E,3.6nm,0.7s								
DLBC	**Dease Lake**	**4.02**	**41**	Pn			**Pn**	**19 47 32.3**	**0.0**
GRIB	**Gribbell Islan**	**4.07**	**120**	Pn			**Pn**	**19 47 33.2**	**+0.1**
GRIB				Sn			**Sn**	**19 48 19.8**	**-0.9**
P32M	**Atlin**	**4.15**	**9**	Pn			**Pn**	**19 47 35.2**	**+1.0**
P32M				IAML				19 48 57.6	
	comp=E,92nm,1.7s								
P32M	**Atlin**	**4.15**	**9**	P			**Pn**	**19 47 34.9**	**+0.6**
	baz=191,SNR=6.3								
P32M				Sg			**Sg**	**19 48 43.0**	**-1.2**
	baz=191								
P32M	**Atlin**	**4.15**	**9**	Pn			**Pn**	**19 47 34.4**	**+0.2**
P29M	**Windy Craggy**	**4.38**	**342**				**Pn**	**19 47 38.3**	**+0.9**
P29M				IAML				19 49 00.5	
	comp=E,62nm,1.1s								
P29M				IAML				19 49 01.5	
	comp=N,61nm,0.9s							

N32M	Quiet Lake	5.75	9	P	Pn	19 47 57.5	+1.3
	baz=192,SNR=20						
N32M	Quiet Lake	5.75	9	Pn	Pn	19 47 57.8	+1.6
YUK5	Granite Creek	5.83	346		Pn	19 47 59.0	+1.7
YUK5	Granite Creek	5.83	346	Pn	Pn	19 47 58.8	+1.5
N31M	Braeburn, Yuko	6.01	357	Pn	Pn	19 48 00.9	+1.2
N31M	Braeburn, Yuko	6.01	357	P	Pn	19 48 00.9	+1.2
	baz=176						
N31M	Braeburn, Yuko	6.01	357	Pn	Pn	19 48 00.8	+1.2
N30M	Aishikik Lake	6.06	351		Pn	19 48 01.8	+1.3
N30M	Aishikik Lake	6.06	351	P	Pn	19 48 01.7	+1.2
	baz=170						
N30M	Aishikik Lake	6.06	351	Pn	Pn	19 48 01.7	+1.2
YUK4	Talbot Arm	6.15	344	P	Pn	19 48 04.4	+2.6
	baz=162						
YUK4	Talbot Arm	6.15	344	Pn	Pn	19 48 04.3	+2.5
LOGN	Logan Glacier	6.19	332		Pn	19 48 04.2	+1.9
LOGN	Logan Glacier	6.19	332	Pn	Pn	19 48 04.3	+1.9
FSJB	Fort St James	6.27	95	Pn	Pn	19 48 03.2	-0.1
YUK8	Steele Glacier	6.30	339	P	Pn	19 48 06.0	+2.1
	baz=155						
YUK8	Steele Glacier	6.30	339	Pn	Pn	19 48 05.5	+1.6
GRNC	Granite Creek	6.33	329		Pn	19 48 06.1	+1.8
GRNC	Granite Creek	6.33	329	Pn	Pn	19 48 06.1	+1.8
CTGM	Chitina Glacie	6.40	331		Pn	19 48 06.5	+1.3
CTGM	Chitina Glacie	6.40	331	Pn	Pn	19 48 07.1	+1.9
CTG	Chitna Glacier	6.40	331	P	Pn	19 48 07.2	+2.0
	baz=146,SNR=30						
HOLB	Holberg	6.41	137	Pn	Pn	19 48 05.9	+0.7
HOLB	Holberg	6.41	137	Pn	Pn	19 48 05.9	+0.7
BARN	Barnard Glacie	6.57	331		Pn	19 48 09.0	+1.5
PHC	Port Hardy	6.64	133	Pn	Pn	19 48 09.2	+0.9
KIAG	Kiagna River	6.66	328		Pn	19 48 10.5	+1.7
KIAG	Kiagna River	6.66	328	Pn	Pn	19 48 10.6	+1.8
TGL	Tana Glacier	6.68	325		Pn	19 48 09.7	+0.7
M31M	Drury Creek, Y	6.72	3	Pn	Pn	19 48 10.3	+0.9
M31M	Drury Creek, Y	6.72	3	Pn	Pn	19 48 10.6	+1.1
BERG	Berg Lake	6.72	320	Pn	Pn	19 48 10.5	+1.0
CRQE	Cirque	6.77	324	P	Pn	19 48 12.1	+1.9
	baz=138						
CRQM	Cirque	6.79	324		Pn	19 48 11.4	+0.9
FARO	Faro, Yukon	6.80	7		Pn	19 48 12.2	+1.8
FARO	Faro, Yukon	6.80	7	Pn	Pn	19 48 12.3	+1.8
YUK3	Moose Creek	6.89	338	P	Pn	19 48 13.5	+1.5
	baz=154						
YUK3	Moose Creek	6.89	338	Pn	Pn	19 48 13.4	+1.5
PTPK	Patty Peak	6.90	329		Pn	19 48 14.3	+2.2
PTPK	Patty Peak	6.90	329	Pn	Pn	19 48 14.3	+2.2
MAYB	Maynard	6.98	134	Pn	Pn	19 48 13.5	+0.4
YUK2	White River	6.98	337	Pn	Pn	19 48 14.9	+1.8
TGTN	Hyland Airport	6.99	28	P	Pn	19 48 15.2	+2.0
	baz=214,SNR=12						
NBC5	NorthernBC 5	7.13	68	Pn	Pn	19 48 17.0	+1.9
M30M	Minto, Yukon	7.15	353	Pn	Pn	19 48 16.4	+1.1
M30M	Minto, Yukon	7.15	353	Pn	Pn	19 48 16.2	+0.9
M29M	Somme Creek	7.18	347		Pn	19 48 17.3	+1.5
M29M	Somme Creek	7.18	347	P	Pn	19 48 17.3	+1.5
	baz=165						
M29M	Somme Creek	7.18	347	Pn	Pn	19 48 17.3	+1.5
VRDI	Verde Repeater	7.24	326	Pn	Pn	19 48 18.2	+1.5
MMPY	Sheldon Lake,	7.39	14	Pn	Pn	19 48 20.8	+2.2
MMPY	Sheldon Lake,	7.39	14	Pn	Pn	19 48 20.3	+1.7
WOSB	Woss	7.41	133	Pn	Pn	19 48 21.0	+2.0
BMRM	Bremner River	7.44	321	P	Pn	19 48 22.0	+2.6
	baz=134						
GLB	Glahina Butte	7.51	326	Pn	Pn	19 48 21.7	+1.3
M27K	Edge Creek, AK	7.72	336		Pn	19 48 25.7	+2.4
M27K	Edge Creek, AK	7.72	336	P	Pn	19 48 25.2	+1.9
	baz=150						
M27K	Edge Creek, AK	7.72	336	Pn	Pn	19 48 25.4	+2.1
L29M	L29M	7.79	350	Pn	Pn	19 48 25.8	+1.7
L29M	L29M	7.79	350	P	Pn	19 48 26.0	+1.9
	baz=167,SNR=10						
L29M	L29M	7.79	350	Pn	Pn	19 48 25.8	+1.7
N25K	Chitina, Valde	7.89	325	Pn	Pn	19 48 25.9	+0.3
N25K	Chitina, Valde	7.89	325	P	Pn	19 48 28.3	+2.8
	baz=137						
M26K	Nabesna, AK	8.04	333	Pn	Pn	19 48 29.0	+1.5
M26K	Nabesna, AK	8.04	333	P	Pn	19 48 29.1	+1.6
	baz=146						
KLU	Klutina	8.27	321	Pn	Pn	19 48 32.0	+1.3
KLU	Klutina	8.27	321	P	Pn	19 48 33.0	+2.3
	baz=132						
BCAR	Beaver Creek A	8.32	338	Pn	Pn	19 48 31.5	0.0
L27K	Beaver Creek,	8.33	338	Pn	Pn	19 48 31.7	+0.2
K29M	Barlow Dome	8.45	352	Pn	Pn	19 48 34.7	+1.4
K29M	Barlow Dome	8.45	352	P	Pn	19 48 35.1	+1.8
	baz=171,SNR=5.8						
K29M	Barlow Dome	8.45	352	Pn	Pn	19 48 35.1	+1.8
L26K	Log Cabin Wild	8.65	334	Pn	Pn	19 48 37.8	+2.0
M24K	Tolsona, Glenn	8.78	323	Pn	Pn	19 48 38.8	+1.2
DAWY	Dawson	8.86	347	Pn	Pn	19 48 40.4	+1.6
DAWY	Dawson	8.86	347	P	Pn	19 48 40.4	+1.6
	baz=164						
DAWY	Dawson	8.86	347	Pn	Pn	19 48 40.3	+1.6
SCM	Sheep Creek Mo	9.00	320	Pn	Pn	19 48 41.3	+0.6
J30M	Hart River	9.12	356		Pn	19 48 44.0	+1.7
J30M	Hart River	9.12	356	Pn	Pn	19 48 44.1	+1.7
KNK	Knik Glacier	9.18	316	Pn	Pn	19 48 43.0	-0.1
K27K	Chicken	9.25	340	Pn	Pn	19 48 43.5	-0.5
K27K	Chicken	9.25	340	Pn	Pn	19 48 45.5	+1.4
SML	Sawmill	9.36	318	Pn	Pn	19 48 47.1	+1.4
BRLK	Bradley Lake	9.50	303	Pn	Pn	19 48 46.2	-1.4
GHO	Glory Hole Cre	9.57	317	Pn	Pn	19 48 49.9	+1.4
CNPM	China Poot	9.59	301	Pn	Pn	19 48 46.3	-2.5
SCRK	Sand Creek	9.61	336	Pn	Pn	19 48 50.2	+1.1
WAT6	Susitna Watana	9.63	323	P	Pn	19 48 52.4	+2.9
	baz=132						
I30M	Mount Dempster	9.77	357		Pn	19 48 53.5	+2.2
I30M	Mount Dempster	9.77	357	P	Pn	19 48 53.0	+1.7
	baz=176						
I30M	Mount Dempster	9.77	357	Pn	Pn	19 48 53.5	+2.2
EGAK	Eagle	9.78	344		Pn	19 48 51.9	+0.6
EGAK	Eagle	9.78	344	Pn	Pn	19 48 53.3	+2.0
DHY	Denali Highway	9.85	325	Pn	Pn	19 48 54.5	+2.1
KDAK	Kodiak Island	9.93	290	Pn	Pn	19 48 51.9	-1.4
KDAK	Kodiak Island	9.93	290	Pn	Pn	19 48 52.4	-0.9
	comp=E,0.7nm,0.3s,baz=97,slow=8.1,SNR=11						
KDAK				Sn	Sn	19 50 40.6	-4.0
	comp=E,0.1nm,0.3s,baz=333,slow=11,SNR=2.0						
	comp=E,5.6nm,0.7s						
J26L	Joseph Creek	9.97	338	Pn	Pn	19 48 54.7	+0.7
BLBC	Blue River	9.97	104	Pn	Pn	19 48 56.2	+2.0
I29M	Ogilvie Camp,	10.01	352	Pn	Pn	19 48 56.0	+1.4
I29M	Ogilvie Camp,	10.01	352	Pn	Pn	19 48 57.4	+2.8
SUA	Susitna One	10.14	312	Pn	Pn	19 48 57.9	+1.5
I28M	Miner Creek	10.26	348	Pn	Pn	19 48 59.0	+1.0
I28M	Miner Creek	10.26	348	Pn	Pn	19 49 00.9	+3.0
CUT	Chulitna	10.45	318	Pn	Pn	19 49 01.7	+1.2
J25K	Salcha River,	10.47	335	Pn	Pn	19 49 01.9	+1.0
RND	Reindeer	10.57	324	Pn	Pn	19 49 04.2	+2.1
I26K	Coal Creek Min	10.60	341	Pn	Pn	19 49 04.0	+1.4
Q19K	Cape Douglas,	10.65	296	Pn	Pn	19 49 03.2	0.0
ILSW	Iliamna Southw	10.65	302	Pn	Pn	19 49 01.4	-1.9
HDA	Harding Lake	10.72	331	Pn	Pn	19 49 04.7	+0.6
SKT	Skwentna	10.72	314	Pn	Pn	19 49 04.2	-0.1
H29M	Whitestone	10.87	353	Pn	Pn	19 49 07.9	+1.7
H29M	Whitestone	10.87	353	Pn	Pn	19 49 07.9	+1.7
EPYK	Eagle Plains	10.93	356	Pn	Pn	19 49 08.5	+1.4
IL31		10.98	332		Pn	19 49 08.4	+0.7
ILAR	Eielson Array	10.98	332	Pn	Pn	19 49 08.1	+0.3
ILAR	Eielson Array	10.98	332	Pn	Pn	19 49 08.9	+1.1
	comp=E,0.1nm,0.3s,baz=156,slow=13,SNR=27						
ILAR				Lg	Lg	19 52 21.0	
	baz=135,slow=37,SNR=2.3						
ILAR				LR	LR	19 53 29.3	
	comp=E,63nm,18.0s,baz=91,slow=38						
	comp=E,1.1nm,0.7s						
TRF	Thorofare Moun	11.09	322	Pn	Pn	19 49 11.7	+2.4
CCB	Clear Creek Bu	11.14	330	Pn	Pn	19 49 10.8	+0.9
KTH	Kantishna Hill	11.37	322		Pn	19 49 15.8	+2.6
NEA2	Nenana	11.46	328	Pn	Pn	19 49 16.5	+2.1
MDM	Murphy Dome	11.49	331		Pn	19 49 13.9	-0.9
G30M	tAoh Zrail Nji	11.53	358	Pn	Pn	19 49 15.4	+0.2
CAST	Castle Rocks	11.71	319	Pn	Pn	19 49 18.9	+1.1
BPAW	Bear Paw Mtn.	11.74	324	Pn	Pn	19 49 18.8	+0.7
I23K	Minto, Yukon-K	11.96	330	Pn	Pn	19 49 23.1	+2.1
L19K	White Mountain	12.21	311	Pn	Pn	19 49 24.9	+0.3
MLY	Manley	12.28	327	Pn	Pn	19 49 27.7	+2.1
K20K	Telida	12.43	317	Pn	Pn	19 49 28.4	+0.8
YKA	Yellowknife Ar	12.60	48	Pn	Pn	19 49 30.0	+0.2
	baz=248,slow=13,SNR=6.4						
YKA				Lg	Lg	19 53 04.4	
	baz=128,slow=17,SNR=3.6						
	comp=E,0.6nm,0.9s						
BMAR	Burnt Mountain	12.78	343	Pn	Pn	19 49 33.5	+1.3
J20K	Nowinta River	12.90	320	Pn	Pn	19 49 34.6	+0.7
M17K	Holitna River	13.09	306	Pn	Pn	19 49 35.0	-1.6
NEW	Newport	13.20	116	Pn	Pn	19 49 37.9	-0.4
NEW	Newport	13.20	116	LR	LR	19 55 04.0	
	comp=E,89nm,19.4s,baz=340,slow=39						
E28M	Babbage River	13.30	353	Pn	Pn	19 49 41.0	+1.5
H21K	Melozitna Rive	13.35	327		Pn	19 49 42.2	+2.2
J19K	Poorman	13.35	318	Pn	Pn	19 49 41.8	+1.7
IMAR	Indian Mountai	13.85	327	Pn	Pn	19 49 49.4	+2.5
K17K	Iditarod	13.90	311	Pn	Pn	19 49 47.7	+0.1
E24K	Your Creek	14.07	339	Pn	Pn	19 49 52.4	+2.5
G21K	Allakaket	14.13	329	Pn	Pn	19 49 52.9	+2.1
H19K	Roundabout Mou	14.47	322	Pn	Pn	19 49 57.0	+1.7
H18K	Honhosa River	14.96	320	Pn	Pn	19 50 03.0	+1.0
G19K	Purcell Mounta	15.03	324	Pn	Pn	19 50 03.1	+0.1
G19K				IAmb	IAmb	19 50 27.9	
	comp=Z,3.5nm,1.1s						
F20K	Avaraart Lake	15.15	328	Pn	Pn	19 50 06.3	+1.8
F20K				IAmb	IAmb	19 50 19.3	
	comp=Z,2.7nm,0.8s						
G18K	Tagagawik	15.44	322	Pn	Pn	19 50 10.2	+1.8
E19K	Redstone River	15.86	328	Pn	Pn	19 50 15.3	+1.5
E19K				IAmb	IAmb	19 50 28.0	
	comp=Z,7.7nm,1.1s						
BEMT	Mount Belmont	16.67	112		Pn	19 50 22.8	-1.7
MCMT	McKenzie Canyo	17.70	118		Pn	19 50 38.1	+0.7
C18K	Utukok River	17.77	328		Pn	19 50 39.5	+1.5
PD31	Pinedale Array	20.84	117		P	19 51 10.5	-2.2
PD31				IAmb	IAmb	19 51 21.8	
	comp=Z,2.9nm,1.0s						
PDAR	Pinedale Array	20.84	117	P	Pn	19 51 16.9	+1.8
	comp=Z,1.6nm,0.8s,baz=316,slow=7.3,SNR=12						
TXAR	Lajitas Array	34.41	126	P	P	19 53 20.0	+1.8
	comp=Z,0.3nm,0.7s,baz=321,slow=8.4,SNR=3.8						
	comp=Z,0.3nm,0.7s						
H11N2	WAKE ISLAND Hy 55.98	255		T	T	20 57 09.9	
	baz=36,slow=76,SNR=681						
H11N3	WAKE ISLAND Hy 55.99	255		T	T	20 57 40.1	
	baz=36,slow=76,SNR=881						
H11N1	WAKE ISLAND Hy 56.00	255		T	T	20 57 09.8	
	baz=36,slow=76,SNR=541						
H11S1	WAKE ISLAND Hy 57.08	254		T	T	20 58 30.8	
	baz=36,slow=74,SNR=81						
H11S2	WAKE ISLAND Hy 57.09	254		T	T	20 58 32.4	
	baz=36,slow=74,SNR=103						
H11S3	WAKE ISLAND Hy 57.10	254		T	T	20 58 32.5	
	baz=36,slow=74,SNR=54						

IDC 25 19:51:27.6±2.6, 5°02S×129°78E, h0km, mb3.3/1, mbtmp3.2/3, ML3.3/2, MS3.0/1, Error ellipse: s-maj=182.2km s-min=30.9km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.48	164	Pn	Pn	19 55 05.5	-1.9
	0.1nm,0.3s,baz=346,slow=13,SNR=9.7						
WRA				Sn	Sn	19 57 47.0	-13
	0.3nm,0.3s,baz=344,slow=22,SNR=7.4						
	0.2nm,0.5s						
ASAR	Alice Springs	18.96	168	P	Pn	19 55 51.4	+0.2
	0.1nm,0.3s,baz=346,slow=10,SNR=9.2						
	0.3nm,0.5s						
JOW	Kunigami	31.70	357	LR	LR	20 09 18.4	
	comp=Z,28nm,19.2s,baz=128,slow=34						
MKAR	Makanchi Array	66.46	326	P	P	20 02 19.0	0.0
	0.3nm,0.7s,baz=123,slow=7.5,SNR=4.1						
	0.3nm,0.7s						

IDC 25 19:55:14.5±2.0, 5°58S×130°75E, h0km, mb4.0/1, mbtmp3.9/3, ML4.0/2, Error ellipse: s-maj=99.2km s-min=29.7km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.70	167	Pn	Pn	19 58 44.9	+1.0
	0.5nm,0.3s,baz=347,slow=11,SNR=10.0						
WRA				Sn	Sn	20 01 12.0	-16
	0.7nm,0.3s,baz=0.2,slow=23,SNR=9.7						
	0.6nm,0.4s						
ASAR	Alice Springs	18.24	171	P	Pn	19 59 28.5	-0.8
	0.7nm,0.3s,baz=348,slow=11,SNR=41						
ASAR				S	Sn	20 02 37.7	-16
	0.3nm,0.4s,baz=351,slow=22,SNR=2.0						
	1.8nm,0.3s						
MKAR	Makanchi Array	67.46	326	P	P	20 06 12.3	+0.1
	0.7nm,0.4s,baz=113,slow=8.2,SNR=17						
	0.7nm,0.4s						

IDC 25 20:07:27.3±2.9, 43°.10N×104°.95W, h0km, mb2.5/1, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=56.9km s-min=10.3km az=155.0
NEIC 25 20:07:30.7±1.7, 43°.64N±0°.05×105°.12W±0°.07, h0km±1km, ML3.2/46, Error ellipse: s-maj=10.4km s-min=5.0km az=314.0

ISC 25 20:07:30.5±1.2, 43°.63N±0°.06×105°.05W±0°.07, h0km, n34, σ0§97/33, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.88	56	Pn	Pn	20 07 49.3	-1.1
K22A	Casper	1.46	228		Pn	20 07 55.5	-2.7
K22A				IAML		20 08 23.2	
	comp=N,238nm,0.3s						
PHWY	Pilot Hill	2.35	188		Pn	20 08 10.4	-0.2
PHWY				IAML		20 08 49.6	
	comp=N,97nm,0.8s						
RWWY	Rawlins	2.51	220		Pn	20 08 11.9	-0.9
RWWY				IAML		20 08 50.6	
	comp=N,126nm,0.7s						
N23A	Red Feather La	2.81	194		Pn	20 08 17.5	+0.5
N23A				IAML		20 09 06.9	
	comp=N,88nm,0.6s						
N23A				IAML		20 09 07.3	
	comp=E,82nm,0.7s						
RLMT	Red Lodge	3.37	298		Pn	20 08 24.2	-0.4
RLMT				IAML		20 09 10.6	
	comp=E,35nm,3.7s						
RLMT				IAML		20 10 09.5	
	comp=E,34nm,2.0s						
PD31	Pinedale Array	3.41	257		Pn	20 08 25.1	0.0
PDAR	Pinedale Array	3.41	257		Pn	20 08 25.4	+0.3
PDAR	Pinedale Array	3.41	257	Pn	Pn	20 08 25.3	+0.2
	comp=E,1.4nm,0.3s,baz=73,slow=16,SNR=29						
PDAR				Lg	Lg	20 09 12.4	
	comp=E,6.1nm,0.3s,baz=78,slow=31,SNR=2.9						
	comp=E,1.7nm,0.3s						
BW06	Boulder Array	3.41	257		Pn	20 08 24.5	-0.6
BW06				IAML		20 09 19.9	
	comp=E,34nm,0.5s						
OGNE	Ogallala	3.50	139		Pn	20 08 25.6	-0.6
YMP	Mirror Lake Pl	3.84	289		Pn	20 08 30.0	-1.0
ISCO	Idaho Springs	3.85	186		Pn	20 08 31.9	+0.6
GCMT	Greycliff	3.94	305	Pn	Pn	20 08 32.2	-0.1
LOHW	Long Hollow	4.03	272		Pn	20 08 33.1	-0.6
LOHW				IAML		20 09 55.4	
	comp=E,24nm,3.7s						
LOHW				IAML		20 10 10.2	
	comp=E,29nm,5.0s						
H17A	Grant Village	4.06	283		Pn	20 08 34.9	+0.8
H17A				IAML		20 09 43.1	
	comp=E,26nm,2.3s						
H17A				IAML		20 09 49.9	
	comp=N,28nm,1.8s						
FLWY	Flagg Ranch	4.11	278	Pg	Pb	20 08 43.4	-0.4
FLWY				IAML		20 10 59.1	
	comp=N,34nm,4.7s						
MOOW	Moose Ponds	4.13	274		Pn	20 08 34.3	-0.7
O20A	White River Ci	4.23	215		Pn	20 08 37.1	+0.8
REDW	Red Top Meadow	4.23	268		Pn	20 08 38.0	+1.6
IMW	Indian Meadow	4.27	276		Pn	20 08 37.1	0.0
IMW				IAML		20 09 51.8	
	comp=N,23nm,1.2s						
IMW				IAML		20 10 02.9	
	comp=N,28nm,0.7s						
RDMU	Red Mountain	4.54	229	Pn	Pn	20 08 40.4	-0.3
RDMU				IAML		20 09 57.6	
	comp=N,24nm,3.8s						
YHL	Hebgen Lake	4.57	288		Pn	20 08 40.1	-1.0
YHL				IAML		20 10 13.4	
	comp=E,22nm,0.8s						
YHL				IAML		20 11 10.4	
	comp=N,27nm,4.8s						
BSUT	Blindstream Ca	5.26	236	Pn	Pn	20 08 49.9	-0.8
BSUT				IAML		20 10 42.3	
	comp=N,16nm,4.7s						
BSUT				IAML		20 11 11.3	
	comp=E,14nm,3.0s						
TCUT	Toone Canyon	5.34	244		Pn	20 08 50.1	-1.5
P18A	Preston Nutter	5.58	226		Pn	20 08 55.1	0.0
LRM	Limekiln Ridge	5.71	295		Pn	20 08 56.9	+0.1
PV07	Paradox Valley	5.86	209	Pn	Pn	20 08 58.3	-0.4
SPUT	South Promonto	5.94	250	Pn	Pn	20 08 59.6	-0.3
P17A	Butcher Ranch,	5.96	228		Pn	20 09 00.1	0.0
LYMT	Lyon Mountain	6.10	306		Pn	20 09 01.8	-0.3
I10CA	LAC DU BONNET	9.01	40	I	I	21 01 50.0	
	comp=E,0.2nm,0.9s,baz=220,slow=341,SNR=0.6						
ULM	Lac du Bonnet	9.12	40	Pn	Pn	20 09 42.1	-1.1
	comp=E,0.4nm,0.3s,baz=224,slow=12,SNR=8.6						
ULM				Lg	Lg	20 12 19.1	
	comp=E,0.2nm,0.3s,baz=205,slow=8.5,SNR=2.1						
	comp=E,1.1nm,0.3s						
YKA	Yellowknife Ar	19.71	347	P	Pn	20 12 04.9	+2.4
	comp=E,0.2nm,0.8s,baz=153,slow=12,SNR=2.5						
	comp=E,0.2nm,0.8s						

TEH 25 20:14:40.6, 34°.27N×46°.54E, h10km±21km, ML2.5
ISN 25 20:14:41.1±1.6, 34°.27N×46°.55E, h25km, ML2.7
ISC 25 20:14:40.5±1.1, 34°.27N±0°.05×46°.54E±0°.05, h16km±9km, n8, σ0§37/10, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	Ghaleghazi	0.06	20	Pg	Pg	20 14 43.6	-0.2
KCHF	Cheshme Sefid,	0.41	89	Pg	Pg	20 14 48.9	0.0
KCHF				Sg	Sb	20 14 55.7	0.0
IDHR	Dehrash	0.45	343	Pg	Pg	20 14 49.8	+0.2
ILBA	Ilam Banvizeh	0.70	203	Pg	Pb	20 14 54.4	0.0
ILIN	Lien	0.73	28	Pg	Pb	20 14 55.1	+0.1
IKOM	Komasi	0.81	96	Pg	Pb	20 14 56.4	+0.1
IBZA	Bozab	1.11	79	Pg	Pg	20 15 02.1	+0.1
IBDR	Badra	1.26	204	ePg	Pn	20 15 03.0	-0.5
	baz=24						
IBDR				eSg	Sg	20 15 22.0	+0.7
IBDR				AML	AML	20 15 28.9	
	comp=N,372nm,0.4s						
IBDR				AML	AML	20 15 29.1	
	comp=E,277nm,0.6s						

IDC 25 20:23:04.6±0.7, 16°.91N×99°.80W, h0km, mb4.2/11, mbtmp4.2/16, ML3.6/4, MS3.7/44, Error ellipse: s-maj=20.0km s-min=14.0km az=48.0
NEIC 25 20:23:09.1±2.8, 16°.96N±0°.06×99°.82W±0°.05, h28km±5km, mb4.8/288, Md5.0/24(MEX), Error ellipse: s-maj=9.1km s-min=4.8km az=210.0
MEX 25 20:23:11.3±5.7, 16°.99N×99°.85W, h22km±37km, MD5.0
GCMT 25 20:23:12.1±0.5, 17°.04N±0°.02×99°.72W±0°.03, h30km, MW4.8/68, Moment Tensor Solution. s27,c29; s68,c79; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.87±.14; Mθθ -1.74±.09; Mφφ -0.12±.09; Mrθ -0.23±.09; Mrφ 0.69±.06; Mθφ 0.75±.11; Best double couple: M0 2.08800×10^16 NP1: φs 307.00000°, δ54.00000°, λ111.00000°. NP2: φs 94.00000°, δ41.00000°, λ63.00000°. Principal axes: T 2.1200, Plg72.0000°, Azm270.0000°; N -0.0610, Plg17.0000°, Azm115.0000°; P -2.0570, Plg7.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 25 20:23:08.4±0.4, 16°.86N±0°.03×99°.84W±0°.02, h28km±2km, h28km:pP-P, n694, σ1§18/610, mb4.8/131, MS3.8/42, 4C-7D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACP2	Acapulco	0.05	290		Pb	20 23 14.1	+0.8
ACP2					Sb	20 23 18.0	+1.4
ACP2	Acapulco	0.05	290	*i* P	Pb	20 23 14.1	+0.8
ACP2				*i* S	Sb	20 23 18.0	+1.4
DAIG	Los Arroyos	0.24	48		Pb	20 23 15.3	+0.3
DAIG					Sb	20 23 19.7	+0.3
DAIG	Los Arroyos	0.24	48	*i* P	Pb	20 23 15.3	+0.3
DAIG				*i* S	Sb	20 23 19.7	+0.3
CAIG	El Cayaco	0.45	295		Pb	20 23 17.9	0.0
CAIG					Sb	20 23 24.1	-0.3
CAIG	El Cayaco	0.45	295	*i* P	Pb	20 23 17.9	0.0
CAIG				*i* S	Sb	20 23 24.1	-0.3
ATYC	Atoyac	0.67	302	*i* P	Pb	20 23 20.3	-1.2
ATYC				*i* S	Sb	20 23 29.0	-1.4
CRIG	Cruz Grande	0.69	100		Pb	20 23 21.8	-0.1
CRIG	Cruz Grande	0.69	100	⇑*i* P	Pb	20 23 21.8	-0.1
CRIG				*e*S	Sb	20 23 30.9	-0.3
MEIG	Mezcala	1.08	11		Pb	20 23 26.9	-0.9
MEIG					Sn	20 23 40.0	-1.9
MEIG	Mezcala	1.08	11	*i* P	Pn	20 23 26.9	-0.9
MEIG				*i* S	Sn	20 23 40.0	-1.9
MGIG	Malinaltepec	1.21	72		Pn	20 23 29.5	-0.2
MGIG	Malinaltepec	1.21	72	*i* P	Pn	20

LVIG eS Sn **20 25 05.6 +3.8**
CMIG Matias Romero 4.75 86 Pn Pn **20 24 18.8 +0.6**
3.9nm,0.3s,baz=251,slow=12,SNR=34
CMIG Sn Sn **20 25 08.4 -4.0**
23nm,0.3s,baz=298,slow=11,SNR=5.7
CMIG Lg Lg 20 25 34.3
35nm,0.3s,baz=16,slow=18,SNR=4.2
CMIG LR LR 20 26 36.1
comp=Z,614nm,18.4s,baz=274,slow=45
8.7nm,0.3s
CMIG Matias Romero 4.75 86 eP Pn **20 24 18.7 +0.6**
CMIG eS Sn **20 25 17.6 +5.2**
PMUV Sontecomapan 4.80 69 eP Pn **20 24 17.1 -1.9**
PMUV eS Sn **20 25 11.6 -2.1**
RPIG Rio Verde 5.00 358 eP Pn **20 24 23.7 +2.0**
RPIG eS Sn **20 25 24.4 +5.7**
UXUV UXUV 5.47 84 eP Pn **20 24 27.9 -0.1**
UXUV eS Sn **20 25 31.8 +1.7**
CJM Chamela 5.60 299 eP Pn **20 24 31.1 +1.3**
CJM eS Sn **20 25 35.6 +2.3**
ANIG Ahuacatlan 6.08 314 eP Pn **20 24 40.1 +3.5**
ANIG eS Sn **20 25 46.4 +1.0**
GTIG Gomez Farias 6.21 6 eP Pn **20 24 41.6 +3.3**
GTIG eS Sn **20 25 53.8 +5.5**
ZAIG Zacatecas 6.42 337 Pn Pn **20 24 42.8 +1.4**
ZAIG Zacatecas 6.42 337 eP Pn **20 24 44.5 +3.2**
ZAIG eS Sn **20 25 55.5 +1.7**
PCIG 6.46 99 eP Pn **20 24 42.7 +1.0**
PCIG eS Sn **20 25 53.0 -1.6**
CCIG Comitan 7.41 93 Pn Pn **20 24 56.0 +1.1**
APG El Apazote 9.21 100 LR LR 20 29 09.5
comp=Z,74nm,19.1s,baz=258,slow=40
PETF Flores 9.55 88 Pn Pn **20 25 24.5 +0.4**
HPIG 11.39 333 Pn **20 25 48.1 -1.3**
833A Chaparral WMA, 11.42 2 Pn Pn **20 25 49.1 -0.6**
833A Chaparral WMA, 11.42 2 P Pn **20 25 49.9 +0.2**
baz=182
TEIG Tepich 11.47 71 Pn **20 25 48.2 -2.1**
TEIG Tepich 11.47 71 Pn Pn **20 25 49.9 -0.5**
39nm,0.4s,baz=58,slow=0.7,SNR=11
TEIG Sn Sn 20 27 49.1 -8.5
32nm,0.3s,baz=158,slow=23,SNR=1.8
TEIG LR LR 20 31 20.1
comp=Z,6µm,20.6s,baz=24,slow=43
SLBS Sierra La Lagu 11.66 307 Pn Pn **20 25 54.3 +1.2**
LPIG La Paz 12.17 308 LR LR 20 30 15.0
comp=Z,862nm,19.0s,baz=144,slow=35
DRIO Del Rio 12.53 357 Pn Pn **20 26 04.5 -0.4**
HNDO Hondo 12.62 2 Pn Pn **20 26 06.2 +0.1**
TXAR Lajitas Array 12.90 345 Pn Pn **20 26 12.2 +2.2**
baz=160,slow=14,SNR=10
TXAR Lg Lg 20 29 50.6
0.1nm,0.3s,baz=180,slow=25,SNR=2.2
TXAR LR LR 20 30 28.8
comp=Z,45nm,21.5s,baz=152,slow=34
0.6nm,0.7s
SAND Sanderson 13.20 351 Pn Pn **20 26 13.4 -0.7**
JCT Junction City 13.56 0 Pn Pn **20 26 18.0 -1.0**
JCT Junction City 13.56 0 P Pn **20 26 18.5 -0.5**
baz=180
ALPN Alpine 13.89 346 Pn Pn **20 26 21.9 -1.8**
435B Jarrell 14.01 8 P Pn **20 26 24.9 -0.3**
baz=189
OZNA Ozona 14.05 355 Pn Pn **20 26 25.9 +0.2**
BRDY Brady 14.38 3 Pn Pn **20 26 27.9 -2.3**
425A Indio Mountain 14.64 342 Pn Pn **20 26 33.8 0.0**
MNHN Monahans 14.66 350 Pn Pn **20 26 33.9 -0.1**
ACON Acoyapa 15.01 107 Pn Pn **20 26 38.2 -0.6**
ACON IAmb IAmb 20 26 42.5
comp=Z,55nm,1.7s
SGCY Sterling City 15.04 356 Pn Pn **20 26 38.3 -0.8**
HZTE Horizontes, Gu 15.12 112 Pn **20 26 41.6 +1.4**
HZTE IAmb IAmb 20 26 43.9
comp=Z,68nm,1.1s
WHTX Lake Whitney, 15.22 8 Pn Pn **20 26 39.2 -2.2**
WHTX Lake Whitney, 15.22 8 P Pn **20 26 40.7 -0.7**
baz=189,SNR=11
ODSA Odessa 15.39 351 Pn Pn **20 26 42.0 -1.8**
ODSA IAmb IAmb 20 26 48.6
comp=Z,20nm,1.1s
ORTG Ortega, Santa 15.39 113 Pn **20 26 42.7 -1.1**
NATX Nacogdoches 15.56 17 Pn Pn **20 26 43.3 -2.6**
NATX Nacogdoches 15.56 17 P Pn **20 26 45.8 -0.1**
baz=199,SNR=5.1
FW13 Cleburne 15.58 8 Pn Pn **20 26 43.0 -3.1**
FW13 IAmb IAmb 20 26 51.0
comp=Z,72nm,0.9s
MNTX Cornudas Mount 15.61 342 P Pn **20 26 46.4 -0.1**
baz=160
FW14 Alvarado 15.66 8 Pn Pn **20 26 45.4 -1.7**
FW14 IAmb IAmb 20 26 51.8
comp=Z,88nm,1.3s
ABTX Abilene, Hawle 15.70 1 P Pn **20 26 47.3 -0.3**
baz=181
JTS Las Juntas de 15.87 112 P Pn **20 26 50.5 +0.5**
JTS Las Juntas de 15.87 112 Pn Pn **20 26 51.5 +1.5**
comp=Z,0.5nm,0.3s,baz=279,slow=19,SNR=1.5
comp=Z,1.5nm,0.3s
FW07 Weatherford 15.88 6 Pn Pn **20 26 45.1 -5.0**
FW07 IAmb IAmb 20 26 55.0
comp=Z,77nm,1.1s
PLPT Palo Pinto 15.95 5 Pn **20 26 49.1 -1.7**
PLPT IAmb IAmb 20 26 55.7
comp=Z,87nm,1.1s
SN01 Snyder 1 15.96 357 Pn Pn **20 26 50.0 -1.1**
SN01 IAmb IAmb 20 26 54.9
comp=Z,24nm,1.0s
FW06 Azle 16.18 7 Pn Pn **20 26 51.0 -2.8**
FW06 IAmb IAmb 20 26 58.5
comp=Z,30nm,0.8s
APMT Aspermont 16.40 359 P P **20 26 58.8 -0.4**
APMT IAmb IAmb 20 27 00.2
comp=Z,38nm,0.9s
Z35A Perchaven, San 16.57 8 P P **20 27 01.6 +0.5**
DKNS Dickens 16.77 357 P Pn **20 27 01.7 +0.4**
DKNS IAmb IAmb 20 27 04.1
comp=Z,12nm,0.9s
Z38A Mt. Pleasant 16.91 14 P Pn **20 27 04.3 +1.2**
Z38A IAmb IAmb 20 27 05.6
comp=Z,75nm,0.9s
121A Cookes Peak, D 17.18 337 P Pn **20 27 06.5 -0.2**
baz=153
LOOK Love County 17.23 7 Pn **20 27 05.6 -1.5**
MSTX Muleshoe 17.24 352 P Pn **20 27 07.1 -0.2**
baz=170
Z41A Richland Creek 17.52 20 Pn Pn **20 27 09.3 -1.3**
Z41A IAmb IAmb 20 27 19.5
comp=Z,59nm,0.8s
AMTX Amarillo 18.03 355 P Pn **20 27 16.0 -1.0**
baz=174
Y22D IRIS PASSCAL I 18.29 341 P Pn **20 27 20.3 0.0**
baz=158
TUC Tucson 18.30 329 P P **20 27 20.1 -0.3**
baz=144
BRAL Brewton 18.40 37 P P **20 27 20.3 -1.0**
baz=222
W35A Tecumseh 18.41 8 IAmb IAmb 20 27 32.1
comp=Z,44nm,0.8s
FNO Franklin 18.45 6 P **20 27 21.5 -0.4**
ANMO Albuquerque 18.96 343 P P **20 27 28.1 +0.4**
ANMO Albuquerque 18.96 343 P P **20 27 27.2 -0.5**
baz=160
ANMO Albuquerque 18.96 343 P P **20 27 27.7 +0.1**
comp=Z,0.2nm,0.3s,baz=244,slow=11,SNR=14
ANMO Lg Lg 20 33 07.8
comp=Z,0.1nm,0.3s,baz=306,slow=19,SNR=1.7
ANMO LR LR 20 33 58.3
comp=Z,110nm,19.8s,baz=255,slow=34
comp=Z,2.4nm,0.6s
214A Organ Pipe Nat 19.09 324 Pn **20 27 30.8 +1.0**
214A Organ Pipe Nat 19.09 324 P P **20 27 29.6 +0.7**
baz=139
DEOK Depew 19.14 8 IAmb IAmb 20 27 39.7
comp=Z,33nm,0.8s
PIX Pinacate 19.17 322 P Pn **20 27 31.4 +0.6**
OK052 Battle Ridge R 19.25 7 P **20 27 28.8 -1.8**
OK052 IAmb IAmb 20 27 41.4
comp=Z,89nm,1.0s
Y45A Yeager Farm, C 19.30 27 IAmb IAmb 20 27 44.6
comp=Z,30nm,0.7s
TUL3 Leonard 19.32 10 P P **20 27 29.9 -1.4**
TUL3 IAmb IAmb 20 27 33.6
comp=Z,61nm,0.9s
TUL3 Leonard 19.32 10 P P **20 27 30.1 -1.2**
baz=192,SNR=17

U32A Winter Ranch, 19.46 2 IAmb IAmb 20 27 46.3
comp=Z,41nm,0.8s
WHAR Wooly Hollow 19.56 19 P P **20 27 33.0 -0.9**
OK048 Pawnee Station 19.65 7 IAmb IAmb 20 27 37.4
comp=Z,49nm,0.8s
SFX San Felipe 19.65 319 P **20 27 33.4 -1.6**
RTBA Rita Blanca 19.67 353 IAmb IAmb 20 27 48.2
comp=Z,15nm,0.7s
RLO Rose Lookout 19.70 12 P P **20 27 33.4 -2.2**
RLO IAmb IAmb 20 27 48.2
comp=Z,163nm,1.7s
LRAL Lakeview Retre 19.84 33 P P **20 27 35.9 -1.2**
LRAL IAmb IAmb 20 27 51.5
comp=Z,87nm,1.7s
LRAL Lakeview Retre 19.84 33 P P **20 27 36.2 -0.9**
baz=219
OXF Oxford 19.91 26 P P **20 27 37.3 -0.6**
baz=211
BLOK Blackwell 19.96 6 IAmb IAmb 20 27 54.0
comp=Z,32nm,0.9s
U38A Gravette 20.09 13 P P **20 27 38.0 -1.9**
U38A IAmb IAmb 20 27 51.6
comp=Z,56nm,1.3s
FCAR Ozark Folk Cen 20.16 18 P P **20 27 39.6 -1.0**
FCAR IAmb IAmb 20 27 54.1
comp=Z,54nm,1.0s
T35A Sooner Cattle 20.20 8 IAmb IAmb 20 27 56.6
comp=Z,70nm,0.9s
W18A Petrified Fore 20.22 336 P P **20 27 41.8 +0.3**
DWPF Disney Wildern 20.34 53 P P **20 27 41.4 -1.1**
baz=241
T25A Trinidad 20.60 350 P P **20 27 44.1 -1.4**
T25A Trinidad 20.60 350 P P **20 27 45.9 +0.3**
baz=167
TIGA Tifton 20.71 43 P P **20 27 45.6 -1.0**
baz=229
Y49A Blount Mountai 20.79 33 P P **20 27 45.4 -2.0**
X48A Hartselle 20.94 31 P P **20 27 46.7 -2.3**
X48A IAmb IAmb 20 28 00.2
comp=Z,67nm,1.5s
PEBM Pemiscott Bayo 21.13 23 P P **20 27 48.3 -2.7**
HALT Halls 21.15 24 P P **20 27 48.0 -3.2**
WUAZ Wupatki 21.24 333 P P **20 27 53.0 +0.6**
baz=148
MGMO Mountain Grove 21.30 17 P P **20 27 51.3 -1.5**
MGMO IAmb IAmb 20 28 08.2
comp=Z,56nm,0.9s
SDCO Great Sand Dun 21.40 348 P P **20 27 54.1 -0.1**
SDCO Great Sand Dun 21.40 348 P P **20 27 53.8 -0.4**
baz=165,SNR=7.9
YUH Yuha Desert 21.41 320 P P **20 27 55.3 +1.1**
R32A Long Quarter, 21.51 2 IAmb IAmb 20 28 09.3
comp=Z,39nm,1.2s
PBMO Poplar Bluff 21.52 21 IAmb IAmb 20 28 08.1
comp=Z,38nm,0.8s
IKP In-Ko-Pah, Jac 21.53 320 P P **20 27 56.1 +0.7**
baz=133
S39A Bolivar 21.53 14 P P **20 27 53.6 -1.7**
S39A IAmb IAmb 20 28 12.1
comp=Z,47nm,0.8s
SWSC Sam W. Stewart 21.54 321 P P **20 27 56.1 +0.6**
baz=134
PDMCI Parker Dam,Lak 21.59 326 P P **20 27 56.1 0.0**
baz=140
MVCO Mesa Verde 21.67 341 IAmb IAmb 20 28 16.3
comp=Z,64nm,1.5s
MVCO Mesa Verde 21.67 341 P P **20 27 56.7 -0.3**
baz=157,SNR=5.9
S22A 4UR Ranch, Cre 21.70 345 IAmb IAmb 20 28 11.6
comp=Z,48nm,1.4s
S22A 4UR Ranch, Cre 21.70 345 P P **20 27 57.6 +0.1**
baz=162,SNR=9.5
FPAL Fort Paine 21.74 33 IAmb IAmb 20 28 10.3
comp=Z,29nm,0.9s
255A Hazlehurst 21.75 43 P P **20 27 56.1 -1.6**
255A IAmb IAmb 20 28 08.6
comp=Z,40nm,0.8s
154A Montrose 21.79 41 IAmb IAmb 20 28 10.0
comp=Z,47nm,0.8s
BC3 Big Chuckawall 21.84 323 P P **20 27 59.6 +0.7**
baz=136,SNR=8.6
CBKS Cedar Bluff 21.87 0 IAmb IAmb 20 28 15.8
comp=Z,48nm,0.8s
CBKS Cedar Bluff 21.87 0 P P **20 27 59.3 +0.2**
baz=180
MONP2 Monument Peak 21.89 320 P P **20 27 60.0 +0.5**
baz=133,SNR=8.0
BAR Barrett 21.90 319 P P **20 27 59.7 +0.3**
WVT Waverly 21.96 27 P P **20 27 57.9 -2.1**
WVT IAmb IAmb 20 28 15.6
comp=Z,22nm,0.8s
WVT Waverly 21.96 27 P P **20 27 59.1 -0.9**
baz=212
IRM Iron Mountain 22.03 324 P P **20 28 01.3 +0.5**
baz=138,SNR=9.2
Y52A Lilburn 22.09 37 P P **20 27 57.9 -3.5**
Y52A IAmb IAmb 20 28 14.0
comp=Z,24nm,0.9s
V48A Smith Brothers 22.09 29 P P **20 27 58.5 -2.9**
V48A IAmb IAmb 20 28 08.8
comp=Z,41nm,1.6s
SWET Sewanee 22.10 32 P P **20 27 57.8 -3.7**
GOGA Godfrey 22.12 39 P P **20 28 00.5 -1.1**
GOGA IAmb IAmb 20 28 13.5
comp=Z,29nm,1.1s
GOGA Godfrey 22.12 39 P P **20 28 00.5 -1.1**
baz=226
KSCO Kaye Shedlock' 22.20 354 P P **20 28 02.6 -0.1**
baz=173
CGM3 Cape Girardeau 22.26 22 P P **20 28 00.4 -2.8**
CGM3 IAmb IAmb 20 28 16.6
comp=Z,26nm,0.8s
109C Camp Elliot, M 22.31 319 P P **20 28 04.3 +0.5**
baz=131
KSU1 Kansas State U 22.34 7 P P **20 28 03.7 -0.3**
baz=188
R40A Maddies Statio 22.36 16 P P **20 28 02.5 -1.8**
R40A IAmb IAmb 20 28 22.2
comp=Z,48nm,0.9s
TPFO Pinon Flats 22.39 321 P P **20 28 05.9 +1.1**
baz=134
PFO Pinyon Flats O 22.40 321 P P **20 28 06.0 +1.1**
baz=134
BELC Belle Mtn. Jos 22.40 323 P P **20 28 07.0 +2.1**
baz=136,SNR=11
U15A North Rim 22.40 333 P P **20 28 06.7 +1.6**
W50A Signal Mountai 22.40 33 P P **20 28 02.8 -2.0**
W50A IAmb IAmb 20 28 25.1
comp=Z,23nm,0.9s
CCM Cathedral Cave 22.43 18 P P **20 28 04.4 -0.6**
baz=202
Q24A Divide 22.51 349 P P **20 28 06.8 +0.7**
baz=167
FVM French Village 22.62 20 P P **20 28 04.4 -2.6**
FVM IAmb IAmb 20 28 21.7
comp=Z,72nm,1.6s
PV03 Paradox Valley 22.73 341 P P **20 28 09.4 +0.9**
S44A Carbondale 22.75 22 P P **20 28 08.6 +0.1**
GMRC Granite Mounta 22.78 325 P P **20 28 11.3 +2.4**
baz=138,SNR=7.2
SIUC Southern Illin 22.79 22 P P **20 28 09.0 +0.2**
MURC Murrieta 22.84 320 P P **20 28 10.7 +1.2**
baz=132
T47A Sharon Grove 23.00 27 IAmb IAmb 20 28 27.2
comp=Z,39nm,0.8s
CPCT Cooper Cave 23.01 33 IAmb IAmb 20 28 21.6
comp=Z,22nm,0.9s
ELS Elsinore Mount 23.02 320 P P **20 28 12.4 +1.2**
V12A Nelson 23.06 327 IAmb IAmb 20 28 27.3
comp=Z,25nm,1.1s
KNB Kanab 23.13 333 IAmb IAmb 20 28 27.7
comp=Z,49nm,1.4s
BBRC Big Bear Solar 23.13 322 P P **20 28 13.1 +0.5**
baz=134
HEC Hector,Ludlow 23.19 324 P P **20 28 14.9 +1.8**
baz=136,SNR=13
PKCU Pink Cliffs 23.27 334 IAmb IAmb 20 28 29.6
comp=Z,48nm,1.1s
SCI2 San Clemente I 23.29 317 P P **20 28 14.6 +0.6**
baz=129
P38A Dawn 23.34 12 IAmb IAmb 20 28 26.3
comp=Z,16nm,0.8s
V51A Loudon 23.37 33 **sP** **20 28 23.6 -2.7**
V51A IAmb IAmb 20 28 31.4
comp=Z,22nm,0.8s
ISCO Idaho Springs 23.40 349 P P **20 28 15.4 0.0**
baz=166
TUQ Turquoise Moun 23.41 325 P P **20 28 16.9 +1.6**
baz=138,SNR=15
HODGE Hodges 23.41 39 IAmb IAmb 20 28 25.1
comp=Z,32nm,1.0s
CIS Catalina Islan 23.48 318 P P **20 28 17.5 +1.6**
baz=130
BFSC Mount Baldy Ra 23.56 321 P P **20 28 17.8 +1.1**
baz=133
TKL Tuckaleechee C 23.56 34 IAmb IAmb 20 28 28.6
comp=Z,23nm,1.0s
TKL Tuckaleechee C 23.56 34 P P **20 28 14.5 -2.1**
comp=Z,4.7nm,0.7s,baz=198,slow=12,SNR=9.3
TKL LR LR 20 40 36.6
comp=Z,64nm,18.4s,baz=206,slow=45
comp=Z,4.7nm,0.7s
SZCU Shurtz Canyon 23.73 333 P P **20 28 18.9 +0.5**
MTPU Mount Pierson 23.73 335 IAmb IAmb 20 28 34.2
comp=Z,32nm,0.9s
V52A Sevierville 23.80 34 IAmb IAmb 20 28 28.9
comp=Z,28nm,0.8s
GSC Goldstone, Bar 23.80 324 P P **20 28 20.9 +1.9**
baz=136,SNR=6.1
PASC Pasadena Art C 23.83 320 P P **20 28 16.8 -2.5**
PASC IAmb IAmb 20 28 35.5
comp=Z,36nm,1.4s
Q44A Meyer Farm, Va 23.92 21 IAmb IAmb 20 28 33.4
comp=Z,40nm,0.9s
SHOC Shoshone, Teco 23.94 326 P P **20 28 21.8 +1.5**
baz=138
NHSC New Hope 24.00 44 P P **20 28 20.8 +0.1**
NHSC New Hope 24.00 44 P P **20 28 20.7 -0.1**
baz=232
T50A Nancy 24.07 31 IAmb IAmb 20 28 37.3
comp=Z,21nm,0.7s
OGNE Ogallala 24.08 356 P P **20 28 21.8 +0.3**
baz=175
SNCC San Nicolas Is 24.10 316 P P **20 28 23.6 +1.8**
baz=128
V53A Saluda 24.10 36 IAmb IAmb 20 28 31.4
comp=Z,26nm,0.8s
Q16A Castle Valley 24.11 338 P P **20 28 20.3 -1.7**
Q16A IAmb IAmb 20 28 36.5
comp=Z,54nm,1.7s
EDW2 Edwards Air Fo 24.20 321 P P **20 28 24.2 +1.6**
baz=133,SNR=7.0
O20A White River Ci 24.31 344 IAmb IAmb 20 28 38.2
comp=Z,40nm,0.8s
O20A White River Ci 24.31 344 P P **20 28 25.2 +1.3**
baz=160,SNR=6.2
TZTN Tazewell 24.35 33 IAmb IAmb 20 28 36.4
comp=Z,22nm,0.8s
TZTN Tazewell 24.35 33 P P **20 28 24.2 +0.2**
baz=221
GWY Greenwater Val 24.37 325 IAmb IAmb 20 28 39.4
comp=Z,18nm,0.9s
WCI Wyandotte Cave 24.39 27 P P **20 28 24.2 -0.1**
WCI IAmb IAmb 20 28 40.6
comp=Z,19nm,0.8s
WCI Wyandotte Cave 24.39 27 P P **20 28 24.6 +0.3**
baz=213
CCAC Calif City Air 24.39 322 IAmb IAmb 20 28 40.7
comp=Z,18nm,0.8s
LRMC Laurel Mtn Rad 24.43 323 P P **20 28 26.4 +1.6**
baz=135,SNR=5.9
P18A Preston Nutter 24.43 340 IAmb IAmb 20 28 39.4
comp=Z,22nm,0.9s
OSI Osito Audit: C 24.46 320 P P **20 28 26.3 +1.2**
baz=132
PRN Pahroc Range 24.47 330 IAmb IAmb 20 28 41.7
comp=Z,31nm,1.7s
BGNE Belgrade 24.51 3 P P **20 28 26.6 +1.2**
baz=184
N23A Red Feather La 24.53 349 P P **20 28 26.1 +0.3**
baz=166
KMSC Kings Mountain 24.59 39 IAmb IAmb 20 28 35.5
comp=Z,30nm,0.8s
KMSC Kings Mountain 24.59 39 P P **20 28 26.0 -0.2**
baz=227
SCZ2 Santa Cruz Isl 24.64 318 P P **20 28 27.9 +1.2**
baz=129
FURC Furnace Creek, 24.68 326 P P **20 28 28.5 +1.6**
baz=138
TPNV Topopah Spring 24.72 327 IAmb IAmb 20 28 44.5
comp=Z,23nm,0.9s
TPNV Topopah Spring 24.72 327 P P **20 28 28.5 +1.0**
baz=140
MPMC Manual Prospec 24.73 324 P P **20 28 28.7 +1.1**
baz=136,SNR=7.2
PHWY Pilot Hill 24.84 350 P P **20 28 28.8 +0.1**
ARVC Arvin 24.87 321 P P **20 28 29.4 +0.8**
baz=132
SBC Santa Barbara 24.97 318 P P **20 28 30.1 +0.5**
baz=130
ISA Isabella, Lake 25.02 322 P P **20 28 30.5 +0.3**
baz=134
RDMU Red Mountain 25.09 342 IAmb IAmb 20 28 46.3
comp=Z,49nm,1.5s
BCW Bitter Crk WRg 25.10 320 P P **20 28 33.0 +2.1**
BCW IAmb IAmb 20 28 52.0
comp=Z,36nm,1.4s
PKM Mcpherson Peak 25.32 319 P P **20 28 33.6 +0.6**
baz=130
HDIL Hopedale 25.32 19 P P **20 28 32.3 -0.4**
baz=204
CWC Cottonwood Cre 25.34 324 P P **20 28 33.7 +0.6**
baz=136
GRAC Grapevine Rang 25.34 326 P P **20 28 34.4 +1.4**
baz=138
W57A Gilead 25.41 40 P P **20 28 32.9 -0.7**
SPR3 Spring Creek 3 25.44 333 IAmb IAmb 20 28 48.8
comp=Z,20nm,1.2s
R11B Troy Canyon, C 25.48 330 P P **20 28 35.1 +0.7**
baz=143
VES Vestal, Richgr 25.50 322 P P **20 28 36.2 +1.8**
baz=133,SNR=8.9
GMN Gold Mountain 25.51 326 IAmb IAmb 20 28 51.4
comp=Z,20nm,1.1s
SCIA State Center 25.60 11 P P **20 28 35.8 +0.5**
baz=195
SMMC Simmler 25.71 319 P P **20 28 37.3 +1.0**
baz=130
DUG Dugway, Tooele 25.84 337 P P **20 28 38.5 +0.9**
baz=150
TIN Tinemaha, Big 25.86 325 P P **20 28 39.2 +1.4**
baz=136
SFIN Lafayette 25.91 23 P P **20 28 37.8 -0.3**
baz=209
U56A King 25.97 38 IAmb IAmb 20 28 50.0
comp=Z,33nm,0.9s
VOG Valley Oaks Go 26.00 322 P P **20 28 39.0 0.0**
baz=133
P49A Miami Univ. Ec 26.16 27 IAmb IAmb 20 28 56.7
comp=Z,24nm,0.8s
P49A Miami Univ. Ec 26.16 27 P P **20 28 39.2 -1.1**
baz=214
L40A Anamosa 26.18 15 IAmb IAmb 20 28 55.5
comp=Z,30nm,0.8s
K22A Casper 26.33 349 IAmb IAmb 20 28 59.2
comp=Z,49nm,1.8s
K22A Casper 26.33 349 P P **20 28 42.1 0.0**
baz=165
V58A Windy Hill, Pi 26.37 40 P P **20 28 41.5 -0.8**
Q51A Peebles 26.37 30 IAmb IAmb 20 28 58.4
comp=Z,37nm,0.9s
S54A Dingess, Beckl 26.48 34 IAmb IAmb 20 28 53.5
comp=Z,27nm,0.8s
BLA Blacksburg 26.55 36 P P **20 28 44.0 0.0**
baz=225,SNR=6.1
BGU Big Grassy Mou 26.55 337 P P **20 28 43.8 -0.3**
O48B Farmland 26.57 26 P P **20 28 43.3 -0.8**
baz=213
MLAC Mammoth, Mammo 26.61 325 P P **20 28 46.2 +1.5**
baz=136
NV11 Mina Array Sit 26.83 327 IAmb IAmb 20 29 02.4
comp=Z,28nm,1.0s
P51A Williamsport 26.87 30 IAmb IAmb 20 29 02.4
comp=Z,26nm,0.7s
NVAR Mina Array Bea 26.90 327 P P **20 28 48.2 +0.8**
comp=Z,4.2nm,0.9s,baz=152,slow=9.0,SNR=31
NVAR PcP **PcP** **20 32 10.3 +1.1**
comp=Z,2.3nm,1.0s,baz=135,slow=3.3,SNR=4.3
NVAR LR LR 20 40 37.8
comp=Z,359nm,19.4s,baz=134,slow=39
comp=Z,4.2nm,0.9s
ECSD EROS Data Cent 26.93 5 IAmb IAmb 20 28 58.0
comp=Z,16nm,1.0s
ECSD EROS Data Cent 26.93 5 P P **20 28 46.7 -0.6**

baz=187
BW06 Boulder Array 27.12 344 IAmb IAmb 20 29 06.2
comp=Z,21nm,1.1s
BW06 Boulder Array 27.12 344 P **P** **20 28 49.7 +0.4**
baz=159
PD31 Pinedale Array 27.12 344 IAmb IAmb 20 29 06.2
comp=Z,19nm,1.1s
PDAR Pinedale Array 27.12 344 P **P** **20 28 49.7 +0.4**
comp=Z,0.6nm,0.5s,baz=147,slow=10,SNR=13
PDAR PcP **PcP** **20 32 09.6 -0.1**
comp=Z,0.5nm,0.6s,baz=149,slow=4.3,SNR=3.8
PDAR LR LR 20 41 00.3
comp=Z,523nm,21.6s,baz=170,slow=40
comp=Z,0.6nm,0.5s
L44A Lake County Fo 27.23 20 P **P** **20 28 49.7 -0.2**
baz=206
JFWS Jewell Farm 27.23 16 P **P** **20 28 50.1 +0.2**
baz=200
KVN Kaiserville 27.26 328 IAmb IAmb 20 29 09.9
comp=Z,18nm,1.1s
ELK Elko 27.27 344 LR LR 20 40 14.8
comp=Z,379nm,19.9s,baz=154,slow=38
RSSD Black Hills 27.41 353 P **P** **20 28 52.2 +0.4**
baz=171
P52A Corning 27.43 31 P **P** **20 28 51.4 -0.4**
baz=219
ACSO Alum Creek Sta 27.50 29 P **P** **20 28 51.8 -0.6**
baz=217
BMN Battle Mountai 27.90 331 IAmb IAmb 20 29 11.9
comp=Z,32nm,1.9s
PNTR Pine Nut 28.07 326 IAmb IAmb 20 29 13.8
comp=Z,15nm,1.0s
TPAW Teton Pass 28.17 343 P **P** **20 28 56.6 -2.1**
TPAW IAmb IAmb 20 29 43.9
comp=Z,22nm,1.2s
EMB Emerald Bay 28.26 325 IAmb IAmb 20 29 15.8
comp=Z,26nm,1.0s
PAHR Pah Rah Range 28.41 327 P **P** **20 28 59.6 -1.2**
PAHR IAmb IAmb 20 29 31.7
comp=Z,20nm,1.6s
MCWV Mont Chateau 28.61 33 P **P** **20 29 01.8 -0.6**
baz=223
SPMN Marine on St. 28.89 10 P **P** **20 29 04.8 +0.1**
baz=194
AAM Ann Arbor 28.90 25 P **P** **20 29 04.1 -0.7**
baz=214
H17A Grant Village 28.91 344 P **P** **20 29 06.0 +0.7**
baz=158
RLMT Red Lodge 29.27 346 IAmb IAmb 20 29 22.9
comp=Z,18nm,1.4s
RLMT Red Lodge 29.27 346 P **P** **20 29 09.0 +0.6**
baz=161
HLID Hailey 29.35 338 P **P** **20 29 07.1 -2.0**
HLID Hailey 29.35 338 P **P** **20 29 10.0 +0.9**
baz=150
ORV Oroville 29.44 325 P **P** **20 29 11.4 +1.7**
SDV Santo Domingo 29.52 102 LR LR 20 41 53.9
comp=Z,111nm,20.1s,baz=288,slow=38
MFID Camas Ranch 29.75 336 P **P** **20 29 11.6 -1.0**
MFID IAmb IAmb 20 29 32.5
comp=Z,26nm,1.4s
LAO LASA Array 30.21 351 P **P** **20 29 17.1 +0.5**
baz=168
ERPA Erie 30.38 30 P **P** **20 29 17.9 -0.2**
baz=220
GLMI Grayling 30.68 21 P **P** **20 29 20.5 -0.2**
baz=210
MDND Maddock 30.91 0 P **P** **20 29 22.7 +0.1**
baz=180
PLID Pearl Lake 31.24 338 IAmb IAmb 20 29 40.1
comp=Z,12nm,1.1s
BMO Blue Mountains 31.54 336 **P** **20 29 26.9 -1.4**
YBH Yreka Blue Hor 31.62 326 LR LR 20 43 24.9
comp=Z,174nm,21.9s,baz=134,slow=39
DGMT Dagmar 31.73 354 P **P** **20 29 29.8 0.0**
baz=172
EYMN Ely 31.75 11 P **P** **20 29 30.3 +0.3**
baz=195
I07A Izee 31.82 333 P **P** **20 29 32.5 +1.6**
I07A IAmb IAmb 20 29 47.5
comp=Z,12nm,1.3s
ATAH Atahualpa 31.91 137 LR LR 20 39 53.3
comp=Z,171nm,21.1s,baz=319,slow=32
CHMT Chamberlain Mo 31.96 343 P **P** **20 29 33.0 +0.9**
MSO Missoula 32.09 342 P **P** **20 29 33.7 +0.6**
baz=154
SJG San Juan 32.13 83 LR LR 20 41 38.8
comp=Z,50nm,21.2s,baz=246,slow=35
GCPR Guaynabo City 32.19 82 P **P** **20 29 34.5 +0.3**
BINY Binghamton 32.48 34 P **P** **20 29 36.2 -0.3**
baz=226
G08A Pilot Rock 32.56 335 P **P** **20 29 39.0 +1.7**
G08A IAmb IAmb 20 29 51.9
comp=Z,14nm,1.0s
SADO Sadowa 32.82 28 LR LR 20 46 17.2
comp=Z,104nm,18.3s,baz=240,slow=42
PAL Palisades 32.85 38 P **P** **20 29 38.9 -0.8**
baz=230
ULM Lac du Bonnet 33.46 5 P **P** **20 29 43.8 -1.1**
ULM Lac du Bonnet 33.46 5 P **P** **20 29 45.1 +0.2**
comp=Z,2.8nm,0.7s,baz=196,slow=9.2,SNR=4.7
ULM LR LR 20 43 52.0
comp=Z,94nm,19.0s,baz=122,slow=37
comp=Z,2.8nm,0.7s
NEW Newport 34.37 339 P **P** **20 29 51.1 -1.9**
NEW Newport 34.37 339 LR LR 20 45 58.4
comp=Z,205nm,20.2s,baz=160,slow=40
LONY Lake Ozonia 34.89 32 P **P** **20 29 56.8 -0.6**
baz=226
HRV Adam Dziewonsk 35.16 37 P **P** **20 29 59.2 -0.5**
baz=232
NNA Nana 36.58 140 LR LR 20 41 51.8
comp=Z,158nm,21.9s,baz=320,slow=31
EDM Edmonton 37.80 347 P **P** **20 30 22.0 -0.2**
FFC Flin Flon 37.83 358 P **P** **20 30 22.0 -0.4**
FFC IAmb IAmb 20 30 22.9
comp=Z,12nm,0.8s
FFC Flin Flon 37.83 358 P **P** **20 30 22.0 -0.4**
FFC pP **pP** **20 30 31.1 +0.2**
BBB Bella Bella 41.72 334 LR LR 20 49 24.1
comp=Z,242nm,18.3s,baz=143,slow=38
FCC Fort Churchill 42.05 4 P **P** **20 30 56.2 -1.1**
FCC IAmb IAmb 20 31 14.3
comp=Z,30nm,1.6s
SAML Samuel 44.41 123 P **P** **20 31 15.7 -1.3**
SAML Samuel 44.41 123 P **P** **20 31 16.6 -0.4**
SAML pP **pP** **20 31 25.0 -0.5**
SAML sP **sP** **20 31 29.3 +0.4**
V35K Ketchikan 45.43 335 P **P** **20 31 24.1 -0.5**
baz=135
SCHQ Schefferville 45.60 26 P **P** **20 31 25.4 -0.6**
comp=Z,4.7nm,0.8s,baz=258,slow=7.0,SNR=5.4
SCHQ LR LR 20 51 49.4
comp=Z,108nm,18.8s,baz=231,slow=38
comp=Z,4.7nm,0.8s
PB16 IPOC Station P 45.98 138 IAmb IAmb 20 31 33.4
comp=Z,7.4nm,0.9s
T35M Bob Quinn 46.10 337 IAmb IAmb 20 31 45.7
comp=Z,16nm,0.9s
T35M Bob Quinn 46.10 337 P **P** **20 31 30.0 0.0**
baz=138
CRAG Craig 46.15 334 P **P** **20 31 30.1 -0.1**
baz=133
WRAK Wrangell Islan 46.50 336 P **P** **20 31 33.3 +0.3**
baz=135
KOTAN Kotaneelee Air 46.63 344 P **P** **20 31 34.6 +0.6**
baz=147
YKA Yellowknife Ar 46.75 351 P **P** **20 31 34.5 -0.4**
comp=Z,3.9nm,1.1s,baz=160,slow=7.2,SNR=21
YKA LR LR 20 51 44.2
comp=Z,90nm,18.6s,baz=60,slow=37
comp=Z,3.9nm,1.1s
S34M Telegraph Cree 47.12 338 P **P** **20 31 38.4 +0.6**
baz=137
DLBC Dease Lake 47.12 339 P **P** **20 31 39.0 +1.1**
baz=139
DLBC Dease Lake 47.12 339 LR LR 20 53 31.3
comp=Z,398nm,19.5s,baz=131,slow=39
TAOE Nuku Hiva Isla 47.35 240 *eT* T 21 22 11.0
comp=Z,43nm,0.2s
MDP Montagnes des 47.66 99 LR LR 20 53 58.5
comp=Z,57nm,19.4s,baz=297,slow=39
WTLY Watson Lake, Y 48.00 341 P **P** **20 31 46.5 +1.8**
baz=141
S32K Killisnoo 48.11 336 P **P** **20 31 44.9 -0.6**
baz=133
R33M Jennings River 48.16 339 P **P** **20 31 46.5 +0.4**
baz=138
TGTN Hyland Airport 48.97 342 P **P** **20 31 52.8 +0.7**
baz=143
S31K Pelican 49.10 335 P **P** **20 31 53.6 +0.5**
baz=131
WRGLY Wrigley 49.13 346 P **P** **20 31 54.3 +1.0**
baz=150
P32M Atlin 49.26 338 P **P** **20 31 55.0 +0.6**
baz=135
P33M Teslin, Yukon 49.40 339 P **P** **20 31 54.1 -1.4**
P33M IAmb IAmb 20 32 15.2
comp=Z,12nm,1.2s
P33M Teslin, Yukon 49.40 339 P **P** **20 31 56.3 +0.8**
baz=137
LVC Limon Verde 49.55 141 LR LR 20 50 20.4
comp=Z,23nm,20.8s,baz=345,slow=33
SKAG Skagway 49.76 337 P **P** **20 31 59.3 +1.1**
baz=133
N32M Quiet Lake 50.17 340 P **P** **20 32 02.3 +1.0**
baz=137
SIV San Ignacio 50.27 128 LR LR 20 52 17.9
comp=Z,39nm,18.2s,baz=246,slow=35
WHY Whitehorse 50.43 338 P **P** **20 32 04.6 +1.2**
baz=134
MMPY Sheldon Lake, 50.70 342 P **P** **20 32 07.1 +1.8**
baz=140,SNR=5.6
P29M Windy Craggy 50.79 336 P **P** **20 32 07.2 +1.2**
baz=131
P30M Million Dollar 50.82 337 P **P** **20 32 07.6 +1.4**
baz=132
O30N Mendenhall 50.94 338 P **P** **20 32 08.4 +1.3**
baz=133
FARO Faro, Yukon 51.05 341 IAmb IAmb 20 32 24.1
comp=Z,11nm,0.9s
FARO Faro, Yukon 51.05 341 P **P** **20 32 08.6 +0.7**
baz=137
N31M Braeburn, Yuko 51.33 339 P **P** **20 32 11.3 +1.3**
baz=134
M31M Drury Creek, Y 51.37 340 IAmb IAmb 20 32 26.2
comp=Z,10nm,0.9s
M31M Drury Creek, Y 51.37 340 P **P** **20 32 11.3 +1.0**
baz=136
PTLB Pontes e Lacer 51.41 126 P **P** **20 32 11.1 -0.1**
PNL Peninsula 51.46 336 P **P** **20 32 12.1 +1.0**
baz=129
HYT Haines Junctio 51.49 338 P **P** **20 32 09.3 -2.1**
HYT IAmb IAmb 20 32 28.5
comp=Z,17nm,1.1s
HYT Haines Junctio 51.49 338 P **P** **20 32 12.5 +1.2**
baz=132
FRB Frobisher Bay 51.53 17 LR LR 20 55 31.0
comp=Z,146nm,18.6s,baz=188,slow=38
O29M Mount Kennedy 51.55 337 P **P** **20 32 11.4 -0.4**
baz=130
N30M Aishikik Lake 51.77 338 IAmb IAmb 20 32 29.7
comp=Z,8.9nm,0.9s
N30M Aishikik Lake 51.77 338 P **P** **20 32 13.1 -0.3**
baz=132
YUK6 Outpost Mounta 51.88 337 P **P** **20 32 15.1 +0.7**
baz=131
PINM Pinnacle 52.06 336 P **P** **20 32 17.3 +1.7**
baz=128
YUK4 Talbot Arm 52.25 338 P **P** **20 32 18.8 +1.7**
baz=131
M30M Minto, Yukon 52.43 339 P **P** **20 32 19.2 +1.0**
baz=133
YUK8 Steele Glacier 52.62 337 P **P** **20 32 20.6 +0.6**
baz=129
MAYO Mayo, Yukon 52.85 341 P **P** **20 32 22.2 +0.9**
baz=135
M29M Somme Creek 52.91 339 P **P** **20 32 22.9 +1.1**
M29M IAmb IAmb 20 32 40.4
comp=Z,7.8nm,0.8s
M29M Somme Creek 52.91 339 P **P** **20 32 23.6 +1.7**
baz=131
CTG Chitna Glacier 53.02 336 P **P** **20 32 23.4 +0.7**
baz=127
YUK3 Moose Creek 53.19 337 P **P** **20 32 23.6 -0.5**
baz=129
L29M L29M 53.24 339 P **P** **20 32 26.2 +1.9**
baz=132
K29M Barlow Dome 53.54 340 IAmb IAmb 20 32 42.8
comp=Z,23nm,1.4s
K29M Barlow Dome 53.54 340 P **P** **20 32 28.0 +1.5**
baz=133
CRQE Cirque 53.59 335 P **P** **20 32 28.5 +1.6**
baz=125
KAIM Kayak Island 53.66 334 P **P** **20 32 27.6 +0.3**
baz=123
J30M Hart River 53.68 341 P **P** **20 32 28.2 +0.7**
baz=135
BVCY Beaver Creek 53.74 338 P **P** **20 32 27.8 -0.1**
baz=129
H03N2 Juan Fernandez 53.85 158 T T 21 30 23.5
baz=338,slow=77,SNR=108
H03N1 Juan Fernandez 53.86 158 T T 21 30 26.1
baz=338,slow=77,SNR=132
H03N3 Juan Fernandez 53.87 158 T T 21 30 25.2
baz=338,slow=77,SNR=100
M27K Edge Creek, AK 54.08 337 P **P** **20 32 30.6 +0.1**
baz=128
I30M Mount Dempster 54.15 342 IAmb IAmb 20 32 46.8
comp=Z,7.5nm,0.9s
I30M Mount Dempster 54.15 342 P **P** **20 32 30.9 0.0**
baz=135
Q23K Middleton Isla 54.23 333 P **P** **20 32 31.3 -0.1**
baz=121
GLB Gilahina Butte 54.27 336 IAmb IAmb 20 32 48.8
comp=Z,11nm,1.1s
DAWY Dawson 54.30 340 P **P** **20 32 31.9 0.0**
baz=131
BMRM Brenner River 54.32 335 P **P** **20 32 31.8 -0.4**
baz=124
L27K Beaver Creek, 54.49 338 IAmb IAmb 20 32 45.8
comp=Z,13nm,1.4s
L27K Beaver Creek, 54.49 338 P **P** **20 32 33.3 0.0**
baz=128
M26K Nabesna, AK 54.52 337 P **P** **20 32 33.7 +0.1**
baz=126
EYAK Cordova Ski Ar 54.56 334 P **P** **20 32 34.2 +0.4**
baz=122
C36M Paulatuk 54.60 350 P **P** **20 32 34.0 0.0**
baz=151
N25K Chitina, Valde 54.68 336 P **P** **20 32 34.2 -0.6**
baz=124
G31M Satah River 54.81 344 P **P** **20 32 35.7 +0.2**
baz=138,SNR=5.1
I29M Ogilvie Camp, 54.83 341 IAmb IAmb 20 32 53.0
comp=Z,16nm,1.4s
I29M Ogilvie Camp, 54.83 341 P **P** **20 32 35.6 -0.1**
baz=133
P23K Montague Islan 54.98 333 P **P** **20 32 37.2 +0.4**
baz=120
L26K Log Cabin Wild 55.02 337 P **P** **20 32 37.4 +0.2**
baz=126
EPYK Eagle Plains 55.07 343 P **P** **20 32 37.5 -0.1**
baz=136
KLU Klutina 55.14 335 P **P** **20 32 38.7 +0.6**
baz=138
K27K Chicken 55.18 339 IAmb IAmb 20 32 58.3
comp=Z,17nm,1.1s
K27K Chicken 55.18 339 P **P** **20 32 39.2 +0.9**
baz=128
HARP HAARP 55.34 336 P **P** **20 32 40.5 +1.0**
baz=124
EGAK Eagle 55.35 340 P **P** **20 32 39.9 +0.5**
baz=130
G30M tAoh Zraii Nji 55.38 344 P **P** **20 32 39.5 -0.2**
baz=136
I28M Miner Creek 55.39 341 P **P** **20 32 40.6 +0.7**
baz=131
H29M Whitestone 55.44 342 P **P** **20 32 40.7 +0.5**
baz=134
M24K Tolsona, Glenn 55.58 336 P **P** **20 32 41.7 +0.5**
baz=123
INK Inuvik 55.68 346 P **P** **20 32 42.6 +0.9**
baz=140,SNR=7.4
INK Inuvik 55.68 346 LR LR 20 58 42.7
comp=Z,227nm,19.5s,baz=183,slow=38
F30M Barrier River 55.72 344 P **P** **20 32 42.4 +0.3**
baz=137
PAX Paxson 55.78 337 P **P** **20 32 43.4 +0.7**
baz=124
SCRK Sand Creek 55.82 338 IAmb IAmb 20 32 59.7
comp=Z,17nm,1.5s
SCRK Sand Creek 55.82 338 P **P** **20 32 43.1 +0.1**
baz=126
G29M Pine Creek 55.83 343 P **P** **20 32 43.9 +1.0**
baz=134
SCM Sheep Creek Mo 55.89 335 P **P** **20 32 44.0 +0.5**
baz=122
SEW Seward 55.92 333 P **P** **20 32 44.3 +0.6**
baz=118
J26L Joseph Creek 55.99 339 IAmb IAmb 20 33 05.2
comp=Z,14nm,0.9s
J26L Joseph Creek 55.99 339 P **P** **20 32 45.1 +0.9**
baz=127
RIDG Independent Ri 55.99 338 P **P** **20 32 45.3 +1.2**
baz=125
I27K Kandik River 56.03 341 P **P** **20 32 44.9 +0.5**
baz=130
M23K Glacier View 56.03 335 P **P** **20 32 45.4 +0.9**
baz=121
KNK Knik Glacier 56.14 334 P **P** **20 32 46.7 +1.4**
baz=120
O22K Cooper Landing 56.22 333 P **P** **20 32 46.3 +0.5**
baz=118
SML Sawmill 56.29 335 P **P** **20 32 48.0 +1.7**
baz=120
BRSE Bradley Lake S 56.33 332 P **P** **20 32 46.4 -0.3**
baz=117
I26K Coal Creek Min 56.34 340 P **P** **20 32 46.8 +0.2**
baz=128
KDAK Kodiak Island 56.36 329 LR LR 20 57 29.6
comp=Z,168nm,18.8s,baz=135,slow=37
K24K Donnelly Dome 56.37 337 P **P** **20 32 47.5 +0.6**
baz=124
H27K Steamboat Moun 56.40 341 P **P** **20 32 48.2 +1.2**
baz=130
WAT6 Susitna Watana 56.45 336 P **P** **20 32 48.1 +0.5**
baz=122
OHAK Old Harbor 56.49 328 P **P** **20 32 48.8 +1.0**
baz=113
PMR Palmer 56.51 334 P **P** **20 32 49.1 +1.3**
baz=120
RC01 Rabbit Creek A 56.52 334 P **P** **20 32 47.9 0.0**
baz=118
DHY Denali Highway 56.57 336 P **P** **20 32 47.7 -0.7**
baz=122
Q20K Shuyak Island 56.61 330 P **P** **20 32 46.8 -1.7**
baz=114
J25K Salcha River, 56.68 338 P **P** **20 32 49.6 +0.5**
baz=125
HOM Homer 56.70 331 P **P** **20 32 49.5 +0.3**
baz=116
G27K Doyon Strip 56.82 342 IAmb IAmb 20 33 06.8
comp=Z,4.6nm,0.8s
G27K Doyon Strip 56.82 342 P **P** **20 32 50.4 +0.4**
baz=130
F28M Old Crow 56.83 343 IAmb IAmb 20 33 11.9
comp=Z,6.3nm,0.8s
F28M Old Crow 56.83 343 P **P** **20 32 50.5 +0.4**
baz=133
E29M Blow River 56.84 344 IAmb IAmb 20 33 01.8
comp=Z,19nm,1.5s
E29M Blow River 56.84 344 P **P** **20 32 50.5 +0.5**
baz=135
WAT1 Susitna Watana 56.90 336 P **P** **20 32 51.3 +0.7**
baz=121
CFA Coronel Fontan 56.94 148 LR LR 20 52 52.8
comp=Z,77nm,18.0s,baz=6.5,slow=31
M22K Willow 57.00 334 P **P** **20 32 51.9 +0.6**
baz=118
PMOR Pomariorio Ree 57.02 239 *eT* T 21 34 41.7
comp=Z,22nm,0.2s
AQDB Aquidauana 57.04 129 P **P** **20 32 52.2 0.0**
AQDB IAmb IAmb 20 33 01.8
comp=Z,11nm,1.0s
A36M Sachs Harbour 57.11 351 P **P** **20 32 52.2 +0.3**
baz=151,SNR=7.2
SUA Susitna One 57.13 334 P **P** **20 32 52.7 +0.3**
baz=118
HDA Harding Lake 57.13 338 IAmb IAmb 20 33 12.2
comp=Z,7.2nm,1.0s
HDA Harding Lake 57.13 338 P **P** **20 32 52.4 +0.2**
baz=123
HDA P **P** **20 32 52.4 +0.2**
baz=123
R18K Karluk 57.20 328 P **P** **20 32 53.3 +0.5**
baz=112
PRP Porcupine Dome 57.26 339 P **P** **20 32 52.8 -0.5**
PRP **pP** **20 33 03.7 +1.6**
PRP IAmb IAmb 20 33 09.6
comp=Z,7.2nm,0.9s
PRP Porcupine Dome 57.26 339 P **P** **20 32 53.3 0.0**
baz=125
IL31 57.31 338 **sP** **20 33 04.0 -1.7**
IL31 IAmb IAmb 20 33 05.0
comp=Z,16nm,1.2s
ILAR Eielson Array 57.31 338 P **P** **20 32 53.9 +0.4**
comp=Z,3.2nm,1.1s,baz=147,slow=4.7,SNR=21
ILAR LR LR 21 00 29.1
comp=Z,224nm,18.9s,baz=92,slow=39
comp=Z,3.2nm,1.1s
O20K Slope Mountain 57.34 332 P **P** **20 32 53.4 -0.4**
baz=115
Q19K Cape Douglas, 57.34 330 P **P** **20 32 54.4 +0.6**
baz=113
CUT Chulitna 57.38 335 P **P** **20 32 54.6 +0.7**
baz=119
E28M Babbage River 57.42 344 P **P** **20 32 54.3 +0.1**
E28M Babbage River 57.42 344 P **P** **20 32 54.2 +0.1**
baz=133
P19K Oil Pt 57.43 331 P **P** **20 32 54.7 +0.3**
baz=114
MCK McKinley 57.51 337 P **P** **20 32 55.0 +0.1**
baz=121
G26K Porcupine Rive 57.56 341 P **P** **20 32 55.5 +0.3**
baz=128
N20K Mount Spurr 57.63 333 P **P** **20 32 56.3 +0.4**
baz=116
SKT Skwentna 57.70 334 IAmb IAmb 20 33 07.2
comp=Z,10nm,0.8s
SKT Skwentna 57.70 334 P **P** **20 32 56.2 -0.1**
baz=117
E27K Coleen River 57.70 343 **sP** **20 33 07.0 -1.4**
E27K IAmb IAmb 20 33 07.4
comp=Z,9.3nm,1.2s
E27K Coleen River 57.70 343 P **P** **20 32 57.4 +1.2**
baz=131
D28M Stokes Point 57.72 345 P **P** **20 32 56.0 -0.3**
baz=135
Q18K Katmai Hardscr 57.88 330 P **P** **20 32 57.8 +0.1**
baz=112
TRF Thorofare Moun 57.89 336 P **P** **20 32 58.0 +0.2**
baz=119,SNR=5.9
RES Resolute Bay 57.90 2 P **P** **20 32 58.0 +0.5**
RES IAmb IAmb 20 33 06.5
comp=Z,6.3nm,1.0s
NEA2 Nenana 58.01 337 **sP** **20 33 08.8 -1.8**
NEA2 IAmb IAmb 20 33 10.4
comp=Z,9.3nm,1.2s
NEA2 Nenana 58.01 337 P **P** **20 32 59.1 +0.7**
baz=121
F26K Sheenjek River 58.13 342 P **P** **20 32 59.9 +0.6**
baz=128
O19K Port Alsworth 58.16 331 P **P** **20 32 59.8 +0.4**
baz=113
Q17K Contact Creek 58.17 329 P **P** **20 33 00.3 +0.5**
baz=111
G25K Bearman Lake 58.18 340 P **P** **20 32 60.0 +0.5**
baz=126
R17K Ugashik Creek 58.20 328 P **P** **20 33 00.3 +0.4**
baz=110
D27M Malcolm River 58.23 344 P **P** **20 33 00.2 +0.2**
baz=132
H24K Noodor Dome 58.25 339 sP 20 33 10.5 -1.8
H24K Noodor Dome 58.25 339 P **P** **20 33 00.5 +0.3**
baz=123
P18K Big Mountain, 58.27 330 P **P** **20 33 00.7 +0.4**
baz=112
M20K Styx River 58.33 333 IAmb IAmb 20 33 11.5
comp=Z,10nm,0.8s
M20K Styx River 58.33 333 P **P** **20 33 01.4 +0.6**
baz=116
PPLA Purkeypile 58.39 335 P **P** **20 33 01.6 +0.3**
baz=117
I23K Minto, Yukon-K 58.40 338 P **P** **20 33 02.2 +1.1**
baz=121
O18K Koktuh Hills 58.43 331 P **P** **20 33 01.5 0.0**
baz=112
N19K Bonanza Creek 58.48 332 P **P** **20 33 02.4 +0.6**
baz=114
BPAW Bear Paw Mtn. 58.48 336 P **P** **20 33 02.4 +0.7**
baz=119
F25K Christian Rive 58.52 341 P **P** **20 33 02.0 0.0**
baz=126

CAST	**Castle Rocks**	**58.59**	335	IAmb	IAmb	20 33 12.7	
	comp=Z,12nm,0.9s						
CAST	**Castle Rocks**	**58.59**	335	P	**P**	**20 33 02.7**	**+0.2**
	baz=118,SNR=5.9						
G24K	**Hadweenzic Riv**	**58.59**	340	P	**P**	**20 33 02.6**	**+0.2**
	baz=124						
Q16K	**King Salmon**	**58.70**	329	P	**P**	**20 33 03.5**	**+0.2**
	baz=110						
P17K	**Kvichak River**	**58.77**	330	P	**P**	**20 33 04.3**	**+0.6**
	baz=111						
R16K	**Pilot Point**	**58.78**	328	P	**P**	**20 33 04.3**	**+0.5**
	baz=109						
E25K	**Arctic Village**	**58.82**	342	P	**P**	**20 33 03.7**	**-0.3**
	baz=127						
CHGN	**Chignik**	**58.83**	326	P	**P**	**20 33 04.3**	**+0.1**
	baz=107						
MLY	**Manley**	**58.85**	337	IAmb	IAmb	20 33 15.2	
	comp=Z,9.1nm,1.0s						
MLY	**Manley**	**58.85**	337	P	**P**	**20 33 04.4**	**+0.1**
	baz=120,SNR=6.0						
CHUM	**Lake Minchumin**	**58.89**	336	P	**P**	**20 33 04.5**	**0.0**
	baz=118						
L20K	**Farewell, AK**	**58.91**	334	P	**P**	**20 33 04.7**	**0.0**
	baz=115,SNR=5.8						
N18K	**Kilae Creek**	**59.06**	332	P	**P**	**20 33 05.5**	**-0.3**
	baz=112						
F24K	**Squaw Lake**	**59.19**	341	P	**P**	**20 33 06.0**	**-0.6**
	baz=124						
L19K	**White Mountain**	**59.20**	333	P	**P**	**20 33 06.6**	**-0.1**
	baz=114						
SFJD	**Kangerlussuaq**	**59.28**	**20**	LR	LR	21 00 24.0	
	comp=Z,116nm,18.6s,baz=224,slow=38						
O17K	**Koliganek Bris**	**59.29**	330	P	**P**	**20 33 07.3**	**0.0**
	baz=110						
M18K	**Stony River**	**59.34**	332	P	**P**	**20 33 07.1**	**-0.6**
	baz=113						
K20K	**Telida**	**59.36**	335	P	**P**	**20 33 07.0**	**-0.8**
	baz=115						
I21K	**Tanana**	**59.38**	337	IAmb	IAmb	20 34 11.2	
	comp=Z,6.1nm,0.8s						
I21K	**Tanana**	**59.38**	337	P	**P**	**20 33 07.6**	**-0.3**
	baz=118						
S14K	**Fog Glacier**	**59.43**	326	P	**P**	**20 33 08.1**	**-0.4**
	baz=106						
G23K	**Bananza Creek**	**59.45**	339	IAmb	IAmb	20 33 34.2	
	comp=Z,9.5nm,1.2s						
G23K	**Bananza Creek**	**59.45**	339	P	**P**	**20 33 08.8**	**+0.4**
	baz=121						
P16K	**Nushagak River**	**59.47**	329	P	**P**	**20 33 08.8**	**+0.2**
	baz=109						
H22K	**Ishtalitna Cre**	**59.51**	338	P	**P**	**20 33 09.0**	**+0.1**
	baz=120						
CPUP	**Villa Florida**	**59.58**	135	P	**P**	**20 33 10.0**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=331,slow=8.9,SNR=5.0						
CPUP				LR	LR	20 58 14.5	
	comp=Z,48nm,19.7s,baz=42,slow=35						
	comp=Z,2.5nm,0.8s						
CPUP	**Villa Florida**	**59.58**	135	P	**P**	**20 33 10.1**	**+0.2**
CPUP				pP	**pP**	**20 33 18.7**	**+0.1**
CPUP				sP	**sP**	**20 33 22.5**	**+0.6**
N17K	**Nushagak Hills**	**59.60**	331	P	**P**	**20 33 09.9**	**+0.4**
	baz=111						
SDPT	**Sand Point**	**59.68**	325	P	**P**	**20 33 09.2**	**-0.9**
	baz=105						
E24K	**Your Creek**	**59.69**	341	P	**P**	**20 33 09.9**	**-0.1**
	baz=124						
O16K	**Kokwok River B**	**59.70**	330	P	**P**	**20 33 09.3**	**-0.9**
	baz=109						
C26K	**Camden Bay**	**59.73**	344	P	**P**	**20 33 08.5**	**-1.7**
	baz=128						
PPT	**Papeete**	**59.74**	237	LR	LR	20 52 00.9	
	comp=Z,48nm,21.9s,baz=15,slow=29						
J20K	**Nowinta River**	**59.75**	336	IAmb	IAmb	20 33 20.9	
	comp=Z,9.6nm,0.9s						
J20K	**Nowinta River**	**59.75**	336	P	**P**	**20 33 09.4**	**-1.1**
	baz=116						
PPT2	**Papeete2**	**59.75**	237	*e*LR	LR	20 50 26.1	
	comp=Z,114nm,29.0s						
PPT2				*e*LR	LR	20 50 45.0	
	comp=Z,115nm,24.2s						
D25K	**Kavik River**	**59.77**	343		**pP**	**20 33 20.9**	**+1.4**
D25K				IAmb	IAmb	20 33 21.6	
	comp=Z,9.0nm,1.1s						
D25K	**Kavik River**	**59.77**	343	P	**P**	**20 33 09.7**	**-0.9**
	baz=126						
COLD	**Coldfoot**	**59.78**	340	P	**P**	**20 33 09.8**	**-0.9**
	baz=121						
H21K	**Melozitna Rive**	**59.91**	338	IAmb	IAmb	20 33 21.9	
	comp=Z,10nm,1.1s						
H21K	**Melozitna Rive**	**59.91**	338	P	**P**	**20 33 10.7**	**-0.8**
	baz=118						
TTA	**Tatalina**	**59.99**	334	IAmb	IAmb	20 33 22.4	
	comp=Z,9.7nm,1.0s						
TTA	**Tatalina**	**59.99**	334	P	**P**	**20 33 12.1**	**-0.2**
	baz=113						
L18K	**Granite Mounta**	**60.00**	333	P	**P**	**20 33 12.3**	**+0.1**
L18K	**Granite Mounta**	**60.00**	333	P	**P**	**20 33 11.7**	**-0.5**
	baz=112						
M17K	**Holitna River**	**60.03**	332	P	**P**	**20 33 11.6**	**-0.8**
	baz=111						
E23K	**Chandalar**	**60.03**	341	P	**P**	**20 33 12.8**	**+0.3**
	baz=122						
G22K	**Bettles**	**60.06**	339	P	**P**	**20 33 12.0**	**-0.6**
	baz=120						
I20K	**Naaghedeneel**	**60.15**	336	P	**P**	**20 33 13.4**	**+0.2**
	baz=116						
J19K	**Poorman**	**60.26**	335	P	**P**	**20 33 13.6**	**-0.3**
	baz=114						
N16K	**Nishlik Lake**	**60.32**	331	P	**P**	**20 33 14.5**	**0.0**
	baz=109						
TOLK	**Toolik Lake Re**	**60.33**	341	P	**P**	**20 33 14.8**	**+0.3**
	baz=123						
D24K	**Happy Valley**	**60.39**	342	IAmb	IAmb	20 33 26.2	
	comp=Z,11nm,1.4s						
D24K	**Happy Valley**	**60.39**	342	P	**P**	**20 33 15.3**	**+0.5**
	baz=124						
O15K	**Ungalikthiuk R**	**60.41**	329	P	**P**	**20 33 15.2**	**+0.1**
	baz=108						
BDFB	**Brasilia**	**60.47**	119	P	**P**	**20 33 17.1**	**+0.9**
BDFB	**Brasilia**	**60.47**	119	P	**P**	**20 33 17.2**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=307,slow=6.3,SNR=4.9						
	comp=Z,3.2nm,0.8s						
J18K	**Innoko River**	**60.49**	334	IAmb	IAmb	20 33 25.7	
	comp=Z,7.1nm,0.9s						
J18K	**Innoko River**	**60.49**	334	P	**P**	**20 33 14.7**	**-0.9**
	baz=113						
DY2G	**Dye2**	**60.51**	**22**	*i* P	P	20 33 26.1	+10
DY2G				IAmb	IAmb	20 33 26.7	
	comp=Z,17nm,0.6s						
G21K	**Allakaket**	**60.56**	338	P	**P**	**20 33 16.2**	**+0.2**
	baz=118						
F22K	**John River**	**60.58**	340	P	**P**	**20 33 16.5**	**+0.4**
	baz=120						
M16K	**Timber Creek**	**60.59**	331	P	**P**	**20 33 15.5**	**-0.8**
	baz=109						
H20K	**Anotleneega Mo**	**60.60**	337	P	**P**	**20 33 16.6**	**+0.2**
	baz=116						
L17K	**Donlin**	**60.67**	333	P	**P**	**20 33 16.9**	**+0.1**
	baz=110						
C24K	**Franklin Bluff**	**60.67**	342	P	**P**	**20 33 17.0**	**+0.3**
	baz=124						
E22K	**Anaktuvuk Pass**	**60.78**	340	P	**P**	**20 33 17.8**	**+0.3**
	baz=120						
N15K	**Kwethluk River**	**60.84**	330	P	**P**	**20 33 18.1**	**0.0**
	baz=108						
D23K	**Nanushuk River**	**60.85**	341	P	**P**	**20 33 18.3**	**+0.4**
	baz=122						
K17K	**Iditarod**	**60.88**	333	P	**P**	**20 33 18.9**	**+0.7**
	baz=111						
F21K	**Alatna River**	**60.89**	339	IAmb	IAmb	20 33 21.2	
	comp=Z,16nm,1.4s						
F21K	**Alatna River**	**60.89**	339	P	**P**	**20 33 19.1**	**+0.9**
	baz=118						
L16K	**Owhat River**	**61.05**	332	P	**P**	**20 33 20.5**	**+1.1**
	baz=109						
O14K	**Tigyukauivet M**	**61.14**	329	P	**P**	**20 33 20.3**	**+0.3**
	baz=106						
H19K	**Roundabout Mou**	**61.21**	337	P	**P**	**20 33 20.2**	**-0.2**
	baz=114						
FALS	**False Pass**	**61.21**	324	P	**P**	**20 33 21.0**	**+0.5**
	baz=102						
M15K	**Kasigluk River**	**61.29**	331	P	**P**	**20 33 21.9**	**+0.9**
	baz=108						
C23K	**Itkillik River**	**61.29**	342	IAmb	IAmb	20 33 31.9	
	comp=Z,15nm,1.2s						
C23K	**Itkillik River**	**61.29**	342	P	**P**	**20 33 21.3**	**+0.4**
	baz=122						
D22K	**Ayikyak River**	**61.43**	341	P	**P**	**20 33 22.8**	**+0.9**
	baz=120						
D22K	**Ayikyak River**	**61.43**	341	P	**P**	**20 33 23.2**	**+1.4**
	baz=120						
N14K	**Kuskokwak Cree**	**61.54**	330	P	**P**	**20 33 23.4**	**+0.7**
	baz=106						
F20K	**Avaraart Lake**	**61.59**	338	IAmb	IAmb	20 33 34.1	
	comp=Z,6.3nm,1.2s						
F20K	**Avaraart Lake**	**61.59**	338	P	**P**	**20 33 23.1**	**+0.2**
	baz=116						
E21K	**Killik River**	**61.63**	340	P	**P**	**20 33 23.6**	**+0.3**
	baz=118						
G19K	**Purcell Mounta**	**61.70**	337	IAmb	IAmb	20 33 34.2	
	comp=Z,9.3nm,0.9s						
G19K	**Purcell Mounta**	**61.70**	337	P	**P**	**20 33 23.9**	**+0.1**
	baz=114						
H18K	**Honhosa River**	**61.80**	336	P	**P**	**20 33 23.1**	**-1.4**
	baz=112						
M14K	**Bethel**	**61.90**	331	P	**P**	**20 33 24.1**	**-1.0**
	baz=106						
L15K	**Ungalak Mounta**	**61.95**	332	P	**P**	**20 33 25.4**	**-0.1**
	baz=107						
J16K	**Anvik River**	**62.06**	333	P	**P**	**20 33 25.5**	**-0.7**
	baz=109						
K15K	**Wolf Creek Mou**	**62.16**	332	P	**P**	**20 33 27.0**	**+0.1**
	baz=108						
G18K	**Tagagawik**	**62.20**	337	P	**P**	**20 33 26.4**	**-0.7**
	baz=112						
C21K	**Knifeblade Rid**	**62.23**	341	P	**P**	**20 33 26.7**	**-0.6**
	baz=118						
F19K	**Shaleruckik Mo**	**62.23**	338	P	**P**	**20 33 27.4**	**+0.2**
	baz=114						
ITQB	**Itaqui**	**62.27**	138	P	**P**	**20 33 28.9**	**+0.9**
E20K	**Nigu River**	**62.28**	339	P	**P**	**20 33 27.9**	**+0.3**
	baz=116						
E19K	**Redstone River**	**62.30**	338	IAmb	IAmb	20 33 47.3	
	comp=Z,4.4nm,0.9s						
E19K	**Redstone River**	**62.30**	338	P	**P**	**20 33 28.3**	**+0.6**
	baz=114						
I17K	**Unalakleet**	**62.30**	334	P	**P**	**20 33 27.9**	**+0.2**
	baz=109						
H17K	**Granite Mounta**	**62.34**	335	P	**P**	**20 33 28.3**	**+0.3**
H17K				IAmb	IAmb	20 33 39.2	
	comp=Z,7.7nm,1.0s						
H17K	**Granite Mounta**	**62.34**	335	P	**P**	**20 33 28.0**	**0.0**
	baz=110						
B22K	**Teshekpuk Lake**	**62.38**	342	P	**P**	**20 33 28.2**	**+0.1**
	baz=120						
B21K	**Ikpikpuk River**	**62.39**	341	P	**P**	**20 33 28.9**	**+0.7**
	baz=118						
L14K	**Kuka Creek**	**62.40**	331	P	**P**	**20 33 29.2**	**+0.7**
	baz=106						
M13K	**Dall Lake**	**62.47**	330	P	**P**	**20 33 28.6**	**-0.3**
	baz=105						
D20K	**Etivluk River**	**62.62**	340	P	**P**	**20 33 30.2**	**+0.3**
	baz=116						
UNV	**Unalaska Valle**	**62.81**	322	P	**P**	**20 33 31.8**	**+0.5**
	baz=99						
G17K	**Kiwalik Mounta**	**62.83**	336	P	**P**	**20 33 32.1**	**+0.8**
	baz=110						
TBI	**Tubuai**	**62.83**	232	*e*LR	LR	20 52 24.1	
	comp=Z,256nm,21.2s						
TBI	**Tubuai**	**62.83**	232	*e*T	T	21 41 36.7	
	comp=Z,3.1nm,0.2s						
D19K	**Kuna River**	**63.03**	339	P	**P**	**20 33 32.4**	**-0.2**
	baz=114						
A22K	**Sinclair Lake**	**63.15**	342	P	**P**	**20 33 33.5**	**+0.2**
	baz=118						
H16K	**Elim**	**63.18**	335	P	**P**	**20 33 33.3**	**-0.3**
	baz=108						
J14K	**Nanvaranak Lak**	**63.19**	332	P	**P**	**20 33 34.3**	**+0.7**
	baz=106						
B20K	**Meade River**	**63.35**	341	IAmb	IAmb	20 33 45.6	
	comp=Z,6.3nm,0.9s						
B20K	**Meade River**	**63.35**	341	P	**P**	**20 33 35.3**	**+0.7**
	baz=116						
F17K	**Baldwin Pennin**	**63.38**	337	P	**P**	**20 33 35.7**	**+0.8**
	baz=110						
PLCA	**Paso Flores**	**63.43**	155	LR	LR	20 55 15.8	
	comp=Z,36nm,20.5s,baz=352,slow=30						
G16K	**Koyuk River**	**63.46**	335	P	**P**	**20 33 35.7**	**+0.3**
	baz=108						
E18K	**Tukpahlearik C**	**63.48**	338	IAmb	IAmb	20 33 46.3	
	comp=Z,6.5nm,0.9s						
E18K	**Tukpahlearik C**	**63.48**	338	P	**P**	**20 33 36.7**	**+1.1**
	baz=111						
C19K	**Lookout Ridge**	**63.76**	340	IAmb	IAmb	20 33 54.2	
	comp=Z,10nm,1.2s						
C19K	**Lookout Ridge**	**63.76**	340	P	**P**	**20 33 37.5**	**0.0**
	baz=113						
A21K	**Barrow**	**63.77**	343	P	**P**	**20 33 37.6**	**+0.2**
	baz=117						
E17K	**Hotham Inlet**	**63.81**	337	P	**P**	**20 33 37.4**	**-0.3**
	baz=110,SNR=5.4						
ICESG	**Greenland Ices**	**63.90**	**20**	*i* P	P	20 33 45.5	+6.7
ICESG				IAmb	IAmb	20 33 55.2	
	comp=Z,9.2nm,0.8s						
G15K	**Niukluk**	**64.02**	335	P	**P**	**20 33 39.2**	**0.0**
	baz=106						
C18K	**Utukok River**	**64.13**	339	P	**P**	**20 33 39.6**	**-0.3**
	baz=111						
ANM	**Nome**	**64.45**	334	P	**P**	**20 33 41.9**	**-0.1**
	baz=105						
F15K	**North Star Dit**	**64.47**	335	P	**P**	**20 33 41.9**	**-0.2**
	baz=106						
RDOG	**Red Dog Mine**	**64.52**	338	P	**P**	**20 33 43.3**	**+0.8**
	baz=109						
B18K	**Kokolik River**	**64.59**	340	P	**P**	**20 33 43.1**	**+0.2**
	baz=111						
A19K	**Wainwright**	**64.66**	341	P	**P**	**20 33 43.4**	**+0.1**
	baz=112						
C17K	**DeLong Mountai**	**64.76**	339	P	**P**	**20 33 44.5**	**+0.5**
	baz=105						
P08K	**Saint George I**	**64.92**	325	P	**P**	**20 33 45.3**	**+0.2**
	baz=97						
F14K	**Arctic Creek**	**65.08**	335	P	**P**	**20 33 45.9**	**-0.1**
	baz=104						
NEEM	**North Greenlan**	**65.21**	**10**	*i* P	P	20 33 58.3	+11
NEEM				IAmb	IAmb	20 33 59.7	
	comp=Z,19nm,0.8s						
SPIA	**Saint Paul Isl**	**65.38**	326	P	**P**	**20 33 48.4**	**+0.2**
	baz=97						
C16K	**Lisburne Hills**	**65.46**	338	P	**P**	**20 33 48.1**	**-0.3**
	baz=107						
SUMG	**Summit**	**65.61**	**17**	*i* P	P	20 33 57.1	+7.2
SUMG				IAmb	IAmb	20 34 01.5	
	comp=Z,9.1nm,0.8s						
TNA	**Tin City**	**65.75**	335	P	**P**	**20 33 49.1**	**-1.2**
	baz=103						
GAMB	**Gambell**	**67.00**	333	P	**P**	**20 33 57.5**	**-0.9**
	baz=99						
RCBR	**Riachuelo**	**67.08**	104	LR	LR	21 04 25.9	
	comp=Z,64nm,18.2s,baz=286,slow=37						
ALE	**Alert**	**67.32**	**5**	P	**P**	**20 33 59.9**	**-0.3**
ALE				pP	**pP**	**20 34 08.8**	**-0.4**
ALE				sP	**sP**	**20 34 13.1**	**+0.6**
BORG	**Borgarnes**	**69.99**	**27**	LR	LR	21 06 17.5	
	comp=Z,54nm,18.2s,baz=260,slow=37						
SHEM	**Shemya Is, Ala**	**74.41**	321	LR	LR	21 07 36.5	
	comp=Z,30nm,18.1s,baz=138,slow=36						
ESDC	**Sonseca Array**	**83.82**	**51**	P	**P**	**20 35 36.2**	**+0.5**
	comp=Z,1.7nm,1.2s,baz=292,slow=4.2,SNR=3.1						
ESDC				LR	LR	21 14 49.5	
	comp=Z,48nm,18.1s,baz=291,slow=37						
	comp=Z,1.7nm,1.2s						
NOA	**NORSAR Array B**	**85.16**	**27**	LR	LR	21 14 48.1	
	comp=Z,26nm,20.3s,baz=290,slow=36						
MDT	**Midelt**	**85.30**	**57**	LR	LR	21 08 36.7	
	comp=Z,39nm,21.7s,baz=318,slow=32						
ARCES	**ARCESS Array B**	**85.70**	**17**	P	**P**	**20 35 44.4**	**0.0**
	comp=Z,2.7nm,0.9s,baz=297,slow=4.0,SNR=1.6						
	comp=Z,2.7nm,0.9s						
TIXI	**Tiksi**	**85.80**	346	P	**P**	**20 35 44.5**	**-0.3**
HFS	**Hagfors**	**86.67**	**27**	LR	LR	21 16 25.9	
	comp=Z,29nm,18.1s,baz=293,slow=37						
FINES	**FINESS Array B**	**90.98**	**23**	LR	LR	21 18 31.9	
	comp=Z,61nm,18.7s,baz=336,slow=37						
KEST	**Kesra**	**95.08**	**50**	LR	LR	21 16 23.9	
	comp=Z,29nm,18.5s,baz=250,slow=34						
TORD	**Torodi Ar. Bea**	**96.97**	**74**	LR	LR	21 15 31.2	
	comp=Z,51nm,20.9s,baz=288,slow=32						
OBN	**Obninsk**	**99.36**	**24**	LR	LR	21 23 26.0	
	comp=Z,56nm,19.1s,baz=176,slow=36						
DZM	**Mont Dzumac**	**99.51**	250	*e*LR	LR	21 09 33.3	
	comp=Z,112nm,23.8s						
BVAR	**Borovoye Array**	**109.90**	**6**	PP	**PP**	**20 42 09.8**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=328,slow=5.2,SNR=2.2						
KURBB	**Kurchatov Arra**	**112.80**	**1**	PP	**PP**	**20 42 30.4**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=0.8,slow=6.6,SNR=4.2						
ELIB	**Princess Elisa**	**115.93**	163	*d*PKPdf	**PKPdf**	**20 41 48.9**	**+0.9**
STKA	**Stephens Creek**	**122.75**	243	PKP	**PKPdf**	**20 42 02.6**	**+0.4**
	comp=Z,4.1nm,0.7s,baz=158,slow=3.1,SNR=4.3						
MAW	**Mawson**	**128.07**	172	PKP	**PKPdf**	**20 42 12.2**	**+1.0**
	comp=Z,13nm,0.7s,baz=72,slow=6.4,SNR=4.8						
WRA	**Warramunga Arr**	**128.68**	258	PKP	**PKPdf**	**20 42 14.2**	**+0.3**
	comp=Z,3.8nm,0.8s,baz=85,slow=2.5,SNR=31						
ASAR	**Alice Springs**	**129.37**	253	PKP	**PKPdf**	**20 42 15.6**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=81,slow=1.8,SNR=17						
PZH	**PanZhiHua**	**132.06**	334	PKP	**PKPdf**	**20 42 20.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**140.34**	331	PKP	**PKPdf**	**20 42 36.0**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=352,slow=3.2,SNR=6.6						

NEIC ***25*** *20:24:03.9±0.8, 37.67S±0.09×51.7E±0.3, h10km±2km, mb4.4/7, Error ellipse: s-maj=42.8km s-min=13.5km az=261.0*

IDC ***25*** *20:24:03.6±2.3, 37.615S×51.99E, h0km, mb3.8/3, mbtmp3.8/4, ML4.0/1, MS3.4/4, Error ellipse: s-maj=86.1km s-min=32.2km az=50.0*

ISC 25 20:24:03.8±0.9, 37.7S±0.1×51.7E±0.2, h10km, n26, σ0.882/16, mb4.0/7, MS3.4/4, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H04N1	**CROZET ISLANDS**	**8.48**	180	T	T	20 35 28.7	
	baz=1.6,slow=75,SNR=742						
H04N2	**CROZET ISLANDS**	**8.48**	179	T	T	20 35 36.5	
	baz=1.6,slow=75,SNR=1054						
H04N3	**CROZET ISLANDS**	**8.49**	179	T	T	20 35 35.9	
	baz=1.6,slow=75,SNR=855						
CRZF	**Crozet Islands**	**8.75**	179	Pn	**Pn**	**20 26 10.1**	**-0.2**
FOMA	**Nahampoana Res**	**13.28**	341	Pn	**Pn**	**20 27 11.5**	**-0.8**
VOI	**Vohitsoka**	**16.27**	344	Pn	**Pn**	**20 27 51.9**	**-0.6**
VOI				IAmb	IAmb	20 28 08.1	
	comp=Z,27nm,1.5s						
ABPO	**Ambohimpanom**	**18.99**	347		**P**	**20 28 25.8**	**+0.1**
OPO	**Ambohidratompo**	**19.44**	347	P	**Pn**	**20 28 33.5**	**+1.7**
	baz=171,slow=13,SNR=9.4						
	comp=Z,1.5nm,0.4s						
LSZ	**Lusaka**	**30.49**	311	LR	LR	20 40 13.1	
	comp=Z,38nm,20.2s,baz=122,slow=32						
KMBO	**Kilima Mbogo**	**38.72**	337	LR	LR	20 44 47.8	
	comp=Z,53nm,20.8s,baz=87,slow=32						
H01W2	**Cape Leeuwin H**	**49.59**	107	T	T	21 25 58.9	
	baz=248,slow=75,SNR=17						
H01W3	**Cape Leeuwin H**	**49.60**	107	T	T	21 25 59.6	
	baz=248,slow=75,SNR=14						
H01W1	**Cape Leeuwin H**	**49.61**	107	T	T	21 26 01.5	
	baz=248,slow=75,SNR=14						
QSPA	**South Pole Qui**	**52.51**	180	LR	LR	20 52 54.9	
	comp=Z,47nm,21.9s,baz=244,slow=33						
BBOO	**Buckleboo**	**66.82**	114	P	**P**	**20 34 56.1**	**+0.3**
ASAR	**Alice Springs**	**70.04**	105	P	**P**	**20 35 15.5**	**-0.6**
ASAR	**Alice Springs**	**70.04**	105	P	**P**	**20 35 16.6**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=232,slow=5.8,SNR=13						
	comp=Z,0.8nm,0.7s						
AS31	**Alice Springs**	**70.05**	105	P	**P**	**20 35 15.0**	**-1.1**
AS31				IAmb	IAmb	20 35 40.2	
	comp=Z,1.7nm,1.4s						
CMAR	**Chiang Mai Arr**	**71.36**	**47**	P	**P**	**20 35 23.7**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=235,slow=8.2,SNR=5.6						
	comp=Z,0.4nm,0.3s						
WRA	**Warramunga Arr**	**72.44**	102	P	**P**	**20 35 31.2**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=237,slow=5.3,SNR=6.8						
	comp=Z,0.5nm,0.6s						
WRAB	**Tennant Creek**	**72.45**	102	P	**P**	**20 35 30.4**	**-0.3**
WRAB				IAmb	IAmb	20 36 00.2	
	comp=Z,7.7nm,1.4s						
WB0	**Warramunga Arr**	**72.58**	102	P	**P**	**20 35 30.8**	**-0.7**
WB0				IAmb	IAmb	20 35 39.0	
	comp=Z,3.9nm,1.1s						
CHGR	**Chuyangaron**	**77.65**	**14**	P	**P**	**20 36 00.1**	**-0.1**
CHGR				IAmb	IAmb	20 36 01.9	
	comp=Z,8.1nm,1.2s						
MKAR	**Makanchi Array**	**88.46**	**20**	LR	LR	21 09 55.3	
	comp=Z,24nm,21.9s,baz=244,slow=31						
ILAR	**Eielson Array**	**150.72**	**16**	PKPbc	**PKPbc**	**20 43 55.3**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=318,slow=2.8,SNR=8.6						
YKA	**Yellowknife Ar**	**153.76**	346	PKPbc	**PKiKP**	**20 44 03.4**	**+1.3**
	comp=Z,0.3nm,0.8s,baz=355,slow=1.8,SNR=3.1						

NEIC ***25*** *20:35:24.9±2.3, 23.2S±0.1×179.1E±0.1, h555km±8km, mb4.8/46, Error ellipse: s-maj=18.2km s-min=16.3km az=152.0*

IDC ***25*** *20:35:25.7±1.7, 23.13S×178.96E, h553km±17km, mb3.5/9, mbtmp4.4/11, Error ellipse: s-maj=18.6km s-min=12.5km az=171.0*

NOU ***25*** *20:35:26.5, 23.05S×179.36E, h589km, mb4.7/29, South of Fiji Islands*

ISC 25 20:35:26.8±0.5, 23.13S±0.07×179.10E±0.07, h579km, n150, σ1.970/152, mb4.6/30, 12C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**5.25**	**22**	P	**P**	**20 36 59.9**	**-0.7**
TAVE	**Taveuni**	**6.46**	**8**	P	**P**	**20 37 11.0**	**-0.1**
YSA	**Yasawairara**	**6.56**	347	P	**P**	**20 37 11.4**	**-0.6**
DGTI	**Dogotuki**	**6.82**	**5**	P	**P**	**20 37 13.8**	**-0.7**
PINNC	**Pines Island,**	**10.76**	270	P	**P**	**20 37 51.2**	**-1.7**
NIUE	**Niue**	**11.01**	**71**	P	**P**	**20 37 53.8**	**-1.6**
NIUE	**Niue**	**11.01**	**71**	P	**P**	**20 37 53.8**	**-1.6**
LIFNC	**LIFOU**	**11.25**	280	P	**P**	**20 37 56.6**	**-1.3**
NFK	**Norfolk Island**	**11.63**	237	P	**P**	**20 38 03.1**	**+1.5**
DZM	**Mont Dzumac**	**11.74**	273	P	**P**	**20 37 59.8**	**-3.2**
DZM	**Mont Dzumac**	**11.74**	273	P	**P**	**20 37 59.6**	**-3.4**
	3.0nm,0.9s,baz=228,slow=22,SNR=1.8						
AFI	**Afiamalu**	**12.60**	**45**	P	**P**	**20 38 07.8**	**-4.1**
AFI	**Afiamalu**	**12.60**	**45**	P	**P**	**20 38 08.0**	**-3.8**
KUZ	**Kuaotunu**	**13.88**	191	P	**P**	**20 38 25.0**	**+0.5**
MXZ	**Matakaoa Point**	**14.40**	183	P	**P**	**20 38 26.5**	**-3.1**
HAZ	**Te Kaha**	**14.62**	184	P	**P**	**20 38 29.1**	**-2.6**
PKGZ	**Pakihiroa**	**14.73**	183	P	**P**	**20 38 30.1**	**-2.8**
RUGZ	**Raukumara Rang**	**14.84**	184	P	**P**	**20 38 32.5**	**-1.5**
TOZ	**Tahuroa Road**	**14.88**	191	P	**P**	**20 38 33.6**	**

RPZ Rata Peaks 21.58 196 P **P** **20 39 34.6 -0.9**
comp=Z,8.9nm,0.8s,baz=128,slow=21,SNR=2.3
comp=Z,8.9nm,0.8s
LBZ Lake Benmore 22.43 197 P **P** **20 39 41.8 -1.3**
LBZ IAmb IAmb 20 39 45.7
comp=Z,46nm,1.4s
WKZ Wanaka 23.16 198 P **P** **20 39 47.9 -1.7**
WKZ IAmb IAmb 20 40 24.4
comp=Z,49nm,1.2s
MLZ Mavora Lakes 23.92 199 P **P** **20 39 56.9 +0.6**
WHZ Wether Hill Ro 24.45 199 P **P** **20 40 00.8 -0.1**
ARMA Armidale 25.54 248 P **P** **20 40 11.6 +0.7**
ARMA IAmb IAmb 20 40 13.4
comp=Z,17nm,0.7s
ARMA Armidale 25.54 248 P **P** **20 40 12.7 +1.8**
EIDS Eidsvold 25.63 259 P **P** **20 40 12.4 +0.8**
EIDS IAmb IAmb 20 40 13.4
comp=Z,12nm,0.8s
EIDS Eidsvold 25.63 259 P **P** **20 40 12.7 +1.0**
CNB Canberra Magne 28.54 238 P **P** **20 40 38.8 +1.7**
AULRC Lightning Ridg 28.55 251 P **P** **20 40 38.5 +1.4**
CAN Canberra 28.83 238 P **P** **20 40 40.2 +0.7**
CAN IAmb IAmb 20 40 41.9
comp=Z,31nm,0.8s
CAN Canberra 28.83 238 P **P** **20 40 41.1 +1.5**
CTA Charters Tower 30.65 269 P **P** **20 40 56.7 +1.3**
CTAO Charters Tower 30.65 269 P **P** **20 40 55.7 +0.2**
CTAO Charters Tower 30.65 269 P **P** **20 40 56.7 +1.3**
CTAO Charters Tower 30.65 269 P **P** **20 40 56.6 +1.1**
CMSA Cobar Meteorol 30.75 247 P **P** **20 40 57.0 +0.9**
QLP Quilpie 31.77 257 P **P** **20 41 05.7 +0.9**
TOO Toolangi 32.19 236 P **P** **20 41 08.5 +0.3**
TOO IAmb IAmb 20 41 10.2
comp=Z,37nm,1.3s
TOO Toolangi 32.19 236 P **P** **20 41 09.5 +1.2**
TAU Tasmania Unive 32.87 225 P **P** **20 41 13.6 -0.3**
TAU IAmb IAmb 20 41 50.5
comp=Z,38nm,1.3s
PMG Port Moresby 33.47 289 P **P** **20 41 19.1 -0.2**
PMG IAmb IAmb 20 41 21.3
comp=Z,19nm,1.0s
PMG Port Moresby 33.47 289 P **P** **20 41 20.2 +0.9**
STKA Stephens Creek 34.25 247 P **P** **20 41 26.5 +0.8**
STKA Stephens Creek 34.25 247 P **P** **20 41 26.9 +1.2**
STKA Stephens Creek 34.25 247 P **P** **20 41 26.1 +0.4**
comp=Z,11nm,0.6s,baz=92,slow=10,SNR=31
comp=Z,11nm,0.6s
INKA Innaminka 34.85 254 P **P** **20 41 32.5 +1.8**
HTT Hallett 36.65 245 P **P** **20 41 46.4 +0.9**
LCRK Leigh Creek 37.06 250 P **P** **20 41 49.9 +1.0**
BBOO Buckleboo 38.99 246 P **P** **20 42 04.5 -0.1**
BBOO IAmb IAmb 20 42 05.0
comp=Z,12nm,0.6s
OOD Oodnadatta 39.32 254 P **P** **20 42 08.8 +1.6**
MULG Mulgathing 40.66 250 P **P** **20 42 18.4 +0.6**
AS31 Alice Springs 41.35 260 P **P** **20 42 23.9 +0.4**
ASAR Alice Springs 41.35 260 P **P** **20 42 23.3 -0.2**
ASAR Alice Springs 41.35 260 P **P** **20 42 23.9 +0.5**
comp=Z,15nm,0.8s,baz=91,slow=8.1,SNR=132
ASAR ScP **ScP** **20 47 07.5 +4.3**
comp=Z,2.3nm,0.9s,baz=115,slow=3.9,SNR=10
ASAR S **S** **20 47 56.6 -0.7**
comp=Z,0.6nm,0.8s,baz=97,slow=15,SNR=5.4
comp=Z,15nm,0.8s
WR0 Warramunga Arr 41.45 266 P **P** **20 42 24.1 -0.1**
WB0 Warramunga Arr 41.63 266 P **P** **20 42 24.6 -1.1**
WB0 IAmb IAmb 20 42 26.3
comp=Z,15nm,0.7s
WB2 Warramunga Arr 41.63 266 P **P** **20 42 23.2 -2.5**
WB2 IAmb IAmb 20 42 26.4
comp=Z,14nm,0.8s
WB1 Warramunga Ar. 41.63 266 P **P** **20 42 25.8 +0.1**
WRAB Tennant Creek 41.63 266 P **P** **20 42 24.3 -1.4**
WRAB IAmb IAmb 20 42 26.4
comp=Z,10nm,0.8s
WRA Warramunga Arr 41.64 266 P **P** **20 42 24.7 -1.1**
WRA Warramunga Arr 41.64 266 P **P** **20 42 24.8 -1.0**
comp=Z,9.9nm,0.7s,baz=90,slow=5.8,SNR=161
WRA ScP **ScP** **20 47 08.3 +3.9**
comp=Z,1.8nm,1.1s,baz=90,slow=4.6,SNR=5.1
WRA S **S** **20 47 59.4 -2.1**
comp=Z,0.7nm,1.0s,baz=100,slow=17,SNR=4.6
comp=Z,9.9nm,0.7s
FORT Forrest 45.81 249 P **P** **20 42 57.9 +0.1**
FORT Forrest 45.81 249 P **P** **20 42 57.9 +0.1**
WRKA Warakurna 46.20 257 P **P** **20 43 01.3 +0.3**
MTN Manton Dam 46.58 274 P **P** **20 43 02.5 -1.4**
MTN IAmb IAmb 20 43 22.8
comp=Z,45nm,1.4s
DRV Dumont d'Urvil 49.99 199 P **P** **20 43 28.2 -0.1**
FITZ Fitzroy Crossi 50.07 265 P **P** **20 43 29.5 -0.1**
FITZ Fitzroy Crossi 50.07 265 P **P** **20 43 30.8 +1.1**
PSA00 Pilbara Seismi 54.49 259 P **P** **20 44 00.5 -0.7**
MBWA Marble Bar 54.69 260 P **P** **20 44 02.6 -0.1**
MBWA Marble Bar 54.69 260 P **P** **20 44 02.7 +0.1**
NWAO Narrogin (SRO) 54.80 245 P **P** **20 44 03.1 -0.2**
NWAO IAmb IAmb 20 44 26.5
comp=Z,98nm,1.4s
MORW Morawa 56.37 250 P **P** **20 44 13.5 -0.6**
MORW IAmb IAmb 20 44 30.5
comp=Z,28nm,1.4s
CCD Concordia, Ant 59.26 194 P **P** **20 44 34.2 +0.8**
CASY Casey 60.44 206 P **P** **20 44 42.4 +1.6**
CASY IAmb IAmb 20 44 49.4
comp=Z,55nm,1.3s
QSPA South Pole Qui 66.95 180 P **P** **20 45 23.2 +0.8**
QSPA South Pole Qui 66.95 180 P **P** **20 45 23.9 +1.6**
comp=Z,4.6nm,0.6s,baz=33,slow=1.8,SNR=16
comp=Z,4.6nm,0.6s
QSPA South Pole Qui 66.95 180 P **P** **20 45 24.1 +1.7**
KKM Kota Kinabalu 67.89 287 P **P** **20 45 26.6 -2.4**
KKM IAmb IAmb 20 45 49.4
comp=Z,18nm,1.2s
BELA Belgrano 2 77.29 173 P **P** **20 46 22.4 +0.7**
NJ2 Nanjing 79.54 311 *eP* **P** **20 46 35.0 +0.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NVAR Mina Array Bea 84.78 44 P **P** **20 47 01.9 +0.8**
comp=Z,0.6nm,0.9s,baz=230,slow=11,SNR=4.1
comp=Z,0.6nm,0.9s
TROLL Troll, Antarti 85.08 181 ⇑P **P** **20 47 02.5 +0.6**
comp=Z,64nm,0.5s
SNAA Sanae 85.44 179 P **P** **20 47 03.6 0.0**
SNAA Sanae 85.44 179 ⇑P **P** **20 47 03.7 0.0**
comp=Z,36nm,0.5s
SNAA Sanae 85.44 179 P **P** **20 47 03.6 0.0**
comp=Z,1.0nm,0.5s,baz=221,slow=7.3,SNR=11
comp=Z,1.0nm,0.5s
VNA3 Neumayer Olymp 85.68 177 ⇑P **P** **20 47 04.9 +0.2**
comp=Z,4.0nm,0.7s
VNA2 Neumayer--Watz 86.09 178 ⇑P **P** **20 47 07.0 +0.5**
comp=Z,4.6nm,0.6s,baz=179,slow=5.0
HHC Hu-ho-hao-te 89.30 315 *eP* **P** **20 47 21.3 -0.9**
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,470nm,5.3s
SRU San Rafael Swe 90.28 47 P **P** **20 47 28.8 +1.9**
TXAR Lajitas Array 90.73 58 P **P** **20 47 30.1 +1.1**
comp=Z,0.8nm,0.9s,baz=214,slow=5.2,SNR=8.3
comp=Z,0.8nm,0.9s
PDAR Pinedale Array 92.72 44 P **P** **20 47 39.2 +1.1**
comp=Z,0.4nm,0.9s,baz=183,slow=3.3,SNR=2.8
comp=Z,0.4nm,0.9s
BVAR Borovoye Array 119.32 319 PKP **PKiKP** **20 53 11.4 +0.6**
comp=Z,0.7nm,0.5s,baz=160,slow=1.3,SNR=3.1
SMRT St. Maarten 121.94 83 PKPdf **PKPdf** **20 53 13.7 -3.1**
HFS Hagfors 141.63 348 PKhKP PKPpre 20 53 48.6
comp=Z,3.5nm,0.9s,baz=52,slow=4.5,SNR=15
AKASG Malin Array Be 143.88 327 PKP **PKPdf** **20 53 56.5 -0.1**
comp=Z,4.0nm,0.8s,baz=45,slow=4.0,SNR=14
AKBB Malin Array Si 143.88 327 PKPbc 20 53 55.0 -1.0
KIEV Kiev 143.89 327 PKPbc PKPbc 20 53 55.1 -0.9
BRTR Keskin Array B 146.46 308 PKPbc **PKPbc** **20 54 05.0 +0.9**
comp=Z,0.8nm,0.8s,baz=202,slow=1.3,SNR=4.2
MMAI Mount Meron Ar 146.63 295 PKPbc **PKiKP** **20 54 06.6 -0.1**
comp=Z,2.1nm,0.6s,baz=87,slow=6.1,SNR=3.5
EKA Eskdalemuir Ar 147.80 2 PKPbc **PKPbc** **20 54 07.5 +0.6**
comp=Z,0.6nm,0.4s,baz=346,slow=2.6,SNR=5.7
KOLS Kolonicke sedl 148.40 330 *e*PKP **PKiKP** **20 54 11.2 +1.5**
LANS Liptovska Anna 149.46 333 *e*PKP **PKiKP** **20 54 13.8 +1.8**
CHVC Chvalec 149.57 338⇑ *e*PKP **PKiKP** **20 54 13.1 +1.0**
DPC Dobruska-Polom 149.68 338⇑ *e*PKP **PKiKP** **20 54 13.7 +1.3**
KRLC Kraliky 149.75 337⇑ *e*PKP **PKiKP** **20 54 13.4 +0.9**
CLL Collm 149.88 343 **PKPbc** **20 54 12.0 0.0**
CLL Collm 149.88 343 *i* PKPbc **PKiKP** **20 54 13.6 +0.9**
comp=Z,7.0nm,0.8s
MAUC Maruska 149.94 335⇑ *e*PKP **PKiKP** **20 54 14.4 +1.5**
BRG Berggiesshubel 150.00 341 *i* PKP **PKiKP** **20 54 14.1 +1.2**
BRG Amp 20 54 14.7
comp=Z,5.1nm,0.8s
PVCC Panska Ves 150.11 340⇑ *e*PKP **PKiKP** **20 54 14.2 +1.0**
VYHS Vyhne 150.23 333 *e*PKP **PKiKP** **20 54 14.1 +0.6**
PRU Pruhonice 150.59 340⇑ *e*PKP **PKiKP** **20 54 15.2 +1.0**
MODS Modra-Piesok 150.96 335 *e*PKP **PKiKP** **20 54 16.7 +1.7**
KHC Kasperske Hory 151.64 340⇑ *e*PKP **PKiKP** **20 54 17.6 +1.1**
CKRC Cesky Krumlov 151.67 339⇑ *e*PKP **PKiKP** **20 54 17.7 +1.2**
GERES GERESS Array B 151.85 339 PKPbc **PKiKP** **20 54 18.0 +1.0**
comp=Z,0.4nm,0.5s,baz=166,slow=0.6,SNR=4.5
TORD Torodi Ar. Bea 169.77 194 PKPab **PKPab** **20 55 48.4 +0.9**
comp=Z,0.5nm,0.6s,baz=161,slow=3.7,SNR=4.3

TEH ***25*** *20:48:34.7,38.90N×44.85E,h4km±312km,ML2.8*
AFAD ***25*** *20:48:34.8±0.0,38.99N×44.94E,h7km±1km,ML2.3*
TIF ***25*** *20:48:36.8,38.72N×44.83E,h29km±4km*
ISC 25 20:48:35.4±1.1,**38.91N**±0.04×**44.90E**±0.03,**h15**km±11km,
n18,σ1**9**23/24,**Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAKU	**Maku**	**0.47**	**340**	Pg	**Pg**	**20 48 44.0**	**-0.9**
MAKU				Sg	**Sg**	**20 48 50.6**	**-0.7**
IMRD	**Marand**	**0.66**	**107**	Pg	**Pg**	**20 48 48.4**	**0.0**
OZAP	**Van, Ozalp-Mer**	**0.75**	**251**	P	**Pb**	**20 48 50.5**	**+0.2**
OZAP				S	**Sn**	**20 49 02.6**	**-0.2**
CLDR	**Caldiran**	**0.80**	**287**	*e*P	**Pb**	**20 48 50.8**	**-0.3**
CLDR	**Caldiran**	**0.80**	**287**	P	**Pg**	**20 48 50.5**	**-0.4**
CLDR				S	**Sb**	**20 49 02.2**	**+0.5**
CLDR				*i* AML	AML	20 49 04.0	
	comp=N,99nm,0.4s						
CLDR				*i* AML	AML	20 49 08.0	
	comp=E,146nm,0.4s						
ISHB	**Shabestar**	**0.84**	**138**	Pg	**Pg**	**20 48 50.9**	**-1.0**
TASB	**TASBURUN-IGDIR**	**1.19**	**335**	*e*P	**Pb**	**20 48 57.1**	**-0.5**
ITBZ	**Tabriz**	**1.19**	**124**	Pg	**Pb**	**20 48 56.9**	**-0.9**
VANB	**Van**	**1.22**	**255**	*e*P	**Pn**	**20 48 56.3**	**-1.7**
IAZR	**Azarshahr**	**1.50**	**145**	Pg	**Pb**	**20 49 03.7**	**+0.7**
KOTA	**Agri, Merkez-K**	**1.58**	**305**	P	**Pb**	**20 49 04.5**	**+0.1**
KOTA				S	**Sg**	**20 49 26.3**	**-0.2**
AKDM	**Akdamar-Van**	**1.61**	**249**	*e*P	**Pb**	**20 49 05.3**	**+0.4**
AGRB	**Hanur-Agry**	**1.62**	**295**	*e*P	**Pn**	**20 49 04.3**	**+0.7**
DORK	**Agr/Tutak/Do**	**1.71**	**287**	P	**Pg**	**20 49 07.7**	**-0.6**
DORK				S	**Sg**	**20 49 34.5**	**+3.9**
DORK				*i* AML	AML	20 49 35.0	
	comp=N,52nm,0.8s						
DORK				*i* AML	AML	20 49 35.0	
	comp=E,40nm,0.8s						
IHRS	**Heris**	**1.78**	**109**	Pn	**Pb**	**20 49 08.5**	**+0.6**
CUKT	**Cukurca**	**1.95**	**212**	*e*P	**Pb**	**20 49 10.3**	**-0.4**
GRMI	**Germi**	**2.34**	**92**	Pn	**Pb**	**20 49 17.7**	**+0.3**
VSHL	**Vashlovani**	**2.59**	**26**	P	**Pg**	**20 49 24.2**	**-0.9**
VSHL				S	**Sg**	**20 50 00.9**	**+2.3**

SOME ***25*** *21:02:16.1,39.40N×73.65E,h5km,MS4.3*
IDC ***25*** *21:02:18.3±0.5,39.33N×73.67E,h0km,mb4.4/29,*
mbtmp4.5/37,ML3.8/8,MS3.5/23,Error ellipse:
s-maj=9.9km s-min=8.8km az=127.0
KRNET ***25*** *21:02:19.6±0.1,39.52N×73.67E,h13km,mb4.9*
BJI ***25*** *21:02:19.6,39.39N×73.67E,h9km,mb4.5/42,mB5.1/19,*
ML4.4/5,Ms4.3/11,Ms7 4.0/10
MOS ***25*** *21:02:20.7±1.3,39.43N×73.64E,h22km,mb4.9/41,Error*
ellipse: s-maj=4.5km s-min=3.1km az=93.2
NNC ***25*** *21:02:21.9±1.1,39.60N×73.68E,h0km,mb5.0,mpv4.7,*
Error ellipse: s-maj=10.2km s-min=5.7km az=159.0
BGR ***25*** *21:02:21.7,39.01N×73.83E,h33km,mb4.6*
NEIC ***25*** *21:02:24.7±1.2,39.47N±0.04×73.67E±0.07,h40km±6km,*
mb4.8/137,Error ellipse: s-maj=8.7km s-min=3.4km
az=125.0
ISC 25 21:02:21.2±0.5,**39.43N**±0.03×**73.67E**±0.02,**h19**km±1km,
h20km:**pP-P,n817,**σ1**59**/843,**mb4.7**/162,**MS3.5**/21,
79C-25D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.59**	**347**	⇓*eP*	**Pg**	**21 02 29.6**	**-3.5**
	baz=46						
SFK				⇓*iS*	**Sg**	**21 02 37.1**	**-4.1**
	baz=46						
SFK	**Sufi-Kurgan**	**0.59**	**347**	*e*PG	**Pg**	**21 02 29.6**	**-3.5**
SFK				*i* S	**Sg**	**21 02 38.1**	**-3.1**
OHH	**Osh**	**1.29**	**328**	⇑*eP*	**Pn**	**21 02 42.8**	**-1.5**
	baz=26						
OHH				⇑*eS*	**Sb**	**21 02 59.4**	**-1.6**
	baz=26						
OHH	**Osh**	**1.29**	**328**	PG	**Pn**	**21 02 42.6**	**-1.7**
OHH				*i* S	**Sb**	**21 03 00.6**	**-0.4**
DRK	**Karamyk**	**1.45**	**272**	⇑*eP*	**Pn**	**21 02 46.8**	**+0.1**
	baz=69						
DRK				⇑*eS*	**Sb**	**21 03 06.5**	**+0.5**
	baz=69						
KSH	**Kashi**	**1.78**	**87**	P	Pn	21 02 45.5	-5.6
KSH				S	**Sn**	**21 03 07.0**	**-6.3**
KSH				pmax	pmax		
	comp=Z,1μm,0.7s						
KSH				smax	smax		
	comp=N,5μm,0.7s						
KSH				smax	smax		
	comp=E,4μm,0.9s						
ARSB	**Arslanbob**	**1.96**	**345**	⇑*eP*	**Pn**	**21 02 54.5**	**+0.9**
	baz=44						
ARSB				⇑*eS*	**Sb**	**21 03 20.1**	**-0.5**
	baz=44						
ARSB	**Arslanbob**	**1.96**	**345**		**Pn**	**21 02 54.3**	**+0.7**
ARSB	**Arslanbob**	**1.96**	**345**	*e*PN	**Pn**	**21 02 54.6**	**+0.9**
ARSB				*i* S	**Sb**	**21 03 21.0**	**+0.5**
BTK	**Batken**	**2.29**	**287**	⇑*eP*	**Pb**	**21 03 00.2**	**-1.7**
	baz=85						
BTK				⇑*eS*	**Sb**	**21 03 29.7**	**-0.2**
	baz=85						
BTK	**Batken**	**2.29**	**287**		**Pn**	**21 03 00.0**	**+2.0**
BTK	**Batken**	**2.29**	**287**	PN	**Pn**	**21 03 00.0**	**+2.0**
ARLS	**Aral**	**2.48**	**11**	⇑*eP*	**Pn**	**21 03 01.8**	**+1.1**
	baz=12						
ARLS				⇑*eS*	**Sn**	**21 03 32.8**	**+2.3**
	baz=12						
ARLS	**Aral**	**2.48**	**11**	*e*PN	**Pn**	**21 03 01.3**	**+0.6**
ARLS				*i* S	**Sn**	**21 03 32.8**	**+2.3**
AML	**Almayashu**	**2.70**	**0**	P	**Pn**	**21 03 06.2**	**+2.3**
	SNR=210						
ARK	**Arkit**	**2.70**	**332**	⇑*eP*	**Pn**	**21 03 05.3**	**+1.6**
	baz=31						
ARK				⇑*eS*	**Sn**	**21 03 38.4**	**+2.5**
	baz=31						
ARK	**Arkit**	**2.70**	**332**	*e*PN	**Pn**	**21 03 05.0**	**+1.3**
ARK				*i* S	**Sb**	**21 03 39.2**	**-2.5**
TRKS	**Terek-Say**	**2.85**	**318**	⇓*eP*	**Pn**	**21 03 06.7**	**+0.9**
	baz=16						
TRKS				⇓*eS*	**Sn**	**21 03 40.7**	**+1.0**
	baz=16						
TRKS	**Terek-Say**	**2.85**	**318**	*e*PN	**Pn**	**21 03 06.4**	**+0.6**
TRKS				*i* S	**Sn**	**21 03 41.5**	**+1.8**
UCH	**Uchtor**	**2.86**	**13**	P	**Pn**	**21 03 09.1**	**+2.8**
	SNR=174						
KZA	**Kyzart**	**2.90**	**24**	P	**Pn**	**21 03 09.2**	**+2.5**
	SNR=45						
EKS2	**Erkin-Say**	**3.23**	**1**	P	**Pn**	**21 03 13.8**	**+2.8**
	SNR=150						
AAK	**Ala-Archa**	**3.26**	**11**	P	**Pn**	**21 03 14.5**	**+3.0**
	SNR=426						
AAK	**Ala-Archa**	**3.26**	**11**		**Pn**	**21 03 13.2**	**+1.7**
AAK	**Ala-Archa**	**3.26**	**11**	P	**Pn**	**21 03 12.5**	**+1.1**
AAK	**Ala-Archa**	**3.26**	**11**	*ce*PN	**Pn**	**21 03 14.3**	**+2.8**
AAK				pmax	pmax		
	comp=Z,125nm,0.5s						
AAK	**Ala-Archa**	**3.26**	**11**	Pn	**Pn**	**21 03 14.5**	**+3.0**
	comp=Z,78nm,0.3s,baz=178,slow=7.2,SNR=390						
AAK				Sn	**Sb**	**21 03 58.6**	**+0.6**
	comp=Z,30nm,0.3s,baz=320,slow=18,SNR=5.6						
AAK				LR	LR	21 04 42.4	
	comp=Z,647nm,21.6s,baz=187,slow=43						
	comp=Z,251nm,0.5s						
MRKS	**Merke**	**3.33**	**354**	*e*Pg	**Pb**	**21 03 17.4**	**-2.3**
	comp=Z,268nm,0.6s						
MRKS				*e*Lg	Lg	21 04 01.9	
	comp=Z,1μm,0.8s						
KBK	**Karagaybulak**	**3.36**	**16**	P	**Pn**	**21 03 16.0**	**+3.1**
	SNR=238						
ULHL	**Ulahol**	**3.42**	**34**	P	**Pn**	**21 03 16.2**	**+2.5**
	SNR=45						
FRU1	**Bishkek**	**3.45**	**12**⇑	*eP*	**Pn**	**21 03 15.6**	**+1.6**
	baz=12						
FRU1			⇑	*eS*	**Sn**	**21 03 56.7**	**+2.3**
	baz=12						
FRU1	**Bishkek**	**3.45**	**12**	Pn	**Pn**	**21 03 16.2**	**+2.3**
FRU1	**Bishkek**	**3.45**	**12**	PN	**Pn**	**21 03 16.3**	**+2.3**
CHGR	**Chuyangaron**	**3.60**	**259**	Pn	**Pn**	**21 03 18.0**	**+1.9**
CHGR	**Chuyangaron**	**3.60**	**259**	PN	**Pn**	**21 03 18.0**	**+1.9**
CHMS	**Chumysh**	**3.65**	**13**	P	**Pn**	**21 03 19.9**	**+3.1**
	SNR=28						
TKM2	**Tokmak 2**	**3.77**	**22**	P	**Pn**	**21 03 21.4**	**+2.9**
	SNR=85						
USP	**Ospenovka**	**3.88**	**9**	P	**Pn**	**21 03 23.2**	**+3.3**
	SNR=10						
TARG	**Taragay, Kyrgy**	**3.89**	**53**	Pn	**Pn**	**21 03 22.1**	**+1.7**
TARG	**Taragay, Kyrgy**	**3.89**	**53**	PN	**Pn**	**21 03 22.1**	**+1.7**
KST	**Kastek**	**4.00**	**25**	*e*Pg	**Pb**	**21 03 30.6**	**-0.5**
	comp=Z,177nm,0.8s						
KST				*e*Lg	Lg	21 04 24.2	
	comp=Z,803nm,0.5s						
SGDS	**Sogindy**	**4.08**	**10**	*e*Pn	**Pn**	**21 03 24.7**	**+2.0**
	baz=10						
SGDS				*i* Pg	**Pb**	**21 03 33.1**	**+0.7**
	baz=10						
SGDS				*e*Lg	Lg	21 04 27.6	
	baz=10						
SGDS	**Sogindy**	**4.08**	**10**	*e*PN	**Pn**	**21 03 24.6**	**+2.0**
SGDS				*i*		21 03 33.1	
DGS	**Degeres**	**4.12**	**22**	*e*Pg	**Pb**	**21 03 33.8**	**+0.6**
	comp=Z,215nm,0.4s						
DGS				*e*Lg	Lg	21 04 30.1	
	comp=Z,414nm,0.1s						
CHM	**Chimkent**	**4.22**	**314**	*e*Pn	**Pn**	**21 03 28.3**	**+3.7**
	baz=314						
CHM				*e*Pg	**Pb**	**21 03 36.0**	**+1.2**
	baz=314						
CHM	**Chimkent**	**4.22**	**314**	*e*Pg	**Pb**	**21 03 34.6**	**-0.2**
	comp=Z,153nm,0.7s						
CHM				*e*Lg	Lg	21 04 31.0	
	comp=Z,1μm,0.5s						
CHM	**Chimkent**	**4.22**	**314**	*e*PN	**Pn**	**21 03 28.2**	**+3.7**
CHM				*e*		21 03 36.0	
IZV	**Izvestkoviy**	**4.23**	**31**	*e*Pg	**Pb**	**21 03 35.1**	**+0.1**
	comp=Z,80nm,0.5s						
IZV				*e*Lg	Lg	21 04 32.0	
	comp=Z,343nm,0.1s						
IZV	**Izvestkoviy**	**4.23**	**31**	Pg	**Pb**	**21 03 35.1**	**+0.1**
	comp=Z,80nm,0.5s						
IZV				Lg	Lg	21 04 32.0	
	comp=Z,343nm,0.1s						
MTBS	**Maitube**	**4.24**	**28**	*e*Pg	**Pb**	**21 03 34.6**	**-0.5**
	comp=Z,123nm,0.5s						
MTBS				*e*Lg	Lg	21 04 31.4	
	comp=Z,227nm,0.9s						
MTBS	**Maitube**	**4.24**	**28**	Pg	**Pb**	**21 03 34.6**	**-0.5**
	comp=Z,123nm,0.5s						
MTBS				Lg	Lg	21 04 31.4	
	comp=Z,227nm,0.9s						
TNSS	**Tian-Shan**	**4.37**	**33**⇓	*i* Pn	**Pn**	**21 03 29.7**	**+2.8**
	baz=34						
TNSS				*e*Pg	**Pb**	**21 03 38.2**	**+0.7**
	baz=34						
TNSS	**Tian-Shan**	**4.37**	**33**	*e*Pg	**Pb**	**21 03 38.4**	**+0.9**
	comp=Z,80nm,0.4s						
TNSS				*e*Lg	Lg	21 04 37.9	
	comp=Z,150nm,0.9s						
TNSS	**Tian-Shan**	**4.37**	**33**⇓	*i*PN	**Pn**	**21 03 29.6**	**+2.7**
TNSS				*e*		21 03 38.2	
KK31	**Karatay Array**	**4.37**	**328**		**Pn**	**21 03 28.2**	**+1.6**
KK31	**Karatay Array**	**4.37**	**328**	PN	**Pn**	**21 03 28.2**	**+1.6**
KK31	**Karatay Array**	**4.37**	**328**	⇑Pn	**Pn**	**21 03 27.8**	**+1.1**
	comp=Z,41nm,0.5s,baz=132,slow=12,SNR=344						
KK31				⇑Pg	**Pb**	**21 03 39.5**	**+2.1**
	comp=Z,204nm,0.9s,baz=134,slow=11,SNR=16						
KK31				⇑Lg	Lg	21 04 35.9	
	comp=Z,672nm,1.1s,baz=164,slow=30,SNR=4.0						
KKAR	**Karatay Array**	**4.37**	**328**⇓	*eP*	**Pn**	**21 03 28.4**	**+1.8**
	baz=27						
KKAR				⇓*eS*	**Sn**	**21 04 18.9**	**+1.8**
	baz=27						
KKAR	**Karatay Array**	**4.37**	**328**		**Pn**	**21 03 28.4**	**+1.8**
KKAR	**Karatay Array**	**4.37**	**328**		**Pn**	**21 03 28.2**	**+1.6**
KKAR	**Karatay Array**	**4.37**	**328**	*e*PN	**Pn**	**21 03 28.2**	**+1.6**
KKAR				*i* S	**Sn**	**21 04 19.4**	**+2.3**
AAA	**Alma-Ata**	**4.49**	**32**	*e*Pn	**Pn**	**21 03 32.0**	**+3.7**
	baz=32						
AAA				*e*Pg	**Pb**	**21 03 41.0**	**+1.6**
	baz=32						
AAA	**Alma-Ata**	**4.49**	**32**	*e*Pg	**Pb**	**21 03 40.1**	**+0.6**
	comp=Z,120nm,1.0s						
AAA				*e*Lg	Lg	21 04 40.4	
	comp=Z,527nm,0.9s						
AAA	**Alma-Ata**	**4.49**	**32**	*e*PN	**Pn**	**21 03 32.0**	**+3.7**
AAA				*e*		21 03 41.0	
AAA	**Alma-Ata**	**4.49**	**32**	Pg	**Pb**	**21 03 40.1**	**+0.6**
	comp=Z,120nm,1.0s						
AAA				Lg	Lg	21 04 40.4	
	comp=Z,527nm,0.9s						
ANVS	**Anan'yevo**	**4.51**	**41**⇑	*eP*	**Pn**	**21 03 30.4**	**+1.8**
	baz=41						
ANVS			⇑	*eS*	**Sn**	**21 04 22.2**	**+1.6**
	baz=41						
ANVS	**Anan'yevo**	**4.51**	**41**	*e*PN	**Pn**	**21 03 29.4**	**+0.8**
ANVS				*i* S	**Sn**	**21 04 21.5**	**+0.9**
MDOK	**Medeo**	**4.51**	**33**	*i* Pn	**Pn**	**21 03 31.7**	**+3.0**
	baz=34						
MDOK				*e*Pg	**Pb**	**21 03 41.2**	**+1.3**
	baz=34						
MDOK				*e*Lg	Lg	21 04 41.6	
	baz=34						
MDOK				LR	LR	21 04 49.2	
	comp=Z,624nm,9.8s,baz=34						
MDOK	**Medeo**	**4.51**	**33**	*e*Pg	**Pb**	**21 03 40.8**	**+0.9**
	comp=Z,85nm,0.6s						
MDOK				*e*Lg	Lg	21 04 41.8	
	comp=Z,393nm,0.9s						
MDOK	**Medeo**	**4.51**	**33**	*i* PN	**Pn**	**21 03 31.6**	**+3.0**
MDOK				*e*		21 03 41.1	
MDOK				MLR	MLR		
	comp=Z,624nm,10.0s						
MDOK	**Medeo**	**4.51**	**33**	⇑Pn	**Pn**	**21 03 31.7**	**+3.0**
	comp=Z,33nm,0.7s						
MDOK				Pg	**Pb**	**21 03 40.8**	**+0.9**
	comp=Z,85nm,0.6s						
MDOK				⇓Pg	Pg	21 03 42.5	-5.0
	comp=Z,143nm,0.7s						
MDOK				Lg	Lg	21 04 41.8	
	comp=Z,393nm,0.9s						
MDOK				⇓Lg	Lg	21 04 42.5	
	comp=Z,674nm,1.0s						
KNDC	**Almaty**	**4.52**	**32**	⇓Pn	**Pn**	**21 03 32.3**	**+3.7

	comp=Z,75nm,1.0s							
KUU				*e*Lg	Lg	21 04 52.8		
	comp=Z,2µm,3.2s							
KUU	**Kurty**	**4.88**	**23**	*i* PN	**Pn**	**21 03 35.2**	**+1.6**	
KUU				*e*		21 03 47.7		
KUU				MLR	MLR			
	comp=Z,565nm,9.0s							
KUU	**Kurty**	**4.88**	**23**	Pg	**Pb**	**21 03 47.1**	**+1.0**	
	comp=Z,75nm,1.0s							
KUU				Lg	Lg	21 04 52.8		
	comp=Z,495nm,0.8s							
CHKK	**Chushkaly**	**5.07**	**28**	*e*Pn	**Pn**	**21 03 38.3**	**+2.2**	
	baz=29							
CHKK				*e*Pg	**Pb**	**21 03 50.2**	**+0.9**	
	baz=29							
CHKK	**Chushkaly**	**5.07**	**28**	*e*Pg	**Pb**	**21 03 50.9**	**+1.7**	
	comp=Z,121nm,0.1s							
CHKK				*e*Lg	Lg	21 04 59.5		
	comp=Z,233nm,0.6s							
CHKK	**Chushkaly**	**5.07**	**28**	*e*PN	**Pn**	**21 03 38.3**	**+2.2**	
CHKK	**Chushkaly**	**5.07**	**28**	Pg	**Pb**	**21 03 50.9**	**+1.7**	
	comp=Z,121nm,0.1s							
CHKK				Lg	Lg	21 04 59.5		
	comp=Z,233nm,0.6s							
SATY	**Saty**	**5.08**	**43**	*e*Pn	**Pn**	**21 03 38.9**	**+2.4**	
	baz=44							
SATY				*i* Pg	**Pb**	**21 03 51.4**	**+1.8**	
	baz=44							
SATY	**Saty**	**5.08**	**43**	*e*Pg	**Pb**	**21 03 50.5**	**+1.0**	
	comp=Z,111nm,0.9s							
SATY				*e*Lg	Lg	21 04 58.7		
	comp=Z,3µm,3.5s							
SATY	**Saty**	**5.08**	**43**	*e*PN	**Pn**	**21 03 38.9**	**+2.4**	
SATY				*i*		21 03 51.4		
SATY	**Saty**	**5.08**	**43**	Pg	**Pb**	**21 03 50.5**	**+1.0**	
	comp=Z,111nm,0.9s							
SATY				Lg	Lg	21 04 58.7		
	comp=Z,535nm,1.1s							
ZHN	**Zhinishke**	**5.17**	**42**	*e*Pn	**Pn**	**21 03 40.3**	**+2.5**	
	baz=43							
ZHN				*i* Pg	**Pb**	**21 03 53.1**	**+2.0**	
	baz=43							
ZHN				*e*Lg	Lg	21 05 02.5		
	baz=43							
ZHN	**Zhinishke**	**5.17**	**42**	*e*Pg	**Pb**	**21 03 52.8**	**+1.7**	
	comp=Z,51nm,1.0s							
ZHN				*e*Lg	Lg	21 05 02.4		
	comp=Z,3µm,3.0s							
ZHN	**Zhinishke**	**5.17**	**42**	*e*PN	**Pn**	**21 03 40.2**	**+2.5**	
ZHN				*i*		21 03 53.1		
ZHN	**Zhinishke**	**5.17**	**42**	Pg	**Pb**	**21 03 52.8**	**+1.7**	
	comp=Z,51nm,1.0s							
ZHN				Lg	Lg	21 05 02.4		
	comp=Z,183nm,1.8s							
KURS	**Kuram**	**5.28**	**38**	*e*Pg	**Pb**	**21 03 55.2**	**+2.4**	
	comp=Z,146nm,1.2s							
KURS				*e*Lg	Lg	21 05 06.9		
	comp=Z,186nm,1.5s							
KURS	**Kuram**	**5.28**	**38**	Pg	**Pb**	**21 03 55.2**	**+2.4**	
	comp=Z,146nm,1.2s							
KURS				Lg	Lg	21 05 06.9		
	comp=Z,186nm,1.5s							
UZB	**Uzynbulak**	**5.48**	**46**	*e*Pn	**Pn**	**21 03 44.5**	**+2.6**	
	baz=46							
UZB				*i* Pg	**Pb**	**21 03 57.6**	**+1.4**	
	baz=46							
UZB	**Uzynbulak**	**5.48**	**46**	*e*Pg	**Pb**	**21 03 57.1**	**+0.8**	
	comp=Z,46nm,1.2s							
UZB				*e*Lg	Lg	21 05 10.2		
	comp=Z,192nm,1.1s							
UZB	**Uzynbulak**	**5.48**	**46**	*e*PN	**Pn**	**21 03 44.5**	**+2.6**	
UZB				*i*		21 03 57.6		
KPKS	**Kokpek**	**5.51**	**41**	⇓*i* Pn	**Pn**	**21 03 44.8**	**+2.4**	
	baz=42							
KPKS				*i* Pg	**Pb**	**21 03 58.0**	**+1.1**	
	baz=42							
KPKS	**Kokpek**	**5.51**	**41**	*e*Pg	**Pb**	**21 03 58.3**	**+1.4**	
	comp=Z,112nm,1.0s							
KPKS				*e*Lg	Lg	21 05 12.4		
	comp=Z,296nm,0.9s							
KPKS	**Kokpek**	**5.51**	**41**	*d i* PN	**Pn**	**21 03 44.7**	**+2.4**	
KPKS				*i*		21 03 58.0		
KPKS	**Kokpek**	**5.51**	**41**	Pg	**Pb**	**21 03 58.3**	**+1.4**	
	comp=Z,112nm,1.0s							
KPKS				Lg	Lg	21 05 12.4		
	comp=Z,296nm,0.9s							
BTLS	**Baital**	**5.61**	**3**	*e*Pn	**Pn**	**21 03 45.5**	**+1.9**	
	baz=2.8							
BTLS				*e*Pg	**Pb**	**21 04 01.3**	**+2.8**	
	baz=2.8							
BTLS	**Baital**	**5.61**	**3**	*e*Pg	**Pb**	**21 04 00.9**	**+2.4**	
	comp=Z,59nm,0.9s							
BTLS				*e*Lg	Lg	21 05 16.4		
	comp=Z,188nm,0.8s							
BTLS	**Baital**	**5.61**	**3**	*e*PN	**Pn**	**21 03 45.5**	**+1.9**	
BTLS				*e*		21 04 01.2		
ARXS	**Arharly**	**5.70**	**32**	*e*Pg	**Pb**	**21 04 01.7**	**+1.7**	
	comp=Z,76nm,0.5s							
ARXS				*e*Lg	Lg	21 05 17.8		
	comp=Z,239nm,0.9s							
ARXS	**Arharly**	**5.70**	**32**	*e*PN	**Pb**	**21 04 00.0**	**0.0**	
ARXS	**Arharly**	**5.70**	**32**	Pg	**Pb**	**21 04 01.7**	**+1.7**	
	comp=Z,76nm,0.5s							
ARXS				Lg	Lg	21 05 17.8		
	comp=Z,239nm,0.9s							
SHLS	**Shalkode**	**5.73**	**48**	*e*Pn	Pn	21 03 51.4	+6.0	
	comp=Z,15nm,1.0s,baz=50							
SHLS				*e*Pg	**Pg**	**21 04 08.4**	**-2.4**	
	baz=50							
SHLS	**Shalkode**	**5.73**	**48**	*e*Pg	**Pg**	**21 04 07.3**	**-3.5**	
	comp=Z,73nm,1.1s							
SHLS				*e*Lg	Lg	21 05 27.6		
	comp=Z,263nm,0.9s							
SHLS	**Shalkode**	**5.73**	**48**	*e*PN	Pn	21 03 51.3	+5.9	
SHLS				*e*		21 04 08.4		
SHLS				pmax	pmax			
	comp=Z,15nm,1.0s							
SHLS	**Shalkode**	**5.73**	**48**	Pg	**Pg**	**21 04 07.3**	**-3.5**	
	comp=Z,73nm,1.1s							
SHLS				Lg	Lg	21 05 27.6		
	comp=Z,263nm,0.9s							
NIL	**Nilore**	**5.78**	**183**	Pn	**Pn**	**21 03 48.4**	**+2.4**	
NIL	**Nilore**	**5.78**	**183**	P	**Pn**	**21 03 49.3**	**+3.3**	
NIL	**Nilore**	**5.78**	**183**	PN	**Pn**	**21 03 48.4**	**+2.4**	
PDGK	**Podgornoye**	**5.86**	**46**	Pg	**Pb**	**21 04 05.2**	**+2.5**	
	comp=Z,20nm,0.8s							
PDGK				Lg	Lg	21 05 23.9		
	comp=Z,68nm,1.3s							
PDGK	**Podgornoye**	**5.86**	**46**	⇑Pn	**Pn**	**21 03 48.5**	**+1.4**	
	comp=Z,33nm,0.7s							
PDGK				⇓Pg	**Pb**	**21 04 07.3**	**+4.5**	
	comp=Z,95nm,0.8s							
PDGK				⇑Lg	Lg	21 05 25.9		
	comp=Z,269nm,1.1s							
KBL	**Kabul**	**6.13**	**219**	Pn	**Pn**	**21 03 53.8**	**+2.9**	
KBL	**Kabul**	**6.13**	**219**	P	**Pn**	**21 03 52.4**	**+1.5**	
	SNR=24							
KBL	**Kabul**	**6.13**	**219**	PN	**Pn**	**21 03 53.8**	**+2.9**	
KNOS	**Konyrlen**	**6.41**	**38**	Pg	**Pb**	**21 04 15.7**	**+3.5**	
	comp=Z,65nm,1.2s							
KNOS				Lg	Lg	21 05 41.7		
	comp=Z,160nm,1.5s							
TDK	**Taldyqorghan**	**6.58**	**31**	*e*Pn	**Pn**	**21 03 59.4**	**+2.5**	
	comp=Z,11nm,1.1s,baz=31							
TDK				LR	LR	21 06 07.8		
	comp=Z,453nm,9.4s,baz=31							
TDK	**Taldyqorghan**	**6.58**	**31**	*e*Pg	**Pb**	**21 04 19.0**	**+4.0**	
	comp=Z,235nm,0.8s							
TDK				*e*Lg	Lg	21 05 48.0		
	comp=Z,540nm,0.7s							
TDK	**Taldyqorghan**	**6.58**	**31**	*e*PN	**Pn**	**21 03 59.4**	**+2.5**	
TDK				pmax	pmax			
	comp=Z,11nm,1.1s							
TDK				MLR	MLR			
	comp=Z,453nm,9.0s							
TDK	**Taldyqorghan**	**6.58**	**31**	Pg	**Pb**	**21 04 19.0**	**+4.0**	
	comp=Z,235nm,0.8s							
TDK				Lg	Lg	21 05 48.0		
	comp=Z,540nm,0.7s							
DJR	**Jarkent**	**6.69**	**41**	*e*Pg	**Pb**	**21 04 20.7**	**+3.8**	
	comp=Z,27nm,0.9s							
DJR				*e*Lg	Lg	21 05 50.4		
	comp=Z,121nm,0.1s							
DJR	**Jarkent**	**6.69**	**41**	Pg	**Pb**	**21 04 20.7**	**+3.8**	
	comp=Z,27nm,0.9s							
DJR				Lg	Lg	21 05 50.4		
	comp=Z,121nm,0.1s							
JMU	**Jammu**	**6.78**	**171**	*e*P	**Pn**	**21 04 01.4**	**+1.8**	
JMU				*e*S	**Sn**	**21 05 16.9**	**+0.7**	
KAPS	**Kapalarasan**	**7.20**	**34**	*e*Pg	Pb	21 04 31.0	+5.4	
	comp=Z,25nm,1.2s							
KAPS				*e*Lg	Lg	21 06 08.3		
	comp=Z,104nm,1.0s							
KAPS	**Kapalarasan**	**7.20**	**34**	Pg	Pb	21 04 31.0	+5.3	
	comp=Z,25nm,1.2s							
DHRM	**DHARAMSHALA**	**7.48**	**163**	*e*P	**Pn**	**21 04 11.2**	**+1.8**	
DHRM				IAML		21 05 50.4		
	comp=N,408nm,0.8s							
BHK	**Bhakra**	**8.30**	**164**	*e*P	**Pn**	**21 04 23.4**	**+2.8**	
BHK				*e*S	**Sn**	**21 05 53.0**	**-0.9**	
BHK				IAML		21 06 06.7		
	comp=N,198nm,1.0s							
BHK				IAML		21 06 07.3		
	comp=E,198nm,0.8s							
OTUK	**Ortayu**	**8.86**	**354**	⇓Pn	**Pn**	**21 04 29.4**	**+1.2**	
	comp=E,30nm,0.8s							
OTUK				⇑Lg	Lg	21 06 59.0		
	comp=E,115nm,1.1s							
MAKZ	**Makanchi**	**9.54**	**37**	Pn	**Pn**	**21 04 38.3**	**+0.7**	
MAKZ	**Makanchi**	**9.54**	**37**	P	**Pn**	**21 04 38.3**	**+0.7**	
MAKZ	**Makanchi**	**9.54**	**37**	⇑Pn	**Pn**	**21 04 40.6**	**+3.1**	
	comp=E,15nm,1.1s							
MAKZ				⇑Lg	Lg	21 07 21.8		
	comp=E,52nm,1.4s							
MK31	**Makanchi Array**	**9.68**	**38**	Pn	**Pn**	**21 04 40.0**	**+0.6**	
MK31	**Makanchi Array**	**9.68**	**38**	*ce*P	**Pn**	**21 04 43.3**	**+3.9**	
MK31	**Makanchi Array**	**9.68**	**38**	Pn	**Pn**	**21 04 42.8**	**+3.3**	
	comp=E,13nm,0.9s,baz=230,slow=22,SNR=40							
MK31				⇓Lg	Lg	21 07 26.9		
	comp=E,69nm,1.2s							
MKAR	**Makanchi Array**	**9.68**	**38**	Pn	**Pn**	**21 04 40.5**	**+1.0**	
MKAR	**Makanchi Array**	**9.68**	**38**	*i* P	**Pn**	**21 04 43.5**	**+4.1**	
MKAR				pmax	pmax			
	comp=E,12nm,0.9s							
MKAR	**Makanchi Array**	**9.68**	**38**	Pn	**Pn**	**21 04 42.2**	**+2.8**	
	comp=Z,0.3nm,0.3s,baz=223,slow=13,SNR=19							
MKAR				Lg	Lg	21 07 14.8		
	comp=Z,0.3nm,0.3s,baz=262,slow=32,SNR=2.1							
	comp=Z,12nm,0.9s							
HRA	**Herat**	**10.44**	**245**	Pn	**Pn**	**21 04 50.2**	**+0.2**	
NDI	**New Delhi**	**11.12**	**164**	*e*P	**Pn**	**21 04 58.4**	**-0.8**	
NDI				*e*S	**Sn**	**21 07 03.0**	**0.0**	
NDI				IAML		21 07 09.8		
	comp=E,54nm,0.6s							
PTH	**Pithoragarh**	**11.23**	**149**	*e*P	**Pn**	**21 05 00.3**	**-0.7**	
PTH				*e*S	**Sn**	**21 07 02.2**	**-3.9**	
LGTI	**Lohaghat**	**11.34**	**149**	*e*P	**Pn**	**21 05 01.6**	**-0.5**	
WMQ	**Urumqi**	**11.37**	**63**	*e*P	**Pn**	**21 05 02.5**	**-0.1**	
WMQ				pP		21 05 12.0		
WMQ				pmax	pmax			
	comp=E,16nm,1.3s							
WMQ				LR	LR			
	comp=E,610nm,10.5s							
WMQ				LR	LR			
	comp=E,790nm,9.5s							
ZSN	**Zaisan**	**11.41**	**42**	*e*Pn	**Pn**	**21 05 06.1**	**+3.0**	
	comp=E,4.8nm,1.3s,baz=42							
ZSN	**Zaisan**	**11.41**	**42**	*e*P	**Pn**	**21 05 06.1**	**+3.0**	
ZSN				pmax	pmax			
	comp=Z,5.0nm,1.3s							
KUDL	**Kundal**	**11.50**	**167**	*e*P	**Pn**	**21 05 03.8**	**-0.6**	
SONA	**Sohna**	**11.51**	**165**	*e*P	**Pn**	**21 05 04.2**	**-0.2**	
SONA				*e*S	**Sn**	**21 07 08.7**	**-3.7**	
UGON	**Onchagaon**	**11.64**	**161**	*e*S	**Sn**	**21 07 11.1**	**-4.6**	
KURBB	**Kurchatov Arra**	**11.70**	**15**	Pn	**Pn**	**21 05 07.0**	**0.0**	
	comp=Z,0.1nm,0.3s,baz=205,slow=12,SNR=24							
KURBB				Sn	**Sn**	**21 07 16.3**	**-0.8**	
	baz=5.2,slow=22,SNR=4.0							
KURBB				Lg	Lg	21 08 27.9		
	comp=Z,0.1nm,0.3s,baz=212,slow=28,SNR=6.3							
KURBB				LR	LR	21 09 53.8		
	comp=Z,301nm,19.4s,baz=183,slow=39							
	comp=Z,7.5nm,0.9s							
KURBB	**Kurchatov Arra**	**11.70**	**15**	⇓Pn	**Pn**	**21 05 06.7**	**-0.3**	
	comp=Z,8.3nm,0.7s							
KURBB				⇓Lg	Lg	21 08 27.5		
	comp=Z,166nm,1.1s							
KURK	**Kurchatov**	**11.81**	**16**	Pn	**Pn**	**21 05 07.0**	**-1.5**	
KURK	**Kurchatov**	**11.81**	**16**	P	**Pn**	**21 05 09.3**	**+0.8**	
KURK	**Kurchatov**	**11.81**	**16**	*ce*P	**Pn**	**21 05 08.5**	**0.0**	
KURK				pmax	pmax			
	comp=Z,9.0nm,1.3s							
SEM	**Semipalatinsk**	**11.92**	**21**	*e*Pn	**Pn**	**21 05 11.2**	**+0.9**	
	comp=Z,3.9nm,0.9s,baz=21							
SEM				LR	LR	21 09 20.7		
	comp=Z,132nm,9.3s,baz=21							
SEM	**Semipalatinsk**	**11.92**	**21**	*e*P	**Pn**	**21 05 11.1**	**+0.9**	
SEM				pmax	pmax			
	comp=Z,4.0nm,0.9s							
SEM				MLR	MLR			
	comp=Z,132nm,9.0s							
GEYT	**Alibeck**	**12.25**	**268**	Pn	**Pn**	**21 05 12.6**	**-2.1**	
GEYT	**Alibeck**	**12.25**	**268**	Pn	**Pn**	**21 05 14.0**	**-0.7**	
	comp=Z,2.2nm,0.3s,baz=98,slow=11,SNR=21							
GEYT				Sn	**Sn**	**21 07 30.1**	**-0.7**	
	comp=Z,1.1nm,0.3s,baz=93,slow=30,SNR=2.2							
GEYT				LR	LR	21 10 40.3		
	comp=Z,121nm,18.2s,baz=82,slow=41							
	comp=Z,12nm,0.6s							
GYA0	**ALIBECK ARRAY**	**12.25**	**268**	P	**Pn**	**21 05 13.8**	**-0.9**	
GYA0B	**ALIBECK ARRAY**	**12.25**	**268**	Pn	**Pn**	**21 05 12.8**	**-1.9**	
GYA0B	**ALIBECK ARRAY**	**12.25**	**268**	⇓Pn	**Pn**	**21 05 16.4**	**+1.7**	
GYA0B				⇓Sn	**Sn**	**21 07 33.6**	**+2.9**	
GYA0B				⇑Lg	Lg	21 09 00.4		
JASL	**Jaisalmer**	**12.69**	**191**	*e*P	**Pn**	**21 05 22.0**	**+1.4**	
PYUN	**Piuthan**	**13.69**	**143**	*e*P	**Pn**	**21 05 30.1**	**-4.4**	
	comp=Z,56nm,0.4s							
BVA0	**Borovoye Array**	**13.78**	**352**	Pn	**Pn**	**21 05 35.7**	**+0.3**	
	comp=Z,1.8nm,0.8s,baz=164,slow=13,SNR=128							
BVAR	**Borovoye Array**	**13.78**	**352**	Pn	**Pn**	**21 05 34.2**	**-1.2**	
	comp=Z,0.3nm,0.3s,baz=163,slow=12,SNR=87							
BVAR				Lg	Lg	21 09 33.2		
	baz=163,slow=26,SNR=5.7							
BVAR				LR	LR	21 11 21.0		
	comp=Z,80nm,21.7s,baz=168,slow=39							
	comp=Z,22nm,0.7s							
BRVK	**Borovoye**	**13.83**	**351**	Pn	**Pn**	**21 05 34.6**	**-1.5**	
BRVK	**Borovoye**	**13.83**	**351**	P	**Pn**	**21 05 36.5**	**+0.4**	
BRVK	**Borovoye**	**13.83**	**351**	*i* P	**Pn**	**21 05 35.4**	**-0.6**	
DANN	**Dangsing**	**13.86**	**140**	*e*P	**Pn**	**21 05 32.9**	**-4.0**	
	comp=Z,69nm,0.7s							
AB31	**Akbulak array**	**13.87**	**320**	⇓Pn	**Pn**	**21 05 36.5**	**-0.1**	
	comp=Z,22nm,0.7s,baz=130,slow=12,SNR=257							
AB31				⇑Sn	**Sn**	**21 08 09.9**	**-0.2**	
	comp=Z,4.7nm,0.6s,baz=138,slow=24,SNR=2.6							
AB31				⇓Lg	Lg	21 09 46.0		
	comp=Z,60nm,1.5s							
ABKAR	**Akbulak array**	**13.87**	**320**	Pn	**Pn**	**21 05 34.5**	**-2.2**	
DGZ	**Jazzator, Alta**	**14.17**	**39**	*i* P	**Pn**	**21 05 41.3**	**+0.4**	
KOLN	**Koldanda**	**14.26**	**142**	*e*P	**Pn**	**21 05 38.2**	**-4.1**	
	comp=Z,171nm,1.6s							
GKN	**Gorkha**	**14.59**	**138**	*e*P	**Pn**	**21 05 42.5**	**-4.2**	
	comp=Z,41nm,0.5s							
KKN	**Kakani**	**15.09**	**137**	*e*P	**Pn**	**21 05 49.4**	**-4.2**	
GUN	**Gumba**	**15.32**	**135**	*e*P	**Pn**	**21 05 52.8**	**-4.0**	
	comp=Z,14nm,0.4s							
PKI	**Pulchoki**	**15.34**	**137**	*e*P	**Pn**	**21 05 53.0**	**-3.9**	
	comp=Z,15nm,0.5s							
AKTO	**Aktyubinsk**	**15.58**	**320**	Pn	**Pn**	**21 05 59.4**	**-0.3**	
	comp=Z,2.2nm,0.3s,baz=129,slow=11,SNR=19							
AKTO				Sn	**Sn**	**21 08 46.2**	**-5.6**	
	comp=Z,0.2nm,0.3s,baz=66,slow=20,SNR=2.4							
AKTO				Lg	Lg	21 10 35.8		
	comp=Z,0.2nm,0.3s,baz=253,slow=20,SNR=2.0							
AKTO				LR	LR	21 12 26.3		
	comp=Z,172nm,20.8s,baz=62,slow=39							
	comp=Z,8.5nm,0.4s							
AKTO	**Aktyubinsk**	**15.58**	**320**	⇓Pn	**Pn**	**21 05 59.6**	**-0.1**	
	comp=Z,23nm,0.9s							
AKTO				⇑Sn	**Sn**	**21 08 52.4**	**+0.6**	
	comp=Z,10.0nm,1.0s							
AKTO				⇓Lg	Lg	21 10 31.4		
	comp=Z,32nm,1.5s							
JIRN	**Jiri**	**15.69**	**135**	*e*P	**Pn**	**21 05 57.6**	**-4.0**	
	comp=Z,36nm,0.4s							
ZAA0	**Zalesovo Array**	**16.38**	**24**		**Pn**	**21 06 09.1**	**-0.8**	
ZALV	**Zalesovo Beam**	**16.38**	**24**		**Pn**	**21 06 08.9**	**-1.0**	
ZALV	**Zalesovo Beam**	**16.38**	**24**	*i* P	**P**	**21 06 11.6**	**-1.0**	
ZALV				pmax	pmax			
	comp=Z,25nm,0.9s							
ZALV	**Zalesovo Beam**	**16.38**	**24**	Pn	**Pn**	**21 06 10.2**	**+0.3**	
	comp=Z,1.7nm,0.3s,baz=221,slow=10,SNR=30							
ZALV				Lg	Lg	21 11 02.8		
	baz=214,slow=23,SNR=3.6							
ZALV				LR	LR	21 12 44.0		
	comp=Z,197nm,19.3s,baz=332,slow=38							
	comp=Z,25nm,0.9s							
RAMN	**Ramite**	**16.47**	**135**	*e*P	**Pn**	**21 06 06.5**	**-5.0**	
	comp=Z,85nm,0.9s							
TAPN	**Taplejung**	**16.79**	**132**	*e*P	**Pn**	**21 06 11.0**	**-4.5**	
	comp=Z,65nm,1.1s							
ODAN	**Odare**	**16.98**	**133**	*e*P	**Pn**	**21 06 12.5**	**-5.4**	
	comp=Z,75nm,0.8s							
GOMU	**GeErMu**	**17.01**	**94**	Pn	**Pn**	**21 06 17.0**	**-1.4**	
GOMU				smax	smax			
	comp=N,7.0nm,0.8s							
GOMU				smax	smax			
	comp=E,9.0nm,0.8s							
LSA	**Lhasa**	**17.34**	**119**	Pn	**Pn**	**21 06 22.8**	**+0.2**	
LSA	**Lhasa**	**17.34**	**119**	P	**P**	**21 06 23.3**	**-0.6**	
LSA	**Lhasa**	**17.34**	**119**	P	**Pn**	**21 06 22.8**	**+0.2**	
LSA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
NGCH	**Negor - Chabah**	**17.55**	**221**	P	**P**	**21 06 26.2**	**+0.4**	
AKL	**Akola**	**18.89**	**170**	*e*P	**Pn**	**21 06 41.9**	**+0.7**	
LKRN	**Lenkeran, Azer**	**19.33**	**276**	P	**P**	**21 06 45.5**	**+0.2**	
SVE	**Sverdlovsk**	**19.40**	**338**	*e*P	**Pn**	**21 06 46.7**	**-0.4**	
SVE				pmax	pmax			
	comp=Z,43nm,1.2s							
ARU	**Arti**	**19.71**	**335**	P	**P**	**21 06 48.8**	**-0.6**	
ARU				IAmb	IAmb	21 06 55.6		
	comp=Z,41nm,0.9s							
ARU	**Arti**	**19.71**	**335**	*c i* P	**P**	**21 06 49.0**	**-0.3**	
ARU				S	**Sn**	**21 10 33.1**	**+1.5**	
ARU				pmax	pmax			
	comp=Z,36nm,1.3s							
ARU	**Arti**	**19.71**	**335**	P	**Pn**	**21 06 50.2**	**-0.6**	
	baz=157,slow=4.8,SNR=17							
ARU				Lg	Lg	21 12 47.6		
	baz=40,slow=14,SNR=1.9							
	comp=Z,12nm,0.6s							
MAK	**Makhachkala**	**19.98**	**289**	*e*P	**P**	**21 06 49.8**	**-2.5**	
MAK				*e*S	**S**	**21 10 32.0**	**-4.1**	
MAK				pmax	pmax			
	comp=Z,104nm,1.1s							
MAK				MLR	MLR			
	comp=Z,192nm,11.0s							
GTA	**Gaotai**	**20.18**	**82**	*e*P	Pn	21 06 56.5	-0.1	
GTA				sP	sP	21 07 05.5	+1.3	
GTA				pmax	pmax			
	comp=Z,8.0nm,1.2s							
SEKA	**Sheki**	**20.24**	**284**	P	**P**	**21 06 54.5**	**-0.8**	
MASF	**Masafi**	**20.33**	**232**	P	Pn	21 06 57.4	-1.0	
	SNR=5.4							
MASF				P	Pn	21 06 57.4	-1.0	
	SNR=5.4							
WSAR	**Wadi Sarin**	**20.59**	**223**	P	**P**	**21 06 59.9**	**+0.8**	
	SNR=8.0							
WSAR	**Wadi Sarin**	**20.59**	**223**	P	**P**	**21 06 59.3**	**+0.3**	
	comp=Z,9.9nm,0.7s,baz=51,slow=7.9,SNR=13							
WSAR				LR	LR	21 16 51.4		
	comp=Z,55nm,20.0s,baz=61,slow=43							
	comp=Z,9.9nm,0.7s							
SHL	**Shillong**	**20.61**	**127**	*e*P	**P**	**21 06 58.2**	**-1.3**	
UOSS	**Minazif**	**20.62**	**231**	P	**P**	**21 07 00.0**	**+0.6**	
HATD	**Hatta, Dubai**	**20.75**	**231**	P	**P**	**21 07 01.7**	**+0.9**	
HATD				P	**P**	**21 07 01.7**	**+0.9**	
ASHO	**Ashiyiah**	**20.90**	**231**	P	**P**	**21 07 02.7**	**+0.2**	
	SNR=20							
NAZ	**Nazwa, Dubai**	**20.91**	**232**	P	**P**	**21 07 01.8**	**-0.8**	
NAZ				P	**P**	**21 07 01.8**	**-0.8**	
WBK	**Wadi Bani Khal**	**20.93**	**221**	P	Pn	21 07 04.3	-1.1	
	SNR=8.8							
GANJ	**Ganja**	**20.95**	**282**	P	**P**	**21 07 03.0**	**+0.1**	
SOHO	**SOHO**	**21.04**	**229**	P	**P**	**21 07 05.8**	**+1.9**	
SOHO				P	**P**	**21 07 05.8**	**+1.9**	
SMDO	**Samad**	**21.04**	**224**	P	**P**	**21 07 04.7**	**+0.7**	
SMDO				P	**P**	**21 07 04.7**	**+0.7**	
JLN	**Jalan Bani Buh**	**21.09**	**219**	P	**P**	**21 07 05.6**	**+1.1**	
	SNR=9.4							
JLN				P	**P**	**21 07 05.6**	**+1.1**	
	SNR=9.4							
ASUD	**Al Ashush, Dub**	**21.38**	**232**	P	**P**	**21 07 08.1**	**+0.5**	
ALNE	**Al Ain**	**21.56**	**230**	P	**P**	**21 07 10.5**	**+1.0**	
	SNR=7.3							
JMDO	**Jabal Madar**	**21.57**	**223**	P	**P**	**21 07 10.6**	**+0.9**	
	SNR=6.5							
BSY	**Bisya**	**21.75**	**225**	P	**P**	**21 07 12.6**	**+1.0**	
BSY				P	**P**	**21 07 12.6**	**+1.0**	
BELG	**Belogornoye**	**22.13**	**314**	*c i* P	**P**	**21 07 15.1**	**-0.4**	
BELG				pmax	pmax			
	comp=Z,14nm,1.0s							
BELG	**Belogornoye**	**22.13**	**314**	P	**P**	**21 07 15.1**	**-0.4**	
	comp=Z,71nm,1.0s,baz=138,slow=16,SNR=12							
BELG				LR	LR	21 17 12.1		
	comp=Z,88nm,18.2s,baz=133,slow=40							
	comp=Z,71n

SOC *e*PPP PPP 21 08 36.8
SOC *e*S **S** **21 12 18.6 +1.5**
SOC *e*SS **SnSn** **21 13 12.0 +0.4**
SOC *e*SSS SSS 21 13 28.1
CD2 Chengdu 25.93 100 P **P** **21 07 53.0 +0.7**
CD2 pmax pmax
comp=Z,20nm,0.7s
VORD Divnogorie 26.59 307 *e*P **P** **21 07 57.5 -0.5**
VORD pmax pmax
comp=Z,10.0nm,0.5s
VSR Storozhevoye 26.72 308 *e*P **P** **21 07 57.8 -1.4**
VSR pmax pmax
comp=Z,20nm,1.1s
PZH PanZhiHua 26.73 110 P **P** **21 08 02.8 +3.2**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,60nm,3.5s
LPSR Galich'ya Gora 27.19 310 *e*P **P** **21 08 02.1 -1.3**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
ANN Anapa 27.26 293 *e*P **P** **21 08 03.5 -0.6**
ANN *e*S **S** **21 12 41.6 -0.7**
ANN pmax pmax
comp=Z,93nm,0.9s
BTO Baotou 27.74 76 *e*P **P** **21 08 09.0 +0.4**
BTO pP **pP** **21 08 13.5 -2.1**
BTO sP **sP** **21 08 16.3 -2.2**
BTO PP **PnPn** **21 08 57.5 +3.0**
BTO pmax pmax
comp=Z,17nm,0.8s
BTO pmax pmax
comp=Z,440nm,5.8s
PRGR Permogore 28.09 332 *e*P **P** **21 08 10.0 -1.3**
PRGR pmax pmax
comp=Z,19nm,1.3s
KMI Kunming 28.27 112 ⇑P **P** **21 08 15.0 +1.4**
KMI pmax pmax
comp=Z,12nm,0.5s
XAN Xi'an 28.64 90 ⇑P **P** **21 08 18.0 +1.4**
XAN pmax pmax
comp=Z,12nm,1.1s
MOS Moscow 28.85 316 *e*P **P** **21 08 18.6 +0.4**
MOS *e* 21 09 11.6
MOS pmax pmax
comp=Z,35nm,1.3s
HHC Hu-ho-hao-te 28.86 75 *e*P **P** **21 08 20.5 +2.0**
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,550nm,6.1s
OBN Obninsk 29.23 315⇑ *e*P **P** **21 08 22.6 +1.1**
OBN 21 09 12.0
OBN PPP PPP 21 09 26.0
OBN pmax pmax
comp=Z,26nm,1.7s
OBN MLR MLR
comp=Z,84nm,16.0s
KLMR Klimovskoe 30.07 327 *e*P **P** **21 08 27.9 -1.1**
KLMR AMP 21 08 44.6
comp=Z,38nm,2.0s
KLMR *e*PP **PnPn** **21 09 22.8 -3.2**
KLMR Klimovskoe 30.07 327 *e*P **P** **21 08 27.9 -1.1**
KLMR *e* 21 09 22.7
KLMR pmax pmax
comp=Z,38nm,2.0s
CMAR Chiang Mai Arr 30.25 126 P **P** **21 08 30.4 -0.6**
comp=Z,0.4nm,0.4s,baz=308,slow=8.7,SNR=4.4
CMAR PcP **PcP** **21 11 32.0 +0.6**
comp=Z,1.7nm,0.9s,baz=300,slow=3.2,SNR=6.4
CMAR LR LR 21 20 45.2
comp=Z,23nm,21.4s,baz=310,slow=37
comp=Z,0.4nm,0.4s
BR131 Keskin Array S 30.68 284 P **P** **21 08 35.9 +1.1**
BR131 Keskin Array S 30.68 284 P **P** **21 08 34.6 -0.2**
BR131 Keskin Array S 30.68 284 *i* P **P** **21 08 37.2 +2.4**
BRTR Keskin Array B 30.68 284 *i* P **P** **21 08 37.2 +2.4**
BRTR pmax pmax
comp=Z,8.0nm,1.0s
BRTR Keskin Array B 30.68 284 P **P** **21 08 35.9 +1.1**
comp=Z,6.6nm,0.9s,baz=92,slow=7.2,SNR=23
comp=Z,6.6nm,0.9s
NRIK Noril'sk 30.88 10 P **P** **21 08 36.3 +0.4**
NRIK Noril'sk 30.88 10*ce*P **P** **21 08 37.1 +1.1**
NRIK pmax pmax
comp=Z,8.0nm,0.9s
NRIK Noril'sk 30.88 10 P **P** **21 08 36.9 +0.9**
comp=Z,2.4nm,0.4s,baz=204,slow=7.6,SNR=6.0
comp=Z,2.4nm,0.4s
ANTO Ankara 31.29 284 P **P** **21 08 41.4 +1.4**
ANTO IAmb IAmb 21 08 46.5
comp=Z,18nm,1.1s
ANTO Ankara 31.29 284 P **P** **21 08 41.4 +1.4**
ANTO pmax pmax
comp=Z,17nm,1.2s
BOD Bodaibo 31.75 41 *e*P **P** **21 08 44.1 +0.3**
BOD pmax pmax
comp=Z,10.0nm,1.7s
HNS HongShan 32.02 80 ⇑P **P** **21 08 49.8 +3.4**
PALK Pallekele 32.64 167 LR LR 21 21 52.4
comp=Z,104nm,19.6s,baz=98,slow=36
AKASG Malin Array Be 32.88 305 *i* P **P** **21 08 54.2 +0.5**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 32.88 305 P **P** **21 08 54.2 +0.5**
comp=Z,0.6nm,0.4s,baz=80,slow=7.5,SNR=20
comp=Z,0.6nm,0.4s
AKBB Malin Array Si 32.88 305 P **P** **21 08 53.8 +0.1**
AKBB IAmb IAmb 21 09 06.0
comp=Z,37nm,1.8s
AKBB Malin Array Si 32.88 305*ce*P **P** **21 08 54.7 +0.9**
AKBB pmax pmax
comp=Z,7.0nm,0.7s
KIEV Kiev 32.89 305 ⇑P **P** **21 08 56.5 +2.6**
KIEV Kiev 32.89 305 P **P** **21 08 53.9 +0.1**
KIEV IAmb IAmb 21 09 06.0
comp=Z,36nm,1.9s
KIEV Kiev 32.89 305 P **P** **21 08 53.9 +0.1**
KIEV pmax pmax
comp=Z,36nm,1.9s
KIEV Kiev 32.89 305 P **P** **21 08 56.9 +3.0**
KIEV pP **sP** **21 09 07.2 +3.5**
KIEV sP pP 21 09 11.1 +10
EIL Elat 33.13 265 LR LR 21 23 20.9
comp=Z,34nm,19.2s,baz=65,slow=38
TPGR Topolog 33.65 294 ⇑P **P** **21 09 02.6 +2.0**
CFR Carcaliu 33.81 295 ⇑P **P** **21 09 03.8 +1.9**
CFR Carcaliu 33.81 295 P **P** **21 09 03.8 +1.9**
HARR Harsova 34.01 294 ⇑P **P** **21 09 05.8 +2.0**
HARR Harsova 34.01 294 P **P** **21 09 05.7 +2.0**
MNK Minsk 34.02 312 *i* P **P** **21 09 02.5 -1.2**
comp=E,9.0nm,1.1s
MNK *i* P **P** **21 09 02.5 -1.2**
comp=N,19nm,1.3s
MNK *i* P **P** **21 09 02.5 -1.2**
comp=Z,12nm,1.2s,baz=98
MNK *i* PP **PnPn** **21 10 15.5 -1.4**
MNK *i* S **S** **21 14 28.4 +0.4**
MNK *i* SS **SnSn** **21 16 35.9 +1.0**
MNK *i* LQ LQ 21 20 18.1
MNK *i* LR LR 21 22 25.6
MNK *i* LRM MLR 21 23 48.3
comp=E,102nm,25.0s
MNK *i* LRM MLR 21 24 02.3
comp=Z,80nm,17.8s
MNK *i* LRM MLR 21 24 03.5
comp=N,336nm,24.8s
MNK Minsk 34.02 312 *i* P **P** **21 09 02.5 -1.2**
MNK *i* 21 10 15.5
MNK *i* S **S** **21 14 28.3 +0.4**
MNK *i* SS **SnSn** **21 16 35.8 +1.0**
MNK pmax pmax
comp=N,19nm,1.3s
MNK pmax pmax
comp=Z,12nm,1.2s
MNK pmax pmax
comp=E,9.0nm,1.1s
MNK MLR MLR
comp=E,102nm,25.0s
MNK MLR MLR
comp=Z,80nm,18.0s
MNK MLR MLR
comp=N,336nm,25.0s
TIA Tai'an 34.23 81 P **P** **21 09 08.3 +2.6**
TIA pmax pmax
comp=N,13nm,1.1s
WHN Wuhan 34.25 92 P P 21 09 11.8 +5.9
PANC Panciu 34.42 296 ⇑P **P** **21 09 09.7 +2.4**
ODBI Odobesti 34.50 296 ⇑P **P** **21 09 11.1 +3.1**
TESR Tescani 34.70 297 ⇑P **P** **21 09 10.9 +1.2**
VRI Vrincioaia 34.72 296 ⇑P **P** **21 09 12.4 +2.6**
VRI Vrincioaia 34.72 296 P **P** **21 09 12.4 +2.6**
PLOR Plostina 34.77 296 ⇑P **P** **21 09 12.7 +2.3**
PLOR Plostina 34.77 296 P **P** **21 09 13.5 +3.2**
ISR Istrita 34.94 295 ⇑P **P** **21 09 14.4 +2.6**
ISR Istrita 34.94 295 P **P** **21 09 14.4 +2.6**
COVR Voineasa-Covas 35.08 296 ⇑P **P** **21 09 15.1 +2.1**
MLR Muntele Rosu 35.30 296 ⇑P **P** **21 09 16.4 +3.3**
MLR Muntele Rosu 35.30 296 P **P** **21 09 16.4 +1.4**
MLR Muntele Rosu 35.30 296 P **P** **21 09 16.4 +1.3**
MLR pmax pmax
comp=Z,24nm,1.1s
BURAR Bucovina Array 35.58 299 ⇑P **P** **21 09 19.0 +1.7**
BURAR Bucovina Array 35.58 299 P **P** **21 09 19.0 +1.7**
BUR08 Bucovina Ar. S 35.59 300 P **P** **21 09 17.9 +0.4**
BUR08 IAmb IAmb 21 10 27.4
comp=Z,14nm,1.4s
DOPR Dopca 35.63 297 ⇑P **P** **21 09 20.5 +2.8**
ELND Elena 35.77 291 ⇑P **P** **21 09 20.9 +2.0**
VOIR 35.94 296 ⇑P **P** **21 09 22.7 +2.2**
VOIR 35.94 296 P **P** **21 09 22.6 +2.2**
ARCR ARCALIA 36.21 299 ⇑P **P** **21 09 25.6 +2.9**
LVV L'vov 36.21 303 *e*P **P** **21 09 24.0 +1.4**
ARR Arges 36.24 296 ⇑P **P** **21 09 25.6 +2.6**
FINES FINESS Array B 36.32 323 P **P** **21 09 23.8 +0.4**
FINES FINESS Array B 36.32 323 *i* P **P** **21 09 24.2 +0.9**
FINES pmax pmax
comp=Z,3.0nm,0.3s
FINES FINESS Array B 36.32 323 P **P** **21 09 23.9 +0.6**
comp=Z,2.6nm,0.3s,baz=117,slow=9.7,SNR=33
comp=Z,2.6nm,0.3s
PABE Paberze 36.37 313 P **P** **21 09 24.4 +0.5**
RDO Rodhopi 36.39 289 P **P** **21 09 25.3 +1.1**
RDO IAmb IAmb 21 09 31.1
comp=Z,12nm,1.3s
KARP Karpathos 36.80 279 P **P** **21 09 27.3 -0.5**
LOT Lotru 36.83 296 ⇑P **P** **21 09 30.3 +2.2**
NJ2 Nanjing 37.09 87 *e*P **P** **21 09 32.0 +1.7**
NJ2 pP **pP** **21 09 37.3 -0.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
MARR Marisel-Cluj 37.10 298 ⇑P **P** **21 09 32.8 +2.4**
GZR Gura Zlata 37.53 296 ⇑P **P** **21 09 35.9 +2.0**
GZR Gura Zlata 37.53 296 P **P** **21 09 35.9 +2.0**
SURR Surduc 37.92 297 ⇑P **P** **21 09 39.6 +2.4**
BLKB Belogradchik 37.92 293 ⇑P **P** **21 09 39.1 +1.9**
BZS Buzias 38.29 297 ⇑P **P** **21 09 42.3 +1.9**
BZS Buzias 38.29 297 P **P** **21 09 42.2 +1.9**
MDVR Moldovita 38.37 295 ⇑P **P** **21 09 42.9 +1.9**
ZEA Zeya 38.55 50 *e*P **P** **21 09 44.7 +2.3**
BOVS Bovan 38.61 294 ⇑P **P** **21 09 44.9 +1.9**
HEH HeiHe 38.82 56 *e*P **P** **21 09 46.0 +1.3**
HEH pmax pmax
comp=Z,11nm,0.7s
OJC Ojcow 38.91 304 P **P** **21 09 45.4 -0.1**
OJC Ojcow 38.91 304 P **P** **21 09 45.4 -0.1**
OJC pmax pmax
comp=Z,12nm,1.2s
ARCES ARCESS Array B 39.30 336 P **P** **21 09 48.9 +0.5**
ARCES ARCESS Array B 39.30 336 P **P** **21 09 48.9 +0.5**
ARCES pmax pmax
comp=Z,109nm,1.9s
ARCES ARCESS Array B 39.30 336 P **P** **21 09 49.2 +0.7**
comp=Z,8.2nm,0.7s,baz=112,slow=8.2,SNR=22
comp=Z,8.2nm,0.7s
AGG Agios Georgios 39.33 286 P **P** **21 09 49.8 +0.7**
AGG Agios Georgios 39.33 286 P **P** **21 09 49.8 +0.7**
AGG pmax pmax
comp=Z,6.0nm,1.1s
FNA Florina 39.53 289 P **P** **21 09 51.3 +0.5**
FNA Florina 39.53 289 P **P** **21 09 51.3 +0.5**
FNA pmax pmax
comp=Z,2.0nm,0.9s
DIVS Divibare 39.72 295 P **P** **21 09 53.2 +0.8**
DIVS IAmb IAmb 21 09 55.9
comp=Z,31nm,1.6s
VYHS Vyhne 39.73 302 *e*P **P** **21 09 54.1 +1.7**
VYHS Vyhne 39.73 302 *e*P **P** **21 09 54.1 +1.7**
MORH Mrgy, Hungar 40.23 298 ⇑P **P** **21 09 58.4 +1.9**
YAK Yakutsk 40.36 37 P **P** **21 09 57.1 -0.2**
YAK Yakutsk 40.36 37*ce*P **P** **21 09 56.6 -0.7**
YAK pmax pmax
comp=Z,18nm,1.3s
YAK Yakutsk 40.36 37 P **P** **21 09 58.0 +0.7**
MORC Moravsky Berou 40.41 304 *e*P **P** **21 09 58.9 +0.9**
MORC *e* 21 11 36.5
PDG Podgorica 40.63 292 ⇑P **P** **21 10 01.3 +1.5**
PDG Podgorica 40.63 292 P **P** **21 09 59.9 0.0**
KRLC Kraliky 40.85 304 *e*P **P** **21 10 02.1 +0.4**
KRLC Kraliky 40.85 304 *e*P **P** **21 10 02.1 +0.4**
VRAC Vranov 41.08 303 *e*P **P** **21 10 05.5 +2.0**
DPC Dobruska-Polom 41.11 305 *e*P **P** **21 10 05.2 +1.4**
DPC Dobruska-Polom 41.11 305 *e*P **P** **21 10 05.2 +1.4**
KRUC Moravsky 41.25 303 *e*P **P** **21 10 06.8 +1.9**
CHVC Chvalec 41.25 305 *e*P **P** **21 10 06.4 +1.5**
CHVC Chvalec 41.25 305 *e*P **P** **21 10 06.4 +1.5**
RONA Rosalia, Austr 41.54 301 *e*P **P** **21 10 08.5 +1.2**
comp=Z,6.8nm,1.3s
KLR Kul'dur 41.74 57 *i* P **P** **21 10 08.9 0.0**
KLR pmax pmax
comp=Z,5.0nm,1.2s
KLR Kul'dur 41.74 57 LR LR 21 28 57.3
comp=Z,125nm,18.7s,baz=280,slow=38
CONA Conrad Observa 41.79 301 *e*P **P** **21 10 10.6 +1.2**
comp=Z,10nm,1.5s
KSRS Korea Array 42.00 75 P **P** **21 10 12.4 +1.3**
comp=Z,1.3nm,0.7s,baz=282,slow=6.8,SNR=3.2
KSRS LR LR 21 30 14.5
comp=Z,58nm,19.2s,baz=180,slow=40
comp=Z,1.3nm,0.7s
DEL Delary 42.06 314 *i* P **P** **21 10 11.8 +0.4**
HFS Hagfors 42.13 320 P **P** **21 10 12.3 +0.3**
comp=Z,7.6nm,0.5s,baz=112,slow=11,SNR=27
HFS LR LR 21 28 18.4
comp=Z,71nm,18.6s,baz=82,slow=37
comp=Z,7.6nm,0.5s
ARSA Arzberg 42.14 300 *e*P **P** **21 10 13.2 +1.0**
comp=Z,2.5nm,0.9s
TIXI Tiksi 42.26 23 P **P** **21 10 13.1 +0.2**
TIXI IAmb IAmb 21 10 14.5
comp=Z,14nm,0.6s
TIXI Tiksi 42.26 23*ce*P **P** **21 10 13.5 +0.7**
TIXI pmax pmax
comp=Z,57nm,2.5s
TIXI Tiksi 42.26 23 P **P** **21 10 13.2 +0.4**
BRG Berggiesshubel 42.54 306 *i* P **P** **21 10 17.2 +1.7**
BRG Amp 21 10 19.1
comp=Z,4.2nm,0.8s
BRG Berggiesshubel 42.54 306 P P 21 10 30.8 +15
BRG Amp 21 10 31.5
comp=Z,5.4nm,0.9s
BRG Berggiesshubel 42.54 306 *i* P **P** **21 10 17.1 +1.7**
BRG 21 10 30.7
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 42.54 306 *e*P **P** **21 10 17.1 +1.6**
comp=Z,4.3nm,0.8s,baz=80,slow=8.2
SOKA Soboth 42.59 300 *e*P **P** **21 10 16.7 +0.8**
comp=Z,10nm,1.4s
CKRC Cesky Krumlov 42.64 303 *e*P **P** **21 10 18.0 +1.7**
CKRC Cesky Krumlov 42.64 303 *e*P **P** **21 10 18.0 +1.7**
MOA Molln 42.85 302 *e*P **P** **21 10 19.2 +1.1**
comp=Z,0.8nm,0.5s
FBE Freiberg 42.90 306 *e*P **P** **21 10 20.1 +1.7**
comp=Z,7.0nm,0.8s,baz=80,slow=8.2
OBKA Obir 42.95 300 *e*P **P** **21 10 20.1 +1.2**
comp=Z,6.3nm,1.1s
GEC2 GERESS Array S 43.03 303 P **P** **21 10 20.5 +0.9**
GEC2 GERESS Array S 43.03 303 *e*P **P** **21 10 21.4 +1.9**
comp=Z,9.9nm,1.1s,baz=80,slow=8.2
GERES GERESS Array B 43.03 303 P **P** **21 10 20.3 +0.8**
comp=Z,2.0nm,0.6s,baz=56,slow=7.1,SNR=12
comp=Z,2.0nm,0.6s
KHC Kasperske Hory 43.06 303 P **P** **21 10 20.6 +0.9**
KHC IAmb IAmb 21 10 23.0
comp=Z,22nm,1.6s
KHC Kasperske Hory 43.06 303 *e*P **P** **21 10 21.0 +1.3**
KHC Kasperske Hory 43.06 303*ce*P **P** **21 10 22.1 +2.4**
KHC pmax pmax
comp=Z,21nm,1.3s
CLL Collm 43.06 307 *i* P **P** **21 10 21.0 +1.4**
comp=Z,5.0nm,0.7s
CLL *e*PP **PP** **21 12 04.0 +4.5**
comp=Z,7.0nm,1.1s
CLL AMS AMS 21 30 00.0
comp=Z,100nm,21.1s
CLL Collm 43.06 307 *i* P **P** **21 10 21.0 +1.4**
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 43.06 307 *e*P **P** **21 10 21.1 +1.4**
comp=Z,4.2nm,0.7s,baz=80,slow=8.2
NC405 NORSAR Array S 43.13 321 P **P** **21 10 20.2 +0.2**
SGRT San Giovanni R 43.33 292 P **P** **21 10 22.4 +0.3**
NB2 NORSAR Subarra 43.37 321 P **P** **21 10 22.0 0.0**
comp=Z,7.8nm,0.8s,baz=91,slow=8.6
NOA NORSAR Array B 43.37 321 P **P** **21 10 22.2 +0.2**
comp=Z,3.8nm,0.6s,baz=91,slow=8.0,SNR=20
NOA LR LR 21 29 14.7
comp=Z,62nm,19.4s,baz=75,slow=37
comp=Z,3.8nm,0.6s
WET Wettzell 43.51 304 *e*P **P** **21 10 25.2 +1.9**
comp=Z,8.3nm,1.2s,baz=80,slow=8.2
KBA Koelnbreinsper 43.63 301 *e*P **P** **21 10 25.1 +0.6**
comp=Z,1.4nm,0.6s
SABO M.te Sabotino 43.71 299 P **P** **21 10 24.9 0.0**
SABO IAmb IAmb 21 10 27.6
comp=Z,65nm,1.7s
GSI Gunungsitoli 43.77 144 P **P** **21 10 25.5 -0.1**
CUC Castrocucco 43.82 290 P **P** **21 10 26.9 +1.0**
CUC IAmb IAmb 21 10 29.5
comp=Z,9.1nm,0.8s
FLTG Flechtingen 43.99 308 *e*P **P** **21 10 28.0 +0.9**
comp=Z,14nm,0.7s,baz=80,slow=8.2
LESA Schwarzleotal 43.99 301 *e*P **P** **21 10 27.7 +0.4**
comp=Z,4.0nm,0.6s
KONO Kongsberg 44.20 319 P **P** **21 10 28.9 +0.3**
KONO Kongsberg 44.20 319 P **P** **21 10 28.9 +0.3**
KONO pmax pmax
comp=Z,111nm,1.8s
ABTA Abfaltersbach 44.26 300 *e*P **P** **21 10 28.3 -1.1**
comp=Z,1.1nm,0.5s
BSEG Bad Segeberg 44.31 311 *e*P **P** **21 10 31.9 +2.3**
comp=Z,13nm,0.7s,baz=80,slow=8.2
CEL Celeste 44.34 288 P **P** **21 10 30.1 0.0**
CEL IAmb IAmb 21 10 36.7
comp=Z,20nm,1.2s
GRF Grafenberg Arr 44.47 305 *e*P **P** **21 10 33.0 +2.0**
comp=Z,12nm,1.1s,baz=80,slow=8.2
INTR Introdacqua 44.57 293 P **P** **21 10 31.9 0.0**
NRDL Niedersach Rie 44.65 309 *e*P **P** **21 10 34.4 +2.1**
comp=Z,11nm,0.9s,baz=80,slow=8.2
WTTA Wattenberg 44.72 301 *e*P **P** **21 10 34.1 +0.9**
comp=Z,3.5nm,0.7s,SNR=5.0
WTTA Wattenberg 44.72 301 *e*P **P** **21 10 34.1 +0.9**
comp=Z,4.3nm,0.8s,baz=80,slow=8.2
WATA Walderalm 44.74 301 *e*P **P** **21 10 33.7 +0.4**
comp=Z,1.7nm,0.6s
NRCA Norcia 44.88 295 P **P** **21 10 34.4 0.0**
NRCA IAmb IAmb 21 10 42.2
comp=Z,13nm,1.1s
GTTG Gottingen 44.90 308 *e*P **P** **21 10 36.7 +2.3**
comp=Z,12nm,0.8s,baz=80,slow=8.2
SQTA Sankt Quirin 45.01 301 *e*P **P** **21 10 36.0 +0.5**
comp=Z,2.5nm,0.7s
MOTA Moosalm 45.05 301 *e*P **P** **21 10 35.9 +0.1**
comp=Z,3.9nm,0.9s
TEOL Teolo 45.17 299 P **P** **21 10 37.1 +0.4**
TEOL IAmb IAmb 21 10 48.7
comp=Z,14nm,0.8s
RETA Reutte 45.24 302 *e*P **P** **21 10 38.2 +0.9**
comp=Z,4.8nm,1.2s
FETA Feichten 45.38 301 *e*P **P** **21 10 40.3 +1.9**
comp=Z,6.4nm,1.2s
FUORN Ofenpass-Fuorn 45.79 301 P **P** **21 10 42.1 +0.3**
FUORN IAmb IAmb 21 12 18.2
comp=Z,21nm,1.9s
DAVA Damuels 45.88 302 *e*P **P** **21 10 42.7 +0.4**
comp=Z,9.3nm,0.7s
DAVA Damuels 45.88 302 *e*P **P** **21 10 43.4 +1.0**
comp=Z,11nm,0.8s,baz=80,slow=8.2
DAVOX Davos/Dischmat 46.01 301 LR LR 21 33 28.6
comp=Z,42nm,19.6s,baz=66,slow=41
SENIN Lac Senin/Sane 47.83 301 P **P** **21 10 58.2 +0.4**
LODK Lodwar 49.90 234 P **P** **21 11 14.4 +0.6**
MJAR Matsushiro Arr 49.97 72 P **P** **21 11 14.9 +0.9**
comp=Z,7.7nm,1.0s,baz=289,slow=9.2,SNR=8.9
comp=Z,7.7nm,1.0s
SSB Saint Sauveur 50.00 301 P **P** **21 11 15.1 +0.9**
SSB pP **sP** **21 11 26.3 +2.1**
KEST Kesra 50.15 287 P **P** **21 11 16.0 +0.5**
comp=Z,3.3nm,0.7s,baz=28,slow=5.8,SNR=8.2
comp=Z,3.3nm,0.7s
ASAJ Asahikawa 50.25 61 LR LR 21 34 23.9
comp=Z,224nm,19.7s,baz=112,slow=38
MA2 Magadan 50.76 40 LR LR 21 33 46.3
comp=Z,82nm,20.3s,baz=74,slow=37
EKA Eskdalemuir Ar 51.69 315 P **P** **21 11 26.7 +0.1**
comp=Z,3.5nm,0.7s,baz=86,slow=8.5,SNR=8.4
comp=Z,3.5nm,0.7s
KMBO Kilima Mbogo 52.36 229 P **P** **21 11 32.7 +0.3**
KMBO Kilima Mbogo 52.36 229 *i* P **P** **21 11 36.2 +3.8**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 52.36 229 P **P** **21 11 31.5 -0.9**
comp=Z,2.4nm,0.9s,baz=55,slow=19,SNR=3.7
comp=Z,2.4nm,0.9s
KMBO Kilima Mbogo 52.36 229 P **P** **21 11 36.6 +4.2**
KMBO sP sP 21 11 52.9 +10
DAG Danmarks Havn 52.53 343 *i* P **P** **21 11 33.0 +0.4**
DAG IAmb IAmb 21 11 36.1
comp=Z,4.9nm,0.7s
BILL Bilibino 55.04 27⇑ *e*P **P** **21 11 53.5 +2.4**
BILL pmax pmax
comp=Z,18nm,2.5s
ESDC Sonseca Array 57.98 297 P **P** **21 12 13.1 +0.5**
comp=Z,1.9nm,0.7s,baz=53,slow=7.1,SNR=15
comp=Z,1.9nm,0.7s
NEEM North Greenlan 58.62 348 *i* P **P** **21 12 17.3 +0.5**
NEEM IAmb IAmb 21 12 20.1
comp=Z,5.3nm,0.7s
SUMG Summit 58.98 341 P **P** **21 12 19.8 +0.4**
SUMG Summit 58.98 341 P **P** **21 12 19.8 +0.4**
SUMG pmax pmax
comp=Z,17nm,1.2s
SUMG Summit 58.98 341 *i* P **P** **21 12 20.0 +0.6**
SUMG IAmb IAmb 21 12 24.4
comp=Z,6.1nm,1.1s
TAM Tamanrasset 59.36 275 P **P** **21 12 22.4 -0.1**
TAM Tamanrasset 59.36 275 P **P** **21 12 22.4 -0.1**
TAM pmax pmax
comp=Z,4.0nm,1.1s
EUNU Eureka 60.24 356 P **P** **21 12 27.9 +0.3**
ICESG Greenland Ices 61.29 338 *i* P **P** **21 12 37.2 +2.0**
ICESG IAmb IAmb 21 12 41.1
comp=Z,4.6nm,0.8s
A19K Wainwright 63.74 18 P **P** **21 12 52.2 +1.1**
baz=315
A21K Barrow 63.93 16 P **P** **21 12 53.5 +1.2**
baz=318
C16K Lisburne Hills 63.98 21 P **P** **21 12 53.7 +0.9**
baz=312
B18K Kokolik River 64.16 19 P **P** **21 12 54.5 +0.6**
baz=315,SNR=6.4
C17K DeLong Mountai 64.42 20 P **P** **21 12 56.6 +0.9**
baz=314
A22K Sinclair Lake 64.52 16 P **P** **21 12 57.5 +1.3**
baz=320
RDOG Red Dog Mine 64.79 20 P **P** **21 12 59.2 +1.1**
baz=314
B20K Meade River 64.80 17 IAmb IAmb 21 13 02.0
comp=Z,14nm,1.4s
B20K Meade River 64.80 17 P **P** **21 12 59.2 +1.2**
baz=318
C18K Utukok River 64.82 19 P **P** **21 12 58.9 +0.5**
C18K Utukok River 64.82 19 P **P** **21 12 58.8 +0.5**
baz=316
C19K Lookout Ridge 64.89 19 P **P** **21 12 59.6 +0.8**
baz=317
GAMB Gambell 64.95 26 P **P** **21 12 59.2 0.0**
baz=309
TNA Tin City 65.04 24 P **P** **21 13 00.5 +0.8**
baz=311
SHEM Shemya Is, Ala 65.36 41 LR LR 21 41 43.0
comp=Z,37nm,18.2s,baz=304,slow=36

B22K	Teshekpuk Lake	65.36	16	P	P	21 13 02.0	+0.2
B22K	comp=Z,13nm,1.2s			IAmb	IAmb	21 13 07.3	
B22K	Teshekpuk Lake	65.36	16	P	P	21 13 02.4	+0.7
F14K	baz=321 Arctic Creek	65.59	23	P	P	21 13 04.2	+0.9
B21K	baz=313 Ikpikpuk River	65.67	17	IAmb	IAmb	21 13 07.7	
B21K	comp=Z,16nm,1.4s Ikpikpuk River	65.67	17	P	P	21 13 04.2	+0.5
D19K	baz=321 Kuna River	65.71	19	P	P	21 13 04.4	+0.4
E17K	baz=318 Hotham Inlet	65.78	21	P	P	21 13 05.1	+0.7
E18K	baz=316 Tukpahlearik C	65.86	20	P	P	21 13 05.8	+0.7
D20K	baz=316,SNR=7.9 Etivluk River	65.91	18	P	P	21 13 05.6	+0.3
F15K	baz=319 North Star Dit	65.94	23	P	P	21 13 06.0	+0.4
C21K	baz=314 Knifeblade Rid	65.99	17	P	P	21 13 06.7	+0.9
C23K	baz=321 Itkillik River	66.35	15	IAmb	IAmb	21 13 12.3	
C23K	comp=Z,16nm,1.4s Itkillik River	66.35	15	P	P	21 13 09.0	+0.9
F17K	baz=324 Baldwin Pennin	66.40	21	P	P	21 13 09.1	+0.7
ANM	baz=316 Nome	66.51	24	P	P	21 13 09.8	+0.5
G15K	baz=314 Niukluk	66.62	23	P	P	21 13 10.3	+0.4
D22K	baz=315 Ayikyak River	66.68	17	IAmb	IAmb	21 13 13.8	
D22K	comp=Z,8.7nm,1.1s Ayikyak River	66.68	17	P	P	21 13 10.5	+0.3
E19K	baz=322 Redstone River	66.71	19	IAmb	IAmb	21 13 18.8	
E19K	comp=Z,23nm,1.6s Redstone River	66.71	19	P	P	21 13 10.6	+0.2
E21K	baz=319 Killik River	66.73	17	IAmb	IAmb	21 13 14.5	
E21K	comp=Z,10.0nm,1.1s Killik River	66.73	17	P	P	21 13 10.3	-0.3
C24K	baz=322 Franklin Bluff	66.83	15	P	P	21 13 11.7	+0.5
G16K	baz=325 Koyuk River	66.84	22	P	P	21 13 11.4	+0.1
D23K	baz=316 Nanushuk River	67.04	16	P	P	21 13 13.0	+0.4
F19K	baz=324 Shaleruckim Mo	67.04	20	P	P	21 13 13.0	+0.4
G17K	baz=319 Kiwalik Mounta	67.25	22	P	P	21 13 14.7	+0.7
D24K	baz=317 Happy Valley	67.28	15	P	P	21 13 14.1	+0.1
C26K	baz=326 Camden Bay	67.38	13	P	P	21 13 14.3	-0.4
F20K	baz=328 Avaraart Lake	67.40	19	P	P	21 13 14.0	-0.8
H16K	baz=320 Elim	67.42	23	P	P	21 13 14.5	-0.5
E22K	baz=316 Anaktuvuk Pass	67.47	17	IAmb	IAmb	21 13 18.3	
E22K	comp=Z,8.5nm,1.2s Anaktuvuk Pass	67.47	17	P	P	21 13 14.4	-0.9
G18K	baz=323 Tagagawik	67.52	21	P	P	21 13 14.6	-1.0
TOLK	baz=318 Toolik Lake Re	67.54	16	IAmb	IAmb	21 13 17.4	
TOLK	comp=Z,6.3nm,0.7s Toolik Lake Re	67.54	16	P	P	21 13 15.4	-0.4
D25K	baz=325,SNR=7.6 Kavik River	67.62	14	IAmb	IAmb	21 13 36.5	
D25K	comp=Z,7.5nm,1.1s Kavik River	67.62	14	P	P	21 13 15.9	-0.4
G19K	baz=327 Purcell Mounta	67.75	20	IAmb	IAmb	21 13 18.9	
G19K	comp=Z,19nm,1.5s Purcell Mounta	67.75	20	P	P	21 13 16.3	-0.8
F21K	baz=320 Alatna River	67.81	18	P	P	21 13 16.7	-0.8
H17K	baz=322 Granite Mounta	67.88	22	P	P	21 13 16.9	-1.0
F22K	baz=318 John River	67.89	17	P	P	21 13 17.6	-0.3
TOA0	baz=323 Torodi Ar. Sit	67.89	269		P	21 13 17.8	-0.9
TOA0	comp=Z,6.3nm,0.7s			IAmb	IAmb	21 13 21.1	
TOA0	Torodi Ar. Sit	67.89	269	P	P	21 13 18.6	-0.1
TORD	Torodi Ar. Bea	67.89	269	P	P	21 13 17.5	-1.2
TORD	comp=Z,4.3nm,0.7s			IAmb	IAmb	21 13 21.1	
TORD	Torodi Ar. Bea	67.89	269	P	P	21 13 18.6	-0.1
TORD	comp=Z,5.0nm,0.6s,baz=42,slow=6.6,SNR=30			LR	LR	21 46 56.5	
	comp=Z,50nm,18.8s,baz=148,slow=39 comp=Z,5.0nm,0.6s						
E23K	Chandalar	68.01	16	P	P	21 13 18.3	-0.5
A36M	baz=325 Sachs Harbour	68.08	6	IAmb	IAmb	21 13 27.3	
A36M	comp=Z,10nm,1.1s Sachs Harbour	68.08	6	P	P	21 13 18.0	-1.1
H18K	baz=344,SNR=7.2 Honhosa River	68.16	21	P	P	21 13 18.7	-1.0
E24K	baz=319 Your Creek	68.24	16	P	P	21 13 20.4	+0.2
G21K	baz=326 Allakaket	68.37	18	IAmb	IAmb	21 13 24.6	
G21K	comp=Z,8.5nm,1.3s Allakaket	68.37	18	P	P	21 13 20.4	-0.5
J14K	baz=322 Nanvaranak Lak	68.37	25	P	P	21 13 20.5	-0.5
H19K	baz=316 Roundabout Mou	68.39	20	P	P	21 13 21.1	+0.1
I17K	baz=320 Unalakleet	68.43	23	P	P	21 13 21.2	-0.1
G22K	baz=318 Bettles	68.52	17	P	P	21 13 21.5	-0.4
COLD	baz=324,SNR=5.8 Coldfoot	68.57	17	P	P	21 13 21.8	-0.4
D27M	baz=325,SNR=11 Malcolm River	68.66	13	P	P	21 13 22.1	-0.7
IMAR	baz=332 Indian Mountai	68.73	19	P	P	21 13 22.3	-0.9
E25K	Arctic Village baz=328	68.80	15	P	P	21 13 22.8	-0.8
H20K	Anotleneega Mo baz=322	68.83	20	P	P	21 13 23.5	-0.3
F24K	Squaw Lake comp=Z,12nm,1.7s	68.83	16	IAmb	IAmb	21 13 28.1	
F24K	Squaw Lake baz=327	68.83	16	P	P	21 13 24.3	+0.4
GCSA	Galena City Sc baz=320	68.88	21	P	P	21 13 23.6	-0.5
J16K	Anvik River comp=Z,6.8nm,0.7s	68.90	23	IAmb	IAmb	21 13 26.6	
J16K	Anvik River baz=318	68.90	23	P	P	21 13 24.1	-0.2
D28M	Stokes Point baz=334	68.95	12	P	P	21 13 24.3	-0.2
LSZ	Lusaka comp=Z,44nm,20.4s,baz=332,slow=36	69.00	227	LR	LR	21 43 15.9	
LSZ	Lusaka	69.00	227	P	P	21 13 28.1	+2.4
LSZ				pP	sP	21 13 39.2	+3.2
LSZ				sP	PcP	21 13 44.3	-5.5
G23K	Bananza Creek	69.03	17	P	P	21 13 25.4	+0.3
G23K	Bananza Creek baz=325	69.03	17	P	P	21 13 25.0	-0.1
H21K	Melozitna Rive comp=Z,9.4nm,1.4s	69.23	19	IAmb	IAmb	21 13 28.4	
H21K	Melozitna Rive baz=323	69.23	19	P	P	21 13 27.0	+0.7
F25K	Christian Rive baz=328	69.23	15	P	P	21 13 26.2	-0.2
K15K	Wolf Creek Mou baz=317	69.35	24	P	P	21 13 27.6	+0.5
H22K	Ishtalitna Cre baz=324	69.39	18	P	P	21 13 27.9	+0.6
F26K	Sheenjek River baz=330	69.44	14	P	P	21 13 28.3	+0.6
E28M	Babbage River baz=333	69.47	12	P	P	21 13 28.4	+0.7
E27K	Coleen River	69.48	13	P	P	21 13 26.7	-1.2
E27K	comp=Z,13nm,1.4s			IAmb	IAmb	21 13 32.1	
E27K	Coleen River	69.48	13	P	P	21 13 28.7	+0.8
	baz=332						
I20K	Naaghedeneel baz=322	69.48	20	P	P	21 13 28.7	+0.9
G24K	Hadweenzic Riv comp=Z,11nm,1.3s	69.61	16	IAmb	IAmb	21 13 32.9	
G24K	Hadweenzic Riv baz=327	69.61	16	P	P	21 13 29.2	+0.6
L14K	Kuka Creek baz=317	69.67	25	P	P	21 13 29.7	+0.7
J19K	Poorman baz=321	69.81	21	P	P	21 13 30.4	+0.5
SPIA	Saint Paul Isl baz=312	69.81	31	P	P	21 13 30.3	+0.3
L15K	Ungalak Mounta baz=317	69.81	25	P	P	21 13 30.5	+0.5
I21K	Tanana baz=324	69.82	19	P	P	21 13 30.5	+0.6
G25K	Bearman Lake baz=328	69.84	16	P	P	21 13 30.5	+0.4
J18K	Innoko River baz=321	69.91	22	P	P	21 13 30.9	+0.3
E29M	Blow River comp=Z,15nm,1.3s	69.93	12	IAmb	IAmb	21 13 34.9	
E29M	Blow River baz=334	69.93	12	P	P	21 13 30.0	-0.6
K17K	Iditarod comp=Z,7.9nm,0.8s	70.03	23	IAmb	IAmb	21 13 33.4	
K17K	Iditarod baz=320	70.03	23	P	P	21 13 31.2	-0.1
J20K	Nowinta River baz=322	70.06	20	P	P	21 13 31.4	-0.1
M13K	Dall Lake baz=316	70.12	26	P	P	21 13 32.0	+0.2
G26K	Porcupine Rive baz=330	70.16	15	P	P	21 13 33.0	+1.1
FYU	Fort Yukon comp=Z,21nm,1.3s	70.20	15	IAmb	IAmb	21 13 36.8	
H24K	Noodor Dome comp=Z,15nm,1.7s	70.25	17	IAmb	IAmb	21 13 41.9	
H24K	Noodor Dome baz=327	70.25	17	P	P	21 13 33.3	+0.6
MLY	Manley	70.25	18	P	P	21 13 33.2	+0.5
MLY	comp=Z,12nm,1.4s			IAmb	IAmb	21 13 36.8	
MLY	Manley baz=325	70.25	18	P	P	21 13 33.2	+0.5
F28M	Old Crow baz=333	70.30	13	P	P	21 13 33.4	+0.5
M14K	Bethel baz=317	70.34	25	P	P	21 13 33.4	+0.2
L16K	Owhat River	70.43	24	P	P	21 13 33.6	-0.1
L16K	comp=Z,10.0nm,1.1s			IAmb	IAmb	21 13 37.3	
L16K	Owhat River baz=319	70.43	24	P	P	21 13 34.4	+0.6
L17K	Donlin baz=320	70.47	23	P	P	21 13 34.5	+0.5
I23K	Minto, Yukon-K comp=Z,11nm,1.2s	70.48	18	IAmb	IAmb	21 13 37.9	
I23K	Minto, Yukon-K baz=326	70.48	18	P	P	21 13 34.9	+1.0
P08K	Saint George I baz=313	70.48	32	P	P	21 13 34.3	+0.2
TTA	Tatina baz=321	70.53	22	P	P	21 13 35.0	+0.5
INK	Inuvik comp=Z,20nm,1.3s	70.66	10	IAmb	IAmb	21 13 39.5	
INK	Inuvik baz=338,SNR=10	70.66	10	P	P	21 13 36.0	+1.0
G27K	Doyon Strip baz=332	70.69	14	P	P	21 13 35.8	+0.5
K20K	Telida comp=Z,26nm,1.9s	70.74	21	IAmb	IAmb	21 13 59.0	
K20K	Telida baz=323	70.74	21	P	P	21 13 35.7	+0.1
C36M	Paulatuk	70.75	7	P	P	21 13 35.0	-0.5
C36M	Paulatuk baz=346,SNR=16	70.75	7	P	P	21 13 35.6	+0.1
CHUM	Lake Minchumin baz=324	70.78	20	P	P	21 13 36.9	+1.1
M15K	Kasigluk River baz=318	70.81	25	P	P	21 13 36.8	+0.7
L18K	Granite Mounta baz=321	70.89	22	P	P	21 13 37.5	+0.9
BPAW	Bear Paw Mtn. comp=Z,16nm,1.4s	70.95	19	IAmb	IAmb	21 13 38.5	
BPAW	Bear Paw Mtn. baz=325	70.95	19	P	P	21 13 37.2	+0.3
POKR	Poker Plat Res	70.95	17	P	P	21 13 36.5	-0.4
POKR	comp=Z,24nm,1.4s			IAmb	IAmb	21 13 39.4	
POKR	Poker Plat Res baz=327,SNR=5.8	70.95	17	P	P	21 13 37.7	+0.8
F30M	Barrier River baz=336	70.97	11	P	P	21 13 37.6	+0.7
NEA2	Nenana	71.01	18	P	P	21 13 37.2	-0.1
NEA2	comp=Z,11nm,1.2s			IAmb	IAmb	21 13 40.7	
NEA2	Nenana baz=326,SNR=5.3	71.01	18	P	P	21 13 38.4	+1.1
PRP	Porcupine Dome baz=329	71.04	16	P	P	21 13 38.3	+0.7
N14K	Kuskokwak Cree baz=318	71.05	26	P	P	21 13 38.4	+0.9
COLA	College baz=327	71.06	17	P	P	21 13 38.4	+0.8
COLA	College	71.06	17	P	P	21 13 38.6	+1.1
COLA				sP	PcP	21 13 54.3	-3.4
M16K	Timber Creek baz=320	71.12	24	P	P	21 13 38.0	0.0
CAST	Castle Rocks comp=Z,15nm,1.4s	71.22	20	IAmb	IAmb	21 13 42.4	
CAST	Castle Rocks baz=324	71.22	20	P	P	21 13 39.0	+0.4
H27K	Steamboat Moun baz=332	71.23	14	P	P	21 13 39.0	+0.4
G29M	Pine Creek	71.25	13	P	P	21 13 39.8	+1.1
G29M	comp=Z,14nm,1.4s			IAmb	IAmb	21 14 34.8	
G29M	Pine Creek baz=335	71.25	13	P	P	21 13 39.2	+0.5
M17K	Holitna River baz=320	71.30	23	P	P	21 13 40.3	+1.3
IL31	comp=Z,11nm,1.2s	71.37	17	IAmb	IAmb	21 13 42.3	
ILAR	Eielson Array comp=Z,6.9nm,1.1s,baz=326,slow=4.8,SNR=24	71.37	17	P	P	21 13 39.1	-0.3
ILAR				PP	PP	21 16 19.2	+2.0
	comp=Z,0.7nm,0.8s,baz=317,slow=7.6,SNR=4.3 comp=Z,6.9nm,1.1s						
N15K	Kwethluk River baz=319	71.40	25	P	P	21 13 41.3	+1.6
KTH	Kantishna Hill	71.41	19	P	P	21 13 39.6	-0.2
F31M	Tsiigehtchic comp=Z,17nm,1.4s	71.44	11	IAmb	IAmb	21 13 44.0	
F31M	Tsiigehtchic baz=338	71.44	11	P	P	21 13 40.3	+0.6
L19K	White Mountain comp=Z,18nm,1.5s	71.45	22	IAmb	IAmb	21 13 50.3	
L19K	White Mountain baz=322	71.45	22	P	P	21 13 40.7	+0.6
G30M	tAoh Zraii Nji	71.48	12	P	P	21 13 39.7	-0.4
G30M	comp=Z,10nm,1.1s			IAmb	IAmb	21 13 44.9	
G30M	tAoh Zraii Nji baz=336	71.48	12	P	P	21 13 40.6	+0.5
L20K	Farewell, AK baz=323	71.49	21	P	P	21 13 40.6	+0.3
N16K	Nishlik Lake baz=320	71.59	24	P	P	21 13 41.4	+0.5
PPLA	Purkeypile baz=324	71.62	20	P	P	21 13 41.5	+0.4
TRF	Thorofare Moun baz=326	71.66	19	P	P	21 13 41.1	-0.3
HDA	Harding Lake baz=328	71.67	17	P	P	21 13 40.9	-0.4
HDA	baz=328			P	P	21 13 40.9	-0.4
O14K	Tigyukauivet M baz=318	71.69	26	P	P	21 13 40.6	-0.9
M18K	Stony River baz=322	71.72	23	P	P	21 13 41.5	-0.1
I26K	Coal Creek Min baz=331	71.72	15	P	P	21 13 41.7	+0.2
MCK	McKinley baz=326	71.77	18	P	P	21 13 41.9	+0.1
I27K	Kandik River baz=332	71.77	15	P	P	21 13 42.4	+0.5
H29M	Whitestone baz=334	71.82	13	P	P	21 13 42.6	+0.5
G31M	Satah River comp=Z,32nm,1.9s	71.84	11	IAmb	IAmb	21 15 53.6	
G31M	Satah River baz=338	71.84	11	P	P	21 13 42.8	+0.6
J25K	Salcha River, baz=329	71.85	17	P	P	21 13 42.8	+0.3
EPYK	Eagle Plains baz=336	71.96	12	P	P	21 13 43.3	+0.3
N17K	Nushagak Hills baz=321	72.06	24	P	P	21 13 43.5	-0.1
M20K	Styx River baz=324	72.18	21	P	P	21 13 44.4	-0.1
I28M	Miner Creek comp=Z,17nm,1.4s	72.23	14	IAmb	IAmb	21 13 48.1	
I28M	Miner Creek baz=333	72.23	14	P	P	21 13 44.5	-0.2
O15K	Ungalikthiuk R baz=319	72.24	26	P	P	21 13 43.9	-0.8
N18K	Kilae Creek baz=322	72.33	23	P	P	21 13 44.5	-0.8
J26L	Joseph Creek comp=Z,26nm,1.9s	72.34	16	IAmb	IAmb	21 13 45.8	
J26L	Joseph Creek baz=331	72.34	16	P	P	21 13 44.9	-0.5
K24K	Donnelly Dome baz=329	72.45	17	P	P	21 13 45.6	-0.4
O16K	Kokwok River B	72.49	25	P	P	21 13 47.6	+1.4
O16K	Kokwok River B baz=320	72.49	25	P	P	21 13 45.9	-0.3
CUT	Chulitna baz=326	72.53	20	P	P	21 13 45.6	-0.8
SKT	Skwentna baz=325	72.55	21	P	P	21 13 46.1	-0.5
EGAK	Eagle baz=332	72.59	15	P	P	21 13 46.9	+0.2
I29M	Ogilvie Camp, baz=335	72.61	13	P	P	21 13 46.5	-0.4
WAT1	Susitna Watana baz=327	72.62	19	P	P	21 13 46.7	-0.3
N19K	Bonanza Creek baz=323	72.65	22	P	P	21 13 47.1	-0.2
O17K	Koliganek Bris baz=321	72.67	24	P	P	21 13 47.2	-0.1
DHY	Denali Highway comp=Z,9.4nm,1.2s	72.70	18	IAmb	IAmb	21 13 55.7	
DHY	Denali Highway baz=328	72.70	18	P	P	21 13 47.4	-0.2
SCRK	Sand Creek	72.70	16	P	P	21 13 46.2	-1.4
SCRK	Sand Creek baz=330,SNR=5.6	72.70	16	P	P	21 13 48.0	+0.4
RIDG	Independent Ri comp=Z,22nm,1.4s	72.72	17	IAmb	IAmb	21 13 51.2	
RIDG	Independent Ri baz=330	72.72	17	P	P	21 13 47.7	+0.1
P16K	Nushagak River baz=321	72.96	25	P	P	21 13 48.6	-0.4
N20K	Mount Spurr baz=324	73.00	21	P	P	21 13 49.4	+0.1
WAT6	Susitna Watana baz=328	73.03	19	P	P	21 13 49.0	-0.6
K27K	Chicken comp=Z,16nm,1.4s	73.07	16	IAmb	IAmb	21 13 52.0	
K27K	Chicken baz=332	73.07	16	P	P	21 13 50.2	+0.7
I30M	Mount Dempster baz=336	73.07	13	P	P	21 13 50.0	+0.3
M22K	Willow baz=326	73.11	20	P	P	21 13 49.2	-0.6
SUA	Susitna One baz=326	73.18	21	P	P	21 13 50.1	-0.4
O19K	Port Alsworth baz=323	73.19	23	P	P	21 13 50.2	-0.2
O18K	Koktuh Hills baz=322	73.20	23	P	P	21 13 48.8	-1.6
PAX	Paxson baz=329	73.24	18	P	P	21 13 49.5	-1.3
NIKH	Nikolski High baz=314	73.28	34	P	P	21 13 49.6	-1.4
P17K	Kvichak River baz=322	73.33	24	P	P	21 13 50.4	-0.8
PMR	Palmer baz=327	73.51	20	P	P	21 13 51.4	-0.8
SML	Sawmill baz=327	73.53	19	P	P	21 13 51.7	-0.8
P18K	Big Mountain, baz=323	73.56	24	P	P	21 13 51.8	-0.9
DAWY	Dawson	73.57	14	P	P	21 13 52.6	0.0
DAWY	comp=Z,9.9nm,1.2s			IAmb	IAmb	21 13 56.6	
DAWY	Dawson baz=334	73.57	14	P	P	21 13 52.0	-0.7
CAPN	Captain Cook N baz=325	73.65	21	P	P	21 13 52.2	-0.8
UNV	Unalaska Valle baz=316	73.66	32	P	P	21 13 53.6	+0.4
Q16K	King Salmon baz=322	73.67	25	P	P	21 13 53.1	-0.1
J30M	Hart River baz=336	73.67	13	P	P	21 13 53.0	-0.3
L26K	Log Cabin Wild baz=331	73.68	17	P	P	21 13 52.7	-0.5
M23K	Glacier View baz=328	73.70	19	P	P	21 13 53.4	+0.1
SCM	Sheep Creek Mo baz=328	73.77	19	P	P	21 13 53.5	-0.4
RC01	Rabbit Creek A baz=326	73.77	20	P	P	21 13 53.5	-0.2
O20K	Slope Mountain baz=324	73.79	22	P	P	21 13 53.7	-0.3
HARP	HAARP baz=330	73.81	18	P	P	21 13 54.9	+0.8
M24K	Tolsona, Glenn baz=329	73.82	18	P	P	21 13 54.9	+0.8
KNK	Knik Glacier baz=327	73.83	20	P	P	21 13 53.8	-0.4
P19K	Oil Pt baz=324	73.96	23	P	P	21 13 54.3	-0.6
L27K	Beaver Creek,	73.98	16	P	P	21 13 55.9	+0.9
L27K	comp=Z,13nm,1.6s			IAmb	IAmb	21 13 59.9	
L27K	Beaver Creek, baz=332	73.98	16	P	P	21 13 55.2	+0.2
BCAR	Beaver Creek A	73.98	16	P	P	21 13 55.3	+0.2
K29M	Barlow Dome comp=Z,15nm,1.4s	74.13	14	IAmb	IAmb	21 14 00.6	
K29M	Barlow Dome baz=335	74.13	14	P	P	21 13 56.7	+0.7
FALS	False Pass baz=318	74.17	30	P	P	21 13 56.1	0.0
Q18K	Katmai Hardscr baz=323	74.22	24	P	P	21 13 56.3	-0.3
R16K	Pilot Point baz=321	74.24	26	P	P	21 13 56.1	-0.4
Q17K	Contact Creek baz=322	74.25	25	P	P	21 13 56.1	-0.6
O22K	Cooper Landing baz=326	74.28	21	P	P	21 13 56.6	-0.1
M26K	Nabesna, AK baz=331	74.30	17	P	P	21 13 56.7	-0.2
KLU	Klutina baz=329	74.41	19	P	P	21 13 57.5	-0.1
Q19K	Cape Douglas, baz=324	74.42	23	P	P	21 13 57.5	-0.2
PSA00	Pilbara Seismi	74.46	136	P	P	21 13 57.6	-0.7
R17K	Ugashik Creek baz=322	74.58	25	P	P	21 13 57.6	-0.9
M27K	Edge Creek, AK baz=332	74.59	16	P	P	21 13 58.1	-0.6
BRSE	Bradley Lake S baz=326	74.61	22	P	P	21 13 58.7	-0.1
N25K	Chitina, Valde baz=330	74.63	18	P	P	21 13 59.0	+0.1
L29M	L29M comp=Z,23nm,1.5s	74.68	14	IAmb	IAmb	21 14 01.7	
L29M	L29M baz=335	74.68	14	P	P	21 13 58.7	-0.5
SDPT	Sand Point baz=320	74.92	29	P	P	21 13 59.9	-0.6
Q20K	Shuyak Island baz=325	75.06	23	P	P	21 14 00.5	-0.8
BMRM	Bremner River baz=330	75.19	18	P	P	21 14 01.2	-0.9
M29M	Somme Creek baz=335	75.22	15	P	P	21 14 02.3	-0.1
EYAK	Cordova Ski Ar baz=330	75.27	19	P	P	21 14 01.8	-0.7

R18K	Karluk baz=324	75.27	25	P		P		21 14 02.0	-0.4
P23K	Montague Islan baz=328	75.31	20	P		P		21 14 02.7	0.0
YUK3	Moose Creek baz=333	75.42	16	P		P		21 14 03.3	-0.3
M30M	Minto, Yukon baz=336	75.42	14	P		P		21 14 03.2	-0.2
KDAK	Kodiak Island baz=325	75.68	24	P		P		21 14 04.4	-0.4
KDAK	Kodiak Island comp=Z,54nm,21.1s,baz=78,slow=37	75.68	24	LR		LR		21 49 02.4	
CRQE	Cirque baz=332	75.73	18	P		P		21 14 04.9	-0.4
OHAK	Old Harbor baz=324	75.92	24	P		P		21 14 06.7	+0.5
CTG	Chitna Glacier baz=333	75.95	17	P		P		21 14 07.1	+0.6
YUK8	Steele Glacier baz=334	76.00	16	P		P		21 14 07.5	+0.5
Q23K	Middleton Isla baz=329	76.08	20	P		P		21 14 07.1	0.0
KAIM	Kayak Island baz=331	76.14	19	P		P		21 14 07.0	-0.5
SII	Sitkinak Islan baz=324	76.17	25	P		P		21 14 08.1	+0.4
YUK4	Talbot Arm baz=335	76.18	15	P		P		21 14 07.8	-0.2
M31M	Drury Creek, Y baz=338	76.21	13	P		P		21 14 08.2	+0.3
CHIR	Chirikof Islan baz=323	76.28	26	P		P		21 14 08.4	+0.1
MMPY	Sheldon Lake, baz=340	76.33	12	P		P		21 14 08.9	+0.3
FARO	Faro, Yukon baz=339	76.36	13	P		P		21 14 09.1	+0.3
N30M	Aishikik Lake baz=336	76.39	15	P		P		21 14 08.7	-0.3
YUK6	Outpost Mounta baz=335	76.61	15	P		P		21 14 10.1	-0.4
N31M	Braeburn, Yuko comp=Z,20nm,1.4s	76.62	14	IAmb		IAmb		21 15 32.6	
N31M	Braeburn, Yuko baz=337	76.62	14	P		P		21 14 09.5	-0.7
WRGLY	Wrigley	76.77	8	P		P		21 14 10.9	-0.1
WRGLY	Wrigley baz=346	76.77	8	P		P		21 14 10.6	-0.4
HYT	Haines Junctio comp=Z,8.6nm,1.0s	76.89	15	IAmb		IAmb		21 14 14.4	
HYT	Haines Junctio baz=336	76.89	15	P		P		21 14 11.6	-0.2
DBIC	Dimbokro	76.94	268	P		P		21 14 12.1	-0.6
DBIC	Dimbokro	76.94	268	P		P		21 14 12.1	-0.6
DBIC	comp=Z,38nm,1.9s			pmax		pmax			
DBIC	Dimbokro comp=Z,6.5nm,0.9s,baz=33,slow=4.5,SNR=6.3 comp=Z,6.5nm,0.9s	76.94	268	P		P		21 14 12.9	+0.2
PINM	Pinnacle baz=334	76.97	17	P		P		21 14 11.9	-0.4
KIC	Kosan Boka comp=Z,11nm,0.6s	77.04	268⇑	*i* P		P		21 14 14.2	+0.9
TIC	Toumodi comp=Z,3.0nm,0.2s	77.08	268⇑	*e* P		P		21 14 14.3	+0.7
O29M	Mount Kennedy baz=335	77.14	16	P		P		21 14 12.9	-0.5
O30N	Mendenhall baz=337	77.22	14	P		P		21 14 12.8	-0.8
LIC	Lamto comp=Z,16nm,0.5s	77.35	268⇑	*i* P		P		21 14 15.9	+0.9
N32M	Quiet Lake baz=339	77.42	13	P		P		21 14 13.8	-0.9
PNL	Peninsula baz=334	77.54	16	P		P		21 14 14.5	-0.9
WHY	Whitehorse baz=338	77.55	14	P		P		21 14 14.7	-0.9
TGTN	Hyland Airport baz=343	77.82	11	P		P		21 14 16.5	-0.5
P29M	Windy Craggy baz=336	77.93	16	P		P		21 14 17.2	-0.5
YKA	Yellowknife Ar	78.20	4	P		P		21 14 18.6	-0.4
YKA	Yellowknife Ar	78.20	4	P		P		21 14 18.6	-0.4
YKA	Yellowknife Ar comp=Z,5.2nm,1.1s,baz=347,slow=5.3,SNR=23	78.20	4	P		P		21 14 19.4	+0.4
YKA	comp=Z,0.8nm,1.0s,baz=348,slow=6.8,SNR=3.3 comp=Z,5.2nm,1.1s			PP		PP		21 17 12.3	-2.5
P33M	Teslin, Yukon comp=Z,14nm,1.4s	78.34	13	IAmb		IAmb		21 14 23.9	
P33M	Teslin, Yukon baz=339	78.34	13	P		P		21 14 19.8	-0.2
SKAG	Skagway baz=338	78.58	15	P		P		21 14 21.2	+0.1
P32M	Atlin baz=339	78.77	14	P		P		21 14 20.5	-1.8
R33M	Jennings River baz=341	79.43	13	P		P		21 14 23.6	-2.4
Q32M	Nakina River baz=340	79.62	13	P		P		21 14 24.8	-2.3
FLDN	Fort Liard baz=347	79.68	9	P		P		21 14 25.7	-1.5
KOTAN	Kotaneelee Air baz=346	79.72	9	P		P		21 14 25.9	-1.5
DLBC	Dease Lake comp=Z,3.2nm,0.6s,baz=143,slow=20,SNR=3.2 comp=Z,3.2nm,0.6s	80.50	12	P		P		21 14 32.9	+1.2
SIT	Sitka baz=338	80.81	16	P		P		21 14 31.9	-1.3
BOSA	Boshof comp=Z,7.8nm,1.2s,baz=354,slow=8.0,SNR=2.1 comp=Z,7.8nm,1.2s	81.34	222	P		P		21 14 36.4	-0.2
WRA	Warramunga Arr comp=Z,3.9nm,0.8s,baz=326,slow=4.8,SNR=40 comp=Z,3.9nm,0.8s	81.81	124	P		P		21 14 38.8	-0.3
WRAB	Tennant Creek	81.81	124	P		P		21 14 37.6	-1.5
WRAB	comp=Z,5.0nm,0.8s			IAmb		IAmb		21 14 42.1	
WRAB	Tennant Creek	81.81	124	P		P		21 14 37.6	-1.5
WRAB	comp=Z,5.0nm,0.8s			pmax		pmax			
T35M	Bob Quinn baz=342	81.85	13	P		P		21 14 37.3	-1.5
WRAK	Wrangell Islan baz=340	82.00	14	P		P		21 14 37.5	-2.0
U33K	Whale Pass baz=339	82.13	15	P		P		21 14 38.3	-2.0
CRAG	Craig baz=339	82.74	15	P		P		21 14 41.9	-1.6
V35K	Ketchikan baz=341	83.17	14	P		P		21 14 45.1	-0.5
ASAR	Alice Springs	84.26	127	P		P		21 14 50.6	-1.1
ASAR	Alice Springs	84.26	127	P		P		21 14 50.6	-1.1
ASAR	Alice Springs comp=Z,2.5nm,0.9s,baz=322,slow=5.4,SNR=20 comp=Z,2.5nm,0.9s	84.26	127	P		P		21 14 51.2	-0.5
FFC	Flin Flon	86.14	357	P		P		21 15 00.9	+0.2
FFC	Flin Flon	86.14	357	P		P		21 15 00.9	+0.2
FFC	comp=Z,17nm,1.5s			pmax		pmax			
SUR	Sutherland comp=Z,18nm,18.1s,baz=51,slow=37	86.65	223	LR		LR		21 55 44.7	
PKME	Peaks-Kenny Pk baz=28	89.35	335	P		P		21 15 14.5	-1.8
ULM	Lac du Bonnet comp=Z,1.5nm,0.8s,baz=26,slow=2.4,SNR=1.8 comp=Z,1.5nm,0.8s	90.22	353	P		P		21 15 20.7	+0.4
LONY	Lake Ozonia baz=24	91.58	338	P		P		21 15 25.6	-1.1
NEW	Newport baz=352	92.16	7	P		P		21 15 28.6	-0.8
HRV	Adam Dziewonsk baz=26	92.55	335	P		P		21 15 29.7	-1.5
BINY	Binghamton baz=23	94.20	338	P		P		21 15 37.7	-1.2
M53A	WI Miller and baz=20	96.19	341	P		P		21 15 46.5	-1.5
JFWS	Jewell Farm baz=12	96.75	348	P		P		21 15 49.8	-0.7
L44A	Lake County Fo baz=14	97.06	346	P		P		21 15 51.0	-0.9
O53A	New Philadelph baz=19	97.44	341	P		P		21 15 52.7	-0.9
MCWV	Mont Chateau baz=20	97.64	340	P		P		21 15 53.3	-1.3
ACSO	Alum Creek Sta baz=18	97.90	342	P		P		21 15 54.5	-1.2
TZTN	Tazewell baz=18	101.54	341	P		Pdif		21 16 11.0	-1.0
KSCO	Kaye Shedlock' baz=2.9	101.86	357	P		Pdif		21 16 12.6	-0.9
Q24A	Divide baz=0.9	101.97	359	P		Pdif		21 16 12.9	-1.4
WVT	Waverly baz=14	102.90	345	P		Pdif		21 16 17.3	-0.8
MVCO	Mesa Verde baz=358	103.70	2	P		Pdif		21 16 20.0	-2.0
CWC	Cottonwood Cre baz=351	103.73	10	P		Pdif		21 16 20.2	-1.8
T25A	Trinidad baz=1.5	103.78	358	P		Pdif		21 16 20.7	-1.6
NHSC	New Hope baz=20	103.86	338	P		Pdif		21 16 21.5	-0.8
MPMC	Manual Prospec baz=351	104.18	9	P		Pdif		21 16 22.9	-1.2
TUL3	Leonard baz=8.4	104.40	351	P		Pdif		21 16 23.4	-1.4
LRMC	Laurel Mtn Rad baz=351	104.72	10	P		Pdif		21 16 24.5	-1.9
OXF	Oxford baz=13	104.78	346	P		Pdif		21 16 25.5	-0.9
ARVC	Arvin baz=350	104.92	11	P		Pdif		21 16 26.4	-0.7
TUQ	Turquoise Moun baz=352	104.98	8	P		Pdif		21 16 25.8	-1.7
PKM	Mcpherson Peak baz=349	105.00	11	P		Pdif		21 16 25.6	-2.1
GSC	Goldstone, Bar baz=352	105.01	9	P		Pdif		21 16 25.6	-1.9
TIGA	Tifton baz=18	106.39	340	P		PKiKP		21 20 43.9	-0.9
PFO	Pinyon Flats O baz=352	106.72	9	P		PKiKP		21 20 44.3	-1.2
TPFO	Pinon Flats baz=352	106.72	9	P		PKiKP		21 20 44.4	-1.2
PLCA	Paso Flores comp=Z,3.8nm,1.1s,baz=27,slow=4.5,SNR=3.4	152.71	256	PKPbc		PKiKP		21 22 16.9	+0.2

ISK 25 21:07:42.1,40°42N×28°90E, h4km, ML1.2/3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDNY	Mudanya-Bursa	0.05	194	Pg	Pg	21 07 43.6	+0.3
MDNY				Sg	Sg	21 07 44.8	+0.6
ARMT	Armutlu	0.15	348	Pg	Pg	21 07 45.9	+0.9
ARMT				Sg	Sg	21 07 48.6	+1.6
TVSB	Tavsanli	1.06	156	Pg	Pb	21 08 02.9	-0.2
TVSB				Sg	Sn	21 08 18.4	-0.7

*THE **25** 21:28:32.9, 38°.83N×26°.43E, h8km±1km, ML2.2/5, Error ellipse: s-maj=1.4km s-min=0.6km az=333.0*
*AFAD **25** 21:28:32.4±0.0, 38°.82N×26°.46E, h7km±2km, ML2.3*
*ISK **25** 21:28:32.1, 38°.82N×26°.46E, h12km±2km, ML2.5/8*
ISC 25 21:28:32.5±0.9, 38°.81N±0°.02×26°.46E±0°.03, h15km±7km, n29, σ0°35/43, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARB	zmir-Karabur	0.16	195	P	Pb	21 28 36.7	-0.3
KARB				S	Sg	21 28 39.3	+0.2
KARB	comp=N,1μm,0.2s			*i* AML	AML	21 28 40.0	
KARB	comp=E,881nm,0.3s			*i* AML	AML	21 28 40.0	
FOCM	Foa	0.23	116	Pg	Pg	21 28 37.5	-0.1
FOCM				Sg	Sg	21 28 41.4	+0.3
CAND	Candarli	0.30	62	Pg	Pg	21 28 38.7	-0.1
CAND				Sg	Sb	21 28 44.1	-0.2
LESV	Lesvos island,	0.30	15	P	Pg	21 28 38.8	0.0
LESV	3μm,0.4s			S	Sg	21 28 43.1	-0.1
RFT7	Candarli	0.39	68	Pg	Pg	21 28 40.2	-0.1
DKL	Dikili	0.43	53	Pg	Pg	21 28 41.0	-0.1
DKL				Sg	Sg	21 28 47.5	+0.5
PRK	Paraskevi	0.46	341	P	Pg	21 28 41.6	0.0
PRK	338nm,0.3s			S	Sg	21 28 48.2	+0.4
CESE	eme	0.50	195	Pg	Pg	21 28 42.5	+0.1
ZEDA	zmir-Bergama	0.50	72	P	Pg	21 28 42.4	0.0
ZEDA				S	Sg	21 28 49.2	0.0
AYVA	Ayvalik	0.52	20	P	Pg	21 28 42.5	-0.3
AYVA				S	Sg	21 28 48.8	-1.0
CHOS	Chios island	0.53	217	P	Pb	21 28 43.5	0.0
CHOS	415nm,0.2s			S	Sb	21 28 50.9	-0.1
ZEYE	Izmir, Urla-Ze	0.57	177	P	Pg	21 28 43.9	+0.1
ZEYE	comp=N,163nm,0.4s			*i* AML	AML	21 28 56.0	
ZEYE	comp=E,187nm,0.4s			*i* AML	AML	21 28 56.0	
SIGR	SIGRI	0.62	310	Pg	Pg	21 28 44.5	-0.1
SIGR	SIGRI	0.62	310	P	Pg	21 28 44.7	+0.1
SIGR				S	Sg	21 28 52.6	-0.2
GPNR	Gulpinar-Canak	0.69	338	Pg	Pg	21 28 45.8	-0.1
KOCA	Canakkale, Ayv	0.73	340	P	Pg	21 28 46.8	+0.1
KOCA				S	Sg	21 28 56.5	+0.1
DGB	zmir	0.83	156	P	Pg	21 28 48.3	-0.3
DGB				S	Sg	21 28 58.4	-1.0
BUHA	Balikesir, Bur	0.84	35	P	Pg	21 28 48.7	0.0
BUHA	comp=N,101nm,0.3s			*i* AML	AML	21 29 02.0	
BUHA	comp=E,162nm,0.5s			*i* AML	AML	21 29 03.0	
BAYC	CANAKKALE_Bayr	0.93	4	P	Pb	21 28 49.8	-0.5
BAYC				*i* AML	AML	21 29 05.0	
BAYC	comp=E,138nm,0.2s			*i* AML	AML	21 29 06.0	
BAYC	comp=N,118nm,0.2s						
EZN	Ezine	1.02	354	Pg	Pb	21 28 51.7	0.0
EZN	Ezine	1.02	354	P	Pb	21 28 51.3	-0.4
EZN	155nm,0.4s			S	Sg	21 29 05.5	+0.1
STEP	BALIKESIR_Sava	1.13	60	P	Pn	21 28 53.9	+0.1
STEP				*i* AML	AML	21 29 11.0	
STEP	comp=E,106nm,0.3s			*i* AML	AML	21 29 12.0	
STEP	comp=N,112nm,0.5s						
SMG	Samos	1.14	165	P	Pn	21 28 53.9	0.0
LIA	Limnos Island	1.47	318	P	Pn	21 28 58.6	+0.2
LIA	78nm,0.5s			S	Sn	21 29 17.5	+0.2
KIRA	zmir-Kiraz	1.64	111	P	Pg	21 29 04.4	+0.5
KIRA	comp=E,71nm,0.4s			*i* AML	AML	21 30 06.0	
KULA	Kula-Manisa	1.75	99	P	Pn	21 29 03.1	+0.8
SMTH	Samothraki Isl	1.80	337	P	Pn	21 29 03.3	+0.3
APE	Apeiranthos	1.89	203	P	Pn	21 29 04.4	+0.2
ALN	Alexandroupoli	2.10	351	P	Pn	21 29 07.5	+0.4

*IDC **25** 21:29:23.0±1.4, 36°.76N×27°.69E, h0km, mb3.6/3, mbtmp3.6/5, ML3.6/2, MS3.6/4, Error ellipse: s-maj=30.6km s-min=22.7km az=173.0*
*ISK **25** 21:29:24.5, 36°.97N×27°.63E, h4km, ML3.3/23*
*THE **25** 21:29:24.9, 36°.95N×27°.64E, h7km±1km, ML3.3/6, Error ellipse: s-maj=1.2km s-min=0.5km az=225.0*
*AFAD **25** 21:29:24.6±0.0, 36°.97N×27°.63E, h7km±2km, ML3.0*
ISC 25 21:29:24.7±0.8, 36°.96N±0°.02×27°.63E±0°.02, h13km±5km, n67, σ0°76/84, mb3.8/3, MS3.6/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RFTAA	Mazikoy-Bodrum	0.10	66	Pg	Pg	21 29 27.5	-0.2
RFTAA				Sg	Sg	21 29 28.9	-0.9
BDRM	Kayabasi	0.18	305	P	Pg	21 29 29.1	+0.2
BDRM				S	Sg	21 29 31.6	-0.2
DATC	Datca-Mugla	0.20	174	Pg	Pg	21 29 29.5	+0.3
DATC				Sg	Sb	21 29 33.4	-0.5
DAT	Datca	0.23	191	Pg	Pg	21 29 29.8	+0.1
DAT	Datca	0.23	191	P	Pg	21 29 29.9	+0.1
DAT				S	Sb	21 29 34.7	-0.3
DAT	comp=N,2μm,0.1s			*i* AML	AML	21 29 36.0	
DAT	comp=E,2μm,0.5s			*i* AML	AML	21 29 36.0	
DAT	Datca	0.23	191	P	Pg	21 29 29.9	+0.1
DAT				S	Sg	21 29 33.5	+0.3
BODT	Bodrum	0.28	292	Pg	Pg	21 29 30.7	+0.2
BODT				Sg	Sg	21 29 34.7	+0.3
BODT	Bodrum	0.28	292	P	Pg	21 29 30.3	-0.2
BODT				S	Sg	21 29 34.8	+0.3
RFTB	Kemer-Bodrum	0.29	271	Pg	Pg	21 29 30.8	+0.1
RFTB				Sg	Sg	21 29 35.7	+1.0
YAZI	Mula-Dat§a-	0.31	208	P	Pg	21 29 31.1	0.0
YKAV	Yalikavak-Bodr	0.33	300	Pg	Pg	21 29 31.2	-0.2
MLSB	Milas	0.35	19	Pg	Pg	21 29 31.7	-0.2
DIDI	Didim-Aydin	0.52	323	Pg	Pg	21 29 35.2	+0.2
TURN	Turunc	0.52	110	Pg	Pg	21 29 34.9	0.0
TURN	Turunc	0.52	110	P	Pg	21 29 34.9	0.0
TURN				S	Sb	21 29 42.8	-0.4
NISR	Nisiros	0.53	230	P	Pg	21 29 35.2	+0.1
NISR	7μm,0.3s			S	Sb	21 29 43.6	+0.2
YER	Yerkesik	0.55	71	Pg	Pg	21 29 35.7	+0.2
YER	Yerkesik	0.55	71	P	Pg	21 29 35.5	0.0
YER				S	Sb	21 29 44.1	+0.1
DDIM	Aydin, Didim	0.59	328	P	Pg	21 29 35.8	-0.3
DDIM				S	Sg	21 29 44.0	0.0
DDIM	comp=E,2μm,0.5s			*i* AML	AML	21 29 50.0	
MULA	Mugla, Merkez-	0.62	61	P	Pg	21 29 37.0	+0.1
MULA				S	Sg	21 29 42.9	-2.3
GCAM	G?zelcaml?	0.81	337	Pg	Pg	21 29 40.2	-0.1
GCAM	G?zelcaml?	0.81	337	P	Pg	21 29 40.2	-0.1
GCAM				S	Sb	21 29 51.4	+0.1
DALY	Dalyan (Mula)	0.83	100	Pg	Pb	21 29 41.2	+0.3
ARG	Arkhangelos	0.84	152	Pg	Pg	21 29 40.7	-0.3
ARG	Arkhangelos	0.84	152	P	Pg	21 29 40.6	-0.4
ARG	2μm,0.7s			S	Sb	21 29 53.0	+0.7
SMG	Samos	0.98	320	P	Pb	21 29 43.0	-0.5
SMG	3μm,0.3s			S	Sn	21 29 57.5	-0.4
ESEN	Aydn-Nazilli comp=N,28nm,0.8s	1.01	34	*i* AML	AML	21 30 48.0	
ESEN	Aydn-Nazilli	1.01	34	P	Pb	21 29 43.5	-0.5
ESEN				S	Sb	21 29 56.4	-0.9
ESEN	comp=N,387nm,0.8s			*i* AML	AML	21 30 06.0	
ESEN	comp=E,392nm,0.9s			*i* AML	AML	21 30 08.0	
ESEN	Aydn-Nazilli	1.01	34	P	Pb	21 29 43.5	-0.5
ESEN	Aydn-Nazilli comp=E,43nm,0.6s	1.01	34	*i* AML	AML	21 30 38.0	
SABU	Mula-Dalaman	1.08	97	P	Pn	21 29 45.6	0.0
TAVA	DENIZLI_Tavas	1.14	63	P	Pb	21 29 46.2	-0.1
FETI	Fethiye-Mugla	1.20	102	Pn	Pg	21 29 48.2	+0.3
FETY	Fethiye	1.21	105	Pn	Pg	21 29 48.4	+0.5
DGB	zmir	1.24	332	P	Pn	21 29 47.6	-0.1
DGB				S	Sb	21 30 03.4	-0.6
DGB	comp=N,218nm,0.6s			*i* AML	AML	21 30 07.0	
DGB	comp=E,259nm,0.5s			*i* AML	AML	21 30 08.0	
GMLD	Gumuldur	1.25	333	Pn	Pg	21 29 49.2	+0.4
DNIZ	Denizli-Tavas-	1.30	59	P	Pb	21 29 49.3	+0.2
DNIZ	comp=E,707nm,0.4s			*i* AML	AML	21 30 14.0	
CAME	Cameli-Denizli	1.34	90	Pn	Pg	21 29 50.5	+0.1
CAEL	Denizli, Camel	1.36	83	P	Pg	21 29 51.4	+0.6
CAEL	comp=E,282nm,0.8s			*i* AML	AML	21 30 21.0	
KIRA	zmir-Kiraz	1.38	26	P	Pn	21 29 49.9	+0.2
KIRA	comp=N,414nm,0.5s			*i* AML	AML	21 30 15.0	
IZZE	Mula-Seydike	1.38	112	P	Pb	21 29 50.7	+0.3
KARP	Karpathos	1.46	195	P	Pn	21 29 50.4	-0.3
KARP	522nm,0.6s			S	Sn	21 30 09.6	-0.1
APE	Apeiranthos	1.69	274	P	Pn	21 29 53.5	-0.4
APE	242nm,0.5s			S	Sn	21 30 14.9	-0.5
AKAS	Kas	1.75	114	Pn	Pb	21 29 56.6	0.0
KULA	Kula-Manisa	1.75	27	P	Pn	21 29 54.9	+0.1
KULA				S	Sn	21 30 17.0	-0.1
GOMA	Golmarmara-Man	1.76	7	Pn	Pb	21 29 57.2	+0.4
KSL	Kastellorizon	1.77	117	P	Pn	21 29 55.3	+0.4
ELL	Elmali	1.84	96	Pn	Pb	21 29 57.9	-0.3
THT2	Imerovigli	1.85	254	P	Pn	21 29 56.0	-0.1
CMBO	Columbo, Santo	1.85	255	P	Pn	21 29 56.2	+0.1
CHOS	Chios island	1.90	319	P	Pn	21 29 57.0	+0.2
AKS	Akhisar	1.92	4	Pn	Pb	21 29 59.0	-0.6
RFT7	Candarli	2.07	344	Pn	Pb	21 30 01.3	-0.8
ZKR	Zakros	2.17	212	Pn	Pb	21 30 02.9	-0.9
DKL	Dikili	2.19	345	Pn	Pb	21 30 03.2	-0.9
PRK	Paraskevi	2.52	335	P	Pn	21 30 05.5	+0.2
SIGR	SIGRI	2.65	329	P	Pn	21 30 07.2	+0.1
DURS	Dursunbey	2.72	14	P	Pg	21 30 16.1	-0.7
BRTR	Keskin Array B 0.6nm,0.3s,baz=238,slow=15,SNR=18	5.47	58	Pn	Pn	21 30 48.5	+2.5
BRTR	0.1nm,0.3s,baz=241,slow=15,SNR=1.5 1.6nm,0.4s			Sn	Sn	21 31 48.8	0.0
MMAI	Mount Meron Ar 2.2nm,0.3s,baz=307,slow=12,SNR=16	7.49	119	Pn	Pn	21 31 12.8	-0.9
MMAI	1.3nm,0.3s,baz=308,slow=22,SNR=2.6 0.9nm,0.3s			Sn	Sn	21 32 34.9	-3.7
FINES	FINESS Array B 1.8nm,0.8s,baz=181,slow=17,SNR=3.4 1.8nm,0.8s	24.53	358	P	P	21 34 46.5	+2.9
ESDC	Sonseca Array 0.7nm,0.9s,baz=80,slow=9.9,SNR=5.4 0.7nm,0.9s	24.87	286	P	P	21 34 47.6	+0.6
TORD	Torodi Ar. Bea 0.6nm,0.5s,baz=36,slow=9.0,SNR=5.0 0.6nm,0.5s	33.18	231	P	P	21 36 00.8	-0.3
JMIC	Jan Mayen comp=Z,254nm,18.1s,baz=294,slow=39	38.96	342	LR	LR	21 54 57.2	
SCHQ	Schefferville comp=Z,30nm,20.2s,baz=252,slow=35	63.12	320	LR	LR	22 06 21.6	
BDFB	Brasilia comp=Z,19nm,21.8s,baz=115,slow=35	88.23	249	LR	LR	22 20 52.6	
JCJ	Chichijima comp=Z,30nm,20.0s,baz=360,slow=39	91.46	54	LR	LR	22 28 38.6	

*GCG **25** 21:34:56.1±2.7, 15°.01N×89°.45W, h10km, MD3.8*
*CATAC **25** 21:34:57.1±0.4, 15°.05N×89°.49W, h2km±2km, ML3.8*
*SNET **25** 21:34:58.8±0.9, 14°.92N×89°.52W, h10km±8km, ML3.6*
ISC 25 21:34:56.1±1.3, 15°.04N±0°.04×89°.49W±0°.02, h5km±10km, n56, σ0°87/78, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTO3	Montecristo	0.65	169	*e* P	Pg	21 35 08.4	-0.1
MTO3				*e* S	Sg	21 35 17.0	+0.1
MTO3	Montecristo	0.65	169	*i* P	Pg	21 35 08.3	-0.2
MTO3				*i* S	Sg	21 35 17.1	+0.1
MTO3	comp=Z,2μm,1.0s			IAML		21 35 18.3	
SARH	Santa Rosa de	0.75	110	*i* P	Pg	21 35 10.7	+0.1
SARH				*i* S	Sb	21 35 23.0	+0.6
NBG	Las Nubes	0.94	242	*e* P	Pg	21 35 12.2	-1.9
NBG				*e* S	Sb	21 35 27.8	-0.1
LLGN	La Laguna	1.02	148	*e* P	Pg	21 35 15.6	0.0
LLGN				*e* S	Sb	21 35 29.6	-0.4
LLGN	comp=Z,3μm,0.3s			IAML		21 35 33.5	
LLGN	La Laguna	1.02	148	*i* P	Pg	21 35 15.6	0.0
LLGN				*i* S	Sb	21 35 29.5	-0.5
LLGN	comp=Z,3μm,1.0s			IAML		21 35 33.4	
SLOZ	Alcaldia de Sa	1.04	196	*e* P	Pg	21 35 15.4	-0.6
SLOZ				*e* S	Sg	21 35 29.4	-0.2
UNIC	Universidad Ca	1.05	183	*e* P	Pg	21 35 15.5	-0.7
UNIC	Universidad Ca	1.05	183	*i* P	Pg	21 35 15.6	-0.6
UNIC	comp=Z,950nm,1.0s			IAML		21 35 16.0	
LOAL	Lomas de Alarc	1.07	195	*e* P	Pg	21 35 16.2	-0.4
LOAL				*e* S	Sg	21 35 30.4	0.0
LOAL	Lomas de Alarc	1.07	195	*i* P	Pg	21 35 16.2	-0.4
LOAL	comp=Z,4μm,1.0s			IAML		21 35 17.6	
LOAL				*i* S	Sn	21 35 32.7	-0.4
GCG4	OSOP	1.10	246	*i* P	Pg	21 35 16.9	-0.3
GCG4				*i* S	Sn	21 35 33.5	-0.6
GCG4	comp=Z,3μm,1.0s			IAML		21 35 42.6	
RTR	El Retiro	1.14	188	*e* P	Pg	21 35 17.7	-0.3
GUMI	Mixco	1.16	250	*i* P	Pb	21 35 17.4	-1.3
GUMI				*i* S	Sn	21 35 37.1	+1.6
GUMI	comp=Z,5μm,1.0s			IAML		21 35 40.9	

NUBE	**Las Nubes**	**1.16**	**194**	*e*P		**Pb**	**21 35 17.8**	**-1.0**
NUBE	**Las Nubes**	**1.16**	**194**	*i* P		**Pb**	**21 35 17.4**	**-1.4**
NUBE					IAML		21 35 18.1	
	comp=Z,1μm,1.0s							
NUBE				*i* S		**Sn**	**21 35 35.2**	**-0.3**
SNJE	**San Jose**	**1.17**	**185**	*e*P		**Pb**	**21 35 18.1**	**-0.8**
SNJE				*e*S		**Sg**	**21 35 33.2**	**-0.3**
SBLS	**San Blas**	**1.20**	**186**	*e*P		**Pb**	**21 35 18.6**	**-0.8**
CEVE	**Cerro Verde**	**1.21**	**186**	*i* P		**Pb**	**21 35 19.2**	**-0.4**
CEVE				*i* S		**Sn**	**21 35 39.2**	**+2.4**
CEVE					IAML		21 35 46.2	
	comp=Z,840nm,1.0s							
BOQS	**Boqueron**	**1.31**	**171**	*e*P		**Pn**	**21 35 21.0**	**-0.3**
BOQS				*e*S		**Sb**	**21 35 38.4**	**-0.2**
PMON	**Piamonte**	**1.33**	**173**	*e*P		**Pn**	**21 35 20.9**	**-0.5**
PMON	**Piamonte**	**1.33**	**173**	*i* P		**Pn**	**21 35 21.0**	**-0.4**
PMON				*i* S		**Sg**	**21 35 40.9**	**+2.1**
PMON					IAML		21 35 44.5	
	comp=Z,2μm,1.0s							
JAYA	**Jayaque - finc**	**1.37**	**178**	*e*P		**Pn**	**21 35 21.5**	**-0.7**
JAYA					IAML		21 35 43.6	
	comp=Z,476nm,0.2s							
JAYA	**Jayaque - finc**	**1.37**	**178**	*i* P		**Pn**	**21 35 20.9**	**-1.2**
JAYA					IAML		21 35 43.4	
	comp=Z,1μm,1.0s							
LOMA	**Loma Larga**	**1.42**	**167**	*e*P		**Pn**	**21 35 22.8**	**+0.2**
LOMA	**Loma Larga**	**1.42**	**167**	*i* P		**Pn**	**21 35 22.9**	**+0.2**
LOMA					IAML		21 35 48.6	
	comp=Z,860nm,1.0s							
PAVA	**Las Pavas**	**1.42**	**158**	*e*P		**Pn**	**21 35 22.6**	**-0.1**
PAVA					IAML		21 35 48.4	
	comp=Z,1μm,0.4s							
PAVA	**Las Pavas**	**1.42**	**158**	*i* P		**Pb**	**21 35 23.3**	**+0.1**
PAVA					IAML		21 35 48.1	
	comp=Z,2μm,1.0s							
FUG	**Fuego 3**	**1.43**	**246**	*e*P		**Pb**	**21 35 23.6**	**+0.2**
FUG				*e*S		**Sg**	**21 35 44.5**	**+2.4**
LFRS	**El Faro**	**1.46**	**163**	*e*P		**Pn**	**21 35 23.5**	**+0.2**
LFRS				*e*S		**Sn**	**21 35 42.3**	**-0.7**
SJTE	**Alcalda de S**	**1.49**	**162**	*e*P		**Pb**	**21 35 24.6**	**+0.2**
SJTE	**Alcalda de S**	**1.49**	**162**	*i* P		**Pb**	**21 35 24.9**	**+0.6**
SJTE					IAML		21 35 46.9	
	comp=Z,470nm,1.0s							
SCLA	**Alcaldia de Sa**	**1.52**	**151**	*e*P		**Pn**	**21 35 24.4**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.52**	**151**	*i* P		**Pn**	**21 35 24.2**	**+0.2**
SCLA					IAML		21 35 55.1	
	comp=Z,710nm,1.0s							
INTHN	**La Esperanza I**	**1.52**	**118**	*i* P		**Pn**	**21 35 24.4**	**+0.1**
COEG	**Centro de Oper**	**1.53**	**157**	*e*P		**Pb**	**21 35 24.7**	**-0.3**
COEG					IAML		21 35 49.4	
	comp=Z,827nm,0.4s							
COEG	**Centro de Oper**	**1.53**	**157**	*i* P		**Pb**	**21 35 24.9**	**-0.1**
COEG					IAML		21 35 49.4	
	comp=Z,780nm,1.0s							
LALI	**Alcalda de L**	**1.55**	**174**	*e*P		**Pn**	**21 35 23.8**	**-0.5**
LALI				*e*S		**Sn**	**21 35 44.2**	**-0.6**
LALI	**Alcalda de L**	**1.55**	**174**	*i* P		**Pb**	**21 35 25.9**	**+0.7**
LALI					IAML		21 35 50.6	
	comp=Z,290nm,1.0s							
UESV	**Universidad de**	**1.55**	**154**	*e*P		**Pn**	**21 35 24.7**	**+0.2**
PQSS	**Presa 15 de Se**	**1.67**	**147**	*e*P		**Pn**	**21 35 26.6**	**+0.6**
PQSS	**Presa 15 de Se**	**1.67**	**147**	*i* P		**Pn**	**21 35 26.3**	**+0.3**
PQSS					IAML		21 35 51.1	
	comp=Z,670nm,1.0s							
NISHN	**Nisperales Com**	**1.72**	**64**	*i* P		**Pn**	**21 35 26.1**	**-0.7**
TECA	**Tecapa**	**1.81**	**148**	*e*P		**Pb**	**21 35 29.2**	**-0.6**
SOKI	**Kika Raxquin**	**1.86**	**264**	*i* P		**Pb**	**21 35 30.5**	**-0.4**
SOKI					IAML		21 36 08.3	
	comp=Z,690nm,1.0s							
PACA	**Pacayal**	**1.93**	**144**	*e*P		**Pn**	**21 35 30.6**	**+0.9**
PACA	**Pacayal**	**1.93**	**144**	*i* P		**Pb**	**21 35 32.4**	**+0.6**
PACA					IAML		21 36 13.6	
	comp=Z,4μm,1.0s							
COMHN	**El Horno**	**1.96**	**107**	*i* P		**Pn**	**21 35 29.8**	**-0.5**
STG3	**Santiaguito 3,**	**2.04**	**261**	*e*P		**Pn**	**21 35 31.8**	**+0.5**
STG3				*e*S		**Sg**	**21 36 04.2**	**+2.6**
LCND	**La Caada**	**2.31**	**138**	*e*P		**Pn**	**21 35 36.0**	**+1.1**
LCND				*e*S		**Sn**	**21 36 04.1**	**+0.3**
LCND					IAML		21 36 20.1	
	comp=Z,235nm,0.5s							
LCND	**La Caada**	**2.31**	**138**	*i* P		**Pb**	**21 35 37.0**	**-1.4**
LCND					IAML		21 36 19.3	
	comp=Z,230nm,1.0s							
TGUH	**Tegucigalpa,Un**	**2.36**	**114**	*i* P		**Pb**	**21 35 38.7**	**-0.5**
TGUH					IAML		21 36 19.6	
	comp=Z,600nm,1.0s							
CNCH	**Conchagua**	**2.38**	**137**	*e*P		**Pn**	**21 35 37.3**	**+1.4**
CNCH					IAML		21 36 19.3	
	comp=Z,1μm,0.4s							
CNCH	**Conchagua**	**2.38**	**137**	*i* P		**Pn**	**21 35 36.9**	**+1.0**
CNCH					IAML		21 36 18.8	
	comp=Z,950nm,1.0s							
YUSH	**Yuscaran**	**2.78**	**112**	*i* P		**Pb**	**21 35 45.1**	**-1.3**
JUTIH	**Juticalpa Olan**	**3.18**	**96**	*i* P		**Pb**	**21 35 52.1**	**-1.1**

*IDC **25** 21:37:40.6±6.0, 19°.39N×108°.80W, h0km, mb3.5/4, mbtmp3.6/7, ML3.6/3, MS3.5/28, Error ellipse: s-maj=92.7km s-min=64.3km az=151.0*
*NEIC **25** 21:37:47.3±2.1, 19°.7N±0°.1×108°.9W±0°.1, h10km±2km, mb4.0/68, Md4.3/22(MEX), Error ellipse: s-maj=22.3km s-min=12.2km az=222.0*
*MEX **25** 21:37:49.2±0.8, 19°.62N×108°.64W, h10km, MD4.3*
ISC 25 21:37:41.7±0.9, 19°.3N±0°.1×108°.98W±0°.04, h10km, n129, σ1§64/80, mb4.0/19, MS3.5/26, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06N1	**SOCORRO T-PHAS**	**1.95**	**257**	Pn	**Pn**	**21 38 16.6**	**+1.8**
H06N1				Sn	**Sn**	**21 38 35.9**	**-3.5**
H06S1	**SOCORRO T**	**1.96**	**253**	Pn	**Pn**	**21 38 17.3**	**+2.3**
H06S1				Sn	**Sn**	**21 38 36.6**	**-3.0**
CJM	**Chamela**	**3.72**	**87**	*i* P	**Pn**	**21 38 38.8**	**-0.4**
CJM				*e*S	**Sn**	**21 39 18.1**	**-5.0**
CIHU	**Emiliano Zapat**	**4.01**	**90**	*i* P	**Pn**	**21 38 42.7**	**-0.5**
CIHU				*i* S	**Sn**	**21 39 25.9**	**-4.4**
SLBS	**Sierra La Lagu**	**4.44**	**349**	Pn	**Pn**	**21 38 46.9**	**-2.4**
CDAR	**Ciudad de Arme**	**4.71**	**94**	*e*P	**Pn**	**21 38 54.1**	**+1.3**
CDAR				*e*S	**Sn**	**21 39 45.1**	**-2.5**
CEGR	**Campo Tres**	**4.84**	**88**	*i* P	**Pn**	**21 38 55.6**	**+0.9**
CEGR				*e*S	**Sn**	**21 39 49.8**	**-1.1**
LPIG	**La Paz**	**4.92**	**346**	Pn	**Pn**	**21 38 54.4**	**-1.3**
	8.8nm,0.3s,baz=165,slow=2.9,SNR=8.2						
LPIG				LR	LR	21 40 22.3	
	comp=Z,628nm,20.2s,baz=166,slow=33 42nm,0.5s						
COIG	**Colima**	**5.00**	**91**	*i* P	**Pn**	**21 38 57.9**	**+1.0**
COIG				*e*S	**Sn**	**21 39 52.4**	**-2.4**
SOMAC	**Volcano de Col**	**5.05**	**87**	*i* P	Pn	21 38 59.9	+2.1
SOMAC				*e*S	**Sn**	**21 39 54.6**	**-1.9**
MNGA	**Volcan de Coli**	**5.06**	**87**	*i* P	Pn	21 38 59.9	+2.0
MNGA				*e*S	**Sn**	**21 39 56.8**	**+0.2**
INCO	**Volcan de Coli**	**5.08**	**87**	*i* P	Pn	21 39 00.1	+1.9
INCO				*e*S	Sb	21 39 59.2	-1.3
EZ5V		**5.08**	**87**		Pn	21 39 00.2	+2.1
EZ5V		**5.08**	**87**	*i* P	Pn	21 39 00.2	+2.1
EZ5V				*e*S	**Sn**	**21 39 58.5**	**+1.5**
JUBC	**Volcan de Coli**	**5.11**	**87**	*i* P	Pn	21 39 00.7	+2.1
JUBC				*e*S	**Sn**	**21 39 58.3**	**+0.5**
ZAIG	**Zacatecas**	**6.91**	**59**	Pn	**Pn**	**21 39 23.6**	**+0.4**
MOIG	**Morelia**	**7.36**	**86**	Pn	Pn	21 39 33.9	+4.4
HPIG		**8.18**	**21**	Pn	**Pn**	**21 39 40.8**	**+0.2**
HSIG		**9.83**	**350**	Pn	**Pn**	**21 40 02.3**	**-0.8**
TLIG	**Tlapa**	**10.04**	**98**	Pn	Pn	21 40 10.7	+4.6
TX31	**Lajitas Ar. Si**	**11.09**	**25**	Pn	**Pn**	**21 40 18.6**	**-1.8**
TXAR	**Lajitas Array**	**11.09**	**25**	Pn	**Pn**	**21 40 19.1**	**-1.3**
TXAR	**Lajitas Array**	**11.09**	**25**	Pn	**Pn**	**21 40 20.2**	**-0.2**
	0.1nm,0.3s,baz=204,slow=13,SNR=10						
TXAR				LR	LR	21 44 05.4	
	comp=Z,133nm,21.1s,baz=206,slow=35 0.7nm,0.7s						
425A	**Indio Mountain**	**11.98**	**17**	Pn	**Pn**	**21 40 34.8**	**+2.1**
319A	**Douglas**	**12.01**	**359**	Pn	**Pn**	**21 40 33.2**	**0.0**
ALPN	**Alpine**	**12.03**	**23**	Pn	**Pn**	**21 40 33.0**	**-0.3**
833A	**Chaparral WMA,**	**12.54**	**43**	Pn	**Pn**	**21 40 40.6**	**+0.4**
SFX	**San Felipe**	**12.82**	**337**	Pn	**Pn**	**21 40 41.8**	**-2.3**
TUC	**Tucson**	**13.04**	**353**	Pn	**Pn**	**21 40 45.7**	**-1.5**
214A	**Organ Pipe Nat**	**13.05**	**345**	Pn	**Pn**	**21 40 46.2**	**-1.0**
DUN6	**Lazy B Ranch**	**13.19**	**360**	Pn	**Pn**	**21 40 48.5**	**-0.6**
121A	**Cookes Peak, D**	**13.21**	**4**	Pn	**Pn**	**21 40 48.7**	**-0.8**
HNDO	**Hondo**	**13.46**	**39**	Pn	**Pn**	**21 40 53.4**	**+0.6**
CMIG	**Matias Romero**	**13.58**	**97**	LR	LR	21 45 48.7	
	comp=Z,127nm,21.6s,baz=290,slow=36						
JCT	**Junction City**	**13.88**	**35**	Pn	**Pn**	**21 40 58.9**	**+0.3**
113A	**Mohawk Valley,**	**14.07**	**343**	Pn	**Pn**	**21 41 00.7**	**-0.3**
YUH	**Yuha Desert**	**14.66**	**336**	Pn	**Pn**	**21 41 08.8**	**-0.5**
Y14A	**Wickenburg**	**15.00**	**347**	Pn	**Pn**	**21 41 14.4**	**+0.5**
X18A	**Snowflake**	**15.18**	**357**	Pn	**P**	**21 41 17.2**	**-4.3**
X16A	**Lo Mia Camp, P**	**15.20**	**352**	Pn	**Pn**	**21 41 17.2**	**+0.6**
BLYC	**Blythe**	**15.21**	**342**	Pn	**Pn**	**21 41 17.6**	**+1.1**
ANMO	**Albuquerque**	**15.73**	**8**	Pn	**P**	**21 41 24.1**	**-3.6**
ANMO				IAmb	IAmb	21 41 33.3	
	comp=Z,8.4nm,1.2s						
ANMO	**Albuquerque**	**15.73**	**8**	Pn	**Pn**	**21 41 23.0**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=203,slow=15,SNR=3.4						
ANMO				LR	LR	21 46 22.5	
	comp=Z,176nm,21.8s,baz=281,slow=33 comp=Z,0.4nm,0.4s						
ELS	**Elsinore Mount**	**16.14**	**334**	Pn	**Pn**	**21 41 28.6**	**-0.2**
ELS				IAmb	IAmb	21 41 35.2	
	comp=Z,14nm,1.4s						
WUAZ	**Wupatki**	**16.28**	**353**	Pn	**Pn**	**21 41 30.0**	**-0.6**
PLPT	**Palo Pinto**	**16.49**	**33**	Pn	**P**	**21 41 34.0**	**-1.8**
PLPT				IAmb	IAmb	21 41 40.4	
	comp=Z,13nm,1.1s						
V12A	**Nelson**	**17.15**	**344**		**P**	**21 41 42.9**	**-0.4**
U15A	**North Rim**	**17.30**	**351**	IAmb	IAmb	21 41 52.9	
	comp=Z,15nm,1.3s						
GSC	**Goldstone, Bar**	**17.36**	**338**	Pn	**P**	**21 41 45.0**	**-0.6**
WTNK	**Soaring Height**	**17.63**	**344**	Pn	**P**	**21 41 48.0**	**-0.5**
MVCO	**Mesa Verde**	**17.84**	**1**		**P**	**21 41 50.6**	**-0.3**
MVCO				IAmb	IAmb	21 41 54.9	
	comp=Z,12nm,1.1s						
LCMT	**Little Creek M**	**18.02**	**349**	IAmb	IAmb	21 41 56.0	
	comp=Z,11nm,1.2s						
BCW	**Bitter Crk WRg**	**18.10**	**331**		**P**	**21 41 53.9**	**+0.1**
BCW				IAmb	IAmb	21 42 07.4	
	comp=Z,16nm,1.0s						
S22A	**4UR Ranch, Cre**	**18.46**	**5**		**P**	**21 41 57.1**	**-0.8**
CCUT	**Cedar City**	**18.57**	**349**		**Pn**	**21 42 00.9**	**+1.7**
CCUT				IAmb	IAmb	21 42 03.4	
	comp=Z,16nm,1.3s						
WCT	**Wildcat Mounta**	**18.66**	**340**		**Pn**	**21 42 01.4**	**+1.2**
PRN	**Pahroc Range**	**18.79**	**345**		**Pn**	**21 42 03.0**	**+1.2**
MTPU	**Mount Pierson**	**18.87**	**352**	IAmb	IAmb	21 42 06.0	
	comp=Z,9.1nm,1.1s						
GMN	**Gold Mountain**	**19.33**	**340**	P	**Pn**	**21 42 07.4**	**-1.0**
TCRU	**Three Creeks R**	**19.46**	**352**	IAmb	IAmb	21 42 24.4	
	comp=Z,17nm,1.3s						
TEIG	**Tepich**	**19.51**	**84**	LR	LR	21 49 53.5	
	comp=Z,1μm,19.9s,baz=12,slow=38						
MZP	**Montezuma Peak**	**19.73**	**340**	P	**Pn**	**21 42 13.1**	**-0.2**
SMCO	**Snowmass**	**19.87**	**5**	P	**Pn**	**21 42 14.0**	**-1.1**
SMCO				IAmb	IAmb	21 42 21.1	
	comp=Z,15nm,1.2s						
P17A	**Butcher Ranch,**	**20.15**	**356**	P	Pn	21 42 17.0	-1.1
SPR3	**Spring Creek 3**	**20.16**	**348**	P	**P**	**21 42 15.9**	**-0.6**
MDPB	**Devils Postpil**	**20.27**	**336**	P	Pn	21 42 19.1	-0.6
MDPB				IAmb	IAmb	21 42 25.3	
	comp=Z,8.8nm,1.2s						
P18A	**Preston Nutter**	**20.27**	**357**	IAmb	IAmb	21 42 20.3	
	comp=Z,12nm,1.2s						
Q12A	**Willow Creek R**	**20.30**	**347**	P	Pn	21 42 17.9	-2.0
ISCO	**Idaho Springs**	**20.62**	**7**	P	Pn	21 42 22.1	-1.7
NV11	**Mina Array Sit**	**20.65**	**339**	IAmb	IAmb	21 42 27.7	
	comp=Z,10nm,1.1s						
NVAR	**Mina Array Bea**	**20.70**	**339**	P	Pn	21 42 23.9	-0.7
NVAR	**Mina Array Bea**	**20.70**	**339**	P	Pn	21 42 23.4	-1.2
	comp=Z,5.0nm,1.0s,baz=160,slow=12,SNR=22						
NVAR				LR	LR	21 49 26.0	
	comp=Z,148nm,20.3s,baz=149,slow=34 comp=Z,5.0nm,1.0s						
O20A	**White River Ci**	**20.76**	**2**	P	Pn	21 42 23.1	-2.1
DUG	**Dugway, Tooele**	**21.07**	**352**	P	**P**	**21 42 26.6**	**+0.4**
DUG				IAmb	IAmb	21 42 35.5	
	comp=Z,14nm,1.2s						
CMB	**Columbia Colle**	**21.13**	**334**	IAmb	IAmb	21 42 34.3	
	comp=Z,9.2nm,1.4s						
WAKR	**Walker**	**21.17**	**337**	IAmb	IAmb	21 42 30.5	
	comp=Z,8.2nm,1.2s						
RDMU	**Red Mountain**	**21.19**	**359**	P	**P**	**21 42 28.2**	**+0.6**
RDMU				IAmb	IAmb	21 42 33.6	
	comp=Z,14nm,1.1s						
KVN	**Kaiserville**	**21.19**	**340**	IAmb	IAmb	21 42 36.3	
	comp=Z,6.1nm,1.1s						
BSUT	**Blindstream Ca**	**21.21**	**356**	IAmb	IAmb	21 42 32.9	
	comp=Z,9.3nm,1.2s						
YERR	**Yerington**	**21.52**	**338**	P	**P**	**21 42 32.5**	**+1.3**
YERR				IAmb	IAmb	21 42 38.3	
	comp=Z,9.2nm,1.0s						
PNTR	**Pine Nut**	**21.75**	**337**	P	**P**	**21 42 34.9**	**+1.3**
PNTR				IAmb	IAmb	21 42 40.3	
	comp=Z,8.6nm,0.9s						
BGU	**Big Grassy Mou**	**21.82**	**352**	P	**P**	**21 42 34.9**	**+0.6**
BGU				IAmb	IAmb	21 43 06.1	
	comp=Z,7.9nm,1.5s						
EMB	**Emerald Bay**	**21.83**	**336**	IAmb	IAmb	21 42 43.2	
	comp=Z,13nm,1.2s						
ELK	**Elko**	**22.02**	**347**	P	**P**	**21 42 37.3**	**+0.8**
ELK				IAmb	IAmb	21 42 50.9	
	comp=Z,7.8nm,1.3s						
ELK	**Elko**	**22.02**	**347**	LR	LR	21 51 08.8	
	comp=Z,90nm,18.7s,baz=122,slow=37						
SPUT	**South Promonto**	**22.12**	**353**	P	**P**	**21 42 38.6**	**+1.1**
SPUT				IAmb	IAmb	21 42 41.5	
	comp=Z,6.2nm,1.0s						
ORV	**Oroville**	**22.88**	**334**	P	**P**	**21 42 47.8**	**+2.4**
ORV				IAmb	IAmb	21 42 51.6	
	comp=Z,4.5nm,1.1s						
PDAR	**Pinedale Array**	**23.39**	**359**	P	**P**	**21 42 50.6**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=161,slow=10,SNR=8.6						
PDAR				LR	LR	21 50 54.6	
	comp=Z,65nm,21.2s,baz=180,slow=34 comp=Z,0.8nm,0.8s						
250A	**Grady**	**23.99**	**54**	P	**P**	**21 42 57.2**	**+0.7**
MOOW	**Moose Ponds**	**24.41**	**357**	IAmb	IAmb	21 43 08.4	
	comp=Z,8.8nm,1.4s						
IMW	**Indian Meadow**	**24.57**	**357**	IAmb	IAmb	21 43 04.0	
	comp=Z,6.6nm,1.4s						
YBH	**Yreka Blue Hor**	**25.22**	**335**	LR	LR	21 52 05.5	
	comp=Z,84nm,18.4s,baz=176,slow=34						
LYMT	**Lyon Mountain**	**27.72**	**355**	P	**P**	**21 43 30.5**	**+0.1**
CHMT	**Chamberlain Mo**	**27.75**	**354**	P	**P**	**21 43 30.6**	**-0.1**
OVMT	**Ovando**	**27.87**	**354**	P	**P**	**21 43 31.0**	**-0.7**
NEW	**Newport**	**29.62**	**349**	LR	LR	21 55 29.7	
	comp=Z,58nm,18.2s,baz=168,slow=36						
GTBY	**Guantanamo Bay**	**31.88**	**83**	P	P	21 44 12.8	+5.5
ULM	**Lac du Bonnet**	**32.59**	**16**	LR	LR	21 56 55.4	
	comp=Z,86nm,19.4s,baz=43,slow=36						
OTAV	**Otavalo**	**35.43**	**119**	P	P	21 44 45.9	+7.1
SADO	**Sadowa**	**35.48**	**38**	LR	LR	21 59 29.0	
	comp=Z,76nm,18.2s,baz=112,slow=37						
PULU	**Pululahua**	**35.51**	**119**	P	P	21 44 46.1	+6.7
TULM	**Tulcn-Chalpat**	**35.72**	**117**	P	P	21 44 47.1	+5.8
BBB	**Bella Bella**	**36.06**	**340**	LR	LR	21 58 49.4	
	comp=Z,91nm,19.8s,baz=165,slow=35						
SDV	**Santo Domingo**	**38.52**	**100**	LR	LR	22 01 31.0	
	comp=Z,51nm,18.7s,baz=16,slow=37						
ATAH	**Atahualpa**	**39.98**	**128**	LR	LR	21 57 59.7	
	comp=Z,31nm,19.2s,baz=344,slow=31						
FCC	**Fort Churchill**	**40.87**	**12**	P	**P**	**21 45 23.9**	**+0.4**
TAOE	**Nuku Hiva Isla**	**41.56**	**230**	eLR	LR	21 56 53.4	
	comp=Z,178nm,24.8s						
DLBC	**Dease Lake**	**41.99**	**344**	LR	LR	22 03 52.7	
	comp=Z,138nm,18.6s,baz=202,slow=38						
YKA	**Yellowknife Ar**	**43.32**	**356**	P	**P**	**21 45 43.1**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=173,slow=8.3,SNR=7.4						
YKA				LR	LR	22 04 10.4	
	comp=Z,72nm,20.7s,baz=276,slow=37 comp=Z,0.4nm,0.8s						
NNA	**Nana**	**44.39**	**132**	LR	LR	22 00 43.8	
	comp=Z,50nm,18.5s,baz=346,slow=31						
RPN	**Rapa Nui**	**46.17**	**180**	LR	LR	22 00 39.4	
	comp=Z,64nm,21.7s,baz=58,slow=30						
ETMB	**Extrema**	**51.13**	**121**	P	P	21 46 48.5	+3.4
ETMB				IAmb	IAmb	21 46 51.8	
	comp=Z,2.3nm,0.9s						
INK	**Inuvik**	**51.35**	**349**	LR	LR	22 10 33.5	
	comp=Z,45nm,18.8s,baz=176,slow=38						
ILAR	**Eielson Array**	**51.95**	**340**	P	**P**	**21 46 50.9**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=142,slow=6.9,SNR=5.1						
ILAR				LR	LR	22 10 35.6	
	comp=Z,28nm,19.6s,baz=213,slow=38 comp=Z,0.4nm,0.8s						
TRF	**Thorofare Moun**	**52.23**	**338**	P	**P**	**21 46 55.2**	**+2.4**
L18K	**Granite Mounta**	**53.97**	**335**	P	**P**	**21 47 08.1**	**+2.6**
J20K	**Nowinta River**	**54.04**	**337**	P	**P**	**21 47 09.2**	**+3.2**
PPT	**Papeete**	**54.17**	**230**	LR	LR	22 05 32.0	
	comp=Z,41nm,18.9s,baz=42,slow=31						
PPT2	**Papeete2**	**54.18**	**230**	eLR	LR	22 02 43.6	
	comp=Z,88nm,27.0s						
PPT2				*e*LR	LR	22 02 52.8	
	comp=Z,66nm,31.8s						
RES	**Resolute Bay**	**55.92**	**4**	LR	LR	22 11 57.1	
	comp=Z,47nm,21.8s,baz=346,slow=37						
MDP	**Montagnes des**	**56.60**	**97**	LR	LR	22 12 23.6	
	comp=Z,30nm,20.1s,baz=262,slow=37						
H03N2	**Juan Fernandez**	**59.79**	**151**	T	T	22 53 11.8	
	baz=329,slow=78,SNR=5.9						
H03N1	**Juan Fernandez**	**59.80**	**151**	T	T	22 53 18.7	
	baz=329,slow=78,SNR=10						
H03N3	**Juan Fernandez**	**59.80**	**151**	T	T	22 53 12.5	
	baz=329,slow=78,SNR=8.0						
SFJD	**Kangerlussuaq**	**60.20**	**23**	LR	LR	22 16 02.2	
	comp=Z,52nm,20.4s,baz=209,slow=38						
RAR	**Rarotonga**	**63.98**	**234**	LR	LR	22 10 04.1	
	comp=Z,71nm,20.9s,baz=86,slow=30						
PLCA	**Paso Flores**	**69.60**	**150**	LR	LR	22 12 04.6	
	comp=Z,52nm,19.3s,baz=341,slow=30						
NOA	**NORSAR Array B**	**86.79**	**25**	LR	LR	22 29 09.8	
	comp=Z,21nm,18.1s,baz=300,slow=36						
DZM	**Mont Dzumac**	**92.29**	**248**	eLR	LR	22 20 29.9	
	comp=Z,132nm,27.0s						

*ISK **25** 22:03:58.5, 38°.82N×26°.47E, h10km, ML2.9/26*
*THE **25** 22:03:58.9, 38°.82N×26°.46E, h5km±1km, ML2.5/7, Error ellipse: s-maj=1.1km s-min=0.4km az=277.0*
*AFAD **25** 22:03:58.6±0.0, 38°.83N×26°.45E, h7km, 2km, ML2.6*
ISC 25 22:03:58.9±0.8, 38°.82N±0°.02×26°.45E±0°.02, h14km±6km, n53, σ0§61/76, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.15**	**192**	P	**Pg**	**22 04 03.0**	**+0.3**
KARB				S	**Sg**	**22 04 05.5**	**+0.2**
FOCM	**Foa**	**0.24**	**115**	Pg	**Pg**	**22 04 03.7**	**-0.4**
FOCM				Sg	**Sg**	**22 04 07.6**	**0.0**
LESV	**Lesvos island,**	**0.30**	**16**	P	**Pg**	**22 04 05.0**	**-0.2**
LESV				S	**Sg**	**22 04 09.4**	**-0.1**
	7μm,0.6s						
CAND	**Candarli**	**0.31**	**63**	Pg	**Pg**	**22 04 04.9**	**-0.4**
RFT7	**Candarli**	**0.39**	**69**	Pg	**Pg**	**22 04 06.5**	**-0.3**
RFT7				Sg	**Sg**	**22 04 12.2**	**+0.1**
DKL	**Dikili**	**0.44**	**54**	Pg	**Pg**	**22 04 07.3**	**-0.3**
DKL				Sg	**Sg**	**22 04 13.7**	**+0.2**
PRK	**Paraskevi**	**0.45**	**342**	P	**Pg**	**22 04 07.9**	**0.0**
PRK				S	**Sg**	**22 04 14.4**	**+0.3**
	700nm,0.3s						
CESE	**eme**	**0.50**	**194**	Pg	**Pg**	**22 04 08.9**	**+0.1**
ZEDA	**zmir-Bergama**	**0.51**	**73**	P	**Pg**	**22 04 08.6**	**-0.4**
ZEDA				S	**Sg**	**22 04 16.0**	**+0.2**
AYVA	**Ayvalik**	**0.53**	**20**	P	**Pg**	**22 04 09.0**	**-0.3**
AYVA				S	**Sg**	**22 04 14.7**	**-1.7**
AYVA				*i* AML	AML	22 04 17.0	
	comp=N,338nm,0.2s						
CHOS	**Chios island**	**0.53**	**216**	P	**Pb**	**22 04 09.8**	**-0.3**
CHOS				S	**Sg**	**22 04 16.7**	**+0.3**
	980nm,0.2s						
ZEYE	**Izmir, Urla-Ze**	**0.58**	**176**	P	**Pg**	**22 04 10.1**	**-0.2**
ZEYE				S	**Sb**	**22 04 19.4**	**+0.5**
ZEYE				*i* AML	AML	22 04 22.0	
	comp=N,452nm,0.5s						
ZEYE				*i* AML	AML	22 04 22.0	
	comp=E,314nm,0.2s						
SIGR	**SIGRI**	**0.61**	**311**	Pg	**Pb**	**22 04 10.9**	**-0.5**
SIGR	**SIGRI**	**0.61**	**311**	P	**Pb**	**22 04 11.0**	**-0.5**
SIGR				S	**

SURC				S	Sg	22 05 20.4	+0.7		
NARI	**Adyaman-Kaht**	**0.59**	**10**	P	Pg	22 05 17.5	+0.2		
NARI				S	Sn	22 05 30.0	-0.6		
NZIP	**Nizip/Gaziante**	**0.81**	**252**	P	Pb	22 05 21.6	-0.6		
NZIP				S	Sb	22 05 32.4	-1.0		
GZT	**Gaziantep**	**0.85**	**274**	P	Pg	22 05 22.2	-0.1		
AKCA	**Adyaman/G¶l**	**0.90**	**303**	P	Pg	22 05 22.9	-0.3		
AKCA				S	Sg	22 05 34.0	-0.8		
MAYA	**Malatya/Merkez**	**1.03**	**351**	P	Pn	22 05 26.6	-0.2		
MAYA				S	Sg	22 05 27.2	-12		
AKCD	**Akcadag**	**1.14**	**331**	P	Pb	22 05 27.7	-0.2		
AKCD				S	Sg	22 05 29.3	-13		
GAZ	**Gaziantep**	**1.14**	**264**	Pn	Pb	22 05 27.6	-0.3		
GAZ				Sn	Sn	22 05 45.7	+1.5		
KHMN	**Narli-Kahraman**	**1.18**	**275**	Pn	Pb	22 05 29.2	+0.4		
KHMN				Sn	Sn	22 05 46.7	+1.7		
DYBB	**Diyarbakir**	**1.36**	**61**	Pn	Pg	22 05 32.7	+0.7		
KMRS	**Kahramanmaras**	**1.39**	**279**	Pn	Pb	22 05 32.1	-0.1		
MAZI	**Mazidag**	**1.46**	**83**	Pn	Pg	22 05 33.9	+0.1		
DARE	**Darende-Malaty**	**1.56**	**325**	Pn	Pg	22 05 35.6	-0.2		
DARE				Sn	Sg	22 05 57.4	+1.4		
PTK	**Pertek**	**1.70**	**21**	Pn	Pb	22 05 37.6	+0.1		
ARPR	**Arapgir-MALATY**	**1.80**	**353**	Pn	Pb	22 05 38.9	-0.4		
SARI	**SarD1z-Kayseri**	**2.07**	**303**	Pn	Pb	22 05 42.4	-1.4		
TAHT	**Tahtakopru-Hat**	**2.17**	**245**	Pn	Pb	22 05 44.7	-0.7		
SVAN	**Silvan-Diyarba**	**2.21**	**67**	Pn	Pb	22 05 44.7	-1.4		
KOZT	**Kozan**	**2.24**	**275**	Pn	Pb	22 05 45.8	-0.9		

TRN 25 22:08:54.2, 11°.91N×61°.86W, h101km, MD3.5, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRGR	**Grenville**	**0.30**	**42**	*e*P	Pn	22 09 10.0	+0.9
GRGR				*e*S	Sn	22 09 22.5	+2.4
GRHS	**Sauteurs**	**0.38**	**34**	*e*P	Pn	22 09 09.8	+0.3
GRHS				*e*S	Sn	22 09 21.8	+1.0
GCMP	**Grenada, Carri**	**0.72**	**36**	*e*P	Pn	22 09 12.6	+0.6
GCMP				*e*S	Sn	22 09 26.7	+1.5
TRN	**Trinidad (W)**	**1.33**	**160**	*e*P	Pn	22 09 19.8	+1.3
TRN				*e*S	Sn	22 09 38.6	+1.7
SVB	**Belmont**	**1.48**	**24**	*e*P	Pn	22 09 21.8	+1.4
SVB				*e*S	Sn	22 09 41.4	+1.2
TBH	**Brigand Hill**	**1.61**	**151**	*e*S	Sn	22 09 43.3	+0.2
BBGH	**Gun Hill**	**2.56**	**61**	*e*P	Pn	22 09 35.8	+1.5
BBGH				*e*S	Sn	22 10 06.0	+1.0
BAUV	**El Baul**	**6.75**	**245**	*e*P	Pn	22 10 32.2	+1.4

IDC ***25*** *22:20:10.5±1.5, 27°.79N×54°.23E, h0km, mb3.8/9, mbtmp3.8/10, ML3.0/1, MS3.3/3, Error ellipse: s-maj=36.2km s-min=27.3km az=68.0*
TEH ***25*** *22:20:12.4, 27°.76N×54°.39E, h12km±16km, ML3.5*
OMAN ***25*** *22:20:14.6±1.0, 27°.60N×54°.33E, h5km, mb4.6/4, ml3.1/9, Error ellipse: s-maj=11.0km s-min=3.9km az=2.0*
DSN ***25*** *22:20:16.9±1.6, 27°.25N×53°.93E, h10km, ML3.0/7, Error ellipse: s-maj=21.1km s-min=15.3km az=44.0*
ISC 25 22:20:12.8±0.6, 27.79N±0°.04×54°.35E±0°.04, h17km, n79, σ1§57/85, mb3.9/15, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.12**	**171**	Pg	Pg	22 20 15.2	-1.5
LAR1				Sg	Sg	22 20 17.8	-1.4
JHRM	**Jahrom**	**0.99**	**316**	Pg	Pn	22 20 32.5	+0.5
LMD1	**Lamerd**	**1.15**	**247**	Pg	Pn	22 20 34.6	+0.5
QIR1	**Qir**	**1.34**	**301**	Pg	Pb	22 20 38.3	+0.7
GENO	**Geno**	**1.66**	**103**	Pg	Pn	22 20 42.2	+0.9
IBND	**Bandar-abas**	**1.97**	**99**	Pn	Pn	22 20 47.3	+1.9
SHME	**Shamm**	**2.35**	**137**	P	Pb	22 20 55.8	+1.0
SHME	**Shamm**	**2.35**	**137**	Pn	Pn	22 20 51.4	+0.7
SHI	**Shiraz**	**2.45**	**319**	Pn	Pn	22 20 53.8	+1.5
BANOM	**Banah**	**2.54**	**136**	Pn	Pn	22 20 55.0	+1.6
ESRB	**Sir Abu**	**2.56**	**182**	Pn	Pn	22 20 55.0	+1.5
MASF	**Masafi**	**2.90**	**146**	P	Pn	22 21 00.1	+1.8
MASF				S	Sn	22 21 33.2	+0.4
MSFE	**Esma-Masafi**	**2.91**	**146**	P	Pn	22 21 00.3	+1.9
MSFE	**Esma-Masafi**	**2.91**	**146**	Pn	Pn	22 21 00.7	+2.3
KHNJ	**Kahnooj**	**2.97**	**86**	Pn	Pn	22 21 00.7	+1.5
NAZ	**Nazwa, Dubai**	**3.03**	**157**	P	Pn	22 21 02.6	+2.6
NAZ	**Nazwa, Dubai**	**3.03**	**157**	Pn	Pn	22 21 02.7	+2.8
JRN	**Qarnain Island**	**3.14**	**206**	Pn	Pn	22 21 01.8	+0.3
KHGB	**Koh Gabri**	**3.18**	**35**	Pn	Pn	22 21 04.4	+2.1
FAQ	**Al Faqa, Dubai**	**3.23**	**160**	P	Pn	22 21 04.2	+1.5
FAQ	**Al Faqa, Dubai**	**3.23**	**160**	P	Pn	22 21 05.1	+2.3
FAQ	**Al Faqa, Dubai**	**3.23**	**160**	Pn	Pn	22 21 05.1	+2.3
AJN	**Ajban**	**3.26**	**170**	P	Pn	22 21 01.5	-1.7
AJN	**Ajban**	**3.26**	**170**	P	Pn	22 21 05.6	+2.4
AJN	**Ajban**	**3.26**	**170**	Pn	Pn	22 21 04.2	+1.0
ASUD	**Al Ashush, Dub**	**3.27**	**164**	P	Pn	22 21 04.6	+1.3
ASUD	**Al Ashush, Dub** SNR=19	**3.27**	**164**	P	Pn	22 21 06.0	+2.7
UOSS	**Minazif**	**3.28**	**149**	P	Pn	22 21 05.1	+1.6
UOSS	**Minazif**	**3.28**	**149**	Pn	Pn	22 21 05.0	+1.5
HATD	**Hatta, Dubai**	**3.35**	**151**	P	Pn	22 21 06.2	+1.7
HATD				S	Sn	22 21 44.8	+0.8
HATD	**Hatta, Dubai** SNR=5.5	**3.35**	**151**	P	Pn	22 21 06.9	+2.4
HATD				S	Sn	22 21 45.9	+1.9
ASHO	**Ashiyiah**	**3.45**	**153**	P	Pn	22 21 07.0	+1.2
ASHO	**Ashiyiah** SNR=8.9	**3.45**	**153**	P	Pn	22 21 07.7	+1.9
SHMA	**Al-Shehemyia** SNR=25	**3.59**	**238**	P	Pn	22 21 09.8	+2.2
SHMA	SNR=7.6			S	Sn	22 21 52.1	+2.4
IMEH	**Mehriz**	**3.60**	**4**	Pn	Pn	22 21 10.5	+2.5
KBAM	**BAM**	**3.85**	**69**	Pn	Pn	22 21 12.1	+0.8
SAKB	**Bahrain**	**3.86**	**243**	P	Pn	22 21 13.6	+2.3
SAKB				S	Sn	22 21 58.5	+2.2
SAKB	**Bahrain**	**3.86**	**243**	Pn	Pn	22 21 11.9	+0.6
ALNE	**Al Ain** SNR=6.2	**3.92**	**161**	P	Pn	22 21 14.3	+2.0
SOHO	**SOHO**	**4.13**	**151**	P	Pn	22 21 17.7	+2.5
TRNA	**Turayna**	**4.15**	**224**	S	Sn	22 22 04.7	+1.3
IRAM	**Rameshed**	**4.36**	**337**	Pn	Pn	22 21 20.5	+2.0
SMRA	**Abu-Samra**	**4.38**	**227**	P	Pn	22 21 20.4	+1.8
SMRA				S	Sn	22 22 10.5	+1.2
IGAR	**Gharneh**	**5.02**	**337**	Pn	Pn	22 21 29.7	+2.1
IZEF	**Zefreh**	**5.38**	**342**	Pn	Pn	22 21 33.5	+0.9
SMDO	**Samad**	**5.77**	**144**	P	Pn	22 21 39.5	+1.6
CHBR	**Chabahar**	**5.90**	**110**	Pn	Pn	22 21 40.5	+1.1
WSAR	**Wadi Sarin**	**5.95**	**139**	P	Pn	22 21 41.5	+1.3
WSAR	**Wadi Sarin** 0.4nm,0.3s,baz=294,slow=7.9,SNR=9.3	**5.95**	**139**	Pn	Pn	22 21 41.5	+1.3
WSAR	0.5nm,0.3s,baz=157,slow=17,SNR=1.6 2.7nm,0.6s			Sn	Sn	22 22 45.9	-2.2
IKLH	**Kolahrood**	**6.01**	**337**	Pn	Pn	22 21 42.7	+1.5
JMDO	**Jabal Madar** SNR=7.9	**6.38**	**147**	P	Pn	22 21 48.0	+1.9
QAMS	**Qamsar**	**6.45**	**337**	Pn	Pn	22 21 49.3	+2.1
TNSJ	**Nastanj**	**6.45**	**17**	Pn	Pn	22 21 48.7	+1.5
NGCH	**Negor - Chabah**	**6.54**	**110**	P	Pn	22 21 49.3	+1.1
WBK	**Wadi Bani Khal** SNR=5.3	**6.64**	**140**	P	Pn	22 21 50.4	+0.8
WBK	**Wadi Bani Khal**	**6.64**	**140**	Pn	Pn	22 21 50.2	+0.6
SRVN	**Saravan**	**7.15**	**91**	Pn	Pn	22 21 58.5	+1.8
JLN	**Jalan Bani Buh**	**7.25**	**140**	P	Pn	22 21 58.0	0.0
MHTO	**MHTO** SNR=15	**7.53**	**153**	P	Pn	22 22 02.5	+0.7
WHFO	**Wadi Hawf** SNR=11	**9.84**	**183**	P	Pn	22 22 34.0	+0.4
ABTO	**Aybut**	**10.43**	**186**	P	Pn	22 22 41.1	-0.7
EIL	**Eilat** comp=Z,25nm,19.1s,baz=85,slow=42	**17.12**	**281**	LR	LR	22 32 11.6	
BRTR	**Keskin Array B** 2.3nm,0.7s,baz=129,slow=13,SNR=17	**20.88**	**310**	P	P	22 24 54.8	+0.6
BRTR	comp=Z,40nm,20.0s,baz=304,slow=44 2.3nm,0.7s			LR	LR	22 35 16.0	
WTTA	**Wattenberg** 1.2nm,0.5s	**38.47**	**312**	*e*P	P	22 27 33.2	-0.8
WATA	**Walderalm** 0.5nm,0.4s	**38.53**	**312**	*i* P	P	22 27 33.6	-0.9
FINES	**FINESS Array B** 1.7nm,0.5s,baz=148,slow=8.6,SNR=14 1.7nm,0.5s	**38.59**	**339**	P	P	22 27 34.6	0.0
SQTA	**Sankt Quirin** 2.0nm,0.4s	**38.74**	**312**	*e*P	P	22 27 35.3	-1.0
MOTA	**Moosalm**	**38.84**	**312**	*i* P	P	22 27 35.8	-1.4
FETA	**Feichten** 0.5nm,0.3s	**39.01**	**311**	*i* P	P	22 27 37.5	-1.0
RETA	**Reutte** 0.1nm,0.1s	**39.10**	**312**	*i* P	P	22 27 38.2	-1.1
DAVA	**Damuels** 3.7nm,0.4s	**39.64**	**312**	*e*P	P	22 27 42.8	-1.0
HFS	**Hagfors** 0.8nm,0.4s,baz=120,slow=8.8,SNR=6.3 0.8nm,0.4s	**42.45**	**331**	P	P	22 28 06.1	-0.4
NOA	**NORSAR Array B** 0.4nm,0.6s,baz=121,slow=7.5,SNR=1.8 0.4nm,0.6s	**43.96**	**331**	P	P	22 28 17.9	-1.0
ESDC	**Sonseca Array** 0.4nm,0.5s,baz=77,slow=7.1,SNR=8.0 0.8nm,0.5s	**49.15**	**300**	P	P	22 28 59.5	-0.4
EKA	**Eskdalemuir Ar** 1.4nm,0.8s,baz=97,slow=7.4,SNR=4.0 1.4nm,0.8s	**49.27**	**321**	P	P	22 28 59.9	-0.6
TORD	**Torodi Ar. Bea** 1.9nm,0.7s,baz=57,slow=8.1,SNR=15 1.9nm,0.7s	**51.08**	**265**	P	P	22 29 13.9	-0.7
DBIC	**Dimbokro** 0.9nm,0.5s,baz=41,slow=11,SNR=1.9 0.9nm,0.5s	**59.73**	**261**	P	P	22 30 16.6	-0.4
JHJ	**Hachijo jima 2** comp=Z,126nm,18.3s,baz=25,slow=39	**71.85**	**62**	LR	LR	23 06 56.5	
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=2.7,slow=5.3,SNR=3.6 0.2nm,0.6s	**89.60**	**355**	P	P	22 33 09.9	+0.7

IDC ***25*** *22:23:33.2±0.7, 37°.28N×142°.28E, h0km, mb4.3/22, mbtmp4.3/28, ML3.7/6, MS3.6/33, Error ellipse: s-maj=16.7km s-min=14.1km az=110.0*
JMA ***25*** *22:23:35.0±0.2, 37°.3N±0°.5×142°.2E±0°.9, h31km±3km, MD4.4/40, MV4.7/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
NIED ***25*** *22:23:35.0, 37°.33N×142°.20E, h31km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.25; Mθθ-0.33; Mφφ-1.92; Mrθ0.39; Mrφ-0.66; Mθφ1.66; Fault plane solution: Mo2.79000×10¹⁵ NP1:φs16.00000°, δ64.00000°, λ87.00000°. NP2:φs203.00000°, δ26.00000°, λ97.00000°.*
MOS ***25*** *22:23:36.3±1.1, 37°.41N×142°.12E, h26km, mb4.8/39 Error ellipse: s-maj=9.0km s-min=5.2km az=121.8*
BJI ***25*** *22:23:36.8, 37°.31N×141°.98E, h27km, mb4.7/58, mB5.1/23, Ms4.4/21, Ms7 4.2/20*
NEIC ***25*** *22:23:39.6±1.6, 37°.38N±0°.06×142°.11E±0°.09, h36km±7km, mb4.5/104, Error ellipse: s-maj=11.2km s-min=8.7km az=116.0*
ISC 25 22:23:37.3±0.8, 37°.37N±0°.05×142°.14E±0°.05, h24km±4km, n358, σ1§17/336, mb4.6/121, MS3.7/37, 16C-3D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.01**	**270**	P	Pn	22 23 54.0	-2.0
JFK				*e*S	Sb	22 24 07.2	-1.8
JFK	**Kawauchi** comp=E,8.0nm,1.2s,comp=N,11nm,0.3s	**1.01**	**270**	A	A	22 23 54.0	
JMST	**Minamisoumatoc**	**1.06**	**290**	P	Pn	22 23 54.7	-1.9
JMST				S	Sn	22 24 08.8	-1.8
JMST	**Minamisoumatoc** comp=E,13nm,0.9s,comp=N,7.0nm,0.7s	**1.06**	**290**	A	A	22 23 54.7	
JIKH	**Ishinomakibobu**	**1.08**	**331**	P	Pn	22 23 55.1	-1.9
JIKH				*e*S	Sn	22 24 09.2	-2.0
ONAJ	**Iwakimizuishiy**	**1.10**	**257**	P	Pn	22 23 54.9	-2.4
ONAJ	**Iwakimizuishiy** comp=E,11nm,2.4s,comp=N,10.0nm,0.4s	**1.10**	**257**	A	A	22 23 54.9	
JMM	**Marumori**	**1.18**	**295**	Pn	Pn	22 23 56.3	-2.0
JMM	**Marumori**	**1.18**	**295**	*i* P	Pn	22 23 56.7	-1.6
JMM				*e*S	Sn	22 24 12.6	-1.0
JMM	**Marumori** comp=E,7.0nm,3.6s,comp=N,7.0nm,0.4s	**1.18**	**295**	A	A	22 23 56.7	
JIO	**Ouri**	**1.25**	**330**	*i* P	Pn	22 23 57.8	-1.5
JOTO	**OTAMA OYAMA**	**1.45**	**278**	*i* P	Pn	22 24 01.5	-0.6
JOTO				S	Sn	22 24 20.2	-0.2
JOTO	**OTAMA OYAMA** comp=E,20nm,0.5s,comp=N,17nm,0.4s	**1.45**	**278**	A	A	22 24 01.5	
JKMT	**Kesennumamotoy** comp=E,6.0nm,4.7s,comp=N,6.0nm,1.3s	**1.54**	**340**	A	A	22 24 01.9	
JOU	**Okura**	**1.54**	**311**	*i* P	Pn	22 24 02.6	-0.6
JOU				*e*S	Sn	22 24 22.3	-0.1
JOU	**Okura** comp=E,17nm,0.7s,comp=N,21nm,1.7s	**1.54**	**311**	A	A	22 24 02.6	
JOFO	**Osakifurukawao** comp=E,40nm,1.5s,comp=N,41nm,2.8s	**1.57**	**322**	A	A	22 24 02.5	
JYAR	**Yonezawaarcadi** comp=E,19nm,1.3s,comp=N,26nm,1.2s	**1.68**	**290**	A	A	22 24 04.0	
JMK	**Ichinoseki**	**1.74**	**336**	*i* P	Pn	22 24 05.1	-0.9
JMK				*e*S	Sn	22 24 27.1	-0.3
JMK	**Ichinoseki** comp=E,6.0nm,2.1s,comp=N,5.0nm,1.9s	**1.74**	**336**	A	A	22 24 05.1	
JSB	**Shiboa** comp=E,22nm,1.5s,comp=N,13nm,1.0s	**1.82**	**258**	A	A	22 24 05.8	
JYS	**Shirataka**	**1.85**	**298**	P	Pn	22 24 08.0	+0.5
JYS				S	Sn	22 24 32.4	+2.2
JYS	**Shirataka** comp=E,10.0nm,1.0s,comp=N,9.0nm,0.7s	**1.85**	**298**	A	A	22 24 08.0	
JFY	**Yanaizu**	**1.94**	**272**	*i* P	Pn	22 24 08.2	-0.5
JFY	**Yanaizu** comp=E,5.0nm,1.7s,comp=N,8.0nm,1.7s	**1.94**	**272**	A	A	22 24 08.2	
JYK	**Kaneyama**	**2.09**	**318**	P	Pn	22 24 09.8	-1.0
JOM	**Ohasama**	**2.21**	**343**	P	Pn	22 24 11.8	-0.6
JYA	**Atsumi**	**2.28**	**303**	P	Pn	22 24 13.4	0.0
JNS	**Sasagawa**	**2.29**	**282**	*e*P	Pn	22 24 13.6	+0.1
MJAR	**Matsushiro Arr** comp=N,3.6nm,0.3s,baz=89,slow=14,SNR=55	**3.26**	**257**	Pn	Pn	22 24 26.9	0.0
MJAR	comp=N,2.0nm,0.3s,baz=60,slow=18,SNR=6.1			Sn	Sn	22 25 08.2	+3.3
MJAR	comp=N,761nm,20.7s,baz=108,slow=42 comp=N,25nm,0.3s			LR	LR	22 25 52.2	
MAJO	**Matsushiro**	**3.26**	**257**	Pn	Pn	22 24 27.3	+0.4
MAJO	**Matsushiro**	**3.26**	**257**	*i* P	Pn	22 24 28.8	+1.9
MJB9	**Matsu-Tunnel**	**3.26**	**257**		Pn	22 24 28.2	+1.3
JTM	**Tenmabayashi**	**3.52**	**347**	Pn	Pn	22 24 30.6	+0.2
JSG	**Sagara**	**4.18**	**231**		Pn	22 24 40.5	+0.9
JHJ	**Hachijo jima 2** comp=N,25nm,0.3s,baz=60,slow=20,SNR=2.0	**4.66**	**205**	Pn	Pn	22 24 44.5	-1.6
JHJ	comp=N,23nm,0.3s,baz=94,slow=22,SNR=2.3 comp=N,69nm,0.3s			Sn	Sn	22 25 34.5	-4.9
ERM	**Erimo**	**4.71**	**9**	Pn	Pn	22 24 47.9	+1.1
ERM	**Erimo**	**4.71**	**9**	P	Pn	22 24 47.9	+1.1
ASAJ	**Asahikawa** comp=N,3.3nm,0.3s,baz=91,slow=30,SNR=1.8	**6.75**	**3**	Pn	Pn	22 25 16.2	+1.4
ASAJ	comp=N,2.1nm,0.3s,baz=137,slow=32,SNR=1.2			Sn	Sn	22 26 33.0	+2.1
ASAJ	comp=N,323nm,18.6s,baz=146,slow=42 comp=N,7.2nm,0.3s			LR	LR	22 28 22.2	
JKA	**Kamikawa-asahi**	**6.75**	**3**	Pn	Pn	22 25 15.3	+0.5
SHO	**Shikotan**	**7.41**	**27**	*e*P	Pn	22 25 19.2	-4.6
JMN	**Monobe**	**7.65**	**244**	Pn	Pn	22 25 29.3	+2.1
YSS	**Yuzh-Sakhalins** comp=Z,60nm,1.1s	**9.59**	**3**	*e*P	Pn	22 25 51.4	-2.4
YSS				pmax	pmax		
JNU	**Nakatsue**	**10.14**	**249**		Pn	22 26 03.7	+2.3
JNU	**Nakatsue** comp=Z,0.5nm,0.3s,baz=148,slow=3.9,SNR=6.4 comp=Z,33nm,1.0s	**10.14**	**249**	Pn	Pn	22 26 02.9	+1.6
USA0B	**Ussuriysk Arra**	**10.28**	**315**	Pn	Pn	22 26 04.8	+1.6
USA0B	**Ussuriysk Arra**	**10.28**	**315**	P	Pn	22 26 04.8	+1.6
USRK	**Ussuriysk Ar.**	**10.28**	**315**	Pn	Pn	22 26 03.2	-0.1
USRK	**Ussuriysk Ar.**	**10.28**	**315**	P	Pn	22 26 03.2	-0.1
USRK	**Ussuriysk Ar.** comp=Z,0.7nm,0.3s,baz=131,slow=13,SNR=21	**10.28**	**315**	Pn	Pn	22 26 05.0	+1.8
USRK	comp=Z,333nm,19.5s,baz=139,slow=36 comp=Z,13nm,0.8s			LR	LR	22 29 48.8	
KSRS	**Korea Array** comp=Z,0.4nm,0.3s,baz=90,slow=13,SNR=20	**11.31**	**275**	Pn	Pn	22 26 21.4	+4.1
KSRS	comp=Z,344nm,19.3s,baz=85,slow=36			LR	LR	22 30 31.3	
KS19	**Wonju Array Si**	**11.35**	**275**		Pn	22 26 19.8	+1.8
MDJ	**Mudanjiang**	**11.92**	**311**	Pn	Pn	22 26 23.2	-2.5
MDJ	**Mudanjiang** comp=Z,18nm,1.9s	**11.92**	**311**	P	Pn	22 26 27.5	+1.8
MDJ	comp=Z,260nm,5.1s			pmax	pmax		
MDJ				pmax	pmax		
KLR	**Kul'dur**	**14.05**	**331**	*i* P	Pn	22 26 56.0	+1.3
KLR	**Kul'dur** comp=Z,0.1nm,0.3s,baz=141,slow=12,SNR=4.0	**14.05**	**331**	Pn	Pn	22 26 55.7	+1.0
KLR	comp=Z,306nm,18.2s,baz=147,slow=37 comp=Z,1.1nm,0.6s			LR	LR	22 32 19.8	
JOW	**Kunigami** comp=Z,95nm,21.9s,baz=234,slow=36	**15.74**	**232**	LR	LR	22 32 57.7	
HEH	**HeiHe**	**16.66**	**325**	*e*P	P	22 27 31.0	-0.2
HEH	comp=Z,8.0nm,0.8s			pmax	pmax		
ZEA	**Zeya**	**19.34**	**333**	*e*P	P	22 28 00.4	-0.4
ZEA	comp=N,20nm,0.7s			pmax	pmax		
ZEA	comp=E,10.0nm,0.7s			pmax	pmax		
ZEA	comp=Z,30nm,0.7s			pmax	pmax		
NJ2	**Nanjing**	**19.85**	**261**	*e*P	Pn	22 28 08.5	+0.4
NJ2				pP	sP	22 28 16.3	+0.3
NJ2	comp=Z,14nm,0.5s			pmax	pmax		
TIA	**Tai'an**	**20.06**	**274**	P	P	22 28 07.5	-1.2
TIA	comp=Z,19nm,1.2s			pmax	pmax		
TIA	comp=Z,350nm,5.3s			LR	LR		
TIA	comp=Z,440nm,6.2s			LR	LR		
TIA	comp=Z,470nm,11.8s			LR	LR		
BJI	**Beijing**	**20.42**	**286**	P	P	22 28 11.3	-1.3
BJI	comp=Z,6.0nm,0.9s			pmax	pmax		
BJT	**Baijiatuau**	**20.42**	**285**		P	22 28 10.4	-2.3
BJT	**Baijiatuau**	**20.42**	**285**	P	P	22 28 10.4	-2.3
BJT	comp=Z,8.0nm,0.8s			pmax	pmax		
XLT	**XiLinHaoTe**	**20.78**	**296**	*e*P	P	22 28 15.0	-1.6
XLT	comp=Z,30nm,1.1s			pmax	pmax		
XLT	comp=Z,560nm,5.9s			pmax	pmax		
HNS	**HongShan**	**21.77**	**278**	⇓P	P	22 28 24.5	-2.7
HNS	comp=Z,49nm,0.8s			pmax	pmax		
HNS	comp=Z,270nm,15.2s			LR	LR		
HNS	comp=Z,600nm,13.5s			LR	LR		
HNS	comp=Z,550nm,11.9s			LR	LR		
MA2	**Magadan**	**22.91**	**11**	*ce*P	P	22 28 40.2	+1.1
MA2	comp=Z,44nm,1.7s			pmax	pmax		
GUMO	**Guam** comp=Z,9.2nm,19.6s,baz=122,slow=42	**23.80**	**173**	LR	LR	22 40 04.9	
HHC	**Hu-ho-hao-te**	**23.92**	**288**	*e*P	P	22 28 50.5	+1.1
HHC	comp=Z,25nm,0.6s			pmax	pmax		
HHC	comp=Z,450nm,5.1s			pmax	pmax		
HHC	comp=Z,690nm,12.1s			LR	LR		
HHC	comp=Z,710nm,12.8s			LR	LR		
HHC	comp=Z,650nm,12.5s			LR	LR		
WHN	**Wuhan**	**23.98**	**262**	P	P	22 28 49.8	-0.1
WHN	comp=Z,22nm,0.7s			pmax	pmax		
LYN	**LuoYang**	**24.14**	**272**	⇓P	P	22 28 51.3	-0.1
LYN	comp=Z,72nm,0.6s			pmax	pmax		
LYN	comp=Z,240nm,7.4s			pmax	pmax		
LYN	comp=Z,440nm,9.6s			LR	LR		
LYN	comp=Z,310nm,11.3s			LR	LR		
LYN	comp=Z,490nm,14.8s			LR	LR		
BTO	**Baotou**	**25.10**	**287**	*e*P	P	22 29 01.3	+1.1
BTO				pP	pP	22 29 05.5	-1.7
BTO				sP	sP	22 29 08.3	-1.7
BTO				PP	PnPn	22 29 39.5	+5.4
BTO	comp=Z,29nm,1.1s			pmax	pmax		
BTO	comp=Z,450nm,3.9s			pmax	pmax		
YAK	**Yakutsk**	**25.88**	**347**	P	P	22 29 06.8	0.0
YAK	**Yakutsk**	**25.88**	**347**	*e*P	P	22 29 06.8	0.0
YAK				*e**PP	pP	22 29 13.6	-0.2
YAK				*e*		22 29 46.9	
YAK				*e*S	S	22 33 33.7	-1.3
YAK				*e*SSS	SSS	22 34 52.1	
YAK	comp=Z,31nm,0.9s			pmax	pmax		
YAK	comp=N,7.0nm,0.9s			pmax	pmax		
YAK	comp=Z,293nm,3.8s			pmax	pmax		
YAK	comp=N,289nm,3.6s			smax	smax		
YAK	comp=E,275nm,4.0s			smax	smax		
YAK	comp=Z,190nm,16.0s			MLR	MLR		
SEY	**Seymchan**	**26.36**	**11**	*ce*P	P	22 29 12.9	+1.7
SEY	comp=Z,12nm,1.3s			pmax	pmax		
SHEM	**Shemya Is, Ala** comp=Z,41nm,18.8s,baz=288,slow=33	**27.02**	**45**	LR	LR	22 38 18.6	
XAN	**Xi'an**	**27.10**	**273**	⇑P	P	22 29 17.5	-0.8
XAN				pP	pP	22 29 27.0	+1.7
XAN	comp=Z,24nm,1.0s			pmax	pmax		
BOD	**Bodaibo**	**27.56**	**327**	*e*P	P	22 29 22.3	+0.2
BOD	comp=Z,11nm,1.6s			pmax	pmax		
ULN	**Ulaanbaatar**	**27.65**	**303**	P	P	22 29 23.5	+0.3
ULN	comp=Z,8.6nm,0.7s			IAmb	IAmb	22 29 26.7	
ULN	**Ulaanbaatar**	**27.65**	**303**	*ce*P	P	22 29 23.8	+0.6
ULN	comp=Z,8.0nm,0.6s			pmax	pmax		
H11N2	**WAKE ISLAND Hy** baz=315,slow=75,SNR=134	**27.83**	**122**	T	T	22 58 30.9	
H11N1	**WAKE ISLAND Hy** baz=315,slow=75,SNR=99	**27.84**	**122**	T	T	22 58 33.1	
H11N3	**WAKE ISLAND Hy** baz=315,slow=75,SNR=143	**27.84**	**122**	T	T	22 58 31.1	
ENH	**Enshi**	**27.94**	**265**	P	P	22 29 25.6	-0.2
SONM	**Songino Array**	**28.09**	**303**	P	P	22 29 27.6	+0.5
SONM	comp=Z,14nm,0.9s			IAmb	IAmb	22 29 28.6	
SONM	**Songino Array** comp=Z,14nm,0.9s	**28.09**	**303**	P	P	22 29 27.6	+0.5
SONM	comp=Z,81nm,19.3s,baz=64,slow=37 comp=Z,

CD2 LR LR
comp=Z,370nm,12.5s
CD2 LR LR
comp=Z,340nm,15.3s
GTA Gaotai 33.02 287 *e*P **P 22 30 10.0 -0.7**
GTA pmax pmax
comp=Z,2.0nm,1.0s
BILL Bilibino 33.55 16 *i* P **P 22 30 15.3 +0.5**
BILL pmax pmax
comp=Z,13nm,1.8s
DAV Davao City (W) 33.71 211 LR LR 22 43 49.2
comp=Z,54nm,19.3s,baz=39,slow=36
KMI Kunming 35.59 261 ⇓P **P 22 30 34.0 +0.8**
KMI pmax pmax
comp=Z,16nm,0.9s
KMI LR LR
comp=Z,230nm,8.5s
KMI LR LR
comp=Z,260nm,13.0s
KMI LR LR
comp=Z,190nm,16.6s
PZH PanZhiHua 35.71 264 P **P 22 30 33.5 -0.7**
PZH S **S 22 36 12.5 +2.8**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.7s
PZH LR LR
comp=Z,110nm,7.4s
PZH LR LR
comp=Z,130nm,8.2s
PZH LR LR
comp=Z,150nm,7.4s
GOMU GeErMu 37.61 283 P **P 22 30 51.5 +1.0**
GOMU pP pP 22 30 55.3 -2.3
GOMU sP sP 22 30 58.0 -2.5
GOMU pmax pmax
comp=Z,9.0nm,0.8s
CRAI Chiangrai 40.02 257 P **P 22 31 10.5 0.0**
DGZ Jazzator, Alta 40.67 306 *c i* P **P 22 31 17.3 +1.6**
DGZ pmax pmax
comp=Z,37nm,0.6s
WMQ Urumqi 41.21 297 *e*P **P 22 31 22.0 +1.9**
WMQ pP sP 22 31 31.0 +0.9
WMQ pmax pmax
comp=Z,34nm,1.1s
M14K Bethel 41.77 38 P **P 22 31 25.6 +1.3**
ZAA0 Zalesovo Array 42.12 312 P **P 22 31 25.8 -1.5**
ZAA0 IAmb IAmb 22 31 28.9
comp=Z,13nm,0.9s
ZALV Zalesovo Beam 42.12 312 P **P 22 31 27.2 -0.1**
ZALV Zalesovo Beam 42.12 312 *i* P **P 22 31 27.8 +0.5**
ZALV pmax pmax
comp=Z,11nm,0.7s
ZALV Zalesovo Beam 42.12 312 P **P 22 31 28.0 +0.7**
comp=Z,11nm,0.7s,baz=92,slow=7.4,SNR=35
ZALV LR LR 22 49 30.8
comp=Z,54nm,21.5s,baz=38,slow=37
comp=Z,11nm,0.7s
CMAR Chiang Mai Arr 42.14 256 P **P 22 31 28.8 +0.9**
CMAR Chiang Mai Arr 42.14 256 *c e*P **P 22 31 30.8 +2.9**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 42.14 256 P **P 22 31 28.2 +0.3**
comp=Z,1.1nm,0.3s,baz=40,slow=6.8,SNR=5.4
CMAR LR LR 22 50 16.9
comp=Z,60nm,18.5s,baz=45,slow=38
comp=Z,1.1nm,0.3s
ZSN Zaisan 42.59 302 *e*P **P 22 31 31.0 -0.3**
comp=Z,15nm,0.7s,baz=302
ZSN Zaisan 42.59 302 *e*P **P 22 31 31.0 -0.3**
ZSN pmax pmax
comp=Z,15nm,0.7s
LSA Lhasa 42.76 275 P **P 22 31 32.5 -0.9**
LSA IAmb IAmb 22 31 44.4
comp=Z,7.4nm,0.8s
LSA Lhasa 42.76 275 P **P 22 31 32.5 -0.9**
LSA pmax pmax
comp=Z,7.0nm,0.8s
L16K Owhat River 43.09 36 P **P 22 31 35.2 +0.1**
L16K IAmb IAmb 22 31 36.4
comp=Z,11nm,1.4s
F17K Baldwin Pennin 43.15 29 P **P 22 31 36.1 +0.7**
NRIK Noril'sk 43.21 335 P **P 22 31 36.3 +0.4**
comp=Z,1.2nm,0.5s,baz=111,slow=14,SNR=4.5
comp=Z,1.2nm,0.5s
M16K Timber Creek 43.26 37 P **P 22 31 37.3 +0.8**
H17K Granite Mounta 43.38 32 P **P 22 31 37.8 +0.4**
C18K Utukok River 43.72 26 P **P 22 31 41.1 +0.9**
C18K IAmb IAmb 22 31 48.9
comp=Z,6.6nm,0.8s
K17K Iditarod 43.75 35 P **P 22 31 41.2 +0.8**
K17K IAmb IAmb 22 32 00.7
comp=Z,12nm,1.4s
M17K Holitna River 44.03 37 P **P 22 31 43.9 +1.2**
H18K Honhosa River 44.06 32 P **P 22 31 43.3 +0.4**
G18K Tagagawik 44.07 30 P **P 22 31 43.7 +0.8**
C19K Lookout Ridge 44.40 26 P **P 22 31 47.0 +1.3**
C19K IAmb IAmb 22 31 55.0
comp=Z,9.0nm,1.0s
MK31 Makanchi Array 44.44 302 P **P 22 31 46.6 +0.4**
MK31 IAmb IAmb 22 31 49.0
comp=Z,10nm,0.8s
MK31 Makanchi Array 44.44 302 *c e*P **P 22 31 46.6 +0.4**
MKAR Makanchi Array 44.44 302 P **P 22 31 46.5 +0.3**
MKAR Makanchi Array 44.44 302 P **P 22 31 46.5 +0.3**
MKAR Makanchi Array 44.44 302 P **P 22 31 46.7 +0.5**
comp=Z,9.0nm,0.7s,baz=85,slow=9.4,SNR=47
MKAR LR LR 22 50 16.9
comp=Z,50nm,19.0s,baz=40,slow=36
comp=Z,9.0nm,0.7s
L18K Granite Mounta 44.45 36 P **P 22 31 47.2 +1.2**
MAKZ Makanchi 44.64 302 P **P 22 31 47.5 -0.3**
MAKZ Makanchi 44.64 302 P **P 22 31 47.5 -0.3**
MAKZ pmax pmax
comp=Z,11nm,0.8s
N18K Kilae Creek 44.74 38 P **P 22 31 49.7 +1.4**
N18K IAmb IAmb 22 32 13.8
comp=Z,15nm,1.4s
G19K Purcell Mounta 44.74 30 P **P 22 31 48.7 +0.4**
E19K Redstone River 44.90 28 P **P 22 31 49.8 +0.2**
SVW2 Sparrevohn 44.91 38 P **P 22 31 50.7 +1.1**
H19K Roundabout Mou 44.91 31 P **P 22 31 50.6 +1.0**
H19K IAmb IAmb 22 32 11.0
comp=Z,12nm,1.4s
J19K Poorman 45.09 33 P **P 22 31 51.4 +0.3**
SEM Semipalatinsk 45.20 307 *e*P **P 22 31 52.0 -0.5**
baz=307
SEM Semipalatinsk 45.20 307 *e*P **P 22 31 51.9 -0.5**
B20K Meade River 45.45 25 P **P 22 31 54.5 +0.8**
B20K IAmb IAmb 22 32 02.9
comp=Z,6.8nm,0.7s
K20K Telida 45.73 34 P **P 22 31 57.2 +1.0**
K20K IAmb IAmb 22 32 30.6
comp=Z,7.0nm,1.3s
IMAR Indian Mountai 46.07 31 P **P 22 31 59.1 +0.3**
OHAK Old Harbor 46.12 43 P **P 22 31 58.5 -0.8**
KURK Kurchatov 46.19 308 P **P 22 32 00.2 +0.3**
KURK Kurchatov 46.19 308 *c e*P **P 22 31 59.4 -0.5**
KURK pmax pmax
comp=Z,26nm,0.6s
G21K Allakaket 46.22 30 P **P 22 32 00.4 +0.4**
B21K Ikpikpuk River 46.24 26 P **P 22 32 00.1 +0.1**
B21K IAmb IAmb 22 32 12.3
comp=Z,10nm,1.3s
KURBB Kurchatov Arra 46.26 308 P **P 22 32 01.0 +0.5**
comp=Z,24nm,0.7s,baz=81,slow=8.1,SNR=82
KURBB LR LR 22 52 11.2
comp=Z,116nm,19.0s,baz=172,slow=37
comp=Z,24nm,0.7s
H21K Melozitna River 46.43 31 P **P 22 32 02.3 +0.7**
KDAK Kodiak Island 46.46 42 LR LR 22 51 43.9
comp=Z,43nm,19.9s,baz=223,slow=36
CAST Castle Rocks 46.62 34 P **P 22 32 04.4 +1.1**
E22K Anaktuvuk Pass 47.04 28 P **P 22 32 06.5 0.0**
E22K IAmb IAmb 22 32 13.7
comp=Z,5.5nm,1.2s
KTH Kantishna Hill 47.15 34 P **P 22 32 08.0 +0.7**
KTH IAmb IAmb 22 32 11.0
comp=Z,8.7nm,1.2s
SHLS Shalkode 47.20 298 *e*P **P 22 32 05.3 -2.8**
baz=297
SHLS Shalkode 47.20 298 *e*P **P 22 32 05.3 -2.8**
SUA Susitna One 47.24 37 P **P 22 32 08.1 -0.1**
SUA IAmb IAmb 22 32 21.1
comp=Z,7.9nm,1.0s
TDK Taldyqorghan 47.47 300 *e*P **P 22 32 09.8 -0.3**
comp=Z,4.7nm,0.6s,baz=300
TDK Taldyqorghan 47.47 300 *e*P **P 22 32 09.8 -0.3**
TDK pmax pmax
comp=Z,5.0nm,0.6s
UZB Uzynbulak 47.51 298 *e*P **P 22 32 10.0 -0.6**
baz=298
UZB Uzynbulak 47.51 298 *e*P **P 22 32 10.0 -0.6**
RAMN Ramite 47.56 274 *e*P **P 22 32 11.8 +0.5**
JIRN Jiri 47.56 275 *e*P **P 22 32 11.7 +0.2**
comp=Z,18nm,0.7s
C23K Itkillik River 47.65 26 P **P 22 32 11.4 +0.3**
C23K IAmb IAmb 22 32 35.8
comp=Z,8.7nm,1.2s
KPKS Kokpek 47.66 298 *e*P **P 22 32 11.6 -0.2**
baz=298
KPKS Kokpek 47.66 298 *e*P **P 22 32 11.5 -0.2**
GUN Gumba 47.70 276 *e*P **P 22 32 12.7 +0.2**
comp=Z,79nm,0.9s
SATY Saty 47.97 298 *e*P **P 22 32 13.6 -0.6**
baz=298
SATY Saty 47.97 298 *e*P **P 22 32 13.5 -0.6**
RND Reindeer 48.08 34 P **P 22 32 14.3 -0.3**
RND IAmb IAmb 22 32 16.7
comp=Z,10nm,1.3s
RND Reindeer 48.08 34 P **P 22 32 14.3 -0.3**
RND pmax pmax
comp=Z,10.0nm,1.3s
GHO Glory Hole Cre 48.10 37 P **P 22 32 13.5 -1.4**
PRZ Przheval'sk 48.13 297 P **P 22 32 16.2 +0.7**
PRZ Przheval'sk 48.13 297 P **P 22 32 16.2 +0.7**
PRZ pmax pmax
comp=Z,8.0nm,0.8s
D24K Happy Valley 48.22 27 P **P 22 32 16.4 +0.9**
D24K IAmb IAmb 22 32 18.2
comp=Z,7.0nm,1.4s
E24K Your Creek 48.28 28 P **P 22 32 15.8 -0.3**
SML Sawmill 48.38 37 P **P 22 32 16.6 -0.4**
H24K Noodor Dome 48.47 31 P **P 22 32 17.5 0.0**
H24K IAmb IAmb 22 32 58.0
comp=Z,4.4nm,1.2s
GKN Gorkha 48.64 277 *e*P **P 22 32 19.5 -0.1**
comp=Z,26nm,0.7s
CHKK Chushkaly 48.74 299 *e*P **P 22 32 19.5 -0.5**
baz=299
CHKK Chushkaly 48.74 299 *e*P **P 22 32 19.4 -0.5**
SCM Sheep Creek Mo 48.85 36 P **P 22 32 20.8 +0.2**
SCM Sheep Creek Mo 48.85 36 P **P 22 32 20.8 +0.2**
SCM pmax pmax
comp=Z,37nm,1.5s
MDOK Medeo 48.90 298 *e*P **P 22 32 21.4 +0.1**
baz=298
MDOK Medeo 48.90 298 *e*P **P 22 32 21.4 +0.1**
IL31 48.90 33 P **P 22 32 21.0 +0.2**
ILAR Eielson Array 48.90 33 P **P 22 32 20.5 -0.4**
ILAR Eielson Array 48.90 33 P **P 22 32 20.5 -0.4**
ILAR Eielson Array 48.90 33 P **P 22 32 20.8 0.0**
comp=Z,1.5nm,0.8s,baz=264,slow=5.6,SNR=15
comp=Z,1.5nm,0.8s
TNSS Tian-Shan 49.00 298 *e*P **P 22 32 22.6 +0.1**
baz=298
TNSS Tian-Shan 49.00 298 *e*P **P 22 32 22.5 +0.1**
DANN Dangsing 49.18 277 *e*P **P 22 32 24.2 +0.3**
comp=Z,71nm,0.7s
KUU Kurty 49.18 299 *e*P **P 22 32 23.2 -0.2**
comp=Z,6.5nm,0.7s,baz=299
KUU Kurty 49.18 299 *e*P **P 22 32 23.1 -0.2**
KUU pmax pmax
comp=Z,6.0nm,0.7s
M24K Tolsona, Glenn 49.38 36 P **P 22 32 25.3 +0.7**
HNR Honiara 49.45 157 LR LR 22 53 08.8
comp=Z,422nm,19.1s,baz=324,slow=36
KOLN Koldanda 49.57 277 *e*P **P 22 32 26.6 -0.1**
BMAR Burnt Mountain 49.76 29 P **P 22 32 28.6 +1.2**
PYUN Piuthan 49.90 277 *e*P **P 22 32 29.5 +0.2**
comp=Z,60nm,1.0s
SCRK Sand Creek 50.21 33 P **P 22 32 30.3 -0.6**
J26L Joseph Creek 50.35 33 P **P 22 32 31.6 -0.3**
BTLS Baital 50.44 301 *e*P **P 22 32 32.4 -0.4**
comp=Z,4.3nm,0.5s,baz=301
BTLS Baital 50.44 301 *e*P **P 22 32 32.4 -0.4**
BTLS pmax pmax
comp=Z,4.0nm,0.5s
SGDS Sogindy 50.50 299 *e*P **P 22 32 32.8 -0.7**
baz=299
SGDS Sogindy 50.50 299 *e*P **P 22 32 32.7 -0.7**
BVAR Bobovoye Array 50.78 312 P **P 22 32 35.8 +0.5**
comp=Z,2.2nm,0.5s,baz=60,slow=8.8,SNR=15
BVAR LR LR 22 55 07.9
comp=Z,72nm,18.4s,baz=82,slow=37
comp=Z,2.2nm,0.5s
KSH Kashi 50.80 294 P P 22 32 40.5 +4.7
KSH pmax pmax
comp=Z,8.0nm,0.9s
BRVK Borovoye 50.83 312 P **P 22 32 36.5 +0.9**
BRVK IAmb IAmb 22 32 46.3
comp=Z,5.4nm,1.1s
BRVK Borovoye 50.83 312 *c e*P **P 22 32 34.7 -1.0**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
AAK Ala-Archa 50.84 298 P **P 22 32 35.5 -0.6**
AAK IAmb IAmb 22 32 40.0
comp=Z,5.8nm,0.7s
AAK Ala-Archa 50.84 298 *c e*P **P 22 32 36.5 +0.4**
AAK pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 50.84 298 LR LR 22 55 42.7
comp=Z,127nm,18.5s,baz=73,slow=38
E27K Coleen River 50.86 28 P **P 22 32 36.9 +1.2**
CRQM Cirque 50.98 38 P **P 22 32 37.7 +0.8**
D27M Malcolm River 51.02 27 P **P 22 32 37.6 +0.7**
D27M IAmb IAmb 22 32 44.8
comp=Z,8.4nm,1.3s
BCAR Beaver Creek A 51.29 35 P **P 22 32 40.2 +1.1**
F28M Old Crow 51.55 29 P **P 22 32 41.4 +0.5**
E28M Babbage River 51.59 27 P **P 22 32 41.9 +0.8**
E28M IAmb IAmb 22 32 52.2
comp=Z,6.4nm,1.4s
I28M Miner Creek 51.78 31 P **P 22 32 44.3 +1.6**
I28M IAmb IAmb 22 32 46.9
comp=Z,6.2nm,1.4s
E29M Blow River 52.21 27 P **P 22 32 46.5 +0.8**
ARSB Arslanbob 52.34 297 P **P 22 32 48.2 +0.9**
ARSB IAmb IAmb 22 32 52.1
comp=Z,3.4nm,0.7s
ARSB Arslanbob 52.34 297 P **P 22 32 48.2 +0.9**
ARSB pmax pmax
comp=Z,3.0nm,0.7s
G29M Pine Creek 52.35 29 P **P 22 32 48.1 +1.2**
G29M IAmb IAmb 22 32 51.1
comp=Z,6.0nm,1.1s
L29M L29M 52.93 34 P **P 22 32 52.2 +1.0**
L29M IAmb IAmb 22 32 55.2
comp=Z,4.4nm,0.9s
K29M Barlow Dome 53.06 33 P **P 22 32 52.8 +0.6**
K29M IAmb IAmb 22 33 21.3
comp=Z,9.5nm,1.4s
I30M Mount Dempster 53.29 31 P **P 22 32 54.8 +0.8**
I30M IAmb IAmb 22 32 57.3
comp=Z,4.1nm,0.9s
J30M Hart River 53.43 32 P **P 22 32 55.8 +0.8**
M30M Minto, Yukon 53.63 35 P **P 22 32 57.8 +1.4**
M30M IAmb IAmb 22 33 39.1
comp=Z,6.1nm,1.3s
HYT Haines Junctio 53.69 37 P **P 22 32 58.5 +1.6**
HYT IAmb IAmb 22 33 11.1
comp=Z,8.2nm,1.1s
P29M Windy Craggy 53.84 38 P **P 22 32 59.3 +1.3**
N31M Braeburn, Yuko 54.34 36 P **P 22 33 02.3 +0.7**
M31M Drury Creek, Y 54.81 35 P **P 22 33 04.3 -0.6**
FARO Faro, Yukon 55.27 35 P **P 22 33 09.0 +0.7**
FARO IAmb IAmb 22 33 25.1
comp=Z,5.4nm,1.4s
SVE Sverdlovsk 55.28 319 *e*P **P 22 33 09.5 +1.1**
SVE pmax pmax
comp=Z,14nm,0.9s
A36M Sachs Harbour 55.73 22 P **P 22 33 13.4 +2.0**
A36M IAmb IAmb 22 33 20.7
comp=Z,5.1nm,0.8s
P33M Teslin, Yukon 56.08 37 P **P 22 33 14.8 +0.6**
ARU Arti 56.50 319 P **P 22 33 16.7 -0.4**
ARU Arti 56.50 319 *c i* P **P 22 33 16.7 -0.4**
ARU 22 34 12.5
ARU 22 35 19.0
ARU S **S 22 41 05.7 -1.0**
ARU SS **SS 22 44 47.7 -5.8**
ARU pmax pmax
comp=Z,11nm,0.9s
ARU Arti 56.50 319 LR LR 22 58 44.0
comp=Z,54nm,19.4s,baz=74,slow=37
C36M Palautuk 56.88 25 P **P 22 33 20.1 +0.5**
C36M IAmb IAmb 22 33 31.6
comp=Z,7.1nm,1.4s
WB0 Warramunga Arr 57.29 189 P **P 22 33 21.6 -1.5**
WB0 IAmb IAmb 22 33 30.0
comp=Z,7.8nm,1.1s
WR0 Warramunga Arr 57.47 188 P **P 22 33 22.4 -1.9**
WRA Warramunga Arr 57.47 189 P **P 22 33 23.6 -0.8**
WRA Warramunga Arr 57.47 189 *i* P **P 22 33 22.7 -1.6**
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRA Warramunga Arr 57.47 189 P **P 22 33 23.1 -1.3**
comp=Z,0.6nm,0.4s,baz=6.4,slow=7.1,SNR=20
comp=Z,0.6nm,0.4s
ABKAR Akbulak array 58.17 310 P **P 22 33 29.1 +0.1**
AKTO Aktyubinsk 58.88 312 LR LR 23 00 06.3
comp=Z,53nm,18.3s,baz=264,slow=37
EUNU Eureka 59.77 9 P **P 22 33 38.3 -1.4**
EUNU IAmb IAmb 22 33 48.6
comp=Z,4.4nm,0.9s
KIRV Kirov 60.33 323 *c e*P **P 22 33 43.2 -0.6**
KIRV Kirov 60.33 323 LR LR 23 01 24.5
comp=Z,28nm,18.9s,baz=59,slow=38
ASAR Alice Springs 61.20 189 P **P 22 33 51.1 +1.1**
ASAR Alice Springs 61.20 189 P **P 22 33 49.7 -0.4**
comp=Z,0.8nm,0.9s,baz=13,slow=10,SNR=9.2
comp=Z,0.8nm,0.9s
RES Resolute Bay 62.13 15 P **P 22 33 56.0 +0.3**
RES IAmb IAmb 22 34 05.5
comp=Z,6.5nm,1.1s
RES Resolute Bay 62.13 15 P **P 22 33 56.0 +0.3**
RES pmax pmax
comp=Z,7.0nm,1.2s
YKA Yellowknife Ar 63.23 30 P **P 22 34 03.5 +0.3**
comp=Z,0.4nm,0.7s,baz=297,slow=6.5,SNR=5.5
comp=Z,0.4nm,0.7s
DZM Mont Dzumac 63.40 155 LR LR 22 59 33.4
comp=Z,35nm,20.5s,baz=260,slow=34
ARCES ARCESS Array B 63.89 340 P **P 22 34 09.7 +2.2**
comp=Z,3.5nm,1.0s,baz=44,slow=8.0,SNR=1.6
comp=Z,3.5nm,1.0s
GEYT Alibeck 64.18 299 P **P 22 34 10.1 +0.1**
GEYT IAmb IAmb 22 34 19.1
comp=Z,3.6nm,0.8s
GEYT Alibeck 64.18 299 P **P 22 34 10.1 +0.1**
GEYT pmax pmax
comp=Z,4.0nm,0.8s
GEYT Alibeck 64.18 299 P **P 22 34 10.2 +0.2**
comp=Z,2.0nm,0.6s,baz=150,slow=1.2,SNR=5.6
comp=Z,2.0nm,0.6s
FINES FINESS Array B 68.79 332 P **P 22 34 38.4 -0.5**
FINES FINESS Array B 68.79 332 *i* P **P 22 34 39.2 +0.2**
FINES pmax pmax
comp=Z,8.0nm,0.8s
FINES FINESS Array B 68.79 332 P **P 22 34 39.4 +0.4**
comp=Z,7.8nm,0.8s,baz=42,slow=7.3,SNR=15
FINES LR LR 23 07 05.7
comp=Z,40nm,18.3s,baz=14,slow=38
comp=Z,7.8nm,0.8s
PINE Pine Mountain 69.68 50 P **P 22 34 46.4 +1.3**
PINE IAmb IAmb 22 35 19.8
comp=Z,8.3nm,1.3s
KBZ Khabaz 71.12 311 *i* P **P 22 34 54.5 +0.9**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 71.12 311 P **P 22 34 54.5 +0.9**
comp=Z,3.3nm,0.8s,baz=193,slow=3.9,SNR=3.7
comp=Z,3.3nm,0.8s
KIV Kislovodsk 71.13 311 *e*P **P 22 34 51.9 -1.9**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,101nm,18.0s
MNK Minsk 72.54 326 *i* P **P 22 35 00.7 -1.2**
comp=E,7.0nm,1.2s
MNK *i* P **P 22 35 00.7 -1.2**
comp=N,13nm,1.3s
MNK *i* P **P 22 35 00.7 -1.2**
comp=Z,11nm,1.0s,baz=50
MNK *i* PP **PP 22 37 41.5 -1.3**
MNK *i* PPP PPP 22 39 25.9
MNK *i* S **S 22 44 23.2 -1.5**
MNK *i* SS SS 22 50 13.7 +71
MNK *i* SSS SSS 22 53 52.5
MNK *i* LQ LQ 23 00 00.7
MNK *i* LR LR 23 04 03.7
MNK Minsk 72.54 326 *i* P **P 22 35 00.7 -1.2**
MNK *i* 22 37 41.5
MNK *i* PPP PPP 22 39 25.9
MNK *i* S **S 22 44 23.2 -1.5**
MNK pmax pmax
comp=E,7.0nm,1.2s
MNK pmax pmax
comp=Z,11nm,1.0s
MNK pmax pmax
comp=N,13nm,1.3s
FCC Fort Churchill 73.44 27 P **P 22 35 07.0 -0.2**
FCC IAmb IAmb 22 35 17.0
comp=Z,11nm,1.4s
FCC Fort Churchill 73.44 27 P **P 22 35 07.0 -0.2**
FCC pmax pmax
comp=Z,11nm,1.4s
WAKR Walker 73.55 54 P **P 22 35 07.6 -0.9**
NC405 NORSAR Array S 73.89 337 P **P 22 35 09.9 0.0**
NC405 IAmb IAmb 22 35 15.5
comp=Z,9.0nm,1.1s
HFS Hagfors 74.02 336 P **P 22 35 10.9 +0.3**
comp=Z,5.5nm,0.9s,baz=64,slow=3.4,SNR=4.5
HFS LR LR 23 10 33.8
comp=Z,127nm,18.5s,baz=52,slow=38
comp=Z,5.5nm,0.9s
NC204 NORSAR Array S 74.05 338 P **P 22 35 09.1 -1.8**
NB201 NORSAR Array S 74.07 337 P **P 22 35 11.5 +0.6**
NB2 NORSAR Subarra 74.10 338 P **P 22 35 11.0 -0.1**
comp=Z,1.0nm,0.7s,baz=39,slow=6.2
NOA NORSAR Array B 74.10 338 P **P 22 35 10.9 -0.1**
comp=Z,2.5nm,0.9s,baz=39,slow=5.9,SNR=6.6
NOA LR LR 23 11 26.3
comp=Z,61nm,18.9s,baz=40,slow=39
comp=Z,2.5nm,0.9s
AKASG Malin Array Be 74.39 323 *i* P **P 22 35 13.0 +0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 74.39 323 P **P 22 35 13.0 +0.1**
comp=Z,3.0nm,0.7s,baz=47,slow=5.9,SNR=15
AKASG LR LR 23 08 43.9
comp=Z,24nm,18.6s,baz=32,slow=36
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 74.39 323 P **P 22 35 11.8 -1.1**
AKBB IAmb IAmb 22 35 13.3
comp=Z,6.0nm,0.8s
AKBB Malin Array Si 74.39 323 *c e*P **P 22 35 13.0 +0.1**
AKBB pmax pmax
comp=Z,5.0nm,0.9s
KIEV Kiev 74.40 323 P **P 22 35 11.9 -1.0**
KIEV IAmb IAmb 22 35 13.4
comp=Z,5.7nm,0.9s
KIEV Kiev 74.40 323 P **P 22 35 11.9 -1.0**
KIEV pmax pmax
comp=Z,6.0nm,0.9s
GURO Guroymak-BITLI 74.61 307 P **P 22 35 15.9 +1.3**
TPH Tonopah 75.22 53 P **P 22 35 19.5 +1.2**
TPH Tonopah 75.22 53 P **P 22 35 19.5 +1.2**
TPH pmax pmax
comp=Z,49nm,0.7s
ARPR Arapgir-MALATY 76.61 309 P **P 22 35 27.2 +1.1**
PDAR Pinedale Array 77.02 46 P **P 22 35 28.4 0.0**
PDAR Pinedale Array 77.02 46 P **P 22 35 28.6 +0.2**
comp=Z,0.4nm,0.6s,baz=238,slow=0.6,SNR=5.7
comp=Z,0.4nm,0.6s
BUR08 Bucovina Ar. S 78.40 322 P **P 22 35 35.7 -0.2**
BUR08 IAmb IAmb 22 35 39.5
comp=Z,4.5nm,0.9s
BURAR Bucovina Array 78.41 322 P **P 22 35 36.6 +0.7**
BURAR IAmb IAmb 22 35 37.8
comp=Z,4.3nm,0.9s
KOLS Kolonicke sedl 78.89 324 *e*P **P 22 35 39.6 +1.2**
KOLS Kolonicke sedl 78.89 324 *e*P **P 22 35 39.6 +1.2**
BRTR Keskin Array B 79.06 312 P **P 22 35 40.7 +1.0**
comp=Z,1.3nm,0.9s,baz=90,slow=2.9,SNR=4.3

	comp=Z,1.3nm,0.9s							
HMU	**Henry Mountain**	**79.36**	**50**	P	**P**	**22 35 41.9**	**+0.4**	
HMU				IAmb	IAmb	22 36 12.1		
	comp=Z,11nm,1.4s							
MLR	**Muntele Rosu**	**79.50**	**320**	LR	LR	23 13 27.7		
	comp=Z,62nm,18.8s,baz=44,slow=38							
RAR	**Rarotonga**	**79.89**	**126**	LR	LR	23 03 07.0		
	comp=Z,63nm,20.2s,baz=294,slow=30							
LANS	**Liptovska Anna**	**80.01**	**326**	*e*P	**P**	**22 35 46.4**	**+1.8**	
LANS	**Liptovska Anna**	**80.01**	**326**	*e*P	**P**	**22 35 46.4**	**+1.8**	
LANS				pmax	pmax			
	comp=Z,2.0nm,0.9s							
MORC	**Moravsky Berou**	**80.40**	**327**	*e*P	**P**	**22 35 47.3**	**+0.7**	
DPC	**Dobruska-Polom**	**80.48**	**328**	*e*P	**P**	**22 35 48.1**	**+1.0**	
DPC	**Dobruska-Polom**	**80.48**	**328**	*e*P	**P**	**22 35 48.1**	**+1.0**	
KRLC	**Kraliky**	**80.50**	**328**	*e*P	**P**	**22 35 48.3**	**+1.1**	
KRLC	**Kraliky**	**80.50**	**328**	*e*P	**P**	**22 35 48.3**	**+1.1**	
VYHS	**Vyhne**	**80.78**	**326**	*e*P	**P**	**22 35 49.5**	**+0.8**	
VYHS	**Vyhne**	**80.78**	**326**	*e*P	**P**	**22 35 49.5**	**+0.8**	
VYHS				pmax	pmax			
	comp=Z,5.0nm,1.2s							
JAVC	**Velka Javorina**	**81.03**	**327**	*e*P	**P**	**22 35 51.6**	**+1.6**	
CLL	**Collm**	**81.10**	**330**	*i* P	**P**	**22 35 50.7**	**+0.4**	
	comp=Z,9.0nm,1.2s							
CLL	**Collm**	**81.10**	**330**	*i* P	**P**	**22 35 50.7**	**+0.4**	
CLL				pmax	pmax			
	comp=Z,9.0nm,1.2s							
VRAC	**Vranov**	**81.16**	**327**	*e*P	**P**	**22 35 51.4**	**+0.7**	
VRAC	**Vranov**	**81.16**	**327**	LR	LR	23 14 34.0		
	comp=Z,27nm,19.7s,baz=68,slow=38							
KRUC	**Moravsky**	**81.43**	**327**	*e*P	**P**	**22 35 52.6**	**+0.5**	
PRU	**Pruhonice**	**81.50**	**329**	*e*P	**P**	**22 35 53.7**	**+1.3**	
PRU	**Pruhonice**	**81.50**	**329**	*e*P	**P**	**22 35 53.7**	**+1.3**	
TREC	**Trest**	**81.64**	**328**	*e*P	**P**	**22 35 54.3**	**+1.1**	
TREC	**Trest**	**81.64**	**328**	*e*P	**P**	**22 35 54.3**	**+1.1**	
MMAI	**Mount Meron Ar**	**82.25**	**306**	LR	LR	23 15 15.1		
	comp=Z,46nm,20.1s,baz=72,slow=38							
CKRC	**Cesky Krumlov**	**82.50**	**328**	*e*P	**P**	**22 35 58.3**	**+0.6**	
CKRC	**Cesky Krumlov**	**82.50**	**328**	*e*P	**P**	**22 35 58.3**	**+0.6**	
RONA	**Rosalia, Austr**	**82.50**	**326**	*e*P	**P**	**22 35 58.0**	**+0.2**	
	comp=Z,3.1nm,0.7s,SNR=4.7							
CONA	**Conrad Observa**	**82.52**	**327**	*e*P	**P**	**22 35 58.7**	**+0.7**	
	comp=Z,2.2nm,0.7s							
KHC	**Kasperske Hory**	**82.56**	**329**	P	**P**	**22 35 58.0**	**-0.1**	
KHC				IAmb	IAmb	22 35 59.6		
	comp=Z,3.7nm,0.8s							
KHC	**Kasperske Hory**	**82.56**	**329**	*e*P	**P**	**22 35 58.5**	**+0.4**	
KHC	**Kasperske Hory**	**82.56**	**329**	*ce*P	**P**	**22 35 59.4**	**+1.3**	
KHC				pmax	pmax			
	comp=Z,7.0nm,0.8s							
GEC2	**GERESS Array S**	**82.73**	**329**	P	**P**	**22 35 59.4**	**+0.3**	
GEC2				IAmb	IAmb	22 36 01.4		
	comp=Z,3.8nm,1.0s							
GERES	**GERESS Array B**	**82.73**	**329**	P	**P**	**22 35 58.9**	**-0.2**	
GERES	**GERESS Array B**	**82.73**	**329**	P	**P**	**22 35 58.9**	**-0.2**	
GERES	**GERESS Array B**	**82.73**	**329**	P	**P**	**22 35 59.3**	**+0.3**	
	comp=Z,1.5nm,0.7s,baz=44,slow=5.9,SNR=9.1							
	comp=Z,1.5nm,0.7s							
ARSA	**Arzberg**	**83.19**	**327**	*e*P	**P**	**22 36 01.5**	**+0.2**	
	comp=Z,1.6nm,0.8s							
BIOA	**Bad Ischl, Aus**	**83.66**	**328**	*e*P	**P**	**22 36 04.3**	**+0.5**	
	comp=Z,2.4nm,0.6s							
PMOR	**Pomariorio Ree**	**83.78**	**114**	*e*T	T	00 08 02.9		
	comp=Z,6.9nm,0.2s							
SOKA	**Soboth**	**83.84**	**326**	*e*P	**P**	**22 36 05.1**	**+0.3**	
	comp=Z,3.6nm,0.8s,SNR=4.6							
ANMO	**Albuquerque**	**83.93**	**50**	*ce*P	P	22 36 10.5	+4.9	
ANMO				pmax	pmax			
	comp=Z,5.0nm,2.5s							
OBKA	**Obir**	**84.18**	**327**	*e*P	**P**	**22 36 06.6**	**0.0**	
	comp=Z,3.8nm,1.0s							
KBA	**Koelnbreinsper**	**84.26**	**328**	*e*P	**P**	**22 36 07.0**	**0.0**	
	comp=Z,1.9nm,0.8s							
LESA	**Schwarzleotal**	**84.27**	**328**	*e*P	**P**	**22 36 07.4**	**+0.4**	
	comp=Z,2.1nm,0.7s							
PPT2	**Papeete2**	**84.28**	**117**	*e*LR	LR	23 02 50.6		
	comp=Z,64nm,25.0s							
WATA	**Walderalm**	**84.80**	**329**	*e*P	**P**	**22 36 10.1**	**+0.4**	
	comp=Z,4.5nm,1.1s							
MOTA	**Moosalm**	**84.99**	**329**	*i* P	**P**	**22 36 10.7**	**0.0**	
	comp=Z,4.5nm,1.2s							
RETA	**Reutte**	**85.01**	**329**	*e*P	**P**	**22 36 11.0**	**+0.3**	
	comp=Z,7.4nm,0.9s							
SQTA	**Sankt Quirin**	**85.05**	**329**	*e*P	**P**	**22 36 11.0**	**+0.1**	
	comp=Z,4.3nm,1.1s							
STAL	**STALIGIAL**	**85.17**	**327**	P	**P**	**22 36 10.2**	**-1.3**	
FETA	**Feichten**	**85.40**	**329**	*e*P	**P**	**22 36 12.7**	**-0.1**	
	comp=Z,3.3nm,1.0s							
DAVA	**Damuels**	**85.53**	**330**	*e*P	**P**	**22 36 13.2**	**-0.2**	
	comp=Z,4.9nm,0.9s							
FUORN	**Ofenpass-Fuorn**	**85.91**	**329**	P	**P**	**22 36 15.7**	**+0.3**	
DAVOX	**Davos/Dischmat**	**85.94**	**329**	LR	LR	23 17 38.9		
	comp=Z,62nm,18.9s,baz=76,slow=38							
TBI	**Tubuai**	**88.20**	**121**	*e*T	T	00 13 38.8		
	comp=Z,11nm,0.3s							
LPIG	**La Paz**	**88.52**	**61**	LR	LR	23 13 45.2		
	comp=Z,17nm,18.6s,baz=146,slow=34							
TXAR	**Lajitas Array**	**89.46**	**53**	P	**P**	**22 36 32.0**	**-0.6**	
TXAR	**Lajitas Array**	**89.46**	**53**	P	**P**	**22 36 32.0**	**-0.6**	
	comp=Z,0.3nm,0.7s,baz=322,slow=3.8,SNR=4.1							
	comp=Z,0.3nm,0.7s							
SADO	**Sadowa**	**90.13**	**28**	LR	LR	23 19 16.0		
	comp=Z,8.1nm,20.6s,baz=92,slow=37							
ESDC	**Sonseca Array**	**97.25**	**334**	LR	LR	23 25 53.7		
	comp=Z,70nm,19.0s,baz=20,slow=38							
H03N2	**Juan Fernandez**	**146.48**	**96**	T	T	01 26 53.4		
	baz=292,slow=76,SNR=10							
H03N3	**Juan Fernandez**	**146.49**	**96**	T	T	01 26 49.7		
	baz=292,slow=76,SNR=12							
H03N1	**Juan Fernandez**	**146.50**	**96**	T	T	01 26 48.6		
	baz=292,slow=76,SNR=12							

NNC ***25*** *22:50:31.0±7.0, 42.76N×84.00E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=65.9km s-min=32.9km az=144.0*

SOME 25 22:51:00.9, 42.57N×81.05E, h15km, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.31**	**297**	*e*P	Pn	22 51 20.6	-4.2
	2.5nm,0.2s						
SHLS				*e*S	Sb	22 51 34.8	-7.1
	5.4nm,0.1s						
PDGK	**Podgornoye**	**1.38**	**304**	Pn	Pn	22 51 24.1	-1.6
	6.9nm,2.0s						
PDGK				Sn	Sg	22 52 06.7	+21
	0.9nm,0.5s						
UZB	**Uzynbulak**	**1.60**	**292**	*e*P	Pb	22 51 30.3	0.0
	1.8nm,0.5s						
UZB				*e*S	Sg	22 51 51.6	-0.9
	1.9nm,0.1s						
KPKS	**Kokpek**	**1.95**	**298**	*e*P	Pb	22 51 36.4	+0.1
	1.7nm,0.4s						
KPKS				*e*S	Sb	22 52 01.9	+1.5
	4.7nm,0.0s						
DJR	**Jarkent**	**1.99**	**333**	*e*Pg	Pb	22 51 37.6	+0.7
	0.5nm,0.2s						
DJR				*e*Lg	Lg	22 52 04.1	
	2.1nm,1.8s						
SATY	**Saty**	**2.01**	**285**	*e*Pg	Pb	22 51 37.5	+0.3
	2.1nm,0.2s						
SATY				*e*Lg	Lg	22 52 03.9	
	5.6nm,0.3s						
MAKZ	**Makanchi**	**4.29**	**9**	Pn	Pn	22 51 38.0	-28
	1.8nm,1.4s						
MAKZ				Lg	Lg	22 52 46.3	
	3.2nm,0.7s						
MK31	**Makanchi Array**	**4.32**	**11**	Pn	Pn	22 51 36.9	-29
	baz=117,slow=14,SNR=31						
MK31				Lg	Lg	22 52 43.6	
	0.3nm,0.2s,baz=110,slow=30,SNR=4.4						

IDC ***25*** *23:04:21.4±1.7, 6.60S×130.78E, h0km, mb3.9/4, mbtmp3.9/6, ML4.2/2, MS3.3/2, Error ellipse: s-maj=86.0km s-min=28.0km az=70.0*

NEIC ***25*** *23:04:31.7±2.7, 6.72S±0.04×130.6E±0.1, h109km±15km, mb4.0/6, Error ellipse: s-maj=17.2km s-min=6.1km az=96.0*

DJA ***25*** *23:04:31.5±0.3, 7.3S±2.3×13.1E±.3, h78km±14km, M4.4/13, mb4.2/8, mB5.1/3, MLv4.4/13, Mw(mB)4.4/3, MwMwp5.4/1, Mwp5.6/1*

ISC 25 23:04:31.8±0.6, 6.71S±0.04×130.53E±0.07, h90km, n44, σ1§32/41, mb3.8/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.48**	**149**	Pn	**Pn**	**23 04 58.2**	**+1.0**
SAUI				Sn	**Sn**	**23 05 17.5**	**+1.0**
SAUI	**Saumlaki**	**1.48**	**149**	P	**Pn**	**23 04 58.3**	**+1.0**
SAUI				S	**Sn**	**23 05 16.9**	**+0.4**
BNDI	**Bandanaira**	**2.26**	**344**	P	**Pn**	**23 05 06.5**	**-0.9**
BNDI				S	**Sn**	**23 05 32.6**	**-2.1**
FAKI	**Fak Fak**	**4.14**	**25**	Pn	**Pn**	**23 05 32.5**	**-0.2**
FAKI				Sn	**Sn**	**23 06 18.5**	**-1.4**
FAKI	**Fak Fak**	**4.14**	**25**	P	**Pn**	**23 05 33.1**	**+0.4**
FAKI	**Fak Fak**	**4.14**	**25**	P	**Pn**	**23 05 32.9**	**+0.2**
FAKI				S	**Sn**	**23 06 18.2**	**-1.8**
KMPI	**Kaimana, Papua**	**4.38**	**46**	P	**Pn**	**23 05 36.7**	**+0.8**
SWI	**Sorong**	**5.85**	**7**	P	**Pn**	**23 05 56.0**	**-0.1**
	12nm,0.9s,0.4nm						
MTN	**Manton Dam**	**6.12**	**174**		**Pn**	**23 05 58.5**	**-1.2**
MTN	**Manton Dam**	**6.12**	**174**	P	**Pn**	**23 05 58.7**	**-1.0**
KDU	**Kakadu**	**6.24**	**162**	P	**Pn**	**23 05 59.5**	**-1.8**
SANI	**Sanana**	**6.48**	**315**	P	**Pn**	**23 06 03.2**	**-1.3**
	19nm,1.4s,0.1nm						
LBMI	**Labuha**	**6.75**	**333**	P	**Pn**	**23 06 06.9**	**-1.4**
	35nm,1.9s,2μm0.2nm						
SOEI	**Soe**	**6.90**	**244**	Pn	**Pn**	**23 06 10.5**	**+0.1**
SOEI	**Soe**	**6.90**	**244**	P	**Pn**	**23 06 11.5**	**+1.1**
SOEI	**Soe**	**6.90**	**244**	P	**Pn**	**23 06 09.2**	**-1.2**
	54nm,0.8s,0.3nm						
BBSI	**Bau Bau**	**8.01**	**278**	P	**Pn**	**23 06 25.3**	**-0.1**
	13nm,1.0s,0.1nm						
EDFI	**Ende, Flores**	**8.99**	**256**	P	**Pn**	**23 06 38.3**	**-0.7**
	6.6nm,2.5s						
KNRA	**Kununurra**	**9.08**	**191**		**Pn**	**23 06 37.3**	**-2.7**
KNRA	**Kununurra**	**9.08**	**191**	P	**Pn**	**23 06 37.8**	**-2.2**
FITZ	**Fitzroy Crossi**	**12.28**	**202**	Pn	Pn	23 07 18.2	-5.3
PLAI	**Plampang**	**12.81**	**260**	P	**Pn**	**23 07 31.3**	**+0.7**
	18nm,1.3s						
WB0	**Warramunga Arr**	**13.51**	**164**	Pn	Pn	23 07 34.8	-5.0
WR0	**Warramunga Arr**	**13.66**	**165**		Pn	23 07 35.7	-6.1
WRA	**Warramunga Arr**	**13.66**	**165**	Pn	Pn	23 07 36.6	-5.2
	1.1nm,0.3s,baz=350,slow=13,SNR=42						
WRA				Sn	Sn	23 09 58.5	-14
	3.2nm,0.3s,baz=332,slow=22,SNR=13						
	3.9nm,0.5s						
WB2	**Warramunga Arr**	**13.67**	**165**		Pn	23 07 36.7	-5.1
WR0	**Warramunga Arr**	**13.73**	**164**		Pn	23 07 37.5	-5.2
QIS	**Mount Isa**	**16.34**	**148**	P	**Pn**	**23 08 13.9**	**-1.9**
PMG	**Port Moresby**	**16.68**	**108**	LR	LR	23 15 15.2	
	comp=Z,35nm,19.9s,baz=122,slow=40						
AS31	**Alice Springs**	**17.17**	**169**		**Pn**	**23 08 25.0**	**-1.0**
ASAR	**Alice Springs**	**17.17**	**169**	P	**Pn**	**23 08 24.6**	**-1.5**
	0.9nm,0.3s,baz=352,slow=9.0,SNR=44						
ASAR				S	Sn	23 11 21.4	-15
	2.7nm,0.8s,baz=353,slow=29,SNR=5.7						
	1.7nm,0.6s						
MBWA	**Marble Bar**	**17.77**	**215**		**P**	**23 08 30.8**	**-2.1**
MBWA				IAmb	IAmb	23 09 10.1	
	comp=Z,11nm,1.2s						
PSA00	**Pilbara Seismi**	**18.03**	**214**		**P**	**23 08 34.4**	**-1.4**
PSA00				IAmb	IAmb	23 08 37.2	
	comp=Z,13nm,0.9s						
PSA00	**Pilbara Seismi**	**18.03**	**214**	Pn	**P**	**23 08 36.2**	**+0.4**
PSA00				IAmb	IAmb	23 08 37.1	
	comp=Z,4.2nm,0.8s						
PSA00	**Pilbara Seismi**	**18.03**	**214**	P	**P**	**23 08 37.0**	**+1.2**
	comp=Z,14nm,0.8s						
WRKA	**Warakurna**	**18.35**	**186**	P	**P**	**23 08 38.0**	**-1.3**
KKM	**Kota Kinabalu**	**19.10**	**311**	Pn	**P**	**23 08 48.6**	**+1.0**
CTAO	**Charters Tower**	**20.24**	**133**		**P**	**23 08 58.9**	**-1.1**
CTAO				IAmb	IAmb	23 09 07.7	
	comp=Z,9.2nm,1.2s						
OOD	**Oodnadatta**	**21.53**	**167**	P	**P**	**23 09 14.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**39.95**	**309**	P	**P**	**23 11 58.6**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=128,slow=7.1,SNR=4.4						
	comp=Z,0.6nm,0.5s						
SONM	**Songino Array**	**58.34**	**341**	P	**P**	**23 14 19.3**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=144,slow=5.1,SNR=4.3						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**68.28**	**327**	P	**P**	**23 15 24.5**	**+1.4**
	comp=Z,1.1nm,0.4s,baz=118,slow=8.2,SNR=12						
	comp=Z,1.1nm,0.4s						
KURBB	**Kurchatov Arra**	**72.54**	**328**	P	**P**	**23 15 49.9**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=126,slow=5.0,SNR=7.5						
	comp=Z,0.5nm,0.6s						
MMAI	**Mount Meron Ar**	**97.91**	**302**	LR	LR	00 05 47.0	
	comp=Z,36nm,21.9s,baz=151,slow=38						

IDC ***25*** *23:47:02.8±0.5, 38.69N×20.56E, h0km, mb4.5/29, mbtmp4.5/42, ML4.3/12, MS3.6/33, Error ellipse: s-maj=11.3km s-min=9.7km az=163.0*

TIR ***25*** *23:47:03.2, 38.58N×20.54E, h27km, Md4.4, Ml4.6*

MOS ***25*** *23:47:03.3±1.1, 38.70N×20.42E, h14km, mb4.8/29, Error ellipse: s-maj=5.1km s-min=2.6km az=80.8*

PDG ***25*** *23:47:04.8±0.3, 38.62N×20.54E, h13km, MD4.5/1, ML4.4/13, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*

THE ***25*** *23:47:05.1, 38.60N×20.53E, h0km±1km, ML4.4/29, Error ellipse: s-maj=1.4km s-min=0.4km az=268.0*

MED_RC ***25*** *23:47:05.0±0.4, 38.65N×20.43E, h20km±3km, MW4.5/10, Moment Tensor Solution.Mantle waves: s10,c16; Duration: 1§1 Moment tensor: Scale 10¹⁶Nm; Mrr-0.03±.13; Mθθ0.66±.09; Mθφ-0.63±.06; Mrθ-0.01±.07; Mφφ0.49±.05; Mφr-0.04±.12; Best double couple: M=0.81000×10¹⁶ NP1:φ=297.00000°, δ90.00000°, λ-177.00000°. NP2:φ=297.00000°, δ87.00000°, λ0.00000°. Principal axes: T 0.8300, Plg2.0000°, Azm161.0000°; N -0.0300, Plg87.0000°, Azm34.0000°; P -0.8000, Plg2.0000°, Azm252.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

ATH ***25*** *23:47:05.5, 38.59N×20.56E, h5km, Mw4.3, Moment Tensor Solution. s13 Moment tensor: Mrr0.03; Mθθ2.28; Mφφ-2.31; Mrθ2.10; Mθφ1.85; Mφr-0.55; Fault plane solution: NP1:φ=24.00000°, δ54.00000°, λ176.00000°. NP2:φ=116.00000°, δ87.00000°, λ36.00000°.*

NEIC ***25*** *23:47:06.4±1.7, 38.70N±0.05×20.47E±0.06, h15km±4km, mb4.6/143, Mwr4.4/17 Error ellipse: s-maj=7.9km s-min=6.8km az=178.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-0.62; Mθθ4.85; Mφφ-4.23; Mrθ0.12; Mθφ-0.44; Mφr1.47; Fault plane solution: M=4.83000×10¹⁵ NP1:φ=229.47000°, δ76.66000°, λ-165.56000°. NP2:φ=136.08000°, δ75.96000°, λ-13.75000°. Principal axes: T 4.8713, Plg0.0000°, Azm3.0000°; N -0.0923, Plg70.0000°, Azm271.0000°; P -4.7790, Plg20.0000°, Azm93.0000°;*

NEIC ***25*** *23:47:07.9, 38.70N×20.43E, h29km*

GII ***25*** *23:47:11.2±0.0, 37.62N×21.04E, h10km, Mm4.7/7*

NAO ***25*** *23:47:21.0, 40.35N×22.38E, h33km, mb4.2*

ISC 25 23:47:04.6±0.5, 38.61N±0.01×20.53E±0.02, h12km±3km, n792, σ1§73/891, mb4.6/129, MS3.7/28, 133C-30D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRAG	**Dragano-Lefkad**	**0.08**	**23**	P	**Pg**	**23 47 07.6**	**+0.3**
DRAG				S	**Sg**	**23 47 08.9**	**-0.4**
	192μm,0.4s						
DRAG	**Dragano-Lefkad**	**0.08**	**23**	P	**Pg**	**23 47 07.7**	**+0.4**
DRAG				S	**Sg**	**23 47 09.4**	**+0.1**
EVGI	**Lefkada island**	**0.10**	**83**	P	**Pg**	**23 47 07.5**	**0.0**
EVGI				S	**Sg**	**23 47 09.4**	**-0.1**
	196μm,0.6s						
EVGI	**Lefkada island**	**0.10**	**83**	P	**Pg**	**23 47 07.6**	**+0.1**
EVGI				S	**Sg**	**23 47 08.8**	**-0.7**
FSK	**Fiskardo**	**0.15**	**172**	P	**Pg**	**23 47 08.7**	**+0.5**
FSK				S	**Sg**	**23 47 10.5**	**-0.2**
	78μm,0.3s						
FSK	**Fiskardo**	**0.15**	**172**	P	**Pg**	**23 47 07.9**	**-0.3**
FSK				S	**Sg**	**23 47 10.6**	**-0.2**
NYDR	**Nydri-Lefkada**	**0.17**	**51**	P	**Pg**	**23 47 08.4**	**0.0**
NYDR				S	**Sg**	**23 47 11.4**	**+0.3**
	198μm,0.6s						
NYDR	**Nydri-Lefkada**	**0.17**	**51**	P	**Pg**	**23 47 08.6**	**+0.2**
NYDR				S	**Sg**	**23 47 11.3**	**+0.1**
LKD2	**Lefkada island**	**0.20**	**28**	P	**Pg**	**23 47 09.6**	**+0.4**
	baz=22						
LKD2				S	**Sg**	**23 47 12.9**	**+0.6**
	baz=22						
LKD2				AMP			
	comp=E,512nm,0.6s,baz=22						
LKD2	**Lefkada island**	**0.20**	**28**	P	**Pg**	**23 47 09.5**	**+0.4**
LKD2				S	**Sg**	**23 47 12.8**	**+0.6**
	comp=E,207μm,0.7s						
LKD2	**Lefkada island**	**0.20**	**28**	P	**Pg**	**23 47 09.4**	**+0.3**
LKD2				S	**Sg**	**23 47 12.8**	**+0.6**
LKD2				AML	AML	23 47 13.4	
LKD2				AML	AML	23 47 13.6	
TSLK	**Tsoukalades, L**	**0.23**	**24**	P	**Pg**	**23 47 10.1**	**+0.5**
TSLK				S	**Sb**	**23 47 14.2**	**+1.2**
	comp=E,139μm,0.5s						
TSLK	**Tsoukalades, L**	**0.23**	**24**	P	**Pg**	**23 47 10.2**	**+0.5**
TSLK				S	**Sg**	**23 47 13.8**	**+0.8**
KEF4	**Livadi, Kephal**	**0.36**	**194**	P	**Pg**	**23 47 12.3**	**+0.4**
KEF4				S	**Sg**	**23 47 17.4**	**+0.7**
KEF4	**Livadi, Kephal**	**0.36**	**194**	P	**Pg**	**23 47 12.3**	**+0.4**
KEF4				S	**Sg**	**23 47 17.2**	**+0.5**
DMLN	**Damoulianata-K**	**0.39**	**199**	P	**Pg**	**23 47 12.8**	**+0.4**
DMLN				S	**Sg**	**23 47 17.7**	**0.0**
	comp=E,48μm,0.7s						
DMLN	**Damoulianata-K**	**0.39**	**199**	P	**Pg**	**23 47 12.9**	**+0.4**
DMLN				S	**Sg**	**23 47 18.6**	**+0.9**
LXR1	**Lixouri, Cepha**	**0.41**	**191**	P	**Pg**	**23 47 13.3**	**+0.5**
LXR1				S	**Sg**	**23 47 19.0**	**+0.6**
	comp=E,208μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.42**	**191**	P	**Pg**	**23 47 13.3**	**+0.4**
KEF3	**Kipouria, Keph**	**0.43**	**200**	P	**Pg**	**23 47 13.0**	**-0.1**
KEF3				S	**Sg**	**23 47 19.1**	**+0.2**
	comp=E,104μm,0.4s						
KEF3	**Kipouria, Keph**	**0.43**	**200**	P	**Pg**	**23 47 13.0**	**-0.1**
KEF3				S	**Sg**	**23 47 19.1**	**+0.2**
VLS	**Valsamata**	**0.43**	**174**	P	**Pg**	**23 47 13.2**	**0.0**
VLS				S	**Sg**	**23 47 19.1**	**+0.1**
	comp=E,43μm,0.3s						
VLS	**Valsamata**	**0.43**	**174**	P	**Pg**	**23 47 13.2**	**0.0**
VLS				S	**Sg**	**23 47 19.5**	**+0.5**
VLS				AML	AML	23 47 23.0	
	comp=E,82381μm,0.2s						
VLS				AML	AML	23 47 23.0	
	comp=N,73413μm,0.2s						
AST1	**Astakos**	**0.44**	**99**	P	**Pg**	**23 47 13.4**	**+0.1**
AST1				S	**Sb**	**23 47 20.4**	**-0.4**
	comp=N,92μm,0.6s						
PSDA	**Pessada-Kefalo**	**0.50**	**175**	P	**Pg**	**23 47 14.3**	**-0.1**
PSDA				S	**Sg**	**23 47 22.3**	**+1.4**
PSDA	**Pessada-Kefalo**	**0.50**	**175**	P	**Pg**	**23 47 14.3**	**-0.1**
PVO	**Paravola**	**0.78**	**89**	P	**Pg**	**23 47 19.5**	**-0.1**
PVO				S	**Sb**	**23 47 31.3**	**+0.8**
	comp=N,150μm,0.5s						
PVO	**Paravola**	**0.78**	**89**	P	**Pg**	**23 47 19.5**	**-0.1**
PVO				S	**Sg**	**23 47 30.1**	**+0.3**
RLS	**Riolos of Patr**	**0.92**	**127**	P	**Pg**	**23 47 21.6**	**-0.7**
RLS				S	**Sb**	**23 47 35.9**	**+1.4**
	comp=N,25μm,0.6s						
RLS	**Riolos of Patr**	**0.92**	**127**	P	**Pg**	**23 47 21.8**	**-0.5**
RLS				S	**Sg**	**23 47 34.4**	**+0.1**
RLS				AML	AML	23 47 41.0	
	comp=N,55907μm,0.7s						
RLS				AML	AML	23 47 43.0	
	comp=E,45386μm,0.6s						
LTHK	**Lithakia**	**0.93**	**165**	P	**Pg**	**23 47 21.4**	**-1.1**
LTHK				S	**Sb**	**23 47 36.0**	**+1.1**
	comp=E,15μm,0.6s						
IGT	**Igoumenitsa**	**0.94**	**350**	P	**Pg**	**23 47 21.9**	**-0.8**
	baz=351						
IGT				S	**Sn**	**23 47 36.1**	**-0.7**
	baz=351						
IGT				AMP			
	comp=N,53nm,0.6s,baz=351						
IGT	**Igoumenitsa**	**0.94**	**350**	P	**Pg**	**23 47 21.6**	**-1.1**
IGT				S	**Sn**	**23 47 36.8**	**-0.1**
	comp=N,22μm,0.6s						
IGT	**Igoumenitsa**	**0.94**	**350**	P	**Pb**	**23 47 22.9**	**+0.1**
IGT				S	**Sb**	**23 47 35.9**	**+0.8**
IGT				AML	AML	23 47 40.6	
	comp=E,59572μm,0.5s						
IGT				AML	AML	23 47 45.8	
	comp=N,13368μm,0.9s						
KRI1	**kERI**	**0.97**	**167**	P	**Pb**	**23 47 22.4**	**-1.0**
KRI1				S	**Sg**	**23 47 37.5**	**+1.5**
	comp=N,23μm,0.8s						
UPR	**University Cam**	**1.03**	**108**	P	**Pb**	**23 47 24.4**	**0.0**
UPR				S	**Sg**	**23 47 39.0**	**+0.9**
EVR	**Evrytania**	**1.04**	**72**	P	**Pb**	**23 47 24.6**	**0.0**
EVR				S	**Sn**	**23 47 40.4**	**+0.8**
	comp=N,11μm,0.6s						
EVR	**Evrytania**	**1.04**	**72**	P	**Pb**	**23 47 24.6**	**0.0**
EVR				S	**Sg**	**23 47 38.9**	**+0.6**
EVR				AML	AML	23 47 51.9	
	comp=N,21467μm,0.8s						
EVR				AML	AML	23 47 51.9	
	comp=E,24181μm,0.5s						
JAN	**Janina**	**1.07**	**13**	P	**Pn**	**23 47 25.8**	**+0.3**
JAN				S	**Sn**	**23 47 41.5**	**+1.1**
	comp=E,13μm,0.6s						
JAN	**Janina**	**1.07**	**13**	P	**Pn**	**23 47 26.1**	**+0.6**
JAN				S	**Sn**	**23 47 40.8**	**+0.5**
JAN				AML	AML	23 47 45.6	
	comp=E,28664μm,0.6s						
JAN				AML	AML	23 47 46.2

AGG	**Agios Georgios**	**1.46**	**73**	P		**Pn**	**23 47 31.5**	**+0.7**
AGG	**Agios Georgios**	**1.46**	**73**	P		**Pb**	**23 47 31.8**	**+0.1**
KPRO	**Kipourio**	**1.49**	**25**	P		**Pb**	**23 47 32.5**	**+0.2**
KPRO				S		**Sg**	**23 47 54.3**	**+1.7**
	comp=N,12µm,0.7s							
KPRO	**Kipourio**	**1.49**	**25**	P		**Pb**	**23 47 32.1**	**-0.2**
KPRO				S		**Sb**	**23 47 51.2**	**+0.1**
KPRO				AML	AML		23 47 59.7	
	comp=E,22331µm,0.7s							
KPRO				AML	AML		23 48 02.1	
	comp=N,25156µm,0.8s							
THL	**Klokotos Trika**	**1.50**	**50**	P		**Pb**	**23 47 32.0**	**-0.3**
THL				S		**Sg**	**23 47 54.3**	**+1.5**
	comp=N,11µm,0.8s							
THL	**Klokotos Trika**	**1.50**	**50**	P		**Pb**	**23 47 32.2**	**-0.1**
THL				S		**Sb**	**23 47 51.2**	**0.0**
THL				AML	AML		23 47 56.9	
	comp=N,24038µm,0.8s							
THL				AML	AML		23 47 57.2	
	comp=E,21589µm,0.8s							
LSK	**Leskovik**	**1.54**	**2**	P		**Pg**	**23 47 33.9**	**-0.3**
	baz=1.0							
LSK				S		**Sg**	**23 47 54.3**	**+0.1**
	baz=1.0							
LSK				AMP				
	comp=E,33nm,0.8s,baz=1.0							
LSK	**Leskovik**	**1.54**	**2**	P		**Pb**	**23 47 33.5**	**+0.4**
DLFA	**Delphi**	**1.54**	**94**	P		**Pn**	**23 47 32.7**	**+0.8**
DLFA				S		**Sn**	**23 47 52.0**	**+0.1**
DLFA				AML	AML		23 48 00.8	
	comp=N,11473µm,1.1s							
DLFA				AML	AML		23 48 03.4	
	comp=E,17891µm,1.0s							
GUR	**Goura**	**1.57**	**115**	P		**Pn**	**23 47 32.4**	**0.0**
GUR	**Goura**	**1.57**	**115**	P		**Pn**	**23 47 32.8**	**+0.4**
GUR				S		**Sn**	**23 47 52.8**	**+0.1**
GUR				AML	AML		23 48 05.3	
	comp=N,37404µm,0.5s							
GUR				AML	AML		23 48 07.5	
	comp=E,24953µm,0.7s							
PENT	**Pentalofos**	**1.65**	**16**	P		**Pg**	**23 47 35.9**	**-0.4**
PENT	**Pentalofos**	**1.65**	**16**	P		**Pg**	**23 47 35.9**	**-0.4**
AXAR	**Agios Charalam**	**1.67**	**84**	P		**Pb**	**23 47 35.0**	**-0.3**
AXAR				S		**Sg**	**23 47 58.6**	**+0.2**
	comp=E,25µm,0.6s							
AXAR	**Agios Charalam**	**1.67**	**84**	P		**Pb**	**23 47 34.8**	**-0.5**
AXAR				S		**Sn**	**23 47 55.7**	**+0.7**
AXAR				AML	AML		23 48 04.3	
	comp=E,47964µm,0.4s							
AXAR				AML	AML		23 48 07.1	
	comp=N,48506µm,0.6s							
TYRN	**Tyrnavos**	**1.72**	**50**	P		**Pb**	**23 47 35.8**	**-0.3**
TYRN	**Tyrnavos**	**1.72**	**50**	P		**Pb**	**23 47 36.0**	**-0.1**
THAL	**Thalero**	**1.77**	**108**	P		**Pn**	**23 47 36.2**	**+1.2**
THAL	**Thalero**	**1.77**	**108**	P		**Pn**	**23 47 36.1**	**+1.2**
NEST	**Nestorio**	**1.85**	**12**	P		**Pb**	**23 47 39.3**	**+0.9**
NEST	**Nestorio**	**1.85**	**12**	P		**Pb**	**23 47 38.7**	**+0.3**
PYL	**PYLOS**	**1.96**	**150**	P		**Pn**	**23 47 39.1**	**+1.5**
PYL	**PYLOS**	**1.96**	**150**	P		**Pn**	**23 47 39.0**	**+1.3**
KLMT	**Kalamata**	**1.96**	**142**	P		**Pn**	**23 47 38.4**	**+0.8**
LOUT	**Loutraki**	**2.02**	**107**	P		**Pb**	**23 47 40.2**	**-1.0**
LOUT	**Loutraki**	**2.02**	**107**	P		**Pn**	**23 47 39.8**	**+1.4**
KBN	**Korca**	**2.02**	**5**			**Pn**	**23 47 39.8**	**+1.3**
KBN	**Korca**	**2.02**	**5**	P		**Pb**	**23 47 41.2**	**-0.1**
	baz=5.0							
KBN				S		**Sb**	**23 48 07.1**	**+0.6**
	baz=5.0							
KBN				AMP				
	comp=N,13nm,0.9s,baz=5.0							
KBN	**Korca**	**2.02**	**5**	P		**Pb**	**23 47 41.4**	**+0.1**
KBN	**Korca**	**2.02**	**5**	P		**Pn**	**23 47 39.8**	**+1.3**
VLO	**Vlora**	**2.02**	**337**			**Pn**	**23 47 38.5**	**0.0**
VLO	**Vlora**	**2.02**	**337**	P		**Pb**	**23 47 40.0**	**-1.3**
	baz=338							
VLO				S		**Sb**	**23 48 07.0**	**+0.6**
	baz=338							
VLO				AMP				
	comp=E,22nm,0.6s,baz=338							
VLO	**Vlora**	**2.02**	**337**	P		**Pb**	**23 47 40.0**	**-1.3**
VLO	**Vlora**	**2.02**	**337**	P		**Pn**	**23 47 38.5**	**0.0**
KTI	**Kastanea**	**2.16**	**34**	P		**Pn**	**23 47 42.0**	**+1.5**
SCTE	**Santa Cesarea**	**2.17**	**313**			**Pn**	**23 47 40.9**	**+0.4**
SCTE	**Santa Cesarea**	**2.17**	**313**	P		**Pn**	**23 47 41.7**	**+1.2**
	baz=314							
SCTE				AMP				
	comp=N,7.4nm,0.5s,baz=314							
SCTE	**Santa Cesarea**	**2.17**	**313**	P		**Pn**	**23 47 41.4**	**+0.9**
VIL2	**Platees**	**2.18**	**100**	P		**Pn**	**23 47 42.6**	**+1.9**
VIL2				S		**Sb**	**23 48 10.5**	**-0.6**
VIL2				AML	AML		23 48 22.9	
	comp=N,8752µm,1.4s							
VIL2				AML	AML		23 48 23.1	
	comp=E,12484µm,0.8s							
XOR	**Xorichti**	**2.21**	**69**	P		**Pn**	**23 47 42.5**	**+1.5**
XOR	**Xorichti**	**2.21**	**69**	P		**Pn**	**23 47 42.8**	**+1.8**
VILL	**Villia**	**2.23**	**101**	P		**Pn**	**23 47 43.0**	**+1.6**
FNA	**Florina**	**2.27**	**16**			**Pn**	**23 47 43.3**	**+1.4**
FNA	**Florina**	**2.27**	**16**	P		**Pb**	**23 47 44.3**	**-1.2**
	baz=16							
FNA				S		**Sb**	**23 48 13.2**	**-0.3**
	baz=16							
FNA	**Florina**	**2.27**	**16**	P		**Pn**	**23 47 43.8**	**+1.9**
FNA	**Florina**	**2.27**	**16**	⇑P		**Pb**	**23 47 43.9**	**-1.6**
FNA	**Florina**	**2.27**	**16**	P		**Pn**	**23 47 43.3**	**+1.4**
KRND	**KRANIDI**	**2.40**	**120**	P		**Pn**	**23 47 45.3**	**+1.6**
KRND	**KRANIDI**	**2.40**	**120**	P		**Pn**	**23 47 45.0**	**+1.3**
KRND				S		**Sn**	**23 48 13.0**	**-0.1**
KRND				AML	AML		23 48 29.1	
	comp=E,7117µm,1.3s							
KRND				AML	AML		23 48 32.4	
	comp=N,10219µm,1.0s							
ATH	**Athens Observa**	**2.58**	**103**	P		**Pn**	**23 47 47.1**	**+0.9**
ATH	**Athens Observa**	**2.58**	**103**	P		**Pn**	**23 47 47.7**	**+1.5**
ATH				S		**Sn**	**23 48 19.4**	**+1.9**
ATH				AML	AML		23 48 34.4	
	comp=N,3586µm,0.6s							
ATH				AML	AML		23 48 38.4	
	comp=E,5835µm,0.7s							
ATHU	**Athens Univers**	**2.64**	**103**	P		**Pn**	**23 47 48.4**	**+1.5**
ATHU	**Athens Univers**	**2.64**	**103**	P		**Pn**	**23 47 48.4**	**+1.5**
VLY	**Voula,Athens**	**2.68**	**105**	P		**Pn**	**23 47 48.9**	**+1.4**
PTL	**Penteli**	**2.68**	**101**	P		**Pn**	**23 47 50.3**	**+2.8**
DION	**Dionisos Attik**	**2.72**	**100**	P		**Pn**	**23 47 51.0**	**+2.8**
GRG	**Griva**	**2.75**	**31**	P		**Pn**	**23 47 49.7**	**+1.2**
THE	**Thessaloniki**	**2.76**	**42**	P		**Pn**	**23 47 50.2**	**+1.6**
	baz=41							
THE				S		**Sb**	**23 48 25.5**	**-2.0**
	baz=41							
THE	**Thessaloniki**	**2.76**	**42**	P		**Pn**	**23 47 49.4**	**+0.8**
PAIG	**Paliouri**	**2.77**	**61**	P		**Pn**	**23 47 49.9**	**+1.1**
TIR	**Tirane**	**2.78**	**350**	⇑P		**Pn**	**23 47 50.6**	**+1.6**
TIR	**Tirane**	**2.78**	**350**			**Pn**	**23 47 50.3**	**+1.4**
TIR	**Tirane**	**2.78**	**350**	P		**Pn**	**23 47 50.7**	**+1.8**
	baz=350							
TIR				AMP				
	comp=N,3.0nm,0.7s,baz=350							
TIR	**Tirane**	**2.78**	**350**	P		**Pn**	**23 47 50.6**	**+1.6**
TIR	**Tirane**	**2.78**	**350**	⇑P		**Pn**	**23 47 50.6**	**+1.6**
TIR	**Tirane**	**2.78**	**350**	P		**Pn**	**23 47 50.3**	**+1.4**
HORT	**Hortiatis**	**2.81**	**44**	P		**Pn**	**23 47 50.0**	**+0.7**
TIP	**Timpagrande**	**3.00**	**282**	⇓P		**Pn**	**23 47 52.8**	**+0.8**
TIP				⇓S		**Sn**	**23 48 27.3**	**-0.6**
TIP	**Timpagrande**	**3.00**	**282**			**Pn**	**23 47 52.6**	**+0.6**
TIP	**Timpagrande**	**3.00**	**282**	⇓P		**Pn**	**23 47 53.0**	**+1.0**
PHP	**Peshkopia**	**3.07**	**359**	P		**Pn**	**23 47 54.8**	**+1.8**
	baz=359							
PHP				AMP				
	comp=N,4.3nm,1.1s,baz=359							
PHP	**Peshkopia**	**3.07**	**359**	P		**Pn**	**23 47 54.7**	**+1.7**
SOH	**Sokhos**	**3.10**	**44**	P		**Pn**	**23 47 55.1**	**+1.7**
VAY	**Valandovo**	**3.13**	**29**	*i* Pn		**Pn**	**23 47 55.0**	**+1.4**
KNT	**Kendrikon**	**3.13**	**35**	P		**Pn**	**23 47 55.0**	**+1.2**
OUR	**Ouranopolis**	**3.18**	**56**	P		**Pn**	**23 47 55.9**	**+1.6**
STIP	**Stip**	**3.33**	**22**	*i* Pn		**Pn**	**23 47 59.4**	**+2.9**
SRS	**Serrai**	**3.44**	**42**	P		**Pn**	**23 47 59.1**	**+1.1**
NOCI	**Noci**	**3.45**	**310**	P		**Pn**	**23 47 59.1**	**+0.9**
	baz=311							
KOKK	**Kokkinochori,**	**3.46**	**49**	P		**Pn**	**23 47 59.8**	**+1.5**
ULC	**Ulcinj**	**3.49**	**344**	⇑*i* Pn		**Pn**	**23 47 58.9**	**+0.2**
ULC				*i* Sn		**Sn**	**23 48 38.5**	**-1.5**
MATE	**Matera**	**3.59**	**306**	⇓P		**Pn**	**23 48 00.9**	**+0.9**
MATE	**Matera**	**3.59**	**306**	⇑P		**Pn**	**23 48 00.5**	**+0.5**
CEL	**Celeste**	**3.66**	**266**			**Pn**	**23 48 01.5**	**+0.4**
CEL	**Celeste**	**3.66**	**266**	⇑P		**Pn**	**23 48 02.0**	**+0.9**
DRME	**Dracevica, Mon**	**3.72**	**344**	⇑*i* Pn		**Pn**	**23 48 02.2**	**+0.4**
DRME	**Dracevica, Mon**	**3.72**	**344**	⇑*i* Pn		**Pn**	**23 48 02.3**	**+0.4**
DRME				*i* Sn		**Sn**	**23 48 47.4**	**+1.9**
NVR	**Nevrokopi**	**3.75**	**42**	P		**Pn**	**23 48 04.3**	**+2.1**
BCI	**Bajram Curri**	**3.77**	**355**	P		**Pn**	**23 48 04.6**	**+2.1**
	baz=355							
BCI				AMP				
	comp=N,5.1nm,0.6s,baz=355							
LIA	**Limnos Island**	**3.83**	**69**	P		**Pn**	**23 48 04.7**	**+1.4**
BUM	**Brajici-Budva**	**3.89**	**342**	⇑*i* Pn		**Pn**	**23 48 04.2**	**-0.1**
BUM				*i* Sn		**Sn**	**23 48 50.7**	**+0.8**
CUC	**Castrocucco**	**3.91**	**292**			**Pn**	**23 48 06.6**	**+2.1**
CUC	**Castrocucco**	**3.91**	**292**	⇑P		**Pn**	**23 48 07.2**	**+2.7**
PDG	**Podgorica**	**3.94**	**346**	⇑P		**Pn**	**23 48 05.4**	**+0.5**
PDG				⇑S		**Sn**	**23 48 50.3**	**-0.6**
PDG	**Podgorica**	**3.94**	**346**			**Pn**	**23 48 05.3**	**+0.5**
PDG	**Podgorica**	**3.94**	**346**	⇑*i* Pn		**Pn**	**23 48 05.0**	**+0.2**
PDG	**Podgorica**	**3.94**	**346**	⇑P		**Pn**	**23 48 05.2**	**+0.3**
PDG	**Podgorica**	**3.94**	**346**	⇑*i* Pn		**Pn**	**23 48 05.3**	**+0.5**
PDG				*i* Sn		**Sn**	**23 48 49.0**	**-1.9**
RODP	**Rodopos**	**3.99**	**139**	P		**Pn**	**23 48 08.0**	**+2.5**
PVY	**Plav**	**4.00**	**354**	⇓*i* Pn		**Pn**	**23 48 07.2**	**+1.3**
PVY				*i* Sn		**Sn**	**23 48 51.9**	**-0.9**
CEME	**Cevo**	**4.12**	**343**	⇑*i* Pn		**Pn**	**23 48 07.3**	**-0.1**
CEME				*i* Sn		**Sn**	**23 48 51.9**	**-3.6**
HCY	**Herceg Novi**	**4.14**	**339**	⇑*i* Pn		**Pn**	**23 48 06.8**	**-0.8**
HCY	**Herceg Novi**	**4.14**	**339**	⇓*i* Pn		**Pn**	**23 48 06.5**	**-1.1**
HCY				*i* Sn		**Sn**	**23 48 54.3**	**-1.5**
MRVN	**Minervino Murg**	**4.14**	**308**	⇑P		**Pn**	**23 48 08.3**	**+0.7**
IMMV	**Iera Moni Meta**	**4.18**	**138**	P		**Pn**	**23 48 10.4**	**+2.2**
SIGR	**SIGRI**	**4.19**	**80**	P		**Pn**	**23 48 10.4**	**+2.1**
APE	**Apeiranthos**	**4.24**	**110**	⇑P		**Pn**	**23 48 12.2**	**+3.1**
APE	**Apeiranthos**	**4.24**	**110**	P		**Pn**	**23 48 10.1**	**+1.0**
APE	**Apeiranthos**	**4.24**	**110**	⇑P		**Pn**	**23 48 10.6**	**+1.5**
APE	**Apeiranthos**	**4.24**	**110**	*i* P		**Pn**	**23 48 10.3**	**+1.2**
IVA	**Berane**	**4.29**	**354**	⇑*i* Pn		**Pn**	**23 48 11.4**	**+1.7**
IVA				*i* Sn		**Sn**	**23 49 00.7**	**+1.1**
SMTH	**Samothraki Isl**	**4.29**	**63**	P		**Pn**	**23 48 10.8**	**+1.2**
KOME	**Kolasin**	**4.31**	**350**	⇑*i* Pn		**Pn**	**23 48 11.1**	**+1.1**
KOME				*i* Sn		**Sn**	**23 49 02.0**	**+1.8**
NKME	**Niksic**	**4.32**	**344**	⇑*i* Pn		**Pn**	**23 48 10.1**	**-0.1**
NKME				*i* Sn		**Sn**	**23 48 59.8**	**-0.7**
CHOS	**Chios island**	**4.34**	**91**	P		**Pn**	**23 48 12.2**	**+1.8**
TREB	**Trebinje**	**4.43**	**339**	*e*Pn		**Pn**	**23 48 11.1**	**-0.4**
PRK	**Paraskevi**	**4.52**	**80**	P		**Pn**	**23 48 15.1**	**+2.3**
BRY	**Bratogost**	**4.55**	**341**	⇑*i* Pn		**Pn**	**23 48 12.6**	**-0.7**
BRY	**Bratogost**	**4.55**	**341**	⇑*i* Pn		**Pn**	**23 48 12.8**	**-0.5**
BRY				*i* Sn		**Sn**	**23 49 06.0**	**-0.2**
RDO	**Rodhopi**	**4.61**	**55**			**Pn**	**23 48 15.3**	**+1.3**
RDO	**Rodhopi**	**4.61**	**55**	⇑P		**Pn**	**23 48 15.1**	**+1.1**
EZN	**Ezine**	**4.66**	**73**	P		**Pn**	**23 48 16.4**	**+1.7**
EZN	**Ezine**	**4.66**	**73**	P		Pn	23 48 19.6	+4.9
SJES	**Sjenica**	**4.67**	**355**	⇑*i* Pn		**Pn**	**23 48 16.0**	**+1.1**
UPM	**Unac-Piva**	**4.75**	**345**	⇑*i* Pn		**Pn**	**23 48 16.3**	**+0.1**
UPM	**Unac-Piva**	**4.75**	**345**	⇓*i* Pn		**Pn**	**23 48 16.8**	**+0.6**
UPM				*i* Sn		**Sn**	**23 49 12.4**	**+1.1**
STON	**Ston**	**4.77**	**334**	⇑*i* Pn		**Pn**	**23 48 15.5**	**-0.7**
PLE	**Pljevlja**	**4.79**	**350**	⇑*i* Pn		**Pn**	**23 48 17.7**	**+1.0**
PLE				*i* Sn		**Sn**	**23 49 10.4**	**-1.8**
ALN	**Alexandroupoli**	**4.82**	**60**	Pn		**Pn**	**23 48 18.4**	**+1.5**
ALN	**Alexandroupoli**	**4.82**	**60**	⇑P		**Pn**	**23 48 18.2**	**+1.3**
ALN	**Alexandroupoli**	**4.82**	**60**	P		**Pn**	**23 48 18.5**	**+1.5**
ENEZ	**Enez**	**4.83**	**52**	P		**Pn**	**23 48 18.7**	**+1.7**
SGRT	**San Giovanni R**	**4.83**	**312**			**Pn**	**23 48 16.9**	**-0.2**
SGRT	**San Giovanni R**	**4.83**	**312**	P		**Pn**	**23 48 17.8**	**+0.7**
	baz=313							
VAE	**Valguarnera**	**4.96**	**259**	Pn		**Pn**	**23 48 20.3**	**+1.3**
	comp=N,33nm,0.7s,baz=166,slow=8.6,SNR=19							
VAE				Sn		**Sn**	**23 49 19.9**	**+3.6**
	comp=N,8.5nm,0.3s,baz=317,slow=22,SNR=2.2							
DKL	**Dikili**	**5.00**	**83**	⇑P		**Pn**	**23 48 22.6**	**+3.2**
NEVS	**Nevesinje**	**5.03**	**339**	*e*Pn		**Pn**	**23 48 19.6**	**-0.3**
SMG	**Samos**	**5.05**	**98**	P		**Pn**	**23 48 22.5**	**+2.4**
RAFF	**Raffo Rosso**	**5.07**	**256**			**Pn**	**23 48 20.1**	**-0.4**
RUDO	**Rudo**	**5.08**	**350**	*e*Pn		**Pn**	**23 48 19.9**	**-0.6**
BOVS	**Bovan**	**5.10**	**10**	⇑P		**Pn**	**23 48 20.7**	**-0.1**
BLKB	**Belogradchik**	**5.26**	**17**	⇑P		**Pn**	**23 48 24.6**	**+1.6**
BBLS	**Lazići**	**5.32**	**351**	⇑*i* Pn		**Pn**	**23 48 23.6**	**-0.3**
DIVS	**Divibare**	**5.50**	**356**			**Pn**	**23 48 25.6**	**-0.7**
DIVS	**Divibare**	**5.50**	**356**	⇑*i* Pn		**Pn**	**23 48 26.1**	**-0.3**
DIVS	**Divibare**	**5.50**	**356**	⇑P		**Pn**	**23 48 26.1**	**-0.3**
WDD	**Wied Dalam**	**5.54**	**242**			**Pn**	**23 48 27.3**	**+0.5**
WDD	**Wied Dalam**	**5.54**	**242**	⇓P		**Pn**	**23 48 26.9**	**+0.1**
BODT	**Bodrum**	**5.58**	**104**	P		**Pn**	**23 48 29.0**	**+1.6**
HAPS	**Han Pijesak,BI**	**5.60**	**348**	⇑*i* Pn		**Pn**	**23 48 27.6**	**-0.2**
PLVB	**Pleven**	**5.69**	**32**	⇑P		**Pn**	**23 48 30.5**	**+1.7**
ZKR	**Zakros**	**5.74**	**126**	P		**Pn**	**23 48 32.1**	**+2.5**
CLTB	**Caltabellotta**	**5.86**	**262**			**Pn**	**23 48 32.7**	**+1.3**
CLTB	**Caltabellotta**	**5.86**	**262**	⇑P		**Pn**	**23 48 33.0**	**+1.6**
ELND	**Elena**	**5.92**	**42**	⇑P		**Pn**	**23 48 33.2**	**+1.1**
PUNG	**Punghina**	**5.94**	**17**	⇑P		**Pn**	**23 48 33.0**	**+0.6**
TEKS	**Tekeris**	**5.98**	**353**	⇑*i* Pn		**Pn**	**23 48 31.9**	**-1.0**
INTR	**Introdacqua**	**6.10**	**306**			**Pn**	**23 48 36.2**	**+1.6**
KARP	**Karpathos**	**6.12**	**118**			**Pn**	**23 48 38.2**	**+3.4**
KARP	**Karpathos**	**6.12**	**118**	⇑P		**Pn**	**23 48 36.9**	**+2.1**
VLAD	**Vladila**	**6.12**	**27**	⇓P		**Pn**	**23 48 36.1**	**+1.4**
MDVR	**Moldovita**	**6.23**	**8**	⇑P		**Pn**	**23 48 36.5**	**+0.2**
DJES	**Djerdap**	**6.23**	**13**			**Pn**	**23 48 36.6**	**+0.3**
RMGR	**Halanga-Turnu**	**6.26**	**14**	⇑P		**Pn**	**23 48 37.8**	**+1.1**
MGRS	**Mrkonjic Grad**	**6.35**	**337**	⇑*i* Pn		**Pn**	**23 48 38.2**	**+0.2**
KULA	**Kula-Manisa**	**6.37**	**88**	P		**Pn**	**23 48 41.7**	**+3.4**
SRE	**Strehaia**	**6.37**	**17**	⇑P		**Pn**	**23 48 39.2**	**+1.0**
SRE	**Strehaia**	**6.37**	**17**	P		**Pn**	**23 48 39.2**	**+1.0**
HERR	**Herculane**	**6.42**	**12**	⇑P		**Pn**	**23 48 39.3**	**+0.3**
ARG	**Arkhangelos**	**6.50**	**109**			**Pn**	**23 48 43.7**	**+3.7**
ARG	**Arkhangelos**	**6.50**	**109**	P		**Pn**	**23 48 43.5**	**+3.5**
ARG	**Arkhangelos**	**6.50**	**109**	⇑P		**Pn**	**23 48 44.0**	**+4.0**
ARG	**Arkhangelos**	**6.50**	**109**	P		**Pn**	**23 48 43.7**	**+3.7**
COPA	**Copaceanca**	**6.55**	**31**	⇑P		**Pn**	**23 48 42.1**	**+1.5**
FRGS	**Fruska Gora**	**6.57**	**356**	⇑P		**Pn**	**23 48 40.4**	**-0.5**
FRGS	**Fruska Gora**	**6.57**	**356**	⇑*i* Pn		**Pn**	**23 48 40.0**	**-0.9**
A050A	**Klekovaca**	**6.59**	**334**	⇑*i* Pn		**Pn**	**23 48 41.9**	**+0.6**
AQU	**L'Aquila**	**6.60**	**307**			**Pn**	**23 48 43.4**	**+2.0**
AQU	**L'Aquila**	**6.60**	**307**	⇓P		**Pn**	**23 48 44.0**	**+2.5**
AQU	**L'Aquila**	**6.60**	**307**	P		**Pn**	**23 48 43.4**	**+2.0**
LOZB	**Loznitsa**	**6.60**	**42**	⇑P		**Pn**	**23 48 43.2**	**+1.8**
BLY	**Banja Luka**	**6.63**	**339**	⇑*i* Pn		**Pn**	**23 48 41.4**	**-0.3**
CAMP	**Campotosto**	**6.69**	**308**			**Pn**	**23 48 43.6**	**+0.9**
HUMR	**Humele**	**6.79**	**28**	⇑P		**Pn**	**23 48 45.4**	**+1.5**
SGRR	**Singureni**	**6.94**	**34**	⇑P		**Pn**	**23 48 47.0**	**+1.0**
A051A	**Mrakovica**	**6.95**	**338**	⇑*i* Pn		**Pn**	**23 48 45.7**	**-0.5**
PRIJ	**Prijedor**	**6.97**	**337**	⇑*i* Pn		**Pn**	**23 48 46.2**	**-0.3**
GZR	**Gura Zlata**	**6.98**	**13**	⇑P		**Pn**	**23 48 46.9**	**+0.2**
GZR	**Gura Zlata**	**6.98**	**13**	P		**Pn**	**23 48 46.8**	**+0.2**
NRCA	**Norcia**	**7.04**	**309**			**Pn**	**23 48 48.5**	**+1.0**
GUMA	**Gualdo di Mace**	**7.04**	**311**			**Pn**	**23 48 48.1**	**+0.7**
BZS	**Buzias**	**7.05**	**6**	⇑P		**Pn**	**23 48 47.1**	**-0.4**
BZS	**Buzias**	**7.05**	**6**	⇑P		**Pn**	**23 48 46.9**	**-0.6**
BZS	**Buzias**	**7.05**	**6**	P		**Pn**	**23 48 46.9**	**-0.6**
FDMO	**Fiordimonte**	**7.17**	**310**			**Pn**	**23 48 49.2**	**0.0**
LOT	**Lotru**	**7.25**	**18**	⇑P		**Pn**	**23 48 50.8**	**+0.5**
CESX	**Cesi**	**7.25**	**306**			**Pn**	**23 48 51.3**	**+1.0**
ARR	**Arges**	**7.41**	**23**	⇑P		**Pn**	**23 48 53.5**	**+1.0**
MTUR	**Matau**	**7.42**	**26**	⇑P		**Pn**	**23 48 54.9**	**+2.1**
MTUR	**Matau**	**7.42**	**26**	P		**Pn**	**23 48 54.8**	**+2.1**
SULR		**7.42**	**33**	⇓P		**Pn**	**23 48 55.0**	**+2.4**
VOIR		**7.60**	**25**	⇓P		**Pn**	**23 48 56.8**	**+1.5**
VOIR		**7.60**	**25**	P		**Pn**	**23 48 56.7**	**+1.5**
ELL	**Elmali**	**7.66**	**101**			**Pn**	**23 49 00.5**	**+4.4**
ELL	**Elmali**	**7.66**	**101**	P		**Pn**	**23 49 00.5**	**+4.4**
KOVH	**Kovagotottos**	**7.69**	**347**	⇑P		**Pn**	**23 48 54.8**	**-1.6**
SIRR	**Siria**	**7.70**	**6**	⇓P		**Pn**	**23 48 57.3**	**+0.8**
MGAB	**Montegabbione**	**7.70**	**307**	⇑P		**Pn**	**23 48 57.5**	**+1.0**
MORH	**Mrgy, Hungar**	**7.73**	**350**	⇑P		**Pn**	**23 48 55.6**	**-1.3**
MORH				⇓S		**Sn**	**23 50 19.1**	**-5.1**
AMBH	**Ambrzfalva**	**7.74**	**1**	⇑P		**Pn**	**23 48 56.5**	**-0.5**
ISR	**Istrita**	**7.90**	**33**	⇑P		**Pn**	**23 49 02.7**	**+3.5**
ISR	**Istrita**	**7.90**	**33**	P		**Pn**	**23 49 02.3**	**+3.1**
PGOR	**Pogoanele**	**7.92**	**35**	⇓P		**Pn**	**23 49 02.0**	**+2.5**
BOJS	**Bojanci**	**7.93**	**332**	⇑*i* Pn		**Pn**	**23 48 59.3**	**-0.3**
BOJS	**Bojanci**	**7.93**	**332**	*i* Pn		**Pn**	**23 48 59.3**	**-0.3**
MLR	**Muntele Rosu**	**7.97**	**29**	⇑P		**Pn**	**23 49 03.1**	**+2.8**
MLR	**Muntele Rosu**	**7.97**	**29**			**Pn**	**23 49 01.9**	**+1.7**
MLR	**Muntele Rosu**	**7.97**	**29**	P		**Pn**	**23 49 01.9**	**+1.7**
MLR	**Muntele Rosu**	**7.97**	**29**	Pn		**Pn**	**23 49 02.0**	**+1.7**
	comp=N,3.0nm,0.3s,baz=211,slow=2.7,SNR=41							
MLR				LR		LR	23 52 39.9	
	comp=N,696nm,21.2s,baz=208,slow=43							
	comp=N,55nm,0.9s							
MANR	**Mangalia**	**7.99**	**47**	⇑P		**Pn**	**23 49 03.1**	**+2.7**
NEHR	**Nehoiu**	**8.05**	**30**	⇑P		**Pn**	**23 49 04.4**	**+3.2**
CRES	**Cresnjev**	**8.13**	**334**	⇑*i* Pn		**Pn**	**23 49 01.7**	**-0.7**
DOPR	**Dopca**	**8.18**	**24**	⇑P		**Pn**	**23 49 04.7**	**+1.6**
HARR	**Harsova**	**8.22**	**40**	⇑P		**Pn**	**23 49 05.6**	**+2.0**
HARR	**Harsova**	**8.22**	**40**	P		**Pn**	**23 49 05.5**	**+2.0**
TSCT	**Constanta Port**	**8.25**	**45**	⇑P		**Pn**	**23 49 05.5**	**+1.5**
MARR	**Marisel-Cluj**	**8.28**	**12**	⇑P		**Pn**	**23 49 06.2**	**+1.6**
TIRR	**Tirgusor**	**8.31**	**43**	⇑P		**Pn**	**23 49 06.1**	**+1.3**
TIRR	**Tirgusor**	**8.31**	**43**			**Pn**	**23 49 05.6**	**+0.8**
TIRR	**Tirgusor**	**8.31**	**43**	⇓P		**Pn**	**23 49 06.2**	**+1.4**
TIRR	**Tirgusor**	**8.31**	**43**	P		**Pn**	**23 49 05.6**	**+0.8**
COVR	**Voineasa-Covas**	**8.36**	**28**	⇑P		**Pn**	**23 49 08.3**	**+2.7**
BOSR	**Bodos**	**8.37**	**25**	⇑P		**Pn**	**23 49 07.6**	**+1.9**
CJR	**Cluj-Napoca**	**8.41**	**15**	⇑P		**Pn**	**23 49 07.8**	**+1.5**
CJR	**Cluj-Napoca**	**8.41**	**15**	P		**Pn**	**23 49 07.7**	**+1.5**

FETA Feichten 11.06 323 *e*Pn **Pn 23 49 42.9 +0.3**
comp=Z,4.2nm,0.5s
VRAC Vranov 11.06 346 ⇓P **Pn 23 49 41.9 -0.6**
VRAC Vranov 11.06 346 *e*PN **Pn 23 49 41.3 -1.3**
VRAC Vranov 11.06 346 Pn **Pn 23 49 41.7 -0.8**
comp=Z,0.4nm,0.3s,baz=177,slow=12,SNR=22
VRAC Sn **Sn 23 51 41.2 -5.0**
comp=Z,0.1nm,0.3s,baz=151,slow=7.0,SNR=1.9
VRAC LR LR 23 55 30.3
comp=Z,564nm,18.6s,baz=172,slow=46
comp=Z,6.5nm,0.8s
SORM Soroca 11.08 28 ⇑P **Pn 23 49 44.1 +1.3**
SORM Soroca 11.08 28 P **Pn 23 49 44.1 +1.3**
MOTA Moosalm 11.12 325 *e*Pn **Pn 23 49 42.8 -0.7**
comp=Z,63nm,0.7s
MOTA Sn **Sn 23 51 43.7 -4.2**
comp=Z,28nm,0.9s
KWP Kalwaria Pacla 11.13 7 Pn 23 49 44.2 +0.8
KWP Kalwaria Pacla 11.13 7 P **Pn 23 49 44.2 +0.8**
CKRC Cesky Krumlov 11.15 338 *e*P **Pn 23 49 42.8 -1.0**
CKRC Cesky Krumlov 11.15 338 *e*P **Pn 23 49 42.8 -1.0**
DAVOX Davos/Dischmat 11.31 320 Pn **Pn 23 49 47.5 +1.4**
comp=Z,1.8nm,0.3s,baz=108,slow=18,SNR=32
DAVOX Sn **Sn 23 51 45.1 -7.3**
comp=Z,1.5nm,0.3s,baz=329,slow=21,SNR=3.1
DAVOX LR LR 23 54 45.5
comp=Z,224nm,19.8s,baz=122,slow=41
OKC Ostrava-Krasne 11.36 352 *e*P **Pn 23 49 46.7 +0.2**
OKC Ostrava-Krasne 11.36 352 *e*P **Pn 23 49 46.7 +0.2**
GEC2 GERESS Array S 11.36 336 Pn 23 49 44.7 -2.0
GEC2 GERESS Array S 11.36 336 *e*P **Pn 23 49 45.1 -1.6**
baz=146,slow=15
GERES GERESS Array B 11.36 336 Pn **Pn 23 49 45.3 -1.4**
GERES GERESS Array B 11.36 336 P **Pn 23 49 45.3 -1.4**
GERES GERESS Array B 11.36 336 Pn **Pn 23 49 45.5 -1.2**
comp=Z,1.9nm,0.3s,baz=157,slow=14,SNR=68
GERES Sn **Sn 23 51 47.8 -5.7**
comp=Z,0.9nm,0.3s,baz=151,slow=22,SNR=5.1
comp=Z,13nm,0.6s
MORC Moravsky Berou 11.37 350 ⇑P **Pn 23 49 47.0 +0.3**
MORC Moravsky Berou 11.37 350 Pn 23 49 46.2 -0.6
MORC Moravsky Berou 11.37 350 *e*PN **Pn 23 49 45.9 -0.9**
MORC Moravsky Berou 11.37 350 ⇑P **Pn 23 49 47.1 +0.3**
MORC Moravsky Berou 11.37 350 P **Pn 23 49 46.2 -0.6**
RETA Reutte 11.38 324 *i* Pn **Pn 23 49 47.1 +0.1**
comp=Z,8.1nm,0.6s
RETA *e*Sn **Sn 23 51 49.1 -5.0**
comp=Z,12nm,0.6s
TUE Stuetta 11.39 317 Pn 23 49 46.7 -0.5
TUE Stuetta 11.39 317 ⇓P **Pn 23 49 47.3 +0.1**
MONC Moncucco Torin 11.40 309 ⇓P **Pn 23 49 49.5 +2.3**
LVV L'vov 11.48 11 *e*P **Pn 23 49 50.4 +2.1**
LVV *e*S **Sn 23 51 58.0 +1.6**
LVV pmax pmax
comp=Z,40nm,1.3s
LVV MLR MLR
comp=E,300nm,11.0s
LVV MLR MLR
comp=N,200nm,10.0s
LVV MLR MLR
comp=Z,300nm,10.0s
KHC Kasperske Hory 11.65 337 Pn 23 49 48.7 -1.9
KHC Kasperske Hory 11.65 337 ⇓P **Pn 23 49 49.1 -1.5**
KHC Kasperske Hory 11.65 337 *e*P **Pn 23 49 49.0 -1.5**
KHC *ex* x 23 49 57.0
KHC *e*S **Sn 23 51 58.3 -2.2**
KHC AMS AMS 23 55 00.0
comp=Z,600nm,9.1s
KHC Kasperske Hory 11.65 337 *ce*P **Pn 23 49 48.2 -2.4**
KHC pmax pmax
comp=Z,40nm,1.0s
DAVA Damuels 11.66 321 *e*Pn **Pn 23 49 51.1 +0.2**
comp=Z,7.2nm,0.5s
DAVA *e*Sn **Sn 23 51 56.6 -4.3**
comp=Z,25nm,0.8s
DAVA Damuels 11.66 321 ⇑P **Pn 23 49 51.7 +0.9**
DAVA ⇑S **Sn 23 51 59.0 -1.9**
FUR Furstenfeldbru 11.68 328 *e*P **Pn 23 49 49.8 -1.2**
baz=146,slow=15
ZVC Zvikov 11.74 339 *e*P **Pn 23 49 51.5 -0.3**
KRLC Kraliky 11.77 348 AMS AMS 23 55 30.0
comp=Z,700nm,15.0s
UBR Ueberruh 11.83 323 *e*P **Pn 23 49 52.9 -0.2**
baz=146,slow=15
WET Wettzell 11.88 335 *e*P **Pn 23 49 52.0 -1.8**
baz=146,slow=15
SIM Simferopol' 11.95 54 *e*P Pn 23 50 01.8 +7.1
SIM pmax pmax
comp=Z,22nm,1.0s
BNN Bunyan 11.96 84 Pn **Pn 23 49 58.6 +3.6**
GOPC GO Pecny, Ondr 12.02 342 *e*P **Pn 23 49 54.9 -0.8**
GOPC GO Pecny, Ondr 12.02 342 *e*P **Pn 23 49 54.9 -0.8**
DPC Dobruska-Polom 12.12 347 *e*P **Pn 23 49 56.6 -0.4**
DPC AMS AMS 23 55 30.0
comp=Z,900nm,14.3s
DPC Dobruska-Polom 12.12 347 *e*P **Pn 23 49 56.6 -0.4**
DPC MLR MLR
comp=Z,900nm,14.3s
PRU Pruhonice 12.15 341 *e*P **Pn 23 49 56.9 -0.5**
PRU Pruhonice 12.15 341 *e*P **Pn 23 49 56.9 -0.5**
PRA Prague 12.26 341 *e*P **Pn 23 49 57.5 -1.3**
PRA AMS AMS 23 55 50.0
comp=Z,600nm,9.2s
PRA Prague 12.26 341 *e*P **Pn 23 49 57.5 -1.3**
PRA MLR MLR
comp=Z,600nm,9.2s
UPC Upice 12.32 346 *e*P **Pn 23 49 58.5 -1.2**
UPC Upice 12.32 346 *e*P **Pn 23 49 58.5 -1.2**
OSTC Ostas 12.33 347 *e*P **Pn 23 50 00.4 +0.5**
OSTC AMS AMS 23 55 40.0
comp=Z,900nm,17.9s
OSTC Ostas 12.33 347 *e*P **Pn 23 50 00.4 +0.5**
OSTC MLR MLR
comp=Z,900nm,17.9s
SENIN Lac Senin/Sane 12.46 313 Pn 23 50 01.9 +0.1
ROTZ Rotzenmuhle 12.64 335 *e*P **Pn 23 50 02.1 -2.0**
baz=146,slow=15
MANZ Manzenberg 12.87 335 *e*P **Pn 23 50 04.8 -2.4**
baz=146,slow=15
STU Stuttgart 13.04 325 Pn 23 50 08.2 -1.4
STU Stuttgart 13.04 325 P **Pn 23 50 08.2 -1.4**
STU Stuttgart 13.04 325 *e*P **Pn 23 50 08.1 -1.4**
baz=146,slow=15
HNTI Hanita 13.09 110 Pn **Pn 23 50 07.8 -2.5**
HNTI Sn Sn 23 52 26.1 -10
BRG Berggiesshubel 13.12 341 *i* P **Pn 23 50 10.1 -0.5**
BRG Amp 23 50 12.3
comp=Z,6.8nm,1.0s
BRG Berggiesshubel 13.12 341 P **P 23 50 17.0 -3.8**
BRG Amp 23 50 18.3
comp=Z,5.3nm,0.9s
BRG Berggiesshubel 13.12 341 P **P 23 50 23.1 +2.3**
BRG Amp 23 50 23.9
comp=Z,4.7nm,0.9s
BRG Amp 23 56 08.0
comp=E,0.3nm,15.1s
BRG Amp 23 56 23.0
comp=Z,0.5nm,15.6s
BRG Amp 23 56 27.0
comp=N,0.2nm,11.6s
BRG Berggiesshubel 13.12 341 *i* P **Pn 23 50 10.1 -0.5**
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG MLR MLR
comp=E,274nm,15.1s
BRG MLR MLR
comp=Z,481nm,15.6s
BRG MLR MLR
comp=N,246nm,11.6s
TANN Tannenbergstha 13.12 337 *e*P **Pn 23 50 10.5 -0.2**
baz=146,slow=15
GAZ Gaziantep 13.25 91 Pn Pn 23 50 15.7 +3.1
MMC7 Mount Meron ar 13.28 110 Pn Pn 23 50 10.5 -2.5
MMA0B Mount Meron ar 13.29 110 Pn Pn 23 50 10.7 -2.4
MMA0B Sn Sn 23 52 31.4 -9.4
MMAI Mount Meron Ar 13.29 110 Pn Pn 23 50 12.1 -1.0
comp=N,1.4nm,0.3s,baz=309,slow=12,SNR=21
MMAI Sn **Sn 23 52 32.5 -8.3**
comp=N,1.7nm,0.3s,baz=317,slow=31,SNR=5.7
comp=N,1.3nm,0.3s
GEM Giv'at Ha'Em 13.39 109 Pn Pn 23 50 12.0 -2.4
GEM Sn Sn 23 52 33.9 -9.2
SLTI Sal'it 13.42 114 Pn Pn 23 50 11.6 -3.2
SLTI Sn Sn 23 52 33.0 -11
KIEV Kiev 13.56 24 Pn 23 50 16.1 -0.4
KIEV Kiev 13.56 24 P **Pn 23 50 16.1 -0.4**
AKASG Malin Array Be 13.57 24 Pn **Pn 23 50 15.8 -0.9**
comp=N,0.9nm,0.3s,baz=211,slow=12,SNR=9.9
AKASG LR LR 23 56 29.5
comp=N,597nm,19.0s,baz=209,slow=42
comp=N,2.0nm,0.6s
AKBB Malin Array Si 13.57 24 Pn **Pn 23 50 16.4 -0.3**
AKBB Malin Array Si 13.57 24 *ce*P **Pn 23 50 15.9 -0.8**
MMLI Mount Malkishu 13.59 112 Pn **Pn 23 50 14.1 -3.1**
MMLI Sn Sn 23 52 37.6 -11
MOX Moxa 13.59 335 *e*P **Pn 23 50 16.1 -0.9**
baz=146,slow=15
KSHT Keshet 13.61 110 Pn **Pn 23 50 15.1 -2.3**
KSHT Sn Sn 23 52 39.2 -9.3
ECH Echery 13.65 319 Pn **Pn 23 50 17.6 -0.2**
ECH Echery 13.65 319 P **Pn 23 50 17.6 -0.2**
AMAZ Amatzia 13.72 117 Pn **Pn 23 50 16.2 -2.8**
AMAZ Sn Sn 23 52 39.5 -12
KZIT Kziot 13.73 120 Pn **Pn 23 50 15.3 -3.8**
KZIT Sn Sn 23 52 38.6 -13
CLL Collm 13.76 340 Pn **Pn 23 50 20.6 +1.2**
CLL Collm 13.76 340 *e*Px Px 23 50 24.0
comp=Z,4.0nm,0.8s
CLL *i* PP **P 23 50 29.5 +1.6**
comp=Z,19nm,1.0s
CLL *i* sPP 23 50 35.1
CLL *i* x x 23 50 38.2
comp=Z,16nm,1.2s
CLL Collm 13.76 340 P **Pn 23 50 20.6 +1.2**
CLL Collm 13.76 340 *e*P **P 23 50 29.6 +1.6**
baz=146,slow=15
HMDT Nahal Hemdat 13.76 113 Pn **Pn 23 50 16.4 -3.1**
HMDT Sn Sn 23 52 41.6 -11
UJAP Al Uja 13.88 114 Pn **Pn 23 50 17.6 -3.4**
UJAP Sn Sn 23 52 44.0 -11
YTIR Yattir 13.96 117 Pn **Pn 23 50 18.4 -3.9**
YTIR Sn Sn 23 52 45.4 -12
DSI Dead Sea 14.03 116 Pn **Pn 23 50 19.4 -3.7**
DSI Sn Sn 23 52 47.0 -12
DSI Dead Sea 14.03 116 P **Pn 23 50 21.2 -1.9**
ANN Anapa 14.05 58 *e*P **Pn 23 50 21.1 -2.2**
ANN *e*S **Sn 23 53 00.9 +1.9**
ANN pmax pmax
comp=Z,150nm,1.1s
MSBI Mazada 14.16 116 Pn **Pn 23 50 20.9 -4.0**
MSBI Sn Sn 23 52 50.0 -12
TNS Taunus Mts 14.45 327 *e*P **Pn 23 50 29.3 +0.4**
baz=146,slow=15
KRMI Paran Flat 14.45 122 Pn Pn 23 50 24.2 -4.7
KRMI Sn Sn 23 52 55.9 -13
ZFRI Zfri 14.48 119 P **Pn 23 50 26.7 -2.6**
PRNI Paran 14.49 120 Pn Pn 23 50 24.8 -4.7
PRNI Sn Sn 23 52 56.9 -13
RUE Ruedersdorf 14.65 343 *e*P **P 23 50 39.2 +1.4**
RUE Ruedersdorf 14.65 343 *e*P **P 23 50 39.1 +1.4**
baz=146,slow=15
HRFI Mount Harif 14.71 121 Pn Pn 23 50 27.7 -4.8
HRFI Sn Sn 23 53 01.8 -14
MBRI Mt Berech 14.78 122 Pn **Pn 23 50 30.2 -3.3**
MBRI Sn Sn 23 53 03.7 -14
MBRI Mt Berech 14.78 122 P **Pn 23 50 30.8 -2.7**
EIL Elat 14.88 122 Pn Pn 23 50 29.7 -5.1
EIL Sn Sn 23 53 05.8 -14
EIL Elat 14.88 122 Pn **Pn 23 50 34.8 -0.1**
comp=Z,0.5nm,0.3s,baz=330,slow=15,SNR=7.9
EIL Sn Sn 23 53 05.5 -14
comp=Z,0.5nm,0.3s,baz=310,slow=16,SNR=3.4
EIL LR LR 23 58 18.8
comp=Z,70nm,21.8s,baz=249,slow=45
comp=Z,5.9nm,0.7s
CLZ Clausthal 15.02 335 *e*P **P 23 50 43.2 +1.2**
baz=146,slow=15
WLF Walferdange 15.10 322 Pn 23 50 37.3 -0.2
WLF Walferdange 15.10 322 ⇓p **P 23 50 45.7 +2.9**
WLF Walferdange 15.10 322 P **Pn 23 50 37.3 -0.2**
WLF Walferdange 15.10 322 *e*P **P 23 50 45.0 +2.2**
baz=146,slow=15
ASSE Asse, Remlinge 15.17 336 *e*P **P 23 50 46.0 +2.4**
comp=Z,17nm,1.1s,baz=146,slow=15
FLTG Flechtingen 15.17 338 *e*P **P 23 50 44.5 +0.9**
comp=Z,20nm,1.0s,baz=146,slow=15
AHRW Bad Neuenahr-A 15.28 326 *e*P **P 23 50 47.7 +3.0**
comp=Z,17nm,0.8s,baz=146,slow=15
SOC Sochi 15.28 65 *e*P **Pn 23 50 39.6 -0.5**
SOC *e* 23 53 31.7
SOC MLR MLR
comp=Z,35nm,9.0s
SUW Suwalki 15.51 6 Pn **Pn 23 50 42.3 -0.7**
SUW Suwalki 15.51 6 *e*P **P 23 50 46.1 -1.3**
SUW Suwalki 15.51 6 P **Pn 23 50 42.3 -0.7**
SUW pmax pmax
comp=Z,125nm,0.9s
BUG Bochum–Univer 15.86 328 *e*P **P 23 50 53.4 +2.2**
comp=Z,25nm,1.0s,baz=146,slow=15
MNK Minsk 16.66 15 *i* P **Pn 23 50 53.9 -3.9**
comp=E,11nm,0.9s
MNK *i* P **Pn 23 50 53.9 -3.9**
comp=N,64nm,1.1s
MNK *i* P **Pn 23 50 53.9 -3.9**
comp=Z,42nm,0.9s,baz=201
MNK *i* PP **pP 23 51 03.1 -0.4**
MNK *i* S **Sn 23 53 56.8 -5.8**
MNK *i* SS **SnSn 23 54 27.5 +12**
MNK *i* LR LR 23 55 47.9
MNK *i* LRM MLR 23 57 36.6
comp=E,197nm,18.4s
MNK *i* LRM MLR 23 58 11.1
comp=N,757nm,32.6s
MNK *i* LRM MLR 23 58 12.0
comp=Z,240nm,20.8s
MNK Minsk 16.66 15 *i* P **Pn 23 50 53.9 -3.9**
MNK *i* S **Sn 23 53 56.8 -5.8**
MNK pmax pmax
comp=N,64nm,1.1s
MNK pmax pmax
comp=Z,42nm,0.9s
MNK pmax pmax
comp=E,11nm,0.9s
MNK MLR MLR
comp=E,197nm,18.0s
MNK MLR MLR
comp=N,757nm,33.0s
MNK MLR MLR
comp=Z,240nm,21.0s
GURO Guroymak-BITLI 16.81 83 Pn **P 23 51 02.0 0.0**
NACGM Naroch 16.84 13 ⇑ *i* P **Pn 23 51 01.1 +1.1**
comp=Z,105nm,0.9s,baz=198
BSEG Bad Segeberg 16.85 339 *e*P **P 23 51 02.4 +0.3**
comp=Z,31nm,0.9s,baz=146,slow=15
PABE Paberze 17.06 7 Pn 23 51 00.9 -1.9
PABE Paberze 17.06 7 *e*P **Pn 23 51 01.5 -1.2**
ISAL Salakas 17.38 11 *e*P **P 23 51 07.6 -0.5**
KIV Kislovodsk 17.47 65 P 23 51 09.4 +0.2
KIV Kislovodsk 17.47 65 *e*P **P 23 51 11.3 +2.1**
KIV pmax pmax
comp=Z,19nm,1.1s
KIV MLR MLR
comp=Z,59nm,14.0s
IZAR Zarasai 17.57 11 *e*P **Pn 23 51 08.1 -1.0**
KBZ Khabaz 17.58 66 *ce*P **P 23 51 11.3 +1.0**
KBZ pmax pmax
comp=Z,14nm,0.9s
KBZ Khabaz 17.58 66 P **Pn 23 51 09.3 0.0**
comp=Z,0.2nm,0.3s,baz=257,slow=9.4,SNR=6.4
comp=Z,4.7nm,0.8s
VORD Divnogorie 18.10 41 *e*P **Pn 23 51 15.1 -0.5**
VORD pmax pmax
comp=Z,20nm,0.6s
VSR Storozhevoye 18.18 40 *e*P **Pn 23 51 15.9 -0.8**
VSR pmax pmax
comp=Z,10.0nm,0.5s
VORR Voronezh 18.48 39 *e*P **P 23 51 18.5 -1.7**
VORR pmax pmax
comp=Z,30nm,0.4s
GNI Garni 18.77 78 P **Pn 23 51 24.2 +0.1**
comp=Z,0.3nm,0.3s,baz=233,slow=5.1,SNR=3.2
comp=Z,5.1nm,0.7s
LPSR Galich'ya Gora 18.93 36 *e*P **P 23 51 22.9 -2.2**
LPSR pmax pmax
comp=Z,40nm,1.0s
ESBB Sonseca Array 19.02 281 P **P 23 51 26.3 0.0**
ESDC Sonseca Array 19.02 281 P **P 23 51 26.6 +0.3**
comp=Z,0.3nm,0.3s,baz=74,slow=10,SNR=34
ESDC LR LR 23 58 26.1
comp=Z,73nm,20.6s,baz=101,slow=36
comp=Z,4.0nm,0.8s
VRH Novokhopyorsk 19.50 43 *e*P **P 23 51 31.1 -0.3**
VRH pmax pmax
comp=Z,21nm,0.7s
OBN Obninsk 19.74 28 P **P 23 51 33.9 0.0**
OBN IAmb IAmb 23 51 35.5
comp=Z,32nm,0.9s
OBN Obninsk 19.74 28 ⇑P **P 23 51 33.7 -0.2**
OBN Obninsk 19.74 28 ⇓ *e*P **P 23 51 33.1 -0.8**
OBN pmax pmax
comp=Z,41nm,1.0s
OBN MLR MLR
comp=Z,325nm,16.0s
OBN Obninsk 19.74 28 P **P 23 51 33.3 -0.6**
comp=Z,7.4nm,0.3s,baz=244,slow=4.0,SNR=11
OBN LR LR 23 59 57.3
comp=Z,190nm,21.3s,baz=192,slow=39
comp=Z,20nm,0.4s
VIKU Vikbolandet 20.06 354 *e*P **P 23 51 36.6 -0.8**
MTSE Matsula 20.23 5 *e*P **P 23 51 38.2 -1.1**
VSU Vasula 20.27 9 *e*P **P 23 51 39.4 -0.3**
VSU Vasula 20.27 9 ⇑P **P 23 51 39.0 -0.7**
VSU Vasula 20.27 9 *ce*P **P 23 51 39.2 -0.5**
VSU pmax pmax
comp=Z,150nm,0.7s
TAM Tamanrasset 20.33 223 P **P 23 51 42.0 +1.2**
TAM Tamanrasset 20.33 223 ⇑P Pn 23 51 43.1 +0.2
TAM Tamanrasset 20.33 223 P **P 23 51 42.0 +1.2**
TAM pmax pmax
comp=Z,8.0nm,1.2s
MOS Moscow 20.60 28 *e*P **P 23 51 41.9 -1.4**
MOS *e* 23 52 01.4
MOS pmax pmax
comp=Z,47nm,0.7s
MAK Makhachkala 20.84 69 *e*P **P 23 51 43.6 -2.4**
MAK *e*S **S 23 55 35.1 -3.1**
MAK pmax pmax
comp=Z,591nm,1.6s
MAK MLR MLR
comp=Z,200nm,15.0s
MDT Midelt 21.19 262 P **P 23 51 51.3 +1.3**
comp=Z,3.4nm,0.8s,baz=91,slow=10,SNR=7.2
MDT LR LR 00 01 50.9
comp=Z,67nm,18.7s,baz=50,slow=42
comp=Z,3.4nm,0.8s
UPP Uppsala 21.35 356 *e*P **P 23 51 49.8 -1.6**
PBAR Barrancos 21.59 278 *e*P **P 23 51 55.0 +0.8**
comp=Z,32nm,1.8s
PMRV Marv??o 21.68 281 *e*P **P 23 51 54.6 -0.6**
comp=Z,50nm,1.3s
MEF Metsahovi 21.77 5 *e*P **P 23 51 54.2 -1.6**
PESTR Estremoz 21.91 280 *e*P **P 23 51 56.7 -0.9**
comp=Z,26nm,1.4s
PVIS Viseu 21.95 285 *e*P **P 23 51 58.5 +0.4**
HFS Hagfors 21.98 351 P **P 23 51 57.3 -0.8**
comp=Z,19nm,0.5s,baz=165,slow=9.7,SNR=70
HFS LR LR 00 02 24.6
comp=Z,203nm,18.4s,baz=187,slow=42
comp=Z,19nm,0.5s
PUL Pulkovo 22.08 13 *ce*P **P 23 51 57.9 -1.3**
PUL pmax pmax
comp=Z,94nm,0.8s
PMTG Montargil 22.37 280 *e*P **P 23 52 01.6 -0.9**
comp=Z,52nm,1.8s
RAF Rauma 22.45 2 *e*P **P 23 52 02.1 -1.0**
NC602 NORSAR Array S 22.86 349 P **P 23 52 06.5 -1.0**
NAO01 NORSAR Array S 23.07 348 P **P 23 52 09.6 0.0**
NAO01 IAmb IAmb 23 52 42.9
comp=Z,15nm,1.0s
EKA Eskdalemuir Ar 23.08 324 P **P 23 52 09.8 -0.1**
comp=Z,39nm,0.8s,baz=126,slow=11,SNR=48
comp=Z,39nm,0.8s
ESK Eskdalemuir 23.09 324 ⇑P **P 23 52 10.5 +0.5**
FINES FINESS Array B 23.12 7 P **P 23 52 09.5 -0.6**
FINES FINESS Array B 23.12 7 *i* P **P 23 52 08.3 -1.8**
FINES pmax pmax
comp=Z,40nm,0.7s
FINES FINESS Array B 23.12 7 P **P 23 52 08.5 -1.6**
comp=Z,39nm,0.7s,baz=172,slow=10,SNR=84
FINES PcP **PcP 23 55 58.5 0.0**
comp=Z,3.1nm,0.9s,baz=153,slow=2.2,SNR=9.4
comp=Z,39nm,0.7s
NC405 NORSAR Array S 23.19 349 P **P 23 52 09.5 -1.4**
NB201 NORSAR Array S 23.20 349 P **P 23 52 09.8 -1.2**
NB2 NORSAR Subarra 23.20 348 P **P 23 52 10.1 -0.9**
comp=Z,8.2nm,0.6s,baz=156,slow=11
NOA NORSAR Array B 23.20 348 P **P 23 52 10.2 -0.9**
comp=Z,5.5nm,0.6s,baz=166,slow=11,SNR=52
NOA LR LR 00 02 27.8
comp=Z,132nm,19.8s,baz=170,slow=40
comp=Z,5.5nm,0.6s
NBO00 NORSAR Array S 23.26 348 P **P 23 52 11.4 -0.3**
BELG Belogornoye 23.29 45 *i* P **P 23 52 11.4 -0.6**
BELG pmax pmax
comp=Z,13nm,0.9s
NC303 NORSAR Array S 23.35 349 P **P 23 52 11.1 -1.5**
NC204 NORSAR Array S 23.49 348 P **P 23 52 12.9 -1.1**
NC204 IAmb IAmb 23 52 40.1
comp=Z,29nm,1.3s
KLMR Klimovskoe 25.24 22 *e*P **P 23 52 28.9 -1.1**
KLMR AMP 23 52 30.9
comp=Z,48nm,0.8s
KLMR LR LR 00 03 07.4
KLMR LRM MLR 00 03 30.0
KLMR AMP 00 03 31.6
comp=Z,647nm,15.0s
KLMR Klimovskoe 25.24 22 *e*P **P 23 52 28.8 -1.2**
KLMR pmax pmax
comp=Z,48nm,0.8s
KLMR MLR MLR
comp=Z,647nm,15.0s
KIRV Kirov 27.29 33 *ce*P **P 23 52 46.8 -1.8**
KIRV Kirov 27.29 33 P **P 23 52 47.8 -0.9**
comp=Z,9.0nm,0.6s,baz=82,slow=4.3,SNR=5.8
KIRV LR LR 00 03 43.0
comp=Z,174nm,21.1s,baz=235,slow=37
comp=Z,9.0nm,0.6s
PRGR Permogore 27.77 26 *e*P **P 23 52 51.5 -1.4**
PRGR pmax pmax
comp=Z,28nm,0.7s
AKTO Aktyubinsk 28.91 54 P **P 23 53 02.2 -1.0**
comp=Z,2.5nm,0.4s,baz=242,slow=4.1,SNR=8.6
AKTO LR LR 00 05 33.5
comp=Z,107nm,18.7s,baz=311,slow=38
comp=Z,2.5nm,0.4s
GEYT Alibeck 29.38 79 P **P 23 53 07.5 -0.1**
GEYT Alibeck 29.38 79 P **P 23 53 07.5 -0.1**
GEYT pmax pmax
comp=Z,9.0nm,1.1s
GEYT Alibeck 29.38 79 P **P 23 53 07.5 -0.1**
comp=Z,3.5nm,0.5s,baz=273,slow=10,SNR=14
comp=Z,3.5nm,0.5s
GYA0B ALIBECK ARRAY 29.38 79 P **P 23 53 07.8 +0.2**
ABKAR Akbulak array 29.99 56 P **P 23 53 11.9 -0.9**
ABKAR Akbulak array 29.99 56 ⇓P **P 23 53 12.1 -0.7**
TOA0 Torodi Ar. Sit 30.37 218 P **P 23 53 16.8 +0.3**
TORD Torodi Ar. Bea 30.37 218 P **P 23 53 16.8 +0.3**
TORD Torodi Ar. Bea 30.37 218 P **P 23 53 16.8 +0.3**
comp=Z,2.8nm,0.6s,baz=30,slow=10,SNR=24
comp=Z,2.8nm,0.6s
ARU Arti 30.73 42 P **P 23 53 18.1 -1.1**
ARU IAmb IAmb 23 53 25.3
comp=Z,9.0nm,1.2s
ARU Arti 30.73 42 *d* iP **P 23 53 19.2 -0.1**
ARU 23 54 14.6
ARU S **S 23 58 23.9 +2.2**
ARU SS **SnSn 00 00 03.4 +3.7**
ARU pmax pmax
comp=Z,11nm,1.8s
ARU Arti 30.73 42 P **P 23 53 18.9 -0.3**
comp=Z,2.3nm,0.4s,baz=246,slow=7.7,SNR=6.6
ARU LR LR 00 05 48.5
comp=Z,90nm,19.7s,baz=209,slow=37
comp=Z,2.3nm,0.4s
ARCES ARCESS Array B 31.10 3 P **P 23 53 21.4 -1.1**
comp=Z,5.1nm,0.7s,baz=190,slow=11,SNR=30
ARCES LR LR 00 07 00.6
comp=Z,187nm,20.9s,baz=200,slow=39
comp=Z,5.1nm,0.7s
SVE Sverdlovsk 31.95 42 *e*P **P 23 53 29.7 -0.2**
SVE pmax pmax

comp=Z,11nm,1.1s
UOSS Minazif 33.02 104 P P 23 53 40.9 +1.1
UOSS IAmb IAmb 23 53 55.4
comp=Z,7.1nm,0.9s
BRVK Borovoye 36.77 50 P P 23 54 10.8 -1.0
BRVK IAmb IAmb 23 54 15.5
comp=Z,9.9nm,0.8s
BRVK Borovoye 36.77 50 ⇓P P 23 54 11.7 -0.1
BRVK Borovoye 36.77 50 *ce*P P 23 54 11.7 -0.1
BRVK pmax pmax
comp=Z,13nm,1.0s
BVAR Borovoye Array 36.83 50 P P 23 54 12.2 -0.1
comp=Z,8.7nm,0.7s,baz=269,slow=6.6,SNR=39
BVAR LR LR 00 10 57.0
comp=Z,77nm,19.0s,baz=270,slow=39
comp=Z,8.7nm,0.7s
KK31 Karatay Array 37.61 67 P P 23 54 19.1 0.0
KK31 IAmb IAmb 23 54 26.6
comp=Z,8.8nm,0.9s
KK31 Karatay Array 37.61 67 P P 23 54 19.1 0.0
KK31 pmax pmax
comp=Z,9.0nm,0.9s
KKAR Karatay Array 37.61 67 P P 23 54 19.4 +0.3
KKAR IAmb IAmb 23 54 26.6
comp=Z,8.8nm,0.9s
KKAR Karatay Array 37.61 67 P P 23 54 19.2 +0.1
KKAR Karatay Array 37.61 67 P P 23 54 19.2 +0.1
DBIC Dimbokro 39.22 222 P P 23 54 32.8 0.0
DBIC Dimbokro 39.22 222 P P 23 54 32.8 0.0
DBIC pmax pmax
comp=Z,8.0nm,1.0s
DBIC Dimbokro 39.22 222 P P 23 54 33.1 +0.3
comp=Z,4.7nm,0.8s,baz=20,slow=6.5,SNR=8.3
DBIC LR LR 00 12 02.8
comp=Z,100nm,19.3s,baz=7.0,slow=38
comp=Z,4.7nm,0.8s
SPB2 Spitsbergen Ar 39.71 359 P P 23 54 37.9 +1.6
SPITS Spitsbergen Ar 39.72 359 P P 23 54 36.0 -0.3
comp=Z,14nm,1.1s,baz=150,slow=12,SNR=7.3
SPITS LR LR 00 13 16.2
comp=Z,200nm,18.5s,baz=140,slow=40
comp=Z,14nm,1.1s
MBAR Mbarara 40.13 164 P P 23 54 45.1 +4.5
MBAR Mbarara 40.13 164 P P 23 54 45.1 +4.5
MBAR pmax pmax
comp=Z,3.0nm,1.1s
AAK Ala-Archa 40.58 67 P P 23 54 43.4 -0.7
AAK Ala-Archa 40.58 67 *ce*P P 23 54 44.9 +0.8
AAK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 40.58 67 Sn Sn 23 54 43.0 -12
comp=Z,0.6nm,0.3s,baz=319,slow=13,SNR=4.5
FRU1 Bishkek 40.63 66 P P 23 54 44.1 -0.3
FRU1 IAmb IAmb 23 54 45.3
comp=Z,12nm,0.7s
FRU1 Bishkek 40.63 66 P P 23 54 44.1 -0.3
FRU1 pmax pmax
comp=Z,12nm,0.7s
KURBB Kurchatov Arra 41.97 54 P P 23 54 54.2 -1.0
comp=Z,5.4nm,0.9s,baz=283,slow=9.0,SNR=44
comp=Z,5.4nm,0.9s
KURK Kurchatov 42.01 54 P P 23 54 54.1 -1.4
KURK Kurchatov 42.01 54 ⇓P P 23 54 54.6 -0.9
KURK Kurchatov 42.01 54 *ce*P P 23 54 55.1 -0.4
KURK pmax pmax
comp=Z,16nm,2.5s
TARG Taragay, Kyrgy 43.18 67 P P 23 55 06.2 +0.5
TARG Taragay, Kyrgy 43.18 67 P P 23 55 06.2 +0.5
TARG pmax pmax
comp=Z,8.0nm,1.0s
PRZ Przheval'sk 43.41 66 P P 23 55 08.0 +0.7
PRZ Przheval'sk 43.41 66 P P 23 55 08.0 +0.7
PRZ pmax pmax
comp=Z,4.0nm,0.7s
MAKZ Makanchi 44.85 59 P P 23 55 17.6 -1.0
MAKZ Makanchi 44.85 59 P P 23 55 17.6 -1.0
MAKZ pmax pmax
comp=Z,6.0nm,1.3s
MK31 Makanchi Array 45.07 59 P P 23 55 18.5 -1.8
MK31 Makanchi Array 45.07 59 *ce*P P 23 55 19.9 -0.4
MKAR Makanchi Array 45.07 59 P P 23 55 18.9 -1.4
MKAR Makanchi Array 45.07 59 P P 23 55 18.9 -1.4
MKAR Makanchi Array 45.07 59 P P 23 55 19.2 -1.1
comp=Z,3.6nm,0.4s,baz=281,slow=7.4,SNR=61
MKAR LR LR 00 19 00.8
comp=Z,38nm,18.8s,baz=316,slow=43
comp=Z,3.6nm,0.4s
ZAA0 Zalesovo Array 45.40 48 P P 23 55 21.6 -1.1
ZALV Zalesovo Beam 45.40 48 P P 23 55 21.6 -1.1
ZALV Zalesovo Beam 45.40 48 *i* P P 23 55 21.7 -1.0
ZALV pmax pmax
comp=Z,34nm,0.6s
ZALV Zalesovo Beam 45.40 48 P P 23 55 21.9 -0.8
comp=Z,34nm,0.6s,baz=277,slow=8.6,SNR=126
comp=Z,34nm,0.6s
NRIK Noril'sk 46.41 27 P P 23 55 30.1 -0.4
NRIK IAmb IAmb 23 55 31.9
comp=Z,6.1nm,0.9s
NRIK Noril'sk 46.41 27 *ce*P P 23 55 31.7 +1.2
NRIK Noril'sk 46.41 27 P P 23 55 30.4 -0.1
comp=Z,4.1nm,0.5s,baz=241,slow=4.3,SNR=11
NRIK LR LR 00 17 55.7
comp=Z,149nm,18.1s,baz=265,slow=40
comp=Z,4.1nm,0.5s
DGZ Jazzator, Alta 47.76 54 *i* P P 23 55 37.2 -4.3
DGZ pmax pmax
comp=Z,4.0nm,0.5s
SFJD Kangerlussuaq 47.86 330 LR LR 00 15 31.1
comp=Z,43nm,20.0s,baz=125,slow=36
WMQ Urumqi 49.54 61 *e*P P 23 55 58.3 +3.1
LSZ Lusaka 54.08 171 LR LR 00 22 23.2
comp=Z,56nm,18.2s,baz=356,slow=39
DRLN Deer Lake 54.84 308 P P 23 56 34.7 +0.3
EUNU Eureka 55.09 348 P P 23 56 36.3 +0.4
SCHQ Schefferville 58.15 317 P P 23 56 58.6 +0.7
SCHQ Schefferville 58.15 317 P P 23 56 57.8 -0.1
comp=Z,4.6nm,0.6s,baz=67,slow=4.7,SNR=9.8
comp=Z,4.6nm,0.6s
GBN Guysborough 58.84 305 P P 23 56 59.9 -3.0
GTA Gaotai 59.61 62 *e*P P 23 57 07.0 -1.5
GTA pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 60.18 51 P P 23 57 11.9 -0.3
SONM IAmb IAmb 23 57 12.9
comp=Z,6.6nm,1.2s
SONM Songino Array 60.18 51 P P 23 57 11.9 -0.3
SONM pmax pmax
comp=Z,7.0nm,1.2s
SONM Songino Array 60.18 51 P P 23 57 11.7 -0.5
comp=Z,4.2nm,0.8s,baz=281,slow=9.1,SNR=24
SONM LR LR 00 25 46.2
comp=Z,67nm,18.2s,baz=338,slow=39
comp=Z,4.2nm,0.8s
ULN Ulaanbaatar 60.56 51 P P 23 57 14.4 -0.5
ULN IAmb IAmb 23 57 15.1
comp=Z,4.9nm,0.8s
ULN Ulaanbaatar 60.56 51 *ce*P P 23 57 14.6 -0.3
ULN pmax pmax
comp=Z,13nm,2.5s
ULN Ulaanbaatar 60.56 51 P P 23 57 14.4 0.0
BATG Bathurst New B 60.87 309 P P 23 57 17.8 +1.0
D62A Allapoint, All 62.77 310 P P 23 57 31.1 +1.6
LMQ La Malbaie 63.31 311 P P 23 57 33.3 +0.1
LBTB Lobatse 63.47 175 P P 23 57 36.1 +1.7
LBTB Lobatse 63.47 175 P P 23 57 36.1 +1.7
LBTB pmax pmax
comp=Z,17nm,1.5s
LBTB Lobatse 63.47 175 LR LR 00 26 43.6
comp=Z,46nm,18.3s,baz=356,slow=38
LZH Lanzhou 64.00 64 *e*P P 23 57 37.0 -1.1
LZH pP sP 23 57 43.3 -0.2
LZH pmax pmax
comp=Z,18nm,1.4s
YAK Yakutsk 64.73 30 *ce*P P 23 57 42.6 +0.4
YAK pmax pmax
comp=Z,15nm,0.7s
YAK Yakutsk 64.73 30 LR LR 00 27 41.6
comp=Z,5.5nm,20.8s,baz=286,slow=38
HHC Hu-ho-hao-te 66.78 56 *e*P P 23 57 55.0 -1.0
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,720nm,6.8s
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,210nm,5.3s
BOSA Boshof 67.02 175 P P 23 57 58.3 +0.9
BOSA Boshof 67.02 175 P P 23 57 58.3 +0.9
BOSA pmax pmax
comp=Z,12nm,1.3s
BOSA Boshof 67.02 175 LR LR 00 29 31.9
comp=Z,46nm,18.4s,baz=0.5,slow=38
A36M Sachs Harbour 67.10 349 P P 23 57 57.8 +0.5
BBSR BB Station 67.28 294 P P 23 57 59.8 +0.7
PZH PanZhiHua 67.47 73 P P 23 58 03.0 +2.4
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.8s
RER Riviere de l'E 68.01 145 P P 23 58 03.3 -0.5
XAN Xi'an 68.62 63 ⇑P P 23 58 07.3 -0.3
XAN pmax pmax
comp=Z,8.0nm,0.8s
C36M Paulatuk 69.24 347 P P 23 58 11.7 +0.9
C36M IAmb IAmb 23 58 17.4
comp=Z,7.8nm,1.4s
CMAR Chiang Mai Arr 69.82 82 P P 23 58 14.5 -0.7
comp=Z,1.3nm,0.3s,baz=300,slow=7.6,SNR=4.9
comp=Z,1.3nm,0.3s
CRAI Chiangrai 69.92 80 P P 23 58 16.7 +0.9
SADO Sadowa 69.98 312 LR LR 00 26 52.0
comp=Z,40nm,19.0s,baz=101,slow=34
BILL Bilibino 70.59 13 ⇑*e*P P 23 58 19.7 +0.5
BILL pmax pmax
comp=Z,8.0nm,1.3s
SUR Sutherland 70.63 180 LR LR 00 31 39.1
comp=Z,41nm,19.9s,baz=1.0,slow=38
INK Inuvik 71.64 350 LR LR 00 34 18.0
comp=Z,36nm,18.2s,baz=357,slow=40
C23K Itkillik River 71.67 357 P P 23 58 27.0 +1.4
SEY Seymchan 71.73 21 *i* P P 23 58 26.2 +0.1
SEY pmax pmax
comp=Z,3.0nm,0.7s
B21K Ikpikpuk River 72.02 358 P P 23 58 29.2 +1.4
B21K IAmb IAmb 23 58 30.0
comp=Z,5.3nm,1.1s
E28M Babbage River 72.07 352 P P 23 58 28.9 +0.8
E29M Blow River 72.10 352 P P 23 58 29.6 +1.3
C19K Lookout Ridge 72.60 0 P P 23 58 32.6 +1.3
C19K IAmb IAmb 23 58 33.7
comp=Z,6.9nm,1.2s
E27K Coleen River 72.68 353 P P 23 58 32.5 +0.7
E27K IAmb IAmb 23 58 36.9
comp=Z,11nm,1.4s
D22K Ayikyak River 72.71 357 P P 23 58 33.6 +1.7
D22K IAmb IAmb 23 59 07.8
comp=Z,9.6nm,1.2s
TOLK Toolik Lake Re 72.81 356 P P 23 58 33.9 +1.3
YKA Yellowknife Ar 72.99 340 P P 23 58 33.9 +0.3
comp=Z,0.8nm,0.8s,baz=34,slow=5.3,SNR=11
comp=Z,0.8nm,0.8s
C18K Utukok River 73.05 1 P P 23 58 35.4 +1.4
C18K IAmb IAmb 23 58 36.6
comp=Z,6.0nm,1.0s
F28M Old Crow 73.06 352 P P 23 58 34.7 +0.7
E25K Arctic Village 73.08 355 P P 23 58 34.7 +0.6
E25K IAmb IAmb 23 58 57.7
comp=Z,5.6nm,1.3s
D19K Kuna River 73.21 359 P P 23 58 36.1 +1.2
D19K IAmb IAmb 23 58 37.0
comp=Z,6.5nm,0.9s
G30M tAoh Zraii Nji 73.25 351 P P 23 58 36.2 +1.0
G30M IAmb IAmb 23 58 37.2
comp=Z,9.5nm,1.4s
E24K Your Creek 73.31 356 P P 23 58 36.6 +1.0
C16K Lisburne Hills 73.34 2 P P 23 58 36.4 +0.8
E22K Anaktuvuk Pass 73.42 357 P P 23 58 37.3 +1.1
G29M Pine Creek 73.53 351 P P 23 58 37.5 +0.7
G29M IAmb IAmb 23 58 38.3
comp=Z,7.3nm,0.8s
KLR Kul'dur 73.53 40 *ce*P P 23 58 37.1 0.0
KLR pmax pmax
comp=Z,12nm,1.7s
BMAR Burnt Mountain 73.68 354 P P 23 58 39.1 +1.3
F24K Squaw Lake 73.83 355 P P 23 58 40.3 +1.7
EPYK Eagle Plains 73.89 351 P P 23 58 39.7 +0.7
G27K Doyon Strip 74.03 353 P P 23 58 40.5 +0.8
H29M Whitestone 74.24 351 P P 23 58 41.8 +0.8
H29M IAmb IAmb 23 58 56.4
comp=Z,4.9nm,0.9s
E19K Redstone River 74.24 359 P P 23 58 42.2 +1.3
E19K IAmb IAmb 23 58 43.0
comp=Z,7.1nm,0.8s
E18K Tukpahlearik C 74.29 0 P P 23 58 42.2 +1.0
F21K Alatna River 74.39 358 P P 23 58 43.4 +1.5
F20K Avaraart Lake 74.63 358 P P 23 58 44.1 +1.0
F20K IAmb IAmb 23 58 45.2
comp=Z,6.2nm,1.2s
FFC Flin Flon 74.81 330 P P 23 58 45.3 +0.8
FFC Flin Flon 74.81 330 P P 23 58 45.3 +0.8
FFC pmax pmax
comp=Z,6.0nm,1.5s
F19K Shaleruckik Mo 74.88 359 P P 23 58 45.5 +0.9
F19K IAmb IAmb 23 58 46.4
comp=Z,6.5nm,0.8s
I30M Mount Dempster 74.94 350 P P 23 58 46.1 +0.9
I30M IAmb IAmb 23 58 46.7
comp=Z,4.8nm,0.8s
G21K Allakaket 75.10 358 P P 23 58 47.3 +1.3
G21K IAmb IAmb 23 58 48.0
comp=Z,6.0nm,0.9s
I28M Miner Creek 75.16 352 P P 23 58 47.4 +0.9
F17K Baldwin Pennin 75.27 1 P P 23 58 47.6 +0.8
F17K IAmb IAmb 23 58 48.4
comp=Z,6.9nm,0.9s
ULM Lac du Bonnet 75.36 324 P P 23 58 48.3 +0.6
ULM IAmb IAmb 23 59 13.2
comp=Z,5.1nm,1.0s
ULM Lac du Bonnet 75.36 324 P P 23 58 48.0 +0.3
ULM Lac du Bonnet 75.36 324 P P 23 58 48.0 +0.3
comp=Z,2.3nm,0.7s,baz=182,slow=2.0,SNR=4.2
ULM LR LR 00 32 09.5
comp=Z,21nm,18.1s,baz=2.5,slow=36
comp=Z,2.3nm,0.7s
H24K Noodor Dome 75.50 355 P P 23 58 48.8 +0.5
H24K IAmb IAmb 23 59 03.1
comp=Z,6.8nm,1.4s
J30M Hart River 75.55 350 P P 23 58 49.9 +1.2
J30M IAmb IAmb 23 58 50.8
comp=Z,5.6nm,0.8s
G19K Purcell Mounta 75.56 359 P P 23 58 49.8 +1.2
G19K IAmb IAmb 23 58 50.6
comp=Z,5.3nm,0.8s
I26K Coal Creek Min 75.64 353 P P 23 58 50.1 +1.1
I26K IAmb IAmb 23 58 57.5
comp=Z,5.5nm,1.2s
PRP Porcupine Dome 75.64 354 P P 23 58 50.3 +1.1
PRP IAmb IAmb 23 58 51.8
comp=Z,7.3nm,1.3s
IMAR Indian Mountai 75.64 358 P P 23 58 50.5 +1.5
G18K Tagagawik 75.83 360 P P 23 58 51.2 +1.1
G18K IAmb IAmb 23 58 51.9
comp=Z,6.2nm,0.9s
F15K North Star Dit 75.94 2 P P 23 58 51.8 +1.1
F15K IAmb IAmb 23 59 23.3
comp=Z,9.5nm,1.2s
H21K Melozitna Rive 75.94 357 P P 23 58 52.5 +1.7
H19K Roundabout Mou 76.17 359 P P 23 58 53.5 +1.5
H19K IAmb IAmb 23 59 23.2
comp=Z,5.3nm,1.0s
G16K Koyuk River 76.31 1 P P 23 58 53.8 +1.0
G16K IAmb IAmb 23 58 54.8
comp=Z,7.3nm,0.9s
MDM Murphy Dome 76.39 355 P P 23 58 54.8 +1.4
MDM IAmb IAmb 23 58 55.1
comp=Z,6.4nm,1.1s
K29M Barlow Dome 76.41 350 P P 23 58 55.0 +1.4
DAWY Dawson 76.43 351 P P 23 58 54.5 +0.9
DAWY IAmb IAmb 23 58 55.9
comp=Z,4.4nm,0.9s
J26L Joseph Creek 76.46 353 P P 23 58 55.3 +1.4
MLY Manley 76.47 356 P P 23 58 55.0 +1.2
ILAR Eielson Array 76.48 354 P P 23 58 54.6 +0.7
ILAR Eielson Array 76.48 354 P P 23 58 54.0 +0.1
ILAR Eielson Array 76.48 354 P P 23 58 54.0 +0.1
comp=Z,0.8nm,0.8s,baz=335,slow=2.2,SNR=9.5
ILAR LR LR 00 33 36.6
comp=Z,30nm,20.6s,baz=301,slow=37
comp=Z,0.8nm,0.8s
H18K Honhosa River 76.57 360 P P 23 58 55.5 +1.1
H18K IAmb IAmb 23 59 38.1
comp=Z,7.6nm,1.2s
K27K Chicken 76.78 352 P P 23 58 57.5 +1.9
K27K IAmb IAmb 23 58 58.4
comp=Z,5.8nm,1.1s
H17K Granite Mounta 76.79 0 P P 23 58 56.5 +1.0
H17K IAmb IAmb 23 59 08.0
comp=Z,8.7nm,1.4s
HDA Harding Lake 76.84 354 P P 23 58 56.1 +0.2
HDA IAmb IAmb 23 58 57.6
comp=Z,7.0nm,0.9s
USA0B Ussuriysk Arra 76.96 43 P P 23 58 55.5 -1.4
USA0B Ussuriysk Arra 76.96 43 P P 23 58 55.5 -1.4
USA0B pmax pmax
comp=Z,25nm,1.4s
USRK Ussuriysk Ar. 76.96 43 P P 23 58 56.6 -0.3
USRK Ussuriysk Ar. 76.96 43 P P 23 58 56.4 -0.5
comp=Z,6.8nm,0.6s,baz=277,slow=5.0,SNR=15
comp=Z,6.8nm,0.6s
SCRK Sand Creek 77.02 353 P P 23 58 58.2 +1.2
SCRK IAmb IAmb 23 59 07.4
comp=Z,5.7nm,1.3s
ANM Nome 77.06 3 P P 23 58 58.0 +0.9
ANM Nome 77.06 3 P P 23 58 58.0 +0.9
ANM pmax pmax
comp=Z,13nm,1.2s
L29M L29M 77.19 350 P P 23 58 59.5 +1.6
L29M IAmb IAmb 23 59 32.9
comp=Z,9.6nm,1.4s
BPAW Bear Paw Mtn. 77.41 356 P P 23 58 59.7 +0.6
BPAW IAmb IAmb 23 58 59.8
comp=Z,3.8nm,0.8s
J20K Nowinta River 77.47 358 P P 23 59 01.0 +1.6
J20K IAmb IAmb 23 59 01.9
comp=Z,6.5nm,1.1s
BCAR Beaver Creek A 77.68 352 P P 23 59 02.5 +1.8
L27K Beaver Creek, 77.69 352 P P 23 59 02.3 +1.6
J19K Poorman 77.69 358 P P 23 59 02.2 +1.6
J19K IAmb IAmb 23 59 05.6
comp=Z,3.2nm,0.8s
M29M Somme Creek 77.88 350 P P 23 59 03.8 +1.9
M29M IAmb IAmb 23 59 04.2
comp=Z,5.3nm,0.8s
KTH Kantishna Hill 77.95 356 P P 23 59 03.5 +1.3
KTH IAmb IAmb 23 59 20.9
comp=Z,6.2nm,1.1s
RND Reindeer 77.97 355 P P 23 59 02.3 0.0
RND IAmb IAmb 23 59 09.3
comp=Z,12nm,1.4s
RND Reindeer 77.97 355 P P 23 59 02.3 0.0
RND pmax pmax
comp=Z,12nm,1.4s
TRF Thorofare Moun 78.02 356 P P 23 59 03.2 +0.5
TRF IAmb IAmb 23 59 06.5
comp=Z,8.8nm,1.2s
CAST Castle Rocks 78.14 357 P P 23 59 04.5 +1.3
CAST IAmb IAmb 23 59 16.6
comp=Z,9.3nm,1.4s
DHY Denali Highway 78.20 354 P P 23 59 04.8 +1.1
DHY IAmb IAmb 23 59 05.1
comp=Z,6.0nm,0.8s
J18K Innoko River 78.24 359 P P 23 59 05.2 +1.4
J18K IAmb IAmb 23 59 05.9
comp=Z,3.7nm,0.8s
K20K Telida 78.28 358 P P 23 59 05.6 +1.6
K20K IAmb IAmb 23 59 06.9
comp=Z,7.1nm,1.2s
J16K Anvik River 78.44 1 P P 23 59 06.3 +1.5
J16K IAmb IAmb 23 59 08.7
comp=Z,6.1nm,1.1s
N30M Aishikik Lake 78.63 349 P P 23 59 07.6 +1.6
N30M IAmb IAmb 23 59 12.1
comp=Z,8.4nm,1.4s
PPLA Purkeypile 78.67 357 P P 23 59 07.3 +1.0
TTA Tatalina 78.77 358 P P 23 59 07.4 +0.7
TTA Tatalina 78.77 358 P P 23 59 07.4 +0.7
TTA pmax pmax
comp=Z,5.0nm,1.2s
K17K Iditarod 79.02 359 P P 23 59 09.4 +1.4
K17K IAmb IAmb 23 59 30.2
comp=Z,8.2nm,1.1s
KSRS Korea Array 79.05 51 P P 23 59 08.1 -0.5
comp=Z,3.5nm,0.7s,baz=314,slow=4.4,SNR=6.9
KSRS LR LR 00 38 19.2
comp=Z,39nm,18.3s,baz=290,slow=39
comp=Z,3.5nm,0.7s
SCM Sheep Creek Mo 79.42 354 P P 23 59 10.9 +0.6
SCM Sheep Creek Mo 79.42 354 P P 23 59 10.9 +0.6
SCM pmax pmax
comp=Z,26nm,1.4s
K15K Wolf Creek Mou 79.43 1 P P 23 59 11.4 +1.1
K15K IAmb IAmb 23 59 14.3
comp=Z,9.5nm,1.2s
L19K White Mountain 79.49 358 P P 23 59 11.9 +1.3
L18K Granite Mounta 79.49 359 P P 23 59 12.4 +1.8
L18K IAmb IAmb 23 59 19.4
comp=Z,11nm,1.4s
SML Sawmill 79.52 355 P P 23 59 12.0 +1.1
SML IAmb IAmb 23 59 33.9
comp=Z,11nm,1.2s
R33M Jennings River 79.53 346 P P 23 59 13.2 +2.1
R33M IAmb IAmb 23 59 14.2
comp=Z,5.4nm,1.0s
W50A Signal Mountai 79.55 307 P P 23 59 10.4 -1.0
W50A IAmb IAmb 23 59 39.5
comp=Z,10nm,1.2s
SKT Skwentna 79.55 356 P P 23 59 11.2 +0.2
SKT IAmb IAmb 23 59 25.9
comp=Z,7.7nm,1.2s
GHO Glory Hole Cre 79.60 355 P P 23 59 12.0 +0.6
M20K Styx River 79.72 357 P P 23 59 12.4 +0.4
M20K IAmb IAmb 23 59 36.2
comp=Z,8.0nm,1.3s
SUA Susitna One 80.02 356 P P 23 59 14.8 +1.1
SUA IAmb IAmb 23 59 21.8
comp=Z,12nm,1.2s
L16K Owhat River 80.03 0 P P 23 59 14.9 +1.4
L16K IAmb IAmb 23 59 14.9
comp=Z,5.7nm,1.1s
Q32M Nakina River 80.19 346 P P 23 59 15.8 +1.1
Q32M IAmb IAmb 23 59 28.7
comp=Z,13nm,1.4s
M17K Holitna River 80.33 359 P P 23 59 16.6 +1.5
RC01 Rabbit Creek A 80.33 355 P P 23 59 16.0 +0.8
RC01 IAmb IAmb 23 59 16.6
comp=Z,7.9nm,0.8s
SVW2 Sparrevohn 80.59 358 P P 23 59 17.8 +1.2
SVW2 IAmb IAmb 23 59 49.2
comp=Z,9.5nm,1.4s
MJAR Matsushiro Arr 85.68 46 P P 23 59 43.4 +0.1
comp=Z,5.1nm,0.6s,baz=317,slow=3.6,SNR=11
MJAR LR LR 00 42 49.6
comp=Z,48nm,19.8s,baz=231,slow=39
comp=Z,5.1nm,0.6s
PDAR Pinedale Array 87.20 326 P P 23 59 51.2 +0.2
comp=Z,0.3nm,0.6s,baz=58,slow=5.6,SNR=3.5
comp=Z,0.3nm,0.6s
TXAR Lajitas Array 94.68 314 P P 00 00 26.5 +0.5
comp=Z,0.6nm,1.0s,baz=79,slow=6.5,SNR=4.8
comp=Z,0.6nm,1.0s
CPUP Villa Florida 97.26 242 LR LR 00 45 55.8
comp=Z,44nm,18.3s,baz=46,slow=36
WRA Warramunga Arr 120.54 92 PKP PKPdf 00 05 55.9 -0.6
comp=Z,0.4nm,0.6s,baz=320,slow=1.8,SNR=5.3
ASAR Alice Springs 122.21 96 PKP PKPdf 00 05 59.1 -0.5
comp=Z,0.5nm,0.5s,baz=334,slow=1.4,SNR=6.3

IDC ***25*** *23:51:20.2±0.9, 34.˚42N×73.˚58E, h0km, mb3.8/8, mbtmp3.7/12, ML3.2/4, Error ellipse: s-maj=31.7km s-min=18.4km az=57.0*

NEIC ***25*** *23:51:21.6±1.3, 34.˚24N±0.˚03×73.˚84E±0.˚09, h10km±2km, mb4.2/8, Error ellipse: s-maj=12.1km s-min=4.2km az=279.0*

NDI ***25*** *23:51:27.2±1.0, 34.˚41N×73.˚73E, h10km, MW3.9, mb4.2(NEIC)*

ISC 25 23:51:21.6±0.5, 34.˚36N±0.˚05×73.˚84E±0.˚06, h10km, n40, σ1§64/42, mb3.9/11, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**0.86**	**215**			**Pg**	**23 51 36.5**	**-1.6**
BHK	**Bhakra**	**3.65**	**143**		*eP*	**Pb**	**23 52 25.4**	**-0.8**
BHK					*eS*	**Sb**	**23 53 08.3**	**-2.1**
KBL	**Kabul**	**3.97**	**274**		Pn	**Pn**	**23 52 23.0**	**+0.3**

KSH	**Kashi**	**5.42**	**18**	P		**Pn**		**23 52 42.8**	**+0.1**
KSH				S		**Sn**		**23 53 41.0**	**-4.2**
KSH				smax	smax				
	comp=N,13nm,0.5s								
KSH				smax	smax				
	comp=E,12nm,0.5s								
BTK	**Batken**	**6.18**	**338**	Pn		**Pn**		**23 52 54.2**	**+1.3**
KHET	**Khetri**	**6.49**	**164**	*e*S		**Sn**		**23 54 13.4**	**+2.1**
KUDL	**Kundal**	**6.60**	**159**	*e*S		**Sn**		**23 54 16.1**	**+2.2**
ARSB	**Arslanbob**	**6.99**	**355**			**Pn**		**23 53 05.1**	**+1.0**
PTH	**Pithoragarh**	**7.23**	**130**	*e*P		**Pn**		23 53 13.5	+6.0
PTH				*e*S		**Sn**		**23 54 30.8**	**+0.9**
TARG	**Taragay, Kyrgy**	**8.00**	**22**	Pn		**Pn**		**23 53 19.0**	**+0.8**
AAK	**Ala-Arcba**	**8.28**	**3**			**Pn**		**23 53 22.2**	**+0.3**
AAK	**Ala-Arcba**	**8.28**	**3**	Pn		**Pn**		**23 53 24.3**	**+2.4**
	comp=E,0.1nm,0.3s,baz=148,slow=5.7,SNR=3.1								
	comp=E,1.0nm,0.6s								
PRZ	**Przheval'sk**	**8.87**	**22**	Pn		**Pn**		**23 53 31.4**	**+1.4**
KK31	**Karatay Array**	**9.11**	**344**	Pn		**Pn**		**23 53 33.9**	**+0.8**
KKAR	**Karatay Array**	**9.11**	**344**	Pn		**Pn**		**23 53 33.9**	**+0.8**
KKAR	**Karatay Array**	**9.11**	**344**	Pn		**Pn**		**23 53 34.1**	**+1.0**
HRA	**Herat**	**9.59**	**273**	Pn		**Pn**		**23 53 39.8**	**-0.1**
GEYT	**Ailbeck**	**13.20**	**290**	Pn		**Pn**		**23 54 32.6**	**+3.6**
GYA0B	**ALIBECK ARRAY**	**13.20**	**290**	Pn		**Pn**		**23 54 31.8**	**+2.8**
MAKZ	**Makanchi**	**13.88**	**24**	Pn		**Pn**		**23 54 40.4**	**+2.1**
MKAR	**Makanchi Array**	**13.97**	**25**	Pn		**Pn**		**23 54 40.2**	**+0.6**
	comp=E,0.1nm,0.3s,baz=209,slow=15,SNR=1.9								
	comp=E,0.3nm,0.8s								
WMQ	**Urumqi**	**14.30**	**45**	*e*P		**Pn**		**23 54 47.0**	**+2.8**
ABKAR	**Akbulak array**	**18.09**	**330**	Pn		**Pn**		**23 55 32.4**	**-0.5**
BVAR	**Borovoye Array**	**18.82**	**354**	P		**P**		**23 55 40.5**	**-0.8**
	baz=162,slow=8.9,SNR=4.2								
	comp=E,1.1nm,0.5s								
AKTO	**Aktyubinsk**	**19.80**	**329**	P		**P**		**23 55 51.1**	**-0.9**
	comp=E,0.5nm,0.3s,baz=129,slow=10,SNR=4.4								
	comp=E,1.5nm,0.3s								
ARU	**Arti**	**24.43**	**339**	P		**P**		**23 56 40.1**	**-0.1**
ARU				IAmb		IAmb		23 56 41.6	
	comp=Z,2.3nm,0.6s								
PZH	**PanZhiHua**	**25.25**	**100**	P		**P**		**23 56 48.5**	**+0.5**
PZH				pmax	pmax				
	comp=Z,10.0nm,0.5s								
PZH				pmax	pmax				
	comp=Z,100nm,5.0s								
CHTO	**Chiang Mai**	**27.17**	**118**	P		**P**		**23 57 04.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**27.39**	**119**	P		**P**		**23 57 09.7**	**+2.3**
	comp=Z,0.8nm,0.3s,baz=299,slow=9.2,SNR=1.5								
	comp=Z,0.8nm,0.3s								
PALK	**Pallekele**	**27.69**	**165**	P		**P**		**23 57 08.0**	**-2.1**
SONM	**Songino Array**	**27.76**	**51**	P		**P**		**23 57 10.7**	**+0.2**
GAZ	**Gaziantep**	**29.74**	**286**	P		**P**		**23 57 28.6**	**+0.4**
GAZ				IAmb		IAmb		23 57 56.7	
	comp=Z,3.7nm,0.8s								
HHC	**Hu-ho-hao-te**	**30.41**	**66**	*e*P		**P**		**23 57 35.3**	**+1.2**
ARCES	**ARCESS Array B**	**44.00**	**338**	P		**P**		**23 59 28.0**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=95,slow=9.9,SNR=3.7								
	comp=Z,1.9nm,0.8s								
HFS	**Hagfors**	**46.17**	**323**	P		**P**		**23 59 45.1**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=99,slow=9.3,SNR=1.1								
	comp=Z,1.0nm,0.6s								
TORD	**Torodi Ar. Bea**	**68.03**	**271**	P		**P**		**00 02 20.0**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=46,slow=6.0,SNR=5.2								
	comp=Z,0.2nm,0.4s								
ILAR	**Eielson Array**	**76.18**	**17**	P		**P**		**00 03 09.4**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=302,slow=5.4,SNR=5.2								
	comp=Z,0.2nm,0.5s								
WRA	**Warramunga Arr**	**78.89**	**123**	P		**P**		**00 03 26.7**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=324,slow=5.2,SNR=9.1								
	comp=Z,0.6nm,0.7s								
ASAR	**Alice Springs**	**81.12**	**126**	P		**P**		**00 03 39.2**	**+1.8**
	comp=Z,0.7nm,0.6s,baz=314,slow=5.7,SNR=7.1								
	comp=Z,0.7nm,0.6s								
YKA	**Yellowknife Ar**	**83.25**	**4**	P		**P**		**00 03 47.8**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=348,slow=5.2,SNR=8.1								
	comp=Z,0.4nm,0.8s								

VAO ***26*** *00:05:02.5±0.6,24.02S×69.92W,h10km,mb4.3*
SJA ***26*** *00:05:12.4±0.7,23.98S×69.28W,h103km±5km,ML4.5, MW4.4*
IDC ***26*** *00:05:14.1±0.5,24.04S×69.18W,h87km±4km,mb4.0/10, mbtmp4.3/13,MS2.6/3,Error ellipse: s-maj=16.3km s-min=6.6km az=92.0*
GUC ***26*** *00:05:14.1±0.8,23.98S×69.35W,h95km±6km,ML4.6*
NEIC ***26*** *00:05:14.6±1.8,23.99S±0.04×69.26W±0.07,h87km±4km, mb4.4/74,Error ellipse: s-maj=9.3km s-min=6.2km az=103.0*

ISC 26 00:05:13.8±0.4,23.99S±0.03×69.31W±0.04,h85km±4km, n231,σt=27/259,mb4.3/43,8C-3D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.79**	**349**			**Pn**	**00 05 31.5**	**+0.4**
PB15	**IPOC Station P**	**0.79**	**349**	*e*P		**Pn**	**00 05 31.8**	**+0.7**
PB15				*e*S		**Sn**	**00 05 45.0**	**+1.1**
PB15	**IPOC Station P**	**0.79**	**349**	⇑*i*P		**Pn**	**00 05 31.8**	**+0.7**
PB15				*i* S		**Sn**	**00 05 44.9**	**+1.1**
PB14	**IPOC Station P**	**1.18**	**237**	Pn		**Pn**	**00 05 36.8**	**+1.1**
PB14	**IPOC Station P**	**1.18**	**237**	*e*P		**Pn**	**00 05 36.8**	**+1.1**
PB14				*e*S		**Sn**	**00 05 54.4**	**+2.3**
PB14				IAML			00 06 00.7	
	comp=Z,5μm,0.4s							
PB14	**IPOC Station P**	**1.18**	**237**	⇓*i*P		**Pn**	**00 05 36.9**	**+1.1**
PB14				*i* S		**Sn**	**00 05 52.1**	**0.0**
GO02	**Mina Guanaco**	**1.20**	**192**	Pn		**Pn**	**00 05 37.1**	**+1.1**
GO02	**Mina Guanaco**	**1.20**	**192**	*e*P		**Pn**	**00 05 37.0**	**+1.1**
GO02				*e*S		**Sn**	**00 05 54.7**	**+2.2**
GO02	**Mina Guanaco**	**1.20**	**192**	⇓*i*P		**Pn**	**00 05 37.0**	**+1.1**
GO02				*i* S		**Sn**	**00 05 54.0**	**+1.5**
GO02				IAML			00 05 55.2	
	comp=E,13μm,0.4s							
PB06	**IPOC Station P**	**1.29**	**349**			**Pn**	**00 05 37.6**	**+0.7**
PB06					Sn	**Sn**	**00 05 55.2**	**+0.9**
PB06	**IPOC Station P**	**1.29**	**349**	*e*P		**Pn**	**00 05 37.8**	**+0.8**
PB06				*e*S		**Sn**	**00 05 55.7**	**+1.4**
PB06				IAML			00 05 58.6	
	comp=Z,7μm,0.6s							
PB06	**IPOC Station P**	**1.29**	**349**	⇑*i*P		**Pn**	**00 05 37.8**	**+0.8**
PB06				*i* S		**Sn**	**00 05 55.3**	**+0.9**
PB06				IAML			00 05 56.7	
	comp=N,16μm,0.4s							
PB05	**IPOC Station P**	**1.39**	**324**			**Pn**	**00 05 39.3**	**+1.2**
PB05	**IPOC Station P**	**1.39**	**324**	*e*P		**Pn**	**00 05 39.3**	**+1.2**
PB05				*e*S		**Sn**	**00 05 58.3**	**+1.9**
PB05				IAML			00 06 03.4	
	comp=Z,7μm,0.8s							
PB05	**IPOC Station P**	**1.39**	**324**	⇑*i*P		**Pn**	**00 05 39.3**	**+1.2**
PB05				*i* S		**Sn**	**00 05 56.8**	**+0.4**
PB05				IAML			00 06 02.6	
	comp=N,7μm,0.3s							
LVC	**Limon Verde**	**1.42**	**15**			**Pn**	**00 05 39.3**	**+0.6**
LVC					Sn	**Sn**	**00 05 58.6**	**+1.2**
LVC	**Limon Verde**	**1.42**	**15**	*e*P		**Pn**	**00 05 39.5**	**+0.8**
LVC				*e*S		**Sn**	**00 05 58.4**	**+1.1**
LVC				IAML			00 06 00.3	
	comp=Z,4μm,0.3s							
LVC	**Limon Verde**	**1.42**	**15**	P		**Pn**	**00 05 39.5**	**+0.8**
	comp=Z,341nm,0.3s,baz=168,slow=9.1,SNR=787							
LVC				S		**Sn**	**00 05 58.4**	**+1.1**
	comp=Z,7μm,0.4s,baz=214,slow=17,SNR=66							
LVC	**Limon Verde**	**1.42**	**15**	⇑*e*P		**Pn**	**00 05 39.3**	**+0.6**
LVC				*i* S		**Sn**	**00 05 57.8**	**+0.4**
AF01	**San Pedro de A**	**1.46**	**46**	Pn		**Pn**	**00 05 39.1**	**0.0**
AF01	**San Pedro de A**	**1.46**	**46**	⇓*i*P		**Pn**	**00 05 40.4**	**+1.3**
AF01				*i* S		**Sn**	**00 06 00.1**	**+1.8**
AF01				IAML			00 06 01.7	
	comp=N,18μm,0.5s							
PB04	**IPOC Station P**	**1.81**	**335**	Pn		**Pn**	**00 05 43.8**	**+0.2**
PB04	**IPOC Station P**	**1.81**	**335**	*e*P		**Pn**	**00 05 44.1**	**+0.5**
PB04				IAML			00 06 14.4	
	comp=Z,4μm,0.5s							
PB04	**IPOC Station P**	**1.81**	**335**	⇑*i*P		**Pn**	**00 05 44.2**	**+0.5**
PB04				⇑*i*S		**Sn**	**00 06 03.4**	**-2.8**
PB04				IAML			00 06 18.1	
	comp=N,6μm,0.6s							
PB09	**IPOC Station P**	**2.18**	**2**			**Pn**	**00 05 49.5**	**+1.1**
PB09	**IPOC Station P**	**2.18**	**2**	*e*P		**Pn**	**00 05 50.1**	**+1.7**
PB09				*e*S		**Sn**	**00 06 17.4**	**+2.6**
PB09				IAML			00 06 25.2	
	comp=Z,3μm,0.4s							
PB09	**IPOC Station P**	**2.18**	**2**	*e*P		**Pn**	**00 05 50.0**	**+1.5**
PB09				*i* S		**Sn**	**00 06 11.9**	**-2.9**
PB09				IAML			00 06 23.3	
	comp=E,3μm,0.6s							
PB07	**IPOC Station P**	**2.31**	**347**			**Pn**	**00 05 49.9**	**-0.3**
PB07	**IPOC Station P**	**2.31**	**347**	*e*P		**Pn**	**00 05 49.9**	**-0.3**
PB07				IAML			00 06 28.4	
	comp=Z,3μm,0.3s							
PB07	**IPOC Station P**	**2.31**	**347**	⇑*i*P		**Pn**	**00 05 50.5**	**+0.4**
PB07				IAML			00 06 25.1	
	comp=E,4μm,0.6s							
AC01	**Pan de Azucar**	**2.45**	**208**			**Pn**	**00 05 52.2**	**+0.3**
AC01	**Pan de Azucar**	**2.45**	**208**	*e*P		**Pn**	**00 05 52.1**	**+0.3**
AC01				*e*S		**Sn**	**00 06 16.4**	**-4.6**
AC01				IAML			00 06 28.3	
	comp=Z,2μm,0.4s							
PB02	**IPOC Station P**	**2.71**	**348**			**Pn**	**00 05 55.5**	**+0.1**
PB02	**IPOC Station P**	**2.71**	**348**	*e*P		**Pn**	**00 05 55.7**	**+0.2**
PB02				IAML			00 06 37.5	
	comp=Z,3μm,0.4s							
PB02	**IPOC Station P**	**2.71**	**348**	⇑*e*P		**Pn**	**00 05 55.6**	**+0.1**
PB01	**IPOC Station P**	**2.93**	**357**			**Pn**	**00 05 58.7**	**+0.2**
PB01	**IPOC Station P**	**2.93**	**357**	*e*P		**Pn**	**00 05 58.4**	**0.0**
PB01				*e*S		Sn	00 06 24.0	-8.7
PB01				IAML			00 06 40.7	
	comp=Z,978nm,0.5s							
PATCX	**Punta Patache**	**3.24**	**346**	Pn		**Pn**	**00 06 01.8**	**-0.9**
PATCX	**Punta Patache**	**3.24**	**346**	*e*P		**Pn**	**00 06 01.5**	**-1.2**
AC06	**Mina Casimiro**	**3.49**	**195**	Pn		**Pn**	**00 06 05.7**	**-0.1**
TA01	**Diego Aracena**	**3.50**	**347**			**Pn**	**00 06 04.8**	**-1.2**
TA01	**Diego Aracena**	**3.50**	**347**	*e*P		**Pn**	**00 06 04.2**	**-1.7**
TA01				IAML			00 07 04.9	
	comp=Z,1μm,0.9s							
SLA	**San Lorenzo**	**3.55**	**103**	*e*P		**Pn**	**00 06 10.2**	**+3.3**
GO03	**Copiap**	**3.69**	**193**			**Pn**	**00 06 08.7**	**+0.1**
GO03	**Copiap**	**3.69**	**193**	*e*P		**Pn**	**00 06 08.9**	**+0.3**
GO03				*e*S		**Sn**	**00 06 55.8**	**+4.8**
HMBC	**Humberstone**	**3.73**	**352**	*e*P		**Pn**	**00 06 08.5**	**-0.7**
TA02	**Huaiquique**	**3.77**	**348**			**Pn**	**00 06 09.8**	**0.0**
PB08	**IPOC Station P**	**3.83**	**2**			**Pn**	**00 06 10.6**	**-0.2**
PB08	**IPOC Station P**	**3.83**	**2**	*e*P		**Pn**	**00 06 10.8**	**0.0**
PB08				IAML			00 07 20.7	
	comp=Z,709nm,0.7s							
AZAP	**Zapla**	**3.89**	**94**	*e*P		**Pn**	**00 06 14.2**	**+2.7**
YJA	**Yavi**	**3.93**	**64**	*e*P		**Pn**	**00 06 15.2**	**+2.9**
PB11	**IPOC Station P**	**4.21**	**356**			**Pn**	**00 06 14.9**	**-1.0**
PB11	**IPOC Station P**	**4.21**	**356**	*e*P		**Pn**	**00 06 14.8**	**-1.2**
PB11				IAML			00 07 33.9	
	comp=Z,601nm,0.6s							
GO01	**Chusmiza**	**4.30**	**1**			**Pn**	**00 06 16.9**	**-0.4**
AC04	**Llanos de Chal**	**4.49**	**200**	Pn		**Pn**	**00 06 17.8**	**-1.7**
AC04	**Llanos de Chal**	**4.49**	**200**	*e*P		**Pn**	**00 06 16.9**	**-2.5**
AC04				IAML			00 07 29.9	
	comp=Z,658nm,0.6s							
AHML	**Horco Molle**	**4.55**	**129**	*e*P		**Pn**	**00 06 23.3**	**+3.0**
VCA	**Vinchina**	**4.83**	**168**	*e*P		**Pn**	**00 06 26.8**	**+2.5**
VCA				*e*S		Sn	00 07 29.0	+10
VCA				IAML			00 07 44.5	
	comp=Z,166nm,1.1s							
ALOL	**LOMAS DE OLMED**	**4.88**	**89**	*e*P		**Pn**	**00 06 27.1**	**+2.3**
AC05	**El Transito**	**4.91**	**190**	Pn		**Pn**	**00 06 25.2**	**0.0**
AC05	**El Transito**	**4.91**	**190**	*e*P		**Pn**	**00 06 25.0**	**-0.3**
AC05				*e*S		Sn	00 07 33.6	+13
AC05				IAML			00 07 42.4	
	comp=Z,371nm,0.7s							
LCO	**Las Campanas**	**5.16**	**194**			**Pn**	**00 06 28.4**	**-0.4**
LCO	**Las Campanas**	**5.16**	**194**	*e*P		**Pn**	**00 06 27.1**	**-1.7**
PB12	**IPOC Station P**	**5.43**	**350**	Pn		**Pn**	**00 06 30.7**	**-1.7**
PB16	**IPOC Station P**	**5.62**	**358**	Pn		**Pn**	**00 06 35.0**	**-0.4**
CO01	**Juntas del Tor**	**6.01**	**186**			**Pn**	**00 06 40.2**	**-0.2**
CO05	**La Serena**	**6.16**	**196**			**Pn**	**00 06 40.2**	**-1.9**
GO04	**Tololo Observa**	**6.30**	**192**			**Pn**	**00 06 44.3**	**-0.1**
PB18	**Visviri**	**6.37**	**359**			**Pn**	**00 06 45.0**	**-0.6**
CO03	**El Pedregal**	**6.94**	**190**			**Pn**	**00 06 51.1**	**-1.8**
CO06	**Fray Jorge**	**6.98**	**197**			**Pn**	**00 06 52.8**	**-0.5**
CO02	**Combarbal**	**7.34**	**191**			**Pn**	**00 06 58.1**	**-0.4**
ZON	**Zonda**	**7.55**	**176**			**Pn**	**00 07 01.1**	**-0.2**
CFA	**Coronel Fontan**	**7.65**	**173**	P		**Pn**	**00 07 01.8**	**-0.8**
	comp=Z,24nm,0.3s,baz=31,slow=21,SNR=97							
CFA				S		**Sn**	**00 08 23.8**	**-3.9**
	comp=Z,15nm,0.3s,baz=353,slow=8.1,SNR=1.7							
CFA				LR		LR	00 09 54.7	
	comp=Z,21nm,18.6s,baz=326,slow=37							
LPAZ	**La Paz**	**7.74**	**8**			**Pn**	**00 07 04.1**	**-0.2**
TICA	**Tres Isletas**	**8.43**	**108**	*e*P		**Pn**	**00 07 13.6**	**+0.4**
VA03	**San Esteban**	**8.81**	**187**			**Pn**	**00 07 17.6**	**-0.9**
ROC1	**El Roble**	**9.08**	**189**	Pn		**Pn**	**00 07 22.0**	**-0.3**
PEL	**Peldehue**	**9.21**	**187**	Pn		**Pn**	**00 07 23.0**	**-0.7**
MT02	**Curacav**	**9.38**	**189**	Pn		**Pn**	**00 07 26.1**	**0.0**
MT05	**Renca**	**9.46**	**187**	Pn		**Pn**	**00 07 27.3**	**+0.1**
MT16	**CCHEN**	**9.47**	**186**	Pn		**Pn**	**00 07 27.4**	**0.0**
MT03	**Universidad Ad**	**9.53**	**186**	Pn		**Pn**	**00 07 28.3**	**0.0**
VA05	**Santo Domingo**	**9.85**	**191**	Pn		**Pn**	**00 07 32.3**	**-0.1**
LMEL	**Las Melosas**	**9.86**	**184**	Pn		**Pn**	**00 07 33.1**	**+0.3**
MT09	**Talagante**	**9.87**	**188**	Pn		**Pn**	**00 07 37.7**	**-0.1**
BO04	**La Punta**	**10.03**	**186**			**Pn**	**00 07 36.0**	**+0.9**
BO01	**Tunca**	**10.48**	**188**			**Pn**	**00 07 40.3**	**-0.9**
BBSD	**Serra de San D**	**10.59**	**52**	*e*P		**Pn**	**00 07 39.7**	**-2.9**
BO02	**Sierra Bellavi**	**10.85**	**186**	Pn		**Pn**	**00 07 46.7**	**+0.5**
MURT	**Porto Murtinho**	**11.04**	**80**	*e*P		**Pn**	**00 07 49.2**	**+0.5**
SIV	**San Ignacio**	**11.10**	**46**	P		**Pn**	**00 07 46.1**	**-3.5**
	comp=Z,4.1nm,0.4s,baz=238,slow=8.4,SNR=28							
SIV				S		Sn	00 09 42.2	-10
	comp=Z,2.7nm,0.6s,baz=180,slow=20,SNR=1.6							
CPUP	**Villa Florida**	**11.10**	**105**	Pn		**Pn**	**00 07 48.6**	**-1.0**
CPUP	**Villa Florida**	**11.10**	**105**	*e*P		**Pn**	**00 07 48.4**	**-1.2**
CPUP	**Villa Florida**	**11.10**	**105**	P		**Pn**	**00 07 47.5**	**-2.1**
	comp=Z,3.6nm,0.8s,baz=279,slow=12,SNR=7.3							
CPUP				S		**Sn**	**00 09 50.0**	**-1.9**
	comp=Z,1.8nm,0.9s,baz=315,slow=17,SNR=1.7							
GO05	**Huala**	**11.22**	**191**	Pn		**Pn**	**00 07 52.6**	**+1.4**
BDQN	**Bodoquena, MS**	**12.15**	**76**	*e*P		**Pn**	**00 08 02.4**	**-1.5**
ITQB	**Itaqui**	**12.66**	**119**	Pn		**Pn**	**00 08 10.9**	**+0.2**
ITQB	**Itaqui**	**12.66**	**119**	*e*P		**Pn**	**00 08 10.0**	**-0.6**
PTLB	**Pontes e Lacer**	**12.80**	**50**	Pn		**Pn**	**00 08 11.1**	**-1.4**
PTLB	**Pontes e Lacer**	**12.80**	**50**	*e*P		**Pn**	**00 08 09.7**	**-2.8**
AQDB	**Aquidauana**	**13.08**	**77**	*e*P		**Pn**	**00 08 15.7**	**-0.6**
NNA	**Nana**	**13.91**	**328**	LR		LR	00 13 27.2	
	comp=Z,15nm,20.2s,baz=166,slow=35							
VILB	**Vilhena**	**13.96**	**40**	*e*P		**Pn**	**00 08 25.1**	**-2.8**
RODS	**Rosario do Sul**	**14.07**	**120**	*e*P		**Pn**	**00 08 29.1**	**-0.1**
RVDE	**Rio Verde (Bra**	**14.25**	**73**	*e*P		**Pn**	**00 08 31.9**	**+0.3**
ETMB	**Extrema**	**14.40**	**12**	*e*P		**Pn**	**00 08 29.2**	**-4.3**
FRBT	**Francisco Belt**	**14.87**	**101**	*e*P		**Pn**	**00 08 40.8**	**+1.2**
PP1B	**Ponte de Pedra**	**14.91**	**67**	*e*P		**Pn**	**00 08 41.2**	**+1.0**
SALV	**Santo Antonio**	**15.11**	**60**	*e*P		**Pn**	**00 08 41.1**	**-1.6**
ALGR	**Alto Alegre (B**	**15.36**	**112**	*e*P		**Pn**	**00 08 45.3**	**-0.5**
TRQA	**Tornquist**	**15.36**	**158**	Pn		**Pn**	**00 08 46.5**	**+0.8**
CPSB	**Cacapava Do Su**	**15.50**	**118**	*e*P		**Pn**	**00 08 46.7**	**-0.8**
GO06	**Curarrehue**	**15.66**	**186**	P		**P**	**00 08 52.2**	**+0.2**
PTGB	**Pitanga**	**15.74**	**96**	*e*P		**P**	**00 08 53.5**	**+0.6**
ITAB	**Concordia**	**15.83**	**105**	Pn		**Pn**	**00 08 49.8**	**-1.9**
PLTB	**Pedras Altas**	**15.89**	**123**	Pn		**Pn**	**00 08 49.9**	**-2.6**
PLTB	**Pedras Altas**	**15.89**	**123**	*e*P		**Pn**	**00 08 51.2**	**-1.3**
SAML	**Samuel**	**16.06**	**22**			**Pn**	**00 08 54.6**	**-0.1**
SAML	**Samuel**	**16.06**	**22**	*e*P		**Pn**	**00 08 53.2**	**-1.4**
LDASE	**Londrina, Braz**	**16.68**	**92**	*e*P		**P**	**00 09 04.0**	**+0.7**
PLCA	**Paso Flores**	**16.73**	**183**	P		**P**	**00 09 05.2**	**+1.4**
PLCA	**Paso Flores**	**16.73**	**183**	P		**Pn**	**00 09 03.3**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=20,slow=15,SNR=4.0							
PCMB	**Pacaembu**	**16.81**	**85**	*e*P		**P**	**00 09 05.4**	**+0.7**
PDRB	**Porto dos Gac**	**17.16**	**46**	*e*P		**P**	**00 09 08.4**	**-0.2**
CNLB	**Canela**	**17.33**	**112**	*e*P		**P**	**00 09 10.5**	**0.0**
ITRB	**Iturama**	**18.10**	**80**	*e*P		**Pn**	**00 09 19.4**	**-0.3**
FRTB	**Fartura**	**18.10**	**92**	*e*P		**Pn**	**00 09 19.4**	**-0.3**
TBTG	**Tabatinga, AM**	**19.69**	**358**	P		**P**	**00 09 36.2**	**-0.1**
TBTG				IAmb		IAmb	00 09 38.9	
	comp=Z,30nm,0.8s							
RCLB	**Rio Claro- Sao**	**20.08**	**90**	*e*P		Pn	00 09 42.1	-1.1
NPGB	**Novo Progresso**	**21.52**	**41**	*e*P		**P**	**00 09 56.3**	**+0.3**
BDFB	**Brasilia**	**21.67**	**71**	P		**P**	**00 09 56.2**	**-1.5**
	comp=Z,3.6nm,0.7s,baz=202,slow=4.9,SNR=6.8							
	comp=Z,3.6nm,0.7s							
PARB	**Paraibuna**	**21.71**	**93**	*e*P		**P**	**00 10 01.3**	**+3.2**
PMNB	**Patos De Minas**	**21.98**	**80**	*e*P		**P**	**00 10 03.1**	**+2.0**
MCRA	**Macar, Loja**	**22.04**	**331**	P		**P**	**00 10 01.4**	**-0.2**
MACA	**Manacapuru-AM**	**22.32**	**23**	P		**P**	**00 10 02.7**	**-1.9**
MACA				IAmb		IAmb	00 10 37.0	
	comp=Z,16nm,0.6s							
MACA	**Manacapuru-AM**	**22.32**	**23**	*e*P		**P**	**00 10 03.5**	**-1.0**
BOSC	**San Juan Bosco**	**22.53**	**335**	P		**P**	**00 10 07.0**	**0.0**
BSCB	**Bom Sucesso**	**22.86**	**87**	*e*P		**P**	**00 10 12.0**	**+1.7**
COHC	**Cochancay**	**23.45**	**334**	P		**P**	**00 10 16.8**	**+1.0**
ITTB	**Itaituba**	**23.49**	**36**	*e*P		**P**	**00 10 14.9**	**-1.3**
SLOR	**San Lorenzo -**	**24.77**	**338**	P		**P**	**00 10 27.4**	**-0.9**
SLOR				IAmb		IAmb	00 10 50.7	
	comp=Z,9.0nm,0.6s							
JANB	**Januaria**	**25.15**	**74**	*e*P		**P**	**00 10 32.0**	**+0.7**
MALB	**Monte Alegre**	**26.39**	**36**	*e*P		**P**	**00 10 43.0**	**+0.6**
BOAV	**Boa Vista**	**27.58**	**19**	*e*P		**P**	**00 10 53.4**	**+0.4**
ROSC	**El Rosal**	**29.06**	**350**	LR		LR	00 25 20.6	
	comp=Z,29nm,19.6s,baz=42,slow=41							
BIM	**Bigot**	**39.10**	**13**	P		**P**	**00 12 34.3**	**+1.4**
833A	**Chaparral WMA,**	**59.54**	**329**	P		**P**	**00 15 09.1**	**+0.7**
SNAA	**Sanae**	**60.07**	**160**	P		**P**	**00 15 11.6**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=282,slow=10,SNR=9.4							
	comp=Z,1.6nm,0.6s							
HNDO	**Hondo**	**60.50**	**330**	P		**P**	**00 15 15.4**	**+0.4**
HNDO				IAmb		IAmb	00 15 17.0	
	comp=Z,7.4nm,0.7s							
X48A	**Hartselle**	**60.51**	**343**	P		**P**	**00 15 14.4**	**-0.5**
CPCT	**Cooper Cave**	**60.84**	**346**	P		**P**	**00 15 16.7**	**-0.5**
TKL	**Tuckaleechee C**	**60.88**	**347**	P		**P**	**00 15 17.8**	**+0.4**
SWET	**Sewanee**	**60.95**	**344**	P		**P**	**00 15 17.4**	**-0.6**
JCT	**Junction City**	**61.55**	**330**	P		**P**	**00 15 22.8**	**+0.7**
HPIG		**61.61**	**323**	P		**P**	**00 15 23.7**	**+0.9**
HPIG				IAmb		IAmb	00 15 25.8	
	comp=Z,6.4nm,1.2s							
V48A	**Smith Brothers**	**61.67**	**344**	P		**P**	**00 15 22.5**	**-0.2**
BRDY	**Brady**	**61.88**	**331**	P		**P**	**00 15 24.6**	**+0.3**
BRDY				IAmb		IAmb	00 15 25.7	
	comp=Z,4.0nm,0.6s							
SAND	**Sanderson**	**62.20**	**328**	P		**P**	**00 15 27.2**	**+0.7**
SAND				IAmb		IAmb	00 15 28.9	
	comp=Z,5.8nm,0.9s							
WVT	**Waverly**	**62.30**	**343**	P		**P**	**00 15 25.7**	**-1.2**
TXAR	**Lajitas Array**	**62.46**	**326**	P		**P**	**00 15 29.4**	**+1.1**
	comp=Z,0.9nm,0.

AFDM	Forest Hills D	79.08	321	P		P	00 17 09.4	+0.5
ELMT	Elliston	80.32	331			P	00 17 16.5	+1.0
LYMT	Lyon Mountain	80.58	332	P		P	00 17 17.9	+0.9
BPMT	Black Pine Rid	80.68	331	P		P	00 17 18.3	+0.7
PLID	Pearl Lake	80.84	329	P		P	00 17 18.9	+0.4
PLID				IAmb		IAmb	00 17 21.0	
	comp=Z,4.1nm,0.7s							
CHMT	Chamberlain Mo	80.95	331	P		P	00 17 19.6	+0.6
OVMT	Ovando	80.96	331	P		P	00 17 20.3	+1.4
D08A	Wollman Farm,	83.67	328	P		P	00 17 33.9	+1.1
YKA	Yellowknife Ar	93.40	341	P		P	00 18 19.1	+0.2
	comp=Z,1.5nm,0.8s,baz=140,slow=4.4,SNR=25							
YKA				pP		pP	00 18 43.4	+0.8
	comp=Z,0.2nm,0.6s,baz=136,slow=4.1,SNR=2.4							
	comp=Z,1.5nm,0.8s							
ASAR	Alice Springs	127.55	207	PKP		PKPdf	00 24 09.9	+0.2
	comp=Z,1.4nm,0.7s,baz=140,slow=2.6,SNR=14							
ASAR				pPKP		pPKPdf	00 24 34.1	-0.1
	comp=Z,1.0nm,0.7s,baz=139,slow=2.1,SNR=5.3							
WRA	Warramunga Arr	130.63	210	PKP		PKPdf	00 24 15.7	+0.1
	comp=Z,0.7nm,0.6s,baz=155,slow=1.7,SNR=12							
WRA				pPKP		pPKPdf	00 24 39.7	-0.5
	comp=Z,0.4nm,0.6s,baz=161,slow=1.8,SNR=2.4							
BVAR	Borovoye Array	138.03	36	PKP		PKPdf	00 24 26.8	-1.6
	comp=Z,0.6nm,0.5s,baz=294,slow=1.4,SNR=3.6							
BVAR				pPKP		pPKPdf	00 24 50.9	-2.0
	comp=Z,0.7nm,0.7s,baz=317,slow=3.4,SNR=3.1							
KURBB	Kurchatov Arra	143.59	35	PKP		PKPbc	00 24 36.7	+0.6
	comp=Z,1.0nm,0.7s,baz=305,slow=3.2,SNR=9.5							
KURBB				pPKP		pPKPdf	00 25 00.7	-2.3
	comp=Z,0.3nm,0.5s,baz=306,slow=2.8,SNR=3.5							
ZALV	Zalesovo Beam	144.34	26	PKP		PKPdf	00 24 39.0	-0.6
	comp=Z,4.2nm,0.7s,baz=299,slow=3.9,SNR=17							
ZALV				pPKP		pPKPdf	00 25 03.5	-0.8
	comp=Z,4.2nm,0.8s,baz=308,slow=5.3,SNR=4.9							
KSH	Kashi	146.90	54	*e*PKPbc		PKPbc	00 24 45.8	-0.9
KSH				pPKP		pPKPdf	00 25 10.5	+1.1
MKAR	Makanchi Array	147.84	38	PKPbc		PKPdf	00 24 46.9	+1.0
	comp=Z,4.1nm,0.8s,baz=310,slow=2.9,SNR=21							
MKAR				pPKPbc		pPKPdf	00 25 11.2	+0.7
	comp=Z,4.3nm,0.8s,baz=320,slow=2.7,SNR=10							
PZH	PanZhiHua	171.52	71	PKP		PKPdf	00 25 12.5	-0.6

*IDC **26** 00:12:57.6±0.7,11°.42S×165°.89E,h0km,mb4.3/13, mbtmp4.3/15,ML2.6/1,MS3.8/26,Error ellipse: s-maj=24.0km s-min=17.7km az=134.0*
*NEIC **26** 00:13:00.6±1.3,11°.40S±0°.07×165°.78E±0°.1,h10km±1km, mb4.9/56,Error ellipse: s-maj=18.5km s-min=12.0km az=77.0*

ISC 26 00:12:59.8±0.5,11°.45S±0°.07×165°.78E±0°.07,h10km,n112, σ1§38/95,mb4.8/41,MS3.9/26,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.08	289		Pn	00 14 31.1	+1.4
HNR	Honiara	6.08	289	Pn	Pn	00 14 29.8	0.0
	154nm,0.3s,baz=117,slow=18,SNR=4.9						
HNR				Sn	Sn	00 15 36.3	-3.1
	354nm,0.3s,baz=180,slow=18,SNR=6.0						
HNR				LR	LR	00 17 06.5	
	comp=Z,14μm,19.4s,baz=122,slow=40						
KOUNC	Koumac, New Ca	9.16	189	Pn	Pn	00 15 13.9	+1.8
DZM	Mont Dzumac	10.58	177	*e*Pn	Pn	00 15 33.4	+1.8
	57nm,1.4s						
DZM				*e*LR	LR	00 18 10.0	
	comp=Z,582nm,22.9s						
DZM	Mont Dzumac	10.58	177	Pn	Pn	00 15 33.0	+1.4
DZM	Mont Dzumac	10.58	177	Pn	Pn	00 15 32.4	+0.8
	11nm,0.5s,baz=342,slow=16,SNR=12						
DZM				Sn	Sn	00 17 26.5	-3.8
	0.6nm,0.3s,baz=88,slow=18,SNR=1.8						
DZM				LR	LR	00 18 53.0	
	comp=Z,227nm,21.5s,baz=20,slow=34						
ONTNC	Ouen Toro	10.81	177	Pn	Pn	00 15 36.7	+2.0
OUENC	Ouen Island, N	10.95	175	Pn	Pn	00 15 38.7	+2.1
PINNC	Pines Island,	11.21	172	Pn	Pn	00 15 42.5	+2.4
PMG	Port Moresby	18.43	275	P	P	00 17 14.9	-0.6
PMG	Port Moresby	18.43	275	P	P	00 17 14.4	-1.0
	0.7nm,0.3s,baz=101,slow=19,SNR=5.1						
PMG				LR	LR	00 23 57.0	
	comp=Z,742nm,19.7s,baz=95,slow=36						
	17nm,0.9s						
EIDS	Eidsvold	19.62	223		P	00 17 30.5	+2.0
MANU	Manus Island	20.52	296	P	P	00 17 38.7	+0.3
CTA	Charters Tower	20.64	243	P	P	00 17 40.9	+1.2
	23nm,0.8s,baz=71,slow=11,SNR=30						
CTA				LR	LR	00 25 01.8	
	comp=Z,357nm,18.3s,baz=84,slow=35						
	23nm,0.8s						
CTAO	Charters Tower	20.64	243	P	P	00 17 40.2	+0.5
ARMA	Armidale	22.99	213	P	P	00 18 04.9	0.0
ARMA				IAmb	IAmb	00 18 11.6	
	comp=Z,44nm,1.4s						
TOZ	Tahuroa Road	27.58	163	P	P	00 18 48.5	+1.4
TOZ				IAmb	IAmb	00 18 53.3	
	comp=Z,37nm,1.5s						
HIZ	Hauiti	28.14	165	P	P	00 18 53.8	+1.7
RTZ	Ruatahuna	28.84	162	P	P	00 19 00.3	+1.9
RTZ				IAmb	IAmb	00 19 36.2	
	comp=Z,18nm,1.0s						
QRZ	Quartz Range	29.86	170	P	P	00 19 09.1	+1.7
STKA	Stephens Creek	30.17	224	P	P	00 19 11.3	+1.0
STKA	Stephens Creek	30.17	224	P	P	00 19 10.3	0.0
	comp=Z,3.6nm,0.8s,baz=39,slow=6.5,SNR=6.7						
STKA				LR	LR	00 30 45.3	
	comp=Z,202nm,19.5s,baz=28,slow=35						
	comp=Z,3.6nm,0.8s						
MRZ	Mangatainoka R	30.35	165	P	P	00 19 10.2	-1.5
BFZ	Birch Farm	30.54	164	P	P	00 19 13.3	-0.1
TCW	Tory Channel	30.57	167	P	P	00 19 15.6	+2.0
WB0	Warramunga Arr	31.29	251	P	P	00 19 20.3	0.0
WB0				IAmb	IAmb	00 19 21.2	
	comp=Z,16nm,0.9s						
WB2	Warramunga Arr	31.36	250	P	P	00 19 19.4	-1.6
WRA	Warramunga Arr	31.38	250	P	P	00 19 19.9	-1.2
WRA	Warramunga Arr	31.38	250	P	P	00 19 20.7	-0.4
	comp=Z,4.3nm,0.8s,baz=83,slow=8.9,SNR=21						
	comp=Z,4.3nm,0.8s						
LTZ	Lake Taylor	31.72	171	P	P	00 19 25.0	+1.2
GUMO	Guam	32.39	320	LR	LR	00 32 09.1	
	comp=Z,87nm,20.6s,baz=152,slow=36						
AS31	Alice Springs	32.64	244	P	P	00 19 30.6	-1.6
ASAR	Alice Springs	32.64	244	P	P	00 19 30.9	-1.3
ASAR	Alice Springs	32.64	244	P	P	00 19 31.1	-1.1
	comp=Z,4.6nm,1.0s,baz=74,slow=9.5,SNR=25						
ASAR				PcP	PcP	00 22 18.8	+0.4
	comp=Z,0.5nm,0.7s,baz=93,slow=2.0,SNR=4.1						
ASAR				LR	LR	00 31 59.4	
	comp=Z,242nm,19.3s,baz=76,slow=35						
	comp=Z,4.6nm,1.0s						
KMPI	Kaimana, Papua	32.70	281	P	P	00 19 30.6	-2.1
	comp=Z,199nm,0.7s						
FAKI	Fak Fak	34.30	282	P	P	00 19 44.0	-2.7
	comp=Z,16nm,1.5s						
RAR	Rarotonga	34.38	111	LR	LR	00 31 19.5	
	comp=Z,146nm,19.2s,baz=295,slow=32						
FITZ	Fitzroy Crossi	39.31	255	P	P	00 20 29.2	-0.1
PPT	Papeete	43.57	103	LR	LR	00 37 39.1	
	comp=Z,288nm,18.1s,baz=258,slow=34						
PPT2	Papeete2	43.57	103	*e*S	S	00 27 27.8	-6.2
	comp=Z,67nm,25.5s						
PPT2				*e*LQ	LQ	00 31 34.8	
	comp=Z,305nm,28.0s						
PPT2				*e*LR	LR	00 33 25.7	
	comp=Z,193nm,25.8s						
PPT2				*e*LR	LR	00 33 32.8	
	comp=Z,128nm,24.6s						
DAV	Davao City (W)	44.02	293	LR	LR	00 37 15.8	
	comp=Z,49nm,21.6s,baz=149,slow=33						
TBI	Tubuai	44.15	112	*e*LR	LR	00 33 53.1	
	comp=Z,544nm,23.2s						
KAPI	Kappang	45.95	274	LR	LR	00 40 33.6	
	comp=Z,23nm,21.9s,baz=80,slow=36						
NWAO	Narrogin (SRO)	49.26	236	LR	LR	00 42 58.3	
	comp=Z,360nm,18.2s,baz=48,slow=36						
MORW	Morawa	49.46	242	P	P	00 21 50.6	+0.1
MORW				IAmb	IAmb	00 21 51.9	
	comp=Z,13nm,0.9s						
LEM	Lembang	57.53	269	LR	LR	00 50 03.5	
	comp=Z,344nm,18.4s,baz=263,slow=39						
CMAR	Chiang Mai Arr	72.30	294	P	P	00 24 27.8	+1.6
	comp=Z,0.8nm,0.3s,baz=90,slow=2.9,SNR=5.2						
CMAR				LR	LR	00 56 17.7	
	comp=Z,12nm,19.0s,baz=135,slow=36						
	comp=Z,0.8nm,0.3s						

SEY	Seymchan	74.88	354	LR		LR	00 53 32.8	
	comp=Z,56nm,19.7s,baz=296,slow=32							
KDAK	Kodiak Island	76.94	21	LR		LR	00 54 54.8	
	comp=Z,83nm,18.6s,baz=255,slow=33							
M17K	Holitna River	78.18	17	P		P	00 25 00.4	+1.3
QSPA	South Pole Qui	78.55	180	P		P	00 25 02.2	+0.8
QSPA				IAmb		IAmb	00 25 16.3	
	comp=Z,7.8nm,0.9s							
QSPA	South Pole Qui	78.55	180	P		P	00 25 01.3	0.0
	comp=Z,2.0nm,0.6s,baz=37,slow=2.9,SNR=7.1							
	comp=Z,2.0nm,0.6s							
J16K	Anvik River	78.87	15	P		P	00 25 03.3	+0.4
BRLK	Bradley Lake	79.00	21	P		P	00 25 03.6	-0.1
SONM	Songino Array	79.01	324	P		P	00 25 04.3	+0.2
	comp=Z,1.3nm,0.8s,baz=143,slow=4.7,SNR=5.9							
	comp=Z,1.3nm,0.8s							
L18K	Granite Mounta	79.05	17	P		P	00 25 04.6	+0.8
L18K				IAmb		IAmb	00 25 05.9	
	comp=Z,9.9nm,1.1s							
GTA	Gaotai	79.36	314	PKPbc		P	00 25 07.5	+1.2
GTA				sPKP			00 25 25.5	
CAST	Castle Rocks	81.32	18	P		P	00 25 15.9	-0.2
F17K	Baldwin Pennin	81.38	13	P		P	00 25 17.0	+0.7
F17K				IAmb		IAmb	00 25 17.6	
	comp=Z,9.3nm,0.9s							
G18K	Tagagawik	81.51	14			P	00 25 17.3	+0.2
SCM	Sheep Creek Mo	81.71	20	P		P	00 25 18.2	0.0
G19K	Purcell Mounta	82.09	14	P		P	00 25 20.2	+0.1
G19K				IAmb		IAmb	00 26 45.3	
	comp=Z,29nm,2.0s							
M24K	Tolsona, Glenn	82.29	21	P		P	00 25 22.0	+0.6
E18K	Tukpahlearik C	82.34	12	P		P	00 25 21.7	+0.3
F19K	Shaleruckik Mo	82.48	14	P		P	00 25 22.6	+0.5
N25K	Chitina, Valde	82.51	22	P		P	00 25 22.2	-0.4
N25K				IAmb		IAmb	00 25 33.5	
	comp=Z,16nm,1.4s							
E19K	Redstone River	83.11	14	P		P	00 25 25.9	+0.5
E19K				IAmb		IAmb	00 25 26.3	
	comp=Z,5.1nm,0.8s							
F20K	Avaraart Lake	83.14	14	P		P	00 25 26.0	+0.5
F20K				IAmb		IAmb	00 26 10.2	
	comp=Z,13nm,1.8s							
C18K	Utukok River	83.26	12	P		P	00 25 26.3	+0.1
M26K	Nabesna, AK	83.61	21	P		P	00 25 28.3	+0.1
M26K				IAmb		IAmb	00 25 29.7	
	comp=Z,7.7nm,0.9s							
HDA	Harding Lake	83.62	19	P		P	00 25 27.9	-0.2
D19K	Kuna River	83.76	13	P		P	00 25 29.1	+0.3
D19K				IAmb		IAmb	00 25 29.8	
	comp=Z,7.8nm,0.8s							
F21K	Alatna River	83.83	15	P		P	00 25 29.8	+0.6
F21K				IAmb		IAmb	00 26 48.6	
	comp=Z,16nm,1.9s							
ILAR	Eielson Array	83.89	18	P		P	00 25 28.2	-1.2
	comp=Z,1.7nm,0.9s,baz=246,slow=5.1,SNR=17							
	comp=Z,1.7nm,0.9s							
IL03	Eielson Array	83.90	18	P		P	00 25 29.3	-0.2
C19K	Lookout Ridge	83.96	12	P		P	00 25 30.6	+0.8
C19K				IAmb		IAmb	00 25 31.1	
	comp=Z,5.4nm,0.8s							
YBH	Yreka Blue Hor	84.15	46	LR		LR	00 56 57.1	
	comp=Z,49nm,18.5s,baz=269,slow=31							
J25K	Salcha River,	84.26	19	P		P	00 25 31.2	-0.3
J25K				IAmb		IAmb	00 25 31.9	
	comp=Z,7.8nm,0.9s							
SCRK	Sand Creek	84.29	20	P		P	00 25 31.6	0.0
SCRK				IAmb		IAmb	00 25 32.5	
	comp=Z,8.4nm,1.0s							
G23K	Bananza Creek	84.35	16	P		P	00 25 32.4	+0.6
G23K				IAmb		IAmb	00 27 34.2	
	comp=Z,18nm,1.9s							
L27K	Beaver Creek,	84.44	21	P		P	00 25 32.6	+0.2
L27K				IAmb		IAmb	00 27 51.2	
	comp=Z,23nm,2.0s							
BCAR	Beaver Creek A	84.46	21	P		P	00 25 33.0	+0.5
E21K	Killik River	84.65	14	P		P	00 25 33.8	+0.5
E21K				IAmb		IAmb	00 25 33.9	
	comp=Z,8.7nm,1.3s							
BBB	Bella Bella	84.89	34	LR		LR	00 58 23.6	
	comp=Z,106nm,18.1s,baz=238,slow=32							
E22K	Anaktuvuk Pass	84.94	15	P		P	00 25 35.4	+0.6
E22K				IAmb		IAmb	00 28 32.0	
	comp=Z,16nm,1.9s							
K27K	Chicken	84.97	20	P		P	00 25 35.6	+0.7
K27K				IAmb		IAmb	00 25 37.1	
	comp=Z,13nm,1.5s							
B20K	Meade River	85.19	12	P		P	00 25 36.4	+0.5
B20K				IAmb		IAmb	00 25 36.9	
	comp=Z,6.4nm,0.8s							
D22K	Ayikyak River	85.29	14	P		P	00 25 37.6	+1.1
D22K				IAmb		IAmb	00 25 39.2	
	comp=Z,8.9nm,1.3s							
B21K	Ikpikpuk River	85.42	13			P	00 25 37.9	+0.8
B21K				IAmb		IAmb	00 25 38.4	
	comp=Z,6.2nm,0.8s							
I26K	Coal Creek Min	85.42	19	P		P	00 25 37.7	+0.5
EGAK	Eagle	85.75	20	P		P	00 25 39.0	+0.2
EGAK				IAmb		IAmb	00 25 39.9	
	comp=Z,6.9nm,0.8s							
NVAR	Mina Array Bea	86.26	50	P		P	00 25 40.4	-1.9
	comp=Z,0.4nm,0.6s,baz=234,slow=6.9,SNR=3.9							
NVAR				LR		LR	00 58 29.5	
	comp=Z,143nm,18.2s,baz=276,slow=32							
	comp=Z,0.4nm,0.6s							
BMAR	Burnt Mountain	86.38	17	P		P	00 25 42.9	+1.0
C23K	Itkillik River	86.50	14	P		P	00 25 43.6	+1.2
G06A	Carlson Farm,	86.78	43	P		P	00 25 48.2	+3.7
LPIG	La Paz	89.15	65	LR		LR	00 59 50.4	
	comp=Z,49nm,18.8s,baz=321,slow=32							
ELK	Elko	89.19	48	LR		LR	01 00 13.0	
	comp=Z,49nm,18.1s,baz=264,slow=32							
NEW	Newport	90.03	41	LR		LR	00 58 18.0	
	comp=Z,60nm,19.1s,baz=271,slow=30							
INK	Inuvik	90.27	19	LR		LR	01 06 41.7	
	comp=Z,49nm,18.4s,baz=186,slow=36							
PDAR	Pinedale Array	93.80	47	LR		LR	01 07 40.2	
	comp=Z,32nm,18.4s,baz=300,slow=35							
MKAR	Makanchi Array	93.84	317	P		P	00 26 17.5	0.0
	comp=Z,2.6nm,0.8s,baz=100,slow=7.1,SNR=9.9							
	comp=Z,2.6nm,0.8s							
ZALV	Zalesovo Beam	93.90	324	P		P	00 26 16.9	-0.6
	comp=Z,1.3nm,0.7s,baz=103,slow=4.7,SNR=3.9							
	comp=Z,1.3nm,0.7s							
A36M	Sachs Harbour	94.48	17	P		P	00 26 19.7	0.0
A36M				IAmb		IAmb	00 26 20.3	
	comp=Z,4.3nm,0.9s							
ANMO	Albuquerque	94.65	55	LR		LR	01 01 12.4	
	comp=Z,70nm,19.1s,baz=1.0,slow=31							
YKA	Yellowknife Ar	95.32	27	P		P	00 26 20.9	-2.9
	comp=Z,0.4nm,0.7s,baz=254,slow=5.0,SNR=6.6							
	comp=Z,0.4nm,0.7s							
SNAA	Sanae	96.72	184	LR		LR	01 10 38.2	
	comp=Z,74nm,18.1s,baz=142,slow=36							
KURBB	Kurchatov Arra	97.01	320	P		P	00 26 30.6	-1.2
	comp=Z,0.3nm,0.7s,baz=114,slow=4.3,SNR=2.3							
KURBB				LR		LR	01 10 29.4	
	comp=Z,15nm,19.6s,baz=167,slow=36							
	comp=Z,0.3nm,0.7s							
CPUP	Villa Florida	123.73	132	PKP		PKPdf	00 31 57.3	-1.4
	comp=Z,1.6nm,0.8s,baz=270,slow=4.0,SNR=4.4							
NOA	NORSAR Array B	127.10	345	PKP		PKPdf	00 32 03.3	-0.7
	comp=Z,0.8nm,0.8s,baz=34,slow=2.1,SNR=3.2							
BDFB	Brasilia	137.06	128	PKP		PKPdf	00 32 24.0	-0.3
	comp=Z,2.4nm,0.7s,baz=204,slow=7.5,SNR=5.5							
KEST	Kesra	147.76	322	PKPbc		PKPbc	00 32 46.2	+0.8
	comp=Z,9.1nm,0.8s,baz=328,slow=1.6,SNR=11							
ESDC	Sonseca Array	150.46	344	PKPbc		PKPbc	00 32 52.3	+0.2
	comp=Z,1.2nm,0.8s,baz=70,slow=1.7,SNR=7.0							

*HEL **26** 00:30:14.6±0.2,67°.78N×20°.12E,h0km,ML1.7,Suspected explosion*
*UPP **26** 00:30:14.9±0.0,67°.82N×20°.21E,h0km,ML2.0,Suspected explosion*
*IDC **26** 00:30:15.6±0.9,67°.79N×20°.73E,h0km,mbtmp3.6/4, ML2.1/5,Error ellipse: s-maj=15.5km s-min=6.9km az=117.0*

ISC 26 00:30:14.9±0.8,67°.81N±0°.02×20°.23E±0°.03,h0km,n36, σ1§12/53,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.15	15	P	Pg	00 30 17.9	0.0
KUA				S	Sg	00 30 19.9	+0.1
RATU	Laukkuluspa	0.24	274	P	Pg	00 30 19.5	0.0
KOVU	Salmi	0.42	356	P	Pg	00 30 22.6	-0.3
DUNU	Dundret	0.70	169	P	Pg	00 30 28.3	0.0
LANU	Lannavaara	0.71	69	P	Pg	00 30 28.4	-0.1
LANU	Lannavaara	0.71	69	PG	Pg	00 30 28.4	-0.1
LANU				SG	Sg	00 30 37.7	+0.1
SALU	Saltoluokta	0.79	238	P	Pg	00 30 29.7	-0.2
KIF	Kilpisjarvi	1.22	10	*e*P	Pg	00 30 38.1	-0.1
KIF	Kilpisjarvi	1.22	10	PG	Pg	00 30 38.2	-0.1
KIF				MSG		00 30 53.8	
	comp=Z,11nm,0.2s						
KIF				SG	Sg	00 30 54.2	+0.2
PAJU	Pajala	1.36	124	P	Pg	00 30 40.2	-0.8
PAJU	Pajala	1.36	124	PG	Pg	00 30 39.9	-1.1
	baz=304						
PAJU				SN	Sg	00 30 58.8	+0.2
HEF	Hetta	1.42	63	*e*P	Pn	00 30 41.2	-0.7
HEF	Hetta	1.42	63	PG	Pn	00 30 40.9	-1.0
HEF				MSG		00 30 58.7	
	comp=Z,7.2nm,0.2s						
HEF				SG	Sg	00 30 60.0	-0.5
ERTU	Ertsjaerv	1.47	148	P	Pn	00 30 42.0	-0.6
ERTU	Ertsjaerv	1.47	148	PN	Pn	00 30 41.9	-0.8
ERTU				SN	Sn	00 31 04.8	+2.2
KLF	Kolari	1.55	110	PN	Pn	00 30 43.3	-0.4
	baz=297						
KLF				MSG		00 31 01.8	
	comp=Z,3.6nm,0.2s						
KLF				SN	Sg	00 31 04.7	+0.2
KTK1	Kautokeino	1.64	41	PG	Pn	00 30 44.8	-0.3
KTK1				SN	Sb	00 31 07.5	+0.2
HARU	Harads	1.68	170	P	Pn	00 30 45.4	0.0
TRO	Tromso	1.90	346	PG	Pn	00 30 48.9	+0.5
TRO				SG	Sb	00 31 14.1	-0.4
KALU	Kalix	2.31	146	PG	Pn	00 30 55.3	+1.2
	baz=323						
KALU				SG	Sb	00 31 26.7	+0.2
TOF	Tornio	2.37	135	PG	Pb	00 30 56.7	-1.7
	baz=320						
TOF				MSG		00 31 24.8	
	comp=Z,2.1nm,0.2s						
TOF				SG	Sb	00 31 28.0	0.0
SGF	Sodankyl	2.44	96	PB	Pn	00 30 57.3	+1.4
SGF				SG	Sb	00 31 30.5	+0.4
RNF	Rovaniemi	2.55	115	PG	Pb	00 30 59.9	-1.6
	baz=298						
RNF				SG	Sb	00 31 32.9	-0.5
ARA0	ARCESS Array S	2.59	46	PB	Pn	00 30 59.0	+0.9
	baz=227						
ARA0				SB	Sb	00 31 33.2	-1.4
ARCES	ARCESS Array B	2.59	46	Pn	Pn	00 30 58.5	+0.5
	comp=Z,0.2nm,0.3s,baz=230,slow=14,SNR=26						
ARCES				Lg	Lg	00 31 31.7	
	comp=Z,1.2nm,0.3s,baz=225,slow=26,SNR=16						
KEV	Kevo	3.15	48	PB	Pn	00 31 07.3	+1.7
KEV				SN	Sn	00 31 45.1	+1.3
BURU	Burvik	3.27	171	PB	Pn	00 31 09.6	+2.3
OUL	Oulu	3.56	138	PG	Pb	00 31 19.2	+0.6
VRF	Varrio	3.56	87	SG	Sb	00 32 03.2	+0.7
OLKF	Oulanka, Finla	3.89	108	PG	Pb	00 31 25.7	+1.4
UMAU	Umeaa	3.95	177	PB	Pn	00 31 20.5	+3.9
	baz=360						
KU6	Riekki	4.20	111	PN	Pn	00 31 20.6	+0.4
FINES	FINESS Array B	6.86	156	Pn	Pn	00 31 56.4	-0.2
	comp=Z,0.1nm,0.3s,baz=349,slow=13,SNR=1.7						
FINES				Sn	Sn	00 33 14.9	-0.4
	comp=Z,0.2nm,0.3s,baz=350,slow=23,SNR=1.4						
FINES				Lg	Lg	00 33 47.7	
	comp=Z,0.1nm,0.3s,baz=346,slow=23,SNR=1.9						
	comp=Z,2.4nm,1.0s						
NOA	NORSAR Array B	7.82	214	Pn	Pn	00 32 08.6	-1.2
	baz=23,slow=10,SNR=2.3						
NOA				Sn	Sn	00 33 35.9	-3.2
	baz=26,slow=18,SNR=1.5						
	comp=Z,1.0nm,0.9s						
HFS	Hagfors	8.22	203	Pn	Pn	00 32 14.6	-0.6
	baz=17,slow=15,SNR=1.5						
	comp=Z,2.1nm,0.8s						
SPITS	Spitsbergen Ar	10.48	356	Pn	Pn	00 32 46.6	+0.5
	baz=164,slow=16						
	comp=Z,17nm,1.2s						

*IDC **26** 00:33:18.3±1.4,19°.29N×122°.73E,h0km,mb3.6/5, mbtmp3.6/6,ML3.4/1,Error ellipse: s-maj=36.9km s-min=28.8km az=67.0*

ISC 26 00:33:23.3±1.2,19°.3N±0°.2×122°.8E±0°.2,h35km,n12, σ1§45/6,mb3.7/5,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	18.63	13	P	P	00 37 36.4	-1.4
	0.1nm,0.3s,baz=205,slow=11,SNR=1.8						
	0.9nm,0.5s						
CMAR	Chiang Mai Arr	22.54	272	P	P	00 38 19.8	-0.6
	0.9nm,0.3s,baz=75,slow=10,SNR=4.2						
	0.9nm,0.3s						
WRA	Warramunga Arr	40.63	163	P	P	00 40 59.8	-0.3
	0.3nm,0.7s,baz=343,slow=9.3,SNR=1.8						
	0.3nm,0.7s						
H11S3	WAKE ISLAND Hy	41.49	84	T	T	01 26 15.3	
	baz=277,slow=75,SNR=35						
H11S1	WAKE IS

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAKZ				⇓Lg	Lg	00 37 19.0	
	2.4nm,0.5s						
KURK	Kurchatov	5.98	280	⇑Pn	Pn	00 36 09.9	+0.3
	1.6nm,0.7s						
KURK				⇑Sn	Sn	00 37 20.3	+2.3
	0.9nm,0.4s						
KURK				⇑Lg	Lg	00 37 46.7	
	3.0nm,0.5s						
KURBB	Kurchatov Arra	6.04	279	⇑Pn	Pn	00 36 11.6	+1.3
	1.7nm,0.4s						
KURBB				⇓Sn	Sn	00 37 24.1	+4.8
	4.5nm,0.5s						
KURBB				⇓Lg	Lg	00 37 47.5	
	9.3nm,0.7s						

*IDC **26** 01:09:57.5±2.2, 5.°83S×153.°37E, h0km, mb3.7/9, mbtmp3.7/10, ML2.2/1, MS2.6/1, Error ellipse: s-maj=78.0km s-min=21.7km az=120.0*

ISC 26 01:10:02.7±1.8**, 5.°9S**±0.°3×**153.°3E**±0.°3**, h32**km**, n11, σ0.s83**/12**, mb3.6**/9**, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.03	240	Pn	Pn	01 11 44.5	+1.0
	2.4nm,0.3s,baz=57,slow=7.9,SNR=3.6						
PMG				Sn	Sn	01 13 01.5	-0.9
	2.8nm,0.3s,baz=95,slow=18,SNR=5.6						
PMG				LR	LR	01 14 31.7	
	comp=Z,47nm,19.3s,baz=342,slow=38						
	7.6nm,0.4s						
WRA	Warramunga Arr	23.14	231	P	P	01 15 05.9	-0.6
	2.3nm,1.0s,baz=54,slow=10,SNR=8.6						
	2.3nm,1.0s						
ASAR	Alice Springs	25.72	225	P	P	01 15 30.9	+0.5
	1.2nm,1.0s,baz=59,slow=8.9,SNR=10.0						
	1.2nm,1.0s						
PETK	Petropavlovsk-	58.87	3	P	P	01 19 58.6	+0.4
	2.8nm,0.6s,baz=130,slow=5.8,SNR=1.7						
	2.8nm,0.6s						
SONM	Songino Array	67.48	328	P	P	01 20 56.5	+0.8
	0.3nm,0.5s,baz=134,slow=5.9,SNR=2.4						
	0.3nm,0.5s						
MKAR	Makanchi Array	81.45	319	P	P	01 22 16.3	-0.5
	0.2nm,0.7s,baz=107,slow=7.7,SNR=1.5						
	0.2nm,0.7s						
ZALV	Zalesovo Beam	82.31	326	P	P	01 22 20.8	-0.3
	0.6nm,0.3s,baz=108,slow=4.7,SNR=2.0						
	0.6nm,0.3s						
ILAR	Eielson Array	82.95	22	P	P	01 22 24.0	-0.3
	0.5nm,0.9s,baz=231,slow=5.7,SNR=2.9						
	0.5nm,0.9s						
KURBB	Kurchatov Arra	84.94	322	P	P	01 22 34.2	-0.4
	0.2nm,0.7s,baz=98,slow=4.6,SNR=1.7						
	0.2nm,0.7s						
BVAR	Borovoye Array	90.39	323	P	P	01 22 59.3	-1.5
	0.2nm,0.5s,baz=79,slow=7.8,SNR=1.9						
	0.2nm,0.5s						
TORD	Torodi Ar. Bea	151.10	287	PKPbc	PKPbc	01 29 53.4	-0.3
	0.3nm,0.7s,baz=67,slow=3.3,SNR=3.0						

*IDC **26** 01:11:57.8±7.6, 14.°18S×167.°29E, h141km±75km, mb3.5/4, mbtmp3.9/5, Error ellipse: s-maj=63.9km s-min=28.9km az=155.0*

ISC 26 01:12:00.6±1.4**, 14.°3S**±0.°1×**167.°4E**±0.°3**, h170**km**, n6, σ1.s04**/7**, mb3.6**/4**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.74	186	P	Pn	01 13 51.6	+1.0
	3.2nm,0.9s,baz=307,slow=16,SNR=2.0						
DZM				S	Sn	01 15 16.1	-1.4
	3.5nm,0.9s,baz=348,slow=15,SNR=1.9						
STKA	Stephens Creek	29.32	229	P	P	01 17 48.0	+0.7
	2.7nm,0.6s,baz=59,slow=8.5,SNR=10						
	2.7nm,0.6s						
WRA	Warramunga Arr	32.01	255	P	P	01 18 10.8	-0.4
	0.4nm,0.5s,baz=86,slow=9.4,SNR=9.3						
	0.4nm,0.5s						
ASAR	Alice Springs	32.90	249	P	P	01 18 18.4	-0.5
	0.7nm,0.3s,baz=79,slow=9.3,SNR=19						
	0.7nm,0.3s						
ILAR	Eielson Array	86.13	18	P	P	01 24 21.4	-0.6
	0.5nm,0.7s,baz=238,slow=5.2,SNR=5.7						
	0.5nm,0.7s						
ARCES	ARCESS Array B	119.90	345	PKP	PKiKP	01 30 30.7	+0.4
	2.2nm,0.8s,baz=37,slow=2.9,SNR=7.7						

*KRNET **26** 01:25:04.3±0.1, 39.°42N×77.°98E, mb3.3*
*SOME **26** 01:25:05.0, 40.°00N×77.°45E, h0km*
*NNC **26** 01:25:07.1±1.0, 40.°01N×77.°57E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=6.4km s-min=5.8km az=1.0*

ISC 26 01:25:12.0±1.7**, 39.°98N**±0.°09×**77.°48E**±0.°06**, h28**km**, n52, σ2.s70**/60**, 14C-9D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	2.45	338	P	Pn	01 25 51.0	+0.7
	SNR=23						
PRZ	Przheval'sk	2.60	15	⇓eP	Pn	01 25 53.7	+1.4
	baz=6.0						
PRZ				⇓eS	Sb	01 26 29.6	+0.1
	baz=6.0						
KZA	Kyzart	2.69	322	P	Pb	01 25 56.4	-3.3
	SNR=30						
ANVS	Anan'yevo	2.81	3	⇑eP	Pb	01 25 57.8	-3.7
	baz=56						
ANVS				⇑eS	Sb	01 26 36.3	+0.8
	baz=56						
ARLS	Aral	3.04	309	⇑eP	Pb	01 26 01.8	-3.7
	baz=12						
ARLS				⇑eS	Sb	01 26 44.4	+2.2
	baz=12						
SFK	Sufi-Kurgan	3.05	272	⇓eP	Pn	01 25 59.3	+0.7
	baz=81						
SFK				⇓eS	Sb	01 26 39.6	-3.1
	baz=81						
TNSS	Tian-Shan	3.08	353	ePg	Pb	01 26 03.1	-3.2
	34nm,0.2s						
TNSS				eLg	Lg	01 26 45.1	
	51nm,0.6s						
TNSS	Tian-Shan	3.08	353	Pg	Pb	01 26 03.1	-3.2
	34nm,0.2s						
TNSS				Lg	Lg	01 26 45.1	
	51nm,0.6s						
IZV	Izvestkoviy	3.12	348	ePg	Pb	01 26 03.2	-3.7
	6.7nm,0.4s						
IZV				eLg	Lg	01 26 45.4	
	17nm,0.4s						
SATY	Saty	3.15	12	ePg	Pb	01 26 04.0	-3.4
	49nm,0.7s						
SATY				eLg	Lg	01 26 46.4	
	41nm,0.5s						
SATY	Saty	3.15	12	Pg	Pb	01 26 04.0	-3.4
	49nm,0.7s						
SATY				Lg	Lg	01 26 46.4	
	41nm,0.5s						
UCH	Uchtor	3.17	316	P	Pn	01 26 00.8	+0.3
	SNR=24						
MDOK	Medeo	3.20	354	Pg	Pb	01 26 05.3	-2.9
	16nm,0.5s						
MDOK				⇑Lg	Lg	01 26 48.3	
	55nm,0.6s						
MTBS	Maitube	3.25	346	ePg	Pb	01 26 05.4	-3.5
	9.8nm,0.3s						
MTBS				eLg	Lg	01 26 49.1	
	39nm,0.7s						
MTBS	Maitube	3.25	346	Pg	Pb	01 26 05.4	-3.5
	9.8nm,0.3s						
MTBS				Lg	Lg	01 26 49.1	
	39nm,0.7s						
AAA	Alma-Ata	3.25	353	ePg	Pb	01 26 07.1	-2.0
	53nm,0.2s						
AAA				eLg	Lg	01 26 51.7	
	110nm,0.5s						
AAA	Alma-Ata	3.25	353	Pg	Pb	01 26 07.1	-2.0
	53nm,0.2s						
AAA				Lg	Lg	01 26 51.7	
	110nm,0.5s						
KNDC	Almaty	3.26	353	⇑Pg	Pb	01 26 07.2	-1.9
	51nm,0.7s						
KNDC				⇓Lg	Lg	01 26 51.4	
	139nm,0.7s						
TKM2	Tokmak 2	3.26	335	P	Pn	01 26 01.8	+0.4
	SNR=14						
KOTS	Kotyrbulak	3.26	355	ePg	Pb	01 26 06.5	-2.8
	17nm,0.4s						
KOTS				eLg	Lg	01 26 50.7	
	88nm,0.7s						
KOTS	Kotyrbulak	3.26	355	Pg	Pb	01 26 06.5	-2.8
	17nm,0.4s						
KOTS				Lg	Lg	01 26 50.7	
	88nm,0.7s						
KST	Kastek	3.27	340	ePg	Pb	01 26 06.7	-2.6
	7.1nm,0.2s						
KST				eLg	Lg	01 26 51.1	
	57nm,0.5s						
KST	Kastek	3.27	340	Pg	Pb	01 26 06.3	-3.0
	7.1nm,0.2s						
KST				Lg	Lg	01 26 51.1	
	57nm,0.5s						
ZHN	Zhinishke	3.27	12	ePg	Pb	01 26 06.0	-3.3
	16nm,0.2s						
ZHN				eLg	Lg	01 26 50.0	
	66nm,0.4s						
KBK	Karagaybulak	3.28	325	P	Pb	01 26 07.0	-2.6
	SNR=14						
UZB	Uzynbulak	3.37	20	ePg	Pb	01 26 07.5	-3.7
	7.8nm,0.3s						
UZB				eLg	Lg	01 26 52.5	
	29nm,0.4s						
UZB	Uzynbulak	3.37	20	Pg	Pb	01 26 07.7	-3.4
	7.8nm,0.3s						
UZB				Lg	Lg	01 26 52.5	
	29nm,0.4s						
AAK	Ala-Archa	3.48	321	P	Pn	01 26 06.3	+1.9
	SNR=11						
DGS	Degeres	3.50	339	ePg	Pb	01 26 10.5	-2.8
	14nm,0.4s						
DGS				eLg	Lg	01 26 57.9	
	28nm,0.4s						
DGS	Degeres	3.50	339	Pg	Pb	01 26 10.5	-2.8
	14nm,0.4s						
DGS				Lg	Lg	01 26 57.9	
	28nm,0.4s						
SHLS	Shalkode	3.51	24	ePg	Pb	01 26 12.5	-0.9
	9.4nm,0.5s						
SHLS				eLg	Lg	01 27 01.3	
	34nm,0.5s						
SHLS	Shalkode	3.51	24	Pg	Pb	01 26 12.5	-0.9
	9.4nm,0.5s						
SHLS				Lg	Lg	01 27 00.9	
	34nm,0.5s						
KURS	Kuram	3.54	8	ePg	Pb	01 26 10.7	-3.3
	12nm,0.6s						
KURS				eLg	Lg	01 26 58.3	
	20nm,0.4s						
AML	Almayashu	3.58	308	P	Pn	01 26 06.6	+0.6
	SNR=86						
KPKS	Kokpek	3.60	14	ePg	Pb	01 26 11.4	-3.5
	14nm,0.3s						
KPKS				eLg	Lg	01 26 59.5	
	61nm,0.4s						
OHH	Osh	3.63	280	⇑eP	Pn	01 26 08.1	+1.7
	baz=87						
OHH				⇑eS	Sb	01 26 54.4	-4.8
	baz=87						
PDGK	Podgornoye	3.67	24	Pg	Pb	01 26 12.9	-3.3
	6.7nm,0.4s						
PDGK				Lg	Lg	01 27 01.8	
	16nm,0.5s						
PDGK	Podgornoye	3.67	24	⇑Pg	Pb	01 26 12.9	-3.3
	6.4nm,0.4s						
PDGK				⇑Lg	Lg	01 27 01.0	
	33nm,0.6s						
ARSB	Arslanbob	3.67	293	⇓eP	Pn	01 26 10.0	+2.9
	baz=98						
ARSB				⇓eS	Sb	01 26 58.1	-2.3
	baz=98						
KTBS	Karatobe	3.78	351	ePg	Pb	01 26 15.1	-2.9
	5.3nm,0.4s						
KTBS				eLg	Lg	01 27 06.1	
	43nm,0.4s						
KTBS	Karatobe	3.78	351	Pg	Pb	01 26 15.1	-2.9
	5.3nm,0.4s						
KTBS				Lg	Lg	01 27 06.1	
	43nm,0.4s						
EKS2	Erkin-Say	3.87	315	P	Pn	01 26 10.9	+1.2
	SNR=7.2						
CHKK	Chushkaly	3.89	355	ePg	Pb	01 26 17.5	-2.3
	12nm,0.3s						
CHKK				eLg	Lg	01 27 09.9	
	42nm,0.3s						
KUU	Kurty	4.00	348	ePg	Pb	01 26 18.9	-2.9
	5.0nm,0.6s						
KUU				eLg	Lg	01 27 12.2	
	38nm,0.7s						
KUU	Kurty	4.00	348	Pg	Pb	01 26 18.9	-2.9
	5.0nm,0.6s						
KUU				Lg	Lg	01 27 12.2	
	38nm,0.7s						
MRKS	Merke	4.23	312	ePg	Pb	01 26 23.0	-2.6
	5.0nm,0.4s						
MRKS				eLg	Lg	01 27 18.9	
	18nm,0.6s						
DRK	Karamyk	4.41	265	⇑eP	Pn	01 26 17.4	+0.1
	baz=73						
DRK				⇑eS	Sn	01 27 10.4	+2.6
	baz=73						
DJR	Jarkent	4.68	21	ePg	Pb	01 26 31.4	-1.9
	6.0nm,0.4s						
DJR				eLg	Lg	01 27 33.6	
	16nm,0.5s						
BTK	Batken	5.11	273	⇑eP	Pn	01 26 27.4	+0.6
	baz=79						
BTK				⇑eS	Sn	01 27 28.5	+3.6
	baz=79						
KK31	Karatay Array	6.09	303	⇓Pg	Pb	01 26 58.5	+1.3
	4.0nm,0.8s,baz=125,slow=16,SNR=3.7						
KK31				⇓Lg	Lg	01 28 18.5	
	6.3nm,0.8s,baz=120,slow=24,SNR=3.9						
BVA0	Borovoye Array	13.92	342	P	Pn	01 28 29.3	+2.0
	baz=134,slow=7.1,SNR=4.5						
AB31	Akbulak array	15.52	312	P	Pn	01 28 49.0	+0.2
	0.2nm,0.4s,baz=116,slow=11,SNR=7.0						

*IDC **26** 01:33:45.5±1.4, 3.°98N×32.°65W, h0km, mb3.8/7, mbtmp3.8/7, MS3.5/18, Error ellipse: s-maj=48.0km s-min=28.4km az=16.0*

ISC 26 01:33:48.7±1.3**, 4.°0N**±0.°3×**32.°6W**±0.°2**, h19**km**, n28, σ0.s82**/8**, mb3.7**/7**, MS3.5**/18**, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MDP	Montagnes des	20.01	274	LR	LR	01 44 39.7	
	comp=Z,80nm,20.4s,baz=92,slow=33						
H10N3	ASCENSION HYDR	21.55	123	T	T	02 00 45.4	
	baz=302,slow=75,SNR=28						
H10N2	ASCENSION HYDR	21.56	123	T	T	02 00 46.6	
	baz=302,slow=75,SNR=22						
H10N1	ASCENSION HYDR	21.57	123	T	T	02 00 51.3	
	baz=302,slow=75,SNR=24						
H10S3	ASCENSION HYDR	22.03	126	T	T	02 01 26.3	
	baz=300,slow=74,SNR=13						
H10S2	ASCENSION HYDR	22.05	126	T	T	02 01 30.9	
	baz=280,slow=74,SNR=7.9						
H05S1	Guadeloupe/Mar	29.69	292	T	T	02 11 04.8	
	SNR=5.7						
SIV	San Ignacio	34.47	234	LR	LR	01 54 00.0	
	comp=Z,111nm,20.6s,baz=103,slow=35						
TORD	Torodi Ar. Bea	35.07	73	P	P	01 40 40.6	-0.4
	1.0nm,0.9s,baz=272,slow=7.6,SNR=5.2						
TORD				PcP	PcP	01 43 13.4	+0.7
	0.4nm,0.8s,baz=239,slow=1.6,SNR=1.8						
TORD				LR	LR	01 53 52.7	
	comp=Z,91nm,18.8s,baz=313,slow=34						
	1.0nm,0.9s						
SJG	San Juan	35.69	296	LR	LR	01 52 31.3	
	comp=Z,49nm,18.8s,baz=106,slow=32						
MDT	Midelt	38.82	39	LR	LR	01 54 39.3	
	comp=Z,59nm,21.9s,baz=256,slow=32						
ROSC	El Rosal	41.60	273	LR	LR	01 58 21.9	
	comp=Z,62nm,20.3s,baz=58,slow=36						
ESDC	Sonseca Array	43.96	32	P	P	01 41 55.8	+0.9
	1.7nm,1.1s,baz=222,slow=8.4,SNR=4.8						
	1.7nm,1.1s						
LVC	Limon Verde	44.24	232	LR	LR	02 00 48.3	
	comp=Z,45nm,18.6s,baz=52,slow=37						
NNA	Nana	46.76	250	LR	LR	02 01 19.1	
	comp=Z,26nm,18.4s,baz=48,slow=35						
ATAH	Atahualpa	47.02	256	LR	LR	02 00 43.9	
	comp=Z,33nm,20.1s,baz=75,slow=34						
JTS	Las Juntas de	52.27	280	LR	LR	02 06 47.8	
	comp=Z,20nm,18.4s,baz=54,slow=38						
TKL	Tuckaleechee C	56.66	311	LR	LR	02 02 54.5	
	comp=Z,53nm,21.9s,baz=80,slow=31						
LSZ	Lusaka	63.15	109	LR	LR	02 06 23.0	
	comp=Z,44nm,19.8s,baz=316,slow=31						
LBTB	Lobatse	63.40	120	LR	LR	02 07 05.1	
	comp=Z,36nm,19.4s,baz=320,slow=32						
BOSA	Boshof	64.30	124	P	P	01 44 23.7	+0.2
	8.9nm,1.2s,baz=270,slow=7.1,SNR=2.8						
BOSA				LR	LR	02 07 28.7	
	comp=Z,40nm,19.2s,baz=342,slow=32						
	8.9nm,1.2s						
BRTR	Keskin Array B	69.26	49	P	P	01 44 54.0	-1.0
	0.6nm,0.8s,baz=270,slow=5.8,SNR=1.9						
	0.6nm,0.8s						
ANMO	Albuquerque	74.49	305	LR	LR	02 14 22.0	
	comp=Z,43nm,20.0s,baz=152,slow=33						
PDAR	Pinedale Array	77.72	313	P	P	01 45 44.0	-0.8
	0.4nm,0.7s,baz=92,slow=8.4,SNR=4.6						
	0.4nm,0.7s						
ELK	Elko	81.82	310	LR	LR	02 17 40.6	
	comp=Z,40nm,21.6s,baz=70,slow=32						
YKA	Yellowknife Ar	82.77	332	P	P	01 46 11.6	+0.3
	0.3nm,0.8s,baz=93,slow=5.3,SNR=2.2						
	0.3nm,0.8s						
NVAR	Mina Array Bea	84.17	308	P	P	01 46 19.5	+0.1
	0.3nm,0.6s,baz=106,slow=3.3,SNR=3.0						
NVAR				LR	LR	02 19 52.2	
	comp=Z,23nm,21.2s,baz=86,slow=33						
	0.3nm,0.6s						
YBH	Yreka Blue Hor	87.45	311	LR	LR	02 21 46.4	
	comp=Z,28nm,20.9s,baz=60,slow=33						

*SFS **26** 01:41:40.0, 35.°73N×9.°88W, h0km, ML3.4/13, ML3.5/9, MLv3.3/13*
*MDD **26** 01:41:42.3±0.8, 35.°70N×10.°03W, h29km, mb_Lg2.8/3, Error ellipse: s-maj=8.8km s-min=3.7km az=88.0*
*CNRM **26** 01:41:42.3, 35.°70N×9.°91W, h35km, ml3.0*
*IGIL **26** 01:41:43.8, 35.°72N×9.°98W, h30km, ML1.5*
*INMG **26** 01:41:43.8±1.4, 35.°71N×10.°00W, h34km, ML1.9, Error ellipse: s-maj=7.2km s-min=2.6km az=86.0*

ISC 26 01:41:40.1±2.3**, 35.°70N**±0.°04×**9.°99W**±0.°08**, h27**km±21km**, n46, σ1.s68**/85**, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	1.71	33	eP	Pn	01 42 09.7	+1.6
PFVI				eS	Sn	01 42 28.9	-0.2
PFVI				A	A	01 42 41.3	
	7.6nm,0.8s						
PFVI	Vila Bisbo	1.71	33	P	Pn	01 42 08.9	+0.8
PFVI				S	Sn	01 42 30.3	+1.2
MORF	Marmelete	1.93	34	eP	Pn	01 42 12.9	+1.7
MORF				eS	Sn	01 42 34.3	-0.4
MORF				A	A	01 42 36.6	
	6.0nm,0.1s						
MORF	Marmelete	1.93	34	eP	Pn	01 42 12.9	+1.7
MORF				eS	Sn	01 42 34.2	-0.4
MORF				IAML		01 42 34.6	
	comp=E,7.4nm,0.2s						
PTEO	Sao Teotonio	2.10	29	eP	Pn	01 42 15.3	+1.8
PTEO				eS	Sn	01 42 38.9	+0.1
PTEO				A	A	01 42 55.6	
	comp=E,11nm,0.7s						
PBDV	Barranco-do-Ve	2.26	47	eP	Pn	01 42 18.0	+2.2
PBDV				eS	Sn	01 42 43.0	+0.2
PBDV				A	A	01 42 51.7	
	comp=E,4.6nm,0.7s						
PCVE	Castro Verde	2.48	39	eP	Pn	01 42 20.8	+2.0
PCVE				eS	Sn	01 42 48.3	0.0
PCVE				A	A	01 42 50.6	
	comp=E,3.7nm,0.8s						
PCVE	Castro Verde	2.48	39	S	Sn	01 42 47.4	-0.9
PCVE				P	Pn	01 42 20.7	+1.9
PVAQ	Vaqueiros	2.50	46	eP	Pn	01 42 21.2	+2.2
PVAQ				eS	Sn	01 42 48.4	-0.2
MESJ	Messejana	2.56	33	eP	Pn	01 42 21.6	+1.7
MESJ				eS	Sn	01 42 50.0	-0.2
MESJ				A	A	01 42 51.0	
	comp=E,2.4nm,0.6s						
MESJ	Messejana	2.56	33	eP	Pn	01 42 21.6	+1.7
MESJ				eS	Sn	01 42 49.7	-0.5
MESJ				IAML		01 42 53.9	
	comp=N,1.2nm,0.2s						
PNCL	Nicolau / Gran	2.68	26	eP	Pn	01 42 22.6	+1.2
PNCL				eS	Sn	01 42 52.5	-0.5
PNCL				A	A	01 42 56.8	
	comp=N,1.9nm,0.3s						
EGRO	El Granado	2.72	47	P	Pn	01 42 24.1	+2.1
EGRO				S	Sn	01 42 53.7	-0.4
EGRO				*i* Vmb_Lg		01 42 58.8	
EGRO	El Granado	2.72	47	P	Pn	01 42 24.2	+2.1
EGRO				S	Sn	01 42 53.2	-0.9
PBEJ	Beja	2.88	36	eS	Sn	01 42 57.6	-0.4
PBEJ				A	A	01 42 59.9	
	comp=N,5.1nm,0.7s						
AVE	Averroes	3.21	138	S	Sn	01 43 05.3	-0.8
AVE				P	Pn	01 42 31.2	+2.5
EVO	Evora	3.24	29	eP	Pn	01 42 30.2	+1.1
EVO				eS	Sn	01 43 05.7	-1.1
EVO				A	A	01 43 06.8	
	comp=N,2.9nm,0.3s						
EVO	Evora	3.24	29	P	Pn	01 42 29.6	+0.5
EVO				S	Sn	01 43 05.1	-1.7
PMAFR	Mafra	3.30	10	eP	Pn	01 42 31.1	+1.1
PMAFR				eS	Sn	01 43 07.3	-1.0
PMAFR				A	A	01 43 25.5	
	comp=N,7.4nm,0.7s						
PMAFR	Mafra	3.30	10	P	Pn	01 42 30.6	+0.7
PMAFR				S	Sn	01 43 06.3	-2.1
PBAR	Barrancos	3.42	43	eP	Pn	01 42 33.3	+1.7
PBAR				eS	Sn	01 43 10.3	-1.0
PBAR				A	A	01 43 16.1	
	comp=N,1.6nm,0.9s						
PBAR	Barrancos	3.42	43	P	Pn	01 42 32.8	+1.1
ESPR	Espera	3.54	70	S	Sn	01 43 15.2	+1.0
ESPR				P	Pn	01 42 36.4	+3.2
PMTG	Montargil	3.64	22	eP	Pn	01 42 36.1	+1.4
PMTG				eS	Sn	01 43 15.3	-1.5
PMTG				A	A	01 43 15.5	
	comp=N,2.9nm,0.8s						
PESTR	Estremoz	3.69	30	eP	Pn	01 42 37.1	+1.7
PESTR				eS	Sn	01 43 16.9	-1.2
PESTR				A	A	01 43 17.6	
	comp=N,1.5nm,0.6s						
PESTR	Estremoz	3.69	30	P	Pn	01 42 36.7	+1.3
PESTR				S	Sn	01 43 16.3	-1.8
EBAD	Badajoz	3.87	37	P	Pn	01 42 39.2	+1.5
EBAD				S	Sn	01 43 21.1	-1.1
EBAD				*i* Vmb_Lg		01 43 24.4	
PSBE	So Bento	3.92	14	eP	Pn	01 42 38.4	-0.2
PSBE				eS	Sn	01 43 22.9	-0.9
PSBE				A	A	01 43 41.9	
	comp=N,3.1nm,0.7s						
PMRV	Marv??o	4.25	28	eP	Pn	01 42 44.1	+1.0
PMRV				eS	Sn	01 43 30.0	-1.9
PMRV				A	A	01 43 32.4	
	comp=N,3.1nm,0.7s						
ECAB	El Cabril	4.36	56	P	Pn	01 42 46.5	+1.8
ECAB				S	Sn	01 43 32.4	-2.2
ECAB	El Cabril	4.36	56	P	Pn	01 42 46.4	+1.7
ECAB				S	Sn	01 43 31.7	-3.0
PCAS	Casmilo, Conde	4.50	15	eS	Sn	01 43 37.0	-1.0
IFR	Ifrane	4.56	117	P	Pn	01 42 48.7	+1.1
IFR				S	Sn	01 43 36.6	-3.2
PCBR	Castelo Branco	4.59	25	eP	Pb	01 42 59.0	-0.8
PCBR				eS	Sn	01 43 45.9	+5.8
LCRM	LCR	4.68	114	P	Pn	01 42 50.7	+1.6
LCRM				S	Sn	01 43 41.7	-1.0
OUK	Oukaimeden	4.82	158	P	Pn	01 42 52.7	+1.5
EADA	Adamuz	4.99	59	P	Pn	01 42 55.2	+2.0
EADA				S	Sn	01 43 48.9	-1.1
EADA				*i* Vmb_Lg		01 43 50.2	
EADA	Adamuz	4.99	59	P	Pn	01 42 54.8	+1.6
EADA				S	Sn	01 43 48.3	-1.7
MTE	Manteigas	5.07	22	eS	Sn	01 43 51.6	-0.6
AKLM	AKL	5.16	102	P	Pn	01 42 54.0	-1.7
AKLM				S	Sn	01 43 52.7	-1.7
MD31	MD31	5.17	122	P	Pn	01 42 56.3	+0.5
MD31				S	Sn	01 43 56.1	+1.4
PVIS	Viseu	5.27	18	eS	Sn	01 43 55.1	-1.9
PVIS				A	A	01 43 58.4	

comp=N,2.9nm,0.8s
TIO Tiouine 5.28 154 P Pn 01 42 59.0 +1.7
TIO S Sn 01 43 53.9 -3.6
MDT Midelt 5.31 121 P Pn 01 42 58.6 +0.9
MDT S Sn 01 43 57.8 -0.1
EPLA Plasencia 5.34 34 S Sn 01 43 57.0 -1.7
MVO Moncorvo 5.93 22 eP Pn 01 43 06.6 +0.4
MVO eS Sn 01 44 10.7 -2.6

*IDC **26** 01:43:43.6±1.2,9°.21S×126°.43E,h0km,mb3.8/4, mbtmp3.9/6,ML4.1/2,Error ellipse: s-maj=208.0km s-min=22.9km az=60.0*

ISC 26 01:43:49.0±1.1,9°.0S±0°.1×127°.2E±0°.1,h35km,n13, σ1§90/14,mb3.7/4,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	2.98	255	P	Pn	01 44 34.0	+0.1
MTN	Manton Dam	5.45	135	P	Pn	01 45 14.1	+6.3
KNRA	Kununurra	6.82	167	P	Pn	01 45 29.4	+2.8
FITZ	Fitzroy Crossi	9.17	189	P	Pn	01 46 00.2	+1.3
PLAI	Plampang	9.30	270	P	Pn	01 46 01.2	+0.6
WRA	Warramunga Arr	12.90	148	Pn	Pn	01 46 49.6	-0.4
	1.1nm,0.3s,baz=326,slow=13,SNR=54						
WRA				Sn	Sn	01 49 10.7	-1.6
	0.7nm,0.3s,baz=323,slow=26,SNR=5.7						
	3.6nm,0.7s						
ASAR	Alice Springs	15.94	157	Pn	Pn	01 47 30.6	-0.2
	0.8nm,0.3s,baz=322,slow=11,SNR=50						
ASAR				Sn	Sn	01 50 22.6	-4.0
	0.2nm,0.3s,baz=319,slow=17,SNR=5.0						
	4.9nm,0.7s						
WRKA	Warakurna	15.99	176	P	Pn	01 47 30.6	-0.8
QIS	Mount Isa	16.61	135	P	P	01 47 42.8	+1.3
STKA	Stephens Creek	26.41	152	P	P	01 49 24.6	+2.2
	1.2nm,0.8s,baz=318,slow=12,SNR=2.1						
	1.2nm,0.8s						
MKAR	Makanchi Array	68.41	329	P	P	01 54 46.5	-0.8
	0.5nm,0.5s,baz=120,slow=7.8,SNR=8.2						
	0.5nm,0.5s						
ZALV	Zalesovo Beam	72.17	335	P	P	01 55 08.4	-1.6
	0.9nm,0.6s,baz=142,slow=5.6,SNR=2.6						
	0.9nm,0.6s						
BVAR	Borovoye Array	78.29	329	P	P	01 55 44.5	-0.8
	0.3nm,0.5s,baz=104,slow=6.1,SNR=2.5						
	0.3nm,0.5s						

NEIC 26 01:45:34.3±1.2,14°.18S±0°.09×72°.9W±0°.1,h72km±20km, mb4.0/5,Error ellipse: s-maj=17.1km s-min=9.7km az=51.0,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	4.44	299	Pn	Pn	01 46 39.7	+0.4
NNA				Sn	Sn	01 47 29.8	0.0
LPAZ	La Paz	5.03	115	Pn	Pn	01 46 47.8	0.0
PB12	IPOC Station P	5.04	151		Pn	01 46 47.2	-0.3
PB16	IPOC Station P	5.24	142	Pn	Pn	01 46 52.0	+1.3
PB11	IPOC Station P	6.34	151	Pn	Pn	01 47 05.0	-0.4
CZSB	Cruzeiro do Su	6.42	1	Pn	Pn	01 47 07.0	+0.7
GO01	Chusmiza	6.49	148		Pn	01 47 07.8	+0.1
TA02	Huaiquique	6.60	157	Pn	Pn	01 47 07.0	-1.7
TA01	Diego Aracena	6.85	158	Pn	Pn	01 47 11.7	-0.4
PB08	IPOC Station P	6.91	150		Pn	01 47 13.4	+0.1
PB01	IPOC Station P	7.55	155		Pn	01 47 21.4	-0.3
PB02	IPOC Station P	7.64	159	Pn	Pn	01 47 20.5	-2.6
ETMB	Extrema	7.83	57	Pn	Pn	01 47 25.2	-0.4
PB07	IPOC Station P	8.02	160		Pn	01 47 27.9	-0.4
SAML	Samuel	10.82	62	Pn	Pn	01 48 04.4	-2.1
VILB	Vilhena	12.38	86	Pn	Pn	01 48 25.1	-2.7
PTLB	Pontes e Lacer	13.34	97	Pn	Pn	01 48 39.2	-1.5
MACA	Manacapuru-AM	16.27	49	Pn	Pn	01 49 15.5	-3.0
MACA				IAmb	IAmb	01 49 30.8	
	comp=Z,13nm,1.1s						
CPUP	Villa Florida	18.92	132	P	P	01 49 48.9	-0.5
BOAV	Boa Vista	20.52	38	P	P	01 50 07.9	+1.0
BOAV				IAmb	IAmb	01 50 16.4	
	comp=Z,10nm,1.4s						
ITQB	Itaqui	21.52	138	P	P	01 50 18.3	+0.8
ITQB				IAmb	IAmb	01 50 22.3	
	comp=Z,11nm,1.0s						
BAUV	El Baul	23.47	12	P	P	01 50 36.4	-1.3

IDC 26 01:49:09.9±1.7,9°.32S×126°.32E,h0km,mb3.7/2, mbtmp3.7/4,ML3.1/2,Error ellipse: s-maj=156.7km s-min=31.5km az=60.0,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.10	145	Pn	Pn	01 52 16.6	-0.9
	0.1nm,0.3s,baz=319,slow=12,SNR=5.6						
WRA				Sn	Sn	01 54 35.7	-8.3
	0.3nm,0.3s,baz=322,slow=21,SNR=2.6						
	1.8nm,0.9s						
ASAR	Alice Springs	16.01	154	Pn	Pn	01 52 57.5	+1.0
	0.1nm,0.3s,baz=322,slow=11,SNR=10.0						
ASAR				Sn	Sn	01 55 48.7	-6.2
	0.1nm,0.3s,baz=323,slow=22,SNR=5.3						
	1.8nm,0.7s						
MKAR	Makanchi Array	68.24	329	P	P	02 00 13.4	+0.9
	0.3nm,0.5s,baz=127,slow=7.1,SNR=2.6						
	0.3nm,0.5s						
ZALV	Zalesovo Beam	72.11	336	P	P	02 00 35.1	-0.9
	0.7nm,0.6s,baz=119,slow=5.1,SNR=2.2						
	0.7nm,0.6s						

*IDC **26** 01:49:07.4±4.4,13°.82N×92°.55W,h0km,mb3.4/2, mbtmp3.2/4,ML3.0/2,MS3.8/1,Error ellipse: s-maj=75.9km s-min=48.1km az=16.0*
*MEX **26** 01:49:10.5±0.7,13°.78N×92°.84W,h10km,MD3.9*
*GCG **26** 01:49:11.7±0.3,13°.20N×92°.31W,h50km,MD4.0*

ISC 26 01:49:12.8±2.0,13°.99N±0°.10×92°.73W±0°.06,h24km±14km, n17,σ1§96/28,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.02	26	eP	Pn	01 49 30.2	-1.4
THIG				eS	Sn	01 49 46.1	+1.0
SULM	Suchitepequez,	1.17	74	eP	Pb	01 49 36.4	+2.0
PATR	El Naranjo	1.22	23	eP	Pn	01 49 32.9	-1.7
PATR				eS	Sn	01 49 51.4	+0.9
CHUJ	Union Juarez	1.25	29	eP	Pn	01 49 33.5	-1.6
CHUJ				eS	Sn	01 49 51.5	+0.2
PAVE	Pavencul	1.31	24	eP	Pn	01 49 34.3	-1.5
PAVE				eS	Sn	01 49 53.2	+0.5
STG3	Santiaguito 3,	1.33	57	eP	Pb	01 49 39.2	+1.9
PCIG		1.77	345	eP	Pn	01 49 41.2	-0.7
PCIG				eS	Sn	01 50 03.0	-0.7
FUG	Fuego 3	1.89	76	eP	Pn	01 49 42.2	-1.6
FUG				eS	Sn	01 50 06.0	-0.9
CCIG	Comitan	2.35	14	eP	Pn	01 49 52.2	+2.1
CCIG				eS	Sn	01 50 20.0	+1.7
TGIG		2.80	352	eP	Pn	01 49 56.7	+0.6
TGIG				eS	Sn	01 50 32.5	+3.3
UXUV	UXUV	3.58	338	eP	Pn	01 50 08.4	+1.5
UXUV				eS	Sn	01 50 45.3	-3.1
CMIG	Matias Romero	3.71	326	Pn	Pn	01 50 09.0	+0.3
	0.4nm,0.3s,baz=144,slow=11,SNR=1.9						
CMIG				Sn	Sb	01 50 57.2	-5.2
	1.9nm,0.3s,baz=148,slow=14,SNR=4.3						
	1.2nm,0.3s						
CMIG	Matias Romero	3.71	326	eP	Pn	01 50 10.7	+1.9
CMIG				eS	Sn	01 50 50.5	-1.3
TEIG	Tepich	7.52	34	Pn	Pn	01 50 59.8	-1.2
	11nm,0.3s,baz=195,slow=18,SNR=6.4						
TEIG				LR	LR	01 54 26.9	
	comp=Z,611nm,18.7s,baz=232,slow=42						
TXAR	Lajitas Array	18.32	328	P	Pn	01 53 27.3	+1.8
	baz=145,slow=14,SNR=1.8						
	0.1nm,0.6s						
YKA	Yellowknife Ar	50.87	347	P	P	01 58 10.7	-0.8
	0.6nm,0.7s,baz=134,slow=8.7,SNR=13						
	0.6nm,0.7s						
ILAR	Eielson Array	62.57	337	P	P	01 59 34.8	+0.3
	0.2nm,0.6s,baz=111,slow=7.2,SNR=2.1						
	0.2nm,0.6s						

*NOU **26** 01:53:41.5,18°.80S×174°.19W,h154km,mb4.8/26,Tonga Islands*

*IDC **26** 01:53:56.0±6.4,19°.79S×175°.89W,h171km±57km, mb3.9/14,mbtmp4.4/15,MS3.2/1,Error ellipse: s-maj=19.0km s-min=16.8km az=56.0*
*NEIC **26** 01:53:58.5±2.0,19°.89S±0°.08×175°.52W±0°.10, h203km±8km,mb4.5/43,Error ellipse: s-maj=13.9km s-min=10.5km az=120.0*

ISC 26 01:53:58.7±0.4,19°.82S±0°.08×175°.64W±0°.08,h204km, n116,σ1§24/112,mb4.4/38,1D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	5.44	83	Pn	Pn	01 55 18.1	-0.8
AFI	Afiamalu	6.94	33	Pn	Pn	01 55 36.1	-2.3
RAO	Raoul Island	9.62	192	Pn	Pn	01 56 11.8	-1.1
MARNC	Mare, Loyalty	15.38	261		P	01 57 26.4	+0.8
DVP	Devils Point	15.46	275	P	P	01 57 28.2	+1.7
PINNC	Pines Island,	16.02	257	P	Pn	01 57 34.0	+0.9
LIFNC	LIFOU	16.09	264		Pn	01 57 34.4	+0.3
LIFNC	LIFOU	16.09	264	P	Pn	01 57 35.7	+1.6
YATNC	Mamie plateau,	16.47	259	P	Pn	01 57 41.5	+2.9
OUENC	Ouen Island, N	16.55	258	P	Pn	01 57 40.0	+0.4
OUENC	Ouen Island, N	16.55	258	P	Pn	01 57 41.3	+1.8
DZM	Mont Dzumac	16.89	259	Pn	Pn	01 57 44.1	+0.5
DZM	Mont Dzumac	16.89	259	P	Pn	01 57 45.2	+1.6
DZM	Mont Dzumac	16.89	259	P	Pn	01 57 44.1	+0.5
	95nm,0.7s,baz=84,slow=15,SNR=93						
DZM				LR	LR	02 03 17.0	
	comp=Z,83nm,18.2s,baz=36,slow=34						
ONTNC	Ouen Toro	16.90	258	P	Pn	01 57 43.7	0.0
NOUC	Port Laguerre	17.02	259	P	Pn	01 57 45.8	+0.7
KOUNC	Koumac, New Ca	18.86	264	P	Pn	01 58 05.5	-1.2
KOUNC				IAmb	IAmb	01 58 10.1	
	comp=Z,24nm,0.7s						
URZ	Urewera	19.43	197	P	P	01 58 08.1	-1.5
	comp=Z,16nm,0.8s,baz=352,slow=4.0,SNR=8.2						
TOZ	Tahuroa Road	19.45	202	P	P	01 58 09.2	-0.7
TOZ				IAmb	IAmb	01 58 46.4	
	comp=Z,23nm,1.2s						
BFZ	Birch Farm	21.93	197		P	01 58 33.9	-1.9
BFZ	Birch Farm	21.93	197	P	P	01 58 36.2	+0.4
QRZ	Quartz Range	23.25	203	P	P	01 58 48.8	+0.9
RPZ	Rata Peaks	26.31	202	P	P	01 59 16.5	+1.0
JCZ	Jackson Bay	27.46	205	P	P	01 59 26.7	+0.8
EIDS	Eidsvold	31.17	254	P	P	01 59 57.9	-0.8
EIDS	Eidsvold	31.17	254	P	P	01 59 58.6	-0.2
ARMA	Armidale	31.36	244	P	P	02 00 00.1	-0.4
ARMA				IAmb	IAmb	02 00 12.9	
	comp=Z,24nm,1.4s						
ARMA	Armidale	31.36	244	P	P	02 00 01.3	+0.8
CNB	Canberra Magne	34.45	236	P	P	02 00 27.8	+0.6
CAN	Canberra	34.73	236	P	P	02 00 29.7	+0.1
CAN				IAmb	IAmb	02 00 41.1	
	comp=Z,18nm,1.2s						
CTA	Charters Tower	35.77	263	P	P	02 00 38.1	-0.5
CTA	Charters Tower	35.77	263	P	P	02 00 37.8	-0.8
	comp=Z,14nm,0.4s,baz=88,slow=9.6,SNR=56						
	comp=Z,14nm,0.4s						
CTAO	Charters Tower	35.77	263	P	P	02 00 37.9	-0.6
CTAO				IAmb	IAmb	02 00 39.7	
	comp=Z,32nm,1.1s						
CTAO	Charters Tower	35.77	263	P	P	02 00 38.0	-0.6
PMG	Port Moresby	37.38	281	P	P	02 00 50.5	-1.7
	comp=Z,14nm,0.8s,baz=101,slow=5.4,SNR=4.4						
	comp=Z,14nm,0.8s						
TOO	Toolangi	38.09	234	P	P	02 00 57.6	-0.4
TOO				IAmb	IAmb	02 01 08.5	
	comp=Z,9.8nm,1.2s						
TOO	Toolangi	38.09	234	P	P	02 01 00.2	+2.3
STKA	Stephens Creek	40.08	244	P	P	02 01 14.1	-0.4
STKA	Stephens Creek	40.08	244	P	P	02 01 13.0	-1.5
	comp=Z,1.6nm,0.4s,baz=89,slow=10,SNR=3.4						
	comp=Z,1.6nm,0.4s						
MANU	Manus Island	40.23	291	P	P	02 01 16.6	+0.6
QIS	Mount Isa	41.91	261	P	P	02 01 30.2	+0.6
LCRK	Leigh Creek	42.84	246	P	P	02 01 36.2	-0.7
BBOO	Buckleboo	44.84	243	P	P	02 01 53.1	+0.4
BBOO				IAmb	IAmb	02 01 56.8	
	comp=Z,11nm,1.2s						
BBOO	Buckleboo	44.84	243	P	P	02 01 53.1	+0.4
OOD	Oodnadatta	45.00	250	P	P	02 01 54.8	+0.7
MULG	Mulgathing	46.43	247	P	P	02 02 04.9	-0.3
WR0	Warramunga Arr	46.70	261	P	P	02 02 06.1	-1.4
WR0				IAmb	IAmb	02 02 07.8	
	comp=Z,4.7nm,0.5s						
AS31	Alice Springs	46.83	256	P	P	02 02 07.4	-1.2
AS31				IAmb	IAmb	02 02 08.8	
	comp=Z,6.3nm,0.5s						
ASAR	Alice Springs	46.84	256	P	P	02 02 07.7	-0.8
ASAR	Alice Springs	46.84	256	P	P	02 02 07.5	-1.0
	comp=Z,20nm,0.6s,baz=100,slow=8.3,SNR=447						
ASAR				PcP	PcP	02 03 37.7	-0.5
	comp=Z,0.5nm,0.6s,baz=100,slow=4.8,SNR=1.3						
	comp=Z,20nm,0.6s						
WB0	Warramunga Arr	46.87	261	P	P	02 02 07.3	-1.5
WB0				IAmb	IAmb	02 02 08.4	
	comp=Z,13nm,0.6s						
WB2	Warramunga Arr	46.88	261	P	P	02 02 07.2	-1.7
WB2				IAmb	IAmb	02 02 09.1	
	comp=Z,25nm,1.4s						
WRAB	Tennant Creek	46.89	261	P	P	02 02 07.4	-1.6
WRAB				IAmb	IAmb	02 02 09.2	
	comp=Z,15nm,1.1s						
WRA	Warramunga Arr	46.90	261	P	P	02 02 07.1	-1.9
WRA	Warramunga Arr	46.90	261	P	P	02 02 07.2	-1.8
	comp=Z,5.7nm,0.5s,baz=98,slow=5.6,SNR=148						
	comp=Z,5.7nm,0.5s						
KDU	Kakadu	50.16	270	P	P	02 02 33.3	-0.6
MTN	Manton Dam	51.38	269	P	P	02 02 41.8	-1.2
MTN				IAmb	IAmb	02 02 46.5	
	comp=Z,27nm,1.1s						
MTN	Manton Dam	51.38	269	P	P	02 02 42.2	-0.9
FORT	Forrest	51.60	246	P	P	02 02 42.8	-1.7
FORT				IAmb	IAmb	02 02 44.0	
	comp=Z,15nm,0.8s						
WRKA	Warakurna	51.79	253	P	P	02 02 45.1	-0.9
KNRA	Kununurra	52.92	265	P	P	02 02 53.2	-1.2
KNRA				IAmb	IAmb	02 02 54.8	
	comp=Z,21nm,0.8s						
FAKI	Fak Fak	53.52	281	P	P	02 02 58.5	-0.3
FAKI				IAmb	IAmb	02 02 59.8	
	comp=Z,37nm,1.4s						
FITZ	Fitzroy Crossi	55.32	261	P	P	02 03 11.1	-0.6
SOEI	Soe	58.70	270	P	P	02 03 35.4	-0.3
VNDA	Vanda	58.79	186	P	P	02 03 35.7	+0.7
	comp=Z,2.5nm,1.0s,baz=348,slow=12,SNR=5.6						
	comp=Z,2.5nm,1.0s						
PSA00	Pilbara Seismi	59.98	256	P	P	02 03 42.3	-1.8
PSA00	Pilbara Seismi	59.98	256	P	P	02 03 43.7	-0.5
PSA00				IAmb	IAmb	02 04 06.5	
	comp=Z,14nm,1.3s						
MBWA	Marble Bar	60.17	256	P	P	02 03 44.6	-0.8
MBWA				IAmb	IAmb	02 04 15.9	
	comp=Z,17nm,1.4s						
JAGI	Jajag, Banyuwa	68.61	268	P	P	02 04 40.5	+0.2
QSPA	South Pole Qui	70.25	180	P	P	02 04 49.3	-0.2
QSPA				IAmb	IAmb	02 04 52.2	
	comp=Z,5.8nm,0.9s						
QSPA	South Pole Qui	70.25	180	P	P	02 04 51.0	+1.4
	comp=Z,3.6nm,0.7s,baz=39,slow=2.5,SNR=12						
	comp=Z,3.6nm,0.7s						
MJAR	Matsushiro Arr	71.01	322	P	P	02 04 53.2	-1.2
	comp=Z,1.9nm,0.7s,baz=154,slow=6.2,SNR=2.4						
	comp=Z,1.9nm,0.7s						
SSLB	Suanglung	75.47	302	P	P	02 05 20.0	-0.7
PIX	Pinacate	78.49	50	P	P	02 05 35.8	-1.6
NVAR	Mina Array Bea	79.02	42	P	P	02 05 38.8	-1.6
NVAR	Mina Array Bea	79.02	42	P	P	02 05 42.3	+1.9
	comp=Z,1.4nm,0.8s,baz=221,slow=8.1,SNR=12						
	comp=Z,1.4nm,0.8s						
GMN	Gold Mountain	79.03	44	P	P	02 05 41.2	+0.6
NV11	Mina Array Sit	79.11	42	P	P	02 05 41.1	+0.3
TPNV	Topopah Spring	79.49	45	P	P	02 05 43.8	+0.9
USRK	Ussuriysk Ar.	79.67	325	P	P	02 05 43.6	+0.1
	comp=Z,2.7nm,0.9s,baz=132,slow=12,SNR=2.7						
	comp=Z,2.7nm,0.9s						
BELA	Belgrano 2	79.94	172	P	P	02 05 44.5	-0.1
BELA				IAmb	IAmb	02 05 46.2	
	comp=Z,4.0nm,0.8s						
NJ2	Nanjing	81.17	309	eP	P	02 05 54.3	+2.5
NJ2				pP	pP	02 06 37.8	-2.5
NJ2				sP	sP	02 06 57.3	-4.4
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,250nm,5.5s						
MDJ	Mudanjiang	81.26	324	P	P	02 05 51.5	-0.4
MDJ				pmax	pmax		
	comp=Z,18nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,1μm,4.6s						
K15K	Wolf Creek Mou	82.60	7	P	P	02 05 59.4	+0.9
K15K				IAmb	IAmb	02 06 02.2	
	comp=Z,23nm,1.4s						
SUA	Susitna One	83.42	12	P	P	02 06 03.5	+0.6
SUA				IAmb	IAmb	02 06 28.1	
	comp=Z,11nm,1.4s						
H03S2	Juan Fernandez	84.54	124	T	T	03 39 00.4	
	baz=248,slow=75,SNR=5.4						
H03S1	Juan Fernandez	84.55	124	T	T	03 39 01.6	
	baz=248,slow=75,SNR=5.9						
H03S3	Juan Fernandez	84.56	124	T	T	03 39 00.5	
	baz=248,slow=75,SNR=6.1						
H03N2	Juan Fernandez	84.67	123	T	T	03 39 16.6	
	baz=255,slow=74						
H03N3	Juan Fernandez	84.67	124	T	T	03 39 06.8	
	baz=255						
H03N1	Juan Fernandez	84.69	123	T	T	03 39 07.1	
	baz=255,slow=74						
TXAR	Lajitas Array	84.83	56	P	P	02 06 13.5	+2.7
	comp=Z,1.6nm,0.9s,baz=217,slow=7.9,SNR=16						
	comp=Z,1.6nm,0.9s						
BCAR	Beaver Creek A	86.79	15	P	P	02 06 20.3	+0.8
PDAR	Pinedale Array	86.95	42	P	P	02 06 22.7	+1.7
	comp=Z,0.3nm,0.7s,baz=256,slow=3.6,SNR=2.3						
	comp=Z,0.3nm,0.7s						
IMAR	Indian Mountai	87.13	9	P	P	02 06 21.2	+0.2
ILAR	Eielson Array	87.17	12	P	P	02 06 21.4	+0.1
	comp=Z,0.4nm,0.8s,baz=226,slow=6.2,SNR=6.5						
	comp=Z,0.4nm,0.8s						
ELIB	Princess Elisa	87.56	186	dP	P	02 06 23.8	+0.4
	comp=Z,3.5nm,0.8s						
SNAA	Sanae	88.62	178	P	P	02 06 28.7	+0.5
	comp=Z,2.7nm,0.9s,baz=206,slow=5.2,SNR=5.6						
	comp=Z,2.7nm,0.9s						
PHWY	Pilot Hill	88.92	45	P	P	02 06 28.6	-1.8
PHWY				IAmb	IAmb	02 06 29.6	
	comp=Z,6.6nm,1.1s						
HHC	Hu-ho-hao-te	90.48	314	eP	P	02 06 39.0	+1.5
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,410nm,5.4s						
PZH	PanZhiHua	92.36	297	P	P	02 06 49.5	+3.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,150nm,4.9s						
BVAR	Borovoye Array	119.98	320	PKP	PKPdf	02 12 24.6	-0.1
	comp=Z,0.2nm,0.4s,baz=96,slow=4.3,SNR=2.4						
AKASG	Malin Array Be	143.45	333	PKP	PKPbc	02 13 06.7	+0.1
	comp=Z,0.6nm,0.5s,baz=47,slow=3.4,SNR=5.2						
EKA	Eskdalemuir Ar	144.09	7	PKP	PKPab	02 13 08.2	+0.4
	comp=Z,0.6nm,0.5s,baz=325,slow=3.6,SNR=1.8						
BRTR	Keskin Array B	147.98	315	PKPbc	PKPbc	02 13 20.3	-0.1
	comp=Z,1.2nm,0.8s,baz=143,slow=3.1,SNR=5.9						
MMAI	Mount Meron Ar	149.37	302	PKPbc	PKiKP	02 13 25.6	+0.6
	comp=Z,1.0nm,0.4s,baz=78,slow=7.8,SNR=6.8						
GERES	GERESS Array B	150.08	348	PKPbc	PKPbc	02 13 25.8	+0.5
	comp=Z,0.7nm,0.8s,baz=354,slow=2.7,SNR=4.5						
CONA	Conrad Observa	150.44	344	ePKiKP	PKiKP	02 13 27.7	+0.9
	comp=Z,0.3nm,0.4s						
RONA	Rosalia, Austr	150.54	343	ePKiKP	PKiKP	02 13 27.3	+0.4
KBA	Koelnbreinsper	151.83	347	ePKiKP	PKiKP	02 13 30.3	+0.5
	comp=Z,0.5nm,0.4s						
WATA	Walderalm	151.93	350	i PKiKP	PKiKP	02 13 30.5	+0.5
	comp=Z,0.7nm,0.5s						
WTTA	Wattenberg	151.99	349	i PKiKP	PKiKP	02 13 30.7	+0.6
	comp=Z,1.8nm,0.6s						
MOTA	Moosalm	152.00	350	ePKP	PKPbc	02 13 29.9	+0.1
	comp=Z,0.4nm,0.4s						
SQTA	Sankt Quirin	152.10	350	i PKiKP	PKiKP	02 13 31.1	+0.9
	comp=Z,0.8nm,0.5s						
ABTA	Abfaltersbach	152.32	348	i PKP	PKPbc	02 13 30.3	-0.2
	comp=Z,1.1nm,0.5s						
TORD	Torodi Ar. Bea	172.89	159	PKPab	PKPab	02 15 12.6	+1.0
	comp=Z,0.4nm,0.6s,baz=176,slow=3.0,SNR=3.2						

*TEH **26** 01:59:24.0,31°.82N×48°.74E,h12km±44km,ML3.6*
*IDC **26** 01:59:30.1±5.2,31°.92N×48°.75E,h69km±49km,mb3.6/14, mbtmp3.9/15,ML3.1/1,MS3.3/3,Error ellipse: s-maj=38.1km s-min=18.4km az=166.0*

ISC 26 01:59:23.5±0.7,31°.83N±0°.06×48°.75E±0°.05,h10km,n74, σ1§94/72,mb3.9/14,12C,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMIS	Naft Sefid	0.49	109	Pg	Pg	01 59 33.1	+0.1
AMIS				Sg	Sb	01 59 41.8	+0.4
AHWZ	Ahwaz	0.50	190	Pg	Pg	01 59 34.1	+0.8
JHBN	Jahan bin	1.68	76	Pg	Pn	01 59 55.1	+1.9
ZNGN	Zangian	1.81	80	Pn	Pn	01 59 57.3	+2.2
IKFM	Kafar-mosalman	1.86	336	Pn	Pn	01 59 57.8	+2.4
IPIR	Kirpir	2.01	64	Pn	Pn	02 00 00.1	+2.3
IBRJ	Brojen	2.14	87	Pn	Pn	02 00 01.7	+2.2
HSAM	Samen	2.38	357	Pn	Pn	02 00 05.4	+2.5
IKOM	Komasi	2.56	336	Pn	Pn	02 00 07.6	+2.3
KLNJ	Kolanjah	2.56	108	Pn	Pn	02 00 07.9	+2.4
IBZA	Bozab	2.74	344	Pn	Pn	02 00 10.2	+2.4
ILBA	Ilam Banvizeh	2.79	311	Pn	Pn	02 00 10.4	+2.0
IKLH	Kolahrood	2.81	57	Pn	Pn	02 00 11.3	+2.5
KCHF	Cheshme Sefid,	2.83	330	Pn	Pn	02 00 10.5	+1.5
IGAR	Gharneh	2.85	77	Pn	Pn	02 00 11.9	+2.5
QAMS	Qamsar	2.93	49	Pn	Pn	02 00 13.3	+2.9
HAGD	Aghdareh	3.01	6	Pn	Pn	02 00 14.2	+2.8
IALM	Almabolaq	3.06	351	Pn	Pn	02 00 14.8	+2.5
IRAM	Rames

MORH	**Mrgy, Hungar**	**27.25**	**310**	⇑P		**P**	**02 05 08.7**	**+0.9**	
KURBB	**Kurchatov Arra**	**28.94**	**41**	P		**P**	**02 05 20.8**	**-2.0**	
	0.5nm,0.3s,baz=239,slow=8.6,SNR=2.2								
	0.5nm,0.3s								
MKAR	**Makanchi Array**	**29.68**	**50**	P		**P**	**02 05 29.4**	**-0.1**	
	0.2nm,0.6s,baz=242,slow=11,SNR=2.0								
	0.2nm,0.6s								
GERES	**GERES Array B**	**31.31**	**313**	P		**P**	**02 05 42.2**	**-1.7**	
	0.4nm,0.8s,baz=98,slow=11,SNR=2.5								
	0.4nm,0.8s								
FINES	**FINESS Array B**	**33.11**	**340**	P		**P**	**02 05 58.5**	**-0.9**	
	1.9nm,0.7s,baz=143,slow=10,SNR=8.9								
	1.9nm,0.7s								
ZALV	**Zalesovo Beam**	**33.90**	**39**	P		**P**	**02 06 05.1**	**-1.3**	
	0.5nm,0.3s,baz=254,slow=10.0,SNR=2.2								
	0.5nm,0.3s								
HFS	**Hagfors**	**36.57**	**331**	P		**P**	**02 06 27.7**	**-1.6**	
	1.5nm,0.6s,baz=134,slow=8.5,SNR=5.0								
	1.5nm,0.6s								
NOA	**NORSAR Array B**	**38.10**	**331**	P		**P**	**02 06 41.1**	**-1.2**	
	1.7nm,1.1s,baz=130,slow=6.8,SNR=2.2								
	1.7nm,1.1s								
ARCES	**ARCESS Array B**	**39.97**	**348**	P		**P**	**02 06 56.8**	**-1.1**	
	2.6nm,0.9s,baz=120,slow=7.2,SNR=6.3								
	2.6nm,0.9s								
ESDC	**Sonseca Array**	**42.97**	**296**	P		**P**	**02 07 21.8**	**-1.1**	
	0.8nm,1.0s,baz=74,slow=9.5,SNR=2.7								
	0.8nm,1.0s								
TORD	**Torodi Ar. Bea**	**46.88**	**258**	P		**P**	**02 07 54.0**	**-0.2**	
	1.7nm,1.0s,baz=46,slow=9.5,SNR=6.5								
	1.7nm,1.0s								
SPITS	**Spitsbergen Ar**	**48.57**	**352**	P		**P**	**02 08 05.7**	**-0.8**	
	16nm,1.0s,baz=133,slow=9.3,SNR=9.3								
	16nm,1.0s								
USRK	**Ussuriysk Ar.**	**64.11**	**53**	LR		LR	02 40 06.6		
	comp=Z,102nm,19.1s,baz=134,slow=38								

*ISK **26** 02:05:26.5, 38.56N×26.75E, h15km, ML2.3/20*
*AFAD **26** 02:05:26.7±0.0, 38.54N×26.76E, h11km±1km, ML2.3*
*THE **26** 02:05:27.8, 38.54N×26.68E, h17km±1km, ML2.4/8, Error ellipse: s-maj=1.3km s-min=0.5km az=276.0*
*ATH **26** 02:05:27.6, 38.55N×26.74E, h16km±2km, ML2.7/4, Error ellipse: s-maj=2.2km s-min=1.1km az=271.0*

ISC 26 02:05:26.4±0.9, 38.55N±0.02×26.81E±0.02, h16km±6km, n46, σ0.49/72, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FOCM	**Foa**	**0.18**	**341**	Pg		**Pg**	**02 05 30.7**	**-0.1**
FOCM				Sg		**Sg**	**02 05 33.6**	**-0.2**
KARB	**zmir-Karabur**	**0.33**	**291**	P		**Pg**	**02 05 33.3**	**0.0**
KARB				S		**Sg**	**02 05 37.5**	**-0.5**
ZEYE	**Izmir, Urla-Ze**	**0.39**	**218**	P		**Pg**	**02 05 34.7**	**+0.4**
ZEYE				S		**Sg**	**02 05 40.1**	**+0.5**
ZEYE				*i* AML		AML	02 05 41.0	
	comp=N,413nm,0.2s							
CAND	**Candarli**	**0.41**	**360**	Pg		**Pg**	**02 05 34.9**	**+0.2**
RFT7	**Candarli**	**0.42**	**12**	Pg		**Pb**	**02 05 35.3**	**-0.1**
RFT7				Sg		**Sb**	**02 05 42.2**	**+0.7**
CESE	**eme**	**0.45**	**242**	Pg		**Pg**	**02 05 35.5**	**+0.1**
CESE				Sg		**Sg**	**02 05 41.8**	**+0.2**
ZEDA	**zmir-Bergama**	**0.47**	**27**	P		**Pb**	**02 05 36.1**	**-0.1**
ZEDA				S		**Sb**	**02 05 43.6**	**+0.6**
GMLD	**Gumuldur**	**0.48**	**169**	Pg		**Pb**	**02 05 36.9**	**+0.6**
DGB	**zmir**	**0.50**	**173**	P		**Pb**	**02 05 36.7**	**0.0**
DGB				S		**Sg**	**02 05 43.2**	**+0.3**
DKL	**Dikili**	**0.53**	**8**	Pg		**Pb**	**02 05 37.2**	**-0.1**
DKL				Sg		**Sb**	**02 05 45.1**	**+0.4**
EAG2	**Marmaro, Chios**	**0.55**	**270**	P		**Pg**	**02 05 37.2**	**0.0**
EAG2				S		**Sg**	**02 05 43.9**	**-0.6**
EAG2				AML		AML	02 05 48.2	
	comp=N,6267μm,0.3s							
EAG2				AML		AML	02 05 49.0	
	comp=E,5841μm,0.4s							
EAG3	**Mitilini, Lesv**	**0.57**	**341**	P		**Pg**	**02 05 37.8**	**+0.1**
EAG3				S		**Sb**	**02 05 46.0**	**+0.2**
LESV	**Lesvos island,**	**0.59**	**341**	P		**Pb**	**02 05 38.8**	**+0.5**
LESV				S		**Sb**	**02 05 47.4**	**+0.9**
	comp=E,1μm,0.3s							
CHOS	**Chios island**	**0.61**	**255**	P		**Pg**	**02 05 38.6**	**+0.2**
CHOS				S		**Sg**	**02 05 45.9**	**-0.6**
	comp=E,500nm,0.2s							
CHOS	**Chios island**	**0.61**	**255**	P		**Pg**	**02 05 38.5**	**+0.2**
CHOS				S		**Sg**	**02 05 46.4**	**-0.1**
CHOS				AML		AML	02 05 49.7	
	comp=N,777μm,0.2s							
CHOS				AML		AML	02 05 50.7	
	comp=E,1255μm,0.3s							
AYVA	**Ayvalik**	**0.77**	**353**	P		**Pg**	**02 05 41.4**	**+0.1**
AYVA				S		**Sb**	**02 05 50.7**	**-0.8**
AYVA				*i* AML		AML	02 05 56.0	
	comp=E,100nm,0.2s							
PRK	**Paraskevi**	**0.81**	**329**	P		**Pg**	**02 05 42.5**	**+0.3**
PRK				S		**Sb**	**02 05 53.1**	**+0.3**
	comp=E,982nm,0.4s							
PRK	**Paraskevi**	**0.81**	**329**	P		**Pg**	**02 05 42.7**	**+0.5**
PRK				S		**Sb**	**02 05 53.2**	**+0.3**
PRK				AML		AML	02 05 55.2	
	comp=N,1644μm,0.5s							
PRK				AML		AML	02 05 55.6	
	comp=E,2277μm,0.4s							
SMG	**Samos**	**0.84**	**178**	P		**Pg**	**02 05 43.0**	**+0.3**
SMG				S		**Sn**	**02 05 55.2**	**-0.2**
	comp=E,428nm,0.3s							
SMG	**Samos**	**0.84**	**178**	P		**Pg**	**02 05 42.9**	**+0.3**
SMG				S		**Sn**	**02 05 55.3**	**-0.2**
GOMA	**Golmarmara-Man**	**0.89**	**79**	Pg		**Pn**	**02 05 45.1**	**+1.0**
GCAM	**G?zelcaml?**	**0.91**	**158**	Pg		**Pn**	**02 05 44.9**	**+0.5**
PSRA	**Psara**	**0.97**	**270**	P		**Pb**	**02 05 45.3**	**+0.5**
PSRA				S		**Sb**	**02 05 56.6**	**-0.7**
SIGR	**SIGRI**	**1.00**	**312**	Pg		**Pb**	**02 05 45.4**	**+0.2**
SIGR	**SIGRI**	**1.00**	**312**	P		**Pb**	**02 05 45.4**	**+0.2**
SIGR				S		**Sb**	**02 05 58.0**	**-0.1**
	comp=E,148nm,0.4s							
SIGR	**SIGRI**	**1.00**	**312**	P		**Pb**	**02 05 45.5**	**+0.2**
SIGR				S		**Sb**	**02 05 58.0**	**-0.1**
SIGR				AML		AML	02 06 01.6	
	comp=E,340μm,0.5s							
SIGR				AML		AML	02 06 01.8	
	comp=N,254μm,0.3s							
GPNR	**Gulpinar-Canak**	**1.05**	**330**	Pg		**Pn**	**02 05 46.4**	**0.0**
KOCA	**Canakkale, Ayv**	**1.09**	**332**	P		**Pb**	**02 05 46.8**	**0.0**
KOCA				S		**Sb**	**02 06 00.4**	**-0.3**
EZN	**Ezine**	**1.33**	**344**	Pn		**Pn**	**02 05 50.1**	**-0.1**
EZN	**Ezine**	**1.33**	**344**	P		**Pn**	**02 05 50.2**	**0.0**
EZN				S		**Sn**	**02 06 07.6**	**0.0**
	comp=N,60nm,0.3s							
KULA	**Kula-Manisa**	**1.46**	**91**	Pn		**Pg**	**02 05 53.4**	**-1.0**
KULA	**Kula-Manisa**	**1.46**	**91**	P		**Pg**	**02 05 54.2**	**-0.2**
KULA				S		**Sg**	**02 06 13.8**	**+0.4**
CANM	**Can-anakkale**	**1.48**	**7**	Pn		**Pb**	**02 05 53.1**	**-0.3**
BODT	**Bodrum**	**1.53**	**165**	Pn		**Pb**	**02 05 54.4**	**0.0**
BODT	**Bodrum**	**1.53**	**165**	P		**Pb**	**02 05 53.8**	**-0.6**
BODT				S		**Sb**	**02 06 13.8**	**+0.2**
COMU	**Canakkale**	**1.57**	**351**	Pn		**Pn**	**02 05 53.9**	**+0.3**
GONE	**Gonen-Balikesi**	**1.65**	**24**	Pn		**Pb**	**02 05 55.6**	**-0.7**
SIMA	**Simav-Kutahya**	**1.78**	**72**	Pn		**Pb**	**02 05 58.3**	**-0.4**
APE	**Apeiranthos**	**1.79**	**215**	P		**Pn**	**02 05 55.8**	**-0.8**
APE				S		**Sn**	**02 06 18.0**	**-0.9**
	comp=N,22nm,0.2s							
APE	**Apeiranthos**	**1.79**	**215**	P		**Pn**	**02 05 55.9**	**-0.6**
GADA	**Gvkgeada**	**1.79**	**337**	Pn		**Pn**	**02 05 57.3**	**+0.8**
LPK	**Lapseki**	**1.82**	**359**	Pn		**Pn**	**02 05 58.1**	**+1.1**
LIA	**Limnos Island**	**1.85**	**318**	P		**Pn**	**02 05 57.7**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.87**	**352**	Pn		**Pn**	**02 05 58.4**	**+0.8**
KRBG	**Karabiga-Canak**	**1.88**	**12**	Pn		**Pb**	**02 05 59.0**	**-1.4**
SMTH	**Samothraki Isl**	**2.16**	**333**	P		**Pn**	**02 06 02.0**	**+0.3**

IDC 26 02:20:19.7±1.4, 8.64S×127.54E, h0km, mb3.8/3, mbtmp3.8/5, ML3.9/2, Error ellipse: s-maj=190.2km s-min=24.3km az=63.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**13.02**	**150**	Pn		Pn	02 23 26.1	0.0
	0.9nm,0.3s,baz=325,slow=13,SNR=40							
WRA				Sn		Sn	02 25 44.9	-6.9
	0.9nm,0.3s,baz=318,slow=24,SNR=7.5							
	1.0nm,0.3s							
ASAR	**Alice Springs**	**16.13**	**159**	Pn		Pn	02 24 07.2	-0.9
	0.3nm,0.3s,baz=337,slow=12,SNR=24							
ASAR				Sn		Sn	02 26 58.2	-10
	0.2nm,0.3s,baz=342,slow=25,SNR=2.0							
	1.9nm,0.6s							
STKA	**Stephens Creek**	**26.55**	**152**	P		P	02 25 59.8	+0.3
	0.9nm,0.7s,baz=350,slow=11,SNR=1.9							
	0.9nm,0.7s							
MKAR	**Makanchi Array**	**68.30**	**328**	P		P	02 31 22.7	0.0
	0.3nm,0.5s,baz=114,slow=7.1,SNR=4.5							
	0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**72.00**	**335**	P		P	02 31 45.2	0.0
	0.9nm,0.6s,baz=126,slow=7.3,SNR=2.1							
	0.9nm,0.6s							

*SOME **26** 02:21:56.9, 45.53N×84.72E, h0km*
*NNC **26** 02:21:58.1±2.8, 45.39N×84.62E, h0km, mb2.8, mpv2.3, Error ellipse: s-maj=28.4km s-min=18.6km az=46.0*

ISC 26 02:21:49.1±7.2, 45.0N±0.3×85.1E±0.3, h10km, n6, σ0.24/5, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZSN	**Zaisan**	**2.49**	**356**	*e*P		**Pb**	**02 22 34.0**	**-0.1**
	7.1nm,0.3s							
ZSN				*e*S		**Sn**	**02 23 00.4**	**+0.1**
	5.7nm,0.2s							
MK31	**Makanchi Array**	**2.69**	**314**	⇓Pg		**Pb**	**02 22 37.2**	**-0.3**
	0.6nm,0.3s,baz=127,slow=16,SNR=66							
MK31				⇑Lg		Lg	02 23 06.6	
	3.4nm,0.2s,baz=136,slow=27,SNR=4.1							
MAKZ	**Makanchi**	**2.87**	**311**	⇓Pg		**Pb**	**02 22 40.6**	**+0.1**
	1.0nm,0.4s							
MAKZ				⇑Lg		Lg	02 23 12.0	
	1.5nm,0.3s							
KAPS	**Kapalarasan**	**4.09**	**277**	*e*Pg		**Pg**	**02 23 07.6**	**0.0**
	1.4nm,0.1s							
KAPS				*e*Lg		Lg	02 23 58.8	
	3.3nm,0.3s							
KURBB	**Kurchatov Arra**	**7.19**	**324**	⇓Lg		Lg	02 25 30.0	
	4.3nm,0.6s							
KURK	**Kurchatov**	**7.23**	**325**	⇑Lg		Lg	02 25 29.2	
	1.5nm,0.6s							

*MOS **26** 02:47:26.8±1.1, 51.34N×178.36E, h37km, mb4.5/10, Error ellipse: s-maj=19.1km s-min=14.1km az=84.4*
*IDC **26** 02:47:30.3±2.8, 51.36N×178.45E, h52km±23km, mb3.5/14, mbtmp3.9/16, ML4.4/2, MS2.8/2, Error ellipse: s-maj=26.6km s-min=12.0km az=1.0*
*NEIC **26** 02:47:31.7±1.6, 51.24N±0.08×178.40E±0.10, h63km±7km, mb4.1/40, ML4.2(AEIC), Error ellipse: s-maj=12.0km s-min=8.7km az=174.0*
*AEIC **26** 02:47:32.8±5.9, 51.14N±0.05×178.30E±0.08, h9km±4km, Error ellipse: s-maj=9.2km s-min=5.3km az=136.0*

ISC 26 02:47:30.6±1.3, 51.2N±0.1×178.34E±0.04, h56km±10km, n147, σ1.18/143, mb4.1/39, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AMKA	**Amchitka**	**0.62**	**77**			**Pn**	**02 47 44.0**	**+0.4**
AMKA				Sn		**Sn**	**02 47 53.0**	**0.0**
LSSE	**Little Sitkin**	**0.71**	**12**			**Pn**	**02 47 45.8**	**+1.1**
LSPA	**Little Sitkin**	**0.73**	**12**			**Pn**	**02 47 46.1**	**+1.1**
LSPA						**Sn**	**02 47 56.9**	**+1.4**
LSNW	**Little Sitkin**	**0.74**	**9**			**Pn**	**02 47 45.9**	**+0.8**
CESW	**Semis' Southwe**	**1.01**	**49**			**Pn**	**02 47 49.2**	**+0.7**
CERB	**Semis' Cerberu**	**1.06**	**49**			**Pn**	**02 47 50.2**	**+1.0**
CERB						**Sn**	**02 48 03.9**	**+0.9**
CEAP	**Semis' Anvil P**	**1.08**	**45**			**Pn**	**02 47 50.4**	**+0.8**
CEPE	**Semis' Perret**	**1.09**	**48**			**Pn**	**02 47 50.4**	**+0.8**
GASW	**Gareloi Southw**	**1.83**	**72**			**Sn**	**02 48 21.9**	**+0.2**
GANO	**Gareloi North**	**1.88**	**71**			**Pn**	**02 48 00.9**	**+0.6**
GAEA	**Gareloi East**	**1.90**	**72**			**Pn**	**02 48 01.5**	**+0.9**
TANO	**Tanaga North**	**2.31**	**72**			**Pn**	**02 48 07.1**	**+0.9**
TASE	**Tanaga Southea**	**2.34**	**74**			**Pn**	**02 48 07.5**	**+0.9**
TAFP	**Tanaga Falls P**	**2.39**	**73**			**Pn**	**02 48 07.8**	**+0.6**
TAFP						**Sn**	**02 48 34.9**	**-0.4**
KICM	**Kanaga Island**	**2.87**	**75**			**Pn**	**02 48 15.1**	**+1.3**
KICM						**Sn**	**02 48 46.4**	**-0.7**
KIWB	**Kanaga Island**	**2.88**	**76**	Pn		**Pn**	**02 48 14.8**	**+0.8**
KIRH	**Kanaga Island**	**2.92**	**75**			**Pn**	**02 48 15.5**	**+0.9**
SHEM	**Shemya Is, Ala**	**3.01**	**301**	P		**Pn**	**02 48 16.6**	**+0.9**
	18nm,0.3s,baz=126,slow=1.9,SNR=12							
SHEM				S		**Sn**	**02 48 51.0**	**+0.4**
	100nm,0.4s,baz=262,slow=20,SNR=14							
SHEM				LR		LR	02 49 28.3	
	comp=Z,52nm,21.1s,baz=180,slow=39							
	21nm,0.3s							
ADAG	**Mount Adagdak**	**3.24**	**75**			**Pn**	**02 48 19.6**	**+0.8**
GSCK	**Great Sitkin C**	**3.51**	**75**			**Pn**	**02 48 23.3**	**+0.7**
GSMY	**Great Sitkin M**	**3.58**	**75**			**Pn**	**02 48 24.2**	**+0.6**
GSTR	**Great Sitkin T**	**3.59**	**74**	Pn		**Pn**	**02 48 23.8**	**+0.1**
KOWE	**Korovin West**	**4.74**	**73**			**Pn**	**02 48 39.8**	**+0.5**
ATKA	**Atka Island**	**4.74**	**75**	Pn		**Pn**	**02 48 39.7**	**+0.3**
ATKA	**Atka Island**	**4.74**	**75**	P		**Pn**	**02 48 40.0**	**+0.6**
CLES	**Cleveland East**	**7.43**	**73**	Pn		**Pn**	**02 49 18.4**	**+2.2**
CLCO	**Concord Point,**	**7.53**	**74**			**Pn**	**02 49 18.9**	**+1.3**
NIKH	**Nikolski High**	**8.07**	**73**			**Pn**	**02 49 26.1**	**+1.0**
NIKH	**Nikolski High**	**8.07**	**73**	P		**Pn**	**02 49 26.1**	**+1.0**
OKCE	**Okmok Cone E**	**8.55**	**70**			**Pn**	**02 49 33.1**	**+1.5**
OKER	**Okmok East Rim**	**8.62**	**70**			**Pn**	**02 49 34.3**	**+1.7**
P08K	**Saint George I**	**8.93**	**48**			**Pn**	**02 49 38.6**	**+1.9**
SPIA	**Saint Paul Isl**	**8.94**	**44**			**Pn**	**02 49 38.9**	**+2.1**
SPIA	**Saint Paul Isl**	**8.94**	**44**	P		**Pn**	**02 49 39.7**	**+2.9**
MAPS	**Pakushin South**	**9.34**	**68**			**Pn**	**02 49 43.4**	**+1.2**
MGOD	**Makushin Gods**	**9.37**	**68**			**Pn**	**02 49 43.9**	**+1.1**
MSW	**Makushin Switc**	**9.45**	**68**			**Pn**	**02 49 45.0**	**+1.2**
MREP	**Makushin Rep't**	**9.45**	**68**			**Pn**	**02 49 45.2**	**+1.3**
MNAT	**Makushin Natee**	**9.50**	**68**			**Pn**	**02 49 45.8**	**+1.2**
MTBL	**Makushin Table**	**9.52**	**68**			**Pn**	**02 49 45.5**	**+0.7**
UNV	**Unalaska Valle**	**9.60**	**68**			**Pn**	**02 49 47.0**	**+1.1**
UNV	**Unalaska Valle**	**9.60**	**68**	P		**Pn**	**02 49 47.3**	**+1.5**
AKRB	**Akutan Reef Bi**	**9.90**	**67**			**Pn**	**02 49 51.5**	**+1.6**
ZRO	**Akutan Zero**	**9.95**	**67**			**Pn**	**02 49 52.2**	**+1.6**
AKGG	**Akutan Green G**	**9.96**	**67**			**Pn**	**02 49 52.7**	**+1.9**
AKV	**Akutan Volcano**	**9.96**	**67**			**Pn**	**02 49 52.5**	**+1.6**
AKLV	**Akutan Long Va**	**9.97**	**67**			**Pn**	**02 49 52.6**	**+1.6**
AKBBA	**Akutan Broad B**	**9.97**	**67**			**Pn**	**02 49 52.5**	**+1.5**
AHB	**Akutan Harbor**	**10.04**	**67**			**Pn**	**02 49 53.5**	**+1.5**
AKUT	**Akutan**	**10.07**	**67**	Pn		**Pn**	**02 49 53.4**	**+1.1**
AKUT	**Akutan**	**10.07**	**67**	P		**Pn**	**02 49 53.9**	**+1.6**
PETK	**Petropavlovsk-**	**12.80**	**286**	P		Pn	02 50 36.0	+6.4
	3.9nm,0.9s,baz=91,slow=15,SNR=1.6							
PETK				S		**Sn**	**02 52 46.3**	**-4.0**
	5.9nm,0.9s,baz=112,slow=34,SNR=1.6							
SDPT	**Sand Point**	**13.30**	**64**	Pn		**Pn**	**02 50 34.1**	**-2.3**
M14K	**Bethel**	**14.51**	**41**	Pn		**Pn**	**02 50 52.1**	**-0.3**
CHGN	**Chignik**	**14.62**	**61**	Pn		**Pn**	**02 50 51.7**	**-2.2**
N15K	**Kwethluk River**	**15.02**	**45**	Pn		**Pn**	**02 51 00.6**	**+1.4**
SII	**Sitkinak Islan**	**16.98**	**61**	P		**Pn**	**02 51 21.5**	**-2.5**
O18K	**Koktuh Hills**	**17.17**	**50**	P		**P**	**02 51 26.7**	**-0.5**
SVW2	**Sparrevohn**	**17.43**	**45**	P		**P**	**02 51 31.2**	**+1.1**
OHAK	**Old Harbor**	**17.55**	**59**	P		**Pn**	**02 51 28.9**	**-2.0**
N19K	**Bonanza Creek**	**17.82**	**47**	P		**Pn**	**02 51 34.8**	**+0.3**
N19K					IAmb	IAmb	02 51 36.1	
	comp=Z,12nm,0.8s							
KDAK	**Kodiak Island**	**18.01**	**57**	P		**P**	**02 51 33.0**	**-3.4**
	comp=Z,3.2nm,0.3s,baz=270,slow=4.5,SNR=79							
	comp=Z,6.7nm,0.3s							
L19K	**White Mountain**	**18.19**	**43**	P		**P**	**02 51 37.8**	**-0.6**
M20K	**Styx River**	**18.82**	**45**	P		**Pn**	**02 51 46.3**	**-0.1**
M20K					IAmb	IAmb	02 51 52.5	
	comp=Z,6.0nm,0.6s							
J20K	**Nowinta River**	**19.38**	**38**	P		**P**	**02 51 51.8**	**+0.4**
G19K	**Purcell Mounta**	**19.44**	**31**	P		**P**	**02 51 51.5**	**-0.6**
SKT	**Skwentna**	**19.56**	**45**			**Pn**	**02 51 54.2**	**-0.9**
F19K	**Shalaruckik Mo**	**19.66**	**28**	P		**Pn**	**02 51 55.3**	**-1.0**
SUA	**Susitna One**	**19.75**	**47**	P		**P**	**02 51 55.7**	**0.0**
SUA					IAmb	IAmb	02 51 57.8	
	comp=Z,8.2nm,0.7s							
CAST	**Castle Rocks**	**19.86**	**41**	P		**P**	**02 51 57.1**	**+0.4**
KTH	**Kantishna Hill**	**20.39**	**41**	P		**P**	**02 52 02.9**	**+0.4**
KTH					IAmb	IAmb	02 52 03.7	
	comp=Z,6.3nm,0.8s							
PMR	**Palmer**	**20.53**	**47**	P		**P**	**02 52 04.8**	**+0.9**
I21K	**Tanana**	**20.68**	**36**	P		**P**	**02 52 05.9**	**+0.4**
I21K					IAmb	IAmb	02 52 31.9	
	comp=Z,6.9nm,1.0s							
G21K	**Allakaket**	**20.83**	**32**	P		**P**	**02 52 07.0**	**-0.1**
F21K	**Alatna River**	**21.23**	**31**	P		**P**	**02 52 12.2**	**+0.7**
SCM	**Sheep Creek Mo**	**21.42**	**47**	P		**P**	**02 52 12.7**	**-0.9**
SCM	**Sheep Creek Mo**	**21.42**	**47**	P		**P**	**02 52 12.7**	**-0.9**
SCM				pmax	pmax			
	comp=Z,16nm,0.5s							
NEA2	**Nenana**	**21.55**	**39**	P		**P**	**02 52 14.1**	**-0.7**
NEA2				IAmb	IAmb	IAmb	02 52 37.7	
	comp=Z,6.3nm,0.7s							
DHY	**Denali Highway**	**21.73**	**44**	P		**P**	**02 52 16.0**	**-1.0**
EYAK	**Cordova Ski Ar**	**21.92**	**51**	P		**P**	**02 52 17.1**	**-1.7**
D22K	**Ayikyak River**	**22.46**	**27**	P		**P**	**02 52 25.3**	**+0.7**
ILAR	**Eielson Array**	**22.48**	**40**	*e*P		**P**	**02 52 24.4**	**-0.5**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ILAR	**Eielson Array**	**22.48**	**40**	P		**P**	**02 52 22.1**	**-2.8**
	comp=Z,0.7nm,0.8s,baz=234,slow=8.3,SNR=16							
	comp=Z,0.7nm,0.8s							
H24K	**Noodor Dome**	**22.50**	**37**	P		**P**	**02 52 24.8**	**-0.3**
H24K					IAmb	IAmb	02 52 49.4	
	comp=Z,7.3nm,1.1s							
G24K	**Hadweenzic Riv**	**23.02**	**35**	P		**P**	**02 52 30.6**	**+0.2**
G24K					IAmb	IAmb	02 52 31.9	
	comp=Z,4.2nm,0.7s							
F24K	**Squaw Lake**	**23.24**	**33**	P		**P**	**02 52 32.5**	**-0.1**
TOLK	**Toolik Lake Re**	**23.25**	**30**	P		**P**	**02 52 32.5**	**-0.2**
TOLK					IAmb	IAmb	02 52 32.8	
	comp=Z,3.3nm,0.6s							
SCRK	**Sand Creek**	**23.44**	**43**	P		**P**	**02 52 32.7**	**-2.0**
L26K	**Log Cabin Wild**	**23.50**	**45**	P		**P**	**02 52 34.7**	**-0.3**
L26K					IAmb	IAmb	02 52 35.6	
	comp=Z,4.1nm,0.6s							
D24K	**Happy Valley**	**23.76**	**29**	P		**P**	**02 52 36.7**	**-0.6**
D24K					IAmb	IAmb	02 52 38.7	
	comp=Z,6.2nm,0.7s							
J26L	**Joseph Creek**	**23.76**	**42**	P		**P**	**02 52 36.7**	**-0.8**
J26L					IAmb	IAmb	02 52 37.1	
	comp=Z,5.4nm,0.7s							
FYU	**Fort Yukon**	**23.78**	**36**	P		**P**	**02 52 37.0**	**-0.6**
L27K	**Beaver Creek,**	**24.18**	**45**	P		**P**	**02 52 40.2**	**-1.1**
L27K					IAmb	IAmb	02 52 42.8	
	comp=Z,6.3nm,0.7s							
K27K	**Chicken**	**24.27**	**43**	P		**P**	**02 52 41.8**	**-0.3**
K27K					IAmb	IAmb	02 52 47.6	
	comp=Z,9.6nm,1.4s							
EGAK	**Eagle**	**24.83**	**42**	P		**P**	**02 52 46.8**	**-0.4**
EGAK					IAmb	IAmb	02 53 02.3	
	comp=Z,4.8nm,0.9s							
PNL	**Peninsula**	**25.01**	**54**	P		**P**	**02 52 47.9**	**-1.0**
DAWY	**Dawson**	**25.44**	**44**	P		**P**	**02 52 52.8**	**0.0**
DAWY					IAmb	IAmb	02 52 55.6	
	comp=Z,4.0nm,0.7s							
INK	**Inuvik**	**28.60**	**35**	LR		LR	03 06 21.8	
	comp=Z,46nm,18.4s,baz=354,slow=40							
H11N2	**WAKE ISLAND Hy**	**32.72**	**200**	T		T	03 29 13.4	
	baz=11,slow=76,SNR=10							
H11N3	**WAKE ISLAND Hy**	**32.73**	**200**	T		T	03 29 13.0	
	baz=11,slow=76,SNR=13							
H11N1	**WAKE ISLAND Hy**	**32.73**	**200**	T		T	03 29 16.9	
	baz=11,slow=76,SNR=12							
MDJ	**Mudanjiang**	**32.82**	**278**	P		**P**	**02 54 00.8**	**+2.4**
MDJ					pmax	pmax		
	comp=Z,16nm,1.6s							
MDJ					pmax	pmax		
	comp=Z,1μm,6.9s							
H11S1	**WAKE ISLAND Hy**	**33.94**	**200**	T		T	03 30 47.0	
	baz=20,slow=76,SNR=7.0							
H11S2	**WAKE ISLAND Hy**	**33.96**	**200**	T		T	03 30 45.9	
	baz=20,slow=76,SNR=6.0							
H11S3	**WAKE ISLAND Hy**	**33.96**	**200**	T		T	03 30 47.0	
	baz=20,slow=76,SNR=5.3							

H03N2 Juan Fernandez 122.85 104 T T 05 21 00.5
baz=309
H03N1 Juan Fernandez 122.86 104 T T 05 21 07.4
baz=309
H03N3 Juan Fernandez 122.86 104 T T 05 21 08.9
baz=309

*IDC **26** 02:58:59.9±1.0, 17°.33S×178°.45W, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=60.9km s-min=22.5km az=154.0*
*NEIC **26** 02:59:54.5±1.3, 18°.2S±0°.2×178°.7W±0°.2, h554km±8km, mb4.0/16, Error ellipse: s-maj=34.9km s-min=14.7km az=136.0*
ISC 26 02:59:55.6±0.8, 18°.2S±0°.2×178°.9W±0°.2, h562km, n26, σt89/25, mb3.9/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EIDS	**Eidsvold**	**28.77**	**250**	P	**P**	**03 05 09.4**	**+0.4**
EIDS				IAmb	IAmb	03 05 16.6	
	comp=Z,3.4nm,1.2s						
STKA	**Stephens Creek**	**38.12**	**241**	P	**P**	**03 06 28.2**	**+0.7**
STKA	**Stephens Creek**	**38.12**	**241**	P	**P**	**03 06 27.6**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=59,slow=9.2,SNR=4.7						
	comp=Z,0.6nm,0.3s						
BBOO	**Buckleboo**	**42.90**	**241**	P	**P**	**03 07 05.7**	**+0.3**
BBOO				IAmb	IAmb	03 07 07.5	
	comp=Z,12nm,1.5s						
WR0	**Warramunga Arr**	**43.97**	**260**	P	**P**	**03 07 13.7**	**-0.2**
WB0	**Warramunga Arr**	**44.13**	**260**	P	**P**	**03 07 14.4**	**-0.7**
WB0				IAmb	IAmb	03 07 19.2	
	comp=Z,5.9nm,1.2s						
WB2	**Warramunga Arr**	**44.15**	**260**	P	**P**	**03 07 15.2**	**-0.1**
WRA	**Warramunga Arr**	**44.16**	**260**	P	**P**	**03 07 14.8**	**-0.7**
WRA	**Warramunga Arr**	**44.16**	**260**	P	**P**	**03 07 14.8**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=97,slow=7.0,SNR=19						
	comp=Z,0.6nm,0.5s						
AS31	**Alice Springs**	**44.30**	**255**	P	**P**	**03 07 16.8**	**+0.3**
AS31				IAmb	IAmb	03 07 17.2	
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**44.30**	**255**	P	**P**	**03 07 16.0**	**-0.5**
ASAR	**Alice Springs**	**44.30**	**255**	P	**P**	**03 07 16.7**	**+0.2**
	comp=Z,5.8nm,0.4s,baz=90,slow=8.3,SNR=184						
	comp=Z,5.8nm,0.4s						
KNRA	**Kununurra**	**50.03**	**265**	P	**P**	**03 07 58.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**52.56**	**261**	P	**P**	**03 08 17.7**	**0.0**
NWAO	**Narrogin (SRO)**	**58.71**	**242**	P	**P**	**03 09 00.1**	**-0.1**
VNDA	**Vanda**	**60.15**	**185**	P	**P**	**03 09 08.2**	**-0.7**
PASC	**Pasadena Art C**	**77.72**	**48**	P	**P**	**03 10 53.2**	**-1.9**
PASC				IAmb	IAmb	03 10 55.6	
	comp=Z,5.6nm,1.1s						
GHO	**Glory Hole Cre**	**83.17**	**14**	P	**P**	**03 11 23.0**	**+0.2**
GHO				IAmb	IAmb	03 11 23.4	
	comp=Z,11nm,1.2s						
J18K	**Innoko River**	**83.19**	**10**	P	**P**	**03 11 23.1**	**+0.3**
J18K				IAmb	IAmb	03 11 30.8	
	comp=Z,4.8nm,1.2s						
KLU	**Klutina**	**83.64**	**15**	P	**P**	**03 11 23.9**	**-1.2**
KLU				IAmb	IAmb	03 11 33.1	
	comp=Z,7.1nm,1.3s						
ILAR	**Eielson Array**	**86.24**	**13**	P	**P**	**03 11 38.1**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=207,slow=6.5,SNR=4.5						
	comp=Z,0.1nm,0.5s						
TXAR	**Lajitas Array**	**86.50**	**58**	P	**P**	**03 11 42.2**	**+2.4**
	comp=Z,0.4nm,0.7s,baz=201,slow=5.3,SNR=6.4						
	comp=Z,0.4nm,0.7s						
PDAR	**Pinedale Array**	**87.84**	**44**	P	**P**	**03 11 45.4**	**-0.6**
PDAR	**Pinedale Array**	**87.84**	**44**	P	**P**	**03 11 47.0**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=236,slow=1.6,SNR=2.2						
	comp=Z,0.3nm,0.8s						
B20K	**Meade River**	**89.27**	**7**	P	**P**	**03 11 50.8**	**-0.9**
PLCA	**Paso Flores**	**91.46**	**134**	P	P	03 12 09.2	+6.5
	comp=Z,2.3nm,1.0s,baz=249,slow=7.2,SNR=2.9						
	comp=Z,2.3nm,1.0s						

IDC 26 03:23:52.2±2.3, 6°.70S×129°.77E, h0km, mb3.3/1, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=118.6km s-min=33.3km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.89**	**162**	Pn	Pn	03 27 09.6	-1.0
	0.4nm,0.3s,baz=345,slow=14,SNR=32						
WRA				Sn	Sn	03 29 36.9	-8.7
	0.5nm,0.3s,baz=353,slow=23,SNR=9.1						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**17.33**	**167**	P	P	03 27 56.5	-0.7
	0.2nm,0.3s,baz=353,slow=14,SNR=9.3						
ASAR				S	Sn	03 31 00.9	-8.5
	0.2nm,0.7s,baz=3.0,slow=20,SNR=2.0						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**67.85**	**327**	P	P	03 34 52.4	0.0
	0.2nm,0.5s,baz=133,slow=8.1,SNR=2.5						
	0.2nm,0.5s						

*IDC **26** 03:34:45.4±1.9, 32°.07S×178°.59W, h0km, mb3.9/2, mbtmp3.9/3, ML3.4/1, Error ellipse: s-maj=61.7km s-min=36.4km az=142.0*
*NEIC **26** 03:35:04.6±1.8, 32°.9S±0°.1×179°.8W±0°.2, h93km±13km, mb4.4/12, Error ellipse: s-maj=27.2km s-min=21.3km az=81.0*
ISC 26 03:35:03.7±1.3, 32°.8S±0°.1×179°.8W±0°.2, h100km, n29, σt932/23, mb4.4/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.99**	**204**	Pn	**Pn**	**03 36 29.0**	**-0.8**
	0.6nm,0.3s,baz=116,slow=8.8,SNR=3.1						
URZ				Sn	Sn	03 37 46.3	+9.3
	2.0nm,0.3s,baz=322,slow=23,SNR=6.5						
	3.5nm,0.4s						
RTZ	**Ruatahuna**	**6.36**	**204**	Pn	**Pn**	**03 36 34.3**	**-0.6**
BKZ	**Black Stump Fm**	**7.02**	**205**	Pn	**Pn**	**03 36 43.9**	**+0.1**
MRZ	**Mangatainoka R**	**8.67**	**204**	Pn	**Pn**	**03 37 05.1**	**-1.1**
KHZ	**Kahutara**	**10.95**	**207**	Pn	**Pn**	**03 37 35.2**	**-1.9**
MQZ	**McQueen's Vall**	**12.39**	**207**	Pn	**Pn**	**03 37 56.9**	**+0.5**
DZM	**Mont Dzumac**	**16.25**	**308**	P	**P**	**03 38 47.7**	**+0.3**
CAN	**Canberra**	**25.95**	**256**	P	**P**	**03 40 26.3**	**-0.5**
TOO	**Toolangi**	**28.68**	**251**	P	**P**	**03 40 51.6**	**+0.3**
TOO				IAmb	IAmb	03 41 29.1	
	comp=Z,10nm,1.2s						
CTAO	**Charters Tower**	**32.82**	**284**	P	**P**	**03 41 27.3**	**-0.5**
CTAO				IAmb	IAmb	03 41 53.1	
	comp=Z,9.7nm,1.4s						
ASAR	**Alice Springs**	**41.55**	**270**	P	**P**	**03 42 43.1**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=104,slow=7.6,SNR=7.1						
	comp=Z,0.3nm,0.3s						
WR0	**Warramunga Arr**	**42.59**	**276**	P	**P**	**03 42 51.0**	**+0.9**
WR0				IAmb	IAmb	03 43 14.9	
	comp=Z,8.3nm,1.4s						
WB2	**Warramunga Arr**	**42.75**	**276**	P	**P**	**03 42 52.4**	**+1.0**
WB2				IAmb	IAmb	03 43 35.9	
	comp=Z,9.8nm,1.4s						
WRAB	**Tennant Creek**	**42.76**	**276**	P	**P**	**03 42 52.0**	**+0.5**
WRA	**Warramunga Arr**	**42.76**	**276**	P	**P**	**03 42 51.3**	**-0.2**
WRA	**Warramunga Arr**	**42.76**	**276**	P	**P**	**03 42 52.3**	**+0.9**
	comp=Z,1.4nm,0.3s,baz=113,slow=8.1,SNR=62						
	comp=Z,1.4nm,0.3s						
WB0	**Warramunga Arr**	**42.80**	**276**	P	**P**	**03 42 52.3**	**+0.5**
WB0				IAmb	IAmb	03 43 08.5	
	comp=Z,9.0nm,1.4s						
QSPA	**South Pole Qui**	**57.29**	**180**	P	**P**	**03 44 40.7**	**-0.1**
BELA	**Belgrano 2**	**67.59**	**172**	P	**P**	**03 45 49.6**	**+0.6**
SNAA	**Sanae**	**75.78**	**179**	P	**P**	**03 46 39.5**	**+1.3**
SNAA				IAmb	IAmb	03 47 06.7	
	comp=Z,5.7nm,1.3s						
H03S2	**Juan Fernandez**	**80.37**	**124**	T	T	05 15 31.8	
	baz=235,slow=74,SNR=4.9						
H03S1	**Juan Fernandez**	**80.38**	**124**	T	T	05 15 30.0	
	baz=235,slow=74,SNR=4.2						
H03S3	**Juan Fernandez**	**80.39**	**124**	T	T	05 15 32.6	
	baz=235						
H03N3	**Juan Fernandez**	**80.58**	**124**	T	T	05 15 35.1	
	baz=240,slow=72,SNR=18						
H03N2	**Juan Fernandez**	**80.58**	**124**	T	T	05 15 34.5	
	baz=240,slow=72,SNR=10.0						
H03N1	**Juan Fernandez**	**80.60**	**124**	T	T	05 15 34.5	
	baz=240,slow=72,SNR=38						
FINES	**FINESS Array B**	**146.85**	**337**	PKPbc	**PKPdf**	**03 54 27.0**	**-4.5**
	comp=Z,3.7nm,1.0s,baz=46,slow=3.0,SNR=6.2						
NOA	**NORSAR Array B**	**150.88**	**349**	PKPbc	**PKPdf**	**03 54 38.1**	**0.0**
	comp=Z,0.3nm,0.5s,baz=16,slow=4.0,SNR=1.5						
HFS	**Hagfors**	**151.27**	**346**	PKPbc	**PKPdf**	**03 54 38.5**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=45,slow=2.0,SNR=4.1						

*IDC **26** 03:45:10.5±1.5, 6°.93S×129°.69E, h120km±12km, mb4.2/19, mbtmp4.6/21, MS3.6/10, Error ellipse: s-maj=19.0km s-min=9.9km az=72.0*
*DJA **26** 03:45:11.2±0.2, 7°.S±2°×13°.0E±°, h116km±2km, M5.0/49, mb5.0/49, mB5.4/25, MLv5.2/16, Mw(mB)4.9/25, MwMwp4.4/2, Mwp4.8/2*
*NEIC **26** 03:45:11.5±1.9, 6°.96S±0°.06×129°.66E±0°.07, h127km±6km, mb4.7/48, Error ellipse: s-maj=10.8km s-min=8.4km az=79.0*
*GCMT **26** 03:45:11.5±0.4, 6°.84S±0°.02×129°.45E±0°.03, h119km±4km, MW4.9/82, Moment Tensor Solution. s16,c18; s82,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.01±.12; $M_{\theta\theta}$-2.71±.14; $M_{\phi\phi}$ 1.70±.16; $M_{r\theta}$-1.06±.08; $M_{\theta\phi}$0.59±.17; $M_{\phi r}$1.16±.07; Best double couple: M_o2.86200×10^{16} NP1:ϕ_s315.00000°, δ77.00000°, λ139.00000°. NP2: ϕ_s56.00000°, δ50.00000°, λ17.00000°. Principal axes: T 2.5710, Plg38.0000°, Azm268.0000°; N 0.5840, Plg47.0000°, Azm120.0000°; P -3.1540, Plg17.0000°, Azm11.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 26 03:45:12.0±0.3, 7°.09S±0°.04×129°.67E±0°.05, h139km, n214, σt971/209, mb4.6/44, 4C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.84**	**119**	Pn	**Pn**	**03 45 44.1**	**-0.6**
SAUI				Sn	**Sn**	**03 46 08.7**	**-1.0**
SAUI	**Saumlaki**	**1.84**	**119**	P	**Pn**	**03 45 43.9**	**-0.8**
SAUI	**Saumlaki**	**1.84**	**119**	P	**Pn**	**03 45 43.9**	**-0.8**
SAUI				S	**Sn**	**03 46 07.3**	**-2.4**
BNDI	**Bandanaira**	**2.56**	**5**	P	**Pn**	**03 45 52.6**	**-0.8**
BNDI	**Bandanaira**	**2.56**	**5**	P	**Pn**	**03 45 52.9**	**-0.5**
NLAI	**Namlea**	**4.60**	**326**	P	**Pn**	**03 46 18.8**	**-1.2**
FAKI	**Fak Fak**	**4.87**	**32**	Pn	**Pn**	**03 46 19.9**	**-3.8**
FAKI	**Fak Fak**	**4.87**	**32**	P	**Pn**	**03 46 19.8**	**-3.8**
KMPI	**Kaimana, Papua**	**5.26**	**50**	P	**Pn**	**03 46 26.9**	**-1.9**
	266nm,0.7s,6μm3.2nm						
MTN	**Manton Dam**	**5.90**	**166**	P	**Pn**	**03 46 35.6**	**-1.8**
	baz=6.0,SNR=530						
MTN				S	**Sn**	**03 47 39.1**	**-4.8**
	baz=6.0						
MTN	**Manton Dam**	**5.90**	**166**	Pn	**Pn**	**03 46 35.6**	**-1.8**
MTN	**Manton Dam**	**5.90**	**166**	P	**Pn**	**03 46 35.5**	**-1.8**
SOEI	**Soe**	**5.97**	**243**	Pn	**Pn**	**03 46 37.5**	**-0.9**
SOEI	**Soe**	**5.97**	**243**	P	**Pn**	**03 46 37.4**	**-0.9**
	352nm,0.5s,8μm14nm						
SANI	**Sanana**	**6.21**	**324**	P	**Pn**	**03 46 41.8**	**+0.3**
	69nm,1.1s,798nm						
KDU	**Kakadu**	**6.21**	**154**	P	**Pn**	**03 46 39.6**	**-1.9**
	baz=6.4,SNR=600						
KDU				S	**Sn**	**03 47 45.6**	**-5.8**
	baz=6.4						
KDU	**Kakadu**	**6.21**	**154**	P	**Pn**	**03 46 39.6**	**-1.9**
SWI	**Sorong**	**6.38**	**14**	P	**Pn**	**03 46 41.0**	**-2.8**
	121nm,0.9s,3μm2μm0.7nm						
LBMI	**Labuha**	**6.76**	**341**	P	**Pn**	**03 46 48.2**	**-0.7**
	278nm,1.1s,3μm1.0nm						
BBSI	**Bau Bau**	**7.24**	**282**	P	**Pn**	**03 46 56.3**	**+1.0**
	284nm,1.1s,3μm0.9nm						
MMRI	**Maumere**	**7.52**	**258**		**Pn**	**03 46 56.0**	**-3.2**
MMRI	**Maumere**	**7.52**	**258**	P	**Pn**	**03 46 58.1**	**-1.0**
	180nm,0.7s,5μm1.4nm						
EDFI	**Ende, Flores**	**8.08**	**258**	P	**Pn**	**03 47 06.6**	**-0.1**
	97nm,0.7s,2μm0.5nm						
TNTI	**Ternate**	**8.14**	**343**	P	**Pn**	**03 47 06.1**	**-1.3**
	27nm,0.8s						
KNRA	**Kununurra**	**8.58**	**186**	P	**Pn**	**03 47 10.3**	**-3.0**
	baz=8.7,SNR=91						
KNRA				S	Sn	03 48 40.2	-8.4
	baz=8.7						
KNRA	**Kununurra**	**8.58**	**186**	Pn	**Pn**	**03 47 11.1**	**-2.2**
KNRA	**Kununurra**	**8.58**	**186**	P	**Pn**	**03 47 10.6**	**-2.7**
KMSI	**Cibinong**	**9.49**	**323**	P	**Pn**	**03 47 27.1**	**+1.5**
	162nm,0.9s						
BASI	**Baing, Sumba**	**9.51**	**250**	P	**Pn**	**03 47 24.1**	**-1.7**
	424nm,0.8s,6μm						
BKSI	**Bukumbara**	**9.65**	**280**	P	**Pn**	**03 47 27.8**	**+0.1**
	93nm,0.9s,987nm						
KAPI	**Kappang**	**10.08**	**281**	P	**Pn**	**03 47 33.2**	**-0.2**
	11nm,0.4s,baz=135,slow=16,SNR=3.9						
KAPI				LR	LR	03 51 29.0	
	comp=Z,107nm,19.5s,baz=106,slow=38						
SPSI	**Sidrap Palu**	**10.33**	**287**	P	**Pn**	**03 47 36.8**	**+0.1**
	41nm,0.8s,1μm						
SMPI	**Sarmi**	**10.33**	**61**	P	**Pn**	**03 47 35.8**	**-0.9**
MRSI	**Marisa**	**10.77**	**314**	P	**Pn**	**03 47 44.5**	**+2.0**
	38nm,0.6s						
TABU	**Tabubil**	**11.62**	**82**	P	**Pn**	**03 47 54.6**	**+0.7**
FITZ	**Fitzroy Crossi**	**11.63**	**199**	P	Pn	03 47 50.0	-3.8
	baz=12,SNR=183						
FITZ	**Fitzroy Crossi**	**11.63**	**199**	Pn	Pn	03 47 49.9	-4.0
FITZ	**Fitzroy Crossi**	**11.63**	**199**	P	Pn	03 47 50.2	-3.6
PLAI	**Plampang**	**11.91**	**261**	P	**Pn**	**03 47 54.0**	**-3.5**
PLAI	**Plampang**	**11.91**	**261**	P	**Pn**	**03 47 53.8**	**-3.8**
	154nm,0.7s,2μm						
TOLI2	**Tolitoli**	**12.04**	**312**	Pn	**Pn**	**03 47 57.1**	**-2.2**
TWSI	**Taliwang, Sumb**	**12.77**	**262**	P	**Pn**	**03 48 10.1**	**+1.3**
	42nm,0.5s,872nm						
WB0	**Warramunga Arr**	**13.41**	**160**	Pn	Pn	03 48 13.1	-3.9
WRA	**Warramunga Arr**	**13.56**	**161**	P	Pn	03 48 15.1	-3.8
	22nm,0.3s,baz=340,slow=14,SNR=191						
WRA				S	Sn	03 50 36.3	-13
	105nm,0.5s,baz=344,slow=22,SNR=16						
WR0	**Warramunga Arr**	**13.64**	**160**	Pn	**Pn**	**03 48 17.0**	**-2.9**
DAV	**Davao City (W)**	**14.64**	**344**	Pn	**Pn**	**03 48 29.6**	**-3.1**
COEN	**Coen**	**14.92**	**118**	P	**P**	**03 48 37.6**	**-0.7**
BBKI	**Banjar Baru**	**15.20**	**283**	P	**P**	**03 48 41.3**	**0.0**
	409nm,1.2s,16μm						
JAGI	**Jajag, Banyuwa**	**15.44**	**264**	Pn	**Pn**	**03 48 40.5**	**-2.0**
JAGI				IAmb	IAmb	03 49 07.6	
	comp=Z,33nm,0.9s						
JAGI	**Jajag, Banyuwa**	**15.44**	**264**	P	**Pn**	**03 48 41.4**	**-1.2**
BLJI	**Banyuglugur**	**15.96**	**267**	P	**P**	**03 48 50.0**	**+0.3**
	comp=Z,93nm,1.1s						
QIS	**Mount Isa**	**16.49**	**145**	P	**Pn**	**03 48 55.2**	**-0.3**
	baz=17,SNR=22						
QIS	**Mount Isa**	**16.49**	**145**	P	**Pn**	**03 48 55.7**	**+0.3**
MYLDM	**Lahad Datu**	**16.52**	**317**	P	**Pn**	**03 48 53.4**	**-2.3**
MBWA	**Marble Bar**	**16.98**	**213**	P	**P**	**03 49 00.3**	**-0.6**
MBWA	**Marble Bar**	**16.98**	**213**	P	**P**	**03 49 00.1**	**-0.8**
AS31	**Alice Springs**	**16.98**	**167**	P	**P**	**03 49 00.5**	**-0.5**
AS31				IAmb	IAmb	03 49 06.3	
	comp=Z,20nm,0.5s						
ASAR	**Alice Springs**	**16.98**	**167**	P	**P**	**03 49 00.1**	**-0.9**
ASAR	**Alice Springs**	**16.98**	**167**	P	**P**	**03 49 00.5**	**-0.5**
	comp=Z,42nm,0.8s,baz=346,slow=9.6,SNR=115						
ASAR				S	S	03 51 58.6	-12
	comp=Z,22nm,0.7s,baz=327,slow=16,SNR=7.3						
ASAR				LR	LR	03 56 12.6	
	comp=Z,300nm,19.1s,baz=350,slow=39						
ASAR				ScP	**ScP**	**03 57 03.8**	**+2.3**
	comp=Z,20nm,0.7s,baz=336,slow=1.9,SNR=11						
PSA00	**Pilbara Seismi**	**17.25**	**212**	P	**P**	**03 49 04.0**	**+0.1**
PSA00	**Pilbara Seismi**	**17.25**	**212**	P	**P**	**03 49 04.1**	**+0.1**
PMG	**Port Moresby**	**17.46**	**99**		**Pn**	**03 49 07.6**	**+0.5**
PMG				IAmb	IAmb	03 49 13.1	
	comp=Z,45nm,0.9s						
PMG	**Port Moresby**	**17.46**	**99**	P	**Pn**	**03 49 09.9**	**+2.7**
	comp=Z,43nm,0.8s,baz=273,slow=6.1,SNR=12						
PWJI	**Pagerwojo**	**17.74**	**266**	P	**P**	**03 49 09.5**	**+0.1**
	comp=Z,14nm,0.9s						
WRKA	**Warakurna**	**17.90**	**184**	P	**P**	**03 49 11.6**	**+0.5**
	baz=18,SNR=169						
WRKA	**Warakurna**	**17.90**	**184**	P	**P**	**03 49 11.3**	**+0.2**
MTSU	**Mount Surprise**	**18.00**	**129**	P	**Pn**	**03 49 14.8**	**+1.1**
	baz=18,SNR=22						
MANU	**Manus Island**	**18.33**	**75**	P	**P**	**03 49 14.7**	**-1.2**
MANU				IAmb	IAmb	03 49 20.3	
	comp=Z,38nm,0.8s						
KKM	**Kota Kinabalu**	**18.72**	**314**	P	**P**	**03 49 17.0**	**-3.2**
KKM				IAmb	IAmb	03 49 29.3	
	comp=Z,33nm,1.0s						
UGM	**Wanagama**	**19.00**	**266**	P	**P**	**03 49 23.2**	**0.0**
UGM	**Wanagama**	**19.00**	**266**	P	**Pn**	**03 49 24.2**	**-1.3**
UGM	**Wanagama**	**19.00**	**266**	P	**Pn**	**03 49 24.0**	**-1.5**
	comp=Z,87nm,1.5s						
YOGI	**Yogyakarta**	**19.23**	**267**	P	**P**	**03 49 24.4**	**-1.2**
	comp=Z,68nm,1.2s						
STKI	**Sintang**	**19.49**	**291**	P	**Pn**	**03 49 29.6**	**-1.5**
	comp=Z,90nm,0.9s						
SBUM	**Sibu**	**19.83**	**298**	P	**Pn**	**03 49 33.8**	**-1.3**
SBUM				IAmb	IAmb	03 49 34.9	
	comp=Z,35nm,0.9s						
KPJI	**Karang Pucung**	**20.58**	**268**	P	**P**	**03 49 37.8**	**-2.4**
	comp=Z,51nm,0.8s						
CTA	**Charters Tower**	**20.63**	**130**	P	**P**	**03 49 41.0**	**+0.2**
	comp=Z,10nm,0.9s,baz=314,slow=11,SNR=13						
CTA				LR	LR	03 58 53.0	
	comp=Z,154nm,18.8s,baz=274,slow=40						
	comp=Z,10nm,0.9s						
CTAO	**Charters Tower**	**20.63**	**130**	P	**P**	**03 49 41.2**	**+0.5**
CTAO	**Charters Tower**	**20.63**	**130**	P	Pn	03 49 43.8	-0.7
KSM	**Kuching**	**21.11**	**293**	P	**P**	**03 49 46.1**	**+0.2**
KSM				IAmb	IAmb	03 49 50.1	
	comp=Z,48nm,1.0s						
OOD	**Oodnadatta**	**21.37**	**165**	P	**P**	**03 49 49.6**	**+1.1**
GIRL	**Giralia**	**21.45**	**222**	P	**P**	**03 49 50.6**	**+1.1**
	baz=21,SNR=19						
GIRL	**Giralia**	**21.45**	**222**	P	**P**	**03 49 50.6**	**+1.1**
GIRL	**Giralia**	**21.45**	**222**	P	**P**	**03 49 50.2**	**+0.7**
LEM	**Lembang**	**21.89**	**269**	P	**P**	**03 49 52.8**	**-1.6**
	comp=Z,67nm,0.7s,baz=133,slow=16,SNR=6.6						
LEM				LR	LR	04 00 41.3	
	comp=Z,140nm,18.9s,baz=152,slow=42						
	comp=Z,67nm,0.7s						
MEEK	**Meekatharra**	**22.11**	**207**	P	**P**	**03 49 56.6**	**+0.3**
	baz=22,SNR=21						
MEEK	**Meekatharra**	**22.11**	**207**	P	**P**	**03 49 56.9**	**+0.6**
CNJI	**Cibinong**	**22.37**	**268**	P	**P**	**03 49 55.4**	**-3.6**
	comp=Z,76nm,0.9s,comp=Z,784nm						
INKA	**Innaminka**	**23.07**	**154**	P	**P**	**03 50 08.0**	**+2.5**
MULG	**Mulgathing**	**23.44**	**170**	P	**P**	**03 50 10.4**	**+1.5**
FORT	**Forrest**	**23.62**	**183**	P	**P**	**03 50 12.1**	**+1.7**
	baz=24,SNR=38						
FORT	**Forrest**	**23.62**	**183**	P	**P**	**03 50 12.0**	**+1.5**
FORT	**Forrest**	**23.62**	**183**	P	**P**	**03 50 12.0**	**+1.5**
CGJI	**Cibinong**	**23.81**	**270**	P	**P**	**03 50 08.6**	**-3.8**
	comp=Z,84nm,0.7s						
QLP	**Quilpie**	**23.83**	**146**	P	**P**	**03 50 14.7**	**+2.2**
	baz=24,SNR=23						
QLP	**Quilpie**	**23.83**	**146**	P	**P**	**03 50 14.8**	**+2.3**
LCRK	**Leigh Creek**	**24.58**	**162**	P	**P**	**03 50 21.0**	**+1.8**
KMBL	**Kambalda**	**25.23**	**196**	P	**P**	**03 50 26.7**	**+1.5**
	baz=25,SNR=18						
KMBL	**Kambalda**	**25.23**	**196**	P	**P**	**03 50 26.5**	**+1.4**
MORW	**Morawa**	**25.37**	**209**	P	**P**	**03 50 27.2**	**+0.8**
	baz=25,SNR=28						
MORW	**Morawa**	**25.37**	**209**	P	**P**	**03 50 27.1**	**+0.8**
MORW	**Morawa**	**25.37**	**209**	P	**P**	**03 50 27.2**	**+0.8**
BBOO	**Buckleboo**	**26.27**	**168**	P	**P**	**03 50 35.8**	**+1.3**
	baz=26,SNR=54						
BBOO	**Buckleboo**	**26.27**	**168**	P	**P**	**03 50 35.8**	**+1.3**
BBOO	**Buckleboo**	**26.27**	**168**	P	**P**	**03 50 35.7**	**+1.2**
BLDU	**Ballidu**	**26.38**	**206**	P	**P**	**03 50 36.4**	**+0.9**
	baz=26,SNR=15						
BLDU	**Ballidu**	**26.38**	**206**	P	**P**	**03 50 36.5**	**+1.1**
KLBR	**Kellerberrin**	**26.80**	**203**	P	**P**	**03 50 40.6**	**+1.3**
	baz=27,SNR=32						
STKA	**Stephens Creek**	**27.06**	**157**	P	**P**	**03 50 43.4**	**+1.9**
	baz=27,SNR=44						
STKA	**Stephens Creek**	**27.06**	**157**	P	**P**	**03 50 43.5**	**+1.9**
STKA	**Stephens Creek**	**27.06**	**157**	P	**P**	**03 50 43.3**	**+1.8**
STKA	**Stephens Creek**	**27.06**	**157**	P	**P**	**03 50 43.4**	**+1.9**
	comp=Z,22nm,0.7s,baz=331,slow=9.4,SNR=60						
STKA				LR	LR	04 02 54.2	
	comp=Z,240nm,20.4s,baz=356,slow=39						
	comp=Z,22nm,0.7s						
EIDS	**Eidsvold**	**27.36**	**134**	P	**P**	**03 50 45.5**	**+1.2**
HTT	**Hallett**	**27.58**	**163**	P	**P**	**03 50 48.0**	**+1.8**
	baz=28,SNR=6.2						
HTT	**Hallett**	**27.58**	**163**	P	**P**	**03 50 48.2**	**+1.9**
MUN	**Mundaring**	**27.77**	**205**	P	**P**	**03 50 49.1**	**+1.2**
	baz=28,SNR=7.5						
MUN	**Mundaring**	**27.77**	**205**	P	**P**	**03 50 49.1**	**+1.2**
NWAO	**Narrogin (SRO)**	**28.19**	**203**	P	**P**	**03 50 53.0**	**+1.4**
	baz=28,SNR=9.7						
NWAO				P	**P**	**03 50 53.0**	**+1.4**
	baz=28,SNR=9.7						
NWAO	**Narrogin (SRO)**	**28.19**	**203**	P	**P**	**03 50 52.9**	**+1.4**
NWAO	**Narrogin (SRO)**	**28.19**	**203**	P	**P**	**03 50 53.1**	**+1.4**
NWAO	**Narrogin (SRO)**	**28.19**	**203**	P	**P**	**03 50 53.0**	**+1.4**
	comp=Z,23nm,0.8s,baz=24,slow=7.9,SNR=21						
NWAO				LR	LR	04 02 49.3	
	comp=Z,99nm,18.0s,baz=199,slow=37						
	comp=Z,23nm,0.8s

	comp=Z,11nm,1.4s							
MDJ				pmax		pmax		
	comp=Z,820nm,7.5s							
ODAN	**Odare**	**53.07**	**311**	*eP*		**P**	**03 54 12.8**	**-2.8**
TAPN	**Taplejung**	**53.10**	**312**	*eP*		**P**	**03 54 15.5**	**-0.4**
	comp=Z,20nm,0.4s							
RAMN	**Ramite**	**53.71**	**311**	*eP*		**P**	**03 54 17.0**	**-3.2**
	comp=Z,46nm,0.7s							
GTA	**Gaotai**	**53.89**	**331**	P		P	**03 54 21.5**	**+0.3**
GTA				pP		pP	03 54 41.5	-11
GTA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
JIRN	**Jiri**	**54.40**	**311**	*eP*		**P**	**03 54 24.4**	**-1.0**
	comp=Z,4.6nm,0.2s							
GUN	**Gumba**	**54.77**	**311**	*eP*		**P**	**03 54 27.0**	**-1.0**
	comp=Z,22nm,0.5s							
PKI	**Pulchoki**	**54.94**	**311**	*eP*		**P**	**03 54 28.2**	**-1.0**
	comp=Z,7.3nm,0.4s							
DMN	**Daman**	**55.18**	**311**	*eP*		**P**	**03 54 29.9**	**-1.0**
	comp=Z,11nm,0.4s							
GKN	**Gorkha**	**55.74**	**311**	*eP*		**P**	**03 54 33.4**	**-1.4**
	comp=Z,17nm,0.3s							
KOLN	**Koldanda**	**56.41**	**310**	*eP*		**P**	**03 54 37.6**	**-2.0**
DANN	**Dangsing**	**56.58**	**311**	*eP*		**P**	**03 54 39.9**	**-1.0**
PYUN	**Piuthan**	**57.04**	**310**	*eP*		**P**	**03 54 43.2**	**-0.8**
	comp=Z,20nm,0.6s							
SONM	**Songino Array**	**58.42**	**342**	P		P	**03 54 53.4**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=163,slow=6.5,SNR=8.2 comp=Z,1.1nm,0.6s							
WMQ	**Urumqi**	**63.29**	**327**	*eP*		**P**	**03 55 28.5**	**+2.4**
KSH	**Kashi**	**67.86**	**318**	P		P	**03 55 56.5**	**+0.8**
KSH				PcP		**PcP**	**03 56 23.0**	**+1.8**
KSH				pmax		pmax		
	comp=Z,8.0nm,1.0s							
MK31	**Makanchi Array**	**68.12**	**327**	P		**P**	**03 55 57.1**	**+0.1**
MKAR	**Makanchi Array**	**68.12**	**327**	P		**P**	**03 55 57.4**	**+0.3**
	comp=Z,6.1nm,0.5s,baz=116,slow=8.0,SNR=77 comp=Z,6.1nm,0.5s							
MAKZ	**Makanchi**	**68.30**	**327**	P		**P**	**03 55 57.8**	**-0.3**
MAKZ				IAmb		IAmb	03 56 21.0	
	comp=Z,9.0nm,1.1s							
AAK	**Ala-Archa**	**70.40**	**320**	P		**P**	**03 56 10.2**	**-1.1**
AAK				IAmb		IAmb	03 56 13.9	
	comp=Z,14nm,1.5s							
KBL	**Kabul**	**70.57**	**310**	P		**P**	**03 56 11.8**	**-0.8**
ZAA0	**Zalesovo Array**	**71.52**	**334**	P		**P**	**03 56 16.3**	**-1.2**
ZAA0				IAmb		IAmb	03 56 52.8	
	comp=Z,8.2nm,1.1s							
ZALV	**Zalesovo Beam**	**71.52**	**334**	P		**P**	**03 56 16.6**	**-1.0**
ZALV	**Zalesovo Beam**	**71.52**	**334**	P		**P**	**03 56 16.8**	**-0.8**
	comp=Z,2.3nm,0.5s,baz=108,slow=4.8,SNR=13 comp=Z,2.3nm,0.5s							
VNDA	**Vanda**	**72.40**	**173**	P		**P**	**03 56 23.9**	**+1.4**
VNDA	**Vanda**	**72.40**	**173**	P		**P**	**03 56 24.1**	**+1.5**
	comp=Z,2.8nm,0.7s,baz=315,slow=7.0,SNR=13							
VNDA				LR		LR	04 27 31.6	
	comp=Z,50nm,19.6s,baz=330,slow=35 comp=Z,2.8nm,0.7s							
KURBB	**Kurchatov Arra**	**72.41**	**329**	P		**P**	**03 56 23.0**	**0.0**
	comp=Z,4.2nm,0.8s,baz=128,slow=4.7,SNR=34 comp=Z,4.2nm,0.8s							
KURK	**Kurchatov**	**72.42**	**329**	P		**P**	**03 56 22.7**	**-0.3**
KURK				IAmb		IAmb	03 56 24.0	
	comp=Z,9.2nm,1.1s							
KK31	**Karatay Array**	**73.19**	**319**	P		**P**	**03 56 27.4**	**-0.5**
KKAR	**Karatay Array**	**73.19**	**319**	P		**P**	**03 56 26.9**	**-0.9**
MAW	**Mawson**	**74.75**	**201**	P		**P**	**03 56 38.1**	**+1.7**
MAW	**Mawson**	**74.75**	**201**	P		**P**	**03 56 38.4**	**+2.0**
	comp=Z,13nm,0.6s,baz=72,slow=6.0,SNR=7.9 comp=Z,13nm,0.6s							
BVAR	**Borovoye Array**	**77.96**	**328**	P		P	**03 56 54.1**	**-0.7**
	comp=Z,4.2nm,0.9s,baz=134,slow=6.4,SNR=15 comp=Z,4.2nm,0.9s							
BRVK	**Borovoye**	**78.03**	**328**	P		**P**	**03 56 54.9**	**-0.2**
UOSS	**Minazif**	**78.17**	**297**	P		**P**	**03 56 56.1**	**-0.5**
UOSS				IAmb		IAmb	03 56 59.2	
	comp=Z,8.7nm,0.9s							
VOI	**Vohitsoka**	**80.81**	**249**	P		**P**	**03 57 11.4**	**+0.4**
VOI				IAmb		IAmb	03 57 12.5	
	comp=Z,13nm,0.8s							
NRIK	**Noril'sk**	**81.56**	**346**	P		**P**	**03 57 13.4**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=52,slow=1.3,SNR=3.7 comp=Z,2.9nm,0.8s							
ABKAR	**Akbulak array**	**82.37**	**322**	P		**P**	**03 57 18.2**	**-0.2**
ABKAR	**Akbulak array**	**82.37**	**322**	P		**P**	**03 57 18.3**	**-0.2**
ABKAR				IAmb		IAmb	03 57 20.6	
	comp=Z,4.0nm,0.8s							
QSPA	**South Pole Qui**	**82.89**	**180**	P		**P**	**03 57 22.8**	**+1.7**
QSPA				IAmb		IAmb	03 57 23.3	
	comp=Z,15nm,0.9s							
QSPA	**South Pole Qui**	**82.89**	**180**	P		**P**	**03 57 22.1**	**+1.1**
	comp=Z,13nm,0.8s,baz=315,slow=2.0,SNR=36 comp=Z,13nm,0.8s							
ARU	**Arti**	**85.61**	**328**	P		**P**	**03 57 33.4**	**-1.3**
ARU				IAmb		IAmb	03 57 36.5	
	comp=Z,7.1nm,0.9s							
M14K	**Bethel**	**85.82**	**27**	P		**P**	**03 57 36.5**	**+1.0**
M14K				IAmb		IAmb	03 57 44.6	
	comp=Z,25nm,1.5s							
ELIB	**Princess Elisa**	**88.31**	**197**	*dP*		**P**	**03 57 48.9**	**+1.2**
	comp=Z,6.7nm,1.1s							
KDAK	**Kodiak Island**	**89.46**	**32**	LR		LR	04 34 45.6	
	comp=Z,78nm,19.0s,baz=204,slow=33							
KMBO	**Kilima Mbogo**	**92.26**	**269**	P		**P**	**03 58 09.6**	**+2.1**
	comp=Z,2.3nm,1.0s,baz=56,slow=6.3,SNR=4.2 comp=Z,2.3nm,1.0s							
GURO	**Guroymak-BITLI**	**92.52**	**308**	P		**P**	**03 58 08.1**	**+0.1**
GURO				IAmb		IAmb	03 58 09.6	
	comp=Z,4.0nm,0.9s							
ILAR	**Eielson Array**	**93.56**	**25**	P		**P**	**03 58 11.3**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=248,slow=4.8,SNR=6.1 comp=Z,0.3nm,0.6s							
TROLL	**Troll, Antarti**	**94.00**	**194**	⇑P		**P**	**03 58 16.3**	**+2.1**
	comp=Z,468nm,1.1s							
BELA	**Belgrano 2**	**94.71**	**183**	P		**P**	**03 58 18.3**	**+1.2**
SNAA	**Sanae**	**95.50**	**194**	P		**P**	**03 58 22.7**	**+1.8**
SNAA				IAmb		IAmb	03 58 25.4	
	comp=Z,5.2nm,1.0s							
SNAA	**Sanae**	**95.50**	**194**	⇑P		**P**	**03 58 22.7**	**+1.8**
	comp=Z,68nm,0.8s							
SNAA	**Sanae**	**95.50**	**194**	P		**P**	**03 58 21.6**	**+0.7**
	comp=Z,3.7nm,0.9s,baz=200,slow=9.5,SNR=8.7 comp=Z,3.7nm,0.9s							
VNA2	**Neumayer--Watz**	**97.07**	**193**	⇑P		Pdif	03 58 29.5	+1.5
	comp=Z,1.7nm,0.4s,baz=123,slow=3.0							
VNA3	**Neumayer Olymp**	**97.33**	**192**	⇑P		Pdif	03 58 30.3	+1.2
	comp=Z,2.8nm,0.7s							
YKA	**Yellowknife Ar**	**107.97**	**26**	PKiKP		**PKiKP**	**04 03 23.3**	**+0.5**
	comp=Z,0.3nm,0.9s,baz=287,slow=2.1,SNR=2.7							
YKA				PKKPbc		**PKKPbc**	**04 14 35.1**	**-3.3**
	comp=Z,0.6nm,0.8s,baz=111,slow=2.7,SNR=9.7							
NVAR	**Mina Array Bea**	**111.60**	**52**	PKKPab		PKKPab	04 14 36.4	+1.6
	comp=Z,0.5nm,0.8s,baz=133,slow=6.2,SNR=4.3							
PDAR	**Pinedale Array**	**117.18**	**45**	PKP		**PKiKP**	**04 03 42.0**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=169,slow=3.0,SNR=4.8							
TXAR	**Lajitas Array**	**125.25**	**59**	PKP		**PKiKP**	**04 03 58.1**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=178,slow=3.3,SNR=9.0							
TORD	**Torodi Ar. Bea**	**128.51**	**281**	PKP		**PKiKP**	**04 04 03.7**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=62,slow=2.7,SNR=16							
TORD				SKPbc		SKiKP	04 07 12.7	-15
	comp=Z,1.3nm,0.7s,baz=66,slow=4.3,SNR=6.0							
PLCA	**Paso Flores**	**128.91**	**160**	PKP		**PKiKP**	**04 04 05.0**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=195,slow=6.3,SNR=4.0							
PBAR	**Barrancos**	**130.15**	**315**	*e*LQ		LQ	04 07 17.9	
PCAS	**Casmilo, Conde**	**130.25**	**318**	*e*LQ		LQ	04 07 17.9	
EVO	**Evora**	**130.66**	**316**	*e*LQ		LQ	04 07 18.6	
PBEJ	**Beja**	**130.80**	**315**	*e*LQ		LQ	04 07 19.9	
DBIC	**Dimbokro**	**134.87**	**272**	PKP		**PKiKP**	**04 04 15.8**	**-1.3**
	comp=Z,3.0nm,0.7s,baz=146,slow=2.0,SNR=5.0							
DBIC				SKPbc		**SKPbc**	**04 07 33.5**	**+0.2**
	comp=Z,9.4nm,0.8s,baz=100,slow=4.5,SNR=12							
CPUP	**Villa Florida**	**146.09**	**169**	PKPbc		**PKiKP**	**04 04 38.5**	**-1.3**
	comp=Z,23nm,0.9s,baz=198,slow=2.1,SNR=46							
CPUP				SKPbc		**SKiKP**	**04 08 05.8**	**+2.6**
	comp=Z,10nm,0.9s,baz=153,slow=1.6,SNR=17							

*SFS **26** 03:45:19.6,36˚.49N×3˚.08W, h0km, ML2.4/7, ML2.5/7, MLv2.4/7*
*MDD **26** 03:45:20.1±0.5, 36˚.48N×3˚.04W, h0km, mb_Lg2.4/4, Error ellipse: s-maj=4.2km s-min=3.9km az=77.0*
*CNRM **26** 03:45:21.5, 36˚.03N×2˚.88W, h91km, ml1.6*

ISC 26 03:45:16.4±1.1, 36˚.37N±0˚.02×3˚.11W±0˚.03, h11km±10km, n22, σ1§67/39, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.44**	**172**	Pg	**Pn**	**03 45 29.4**	**+0.8**
EALB				Sg	**Sb**	**03 45 37.4**	**+4.7**
EALB				*i* Vmb_Lg		03 45 37.6	
EBER	**Berja**	**0.55**	**18**	Pg	**Pg**	**03 45 27.6**	**+0.3**
EBER				Sg	**Sg**	**03 45 33.7**	**-0.8**
EBER				*i* Vmb_Lg		03 45 40.3	
EBER	**Berja**	**0.55**	**18**	Sg	**Sg**	**03 45 34.3**	**-0.3**
EBER				Pg	**Pg**	**03 45 27.5**	**+0.3**
ELGU	**Los Guajares,**	**0.65**	**320**	Pg	**Pb**	**03 45 29.8**	**+0.1**
ELGU				Sg	**Sb**	**03 45 37.4**	**-1.4**
ELGU				*i* Vmb_Lg		03 45 40.2	
ELGU	**Los Guajares,**	**0.65**	**320**	Pg	**Pb**	**03 45 29.8**	**+0.1**
ELGU				Sg	**Sb**	**03 45 37.5**	**-1.4**
EQTA	**Presa de Quent**	**0.88**	**342**	Pg	**Pb**	**03 45 34.1**	**+0.4**
ENIJ	**Nijar**	**0.94**	**50**	Pg	**Pg**	**03 45 34.3**	**-0.2**
ENIJ				Sg	**Sg**	**03 45 45.7**	**-1.0**
ENIJ				*i* Vmb_Lg		03 45 47.8	
ENIJ	**Nijar**	**0.94**	**50**	Pg	**Pg**	**03 45 35.1**	**+0.6**
ENIJ				Sg	**Sg**	**03 45 45.7**	**-1.0**
EGOR	**Sierra Gorda,**	**1.09**	**313**	Sg	**Sn**	**03 45 54.5**	**+1.6**
EGOR	**Sierra Gorda,**	**1.09**	**313**	Pn	**Pn**	**03 45 39.3**	**+1.6**
GOG	**Mont Gurugu**	**1.15**	**175**	P	**Pn**	**03 45 40.2**	**+1.7**
GOG				S	**Sg**	**03 45 53.1**	**-0.4**
PALE	**Palemas**	**1.34**	**211**	P	**Pg**	**03 45 42.7**	**+0.7**
PALE				S	**Sn**	**03 46 00.4**	**+1.6**
EMIJ	**Mijas**	**1.35**	**279**	Pn	**Pn**	**03 45 40.5**	**-0.7**
EMIJ				Sn	**Sb**	**03 45 56.8**	**-2.3**
EQES	**Quesada**	**1.43**	**1**	Pn	**Pg**	**03 45 44.4**	**+0.6**
EQES				Sn	**Sg**	**03 46 03.8**	**+1.4**
TAF	**Taforalt**	**1.66**	**160**	P	**Pn**	**03 45 44.8**	**-0.7**
TAF				S	**Sn**	**03 46 02.3**	**-4.4**
AKLM	**AKL**	**1.96**	**199**	P	**Pn**	**03 45 49.7**	**+0.1**
AKLM				S	**Sn**	**03 46 12.0**	**-2.3**
EADA	**Adamuz**	**2.14**	**327**	Pn	**Pg**	**03 45 56.2**	**-1.2**
EADA				Sn	**Sb**	**03 46 20.2**	**-1.6**
EADA	**Adamuz**	**2.14**	**327**	Pn	**Pb**	**03 45 54.6**	**-0.6**
ECAB	**El Cabril**	**2.51**	**313**	Pg	**Pg**	**03 46 07.0**	**+2.6**
ECAB				Sn	**Sb**	**03 46 31.2**	**-1.2**
ECAB	**El Cabril**	**2.51**	**313**	Pn	**Pb**	**03 46 00.5**	**-0.9**
ECAB				Sn	**Sn**	**03 46 28.2**	**+0.5**
ETOB	**Tobarra**	**2.58**	**28**	Pn	**Pb**	**03 46 01.3**	**-1.5**
ETOB				Sn	**Sn**	**03 46 31.1**	**+1.4**
ETOB	**Tobarra**	**2.58**	**28**	Pn	**Pn**	**03 46 00.6**	**+2.3**

*IDC **26** 03:57:34.2±0.9, 15˚.12S×173˚.39W, h0km, mb3.8/9, mbtmp3.8/9, MS3.3/8, Error ellipse: s-maj=44.0km s-min=20.5km az=143.0*
*NEIC **26** 03:57:37.4±1.5, 15˚.06S±0˚.07×173˚.1W±0˚.1, h35km±2km, mb4.5/17, Error ellipse: s-maj=25.6km s-min=7.2km az=114.0*
*NOU **26** 03:57:45.8, 13˚.93S×172˚.14W, h117km, MLv3.7/4, Samoa Islands*

ISC 26 03:57:36.9±0.6, 15˚.08S±0˚.09×173˚.1W±0˚.1, h29km, n44, σ1§77/32, mb4.3/16, MS3.6/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.73**	**48**	Pn	**Pn**	**03 58 03.7**	**-1.4**
AFI					**Sn**	**03 58 21.3**	**-5.0**
AFI	**Afiamalu**	**1.73**	**48**	P	**Pn**	**03 58 03.9**	**-1.2**
NIUE	**Niue**	**5.00**	**143**		**Pn**	**03 58 48.5**	**-1.5**
RAR	**Rarotonga**	**14.06**	**118**	LR	LR	04 05 06.1	
	comp=Z,50nm,18.5s,baz=347,slow=32						
DZM	**Mont Dzumac**	**20.59**	**247**	P	**P**	**04 02 13.0**	**-0.8**
	3.0nm,0.9s,baz=99,slow=17,SNR=1.7 3.0nm,0.9s						
PPT	**Papeete**	**22.71**	**99**	LR	LR	04 10 38.4	
	comp=Z,15nm,18.8s,baz=234,slow=34						
URZ	**Urewera**	**24.66**	**199**	LR	LR	04 12 08.4	
	comp=Z,40nm,19.1s,baz=20,slow=36						
HNR	**Honiara**	**26.91**	**279**	LR	LR	04 11 45.7	
	comp=Z,1μm,18.2s,baz=128,slow=32						
SNZO	**South Karori**	**28.20**	**200**	P	**P**	**04 03 26.0**	**-0.9**
H11S2	**WAKE ISLAND Hy**	**38.84**	**329**	T	T	04 46 24.8	
	baz=145,slow=75,SNR=9.3						
H11S3	**WAKE ISLAND Hy**	**38.85**	**328**	T	T	04 46 25.4	
	baz=145,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**38.86**	**329**	T	T	04 46 24.8	
	baz=145,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**39.78**	**330**	T	T	04 47 32.8	
	baz=149,slow=74,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**39.78**	**330**	T	T	04 47 36.2	
	baz=149,slow=74,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**39.80**	**330**	T	T	04 47 35.1	
	baz=149						
STKA	**Stephens Creek**	**44.45**	**240**	P	**P**	**04 05 44.6**	**-0.9**
STKA	**Stephens Creek**	**44.45**	**240**	P	**P**	**04 05 44.2**	**-1.3**
	1.8nm,0.6s,baz=74,slow=6.9,SNR=3.4						
STKA				LR	LR	04 21 15.3	
	comp=Z,33nm,21.5s,baz=67,slow=32 1.8nm,0.6s						
BBOO	**Buckleboo**	**49.22**	**240**	P	**P**	**04 06 21.4**	**-1.5**
WR0	**Warramunga Arr**	**50.01**	**256**	P	**P**	**04 06 27.6**	**-1.5**
WR0				IAmb	IAmb	04 06 28.4	
	comp=Z,8.8nm,1.5s						
WB0	**Warramunga Ar**	**50.16**	**257**	P	**P**	**04 06 29.3**	**-0.9**
WB0				IAmb	IAmb	04 06 30.5	
	comp=Z,10nm,1.2s						
WB2	**Warramunga Arr**	**50.19**	**256**	P	**P**	**04 06 28.4**	**-2.0**
WB2				IAmb	IAmb	04 06 32.5	
	comp=Z,9.9nm,1.4s						
WRAB	**Tennant Creek**	**50.19**	**256**	P	**P**	**04 06 29.2**	**-1.2**
WRAB				IAmb	IAmb	04 06 41.3	
	comp=Z,8.3nm,1.4s						
WRA	**Warramunga Arr**	**50.20**	**256**	P	**P**	**04 06 29.2**	**-1.3**
WRA	**Warramunga Ar**	**50.20**	**256**	P	**P**	**04 06 29.9**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=92,slow=6.8,SNR=11 comp=Z,0.5nm,0.4s						
GUMO	**Guam**	**50.41**	**302**	LR	LR	04 24 41.7	
	comp=Z,58nm,21.0s,baz=78,slow=32						
AS31	**Alice Springs**	**50.48**	**252**	P	**P**	**04 06 31.9**	**-0.8**
ASAR	**Alice Springs**	**50.48**	**252**	P	**P**	**04 06 32.0**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=88,slow=8.0,SNR=15 comp=Z,1.2nm,0.3s						
KNRA	**Kununurra**	**55.90**	**261**	P	**P**	**04 07 10.6**	**-1.9**
SHEM	**Shemya Is, Ala**	**68.43**	**352**	LR	LR	04 31 39.9	
	comp=Z,43nm,21.6s,baz=147,slow=30						
PETK	**Petropavlovsk-**	**72.42**	**342**	LR	LR	04 34 17.1	
	comp=Z,90nm,21.9s,baz=281,slow=30						
DBO	**Dodson Butte**	**73.74**	**36**	P	**P**	**04 09 08.3**	**-0.1**
QSPA	**South Pole Qui**	**74.96**	**180**	P	**P**	**04 09 16.4**	**+1.1**
QSPA				IAmb	IAmb	04 09 33.8	
	comp=Z,5.8nm,1.2s						
QSPA	**South Pole Qui**	**74.96**	**180**	P	**P**	**04 09 17.2**	**+2.0**
	comp=Z,1.3nm,0.6s,baz=50,slow=1.1,SNR=6.3 comp=Z,1.3nm,0.6s						
L18K	**Granite Mounta**	**78.12**	**8**	P	**P**	**04 09 32.8**	**-0.1**
L18K				IAmb	IAmb	04 09 38.7	
	comp=Z,4.1nm,1.2s						
J16K	**Anvik River**	**78.72**	**6**	P	**P**	**04 09 35.9**	**-0.2**
J16K				IAmb	IAmb	04 09 41.2	
	comp=Z,6.2nm,1.2s						
TXAR	**Lajitas Array**	**80.19**	**56**	P	**P**	**04 09 48.4**	**+3.3**
	comp=Z,0.3nm,1.0s,baz=224,slow=6.3,SNR=2.4 comp=Z,0.3nm,1.0s						
TRF	**Thorofare Moun**	**80.26**	**10**	P	**P**	**04 09 44.6**	**-0.1**
TRF				IAmb	IAmb	04 09 57.2	
	comp=Z,14nm,1.4s						
J20K	**Nowinta River**	**80.34**	**8**	P	**P**	**04 09 45.1**	**+0.2**
CCB	**Clear Creek Bu**	**81.80**	**11**	P	**P**	**04 09 51.7**	**-0.9**
CCB				IAmb	IAmb	04 10 11.9	
	comp=Z,4.6nm,1.2s						
PDAR	**Pinedale Array**	**81.83**	**42**	P	**P**	**04 09 56.5**	**+2.9**
	comp=Z,0.3nm,0.8s,baz=202,slow=6.8,SNR=2.6 comp=Z,0.3nm,0.8s						
ILAR	**Eielson Array**	**82.08**	**11**	P	**P**	**04 09 56.4**	**+2.3**
	comp=Z,0.7nm,0.9s,baz=201,slow=4.8,SNR=6.2						
ILAR				LR	LR	04 40 12.5	
	comp=Z,31nm,19.5s,baz=155,slow=31 comp=Z,0.7nm,0.9s						
IMAR	**Indian Mountai**	**82.12**	**8**	P	**P**	**04 09 55.1**	**+0.8**
YKA	**Yellowknife Ar**	**89.69**	**23**	P	**P**	**04 10 34.3**	**+2.5**
	comp=Z,0.2nm,0.9s,baz=246,slow=4.6,SNR=3.7 comp=Z,0.2nm,0.9s						
BRTR	**Keskin Array B**	**146.09**	**322**	PKPbc	**PKiKP**	**04 17 16.6**	**-1.3**
	comp=Z,2.1nm,0.9s,baz=17,slow=1.3,SNR=7.5						

*JMA **26** 04:10:45.7±0.4, 32˚.2N×13˚.8E±˚, h416km±3km, MV3.9/34, FAR S OFF TOKAI DISTRICT*
*MOS **26** 04:10:45.0±0.9, 32˚.22N×137˚.53E, h406km, mb4.1/25, Error ellipse: s-maj=13.8km s-min=6.4km az=119.3*

*NIED **26** 04:10:45.7, 32˚.27N×137˚.53E, h416km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-0.49; Mθθ0.95; Mφφ-0.46; Mrθ-1.25; Mθφ0.38; Mrφ-2.03; Fault plane solution: M0 2.55000×10^15 NP1:φs35.00000°, δ85.00000°, λ-108.00000°. NP2:φs290.00000°, δ19.00000°, λ-16.00000°.*
*IDC **26** 04:10:46.6±0.6, 32˚.27N×137˚.51E, h404km±7km, mb3.7/19, mbtmp4.5/27 Error ellipse: s-maj=17.4km s-min=8.3km az=71.0*
*NEIC **26** 04:10:47.2±1.2, 32˚.31N±0˚.09×137˚.5E±0˚.1, h409km±8km, mb4.0/29, Error ellipse: s-maj=14.5km s-min=13.2km az=120.0*

ISC 26 04:10:46.8±0.6, 32˚.30N±0˚.06×137˚.52E±0˚.06, h406km±5km, n151, σ1§02/169, mb4.1/50, 19C-7D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**1.46**	**335**	P	**P**	**04 11 40.9**	**+0.9**
TTO3	**TONANKAI O.B.S**	**1.56**	**356**	P	**P**	**04 11 41.9**	**+1.2**
TTO3				*e*S	**S**	**04 12 26.8**	**+2.6**
TTO4	**TONANKAI O.B.S**	**1.71**	**0**	P	**P**	**04 11 42.3**	**+1.0**
JHJ	**Hachijo jima 2**	**2.08**	**66**	P	**P**	**04 11 43.9**	**+0.2**
	144nm,0.3s,baz=315,slow=22,SNR=14						
JHJ				S	**S**	**04 12 30.4**	**+0.6**
	173nm,0.3s,baz=252,slow=19,SNR=7.4						
JHJ2	**Mitsune**	**2.10**	**67**	Pn	**P**	**04 11 43.7**	**-0.1**
JHJ2				Sn	**S**	**04 12 32.0**	**+2.0**
JHJ2	**Mitsune**	**2.10**	**67**	P	**P**	**04 11 44.0**	**+0.2**
JIE	**Ise**	**2.20**	**342**	P	**P**	**04 11 44.9**	**+0.4**
JTNC	**Tanabenakahech**	**2.21**	**314**	*e*P	**P**	**04 11 44.0**	**-0.6**
JTNC				*e*S	**S**	**04 12 30.2**	**-1.2**
JWY	**Kouya**	**2.51**	**320**	P	**P**	**04 11 47.1**	**+0.5**
JAI	**Aioi**	**2.98**	**301**	P	**P**	**04 11 50.4**	**+0.2**
JAI				*e*S	**S**	**04 12 40.7**	**-1.0**
JOD2	**Odawara 2**	**3.23**	**23**	*e*P	**P**	**04 11 52.6**	**+0.4**
JOD2				*e*S	**S**	**04 12 44.4**	**-1.1**
JYN	**Shimob**	**3.30**	**15**	P	**P**	**04 11 53.6**	**+0.8**
JYTA	**Yamagatataniai**	**3.35**	**349**	P	**P**	**04 11 53.7**	**+0.5**
JMN	**Monobe**	**3.38**	**296**	Pn	**P**	**04 11 54.1**	**+0.6**
JMN	**Monobe**	**3.38**	**296**	P	**P**	**04 11 54.0**	**+0.6**
JWT	**Wachi**	**3.46**	**330**	P	**P**	**04 11 54.6**	**+0.5**
JWT				*e*S	**S**	**04 12 47.7**	**-1.3**
BSO1	**Boso 1**	**3.72**	**50**	P	**P**	**04 11 54.2**	**-1.6**
BSO1				*e*S	**S**	**04 12 48.3**	**-4.0**
JRY	**Ryogami san**	**3.88**	**17**	P	**P**	**04 11 58.5**	**+0.5**
JRY				*e*S	**S**	**04 12 53.3**	**-2.7**
JTO	**Tosashimizu**	**4.02**	**279**	P	**P**	**04 11 59.5**	**+0.2**
MJAR	**Matsushiro Arr**	**4.27**	**7**	P	**P**	**04 12 01.8**	**+0.2**
	101nm,0.7s,baz=186,slow=9.9,SNR=136						
MJAR				S	**S**	**04 13 01.3**	**-1.4**
	12nm,0.7s,baz=181,slow=24,SNR=6.6						
MAJO	**Matsushiro**	**4.27**	**7**	Pn	**P**	**04 12 01.8**	**+0.2**
MAJO	**Matsushiro**	**4.27**	**7**	P	**P**	**04 12 01.8**	**+0.2**
MAT	**Matsushiro**	**4.27**	**7**	P	**P**	**04 12 01.8**	**+0.2**
MAT				*e*S	**S**	**04 13 00.4**	**-2.4**
MJB9	**Matsu-Tunnel**	**4.28**	**7**	Pn	**P**	**04 12 02.7**	**+1.1**
JHS	**Saijyo**	**4.56**	**307**	*e*P	**P**	**04 12 05.1**	**+0.7**
JNU	**Nakatsue**	**5.66**	**280**	Pn	**P**	**04 12 15.6**	**-0.2**
JNU	**Nakatsue**	**5.66**	**280**	P	**P**	**04 12 15.7**	**-0.1**
	17nm,0.6s,baz=90,slow=7.6,SNR=7.8						
JMM	**Marumori**	**6.17**	**25**	Pn	**P**	**04 12 20.0**	**-1.1**
JCJ	**Chichijima**	**6.58**	**141**	S	S	04 13 33.4	-14
	306nm,0.4s,baz=233,slow=22,SNR=18						
JTM	**Tenmabayashi**	**8.94**	**18**	P	**P**	**04 12 51.0**	**-1.4**
TJN	**Taejon**	**9.33**	**299**	*e*P	**P**	**04 12 58.2**	**+1.4**
KSRS	**Korea Array**	**9.41**	**306**	P	**P**	**04 12 57.9**	**+0.3**
	5.8nm,0.5s,baz=125,slow=9.6,SNR=18						
JOW	**Kunigami**	**9.72**	**238**		**P**	**04 13 01.7**	**+0.5**
JOW	**Kunigami**	**9.72**	**238**	P	**

KURK				pmax	pmax			
	comp=Z,15nm,1.3s							
KOLN	**Koldanda**	**46.50**	**279**	*e*P	**P**	**04**	**18**	**35.2 -0.7**
KURBB	**Kurchatov Arra**	**46.54**	**311**	P	**P**	**04**	**18**	**35.2 -0.4**
	comp=Z,5.3nm,0.5s,baz=91,slow=9.5,SNR=89							
KURBB				PcP	**PcP**	**04**	**20**	**01.7 -0.4**
	comp=Z,0.7nm,0.6s,baz=95,slow=3.8,SNR=4.9							
	comp=Z,5.3nm,0.5s							
PYUN	**Piuthan**	**46.90**	**280**	*e*P	**P**	**04**	**18**	**39.0 0.0**
	comp=Z,70nm,0.4s							
GSI	**Gunungsitoli**	**48.62**	**239**	P	**P**	**04**	**18**	**51.1 -0.7**
BOOM	**Boomskoye usch**	**49.01**	**300**	P	**P**	**04**	**18**	**54.5 -0.1**
BOOM				IAmb	IAmb	04	18	56.5
	comp=Z,3.5nm,0.6s							
BOOM	**Boomskoye usch**	**49.01**	**300**	P	**P**	**04**	**18**	**54.6 -0.1**
BOOM				pmax	pmax			
	comp=Z,4.0nm,0.6s							
AAK	**Ala-Archa**	**50.03**	**301**	P	**P**	**04**	**19**	**02.1 -0.2**
AAK				IAmb	IAmb	04	19	03.0
	comp=Z,3.0nm,0.7s							
AAK	**Ala-Archa**	**50.03**	**301**	*ce*P	**P**	**04**	**19**	**01.8 -0.5**
AAK				pmax	pmax			
	comp=Z,3.0nm,0.7s							
ARSB	**Arslanbob**	**51.39**	**300**	P	**P**	**04**	**19**	**12.9 +0.6**
ARSB	**Arslanbob**	**51.39**	**300**	P	**P**	**04**	**19**	**12.9 +0.6**
ARSB				pmax	pmax			
	comp=Z,3.0nm,1.4s							
BVAR	**Borovoye Array**	**51.50**	**315**	P	**P**	**04**	**19**	**12.6 -0.1**
	comp=Z,2.5nm,0.3s,baz=98,slow=8.8,SNR=19							
BVAR				PcP	**PcP**	**04**	**20**	**20.1 -0.2**
	comp=Z,2.0nm,0.6s,baz=113,slow=3.4,SNR=6.5							
	comp=Z,2.5nm,0.3s							
BRVK	**Borovoye**	**51.56**	**315**	P	**P**	**04**	**19**	**13.3 +0.2**
BRVK	**Borovoye**	**51.56**	**315**	*i* P	**P**	**04**	**19**	**12.8 -0.3**
BRVK				pmax	pmax			
	comp=Z,3.0nm,1.1s							
WB0	**Warramunga Arr**	**51.86**	**184**	P	**P**	**04**	**19**	**14.8 -0.8**
WB0				IAmb	IAmb	04	19	15.6
	comp=Z,6.4nm,0.7s							
WRAB	**Tennant Creek**	**52.02**	**184**	P	**P**	**04**	**19**	**15.8 -1.0**
WRAB				IAmb	IAmb	04	19	16.9
	comp=Z,4.3nm,0.8s							
WRAB	**Tennant Creek**	**52.02**	**184**	P	**P**	**04**	**19**	**15.8 -1.0**
WRAB				pmax	pmax			
	comp=Z,4.0nm,0.8s							
WB2	**Warramunga Arr**	**52.03**	**184**	P	**P**	**04**	**19**	**16.1 -0.8**
WB2				IAmb	IAmb	04	19	17.6
	comp=Z,14nm,1.4s							
WRA	**Warramunga Arr**	**52.03**	**184**	P	**P**	**04**	**19**	**15.3 -1.6**
WRA	**Warramunga Arr**	**52.03**	**184**	P	**P**	**04**	**19**	**16.1 -0.8**
	comp=Z,3.7nm,0.4s,baz=360,slow=7.6,SNR=113							
	comp=Z,3.7nm,0.4s							
WR0	**Warramunga Arr**	**52.04**	**184**	P	**P**	**04**	**19**	**15.9 -1.0**
WR0				IAmb	IAmb	04	19	16.9
	comp=Z,7.0nm,0.7s							
CTA	**Charters Tower**	**52.76**	**170**	P	**P**	**04**	**19**	**22.1 0.0**
	comp=Z,3.4nm,0.8s,baz=7.1,slow=7.6,SNR=5.7							
	comp=Z,3.4nm,0.8s							
KK31	**Karatay Array**	**52.82**	**302**	P	**P**	**04**	**19**	**22.7 +0.2**
KK31				IAmb	IAmb	04	19	23.2
	comp=Z,6.8nm,0.8s							
KK31	**Karatay Array**	**52.82**	**302**	*i* P	**P**	**04**	**19**	**22.1 -0.4**
KKAR	**Karatay Array**	**52.82**	**302**	P	**P**	**04**	**19**	**22.4 -0.1**
KKAR	**Karatay Array**	**52.82**	**302**	P	**P**	**04**	**19**	**22.4 -0.1**
KKAR				IAmb	IAmb	04	19	23.2
	comp=Z,6.8nm,0.8s							
KKAR	**Karatay Array**	**52.82**	**302**	P	**P**	**04**	**19**	**22.5 0.0**
KKAR				pmax	pmax			
	comp=Z,7.0nm,0.8s							
D22K	**Ayikyak River**	**53.02**	**25**	P	**P**	**04**	**19**	**25.0 +1.6**
CHGR	**Chuyangaron**	**54.88**	**297**	P	**P**	**04**	**19**	**37.1 -0.2**
CHGR	**Chuyangaron**	**54.88**	**297**	P	**P**	**04**	**19**	**37.1 -0.2**
CHGR				pmax	pmax			
	comp=Z,51nm,0.6s							
AS31	**Alice Springs**	**55.76**	**184**	P	**P**	**04**	**19**	**43.5 0.0**
ASAR	**Alice Springs**	**55.76**	**184**	P	**P**	**04**	**19**	**43.0 -0.5**
ASAR	**Alice Springs**	**55.76**	**184**	P	**P**	**04**	**19**	**43.0 -0.5**
	comp=Z,2.0nm,0.6s,baz=12,slow=12,SNR=60							
	comp=Z,2.0nm,0.6s							
KBL	**Kabul**	**56.18**	**292**	P	**P**	**04**	**19**	**46.0 -0.6**
KBL				IAmb	IAmb	04	19	47.0
	comp=Z,6.3nm,0.6s							
KBL	**Kabul**	**56.18**	**292**	P	**P**	**04**	**19**	**46.1 -0.6**
KBL				pmax	pmax			
	comp=Z,6.0nm,0.6s							
ARU	**Arti**	**57.84**	**320**	*d* P	**P**	**04**	**19**	**56.8 -0.7**
ARU				*PP	**pP**	**04**	**21**	**18.0 -4.1**
ARU						04	22	08.9
ARU				S	**S**	**04**	**27**	**26.1 +1.7**
ARU				SS	**SS**	**04**	**31**	**23.2 +0.8**
ARU				pmax	pmax			
	comp=Z,10.0nm,1.3s							
PALK	**Pallekele**	**58.22**	**258**	P	**P**	**04**	**19**	**59.7 -1.1**
PALK				IAmb	IAmb	04	20	01.1
	comp=Z,8.8nm,0.8s							
PALK	**Pallekele**	**58.22**	**258**	P	**P**	**04**	**19**	**59.7 -1.1**
PALK				pmax	pmax			
	comp=Z,9.0nm,0.9s							
AB31	**Akbulak array**	**58.60**	**311**	*i* P	**P**	**04**	**20**	**02.6 -0.2**
ABKAR	**Akbulak array**	**58.60**	**311**	P	**P**	**04**	**20**	**02.6 -0.2**
ABKAR	**Akbulak array**	**58.60**	**311**	P	**P**	**04**	**20**	**02.8 0.0**
ABKAR				IAmb	IAmb	04	20	03.3
	comp=Z,10nm,0.6s							
EIDS	**Eidsvold**	**58.79**	**166**	P	**P**	**04**	**20**	**04.6 +0.4**
EIDS				IAmb	IAmb	04	20	05.6
	comp=Z,4.4nm,0.8s							
KIRV	**Kirov**	**62.12**	**324**	*ce*P	**P**	**04**	**20**	**25.8 -0.3**
GEYT	**Alibeck**	**63.34**	**300**	P	**P**	**04**	**20**	**34.8 +0.2**
	comp=Z,4.2nm,0.9s,baz=100,slow=5.0,SNR=5.0							
	comp=Z,4.2nm,0.9s							
STKA	**Stephens Creek**	**63.95**	**176**	P	**P**	**04**	**20**	**37.8 -0.4**
	comp=Z,2.1nm,0.7s,baz=355,slow=10.0,SNR=4.8							
	comp=Z,2.1nm,0.7s							
ARCES	**ARCESS Array B**	**67.29**	**339**	P	**P**	**04**	**20**	**59.7 +0.8**
	comp=Z,3.6nm,0.6s,baz=67,slow=9.2,SNR=15							
	comp=Z,3.6nm,0.6s							
OBN	**Obninsk**	**69.95**	**323**	*e*P	**P**	**04**	**21**	**14.3 -1.1**
OBN				*e**PP	**pP**	**04**	**22**	**48.1 +4.3**
OBN				*e*		04	23	55.6
OBN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
FINES	**FINESS Array B**	**71.48**	**332**	P	**P**	**04**	**21**	**24.6 +0.3**
	comp=Z,6.3nm,0.4s,baz=64,slow=5.5,SNR=108							
	comp=Z,6.3nm,0.4s							
KBZ	**Khabaz**	**71.53**	**310**	*ce*P	**P**	**04**	**21**	**24.9 -0.1**
KBZ				pmax	pmax			
	comp=Z,6.0nm,0.8s							
KBZ	**Khabaz**	**71.53**	**310**	P	**P**	**04**	**21**	**25.8 +0.8**
	comp=Z,6.5nm,0.7s,baz=92,slow=4.7,SNR=15							
	comp=Z,6.5nm,0.7s							
KIV	**Kislovodsk**	**71.56**	**311**	*e*P	**P**	**04**	**21**	**25.0 -0.3**
KIV				pmax	pmax			
	comp=Z,11nm,1.1s							
KIV				MLR	MLR			
	comp=Z,45nm,18.0s							
AKASG	**Malin Array Be**	**76.04**	**322**	P	**P**	**04**	**21**	**50.5 -0.1**
	comp=Z,2.1nm,0.4s,baz=50,slow=6.1,SNR=20							
	comp=Z,2.1nm,0.4s							
AKBB	**Malin Array Si**	**76.04**	**322**	*ce*P	**P**	**04**	**21**	**50.5 -0.2**
AKBB				pmax	pmax			
	comp=Z,30nm,3.0s							
HFS	**Hagfors**	**77.03**	**335**	P	**P**	**04**	**21**	**55.7 -0.3**
	comp=Z,5.0nm,0.8s,baz=47,slow=4.2,SNR=9.1							
	comp=Z,5.0nm,0.8s							
NB2	**NORSAR Subarra**	**77.26**	**336**	P	**P**	**04**	**21**	**56.9 -0.4**
	comp=Z,3.0nm,0.7s,baz=46,slow=5.6							
NOA	**NORSAR Array B**	**77.26**	**336**	P	**P**	**04**	**21**	**57.1 -0.2**
	comp=Z,2.6nm,0.8s,baz=54,slow=6.7,SNR=8.7							
	comp=Z,2.6nm,0.8s							
BRTR	**Keskin Array B**	**79.53**	**310**	P	**P**	**04**	**22**	**10.6 +0.5**
	comp=Z,2.3nm,0.8s,baz=103,slow=4.2,SNR=12							
	comp=Z,2.3nm,0.8s							
BURAR	**Bucovina Array**	**79.97**	**321**	↑P	**P**	**04**	**22**	**12.8 +0.5**
VRI	**Vrincioaia**	**80.19**	**318**	↓P	**P**	**04**	**22**	**14.1 +0.8**
PLOR	**Plostina**	**80.25**	**318**	↑P	**P**	**04**	**22**	**15.6 +1.9**
TURR	**Turia**	**80.48**	**319**	↑P	**P**	**04**	**22**	**16.6 +1.7**
COVR	**Voineasa-Covas**	**80.50**	**319**	↓P	**P**	**04**	**22**	**15.8 +0.8**
OZUR		**80.58**	**319**	↑P	**P**	**04**	**22**	**16.4 +0.9**
NEHR	**Nehoiu**	**80.70**	**318**	↑P	**P**	**04**	**22**	**16.8 +0.7**
KOLS	**Kolonicke sedl**	**80.70**	**323**	*e*P	**P**	**04**	**22**	**13.2 -2.8**
KOLS	**Kolonicke sedl**	**80.70**	**323**	*e*P	**P**	**04**	**22**	**13.2 -2.8**
DOPR	**Dopca**	**80.88**	**319**	↑P	**P**	**04**	**22**	**17.7 +0.8**
VOIR		**81.39**	**319**	↑P	**P**	**04**	**22**	**20.1 +0.4**
ARR	**Arges**	**81.67**	**319**	↑P	**P**	**04**	**22**	**22.7 +1.6**
LANS	**Liptovska Anna**	**81.98**	**324**	*e*P	**P**	**04**	**22**	**23.9 +1.3**
LANS	**Liptovska Anna**	**81.98**	**324**	*e*P	**P**	**04**	**22**	**23.9 +1.3**
LANS				pmax	pmax			
	comp=Z,1.0nm,0.8s							
LOT	**Lotru**	**82.09**	**319**	↓P	**P**	**04**	**22**	**23.6 +0.2**
VYHS	**Vyhne**	**82.72**	**324**	*e*P	**P**	**04**	**22**	**27.2 +0.8**
VYHS	**Vyhne**	**82.72**	**324**	*e*P	**P**	**04**	**22**	**27.2 +0.8**
SURR	**Surduc**	**82.80**	**320**	↓P	**P**	**04**	**22**	**27.4 +0.5**
CLL	**Collm**	**83.53**	**329**	*i* P	**P**	**04**	**22**	**30.6 +0.2**
	comp=Z,14nm,1.4s							
CLL	**Collm**	**83.53**	**329**	*i* P	**P**	**04**	**22**	**30.6 +0.2**
CLL				pmax	pmax			
	comp=Z,14nm,1.4s							
GERES	**GERESS Array B**	**84.96**	**327**	P	**P**	**04**	**22**	**37.4 -0.3**
	comp=Z,0.5nm,0.5s,baz=64,slow=6.1,SNR=3.9							
	comp=Z,0.5nm,0.5s							
TORD	**Torodi Ar. Bea**	**118.13**	**310**	PKP	**PKPdf**	**04**	**28**	**46.3 -0.7**
	comp=Z,0.2nm,0.4s,baz=247,slow=2.1,SNR=4.5							

*NEIC **26** 04:12:20.9±1.2, 16°.42N±0°.08×121°.2E±0°.1, h57km±8km, mb4.5/41, Error ellipse: s-maj=18.9km s-min=11.5km az=89.0*
*IDC **26** 04:12:21.9±1.7, 16°.43N×121°.15E, h75km±19km, mb3.9/22, mbtmp4.2/23, MS3.7/22, Error ellipse: s-maj=19.5km s-min=11.4km az=81.0*
ISC 26 04:12:16.3±0.5, 16°.41N±0°.05×121°.2E±0°.1, h21km, n90, σ1ŝ13/82, mb4.5/43, MS3.6/20, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
TGY	**Tagaytay City**	**2.30**	**185**	P			**Pb**	**04 12 57.0**	**-0.2**
	2µm,0.5s,baz=20,slow=0.3,SNR=17								
TGY				S			**Sb**	**04 13 26.7**	**+1.5**
	4µm,0.6s,baz=317,slow=19,SNR=5.7								
TGY				LR			LR	04 14 10.8	
	comp=Z,2µm,19.4s,baz=112,slow=47								
TWG	**Pinlang**	**6.38**	**359**				**Pn**	**04 13 51.8**	**+2.8**
YULB	**Yu-li**	**6.95**	**1**				**Pn**	**04 14 00.6**	**+3.7**
SSLB	**Suanglung**	**7.34**	**359**	Pn			**Pn**	**04 14 05.2**	**+2.9**
NACB	**Ninganchiao**	**7.74**	**3**	Pn			**Pn**	**04 14 09.4**	**+1.7**
NACB	**Ninganchiao**	**7.74**	**3**	P			**Pn**	**04 14 09.8**	**+2.1**
DAV	**Davao City (W)**	**10.24**	**155**	LR			LR	04 19 35.3	
	comp=Z,248nm,21.7s,baz=340,slow=42								
TOLI2	**Tolitoli**	**15.21**	**181**	Pn			**Pn**	**04 15 51.5**	**+1.7**
KSM	**Kuching**	**18.29**	**217**	P			**P**	**04 16 29.9**	**+1.0**
JNU	**Nakatsue**	**18.82**	**26**	P			**Pn**	**04 16 36.5**	**+1.3**
	5.4nm,0.5s,baz=177,slow=14,SNR=1.9								
JNU				LR			LR	04 24 41.2	
	comp=Z,50nm,18.3s,baz=211,slow=39								
CMAR	**Chiang Mai Arr**	**21.29**	**279**	P			**P**	**04 17 04.0**	**+2.3**
CMAR	**Chiang Mai Arr**	**21.29**	**279**	P			**P**	**04 17 03.1**	**+1.4**
	2.2nm,0.4s,baz=95,slow=8.0,SNR=7.5								
CMAR				LR			LR	04 25 04.5	
	comp=Z,88nm,20.7s,baz=100,slow=36								
	2.2nm,0.4s								
KAPI	**Kappang**	**21.33**	**184**	LR			LR	04 25 29.3	
	comp=Z,133nm,21.3s,baz=7.0,slow=37								
KSRS	**Korea Array**	**21.80**	**15**	P			**P**	**04 17 07.0**	**+0.1**
	5.2nm,0.7s,baz=194,slow=12,SNR=11								
KSRS				LR			LR	04 26 15.2	
	comp=Z,132nm,19.3s,baz=200,slow=38								
	5.2nm,0.7s								
FAKI	**Fak Fak**	**22.11**	**149**	P			**P**	**04 17 11.0**	**+0.5**
FAKI				IAmb			IAmb	04 17 14.7	
	comp=Z,26nm,0.8s								
MJAR	**Matsushiro Arr**	**25.12**	**34**	P			**P**	**04 17 39.9**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=238,slow=7.0,SNR=1.9								
	comp=Z,1.2nm,0.4s								
USRK	**Ussuriysk Ar.**	**29.18**	**16**	P			**P**	**04 18 14.1**	**-2.0**
	comp=Z,2.7nm,0.9s,baz=199,slow=8.4,SNR=2.9								
USRK				LR			LR	04 30 17.6	
	comp=Z,64nm,19.7s,baz=120,slow=37								
	comp=Z,2.7nm,0.9s								
KNRA	**Kununurra**	**32.75**	**166**	P			**P**	**04 18 48.5**	**+0.6**
KNRA				IAmb			IAmb	04 19 15.6	
	comp=Z,36nm,1.4s								
KNRA	**Kununurra**	**32.75**	**166**	P			**P**	**04 18 48.8**	**+0.9**
SONM	**Songino Array**	**33.62**	**342**	P			**P**	**04 18 55.5**	**+0.1**
SONM	**Songino Array**	**33.62**	**342**	P			**P**	**04 18 55.0**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=163,slow=10.0,SNR=7.9								
SONM				LR			LR	04 32 51.1	
	comp=Z,117nm,18.6s,baz=152,slow=37								
	comp=Z,1.4nm,0.6s								
KLR	**Kul'dur**	**33.85**	**12**	P			**P**	**04 18 58.4**	**+1.2**
	comp=Z,4.7nm,0.9s,baz=215,slow=8.0,SNR=6.4								
	comp=Z,4.7nm,0.9s								
WB0	**Warramunga Arr**	**38.23**	**160**	P			**P**	**04 19 34.7**	**-0.3**
WRAB	**Tennant Creek**	**38.37**	**160**	P			**P**	**04 19 35.8**	**-0.3**
WRA	**Warramunga Arr**	**38.38**	**160**	P			**P**	**04 19 35.9**	**-0.3**
WRA	**Warramunga Arr**	**38.38**	**160**	P			**P**	**04 19 36.1**	**-0.1**
	comp=Z,6.3nm,1.0s,baz=339,slow=9.4,SNR=17								
	comp=Z,6.3nm,1.0s								
WB2	**Warramunga Arr**	**38.38**	**160**	P			**P**	**04 19 35.7**	**-0.5**
WR0	**Warramunga Arr**	**38.46**	**160**	P			**P**	**04 19 36.3**	**-0.6**
ASAR	**Alice Springs**	**41.73**	**162**				**P**	**04 20 02.9**	**-1.2**
ASAR	**Alice Springs**	**41.73**	**162**	P			**P**	**04 20 04.2**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=338,slow=6.8,SNR=18								
ASAR				LR			LR	04 40 46.1	
	comp=Z,27nm,18.4s,baz=346,slow=41								
	comp=Z,2.3nm,0.6s								
MK31	**Makanchi Array**	**44.16**	**322**				**P**	**04 20 22.2**	**-1.3**
MKAR	**Makanchi Array**	**44.16**	**322**	P			**P**	**04 20 23.0**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=115,slow=10.0,SNR=6.5								
MKAR				LR			LR	04 39 51.9	
	comp=Z,80nm,20.1s,baz=84,slow=37								
	comp=Z,1.4nm,0.7s								
YAK	**Yakutsk**	**45.97**	**6**	LR			LR	04 41 27.7	
	comp=Z,5.7nm,18.4s,baz=279,slow=38								
HNR	**Honiara**	**46.18**	**121**	LR			LR	04 36 51.2	
	comp=Z,598nm,20.4s,baz=346,slow=32								
PETK	**Petropavlovsk-**	**46.46**	**30**	P			**P**	**04 20 41.2**	**-0.4**
	comp=Z,13nm,1.2s,baz=224,slow=4.0,SNR=1.6								
	comp=Z,13nm,1.2s								
AAK	**Ala-Archa**	**47.50**	**313**	LR			LR	04 43 30.4	
	comp=Z,77nm,18.4s,baz=96,slow=39								
KURK	**Kurchatov**	**48.22**	**325**	P			**P**	**04 20 55.6**	**+0.2**
KURK				IAmb			IAmb	04 20 56.5	
	comp=Z,5.1nm,0.7s								
KURBB	**Kurchatov Arra**	**48.22**	**325**	P			**P**	**04 20 55.4**	**0.0**
	comp=Z,3.4nm,0.6s,baz=121,slow=8.4,SNR=20								
KURBB				LR			LR	04 43 56.9	
	comp=Z,56nm,18.2s,baz=175,slow=39								
	comp=Z,3.4nm,0.6s								
BBOO	**Buckleboo**	**50.98**	**164**	P			**P**	**04 21 15.6**	**-1.0**
STKA	**Stephens Creek**	**51.86**	**158**	P			**P**	**04 21 21.9**	**-1.2**
	comp=Z,2.7nm,0.7s,baz=343,slow=8.1,SNR=5.2								
	comp=Z,2.7nm,0.7s								
BVAR	**Borovoye Array**	**53.81**	**325**	P			**P**	**04 21 35.9**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=123,slow=10,SNR=3.0								
	comp=Z,0.7nm,0.5s								
NRIK	**Noril'sk**	**56.89**	**346**	P			**P**	**04 21 58.9**	**-0.4**
	comp=Z,4.0nm,0.7s,baz=119,slow=7.0,SNR=7.5								
NRIK				LR			LR	04 48 03.0	
	comp=Z,131nm,18.7s,baz=174,slow=38								
	comp=Z,4.0nm,0.7s								
GEYT	**Alibeck**	**58.94**	**305**	P			**P**	**04 22 12.2**	**-2.1**
	comp=Z,1.8nm,0.7s,baz=60,slow=3.5,SNR=2.0								
	comp=Z,1.8nm,0.7s								
ABKAR	**Akbulak array**	**59.01**	**318**				**P**	**04 22 14.3**	**-0.2**
ABKAR	**Akbulak array**	**59.01**	**318**				**P**	**04 22 13.7**	**-0.8**
ABKAR				IAmb			IAmb	04 22 15.5	
	comp=Z,2.6nm,0.8s								
AKTO	**Aktyubinsk**	**60.45**	**319**	LR			LR	04 50 08.2	
	comp=Z,114nm,19.3s,baz=176,slow=38								
ARU	**Arti**	**61.39**	**326**	LR			LR	04 50 29.9	
	comp=Z,47nm,18.8s,baz=99,slow=37								
KIRV	**Kirov**	**66.63**	**327**	LR			LR	04 53 38.5	
	comp=Z,51nm,18.7s,baz=82,slow=37								
K15K	**Wolf Creek Mou**	**69.71**	**29**	P			**P**	**04 23 24.6**	**+0.2**
KARS	**Kars**	**70.55**	**308**	P			**P**	**04 23 29.9**	**-0.2**
O16K	**Kokwok River B**	**71.33**	**32**	P			**P**	**04 23 33.7**	**-0.5**
O16K				IAmb			IAmb	04 24 05.3	
	comp=Z,11nm,1.2s								
H19K	**Roundabout Mou**	**72.05**	**26**	P			**P**	**04 23 38.6**	**+0.1**
H19K				IAmb			IAmb	04 24 08.1	
	comp=Z,6.8nm,1.1s								
IMAR	**Indian Mountai**	**73.16**	**25**	P			**P**	**04 23 45.6**	**+0.5**
G21K	**Allakaket**	**73.23**	**25**	P			**P**	**04 23 44.8**	**-0.7**
G21K				IAmb			IAmb	04 23 57.4	
	comp=Z,5.9nm,1.2s								
E22K	**Anaktuvuk Pass**	**73.80**	**23**	P			**P**	**04 23 49.1**	**+0.2**
E22K				IAmb			IAmb	04 24 23.7	
	comp=Z,7.5nm,1.4s								
CAST	**Castle Rocks**	**74.03**	**28**	P			**P**	**04 23 49.4**	**-0.9**
CAST				IAmb			IAmb	04 24 12.1	
	comp=Z,5.1nm,0.8s								
MLY	**Manley**	**74.47**	**26**	P			**P**	**04 23 52.9**	**0.0**
MLY				IAmb			IAmb	04 24 06.7	
	comp=Z,5.1nm,0.9s								
E24K	**Your Creek**	**75.05**	**23**	P			**P**	**04 23 57.2**	**+1.0**
F24K	**Squaw Lake**	**75.34**	**23**	P			**P**	**04 23 58.0**	**+0.1**
RND	**Reindeer**	**75.47**	**28**	P			**P**	**04 23 58.8**	**0.0**
RND				IAmb			IAmb	04 24 25.7	
	comp=Z,4.3nm,0.9s								
G24K	**Hadweenzic Riv**	**75.61**	**24**	P			**P**	**04 24 00.3**	**+0.9**
G24K				IAmb			IAmb	04 24 39.6	
	comp=Z,7.6nm,1.3s								
D25K	**Kavik River**	**75.65**	**21**	P			**P**	**04 23 59.2**	**-0.4**
KNK	**Knik Glacier**	**75.93**	**30**	P			**P**	**04 24 01.3**	**-0.1**
ILAR	**Eielson Array**	**76.14**	**26**	P			**P**	**04 24 01.9**	**-0.5**
ILAR	**Eielson Array**	**76.14**	**26**	P			**P**	**04 24 00.9**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=317,slow=7.3,SNR=4.8								
	comp=Z,0.4nm,0.8s								
PRP	**Porcupine Dome**	**76.58**	**25**	P			**P**	**04 24 04.3**	**-0.8**
BMAR	**Burnt Mountain**	**76.62**	**23**	P			**P**	**04 24 06.0**	**+0.8**
ARCES	**ARCESS Array B**	**76.73**	**339**	P			**P**	**04 24 04.4**	**-1.3**
	comp=Z,3.1nm,0.9s,baz=72,slow=7.8,SNR=5.1								
ARCES				LR			LR	05 01 22.4	
	comp=Z,31nm,19.1s,baz=323,slow=38								
	comp=Z,3.1nm,0.9s								
SPITS	**Spitsbergen Ar**	**77.04**	**348**	P			**P**	**04 24 05.8**	**-1.5**
	comp=Z,15nm,1.0s,baz=35,slow=5.3,SNR=2.2								
	comp=Z,15nm,1.0s								
RIDG	**Independent Ri**	**77.19**	**27**	P			**P**	**04 24 07.7**	**-0.7**
RIDG				IAmb			IAmb	04 24 28.6	
	comp=Z,7.0nm,1.0s								
J26L	**Joseph Creek**	**77.59**	**26**	P			**P**	**04 24 09.8**	**-0.9**
J26L				IAmb			IAmb	04 24 33.6	
	comp=Z,4.8nm,1.2s								
MENT	**Mentasta**	**77.85**	**28**	P			**P**	**04 24 12.7**	**+0.6**
MENT				IAmb			IAmb	04 24 45.2	
	comp=Z,4.7nm,1.0s								
FIA1	**FINESS Array S**	**78.15**	**331**	P			**P**	**04 24 12.9**	**-0.8**
FINES	**FINESS Array B**	**78.15**	**331**	P			**P**	**04 24 13.2**	**-0.5**
FINES	**FINESS Array B**	**78.15**	**331**	P			**P**	**04 24 12.5**	**-1.3**
	comp=Z,1.7nm,0.6s,baz=63,slow=5.9,SNR=11								
FINES				LR			LR	05 00 59.2	
	comp=Z,63nm,18.8s,baz=82,slow=37								
	comp=Z,1.7nm,0.6s								
K27K	**Chicken**	**78.33**	**27**	P			**P**	**04 24 16.5**	**+1.7**
K27K				IAmb			IAmb	04 24 36.3	
	comp=Z,9.0nm,1.2s								
F28M	**Old Crow**	**78.34**	**23**	P			**P**	**04 24 15.3**	**+0.6**
F28M				IAmb			IAmb	04 24 49.8	
	comp=Z,10nm,1.5s								
L27K	**Beaver Creek,**	**78.66**	**27**	P			**P**	**04 24 17.9**	**+1.3**
L27K				IAmb			IAmb	04 24 58.8	
	comp=Z,8.0nm,1.4s								
BCAR	**Beaver Creek A**	**78.68**	**27**	P			**P**	**04 24 17.7**	**+1.0**
I28M	**Miner Creek**	**78.87**	**25**	P			**P**	**04 24 18.6**	**+0.8**
G29M	**Pine Creek**	**79.23**	**23**	P			**P**	**04 24 19.9**	**+0.3**
G29M				IAmb			IAmb	04 24 45.6	
	comp=Z,7.7nm,1.4s								
H29M	**Whitestone**	**79.29**	**24**	P			**P**	**04 24 19.8**	**-0.1**
H29M				IAmb			IAmb	04 24 59.2	
	comp=Z,9.5nm,1.3s								
M29M	**Somme Creek**	**80.32**	**28**

PB01 IAML 04 17 36.6
comp=N,899nm,0.2s
PB02 IPOC Station P 2.12 175 *eP* **Pn 04 17 12.6 +1.0**
PB02 *eS* **Sn 04 17 40.3 +3.4**
PB02 IAML 04 17 48.8
comp=Z,891nm,0.3s
PB02 IPOC Station P 2.12 175 *eP* **Pn 04 17 12.7 +1.0**
PB02 *eS* **Sn 04 17 38.8 +1.9**
PB02 IAML 04 17 47.0
comp=N,1μm,0.2s
PB07 IPOC Station P 2.52 176 *eP* **Pn 04 17 18.4 +1.2**
PB07 IAML 04 17 56.4
comp=Z,353nm,0.3s
PB09 IPOC Station P 2.70 163 *eP* **Pn 04 17 21.8 +2.1**
PB09 IAML 04 18 02.3
comp=Z,356nm,0.4s
PB04 IPOC Station P 3.12 181 *eP* **Pn 04 17 26.9 +1.6**
PB04 IAML 04 18 23.3
comp=Z,180nm,0.5s
LPAZ La Paz 3.44 33 *eP* **Pn 04 17 33.8 +3.6**
PB06 IPOC Station P 3.52 172 *eP* **Pn 04 17 32.7 +1.8**
PB06 *eS* Sn 04 18 23.6 +12
PB06 IAML 04 18 35.1
comp=Z,145nm,0.4s
LVC Limon Verde 3.56 162 *eP* **Pn 04 17 34.0 +2.4**
LVC IAML 04 18 26.5
comp=Z,102nm,0.4s
LVC Limon Verde 3.56 162 P **Pn 04 17 33.9 +2.3**
comp=Z,5.9nm,0.3s,baz=12,slow=9.4,SNR=60
LVC S **Sn 04 18 14.6 +1.9**
comp=Z,26nm,0.4s,baz=40,slow=15,SNR=7.5
comp=Z,20nm,0.3s
PB05 IPOC Station P 3.64 182 *eP* **Pn 04 17 32.7 +0.3**
PB05 IAML 04 18 33.8
comp=Z,65nm,0.4s
PB15 IPOC Station P 4.03 172 *eP* Pn 04 17 43.7 +5.9
PB15 IAML 04 18 40.9
comp=Z,329nm,0.4s
SIV San Ignacio 9.16 71 P **Pn 04 18 46.0 -2.0**
comp=Z,0.1nm,0.3s,baz=265,slow=8.6,SNR=22
comp=Z,2.8nm,0.6s
CPUP Villa Florida 13.73 123 P **Pn 04 19 49.3 -0.9**
comp=Z,0.1nm,0.3s,baz=280,slow=13,SNR=2.9
comp=Z,2.0nm,0.9s
TORD Torodi Ar. Bea 77.64 71 P **P 04 28 27.6 -1.2**
comp=Z,0.1nm,0.4s,baz=247,slow=5.4,SNR=1.5
comp=Z,0.1nm,0.4s
YKA Yellowknife Ar 88.67 341 P **P 04 29 23.9 -0.5**
comp=Z,0.3nm,0.8s,baz=140,slow=5.0,SNR=5.5
comp=Z,0.3nm,0.8s
WRA Warramunga Arr 134.33 213 PKP **PKPdf 04 35 49.2 -1.1**
comp=Z,0.2nm,0.8s,baz=153,slow=1.9,SNR=1.6

MEX 26 04:21:49.4±0.6, 15°38N×94°81W, h14km±30km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NILT	**Santiago Nilte**	**1.19**	**9**	*eP*	Pn	04 22 06.2	-5.4
NILT				*eS*	Sb	04 22 19.8	-7.3
CARR	**Arriaga**	**1.22**	**45**	*eP*	Pn	04 22 05.4	-6.6
CARR				*i* S	Sb	04 22 16.6	-11
HUIG	**Huatulco**	**1.31**	**287**	*eP*	Pn	04 22 09.7	-3.7
HUIG				*i* S	Sb	04 22 25.3	-5.2
PCIG		**1.56**	**78**	*eS*	Sn	04 22 27.3	-10
PCIG		**1.56**	**78**	*eP*	Pn	04 22 10.3	-6.5
CMIG	**Matias Romero**	**1.70**	**357**	*eP*	Pn	04 22 14.9	-3.8
CMIG				*eS*	Sn	04 22 35.5	-4.8
UXUV	**UXUV**	**2.03**	**18**	*eP*	Pn	04 22 19.8	-3.3
UXUV				*eS*	Sn	04 22 43.9	-4.4
TGIG		**2.13**	**49**	*eS*	Sn	04 22 42.8	-8.2
TGIG		**2.13**	**49**	*eP*	Pn	04 22 19.9	-4.8
NEUV	**Arroyo Zacate**	**2.51**	**338**	*eP*	Pn	04 22 26.9	-2.9
NEUV				*eS*	Sn	04 22 59.1	-1.0
CCIG	**Comitan**	**2.72**	**70**	*i* S	Sn	04 22 57.8	-7.9
CCIG	**Comitan**	**2.72**	**70**	*eP*	Pn	04 22 27.4	-5.5
TXIG	**Tlaxiaco**	**3.40**	**304**	*eP*	Pn	04 22 41.8	-0.5
TXIG				*eS*	Sn	04 23 16.0	-6.6

*MEX **26** 04:21:47.8±0.9, 15°.08N×92°.73W, h156km±12km, MD4.0*
*GCG **26** 04:21:57.0±0.3, 14°.21N×91°.85W, h66km±7km, MD3.8*
ISC 26 04:21:49.1±4.3, 14°3N±0°.2×92°2W±0°.2, h114km±28km, n7, σ1°72/13, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.59**	**355**	*i* P	**Pn**	**04 22 06.0**	**-1.0**
THIG				*i* S	**Sn**	**04 22 21.4**	**+0.9**
SULM	**Suchitepequez,**	**0.62**	**91**	*eP*	**Pn**	**04 22 07.6**	**+0.3**
STG3	**Santiaguito 3,**	**0.73**	**58**	*eP*	**Pn**	**04 22 09.4**	**+1.1**
STG3				*eS*	**Sn**	**04 22 21.6**	**-1.3**
CHUJ	**Union Juarez**	**0.78**	**7**	*eP*	**Pn**	**04 22 08.6**	**-0.3**
CHUJ				*i* S	**Sn**	**04 22 26.4**	**+2.7**
PATR	**El Naranjo**	**0.79**	**358**	*eP*	**Pn**	**04 22 08.1**	**-0.9**
PATR				*eS*	**Sn**	**04 22 25.1**	**+1.1**
PAVE	**Pavencul**	**0.87**	**2**	*eP*	**Pn**	**04 22 09.5**	**-0.2**
PAVE				*i* S	**Sn**	**04 22 23.7**	**-1.5**
FUG	**Fuego 3**	**1.33**	**84**	*eP*	**Pn**	**04 22 15.9**	**+1.5**
FUG				*eS*	**Sn**	**04 22 30.7**	**-2.8**

IDC 26 04:29:57.6±7.4, 18°29S×174°97W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=321.6km s-min=35.7km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**47.77**	**259**	P	P	04 38 37.0	-0.1
	0.6nm,0.4s,baz=97,slow=7.6,SNR=33						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**47.83**	**254**	P	P	04 38 37.4	-0.2
	0.9nm,0.8s,baz=88,slow=7.8,SNR=12						
	0.9nm,0.8s						
ILAR	**Eielson Array**	**85.56**	**12**	P	P	04 42 37.2	-0.1
	0.2nm,0.6s,baz=225,slow=4.3,SNR=8.8						
	0.2nm,0.6s						

*IDC **26** 04:33:23.1±8.0, 4°.45S×102°.10E, h0km, mb3.1/2, mbtmp3.1/2, MS2.9/1, Error ellipse: s-maj=350.3km s-min=51.7km az=54.0*
*DJA **26** 04:33:30.4±0.8, 4°S±5°×10°2E±°, h32km±11km, M4.0/8, mb4.5/2, MLv3.7/8*
ISC 26 04:33:29.1±1.2, 4°5S±0°.1×102°0E±0°.1, h37km, n15, σ1°66/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.97**	**82**	P	**Pn**	**04 33 46.4**	**+0.3**
LHSI	**Lahat**	**1.67**	**66**	P	**Pn**	**04 33 55.9**	**+0.2**
LWLI	**Liwa**	**2.12**	**104**	P	**Pn**	**04 34 03.1**	**+1.0**
KRJI	**Kerinci**	**2.45**	**347**	P	**Pn**	**04 34 09.5**	**+2.9**
PPSI	**Pulau Pagai**	**2.63**	**311**	P	**Pn**	**04 34 10.4**	**+1.5**
PPSI				S	**Sn**	**04 34 40.0**	**+0.4**
KASI	**Kota Agung**	**2.69**	**112**	P	**Pn**	**04 34 12.8**	**+3.0**
KASI				S	**Sn**	**04 34 40.9**	**-0.3**
SISI	**Saibi**	**4.28**	**317**	P	**Pn**	**04 34 32.5**	**+0.8**
UGM	**Wanagama**	**9.13**	**112**	P	**Pn**	**04 35 39.7**	**+1.3**
WRA	**Warramunga Arr**	**35.03**	**119**	P	**P**	**04 40 17.2**	**-1.4**
	0.1nm,0.3s,baz=294,slow=9.2,SNR=1.9						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**36.19**	**125**	P	**P**	**04 40 27.3**	**-1.2**
	0.2nm,0.9s,baz=303,slow=8.2,SNR=1.5						
	0.2nm,0.9s						
KSRS	**Korea Array**	**48.22**	**28**	LR	LR	05 01 35.1	
	comp=Z,13nm,20.2s,baz=65,slow=35						
H04N2	**CROZET ISLANDS**	**60.02**	**218**	T	T	05 48 24.8	
	baz=62,slow=75,SNR=5.0						
H04N1	**CROZET ISLANDS**	**60.04**	**218**	T	T	05 48 22.5	
	baz=62,slow=75,SNR=7.7						
H04N3	**CROZET ISLANDS**	**60.04**	**218**	T	T	05 48 24.9	
	baz=62,slow=75,SNR=6.0						
TXAR	**Lajitas Array**	**145.35**	**42**	PKPbc	**PKPbc**	**04 53 02.6**	**-1.1**
	0.3nm,0.5s,baz=217,slow=0.7,SNR=12						

*TRN **26** 05:21:32.9, 10°.65N×62°.44W, h55km, MD3.9*
*FUNV **26** 05:21:33.6, 10°.58N×62°.34W, h27km, MW3.7*
ISC 26 05:21:31.5±1.4, 10°58N±0°.05×62°41W±0°.06, h89km±14km, n22, σ1°68/38, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUV	**Carupano**	**0.82**	**277**	*eP*	**Pn**	**05 21 49.8**	**+0.6**
CRUV				*eS*	**Sn**	**05 22 01.8**	**-0.5**
TRN	**Trinidad (W)**	**0.99**	**86**	*eP*	**Pn**	**05 21 52.1**	**+1.1**
TRN				*eS*	**Sn**	**05 22 04.5**	**-1.2**
GRGR	**Grenville**	**1.71**	**26**	*eP*	**Pn**	**05 22 00.2**	**+0.3**
GRGR				*eS*	**Sn**	**05 22 20.3**	**-1.2**
CUMV	**Cumana_UDO**	**1.76**	**265**	*eP*	**Pn**	**05 22 03.2**	**+2.6**
CUMV				*eS*	**Sn**	**05 22 24.7**	**+2.0**
GRHS	**Sauteurs**	**1.80**	**25**	*eP*	**Pn**	**05 22 01.4**	**+0.4**
GRHS				*eS*	**Sn**	**05 22 21.9**	**-1.6**
GCMP	**Grenada, Carri**	**2.12**	**27**	*eP*	**Pn**	**05 22 05.5**	**+0.2**
GCMP				*eS*	**Sn**	**05 22 29.6**	**-1.5**
PCRV	**Puerto La Cruz**	**2.23**	**260**	*eP*	**Pn**	**05 22 08.6**	**+1.8**
PCRV				*eS*	**Sn**	**05 22 34.1**	**+0.4**
SVOC	**Richmond Hill,**	**2.81**	**24**	*eP*	**Pn**	**05 22 14.6**	**+0.2**
SVOC				*eS*	**Sn**	**05 22 47.0**	**-0.5**
SVB	**Belmont**	**2.90**	**23**	*eP*	**Pn**	**05 22 15.4**	**-0.4**
SVB				*eS*	**Sn**	**05 22 48.5**	**-1.3**
SLBI	**Saint Lucia, B**	**3.70**	**22**	*eP*	**Pn**	**05 22 28.0**	**+1.6**
SLBI				*eS*	**Sn**	**05 23 07.0**	**-1.9**
BIM	**Bigot**	**4.12**	**18**	*eP*	**Pn**	**05 22 32.8**	**+0.5**
BIM				*eS*	**Sn**	**05 23 16.4**	**-3.0**
MPOM	**Morne Pois Mar**	**4.13**	**21**	*eP*	**Pn**	**05 22 33.2**	**+1.0**
MPOM	**Morne Pois Mar**	**4.13**	**21**	*eS*	**Sn**	**05 23 18.8**	**-0.6**
SVN	**Savane Anatole**	**4.40**	**16**	*eP*	**Pn**	**05 22 37.9**	**+1.8**
TACV	**Tcata**	**4.57**	**265**	*eP*	**Pn**	**05 22 40.0**	**+1.7**
TACV				*eS*	**Sn**	**05 23 30.0**	**-0.2**
LUEV	**Luepa**	**4.80**	**169**	*eP*	**Pn**	**05 22 42.3**	**+0.7**
LUEV				*eS*	**Sn**	**05 23 32.7**	**-3.4**
CACV	**CAICARA DEL OR**	**5.06**	**234**	*eP*	Pn	05 22 41.0	-4.0
CACV				*eS*	Sn	05 23 32.4	-10
BENV	**Beln**	**5.15**	**264**	*eP*	**Pn**	**05 22 48.6**	**+2.4**
BENV				*eS*	**Sn**	**05 23 44.5**	**+0.1**
BAUV	**El Baul**	**5.79**	**254**	*eP*	**Pn**	**05 22 55.8**	**+1.0**
BAUV				*eS*	**Sn**	**05 23 58.5**	**-1.5**
BAUV	**El Baul**	**5.79**	**254**	*eP*	**Pn**	**05 22 56.0**	**+1.1**
TEPV	**Terepaima**	**6.71**	**265**	*eP*	**Pn**	**05 23 08.1**	**+0.6**
TEPV				*eS*	**Sn**	**05 24 20.1**	**-2.3**
SOCV	**Socops**	**8.64**	**255**	*eP*	**Pn**	**05 23 34.4**	**+0.5**
SOCV				*eS*	**Sn**	**05 25 05.4**	**-4.3**

*IDC **26** 05:28:59.8±1.2, 4°.30S×102°.07E, h0km, mb4.2/11, mbtmp4.2/11, MS2.6/2, Error ellipse: s-maj=54.9km s-min=14.7km az=57.0*
*NEIC **26** 05:29:07.6±1.9, 4°.30S±0°.06×102°.24E±0°.06, h53km±6km, mb4.3/15, Error ellipse: s-maj=9.1km s-min=7.9km az=65.0*
*DJA **26** 05:29:07.9±0.6, 4°S±4°×10°2E±°, h26km±5km, M4.6/12, mb4.7/3, MLv4.5/12*
ISC 26 05:29:05.9±0.5, 4°31S±0°.07×102°20E±0°.06, h37km, n71, σ1°55/65, mb4.3/21, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.75**	**94**	Pn	**Pn**	**05 29 21.6**	**+1.6**
MNAI				Sn	**Sn**	**05 29 31.9**	**+1.7**
MNAI	**Manna**	**0.75**	**94**	P	**Pn**	**05 29 21.6**	**+1.6**
MNAI				S	**Sn**	**05 29 32.5**	**+2.3**
LHSI	**Lahat**	**1.40**	**70**	P	**Pn**	**05 29 31.6**	**+2.7**
LWLI	**Liwa**	**1.98**	**111**	P	**Pn**	**05 29 39.0**	**+2.0**
LWLI				S	**Sn**	**05 30 01.9**	**+1.3**
KRJI	**Kerinci**	**2.33**	**341**	P	**Pn**	**05 29 45.5**	**+3.7**
KASI	**Kota Agung**	**2.58**	**118**	P	**Pn**	**05 29 47.1**	**+1.9**
PPSI	**Pulau Pagai**	**2.68**	**305**	P	Pn	05 29 50.9	+4.4
PMBI	**Palembang**	**2.91**	**62**	Pn	**Pn**	**05 29 50.7**	**+1.0**
JMBI	**JAMBI**	**3.03**	**28**	P	**Pn**	**05 29 54.2**	**+2.9**
PDSI	**Padang**	**3.80**	**333**	P	**Pn**	**05 30 05.3**	**+3.3**
BKNI	**Bangkinang**	**4.75**	**346**	Pn	**Pn**	**05 30 17.4**	**+2.3**
PBSI	**Pulau Batu**	**5.77**	**317**	P	**Pn**	**05 30 31.4**	**+2.4**
	286nm,1.5s,1.3nm						
LEM	**Lembang**	**5.94**	**115**	LR	LR	05 33 10.0	
	comp=Z,49nm,20.2s,baz=248,slow=41						
XMIS	**Christmas Isla**	**7.02**	**151**	Pn	**Pn**	**05 30 47.6**	**+1.4**
GSI	**Gunungsitoli**	**7.25**	**320**		**Pn**	**05 30 50.6**	**+1.3**
GSI	**Gunungsitoli**	**7.25**	**320**	P	**Pn**	**05 30 51.7**	**+2.4**
COCO	**West Island**	**9.46**	**214**	Pn	**Pn**	**05 31 21.3**	**+1.7**
JAGI	**Jajag, Banyuwa**	**12.57**	**110**	Pn	**Pn**	**05 32 01.5**	**-0.8**
TOLI2	**Tolitoli**	**19.33**	**74**	P	**P**	**05 33 27.6**	**-0.7**
TOLI2				IAmb	IAmb	05 33 34.8	
	comp=Z,4.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**22.86**	**352**	P	**P**	**05 34 04.9**	**-1.3**
CMAR	**Chiang Mai Arr**	**22.86**	**352**	P	**P**	**05 34 04.5**	**-1.6**
	comp=Z,1.6nm,0.4s,baz=185,slow=9.8,SNR=13						
CMAR				LR	LR	05 42 16.2	
	comp=Z,20nm,21.4s,baz=65,slow=35						
	comp=Z,1.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**26.71**	**123**	P	**P**	**05 34 41.3**	**-0.7**
PZH	**PanZhiHua**	**30.64**	**359**	P	**P**	**05 35 20.8**	**+3.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,4.3s						
H01W3	**Cape Leeuwin H**	**32.37**	**161**	T	T	06 09 28.5	
	baz=338,slow=76,SNR=8.5						
H01W2	**Cape Leeuwin H**	**32.38**	**161**	T	T	06 09 30.8	
	baz=338,slow=76,SNR=9.2						
H01W1	**Cape Leeuwin H**	**32.38**	**161**	T	T	06 09 30.8	
	baz=338,slow=76,SNR=5.5						
ODAN	**Odare**	**34.14**	**336**	*eP*	**P**	**05 35 47.9**	**+0.1**
TAPN	**Taplejung**	**34.45**	**337**	*eP*	**P**	**05 35 50.9**	**+0.3**
WB0	**Warramunga Arr**	**34.92**	**119**	P	**P**	**05 35 53.4**	**-1.1**
WB0				IAmb	IAmb	05 36 00.8	
	comp=Z,3.1nm,1.1s						
WRA	**Warramunga Arr**	**34.94**	**119**	P	**P**	**05 35 52.9**	**-1.8**
WRA	**Warramunga Arr**	**34.94**	**119**	P	**P**	**05 35 54.1**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=328,slow=13,SNR=24						
WRA				PcP	**PcP**	**05 38 26.4**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=294,slow=3.2,SNR=4.6						
	comp=Z,0.7nm,0.4s						
JIRN	**Jiri**	**35.34**	**335**	*eP*	**P**	**05 35 58.7**	**+0.3**
	comp=Z,11nm,0.3s						
GUN	**Gumba**	**35.70**	**335**	*eP*	**P**	**05 36 01.5**	**+0.2**
	comp=Z,29nm,0.4s						
ASAR	**Alice Springs**	**36.12**	**125**	P	**P**	**05 36 03.9**	**-0.9**
ASAR	**Alice Springs**	**36.12**	**125**	P	**P**	**05 36 04.8**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=293,slow=7.1,SNR=16						
ASAR				PcP	**PcP**	**05 38 30.3**	**0.0**
	comp=Z,0.4nm,0.7s,baz=292,slow=2.4,SNR=4.5						
	comp=Z,1.0nm,0.7s						
AS31	**Alice Springs**	**36.13**	**125**	P	**P**	**05 36 04.6**	**-0.2**
AS31				IAmb	IAmb	05 36 14.2	
	comp=Z,0.8nm,0.4s						
KOLN	**Koldanda**	**36.60**	**332**	*eP*	**P**	**05 36 09.4**	**+0.5**
DANN	**Dangsing**	**37.01**	**332**	*eP*	**P**	**05 36 13.0**	**+0.4**
	comp=Z,18nm,0.4s						
PYUN	**Piuthan**	**37.17**	**331**	*eP*	**P**	**05 36 15.0**	**+1.3**
	comp=Z,4.8nm,0.2s						
BBOO	**Buckleboo**	**42.47**	**136**	P	**P**	**05 36 57.3**	**-0.3**
BBOO				IAmb	IAmb	05 36 59.3	
	comp=Z,9.2nm,1.3s						
CTAO	**Charters Tower**	**45.64**	**114**	P	**P**	**05 37 22.4**	**-0.8**
CTAO				IAmb	IAmb	05 37 30.3	
	comp=Z,12nm,1.4s						
HHC	**Hu-ho-hao-te**	**45.76**	**10**	*eP*	**P**	**05 37 24.5**	**+0.6**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,590nm,5.9s						
STKA	**Stephens Creek**	**45.98**	**131**	P	**P**	**05 37 26.0**	**+0.3**
STKA	**Stephens Creek**	**45.98**	**131**	P	**P**	**05 37 26.3**	**+0.6**
	comp=Z,2.1nm,0.5s,baz=308,slow=8.7,SNR=7.7						
	comp=Z,2.1nm,0.5s						
SONM	**Songino Array**	**52.06**	**4**	P	**P**	**05 38 12.1**	**0.0**
SONM				IAmb	IAmb	05 38 13.1	
	comp=Z,2.9nm,0.8s						
SONM	**Songino Array**	**52.06**	**4**	P	**P**	**05 38 12.1**	**0.0**
	comp=Z,2.1nm,0.6s,baz=185,slow=9.4,SNR=12						
	comp=Z,2.1nm,0.6s						
MK31	**Makanchi Array**	**53.85**	**343**	P	**P**	**05 38 24.5**	**-0.7**
MK31				IAmb	IAmb	05 38 26.0	
	comp=Z,2.9nm,0.6s						
MKAR	**Makanchi Array**	**53.85**	**343**	P	**P**	**05 38 24.1**	**-1.1**
MKAR	**Makanchi Array**	**53.85**	**343**	P	**P**	**05 38 24.5**	**-0.7**
	comp=Z,2.8nm,0.5s,baz=154,slow=8.8,SNR=36						
	comp=Z,2.8nm,0.5s						
MDJ	**Mudanjiang**	**54.55**	**24**	P	**P**	**05 38 31.5**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,14nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,780nm,4.6s						
KKAR	**Karatay Array**	**55.21**	**332**	P	**P**	**05 38 33.6**	**-1.5**
USRK	**Ussuriysk Ar.**	**55.21**	**26**	P	**P**	**05 38 34.1**	**-1.0**
	comp=Z,3.0nm,0.6s,baz=227,slow=7.2,SNR=4.9						
	comp=Z,3.0nm,0.6s						
KURBB	**Kurchatov Arra**	**58.39**	**343**	P	**P**	**05 38 56.4**	**-1.1**
	comp=Z,0.7nm,0.2s,baz=161,slow=6.7,SNR=15						
	comp=Z,0.7nm,0.2s						
KURK	**Kurchatov**	**58.45**	**343**	P	**P**	**05 38 56.5**	**-1.4**
KURK				IAmb	IAmb	05 38 57.9	
	comp=Z,3.2nm,0.8s						
ZAA0	**Zalesovo Array**	**59.85**	**348**	P	**P**	**05 39 06.5**	**-1.1**
ZALV	**Zalesovo Beam**	**59.85**	**348**	P	**P**	**05 39 06.3**	**-1.3**
ZALV	**Zalesovo Beam**	**59.85**	**348**	P	**P**	**05 39 06.5**	**-1.1**
	comp=Z,3.6nm,0.4s,baz=165,slow=5.1,SNR=19						
	comp=Z,3.6nm,0.4s						
H04N2	**CROZET ISLANDS**	**60.30**	**218**	T	T	06 44 06.6	
	baz=62,slow=75,SNR=122						
H04N1	**CROZET ISLANDS**	**60.31**	**218**	T	T	06 44 10.7	
	baz=62,slow=75,SNR=112						
H04N3	**CROZET ISLANDS**	**60.31**	**218**	T	T	06 44 08.8	
	baz=62,slow=75,SNR=122						
H04S1	**CROZET ISLANDS**	**60.55**	**217**	T	T	06 44 23.8	
	baz=59,slow=75,SNR=6.3						
H04S3	**CROZET ISLANDS**	**60.56**	**217**	T	T	06 44 22.9	
	baz=59,slow=75,SNR=10.0						
H04S2	**CROZET ISLANDS**	**60.56**	**217**	T	T	06 44 26.2	
	baz=59,slow=75,SNR=6.0						
BVAR	**Borovoye Array**	**63.11**	**339**	P	**P**	**05 39 27.9**	**-1.8**
	comp=Z,2.1nm,0.5s,baz=152,slow=8.7,SNR=8.5						
	comp=Z,2.1nm,0.5s						
ABKAR	**Akbulak array**	**64.72**	**331**	P	**P**	**05 39 39.3**	**-0.9**
ABKAR	**Akbulak array**	**64.72**	**331**	P	**P**	**05 39 39.0**	**-1.3**
ABKAR				IAmb	IAmb	05 39 40.0	
	comp=Z,4.6nm,0.6s						
YAK	**Yakutsk**	**69.44**	**13**	P	**P**	**05 40 07.0**	**-3.0**
BURAR	**Bucovina Array**	**84.44**	**319**	P	**P**	**05 41 35.7**	**+0.8**
BURAR				IAmb	IAmb	05 41 51.1	
	comp=Z,0.9nm,0.8s						
FINES	**FINESS Array B**	**87.17**	**332**	P	**P**	**05 41 47.0**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=78,slow=7.3,SNR=1.0						
	comp=Z,1.5nm,0.8s						
BDFB	**Brasilia**	**144.47**	**235**	PKP	**PKPdf**	**05 48 38.8**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=153,slow=5.3,SNR=4.9						
TXAR	**Lajitas Array**	**145.07**	**42**	PKPbc	**PKPbc**	**05 48 39.5**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=248,slow=0.8,SNR=76						

*MDD **26** 05:39:33.0±0.5, 36°.48N×3°.08W, h11km±1km, mb_Lg2.6/11, Error ellipse: s-maj=3.7km s-min=3.1km az=7.0*
*CNRM **26** 05:39:32.0, 36°.35N×3°.14W, h4km, ml2.0*
*SFS **26** 05:39:32.6, 36°.48N×3°.12W, h0km, ML2.6/8, ML2.8/8, MLv2.5/8*
*INMG **26** 05:39:34.2±1.4, 36°.50N×3°.17W, h10km, ML2.1, Error ellipse: s-maj=4.7km s-min=3.2km az=92.0*
ISC 26 05:39:31.5±1.0, 36°47N±0°.02×3°09W±0°.02, h15km±9km, n40, σ1°04/72, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EBER	**Berja**	**0.46**	**21**	Pg	**Pg**	**05 39 40.8**	**+0.1**
EBER				Sg	**Sb**	**05 39 48.0**	**-0.1**
EBER				*i* Vmb_Lg		05 39 51.6	
EALB	**Alboran**	**0.53**	**175**	Pg	**Pb**	**05 39 43.0**	**+0.4**
EALB				Sg	**Sb**	**05 39 50.7**	**+0.6**
EALB				*i* Vmb_Lg		05 39 51.1	
EALB	**Alboran**	**0.53**	**175**	Pg	**Pg**	**05 39 42.5**	**+0.4**
EALB				Sg	**Sb**	**05 39 50.4**	**+0.3**
ELGU	**Los Guajares,**	**0.58**	**313**	Pg	**Pb**	**05 39 43.2**	**-0.3**
ELGU				Sg	**Sb**	**05 39 51.3**	**-0.4**
ELGU				*i* Vmb_Lg		05 39 53.9	
ELGU	**Los Guajares,**	**0.58**	**313**	Sg	**Sg**	**05 39 50.5**	**-0.3**
ELGU				Pg	**Pb**	**05 39 43.2**	**-0.3**
EQUE	**Quentar**	**0.78**	**339**	Pg	**Pb**	**05 39 47.5**	**+0.5**
EQUE				Sg	**Sg**	**05 39 57.0**	**-0.2**
EQUE				*i* Vmb_Lg		05 39 58.4	
EQTA	**Presa de Quent**	**0.79**	**339**	Pg	**Pg**	**05 39 46.8**	**0.0**
EQTA				Sg	**Sb**	**05 39 57.2**	**-0.3**
ENIJ	**Nijar**	**0.87**	**55**	Pg	**Pg**	**05 39 47.6**	**-0.8**
ENIJ				Sg	**Sb**	**05 40 00.4**	**+0.6**
ENIJ				*i* Vmb_Lg		05 40 01.8	
ENIJ	**Nijar**	**0.87**	**55**	Pg	**Pg**	**05 39 47.9**	**-0.6**
ENIJ				Sg	**Sg**	**05 39 59.6**	**-0.3**
EGOR	**Sierra Gorda,**	**1.03**	**308**	Pg	**Pg**	**05 39 51.6**	**0.0**
EGOR				Sg	**Sn**	**05 40 06.3**	**+0.4**
EGOR				*i* Vmb_Lg		05 40 09.1	
EGOR	**Sierra Gorda,**	**1.03**	**308**	Pg	**Pb**	**05 39 51.1**	**-0.2**
EMAL	**Malaga-Limoner**	**1.11**	**285**	Pg	**Pb**	**05 39 51.3**	**-1.4**
GOG	**Mont Gurugu**	**1.25**	**176**	P	**Pn**	**05 39 53.6**	**-0.9**
GOG				S	**Sb**	**05 40 09.0**	**-1.8**
EQES	**Quesada**	**1.33**	**1**	Pn	**Pn**	**05 39 55.6**	**-0.1**
EQES				Pg	**Pg**	**05 39 57.8**	**+0.7**
EQES				Sn	**Sg**	**05 40 14.3**	**-0.2**
EQES				*i* Vmb_Lg		05 40 24.4	
EMIJ	**Mijas**	**1.35**	**274**	Pn	**Pn**	**05 39 53.9**	**-2.1**
EMIJ				Sg	**Sb**	**05 40 12.2**	**-1.6**
EMIJ	**Mijas**	**1.35**	**274**	Pg	**Pb**	**05 39 56.9**	**+0.2**
PALE	**Palemas**	**1.43**	**209**	P	**Pn**	**05 39 57.7**	**+0.7**
PALE				S	**Sn**	**05 40 14.9**	**-0.6**
TAF	**Taforalt**	**1.75**	**161**	P	**Pn**	**05 40 01.5**	**+0.1**
TAF

MKAR Makanchi Array 63.25 326 P P 06 04 41.5 +0.2
0.1nm,0.4s,baz=126,slow=7.3,SNR=1.5
0.1nm,0.4s

*IGQ **26** 06:04:20±0.4, 3˚S±2˚×8˚W±˚, h8km*
*NEIC **26** 06:04:21.1±2.0, 3.15S±0.06×80.86W±0.05, h9km±8km, mb4.3/14, Error ellipse: s-maj=8.7km s-min=6.9km az=141.0*
*IDC **26** 06:04:24.6±0.8, 2.44S×79.21W, h50km±7km, mb3.4/8, mbtmp4.0/12, MS3.5/17, Error ellipse: s-maj=39.1km s-min=11.1km az=75.0*
ISC 26 06:04:24.2±0.5, 3.06S±0.04×80.89W±0.05, h40km, n175, σ1s49/173, mb4.1/11, MS3.5/15, 1C-1D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISPG	**Isla Puna-Puer**	**0.73**	**83**	P		**Pn 06 04 37.0**	**-1.1**
ISPG				S		**Sn 06 04 50.0**	**+1.9**
SALI	**Salinas**	**0.87**	**354**			**Pn 06 04 38.4**	**-1.6**
SALI	**Salinas**	**0.87**	**354**	P		**Pn 06 04 38.0**	**-2.0**
SALI				S		**Sn 06 04 49.0**	**-2.5**
ARNL	**Arenillas**	**0.96**	**120**			**Pn 06 04 39.0**	**-2.1**
ARNL	**Arenillas**	**0.96**	**120**	P		**Pn 06 04 39.0**	**-2.1**
ARNL				S		**Sn 06 04 51.0**	**-2.6**
ACH1	**Ecuador-Univer**	**1.01**	**103**	P		**Pn 06 04 39.0**	**-2.8**
GYE3	**Ecuador-Guayaq**	**1.34**	**48**	P		**Pn 06 04 44.0**	**-2.4**
AGUAY	**Guayaquil**	**1.37**	**43**	P		**Pn 06 04 45.0**	**-1.9**
PPLP	**Puerto Lpez**	**1.51**	**5**	P		**Pn 06 04 47.0**	**-1.8**
PPLP	**Puerto Lpez**	**1.51**	**5**	P		**Pn 06 04 46.0**	**-2.8**
PPLP	**Puerto Lpez**	**1.51**	**5**	*eP*		**Pn 06 04 47.1**	**-1.6**
MILO	**Milagro-Astudi**	**1.54**	**60**	P		**Pn 06 04 48.0**	**-1.2**
AMIL	**Milagro (Trans**	**1.59**	**55**	P		**Pn 06 04 48.2**	**-1.8**
AMIL				S		**Sn 06 05 10.0**	**+0.8**
AMCR	**Ecuador-Macara**	**1.60**	**144**	P		**Pn 06 04 48.0**	**-2.1**
MCRA	**Macar, Loja**	**1.60**	**144**	Pn		**Pn 06 04 48.0**	**-2.2**
MCRA	**Macar, Loja**	**1.60**	**144**	P		**Pn 06 04 48.0**	**-2.2**
MCRA	**Macar, Loja**	**1.60**	**144**	*eP*		**Pn 06 04 48.0**	**-2.2**
COHC	**Cochancay**	**1.74**	**70**			**Pn 06 04 50.4**	**-1.5**
COHC	**Cochancay**	**1.74**	**70**	P		**Pn 06 04 50.0**	**-1.9**
COHC	**Cochancay**	**1.74**	**70**	*eP*		**Pn 06 04 50.3**	**-1.5**
ISPT	**Isla de la Pla**	**1.79**	**354**	P		**Pn 06 04 51.0**	**-1.7**
ACUE	**Ecuador-Cuenca**	**1.94**	**86**	P		**Pn 06 04 54.0**	**-0.9**
APO2	**Ecuador-Portov**	**2.03**	**12**	P		**Pn 06 04 54.0**	**-1.9**
BOSC	**San Juan Bosco**	**2.40**	**92**			**Pn 06 05 01.7**	**+0.6**
BOSC	**San Juan Bosco**	**2.40**	**92**	P		**Pn 06 05 01.0**	**-0.1**
ZUMB	**Zumba**	**2.50**	**136**	P		**Pn 06 05 02.0**	**-0.6**
CHSH	**Refugio Sur-Vo**	**2.55**	**52**			**Pn 06 05 03.0**	**-0.6**
CHSH	**Refugio Sur-Vo**	**2.55**	**52**	P		**Pn 06 05 02.0**	**-1.6**
TAMH	**Tambohuasha Ch**	**2.59**	**53**	P		**Pn 06 05 04.0**	**-1.1**
PORT	**Chimborazo Vol**	**2.63**	**53**	P		**Pn 06 05 04.0**	**-0.9**
IGUA	**Igualata**	**2.74**	**55**	P		**Pn 06 05 05.0**	**-1.2**
BMAS	**Trigal station**	**2.87**	**57**	P		**Pn 06 05 07.0**	**-0.7**
BIL2	**Estacion Bilba**	**2.87**	**56**	P		**Pn 06 05 09.0**	**+1.2**
TUYU	**Q. Yuibug Volc**	**2.88**	**57**	P		**Pn 06 05 08.0**	**0.0**
ARRY	**Arrayan**	**2.88**	**58**	P		**Pn 06 05 07.0**	**-1.0**
BBIL	**Ulba Tungurahu**	**2.89**	**56**	P		**Pn 06 05 08.0**	**0.0**
JUI6	**Juive**	**2.92**	**56**	P		**Pn 06 05 07.0**	**-1.4**
RETU	**Refugio**	**2.92**	**57**	P		**Pn 06 05 09.0**	**+0.4**
POND	**Pondoa**	**2.93**	**56**	P		**Pn 06 05 08.0**	**-0.6**
BRUN	**Tungurahua Vol**	**2.96**	**57**	P		**Pn 06 05 09.0**	**+0.1**
BULB	**Ulba Tungurahu**	**2.96**	**57**	P		**Pn 06 05 09.0**	**0.0**
MAG1	**Magdalena**	**3.17**	**21**	P		**Pn 06 05 11.0**	**-0.6**
ILLI	**Illinizas Sur**	**3.18**	**43**	P		**Pn 06 05 11.0**	**-1.2**
PIS1	**Pisayambo**	**3.20**	**52**	P		**Pn 06 05 12.0**	**-0.4**
PAST	**Pastocalle**	**3.25**	**44**	P		**Pn 06 05 13.0**	**-0.1**
PUYO	**Puyo, Santa Ro**	**3.26**	**62**	P		**Pn 06 05 14.0**	**+1.0**
SRAM	**San Ramn-Vol**	**3.27**	**45**	P		**Pn 06 05 14.0**	**+0.7**
BRRN	**Barrancas-Volc**	**3.31**	**47**	P		**Pn 06 05 14.0**	**+0.1**
SLOR	**San Lorenzo -**	**3.33**	**46**			**Pn 06 05 15.2**	**+0.9**
SLOR	**San Lorenzo -**	**3.33**	**46**	P		**Pn 06 05 15.0**	**+0.8**
PIAT	**Ana Tenorio**	**3.33**	**52**	P		**Pn 06 05 15.0**	**+0.7**
PIAT	**Ana Tenorio**	**3.33**	**52**	*eP*		**Pn 06 05 14.9**	**+0.7**
BMOR	**Cotopaxi Volca**	**3.36**	**47**	P		**Pn 06 05 15.0**	**+0.3**
VCES	**Cotopaxi**	**3.36**	**48**	P		**Pn 06 05 15.0**	**+0.3**
CAMI	**Rancho Maria**	**3.36**	**45**	P		**Pn 06 05 15.0**	**+0.3**
SUCR	**Mariscal Sucre**	**3.39**	**45**	P		**Pn 06 05 16.0**	**+0.9**
BREF	**Cotopaxi Volca**	**3.41**	**46**	P		**Pn 06 05 16.0**	**+0.5**
BTAM	**Cotopaxi Volca**	**3.44**	**47**	P		**Pn 06 05 16.0**	**+0.2**
BVC2	**Cotopaxi Volca**	**3.44**	**46**	P		**Pn 06 05 16.0**	**+0.1**
TAMB	**Tambo**	**3.45**	**47**	P		**Pn 06 05 17.0**	**+1.1**
TAIS	**Taisha**	**3.46**	**79**	P		**Pn 06 05 16.0**	**+0.4**
VC1	**Cotopaxi 1**	**3.46**	**46**	P		**Pn 06 05 17.0**	**+1.0**
PITA	**Cotopaxi Volc**	**3.50**	**45**	P		**Pn 06 05 17.0**	**+0.5**
TOMA	**Boca Toma-Volc**	**3.54**	**44**	P		**Pn 06 05 18.0**	**+1.0**
HPAL	**Hacienda Las P**	**3.60**	**38**	P		**Pn 06 05 17.0**	**-0.9**
BV15	**Puerto Quito-O**	**3.61**	**28**	P		**Pn 06 05 17.0**	**-0.6**
GGPT	**Toaza - Volcan**	**3.62**	**39**	P		**Pn 06 05 17.0**	**-1.1**
JUA2	**San Juan 2**	**3.64**	**39**	P		**Pn 06 05 17.0**	**-1.4**
ANTG	**Antisana-Guama**	**3.66**	**46**	P		**Pn 06 05 19.0**	**+0.2**
ANTM	**Antisana-La Mi**	**3.66**	**47**	P		**Pn 06 05 19.0**	**+0.2**
APR2	**Miler**	**3.66**	**32**	P		**Pn 06 05 17.0**	**-1.5**
TERV	**Terraza Guagua**	**3.67**	**39**	P		**Pn 06 05 19.0**	**+0.1**
GGPC	**Guagua Pichinc**	**3.67**	**39**	P		**Pn 06 05 18.0**	**-1.0**
PINO	**Pino**	**3.68**	**38**	P		**Pn 06 05 19.0**	**-0.1**
ANTS	**Antisana-Sarah**	**3.73**	**47**	P		**Pn 06 05 20.0**	**+0.2**
YANA	**Yana**	**3.73**	**39**	P		**Pn 06 05 19.0**	**-0.8**
APR1	**Acelerografo,**	**3.76**	**37**	P		**Pn 06 05 20.0**	**-0.1**
ANTI	**Antisana**	**3.77**	**47**	P		**Pn 06 05 20.0**	**-0.3**
PULU	**Pululahua**	**3.88**	**38**	Pn		**Pn 06 05 21.8**	**0.0**
PULU	**Pululahua**	**3.88**	**38**	P		**Pn 06 05 21.0**	**-0.8**
PTGL	**Punta Galera**	**3.91**	**13**	P		**Pn 06 05 20.0**	**-1.8**
PAC1	**Pacto, Paraso**	**3.92**	**35**	P		**Pn 06 05 20.0**	**-2.0**
PAC1	**Pacto, Paraso**	**3.92**	**32**	*eP*		**Pn 06 05 19.6**	**-2.4**
OTAV	**Otavalo**	**4.08**	**37**	Pn		**Pn 06 05 24.2**	**-0.4**
OTAV	**Otavalo**	**4.08**	**37**	*eP*		**Pn 06 05 24.1**	**-0.5**
CUSE	**Cuicocha Este**	**4.17**	**37**	P		**Pn 06 05 24.0**	**-1.7**
CUSE	**Cuicocha Este**	**4.17**	**37**	*eP*		**Pn 06 05 25.6**	**-0.1**
CUIC	**Cuicocha-Domo**	**4.19**	**37**	P		**Pn 06 05 26.0**	**0.0**
ANGU	**Angureal**	**4.22**	**43**	P		**Pn 06 05 27.0**	**+0.4**
COTA	**Cotacachi**	**4.23**	**37**	P		**Pn 06 05 27.0**	**+0.3**
CAYA	**Cayambe**	**4.25**	**43**	P		**Pn 06 05 28.0**	**+1.0**
IMBA	**Imbabura, San**	**4.27**	**39**			**Pn 06 05 28.6**	**+1.4**
IMBA	**Imbabura, San**	**4.27**	**39**	P		**Pn 06 05 28.0**	**+0.9**
URCU	**Urcuqui**	**4.36**	**37**	P		**Pn 06 05 29.0**	**+0.6**
ALIT	**Ecuador-Imbabu**	**4.59**	**34**	P		**Pn 06 05 30.0**	**-1.3**
LITE1	**Lita**	**4.59**	**34**	P		**Pn 06 05 30.0**	**-1.3**
ATAH	**Atahualpa**	**4.75**	**149**	P		**Pn 06 05 35.4**	**+1.6**
	32nm,0.6s,baz=323,slow=12,SNR=36						
ATAH				S		**Sn 06 06 27.9**	**0.0**
	48nm,0.4s,baz=339,slow=17,SNR=4.9						
ATAH				LR	LR	06 07 47.7	
	comp=Z,544nm,19.1s,baz=285,slow=43						
LNGL	**El Angel-Carch**	**4.75**	**37**	P		**Pn 06 05 34.0**	**+0.2**
CHMA	**Chilma**	**4.81**	**36**	P		**Pn 06 05 35.0**	**+0.5**
CHL1	**Volc¡n Chiles**	**4.83**	**38**	P		**Pn 06 05 35.0**	**+0.1**
ECEN	**Cerro Negro**	**4.84**	**37**	P		**Pn 06 05 35.0**	**0.0**
BONI	**La Bonita**	**4.85**	**44**	P		**Pn 06 05 35.0**	**+0.1**
BONI	**La Bonita**	**4.85**	**44**	*eP*		**Pn 06 05 35.2**	**+0.3**
TULM	**Tulcn-Chalpat**	**4.87**	**40**			**Pn 06 05 35.9**	**+0.6**
TULM	**Tulcn-Chalpat**	**4.87**	**40**	*eP*		**Pn 06 05 36.0**	**+0.6**
CMBC	**Cumbal**	**5.02**	**38**	P		**Pn 06 05 40.0**	**+2.5**
CMBC	**Cumbal**	**5.02**	**38**	*eP*		**Pn 06 05 39.9**	**+2.5**
TUMC	**Tumaco**	**5.31**	**24**	Pn		**Pn 06 05 40.7**	**-0.4**
TUMC	**Tumaco**	**5.31**	**24**	P		**Pn 06 05 41.0**	**-0.1**
GCUF	**Volcan Galeras**	**5.54**	**40**	*eP*		**Pn 06 05 44.7**	**+0.1**
CRUC	**La Cruz**	**6.05**	**41**	*eP*		**Pn 06 05 52.5**	**+0.9**
BBAC	**Balboa, Cauca**	**6.22**	**36**	P		**Pn 06 05 53.0**	**-0.8**
BBAC	**Balboa, Cauca**	**6.22**	**36**	*eP*		**Pn 06 05 52.5**	**-1.3**
PTLC	**Puerto Leguiza**	**6.89**	**62**	*eP*		**Pn 06 05 58.4**	**-4.3**
FLOC	**Florencia**	**6.98**	**49**	*eP*		**Pn 06 06 03.2**	**-0.8**
POPC	**Popayan, Colom**	**6.98**	**37**	*eP*		**Pn 06 06 02.6**	**-1.6**
JAMC	**Jamundi, Valle**	**7.53**	**34**	*eP*		**Pn 06 06 09.1**	**-2.6**
YOTC	**Yotoco, Valle**	**8.34**	**33**	*eP*		**Pn 06 06 19.6**	**-3.2**
ORTC	**Ortega, Tolima**	**8.93**	**39**	*eP*		**Pn 06 06 28.1**	**-2.6**
CZSB	**Cruzeiro do Su**	**9.38**	**120**	Pn		**Pn 06 06 34.5**	**-2.3**
CZSB	**Cruzeiro do Su**	**9.38**	**120**	*eP*		**Pn 06 06 34.6**	**-2.3**
PAYG	**Puerto Ayora**	**9.68**	**284**	Pn		**Pn 06 06 41.4**	**+0.3**
NNA	**Nana**	**9.74**	**156**	Pn		**Pn 06 06 40.8**	**-1.1**
NNA	**Nana**	**9.74**	**156**	*eP*		**Pn 06 06 40.7**	**-1.1**
NNA	**Nana**	**9.74**	**156**	P		**Pn 06 06 41.7**	**-0.1**
	11nm,0.3s,baz=329,slow=11,SNR=25						
NNA				S		Sn 06 08 18.2	-12
	3.6nm,0.3s,baz=322,slow=6.9,SNR=1.2						
GUY2C	**Guyana, Caldas**	**9.91**	**34**	*eP*		**Pn 06 06 39.8**	**-4.8**
CDITO	**Canoas**	**11.72**	**350**			**Pn 06 07 10.6**	**+1.6**
BRU2	**Volcan**	**11.91**	**351**	Pn		**Pn 06 07 11.6**	**-0.1**
BCIP	**Isla Barro Col**	**12.19**	**5**	Pn		**Pn 06 07 15.9**	**+0.5**
RIMA	**Rio Macho**	**13.08**	**347**	Pn		**Pn 06 07 27.9**	**+0.2**
LCR2	**La Lucha 2**	**13.09**	**346**	Pn		**Pn 06 07 27.8**	**-0.1**
JACO	**JACO, Garabito**	**13.18**	**344**	Pn		**Pn 06 07 27.8**	**-1.1**
OCAC	**Ocana**	**13.53**	**34**	*eP*		**Pn 06 07 34.3**	**+0.5**
SOCE	**Pocosol**	**13.86**	**345**	Pn		**Pn 06 07 39.5**	**+1.3**
JTS	**Las Juntas de**	**13.86**	**343**	Pn		**Pn 06 07 38.5**	**+0.2**
JTS	**Las Juntas de**	**13.86**	**343**	P		**Pn 06 07 40.0**	**+1.7**
	16nm,0.9s,baz=126,slow=13,SNR=7.1						
JTS				LR	LR	06 12 25.6	
	comp=Z,173nm,18.5s,baz=148,slow=35						
SDV	**Santo Domingo**	**15.67**	**41**	Pn		**Pn 06 08 02.9**	**+0.4**
ETMB	**Extrema**	**16.05**	**115**	Pn		**Pn 06 08 05.4**	**-1.8**
BOAB	**BOADICEA BROADBAN**	**16.12**	**343**	Pn		**Pn 06 08 07.7**	**-0.3**
TGUH	**Tegucigalpa,Un**	**18.14**	**340**			**Pn 06 08 33.9**	**+0.5**
TGUH				IAmb	IAmb	06 08 38.9	
	comp=Z,21nm,0.9s						
LPAZ	**La Paz**	**18.18**	**137**			**Pn 06 08 33.3**	**-1.0**
PB18	**Visviri**	**18.27**	**143**	Pn		**P 06 08 32.4**	**-2.8**
PB18				IAmb	IAmb	06 08 51.1	
	comp=Z,20nm,1.0s						
SAML	**Samuel**	**18.55**	**109**	P		**P 06 08 36.0**	**-1.7**
SAML	**Samuel**	**18.55**	**109**	*eP*		**P 06 08 36.6**	**-1.2**
PB16	**IPOC Station P**	**18.84**	**144**	P		**Pn 06 08 41.5**	**-0.7**
GO01	**Chusmiza**	**20.08**	**146**	P		**P 06 08 55.2**	**+0.3**
GO01				IAmb	IAmb	06 09 14.7	
	comp=Z,17nm,0.8s						
MACA	**Manacapuru-AM**	**20.18**	**91**	P		**P 06 08 55.2**	**-0.3**
MACA				IAmb	IAmb	06 09 24.5	
	comp=Z,17nm,0.8s						
PCRV	**Puerto La Cruz**	**20.86**	**51**	P		P 06 08 44.4	-19
	comp=Z,14nm,1.1s,baz=247,slow=18,SNR=3.1						
PCRV				LR	LR	06 18 13.9	
	comp=Z,245nm,20.4s,slow=43						
BOAV	**Boa Vista**	**21.07**	**75**	P		**P 06 09 05.5**	**+0.2**
BOAV				IAmb	IAmb	06 09 24.4	
	comp=Z,20nm,1.4s						
MTDJ	**Mount Denham**	**21.41**	**9**	P		**P 06 09 10.4**	**+1.5**
PB07	**IPOC Station P**	**21.42**	**151**	P		**P 06 09 09.9**	**+0.8**
PB07				IAmb	IAmb	06 09 25.2	
	comp=Z,17nm,0.9s						
LVC	**Limon Verde**	**22.64**	**150**	LR	LR	06 17 39.4	
	comp=Z,148nm,19.5s,baz=318,slow=36						
SIV	**San Ignacio**	**23.36**	**125**	LR	LR	06 19 48.3	
	comp=Z,150nm,18.9s,baz=273,slow=41						
CMIG	**Matias Romero**	**24.32**	**326**	LR	LR	06 17 43.4	
	comp=Z,65nm,19.2s,baz=153,slow=32						
PTLB	**Pontes e Lacer**	**24.71**	**121**	P		**P 06 09 42.6**	**+0.7**
PTLB				IAmb	IAmb	06 09 56.1	
	comp=Z,6.3nm,1.0s						
MDP	**Montagnes des**	**29.36**	**74**	LR	LR	06 23 00.2	
	comp=Z,236nm,18.8s,baz=286,slow=40						
CFA	**Coronel Fontan**	**30.80**	**159**	LR	LR	06 22 06.5	
	comp=Z,47nm,19.5s,baz=2.0,slow=34						
CPUP	**Villa Florida**	**32.35**	**138**	LR	LR	06 26 28.8	
	comp=Z,61nm,18.8s,baz=312,slow=42						
TKL	**Tuckaleechee C**	**38.61**	**356**	LR	LR	06 26 56.6	
	comp=Z,95nm,19.4s,baz=162,slow=36						
PLCA	**Paso Flores**	**38.65**	**167**	P		**P 06 11 46.9**	**+2.9**
	comp=Z,2.4nm,1.0s,baz=342,slow=9.6,SNR=2.5						
PLCA				LR	LR	06 24 56.8	
	comp=Z,92nm,20.8s,baz=8.5,slow=32						
	comp=Z,2.4nm,1.0s						
TXAR	**Lajitas Array**	**38.91**	**327**	P		**P 06 11 50.1**	**+3.8**
	comp=Z,0.2nm,0.7s,baz=145,slow=13,SNR=2.1						
TXAR				pP		**sP 06 12 01.7**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=147,slow=7.4,SNR=5.0						
TXAR				PcP		**PcP 06 13 57.7**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=152,slow=6.1,SNR=5.6						
TXAR				LR	LR	06 26 10.1	
	comp=Z,22nm,19.8s,baz=66,slow=33						
	comp=Z,0.2nm,0.7s						
ANMO	**Albuquerque**	**44.78**	**330**	LR	LR	06 31 02.0	
	comp=Z,49nm,18.1s,baz=158,slow=35						
SADO	**Sadowa**	**47.64**	**2**	LR	LR	06 32 33.6	
	comp=Z,84nm,20.2s,baz=128,slow=36						
PDAR	**Pinedale Array**	**52.46**	**334**	P		**P 06 13 34.7**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=119,slow=8.4,SNR=4.5						
PDAR				LR	LR	06 39 42.3	
	comp=Z,46nm,18.0s,baz=68,slow=40						
	comp=Z,0.6nm,0.7s						
NVAR	**Mina Array Bea**	**53.83**	**324**	P		**P 06 13 46.2**	**+2.8**
	comp=Z,1.3nm,1.0s,baz=127,slow=6.9,SNR=6.3						
NVAR				pP		**sP 06 13 59.9**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=134,slow=7.2,SNR=9.8						
	comp=Z,1.3nm,1.0s						
ULM	**Lac du Bonnet**	**54.65**	**348**	P		**P 06 13 45.4**	**-3.5**
	comp=Z,3.7nm,0.7s,baz=180,slow=9.1,SNR=6.8						
	comp=Z,3.7nm,0.7s						
YBH	**Yreka Blue Hor**	**58.54**	**324**	LR	LR	06 37 37.1	
	comp=Z,29nm,18.9s,baz=68,slow=34						
PPT	**Papeete**	**68.76**	**252**	LR	LR	06 38 18.0	
	comp=Z,28nm,19.9s,baz=55,slow=29						
YKA	**Yellowknife Ar**	**70.20**	**344**	P		**P 06 15 31.7**	**-0.9**
	comp=Z,0.2nm,0.9s,baz=146,slow=5.5,SNR=2.8						
	comp=Z,0.2nm,0.9s						
ILAR	**Eielson Array**	**82.75**	**337**	P		**P 06 16 43.6**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=108,slow=2.9,SNR=2.7						
	comp=Z,0.4nm,0.8s						
QSPA	**South Pole Qui**	**87.01**	**180**	P		**P 06 17 07.0**	**+1.8**
	comp=Z,1.1nm,0.6s,baz=199,slow=2.6,SNR=8.0						
	comp=Z,1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**129.52**	**17**	PKP	**PKPdf**	**06 23 26.3**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=332,slow=3.1,SNR=1.5						
KURBB				pPKP	**pPKPdf**	**06 23 41.9**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=326,slow=2.6,SNR=7.3						
MKAR	**Makanchi Array**	**134.05**	**16**	PKP	**PKPdf**	**06 23 32.3**	**-5.3**
	comp=Z,0.7nm,1.1s,baz=354,slow=1.4,SNR=1.9						
MKAR				pPKP	**pPKPdf**	**06 23 49.8**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=353,slow=2.9,SNR=3.5						
ASAR	**Alice Springs**	**136.94**	**230**	PKP	**PKPdf**	**06 23 44.0**	**+0.4**
	comp=Z,0.3nm,1.0s,baz=127,slow=2.3,SNR=2.3						
WRA	**Warramunga Arr**	**138.54**	**235**	PKP	**PKPdf**	**06 23 47.0**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=114,slow=2.4,SNR=3.2						

*NOU **26** 06:17:19.5, 41.45S×174.85E, h24km, MLv3.9/11, Cook Strait, New Zealand*
*WEL **26** 06:17:20.0±0.4, 41˚S±4˚×17˚5E±˚, h25km±4km, M3.8/15, ML4.1/15, MLv3.8/15, Error ellipse: s-maj=0.0km s-min=0.0km az=177.6, confirmed*
ISC 26 06:17:20.7±0.9, 41.38S±0.03×174.69E±0.02, h32km±6km, n126, σ1s48/135, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNZO	**South Karori**	**0.07**	**10**	P	**Pb**	**06 17 26.2**	**0.0**
WEL	**Wellington**	**0.11**	**33**	P	Pn	06 17 26.4	+0.1
WEL				S	**Sb**	**06 17 30.6**	**+0.3**
BHW	**Baring Head**	**0.14**	**104**	P	**Pn**	**06 17 27.1**	**+0.5**
BHW				S	**Sb**	**06 17 31.8**	**+1.1**
TCW	**Tory Channel**	**0.35**	**298**	P	**Pb**	**06 17 28.2**	**-0.9**
TCW				S	**Sb**	**06 17 33.5**	**-1.3**
CAW	**Cannon Point**	**0.39**	**47**	P	**Pb**	**06 17 29.3**	**-0.3**
CAW				S	**Sb**	**06 17 35.8**	**+0.1**
MSWZ	**Moikau Station**	**0.42**	**96**	P	**Pb**	**06 17 30.9**	**+0.8**
MSWZ				S	**Sn**	**06 17 39.0**	**+1.7**
PLWZ	**Palliser**	**0.47**	**115**	P	**Pb**	**06 17 31.7**	**+0.9**
PLWZ				S	**Sn**	**06 17 40.5**	**+2.1**
CMWZ	**Cape Campbell**	**0.52**	**224**	P	**Pb**	**06 17 32.8**	**+1.3**
KIW	**Kapiti Island**	**0.54**	**18**	P	**Pb**	**06 17 30.9**	**-1.0**
PAWZ	**Paruwai Farm**	**0.56**	**91**	P	**Pb**	**06 17 32.4**	**+0.3**
PAWZ				S	**Sb**	**06 17 41.7**	**+1.7**
TUWZ	**Tuamarina**	**0.56**	**264**	P	**Pb**	**06 17 31.4**	**-0.9**
MTW	**Mount Morrison**	**0.65**	**71**	P	**Pn**	**06 17 33.5**	**-0.2**
MTW				S	**Sb**	**06 17 43.6**	**+1.1**
OGWZ	**Otaki Gorge**	**0.67**	**33**	P	**Pn**	**06 17 33.0**	**-0.9**
OGWZ				S	**Sn**	**06 17 42.7**	**-0.5**
BSWZ	**Blackbirch Sta**	**0.70**	**241**	P	**Pn**	**06 17 34.4**	**0.0**
BSWZ				S	**Sn**	**06 17 45.4**	**+1.3**
TRWZ	**Traveller**	**0.75**	**92**	P	**Pn**	**06 17 34.9**	**-0.2**
HOWZ	**Holdsworth Sta**	**0.79**	**53**	P	**Pn**	**06 17 35.0**	**-0.6**
HOWZ				S	**Sn**	**06 17 46.8**	**+0.6**
DUWZ	**D'Urville Isla**	**0.82**	**314**	P	**Pn**	**06 17 35.2**	**-0.7**
DUWZ				S	**Sn**	**06 17 45.6**	**-1.4**
TMWZ	**Te Maipa**	**0.94**	**74**	P	**Pn**	**06 17 37.2**	**-0.5**
MRZ	**Mangatainoka R**	**0.98**	**44**	P	**Pn**	**06 17 35.9**	**-2.3**
NNZ	**Nelson**	**1.00**	**279**	P	**Pn**	**06 17 38.1**	**-0.4**
TIWZ	**Tintock**	**1.08**	**57**	P	**Pn**	**06 17 39.1**	**-0.5**
CPWZ	**Castlepoint**	**1.23**	**68**	P	**Pn**	**06 17 41.4**	**-0.3**
OHWZ	**Ohakea**	**1.26**	**22**	P	**Pn**	**06 17 42.8**	**+0.8**
PRWZ	**Pori Road**	**1.27**	**50**	P	**Pn**	**06 17 41.5**	**-0.7**
POWZ	**Post Office Ro**	**1.28**	**40**	P	**Pn**	**06 17 41.6**	**-0.8**
KHZ	**Kahutara**	**1.35**	**219**	P	**Pn**	**06 17 43.5**	**+0.2**
KHZ	**Kahutara**	**1.35**	**219**	P	**Pn**	**06 17 43.4**	**+0.1**
TKNZ	**Takaka Hill**	**1.35**	**284**	P	**Pn**	**06 17 43.4**	**0.0**
BFZ	**Birch Farm**	**1.37**	**60**	P	**Pn**	**06 17 42.4**	**-1.1**
BFZ	**Birch Farm**	**1.37**	**60**	P	**Pn**	**06 17 42.3**	**-1.3**
THZ	**Tophouse**	**1.39**	**253**	P	**Pn**	**06 17 43.9**	**-0.1**
MRNZ	**Matariki Terra**	**1.45**	**268**	P	**Pn**	**06 17 45.1**	**+0.3**
DVHZ	**Dannevirke**	**1.55**	**47**	P	**Pn**	**06 17 44.7**	**-1.4**
TSZ	**Takapari Road**	**1.63**	**37**	P	**Pn**	**06 17 46.3**	**-0.9**
ANWZ	**Angora Road**	**1.63**	**57**	P	**Pn**	**06 17 45.8**	**-1.4**
WAZ	**Wanganui**	**1.64**	**8**	P	**Pn**	**06 17 48.7**	**+1.5**
QRZ	**Quartz Range**	**1.72**	**288**	P	**Pn**	**06 17 49.1**	**+0.7**
QRZ	**Quartz Range**	**1.72**	**288**	P	**Pn**	**06 17 49.0**	**+0.5**
PRHZ	**Porangahau**	**1.85**	**54**	P	**Pn**	**06 17 48.7**	**-1.4**
PNHZ	**Pukenui**	**1.86**	**39**	P	**Pn**	**06 17 49.1**	**-1.3**
WPHZ	**Waipukurau**	**1.87**	**46**	P	**Pn**	**06 17 49.1**	**-1.3**
LREZ	**Lake Rotokare**	**1.93**	**353**	P	**Pn**	**06 17 52.3**	**+1.1**
GVZ	**Greta Valley S**	**2.01**	**217**	P	**Pn**	**06 17 52.1**	**-0.4**
NMEZ	**Namu Road**	**2.06**	**342**	P	**Pn**	**06 17 54.4**	**+1.4**
PREZ	**Palmer Road**	**2.07**	**349**	P	**Pn**	**06 17 55.4**	**+2.1**
MTVZ	**Mangateitei**	**2.08**	**17**	P	**Pn**	**06 17 55.2**	**+1.9**
MOVZ	**Moawhango**	**2.13**	**23**	P	**Pn**	**06 17 53.5**	**-0.6**
PXZ	**Pawanui**	**2.13**	**52**	P	**Pn**	**06 17 52.4**	**-1.6**
KHEZ	**Kahui Hut**	**2.14**	**346**	P	**Pn**	**06 17 55.9**	**+1.6**
KHEZ	**Kahui Hut**	**2.14**	**346**	P	**Pn**	**06 17 56.1**	**+1.8**
PKVZ	**Pokaka**	**2.14**	**14**	P	**Pn**	**06 17 57.8**	**+3.5**
NEZ	**North Egmont**	**2.15**	**348**	P	**Pn**	**06 17 56.4**	**+1.9**

TPIG Tehuac#an 2.45 303 *e*P Pn 06 43 44.8 +0.7
TPIG *e*S Sn 06 44 12.9 -0.8
TXIG Tlaxiaco 2.45 274 *e*P Pn 06 43 44.4 +0.2
TXIG *e*S Sn 06 44 10.0 -4.0
HLIG Huajuapan de L 2.59 287 *i* P Pn 06 43 46.6 +0.7
HLIG *e*S Sn 06 44 15.2 -1.9
JAUV Jalcomulco 2.74 327 *i* P Pn 06 43 46.7 -1.1
JAUV *i* S Sn 06 44 18.6 -1.7
LVIG Laguna Verde 2.87 337 *i* P Pn 06 43 47.8 -1.8
LVIG *e*S Sn 06 44 19.8 -3.7
PNIG Pinotepa 2.88 257 *i* P Pn 06 43 47.4 -2.2
PNIG *i* S Sn 06 44 14.1 -10
FTIG Fresnillo de T 2.91 287 *e*P Pn 06 43 51.0 +0.8
FTIG *e*S Sn 06 44 22.4 -2.3
CCIG Comitan 3.05 105 Pn Pn 06 43 52.0 0.0
CCIG Comitan 3.05 105 *e*P Pn 06 43 51.9 -0.1
CCIG *e*S Sn 06 44 23.1 -4.9
CCIG Comitan 3.05 105 *i* P Pn 06 43 52.3 +0.3
CCIG *i* S Sn 06 44 16.1 -12
CCIG IAML 06 44 37.1
comp=Z,3µm,1.0s
TLIG Tlapa 3.24 279 Pn Pn 06 43 54.8 +0.2
TLIG Tlapa 3.24 279 *i* P Pn 06 43 54.9 +0.2
TLIG *i* S Sn 06 44 25.4 -7.2
TLIG Tlapa 3.24 279 *i* P Pn 06 43 55.0 +0.4
TLIG *i* S Sn 06 44 24.6 -8.0
TLIG IAML 06 44 55.0
comp=Z,1µm,1.0s
MGIG Malinaltepec 3.28 273 *i* P Pn 06 43 54.9 -0.2
MGIG *i* S Sn 06 44 25.8 -7.7
PATR El Naranjo 3.46 124 *e*P Pn 06 43 57.6 0.0
PATR *e*S Sn 06 44 36.9 -1.1
PAVE Pavencul 3.46 122 *e*P Pn 06 43 57.7 +0.1
PAVE *e*S Sn 06 44 35.9 -2.1
THIG 3.56 127 *e*P Pn 06 43 58.8 +0.1
THIG *e*S Sn 06 44 38.2 -1.7
CHUJ Union Juarez 3.57 123 *e*P Pn 06 43 59.0 -0.1
CHUJ *e*S Sn 06 44 38.9 -1.8
SMCA Catarina 3.74 126 *i* P Pn 06 44 01.7 +0.6
SMCA *i* S Sn 06 44 43.0 -1.2
CRIG Cruz Grande 3.77 265 *e*P Pn 06 43 59.5 -2.0
CRIG *e*S Sn 06 44 41.2 -3.9
PPM Popocatepetl 3.81 302 *e*P Pn 06 44 04.9 +2.5
PPM *e*S Sn 06 44 42.8 -3.8
HUEH Huehuetenango 3.97 116 Pn Pn 06 44 03.9 -0.5
AMVM AMECAMECA 3.97 302 *e*P Pn 06 44 06.6 +2.2
AMVM *i* S Sn 06 44 47.7 -2.5
YAIG Yautepec 4.08 296 Pn Pn 06 44 07.5 +1.7
YAIG Yautepec 4.08 296 *e*P Pn 06 44 07.5 +1.7
MPVM San Francisco 4.19 301 *e*P Pn 06 44 09.7 +2.4
MPVM *e*S Sn 06 44 49.1 -6.3
THVM De Xico 4.21 302 *e*P Pn 06 44 08.4 +0.7
THVM *i* S Sn 06 44 47.1 -9.0
RTAL Retalhuleu 4.23 126 Pn Pn 06 44 08.3 +0.6
DAIG Los Arroyos 4.25 270 *i* P Pn 06 44 06.7 -1.3
DAIG *i* S Sn 06 44 51.6 -5.0
SCIG Sabancuy 4.26 63 *e*P Pn 06 44 06.5 -1.7
SCIG *e*S Sn 06 44 51.6 -5.4
MEIG Mezcala 4.29 282 *i* P Pn 06 44 09.3 +0.6
MEIG *e*S Sn 06 44 50.1 -7.6
PLIG Platanillo 4.30 288 *i* P Pn 06 44 09.9 +1.2
PLIG *i* S Sn 06 44 49.8 -8.0
XCVM Xochimilco 4.30 301 *e*P Pn 06 44 09.5 +0.6
XCVM *e*S Sn 06 44 50.9 -7.3
TLVM San Miguel Top 4.31 300 *e*P Pn 06 44 11.0 +1.9
TLVM *e*S Sn 06 44 54.9 -3.7
VTVM Tizayuca 4.32 309 *e*P Pn 06 44 11.8 +2.6
VTVM *i* S Sn 06 44 52.2 -6.4
UNM Universidad Na 4.39 301 Pn Pn 06 44 09.7 -0.4
PTVM Pico Tres Padr 4.47 305 *e*P Pn 06 44 11.4 +0.2
PTVM *i* S Sn 06 44 54.0 -8.4
AOVM Tlapan 4.48 300 *e*P Pn 06 44 12.5 +1.0
AOVM *e*S Sn 06 45 02.1 -0.6
CJVM Cuajimalpa 4.49 301 *e*P Pn 06 44 12.7 +1.2
CJVM *i* S Sn 06 44 52.6 -10
INVM La Marquesa 4.54 300 *e*P Pn 06 44 13.9 +1.7
INVM *e*S Sn 06 44 58.4 -5.7
ZUVM ZUMPANGO 4.58 307 *e*P Pn 06 44 14.7 +2.0
ZUVM *i* S Sn 06 45 07.6 +2.6
TOVM TOLUCA 4.78 298 *e*P Pn 06 44 17.6 +2.2
TOVM *e*S Sn 06 44 57.2 -2.6
CAIG El Cayaco 4.84 270 *e*P Pn 06 44 14.6 -1.3
CAIG *i* S Sn 06 45 03.1 -7.8
DEIG Demacu 4.84 312 *e*P Pn 06 44 18.6 +2.4
DEIG *e*S Sn 06 45 14.8 +3.6
PETF Flores 5.11 91 Pn Pn 06 44 18.6 -1.1
CTUV Llano Grande 5.29 326 *e*P Pn 06 44 20.6 -1.3
CTUV *i* S Sn 06 45 13.6 -8.1
ZIIG Zihuatanejo 6.00 276 *i* P Pn 06 44 31.6 -0.1
NUBE Las Nubes 6.11 120 *i* P Pn 06 44 33.4 0.0
NUBE IAmb IAmb 06 44 51.0
comp=Z,64nm,1.2s
NUBE IAML 06 45 21.1
comp=Z,170nm,1.0s
ESQI Esquipulas 6.18 113 Pn Pn 06 44 33.4 -0.8
MOIG Morelia 6.24 295 Pn Pn 06 44 35.5 +0.4
MOIG Morelia 6.24 295 *e*P Pn 06 44 37.7 +2.5
MOIG Morelia 6.24 295 *i* P Pn 06 44 38.1 +2.9
RPIG Rio Verde 6.57 317 *i* P Pn 06 44 42.1 +2.6
COEG Centro de Oper 7.00 119 *i* P Pn 06 44 46.3 +0.9
SCLA Alcaldia de Sa 7.09 117 *i* P Pn 06 44 46.8 +0.2
SCLA IAmb IAmb 06 45 05.5
comp=Z,18nm,0.8s
SCLA IAML 06 46 50.7
comp=Z,48nm,1.0s
TEIG Tepich 7.28 63 Pn 06 44 46.4 -2.6
TEIG Tepich 7.28 63 P Pn 06 44 46.3 -2.8
comp=Z,510nm,0.4s,baz=203,slow=1.3,SNR=134
TEIG S Sn 06 46 03.4 -6.8
comp=Z,2µm,0.5s,baz=268,slow=22,SNR=22
TEIG LR LR 06 47 29.6
comp=Z,170nm,19.9s,baz=293,slow=38
MMIG Aquila 7.85 280 *i* P Pn 06 44 57.2 +0.4
LCND La Caada 8.00 117 *i* P Pn 06 45 02.5 +3.7
TGUH Tegucigalpa,Un 8.21 110 Pn Pn 06 45 01.2 -0.8
ZAIG Zacatecas 8.94 310 Pn Pn 06 45 11.7 -0.2
CNGA Al SSO del Vol 9.40 118 *i* P Pn 06 45 17.8 -0.2
CNGN Cerro Negro 9.40 118 Pn Pn 06 45 18.7 +0.7
LIMN Finca el Limon 9.43 114 *i* P Pn 06 45 18.1 -0.3
LIMN IAmb IAmb 06 45 30.1
comp=Z,35nm,1.5s
MOMN Momotombo 9.58 118 *i* P Pn 06 45 20.9 +0.5
ACON Acoyapa 10.96 116 Pn Pn 06 45 39.0 -0.1
HZTE Horizontes, Gu 11.27 123 Pn Pn 06 45 43.6 +0.3
HZTE Horizontes, Gu 11.27 123 *i* P Pn 06 45 43.4 +0.1
HZTE IAmb IAmb 06 45 43.7
comp=Z,48nm,0.5s
ORTG Ortega, Santa 11.58 124 Pn 06 45 47.1 -0.4
ORTG Ortega, Santa 11.58 124 *i* P Pn 06 45 47.1 -0.4
ORTG IAmb IAmb 06 45 47.9
comp=Z,52nm,0.5s
ORTG IVmB_BB 06 45 52.5
comp=Z,2µm,1.0s
ESPN Las Esperanzas 11.62 113 *i* P Pn 06 45 33.1 -15
833A Chaparral WMA, 11.84 342 Pn 06 45 51.6 +0.8
833A Chaparral WMA, 11.84 342 P Pn 06 45 51.6 +0.8
baz=159
INDI Punta indio, G 11.85 126 *i* P Pn 06 45 50.8 -0.2
INDI IAmb IAmb 06 45 51.2
comp=Z,47nm,0.8s
POPE POPE, Guanacas 11.92 125 *i* P Pn 06 45 51.6 -0.3
POPE IAmb IAmb 06 45 51.8
comp=Z,91nm,0.7s
JTS Las Juntas de 12.03 123 Pn Pn 06 45 52.9 -0.6
JTS Las Juntas de 12.03 123 P Pn 06 45 52.2 -1.2
comp=Z,16nm,0.4s,baz=311,slow=15,SNR=15
JTS LR LR 06 49 28.0
comp=Z,30nm,21.0s,baz=298,slow=32
JACO JACO, Garabito 12.63 124 Pn 06 46 01.2 -0.1
JACO JACO, Garabito 12.63 124 *i* P Pn 06 46 00.5 -0.8
JACO IAmb IAmb 06 46 02.8
comp=Z,28nm,0.6s
SOR Soroa 12.80 62 Pn Pn 06 46 00.4 -3.2
HDC Heredia 12.87 122 Pn 06 46 04.8 +0.2
HNDO Hondo 12.95 344 Pn 06 46 06.0 +0.6
LCR2 La Lucha 2 13.11 122 Pn 06 46 06.9 -0.8
LCR2 La Lucha 2 13.11 122 *i* P Pn 06 46 07.0 -0.8
DRIO Del Rio 13.25 339 Pn 06 46 09.1 -0.4
CDM Cerro de Muert 13.41 122 *i* P Pn 06 46 11.1 -0.9
HNVL Huntsville, TX 13.62 359 Pn Pn 06 46 13.7 -0.4
OCHAL Ojochal 13.77 124 *i* P Pn 06 46 16.7 +0.5
OCHAL IVmB_BB 06 47 12.5
comp=Z,48nm,1.0s
HPIG 13.79 317 Pn 06 46 17.4 +0.9
435B Jarrell 13.82 351 P Pn 06 46 17.2 +0.5
435B Jarrell 13.82 351 P Pn 06 46 18.1 +1.4
baz=170
JCT Junction City 13.99 343 P Pn 06 46 19.9 +0.9
JCT Junction City 13.99 343 P Pn 06 46 20.2 +1.2
baz=161,SNR=26
DRK0 Durika 13.99 122 Pn 06 46 18.8 -0.5
SAND Sanderson 14.30 335 Pn 06 46 23.2 +0.3
TX31 Lajitas Ar. Si 14.46 329 P P 06 46 27.5 -1.4
TXAR Lajitas Array 14.46 329 P P 06 46 26.8 -2.1
comp=Z,2.7nm,0.6s,baz=148,slow=14,SNR=55
BRDY Brady 14.56 347 Pn 06 46 26.6 +0.3
NATX Nacogdoches 14.63 2 P 06 46 28.3 -2.3
NATX Nacogdoches 14.63 2 P Pn 06 46 27.3 +0.2
baz=182
OZNA Ozona 14.80 340 P P 06 46 30.7 -1.9
WHTX Lake Whitney, 14.99 353 P 06 46 33.0 -1.7
WHTX Lake Whitney, 14.99 353 P Pn 06 46 32.0 +0.3
baz=171,SNR=16
346A Big Creek Wild 15.18 19 P 06 46 34.5 -2.2
346A IAmb IAmb 06 46 38.0
comp=Z,25nm,1.0s
ALPN Alpine 15.31 331 P 06 46 37.7 -0.7
ALPN IAmb IAmb 06 46 38.6
comp=Z,30nm,0.7s
FW13 Cleburne 15.34 353 P P 06 46 36.7 -1.8
FW13 IAmb IAmb 06 46 40.9
comp=Z,27nm,0.8s
FW16 Waxahatchie 15.41 355 P 06 46 39.2 -0.2
FW16 IAmb IAmb 06 46 41.4
comp=Z,48nm,0.8s
TREL Terrell 15.61 357 P 06 46 40.0 -1.4
TREL IAmb IAmb 06 46 43.0
comp=Z,33nm,0.8s
SGCY Sterling City 15.72 341 P P 06 46 42.3 -0.5
SGCY IAmb IAmb 06 46 45.5
comp=Z,82nm,0.8s
MNHN Monahans 15.77 336 P 06 46 42.6 -0.8
MNHN IAmb IAmb 06 46 47.9
comp=Z,25nm,0.9s
PLPT Palo Pinto 15.92 350 P P 06 46 44.3 -0.6
PLPT IAmb IAmb 06 46 47.3
comp=Z,23nm,0.6s
FW06 Azle 15.97 353 P P 06 46 44.9 -0.5
FW06 IAmb IAmb 06 46 47.5
comp=Z,67nm,0.6s
ABTX Abilene, Hawle 15.99 346 P P 06 46 45.0 -0.7
ABTX IAmb IAmb 06 46 48.3
comp=Z,26nm,0.8s
ABTX Abilene, Hawle 15.99 346 P P 06 46 44.7 -1.1
baz=164,SNR=11
FW03 Perrin-Whitt E 16.10 351 P P 06 46 48.0 +1.1
FW03 IAmb IAmb 06 46 49.3
comp=Z,49nm,0.6s
Z41A Richland Creek 16.26 7 P P 06 46 49.2 +0.6
Z41A IAmb IAmb 06 46 50.1
comp=Z,38nm,1.0s
PECS Pecos 16.26 333 IAmb IAmb 06 46 54.6
comp=Z,15nm,0.9s
Z35A Perchaven, San 16.29 354 IAmb IAmb 06 46 51.4
comp=Z,36nm,1.1s
ODSA Odessa 16.39 337 IAmb IAmb 06 46 53.5
comp=Z,43nm,0.8s
SN01 Snyder 1 16.53 343 IAmb IAmb 06 46 55.4
comp=Z,26nm,0.5s
WLAR White Oak Lake 16.65 6 P 06 46 52.9 -0.1
WLAR IAmb IAmb 06 46 55.8
comp=Z,28nm,1.2s
APMT Aspermont 16.77 346 IAmb IAmb 06 46 55.5
comp=Z,40nm,0.9s
WTFS Witchita Falls 16.88 351 IAmb IAmb 06 46 57.7
comp=Z,21nm,1.0s
POST Post 16.90 342 IAmb IAmb 06 46 59.2
comp=Z,23nm,0.8s
LOOK Love County 16.94 354 P 06 46 55.9 -0.3
LOOK IAmb IAmb 06 47 18.1
comp=Z,27nm,1.0s
HTMS Hat Mesa 17.12 335 P 06 46 58.7 +0.4
GDL2 Guadalupe Moun 17.19 333 P 06 47 00.8 +1.7
MNTX Cornudas Mount 17.24 329 P 06 46 59.6 +0.1
MNTX Cornudas Mount 17.24 329 P P 06 47 00.6 +1.1
baz=145,SNR=8.1
DKNS Dickens 17.30 344 IAmb IAmb 06 47 01.6
comp=Z,36nm,0.9s
X40A Basin Creek Fa 17.47 7 P Pn 06 47 01.6 -0.7
UALR University of 17.81 8 Pn 06 47 06.3 -0.2
UALR IAmb IAmb 06 47 07.1
comp=Z,21nm,0.7s
WMOK Wichita Mounta 17.88 350 IAmb IAmb 06 47 08.3
comp=Z,26nm,1.5s
OXF Oxford 18.12 16 P Pn 06 47 09.6 -0.6
baz=198
MSTX Muleshoe 18.14 339 IAmb IAmb 06 47 12.0
comp=Z,19nm,0.7s
MSTX Muleshoe 18.14 339 P Pn 06 47 10.2 -0.4
baz=156,SNR=8.8
FNO Franklin 18.21 354 IAmb IAmb 06 47 19.4
comp=Z,21nm,1.0s
WHAR Wooly Hollow 18.33 8 P Pn 06 47 12.0 -0.6
WHAR IAmb IAmb 06 47 12.5
comp=Z,18nm,1.1s
Y49A Blount Mountai 18.49 24 P Pn 06 47 13.4 -1.2
SMWD Samnorwood 18.51 347 IAmb IAmb 06 47 16.8
comp=Z,58nm,0.9s
AMTX Amarillo 18.65 343 P Pn 06 47 16.6 0.0
baz=160
HSIG 18.71 312 P P 06 47 16.6 +0.9
TUL3 Leonard 18.77 359 P Pn 06 47 16.4 -1.5
baz=178,SNR=15
FCAR Ozark Folk Cen 18.94 8 IAmb IAmb 06 47 19.9
comp=Z,18nm,0.6s
RLO Rose Lookout 19.01 0 IAmb IAmb 06 47 19.7
comp=Z,15nm,0.6s
121A Cookes Peak, D 19.13 326 IAmb IAmb 06 47 24.1
comp=Z,27nm,1.0s
121A Cookes Peak, D 19.13 326 P Pn 06 47 22.8 +0.3
baz=140,SNR=19
319A Douglas 19.14 321 P 06 47 21.4 +1.0
319A IAmb IAmb 06 47 29.4
comp=Z,12nm,0.9s
HHAR Hobbs 19.16 3 IAmb IAmb 06 47 21.1
comp=Z,13nm,0.9s
LCAR Lake Charles 19.26 10 IAmb IAmb 06 47 22.0
comp=Z,11nm,0.8s
ELIS Ellis County 19.28 350 IAmb IAmb 06 47 24.7
comp=Z,21nm,0.6s
U38A Gravette 19.30 2 IAmb IAmb 06 47 23.6
comp=Z,16nm,0.8s
GOGA Godfrey 19.40 31 P P 06 47 22.3 -0.8
baz=216
Y22D IRI PASSCAL I 19.92 330 P P 06 47 30.0 +1.0
baz=145
KAN13 South Haven SW 19.96 355 P 06 47 28.5 -0.7
PBMO Poplar Bluff 20.08 11 P P 06 47 30.0 -0.4
PBMO IAmb IAmb 06 47 30.6
comp=Z,21nm,1.1s
WVT Waverly 20.08 18 P P 06 47 30.4 -0.1
baz=201
KAN09 Caldwell North 20.10 354 P P 06 47 29.8 -0.9
KAN09 IAmb IAmb 06 47 30.7
comp=Z,16nm,0.9s
PARMO Parma 20.10 13 IAmb IAmb 06 47 31.5
comp=Z,25nm,0.8s
MGMO Mountain Grove 20.17 7 P P 06 47 30.2 -1.3
MGMO IAmb IAmb 06 47 36.7
comp=Z,16nm,0.9s
T42A Van Buren 20.21 10 IAmb IAmb 06 47 35.2
comp=Z,11nm,1.0s
RTBA Rita Blanca 20.41 342 P P 06 47 34.5 +0.4
RTBA IAmb IAmb 06 47 35.9
comp=Z,28nm,0.9s
ANMO Albuquerque 20.44 333 P P 06 47 35.2 +0.6
ANMO Albuquerque 20.44 333 P Pn 06 47 36.2 -1.4
baz=147
ANMO Albuquerque 20.44 333 P P 06 47 35.6 +1.0
comp=Z,4.8nm,0.6s,baz=243,slow=12,SNR=30
comp=Z,4.8nm,0.6s
S39A Bolivar 20.60 4 P P 06 47 34.6 -1.5
TUC Tucson 20.70 320 P P 06 47 38.7 +1.3
TUC IAmb IAmb 06 47 43.1
comp=Z,16nm,0.9s
TUC Tucson 20.70 320 P Pn 06 47 39.9 -0.8
baz=133
TKL Tuckaleechee C 21.12 27 P P 06 47 40.0 -1.7
comp=Z,4.0nm,1.0s,baz=214,slow=7.3,SNR=4.6
TKL S S 06 51 30.3 -0.6
comp=Z,1.7nm,0.9s,baz=344,slow=16,SNR=1.0
comp=Z,4.0nm,1.0s
CCM Cathedral Cave 21.19 9 P P 06 47 40.8 -1.6
CCM IAmb IAmb 06 47 43.9
comp=Z,12nm,0.8s
CCM Cathedral Cave 21.19 9 P P 06 47 41.8 -0.6
baz=190
R40A Maddies Statio 21.29 6 IAmb IAmb 06 47 45.2
comp=Z,14nm,0.7s
T25A Trinidad 21.57 340 IAmb IAmb 06 47 52.0
comp=Z,15nm,0.9s
T25A Trinidad 21.57 340 P P 06 47 48.2 +1.4
baz=155,SNR=9.8
214A Organ Pipe Nat 21.77 316 P P 06 47 50.3 +1.6
baz=128
X18A Snowflake 21.82 326 IAmb IAmb 06 47 52.0
comp=Z,8.8nm,0.8s
CBOC Ciudad Bolivar 21.84 118 *e*P P 06 47 45.3 -4.4
KSU1 Kansas State U 21.98 357 IAmb IAmb 06 47 51.8
comp=Z,20nm,0.7s
KSU1 Kansas State U 21.98 357 P P 06 47 50.5 -0.3
baz=176
CBKS Cedar Bluff 22.02 351 IAmb IAmb 06 47 54.0
comp=Z,17nm,0.7s
CBKS Cedar Bluff 22.02 351 P P 06 47 52.4 +1.2
baz=168
W18A Petrified Fore 22.16 327 IAmb IAmb 06 47 58.3
comp=Z,15nm,1.2s
W18A Petrified Fore 22.16 327 P P 06 47 54.2 +1.3
baz=140
Q44A Meyer Farm, Va 22.41 13 IAmb IAmb 06 47 55.1
comp=Z,22nm,0.8s
WCI Wyandotte Cave 22.48 19 P P 06 47 55.9 -0.1
baz=203
SDCO Great Sand Dun 22.50 338 P P 06 47 57.5 +1.0
baz=153,SNR=9.4
P38A Dawn 22.52 3 P P 06 47 54.2 -2.1
P40A Paris 22.54 6 IAmb IAmb 06 47 56.0
comp=Z,17nm,1.1s
X16A Lo Mia Camp, P 22.57 323 IAmb IAmb 06 48 00.7
comp=Z,9.7nm,0.8s
YOTC Yotoco, Valle 22.62 123 *e*P P 06 47 57.8 0.0
GUY2C Guyana, Caldas 22.72 119 *e*P P 06 47 57.0 -2.2
KSCO Kaye Shedlock' 22.80 345 IAmb IAmb 06 48 33.6
comp=Z,18nm,1.2s
KSCO Kaye Shedlock' 22.80 345 P P 06 48 00.2 +0.9
baz=161
JAMC Jamundi, Valle 22.82 125 *e*P P 06 47 57.2 -2.8
113A Mohawk Valley, 22.91 316 P P 06 48 00.7 +0.4
S22A 4UR Ranch, Cre 22.99 336 P P 06 48 02.6 +1.1
baz=150,SNR=6.2
P43A Skaggs, Pawnee 23.02 11 IAmb IAmb 06 48 00.9
comp=Z,16nm,0.7s
BBAC Balboa, Cauca 23.14 128 *e*P P 06 48 02.0 -1.0
MVCO Mesa Verde 23.23 332 IAmb IAmb 06 48 05.8
comp=Z,16nm,1.1s
MVCO Mesa Verde 23.23 332 P P 06 48 04.8 +1.1
baz=146,SNR=9.0
POPC Popayan, Colom 23.24 126 *e*P P 06 48 04.6 +0.6
WUAZ Wupatki 23.33 325 IAmb IAmb 06 48 08.3
comp=Z,16nm,0.9s
WUAZ Wupatki 23.33 325 P P 06 48 06.7 +2.1
baz=137,SNR=15
PULU Pululahua 23.62 134 P P 06 48 09.6 +2.0
N35A Tabor 23.70 359 IAmb IAmb 06 48 33.5
comp=Z,22nm,1.0s
CNNC Cliffs of the 23.78 37 P P 06 48 09.0 +0.6
baz=225
GLA Glamis 23.78 316 P P 06 48 10.3 +1.8
baz=127
BLA Blacksburg 23.93 30 P P 06 48 10.4 +0.7
baz=217
HDIL Hopedale 23.95 11 P P 06 48 10.2 +0.3
baz=194
PAMC Pamplona, Colo 24.01 111 *e*P P 06 48 08.7 -2.5
PDMCI Parker Dam,Lak 24.12 319 P P 06 48 13.3 +1.9
baz=130
SFIN Lafayette 24.26 15 P P 06 48 13.6 +1.0
baz=199
YUH Yuha Desert 24.29 314 P P 06 48 14.1 +1.0
SWSC Sam W. Stewart 24.38 314 P P 06 48 16.4 +2.6
baz=125
GARC Garzon, Huila 24.38 125 *e*P P 06 48 14.4 +0.1
ISCO Idaho Springs 24.38 340 P P 06 48 15.8 +1.7
baz=155
PV04 Paradox Valley 24.40 333 P P 06 48 15.1 +1.0
IKP In-Ko-Pah, Jac 24.43 313 P P 06 48 16.2 +1.9
baz=124
CHSH Refugio Sur-Vo 24.50 137 P P 06 48 18.0 +2.3
CHSH IAmb IAmb 06 48 22.5
comp=Z,12nm,0.7s
OGNE Ogallala 24.50 347 P P 06 48 16.1 +1.1
baz=164,SNR=11
BC3 Big Chuckawall 24.57 316 P P 06 48 17.4 +1.7
baz=127,SNR=13
IRM Iron Mountain 24.67 317 P P 06 48 17.9 +1.4
baz=128
MONP2 Monument Peak 24.78 313 P P 06 48 19.8 +2.1
baz=124
SCIA State Center 24.81 4 P P 06 48 17.2 -0.4
baz=184
BELC Belle Mtn. Jos 25.14 316 P P 06 48 22.7 +1.9
baz=126
TPFO Pinon Flats 25.21 315 P P 06 48 23.5 +2.0
baz=125
PFO Pinyon Flats O 25.21 315 P P 06 48 23.1 +1.6
baz=125
SDV Santo Domingo 25.27 106 P P 06 48 20.8 -1.6
SDV IAmb IAmb 06 48 22.1
comp=Z,7.2nm,0.8s
GMRC Granite Mounta 25.39 318 P P 06 48 24.7 +1.5
baz=128
N23A Red Feather La 25.48 341 P P 06 48 25.4 +1.3
baz=155
O20A White River Ci 25.61 336 P P 06 48 25.9 +0.7
baz=150
MTPU Mount Pierson 25.66 328 IAmb IAmb 06 48 35.2
comp=Z,5.2nm,0.7s
MURC Murrieta 25.71 314 P P 06 48 27.5 +1.6
baz=124
HEC Hector,Ludlow 25.86 317 P P 06 48 29.2 +1.9
baz=127
BBRC Big Bear Solar 25.91 315 P P 06 48 29.9 +2.0
baz=125
TUQ Turquoise Moun 25.97 319 P P 06 48 30.3 +1.9
baz=129
JFWS Jewell Farm 26.10 8 P P 06 48 28.4 -0.9
baz=191
SCI2 San Clemente I 26.33 311 P P 06 48 32.9 +1.5
baz=121
BFSC Mount Baldy Ra 26.39 315 P P 06 48 33.9 +1.7
baz=124
ECSD EROS Data Cent 26.60 358 P P 06 48 34.0 +0.2
baz=177
EDW2 Edwards Air Fo 26.98 315 P P 06 48 38.7 +1.3
baz=125
LRMC Laurel Mtn Rad 27.13 317 P P 06 48 40.0 +1.2
baz=126
TPNV Topopah Spring 27.15 321 P P 06 48 40.7 +1.6
baz=131
FURC Furnace Creek, 27.21 319 P P 06 48 40.1 +0.8
baz=129
K22A Casper 27.26 342 P P 06 48 40.4 +0.5
baz=155
MPMC Manual Prospec 27.35 318 P P 06 48 42.3 +1.4
baz=127
ARVC Arvin 27.69 315 P P 06 48 45.1 +1.5
baz=124
R11B Troy Canyon, C 27.71 324 P P 06 48 45.3 +1.2
baz=134
TCUT Toone Canyon 27.73 333 IAmb IAmb 06 48 46.6
comp=Z,9.6nm,0.9s
ISA Isabella, Lake 27.76 316 P P 06 48 45.6 +1.3
baz=125
GRAC Grapevine Rang 27.86 320 IAmb IAmb 06 48 48.3
comp=Z,6.9nm,1.0s
GRAC Grapevine Rang 27.86 320 P P 06 48 47.6 +2.4
baz=129
CWC Cottonwood Cre 27.96 318 P P 06 48 47.7 +1.3
baz=127
ERPA Erie 28.16 24 P P 06 48 48.5 +0.7
baz=212
VES Vestal, Richgr 28.27 316 P P 06 48 50.8 +2.1
baz=125
PDAR Pinedale Array 28.38 337 P P 06 48 49.7 -0.3

comp=Z,0.4nm,0.6s,baz=154,slow=11,SNR=5.6
PDAR PcP **PcP** **06 51 59.8 -0.3**
comp=Z,0.4nm,0.8s,baz=132,slow=2.6,SNR=2.6
comp=Z,0.4nm,0.6s
MLAC Mammoth, Mammo 29.17 319 P **P** **06 48 58.7 +1.6**
baz=128
NV11 Mina Array Sit 29.26 321 P **P** **06 48 58.6 +0.8**
MDPB Devils Postpil 29.32 319 IAmb IAmb 06 49 01.3
comp=Z,4.5nm,0.9s
NVAR Mina Array Bea 29.35 321 P **P** **06 48 59.9 +1.3**
NVAR Mina Array Bea 29.35 321 P **P** **06 49 00.8 +2.1**
comp=Z,5.3nm,0.8s,baz=132,slow=9.1,SNR=47
comp=Z,5.3nm,0.8s
LHV Little Huntoon 29.36 321 P **P** **06 49 00.2 +1.9**
LHV IAmb IAmb 06 49 01.8
comp=Z,6.1nm,0.7s
SNOW Snow King Moun 29.43 337 IAmb IAmb 06 49 01.2
comp=Z,9.2nm,0.8s
TPAW Teton Pass 29.52 336 IAmb IAmb 06 49 02.1
comp=Z,4.8nm,1.0s
MOOW Moose Ponds 29.67 337 P **P** **06 49 01.4 +0.1**
BINY Binghamton 29.96 29 P **P** **06 49 04.7 +1.0**
baz=219
YERR Yerington 30.27 321 IAmb IAmb 06 49 09.1
comp=Z,3.9nm,0.6s
RLMT Red Lodge 30.35 340 P **P** **06 49 08.6 +1.3**
baz=152
PNTR Pine Nut 30.55 321 IAmb IAmb 06 49 11.7
comp=Z,3.5nm,0.8s
EMB Emerald Bay 30.78 320 IAmb IAmb 06 49 14.5
comp=Z,7.2nm,0.9s
LAO LASA Array 30.91 345 P **P** **06 49 12.3 +0.2**
baz=159
EYMN Ely 30.94 5 P **P** **06 49 13.0 +0.7**
baz=187
MPK Martis Peak 30.94 321 IAmb IAmb 06 49 15.8
comp=Z,5.5nm,0.9s
HLID Hailey 31.02 332 P **P** **06 49 14.3 +1.1**
baz=142
WVOR Wild Horse Val 32.23 327 P **P** **06 49 24.6 +0.8**
WVOR IAmb IAmb 06 49 26.0
comp=Z,5.1nm,1.0s
J08A Circle Bar Ran 32.80 328 IAmb IAmb 06 49 31.0
comp=Z,8.6nm,0.8s
PLID Pearl Lake 32.92 332 IAmb IAmb 06 49 31.0
comp=Z,5.3nm,1.0s
EGMT Eagleton 33.09 342 P **P** **06 49 32.0 +0.8**
baz=154
ULM Lac du Bonnet 33.10 359 P **P** **06 49 29.1 -2.0**
comp=Z,2.0nm,0.5s,baz=175,slow=11,SNR=4.6
comp=Z,2.0nm,0.5s
CZSB Cruzeiro do Su 33.20 136 P **P** **06 49 36.0 +3.5**
MSO Missoula 33.48 336 P **P** **06 49 35.5 +0.9**
MSO IAmb IAmb 06 49 36.0
comp=Z,3.2nm,1.0s
MSO Missoula 33.48 336 P **P** **06 49 35.1 +0.5**
baz=146
F10A Beach Ranch, E 34.15 332 IAmb IAmb 06 49 41.6
comp=Z,6.8nm,0.8s
NEW Newport 35.90 335 P **P** **06 49 55.8 +0.4**
baz=142
C09A Chrisman Ranch 36.02 333 IAmb IAmb 06 49 57.6
comp=Z,3.9nm,0.6s
FFC Flin Flon 37.94 354 P **P** **06 50 11.5 -1.0**
LPAZ La Paz 42.56 140 P **P** **06 50 54.5 +2.7**
PB16 IPOC Station P 43.33 143 P **P** **06 51 02.5 +4.5**
PB16 IAmb IAmb 06 51 08.2
comp=Z,5.7nm,0.8s
YKA Yellowknife Ar 47.36 348 P **P** **06 51 27.9 -0.6**
comp=Z,2.6nm,0.7s,baz=155,slow=7.1,SNR=54
comp=Z,2.6nm,0.7s
KOTAN Kotaneelee Air 47.78 341 P **P** **06 51 32.6 +0.8**
baz=141
CRAG Craig 47.96 332 P **P** **06 51 35.8 +2.5**
baz=127
WRAK Wrangell Islan 48.22 333 P **P** **06 51 37.7 +2.5**
baz=129
DLBC Dease Lake 48.61 336 P **P** **06 51 40.3 +2.0**
baz=133
S34M Telegraph Cree 48.68 335 P **P** **06 51 39.6 +0.9**
baz=131
R33M Jennings River 49.62 337 P **P** **06 51 46.6 +0.6**
baz=133
Q32M Nakina River 49.83 336 P **P** **06 51 48.8 +1.1**
baz=131
SIT Sitka 49.90 333 P **P** **06 51 49.5 +1.5**
baz=126
WRGLY Wrigley 50.08 344 P **P** **06 51 49.6 +0.4**
baz=144
FARO Faro, Yukon 52.40 339 P **P** **06 52 07.0 +0.3**
baz=132
M31M Drury Creek, Y 52.74 338 P **P** **06 52 09.6 +0.3**
baz=130
PNL Peninsula 53.16 334 P **P** **06 52 13.4 +1.1**
baz=123
YUK6 Outpost Mounta 53.46 335 P **P** **06 52 15.6 +0.8**
baz=125
YUK8 Steele Glacier 54.22 335 P **P** **06 52 19.8 -0.5**
baz=124
M29M Somme Creek 54.38 337 P **P** **06 52 22.3 +0.9**
baz=126
L29M L29M 54.66 338 P **P** **06 52 24.1 +0.9**
baz=127
YUK3 Moose Creek 54.77 336 P **P** **06 52 24.9 +0.7**
baz=124
K29M Barlow Dome 54.89 339 P **P** **06 52 25.8 +0.8**
baz=128
J30M Hart River 54.95 340 P **P** **06 52 26.2 +0.8**
baz=130
I30M Mount Dempster 55.38 340 P **P** **06 52 28.7 +0.2**
baz=130
DAWY Dawson 55.69 338 P **P** **06 52 31.4 +0.8**
baz=126
G31M Satah River 55.88 343 P **P** **06 52 31.9 +0.2**
baz=133
L27K Beaver Creek, 56.01 336 P **P** **06 52 33.9 +1.0**
baz=123
K27K Chicken 56.64 337 P **P** **06 52 38.5 +1.2**
baz=123
INK Inuvik 56.64 344 P **P** **06 52 37.2 0.0**
baz=135
H29M Whitestone 56.65 341 P **P** **06 52 37.3 -0.1**
baz=128
CPUP Villa Florida 56.72 139 P **P** **06 52 39.2 +0.9**
comp=Z,2.6nm,0.8s,baz=310,slow=8.5,SNR=5.6
comp=Z,2.6nm,0.8s
BDFB Brasilia 56.77 122 P **P** **06 52 38.0 -1.1**
comp=Z,2.1nm,0.6s,baz=260,slow=6.1,SNR=4.3
comp=Z,2.1nm,0.6s
F30M Barrier River 56.78 343 P **P** **06 52 39.0 +0.8**
baz=132
G29M Pine Creek 56.98 341 P **P** **06 52 39.7 0.0**
baz=129
A36M Sachs Harbour 57.66 349 P **P** **06 52 43.8 -0.5**
baz=145
H27K Steamboat Moun 57.69 340 P **P** **06 52 45.1 +0.4**
baz=125
E29M Blow River 57.89 343 P **P** **06 52 46.1 +0.1**
baz=130
KNK Knik Glacier 57.92 333 P **P** **06 52 46.1 -0.3**
baz=115
F28M Old Crow 57.98 341 P **P** **06 52 45.7 -1.1**
F28M IAmb IAmb 06 52 47.8
comp=Z,4.4nm,0.8s
F28M Old Crow 57.98 341 P **P** **06 52 47.3 +0.5**
baz=127
G27K Doyon Strip 58.06 340 P **P** **06 52 47.4 +0.1**
baz=125
E28M Babbage River 58.50 342 P **P** **06 52 50.5 +0.2**
baz=128
ILAR Eielson Array 58.81 337 P **P** **06 52 51.5 -1.0**
comp=Z,0.7nm,0.5s,baz=126,slow=9.3,SNR=4.6
comp=Z,0.7nm,0.5s
E27K Coleen River 58.85 342 P **P** **06 52 53.3 +0.5**
baz=126
SUA Susitna One 58.94 332 P **P** **06 52 54.2 +0.6**
baz=113
CUT Chulitna 59.11 334 P **P** **06 52 55.3 +0.8**
baz=114
MCK McKinley 59.12 335 P **P** **06 52 55.3 +0.6**
baz=116
O20K Slope Mountain 59.29 331 P **P** **06 52 56.5 +0.6**
baz=110
F26K Sheenjek River 59.36 340 P **P** **06 52 56.4 +0.1**
baz=125
SKT Skwentna 59.49 333 P **P** **06 52 57.5 +0.3**
baz=112
N20K Mount Spurr 59.50 332 P **P** **06 52 57.8 +0.4**
baz=111
CHIR Chirikof Islan 59.51 325 P **P** **06 52 57.3 -0.1**
baz=105
G25K Bearman Lake 59.52 339 P **P** **06 52 57.6 +0.3**
baz=120
TRF Thorofare Moun 59.55 335 P **P** **06 52 58.0 +0.2**
baz=114
NEA2 Nenana 59.56 336 P **P** **06 52 58.3 +0.6**
baz=116
H24K Noodor Dome 59.69 338 P **P** **06 52 58.9 +0.3**
baz=118
F25K Christian Rive 59.79 340 P **P** **06 53 00.4 +1.1**
baz=121
I23K Minto, Yukon-K 59.92 337 P **P** **06 53 00.1 +0.1**
baz=116
G24K Hadweenzic Riv 59.96 339 P **P** **06 53 00.8 +0.5**
baz=119
Q18K Katmai Hardscr 59.98 329 P **P** **06 53 00.6 -0.1**
baz=107
E25K Arctic Village 60.05 341 P **P** **06 53 01.1 +0.1**
baz=122
BPAW Bear Paw Mtn. 60.10 335 P **P** **06 53 01.1 -0.3**
baz=114
M20K Styx River 60.16 332 P **P** **06 53 01.7 -0.2**
baz=111
CAST Castle Rocks 60.28 334 P **P** **06 53 02.3 -0.3**
baz=112
Q17K Contact Creek 60.31 328 P **P** **06 53 02.8 -0.2**
baz=106
MLY Manley 60.39 336 P **P** **06 53 03.7 +0.3**
baz=115
R17K Ugashik Creek 60.39 327 P **P** **06 53 03.6 +0.1**
baz=105
N19K Bonanza Creek 60.40 331 P **P** **06 53 03.9 +0.3**
baz=105
O18K Koktuh Hills 60.44 330 P **P** **06 53 03.7 0.0**
baz=108
F24K Squaw Lake 60.50 339 P **P** **06 53 04.2 +0.1**
baz=119
L20K Farewell, AK 60.70 333 P **P** **06 53 05.5 0.0**
baz=110
Q16K King Salmon 60.81 328 P **P** **06 53 06.7 +0.5**
baz=106
C26K Camden Bay 60.82 342 P **P** **06 53 06.5 +0.4**
baz=123
P17K Kvichak River 60.85 329 P **P** **06 53 07.0 +0.5**
baz=106
G23K Bananza Creek 60.86 338 P **P** **06 53 06.2 -0.4**
baz=116
D25K Kavik River 60.93 342 P **P** **06 53 07.3 +0.3**
baz=121
E24K Your Creek 60.97 340 P **P** **06 53 07.0 -0.3**
baz=118
K20K Telida 61.09 334 P **P** **06 53 08.0 -0.1**
baz=110
COLD Coldfoot 61.16 339 P **P** **06 53 08.7 +0.3**
baz=116
M18K Stony River 61.23 332 P **P** **06 53 08.5 -0.6**
baz=108
O17K Koliganek Bris 61.33 329 P **P** **06 53 10.0 +0.3**
baz=106
E23K Chandalar 61.34 340 P **P** **06 53 10.2 +0.4**
baz=117
J20K Nowinta River 61.41 335 P **P** **06 53 09.4 -0.8**
baz=111
H21K Melozitna Rive 61.44 337 P **P** **06 53 10.0 -0.4**
baz=113
N17K Nushagak Hills 61.58 330 P **P** **06 53 11.3 -0.1**
baz=106
TOLK Toolik Lake Re 61.59 340 P **P** **06 53 11.4 0.0**
baz=118
D24K Happy Valley 61.60 341 P **P** **06 53 11.6 +0.1**
baz=119
S14K Fog Glacier 61.76 325 P **P** **06 53 13.4 +0.6**
baz=102
TTA Tatalina 61.77 333 P **P** **06 53 12.4 -0.4**
baz=108
C24K Franklin Bluff 61.84 341 P **P** **06 53 13.3 +0.3**
baz=119
L18K Granite Mounta 61.85 332 P **P** **06 53 13.2 0.0**
baz=107
M17K Hoitna River 61.95 331 P **P** **06 53 14.1 +0.2**
baz=106
J19K Poorman 61.96 334 P **P** **06 53 13.5 -0.4**
baz=109
F22K John River 61.97 339 P **P** **06 53 13.4 -0.6**
baz=114
G21K Allakaket 62.04 337 P **P** **06 53 13.3 -1.1**
baz=113
E22K Anaktuvuk Pass 62.11 339 P **P** **06 53 14.5 -0.4**
baz=115
H20K Anotleneega Mo 62.18 336 P **P** **06 53 15.5 +0.1**
baz=111
J18K Innoko River 62.24 334 P **P** **06 53 15.8 -0.1**
baz=108
F21K Alatna River 62.31 338 P **P** **06 53 16.7 +0.4**
F21K IAmb IAmb 06 53 17.8
comp=Z,6.5nm,1.1s
F21K Alatna River 62.31 338 P **P** **06 53 16.9 +0.7**
baz=113
N16K Nishlik Lake 62.32 330 P **P** **06 53 16.6 +0.2**
baz=104
C23K Itkillik River 62.48 341 P **P** **06 53 18.2 +0.9**
C23K Itkillik River 62.48 341 P **P** **06 53 17.9 +0.6**
baz=117
M16K Timber Creek 62.55 331 P **P** **06 53 17.9 0.0**
baz=105
K17K Iditarod 62.71 332 P **P** **06 53 17.7 -1.3**
baz=106
D22K Ayikyak River 62.72 340 P **P** **06 53 19.2 +0.3**
baz=115
H19K Roundabout Mou 62.80 336 P **P** **06 53 19.2 -0.2**
baz=109
PLTB Pedras Altas 62.85 141 P **P** **06 53 24.1 +3.8**
L16K Owhat River 62.97 331 P **P** **06 53 20.3 -0.3**
baz=104
G19K Purcell Mounta 63.26 336 P **P** **06 53 22.3 -0.2**
baz=109
H18K Honhosa River 63.45 335 P **P** **06 53 24.6 +0.8**
baz=107
C21K Knifeblade Rid 63.52 340 P **P** **06 53 24.6 +0.4**
baz=113
B22K Teshekpuk Lake 63.57 341 P **P** **06 53 24.3 -0.2**
baz=115
N14K Kuskokwak Cree 63.62 329 P **P** **06 53 25.2 +0.3**
baz=102
B21K Ikpikpuk River 63.65 340 P **P** **06 53 25.3 +0.3**
baz=113
FALS False Pass 63.68 323 P **P** **06 53 25.2 -0.3**
baz=98
F19K Shaleruckik Mo 63.74 337 P **P** **06 53 25.7 +0.1**
baz=109
J16K Anvik River 63.87 333 P **P** **06 53 26.9 +0.3**
baz=104
L15K Ungalak Mounta 63.90 331 P **P** **06 53 26.5 -0.2**
baz=103
M14K Bethel 63.92 330 P **P** **06 53 26.8 -0.1**
baz=102
D20K Etivluk River 63.97 339 P **P** **06 53 26.8 -0.4**
baz=111
H17K Granite Mounta 64.02 335 P **P** **06 53 28.1 +0.6**
baz=106
K15K Wolf Creek Mou 64.05 332 P **P** **06 53 28.5 +0.7**
baz=103
I17K Unalakleet 64.07 333 P **P** **06 53 28.6 +0.8**
baz=104
A22K Sinclair Lake 64.31 342 P **P** **06 53 29.7 +0.4**
baz=113
D19K Kuna River 64.41 339 P **P** **06 53 30.0 -0.1**
baz=109
B20K Meade River 64.61 340 P **P** **06 53 31.8 +0.5**
baz=111
H16K Elim 64.90 334 P **P** **06 53 33.6 +0.3**
baz=103
F17K Baldwin Pennin 64.95 336 P **P** **06 53 34.0 +0.4**
baz=105
J14K Nanvaranak Lak 65.07 332 P **P** **06 53 35.2 +0.8**
baz=101
E17K Hotham Inlet 65.34 337 P **P** **06 53 36.1 +0.1**
baz=105
A19K Wainwright 65.94 340 P **P** **06 53 40.3 +0.4**
baz=107
B18K Kokolik River 65.95 339 P **P** **06 53 40.4 +0.5**
baz=106
EKA Eskdalemuir Ar 77.29 36 P **P** **06 54 46.0 -2.2**
comp=Z,0.9nm,0.7s,baz=272,slow=5.5,SNR=1.4
comp=Z,0.9nm,0.7s
ESDC Sonseca Array 80.24 52 P **P** **06 55 04.0 -0.8**
comp=Z,1.1nm,0.9s,baz=295,slow=6.0,SNR=4.6
comp=Z,1.1nm,0.9s
DBIC Dimbokro 88.41 84 P **P** **06 55 45.1 -1.2**
comp=Z,3.4nm,0.7s,baz=252,slow=6.4,SNR=5.9
comp=Z,3.4nm,0.7s
WRA Warramunga Arr 133.06 258 PKP **PKPdf** **07 02 08.9 -0.6**
comp=Z,0.3nm,0.6s,baz=77,slow=2.6,SNR=5.2
PZH PanZhiHua 133.66 339 PKP **PKPdf** **07 02 11.5 +0.9**

IDC 26 06:46:25.6±2.0, 7°09S×128°35E, h0km, mb3.6/1, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=127.1km s-min=31.8km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.03**	**156**	P	Pn	06 49 45.5	-0.4
	0.1nm,0.3s,baz=335,slow=12,SNR=8.7						
WRA				Sn	Sn	06 52 06.3	-16
	0.7nm,0.3s,baz=325,slow=24,SNR=12						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**17.32**	**163**	P	Pn	06 50 29.3	+0.3
	0.2nm,0.3s,baz=338,slow=10,SNR=33						
ASAR				S	Sn	06 53 27.3	-15
	0.6nm,0.6s,baz=342,slow=26,SNR=8.2						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**67.42**	**328**	P	P	06 57 23.1	0.0
	0.2nm,0.4s,baz=130,slow=7.1,SNR=5.3						
	0.2nm,0.4s						

*KRNET **26** 06:57:43.4±0.1, 41°.25N×76°.44E, h18km, mb3.3*
*NNC **26** 06:57:44.6±1.0, 41°.25N×76°.57E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=6.6km s-min=5.2km az=178.0*
*SOME **26** 06:57:44.7, 41°.27N×76°.53E, h15km*
*KNET **26** 06:57:45.1±0.5, 41°.32N×76°.31E, h7km±1km, ml3.0, Error ellipse: s-maj=3.7km s-min=2.8km az=84.0*

ISC 26 06:57:44.8±1.7, 41°.31N±0°.05×76°.45E±0°.03, h1km±13km, n68, σ0°99/99, 34C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.95**	**351**	⇓P	Pb	**06 58 02.5**	**-1.6**
	107nm,0.1s,SNR=156						
ULHL				⇓S	Sb	06 58 16.4	-0.9
	390nm,0.3s						
KZA	**Kyzart**	**1.18**	**311**	⇑P	Pn	06 58 06.4	-2.5
	118nm,0.2s,SNR=124						
KZA				⇑S	Sb	06 58 23.3	-1.0
	157nm,0.2s						
BOOM	**Boomskoye usch**	**1.24**	**342**	*i* P	Pn	06 58 07.7	-1.7
	baz=43						
BOOM				*i* S	Sb	06 58 25.5	-0.1
	baz=43						
ARLS	**Aral**	**1.69**	**290**	⇑*i*P	Pn	06 58 14.9	-0.7
	baz=91						
ARLS				⇑*i*S	Sb	06 58 38.0	-0.6
	baz=91						
UCH	**Uchtor**	**1.71**	**303**	⇑P	Pn	06 58 15.9	-0.3
	24nm,0.2s,SNR=65						
UCH				⇓S	Sb	06 58 39.2	-0.4
	135nm,0.4s						
ANVS	**Anan'yevo**	**1.73**	**31**	⇑*i*P	Pb	06 58 16.5	-1.0
	baz=30						
ANVS				⇑*i*S	Sg	06 58 40.4	+0.1
	baz=30						
IZV	**Izvestkoviy**	**1.73**	**4**	*e*P	Pb	06 58 17.5	+0.1
	38nm,0.2s						
IZV				*e*S	Sg	06 58 41.2	+1.0
	141nm,0.2s						
IZV	**Izvestkoviy**	**1.73**	**4**	P	Pb	06 58 17.5	+0.1
	38nm,0.2s						
IZV				S	Sg	06 58 41.2	+1.0
	141nm,0.2s						
TKM2	**Tokmak 2**	**1.73**	**339**	⇓P	Pb	06 58 16.8	-0.7
	66nm,0.2s,SNR=114						
TKM2				⇓S	Sb	06 58 41.1	+1.2
	122nm,0.2s						
KBK	**Karagaybulak**	**1.75**	**321**	⇑P	Pb	06 58 17.1	-0.7
	34nm,0.1s,SNR=31						
KBK				⇓S	Sb	06 58 41.2	+0.8
	432nm,0.4s						
TNSS	**Tian-Shan**	**1.76**	**12**	*e*P	Pb	06 58 17.7	-0.5
	55nm,0.2s						
TNSS				*e*S	Sg	06 58 41.6	+0.2
	41nm,0.3s						
TNSS	**Tian-Shan**	**1.76**	**12**	P	Pb	06 58 17.7	-0.5
	55nm,0.2s						
TNSS				S	Sg	06 58 41.6	+0.2
	41nm,0.3s						
KST	**Kastek**	**1.77**	**348**	*e*P	Pb	06 58 18.4	+0.3
	44nm,0.3s						
KST				*e*S	Sg	06 58 42.8	+1.2
	70nm,0.3s						
KST	**Kastek**	**1.77**	**348**	P	Pb	06 58 18.4	+0.3
	44nm,0.3s						
KST				S	Sg	06 58 42.8	+1.2
	70nm,0.3s						
MTBS	**Maitube**	**1.82**	**360**	*e*P	Pb	06 58 19.2	+0.3
	39nm,0.1s						
MTBS				*e*S	Sg	06 58 44.1	+0.9
	146nm,0.4s						
MTBS	**Maitube**	**1.82**	**360**	P	Pb	06 58 19.2	+0.3
	39nm,0.1s						
MTBS				S	Sg	06 58 44.1	+0.9
	146nm,0.4s						
PRZ	**Przheval'sk**	**1.87**	**51**	⇑*e*P	Pb	06 58 18.9	-1.0
	baz=49						
PRZ				⇑*i*S	Sg	06 58 44.8	0.0
	baz=49						
MDOK	**Medeo**	**1.90**	**13**	*e*P	Pb	06 58 20.1	-0.3
	81nm,0.2s						
MDOK				*e*S	Sg	06 58 45.6	-0.4
	151nm,0.6s						
MDOK	**Medeo**	**1.90**	**13**	⇓Pn	Pb	06 58 19.2	-1.2
	8.0nm,0.3s						
MDOK				Pg	Pb	06 58 20.1	-0.3
	81nm,0.2s						
MDOK				Lg	Lg	06 58 45.6	
	151nm,0.6s						
MDOK				⇓Sn	Sg	06 58 46.0	+0.1
	124nm,0.6s						
KNDC	**Almaty**	**1.94**	**11**	⇑Pn	Pb	06 58 20.5	-0.6
	44nm,0.5s						
KNDC				⇑Sn	Sg	06 58 47.9	+0.8
	131nm,0.5s						
AAK	**Ala-Archa**	**1.97**	**313**	⇑P	Pb	06 58 20.8	-0.7
	33nm,0.2s,SNR=58						
AAK				⇑S	Sb	06 58 47.0	+0.3
	85nm,0.3s						
KOTS	**Kotyrbulak**	**1.98**	**14**	*e*Pg	Pb	06 58 22.1	+0.3
	65nm,0.2s						
KOTS				*e*Lg	Lg	06 58 49.0	
	449nm,0.5s						
KOTS	**Kotyrbulak**	**1.98**	**14**	Pg	Pb	06 58 22.1	+0.3
	85nm,0.2s						
KOTS				Lg	Lg	06 58 49.0	
	449nm,0.5s						
DGS	**Degeres**	**1.99**	**346**	*e*Pg	Pb	06 58 22.7	+0.7
	66nm,0.5s						
DGS				*e*Lg	Lg	06 58 49.9	
	152nm,0.5s						
DGS	**Degeres**	**1.99**	**346**	Pg	Pb	06 58 22.7	+0.7
	66nm,0.5s						
DGS				Lg	Lg	06 58 49.9	
	152nm,0.5s						
FRU1	**Bishkek**	**2.02**	**318**	⇑*i*P	Pb	06 58 21.2	-1.1
	baz=20						
FRU1				⇑*i*S	Sb	06 58 48.5	+0.5
	baz=20						
CHMS	**Chumysh**	**2.11**	**324**	⇑P	Pb	06 58 23.0	-0.8
	17nm,0.2s,SNR=14						
CHMS				⇓S	Sb	06 58 51.9	+1.4
	124nm,0.2s						
AML	**Almayashu**	**2.22**	**293**	⇑P	Pn	06 58 23.5	+0.4
	31nm,0.2s,SNR=125						
AML				⇑S	Sb	06 58 54.4	+0.3
	299nm,0.6s						
SATY	**Saty**	**2.27**	**39**	*e*Pg	Pb	06 58 26.7	0.0
	47nm,0.4s						
SATY				*e*Lg	Lg	06 58 56.7	
	88nm,0.4s						
SATY	**Saty**	**2.27**	**39**	Pg	Pb	06 58 26.7	0.0
	47nm,0.4s						
SATY				Lg	Lg	06 58 56.7	
	88nm,0.4s						
ZHN	**Zhinishke**	**2.37**	**38**	*e*Pg	Pg	06 58 28.6	-1.5

ZHN	18nm,0.2s				*e*Lg	Lg	06 59 00.0		
ZHN	165nm,0.2s **Zhinishke** 18nm,0.2s	**2.37**	**38**	Pg	**Pg**	**06 58 28.6**	**-1.5**		
ZHN	165nm,0.2s			Lg	Lg	06 59 00.0			
KTBS	**Karatobe** 24nm,0.2s	**2.41**	**4**	*e*Pg	**Pb**	**06 58 29.8**	**+0.9**		
KTBS	138nm,0.8s			Lg	Lg	06 59 02.0			
KTBS	**Karatobe** 24nm,0.2s	**2.41**	**4**	Pg	**Pb**	**06 58 29.8**	**+0.9**		
KTBS	138nm,0.8s			Lg	Lg	06 59 02.0			
EKS2	**Erkin-Say** 7.7nm,0.2s,SNR=12	**2.41**	**305**	⇑P	**Pn**	**06 58 26.9**	**+1.4**		
USP	**Ospenovka** 22nm,0.2s,SNR=28	**2.43**	**324**	⇑P	**Pb**	**06 58 27.9**	**-1.5**		
KURS	**Kuram** 22nm,0.3s	**2.52**	**30**	*e*Pg	**Pb**	**06 58 30.7**	**-0.2**		
KURS	54nm,0.6s			eLg	Lg	06 59 03.9			
CHKK	**Chushkaly** 26nm,0.2s	**2.57**	**9**	*e*Pg	**Pb**	**06 58 32.5**	**+0.8**		
CHKK	126nm,0.3s			eLg	Lg	06 59 06.7			
CHKK	**Chushkaly** 26nm,0.2s	**2.57**	**9**	Pg	**Pb**	**06 58 32.5**	**+0.8**		
CHKK	126nm,0.3s			Lg	Lg	06 59 06.7			
KUU	**Kurty** 39nm,0.3s	**2.58**	**358**	*e*Pg	**Pb**	**06 58 32.9**	**+1.0**		
KUU	100nm,0.3s			eLg	Lg	06 59 07.7			
KUU	**Kurty** 39nm,0.3s	**2.58**	**358**	Pg	**Pb**	**06 58 32.9**	**+1.0**		
KUU	100nm,0.3s			Lg	Lg	06 59 07.7			
SFK	**Sufi-Kurgan** baz=42	**2.59**	**241**	⇑*i*P	**Pn**	**06 58 27.6**	**-0.5**		
SFK	baz=42			⇑*i*S	**Sn**	**06 59 00.2**	**-0.1**		
ARSB	**Arslanbob** baz=73	**2.61**	**271**	⇑*e*P	**Pn**	**06 58 28.4**	**+0.1**		
ARSB	baz=73			⇑*e*S	**Sn**	**06 59 01.3**	**+0.5**		
UZB	**Uzynbulak** 21nm,0.3s	**2.65**	**45**	*e*Pg	**Pb**	**06 58 33.1**	**0.0**		
UZB	38nm,0.4s			eLg	Lg	06 59 07.7			
UZB	**Uzynbulak** 21nm,0.3s	**2.65**	**45**	Pg	**Pb**	**06 58 33.1**	**0.0**		
UZB	38nm,0.4s			Lg	Lg	06 59 07.7			
KPKS	**Kokpek** 39nm,0.2s	**2.72**	**37**	*e*Pg	**Pb**	**06 58 33.6**	**-0.7**		
KPKS	186nm,0.6s			eLg	Lg	06 59 09.0			
KPKS	**Kokpek** 39nm,0.2s	**2.72**	**37**	Pg	**Pb**	**06 58 33.6**	**-0.7**		
KPKS	186nm,0.6s			Lg	Lg	06 59 09.0			
MRKS	**Merke** 20nm,0.3s	**2.80**	**302**	*e*Pg	**Pb**	**06 58 36.0**	**+0.4**		
MRKS	62nm,0.3s			eLg	Lg	06 59 12.7			
MRKS	**Merke** 20nm,0.3s	**2.80**	**302**	Pg	**Pb**	**06 58 35.7**	**+0.1**		
MRKS	62nm,0.3s			Lg	Lg	06 59 12.7			
OHH	**Osh** baz=57	**2.89**	**255**	⇑*i*P	**Pn**	**06 58 32.0**	**0.0**		
OHH	baz=57			⇑*i*S	**Sn**	**06 59 07.6**	**+0.2**		
SHLS	**Shalkode** 12nm,0.3s	**2.90**	**50**	*e*Pg	**Pg**	**06 58 41.6**	**+1.3**		
SHLS	67nm,0.7s			eLg	Lg	06 59 22.2			
SHLS	**Shalkode** 12nm,0.3s	**2.90**	**50**	Pg	**Pg**	**06 58 41.6**	**+1.3**		
SHLS	67nm,0.7s			Lg	Lg	06 59 22.2			
PDGK	**Podgornoye** 9.5nm,0.5s	**3.02**	**47**	Pg	**Pb**	**06 58 39.0**	**-0.5**		
PDGK	27nm,0.8s			Lg	Lg	06 59 17.9			
PDGK	**Podgornoye** 12nm,0.5s	**3.02**	**47**	⇑Pg	**Pb**	**06 58 36.2**	**-3.3**		
PDGK	97nm,1.1s			⇓Lg	Lg	06 59 15.9			
ARXS	**Arharly** 21nm,0.3s	**3.07**	**19**	*e*Pg	**Pb**	**06 58 41.2**	**+0.9**		
ARXS	59nm,0.5s			eLg	Lg	06 59 21.8			
ARXS	**Arharly** 21nm,0.3s	**3.07**	**19**	Pg	**Pb**	**06 58 41.2**	**+0.9**		
ARXS	59nm,0.5s			Lg	Lg	06 59 21.8			
ARK	**Arkit** baz=81	**3.40**	**280**	⇑*e*P	**Pn**	**06 58 39.6**	**+0.5**		
ARK	baz=81			⇑*i*S	**Sn**	**06 59 20.5**	**+0.3**		
KTMS	**Ketmen** 1.8nm,0.4s	**3.59**	**52**	*e*Pg	**Pb**	**06 58 49.4**	**+0.2**		
KTMS	7.8nm,0.1s			eLg	Lg	06 59 35.6			
KTMS	**Ketmen** 1.8nm,0.4s	**3.59**	**52**	Pg	**Pb**	**06 58 49.4**	**+0.2**		
KTMS	7.8nm,0.1s			Lg	Lg	06 59 35.6			
KNOS	**Konyrlen** 7.6nm,0.3s	**3.65**	**32**	Pg	**Pb**	**06 58 51.7**	**+1.6**		
KNOS	18nm,0.4s			Lg	Lg	06 59 39.6			
DJR	**Jarkent** 3.4nm,0.2s	**3.89**	**38**	*e*Pg	**Pb**	**06 58 55.1**	**+0.8**		
DJR	16nm,0.4s			eLg	Lg	06 59 45.7			
DJR	**Jarkent** 3.4nm,0.2s	**3.89**	**38**	Pg	**Pb**	**06 58 55.1**	**+0.8**		
DJR	16nm,0.4s			Lg	Lg	06 59 45.7			
TRKS	**Terek-Say** baz=75	**4.00**	**275**	⇑*e*P	**Pn**	**06 58 47.4**	**0.0**		
TRKS	baz=75			⇑*i*S	**Sn**	**06 59 34.2**	**-0.8**		
BTLS	**Baital** 4.3nm,0.3s	**4.12**	**336**	*e*Pg	**Pg**	**06 59 01.7**	**-2.0**		
BTLS	27nm,0.4s			eLg	Lg	06 59 56.8			
KAPS	**Kapalarasan** 3.3nm,0.4s	**4.50**	**27**	*e*Pg	**Pb**	**06 59 07.3**	**+2.6**		
KAPS	10nm,0.4s			eLg	Lg	07 00 06.2			
KAPS	**Kapalarasan** 3.3nm,0.4s	**4.50**	**27**	Pg	**Pb**	**06 59 07.3**	**+2.6**		
KAPS	10nm,0.4s			Lg	Lg	07 00 06.1			
KK31	**Karatay Array** 2.8nm,0.6s,baz=115,slow=14,SNR=27	**4.76**	**294**	Pg	**Pb**	**06 59 10.7**	**+1.6**		
KK31	4.3nm,0.5s,baz=110,slow=27,SNR=9.3			⇓Lg	Lg	07 00 14.1			
KKAR	**Karatay Array** baz=95	**4.76**	**294**	⇑*e*P	**Pn**	**06 58 58.5**	**+0.8**		
KKAR	baz=95			⇑*i*S	**Sn**	**06 59 53.1**	**-0.5**		

IDC 26 07:06:46.7±6.4, 4°.86S×134°.37E, h0km, mb3.6/1, mbtmp3.4/3, ML3.1/2, MS3.9/2, Error ellipse: s-maj=348.3km s-min=33.1km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=359,slow=13,SNR=5.0	**14.99**	**180**	Pn	Pn	07 10 19.2	-0.9
WRA	0.1nm,0.3s,baz=358,slow=24,SNR=2.4			Sn	Sn	07 12 59.6	-7.5
ASAR	**Alice Springs** 0.3nm,0.6s	**18.71**	**181**	P	Pn	07 11 07.2	0.0
ASAR	0.1nm,0.3s,baz=4.6,slow=12,SNR=13			S	Sn	07 14 28.6	-8.5
HNR	**Honiara** comp=Z,271nm,18.8s,baz=32,slow=39	**25.77**	**102**	LR	LR	07 23 30.6	
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=123,slow=7.1,SNR=3.6	**68.92**	**324**	P	P	07 17 53.6	0.0
	0.4nm,0.7s						
OPO	**Ambohidratompo** comp=Z,42nm,18.1s,baz=342,slow=34	**85.81**	**252**	LR	LR	07 55 32.3	

IDC 26 07:32:51.1±2.5, 5°.62N×93°.25E, h0km, mb3.3/4, mbtmp3.4/5, ML4.6/1, Error ellipse: s-maj=99.8km s-min=24.9km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 1.0nm,0.3s,baz=214,slow=13,SNR=2.4	**13.91**	**23**	Pn	Pn	07 36 11.1	+1.3
	1.1nm,0.3s						
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=164,slow=8.5,SNR=5.9	**42.09**	**349**	P	P	07 40 43.8	-1.1
	0.4nm,0.5s						
KURBB	**Kurchatov Arra** 0.3nm,0.4s,baz=163,slow=6.8,SNR=4.3	**46.51**	**347**	P	P	07 41 21.0	+0.8
	0.3nm,0.4s						
WRA	**Warramunga Arr** 0.2nm,0.7s,baz=305,slow=8.6,SNR=2.0	**47.73**	**123**	P	P	07 41 29.7	-0.5
	0.2nm,0.7s						
ASAR	**Alice Springs** 0.2nm,0.5s,baz=316,slow=6.5,SNR=4.5	**49.20**	**128**	P	P	07 41 41.7	+0.1
	0.2nm,0.5s						
H04N2	**CROZET ISLANDS** baz=46	**63.35**	**211**	T	T	08 53 08.2	
H04N1	**CROZET ISLANDS** baz=46	**63.36**	**211**	T	T	08 53 10.1	
H04N3	**CROZET ISLANDS** baz=46	**63.37**	**211**	T	T	08 53 09.5	

*IDC **26** 07:53:12.8±1.8, 1°.89N×127°.09E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=177.0km s-min=20.1km az=66.0*
*DJA **26** 07:53:18.6±1.1, 1°N±6°×12°6E±°, h11km±10km, M3.5/6, MLv3.5/6*

ISC 26 07:53:19.6±1.2, 1°.4N±0°.1×126°.22E±0°.07, h35km, n12, σ1s01/9, mb3.6/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.29**	**117**	P	**Pn**	**07 53 42.4**	**+1.3**
LBMI	**Labuha**	**2.36**	**147**	P	**Pn**	**07 53 56.7**	**+0.8**
KMSI	**Cibinong**	**2.37**	**251**	S	**Sn**	**07 54 23.5**	**-0.3**
GTOI	**Gorontalo**	**3.29**	**257**	P	**Pn**	**07 54 09.9**	**+1.3**
WRA	**Warramunga Arr** 1.1nm,0.8s,baz=339,slow=9.7,SNR=27	**22.62**	**160**	P	**P**	**07 58 16.8**	**-0.8**
	1.1nm,0.8s						
ASAR	**Alice Springs** 0.3nm,0.3s,baz=345,slow=11,SNR=12	**25.98**	**164**	P	**P**	**07 58 49.5**	**+0.3**
	0.3nm,0.3s						
STKA	**Stephens Creek** 0.4nm,0.3s,baz=320,slow=9.2,SNR=5.4	**36.13**	**158**	P	**P**	**08 00 17.7**	**-0.8**
	0.4nm,0.3s						
H11S3	**WAKE ISLAND Hy** baz=254,slow=75,SNR=6.6	**43.18**	**64**	T	T	08 44 32.3	
H11S2	**WAKE ISLAND Hy** baz=254,slow=75,SNR=9.8	**43.20**	**64**	T	T	08 44 33.3	
H11S1	**WAKE ISLAND Hy** baz=254,slow=75,SNR=5.3	**43.20**	**64**	T	T	08 44 31.3	
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=123,slow=7.3,SNR=5.1	**59.21**	**326**	P	**P**	**08 03 17.2**	**-0.1**
	0.2nm,0.4s						
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=120,slow=5.6,SNR=1.9	**63.46**	**328**	P	**P**	**08 03 45.1**	**-0.8**
	0.2nm,0.4s						

IDC 26 08:08:02.0±29.0, 19°.57S×174°.59W, h0km, mb3.9/4, mbtmp3.9/4, MS3.1/1, Error ellipse: s-maj=541.6km s-min=158.3km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 0.7nm,0.5s,baz=90,slow=11,SNR=3.0	**36.78**	**262**	P	P	08 15 12.9	+1.2
	0.7nm,0.5s						
STKA	**Stephens Creek** 0.8nm,0.6s,baz=79,slow=10,SNR=4.1	**41.08**	**244**	P	P	08 15 46.5	-1.1
	0.8nm,0.6s						
ASAR	**Alice Springs** 1.2nm,0.6s,baz=86,slow=7.9,SNR=29	**47.86**	**255**	P	P	08 16 41.6	-0.4
	1.2nm,0.6s						
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=96,slow=7.7,SNR=45	**47.91**	**260**	P	P	08 16 42.5	0.0
	0.5nm,0.3s						
GUMO	**Guam** comp=Z,19nm,18.1s,baz=132,slow=35	**51.76**	**306**	LR	LR	08 38 20.0	

*MOS **26** 08:08:19.7±0.9, 36°.53N×71°.04E, h175km, mb4.8/36, Error ellipse: s-maj=5.0km s-min=3.2km az=86.4*
*NEIC **26** 08:08:20.8±1.3, 36°.56N±0°.06×70°.94E±0°.09, h173km±5km, mb4.8/139, Error ellipse: s-maj=10.0km s-min=8.7km az=84.0*
*BJI **26** 08:08:20.9, 36°.74N×70°.91E, h188km, mb4.5/50, mB5.1/22*
*IDC **26** 08:08:20.9±0.4, 36°.45N×70°.97E, h179km±3km, mb4.1/29, mbtmp4.7/35, MS3.6/12, Error ellipse: s-maj=8.1km s-min=7.8km az=148.0*
*GCMT **26** 08:08:21.8±0.3, 36°.62N±0°.02×70°.84E±0°.03, h186km±2km, MW5.0/106, Moment Tensor Solution. s20,c20; s106,c140; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.98±.11; Mθθ-2.53±.14; Mφφ-0.44±.12; Mrθ-1.89±.11; Mθφ0.30±.14; Mφr-0.46±.10; Best double couple: Ms3.38000×10^16^ NP1♢s267.00000°, δ62.00000°, λ81.00000°. NP2♢s106.00000°, δ29.00000°, λ107.00000°. Principal axes: T 3.6360, Plg71.0000°, Azm156.0000°; N -0.5080, Plg8.0000°, Azm271.0000°; P -3.1250, Plg17.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **26** 08:08:23.3, 37°.40N×71°.73E, h183km±1km, mb4.7*
*NNC **26** 08:08:29.2±2.7, 37°.30N×71°.07E, h204km±23km, mb4.2, mpv5.2, Error ellipse: s-maj=27.5km s-min=11.7km az=30.0*

ISC 26 08:08:20.3±0.3, 36°.44N±0°.03×71°.00E±0°.03, h175km±2km, h175km:pP-P, n839, σ1957/948, mb4.7/184, 41C-45D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.48**	**221**	Pn	**Pn**	**08 09 03.9**	**+1.2**
KBL	**Kabul** SNR=845	**2.48**	**221**	P	**Pn**	**08 09 04.1**	**+1.5**
KBL	**Kabul**	**2.48**	**221**	PN	**Pn**	**08 09 03.9**	**+1.2**
CHGR	**Chuyangaron**	**2.66**	**327**		**Pn**	**08 09 03.4**	**-1.2**
CHGR	**Chuyangaron**	**2.66**	**327**	PN	**Pn**	**08 09 03.4**	**-1.2**
NIL	**Nilore**	**3.34**	**146**	Pn	**Pn**	**08 09 15.5**	**+2.6**
NIL	**Nilore**	**3.34**	**146**	PN	**Pn**	**08 09 15.5**	**+2.6**
BTK	**Batken**	**3.62**	**358**		**Pn**	**08 09 16.6**	**+0.2**
BTK	**Batken**	**3.62**	**358**	PN	**Pn**	**08 09 16.6**	**+0.2**
OHH	**Osh**	**4.32**	**18**	PN	**Pn**	**08 09 24.8**	**-0.5**
JMU	**Jammu**	**4.91**	**138**	*e*P	**Pn**	**08 09 33.8**	**+0.9**
JMU				*e*S	**Sn**	**08 10 26.3**	**-3.5**
JMU				*e*S		08 10 27.7	
KSH	**Kashi**	**4.99**	**50**	P	**Pn**	**08 09 30.3**	**-3.8**
KSH				S	Sn	08 10 20.0	-12
KSH	comp=Z,290nm,0.6s			pmax	pmax		
KSH	comp=N,1μm,0.6s			smax	smax		
KSH	comp=E,1μm,0.7s			smax	smax		
TRKS	**Terek-Say**	**5.09**	**1**	PN	**Pn**	**08 09 33.7**	**-1.7**
ARSB	**Arslanbob**	**5.12**	**17**	Pn	**Pn**	**08 09 34.3**	**-1.5**
ARSB	**Arslanbob**	**5.12**	**17**	PN	**Pn**	**08 09 34.3**	**-1.5**
ARK	**Arkit**	**5.41**	**8**	PN	**Pn**	**08 09 38.3**	**-1.2**
THN	**Thein Dam**	**5.58**	**134**	*e*P	**Pn**	**08 09 43.4**	**+1.7**
THN				*e*S	**Sn**	**08 10 44.7**	**-0.9**
ARLS	**Aral**	**6.00**	**24**	PN	**Pn**	**08 09 45.9**	**-1.4**
DHRM	**DHARAMSHALA**	**6.05**	**132**	*e*P	**Pn**	**08 09 49.4**	**+1.2**
DHRM				*e*S	**Sn**	**08 10 57.3**	**+0.1**
DHRM	comp=E,3μm,0.4s			IAML		08 11 02.3	
DHRM	comp=N,2μm,0.5s			IAML		08 11 03.2	

AML	**Almayashu** SNR=301	**6.06**	**19**	P	**Pn**	**08 09 47.4**	**-0.9**		
UCH	**Uchtor** SNR=226	**6.39**	**24**	P	**Pn**	**08 09 51.8**	**-1.0**		
DZA	**Taraz** baz=2.4	**6.45**	**2**	*e*P	**Pn**	**08 09 52.0**	**-1.2**		
DZA	**Taraz** SNR=60	**6.45**	**2**	*e*PN	**Pn**	**08 09 51.9**	**-1.2**		
KZA	**Kyzart** SNR=60	**6.53**	**29**	P	**Pn**	**08 09 53.2**	**-1.3**		
EKS2	**Erkin-Say** SNR=120	**6.58**	**18**	P	**Pn**	**08 09 54.2**	**-0.6**		
KK31	**Karatay Array**	**6.67**	**357**	Pn	**Pn**	**08 09 54.7**	**-1.3**		
KK31	**Karatay Array**	**6.67**	**357**	PN	**Pn**	**08 09 54.7**	**-1.3**		
KK31	**Karatay Array** comp=N,124nm,0.5s,baz=177,slow=12,SNR=1700	**6.67**	**357**	P	**Pn**	**08 09 54.5**	**-1.5**		
KK31				⇑S	Sn	08 11 01.7	-10		
KKAR	**Karatay Array** comp=N,174nm,0.5s,baz=184,slow=24,SNR=2.6	**6.67**	**357**	Pn	**Pn**	**08 09 54.6**	**-1.4**		
KKAR	**Karatay Array**	**6.67**	**357**	Pn	**Pn**	**08 09 54.7**	**-1.3**		
KKAR	**Karatay Array**	**6.67**	**357**	PN	**Pn**	**08 09 54.7**	**-1.3**		
BHK	**Bhakra**	**6.73**	**136**	*e*P	**Pn**	**08 09 58.0**	**+1.1**		
BHK				*e*S	**Sn**	**08 11 12.4**	**-0.6**		
BHK				*e*S		08 11 12.5			
AAK	**Ala-Archa** SNR=124	**6.76**	**22**	P	**Pn**	**08 09 56.7**	**-0.5**		
AAK	**Ala-Archa** SNR=168	**6.76**	**22**	*i* P	**Pn**	**08 09 56.8**	**-0.5**		
AAK	**Ala-Archa**	**6.76**	**22**	*d i* PN	**Pn**	**08 09 56.6**	**-0.7**		
AAK	comp=Z,323nm,1.7s			pmax	pmax				
AAK	**Ala-Archa** comp=Z,40nm,0.3s,baz=202,slow=8.0,SNR=216	**6.76**	**22**	P	**Pn**	**08 09 56.7**	**-0.5**		
AAK	comp=Z,90nm,0.5s,baz=214,slow=16,SNR=5.6			S	Sn	08 10 55.7	-18		
KBK	**Karagaybulak** SNR=101	**6.92**	**25**	P	**Pn**	**08 09 58.9**	**-0.5**		
FRU1	**Bishkek**	**6.95**	**23**		**Pn**	**08 09 59.3**	**-0.5**		
FRU1	**Bishkek**	**6.95**	**23**	PN	**Pn**	**08 09 59.3**	**-0.5**		
ULHL	**Ulahol** SNR=39	**7.08**	**33**	P	**Pn**	**08 10 00.4**	**-1.2**		
BOOM	**Boomskoye usch**	**7.15**	**31**	Pn	**Pn**	**08 10 01.4**	**-1.1**		
BOOM	**Boomskoye usch**	**7.15**	**31**	PN	**Pn**	**08 10 01.4**	**-1.1**		
CHMS	**Chumysh** SNR=88	**7.16**	**23**	P	**Pn**	**08 10 01.6**	**-0.9**		
USP	**Ospenovka** SNR=75	**7.33**	**20**	P	**Pn**	**08 10 03.2**	**-1.5**		
SMLA	**Simla**	**7.37**	**134**	*e*P	**Pn**	**08 10 06.1**	**+0.8**		
SMLA				*e*S	**Sn**	**08 11 24.2**	**-4.0**		
SMLA	comp=N,721nm,0.6s			IAML		08 11 31.0			
TKM2	**Tokmak 2** SNR=318	**7.38**	**27**	P	**Pn**	**08 10 04.8**	**-0.8**		
HRA	**Herat**	**7.44**	**257**		**Pn**	**08 10 06.2**	**-0.2**		
TARG	**Taragay, Kyrgy**	**7.48**	**43**	Pn	**Pn**	**08 10 05.9**	**-1.1**		
TARG	**Taragay, Kyrgy**	**7.48**	**43**	PN	**Pn**	**08 10 05.9**	**-1.1**		
TNSS	**Tian-Shan** baz=34	**8.03**	**33**	*e*P	**Pn**	**08 10 12.9**	**-1.3**		
TNSS	**Tian-Shan**	**8.03**	**33**	*e*PN	**Pn**	**08 10 12.9**	**-1.3**		
AAA	**Alma-Ata** baz=33	**8.15**	**32**	*e*P	**Pn**	**08 10 15.1**	**-0.4**		
AAA	**Alma-Ata**	**8.15**	**32**	*e*PN	**Pn**	**08 10 15.1**	**-0.4**		
MDOK	**Medeo**	**8.17**	**33**	PN	**Pn**	**08 10 15.3**	**-0.6**		
MDOK	**Medeo** comp=N,164nm,1.1s	**8.17**	**33**	⇑P	**Pn**	**08 10 15.3**	**-0.6**		
KNDC	**Almaty**	**8.18**	**32**	PN	**Pn**	**08 10 15.6**	**-0.3**		
KNDC	**Almaty** comp=N,613nm,1.1s	**8.18**	**32**	⇓P	**Pn**	**08 10 15.6**	**-0.3**		
PRZ	**Przheval'sk**	**8.32**	**41**	Pn	**Pn**	**08 10 17.4**	**-0.5**		
PRZ	**Przheval'sk**	**8.32**	**41**	PN	**Pn**	**08 10 17.4**	**-0.5**		
DDI	**Dehra Dun**	**8.48**	**134**	*e*P	**Pn**	**08 10 20.8**	**+0.8**		
DDI				*e*S	**Sn**	**08 11 51.8**	**-3.0**		
KUU	**Kurty** baz=28	**8.49**	**27**	⇓*i*P	**Pn**	**08 10 18.0**	**-2.1**		
KUU	**Kurty**	**8.49**	**27**	*d i* PN	**Pn**	**08 10 17.9**	**-2.1**		
RTK	**Rohtak**	**8.67**	**147**	*e*S	**Sn**	**08 11 54.8**	**-4.5**		
RTK				*e*S		08 11 55.1			
CHKK	**Chushkaly** baz=31	**8.71**	**30**	*e*P	**Pn**	**08 10 21.0**	**-1.9**		
CHKK	**Chushkaly**	**8.71**	**30**	*e*PN	**Pn**	**08 10 20.9**	**-1.9**		
SATY	**Saty** comp=N,33nm,1.7s,baz=40	**8.73**	**38**	*i* P	**Pn**	**08 10 21.8**	**-1.5**		
SATY	**Saty**	**8.73**	**38**	*i* PN	**Pn**	**08 10 21.8**	**-1.5**		
SATY	comp=Z,33nm,1.7s			pmax	pmax				
ZHN	**Zhinishke** comp=Z,34nm,1.3s,baz=40	**8.82**	**38**	*e*P	**Pn**	**08 10 23.2**	**-1.3**		
ZHN	**Zhinishke**	**8.82**	**38**	*e*PN	**Pn**	**08 10 23.2**	**-1.3**		
ZHN	comp=Z,34nm,1.3s			pmax	pmax				
UZB	**Uzynbulak** comp=Z,29nm,1.3s,baz=42	**9.11**	**40**	*e*P	**Pn**	**08 10 27.4**	**-0.9**		
UZB	**Uzynbulak**	**9.11**	**40**	*e*P	**Pn**	**08 10 27.4**	**-0.9**		
UZB	comp=Z,29nm,1.3s			pmax	pmax				
KPKS	**Kokpek** comp=Z,30nm,0.9s,baz=39	**9.17**	**38**	⇓*i*P	**Pn**	**08 10 27.8**	**-1.2**		
KPKS	**Kokpek**	**9.17**	**38**	*d i* P	**Pn**	**08 10 27.8**	**-1.2**		
KPKS	comp=Z,30nm,0.9s			pmax	pmax				
BHGR	**Bahadurgarh**	**9.20**	**145**	*e*S	**Sn**	**08 12 07.7**	**-4.4**		
JOSI	**Joshimath**	**9.24**	**127**	*e*P	**Pn**	**08 10 30.6**	**+0.4**		
KHET	**Khetri**	**9.27**	**153**	*e*P	**Pn**	**08 10 29.9**	**-0.5**		
KHET				*e*S	**Sn**	**08 12 05.9**	**-7.9**		
KHET				*e*S		08 12 06.8			
NDI	**New Delhi**	**9.34**	**144**	*e*P	**Pn**	**08 10 31.3**	**0.0**		
NDI				*e*S	**Sn**	**08 12 09.3**	**-6.0**		
NDI				*e*S		08 12 09.5			
SHLS	**Shalkode** baz=44	**9.35**	**42**	*e*P	**Pn**	**08 10 33.0**	**+1.6**		
SHLS	**Shalkode**	**9.35**	**42**	*e*P	**Pn**	**08 10 33.0**	**+1.6**		
KUDL	**Kundal**	**9.48**	**149**	*e*P	**Pn**	**08 10 32.7**	**-0.4**		
KUDL				*e*S	**Sn**	**08 12 11.3**	**-7.4**		
PDGK	**Podgornoye**	**9.48**	**41**	P	**Pn**	**08 10 31.9**	**-1.2**		
PDGK	**Podgornoye** comp=Z,21nm,0.8s	**9.48**	**41**	⇑P	**Pn**	**08 10 32.0**	**-1.2**		
JASL	**Jaisalmer**	**9.48**	**181**	*e*P	**Pn**	**08 10 32.8**	**-0.4**		
JASL				*e*S	**Sn**	**08 12 11.6**	**-7.2**		
JASL				*e*S		08 12 11.9			
JASL	comp=E,2μm,0.6s			IAML		08 12 16.6			
JASL	comp=N,1μm,0.6s			IAML		08 12 17.2			
ASOR	**Ausora**	**9.55**	**141**	*e*S	**Sn**	**08 12 17.5**	**-2.8**		
SONA	**Sohna**	**9.64**	**146**	*e*P	**Pn**	**08 10 35.2**	**0.0**		
SONA				*e*S	**Sn**	**08 12 16.0**	**-6.6**		
SONA				*e*S		08 12 17.1			
TDK	**Taldyqorghan** comp=N,31nm,1.3s,baz=32	**10.23**	**31**	*e*P	**Pn**	**08 10 41.1**	**-1.7**		
TDK	**Taldyqorghan**	**10.23**	**31**	*e*P	**Pn**	**08 10 41.1**	**-1.7**		
TDK	comp=Z,31nm,1.3s			pmax	pmax				
PTH	**Pithoragarh**	**10.34**	**129**	*e*P	**Pn**	**08 10 42.9**	**-1.7**		
PTH				*e*S	**Sn**	**08 12 34.1**	**-5.4**		
GEYT	**Alibeck**	**10.39**	**282**	Pn	**Pn**	**08 10 41.8**	**-3.2**		
GEYT	**Alibeck**	**10.39**	**282**	P	**Pn**	**08 10 41.8**	**-3.2**		
GEYT	**Alibeck** comp=Z,50nm,0.7s,baz=113,slow=11,SNR=82	**10.39**	**282**	P	**Pn**	**08 10 42.3**	**-2.7**		
GEYT				S	Sn	08 12 21.2	-19		
GYA0B	**ALIBECK ARRAY** comp=Z,57nm,0.7s,baz=133,slow=30,SNR=5.3	**10.39**	**282**	Pn	**Pn**	**08 10 41.8**	**-3.2**		
AJM	**Ajmer**	**10.40**	**162**	*e*P	**Pn**	**08 10 45.9**	**+0.7**		
AJM	comp=E,143nm,0.4s			IAML		08 12 45.7			
LGTI	**Lohaghat**	**10.43**	**129**	*e*P	**Pn**	**08 10 44.4**	**-1.1**		
LGTI				*e*S	**Sn**	**08 12 33.3**	**-8.1**		
LGTI				*e*S	**S**	**08 12 34.7**	**-7.5**		
OTUK	**Ortayu**	**11.84**	**4**	P	**Pn**	**08 11 01.1**	**-2.6**		
OTUK	**Ortayu** comp=E,20nm,0.8s	**11.84**	**4**	⇑P	**Pn**	**08 11 01.2**	**-2.6**		
PYUN	**Piuthan** comp=E,175nm,0.6s	**13.10**	**126**	*e*P	**Pn**	**08 11 18.7**	**-1.5**		
MAKZ	**Makanchi**	**13.21**	**35**	Pn	**Pn**	**08 11 19.5**	**-1.6**		
MAKZ	**Makanchi**	**13.21**	**35**	P	**Pn**	**08 11 19.7**	**-1.4**		
MAKZ	**Makanchi** comp=E,57nm,0.8s	**13.21**	**35**	⇓P	**Pn**	**08 11 19.7**	**-1.4**		
MK31	**Makanchi Array**	**13.34**	**

DANN **Dangsing** 13.45 123 *e*P Pn 08 11 23.6 -1.0
KOLN **Koldanda** 13.72 125 *e*P Pn 08 11 27.0 -1.0
NGCH **Negor - Chabah** 13.90 220 P P 08 11 31.8 -0.9
GKN **Gorkha** 14.27 122 *e*P Pn 08 11 35.0 +0.3
comp=E,206nm,0.5s
WMQ **Urumqi** 14.73 55 *e*P Pn 08 11 40.3 0.0
WMQ pmax pmax
comp=E,26nm,1.3s
DMN **Daman** 14.84 122 *e*P Pn 08 11 42.2 +0.3
KKN **Kakani** 14.84 121 *e*P Pn 08 11 42.3 +0.4
ZSN **Zaisan** 15.06 39 *e*P Pn 08 11 43.1 -1.1
baz=40
ZSN **Zaisan** 15.06 39 *e*P Pn 08 11 43.1 -1.1
PKI **Pulchoki** 15.07 122 *e*P P 08 11 45.6 -0.4
comp=E,370nm,0.8s
AB31 **Akbulak array** 15.14 331 *i* P Pn 08 11 43.0 -2.1
AB31 S Sn 08 14 20.3 -14
AB31 **Akbulak array** 15.14 331 ⇓P Pn 08 11 42.6 -2.5
comp=E,114nm,0.9s,baz=144,slow=12,SNR=499
ABKAR **Akbulak array** 15.14 331 Pn 08 11 42.5 -2.6
ABKAR **Akbulak array** 15.14 331 Pn 08 11 42.3 -2.8
GUN **Gumba** 15.18 120 *e*P P 08 11 46.7 -0.5
KURBB **Kurchatov Arra** 15.18 19 P Pn 08 11 42.5 -3.2
comp=E,18nm,0.6s,baz=208,slow=11,SNR=35
KURBB S Sn 08 14 32.3 -2.6
comp=E,1.5nm,0.6s,baz=203,slow=29,SNR=1.5
KURBB LR LR 08 17 52.0
comp=E,184nm,19.5s,baz=167,slow=38
KURK **Kurchatov** 15.29 19 Pn 08 11 43.1 -3.9
KURK **Kurchatov** 15.29 19 *d* iP Pn 08 11 43.7 -3.3
KURK pmax pmax
comp=E,59nm,1.3s
KURK **Kurchatov** 15.29 19 ⇑P Pn 08 11 43.7 -3.3
comp=E,63nm,1.3s
JASK **Jask - Hormozg** 15.39 230 P Pn 08 11 48.7 +0.3
SNR=7.9
SEM **Semipalatinsk** 15.48 23 *e*P Pn 08 11 48.0 -1.5
comp=E,38nm,1.2s,baz=23
SEM **Semipalatinsk** 15.48 23 *e*P Pn 08 11 48.0 -1.5
SEM pmax pmax
comp=E,38nm,1.2s
JIRN **Jiri** 15.55 120 *e*P P 08 11 52.0 +0.6
comp=E,211nm,0.5s
RAMN **Ramite** 16.28 121 *e*P Pn 08 12 00.0 +0.5
comp=E,136nm,0.7s
BANOM **Banah** 16.35 234 P Pn 08 12 00.6 +0.4
BANOM **Banah** 16.35 234 P Pn 08 12 00.6 +0.4
SHME **Shamm** 16.37 235 *i* P P 08 11 59.9 -0.1
SNR=17
SHME **Shamm** 16.37 235 P Pn 08 12 00.6 +0.3
SNR=6.0
AKL **Akola** 16.53 160 *e*P Pn 08 12 05.8 +3.5
AKL *e*S S 08 14 58.2 -6.9
AKL *e*S Sn 08 14 59.5 -8.1
BVA0 **Borovoye Array** 16.59 359 *i* P P 08 12 00.4 -1.8
BVA0 **Borovoye Array** 16.59 359 ⇑P P 08 12 00.5 -1.8
comp=E,38nm,1.1s,baz=160,slow=12,SNR=112
BVAR **Borovoye Array** 16.59 359 P P 08 12 01.0 -1.2
BVAR **Borovoye Array** 16.59 359 P P 08 12 00.9 -1.2
comp=E,20nm,0.5s,baz=159,slow=11,SNR=80
BVAR S S 08 15 00.6 -5.2
comp=E,16nm,1.0s,baz=181,slow=21,SNR=2.2
BVAR LR LR 08 19 10.0
comp=Z,122nm,20.6s,baz=175,slow=39
BRVK **Borovoye** 16.63 358 P P 08 12 00.9 -1.7
BRVK **Borovoye** 16.63 358 *d* iP P 08 12 01.3 -1.3
BRVK pmax pmax
comp=E,58nm,1.3s
BRVK **Borovoye** 16.63 358 ⇓P P 08 12 01.2 -1.3
comp=E,69nm,1.2s
TAPN **Taplejung** 16.81 118 *e*P Pn 08 12 08.0 +2.0
MASF **Masafi** 16.83 233 P Pn 08 12 06.8 +0.9
SNR=9.7
MSFE **Esma-Masafi** 16.83 233 *i* P P 08 12 05.3 +0.2
SNR=16
AKTO **Aktyubinsk** 16.84 330 P P 08 12 05.1 +0.2
AKTO S S 08 15 03.3 -8.0
AKTO **Aktyubinsk** 16.84 330 P P 08 12 04.5 -0.4
comp=Z,207nm,0.9s,baz=153,slow=9.1,SNR=178
AKTO S S 08 15 03.0 -8.3
comp=Z,36nm,0.9s,baz=93,slow=9.4,SNR=3.6
AKTO LR LR 08 19 02.2
comp=Z,117nm,19.9s,baz=116,slow=38
ODAN **Odare** 16.89 120 *e*P Pn 08 12 08.7 +1.9
WSAR **Wadi Sarin** 16.95 223 P Pn 08 12 09.3 +2.0
SNR=10.0
WSAR **Wadi Sarin** 16.95 223 P P 08 12 06.6 +0.2
comp=Z,30nm,0.8s,baz=68,slow=11,SNR=31
WSAR S S 08 15 12.9 -1.3
comp=Z,2.7nm,0.6s,baz=350,slow=20,SNR=1.8
BIDO **Bidbid** 17.01 224 P Pn 08 12 08.7 +0.8
UOSS **Minazif** 17.10 232 P P 08 12 07.8 -0.2
UOSS **Minazif** 17.10 232 *i* P P 08 12 08.1 +0.1
SNR=41
UOSS **Minazif** 17.10 232 P Pn 08 12 09.7 +0.7
HATD **Hatta, Dubai** 17.23 232 *i* P Pn 08 12 11.7 +1.0
SNR=20
HATD **Hatta, Dubai** 17.23 232 P Pn 08 12 11.6 +1.0
SNR=11
WBK **Wadi Bani Khal** 17.28 220 P Pn 08 12 13.5 +2.2
SNR=14
ASHO **Ashiyiah** 17.38 232 *i* P Pn 08 12 12.5 +0.1
SNR=97
ASHO **Ashiyiah** 17.38 232 P Pn 08 12 12.7 +0.3
SNR=42
NAZ **Nazwa, Dubai** 17.41 233 *i* P Pn 08 12 12.6 -0.2
SNR=6.8
NAZ **Nazwa, Dubai** 17.41 233 P Pn 08 12 12.8 0.0
SNR=15
SMDO **Samad** 17.42 224 P Pn 08 12 13.8 +0.8
SNR=8.7
SMDO P Pn 08 12 13.8 +0.8
SNR=8.7
HOQ **Hoqain** 17.43 226 P Pn 08 12 13.4 +0.4
JLN **Jalan Bani Buh** 17.44 218 P Pn 08 12 14.1 +1.0
SNR=14
SOHO **SOHO** 17.48 229 P P 08 12 12.1 -0.1
SOHO **SOHO** 17.48 229 P Pn 08 12 13.5 0.0
FAQ **Al Faqa, Dubai** 17.63 233 P P 08 12 13.5 -0.3
FAQ **Al Faqa, Dubai** 17.63 233 P P 08 12 14.6 +0.8
SNR=11
DGZ **Jazzator, Alta** 17.83 37 *d* iP Pn 08 12 17.2 -0.5
DGZ pmax pmax
comp=E,79nm,1.4s
ASUD **Al Ashush, Dub** 17.88 233 *i* P P 08 12 15.9 -0.7
SNR=9.2
ASUD **Al Ashush, Dub** 17.88 233 P P 08 12 17.7 +1.1
JMDO **Jabal Madar** 17.94 222 P Pn 08 12 20.0 +1.0
SNR=9.1
BOK **Bokaro** 17.98 130 IAmb IAmb 08 12 27.6
comp=Z,36nm,0.9s
ALNE **Al Ain** 18.02 231 *i* P P 08 12 18.7 +0.6
SNR=15
ALNE **Al Ain** 18.02 231 P Pn 08 12 19.7 -0.3
SNR=16
ARQ **Araqi** 18.08 228 P Pn 08 12 20.8 +0.1
BSY **Bisya** 18.14 225 P Pn 08 12 21.9 +0.5
SNR=9.3
AJN **Ajban** 18.15 234 *i* P P 08 12 19.9 +0.4
SNR=8.3
AJN **Ajban** 18.15 234 P P 08 12 20.6 +1.1
SNR=12
AJN P P 08 12 20.6 +1.1
SNR=12
LSA **Lhasa** 18.16 106 P Pn 08 12 23.3 +1.3
LSA **Lhasa** 18.16 106 P Pn 08 12 23.3 +1.3
SEKA **Sheki** 19.13 292 P Pn 08 12 31.9 -1.0
MHTO **MHTO** 19.14 220 P Pn 08 12 33.0 -0.1
SNR=14
MHTO P Pn 08 12 33.0 -0.1
SNR=14
GOMU **GeErMu** 19.18 84 P Pn 08 12 33.0 -0.9
GOMU pmax pmax
comp=E,8.0nm,1.7s
MAK **Makhachkala** 19.19 297 *e*P P 08 12 30.2 -0.3
MAK *e*S S 08 15 57.7 -0.8
MAK pmax pmax
comp=E,221nm,1.1s
MAK MLR MLR
comp=E,142nm,13.0s
JRN **Qarnain Island** 19.33 239 P P 08 12 31.9 -0.4
ZAA0 **Zalesovo Array** 19.97 24 P P 08 12 38.1 -0.8
ZALV **Zalesovo Beam** 19.97 24 P P 08 12 38.5 -0.4
comp=Z,41nm,0.5s,baz=223,slow=11,SNR=97
ZALV S S 08 16 12.9 -0.8
comp=Z,4.0nm,0.6s,baz=215,slow=14,SNR=1.8

SHMA **Al-Shehemyia** 20.09 244 P P 08 12 38.5 -1.9
DQM **DQM** 20.24 219 P P 08 12 43.8 +1.7
NAX **Nakhchivan** 20.32 285 P Pn 08 12 46.2 -1.0
SAKB **Bahrain** 20.34 245 P P 08 12 40.4 -2.6
TRNA **Turayna** 20.60 241 P P 08 12 44.3 -1.5
SMRA **Abu-Samra** 20.87 242 P P 08 12 48.0 -0.8
SHL **Shillong** 20.88 115 IAmb IAmb 08 12 54.3
comp=Z,111nm,1.2s
SHL *e*S S 08 16 35.6 +3.4
GNI **Garni** 20.91 288 P P 08 12 50.9 +1.6
GNI **Garni** 20.91 288 P P 08 12 51.7 +2.4
GNI **Garni** 20.91 288 *c i* P Pn 08 12 52.6 -2.1
GNI pmax pmax
comp=Z,59nm,1.3s
GNI **Garni** 20.91 288 P P 08 12 51.7 +2.4
comp=Z,26nm,0.8s,baz=156,slow=8.7,SNR=9.4
GNI S S 08 16 37.7 +5.1
comp=Z,4.7nm,0.4s,baz=216,slow=18,SNR=1.1
SVE **Sverdlovsk** 21.56 344 *c e*P P 08 12 55.6 -0.1
SVE *e*S S 08 16 49.5 +6.5
SVE pmax pmax
comp=Z,96nm,1.3s
ARU **Arti** 21.69 341 P P 08 12 56.6 -0.6
ARU **Arti** 21.69 341 *d i* P P 08 12 56.7 -0.4
ARU *PP pP 08 13 27.8 -0.4
ARU S S 08 16 44.4 -0.9
ARU pmax pmax
comp=Z,127nm,1.4s
ARU **Arti** 21.69 341 P P 08 12 56.9 -0.2
comp=Z,8.7nm,0.3s,baz=154,slow=8.1,SNR=51
ARU S S 08 16 51.3 +6.0
comp=Z,2.9nm,0.2s,baz=247,slow=13,SNR=1.4
ARU LR LR 08 22 07.1
comp=Z,337nm,19.9s,baz=154,slow=38
comp=Z,8.7nm,0.3s
AKH **Akhalkalaki** 21.93 292 P P 08 13 01.7 +1.8
AKH **Akhalkalaki** 21.93 292 P P 08 13 01.7 +1.8
ONI **Oni** 22.07 295 P P 08 13 02.9 +1.7
ONI **Oni** 22.07 295 P P 08 13 02.9 +1.7
KBZ **Khabaz** 22.63 297 *c e*P P 08 13 06.4 +0.1
KBZ pmax pmax
comp=Z,18nm,1.1s
KBZ **Khabaz** 22.63 297 P P 08 13 06.2 -0.1
comp=Z,8.8nm,1.0s,baz=122,slow=8.9,SNR=8.7
KBZ S S 08 17 06.4 +5.6
comp=Z,6.8nm,0.9s,baz=88,slow=7.6,SNR=1.9
comp=Z,8.8nm,1.0s
GOF **Gofitskoye** 22.78 301 *c e*P P 08 13 09.9 +2.2
KIV **Kislovodsk** 22.82 298 *e*P P 08 13 08.9 +0.7
KIV *e*S S 08 17 04.1 +0.1
KIV pmax pmax
comp=Z,17nm,1.1s
KIV MLR MLR
comp=Z,53nm,14.0s
SHAO **Shalim** 22.82 221 P P 08 13 09.1 +0.8
GTA **Gaotai** 22.88 74 P P 08 13 11.0 +2.2
GTA pP pP 08 13 44.3 +2.3
GTA pmax pmax
comp=Z,20nm,1.6s
BELG **Belogornoye** 22.94 321 *d* iP P 08 13 09.3 +0.3
BELG pmax pmax
comp=Z,20nm,0.9s
DMTO **DMTO** 23.43 222 P P 08 13 14.4 +0.6
WHFO **Wadi Hawf** 23.91 224 P P 08 13 18.8 +0.6
RBK **Rabkut** 24.01 223 P P 08 13 19.4 +0.3
ABTO **Aybut** 24.63 224 P P 08 13 29.2 +4.3
SNR=5.2
SOC **Sochi** 24.90 296 *e*P P 08 13 28.0 +1.0
SOC *e**PP pP 08 14 02.4 +0.1
SOC *e* 08 14 15.0
SOC *e**SP sP 08 14 23.6 +0.5
SOC *e*S S 08 17 39.5 +2.4
SOC pmax pmax
comp=Z,57nm,1.1s
VRH **Novokhopyorsk** 25.56 314 *e*P P 08 13 34.7 +2.0
VRH pmax pmax
comp=Z,40nm,0.9s
MND **Mandalay** 26.11 116 P P 08 13 39.6 +1.6
KIRV **Kirov** 26.30 334 *i* iP P 08 13 40.1 +0.8
LZH **Lanzhou** 26.42 81 *e*P P 08 13 43.5 +2.6
LZH pmax pmax
comp=Z,10.0nm,1.4s
ANN **Anapa** 26.67 299 *e*P P 08 13 40.2 -2.6
ANN *e**PP pP 08 14 18.3 -0.5
ANN *e* 08 14 33.2
ANN *e*S S 08 18 00.5 -4.4
ANN pmax pmax
comp=Z,48nm,1.1s
VSR **Storozhevoye** 27.05 313 *e*P P 08 13 47.1 +1.0
VSR pmax pmax
comp=Z,20nm,1.2s
CD2 **Chengdu** 27.73 92 P P 08 13 54.3 +1.8
CD2 pmax pmax
comp=Z,30nm,0.9s
PZH **PanZhiHua** 27.92 102 P P 08 13 56.3 +1.9
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,60nm,3.7s
SONM **Songino Array** 28.37 55 P P 08 13 59.5 +1.4
SONM **Songino Array** 28.37 55 P P 08 13 59.5 +1.4
SONM pmax pmax
comp=Z,8.0nm,1.3s
SONM **Songino Array** 28.37 55 P P 08 13 59.0 +0.9
comp=Z,3.1nm,0.9s,baz=259,slow=9.6,SNR=17
comp=Z,3.1nm,0.9s
ULN **Ulaanbaatar** 28.81 55 *c i* P P 08 14 03.1 +1.0
ULN pmax pmax
comp=Z,5.0nm,0.9s
BR131 **Keskin Array S** 29.45 288 P P 08 14 07.4 -0.4
BR131 **Keskin Array S** 29.45 288 *i* iP P 08 14 08.7 +0.9
BRTR **Keskin Array B** 29.45 288 P P 08 14 07.8 0.0
BRTR **Keskin Array B** 29.45 288 P P 08 14 08.8 +0.9
comp=Z,2.3nm,0.7s,baz=104,slow=8.3,SNR=13
comp=Z,2.3nm,0.7s
MOS **Moscow** 29.71 321 *e*P P 08 14 03.9 -5.8
MOS *e* 08 15 09.9
MOS *e* 08 20 40.0
MOS pmax pmax
comp=Z,54nm,1.1s
PRGR **Permogore** 29.83 336 *e*P P 08 14 07.5 -3.1
PRGR *e**PP pP 08 14 47.5 +0.2
PRGR pmax pmax
comp=Z,35nm,1.4s
OBN **Obninsk** 29.99 319 *e*P P 08 14 11.8 -0.3
OBN *e**PP pP 08 14 46.3 -2.6
OBN *e**SP sP 08 15 08.0 -1.3
OBN *e* 08 15 15.9
OBN *e* 08 17 10.4
OBN pmax pmax
comp=Z,44nm,1.9s
CHTO **Chiang Mai** 30.19 118 P P 08 14 16.3 +2.0
CHTO **Chiang Mai** 30.19 118 P P 08 14 17.6 +3.3
CHTO **Chiang Mai** 30.19 118 P P 08 14 16.3 +2.0
CHTO pmax pmax
comp=Z,12nm,1.0s
CRAI **Chiangrai** 30.32 114 P P 08 14 16.8 +1.3
PALK **Pallekele** 30.35 161 P P 08 14 17.3 +1.5
PALK **Pallekele** 30.35 161 ⇑P P 08 14 18.5 +2.7
PALK **Pallekele** 30.35 161 P P 08 14 18.3 +2.6
CM31 **Chiang Mai Arr** 30.42 119 P P 08 14 18.6 +2.2
CM31 IAmb IAmb 08 14 20.4
comp=Z,22nm,1.1s
CMAR **Chiang Mai Arr** 30.42 119 P P 08 14 18.3 +1.9
CMAR **Chiang Mai Arr** 30.42 119 P P 08 14 18.0 +1.6
comp=Z,8.2nm,0.9s,baz=300,slow=8.1,SNR=37
CMAR pP pP 08 14 55.2 +1.2
comp=Z,8.3nm,1.0s,baz=294,slow=9.7,SNR=1.8
comp=Z,8.2nm,0.9s
BTO **Baotou** 30.64 70 *e*P P 08 14 17.0 -1.2
BTO pP pP 08 14 53.5 -2.4
BTO PP PnPn 08 15 24.0 -1.8
BTO pmax pmax
comp=Z,27nm,0.8s
BTO pmax pmax
comp=Z,620nm,7.2s
XAN **Xi'an** 30.93 83 ⇑P P 08 14 22.3 +1.5
XAN pmax pmax
comp=Z,24nm,1.1s
XAN **Xi'an** 30.93 83 P P 08 14 22.1 +1.3
KLMR **Klimovskoe** 31.54 331 *e*P P 08 14 21.5 -4.2
KLMR AMP 08 14 27.3
comp=Z,17nm,1.0s
KLMR *e*pP pP 08 15 00.0 -2.4

KLMR *e* 08 15 19.3
KLMR *e* 08 21 00.4
KLMR *e* 08 21 00.4
KLMR **Klimovskoe** 31.54 331 *e*P P 08 14 21.4 -4.2
KLMR *e**PP pP 08 15 00.0 -2.4
KLMR *e* 08 15 19.3
KLMR pmax pmax
comp=Z,17nm,1.0s
HHC **Hu-ho-hao-te** 31.78 69 *e*P P 08 14 31.0 +2.8
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,590nm,5.1s
ENH **Enshi** 32.57 90 P P 08 14 37.1 +2.0
ENH **Enshi** 32.57 90 P P 08 14 37.6 +2.5
ELL **Elmali** 32.82 283 P P 08 14 37.1 -0.1
ELL **Elmali** 32.82 283 P P 08 14 37.2 -0.1
ELL pmax pmax
comp=Z,80nm,0.7s
TIY **Taiyuan** 32.89 75 *e*P P 08 14 41.0 +3.1
AKASG **Malin Array Be** 32.99 309 P P 08 14 38.3 -0.1
AKASG **Malin Array Be** 32.99 309 P P 08 14 38.4 0.0
comp=Z,4.6nm,0.6s,baz=86,slow=6.9,SNR=38
AKASG pP pP 08 15 15.5 +0.2
comp=Z,7.1nm,0.8s,baz=90,slow=7.2,SNR=4.3
AKASG sP sP 08 15 35.7 +0.1
comp=Z,4.8nm,0.6s,baz=81,slow=7.6,SNR=4.1
AKASG LR LR 08 32 26.6
comp=Z,36nm,19.7s,baz=32,slow=44
comp=Z,4.6nm,0.6s
AKBB **Malin Array Si** 32.99 309 P P 08 14 37.9 -0.6
AKBB IAmb IAmb 08 15 55.1
comp=Z,22nm,1.1s
AKBB **Malin Array Si** 32.99 309 ⇑*e*P P 08 14 38.0 -0.4
AKBB pmax pmax
comp=Z,45nm,2.2s
KIEV **Kiev** 33.00 309 ⇓P P 08 14 40.6 +2.1
KIEV **Kiev** 33.00 309 P P 08 14 37.9 -0.6
KIEV IAmb IAmb 08 15 55.0
comp=Z,22nm,1.1s
KIEV **Kiev** 33.00 309 *i* P P 08 14 40.2 +1.7
SNR=6.5
KIEV **Kiev** 33.00 309 ⇓P P 08 14 40.6 +2.1
KIEV **Kiev** 33.00 309 P P 08 14 40.6 +2.1
KIEV pP pP 08 15 19.3 +3.9
KIEV sP sP 08 15 39.7 +4.0
TPGR **Topolog** 33.07 298 ⇑P P 08 14 40.2 +0.9
SORM **Soroca** 33.24 304 ⇑P P 08 14 40.5 -0.1
SORM **Soroca** 33.24 304 ⇑P P 08 14 40.5 -0.1
CFR **Carcaliu** 33.27 299 ⇓P P 08 14 41.9 +1.0
CFR **Carcaliu** 33.27 299 ⇓P P 08 14 41.9 +1.0
SRDT **SRDT** 33.39 124 P P 08 14 44.9 +2.7
LYN **LuoYang** 33.63 81 ⇑P P 08 14 46.3 +2.1
LYN pP pP 08 15 24.3 +2.3
LYN sP sP 08 15 45.0 +2.5
LYN PP PnPn 08 16 02.8 0.0
LYN S S 08 19 56.8 +2.9
LYN pmax pmax
comp=Z,40nm,1.1s
LYN pmax pmax
comp=Z,360nm,8.1s
NONG **Nongkai** 33.71 114 P P 08 14 46.6 +1.5
PANC **Panciu** 33.97 300 ⇑P P 08 14 48.7 +1.7
NRIK **Noril'sk** 34.19 10 P P 08 14 49.6 +1.0
NRIK **Noril'sk** 34.19 10 *d* iP P 08 14 49.8 +1.2
NRIK pmax pmax
comp=Z,34nm,1.1s
NRIK **Noril'sk** 34.19 10 P P 08 14 49.4 +0.8
comp=Z,18nm,0.9s,baz=200,slow=6.8,SNR=25
NRIK pP pP 08 15 25.9 -0.5
comp=Z,15nm,0.9s,baz=203,slow=6.0,SNR=4.9
NRIK S S 08 20 02.5 +0.8
comp=Z,0.9nm,0.4s,baz=59,slow=20,SNR=0.9
NRIK LR LR 08 29 50.3
comp=Z,90nm,20.6s,baz=152,slow=38
comp=Z,18nm,0.9s
VRI **Vrincioaia** 34.26 300 ⇑P P 08 14 51.6 +2.1
VRI **Vrincioaia** 34.26 300 ⇑P P 08 14 51.6 +2.1
PLOR **Plostina** 34.32 300 ⇓P P 08 14 52.0 +2.0
PLOR **Plostina** 34.32 300 ⇓P P 08 14 52.0 +2.0
TESR **Tescani** 34.32 301 ⇑P P 08 14 51.4 +1.4
COVR **Voineasa-Covas** 34.53 300 ⇓P P 08 14 54.5 +1.8
BIZ **Bicaz** 34.70 302 ⇑P P 08 15 04.1 +11
HNS **HongShan** 34.73 75 ⇓P P 08 14 56.0 +2.4
HNS pmax pmax
comp=Z,14nm,1.4s
TURR **Turia** 34.76 300 ⇑P P 08 14 55.9 +2.1
MLR **Muntele Rosu** 34.81 299 ⇑P P 08 14 56.2 +1.8
MLR **Muntele Rosu** 34.81 299 P P 08 14 56.3 +1.9
MLR **Muntele Rosu** 34.81 299 ⇑P P 08 14 56.2 +1.8
XLT **XiLinHaoTe** 34.89 63 *e*P P 08 14 47.0 -8.1
XLT pP pP 08 15 24.5 -8.5
XLT sP sP 08 15 42.5 -11
XLT pmax pmax
comp=Z,6.0nm,0.9s
XLT pmax pmax
comp=Z,590nm,6.1s
ELND **Elena** 35.00 295 ⇓P P 08 14 56.2 +0.3
DOPR **Dopca** 35.20 300 ⇓P P 08 14 59.1 +1.6
KARP **Karpathos** 35.26 282 P P 08 14 58.3 +0.1
NACGM **Naroch** 35.26 316 *e*P P 08 14 57.4 -0.6
comp=Z,38nm,0.9s,baz=103
BURAR **Bucovina Array** 35.32 303 ⇓P P 08 14 59.6 +0.9
BURAR **Bucovina Array** 35.32 303 P P 08 14 59.5 +0.7
BURAR **Bucovina Array** 35.32 303 ⇓P P 08 14 59.6 +0.9
BUR08 **Bucovina Ar. S** 35.33 303 P P 08 14 58.9 +0.1
MTUR **Matau** 35.44 299 ⇓P P 08 15 01.7 +2.0
MTUR **Matau** 35.44 299 ⇓P P 08 15 01.7 +2.0
VOIR 35.45 299 ⇓P P 08 15 00.8 +1.1
VOIR 35.45 299 ⇓P P 08 15 00.8 +1.1
ARR **Arges** 35.74 299 ⇓P P 08 15 03.6 +1.3
ARCR **ARCALIA** 35.90 302 ⇑P P 08 15 06.0 +2.4
APE **Apeiranthos** 36.17 285 ⇑P P 08 15 06.2 +0.2
APE **Apeiranthos** 36.17 285 ⇑P P 08 15 06.2 +0.2
LVV **L'vov** 36.20 307 *e*P P 08 15 06.8 +0.8
LVV *e**PP pP 08 15 44.9 +1.5
LVV *e* 08 16 31.2
LVV *e*S S 08 20 32.2 -0.7
LVV *e*SSS SSS 08 23 04.5
LVV pmax pmax
comp=Z,70nm,1.5s
LOT **Lotru** 36.34 299 ⇑P P 08 15 09.0 +1.5
WHN **Wuhan** 36.40 86 ⇑P P 08 15 09.8 +1.9
WHN pmax pmax
comp=Z,110nm,1.6s
MARR **Marisel-Cluj** 36.75 301 ⇓P P 08 15 12.5 +1.6
TIA **Tai'an** 36.88 76 P P 08 15 14.5 +2.5
TIA pmax pmax
comp=Z,23nm,1.4s
GZR **Gura Zlata** 37.05 299 ⇑P P 08 15 14.2 +0.8
UBPT **Khong Chiam** 37.20 115 P P 08 15 17.7 +2.9
BLKB **Belogradchik** 37.26 296 ⇓P P 08 15 16.3 +1.2
KOLS **Kolonicke sedl** 37.31 305 *e*P P 08 15 16.7 +1.2
KOLS *e* 08 15 54.9
KOLS **Kolonicke sedl** 37.31 305 *e*P P 08 15 16.7 +1.2
KOLS *e* 08 15 55.0
KOLS pmax pmax
comp=Z,13nm,0.8s
SURR **Surduc** 37.48 300 ⇓P P 08 15 18.6 +1.7
FINES **FINESS Array B** 37.54 326 P P 08 15 17.7 +0.6
comp=Z,3.3nm,0.4s,baz=122,slow=9.6,SNR=42
FINES LR LR 08 31 07.3
comp=Z,123nm,20.0s,baz=108,slow=36
comp=Z,3.3nm,0.4s
MDVR **Moldovita** 37.84 298 ⇓P P 08 15 21.3 +1.3
BZS **Buzias** 37.85 300 ⇑P P 08 15 21.1 +1.1
BZS **Buzias** 37.85 300 ⇑P P 08 15 21.1 +1.1
BOVS **Bovan** 37.96 297 ⇑P P 08 15 21.1 +0.2
STHS **Stebnicka Huta** 38.00 306 *e*P P 08 15 21.0 -0.2
STHS **Stebnicka Huta** 38.00 306 *e*P P 08 15 21.0 -0.2
OJC **Ojcow** 38.94 307 P P 08 15 29.2 +0.2
OJC IAmb IAmb 08 16 09.4
comp=Z,22nm,1.0s
OJC **Ojcow** 38.94 307 P P 08 15 29.3 +0.2
OJC pmax pmax
comp=Z,22nm,1.0s
DIVS **Divibare** 39.14 297 P P 08 15 30.5 -0.3
NJ2 **Nanjing** 39.48 82 *e*P P 08 15 34.0 +0.3
NJ2 pP pP 08 16 12.0 -0.5
NJ2 sP sP 08 16 33.0 +0.1
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 pmax pmax

VYHS **Vyhne** **39.60 304** *e*P **P** **08 15 35.7 +1.2**
VYHS *e* 08 16 14.8
VYHS Vyhne **39.60 304** *e*P **P** **08 15 35.7 +1.2**
VYHS *e* 08 16 14.8
VYHS pmax pmax
comp=Z,9.0nm,1.4s
MORH Mrgy, Hungar **39.87 301** ⇑P **P** **08 15 37.3 +0.6**
SRO Srobarova **39.98 303** *e*P **P** **08 15 39.3 +1.7**
SRO *e* 08 16 17.5
SRO Srobarova **39.98 303** *e*P **P** **08 15 39.3 +1.7**
SRO *e* 08 16 17.5
SRO pmax pmax
comp=Z,21nm,1.0s
JAVC Velka Javorina **40.35 305** *e*P **P** **08 15 42.4 +1.6**
JAVC *e*pP **pP** **08 16 21.5 +2.7**
VADS Vadso **40.38 339** *e*P **P** **08 15 41.9 +1.4**
MORC Moravsky Berou **40.40 307** ⇓P **P** **08 15 42.4 +1.3**
MORC Moravsky Berou **40.40 307** P **P** **08 15 41.2 0.0**
MORC Moravsky Berou **40.40 307** *e*P **P** **08 15 41.9 +0.7**
MORC *e*pP **pP** **08 16 21.2 +2.0**
MORC Moravsky Berou **40.40 307** ⇓P **P** **08 15 42.4 +1.3**
KEV Kevo **40.86 338** P **P** **08 15 44.5 -0.1**
KEV Kevo **40.86 338** P **P** **08 15 44.5 -0.1**
KEV pmax pmax
comp=Z,133nm,1.7s
KCSI Kotacane, Aceh **41.00 137** P **P** **08 15 45.4 -0.9**
comp=Z,14nm,0.8s,comp=Z,2µm
VRAC Vranov **41.04 306** ⇓P **P** **08 15 47.8 +1.5**
VRAC Vranov **41.04 306** *e*P **P** **08 15 47.4 +1.1**
VRAC *e*pP **pP** **08 16 26.9 +2.5**
VRAC Vranov **41.04 306** ⇓P **P** **08 15 47.8 +1.5**
DPC Dobruska-Polom **41.17 307** *e*P **P** **08 15 48.6 +1.2**
DPC *e*pP **pP** **08 16 27.4 +1.7**
DPC Dobruska-Polom **41.17 307** *e*P **P** **08 15 48.6 +1.2**
DPC *e**PP **pP** **08 16 27.4 +1.7**
KRUC Moravsky **41.18 305** *e*P **P** **08 15 48.2 +0.7**
KRUC *e*pP **pP** **08 16 27.0 +1.4**
ARA0 ARCESS Array S **41.20 338** *e*P **P** **08 15 48.1 +0.7**
ARCES ARCESS Array B **41.20 338** P **P** **08 15 47.9 +0.5**
ARCES ARCESS Array B **41.20 338** P **P** **08 15 48.2 +0.8**
comp=Z,7.0nm,0.6s,baz=111,slow=8.8,SNR=54
ARCES pP **pP** **08 16 24.7 -1.1**
comp=Z,23nm,0.9s,baz=101,slow=6.3,SNR=7.0
ARCES LR LR 08 34 02.8
comp=Z,193nm,19.8s,baz=121,slow=37
comp=Z,7.0nm,0.6s
OSTC Ostas **41.23 308** *e*P **P** **08 15 49.0 +1.1**
OSTC Ostas **41.23 308** *e*P **P** **08 15 49.0 +1.1**
CHVC Chvalec **41.34 308** *e*P **P** **08 15 49.1 +0.4**
CHVC Chvalec **41.34 308** *e*P **P** **08 15 49.1 +0.4**
RONA Rosalia, Austr **41.34 303** *i*P **P** **08 15 49.7 +0.8**
comp=Z,5.6nm,0.9s
RONA *e*pP **pP** **08 16 25.7 -1.4**
comp=Z,6.2nm,1.2s
UPC Upice **41.37 308** *e*P **P** **08 15 50.0 +1.0**
UPC Upice **41.37 308** *e*P **P** **08 15 50.0 +1.0**
CONA Conrad Observa **41.62 304** *i*P **P** **08 15 52.1 +0.9**
comp=Z,12nm,0.9s
CONA *i*pP **pP** **08 16 31.4 +2.0**
comp=Z,21nm,1.4s
CN2 Changchun **41.64 62** *e*P **P** **08 15 50.0 -1.2**
KTK1 Kautokeino **41.68 336** *e*P **P** **08 15 51.6 +0.4**
ARSA Arzberg **41.91 303** *i*P **P** **08 15 54.0 +0.6**
comp=Z,2.0nm,0.6s
ARSA *e*pP **pP** **08 16 33.6 +1.9**
comp=Z,3.2nm,1.0s
ZEA Zeya **42.11 47** *e*P **P** **08 15 56.7 +1.8**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
PSI Prapat **42.23 136** P **P** **08 15 58.0 +1.5**
PSI pmax pmax
comp=Z,26nm,1.0s
HEH HeiHe **42.28 53** *e*P **P** **08 15 57.5 +1.1**
HEH pmax pmax
comp=Z,29nm,0.9s
HAMF Hammerfest **42.29 339** *e*P **P** **08 15 57.4 +1.3**
SOKA Soboth **42.30 302** *i*P **P** **08 15 57.6 +0.9**
comp=Z,11nm,0.8s
SOKA *i*pP **pP** **08 16 37.0 +1.9**
comp=Z,17nm,1.0s
RPSI Rantau Prapat **42.32 136** P **P** **08 15 58.0 +0.9**
RPSI IAmb IAmb 08 15 58.6
comp=Z,26nm,1.0s
PRU Pruhonice **42.33 307** *e*P **P** **08 15 57.8 +1.0**
PRU Pruhonice **42.33 307** *e*P **P** **08 15 57.8 +1.0**
CKRC Cesky Krumlov **42.57 305** *e*P **P** **08 15 59.7 +0.9**
CKRC Cesky Krumlov **42.57 305** *e*P **P** **08 15 59.7 +0.9**
SGRT San Giovanni R **42.59 295** P **P** **08 15 58.4 -0.7**
ZVC Zvikov **42.60 306** *e*P **P** **08 16 00.3 +1.4**
OBKA Obir **42.66 302** *e*P **P** **08 15 59.8 +0.2**
OBKA *i*pP **pP** **08 16 40.1 +2.2**
comp=Z,3.9nm,0.9s
BRG Berggiesshubel **42.66 308** ⇓*i*P **P** **08 16 00.6 +1.1**
BRG Amp 08 16 02.5
comp=Z,12nm,0.8s
BRG Berggiesshubel **42.66 308** ⇓*i*P **P** **08 16 00.5 +1.1**
BRG 08 16 39.9
BRG pmax pmax
comp=Z,12nm,0.8s
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG pmax pmax
comp=Z,22nm,1.1s
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG Berggiesshubel **42.66 308** *e*P **P** **08 16 00.5 +1.1**
comp=Z,12nm,0.8s,baz=83,slow=8.0
BRG *e*pP **pP** **08 16 40.1 +2.2**
baz=85,slow=8.1
MOA Molln **42.69 304** *i*P **P** **08 16 00.2 +0.5**
comp=Z,7.8nm,0.9s,SNR=8.2
MOA *i*pP **pP** **08 16 40.0 +1.9**
comp=Z,18nm,1.3s
LJU Ljubljana **42.73 301** *i*P **P** **08 16 01.4 +1.3**
LJU *i*pP **pP** **08 16 40.8 +2.3**
GSI Gunungsitoli **42.74 139** P **P** **08 16 02.4 +2.0**
GSI Gunungsitoli **42.74 139** P **P** **08 16 03.1 +2.7**
GSI Gunungsitoli **42.74 139** P **P** **08 16 02.8 +2.4**
comp=Z,126nm,1.2s
JETT Jettan, Norway **42.82 336** *e*P **P** **08 16 01.8 +1.3**
CUC Castrocucco **42.92 292** P **P** **08 16 01.1 -0.7**
CUC IAmb IAmb 08 16 43.9
comp=Z,27nm,1.1s
GERES GERESS Array B **42.97 305** P **P** **08 16 02.7 +0.6**
comp=Z,1.3nm,0.7s,baz=56,slow=8.8,SNR=6.9
GERES pP **pP** **08 16 41.4 +0.7**
comp=Z,1.5nm,0.8s,baz=72,slow=8.6,SNR=4.2
GERES PP **PP** **08 17 42.2 -3.1**
comp=Z,2.8nm,0.9s,baz=62,slow=9.1,SNR=3.7
comp=Z,1.3nm,0.7s
KHC Kasperske Hory **43.02 306** *e*P **P** **08 16 04.0 +1.6**
KHC *e*pP **pP** **08 16 44.5 +3.6**
KHC Kasperske Hory **43.02 306**⇑*e*P **P** **08 16 01.8 -0.6**
KHC pmax pmax
comp=Z,19nm,1.9s
FBE Freiberg **43.03 308** *e*P **P** **08 16 03.7 +1.3**
comp=Z,24nm,1.1s,baz=83,slow=8.0
FBE *e*pP **pP** **08 16 43.3 +2.4**
baz=85,slow=8.1
HFS Hagfors **43.12 322** P **P** **08 16 03.2 +0.2**
comp=Z,17nm,0.6s,baz=98,slow=11,SNR=84
HFS pP **pP** **08 16 42.4 +0.9**
comp=Z,20nm,0.8s,baz=96,slow=11,SNR=6.1
HFS sP **sP** **08 17 01.7 +0.3**
comp=Z,7.7nm,0.6s,baz=98,slow=11,SNR=2.7
HFS LR LR 08 36 53.1
comp=Z,85nm,20.1s,baz=86,slow=40
comp=Z,17nm,0.6s
BIOA Bad Ischl, Aus **43.13 304** *i*P **P** **08 16 03.1 -0.2**
comp=Z,8.0nm,1.3s
BIOA *i*pP **pP** **08 16 43.8 +2.1**
comp=Z,12nm,1.3s
CLL Collm **43.23 309** *i*P **P** **08 16 04.0 0.0**
comp=Z,7.0nm,0.9s
CLL *i*pP **pP** **08 16 44.1 +1.6**
comp=Z,16nm,1.2s
CLL *e*PP **PP** **08 17 46.0 -1.9**
CLL *ex* x 08 17 56.0
CLL Collm **43.23 309** *i*P **P** **08 16 04.0 0.0**
CLL *i**PP **pP** **08 16 44.2 +1.7**
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm **43.23 309** *e*P **P** **08 16 04.7 +0.7**
comp=Z,6.0nm,0.8s,baz=83,slow=8.0
CLL *e*pP **pP** **08 16 44.2 +1.7**
baz=85,slow=8.1
CADS Cadrg **43.25 302** *i*P **P** **08 16 04.6 +0.3**
CADS *i*pP **pP** **08 16 44.6 +1.8**
MYKA Terra Mystica **43.26 302** *e*P **P** **08 16 03.4 -1.0**
comp=Z,4.9nm,1.2s
MYKA *e*pP **pP** **08 16 44.0 +1.1**
comp=Z,7.9nm,1.0s
TRO Tromso **43.33 336** *e*P **P** **08 16 05.5 +1.1**
PRED Cave del Predi **43.34 302** P **P** **08 16 03.7 -1.3**
KBA Koelnbreinsper **43.40 303** *i*P **P** **08 16 06.0 +0.3**
comp=Z,4.3nm,1.1s
KBA *i*pP **pP** **08 16 47.3 +3.1**
comp=Z,11nm,1.5s
TANN Tannenbergstha **43.64 308** *e*pP pP 08 16 47.9 +2.1
baz=85,slow=8.1
GUNZ Gunzen **43.72 308** *e*P **P** **08 16 09.1 +1.1**
comp=Z,11nm,1.1s,baz=83,slow=8.0
WERD Werda **43.73 308** *e*P **P** **08 16 09.0 +1.0**
comp=Z,7.5nm,1.1s,baz=83,slow=8.0
LESA Schwarzleotal **43.81 303** *i*P **P** **08 16 09.1 +0.3**
comp=Z,4.5nm,0.5s
LESA *e*pP **pP** **08 16 46.6 -0.9**
comp=Z,19nm,1.4s
PLN Plauen **43.82 308** *e*P **P** **08 16 09.7 +1.0**
baz=83,slow=8.0
ROTZ Rotzenmuhle **43.86 307** *e*P **P** **08 16 10.2 +1.2**
comp=Z,3.6nm,1.3s,baz=83,slow=8.0
ROTZ *e*pP **pP** **08 16 50.0 +2.4**
baz=85,slow=8.1
FAUS Fauske **43.86 333** *e*P **P** **08 16 09.4 +0.6**
MANZ Manzenberg **43.90 307** *e*P **P** **08 16 10.5 +1.1**
comp=Z,1.7nm,0.9s,baz=83,slow=8.0
MANZ *e*pP **pP** **08 16 50.5 +2.5**
baz=85,slow=8.1
ABTA Abfaltersbach **44.02 302** *i*pP pP 08 16 50.1 +1.1
comp=Z,6.7nm,1.0s
YAK Yakutsk **44.02 35**⇓*e*P **P** **08 16 10.3 +0.2**
YAK pmax pmax
comp=Z,13nm,0.7s
STEI Steigen **44.03 333** *e*P **P** **08 16 10.7 +0.6**
MOX Moxa **44.16 308** *e*P **P** **08 16 12.4 +1.0**
comp=Z,14nm,1.2s,baz=83,slow=8.0
MOX *e*pP **pP** **08 16 52.2 +2.1**
baz=85,slow=8.1
GORT1 Trebel **44.19 312** *e*pP pP 08 16 53.0 +2.7
baz=85,slow=8.1
NC405 NORSAR Array S **44.20 323** P **P** **08 16 11.8 +0.2**
NC602 NORSAR Array S **44.24 323** *e*P **P** **08 16 12.0 +0.1**
FLTG Flechtingen **44.27 311** *e*P **P** **08 16 12.5 +0.3**
comp=Z,23nm,0.7s,baz=83,slow=8.0
FLTG *e*pP **pP** **08 16 52.4 +1.5**
baz=85,slow=8.1
NC303 NORSAR Array S **44.38 323** P **P** **08 16 13.2 +0.2**
NB2 NORSAR Subarra **44.43 323** P **P** **08 16 13.2 -0.3**
comp=Z,8.1nm,0.5s,baz=96,slow=7.9
NB2 pP **pP** **08 16 52.4 +0.1**
comp=Z,7.8nm,0.8s,baz=95,slow=8.6
NB2 NORSAR Subarra **44.43 323** P **P** **08 16 13.2 -0.3**
baz=96,slow=7.9
NOA NORSAR Array B **44.43 323** P **P** **08 16 13.4 -0.1**
comp=Z,8.6nm,0.6s,baz=105,slow=7.0,SNR=41
NOA pP **pP** **08 16 52.5 +0.3**
comp=Z,12nm,0.8s,baz=96,slow=8.1,SNR=8.5
NOA LR LR 08 35 00.1
comp=Z,61nm,21.4s,baz=90,slow=36
comp=Z,8.6nm,0.6s
MDJ Mudanjiang **44.43 61** P **P** **08 16 12.5 -1.2**
MDJ pP pP 08 16 52.0 -1.0
MDJ sP sP 08 17 12.8 -0.3
MDJ PcP **PcP** **08 17 53.5 -0.6**
MDJ PP **PP** **08 18 00.0 -0.8**
MDJ ScP **ScP** **08 21 28.0 -1.6**
MDJ PcS **PcS** **08 21 47.5 -0.1**
MDJ S **S** **08 22 32.8 -2.3**
MDJ sS sS 08 23 43.3 -0.7
MDJ ScS **ScS** **08 25 50.3 -2.6**
MDJ pmax pmax
comp=Z,13nm,1.6s
MDJ pmax pmax
comp=Z,570nm,5.1s
KONS Konsvik **44.47 331** *e*P **P** **08 16 14.6 +1.0**
GRF Grafenberg Arr **44.50 307** *e*P **P** **08 16 15.8 +1.7**
comp=Z,17nm,1.2s,baz=83,slow=8.0
GRF *e*pP **pP** **08 16 55.7 +2.9**
baz=85,slow=8.1
WTTA Wattenberg **44.53 303** *i*P **P** **08 16 14.4 -0.2**
comp=Z,15nm,1.3s
WTTA *e*pP **pP** **08 16 54.5 +1.1**
comp=Z,15nm,1.1s,SNR=4.7
WATA Walderalm **44.56 303** *i*P **P** **08 16 14.2 -0.6**
comp=Z,4.3nm,1.0s
WATA *e*pP **pP** **08 16 54.4 +0.8**
comp=Z,4.6nm,0.9s
FUR Furstenfeldbru **44.65 305** *e*P **P** **08 16 16.9 +1.5**
comp=Z,34nm,1.5s,baz=83,slow=8.0
FUR *e*pP **pP** **08 16 56.3 +2.1**
baz=85,slow=8.1
LOF Lofoten **44.70 333** *e*P **P** **08 16 15.0 -0.4**
CTI Castel Tesino **44.71 302** P **P** **08 16 15.1 -0.9**
CTI Castel Tesino **44.71 302** P **P** **08 16 15.1 -0.9**
CTI pmax pmax
comp=Z,11nm,1.0s
BSEG Bad Segeberg **44.74 313** *e*pP pP 08 16 56.8 +2.1
baz=85,slow=8.1
SQTA Sankt Quirin **44.83 303** *i*pP pP 08 16 56.7 +1.0
comp=Z,12nm,1.1s
MOTA Moosalm **44.88 304** *i*P **P** **08 16 16.2 -1.2**
comp=Z,7.2nm,1.2s
MOTA *i*pP **pP** **08 16 57.2 +1.0**
SNR=4.4
KSRS Korea Array **44.90 71** P **P** **08 16 18.1 +0.6**
comp=Z,1.7nm,0.5s,baz=271,slow=7.2,SNR=6.0
comp=Z,1.7nm,0.5s
NRDL Niedersach Rie **44.95 311** *e*P **P** **08 16 18.9 +1.4**
comp=Z,18nm,0.9s,baz=83,slow=8.0
NRDL *e*pP **pP** **08 16 58.5 +2.1**
baz=85,slow=8.1
RETA Reutte **45.09 304** *i*P **P** **08 16 14.7 -4.1**
comp=Z,8.7nm,1.9s
GTTG Gottingen **45.11 310** *e*P **P** **08 16 20.0 +1.1**
comp=Z,19nm,0.8s,baz=83,slow=8.0
GTTG *e*pP **pP** **08 16 59.9 +2.1**
baz=85,slow=8.1
KONO Kongsberg **45.14 321** P **P** **08 16 18.6 -0.4**
KONO Kongsberg **45.14 321** P **P** **08 16 18.6 -0.4**
KONO pmax pmax
comp=Z,94nm,1.4s
KONO Kongsberg **45.14 321** P **P** **08 16 18.9 0.0**
KONO pP **pP** **08 17 00.7 +2.9**
KLR Kul'dur **45.18 54**⇓*i*P **P** **08 16 20.3 +0.8**
KLR pmax pmax
comp=Z,8.0nm,1.2s
FETA Feichten **45.18 303** *i*P **P** **08 16 19.3 -0.5**
comp=Z,3.7nm,0.7s
FETA *i*pP **pP** **08 16 59.7 +1.0**
comp=Z,8.6nm,1.1s
BKNI Bangkinang **45.46 135** P **P** **08 16 22.2 +0.2**
BKNI Bangkinang **45.46 135** P **P** **08 16 24.0 +2.0**
UBR Ueberruh **45.50 304** *e*pP pP 08 17 02.4 +1.4
baz=85,slow=8.1
FUORN Ofenpass-Fuorn **45.56 303** P **P** **08 16 22.4 -0.5**
DAVA Damuels **45.71 304** *i*P **P** **08 16 23.7 -0.2**
comp=Z,16nm,1.0s
DAVA *e*pP **pP** **08 17 03.6 +0.7**
comp=Z,17nm,0.9s
SKAR Skarslia **45.83 322** *e*P **P** **08 16 25.7 +1.3**
TIXI Tiksi **45.83 22** P **P** **08 16 24.2 0.0**
TIXI Tiksi **45.83 22***ce*P **P** **08 16 25.1 +0.8**
TIXI pmax pmax
comp=Z,13nm,1.0s
PDSI Padang **46.15 137** P **P** **08 16 28.1 +0.6**
comp=Z,81nm,0.7s
IBBN Ibbenburen **46.40 311** *e*pP pP 08 17 09.9 +1.9
baz=85,slow=8.1
LODK Lodwar **46.43 233** P **P** **08 16 30.0 +0.3**
AHRW Bad Neuenahr-A **47.04 308** *e*P **P** **08 16 36.2 +2.2**
comp=Z,11nm,0.9s,baz=83,slow=8.0
BER Bergen **47.29 322** *e*P **P** **08 16 36.7 +1.0**
SPITS Spitsbergen Ar **47.56 347** P **P** **08 16 38.9 +1.3**
comp=Z,14nm,0.9s,baz=128,slow=11,SNR=9.1
SPITS LR LR 08 39 45.0
comp=Z,124nm,18.3s,baz=99,slow=40
comp=Z,14nm,0.9s
SENIN Lac Senin/Sane **47.62 303** P **P** **08 16 38.7 -0.2**
WLF Walferdange **47.76 307** *e*P **P** **08 16 41.2 +1.7**
comp=Z,29nm,1.2s,baz=83,slow=8.0
DSRI Dabo **48.17 132** P **P** **08 16 45.2 +2.1**
comp=Z,71nm,1.2s
KMBO Kilima Mbogo **48.79 228** P **P** **08 16 49.7 +1.6**
KMBO Kilima Mbogo **48.79 228** P **P** **08 16 49.7 +1.6**
KMBO Kilima Mbogo **48.79 228** P **P** **08 16 49.7 +1.6**
KMBO pmax pmax
comp=Z,7.0nm,0.8s
KMBO Kilima Mbogo **48.79 228** P **P** **08 16 48.8 +0.7**
comp=Z,4.6nm,0.7s,baz=39,slow=11,SNR=17
comp=Z,4.6nm,0.7s
KMBO Kilima Mbogo **48.79 228** P **P** **08 16 49.7 +1.6**
KEST Kesra **49.06 289** P **P** **08 16 50.5 +0.7**
comp=Z,6.9nm,0.9s,baz=37,slow=5.8,SNR=4.5
comp=Z,6.9nm,0.9s
KIBK Kibwezi **49.30 226** P **P** **08 16 53.2 +1.4**
KIBK IAmb IAmb 08 16 54.7
comp=Z,24nm,1.2s
KIBK Kibwezi **49.30 226** P P 08 16 44.6 -7.2
KASI Kota Agung **52.20 136** P P 08 17 04.4 -8.9
EKA Eskdalemuir Ar **52.33 316** P **P** **08 17 13.8 -0.1**
comp=Z,9.8nm,1.0s,baz=101,slow=6.8,SNR=8.3
EKA sP **sP** **08 18 14.3 +1.1**
comp=Z,3.8nm,0.8s,baz=94,slow=6.6,SNR=2.9
comp=Z,9.8nm,1.0s
MBAR Mbarara **52.47 235** P **P** **08 17 16.5 +0.9**
MBAR IAmb IAmb 08 17 17.4
comp=Z,18nm,0.8s
MBAR Mbarara **52.47 235** P **P** **08 17 16.5 +0.9**
MBAR pmax pmax
comp=Z,18nm,0.8s
MBAR Mbarara **52.47 235** P **P** **08 17 16.4 +0.9**
MBAR pP **pP** **08 17 58.8 +2.5**
MBAR sP **sP** **08 18 18.8 +2.7**
MJAR Matsushiro Arr **52.98 68** P **P** **08 17 21.3 +2.4**
comp=Z,3.0nm,0.9s,baz=300,slow=8.2,SNR=4.4
comp=Z,3.0nm,0.9s
SEY Seymchan **54.47 34**⇑*e*P **P** **08 17 30.2 +0.9**
SEY pmax pmax
comp=Z,21nm,1.8s
DAG Danmarks Havn **54.79 344** *i*P **P** **08 17 31.0 -0.4**
DAG IAmb IAmb 08 17 33.1
comp=Z,9.2nm,0.8s
ESDC Sonseca Array **57.49 298** P **P** **08 17 50.3 -0.9**
comp=Z,2.6nm,0.9s,baz=57,slow=7.4,SNR=10.0
ESDC pP **pP** **08 18 30.9 -0.7**
comp=Z,6.1nm,1.1s,baz=52,slow=6.4,SNR=5.9
ESDC sP **sP** **08 18 52.3 +1.4**
comp=Z,3.2nm,0.8s,baz=58,slow=6.6,SNR=3.9
comp=Z,2.6nm,0.9s
BILL Bilibino **58.66 26**⇑*i*P **P** **08 17 59.5 +0.7**
BILL pmax pmax
comp=Z,12nm,1.3s
ABPO Ambohimpanom **59.56 206** P **P** **08 18 06.5 +0.8**
ABPO IAmb IAmb 08 18 08.3
comp=Z,15nm,1.0s
ABPO Ambohimpanom **59.56 206** P **P** **08 18 06.5 +0.8**
ABPO pmax pmax
comp=Z,15nm,1.0s
ABPO Ambohimpanom **59.56 206** P **P** **08 18 07.0 +1.3**
NEEM North Greenlan **61.10 348** *i*P **P** **08 18 14.3 -1.3**
NEEM IAmb IAmb 08 18 18.4
comp=Z,6.5nm,0.8s
SUMG Summit **61.12 341** P **P** **08 18 16.4 +0.5**
SUMG Summit **61.12 341** P **P** **08 18 16.4 +0.5**
SUMG pmax pmax
comp=Z,24nm,1.0s
SUMG Summit **61.12 341** *i*P **P** **08 18 16.0 0.0**
SUMG IAmb IAmb 08 18 19.3
comp=Z,10nm,0.8s
VOI Vohitsoka **62.37 205** P **P** **08 18 25.6 +1.0**
VOI Vohitsoka **62.37 205** P **P** **08 18 26.4 +1.8**
ICESG Greenland Ices **63.27 338** *i*P **P** **08 18 29.2 -1.0**
ICESG IAML 08 18 31.9
comp=Z,36nm,0.8s
FOMA Nahampoana Res **65.15 204** P **P** **08 18 44.2 +1.7**
LSZ Lusaka **65.41 226** P **P** **08 18 44.8 +0.3**
LSZ IAmb IAmb 08 18 45.9
comp=Z,13nm,0.7s
LSZ Lusaka **65.41 226** P **P** **08 18 44.8 +0.3**
LSZ pmax pmax
comp=Z,13nm,0.7s
LSZ Lusaka **65.41 226** P **P** **08 18 45.3 +0.7**
TOA0 Torodi Ar. Sit **65.72 269** P **P** **08 18 44.3 -2.2**
TORD Torodi Ar. Bea **65.72 269** P **P** **08 18 44.5 -2.0**
TORD Torodi Ar. Bea **65.72 269** P **P** **08 18 44.6 -1.9**
comp=Z,6.1nm,0.8s,baz=48,slow=6.6,SNR=40
TORD pP **pP** **08 19 30.1 +1.6**
comp=Z,7.0nm,0.8s,baz=44,slow=7.2,SNR=5.4
comp=Z,6.1nm,0.8s
A19K Wainwright **67.23 17** P **P** **08 18 56.2 +1.0**
baz=316
A21K Barrow **67.38 15** P **P** **08 18 56.7 +0.6**
baz=320
C16K Lisburne Hills **67.52 20** P **P** **08 18 56.9 -0.1**
C16K IAmb IAmb 08 19 42.8
comp=Z,27nm,1.2s
C16K Lisburne Hills **67.52 20** P **P** **08 18 57.2 +0.2**
baz=314
B18K Kokolik River **67.66 18** P **P** **08 18 59.0 +1.0**
baz=316
C17K DeLong Mountai **67.95 19** P **P** **08 19 00.4 +0.6**
baz=315
A22K Sinclair Lake **67.96 15** P **P** **08 19 00.6 +0.8**
baz=321
B20K Meade River **68.27 16** P **P** **08 19 01.4 -0.3**
B20K IAmb IAmb 08 19 03.5
comp=Z,19nm,1.0s
B20K Meade River **68.27 16** P **P** **08 19 02.5 +0.9**
baz=320,SNR=14
RDOG Red Dog Mine **68.32 19** P **P** **08 19 02.7 +0.6**
baz=316
C18K Utukok River **68.33 18** P **P** **08 19 01.8 -0.4**
C18K IAmb IAmb 08 19 03.8
comp=Z,23nm,1.2s
C18K Utukok River **68.33 18** P **P** **08 19 02.7 +0.5**
baz=317
C19K Lookout Ridge **68.39 17** P **P** **08 19 02.8 +0.2**
C19K IAmb IAmb 08 19 04.4
comp=Z,31nm,1.4s
C19K Lookout Ridge **68.39 17** P **P** **08 19 03.5 +0.9**
baz=318
D17K Noatak River **68.53 19** P **P** **08 19 03.9 +0.5**
baz=316
B22K Teshekpuk Lake **68.81 15** P **P** **08 19 05.3 +0.3**
B22K IAmb IAmb 08 19 07.3
comp=Z,28nm,1.2s
B22K Teshekpuk Lake **68.81 15** P **P** **08 19 05.6 +0.6**
baz=323
B21K Ikpikpuk River **69.13 16** P **P** **08 19 08.0 +0.9**
B21K IAmb IAmb 08 19 08.9
comp=Z,23nm,1.1s
B21K Ikpikpuk River **69.13 16** P **P** **08 19 07.8 +0.8**
baz=322,SNR=13
F14K Arctic Creek **69.17 22** P **P** **08 19 08.2 +0.8**
baz=314
D19K Kuna River **69.20 17** P **P** **08 19 08.0 +0.4**
D19K Kuna River **69.20 17** P **P** **08 19 08.0 +0.4**
baz=319,SNR=17
E17K Hotham Inlet **69.31 19** P **P** **08 19 08.6 +0.4**
baz=317,SNR=7.2
E18K Tukpahlearik C **69.39 19** P **P** **08 19 08.8 +0.1**
E18K IAmb IAmb 08 19 10.2
comp=Z,20nm,1.2s
E18K Tukpahlearik C **69.39 19** P **P** **08 19 09.2 +0.5**
baz=318
D20K Etivluk River **69.39 17** P **P** **08 19 09.1 +0.4**
baz=321,SNR=14
C21K Knifeblade Rid **69.46 16** P **P** **08 19 09.7 +0.6**
baz=322
F15K North Star Dit **69.51 21** P **P** **08 19 09.4 0.0**
F15K North Star Dit **69.51 21** P **P** **08 19 10.2 +0.8**
baz=315
C23K Itkillik River **69.78 14** P **P** **08 19 11.5 +0.5**
C23K Itkillik River **69.78 14** P **P** **08 19 12.0 +1.0**
baz=325
E20K Nigu River **69.84 17** P **P** **08 19 12.0 +0.5**
baz=321
F17K Baldwin Pennin **69.94 20** P **P** **08 19 12.3 +0.4**
F17K IAmb IAmb 08 19 13.8
comp=Z,22nm,1.1s
F17K Baldwin Pennin **69.94 20** P **P** **08 19 12.8 +0.8**
baz=317,SNR=6.5
ANM Nome **70.09 22** P **P** **08 19 14.0 +1.0**
baz=315
D22K Ayikyak River **70.14 15** P **P** **08 19 13.2 -0.1**

D22K IAmb IAmb 08 19 15.1
comp=Z,21nm,1.2s
D22K Ayikyak River 70.14 15 P P 08 19 14.1 +0.8
baz=324
G15K Niukluk 70.19 22 P P 08 19 14.2 +0.6
baz=316
E21K Killik River 70.21 16 P P 08 19 13.4 -0.3
E21K IAmb IAmb 08 19 14.9
comp=Z,20nm,1.1s
E21K Killik River 70.21 16 P P 08 19 13.8 +0.1
baz=323
E19K Redstone River 70.22 18 P P 08 19 13.3 -0.4
E19K IAmb IAmb 08 19 59.1
comp=Z,20nm,1.4s
E19K Redstone River 70.22 18 P P 08 19 13.8 +0.1
baz=320
C24K Franklin Bluff 70.25 14 P P 08 19 14.9 +1.0
baz=327
G16K Koyuk River 70.40 21 P P 08 19 15.5 +0.7
G16K IAmb IAmb 08 19 16.8
comp=Z,17nm,1.2s
G16K Koyuk River 70.40 21 P P 08 19 15.7 +0.9
baz=317
D23K Nanushuk River 70.49 15 P P 08 19 16.2 +0.8
baz=325
F19K Shaleruckik Mo 70.56 18 P P 08 19 16.2 +0.4
baz=320
D24K Happy Valley 70.70 14 P P 08 19 17.1 +0.5
baz=327
C26K Camden Bay 70.77 12 P P 08 19 18.4 +1.4
baz=330
G17K Kiwalik Mounta 70.80 20 P P 08 19 17.9 +0.6
baz=318
F20K Avaraart Lake 70.90 18 P P 08 19 17.5 -0.3
F20K Avaraart Lake 70.90 18 P P 08 19 17.8 0.0
baz=322
E22K Anaktuvuk Pass 70.93 16 P P 08 19 18.0 -0.1
E22K IAmb IAmb 08 19 19.6
comp=Z,14nm,1.1s
E22K Anaktuvuk Pass 70.93 16 P P 08 19 18.4 +0.3
baz=325
H16K Elim 70.98 21 P P 08 19 19.1 +0.7
baz=317
TOLK Toolik Lake Re 70.98 15 P P 08 19 19.1 +0.7
TOLK IAmb IAmb 08 19 20.1
comp=Z,22nm,1.1s
TOLK Toolik Lake Re 70.98 15 P P 08 19 19.0 +0.5
baz=326
D25K Kavik River 71.03 13 P P 08 19 19.3 +0.6
D25K IAmb IAmb 08 19 20.7
comp=Z,13nm,0.9s
D25K Kavik River 71.03 13 P P 08 19 19.4 +0.8
baz=329
G18K Tagagawik 71.05 19 P P 08 19 18.9 0.0
G18K IAmb IAmb 08 19 19.9
comp=Z,20nm,1.5s
G18K Tagagawik 71.05 19 P P 08 19 19.8 +1.0
baz=320
A36M Sachs Harbour 71.27 5 P P 08 19 20.6 +0.7
A36M Sachs Harbour 71.27 5 P P 08 19 20.6 +0.7
baz=346,SNR=19
G19K Purcell Mounta 71.27 19 P P 08 19 19.1 -1.0
G19K IAmb IAmb 08 19 21.4
comp=Z,14nm,1.1s
G19K Purcell Mounta 71.27 19 P P 08 19 20.3 +0.2
baz=321
F21K Alatna River 71.30 17 P P 08 19 20.7 +0.4
baz=324
F22K John River 71.36 16 P P 08 19 21.3 +0.6
baz=324
H17K Granite Mounta 71.43 20 P P 08 19 21.3 +0.2
H17K IAmb IAmb 08 19 23.4
comp=Z,26nm,1.5s
H17K Granite Mounta 71.43 20 P P 08 19 21.6 +0.5
baz=319
E23K Chandalar 71.46 15 P P 08 19 21.9 +0.5
baz=326
E24K Your Creek 71.68 15 P P 08 19 22.5 -0.1
E24K IAmb IAmb 08 19 24.4
comp=Z,17nm,1.2s
E24K Your Creek 71.68 15 P P 08 19 23.1 +0.5
baz=327
H18K Honhosa River 71.70 20 P P 08 19 23.0 +0.3
baz=320
G21K Allakaket 71.86 17 P P 08 19 23.5 -0.1
G21K Allakaket 71.86 17 P P 08 19 23.5 -0.1
baz=324
H19K Roundabout Mou 71.92 19 P P 08 19 24.4 +0.5
baz=321
J14K Nanvaranak Lak 71.96 23 P P 08 19 25.1 +0.8
baz=316
G22K Bettles 72.00 16 P P 08 19 24.8 +0.4
baz=325
I17K Unalakleet 72.00 21 P P 08 19 24.5 +0.1
I17K IAmb IAmb 08 19 27.4
comp=Z,37nm,1.5s
I17K Unalakleet 72.00 21 P P 08 19 25.4 +1.0
baz=318,SNR=6.3
D27M Malcolm River 72.03 11 P P 08 19 25.4 +0.8
D27M Malcolm River 72.03 11 P P 08 19 25.8 +1.2
baz=333
COLD Coldfoot 72.03 16 P P 08 19 25.2 +0.6
baz=326
E25K Arctic Village 72.21 14 P P 08 19 26.2 +0.5
baz=330
IMAR Indian Mountai 72.23 18 P P 08 19 25.7 -0.1
F24K Squaw Lake 72.28 15 P P 08 19 26.7 +0.6
baz=328
D28M Stokes Point 72.29 11 P P 08 19 27.3 +1.2
baz=335
H20K Anotleneega Mo 72.35 18 P P 08 19 26.9 +0.3
baz=323
GCSA Galena City Sc 72.41 19 P P 08 19 27.4 +0.5
baz=321
J16K Anvik River 72.48 22 P P 08 19 27.4 +0.1
J16K IAmb IAmb 08 19 28.9
comp=Z,14nm,1.0s
J16K Anvik River 72.48 22 P P 08 19 28.1 +0.8
baz=319
G23K Bananza Creek 72.50 16 P P 08 19 27.7 +0.2
G23K Bananza Creek 72.50 16 P P 08 19 28.0 +0.5
baz=326
F25K Christian River 72.66 14 P P 08 19 29.4 +1.0
baz=330
H21K Melozitna River 72.73 17 P P 08 19 28.5 -0.3
H21K IAmb IAmb 08 19 30.3
comp=Z,16nm,1.1s
H21K Melozitna Rive 72.73 17 P P 08 19 29.2 +0.4
baz=324
E28M Babbage River 72.83 11 P P 08 19 29.3 0.0
E28M Babbage River 72.83 11 P P 08 19 30.5 +1.1
baz=335
F26K Sheenjek River 72.85 13 P P 08 19 30.4 +0.9
baz=331
E27K Coleen River 72.87 12 P P 08 19 29.3 -0.3
E27K Coleen River 72.87 12 P P 08 19 30.6 +1.0
baz=333
H22K Ishtalitna Cre 72.87 17 P P 08 19 30.5 +0.8
baz=325
K15K Wolf Creek Mou 72.93 23 P P 08 19 31.0 +1.0
baz=318
BMAR Burnt Mountain 73.00 14 P P 08 19 31.0 +0.6
I20K Naaghedeneel 73.01 19 P P 08 19 31.3 +0.9
baz=323
G24K Hadweenzic Riv 73.06 15 P P 08 19 30.9 +0.1
G24K Hadweenzic Riv 73.06 15 P P 08 19 31.7 +1.0
baz=328
L14K Kuka Creek 73.27 24 P P 08 19 33.2 +1.2
baz=317
E29M Blow River 73.28 11 P P 08 19 32.4 +0.4
E29M IAmb IAmb 08 19 34.1
comp=Z,18nm,1.1s
E29M Blow River 73.28 11 P P 08 19 33.0 +1.1
baz=336
G25K Bearman Lake 73.28 14 P P 08 19 33.3 +1.4
baz=330
J19K Poorman 73.34 20 P P 08 19 32.0 -0.5
J19K IAmb IAmb 08 19 34.3
comp=Z,23nm,1.1s
J19K Poorman 73.34 20 P P 08 19 33.0 +0.6
baz=322
L15K Ungalak Mounta 73.41 23 P P 08 19 33.8 +1.0
baz=318
J18K Innoko River 73.46 20 P P 08 19 33.8 +0.6
J18K IAmb IAmb 08 19 34.7
comp=Z,18nm,1.1s
J18K Innoko River 73.46 20 P P 08 19 33.7 +0.6
baz=322
MBWA Marble Bar 73.48 133 P P 08 19 34.3 +0.5
MBWA IAmb IAmb 08 19 35.6
comp=Z,17nm,1.1s
MBWA Marble Bar 73.48 133 P P 08 19 34.8 +1.0
G26K Porcupine Rive 73.58 14 P P 08 19 34.1 +0.4
baz=331
J20K Nowinta River 73.59 19 P P 08 19 34.1 +0.3
J20K IAmb IAmb 08 19 35.6
comp=Z,22nm,1.2s
J20K Nowinta River 73.59 19 P P 08 19 34.6 +0.7
baz=324
K17K Iditarod 73.59 21 P P 08 19 34.3 +0.4
K17K IAmb IAmb 08 19 35.8
comp=Z,26nm,1.1s
K17K Iditarod 73.59 21 P P 08 19 34.8 +0.9
baz=320
F28M Old Crow 73.67 12 P P 08 19 35.4 +1.1
baz=335,SNR=6.7
H24K Noodor Dome 73.71 16 P P 08 19 34.9 +0.3
H24K Noodor Dome 73.71 16 P P 08 19 35.4 +0.8
baz=328
M13K Dall Lake 73.73 25 P P 08 19 35.7 +1.0
baz=317
MLY Manley 73.74 17 P P 08 19 34.7 -0.1
MLY Manley 73.74 17 P P 08 19 35.6 +0.8
baz=326,SNR=8.9
PSA00 Pilbara Seismi 73.87 133 P P 08 19 36.6 +0.6
PSA00 IAmb IAmb 08 19 37.7
comp=Z,32nm,1.4s
PSA00 Pilbara Seismi 73.87 133 P P 08 19 36.1 0.0
PSA00 IAmb IAmb 08 19 37.7
comp=Z,44nm,1.4s
PSA00 Pilbara Seismi 73.87 133 P P 08 19 36.9 +0.9
C36M Paulatuk 73.94 6 P P 08 19 35.8 +0.1
C36M Paulatuk 73.94 6 P P 08 19 36.0 +0.2
baz=348,SNR=17
M14K Bethel 73.94 24 P P 08 19 37.3 +1.4
baz=318,SNR=6.1
I23K Minto, Yukon-K 73.96 17 P P 08 19 36.5 +0.5
I23K IAmb IAmb 08 19 37.9
comp=Z,23nm,1.2s
I23K Minto, Yukon-K 73.96 17 P P 08 19 37.0 +1.0
baz=327,SNR=10
INK Inuvik 73.97 9 P P 08 19 36.8 +0.9
INK Inuvik 73.97 9 P P 08 19 36.7 +0.7
baz=340,SNR=15
INK Inuvik 73.97 9 P P 08 19 36.8 +0.9
INK pmax pmax
comp=Z,31nm,1.2s
L16K Owhat River 74.01 22 P P 08 19 37.4 +1.1
baz=320,SNR=6.3
L17K Donlin 74.04 22 P P 08 19 37.8 +1.3
baz=321
TTA Tatalina 74.08 20 P P 08 19 37.5 +0.6
baz=322
G27K Doyon Strip 74.09 13 P P 08 19 36.9 +0.1
G27K IAmb IAmb 08 19 39.0
comp=Z,15nm,1.1s
G27K Doyon Strip 74.09 13 P P 08 19 37.9 +1.2
baz=333
K20K Telida 74.27 19 P P 08 19 37.8 -0.1
K20K IAmb IAmb 08 19 39.7
comp=Z,24nm,1.2s
K20K Telida 74.27 19 P P 08 19 38.5 +0.7
baz=324
CHUM Lake Minchumin 74.30 18 P P 08 19 38.6 +0.6
baz=325,SNR=6.4
F30M Barrier River 74.31 10 P P 08 19 38.9 +0.9
baz=338,SNR=6.9
MDM Murphy Dome 74.38 16 P P 08 19 38.6 +0.2
MDM IAmb IAmb 08 19 40.6
comp=Z,24nm,1.2s
M15K Kasigluk River 74.40 24 P P 08 19 39.8 +1.2
baz=319
POKR Poker Plat Res 74.42 16 P P 08 19 38.7 0.0
POKR IAmb IAmb 08 19 40.6
comp=Z,28nm,1.1s
POKR Poker Plat Res 74.42 16 P P 08 19 39.6 +0.9
baz=329,SNR=8.1
L18K Granite Mounta 74.45 21 P P 08 19 39.6 +0.8
baz=322
BPAW Bear Paw Mtn. 74.45 18 P P 08 19 39.5 +0.6
baz=326,SNR=7.6
PRP Porcupine Dome 74.48 15 P P 08 19 39.9 +0.7
baz=330
NEA2 Nenana 74.50 17 P P 08 19 39.2 +0.1
NEA2 IAmb IAmb 08 19 40.4
comp=Z,25nm,1.1s
NEA2 Nenana 74.50 17 P P 08 19 39.4 +0.3
baz=328,SNR=17
COLA College 74.54 16 P P 08 19 39.8 +0.5
COLA IAmb IAmb 08 19 40.7
comp=Z,21nm,0.9s
COLA College 74.54 16 P P 08 19 39.9 +0.6
baz=328
COLA College 74.54 16 P P 08 19 39.8 +0.5
COLA pmax pmax
comp=Z,21nm,1.0s
G29M Pine Creek 74.61 11 P P 08 19 40.3 +0.5
baz=336
LBTB Lobatse 74.63 222 P P 08 19 40.8 +0.3
LBTB Lobatse 74.63 222 P P 08 19 40.8 +0.3
LBTB pmax pmax
comp=Z,41nm,1.3s
H27K Steamboat Moun 74.63 13 P P 08 19 40.8 +0.9
baz=333
N14K Kuskokwak Cree 74.66 25 P P 08 19 41.3 +1.3
baz=318
DBIC Dimbokro 74.70 267 P P 08 19 40.0 -1.1
DBIC Dimbokro 74.70 267 P P 08 19 40.0 -1.1
comp=Z,3.0nm,0.8s,baz=51,slow=8.7,SNR=5.3
comp=Z,3.0nm,0.8s
M16K Timber Creek 74.70 23 P P 08 19 41.4 +1.0
baz=320
CAST Castle Rocks 74.74 19 P P 08 19 41.0 +0.4
CAST Castle Rocks 74.74 19 P P 08 19 41.1 +0.6
baz=325,SNR=18
F31M Tsiigehtchic 74.75 10 P P 08 19 40.9 +0.5
baz=340,SNR=10
BWN Browne 74.76 17 P P 08 19 40.6 0.0
G30M tAoh Zraii Nji 74.83 11 P P 08 19 40.9 -0.1
G30M IAmb IAmb 08 19 43.1
comp=Z,26nm,1.2s
G30M tAoh Zraii Nji 74.83 11 P P 08 19 41.4 +0.4
baz=338
IL31 74.84 16 P P 08 19 40.6 -0.4
IL31 IAmb IAmb 08 19 42.4
comp=Z,19nm,1.4s
ILAR Eielson Array 74.84 16 P P 08 19 40.6 -0.5
ILAR Eielson Array 74.84 16 P P 08 19 40.6 -0.5
ILAR Eielson Array 74.84 16 P P 08 19 40.2 -0.8
comp=Z,5.3nm,1.0s,baz=319,slow=5.1,SNR=47
ILAR pP pP 08 20 24.6 +0.2
comp=Z,3.8nm,0.9s,baz=324,slow=4.6,SNR=6.1
comp=Z,5.3nm,1.0s
M17K Holitna River 74.87 22 P P 08 19 41.7 +0.4
M17K IAmb IAmb 08 19 43.9
comp=Z,17nm,1.0s
M17K Holitna River 74.87 22 P P 08 19 42.7 +1.4
baz=321
TSUM Tsumeb 74.88 232 P P 08 19 42.1 0.0
TSUM IAmb IAmb 08 19 43.7
comp=Z,26nm,1.2s
KTH Kantishna Hill 74.93 18 P P 08 19 42.2 +0.5
KTH IAmb IAmb 08 19 42.9
comp=Z,28nm,1.1s
N15K Kwethluk River 75.00 24 P P 08 19 43.3 +1.3
baz=320
L19K White Mountain 75.00 20 P P 08 19 43.1 +1.0
baz=323
L20K Farewell, AK 75.03 20 P P 08 19 43.2 +0.9
baz=324
HDA Harding Lake 75.14 16 P P 08 19 42.8 0.0
baz=329
HDA P P 08 19 42.8 0.0
baz=329
PPLA Purkeypile 75.15 19 P P 08 19 43.0 0.0
baz=325
G31M Satah River 75.17 10 P P 08 19 43.4 +0.6
baz=339,SNR=7.8
TRF Thorofare Moun 75.17 18 P P 08 19 43.8 +0.6
baz=327
I27K Kandik River 75.18 13 P P 08 19 43.9 +0.8
baz=333
N16K Nishlik Lake 75.18 23 P P 08 19 44.9 +1.7
baz=321
KNRA Kununurra 75.19 123 P P 08 19 43.4 -0.3
KNRA Kununurra 75.19 123 P P 08 19 44.6 +0.9
H29M Whitestone 75.19 12 P P 08 19 43.0 -0.1
H29M IAmb IAmb 08 19 44.9
comp=Z,24nm,1.1s
H29M Whitestone 75.19 12 P P 08 19 44.2 +1.1
baz=336
MCK McKinley 75.26 17 P P 08 19 43.5 0.0
baz=328
M18K Stony River 75.28 21 P P 08 19 44.3 +0.7
baz=323
O14K Tigyukauivet M 75.30 25 P P 08 19 44.3 +0.6
baz=319
J25K Salcha River, 75.31 15 P P 08 19 43.3 -0.6
J25K Salcha River, 75.31 15 P P 08 19 44.2 +0.4
baz=330
EPYK Eagle Plains 75.32 11 P P 08 19 44.2 +0.4
baz=337
RND Reindeer 75.56 17 P P 08 19 44.5 -0.8
RND IAmb IAmb 08 20 08.2
comp=Z,48nm,2.0s
RND Reindeer 75.56 17 P P 08 19 44.5 -0.8
RND pmax pmax
comp=Z,48nm,2.0s
I28M Miner Creek 75.63 13 P P 08 19 46.2 +0.5
baz=335
N17K Nushagak Hills 75.64 22 P P 08 19 47.0 +1.3
baz=322
SVW2 Sparrevohn 75.67 21 P P 08 19 46.9 +1.0
KDU Kakadu 75.71 118 P P 08 19 47.2 +0.5
J26L Joseph Creek 75.78 15 P P 08 19 46.4 -0.2
J26L Joseph Creek 75.78 15 P P 08 19 47.0 +0.4
baz=332
O15K Ungalikthiuk R 75.84 24 P P 08 19 48.1 +1.2
baz=320
N18K Kilae Creek 75.91 22 P P 08 19 48.0 +0.8
baz=323
K24K Donnelly Dome 75.92 16 P P 08 19 47.5 +0.1
baz=330,SNR=7.5
I29M Ogilvie Camp, 75.99 12 P P 08 19 46.9 -0.7
I29M IAmb IAmb 08 19 49.4
comp=Z,17nm,1.1s
I29M Ogilvie Camp, 75.99 12 P P 08 19 47.9 +0.2
baz=336,SNR=8.2
EGAK Eagle 76.01 14 P P 08 19 48.3 +0.6
baz=334
CUT Chulitna 76.05 18 P P 08 19 47.9 -0.1
baz=327
SKT Skwentna 76.08 19 P P 08 19 48.0 -0.2
SKT IAmb IAmb 08 20 34.5
comp=Z,28nm,1.1s
SKT Skwentna 76.08 19 P P 08 19 48.1 -0.2
baz=326,SNR=8.8
O16K Kokwok River B 76.08 23 P P 08 19 48.8 +0.6
O16K IAmb IAmb 08 19 50.7
comp=Z,23nm,1.1s
O16K Kokwok River B 76.08 23 P P 08 19 49.3 +1.1
baz=321
WAT1 Susitna Watana 76.12 18 P P 08 19 48.2 -0.3
baz=328
SCRK Sand Creek 76.16 15 P P 08 19 49.1 +0.3
baz=332,SNR=9.3
RIDG Independent Ri 76.18 16 P P 08 19 48.7 -0.1
baz=331
DHY Denali Highway 76.19 17 P P 08 19 49.2 +0.2
baz=329
N19K Bonanza Creek 76.21 21 P P 08 19 49.7 +0.6
baz=324
O17K Koliganek Bris 76.26 23 P P 08 19 50.0 +0.9
baz=322
I30M Mount Dempster 76.44 11 P P 08 19 50.1 -0.2
I30M IAmb IAmb 08 19 51.6
comp=Z,13nm,1.0s
I30M Mount Dempster 76.44 11 P P 08 19 50.8 +0.5
baz=338
K27K Chicken 76.50 14 P P 08 19 51.2 +0.6
baz=333
WAT6 Susitna Watana 76.53 17 P P 08 19 50.5 -0.4
baz=329
N20K Mount Spurr 76.54 20 P P 08 19 51.1 +0.3
baz=326
P16K Nushagak River 76.56 24 P P 08 19 51.9 +1.0
baz=321
M22K Willow 76.64 19 P P 08 19 51.8 +0.5
baz=327
SUA Susitna One 76.72 19 P P 08 19 52.1 +0.2
baz=327
PAX Paxson 76.72 16 P P 08 19 52.0 +0.1
baz=331,SNR=8.7
O19K Port Alsworth 76.76 21 P P 08 19 52.6 +0.6
baz=324
O18K Koktuh Hills 76.77 22 P P 08 19 52.1 0.0
O18K IAmb IAmb 08 19 54.4
comp=Z,27nm,1.1s
O18K Koktuh Hills 76.77 22 P P 08 19 52.9 +0.8
baz=323
P17K Kvichak River 76.92 23 P P 08 19 54.1 +1.2
baz=323
DAWY Dawson 76.98 13 P P 08 19 52.7 -0.5
DAWY Dawson 76.98 13 P P 08 19 53.5 +0.2
baz=335,SNR=10
PMR Palmer 77.03 18 P P 08 19 54.0 +0.5
baz=328
SML Sawmill 77.05 18 P P 08 19 53.1 -0.5
SML Sawmill 77.05 18 P P 08 19 53.8 +0.2
baz=328,SNR=5.7
J30M Hart River 77.05 12 P P 08 19 53.2 -0.5
J30M Hart River 77.05 12 P P 08 19 54.3 +0.6
baz=338
MEEK Meekatharra 77.12 137 P P 08 19 55.0 +0.5
L26K Log Cabin Wild 77.14 15 P P 08 19 54.7 +0.6
baz=332
P18K Big Mountain, 77.14 22 P P 08 19 54.7 +0.5
baz=324
CAPN Captain Cook N 77.19 20 P P 08 19 55.1 +0.7
baz=326
M23K Glacier View 77.21 18 P P 08 19 54.4 -0.1
baz=329,SNR=5.2
Q16K King Salmon 77.26 23 P P 08 19 55.6 +0.8
baz=322
SCM Sheep Creek Mo 77.27 18 P P 08 19 55.1 +0.1
baz=329
HARP HAARP 77.29 16 P P 08 19 56.0 +1.0
baz=331,SNR=8.4
RC01 Rabbit Creek A 77.30 19 P P 08 19 55.3 +0.3
baz=328
M24K Tolsona, Glenn 77.31 17 P P 08 19 55.0 -0.1
M24K Tolsona, Glenn 77.31 17 P P 08 19 56.1 +1.0
baz=330,SNR=6.9
KNK Knik Glacier 77.35 18 P P 08 19 55.9 +0.5
KNK IAmb IAmb 08 19 56.8
comp=Z,16nm,1.0s
KNK Knik Glacier 77.35 18 P P 08 19 55.6 +0.3
baz=328,SNR=5.6
L27K Beaver Creek, 77.42 15 P P 08 19 56.5 +0.8
baz=334
BCAR Beaver Creek A 77.42 15 P P 08 19 56.1 +0.4
K29M Barlow Dome 77.52 13 P P 08 19 56.5 +0.1
K29M IAmb IAmb 08 19 58.2
comp=Z,16nm,1.1s
K29M Barlow Dome 77.52 13 P P 08 19 57.1 +0.7
baz=337
P19K Oil Pt 77.52 21 P P 08 19 55.9 -0.5
baz=325
BOSA Boshof 77.70 220 P P 08 19 57.7 0.0
BOSA Boshof 77.70 220 P P 08 19 58.2 +0.4
comp=Z,15nm,0.8s,baz=50,slow=6.7,SNR=13
comp=Z,15nm,0.8s
M26K Nabesna, AK 77.77 15 P P 08 19 57.9 +0.2
baz=333
Q18K Katmai Hardscr 77.81 23 P P 08 19 57.7 -0.4
baz=324
FALS False Pass 77.81 29 P P 08 19 58.0 +0.1
baz=318
Q17K Contact Creek 77.84 23 P P 08 19 58.4 +0.2
baz=323
KLU Klutina 77.90 17 P P 08 19 59.2 +0.8
baz=330,SNR=6.3
M27K Edge Creek, AK 78.04 15 P P 08 19 59.5 +0.2
M27K IAmb IAmb 08 20 01.5
comp=Z,22nm,1.1s
M27K Edge Creek, AK 78.04 15 P P 08 20 00.2 +0.9
baz=334
L29M L29M 78.09 13 P P 08 19 59.7 +0.3
L29M IAmb IAmb 08 20 01.4
comp=Z,26nm,1.3s
L29M L29M 78.09 13 P P 08 20 00.5 +1.0

baz=336
N25K Chitina, Valde 78.11 17 P P 08 20 00.1 +0.5
baz=331
BVCY Beaver Creek 78.20 15 P P 08 20 01.0 +1.0
baz=334,SNR=5.9
M29M Somme Creek 78.64 13 P P 08 20 03.4 +0.8
baz=336
BMRM Bremner River 78.67 17 P P 08 20 03.4 +0.7
baz=332
M30M Minto, Yukon 78.82 13 P P 08 20 03.1 -0.3
baz=338
R18K Karluk 78.86 23 P P 08 20 03.8 +0.2
baz=324
YUK3 Moose Creek 78.86 15 P P 08 20 04.3 +0.4
baz=335,SNR=6.6
CRQE Cirque 79.21 16 P P 08 20 05.9 +0.2
baz=333
KDAK Kodiak Island 79.26 22 P P 08 20 06.1 +0.3
baz=326
CTG Chitna Glacier 79.41 15 P P 08 20 07.0 +0.2
baz=334
OHAK Old Harbor 79.50 23 P P 08 20 07.7 +0.6
baz=325
M31M Drury Creek, Y 79.58 12 P P 08 20 08.0 +0.4
baz=340
Q23K Middleton Isla 79.60 18 P P 08 20 08.2 +0.6
baz=330
YUK4 Talbot Arm 79.61 14 P P 08 20 07.9 -0.1
baz=336
FARO Faro, Yukon 79.73 11 P P 08 20 08.9 +0.5
baz=340
SII Sitkinak Islan 79.76 24 P P 08 20 09.3 +0.7
baz=325
N30M Aishikik Lake 79.81 13 P P 08 20 08.1 -0.7
N30M IAmb IAmb 08 22 00.5
comp=Z,28nm,1.9s
N30M Aishikik Lake 79.81 13 P P 08 20 09.4 +0.6
baz=337
WRGLY Wrigley 80.00 7 P P 08 20 10.3 +0.6
baz=348
N31M Braeburn, Yuko 80.02 13 P P 08 20 10.6 +0.7
baz=338
YUK6 Outpost Mounta 80.04 14 P P 08 20 10.7 +0.4
baz=336
HYT Haines Junctio 80.31 14 P P 08 20 12.2 +0.6
HYT Haines Junctio 80.31 14 P P 08 20 12.4 +0.8
baz=337
PINM Pinnacle 80.43 15 P P 08 20 13.0 +0.9
baz=335
O29M Mount Kennedy 80.58 14 P P 08 20 13.6 +0.5
baz=336
O30N Mendenhall 80.63 13 P P 08 20 13.4 +0.2
baz=338
WHY Whitehorse 80.95 13 P P 08 20 15.1 +0.1
baz=339
PNL Peninsula 81.00 15 P P 08 20 15.9 +0.8
baz=336
YKA Yellowknife Ar 81.31 3 P P 08 20 17.1 +0.5
YKA Yellowknife Ar 81.31 3 P P 08 20 16.9 +0.3
comp=Z,1.6nm,0.5s,baz=346,slow=5.3,SNR=85
YKA pP pP 08 20 59.5 -0.9
comp=Z,6.3nm,0.9s,baz=347,slow=5.5,SNR=9.7
YKA sP sP 08 21 20.7 +1.5
comp=Z,0.9nm,0.6s,baz=348,slow=5.5,SNR=2.6
YKA LR LR 09 00 36.1
comp=Z,48nm,18.1s,baz=308,slow=39
comp=Z,1.6nm,0.5s
P33M Teslin, Yukon 81.72 12 P P 08 20 18.8 -0.2
P33M IAmb IAmb 08 20 20.3
comp=Z,22nm,1.2s
P33M Teslin, Yukon 81.72 12 P P 08 20 19.1 +0.1
baz=341
WB0 Warramunga Arr 81.87 122 P P 08 20 19.8 -0.5
WB0 IAmb IAmb 08 20 20.8
comp=Z,19nm,1.1s
WRA Warramunga Arr 81.95 122 P P 08 20 20.1 -0.5
WRA Warramunga Arr 81.95 122 P P 08 20 20.2 -0.5
comp=Z,14nm,0.9s,baz=323,slow=5.2,SNR=60
comp=Z,14nm,0.9s
WRAB Tennant Creek 81.96 122 P P 08 20 19.5 -1.2
WRAB IAmb IAmb 08 20 21.3
comp=Z,22nm,1.0s
WRAB Tennant Creek 81.96 122 P P 08 20 19.5 -1.2
WRAB pmax pmax
comp=Z,22nm,1.0s
WB2 Warramunga Arr 81.96 122 P P 08 20 19.7 -1.0
WB2 IAmb IAmb 08 20 21.3
comp=Z,24nm,1.0s
SKAG Skagway 81.99 13 P P 08 20 21.2 +1.0
baz=339
WR0 Warramunga Arr 82.11 122 P P 08 20 20.4 -1.0
WR0 IAmb IAmb 08 20 21.9
comp=Z,17nm,1.1s
SCHQ Schefferville 82.16 337 P P 08 20 21.1 -0.2
comp=Z,9.0nm,0.9s,baz=24,slow=10.0,SNR=3.7
comp=Z,9.0nm,0.9s
P32M Atlin 82.16 12 P P 08 20 21.9 +0.6
baz=340
R33M Jennings River 82.80 11 P P 08 20 25.4 +0.7
baz=342
Q32M Nakina River 83.00 12 P P 08 20 26.6 +0.8
baz=341
R32K Eaglecrest 83.25 13 P P 08 20 28.2 +1.4
baz=340
DLBC Dease Lake 83.86 11 P P 08 20 30.7 +0.7
baz=343
S32K Killisnoo 84.00 14 P P 08 20 31.5 +0.8
baz=340
S34M Telegraph Cree 84.19 12 P P 08 20 32.6 +1.0
baz=342
AS31 Alice Springs 84.22 125 P P 08 20 31.2 -1.0
ASAR Alice Springs 84.22 125 P P 08 20 31.6 -0.6
ASAR Alice Springs 84.22 125 P P 08 20 31.8 -0.5
comp=Z,14nm,0.9s,baz=310,slow=4.9,SNR=136
comp=Z,14nm,0.9s
QIS Mount Isa 86.03 119 P P 08 20 40.8 -0.5
CRAG Craig 86.16 13 P P 08 20 42.3 +0.9
baz=341
OOD Oodnadatta 88.21 127 P P 08 20 51.4 -0.2
CTA Charters Tower 90.51 115 P P 08 21 02.2 -0.4
comp=Z,9.0nm,0.9s,baz=296,slow=5.2,SNR=9.0
comp=Z,9.0nm,0.9s
CTAO Charters Tower 90.51 115 P P 08 21 01.6 -1.0
CTAO Charters Tower 90.51 115 P P 08 21 01.6 -1.0
CTAO pmax pmax
comp=Z,21nm,1.3s
EDM Edmonton 90.63 3 P P 08 21 02.8 +0.1
EDM Edmonton 90.63 3 P P 08 21 02.8 +0.1
EDM pmax pmax
comp=Z,27nm,1.1s
STKA Stephens Creek 94.75 126 P P 08 21 21.6 -0.2
comp=Z,0.7nm,0.7s,baz=320,slow=16,SNR=1.6
comp=Z,0.7nm,0.7s
QSPA South Pole Qui 126.23 180 PKP PKPdf 08 27 00.3 -0.7
comp=Z,3.8nm,0.9s,baz=257,slow=1.5,SNR=7.3
SAML Samuel 130.29 292 PKPdf PKPdf 08 27 09.8 -0.5
SAML Samuel 130.29 292 PKIKP PKPdf 08 27 09.8 -0.5
CPUP Villa Florida 135.21 268 PKP PKPdf 08 27 18.4 -0.8
comp=Z,2.8nm,0.8s,baz=40,slow=1.0,SNR=6.9
PPT Papeete 139.61 73 PKP PKiKP 08 27 29.1 -0.8
comp=Z,16nm,0.7s,baz=272,slow=16,SNR=1.9
GO02 Mina Guanaco 144.56 277 PKPdf PKPab 08 27 34.2 -1.3
AC05 El Transito 146.69 272 PKPdf PKPdf 08 27 38.2 -1.7
BO02 Sierra Bellavi 149.02 262 PKPdf PKPdf 08 27 41.0 -2.4
BO02 PKPbc PKPbc 08 27 48.1 +0.4
BO02 PKPab PKPab 08 27 52.2 -0.3
PLCA Paso Flores 149.81 250 PKPbc PKPbc 08 27 49.5 +0.1
comp=Z,13nm,1.2s,baz=104,slow=3.2,SNR=6.7
PLCA pPKPbc pPKPbc 08 28 35.7 -0.1
comp=Z,6.1nm,0.9s,baz=174,slow=3.8,SNR=4.4

*IDC **26** 08:14:58.0±1.7,2.°03N×126.°38E,h0km,mb3.7/5, mbtmp3.7/5,Error ellipse: s-maj=169.2km s-min=21.4km az=65.0*

ISC 26 08:15:03.1±1.2,1.°7N±0.°3×126.°1E±0.°6,h35km,n13, σ2s56/8,mb3.7/5,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.98	160	P	P	08 20 06.5	+1.6
	0.9nm,0.5s,baz=339,slow=11,SNR=16						
WRA				S	S	08 24 08.4	-4.7
	1.0nm,1.2s,baz=339,slow=17,SNR=2.2						
	0.9nm,0.5s						
ASAR	Alice Springs	26.34	164	P	P	08 20 38.6	+2.6
	1.3nm,0.8s,baz=344,slow=12,SNR=7.6						
CTA	Charters Tower	29.34	139	P	P	08 21 02.7	-0.1
CTAO	Charters Tower	29.34	139	P	P	08 21 02.7	-0.1
STKA	Stephens Creek	36.49	157	P	P	08 22 06.0	+0.8
	0.5nm,0.2s,baz=343,slow=11,SNR=2.3						
	0.5nm,0.2s						
H11S3	WAKE ISLAND Hy	43.17	65	T	T	09 07 03.2	
	baz=251,slow=74,SNR=148						
H11S2	WAKE ISLAND Hy	43.19	65	T	T	09 07 07.3	
	baz=251,SNR=192						
H11S1	WAKE ISLAND Hy	43.19	65	T	T	09 07 01.9	
	baz=251,slow=74,SNR=60						
H11N1	WAKE ISLAND Hy	43.74	63	T	T	09 07 41.5	
	baz=250,SNR=43						
H11N2	WAKE ISLAND Hy	43.75	63	T	T	09 07 47.3	
	baz=250,slow=74,SNR=30						
H11N3	WAKE ISLAND Hy	43.76	63	T	T	09 07 54.6	
	baz=250,slow=74,SNR=26						
MKAR	Makanchi Array	58.85	326	P	P	08 24 57.8	-0.7
	0.2nm,0.3s,baz=131,slow=6.8,SNR=1.6						
	0.2nm,0.3s						
KURBB	Kurchatov Arra	63.10	328	P	P	08 25 26.4	-0.6
	0.5nm,0.5s,baz=129,slow=5.8,SNR=2.9						
	0.5nm,0.5s						

IDC 26 08:18:32.3±2.7,17.°45S×69.°81W,h0km,mb3.6/2, mbtmp3.6/2,Error ellipse: s-maj=115.2km s-min=62.2km az=16.0,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03N1	Juan Fernandez	17.90	205	T	T	08 40 21.6	
	baz=28,slow=73,SNR=11						
H03N2	Juan Fernandez	17.91	206	T	T	08 40 34.3	
	baz=28,slow=73,SNR=10						
H03N3	Juan Fernandez	17.92	205	T	T	08 40 33.3	
	baz=28,slow=73,SNR=9.9						
TORD	Torodi Ar. Bea	76.85	72	P	P	08 30 26.8	0.0
	0.4nm,0.4s,baz=265,slow=5.8,SNR=5.9						
	0.4nm,0.4s						
YKA	Yellowknife Ar	87.11	341	P	P	08 31 19.6	0.0
	0.2nm,0.6s,baz=136,slow=4.6,SNR=5.0						
	0.2nm,0.6s						
WRA	Warramunga Arr	135.91	214	PKP	PKPdf	08 37 55.7	-0.4
	0.3nm,0.9s,baz=143,slow=1.7,SNR=1.7						

IDC 26 08:26:08.5±2.4,6.°48S×129.°65E,h0km,mb3.4/1, mbtmp3.2/3,ML3.2/2,Error ellipse: s-maj=127.7km s-min=20.7km az=72.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	14.13	162	Pn	Pn	08 29 30.9	+0.8
	0.2nm,0.3s,baz=342,slow=13,SNR=8.0						
WRA				Sn	Sn	08 32 08.0	+0.2
	0.2nm,0.3s,baz=358,slow=23,SNR=5.8						
	0.5nm,0.5s						
ASAR	Alice Springs	17.57	167	P	P	08 30 15.8	-0.4
	0.1nm,0.3s,baz=352,slow=12,SNR=1.7						
ASAR				S	Sn	08 33 32.1	+0.7
	0.4nm,0.9s,baz=359,slow=23,SNR=2.3						
	0.1nm,0.3s						
MKAR	Makanchi Array	67.61	327	P	P	08 37 07.0	-0.1
	0.1nm,0.3s,baz=113,slow=6.9,SNR=2.6						
	0.1nm,0.3s						

IDC 26 08:32:46.1±2.4,10.°01N×138.°87E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=244.7km s-min=29.4km az=105.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	30.10	189	P	P	08 38 57.0	-0.5
	0.3nm,0.7s,baz=10,slow=10,SNR=2.1						
	0.3nm,0.7s						
ASAR	Alice Springs	33.82	188	P	P	08 39 30.5	+0.3
	0.2nm,0.6s,baz=16,slow=12,SNR=11						
	0.2nm,0.6s						
ILAR	Eielson Array	74.30	25	P	P	08 44 25.1	0.0
	0.2nm,0.6s,baz=249,slow=6.0,SNR=4.5						
	0.2nm,0.6s						

IDC 26 08:42:14.5±2.7,5.°70S×147.°53E,h188km±29km,mb3.0/2, mbtmp3.6/4,Error ellipse: s-maj=79.8km s-min=19.3km az=116.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.70	186	P	Pn	08 43 13.3	+1.1
	15nm,0.3s,baz=315,slow=2.9,SNR=19						
PMG				S	Sn	08 43 57.2	-0.2
	16nm,0.4s,baz=91,slow=18,SNR=7.2						
WRA	Warramunga Arr	19.11	221	P	P	08 46 22.9	-0.4
	1.0nm,0.4s,baz=41,slow=11,SNR=22						
ASAR	Alice Springs	22.17	215	P	P	08 46 56.1	+0.7
	1.6nm,0.7s,baz=45,slow=9.0,SNR=15						
ASAR				S	S	08 50 46.7	+0.8
	0.4nm,0.8s,baz=36,slow=21,SNR=2.8						
	1.6nm,0.7s						
ILAR	Eielson Array	85.00	23	P	P	08 54 27.8	-0.7
	0.3nm,0.9s,baz=264,slow=4.4,SNR=1.5						
	0.3nm,0.9s						
TORD	Torodi Ar. Bea	145.53	285	PKPbc	PKPdf	09 01 31.1	-0.2
	0.2nm,0.5s,baz=70,slow=3.9,SNR=2.3						

IDC 26 08:42:36.5±20.0,5.°27S×134.°31E,h218km±226km, mb2.9/1,mbtmp3.4/3,ML3.1/2,Error ellipse: s-maj=118.9km s-min=91.2km az=61.0,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	14.59	180	P	P	08 45 54.5	+0.7
	0.1nm,0.3s,baz=359,slow=12,SNR=5.8						
	0.8nm,0.8s						
ASAR	Alice Springs	18.30	181	P	P	08 46 34.0	-0.5
	0.1nm,0.3s,baz=2.6,slow=10,SNR=6.6						
	0.1nm,0.9s						
MKAR	Makanchi Array	69.22	325	P	P	08 53 19.9	+0.1
	0.4nm,0.8s,baz=127,slow=6.2,SNR=3.0						
	0.4nm,0.8s						

*BGR **26** 09:11:10.1,32.°20N×47.°75E,h33km,mb4.8*
*AZER **26** 09:11:30.5±0.7,34.°38N×46.°08E,h4km,Error ellipse: s-maj=9.2km s-min=5.0km az=77.0*
*IDC **26** 09:11:31.1±0.7,34.°85N×45.°98E,h0km,mb4.2/23, mbtmp4.2/33,ML4.2/7,MS3.5/32,Error ellipse: s-maj=14.2km s-min=11.3km az=161.0*
*TEH **26** 09:11:31.7,34.°84N×46.°15E,h8km±54km,ML4.4*
*MOS **26** 09:11:32.4±1.4,34.°89N×46.°04E,h13km,mb4.8/34,Error ellipse: s-maj=6.1km s-min=3.6km az=116.6*
*NEIC **26** 09:11:33.7±1.4,34.°86N±0.°05×46.°03E±0.°07,h10km±1km, mb4.5/104,Error ellipse: s-maj=11.2km s-min=6.0km az=52.0*
*GII **26** 09:11:36.5±0.0,34.°66N×46.°03E,h10km*
*AFAD **26** 09:11:47.0±0.0,35.°62N×45.°05E,h7km±5km,MW4.2*
*DSN **26** 09:11:47.4±1.6,33.°26N×46.°28E,h15km,mb5.1/1,Error ellipse: s-maj=49.4km s-min=13.7km az=34.0*

ISC 26 09:11:32.3±0.3,34.°83N±0.°02×46.°15E±0.°02,h10km,n557, σ2s51/588,mb4.5/129,MS3.4/25,23C-34D,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	Dehrash	0.23	124	Pg	Pg	09 11 37.0	-0.2
IDHR				Sg	Sg	09 11 42.0	+1.5
KGS1	Ghasr-e-Shirin	0.57	235	Pg	Pg	09 11 43.0	-0.3
KGS1				Sg	Sb	09 11 52.3	-0.2
IGHG	Ghaleghazi	0.61	145	Pg	Pg	09 11 44.1	0.0
ILIN	Lien	0.67	82	Pg	Pg	09 11 44.7	-0.7
KCHF	Cheshme Sefid,	0.92	127	Pg	Pg	09 11 49.4	-0.7
KCHF				Sg	Sg	09 12 02.2	+0.2
ILBA	Ilam Banvizeh	1.20	178	Pg	Pn	09 11 54.6	-0.7
IKOM	Komasi	1.30	120	Pg	Pn	09 11 56.6	-0.1
SDS1	Sardasht. Az.	1.43	338	Pg	Pn	09 11 57.9	-0.6
IBZA	Bozab	1.45	104	Pg	Pn	09 11 59.5	+0.6
IALM	Almabolaq	1.66	88	Pg	Pb	09 12 02.8	-0.4
IKFM	Kafar-mosalman	1.92	132	Pn	Pb	09 12 06.9	-0.5
MAHB	Mahabad	1.97	349	Pn	Pb	09 12 07.0	-1.4
HSAM	Samen	2.12	106	Pn	Pb	09 12 10.5	-0.5
IHSH	Hashtrud	2.63	20	Pn	Pn	09 12 16.5	+1.3
IAZR	Azarshahr	2.85	357	Pn	Pb	09 12 20.8	-2.6
YOVA	Hakkari_Yksek	3.14	332	P	Pn	09 12 24.3	+2.3
YOVA				S	Sb	09 13 06.1	-0.7
YOVA				*i* AML	AML	09 13 23.0	
	comp=E,912nm,1.0s						
YOVA				*i* AML	AML	09 13 26.0	
	comp=N,558nm,1.1s						
IRAZ	Razeghan	3.15	78	Pn	Pn	09 12 24.7	+2.5
CUKT	Cukurca	3.17	320	*e*P	Pn	09 12 25.5	+3.0
CUKT	Cukurca	3.17	320	P	Pn	09 12 24.3	+1.9
CUKT				S	Sb	09 13 08.5	+0.8
CUKT				*i* AML	AML	09 13 18.0	
	comp=N,3μm,0.8s						
CUKT				*i* AML	AML	09 13 27.0	
	comp=E,4μm,0.8s						
ISRB	Sarab	3.23	22	Pn	Pn	09 12 25.3	+2.0
HAKT	HAKKARI	3.37	325	P	Pn	09 12 27.0	+1.8
HAKT				*i* AML	AML	09 13 31.0	
	comp=N,995nm,0.9s						
HAKT				*i* AML	AML	09 13 31.0	
	comp=E,828nm,0.7s						
ISHB	Shabestar	3.47	353	Pn	Pn	09 12 27.9	+1.3
IHRS	Heris	3.56	11	Pn	Pn	09 12 29.9	+2.1
IMRD	Marand	3.89	355	Pn	Pn	09 12 34.5	+2.1
SIRN	Sırnak	4.03	312	P	Pn	09 12 35.8	+1.6
SIRN				*i* AML	AML	09 13 58.0	
	comp=N,617nm,0.9s						
SIRN				*i* AML	AML	09 13 58.0	
	comp=E,963nm,1.0s						
IQOM	Qom	4.04	88	Pn	Pn	09 12 37.4	+2.8
ORD	Ordubad	4.09	358	P	Pn	09 12 39.4	+4.3
ORD	SNR=72						
ORD				S	Sb	09 13 34.8	+0.7
AMIS	Naft Sefid	4.11	139	Pn	Pn	09 12 37.2	+2.1
GAS1	Astara - Iran	4.16	31	Pn	Pn	09 12 38.8	+3.0
LRK	Lerik	4.19	24	P	Pn	09 12 40.5	+4.0
LRK	SNR=54						
LRK				S	Sb	09 13 38.1	+1.0
OZAP	Van, Ozalp-Mer	4.20	336	P	Pn	09 12 40.7	+4.1
OZAP				*i* AML	AML	09 14 08.0	
	comp=N,196nm,1.2s						
OZAP				*i* AML	AML	09 14 08.0	
	comp=E,293nm,2.3s						
GRMI	Germi	4.21	19	Pn	Pn	09 12 39.3	+2.6
PERV	Siirt/Pervari-	4.26	318	P	Pn	09 12 39.9	+2.5
PERV				*i* AML	AML	09 14 02.0	
	comp=N,725nm,0.9s						
PERV				*i* AML	AML	09 14 02.0	
	comp=E,672nm,0.7s						
GEVA	Gevas	4.28	325	P	Pn	09 12 40.7	+3.1
GEVA				S	Sn	09 13 11.8	-16
GEVA				*i* AML	AML	09 13 59.0	
	comp=E,238nm,0.8s						
GEVA				*i* AML	AML	09 14 22.0	
	comp=N,103nm,1.4s						
ASTR	Astara	4.28	29	P	Pn	09 12 41.4	+3.8
	SNR=28						
ASTR				S	Sb	09 13 38.3	-1.2
TVAN	Van	4.30	330	P	Pn	09 12 39.9	+1.8
TVAN				S	Sb	09 13 38.0	-2.2
TVAN				*i* AML	AML	09 14 08.0	
	comp=N,327nm,1.4s						
TVAN				*i* AML	AML	09 14 21.0	
	comp=E,201nm,1.3s						
AKDM	Akdamar-Van	4.33	325	*e*P	Pn	09 12 41.3	+3.0
VANB	Van	4.37	330	*e*P	Pn	09 12 41.5	+2.7
VANB	Van	4.37	330	Pn	Pn	09 12 41.2	+2.4
NAX	Nakhchivan	4.37	353	P	Pb	09 12 44.5	-4.7
NAX	SNR=18						
NAX				S	Sb	09 13 40.9	-1.1
NAX	Nakhchivan	4.37	353	P	Pb	09 12 44.5	-4.7
LKRN	Lenkeran, Azer	4.41	28	P	Pn	09 12 43.0	+3.7
LKRN	SNR=26						
LKRN				S	Sb	09 13 42.9	-0.2
LKRN	Lenkeran, Azer	4.41	28	P	Pn	09 12 43.0	+3.7
YRD	Yardimli	4.41	22	P	Pn	09 12 43.3	+3.8
YRD	SNR=16						
YRD				S	Sb	09 13 42.3	-1.0
QAMS	Qamsar	4.48	103	Pn	Pn	09 12 43.6	+3.1
IPIR	Pirpir	4.49	117	Pn	Pn	09 12 43.0	+2.3
JHBN	Jahan bin	4.57	123	Pn	Pn	09 12 43.7	+1.8
IVRN	Varamin	4.58	86	Pn	Pn	09 12 44.4	+2.6
SBZ	Shahbuz	4.58	354	P	Pn	09 12 46.3	+4.5
SBZ	SNR=6.3						
SBZ				S	Sb	09 13 46.5	-1.8
MIDY	Mardin/Midyat-	4.63	305	P	Pn	09 12 44.8	+2.4
MIDY				*i* AML	AML	09 14 12.0	
	comp=E,492nm,0.7s						
MIDY				*i* AML	AML	09 14 18.0	
	comp=N,383nm,0.8s						
VMUR	Van-Muradiye	4.64	334	P	Pn	09 12 44.8	+2.2
VMUR				*i* AML	AML	09 14 29.0	
	comp=N,196nm,1.7s						
VMUR				*i* AML	AML	09 14 36.0	
	comp=E,258nm,1.2s						
CLDR	Caldiran	4.66	338	*e*P	Pn	09 12 46.2	+3.2
MAKU	Maku	4.67	346	Pn	Pn	09 12 45.0	+2.0
QRD	Qoradiz	4.72	11	P	Pn	09 12 49.2	+5.6
	SNR=26						
IKLH	Kolahrood	4.75	107	Pn	Pn	09 12 46.5	+2.3
GLBA	Clilabad	4.75	21	P	Pn	09 12 48.0	+4.0
	SNR=13						
GLBA				S	Sb	09 13 50.3	-2.8
ZNGN	Zangian	4.77	123	Pn	Pn	09 12 47.1	+2.5
ADCV	BITLIS_Adilcev	4.83	326	P	Pn	09 12 46.4	+1.2
ADCV				*i* AML	AML	09 14 25.0	
	comp=E,112nm,1.2s						
ADCV				*i* AML	AML	09 14 31.0	
	comp=N,124nm,1.3s						
IDMV	Damavand	4.87	80	Pn	Pn	09 12 48.5	+2.5
GURO	Guroymak-BITLI	4.97	319	Pn	Pn	09 12 48.7	+1.5
BTMN	Batman	4.99	309	P	Pn	09 12 48.1	+0.7
BTMN				*i* AML	AML	09 14 24.0	
	comp=E,644nm,0.9s						
BTMN				*i* AML	AML	09 14 37.0	
	comp=N,562nm,1.5s						
HYR	Heyderabad	4.99	348	P	Pn	09 12 51.9	+4.5
	SNR=7.9						
HYR				S	Sb	09 13 57.5	-2.4
MARD	Mardin	5.01	301	P	Pn	09 12 48.9	+1.2
MARD				*i* AML	AML	09 14 19.0	
	comp=E,507nm,0.7s						
MARD				*i* AML	AML	09 14 27.0	
	comp=N,828nm,0.9s						
BLQ	Beylaqan	5.01	13	P	Pn	09 12 52.5	+5.0
	SNR=8.6						
KRSH	Karshahi	5.02	98	Pn	Pn	09 12 51.0	+3.1
ISFB	Sefidab	5.04	94	Pn	Pn	09 12 50.2	+2.0
IBRJ	Brojen	5.17	123	Pn	Pn	09 12 52.2	+2.1
SVAN	Silvan-Diyarba	5.19	311	*e*P	Pn	09 12 51.0	+0.9
SVAN	Silvan-Diyarba	5.19	311	P	Pn	09 12 51.3	+1.3
SVAN				*i* AML	AML	09 14 41.0	
	comp=N,152nm,1.6s						
SVAN				*i* AML	AML	09 14 41.0	
	comp=E,149nm,2.3s						
DORK	Agr/Tutak/Do	5.29	330	P	Pn	09 12 52.2	+0.6
MAZI	Mazidag	5.31	301	*e*P	Pn	09 12 52.9	+1.1
AGRB	Hanur-Agry	5.37	333	Pn	Pn	09 12 55.2	+2.5
TASB	TASBURUN-IGDIR	5.37	344	*e*P	Pb	09 13 05.9	-0.3
MUSM	Mu-Merkez	5.38	318	P	Pn	09 12 54.6	+1.8
MUSM				*i* AML	AML	09 14 34.0	
	comp=E,85nm,1.0s						
MUSM				*i* AML	AML	09 14 50.0	
	comp=N,92nm,0.9s						
GNI	Garni	5.43	348	Pn	Pn	09 12 54.7	+1.2
GNI	Garni	5.43	348	P	Pb	09 13 07.1	-0.2
GNI				S	Sg	09 14 20.6	-6.0
GNI	Garni	5.43	348	*de*P	Pn	09 12 49.8	-3.7
GNI	Garni	5.43	348	Pn	Pn	09 12 55.1	+1.7
	1.7nm,0.3s,baz=34,slow=9.9,SNR=3.9						
GNI				Lg	Lg	09 14 21.8	
	baz=187,slow=8.4						
GNI				LR	LR	09 15 15.2	
	comp=Z,240nm,19.3s,baz=164,slow=42						
	9.5nm,0.6s						
IZEF	Zefreh	5.49	109	Pn	Pn	09 12 56.8	+2.4
KOTA	Agri, Merkez-K	5.49	336	P	Pn	09 12 57.9	+3.5
KOTA				*i* AML	AML	09 14 44.0	
	comp=E,45nm,2.6s						
KOTA				*i* AML	AML	09 14 50.0	
	comp=N,37nm,4.1s						
ALIB	Äli-Bayra	5.60	23	P	Pn	09 12 59.6	+3.9
ILAS	Lasjerd	5.61	82	Pn	Pn	09 12 58.4	+2.4
VRTB	Varto-Mus	5.73	320	*e*P	Pn	09 12 51.9	-5.7

DYBB Diyarbakir 5.76 304 *e*P Pg 09 13 22.1 -0.6
GANJ Ganja 5.81 1 P Pn 09 13 03.2 +4.6
SNR=10
GANJ S Sb 09 14 17.3 -6.1
GDB GEDABAY 5.89 357 P Pn 09 13 04.3 +4.5
SNR=11
GDB S Sb 09 14 18.5 -7.4
KLNJ Kolanjah 5.95 128 Pn Pn 09 13 03.1 +2.2
IRAM Ramesheh 6.02 118 Pn Pn 09 13 03.6 +1.9
KARO Karliova-Bingo 6.05 319 *e*P Pb 09 13 12.9 -5.1
GBS Qobustan 6.11 20 P Pn 09 13 08.4 +5.7
KOPR Koprukoy-ERZUR 6.18 328 *e*P Pg 09 13 29.0 -1.8
QZX Qazax, Azerbai 6.25 355 P Pn 09 13 09.9 +5.3
SNR=6.5
QZX S Sb 09 14 27.7 -8.4
PQL Pirkuli 6.25 17 P Pn 09 13 09.4 +4.6
SNR=5.3
PQL P Pn 09 13 09.4 +4.6
SNR=5.3
PQL S Sb 09 14 28.3 -8.0
PQL S Sb 09 14 28.3 -8.0
KOVA Elazig, Kovanc 6.39 309 P Pn 09 13 06.9 +0.3
SEKA Sheki 6.42 7 P Pn 09 13 12.9 +5.8
SEKA P Pn 09 13 12.9 +5.8
SEKA S Sb 09 14 32.5 -8.6
SEKA S Sb 09 14 32.5 -8.6
URFA Urfa 6.48 296 *e*P Pn 09 13 07.3 -0.5
HANM anlurfa/Hi 6.49 297 P Pn 09 13 07.7 -0.2
ANAR Anarak 6.50 102 Pn Pn 09 13 10.1 +1.9
XNQ Khinaliq 6.52 13 P Pn 09 13 14.6 +6.0
XNQ P Pn 09 13 14.6 +6.0
XNQ S Sb 09 14 34.7 -9.5
XNQ S Sb 09 14 34.7 -9.5
PTK Pertek 6.77 309 *e*P Pn 09 13 12.7 +0.8
PTK Pertek 6.77 309 Pn Pn 09 13 12.7 +0.8
AKH Akhalkalaki 6.90 343 Pn Pn 09 13 13.1 -0.6
AKH Akhalkalaki 6.90 343 P Pn 09 13 13.1 -0.6
ARPR Arapgir-MALATY 7.57 306 *e*P Pn 09 13 21.9 -0.9
ARPR Arapgir-MALATY 7.57 306 Pn Pn 09 13 22.2 -0.6
GAZ Gaziantep 7.61 290 Pn Pn 09 13 23.4 0.0
DSBU Dashti - Bushe 7.78 145 Pn Pn 09 13 27.0 +1.3
ASF Jabal al Asfar 8.17 254 P Pn 09 13 31.0 -0.1
MAK Makhachkala 8.19 7 *e*P Pn 09 13 29.3 -1.9
MAK *e*S Sn 09 15 01.6 -2.1
MAK pmax pmax
comp=Z,145nm,0.7s
MAK MLR MLR
comp=Z,222nm,16.0s
NATI Neve Ativ 8.79 263 Pn Pn 09 13 42.3 +2.9
NATI Neve Ativ 8.79 263 P Pn 09 13 40.8 +1.4
GEM Giv'at Ha'Em 8.86 262 Pn Pn 09 13 42.3 +1.9
SHMJ Saham 8.90 259 P Pn 09 13 40.7 -0.3
MMA0B Mount Meron ar 9.12 262 Pn Pn 09 13 45.3 +1.3
MMAI Mount Meron Ar 9.12 262 Pn Pn 09 13 44.0 -0.1
comp=Z,2.2nm,0.3s,baz=90,slow=17,SNR=18
MMAI Sn Sn 09 15 24.6 -2.1
comp=Z,1.3nm,0.3s,baz=97,slow=14,SNR=1.3
MMAI LR LR 09 18 00.8
comp=Z,419nm,19.0s,baz=44,slow=43
comp=Z,14nm,0.6s
BNN Bunyan 9.18 299 Pn Pn 09 13 45.4 +0.4
HMDT Nahal Hemdat 9.23 257 Pn Pn 09 13 48.9 +3.3
HMDT Nahal Hemdat 9.23 257 P Pn 09 13 51.9 +6.3
KBZ Khabaz 9.24 345 Pn Pn 09 13 47.3 +1.8
comp=Z,2.0nm,0.9s,baz=296,slow=14,SNR=1.9
KBZ LR LR 09 18 02.9
comp=Z,192nm,21.7s,baz=152,slow=43
KIV Kislovodsk 9.50 345 *e*P Pn 09 13 49.7 +0.4
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,62nm,12.0s
SAKB Bahrain 9.60 156 P Pn 09 13 44.2 -6.4
SAKB S Sn 09 15 28.1 -10
MSBI Mazada 9.71 252 Pn Pn 09 13 55.4 +3.3
SOC Sochi 10.06 332 *e*P Pn 09 13 52.8 -4.1
SOC *e* 09 15 45.4
SOC MLR MLR
comp=Z,186nm,13.0s
GEYT Alibeck 10.13 69 Pn Pn 09 13 59.6 +1.7
GEYT Alibeck 10.13 69 P Pn 09 13 59.6 +1.7
GEYT Alibeck 10.13 69 Pn Pn 09 13 58.4 +0.5
comp=Z,1.2nm,0.6s,baz=48,slow=54,SNR=1.3
GEYT LR LR 09 19 22.4
comp=Z,59nm,21.8s,baz=271,slow=46
GYA0B ALIBECK ARRAY 10.13 69 Pn Pn 09 13 59.7 +1.9
HRFI Mount Harif 10.54 246 P Pn 09 14 13.5 +10
EIL Elat 10.79 245 Pn Pn 09 14 03.3 -3.6
comp=Z,1.1nm,0.3s,baz=74,slow=11,SNR=2.7
EIL Lg Lg 09 17 04.2
comp=Z,1.8nm,0.3s,baz=28,slow=6.6,SNR=3.6
EIL LR LR 09 19 06.4
comp=Z,194nm,19.8s,baz=65,slow=43
comp=Z,1.6nm,0.4s
SMRA Abu-Samra 10.84 157 P Pn 09 14 04.1 -3.4
SMRA S Sn 09 15 58.1 -11
TRNA Turayna 10.97 155 P Pn 09 14 08.8 -0.6
SNR=16
TRNA S Sn 09 16 02.7 -10
BR131 Keskin Array S 11.10 300 P Pn 09 14 16.0 +4.8
SNR=5.7
BRTR Keskin Array B 11.10 300 Pn Pn 09 14 09.1 -2.2
BRTR Keskin Array B 11.10 300 Pn Pn 09 14 12.5 +1.3
comp=Z,3.3nm,0.9s,baz=128,slow=14,SNR=16
BRTR LR LR 09 19 20.6
comp=Z,556nm,18.5s,baz=118,slow=43
GENO Geno 11.33 128 Pn Pn 09 14 15.8 +1.2
JRN Qarnain Island 11.44 148 P Pn 09 14 13.6 -2.1
JRN P Pn 09 14 13.6 -2.1
JRN S Sn 09 16 15.9 -7.6
JRN S Sn 09 16 15.9 -7.6
ANTO Ankara 11.76 299 Pn Pn 09 14 19.5 -0.7
ANTO Ankara 11.76 299 P Pn 09 14 19.5 -0.7
ANN Anapa 11.99 329 *e*P Pn 09 14 22.1 -1.2
ANN *e*S Sn 09 16 37.4 +0.3
ANN pmax pmax
comp=Z,37nm,1.1s
SHME Shamm 12.27 133 *i* P Pn 09 14 26.0 -1.2
SNR=12
SHME Shamm 12.27 133 P Pn 09 14 26.4 -0.9
SHME S Sn 09 16 36.2 -7.9
UMQ Umm Al-Quwin 12.39 136 P Pn 09 14 26.1 -2.7
UMQ S Sn 09 16 43.8 -3.1
BANOM Banah 12.46 133 P Pn 09 14 28.6 -1.2
BANOM Banah 12.46 133 P Pn 09 14 27.9 -2.0
BANOM S Sn 09 16 41.9 -6.9
AJN Ajban 12.78 141 P Pn 09 14 31.4 -2.8
SNR=5.1
AJN S Sn 09 16 50.4 -6.2
MASF Masafi 12.79 135 P Pn 09 14 33.5 -0.9
SNR=9.5
MASF S Sn 09 16 49.9 -7.0
SNR=14
MSFE Esma-Masafi 12.80 135 *i* P Pn 09 14 33.3 -1.2
SNR=33
MSFE S Sn 09 16 44.7 -12
NAZ Nazwa, Dubai 12.81 137 *i* P Pn 09 14 33.8 -0.7
SNR=58
NAZ Nazwa, Dubai 12.81 137 P Pn 09 14 34.1 -0.4
SNR=58
NAZ S Sn 09 16 50.8 -6.3
ASUD Al Ashush, Dub 12.91 139 *i* P Pn 09 14 35.2 -0.8
SNR=11
ASUD Al Ashush, Dub 12.91 139 P Pn 09 14 36.0 0.0
SNR=11
ASUD P Pn 09 14 36.0 0.0
SNR=11
ASUD S Sn 09 16 52.6 -7.2
SNR=11
ASUD S Sn 09 16 52.6 -7.2
SNR=11
FAQ Al Faqa, Dubai 12.96 138 *i* P Pn 09 14 36.1 -0.5
SNR=9.6
FAQ Al Faqa, Dubai 12.96 138 P Pn 09 14 36.4 -0.2
SNR=13
FAQ S Sn 09 16 53.0 -8.0
SNR=8.4
UOSS Minazif 13.15 136 Pn Pn 09 14 38.8 -0.3
UOSS Minazif 13.15 136 *i* P Pn 09 14 38.2 -1.0
SNR=16
UOSS Minazif 13.15 136 P Pn 09 14 38.8 -0.3
UOSS S Sn 09 16 56.0 -9.5
HATD Hatta, Dubai 13.20 136 *i* P Pn 09 14 39.0 -0.9
SNR=36
HATD Hatta, Dubai 13.20 136 P Pn 09 14 39.2 -0.7
SNR=36
HATD S Sn 09 16 58.1 -8.7
ASHO Ashiyiah 13.27 137 *i* P Pn 09 14 39.2 -1.6
SNR=135
ASHO Ashiyiah 13.27 137 P Pn 09 14 40.0 -0.9
SNR=135
ASHO S Sn 09 16 57.5 -11
SNR=13
MZR Muzera 13.41 150 P Pn 09 14 39.3 -3.5
MZR S Sn 09 17 04.4 -7.6
JASK Jask - Hormozg 13.48 128 P Pn 09 14 42.4 -1.4
JASK S Sn 09 17 07.1 -6.6
SNR=7.5
ALNE Al Ain 13.60 140 *i* P Pn 09 14 44.1 -1.2
SNR=9.9
ALNE Al Ain 13.60 140 P Pn 09 14 44.8 -0.5
SNR=10.0
ALNE S Sn 09 17 08.3 -8.2
SOHO SOHO 13.96 137 *i* P Pn 09 14 48.2 -2.1
SNR=16
SOHO SOHO 13.96 137 P Pn 09 14 48.5 -1.8
SOHO S Sn 09 17 15.4 -10
ARQ Araqi 14.59 139 P Pn 09 14 57.2 -1.8
SNR=13
ARQ S Sn 09 17 30.9 -10
HOQ Hoqain 14.84 136 P Pn 09 15 00.3 -1.9
HOQ P Pn 09 15 00.3 -1.9
HOQ S Sn 09 17 40.1 -6.7
HOQ S Sn 09 17 40.1 -6.7
BIDO Bidbid 15.36 134 P Pn 09 15 07.6 -1.6
BIDO S Sn 09 17 47.9 -11
BSY Bisya 15.44 138 P Pn 09 15 07.7 -2.6
SNR=25
BSY S Sn 09 17 53.1 -8.2
KARP Karpathos 15.55 278 Pn Pn 09 15 11.2 -0.4
KARP Karpathos 15.55 278 P P 09 15 16.4 +0.4
SMDO Samad 15.67 135 P Pn 09 15 10.8 -2.6
SNR=14
SMDO S Sn 09 17 56.2 -11
WSAR Wadi Sarin 15.87 133 P Pn 09 15 13.0 -3.0
SNR=29
WSAR S Sn 09 18 04.2 -7.7
WSAR Wadi Sarin 15.87 133 Pn Pn 09 15 12.9 -3.0
comp=Z,4.4nm,0.3s,baz=324,slow=12,SNR=39
WSAR Sn Sn 09 17 56.8 -15
comp=Z,0.4nm,0.3s,baz=288,slow=14,SNR=2.1
WSAR LR LR 09 21 58.7
comp=Z,306nm,21.4s,baz=346,slow=39
NGCH Negor - Chabah 16.02 122 P Pn 09 15 15.9 -1.9
JMDO Jabal Madar 16.24 137 P Pn 09 15 16.8 -3.8
SNR=11
JMDO P Pn 09 15 16.8 -3.8
SNR=11
JMDO S Sn 09 18 09.6 -11
JMDO S Sn 09 18 09.6 -11
MFTR Murfatlar 16.54 310 ⇑P P 09 15 27.1 +0.3
JURR Jurilovca 16.54 312 ⇑P P 09 15 27.0 +0.1
WBK Wadi Bani Khal 16.55 134 P Pn 09 15 21.8 -2.9
SNR=8.9
WBK S Sn 09 18 18.9 -10
VRH Novokhopyorsk 16.68 350 *e*P Pn 09 15 24.3 -1.7
VRH pmax pmax
comp=Z,30nm,1.1s
TLCR 16.80 313 ⇓P P 09 15 29.6 -0.2
TLCR 16.80 313 ⇓P P 09 15 29.6 -0.2
APE Apeiranthos 16.85 284 *e*P Pn 09 15 29.7 -3.7
TPGR Topolog 16.87 312 ⇑P P 09 15 29.7 -0.9
VORD Divnogorie 16.88 345 *e*P P 09 15 30.4 -0.2
VORD pmax pmax
comp=Z,30nm,0.8s
VSR Storozhevoye 17.14 345 *e*P P 09 15 33.6 +0.1
VSR pmax pmax
comp=Z,30nm,0.7s
JLN Jalan Bani Buh 17.16 134 P Pn 09 15 30.3 -2.0
SNR=18
JLN P Pn 09 15 30.3 -2.0
SNR=18
JLN S Sn 09 18 35.5 -7.7
JLN S Sn 09 18 35.5 -7.7
CFR Carcaliu 17.21 312 ⇑P P 09 15 34.3 0.0
CFR Carcaliu 17.21 312 ⇑P P 09 15 34.3 0.0
MHTO MHTO 17.28 140 P Pn 09 15 31.0 -2.7
SNR=7.5
MHTO S Sn 09 18 37.2 -8.8
RDO Rodhopi 17.41 297 P Pn 09 15 35.3 0.0
RDO Rodhopi 17.41 297 P P 09 15 37.2 +0.6
BELG Belogornoye 17.59 3 *d* P Pn 09 15 36.5 -0.9
BELG pmax pmax
comp=Z,9.0nm,1.1s
BELG Belogornoye 17.59 3 P Pn 09 15 36.8 -0.6
comp=Z,0.7nm,0.3s,baz=190,slow=4.9,SNR=15
BELG LR LR 09 24 38.9
comp=Z,66nm,18.0s,baz=200,slow=45
comp=Z,43nm,1.1s
ABKAR Akbulak array 17.64 31 P 09 15 39.1 +0.1
ELND Elena 17.71 303 ⇓P P 09 15 40.9 +1.1
SZH Strazhitsa 17.76 304 *i* P P 09 15 41.5 +1.1
MILM Milestii Mici 17.78 318 *e*P P 09 15 41.5 +0.9
comp=Z,50nm,0.6s
MILM Milestii Mici 17.78 318 *e*P P 09 15 41.0 +0.4
MILM pmax pmax
comp=Z,50nm,0.6s
AKTO Aktyubinsk 17.84 25 P P 09 15 41.3 +0.1
comp=Z,0.5nm,0.3s,baz=220,slow=9.5,SNR=14
AKTO LR LR 09 24 22.1
comp=Z,127nm,18.2s,baz=250,slow=43
comp=Z,3.7nm,0.6s
DQM DQM 17.94 143 P Pn 09 15 39.1 -2.9
SNR=8.8
RZN Rozhen 18.14 299 *i* P P 09 15 47.6 +2.8
IMMV Iera Moni Meta 18.14 278 P P 09 15 45.4 +0.7
WHFO Wadi Hawf 18.16 156 P Pn 09 15 40.9 -3.9
SNR=11
PTL Penteli 18.21 287 P P 09 15 48.5 +3.0
VLY Voula,Athens 18.26 286 P P 09 15 46.5 +0.5
VRI Vrincioaia 18.41 313 ⇓P P 09 15 48.4 +0.8
VRI Vrincioaia 18.41 313 ⇓P P 09 15 48.4 +0.8
PLOR Plostina 18.45 312 ⇓P Pn 09 15 49.1 +1.0
PLOR Plostina 18.45 312 ⇓P Pn 09 15 49.1 +1.0
NEHR Nehoiu 18.46 311 ⇑P Pn 09 15 50.4 +2.1
LPSR Galich'ya Gora 18.50 346 *e*P P 09 15 47.2 -1.3
LPSR pmax pmax
comp=Z,110nm,0.8s
ABTO Aybut 18.54 158 P P 09 15 45.5 -3.7
SNR=25
NVR Nevrokopi 18.69 297 P Pn 09 15 53.1 +2.0
RBK Rabkut 18.69 155 P P 09 15 47.8 -3.1
RBK P P 09 15 47.8 -3.1
RBK S Sn 09 19 10.6 -10
RBK S Sn 09 19 10.6 -10
MLR Muntele Rosu 18.71 311 ⇓P Pn 09 15 53.6 +2.2
MLR Muntele Rosu 18.71 311 P P 09 15 50.9 -0.1
MLR Muntele Rosu 18.71 311 ⇓P Pn 09 15 53.6 +2.2
MLR Muntele Rosu 18.71 311 P P 09 15 50.2 -0.8
comp=Z,0.2nm,0.3s,baz=127,slow=9.2,SNR=3.2
comp=Z,1.4nm,0.8s
COVR Voineasa-Covas 18.72 312 ⇑P Pn 09 15 51.3 0.0
SHAO Shalim 18.75 151 *i* P P 09 15 48.0 -3.4
SNR=37
SHAO Shalim 18.75 151 P P 09 15 48.8 -2.6
SNR=37
SHAO S Sn 09 19 15.4 -6.2
DMTO DMTO 18.76 153 P P 09 15 48.5 -3.1
SNR=17
DMTO S Sn 09 19 12.6 -9.4
SORM Soroca 18.77 320 ⇓P P 09 15 51.2 -0.3
SORM Soroca 18.77 320 ⇓P P 09 15 51.2 -0.3
TESR Tescani 18.79 314 ⇑P Pn 09 15 52.1 -0.1
CHGR Chuyangaron 18.82 72 P Pn 09 15 54.1 +1.4
CHGR Chuyangaron 18.82 72 P Pn 09 15 54.1 +1.4
CHGR pmax pmax
comp=Z,10.0nm,1.0s
MMB Musomishta 18.82 298 *i* P Pn 09 15 53.2 +0.6
KBL Kabul 18.82 84 P Pn 09 15 55.3 +2.3
KBL Kabul 18.82 84 P Pn 09 15 55.3 +2.3
KBL pmax pmax
comp=Z,5.0nm,0.8s
TURR Turia 18.93 312 ⇓P Pn 09 15 54.6 +0.6
OZUR 19.09 312 ⇓P Pn 09 15 56.5 +0.6
HORT Hortiatis 19.10 294 P Pn 09 15 56.4 +0.3
VOIR 19.25 310 ⇑P Pn 09 15 58.9 +1.1
VOIR 19.25 310 ⇑P Pn 09 15 58.9 +1.1
DOPR Dopca 19.28 311 ⇓P Pn 09 15 58.8 +0.7

BIZ Bicaz 19.33 315 ⇓P Pn 09 16 00.1 +1.4
KKB Krupnik 19.34 298 *i* P Pn 09 15 58.9 0.0
GUR Goura 19.41 286 P P 09 15 59.0 +0.3
VTS Vitosha 19.46 300 *i* P Pn 09 16 00.6 +0.1
ARR Arges 19.48 309 ⇓P Pn 09 16 01.3 +0.6
AGG Agios Georgios 19.48 289 P P 09 15 59.6 +0.1
AGG Agios Georgios 19.48 289 P Pn 09 16 00.3 -0.4
AGG Agios Georgios 19.48 289 P P 09 15 59.6 +0.1
AGG pmax pmax
comp=Z,13nm,1.2s
TYRN Tyrnavos 19.63 291 P Pn 09 16 01.7 -0.7
ANX Ano Chora 19.77 288 P Pn 09 16 10.2 +6.0
THL Klokotos Trika 19.78 291 P P 09 16 02.6 0.0
LOT Lotru 20.07 309 ⇓P Pn 09 16 07.3 -0.3
AKASG Malin Array Be 20.07 327 P P 09 16 05.2 -0.5
AKASG Malin Array Be 20.07 327 P P 09 16 05.4 -0.3
comp=Z,2.4nm,0.3s,baz=136,slow=10,SNR=56
AKASG LR LR 09 25 23.2
comp=Z,130nm,19.1s,baz=36,slow=42
comp=Z,19nm,0.8s
AKBB Malin Array Si 20.07 327 P P 09 16 05.4 -0.3
AKBB IAmb IAmb 09 16 07.2
comp=Z,25nm,0.9s
AKBB Malin Array Si 20.07 327 ⇓*i* P P 09 16 05.2 -0.5
AKBB pmax pmax
comp=Z,29nm,0.9s
KIEV Kiev 20.08 327 ⇓P Pn 09 16 07.5 0.0
KIEV Kiev 20.08 327 P P 09 16 05.4 -0.3
KIEV IAmb IAmb 09 16 07.2
comp=Z,23nm,0.9s
KIEV Kiev 20.08 327 ⇓P Pn 09 16 07.5 0.0
PVO Paravola 20.08 288 P P 09 16 06.6 +0.7
BLKB Belogradchik 20.14 303 ⇑P Pn 09 16 07.8 -0.7
BURAR Bucovina Array 20.20 316 ⇓P Pn 09 16 08.3 -0.8
BURAR Bucovina Array 20.20 316 P P 09 16 07.6 +0.4
BURAR IAmb IAmb 09 16 10.9
comp=Z,16nm,0.8s
BURAR Bucovina Array 20.20 316 ⇓P Pn 09 16 08.3 -0.8
BUR08 Bucovina Ar. S 20.22 316 P P 09 16 07.7 +0.1
BUR08 IAmb IAmb 09 16 16.5
comp=Z,19nm,0.9s
BTK Batken 20.24 68 P Pn 09 16 09.7 0.0
BTK Batken 20.24 68 P Pn 09 16 09.7 0.0
BTK pmax pmax
comp=Z,8.0nm,1.2s
FNA Florina 20.43 294 P P 09 16 10.3 +0.6
FNA Florina 20.43 294 P P 09 16 10.3 +0.6
FNA Florina 20.43 294 P P 09 16 10.3 +0.6
FNA pmax pmax
comp=Z,13nm,0.9s
ARCR ARCALIA 20.44 313 ⇑P Pn 09 16 11.8 0.0
DJES Djerdap 20.59 306 ⇑P Pn 09 16 13.0 -0.7
KK31 Karatay Array 20.61 59 P Pn 09 16 14.4 +0.5
KK31 Karatay Array 20.61 59 P Pn 09 16 14.5 +0.5
KK31 pmax pmax
comp=Z,5.0nm,1.0s
KKAR Karatay Array 20.61 59 P Pn 09 16 14.9 +0.9
KKAR Karatay Array 20.61 59 P Pn 09 16 14.2 +0.2
KKAR IAmb IAmb 09 16 38.2
comp=Z,5.1nm,1.0s
KKAR Karatay Array 20.61 59 P Pn 09 16 14.2 +0.2
KKAR pmax pmax
comp=Z,5.0nm,1.0s
GZR Gura Zlata 20.69 308 ⇓P P 09 16 13.0 +0.5
HERR Herculane 20.74 306 ⇓P Pn 09 16 14.6 -0.7
PSDA Pessada-Kefalo 20.80 287 P P 09 16 13.4 -0.3
BOVS Bovan 20.82 302 ⇑P P 09 16 14.3 +0.4
FSK Fiskardo 20.83 288 P P 09 16 14.3 +0.3
KBN Korca 20.84 294 P P 09 16 14.8 +0.5
KBN IAmb IAmb 09 16 29.1
comp=Z,18nm,0.9s
KBN Korca 20.84 294 P P 09 16 14.8 +0.5
KBN pmax pmax
comp=Z,18nm,0.9s
KEF4 Livadi, Kephal 20.93 287 P P 09 16 14.4 -0.7
KEF3 Kipouria, Keph 20.99 287 P P 09 16 14.3 -1.5
MARR Marisel-Cluj 21.00 311 ⇓P P 09 16 17.1 +1.1
IGT Igoumenitsa 21.07 290 P P 09 16 15.1 -1.6
MDVR Moldovita 21.17 305 ⇑P P 09 16 18.2 +0.4
SURR Surduc 21.25 308 ⇑P P 09 16 18.6 0.0
OBN Obninsk 21.35 345 P P 09 16 19.4 -0.1
OBN IAmb IAmb 09 16 22.3
comp=Z,31nm,0.9s
OBN Obninsk 21.35 345 *de*P P 09 16 19.5 +0.1
OBN *e*PPP PPP 09 16 46.1
OBN pmax pmax
comp=Z,33nm,1.0s
OBN MLR MLR
comp=Z,74nm,17.0s
OBN Obninsk 21.35 345 P P 09 16 19.1 -0.3
comp=Z,12nm,0.4s,baz=171,slow=22,SNR=6.0
OBN LR LR 09 25 35.9
comp=Z,150nm,19.0s,baz=22,slow=40
comp=Z,12nm,0.4s
BZS Buzias 21.53 307 ⇑P P 09 16 21.2 -0.3
BZS Buzias 21.53 307 ⇑P P 09 16 21.2 -0.3
MOS Moscow 21.72 347 *e*P P 09 16 22.8 -0.6
MOS *e*S S 09 20 25.8 +2.2
ARSB Arslanbob 22.04 65 P P 09 16 25.4 -1.8
ARSB Arslanbob 22.04 65 P P 09 16 25.4 -1.8
ARSB pmax pmax
comp=Z,3.0nm,1.2s
LVV L'vov 22.06 320 *e*P P 09 16 28.2 +1.0
DIVS Divibare 22.14 303 P P 09 16 28.2 0.0
DIVS IAmb IAmb 09 16 30.5
comp=Z,26nm,1.2s
PDG Podgorica 22.28 298 P P 09 16 26.6 -2.9
PDG IAmb IAmb 09 16 47.6
comp=Z,10nm,0.8s
NIL Nilore 22.41 85 P P 09 16 33.9 +2.7
NIL Nilore 22.41 85 P P 09 16 33.9 +2.7
NIL pmax pmax
comp=Z,50nm,1.4s
KOLS Kolonicke sedl 22.56 316 *e*P P 09 16 34.1 +1.5
KOLS Kolonicke sedl 22.56 316 *e*P P 09 16 34.1 +1.5
KOLS pmax pmax
comp=Z,59nm,0.9s
KWP Kalwaria Pacla 22.68 318 *e*P P 09 16 35.7 +1.9
KWP Kalwaria Pacla 22.68 318 P P 09 16 34.6 +0.8
KWP Kalwaria Pacla 22.68 318 P P 09 16 34.6 +0.8
KWP pmax pmax
comp=Z,35nm,0.8s
CRVS Cervenica-Dubn 23.02 315 *e*P P 09 16 40.6 +3.2
CRVS Cervenica-Dubn 23.02 315 *e*P P 09 16 40.6 +3.2
CRVS pmax pmax
comp=Z,65nm,1.0s
ARU Arti 23.21 18 P P 09 16 40.5 +1.3
ARU Arti 23.21 18 *d* P P 09 16 41.1 +1.9
ARU 09 17 07.0
ARU SS SnSn 09 21 31.0 +6.6
ARU pmax pmax
comp=Z,10.0nm,1.0s
AAK Ala-Archa 23.37 62 P P 09 16 44.0 +2.8
AAK Ala-Archa 23.37 62 *i* P P 09 16 45.1 +3.9
AAK pmax pmax
comp=Z,16nm,3.8s
AAK Ala-Archa 23.37 62 LR LR 09 27 47.5
comp=Z,74nm,19.3s,baz=262,slow=42
STHS Stebnicka Huta 23.39 316 *e*P P 09 16 43.4 +2.2
STHS Stebnicka Huta 23.39 316 *e*P P 09 16 43.4 +2.2
ATD Arta Tunnel 23.39 188 LR LR 09 26 16.6
comp=Z,4.5nm,19.8s,baz=360,slow=38
KECS Kecovo 23.40 313 *e*P P 09 16 44.4 +3.2
KECS Kecovo 23.40 313 *e*P P 09 16 44.4 +3.2
MNK Minsk 23.44 333 *i* P P 09 16 41.7 +0.1
comp=E,10.0nm,0.8s
MNK *i* P P 09 16 41.7 +0.1
comp=N,15nm,0.8s
MNK *i* P P 09 16 41.7 +0.1
comp=Z,30nm,0.8s,baz=140
MNK *i* PP PnPn 09 17 07.5 -0.3
MNK *i* PPP PPP 09 17 16.1
MNK *i* S S 09 20 55.5 +0.6
MNK *i* SS SnSn 09 21 32.3 +2.2
MNK *i* SSS SSS 09 21 46.2
MNK *i* LQ LQ 09 23 56.9
MNK *i* LR LR 09 25 38.0
MNK *i* LRM MLR 09 26 35.8
comp=E,36nm,13.5s
MNK *i* LRM MLR 09 26 36.0
comp=Z,52nm,12.7s
MNK *i* LRM MLR 09 26 42.6
comp=N,107nm,14.4s

MNK Minsk 23.44 333 *i* P **P** **09 16 41.7 +0.1**
MNK *i* PPP PPP 09 17 16.0
MNK *i* S **S** **09 20 55.4 +0.6**
MNK *i* SS **SnSn** **09 21 32.3 +2.2**
MNK *i* SSS SSS 09 21 46.2
MNK pmax pmax
comp=Z,30nm,0.8s
MNK pmax pmax
comp=N,15nm,0.8s
MNK pmax pmax
comp=E,10.0nm,0.8s
MNK MLR MLR
comp=E,36nm,14.0s
MNK MLR MLR
comp=Z,52nm,13.0s
MNK MLR MLR
comp=N,107nm,14.0s
PSZ Piszkesteto 23.51 312 P **P** **09 16 42.6 +0.2**
PSZ IAmb IAmb 09 16 45.6
comp=Z,18nm,1.0s
PSZ Piszkesteto 23.51 312 P **P** **09 16 42.7 +0.2**
PSZ pmax pmax
comp=Z,18nm,1.0s
TIP Timpagrande 23.82 289 P **P** **09 16 45.7 +0.1**
KIRV Kirov 23.86 4⇓*eP* **P** **09 16 47.4 +1.8**
KIRV Kirov 23.86 4 LR LR 09 27 25.5
comp=Z,140nm,20.6s,baz=186,slow=40
NIE Niedzica 23.93 315 *eP* **P** **09 16 48.6 +2.1**
SVE Sverdlovsk 24.10 20 *eP* **P** **09 16 51.7 +3.8**
SVE pmax pmax
comp=Z,18nm,1.1s
KSH Kashi 24.16 70 *eP* **P** **09 16 51.5 +2.7**
NACGM Naroch 24.17 332 *eP* **P** **09 16 43.1 -5.4**
comp=Z,37nm,0.9s,baz=140
LANS Liptovska Anna 24.30 314 *eP* **P** **09 16 51.4 +1.5**
LANS Liptovska Anna 24.30 314 *eP* **P** **09 16 51.4 +1.5**
LANS pmax pmax
comp=Z,10.0nm,0.9s
VYHS Vyhne 24.39 312 *eP* **P** **09 16 52.0 +1.2**
VYHS Vyhne 24.39 312 *eP* **P** **09 16 52.0 +1.2**
VYHS pmax pmax
comp=Z,6.0nm,1.0s
BOOM Boomskoye usch 24.40 63 P **P** **09 16 52.5 +1.5**
BOOM Boomskoye usch 24.40 63 P **P** **09 16 52.5 +1.5**
BOOM pmax pmax
comp=Z,7.0nm,1.4s
SRO Srobarova 24.45 310 *eP* **P** **09 16 52.8 +1.6**
SRO Srobarova 24.45 310 *eP* **P** **09 16 52.8 +1.6**
CEL Celeste 24.50 287 P **P** **09 16 51.9 +0.1**
CUC Castrocucco 24.57 291 P **P** **09 16 52.9 +0.3**
CUC IAmb IAmb 09 17 03.4
comp=Z,7.0nm,0.9s
OJC Ojcow 24.60 317 *eP* **P** **09 16 53.4 +0.9**
OJC Ojcow 24.60 317 P **P** **09 16 53.2 +0.6**
OJC Ojcow 24.60 317 P **P** **09 16 53.2 +0.6**
OJC pmax pmax
comp=Z,53nm,0.7s
SGRT San Giovanni R 24.76 295 P **P** **09 16 53.3 -0.9**
SGRT IAmb IAmb 09 16 55.5
comp=Z,9.4nm,0.8s
BEL Belsk 24.89 321 *eP* **P** **09 16 57.7 +2.6**
BRVK Borovoye 24.98 36 P **P** **09 16 58.2 +2.2**
BRVK IAmb IAmb 09 17 01.4
comp=Z,13nm,1.1s
BRVK Borovoye 24.98 36 P **P** **09 16 59.7 +3.8**
BRVK Borovoye 24.98 36*d* *iP* **P** **09 16 59.3 +3.3**
BRVK pmax pmax
comp=Z,14nm,1.0s
BVAR Borovoye Array 25.01 36 P **P** **09 16 58.1 +1.9**
comp=Z,6.6nm,0.6s,baz=234,slow=8.1,SNR=24
BVAR LR LR 09 28 34.5
comp=Z,108nm,19.8s,baz=229,slow=41
comp=Z,6.6nm,0.6s
SUW Suwalki 25.04 327 P **P** **09 16 56.9 +0.4**
SUW Suwalki 25.04 327 *eP* **P** **09 16 57.7 +1.2**
SUW Suwalki 25.04 327 P **P** **09 16 56.9 +0.4**
SUW pmax pmax
comp=Z,52nm,0.9s
JAVC Velka Javorina 25.25 312 *eP* **P** **09 16 59.6 +1.1**
SMOL Smolenice 25.26 312 *eP* **P** **09 17 00.7 +2.1**
SMOL pmax pmax
comp=Z,9.0nm,0.9s
MODS Modra-Piesok 25.30 311 *eP* **P** **09 17 00.9 +1.9**
MODS Modra-Piesok 25.30 311 *eP* **P** **09 17 00.9 +1.9**
MODS pmax pmax
comp=Z,37nm,1.0s
ZST Bratislava 25.35 311 *eP* **P** **09 17 02.5 +3.2**
ZST Bratislava 25.35 311 *eP* **P** **09 17 02.5 +3.2**
ZST pmax pmax
comp=Z,56nm,0.9s
TARG Taragay, Kyrgy 25.69 65 P **P** **09 17 05.5 +2.5**
TARG Taragay, Kyrgy 25.69 65 P **P** **09 17 05.5 +2.5**
TARG pmax pmax
comp=Z,3.0nm,1.1s
RONA Rosalia, Austr 25.69 309 *eP* **P** **09 17 02.7 +0.2**
comp=Z,6.2nm,0.6s,SNR=14
MORC Moravsky Berou 25.70 314 P **P** **09 17 02.7 +0.1**
MORC IAmb IAmb 09 17 05.5
comp=Z,18nm,0.9s
MORC Moravsky Berou 25.70 314 *eP* **P** **09 17 02.6 0.0**
MORC Moravsky Berou 25.70 314 P **P** **09 17 02.7 +0.1**
MORC pmax pmax
comp=Z,18nm,0.9s
VAE Valguarnera 25.70 285 LR LR 09 28 00.8
comp=Z,88nm,20.0s,baz=151,slow=39
PABE Paberze 25.72 330 P **P** **09 17 02.7 +0.1**
PABE Paberze 25.72 330 *eP* **P** **09 17 04.2 +1.6**
CONA Conrad Observa 26.04 309 *i* P **P** **09 17 06.4 +0.6**
comp=Z,23nm,0.9s,SNR=9.6
ARSA Arzberg 26.05 308 *i* P **P** **09 17 06.3 +0.6**
comp=Z,8.1nm,0.7s
ARSA Arzberg 26.05 308 *eP* **P** **09 17 06.2 +0.4**
comp=Z,9.4nm,0.9s,baz=110,slow=8.7
VSVD Vaisvydziai 26.07 331 *eP* **P** **09 17 07.7 +1.9**
VRAC Vranov 26.08 313 *eP* **P** **09 17 06.4 +0.4**
VRAC Vranov 26.08 313 LR LR 09 28 28.0
comp=Z,111nm,19.4s,baz=112,slow=39
KRUC Moravsky 26.10 312 *eP* **P** **09 17 06.3 +0.1**
INTR Introdacqua 26.15 296 P **P** **09 17 07.2 +0.3**
INTR IAmb IAmb 09 17 09.3
comp=Z,9.6nm,0.8s
SOKA Soboth 26.20 306 *i* P **P** **09 17 07.8 +0.6**
comp=Z,7.9nm,0.9s
KRLC Kraliky 26.27 314 *eP* **P** **09 17 09.0 +1.2**
KRLC Kraliky 26.27 314 *eP* **P** **09 17 09.0 +1.2**
KLMR Klimovskoe 26.39 353 *eP* **P** **09 17 07.8 -0.8**
KLMR AMP 09 17 13.0
comp=Z,21nm,0.8s
KLMR Klimovskoe 26.39 353 *eP* **P** **09 17 07.8 -0.8**
KLMR pmax pmax
comp=Z,21nm,0.8s
OBKA Obir 26.48 306 *eP* **P** **09 17 10.1 +0.3**
comp=Z,7.6nm,1.0s
AQU L'Aquila 26.56 296 P **P** **09 17 10.0 -0.5**
AQU L'Aquila 26.56 296 P **P** **09 17 10.0 -0.5**
AQU pmax pmax
comp=Z,20nm,0.9s
CAMP Campotosto 26.57 297 P **P** **09 17 10.7 0.0**
CAMP IAmb IAmb 09 17 20.2
comp=Z,20nm,0.9s
DPC Dobruska-Polom 26.65 315 *eP* **P** **09 17 11.3 +0.1**
DPC Dobruska-Polom 26.65 315 *eP* **P** **09 17 11.3 +0.1**
GUMA Gualdo di Mace 26.68 298 P **P** **09 17 11.8 +0.3**
GUMA IAmb IAmb 09 17 33.0
comp=Z,19nm,0.9s
OSTC Ostas 26.80 315 *eP* **P** **09 17 12.6 +0.1**
OSTC Ostas 26.80 315 *eP* **P** **09 17 12.6 +0.1**
NRCA Norcia 26.82 297 P **P** **09 17 13.1 +0.3**
NRCA IAmb IAmb 09 17 13.9
comp=Z,11nm,0.9s
PRGR Permogore 26.83 359 *eP* **P** **09 17 11.8 -0.7**
PRGR pmax pmax
comp=Z,17nm,1.0s
FDMO Fiordimonte 26.86 298 P **P** **09 17 13.3 +0.1**
FDMO IAmb IAmb 09 17 17.8
comp=Z,11nm,0.7s
KSP Ksiaz 26.87 316 *eP* **P** **09 17 12.8 -0.4**
UPC Upice 26.90 315 *eP* **P** **09 17 13.9 +0.5**
UPC Upice 26.90 315 *eP* **P** **09 17 13.9 +0.5**
CHVC Chvalec 26.91 315 *eP* **P** **09 17 13.8 +0.3**
CHVC Chvalec 26.91 315 *eP* **P** **09 17 13.8 +0.3**
VSU Vasula 26.94 337⇑*eP* **P** **09 17 12.5 -1.1**
VSU pmax pmax
comp=Z,41nm,1.1s

SABO M.te Sabotino 27.00 304 P **P** **09 17 14.0 -0.3**
SABO IAmb IAmb 09 17 34.8
comp=Z,33nm,1.4s
MOA Molln 27.04 308 *eP* **P** **09 17 15.5 +0.8**
comp=Z,14nm,1.0s,SNR=8.5
MOA Molln 27.04 308 *eP* **P** **09 17 15.0 +0.3**
comp=Z,12nm,1.0s,baz=110,slow=8.7
MYKA Terra Mystica 27.12 306 *i* P **P** **09 17 16.2 +0.7**
comp=Z,6.9nm,1.1s
PRED Cave del Predi 27.12 305 P **P** **09 17 15.7 +0.2**
CESX Cesi 27.19 297 P **P** **09 17 15.6 -0.5**
CESX IAmb IAmb 09 17 19.7
comp=Z,9.3nm,0.8s
CKRC Cesky Krumlov 27.31 311 *eP* **P** **09 17 19.5 +2.4**
CKRC Cesky Krumlov 27.31 311 *eP* **P** **09 17 19.5 +2.4**
BIOA Bad Ischl, Aus 27.40 308 *i* P **P** **09 17 17.8 -0.1**
comp=Z,6.5nm,0.9s
KBA Koelnbreinsper 27.43 306 *i* P **P** **09 17 18.7 +0.3**
comp=Z,8.2nm,1.0s
KBA Koelnbreinsper 27.43 306 *eP* **P** **09 17 18.2 -0.1**
comp=Z,8.6nm,0.9s,baz=110,slow=8.7
ZVC Zvikov 27.59 312 *eP* **P** **09 17 20.4 +0.8**
CLUD Cludinico 27.59 305 P **P** **09 17 20.3 +0.6**
CLUD IAmb IAmb 09 17 22.0
comp=Z,12nm,1.1s
GEC2 GERESS Array S 27.70 310 P **P** **09 17 21.0 +0.3**
GERES GERESS Array B 27.70 310 P **P** **09 17 20.5 -0.2**
GERES GERESS Array B 27.70 310 P **P** **09 17 20.5 -0.2**
GERES GERESS Array B 27.70 310 P **P** **09 17 19.1 -1.5**
comp=Z,0.9nm,0.5s,baz=116,slow=9.8,SNR=7.4
comp=Z,0.9nm,0.5s
KHC Kasperske Hory 27.86 311 *eP* **P** **09 17 22.9 +0.8**
KHC Kasperske Hory 27.86 311⇑*eP* **P** **09 17 22.6 +0.5**
KHC pmax pmax
comp=Z,45nm,2.6s
ABTA Abfaltersbach 27.90 306 *i* P **P** **09 17 23.2 +0.7**
comp=Z,3.5nm,0.8s
LESA Schwarzleotal 27.95 307 *eP* **P** **09 17 22.9 -0.1**
comp=Z,4.4nm,1.1s
RJOB Jochberg 27.96 308 *eP* **P** **09 17 24.2 +1.2**
comp=Z,5.0nm,0.7s,baz=110,slow=8.7
BRG Berggiesshubel 28.25 314 *eP* **P** **09 17 25.8 +0.3**
BRG Amp 09 17 28.0
comp=Z,5.7nm,1.0s
BRG Berggiesshubel 28.25 314 *eP* **P** **09 17 25.7 +0.3**
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG Berggiesshubel 28.25 314 *eP* **P** **09 17 26.4 +1.0**
comp=Z,5.8nm,1.0s,baz=110,slow=8.7
KURBB Kurchatov Arra 28.26 46 P **P** **09 17 26.7 +1.2**
comp=Z,0.6nm,0.6s,baz=254,slow=8.8,SNR=3.2
comp=Z,0.6nm,0.6s
CTI Castel Tesino 28.34 304 P **P** **09 17 25.8 -0.6**
CTI IAmb IAmb 09 17 27.8
comp=Z,4.8nm,0.8s
CTI Castel Tesino 28.34 304 P **P** **09 17 25.8 -0.6**
CTI pmax pmax
comp=Z,5.0nm,0.8s
KURK Kurchatov 28.34 46⇓*eP* **P** **09 17 29.1 +2.8**
KURK pmax pmax
comp=Z,14nm,3.8s
WTTA Wattenberg 28.60 306 *i* P **P** **09 17 28.6 -0.3**
comp=Z,7.7nm,0.9s,SNR=13
WTTA Wattenberg 28.60 306 *eP* **P** **09 17 28.2 -0.6**
comp=Z,13nm,0.8s,baz=110,slow=8.7
WATA Walderalm 28.66 306 *eP* **P** **09 17 28.7 -0.7**
comp=Z,7.0nm,1.0s,SNR=7.5
SQTA Sankt Quirin 28.88 306 *eP* **P** **09 17 30.6 -0.6**
comp=Z,10nm,0.7s,SNR=10
ROTZ Rotzenmuhle 28.91 312 *eP* **P** **09 17 32.0 +0.6**
comp=Z,1.8nm,0.9s,baz=110,slow=8.7
CLL Collm 28.96 315 P **P** **09 17 31.8 0.0**
CLL IAmb IAmb 09 17 34.4
comp=Z,12nm,0.9s
CLL Collm 28.96 315 *i* P **P** **09 17 33.3 +1.5**
comp=Z,15nm,1.0s
CLL Collm 28.96 315 *i* P **P** **09 17 33.3 +1.5**
CLL pmax pmax
comp=Z,15nm,1.0s
CLL Collm 28.96 315 *eP* **P** **09 17 33.2 +1.5**
comp=Z,11nm,0.9s,baz=110,slow=8.7
MOTA Moosalm 28.97 306 *i* P **P** **09 17 31.4 -0.7**
comp=Z,9.6nm,0.8s,SNR=14
RUE Ruedersdorf 28.98 317 *eP* **P** **09 17 33.5 +1.6**
comp=Z,20nm,0.6s,baz=110,slow=8.7
SALO Salr 29.04 303 P **P** **09 17 32.4 -0.2**
SALO IAmb IAmb 09 17 40.1
comp=Z,13nm,1.1s
MANZ Manzenberg 29.04 312 *eP* **P** **09 17 34.3 +1.7**
baz=110,slow=8.7
FUR Furstenfeldbru 29.05 308 *eP* **P** **09 17 32.8 +0.1**
comp=Z,25nm,0.8s,baz=110,slow=8.7
FETA Feichten 29.16 306 *eP* **P** **09 17 33.3 -0.5**
comp=Z,8.4nm,0.9s,SNR=11
RETA Reutte 29.23 306 *eP* **P** **09 17 33.3 -1.1**
comp=Z,2.3nm,0.8s
FUORN Ofenpass-Fuorn 29.39 305 P **P** **09 17 36.0 +0.1**
VSL Villasalto 29.54 290 P **P** **09 17 38.0 +1.0**
VSL IAmb IAmb 09 17 38.5
comp=Z,6.9nm,0.9s
FIA1 FINESS Array S 29.55 340 P **P** **09 17 37.7 +0.8**
FINES FINESS Array B 29.55 340 P **P** **09 17 37.9 +1.0**
FINES FINESS Array B 29.55 340 P **P** **09 17 37.9 +1.0**
FINES FINESS Array B 29.55 340 P **P** **09 17 36.3 -0.6**
comp=Z,2.3nm,0.6s,baz=132,slow=9.5,SNR=13
comp=Z,2.3nm,0.6s
MSSA Maissana 29.58 300 P **P** **09 17 38.0 +0.6**
MK31 Makanchi Array 29.59 55 P **P** **09 17 39.8 +2.4**
MK31 Makanchi Array 29.59 55⇑*iP* **P** **09 17 41.6 +4.1**
MKAR Makanchi Array 29.59 55 P **P** **09 17 39.8 +2.3**
MKAR Makanchi Array 29.59 55 P **P** **09 17 39.8 +2.3**
MKAR Makanchi Array 29.59 55 P **P** **09 17 39.4 +1.9**
comp=Z,1.2nm,0.7s,baz=256,slow=8.0,SNR=10
MKAR LR LR 09 30 13.5
comp=Z,100nm,18.1s,baz=260,slow=38
comp=Z,1.2nm,0.7s
UBR Ueberruh 29.71 307 *eP* **P** **09 17 37.6 -0.9**
comp=Z,8.9nm,0.9s,baz=110,slow=8.7
DAVA Damuels 29.78 306 *eP* **P** **09 17 38.5 -0.7**
comp=Z,12nm,0.7s
KEST Kesra 29.95 282 P **P** **09 17 39.7 -1.1**
comp=Z,5.3nm,0.9s,baz=75,slow=12,SNR=2.8
KEST LR LR 09 33 05.4
comp=Z,71nm,18.7s,baz=286,slow=43
comp=Z,5.3nm,0.9s
TUE Stuetta 29.99 304 P **P** **09 17 40.7 -0.5**
CLZ Clausthal 30.69 315 *eP* **P** **09 17 46.9 -0.2**
comp=Z,12nm,0.8s,baz=110,slow=8.7
NRDL Niedersach Rie 31.07 316 *eP* **P** **09 17 51.8 +1.5**
comp=Z,20nm,1.0s,baz=110,slow=8.7
SENIN Lac Senin/Sane 31.37 303 P **P** **09 17 53.3 -0.1**
RETH Rethem/Aller, 31.58 316 *eP* **P** **09 17 56.5 +1.7**
comp=Z,20nm,0.9s,baz=110,slow=8.7
BNI Bardonecchia 31.66 301 P **P** **09 17 55.9 0.0**
BNI Bardonecchia 31.66 301 P **P** **09 17 55.9 0.0**
BNI pmax pmax
comp=Z,19nm,0.8s
WLF Walferdange 32.69 309 P **P** **09 18 04.5 -0.1**
WLF Walferdange 32.69 309 P **P** **09 18 04.5 -0.1**
WLF pmax pmax
comp=Z,17nm,1.0s
WLF Walferdange 32.69 309 *eP* **P** **09 18 04.6 0.0**
comp=Z,20nm,1.0s,baz=110,slow=8.7
LODK Lodwar 32.82 200 P **P** **09 18 06.8 +0.7**
LODK IAmb IAmb 09 18 12.7
comp=Z,5.1nm,1.2s
HFS Hagfors 32.90 330 P **P** **09 18 05.3 -1.1**
comp=Z,3.1nm,0.4s,baz=123,slow=7.2,SNR=22
comp=Z,3.1nm,0.4s
ZALV Zalesovo Beam 33.04 43 P **P** **09 18 08.7 +1.0**
ZALV Zalesovo Beam 33.04 43 P **P** **09 18 08.7 +1.0**
ZALV Zalesovo Beam 33.04 43 P **P** **09 18 08.3 +0.6**
comp=Z,0.6nm,0.4s,baz=237,slow=10,SNR=5.9
ZALV LR LR 09 34 24.4
comp=Z,169nm,18.4s,baz=6.5,slow=42
comp=Z,0.6nm,0.4s
SSB Saint Sauveur 33.19 301 P **P** **09 18 08.4 -0.8**
SSB Saint Sauveur 33.19 301 P **P** **09 18 08.4 -0.8**
SSB pmax pmax
comp=Z,32nm,1.5s
DGZ Jazzator, Alta 33.51 51⇑*eP* **P** **09 18 14.5 +2.5**
DGZ pmax pmax
comp=Z,7.0nm,2.3s
NOA NORSAR Array B 34.42 330 P **P** **09 18 17.9 -1.8**
comp=Z,0.6nm,0.6s,baz=124,slow=8.6,SNR=2.0
NOA LR LR 09 32 28.6
comp=Z,52nm,19.3s,baz=145,slow=37
comp=Z,0.6nm,0.6s
NC303 NORSAR Array S 34.46 331 P **P** **09 18 19.9 -0.1**
NBO00 NORSAR Array S 34.59 330 P **P** **09 18 20.9 -0.3**
NBO00 IAmb IAmb 09 18 45.8
comp=Z,14nm,1.2s
NC204 NORSAR Array S 34.74 331 P **P** **09 18 22.3 -0.1**
ARCES ARCESS Array B 36.59 348 P **P** **09 18 38.6 +0.5**
comp=Z,5.5nm,0.9s,baz=148,slow=8.6,SNR=9.3
ARCES LR LR 09 34 04.0
comp=Z,58nm,18.4s,baz=195,slow=37
comp=Z,5.5nm,0.9s
KMBO Kilima Mbogo 36.73 195 LR LR 09 34 13.5
comp=Z,96nm,18.9s,baz=84,slow=37
EKA Eskdalemuir Ar 39.37 317 P **P** **09 19 00.9 -0.9**
comp=Z,6.1nm,0.7s,baz=106,slow=8.6,SNR=8.6
comp=Z,6.1nm,0.7s
EKB Eskdalemuir 39.39 317 P **P** **09 19 01.7 -0.2**
ESK Eskdalemuir 39.39 317 P **P** **09 19 02.4 +0.4**
ESK Eskdalemuir 39.39 317 P **P** **09 19 02.4 +0.4**
ESK pmax pmax
comp=Z,63nm,1.5s
ESBB Sonseca Array 39.77 292 P **P** **09 19 05.5 +0.2**
ESBB IAmb IAmb 09 19 07.7
comp=Z,17nm,1.4s
ESDC Sonseca Array 39.77 292 P **P** **09 19 05.2 -0.2**
ESDC Sonseca Array 39.77 292 P **P** **09 19 04.5 -0.9**
comp=Z,5.5nm,0.8s,baz=64,slow=8.5,SNR=29
comp=Z,5.5nm,0.8s
PAB San Pablo 40.08 292 P **P** **09 19 08.1 +0.1**
PAB IAmb IAmb 09 19 27.3
comp=Z,19nm,1.5s
PAB San Pablo 40.08 292 P **P** **09 19 08.1 +0.1**
PAB pmax pmax
comp=Z,19nm,1.5s
DSB Dublin 40.96 313 P **P** **09 19 15.2 +0.2**
DSB IAmb IAmb 09 19 20.9
comp=Z,11nm,0.9s
NRIK Noril'sk 41.36 21⇓*eP* **P** **09 19 19.4 +1.3**
NRIK pmax pmax
comp=Z,28nm,5.1s
NRIK Noril'sk 41.36 21 P **P** **09 19 17.9 -0.2**
comp=Z,0.6nm,0.3s,baz=254,slow=7.4,SNR=1.7
NRIK LR LR 09 41 42.2
comp=Z,52nm,20.8s,baz=252,slow=44
comp=Z,0.6nm,0.3s
PALK Pallekele 41.95 123 LR LR 09 38 10.7
comp=Z,95nm,19.3s,baz=55,slow=38
PBAR Barrancos 42.40 291 *eP* **P** **09 19 26.4 -0.6**
comp=Z,27nm,2.1s
PCBR Castelo Branco 42.41 293 *eP* **P** **09 19 27.1 +0.1**
comp=Z,33nm,1.7s
PMRV Marv??o 42.42 293 *eP* **P** **09 19 27.0 -0.2**
comp=Z,34nm,1.5s
PESTR Estremoz 42.68 292 *eP* **P** **09 19 28.6 -0.7**
comp=Z,32nm,1.9s
PESTR Estremoz 42.68 292 P **P** **09 19 29.0 -0.3**
PESTR IAmb IAmb 09 19 30.9
comp=Z,18nm,1.1s
PBEJ Beja 43.07 291 *eP* **P** **09 19 32.5 0.0**
PCVE Castro Verde 43.30 290 *eP* **P** **09 19 34.1 -0.2**
SPITS Spitsbergen Ar 45.29 352 P **P** **09 19 51.0 +1.3**
SPITS pmax pmax
comp=Z,45nm,1.3s
SPITS Spitsbergen Ar 45.29 352 P **P** **09 19 49.5 -0.2**
comp=Z,2.6nm,0.5s,baz=151,slow=6.3,SNR=1.4
comp=Z,2.6nm,0.5s
TOA0 Torodi Ar. Sit 45.53 253 P **P** **09 19 52.4 0.0**
TOA0 IAmb IAmb 09 20 02.8
comp=Z,6.3nm,1.4s
TORD Torodi Ar. Bea 45.53 253 P **P** **09 19 52.9 +0.4**
TORD IAmb IAmb 09 20 04.5
comp=Z,5.6nm,0.8s
TORD Torodi Ar. Bea 45.53 253 P **P** **09 19 52.0 -0.4**
comp=Z,1.9nm,0.7s,baz=48,slow=9.1,SNR=12
comp=Z,1.9nm,0.7s
SONM Songino Array 45.95 54 P **P** **09 19 57.3 +1.8**
comp=Z,0.2nm,0.4s,baz=263,slow=8.6,SNR=1.7
SONM LR LR 09 40 58.4
comp=Z,88nm,19.1s,baz=310,slow=38
comp=Z,0.2nm,0.4s
CMAR Chiang Mai Arr 49.37 95 P **P** **09 20 22.6 +0.4**
comp=Z,2.1nm,0.4s,baz=297,slow=8.5,SNR=5.0
CMAR LR LR 09 44 43.5
comp=Z,50nm,20.7s,baz=350,slow=40
comp=Z,2.1nm,0.4s
BTO Baotou 49.87 63 *eP* **P** **09 20 28.0 +2.0**
BTO pP **sP** **09 20 32.8 +1.7**
BTO sP **pP** **09 20 35.0 +5.4**
BTO PP **PP** **09 22 23.3 +2.7**
BTO pmax pmax
comp=Z,16nm,0.4s
BTO pmax pmax
comp=Z,210nm,11.1s
LSZ Lusaka 52.67 202 LR LR 09 43 28.1
comp=Z,59nm,18.4s,baz=330,slow=36
XLT XiLinHaoTe 53.35 58 *eP* **P** **09 20 52.5 +0.6**
XLT pmax pmax
comp=Z,5.0nm,1.1s
XLT pmax pmax
comp=Z,460nm,6.1s
DBIC Dimbokro 54.57 251 P **P** **09 21 00.7 -0.3**
comp=Z,2.9nm,0.6s,baz=30,slow=5.1,SNR=5.2
comp=Z,2.9nm,0.6s
SUMG Summit 55.57 339 P **P** **09 21 07.6 -0.4**
SUMG Summit 55.57 339 P **P** **09 21 07.6 -0.4**
SUMG pmax pmax
comp=Z,1.0nm,0.5s
YAK Yakutsk 56.97 34 LR LR 09 47 32.3
comp=Z,4.5nm,18.9s,baz=298,slow=38
CN2 Changchun 59.81 55 *eP* **P** **09 21 39.3 +1.5**
LBTB Lobatse 62.63 201 LR LR 09 50 21.2
comp=Z,70nm,19.0s,baz=10.0,slow=37
KSRS Korea Array 64.02 61 P **P** **09 22 06.8 +0.6**
comp=Z,1.0nm,0.7s,baz=277,slow=8.2,SNR=2.1
KSRS LR LR 09 52 55.1
comp=Z,29nm,20.0s,baz=50,slow=39
comp=Z,1.0nm,0.7s
USRK Ussuriysk Ar. 64.03 53 P **P** **09 22 07.4 +1.3**
comp=Z,1.6nm,0.8s,baz=282,slow=7.1,SNR=2.5
comp=Z,1.6nm,0.8s
BOSA Boshof 66.12 200 P **P** **09 22 20.9 +1.0**
BOSA Boshof 66.12 200 P **P** **09 22 20.9 +1.0**
BOSA pmax pmax
comp=Z,9.0nm,1.0s
BOSA Boshof 66.12 200 P **P** **09 22 19.4 -0.4**
comp=Z,4.0nm,0.8s,baz=24,slow=9.0,SNR=6.4
comp=Z,4.0nm,0.8s
BILL Bilibino 68.19 21⇓*eP* **P** **09 22 34.3 +1.8**
BILL pmax pmax
comp=Z,34nm,4.4s
YSS Yuzh-Sakhalins 69.55 47 *eP* **P** **09 22 42.7 +1.4**
YSS pmax pmax
comp=Z,60nm,1.8s
A36M Sachs Harbour 73.31 357 P **P** **09 23 04.5 +1.0**
A36M IAmb IAmb 09 23 07.7
comp=Z,6.8nm,0.9s
SCHQ Schefferville 73.87 326 P **P** **09 23 06.9 -0.2**
SCHQ Schefferville 73.87 326 P **P** **09 23 08.3 +1.1**
comp=Z,7.8nm,0.9s,baz=56,slow=3.6,SNR=3.7
comp=Z,7.8nm,0.9s
B20K Meade River 74.09 8 P **P** **09 23 08.9 +0.8**
B20K IAmb IAmb 09 23 11.9
comp=Z,12nm,1.4s
C19K Lookout Ridge 74.64 9 P **P** **09 23 11.5 +0.1**
C19K IAmb IAmb 09 23 21.0
comp=Z,6.5nm,1.4s
C18K Utukok River 74.84 10 P **P** **09 23 13.8 +1.2**
C18K IAmb IAmb 09 23 21.1
comp=Z,4.0nm,0.9s
D19K Kuna River 75.41 9 P **P** **09 23 17.6 +1.8**
D19K IAmb IAmb 09 23 36.3
comp=Z,7.7nm,1.2s
D22K Ayikyak River 75.66 7 P **P** **09 23 18.4 +1.1**
D25K Kavik River 75.75 5 P **P** **09 23 18.6 +0.7**
C36M Paulatuk 75.88 356 P **P** **09 23 18.6 +0.1**
C36M IAmb IAmb 09 23 26.5
comp=Z,6.3nm,1.2s
E21K Killik River 75.95 8 P **P** **09 23 19.2 +0.2**
E18K Tukpahlearik C 76.07 10 P **P** **09 23 19.9 +0.3**
E18K IAmb IAmb 09 23 28.2
comp=Z,3.1nm,0.9s
D27M Malcolm River 76.10 3 P **P** **09 23 21.1 +1.2**
D27M IAmb IAmb 09 23 24.7
comp=Z,6.2nm,1.4s
TOLK Toolik Lake Re 76.18 6 P **P** **09 23 21.9 +1.7**
TOLK IAmb IAmb 09 23 36.1

comp=Z,9.7nm,1.5s
E19K Redstone River 76.50 9 P P 09 23 21.6 -0.5
E19K IAmb IAmb 09 23 40.7
comp=Z,6.7nm,1.4s
E28M Babbage River 76.79 2 P P 09 23 24.3 +0.6
E28M IAmb IAmb 09 23 45.9
comp=Z,8.9nm,1.1s
E25K Arctic Village 76.99 4 P P 09 23 25.3 +0.4
E25K IAmb IAmb 09 23 34.8
comp=Z,6.4nm,1.4s
F19K Shaleruckik Mo 77.02 9 P P 09 23 24.6 -0.4
F19K IAmb IAmb 09 23 52.2
comp=Z,4.4nm,1.2s
E29M Blow River 77.05 2 P P 09 23 25.3 +0.2
E29M IAmb IAmb 09 23 41.7
comp=Z,7.9nm,1.0s
E27K Coleen River 77.13 3 P P 09 23 26.5 +0.8
BMAR Burnt Mountain 77.73 4 P P 09 23 30.1 +1.1
G19K Purcell Mounta 77.76 9 P P 09 23 30.2 +1.1
G19K IAmb IAmb 09 23 37.3
comp=Z,2.5nm,0.7s
F28M Old Crow 77.77 2 P P 09 23 30.1 +0.8
G21K Allakaket 77.85 8 P P 09 23 31.4 +1.7
G21K IAmb IAmb 09 23 49.0
comp=Z,4.2nm,1.1s
IMAR Indian Mountai 78.34 8 P P 09 23 33.3 +0.9
G27K Doyon Strip 78.50 3 P P 09 23 35.6 +2.3
G27K IAmb IAmb 09 23 43.0
comp=Z,4.6nm,1.0s
FYU Fort Yukon 78.55 5 P P 09 23 34.0 +0.5
MLY Manley 79.59 7 P P 09 23 40.8 +1.5
MDM Murphy Dome 79.90 6 P P 09 23 42.4 +1.4
MDM IAmb IAmb 09 23 51.3
comp=Z,7.1nm,1.0s
I28M Miner Creek 79.94 3 P P 09 23 42.6 +1.3
I28M IAmb IAmb 09 23 43.3
comp=Z,7.8nm,1.4s
J25K Salcha River, 80.47 5 P P 09 23 44.2 +0.1
J25K IAmb IAmb 09 23 44.8
comp=Z,5.3nm,0.9s
NEW Newport 95.94 349 LR LR 10 08 48.7
comp=Z,48nm,18.1s,baz=60,slow=36
PDAR Pinedale Array 99.64 342 LR LR 10 13 14.9
comp=Z,65nm,18.2s,baz=54,slow=37

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*GCG **26** 09:13:32.9±1.7, 15°.89N×94°.89W, h182km±321km, MD4.8*
*MEX **26** 09:13:40.5±0.8, 15°.41N×94°.74W, h16km±8km, MD4.9*
*GCMT **26** 09:13:41.2±0.2, 15°.63N±0°.01×94°.75W±0°.02, h32km, MW5.1/94, Moment Tensor Solution. s79,c99; s94,c125; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.50±.16; Mθθ=-2.91±.11; Mϕϕ=-1.59±.11; Mrθ=1.92±.12; Mrϕ=2.41±.08; Mθϕ=0.82±.13; Best double couple: M◎=5.07500×10^16 NP1:φs=121.00000°, δ57.00000°, λ83.00000°. NP2: φs=314.00000°, δ34.00000°, λ100.00000°. Principal axes: T 4.9760, Plg77.0000°, Azm10.0000°; N 0.1970, Plg6.0000°, Azm125.0000°; P -5.1730, Plg12.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **26** 09:13:42.8, 15°.44N×93°.65W, h33km, mb5.4*
*NEIC **26** 09:13:42.2±1.8, 15°.58N±0°.08×94°.60W±0°.06, h37km±7km, mb4.8/369, Mwr4.8/9, Md4.9/18(MEX), Error ellipse: s-maj=12.4km s-min=6.4km az=213.0, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=0.51; Mθθ=1.00; Mϕϕ=-1.51; Mrθ=0.70; Mrϕ=-1.31; Mθϕ=-0.93; Fault plane solution: M◎=2.20000×10^16 NP1:φs=162.25000°, δ77.71000°, λ33.45000°. NP2:φs=64.24000°, δ57.41000°, λ165.36000°. Principal axes: T 2.1915, Plg32.0000°, Azm28.0000°; N 0.0184, Plg55.0000°, Azm180.0000°; P -2.2099, Plg13.0000°, Azm290.0000°;*
*NEIC **26** 09:13:43.2, 15°.64N×94°.59W, h44km*
*IDC **26** 09:13:43.4±1.9, 15°.70N×94°.60W, h54km±14km, mb4.4/19, mbtmp4.6/22, ML4.0/3, MS4.2/48, Error ellipse: s-maj=20.9km s-min=10.0km az=48.0*
*CATAC **26** 09:13:59.0±4.0, 15°.55N×93°.11W, h5km, MB5.0, mb5.0, ML4.6*

ISC 26 09:13:38.9±0.4, 15°.40N±0°.03×94°.78W±0°.02, h27km±2km, h27km:pP-P, n912, σ1§83/880, mb4.8/168, MS4.2/49, 8D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NILT	**Santiago Nilte**	**1.17**	**8**	*eP*		**Pn**	**09 13 57.3**	**-2.1**
NILT				*eS*		**Sn**	**09 14 10.1**	**-4.4**
CARR	**Arriaga**	**1.18**	**45**	*eP*		**Pn**	**09 13 57.4**	**-2.3**
CARR				*eS*		**Sn**	**09 14 10.6**	**-4.3**
HUIG	**Huatulco**	**1.33**	**286**			**Pn**	**09 14 01.1**	**-0.6**
HUIG						**Sn**	**09 14 16.5**	**-2.2**
HUIG	**Huatulco**	**1.33**	**286**	*eP*		**Pn**	**09 14 01.1**	**-0.6**
HUIG				*eS*		**Sn**	**09 14 16.5**	**-2.2**
PCIG		**1.53**	**79**			**Pn**	**09 14 03.0**	**-1.4**
PCIG						**Sn**	**09 14 19.5**	**-3.9**
PCIG		**1.53**	**79**	*i* P		**Pn**	**09 14 03.0**	**-1.4**
PCIG				*eS*		**Sn**	**09 14 19.5**	**-3.9**
CMIG	**Matias Romero**	**1.68**	**356**			**Pn**	**09 14 05.6**	**-0.9**
CMIG						**Sn**	**09 14 24.5**	**-2.7**
CMIG	**Matias Romero**	**1.68**	**356**	P		**Pn**	**09 14 05.3**	**-1.2**
	2µm,0.4s,baz=168,slow=12,SNR=3621							
CMIG				S		**Sn**	**09 14 24.2**	**-3.0**
	6µm,0.4s,baz=89,slow=21,SNR=15							
CMIG				LR		LR	09 14 54.8	
	comp=Z,8µm,19.8s,baz=196,slow=51							
CMIG	**Matias Romero**	**1.68**	**356**	*i* P		**Pn**	**09 14 05.6**	**-0.9**
CMIG				*eS*		**Sn**	**09 14 24.5**	**-2.7**
UXUV	**UXUV**	**2.00**	**18**	*eP*		**Pn**	**09 14 10.6**	**-0.3**
UXUV				*i* S		**Sn**	**09 14 32.6**	**-2.4**
TGIG		**2.10**	**49**	*eP*		**Pn**	**09 14 12.2**	**-0.1**
TGIG				*eS*		**Sn**	**09 14 35.6**	**-1.9**
TGBT	**Tuxtla Gutierr**	**2.12**	**50**	*eP*		**Pn**	**09 14 12.3**	**-0.2**
TGBT				*i* S		**Sn**	**09 14 36.8**	**-1.2**
PEIG	**Puerto Escondi**	**2.36**	**285**			**Pn**	**09 14 15.9**	**0.0**
PEIG						**Sn**	**09 14 40.6**	**-3.4**
PEIG	**Puerto Escondi**	**2.36**	**285**	*eP*		**Pn**	**09 14 15.9**	**0.0**
PEIG				*i* S		**Sn**	**09 14 40.6**	**-3.4**
PATR	**El Naranjo**	**2.47**	**96**	*eP*		**Pn**	**09 14 16.3**	**-1.3**
PATR				*i* S		**Sn**	**09 14 43.4**	**-3.6**
THIG		**2.47**	**101**	*eP*		**Pn**	**09 14 16.2**	**-1.2**
THIG				*eS*		**Sn**	**09 14 44.8**	**-2.0**
OXLC	**Oaxaca**	**2.48**	**312**	*eP*		**Pn**	**09 14 18.7**	**+0.9**
OXLC				*i* S		**Sn**	**09 14 48.4**	**+1.1**
NEUV	**Arroyo Zacate**	**2.50**	**337**	*eP*		**Pn**	**09 14 17.1**	**-0.7**
NEUV				*eS*		**Sn**	**09 14 47.2**	**-0.2**
VHO	**Vista Hermosa**	**2.51**	**312**	*eP*		**Pn**	**09 14 20.2**	**+2.1**
VHO				*eS*		**Sn**	**09 14 46.9**	**-1.1**
PAVE	**Pavencul**	**2.52**	**94**	*eP*		**Pn**	**09 14 17.4**	**-0.8**
PAVE				*eS*		**Sn**	**09 14 44.3**	**-3.8**
CHUJ	**Union Juarez**	**2.59**	**96**	*eP*		**Pn**	**09 14 18.3**	**-1.0**
CHUJ				*eS*		**Sn**	**09 14 46.2**	**-3.9**
TUIG	**Tuzandepetl**	**2.64**	**7**	*eP*		**Pn**	**09 14 19.7**	**0.0**
TUIG				*eS*		**Sn**	**09 14 51.5**	**+0.7**
SMCA	**Catarina**	**2.66**	**101**	*i* P		**Pn**	**09 14 19.0**	**-1.1**
SMCA				*i* S		**Sn**	**09 14 48.6**	**-2.9**
CCIG	**Comitan**	**2.69**	**71**			**Pn**	**09 14 20.9**	**+0.4**
CCIG	**Comitan**	**2.69**	**71**	*eP*		**Pn**	**09 14 21.2**	**+0.7**
CCIG				*i* S		**Sn**	**09 14 50.2**	**-2.1**
CCIG	**Comitan**	**2.69**	**71**	*i* P		**Pn**	**09 14 20.9**	**+0.4**
CCIG				IAML			09 15 15.3	
	comp=Z,6µm,1.0s							
YOIG	**Yosondua**	**3.03**	**299**	*eP*		**Pn**	**09 14 27.5**	**+2.2**
YOIG				*eS*		**Sn**	**09 14 59.1**	**-1.8**
RTAL	**Retalhuleu**	**3.10**	**106**	Pn		**Pn**	**09 14 25.9**	**-0.2**
VHSA	**Villahermosa**	**3.11**	**34**	*eP*		**Pn**	**09 14 27.2**	**+1.0**
VHSA				*eS*		**Sn**	**09 15 02.2**	**-0.2**
PMUV	**Sontecomapan**	**3.14**	**354**	*eP*		**Pn**	**09 14 24.9**	**-1.8**
PMUV				*eS*		**Sn**	**09 14 59.2**	**-4.1**
HUEH	**Huehuetenango**	**3.16**	**91**	Pn		**Pn**	**09 14 28.6**	**+1.5**
STG3	**Santiaguito 3,**	**3.17**	**102**	*eP*		**Pn**	**09 14 27.2**	**0.0**
STG3				*eS*		**Sb**	**09 15 13.8**	**+0.7**
SULM	**Suchitepequez,**	**3.29**	**109**	*eP*		**Pn**	**09 14 29.6**	**+0.9**
SULM				*eS*		**Sb**	**09 15 15.1**	**-1.2**
SOKI	**Kika Raxquin**	**3.31**	**100**	*i* P		**Pn**	**09 14 30.2**	**+0.9**
SOKI				IAML			09 16 02.8	
	comp=Z,2µm,1.0s							
PNIG	**Pinotepa**	**3.37**	**287**	*eP*		**Pn**	**09 14 30.6**	**+0.8**
PNIG				*eS*		**Sn**	**09 15 05.1**	**-3.9**
TXIG	**Tlaxiaco**	**3.41**	**303**	*eP*		**Pn**	**09 14 33.3**	**+2.7**
TXIG				*eS*		**Sn**	**09 15 07.2**	**-3.2**
TOIG	**Toxpalan**	**3.46**	**321**	*eP*		**Pn**	**09 14 33.6**	**+2.5**
TOIG				*i* S		**Sn**	**09 15 12.1**	**+0.8**
HLIG	**Huajuapan de L**	**3.77**	**310**	*eP*		**Pn**	**09 14 38.5**	**+2.9**
HLIG				*i* S		**Sn**	**09 15 18.2**	**-1.0**
TPIG	**Tehuac#an**	**3.89**	**321**	*eP*		**Pn**	**09 14 37.1**	**+0.1**
TPIG				*eS*		**Sn**	**09 15 23.3**	**+1.3**
FUG	**Fuego 3**	**3.92**	**104**	*eP*		**Pb**	**09 14 43.8**	**-3.6**
FUG				*eS*		**Sb**	**09 15 29.8**	**-4.7**
FTIG	**Fresnillo de T**	**4.07**	**308**	*eP*		**Pn**	**09 14 42.7**	**+3.2**
FTIG				*i* S		**Sn**	**09 15 25.9**	**-0.4**
PCG	**Pacaya**	**4.15**	**103**	*eP*		**Pn**	**09 14 40.9**	**+0.1**
PCG				*eS*		**Sn**	**09 15 31.4**	**+2.8**
TLIG	**Tlapa**	**4.22**	**301**	Pn		**Pn**	**09 14 44.9**	**+3.3**
TLIG	**Tlapa**	**4.22**	**301**	*eP*		**Pn**	**09 14 44.6**	**+3.0**
TLIG				*eS*		**Sn**	**09 15 25.5**	**-4.7**
TLIG	**Tlapa**	**4.22**	**301**	*i* P		**Pn**	**09 14 45.1**	**+3.5**
TLIG				*i* S		Sn	09 15 14.5	-16
NBG	**Las Nubes**	**4.36**	**100**	*eP*		**Pn**	**09 14 45.0**	**+1.5**
JAUV	**Jalcomulco**	**4.39**	**334**	*eP*		**Pn**	**09 14 42.4**	**-1.5**
JAUV				*i* S		**Sn**	**09 15 29.4**	**-4.7**
CRIG	**Cruz Grande**	**4.39**	**288**	*eP*		**Pn**	**09 14 45.1**	**+1.3**
CRIG				*eS*		**Sn**	**09 15 29.8**	**-4.3**
LVIG	**Laguna Verde**	**4.57**	**340**	*eP*		**Pn**	**09 14 43.6**	**-2.7**
LVIG				*i* S		**Sn**	**09 15 35.0**	**-3.6**
SCIG	**Sabancuy**	**4.93**	**44**	*eP*		**Pn**	**09 14 50.8**	**-0.5**
SCIG				*i* S		**Sn**	**09 15 45.5**	**-2.0**
PETF	**Flores**	**4.95**	**72**	Pn		**Pn**	**09 14 52.3**	**+0.8**
DAIG	**Los Arroyos**	**4.95**	**290**	*eP*		**Pn**	**09 14 53.1**	**+1.6**
DAIG				*eS*		**Sn**	**09 15 42.5**	**-5.5**
NUBE	**Las Nubes**	**5.06**	**107**	*i* P		**Pn**	**09 14 54.1**	**+0.9**
NUBE				IAML			09 16 13.7	
	comp=Z,570nm,1.0s							
MEIG	**Mezcala**	**5.28**	**299**	*eP*		**Pn**	**09 14 59.4**	**+3.3**
MEIG				*eS*		**Sn**	**09 15 50.5**	**-5.6**
ESQI	**Esquipulas**	**5.32**	**98**	Pn		**Pn**	**09 14 58.6**	**+1.9**
MTO3	**Montecristo**	**5.33**	**100**			**Pn**	**09 14 58.9**	**+1.9**
MTO3	**Montecristo**	**5.33**	**100**	*i* P		**Pn**	**09 14 57.9**	**+1.0**
MTO3				IAML			09 16 53.1	
	comp=Z,390nm,1.0s							
AMVM	**AMECAMECA**	**5.33**	**315**	*eP*		**Pn**	**09 15 00.9**	**+3.9**
AMVM				*eS*		**Sn**	**09 15 56.1**	**-1.6**
YAIG	**Yautepec**	**5.35**	**311**	*eP*		**Pn**	**09 15 01.1**	**+3.9**
YAIG				*i* S		**Sn**	**09 15 56.0**	**-2.1**
PLIG	**Platanillo**	**5.41**	**304**	*eP*		**Pn**	**09 15 01.5**	**+3.6**
PLIG				*eS*		**Sn**	**09 15 54.4**	**-5.1**
CAIG	**El Cayaco**	**5.52**	**288**	*eP*		**Pn**	**09 15 01.1**	**+1.7**
CAIG				*i* S		**Sn**	**09 15 55.0**	**-7.1**
MPVM	**San Francisco**	**5.53**	**314**	*eP*		**Pn**	**09 15 03.8**	**+4.1**
MPVM				*eS*		**Sn**	**09 16 02.7**	**0.0**
PMON	**Piamonte**	**5.55**	**107**	*i* P		**Pn**	**09 15 02.7**	**+2.8**
PMON				IAML			09 16 28.8	
	comp=Z,560nm,1.0s							
THVM	**De Xico**	**5.58**	**315**	*eP*		**Pn**	**09 15 04.0**	**+3.5**
THVM				*eS*		**Sn**	**09 16 01.8**	**-2.1**
TXVM	**Universitario**	**5.63**	**316**	*eS*		Sn	09 15 56.7	-8.3
SNET	**Serv Nac Est T**	**5.63**	**107**	Pn		**Pn**	**09 15 02.1**	**+1.1**
TLVM	**San Miguel Top**	**5.64**	**313**	*eP*		**Pn**	**09 15 05.5**	**+4.2**
TLVM				*eS*		**Sn**	**09 16 01.9**	**-3.5**
XCVM	**Xochimilco**	**5.64**	**313**	*eP*		**Pn**	**09 15 05.8**	**+4.5**
XCVM				*eS*		**Sn**	**09 16 05.9**	**+0.6**
UNM	**Universidad Na**	**5.74**	**314**	Pn		**Pn**	**09 15 05.2**	**+2.6**
PBVM	**Pinon**	**5.75**	**315**	*eP*		**Pn**	**09 15 05.6**	**+3.1**
PBVM				*eS*		**Sn**	**09 16 06.2**	**-1.4**
BJVM	**Benito Juarez**	**5.76**	**314**	*eS*		**Sn**	**09 16 03.1**	**-5.2**
VTVM	**Tizayuca**	**5.78**	**319**	*eP*		**Pn**	**09 15 06.6**	**+3.4**
VTVM				*i* S		**Sn**	**09 16 03.8**	**-4.9**
AOVM	**Tlapan**	**5.80**	**312**	*eP*		**Pn**	**09 15 07.9**	**+4.3**
AOVM				*eS*		**Sn**	**09 16 08.3**	**-1.2**
CJVM	**Cuajimalpa**	**5.83**	**313**	*eP*		Pn	09 15 10.6	+6.7
CJVM				*eS*		**Sn**	**09 16 11.2**	**+1.1**
SARH	**Santa Rosa de**	**5.84**	**95**	*i* P		**Pn**	**09 15 04.4**	**+0.5**
INVM	**La Marquesa**	**5.86**	**312**	*eP*		**Pn**	**09 15 08.4**	**+4.0**
INVM				*i* S		**Sn**	**09 16 09.2**	**-1.6**
PTVM	**Pico Tres Padr**	**5.87**	**316**	*eP*		**Pn**	**09 15 08.7**	**+4.3**
PTVM				*eS*		**Sn**	**09 16 15.4**	**+4.4**
PAVA	**Las Pavas**	**5.90**	**106**	*i* P		**Pn**	**09 15 08.5**	**+3.8**
COEG	**Centro de Oper**	**5.98**	**107**	*i* P		**Pn**	**09 15 09.0**	**+3.3**
ZUVM	**ZUMPANGO**	**6.01**	**318**	*eP*		Pn	09 15 11.9	+5.5
ZUVM				*eS*		**Sn**	**09 16 17.7**	**+3.2**
ARIG	**Puente Sto Nin**	**6.05**	**299**	*eP*		**Pn**	**09 15 10.8**	**+4.0**
ARIG				*eS*		**Sn**	**09 16 09.4**	**-5.7**
TOVM	**TOLUCA**	**6.07**	**310**	*eP*		Pn	09 15 12.1	+5.0
TOVM				*eS*		**Sn**	**09 16 13.7**	**-2.2**
SCLA	**Alcaldia de Sa**	**6.09**	**105**	*i* P		Pn	09 15 13.0	+5.7
TECO	**Alcaldia de Te**	**6.10**	**107**	*i* P		**Pn**	**09 15 09.9**	**+2.6**
TECO				IAML			09 16 42.7	
	comp=Z,130nm,1.0s							
DEIG	**Demacu**	**6.34**	**321**	*eP*		**Pn**	**09 15 14.1**	**+3.3**
DEIG				*eS*		**Sn**	**09 16 15.1**	**-7.4**
ATVM	**ATLACOMULCO**	**6.49**	**313**	*i* S		**Sn**	**09 16 28.5**	**+2.2**
NISHN	**Nisperales Com**	**6.65**	**86**	*i* P		**Pn**	**09 15 13.6**	**-1.3**
ZIIG	**Zihuatanejo**	**6.78**	**290**	*eP*		**Pn**	**09 15 19.6**	**+3.0**
ZIIG				*i* S		Sn	09 16 42.3	+9.3
CTUV	**Llano Grande**	**6.92**	**331**	*eP*		**Pn**	**09 15 15.6**	**-3.1**
CTUV				*eS*		**Sn**	**09 16 37.6**	**+1.0**
MYIG	**Mrida**	**7.31**	**40**	*eP*		**Pn**	**09 15 24.4**	**+0.5**
MYIG				*i* S		**Sn**	**09 16 37.3**	**-8.7**
TGUH	**Tegucigalpa,Un**	**7.38**	**99**	Pn		**Pn**	**09 15 25.7**	**+0.6**
TGUH	**Tegucigalpa,Un**	**7.38**	**99**	*i* P		Pn	09 15 31.0	+5.9
MOIG	**Morelia**	**7.45**	**306**	Pn		Pn	09 15 31.0	+4.9
MOIG	**Morelia**	**7.45**	**306**	*eP*		**Pn**	**09 15 30.7**	**+4.6**
MOIG				*eS*		**Sn**	**09 16 51.4**	**+1.6**
YUSH	**Yuscaran**	**7.81**	**100**	*i* P		**Pn**	**09 15 32.4**	**+1.5**
TEIG	**Tepich**	**7.83**	**51**	Pn		**Pn**	**09 15 29.1**	**-2.0**
TEIG	**Tepich**	**7.83**	**51**	P		**Pn**	**09 15 29.3**	**-1.8**
	comp=Z,740nm,0.4s,baz=46,slow=2.8,SNR=99							
TEIG				S		**Sn**	**09 16 56.3**	**-2.6**
	comp=Z,1µm,0.4s,baz=50,slow=22,SNR=12							
TEIG				LR		LR	09 18 53.2	
	comp=Z,13µm,20.2s,baz=14,slow=41							
CRIN	**San Cristobal**	**7.96**	**109**	Pn		**Pn**	**09 15 34.7**	**+1.7**
RPIG	**Rio Verde**	**8.12**	**323**	*eP*		**Pn**	**09 15 38.9**	**+3.8**
JUTIH	**Juticalpa Olan**	**8.30**	**94**	*i* P		**Pn**	**09 15 39.4**	**+1.9**
CNGN	**Cerro Negro**	**8.36**	**109**			**Pn**	**09 15 39.8**	**+1.4**
LIMN	**Finca el Limon**	**8.48**	**105**	*i* P		**Pn**	**09 15 42.5**	**+2.4**
LIMN				IVmB_BB			09 15 46.4	
	comp=Z,1µm,1.0s							
LIMN				IAML			09 15 46.9	
	comp=Z,130nm,1.0s							
LIMN				IAmb	IAmb		09 16 06.1	
	comp=Z,83nm,1.0s							
GTIG	**Gomez Farias**	**8.68**	**332**	*eP*		**Pn**	**09 15 45.2**	**+2.5**
MMIG	**Aquila**	**8.69**	**290**	*eP*		**Pn**	**09 15 45.8**	**+2.9**
MMIG				*eS*		**Sn**	**09 17 23.0**	**+2.9**
UNAN	**Cigeo UNAN**	**8.89**	**111**	*i* P		**Pn**	**09 15 49.9**	**+4.3**
UNAN				IAML			09 15 52.8	
	comp=Z,820nm,1.0s							
UNAN				IAmb	IAmb		09 15 56.8	
	comp=Z,630nm,1.3s							
COIG	**Colima**	**9.30**	**295**	*eP*		**Pn**	**09 15 56.1**	**+4.7**
COIG				*eS*		**Sn**	**09 17 35.5**	**+0.2**
BOAB	**BOACO BROADBAN**	**9.32**	**107**	Pn		**Pn**	**09 15 52.0**	**+0.5**
JUBC	**Volcan de Coli**	**9.33**	**297**	*eP*		Pn	09 15 58.2	+6.2
JUBC				*i* S		**Sn**	**09 17 43.2**	**+6.9**
EZ5V		**9.35**	**297**	*eP*		Pn	09 15 57.9	+5.7
EZ5V				*i* S		**Sn**	**09 17 39.4**	**+2.9**
MNGA	**Volcan de Coli**	**9.36**	**297**	*eP*		Pn	09 15 58.0	+5.7
MNGA				*i* S		**Sn**	**09 17 39.6**	**+2.8**
INCO	**Volcan de Coli**	**9.37**	**297**	*eP*		Pn	09 15 58.1	+5.6
INCO				*eS*		**Sn**	**09 17 41.4**	**+4.1**
SOMAC	**Volcano de Col**	**9.39**	**297**	*eP*		Pn	09 15 58.7	+5.9
SOMAC				*eS*		**Sn**	**09 17 38.5**	**+0.7**
CDAR	**Ciudad de Arme**	**9.50**	**293**	*eP*		**Pn**	**09 15 55.9**	**+1.9**
CDAR				*eS*		**Sn**	**09 17 42.6**	**+2.6**
CEGR	**Campo Tres**	**9.53**	**296**	*eP*		Pn	09 15 59.7	+5.1
CEGR				*eS*		**Sn**	**09 17 40.1**	**-0.9**
HZTE	**Horizontes, Gu**	**10.09**	**116**	Pn		**Pn**	**09 16 01.3**	**-0.7**
HZTE	**Horizontes, Gu**	**10.09**	**116**	*i* P		Pn	09 16 07.3	+5.2
HZTE				IAmb	IAmb		09 16 36.5	
	comp=Z,85nm,1.9s							
ORTG	**Ortega, Santa**	**10.37**	**118**			**Pn**	**09 16 08.4**	**+2.4**
ZAIG	**Zacatecas**	**10.39**	**316**	Pn		**Pn**	**09 16 07.9**	**+1.5**
LNIG	**Linares**	**10.42**	**336**	*eP*		**Pn**	**09 16 09.0**	**+2.4**
ESPN	**Las Esperanzas**	**10.66**	**106**	Pn		**Pn**	**09 16 09.0**	**-1.0**
JTS	**Las Juntas de**	**10.84**	**117**	Pn		**Pn**	**09 16 13.3**	**+0.9**
JTS	**Las Juntas de**	**10.84**	**117**	P		**Pn**	**09 16 15.6**	**+3.2**
	comp=Z,0.6nm,0.3s,baz=330,slow=17,SNR=2.2							
JTS				S		Sn	09 18 21.8	+8.8
	comp=Z,3.9nm,0.8s,baz=210,slow=22,SNR=0.9							
	comp=Z,2.3nm,0.3s							
MNIG	**Monterrey**	**11.39**	**334**	*eP*		**Pn**	**09 16 22.4**	**+2.4**
JACO	**JACO, Garabito**	**11.40**	**119**			**Pn**	**09 16 19.7**	**-0.4**
HDC	**Heredia**	**11.70**	**116**	Pn		**Pn**	**09 16 24.7**	**+0.3**
HDC	**Heredia**	**11.70**	**116**	*eP*		Pn	09 16 29.0	+4.6
LCR2	**La Lucha 2**	**11.92**	**117**			**Pn**	**09 16 26.7**	**-0.7**
RIMA	**Rio Macho**	**12.03**	**116**	Pn		**Pn**	**09 16 31.6**	**+2.7**
HBVL	**Hebbronville**	**12.16**	**343**	Pn		**Pn**	**09 16 30.5**	**+0.1**
DRK0	**Durika**	**12.81**	**117**			**Pn**	**09 16 40.9**	**+1.4**
SOR	**Soroa**	**13.32**	**55**			**Pn**	**09 16 44.5**	**-1.9**
BRU2	**Volcan**	**13.52**	**118**	Pn		**Pn**	**09 16 51.0**	**+1.9**
833A	**Chaparral WMA,**	**13.55**	**342**	Pn		**Pn**	**09 16 51.3**	**+1.9**
833A	**Chaparral WMA,**	**13.55**	**342**	P		**Pn**	**09 16 51.5**	**+2.1**
	baz=159,SNR=61							
735A	**Kenedy**	**13.68**	**349**			**Pn**	**09 16 52.0**	**+0.9**
EF01	**Eagle Ford 01**	**14.06**	**347**	Pn		**Pn**	**09 16 57.0**	**+0.6**
HKT	**Hockley**	**14.51**	**356**	Pn		**Pn**	**09 17 02.4**	**0.0**
HNDO	**Hondo**	**14.66**	**344**			**Pn**	**09 17 04.8**	**+0.3**
CAMR	**Camarioca**	**14.77**	**57**	Pn		**Pn**	**09 17 06.0**	**0.0**
DRIO	**Del Rio**	**14.96**	**340**	Pn		**Pn**	**09 17 08.1**	**-0.5**
HNVL	**Huntsville, TX**	**15.29**	**358**	Pn		**Pn**	**09 17 12.6**	**-0.4**
HNVL				IAmb	IAmb		09 17 16.8	
	comp=Z,150nm,1.3s							
HPIG		**15.31**	**320**			**Pn**	**09 17 13.8**	**+0.3**
435B	**Jarrell**	**15.52**	**351**	Pn		**Pn**	**09 17 16.2**	**+0.2**
435B				IAmb	IAmb		09 17 22.0	
	comp=Z,74nm,0.9s							
435B	**Jarrell**	**15.52**	**351**	P		**Pn**	**09 17 15.9**	**-0.1**
	baz=169							
JCT	**Junction City**	**15.70**	**344**	Pn		**Pn**	**09 17 19.3**	**+1.0**
JCT				IAmb	IAmb		09 17 26.4	
	comp=Z,51nm,1.1s							
JCT	**Junction City**	**15.70**	**344**	P		**Pn**	**09 17 18.7**	**+0.4**
	baz=161,SNR=28							
SAND	**Sanderson**	**15.98**	**336**			**Pn**	**09 17 23.0**	**+1.0**
SAND				IAmb	IAmb		09 17 26.3	
	comp=Z,37nm,1.4s							
TXAR	**Lajitas Array**	**16.11**	**331**	Pn		**Pn**	**09 17 24.4**	**+0.8**
TXAR	**Lajitas Array**	**16.11**	**331**	P		**P**	**09 17 25.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=153,slow=12,SNR=49							
TXAR				LR		LR	09 24 47.8	
	comp=Z,137nm,19.5s,baz=131,slow=42							
	comp=Z,11nm,0.9s							
TX31	**Lajitas Ar. Si**	**16.11**	**331**			**P**	**09 17 26.1**	**-0.6**
BRDY	**Brady**	**16.27**	**347**	Pn		**Pn**	**09 17 26.0**	**+0.3**
BRDY				IAmb	IAmb		09 17 32.6	
	comp=Z,23nm,0.8s							
NATX	**Nacogdoches**	**16.28**	**0**	Pn		**Pn**	**09 17 25.2**	**-0.5**
NATX				IAmb	IAmb		09 17 28.6	
	comp=Z,87nm,1.4s							
NATX	**Nacogdoches**	**16.28**	**0**	P		**Pn**	**09 17 25.2**	**-0.5**
	baz=180,SNR=7.8							
SLBS	**Sierra La Lagu**	**16.49**	**302**			**P**	**09 17 32.4**	**+1.4**
OZNA	**Ozona**	**16.51**	**340**			**P**	**09 17 30.9**	**-0.2**
OZNA				IAmb	IAmb		09 17 37.2	
	comp=Z,126nm,1.0s							
237A	**Washetta, Mont**	**16.55**	**357**	Pn		**Pn**	**09 17 29.6**	**+0.5**
237A				IAmb	IAmb		09 17 37.3	
	comp=Z,83nm,1.0s							
346A	**Big Creek Wild**	**16.64**	**16**			**Pn**	**09 17 29.2**	**-1.0**
346A				IAmb	IAmb		09 17 32.9	
	comp=Z,104nm,1.1s							
WHTX	**Lake Whitney,**	**16.69**	**352**			**Pn**	**09 17 31.0**	**0.0**
WHTX

DKNS **Dickens** 19.02 344 IAmb IAmb 09 18 01.6
comp=Z,78nm,1.0s
X40A **Basin Creek Fa** 19.08 5 P P 09 17 58.3 -1.1
UALR **University of** 19.41 6 P P 09 18 01.4 -1.6
152A **Waverly Hall** 19.47 26 IAmb IAmb 09 18 08.9
comp=Z,55nm,1.1s
WMOK **Wichita Mounta** 19.59 350 IAmb IAmb 09 18 13.4
comp=Z,41nm,1.1s
OXF **Oxford** 19.63 13 IAmb IAmb 09 18 12.0
comp=Z,62nm,1.1s
OXF **Oxford** 19.63 13 P P 09 18 04.3 -1.1
baz=195,SNR=7.0
MSTX **Muleshoe** 19.85 340 IAmb IAmb 09 18 13.4
comp=Z,48nm,1.0s
MSTX **Muleshoe** 19.85 340 P Pn 09 18 09.3 -0.3
baz=156,SNR=22
255A **Hazlehurst** 19.91 32 P P 09 18 08.6 +0.2
255A IAmb IAmb 09 18 12.4
comp=Z,112nm,1.4s
FNO **Franklin** 19.91 354 P P 09 18 08.8 +0.3
WHAR **Wooly Hollow** 19.93 6 P P 09 18 08.2 -0.5
WHAR IAmb IAmb 09 18 16.1
comp=Z,116nm,1.6s
HSIG 20.16 315 P Pn 09 18 13.9 +0.7
SMWD **Samnorwood** 20.22 347 IAmb IAmb 09 18 16.8
comp=Z,164nm,1.2s
AMTX **Amarillo** 20.37 344 P P 09 18 12.9 -0.6
AMTX IAmb IAmb 09 18 21.1
comp=Z,63nm,0.8s
AMTX **Amarillo** 20.37 344 P P 09 18 14.6 +1.1
baz=160
HBAR **Harrisburg** 20.40 10 P P 09 18 13.2 -0.6
HBAR IAmb IAmb 09 18 22.1
comp=Z,82nm,1.3s
PLAL **Pickwick Lake** 20.41 16 IAmb IAmb 09 18 20.2
comp=Z,50nm,1.4s
DEOK **Depew** 20.41 356 P P 09 18 13.1 -0.8
DEOK IAmb IAmb 09 18 22.4
comp=Z,83nm,1.1s
TUL3 **Leonard** 20.44 358 IAmb IAmb 09 18 28.6
comp=Z,40nm,0.9s
TUL3 **Leonard** 20.44 358 P P 09 18 15.2 +0.9
baz=177,SNR=11
FCAR **Ozark Folk Cen** 20.54 6 P P 09 18 13.8 -1.5
FCAR IAmb IAmb 09 18 23.4
comp=Z,47nm,1.3s
OK052 **Battle Ridge R** 20.59 355 P P 09 18 15.4 -0.3
GOGA **Godfrey** 20.65 28 P P 09 18 17.3 +0.9
baz=212,SNR=9.3
OK033 **Mehan** 20.65 355 P P 09 18 16.8 +0.3
319A **Douglas** 20.70 323 IAmb IAmb 09 18 36.3
comp=Z,39nm,1.0s
CBOC **Ciudad Bolivar** 20.72 115 eP Pn 09 18 21.1 +1.0
121A **Cookes Peak, D** 20.75 328 IAmb IAmb 09 18 23.6
comp=Z,68nm,1.0s
121A **Cookes Peak, D** 20.75 328 P Pn 09 18 20.7 +0.4
baz=141,SNR=68
Y52A **Lilburn** 20.77 26 IAmb IAmb 09 18 30.8
comp=Z,63nm,1.2s
HHAR **Hobbs** 20.81 2 P P 09 18 17.4 -0.8
LCAR **Lake Charles** 20.83 8 P P 09 18 17.2 -1.3
GNAR **Gosnell** 20.91 11 P P 09 18 17.6 -1.7
U38A **Gravette** 20.95 1 P P 09 18 18.7 -1.1
U38A IAmb IAmb 09 18 34.7
comp=Z,66nm,1.4s
PLMC **San Jos del P** 20.96 118 eP Pn 09 18 22.0 -0.7
ELIS **Ellis County** 20.99 349 P P 09 18 20.2 0.0
OK048 **Pawnee Station** 21.02 355 P P 09 18 20.1 -0.4
X51A **Calhoun** 21.07 23 IAmb IAmb 09 18 28.4
comp=Z,39nm,0.9s
SWET **Sewanee** 21.27 20 P P 09 18 23.3 +0.1
SWET IAmb IAmb 09 18 36.8
comp=Z,88nm,1.9s
BLOK **Blackwell** 21.38 355 P P 09 18 24.0 -0.3
YOTC **Yotoco, Valle** 21.39 120 eP P 09 18 25.8 +1.0
W50A **Signal Mountai** 21.46 22 IAmb IAmb 09 18 34.5
comp=Z,38nm,0.9s
V48A **Smith Brothers** 21.47 18 IAmb IAmb 09 18 33.7
comp=Z,43nm,1.2s
T35A **Sooner Cattle** 21.48 356 P P 09 18 23.6 -1.9
T35A IAmb IAmb 09 18 44.0
comp=Z,63nm,0.9s
UTMT **University of** 21.51 13 P P 09 18 24.7 -1.1
UTMT IAmb IAmb 09 18 44.4
comp=Z,81nm,1.1s
OK032 **Salt Plains WL** 21.53 352 P P 09 18 25.7 -0.3
WVT **Waverly** 21.55 15 P P 09 18 25.2 -1.0
WVT **Waverly** 21.55 15 P P 09 18 27.9 +1.7
baz=198
JAMC **Jamundi, Valle** 21.55 122 eP P 09 18 28.4 +1.8
Y22D **IRIS PASSCAL I** 21.58 332 P P 09 18 29.8 +3.1
baz=146,SNR=15
GUY2C **Guyana, Caldas** 21.59 116 eP P 09 18 29.0 +1.7
HICK **Hickman** 21.62 12 P P 09 18 25.5 -1.4
PBMO **Poplar Bluff** 21.64 9 P P 09 18 25.1 -1.9
PBMO IAmb IAmb 09 18 34.6
comp=Z,32nm,1.0s
KAN13 **South Haven SW** 21.66 354 P P 09 18 27.0 -0.3
KAN13 IAmb IAmb 09 18 33.6
comp=Z,52nm,0.9s
MGMO **Mountain Grove** 21.78 5 IAmb IAmb 09 18 40.1
comp=Z,48nm,1.2s
PTBC **PUERTO BERRIO,** 21.79 112 eP P 09 18 27.7 -1.2
BBAC **Balboa, Cauca** 21.81 126 eP P 09 18 31.7 +2.4
HODGE **Hodges** 21.88 29 IAmb IAmb 09 18 36.2
comp=Z,38nm,1.2s
W52A **Murphy** 21.89 24 IAmb IAmb 09 18 39.6
comp=Z,58nm,1.7s
ANIL **Santa Ana** 21.92 118 eP P 09 18 33.2 +2.6
KAN06 **Argonia West S** 21.93 353 P P 09 18 30.1 -0.2
CLTN **Cedars of Leba** 21.94 19 P P 09 18 28.7 -1.7
POPC **Popayan, Colom** 21.95 124 eP P 09 18 34.2 +3.3
NHSC **New Hope** 22.04 34 P P 09 18 32.4 +0.9
NHSC **New Hope** 22.04 34 P P 09 18 31.6 +0.2
baz=220,SNR=6.2
OTAV **Otavalo** 22.07 132 P P 09 18 34.3 +1.9
OTAV **Otavalo** 22.07 132 eP P 09 18 32.3 -0.2
ANMO **Albuquerque** 22.11 334 P P 09 18 33.3 +0.9
ANMO **Albuquerque** 22.11 334 P P 09 18 34.4 +1.9
baz=148
ANMO **Albuquerque** 22.11 334 P P 09 18 34.1 +1.7
comp=Z,10nm,0.9s,baz=220,slow=4.1,SNR=3.3
comp=Z,10nm,0.9s
RTBA **Rita Blanca** 22.12 343 P P 09 18 33.1 +0.7
RTBA IAmb IAmb 09 18 38.1
comp=Z,60nm,1.0s
BG3 **Lake Jocassee** 22.22 26 IAmb IAmb 09 18 49.9
comp=Z,31nm,0.7s
S39A **Bolivar** 22.24 3 IAmb IAmb 09 18 46.6
comp=Z,54nm,1.4s
TUC **Tucson** 22.26 322 P P 09 18 33.7 -0.2
TUC IAmb IAmb 09 18 39.9
comp=Z,39nm,1.1s
TUC **Tucson** 22.26 322 P P 09 18 36.9 +3.0
baz=134
CGM3 **Cape Girardeau** 22.27 11 IAmb IAmb 09 18 41.4
comp=Z,54nm,1.6s
V51A **Loudon** 22.35 23 P P 09 18 32.6 -2.2
ORTC **Ortega, Tolima** 22.36 119 eP P 09 18 38.2 +3.1
TKL **Tuckaleechee C** 22.45 24 IAmb IAmb 09 18 52.7
comp=Z,51nm,1.1s
TKL **Tuckaleechee C** 22.45 24 LR LR 09 29 16.2
comp=Z,332nm,18.3s,baz=198,slow=42
U49A **Red Boiling Sp** 22.50 19 IAmb IAmb 09 18 44.7
comp=Z,25nm,0.9s
SPBC **San Pablo de B** 22.52 113 eP P 09 18 37.1 +0.2
T47A **Sharon Grove** 22.55 16 P P 09 18 35.2 -1.8
PAULI **Pauline** 22.57 29 P P 09 18 37.6 +0.4
PAULI IAmb IAmb 09 18 45.3
comp=Z,37nm,1.0s
ROSC **El Rosal** 22.68 115 P P 09 18 40.5 +1.6
ROSC **El Rosal** 22.68 115 eP P 09 18 41.8 +2.9
ROSC **El Rosal** 22.68 115 P P 09 18 41.4 +2.4
comp=Z,54nm,1.1s,baz=5.6,slow=14,SNR=16
comp=Z,54nm,1.1s
S44A **Carbondale** 22.73 11 IAmb IAmb 09 18 50.4
comp=Z,58nm,1.0s
SIUC **Southern Illin** 22.76 11 IAmb IAmb 09 18 50.5
comp=Z,60nm,1.0s
CCM **Cathedral Cave** 22.78 7 P P 09 18 37.4 -1.9
CCM IAmb IAmb 09 18 50.5
comp=Z,35nm,1.2s
CCM **Cathedral Cave** 22.78 7 P P 09 18 38.8 -0.5
baz=188
FVM **French Village** 22.82 9 P P 09 18 37.9 -1.9

V53A **Saluda** 22.85 26 P P 09 18 39.3 -0.8
V53A IAmb IAmb 09 18 49.3
comp=Z,52nm,1.1s
BARC **Barichara** 22.91 110 eP P 09 18 43.4 +2.2
KMSC **Kings Mountain** 23.06 29 IAmb IAmb 09 18 51.4
comp=Z,42nm,1.4s
KMSC **Kings Mountain** 23.06 29 P P 09 18 41.0 -1.3
baz=215
BIRD **Biltown, Kers** 23.09 31 IAmb IAmb 09 19 06.2
comp=Z,59nm,1.8s
214A **Organ Pipe Nat** 23.27 318 IAmb IAmb 09 18 58.0
comp=Z,25nm,1.1s
214A **Organ Pipe Nat** 23.27 318 P P 09 18 47.0 +2.6
baz=130,SNR=15
T25A **Trinidad** 23.28 340 P P 09 18 45.8 +1.2
T25A **Trinidad** 23.28 340 P P 09 18 47.0 +2.3
baz=155,SNR=33
TZTN **Tazewell** 23.31 23 P P 09 18 43.7 -1.0
TZTN IAmb IAmb 09 19 04.7
comp=Z,19nm,0.8s
TZTN **Tazewell** 23.31 23 P P 09 18 44.0 -0.8
baz=208
PIX **Pinacate** 23.44 317 P P 09 18 46.2 +0.1
VILC **Villavicencio,** 23.58 116 eP P 09 18 51.0 +3.2
KSU1 **Kansas State U** 23.66 356 P P 09 18 47.1 -1.0
KSU1 IAmb IAmb 09 18 50.3
comp=Z,32nm,1.1s
KSU1 **Kansas State U** 23.66 356 P P 09 18 47.3 -0.8
baz=175
V55A **Taylorsville** 23.70 28 IAmb IAmb 09 18 58.8
comp=Z,45nm,1.2s
CBKS **Cedar Bluff** 23.73 350 P P 09 18 49.1 +0.3
baz=167,SNR=12
W18A **Petrified Fore** 23.78 328 IAmb IAmb 09 19 05.6
comp=Z,45nm,1.4s
W18A **Petrified Fore** 23.78 328 P P 09 18 51.8 +2.3
baz=141,SNR=16
WCI **Wyandotte Cave** 23.94 17 P P 09 18 50.2 -0.5
WCI IAmb IAmb 09 19 15.5
comp=Z,23nm,0.9s
WCI **Wyandotte Cave** 23.94 17 P P 09 18 50.3 -0.5
baz=200
Q44A **Meyer Farm, Va** 23.95 11 IAmb IAmb 09 19 04.1
comp=Z,46nm,1.2s
U54A **Nelsons Funny** 23.99 26 IAmb IAmb 09 19 03.0
comp=Z,41nm,1.1s
SFX **San Felipe** 24.07 314 P P 09 18 51.4 -0.7
P38A **Dawn** 24.16 2 P P 09 18 51.4 -1.3
P38A IAmb IAmb 09 19 18.9
comp=Z,25nm,1.0s
X16A **Lo Mia Camp, P** 24.16 325 IAmb IAmb 09 19 07.3
comp=Z,33nm,1.1s
SDCO **Great Sand Dun** 24.20 339 P P 09 18 54.4 +0.9
SDCO IAmb IAmb 09 19 06.2
comp=Z,38nm,1.1s
SDCO **Great Sand Dun** 24.20 339 P P 09 18 55.5 +2.0
baz=153,SNR=36
TAMC **Tame, Arauca** 24.24 109 eP P 09 18 57.1 +3.2
S51A **Beattyville** 24.26 22 P P 09 18 52.3 -1.4
S51A IAmb IAmb 09 19 09.3
comp=Z,28nm,1.1s
SDV **Santo Domingo** 24.46 103 P P 09 18 55.7 -0.4
SDV **Santo Domingo** 24.46 103 eP P 09 18 55.7 -0.4
SDV **Santo Domingo** 24.46 103 LR LR 09 29 32.6
comp=Z,773nm,20.3s,baz=299,slow=39
U56A **King** 24.49 29 IAmb IAmb 09 18 56.3
comp=Z,27nm,1.1s
KSCO **Kaye Shedlock'** 24.51 345 P P 09 18 56.7 +0.5
baz=161,SNR=10
MCRA **Macar, Loja** 24.52 142 P P 09 18 57.9 +1.5
S22A **4UR Ranch, Cre** 24.68 337 P P 09 18 59.3 +1.4
S22A **4UR Ranch, Cre** 24.68 337 P P 09 18 59.3 +1.4
baz=150,SNR=10
BLO **Bloomington** 24.76 15 P P 09 18 57.9 -0.4
BLO IAmb IAmb 09 19 23.3
comp=Z,60nm,1.6s
PTGC **Puerto Gaitan,** 24.90 114 eP P 09 19 00.8 +1.0
MVCO **Mesa Verde** 24.90 333 P P 09 19 01.9 +2.0
baz=146,SNR=17
WUAZ **Wupatki** 24.94 326 P P 09 19 02.3 +2.1
baz=138,SNR=40
P46A **Rosedale** 25.02 14 P P 09 18 59.1 -1.5
P46A IAmb IAmb 09 19 00.8
comp=Z,28nm,1.1s
Q24A **Divide** 25.18 341 P P 09 19 03.0 +0.5
Q24A **Divide** 25.18 341 P P 09 19 03.7 +1.2
baz=155
BLA **Blacksburg** 25.18 28 P P 09 19 01.2 -1.0
BLA IAmb IAmb 09 19 35.9
comp=Z,52nm,1.2s
BLA **Blacksburg** 25.18 28 P P 09 19 01.8 -0.4
baz=214
N33A **J Bar K, Exete** 25.35 355 IAmb IAmb 09 19 06.7
comp=Z,40nm,0.9s
N35A **Tabor** 25.38 358 P P 09 19 03.4 -0.4
ESJX **Sierra Juarez** 25.39 314 P P 09 19 05.0 +0.6
HDIL **Hopedale** 25.51 10 P P 09 19 04.7 -0.4
baz=192
BLYC **Blythe** 25.53 319 P P 09 19 07.8 +2.4
P49A **Miami Univ. Ec** 25.61 18 P P 09 19 04.3 -1.6
baz=203
PDMCI **Parker Dam,Lak** 25.66 321 P P 09 19 08.8 +2.3
baz=132
YUH **Yuha Desert** 25.76 316 P P 09 19 09.9 +2.5
SWSC **Sam W. Stewart** 25.85 316 P P 09 19 11.4 +3.2
baz=127,SNR=5.3
IKP **In-Ko-Pah, Jac** 25.89 315 P P 09 19 11.6 +2.9
baz=126
BC3 **Big Chuckawall** 26.07 318 P P 09 19 13.0 +2.7
baz=128,SNR=17
CBX **Cerro Bola** 26.07 314 IAmb IAmb 09 19 15.8
comp=Z,26nm,1.1s
BGNE **Belgrade** 26.08 354 IAmb IAmb 09 19 13.6
comp=Z,37nm,0.8s
BGNE **Belgrade** 26.08 354 P P 09 19 10.2 0.0
baz=172
ISCO **Idaho Springs** 26.09 341 P P 09 19 12.0 +1.3
baz=155,SNR=11
U15A **North Rim** 26.12 327 P P 09 19 10.2 -0.7
U15A IAmb IAmb 09 19 26.8
comp=Z,33nm,1.4s
IRM **Iron Mountain** 26.19 319 P P 09 19 14.0 +2.7
baz=130,SNR=8.3
R55A **Marlinton** 26.20 27 P P 09 19 10.1 -1.3
R55A IAmb IAmb 09 19 42.7
comp=Z,26nm,1.1s
OGNE **Ogallala** 26.22 347 P P 09 19 12.8 +1.2
baz=163,SNR=15
MONP2 **Monument Peak** 26.24 315 P P 09 19 14.4 +2.4
baz=126
NEE2 **Needles Airpor** 26.27 321 P P 09 19 14.5 +2.5
baz=132
BRIGG **Briggsdale** 26.43 344 IAmb IAmb 09 19 17.8
comp=Z,52nm,1.5s
SCIA **State Center** 26.44 3 IAmb IAmb 09 19 15.3
comp=Z,38nm,0.9s
SCIA **State Center** 26.44 3 P P 09 19 13.7 +0.2
baz=183
L34A **Svendsen Farm,** 26.51 357 IAmb IAmb 09 19 42.1
comp=Z,40nm,1.1s
HMU **Henry Mountain** 26.52 331 IAmb IAmb 09 19 40.1
comp=Z,18nm,1.0s
BELC **Belle Mtn. Jos** 26.63 318 P P 09 19 18.0 +2.4
baz=128
TPFO **Pinon Flats** 26.69 317 P P 09 19 19.4 +3.4
baz=127
PFO **Pinyon Flats O** 26.70 317 P P 09 19 17.8 +1.8
PFO IAmb IAmb 09 19 42.9
comp=Z,36nm,1.9s
PFO **Pinyon Flats O** 26.70 317 P P 09 19 19.2 +3.1
baz=127
109C **Camp Elliot, M** 26.70 315 P P 09 19 18.6 +2.6
baz=125
P53A **Whipple** 26.71 23 P P 09 19 14.8 -1.1
P53A IAmb IAmb 09 19 36.5
comp=Z,31nm,1.1s
KNB **Kanab** 26.84 327 IAmb IAmb 09 19 41.6
comp=Z,42nm,1.8s
GMRC **Granite Mounta** 26.92 320 P P 09 19 20.6 +2.5
baz=130
V12A **Nelson** 27.05 322 P P 09 19 19.8 +0.5
LCMT **Little Creek M** 27.06 326 P P 09 19 20.9 +1.6
O52A **Adamsville** 27.09 22 IAmb IAmb 09 20 01.3
comp=Z,57nm,1.4s
N23A **Red Feather La** 27.19 341 P P 09 19 22.0 +1.4
baz=155
K38A **Parkersburg** 27.20 3 P P 09 19 19.7 -0.6

O20A **White River Ci** 27.30 337 P P 09 19 23.3 +1.8
baz=150
HEC **Hector,Ludlow** 27.37 319 P P 09 19 24.6 +2.5
baz=129,SNR=6.4
BBRC **Big Bear Solar** 27.40 317 P P 09 19 24.8 +2.3
baz=127
TUQ **Turquoise Moun** 27.51 320 P P 09 19 25.8 +2.5
baz=130
SJG **San Juan** 27.53 80 LR LR 09 31 03.5
comp=Z,234nm,19.6s,baz=244,slow=38
ATAH **Atahualpa** 27.66 143 LR LR 09 28 39.9
comp=Z,426nm,19.2s,baz=310,slow=32
P18A **Preston Nutter** 27.67 334 P P 09 19 23.0 -2.0
P18A IAmb IAmb 09 19 41.9
comp=Z,20nm,1.2s
JFWS **Jewell Farm** 27.69 7 IAmb IAmb 09 19 48.0
comp=Z,20nm,0.8s
JFWS **Jewell Farm** 27.69 7 P P 09 19 24.6 -0.2
baz=189
P17A **Butcher Ranch,** 27.76 333 P P 09 19 26.0 +0.4
RRX **Edison Barstow** 27.82 318 P P 09 19 29.3 +3.3
baz=128
TMUT **Trail Mountain** 27.83 332 IAmb IAmb 09 20 10.0
comp=Z,12nm,0.5s
BFSC **Mount Baldy Ra** 27.87 316 P P 09 19 29.0 +2.4
baz=126
CIS **Catalina Islan** 27.90 314 P P 09 19 29.6 +2.9
baz=124
GSC **Goldstone, Bar** 27.97 319 P P 09 19 29.9 +2.4
baz=129
SHOC **Shoshone, Teco** 28.03 321 P P 09 19 29.8 +1.9
baz=130
RDMU **Red Mountain** 28.19 336 P P 09 19 30.2 +0.7
ECSD **EROS Data Cent** 28.28 357 P P 09 19 27.6 -2.4
ECSD IAmb IAmb 09 20 14.2
comp=Z,24nm,1.1s
ECSD **EROS Data Cent** 28.28 357 P P 09 19 30.1 +0.1
baz=176,SNR=5.6
RWWY **Rawlins** 28.31 340 P P 09 19 30.1 -0.5
RWWY IAmb IAmb 09 19 33.4
comp=Z,28nm,1.1s
DECC **Green Verdugo** 28.33 316 P P 09 19 33.2 +2.6
baz=125
EDW2 **Edwards Air Fo** 28.48 317 P P 09 19 33.6 +1.7
baz=126
SNCC **San Nicolas Is** 28.59 313 P P 09 19 35.2 +2.3
baz=122
LRMC **Laurel Mtn Rad** 28.64 318 P P 09 19 35.8 +2.3
baz=128
BSUT **Blindstream Ca** 28.65 334 P P 09 19 34.9 +1.1
BSUT IAmb IAmb 09 19 37.2
comp=Z,20nm,1.3s
TPNV **Topopah Spring** 28.71 322 P P 09 19 34.8 +0.7
TPNV IAmb IAmb 09 19 48.8
comp=Z,24nm,1.7s
TPNV **Topopah Spring** 28.71 322 P P 09 19 36.7 +2.6
baz=132
FURC **Furnace Creek,** 28.76 321 P P 09 19 36.9 +2.6
baz=130
OSI **Osito Audit: C** 28.80 316 P P 09 19 37.5 +2.7
baz=125
MPMC **Manual Prospec** 28.88 320 P P 09 19 38.0 +2.4
baz=129,SNR=7.2
S11A **Rachel** 28.90 324 IAmb IAmb 09 19 50.6
comp=Z,20nm,1.1s
K22A **Casper** 28.97 342 P P 09 19 35.1 -1.3
K22A IAmb IAmb 09 19 48.6
comp=Z,23nm,1.2s
K22A **Casper** 28.97 342 P P 09 19 37.6 +1.3
baz=156,SNR=8.0
SCZ2 **Santa Cruz Isl** 29.07 314 P P 09 19 40.1 +2.9
baz=123
SPR3 **Spring Creek 3** 29.11 328 P P 09 19 39.8 +1.9
SUSD **Miller** 29.16 354 P P 09 19 38.7 +0.8
SUSD IAmb IAmb 09 19 41.7
comp=Z,40nm,1.1s
SUSD **Miller** 29.16 354 P P 09 19 39.5 +1.7
baz=171
ARVC **Arvin** 29.17 317 P P 09 19 41.0 +3.0
baz=126
CTU **Camp Tracy** 29.20 333 P P 09 19 38.1 -0.3
ISA **Isabella, Lake** 29.26 318 P P 09 19 42.1 +3.2
baz=127
DUG **Dugway, Tooele** 29.29 331 P P 09 19 41.6 +2.5
baz=142
R11B **Troy Canyon, C** 29.31 325 P P 09 19 42.2 +2.8
baz=135,SNR=7.3
SBC **Santa Barbara** 29.37 315 P P 09 19 42.7 +2.9
baz=123
TCUT **Toone Canyon** 29.40 334 P P 09 19 42.2 +1.9
GRAC **Grapevine Rang** 29.41 321 P P 09 19 41.7 +1.6
GRAC **Grapevine Rang** 29.41 321 P P 09 19 43.2 +3.0
baz=130,SNR=6.9
CWC **Cottonwood Cre** 29.49 320 P P 09 19 43.4 +2.4
baz=128
RSSD **Black Hills** 29.69 346 P P 09 19 44.4 +1.6
baz=161
PKM **Mcpherson Peak** 29.69 315 P P 09 19 45.5 +2.7
baz=124
VES **Vestal, Richgr** 29.76 318 P P 09 19 46.1 +2.8
baz=126,SNR=7.8
PCRV **Puerto La Cruz** 29.83 96 LR LR 09 34 01.8
comp=Z,319nm,19.2s,slow=41
HWUT **Hardware Ranch** 29.88 334 P P 09 19 46.0 +1.6
BGU **Big Grassy Mou** 29.96 332 P P 09 19 47.1 +1.9
SMMC **Simmler** 30.06 316 P P 09 19 49.0 +3.1
baz=124
BW06 **Boulder Array** 30.08 338 P P 09 19 47.3 +1.1
BW06 **Boulder Array** 30.08 338 P P 09 19 47.5 +1.2
baz=150
PD31 **Pinedale Array** 30.08 338 P P 09 19 47.0 +0.8
PDAR **Pinedale Array** 30.08 338 P P 09 19 47.0 +0.8
comp=Z,2.9nm,0.9s,baz=146,slow=8.2,SNR=21
comp=Z,2.9nm,0.9s
F36A **Milaca** 30.38 2 P P 09 19 47.9 -0.7
F36A IAmb IAmb 09 20 47.4
comp=Z,27nm,1.5s
HVU **Hansel Valley** 30.54 333 P P 09 19 51.6 +1.4
HVU IAmb IAmb 09 19 53.5
comp=Z,18nm,1.0s
AHID **Auburn Hatcher** 30.66 336 P P 09 19 50.5 -0.8
NV11 **Mina Array Sit** 30.83 323 IAmb IAmb 09 19 57.1
comp=Z,14nm,1.1s
ELK **Elko** 30.88 329 LR LR 09 34 14.9
comp=Z,1μm,18.1s,baz=194,slow=40
NVAR **Mina Array Bea** 30.91 322 P P 09 19 55.9 +2.3
comp=Z,7.9nm,0.9s,baz=141,slow=8.8,SNR=57
NVAR PcP PcP 09 22 50.6 +0.7
comp=Z,1.8nm,0.9s,baz=134,slow=2.6,SNR=4.6
NVAR LR LR 09 33 43.2
comp=Z,947nm,20.2s,baz=166,slow=39
comp=Z,7.9nm,0.9s
LHV **Little Huntoon** 30.91 322 P P 09 19 55.2 +1.8
LHV IAmb IAmb 09 20 21.8
comp=Z,15nm,1.3s
REDW **Red Top Meadow** 31.07 337 P P 09 19 56.7 +1.7
LOHW **Long Hollow** 31.19 338 IAmb IAmb 09 19 58.8
comp=Z,22nm,1.1s
TPAW **Teton Pass** 31.22 337 IAmb IAmb 09 20 09.4
comp=Z,23nm,1.1s
BINY **Binghamton** 31.22 27 P P 09 19 56.3 +0.2
baz=217
FLWY **Flagg Ranch** 31.63 338 IAmb IAmb 09 20 15.9
comp=Z,12nm,1.1s
BMN **Battle Mountai** 31.68 326 P P 09 20 01.0 +0.7
BMN IAmb IAmb 09 20 14.5
comp=Z,13nm,1.1s
CZSB **Cruzeiro do Su** 31.73 135 P P 09 20 03.1 +2.4
CZSB IAmb IAmb 09 20 13.0
comp=Z,15nm,1.2s
CZSB **Cruzeiro do Su** 31.73 135 eP P 09 20 03.0 +2.2
YERR **Yerington** 31.83 322 P P 09 20 03.5 +1.8
YERR IAmb IAmb 09 20 05.8
comp=Z,12nm,1.2s
H17A **Grant Village** 31.86 338 P P 09 20 01.5 -0.5
H17A IAmb IAmb 09 20 16.1
comp=Z,15nm,1.4s
CMB **Columbia Colle** 31.92 320 P P 09 20 03.6 +1.3
YLE **Yale** 32.00 32 P P 09 20 02.2 -0.6
PNTR **Pine Nut** 32.11 322 P P 09 20 05.8 +1.6
PNTR IAmb IAmb 09 20 08.4
comp=Z,13nm,1.1s
SADO **Sadowa** 32.12 21 LR LR 09 34 47.5
comp=Z,275nm,18.2s,baz=232,slow=40
EMB **Emerald Bay** 32.34 321 IAmb IAmb 09 20 10.6
comp=Z,17nm,1.0s
NNA **Nana** 32.49 146 LR LR 09 30 48.1

comp=Z,470nm,21.4s,baz=336,slow=31
MPK Martis Peak 32.50 322 IAmb IAmb 09 20 12.0
comp=Z,13nm,1.0s
LAO LASA Array 32.62 345 P **P** **09 20 09.4 +1.0**
baz=159
HLID Hailey 32.69 333 P **P** **09 20 10.5 +1.3**
HLID IAmb IAmb 09 20 12.7
comp=Z,12nm,0.9s
HLID Hailey 32.69 333 P **P** **09 20 10.6 +1.5**
baz=143,SNR=22
MFID Camas Ranch 33.21 331 IAmb IAmb 09 20 30.0
comp=Z,37nm,2.0s
ORV Oroville 33.54 321 P **P** **09 20 18.5 +2.0**
ORV IAmb IAmb 09 20 29.7
comp=Z,18nm,1.8s
ELMT Elliston 34.38 338 P **P** **09 20 25.1 +1.3**
J08A Circle Bar Ran 34.44 329 P **P** **09 20 26.1 +1.8**
PLID Pearl Lake 34.59 333 P **P** **09 20 26.9 +1.2**
ULM Lac du Bonnet 34.77 359 P **P** **09 20 24.7 -2.2**
comp=Z,13nm,1.0s,baz=186,slow=9.4,SNR=13
comp=Z,13nm,1.0s
EGMT Eagleton 34.80 342 P **P** **09 20 28.7 +1.4**
baz=154
BMO Blue Mountains 34.99 332 IAmb IAmb 09 20 31.2
comp=Z,16nm,1.4s
MSO Missoula 35.17 337 P **P** **09 20 32.1 +1.5**
MSO IAmb IAmb 09 20 33.0
comp=Z,17nm,1.1s
MSO Missoula 35.17 337 P **P** **09 20 31.9 +1.3**
baz=146,SNR=15
TEFE Tefe 35.26 120 *e*P **P** **09 20 33.2 +1.6**
I07A Izee 35.48 329 P **P** **09 20 34.2 +1.0**
G08A Pilot Rock 36.09 331 IAmb IAmb 09 20 40.8
comp=Z,14nm,1.5s
BOAV Boa Vista 36.15 108 *e*P **P** **09 20 39.0 -0.2**
E09A Wood Farm, Sta 36.64 333 IAmb IAmb 09 20 45.7
comp=Z,10nm,0.9s
H04A Detroit Lake 37.27 327 IAmb IAmb 09 20 51.2
comp=Z,21nm,1.1s
D08A Wollman Farm, 37.40 333 P **P** **09 20 51.1 +1.6**
D08A IAmb IAmb 09 20 52.3
comp=Z,11nm,1.2s
NEW Newport 37.58 335 P **P** **09 20 52.4 +1.3**
NEW Newport 37.58 335 P **P** **09 20 52.0 +0.9**
baz=143,SNR=7.1
MXC Moxie City 37.67 331 P **P** **09 20 54.0 +2.2**
C09A Chrisman Ranch 37.69 334 P **P** **09 20 53.7 +1.7**
C09A IAmb IAmb 09 20 54.5
comp=Z,12nm,0.8s
ETMB Extrema 37.80 130 P **P** **09 20 53.4 +0.3**
ETMB IAmb IAmb 09 21 04.2
comp=Z,26nm,1.5s
ETMB Extrema 37.80 130 *e*P **P** **09 20 53.5 +0.3**
LTY Liberty 38.34 331 P **P** **09 20 59.2 +1.7**
LTY IAmb IAmb 09 21 00.3
comp=Z,23nm,1.1s
D05A Enumclaw 38.91 330 P **P** **09 21 04.4 +2.1**
D05A IAmb IAmb 09 21 05.1
comp=Z,22nm,1.1s
SAML Samuel 39.56 126 P **P** **09 21 07.0 -1.1**
SAML Samuel 39.56 126 *e*P **P** **09 21 07.2 -0.9**
SAML Samuel 39.56 126 P **P** **09 21 06.9 -1.1**
SAML sP **pP** **09 21 17.1 +1.3**
GNW Green Mountain 39.58 330 P **P** **09 21 08.5 +0.7**
FFC Flin Flon 39.64 353 P **P** **09 21 08.8 +0.6**
FFC IAmb IAmb 09 21 10.7
comp=Z,25nm,1.4s
FFC Flin Flon 39.64 353 P **P** **09 21 08.4 +0.2**
FFC pP **pP** **09 21 15.3 -1.0**
FFC sP **sP** **09 21 18.2 -1.3**
EDM Edmonton 40.48 343 P **P** **09 21 15.5 +0.3**
PGC Sidney 40.65 331 P **P** **09 21 17.0 +0.4**
PGC IAmb IAmb 09 21 28.3
comp=Z,36nm,1.2s
MDP Montagnes des 42.62 99 LR LR 09 42 00.8
comp=Z,188nm,19.0s,baz=290,slow=40
FCC Fort Churchill 43.29 1 P **P** **09 21 37.3 -0.7**
FCC IAmb IAmb 09 21 38.5
comp=Z,18nm,1.1s
MALB Monte Alegre 43.58 110 *e*P **P** **09 21 42.2 +1.3**
VILB Vilhena 44.32 128 *e*P **P** **09 21 47.8 +0.8**
RPN Rapa Nui 44.58 199 LR LR 09 35 37.6
comp=Z,236nm,21.7s,baz=14,slow=29
SCHQ Schefferville 44.90 23 LR LR 09 42 29.0
comp=Z,584nm,18.1s,baz=251,slow=39
MCPB Macapa, AP 45.01 106 *e*P **P** **09 21 51.6 -0.9**
LVC Limon Verde 45.49 146 LR LR 09 40 10.8
comp=Z,189nm,19.7s,baz=341,slow=35
SIV San Ignacio 45.61 132 LR LR 09 40 40.4
comp=Z,424nm,19.9s,baz=300,slow=35
HILA High Level 46.15 344 P **P** **09 22 01.1 +0.3**
PDRB Porto dos Gac 46.26 123 *e*P **P** **09 22 04.0 +1.7**
PTLB Pontes e Lacer 46.68 129 P **P** **09 22 05.8 +0.3**
PTLB IAmb IAmb 09 22 06.6
comp=Z,14nm,1.5s
PTLB Pontes e Lacer 46.68 129 *e*P **P** **09 22 05.8 +0.3**
BBSD Serra de San D 46.74 133 *e*P **P** **09 22 05.4 -0.6**
BBRB Robore, Bolivi 46.82 133 *e*P **P** **09 22 16.2 +0.1**
YKA Yellowknife Ar 47.08 348 P **P** **09 22 23.5 0.0**
comp=Z,6.6nm,0.9s,baz=155,slow=7.2,SNR=70
YKA PcP **PcP** **09 23 46.7 -0.2**
comp=Z,2.3nm,1.0s,baz=149,slow=4.1,SNR=5.5
YKA PP **PP** **09 24 19.2 +2.0**
comp=Z,2.7nm,1.1s,baz=146,slow=9.2,SNR=4.6
YKA LR LR 09 44 26.1
comp=Z,181nm,18.7s,baz=129,slow=38
comp=Z,6.6nm,0.9s
T35M Bob Quinn 49.39 335 P **P** **09 22 28.5 +2.4**
baz=132
FLDN Fort Liard 49.39 342 P **P** **09 22 27.4 +1.5**
baz=142
KOTAN Kotaneelee Air 49.48 341 P **P** **09 22 27.5 +0.8**
baz=141,SNR=12
SALV Santo Antonio 49.57 127 *e*P **P** **09 22 27.8 -0.2**
WRAK Wrangell Islan 49.89 334 P **P** **09 22 32.5 +2.7**
baz=129
U33K Whale Pass 50.03 333 P **P** **09 22 33.4 +2.6**
baz=128
DLBC Dease Lake 50.30 337 P **P** **09 22 35.5 +2.5**
DLBC IAmb IAmb 09 22 37.0
comp=Z,17nm,1.1s
DLBC Dease Lake 50.30 337 P **P** **09 22 35.9 +2.9**
baz=133,SNR=5.8
DLBC Dease Lake 50.30 337 LR LR 09 46 59.4
comp=Z,448nm,18.0s,baz=128,slow=40
S34M Telegraph Cree 50.37 336 P **P** **09 22 36.0 +2.6**
baz=132
T33K Petersburg 50.40 334 P **P** **09 22 36.4 +2.8**
baz=129
PANT Pantanal (Braz 50.78 131 *e*P **P** **09 22 38.2 +1.1**
SNDB Serra Nova Dou 50.92 120 *e*P **P** **09 22 38.4 +0.2**
TAOE Nuku Hiva Isla 51.01 245 *e*S **S** **09 29 47.2 -7.7**
comp=Z,186nm,26.3s
TAOE *e*LR LR 09 37 32.5
comp=Z,270nm,21.6s
TAOE Nuku Hiva Isla 51.01 245 *e*T T 10 17 26.3
comp=Z,39nm,0.2s
PP1B Ponte de Pedra 51.21 128 *e*P **P** **09 22 40.2 -0.1**
R33M Jennings River 51.31 337 P **P** **09 22 43.2 +2.5**
baz=133
Q32M Nakina River 51.52 336 P **P** **09 22 45.2 +2.9**
baz=131
SIT Sitka 51.57 333 P **P** **09 22 45.1 +2.6**
baz=126
FRB Frobisher Bay 51.59 15 LR LR 09 46 20.7
comp=Z,124nm,18.3s,baz=220,slow=38
BDQN Bodoquena, MS 51.62 133 *e*P **P** **09 22 43.9 +0.5**
WRGLY Wrigley 51.79 344 P **P** **09 22 45.0 +1.0**
baz=144,SNR=5.3
MURT Porto Murtinho 51.82 134 *e*P **P** **09 22 47.2 +2.4**
RVDE Rio Verde (Bra 52.04 130 *e*P **P** **09 22 47.4 +0.8**
P32M Atlin 52.49 336 IAmb IAmb 09 22 52.7
comp=Z,22nm,1.2s
P32M Atlin 52.49 336 P **P** **09 22 51.5 +2.1**
baz=130
S31K Pelican 52.51 334 P **P** **09 22 50.4 +1.0**
baz=126
P33M Teslin, Yukon 52.55 337 P **P** **09 22 51.5 +1.6**
baz=131
CFA Coronel Fontan 53.23 152 LR LR 09 40 57.2
comp=Z,241nm,21.0s,baz=310,slow=31
N32M Quiet Lake 53.28 338 P **P** **09 22 57.1 +2.0**
baz=131
WHY Whitehorse 53.62 337 P **P** **09 22 59.8 +2.0**
baz=129
FARO Faro, Yukon 54.10 339 P **P** **09 23 02.6 +1.5**
baz=132,SNR=8.4
P30M Million Dollar 54.10 335 P **P** **09 23 02.8 +1.6**
baz=126
P29M Windy Craggy 54.13 335 P **P** **09 23 03.3 +2.0**
baz=125
O30N Mendenhall 54.16 336 P **P** **09 23 03.4 +1.8**
baz=128
M31M Drury Creek, Y 54.44 338 P **P** **09 23 05.2 +1.5**
baz=130
N31M Braeburn, Yuko 54.49 337 P **P** **09 23 05.8 +1.8**
baz=129
HYT Haines Junctio 54.74 336 P **P** **09 23 07.8 +1.8**
baz=126
O29M Mount Kennedy 54.86 335 P **P** **09 23 09.0 +2.1**
baz=125
N30M Aishikik Lake 54.97 337 P **P** **09 23 10.0 +2.5**
baz=127
YUK6 Outpost Mounta 55.15 336 P **P** **09 23 11.3 +2.2**
baz=126
CPUP Villa Florida 55.20 138 P **P** **09 23 09.2 -0.3**
CPUP IAmb IAmb 09 23 10.7
comp=Z,8.3nm,1.1s
CPUP Villa Florida 55.20 138 *e*P **P** **09 23 09.9 +0.4**
CPUP Villa Florida 55.20 138 P **P** **09 23 07.7 -1.8**
comp=Z,4.7nm,1.1s,baz=327,slow=8.7,SNR=5.1
CPUP LR LR 09 48 26.9
comp=Z,105nm,18.4s,baz=342,slow=38
CPUP Villa Florida 55.20 138 P **P** **09 23 09.4 -0.1**
CPUP pP **pP** **09 23 17.0 -0.6**
CPUP sP **sP** **09 23 19.8 -1.3**
PINM Pinnacle 55.44 334 P **P** **09 23 13.0 +2.1**
baz=123
YUK4 Talbot Arm 55.50 336 P **P** **09 23 14.0 +2.5**
baz=126
BDFB Brasilia 55.54 122 P **P** **09 23 14.8 +2.5**
comp=Z,7.3nm,0.8s,baz=257,slow=5.9,SNR=7.6
BDFB LR LR 09 48 22.9
comp=Z,176nm,19.8s,baz=324,slow=37
comp=Z,7.3nm,0.8s
M30M Minto, Yukon 55.55 338 P **P** **09 23 13.2 +1.5**
M30M IAmb IAmb 09 23 14.3
comp=Z,14nm,1.4s
M30M Minto, Yukon 55.55 338 P **P** **09 23 13.5 +1.9**
baz=128,SNR=5.4
YUK8 Steele Glacier 55.90 336 P **P** **09 23 16.2 +1.7**
baz=124
M29M Somme Creek 56.08 337 P **P** **09 23 16.6 +1.0**
M29M Somme Creek 56.08 337 P **P** **09 23 17.3 +1.8**
baz=126
L29M L29M 56.36 338 P **P** **09 23 18.7 +1.2**
L29M IAmb IAmb 09 23 20.1
comp=Z,14nm,1.1s
L29M PcP **PcP** **09 24 15.8 +1.4**
L29M L29M 56.36 338 P **P** **09 23 19.1 +1.7**
baz=127
CTG Chitna Glacier 56.36 335 P **P** **09 23 19.9 +2.2**
baz=122
GRNC Granite Creek 56.41 334 P **P** **09 23 20.4 +2.3**
YUK3 Moose Creek 56.46 336 P **P** **09 23 19.9 +1.6**
baz=124
SDBA SAO DESIDERIO 56.57 116 *e*P **P** **09 23 20.4 +0.7**
K29M Barlow Dome 56.59 339 P **P** **09 23 19.7 +0.5**
K29M IAmb IAmb 09 23 20.7
comp=Z,20nm,1.6s
K29M Barlow Dome 56.59 339 P **P** **09 23 20.2 +1.0**
baz=128
J30M Hart River 56.66 340 P **P** **09 23 20.5 +0.9**
baz=130
C36M Paulatuk 56.96 348 P **P** **09 23 22.5 +1.0**
baz=145
BVCY Beaver Creek 56.97 336 P **P** **09 23 23.4 +1.6**
baz=124
I30M Mount Dempster 57.09 341 P **P** **09 23 23.4 +0.8**
I30M IAmb IAmb 09 23 24.0
comp=Z,14nm,1.4s
I30M Mount Dempster 57.09 341 P **P** **09 23 23.6 +0.9**
baz=130
KAIM Kayak Island 57.14 333 P **P** **09 23 24.2 +1.2**
baz=119
M27K Edge Creek, AK 57.34 336 P **P** **09 23 26.0 +1.5**
baz=123
VRDI Verde Repeater 57.37 334 P **P** **09 23 26.4 +1.5**
VRDI IAmb IAmb 09 23 27.9
comp=Z,14nm,1.1s
DAWY Dawson 57.38 338 P **P** **09 23 25.8 +1.1**
baz=126
G31M Satah River 57.59 343 P **P** **09 23 26.9 +0.9**
G31M Satah River 57.59 343 P **P** **09 23 26.7 +0.7**
baz=133,SNR=7.1
GLB Gilahina Butte 57.63 335 P **P** **09 23 28.1 +1.6**
GLB IAmb IAmb 09 23 29.6
comp=Z,12nm,1.0s
BCAR Beaver Creek A 57.69 337 P **P** **09 23 27.9 +1.0**
L27K Beaver Creek, 57.70 337 P **P** **09 23 28.7 +1.7**
baz=123
BMRM Bremner River 57.73 334 P **P** **09 23 28.4 +1.2**
baz=119
F31M Tsiigehtchic 57.80 343 P **P** **09 23 27.3 -0.1**
F31M Tsiigehtchic 57.80 343 P **P** **09 23 27.9 +0.4**
baz=134
M26K Nabesna, AK 57.80 336 P **P** **09 23 28.8 +1.1**
M26K IAmb IAmb 09 23 29.9
comp=Z,12nm,1.2s
M26K Nabesna, AK 57.80 336 P **P** **09 23 29.2 +1.5**
baz=121
I29M Ogilvie Camp, 57.80 340 P **P** **09 23 28.0 +0.4**
baz=128
EPYK Eagle Plains 57.94 341 P **P** **09 23 29.2 +0.7**
baz=130
N25K Chitina, Valde 58.04 335 P **P** **09 23 31.3 +1.9**
baz=119,SNR=6.6
G30M tAoh Zrail Nji 58.20 342 P **P** **09 23 31.7 +1.4**
baz=131
L26K Log Cabin Wild 58.27 336 P **P** **09 23 32.2 +1.3**
baz=121
JANB Januaria 58.33 119 *e*P **P** **09 23 32.8 +0.7**
K27K Chicken 58.33 338 P **P** **09 23 31.6 +0.3**
baz=123
PMNB Patos De Minas 58.34 124 *e*P **P** **09 23 33.1 +1.0**
INK Inuvik 58.35 344 IAmb IAmb 09 23 32.9
comp=Z,9.1nm,0.9s
INK Inuvik 58.35 344 P **P** **09 23 32.0 +0.7**
baz=134
INK Inuvik 58.35 344 LR LR 09 53 39.1
comp=Z,311nm,18.0s,baz=180,slow=41
H29M Whitestone 58.36 341 P **P** **09 23 31.9 +0.4**
baz=128
I28M Miner Creek 58.40 340 P **P** **09 23 32.4 +0.5**
baz=126
EGAK Eagle 58.42 339 P **P** **09 23 32.7 +0.8**
baz=125
F30M Barrier River 58.49 343 P **P** **09 23 33.0 +0.7**
baz=132
P23K Montague Islan 58.50 332 P **P** **09 23 33.7 +1.1**
baz=116
UNIS Unistalda (Bra 58.53 139 *e*P **P** **09 23 33.9 +0.8**
KLU Klutina 58.54 334 P **P** **09 23 34.5 +1.6**
baz=118,SNR=6.1
HARP HAARP 58.66 335 P **P** **09 23 35.0 +1.3**
baz=119
G29M Pine Creek 58.69 342 P **P** **09 23 34.4 +0.7**
baz=129
SCRK Sand Creek 59.01 337 P **P** **09 23 38.0 +1.9**
SCRK IAmb IAmb 09 23 38.8
comp=Z,11nm,1.2s
SCRK Sand Creek 59.01 337 P **P** **09 23 37.4 +1.2**
baz=121,SNR=7.4
I27K Kandik River 59.06 339 P **P** **09 23 37.7 +1.3**
baz=124
PAX Paxson 59.07 336 P **P** **09 23 37.5 +0.9**
baz=119,SNR=5.9
J26L Joseph Creek 59.13 338 P **P** **09 23 38.6 +1.7**
J26L IAmb IAmb 09 23 39.7
comp=Z,14nm,1.1s
J26L Joseph Creek 59.13 338 P **P** **09 23 38.2 +1.2**
baz=122
RIDG Independent Ri 59.22 337 P **P** **09 23 39.3 +1.8**
RIDG Independent Ri 59.22 337 P **P** **09 23 38.8 +1.3**
baz=120,SNR=11
ITAB Concordia 59.23 135 *e*P **P** **09 23 38.6 +0.6**
RES Resolute Bay 59.28 360 P **P** **09 23 37.4 -0.3**
RES Resolute Bay 59.28 360 LR LR 09 51 51.8
comp=Z,155nm,19.6s,baz=196,slow=39
SCM Sheep Creek Mo 59.29 334 P **P** **09 23 38.6 +0.5**
baz=117
RODS Rosario do Sul 59.34 140 *e*P **P** **09 23 39.4 +0.7**
A36M Sachs Harbour 59.37 349 P **P** **09 23 38.3 0.0**
baz=145,SNR=5.3
H27K Steamboat Moun 59.39 340 P **P** **09 23 39.6 +0.9**
baz=125
M23K Glacier View 59.44 334 P **P** **09 23 40.5 +1.4**
baz=116
SEW Seward 59.48 332 P **P** **09 23 40.4 +1.1**
baz=114
KNK Knik Glacier 59.59 333 P **P** **09 23 41.4 +1.4**
baz=115
E29M Blow River 59.60 343 P **P** **09 23 41.0 +1.0**
baz=130
K24K Donnelly Dome 59.61 336 P **P** **09 23 41.4 +1.2**
baz=119,SNR=7.6
F28M Old Crow 59.69 342 P **P** **09 23 41.6 +0.9**
baz=127,SNR=12
SML Sawmill 59.71 334 P **P** **09 23 42.1 +1.2**
baz=116
G27K Doyon Strip 59.77 340 P **P** **09 23 42.1 +0.9**
baz=125
WAT6 Susitna Watana 59.81 335 P **P** **09 23 42.7 +0.9**
baz=117,SNR=8.6
J25K Salcha River, 59.86 337 P **P** **09 23 42.9 +1.0**
baz=120
DHY Denali Highway 59.89 335 P **P** **09 23 43.3 +1.0**
baz=117
BRSE Bradley Lake S 59.93 331 P **P** **09 23 43.8 +1.3**
baz=112
GHO Glory Hole Cre 59.95 334 P **P** **09 23 43.6 +1.0**
PMR Palmer 59.96 333 P **P** **09 23 43.2 +0.6**
PMR IAmb IAmb 09 23 44.7
comp=Z,10nm,0.9s
PMR Palmer 59.96 333 P **P** **09 23 43.7 +1.1**
baz=115,SNR=6.2
BRLK Bradley Lake 60.01 331 P **P** **09 23 44.5 +1.5**
RC01 Rabbit Creek A 60.01 333 P **P** **09 23 44.0 +1.0**
RC01 Rabbit Creek A 60.01 333 P **P** **09 23 44.2 +1.3**
baz=114
KDAK Kodiak Island 60.12 328 P **P** **09 23 45.0 +1.2**
baz=109
KDAK Kodiak Island 60.12 328 LR LR 09 50 28.5
comp=Z,257nm,18.7s,baz=139,slow=37
E28M Babbage River 60.21 343 P **P** **09 23 45.3 +1.1**
baz=128
PLCA Paso Flores 60.21 159 P **P** **09 23 45.6 +1.0**
comp=Z,5.9nm,1.1s,baz=323,slow=4.8,SNR=5.3
PLCA LR LR 09 44 50.9
comp=Z,152nm,18.6s,baz=348,slow=31
comp=Z,5.9nm,1.1s
PLCA Paso Flores 60.21 159 P **P** **09 23 45.8 +1.2**
PLCA pP **pP** **09 23 53.2 +0.4**
PLCA sP **sP** **09 23 56.2 0.0**
WAT1 Susitna Watana 60.25 335 P **P** **09 23 45.6 +1.0**
baz=116
OHAK Old Harbor 60.30 328 P **P** **09 23 46.2 +1.3**
baz=108
Q20K Shuyak Island 60.31 329 P **P** **09 23 46.0 +1.0**
baz=110
HDA Harding Lake 60.35 337 P **P** **09 23 46.3 +1.0**
baz=118,SNR=7.2
HDA P **P** **09 23 46.3 +1.0**
baz=118,SNR=7.2
PRP Porcupine Dome 60.38 338 IAmb IAmb 09 23 47.7
comp=Z,12nm,1.0s
PRP Porcupine Dome 60.38 338 P **P** **09 23 46.6 +1.0**
baz=120,SNR=5.5
D28M Stokes Point 60.44 344 P **P** **09 23 46.4 +0.6**
baz=129
M22K Willow 60.45 333 P **P** **09 23 47.1 +1.2**
baz=114
DIAM Diamantina, MG 60.46 122 *e*P **P** **09 23 48.3 +1.4**
CPSB Cacapava Do Su 60.48 139 *e*P **P** **09 23 46.6 0.0**
ILAR Eielson Array 60.50 337 P **P** **09 23 46.2 0.0**
ILAR Eielson Array 60.50 337 pmax pmax
comp=Z,8.0nm,0.9s
ILAR Eielson Array 60.50 337 P **P** **09 23 46.0 -0.3**
comp=Z,7.1nm,0.9s,baz=132,slow=4.8,SNR=48
ILAR LR LR 09 53 04.2
comp=Z,411nm,18.1s,baz=109,slow=39
comp=Z,7.1nm,0.9s
ILAR Eielson Array 60.50 337 *e*P **P** **09 23 46.7 +0.4**
CAPN Captain Cook N 60.52 332 P **P** **09 23 48.1 +1.8**
baz=112
G26K Porcupine Rive 60.54 340 P **P** **09 23 47.3 +0.8**
baz=123
SII Sitkinak Islan 60.55 327 P **P** **09 23 48.4 +1.6**
baz=107
E27K Coleen River 60.56 342 P **P** **09 23 47.8 +1.2**
baz=126
SUA Susitna One 60.61 333 P **P** **09 23 48.4 +1.2**
baz=113,SNR=7.6
CUT Chulitna 60.79 334 P **P** **09 23 49.3 +1.1**
baz=114,SNR=5.2
CCB Clear Creek Bu 60.79 337 P **P** **09 23 48.1 -0.1**
CCB IAmb IAmb 09 23 50.6
comp=Z,6.0nm,1.1s
MCK McKinley 60.81 336 P **P** **09 23 49.3 +0.9**
baz=116,SNR=8.4
POKR Poker Plat Res 60.88 337 P **P** **09 23 49.6 +0.8**
baz=118
COLA College 60.92 337 P **P** **09 23 49.5 +0.5**
baz=118
COLA College 60.92 337 P **P** **09 23 49.9 +0.8**
COLA sP **sP** **09 24 00.0 -0.7**
O20K Slope Mountain 60.94 331 P **P** **09 23 50.1 +0.7**
baz=110
BSCB Bom Sucesso 60.97 125 *e*P **P** **09 23 51.0 +0.7**
R18K Karluk 61.00 328 P **P** **09 23 51.0 +1.3**
baz=108
D27M Malcolm River 61.01 343 P **P** **09 23 50.5 +0.8**
baz=127
Q19K Cape Douglas, 61.03 330 P **P** **09 23 50.5 +0.5**
baz=109
BMAR Burnt Mountain 61.07 340 P **P** **09 23 51.0 +0.9**
F26K Sheenjek River 61.07 341 P **P** **09 23 50.9 +0.8**
baz=123
P19K Oil Pt 61.08 330 P **P** **09 23 51.3 +1.0**
baz=110
RSO Redoubt South 61.14 331 P **P** **09 23 51.7 +0.8**
SKT Skwentna 61.16 333 P **P** **09 23 51.6 +0.8**
SKT Skwentna 61.16 333 P **P** **09 23 51.8 +1.0**
baz=113,SNR=9.9
N20K Mount Spurr 61.16 332 P **P** **09 23 51.7 +0.9**
baz=112,SNR=6.4
G25K Bearman Lake 61.22 339 P **P** **09 23 52.2 +1.1**
baz=120,SNR=5.3
TRF Thorofare Moun 61.23 335 P **P** **09 23 52.2 +0.8**
TRF Thorofare Moun 61.23 335 P **P** **09 23 52.2 +0.8**
baz=115,SNR=9.4
NEA2 Nenana 61.25 336 P **P** **09 23 51.9 +0.6**
baz=116
PLTB Pedras Altas 61.30 140 *e*P **P** **09 23 53.2 +1.0**
H24K Noodor Dome 61.38 338 P **P** **09 23 53.3 +1.0**
baz=118
F25K Christian Rive 61.50 340 P **P** **09 23 54.4 +1.3**
baz=121
KTH Kantishna Hill 61.53 335 IAmb IAmb 09 23 55.1
comp=Z,9.5nm,0.9s
I23K Minto, Yukon-K 61.61 337 P **P** **09 23 54.7 +1.0**
baz=116,SNR=16
Q18K Katmai Hardscr 61.62 329 P **P** **09 23 55.0 +1.0**
baz=108
G24K Hadweenzic Riv 61.66 339 P **P** **09 23 55.1 +1.0**
baz=119
E25K Arctic Village 61.76 341 IAmb IAmb 09 23 57.3
comp=Z,12nm,1.4s
E25K Arctic Village 61.76 341 P **P** **09 23 56.2 +1.4**
baz=122
O19K Port Alsworth 61.78 331 IAmb IAmb 09 23 56.6
comp=Z,11nm,0.9s
O19K Port Alsworth 61.78 331 P **P** **09 23 55.6 +0.7**
baz=109
BPAW Bear Paw Mtn. 61.79 336 P **P** **09 23 54.1 -0.9**
BPAW Bear Paw Mtn. 61.79 336 P **P** **09 23 55.6 +0.6**
baz=114,SNR=6.4
PPLA Purkeypile 61.80 334 P **P** **09 23 55.8 +0.6**
baz=112
M20K Styx River 61.82 333 P **P** **09 23 56.3 +0.9**
M20K Styx River 61.82 333 P **P** **09 23 55.8 +0.5**
baz=111
Q17K Contact Creek 61.94 328 P **P** **09 23 57.0 +0.8**
baz=106
P18K Big Mountain, 61.95 330 P **P** **09 23 56.7 +0.5**
baz=108
CAST Castle Rocks 61.96 335 P **P** **09 23 56.0 -0.2**
CAST Castle Rocks 61.96 335 P **P** **09 23 56.5 +0.3**
baz=113,SNR=8.4
RCBR Riachuelo 62.00 105 LR LR 09 52 46.8

comp=Z,222nm,19.0s,baz=274,slow=38
R17K Ugashik Creek 62.02 328 P **P** **09 23 57.7 +1.0**
R17K Ugashik Creek 62.02 328 P **P** **09 23 57.5 +0.8**
baz=106
N19K Bonanza Creek 62.06 331 P **P** **09 23 57.8 +0.8**
baz=109
MLY Manley 62.09 337 P **P** **09 23 57.8 +0.8**
baz=115,SNR=14
O18K Koktuh Hills 62.09 330 P **P** **09 23 57.9 +0.7**
baz=108
F24K Squaw Lake 62.20 340 P **P** **09 23 58.7 +1.0**
baz=119
CHUM Lake Minchumin 62.24 335 P **P** **09 23 59.3 +1.3**
baz=113
L20K Farewell, AK 62.37 333 P **P** **09 23 59.2 +0.2**
baz=110,SNR=12
Q16K King Salmon 62.45 329 P **P** **09 24 00.4 +0.9**
baz=106
P17K Kvichak River 62.49 329 P **P** **09 24 00.5 +0.8**
baz=106
C26K Camden Bay 62.53 343 P **P** **09 24 01.1 +1.2**
baz=123
G23K Bananza Creek 62.56 338 P **P** **09 24 01.4 +1.2**
baz=116
I21K Tanana 62.63 336 P **P** **09 24 01.6 +1.0**
baz=114
D25K Kavik River 62.64 342 P **P** **09 24 01.9 +1.2**
baz=121,SNR=14
N18K Kilae Creek 62.67 331 P **P** **09 24 01.9 +0.9**
baz=108
E24K Your Creek 62.67 340 P **P** **09 24 02.2 +1.3**
baz=119
L19K White Mountain 62.69 333 P **P** **09 24 01.3 +0.2**
baz=109
H22K Ishtalitna Cre 62.69 337 P **P** **09 24 01.3 +0.2**
baz=115
CHGN Chignik 62.75 326 P **P** **09 24 02.9 +1.4**
baz=103
K20K Telida 62.76 334 P **P** **09 24 01.9 +0.4**
baz=111
COLD Coldfoot 62.86 339 P **P** **09 24 03.6 +1.5**
baz=116,SNR=5.8
M18K Stony River 62.90 332 P **P** **09 24 02.9 +0.5**
baz=108
O17K Koliganek Bris 62.97 330 P **P** **09 24 03.9 +1.0**
baz=106
E23K Chandalar 63.04 340 P **P** **09 24 04.4 +1.0**
baz=118
J20K Nowinta River 63.09 335 P **P** **09 24 03.9 +0.2**
baz=111
H21K Melozitna Rive 63.13 337 P **P** **09 24 04.9 +0.9**
baz=113
G22K Bettles 63.18 338 P **P** **09 24 05.2 +1.0**
baz=115
PPT Papeete 63.18 241 LR LR 09 43 46.9
comp=Z,158nm,21.4s,baz=68,slow=28
PPT2 Papeete2 63.19 241 *e*S **S** **09 32 29.5 -5.9**
comp=Z,104nm,29.2s
PPT2 *e*SS **SS** **09 36 33.6 -8.5**
comp=Z,122nm,28.5s
PPT2 *e*LR LR 09 42 54.8
comp=Z,277nm,27.2s
PPT2 *e*LR LR 09 43 12.7
comp=Z,154nm,21.5s
P16K Nushagak River 63.21 329 P **P** **09 24 05.4 +0.8**
baz=105
N17K Nushagak Hills 63.23 331 P **P** **09 24 05.2 +0.5**
baz=106
TOLK Toolik Lake Re 63.30 340 IAmb IAmb 09 24 07.2
comp=Z,8.7nm,0.9s
TOLK Toolik Lake Re 63.30 340 P **P** **09 24 05.7 +0.6**
baz=118,SNR=6.7
D24K Happy Valley 63.31 341 P **P** **09 24 05.9 +0.8**
baz=119
S14K Fog Glacier 63.36 326 P **P** **09 24 07.1 +1.3**
baz=102
O16K Kokwok River B 63.41 329 P **P** **09 24 06.5 +0.7**
baz=105
TTA Tatalina 63.45 333 IAmb IAmb 09 24 07.3
comp=Z,7.6nm,0.9s
TTA Tatalina 63.45 333 P **P** **09 24 06.4 +0.2**
baz=109,SNR=6.2
I20K Naaghedeneel 63.45 336 P **P** **09 24 06.7 +0.7**
baz=111
L18K Granite Mounta 63.52 332 P **P** **09 24 07.1 +0.6**
baz=108
C24K Franklin Bluff 63.55 342 P **P** **09 24 07.4 +0.8**
baz=119
M17K Holitna River 63.61 332 P **P** **09 24 07.8 +0.7**
baz=107
ICESG Greenland Ices 63.62 19 *i*P **P** **09 24 05.6 -1.9**
ICESG IAmb IAmb 09 24 09.1
comp=Z,7.2nm,0.9s
J19K Poorman 63.64 335 P **P** **09 24 07.3 0.0**
baz=110
RIB01 Linhares ES 63.66 121 *e*P **P** **09 24 09.2 +1.1**
F22K John River 63.67 339 P **P** **09 24 08.5 +1.0**
baz=115
G21K Allakaket 63.74 338 P **P** **09 24 08.6 +0.7**
baz=113
D23K Nanushuk River 63.81 341 P **P** **09 24 09.8 +1.4**
baz=117
E22K Anaktuvuk Pass 63.81 339 P **P** **09 24 09.4 +0.9**
baz=115
H20K Anotleneega Mo 63.87 336 P **P** **09 24 10.3 +1.4**
baz=111
J18K Innoko River 63.92 334 P **P** **09 24 10.3 +1.1**
baz=108
N16K Nishlik Lake 63.97 330 P **P** **09 24 10.5 +0.9**
baz=105
F21K Alatna River 64.01 338 P **P** **09 24 10.9 +1.2**
F21K Alatna River 64.01 338 P **P** **09 24 11.0 +1.2**
baz=113,SNR=22
O15K Ungalikthiuk R 64.16 329 P **P** **09 24 10.8 -0.1**
baz=103
C23K Itkillik River 64.19 341 P **P** **09 24 11.9 +1.1**
C23K Itkillik River 64.19 341 P **P** **09 24 11.7 +0.9**
baz=117
M16K Timber Creek 64.21 331 P **P** **09 24 12.1 +1.0**
baz=105
L17K Donlin 64.21 332 P **P** **09 24 11.9 +0.8**
baz=106
K17K Iditarod 64.38 333 P **P** **09 24 12.2 -0.1**
K17K IAmb IAmb 09 24 14.3
comp=Z,12nm,1.1s
K17K Iditarod 64.38 333 P **P** **09 24 12.9 +0.7**
baz=106
D22K Ayikyak River 64.42 340 P **P** **09 24 13.7 +1.3**
D22K Ayikyak River 64.42 340 P **P** **09 24 13.8 +1.3**
baz=115,SNR=13
H19K Roundabout Mou 64.49 336 P **P** **09 24 14.1 +1.2**
baz=110
N15K Kwethluk River 64.53 330 P **P** **09 24 14.2 +1.0**
baz=104
L16K Owhat River 64.63 332 P **P** **09 24 14.7 +0.8**
baz=105
E21K Killik River 64.67 339 P **P** **09 24 14.6 +0.6**
E21K IAmb IAmb 09 24 16.1
comp=Z,12nm,1.0s
E21K Killik River 64.67 339 P **P** **09 24 14.9 +0.9**
baz=113
F20K Avaraart Lake 64.75 338 P **P** **09 24 15.5 +1.0**
F20K IAmb IAmb 09 24 16.8
comp=Z,13nm,0.9s
F20K Avaraart Lake 64.75 338 P **P** **09 24 15.6 +1.0**
baz=111,SNR=13
O14K Tigyukauivet M 64.90 329 P **P** **09 24 16.7 +1.0**
baz=102
G19K Purcell Mounta 64.95 337 P **P** **09 24 16.5 +0.6**
baz=109
H18K Honhosa River 65.13 335 P **P** **09 24 18.7 +1.6**
H18K Honhosa River 65.13 335 P **P** **09 24 18.0 +0.9**
baz=108
C21K Knifeblade Rid 65.23 340 P **P** **09 24 18.8 +1.2**
baz=113
N14K Kuskokwak Cree 65.26 329 P **P** **09 24 18.8 +0.9**
baz=102
B22K Teshekpuk Lake 65.28 341 P **P** **09 24 18.3 +0.4**
B22K Teshekpuk Lake 65.28 341 P **P** **09 24 18.8 +0.9**
baz=115
B21K Ikpikpuk River 65.35 341 P **P** **09 24 19.1 +0.7**
B21K IAmb IAmb 09 24 22.2
comp=Z,15nm,1.4s
B21K Ikpikpuk River 65.35 341 P **P** **09 24 19.1 +0.7**
baz=113
E20K Nigu River 65.36 339 P **P** **09 24 19.7 +1.1**
baz=111
F19K Shaleruckik Mo 65.44 337 P **P** **09 24 20.1 +1.0**
F19K Shaleruckik Mo 65.44 337 P **P** **09 24 20.0 +1.0**
baz=109
E19K Redstone River 65.45 338 P **P** **09 24 20.0 +0.9**
E19K IAmb IAmb 09 24 20.9
comp=Z,5.6nm,0.9s
E19K Redstone River 65.45 338 P **P** **09 24 19.8 +0.7**
baz=110
G18K Tagagawik 65.47 336 P **P** **09 24 20.3 +1.0**
baz=108,SNR=5.3
J16K Anvik River 65.55 333 P **P** **09 24 21.0 +1.2**
J16K Anvik River 65.55 333 P **P** **09 24 21.1 +1.3**
baz=104
L15K Ungalak Mounta 65.55 331 P **P** **09 24 21.8 +2.0**
baz=103
M14K Bethel 65.57 330 P **P** **09 24 21.0 +1.1**
M14K Bethel 65.57 330 P **P** **09 24 21.1 +1.2**
baz=102
D20K Etivluk River 65.67 339 P **P** **09 24 21.6 +1.0**
baz=111,SNR=10.0
H17K Granite Mounta 65.70 335 P **P** **09 24 22.1 +1.3**
H17K Granite Mounta 65.70 335 P **P** **09 24 22.1 +1.3**
baz=106
K15K Wolf Creek Mou 65.72 332 P **P** **09 24 22.4 +1.5**
K15K Wolf Creek Mou 65.72 332 P **P** **09 24 22.6 +1.7**
baz=103,SNR=6.4
I17K Unalakleet 65.74 334 P **P** **09 24 22.6 +1.6**
baz=105
NEEM North Greenlan 65.79 10 *i*P **P** **09 24 20.4 -1.1**
NEEM IAmb IAmb 09 24 23.2
comp=Z,5.4nm,0.9s
TBI Tubuai 65.89 235 *e*S **S** **09 33 07.9 -0.5**
comp=Z,287nm,26.5s
TBI *e*SS **SS** **09 37 18.1 -5.9**
comp=Z,415nm,30.5s
TBI *e*LR LR 09 44 16.0
comp=Z,989nm,25.5s
TBI Tubuai 65.89 235 *e*T T 10 36 07.0
comp=Z,3.4nm,0.3s
A22K Sinclair Lake 66.02 342 P **P** **09 24 24.0 +1.3**
baz=113
SOEG Soedalen 66.04 21 *i*P P 09 24 18.1 -4.7
SOEG IAmb IAmb 09 24 20.5
comp=Z,5.6nm,0.8s
L14K Kuka Creek 66.04 331 P **P** **09 24 24.4 +1.5**
L14K IAmb IAmb 09 24 35.7
comp=Z,15nm,1.2s
L14K Kuka Creek 66.04 331 P **P** **09 24 24.6 +1.7**
baz=102
D19K Kuna River 66.11 339 P **P** **09 24 23.9 +0.5**
D19K IAmb IAmb 09 24 25.8
comp=Z,11nm,0.9s
D19K Kuna River 66.11 339 P **P** **09 24 24.2 +0.8**
baz=109
G17K Kiwalik Mounta 66.15 335 P **P** **09 24 25.1 +1.4**
baz=105
M13K Dall Lake 66.17 330 P **P** **09 24 25.3 +1.5**
baz=101
B20K Meade River 66.32 341 P **P** **09 24 25.6 +1.0**
baz=111
H16K Elim 66.58 334 P **P** **09 24 27.6 +1.2**
baz=104,SNR=5.7
A21K Barrow 66.64 342 P **P** **09 24 27.3 +0.7**
baz=112
F17K Baldwin Pennin 66.64 336 P **P** **09 24 27.4 +0.7**
baz=105
E18K Tukpahlearik C 66.67 337 P **P** **09 24 27.6 +0.7**
baz=106
J14K Nanunak Lak 66.73 332 P **P** **09 24 28.7 +1.3**
baz=102
G16K Koyuk River 66.81 335 P **P** **09 24 29.1 +1.2**
baz=104
C19K Lookout Ridge 66.82 339 P **P** **09 24 29.0 +1.1**
baz=108
UNV Unalaska Valle 66.93 322 P **P** **09 24 29.5 +0.7**
baz=95
E17K Hotham Inlet 67.03 337 P **P** **09 24 30.3 +1.0**
baz=105,SNR=24
C18K Utukok River 67.24 339 P **P** **09 24 31.1 +0.5**
baz=106
G15K Niukluk 67.41 334 P **P** **09 24 32.8 +1.1**
baz=102
A19K Wainwright 67.65 340 P **P** **09 24 34.4 +1.3**
baz=107
B18K Kokolik River 67.65 339 P **P** **09 24 34.8 +1.7**
baz=106
D17K Noatak River 67.66 337 P **P** **09 24 33.9 +0.7**
baz=104
RDOG Red Dog Mine 67.69 338 P **P** **09 24 34.0 +0.5**
RDOG IAmb IAmb 09 24 35.0
comp=Z,16nm,1.2s
RDOG Red Dog Mine 67.69 338 P **P** **09 24 33.9 +0.5**
baz=104
F15K North Star Dit 67.81 335 P **P** **09 24 35.4 +1.2**
F15K North Star Dit 67.81 335 P **P** **09 24 35.8 +1.6**
baz=102
ANM Nome 67.89 334 P **P** **09 24 35.9 +1.2**
baz=100
C17K DeLong Mountai 67.89 338 P **P** **09 24 35.1 +0.5**
baz=104
ALE Alert 68.37 4 P **P** **09 24 36.9 -0.6**
ALE pP **pP** **09 24 44.0 -2.0**
ALE sP **sP** **09 24 47.4 -1.8**
C16K Lisburne Hills 68.63 338 P **P** **09 24 40.0 +0.7**
baz=102
BORG Borgarnes 69.13 26 LR LR 09 55 12.7
comp=Z,130nm,18.5s,baz=269,slow=36
DAG Danmarks Havn 71.93 14 *i*P **P** **09 24 57.1 -2.2**
DAG IAmb IAmb 09 24 59.9
comp=Z,5.6nm,0.9s
EKA Eskdalemuir Ar 78.40 36 P **P** **09 25 36.0 -1.0**
comp=Z,13nm,0.9s,baz=278,slow=6.4,SNR=10.0
comp=Z,13nm,0.9s
SPITS Spitsbergen Ar 79.25 11 LR LR 10 06 00.4
comp=Z,163nm,18.6s,baz=256,slow=40
ESDC Sonseca Array 80.95 51 P **P** **09 25 51.4 +0.1**
ESDC IAmb IAmb 09 25 52.4
comp=Z,18nm,1.1s
ESDC Sonseca Array 80.95 51 P **P** **09 25 50.5 -0.7**
comp=Z,12nm,1.0s,baz=292,slow=5.3,SNR=28
ESDC LR LR 09 57 27.1
comp=Z,119nm,19.6s,baz=283,slow=32
comp=Z,12nm,1.0s
ESBB Sonseca Array 80.95 51 P **P** **09 25 50.9 -0.4**
MDT Midelt 81.95 58 LR LR 09 56 04.8
comp=Z,72nm,21.6s,baz=318,slow=31
PMSA Palmer Station 83.29 167 LR LR 09 55 04.6
comp=Z,68nm,19.8s,baz=304,slow=30
NB2 NORSAR Subarra 84.19 28 P **P** **09 26 07.8 +0.1**
comp=Z,2.6nm,0.9s,baz=293,slow=4.8
NOA NORSAR Array B 84.19 28 P **P** **09 26 07.3 -0.4**
comp=Z,6.4nm,1.0s,baz=292,slow=4.9,SNR=7.8
NOA LR LR 10 02 16.5
comp=Z,104nm,21.5s,baz=290,slow=35
comp=Z,6.4nm,1.0s
DOU Dourbes 84.22 40 *d*P **P** **09 26 08.4 +0.5**
comp=Z,10nm,1.2s
BMRD Maredsous 84.26 39 *d*P **P** **09 26 10.1 +1.9**
comp=Z,7.5nm,1.1s
BGES Gesves 84.43 39 *d*P **P** **09 26 09.9 +0.9**
comp=Z,12nm,1.1s
BCLA Clavier 84.55 39 *d*P **P** **09 26 10.2 +0.5**
comp=Z,8.8nm,1.1s
RCHB Rochefort 84.59 40 *d*P **P** **09 26 09.8 0.0**
RCHB *dp*P **sP** **09 26 24.2 +2.4**
BHOU Houvegnez 85.00 39 *d*P **P** **09 26 13.3 +1.3**
comp=Z,8.7nm,1.5s
WLF Walferdange 85.31 40 *d*P **P** **09 26 14.4 +0.9**
comp=Z,13nm,1.0s
AHRW Bad Neuenahr-A 85.59 39 *e*P **P** **09 26 16.3 +1.4**
comp=Z,17nm,1.0s,baz=281,slow=5.5
ARCES ARCESS Array B 85.64 18 P **P** **09 26 14.2 -0.6**
comp=Z,6.5nm,1.0s,baz=289,slow=5.4,SNR=8.7
comp=Z,6.5nm,1.0s
HFS Hagfors 85.67 28 LR LR 10 02 58.8
comp=Z,125nm,21.4s,baz=263,slow=35
KASTN Kahler Asten 86.17 38 *e*P **P** **09 26 18.0 +0.2**
comp=Z,22nm,1.3s,baz=281,slow=5.5
SEY Seymchan 86.36 335 LR LR 10 07 28.0
comp=Z,195nm,19.0s,baz=350,slow=37
ECH Echery 86.40 41 P **P** **09 26 19.1 +0.2**
TNS Taunus Mts 86.53 39 *e*P **P** **09 26 20.2 +0.6**
comp=Z,30nm,1.0s,baz=281,slow=5.5
GTTG Gottingen 86.97 37 *e*P **P** **09 26 23.0 +1.3**
comp=Z,36nm,1.1s,baz=281,slow=5.5
SENIN Lac Senin/Sane 87.09 43 P **P** **09 26 23.8 +1.2**
STU Stuttgart 87.48 40 P **P** **09 26 24.9 +0.7**
STU Stuttgart 87.48 40 *e*P **P** **09 26 24.8 +0.6**
comp=Z,29nm,0.8s,baz=281,slow=5.5
DBIC Dimbokro 88.18 84 P **P** **09 26 27.6 -0.6**
comp=Z,5.8nm,1.1s,baz=284,slow=4.8,SNR=4.1
DBIC LR LR 10 04 35.7
comp=Z,51nm,18.4s,baz=296,slow=35
comp=Z,5.8nm,1.1s
TUE Stuetta 88.39 42 P **P** **09 26 31.0 +2.2**
GRA1 Grafenberg Arr 88.39 39 P **P** **09 26 28.1 -0.4**
GRF Grafenberg Arr 88.39 39 *e*P **P** **09 26 27.7 -0.8**
comp=Z,41nm,1.6s,baz=281,slow=5.5
DAVA Damuels 88.44 41 *e*PcP **P** **09 26 30.0 +1.0**
comp=Z,13nm,1.0s
DAVOX Davos/Dischmat 88.62 42 P **P** **09 26 30.9 +1.0**
comp=Z,5.4nm,0.9s,baz=308,slow=7.1,SNR=10.0
comp=Z,5.4nm,0.9s
MA2 Magadan 88.62 332 LR LR 10 07 22.5
comp=Z,81nm,18.1s,baz=108,slow=36
CLL Collm 88.82 37 *i*P **P** **09 26 31.8 +1.4**
FUORN Ofenpass-Fuorn 88.93 42 P **P** **09 26 31.7 +0.3**
FUORN IAmb IAmb 09 26 34.9
comp=Z,6.6nm,1.1s
RETA Reutte 88.93 41 *e*PcP **PcP** **09 26 32.3 -0.4**
comp=Z,9.3nm,1.1s
FETA Feichten 89.08 41 *e*PcP **PcP** **09 26 33.3 -0.2**
comp=Z,8.1nm,1.3s
SQTA Sankt Quirin 89.31 41 *e*PcP **P** **09 26 33.6 +0.6**
comp=Z,3.8nm,1.0s
KHC Kasperske Hory 90.03 39 P **P** **09 26 37.0 +0.8**
KHC IAmb IAmb 09 26 39.3
comp=Z,7.3nm,1.1s
GEC2 GERESS Array S 90.22 39 P **P** **09 26 37.4 +0.2**
GEC2 IAmb IAmb 09 26 39.9
comp=Z,7.6nm,1.2s
GERES GERESS Array B 90.22 39 P **P** **09 26 36.6 -0.6**
comp=Z,3.7nm,1.0s,baz=316,slow=5.5,SNR=9.7
GERES LR LR 10 09 58.1
comp=Z,74nm,18.2s,baz=284,slow=38
comp=Z,3.7nm,1.0s
ABTA Abfaltersbach 90.31 41 *e*PcP **P** **09 26 38.5 +0.8**
comp=Z,6.4nm,1.4s
FINES FINESS Array B 90.35 24 P **P** **09 26 36.4 -1.0**
comp=Z,3.0nm,0.9s,baz=284,slow=5.6,SNR=3.8
FINES LR LR 10 09 24.3
comp=Z,102nm,18.5s,baz=325,slow=37
comp=Z,3.0nm,0.9s
BIOA Bad Ischl, Aus 90.64 40 *e*PcP **P** **09 26 39.7 +0.5**
comp=Z,5.5nm,1.3s
KBA Koelnbreinsper 90.71 41 *e*PcP **P** **09 26 40.2 +0.5**
comp=Z,7.3nm,1.4s
MYKA Terra Mystica 91.07 41 *e*PcP **PcP** **09 26 42.0 -0.2**
comp=Z,2.6nm,1.0s
PRED Cave del Predi 91.10 41 P **P** **09 26 41.5 +0.2**
VRAC Vranov 91.75 38 LR LR 10 06 07.4
comp=Z,80nm,21.4s,baz=300,slow=34
SOKA Soboth 91.93 40 *e*PcP **P** **09 26 45.7 +0.5**
comp=Z,4.3nm,1.0s
ARSA Arzberg 91.99 40 *e*PcP **P** **09 26 45.9 +0.5**
comp=Z,3.0nm,1.1s
KEST Kesra 92.18 52 LR LR 10 02 26.4
comp=Z,102nm,21.6s,baz=242,slow=32
RONA Rosalia, Austr 92.27 39 *e*PcP **P** **09 26 47.2 +0.5**
comp=Z,6.8nm,1.6s
MODS Modra-Piesok 92.56 38 *e*P **P** **09 26 50.8 +2.8**
TORD Torodi Ar. Bea 92.65 76 P **P** **09 26 47.3 -1.7**
comp=Z,0.8nm,0.9s,baz=311,slow=3.8,SNR=3.6
comp=Z,0.8nm,0.9s
VYHS Vyhne 93.43 38 *e*P **P** **09 26 52.9 +0.9**
NRIK Noril'sk 95.47 359 LR LR 10 16 20.2
comp=Z,83nm,18.3s,baz=336,slow=40
URZ Urewera 97.92 233 LR LR 10 02 16.2
comp=Z,73nm,19.0s,baz=72,slow=30
OBN Obninsk 98.63 26 LR LR 10 10 58.6
comp=Z,102nm,21.6s,baz=282,slow=35
MLR Muntele Rosu 99.15 38 P **Pdif** **09 27 18.0 -0.2**
comp=Z,3.0nm,1.0s,baz=304,slow=7.3,SNR=4.3
MLR LR LR 10 11 05.5
comp=Z,59nm,21.5s,baz=310,slow=35
comp=Z,3.0nm,1.0s
DZM Mont Dzumac 103.60 251 *e*LR LR 10 01 46.8
comp=Z,206nm,22.0s
MKAR Makanchi Array 118.04 2 PKP **PKPdf** **09 32 22.6 -0.8**
comp=Z,0.7nm,0.8s,baz=25,slow=3.8,SNR=3.9
HHC Hu-ho-hao-te 118.93 337 *e*P **PKiKP** **09 32 27.5 +2.0**
WMQ Urumqi 121.02 358 *e*P **PKiKP** **09 32 31.5 +2.0**
NJ2 Nanjing 122.86 326 *e*P **PKiKP** **09 32 34.0 +0.7**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
WRA Warramunga Arr 133.11 257 PKP **PKiKP** **09 32 54.0 -0.1**
comp=Z,0.8nm,0.7s,baz=88,slow=2.6,SNR=7.2
ASAR Alice Springs 133.57 252 PKP **PKPdf** **09 32 54.4 +0.6**
comp=Z,0.6nm,0.7s,baz=87,slow=2.0,SNR=6.3
PZH PanZhiHua 135.36 339 PKP **PKPdf** **09 32 58.0 +0.8**
CMAR Chiang Mai Arr 143.74 338 PKhKP PKPpre 09 33 09.7
comp=Z,1.1nm,0.3s,baz=355,slow=4.0,SNR=6.9

IDC 26 09:15:22.4±2.5, 9.53N±0.125°23E, h0km, mb3.5/4, mbtmp3.5/4, MS3.7/1, Error ellipse: s-maj=250.4km s-min=27.5km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**27.05**	**28**	LR	LR	09 30 47.2	
	comp=Z,140nm,19.3s,baz=94,slow=34						
WRA	**Warramunga Arr**	**30.63**	**163**	P	P	09 21 38.7	+0.1
	0.2nm,0.5s,baz=343,slow=8.7,SNR=1.5						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**34.06**	**166**	P	P	09 22 08.5	-0.2
	0.2nm,0.4s,baz=340,slow=7.0,SNR=13						
ASAR				PcP	PcP	09 24 43.9	-2.8
	0.2nm,0.3s,baz=340,slow=2.7,SNR=5.5						
	0.2nm,0.4s						
STKA	**Stephens Creek**	**44.05**	**160**	P	P	09 23 33.8	+1.7
	0.9nm,0.5s,baz=325,slow=12,SNR=3.1						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**52.00**	**324**	P	P	09 24 34.4	+0.8
	0.6nm,0.7s,baz=116,slow=8.1,SNR=3.8						
	0.6nm,0.7s						

*AEIC **26** 09:24:34.1±0.5, 51.4N±0.1×179.5°50E±0.06, h57km±7km, Error ellipse: s-maj=15.6km s-min=5.4km az=187.0*

NEIC 26 09:24:34.4±0.4, 51.4N±0.1×179.48E±0.06, h62km±8km, mb3.8/12, ML3.0(AEIC), Error ellipse: s-maj=19.2km s-min=4.6km az=188.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.11**	**255**		Pn	09 24 43.6	-0.1
AMKA					Sn	09 24 50.2	-0.2
CESW	**Semis' Southwe**	**0.50**	**6**		Pn	09 24 46.4	-0.1
CERB	**Semis' Cerberu**	**0.53**	**10**		Sn	09 24 56.4	+0.4
CETU	**Semis' Tuman**	**0.56**	**1**		Pn	09 24 47.1	0.0
CEPE	**Semis' Perret**	**0.57**	**11**		Pn	09 24 47.2	0.0
CEAP	**Semis' Anvil P**	**0.60**	**6**		Pn	09 24 47.6	0.0
LSSE	**Little Sitkin**	**0.77**	**313**		Pn	09 24 49.7	+0.1
LSPA	**Little Sitkin**	**0.79**	**315**		Pn	09 24 49.9	+0.1
LSPA					Sn	09 25 01.5	+0.3
LSNW	**Little Sitkin**	**0.82**	**314**		Pn	09 24 50.0	-0.2
GAKI	**Gareloi-Kavalg**	**1.08**	**82**		Pn	09 24 53.4	-0.1
GASW	**Gareloi Southw**	**1.10**	**70**		Pn	09 24 53.8	-0.1
GANO	**Gareloi North**	**1.15**	**68**		Pn	09 24 54.2	-0.3
GANE	**Gareloi Northe**	**1.16**	**69**		Pn	09 24 54.6	0.0
GAEA	**Gareloi East**	**1.17**	**71**		Pn	09 24 55.0	+0.2
TANO	**Tanaga North**	**1.58**	**70**		Pn	09 25 00.5	+0.3
TASE	**Tanaga Southea**	**1.61**	**74**		Pn	09 25 00.7	+0.1
TAFP	**Tanaga Falls P**	**1.66**	**72**		Pn	09 25 01.1	-0.2
TAFP					Sn	09 25 21.2	-0.3
TAPA	**Tanaga Point A**	**1.74**	**75**		Pn	09 25 02.5	+0.1
KIWB	**Kanaga Island**	**2.15**	**77**	Pn	Pn	09 25 07.8	-0.1
KIRH	**Kanaga Island**	**2.19**	**76**		Pn	09 25 08.9	+0.4
ADAG	**Mount Adagdak**	**2.51**	**75**		Pn	09 25 12.8	0.0
GSCK	**Great Sitkin C**	**2.78**	**76**		Pn	09 25 16.6	+0.1
GSMY	**Great Sitkin M**	**2.85**	**75**		Pn	09 25 17.4	0.0
ATKA	**Atka Island**	**4.01**	**76**		Pn	09 25 33.0	-0.2
ATKA					Sn	09 26 19.2	+0.3
P19K	**Oil Pt**	**17.41**	**51**		P	09 28 33.4	+0.2
CNPM	**China Poot**	**18.35**	**52**	P	P	09 28 42.2	-1.5
BRLK	**Bradley Lake**	**18.58**	**52**	P	P	09 28 42.9	-3.3
KTH	**Kantishna Hill**	**19.80**	**41**	P	P	09 28 59.2	-0.3
KTH				IAmb	IAmb	09 29 15.0	
	comp=Z,5.1nm,1.2s						
H21K	**Melozitna Rive**	**20.07**	**34**	P	P	09 29 02.5	+0.1
D19K	**Kuna River**	**20.26**	**24**	P	P	09 29 04.7	+0.3
D19K				IAmb	IAmb	09 29 09.3	
	comp=Z,6.1nm,1.4s						

N25K	**Chitina, Valde**	**22.00**	**48**	P	P	09 29 21.9	-1.3		
N25K				IAmb	IAmb	09 29 38.8			
	comp=Z,14nm,1.4s								
G24K	**Hadweenzic Riv**	**22.47**	**35**	P	P	09 29 29.0	+0.8		
G24K				IAmb	IAmb	09 29 50.7			
	comp=Z,5.8nm,1.4s								
E25K	**Arctic Village**	**23.77**	**32**	P	P	09 29 40.8	-0.1		
D25K	**Kavik River**	**24.10**	**29**	P	P	09 29 44.2	+0.4		
EGAK	**Eagle**	**24.24**	**41**	P	P	09 29 44.4	-0.7		
EGAK				IAmb	IAmb	09 29 54.3			
	comp=Z,2.7nm,1.0s								
I28M	**Miner Creek**	**24.91**	**40**	P	P	09 29 51.1	-0.2		
I28M				IAmb	IAmb	09 30 19.7			
	comp=Z,2.0nm,1.3s								

*IDC **26** 09:25:26.0±2.0, 44˚.02N×128˚.50W, h0km, mb3.4/4, mbtmp3.4/9, ML3.2/5, MS3.5/2, Error ellipse: s-maj=42.7km s-min=19.4km az=42.0*
*NEIC **26** 09:25:33.3±2.0, 44˚.04N±0˚.07×127˚.7W±0˚.1, h10km±2km, mb3.8/16, ML3.4/72, Error ellipse: s-maj=15.5km s-min=10.8km az=235.0*

ISC 26 09:25:32.8±1.3, 44˚01N±0˚09×127˚7W±0˚.1, h10km, n99, σ1§20/98, mb3.6/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.72**	**114**	Pn	**Pn**	**09 26 15.7**	**-0.8**
KEBM				Sn	**Sn**	**09 26 48.6**	**-0.9**
KEBM				IAML		09 27 26.6	
	comp=N,211nm,0.6s						
J01E	**Myrtle Point**	**2.88**	**106**	Pn	**Pn**	**09 26 17.7**	**-1.1**
J01E				IAML		09 27 32.9	
	comp=E,180nm,1.6s						
HEBO	**Mount Hebo**	**3.08**	**66**	Pn	**Pn**	**09 26 20.2**	**-1.3**
I03D	**Drain, OR**	**3.18**	**94**		**Pn**	**09 26 23.6**	**+0.8**
COR	**Corvallis**	**3.22**	**78**	Pn	**Pn**	**09 26 24.5**	**+1.1**
K02D	**Willamette Mer**	**3.24**	**113**		**Pn**	**09 26 23.5**	**-0.2**
DBO	**Dodson Butte**	**3.38**	**104**	Pn	**Pn**	**09 26 26.4**	**+0.8**
G03D	**McMinnville, O**	**3.40**	**68**	Pn	**Pn**	**09 26 25.4**	**+0.5**
BUCK	**Buck Mountain**	**3.42**	**85**		**Pn**	**09 26 26.1**	**-0.1**
KSXB	**Camp Six Broad**	**3.57**	**126**	Pn	**Pn**	**09 26 28.3**	**+0.1**
L02F	**Cave Junction**	**3.58**	**120**	Pn	**Pn**	**09 26 28.4**	**0.0**
H04D	**Lebanon**	**3.62**	**80**		**Pn**	**09 26 28.9**	**0.0**
HUMO	**Hull Mountain**	**3.75**	**110**	Pn	**Pn**	**09 26 31.3**	**+0.6**
I04A	**Tendick Farm,**	**3.84**	**91**		**Pn**	**09 26 32.4**	**+0.4**
I04A				IAML		09 27 03.8	
	comp=E,53nm,1.1s						
E03A	**Lebam**	**3.88**	**48**	Pn	**Pn**	**09 26 32.5**	**+0.1**
F04D	**Rainier, OR**	**3.93**	**57**	Pn	**Pn**	**09 26 32.4**	**-0.7**
H04A	**Detroit Lake**	**4.03**	**78**	Pn	**Pn**	**09 26 33.4**	**-1.1**
H04A				IAML		09 28 03.7	
	comp=E,43nm,0.5s						
WISH	**Wishkah**	**4.17**	**40**	Pn	**Pn**	**09 26 35.8**	**-0.6**
F04A	**Amboy**	**4.22**	**61**	Pn	**Pn**	**09 26 36.9**	**-0.3**
NLWA	**Neilton Lookou**	**4.33**	**37**	Pn	**Pn**	**09 26 39.2**	**+0.6**
NLWA				IAML		09 27 16.5	
	comp=E,58nm,0.7s						
NLWA				IAML		09 29 05.0	
	comp=E,38nm,4.0s						
YBH	**Yreka Blue Hor**	**4.33**	**120**	Pn	**Pn**	**09 26 37.6**	**-1.2**
YBH	**Yreka Blue Hor**	**4.33**	**120**	Pn	**Pn**	**09 26 41.0**	**+2.3**
	comp=E,0.3nm,0.3s,baz=319,slow=23,SNR=2.2						
	comp=E,2.1nm,0.6s						
L04D	**Klamath Falls**	**4.35**	**112**	Pn	**Pn**	**09 26 39.2**	**+0.1**
KMPM	**Mount Pierce**	**4.48**	**142**	Pn	**Pn**	**09 26 42.3**	**+1.5**
KMPM				IAML		09 28 44.9	
	comp=E,55nm,3.6s						
KMPM				IAML		09 29 10.8	
	comp=N,49nm,2.8s						
C03A	**Quillayute Air**	**4.51**	**28**	Pn	**Pn**	**09 26 40.9**	**-0.2**
HOOD	**Mount Hood Mea**	**4.52**	**71**	Pn	**Pn**	**09 26 41.4**	**0.0**
HOOD				IAML		09 27 30.2	
	comp=E,57nm,0.8s						
HOOD				IAML		09 27 41.6	
	comp=N,58nm,1.2s						
K04D	**Chiloquin, OR**	**4.57**	**106**	Pn	**Pn**	**09 26 41.4**	**-0.7**
I05D	**Terrebonne, OR**	**4.60**	**84**		**Pn**	**09 26 43.6**	**+1.2**
I05D				IAML		09 28 25.7	
	comp=E,44nm,2.6s						
J05D	**Fort Rock, OR**	**4.76**	**97**		**Pn**	**09 26 45.2**	**+0.4**
PINE	**Pine Mountain**	**4.91**	**90**		**Pn**	**09 26 47.7**	**+1.0**
GNW	**Green Mountain**	**4.94**	**42**	Pn	**Pn**	**09 26 48.5**	**+1.6**
GNW				IAML		09 27 24.7	
	comp=N,22nm,0.7s						
D05A	**Enumclaw**	**5.13**	**50**		**Pn**	**09 26 49.9**	**+0.3**
K05A	**Summer Lake**	**5.14**	**102**	Pn	**Pn**	**09 26 49.8**	**-0.2**
G06A	**Carlson Farm,**	**5.21**	**74**	Pn	**Pn**	**09 26 51.6**	**+0.8**
CLRS	**Cowichan Lake**	**5.41**	**26**	Pn	**Pn**	**09 26 53.4**	**-0.2**
MXC	**Moxie City**	**5.83**	**61**	Pn	**Pn**	**09 26 59.4**	**+0.1**
LTY	**Liberty**	**5.92**	**54**	Pn	**Pn**	**09 27 01.8**	**+1.2**
I07A	**Izee**	**5.92**	**86**	Pn	**Pn**	**09 27 00.5**	**-0.2**
HOPS	**Hopland Field**	**6.11**	**144**	Pn	**Pn**	**09 27 04.6**	**+1.5**
E07A	**Sunnyside**	**6.11**	**63**	Pn	**Pn**	**09 27 01.8**	**-1.3**
CBB	**Campbell River**	**6.24**	**14**	Pn	**Pn**	**09 27 05.0**	**+0.1**
B06A	**Marblemount**	**6.25**	**42**	Pn	**Pn**	**09 27 03.7**	**-1.3**
HAWA	**Hanford**	**6.26**	**65**	Pn	**Pn**	**09 27 04.6**	**-0.5**
G08A	**Pilot Rock**	**6.38**	**75**	Pn	**Pn**	**09 27 07.9**	**+0.9**
ORV	**Oroville**	**6.44**	**132**	Pn	**Pn**	**09 27 08.8**	**+1.2**
HOLB	**Holberg**	**6.64**	**358**	Pn	**Pn**	**09 27 09.8**	**-0.5**
J08A	**Circle Bar Ran**	**6.74**	**92**	Pn	**Pn**	**09 27 12.7**	**+0.8**
WVOR	**Wild Horse Val**	**6.82**	**100**	Pn	**Pn**	**09 27 13.6**	**+0.6**
D08A	**Wollman Farm,**	**6.89**	**61**	Pn	**Pn**	**09 27 13.1**	**-0.7**
AFDM	**Forest Hills D**	**7.16**	**133**	Pn	**Pn**	**09 27 17.7**	**+0.2**
MPK	**Martis Peak**	**7.44**	**127**	Pn	**Pn**	**09 27 21.6**	**0.0**
C09A	**Chrisman Ranch**	**7.60**	**57**		**Pn**	**09 27 22.0**	**-1.6**
EMB	**Emerald Bay**	**7.61**	**129**	Pn	**Pn**	**09 27 22.8**	**-1.2**
F10A	**Beach Ranch, E**	**7.69**	**72**	Pn	**Pn**	**09 27 24.0**	**-1.0**
PNTR	**Pine Nut**	**7.83**	**126**	Pn	**Pn**	**09 27 26.1**	**-0.7**
YERR	**Yerington**	**8.10**	**125**		**Pn**	**09 27 30.4**	**-0.3**
CMB	**Columbia Colle**	**8.14**	**135**	Pn	**Pn**	**09 27 31.8**	**+0.7**
WAKR	**Walker**	**8.31**	**129**	Pn	**Pn**	**09 27 35.1**	**+1.5**
KVN	**Kaiserville**	**8.75**	**121**	Pn	**Pn**	**09 27 39.4**	**-0.1**
RYN	**Ryan**	**8.76**	**125**	Pn	**Pn**	**09 27 38.8**	**-0.8**
NVAR	**Mina Array Bea**	**9.02**	**125**	Pn	**Pn**	**09 27 42.1**	**-1.2**
NVAR	**Mina Array Bea**	**9.02**	**125**	Pn	**Pn**	**09 27 46.1**	**+2.8**
	comp=N,0.3nm,0.3s,baz=290,slow=13,SNR=7.4						
	comp=N,0.3nm,0.3s						
MDPB	**Devils Postpil**	**9.13**	**131**	Pn	**Pn**	**09 27 47.1**	**+2.2**
OMMB	**Old Mammoth Mi**	**9.19**	**131**	Pn	**Pn**	**09 27 47.3**	**+1.6**
ELK	**Elko**	**9.80**	**105**	Pn	**Pn**	**09 27 58.1**	**+4.2**
	baz=281,slow=11,SNR=5.6						
	comp=N,1.1nm,0.9s						
GRAC	**Grapevine Rang**	**10.54**	**128**	Pn	**Pn**	**09 28 06.0**	**+2.0**
CHMT	**Chamberlain Mo**	**10.57**	**69**	Pn	**Pn**	**09 28 03.9**	**-0.5**
OVMT	**Ovando**	**10.77**	**68**	Pn	**Pn**	**09 28 07.1**	**-0.1**
WCT	**Wildcat Mounta**	**11.11**	**127**	Pn	**Pn**	**09 28 11.5**	**-0.2**
SPR3	**Spring Creek 3**	**11.22**	**112**	Pn	**Pn**	**09 28 11.6**	**-1.8**
TPNV	**Topopah Spring**	**11.22**	**125**	Pn	**Pn**	**09 28 12.4**	**-1.0**
BGU	**Big Grassy Mou**	**11.28**	**101**	Pn	**Pn**	**09 28 14.4**	**+0.2**
GWY	**Greenwater Val**	**11.51**	**129**	Pn	**Pn**	**09 28 17.1**	**-0.2**
CCAC	**Calif City Air**	**11.58**	**137**	Pn	**Pn**	**09 28 19.2**	**+1.0**
MVU	**Marysvale**	**12.89**	**110**	Pn	**Pn**	**09 28 36.0**	**-0.3**
PDAR	**Pinedale Array**	**13.27**	**89**	Pn	**Pn**	**09 28 46.0**	**+4.6**
	baz=243,slow=5.9,SNR=2.1						
PDAR				LR	LR	09 33 08.0	
	comp=N,173nm,21.1s,baz=194,slow=33						
	comp=N,0.4nm,0.9s						
HMU	**Henry Mountain**	**14.18**	**110**	Pn	**Pn**	**09 28 55.1**	**+1.2**
BLYC	**Blythe**	**14.49**	**131**	Pn	**Pn**	**09 28 58.0**	**+0.1**
YUH	**Yuha Desert**	**14.62**	**137**	Pn	**Pn**	**09 29 01.8**	**+2.1**
JIS	**Juneau Island**	**14.87**	**346**	Pn	**Pn**	**09 29 02.6**	**-0.3**
WUAZ	**Wupatki**	**15.15**	**118**	Pn	**Pn**	**09 29 07.7**	**+0.7**
X16A	**Lo Mia Camp, P**	**15.82**	**122**	Pn	**Pn**	**09 29 17.1**	**+1.3**
MVCO	**Mesa Verde**	**16.08**	**108**	Pn	**Pn**	**09 29 20.6**	**+1.5**
MVCO				IAmb	IAmb	09 29 28.6	
	comp=Z,12nm,1.4s						
W18A	**Petrified Fore**	**16.44**	**117**		**P**	**09 29 26.3**	**-0.2**
W18A				IAmb	IAmb	09 29 44.4	
	comp=Z,7.3nm,1.1s						
PHWY	**Pilot Hill**	**16.59**	**92**		**P**	**09 29 27.4**	**-0.9**
PHWY				IAmb	IAmb	09 29 30.5	
	comp=Z,7.9nm,1.1s						
X18A	**Snowflake**	**16.67**	**119**		**P**	**09 29 28.1**	**-1.0**
X18A				IAmb	IAmb	09 29 34.0	
	comp=Z,8.7nm,1.4s						
S22A	**4UR Ranch, Cre**	**16.97**	**104**		**P**	**09 29 32.1**	**-0.4**
N32M	**Quiet Lake**	**17.46**	**351**		**P**	**09 29 37.4**	**-0.1**
Q24A	**Divide**	**17.63**	**99**	Pn	**Pn**	**09 29 38.0**	**-0.7**
Q24A				IAmb	IAmb	09 29 42.5	
	comp=Z,6.6nm,1.1s						
TUC	**Tucson**	**17.68**	**126**		**P**	**09 29 40.3**	**+0.2**
HYT	**Haines Junctio**	**17.83**	**344**		**P**	**09 29 42.5**	**+0.9**
SDCO	**Great Sand Dun**	**17.91**	**103**		**Pn**	**09 29 42.3**	**+0.1**
SDCO				IAmb	IAmb	09 29 48.2	
	comp=Z,12nm,1.4s						
DUN6	**Lazy B Ranch**	**18.52**	**122**	P	**Pn**	**09 29 50.5**	**+0.9**
ANMO	**Albuquerque**	**18.70**	**112**	P	**Pn**	**09 29 53.4**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=54,slow=9.7,SNR=2.9						
	comp=Z,0.9nm,0.7s						
YKA	**Yellowknife Ar**	**20.04**	**18**	P	**P**	**09 30 03.0**	**-2.6**
	comp=Z,1.0nm,0.8s,baz=207,slow=11,SNR=14						
	comp=Z,1.0nm,0.8s						
ULM	**Lac du Bonnet**	**22.43**	**63**	P	**P**	**09 30 32.2**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=251,slow=13,SNR=2.2						
	comp=Z,1.9nm,0.8s						
TXAR	**Lajitas Array**	**24.11**	**119**	P	**P**	**09 30 48.1**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=296,slow=6.2,SNR=3.3						
	comp=Z,0.3nm,0.7s						
ROSC	**El Rosal**	**60.88**	**114**	LR	LR	10 05 40.8	
	comp=Z,41nm,20.4s,baz=38,slow=39						
SONM	**Songino Array**	**76.90**	**326**	P	P	09 37 17.6	-7.5
	comp=Z,1.1nm,0.9s,baz=44,slow=4.4,SNR=3.9						
	comp=Z,1.1nm,0.9s						

*IDC **26** 09:25:53.5±1.0, 43˚.99N×128˚.46W, h0km, mb3.9/12, mbtmp3.9/19, ML3.2/7, MS3.9/10, Error ellipse: s-maj=27.5km s-min=11.2km az=35.0*
*PGC **26** 09:25:56.1±0.0, 44˚.00N×128˚.65W, h10km, mb3.8, MLSn3.3/2, Mw3.9/2, 600km Ssw of Ucluelet, Bc Off Coast Of Oregon*
*NEIC **26** 09:26:01.2±2.5, 44˚.50N±0˚.07×127˚.61W±0˚.08, h10km±2km, mb4.3/134, ML3.4/80, Error ellipse: s-maj=12.2km s-min=9.2km az=214.0*

ISC 26 09:26:00.3±0.5, 44˚55N±0˚03×127˚68W±0˚03, h10km, n581, σ1§79/536, mb4.3/41, MS4.0/11, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEBO	**Mount Hebo**	**2.87**	**75**	Pn	**Pn**	**09 26 46.0**	**-0.2**
HEBO				IAML		09 27 35.0	
	comp=N,104nm,4.3s						
HEBO				IAML		09 27 48.0	
	comp=E,109nm,1.5s						
KEBM	**Edson Butte**	**2.95**	**123**	Pn	**Pn**	**09 26 44.3**	**-3.0**
J01E	**Myrtle Point**	**3.05**	**116**	Pn	**Pn**	**09 26 47.1**	**-1.4**
J01E				IAML		09 27 28.3	
	comp=N,130nm,0.6s						
COR	**Corvallis**	**3.13**	**88**	Pn	**Pn**	**09 26 48.8**	**-0.8**
G03D	**McMinnville, O**	**3.21**	**76**	Pn	**Pn**	**09 26 49.9**	**-0.9**
G03D				IAML		09 27 45.3	
	comp=N,109nm,0.8s						
G03D				IAML		09 27 45.6	
	comp=E,85nm,0.7s						
NC27	**ODP1027**	**3.22**	**359**	Pn	**Pn**	**09 26 53.5**	**+2.9**
NC27				Sn	**Sb**	**09 27 36.7**	**+0.3**
I03D	**Drain, OR**	**3.23**	**104**	Pn	**Pn**	**09 26 50.8**	**-0.3**
I03D				IAML		09 27 39.0	
	comp=N,85nm,0.6s						
I03D				IAML		09 27 40.6	
	comp=E,80nm,1.2s						
RADR	**Rader Ridge**	**3.31**	**54**	Pn	**Pn**	**09 26 54.2**	**+1.9**
RADR				IAML		09 27 15.1	
	comp=E,77nm,1.0s						
RADR				IAML		09 29 02.9	
	comp=N,72nm,3.7s						
BUCK	**Buck Mountain**	**3.39**	**94**		**Pn**	**09 26 53.5**	**+0.2**
BUCK				IAML		09 27 46.0	
	comp=E,75nm,1.2s						
KBO	**Bosley Butte**	**3.43**	**132**	Pn	**Pn**	**09 26 53.5**	**-0.5**
KBO				IAML		09 27 24.5	
	comp=E,78nm,4.4s						
KBO				IAML		09 28 52.5	
	comp=N,85nm,1.9s						
K02D	**Willamette Mer**	**3.45**	**121**	Pn	**Pn**	**09 26 51.9**	**-2.3**
K02D				IAML		09 27 37.1	
	comp=E,94nm,0.5s						
K02D				IAML		09 27 39.8	
	comp=N,80nm,0.6s						
DBO	**Dodson Butte**	**3.52**	**112**	Pn	**Pn**	**09 26 53.6**	**-1.5**
DBO				IAML		09 27 42.5	
	comp=E,64nm,0.5s						
E03A	**Lebam**	**3.52**	**54**	Pn	**Pn**	**09 26 54.8**	**-0.2**
E03A				IAML		09 27 58.0	
	comp=E,60nm,0.6s						
E03A	**Lebam**	**3.52**	**54**	Pn	**Pb**	**09 27 01.3**	**-1.4**
E03A				Sn	**Sg**	**09 27 51.6**	**-1.7**
H04D	**Lebanon**	**3.54**	**89**	Pn	**Pn**	**09 26 53.9**	**-1.4**
H04D				IAML		09 27 50.1	
	comp=E,95nm,0.6s						
H04D				IAML		09 27 51.4	
	comp=N,84nm,0.8s						
F04D	**Rainier, OR**	**3.64**	**63**	Pn	**Pn**	**09 26 57.2**	**+0.6**
WISH	**Wishkah**	**3.75**	**45**		**Pn**	**09 26 58.9**	**+0.7**
WISH				IAML		09 27 25.0	
	comp=N,86nm,2.2s						
WISH				IAML		09 28 40.2	
	comp=E,83nm,4.2s						
WISH	**Wishkah**	**3.75**	**45**	Pn	**Pb**	**09 27 05.4**	**-1.3**
L02F	**Cave Junction**	**3.86**	**128**	Pn	**Pn**	**09 27 00.1**	**+0.4**
L02F				IAML		09 27 47.9	
	comp=E,46nm,0.7s						
I04A	**Tendick Farm,**	**3.87**	**99**	Pn	**Pn**	**09 27 01.4**	**+1.5**
I04A				IAML		09 28 02.4	
	comp=E,48nm,1.8s						
KSXB	**Camp Six Broad**	**3.89**	**133**	Pn	**Pn**	**09 26 59.8**	**-0.4**
NLWA	**Neilton Lookou**	**3.90**	**42**		**Pn**	**09 27 00.2**	**-0.1**
H04A	**Detroit Lake**	**3.93**	**86**	Pn	**Pn**	**09 26 60.0**	**-0.7**
HUMO	**Hull Mountain**	**3.94**	**118**	Pn	**Pn**	**09 26 59.1**	**-1.8**
HUMO				IAML		09 27 51.0	
	comp=E,55nm,0.5s						
HUMO				IAML		09 27 53.0	
	comp=N,57nm,0.5s						
F04A	**Amboy**	**3.97**	**68**	Pn	**Pn**	**09 27 00.7**	**-0.5**
CPW	**Capitol Peak**	**4.00**	**51**	Pn	**Pb**	**09 27 09.9**	**-1.0**
NCBC	**Barkley Canyon**	**4.02**	**14**	Sn	**Sb**	**09 28 00.8**	**+1.0**
C03A	**Quillayute Air**	**4.03**	**31**	Pn	**Pn**	**09 27 03.0**	**+1.0**
OSD	**Olympics--Snow**	**4.29**	**39**	Pn	**Pb**	**09 27 13.4**	**-2.5**
OBC	**Olympics--Boni**	**4.29**	**34**	Pn	**Pb**	**09 27 13.0**	**-2.9**
OCP	**Olym-Cheeka Pk**	**4.31**	**28**	Pn	**Pb**	**09 27 12.7**	**-3.4**
HOOD	**Mount Hood Mea**	**4.35**	**78**		**Pn**	**09 27 05.7**	**-0.9**
HOOD				IAML		09 27 42.4	
	comp=N,51nm,1.2s						
HOOD				IAML		09 27 59.5	
	comp=E,50nm,2.0s						
HDW	**Hoodsport**	**4.47**	**44**	Pn	**Pb**	**09 27 16.2**	**-2.7**
GNW	**Green Mountain**	**4.53**	**47**	Pn	**Pn**	**09 27 10.9**	**+2.0**
GNW	**Green Mountain**	**4.53**	**47**	Pn	**Pb**	**09 27 16.6**	**-3.3**
GNW				Sn	**Sb**	**09 28 17.6**	**+3.0**
I05D	**Terrebonne, OR**	**4.55**	**90**	Pn	**Pn**	**09 27 08.6**	**-0.6**
I05D				IAML		09 28 26.3	
	comp=N,44nm,4.0s						
L04D	**Klamath Falls**	**4.56**	**119**	Pn	**Pn**	**09 27 08.8**	**-0.6**
L04D				IAML		09 28 07.2	
	comp=N,48nm,2.0s						
PTRF	**Port Renfrew**	**4.59**	**28**	Pn	Pn	09 27 16.1	+6.3
PTRF				Sn	**Sb**	**09 28 16.4**	**+0.1**
YBH	**Yreka Blue Hor**	**4.60**	**126**	Pn	**Pn**	**09 27 10.8**	**+0.8**
YBH	**Yreka Blue Hor**	**4.60**	**126**	Pn	**Pn**	**09 27 07.9**	**-2.1**
	comp=N,0.3nm,0.3s,baz=248,slow=11,SNR=2.4						
YBH				Sn	**Sn**	**09 28 01.9**	**-1.6**
	comp=N,0.6nm,0.3s,baz=352,slow=6.9,SNR=1.7						
	comp=N,3.2nm,0.7s						
PFB	**Port Renfrew**	**4.61**	**28**	Pn	Pn	09 27 16.3	+6.3
PFB				Sn	**Sb**	**09 28 16.4**	**-0.4**
B012	**Ucluelet**	**4.62**	**18**	Pn	Pn	09 27 15.9	+5.8
B012				Sn	**Sb**	**09 28 15.7**	**-1.3**
B928	**Bamfield**	**4.63**	**21**	Pn	Pn	09 27 15.9	+5.6
B928				Sn	**Sb**	**09 28 16.3**	**-1.1**
OZB	**Mount Ozzard**	**4.67**	**18**	Pn	**Pn**	**09 27 12.5**	**+1.7**
OZB	**Mount Ozzard**	**4.67**	**18**	Pn	Pn	09 27 16.7	+5.9
OZB				Sn	**Sb**	**09 28 17.1**	**-1.3**
K04D	**Chiloquin, OR**	**4.72**	**112**	Pn	**Pn**	**09 27 10.5**	**-1.1**
TOFB	**Tofino**	**4.77**	**14**	Pn	Pn	09 27 17.1	+5.0
TOFB				Sn	**Sb**	**09 28 18.5**	**-2.8**
D05A	**Enumclaw**	**4.78**	**54**	Pn	Pb	09 27 19.7	-4.3
D05A				Sn	**Sb**	**09 28 25.7**	**+4.1**
J05D	**Fort Rock, OR**	**4.83**	**103**	Pn	**Pn**	**09 27 12.4**	**-0.7**
J05D				IAML		09 28 24.0	
	comp=E,36nm,4.2s						
J05D				IAML		09 29 24.3	
	comp=N,27nm,4.5s						
SYMB	**Survey Mountai**	**4.83**	**32**	Pn	Pn	09 27 19.4	+6.4
SYMB				Sn	**Sb**	**09 28 23.8**	**+0.7**
FMW	**Mount Fremont**	**4.84**	**58**	Pn	Pb	09 27 20.6	-4.7
KMPM	**Mount Pierce**	**4.89**	**146**	Pn	**Pn**	**09 27 13.5**	**-0.5**
VGZ	**Gonzales**	**4.90**	**36**	Pn	Pn	09 27 20.8	+6.8
PINE	**Pine Mountain**	**4.91**	**96**	Pn	**Pn**	**09 27 13.1**	**-1.3**
PINE				IAML		09 28 21.1	
	comp=E,28nm,5.0s						
PINE				IAML		09 29 32.4	
	comp=N,25nm,4.6s						
B926	**Mesachie Lake**	**4.92**	**28**	Pn	Pn	09 27 20.6	+6.2
B926				Sn	**Sb**	**09 28 24.3**	**-1.6**
CLRS	**Cowichan Lake**	**4.92**	**28**	Pn	**Pn**	**09 27 14.5**	**+0.2**
CLRS				IAML		09 29 28.5	
	comp=N,36nm,4.0s						
CLRS	**Cowichan Lake**	**4.92**	**28**	Pn	Pn	09 27 20.5	+6.2
CLRS				Sn	**Sb**	**09 28 24.1**	**-1.7**
B009	**North Saanich**	**5.04**	**34**	Pn	Pn	09 27 22.7	+6.9
B009				Sn	**Sb**	**09 28 27.8**	**-1.2**
B010	**North Saanich**	**5.04**	**34**	Pn	Pb	09 27 23.9	-4.6
B010				Sn	**Sb**	**09 28 28.0**	**-1.0**
B011	**North Saanich**	**5.04**	**34**	Pn	Pb	09 27 23.7	-4.7
B011				Sn	**Sb**	**09 28 28.2**	**-0.8**
PGC	**Sidney**	**5.04**	**34**	Pn	**Pn**	**09 27 18.4**	**+2.5**
PGC				IAML		09 28 35.4	
	comp=N,24nm,3.4s						
PGC				IAML		09 29 37.2	
	comp=E,24nm,4.2s						
PGC	**Sidney**	**5.04**	**34**	Pn	Pn	09 27 22.4	+6.6
PGC				Sn	**Sb**	**09 28 28.0**	**-1.0**
PA01	**PA01 North**	**5.04**	**34**	Sn	**Sb**	**09 28 29.0**	**-0.1**
G06A	**Carlson Farm,**	**5.06**	**80**	Pn	**Pn**	**09 27 16.0**	**-0.2**
G06A				IAML		09 28 32.2	
	comp=N,23nm,4.9s						
G06A				IAML		09 28 53.3	
	comp=E,23nm,4.7s						
B927	**Port Alberni**	**5.07**	**22**	Sn	**Sb**	**09 28 26.7**	**-3.4**
C05A	**Tolt Reservoir**	**5.22**	**51**	Pn	Pb	09 27 26.9	-4.8
KMRM	**Mail Ridge**	**5.23**	**144**	Pn	**Pn**	**09 27 20.8**	**+2.2**
K05A	**Summer Lake**	**5.25**	**108**	Pn	**Pn**	**09 27 20.0**	**+1.0**
K05A				IAML		09 28 16.7	
	comp=N,30nm,4.7s						
K05A				IAML		09 29 20.7	
	comp=E,29nm,4.7s						
GOBB	**Galiano Island**	**5.26**	**32**	Pn	Pn	09 27 26.1	+7.2
NLLB	**Nanaimo Lost L**	**5.32**	**27**	Pn	Pn	09 27 26.2	+6.4
NLLB				Sn	**Sb**	**09 28 34.3**	**-3.0**
JCW	**Jim Creek**	**5.40**	**45**	Pn	Pb	09 27 29.4	-5.3
SPLB	**Strathcona Par**	**5.53**	**14**	Pn	Pn	09 27 28.9	+6.4
SPLB				Sn	**Sb**	**09 28 36.6**	**-6.5**
MXC	**Moxie City**	**5.57**	**66**	Pn	**Pn**	**09 27 23.0**	**-0.3**
LTY	**Liberty**	**5.59**	**59**	Pn	**Pn**	**09 27 23.3**	**-0.3**
LTY	**Liberty**	**5.59**	**59**	Pn	Pn	09 27 31.8	-6.3
TXB	**Texada**	**5.61**	**22**	Pn	Pn	09 27 30.2	+6.5
F07A	**Phinny Hill Vi**	**5.64**	**73**	Pn	**Pn**	**09 27 22.3**	**-1.9**
WOSB	**Woss**	**5.67**	**7**	Pn	Pn	09 27 30.2	+5.6
SHB	**Sechelt**	**5.68**	**26**	Pn	Pn	09 27 32.3	+7.5
SHB				Sn	**Sb**	**09 28 43.8**	**-4.0**
BIB	**Bowen Island**	**5.71**	**30**	Pn	Pn	09 27 32.3	+7.2
CBB	**Campbell River**	**5.71**	**15**	Pn	**Pn**	**09 27 26.0**	**+0.9**
CBB	**Campbell River**	**5.71**	**15**	Pn	Pn	09 27 31.3	+6.2
CBB				Sn	**Sb**	**09 28 42.9**	**-5.6**
KCPM	**Cahto Peak**	**5.73**	**146**	Pn	**Pn**	**09 27 25.9**	**+0.3**
RPW	**Rockport**	**5.78**	**45**	Pn	Pb	09 27 35.4	-5.8
MBW	**Mount Baker**	**5.81**	**41**	Pn	Pb	09 27 35.5	-6.3
B06A	**Marblemount**	**5.84**	**45**	Pn	**Pn**	**09 27 26.9**	**0.0**
B06A	**Marblemount**	**5.84**	**45**	Pn	**Pb**	**09 27 40.7**	**-1.4**
E07A	**Sunnyside**	**5.85**	**67**	Pn	**Pn**	**09 27 25.5**	**-1.6**
MAYB	**Maynard**	**5.87**	**3**	Pn	Pn	09 27 32.3	+4.9
I07A	**Izee**	**5.89**	**92**	Pn	**Pn

DUG	Dugway, Tooele	11.82	106	Pn	Pn	09 28 49.5	+0.4	
DUG	Dugway, Tooele	11.82	106	P	Pn	09 28 52.1	+3.0	
	baz=293							
GWY	Greenwater Val	11.84	131	Pn	Pn	09 28 50.6	+1.3	
PRN	Pahroc Range	11.91	122	Pn	Pn	09 28 50.8	+0.5	
CCAC	Calif City Air	11.96	138	Pn	Pn	09 28 52.0	+1.2	
YHH	Holmes Hill	11.99	83	Pn	Pn	09 28 51.0	-0.5	
TPAW	Teton Pass	12.10	89	Pn	Pn	09 28 53.1	+0.2	
HWUT	Hardware Ranch	12.15	98	Pn	Pn	09 28 53.8	+0.3	
EDW2	Edwards Air Fo	12.19	139	P	Pn	09 28 50.8	-3.2	
	baz=321							
REDW	Red Top Meadow	12.19	90	Pn	Pn	09 28 54.1	-0.1	
H17A	Grant Village	12.23	85	P	Pn	09 29 01.1	+6.4	
	baz=275							
WRAK	Wrangell Islan	12.25	348	P	Pn	09 28 58.8	+4.2	
	baz=168							
SHOC	Shoshone, Teco	12.26	131	P	Pn	09 28 55.2	+0.2	
	baz=314							
GSC	Goldstone, Bar	12.44	134	Pn	Pn	09 28 57.1	-0.4	
GSC	Goldstone, Bar	12.44	134	P	Pn	09 28 56.2	-1.2	
	baz=317							
NLU	North Lily Min	12.44	106	Pn	Pn	09 28 58.2	+0.6	
T35M	Bob Quinn	12.56	354	P	Pn	09 29 01.5	+2.6	
	baz=175							
MPU	Maple Canyon	12.72	105	Pn	Pn	09 29 02.9	+1.6	
TUQ	Turquoise Moun	12.80	131	P	Pn	09 29 00.9	-1.4	
	baz=315							
BFSC	Mount Baldy Ra	12.87	140	P	Pn	09 29 01.8	-1.6	
	baz=322							
SNCC	San Nicolas Is	12.94	148	P	Pn	09 29 00.7	-3.5	
	baz=329							
HEC	Hector,Ludlow	13.04	134	P	Pn	09 29 04.9	-0.9	
	baz=318							
RLMT	Red Lodge	13.09	81	P	P	09 29 13.2	-3.6	
	baz=272							
BSUT	Blindstream Ca	13.10	102	Pn	Pn	09 29 08.7	+1.9	
BW06	Boulder Array	13.25	91	P	P	09 29 13.9	-4.7	
	baz=282							
CIS	Catalina Islan	13.25	144	P	Pn	09 29 05.0	-3.5	
	baz=326							
PDAR	Pinedale Array	13.25	91	Pn	Pn	09 29 13.6	+5.0	
	baz=278,slow=13,SNR=5.6							
	comp=E,1.4nm,1.0s							
TMUT	Trail Mountain	13.34	107	Pn	Pn	09 29 11.1	+1.2	
SIT	Sitka	13.41	342	P	Pn	09 29 11.4	+0.8	
	baz=159							
GMRC	Granite Mounta	13.43	132	P	Pn	09 29 09.7	-1.3	
	baz=316							
KNB	Kanab	13.53	119	Pn	Pn	09 29 14.1	+1.7	
SCI2	San Clemente I	13.56	145	P	Pn	09 29 10.8	-1.9	
	baz=327							
P17A	Butcher Ranch,	13.57	106	Pn	Pn	09 29 13.5	+0.5	
S32K	Killisnoo	13.64	344	P	Pn	09 29 16.3	+2.7	
	baz=162							
P18A	Preston Nutter	13.85	105	Pn	Pn	09 29 17.2	+0.4	
BELC	Belle Mtn. Jos	13.87	135	P	Pn	09 29 14.8	-2.3	
	baz=319							
RDMU	Red Mountain	13.93	100	Pn	Pn	09 29 19.2	+1.3	
PFO	Pinyon Flats O	13.96	138	P	Pn	09 29 15.5	-2.7	
	baz=321							
TPFO	Pinon Flats	13.96	138	P	Pn	09 29 14.9	-3.4	
	baz=321							
PMD	Palm Desert	13.96	137	Pn	Pn	09 29 15.9	-2.3	
DLBC	Dease Lake	13.99	355	Pn	Pn	09 29 16.9	-1.5	
DLBC	Dease Lake	13.99	355	P	Pn	09 29 21.6	+3.1	
	baz=176							
DLBC	Dease Lake	13.99	355	Pn	Pn	09 29 20.9	+2.4	
	baz=204,slow=11,SNR=3.3							
	comp=E,2.0nm,0.8s							
W13A	Hualapai Mount	14.18	127	Pn	Pn	09 29 20.2	-1.0	
IRM	Iron Mountain	14.19	133	P	Pn	09 29 20.3	-1.0	
	baz=317							
U15A	North Rim	14.23	119	Pn	Pn	09 29 21.4	-0.7	
HMU	Henry Mountain	14.34	112	Pn	Pn	09 29 23.4	-0.3	
R32K	Eaglecrest	14.38	345	P	Pn	09 29 25.9	+2.1	
	baz=163							
BC3	Big Chuckawall	14.42	135	P	Pn	09 29 22.7	-1.8	
	baz=319							
S31K	Pelican	14.44	341	P	Pn	09 29 26.0	+1.4	
	baz=158							
MONP2	Monument Peak	14.56	139	P	Pn	09 29 22.8	-3.8	
	baz=323							
PDMCI	Parker Dam,Lak	14.61	130	P	Pn	09 29 27.8	+0.7	
	baz=315							
BESE	Bessie Mountai	14.73	345	Pn	Pn	09 29 30.6	+2.0	
R31K	City Hall, Gus	14.75	343	P	Pn	09 29 30.1	+1.4	
	baz=160							
SWSC	Sam W. Stewart	14.82	137	P	Pn	09 29 28.0	-1.8	
	baz=322							
BLYC	Blythe	14.83	132	Pn	Pn	09 29 28.6	-1.4	
IKP	In-Ko-Pah, Jac	14.91	139	P	Pn	09 29 30.1	-1.1	
	baz=323							
YUH	Yuha Desert	15.00	138	Pn	Pn	09 29 30.8	-1.6	
R33M	Jennings River	15.01	354	P	Pn	09 29 36.4	+4.0	
	baz=174							
O20A	White River Ci	15.03	100	Pn	Pn	09 29 31.0	-1.9	
O20A	White River Ci	15.03	100	P	Pn	09 29 35.6	+2.7	
	baz=291							
LAO	LASA Array	15.16	74	P	P	09 29 42.2	+2.6	
	baz=268							
PV21	Cone Mtn., Par	15.22	107	Pn	Pn	09 29 35.6	+0.2	
PV21				IAmb	IAmb	09 29 44.5		
	comp=Z,20nm,1.2s							
PV23	Carpenter Ridg	15.24	107	Pn	Pn	09 29 34.5	-1.3	
PV14	Lion Creek, Pa	15.28	107	Pn	Pn	09 29 35.6	-0.6	
PV14				IAmb	IAmb	09 29 45.4		
	comp=Z,19nm,1.3s							
PV19	Morning Glory	15.34	107	Pn	Pn	09 29 35.7	-1.3	
PV19				IAmb	IAmb	09 29 46.7		
	comp=Z,9.1nm,1.1s							
PV04	Paradox Valley	15.35	107	Pn	Pn	09 29 36.2	-0.8	
PV04				IAmb	IAmb	09 29 48.2		
	comp=Z,24nm,1.5s							
PV22	Blue Mesa, Par	15.36	106	Pn	Pn	09 29 37.9	+0.6	
PV22				IAmb	IAmb	09 29 47.4		
	comp=Z,14nm,1.2s							
PV17	East Wray Mesa	15.37	108	Pn	Pn	09 29 37.2	-0.1	
PV17				IAmb	IAmb	09 30 02.3		
	comp=Z,20nm,1.3s							
PV05	Paradox Valley	15.37	108	Pn	Pn	09 29 36.8	-0.6	
PV05				IAmb	IAmb	09 29 46.3		
	comp=Z,21nm,1.5s							
PV16	Nyswonger Mesa	15.38	107	Pn	Pn	09 29 38.8	+1.2	
WUAZ	Wupatki	15.38	120	Pn	Pn	09 29 37.4	-0.2	
WUAZ				IAmb	IAmb	09 29 44.9		
	comp=Z,20nm,1.1s							
WUAZ	Wupatki	15.38	120	P	Pn	09 29 38.2	+0.6	
	baz=308							
PV11	David Mesa, Pa	15.41	107	Pn	Pn	09 29 39.6	+1.6	
PV11				IAmb	IAmb	09 29 56.2		
	comp=Z,13nm,1.1s							
PV18	Skein Mesa, Pa	15.42	108	Pn	Pn	09 29 39.6	+1.6	
PV18				IAmb	IAmb	09 29 56.2		
	comp=Z,12nm,1.2s							
K22A	Casper	15.45	90	Pn	Pn	09 29 39.1	+0.8	
PV03	Paradox Valley	15.45	107	Pn	Pn	09 29 38.9	+0.4	
HILA	High Level	15.49	21	Pn	Pn	09 29 40.4	+1.8	
PV07	Paradox Valley	15.50	107	Pn	Pn	09 29 38.1	-1.1	
PV07				IAmb	IAmb	09 29 51.6		
	comp=Z,21nm,1.4s							
Y14A	Wickenburg	15.52	128	Pn	Pn	09 29 39.2	+0.1	
ESJX	Sierra Juarez	15.52	140	Pn	Pn	09 29 36.2	-3.2	
PV02	Paradox Valley	15.55	107	Pn	Pn	09 29 38.9	-0.9	
PV02				IAmb	IAmb	09 29 43.5		
	comp=Z,12nm,1.2s							
PV15	Paradox Valley	15.66	107	Pn	Pn	09 29 40.4	-0.9	
PV15				IAmb	IAmb	09 29 45.0		
	comp=Z,13nm,1.2s							
PV01	Paradox Valley	15.70	107	Pn	Pn	09 29 42.1	+0.3	
PV01				IAmb	IAmb	09 29 49.5		
	comp=Z,30nm,1.5s							
KOTAN	Kotaneelee Air	15.76	7	P	P	09 29 50.3	+4.2	
	baz=192,SNR=6.5							
FLDN	Fort Liard	15.92	8	Pn	Pn	09 29 45.0	+0.8	
FLDN				IAmb	IAmb	09 29 54.7		
	comp=Z,21nm,1.0s							
113A	Mohawk Valley,	15.99	133	Pn	Pn	09 29 43.5	-1.7	
X16A	Lo Mia Camp, P	16.08	123	Pn	Pn	09 29 46.0	-0.7	
MVCO	Mesa Verde	16.23	110	Pn	Pn	09 29 47.4	-1.2	
MVCO				IAmb	IAmb	09 29 55.6		
	comp=Z,27nm,1.3s							
MVCO	Mesa Verde	16.23	110	P	P	09 29 51.9	+0.1	
	baz=300							
P29M	Windy Craggy	16.29	342	P	Pn	09 29 50.0	+1.0	
	baz=156							
SMCO	Snowmass	16.32	102	Pn	Pn	09 29 47.2	-2.7	
N23A	Red Feather La	16.38	95	P	P	09 29 55.6	+2.2	
	baz=288							
W18A	Petrified Fore	16.66	118		P	09 29 55.6	-0.9	
W18A				IAmb	IAmb	09 29 59.3		
	comp=Z,30nm,1.2s							
W18A	Petrified Fore	16.66	118	P	P	09 29 56.7	+0.2	
	baz=307							
SFX	San Felipe	16.84	139	Pn	Pn	09 29 55.5	-0.6	
X18A	Snowflake	16.91	120		Pn	09 29 56.3	-1.0	
RSSD	Black Hills	16.92	83	Pn	Pn	09 29 57.2	-0.1	
RSSD				IAmb	IAmb	09 30 12.2		
	comp=Z,19nm,1.4s							
RSSD	Black Hills	16.92	83	P	P	09 30 03.6	+4.3	
	baz=278							
O30N	Mendenhall	17.01	346	P	Pn	09 29 59.8	+1.7	
	baz=162							
ISCO	Idaho Springs	17.02	98	Pn	Pn	09 29 58.8	+0.1	
ISCO	Idaho Springs	17.02	98	P	P	09 30 03.2	+2.6	
	baz=291							
O29M	Mount Kennedy	17.08	341		Pn	09 30 01.3	+2.2	
S22A	4UR Ranch, Cre	17.09	106	Pn	Pn	09 29 58.4	-1.1	
S22A	4UR Ranch, Cre	17.09	106	P	P	09 30 03.0	+1.7	
	baz=298							
PIX	Pinacate	17.10	134	Pn	Pn	09 29 58.4	-0.9	
214A	Organ Pipe Nat	17.12	132	Pn	Pn	09 29 58.0	-1.7	
214A	Organ Pipe Nat	17.12	132	P	Pn	09 29 59.0	-0.7	
	baz=319							
PINM	Pinnacle	17.31	339	P	Pn	09 30 01.9	-0.1	
	baz=151							
HYT	Haines Junctio	17.32	344	P	Pn	09 30 03.0	+0.8	
	baz=159							
YUK6	Outpost Mounta	17.61	343	P	P	09 30 08.5	+1.7	
	baz=157							
N31M	Braeburn, Yuko	17.63	347		P	09 30 09.9	+3.0	
N31M	Braeburn, Yuko	17.63	347	P	P	09 30 09.3	+2.5	
	baz=163							
BRIGG	Briggsdale	17.64	95		P	09 30 07.8	+0.6	
Q24A	Divide	17.69	101		P	09 30 08.5	+0.5	
Q24A	Divide	17.69	101	P	P	09 30 11.2	+3.2	
	baz=294							
N30M	Aishikik Lake	17.83	345		Pn	09 30 10.2	+1.9	
N30M	Aishikik Lake	17.83	345	P	P	09 30 11.4	+2.3	
	baz=160							
TUC	Tucson	17.97	127	P	Pn	09 30 10.4	+0.1	
	baz=315							
SDCO	Great Sand Dun	18.01	104		Pn	09 30 11.3	+0.4	
SDCO				IAmb	IAmb	09 30 16.7		
	comp=Z,34nm,1.5s							
SDCO	Great Sand Dun	18.01	104	P	P	09 30 14.4	+2.9	
	baz=297							
FARO	Faro, Yukon	18.02	351		P	09 30 14.5	+3.3	
FARO	Faro, Yukon	18.02	351	P	P	09 30 14.9	+3.8	
	baz=169							
YUK4	Talbot Arm	18.03	343	P	P	09 30 14.4	+3.0	
	baz=157							
M31M	Drury Creek, Y	18.12	350	P	P	09 30 15.7	+3.6	
	baz=167							
YUK8	Steele Glacier	18.23	341	P	Pn	09 30 15.1	+1.7	
	baz=154							
CTG	Chitna Glacier	18.34	339	P	Pn	09 30 16.0	+1.4	
	baz=150							
BARN	Barnard Glacie	18.50	338	P	P	09 30 17.6	+1.0	
BARN				IAmb	IAmb	09 30 19.3		
	comp=Z,20nm,1.3s							
MID	Middleton Isla	18.71	329	P	P	09 30 19.9	+1.3	
Q23K	Middleton Isla	18.72	329	P	P	09 30 20.1	+1.4	
Q23K	Middleton Isla	18.72	329	P	P	09 30 16.0	-2.7	
	baz=137							
DUN6	Lazy B Ranch	18.79	123	P	P	09 30 19.4	-0.5	
M30M	Minto, Yukon	18.82	347	P	Pn	09 30 22.8	+2.4	
	baz=162							
RAGM	Ragged Mountai	18.85	333	P	P	09 30 21.5	+1.3	
RAGM				IAmb	IAmb	09 30 29.8		
	comp=Z,37nm,1.3s							
WRGLY	Wrigley	18.88	6	P	Pn	09 30 22.6	+1.6	
WRGLY				IAmb	IAmb	09 30 29.2		
	comp=Z,20nm,0.8s							
WRGLY	Wrigley	18.88	6	P	Pn	09 30 28.0	+7.0	
	baz=191,SNR=7.7							
ANMO	Albuquerque	18.88	113	P	P	09 30 20.6	-0.5	
ANMO				IAmb	IAmb	09 30 24.4		
	comp=Z,20nm,1.5s							
ANMO	Albuquerque	18.88	113	P	Pn	09 30 22.5	+1.0	
	baz=305							
ANMO	Albuquerque	18.88	113	P	P	09 30 20.5	-0.5	
	comp=Z,0.1nm,0.3s,baz=36,slow=12,SNR=5.0							
	comp=Z,2.7nm,1.0s							
M29M	Somme Creek	18.99	344	P	P	09 30 23.8	+1.9	
M29M	Somme Creek	18.99	344	P	Pn	09 30 24.4	+1.8	
	baz=158							
LENM	Lemitar	19.03	116	P	Pn	09 30 23.4	+0.1	
T25A	Trinidad	19.06	105	P	P	09 30 23.4	+0.5	
T25A				IAmb	IAmb	09 30 32.5		
	comp=Z,29nm,1.3s							
T25A	Trinidad	19.06	105	P	Pn	09 30 26.9	+3.2	
	baz=298							
OGNE	Ogallala	19.15	92	P	Pn	09 30 27.2	+2.5	
	baz=288							
BMRM	Bremner River	19.27	335	P	P	09 30 25.9	+1.0	
	baz=144							
FFC	Flin Flon	19.41	49	P	Pn	09 30 28.8	+1.3	
FFC				IAmb	IAmb	09 30 34.7		
	comp=Z,18nm,0.8s							
KSCO	Kaye Shedlock'	19.45	98	P	P	09 30 26.8	-0.4	
KSCO				IAmb	IAmb	09 30 35.6		
	comp=Z,24nm,1.1s							
KSCO	Kaye Shedlock'	19.45	98	P	Pn	09 30 30.9	+2.6	
	baz=293							
BVCY	Beaver Creek	19.47	341	P	P	09 30 28.1	+1.1	
	baz=153							
YKA	Yellowknife Ar	19.52	18	P	Pn	09 30 30.8	+2.1	
YKA	Yellowknife Ar	19.52	18	P	Pn	09 30 31.5	+2.8	
	comp=Z,5.6nm,0.8s,baz=208,slow=11,SNR=8.0							
	comp=Z,5.6nm,0.8s							
121A	Cookes Peak, D	19.59	121	P	P	09 30 29.0	+0.3	
121A				IAmb	IAmb	09 30 31.0		
	comp=Z,17nm,1.1s							
121A	Cookes Peak, D	19.59	121	P	Pn	09 30 29.9	-0.1	
	baz=311							
M27K	Edge Creek, AK	19.66	340	P	P	09 30 30.9	+1.7	
	baz=151							
DIV	Divide	19.76	334	P	P	09 30 32.7	+2.4	
DIV				IAmb	IAmb	09 30 45.1		
	comp=Z,17nm,0.6s							
N25K	Chitina, Valde	19.77	336	P	P	09 30 32.0	+1.6	
N25K	Chitina, Valde	19.77	336	P	P	09 30 32.6	+2.2	
	baz=145							
KLU	Klutina	20.09	334	P	P	09 30 36.0	+2.2	
KLU				IAmb	IAmb	09 30 50.8		
	comp=Z,16nm,1.1s							
K29M	Barlow Dome	20.13	347	P	Pn	09 30 37.1	+0.9	
	baz=162							
L27K	Beaver Creek,	20.26	341	P	P	09 30 36.8	+1.2	
	baz=152							
KDAK	Kodiak Island	20.32	320	P	P	09 30 32.4	-3.9	
	comp=Z,4.9nm,0.9s,baz=145,slow=12,SNR=2.2							
	comp=Z,4.9nm,0.9s							
K30B	Basset	20.37	85	P	P	09 30 37.6	+0.5	
OHAK	Old Harbor	20.39	318	P	P	09 30 36.0	-1.0	
	baz=120							
RTBA	Rita Blanca	20.57	105	P	Pn	09 30 41.1	-0.4	
RTBA				IAmb	IAmb	09 30 42.4		
	comp=Z,20nm,1.4s							
L26K	Log Cabin Wild	20.59	340	P	Pn	09 30 42.3	+0.9	
L26K				IAmb	IAmb	09 30 44.5		
	comp=Z,12nm,1.2s							
L26K	Log Cabin Wild	20.59	340	P	P	09 30 40.3	+1.1	
	baz=149							
MENT	Mentasta	20.61	339	P	Pn	09 30 44.1	+2.4	
MENT				IAmb	IAmb	09 30 44.7		
	comp=Z,10nm,1.0s							
M24K	Tolsona, Glenn	20.63	335	P	P	09 30 40.6	+0.8	
	baz=142							
J30M	Hart River	20.65	349	P	Pn	09 30 43.6	+1.4	
J30M	Hart River	20.65	349	P	P	09 30 42.4	+2.4	
	baz=164							
DAWY	Dawson	20.65	345	P	P	09 30 42.0	+2.1	
	baz=158							
Q20K	Shuyak Island	20.66	322	P	P	09 30 38.7	-1.2	
	baz=125							
SCM	Sheep Creek Mo	20.79	333	P	P	09 30 43.6	+2.2	
SCM	Sheep Creek Mo	20.79	333	P	P	09 30 41.4	0.0	
	baz=140							
KNK	Knik Glacier	20.86	331	P	P	09 30 42.6	+0.5	
KNK	Knik Glacier	20.86	331	P	P	09 30 42.3	+0.2	
	baz=137							
M23K	Glacier View	20.89	333	P	P	09 30 43.0	+0.6	
	baz=139							
HOM	Homer	20.93	325	P	P	09 30 43.4	+0.5	
RC01	Rabbit Creek A	21.09	330	P	P	09 30 42.2	-2.4	
	baz=134							
SML	Sawmill	21.10	332	P	P	09 30 40.9	-3.8	
	baz=138							
R18K	Karluk	21.11	318	P	P	09 30 39.9	-4.8	
	baz=119							
K27K	Chicken	21.15	342	P	P	09 30 47.2	+1.9	
K27K	Chicken	21.15	342	P	P	09 30 46.8	+1.6	
	baz=153							
PMR	Palmer	21.21	331	P	P	09 30 45.2	-0.7	
	baz=136							
I30M	Mount Dempster	21.28	350	P	P	09 30 49.2	+2.5	
I30M	Mount Dempster	21.28	350	P	P	09 30 48.5	+1.8	
	baz=165							
CAPN	Captain Cook N	21.41	328	P	P	09 30 46.0	-2.0	
	baz=131							
WAT6	Susitna Watana	21.47	334	P	P	09 30 48.6	-0.2	
	baz=140							
SCRK	Sand Creek	21.55	340	P	P	09 30 50.7	+1.1	
	baz=149							
RIDG	Independent Ri	21.56	339	P	P	09 30 50.3	+0.6	
	baz=147,SNR=6.5							
O20K	Slope Mountain	21.58	325	P	P	09 30 48.1	-1.8	
	baz=127							
CBKS	Cedar Bluff	21.59	96	P	P	09 30 53.4	+3.2	
	baz=293							
P19K	Oil Pt	21.59	323	P	P	09 30 46.5	-3.5	
	baz=126							
MNTX	Cornudas Mount	21.65	119	P	P	09 30 51.2	+0.4	
MNTX	Cornudas Mount	21.65	119	P	P	09 30 51.4	+0.5	
	baz=311							
M22K	Willow	21.67	331	P	P	09 30 49.5	-1.3	
	baz=135							
SUA	Susitna One	21.70	329	P	P	09 30 50.9	-0.4	
	baz=133							
DHY	Denali Highway	21.73	336	P	P	09 30 52.2	+0.6	
DHY				IAmb	IAmb	09 30 54.6		
	comp=Z,11nm,0.9s							
DHY	Denali Highway	21.73	336	P	P	09 30 51.9	+0.2	
	baz=142							
BGNE	Belgrade	21.78	88	P	P	09 30 51.4	-0.8	
K24K	Donnelly Dome	21.86	338	P	P	09 30 53.6	+0.8	
	baz=146							
Q18K	Katmai Hardscr	21.87	320	P	P	09 30 51.1	-2.0	
	baz=121							
J26L	Joseph Creek	21.89	341	P	P	09 30 54.3	+1.1	
	baz=151							
WAT1	Susitna Watana	21.91	334	P	P	09 30 53.3	-0.1	
	baz=139							
MSTX	Muleshoe	21.91	110	P	P	09 30 57.0	+3.3	
	baz=304							
I28M	Miner Creek	22.01	346	P	P	09 30 56.1	+1.5	
	baz=158							
R17K	Ugashik Creek	22.08	317	P	P	09 30 50.5	-4.7	
	baz=116							
N20K	Mount Spurr	22.08	328	P	P	09 30 54.5	-0.8	
	baz=130							
Q17K	Contact Creek	22.10	318	P	P	09 30 54.0	-1.6	
	baz=118							
AMTX	Amarillo	22.13	107	P	P	09 30 56.9	+0.8	
AMTX	Amarillo	22.13	107	P	P	09 30 56.5	+0.4	
	baz=302							
ULM	Lac du Bonnet	22.16	64	P	P	09 30 58.2	+2.0	
ULM				IAmb	IAmb	09 31 08.8		
	comp=Z,17nm,1.1s							
ULM	Lac du Bonnet	22.16	64	P	P	09 30 59.1	+2.9	
	comp=Z,8.2nm,0.8s,baz=269,slow=10,SNR=11							
	comp=Z,8.2nm,0.8s							
CUT	Chulitna	22.17	332	P	P	09 30 55.5	-0.6	
	baz=136							
ECSD	EROS Data Cent	22.25	81	P	P	09 30 59.4	+2.2	
ECSD				IAmb	IAmb	09 31 01.3		
	comp=Z,12nm,0.8s							
ECSD	EROS Data Cent	22.25	81	P	P	09 31 00.6	+3.3	
	baz=282							
SKT	Skwentna	22.32	330	P	P	09 30 57.7	-0.1	
	baz=133							
P18K	Big Mountain,	22.33	321	P	P	09 30 56.3	-1.6	
	baz=122							
O19K	Port Alsworth	22.35	324	P	P	09 30 57.1	-0.9	
	baz=125,SNR=6.5							
J25K	Salcha River,	22.41	340	P	P	09 30 59.4	+0.6	
	baz=148							
EPYK	Eagle Plains	22.42	350	P	P	09 31 00.9	+2.1	
EPYK				IAmb	IAmb	09 31 02.2		
	comp=Z,16nm,1.2s							
EPYK	Eagle Plains	22.42	350	P	P	09 31 00.9	+2.1	
	baz=165,SNR=5.3							
RND	Reindeer	22.43	335	P	P	09 31 00.2	+1.2	
RND				IAmb	IAmb	09 31 00.8		
	comp=Z,17nm,1.4s							
I27K	Kandik River	22.45	345	P	P	09 31 00.8	+1.6	
	baz=155							
H29M	Whitestone	22.49	349	P	P	09 31 00.8	+1.2	
H29M				IAmb	IAmb	09 31 02.8		
	comp=Z,12nm,0.9s							
H29M	Whitestone	22.49	349	P	P	09 31 01.9	+2.3	
	baz=162							
O18K	Koktuh Hills	22.55	323	P	P	09 30 57.3	-3.0	
	baz=123							
CHGN	Chignik	22.63	312	P	P	09 30 58.2	-2.9	
	baz=111							
R16K	Pilot Point	22.64	316	P	P	09 30 57.0	-4.1	
	baz=114							
Q16K	King Salmon	22.65	319	P	P	09 30 58.4	-2.9	
	baz=118							
HDA	Harding Lake	22.65	338	P	P	09 31 02.0	+0.7	
	baz=144							
HDA				P	P	09 31 02.0	+0.7	
	baz=144							
MCK	McKinley	22.69	335	P	P	09 31 01.8	0.0	
	baz=140							
G31M	Satah River	22.71	353	P	P	09 31 04.1	+2.3	
	baz=170							
N19K	Bonanza Creek	22.75	325	P	P	09 31 01.5	-1.0	
	baz=126							
P17K	Kvichak River	22.78	320	P	P	09 30 58.9	-3.7	
	baz=120							
PECS	Pecos	22.83	117	P	P	09 31 02.8	-0.7	
PECS				IAmb	IAmb	09 31 09.5		
	comp=Z,12nm,1.4s							
M20K	Styx River	22.85	328	P	P	09 31 02.3	-1.2	
	baz=130							
L34A	Svendsen Farm,	22.88	85

baz=141
P16K Nushagak River 23.43 319 P P 09 31 07.2 -2.1
baz=117
MDM Murphy Dome 23.43 338 P P 09 31 13.5 +4.2
CAST Castle Rocks 23.47 332 P P 09 31 08.1 -1.6
baz=134
L20K Farewell, AK 23.49 329 P P 09 31 08.8 -1.2
baz=130,SNR=5.8
F30M Barrier River 23.52 352 P P 09 31 12.4 +2.3
baz=167
G27K Doyon Strip 23.55 346 P P 09 31 12.7 +2.2
G27K IAmb IAmb 09 31 25.7
comp=Z,7.6nm,1.4s
G27K Doyon Strip 23.55 346 P P 09 31 11.7 +1.2
baz=156
BPAW Bear Paw Mtn. 23.59 334 P P 09 31 09.5 -1.4
baz=137,SNR=5.8
B35A Bob, Littlefor 23.59 69 P P 09 31 12.1 +1.1
B35A IAmb IAmb 09 31 17.1
comp=Z,16nm,1.4s
M18K Stony River 23.67 326 P P 09 31 09.5 -2.2
baz=125
L19K White Mountain 23.68 328 P P 09 31 10.7 -1.1
baz=128
KSU1 Kansas State U 23.70 92 P P 09 31 14.0 +1.8
KSU1 IAmb IAmb 09 31 16.2
comp=Z,14nm,0.9s
O16K Kokwok River B 23.71 320 P P 09 31 08.6 -3.5
baz=118
N17K Nushagak Hills 23.74 323 P P 09 31 11.0 -1.4
baz=121
N35A Tabor 23.75 88 P P 09 31 13.1 +0.4
KAN17 Caldwell West 23.76 98 P P 09 31 11.4 -1.4
CHUM Lake Minchumin 23.86 333 P P 09 31 12.1 -1.4
baz=135
CROK Carrier 23.86 99 P P 09 31 15.1 +1.3
I23K Minto, Yukon-K 23.88 337 P P 09 31 13.6 0.0
I23K IAmb IAmb 09 31 15.7
comp=Z,7.2nm,0.9s
I23K Minto, Yukon-K 23.88 337 P P 09 31 13.4 -0.2
baz=141
KAN13 South Haven SW 23.98 98 P P 09 31 17.4 +2.5
F28M Old Crow 24.01 349 P P 09 31 16.4 +1.5
F28M Old Crow 24.01 349 P P 09 31 16.2 +1.2
baz=160
INK Inuvik 24.02 355 P P 09 31 15.6 +0.7
INK Inuvik 24.02 355 P P 09 31 15.5 +0.6
baz=172
H24K Noodor Dome 24.03 340 P P 09 31 15.3 +0.1
baz=145
G26K Porcupine Rive 24.06 344 P P 09 31 15.7 +0.3
baz=153
APMT Aspermont 24.08 108 P P 09 31 13.9 -2.0
APMT IAmb IAmb 09 31 14.5
comp=Z,8.0nm,1.4s
K20K Telida 24.11 331 P P 09 31 14.8 -1.0
baz=131
MLY Manley 24.18 336 P P 09 31 16.2 -0.4
baz=139,SNR=6.1
WMOK Wichita Mounta 24.21 104 P P 09 31 18.3 +1.2
M17K Holitna River 24.28 325 P P 09 31 15.8 -1.7
baz=122
O15K Ungalikthiuk R 24.35 318 P P 09 31 15.7 -2.4
baz=115
TXAR Lajitas Array 24.35 120 P P 09 31 16.0 -2.5
comp=Z,1.0nm,0.8s,baz=299,slow=9.3,SNR=6.8
TXAR PcP PcP 09 34 52.0 -5.9
comp=Z,0.3nm,0.6s,baz=325,slow=1.1,SNR=4.4
comp=Z,1.0nm,0.8s
G25K Bearman Lake 24.38 342 P P 09 31 18.7 +0.4
baz=149
N16K Nishlik Lake 24.41 322 P P 09 31 16.8 -1.9
baz=119
L18K Granite Mounta 24.41 327 P P 09 31 16.7 -1.9
baz=125
E29M Blow River 24.49 351 P P 09 31 21.5 +2.2
E29M IAmb IAmb 09 31 22.6
comp=Z,6.7nm,1.1s
E29M Blow River 24.49 351 P P 09 31 21.0 +1.7
baz=164
TTA Tatalina 24.55 329 P P 09 31 18.5 -1.5
baz=127,SNR=6.6
G24K Hadweenzic Riv 24.63 341 P P 09 31 21.2 +0.6
G24K IAmb IAmb 09 31 22.4
comp=Z,5.7nm,1.1s
G24K Hadweenzic Riv 24.63 341 P P 09 31 20.5 -0.1
baz=146
I21K Tanana 24.66 335 P P 09 31 20.4 -0.4
I21K IAmb IAmb 09 31 20.9
comp=Z,9.3nm,1.1s
I21K Tanana 24.66 335 P P 09 31 20.3 -0.6
baz=137
J20K Nowinta River 24.66 332 P P 09 31 19.1 -1.7
baz=132,SNR=6.3
OK051 E0350 and S346 24.68 98 P P 09 31 21.9 +0.6
T35A Sooner Cattle 24.71 97 P P 09 31 21.9 +0.3
M16K Timber Creek 24.74 323 P P 09 31 22.2 +0.5
M16K Timber Creek 24.74 323 P P 09 31 19.8 -1.9
baz=120
F26K Sheenjek River 24.78 345 P P 09 31 22.5 +0.5
baz=153
E27K Coleen River 24.79 348 P P 09 31 23.3 +1.2
E27K IAmb IAmb 09 31 24.4
comp=Z,7.0nm,1.0s
E27K Coleen River 24.79 348 P P 09 31 22.9 +0.8
baz=158
OKCSW OKLAHOMA CITY 24.79 101 P P 09 31 22.1 -0.3
ABTX Abilene, Hawle 24.82 109 P P 09 31 21.9 -0.7
ABTX IAmb IAmb 09 31 27.6
comp=Z,7.0nm,1.1s
ABTX Abilene, Hawle 24.82 109 P P 09 31 23.5 +0.9
baz=305
OK033 Mehan 24.83 99 P P 09 31 22.7 0.0
OK033 IAmb IAmb 09 31 37.4
comp=Z,10nm,0.8s
N15K Kwethluk River 24.87 320 P P 09 31 20.3 -2.6
baz=116
SAND Sanderson 24.89 117 P P 09 31 21.8 -1.5
SAND IAmb IAmb 09 31 33.4
comp=Z,5.7nm,1.0s
E28M Babbage River 24.89 350 P P 09 31 24.0 +1.1
E28M Babbage River 24.89 350 P P 09 31 24.2 +1.3
baz=161
FNO Franklin 24.90 101 P P 09 31 22.1 -1.2
FCC Fort Churchill 24.90 43 P P 09 31 22.1 -1.0
FCC IAmb IAmb 09 31 44.1
comp=Z,11nm,1.2s
QUOK Quay 24.93 99 P P 09 31 22.1 -1.5
QUOK IAmb IAmb 09 31 26.4
comp=Z,14nm,1.1s
C36M Paulatuk 24.94 3 P P 09 31 26.9 +3.6
baz=188
OK052 Battle Ridge R 24.95 99 P P 09 31 23.8 +0.1
WTFS Witchita Falls 24.96 105 P P 09 31 23.6 -0.2
WTFS IAmb IAmb 09 31 26.7
comp=Z,38nm,1.1s
F25K Christian Rive 24.98 344 P P 09 31 23.7 -0.2
baz=150
H22K Ishtalitna Cre 25.00 337 P P 09 31 23.9 -0.1
baz=139
L17K Donlin 25.01 326 P P 09 31 22.4 -1.6
baz=123
J19K Poorman 25.05 331 P P 09 31 23.0 -1.3
baz=130
J18K Innoko River 25.12 329 P P 09 31 23.5 -1.5
baz=127,SNR=8.5
I20K Naaghedeneel 25.17 333 P P 09 31 24.6 -0.9
baz=133,SNR=5.5
H21K Melozitna Rive 25.24 336 P P 09 31 25.5 -0.6
H21K IAmb IAmb 09 31 26.9
comp=Z,7.8nm,1.1s
H21K Melozitna Rive 25.24 336 P P 09 31 25.3 -0.8
baz=137
G23K Bananza Creek 25.26 339 P P 09 31 26.8 +0.5
G23K IAmb IAmb 09 31 34.4
comp=Z,8.6nm,1.4s
G23K Bananza Creek 25.26 339 P P 09 31 25.6 -0.7
baz=142
L16K Owhat River 25.29 324 P P 09 31 24.9 -1.6
baz=120,SNR=11
K17K Iditarod 25.31 327 P P 09 31 25.5 -1.3
baz=124
M15K Kasigluk River 25.36 321 P P 09 31 25.1 -2.1
baz=117
E25K Arctic Village 25.42 344 P P 09 31 28.1 +0.3
baz=151
N14K Kuskokwak Cree 25.51 319 P P 09 31 23.7 -4.9
baz=114
PLPT Palo Pinto 25.61 107 P P 09 31 30.9 +1.2
PLPT IAmb IAmb 09 31 32.8
comp=Z,33nm,1.4s
P38A Dawn 25.70 89 P P 09 31 31.5 +1.0
COLD Coldfoot 25.70 340 P P 09 31 30.3 +0.1
baz=143
TUL3 Leonard 25.70 99 P P 09 31 33.2 +2.7
baz=298
LOOK Love County 25.72 104 P P 09 31 30.6 -0.2
H20K Anotleneega Mo 25.76 334 P P 09 31 30.2 -0.6
baz=133
G22K Bettles 25.80 339 P P 09 31 30.8 -0.3
baz=140
GCSA Galena City Sc 25.94 331 P P 09 31 31.4 -1.0
baz=129
M14K Bethel 25.95 321 P P 09 31 30.4 -2.2
baz=115
E24K Your Creek 25.98 342 P P 09 31 33.2 +0.3
baz=146
FW07 Weatherford 26.03 107 P P 09 31 34.0 +0.4
FW07 IAmb IAmb 09 31 43.0
comp=Z,12nm,1.0s
JCT Junction City 26.04 113 P P 09 31 33.5 -0.2
JCT IAmb IAmb 09 31 34.7
comp=Z,5.9nm,1.1s
G21K Allakaket 26.05 337 P P 09 31 33.2 -0.2
baz=137
L15K Unalak Mounta 26.13 323 P P 09 31 32.2 -2.0
baz=117
E23K Chandalar 26.22 341 P P 09 31 35.7 +0.6
baz=145
H19K Roundabout Mou 26.28 333 P P 09 31 34.6 -0.9
baz=131
K15K Wolf Creek Mou 26.42 324 P P 09 31 35.4 -1.4
baz=118
M13K Dall Lake 26.46 320 P P 09 31 35.1 -2.1
baz=113
J16K Anvik River 26.50 327 P P 09 31 35.4 -2.2
baz=122
L14K Kuka Creek 26.51 322 P P 09 31 35.6 -2.0
baz=115
D25K Kavik River 26.61 345 P P 09 31 39.6 +1.0
baz=151
TOLK Toolik Lake Re 26.68 342 P P 09 31 39.8 +0.6
baz=145
H18K Honhosa River 26.69 331 P P 09 31 38.5 -0.8
baz=128
E22K Anaktuvuk Pass 26.80 340 P P 09 31 40.3 +0.1
baz=141
I17K Unalakleet 26.84 328 P P 09 31 39.5 -1.0
baz=122
G19K Purcell Mounta 26.87 334 P P 09 31 40.5 -0.3
baz=131
C26K Camden Bay 26.88 347 P P 09 31 42.1 +1.2
baz=154
F20K Avaraart Lake 27.05 336 P P 09 31 44.3 +1.8
baz=134
H17K Granite Mounta 27.11 330 P P 09 31 41.5 -1.5
baz=125
D23K Nanushuk River 27.18 342 P P 09 31 43.7 0.0
baz=144
G18K Tagagawik 27.23 332 P P 09 31 43.0 -1.1
baz=128
J14K Nanvaranak Lak 27.46 324 P P 09 31 44.8 -1.4
baz=117
G17K Kiwalik Mounta 27.68 331 P P 09 31 46.7 -1.4
baz=125
E19K Redstone River 27.77 336 P P 09 31 47.9 -1.0
baz=133
H16K Elim 27.80 328 P P 09 31 47.8 -1.4
baz=122
CCM Cathedral Cave 27.96 91 P P 09 31 52.0 +1.0
baz=294
E20K Nigu River 28.01 338 P P 09 31 50.7 -0.4
baz=135
G16K Koyuk River 28.23 330 P P 09 31 51.7 -1.3
baz=123
C21K Knifeblade Rid 28.29 340 P P 09 31 53.7 +0.2
baz=138
F17K Baldwin Pennin 28.41 332 P P 09 31 53.7 -0.8
baz=126
D20K Etivluk River 28.44 338 P P 09 31 54.3 -0.6
baz=135
D19K Kuna River 28.70 337 P P 09 31 56.2 -1.0
baz=133
E18K Tukpahlearik C 28.76 334 P P 09 31 56.9 -0.8
baz=128
B22K Teshekpuk Lake 28.86 342 P P 09 31 58.0 -0.5
baz=142
E17K Hotham Inlet 28.95 333 P P 09 31 57.1 -2.3
baz=126
F15K North Star Dit 29.21 329 P P 09 32 00.6 -1.2
baz=120
C18K Utukok River 29.68 336 P P 09 32 05.0 -0.9
baz=129
A22K Sinclair Lake 29.70 342 P P 09 32 06.5 +0.5
baz=140
RDOG Red Dog Mine 29.84 334 P P 09 32 07.2 -0.2
baz=126
B18K Kokolik River 30.28 337 P P 09 32 11.3 +0.1
baz=129
A21K Barrow 30.30 342 P P 09 32 11.7 +0.4
baz=138
TNA Tin City 30.37 328 P P 09 32 11.0 -0.9
baz=116
A19K Wainwright 30.61 338 P P 09 32 13.7 -0.3
baz=131
C16K Lisburne Hills 30.73 334 P P 09 32 14.2 -0.9
baz=123
OXF Oxford 30.93 96 P P 09 32 18.8 +1.6
baz=299
WVT Waverly 31.27 92 P P 09 32 21.0 +0.8
baz=297
TEIG Tepich 40.62 114 LR LR 09 51 55.9
comp=Z,398nm,21.1s,baz=220,slow=38
NEEM North Greenlan 44.08 18 *i* P P 09 34 09.0 +0.7
NEEM IAmb IAmb 09 34 11.7
comp=Z,5.7nm,0.9s
SUMG Summit 47.97 24 *i* P P 09 34 40.0 +0.9
SUMG IAmb IAmb 09 34 42.1
comp=Z,4.6nm,0.7s
DAG Danmarks Havn 51.20 16 *i* P P 09 35 03.0 -0.2
DAG IAmb IAmb 09 35 05.3
comp=Z,3.0nm,0.8s
H11N3 WAKE ISLAND Hy 59.02 268 T T 10 38 58.1
baz=49,slow=75,SNR=311
H11N2 WAKE ISLAND Hy 59.02 268 T T 10 38 54.8
baz=49,slow=75,SNR=182
H11N1 WAKE ISLAND Hy 59.03 268 T T 10 38 56.0
baz=49,slow=75,SNR=210
H11S1 WAKE ISLAND Hy 59.95 267 T T 10 40 06.8
baz=50,slow=75,SNR=76
H11S2 WAKE ISLAND Hy 59.96 267 T T 10 40 08.9
baz=50,slow=75,SNR=52
H11S3 WAKE ISLAND Hy 59.97 267 T T 10 40 08.4
baz=50,slow=75,SNR=57
MDP Montagnes des 75.78 97 LR LR 10 14 44.2
comp=Z,26nm,19.1s,baz=338,slow=38
SONM Songimo Array 76.47 326 P P 09 37 45.6 -4.7
comp=Z,3.2nm,0.9s,baz=43,slow=4.2,SNR=9.5
comp=Z,3.2nm,0.9s
KIRV Kirov 77.20 2 LR LR 10 16 38.0
comp=Z,62nm,18.8s,baz=329,slow=39
ZALV Zalesovo Beam 78.03 341 P P 09 37 55.5 -3.2
comp=Z,0.5nm,0.3s,baz=5.3,slow=6.2,SNR=1.6
comp=Z,0.5nm,0.3s
ARU Arti 79.26 356 LR LR 10 17 22.2
comp=Z,82nm,18.8s,baz=338,slow=39
BVAR Borovoye Array 81.58 349 P P 09 38 15.2 -2.8
comp=Z,1.1nm,0.6s,baz=358,slow=3.6,SNR=4.4
comp=Z,1.1nm,0.6s
ESDC Sonseca Array 82.06 40 P P 09 38 20.4 -0.4
comp=Z,0.7nm,0.8s,baz=309,slow=4.1,SNR=2.7
comp=Z,0.7nm,0.8s
KURBB Kurchatov Arra 82.51 344 P P 09 38 19.5 -3.4
comp=Z,1.5nm,0.7s,baz=20,slow=5.0,SNR=8.9
comp=Z,1.5nm,0.7s
AKASG Malin Array Be 83.04 15 P P 09 38 23.0 -2.6
comp=Z,0.8nm,0.7s,baz=329,slow=2.9,SNR=4.9
comp=Z,0.8nm,0.7s
BELG Belogornoye 83.36 3 LR LR 10 19 13.0
comp=Z,71nm,20.0s,baz=309,slow=38
HNR Honiara 84.27 251 LR LR 10 07 25.2
comp=Z,620nm,21.9s,baz=112,slow=30
AKTO Aktyubinsk 85.27 356 LR LR 10 19 45.9
comp=Z,75nm,19.4s,baz=24,slow=38
MKAR Makanchi Array 85.28 340 P P 09 38 32.9 -4.3
comp=Z,0.7nm,0.9s,baz=350,slow=3.5,SNR=4.0
comp=Z,0.7nm,0.9s
PMG Port Moresby 93.09 260 LR LR 10 15 34.9
comp=Z,70nm,19.1s,baz=351,slow=32
BDFB Brasilia 93.66 108 LR LR 10 25 51.5
comp=Z,26nm,18.8s,baz=335,slow=38
CPUP Villa Florida 95.32 122 LR LR 10 24 19.9
comp=Z,25nm,20.2s,baz=22,slow=37
DAV Davao City (W) 96.83 287 LR LR 10 14 46.8
comp=Z,43nm,21.0s,baz=28,slow=30

NNC 26 09:29:26.4±4.9, 54°.32N×86°.39E, h0km, mb3.6, mpv2.8, 7C-4D, Error ellipse: s-maj=44.6km s-min=25.0km az=179.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.00**	**249**	⇑P	Pg	09 29 44.0	-1.5
	0.2nm,0.3s						
ZAA0				⇑S	Sb	09 29 59.9	-0.2
	1.3nm,0.3s						
KURK	**Kurchatov**	**5.96**	**236**	⇓Pn	Pn	09 30 58.5	+2.7
	0.8nm,0.5s						
KURK				⇓Sn	Sn	09 32 05.8	+1.2
	0.7nm,0.5s						
KURK				⇓Lg	Lg	09 32 41.0	
	2.1nm,0.6s						
KURBB	**Kurchatov Arra**	**6.06**	**236**	⇑Pn	Pn	09 30 58.8	+1.6
	1.8nm,0.5s						
KURBB				⇑Sn	Sn	09 32 05.8	-1.4
	1.1nm,0.5s						
KURBB				⇑Lg	Lg	09 32 40.6	
	2.2nm,0.4s						
MK31	**Makanchi Array**	**7.97**	**201**	⇓Pn	Pn	09 31 26.1	+2.7
	0.7nm,0.5s,baz=23,slow=13,SNR=24						
MK31				⇑Sn	Sn	09 32 54.4	+0.2
	0.2nm,0.4s						
MK31				⇑Lg	Lg	09 33 36.1	
	0.5nm,0.6s						

IDC 26 09:47:53.6±2.1, 7°.29N×123°.65E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=108.7km s-min=24.6km az=56.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**26.48**	**297**	P	P	09 53 32.4	-0.4
	0.6nm,0.3s,baz=96,slow=7.6,SNR=4.2						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**29.03**	**159**	P	P	09 53 54.4	-1.2
	0.2nm,0.7s,baz=338,slow=11,SNR=5.0						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**32.35**	**162**	P	P	09 54 26.4	+1.4
	0.2nm,0.7s,baz=348,slow=8.5,SNR=1.2						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**57.11**	**327**	P	P	09 57 42.1	+0.3
	0.3nm,0.8s,baz=128,slow=6.0,SNR=1.5						
	0.3nm,0.8s						

PGC 26 10:06:11.9±0.1, 43°.83N×128°.46W, h10km, ML3.5, 612km Ssw of Uclulet, Bc Off Coast Of Oregon, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
E03A	**Lebam**	**4.40**	**50**	Pn	Pn	10 07 17.5	-1.2
OSD	**Olympics--Snow**	**5.20**	**38**	Pn	Pn	10 07 29.5	-0.4
HDW	**Hoodsport**	**5.38**	**43**	Pn	Pn	10 07 31.7	-0.6
GNW	**Green Mountain**	**5.43**	**45**	Pn	Pn	10 07 33.3	+0.4
D05A	**Enumclaw**	**5.65**	**51**	Pn	Pn	10 07 35.9	-0.1
FMW	**Mount Fremont**	**5.70**	**55**	Pn	Pn	10 07 37.7	+0.9
SYMB	**Survey Mountai**	**5.73**	**33**	Pn	Pn	10 07 36.3	-0.8
B926	**Mesachie Lake**	**5.82**	**29**	Sn	Sn	10 08 43.0	-2.1
CLRS	**Cowichan Lake**	**5.82**	**29**	Pn	Pn	10 07 37.5	-0.8
CLRS				Sn	Sn	10 08 42.9	-2.1
B010	**North Saanich**	**5.94**	**34**	Pn	Pn	10 07 39.9	0.0
NLLB	**Nanaimo Lost L**	**6.22**	**28**	Pn	Pn	10 07 43.4	-0.4
JCW	**Jim Creek**	**6.30**	**44**	Pn	Pn	10 07 45.2	+0.3
CMW	**Cultus Mountai**	**6.37**	**42**	Pn	Pn	10 07 46.4	+0.5
LTY	**Liberty**	**6.46**	**55**	Pn	Pn	10 07 47.1	0.0
WOSB	**Woss**	**6.46**	**11**	Pn	Pn	10 07 47.1	-0.1
TXB	**Texada**	**6.49**	**24**	Pn	Pn	10 07 47.9	+0.5
TXB				Sn	Sn	10 09 00.5	-1.0
SHB	**Sechelt**	**6.57**	**27**	Pn	Pn	10 07 48.9	+0.2
SHB				Sn	Sn	10 09 02.0	-1.7
MAYB	**Maynard**	**6.63**	**7**	Pn	Pn	10 07 50.4	+0.8
RPW	**Rockport**	**6.68**	**44**	Pn	Pn	10 07 50.5	+0.4
MBW	**Mount Baker**	**6.72**	**40**	Pn	Pn	10 07 51.2	+0.4
NCRB	**Newcastle Ridg**	**6.78**	**13**	Pn	Pn	10 07 52.2	+0.7
NCSB	**Newcastle Ridg**	**6.78**	**13**	Pn	Pn	10 07 52.2	+0.7
HNBB	**Haney**	**6.80**	**35**	Pn	Pn	10 07 52.5	+0.7
HOLB	**Holberg**	**6.82**	**2**	Pn	Pn	10 07 53.4	+1.4
PHC	**Port Hardy**	**6.92**	**5**	Pn	Pn	10 07 54.2	+0.9
PNT	**Penticton**	**8.20**	**45**	Pn	Pn	10 08 12.4	+1.5

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*IDC **26** 10:47:16.3±1.3, 38°.38N×21°.75E, h0km, mb3.7/11, mbtmp3.6/13, ML3.2/2, Error ellipse: s-maj=26.0km s-min=19.7km az=160.0*
*NAO **26** 10:47:17.3, 38°.37N×24°.35E, h33km, mb3.4*
*THE **26** 10:47:18.4, 38°.32N×21°.76E, h2km±1km, ML3.3/22, Error ellipse: s-maj=1.4km s-min=0.3km az=257.0*
*ATH **26** 10:47:18.4, 38°.32N×21°.77E, h4km±2km, ML3.3/15, Error ellipse: s-maj=2.1km s-min=0.6km az=134.0*

ISC 26 10:47:18.0±0.7, 38°.32N±0°.02×21°.78E±0°.01, h10km±4km, n113,n0s79/149, mb3.9/10, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.04**	**165**	P	**Pg**	**10 47 19.3**	**-0.6**
UPR				S	**Sg**	**10 47 20.0**	**-1.2**
EFP	**Efpalio**	**0.15**	**43**	P	**Pg**	**10 47 21.5**	**+0.1**
EFP				S	**Sg**	**10 47 24.3**	**+0.6**
	37μm,0.3s						
EFP	**Efpalio**	**0.15**	**43**	P	**Pg**	**10 47 21.5**	**+0.1**
EFP				S	**Sg**	**10 47 24.2**	**+0.5**
EFP				AML	AML	10 47 24.4	
EFP				AML	AML	10 47 25.5	
	comp=N,38397μm,0.2s						
LAKA	**Lakka**	**0.18**	**116**	P	**Pg**	**10 47 22.1**	**+0.3**
LAKA				S	**Sg**	**10 47 24.8**	**+0.3**
	comp=N,52μm,0.4s						
LAKA	**Lakka**	**0.18**	**116**	P	**Pg**	**10 47 22.1**	**+0.3**
LAKA				S	**Sg**	**10 47 25.0**	**+0.5**
LAKA				AML	AML	10 47 25.3	
	comp=E,94360μm,0.2s						
LAKA				AML	AML	10 47 25.4	
TRIZ	**Trizonia**	**0.24**	**78**	P	**Pg**	**10 47 23.2**	**+0.4**
TRIZ				S	**Sg**	**10 47 26.9**	**+0.7**
	comp=E,8μm,0.3s						
TRIZ	**Trizonia**	**0.24**	**78**	P	**Pg**	**10 47 23.3**	**+0.4**
TRIZ				S	**Sg**	**10 47 27.1**	**+0.9**
ALIK	**Aliki, Aigiali**	**0.27**	**102**	P	**Pg**	**10 47 24.0**	**+0.5**
ALIK				S	**Sg**	**10 47 28.1**	**+1.0**
ANX	**Ano Chora**	**0.30**	**23**	P	**Pg**	**10 47 24.2**	**+0.2**
ANX				S	**Sg**	**10 47 28.5**	**+0.4**
	comp=E,16μm,0.4s						
ANX	**Ano Chora**	**0.30**	**23**	P	**Pg**	**10 47 24.2**	**+0.2**
ANX				S	**Sg**	**10 47 28.9**	**+0.8**
ANX				AML	AML	10 47 29.4	
	comp=E,29008μm,0.3s						
ANX				AML	AML	10 47 29.4	
	comp=N,34391μm,0.4s						
PVO	**Paravola**	**0.36**	**327**	P	**Pg**	**10 47 25.1**	**0.0**
PVO				S	**Sg**	**10 47 30.0**	**+0.2**
	comp=N,12μm,0.3s						
PVO	**Paravola**	**0.36**	**327**	P	**Pg**	**10 47 25.2**	**+0.1**
PVO				S	**Sg**	**10 47 30.8**	**+0.9**
RLS	**Riolos of Patr**	**0.36**	**223**	P	**Pg**	**10 47 25.7**	**+0.6**
RLS				S	**Sg**	**10 47 30.4**	**+0.6**
	comp=N,7μm,0.2s						
RLS	**Riolos of Patr**	**0.36**	**223**	P	**Pg**	**10 47 25.7**	**+0.6**
RLS				S	**Sg**	**10 47 30.8**	**+1.0**
RLS				AML	AML	10 47 32.0	
	comp=N,14785μm,0.2s						
RLS				AML	AML	10 47 32.0	
	comp=E,11613μm,0.2s						
DRO	**Drossia**	**0.37**	**188**	P	**Pg**	**10 47 25.6**	**+0.3**
DRO				S	**Sg**	**10 47 31.0**	**+0.8**
	comp=E,11μm,0.3s						

DRO	**Drossia**	**0.37**	**188**	P	**Pg**	**10 47 25.7**	**+0.3**
DRO				S	**Sg**	**10 47 31.0**	**+0.8**
DRO				AML	AML	10 47 35.7	
	comp=E,24725μm,0.4s						
DRO				AML	AML	10 47 35.9	
	comp=N,19891μm,0.2s						
KLV	**Kalavryta, Ach**	**0.40**	**133**	P	**Pg**	**10 47 26.1**	**+0.1**
KLV				S	**Sg**	**10 47 32.2**	**+0.9**
	comp=N,2μm,0.4s						
KLV	**Kalavryta, Ach**	**0.40**	**133**	P	**Pg**	**10 47 26.1**	**+0.1**
KLV				S	**Sg**	**10 47 32.3**	**+1.1**
KLV				AML	AML	10 47 33.2	
	comp=N,3404μm,0.3s						
KLV				AML	AML	10 47 34.9	
	comp=E,3411μm,0.1s						
AST1	**Astakos**	**0.58**	**293**	P	**Pg**	**10 47 29.3**	**0.0**
AST1				S	**Sg**	**10 47 37.9**	**+0.9**
	comp=E,5μm,0.4s						
DLFA	**Delphi**	**0.59**	**74**	P	**Pg**	**10 47 28.9**	**-0.5**
DLFA				S	**Sg**	**10 47 37.4**	**+0.2**
DLFA				AML	AML	10 47 42.0	
	comp=E,3194μm,0.5s						
DLFA				AML	AML	10 47 44.8	
	comp=N,3222μm,0.4s						
GUR	**Goura**	**0.59**	**130**	P	**Pg**	**10 47 29.2**	**-0.2**
GUR				S	**Sg**	**10 47 38.1**	**+0.9**
	comp=N,7μm,0.3s						
GUR	**Goura**	**0.59**	**130**	P	**Pg**	**10 47 29.3**	**-0.2**
GUR				S	**Sg**	**10 47 37.1**	**-0.1**
GUR				AML	AML	10 47 41.5	
	comp=E,13065μm,0.3s						
GUR				AML	AML	10 47 41.7	
	comp=N,13081μm,0.3s						
EVR	**Evrytania**	**0.60**	**3**	P	**Pg**	**10 47 30.4**	**+0.8**
EVR				S	**Sg**	**10 47 38.7**	**+1.2**
	comp=N,2μm,0.5s						
EVR	**Evrytania**	**0.60**	**3**	P	**Pg**	**10 47 30.4**	**+0.8**
EVR				AML	AML	10 47 43.9	
	comp=E,5254μm,0.5s						
EVR				AML	AML	10 47 45.1	
	comp=N,3485μm,0.8s						
MAKR	**Makrakomi, Fth**	**0.75**	**22**	P	**Pg**	**10 47 32.4**	**0.0**
MAKR				S	**Sb**	**10 47 43.6**	**+0.2**
	comp=N,6μm,0.4s						
MAKR	**Makrakomi, Fth**	**0.75**	**22**	P	**Pg**	**10 47 32.5**	**0.0**
MAKR				S	**Sg**	**10 47 43.0**	**+0.8**
MAKR				AML	AML	10 47 46.5	
	comp=E,11902μm,0.3s						
MAKR				AML	AML	10 47 49.6	
	comp=N,10136μm,0.4s						
THAL	**Thalero**	**0.75**	**112**	P	**Pg**	**10 47 32.0**	**-0.6**
THAL				S	**Sb**	**10 47 44.1**	**+0.6**
	comp=N,5μm,0.2s						
THAL	**Thalero**	**0.75**	**112**	P	**Pg**	**10 47 31.9**	**-0.6**
THAL				AML	AML	10 47 49.0	
	comp=N,9287μm,0.2s						
THAL				AML	AML	10 47 51.6	
	comp=E,9169μm,0.2s						
AXAR	**Agios Charalam**	**0.82**	**57**	P	**Pg**	**10 47 33.4**	**-0.5**
AXAR				S	**Sb**	**10 47 46.6**	**+1.0**
	comp=E,4μm,0.3s						
AXAR	**Agios Charalam**	**0.82**	**57**	P	**Pg**	**10 47 33.3**	**-0.5**
AXAR				AML	AML	10 47 47.8	
	comp=N,7095μm,0.4s						
AXAR				AML	AML	10 47 51.3	
	comp=E,7066μm,0.4s						
AGG	**Agios Georgios**	**0.83**	**32**	P	**Pg**	**10 47 33.1**	**-0.9**
AGG				S	**Sb**	**10 47 45.9**	**+0.2**
	comp=E,1μm,0.5s						
AGG	**Agios Georgios**	**0.83**	**32**	P	**Pg**	**10 47 33.1**	**-0.9**
EVGI	**Lefkada island**	**0.93**	**289**	P	**Pg**	**10 47 35.6**	**-0.3**
EVGI				S	**Sb**	**10 47 49.5**	**+0.9**
	comp=E,1μm,0.3s						
EVGI	**Lefkada island**	**0.93**	**289**	P	**Pg**	**10 47 35.4**	**-0.5**
NYDR	**Nydri-Lefkada**	**0.93**	**295**	P	**Pg**	**10 47 35.4**	**-0.5**
NYDR				S	**Sb**	**10 47 49.5**	**+0.9**
	comp=E,578nm,0.6s						
NYDR	**Nydri-Lefkada**	**0.93**	**295**	P	**Pg**	**10 47 35.4**	**-0.5**
VLS	**Valsamata**	**0.94**	**262**	P	**Pg**	**10 47 35.7**	**-0.5**
VLS				S	**Sb**	**10 47 50.2**	**+1.2**
	comp=E,2μm,0.2s						
VLS	**Valsamata**	**0.94**	**262**	P	**Pg**	**10 47 35.8**	**-0.3**
VLS				AML	AML	10 47 52.6	
	comp=E,2287μm,0.2s						
VLS				AML	AML	10 47 52.8	
	comp=N,4719μm,0.2s						
LTHK	**Lithakia**	**0.96**	**231**	P	**Pg**	**10 47 36.4**	**-0.1**
LTHK				S	**Sb**	**10 47 49.8**	**+0.4**
	comp=N,2μm,0.2s						
LTHK	**Lithakia**	**0.96**	**231**	P	**Pg**	**10 47 36.3**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.96**	**258**	P	**Pg**	**10 47 35.7**	**-0.8**
PSDA				S	**Sn**	**10 47 50.8**	**-0.4**
	comp=N,2μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.96**	**258**	P	**Pg**	**10 47 36.0**	**-0.5**
FSK	**Fiskardo**	**0.96**	**279**	P	**Pg**	**10 47 35.9**	**-0.6**
FSK				S	**Sb**	**10 47 49.8**	**+0.3**
	comp=N,3μm,0.2s						
FSK	**Fiskardo**	**0.96**	**279**	P	**Pg**	**10 47 35.9**	**-0.6**
LKD2	**Lefkada island**	**0.99**	**299**	P	**Pg**	**10 47 36.6**	**-0.5**
LKD2				S	**Sb**	**10 47 51.2**	**+0.7**
	comp=N,1μm,0.5s						
LKD2	**Lefkada island**	**0.99**	**299**	P	**Pg**	**10 47 36.5**	**-0.7**
KRI1	**kERI**	**1.00**	**229**	P	**Pg**	**10 47 36.8**	**-0.4**
LOUT	**Loutraki**	**1.00**	**109**	P	**Pg**	**10 47 36.8**	**-0.5**
LOUT	**Loutraki**	**1.00**	**109**	P	**Pg**	**10 47 36.7**	**-0.6**
LOUT				S	**Sg**	**10 47 50.4**	**+0.1**
LOUT				AML	AML	10 47 56.1	
	comp=N,290μm,0.3s						
LOUT				AML	AML	10 47 59.5	
	comp=E,422μm,0.4s						
DRAG	**Dragano-Lefkad**	**1.01**	**292**	P	**Pg**	**10 47 36.8**	**-0.6**
DRAG	**Dragano-Lefkad**	**1.01**	**292**	P	**Pg**	**10 47 36.7**	**-0.7**
TSLK	**Tsoukalades, L**	**1.01**	**300**	P	**Pg**	**10 47 37.1**	**-0.4**
TSLK	**Tsoukalades, L**	**1.01**	**300**	P	**Pg**	**10 47 37.0**	**-0.4**
LXRA	**Lixouri, Kepha**	**1.06**	**264**	P	**Pg**	**10 47 38.4**	**0.0**
KEF4	**Livadi, Kephal**	**1.06**	**267**	P	**Pg**	**10 47 37.8**	**-0.6**
KEF4	**Livadi, Kephal**	**1.06**	**267**	P	**Pg**	**10 47 37.9**	**-0.6**
DMLN	**Damoulianata-K**	**1.11**	**266**	P	**Pg**	**10 47 38.4**	**-0.8**
DMLN	**Damoulianata-K**	**1.11**	**266**	P	**Pg**	**10 47 38.6**	**-0.6**
KEF3	**Kipouria, Keph**	**1.13**	**265**	P	**Pb**	**10 47 38.9**	**-0.7**
KEF3	**Kipouria, Keph**	**1.13**	**265**	P	**Pb**	**10 47 38.7**	**-0.8**
VIL2	**Platees**	**1.18**	**95**	P	**Pn**	**10 47 41.6**	**+1.1**
VILL	**Villia**	**1.22**	**97**	P	**Pb**	**10 47 41.4**	**+0.2**
THL	**Klokotos Trika**	**1.26**	**8**	P	**Pn**	**10 47 41.7**	**+0.1**
THL	**Klokotos Trika**	**1.26**	**8**	P	**Pn**	**10 47 41.8**	**+0.1**
THL				AML	AML	10 48 02.9	
	comp=E,1116μm,0.6s						
THL				AML	AML	10 48 03.3	
	comp=N,733μm,0.6s						
PYL	**PYLOS**	**1.42**	**181**	P	**Pn**	**10 47 44.1**	**+0.2**
PYL	**PYLOS**	**1.42**	**181**	P	**Pn**	**10 47 44.0**	**+0.2**
KRND	**KRANIDI**	**1.43**	**130**	P	**Pn**	**10 47 44.4**	**+0.4**
KRND	**KRANIDI**	**1.43**	**130**	P	**Pn**	**10 47 44.5**	**+0.5**
TYRN	**Tyrnavos**	**1.44**	**14**	P	**Pb**	**10 47 45.0**	**+0.2**
TYRN	**Tyrnavos**	**1.44**	**14**	P	**Pn**	**10 47 44.6**	**+0.5**
JAN	**Janina**	**1.52**	**332**	P	**Pb**	**10 47 46.6**	**+0.3**
XOR	**Xorichti**	**1.52**	**46**	P	**Pn**	**10 47 45.5**	**+0.2**
XOR	**Xorichti**	**1.52**	**46**	P	**Pn**	**10 47 45.8**	**+0.5**
ATH	**Athens Observa**	**1.57**	**102**	P	**Pn**	**10 47 46.5**	**+0.6**
ATHU	**Athens Univers**	**1.62**	**102**	P	**Pn**	**10 47 45.8**	**-0.8**
ATHU	**Athens Univers**	**1.62**	**102**	P	**Pn**	**10 47 45.8**	**-0.8**
IGT	**Igoumenitsa**	**1.65**	**318**	P	**Pb**	**10 47 49.3**	**+0.7**
IGT	**Igoumenitsa**	**1.65**	**318**	P	**Pb**	**10 47 49.5**	**+0.9**
VLY	**Voula,Athens**	**1.66**	**106**	P	**Pb**	**10 47 48.3**	**-0.3**
VLY	**Voula,Athens**	**1.66**	**106**	P	**Pn**	**10 47 48.1**	**+1.0**
KPRO	**Kipourio**	**1.67**	**349**	P	**Pb**	**10 47 48.8**	**0.0**
KPRO	**Kipourio**	**1.67**	**349**	P	**Pb**	**10 47 49.3**	**+0.5**
PTL	**Penteli**	**1.67**	**99**	P	**Pn**	**10 47 48.2**	**+0.9**
DION	**Dionisos Attik**	**1.72**	**97**	P	**Pb**	**10 47 49.7**	**+0.1**
DION	**Dionisos Attik**	**1.72**	**97**	P	**Pb**	**10 47 49.9**	**+0.3**
KYMI	**Kymi, Euboea I**	**1.85**	**80**	P	**Pn**	**10 47 50.9**	**+1.1**
KYMI	**Kymi, Euboea I**	**1.85**	**80**	P	**Pn**	**10 47 50.9**	**+1.1**
PENT	**Pentalofos**	**1.94**	**345**	P	**Pg**	**10 47 55.4**	**+0.2**
LSK	**Leskovik**	**2.04**	**334**	P	**Pb**	**10 47 56.4**	**+1.1**
NEST	**Nestorio**	**2.17**	**345**	P	**Pg**	**10 47 59.1**	**-0.5**
FNA	**Florina**	**2.48**	**353**	P	**Pb**	**10 48 01.5**	**-1.2**
GRG	**Griva**	**2.68**	**10**	P	**Pn**	**10 48 03.0**	**+1.8**
KNT	**Kendrikon**	**2.97**	**17**	P	**Pn**	**10 48 06.7**	**+1.5**
KNT	**Kendrikon**	**2.97**	**17**	P	**Pn**	**10 48 06.7**	**+1.5**
VAY	**Valandovo**	**3.06**	**11**	*i* Pn	**Pb**	**10 48 10.2**	**-2.3**
STIP	**Stip**	**3.39**	**5**	*i* Pn	**Pb**	**10 48 15.0**	**-3.0**
MMB	**Musomishta**	**3.56**	**25**	*i* P	**Pn**	**10 48 14.9**	**+1.5**
KKB	**Krupnik**	**3.67**	**16**	*i* P	**Pn**	**10 48 17.5**	**+2.7**
RZN	**Rozhen**	**4.07**	**33**	*i* P	**Pn**	**10 48 22.1**	**+1.7**
MLR	**Muntele Rosu**	**7.81**	**22**	Pn	**Pn**	**10 49 10.9**	**-0.8**
	comp=N,0.1nm,0.3s,baz=184,slow=13,SNR=1.8						
	comp=N,0.5nm,0.3s						
BRTR	**Keskin Array B**	**9.34**	**78**	Pn	**Pn**	**10 49 33.6**	**+0.8**
	comp=N,0.1nm,0.3s,baz=260,slow=15,SNR=3.3						
	comp=N,0.4nm,0.4s						
ESDC	**Sonseca Array**	**20.03**	**282**	P	**P**	**10 51 51.2**	**+0.1**
	comp=N,0.4nm,0.6s,baz=76,slow=11,SNR=4.1						
	comp=N,0.4nm,0.6s						
HFS	**Hagfors**	**22.43**	**349**	P	**P**	**10 52 16.0**	**-0.7**
	comp=N,5.1nm,1.0s,baz=161,slow=11,SNR=6.7						
	comp=N,5.1nm,1.0s						
FINES	**FINESS Array B**	**23.30**	**5**	P	**P**	**10 52 24.6**	**-1.1**
	comp=N,5.4nm,1.0s,baz=190,slow=9.7,SNR=5.4						
	comp=N,5.4nm,1.0s						
NB2	**NORSAR Subarra**	**23.69**	**347**	P	**P**	**10 52 29.3**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=154,slow=10						
NOA	**NORSAR Array B**	**23.69**	**347**	P	**P**	**10 52 28.7**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=160,slow=9.8,SNR=4.7						
	comp=Z,0.8nm,0.8s						
EKA	**Eskdalemuir Ar**	**23.89**	**324**	P	**P**	**10 52 30.4**	**-1.1**
	comp=Z,2.6nm,0.9s,baz=120,slow=8.1,SNR=5.1						
	comp=Z,2.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**30.77**	**221**	P	**P**	**10 53 33.0**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=36,slow=11,SNR=2.9						
	comp=Z,0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**41.35**	**54**	P	**P**	**10 55 04.0**	**+0.1**
	comp=Z,0.9nm,0.2s,baz=283,slow=8.9,SNR=4.4						
	comp=Z,0.9nm,0.2s						
MKAR	**Makanchi Array**	**44.39**	**59**	P	**P**	**10 55 28.7**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=272,slow=7.8,SNR=15						
	comp=Z,1.5nm,0.5s						
ZALV	**Zalesovo Beam**	**44.86**	**48**	P	**P**	**10 55 32.2**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=275,slow=8.8,SNR=3.9						
	comp=Z,0.7nm,0.4s						
YKA	**Yellowknife Ar**	**73.59**	**340**	P	**P**	**10 58 50.7**	**-0.2**
	comp=Z,0.5nm,1.1s,baz=37,slow=6.2,SNR=3.7						
	comp=Z,0.5nm,1.1s						
ILAR	**Eielson Array**	**76.86**	**355**	P	**P**	**10 59 10.1**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=340,slow=2.9,SNR=3.0						
	comp=Z,0.3nm,0.8s						

*IDC **26** 11:00:11.3±2.1, 15°.33S×173°.52W, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=144.5km s-min=23.4km az=151.0*
*NOU **26** 11:00:27.1, 13°.81S×172°.13W, h132km, MLv3.1/4, Samoa Islands*

ISC 26 11:00:17.4±2.0, 15°.4S±0°.7×173°.5W±0°.4, h42km, n10, σ0s33/6, mb3.4/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.24**	**50**	P	Pn		11 00 46.8	-5.2
H11S2	**WAKE ISLAND Hy**	**38.86**	**329**	T	T		11 48 22.0	
	baz=146,slow=76,SNR=4.8							
H11S3	**WAKE ISLAND Hy**	**38.88**	**329**	T	T		11 48 22.0	
	baz=146,slow=76,SNR=4.4							
H11S1	**WAKE ISLAND Hy**	**38.88**	**329**	T	T		11 48 22.0	
	baz=146,slow=76,SNR=5.0							
WRA	**Warramunga Arr**	**49.72**	**257**	P	**P**		**11 09 05.7**	**-0.1**
	0.3nm,0.5s,baz=96,slow=6.2,SNR=8.5							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**49.99**	**252**	P	**P**		**11 09 07.9**	**+0.1**
	0.8nm,0.3s,baz=90,slow=7.5,SNR=40							
	0.8nm,0.3s							
NVAR	**Mina Array Bea**	**74.39**	**42**	P	**P**		**11 11 51.5**	**+0.2**
	0.3nm,0.7s,baz=234,slow=9.6,SNR=4.9							
	0.3nm,0.7s							
TXAR	**Lajitas Array**	**80.71**	**56**	P	**P**		**11 12 26.3**	**-0.3**
	0.4nm,1.0s,baz=234,slow=7.7,SNR=2.5							
	0.4nm,1.0s							
PDAR	**Pinedale Array**	**82.33**	**42**	P	**P**		**11 12 35.5**	**+0.4**
	0.3nm,0.8s,baz=226,slow=2.4,SNR=3.7							
	0.3nm,0.8s							
ILAR	**Eielson Array**	**82.44**	**11**	P	**P**		**11 12 34.7**	**-0.1**
	0.2nm,0.7s,baz=218,slow=5.7,SNR=1.8							
	0.2nm,0.7s							

IDC 26 11:05:59.1±1.7, 4°.04S×144°.05E, h0km, mb3.7/4, mbtmp3.7/5, ML3.9/1, Error ellipse: s-maj=66.4km s-min=25.6km az=106.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.42**	**210**	P	P		11 10 16.4	+0.2
	0.4nm,0.3s,baz=30,slow=12,SNR=14							
	2.0nm,0.7s							
ASAR	**Alice Springs**	**21.83**	**206**	P	P		11 10 52.8	-0.5
	0.9nm,0.4s,baz=35,slow=7.4,SNR=26							
	0.9nm,0.4s							
MKAR	**Makanchi Array**	**74.13**	**321**	P	P		11 17 38.9	+1.4
	0.1nm,0.3s,baz=98,slow=7.7,SNR=4.4							
	0.1nm,0.3s							
BVAR	**Bovovye Array**	**83.47**	**324**	P	P		11 18 27.8	-0.9
	0.9nm,0.5s,baz=107,slow=5.0,SNR=5.5							
	0.9nm,0.5s							
ILAR	**Eielson Array**	**84.86**	**24**	P	P		11 18 35.1	-0.4
	0.4nm,0.7s,baz=260,slow=5.1,SNR=4.4							
	0.4nm,0.7s							

*NAO **26** 11:12:10.4, 35°.08N×24°.47E, h33km, mb3.9*
*ATH **26** 11:12:31.8, 35°.56N×26°.12E, h10km±3km, ML2.4/3, Error ellipse: s-maj=3.4km s-min=1.1km az=164.0*
*THE **26** 11:12:32.8, 35°.48N×26°.13E, h24km±3km, ML2.4/4, Error ellipse: s-maj=3.2km s-min=0.8km az=169.0*

ISC 26 11:12:31.1±1.1, 35°.53N±0°.03×26°.12E±0°.03, h12km±12km, n17, σ0s30/27, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.42**	**169**	P	**Pb**		**11 12 40.5**	**0.0**
ZKR				S	**Sb**		**11 12 46.9**	**+0.1**
	510nm,0.4s							
ZKR	**Zakros**	**0.42**	**169**	P	**Pb**		**11 12 40.4**	**0.0**
ZKR				S	**Sb**		**11 12 47.1**	**+0.3**
ZKR				AML	AML		11 12 47.5	
	comp=E,1650μm,0.4s							
ZKR				AML	AML		11 12 51.8	
	comp=N,388μm,0.4s							
FRMA	**Ierapetra Chan**	**0.60**	**211**	P	**Pg**		**11 12 42.9**	**+0.1**
FRMA				S	**Sg**		**11 12 50.5**	**-0.3**
	comp=N,178nm,0.4s							
FRMA	**Ierapetra Chan**	**0.60**	**211**	P	**Pg**		**11 12 43.0**	**+0.1**
FRMA				S	**Sg**		**11 12 51.0**	**+0.2**
FRMA				AML	AML		11 12 52.0	
	comp=E,885μm,0.3s							
FRMA				AML	AML		11 12 52.4	
	comp=N,1016μm,0.3s							
KARP	**Karpathos**	**0.85**	**88**	P	**Pg**		**11 12 47.4**	**-0.2**
KARP				S	**Sb**		**11 12 59.6**	**+0.3**
	comp=N,330nm,0.2s							
KARP	**Karpathos**	**0.85**	**88**	P	**Pg**		**11 12 47.5**	**-0.2**
KARP				S	**Sb**		**11 12 59.4**	**+0.1**
KARP				AML	AML		11 13 01.3	
	comp=N,565μm,0.3s							
KARP				AML	AML		11 13 01.6	
	comp=E,739μm,0.2s							
IACM	**Heraklion**	**0.88**	**256**	P	**Pn**		**11 12 49.0**	**-0.3**
IACM				S	**Sb**		**11 13 00.6**	**+0.6**
SNT5	**Nea Kammeni, S**	**1.05**	**326**	P	**Pb**		**11 12 50.7**	**-0.5**
SNT5				S	**Sg**		**11 13 05.4**	**+0.3**
THT2	**Imerovigli**	**1.06**	**328**	P	**Pb**		**11 12 51.7**	**+0.2**
THT2				S	**Sg**		**11 13 05.9**	**+0.3**
CMBO	**Columbo, Santo**	**1.10**	**329**	P	**Pb**		**11 12 52.2**	**+0.1**
CMBO				S	**Sb**		**11 13 06.2**	**-0.2**
	comp=E,422nm,0.4s							
CMBO	**Columbo, Santo**	**1.10**	**329**	P	**Pb**		**11 12 52.2**	**+0.1**
NISR	**Nisiros**	**1.36**	**37**	P	**Pn**		**11 12 55.9**	**+0.1**
NISR	**Nisiros**	**1.36**	**37**	P	**Pn**		**11 12 56.1**	**+0.3**
APE	**Apeiranthos**	**1.61**	**343**	P	**Pn**		**11 12 59.5**	**+0.1**
APE	**Apeiranthos**	**1.61**	**343**	P	**Pn**		**11 12 58.7**	**-0.7**
IMMV	**Iera Moni Meta**	**1.74**	**268**	P	**Pn**		**11 13 01.0**	**-0.2**
IMMV	**Iera Moni Meta**	**1.74**	**268**	P	**Pn**		**11 13 01.0**	**-0.2**

*LDG **26** 11:15:29.1±0.1, 51°.56N×16°.08E, h1km, Ml4.9/28, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0, Suspected Mining induced.*
*IPEC **26** 11:15:29.1±0.3, 51°.59N×16°.18E, h1km±1km, ML4.4/5, Error ellipse: s-maj=2.5km s-min=1.1km az=30.0*

*DNK **26** 11:15:30.2±2.0, 51°.65N×16°.18E, h0km, ML3.8, Suspected explosion*
*BGR **26** 11:15:30.5±0.4, 51°.53N×16°.19E, h1km, Error ellipse: s-maj=5.6km s-min=2.2km az=21.0*
*IDC **26** 11:15:30.4±0.4, 51°.53N×16°.00E, h0km, mb4.1/20, mbtmp4.1/30, ML3.4/10, MS3.1/9, Error ellipse: s-maj=7.7km s-min=5.5km az=96.0*
*MOS **26** 11:15:31.8±1.0, 51°.46N×16°.08E, h21km, mb4.8/22, Error ellipse: s-maj=5.6km s-min=3.8km az=95.2*
*BNS **26** 11:15:31.2±0.4, 51°.55N×16°.14E, h2km, ML4.2*
*NEIC **26** 11:15:31.8±2.5, 51°.46N±0°.03×16°.07E±0°.06, h10km±1km, mb4.5/50, Mwr3.9/11, Error ellipse: s-maj=6.7km s-min=5.4km az=287.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=9.69; $M_{\theta\theta}$6.34; $M_{\phi\phi}$3.35; $M_{r\theta}$0.05; $M_{\theta\phi}$-3.64; $M_{\phi r}$-0.18; Fault plane solution: $M_0$9.27000×10^{14} NP1:ϕs123.18000°, δ44.56000°, λ-90.95000°. NP2:ϕs304.52000°, δ45.45000°, λ-89.06000°. Principal axes: T 8.7832, Plg0.0000°, Azm34.0000°; N 0.9060, Plg1.0000°, Azm124.0000°; P -9.6892, Plg90.0000°, Azm270.0000°;*
*VIE **26** 11:15:31.1, 51°.43N×15°.99E, h0km, mb4.1/12, ML3.6/4 80 km WNW of Wroclaw Suspected Mining induced.*
*NEIC **26** 11:15:31.9, 51°.48N×16°.08E, h10km*
*UPP **26** 11:15:32.0±3.0, 51°.66N×15°.70E, h0km, ML3.2*
*PRU **26** 11:15:32.4, 51°.48N×16°.11E, h0km, M4.5, Felt In Ponikla*

ISC 26 11:15:30.2±0.3, 51°.53N±0°.02×16°.08E±0°.02, h0km, n445, σ1s80/564, mb4.5/50, MS3.3/5, 35C-44D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**169**	*i* Pg	**Pg**		**11 15 43.5**	**0.0**
KSP				*e*Sg	**Sg**		**11 15 52.5**	**-0.1**
KSP	**Ksiaz**	**0.70**	**169**	*e*Pg	**Pg**		**11 15 43.6**	**0.0**
KSP				*e*Sg	**Sg**		**11 15 53.1**	**+0.5**
CHVC	**Chvalec**	**0.94**	**181**	*e*PG	**Pg**		**11 15 48.3**	**+0.1**
CHVC				*e*SG	**Sg**		**11 16 01.5**	**+1.1**
CHVC	**Chvalec**	**0.94**	**181**	*e*P	**Pg**		**11 15 48.3**	**+0.1**
CHVC				*e*			11 16 01.5	
OSTC	**Ostas**	**0.98**	**175**	*e*PG	**Pg**		**11 15 48.9**	**0.0**
OSTC				*e*SG	**Sg**		**11 16 02.3**	**+0.8**
OSTC				AMS	AMS		11 16 10.0	
	comp=Z,41μm,3.3s							
OSTC	**Ostas**	**0.98**	**175**	*e*P	**Pg**		**11 15 48.9**	**0.0**
OSTC				*e*			11 16 02.3	
OSTC				MLR	MLR			
	comp=Z,41μm,3.3s							
UPC	**Upice**	**1.02**	**182**	*e*PG	**Pg**		**11 15 49.5**	**-0.3**
UPC				*e*SG	**Sg**		**11 16 03.5**	**+0.5**
	comp=Z,2μm,0.5s							
UPC				AMS	AMS		11 16 10.0	
	comp=Z,11μm,6.0s							
UPC	**Upice**	**1.02**	**182**	*e*P	**Pg**		**11 15 49.5**	**-0.3**
UPC				*e*			11 16 03.5	
UPC				smax	smax			
	comp=N,2μm,0.5s							
UPC				MLR	MLR			
	comp=Z,11μm,6.0s							
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*PG	**Pg**		**11 15 52.3**	**-0.6**
DPC				*e*SG	**Sg**		**11 16 08.7**	**+0.3**
DPC				AMS	AMS		11 16 10.0	
	comp=Z,15μm,4.7s							
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*P	**Pg**		**11 15 52.3**	**-0.6**
DPC				*e*			11 16 08.7	
DPC				MLR	MLR			
	comp=Z,15μm,4.7s							
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*Pg	**Pg**		**11 15 52.4**	**-0.6**
DPC				*e*Sg	**Sg**		**11 16 08.4**	**0.0**
PVCC	**Panska Ves**	**1.38**	**224**	*e*PG	**Pg**		**11 15 56.3**	**-0.3**
PVCC				*e*SG	**Sn**		**11 16 16.4**	**+0.7**
	comp=Z,7μm,1.0s							
PVCC				AMS	AMS		11 16 20.0	
	comp=Z,12μm,5.1s							
PVCC	**Panska Ves**	**1.38**	**224**	*e*P	**Pg**		**11 15 56.3**	**-0.3**
PVCC				*e*			11 16 16.4	
PVCC				smax	smax			
	comp=N,7μm,1.0s							
PVCC				MLR	MLR			
	comp=Z,12μm,5.1s							
BRG	**Berggiesshubel**	**1.50**	**245**	Pn	**Pn**		**11 15 57.2**	**-1.0**
BRG				Pg	**Pg**		**11 15 59.7**	**+0.8**
BRG				Sg	**Sn**		**11 16 19.6**	**+1.2**
BRG				Amp			11 16 20.7	
	comp=Z,796nm,0.5s							
BRG				Amp			11 16 33.0	
	comp=N,8.8nm,3.2s							
BRG				Amp			11 16 33.0	
	comp=E,8.7nm,4.3s							
BRG				Amp			11 16 35.0	
	comp=Z,12nm,4.7s							
BRG	**Berggiesshubel**	**1.50**	**245**	P	**Pg**		**11 15 59.6**	**+0.8**
BRG							11 16 19.6	
BRG				smax	smax			
	comp=Z,796nm,0.5s							
BRG	**Berggiesshubel**	**1.50**	**245**	*e*Pn	**Pn**		**11 15 57.7**	**-0.5**
BRG				*e*Sg	**Sn**		**11 16 19.5**	**+1.1**
KRLC	**Kraliky**	**1.52**	**163**	*e*PG

baz=354
VRAC eSg Sb 11 16 41.1 +1.1
comp=Z,2µm,1.5s,baz=354
ZVC Zvikov 2.41 211 eSG Sg 11 16 48.6 +0.9
KRUC Moravsky 2.48 175 ePn Pn 11 16 11.4 -0.4
baz=357
KRUC eSg Sg 11 16 48.7 -1.0
comp=Z,2µm,2.3s,baz=357
TANN Tannenbergstha 2.54 245 ePn Pn 11 16 12.5 -0.2
TANN eSg Sg 11 16 52.1 +0.2
WERD Werda 2.62 247 ePn Pn 11 16 13.6 -0.1
WERD eSg Sg 11 16 56.6 +2.4
NKC Novy Kostel 2.64 242 ePN Pn 11 16 14.5 +0.5
NKC ePG Pg 11 16 20.4 -0.3
NKC eSG Sg 11 16 56.8 +1.9
comp=Z,1µm,0.8s
NKC AMS AMS 11 17 10.0
comp=Z,8µm,5.3s
NKC Novy Kostel 2.64 242 eP Pn 11 16 14.5 +0.5
NKC MLR MLR
comp=Z,8µm,5.3s
OJC Ojcow 2.70 118 ePn Pn 11 16 12.2 -2.6
OJC ePg Pg 11 16 21.1 -0.7
OJC eSg Sg 11 16 57.0 +0.2
OJC Ojcow 2.70 118 Pn Pn 11 16 12.8 -2.0
OJC Ojcow 2.70 118 P Pn 11 16 12.8 -2.0
OJC Ojcow 2.70 118 ePn Pn 11 16 12.2 -2.6
JAVC Velka Javorina 2.86 158 ePN Pn 11 16 16.5 -0.7
JAVC eSG Sb 11 16 59.9 +2.2
JAVC Velka Javorina 2.86 158 ePn Pn 11 16 16.4 -0.7
baz=341
JAVC eSg Sb 11 16 59.8 +2.1
comp=Z,2µm,1.8s,baz=341
KHC Kasperske Hory 2.89 215 Pn Pn 11 16 17.1 -0.4
KHC Kasperske Hory 2.89 215 ePN Pn 11 16 17.3 -0.1
KHC ePG Pb 11 16 23.7 +1.2
KHC eSN Sn 11 16 52.6 -0.2
KHC eSG Sg 11 17 02.4 -0.4
comp=Z,506nm,0.7s
KHC AMS AMS 11 17 10.0
comp=Z,6µm,5.0s
KHC Kasperske Hory 2.89 215 eP Pn 11 16 17.3 -0.1
KHC e 11 16 52.6
KHC smax smax
comp=N,506nm,0.7s
KHC MLR MLR
comp=Z,6µm,5.0s
CKRC Cesky Krumlov 2.94 203 ePN Pn 11 16 18.5 +0.3
CKRC ePG Pb 11 16 24.5 +1.1
CKRC eSG Sg 11 17 04.3 -0.3
CKRC AMS AMS 11 17 20.0
comp=Z,6µm,5.5s
CKRC Cesky Krumlov 2.94 203 eP Pn 11 16 18.5 +0.3
CKRC MLR MLR
comp=Z,6µm,5.5s
BEL Belsk 2.95 82 eSg Sn 11 16 56.1 +1.8
BEL Belsk 2.95 82 ePg Pn 11 16 18.5 +0.3
MOX Moxa 2.95 254 ePn Pn 11 16 18.0 -0.3
MOX eSg Sg 11 17 06.5 +1.6
MANZ Manzenberg 2.96 240 ePn Pn 11 16 18.3 -0.1
ROTZ Rotzenmuhle 3.03 236 ePn Pn 11 16 19.3 -0.1
GEC2 GERESS Array S 3.09 211 Pn Pn 11 16 20.4 +0.1
GEC2 GERESS Array S 3.09 211 ePn Pn 11 16 20.2 -0.1
GERES GERESS Array B 3.09 211 Pn Pn 11 16 20.0 -0.3
comp=Z,10nm,0.3s,baz=28,slow=13,SNR=153
GERES Sn Sn 11 16 58.4 +0.5
comp=Z,17nm,0.3s,baz=55,slow=23,SNR=5.5
GERES Lg Lg 11 17 08.4
comp=Z,37nm,0.3s,baz=33,slow=28,SNR=8.4
comp=Z,16nm,0.3s
SMOL Smolenice 3.14 163 eP Pn 11 16 22.7 +1.8
WET Wettzell 3.15 222 ePn Pn 11 16 20.7 -0.3
LANS Liptovska Anna 3.22 136 ePN Pn 11 16 21.9 -0.2
LANS ePG Pg 11 16 31.8 -0.1
LANS eSG Sg 11 17 13.5 -0.2
LANS Liptovska Anna 3.22 136 eP Pn 11 16 21.9 -0.2
MODS Modra-Piesok 3.25 166 ePN Pn 11 16 23.2 +0.8
MODS ePG Pg 11 16 32.5 0.0
MODS eSG Sg 11 17 15.8 +1.2
MODS Modra-Piesok 3.25 166 eP Pn 11 16 23.2 +0.8
ZST Bratislava 3.40 168 ePN Pn 11 16 25.3 +0.8
ZST ePG Pg 11 16 34.9 -0.4
ZST eSG Sg 11 17 18.7 -0.7
ZST Bratislava 3.40 168 eP Pn 11 16 25.3 +0.8
NIE Niedzica 3.43 126 ePn Pn 11 16 24.6 -0.2
NIE ePg Pg 11 16 35.7 -0.1
NIE eSg Sg 11 17 21.0 +0.8
RGN Rugen 3.45 332 Pn Pn 11 16 25.7 +0.6
VYHS Vyhne 3.52 149 ePN Pn 11 16 25.2 -0.9
VYHS ePG Pg 11 16 38.6 +1.0
VYHS eSG Sg 11 17 27.1 +3.9
VYHS Vyhne 3.52 149 eP Pn 11 16 25.2 -0.9
CLZ Clausthal 3.56 277 ePn Pn 11 16 27.4 +0.6
CLZ eSg Sg 11 17 27.4 +2.8
GRA1 Grafenberg Arr 3.60 241 Pn Pn 11 16 27.0 -0.2
GRF Grafenberg Arr 3.60 241 P Pn 11 16 27.0 -0.2
GRF Grafenberg Arr 3.60 241 ePn Pn 11 16 27.6 +0.4
GRFO Grafenberg 3.60 241 Pn Pn 11 16 26.8 -0.4
GRFO Grafenberg 3.60 241 P Pn 11 16 26.8 -0.4
CONA Conrad Observa 3.61 182 i Pn Pn 11 16 27.6 +0.2
comp=Z,11nm,0.2s,SNR=46
CONA i Sn Sn 11 17 13.5 +2.8
comp=Z,95nm,0.5s
BSD Bornholm Skovb 3.66 349 eP Pn 11 16 27.2 -0.8
BSD Bornholm Skovb 3.66 349 i P Pn 11 16 27.0 -1.0
BSD i S Sn 11 17 07.5 -4.2
BSD IAML 11 17 25.2
comp=Z,36nm,0.8s
RONA Rosalia, Austr 3.84 178 i Pn Pn 11 16 30.5 +0.1
comp=Z,2.9nm,0.2s,SNR=19
RONA i Sn Sn 11 17 19.4 +3.1
comp=Z,82nm,0.6s
MOA Molln 3.87 198 i Pn Pn 11 16 30.9 0.0
comp=Z,24nm,0.2s,SNR=42
MOA eSn Sg 11 17 34.6 +0.3
comp=Z,296nm,0.8s
STHS Stebnicka Huta 3.92 121 ePN Pn 11 16 30.5 -1.1
STHS ePG Pg 11 16 45.1 -0.1
STHS eSG Sg 11 17 39.0 +3.0
STHS Stebnicka Huta 3.92 121 eP Pn 11 16 30.5 -1.1
SRO Srobarova 3.99 158 ePG Pg 11 16 46.4 -0.3
SRO Srobarova 3.99 158 eP Pg 11 16 46.4 -0.3
BIOA Bad Ischl, Aus 4.16 203 i Pn Pn 11 16 34.6 -0.2
comp=Z,6.5nm,0.3s,SNR=26
BIOA eSn Sb 11 17 33.8 -1.1
comp=Z,108nm,0.5s
KECS Kecovo 4.17 135 ePN Pn 11 16 34.5 -0.5
KECS ePG Pg 11 16 50.6 +0.6
KECS eSG Sg 11 17 43.3 -0.7
KECS Kecovo 4.17 135 eP Pn 11 16 34.6 -0.5
ARSA Arzberg 4.30 185 i Pn Pn 11 16 37.7 +0.9
comp=Z,7.3nm,0.3s,SNR=17
ARSA i Sn Sb 11 17 42.9 +3.9
comp=Z,85nm,0.7s
CRVS Cervenica-Dubn 4.34 125 ePN Pn 11 16 38.2 +0.8
CRVS ePG Pg 11 16 53.2 -0.2
CRVS eSG Sg 11 17 49.9 +0.3
CRVS Cervenica-Dubn 4.34 125 eP Pn 11 16 38.2 +0.8
PSZ Piszkesteto 4.38 144 ⇑P Pn 11 16 38.3 +0.3
PSZ Piszkesteto 4.38 144 Pn 11 16 37.9 -0.1
PSZ Piszkesteto 4.38 144 P Pn 11 16 38.3 +0.3
LUNU Lund 4.40 340 P Pn 11 16 36.6 -1.6
LUNU S Sn 11 17 26.7 -3.3
LUNU Lund 4.40 340 P Pn 11 16 36.6 -1.6
LUNU eP Pn 11 16 36.9 -1.2
LUNU S Sn 11 17 26.7 -3.3
LUNU eS Sn 11 17 27.1 -2.9
KWP Kalwaria Pacla 4.63 112 Pn 11 16 41.5 +0.1
KWP Kalwaria Pacla 4.63 112 P Pn 11 16 41.5 +0.1
LESA Schwarzleotal 4.67 210 i Pn Pn 11 16 41.8 -0.2
comp=Z,4.7nm,0.2s
LESA i Sn Sg 11 17 55.1 -4.9
comp=Z,74nm,0.8s
KOLS Kolonicke sedl 4.75 121 ePN Pn 11 16 42.9 -0.1
KOLS ePG Pg 11 17 01.5 +0.3
KOLS Kolonicke sedl 4.75 121 eP Pn 11 16 42.9 -0.1
BLEU Blekinge 4.79 358 P Pn 11 16 42.5 -1.0
BLEU Blekinge 4.79 358 i P Pn 11 16 42.2 -1.2
BLEU P Pn 11 16 42.5 -1.0
BLEU i S Sn 11 17 35.0 -4.6
KBA Koelnbreinsper 4.80 203 i Pn Pn 11 16 44.0 +0.2
comp=Z,12nm,0.3s
KBA eSn Sg 11 18 02.7 -1.6
comp=Z,66nm,0.6s
BJUU Bjuv 4.90 340 P Pn 11 16 43.1 -1.9
BJUU S Sn 11 17 36.9 -5.4
BJUU Bjuv 4.90 340 P Pn 11 16 43.1 -1.9
BJUU eP Pn 11 16 43.1 -1.9
BJUU S Sn 11 17 36.9 -5.4
BJUU i S Sn 11 17 37.2 -5.1
SOKA Soboth 4.90 188 i Pn Pn 11 16 46.2 +1.0
comp=Z,6.1nm,0.3s,SNR=8.0
SOKA i Sn Sb 11 18 00.5 +4.1
comp=Z,69nm,0.6s
SUW Suwalki 4.98 57 Pn Pn 11 16 45.4 -0.7
SUW Suwalki 4.98 57 eP Pn 11 16 46.5 +0.4
SUW Suwalki 4.98 57 P Pn 11 16 45.4 -0.7
BSZH Besenyszg 5.04 146 ⇓P Pn 11 16 47.8 +0.9
DEL Delary 5.12 346 P Pn 11 16 46.5 -1.5
DEL Delary 5.12 346 eP Pn 11 16 46.5 -1.5
DEL Delary 5.12 346 i P Pn 11 16 46.5 -1.5
DEL P Pn 11 16 46.5 -1.5
DEL i S Sn 11 17 43.2 -4.6
WATA Walderalm 5.12 217 i Pn Pn 11 16 48.9 +0.6
comp=Z,1.3nm,0.1s,SNR=38
WATA i Sn Sn 11 17 46.7 -1.4
comp=Z,15nm,0.3s
OBKA Obir 5.12 192 i Pn Pn 11 16 48.3 +0.1
comp=Z,1.3nm,0.2s
OBKA eSn Sb 11 18 00.8 -2.0
comp=Z,40nm,0.8s
MYKA Terra Mystica 5.16 199 i Pn Pn 11 16 48.8 +0.1
comp=Z,2.0nm,0.2s
MYKA i Sn Sb 11 18 03.4 -0.3
comp=Z,28nm,0.9s
WTTA Wattenberg 5.16 216 i Pn Pn 11 16 49.4 +0.6
comp=Z,5.5nm,0.2s,SNR=24
WTTA i Sn Sn 11 17 50.3 +1.2
comp=Z,46nm,0.6s
STU Stuttgart 5.21 241 Pn 11 16 48.2 -1.2
STU Stuttgart 5.21 241 P Pn 11 16 48.2 -1.2
MOTA Moosalm 5.30 220 i Pn Pn 11 16 50.4 -0.3
comp=Z,4.3nm,0.2s
MOTA i Sn Sb 11 18 14.0 +6.1
comp=Z,72nm,0.7s
RETA Reutte 5.32 223 i Pn Pn 11 16 50.7 -0.3
comp=Z,3.7nm,0.2s,SNR=5.9
RETA i Sn Sn 11 17 50.7 -2.3
comp=Z,10nm,0.3s
ABTA Abfaltersbach 5.33 207 i Pn Pn 11 16 52.1 +1.1
comp=Z,51nm,0.9s,SNR=33
ABTA eSn Sb 11 18 04.6 -4.0
comp=Z,36nm,0.7s
LVV L'vov 5.34 106 eP Pn 11 16 50.5 -0.6
LVV i S Sn 11 17 51.0 -2.2
LVV pmax pmax
comp=Z,300nm,1.4s
LVV smax smax
comp=N,400nm,1.3s
LVV smax smax
comp=N,500nm,1.4s
MOZS Mozjanca 5.35 192 i Pn Pn 11 16 52.0 +0.8
PRED Cave del Predi 5.35 199 Pn Pn 11 16 50.1 -1.3
SQTA Sankt Quirin 5.36 218 i Pn Pn 11 16 52.3 +0.8
comp=N,12nm,0.2s,SNR=21
SQTA i Sn Sb 11 18 14.3 +4.7
comp=N,60nm,0.6s
NAST IGS Nastaetten 5.37 259 ePn Pn 11 16 52.0 +0.5
KOE Koeppel 5.39 261 ePn Pn 11 16 51.7 -0.1
VXJU Vaexsjoe 5.45 353 P Pn 11 16 51.5 -1.0
VXJU Vaexsjoe 5.45 353 P Pn 11 16 51.5 -1.0
CLUD Cludinico 5.49 204 Pn Pn 11 16 54.7 +1.4
SSRD Sdr. Stenderup 5.52 318 eP Pn 11 16 57.2 +3.8
SSRD eS Sn 11 17 54.2 -3.3
SSRD IAML 11 18 02.1
comp=Z,262nm,0.8s
MORH Mrgy, Hungar 5.58 161 ⇑P Pn 11 16 54.3 -0.1
LJU Ljubljana 5.58 191 i Pn Pn 11 16 55.4 +0.9
OSKU Oskarshamn 5.68 0 P Pn 11 16 54.8 -0.9
OSKU Oskarshamn 5.68 0 P Pn 11 16 54.8 -0.9
BGG Burgeitz 5.69 260 ePn Pn 11 16 55.9 0.0
FETA Feichten 5.71 220 i Pn Pn 11 16 56.8 +0.5
comp=Z,3.7nm,0.3s
FETA i Sn Sb 11 18 16.6 -3.0
comp=Z,25nm,0.8s
LAUG Laupendahl 5.71 272 ePn Pn 11 16 56.3 +0.1
STAL STALIGIAL 5.72 204 Pn Pn 11 16 56.7 +0.4
SABO M.te Sabotino 5.79 197 Pn Pn 11 16 55.1 -2.2
BYXU Byxelkrok 5.80 5 P Pn 11 16 56.5 -0.8
BYXU Byxelkrok 5.80 5 P Pn 11 16 56.5 -0.8
BORR Bors 5.80 138 ⇓P Pn 11 16 58.1 +0.7
FABU Falkenberg 5.83 342 P Pn 11 16 56.6 -1.1
FABU Falkenberg 5.83 342 P Pn 11 16 56.6 -1.1
DAVA Damuels 5.86 226 i Pn Pn 11 16 57.5 -0.9
comp=Z,5.5nm,0.2s
DAVA eSn Sn 11 18 09.6 +3.2
comp=Z,44nm,0.6s
STB Steinbach 5.90 264 ePn Pn 11 16 58.8 0.0
STB eSn Sn 11 18 05.4 -1.6
comp=Z,141nm,0.7s
BFO Black Forest 5.94 240 Pn Pn 11 16 58.8 -0.5
BFO Black Forest 5.94 240 P Pn 11 16 58.8 -0.5
AMBH Ambrzfalva 6.02 148 ⇑P Pn 11 17 01.0 +0.6
BOJS Bojanci 6.05 186 i Pn Pn 11 17 01.8 +0.8
HILG Hillesheim 6.07 262 ePn Pn 11 17 01.2 0.0
PABE Paberze 6.16 47 Pn Pn 11 17 02.1 -0.2
PABE Paberze 6.16 47 eP Pn 11 17 03.1 +0.7
CTI Castel Tesino 6.21 210 Pn Pn 11 17 04.4 +1.2
CTI Castel Tesino 6.21 210 P Pn 11 17 04.4 +1.2
FUORN Ofenpass-Fuorn 6.22 220 Pn Pn 11 17 02.5 -1.0
DAVOX Davos/Dischmat 6.25 223 Pn Pn 11 17 03.3 -0.5
comp=Z,1.3nm,0.3s,baz=21,slow=12,SNR=22
DAVOX Sn Sn 11 18 17.1 +1.1
comp=Z,1.5nm,0.3s,baz=29,slow=18,SNR=1.9
DAVOX Lg Lg 11 18 49.5
comp=Z,2.4nm,0.3s,baz=52,slow=21,SNR=8.1
DAVOX LR LR 11 18 57.6
comp=Z,51nm,18.3s,baz=54,slow=33
comp=Z,11nm,0.6s
MESR Meseseni 6.27 132 ⇓P Pn 11 17 05.4 +1.5
BTNL Ternell 6.34 265 dP Pn 11 17 06.4 +1.6
BTNL dS Sg 11 18 54.2 +0.4
ONAU Onsala 6.36 339 eP Pn 11 17 06.6 +1.6
MUD Monsted U'grnd 6.39 323 eP Pn 11 17 09.7 +4.1
MEM Membach 6.42 266 dP Pn 11 17 06.6 +0.8
MEM dPP PnPn 11 17 12.3 -0.7
MEM dPg Pb 11 17 22.5 -0.1
MEM dS Sg 11 18 56.8 +0.7
SIRR Siria 6.42 143 ⇓P Pn 11 17 07.3 +1.4
BHOU Houvegnez 6.47 263 dP Pn 11 17 07.4 +0.7
BHOU dS Sg 11 18 58.5 +0.6
CDF Champ du Feu 6.48 245 eP Pn 11 17 08.8 0.0
CDF Champ du Feu 6.48 245 ePg Pg 11 17 30.4 -3.8
CDF eSg Sg 11 18 55.7 -2.4
comp=Z,1µm,1.4s
BEBN Eben Emael 6.58 268 dS Sg 11 19 03.8 +2.3
WLF Walferdange 6.59 257 Pn Pn 11 17 08.7 +0.5
WLF Walferdange 6.59 257 dP Pn 11 17 08.8 +0.5
WLF dS Sg 11 19 05.3 +3.7
WLF Walferdange 6.59 257 P Pn 11 17 08.7 +0.5
ECH Echery 6.65 244 Pn Pn 11 17 09.0 -0.1
ECH Echery 6.65 244 P Pn 11 17 09.0 -0.1
BSTI Sart Tilman 6.69 266 dP Pn 11 17 10.3 +0.6
BSTI dPP PnPn 11 17 19.4 +1.0
MARR Marisel-Cluj 6.70 134 ⇑P Pn 11 17 10.6 +0.7
TUE Stuetta 6.72 224 Pn Pn 11 17 11.2 +0.9
TEOL Teolo 6.83 207 Pn Pn 11 17 11.4 -0.1
FRGS Fruska Gora 6.84 157 ⇓P Pn 11 17 12.0 +0.2
BCLA Clavier 6.89 265 dP Pn 11 17 12.8 +0.3
BCLA dPP PnPn 11 17 19.9 +0.2
BCLA dS Sg 11 19 10.9 -0.6
CJR Cluj-Napoca 6.90 131 ⇑P Pn 11 17 13.9 +1.4
CJR Cluj-Napoca 6.90 131 P Pn 11 17 13.9 +1.4
BZS Buzias 6.96 146 ⇓P Pn 11 17 14.0 +0.6
BZS Buzias 6.96 146 P Pn 11 17 13.9 +0.6
SALO Salr 6.97 214 Pn Pn 11 17 14.2 +0.8
VIKU Vikbolandet 7.00 3 eP Pn 11 17 13.6 -0.2
ARCR ARCALIA 7.00 126 ⇑P Pn 11 17 15.2 +1.3
RCHB Rochefort 7.01 263 dPn Pn 11 17 15.0 +1.1
RCHB dPP PnPn 11 17 21.6 +0.5
RCHB dS Sg 11 19 14.4 -0.7
SURR Surduc 7.03 143 ⇑P Pn 11 17 15.1 +0.8
BGES Gesves 7.04 265 dP Pn 11 17 15.0 +0.6
BGES dS Sg 11 19 17.6 +1.6
HINF Hinteralfeld 7.04 242 eP Pn 11 17 15.1 +0.6
HINF Hinteralfeld 7.04 242 ePg Pg 11 17 40.2 -4.8
HINF eSg Sg 11 19 10.5 -5.8
comp=Z,381nm,1.0s
BUR08 Bucovina Ar. S 7.09 120 Pn Pn 11 17 15.5 +0.3
SLIT Slitere, Latvi 7.10 28 eP Pn 11 17 14.6 -0.6
BURAR Bucovina Array 7.12 120 ⇓P Pn 11 17 17.5 +1.9
BURAR Bucovina Array 7.12 120 Pn Pn 11 17 16.1 +0.5
BURAR Bucovina Array 7.12 120 P Pn 11 17 17.4 +1.9
HAU Haudompre 7.22 245 eP Pn 11 17 16.4 -0.5
HAU eSg Sg 11 19 16.2 -5.7
comp=Z,252nm,1.0s
DEV Deva 7.23 139 ⇑P Pn 11 17 17.8 +0.8
DEV Deva 7.23 139 P Pn 11 17 17.8 +0.8
BMRD Maredsous 7.26 265 dPn Pn 11 17 16.8 -0.6
BMRD dSn Sn 11 18 38.6 -1.8
BMRD dS Sg 11 19 22.1 -0.9
NACGM Naroch 7.26 58 eP Pn 11 17 18.0 +0.5
comp=Z,71nm,1.2s,baz=247
GIVF Givet 7.27 263 eP Pn 11 17 18.4 +0.8
GIVF eSg Sg 11 19 17.9 -5.7
comp=Z,301nm,1.0s
PAGF Fort de Pagny 7.30 250 eP Pn 11 17 19.5 +1.5
DOU Dourbes 7.42 263 dP Pn 11 17 20.7 +1.1
DOU dS Sg 11 19 24.8 -3.4
GZR Gura Zlata 7.58 141 ⇑P Pn 11 17 22.5 +0.5
GZR Gura Zlata 7.58 141 P Pn 11 17 22.4 +0.5
SAVF Savonnieres en 7.63 252 eP Pn 11 17 23.8 +1.3
BAIF Baives 7.67 264 eP Pn 11 17 24.7 +1.7
BAIF eSg Sg 11 19 31.1 -5.1
comp=Z,265nm,1.1s
MNK Minsk 7.72 63 i P Pn 11 17 21.8 -1.9
MNK i P Pn 11 17 21.8 -1.9
MNK i P Pn 11 17 21.8 -1.9
comp=Z,7.0nm,1.1s,baz=252
MNK i PP PnPn 11 17 30.0 -1.0
MNK i PPP PPP 11 17 37.3
MNK i S Sn 11 18 50.5 -1.2
MNK i SS SnSn 11 19 02.8 +0.1
MNK i SSS SSS 11 19 15.2
MNK i LQ LQ 11 19 32.7
MNK i LR LR 11 20 06.9
MNK i LRM MLR 11 20 30.4
comp=N,69nm,9.8s
MNK i LRM MLR 11 20 32.2
comp=Z,224nm,10.0s
MNK i LRM MLR 11 20 34.9
comp=E,88nm,11.4s
MNK Minsk 7.72 63 i P Pn 11 17 21.8 -1.9
MNK i S Sn 11 18 50.5 -1.2
MNK pmax pmax
comp=Z,7.0nm,1.1s
MNK MLR MLR
comp=N,69nm,10.0s
MNK MLR MLR
comp=Z,224nm,10.0s
MNK MLR MLR
comp=E,88nm,11.0s
MEZF Maizieres J'vi 7.72 251 eP Pn 11 17 24.9 +1.1
MDVR Moldovita 7.73 149 ⇑P Pn 11 17 24.7 +0.8
SENIN Lac Senin/Sane 7.75 232 Pn Pn 11 17 24.4 0.0
PRMA PARMA 7.79 212 Pn Pn 11 17 27.1 +2.5
SFTF Sexfontaines 7.87 249 eP Pn 11 17 26.6 +0.8
SFTF eSg Sg 11 19 36.3 -6.4
comp=E,1µm,1.4s
HERR Herculane 7.88 145 ⇑P Pn 11 17 27.1 +1.2
DIVS Divibare 7.89 159 Pn Pn 11 17 27.3 +1.2
LOT Lotru 7.94 137 ⇑P Pn 11 17 27.8 +0.9
CABF La Chapelle 8.20 237 eP Pn 11 17 31.6 +1.2
CABF La Chapelle 8.20 237 ePg Pg 11 18 01.8 -5.3
CABF eSg Sg 11 19 46.8 -6.4
comp=E,1µm,1.6s
DOPR Dopca 8.29 129 ⇑P Pn 11 17 32.6 +0.9
KIEV Kiev 8.31 91 Pn Pn 11 17 30.4 -1.4
KIEV Kiev 8.31 91 P Pn 11 17 30.4 -1.4
AKASG Malin Array Be 8.32 91 Pn Pn 11 17 30.0 -1.9
AKASG Malin Array Be 8.32 91 i P Pn 11 17 29.5 -2.4
AKASG pmax pmax
comp=Z,18nm,0.5s
AKASG Malin Array Be 8.32 91 Pn Pn 11 17 29.5 -2.4
comp=Z,4.9nm,0.3s,baz=280,slow=12,SNR=22
AKASG Sn Sn 11 19 02.4 -4.1
comp=Z,3.4nm,0.3s,baz=265,slow=26,SNR=6.5
AKASG Lg Lg 11 19 59.7
comp=Z,1.6nm,0.3s,baz=274,slow=26,SNR=5.5
comp=Z,17nm,0.7s
AKBB Malin Array Si 8.32 91 Pn Pn 11 17 30.2 -1.7
AKBB Malin Array Si 8.32 91 d iP Pn 11 17 30.5 -1.4
ARR Arges 8.38 134 ⇑P Pn 11 17 34.4 +1.4
MSSA Maissana 8.45 214 Pn Pn 11 17 31.9 -2.0
MTSE Matsula 8.45 29 eP Pn 11 17 33.1 -0.6
VOIR 8.52 132 ⇑P Pn 11 17 36.2 +1.3
VOIR 8.52 132 P Pn 11 17 36.1 +1.3
TURR Turia 8.54 126 ⇑P Pn 11 17 37.7 +2.6
TESR Tescani 8.57 122 ⇓P Pn 11 17 37.7 +2.3
LPL La Plagne 8.64 229 eP Pn 11 17 38.1 +1.6
LPL eSg Sg 11 20 01.9 -5.4
comp=Z,483nm,1.6s
LPG La Plagne 8.64 229 eP Pn 11 17 38.8 +2.1
LPG eSg Sg 11 20 00.2 -7.3
comp=Z,454nm,1.4s
OSSC Osservatorio P 8.65 204 Pn Pn 11 17 35.6 -0.9
GUMA Gualdo di Mace 8.67 193 Pn Pn 11 17 36.1 -0.7
HFS Hagfors 8.73 352 Pn Pn 11 17 35.6 -2.0
comp=Z,0.6nm,0.3s,baz=173,slow=13,SNR=14
HFS Sn Sn 11 19 11.8 -4.7
comp=Z,0.6nm,0.3s,baz=156,slow=22,SNR=1.7
HFS Lg Lg 11 20 05.2
comp=Z,0.6nm,0.3s,baz=176,slow=26,SNR=1.9
comp=Z,1.9nm,0.5s
FDMO Fiordimonte 8.73 195 Pn 11 17 36.8 -0.9
MLR Muntele Rosu 8.91 129 ⇑P Pn 11 17 42.2 +2.0
MLR Muntele Rosu 8.91 129 Pn Pn 11 17 38.4 -1.7
MLR Muntele Rosu 8.91 129 P Pn 11 17 42.1 +2.0
MLR Muntele Rosu 8.91 129 Pn Pn 11 17 40.0 -0.2
baz=336,slow=21,SNR=1.7
MLR Lg Lg 11 20 15.5
comp=Z,0.1nm,0.3s,baz=196,slow=19,SNR=1.0
MLR LR LR 11 21 06.3
comp=Z,80nm,18.2s,baz=332,slow=38
comp=Z,1.0nm,0.6s
NRCA Norcia 8.93 194 Pn 11 17 40.0 -0.4
PLOR Plostina 9.01 125 ⇓P Pn 11 17 43.1 +1.7
PLOR Plostina 9.01 125 P Pn 11 17 43.1 +1.7
BNI Bardonecchia 9.01 228 Pn Pn 11 17 40.6 -1.0
BNI Bardonecchia 9.01 228 P Pn 11 17 40.6 -1.0
LOR Lormes 9.03 247 ePn Pn 11 17 39.3 -2.5
baz=57
LOR eSg Sn 11 20 13.4 +49
comp=Z,276nm,1.4s
VRI Vrincioaia 9.04 125 ⇑P Pn 11 17 43.8 +1.9
VRI Vrincioaia 9.04 125 P Pn 11 17 43.7 +1.9
BLKB Belogradchik 9.08 148 ⇑P Pn 11 17 43.1 +0.7
CAMP Campotosto 9.18 192 Pn 11 17 44.0 +0.1
MBDF Montbardon 9.22 226 eP Pn 11 17 45.6 +1.2
MBDF eSg Sn 11 20 18.3 +49
comp=Z,456nm,1.7s
VSU Vasula 9.25 37 eP Pn 11 17 44.6 0.0
VSU Vasula 9.25 37 ⇑eP Pn 11 17 46.0 +1.3
VSU pmax pmax
comp=Z,64nm,1.7s
SSF Saint Saulge 9.35 246 eP Pn 11 17 46.3 +0.2
SSF eSg Sn 11 20 22.4 +51
comp=Z,298nm,1.4s
SMF Signal de Mont 9.39 243 eP Pn 11 17 48.2 +1.5
SMF eSg Sn 11 20 25.1 +52
comp=Z,329nm,1.4s
CASP Castiglione de 9.43 204 Pn Pn 11 17 46.1 -1.1
ORIF Oris-en-Rattie 9.48 230 eP Pn 11 17 49.3 +1.3
ORIF eSg Sn 11 20 28.9 +54
comp=Z,559nm,1.6s
NC602 NORSAR Array S 9.57 346 Pn Pn 11 17 47.3 -1.7
AVF Avril sur Loir 9.59 245 eP Pn 11 17 48.7 -0.6
AVF eSg Sn 11 20 30.9 +53
comp=Z,578nm,1.6s
SBF Sospel 9.62 221 ePn Pn 11 17 50.5 +0.6
HYF Humbligny 9.74 249 eP Pn 11 17 53.4 +1.9
HYF eSg Sn 11 20 35.2 +54
MEF Metsahovi 9.87 25 eP Pn 11 17 53.7 +0.5
NB201 NORSAR Array S 9.90 346 Pn Pn 11 17 52.1 -1.5
NB2 NORSAR Subarra 9.91 346 P Pn 11 17 51.7 -2.0
comp=Z,1.6nm,0.8s,baz=156,slow=9.3
NOA NORSAR Array B 9.91 346 Pn Pn 11 17 50.0 -3.7
comp=Z,0.1nm,0.3s,baz=166,slow=12,SNR=9.9
NOA Sn Sn 11 19 36.1 -9.4

NOA Lg Lg 11 20 40.4
comp=Z,0.1nm,0.3s,baz=303,slow=22,SNR=4.1
NOA LR LR 11 22 25.6
comp=Z,97nm,20.0s,baz=155,slow=42
comp=Z,0.9nm,0.9s
NBO00 NORSAR Array S 9.97 345 Pn **Pn 11 17 55.6 +1.1**
BGF Bois d'Agland 10.01 245 *e*Pg Pn 11 18 35.3 +40
BGF *e*Sg Sn 11 20 43.2 +55
comp=Z,507nm,1.6s
RAF Rauma 10.02 16 *e*P **Pn 11 17 53.7 -1.5**
VIVF Saint-Julien-l 10.12 233 *e*P **Pn 11 17 57.7 +1.0**
VIVF *e*Sg Sn 11 20 46.5 +56
comp=Z,458nm,1.7s
PGF Pioggiola 10.19 211 *e*Pn **Pn 11 17 55.0 -2.8**
PGF *e*Sn Sn 11 19 42.0 -11
comp=Z,0.7nm,0.2s
NC204 NORSAR Array S 10.20 345 Pn **Pn 11 17 56.0 -1.8**
CFR Carcaliu 10.23 124 ⇑P **Pn 11 18 00.2 +2.1**
CFR Carcaliu 10.23 124 P **Pn 11 18 00.2 +2.1**
SMRF Simiane la Rot 10.34 227 *e*P **Pn 11 18 01.8 +2.1**
LMR La Mourre 10.44 222 *e*Pn **Pn 11 18 01.3 +0.2**
TCF Toulx Ste Croi 10.52 246 *e*Sg Sn 11 20 59.3 +59
comp=Z,800nm,2.1s
PAOL Paolisi 10.55 186 Pn **Pn 11 18 03.8 +1.2**
TPGR Topolog 10.60 124 ⇓P **Pn 11 18 05.4 +2.2**
LDF La Druitiere 10.82 261 *e*P **Pn 11 18 08.8 +2.6**
LDF La Druitiere 10.82 261 *e*Pg Pn 11 18 49.8 +44
LDF *e*Sg 11 21 08.7
comp=Z,534nm,2.0s
LASF Ste Croix 11.09 233 *e*P **Pn 11 18 11.7 +1.8**
LASF *e*Sg 11 21 16.9
comp=Z,373nm,1.8s
GRR Gorron 11.35 261 *e*P **Pn 11 18 16.0 +2.5**
FNA Florina 11.35 159 Pn **Pn 11 18 12.8 -0.8**
FNA Florina 11.35 159 P **Pn 11 18 12.8 -0.8**
FINES FINESS Array B 11.36 25 Pn **Pn 11 18 11.6 -1.9**
FINES FINESS Array B 11.36 25 P **Pn 11 18 11.6 -1.9**
FINES FINESS Array B 11.36 25 Pn **Pn 11 18 10.6 -2.9**
comp=Z,0.9nm,0.3s,baz=208,slow=11,SNR=34
FINES Sn Sn 11 20 11.4 -10
comp=Z,0.9nm,0.3s,baz=240,slow=23,SNR=2.0
FINES Lg Lg 11 21 23.1
comp=Z,0.1nm,0.3s,baz=234,slow=19,SNR=2.3
comp=Z,5.7nm,0.6s
FIA1 FINESS Array S 11.36 25 Pn **Pn 11 18 12.0 -1.4**
CAF Calviac 11.44 240 *e*Pg Pn 11 19 01.6 +47
CAF *e*Sg 11 21 26.6
comp=Z,158nm,1.5s
RJF Les Rejaudoux 11.50 243 *e*Pg Pn 11 19 03.0 +48
RJF *e*Sg 11 21 30.7
comp=Z,678nm,2.0s
EKA Eskdalemuir Ar 12.08 296 Pn **Pn 11 18 18.8 -4.6**
baz=100,slow=13
EKA Sn Sn 11 20 28.6 -10
baz=104,slow=25
EKB Eskdalemuir 12.10 296 Pn **Pn 11 18 19.1 -4.5**
ESK Eskdalemuir 12.10 296 Pn **Pn 11 18 20.4 -3.2**
ESK Eskdalemuir 12.10 296 P **Pn 11 18 20.5 -3.2**
LFF La Frestale 12.15 243 *e*Pg Pn 11 19 13.9 +49
LFF *e*Sg 11 21 50.7
comp=Z,351nm,1.6s
RDO Rodhopi 12.26 144 Pn **Pn 11 18 23.6 -2.3**
MTLF Montolieu 12.44 234 *e*P **Pn 11 18 30.0 +1.6**
MTLF Montolieu 12.44 234 *e*Pg Pn 11 19 19.2 +51
MTLF *e*Sg 11 21 58.9
comp=Z,232nm,1.6s
OBN Obninsk 12.75 66 ⇓*i*P **Pn 11 18 31.4 -1.2**
OBN pmax pmax
comp=Z,42nm,1.2s
OBN MLR MLR
comp=Z,186nm,10.0s
OBN Obninsk 12.75 66 Lg Lg 11 22 17.7
comp=Z,3.2nm,0.3s,baz=165,slow=23,SNR=1.2
MOS Moscow 13.44 63 *e*P Pn 11 18 36.6 -5.4
MOS *e*S **Sn 11 21 13.8 +1.8**
MOS pmax pmax
comp=Z,49nm,0.8s
EPF Esparros 13.63 238 *e*P **Pn 11 18 46.1 +1.4**
SIM Simferopol' 13.69 112 P **Pn 11 18 47.9 +2.5**
SIM S **Sn 11 21 20.0 +1.9**
SIM pmax pmax
comp=Z,36nm,1.2s
VORR Voronezh 14.37 80 *e*P Pn 11 18 49.7 -4.9
VORR pmax pmax
comp=Z,84nm,0.4s
ANN Anapa 15.73 107 *e*P **Pn 11 19 08.7 -4.2**
ANN *e*S **Sn 11 22 01.2 -6.5**
ANN pmax pmax
comp=Z,43nm,0.9s
KLMR Klimovskoe 15.96 45 *e*Pn Pn 11 19 05.2 -11
KLMR *e*Pn Pn 11 19 05.2 -11
KLMR *e*Pn Pn 11 19 05.2 -11
KLMR AMP 11 19 21.4
comp=Z,50nm,1.6s
KLMR *e*Sn Sn 11 21 59.4 -14
KLMR *e*Sn Sn 11 21 59.4 -14
KLMR Klimovskoe 15.96 45 *e*P Pn 11 19 05.2 -11
KLMR pmax pmax
comp=Z,50nm,1.6s
VRH Novokhopyorsk 16.00 81 *e*P Pn 11 19 09.1 -7.2
VRH pmax pmax
comp=Z,26nm,0.3s
KEST Kesra 16.51 200 Pn **Pn 11 19 22.3 -0.8**
KEST IAmb IAmb 11 19 30.1
comp=Z,38nm,1.4s
BR131 Keskin Array S 16.98 127 Pn **Pn 11 19 28.1 -1.0**
BR131 Keskin Array S 16.98 127⇑*e*P **Pn 11 19 29.6 +0.5**
BRTR Keskin Array B 16.98 127 Pn **Pn 11 19 28.4 -0.8**
BRTR Keskin Array B 16.98 127*ce*P **P 11 19 32.9 +1.8**
BRTR pmax pmax
comp=Z,3.0nm,1.1s
BRTR Keskin Array B 16.98 127 P **Pn 11 19 28.9 -0.2**
comp=Z,0.1nm,0.3s,baz=328,slow=8.7,SNR=7.4
comp=Z,1.0nm,0.8s
ELL Elmali 17.75 141 Pn **Pn 11 19 37.2 -1.6**
ELL Elmali 17.75 141 P **Pn 11 19 37.2 -1.6**
ELL pmax pmax
comp=Z,27nm,1.2s
SOC Sochi 17.77 107 *e*P **Pn 11 19 38.4 -0.4**
SOC *e* 11 22 58.6
KARP Karpathos 17.85 149 P **Pn 11 19 39.8 0.0**
ESDC Sonseca Array 18.29 237 P **P 11 19 45.9 +0.4**
baz=35,slow=10,SNR=7.2
ESDC LR LR 11 26 11.3
comp=Z,44nm,19.9s,baz=332,slow=35
comp=Z,4.4nm,1.2s
CART Cartagena 18.44 228 P **Pn 11 19 44.2 -2.8**
ARCES ARCESS Array B 18.61 10 P **P 11 19 45.7 -3.0**
ARCES IAmb IAmb 11 19 51.4
comp=Z,62nm,1.4s
ARCES ARCESS Array B 18.61 10 P **P 11 19 45.7 -3.0**
ARCES pmax pmax
comp=Z,62nm,1.4s
ARCES ARCESS Array B 18.61 10 P **P 11 19 44.0 -4.7**
comp=Z,2.5nm,0.5s,baz=192,slow=13,SNR=13
BNN Bunyan 18.76 125 P **P 11 19 49.6 -1.1**
BNN IAmb IAmb 11 19 52.3
comp=Z,28nm,1.2s
PRGR Permogore 18.99 46 *e*P P 11 19 44.1 -8.8
PRGR pmax pmax
comp=Z,20nm,1.4s
KEV Kevo 19.00 12 P **P 11 19 51.3 -1.6**
KEV Kevo 19.00 12 P **P 11 19 51.3 -1.6**
KEV pmax pmax
comp=Z,73nm,1.4s
KIV Kislovodsk 19.36 103 *e*P **Pn 11 19 58.2 0.0**
KIV pmax pmax
comp=Z,8.0nm,1.0s
BELG Belogornoye 19.39 75*c i*P **P 11 19 57.8 +0.5**
BELG pmax pmax
comp=Z,15nm,1.4s
ARPR Arapgir-MALATY 19.90 120 P **P 11 20 00.7 -2.5**
ARPR IAmb IAmb 11 20 10.3
comp=Z,22nm,1.4s
KIRV Kirov 20.19 57⇑*e*P **P 11 20 06.8 +0.7**
KIRV Kirov 20.19 57 P **P 11 20 05.0 -1.1**
comp=Z,8.1nm,0.5s,baz=270,slow=2.0,SNR=4.5
KIRV LR LR 11 29 27.1
comp=Z,59nm,18.5s,baz=225,slow=41
comp=Z,8.1nm,0.5s
ONI Oni 20.58 105 P **P 11 20 09.1 -1.4**
ONI Oni 20.58 105 P **P 11 20 09.1 -1.4**
ONI pmax pmax
comp=Z,9.0nm,0.9s

CSS Mathiatis 20.70 136 P **P 11 20 10.7 -1.1**
AKH Akhalkalaki 21.30 108 P **P 11 20 17.9 -0.6**
AKH Akhalkalaki 21.30 108 P **P 11 20 17.9 -0.6**
AKH pmax pmax
comp=Z,65nm,1.2s
KARS Kars 21.55 110 P **P 11 20 22.4 +1.4**
KARS Kars 21.55 110 P **P 11 20 22.5 +1.4**
KARS pmax pmax
comp=Z,181nm,1.3s
GNI Garni 22.83 109*c i*P **P 11 20 37.8 +3.0**
GNI pmax pmax
comp=Z,46nm,1.5s
MAK Makhachkala 22.85 100 *e*P **P 11 20 30.2 -4.5**
MAK *e*S **S 11 24 38.0 -7.0**
MAK pmax pmax
comp=Z,254nm,1.3s
MAK MLR MLR
comp=Z,99nm,16.0s
MMAI Mount Meron Ar 23.26 135 P **P 11 20 38.5 -0.7**
comp=Z,2.0nm,0.6s,baz=317,slow=12,SNR=2.2
comp=Z,2.0nm,0.6s
ARU Arti 25.15 62 P **P 11 20 56.0 -0.6**
ARU IAmb IAmb 11 20 59.7
comp=Z,16nm,1.1s
ARU Arti 25.15 62*c i*P **P 11 20 57.4 +0.8**
ARU S **S 11 25 26.4 +4.1**
ARU SS **SnSn 11 26 17.2 +6.1**
ARU pmax pmax
comp=Z,20nm,1.3s
ARU Arti 25.15 62 P **P 11 20 55.9 -0.7**
comp=Z,7.5nm,0.4s,baz=264,slow=8.3,SNR=7.6
ARU LR LR 11 31 44.8
comp=Z,33nm,20.1s,baz=256,slow=39
comp=Z,7.5nm,0.4s
AKTO Aktyubinsk 26.17 76 P **P 11 21 05.3 -0.7**
comp=Z,4.7nm,0.8s,baz=288,slow=8.2,SNR=12
comp=Z,4.7nm,0.8s
SVE Sverdlovsk 26.24 61 *e*P **P 11 21 07.1 +0.6**
SVE pmax pmax
comp=Z,41nm,1.6s
ABKAR Akbulak array 27.75 77 P **P 11 21 20.4 +0.2**
ABKAR Akbulak array 27.75 77 P **P 11 21 19.7 -0.5**
TAM Tamanrasset 29.83 200 P **P 11 21 40.7 +1.6**
TAM IAmb IAmb 11 21 42.9
comp=Z,7.1nm,1.2s
TAM Tamanrasset 29.83 200 P **P 11 21 40.7 +1.6**
TAM pmax pmax
comp=Z,7.0nm,1.2s
GEYT Alibeck 32.34 98 P **P 11 22 00.8 -0.2**
GEYT IAmb IAmb 11 22 12.2
comp=Z,7.3nm,1.4s
GEYT Alibeck 32.34 98 P **P 11 22 00.8 -0.2**
GEYT pmax pmax
comp=Z,7.0nm,1.4s
GYA0B ALIBECK ARRAY 32.34 98 P **P 11 22 01.3 +0.3**
GYA0B IAmb IAmb 11 22 05.1
comp=Z,6.1nm,0.9s
BRVK Borovoye 32.53 66 P **P 11 22 03.4 +1.0**
BRVK IAmb IAmb 11 22 05.0
comp=Z,7.0nm,0.9s
BRVK Borovoye 32.53 66*c i*P **P 11 22 03.8 +1.4**
BRVK pmax pmax
comp=Z,13nm,1.5s
BVAR Borovoye Array 32.60 66 P **P 11 22 03.2 +0.1**
comp=Z,3.3nm,0.7s,baz=299,slow=8.3,SNR=17
comp=Z,3.3nm,0.7s
NRIK Noril'sk 36.83 34 P **P 11 22 41.3 +2.0**
NRIK IAmb IAmb 11 22 42.4
comp=Z,8.1nm,1.4s
NRIK Noril'sk 36.83 34⇑*e*P **P 11 22 40.7 +1.3**
NRIK pmax pmax
comp=Z,9.0nm,1.6s
NRIK Noril'sk 36.83 34 P **P 11 22 40.1 +0.7**
comp=Z,0.8nm,0.3s,baz=266,slow=7.2,SNR=3.5
comp=Z,0.8nm,0.3s
KK31 Karatay Array 37.08 81 P **P 11 22 43.3 +1.4**
KK31 IAmb IAmb 11 22 45.6
comp=Z,15nm,1.4s
KK31 Karatay Array 37.08 81 P **P 11 22 43.3 +1.4**
KK31 pmax pmax
comp=Z,15nm,1.4s
KKAR Karatay Array 37.08 81 P **P 11 22 43.1 +1.2**
KKAR Karatay Array 37.08 81 P **P 11 22 43.1 +1.2**
KURBB Kurchatov Arra 38.19 66 P **P 11 22 50.8 -0.3**
comp=Z,1.4nm,0.2s,baz=299,slow=9.3,SNR=10.0
KURBB PP **PP 11 24 13.4 -4.7**
comp=Z,1.1nm,0.2s,baz=293,slow=11,SNR=6.0
KURBB LR LR 11 39 16.2
comp=Z,50nm,19.6s,baz=160,slow=37
comp=Z,1.4nm,0.2s
KURK Kurchatov 38.20 66 P **P 11 22 51.0 -0.2**
KURK Kurchatov 38.20 66⇓*i*P **P 11 22 52.1 +0.9**
KURK pmax pmax
comp=Z,9.0nm,1.5s
CHGR Chuyangaron 38.78 88 P **P 11 22 56.9 +0.5**
CHGR Chuyangaron 38.78 88 P **P 11 22 56.9 +0.5**
CHGR pmax pmax
comp=Z,33nm,1.3s
BTK Batken 38.98 85 P **P 11 22 58.6 +0.6**
BTK IAmb IAmb 11 23 01.5
comp=Z,6.3nm,0.9s
BTK Batken 38.98 85 P **P 11 22 58.6 +0.6**
BTK pmax pmax
comp=Z,6.0nm,0.9s
ARSB Arslanbob 39.59 82 P **P 11 23 04.4 +1.2**
ARSB Arslanbob 39.59 82 P **P 11 23 04.4 +1.2**
ARSB pmax pmax
comp=Z,3.0nm,1.0s
AAK Ala-Archa 39.79 79 P **P 11 23 05.9 +1.1**
AAK IAmb IAmb 11 23 09.0
comp=Z,15nm,1.2s
AAK Ala-Archa 39.79 79*d i*P **P 11 23 06.0 +1.2**
AAK pmax pmax
comp=Z,24nm,1.7s
TOA0 Torodi Ar. Sit 40.01 202 P **P 11 23 06.1 -0.6**
TOA0 IAmb IAmb 11 23 08.4
comp=Z,9.2nm,1.1s
TORD Torodi Ar. Bea 40.01 202 P **P 11 23 06.0 -0.7**
TORD IAmb IAmb 11 23 08.4
comp=Z,10nm,1.2s
TORD Torodi Ar. Bea 40.01 202 P **P 11 23 05.7 -0.9**
comp=Z,3.2nm,0.8s,baz=15,slow=5.6,SNR=18
comp=Z,3.2nm,0.8s
ZAA0 Zalesovo Array 40.20 59 P **P 11 23 09.2 +1.2**
ZALV Zalesovo Beam 40.20 59 P **P 11 23 09.0 +1.1**
ZALV Zalesovo Beam 40.20 59 *i* P **P 11 23 09.0 +1.1**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 40.20 59 P **P 11 23 08.6 +0.7**
comp=Z,0.6nm,0.3s,baz=298,slow=7.7,SNR=7.6
ZALV PP **PP 11 24 36.8 -3.3**
comp=Z,0.5nm,0.3s,baz=309,slow=13,SNR=4.0
comp=Z,0.6nm,0.3s
MAKZ Makanchi 42.04 69 P **P 11 23 24.5 +1.3**
MAKZ Makanchi 42.04 69 P **P 11 23 24.5 +1.3**
MAKZ pmax pmax
comp=Z,4.0nm,1.4s
MK31 Makanchi Array 42.23 69 P **P 11 23 25.9 +1.2**
MK31 Makanchi Array 42.23 69 P **P 11 23 25.9 +1.2**
MK31 pmax pmax
comp=Z,1.0nm,1.0s
MKAR Makanchi Array 42.23 69 P **P 11 23 25.5 +0.8**
comp=Z,1.3nm,0.8s,baz=302,slow=5.5,SNR=10.0
MKAR PP **PP 11 24 58.7 -3.4**
comp=Z,0.8nm,1.0s,baz=302,slow=8.3,SNR=3.9
MKAR LR LR 11 42 33.8
comp=Z,46nm,18.4s,baz=332,slow=38
comp=Z,1.3nm,0.8s
KSH Kashi 42.50 82 P **P 11 23 29.3 +2.1**
KSH pmax pmax
comp=Z,13nm,1.4s
DGZ Jazzator, Alta 43.65 63⇑*i*P **P 11 23 37.7 +1.3**
DGZ pmax pmax
comp=Z,18nm,1.8s
LODK Lodwar 50.59 155 P **P 11 24 30.9 +0.2**
LODK IAmb IAmb 11 24 32.9
comp=Z,9.8nm,1.4s
SONM Songino Array 54.92 55 P **P 11 25 02.8 +0.3**
SONM Songino Array 54.92 55 P **P 11 25 03.4 +0.9**
comp=Z,2.8nm,1.0s,baz=296,slow=7.5,SNR=16
comp=Z,2.8nm,1.0s
YAK Yakutsk 55.20 32⇑*e*P **P 11 25 05.0 +0.9**
YAK pmax pmax
comp=Z,10.0nm,0.6s
ULN Ulaanbaatar 55.24 55⇓*i*P **P 11 25 07.1 +2.2**
ULN pmax pmax

comp=Z,9.0nm,1.4s
E29M Blow River 58.84 349 P **P 11 25 31.0 +1.1**
E29M IAmb IAmb 11 25 32.4
comp=Z,7.4nm,1.3s
F31M Tsiigehtchic 59.20 347 P **P 11 25 33.6 +1.3**
E27K Coleen River 59.45 351 P **P 11 25 35.6 +1.5**
YKA Yellowknife Ar 59.83 336 P **P 11 25 37.4 +0.6**
comp=Z,1.9nm,0.9s,baz=26,slow=6.5,SNR=23
comp=Z,1.9nm,0.9s
E19K Redstone River 61.23 357 P **P 11 25 47.4 +1.1**
E19K IAmb IAmb 11 25 48.8
comp=Z,5.7nm,1.1s
BTO Baotou 61.73 60 *e*P **P 11 25 51.5 +1.3**
BTO pP PcP 11 25 56.0 -36
BTO sP 11 25 58.5
BTO PP **PP 11 28 08.8 +3.2**
BTO pmax pmax
comp=Z,20nm,0.6s
BTO pmax pmax
comp=Z,850nm,5.1s
J30M Hart River 62.27 347 P **P 11 25 54.6 +1.2**
J30M IAmb IAmb 11 25 57.0
comp=Z,3.7nm,0.9s
DAWY Dawson 63.16 348 P **P 11 25 59.1 -0.3**
DAWY IAmb IAmb 11 26 03.3
comp=Z,5.9nm,1.2s
ILAR Eielson Array 63.28 352 P **P 11 26 01.2 +1.2**
comp=Z,0.6nm,1.0s,baz=354,slow=4.5,SNR=5.0
comp=Z,0.6nm,1.0s
ULM Lac du Bonnet 63.33 318 P **P 11 26 01.9 +1.3**
ULM IAmb IAmb 11 26 15.5
comp=Z,4.7nm,1.2s
ULM Lac du Bonnet 63.33 318 P **P 11 26 01.4 +0.8**
comp=Z,5.3nm,1.1s,baz=16,slow=5.9,SNR=3.5
comp=Z,5.3nm,1.1s
K27K Chicken 63.52 349 P **P 11 26 01.9 +0.2**
KLR Kul'dur 65.65 40⇑*e*P **P 11 26 15.4 -0.4**
KLR pmax pmax
comp=Z,50nm,3.9s
KLR Kul'dur 65.65 40 P **P 11 26 15.9 +0.1**
comp=Z,0.9nm,0.3s,baz=342,slow=8.9,SNR=3.8
comp=Z,0.9nm,0.3s
KMI Kunming 68.73 76⇑P **P 11 26 36.5 +0.5**
KMI pmax pmax
comp=Z,7.0nm,1.8s
CHTO Chiang Mai 71.11 83 P **P 11 26 50.4 0.0**
CHTO IAmb IAmb 11 26 55.7
comp=Z,5.0nm,1.1s
CHTO Chiang Mai 71.11 83 P **P 11 26 50.4 0.0**
CHTO pmax pmax
comp=Z,5.0nm,1.1s
CMAR Chiang Mai Arr 71.38 84*ce*P **P 11 26 53.2 +1.2**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 71.38 84 P **P 11 26 51.8 -0.3**
comp=Z,1.1nm,0.6s,baz=311,slow=6.6,SNR=9.9
comp=Z,1.1nm,0.6s
MSO Missoula 73.03 327 P **P 11 27 02.3 +0.7**
BPMT Black Pine Rid 73.19 326 P **P 11 27 02.5 -0.4**
KSAR Wonju Array Be 73.26 51 P **P 11 27 04.3 +1.3**
KSAR Wonju Array Be 73.26 51 P **P 11 27 04.3 +1.3**
D08A Wollman Farm, 74.46 330 P **P 11 27 09.8 -0.2**
IMW Indian Meadow 74.47 323 P **P 11 27 10.7 +0.3**
E09A Wood Farm, Sta 74.70 329 P **P 11 27 11.6 +0.2**
E09A IAmb IAmb 11 27 15.4
comp=Z,8.5nm,1.1s
PDAR Pinedale Array 74.91 322 P **P 11 27 12.8 -0.1**
comp=Z,0.5nm,0.5s,baz=77,slow=6.9,SNR=8.7
comp=Z,0.5nm,0.5s
HAWA Hanford 75.25 330 P **P 11 27 15.8 +1.3**
PLID Pearl Lake 75.25 327 P **P 11 27 14.6 -0.2**
PLID IAmb IAmb 11 27 16.2
comp=Z,6.1nm,1.3s
MAJO Matsushiro 78.73 44⇑*e*P **P 11 27 34.7 +0.4**
MAJO pmax pmax
comp=Z,147nm,4.4s
ELK Elko 78.79 324 P **P 11 27 36.7 +1.8**
comp=Z,1.7nm,0.8s,baz=7.4,slow=5.5,SNR=7.1
comp=Z,1.7nm,0.8s
ANMO Albuquerque 80.25 315⇓*i*P **P 11 27 45.0 +2.2**
ANMO pmax pmax
comp=Z,5.0nm,1.3s
NVAR Mina Array Bea 81.94 325 P **P 11 27 53.0 +1.2**
comp=Z,1.2nm,1.1s,baz=26,slow=3.9,SNR=4.4
comp=Z,1.2nm,1.1s
TXAR Lajitas Array 83.69 310 P **P 11 28 00.8 -0.1**
comp=Z,4.2nm,1.3s,baz=58,slow=4.9,SNR=8.6
comp=Z,4.2nm,1.3s
ASAR Alice Springs 125.38 84 PKP **PKPdf 11 34 32.2 -0.7**
comp=Z,0.5nm,0.7s,baz=22,slow=3.4,SNR=4.3

*SKHL **26** 11:16:48.0±0.3, 43.60N×146.30E, h77km±2km, mb5.0/2*
*JMA **26** 11:16:48.2±0.1, 43.6N±0.5×146.3E±0.9, h72km±1km,*
MV4.0/40, NEAR KUNASHIRI ISLAND
JMA Felt I J1 at NEAR KUNASHIRI ISLAND .
ISC 26 11:16:47.9±1.7, 43.56N±0.07×146.33E±0.06, h70km±11km,
n15, σ0.960/30, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.47**	**245**	*e*P	**Pn**	**11 17 00.6**	**+0.2**
NEM2				*e*S	**Sn**	**11 17 09.6**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.48**	**246**	*e*P	**Pn**	**11 17 00.6**	**+0.1**
NMR				*e*S	**Sn**	**11 17 10.2**	**+0.4**
SHO	**Shikotan**	**0.48**	**50**	*e*P	**Pn**	**11 17 00.9**	**+0.4**
SHO				AMB	AMB	11 17 01.7	
	650nm,0.2s						
SHO				*e*S	**Sn**	**11 17 10.5**	**+0.7**
SHO				A	A	11 17 11.1	
	4μm,0.3s						
SHO				A	A	11 17 11.1	
	4μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.58**	**325**	*e*P	**Pn**	**11 17 01.1**	**-0.5**
YUK				AMB	AMB	11 17 01.8	
	680nm,0.2s						
YUK				*e*S	**Sn**	**11 17 10.9**	**-0.7**
YUK				A	A	11 17 13.5	
	5μm,0.3s						
YUK				A	A	11 17 13.5	
	4μm,0.3s						
JRA	**Rausu**	**0.95**	**294**	*e*P	**Pn**	**11 17 05.8**	**+0.1**
JRA				*e*S	**Sn**	**11 17 19.1**	**+0.1**
JKHN	**Kushirohamanak**	**0.98**	**241**	*e*P	**Pn**	**11 17 06.4**	**+0.3**
JKHN				*e*S	**Sn**	**11 17 19.8**	**+0.1**
JNSB	**Nemuroshibetsu**	**0.98**	**283**	*e*P	**Pn**	**11 17 06.4**	**+0.2**
JNSB				*e*S	**Sn**	**11 17 20.0**	**+0.2**
JNK	**Nakash**	**1.17**	**272**	*e*P	**Pn**	**11 17 08.2**	**-0.4**
JNK				*e*S	**Sn**	**11 17 23.1**	**-0.9**
AKK	**Akkeshi**	**1.21**	**244**	*e*P	**Pn**	**11 17 08.9**	**-0.2**
AKK				*e*S	**Sn**	**11 17 22.9**	**-2.1**
JAK	**Akkeshi**	**1.32**	**245**	*e*P	**Pn**	**11 17 10.3**	**-0.1**
JAK				*e*S	**Sn**	**11 17 27.0**	**-0.4**
JTKR	**Abashiri--Toko**	**1.80**	**284**	*e*P	**Pn**	**11 17 17.1**	**+0.3**
JTKR				*e*S	**Sn**	**11 17 39.0**	**+0.2**
JAR	**Ashorobuto**	**1.88**	**263**	*e*P	**Pn**	**11 17 18.4**	**+0.5**
JAR				*e*S	**Sn**	**11 17 41.0**	**+0.2**
JOB	**Onbets**	**1.94**	**251**	*e*P	**Pn**	**11 17 19.1**	**+0.4**
JOB				*e*S	**Sn**	**11 17 42.1**	**0.0**
KUR	**Kuril'sk**	**2.00**	**33**	*e*P	**Pn**	**11 17 19.4**	**-0.2**
KUR				*i* S	**Sn**	**11 17 43.0**	**-0.7**
KUR				A	A	11 17 46.5	
	500nm,0.3s						
KUR				A	A	11 17 46.5	
	280nm,0.3s						
JMP	**Maruseppu**	**2.19**	**283**	*e*P	**Pn**	**11 17 22.9**	**+0.7**
JMP				*e*S	**Sn**	**11 17 49.1**	**+0.7**

*TAP **26** 11:17:49.2, 24.84N×122.37E, h118km, ML3.8, C*
*JMA **26** 11:17:49.2±0.2, 25.1N±1.1×122.4E±0.5, h118km±2km,*
MV3.3/18, TAIWAN REGION
ISC 26 11:17:48.8±1.3, 24.79N±0.03×122.37E±0.02, h123km±6km,
n135, σ0.988/238, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.39**	**199**	P	**Pn**	**11 18 07.0**	**+0.7**
	baz=201						
EOS2				S	**Sn**	**11 18 20.8**	**+1.3**
	baz=201						
EGS		**0.40**	**278**	*e*P	**Pn**	**11 18 06.7**	**+0.2**
	baz=263						
TWB1	**Santiao Chiao**	**0.41**	**302**	P	**Pn**	**11 18 06.7**	**+0.1**
	baz=288						

TWB1				S	Sn	11 18 19.3	-0.6		
	baz=288								
EOS3	**EOS3**	**0.50**	**185**	*i* P	Pn	11 18 07.9	+1.0		
	baz=198								
EOS3				S	Sn	11 18 21.6	+1.1		
	baz=198								
TWC	**Suao**	**0.51**	**249**	P	Pn	11 18 07.1	0.0		
	baz=241								
TWC				S	Sn	11 18 19.7	-1.2		
	baz=241								
ESAO	**Su ao**	**0.52**	**246**	*e*P	Pn	11 18 07.2	0.0		
	baz=242								
ESAO				*e*S	Sn	11 18 19.8	-1.2		
	baz=242								
TIPB	**Shuangxi**	**0.53**	**290**	*e*P	Pn	11 18 07.4	+0.2		
	baz=274								
TIPB				*e*S	Sn	11 18 20.4	-0.8		
	baz=274								
SXI1	**Grass Mountain**	**0.54**	**304**	*i* P	Pn	11 18 07.5	+0.1		
	baz=299								
SXI1				S	Sn	11 18 20.6	-0.8		
	baz=299								
ILA	**Ilan**	**0.57**	**268**	*i* P	Pn	11 18 07.8	+0.4		
	baz=256								
ILA				*e*S	Sn	11 18 21.4	-0.1		
	baz=256								
NWF	**Wu-fen Shan**	**0.60**	**298**	*e*P	Pn	11 18 08.1	+0.3		
	baz=284								
NWF				*e*S	Sn	11 18 21.9	-0.3		
	baz=284								
WFSB	**Wu-fen Shan**	**0.60**	**298**	P	Pn	11 18 08.0	+0.3		
	baz=284								
WFSB				*e*S	Sn	11 18 21.6	-0.4		
	baz=284								
NDS	**Dongshan**	**0.61**	**256**	*i* P	Pn	11 18 08.3	+0.5		
	baz=249								
NDS				*e*S	Sn	11 18 21.5	-0.6		
	baz=249								
JYNG	**Yonagunijimaku**	**0.62**	**123**	*i* P	Pn	11 18 08.0	+0.2		
JYNG				S	Sn	11 18 21.9	-0.3		
EWUT	**Wuta**	**0.64**	**238**	P	Pn	11 18 08.5	+0.6		
	baz=234								
EWUT				*e*S	Sn	11 18 22.3	-0.1		
	baz=234								
TWE	**Neicheng**	**0.64**	**264**	*i* P	Pn	11 18 08.3	+0.3		
	baz=265								
TWE				S	Sn	11 18 21.9	-0.5		
	baz=265								
TNOU	**National Taiwa**	**0.65**	**304**	*e*S	Sn	11 18 22.1	-0.4		
	baz=291								
EOS4	**EOS4**	**0.67**	**184**	P	Pn	11 18 08.1	+0.3		
	baz=184								
EOS4				*e*S	Sn	11 18 22.2	+0.1		
	baz=184								
YOJ	**Yonaguni jima**	**0.67**	**119**	P	Pn	11 18 08.4	+0.2		
YOJ	**Yonaguni jima**	**0.67**	**119**	P	Pn	11 18 08.3	+0.2		
YOJ				S	Sn	11 18 22.3	-0.5		
YOJ	**Yonaguni jima**	**0.67**	**119**	P	Pn	11 18 08.2	+0.1		
	baz=130								
YOJ				S	Sn	11 18 22.2	-0.5		
	baz=130								
ENA	**Nanau**	**0.68**	**238**	P	Pn	11 18 08.8	+0.5		
	baz=232								
ENA				S	Sn	11 18 22.8	-0.1		
	baz=232								
FUSB	**Fushanzhiwuyua**	**0.71**	**268**	P	Pn	11 18 08.8	+0.2		
	baz=269								
FUSB				S	Sn	11 18 22.4	-1.2		
	baz=269								
EAHA	**Aohua**	**0.73**	**232**	*e*P	Pn	11 18 09.1	+0.4		
	baz=229								
EAHA				*e*S	Sn	11 18 23.6	-0.1		
	baz=229								
TWA	**Mucha**	**0.74**	**285**	P	Pn	11 18 08.9	+0.1		
	baz=281								
TWA				*e*S	Sn	11 18 22.8	-1.0		
	baz=281								
ENTT	**Nioudou**	**0.75**	**259**	*e*P	Pn	11 18 09.4	+0.6		
	baz=257								
ENTT				*e*S	Sn	11 18 24.4	+0.5		
	baz=257								
NHDH	**Xindian Distri**	**0.79**	**283**	P	Pn	11 18 09.1	0.0		
	baz=279								
NHDH				*e*S	Sn	11 18 23.3	-1.1		
	baz=279								
NWLT	**Wulai**	**0.79**	**269**	*e*P	Pn	11 18 09.4	+0.2		
	baz=269								
NWLT				*e*S	Sn	11 18 24.0	-0.6		
	baz=269								
NDT	**Datong Townshi**	**0.80**	**257**	P	Pn	11 18 10.2	+1.0		
	baz=255								
NDT				*e*S	Sn	11 18 25.4	+0.7		
	baz=255								
LATG	**Datong**	**0.81**	**252**	*e*P	Pn	11 18 10.2	+0.8		
	baz=244								
LATG				*e*S	Sn	11 18 25.3	+0.2		
	baz=244								
YM01	**YM01**	**0.81**	**296**	P	Pn	11 18 09.6	+0.2		
	baz=286								
YM01				*e*S	Sn	11 18 23.9	-1.0		
	baz=286								
YM08	**YM08**	**0.81**	**299**	*e*P	Pn	11 18 09.4	0.0		
	baz=290								
YM08				*e*S	Sn	11 18 23.7	-1.3		
	baz=290								
TATO	**Taipei**	**0.82**	**283**	P	Pn	11 18 09.7	+0.3		
TWY	**Chenhua**	**0.85**	**305**	*e*P	Pn	11 18 10.0	+0.3		
	baz=295								
TWY				*e*S	Sn	11 18 25.3	-0.2		
	baz=295								
ANP	**Anpu**	**0.87**	**297**	*e*P	Pn	11 18 09.5	-0.4		
	baz=287								
PCYT	**Pengchaiyu**	**0.88**	**342**	P	Pn	11 18 10.6	+0.7		
	baz=335								
PCYT				*e*S	Sn	11 18 26.1	+0.2		
	baz=335								
YHNB	**Yeheng**	**0.91**	**263**	P	Pn	11 18 10.9	+0.6		
YHNB	**Yeheng**	**0.91**	**263**	P	Pn	11 18 10.8	+0.5		
	baz=265								
YHNB				S	Sn	11 18 26.5	-0.1		
	baz=265								
NTST	**Danshui**	**0.92**	**294**	P	Pn	11 18 10.6	+0.4		
	baz=291								
NTST				*e*S	Sn	11 18 25.8	-0.6		
	baz=291								
TWS1	**Kuangyinshan**	**0.92**	**290**	*e*P	Pn	11 18 10.6	+0.4		
	baz=287								
TWS1				*e*S	Sn	11 18 26.1	-0.4		
	baz=287								
ETL	**Fush Village**	**0.93**	**227**	P	Pn	11 18 10.4	0.0		
	baz=221								
ETL				*e*S	Sn	11 18 26.5	-0.2		
	baz=221								
NSK	**Sanguang**	**0.93**	**263**	*i* P	Pn	11 18 10.9	+0.5		
	baz=266								
NSK				S	Sn	11 18 26.4	-0.4		
	baz=266								
NACB	**Ninganchiao**	**0.94**	**229**	P	Pn	11 18 10.7	+0.3		
NACB	**Ninganchiao**	**0.94**	**229**	*i* P	Pn	11 18 10.5	+0.1		
	baz=221								
NACB				S	Sn	11 18 26.4	-0.4		
	baz=221								
NNSB	**Datong**	**0.97**	**248**	P	Pn	11 18 11.6	+0.7		
	baz=240								
NNSB				*e*S	Sn	11 18 27.6	0.0		
	baz=240								
NNS	**Nan Shan**	**0.97**	**249**	*e*P	Pn	11 18 11.7	+0.8		
	baz=246								
NNS				*e*S	Sn	11 18 27.6	0.0		
	baz=246								
ETLH	**Xiulin Townshi**	**0.99**	**235**	P	Pn	11 18 11.5	+0.4		
	baz=225								
ETLH				S	Sn	11 18 27.9	-0.1		
	baz=225								
TWD	**Chiawan**	**1.00**	**225**	*e*P	Pn	11 18 11.1	0.0		
	baz=220								
TWD				*e*S	Sn	11 18 27.1	-0.7		
	baz=220								
HWA	**Hwalien**	**1.07**	**221**	*e*P	Pn	11 18 12.2	+0.5		
	baz=219								
HWA				*e*S	Sn	11 18 30.7	+1.6		
	baz=219								
NCUH	**Zhongli**	**1.09**	**280**	P	Pn	11 18 12.5	+0.6		
	baz=282								
NCUH				*e*S	Sn	11 18 29.8	+0.3		
	baz=282								
ETM	**Tongmen**	**1.15**	**224**	P	Pn	11 18 12.4	-0.1		
	baz=223								
ETM				*e*S	Sn	11 18 29.4	-1.1		
	baz=223								
NFF	**Wufeng Townshi**	**1.15**	**262**	*e*P	Pn	11 18 13.0	+0.4		
	baz=260								
NFF				*e*S	Sn	11 18 29.9	-0.7		
	baz=260								
LXIB	**Xiulin Townshi**	**1.16**	**229**	*e*P	Pn	11 18 12.6	-0.2		
	baz=227								
LXIB				*e*S	Sn	11 18 30.3	-0.7		
	baz=227								
WHF	**Hehuan Shan**	**1.19**	**238**	*e*P	Pn	11 18 14.2	+0.7		
	baz=232								
WHF				*e*S	Sn	11 18 31.7	-0.5		
	baz=232								
TWT	**Tachien**	**1.21**	**244**	*e*P	Pn	11 18 14.8	+1.4		
	baz=242								
TWT				*e*S	Sn	11 18 32.4	+0.4		
	baz=242								
TDCB	**Techi**	**1.23**	**244**	P	Pn	11 18 14.7	+1.2		
	baz=242								
TDCB				*e*S	Sn	11 18 32.5	+0.2		
	baz=242								
LIOB	**Emei**	**1.24**	**264**	*e*P	Pn	11 18 14.1	+0.5		
	baz=261								
LIOB				*e*S	Sn	11 18 32.0	-0.3		
	baz=261								
SHUL	**Shoufeng**	**1.24**	**217**	*e*P	Pn	11 18 13.7	+0.2		
	baz=208								
SHUL				*e*S	Sn	11 18 32.5	+0.3		
	baz=208								
NSTT	**Nanjuang**	**1.25**	**263**	*i* P	Pn	11 18 14.2	+0.6		
	baz=260								
NSTT				*e*S	Sn	11 18 32.2	-0.3		
	baz=260								
SBCB	**Hsinchu**	**1.26**	**270**	*e*P	Pn	11 18 14.3	+0.6		
	baz=261								
SBCB				*e*S	Sn	11 18 32.5	-0.1		
	baz=261								
HSN	**Hsinchu**	**1.27**	**271**	*e*P	Pn	11 18 14.0	+0.2		
	baz=261								
HSN				*e*S	Sn	11 18 32.3	-0.6		
	baz=261								
ESL	**Shilin**	**1.29**	**222**	*e*P	Pn	11 18 13.7	-0.4		
	baz=227								
CHGB	**Renai**	**1.31**	**237**	*e*P	Pn	11 18 15.5	+1.0		
	baz=229								
CHGB				*e*S	Sn	11 18 34.4	+0.4		
	baz=229								
TEGC	**Jichi Village**	**1.31**	**215**	*e*P	Pn	11 18 14.8	+0.4		
	baz=207								
TEGC				*e*S	Sn	11 18 34.0	+0.3		
	baz=207								
IRIF	**Iriomote-Funau**	**1.32**	**110**	*i* P	Pn	11 18 14.5	+0.2		
IRIF				S	Sn	11 18 33.2	-0.6		
OWD	**Renai**	**1.37**	**233**	*e*P	Pn	11 18 15.9	+0.8		
	baz=227								
OWD				*e*S	Sn	11 18 34.9	-0.2		
	baz=227								
WUSB	**Renai**	**1.39**	**235**	P	Pn	11 18 16.4	+1.1		
	baz=229								
WUSB				*e*S	Sn	11 18 35.6	+0.1		
	baz=229								
WHP	**Taichung City**	**1.39**	**249**	*e*P	Pn	11 18 16.5	+1.2		
	baz=254								
WHP				*e*S	Sn	11 18 35.8	+0.4		
	baz=254								
WARBT	**Fenglin Townsh**	**1.39**	**220**	P	Pn	11 18 14.7	-0.6		
	baz=224								
WARBT				*e*S	Sn	11 18 33.4	-1.9		
	baz=224								
EGFH	**Guangfu**	**1.41**	**218**	*e*P	Pn	11 18 15.0	-0.4		
	baz=224								
EGFH				*e*S	Sn	11 18 34.4	-1.2		
	baz=224								
HATJ	**Hateruma jima**	**1.50**	**119**	P	Pn	11 18 17.1	+0.8		
HATJ				S	Sn	11 18 37.9	+0.6		
NSY	**Sanyi**	**1.51**	**256**	*e*P	Pn	11 18 17.5	+0.9		
	baz=254								
NSY				*e*S	Sn	11 18 38.2	+0.6		
	baz=254								
WCS	**Beigang Elemen**	**1.52**	**242**	*e*P	Pn	11 18 17.8	+1.3		
	baz=247								
WCS				*e*S	Sn	11 18 38.5	+0.8		
	baz=247								
TWQ1	**Liyutan**	**1.52**	**254**	*e*P	Pn	11 18 17.2	+0.6		
	baz=251								
TWQ1				*e*S	Sn	11 18 37.9	+0.1		
	baz=251								
VWDT	**VWDT**	**1.52**	**228**	*e*P	Pn	11 18 17.5	+0.9		
	baz=221								
VWDT				*e*S	Sn	11 18 37.8	0.0		
	baz=221								
HGSD	**Ruisui**	**1.55**	**214**	P	Pn	11 18 17.2	+0.1		
	baz=207								
HGSD				*e*S	Sn	11 18 38.2	-0.3		
	baz=207								
JKRS	**Kuro-shima**	**1.59**	**110**	P	Pn	11 18 18.1	+0.6		
JKRS				S	Sn	11 18 39.3	0.0		
EHY	**Hungye**	**1.60**	**217**	*e*P	Pn	11 18 16.8	-0.7		
	baz=222								
SMLT	**Sun Moon Lake**	**1.62**	**236**	*e*P	Pn	11 18 19.5	+1.6		
	baz=234								
SMLT				*e*S	Sn	11 18 42.0	+2.0		
	baz=234								
SSLB	**Suanglung**	**1.63**	**233**	P	Pn	11 18 19.7	+1.7		
SSLB	**Suanglung**	**1.63**	**233**	*e*P	Pn	11 18 19.1	+1.1		
	baz=227								
SSLB				*e*S	Sn	11 18 41.8	+1.6		
	baz=227								
WDJ	**Dajia District**	**1.64**	**255**	*e*P	Pn	11 18 18.5	+0.6		
	baz=253								
WDJ				*e*S	Sn	11 18 40.8	+0.6		
	baz=253								
TYC	**Yuchr**	**1.64**	**238**	*e*P	Pn	11 18 19.4	+1.4		
	baz=242								
TYC				*e*S	Sn	11 18 41.5	+1.2		
	baz=242								
JIJ	**Ishigaki jima**	**1.67**	**104**	P	Pn	11 18 18.7	+0.3		
JIJ				S	Sn	11 18 39.7	-1.2		
TCU	**Taichung**	**1.67**	**248**	*e*S	Sn	11 18 41.4	+0.5		
	baz=253								
ECBN	**Changbin**	**1.69**	**210**	*e*S	Sn	11 18 41.1	-0.2		
	baz=204								
YULB	**Yu-li**	**1.70**	**215**	P	Pn	11 18 18.7	-0.1		
YULB	**Yu-li**	**1.70**	**215**	*e*P	Pn	11 18 18.2	-0.6		
	baz=221								
EYUL	**Yuli**	**1.73**	**214**	*e*P	Pn	11 18 19.1	0.0		
	baz=220								
TWF1	**Yuli**	**1.73**	**215**	*e*P	Pn	11 18 19.1	-0.1		
	baz=220								
TWF1				*e*S	Sn	11 18 40.5	-1.9		
	baz=220								
WHYT	**Xinyi Township**	**1.76**	**232**	*e*P	Pn	11 18 20.9	+1.4		
	baz=239								
WHYT				*e*S	Sn	11 18 44.8	+1.9		
	baz=239								
JISG	**Ishigakijimahi**	**1.78**	**96**	P	Pn	11 18 20.0	+0.3		
JISG				S	Sn	11 18 42.6	-0.6		
WJS	**Zhushan**	**1.78**	**238**	*e*P	Pn	11 18 21.3	+1.6		
	baz=236								
WJS				*e*S	Sn	11 18 44.8	+1.5		
	baz=236								
WNT	**Mingjian**	**1.79**	**240**	*e*P	Pn	11 18 21.0	+1.2		
	baz=238								
WNT				*e*S	Sn	11 18 44.6	+1.2		
	baz=238								
WCHH	**Zhanghua**	**1.80**	**247**	*e*S	Sn	11 18 44.6	+1.0		
	baz=245								
CHKH	**Chenggong**	**1.82**	**209**	*e*P	Pn	11 18 20.6	+0.4		
	baz=204								
CHKH				*e*S	Sn	11 18 42.9	-1.3		
	baz=204								
FULB	**Fuli**	**1.86**	**212**	*e*P	Pn	11 18 21.2	+0.4		
	baz=219								
FULB				*e*S	Sn	11 18 45.9	+0.7		
	baz=219								
ALS	**Alishan**	**1.91**	**229**	*e*P	Pn	11 18 23.1	+1.5		
	baz=221								
ALS				*e*S	Sn	11 18 48.3	+1.6		
	baz=221								
CHKT	**Chengkung**	**1.92**	**209**	*e*P	Pn	11 18 21.1	-0.3		
	baz=203								
CHKT				*e*S	Sn	11 18 44.9	-1.4		
	baz=203								
EHD	**Haiduan**	**1.95**	**213**	*e*P	Pn	11 18 22.6	+0.8		
	baz=212								
WDLH	**Douliu**	**2.00**	**237**	*e*P	Pn	11 18 23.5	+1.1		
	baz=235								
WDLH				*e*S	Sn	11 18 49.5	+1.5		
	baz=235								
ELDTW	**Lidau**	**2.02**	**218**	*e*P	Pn	11 18 23.0	+0.2		
	baz=211								
ELDTW				S	Sn	11 18 48.7	+0.1		
	baz=211								
WRL	**Guolierlin Hig**	**2.02**	**244**	*e*P	Pn	11 18 23.2	+0.6		
	baz=243								
WRL				*e*S	Sn	11 18 48.1	-0.4		
	baz=243								
EDH	**Donghe**	**2.06**	**209**	*e*P	Pn	11 18 21.7	-1.4		
	baz=203								
EDH				*e*S	Sn	11 18 47.2	-2.1		
	baz=203								
WCKO	**Fanlu**	**2.10**	**231**	*e*P	Pn	11 18 24.9	+1.2		
	baz=229								
WCKO				*e*S	Sn	11 18 51.5	+1.2		
	baz=229								
WTK	**Tuku**	**2.12**	**239**	*e*P	Pn	11 18 24.5	+0.7		
	baz=238								
WTK				S	Sn	11 18 51.0	+0.4		
	baz=238								
JTJ	**Tarama**	**2.13**	**93**	P	Pn	11 18 24.7	+0.8		
JTJ				S	Sn	11 18 50.2	-0.7		
CHN4	**Tsaushan**	**2.17**	**229**	*e*P	Pn	11 18 25.6	+1.1		
	baz=236								
CHN4				*e*S	Sn	11 18 53.5	+1.7		
	baz=236								
STYH	**Taoyuan**	**2.17**	**222**	*e*P	Pn	11 18 25.8	+1.2		
	baz=221								
TPUB	**Ta-pu**	**2.17**	**227**	P	Pn	11 18 25.8	+1.2		
TPUB	**Ta-pu**	**2.17**	**227**	*e*P	Pn	11 18 25.9	+1.2		
	baz=236								
LONT	**Longtian**	**2.19**	**211**	*e*P	Pn	11 18 24.0	-0.8		
	baz=210								
CHY	**Chiayi**	**2.19**	**235**	*e*S	Sn	11 18 53.8	+1.4		
	baz=241								
WTP	**Ta-pu**	**2.22**	**227**	*e*P	Pn	11 18 26.2	+1.0		
	baz=236								
LDUT	**Ludao**	**2.26**	**202**	*e*P	Pn	11 18 24.9	-0.7		
	baz=201								
LDUT				*e*S	Sn	11 18 51.8	-2.2		
	baz=201								
TWGBT	**Beinan**	**2.29**	**211**	P	Pn	11 18 27.8	+1.7		
TWGBT	**Beinan**	**2.29**	**211**	*e*P	Pn	11 18 24.7	-1.4		
	baz=210								
TWGBT				*e*S	Sn	11 18 53.8	-0.8		
	baz=210								
TWG	**Pinlang**	**2.29**	**212**	*e*P	Pn	11 18 25.2	-0.9		
	baz=210								
TWG				*e*S	Sn	11 18 53.2	-1.4		
	baz=210								
TWK	**Hsinying**	**2.29**	**229**	*e*P	Pn	11 18 27.0	+0.8		
	baz=227								
TWK				*e*S	Sn	11 18 55.7	+1.0		
	baz=227								
SNST	**Tainan City**	**2.32**	**228**	*e*P	Pn	11 18 26.6	+0.2		
	baz=235								
SNST				*e*S	Sn	11 18 56.2	+1.0		
	baz=235								
CHN1	**Nanshi**	**2.32**	**227**	*e*P	Pn	11 18 27.5	+1.1		
	baz=234								
CHN1				*e*S	Sn	11 18 56.5	+1.1		
	baz=234								
SGST	**Jiashian**	**2.36**	**224**	*e*P	Pn	11 18 26.9	0.0		
	baz=223								
SGST				*e*S	Sn	11 18 57.6	+1.4		
	baz=223								
SLGT	**Liugui**	**2.38**	**222**	*e*P	Pn	11 18 29.4	+2.1		
	baz=228								
CHN8	**Yiju**	**2.44**	**234**	*e*P	Pn	11 18 26.6	-1.3		
	baz=233								
ECL	**Taimali**	**2.54**	**211**	*e*P	Pn	11 18 27.4	-1.8		
	baz=207								
JIRB	**Irabujima**	**2.55**	**89**	P	Pn	11 18 30.1	+0.8		
JIRB				S	Sn	11 19 00.9	+0.5		
MATB	**Ma-tsu**	**2.58**	**302**	*e*P	Pn	11 18 29.3	-0.4		
	baz=301								
TSMG	**Majia**	**2.61**	**218**	*e*P	Pn	11 18 29.3	-0.8		
	baz=216								
JIKM	**Ikemajima**	**2.62**	**86**	P	Pn	11 18 30.8	+0.6		
JIKM				S	Sn	11 19 02.7	+0.6		
VWUC	**VWUC**	**2.66**	**275**	*e*P	Pn	11 18 30.7	-0.1		
	baz=273								
VWUC				*e*S	Sn	11 19 02.0	-0.9		
	baz=273								
JMJ2	**Miyako jima3**	**2.69**	**90**	P	Pn	11 18 32.2	+1.1		
JMJ2				S	Sn	11 19 03.9	+0.3		
MASBT	**Mashibuluo**	**2.69**	**217**	*e*P	Pn	11 18 32.8	+1.6		
	baz=215								
PHUB	**P'eng-hu**	**2.85**	**244**	*e*P	Pn	11 18 33.0	-0.3		
	baz=243								
PHUB				*i* S	Sn	11 19 05.7	-1.8		
	baz=243								
LYUB	**Lan-yu**	**2.87**	**195**	*e*P	Pn	11 18 31.3	-2.2		
	baz=194								
KNMB	**Chin-men Tao**	**3.64**	**266**	*e*P	Pn	11 18 43.7	+0.2		
	baz=265								
KNMB				*e*S	Sn	11 19 23.8	-2.2		
	baz=265								
AXDP	**Jialang**	**4.00**	**273**	*e*P	Pn	11 18 48.1	-0.3		
	baz=272								

IDC 26 11:19:03.6±2.3, 6.71N×124.73E, h0km, mb3.6/3, mbtmp3.6/3, MS3.3/2, Error ellipse: s-maj=212.4km s-min=26.3km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**27.49**	**125**	LR	LR		11 36 24.1	
	comp=Z,42nm,19.6s,baz=79,slow=38							
WRA	**Warramunga Arr**	**28.12**	**161**	P	P		11 24 57.7	+0.2
	0.5nm,0.4s,baz=341,slow=9.1,SNR=11							
	0.5nm,0.4s							
ASAR	**Alice Springs**	**31.49**	**164**	P	P		11 25 27.2	-0.2
	0.4nm,0.5s,baz=341,slow=7.0,SNR=20							
	0.4nm,0.5s							
MKAR	**Makanchi Array**	**53.99**	**325**	P	P		11 28 29.5	0.0
	0.4nm,0.5s,baz=127,slow=7.6,SNR=5.5							
	0.4nm,0.5s							
RAO	**Raoul Island**	**65.68**	**126**	LR	LR		11 56 49.1	
	comp=Z,38nm,19.4s,baz=71,slow=34							

*IDC **26** 11:19:04.5±1.3, 27.32N×142.51E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=28.4km s-min=13.8km az=122.0*

ISC 26 11:19:05.8±1.4, 27.4N±0.1×142.7E±0.2, h10km, n7, σt 33/8, mb3.7/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.53**	**235**	Pn	Pb		11 19 16.0	-1.2
	343nm,0.3s,baz=87,slow=18,SNR=62							
JCJ				Sn	Sn		11 19 27.6	-0.9
	566nm,0.3s,baz=96,slow=23,SNR=12							
SONM	**Songino Array**	**34.80**	**316**	P	P		11 25 55.9	-0.8
	0.3nm,0.3s,baz=109,slow=7.8,SNR=1.7							
	0.3nm,0.3s							
WRA	**Warramunga Arr**	**47.75**	**191**	P	P		11 27 43.5	+0.3
	0.3nm,0.4s,baz=11,slow=8.4,SNR=9.3							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**50.62**	**309**	P	P		11 28 03.7	-1.2
	0.5nm,0.9s,baz=88,slow=9.9,SNR=2.5							
	0.5nm,0.9s							
ASAR	**Alice Springs**	**51.47**	**190**	P	P		11 28 10.8	-0.7
	0.2nm,0.6s,baz=9.1,slow=6.7,SNR=4.7							
	0.2nm,0.6s							
BVAR	**Borovoye Array**	**58.11**	**317**	P	P		11 28 60.0	+0.6
	0.7nm,0.5s,baz=90,slow=7.4,SNR=4.9							
	0.7nm,0.5s							
FINES	**FINESS Array B**	**77.86**	**334**	P	P		11 31 05.2	+1.9
	3.0nm,1.0s,baz=46,slow=4.0,SNR=4.4							
	3.0nm,1.0s							

**IDC 26 11:24:40.2±11.0,

ASAR	**Alice Springs**	**17.80**	**154**	P		Pn	11 28 49.5	-0.1
	0.1nm,0.3s,baz=328,slow=13,SNR=8.2							
ASAR				S		Sn	11 31 51.7	-17
	0.6nm,0.7s,baz=312,slow=22,SNR=7.4							
	0.6nm,0.6s							
STKA	**Stephens Creek**	**28.33**	**150**	P		P	11 30 35.8	-0.1
	0.5nm,0.4s,baz=324,slow=8.7,SNR=1.9							
	0.5nm,0.4s							

WEL 26 11:25:44.5±1.1, 36°S±6°×17°9E±1°2, h12km, M3.8/17, ML4.1/29, MLv3.8/17, Error ellipse: s-maj=0.0km s-min=0.0km az=90.0, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.60**	**200**	P	Pn	11 26 26.7	+0.4
PUZ				S	Sn	11 26 59.3	+1.5
RUGZ	**Raukumara Rang**	**2.70**	**210**	P	Pn	11 26 28.8	+1.0
TWGZ	**Tauwhareparae**	**2.78**	**203**	P	Pn	11 26 29.4	+0.6
TWGZ				S	Sb	11 27 05.3	-2.8
WHRZ	**Whale Island**	**2.94**	**220**	P	Pn	11 26 33.1	+2.1
CNGZ	**Carnagh Statio**	**3.00**	**198**	P	Pn	11 26 32.4	+0.6
TKGZ	**Te Karaka**	**3.06**	**203**	P	Pn	11 26 32.5	-0.2
TKGZ				S	Sn	11 27 10.5	+1.4
MWZ	**Matawai**	**3.08**	**208**	P	Pn	11 26 33.3	+0.3
MWZ				S	Sn	11 27 10.9	+1.2
URZ	**Urewera**	**3.19**	**214**	P	Pn	11 26 34.1	-0.3
URZ				S	Sn	11 27 09.1	-3.3
MARZ	**Manawahe**	**3.19**	**222**	P	Pn	11 26 34.6	+0.1
RIGZ	**Rimuhau**	**3.33**	**202**	P	Pn	11 26 35.7	-0.7
RIGZ				S	Sn	11 27 17.2	+1.3
KARZ	**Kaharoa**	**3.46**	**225**	P	Pn	11 26 38.3	+0.1
PRGZ	**Paritu Road**	**3.50**	**199**	P	Pn	11 26 38.2	-0.5
MUGZ	**Murupara**	**3.52**	**215**	P	Pn	11 26 38.6	-0.5
RTZ	**Ruatahuna**	**3.54**	**212**	P	Pn	11 26 39.3	-0.1
SNGZ	**Shannon Statio**	**3.54**	**207**	P	Pn	11 26 39.0	-0.3
SNGZ				S	Sn	11 27 21.9	+0.9
RRRZ	**Republican Roa**	**3.54**	**219**	P	Pn	11 26 39.9	+0.6
MHGZ	**Mahia Peninsul**	**3.71**	**198**	P	Pn	11 26 40.4	-1.1
RAHZ	**Arahi**	**3.75**	**208**	P	Pn	11 26 43.0	+0.8
ALRZ	**Allen Road**	**3.80**	**219**	P	Pn	11 26 43.4	+0.6
MTHZ	**Maungataniwha**	**3.80**	**211**	P	Pn	11 26 43.2	+0.4
NMHZ	**Naumai**	**4.02**	**210**	P	Pn	11 26 46.4	+0.4
ARHZ	**Aropaoanui**	**4.09**	**207**	P	Pn	11 26 46.3	-0.6
WCZ	**Waipu Caves**	**4.09**	**264**	P	Pn	11 26 47.7	+0.8
BKZ	**Black Stump Fm**	**4.21**	**212**	P	Pn	11 26 48.0	-0.5
RATZ	**Rangitukua**	**4.32**	**220**	P	Pn	11 26 50.8	+0.8
MCHZ	**McNeill Hill**	**4.36**	**208**	P	Pn	11 26 49.8	-0.8
KWHZ	**Kaweka Forest**	**4.45**	**211**	P	Pn	11 26 50.9	-1.0
TMVZ	**Te Maari**	**4.54**	**219**	P	Pn	11 26 53.2	+0.1
NTVZ	**North Tongarir**	**4.54**	**219**	P	Pn	11 26 52.9	-0.3
ETVZ	**East Tongariro**	**4.55**	**219**	P	Pn	11 26 53.2	-0.1
KRVZ	**Karewarewa**	**4.56**	**219**	P	Pn	11 26 53.9	+0.5
OTVZ	**Oturere**	**4.60**	**219**	P	Pn	11 26 53.5	-0.4
KAHZ	**Kahuranaki**	**4.60**	**205**	P	Pn	11 26 51.6	-2.3
SNVZ	**South Ngauruho**	**4.63**	**219**	P	Pn	11 26 54.1	-0.3
KRHZ	**Kereru**	**4.66**	**210**	P	Pn	11 26 52.7	-2.0
BHHZ	**Black Hill Sta**	**4.66**	**213**	P	Pn	11 26 53.4	-1.4
OUZ	**Omahuta**	**4.73**	**273**	P	Pn	11 26 55.2	-0.4

*IDC **26** 11:30:17.8±0.9, 14°.46N×119°.05E, h0km, mb3.9/9, mbtmp3.9/10, ML4.3/1, MS2.8/4, Error ellipse: s-maj=26.3km s-min=15.4km az=50.0*
*NEIC **26** 11:30:20.4±1.8, 14°.58N±0°.07×119°.02E±0°.06, h10km±1km, mb4.3/43, Error ellipse: s-maj=11.5km s-min=9.6km az=206.0*

ISC 26 11:30:20.8±0.5, 14°.55N±0°.07×119°.07E±0°.07, h18km, n71, σ1^{05}/70, mb4.3/32, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.86**	**104**	Pn	**Pn**	**11 30 52.5**	**+0.7**
	274nm,0.3s,baz=260,slow=4.3,SNR=13						
TGY				Sn	**Sb**	**11 31 17.6**	**+0.2**
	276nm,0.3s,baz=328,slow=21,SNR=7.5						
TWG	**Pinlang**	**8.44**	**13**	Pn	**Pn**	**11 32 19.9**	**-2.3**
TPUB	**Ta-pu**	**8.83**	**9**	Pn	**Pn**	**11 32 25.6**	**-1.9**
HKPS	**Hong Kong Po S**	**8.99**	**329**	Pn	**Pn**	**11 32 28.7**	**-1.1**
YULB	**Yu-li**	**9.04**	**13**	Pn	**Pn**	**11 32 29.4**	**-1.1**
MYLDM	**Lahad Datu**	**9.33**	**184**	Pn	**Pn**	**11 32 33.7**	**-0.8**
NACB	**Ninganchiao**	**9.86**	**14**	Pn	**Pn**	**11 32 39.7**	**-2.0**
DLV	**T Lat**	**10.63**	**257**	Pn	**Pn**	**11 32 51.3**	**-1.1**
KAPI	**Kappang**	**19.45**	**178**	LR	LR	11 42 16.0	
	comp=Z,22nm,21.1s,baz=348,slow=37						
CMAR	**Chiang Mai Arr**	**19.68**	**284**	P	**Pn**	**11 34 50.7**	**+0.1**
	0.3nm,0.3s,baz=99,slow=10,SNR=8.5						
CMAR				LR	LR	11 41 55.9	
	comp=Z,16nm,21.0s,baz=85,slow=36						
	1.2nm,0.7s						
KSRS	**Korea Array**	**24.13**	**17**	P	**P**	**11 35 36.0**	**+0.4**
	3.8nm,0.9s,baz=200,slow=11,SNR=6.0						
KSRS				LR	LR	11 46 19.5	
	comp=Z,14nm,20.3s,baz=170,slow=40						
	3.8nm,0.9s						
KNRA	**Kununurra**	**31.53**	**162**	P	**P**	**11 36 41.7**	**-0.4**
USA0B	**Ussuriysk Arra**	**31.54**	**18**	P	**P**	**11 36 41.0**	**-0.9**
USRK	**Ussuriysk Ar.**	**31.54**	**18**	P	**P**	**11 36 40.5**	**-1.5**
SONM	**Songino Array**	**34.81**	**345**	P	**P**	**11 37 10.8**	**+0.2**
SONM	**Songino Array**	**34.81**	**345**	P	**P**	**11 37 10.9**	**+0.2**
	0.8nm,0.6s,baz=164,slow=10,SNR=5.0						
	0.8nm,0.6s						
KLR	**Kul'dur**	**36.11**	**14**	P	**P**	**11 37 21.9**	**+0.2**
	1.2nm,0.6s,baz=230,slow=12,SNR=2.9						
	1.2nm,0.6s						
WB0	**Warramunga Arr**	**37.29**	**156**	P	**P**	**11 37 31.8**	**-0.2**
WB0				IAmb	IAmb	11 37 50.5	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**37.42**	**156**	P	**P**	**11 37 33.3**	**+0.2**
WRAB				IAmb	IAmb	11 37 46.7	
	comp=Z,5.6nm,1.4s						
WRA	**Warramunga Arr**	**37.42**	**156**	P	**P**	**11 37 34.0**	**+0.8**
WRA	**Warramunga Arr**	**37.42**	**156**	P	**P**	**11 37 31.8**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=341,slow=9.1,SNR=4.9						
	comp=Z,0.8nm,0.7s						
WB2	**Warramunga Arr**	**37.43**	**156**	P	**P**	**11 37 32.7**	**-0.5**
WB2				IAmb	IAmb	11 37 44.4	
	comp=Z,5.2nm,1.0s						
PALK	**Pallekele**	**38.32**	**263**	LR	LR	11 54 30.1	
	comp=Z,35nm,18.5s,baz=283,slow=38						
AS31	**Alice Springs**	**40.66**	**159**	P	**P**	**11 37 59.3**	**-0.9**
ASAR	**Alice Springs**	**40.66**	**159**	P	**P**	**11 37 59.8**	**-0.5**
ASAR	**Alice Springs**	**40.66**	**159**	P	**P**	**11 37 59.0**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=338,slow=6.8,SNR=15						
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**44.42**	**324**	P	**P**	**11 38 31.2**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=109,slow=11,SNR=3.5						
	comp=Z,0.3nm,0.6s						
KURBB	**Kurchatov Array**	**48.61**	**327**	P	**P**	**11 39 04.0**	**+0.6**
	comp=Z,0.9nm,0.2s,baz=116,slow=8.4,SNR=5.4						
	comp=Z,0.9nm,0.2s						
KURK	**Kurchatov**	**48.61**	**327**	P	**P**	**11 39 04.1**	**+0.7**
KURK				IAmb	IAmb	11 39 05.0	
	comp=Z,2.9nm,0.8s						
PETK	**Petropavlovsk-**	**49.06**	**30**	P	**P**	**11 39 06.3**	**-0.5**
BBOO	**Buckleboo**	**49.82**	**161**	P	**P**	**11 39 12.9**	**+0.2**
KK31	**Karatay Array**	**50.25**	**314**	P	**P**	**11 39 17.1**	**+1.0**
KK31				IAmb	IAmb	11 39 37.9	
	comp=Z,3.8nm,1.3s						
KKAR	**Karatay Array**	**50.25**	**314**	P	**P**	**11 39 17.2**	**+1.2**
STKA	**Stephens Creek**	**50.97**	**155**	P	**P**	**11 39 22.0**	**+0.5**
BVAR	**Borovoye Array**	**54.19**	**326**	P	**P**	**11 39 45.8**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=108,slow=9.3,SNR=4.4						
	comp=Z,1.5nm,0.8s						
BRVK	**Borovoye**	**54.26**	**326**	P	**P**	**11 39 45.8**	**+0.2**
BRVK				IAmb	IAmb	11 39 47.3	
	comp=Z,2.2nm,0.8s						
ABKAR	**Akbulak array**	**59.06**	**319**	P	**P**	**11 40 20.8**	**+1.0**
N15K	**Kwethluk River**	**72.94**	**31**	P	**P**	**11 41 50.2**	**+1.3**
G18K	**Tagagawik**	**73.67**	**25**	P	**P**	**11 41 54.2**	**+1.0**
K17K	**Iditarod**	**73.81**	**28**	P	**P**	**11 41 54.8**	**+0.8**
D19K	**Kuna River**	**73.93**	**22**	P	**P**	**11 41 55.2**	**+0.5**
D19K				IAmb	IAmb	11 41 56.1	
	comp=Z,5.7nm,1.1s						
B20K	**Meade River**	**74.30**	**21**	P	**P**	**11 41 57.4**	**+0.8**
IMAR	**Indian Mountai**	**75.68**	**25**	P	**P**	**11 42 05.9**	**+1.1**
N19K	**Bonanza Creek**	**75.70**	**30**	P	**P**	**11 42 05.5**	**+0.4**
G21K	**Allakaket**	**75.75**	**24**	P	**P**	**11 42 06.2**	**+1.1**
G21K				IAmb	IAmb	11 42 07.0	
	comp=Z,5.0nm,1.2s						
H21K	**Melozitna Rive**	**76.09**	**25**	P	**P**	**11 42 08.8**	**+1.6**
H21K				IAmb	IAmb	11 42 21.2	
	comp=Z,2.2nm,1.1s						
M20K	**Styx River**	**76.26**	**29**	P	**P**	**11 42 10.2**	**+1.9**
M20K				IAmb	IAmb	11 42 20.9	
	comp=Z,5.7nm,1.5s						
C23K	**Itkillik River**	**76.57**	**21**	P	**P**	**11 42 11.0**	**+1.2**
C23K				IAmb	IAmb	11 42 11.2	
	comp=Z,3.9nm,1.1s						
CAST	**Castle Rocks**	**76.60**	**28**	P	**P**	**11 42 09.7**	**-0.3**
CAST				IAmb	IAmb	11 42 11.6	
	comp=Z,2.3nm,0.8s						
BPAW	**Bear Paw Mtn.**	**77.01**	**27**	P	**P**	**11 42 13.8**	**+1.3**
BPAW				IAmb	IAmb	11 42 40.7	
	comp=Z,4.7nm,1.4s						
MLY	**Manley**	**77.01**	**26**	P	**P**	**11 42 13.7**	**+1.2**
MLY				IAmb	IAmb	11 42 30.0	
	comp=Z,4.3nm,1.4s						
I23K	**Minto, Yukon-K**	**77.58**	**26**	P	**P**	**11 42 16.2**	**+0.7**
I23K				IAmb	IAmb	11 42 20.6	
	comp=Z,6.8nm,1.5s						
F24K	**Squaw Lake**	**77.84**	**23**	P	**P**	**11 42 18.4**	**+1.4**
MDM	**Murphy Dome**	**78.08**	**26**	P	**P**	**11 42 19.1**	**+0.8**
MDM				IAmb	IAmb	11 42 31.5	
	comp=Z,1.4nm,0.8s						
D25K	**Kavik River**	**78.11**	**21**	P	**P**	**11 42 19.1**	**+0.6**
D25K				IAmb	IAmb	11 42 37.2	
	comp=Z,4.4nm,1.5s						
BMAR	**Burnt Mountain**	**79.11**	**23**	P	**P**	**11 42 25.7**	**+1.7**
E27K	**Coleen River**	**80.04**	**22**	P	**P**	**11 42 30.3**	**+1.2**
E27K				IAmb	IAmb	11 42 44.6	
	comp=Z,6.0nm,1.4s						
E28M	**Babbage River**	**80.67**	**21**	P	**P**	**11 42 33.8**	**+1.3**
BCAR	**Beaver Creek A**	**81.25**	**27**	P	**P**	**11 42 37.6**	**+2.0**
E29M	**Blow River**	**81.31**	**21**	P	**P**	**11 42 37.6**	**+1.8**
E29M				IAmb	IAmb	11 42 51.6	
	comp=Z,3.3nm,1.3s						
I28M	**Miner Creek**	**81.39**	**25**	P	**P**	**11 42 37.8**	**+1.4**
G29M	**Pine Creek**	**81.71**	**23**	P	**P**	**11 42 38.2**	**+0.3**
H29M	**Whitestone**	**81.79**	**24**	P	**P**	**11 42 36.8**	**-1.6**
BURAR	**Bucovina Array**	**81.96**	**317**	P	**P**	**11 42 40.5**	**+0.7**
L29M	**L29M**	**82.83**	**27**	P	**P**	**11 42 44.6**	**+0.6**
K29M	**Barlow Dome**	**82.86**	**26**	P	**P**	**11 42 44.6**	**+0.4**
K29M				IAmb	IAmb	11 42 48.7	
	comp=Z,4.4nm,1.4s						
I30M	**Mount Dempster**	**82.88**	**24**	P	**P**	**11 42 44.9**	**+0.6**
I30M				IAmb	IAmb	11 43 01.6	
	comp=Z,4.8nm,1.5s						
M30M	**Minto, Yukon**	**83.58**	**27**	P	**P**	**11 42 48.0**	**+0.2**
M30M				IAmb	IAmb	11 42 50.7	
	comp=Z,1.9nm,1.1s						
A36M	**Sachs Harbour**	**83.87**	**16**	P	**P**	**11 42 49.4**	**+0.3**
HFS	**Hagfors**	**84.97**	**331**	P	**P**	**11 42 53.8**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=97,slow=6.2,SNR=6.2						
	comp=Z,1.4nm,0.6s						
C36M	**Paulatuk**	**85.51**	**19**	P	**P**	**11 42 57.3**	**0.0**
C36M				IAmb	IAmb	11 43 20.3	
	comp=Z,3.9nm,1.4s						

*WEL **26** 11:40:50.9±0.4, 42°.3S±2°×17°.4E±°, h8km±3km, M3.9/15, ML4.2/15, MLv3.9/15, Error ellipse: s-maj=0.0km s-min=0.0km az=138.4, confirmed*
*NOU **26** 11:40:50.1, 41°.88S×174°.42E, h15km, MLv4.2/9, Cook Strait, New Zealand*
*WEL **26** 11:40:50.9, 41°.71S×174°.21E, h14km, ML3.9, Mw3.8, Moment Tensor Solution. s5 Moment tensor: M$_{rr}$33.62; M$_{\theta\theta}$48.77; M$_{\phi\phi}$-82.39; M$_{r\theta}$-14.01; M$_{r\phi}$18.14; M$_{\theta\phi}$-7.45; Fault plane solution: NP1:ϕ_s229.00000°, δ67.00000°, λ160.00000°. NP2:ϕ_s327.00000°, δ71.00000°, λ24.00000°. Principal axes: T -85.1100, Plg30.0000°, Azm189.0000°; N 59.7700, Plg60.0000°, Azm2.0000°; P 25.3400, Plg3.0000°, Azm97.0000°; SOUTH ISLAND*

ISC 26 11:40:50.0±1.0, 41°.80S±0°.03×174°.28E±0°.03, h9km±6km, n120, σ1^{23}/131, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**315**	P	**Pg**	**11 40 52.3**	**+0.1**
CMWZ				S	**Sg**	**11 40 54.6**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.32**	**285**	P	**Pg**	**11 40 56.1**	**-0.2**
BSWZ				S	**Sg**	**11 41 01.1**	**+0.6**
TUWZ	**Tuamarina**	**0.45**	**325**	P	**Pg**	**11 40 58.1**	**-0.6**
TUWZ				S	**Sg**	**11 41 04.4**	**-0.3**
SNZO	**South Karori**	**0.58**	**33**	P	**Pb**	**11 41 01.9**	**-0.4**
TCW	**Tory Channel**	**0.59**	**360**	P	**Pg**	**11 41 00.8**	**-0.6**
TCW				S	**Sg**	**11 41 08.3**	**-0.2**
BHW	**Baring Head**	**0.59**	**49**	P	**Pb**	**11 41 02.3**	**-0.1**
WEL	**Wellington**	**0.63**	**36**	P	**Pg**	**11 41 02.7**	**+0.5**
WEL				S	**Sb**	**11 41 11.9**	**-0.1**
PLWZ	**Palliser**	**0.76**	**73**	P	**Pn**	**11 41 06.5**	**-0.4**
KHZ	**Kahutara**	**0.83**	**222**	P	**Pn**	**11 41 07.9**	**+0.1**
KHZ	**Kahutara**	**0.83**	**222**	P	**Pb**	**11 41 07.7**	**+1.2**
KHZ				S	**Sn**	**11 41 21.4**	**+1.3**
NNZ	**Nelson**	**0.89**	**310**	P	**Pg**	**11 41 06.0**	**-1.2**
CAW	**Cannon Point**	**0.91**	**41**	P	**Pg**	**11 41 07.5**	**+0.1**
CAW				S	**Sb**	**11 41 20.4**	**+0.3**
PAWZ	**Paruwai Farm**	**0.95**	**64**	P	**Pn**	**11 41 09.1**	**-0.5**
PAWZ				S	**Sn**	**11 41 24.7**	**+1.4**
THZ	**Tophouse**	**1.03**	**272**	P	**Pb**	**11 41 09.3**	**-0.8**
DUWZ	**D'Urville Isla**	**1.03**	**345**	P	**Pb**	**11 41 08.4**	**-1.7**
DUWZ				S	**Sg**	**11 41 22.2**	**-1.1**
KIW	**Kapiti Island**	**1.05**	**27**	P	**Pb**	**11 41 09.6**	**-0.8**
KIW				S	**Sb**	**11 41 24.0**	**-0.2**
MTW	**Mount Morrison**	**1.12**	**55**	P	**Pb**	**11 41 11.1**	**-0.4**
TRWZ	**Traveller**	**1.13**	**70**	P	**Pb**	**11 41 11.4**	**-0.3**
OGWZ	**Otaki Gorge**	**1.19**	**35**	P	**Pb**	**11 41 12.1**	**-0.5**
MRNZ	**Matariki Terra**	**1.21**	**289**	P	**Pn**	**11 41 12.5**	**-0.6**
TKNZ	**Takaka Hill**	**1.25**	**307**	P	**Pn**	**11 41 12.4**	**-1.3**
HOWZ	**Holdsworth Sta**	**1.29**	**46**	P	**Pn**	**11 41 13.5**	**-0.7**
TMWZ	**Te Maipa**	**1.39**	**61**	P	**Pn**	**11 41 14.9**	**-0.7**
GVZ	**Greta Valley S**	**1.49**	**218**	P	**Pn**	**11 41 16.7**	**-0.2**
MRZ	**Mangatainoka R**	**1.50**	**41**	P	**Pn**	**11 41 16.5**	**-0.5**
TIWZ	**Tintock**	**1.58**	**50**	P	**Pn**	**11 41 18.1**	**-0.1**
QRZ	**Quartz Range**	**1.64**	**306**	P	**Pn**	**11 41 19.5**	**+0.5**
QRZ	**Quartz Range**	**1.64**	**306**	P	**Pn**	**11 41 19.0**	**+0.1**
CPWZ	**Castlepoint**	**1.70**	**59**	P	**Pg**	**11 41 25.3**	**+2.8**
OHWZ	**Ohakea**	**1.77**	**26**	P	**Pb**	**11 41 22.0**	**-0.7**
PRWZ	**Pori Road**	**1.78**	**46**	P	**Pn**	**11 41 20.1**	**-0.8**
LTZ	**Lake Taylor**	**1.79**	**236**	P	**Pn**	**11 41 21.0**	**-0.1**
POWZ	**Post Office Ro**	**1.80**	**39**	P	**Pn**	**11 41 20.8**	**-0.4**
AMCZ	**Amberley**	**1.83**	**221**	P	**Pn**	**11 41 21.1**	**-0.5**
DSZ	**Denniston Nort**	**1.85**	**271**	P	**Pn**	**11 41 22.9**	**+0.9**
BFZ	**Birch Farm**	**1.85**	**54**	P	**Pn**	**11 41 20.6**	**-1.3**
BFZ	**Birch Farm**	**1.85**	**54**	P	**Pn**	**11 41 20.4**	**-1.5**
DVHZ	**Dannevirke**	**2.07**	**44**	P	**Pn**	**11 41 23.5**	**-1.4**
WAZ	**Wanganui**	**2.11**	**15**	P	**Pb**	**11 41 27.3**	**-1.1**
OKCZ	**Okains Bay**	**2.12**	**205**	P	**Pn**	**11 41 24.7**	**-1.0**
ANWZ	**Angora Road**	**2.13**	**52**	P	**Pn**	**11 41 24.5**	**-1.2**
TSZ	**Takapari Road**	**2.15**	**37**	P	**Pn**	**11 41 25.4**	**-0.7**
MQZ	**McQueen's Vall**	**2.25**	**212**	P	**Pn**	**11 41 25.7**	**-1.7**
OXZ	**Oxford**	**2.25**	**227**	P	**Pn**	**11 41 26.1**	**-1.3**
INZ	**Inchbonnie**	**2.30**	**245**	P	**Pn**	**11 41 28.1**	**0.0**
AKCZ	**Akaroa Harbour**	**2.31**	**206**	P	**Pn**	**11 41 27.1**	**-1.0**
PRHZ	**Porangahau**	**2.35**	**50**	P	**Pn**	**11 41 27.6**	**-1.1**
PNHZ	**Pukenui**	**2.38**	**38**	P	**Pn**	**11 41 28.0**	**-1.2**
WPHZ	**Waipukurau**	**2.38**	**44**	P	**Pn**	**11 41 28.2**	**-1.0**
NMEZ	**Namu Road**	**2.40**	**353**	P	**Pb**	**11 41 33.2**	**-0.2**
RACZ	**Rakaia**	**2.49**	**219**	P	**Pn**	**11 41 29.2**	**-1.5**
KHEZ	**Kahui Hut**	**2.51**	**355**	P	**Pb**	**11 41 34.6**	**-0.6**
NEZ	**North Egmont**	**2.53**	**357**	P	**Pb**	**11 41 34.5**	**-1.1**
NBEZ	**Newall Road No**	**2.55**	**353**	P	**Pb**	**11 41 34.7**	**-1.1**
MTVZ	**Mangateitei**	**2.58**	**21**	P	**Pn**	**11 41 33.5**	**+1.5**
DREZ	**Durham Road**	**2.61**	**359**	P	**Pb**	**11 41 35.2**	**-1.7**
PKE	**Pukeiti**	**2.61**	**355**	P	**Pn**	**11 41 34.3**	**+1.9**
PKVZ	**Pokaka**	**2.63**	**18**	P	**Pn**	**11 41 33.9**	**+1.2**
MOVZ	**Moawhango**	**2.64**	**26**	P	**Pn**	**11 41 32.9**	**+0.1**
MHCZ	**Mount Hutt**	**2.65**	**228**	P	**Pn**	**11 41 31.6**	**-1.2**
WNVZ	**Wahianoa**	**2.67**	**23**	P	**Pn**	**11 41 33.7**	**+0.5**
KRHZ	**Kereru**	**2.67**	**37**	P	**Pn**	**11 41 31.9**	**-1.4**
BHHZ	**Black Hill Sta**	**2.68**	**31**	P	**Pn**	**11 41 33.1**	**-0.1**
TRVZ	**Turoa**	**2.68**	**22**	P	**Pn**	**11 41 34.8**	**+1.4**
VRZ	**Vera Road**	**2.70**	**8**	P	**Pn**	**11 41 35.0**	**+1.5**
VRZ				P	**Pb**	**11 41 35.1**	**-3.3**
WHVZ	**Whangaehu Hut**	**2.70**	**22**	P	**Pb**	**11 41 38.6**	**-0.1**
MAVZ	**Matarangi**	**2.71**	**22**	P	**Pn**	**11 41 35.3**	**+1.3**
FWVZ	**Far West T-bar**	**2.72**	**21**	P	**Pb**	**11 41 38.5**	**-0.4**
MHEZ	**Mangahewa**	**2.72**	**1**	P	**Pb**	**11 41 37.1**	**-1.7**
TUVZ	**Tukino**	**2.74**	**23**	P	**Pn**	**11 41 34.7**	**+0.5**
COVZ	**Chateau Observ**	**2.77**	**21**	P	**Pn**	**11 41 36.8**	**+2.2**
WACZ	**Wakanui South**	**2.79**	**219**	P	**Pn**	**11 41 33.7**	**-1.1**
NGZ	**Ngauruhoe**	**2.81**	**21**	P	**Pn**	**11 41 35.9**	**+0.8**
SNVZ	**South Ngauruho**	**2.81**	**22**	P	**Pn**	**11 41 35.8**	**+0.6**
KAHZ	**Kahuranaki**	**2.81**	**45**	P	**Pn**	**11 41 33.6**	**-1.5**
OTVZ	**Oturere**	**2.84**	**22**	P	**Pn**	**11 41 36.0**	**+0.4**
NNVZ	**North Ngauruho**	**2.85**	**21**	P	**Pn**	**11 41 36.6**	**+0.8**
WTVZ	**West Tongariro**	**2.86**	**21**	P	**Pn**	**11 41 36.8**	**+0.9**
TWVZ	**Taurewa**	**2.87**	**18**	P	**Pn**	**11 41 37.0**	**+1.1**
ETVZ	**East Tongariro**	**2.88**	**23**	P	**Pn**	**11 41 36.6**	**+0.5**
KWHZ	**Kaweka Forest**	**2.88**	**35**	P	**Pn**	**11 41 35.1**	**-1.0**
TMVZ	**Te Maari**	**2.89**	**23**	P	**Pn**	**11 41 37.2**	**+0.8**
KRVZ	**Karewarewa**	**2.89**	**21**	P	**Pn**	**11 41 37.6**	**+1.3**
NTVZ	**North Tongarir**	**2.90**	**22**	P	**Pn**	**11 41 36.7**	**+0.3**
WVZ	**Waitaha Valley**	**2.92**	**243**	P	**Pn**	**11 41 36.7**	**+0.2**
MCHZ	**McNeill Hill**	**2.98**	**39**	P	**Pn**	**11 41 36.2**	**-1.3**
KATZ	**Kakaramea**	**3.02**	**21**	P	**Pb**	**11 41 41.5**	**-2.5**
RPZ	**Rata Peaks**	**3.05**	**230**	P	**Pn**	**11 41 37.5**	**-0.9**
RPZ	**Rata Peaks**	**3.05**	**230**	P	**Pn**	**11 41 37.3**	**-1.1**
RITZ	**Rihia Road**	**3.06**	**24**	P	**Pb**	**11 41 44.2**	**-0.5**
BKZ	**Black Stump Fm**	**3.12**	**33**	P	**Pn**	**11 41 39.3**	**-0.1**
BKZ	**Black Stump Fm**	**3.12**	**33**	P	**Pn**	**11 41 38.3**	**-1.1**
ARCZ	**Arundel**	**3.13**	**226**	P	**Pn**	**11 41 38.3**	**-1.2**
RATZ	**Rangitukua**	**3.14**	**22**	P	**Pb**	**11 41 45.5**	**-0.6**
HATZ	**Hinemaiaia**	**3.22**	**26**	P	**Pb**	**11 41 47.4**	**+0.2**
WATZ	**Wairara**	**3.28**	**20**	P	**Pb**	**11 41 47.5**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**3.29**	**241**	P	**Pn**	**11 41 42.2**	**+0.5**
HIZ	**Hauiti**	**3.31**	**8**	P	**Pn**	**11 41 43.5**	**+1.5**
HIZ	**Hauiti**	**3.31**	**8**	P	**Pn**	**11 41 43.4**	**+1.4**
TMZ	**Timaru**	**3.52**	**222**	P	**Pn**	**11 41 43.7**	**-1.2**
TLZ	**Tolley Road**	**3.60**	**16**	P	**Pn**	**11 41 46.7**	**+0.8**
FOZ	**Fox Glacier**	**3.72**	**241**	P	**Pn**	**11 41 47.6**	**0.0**
URZ	**Urewera**	**4.15**	**32**	P	**Pn**	**11 41 52.9**	**-0.6**
URZ	**Urewera**	**4.15**	**32**	P	**Pn**	**11 41 51.8**	**-1.6**
TOZ	**Tahuroa Road**	**4.17**	**13**	P	**Pn**	**11 41 54.7**	**+0.9**
ODZ	**Otahua Downs**	**4.19**	**218**	P	**Pn**	**11 41 52.9**	**-1.1**
ODZ	**Otahua Downs**	**4.19**	**218**	P	**Pn**	**11 41 52.3**	**-1.7**
TWGZ	**Tauwhareparae**	**4.60**	**39**	P	**Pn**	**11 41 58.0**	**-1.7**
JCZ	**Jackson Bay**	**4.63**	**239**	P	**Pn**	**11 42 04.1**	**+3.9**
AWAZ	**Awhitu Peninsu**	**4.74**	**3**	P	**Pn**	**11 42 03.7**	**+2.2**
MKAZ	**Moumakai**	**4.74**	**9**	P	**Pn**	**11 42 02.4**	**+0.9**
HAZ	**Te Kaha**	**4.86**	**35**	P	**Pn**	**11 42 02.3**	**-0.9**
ETAZ	**East Tamaki Re**	**4.87**	**6**	P	**Pn**	**11 42 04.8**	**+1.5**
WTAZ	**Waiatarua**	**4.87**	**3**	P	**Pn**	**11 42 06.7**	**

T1221					AML	AML			
	comp=N,13850µm,0.2s								
T1221					AML	AML			
	comp=N,12950µm,1.8s								
T1221					AML	AML			
	comp=N,13850µm,1.8s								
T1221					AML	AML			
	comp=E,18400µm,1.8s								
T1221					AML	AML			
	comp=E,19300µm,1.7s								
FEMA	**Monte Fema**	**0.24**	**348**	P	**Pg**	**11 45 46.3**	**-0.5**		
FEMA				S	**Sg**	**11 45 50.5**	**+0.1**		
FEMA				AML	AML				
	comp=N,20200µm,0.9s								
FEMA				AML	AML				
	comp=E,27450µm,1.2s								
FEMA				AML	AML				
	comp=N,20150µm,0.9s								
FEMA				AML	AML				
	comp=N,20200µm,1.1s								
FEMA				AML	AML				
	comp=E,27450µm,0.8s								
CAMP	**Campotosto**	**0.29**	**131**	P	**Pg**	**11 45 46.8**	**-0.7**		
CAMP				AML	AML				
	comp=E,3965µm,0.5s								
CAMP				AML	AML				
	comp=N,4525µm,0.5s								
CAMP				AML	AML				
	comp=E,3965µm,1.5s								
ARRO	**Arrone**	**0.30**	**241**	P	**Pg**	**11 45 47.7**	**0.0**		
ARRO				S	**Sg**	**11 45 52.3**	**+0.6**		
ARRO				AML	AML				
	comp=E,8810µm,0.8s								
ARRO				AML	AML				
	comp=E,8810µm,1.2s								
ARRO				AML	AML				
	comp=N,8850µm,0.2s								
FDMO	**Fiordimonte**	**0.31**	**356**	P	**Pg**	**11 45 47.5**	**-0.6**		
FDMO				S	**Sg**	**11 45 52.2**	**-0.1**		
FDMO				AML	AML				
	comp=E,8670µm,0.2s								
FDMO				AML	AML				
	comp=N,9195µm,0.3s								
CESI	**CESI - Serrava**	**0.32**	**331**	P	**Pg**	**11 45 47.8**	**-0.4**		
CESI				S	**Sg**	**11 45 53.2**	**+0.6**		
CESI				AML	AML				
	comp=E,15900µm,0.7s								
CESI				AML	AML				
	comp=N,18200µm,0.6s								
CESI				AML	AML				
	comp=E,15900µm,1.3s								
MF5	**Montefalcone A**	**0.37**	**43**	⇑P	**Pg**	**11 45 48.5**	**-0.5**		
MF5				S	**Sg**	**11 45 54.5**	**+0.6**		
MF5				AML	AML				
	comp=N,10695µm,0.6s								
MF5				AML	AML				
	comp=E,11900µm,0.3s								
MF5				AML	AML				
	comp=N,10700µm,0.6s								
TERO	**Teramo**	**0.37**	**105**	P	**Pg**	**11 45 48.0**	**-1.1**		
TERO				S	**Sg**	**11 45 53.7**	**-0.4**		
TERO				AML	AML				
	comp=E,3490µm,0.5s								
TERO				AML	AML				
	comp=N,3035µm,0.6s								
TERO				AML	AML				
	comp=N,3035µm,0.7s								
TERO				AML	AML				
	comp=N,6435µm,0.6s								
TERO				AML	AML				
	comp=N,6435µm,1.4s								
TERO				AML	AML				
	comp=E,3490µm,0.5s								
TERO				AML	AML				
	comp=E,5660µm,0.6s								
TERO				AML	AML				
	comp=N,3035µm,1.3s								
CSP1	**Cessapalombo**	**0.37**	**10**	P	**Pg**	**11 45 48.4**	**-0.8**		
CSP1				S	**Sg**	**11 45 54.4**	**+0.1**		
CSP1				AML	AML				
	comp=N,2820µm,0.3s								
CSP1				AML	AML				
	comp=N,2825µm,0.3s								
CSP1				AML	AML				
	comp=E,5665µm,0.5s								
GUMA	**Gualdo di Mace**	**0.38**	**25**	⇓P	**Pg**	**11 45 48.7**	**-0.5**		
GUMA				S	**Sg**	**11 45 55.1**	**+0.9**		
GUMA				AML	AML				
	comp=E,21100µm,0.8s								
GUMA				AML	AML				
	comp=E,25300µm,0.6s								
GUMA				AML	AML				
	comp=N,23100µm,0.6s								
GUMA				AML	AML				
	comp=N,26000µm,0.5s								
MOMA	**Monte Martano**	**0.41**	**282**	P	**Pg**	**11 45 49.5**	**-0.3**		
MOMA				AML	AML				
	comp=E,20250µm,0.2s								
MOMA				AML	AML				
	comp=E,20050µm,0.2s								
MOMA				AML	AML				
	comp=N,16100µm,0.2s								
MOMA				AML	AML				
	comp=N,15200µm,0.2s								
CESX	**Cesi**	**0.41**	**254**	P	**Pg**	**11 45 49.5**	**-0.3**		
CESX				S	**Sg**	**11 45 55.7**	**+0.4**		
CESX				AML	AML				
	comp=E,6740µm,1.4s								
CESX				AML	AML				
	comp=N,7765µm,0.3s								
CESX				AML	AML				
	comp=E,6740µm,0.6s								
AQU	**L'Aquila**	**0.42**	**150**	P	**Pg**	**11 45 49.2**	**-0.9**		
AQU				AML	AML				
	comp=E,2895µm,0.4s								
AQU				AML	AML				
	comp=N,2320µm,1.1s								
AQU				AML	AML				
	comp=E,3060µm,0.4s								
AQU				AML	AML				
	comp=E,2890µm,0.4s								
AQU				AML	AML				
	comp=N,2315µm,1.1s								
AQU				AML	AML				
	comp=N,2310µm,0.6s								
AQU				AML	AML				
	comp=N,2315µm,0.9s								
AQU				AML	AML				
	comp=E,3060µm,1.6s								
AQU				AML	AML				
	comp=E,2890µm,1.6s								
SEF1	**Sefro**	**0.44**	**344**	P	**Pg**	**11 45 49.8**	**-0.6**		
SEF1				AML	AML				
	comp=E,13450µm,0.8s								
SEF1				AML	AML				
	comp=N,9065µm,0.3s								
SEF1				AML	AML				
	comp=E,13450µm,0.7s								
SEF1				AML	AML				
	comp=N,9065µm,0.2s								
FIAM	**Fiamignano**	**0.46**	**180**	P	**Pg**	**11 45 49.9**	**-0.7**		
FIAM				S	**Sg**	**11 45 57.3**	**+0.7**		
FIAM				AML	AML				
	comp=E,4655µm,0.3s								
FIAM				AML	AML				
	comp=N,3970µm,0.3s								
ASSB	**Assisi San Ben**	**0.46**	**314**	⇑P	**Pg**	**11 45 50.3**	**-0.5**		
ASSB				AML	AML				
	comp=E,7970µm,0.5s								
ASSB				AML	AML				
	comp=N,9730µm,0.1s								
SSM1	**San Severino M**	**0.51**	**5**	P	**Pg**	**11 45 51.0**	**-0.6**		
GAG1	**Gagliole**	**0.52**	**356**	P	**Pg**	**11 45 51.2**	**-0.6**		
GAG1				AML	AML				
	comp=N,9265µm,1.0s								
GAG1				AML	AML				
	comp=N,9255µm,1.0s								
GAG1				AML	AML				
	comp=N,9255µm,1.0s								
GAG1				AML	AML				
	comp=E,8265µm,0.4s								
SNTG	**Esanatoglia**	**0.55**	**346**	P	**Pg**	**11 45 51.4**	**-1.0**		
SNTG				S	**Sg**	**11 46 00.3**	**+0.6**		
SNTG				AML	AML				
	comp=E,2480µm,1.1s								
SNTG				AML	AML				
	comp=E,2420µm,1.1s								
SNTG				AML	AML				
	comp=E,2420µm,0.9s								
SNTG				AML	AML				
	comp=E,2480µm,0.9s								
SNTG				AML	AML				
	comp=N,3110µm,0.3s								
SNTG				AML	AML				
	comp=N,3000µm,0.3s								
FAGN	**Fagnano**	**0.57**	**143**	P	**Pg**	**11 45 51.5**	**-1.4**		
FAGN				AML	AML				
	comp=E,6815µm,0.3s								
FAGN				AML	AML				
	comp=N,4890µm,0.3s								
TRTR	**Tortoreto Alta**	**0.59**	**81**	P	**Pg**	**11 45 53.2**	**-0.1**		
TRTR				AML	AML				
	comp=N,7245µm,1.1s								
TRTR				AML	AML				
	comp=N,7245µm,0.9s								
TRTR				AML	AML				
	comp=E,6755µm,0.4s								
EL6	**Elcito**	**0.61**	**359**	P	**Pg**	**11 45 52.1**	**-1.4**		
EL6				S	**Sg**	**11 46 01.8**	**+0.3**		
EL6				AML	AML				
	comp=N,5435µm,0.7s								
EL6				AML	AML				
	comp=E,5875µm,0.3s								
FOSV	**Fossato di Vic**	**0.63**	**336**	P	**Pg**	**11 45 52.9**	**-1.0**		
FOSV				S	**Sg**	**11 46 02.6**	**+0.4**		
FOSV				AML	AML				
	comp=N,2415µm,0.6s								
FOSV				AML	AML				
	comp=E,2510µm,0.6s								
FOSV				AML	AML				
	comp=N,2415µm,1.4s								
VCEL	**Villa Celiera**	**0.63**	**121**	P	**Pg**	**11 45 52.9**	**-1.0**		
VCEL				AML	AML				
	comp=E,4470µm,0.9s								
VCEL				AML	AML				
	comp=E,4465µm,0.9s								
VCEL				AML	AML				
	comp=N,5110µm,0.5s								
CING	**Cingoli**	**0.66**	**5**	P	**Pg**	**11 45 53.3**	**-1.1**		
CING				AML	AML				
	comp=E,1740µm,0.6s								
CING				AML	AML				
	comp=N,1845µm,1.4s								
CING				AML	AML				
	comp=N,1845µm,0.6s								
SRES	**S.Oreste - Sor**	**0.66**	**223**	P	**Pg**	**11 45 53.3**	**-1.2**		
SRES				AML	AML				
	comp=E,920µm,1.6s								
SRES				AML	AML				
	comp=N,1230µm,0.4s								
SRES				AML	AML				
	comp=E,920µm,0.4s								
CADA	**Capodarco di F**	**0.67**	**45**	P	**Pg**	**11 45 55.3**	**+0.6**		
CADA				AML	AML				
	comp=N,6215µm,0.3s								
CADA				AML	AML				
	comp=N,6215µm,1.7s								
CADA				AML	AML				
	comp=E,7915µm,1.4s								
T0110	**Collepietro**	**0.70**	**135**	P	**Pg**	**11 45 53.6**	**-1.6**		
T0110				AML	AML				
	comp=E,3635µm,0.5s								
T0110				AML	AML				
	comp=N,3745µm,0.5s								
CIMA	**Civitanova Mar**	**0.71**	**35**	⇓P	**Pg**	**11 45 56.0**	**+0.5**		
CIMA				AML	AML				
	comp=E,2965µm,0.6s								
CIMA				AML	AML				
	comp=N,3630µm,0.6s								
PP3	**Marolino**	**0.75**	**29**	P	**Pg**	**11 45 55.4**	**-0.8**		
PP3				AML	AML				
	comp=N,7475µm,0.5s								
PP3				AML	AML				
	comp=E,7775µm,0.3s								
PP3				AML	AML				
	comp=N,7325µm,0.5s								
PP3				AML	AML				
	comp=E,7775µm,0.3s								
MTCE	**Montecelio**	**0.75**	**202**	⇓P	**Pg**	**11 45 55.3**	**-0.9**		
MTCE				AML	AML				
	comp=N,782µm,0.4s								
MTCE				AML	AML				
	comp=E,1177µm,0.4s								
SSFR	**Montelago di S**	**0.75**	**341**	P	**Pg**	**11 45 55.2**	**-1.1**		
SSFR				AML	AML				
	comp=E,3650µm,0.1s								
SSFR				AML	AML				
	comp=N,3825µm,0.7s								
SSFR				AML	AML				
	comp=E,3275µm,0.1s								
SSFR				AML	AML				
	comp=N,3645µm,0.8s								
MGAB	**Montegabbione**	**0.76**	**285**	P	**Pg**	**11 45 55.9**	**-0.5**		
MGAB				AML	AML				
	comp=E,5015µm,1.4s								
MGAB				AML	AML				
	comp=E,4660µm,1.4s								
MGAB				AML	AML				
	comp=N,4630µm,0.4s								
MGAB				AML	AML				
	comp=N,4435µm,0.7s								
MGAB				AML	AML				
	comp=N,4435µm,1.3s								
MGAB				AML	AML				
	comp=N,4630µm,1.6s								
MGAB				AML	AML				
	comp=E,5015µm,0.6s								
MGAB				AML	AML				
	comp=E,4660µm,0.6s								
CERT	**Cerreto**	**0.78**	**187**	P	**Pg**	**11 45 54.9**	**-1.8**		
CERT				AML	AML				
	comp=N,1158µm,0.9s								
CERT				AML	AML				
	comp=E,1630µm,0.6s								
ARVD	**Arcevia**	**0.79**	**351**	P	**Pg**	**11 45 55.5**	**-1.4**		
ARVD				AML	AML				
	comp=E,1010µm,0.2s								
ARVD				AML	AML				
	comp=N,876µm,0.8s								
ARVD				AML	AML				
	comp=N,876µm,1.2s								
ATVO	**AVT- Monte Val**	**0.84**	**322**	P	**Pg**	**11 45 56.7**	**-1.2**		
ATVO				AML	AML				
	comp=E,1460µm,0.4s								
ATVO				AML	AML				
	comp=N,2075µm,0.5s								
ATVO				AML	AML				
	comp=N,2075µm,1.5s								
ATVO				AML	AML				
	comp=E,1460µm,1.6s								
FRON	**Frontone**	**0.84**	**340**	P	**Pg**	**11 45 57.0**	**-1.0**		
FRON				AML	AML				
	comp=E,1160µm,0.8s								
FRON				AML	AML				
	comp=N,1670µm,0.3s								
RCAV	**Rocca di Cave**	**0.88**	**188**	P	**Pg**	**11 45 57.8**	**-0.9**		
RCAV				AML	AML				
	comp=E,1025µm,0.4s								
RCAV				AML	AML				
	comp=N,1165µm,0.7s								
RCAV				AML	AML				
	comp=E,1025µm,1.6s								
ATPI	**Pietralunga -**	**0.90**	**325**	P	**Pg**	**11 45 57.7**	**-1.3**		
ATPI				AML	AML				
	comp=E,1500µm,1.5s								
ATPI				AML	AML				
	comp=N,1295µm,0.4s								
ATPI				AML	AML				
	comp=E,1500µm,0.5s								
SACS	**San Casciano d**	**0.90**	**278**	P	**Pg**	**11 45 58.3**	**-0.7**		
SACS				AML	AML				
	comp=E,1205µm,0.8s								
SACS				AML	AML				
	comp=E,1226µm,0.6s								
SACS				AML	AML				
	comp=E,1205µm,1.2s								
SACS				AML	AML				
	comp=E,1226µm,1.4s								
SACS				AML	AML				
	comp=N,1480µm,0.8s								
SACS				AML	AML				
	comp=N,1495µm,0.8s								
AOI	**Ancona**	**0.90**	**23**	P	**Pg**	**11 45 58.3**	**-0.8**		
AOI				AML	AML				
	comp=E,1056µm,0.9s								
AOI				AML	AML				
	comp=N,1305µm,0.3s								
AOI				AML	AML				
	comp=E,1056µm,1.1s								
COR1	**Corinaldo**	**0.91**	**355**	P	**Pg**	**11 45 59.1**	**-0.1**		
COR1				AML	AML				
	comp=N,2535µm,0.3s								
COR1				AML	AML				
	comp=E,1290µm,0.4s								
COR1				AML	AML				
	comp=E,1290µm,1.6s								
PIEI	**Pieia**	**0.92**	**333**	P	**Pg**	**11 45 57.5**	**-1.9**		
PIEI				AML	AML				
	comp=N,910µm,0.9s								
PIEI				AML	AML				
	comp=E,1086µm,0.2s								
INTR	**Introdacqua**	**0.92**	**140**	P	**Pg**	**11 45 57.2**	**-2.2**		
INTR				AML	AML				
	comp=E,2µm,0.7s								
INTR				AML	AML				
	comp=N,2µm,0.6s								
INTR				AML	AML				
	comp=E,1735µm,0.7s								
INTR				AML	AML				
	comp=N,2555µm,0.6s								
INTR				AML	AML				
	comp=E,2µm,1.3s								
INTR				AML	AML				
	comp=E,1735µm,1.3s								
VVLD	**Villa Vallelon**	**0.93**	**156**	⇑P	**Pg**	**11 45 56.0**	**-3.6**		
MPAG	**Monte Paganucc**	**0.94**	**344**	S	**Sb**	**11 46 14.2**	**+1.5**		
MPAG				AML	AML				
	comp=N,1034µm,0.5s								
MPAG				AML	AML				
	comp=E,1105µm,0.3s								
MPAG				AML	AML				
	comp=E,1205µm,0.5s								
MPAG				AML	AML				
	comp=N,1150µm,0.4s								
NARO	**Abbazia di Nar**	**0.97**	**336**	⇓P	**Pg**	**11 45 59.4**	**-1.0**		
NARO				AML	AML				
	comp=N,594µm,0.4s								
NARO				AML	AML				
	comp=E,774µm,0.7s								
FSSB	**Fossombrone**	**1.00**	**346**	P	**Pg**	**11 46 00.2**	**-0.8**		
FSSB				AML	AML				
	comp=E,2665µm,0.3s								
FSSB				AML	AML				
	comp=N,3115µm,0.3s								
BADI	**Badiali**	**1.01**	**321**	P	**Pg**	**11 46 00.3**	**-0.9**		
CAFI	**Castiglion Fio**	**1.04**	**306**	P	**Pg**	**11 46 00.6**	**-1.1**		
CAFI				AML	AML				
	comp=E,826µm,1.3s								
CAFI				AML	AML				
	comp=N,1245µm,1.4s								
CAFI				AML	AML				
	comp=N,1330µm,1.3s								
CAFI				AML	AML				
	comp=E,808µm,1.3s								
CAFI				AML	AML				
	comp=N,1245µm,0.6s								
CAFI				AML	AML				
	comp=N,1330µm,0.7s								
LPEL	**Lama dei Pelig**	**1.04**	**130**	P	**Pg**	**11 45 59.4**	**-2.3**		
LPEL				AML	AML				
	comp=E,1270µm,0.5s								
LPEL				AML	AML				
	comp=N,1206µm,1.1s								
LPEL				AML	AML				
	comp=N,1206µm,0.9s								
MCIV	**Monte Civitell**	**1.06**	**273**	P	**Pg**	**11 46 01.0**	**-1.1**		
MCIV				AML	AML				
	comp=N,651µm,0.7s								
MCIV				AML	AML				
	comp=N,651µm,1.3s								
MCIV				AML	AML				
	comp=E,744µm,0.6s								
PARC	**Parchiule**	**1.13**	**326**	⇑P	**Pg**	**11 46 02.7**	**-0.7**		
PARC				AML	AML				
	comp=E,730µm,0.4s								
PARC				AML	AML				
	comp=N,743µm,1.2s								
PARC				AML	AML				
	comp=N,743µm,0.8s								
LRP	**Arpino**	**1.13**	**162**	⇓P	**Pg**	**11 46 03.6**	**+0.2**		
LRP				AML	AML				
	comp=N,437µm,0.4s								
LRP				AML	AML				
	comp=E,590µm,0.4s								
SF01	**Poggio Pratacc**	**1.15**	**275**	⇑P	**Pg**	**11 46 04.1**	**+0.4**		
SF01				AML	AML				
	comp=N,1460µm,0.4s								
SF01				AML	AML				
	comp=E,1490µm,0.9s								
GIUL	**Giuliano Di Ro**	**1.17**	**175**	⇓P	**Pg**	**11 46 04.5**	**+0.4**		
GIUL				AML	AML				
	comp=N,486µm,1.0s								
GIUL				AML	AML				
	comp=E,458µm,0.8s								
LATB	**Latina**	**1.23**	**185**	⇑P	**Pg**	**11 46 04.8**	**-0.6**		
LATB				AML	AML				
	comp=E,192µm,0.9s								
LATB				AML	AML				
	comp=N,166µm,0.6s								
LATB				AML	AML				
	comp=N,166µm,1.4s								
LATB				AML	AML				
	comp=E,192µm,1.1s								
MIDA	**Miranda**	**1.37**	**142**	⇓P	**Pn**	**11 46 08.4**	**+1.5**		
MIDA				AML	AML				
	comp=E,522µm,0.9s								
MIDA				AML	AML				
	comp=N,416µm,0.5s								
TRIV	**Trivento**	**1.43**	**131**	P	**Pn**	**11 46 08.5**	**+0.9**		
TRIV				AML	AML				
	comp=E,482µm,0.7s								
TRIV				AML	AML				
	comp=E,472µm,0.7s								
TRIV				AML	AML				
	comp=N,538µm,1.1s								
TRIV				AML	AML				
	comp=N,566µm,1.1s								
TRIV				AML	AML				
	comp=E,472µm,1.3s								
TRIV				AML	AML				
	comp=E,482µm,1.3s								
FROS	**Frosini**	**1.52**	**289**	⇑P	**Pn**	**11 46 09.6**	**+0.8**		
FROS				AML	AML				
	comp=E,438µm,0.5s								
FROS				AML	AML				
	comp=N,295µm,0.7s								
FROS				AML	AML				
	comp=E,438µm,1.5s								
FROS				AML	AML				
	comp=N,295µm,1.3s								
RIBO	**Ribolla Roccas**	**1.54**	**279**	⇓P	**Pn**	**11 46 09.4**	**+0.3**		
RUFI	**Rufina**	**1.62**	**314**	⇑P	**Pn**	**11 46 10.1**	**-0.1**		
RUFI				AML	AML				
	comp=E,304µm,0.7s								
RUFI				AML	AML				
	comp=N,334µm,0.5s								
CASP	**Castiglione de**	**1.66**	**273**	⇓P	**Pn**	**11 46 10.4**	**-0.3**		
CASP				AML	AML				
	comp=N,94µm,1.2s								
CASP				AML	AML				
	comp=E,126µm,0.3s								
CASP				AML	AML				
	comp=N,94µm,0.8s								
LMD	**Lutirano**	**1.70**	**323**	⇑P	**Pn**	**11 46 12.5**	**+1.2**		
LMD				AML	AML				
	comp=N,248µm,1.2s								
LMD				AML	AML				
	comp=E,236µm,0.4s								
LMD				AML	AML				
	comp=N,248µm,0.8s								
MELA	**Melanico ??? S**	**1.81**	**124**	⇑P	**Pn**	**11 46 13.7**	**+1.0**		
MELA				AML	AML				
	comp=E,868µm,0.5s								
MELA				AML	AML				
	comp=N,746µm,0.5s								
MELA				AML	AML				
	comp=E,692µm,0.4s								
MELA				AML	AML				
	comp=N,746µm,1.5s								
MELA				AML	AML				
	comp=N,634µm,0.5s								

MOCL	**Monte Cuccoli**	**1.91**	**313**	P	**Pn**	**11 46 14.4**	**+0.3**
MOCL				AML	AML		
	comp=E,205µm,1.6s						
MOCL				AML	AML		
	comp=N,266µm,0.8s						
MOCL				AML	AML		
	comp=N,266µm,1.2s						
MOCL				AML	AML		
	comp=E,205µm,0.4s						
IFOR	**Ischia Forio P**	**2.08**	**164**	P	**Pb**	**11 46 21.3**	**+1.8**
SGRT	**San Giovanni R**	**2.18**	**115**	P	**Pn**	**11 46 18.6**	**+0.7**
SGRT				AML	AML		
	comp=E,257µm,0.4s						
SGRT				AML	AML		
	comp=N,243µm,0.4s						
SGRT				AML	AML		
	comp=E,257µm,1.6s						
MAIM	**Mastiano**	**2.26**	**303**	⇓P	**Pn**	**11 46 19.8**	**+0.9**
MAIM				AML	AML		
	comp=E,114µm,0.4s						
MAIM				AML	AML		
	comp=N,118µm,0.8s						
BDI	**Bagni Di Lucca**	**2.27**	**307**	⇑P	**Pn**	**11 46 19.2**	**0.0**
BDI				AML	AML		
	comp=E,68µm,0.6s						
BDI				AML	AML		
	comp=N,43µm,0.7s						
BDI				AML	AML		
	comp=E,68µm,1.4s						
MSAG	**Monte S. Angel**	**2.31**	**115**	⇑P	**Pn**	**11 46 21.0**	**+1.2**
MSAG				AML	AML		
	comp=E,346µm,0.5s						
MSAG				AML	AML		
	comp=N,634µm,0.5s						
MSAG				AML	AML		
	comp=E,137µm,0.5s						
MSAG				AML	AML		
	comp=N,257µm,0.5s						
MSAG				AML	AML		
	comp=E,346µm,1.5s						
MSAG				AML	AML		
	comp=E,137µm,1.5s						
SARO	**Sassorosso**	**2.46**	**307**	P	**Pn**	**11 46 21.5**	**-0.3**
SARO				AML	AML		
	comp=N,242µm,0.5s						
SARO				AML	AML		
	comp=E,218µm,0.5s						
PALZ	**Palazzo San Ge**	**2.77**	**129**	⇓P	**Pn**	**11 46 27.4**	**+1.4**
PALZ				AML	AML		
	comp=E,270µm,1.4s						
PALZ				AML	AML		
	comp=E,270µm,0.6s						
PALZ				AML	AML		
	comp=N,196µm,0.9s						
MRVN	**Minervino Murg**	**2.84**	**125**	P	**Pn**	**11 46 27.8**	**+0.8**
MRVN				AML	AML		
	comp=E,59µm,1.1s						
MRVN				AML	AML		
	comp=N,54µm,0.8s						
MRVN				AML	AML		
	comp=E,59µm,0.9s						
MRVN				AML	AML		
	comp=N,54µm,1.2s						
A050A	**Klekovaca**	**3.04**	**54**	*e*Pn	**Pn**	**11 46 30.4**	**+0.6**
PGF	**Pioggiola**	**3.04**	**268**	*e*P	**Pn**	**11 46 30.7**	**+0.8**
PGF				*e*Sn	**Sn**	**11 47 01.3**	**-5.0**
	comp=N,6.5nm,0.4s						
PGF	**Pioggiola**	**3.04**	**268**	⇑P	**Pn**	**11 46 31.0**	**+1.1**
CEY	**Cerknica**	**3.16**	**17**	*e*Pn	**Pn**	**11 46 31.5**	**+0.1**
AMUR	**Altamura**	**3.18**	**124**	⇓P	**Pn**	**11 46 32.7**	**+1.1**
AMUR				AML	AML		
	comp=N,89µm,1.2s						
AMUR				AML	AML		
	comp=N,89µm,0.8s						
AMUR				AML	AML		
	comp=E,105µm,0.5s						
BOJS	**Bojanci**	**3.18**	**28**	*e*Pn	**Pn**	**11 46 31.8**	**+0.2**
BOJS	**Bojanci**	**3.18**	**28**	⇑P	**Pn**	**11 46 32.9**	**+1.3**
BOJS				AML	AML		
	comp=E,204µm,0.9s						
BOJS				AML	AML		
	comp=N,196µm,0.8s						
BOJS				AML	AML		
	comp=N,196µm,1.2s						
SABO	**M.te Sabotino**	**3.27**	**6**	⇑P	**Pn**	**11 46 32.7**	**-0.3**
SABO				AML	AML		
	comp=E,708µm,0.5s						
SABO				AML	AML		
	comp=E,151µm,0.5s						
SABO				AML	AML		
	comp=E,708µm,1.5s						
SABO				AML	AML		
	comp=E,151µm,1.5s						
SABO				AML	AML		
	comp=N,184µm,1.0s						
SABO				AML	AML		
	comp=N,727µm,1.1s						
CGRP	**Cima Grappa**	**3.29**	**344**	⇓P	**Pn**	**11 46 34.6**	**+1.3**
CGRP				S	**Sn**	**11 47 13.4**	**+0.7**
CGRP				AML	AML		
	comp=E,141µm,1.5s						
CGRP				AML	AML		
	comp=E,141µm,0.5s						
CGRP				AML	AML		
	comp=N,136µm,0.5s						
MGRS	**Mrkonjic Grad**	**3.34**	**58**	*e*Pn	**Pn**	**11 46 36.1**	**+2.2**
STON	**Ston**	**3.38**	**86**	*e*Pn	Pn	11 46 30.4	-3.9
SALO	**Salr**	**3.44**	**328**	⇑P	**Pn**	**11 46 36.7**	**+1.4**
SALO				AML	AML		
	comp=N,142µm,0.7s						
SALO				AML	AML		
	comp=N,142µm,1.3s						
SALO				AML	AML		
	comp=E,104µm,1.3s						
DOSS	**Dosso del Somm**	**3.45**	**337**	⇓P	**Pn**	**11 46 36.8**	**+1.3**
CTI	**Castel Tesino**	**3.49**	**343**	P	**Pn**	**11 46 36.3**	**+0.3**
CTI				AML	AML		
	comp=E,134µm,0.2s						
CTI				AML	AML		
	comp=N,146µm,0.2s						
CTI				AML	AML		
	comp=E,134µm,1.8s						
CTI				AML	AML		
	comp=N,146µm,1.8s						
CRES	**Cresnjev**	**3.53**	**28**	*e*Pn	**Pn**	**11 46 36.2**	**-0.2**
NOCI	**Noci**	**3.53**	**122**	⇓P	**Pn**	**11 46 37.4**	**+1.0**
NOCI				AML	AML		
	comp=E,64µm,0.5s						
NOCI				AML	AML		
	comp=N,56µm,0.4s						
VINO	**Villanova**	**3.54**	**2**	⇓P	**Pn**	**11 46 36.5**	**-0.1**
VINO				AML	AML		
	comp=E,95µm,0.3s						
VINO				AML	AML		
	comp=N,120µm,0.4s						
MAGA	**Magasa**	**3.54**	**330**	⇑P	**Pn**	**11 46 38.1**	**+1.5**
MAGA				AML	AML		
	comp=E,276µm,0.5s						
MAGA				AML	AML		
	comp=N,200µm,1.3s						
MAGA				AML	AML		
	comp=E,276µm,1.5s						
STAL	**STALIGIAL**	**3.55**	**355**	P	**Pn**	**11 46 37.8**	**+1.0**
STAL				AML	AML		
	comp=E,132µm,0.7s						
STAL				AML	AML		
	comp=N,108µm,1.4s						
STAL				AML	AML		
	comp=N,108µm,0.6s						
A051A	**Mrakovica**	**3.57**	**49**	*e*Pn	**Pn**	**11 46 38.2**	**+1.1**
BLY	**Banja Luka**	**3.58**	**54**	*e*Pn	**Pn**	**11 46 35.2**	**-1.9**
LUSI	**Trento, Gardas**	**3.59**	**335**	⇑P	**Pn**	**11 46 39.0**	**+1.7**
CIMO	**Cimolais**	**3.62**	**353**	⇑P	**Pn**	**11 46 38.3**	**+0.6**
CIMO				AML	AML		
	comp=N,30µm,1.1s						
CIMO				AML	AML		
	comp=N,30µm,0.9s						
CIMO				AML	AML		
	comp=E,26µm,1.6s						
NEVS	**Nevesinje**	**3.70**	**79**	*e*Pn	**Pn**	**11 46 39.6**	**+0.7**
SARZ	**Sarezzano**	**3.72**	**307**	S	**Sn**	**11 47 25.3**	**+2.4**
EUCT	**Pavia**	**3.79**	**312**	⇑P	**Pb**	**11 46 45.7**	**-3.0**
MABI	**Malga Bissina**	**3.82**	**332**	⇓P	**Pn**	**11 46 41.6**	**+1.0**
MABI				AML	AML		
	comp=E,106µm,1.4s						
MABI				AML	AML		
	comp=N,40µm,0.2s						
MABI				AML	AML		
	comp=E,106µm,0.6s						
TREB	**Trebinje**	**3.86**	**88**	*e*Pn	**Pn**	**11 46 40.2**	**-0.7**
FVI	**Forni Avoltri**	**3.88**	**357**	⇓P	**Pn**	**11 46 43.1**	**+1.8**
OBKA	**Obir**	**3.92**	**15**	*i* Pn	**Pn**	**11 46 42.6**	**+0.6**
	comp=E,1.0nm,0.2s						
OBKA				*i* Sn	**Sn**	**11 47 25.0**	**-2.9**
	comp=E,4.1nm,0.3s						
OBKA	**Obir**	**3.92**	**15**	*e*Pn	**Pn**	**11 46 42.2**	**+0.3**
MYKA	**Terra Mystica**	**3.92**	**5**	*i* Pn	**Pn**	**11 46 42.7**	**+0.7**
	comp=E,3.3nm,0.6s						
MYKA				*i* Sn	**Sn**	**11 47 27.0**	**-1.0**
	comp=E,2.0nm,0.3s						
HCY	**Herceg Novi**	**3.98**	**92**	⇓*i* Pn	**Pn**	**11 46 43.3**	**+0.7**
HCY				*i* Sn	**Sn**	**11 47 30.3**	**+1.0**
BRY	**Bratogost**	**3.99**	**86**	⇓*i* Pn	**Pn**	**11 46 43.5**	**+0.5**
BRY				*e*Sn	**Sn**	**11 47 29.8**	**0.0**
ABTA	**Abfaltersbach**	**4.05**	**354**	*i* Pn	**Pn**	**11 46 44.8**	**+1.1**
	comp=E,6.9nm,0.5s,SNR=18						
ABTA				*i* Sn	**Sn**	**11 47 32.3**	**+1.2**
	comp=E,13nm,0.4s						
SOKA	**Soboth**	**4.18**	**18**	*e*Pn	**Pn**	**11 46 46.4**	**+0.9**
	comp=E,1.0nm,0.2s						
SOKA				*i* Sn	**Sn**	**11 47 37.1**	**+2.7**
	comp=E,1.5nm,0.2s						
CEME	**Cevo**	**4.28**	**90**	⇓*i* Pn	**Pn**	**11 46 47.8**	**+0.9**
CEME				*i* Sn	**Sn**	**11 47 37.4**	**+0.5**
VSL	**Villasalto**	**4.29**	**222**	⇑P	**Pn**	**11 46 47.3**	**+0.4**
NKME	**Niksic**	**4.30**	**87**	⇓*i* Pn	**Pn**	**11 46 47.9**	**+0.8**
NKME				*e*Sn	**Sn**	**11 47 37.5**	**+0.3**
SBF	**Sospel**	**4.30**	**287**	*e*P	**Pn**	**11 46 47.6**	**+0.5**
SBF				*e*Sn	**Sn**	**11 47 31.4**	**-5.9**
	comp=E,13nm,0.4s						
KBA	**Koelnbreinsper**	**4.36**	**2**	*i* Pn	**Pn**	**11 46 48.8**	**+0.8**
	comp=E,1.0nm,0.2s						
KBA				*i* Sn	**Sn**	**11 47 38.6**	**-0.2**
	comp=E,15nm,0.5s						
ROSI	**Rosskopf**	**4.38**	**345**	⇑P	**Pn**	**11 46 50.3**	**+2.1**
DRME	**Dracevica, Mon**	**4.52**	**95**	*e*Pn	**Pn**	**11 46 50.8**	**+0.7**
DRME	**Dracevica, Mon**	**4.52**	**95**	⇑*i* Pn	**Pn**	**11 46 51.0**	**+0.9**
DRME				*i* Sn	**Sn**	**11 47 41.3**	**-1.3**
PDG	**Podgorica**	**4.54**	**92**	*e*Pn	**Pn**	**11 46 50.7**	**+0.4**
PDG	**Podgorica**	**4.54**	**92**	⇓*i* Pn	**Pn**	**11 46 51.3**	**+1.0**
PDG				*e*Sn	**Sn**	**11 47 43.8**	**+0.7**
ULC	**Ulcinj**	**4.61**	**97**	⇓*i* Pn	**Pn**	**11 46 52.0**	**+0.8**
ULC				*e*Sn	**Sn**	**11 47 42.2**	**-2.5**
FETA	**Feichten**	**4.62**	**339**	*i* Pn	**Pn**	**11 46 54.5**	**+2.9**
	comp=E,1.5nm,0.4s						
FETA				*i* Sn	**Sn**	**11 47 49.1**	**+3.8**
	comp=E,2.1nm,0.5s						
PLE	**Pljevlja**	**4.64**	**80**	⇑*i* Pn	**Pn**	**11 46 52.8**	**+1.0**
PLE				*e*Sn	**Sn**	**11 47 45.9**	**+0.2**
WTTA	**Wattenberg**	**4.66**	**347**	*i* Pn	**Pn**	**11 46 55.0**	**+2.8**
	comp=E,0.6nm,0.2s						
WTTA				*i* Sn	**Sn**	**11 47 49.4**	**+3.1**
	comp=E,3.7nm,0.3s						
RUDO	**Rudo**	**4.66**	**77**	*e*Pn	**Pn**	**11 46 52.3**	**+0.3**
SQTA	**Sankt Quirin**	**4.70**	**344**	*i* Pn	**Pn**	**11 46 55.2**	**+2.6**
	comp=E,1.9nm,0.2s,SNR=7.7						
SQTA				*i* Sn	**Sn**	**11 47 49.7**	**+2.6**
	comp=E,4.8nm,0.5s						
KOME	**Kolasin**	**4.71**	**86**	⇑*i* Pn	**Pn**	**11 46 53.7**	**+0.9**
KOME				*i* Sn	**Sn**	**11 47 47.9**	**+0.5**
LESA	**Schwarzleotal**	**4.71**	**356**	*i* Pn	**Pn**	**11 46 54.4**	**+1.6**
	comp=E,4.6nm,0.4s						
LESA				*i* Sn	**Sn**	**11 47 46.2**	**-1.2**
	comp=E,5.5nm,0.5s						
BBLS	**Lazi?i**	**4.73**	**74**	*e*Pn	**Pn**	**11 46 51.9**	**-1.1**
WATA	**Walderalm**	**4.74**	**347**	*e*Pn	**Pn**	**11 46 56.2**	**+3.0**
	comp=E,2.6nm,0.2s						
WATA				*i* Sn	**Sn**	**11 47 51.6**	**+3.4**
	comp=E,6.5nm,0.3s						
MOTA	**Moosalm**	**4.84**	**344**	*i* Pn	**Pn**	**11 46 57.1**	**+2.6**
	comp=E,0.3nm,0.1s						
MOTA				*i* Sn	**Sn**	**11 47 52.6**	**+1.9**
	comp=E,2.4nm,0.4s						
ARSA	**Arzberg**	**4.84**	**20**	*i* Pn	**Pn**	**11 46 55.1**	**+0.7**
	comp=E,0.7nm,0.2s						
ARSA				*i* Sn	**Sn**	**11 47 48.1**	**-2.4**
	comp=E,6.2nm,0.5s						
LMR	**La Mourre**	**4.88**	**279**	*e*P	**Pn**	**11 46 55.0**	**0.0**
LMR				*e*Sn	**Sn**	**11 47 45.2**	**-6.3**
	comp=E,11nm,0.6s						
BIOA	**Bad Ischl, Aus**	**4.98**	**4**	*i* Pn	**Pn**	**11 46 56.9**	**+0.4**
	comp=E,1.4nm,0.3s						
BIOA				*e*Sn	**Sn**	**11 47 56.1**	**+2.1**
	comp=E,26nm,0.8s						
IVA	**Berane**	**4.99**	**86**	⇓*i* Pn	**Pn**	**11 46 58.5**	**+1.9**
IVA				*e*Sn	**Sn**	**11 47 54.5**	**+0.2**
MBDF	**Montbardon**	**5.02**	**296**	*e*P	**Pn**	**11 46 58.3**	**+1.3**
MBDF				*e*Sn	**Sn**	**11 47 48.7**	**-6.3**
	comp=E,9.8nm,0.7s						
RETA	**Reutte**	**5.05**	**342**	*i* Pn	**Pn**	**11 47 00.0**	**+2.7**
	comp=E,1.2nm,0.3s						
RETA				*i* Sn	**Sn**	**11 47 59.0**	**+3.3**
	comp=E,1.7nm,0.3s						
SJES	**Sjenica**	**5.06**	**82**	*e*Pn	**Pn**	**11 46 58.1**	**+0.5**
DAVA	**Damuels**	**5.11**	**334**	*i* Pn	**Pn**	**11 47 01.6**	**+3.3**
	comp=E,0.5nm,0.2s						
DAVA				*e*Sn	**Sn**	**11 48 01.2**	**+3.9**
	comp=E,1.0nm,0.2s						
MOA	**Molln**	**5.19**	**9**	*i* Pn	**Pn**	**11 47 00.4**	**+1.1**
	comp=E,1.0nm,0.2s						
MOA				*i* Sn	**Sn**	**11 47 58.3**	**-0.9**
	comp=E,5.0nm,0.5s						
BNI	**Bardonecchia**	**5.20**	**299**	P	**Pb**	**11 47 13.9**	**+1.1**
LPG	**La Plagne**	**5.36**	**303**	*e*P	**Pn**	**11 47 02.8**	**+1.0**
LPG				*e*Sn	**Sn**	**11 47 56.7**	**-6.9**
	comp=E,1.7nm,0.2s						
LPL	**La Plagne**	**5.38**	**303**	*e*P	**Pn**	**11 47 03.1**	**+1.1**
LPL				*e*Sn	**Sn**	**11 47 57.2**	**-6.8**
	comp=E,3.8nm,0.3s						
RONA	**Rosalia, Austr**	**5.46**	**23**	*i* Pn	**Pn**	**11 47 04.8**	**+1.8**
	comp=E,0.6nm,0.2s						
RONA				*e*Sn	**Sn**	**11 48 01.8**	**-4.0**
	comp=E,0.5nm,0.1s						
CONA	**Conrad Observa**	**5.55**	**19**	*i* Pn	**Pn**	**11 47 04.8**	**+0.5**
	comp=E,0.5nm,0.2s						
CONA				*i* Sn	**Sn**	**11 48 04.9**	**-3.3**
	comp=E,2.3nm,0.3s						
SMRF	**Simiane la Rot**	**5.64**	**285**	*e*P	**Pn**	**11 47 08.1**	**+2.6**
SMRF				*e*Sn	**Sn**	**11 48 03.5**	**-6.8**
	comp=E,0.7nm,0.2s						
HAGA	**Augusta**	**5.65**	**163**	⇑P	**Pn**	**11 47 10.3**	**+4.7**
ORIF	**Oris-en-Rattie**	**5.68**	**295**	*e*P	**Pn**	**11 47 08.3**	**+2.3**
ORIF				*e*Sn	**Sn**	**11 48 04.2**	**-7.0**
	comp=E,3.4nm,0.5s						
CKRC	**Cesky Krumlov**	**6.16**	**7**	*e*PN	**Pn**	**11 47 11.9**	**-0.6**
CKRC				*e*SN	**Sn**	**11 48 19.5**	**-3.4**
CABF	**La Chapelle**	**6.34**	**310**	*e*P	**Pn**	**11 47 16.0**	**+0.8**
CABF				*e*Sn	Sn	11 48 20.0	-7.6
	comp=E,3.2nm,0.4s						
KHC	**Kasperske Hory**	**6.42**	**3**	*e*PN	**Pn**	**11 47 16.1**	**0.0**
KHC				*e*SN	**Sn**	**11 48 27.8**	**-1.6**
VIVF	**Saint-Julien-l**	**6.47**	**292**	*e*P	**Pn**	**11 47 18.0**	**+1.1**
VIVF				*e*Sn	Sn	11 48 23.3	-7.4
	comp=E,0.5nm,0.4s						
HINF	**Hinteralfeld**	**6.74**	**321**	*e*P	**Pn**	**11 47 21.6**	**+1.0**
HINF				*e*Sn	Sn	11 48 29.3	-8.1
	comp=E,9.7nm,0.6s						
LASF	**Ste Croix**	**6.88**	**284**	*e*P	**Pn**	**11 47 23.9**	**+1.4**
LASF				*e*Sn	Sn	11 48 33.0	-7.7
	comp=E,0.9nm,0.2s						
CDF	**Champ du Feu**	**7.01**	**326**	*e*P	**Pn**	**11 47 24.4**	**+0.1**
CDF				*e*Sn	Sn	11 48 35.8	-8.2
	comp=E,9.7nm,0.5s						
HAU	**Haudompre**	**7.11**	**320**	*e*P	**Pn**	**11 47 26.7**	**+1.0**
HAU				*e*Sn	Sn	11 48 38.6	-7.9
	comp=E,11nm,0.4s						
PAGF	**Fort de Pagny**	**7.80**	**321**	*e*P	**Pn**	**11 47 36.6**	**+1.6**
LOR	**Lormes**	**7.98**	**308**	*e*Sn	Sn	11 48 59.0	-8.8
	comp=E,1.8nm,0.4s						
MTLF	**Montolieu**	**8.01**	**278**	*e*P	**Pn**	**11 47 39.3**	**+1.3**
MEZF	**Maizieres J'vi**	**8.08**	**318**	*e*P	**Pn**	**11 47 40.6**	**+1.7**
MEZF				*e*Sn	Sn	11 49 01.3	-8.9
	comp=E,2.3nm,0.4s						
CAF	**Calviac**	**8.29**	**289**	*e*P	**Pn**	**11 47 43.7**	**+1.9**

*IDC **26** 12:15:00.9±1.2,30.04N×51.96E,h0km,mb3.7/16, mbtmp3.8/20,ML3.3/4,MS2.7/2,Error ellipse: s-maj=24.8km s-min=18.2km az=10.0*
*TEH **26** 12:15:01.7,30.18N×51.99E,h6km±64km,ML3.9*

*OMAN **26** 12:15:09.3±0.1,29.73N×52.23E,h10km,mb4.4/17, ml3.6/4,ms2.6/3,Error ellipse: s-maj=1.3km s-min=0.8km az=355.0*

ISC 26 12:15:02.7±0.5,30.11N±0.04×52.09E±0.04,h8km,n95, σ2s10/129,mb3.9/27,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**0.59**	**142**	Pg	**Pb**	**12 15 16.1**	**+0.6**
SHI				Sg	**Sn**	**12 15 27.8**	**+0.2**
KLNJ	**Kolanjah**	**0.99**	**335**	Pg	**Pg**	**12 15 20.5**	**-1.4**
AHBU	**AHRAM**	**1.42**	**209**	Pg	**Pg**	**12 15 30.4**	**+0.4**
IRAM	**Ramesheh**	**1.71**	**8**	Pg	**Pn**	**12 15 33.7**	**+0.6**
QIR1	**Qir**	**1.83**	**153**	Pn	**Pg**	**12 15 38.4**	**+0.6**
DSBU	**Dashti - Bushe**	**1.89**	**203**	Pn	**Pb**	**12 15 37.8**	**+0.4**
IBRJ	**Brojen**	**1.93**	**339**	Pn	**Pn**	**12 15 37.2**	**+1.1**
JHRM	**Jahrom**	**2.06**	**141**	Pn	**Pb**	**12 15 40.7**	**+0.3**
ISAD	**Sadrabad**	**2.26**	**37**	Pn	**Pn**	**12 15 43.4**	**+2.7**
ZNGN	**Zangian**	**2.27**	**332**	Pn	**Pn**	**12 15 42.0**	**+1.2**
IGAR	**Gharneh**	**2.29**	**359**	Pn	**Pn**	**12 15 42.5**	**+1.4**
JHBN	**Jahan bin**	**2.44**	**330**	Pn	**Pn**	**12 15 44.2**	**+0.9**
IMEH	**Mehriz**	**2.52**	**59**	Pn	**Pn**	**12 15 47.6**	**+3.4**
IPIR	**Pirpir**	**2.77**	**339**	Pn	**Pn**	**12 15 48.4**	**+0.7**
IZEF	**Zefreh**	**2.79**	**4**	Pn	**Pn**	**12 15 49.9**	**+2.0**
AMIS	**Naft Sefid**	**2.87**	**303**	Pn	**Pn**	**12 15 49.4**	**+0.6**
IKLH	**Kolahrood**	**3.23**	**352**	Pn	**Pn**	**12 15 55.4**	**+1.4**
IBAF	**Bafgh**	**3.33**	**63**	Pn	**Pn**	**12 15 58.5**	**+3.1**
ANAR	**Anarak**	**3.38**	**24**	Pn	**Pn**	**12 15 58.1**	**+2.2**
QAMS	**Qamsar**	**3.67**	**351**	Pn	**Pn**	**12 16 01.5**	**+1.5**
KHGB	**Koh Gabri**	**3.81**	**85**	Pn	**Pn**	**12 16 05.0**	**+3.1**
KRSH	**Karshahi**	**3.85**	**1**	Pn	**Pn**	**12 16 04.2**	**+1.7**
NGRK	**Negar Kerman**	**4.06**	**95**	Pn	**Pn**	**12 16 09.2**	**+3.7**
ISFB	**Sefidab**	**4.23**	**2**	Pn	**Pn**	**12 16 08.9**	**+1.3**
SAKB	**Bahrain**	**4.34**	**199**	P	**Pn**	**12 16 11.2**	**+2.2**
SAKB				S	**Sn**	**12 16 57.8**	**-1.9**
SHMA	**Al-Shehemyia** SNR=24	**4.35**	**193**	P	**Pn**	**12 16 11.5**	**+2.3**
SHMA				S	**Sn**	**12 16 59.8**	**-0.2**
IVRN	**Varamin**	**4.88**	**356**	Pn	**Pn**	**12 16 18.1**	**+1.6**
IKFM	**Kafar-mosalman**	**4.96**	**314**	Pn	**Pn**	**12 16 18.5**	**+0.9**
HSAM	**Samen**	**5.05**	**325**	Pn	**Pn**	**12 16 19.2**	**+0.3**
JRN	**Qarnain Island**	**5.19**	**172**	P	**Pn**	**12 16 22.1**	**+1.4**
JRN				S	**Sn**	**12 17 20.0**	**-0.8**
SHME	**Shamm**	**5.40**	**138**	P	**Pn**	**12 16 25.7**	**+2.1**
SHME				S	**Sn**	**12 17 26.3**	**+0.4**
TRNA	**Turayna**	**5.41**	**188**	P	**Pn**	**12 16 25.2**	**+1.5**
TRNA				S	**Sn**	**12 17 24.8**	**-1.3**
IDMV	**Damavand**	**5.45**	**360**	Pn	**Pn**	**12 16 26.1**	**+1.5**
SMRA	**Abu-Samra**	**5.46**	**192**	P	**Pn**	**12 16 26.3**	**+1.9**
SMRA				S	**Sn**	**12 17 27.1**	**-0.3**
TKDS	**Koohdasht(Taba**	**5.53**	**49**	Pn	**Pn**	**12 16 28.8**	**+3.4**
UMQ	**Umm Al-Quwin**	**5.55**	**144**	P	**Pn**	**12 16 28.1**	**+2.4**
BANOM	**Banah**	**5.59**	**137**	P	**Pn**	**12 16 28.5**	**+2.3**
BANOM				S	**Sn**	**12 17 30.7**	**+0.1**
KBAM	**BAM**	**5.62**	**98**	Pn	**Pn**	**12 16 30.5**	**+3.7**
IBZA	**Bozab**	**5.63**	**322**	Pn	**Pn**	**12 16 28.7**	**+1.6**
MASF	**Masafi** SNR=8.7	**5.94**	**142**	P	**Pn**	**12 16 32.8**	**+1.8**
MASF				S	**Sn**	**12 17 39.5**	**+0.2**
	SNR=10						
ILBA	**Ilam Banvizeh**	**6.11**	**307**	Pn	**Pn**	**12 16 33.4**	**+0.1**
ASUD	**Al Ashush, Dub**	**6.17**	**151**	P	**Pn**	**12 16 37.1**	**+2.9**
ASUD				S	**Sn**	**12 17 44.3**	**-0.7**
FAQ	**Al Faqa, Dubai**	**6.18**	**149**	P	**Pn**	**12 16 36.9**	**+2.6**
FAQ				S	**Sn**	**12 17 45.5**	**+0.2**
IGHG	**Ghaleghazi**	**6.29**	**313**	Pn	**Pn**	**12 16 36.9**	**+0.8**
UOSS	**Minazif**	**6.31**	**144**	P	**Pn**	**12 16 37.9**	**+1.8**
UOSS				S	**Sn**	**12 17 47.4**	**-1.0**
HATD	**Hatta, Dubai**	**6.37**	**145**	P	**Pn**	**12 16 39.0**	**+2.1**
HATD				S	**Sn**	**12 17 48.5**	**-1.4**
KLST	**Kelardasht - M**	**6.45**	**353**	Pn	**Pn**	**12 16 39.9**	**+1.6**
ASHO	**Ashiyiah** SNR=18	**6.45**	**146**	P	**Pn**	**12 16 40.0**	**+1.9**
ASHO				S	**Sn**	**12 17 51.2**	**-0.7**
	SNR=6.1						
ALNE	**Al Ain**	**6.85**	**151**	P	**Pn**	**12 16 45.1**	**+1.5**
ALNE				S	**Sn**	**12 18 00.3**	**-1.6**
SOHO	**SOHO**	**7.15**	**145**	P	**Pn**	**12 16 48.5**	**+0.9**
SOHO				S	**Sn**	**12 18 06.8**	**-2.2**
MZR	**Muzera**	**7.19**	**170**	P	**Pn**	**12 16 48.7**	**+0.6**
MZR				S	**Sn**	**12 18 09.3**	**-0.7**
ARQ	**Araqi** SNR=7.8	**7.82**	**149**	P	**Pn**	**12 16 57.4**	**+0.5**
ARQ				S	**Sn**	**12 18 24.3**	**-1.4**
HOQ	**Hoqain**	**8.00**	**143**	P	**Pn**	**12 17 00.3**	**+1.0**
HOQ				P	**Pn**	**12 17 00.3**	**+1.0**
HOQ				S	**Sn**	**12 18 27.0**	**-2.9**
HOQ				S	**Sn**	**12 18 27.0**	**-2.9**
BSY	**Bisya**	**8.64**	**147**	P	**Pn**	**12 17 09.2**	**+1.0**
BSY				S	**Sn**	**12 18 41.4**	**-4.6**
SMDO	**Samad**	**8.81**	**141**	P	**Pn**	**12 17 11.4**	**+0.8**
SMDO				P	**Pn**	**12 17 11.4**	**+0.8**
SMDO	SNR=5.8			S	**Sn**	**12 18 48.3**	**-1.9**
SMDO				S	**Sn**	**12 18 48.3**	**-1.9**
	SNR=5.8						
WSAR	**Wadi Sarin** SNR=13	**9.00**	**138**	P	**Pn**	**12 17 13.7**	**+0.7**
WSAR				S	**Sn**	**12 18 50.0**	**-4.6**
WSAR	**Wadi Sarin** 0.9nm,0.3s,baz=92,slow=4.3,SNR=2.0	**9.00**	**138**	Pn	**Pn**	**12 17 13.2**	**+0.2**
WSAR	0.9nm,0.3s,baz=328,slow=7.8,SNR=14			Sn	**Sn**	**12 18 49.8**	**-4.8**
	0.9nm,0.3s,baz=166,slow=20,SNR=7.0 2.6nm,0.3s						
GEYT	**Alibeck** 0.3nm,0.3s,baz=229,slow=13,SNR=1.8 2.5nm,0.9s	**9.26**	**31**	Pn	**Pn**	**12 17 18.5**	**+1.9**
NGCH	**Negor - Chabah** SNR=18	**9.30**	**118**	P	**Pn**	**12 17 18.1**	**+0.9**

	7.4nm,1.5s							
WATA	**Walderalm**	**35.52**	**310**	*e*P		**P**	**12 22 02.4**	**+2.3**
	3.4nm,0.8s							
FINES	**FINESS Array B**	**35.72**	**339**	P		**P**	**12 22 00.2**	**-1.3**
	2.1nm,0.9s,baz=130,slow=13,SNR=5.2							
	2.1nm,0.9s							
SQTA	**Sankt Quirin**	**35.73**	**310**	*e*P		**P**	**12 22 04.2**	**+2.2**
	1.5nm,0.5s							
MOTA	**Moosalm**	**35.83**	**310**	*e*P		**P**	**12 22 02.2**	**-0.7**
	9.9nm,1.3s							
FETA	**Feichten**	**36.00**	**310**	*e*P		**P**	**12 22 06.9**	**+2.5**
	0.8nm,0.5s							
RETA	**Reutte**	**36.09**	**311**	*e*P		**P**	**12 22 07.5**	**+2.5**
	3.8nm,1.5s							
DAVA	**Damuels**	**36.63**	**310**	*e*P		**P**	**12 22 10.0**	**+0.3**
	2.5nm,0.4s							
HFS	**Hagfors**	**39.47**	**331**	P		**P**	**12 22 32.0**	**-1.2**
	1.8nm,0.8s,baz=138,slow=8.8,SNR=5.9							
	1.8nm,0.8s							
NOA	**NORSAR Array B**	**40.98**	**331**	P		**P**	**12 22 44.7**	**-1.1**
	0.5nm,0.7s,baz=118,slow=7.9,SNR=1.5							
	0.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**43.98**	**94**	P		**P**	**12 23 09.8**	**-1.0**
	0.3nm,0.4s,baz=284,slow=7.3,SNR=1.6							
CMAR				LR		LR	12 46 04.1	
	comp=Z,15nm,18.1s,baz=130,slow=42							
	0.3nm,0.4s							
EKA	**Eskdalemuir Ar**	**46.22**	**319**	P		**P**	**12 23 27.0**	**-1.1**
	0.4nm,0.4s,baz=107,slow=9.3,SNR=3.5							
	0.4nm,0.4s							
TORD	**Torodi Ar. Bea**	**49.39**	**261**	P		**P**	**12 23 52.0**	**-1.2**
	1.9nm,0.7s,baz=60,slow=9.1,SNR=7.8							
	1.9nm,0.7s							
SPITS	**Spitsbergen Ar**	**50.69**	**351**	P		**P**	**12 24 02.3**	**0.0**
	9.4nm,0.9s,baz=120,slow=7.8,SNR=1.4							
	9.4nm,0.9s							
ILAR	**Eielson Array**	**84.27**	**8**	P		**P**	**12 27 34.1**	**-0.6**
	0.8nm,1.3s,baz=332,slow=3.1,SNR=1.6							
	0.8nm,1.3s							
YKA	**Yellowknife Ar**	**87.10**	**354**	P		**P**	**12 27 49.1**	**+0.3**
	0.3nm,0.9s,baz=7.3,slow=5.7,SNR=3.4							
	0.3nm,0.9s							

*IDC **26** 12:35:37.1±0.6,41°.91N×87°.93E,h0km,mb4.0/15, mbtmp4.0/20,ML3.5/5,MS3.0/6,Error ellipse: s-maj=17.3km s-min=10.7km az=37.0*
*MOS **26** 12:35:37.6±1.2,41°.92N×87°.85E,h15km,mb4.6/6,Error ellipse: s-maj=9.3km s-min=6.4km az=126.3*
*NEIC **26** 12:35:39.3±1.4,41°.9N±0°.1×87°.9E±0°.1,h15km±5km, mb4.6/43,Error ellipse: s-maj=15.8km s-min=14.4km az=110.0*

ISC 26 12:35:38.8±0.4,**41°.91N**±0°.04×**87°.84E**±0°.04,**h10**km,**n119,** σ**25**/**01**/131,**mb4.5**/44,**2C-7D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.91**	**357**	Pg	**Pg**	**12 36 15.8**	**+0.4**
WMQ				Sg	**Sg**	**12 36 40.0**	**-0.2**
WMQ				smax	smax		
	comp=N,3μm,0.9s						
WMQ				smax	smax		
	comp=E,3μm,0.7s						
MK31	**Makanchi Array**	**6.29**	**323**		**Pn**	**12 37 14.3**	**+2.6**
MK31	**Makanchi Array**	**6.29**	**323**	*de*P	**Pn**	**12 37 13.7**	**+2.0**
MKAR	**Makanchi Array**	**6.29**	**323**		**Pn**	**12 37 14.0**	**+2.3**
MKAR	**Makanchi Array**	**6.29**	**323**	P	**Pn**	**12 37 14.0**	**+2.3**
MKAR	**Makanchi Array**	**6.29**	**323**	Pn	**Pn**	**12 37 13.5**	**+1.8**
	comp=E,5.3nm,0.3s,baz=144,slow=13,SNR=176						
MKAR				Sn	**Sn**	**12 38 23.9**	**+0.3**
	comp=E,5.6nm,0.3s,baz=127,slow=26,SNR=6.0						
MKAR				Lg	Lg	12 38 59.7	
	comp=E,7.7nm,0.3s,baz=134,slow=32,SNR=5.6						
MKAR				LR	LR	12 39 56.1	
	comp=E,63nm,18.8s,baz=60,slow=41						
	comp=E,8.3nm,0.3s						
MAKZ	**Makanchi**	**6.45**	**321**	Pn	**Pn**	**12 37 15.5**	**+1.7**
MAKZ	**Makanchi**	**6.45**	**321**	P	**Pn**	**12 37 15.5**	**+1.7**
PRZ	**Przheval'sk**	**7.04**	**278**		**Pn**	**12 37 24.0**	**+2.0**
PRZ	**Przheval'sk**	**7.04**	**278**	P	**Pn**	**12 37 24.0**	**+2.0**
TARG	**Taragay, Kyrgy**	**7.50**	**272**	Pn	**Pn**	**12 37 30.7**	**+2.1**
TARG	**Taragay, Kyrgy**	**7.50**	**272**	P	**Pn**	**12 37 30.7**	**+2.1**
DGZ	**Jazzator, Alta**	**7.79**	**358**	*e*P	**Pn**	**12 37 35.6**	**+3.2**
GOMU	**GeErMu**	**7.87**	**134**	Pn	**Pn**	**12 37 36.5**	**+2.8**
GOMU				Pg	Pg	12 38 16.8	+7.3
GOMU				Sn	**Sb**	**12 39 20.5**	**-9.0**
GOMU				Sg	**Sg**	**12 39 52.0**	**+0.6**
GOMU				smax	smax		
	comp=N,54nm,0.7s						
GOMU				smax	smax		
	comp=E,34nm,0.7s						
KSH	**Kashi**	**9.33**	**259**	P	Pn	12 38 01.5	+8.1
KSH				sP		12 38 09.5	
KSH				S	**Sn**	**12 39 45.8**	**+7.4**
KSH				pmax	pmax		
	comp=Z,14nm,0.8s						
KSH				smax	smax		
	comp=N,41nm,0.8s						
KSH				smax	smax		
	comp=E,67nm,1.0s						
GTA	**Gaotai**	**9.43**	**101**	*e*P	**Pn**	**12 37 54.3**	**-0.6**
GTA				pP		12 38 03.3	
GTA				pmax	pmax		
	comp=Z,1.0nm,1.2s						
AAK	**Ala-Archa**	**9.92**	**279**		**Pn**	**12 38 01.5**	**-0.1**
AAK	**Ala-Archa**	**9.92**	**279**	‖*e*P	**Pn**	**12 38 02.5**	**+0.9**
AAK	**Ala-Archa**	**9.92**	**279**	Pn	**Pn**	**12 38 03.0**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=124,slow=6.6,SNR=8.7						
AAK				Sn	**Sn**	**12 39 51.3**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=232,slow=17,SNR=2.0						
AAK				Lg	Lg	12 40 56.3	
	comp=Z,0.5nm,0.3s,baz=44,slow=22,SNR=1.6						
AAK				LR	LR	12 42 06.0	
	comp=Z,86nm,18.4s,baz=87,slow=39						
	comp=Z,1.4nm,0.3s						
KURBB	**Kurchatov Arra**	**10.83**	**327**	Pn	**Pn**	**12 38 14.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=136,slow=12,SNR=10						
KURBB				Lg	Lg	12 41 25.2	
	comp=Z,0.1nm,0.3s,baz=126,slow=29,SNR=2.4						
	comp=Z,0.7nm,0.4s						
KURK	**Kurchatov**	**10.86**	**327**	Pn	**Pn**	**12 38 14.4**	**+0.2**
KURK	**Kurchatov**	**10.86**	**327**	‖*e*P	**Pn**	**12 38 14.3**	**+0.1**
ZAA0	**Zalesovo Array**	**12.21**	**352**	Pn	**Pn**	**12 38 33.5**	**+0.8**
ZALV	**Zalesovo Beam**	**12.21**	**352**	Pn	**Pn**	**12 38 33.3**	**+0.7**
ZALV	**Zalesovo Beam**	**12.21**	**352**	*i* P	**Pn**	**12 38 32.7**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**12.21**	**352**	Pn	**Pn**	**12 38 32.2**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=179,slow=14,SNR=6.2						
ZALV				Sn	**Sn**	**12 40 40.1**	**-8.6**
	comp=Z,0.7nm,0.3s,baz=168,slow=22,SNR=8.5						
ZALV				LR	LR	12 43 46.8	
	comp=Z,72nm,19.8s,baz=162,slow=40						
	comp=Z,1.0nm,0.3s						
KK31	**Karatay Array**	**12.85**	**281**	Pn	**Pn**	**12 38 40.2**	**-1.2**
KK31	**Karatay Array**	**12.85**	**281**	P	**Pn**	**12 38 40.3**	**-1.2**
KKAR	**Karatay Array**	**12.85**	**281**	Pn	**Pn**	**12 38 39.9**	**-1.6**
KKAR	**Karatay Array**	**12.85**	**281**	P	**Pn**	**12 38 39.9**	**-1.6**
NIL	**Nilore**	**14.17**	**239**		**Pn**	**12 39 00.0**	**+0.4**
NIL	**Nilore**	**14.17**	**239**	P	**Pn**	**12 39 00.0**	**+0.4**
SONM	**Songino Array**	**14.41**	**59**	Pn	**Pn**	**12 39 02.2**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=239,slow=13,SNR=1.9						
SONM				Lg	Lg	12 43 15.9	
	comp=Z,0.1nm,0.3s,baz=245,slow=31,SNR=2.6						
SONM				LR	LR	12 45 08.2	
	comp=Z,85nm,21.3s,baz=222,slow=40						
	comp=Z,0.5nm,0.8s						
CHGR	**Chuyangaron**	**14.63**	**263**		**Pn**	**12 39 04.4**	**-1.4**
CHGR	**Chuyangaron**	**14.63**	**263**	P	**Pn**	**12 39 04.4**	**-1.4**
ULN	**Ulaanbaatar**	**14.84**	**60**	‖*e*P	**Pn**	**12 39 09.5**	**+0.7**
BVAR	**Borovoye Array**	**16.16**	**319**	Pn	**Pn**	**12 39 25.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=123,slow=12,SNR=17						
BRVK	**Borovoye**	**16.23**	**319**	Pn	**Pn**	**12 39 26.4**	**-0.3**
BRVK	**Borovoye**	**16.23**	**319**	*ce*P	**Pn**	**12 39 26.9**	**+0.1**
HHC	**Hu-ho-hao-te**	**17.82**	**85**	*e*P	**P**	**12 39 47.3**	**-0.4**
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,630nm,5.0s						
PZH	**PanZhiHua**	**19.15**	**139**	P	**Pn**	**12 40 02.8**	**-0.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,5.7s						
XLT	**XiLinHaoTe**	**20.74**	**75**	*e*P	Pn	12 40 21.8	-0.1
XLT				pP	sP	12 40 28.0	+3.7
XLT				sP	pP	12 40 31.0	+8.2
XLT				PP	**PnPn**	**12 40 43.3**	**+5.9**
XLT				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,300nm,5.5s						
ABKAR	**Akbulak array**	**20.78**	**300**	P	**P**	**12 40 20.6**	**+0.7**
ABKAR	**Akbulak array**	**20.78**	**300**	P	**P**	**12 40 20.1**	**+0.3**
ABKAR				lAmb	lAmb	12 40 36.6	
	comp=Z,3.6nm,0.8s						
GEYT	**Alibeck**	**23.09**	**270**	P	**P**	**12 40 46.0**	**+1.3**
GEYT	**Alibeck**	**23.09**	**270**	P	**P**	**12 40 46.0**	**+1.3**
	comp=Z,1.2nm,0.4s,baz=77,slow=12,SNR=4.5						
GEYT				LR	LR	12 51 22.9	
	comp=Z,48nm,18.5s,baz=30,slow=41						
	comp=Z,1.2nm,0.4s						
ARU	**Arti**	**23.79**	**318**	P	**P**	**12 40 51.9**	**+0.5**
ARU				lAmb	lAmb	12 40 53.2	
	comp=Z,8.8nm,0.5s						
ARU	**Arti**	**23.79**	**318**	*d iP*	**P**	**12 40 51.7**	**+0.3**
ARU						12 41 18.6	
ARU				S	**S**	**12 45 08.5**	**+1.8**
ARU				pmax	pmax		
	comp=Z,18nm,1.4s						
CMAR	**Chiang Mai Arr**	**25.23**	**155**	P	**P**	**12 41 05.9**	**+1.1**
	comp=Z,2.3nm,0.6s,baz=332,slow=9.2,SNR=13						
	comp=Z,2.3nm,0.6s						
MDJ	**Mudanjiang**	**30.28**	**71**	P	**P**	**12 41 51.5**	**+1.5**
MDJ				pP	sP	12 41 56.5	+1.6
MDJ				sP	pP	12 41 59.3	+5.8
MDJ				PP	**PnPn**	**12 42 51.0**	**+3.4**
MDJ				PcP	**PcP**	**12 44 49.8**	**-0.4**
MDJ				S	**S**	**12 46 53.8**	**+4.1**
MDJ				sS	sS	12 47 01.5	+6.0
MDJ				ScP	**ScP**	**12 48 30.5**	**-2.0**
MDJ				SS	**SnSn**	**12 48 34.0**	**+10**
MDJ				PcS	**PcS**	**12 48 35.3**	**+1.7**
MDJ	**Mudanjiang**	**30.28**	**71**	ScS	ScS	12 52 29.0	+0.8
MDJ				pmax	pmax		
	comp=Z,14nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,1μm,5.4s						
UBPT	**Khong Chiam**	**30.59**	**145**	P	**P**	**12 41 51.5**	**-1.3**
UBPT				lAmb	lAmb	12 41 53.9	
	comp=Z,16nm,1.1s						
KSRS	**Korea Array**	**30.96**	**85**	P	**P**	**12 41 55.6**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=289,slow=9.0,SNR=1.6						
KSRS				LR	LR	12 55 44.3	
	comp=Z,18nm,20.1s,baz=135,slow=39						
	comp=Z,0.8nm,0.8s						
YAK	**Yakutsk**	**31.89**	**37**	‖*e*P	**P**	**12 42 03.4**	**-0.5**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
OBN	**Obninsk**	**35.61**	**310**	*e*P	**P**	**12 42 35.4**	**-0.9**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKASG	**Malin Array Be**	**40.47**	**303**	P	**P**	**12 43 16.9**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=65,slow=8.0,SNR=4.8						
	comp=Z,0.6nm,0.5s						
AKBB	**Malin Array Si**	**40.47**	**303**	P	**P**	**12 43 17.2**	**-0.1**
AKBB	**Malin Array Si**	**40.47**	**303**	P	**P**	**12 43 17.2**	**-0.1**
AKBB				pmax	pmax		
	comp=Z,11nm,1.4s						
KIEV	**Kiev**	**40.48**	**303**	P	**P**	**12 43 17.4**	**0.0**
KIEV	**Kiev**	**40.48**	**303**	P	**P**	**12 43 17.4**	**0.0**
KIEV				pmax	pmax		
	comp=Z,10.0nm,1.4s						
BR131	**Keskin Array S**	**40.51**	**286**	‖*e*P	**P**	**12 43 18.0**	**0.0**
BRTR	**Keskin Array B**	**40.51**	**286**	P	**P**	**12 43 18.8**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=85,slow=8.1,SNR=4.6						
	comp=Z,0.5nm,0.5s						
FINES	**FINESS Array B**	**41.12**	**320**	P	**P**	**12 43 22.2**	**-0.4**
FINES	**FINESS Array B**	**41.12**	**320**	*i* P	**P**	**12 43 22.7**	**+0.1**
FINES				pmax	pmax		
	comp=Z,7.0nm,1.1s						
FINES	**FINESS Array B**	**41.12**	**320**	P	**P**	**12 43 22.4**	**-0.2**
	comp=Z,4.1nm,1.0s,baz=88,slow=8.4,SNR=13						
	comp=Z,4.1nm,1.0s						
KEV	**Kevo**	**41.37**	**333**	P	**P**	**12 43 24.6**	**+0.1**
KEV	**Kevo**	**41.37**	**333**	P	**P**	**12 43 24.6**	**+0.1**
KEV				pmax	pmax		
	comp=Z,48nm,1.3s						
ARCES	**ARCESS Array B**	**41.85**	**332**	P	**P**	**12 43 27.9**	**-0.6**
ARCES				lAmb	lAmb	12 43 33.0	
	comp=Z,25nm,1.4s						
ARCES	**ARCESS Array B**	**41.85**	**332**	P	**P**	**12 43 28.8**	**+0.3**
	comp=Z,1.3nm,0.4s,baz=92,slow=8.1,SNR=24						
	comp=Z,1.3nm,0.4s						
BURAR	**Bucovina Array**	**43.76**	**300**	P	**P**	**12 43 44.0**	**-0.4**
BUR08	**Bucovina Ar. S**	**43.76**	**300**	P	**P**	**12 43 43.8**	**-0.6**
KWP	**Kalwaria Pacla**	**44.79**	**303**	P	**P**	**12 43 52.7**	**+0.2**
KWP	**Kalwaria Pacla**	**44.79**	**303**	P	**P**	**12 43 52.7**	**+0.2**
KWP				pmax	pmax		
	comp=Z,34nm,1.4s						
KARP	**Karpathos**	**46.90**	**283**	P	**P**	**12 44 08.0**	**-1.4**
HFS	**Hagfors**	**47.30**	**319**	P	**P**	**12 44 11.8**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=96,slow=7.6,SNR=19						
	comp=Z,2.0nm,0.5s						
NC405	**NORSAR Array S**	**48.03**	**321**	P	**P**	**12 44 17.8**	**-0.1**
NB2	**NORSAR Subarra**	**48.29**	**321**	P	**P**	**12 44 19.4**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=75,slow=7.9						
NOA	**NORSAR Array B**	**48.29**	**321**	P	**P**	**12 44 19.6**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=77,slow=7.8,SNR=12						
	comp=Z,1.5nm,0.4s						
NC204	**NORSAR Array S**	**48.45**	**321**	P	**P**	**12 44 19.4**	**-1.6**
FUORN	**Ofenpass-Fuorn**	**53.64**	**303**	P	**P**	**12 44 59.1**	**-1.5**
TUE	**Stuetta**	**54.28**	**303**	P	**P**	**12 45 04.3**	**-0.8**
TUE				lAmb	lAmb	12 45 26.6	
	comp=Z,5.7nm,1.3s						
C19K	**Lookout Ridge**	**58.77**	**23**	P	**P**	**12 45 37.2**	**+0.6**
C19K				lAmb	lAmb	12 45 43.1	
	comp=Z,5.5nm,1.4s						
B20K	**Meade River**	**58.91**	**21**	P	**P**	**12 45 37.1**	**-0.3**
B20K				lAmb	lAmb	12 45 48.3	
	comp=Z,3.7nm,0.9s						
E18K	**Tukpahlearik C**	**59.47**	**25**	P	**P**	**12 45 41.4**	**0.0**
E18K				lAmb	lAmb	12 46 05.5	
	comp=Z,4.8nm,1.3s						
D19K	**Kuna River**	**59.57**	**23**	P	**P**	**12 45 41.7**	**-0.5**
C23K	**Itkillik River**	**60.73**	**20**	P	**P**	**12 45 49.9**	**-0.1**
C23K				lAmb	lAmb	12 45 52.0	
	comp=Z,4.8nm,1.3s						
H17K	**Granite Mounta**	**61.20**	**27**	P	**P**	**12 45 53.2**	**-0.1**
H17K				lAmb	lAmb	12 46 03.4	
	comp=Z,8.6nm,1.4s						
H18K	**Honhosa River**	**61.58**	**26**	P	**P**	**12 45 55.4**	**-0.5**
H18K				lAmb	lAmb	12 46 16.7	
	comp=Z,9.9nm,1.4s						
J16K	**Anvik River**	**61.98**	**28**	P	**P**	**12 45 59.1**	**+0.6**
J16K				lAmb	lAmb	12 46 38.0	
	comp=Z,9.1nm,1.5s						
IMAR	**Indian Mountai**	**62.49**	**24**	P	**P**	**12 46 01.3**	**-0.7**
E24K	**Your Creek**	**62.52**	**21**	P	**P**	**12 46 01.5**	**-0.7**
E24K				lAmb	lAmb	12 46 44.8	
	comp=Z,5.5nm,1.4s						
H21K	**Melozitna Rive**	**63.00**	**24**	P	**P**	**12 46 05.1**	**-0.3**
H21K				lAmb	lAmb	12 46 22.7	
	comp=Z,6.4nm,1.4s						
K17K	**Iditarod**	**63.16**	**28**	P	**P**	**12 46 06.8**	**+0.3**
K17K				lAmb	lAmb	12 46 08.0	
	comp=Z,4.3nm,0.8s						
J20K	**Nowinta River**	**63.59**	**26**	P	**P**	**12 46 09.2**	**-0.1**
J20K				lAmb	lAmb	12 46 43.4	
	comp=Z,7.4nm,1.5s						
TTA	**Tatalina**	**63.81**	**27**	P	**P**	**12 46 10.2**	**-0.6**
TTA				lAmb	lAmb	12 46 33.0	
	comp=Z,5.7nm,1.4s						
TTA	**Tatalina**	**63.81**	**27**	P	**P**	**12 46 10.2**	**-0.6**
TTA				pmax	pmax		
	comp=Z,6.0nm,1.4s						
BMAR	**Burnt Mountain**	**64.01**	**20**	P	**P**	**12 46 12.9**	**+0.9**
A36M	**Sachs Harbour**	**64.03**	**11**	P	**P**	**12 46 11.9**	**-0.1**
A36M				lAmb	lAmb	12 46 13.2	
	comp=Z,4.8nm,0.8s						
MLY	**Manley**	**64.06**	**24**	P	**P**	**12 46 12.4**	**0.0**
M17K	**Holitna River**	**64.33**	**29**	P	**P**	**12 46 14.7**	**+0.5**
E29M	**Blow River**	**64.84**	**17**	P	**P**	**12 46 17.2**	**-0.2**
E29M				lAmb	lAmb	12 46 28.6	
	comp=Z,3.4nm,0.9s						
MDM	**Murphy Dome**	**64.85**	**23**	P	**P**	**12 46 16.9**	**-0.7**
MDM				lAmb	lAmb	12 46 39.9	
	comp=Z,4.1nm,1.4s						
NEA2	**Nenana**	**64.87**	**24**	P	**P**	**12 46 17.6**	**-0.1**
KTH	**Kantishna Hill**	**65.05**	**25**	P	**P**	**12 46 18.4**	**-0.6**
IL31		**65.38**	**23**	P	**P**	**12 46 19.4**	**-1.5**
IL31				lAmb	lAmb	12 46 45.4	
	comp=Z,5.5nm,1.4s						
ILAR	**Eielson Array**	**65.38**	**23**	P	**P**	**12 46 19.6**	**-1.3**
ILAR	**Eielson Array**	**65.38**	**23**	P	**P**	**12 46 20.3**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=310,slow=4.4,SNR=7.9						
	comp=Z,0.6nm,0.7s						
DHY	**Denali Highway**	**66.50**	**24**	P	**P**	**12 46 27.3**	**-1.1**
DHY				lAmb	lAmb	12 46 34.3	
	comp=Z,7.8nm,1.4s						
RIDG	**Independent Ri**	**66.75**	**23**	P	**P**	**12 46 28.4**	**-1.4**
RIDG				lAmb	lAmb	12 46 39.8	
	comp=Z,5.3nm,1.0s						
SML	**Sawmill**	**67.15**	**25**	P	**P**	**12 46 31.4**	**-1.0**
CNPM	**China Poot**	**67.84**	**28**	P	**P**	**12 46 36.9**	**0.0**
KDAK	**Kodiak Island**	**68.61**	**30**	P	**P**	**12 46 40.4**	**-1.2**
KDAK	**Kodiak Island**	**68.61**	**30**	P	**P**	**12 46 41.2**	**-0.4**
	comp=Z,11nm,1.1s,baz=324,slow=6.4,SNR=11						
	comp=Z,11nm,1.1s						
M27K	**Edge Creek, AK**	**68.67**	**22**	P	**P**	**12 46 41.8**	**-0.3**
M27K				lAmb	lAmb	12 46 54.3	
	comp=Z,9.5nm,1.5s						
VOI	**Vohitsoka**	**73.99**	**219**	P	**P**	**12 47 13.8**	**-0.8**
YKA	**Yellowknife Ar**	**74.39**	**11**	P	**P**	**12 47 15.8**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=336,slow=6.1,SNR=9.9						
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**75.06**	**135**	P	**P**	**12 47 20.6**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=332,slow=5.5,SNR=17						
	comp=Z,1.2nm,0.6s						
ASAR	**Alice Springs**	**77.92**	**138**	P	**P**	**12 47 36.8**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=324,slow=5.0,SNR=19						
	comp=Z,0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**78.51**	**277**	P	**P**	**12 47 39.6**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=38,slow=5.8,SNR=12						
	comp=Z,1.7nm,0.5s						

*IDC **26** 12:38:11.6±0.8,53°.75N×164°.72W,h0km,mb4.0/25, mbtmp3.9/28,ML3.7/3,MS3.5/3,Error ellipse: s-maj=21.0km s-min=12.8km az=171.0*
*MOS **26** 12:38:14.1±1.1,53°.64N×164°.51W,h33km,mb4.6/11, Error ellipse: s-maj=24.2km s-min=9.0km az=84.9*
*AEIC **26** 12:38:16.1±2.6,53°.60N±0°.06×164°.42W±0°.07,h24km±7km, Error ellipse: s-maj=9.4km s-min=4.4km az=155.0*
*NEIC **26** 12:38:16.2±2.4,53°.62N±0°.06×164°.48W±0°.04,h25km±9km, mb3.9/32,ML4.2/10,ML4.0(AEIC),Error ellipse: s-maj=8.9km s-min=3.2km az=176.0*

ISC 26 12:38:16.3±0.6,**53°.57N**±0°.08×**164°.41W**±0°.04,**h37**km±1km, **n254,** σ**1**§**22**/**255,mb4.1**/32,**MS3.5**/3,**5C-8D,Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.91**	**353**		**Pn**	**12 38 32.2**	**-0.4**
AKSA	**Akutan Strait**	**0.95**	**307**		**Pn**	**12 38 33.0**	**-0.1**
AKSA	**Akutan Strait**	**0.95**	**307**		**Pn**	**12 38 32.8**	**-0.2**
AKSA					**Sn**	**12 38 45.5**	**+0.1**
AKUT	**Akutan**	**0.98**	**305**	Pn	**Pn**	**12 38 33.6**	**+0.1**
AKUT					**Sn**	**12 38 44.5**	**-1.8**
AKUT				lAML		12 38 47.0	
	comp=E,5μm,0.6s						
AKUT	**Akutan**	**0.98**	**305**	P	**Pn**	**12 38 33.6**	**+0.1**
AHB	**Akutan Harbor**	**0.99**	**304**		**Pn**	**12 38 33.8**	**0.0**
WEBT	**Westdahl Beart**	**1.04**	**349**		**Pn**	**12 38 34.2**	**-0.1**
AKBBA	**Akutan Broad B**	**1.04**	**301**		**Pn**	**12 38 34.2**	**-0.2**
AKBBA					**Sn**	**12 38 47.0**	**-0.8**
ZRO	**Akutan Zero**	**1.06**	**300**		**Pn**	**12 38 34.7**	**0.0**
AKV	**Akutan Volcano**	**1.07**	**302**		**Pn**	**12 38 34.8**	**-0.1**
HSB	**Akutan Spr's B**	**1.08**	**305**		**Pn**	**12 38 35.0**	**+0.1**
AKLV	**Akutan Long Va**	**1.09**	**303**		**Pn**	**12 38 34.9**	**-0.2**
AKLV					**Sn**	**12 38 49.1**	**+0.2**
AKGG	**Akutan Green G**	**1.13**	**304**		**Pn**	**12 38 35.7**	**+0.1**
LVA	**Lava Point**	**1.13**	**302**		**Pn**	**12 38 35.6**	**+0.1**
AKRB	**Akutan Reef Bi**	**1.13**	**300**		**Pn**	**12 38 35.7**	**+0.1**
BRPK	**Brown Peak**	**1.14**	**20**		**Pn**	**12 38 35.2**	**-0.6**
SSLS	**Shishaldin Sou**	**1.17**	**12**		**Pn**	**12 38 35.9**	**-0.3**
SSBA	**Shishaldin**	**1.21**	**8**		**Pn**	**12 38 36.3**	**-0.5**
SSBA					**Sn**	**12 38 52.9**	**+0.9**
ISLZ	**Isanotski Laza**	**1.23**	**19**		**Pn**	**12 38 36.4**	**-0.6**
SSLN	**Shishaldin Nor**	**1.27**	**11**		**Pn**	**12 38 37.6**	**+0.1**
UNV	**Unalaska Valle**	**1.27**	**283**		**Pn**	**12 38 37.3**	**-0.2**
UNV	**Unalaska Valle**	**1.27**	**283**		**Sn**	**12 38 54.3**	**+0.9**
UNV	**Unalaska Valle**	**1.27**	**283**	P	**Pn**	**12 38 38.3**	**+0.8**
MNAT	**Makushin Natee**	**1.39**	**284**		**Pn**	**12 38 39.1**	**0.0**
MTBL	**Makushin Table**	**1.40**	**287**		**Pn**	**12 38 39.7**	**+

P19K	**Oil Pt**	**8.66**	**41**	Pn		**Pn**	**12 40 20.6**	**+1.6**
M17K	**Holitna River**	**8.70**	**23**			**Pn**	**12 40 21.1**	**+1.7**
K15K	**Wolf Creek Mou**	**8.88**	**9**			**Pn**	**12 40 23.8**	**+2.0**
SVW2	**Sparrevohn**	**8.92**	**29**	P		**Pn**	**12 40 23.8**	**+1.4**
N19K	**Bonanza Creek**	**9.03**	**33**	Pn		**Pn**	**12 40 26.4**	**+2.4**
J14K	**Nanvaranak Lak**	**9.21**	**2**	Pn		**Pn**	**12 40 27.8**	**+1.4**
RSO	**Redoubt South**	**9.37**	**38**			**Pn**	**12 40 30.2**	**+1.4**
CNPM	**China Poot**	**9.40**	**45**	Pn		**Pn**	**12 40 30.2**	**+1.2**
L18K	**Granite Mounta**	**9.59**	**22**	Pn		**Pn**	**12 40 30.0**	**-1.6**
BRLK	**Bradley Lake**	**9.68**	**45**	Pn		**Pn**	**12 40 33.9**	**+1.1**
K17K	**Iditarod**	**9.71**	**17**	Pn		**Pn**	**12 40 34.9**	**+1.6**
J16K	**Anvik River**	**9.94**	**10**			**Pn**	**12 40 38.2**	**+1.8**
L19K	**White Mountain**	**10.01**	**27**			**Pn**	**12 40 38.9**	**+1.5**
AMKA	**Amchitka**	**10.18**	**264**	Pn		**Pn**	**12 40 39.9**	**+0.2**
M20K	**Styx River**	**10.27**	**31**			**Pn**	**12 40 42.0**	**+1.0**
TTA	**Tatalina**	**10.36**	**22**	Pn		**Pn**	**12 40 44.3**	**+2.1**
TTA	**Tatalina**	**10.36**	**22**	P		**Pn**	**12 40 44.6**	**+2.4**
TTA	**Tatalina**	**10.36**	**22**	P		**Pn**	**12 40 44.3**	**+2.1**
I17K	**Unalakleet**	**10.52**	**9**			**Pn**	**12 40 42.9**	**-1.4**
O22K	**Cooper Landing**	**10.56**	**43**			**Pn**	**12 40 45.2**	**+0.3**
J18K	**Innoko River**	**10.69**	**19**			**Pn**	**12 40 47.9**	**+1.2**
SUA	**Susitna One**	**10.77**	**37**	Pn		**Pn**	**12 40 49.0**	**+1.1**
SKT	**Skwentna**	**10.85**	**34**			**Pn**	**12 40 50.6**	**+1.6**
RC01	**Rabbit Creek A**	**10.91**	**41**	Pn		**Pn**	**12 40 50.1**	**+0.4**
ANM	**Nome**	**11.04**	**358**	Pn		**Pn**	**12 40 50.9**	**-0.5**
ANM	**Nome**	**11.04**	**358**	P		**Pn**	**12 40 50.9**	**-0.5**
K20K	**Telida**	**11.19**	**25**	Pn		**Pn**	**12 40 54.1**	**+0.7**
J19K	**Poorman**	**11.39**	**20**			**Pn**	**12 40 56.7**	**+0.6**
PMR	**Palmer**	**11.45**	**39**	P		**Pn**	**12 40 58.9**	**+1.8**
KNK	**Knik Glacier**	**11.61**	**41**			**Pn**	**12 40 59.8**	**+0.6**
H17K	**Granite Mounta**	**11.62**	**10**			**Pn**	**12 41 01.3**	**+1.9**
GHO	**Glory Hole Cre**	**11.64**	**39**	Pn		**Pn**	**12 40 59.9**	**+0.2**
CAST	**Castle Rocks**	**11.76**	**28**	Pn		**Pn**	**12 41 02.5**	**+1.2**
J20K	**Nowinta River**	**11.86**	**22**			**Pn**	**12 41 03.5**	**+0.8**
HIN	**Hinchinbrook I**	**11.89**	**48**			**Pn**	**12 41 03.6**	**+0.5**
H18K	**Honhosa River**	**12.01**	**12**			**Pn**	**12 41 06.0**	**+1.3**
FID	**Port Fidalgo**	**12.07**	**46**	Pn		**Pn**	**12 41 05.5**	**0.0**
KTH	**Kantishna Hill**	**12.20**	**30**	Pn		**Pn**	**12 41 09.5**	**+2.2**
SCM	**Sheep Creek Mo**	**12.29**	**41**			**Pn**	**12 41 08.3**	**-0.3**
SCM	**Sheep Creek Mo**	**12.29**	**41**	P		**Pn**	**12 41 08.3**	**-0.3**
TRF	**Thorofare Moun**	**12.31**	**31**	Pn		**Pn**	**12 41 11.1**	**+2.1**
BPAW	**Bear Paw Mtn.**	**12.60**	**28**			**Pn**	**12 41 11.8**	**-1.0**
KLU	**Klutina**	**12.67**	**44**			**Pn**	**12 41 13.1**	**-0.7**
G18K	**Tagagawik**	**12.69**	**11**			**Pn**	**12 41 14.2**	**+0.2**
M24K	**Tolsona, Glenn**	**12.89**	**41**	Pn		**Pn**	**12 41 16.1**	**-0.7**
DHY	**Denali Highway**	**13.02**	**36**			**Pn**	**12 41 19.1**	**+0.5**
BERG	**Berg Lake**	**13.16**	**50**	Pn		**Pn**	**12 41 19.7**	**-0.6**
I21K	**Tanana**	**13.21**	**23**			**Pn**	**12 41 22.5**	**+1.4**
N25K	**Chitina, Valde**	**13.28**	**45**	Pn		**Pn**	**12 41 22.0**	**-0.1**
H21K	**Melozitna Rive**	**13.43**	**21**			**Pn**	**12 41 23.2**	**-0.8**
IMAR	**Indian Mountai**	**13.53**	**19**	Pn		**Pn**	**12 41 25.1**	**-0.2**
GLB	**Gilahina Butte**	**13.54**	**46**	Pn		**Pn**	**12 41 24.9**	**-0.7**
I23K	**Minto, Yukon-K**	**13.86**	**27**	Pn		**Pn**	**12 41 29.6**	**-0.3**
CCB	**Clear Creek Bu**	**13.94**	**31**			**Pn**	**12 41 30.4**	**-0.5**
MDM	**Murphy Dome**	**14.04**	**29**			**Pn**	**12 41 32.6**	**+0.3**
HDA	**Harding Lake**	**14.04**	**32**			**Pn**	**12 41 32.6**	**+0.2**
GRNC	**Granite Creek**	**14.18**	**51**			**Pn**	**12 41 33.9**	**-0.5**
MENT	**Mentasta**	**14.30**	**41**	Pn		**Pn**	**12 41 34.9**	**-1.1**
IL31		**14.31**	**31**			**Pn**	**12 41 35.0**	**-0.9**
ILAR	**Eielson Array**	**14.31**	**31**	Pn		**Pn**	**12 41 35.1**	**-0.8**
ILAR	**Eielson Array**	**14.31**	**31**	P		**Pn**	**12 41 35.2**	**-0.8**
ILAR	**Eielson Array**	**14.31**	**31**	Pn		**Pn**	**12 41 33.1**	**-2.9**
	comp=E,0.1nm,0.3s,baz=228,slow=13,SNR=7.8							
	comp=E,0.5nm,0.5s							
M26K	**Nabesna, AK**	**14.32**	**43**			**Pn**	**12 41 35.7**	**-0.6**
RIDG	**Independent Ri**	**14.33**	**37**	Pn		**Pn**	**12 41 35.0**	**-1.3**
L26K	**Log Cabin Wild**	**14.49**	**41**			**Pn**	**12 41 38.3**	**-0.3**
J25K	**Salcha River,**	**14.69**	**34**			**Pn**	**12 41 41.7**	**+0.5**
M27K	**Edge Creek, AK**	**14.77**	**45**			**Pn**	**12 41 41.3**	**-1.1**
SCRK	**Sand Creek**	**14.78**	**37**	Pn		**Pn**	**12 41 41.5**	**-0.9**
H24K	**Noodor Dome**	**14.79**	**27**			**Pn**	**12 41 42.4**	**-0.1**
PNL	**Peninsula**	**15.00**	**56**	P		**Pn**	**12 41 47.3**	**+2.0**
BCAR	**Beaver Creek A**	**15.13**	**42**	Pn		**Pn**	**12 41 46.2**	**-0.9**
J26L	**Joseph Creek**	**15.23**	**36**			**Pn**	**12 41 47.7**	**-0.7**
G24K	**Hadweenzic Riv**	**15.55**	**26**	Pn		**Pn**	**12 41 51.2**	**-1.2**
G24K				IAmb		IAmb	12 42 08.6	
	comp=Z,9.1nm,1.2s							
O29M	**Mount Kennedy**	**15.55**	**54**			**Pn**	**12 41 53.6**	**+1.0**
C19K	**Lookout Ridge**	**15.75**	**6**	P		**P**	**12 41 58.0**	**-0.6**
C19K				IAmb		IAmb	12 42 11.8	
	comp=Z,15nm,1.4s							
E22K	**Anaktuvuk Pass**	**15.79**	**17**	P		**P**	**12 41 58.5**	**-0.5**
E22K				IAmb		IAmb	12 42 10.7	
	comp=Z,14nm,1.4s							
P29M	**Windy Craggy**	**15.81**	**57**			**Pn**	**12 41 57.6**	**+1.6**
F24K	**Squaw Lake**	**16.09**	**23**			**Pn**	**12 41 59.2**	**-0.1**
HYT	**Haines Junctio**	**16.19**	**53**	Pn		**Pn**	**12 42 01.8**	**+0.9**
M29M	**Somme Creek**	**16.26**	**47**			**Pn**	**12 42 01.5**	**-0.2**
DAWY	**Dawson**	**16.55**	**41**	Pn		**P**	**12 42 06.7**	**-0.8**
N30M	**Aishikik Lake**	**16.56**	**51**	P		**P**	**12 42 06.6**	**-1.0**
N30M				IAmb		IAmb	12 42 16.4	
	comp=Z,9.2nm,1.0s							
TOLK	**Toolik Lake Re**	**16.65**	**19**	P		**P**	**12 42 07.6**	**-0.9**
B21K	**Ikpikpuk River**	**16.72**	**12**			**P**	**12 42 08.0**	**-1.3**
B21K				IAmb		IAmb	12 42 21.4	
	comp=Z,13nm,1.5s							
B20K	**Meade River**	**16.82**	**9**			**P**	**12 42 09.0**	**-1.4**
B20K				IAmb		IAmb	12 42 39.8	
	comp=Z,13nm,1.4s							
BMAR	**Burnt Mountain**	**16.85**	**27**	P		**P**	**12 42 10.4**	**-0.5**
M30M	**Minto, Yukon**	**17.03**	**47**			**P**	**12 42 11.9**	**-0.9**
M30M				IAmb		IAmb	12 42 47.3	
	comp=Z,10nm,1.2s							
N31M	**Braeburn, Yuko**	**17.17**	**51**	Pn		**Pn**	**12 42 13.3**	**+0.3**
G27K	**Doyon Strip**	**17.28**	**31**	P		**P**	**12 42 15.5**	**0.0**
C23K	**Itkillik River**	**17.50**	**16**	P		**P**	**12 42 17.7**	**-0.2**
C23K				IAmb		IAmb	12 42 48.1	
	comp=Z,11nm,1.4s							
J30M	**Hart River**	**17.97**	**41**			**P**	**12 42 22.8**	**-0.5**
J30M				IAmb		IAmb	12 42 28.2	
	comp=Z,4.8nm,0.6s							
H29M	**Whitestone**	**18.00**	**35**			**P**	**12 42 22.8**	**-0.7**
H29M				IAmb		IAmb	12 42 32.4	
	comp=Z,7.8nm,0.9s							
I30M	**Mount Dempster**	**18.23**	**39**	P		**Pn**	**12 42 26.8**	**+0.6**
FARO	**Faro, Yukon**	**18.47**	**50**	P		**P**	**12 42 27.5**	**-1.2**
G29M	**Pine Creek**	**18.50**	**34**	P		**P**	**12 42 28.1**	**-0.9**
EPYK	**Eagle Plains**	**18.65**	**36**	P		**P**	**12 42 30.1**	**-0.5**
EPYK				IAmb		IAmb	12 42 52.7	
	comp=Z,10nm,1.1s							
S34M	**Telegraph Cree**	**19.11**	**63**	P		**P**	**12 42 35.0**	**-0.6**
S34M				IAmb		IAmb	12 42 52.8	
	comp=Z,6.9nm,1.1s							
G30M	**tAoh Zraii Nji**	**19.14**	**35**	P		**P**	**12 42 35.2**	**-0.7**
G30M				IAmb		IAmb	12 42 50.8	
	comp=Z,9.9nm,1.2s							
R33M	**Jennings River**	**19.21**	**59**	P		**P**	**12 42 36.8**	**-0.1**
R33M				IAmb		IAmb	12 43 16.0	
	comp=Z,8.3nm,1.3s							
E29M	**Blow River**	**19.39**	**30**	P		**P**	**12 42 37.3**	**-1.3**
DLBC	**Dease Lake**	**19.68**	**62**	P		**Pn**	**12 42 42.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=263,slow=10,SNR=1.5							
	comp=Z,0.6nm,0.5s							
G31M	**Satah River**	**19.78**	**36**	P		**P**	**12 42 42.0**	**-0.9**
BILL	**Bilibino**	**20.06**	**328**	*eP*		Pn	12 42 47.5	-0.4
BILL				pmax		pmax		
	comp=Z,13nm,2.0s							
INK	**Inuvik**	**20.70**	**33**	P		**P**	**12 42 53.3**	**+0.5**
INK				IAmb		IAmb	12 43 07.7	
	comp=Z,4.8nm,0.9s							
INK	**Inuvik**	**20.70**	**33**	P		**P**	**12 42 53.3**	**+0.5**
INK				pmax		pmax		
	comp=Z,5.0nm,0.9s							
INK	**Inuvik**	**20.70**	**33**	P		**P**	**12 42 51.6**	**-1.2**
	comp=Z,2.6nm,0.5s,baz=233,slow=14,SNR=6.3							
INK				LR		LR	12 51 21.8	
	comp=Z,114nm,19.4s,baz=198,slow=38							
	comp=Z,2.6nm,0.5s							
PETK	**Petropavlovsk-**	**22.46**	**284**	P		**P**	**12 43 08.9**	**-2.9**
	comp=Z,2.8nm,0.5s,baz=78,slow=13,SNR=9.2							
	comp=Z,2.8nm,0.5s							
C36M	**Paulatuk**	**24.25**	**34**	P		**P**	**12 43 29.6**	**+0.3**
C36M				IAmb		IAmb	12 43 29.8	
	comp=Z,4.8nm,1.1s							
A36M	**Sachs Harbour**	**24.94**	**28**	P		**P**	**12 43 36.2**	**+0.7**
YKA	**Yellowknife Ar**	**27.17**	**51**	P		**P**	**12 43 57.6**	**+1.8**
YKA	**Yellowknife Ar**	**27.17**	**51**	P		**P**	**12 43 57.6**	**+1.8**
YKA	**Yellowknife Ar**	**27.17**	**51**	P		**P**	**12 43 56.6**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=278,slow=8.3,SNR=14							
	comp=Z,0.5nm,0.6s							
NVAR	**Mina Array Bea**	**34.75**	**97**	P		**P**	**12 45 06.2**	**+3.2**
	comp=Z,0.4nm,0.7s,baz=302,slow=9.4,SNR=4.4							
	comp=Z,0.4nm,0.7s							

PDAR	**Pinedale Array**	**37.26**	**84**	P		**P**	**12 45 26.1**	**+1.6**
	comp=Z,0.9nm,1.2s,baz=308,slow=4.4,SNR=2.0							
	comp=Z,0.9nm,1.2s							
H11N2	**WAKE ISLAND Hy**	**40.34**	**224**	T		T	13 29 08.2	
	baz=26,slow=76,SNR=24							
H11N3	**WAKE ISLAND Hy**	**40.35**	**224**	T		T	13 29 06.7	
	baz=26,slow=76,SNR=43							
H11N1	**WAKE ISLAND Hy**	**40.36**	**224**	T		T	13 29 18.0	
	baz=26,slow=76,SNR=20							
H11S1	**WAKE ISLAND Hy**	**41.52**	**224**	T		T	13 30 34.6	
	baz=25,slow=76,SNR=86							
H11S2	**WAKE ISLAND Hy**	**41.53**	**224**	T		T	13 30 36.8	
	baz=25,slow=76,SNR=30							
H11S3	**WAKE ISLAND Hy**	**41.53**	**224**	T		T	13 30 37.6	
	baz=25,slow=76,SNR=19							
MJAR	**Matsushiro Arr**	**42.71**	**270**	P		**P**	**12 46 09.0**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=29,slow=6.1,SNR=2.3							
	comp=Z,1.5nm,0.7s							
NEEM	**North Greenlan**	**42.98**	**17**	*i* P		**P**	**12 46 09.6**	**-1.9**
NRIK	**Noril'sk**	**46.77**	**332**	⇓*e*P		**P**	**12 46 41.2**	**-0.2**
NRIK				pmax		pmax		
	comp=Z,2.0nm,0.6s							
NRIK	**Noril'sk**	**46.77**	**332**	P		**P**	**12 46 39.9**	**-1.4**
	comp=Z,1.6nm,0.6s,baz=63,slow=9.4,SNR=4.1							
	comp=Z,1.6nm,0.6s							
DAG	**Danmarks Havn**	**48.12**	**10**	*i* P		**P**	**12 46 50.0**	**-1.7**
DAG				IAmb		IAmb	12 46 51.9	
	comp=Z,4.6nm,0.5s							
SUMG	**Summit**	**48.71**	**19**	*i* P		**P**	**12 46 56.7**	**-0.1**
SUMG	**Summit**	**48.71**	**19**	*i* P		**P**	**12 46 56.0**	**-0.8**
TXAR	**Lajitas Array**	**49.78**	**94**	P		**P**	**12 47 07.1**	**+1.9**
	comp=Z,1.4nm,0.6s,baz=300,slow=5.4,SNR=28							
	comp=Z,1.4nm,0.6s							
ICESG	**Greenland Ices**	**51.16**	**22**	*i* P		**P**	**12 47 14.6**	**-0.8**
ULN	**Ulaanbaatar**	**52.86**	**302**	⇑*e*P		**P**	**12 47 27.1**	**-1.0**
ULN				pmax		pmax		
	comp=Z,20nm,3.5s							
SONM	**Songino Array**	**53.22**	**303**	P		**P**	**12 47 29.9**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=38,slow=6.8,SNR=3.9							
SONM				PcP		**PcP**	**12 48 39.2**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=64,slow=3.4,SNR=4.0							
	comp=Z,0.8nm,0.7s							
ARCES	**ARCESS Array B**	**56.99**	**356**	P		**P**	**12 47 56.2**	**-1.2**
	comp=Z,4.3nm,0.9s,baz=10,slow=7.1,SNR=7.7							
	comp=Z,4.3nm,0.9s							
ZALV	**Zalesovo Beam**	**58.50**	**320**	P		**P**	**12 48 07.0**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=36,slow=7.5,SNR=1.5							
ZALV				PcP		**PcP**	**12 48 58.5**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=28,slow=3.5,SNR=3.6							
ZALV				LR		LR	13 13 21.3	
	comp=Z,36nm,18.2s,baz=94,slow=36							
	comp=Z,0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**63.51**	**321**	P		**P**	**12 48 42.8**	**+0.6**
	comp=Z,0.8nm,0.2s,baz=53,slow=9.4,SNR=0.8							
	comp=Z,0.8nm,0.2s							
BVAR	**Borovoye Array**	**64.40**	**327**	P		**P**	**12 48 47.9**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=38,slow=7.5,SNR=11							
	comp=Z,2.4nm,0.7s							
BRVK	**Borovoye**	**64.41**	**327**	⇓*e*P		**P**	**12 48 48.3**	**+0.2**
BRVK				pmax		pmax		
	comp=Z,6.0nm,2.5s							
ARU	**Arti**	**64.85**	**335**	*d* *i*P		**P**	**12 48 50.5**	**-0.4**
ARU							12 51 09.4	
ARU				S		**S**	**12 57 32.5**	**+3.6**
ARU				SS		**SS**	**13 01 43.6**	**+4.0**
ARU				pmax		pmax		
	comp=Z,50nm,4.3s							
KIRV	**Kirov**	**64.89**	**341**	*ce*P		**P**	**12 48 50.8**	**-0.4**
FINES	**FINESS Array B**	**65.03**	**354**	*i* P		**P**	**12 48 51.5**	**-0.5**
FINES				pmax		pmax		
	comp=Z,3.0nm,0.6s							
FINES	**FINESS Array B**	**65.03**	**354**	P		**P**	**12 48 51.1**	**-0.9**
	comp=Z,3.1nm,0.6s,baz=27,slow=7.8,SNR=16							
	comp=Z,3.1nm,0.6s							
MKAR	**Makanchi Array**	**65.09**	**316**	*ce*P		**P**	**12 48 52.0**	**-0.7**
MKAR	**Makanchi Array**	**65.09**	**316**	P		**P**	**12 48 51.8**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=48,slow=6.4,SNR=8.2							
	comp=Z,0.2nm,0.3s							
NOA	**NORSAR Array B**	**65.68**	**2**	P		**P**	**12 48 55.7**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=358,slow=7.1,SNR=2.3							
	comp=Z,0.7nm,0.7s							
HFS	**Hagfors**	**66.63**	**1**	P		**P**	**12 49 01.7**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=29,slow=3.4,SNR=28							
	comp=Z,2.6nm,0.4s							
OBN	**Obninsk**	**70.30**	**347**	*e*P		**P**	**12 49 23.1**	**-2.2**
OBN				*e*			12 49 46.4	
OBN				*e*			12 52 02.2	
OBN				pmax		pmax		
	comp=Z,4.0nm,0.9s							
EKA	**Eskdalemuir Ar**	**70.36**	**11**	P		**P**	**12 49 25.7**	**0.0**
	comp=Z,1.2nm,0.6s,baz=334,slow=4.3,SNR=6.9							
	comp=Z,1.2nm,0.6s							
BELG	**Belogornoye**	**71.06**	**340**	⇓*e*P		**P**	**12 49 28.9**	**-1.1**
BELG				pmax		pmax		
	comp=Z,2.0nm,0.6s							
BELG	**Belogornoye**	**71.06**	**340**	LR		LR	13 22 19.5	
	comp=Z,31nm,18.8s,baz=322,slow=37							
AAK	**Ala-Archa**	**71.67**	**318**	⇓*e*P		**P**	**12 49 33.9**	**-0.2**
AAK				pmax		pmax		
	comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**75.47**	**351**	P		**P**	**12 49 55.5**	**-0.5**
	comp=Z,3.0nm,0.5s,baz=13,slow=5.8,SNR=13							
	comp=Z,3.0nm,0.5s							
AKBB	**Malin Array Si**	**75.47**	**351**	⇓*i*P		**P**	**12 49 55.5**	**-0.5**
AKBB				pmax		pmax		
	comp=Z,8.0nm,0.8s							
GERES	**GERESS Array B**	**77.94**	**1**	P		**P**	**12 50 10.3**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=348,slow=8.0,SNR=2.4							
	comp=Z,0.7nm,0.6s							
GUN	**Gumba**	**78.71**	**302**	*e*P		**P**	**12 50 15.2**	**+0.1**
	comp=Z,14nm,0.6s							
JIRN	**Jiri**	**78.76**	**301**	*e*P		**P**	**12 50 15.4**	**0.0**
RAMN	**Ramite**	**79.13**	**301**	*e*P		**P**	**12 50 17.1**	**-0.2**
	comp=Z,16nm,0.7s							
CMAR	**Chiang Mai Arr**	**79.22**	**286**	P		**P**	**12 50 17.4**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=14,slow=5.7,SNR=8.4							
	comp=Z,0.8nm,0.5s							
PKI	**Pulchoki**	**79.23**	**302**	*e*P		**P**	**12 50 17.7**	**-0.2**
	comp=Z,3.2nm,0.3s							
DANN	**Dangsing**	**79.41**	**304**	*e*P		**P**	**12 50 19.1**	**+0.2**
	comp=Z,42nm,0.6s							
PYUN	**Piuthan**	**80.00**	**304**	*e*P		**P**	**12 50 21.8**	**-0.1**
KBZ	**Khabaz**	**80.28**	**340**	⇑*e*P		**P**	**12 50 23.8**	**+0.9**
KBZ				pmax		pmax		
	comp=Z,5.0nm,1.0s							
ESDC	**Sonseca Array**	**85.60**	**15**	P		**P**	**12 50 51.5**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=347,slow=4.9,SNR=4.6							
	comp=Z,0.4nm,0.6s							
BRTR	**Keskin Array B**	**85.78**	**346**	*ce*P		**P**	**12 50 52.2**	**+0.6**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**85.78**	**346**	P		**P**	**12 50 51.9**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=19,slow=2.2,SNR=7.7							
	comp=Z,1.1nm,0.6s							
WRA	**Warramunga Arr**	**90.13**	**236**	P		**P**	**12 51 11.9**	**-0.5**
	comp=Z,0.5nm,1.1s,baz=33,slow=5.9,SNR=2.3							
	comp=Z,0.5nm,1.1s							
ASAR	**Alice Springs**	**93.50**	**234**	P		**P**	**12 51 28.1**	**+0.3**
	comp=Z,0.5nm,1.1s,baz=25,slow=4.7,SNR=4.9							
	comp=Z,0.5nm,1.1s							
H03N2	**Juan Fernandez**	**113.64**	**115**	T		T	15 00 31.0	
	baz=322,slow=77,SNR=24							
H03N1	**Juan Fernandez**	**113.65**	**114**	T		T	15 00 37.9	
	baz=322,slow=77,SNR=21							
H03N3	**Juan Fernandez**	**113.65**	**115**	T		T	15 00 31.5	
	baz=322,slow=77,SNR=23							

IDC ***26*** *12:38:24.3±1.4,2°.27N×127°.85E,h0km,mb3.9/5, mbtmp3.9/5,Error ellipse: s-maj=130.1km s-min=19.5km az=66.0*

NEIC ***26*** *12:38:26.1±0.9,2°.46N±0°.08×128°.34E±0°.09,h10km±1km, mb4.0/9,Error ellipse: s-maj=15.8km s-min=13.8km az=113.0*

ISC 26 12:38:25.6±1.2,2°.48N±0°.09×128°.3E±0°.2,h10km,n20, σ0s76/15,mb4.0/10,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.92**	**208**	Pn		**Pn**	**12 38 58.9**	**+0.6**
TNTI				Sn		**Sn**	**12 39 23.4**	**+0.9**
LUWI	**Luwuk**	**6.51**	**238**	Pn		**Pn**	**12 40 00.8**	**-0.7**
FAKI	**Fak Fak**	**6.68**	**143**	Pn		Pn	12 40 01.6	-2.3
TOLI2	**Tolitoli**	**7.60**	**260**	Pn		**Pn**	**12 40 15.9**	**-0.5**
NACB	**Ninganchiao**	**22.51**	**344**	P		**P**	**12 43 26.3**	**+0.7**
WB0	**Warramunga Arr**	**22.91**	**165**	P		**P**	**12 43 29.3**	**-0.6**
WB0				IAmb		IAmb	12 43 35.4	
	comp=Z,6.8nm,1.2s							
WRA	**Warramunga Arr**	**23.07**	**165**	P		**P**	**12 43 30.8**	**-0.8**
WRA	**Warramunga Arr**	**23.07**	**165**	P		**P**	**12 43 30.6**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=343,slow=10,SNR=13							
	comp=Z,1.6nm,0.6s							
WB2	**Warramunga Arr**	**23.07**	**165**	P		**P**	**12 43 30.5**	**-1.0**
WB2				IAmb		IAmb	12 43 56.9	
	comp=Z,13nm,1.2s							
WR0	**Warramunga Arr**	**23.14**	**165**	P		**P**	**12 43 31.5**	**-0.7**
WR0				IAmb		IAmb	12 43 46.7	
	comp=Z,9.3nm,1.5s							
AS31	**Alice Springs**	**26.56**	**168**	P		**P**	**12 44 04.2**	**+0.2**
AS31				IAmb		IAmb	12 44 24.6	
	comp=Z,1.3nm,1.3s							
ASAR	**Alice Springs**	**26.56**	**168**	P		**P**	**12 44 03.8**	**-0.2**
ASAR	**Alice Springs**	**26.56**	**168**	P		**P**	**12 44 03.2**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=352,slow=7.7,SNR=22							
ASAR				PcP		**PcP**	**12 47 28.1**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=360,slow=1.8,SNR=6.2							
	comp=Z,0.4nm,0.5s							
BBOO	**Buckleboo**	**35.87**	**169**	P		P	12 45 24.8	-1.0
STKA	**Stephens Creek**	**36.44**	**161**	P		P	12 45 30.2	-0.5
STKA	**Stephens Creek**	**36.44**	**161**	P		P	12 45 29.8	-1.0
	comp=Z,1.0nm,0.3s,baz=342,slow=11,SNR=7.3							
	comp=Z,1.0nm,0.3s							
MK31	**Makanchi Array**	**59.45**	**325**	P		P	12 48 28.6	-0.1
MK31				IAmb		IAmb	12 48 41.8	
	comp=Z,2.5nm,1.4s							
MKAR	**Makanchi Array**	**59.45**	**325**	P		**P**	**12 48 29.2**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=119,slow=8.2,SNR=9.0							
	comp=Z,0.4nm,0.5s							
TCW	**Tory Channel**	**60.31**	**141**	P		P	12 48 34.9	+0.2
KURBB	**Kurchatov Arra**	**63.61**	**327**	P		P	12 48 56.3	-0.3
	comp=Z,1.5nm,0.2s,baz=122,slow=6.7,SNR=1.4							
	comp=Z,1.5nm,0.2s							

NEIC ***26*** *12:50:17.1±2.8,19°.70N±0°.02×156°.01W±0°.04,h20km±6km, Error ellipse: s-maj=5.8km s-min=2.2km az=74.0*

HVO 26 12:50:18.4±2.1,19°.70N±0°.01×156°.030W±0°.009, h9km±4km,ML3.1/29,ML3.2/34(NEIC),Error ellipse: s-maj=1.8km s-min=1.0km az=204.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHLU	**Kahalu`u**	**0.17**	**130**			Pg	12 50 22.1	0.0
KHLU						Sg	12 50 24.6	0.0

comp=E,14μm,0.3s
MT10 Hacienda Santa 0.56 209 ⇑*i*P Pn **13 05 43.9 -0.1**
MT10 *i* S Sn **13 05 57.4 +0.3**
MT10 IAML 13 06 00.1
comp=N,12μm,0.2s
MT04 Ro Olivares 0.62 174 ⇓*i*P Pn **13 05 44.4 -0.2**
MT04 eS Sn **13 05 57.6 -0.6**
MT14 Cerro Cal¡n 0.67 204 ⇑*i*P Pn **13 05 44.7 0.0**
MT14 eS Sn **13 05 58.6 +0.2**
MT14 IAML 13 06 00.6
comp=N,6μm,0.4s
MT16 CCHEN 0.69 202 eP Pn **13 05 44.7 -0.2**
MT16 Sn Sn **13 05 57.6 -1.2**
MT16 CCHEN 0.69 202 ⇑*i*P Pn **13 05 44.9 0.0**
MT16 eS Sn **13 05 58.5 -0.2**
ROCH El Roble 0.69 254 ⇑*i*P Pn **13 05 45.1 0.0**
ROCH ⇑*i*P 13 05 45.1
ROCH eS Sn **13 05 59.1 0.0**
ROCH eS 13 05 59.6
ROCH IAML 13 06 00.5
comp=N,12μm,0.3s
ROCH IAML 13 06 01.3
comp=N,12μm,0.4s
ROC1 El Roble 0.70 254 Pn **13 05 45.0 -0.1**
ROC1 El Roble 0.70 254 eP Pn **13 05 45.1 -0.1**
ROC1 eS Sn **13 06 00.1 +0.9**
MT05 Renca 0.75 216 Pn **13 05 45.3 -0.1**
MT05 Renca 0.75 216 eP Pn **13 05 45.5 +0.1**
MT05 eS Sn **13 06 00.5 +0.9**
MT05 IAML 13 06 00.9
comp=Z,3μm,0.2s
MT05 Renca 0.75 216 ⇑*i*P Pn **13 05 45.5 +0.1**
MT05 eS Sn **13 05 59.8 +0.2**
MT05 IAML 13 06 01.0
comp=N,16μm,0.4s
MT03 Universidad Ad 0.75 199 Pn **13 05 45.2 -0.2**
MT03 Universidad Ad 0.75 199 eP Pn **13 05 45.5 +0.1**
MT03 eS Sn **13 06 00.9 +1.2**
MT03 IAML 13 06 02.6
comp=Z,4μm,0.2s
MT03 Universidad Ad 0.75 199 ⇑*i*P Pn **13 05 45.5 +0.1**
MT03 eS Sn **13 06 00.1 +0.4**
MT03 IAML 13 06 00.9
comp=N,8μm,0.3s
MT15 Las Vizcachas 0.85 197 ⇑*i*P Pn **13 05 46.2 0.0**
MT15 eS Sn **13 06 01.2 0.0**
MT15 IAML 13 06 02.9
comp=E,9μm,0.2s
MT02 Curacav 0.91 238 Pn **13 05 46.7 -0.1**
MT02 Curacav 0.91 238 eP Pn **13 05 46.8 -0.1**
MT02 eS Sn **13 06 02.5 +0.3**
MT02 Curacav 0.91 238 ⇑*i*P Pn **13 05 46.7 -0.1**
MT02 eS Sn **13 06 01.8 -0.4**
MT13 San Alfonso 0.96 184 Pn **13 05 47.5 +0.2**
MT13 San Alfonso 0.96 184 ⇑*i*P Pn **13 05 47.6 +0.2**
MT13 eS Sn **13 06 03.7 +0.4**
MT13 IAML 13 06 05.1
comp=N,6μm,0.4s
MT12 Pirque 0.98 196 ⇑*i*P Pn **13 05 47.8 +0.1**
MT12 eS Sn **13 06 03.6 0.0**
MT12 IAML 13 06 05.0
comp=E,8μm,0.3s
LMEL Las Melosas 1.06 179 Pn **13 05 48.5 0.0**
LMEL Las Melosas 1.06 179 eP Pn **13 05 48.5 0.0**
LMEL eS Sn **13 06 05.6 +0.4**
LMEL IAML 13 06 10.2
comp=N,10μm,0.1s
ARCO CERRO ARCO 1.08 93 eP Pn **13 05 48.7 -0.1**
ARCO eS Sn **13 06 05.2 -0.4**
ARCO IAML 13 06 07.5
comp=Z,2μm,0.7s
ASAL Salagasta 1.18 81 eP Pn **13 05 49.6 -0.1**
ASAL eS Sn **13 06 07.7 +0.4**
ASAL IAML 13 06 09.6
comp=Z,989nm,0.4s
MT09 Talagante 1.18 213 Pn **13 05 49.5 -0.3**
MT09 Talagante 1.18 213 ⇑*i*P Pn **13 05 49.6 -0.2**
MT09 eS Sn **13 06 07.4 -0.1**
MT09 IAML 13 06 08.8
comp=E,7μm,0.2s
AAGR Agrelo 1.20 105 eP Pn **13 05 50.0 0.0**
VA01 Torpederas 1.23 259 Pn **13 05 49.9 -0.2**
VA01 Torpederas 1.23 259 eP Pn **13 05 49.6 -0.5**
VA01 IAML 13 06 12.4
comp=Z,887nm,0.3s
VA01 Torpederas 1.23 259 *i* P Pn **13 05 50.1 -0.1**
BO04 La Punta 1.24 195 Pn **13 05 50.4 0.0**
BO04 La Punta 1.24 195 ⇑*i*P Pn **13 05 50.5 0.0**
BO04 eS Sn **13 06 08.8 +0.3**
BO04 IAML 13 06 09.8
comp=E,3μm,0.2s
RTLS Leoncito 1.25 39 eP Pn **13 05 51.3 +0.5**
RTLS eS Sn **13 06 10.4 +1.2**
RTLS IAML 13 06 12.3
comp=Z,3μm,0.5s
MT01 Popeta 1.38 219 Pn **13 05 51.4 -0.4**
MT01 Popeta 1.38 219 eP Pn **13 05 51.5 -0.4**
MT01 eS Sn **13 06 11.1 -0.2**
MT01 IAML 13 06 13.5
comp=Z,768nm,0.2s
MT01 Popeta 1.38 219 ⇑*i*P Pn **13 05 51.5 -0.4**
MT01 eS Sn **13 06 10.4 -0.9**
MT01 IAML 13 06 11.1
comp=N,3μm,0.2s
VA05 Santo Domingo 1.46 233 Pn **13 05 52.6 -0.2**
VA05 Santo Domingo 1.46 233 eP Pn **13 05 52.7 0.0**
VA05 eS Sn **13 06 12.8 0.0**
VA05 IAML 13 06 17.1
comp=E,4μm,0.4s
AVIZ Vizcacheras 1.58 116 eP Pn **13 05 54.3 -0.1**
RTCV Cerro Valdivia 1.69 57 eP Pn **13 05 55.9 +0.2**
RTCV eS Sn **13 06 17.6 -0.4**
CO02 Combarbal 1.71 337 Pn **13 05 56.6 +0.6**
CO02 Combarbal 1.71 337 eP Pn **13 05 56.6 +0.6**
CO02 eS Sn **13 06 19.1 +0.6**
CO02 IAML 13 06 20.4
comp=Z,2μm,0.3s
CO02 Combarbal 1.71 337 eP Pn **13 05 56.5 +0.4**
CO02 eS Sn **13 06 19.2 +0.7**
CO02 IAML 13 06 20.6
comp=E,7μm,0.4s
BO01 Tunca 1.76 204 Pn **13 05 55.9 -0.6**
BO01 Tunca 1.76 204 eP Pn **13 05 56.0 -0.5**
BO01 eS Sn **13 06 19.0 -0.3**
BO01 IAML 13 06 20.9
comp=Z,641nm,0.7s
BO01 Tunca 1.76 204 ⇑*i*P Pn **13 05 56.0 -0.5**
BO01 eS Sn **13 06 18.7 -0.6**
ZON Zonda 1.80 47 Pn **13 05 56.7 -0.3**
ZON Zonda 1.80 47 eP Pn **13 05 56.8 -0.2**
ZON eS Sn **13 06 20.0 -0.2**
SJA San Juan 1.88 49 eP Pn **13 05 59.0 +0.9**
SJA eS Sn **13 06 22.7 +0.5**
SJA IAML 13 06 24.4
comp=Z,592nm,0.2s
CO03 El Pedregal 1.98 348 Pn **13 06 00.4 +1.1**
CO03 El Pedregal 1.98 348 eP Pn **13 06 00.6 +1.2**
CO03 eS Sn **13 06 26.2 +1.7**
CO03 IAML 13 06 27.3
comp=Z,733nm,0.3s
CO03 El Pedregal 1.98 348 ⇑*i*P Pn **13 06 00.7 +1.3**
CO03 eS Sn **13 06 25.5 +1.0**
CO03 IAML 13 06 29.8
comp=N,2μm,0.3s
CFA Coronel Fontan 2.05 55 eP Pn 13 05 50.8 -9.3
CFA eS Sn **13 06 25.0 -0.9**
CFA IAML 13 06 25.9
comp=Z,495nm,0.5s
CFA Coronel Fontan 2.05 55 P Pn **13 05 59.5 -0.7**
comp=Z,307nm,0.4s,baz=244,slow=8.9,SNR=159
CFA S Sn **13 06 24.2 -1.7**
comp=Z,448nm,0.3s,baz=69,slow=16,SNR=43
BO02 Sierra Bellavi 2.06 193 Pn **13 06 00.1 -0.1**
BO02 Sierra Bellavi 2.06 193 eP Pn **13 06 00.6 +0.3**
BO02 IAML 13 06 30.0
comp=Z,724nm,0.2s
BO02 Sierra Bellavi 2.06 193 eP Pn **13 06 00.5 +0.3**
BO02 eS Sn **13 06 26.4 +0.3**
BO02 IAML 13 06 31.9
comp=E,2μm,0.3s
DOCA Reserva Natura 2.07 28 eP Pn **13 06 00.3 -0.4**
DOCA eS Sn **13 06 27.4 +0.5**
BO03 Pichilemu 2.24 220 eP Pn **13 06 01.4 -1.1**
BO03 eS Sn **13 06 28.4 -1.9**
ACCO Cerro Coronel 2.40 24 eP Pn **13 06 05.9 +1.0**
ACCO eS Sn **13 06 35.8 +1.4**
ACCO IAML 13 06 36.9
comp=Z,683nm,0.4s
CO06 Fray Jorge 2.43 330 Pn **13 06 05.5 +0.5**
CO06 Fray Jorge 2.43 330 eP Pn **13 06 05.8 +0.8**
CO06 eS Sn **13 06 30.2 -4.3**
RFA San Rafael 2.46 144 eP Pn **13 06 04.7 -0.8**
GO05 Huala 2.64 212 Pn **13 06 06.4 -1.3**
GO05 Huala 2.64 212 eP Pn **13 06 06.8 -1.0**
GO05 eS Sn **13 06 38.2 -0.9**
GO05 Huala 2.64 212 eP Pn **13 06 06.6 -1.1**
GO05 eS Sn **13 06 38.5 -0.9**
GO05 IAML 13 06 41.1
comp=E,629nm,0.2s
GO04 Tololo Observa 2.65 349 Pn **13 06 08.3 +0.2**
GO04 Tololo Observa 2.65 349 eP Pn **13 06 09.2 +1.0**
GO04 eS Sn **13 06 41.6 +1.4**
GO04 Tololo Observa 2.65 349 eP Pn **13 06 08.3 +0.2**
GO04 IAML 13 07 04.3
comp=E,2μm,0.1s
AROD Rodeo 2.69 14 eP Pn **13 06 10.7 +2.0**
AROD eS Sn **13 06 43.1 +2.1**
ACDV Cuesta del Vie 2.77 20 eP Pn **13 06 11.2 +1.5**
CO01 Juntas del Tor 2.80 2 Pn **13 06 10.3 +0.2**
CO01 Juntas del Tor 2.80 2 eP Pn **13 06 10.3 +0.2**
CO01 eS Sn **13 06 40.4 -3.2**
CO05 La Serena 2.99 343 Pn Pn **13 06 11.8 -0.6**
CO05 La Serena 2.99 343 eS Sn **13 06 39.6 -8.1**
CO05 IAML 13 07 01.2
comp=E,546nm,0.4s
EDS3 Malargue 3.05 167 eP Pn **13 06 14.1 +0.7**
ML02 Panimavida 3.13 198 Pn **13 06 13.1 -1.1**
ML02 Panimavida 3.13 198 eP Pn **13 06 13.6 -0.7**
ML02 eS Sn **13 06 49.0 -2.0**
ML02 IAML 13 06 50.6
comp=N,790nm,0.5s
AC05 El Transito 3.94 359 Pn Pn **13 06 25.7 +0.6**
AC05 El Transito 3.94 359 eP Pn **13 06 25.2 +0.1**
AC05 El Transito 3.94 359 eP Pn **13 06 25.8 +0.6**
AC05 eS Sn **13 07 09.2 -1.3**
APLL PUNTA DE LOS L 3.95 54 eP Pn **13 06 23.9 -1.2**
ACLC CERRO LA CRUZ 4.37 41 eP Pn **13 06 29.8 -1.2**
ACLC IAML 13 07 22.7
comp=Z,183nm,0.5s
VCA Vinchina 4.39 24 eP Pn **13 06 31.1 -0.2**
AC04 Llanos de Chal 4.63 351 Pn Pn **13 06 33.9 -0.3**
AC04 Llanos de Chal 4.63 351 IAML 13 07 59.4
comp=Z,85nm,0.8s
AC04 Llanos de Chal 4.63 351 eP Pn **13 06 34.0 -0.3**
AC04 eS Sn **13 07 24.5 -2.5**
TCA Tanti 4.99 75 eP Pn **13 06 36.9 -2.3**
GO03 Copiap 5.17 360 Pn Pn **13 06 41.8 0.4**
AC06 Mina Casimiro 5.41 359 Pn Pn **13 06 45.4 +0.4**
CYA Choya 5.76 42 eP Pn **13 06 46.7 -3.0**
AC01 Pan de Azucar 6.62 357 Pn Pn **13 06 59.1 -2.2**
VA04 Juan Fernndez 7.27 261 Pn Pn **13 07 10.6 +0.6**
H03N1 Juan Fernandez 7.33 263 T T 13 14 04.1
baz=86,slow=73,SNR=161
H03N3 Juan Fernandez 7.34 262 T T 13 14 00.9
baz=86,slow=73,SNR=142
H03N2 Juan Fernandez 7.34 263 T T 13 14 05.0
baz=86,slow=73,SNR=151
H03S1 Juan Fernandez 7.35 259 T T 13 13 22.4
baz=85,slow=75,SNR=27
H03S3 Juan Fernandez 7.35 260 T T 13 13 23.0
baz=85,slow=75,SNR=38
H03S2 Juan Fernandez 7.37 259 T T 13 13 23.6
baz=85,slow=75,SNR=25
GO02 Mina Guanaco 7.62 4 Pn Pn **13 07 14.2 -0.8**
PLCA Paso Flores 7.94 182 P Pn **13 07 18.1 -0.9**
comp=Z,0.9nm,0.3s,baz=350,slow=13,SNR=5.0
TRQA Tornquist 8.53 130 Pn Pn **13 07 25.0 -2.1**
PB05 IPOC Station P 9.90 0 Pn Pn **13 07 46.6 +0.9**
LVC Limon Verde 10.20 7 P Pn **13 07 48.5 -1.7**
comp=Z,2.7nm,0.8s,baz=246,slow=14,SNR=2.3
LVC S Sn **13 09 40.6 -2.3**
comp=Z,2.5nm,0.6s,baz=24,slow=23,SNR=1.9
CPUP Villa Florida 12.93 63 P Pn **13 08 22.6 -3.4**
comp=Z,0.7nm,0.4s,baz=48,slow=14,SNR=2.4
CPUP S Sn **13 10 45.1 -3.2**
comp=Z,1.0nm,0.5s,baz=203,slow=15,SNR=1.4
GO09 Cerro Castillo 18.54 184 P P **13 09 32.8 -1.5**
SIV San Ignacio 18.66 29 P P **13 09 35.8 -0.1**
comp=Z,1.6nm,0.5s,baz=178,slow=9.3,SNR=9.1
BDFB Brasilia 26.39 55 P P **13 10 51.6 -1.2**
comp=Z,1.8nm,0.4s,baz=200,slow=10,SNR=3.6
comp=Z,1.8nm,0.4s
BELA Belgrano 2 47.81 170 P P **13 13 52.5 +0.3**
BELA IAmb IAmb 13 14 27.9
comp=Z,12nm,1.5s
SNAA Sanae 52.14 158 P P **13 14 25.0 -0.1**
SNAA IAmb IAmb 13 14 40.2
comp=Z,6.1nm,1.3s
SNAA Sanae 52.14 158 P P **13 14 25.8 +0.7**
comp=Z,2.1nm,0.7s,baz=274,slow=8.9,SNR=8.5
comp=Z,2.1nm,0.7s
TEIG Tepich 55.47 339 P P **13 14 50.4 +0.6**
QSPA South Pole Qui 57.45 180 P P **13 15 04.3 +0.8**
comp=Z,3.1nm,0.8s,baz=165,slow=1.8,SNR=8.1
comp=Z,3.1nm,0.8s
TXAR Lajitas Array 69.45 329 P P **13 16 24.4 +1.6**
comp=Z,0.3nm,0.6s,baz=157,slow=8.9,SNR=9.4
comp=Z,0.3nm,0.6s
TX31 Lajitas Ar. Si 69.45 329 P P **13 16 24.5 +1.6**
TX31 IAmb IAmb 13 17 08.3
comp=Z,6.5nm,1.4s
T59A Double "B" Far 69.74 354 P P **13 16 24.6 +0.4**
OZNA Ozona 69.79 332 P P **13 16 26.8 +2.0**
OZNA IAmb IAmb 13 16 27.8
comp=Z,6.1nm,1.4s
LCAR Lake Charles 71.25 342 P P **13 16 34.5 +1.1**
LCAR IAmb IAmb 13 16 47.1
comp=Z,9.9nm,1.4s
APMT Aspermont 71.54 334 P P **13 16 36.5 +1.2**
APMT IAmb IAmb 13 16 37.7
comp=Z,2.4nm,0.6s
CCM Cathedral Cave 73.15 343 P P **13 16 45.9 +1.1**
DBIC Dimbokro 73.34 70 P P **13 16 48.0 +1.5**
comp=Z,2.3nm,0.8s,baz=228,slow=8.3,SNR=3.1
comp=Z,2.3nm,0.8s
S39A Bolivar 73.35 341 P P **13 16 47.4 +1.4**
R40A Maddies Statio 73.63 342 P P **13 16 48.3 +0.7**
R40A IAmb IAmb 13 16 49.4
comp=Z,3.5nm,0.7s
TORD Torodi Ar. Bea 82.36 69 P P **13 17 37.5 +1.1**
comp=Z,0.4nm,0.7s,baz=266,slow=3.5,SNR=2.5
comp=Z,0.4nm,0.7s
PDAR Pinedale Array 83.39 332 P P **13 17 41.4 0.0**
comp=Z,0.2nm,0.4s,baz=131,slow=6.6,SNR=2.7
comp=Z,0.2nm,0.4s
NVAR Mina Array Bea 83.78 324 P P **13 17 44.2 +0.8**
comp=Z,0.5nm,0.6s,baz=162,slow=6.4,SNR=5.4
comp=Z,0.5nm,0.6s
ARCES ARCESS Array B 122.28 24 PKP **PKPdf 13 24 07.1 -0.3**
comp=Z,3.5nm,0.9s,baz=237,slow=3.1,SNR=1.7
WRA Warramunga Arr 122.55 208 PKP **PKPdf 13 24 09.5 0.0**
comp=Z,0.2nm,0.3s,baz=154,slow=1.8,SNR=8.8
BVAR Borovoye Array 145.36 42 PKPbc **PKPab 13 24 51.1 0.0**
comp=Z,1.3nm,0.4s,baz=310,slow=2.1,SNR=9.0
KURBB Kurchatov Arra 150.94 43 PKPbc **PKiKP 13 25 06.9 +0.6**
comp=Z,0.9nm,0.2s,baz=295,slow=3.0,SNR=5.7
ZALV Zalesovo Beam 152.39 33 PKPbc **PKiKP 13 25 09.9 +0.7**
comp=Z,3.0nm,0.4s,baz=305,slow=3.2,SNR=13
MKAR Makanchi Array 154.82 48 PKPbc **PKiKP 13 25 15.3 +0.8**
comp=Z,0.1nm,0.5s,baz=294,slow=1.4,SNR=1.9
MKAR PKPab **PKPab 13 25 30.4 +0.3**
comp=Z,0.2nm,0.5s,baz=280,slow=2.6,SNR=1.8
PZH PanZhiHua 170.61 130 PKP **PKPdf 13 25 21.0 -0.9**

*NOU **26** 13:06:22.2, 11.˚19S×163.˚04E, h0km, mb4.7/11, Solomon Islands*
*IDC **26** 13:06:27.6±3.2, 11.˚33S×162.˚73E, h53km±25km, mb3.8/9, mbtmp4.1/11, ML2.1/1, MS3.3/7, Error ellipse: s-maj=28.5km s-min=17.4km az=71.0*
*NEIC **26** 13:06:27.0±2.2, 11.˚30S±0.˚09×163.˚0E±0.˚1, h52km±8km, mb4.6/26, Error ellipse: s-maj=17.7km s-min=11.7km az=64.0*
ISC 26 13:06:25.0±0.6, **11.˚30S**±0.˚07×**162.˚99E**±0.˚08, **h35**km, **n68,** σ1§**45**/63, **mb4.5**/21, **MS3.2**/4, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.52**	**301**	Pn	**Pn**		**13 07 17.6**	**+0.4**
HNR	**Honiara**	**3.52**	**301**	P	**Pn**		**13 07 17.9**	**+0.7**
HNR	**Honiara**	**3.52**	**301**	P	**Pn**		**13 07 17.9**	**+0.7**
	3μm,0.3s,baz=176,slow=9.1,SNR=47							
HNR				S	**Sn**		**13 07 55.7**	**-1.9**
	3μm,0.3s,baz=204,slow=12,SNR=2.0							
HNR				LR	LR		13 08 51.0	
	comp=Z,6μm,21.3s,baz=160,slow=43							
DVP	**Devils Point**	**8.14**	**142**	P	**Pn**		**13 08 23.0**	**+2.3**
	508nm,1.0s							
KOUNC	**Koumac, New Ca**	**9.29**	**172**		**Pn**		**13 08 38.0**	**+1.5**
KOUNC	**Koumac, New Ca**	**9.29**	**172**	P	**Pn**		**13 08 38.1**	**+1.7**
LIFNC	**LIFOU**	**10.28**	**157**	Pn	**Pn**		**13 08 50.1**	**+0.1**
LIFNC	**LIFOU**	**10.28**	**157**	P	**Pn**		**13 08 51.5**	**+1.5**
NOUC	**Port Laguerre**	**11.21**	**164**	P	**Pn**		**13 09 05.1**	**+2.4**
DZM	**Mont Dzumac**	**11.21**	**163**		**Pn**		**13 09 03.8**	**+0.8**
DZM	**Mont Dzumac**	**11.21**	**163**	P	**Pn**		**13 09 05.3**	**+2.3**
DZM	**Mont Dzumac**	**11.21**	**163**	P	**Pn**		**13 09 05.1**	**+2.1**
	6.1nm,0.3s,baz=34,slow=8.5,SNR=244							
DZM				S	**Sn**		**13 11 03.9**	**-3.3**
	2.7nm,0.5s,baz=324,slow=22,SNR=1.8							
DZM				LR	LR		13 12 43.0	
	comp=Z,120nm,20.1s,baz=22,slow=33							
MARNC	**Mare, Loyalty**	**11.22**	**155**	Pn	**Pn**		**13 09 02.5**	**-0.5**
YATNC	**Mamie plateau,**	**11.34**	**161**	P	**Pn**		**13 09 05.2**	**+0.7**
ONTNC	**Ouen Toro**	**11.44**	**164**		**Pn**		**13 09 07.1**	**+1.2**
ONTNC	**Ouen Toro**	**11.44**	**164**	P	**Pn**		**13 09 09.6**	**+3.6**
OUENC	**Ouen Island, N**	**11.66**	**162**	Pn	**Pn**		**13 09 10.6**	**+1.6**
OUENC	**Ouen Island, N**	**11.66**	**162**	P	**Pn**		**13 09 11.3**	**+2.4**
PINNC	**Pines Island,**	**12.04**	**160**	Pn	**Pn**		**13 09 16.3**	**+2.2**
PMG	**Port Moresby**	**15.68**	**275**	P	**P**		**13 10 09.1**	**+2.0**
PMG				IAmb	IAmb		13 10 09.9	
	comp=Z,18nm,0.9s							
PMG	**Port Moresby**	**15.68**	**275**	P	**Pn**		**13 10 02.7**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=99,slow=13,SNR=1.9							
PMG				LR	LR		13 16 02.1	
	comp=Z,163nm,20.2s,baz=112,slow=37							
	comp=Z,4.7nm,0.7s							
EIDS	**Eidsvold**	**17.97**	**217**	P	**P**		**13 10 34.0**	**+1.5**
CTA	**Charters Tower**	**18.31**	**239**	P	**Pn**		**13 10 38.3**	**+1.9**
	comp=Z,2.4nm,0.8s,baz=62,slow=15,SNR=2.1							
CTA				LR	LR		13 16 16.6	
	comp=Z,45nm,20.9s,baz=66,slow=33							
CTAO	**Charters Tower**	**18.31**	**239**	P	**Pn**		**13 10 38.2**	**+1.8**
PATS	**Pohnpei**	**18.60**	**345**	Pn	**Pn**		**13 10 41.9**	**+2.0**
STKA	**Stephens Creek**	**28.44**	**221**	P	**P**		**13 12 16.3**	**-0.3**
	comp=Z,1.2nm,0.9s,baz=320,slow=14,SNR=2.0							
STKA				LR	LR		13 23 25.5	
	comp=Z,53nm,18.1s,baz=37,slow=36							
	comp=Z,1.2nm,0.9s							
WR0	**Warramunga Arr**	**28.68**	**249**	P	**P**		**13 12 16.9**	**-2.0**
WB0	**Warramunga Arr**	**28.77**	**249**	P	**P**		**13 12 18.1**	**-1.6**
WB0				IAmb	IAmb		13 12 33.6	
	comp=Z,11nm,1.5s							
WRAB	**Tennant Creek**	**28.85**	**249**	P	**P**		**13 12 18.9**	**-1.5**
WB2	**Warramunga Arr**	**28.85**	**249**	P	**P**		**13 12 18.9**	**-1.5**
WB2				IAmb	IAmb		13 12 49.9	
	comp=Z,7.7nm,1.2s							
WRA	**Warramunga Arr**	**28.86**	**249**	P	**P**		**13 12 19.0**	**-1.5**
	comp=Z,1.1nm,0.6s,baz=78,slow=9.1,SNR=11							
WRA				PcP	**PcP**		**13 15 30.1**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=80,slow=3.2,SNR=2.4							
	comp=Z,1.1nm,0.6s							
URZ	**Urewera**	**29.68**	**157**	LR	LR		13 23 32.1	
	comp=Z,68nm,18.1s,baz=296,slow=34							
H11S2	**WAKE ISLAND Hy**	**29.82**	**7**	T	T		13 43 34.1	
	baz=188,slow=76,SNR=78							
H11S3	**WAKE ISLAND Hy**	**29.82**	**7**	T	T		13 43 34.2	
	baz=188,slow=76,SNR=45							
H11S1	**WAKE ISLAND Hy**	**29.84**	**7**	T	T		13 43 30.9	
	baz=188,slow=76,SNR=39							
AS31	**Alice Springs**	**30.27**	**242**	P	**P**		**13 12 31.3**	**-1.7**
ASAR	**Alice Springs**	**30.27**	**242**	P	**P**		**13 12 31.3**	**-1.8**
ASAR	**Alice Springs**	**30.27**	**242**	P	**P**		**13 12 31.8**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=62,slow=10,SNR=45							
ASAR				PcP	**PcP**		**13 15 33.1**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=72,slow=3.0,SNR=2.4							
	comp=Z,1.4nm,0.7s							
H11N1	**WAKE ISLAND Hy**	**31.05**	**7**	T	T		13 45 02.0	
	baz=188,slow=76,SNR=18							
H11N3	**WAKE ISLAND Hy**	**31.06**	**7**	T	T		13 45 05.0	
	baz=188,slow=76,SNR=21							
H11N2	**WAKE ISLAND Hy**	**31.07**	**7**	T	T		13 45 06.4	
	baz=188,slow=76,SNR=18							
MTN	**Manton Dam**	**31.18**	**264**	P	**P**		**13 12 41.5**	**+0.4**
MTN				IAmb	IAmb		13 13 01.6	
	comp=Z,29nm,1.4s							
TCW	**Tory Channel**	**31.41**	**164**	P	**P**		**13 12 42.3**	**-0.5**
BBOO	**Buckleboo**	**32.71**	**225**	P	**P**		**13 12 54.4**	**+0.1**
BBOO				IAmb	IAmb		13 13 32.3	
	comp=Z,9.3nm,1.2s							
RPZ	**Rata Peaks**	**33.05**	**169**	LR	LR		13 25 02.8	
	comp=Z,5nm,20.2s,baz=282,slow=34							
KNRA	**Kununurra**	**33.54**	**259**	P	**P**		**13 13 00.7**	**-1.1**
KNRA				IAmb	IAmb		13 13 18.6	
	comp=Z,23nm,1.2s							
FITZ	**Fitzroy Crossi**	**36.70**	**255**	P	**P**		**13 13 28.2**	**-0.8**
FORT	**Forrest**	**37.70**	**234**	P	**P**		**13 13 37.8**	**+0.5**
SOEI	**Soe**	**38.08**	**269**	P	**P**		**13 13 41.0**	**+0.1**
MBWA	**Marble Bar**	**42.55**	**251**	P	**P**		**13 14 17.6**	**-0.1**
MBWA				IAmb	IAmb		13 14 20.2	
	comp=Z,19nm,1.4s							
MORW	**Morawa**	**47.13**	**241**	P	**P**		**13 14 54.2**	**+0.1**
MORW				IAmb	IAmb		13 15 22.6	
	comp=Z,17nm,1.1s							
KKM	**Kota Kinabalu**	**49.63**	**288**	P	**P**		**13 15 12.2**	**-1.4**
JMN	**Monobe**	**52.65**	**329**	P	**P**		**13 15 36.5**	**+0.6**
KSRS	**Korea Array**	**58.59**	**328**	P	**P**		**13 16 18.9**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=133,slow=7.0,SNR=5.4							
	comp=Z,1.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**69.74**	**295**	P	**P**		**13 17 31.3**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=117,slow=4.2,SNR=7.2							
	comp=Z,0.7nm,0.6s							
SDPT	**Sand Point**	**73.12**	**21**	P	**P**		**13 17 50.8**	**-0.8**
R17K	**Ugashik Creek**	**76.33**	**21**	P	**P**		**13 18 10.0**	**-0.2**
R17K				IAmb	IAmb		13 18 20.2	
	comp=Z,23nm,1.4s							
M13K	**Dall Lake**	**76.34**	**16**	P	**P**		**13 18 10.1**	**0.0**
M13K				IAmb	IAmb		13 18 54.0	
	comp=Z,15nm,1.2s							
SONM	**Songino Array**	**77.29**	**325**	P	**P**		**13 18 16.4**	**+0.4**
SONM				IAmb	IAmb		13 18 17.6	
	comp=Z,4.0nm,0.9s							
SONM	**Songino Array**	**77.29**	**325**	P	**P**		**13 18 15.9**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=142,slow=5.1,SNR=15							
	comp=Z,2.9nm,0.7s							
IMAR	**Indian Mountai**	**83.41**	**16**	P	**P**		**13 18 48.9**	**+0.6**
CRQM	**Cirque**	**83.43**	**24**	P	**P**		**13 18 48.2**	**-0.6**
CRQM				IAmb	IAmb		13 19 05.2	
	comp=Z,14nm,1.2s							
C18K	**Utukok River**	**83.67**	**12**	P	**P**		**13 18 50.2**	**+0.5**
C18K				IAmb	IAmb		13 19 27.6	
	comp=Z,7.9nm,1.4s							
ILAR	**Eielson Array**	**84.62**	**19**	P	**P**		**13 18 56.0**	**+1.4**
	comp=Z,0.5nm,0.9s,baz=227,slow=4.6,SNR=2.8							
	comp=Z,0.5nm,0.9s							
DLBC	**Dease Lake**	**87.93**	**29**	LR	LR		13 54 17.4	
	comp=Z,38nm,20.2s,baz=228,slow=33							
MK31	**Makanchi Array**	**91.86**	**317**	P	**P**		**13 19 29.1**	**-0.5**
MK31				IAmb	IAmb		13 19 30.1	
	comp=Z,1.6nm,0.8s							
MKAR	**Makanchi Array**	**91.86**	**317**	P	**P**		**13 19 29.3**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=96,slow=6.4,SNR=20							
	comp=Z,1.6nm,0.6s							
KURBB	**Kurchatov Arra**	**95.14**	**320**	P	**P**		**13 19 42.3**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=97,slow=3.0,SNR=4.2							
	comp=Z,0.1nm,0.3s							

*NNC **26** 13:08:25.8±28.0, 38.˚88N×70.˚14E, h0km, mb3.8, mpv3.1, Error ellipse: s-maj=355.3km s-min=151.9km az=130.0*
*KRNET **26** 13:08:25.7±0.1, 39.˚05N×70.˚54E, mb3.0*
ISC 26 13:08:28.3±2.0, **39.˚1N**±0.˚1×**70.˚54E**±0.˚06, **h10**km, **n21,** σ2§**29**/33, **11C-14D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.96**	**13**	⇓*i*P	**Pg**		**13 08 45.4**	**-1.4**
	baz=12							
BTK				⇓*i*S	**Sb**		**13 08 59.6**	**-0.3**
	baz=12							
DRK	**Karamyk**	**1.04**	**70**	⇓*e*P	**Pg**		**13 08 46.1**	**-2.3**
	baz=66							
DRK				⇓*e*S	**Sg**		**13 09 01.1**	**-0.9**

	baz=66							
OHH	**Osh**	**2.23**	**50**	⇑*e*P		**Pn**	**13 09 06.3**	**+0.9**
	baz=49							
OHH				⇑*e*S		**Sb**	**13 09 36.1**	**-0.3**
	baz=49							
TRKS	**Terek-Say**	**2.45**	**11**	⇑*i*P		**Pn**	**13 09 08.9**	**+0.4**
	baz=11							
TRKS				⇑*e*S		**Sb**	**13 09 41.0**	**-1.8**
	baz=11							
SFK	**Sufi-Kurgan**	**2.46**	**68**	⇓*i*P		**Pn**	**13 09 09.1**	**+0.4**
	baz=66							
SFK				⇓*i*S		**Sb**	**13 09 41.7**	**-1.5**
	baz=66							
ARK	**Arkit**	**2.89**	**22**	⇑*i*P		**Pn**	**13 09 15.5**	**+1.0**
	baz=21							
ARK				⇑*i*S		**Sb**	**13 09 53.2**	**-2.2**
	baz=21							
ARSB	**Arslanbob**	**2.89**	**40**	⇓*e*P		**Pn**	**13 09 15.6**	**+1.1**
	baz=39							
ARSB				⇓*e*S		**Sb**	**13 09 52.6**	**-2.9**
	baz=39							
AML	**Almayashu**	**3.85**	**38**	P		**Pn**	**13 09 29.2**	**+1.3**
	SNR=20							
AML	**Almayashu**	**3.85**	**38**	⇑*e*P		**Pn**	**13 09 29.1**	**+1.2**
	baz=37							
AML				⇑*i*S		**Sn**	**13 10 16.8**	**+3.4**
	baz=37							
ARLS	**Aral**	**3.98**	**45**	⇓*e*P		**Pn**	**13 09 30.5**	**+1.0**
	baz=45							
ARLS				⇓*e*S		**Sn**	**13 10 18.7**	**+2.4**
	baz=45							
KK31	**Karatay Array**	**3.98**	**360**	⇑Pn		**Pn**	**13 09 31.5**	**+2.1**
	1.2nm,0.3s,baz=182,slow=14,SNR=6.4							
KK31				⇓Sn		**Sb**	**13 10 22.6**	**-4.1**
	15nm,0.7s,baz=37,slow=57,SNR=4.2							
KKAR	**Karatay Array**	**3.98**	**360**	⇑*i*P		**Pn**	**13 09 30.9**	**+1.5**
	baz=60							
KKAR				⇑*e*S		**Sn**	**13 10 19.5**	**+3.4**
	baz=60							
UCH	**Uchtor**	**4.33**	**43**	P		**Pn**	**13 09 36.3**	**+1.7**
	SNR=23							
UCH	**Uchtor**	**4.33**	**43**	⇓*i*P		**Pn**	**13 09 35.8**	**+1.2**
	baz=42							
UCH				⇓*i*S		**Sn**	**13 10 28.5**	**+3.1**
	baz=42							
AAK	**Ala-Archa**	**4.62**	**39**	P		**Pn**	**13 09 42.2**	**+3.9**
	SNR=11							
KZA	**Kyzart**	**4.65**	**49**	P		**Pn**	**13 09 42.7**	**+3.8**
	SNR=16							
KBK	**Karagaybulak**	**4.86**	**42**	P		**Pn**	**13 09 44.3**	**+2.6**
	SNR=23							
CHMS	**Chumysh**	**5.01**	**38**	P		**Pn**	**13 09 45.4**	**+1.8**
	SNR=5.4							
TKM2	**Tokmak 2**	**5.39**	**44**	P		**Pn**	**13 09 50.6**	**+1.6**
	SNR=5.6							
AB31	**Akbulak array**	**12.65**	**327**	P		**Pn**	**13 11 25.1**	**-3.2**
	0.9nm,0.4s,baz=147,slow=12,SNR=37							
AKTO	**Aktyubinsk**	**14.36**	**326**	⇓P		**Pn**	**13 11 53.5**	**+1.9**
	1.8nm,0.9s							

*TEH **26** 13:25:05.7, 34°.04N×46°.34E, h8km±45km, ML2.9*
*ISN **26** 13:25:05.5±1.5, 34°.02N×46°.44E, h20km±12km, ML3.0*
ISC 26 13:25:06.6±1.1, 34°.02N±0°.04×46°.35E±0°.04, h10km, n12, σ1§18/14, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.36**	**31**	Pg	**Pg**	**13 25 12.9**	**-0.9**
ILBA	**Ilam Banvizeh**	**0.41**	**196**	Pg	**Pg**	**13 25 14.4**	**-0.4**
KCHF	**Cheshme Sefid,**	**0.63**	**66**	Pg	**Pg**	**13 25 18.2**	**-0.6**
IDHR	**Dehrash**	**0.68**	**3**	Pg	**Pg**	**13 25 18.2**	**-1.6**
KGS1	**Ghasr-e-Shirin**	**0.79**	**308**	Pg	**Pg**	**13 25 21.1**	**-0.8**
IBDR	**Badra**	**0.97**	**201**	*e*Pg	**Pg**	**13 25 23.0**	**-2.4**
IBDR				*e*Sg	**Sg**	**13 25 38.0**	**0.0**
	baz=25						
IBDR				AML	AML	13 25 46.2	
	comp=N,216nm,0.6s						
IBDR				AML	AML	13 25 48.9	
	comp=E,284nm,0.7s						
IKOM	**Komasi**	**0.98**	**81**	Pg	**Pg**	**13 25 25.1**	**-0.3**
ILIN	**Lien**	**1.03**	**29**	Pg	**Pg**	**13 25 25.5**	**-0.9**
IBZA	**Bozab**	**1.33**	**70**	Pg	**Pn**	**13 25 31.5**	**0.0**
IKFM	**Kafar-mosalman**	**1.34**	**111**	Pg	**Pn**	**13 25 31.7**	**+0.3**
IALM	**Almabolaq**	**1.72**	**60**	Pg	**Pn**	**13 25 37.8**	**+0.9**
BHD	**Baghdad**	**1.80**	**246**	*e*Pn	**Pn**	**13 25 39.0**	**+1.2**
BHD				*e*Sn	**Sn**	**13 26 02.0**	**+1.3**
BHD				AML	AML	13 26 07.4	
	comp=E,502nm,0.6s						

*SJA **26** 13:26:57.5±0.8, 20°.17S×68°.97W, h115km±4km, ML3.3, MW3.5*
*GUC **26** 13:26:59.1±0.6, 20°.19S×68°.92W, h106km±2km, ML3.4*
ISC 26 13:26:59.4±1.3, 20°22S±0°.03×69°.04W±0°.05, h109km±7km, n41, σ0§90/78, 8C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.13**	**305**	*e*P	**Pn**	**13 27 14.2**	**-0.7**
PB08				*e*S	**Sn**	**13 27 26.5**	**-0.1**
PB08				IAML		13 27 28.1	
	comp=Z,701nm,0.3s						
PB08	**IPOC Station P**	**0.13**	**305**	⇓*i*P	**Pn**	**13 27 14.3**	**-0.7**
PB08				*i* S	**Sn**	**13 27 26.1**	**-0.5**
PB08				IAML		13 27 26.7	
	comp=E,1μm,0.4s						
GO01	**Chusmiza**	**0.56**	**345**	*e*P	**Pn**	**13 27 16.3**	**-0.9**
GO01				*e*S	**Sn**	**13 27 30.7**	**+0.3**
GO01	**Chusmiza**	**0.56**	**345**	⇑*i*P	**Pn**	**13 27 16.2**	**-0.9**
GO01				*i* S	**Sn**	**13 27 29.8**	**-0.7**
GO01				IAML		13 27 32.4	
	comp=E,2μm,0.1s						
PX03	**IPOC Station P**	**0.58**	**251**	*i* S	**Sn**	**13 27 30.0**	**0.0**
PX03				IAML		13 27 30.3	
	comp=N,585nm,0.3s						
PB11	**IPOC Station P**	**0.73**	**308**	*e*P	**Pn**	**13 27 17.7**	**-0.4**
PB11				*e*S	**Sn**	**13 27 33.0**	**+0.8**
PB11				IAML		13 27 35.6	
	comp=Z,713nm,0.3s						
PB11	**IPOC Station P**	**0.73**	**308**	⇑*i*P	**Pn**	**13 27 17.8**	**-0.4**
PB11				*i* S	**Sn**	**13 27 32.6**	**+0.4**
PB11				IAML		13 27 33.4	
	comp=E,3μm,0.3s						
HMBC	**Humberstone**	**0.80**	**265**	*e*P	**Pn**	**13 27 18.2**	**-0.4**
HMBC				*e*S	**Sn**	**13 27 33.1**	**0.0**
HMBC	**Humberstone**	**0.80**	**265**	⇑*i*P	**Pn**	**13 27 18.3**	**-0.4**
HMBC				*i* S	**Sn**	**13 27 33.1**	**0.0**
HMBC				IAML		13 27 34.8	
	comp=E,804nm,0.3s						
PB01	**IPOC Station P**	**0.92**	**207**	*e*P	**Pn**	**13 27 19.5**	**-0.3**
PB01				*e*S	**Sn**	**13 27 36.1**	**+0.9**
PB01				IAML		13 27 37.9	
	comp=Z,437nm,0.4s						
PB01	**IPOC Station P**	**0.92**	**207**	⇑*i*P	**Pn**	**13 27 19.7**	**-0.2**
PB01				*i* S	**Sn**	**13 27 35.6**	**+0.4**
PB01				IAML		13 27 36.7	
	comp=E,1μm,0.4s						
TA02	**Huaiquique**	**1.03**	**267**	*e*P	**Pn**	**13 27 23.1**	**+2.4**
TA02				*e*S	**Sn**	**13 27 37.9**	**+1.1**
TA02				IAML		13 27 39.4	
	comp=Z,539nm,0.1s						
TA02	**Huaiquique**	**1.03**	**267**	*e*P	**Pn**	**13 27 20.8**	**0.0**
TA02				*e*S	**Sn**	**13 27 37.5**	**+0.6**
TA02				IAML		13 27 40.6	
	comp=N,863nm,0.1s						
TA01	**Diego Aracena**	**1.12**	**252**	*e*P	**Pn**	**13 27 21.6**	**-0.2**
TA01				*e*S	**Sn**	**13 27 40.2**	**+1.5**
TA01				IAML		13 27 46.2	
	comp=Z,188nm,0.6s						
TA01	**Diego Aracena**	**1.12**	**252**	⇓*i*P	**Pn**	**13 27 21.6**	**-0.2**
TA01				*i* S	**Sn**	**13 27 39.2**	**+0.5**
PATCX	**Punta Patache**	**1.20**	**240**	*e*P	**Pn**	**13 27 22.9**	**+0.1**
PATCX				*e*S	**Sn**	**13 27 42.4**	**+1.9**
PATCX	**Punta Patache**	**1.20**	**240**	⇓*i*P	**Pn**	**13 27 22.7**	**-0.1**
PATCX				*i* S	**Sn**	**13 27 41.2**	**+0.8**
PATCX				IAML		13 27 45.5	
	comp=N,296nm,0.4s						
PB02	**IPOC Station P**	**1.36**	**216**	*e*P	**Pn**	**13 27 25.0**	**+0.4**
PB02				*e*S	**Sn**	**13 27 45.2**	**+1.5**
PB02				IAML		13 27 49.0	
	comp=Z,356nm,0.3s						
PB02	**IPOC Station P**	**1.36**	**216**	*e*P	**Pn**	**13 27 24.6**	**+0.1**
PB02				*i* S	**Sn**	**13 27 44.5**	**+0.9**
PB02				IAML		13 27 45.7	
	comp=E,753nm,0.4s						
PB09	**IPOC Station P**	**1.58**	**187**	*e*P	**Pn**	**13 27 27.5**	**+0.2**
PB09				*e*S	**Sn**	**13 27 49.8**	**+1.3**
PB09				IAML		13 27 52.1	
	comp=Z,191nm,0.5s						
PB09	**IPOC Station P**	**1.58**	**187**	⇑*i*P	**Pn**	**13 27 27.3**	**0.0**
PB09				*i* S	**Sn**	**13 27 48.9**	**+0.4**
PB09				IAML		13 27 50.6	
	comp=N,370nm,0.4s						
PX02	**IPOC Station P**	**1.66**	**319**	*e*P	**Pn**	**13 27 27.0**	**-1.2**
PX02				*i* S	**Sn**	**13 27 49.4**	**-0.6**
PX02				IAML		13 27 51.4	
	comp=N,398nm,0.2s						
PB07	**IPOC Station P**	**1.70**	**208**	*e*P	**Pn**	**13 27 28.6**	**-0.2**
PB07				*e*S	**Sn**	**13 27 51.1**	**0.0**
PB07				IAML		13 27 56.2	
	comp=Z,277nm,0.7s						
PB07	**IPOC Station P**	**1.70**	**208**	*e*P	**Pn**	**13 27 28.6**	**-0.2**
PB07				*i* S	**Sn**	**13 27 50.9**	**-0.2**
PB07				IAML		13 27 54.1	
	comp=E,359nm,0.4s						
PB16	**IPOC Station P**	**1.92**	**347**	*e*P	**Pn**	**13 27 32.1**	**+0.2**
PB16	**IPOC Station P**	**1.92**	**347**	⇑*i*P	**Pn**	**13 27 32.1**	**+0.2**
PB16				*i* S	**Sn**	**13 27 57.7**	**+1.0**
PB12	**IPOC Station P**	**2.00**	**322**	*e*P	**Pn**	**13 27 31.1**	**-1.5**
PB12				*e*S	**Sn**	**13 27 58.6**	**+0.9**
PB12				IAML		13 27 58.8	
	comp=Z,249nm,0.3s						
PB12	**IPOC Station P**	**2.00**	**322**	⇑*i*P	**Pn**	**13 27 31.7**	**-0.8**
PB12				*i* S	**Sn**	**13 27 57.6**	**-0.2**
PB12				IAML		13 27 59.3	
	comp=E,518nm,0.2s						
PB04	**IPOC Station P**	**2.35**	**206**	*e*P	**Pn**	**13 27 38.1**	**+1.2**
PB04				*e*S	**Sn**	**13 28 05.1**	**-0.6**
PB04				IAML		13 28 16.1	
	comp=Z,115nm,0.4s						
PB04	**IPOC Station P**	**2.35**	**206**	*e*P	**Pn**	**13 27 35.8**	**-1.2**
PB04				*i* S	**Sn**	**13 28 03.4**	**-2.3**
PB04				IAML		13 28 15.8	
	comp=N,164nm,0.4s						
LVC	**Limon Verde**	**2.38**	**177**	*e*P	**Pn**	**13 27 38.0**	**+0.4**
LVC				*e*S	**Sn**	**13 28 08.4**	**+1.5**
LVC				IAML		13 28 10.5	
	comp=Z,46nm,0.6s						
LVC	**Limon Verde**	**2.38**	**177**	*e*P	**Pn**	**13 27 37.9**	**+0.2**
LVC				*i* S	**Sn**	**13 28 07.2**	**+0.3**
LVC				IAML		13 28 13.6	
	comp=Z,411nm,0.4s						
PB06	**IPOC Station P**	**2.53**	**191**	*e*P	**Pn**	**13 27 39.6**	**+0.3**
PB06				*e*S	**Sn**	**13 28 09.2**	**-0.7**
PB06				IAML		13 28 13.1	
	comp=Z,104nm,0.3s						
PB06	**IPOC Station P**	**2.53**	**191**	⇑*i*P	**Pn**	**13 27 39.3**	**0.0**
PB06				*i* S	**Sn**	**13 28 08.6**	**-1.3**
PB06				IAML		13 28 16.3	
	comp=E,211nm,0.4s						
PB05	**IPOC Station P**	**2.84**	**202**	*e*P	**Pn**	**13 27 43.3**	**-0.1**
PB05				*e*S	**Sn**	**13 28 15.4**	**-1.8**
PB05				IAML		13 28 24.9	
	comp=Z,62nm,0.4s						
PB05	**IPOC Station P**	**2.84**	**202**	*e*P	**Pn**	**13 27 43.1**	**-0.3**
PB05				*i* S	**Sn**	**13 28 15.2**	**-2.0**
PB15	**IPOC Station P**	**3.00**	**188**	*e*P	**Pn**	**13 27 47.7**	**+2.1**
PB15				*e*S	**Sn**	**13 28 20.3**	**-0.9**
PB15				IAML		13 28 34.9	
	comp=N,276nm,0.4s						
PB15	**IPOC Station P**	**3.00**	**188**	*e*P	**Pn**	**13 27 45.5**	**-0.1**
PB15				*e*S	**Sn**	**13 28 20.5**	**-0.7**
YJA	**Yavi**	**3.82**	**121**	*e*P	**Pn**	**13 27 57.4**	**+0.6**
LPAZ	**La Paz**	**4.00**	**13**	*e*P	**Pn**	**13 28 00.2**	**+0.9**
GO02	**Mina Guanaco**	**4.95**	**186**	*e*P	**Pn**	**13 28 11.3**	**-0.5**
GO02				*e*S	**Sn**	**13 29 07.2**	**-0.9**

*IDC **26** 13:39:53.7±2.6, 51°.06N×178°.50E, h0km, mb3.5/6, mbtmp3.5/6, MS3.8/1, Error ellipse: s-maj=83.8km s-min=25.4km az=6.0*
*NEIC **26** 13:40:05.0±2.3, 51°.4N±0°.1×178°.5E±0°.1, h60km±9km, mb3.8/17, ML3.5(AEIC), Error ellipse: s-maj=17.1km s-min=12.6km az=160.0*
*AEIC **26** 13:40:06.3±1.5, 51°.6N±0°.1×178°.6E±0°.1, h66km±5km, Error ellipse: s-maj=17.1km s-min=10.9km az=198.0*
ISC 26 13:40:01.6±1.2, 51°3N±0°.1×178°27E±0°.08, h50km, n58, σ2§02/60, mb3.8/10, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.65**	**17**		**Pn**	**13 40 17.8**	**+3.0**
AMKA	**Amchitka**	**0.65**	**84**		**Pn**	**13 40 18.9**	**+4.2**
AMKA					**Sn**	**13 40 28.5**	**+4.3**
LSPA	**Little Sitkin**	**0.67**	**16**		**Pn**	**13 40 17.9**	**+2.9**
LSPA					**Sn**	**13 40 27.0**	**+2.3**
LSNW	**Little Sitkin**	**0.68**	**13**		**Pn**	**13 40 17.9**	**+2.8**
CESW	**Semis' Southwe**	**1.00**	**53**		**Pn**	**13 40 20.8**	**+1.5**
CERB	**Semis' Cerberu**	**1.05**	**53**		**Sn**	**13 40 33.4**	**-0.2**
CEAP	**Semis' Anvil P**	**1.07**	**49**		**Pn**	**13 40 21.8**	**+1.5**
CEPE	**Semis' Perret**	**1.08**	**52**		**Pn**	**13 40 21.9**	**+1.5**
GASW	**Gareloi Southw**	**1.86**	**74**		**Pn**	**13 40 32.9**	**+1.9**
GASW					**Sn**	**13 40 52.9**	**-0.3**
GANO	**Gareloi North**	**1.90**	**73**		**Pn**	**13 40 33.3**	**+1.7**
GAEA	**Gareloi East**	**1.92**	**75**		**Pn**	**13 40 33.9**	**+2.0**
TANO	**Tanaga North**	**2.33**	**74**		**Pn**	**13 40 39.3**	**+1.9**
TASE	**Tanaga Southea**	**2.37**	**76**		**Pn**	**13 40 39.8**	**+1.8**
TAFP	**Tanaga Falls P**	**2.41**	**74**		**Pn**	**13 40 40.1**	**+1.5**
TAFP					**Sn**	**13 41 06.1**	**-0.8**
KIWB	**Kanaga Island**	**2.91**	**77**		**Pn**	**13 40 46.7**	**+1.3**
KIRH	**Kanaga Island**	**2.95**	**77**		**Pn**	**13 40 47.6**	**+1.7**
GSCK	**Great Sitkin C**	**3.54**	**76**		**Pn**	**13 40 55.4**	**+1.4**
GSMY	**Great Sitkin M**	**3.61**	**76**		**Pn**	**13 40 56.2**	**+1.2**
GSTR	**Great Sitkin T**	**3.62**	**75**	Pn	**Pn**	**13 40 56.2**	**+1.1**
ATKA	**Atka Island**	**4.77**	**76**		**Pn**	**13 41 12.1**	**+1.2**
NIKH	**Nikolski High**	**8.10**	**73**		**Pn**	**13 41 58.9**	**+2.4**
OKTU	**Okmok Mt. Tuli**	**8.64**	**71**		**Pn**	**13 42 06.8**	**+2.9**
MAPS	**Pakushin South**	**9.35**	**69**		**Pn**	**13 42 16.3**	**+2.7**
MGOD	**Makushin Gods**	**9.39**	**69**		**Pn**	**13 42 16.8**	**+2.5**
MSW	**Makushin Switc**	**9.46**	**68**		**Pn**	**13 42 17.8**	**+2.7**
MREP	**Makushin Rep't**	**9.46**	**69**		**Pn**	**13 42 17.7**	**+2.5**
MNAT	**Makushin Natee**	**9.51**	**68**		**Pn**	**13 42 18.4**	**+2.6**
UNV	**Unalaska Valle**	**9.61**	**69**		**Pn**	**13 42 19.7**	**+2.6**
LVA	**Lava Point**	**9.94**	**67**		**Pn**	**13 42 24.6**	**+2.9**
AKGG	**Akutan Green G**	**9.97**	**67**		**Pn**	**13 42 25.0**	**+2.9**
SDPT	**Sand Point**	**13.31**	**64**	Pn	**Pn**	**13 43 05.9**	**-1.8**
N15K	**Kwethluk River**	**15.01**	**45**	P	**P**	**13 43 32.9**	**-1.9**
SVW2	**Sparrevohn**	**17.41**	**46**	Pn	**Pn**	**13 43 59.7**	**-1.0**
SVW2				IAmb	IAmb	13 44 32.4	
	comp=Z,12nm,1.4s						
OHAK	**Old Harbor**	**17.55**	**59**	Pn	**Pn**	**13 43 58.8**	**-3.6**
OHAK				IAmb	IAmb	13 44 06.5	
	comp=Z,18nm,1.4s						
KDAK	**Kodiak Island**	**18.01**	**58**	P	**P**	**13 44 05.4**	**-2.5**
TTA	**Tatalina**	**18.02**	**40**	P	**P**	**13 44 06.3**	**-1.8**
CNPM	**China Poot**	**19.01**	**53**	P	**P**	**13 44 17.9**	**-1.1**
BRLK	**Bradley Lake**	**19.24**	**52**	P	**P**	**13 44 19.6**	**-1.8**
SKT	**Skwentna**	**19.54**	**45**	P	**P**	**13 44 24.3**	**-0.4**
SUA	**Susitna One**	**19.74**	**47**	P	**P**	**13 44 26.1**	**-0.9**
SUA				IAmb	IAmb	13 44 49.8	
	comp=Z,6.2nm,1.4s						
O22K	**Cooper Landing**	**19.96**	**50**		**Sn**	**13 48 14.7**	**-0.1**
GHO	**Glory Hole Cre**	**20.66**	**47**	P	**P**	**13 44 36.4**	**-0.5**
GHO				IAmb	IAmb	13 45 14.4	
	comp=Z,12nm,1.3s						
KNK	**Knik Glacier**	**20.78**	**48**	P	**P**	**13 44 36.0**	**-2.2**
KNK				IAmb	IAmb	13 44 58.3	
	comp=Z,4.6nm,1.0s						
SCM	**Sheep Creek Mo**	**21.41**	**47**	P	**P**	**13 44 43.6**	**-1.3**
SCM				IAmb	IAmb	13 45 05.9	
	comp=Z,4.6nm,1.0s						
E21K	**Killik River**	**21.77**	**28**	P	**P**	**13 44 47.9**	**-0.8**
D22K	**Ayikyak River**	**22.42**	**27**	P	**P**	**13 44 56.1**	**+0.5**
D22K				IAmb	IAmb	13 45 22.4	
	comp=Z,4.8nm,1.4s						
ILAR	**Eielson Array**	**22.46**	**40**	P	**P**	**13 44 55.4**	**-0.7**
	comp=Z,0.3nm,1.0s,baz=241,slow=11,SNR=1.6						
	comp=Z,0.3nm,1.0s						
BERG	**Berg Lake**	**22.89**	**52**	P	**P**	**13 45 00.1**	**-0.6**
D24K	**Happy Valley**	**23.72**	**29**		pP	13 45 23.0	+2.0
L27K	**Beaver Creek,**	**24.17**	**46**	P	**P**	**13 45 12.3**	**-0.5**
D25K	**Kavik River**	**24.56**	**30**	P	**P**	**13 45 16.1**	**-0.2**
D25K				IAmb	IAmb	13 45 34.9	
	comp=Z,4.1nm,1.4s						
G31M	**Satah River**	**28.02**	**38**	P	**P**	**13 45 48.8**	**+1.3**
G31M				IAmb	IAmb	13 46 01.3	
	comp=Z,3.9nm,1.2s						
JHJ	**Hachijo jima 2**	**33.31**	**252**	LR	LR	13 59 49.6	
	comp=Z,131nm,18.5s,baz=32,slow=36						
PDAR	**Pinedale Array**	**48.07**	**70**	P	**P**	**13 48 33.4**	**-2.8**
	comp=Z,0.1nm,0.5s,baz=339,slow=4.8,SNR=1.8						
	comp=Z,0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**57.82**	**312**	P	**P**	**13 49 48.4**	**+0.9**
	comp=Z,1.1nm,0.2s,baz=43,slow=6.8,SNR=4.1						
	comp=Z,1.1nm,0.2s						
MKAR	**Makanchi Array**	**58.62**	**307**	P	**P**	**13 49 53.8**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=54,slow=5.6,SNR=5.7						
	comp=Z,0.3nm,0.5s						
BVAR	**Borovoye Array**	**59.73**	**318**	P	**P**	**13 50 01.9**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=49,slow=7.8,SNR=5.3						
	comp=Z,0.6nm,0.3s						
TXAR	**Lajitas Array**	**60.48**	**79**	P	**P**	**13 50 05.5**	**-0.8**
	comp=Z,0.3nm,0.9s,baz=292,slow=4.8,SNR=3.1						
	comp=Z,0.3nm,0.9s						

*IDC **26** 13:43:05.7±0.7, 29°.12N×142°.45E, h0km, mb3.7/14, mbtmp3.7/16, ML3.3/3, MS3.3/6, Error ellipse: s-maj=23.1km s-min=15.9km az=80.0*
ISC 26 13:43:10.4±0.7, 29°07N±0°.06×142°2E±0°.2, h35km, n23, σ2§49/20, mb3.7/14, MS3.2/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.96**	**180**	Pn	**Pn**	**13 43 41.5**	**+0.3**
	12nm,0.3s,baz=316,slow=17,SNR=1.7						
JCJ				Sn	**Sn**	**13 43 58.3**	**-6.3**
	17nm,0.3s,baz=274,slow=23,SNR=2.6						
JHJ	**Hachijo jima 2**	**4.54**	**333**	Sn	**Sn**	**13 45 01.9**	**-6.4**
	11nm,0.3s,baz=57,slow=23,SNR=2.2						
MJAR	**Matsushiro Arr**	**8.18**	**337**	Pn	**Pn**	**13 45 06.0**	**-0.6**
	0.2nm,0.3s,baz=163,slow=12,SNR=11						
MJAR				Sn	**Sn**	**13 46 35.8**	**-2.0**
	0.1nm,0.3s,baz=151,slow=30,SNR=1.8						
	2.1nm,0.4s						
JOW	**Kunigami**	**12.51**	**263**	LR	LR	13 50 57.2	
	comp=Z,75nm,18.7s,baz=334,slow=37						
USRK	**Ussuriysk Ar.**	**17.16**	**334**	P	**P**	**13 47 07.5**	**-1.3**
	0.1nm,0.3s,baz=148,slow=16,SNR=1.7						
	3.2nm,1.0s						
KLR	**Kul'dur**	**21.67**	**341**	P	**P**	**13 47 58.8**	**+0.9**
	1.1nm,0.7s,baz=243,slow=18,SNR=2.2						
	1.1nm,0.7s						
SONM	**Songino Array**	**33.33**	**314**	P	**P**	**13 49 47.8**	**+2.7**
	0.9nm,0.8s,baz=107,slow=7.0,SNR=4.0						
	0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**40.78**	**265**	LR	LR	14 08 00.2	
	comp=Z,28nm,19.3s,baz=5.0,slow=36						
ZALV	**Zalesovo Beam**	**48.03**	**318**	P	**P**	**13 51 47.0**	**+1.0**
	0.8nm,0.5s,baz=79,slow=8.0,SNR=4.4						
	0.8nm,0.5s						
LEM	**Lembang**	**48.80**	**229**	LR	LR	14 13 59.7	
	comp=Z,20nm,19.0s,baz=322,slow=38						
MKAR	**Makanchi Array**	**49.25**	**308**	P	**P**	**13 51 56.7**	**+1.1**
	0.8nm,0.8s,baz=89,slow=8.6,SNR=6.7						
MKAR				LR	LR	14 13 05.2	
	comp=Z,44nm,18.4s,baz=104,slow=36						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**49.31**	**190**	P	**P**	**13 51 57.4**	**+1.2**
	2.5nm,0.8s,baz=10,slow=8.3,SNR=20						
	2.5nm,0.8s						
KURBB	**Kurchatov Arra**	**51.69**	**313**	P	**P**	**13 52 15.1**	**+1.2**
	1.2nm,0.2s,baz=90,slow=7.6,SNR=13						
	1.2nm,0.2s						
ASAR	**Alice Springs**	**53.03**	**190**	P	**P**	**13 52 25.0**	**+0.9**
	0.4nm,0.8s,baz=6.1,slow=5.7,SNR=6.3						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**55.99**	**29**	P	**P**	**13 52 44.2**	**-0.8**
	0.4nm,0.9s,baz=251,slow=6.0,SNR=4.9						
	0.4nm,0.9s						
BVAR	**Borovoye Array**	**56.62**	**317**	P	**P**	**13 52 50.4**	**+0.6**
	1.4nm,0.7s,baz=90,slow=8.9,SNR=7.4						
	1.4nm,0.7s						
STKA	**Stephens Creek**	**60.61**	**181**	LR	LR	14 18 08.0	
	comp=Z,16nm,20.6s,baz=204,slow=35						
YKA	**Yellowknife Ar**	**70.41**	**29**	P	**P**	**13 54 20.4**	**-0.3**
	0.3nm,0.6s,baz=295,slow=7.0,SNR=10.0						
	0.3nm,0.6s						
NVAR	**Mina Array Bea**	**79.30**	**52**	P	**P**	**13 55 12.9**	**+0.1**
	0.5nm,0.8s,baz=285,slow=5.6,SNR=5.6						
	0.5nm,0.8s						
PDAR	**Pinedale Array**	**82.81**	**45**	P	**P**	**13 55 31.1**	**-0.3**
	0.3nm,0.8s,baz=265,slow=7.2,SNR=1.8						
	0.3nm,0.8s						
BRTR	**Keskin Array B**	**84.68**	**313**	P	**P**	**13 55 42.6**	**+1.6**
	0.4nm,0.6s,baz=59,slow=4.8,SNR=2.5						
	0.4nm,0.6s						
SCHQ	**Schefferville**	**92.79**	**16**	LR	LR	14 45 31.9

KPJI	Karang Pucung	20.44	243	P		Pn	14 02 00.4	-2.3
	comp=Z,76nm,0.8s							
LEM	Lembang	21.42	246	P		P	14 02 13.7	+3.5
	comp=Z,47nm,0.8s,baz=45,slow=6.9,SNR=7.5							
	comp=Z,47nm,0.8s							
CNJI	Cibinong	22.05	246	P		P	14 02 17.1	+0.4
YULB	Yu-li	22.23	345	P		P	14 02 16.9	-1.5
YULB				IAmb		IAmb	14 02 23.5	
	comp=Z,41nm,1.4s							
TPUB	Ta-pu	22.32	344	P		P	14 02 17.9	-1.4
WB0	Warramunga Arr	22.54	162	P		P	14 02 20.7	-0.9
WB0				IAmb		IAmb	14 02 22.1	
	comp=Z,12nm,0.3s							
WRAB	Tennant Creek	22.69	163	P		P	14 02 21.9	-1.1
WRA	Warramunga Arr	22.69	163	P		P	14 02 20.9	-2.2
WRA	Warramunga Arr	22.69	163	P		P	14 02 22.2	-0.8
	comp=Z,7.0nm,0.5s,baz=343,slow=10,SNR=108							
WRA				PcP		PcP	14 06 10.2	-1.2
	comp=Z,0.3nm,0.4s,baz=327,slow=2.9,SNR=1.9							
WRA				S		S	14 06 19.6	-2.9
	comp=Z,0.8nm,1.0s,baz=336,slow=19,SNR=3.7							
	comp=Z,7.0nm,0.5s							
WB2	Warramunga Arr	22.70	163	P		P	14 02 22.2	-0.9
WB2				IAmb		IAmb	14 02 23.0	
	comp=Z,14nm,0.8s							
WR0	Warramunga Arr	22.77	162	P		P	14 02 23.0	-0.8
WR0				IAmb		IAmb	14 02 23.4	
	comp=Z,10nm,0.7s							
MYKOM	Kota Tinggi	23.42	270	P		P	14 02 30.4	+0.4
MYKOM				IAmb		IAmb	14 02 31.6	
	comp=Z,10nm,0.8s							
PSA00	Pilbara Seismi	24.34	197	P		P	14 02 38.8	+0.6
XMIS	Christmas Isla	24.75	240	P		P	14 02 42.0	0.0
UBPT	Khong Chiam	25.34	303	P		P	14 02 47.2	-0.1
UBPT				IAmb		IAmb	14 03 01.0	
	comp=Z,13nm,1.0s							
AS31	Alice Springs	26.12	166	P		P	14 02 53.6	-0.7
ASAR	Alice Springs	26.12	166	P		P	14 02 53.9	-0.4
ASAR	Alice Springs	26.12	166	P		P	14 02 53.6	-0.7
	comp=Z,0.8nm,0.3s,baz=344,slow=7.4,SNR=56							
ASAR				PcP		PcP	14 06 18.6	-0.3
	comp=Z,0.7nm,0.6s,baz=13,slow=2.4,SNR=5.3							
ASAR				ScP		ScP	14 09 47.3	-0.4
	comp=Z,0.3nm,0.6s,baz=346,slow=3.1,SNR=2.5							
	comp=Z,0.8nm,0.3s							
CTAO	Charters Tower	28.63	140	P		P	14 03 16.5	-0.3
CTAO				IAmb		IAmb	14 03 34.8	
	comp=Z,12nm,1.5s							
NJ2	Nanjing	31.12	346	eP		P	14 03 40.5	+1.9
NJ2				pP		pP	14 04 05.3	+1.1
NJ2				sP		sP	14 04 18.3	+0.4
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.6s							
NJ2				pmax		pmax		
	comp=Z,320nm,4.7s							
CMAR	Chiang Mai Arr	32.34	303	P		P	14 03 49.6	0.0
	comp=Z,0.8nm,0.9s,baz=125,slow=8.1,SNR=7.4							
	comp=Z,0.8nm,0.9s							
PZH	PanZhiHua	34.71	317	P		P	14 04 12.5	+2.4
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,200nm,4.5s							
LYN	LuoYang	35.39	339	eP		P	14 04 17.3	+1.6
LYN				pP		pP	14 04 45.0	+3.3
LYN				PP		PP	14 05 42.0	+3.5
LYN				pmax		pmax		
	comp=Z,15nm,0.8s							
LYN				pmax		pmax		
	comp=Z,370nm,6.3s							
BBOO	Buckleboo	35.41	167	P		P	14 04 15.3	-0.6
BBOO				IAmb		IAmb	14 04 49.8	
	comp=Z,17nm,1.5s							
KSRS	Korea Array	35.48	1	P		P	14 04 15.6	-0.8
	comp=Z,2.4nm,0.6s,baz=174,slow=9.6,SNR=8.1							
	comp=Z,2.4nm,0.6s							
EIDS	Eidsvold	35.51	141	P		P	14 04 16.1	-0.7
EIDS				IAmb		IAmb	14 04 51.1	
	comp=Z,11nm,1.3s							
MJAR	Matsushiro Arr	36.01	15	P		P	14 04 18.8	-2.2
	comp=Z,3.4nm,0.4s,baz=197,slow=8.6,SNR=15							
	comp=Z,3.4nm,0.4s							
MAJO	Matsushiro	36.01	15	P		P	14 04 19.2	-1.7
STKA	Stephens Creek	36.14	159	P		P	14 04 22.0	-0.2
STKA	Stephens Creek	36.14	159	P		P	14 04 21.8	-0.3
	comp=Z,8.5nm,0.4s,baz=338,slow=7.8,SNR=41							
	comp=Z,8.5nm,0.4s							
JMM	Marumori	37.98	17	P		P	14 04 37.1	-0.4
HHC	Hu-ho-hao-te	41.39	342	eP		P	14 05 08.3	+2.4
HHC				pmax		pmax		
	comp=Z,18nm,0.5s							
HHC				pmax		pmax		
	comp=Z,260nm,6.3s							
CAN	Canberra	42.15	153	P		P	14 05 13.3	+1.2
CAN				IAmb		IAmb	14 05 29.0	
	comp=Z,11nm,1.1s							
USRK	Ussuriysk Ar.	42.42	5	P		P	14 05 14.2	+0.1
USRK	Ussuriysk Ar.	42.42	5	P		P	14 05 13.3	-0.8
	comp=Z,4.4nm,0.9s,baz=204,slow=6.1,SNR=4.4							
	comp=Z,4.4nm,0.9s							
TOO	Toolangi	42.66	159	P		P	14 05 17.3	+1.1
TOO				IAmb		IAmb	14 05 59.8	
	comp=Z,20nm,1.4s							
MDJ	Mudanjiang	42.68	2	P		P	14 05 18.5	+2.3
MDJ				pP		pP	14 05 46.3	+3.4
MDJ				sP		sP	14 05 58.0	+1.7
MDJ				PP		PP	14 07 00.8	+3.1
MDJ				PcP		PcP	14 07 04.5	-1.4
MDJ				ScP		ScP	14 10 45.8	0.0
MDJ				PcS		PcS	14 10 58.0	-0.1
MDJ				S		S	14 11 38.0	+7.5
MDJ				sS		sS	14 12 23.5	+6.6
MDJ				SS		ScS	14 14 59.3	-5.6
MDJ				ScS		SnSn	14 15 05.0	-3.9
MDJ				pmax		pmax		
	comp=Z,10.0nm,1.0s							
MDJ				pmax		pmax		
	comp=Z,880nm,4.8s							
XLT	XiLinHaoTe	43.08	348	eP		P	14 05 18.5	-1.1
XLT				pP		pP	14 05 47.3	+0.9
XLT				sP		sP	14 05 59.0	-0.7
XLT				PP		PP	14 07 02.0	-0.1
XLT				PcP		PcP	14 07 10.0	+2.6
XLT				pmax		pmax		
	comp=Z,5.0nm,0.9s							
XLT				pmax		pmax		
	comp=Z,730nm,5.1s							
RAMN	Ramite	46.32	306	eP		P	14 05 46.7	+1.0
	comp=Z,13nm,0.7s							
JIRN	Jiri	46.95	307	eP		P	14 05 51.0	+0.2
GUN	Gumba	47.31	307	eP		P	14 05 54.1	+0.5
	comp=Z,15nm,0.6s							
KOLN	Koldanda	49.08	306	eP		P	14 06 07.5	+0.5
ULN	Ulaanbaatar	49.11	342	P		P	14 06 06.5	-0.3
ULN				IAmb		IAmb	14 06 08.2	
	comp=Z,7.5nm,1.2s							
DANN	Dangsing	49.19	307	eP		P	14 06 08.4	+0.4
SONM	Songino Array	49.29	342	P		P	14 06 08.1	-0.1
SONM	Songino Array	49.29	342	P		P	14 06 07.9	-0.3
	comp=Z,1.2nm,0.6s,baz=156,slow=8.6,SNR=6.0							
	comp=Z,1.2nm,0.6s							
PYUN	Piuthan	49.71	306	eP		P	14 06 11.8	0.0
	comp=Z,5.3nm,0.3s							
WMQ	Urumqi	54.61	326	eP		P	14 06 49.5	+1.9
WMQ				pmax		pmax		
	comp=Z,6.0nm,1.1s							
PETK	Petropavlovsk-	57.00	21	P		P	14 07 03.9	-0.5
PETK	Petropavlovsk-	57.00	21	P		P	14 07 03.3	-1.1
	comp=Z,5.9nm,1.0s,baz=84,slow=5.5,SNR=4.3							
	comp=Z,5.9nm,1.0s							
MK31	Makanchi Array	59.45	326	P		P	14 07 22.0	+0.5
MKAR	Makanchi Array	59.45	326	P		P	14 07 22.0	+0.5
MKAR	Makanchi Array	59.45	326	P		P	14 07 22.1	+0.6
	comp=Z,1.4nm,0.3s,baz=112,slow=7.4,SNR=31							
	comp=Z,1.4nm,0.3s							
MAKZ	Makanchi	59.63	326	P		P	14 07 23.3	+0.4
MAKZ				IAmb		IAmb	14 07 24.1	
	comp=Z,2.6nm,0.8s							
TCW	Tory Channel	60.41	141	P		P	14 07 27.2	-0.9
KURBB	Kurchatov Arra	63.65	328	P		P	14 07 49.7	0.0
	comp=Z,2.8nm,0.5s,baz=130,slow=6.4,SNR=21							
	comp=Z,2.8nm,0.5s							
KURK	Kurchatov	63.65	328	P		P	14 07 49.8	+0.1
AMKA	Amchitka	65.80	33	P		P	14 08 03.7	+0.1
KIWB	Kanaga Island	67.97	33	P		P	14 08 17.1	-0.3
BVAR	Borovoye Array	69.23	327	P		P	14 08 24.6	-0.6
	comp=Z,1.9nm,0.7s,baz=141,slow=9.6,SNR=8.6							
	comp=Z,1.9nm,0.7s							
BRVK	Borovoye	69.30	327	P		P	14 08 25.4	-0.2
NRIK	Noril'sk	72.42	346	P		P	14 08 43.7	-0.5
	comp=Z,2.4nm,0.6s,baz=120,slow=8.2,SNR=5.0							
	comp=Z,2.4nm,0.6s							
ABKAR	Akbulak array	73.98	321	P		P	14 08 53.1	-0.6
AKUT	Akutan	75.19	34	P		P	14 09 00.5	-0.1
SDPT	Sand Point	78.47	34	P		P	14 09 18.5	-0.5
M14K	Bethel	79.11	28	P		P	14 09 23.1	+0.7
CHGN	Chignik	79.82	33	P		P	14 09 26.2	-0.1
N15K	Kwethluk River	79.84	29	P		P	14 09 27.1	+0.7
G16K	Koyuk River	80.27	24	P		P	14 09 29.2	+0.6
G16K				IAmb		IAmb	14 09 29.6	
	comp=Z,10nm,1.2s							
L16K	Owhat River	80.52	28	P		P	14 09 30.5	+0.6
L16K				IAmb		IAmb	14 09 31.2	
	comp=Z,3.5nm,0.7s							
M16K	Timber Creek	80.59	28	P		P	14 09 31.1	+0.7
M16K				IAmb		IAmb	14 10 14.8	
	comp=Z,7.4nm,1.2s							
O16K	Kokwok River B	80.69	30	P		P	14 09 31.2	+0.3
O16K				IAmb		IAmb	14 09 32.4	
	comp=Z,6.9nm,1.0s							
F17K	Baldwin Pennin	81.01	23	P		P	14 09 31.9	-0.5
R17K	Ugashik Creek	81.18	32	P		P	14 09 32.5	-1.1
R17K				IAmb		IAmb	14 09 33.9	
	comp=Z,8.1nm,0.9s							
K17K	Iditarod	81.29	27	P		P	14 09 35.2	+1.2
K17K				IAmb		IAmb	14 10 16.2	
	comp=Z,16nm,1.4s							
N17K	Nushagak Hills	81.33	29	P		P	14 09 35.1	+0.8
M17K	Holitna River	81.39	28	P		P	14 09 35.4	+0.8
M17K				IAmb		IAmb	14 10 09.4	
	comp=Z,9.0nm,1.3s							
VNDA	Vanda	81.46	173	P		P	14 09 34.3	-0.4
VNDA	Vanda	81.46	173	P		P	14 09 34.2	-0.4
	comp=Z,0.6nm,0.5s,baz=329,slow=6.9,SNR=8.3							
	comp=Z,0.6nm,0.5s							
C18K	Utukok River	81.66	21	P		P	14 09 36.5	+0.6
H18K	Honhosa River	81.82	24	P		P	14 09 37.3	+0.5
SII	Sitkinak Islan	82.18	33	P		P	14 09 39.7	+0.8
TTA	Tatalina	82.36	27	P		P	14 09 40.4	+0.6
TTA				IAmb		IAmb	14 09 41.4	
	comp=Z,8.7nm,1.2s							
F19K	Shaleruckik Mo	82.45	23	P		P	14 09 40.4	+0.4
F19K				IAmb		IAmb	14 09 41.0	
	comp=Z,6.6nm,1.3s							
OHAK	Old Harbor	82.76	33	P		P	14 09 42.2	+0.3
OHAK				IAmb		IAmb	14 09 43.8	
	comp=Z,9.2nm,1.0s							
E19K	Redstone River	82.79	22	P		P	14 09 42.9	+1.0
KDAK	Kodiak Island	83.22	32	P		P	14 09 44.6	+0.5
K20K	Telida	83.30	26	P		P	14 09 45.2	+0.7
M20K	Styx River	83.50	28	P		P	14 09 45.7	0.0
M20K				IAmb		IAmb	14 09 47.6	
	comp=Z,7.3nm,0.8s							
CNPM	China Poot	84.12	30	P		P	14 09 48.3	-0.5
CAST	Castle Rocks	84.20	26	P		P	14 09 49.1	0.0
SKT	Skwentna	84.27	28	P		P	14 09 49.0	-0.5
BRLK	Bradley Lake	84.33	30	P		P	14 09 49.5	-0.3
B22K	Teshekpuk Lake	84.71	20	P		P	14 09 51.9	+0.4
B22K				IAmb		IAmb	14 09 53.2	
	comp=Z,5.9nm,0.7s							
BPAW	Bear Paw Mtn.	84.77	26	P		P	14 09 51.9	0.0
E22K	Anaktuvuk Pass	84.94	22	P		P	14 09 53.0	+0.2
RC01	Rabbit Creek A	85.03	29	P		P	14 09 52.8	-0.5
PMR	Palmer	85.36	28	P		P	14 09 54.6	-0.3
PMR				IAmb		IAmb	14 09 55.4	
	comp=Z,10nm,1.1s							
RND	Reindeer	85.64	27	P		P	14 09 55.6	-0.8
RND				IAmb		IAmb	14 09 56.8	
	comp=Z,4.1nm,0.4s							
KNK	Knik Glacier	85.67	29	P		P	14 09 56.6	0.0
TOLK	Toolik Lake Re	85.83	21	P		P	14 09 57.4	+0.3
H24K	Noodor Dome	86.24	24	P		P	14 09 58.7	-0.6
H24K				IAmb		IAmb	14 10 28.1	
	comp=Z,7.0nm,1.4s							
ILAR	Eielson Array	86.59	25	P		P	14 09 58.2	-2.7
	comp=Z,0.4nm,0.5s,baz=254,slow=4.1,SNR=11							
	comp=Z,0.4nm,0.5s							
D25K	Kavik River	87.03	21	P		P	14 10 02.7	-0.4
D25K				IAmb		IAmb	14 10 06.4	
	comp=Z,6.3nm,1.5s							
J25K	Salcha River,	87.24	26	P		P	14 10 02.5	-1.7
J25K				IAmb		IAmb	14 10 06.8	
	comp=Z,5.7nm,1.5s							
E25K	Arctic Village	87.27	22	P		P	14 10 04.6	+0.4
E25K				IAmb		IAmb	14 10 04.8	
	comp=Z,5.3nm,1.5s							
BMAR	Burnt Mountain	87.63	23	P		P	14 10 06.3	+0.4
E27K	Coleen River	88.76	22	P		P	14 10 11.3	0.0
L27K	Beaver Creek,	88.81	27	P		P	14 10 12.0	+0.4
L27K				IAmb		IAmb	14 10 50.7	
	comp=Z,5.0nm,1.4s							
BCAR	Beaver Creek A	88.83	27	P		P	14 10 12.1	+0.4
BARN	Barnard Glacie	88.95	29			P	14 10 13.2	+0.7
BARN				IAmb		IAmb	14 10 42.7	
	comp=Z,7.7nm,1.1s							
F28M	Old Crow	89.43	22	P		P	14 10 14.1	-0.3
F28M				IAmb		IAmb	14 10 16.0	
	comp=Z,5.1nm,1.4s							
DAWY	Dawson	89.85	26	P		P	14 10 16.5	0.0
DAWY				IAmb		IAmb	14 10 17.2	
	comp=Z,2.9nm,1.1s							
E29M	Blow River	90.12	22	P		P	14 10 17.4	-0.2
E29M				IAmb		IAmb	14 10 30.3	
	comp=Z,7.6nm,1.5s							
YKA	Yellowknife Ar	101.01	25	P		Pdif	14 11 06.6	-0.6
	comp=Z,0.1nm,0.4s,baz=300,slow=4.9,SNR=4.1							
TXAR	Lajitas Array	122.32	53	PKP		PKPdf	14 16 12.2	-0.9
	comp=Z,0.5nm,0.6s,baz=211,slow=0.4,SNR=8.6							

*IDC **26** 14:00:37.4±2.1,31.79N×48.68E,h0km,mb4.0/9, mbtmp4.0/9,MS3.1/1,Error ellipse: s-maj=48.5km s-min=24.4km az=159.0*
*NEIC **26** 14:00:38.7±0.8,31.7N±0.1×48.9E±0.1,h10km±1km, mb4.5/16,Error ellipse: s-maj=18.6km s-min=17.0km az=163.0*
*TEH **26** 14:00:40.0,31.81N×48.76E,h8km±32km,ML3.5*
*OMAN **26** 14:00:45.6±1.7,31.12N×48.84E,h10km,mb3.7/11, ms2.6/1,Error ellipse: s-maj=22.4km s-min=13.3km az=33.0*

ISC 26 14:00:38.1±0.5,31.58N±0.04×48.70E±0.04,h10km,n84,
σ1s87/93,mb4.1/16,Western Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AHWZ	Ahwaz	0.26	191	Pg		Pn		14 00 50.2	+2.2
AMIS	Naft Sefid	0.51	80	Pg		Pg		14 00 48.9	+1.0
JHBN	Jahan bin	1.79	68	Pg		Pn		14 01 11.4	+2.0
ZNGN	Zangian	1.91	73	Pn		Pb		14 01 13.5	+0.3
IKFM	Kafar-mosalman	2.07	340	Pn		Pn		14 01 13.7	+0.9
IPIR	Pirpir	2.16	59	Pn		Pn		14 01 16.3	+1.9
IBRJ	Brojen	2.20	81	Pn		Pn		14 01 17.7	+2.7
KLNJ	Kolanjah	2.54	102	Pn		Pb		14 01 23.8	-0.2
HSAM	Samen	2.62	358	Pn		Pn		14 01 21.8	+1.0
IKOM	Komasi	2.77	339	Pn		Pn		14 01 24.1	+1.3
ILBA	Ilam Banvizeh	2.93	315	Pn		Pn		14 01 26.8	+2.0
IGAR	Gharneh	2.95	73	Pn		Pn		14 01 28.1	+2.8
IKLH	Kolahrood	2.98	54	Pn		Pn		14 01 27.6	+1.9
QAMS	Qamsar	3.13	46	Pn		Pn		14 01 29.6	+1.9
IRAM	Ramesheh	3.14	85	Pn		Pn		14 01 30.8	+2.9
HAGD	Aghdareh	3.25	6	Pn		Pn		14 01 30.7	+1.3
IGHG	Ghaleghazi	3.27	327	Pn		Pn		14 01 31.4	+1.7
IZEF	Zefreh	3.34	66	Pn		Pn		14 01 32.7	+2.1
AHBU	AHRAM	3.52	140	Pn		Pb		14 01 38.8	-1.6
ILIN	Lien	3.63	337	Pn		Pn		14 01 36.3	+1.7
IDHR	Dehrash	3.67	329	Pn		Pn		14 01 36.2	+1.1
KRSH	Karshahi	3.75	50	Pn		Pn		14 01 37.7	+1.6
IQOM	Qom	3.81	31	Pn		Pn		14 01 38.1	+1.0
IRAZ	Razeghan	3.95	15	Pn		Pn		14 01 40.1	+1.1
ISFB	Sefidab	4.06	46	Pn		Pn		14 01 41.0	+0.7
IVRN	Varamin	4.24	36	Pn		Pn		14 01 43.9	+1.0
ISAD	Sadrabad	4.26	84	Pn		Pn		14 01 45.9	+2.7
ANAR	Anarak	4.54	68	Pn		Pn		14 01 48.9	+1.8
IDMV	Damavand	4.86	34	Pn		Pn		14 01 52.5	+1.0
QSDN	Sirdan	4.92	4	Pn		Pn		14 01 53.0	+0.6
KLST	Kelardasht - M	5.30	21	Pn		Pn		14 01 58.4	+0.8
MZPU	Pul - Mazandar	5.40	25	Pn		Pn		14 01 60.0	+1.1
TPRV	Parvadeh(Tabas	6.91	76	Pn		Pn		14 02 21.9	+2.3
SMRA	Abu-Samra	7.06	164	P		Pn		14 02 20.3	-1.3
SMRA				S		Sn		14 03 43.1	+1.2
SHME	Shamm	8.54	128	P		Pn		14 02 47.5	+5.6
SHME				S		Sn		14 04 19.2	+0.9
ASUD	Al Ashush, Dub	9.07	138	P		Pn		14 02 53.5	+4.4
	SNR=9.1								
ASUD				S		Sn		14 04 31.9	+0.7
FAQ	Al Faqa, Dubai	9.13	137	P		Pn		14 02 53.8	+3.9
FAQ				S		Sn		14 04 30.7	-2.1
UOSS	Minazif	9.35	133	P		Pn		14 02 57.2	+4.2
UOSS				S		Sn		14 04 36.0	-2.2
HATD	Hatta, Dubai	9.39	134	P		Pn		14 02 57.3	+3.8
HATD				S		Sn		14 04 38.6	-0.7
ASHO	Ashiyiah	9.45	135	P		Pn		14 02 57.9	+3.5
ASHO				S		Sn		14 04 39.2	-1.6
ALNE	Al Ain	9.75	139	P		Pn		14 03 02.4	+4.0
	SNR=6.7								
ALNE				S		Sn		14 04 47.8	-0.3
JASK	Jask - Hormozg	9.85	123	P		Pn		14 03 02.1	+2.2
GEYT	Alibeck	10.00	48	Pn		Pn		14 02 58.1	-3.7
SOHO	SOHO	10.15	135	P		Pn		14 03 05.6	+1.7
SOHO				S		Sn		14 04 54.4	-3.3
ARQ	Araqi	10.75	138	P		Pn		14 03 14.8	+2.6
HOQ	Hoqain	11.03	134	P		Pn		14 03 20.4	+4.4
HOQ				S		Sn		14 05 17.7	-1.8
BSY	Bisya	11.60	137	P		Pn		14 03 26.6	+2.8
SMDO	Samad	11.87	133	P		Pn		14 03 30.0	+2.4
WSAR	Wadi Sarin	12.11	131	P		Pn		14 03 32.9	+2.1
WSAR				S		Sn		14 05 41.6	-4.4
JMDO	Jabal Madar	12.42	135	P		Pn		14 03 35.4	+0.3
WBK	Wadi Bani Khal	12.78	132	P		Pn		14 03 41.0	+1.0
JLN	Jalan Bani Buh	13.39	132	P		Pn		14 03 49.8	+1.5
DQM	DQM	14.06	144	P		Pn		14 03 57.2	-0.3
WHFO	Wadi Hawf	14.36	160	P		Pn		14 04 02.9	+1.4
	SNR=6.9								
ABTO	Aybut	14.77	163	P		Pn		14 04 08.6	+1.4
RBK	Rabkut	14.88	159	P		Pn		14 04 09.5	+0.8
SHAO	Shalim	14.88	153	P		Pn		14 04 07.0	-1.7
DMTO	DMTO	14.92	156	P		Pn		14 04 09.2	0.0
ABKAR	Akbulak array	19.58	22	P		P		14 05 04.5	-1.6
BURAR	Bucovina Array	24.02	319	P		P		14 05 53.7	+0.5
BRVK	Borovoye	26.55	30	P		P		14 06 15.1	-0.9
BVAR	Borovoye Array	26.57	30	P		P		14 06 15.6	-0.6
	1.9nm,0.5s,baz=224,slow=7.5,SNR=20								
BVAR				LR		LR		14 18 36.2	
	comp=Z,42nm,19.0s,baz=34,slow=41								
	1.9nm,0.5s								
KURBB	Kurchatov Arra	29.15	41	P		P		14 06 39.1	-0.1
	0.4nm,0.5s,baz=242,slow=9.5,SNR=3.2								
	0.4nm,0.5s								
MKAR	Makanchi Array	29.87	50	P		P		14 06 45.8	+0.1
	0.3nm,0.6s,baz=242,slow=11,SNR=4.0								
	0.3nm,0.6s								
FINES	FINESS Array B	33.32	340	P		P		14 07 15.0	-0.8
	0.7nm,0.5s,baz=126,slow=10,SNR=9.1								
	0.7nm,0.5s								
ZALV	Zalesovo Beam	34.12	38	P		P		14 07 21.5	-1.3
	0.6nm,0.4s,baz=260,slow=6.8,SNR=4.1								
	0.6nm,0.4s								
HFS	Hagfors	36.77	331	P		P		14 07 44.3	-1.3
	3.5nm,1.0s,baz=134,slow=10,SNR=1.4								
	3.5nm,1.0s								
ARCES	ARCESS Array B	40.20	348	P		P		14 08 12.8	-1.5
	3.8nm,0.9s,baz=152,slow=8.1,SNR=4.2								
	3.8nm,0.9s								
MTE	Manteigas	45.69	297	P		P		14 08 59.5	+0.2
TOA0	Torodi Ar. Sit	46.79	258	P		P		14 09 08.9	+0.8
TOA0				IAmb		IAmb		14 09 36.1	
	comp=Z,2.7nm,1.2s								
TORD	Torodi Ar. Bea	46.79	258	P		P		14 09 09.1	+0.9
	comp=Z,0.8nm,0.8s,baz=49,slow=6.7,SNR=5.2								
	comp=Z,0.8nm,0.8s								
SPB2	Spitsbergen Ar	48.80	352	P		P		14 09 22.9	0.0
SPITS	Spitsbergen Ar	48.80	352	P		P		14 09 22.8	-0.1
	comp=Z,2.0nm,0.4s,baz=146,slow=8.0,SNR=8.1								
	comp=Z,2.0nm,0.4s								
BOSA	Boshof	63.89	203	P		P		14 11 12.1	+0.9
EUNU	Eureka	65.92	352	P		P		14 11 22.9	-0.8
EUNU				IAmb		IAmb		14 11 38.0	
	comp=Z,4.4nm,1.4s								
C18K	Utukok River	77.64	11	P		P		14 12 33.9	-0.4
C18K				IAmb		IAmb		14 13 17.3	
	comp=Z,6.2nm,1.4s								
E19K	Redstone River	79.34	10	P		P		14 12 43.1	-0.6
E19K				IAmb		IAmb		14 12 51.5	
	comp=Z,4.7nm,1.4s								
E25K	Arctic Village	80.03	5	P		P		14 12 47.1	-0.3
E25K				IAmb		IAmb		14 12 55.4	
	comp=Z,5.5nm,1.5s								
G19K	Purcell Mounta	80.59	10	P		P		14 12 50.2	-0.3
G19K				IAmb		IAmb		14 12

ARCES ARCESS Array B 17.68 209 P **Pn** **14 55 15.5 +0.8**
0.1nm,0.3s,baz=16,slow=10,SNR=2.1
ARCES LR LR 15 01 37.8
comp=Z,101nm,19.4s,baz=12,slow=35
6.9nm,0.9s
SUMG Summit 17.76 279 Pn Pn 14 55 09.6 -6.5
TIXI Tiksi 18.09 92 LR LR 15 00 53.6
comp=Z,5.0nm,19.0s,baz=230,slow=33
RES Resolute Bay 18.19 331 LR LR 15 03 32.4
comp=Z,73nm,18.0s,baz=9.5,slow=41
NRIK Noril'sk 18.29 137 P **Pn** **14 55 21.1 -1.1**
0.3nm,0.3s,baz=6.7,slow=9.2,SNR=2.8
NRIK LR LR 15 03 07.8
comp=Z,108nm,18.0s,baz=342,slow=40
1.5nm,0.5s
LVZ Lovozero 19.12 198 Pn **Pn** **14 55 35.6 +3.3**
A36M Sachs Harbour 21.38 356 P **P** **14 55 56.2 +0.3**
A36M IAmb IAmb 14 56 01.1
comp=Z,8.8nm,0.8s
B22K Teshekpuk Lake 22.80 21 P **P** **14 56 09.8 -1.2**
B22K IAmb IAmb 14 56 23.1
comp=Z,8.9nm,1.4s
B20K Meade River 23.05 24 P **P** **14 56 13.1 -0.6**
B20K IAmb IAmb 14 56 17.6
comp=Z,6.5nm,1.1s
C23K Itkillik River 23.36 18 P **P** **14 56 16.1 -0.8**
C23K IAmb IAmb 14 56 22.7
comp=Z,9.2nm,1.2s
D25K Kavik River 23.95 15 P **P** **14 56 22.5 -0.1**
SFJD Kangerlussuaq 23.97 288 LR LR 15 04 40.5
comp=Z,57nm,19.1s,baz=130,slow=34
C36M Paulatuk 24.03 355 **P** **14 56 22.4 -0.8**
D27M Malcolm River 24.09 10 P **P** **14 56 23.3 -0.6**
D22K Ayikyak River 24.28 20 P **P** **14 56 26.2 +0.5**
C18K Utukok River 24.32 28 P **P** **14 56 27.3 +1.2**
C18K IAmb IAmb 14 56 43.2
comp=Z,8.7nm,1.4s
D19K Kuna River 24.55 25 P **P** **14 56 27.9 -0.2**
D19K IAmb IAmb 14 56 35.6
comp=Z,12nm,1.4s
C16K Lisburne Hills 24.57 32 P **P** **14 56 28.3 0.0**
E29M Blow River 24.98 7 P **P** **14 56 31.5 -0.4**
E22K Anaktuvuk Pass 25.05 20 P **P** **14 56 32.6 0.0**
E22K IAmb IAmb 14 56 40.5
comp=Z,12nm,1.4s
INK Inuvik 25.08 3 P **P** **14 56 31.0 -1.8**
INK IAmb IAmb 14 56 33.6
comp=Z,8.9nm,1.4s
INK Inuvik 25.08 3 LR LR 15 08 52.3
comp=Z,52nm,18.1s,baz=0.0,slow=43
E25K Arctic Village 25.16 14 P **P** **14 56 33.8 +0.1**
E25K IAmb IAmb 14 56 37.5
comp=Z,5.7nm,0.9s
E18K Tukpahlearik C 25.56 27 P **P** **14 56 37.3 0.0**
E19K Redstone River 25.61 24 P **P** **14 56 37.4 -0.3**
E19K IAmb IAmb 14 56 44.0
comp=Z,4.7nm,1.1s
F24K Squaw Lake 25.73 16 P **P** **14 56 39.9 +1.0**
F24K IAmb IAmb 14 56 53.5
comp=Z,7.6nm,1.3s
FINES FINESS Array B 25.78 207 P **P** **14 56 42.0 +2.8**
comp=Z,4.4nm,1.0s,baz=353,slow=7.0,SNR=2.4
FINES LR LR 15 06 19.8
comp=Z,89nm,21.4s,baz=18,slow=35
comp=Z,4.4nm,1.0s
F20K Avaraart Lake 26.06 23 P **P** **14 56 41.5 -0.2**
F20K IAmb IAmb 14 56 45.7
comp=Z,6.0nm,1.0s
G30M tAoh Zraii Nji 26.40 6 P **P** **14 56 43.3 -1.6**
G29M Pine Creek 26.46 7 P **P** **14 56 45.1 -0.3**
G23K Bananza Creek 26.51 18 P **P** **14 56 47.5 +1.6**
G23K IAmb IAmb 14 56 50.7
comp=Z,9.8nm,1.5s
F17K Baldwin Pennin 26.53 28 P **P** **14 56 47.4 +1.5**
NOA NORSAR Array B 26.67 223 LR LR 15 06 36.6
comp=Z,19nm,18.7s,baz=275,slow=35
G18K Tagagawik 27.14 26 P **P** **14 56 51.2 -0.3**
HFS Hagfors 27.48 220 LR LR 15 06 49.1
comp=Z,33nm,22.0s,baz=331,slow=34
H19K Roundabout Mou 27.57 24 P **P** **14 56 55.3 +0.1**
H19K IAmb IAmb 14 57 04.7
comp=Z,9.9nm,1.4s
KIRV Kirov 28.32 181 LR LR 15 09 43.9
comp=Z,43nm,21.1s,baz=347,slow=39
ILAR Eielson Array 28.51 16 LR LR 15 09 02.6
comp=Z,51nm,18.9s,baz=338,slow=38
ARU Arti 30.52 171 LR LR 15 10 32.7
comp=Z,78nm,19.4s,baz=358,slow=38
YKA Yellowknife Ar 30.83 346 P **P** **14 57 23.3 -0.9**
comp=Z,0.5nm,0.9s,baz=360,slow=8.1,SNR=7.2
YKA LR LR 15 09 49.6
comp=Z,142nm,18.2s,baz=78,slow=36
comp=Z,0.5nm,0.9s
ZALV Zalesovo Beam 33.59 143 LR LR 15 12 60.0
comp=Z,31nm,18.7s,baz=66,slow=39
BVAR Borovoye Array 34.11 158 P **P** **14 57 54.6 +1.5**
comp=Z,0.3nm,0.3s,baz=347,slow=9.5,SNR=2.4
BVAR LR LR 15 14 46.2
comp=Z,94nm,18.1s,baz=15,slow=42
comp=Z,0.3nm,0.3s
KDAK Kodiak Island 35.41 21 LR LR 15 12 19.9
comp=Z,34nm,21.8s,baz=52,slow=36
CLL Collm 36.34 220 *eP* **P** **14 58 15.0 +2.8**
AKASG Malin Array Be 36.46 203 LR LR 15 13 36.9
comp=Z,93nm,18.4s,baz=318,slow=37
AKTO Aktyubinsk 36.52 172 LR LR 15 13 46.8
comp=Z,74nm,21.5s,baz=164,slow=37
KURBB Kurchatov Arra 36.72 150 LR LR 15 15 57.2
comp=Z,90nm,20.7s,baz=165,slow=41
VRAC Vranov 38.21 216 LR LR 15 12 53.0
comp=Z,47nm,18.2s,baz=326,slow=34
GERES GERESS Array B 38.77 219 P **P** **14 58 35.5 +2.5**
comp=Z,0.9nm,0.7s,baz=20,slow=8.5,SNR=3.6
comp=Z,0.9nm,0.7s
KLR Kul'dur 40.57 95 LR LR 15 14 36.7
comp=Z,37nm,18.1s,baz=355,slow=35
SONM Songino Array 40.60 121 P **P** **14 58 48.1 -0.2**
comp=Z,0.9nm,1.0s,baz=344,slow=4.8,SNR=3.6
comp=Z,0.9nm,1.0s
MKAR Makanchi Array 40.66 146 P **P** **14 58 48.5 -0.1**
comp=Z,0.7nm,0.9s,baz=38,slow=7.3,SNR=4.1
MKAR LR LR 15 17 35.1
comp=Z,58nm,18.8s,baz=10.0,slow=39
comp=Z,0.7nm,0.9s
BBB Bella Bella 41.26 359 LR LR 15 17 28.1
comp=Z,50nm,19.8s,baz=40,slow=38
MLR Muntele Rosu 41.75 206 LR LR 15 16 47.4
comp=Z,106nm,18.6s,baz=111,slow=37
ULM Lac du Bonnet 42.69 328 P **P** **14 59 05.7 +0.6**
comp=Z,1.2nm,0.7s,baz=227,slow=13,SNR=1.6
ULM LR LR 15 16 32.7
comp=Z,70nm,18.9s,baz=42,slow=36
comp=Z,1.2nm,0.7s
KBZ Khabaz 43.23 188 LR LR 15 19 36.2
comp=Z,42nm,22.0s,baz=7.0,slow=39
AAK Ala-Archa 44.59 155 LR LR 15 20 34.5
comp=Z,87nm,18.5s,baz=346,slow=40
NEW Newport 45.12 348 LR LR 15 18 02.8
comp=Z,102nm,19.0s,baz=33,slow=36
LYMT Lyon Mountain 46.34 344 P **P** **14 59 33.6 -1.1**
GNI Garni 46.80 186 LR LR 15 23 24.8
comp=Z,12nm,18.2s,baz=5.5,slow=41
GEYT Alibeck 49.02 172 LR LR 15 21 50.6
comp=Z,57nm,20.9s,baz=338,slow=38
PDAR Pinedale Array 50.50 341 P **P** **15 00 08.2 +1.4**
comp=Z,0.9nm,0.8s,baz=46,slow=4.3,SNR=6.2
PDAR LR LR 15 21 21.8
comp=Z,65nm,18.7s,baz=40,slow=36
comp=Z,0.9nm,0.8s
KSRS Korea Array 52.09 100 LR LR 15 23 34.0
comp=Z,14nm,20.1s,baz=90,slow=38
ELK Elko 52.61 346 LR LR 15 22 50.7
comp=Z,60nm,20.2s,baz=32,slow=36
NVAR Mina Array Bea 54.96 349 P **P** **15 00 39.5 -0.3**
comp=Z,0.3nm,0.6s,baz=358,slow=7.3,SNR=1.6
NVAR LR LR 15 23 44.6
comp=Z,56nm,20.6s,baz=33,slow=36
comp=Z,0.3nm,0.6s
TKL Tuckaleechee C 56.83 316 LR LR 15 23 11.9
comp=Z,86nm,19.7s,baz=14,slow=34
ANMO Albuquerque 58.24 338 LR LR 15 25 01.2
comp=Z,61nm,21.6s,baz=119,slow=35
TXAR Lajitas Array 63.77 335 P **P** **15 01 41.4 +0.8**
TXAR Lajitas Array 63.77 335 P **P** **15 01 41.1 +0.6**
comp=Z,0.9nm,0.9s,baz=57,slow=3.3,SNR=5.8
TXAR LR LR 15 28 48.4
comp=Z,44nm,18.8s,baz=18,slow=36
comp=Z,0.9nm,0.9s
CMAR Chiang Mai Arr 69.52 131 P **P** **15 02 17.1 -0.1**
comp=Z,0.7nm,0.7s,baz=354,slow=7.3,SNR=6.2
CMAR LR LR 15 34 45.8
comp=Z,27nm,18.4s,baz=0.0,slow=38
comp=Z,0.7nm,0.7s
TEIG Tepich 72.36 319 LR LR 15 34 10.4
comp=Z,430nm,20.3s,baz=167,slow=36
TORD Torodi Ar. Bea 74.80 229 P **P** **15 02 50.0 +1.2**
comp=Z,0.9nm,0.8s,baz=0.3,slow=8.5,SNR=4.7
comp=Z,0.9nm,0.8s
PALK Pallekele 79.96 149 LR LR 15 42 23.5
comp=Z,62nm,19.8s,baz=84,slow=38
SDV Santo Domingo 82.87 301 LR LR 15 42 13.7
comp=Z,70nm,18.5s,baz=126,slow=37

IDC 26 15:01:41.7±6.1, 12°65S×169°13E, h0km, mb3.5/3, mbtmp3.5/3, MS3.2/5, Error ellipse: s-maj=302.7km s-min=37.3km az=140.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.72**	**195**	LR	LR	15 06 50.2	
	comp=Z,92nm,20.4s,baz=232,slow=32						
PMG	**Port Moresby**	**21.80**	**276**	LR	LR	15 15 27.5	
	comp=Z,77nm,18.8s,baz=333,slow=38						
CTA	**Charters Tower**	**23.14**	**248**	LR	LR	15 14 46.7	
	comp=Z,70nm,18.6s,baz=84,slow=34						
H11S2	**WAKE ISLAND Hy**	**31.03**	**356**	T	T	15 42 18.6	
	baz=173,slow=76,SNR=5.8						
H11S3	**WAKE ISLAND Hy**	**31.04**	**356**	T	T	15 42 17.3	
	baz=173,slow=76,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**31.05**	**356**	T	T	15 42 17.7	
	baz=173,slow=76,SNR=4.1						
STKA	**Stephens Creek**	**31.72**	**228**	LR	LR	15 19 01.3	
	comp=Z,46nm,19.8s,baz=22,slow=33						
H11N1	**WAKE ISLAND Hy**	**32.23**	**356**	T	T	15 43 48.7	
	baz=173						
H11N3	**WAKE ISLAND Hy**	**32.23**	**356**	T	T	15 43 54.3	
	baz=173						
H11N2	**WAKE ISLAND Hy**	**32.25**	**356**	T	T	15 43 55.7	
	baz=173						
WRA	**Warramunga Arr**	**34.12**	**253**	P	P	15 08 27.4	-1.3
	0.7nm,1.1s,baz=87,slow=9.0,SNR=2.4						
	0.7nm,1.1s						
ASAR	**Alice Springs**	**35.13**	**247**	P	P	15 08 38.0	+0.7
	0.4nm,0.6s,baz=74,slow=8.7,SNR=12						
ASAR				LR	LR	15 21 54.0	
	comp=Z,48nm,19.4s,baz=81,slow=34						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**84.00**	**17**	P	P	15 14 13.7	0.0
	0.4nm,1.0s,baz=231,slow=5.7,SNR=1.9						
	0.4nm,1.0s						

*TAP **26** 15:19:21.2,23°.17N×120°.44E,h11km,ML3.6,B*
*ASIES **26** 15:19:21.2,23°.17N×120°.44E,h11km,ML3.6,Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.36; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$-1.23; $M_{r\theta}$0.23; $M_{\theta\phi}$-0.12; $M_{\phi r}$-0.37; Fault plane solution: $M_0$1.37675×10^{21} NP1: ϕ_s176.24000°,δ53.16000°,λ78.14000°. NP2:ϕ_s15.55000°, δ38.44000°,λ105.34000°. Principal axes: T Plg77.9020°, Azm42.3550°; N Plg9.4660°, Azm183.4240°; P Plg7.4640°, Azm274.6750°;*

ISC 26 15:19:21.8±0.8, 23°.18N±0°.01×120°.43E±0°.01, h15km±4km, n169,σ0°76/261, 25C-23D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SNST	**Tainan City**	**0.07**	**59**	⇓*iP*			**Pg**	**15 19 24.2**	**-0.8**
	baz=49								
SNST				*i*	S		**Sg**	**15 19 26.4**	**-0.5**
	baz=49								
CHN1	**Nanshi**	**0.09**	**88**	⇓*iP*			**Pg**	**15 19 24.3**	**-0.9**
	baz=81								
CHN1				*i*	S		**Sg**	**15 19 26.6**	**-0.7**
	baz=81								
TWK	**Hsinying**	**0.10**	**33**	⇓*iP*			**Pb**	**15 19 24.8**	**-0.8**
	baz=33								
TWK				*i*	S		**Sg**	**15 19 27.9**	**+0.4**
	baz=33								
CHN3	**Shinhua**	**0.12**	**209**	⇑*iP*			**Pb**	**15 19 25.2**	**-0.6**
	baz=215								
CHN3				*i*	S		**Sg**	**15 19 28.6**	**+0.9**
	baz=215								
SSHA	**Shanhua**	**0.14**	**251**	⇓*iP*			**Pb**	**15 19 25.6**	**-0.5**
	baz=256								
SSHA				*e*	S		**Sg**	**15 19 29.5**	**+1.4**
	baz=256								
SGST	**Jiashian**	**0.17**	**125**	⇓*eP*			**Pg**	**15 19 25.0**	**-1.2**
	baz=122								
SGST				*e*	S		**Sg**	**15 19 28.5**	**-0.5**
	baz=122								
SHHT	**Tainan City**	**0.17**	**205**	⇑P			**Pb**	**15 19 26.6**	**-0.2**
	baz=215								
SHHT				*e*	S		**Sg**	**15 19 31.5**	**+2.5**
	baz=215								
WTP	**Ta-pu**	**0.18**	**69**	⇓*iP*			**Pb**	**15 19 26.2**	**-0.8**
	baz=68								
WTP				*i*	S		**Sg**	**15 19 29.8**	**+0.4**
	baz=68								
SCLT	**Jiali**	**0.21**	**268**	⇓*iP*			**Pb**	**15 19 27.0**	**-0.4**
	baz=281								
TPUB	**Ta-pu**	**0.22**	**57**	P			**Pb**	**15 19 26.8**	**-0.8**
TPUB	**Ta-pu**	**0.22**	**57**	⇓*iP*			**Pb**	**15 19 26.7**	**-0.8**
	baz=55								
TPUB				*i*	S		**Sg**	**15 19 30.7**	**+0.4**
	baz=55								
ICHU	**Yijhu**	**0.23**	**323**	⇓*iP*			**Pb**	**15 19 27.4**	**-0.2**
	baz=323								
ICHU				*e*	S		**Sg**	**15 19 31.6**	**+1.2**
	baz=323								
CHN4	**Tsaushan**	**0.23**	**42**	⇓*iP*			**Pb**	**15 19 27.0**	**-0.6**
	baz=50								
CHN4				*e*	S		**Sg**	**15 19 31.6**	**+1.1**
	baz=50								
TAI1	**Yung-k'ang**	**0.23**	**233**	⇓P			**Pb**	**15 19 27.7**	**+0.1**
	baz=233								
CHN8	**Yiju**	**0.26**	**309**	⇓*iP*			**Pb**	**15 19 27.8**	**-0.4**
	baz=312								
CHN8				*e*	S		**Sb**	**15 19 32.3**	**-0.1**
	baz=312								
SLGT	**Liugui**	**0.28**	**133**	⇓*iP*			**Pb**	**15 19 28.2**	**-0.2**
	baz=123								
SLGT				S			**Sb**	**15 19 33.6**	**+0.7**
	baz=123								
TAI	**Tainan**	**0.28**	**229**	*eP*			**Pb**	**15 19 28.8**	**+0.2**
	baz=229								
SCST	**Cishan**	**0.30**	**168**	*eP*			**Pb**	**15 19 29.1**	**+0.2**
	baz=157								
SCST				*e*	S		**Sb**	**15 19 34.7**	**+1.1**
	baz=157								
WCKO	**Fanlu**	**0.30**	**32**	⇑*iP*			**Pb**	**15 19 28.5**	**-0.5**
	baz=30								
WCKO				*i*	S		**Sb**	**15 19 34.2**	**+0.4**
	baz=30								
STYT	**Tauyuan**	**0.30**	**93**	⇓*iP*			**Pb**	**15 19 28.5**	**-0.5**
	baz=83								
STYT				S			**Sb**	**15 19 33.9**	**+0.2**
	baz=83								
CHY	**Chiayi**	**0.32**	**359**	*eP*			**Pb**	**15 19 29.0**	**-0.1**
	baz=359								
CHY				S			**Sb**	**15 19 35.1**	**+1.1**
	baz=359								
TSCK	**Chigu Township**	**0.32**	**264**	⇓*eP*			**Pb**	**15 19 28.9**	**-0.3**
	baz=265								
STYH	**Taoyuan**	**0.32**	**92**	⇓P			**Pb**	**15 19 28.7**	**-0.5**
	baz=77								
STYH				S			**Sb**	**15 19 34.4**	**+0.2**
	baz=77								
CHN2	**Minshiung**	**0.35**	**7**	⇑P			**Pb**	**15 19 29.8**	**0.0**
	baz=5.0								
CHN2				S			**Sb**	**15 19 36.1**	**+1.0**
	baz=5.0								
TWM1	**Shoushan**	**0.36**	**181**	*eP*			**Pn**	**15 19 31.3**	**-1.2**
	baz=181								
WSL	**Shuilin Townsh**	**0.39**	**332**	*eP*			**Pb**	**15 19 30.1**	**-0.2**
	baz=332								
WSL				*e*	S		**Sb**	**15 19 36.9**	**+0.8**
	baz=332								
SNJT	**Kaohsiung City**	**0.43**	**191**	*eP*			**Pn**	**15 19 32.3**	**-1.2**
	baz=208								
SGLT	**Jiouru**	**0.46**	**173**	*eP*			**Pn**	**15 19 32.7**	**-1.1**
	baz=173								
SSD	**Sandimen**	**0.47**	**156**	*eP*			**Pg**	**15 19 30.8**	**-0.5**
	baz=144								
SSD					S		**Sb**	**15 19 38.8**	**+0.2**
	baz=144								
CHN5	**Tsauling**	**0.47**	**29**	⇑*iP*			**Pb**	**15 19 31.6**	**-0.3**
	baz=28								
CHN5					S		**Sb**	**15 19 39.4**	**+0.6**
	baz=28								
ALS	**Alishan**	**0.48**	**47**	⇑*iP*			**Pb**	**15 19 31.6**	**-0.5**
	baz=58								
ALS					S		**Sb**	**15 19 39.6**	**+0.6**
	baz=58								
WSF	**Szhu**	**0.49**	**337**	*eP*			**Pb**	**15 19 32.0**	**-0.2**
	baz=338								
WSF					S		**Sb**	**15 19 40.3**	**+1.1**
	baz=338								
WTK	**Tuku**	**0.51**	**356**	*eP*			**Pb**	**15 19 32.5**	**+0.1**
	baz=355								
WTK				*e*	S		**Sb**	**15 19 41.5**	**+1.9**
	baz=355								
TSPT	**Pingtung City**	**0.51**	**173**	*eP*			**Pb**	**15 19 33.0**	**+0.6**
	baz=189								
TSMG	**Majia**	**0.51**	**157**	P			**Pb**	**15 19 32.5**	**0.0**
	baz=146								
TSMG					S		**Sb**	**15 19 41.1**	**+1.3**
	baz=146								
WDLH	**Douliu**	**0.52**	**11**	⇑*eP*			**Pb**	**15 19 32.7**	**+0.2**
	baz=12								
WGK	**Gukeng**	**0.52**	**14**	⇑P			**Pb**	**15 19 32.7**	**+0.1**
	baz=13								
WGK				*e*	S		**Sb**	**15 19 41.8**	**+1.9**
	baz=13								
ELDTW	**Lidau**	**0.54**	**89**	⇓*iP*			**Pb**	**15 19 32.8**	**-0.3**
	baz=88								
ELDTW					S		**Sb**	**15 19 41.0**	**+0.3**
	baz=88								
WSSB	**Gushan**	**0.56**	**196**	*eP*			**Pn**	**15 19 34.7**	**-0.5**
	baz=209								
MASBT	**Mashibuluo**	**0.60**	**162**	P			**Pb**	**15 19 34.0**	**+0.1**
	baz=145								
MASBT					S		**Sb**	**15 19 43.5**	**+1.3**
	baz=145								
KAU	**Kaohsiung**	**0.62**	**190**	*eP*			**Pn**	**15 19 35.3**	**-0.7**
	baz=189								
WHYT	**Xinyi Township**	**0.65**	**37**	⇑*iP*			**Pb**	**15 19 34.6**	**-0.2**
	baz=46								
WHYT				*e*	S		**Sb**	**15 19 44.8**	**+1.2**
	baz=46								
WMLT	**Mailiao**	**0.65**	**343**	*eP*			**Pb**	**15 19 34.5**	**-0.3**
	baz=343								
WMLT				*e*	S		**Sb**	**15 19 44.3**	**+0.7**
	baz=343								
WTCT	**Ta-ch'eng**	**0.69**	**349**	*eP*			**Pb**	**15 19 35.4**	**-0.2**
	baz=349								
WTCT				*e*	S		**Sb**	**15 19 46.0**	**+1.1**
	baz=349								
TWG	**Pinlang**	**0.69**	**121**	P			**Pb**	**15 19 35.9**	**+0.3**
	baz=120								
TWG					S		**Sn**	**15 19 46.6**	**-0.9**
	baz=120								
WJS	**Zhushan**	**0.69**	**23**	⇑P			**Pb**	**15 19 35.9**	**+0.2**
	baz=22								
WJS				*e*	S		**Sb**	**15 19 46.3**	**+1.3**
	baz=22								
LONT	**Longtian**	**0.70**	**113**	*eP*			**Pb**	**15 19 35.8**	**+0.1**
	baz=112								
LONT					S		**Sb**	**15 19 46.2**	**+1.0**
	baz=112								
TWGBT	**Beinan**	**0.70**	**121**	P			**Pb**	**15 19 36.1**	**+0.4**
TWGBT	**Beinan**	**0.70**	**121**	P			**Pb**	**15 19 35.9**	**+0.1**
	baz=120								
TWGBT					S		**Sn**	**15 19 46.4**	**-1.3**
	baz=120								
RLNB	**Erlin**	**0.71**	**355**	⇑P			**Pb**	**15 19 35.8**	**-0.1**
	baz=344								
RLNB					S		**Sb**	**15 19 46.8**	**+1.4**
	baz=344								
WDGT	**Dungji**	**0.71**	**276**	⇓*iP*			**Pg**	**15 19 35.3**	**-0.4**
	baz=277								
WDGT					S		**Sb**	**15 19 46.0**	**+0.6**
	baz=277								
EHD	**Haiduan**	**0.72**	**92**	*eP*			**Pb**	**15 19 36.0**	**-0.1**
	baz=83								
EHD					S		**Sb**	**15 19 45.9**	**+0.3**
	baz=83								
WRL	**Guolierlin Hig**	**0.72**	**356**	*eP*			**Pb**	**15 19 36.0**	**0.0**
	baz=346								
WRL					S		**Sb**	**15 19 47.2**	**+1.6**
	baz=346								
WNT	**Mingjian**	**0.73**	**19**	⇑*iP*			**Pb**	**15 19 36.4**	**+0.2**
	baz=18								
WNT					S		**Sn**	**15 19 47.9**	**-0.6**
	baz=18								
ECS	**Chishang**	**0.73**	**97**	*eP*			**Pb**	**15 19 36.5**	**+0.2**
	baz=87								
ECS					S		**Sb**	**15 19 47.2**	**+1.1**
	baz=87								
ECL	**Taimali**	**0.76**	**140**	⇓P			**Pb**	**15 19 36.7**	**0.0**
	baz=150								
ECL					S		**Sn**	**15 19 48.0**	**-1.1**
	baz=150								
WNT1	**Nantou City**	**0.76**	**18**	P			**Pb**	**15 19 36.7**	**0.0**
	baz=17								
WNT1					S		**Sn**	**15 19 48.5**	**-0.6**
	baz=17								
SSLB	**Suanglung**	**0.77**	**39**	P			**Pb**	**15 19 37.1**	**+0.1**
SSLB	**Suanglung**	**0.77**	**39**	⇑*iP*			**Pb**	**15 19 36.8**	**-0.2**
	baz=23								
SSLB					*i*	S	**Sb**	**15 19 48.6**	**+1.3**
	baz=23								
TTN	**Taitung**	**0.79**	**123**	*eP*			**Pn**	**15 19 38.2**	**-0.2**
	baz=110								
WYL	**Yuanlin Townsh**	**0.79**	**10**	P			**Pb**	**15 19 37.1**	**-0.1**
	baz=9.0								
WYL					S		**Sn**	**15 19 49.3**	**-0.5**
	baz=9.0								
FULB	**Fuli**	**0.80**	**89**	⇑*eP*			**Pn**	**15 19 38.0**	**-0.5**
	baz=80								
FULB					S		**Sn**	**15 19 49.9**	**-0.2**
	baz=80								
TWF1	**Yuli**	**0.82**	**78**	⇑P			**Pb**	**15 19 37.7**	**0.0**
	baz=78								
TWF1					S		**Sb**	**15 19 48.7**	**+0.2**
	baz=78								
TYC	**Yuchr**	**0.82**	**29**	⇑*iP*			**Pb**	**15 19 37.9**	**+0.1**
	baz=29								
TYC					*i*	S	**Sn**	**15 19 50.7**	**0.0**
	baz=29								
SMLT	**Sun Moon Lake**	**0.82**	**32**	⇑*iP*			**Pb**	**15 19 37.9**	**0.0**
	baz=32								
SMLT					S		**Sn**	**15 19 50.5**	**-0.3**
	baz=32								
SCZT	**Fangliau**	**0.82**	**168**	*eP*			**Pn**	**15 19 38.3**	**-0.5**
	baz=153								
YULB	**Yu-li**	**0.83**	**75**	P			**Pn**	**15 19 38.8**	**-0.1**
YULB	**Yu-li**	**0.83**	**75**	⇓P			**Pb**	**15 19 37.5**	**-0.4**
	baz=75								
YULB					S		**Sb**	**15 19 48.7**	**-0.2**
	baz=75								
EDH	**Donghe**	**0.83**	**104**	*eP*			**Pn**	**15 19 38.2**	**-0.8**
	baz=96								
TWP	**Hsiaoliuchiu**	**0.83**	**184**	*eP*			**Pb**	**15 19 37.8**	**-0.1**
	baz=195								
EYUL	**Yuli**	**0.84**	**78**	*eP*			**Pb**	**15 19 38.1**	**+0.1**
	baz=78								
EYUL					S		**Sb**	**15 19 49.9**	**+0.9**
	baz=78								
PHUB	**P'eng-hu**	**0.85**	**293**	*eP*			**Pg**	**15 19 37.4**	**-1.0**
	baz=294								
PHUB					S		**Sg**	**15 19 49.3**	**-0.3**
	baz=294								
CHKT	**Chengkung**	**0.87**	**95**	⇑P			**Pn**	**15 19 39.4**	**0.0**
	baz=95								
CHKT					S		**Sn**	**15 19 52.9**	**+1.1**
	baz=95								
VWDT	**VWDT**	**0.87**	**49**	P			**Pb**	**15 19 38.7**	**+0.2**
	baz=49								
VWDT					S		**Sb**	**15 19 50.5**	**+0.5**
	baz=49								
EHY	**Hungye**	**0.88**	**68**	*eP*			**Pb**	**15 19 39.0**	**+0.2**
	baz=77								
EHY					S		**Sn**	**15 19 51.8**	**-0.4**
	baz=77								
EAST	**Anshuo**	**0.88**	**154**	*eP*			**Pn**	**15 19 39.3**	**-0.4**
	baz=144								
EAST					S		**Sn**	**15 19 52.7**	**+0.5**
	baz=144								
PNG	**Penghu**	**0.89**	**296**	*eP*			**Pg**	**15 19 38.1**	**-0.9**
	baz=297								
PNG					S		**Sb**	**15 19 51.0**	**+0.4**

	baz=297								
CHKH	**Chenggong**	**0.89**	**89**	*e*P		**Pn**	**15 19 39.6**	**-0.2**
	baz=88								
WWF	**Wufeng**	**0.89**	**16**⇑	*i*P		**Pb**	**15 19 39.0**	**0.0**
	baz=15								
WWF				S		**Sn**	**15 19 52.5**	**+0.1**
	baz=15								
WCHH	**Zhanghua**	**0.90**	**8**	*e*P		**Pb**	**15 19 39.2**	**0.0**
	baz=7.0								
WCHH				*e*S		**Sn**	**15 19 52.6**	**0.0**
	baz=7.0								
VCHM	**Qimei**	**0.92**	**272**⇓	*e*P		**Pg**	**15 19 38.6**	**-1.0**
	baz=273								
VCHM				*e*S		**Sg**	**15 19 51.3**	**-0.4**
	baz=273								
TAW	**Tawu**	**0.93**	**152**	*e*P		**Pn**	**15 19 40.0**	**-0.2**
	baz=145								
TAWH	**Dawu Township**	**0.94**	**153**	*e*P		**Pn**	**15 19 40.4**	**-0.1**
	baz=147								
ECBN	**Changbin**	**0.95**	**82**	*e*P		**Pn**	**15 19 41.2**	**+0.6**
	baz=74								
WPL	**Puli Township**	**0.96**	**30**	*e*P		**Pg**	**15 19 39.7**	**-0.8**
	baz=31								
DPDB	**Guoxing**	**0.96**	**28**	*e*P		**Pg**	**15 19 39.9**	**-0.6**
	baz=29								
HGSD	**Ruisui**	**0.97**	**71**	*e*P		**Pn**	**15 19 41.1**	**+0.3**
	baz=77								
HGSD				*e*S		**Sn**	**15 19 56.0**	**+1.8**
	baz=77								
WCS	**Beigang Elemen**	**0.98**	**27**	*e*P		**Pb**	**15 19 40.3**	**-0.2**
	baz=26								
WCS				S		**Sn**	**15 19 54.7**	**+0.2**
	baz=26								
TCU	**Taichung**	**0.99**	**13**	*e*P		**Pb**	**15 19 40.7**	**+0.1**
	baz=15								
SLIU	**Shizi**	**1.02**	**160**	*e*P		**Pn**	**15 19 41.7**	**+0.2**
	baz=146								
WUSB	**Renai**	**1.03**	**38**⇑	*i*P		**Pg**	**15 19 40.9**	**-0.8**
	baz=24								
WUSB				S		**Sn**	**15 19 55.7**	**-0.2**
	baz=24								
WARBT	**Fenglin Townsh**	**1.03**	**59**⇑	*i*P		**Pb**	**15 19 41.3**	**0.0**
	baz=51								
WARBT				*i* S		**Sn**	**15 19 55.9**	**0.0**
	baz=51								
OWD	**Renai**	**1.03**	**42**	P		**Pb**	**15 19 41.4**	**0.0**
	baz=30								
OWD				*e*S		**Sn**	**15 19 56.4**	**+0.4**
	baz=30								
EGFH	**Guangfu**	**1.04**	**62**	*e*P		**Pn**	**15 19 41.5**	**-0.3**
	baz=53								
EGFH				*e*S		**Sn**	**15 19 56.2**	**+0.2**
	baz=53								
LDUT	**Ludao**	**1.08**	**118**	*e*P		**Pn**	**15 19 42.6**	**+0.2**
	baz=117								
CHGB	**Renai**	**1.11**	**38**⇑	*i*P		**Pb**	**15 19 42.4**	**-0.4**
	baz=25								
CHGB				*e*S		**Sn**	**15 19 58.6**	**+0.5**
	baz=25								
ESL	**Shilin**	**1.12**	**55**	⇓P		**Pn**	**15 19 43.0**	**+0.2**
	baz=56								
ESL				*e*S		**Sn**	**15 19 59.1**	**+1.1**
	baz=56								
TEGC	**Jichi Village**	**1.15**	**63**	*e*P		**Pg**	**15 19 43.9**	**-0.2**
	baz=61								
WDJ	**Dajia District**	**1.18**	**9**	*e*P		**Pg**	**15 19 44.1**	**-0.4**
	baz=9.0								
WDJ				*e*S		**Sn**	**15 20 01.2**	**+1.7**
	baz=9.0								
WHP	**Taichung City**	**1.19**	**23**	*e*P		**Pb**	**15 19 43.9**	**-0.2**
	baz=23								
WHP				*e*S		**Sn**	**15 20 01.2**	**+1.3**
	baz=23								
SHUL	**Shoufeng**	**1.20**	**60**	*e*P		**Pg**	**15 19 45.0**	**-0.1**
	baz=58								
TWQ1	**Liyutan**	**1.20**	**15**⇑	*i*P		**Pb**	**15 19 44.3**	**0.0**
	baz=15								
TWQ1				S		**Sn**	**15 20 01.6**	**+1.5**
	baz=15								
HEN	**Hengchun**	**1.21**	**166**	*e*P		**Pg**	**15 19 45.3**	**+0.2**
	baz=168								
SMST	**Manzhou Townsh**	**1.22**	**162**	*e*P		**Pg**	**15 19 45.0**	**-0.3**
	baz=164								
WHF	**Hehuan Shan**	**1.23**	**39**	*e*P		**Pg**	**15 19 45.4**	**-0.2**
	baz=39								
WHF				*e*S		**Sn**	**15 20 02.2**	**+0.9**
	baz=39								
LXIB	**Xiulin Townshi**	**1.23**	**47**	*e*P		**Pb**	**15 19 44.7**	**-0.2**
	baz=36								
LXIB				*e*S		**Sn**	**15 20 01.9**	**+0.9**
	baz=36								
ETM	**Tongmen**	**1.25**	**51**	P		**Pg**	**15 19 45.1**	**-0.8**
	baz=64								
ETM				S		**Sn**	**15 20 02.5**	**+1.2**
	baz=64								
TDCB	**Techi**	**1.26**	**32**	⇑P		**Pn**	**15 19 45.1**	**+0.1**
	baz=32								
TDCB				S		**Sn**	**15 20 02.5**	**+0.7**
	baz=32								
NSY	**Sanyi**	**1.27**	**14**	P		**Pg**	**15 19 45.5**	**-0.7**
	baz=13								
NSY				*e*S		**Sg**	**15 20 03.2**	**+0.4**
	baz=13								
TWT	**Tachien**	**1.27**	**33**	P		**Pn**	**15 19 45.2**	**0.0**
	baz=33								
TWT				S		**Sn**	**15 20 02.6**	**+0.6**
	baz=33								
TWK1	**Hengchun**	**1.28**	**164**	*e*P		**Pn**	**15 19 44.4**	**-0.7**
	baz=166								
TWKBT	**Hengchun**	**1.28**	**164**	*e*P		**Pb**	**15 19 45.5**	**-0.2**
	baz=159								
FUSS	**Fushou**	**1.30**	**35**	P		**Pb**	**15 19 45.8**	**-0.3**
	baz=36								
FUSS				*e*S		**Sg**	**15 20 04.1**	**+0.2**
	baz=36								
HWA	**Hwalien**	**1.34**	**54**	*e*P		**Pg**	**15 19 46.8**	**-0.9**
	baz=55								
HWA				*e*S		**Sg**	**15 20 06.6**	**+1.5**
	baz=55								
TWD	**Chiawan**	**1.40**	**50**	P		**Pb**	**15 19 47.6**	**0.0**
	baz=61								
TWD				S		**Sg**	**15 20 06.5**	**-0.4**
	baz=61								
ETLH	**Xiulin Townshi**	**1.41**	**43**	*e*P		**Pg**	**15 19 48.0**	**-1.0**
	baz=43								
NACB	**Ninganchiao**	**1.46**	**47**	P		**Pb**	**15 19 48.6**	**0.0**
NACB	**Ninganchiao**	**1.46**	**47**	P		**Pb**	**15 19 48.2**	**-0.4**
	baz=48								
NACB				S		**Sg**	**15 20 08.0**	**-0.8**
	baz=48								
ETL	**Fush Village**	**1.47**	**48**	*e*P		**Pb**	**15 19 48.7**	**-0.1**
	baz=33								
NNSB	**Datong**	**1.52**	**35**	P		**Pn**	**15 19 49.0**	**+0.5**
	baz=36								
NNSB				*e*S		**Sg**	**15 20 10.1**	**-0.8**
	baz=36								
NNS	**Nan Shan**	**1.52**	**34**	*e*P		**Pb**	**15 19 49.3**	**-0.5**
	baz=36								
NNS				*e*S		**Sg**	**15 20 10.7**	**-0.3**
	baz=36								
NSTT	**Nanjuang**	**1.54**	**20**	⇓P		**Pn**	**15 19 48.8**	**+0.2**
	baz=19								
NSTT				S		**Sb**	**15 20 09.8**	**+0.6**
	baz=19								
NJN	**Zhunan**	**1.55**	**15**	*e*P		**Pb**	**15 19 49.5**	**-0.7**
	baz=14								
NJN				*e*S		**Sg**	**15 20 10.9**	**-0.9**
	baz=14								
LIOB	**Emei**	**1.55**	**20**	P		**Pn**	**15 19 49.1**	**+0.2**
	baz=22								
NFF	**Wufeng Townshi**	**1.58**	**23**	*e*P		**Pb**	**15 19 50.0**	**-0.7**
	baz=23								
NFF				*e*S		**Sb**	**15 20 11.3**	**+0.8**
	baz=23								
LYUB	**Lan-yu**	**1.59**	**137**	*e*P		**Pn**	**15 19 48.5**	**-0.9**
	baz=124								
EAHA	**Aohua**	**1.66**	**46**	*e*P		**Pb**	**15 19 51.6**	**-0.5**
	baz=60								
NJD	**Zhudong**	**1.66**	**21**	*e*P		**Pn**	**15 19 50.9**	**+0.5**
	baz=23								
HSN1	**Hsinchu**	**1.68**	**19**	*e*P		**Pn**	**15 19 51.0**	**+0.4**
	baz=20								
LATG	**Datong**	**1.68**	**37**	P		**Pb**	**15 19 51.6**	**-0.9**
	baz=38								
LATG				*e*S		**Sg**	**15 20 15.2**	**-0.8**
	baz=38								
SBCB	**Hsinchu**	**1.68**	**18**	*e*P		**Pn**	**15 19 50.2**	**-0.4**
	baz=19								
NSK	**Sanguang**	**1.71**	**30**	P		**Pn**	**15 19 51.9**	**+0.7**
	baz=15								
NSK				S		**Sb**	**15 20 15.1**	**+0.6**
	baz=15								
YHNB	**Yeheng**	**1.72**	**30**	P		**Pb**	**15 19 52.7**	**-0.4**
YHNB	**Yeheng**	**1.72**	**30**	⇑P		**Pn**	**15 19 51.7**	**+0.5**
	baz=15								
YHNB				S		**Sb**	**15 20 14.9**	**+0.4**
	baz=15								
ENA	**Nanau**	**1.73**	**44**	*e*P		**Pb**	**15 19 52.4**	**-0.8**
	baz=34								
NDT	**Datong Townshi**	**1.73**	**35**	*e*P		**Pb**	**15 19 53.1**	**-0.2**
	baz=24								
NDT				*e*S		**Sg**	**15 20 16.6**	**-1.0**
	baz=24								
EWUT	**Wuta**	**1.76**	**44**	*e*P		**Pb**	**15 19 53.0**	**-0.8**
	baz=59								
ENTT	**Nioudou**	**1.79**	**35**	*e*P		**Pb**	**15 19 53.4**	**-0.9**
	baz=22								
NDS	**Dongshan**	**1.87**	**39**	*e*P		**Pb**	**15 19 55.4**	**-0.2**
	baz=39								
NWLT	**Wulai**	**1.87**	**32**	*e*P		**Pn**	**15 19 53.8**	**+0.6**
	baz=19								
FUSB	**Fushanzhiwuyua**	**1.90**	**34**	*e*P		**Pn**	**15 19 54.6**	**+0.9**
	baz=19								
ESAO	**Su ao**	**1.90**	**43**	*e*P		**Pb**	**15 19 55.4**	**-0.7**
	baz=41								
TWE	**Neicheng**	**1.91**	**36**	*e*P		**Pb**	**15 19 55.4**	**-0.9**
	baz=22								
TWC	**Suao**	**1.93**	**42**	*e*P		**Pb**	**15 19 55.9**	**-0.8**
	baz=41								
EOS4	**EOS4**	**1.97**	**61**	*e*P		**Pb**	**15 19 55.5**	**-1.6**
	baz=62								
EOS4				*e*S		**Sb**	**15 20 20.9**	**-0.4**
	baz=62								
VWUC	**VWUC**	**2.01**	**334**	*e*P		**Pb**	**15 19 56.7**	**-1.4**
	baz=335								
NHDH	**Xindian Distri**	**2.04**	**29**	*e*P		**Pb**	**15 19 58.4**	**-0.1**
	baz=14								
EOS3	**EOS3**	**2.05**	**57**	*e*P		**Pn**	**15 19 56.7**	**+1.1**
	baz=54								
EOS2	**EOS2**	**2.06**	**53**	*e*P		**Pb**	**15 19 57.9**	**-0.9**
	baz=50								
TWA	**Mucha**	**2.08**	**30**	*e*P		**Pb**	**15 19 58.1**	**-1.2**
	baz=16								
TIPB	**Shuangxi**	**2.19**	**35**	*e*P		**Pn**	**15 19 58.6**	**+0.9**
	baz=22								
KNM	**Kinmen**	**2.20**	**304**	*e*P		**Pb**	**15 20 00.0**	**-1.3**
	baz=304								
YM01	**YM01**	**2.22**	**28**	*e*P		**Pn**	**15 19 58.2**	**+0.1**
	baz=14								
NWF	**Wu-fen Shan**	**2.25**	**33**	*e*P		**Pb**	**15 20 00.9**	**-1.3**
	baz=34								
WFSB	**Wu-fen Shan**	**2.25**	**33**	*e*P		**Pb**	**15 20 01.1**	**-1.1**
	baz=34								
KNMB	**Chin-men Tao**	**2.26**	**305**	*e*P		**Pn**	**15 19 58.1**	**-0.5**
	baz=307								
TWB1	**Santiao Chiao**	**2.31**	**38**	*e*P		**Pn**	**15 20 00.5**	**+1.2**
	baz=22								
SXI1	**Grass Mountain**	**2.32**	**34**	*e*P		**Pn**	**15 20 00.3**	**+0.8**
	baz=23								
ZPLA	**Ao Xicun**	**2.57**	**287**	*e*P		**Pn**	**15 20 01.5**	**-1.4**
	baz=288								
YOJ	**Yonaguni jima**	**2.69**	**61**	P		**Pb**	**15 20 06.9**	**-2.7**
YOJ	**Yonaguni jima**	**2.69**	**61**	*e*P		**Pn**	**15 20 06.2**	**+1.7**
	baz=59								
DSXP	**Dongshan**	**2.81**	**281**	*e*P		**Pn**	**15 20 07.8**	**+1.6**
	baz=282								
AXDP	**Jialang**	**2.82**	**308**	*e*P		**Pn**	**15 20 05.9**	**-0.4**
	baz=310								
MATB	**Ma-tsu**	**2.99**	**352**	*e*P		**Pn**	**15 20 07.8**	**-0.8**
	baz=339								
MHZQ	**Yeshan**	**3.17**	**337**	*e*P		**Pn**	**15 20 10.9**	**-0.2**
	baz=339								
LYJJ	**Jianjiangzhen**	**3.41**	**350**	*e*P		**Pn**	**15 20 13.9**	**-0.5**
	baz=351								
XPSS	**Dashiqiu**	**3.74**	**357**	*e*P		**Pn**	**15 20 18.7**	**-0.3**
	baz=359								
SXFK	**Yanhouchang**	**4.08**	**322**	*e*P		**Pn**	**15 20 24.5**	**+0.8**
	baz=325								
JMJ	**Miyako jima 2**	**4.74**	**69**	*e*P		**Pn**	**15 20 34.6**	**+2.0**
	baz=66								

VAO ***26*** *15:26:10.2±0.5, 17°.45S×69°.37W, h128km±4km, mb5.4*
SJA ***26*** *15:26:10.3±0.7, 17°.43S×69°.66W, h177km±8km, ML5.1, MW4.8*
NEIC ***26*** *15:26:12.6±2.8, 17°.46S±0°.06×69°.41W±0°.08, h149km±5km, mb5.3/335, Mww4.8/14, Error ellipse: s-maj=11.8km s-min=7.8km az=113.0*
NEIC ***26*** *15:26:12.7, 17°.45S×69°.43W, h130km*
MOS ***26*** *15:26:12.5±1.8, 17°.44S×69°.37W, h154km, mb5.1/14, Error ellipse: s-maj=13.4km s-min=7.4km az=102.2*
NEIC ***26*** *15:26:12.7, 17°.45S×69°.64W, h130km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10¹⁶Nm; Mrr0.68; Mθθ-0.66; Mφφ-0.02; Mrθ-0.41; Mθφ1.29; Mφr-1.44; Fault plane solution: M₀2.05000×10¹⁶ NP1: φs168.06000°, δ74.28000°, λ134.95000°. NP2: φs273.24000°, δ47.06000°, λ21.72000°. Principal axes: T 2.2641, Plg42.0000°, Azm121.0000°; N -0.4233, Plg43.0000°, Azm333.0000°; P -1.8408, Plg17.0000°, Azm227.0000°;*
IDC ***26*** *15:26:12.8±1.0, 17°.31S×69°.14W, h142km±7km, mb4.4/24, mbtmp4.9/29, MS3.6/6 Error ellipse: s-maj=11.7km s-min=8.6km az=49.0*
GUC ***26*** *15:26:13.9±0.7, 17°.55S×69°.54W, h157km±2km, ML5.1*
GCMT ***26*** *15:26:19.6±0.4, 17°.53S±0°.03×69°.35W±0°.03, h171km±3km, MW5.0/69, Moment Tensor Solution. s15,c16; s69,c86; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.90±.15; Mθθ-1.25±.16; Mφφ2.15±.20; Mrθ-0.66±.10; Mθφ2.44±.16; Mφr-2.25±.15; Best double couple: M₀3.57900×10¹⁶ NP1:φs347.00000°, δ89.00000°, λ-145.00000°. NP2: φs256.00000°, δ55.00000°, λ-1.00000°. Principal axes: T 4.4250, Plg23.0000°, Azm116.0000°; N -1.6890, Plg55.0000°, Azm348.0000°; P -2.7340, Plg25.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 15:26:12.6±0.4, 17°.51S±0°.04×69°.35W±0°.05, h151km±3km, n733, σ1§64/588, mb5.2/217, 17C-27D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.15**	**235**	Pn	**Pn**	**Pn**	**15 26 34.8**	**+1.3**
PB18				Sn	**Sn**	**Sn**	**15 26 50.5**	**+1.0**
PB18	**Visviri**	**0.15**	**235**	⇓*i*P	**Pn**	**Pn**	**15 26 35.3**	**+1.7**
PB18				*e*S	**Sn**	**Sn**	**15 26 51.9**	**+2.4**
PB16	**IPOC Station P**	**0.84**	**190**	Pn	**Pn**	**Pn**	**15 26 38.3**	**+1.4**
PB16	**IPOC Station P**	**0.84**	**190**	*e*P	**Pn**	**Pn**	**15 26 38.4**	**+1.6**
PB16	**IPOC Station P**	**0.84**	**190**	⇓*i*P	**Pn**	**Pn**	**15 26 38.4**	**+1.6**
PB16				*e*S	**Sn**	**Sn**	**15 26 57.4**	**+2.0**
AP01	**Chacalluta**	**1.27**	**227**		**Pn**	**Pn**	**15 26 39.7**	**-0.2**
AP01				Sn	**Sn**	**Sn**	**15 27 00.1**	**-0.8**
AP01	**Chacalluta**	**1.27**	**227**	*e*P	**Pn**	**Pn**	**15 26 39.4**	**-0.5**
AP01				IAML			15 27 10.7	
	comp=Z,14μm,0.7s							
AP01	**Chacalluta**	**1.27**	**227**	⇓*i*P	**Pn**	**Pn**	**15 26 40.0**	**0.0**
AP01				*e*S	**Sn**	**Sn**	**15 27 00.1**	**-0.8**
PB12	**IPOC Station P**	**1.44**	**220**	Pn	**Pn**	**Pn**	**15 26 41.4**	**-0.3**
PB12	**IPOC Station P**	**1.44**	**220**	*e*P	**Pn**	**Pn**	**15 26 41.5**	**-0.2**
PB12				*e*S	**Sn**	**Sn**	**15 27 03.5**	**-0.5**
PB12				IAML			15 27 06.3	
	comp=Z,12μm,0.2s							
PB12	**IPOC Station P**	**1.44**	**220**	⇓*i*P	**Pn**	**Pn**	**15 26 41.5**	**-0.3**
PB12				*e*S	**Sn**	**Sn**	**15 27 02.5**	**-1.6**
PB12				IAML			15 27 03.9	
	comp=N,25μm,0.3s							
I08BO	**LAS PENAS INFR**	**1.55**	**34**	P	**Pn**	**Pn**	**15 26 45.8**	**+2.5**
	baz=229,slow=13,SNR=6.0							
PX02	**IPOC Station P**	**1.66**	**209**	*e*P	**Pn**	**Pn**	**15 26 42.8**	**-1.2**
LPAZ	**La Paz**	**1.69**	**44**	Pn	**Pn**	**Pn**	**15 26 46.5**	**+1.6**
LPAZ	**La Paz**	**1.69**	**44**	P	**Pn**	**Pn**	**15 26 46.5**	**+1.6**
LPAZ	**La Paz**	**1.69**	**44**	*e*P	**Pn**	**Pn**	**15 26 46.6**	**+1.7**
GO01	**Chusmiza**	**2.16**	**176**		**Pn**	**Pn**	**15 26 51.6**	**+1.5**
GO01	**Chusmiza**	**2.16**	**176**	*e*P	**Pn**	**Pn**	**15 26 51.6**	**+1.5**
GO01	**Chusmiza**	**2.16**	**176**	⇓*i*P	**Pn**	**Pn**	**15 26 51.8**	**+1.7**
GO01				*e*S	**Sn**	**Sn**	**15 27 20.2**	**+1.2**
GO01				IAML			15 27 28.3	
	comp=N,9μm,0.1s							
PB11	**IPOC Station P**	**2.26**	**187**		**Pn**	**Pn**	**15 26 51.5**	**+0.5**
PB11	**IPOC Station P**	**2.26**	**187**	*e*P	**Pn**	**Pn**	**15 26 51.5**	**+0.5**
PB11				IAML			15 27 25.4	
	comp=Z,3μm,0.1s							
PB11	**IPOC Station P**	**2.26**	**187**	⇓*i*P	**Pn**	**Pn**	**15 26 51.5**	**+0.5**
PB11				*e*S	**Sn**	**Sn**	**15 27 20.0**	**-0.7**
PB11				IAML			15 27 23.1	
	comp=E,7μm,0.3s							
PB08	**IPOC Station P**	**2.63**	**176**		**Pn**	**Pn**	**15 26 57.1**	**+1.4**
PB08	**IPOC Station P**	**2.63**	**176**	*e*P	**Pn**	**Pn**	**15 26 57.1**	**+1.4**
PB08				IAML			15 27 36.3	
	comp=Z,2μm,0.8s							
PB08	**IPOC Station P**	**2.63**	**176**	⇓*i*P	**Pn**	**Pn**	**15 26 57.1**	**+1.4**
PB08				*e*S	**Sn**	**Sn**	**15 27 29.6**	**+0.6**
PB08				IAML			15 27 33.2	
	comp=E,4μm,0.5s							
TA02	**Huaiquique**	**2.85**	**195**		**Pn**	**Pn**	**15 26 57.3**	**-0.8**
TA02	**Huaiquique**	**2.85**	**195**	*e*P	**Pn**	**Pn**	**15 26 57.6**	**-0.4**
TA02				IAML			15 27 38.1	
	comp=Z,2μm,0.1s							
TA02	**Huaiquique**	**2.85**	**195**	*e*P	**Pn**	**Pn**	**15 26 57.6**	**-0.4**
TA02				*e*S	**Sn**	**Sn**	**15 27 30.2**	**-3.0**
TA02				IAML			15 27 32.5	
	comp=N,5μm,0.2s							
PX03	**IPOC Station P**	**2.89**	**185**	*e*P	**Pn**	**Pn**	**15 26 58.5**	**-0.2**
PX03				*e*S	**Sn**	**Sn**	**15 27 32.9**	**-1.6**
PX03				IAML			15 27 36.8	
	comp=N,9μm,0.3s							
TA01	**Diego Aracena**	**3.14**	**194**		**Pn**	**Pn**	**15 27 00.9**	**-0.8**
TA01	**Diego Aracena**	**3.14**	**194**	*e*P	**Pn**	**Pn**	**15 27 01.1**	**-0.7**
TA01				IAML			15 27 48.0	
	comp=Z,1μm,0.5s							
TA01	**Diego Aracena**	**3.14**	**194**	⇓*i*P	**Pn**	**Pn**	**15 27 01.0**	**-0.8**
TA01				*e*S	**Sn**	**Sn**	**15 27 36.0**	**-3.9**
TA01				IAML			15 27 39.2	
	comp=N,4μm,0.3s							
PATCX	**Punta Patache**	**3.38**	**193**	Pn	**Pn**	**Pn**	**15 27 04.0**	**-0.9**
PATCX	**Punta Patache**	**3.38**	**193**	*e*P	**Pn**	**Pn**	**15 27 04.1**	**-0.9**
PATCX				IAML			15 27 51.8	
	comp=Z,2μm,0.7s							
PATCX	**Punta Patache**	**3.38**	**193**	⇓*e*P	**Pn**	**Pn**	**15 27 04.3**	**-0.7**
PATCX				*e*S	**Sn**	**Sn**	**15 27 43.0**	**-2.6**
PB01	**IPOC Station P**	**3.52**	**182**		**Pn**	**Pn**	**15 27 07.0**	**+0.2**
PB01	**IPOC Station P**	**3.52**	**182**	*e*P	**Pn**	**Pn**	**15 27 06.9**	**+0.1**
PB01				IAML			15 27 53.7	
	comp=Z,3μm,0.4s							
PB01	**IPOC Station P**	**3.52**	**182**	⇓*e*P	**Pn**	**Pn**	**15 27 07.2**	**+0.4**
PB01				*e*S	**Sn**	**Sn**	**15 27 45.8**	**-3.0**
PB02	**IPOC Station P**	**3.83**	**188**		**Pn**	**Pn**	**15 27 10.7**	**0.0**
PB02	**IPOC Station P**	**3.83**	**188**	*e*P	**Pn**	**Pn**	**15 27 10.7**	**0.0**
PB02				*e*S	**Sn**	**Sn**	**15 27 54.3**	**-1.6**
PB02				IAML			15 27 56.3	
	comp=Z,5μm,0.3s							
PB02	**IPOC Station P**	**3.83**	**188**	⇓*e*P	**Pn**	**Pn**	**15 27 10.7**	**0.0**
PB02				*e*S	**Sn**	**Sn**	**15 27 53.0**	**-3.0**
PB07	**IPOC Station P**	**4.23**	**187**		**Pn**	**Pn**	**15 27 15.7**	**-0.3**
PB07	**IPOC Station P**	**4.23**	**187**	*e*P	**Pn**	**Pn**	**15 27 15.7**	**-0.3**
PB07				IAML			15 28 10.0	
	comp=Z,4μm,0.4s							
PB07	**IPOC Station P**	**4.23**	**187**	⇓*e*P	**Pn**	**Pn**	**15 27 15.9**	**-0.2**
PB07				*e*S	**Sn**	**Sn**	**15 28 01.0**	**-4.4**
PB09	**IPOC Station P**	**4.27**	**179**		**Pn**	**Pn**	**15 27 17.2**	**+0.6**
PB09	**IPOC Station P**	**4.27**	**179**	*e*P	**Pn**	**Pn**	**15 27 17.1**	**+0.6**
PB09				IAML			15 28 11.1	
	comp=Z,3μm,0.5s							
PB09	**IPOC Station P**	**4.27**	**179**	⇓*e*P	**Pn**	**Pn**	**15 27 17.2**	**+0.6**
PB09				*e*S	**Sn**	**Sn**	**15 28 04.3**	**-2.1**
PB04	**IPOC Station P**	**4.86**	**189**	Pn	**Pn**	**Pn**	**15 27 23.5**	**-0.9**
PB04	**IPOC Station P**	**4.86**	**189**	*e*P	**Pn**	**Pn**	**15 27 23.7**	**-0.6**
PB04				*e*S	**Sn**	**Sn**	**15 28 14.5**	**-5.8**
LVC	**Limon Verde**	**5.09**	**175**	Pn	**Pn**	**Pn**	**15 27 28.5**	**+0.9**
LVC	**Limon Verde**	**5.09**	**175**	P	**Pn**	**Pn**	**15 27 28.5**	**+0.9**
LVC	**Limon Verde**	**5.09**	**175**	*e*P	**Pn**	**Pn**	**15 27 28.5**	**+0.9**
LVC				IAML			15 28 33.0	
	comp=Z,2μm,0.6s							
LVC	**Limon Verde**	**5.09**	**175**	*e*P	**Pn**	**Pn**	**15 27 26.4**	**-1.3**
LVC	**Limon Verde**	**5.09**	**175**	P	**Pn**	**Pn**	**15 27 29.0**	**+1.4**
	comp=Z,391nm,0.3s,baz=14,slow=9.5,SNR=959							
LVC				S		**Sn**	**15 28 23.3**	**-2.9**
	comp=Z,832nm,0.4s,baz=122,slow=21,SNR=14							
LVC	**Limon Verde**	**5.09**	**175**	⇓*i*P	**Pn**	**Pn**	**15 27 28.5**	**+0.9**
LVC				*e*S	**Sn**	**Sn**	**15 28 23.0**	**-3.1**
PB06	**IPOC Station P**	**5.18**	**182**		**Pn**	**Pn**	**15 27 28.2**	**-0.3**
PB06	**IPOC Station P**	**5.18**	**182**	*e*P	**Pn**	**Pn**	**15 27 28.3**	**-0.2**
PB06	**IPOC Station P**	**5.18**	**182**	⇓*i*P	**Pn**	**Pn**	**15 27 28.3**	**-0.2**
PB06				*e*S	**Sn**	**Sn**	**15 28 22.2**	**-5.6**
PB05	**IPOC Station P**	**5.38**	**188**		**Pn**	**Pn**	**15 27 30.2**	**-0.9**
PB05	**IPOC Station P**	**5.38**	**188**	⇓*i*P	**Pn**	**Pn**	**15 27 30.3**	**-0.9**
PB05				*e*S	**Sn**	**Sn**	**15 28 25.0**	**-7.6**
AF01	**San Pedro de A**	**5.53**	**169**		**Pn**	**Pn**	**15 27 34.7**	**+1.4**
PB15	**IPOC Station P**	**5.67**	**181**		**Pn**	**Pn**	**15 27 35.0**	**-0.2**
PB14	**IPOC Station P**	**7.15**	**188**	Pn	**Pn**	**Pn**	**15 27 52.5**	**-2.5**
GO02	**Mina Guanaco**	**7.62**	**182**	Pn	**Pn**	**P

baz=30,slow=72,SNR=7.2
ITRB Iturama 18.14 100 *e*P **Pn 15 30 14.4 -0.7**
RODS Rosario do Sul 18.17 137 *e*P **P 15 30 13.5 -0.1**
SNDB Serra Nova Dou 18.31 75 *e*P **P 15 30 15.8 +0.5**
H03S3 Juan Fernandez 18.37 206 P Pn 15 30 25.8 +8.3
baz=16,slow=20,SNR=430
H03S1 Juan Fernandez 18.39 206 P Pn 15 30 25.9 +8.3
baz=16,slow=20,SNR=259
H03S2 Juan Fernandez 18.39 206 P Pn 15 30 26.1 +8.5
baz=16,slow=20,SNR=310
ITAB Concordia 18.62 124 P **P 15 30 18.7 +0.1**
ITAB Concordia 18.62 124 *e*P **P 15 30 18.6 0.0**
ITTB Itaituba 18.67 47 *e*P **P 15 30 19.0 -0.2**
ALGR Alto Alegre (B 18.73 130 *e*P **P 15 30 19.7 -0.1**
CPSB Cacapava Do Su 19.37 134 *e*P **P 15 30 26.7 0.0**
FRTB Fartura 19.43 111 *e*P **P 15 30 27.5 +0.1**
OTAV Otavalo 19.78 332 *e*P **Pn 15 30 33.3 -1.5**
CUSE Cuicocha Este 19.81 332 *e*P **P 15 30 30.7 -1.3**
TULM Tulcn-Chalpat 19.92 335 *e*P **Pn 15 30 35.0 -1.5**
PAC1 Pacto, Paraso 19.96 331 *e*P **P 15 30 34.3 +1.0**
FLOC Florencia 19.96 341 *e*P **P 15 30 32.4 -0.8**
PLTB Pedras Altas 20.12 138 *e*P **P 15 30 34.5 -0.4**
CMBC Cumbal 20.14 335 *e*P **P 15 30 37.1 +1.5**
IPMB Ipameri, GO 20.14 95 *e*P **P 15 30 34.9 -0.3**
GCUF Volcan Galeras 20.21 336 *e*P **P 15 30 37.5 +1.1**
CRUC La Cruz 20.38 338 *e*P **P 15 30 38.4 +0.3**
GARC Garzon, Huila 20.48 342 *e*P **P 15 30 36.7 -2.3**
BDFB Brasilia 20.54 88 P **P 15 30 38.9 -0.6**
BDFB Brasilia 20.54 88 P **P 15 30 38.9 -0.6**
BDFB Brasilia 20.54 88 P **P 15 30 39.5 0.0**
comp=Z,94nm,0.6s,baz=257,slow=12,SNR=65
comp=Z,94nm,0.6s
CNLB Canela 20.62 128 *e*P **P 15 30 39.4 -0.7**
BBAC Balboa, Cauca 20.91 337 *e*P **P 15 30 42.6 -0.9**
RCLB Rio Claro- Sao 21.08 107 *e*P **P 15 30 44.1 -1.1**
POPC Popayan, Colom 21.19 339 *e*P **P 15 30 45.7 -0.9**
SPB Sao Paulo 21.39 110 P **P 15 30 47.0 -1.5**
SPB Sao Paulo 21.39 110 *e*P **P 15 30 47.4 -1.1**
TRQA Tornquist 21.47 164 P **P 15 30 49.6 +0.4**
TRQA Tornquist 21.47 164 P **P 15 30 49.6 +0.4**
MALB Monte Alegre 21.49 45 *e*P **P 15 30 48.5 -1.1**
TER01 Tubaro-SC 21.57 124 *e*P **P 15 30 48.2 -2.2**
BOAV Boa Vista 21.61 25 P **P 15 30 50.2 -0.6**
BOAV IAmb IAmb 15 30 53.4
comp=Z,124nm,0.8s
BOAV Boa Vista 21.61 25 *e*P **P 15 30 49.8 -1.0**
BOAV Boa Vista 21.61 25 *e*P **P 15 30 49.2 -1.6**
PET01 Itanhaem-SP 21.69 112 *e*P **P 15 30 51.2 -0.4**
VAO Valinhos 21.69 108 *e*P **P 15 30 50.6 -1.2**
PTGC Puerto Gaitan, 21.74 352 *e*P **P 15 30 49.9 -2.3**
PRAC Prado 21.78 345 *e*P **P 15 30 50.2 -2.5**
PMNB Patos De Minas 21.82 96 *e*P **P 15 30 52.1 -1.0**
JAMC Jamundi, Valle 21.82 340 *e*P **P 15 30 50.3 -2.9**
VILC Villavicencio, 21.90 348 *e*P **P 15 30 53.1 -0.9**
ORTC Ortega, Tolima 22.06 344 *e*P **P 15 30 52.2 -3.3**
PRPB Parauapebas 22.16 62 *e*P **P 15 30 56.6 0.0**
YOTC Yotoco, Valle 22.44 341 *e*P **P 15 30 56.8 -2.5**
ROSC El Rosal 22.74 347 P **P 15 30 59.8 -2.6**
ROSC IAmb IAmb 15 31 10.5
comp=Z,36nm,0.6s
ROSC El Rosal 22.74 347 *e*P **P 15 31 01.7 -0.7**
ROSC El Rosal 22.74 347 P **P 15 30 59.8 -2.6**
ROSC pmax pmax
comp=Z,36nm,0.6s
ROSC El Rosal 22.74 347 P **P 15 31 02.2 -0.2**
comp=Z,18nm,0.5s,baz=204,slow=5.8,SNR=5.2
ROSC LR LR 15 40 18.6
comp=Z,88nm,19.7s,baz=246,slow=37
comp=Z,18nm,0.5s
LR05 Currie 22.76 185 P **P 15 31 01.8 -0.1**
PARB Paraibuna 22.97 109 *e*P **P 15 31 03.6 -0.6**
PLCA Paso Flores 23.17 182 P **P 15 31 05.7 -0.1**
PLCA Paso Flores 23.17 182 P **P 15 31 05.7 -0.1**
PLCA pmax pmax
comp=Z,23nm,0.9s
PLCA Paso Flores 23.17 182 *e*P **P 15 31 03.6 -2.2**
PLCA Paso Flores 23.17 182 P **P 15 31 07.5 +1.7**
comp=Z,14nm,0.8s,baz=358,slow=10,SNR=28
comp=Z,14nm,0.8s
PLMC San Jos del P 23.30 342 *e*P **P 15 31 04.8 -2.4**
GUY2C Guyana, Caldas 23.35 345 *e*P **P 15 31 06.3 -1.8**
BSCB Bom Sucesso 23.46 102 *e*P **P 15 31 08.3 -0.4**
SPBC San Pablo de B 23.48 348 *e*P **P 15 31 07.2 -1.6**
PIZC Pizarro, Choco 23.69 340 *e*P **P 15 31 10.0 -0.6**
TAMC Tame, Arauca 23.91 354 *e*P **P 15 31 12.3 -0.4**
MCPB Macapa, AP 24.08 47 *e*P **P 15 31 13.9 -0.4**
CBOC Ciudad Bolivar 24.14 344 *e*P **P 15 31 13.6 -1.3**
SDBA SAO DESIDERIO 24.15 81 *e*P **P 15 31 14.5 -0.5**
JANB Januaria 24.16 88 *e*P **P 15 31 14.4 -0.6**
BARC Barichara 24.24 351 *e*P **P 15 31 14.0 -1.9**
MAN01 Angra dos Reis 24.40 107 *e*P **P 15 31 17.5 +0.3**
PTBC PUERTO BERRIO, 24.42 348 *e*P **P 15 31 12.8 -4.5**
DIAM Diamantina, MG 24.45 96 *e*P **P 15 31 16.9 -0.8**
PAMC Pamplona, Colo 24.91 352 *e*P **P 15 31 20.8 -1.5**
DBBC Dabeiba 25.29 344 *e*P **P 15 31 23.8 -1.6**
ZARC Zaragoza, Cauc 25.43 347 *e*P **P 15 31 24.4 -2.1**
DUB01 Friburgo-RJ 25.77 105 *e*P **P 15 31 30.6 +0.9**
UREC San Jos de Ur 25.83 346 *e*P **P 15 31 27.2 -2.9**
SDV Santo Domingo 26.25 357 P **P 15 31 31.1 -3.0**
SDV IAmb IAmb 15 31 35.3
comp=Z,44nm,0.8s
SDV Santo Domingo 26.25 357 *e*P **P 15 31 31.9 -2.2**
SDV Santo Domingo 26.25 357 *e*P **P 15 31 32.6 -1.5**
CAM01 Campos-RJ 26.41 104 *e*P **P 15 31 36.0 +0.6**
SJMB Sao Joao De Ma 26.79 97 *e*P **P 15 31 39.0 +0.3**
ALF01 Guarapari-ES 27.22 101 *e*P **P 15 31 43.5 +0.9**
RIB01 Linhares ES 27.52 98 *e*P **P 15 31 43.8 -1.5**
SJCC San Jacinto, C 27.83 348 *e*P **P 15 31 45.4 -2.6**
NAN01 Guarapari, ES 27.84 95 *e*P **P 15 31 47.4 -0.7**
MDP Montagnes des 27.88 38 LR LR 15 44 28.7
comp=Z,77nm,20.9s,baz=277,slow=40
GUA01 Guaratinga, BA 28.25 93 *e*P **P 15 31 52.1 +0.3**
CMC01 Camacan, BA 28.68 90 *e*P **P 15 31 55.0 -0.6**
GDU01 Guandu, BA 28.91 87 *e*P **P 15 31 57.1 -0.5**
ABR01 Abrolhos, BA 29.19 96 *e*P **P 15 32 00.2 +0.1**
SOCE Pocosol 31.55 330 P **P 15 32 17.8 -3.1**
SOCE IAmb IAmb 15 32 25.1
comp=Z,142nm,1.2s
JTS Las Juntas de 31.63 330 *e*P **P 15 32 22.9 +1.3**
MPOM Morne Pois Mar 32.84 15 P **P 15 32 29.9 -2.1**
FDF Fort de France 33.04 15 P **P 15 32 31.6 -2.3**
RCBR Riachuelo 34.69 75 P **P 15 32 48.7 +0.5**
EFI East Falkland 35.25 168 *e*P **P 15 32 53.3 +0.8**
EFI pmax pmax
comp=Z,344nm,3.5s
EFI East Falkland 35.25 168 P **P 15 32 54.6 +2.1**
EFI pP **pP 15 33 28.9 +2.7**
SJG San Juan 35.53 5 P **P 15 32 52.9 -2.3**
SJG IAmb IAmb 15 32 54.0
comp=Z,83nm,1.2s
SJG San Juan 35.53 5 P **P 15 32 52.9 -2.3**
SJG pmax pmax
comp=Z,83nm,1.3s
TEIG Tepich 41.85 333 P **P 15 33 48.3 +0.5**
TEIG IAmb IAmb 15 33 49.6
comp=Z,77nm,0.6s
TEIG Tepich 41.85 333 P **P 15 33 48.3 +0.5**
DWPF Disney Wildern 46.83 345 P **P 15 34 26.6 -0.7**
DWPF IAmb IAmb 15 34 29.1
comp=Z,60nm,0.6s
DWPF Disney Wildern 46.83 345 P **P 15 34 26.6 -0.7**
baz=164
553A Crawfordville 49.59 343 IAmb IAmb 15 34 50.7
comp=Z,106nm,0.9s
BBSR BB Station 49.79 5 P **P 15 34 48.4 -1.6**
TIGA Tifton 50.55 344 IAmb IAmb 15 34 56.1
comp=Z,38nm,0.8s
TIGA Tifton 50.55 344 P **P 15 34 55.0 -0.6**
baz=162
255A Hazlehurst 50.74 346 IAmb IAmb 15 34 58.2
comp=Z,146nm,1.5s
BRAL Brewton 51.30 340 P **P 15 35 00.4 -0.8**
baz=158
NHSC New Hope 51.38 348 P **P 15 35 01.3 -0.5**
baz=167
250A Grady 51.81 342 IAmb IAmb 15 35 05.9
comp=Z,49nm,0.9s
Y60A Bolivia 51.91 351 P **P 15 35 04.2 -1.6**
Y60A IAmb IAmb 15 35 05.8
comp=Z,59nm,0.7s
152A Waverly Hall 52.01 344 IAmb IAmb 15 35 07.1
comp=Z,35nm,0.8s
Y58A Scranton 52.06 349 IAmb IAmb 15 35 07.2
comp=Z,35nm,0.8s
Y57A Sumter 52.30 348 IAmb IAmb 15 35 08.7
comp=Z,45nm,0.9s
346A Big Creek Wild 52.31 338 IAmb IAmb 15 35 10.4
comp=Z,65nm,0.8s
GOGA Godfrey 52.39 345 P **P 15 35 08.6 -0.7**
baz=163,SNR=5.8
GOGA Godfrey 52.39 345 P **P 15 35 08.1 -1.2**
HBVL Hebbronville 52.65 327 IAmb IAmb 15 35 17.9
comp=Z,30nm,0.6s
BIRD Birdtown, Kers 52.93 349 IAmb IAmb 15 35 13.4
comp=Z,30nm,0.8s
LRAL Lakeview Retre 53.01 341 P **P 15 35 12.3 -1.5**
LRAL IAmb IAmb 15 35 14.0
comp=Z,36nm,1.3s
LRAL Lakeview Retre 53.01 341 P **P 15 35 13.0 -0.9**
baz=159,SNR=9.4
146A Union 53.31 339 IAmb IAmb 15 35 18.9
comp=Z,49nm,1.0s
W57A Gilead 53.33 349 IAmb IAmb 15 35 16.1
comp=Z,25nm,0.9s
PAULI Pauline 53.37 347 IAmb IAmb 15 35 17.5
comp=Z,24nm,1.0s
VBMS Vicksburg 53.44 338 P **P 15 35 16.3 -0.7**
baz=155
KMSC Kings Mountain 53.58 348 IAmb IAmb 15 35 18.3
comp=Z,23nm,0.8s
KMSC Kings Mountain 53.58 348 P **P 15 35 17.5 -0.5**
baz=166,SNR=7.5
Y49A Blount Mountai 53.60 342 IAmb IAmb 15 35 18.1
comp=Z,34nm,1.3s
HKT Hockley 53.64 331 P **P 15 35 19.1 +0.6**
HKT IAmb IAmb 15 35 22.1
comp=Z,106nm,1.8s
HKT Hockley 53.64 331 *iP* **P 15 35 19.8 +1.3**
HKT pmax pmax
comp=Z,63nm,1.7s
HKT Hockley 53.64 331 P **P 15 35 20.6 +2.1**
HKT pP **pP 15 35 58.5 +3.8**
X51A Calhoun 53.84 344 IAmb IAmb 15 35 20.4
comp=Z,26nm,0.8s
833A Chaparral WMA, 54.04 327 IAmb IAmb 15 35 23.8
comp=Z,52nm,0.7s
833A Chaparral WMA, 54.04 327 P **P 15 35 23.0 +1.5**
baz=144,SNR=27
W52A Murphy 54.11 345 IAmb IAmb 15 35 22.1
comp=Z,46nm,1.2s
EF01 Eagle Ford 01 54.18 328 IAmb IAmb 15 35 25.0
comp=Z,55nm,0.6s
143A Socs Landing, 54.20 337 IAmb IAmb 15 35 24.8
comp=Z,45nm,0.6s
V55A Taylorsville 54.24 348 IAmb IAmb 15 35 24.0
comp=Z,82nm,1.4s
X48A Hartselle 54.34 342 IAmb IAmb 15 35 23.7
comp=Z,44nm,1.2s
W50A Signal Mountai 54.56 344 IAmb IAmb 15 35 25.7
comp=Z,29nm,0.8s
U56A King 54.57 349 IAmb IAmb 15 35 25.8
comp=Z,68nm,1.5s
Y45A Yeager Farm, C 54.59 339 IAmb IAmb 15 35 32.4
comp=Z,48nm,1.2s
TKL Tuckaleechee C 54.61 346 IAmb IAmb 15 35 25.9
comp=Z,29nm,0.9s
TKL Tuckaleechee C 54.61 346 P **P 15 35 24.2 -1.3**
comp=Z,24nm,0.9s,baz=157,slow=10,SNR=18
TKL LR LR 16 04 13.6
comp=Z,100nm,18.3s,baz=33,slow=42
comp=Z,24nm,0.9s
NATX Nacogdoches 54.67 333 P **P 15 35 27.9 +2.0**
baz=150,SNR=13
T59A Double "B" Far 54.73 352 IAmb IAmb 15 35 26.0
comp=Z,37nm,0.9s
SWET Sewanee 54.74 343 IAmb IAmb 15 35 26.8
comp=Z,36nm,0.6s
V52A Sevierville 54.74 346 IAmb IAmb 15 35 26.9
comp=Z,36nm,0.8s
T57A Hurt 55.01 350 IAmb IAmb 15 35 28.5
comp=Z,39nm,1.3s
U54A Nelsons Funny 55.01 348 IAmb IAmb 15 35 28.7
comp=Z,45nm,1.0s
OXF Oxford 55.14 340 IAmb IAmb 15 35 31.1
comp=Z,32nm,0.9s
OXF Oxford 55.14 340 P **P 15 35 29.3 0.0**
baz=157
435B Jarrell 55.16 330 IAmb IAmb 15 35 32.3
comp=Z,44nm,0.7s
435B Jarrell 55.16 330 P **P 15 35 31.1 +1.5**
baz=147
Z41A Richland Creek 55.23 336 IAmb IAmb 15 35 30.4
comp=Z,54nm,1.1s
TZTN Tazewell 55.41 346 P **P 15 35 30.9 -0.3**
baz=164
BLA Blacksburg 55.41 349 IAmb IAmb 15 35 35.4
comp=Z,58nm,1.4s
BLA Blacksburg 55.41 349 P **P 15 35 31.6 +0.3**
baz=167
V48A Smith Brothers 55.48 343 IAmb IAmb 15 35 31.8
comp=Z,79nm,1.4s
DRIO Del Rio 55.56 327 IAmb IAmb 15 35 35.2
comp=Z,52nm,1.0s
CLTN Cedars of Leba 55.68 343 IAmb IAmb 15 35 33.9
comp=Z,27nm,0.6s
S57A Dark Hollow, R 55.71 351 IAmb IAmb 15 35 33.5
comp=Z,23nm,0.9s
R58B Mineral 55.75 352 IAmb IAmb 15 35 33.7
comp=Z,21nm,0.8s
U49A Red Boiling Sp 55.92 344 IAmb IAmb 15 35 35.0
comp=Z,24nm,0.6s
JCT Junction City 55.99 328 IAmb IAmb 15 35 37.9
comp=Z,41nm,0.7s
JCT Junction City 55.99 328 P **P 15 35 36.3 +0.7**
baz=144,SNR=19
WHTX Lake Whitney, 56.11 331 P **P 15 35 37.5 +1.2**
baz=147,SNR=31
WVT Waverly 56.14 342 P **P 15 35 35.0 -1.3**
baz=159
WVT Waverly 56.14 342 P **P 15 35 34.8 -1.6**
S54A Dingess, Beckl 56.15 349 IAmb IAmb 15 35 37.4
comp=Z,59nm,1.0s
T50A Nancy 56.17 345 IAmb IAmb 15 35 36.7
comp=Z,18nm,0.6s
BRDY Brady 56.25 329 IAmb IAmb 15 35 39.0
comp=Z,19nm,0.7s
UALR University of 56.40 337 IAmb IAmb 15 35 39.6
comp=Z,57nm,0.8s
R55A Marlinton 56.41 350 IAmb IAmb 15 35 41.0
comp=Z,77nm,1.5s
S51A Beattyville 56.47 346 IAmb IAmb 15 35 38.4
comp=Z,48nm,1.4s
T47A Sharon Grove 56.73 343 IAmb IAmb 15 35 40.9
comp=Z,69nm,1.1s
SAND Sanderson 56.78 326 IAmb IAmb 15 35 45.2
comp=Z,23nm,0.7s
R53A Hurricane 56.79 348 IAmb IAmb 15 35 41.6
comp=Z,28nm,0.8s
WHAR Wooly Hollow 56.84 338 IAmb IAmb 15 35 42.6
comp=Z,51nm,0.9s
FW06 Azle 56.98 332 IAmb IAmb 15 35 45.1
comp=Z,68nm,0.7s
SLBS Sierra La Lagu 56.98 315 P **P 15 35 45.2 +2.5**
OZNA Ozona 57.02 327 IAmb IAmb 15 35 46.0
comp=Z,39nm,0.6s
LCAR Lake Charles 57.14 339 IAmb IAmb 15 35 44.5
comp=Z,74nm,1.1s
TXAR Lajitas Array 57.15 324 P **P 15 35 44.6 +0.8**
comp=Z,4.1nm,0.5s,baz=152,slow=8.0,SNR=73
comp=Z,4.1nm,0.5s
TX31 Lajitas Ar. Si 57.15 324 IAmb IAmb 15 35 45.8
comp=Z,21nm,0.9s
PLPT Palo Pinto 57.19 331 IAmb IAmb 15 35 47.9
comp=Z,33nm,0.6s
Q54A Coxs Mills 57.21 349 IAmb IAmb 15 35 44.6
comp=Z,38nm,0.9s
R50A Paris 57.25 346 IAmb IAmb 15 35 44.1
comp=Z,48nm,1.2s
P57A Homestead Farm 57.27 352 IAmb IAmb 15 35 45.0
comp=Z,28nm,1.0s
FCAR Ozark Folk Cen 57.32 338 IAmb IAmb 15 35 45.5
comp=Z,48nm,0.8s
Q52A Bidwell 57.46 348 IAmb IAmb 15 35 45.8
comp=Z,35nm,1.0s
MVL Millersville 57.58 354 IAmb IAmb 15 35 47.2
comp=Z,34nm,1.1s
ABTX Abilene, Hawle 57.66 330 P **P 15 35 48.4 +1.1**
baz=145,SNR=24
WCI Wyandotte Cave 57.68 344 P **P 15 35 45.7 -1.5**
WCI Wyandotte Cave 57.68 344 P **P 15 35 46.1 -1.1**
baz=161
WCI Wyandotte Cave 57.68 344 P **P 15 35 45.7 -1.5**
WCI pmax pmax
comp=Z,38nm,0.5s
WCI Wyandotte Cave 57.68 344 P **P 15 35 45.9 -1.3**
MCWV Mont Chateau 57.70 350 IAmb IAmb 15 35 48.0
comp=Z,38nm,1.1s
MCWV Mont Chateau 57.70 350 P **P 15 35 47.0 -0.3**
baz=168,SNR=5.4
Q51A Peebles 57.74 347 IAmb IAmb 15 35 48.0
comp=Z,22nm,0.9s
CGM3 Cape Girardeau 57.77 341 IAmb IAmb 15 35 47.6
comp=Z,30nm,0.7s
SGCY Sterling City 57.82 328 IAmb IAmb 15 35 51.2
comp=Z,67nm,1.1s
ALPN Alpine 57.93 325 IAmb IAmb 15 35 54.3
comp=Z,18nm,0.8s
WTFS Witchita Falls 58.05 331 IAmb IAmb 15 35 52.9
comp=Z,181nm,0.7s
P52A Corning 58.08 348 IAmb IAmb 15 35 50.4
comp=Z,47nm,0.8s
P52A Corning 58.08 348 P **P 15 35 49.3 -0.7**
baz=166,SNR=7.2
BRNJ Basking Ridge 58.09 355 IAmb IAmb 15 35 50.1
comp=Z,54nm,0.8s
P51A Williamsport 58.12 348 IAmb IAmb 15 35 50.4
comp=Z,24nm,0.7s
HHAR Hobbs 58.33 337 IAmb IAmb 15 35 52.8
comp=Z,52nm,0.9s
PAL Palisades 58.37 356 P **P 15 35 51.2 -0.6**
baz=175
N58A Sunbury 58.45 353 IAmb IAmb 15 35 52.8
comp=Z,37nm,0.9s
SN01 Snyder 1 58.46 329 IAmb IAmb 15 35 55.8
comp=Z,59nm,0.7s
APMT Aspermont 58.47 330 IAmb IAmb 15 35 55.5
comp=Z,101nm,0.6s
O52A Adamsville 58.49 349 IAmb IAmb 15 35 53.4
comp=Z,34nm,0.7s
WSPT Westport, CT 58.49 356 IAmb IAmb 15 35 52.7
comp=Z,35nm,0.8s
O53A New Philadelph 58.51 349 IAmb IAmb 15 35 53.7
comp=Z,46nm,0.7s
O53A New Philadelph 58.51 349 P **P 15 35 52.6 -0.3**
baz=167,SNR=9.6
P49A Miami Univ. Ec 58.53 346 IAmb IAmb 15 35 52.8
comp=Z,36nm,0.7s
P49A Miami Univ. Ec 58.53 346 P **P 15 35 51.4 -1.7**
baz=163,SNR=12
BLO Bloomington 58.62 344 IAmb IAmb 15 35 53.5
comp=Z,49nm,1.2s
P48A Milroy 58.63 345 IAmb IAmb 15 35 53.3
comp=Z,21nm,0.7s
U38A Gravette 58.64 336 IAmb IAmb 15 35 55.7
comp=Z,20nm,0.8s
RLO Rose Lookout 58.65 336 IAmb IAmb 15 35 55.5
comp=Z,87nm,1.0s
ODSA Odessa 58.71 327 IAmb IAmb 15 35 57.2
comp=Z,69nm,0.5s
TUL3 Leonard 58.73 335 P **P 15 35 55.2 +0.7**
baz=150,SNR=15
ACSO Alum Creek Sta 58.83 348 IAmb IAmb 15 35 55.5
comp=Z,47nm,0.9s
ACSO Alum Creek Sta 58.83 348 P **P 15 35 54.7 -0.4**
baz=165,SNR=7.7
CCM Cathedral Cave 58.97 340 P **P 15 35 54.9 -1.3**
CCM Cathedral Cave 58.97 340 P **P 15 35 55.8 -0.4**
baz=156
CCM Cathedral Cave 58.97 340 P **P 15 35 54.9 -1.3**
CCM pmax pmax
comp=Z,71nm,0.6s
CCM Cathedral Cave 58.97 340 P **P 15 35 55.5 -0.7**
CCM pP **pP 15 36 33.6 +0.5**
CCM PcP **PcP 15 36 45.0 +1.3**
M57A Sunshine Farm, 58.98 353 IAmb IAmb 15 35 56.9
comp=Z,57nm,1.0s
N53A Lisbon 58.99 350 IAmb IAmb 15 35 57.1
comp=Z,49nm,0.8s
425A Indio Mountain 58.99 324 IAmb IAmb 15 35 58.6
comp=Z,26nm,0.8s
WMOK Wichita Mounta 59.01 332 IAmb IAmb 15 35 59.6
comp=Z,23nm,0.6s
WMOK Wichita Mounta 59.01 332 P **P 15 35 56.0 -0.6**
baz=147,SNR=11
Q44A Meyer Farm, Va 59.06 342 IAmb IAmb 15 35 55.7
comp=Z,16nm,0.7s
O49A Covington 59.07 347 IAmb IAmb 15 35 57.3
comp=Z,57nm,1.1s
SLM Saint Louis 59.18 341 IAmb IAmb 15 35 59.4
comp=Z,31nm,0.6s
M55A Ridgway 59.32 352 IAmb IAmb 15 35 59.4
comp=Z,50nm,1.0s
O48B Farmland 59.32 346 IAmb IAmb 15 35 58.6
comp=Z,30nm,0.8s
O48B Farmland 59.32 346 P **P 15 35 57.4 -1.1**
baz=163,SNR=6.4
N51A Ashland 59.37 349 IAmb IAmb 15 35 59.1
comp=Z,38nm,0.7s
M53A WI Miller and 59.58 350 P **P 15 35 59.8 -0.5**
baz=168,SNR=6.8
L59A Walton 59.63 355 IAmb IAmb 15 36 01.2
comp=Z,56nm,0.9s
BINY Binghamton 59.72 354 P **P 15 36 00.9 -0.4**
baz=173,SNR=9.8
L61B Northampton 59.73 357 P **P 15 36 00.9 -0.4**
baz=176
HRV Adam Dziewonsk 59.75 358 P **P 15 36 00.9 -0.5**
HRV Adam Dziewonsk 59.75 358 P **P 15 36 01.3 0.0**
baz=178
HRV Adam Dziewonsk 59.75 358 P **P 15 36 00.9 -0.5**
HRV pmax pmax
comp=Z,77nm,0.8s
HRV Adam Dziewonsk 59.75 358 P **P 15 36 01.2 -0.2**
HRV PcP **PcP 15 36 46.3 -0.3**
MNTX Cornudas Mount 59.90 325 P **P 15 36 03.1 +0.4**
baz=140,SNR=20
SFIN Lafayette 59.91 344 IAmb IAmb 15 36 02.0
comp=Z,26nm,0.7s
SFIN Lafayette 59.91 344 P **P 15 36 01.0 -1.6**
baz=160,SNR=9.6
M50A Fremont 59.97 348 IAmb IAmb 15 36 03.3
comp=Z,34nm,0.8s
SMWD Samnorwood 59.98 331 IAmb IAmb 15 36 05.4
comp=Z,118nm,0.6s
N47A Urbana 60.04 346 IAmb IAmb 15 36 02.9
comp=Z,62nm,1.3s
TRY Troy 60.07 356 IAmb IAmb 15 36 04.7
comp=Z,66nm,1.0s
ERPA Erie 60.13 351 P **P 15 36 04.2 +0.2**
baz=168,SNR=5.8
WVNY West Valley, N 60.22 352 IAmb IAmb 15 36 05.2
comp=Z,53nm,0.9s
MSTX Muleshoe 60.29 328 P **P 15 36 06.1 +0.6**
baz=143,SNR=38
ELIS Ellis County 60.40 332 IAmb IAmb 15 36 09.2
comp=Z,68nm,1.2s
AMTX Amarillo 60.48 330 IAmb IAmb 15 36 09.6
comp=Z,34nm,0.5s
AMTX Amarillo 60.48 330 P **P 15 36 07.3 +0.5**
baz=144
P40A Paris 60.57 340 IAmb IAmb 15 36 07.6
comp=Z,40nm,0.7s
HDIL Hopedale 60.67 343 P **P 15 36 05.9 -1.8**
HDIL IAmb IAmb 15 36 06.6
comp=Z,20nm,0.5s
HDIL Hopedale 60.67 343 P **P 15 36 06.4 -1.3**
baz=158,SNR=5.5
L48A N Adams 60.77 347 P **P 15 36 06.2 -2.2**
AAM Ann Arbor 60.95 348 P **P 15 36 09.7 +0.1**
baz=164
P38A Dawn 61.16 339 IAmb IAmb 15 36 11.8
comp=Z,52nm,1.0s
HSIG 61.27 318 P **P 15 36 12.5 +0.5**
HSIG IAmb IAmb 15 36 14.5
comp=Z,49nm,1.7s
LBNH Lisbon 61.49 358 IAmb IAmb 15 36 14.6
comp=Z,54nm,1.0s
LBNH Lisbon 61.49 358 P **P 15 36 13.5 +0.3**
baz=177
KSU1 Kansas State U 61.82 336 P **P 15 36 15.9 +0.4**
baz=150,SNR=32
121A Cookes Peak, D 61.87 323 P **P 15 36 18.2 +1.9**
baz=138,SNR=18
319A Douglas 61.90 322 IAmb IAmb 15 36 19.1
comp=Z,35nm,0.9s
LONY Lake Ozonia 62.01 356 IAmb IAmb 15 36 17.2
comp=Z,32nm,0.9s
LONY Lake Ozonia 62.01 356 P **P 15 36 16.6 -0.1**
baz=174

J47A **Sunmer** 62.09 347 IAmb IAmb 15 36 17.5
comp=Z,47nm,0.9s
L42A **Oliver, Polo** 62.12 343 IAmb IAmb 15 36 17.5
comp=Z,21nm,0.6s
FRNY **Flat Rock** 62.16 357 IAmb IAmb 15 36 18.3
comp=Z,30nm,0.9s
RTBA **Rita Blanca** 62.24 330 IAmb IAmb 15 36 21.9
comp=Z,26nm,0.5s
WBO **Williamsburg** 62.44 355 IAmb IAmb 15 36 19.9
comp=Z,29nm,0.8s
PKME **Peaks-Kenny Pk** 62.47 0 P P **15 36 19.7 0.0**
baz=180
SADO **Sadowa** 62.61 352 P P **15 36 20.1 -0.6**
comp=Z,11nm,0.6s,baz=190,slow=7.2,SNR=9.4
comp=Z,11nm,0.6s
L40A **Anamosa** 62.62 342 IAmb IAmb 15 36 21.7
comp=Z,22nm,0.8s
DUN6 **Lazy B Ranch** 62.64 323 IAmb IAmb 15 36 24.1
comp=Z,42nm,0.9s
BELA **Belgrano 2** 62.74 172 P P **15 36 23.3 +2.1**
CBKS **Cedar Bluff** 62.84 334 P P **15 36 23.6 +1.2**
baz=147,SNR=20
ANMO **Albuquerque** 62.95 326 P P **15 36 23.9 +0.5**
ANMO **Albuquerque** 62.95 326 P P **15 36 24.6 +1.2**
baz=140
ANMO **Albuquerque** 62.95 326 *de*P P **15 36 24.6 +1.2**
ANMO pmax pmax
comp=Z,71nm,4.4s
ANMO **Albuquerque** 62.95 326 P P **15 36 24.6 +1.2**
comp=Z,9.2nm,0.6s,baz=222,slow=8.2,SNR=25
comp=Z,9.2nm,0.6s
ANMO **Albuquerque** 62.95 326 P P **15 36 24.6 +1.2**
SCIA **State Center** 63.10 340 P P **15 36 23.9 0.0**
baz=154,SNR=9.2
JFWS **Jewell Farm** 63.12 343 IAmb IAmb 15 36 24.6
comp=Z,36nm,0.6s
JFWS **Jewell Farm** 63.12 343 P P **15 36 23.6 -0.5**
baz=158,SNR=9.9
LMN **Caledonia Moun** 63.19 4 P P **15 36 23.4 -1.0**
LMN IAmb IAmb 15 36 24.6
comp=Z,43nm,0.8s
TUC **Tucson** 63.46 321 P P **15 36 26.4 -0.2**
TUC **Tucson** 63.46 321 P P **15 36 27.9 +1.2**
baz=135
TUC **Tucson** 63.46 321 P P **15 36 26.4 -0.2**
TUC pmax pmax
comp=Z,15nm,1.3s
TUC **Tucson** 63.46 321 P P **15 36 28.3 +1.7**
TUC PcP **pP** **15 37 04.3 +0.2**
TRQ **Mont Tremblant** 63.60 356 IAmb IAmb 15 36 28.1
comp=Z,44nm,0.8s
T25A **Trinidad** 63.61 329 P P **15 36 29.2 +1.5**
baz=142,SNR=14
I42A **Draeger Farm,** 63.67 344 IAmb IAmb 15 36 29.9
comp=Z,38nm,1.2s
E62A **Clayton Lake** 63.82 360 IAmb IAmb 15 36 29.6
comp=Z,46nm,0.7s
VNA3 **Neumayer Olymp** 63.98 162 ⇑P P **15 36 31.4 +2.0**
comp=Z,16nm,0.9s
VNA1 **Neumayer--Stat** 64.17 161 ⇑P P **15 36 32.9 +2.3**
comp=Z,26nm,1.0s
KSCO **Kaye Shedlock'** 64.27 332 IAmb IAmb 15 36 34.3
comp=Z,53nm,0.8s
KSCO **Kaye Shedlock'** 64.27 332 P P **15 36 33.4 +1.5**
baz=145,SNR=6.1
D62A **Allapoint, All** 64.29 0 P P **15 36 31.4 -0.2**
BGNE **Belgrade** 64.40 336 P P **15 36 33.7 +1.2**
baz=150,SNR=34
214A **Organ Pipe Nat** 64.45 320 P P **15 36 35.4 +2.4**
baz=134,SNR=26
VNA2 **Neumayer--Watz** 64.54 161 ⇑P P **15 36 35.1 +2.0**
comp=Z,20nm,0.9s,baz=285,slow=7.0
BATG **Bathurst New B** 64.55 2 P P **15 36 33.2 -0.1**
BATG IAmb IAmb 15 36 33.9
comp=Z,49nm,0.9s
SDCO **Great Sand Dun** 64.62 329 P P **15 36 36.1 +1.7**
baz=142,SNR=58
W18A **Petrified Fore** 64.87 324 P P **15 36 37.8 +1.9**
baz=137,SNR=11
LDAQ **Lac Daran** 65.19 359 P P **15 36 37.1 -0.4**
LDAQ IAmb IAmb 15 36 38.1
comp=Z,33nm,0.8s
S22A **4UR Ranch, Cre** 65.29 328 P P **15 36 40.3 +1.6**
baz=140,SNR=16
Q24A **Divide** 65.41 330 P P **15 36 41.0 +1.6**
baz=142,SNR=15
OGNE **Ogallala** 65.59 333 P P **15 36 41.8 +1.4**
baz=146,SNR=29
VLDQ **Val d'Or** 65.72 354 IAmb IAmb 15 36 41.5
comp=Z,21nm,0.8s
MVCO **Mesa Verde** 65.74 326 IAmb IAmb 15 36 44.2
comp=Z,25nm,0.9s
MVCO **Mesa Verde** 65.74 326 P P **15 36 43.1 +1.6**
baz=139,SNR=16
ECSD **EROS Data Cent** 65.86 339 P P **15 36 42.3 +0.4**
baz=152,SNR=48
SPMN **Marine on St.** 65.97 342 P P **15 36 42.4 -0.1**
baz=156,SNR=31
WUAZ **Wupatki** 66.08 323 IAmb IAmb 15 36 46.9
comp=Z,25nm,1.0s
WUAZ **Wupatki** 66.08 323 P P **15 36 45.9 +2.2**
baz=136,SNR=24
SNAA **Sanae** 66.18 162 P P **15 36 45.4 +1.7**
SNAA IAmb IAmb 15 36 46.6
comp=Z,21nm,1.0s
SNAA **Sanae** 66.18 162 ⇑P P **15 36 45.5 +1.9**
comp=Z,215nm,0.6s
SNAA **Sanae** 66.18 162 *c*P P **15 36 45.3 +1.7**
SNAA pmax pmax
comp=Z,22nm,1.0s
SNAA **Sanae** 66.18 162 P P **15 36 45.2 +1.5**
comp=Z,13nm,0.8s,baz=283,slow=7.3,SNR=35
comp=Z,13nm,0.8s
ISCO **Idaho Springs** 66.29 330 P P **15 36 46.3 +1.3**
baz=142
GLA **Glamis** 66.44 319 P P **15 36 47.7 +1.9**
baz=132
SMCO **Snowmass** 66.46 329 IAmb IAmb 15 36 49.1
comp=Z,23nm,0.7s
PDMCI **Parker Dam,Lak** 66.86 321 P P **15 36 50.8 +2.4**
baz=133,SNR=6.5
YUH **Yuha Desert** 66.86 318 P P **15 36 48.6 +0.1**
E38A **The Farm, Brul** 66.89 344 IAmb IAmb 15 36 49.1
comp=Z,59nm,0.9s
SWSC **Sam W. Stewart** 66.98 319 P P **15 36 50.9 +1.7**
baz=131
IKP **In-Ko-Pah, Jac** 66.98 318 P P **15 36 50.8 +1.4**
baz=131,SNR=7.1
BC3 **Big Chuckawall** 67.23 319 P P **15 36 53.2 +2.3**
baz=132,SNR=21
N23A **Red Feather La** 67.30 331 P P **15 36 53.0 +1.6**
baz=142,SNR=10
SUSD **Miller** 67.31 337 P P **15 36 52.1 +1.0**
baz=149
MONP2 **Monument Peak** 67.34 318 P P **15 36 54.1 +2.4**
baz=131,SNR=10
IRM **Iron Mountain** 67.38 320 P P **15 36 54.2 +2.5**
baz=132,SNR=30
NEE2 **Needles Airpor** 67.47 321 P P **15 36 54.4 +2.1**
baz=133
LIC **Lamto** 67.74 76 ⇓*i*P P **15 36 54.8 +0.4**
comp=Z,11nm,0.3s
BELC **Belle Mtn. Jos** 67.80 319 P P **15 36 56.5 +2.0**
baz=132,SNR=13
O20A **White River Ci** 67.82 329 IAmb IAmb 15 36 57.4
comp=Z,24nm,0.8s
O20A **White River Ci** 67.82 329 P P **15 36 56.3 +1.7**
baz=140,SNR=24
TPFO **Pinon Flats** 67.83 319 P P **15 36 57.1 +2.4**
baz=131,SNR=13
PFO **Pinyon Flats O** 67.83 319 P P **15 36 57.2 +2.5**
baz=131,SNR=14
PFO **Pinyon Flats O** 67.83 319 P P **15 36 57.0 +2.3**
TROLL **Troll, Antarti** 67.89 161 ⇑P P **15 36 56.3 +1.8**
comp=Z,416nm,0.5s
TIC **Toumodi** 67.90 75 ⇑*i*P P **15 36 55.5 +0.1**
comp=Z,3.7nm,0.3s
KNB **Kanab** 67.97 324 IAmb IAmb 15 36 59.4
comp=Z,48nm,0.9s
KIC **Kosan Boka** 68.05 75 ⇑*i*P P **15 36 56.5 +0.1**
comp=Z,22nm,0.4s
DBIC **Dimbokro** 68.06 75 P P **15 36 56.4 0.0**
DBIC IAmb IAmb 15 36 57.6
comp=Z,20nm,0.8s
DBIC **Dimbokro** 68.06 75 P P **15 36 56.4 0.0**
DBIC pmax pmax
comp=Z,20nm,0.8s
DBIC **Dimbokro** 68.06 75 P P **15 36 56.6 +0.2**
comp=Z,21nm,0.8s,baz=233,slow=6.3,SNR=32
comp=Z,21nm,0.8s
DBIC **Dimbokro** 68.06 75 P P **15 36 56.5 0.0**
EYMN **Ely** 68.10 344 IAmb IAmb 15 36 56.6
comp=Z,48nm,0.8s
EYMN **Ely** 68.10 344 P P **15 36 55.8 -0.1**
baz=157,SNR=12
GMRC **Granite Mounta** 68.11 320 P P **15 36 58.8 +2.3**
baz=132,SNR=27
MURC **Murrieta** 68.29 318 P P **15 36 59.4 +1.9**
baz=131
HEC **Hector,Ludlow** 68.56 320 P P **15 37 01.7 +2.5**
baz=132,SNR=11
TUQ **Turquoise Moun** 68.71 320 P P **15 37 02.3 +2.1**
baz=132,SNR=6.6
SCI2 **San Clemente I** 68.77 317 P P **15 37 02.1 +1.8**
baz=129
CIS **Catalina Islan** 68.95 317 P P **15 37 03.8 +2.3**
baz=130
K22A **Casper** 68.95 331 P P **15 37 03.1 +1.6**
baz=142,SNR=10.0
BFSC **Mount Baldy Ra** 69.00 318 P P **15 37 04.3 +2.3**
baz=130,SNR=7.7
RSSD **Black Hills** 69.04 334 P P **15 37 03.3 +1.2**
RSSD IAmb IAmb 15 37 05.3
comp=Z,22nm,0.6s
RSSD **Black Hills** 69.04 334 P P **15 37 03.6 +1.5**
baz=145
RSSD **Black Hills** 69.04 334 P P **15 37 03.3 +1.2**
RSSD pmax pmax
comp=Z,22nm,0.6s
RSSD **Black Hills** 69.04 334 P P **15 37 03.9 +1.8**
GSC **Goldstone, Bar** 69.16 320 P P **15 37 05.2 +2.4**
baz=131,SNR=16
SHOC **Shoshone, Teco** 69.23 321 P P **15 37 05.6 +2.4**
baz=132,SNR=8.2
DECC **Green Verdugo** 69.44 318 P P **15 37 06.9 +2.4**
baz=130
EDW2 **Edwards Air Fo** 69.62 319 P P **15 37 07.7 +1.9**
baz=130,SNR=16
GWY **Greenwater Val** 69.66 321 IAmb IAmb 15 37 09.2
comp=Z,25nm,0.8s
LRMC **Laurel Mtn Rad** 69.81 319 P P **15 37 09.4 +2.4**
baz=131,SNR=18
OSI **Osito Audit: C** 69.91 318 P P **15 37 09.8 +2.3**
baz=130
TPNV **Topopah Spring** 69.91 321 IAmb IAmb 15 37 11.3
comp=Z,31nm,0.9s
TPNV **Topopah Spring** 69.91 321 P P **15 37 10.4 +2.9**
baz=132,SNR=43
FURC **Furnace Creek,** 69.96 321 P P **15 37 10.7 +3.1**
baz=132,SNR=11
WCT **Wildcat Mounta** 70.03 321 IAmb IAmb 15 37 12.1
comp=Z,30nm,0.9s
MPMC **Manual Prospec** 70.07 320 P P **15 37 10.8 +2.2**
baz=131,SNR=15
TCUT **Toone Canyon** 70.16 327 IAmb IAmb 15 37 12.8
comp=Z,18nm,0.7s
DUG **Dugway, Tooele** 70.22 326 P P **15 37 11.6 +2.2**
baz=136,SNR=12
ISA **Isabella, Lake** 70.42 319 P P **15 37 12.4 +1.9**
ISA **Isabella, Lake** 70.42 319 P P **15 37 13.2 +2.6**
baz=130,SNR=16
ISA **Isabella, Lake** 70.42 319 P P **15 37 12.5 +1.9**
ISA pmax pmax
comp=Z,18nm,0.8s
BW06 **Boulder Array** 70.46 330 P P **15 37 12.0 +1.1**
baz=139,SNR=18
PDAR **Pinedale Array** 70.46 330 P P **15 37 11.8 +1.0**
comp=Z,7.2nm,0.6s,baz=123,slow=8.0,SNR=44
comp=Z,7.2nm,0.6s
R11B **Troy Canyon, C** 70.47 323 P P **15 37 13.5 +2.6**
baz=133,SNR=19
MDND **Modock** 70.47 339 P P **15 37 11.8 +1.3**
baz=150,SNR=29
GRAC **Grapevine Rang** 70.61 321 P P **15 37 14.4 +2.8**
baz=131,SNR=8.3
CWC **Cottonwood Cre** 70.68 320 P P **15 37 14.9 +2.6**
baz=131
PKM **Mcpherson Peak** 70.78 318 P P **15 37 15.5 +2.6**
baz=129,SNR=16
VES **Vestal, Richgr** 70.92 319 P P **15 37 16.3 +2.8**
baz=130
SMMC **Simmler** 71.16 318 P P **15 37 17.9 +2.9**
baz=129,SNR=7.0
TIN **Tinemaha, Big** 71.17 320 P P **15 37 18.1 +2.9**
baz=131
ULM **Lac du Bonnet** 71.40 342 P P **15 37 16.2 +0.2**
comp=Z,165nm,0.5s,baz=152,slow=6.1,SNR=510
ELK **Elko** 71.92 325 P P **15 37 20.8 +1.1**
comp=Z,6.0nm,0.8s,baz=115,slow=3.4,SNR=24
comp=Z,6.0nm,0.8s
IMW **Indian Meadow** 71.98 330 IAmb IAmb 15 37 22.7
comp=Z,56nm,1.5s
FLWY **Flagg Ranch** 72.00 330 IAmb IAmb 15 37 23.2
comp=Z,37nm,0.9s
LAO **LASA Array** 72.02 334 IAmb IAmb 15 37 22.5
comp=Z,112nm,1.9s
LAO **LASA Array** 72.02 334 P P **15 37 21.4 +1.5**
baz=143,SNR=12
SCHQ **Schefferville** 72.08 2 P P **15 37 19.5 -0.5**
comp=Z,16nm,0.8s,baz=208,slow=6.0,SNR=19
comp=Z,16nm,0.8s
NVAR **Mina Array Bea** 72.11 322 P P **15 37 22.3 +1.4**
comp=Z,8.7nm,0.8s,baz=146,slow=6.5,SNR=58
comp=Z,8.7nm,0.8s
RLMT **Red Lodge** 72.12 331 IAmb IAmb 15 37 23.4
comp=Z,45nm,1.4s
RLMT **Red Lodge** 72.12 331 P P **15 37 22.5 +1.8**
baz=140,SNR=22
H17A **Grant Village** 72.18 330 P P **15 37 23.9 +2.8**
baz=139,SNR=13
DGMT **Dagmar** 72.66 337 P P **15 37 25.6 +2.0**
baz=145
QSPA **South Pole Qui** 72.66 180 P P **15 37 25.3 +1.6**
QSPA **South Pole Qui** 72.66 180 P P **15 37 26.3 +2.7**
comp=Z,3.2nm,0.6s,baz=172,slow=0.8,SNR=16
comp=Z,3.2nm,0.6s
HLID **Hailey** 73.46 328 P P **15 37 30.9 +2.3**
baz=135,SNR=23
EGMT **Eagleton** 74.56 333 IAmb IAmb 15 37 37.1
comp=Z,28nm,0.8s
EGMT **Eagleton** 74.56 333 P P **15 37 36.3 +1.5**
baz=140,SNR=6.5
ORV **Oroville** 74.75 321 IAmb IAmb 15 37 39.6
comp=Z,37nm,1.1s
MSO **Missoula** 75.57 330 P P **15 37 42.8 +2.2**
baz=136,SNR=7.0
TOA0 **Torodi Ar. Sit** 76.45 71 P P **15 37 46.5 +0.3**
TORD **Torodi Ar. Bea** 76.45 71 P P **15 37 46.6 +0.4**
TORD **Torodi Ar. Bea** 76.45 71 P P **15 37 46.6 +0.4**
comp=Z,19nm,0.6s,baz=262,slow=4.9,SNR=113
TORD S S **15 47 14.4 -5.4**
comp=Z,3.8nm,0.9s,baz=267,slow=9.7,SNR=12
TORD LR LR 16 11 30.1
comp=Z,80nm,18.4s,baz=237,slow=36
comp=Z,19nm,0.6s
YBH **Yreka Blue Hor** 76.82 322 P P **15 37 48.7 +0.8**
comp=Z,7.4nm,0.9s,baz=101,slow=2.3,SNR=15
comp=Z,7.4nm,0.9s
PINE **Pine Mountain** 77.10 324 IAmb IAmb 15 37 53.2
comp=Z,27nm,0.8s
FFC **Flin Flon** 77.13 341 P P **15 37 49.6 +0.5**
FFC **Flin Flon** 77.13 341 P P **15 37 49.6 +0.5**
FFC pmax pmax
comp=Z,19nm,0.7s
I05D **Terrebonne, OR** 77.67 325 IAmb IAmb 15 37 56.1
comp=Z,33nm,0.7s
NEW **Newport** 78.11 330 P P **15 37 56.6 +1.8**
baz=134
NEW **Newport** 78.11 330 P P **15 37 55.7 +1.0**
comp=Z,2.9nm,0.6s,baz=111,slow=6.7,SNR=9.1
comp=Z,2.9nm,0.6s
C09A **Chrisman Ranch** 78.35 329 IAmb IAmb 15 37 59.1
comp=Z,24nm,0.7s
BUCK **Buck Mountain** 78.50 324 IAmb IAmb 15 38 00.1
comp=Z,28nm,0.8s
FCC **Fort Churchill** 78.67 347 IAmb IAmb 15 37 59.3
comp=Z,38nm,0.8s
PFVI **Vila Bisbo** 78.72 45 *e*P P **15 38 00.8 +2.5**
comp=Z,94nm,1.7s
MORF **Marmelete** 78.93 45 *e*P P **15 38 01.1 +1.6**
comp=Z,43nm,2.1s
MORF **Marmelete** 78.93 45 *e*P P **15 38 00.8 +1.2**
MORF IAmb IAmb 15 38 02.3
comp=Z,19nm,0.8s
PTEO **Sao Teotonio** 79.01 45 *e*P P **15 38 01.6 +1.7**
comp=Z,61nm,1.8s
PBDV **Barranco-do-Ve** 79.39 45 *e*P P **15 38 03.7 +1.7**
comp=Z,39nm,1.7s
PNCL **Nicolau / Gran** 79.44 44 *e*P P **15 38 03.6 +1.4**
comp=Z,19nm,2.0s
MESJ **Messejana** 79.51 45 *e*P P **15 38 04.0 +1.4**
comp=Z,45nm,1.9s
MESJ **Messejana** 79.51 45 *e*P P **15 38 03.6 +1.0**
MESJ IAmb IAmb 15 38 04.9
comp=Z,12nm,0.8s
PCVE **Castro Verde** 79.52 45 *e*P P **15 38 04.2 +1.5**
comp=Z,32nm,2.1s
PBEJ **Beja** 79.84 45 *e*P P **15 38 06.0 +1.6**
comp=Z,26nm,1.6s
EDM **Edmonton** 79.99 335 IAmb IAmb 15 38 06.4
comp=Z,145nm,1.4s
EVO **Evora** 80.01 44 *e*P P **15 38 06.9 +1.6**
comp=Z,27nm,1.4s
PMTG **Montargil** 80.15 44 *e*P P **15 38 07.0 +1.0**
comp=Z,25nm,1.2s
E03A **Lebam** 80.28 325 IAmb IAmb 15 38 10.0
comp=Z,47nm,0.9s
PESTR **Estremoz** 80.47 44 *e*P P **15 38 09.1 +1.3**
comp=Z,35nm,1.9s
VNDA **Vanda** 80.69 190 P P **15 38 11.0 +2.7**
comp=Z,0.9nm,0.7s,baz=317,slow=6.9,SNR=1.8
comp=Z,0.9nm,0.7s
SUR **Sutherland** 80.97 121 LR LR 16 12 35.3
comp=Z,26nm,18.8s,baz=220,slow=34
PCBR **Castelo Branco** 81.05 43 *e*P P **15 38 12.0 +1.2**
comp=Z,40nm,1.6s
PVIS **Viseu** 81.24 43 *e*P P **15 38 12.9 +1.0**
MTE **Manteigas** 81.30 43 *e*P P **15 38 12.9 +0.7**
comp=Z,54nm,1.8s
TSUM **Tsumeb** 81.61 107 P P **15 38 15.6 +1.1**
POLO **Lamas de Olo** 81.65 42 *e*P P **15 38 15.0 +0.9**
comp=Z,27nm,1.8s
MVO **Moncorvo** 82.03 42 *e*P P **15 38 17.1 +1.1**
comp=Z,43nm,1.4s
BRLDA **Berland Lookou** 82.29 334 IAmb IAmb 15 38 18.6
comp=Z,45nm,1.3s
PBRG **Braganca** 82.55 42 *e*P P **15 38 19.5 +0.8**
comp=Z,35nm,1.4s
PAB **San Pablo** 82.98 45 P P **15 38 22.1 +1.1**
PAB **San Pablo** 82.98 45 ⇑P P **15 38 22.6 +1.6**
ESDC **Sonseca Array** 83.31 45 P P **15 38 23.9 +1.3**
comp=Z,9.1nm,1.0s,baz=250,slow=5.5,SNR=28
comp=Z,9.1nm,1.0s
SFJD **Kangerlussuaq** 85.40 7 P P **15 38 32.1 -0.2**
SFJD IAmb IAmb 15 38 33.3
comp=Z,39nm,1.1s
SFJD **Kangerlussuaq** 85.40 7 P P **15 38 32.2 -0.2**
SFJD pmax pmax
comp=Z,39nm,1.1s
SFJD **Kangerlussuaq** 85.40 7 *i*P P **15 38 31.3 -1.1**
SFJD IAmb IAmb 15 38 33.6
comp=Z,14nm,0.8s
DY2G **Dye2** 85.50 9 *i*P P **15 38 33.1 -0.1**
DY2G IAmb IAmb 15 38 34.7
comp=Z,72nm,0.6s
BOSA **Boshof** 85.70 118 P P **15 38 36.3 +1.2**
comp=Z,3.3nm,0.8s,baz=286,slow=3.4,SNR=8.5
comp=Z,3.3nm,0.8s
ISOG **Isortoq, Green** 85.94 12 *i*P P **15 38 35.6 +0.5**
ISOG IAmb IAmb 15 38 37.0
comp=Z,60nm,0.7s
YKA **Yellowknife Ar** 87.30 341 P P **15 38 43.0 +1.2**
comp=Z,25nm,0.6s,baz=135,slow=4.5,SNR=823
comp=Z,25nm,0.6s
ILULI **Ilulissat** 87.46 6 IAmb IAmb 15 38 43.8
comp=Z,37nm,1.0s
ILULI **Ilulissat** 87.46 6 *i*P P **15 38 41.9 -0.5**
ILULI IAmb IAmb 15 38 43.6
comp=Z,21nm,0.8s
ICESG **Greenland Ices** 88.94 10 *i*P P **15 38 50.0 +0.2**
ICESG IAmb IAmb 15 38 52.2
comp=Z,44nm,0.9s
KOTAN **Kotaneelee Air** 89.02 336 P P **15 38 51.7 +1.7**
baz=129
V35K **Ketchikan** 89.52 330 P P **15 38 53.9 +1.5**
baz=122
T35M **Bob Quinn** 89.78 331 P P **15 38 55.5 +1.9**
baz=124
DLBC **Dease Lake** 90.48 333 IAmb IAmb 15 38 59.8
comp=Z,15nm,0.8s
DLBC **Dease Lake** 90.48 333 P P **15 38 59.0 +2.0**
baz=124,SNR=8.0
S34M **Telegraph Cree** 90.69 332 P P **15 38 59.6 +1.8**
baz=123
KEST **Kesra** 91.24 53 P P **15 39 00.9 -0.2**
comp=Z,3.6nm,0.8s,baz=254,slow=7.5,SNR=3.8
comp=Z,3.6nm,0.8s
R33M **Jennings River** 91.42 333 P P **15 39 03.0 +1.6**
baz=123
EKA **Eskdalemuir Ar** 91.45 32 P P **15 39 01.2 -0.2**
comp=Z,1.1nm,0.4s,baz=234,slow=5.0,SNR=22
comp=Z,1.1nm,0.4s
Q32M **Nakina River** 91.75 333 P P **15 39 04.7 +1.7**
baz=122
SUMG **Summit** 92.20 9 IAmb IAmb 15 39 07.6
comp=Z,28nm,0.7s
SUMG **Summit** 92.20 9 P P **15 39 06.7 +1.7**
SUMG **Summit** 92.20 9 *i*P P **15 39 06.0 +1.0**
SUMG IAmb IAmb 15 39 07.8
comp=Z,24nm,0.8s
R32K **Eaglecrest** 92.41 331 P P **15 39 07.7 +1.9**
baz=120
P33M **Teslin, Yukon** 92.65 333 P P **15 39 08.5 +1.6**
baz=121
FARO **Faro, Yukon** 93.91 335 P P **15 39 13.9 +1.2**
baz=121
P29M **Windy Craggy** 94.53 332 P P **15 39 16.5 +0.9**
baz=117
N30M **Aishikik Lake** 95.08 333 P P **15 39 19.4 +1.3**
baz=118
NEEM **North Greenlan** 95.37 4 *i*P P **15 39 20.5 +1.1**
NEEM IAmb IAmb 15 39 23.0
comp=Z,12nm,0.8s
M30M **Minto, Yukon** 95.48 335 P P **15 39 21.0 +1.1**
baz=118
YUK4 **Talbot Arm** 95.70 333 P P **15 39 21.9 +0.8**
baz=116
M29M **Somme Creek** 96.11 334 P P **15 39 24.1 +1.3**
baz=116
YUK8 **Steele Glacier** 96.16 333 P P **15 39 24.9 +1.6**
baz=115
J30M **Hart River** 96.23 336 IAmb IAmb 15 41 15.9
comp=Z,12nm,1.6s
J30M **Hart River** 96.23 336 P P **15 39 24.7 +1.3**
baz=118
L29M **L29M** 96.27 335 P P **15 39 24.8 +1.4**
baz=117
K29M **Barlow Dome** 96.36 336 P P **15 39 25.1 +1.2**
baz=117
I30M **Mount Dempster** 96.56 337 IAmb IAmb 15 39 27.3
comp=Z,22nm,1.8s
I30M **Mount Dempster** 96.56 337 P P **15 39 25.9 +1.1**
baz=118
G31M **Satah River** 96.62 339 P P **15 39 26.2 +1.4**
baz=120
YUK3 **Moose Creek** 96.67 333 P P **15 39 26.7 +1.2**
baz=115
F31M **Tsiigehtchic** 96.70 339 P P **15 39 26.2 +1.0**
baz=120
A36M **Sachs Harbour** 96.76 345 IAmb IAmb 15 39 26.8
comp=Z,9.5nm,0.7s
A36M **Sachs Harbour** 96.76 345 P P **15 39 26.4 +1.1**
baz=127
INK **Inuvik** 97.06 340 P Pdif 15 39 28.2 +1.3
baz=120
BVCY **Beaver Creek** 97.11 334 P Pdif 15 39 28.9 +1.7
baz=114
DAWY **Dawson** 97.20 335 P Pdif 15 39 28.5 +0.8
baz=115
G30M **tAoh Zraii Nji** 97.32 339 P Pdif 15 39 29.4 +1.2
baz=118
F30M **Barrier River** 97.47 339 P Pdif 15 39 29.9 +1.1
baz=118
H29M **Whitestone** 97.74 338 P Pdif 15 39 30.9 +0.9
baz=116
L27K **Beaver Creek,** 97.78 334 P Pdif 15 39 30.9 +0.7
baz=113
G29M **Pine Creek** 97.92 338 P Pdif 15 39 31.7 +0.9
baz=116
I28M **Miner Creek** 97.99 337 P Pdif 15 39 32.1 +0.9
baz=115
M26K **Nabesna, AK** 98.01 333 P Pdif 15 39 32.2 +0.9
baz=112
EGAK **Eagle** 98.19 336 P Pdif 15 39 32.9 +0.9

baz=114
K27K Chicken 98.26 335 P Pdif 15 39 33.2 +0.9
baz=113
GERES GERESS Array B 98.53 42 P Pdif 15 39 34.2 +0.2
comp=Z,1.3nm,0.8s,baz=297,slow=4.3,SNR=4.4
comp=Z,1.3nm,0.8s
E29M Blow River 98.53 340 P Pdif 15 39 34.7 +1.2
baz=116
EYAK Cordova Ski Ar 98.57 331 P Pdif 15 39 34.7 +1.0
baz=110
I27K Kandik River 98.70 336 P Pdif 15 39 35.4 +1.0
baz=113
DAG Danmarks Havn 98.73 10 *i* P Pdif 15 39 34.3 +0.1
DAG IAmb IAmb 15 39 35.7
comp=Z,2.1nm,0.6s
F28M Old Crow 98.87 339 P Pdif 15 39 36.3 +1.3
baz=114
H27K Steamboat Moun 98.91 337 P Pdif 15 39 36.4 +1.2
baz=113
KLU Klutina 98.97 332 P Pdif 15 39 36.5 +0.9
baz=110
SCRK Sand Creek 99.02 334 P **Pdif** **15 39 36.8 +0.9**
baz=111
J26L Joseph Creek 99.04 335 P **Pdif** **15 39 36.7 +0.8**
baz=112
P23K Montague Islan 99.16 330 P **Pdif** **15 39 37.2 +0.8**
baz=109
E28M Babbage River 99.17 340 P **Pdif** **15 39 37.4 +1.1**
baz=115
E27K Coleen River 99.70 339 P **Pdif** **15 39 39.8 +1.1**
baz=113
SCM Sheep Creek Mo 99.72 332 P **Pdif** **15 39 39.2 +0.3**
baz=109
J25K Salcha River, 99.81 335 P **Pdif** **15 39 40.3 +0.9**
baz=110
D27M Malcolm River 99.91 340 P **Pdif** **15 39 40.8 +1.1**
baz=113
WAT6 Susitna Watana 100.14 333 P **Pdif** **15 39 41.6 +0.6**
baz=108
SML Sawmill 100.16 332 P **Pdif** **15 39 41.5 +0.6**
baz=108
ILAR Eielson Array 100.48 335 P **Pdif** **15 39 42.1 -0.1**
comp=Z,0.5nm,0.6s,baz=144,slow=4.0,SNR=7.9
ILAR PP **PP** **15 43 43.8 -7.2**
comp=Z,1.2nm,0.8s,baz=105,slow=6.7,SNR=11
F25K Christian Rive 100.92 338 P **Pdif** **15 39 45.2 +1.0**
baz=109
M22K Willow 100.96 331 P **Pdif** **15 39 45.0 +0.7**
baz=106
E25K Arctic Village 101.07 338 P **Pdif** **15 39 45.4 +0.6**
baz=109
SUA Susitna One 101.17 331 P **Pdif** **15 39 45.9 +0.5**
baz=106
G24K Hadweenzic Riv 101.31 337 P **Pdif** **15 39 46.7 +0.8**
baz=108
C26K Camden Bay 101.44 340 P **Pdif** **15 39 47.1 +0.7**
baz=110
TRF Thorofare Moun 101.51 333 P **Pdif** **15 39 47.3 +0.3**
baz=106
I23K Minto, Yukon-K 101.59 335 P **Pdif** **15 39 47.8 +0.7**
baz=106
SKT Skwentna 101.67 331 P **Pdif** **15 39 48.1 +0.5**
baz=105
F24K Squaw Lake 101.71 337 P **Pdif** **15 39 47.9 +0.2**
baz=107
D25K Kavik River 101.73 339 P **Pdif** **15 39 48.2 +0.4**
baz=108
N20K Mount Spurr 101.78 331 P **Pdif** **15 39 48.4 +0.3**
baz=105
MLY Manley 102.12 335 P **Pdif** **15 39 50.2 +0.6**
baz=105
PPLA Purkeypile 102.20 332 P **Pdif** **15 39 50.4 +0.3**
baz=104
CAST Castle Rocks 102.28 333 P **Pdif** **15 39 50.8 +0.5**
baz=104
D23K Nanushuk River 103.11 339 P **Pdif** **15 39 54.6 +0.8**
baz=104
F22K John River 103.30 337 P **Pdif** **15 39 55.7 +1.0**
baz=103
M18K Stony River 103.54 330 P **Pdif** **15 39 56.6 +0.7**
baz=102
G21K Allakaket 103.59 336 P **Pdif** **15 39 56.7 +0.7**
baz=102
I20K Naaghedeneel 103.62 334 P **Pdif** **15 39 57.0 +0.9**
baz=102
D22K Ayikyak River 103.80 338 P **Pdif** **15 39 57.7 +0.8**
baz=103
B22K Teshekpuk Lake 104.36 340 P **Pdif** **15 40 00.7 +1.4**
baz=102
BRTR Keskin Array B 110.84 54 SKP 15 47 51.4
comp=Z,0.8nm,1.0s,baz=300,slow=3.2,SNR=3.9
DZM Mont Dzumac 112.70 236 Pdiff **Pdif** **15 40 40.4 +2.7**
comp=Z,4.8nm,1.0s,baz=250,slow=20,SNR=1.9
OBN Obninsk 113.27 37 *i* PKIKP **PKiKP** **15 44 32.7 +0.7**
OBN *e* 15 45 16.0
OBN *e* 15 45 27.4
OBN pmax pmax
comp=Z,3.0nm,1.0s
KIV Kislovodsk 117.74 49 *i* PKIKP **PKiKP** **15 44 42.2 +1.1**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KBZ Khabaz 117.90 49 PKP **PKiKP** **15 44 42.2 +0.9**
comp=Z,1.5nm,0.7s,baz=78,slow=24,SNR=2.4
STKA Stephens Creek 122.62 211 PKP **PKiKP** **15 44 52.3 +1.2**
comp=Z,1.3nm,0.6s,baz=96,slow=4.5,SNR=6.3
STKA PKKPbc **PKKPbc** **15 54 44.5 -1.1**
comp=Z,1.2nm,0.6s,baz=325,slow=2.1,SNR=4.9
ARU Arti 125.06 32 *i* PKIKP **PKiKP** **15 44 55.7 +0.7**
ARU 15 46 49.7
ARU 15 51 52.5
ARU SS SS 16 03 23.1 -6.4
NRIK Noril'sk 126.23 10 PKP **PKiKP** **15 44 58.0 +1.0**
comp=Z,0.9nm,0.4s,baz=346,slow=3.5,SNR=3.5
SEY Seymchan 126.27 338 ⇑*i* PKIKP **PKiKP** **15 44 57.1 -0.1**
H11N3 WAKE ISLAND Hyl 126.84 282 T T 18 05 12.7
baz=101,slow=74
H11N2 WAKE ISLAND Hyl 126.85 282 T T 18 05 10.2
baz=101,slow=74
H11N1 WAKE ISLAND Hyl 126.85 282 T T 18 05 16.3
baz=101
H11S2 WAKE ISLAND Hyl 126.86 280 T T 18 05 06.5
baz=101,slow=75,SNR=3.8
H11S1 WAKE ISLAND Hyl 126.87 280 T T 18 05 18.0
baz=101,slow=75,SNR=4.4
H11S3 WAKE ISLAND Hyl 126.88 280 T T 18 04 59.1
baz=101,slow=75,SNR=3.7
ABKAR Akbulak array 128.45 40 PKPdf **PKiKP** **15 45 02.7 +0.7**
PETK Petropavlovsk- 129.09 325 PKP **PKiKP** **15 45 04.5 +1.4**
comp=Z,1.9nm,0.6s,baz=96,slow=4.5,SNR=4.2
BRVK Borovoye 132.63 32 ⇑*i* PKIKP **PKiKP** **15 45 10.2 -0.1**
BVAR Borovoye Array 132.70 32 PKP **PKiKP** **15 45 10.0 -0.4**
comp=Z,0.8nm,0.5s,baz=309,slow=3.2,SNR=4.9
BVAR SKPbc **SKPab** **15 48 24.9 +0.6**
comp=Z,1.7nm,0.7s,baz=302,slow=2.8,SNR=6.0
ASAR Alice Springs 133.20 210 PKhKP PKPpre 15 44 55.6
comp=Z,0.4nm,0.6s,baz=125,slow=2.7,SNR=8.2
ASAR PKP **PKiKP** **15 45 12.6 +0.1**
comp=Z,1.4nm,0.7s,baz=133,slow=2.1,SNR=21
ASAR SKPbc **SKPab** **15 48 26.8 -0.6**
comp=Z,1.9nm,0.7s,baz=140,slow=3.7,SNR=12
ASAR PKKP **PKKPdf** **15 55 01.6 +0.3**
comp=Z,0.4nm,0.9s,baz=0.1,slow=0.8,SNR=4.2
WRA Warramunga Arr 136.11 213 PKhKP PKPpre 15 45 03.4
comp=Z,0.5nm,0.8s,baz=151,slow=2.2,SNR=6.2
WRA PKP **PKiKP** **15 45 18.0 -0.5**
comp=Z,2.4nm,0.7s,baz=149,slow=1.9,SNR=13
WRA SKPbc **SKPbc** **15 48 36.0 +1.1**
comp=Z,2.8nm,0.9s,baz=148,slow=2.6,SNR=7.7
KURK Kurchatov 138.17 30 ⇑*i* PKIKP **PKiKP** **15 45 20.7 -0.9**
KURBB Kurchatov Arra 138.19 31 PKhKP PKPpre 15 45 10.0
comp=Z,0.5nm,0.7s,baz=303,slow=2.8,SNR=3.6
KURBB PKP **PKPdf** **15 45 19.8 +0.2**
comp=Z,1.0nm,0.5s,baz=309,slow=2.8,SNR=11
KURBB SKP 15 48 42.1
comp=Z,2.9nm,1.0s,baz=306,slow=3.5,SNR=9.9
ZAA0 Zalesovo Array 138.49 23 PKPdf **PKPdf** **15 45 20.9 +0.9**
ZALV Zalesovo Beam 138.49 23 PKPdf **PKPdf** **15 45 20.1 +0.1**
ZALV Zalesovo Beam 138.49 23 PKIKP **PKPdf** **15 45 20.1 +0.1**
ZALV Zalesovo Beam 138.49 23 PKhKP PKPpre 15 45 10.7
comp=Z,0.9nm,0.5s,baz=298,slow=4.4,SNR=6.0
ZALV PKP **PKPdf** **15 45 20.9 +0.9**
comp=Z,9.1nm,0.8s,baz=334,slow=2.5,SNR=24
ZALV SKP 15 48 42.7
comp=Z,10nm,0.8s,baz=316,slow=4.1,SNR=21
AAK Ala-Archa 140.39 43 ⇓*i* PKIKP **PKiKP** **15 45 27.1 +0.4**
MK31 Makanchi Array 142.58 32 *de* PKIKP **PKPdf** **15 45 26.8 -0.9**
MKAR Makanchi Array 142.58 32 PKhKP PKPpre 15 45 24.4
comp=Z,0.9nm,0.5s,baz=310,slow=3.0,SNR=17
MKAR SKPbc **SKiKP** **15 48 53.5 +0.5**
comp=Z,4.0nm,0.7s,baz=323,slow=2.2,SNR=17
KLR Kul'dur 144.03 336 ⇑*i* PKIKP **PKPdf** **15 45 29.7 -0.4**
HEH HeiHe 144.66 341 *eP* **PKPab** **15 45 30.0 -0.2**
HEH pmax pmax
comp=Z,54nm,0.7s
MOY Mondy 145.07 11 *e* PKIKP **PKPdf** **15 45 33.9 +1.9**
MOY pmax pmax
comp=Z,53nm,1.4s
ZAK Zakamensk 146.67 9 *e* PKP2 **PKPbc** **15 45 37.2 +0.6**
ZAK pmax pmax
comp=Z,18nm,1.2s
WMQ Urumqi 147.39 32 *eP* **PKPdf** **15 45 36.0 -0.1**
USA0B Ussuriysk Arra 147.89 331 ⇑*i* PKP2 **PKPbc** **15 45 39.5 -0.5**
USRK Ussuriysk Ar. 147.89 331 PKPbc **PKiKP** **15 45 41.3 -0.5**
comp=Z,7.8nm,0.5s,baz=26,slow=1.4,SNR=20
BNX BinXian 148.57 337 ⇑P **PKiKP** **15 45 43.0 -0.2**
BNX pmax pmax
comp=Z,19nm,0.9s
BNX pmax pmax
comp=Z,420nm,5.7s
MDJ Mudanjiang 148.63 334 P **PKPbc** **15 45 40.3 -1.6**
MDJ pmax pmax
comp=Z,9.0nm,1.7s
MDJ pmax pmax
comp=Z,650nm,6.5s
MJAR Matsushiro Arr 149.15 313 PKPbc **PKiKP** **15 45 44.9 +0.2**
comp=Z,5.2nm,0.7s,baz=81,slow=2.2,SNR=9.1
MAJO Matsushiro 149.15 313 ⇓*i* PKP2 **PKiKP** **15 45 45.4 +0.7**
HYB Hyderabad 149.40 85 *e* PKIKP **PKiKP** **15 45 45.8 0.0**
SONM Songino Array 149.55 6 PKPbc **PKiKP** **15 45 45.5 +0.2**
SONM Songino Array 149.55 6 PKP2 **PKiKP** **15 45 45.5 +0.2**
SONM Songino Array 149.55 6 PKPbc **PKiKP** **15 45 45.9 +0.6**
comp=Z,7.8nm,0.5s,baz=309,slow=1.6,SNR=44
ULN Ulaanbaatar 149.58 5 ⇓*e* PKHKP PKPpre 15 45 41.4
XLT XiLinHaoTe 153.29 351 *eP* **PKPdf** **15 45 40.5 -4.8**
XLT pmax pmax
comp=Z,3.0nm,1.2s
XLT pmax pmax
comp=Z,390nm,7.2s
KSRS Korea Array 154.98 326 PKP2 **PKPab** **15 46 13.4 +0.7**
KSRS 16 45 48.9
KSRS Korea Array 154.98 326 PKP **PKPdf** **15 45 48.9 +1.1**
comp=Z,2.0nm,0.9s,baz=37,slow=2.8,SNR=3.6
KSRS PKPbc **PKPbc** **15 45 56.7 +0.1**
comp=Z,2.0nm,0.7s,baz=4.4,slow=2.3,SNR=4.8
KSRS PKPab **PKPab** **15 46 13.4 +0.7**
comp=Z,1.4nm,0.8s,baz=30,slow=4.6,SNR=2.4
GTA Gaotai 156.23 21 PKPbc **PKPdf** **15 45 46.5 -3.1**
GTA PKPab **PKPab** **15 46 19.3 +1.2**
GTA sPKP 15 46 21.5
GTA PP **PP** **15 49 55.5 +0.2**
HHC Hu-ho-hao-te 156.72 358 *eP* **PKPdf** **15 45 46.5 -3.7**
TIA Tai'an 160.50 344 ⇓PKP **PKPdf** **15 45 57.0 +2.3**
TIA PKP **PKPab** **15 46 37.3 +0.8**
XAN Xi'an 163.46 5 ⇓P **PKPab** **15 46 50.5 +1.0**
XAN pP sPKPdf 15 46 54.0 -1.3
XAN pmax pmax
comp=Z,10.0nm,0.9s
PZH PanZhiHua 167.83 41 PKP **PKPdf** **15 45 59.8 -1.9**
CMAR Chiang Mai Arr 168.82 83 PKP **PKPdf** **15 46 02.2 -0.2**
comp=Z,0.1nm,0.3s,baz=20,slow=2.9,SNR=2.0
CMAR PKPab **PKPab** **15 47 13.5 -0.4**
comp=Z,0.8nm,0.8s,baz=274,slow=6.0,SNR=6.1

TEH ***26*** *15:32:58.4,34.˚62N×46.˚30E,h6km±51km, ML3.6*
ISN ***26*** *15:32:59.3±1.2,34.˚67N×46.˚27E,h18km±10km,ML3.6*
NEIC ***26*** *15:32:59.4±0.8,34.˚85N±0.˚10×46.˚47E±0.˚09,h10km±1km, mb4.6/10, Error ellipse: s-maj=19.8km s-min=6.6km az=213.0*
IDC ***26*** *15:33:02.7±6.6,35.˚16N×46.˚20E,h0km,mb3.8/5, mbtmp3.7/7,ML3.3/2,MS3.1/3, Error ellipse: s-maj=137.2km s-min=27.5km az=4.0*
AZER ***26*** *15:33:11.4±0.9,34.˚76N×47.˚99E,h10km, Error ellipse: s-maj=9.5km s-min=7.5km az=106.0*
OMAN ***26*** *15:33:13.2±1.5,33.˚69N×47.˚11E,h10km,mb3.8/21, ms2.9/4, Error ellipse: s-maj=20.6km s-min=13.2km az=60.0*

ISC 26 15:32:58.8±0.7, 34.˚73N±0.˚02×46.˚45E±0.˚03, h14km±4km, n113, σ2ᵖ59/111, mb4.1/9, 10C-2D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	Dehrash	0.06	243	Pg	**Pg**	15 33 01.9	+0.2
IDHR				Sg	**Sg**	15 33 04.2	+0.4
IGHG	Ghaleghazi	0.41	166	Pg	**Pg**	15 33 07.2	+0.1
ILIN	Lien	0.46	65	Pg	**Pn**	15 33 11.5	+0.2
KCHF	Cheshme Sefid,	0.66	133	Pg	**Pn**	15 33 12.8	-1.2
KGS1	Ghasr-e-Shirin	0.74	253	Pg	**Pg**	15 33 10.7	-2.6
IKOM	Komasi	1.03	122	Pg	**Pn**	15 33 20.2	+1.2
ILBA	Ilam Banvizeh	1.12	191	Pg	**Pb**	15 33 18.7	-1.3
IALM	Almabolaq	1.42	84	Pg	**Pg**	15 33 28.6	+2.5
SDS1	Sardasht. Az.	1.62	331	Pg	**Pg**	15 33 30.1	+0.1
IKFM	Kafar-mosalman	1.67	136	Pg	**Pg**	15 33 32.0	+1.2
IBDR	Badra	1.67	195	*e*Pg	**Pn**	15 33 27.0	-0.6
	baz=10.0						
IBDR				*e*Sg	**Sn**	15 33 49.0	+0.2
HSAM	Samen	1.85	106	Pn	**Pg**	15 33 35.8	+1.5
MAHB	Mahabad	2.12	344	Pn	**Pg**	15 33 38.7	-0.8
HAGD	Aghdareh	2.21	87	Pn	**Pg**	15 33 41.3	0.0
BHD	Baghdad	2.25	230	*e*Pn	**Pn**	15 33 35.0	-0.6
BHD				*e*Sn	**Sn**	15 34 02.0	-1.2
BHD				AML	AML	15 34 19.2	
	comp=E,535nm,0.5s						
IHSH	Hashtrud	2.66	14	Pn	**Pg**	15 33 47.6	-2.1
QSDN	Sirdan	2.84	51	Pn	**Pg**	15 33 50.9	-2.3
IAZR	Azarshahr	2.97	353	Pn	**Pb**	15 33 51.6	-0.1
ISRB	Sarab	3.24	17	Pn	**Pb**	15 33 55.6	-0.6
ISHB	Shabestar	3.61	350	Pn	**Pb**	15 33 59.6	-3.0
IHRS	Heris	3.62	7	Pn	**Pb**	15 34 00.7	-1.9
AMIS	Naft Sefid	3.87	141	Pn	**Pn**	15 34 01.3	+3.4
LRK	Lerik	4.19	21	P	**Pb**	15 34 11.9	-0.5
LRK				S	**Sb**	15 34 58.5	-4.4
ORD	Ordubad	4.21	355	P	**Pg**	15 34 19.3	-0.1
ORD				S	**Sg**	15 35 09.7	-4.3
QAMS	Qamsar	4.21	102	Pn	**Pb**	15 34 08.9	-4.0
GRMI	Germi	4.23	15	Pn	**Pb**	15 34 09.3	-3.8
ASTR	Astara	4.26	25	P	**Pb**	15 34 10.2	-3.3
ASTR				S	**Sn**	15 34 56.3	+3.5
JHBN	Jahan bin	4.31	124	Pn	Pb	15 34 09.2	-5.4
IVRN	Varamin	4.35	85	Pn	**Pb**	15 34 10.6	-4.4
LKRN	Lenkeran, Azer	4.39	25	P	**Pb**	15 34 12.9	-2.9
LKRN				S	**Sn**	15 35 00.9	+5.0
YRD	Yardimli	4.42	18	P	**Pb**	15 34 14.2	-2.1
YRD				S	**Sb**	15 35 06.1	-3.5
IKLH	Kolahrood	4.48	107	Pn	**Pb**	15 34 12.7	-4.8
NAX	Nakhchivan	4.50	350	S	**Sg**	15 35 21.6	-1.8
ZNGN	Zangian	4.51	124	Pn	Pn	15 34 11.2	+4.3
IDMV	Damavand	4.65	78	Pn	Pb	15 34 15.1	-5.2
SBZ	Shahbuz	4.72	351	P	**Pg**	15 34 26.5	-2.6
SBZ				S	**Sg**	15 35 25.4	-4.8
KRSH	Karshahi	4.76	98	Pn	Pb	15 34 16.3	-5.8
ISFB	Sefidab	4.79	93	Pn	Pb	15 34 16.1	-6.5
MAKU	Maku	4.83	343	Pn	Pn	15 34 16.3	+5.1
IGAR	Gharneh	5.21	115	Pn	Pn	15 34 21.5	+5.0
IZEF	Zefreh	5.22	109	Pn	Pn	15 34 22.0	+5.3
MARD	Mardin	5.27	301	Pn	**Pn**	15 34 17.4	+0.1
GNI	Garni	5.58	346	Pn	**Pn**	15 34 21.1	-0.4
IRAM	Ramesheh	5.76	119	Pn	Pn	15 34 28.8	+4.8
MMAI	Mount Meron Ar	9.35	263	LR	LR	15 39 40.6	
	comp=E,51nm,18.8s,baz=74,slow=43						
SAKB	Bahrain	9.40	157	P	**Pn**	15 35 14.6	+0.7
SAKB				S	Sn	15 36 44.3	-15
TRNA	Turayna	10.78	156	P	**Pn**	15 35 35.0	+2.3
TRNA				S	**Sn**	15 37 24.4	-8.9
JRN	Qarnain Island	11.22	149	P	**Pn**	15 35 37.1	-1.6
BRTR	Keskin Array B	11.36	300	Pn	Pn	15 35 46.0	+5.2
	baz=110,slow=11,SNR=6.4						
BRTR				LR	LR	15 40 46.3	
	comp=E,67nm,19.2s,baz=96,slow=42						
	comp=E,1.1nm,0.8s						
SHME	Shamm	12.03	133	P	**Pn**	15 35 51.8	+2.0
UMQ	Umm Al-Quwin	12.14	137	P	**Pn**	15 35 54.5	+3.1
BANOM	Banah	12.21	133	P	**Pn**	15 35 53.5	+1.1
MASF	Masafi	12.55	135	P	**Pn**	15 35 56.8	-0.1
MASF				S	**Sn**	15 38 09.6	-7.0
AJN	Ajban	12.55	142	P	**Pn**	15 35 56.7	-0.2
NAZ	Nazwa, Dubai	12.56	138	P	**Pn**	15 35 56.3	-0.9
	SNR=5.7						
ASUD	Al Ashush, Dub	12.68	140	P	**Pn**	15 35 57.2	-1.5
	SNR=9.0						
ASUD				P	**Pn**	15 35 57.2	-1.5
	SNR=9.0						
ASUD				S	Sn	15 38 09.4	-10
ASUD				S	Sn	15 38 09.4	-10
FAQ	Al Faqa, Dubai	12.72	139	P	**Pn**	15 35 58.4	-0.9
UOSS	Minazif	12.90	136	Pn	**Pn**	15 36 03.4	+1.6
UOSS	Minazif	12.90	136	P	**Pn**	15 36 01.3	-0.4
UOSS				S	**Sn**	15 38 16.5	-8.7
HATD	Hatta, Dubai	12.95	137	P	**Pn**	15 36 01.8	-0.7
HATD				S	Sn	15 38 16.5	-10
ASHO	Ashiyiah	13.02	138	P	**Pn**	15 36 04.7	+1.2
	SNR=5.5						
ASHO				P	**Pn**	15 36 04.7	+1.2
	SNR=5.5						
MZR	Muzera	13.20	150	P	**Pn**	15 36 05.0	-0.8
JASK	Jask - Hormozg	13.23	129	P	**Pn**	15 36 07.5	+1.3
JASK				S	Sn	15 38 20.5	-13
ALNE	Al Ain	13.36	140	P	**Pn**	15 36 09.0	+0.9
ALNE				P	**Pn**	15 36 09.0	+0.9
SOHO	SOHO	13.72	138	P	**Pn**	15 36 12.9	0.0
ARQ	Araqi	14.36	140	P	**Pn**	15 36 19.0	-2.6
HOQ	Hoqain	14.59	137	P	**Pn**	15 36 26.1	+1.2
BIDO	Bidbid	15.11	135	P	**Pn**	15 36 29.0	-2.9
BSY	Bisya	15.20	139	P	**Pn**	15 36 33.5	+0.4
SMDO	Samad	15.42	136	P	**Pn**	15 36 35.2	-0.9
WSAR	Wadi Sarin	15.62	134	P	**Pn**	15 36 38.9	+0.3
	SNR=9.1						
NGCH	Negor - Chabah	15.76	122	P	**Pn**	15 36 40.2	-0.1
JMDO	Jabal Madar	15.99	137	P	**Pn**	15 36 42.6	-0.8
WBK	Wadi Bani Khal	16.30	134	P	**Pn**	15 36 46.9	-0.5
JLN	Jalan Bani Buh	16.92	134	P	**P**	15 36 56.0	-1.1
MHTO	MHTO	17.04	140	P	**Pn**	15 36 55.6	-1.1
MHTO				P	**Pn**	15 36 55.6	-1.1
MHTO				S	Sn	15 39 52.5	-13
MHTO				S	Sn	15 39 52.5	-13
DQM	DQM	17.71	143	P	**Pn**	15 37 04.9	-0.1
WHFO	Wadi Hawf	17.97	157	P	**P**	15 37 09.4	+0.6
WHFO				S	Sn	15 40 17.3	-11
ELND	Elena	17.97	303	⇑P	**P**	15 37 11.8	+3.1
ABTO	Aybut	18.35	159	P	**P**	15 37 15.8	+2.8
SHAO	Shalim	18.54	152	P	**Pn**	15 37 15.5	+0.3
	SNR=8.1						
DMTO	DMTO	18.56	154	P	**P**	15 37 14.8	-0.4
DMTO				S	Sn	15 40 30.3	-13
MLR	Muntele Rosu	18.96	311	⇓P	Pn	15 37 31.7	+11
TESR	Tescani	19.03	314	⇑P	**Pn**	15 37 24.2	+3.2
VOIR		19.50	310	⇑P	**Pn**	15 37 29.5	+2.7
DOPR	Dopca	19.53	311	⇓P	**Pn**	15 37 29.6	+2.6
AKASG	Malin Array Be	20.29	327	P	**P**	15 37 35.1	+1.1
	comp=E,0.4nm,0.3s,baz=139,slow=10,SNR=4.6						
	comp=E,0.3nm,0.3s						
LOT	Lotru	20.32	309	⇑P	Pn	15 37 36.4	-0.1
BLKB	Belogradchik	20.41	303	⇑P	Pn	15 37 37.3	-0.2
BURAR	Bucovina Array	20.44	315	⇑P	Pn	15 37 37.8	-0.2
BURAR	Bucovina Array	20.44	315	Pn	Pn	15 37 37.5	-0.5
BUR08	Bucovina Ar. S	20.47	315	Pn	**P**	15 37 37.4	+1.3
FNA	Florina	20.69	294	P	**P**	15 37 38.8	+0.3
GZR	Gura Zlata	20.95	308	⇑P	**P**	15 37 42.7	+1.5
BOVS	Bovan	21.08	302	⇑P	**P**	15 37 44.4	+1.7
MARR	Marisel-Cluj	21.25	311	⇑P	**P**	15 37 47.3	+2.7
MDVR	Moldovita	21.43	305	⇑P	**P**	15 37 47.3	+0.8
KOLS	Kolonicke sedl	22.81	316	*e*P	**P**	15 38 06.7	+5.6
CRVS	Cervenica-Dubn	23.26	315	*e*P	**P**	15 38 12.5	+6.8
OJC	Ojcow	24.84	317	P	**P**	15 38 22.4	+1.8
OJC				IAmb	IAmb	15 38 26.1	
	comp=E,6.1nm,0.8s						
BVAR	Borovoye Array	24.95	36	P	**P**	15 38 26.0	+4.5
	comp=Z,0.7nm,0.8s,baz=232,slow=7.1,SNR=3.6						
	comp=Z,0.7nm,0.8s						
MKAR	Makanchi Array	29.45	55	P	P	15 39 07.7	+5.7
	comp=Z,0.4nm,1.0s,baz=243,slow=9.4,SNR=2.0						
	comp=Z,0.4nm,1.0s						
FINES	FINESS Array B	29.73	340	P	**P**	15 39 05.8	+1.5
	comp=Z,5.1nm,1.1s,baz=129,slow=11,SNR=2.2						
	comp=Z,5.1nm,1.1s						
HFS	Hagfors	33.11	330	P	**P**	15 39 35.2	+1.1
HFS	Hagfors	33.11	330	P	**P**	15 39 35.2	+1.1
	comp=Z,2.0nm,0.8s,baz=136,slow=11,SNR=1.4						
	comp=Z,2.0nm,0.8s						
EKA	Eskdalemuir Ar	39.62	317	P	**P**	15 40 31.0	+1.3
	comp=Z,0.6nm,0.6s,baz=110,slow=9.2,SNR=4.2						
	comp=Z,0.6nm,0.6s						
MSEY	Mahe Island	40.10	166	P	**P**	15 40 34.9	+0.8
MSEY				IAmb	IAmb	15 40 37.6	
	comp=Z,57nm,1.1s						
SPB2	Spitsbergen Ar	45.42	352	P	**P**	15 41 16.9	+0.4
BORG	Borgarnes	49.77	329	P	**P**	15 41 49.9	-0.5
SUMG	Summit	55.75	339	IAmb	IAmb	15 42 33.1	
	comp=Z,1.2nm,0.7s						
SUMG				P	**P**	15 42 33.3	-1.8
VOI	Vohitsoka	56.32	180	P	**P**	15 42 42.1	+2.8
VOI				IAmb	IAmb	15 43 14.9	
	comp=Z,9.3nm,1.1s						
BATG	Bathurst New B	78.43	320	P	**P**	15 44 59.6	+0.5
ILAR	Eielson Array	80.28	6	LR	LR	16 23 16.6	
	comp=Z,37nm,20.0s,baz=216,slow=38						

IDC ***26*** *15:35:13.1±4.5,29.˚14N×142.˚23E,h0km,mb3.4/6, mbtmp3.4/7,ML2.6/1, Error ellipse: s-maj=177.3km s-min=22.6km az=73.0*

ISC 26 15:35:11.7±5.8, 29.˚4N±0.˚5×14.˚3E±.˚, h10km, n7, σ0ᵖ49/7, mb3.5/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	Matsushiro Arr	8.21	332	Pn	**Pn**	15 37 10.7	-0.2
	0.1nm,0.3s,baz=161,slow=11,SNR=4.4						
	3.5nm,1.0s						
SONM	Songino Array	33.64	313	P	**P**	15 41 52.9	+0.3
	0.4nm,0.7s,baz=112,slow=6.4,SNR=2.8						
	0.4nm,0.7s						
MKAR	Makanchi Array	49.63	308	P	**P**	15 44 03.1	-0.3
	0.2nm,0.6s,baz=92,slow=7.6,SNR=2.1						
	0.2nm,0.6s						
WRA	Warramunga Arr	49.76	191	P	**P**	15 44 04.4	-0.1
	0.6nm,0.8s,baz=7.6,slow=7.8,SNR=5.1						
	0.6nm,0.8s						
KURBB	Kurchatov Arra	52.01	313	P	**P**	15 44 22.0	+0.8
	0.5nm,0.5s,baz=91,slow=6.3,SNR=6.1						
	0.5nm,0.5s						
ASAR	Alice Springs	53.48	190	P	**P**	15 44 32.4	+0.1
	0.2nm,0.9s,baz=6.6,slow=6.2,SNR=1.7						
	0.2nm,0.9s						
BVAR	Borovoye Array	56.89	316	P	**P**	15 44 56.8	+0.1
	0.3nm,0.3s,baz=98,slow=8.9,SNR=3.6						
	0.3nm,0.3s						

DSN ***26*** *15:44:34.7±1.7,27.˚05N×55.˚00E,h15km, ML3.4/10, Error ellipse: s-maj=21.8km s-min=8.2km az=13.0*
OMAN ***26*** *15:44:38.3±0.1,26.˚65N×54.˚98E,h10km, mb4.2/5, ml3.3/18, Error ellipse: s-maj=1.3km s-min=1.2km az=13.0*
TEH ***26*** *15:44:38.2,26.˚67N×54.˚89E,h22km±54km, ML3.4*

ISC 26 15:44:38.4±1.2, 26.˚68N±0.˚03×54.˚94E±0.˚04, h19km±3km, n63, σ1ᵖ34/87, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAR1	LAR	1.11	333	Pg	**Pb**	15 44 58.5	-0.5
LAR1				Sg	**Sg**	15 45 14.7	+0.3
SHME	Shamm	1.25	120	*e*P	**Pn**	15 45 00.7	0.0

	SNR=11							
MSFE	**Esma-Masafi**	**1.71**	**140**	Pg		**Pn**	**15 45 07.9**	**+0.6**
LMD1	**Lamerd**	**1.72**	**293**	Pg		**Pn**	**15 45 08.4**	**+1.1**
NAZ	**Nazwa, Dubai**	**1.81**	**159**	*eP*		**Pb**	**15 45 09.9**	**-1.0**
	SNR=16							
NAZ	**Nazwa, Dubai**	**1.81**	**159**	P		**Pb**	**15 45 11.5**	**+0.7**
	SNR=16							
NAZ				S		**Sb**	**15 45 33.0**	**-0.2**
NAZ	**Nazwa, Dubai**	**1.81**	**159**	Pn		**Pn**	**15 45 09.1**	**+0.6**
FAQ	**Al Faqa, Dubai**	**2.02**	**163**	P		**Pb**	**15 45 13.7**	**-0.8**
FAQ	**Al Faqa, Dubai**	**2.02**	**163**	P		**Pn**	**15 45 13.0**	**+1.6**
	SNR=8.0							
FAQ				S		**Sb**	**15 45 38.2**	**-1.0**
UOSS	**Minazif**	**2.07**	**146**	*eP*		**Pn**	**15 45 12.9**	**+0.7**
	SNR=10							
UOSS	**Minazif**	**2.07**	**146**	P		**Pn**	**15 45 13.5**	**+1.3**
UOSS				S		**Sb**	**15 45 39.6**	**-1.1**
UOSS	**Minazif**	**2.07**	**146**	Pn		**Pn**	**15 45 13.3**	**+1.2**
ASUD	**Al Ashush, Dub**	**2.08**	**170**	*eP*		**Pb**	**15 45 14.4**	**-1.1**
	SNR=8.1							
ASUD	**Al Ashush, Dub**	**2.08**	**170**	P		**Pn**	**15 45 13.6**	**+1.3**
	SNR=5.5							
ASUD				S		**Sb**	**15 45 40.6**	**-0.3**
ASUD	**Al Ashush, Dub**	**2.08**	**170**	Pn		**Pn**	**15 45 13.1**	**+0.8**
AJN	**Ajban**	**2.11**	**179**	P		**Pb**	**15 45 17.3**	**+1.2**
AJN				S		**Sn**	**15 45 40.6**	**+2.2**
HATD	**Hatta, Dubai**	**2.14**	**150**	*eP*		**Pn**	**15 45 13.5**	**+0.5**
	SNR=6.2							
HATD	**Hatta, Dubai**	**2.14**	**150**	P		**Pn**	**15 45 14.9**	**+1.8**
	SNR=6.2							
HATD				S		**Sb**	**15 45 43.4**	**+0.8**
HATD	**Hatta, Dubai**	**2.14**	**150**	Pn		**Pn**	**15 45 14.4**	**+1.3**
JHRM	**Jahrom**	**2.18**	**327**	Pn		**Pn**	**15 45 14.6**	**+0.8**
ASHO	**Ashiyiah**	**2.23**	**153**	*eP*		**Pn**	**15 45 15.2**	**+0.8**
	SNR=13							
ASHO	**Ashiyiah**	**2.23**	**153**	P		**Pn**	**15 45 15.3**	**+0.9**
	SNR=6.8							
ASHO				S		**Sn**	**15 45 43.6**	**+2.1**
ASHO	**Ashiyiah**	**2.23**	**153**	Pn		**Pn**	**15 45 15.1**	**+0.8**
ALNE	**Al Ain**	**2.72**	**164**	P		**Pn**	**15 45 22.8**	**+1.7**
ALNE				S		**Sn**	**15 45 56.6**	**+3.3**
ALNE	**Al Ain**	**2.72**	**164**	Pn		**Pn**	**15 45 22.6**	**+1.6**
JASK	**Jask - Hormozg**	**2.75**	**107**	P		**Pn**	**15 45 21.5**	**+0.1**
	SNR=16							
JASK				S		**Sn**	**15 45 56.9**	**+2.8**
JASK	**Jask - Hormozg**	**2.75**	**107**	Pn		**Pn**	**15 45 22.9**	**+1.5**
KHNJ	**Kahnooj**	**2.76**	**62**	Pn		**Pn**	**15 45 22.7**	**+1.0**
SOHO	**SOHO**	**2.92**	**150**	*i* P		**Pn**	**15 45 23.2**	**-0.6**
	SNR=6.9							
SOHO	**SOHO**	**2.92**	**150**	P		**Pn**	**15 45 23.8**	**+0.1**
SOHO				P		Pb	15 45 24.0	-5.8
MZWR	**Madinat Zayed**	**3.06**	**199**	Pn		**Pn**	**15 45 26.9**	**+1.1**
NGRK	**Negar Kerman**	**3.34**	**28**	Pn		**Pn**	**15 45 31.1**	**+1.1**
TVBK	**TV Kerman**	**3.66**	**26**	Pn		**Pn**	**15 45 36.2**	**+1.8**
HOQ	**Hoqain**	**3.76**	**145**	P		**Pn**	**15 45 36.3**	**+0.9**
HOQ				S		**Sn**	**15 46 19.5**	**+0.3**
CHMN	**Cheshme madani**	**3.91**	**35**	Pn		**Pn**	**15 45 39.3**	**+1.6**
KBAM	**BAM**	**3.95**	**51**	Pn		**Pn**	**15 45 40.5**	**+2.4**
BIDO	**Bidbid**	**4.27**	**137**	P		**Pn**	**15 45 44.3**	**+1.9**
BIDO				S		**Sn**	**15 46 30.9**	**-0.9**
BSY	**Bisya**	**4.42**	**152**	P		**Pn**	**15 45 46.2**	**+1.7**
BSY				S		**Sn**	**15 46 35.0**	**-0.6**
SMDO	**Samad**	**4.58**	**141**	P		**Pn**	**15 45 46.6**	**-0.1**
	SNR=11							
SMDO				S		**Sn**	**15 46 40.0**	**+0.5**
	SNR=5.9							
WSAR	**Wadi Sarin**	**4.79**	**135**	P		**Pn**	**15 45 49.4**	**-0.2**
	SNR=22							
WSAR				S		**Sn**	**15 46 43.6**	**-1.0**
JMDO	**Jabal Madar**	**5.17**	**146**	P		**Pn**	**15 45 54.9**	**+0.1**
JMDO				S		**Sn**	**15 46 51.4**	**-2.6**
KLNJ	**Kolanjah**	**5.22**	**326**	Pn		**Pn**	**15 45 56.2**	**+0.5**
ISAD	**Sadrabad**	**5.33**	**348**	Pn		**Pn**	**15 45 58.5**	**+1.4**
WBK	**Wadi Bani Khal**	**5.46**	**137**	P		**Pn**	**15 45 56.2**	**-2.6**
	SNR=6.7							
WBK				S		**Sn**	**15 47 00.3**	**-0.9**
IRAM	**Rameshen**	**5.58**	**337**	Pn		**Pn**	**15 46 01.5**	**+1.0**
JLN	**Jalan Bani Buh**	**6.08**	**137**	P		**Pn**	**15 46 06.4**	**-0.9**
JLN				S		**Sn**	**15 47 13.8**	**-2.5**
MHTO	**MHTO**	**6.31**	**153**	P		**Pn**	**15 46 10.2**	**-0.2**
	SNR=17							
MHTO				S		**Sn**	**15 47 18.8**	**-3.2**
SRVN	**Saravan**	**6.69**	**82**	Pn		**Pn**	**15 46 17.3**	**+1.6**
DQM	**DQM**	**7.13**	**160**	P		**Pn**	**15 46 21.3**	**-0.5**
WHFO	**Wadi Hawf**	**8.79**	**187**	P		**Pn**	**15 46 43.6**	**-1.0**
	SNR=24							
DMTO	**DMTO**	**8.92**	**180**	P		**Pn**	**15 46 45.9**	**-0.4**
	SNR=6.5							
ABTO	**Aybut**	**9.41**	**190**	P		**Pn**	**15 46 51.2**	**-1.9**

ISK 26 15:49:51.9, 36.92N × 27.58E, h13 km, ML1.1/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFTAA	**Mazikoy-Bodrum**	**0.16**	**60**	Pg	Pg	15 49 55.9	+0.3
RFTAA				Sg	Sg	15 49 58.9	+0.7
DATC	**Datca-Mugla**	**0.17**	**157**	Pg	Pg	15 49 56.2	+0.3
DATC				Sg	Sg	15 49 59.5	+0.9
DAT	**Datca**	**0.19**	**180**	Pg	Pg	15 49 56.5	+0.3
DAT				Sg	Sg	15 49 59.9	+0.7
RFTB	**Kemer-Bodrum**	**0.25**	**280**	Pg	Pg	15 49 57.6	+0.4
RFTB				Sg	Sb	15 50 01.7	-0.8
BODT	**Bodrum**	**0.26**	**304**	Pg	Pg	15 49 57.7	+0.4
BODT				Sg	Sb	15 50 01.9	-0.9

*IDC **26** 15:50:06.3±0.5, 34.69N × 141.11E, h0 km, mb4.2/28, mbtmp4.2/34, ML3.8/6, MS3.6/26, Error ellipse: s-maj=14.2km s-min=12.1km az=88.0*
*JMA **26** 15:50:08.8±0.4, 35°N±1.1″×14°1E±.″, h42 km±2 km, MV3.9/32, SE OFF BOSO PENINSULA*
*MOS **26** 15:50:08.6±1.4, 34.84N × 141.37E, h28 km, mb4.8/20, Error ellipse: s-maj=10.0km s-min=5.3km az=103.4*
*NEIC **26** 15:50:10.1±1.8, 34.71N±0.03 × 141.28E±0.09, h25 km±5 km, mb4.6/54, Error ellipse: s-maj=11.1km s-min=3.6km az=84.0*

ISC 26 15:50:10.7±0.4, 34.70N±0.04 × 141.25E±0.05, h35 km, n177, σ 25.24/146, mb4.5/72, MS3.6/22, 6C-13D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.22**	**259**	*i* P		**Pn**	**15 50 16.0**	**-1.2**
BSO3	**Boso 3**	**0.61**	**280**	*i* P		**Pn**	**15 50 20.7**	**-2.0**
BSO4	**Boso 4**	**0.80**	**292**	*i* P		**Pn**	**15 50 23.6**	**-1.8**
BSO4				X			15 50 34.0	
KTR	**Katsuura**	**0.89**	**301**	*eP*		**Pn**	**15 50 24.5**	**-2.2**
JKUC	**kamogawauchiur**	**0.97**	**299**	P		**Pn**	**15 50 25.5**	**-2.4**
JKUC				*eS*		**Sn**	**15 50 36.3**	**-4.2**
JCN	**Nagara**	**1.12**	**310**	P		**Pn**	**15 50 28.3**	**-1.6**
JSMT	**Sammumatsuo**	**1.15**	**326**	*eP*		**Pn**	**15 50 28.7**	**-1.6**
TATJ	**Tateyama 2**	**1.16**	**287**	P		**Pn**	**15 50 28.8**	**-1.7**
TATJ				*eS*		**Sn**	**15 50 43.2**	**-2.0**
JHJ2	**Mitsune**	**1.98**	**217**	Pn		**Pn**	**15 50 40.7**	**-1.0**
JHJ	**Hachijo jima 2**	**1.99**	**218**	Pn		**Pn**	**15 50 39.9**	**-2.0**
	559nm,0.3s,baz=73,slow=3.5,SNR=66							
JHJ				Sn		**Sn**	**15 51 02.0**	**-3.5**
	204nm,0.3s,baz=137,slow=23,SNR=8.5							
JHJ				LR		LR	15 51 33.6	
	comp=Z,2μm,19.3s,baz=110,slow=46							
JSG	**Sagara**	**2.52**	**270**			**Pn**	**15 50 49.6**	**+0.4**
MJAR	**Matsushiro Arr**	**3.08**	**308**	Pn		**Pn**	**15 50 55.1**	**-1.8**
	1.9nm,0.3s,baz=58,slow=7.5,SNR=63							
MJAR				Sn		**Sn**	**15 51 33.2**	**+0.6**
	2.0nm,0.3s,baz=114,slow=15,SNR=5.9							
MJAR				LR		LR	15 52 22.5	
	comp=Z,498nm,18.3s,baz=51,slow=45 38nm,0.7s							
MAJO	**Matsushiro**	**3.08**	**308**			**Pn**	**15 50 56.1**	**-0.8**
MAJO	**Matsushiro**	**3.08**	**308**	⇑ *eP*		**Pn**	**15 50 55.7**	**-1.2**
MJB9	**Matsu-Tunnel**	**3.09**	**308**			**Pn**	**15 50 57.1**	**+0.1**
JMM	**Marumori**	**3.18**	**354**	Pn		**Pn**	**15 50 57.8**	**-0.5**
JTM	**Tenmabayashi**	**6.08**	**359**	Pn		**Pn**	**15 51 37.0**	**-1.0**
ERM	**Erimo**	**7.46**	**11**	Pn		**Pn**	**15 51 54.8**	**-2.2**
ERM	**Erimo**	**7.46**	**11**	*de*P		**Pn**	**15 51 56.6**	**-0.4**
JCJ	**Chichijima**	**7.62**	**174**	Pn		**Pn**	**15 51 59.4**	**+0.2**
JCJ	**Chichijima**	**7.62**	**174**	Pn		**Pn**	**15 51 55.0**	**-4.3**
	25nm,0.3s,baz=68,slow=16,SNR=5.3							
JCJ				LR		LR	15 55 06.6	
	comp=Z,401nm,21.2s,baz=4.5,slow=39							
JNU	**Nakatsue**	**8.76**	**263**	Pn		**Pn**	**15 52 15.6**	**+0.7**
JNU	**Nakatsue**	**8.76**	**263**	Pn		**Pn**	**15 52 14.2**	**-0.8**
	0.3nm,0.3s,baz=214,slow=16,SNR=2.5 13nm,0.9s							
NMR	**Nemuro--Hokkai**	**9.33**	**21**	*eP*		**Pn**	**15 52 19.6**	**-3.1**
NMR				*eS*		Sn	15 53 57.0	-9.3
ASAJ	**Asahikawa**	**9.46**	**6**	Pn		**Pn**	**15 52 22.4**	**-2.1**
	4.7nm,0.3s,baz=220,slow=12,SNR=22							
ASAJ				Sn		**Sn**	**15 54 04.4**	**-5.2**
	1.0nm,0.3s,baz=271,slow=16,SNR=1.7 18nm,0.5s							
JKA	**Kamikawa-asahi**	**9.46**	**6**	Pn		**Pn**	**15 52 22.3**	**-2.2**
RUSJ	**Misakicho**	**9.89**	**17**	*eP*		**Pn**	**15 52 28.0**	**-2.3**
RUSJ				*eS*		**Sn**	**15 54 11.8**	**-8.2**
YUK	**Yuzh-Kuril'sk**	**9.98**	**20**	*eP*		**Pn**	**15 52 28.5**	**-3.1**
YUK				*eS*		Sn	15 54 12.8	-9.5
YUK				pmax	pmax			
	comp=Z,166nm,0.3s							
YUK				pmax	pmax			
	comp=E,89nm,0.2s							
YUK				pmax	pmax			
	comp=N,113nm,0.3s							
SHO	**Shikotan**	**10.13**	**24**	*eP*		**Pn**	**15 52 30.4**	**-3.1**
SHO				*eS*		Sn	15 54 15.9	-10
SHO				pmax	pmax			
	comp=Z,22nm,0.3s							
SHO				pmax	pmax			
	comp=E,9.0nm,0.2s							
SHO				pmax	pmax			
	comp=N,12nm,0.3s							
KSRS	**Korea Array**	**11.13**	**288**	Pn		**Pn**	**15 52 49.5**	**+2.2**
	comp=N,0.1nm,0.3s,baz=93,slow=13,SNR=7.4							
KSRS				LR		LR	15 57 11.6	
	comp=N,177nm,18.9s,baz=90,slow=38							
USRK	**Ussuriysk Ar.**	**11.88**	**326**	Pn		**Pn**	**15 52 58.1**	**+0.7**
	comp=N,0.3nm,0.3s,baz=149,slow=14,SNR=4.8							
USRK				LR		LR	15 57 29.4	
	comp=N,114nm,18.8s,baz=143,slow=38 comp=N,2.7nm,0.6s							
YSS	**Yuzh-Sakhalins**	**12.30**	**5**	Pn		**Pn**	**15 53 01.2**	**-2.0**
YSS	**Yuzh-Sakhalins**	**12.30**	**5**	*eP*		**Pn**	**15 53 00.2**	**-3.0**
YSS				pmax	pmax			
	comp=Z,30nm,0.6s							
YSS				MLR	MLR			
	comp=Z,3μm,16.0s							
MDJ	**Mudanjiang**	**13.35**	**321**	P		**Pn**	**15 53 20.8**	**+3.1**
MDJ				pP	P		15 53 25.0	-1.8
MDJ				sP			15 53 28.0	
MDJ				S		**Sn**	**15 55 48.3**	**+3.5**
MDJ				sS	S		15 55 56.0	-12
MDJ				SS		**SnSn**	**15 56 02.0**	**+4.8**
MDJ				pmax	pmax			
	comp=Z,10.0nm,1.0s							
MDJ				pmax	pmax			
	comp=Z,17nm,3.7s							
JOW	**Kunigami**	**13.62**	**238**	Pn		**Pn**	**15 53 17.8**	**-3.6**
	comp=Z,1.8nm,0.3s,baz=98,slow=24,SNR=1.4							
JOW				LR		LR	15 58 12.1	
	comp=Z,290nm,20.0s,baz=84,slow=36 comp=Z,21nm,1.0s							
CN2	**Changchun**	**15.22**	**311**	*eP*		**Pn**	**15 53 41.0**	**-2.0**
KLR	**Kul'dur**	**16.13**	**337**	⇓ *eP*		**Pn**	**15 53 54.5**	**-0.1**
KLR				pmax	pmax			
	comp=Z,30nm,2.5s							
KLR	**Kul'dur**	**16.13**	**337**	Pn		**Pn**	**15 53 53.6**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=136,slow=8.6,SNR=6.5							
KLR				LR		LR	15 59 52.7	
	comp=Z,108nm,18.9s,baz=239,slow=36 comp=Z,1.9nm,0.6s							
TYV	**Tymovskoe**	**16.19**	**3**	*eP*		**Pn**	**15 53 55.3**	**-0.1**
TYV				pmax	pmax			
	comp=Z,17nm,0.8s							
TYV				pmax	pmax			
	comp=Z,400nm,2.9s							
NJ2	**Nanjing**	**18.88**	**268**	⇑ P		**Pn**	**15 54 29.5**	**+0.7**
NJ2				pP		**pP**	**15 54 32.0**	**-4.2**
NJ2				sP		**sP**	**15 54 34.0**	**-6.2**
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.6s							
NJ2				pmax	pmax			
	comp=Z,260nm,5.7s							
OKH	**Okha**	**18.89**	**3**	*de*P		**P**	**15 54 21.2**	**-6.7**
OKH				MLR	MLR			
	comp=Z,400nm,19.0s							
OKH				MLR	MLR			
	comp=E,800nm,21.0s							
OKH				MLR	MLR			
	comp=N,600nm,7.0s							
GUMO	**Guam**	**21.27**	**170**	P		**P**	**15 54 53.5**	**-0.6**
	comp=N,51nm,0.6s,baz=188,slow=18,SNR=1.5 comp=N,51nm,0.6s							
ZEA	**Zeya**	**21.44**	**337**	*eP*		**P**	**15 54 55.5**	**-0.2**
ZEA				pmax	pmax			
	comp=N,10.0nm,0.6s							
ZEA				pmax	pmax			
	comp=Z,20nm,0.6s							
XLT	**XiLinHaoTe**	**21.47**	**303**	*eP*		**P**	**15 54 53.3**	**-2.8**
XLT				pP	pP		15 54 58.3	-6.0
XLT				sP	pwP		15 55 01.3	-8.1
XLT				PP		**PnPn**	**15 55 19.0**	**+2.2**
XLT				pmax	pmax			
	comp=Z,3.0nm,0.7s							
XLT				pmax	pmax			
	comp=Z,420nm,5.5s							
HNS	**HongShan**	**21.60**	**285**	*eP*		**P**	**15 54 54.8**	**-2.7**
PETK	**Petropavlovsk-**	**21.80**	**27**	P		**P**	**15 55 01.8**	**+2.3**
	comp=Z,5.0nm,0.9s,baz=219,slow=12,SNR=1.7 comp=Z,5.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**24.18**	**294**	*eP*		**P**	**15 55 25.3**	**+1.4**
HHC				pmax	pmax			
	comp=Z,26nm,0.5s							
HHC				pmax	pmax			
	comp=Z,440nm,6.8s							
BTO	**Baotou**	**25.33**	**293**	*eP*		**P**	**15 55 37.0**	**+2.7**
BTO				pP		**pP**	**15 55 41.3**	**-2.1**
BTO				sP		**pwP**	**15 55 44.0**	**-3.3**
BTO				PP		**PnPn**	**15 56 16.0**	**+6.2**
BTO				pmax	pmax			
	comp=Z,16nm,0.7s							
BTO				pmax	pmax			
	comp=Z,170nm,4.0s							
MA2	**Magadan**	**25.66**	**11**	LR		LR	16 05 31.3	
	comp=Z,122nm,20.5s,baz=228,slow=36							
H11N2	**WAKE ISLAND Hy**	**27.15**	**117**	T		T	16 25 06.4	
	baz=311,slow=74							
H11N1	**WAKE ISLAND Hy**	**27.15**	**117**	T		T	16 25 09.7	
	baz=311,slow=74							
H11N3	**WAKE ISLAND Hy**	**27.16**	**117**	T		T	16 25 07.5	
	baz=311							
H11S3	**WAKE ISLAND Hy**	**27.78**	**119**	T		T	16 25 51.6	
	baz=312,slow=75,SNR=55							
H11S1	**WAKE ISLAND Hy**	**27.78**	**119**	T		T	16 25 52.8	
	baz=312,slow=75,SNR=72							
H11S2	**WAKE ISLAND Hy**	**27.79**	**119**	T		T	16 25 54.0	
	baz=312,slow=75,SNR=42							
YAK	**Yakutsk**	**28.32**	**349**	P		**P**	**15 56 02.4**	**+1.6**
YAK	**Yakutsk**	**28.32**	**349**	⇓ *eP*		**P**	**15 56 02.0**	**+1.2**
YAK				pmax	pmax			
	comp=Z,34nm,2.5s							
YAK	**Yakutsk**	**28.32**	**349**	LR		LR	16 07 27.3	
	comp=Z,9.9nm,20.7s,baz=148,slow=37							
ULN	**Ulaanbaatar**	**28.61**	**308**	⇓ *iP*		**P**	**15 56 04.9**	**+1.1**
ULN				pmax	pmax			
	comp=Z,29nm,5.6s							
SONM	**Songino Array**	**29.04**	**308**	P		**P**	**15 56 07.3**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=116,slow=9.6,SNR=8.4							
SONM				LR		LR	16 08 34.7	
	comp=Z,136nm,19.3s,baz=79,slow=38 comp=Z,2.8nm,0.8s							
SEY	**Seymchan**	**29.11**	**10**	LR		LR	16 08 07.2	
	comp=Z,105nm,21.0s,baz=189,slow=37							
LZH	**Lanzhou**	**30.40**	**284**	*eP*		**P**	**15 56 21.5**	**+1.7**
LZH				pP		pP	15 56 28.0	-0.5
LZH				pmax	pmax			
	comp=Z,8.0nm,1.4s							
GYA	**Guiyang**	**30.77**	**264**	P		P	15 56 30.0	+7.0
GYA				pmax	pmax			
	comp=Z,17nm,0.9s							
DAV	**Davao City (W)**	**31.05**	**211**	LR		LR	16 06 50.7	
	comp=Z,143nm,21.8s,baz=38,slow=32							
GTA	**Gaotai**	**33.19**	**291**	*eP*		P	15 56 48.3	+4.1
GTA				pP		pP	15 56 52.3	-1.1
GTA				pmax	pmax			
	comp=Z,3.0nm,1.1s							
PZH	**PanZhiHua**	**34.79**	**267**	P		**P**	**15 57 00.0**	**+1.8**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,110nm,5.5s							
BILL	**Bilibino**	**36.31**	**16**	⇓ *eP*		**P**	**15 57 10.9**	**+0.3**
BILL				pmax	pmax			
	comp=Z,40nm,6.8s							
TIXI	**Tiksi**	**37.59**	**354**	LR		LR	16 14 08.2	
	comp=Z,7.6nm,19.2s,baz=186,slow=38							
CMAR	**Chiang Mai Arr**	**40.82**	**258**	P		**P**	**15 57 48.4**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=50,slow=7.3,SNR=11							
CMAR				LR		LR	16 15 57.5	
	comp=Z,67nm,18.4s,baz=50,slow=38 comp=Z,1.1nm,0.8s							
DGZ	**Jazzator, Alta**	**41.68**	**308**	*ceP*		**P**	**15 57 57.3**	**+1.3**
DGZ				pmax	pmax			
	comp=Z,17nm,0.8s							
WMQ	**Urumqi**	**41.81**	**299**	*eP*		**P**	**15 57 59.3**	**+2.3**
ZAA0	**Zalesovo Array**	**43.41**	**314**	P		**P**	**15 58 09.8**	**+0.1**
ZALV	**Zalesovo Beam**	**43.41**	**314**	P		**P**	**15 58 09.4**	**-0.3**
ZALV	**Zalesovo Beam**	**43.41**	**314**	P		**P**	**15 58 09.3**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=92,slow=7.3,SNR=13							
ZALV				PcP		**PcP**	**15 59 56.8**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=97,slow=4.5,SNR=2.7							
ZALV				LR		LR	16 16 22.2	
	comp=Z,28nm,18.4s,baz=83,slow=36 comp=Z,3.0nm,0.7s							
KAPI	**Kappang**	**44.39**	**211**	LR		LR	16 15 44.7	
	comp=Z,44nm,20.1s,baz=7.5,slow=35							
MK31	**Makanchi Array**	**45.28**	**304**	P		**P**	**15 58 24.2**	**-0.6**
MK31	**Makanchi Array**	**45.28**	**304**	*c iP*		**P**	**15 58 25.5**	**+0.7**
MKAR	**Makanchi Array**	**45.28**	**304**	P		**P**	**15 58 24.7**	**-0.1**
MKAR	**Makanchi Array**	**45.28**	**304**	*i* P		**P**	**15 58 25.3**	**+0.5**
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.7s							
MKAR	**Makanchi Array**	**45.28**	**304**	P		**P**	**15 58 24.9**	**+0.1**
	comp=Z,3.9nm,0.7s,baz=91,slow=10.0,SNR=28 comp=Z,3.9nm,0.7s							
NRIK	**Noril'sk**	**45.34**	**336**	⇑ *eP*		**P**	**15 58 25.3**	**+0.4**
NRIK				pmax	pmax			
	comp=Z,6.0nm,1.2s							
NRIK	**Noril'sk**	**45.34**	**336**	P		**P**	**15 58 24.1**	**-0.8**
	comp=Z,1.4nm,0.3s,baz=122,slow=5.6,SNR=2.2 comp=Z,1.4nm,0.3s							
MAKZ	**Makanchi**	**45.49**	**304**	P		**P**	**15 58 26.5**	**0.0**
MAKZ	**Makanchi**	**45.49**	**304**	P		**P**	**15 58 26.5**	**0.0**
MAKZ				pmax	pmax			
	comp=Z,5.0nm,1.0s							
RAMN	**Ramite**	**47.08**	**276**	*eP*		**P**	**15 58 38.8**	**-0.7**
	comp=Z,15nm,0.6s							
C19K	**Lookout Ridge**	**47.12**	**25**	IAmb		IAmb	15 58 43.3	
	comp=Z,5.9nm,0.9s							
JIRN	**Jiri**	**47.13**	**277**	*eP*		**P**	**15 58 39.8**	**-0.3**
	comp=Z,9.1nm,0.4s							
GUN	**Gumba**	**47.29**	**278**	*eP*		**P**	**15 58 41.7**	**+0.4**
	comp=Z,25nm,0.8s							
KURK	**Kurchatov**	**47.29**	**310**	P		**P**	**15 58 40.3**	**-0.3**
KURK	**Kurchatov**	**47.29**	**310**	*de*P		**P**	**15 58 40.6**	**+0.1**
KURK				pmax	pmax			
	comp=Z,14nm,0.8s							
HNR	**Honiara**	**47.33**	**155**	LR		LR	16 21 35.1	
	comp=Z,453nm,18.2s,baz=285,slow=40							
KURBB	**Kurchatov Arra**	**47.36**	**310**	P		**P**	**15 58 41.3**	**+0.2**
	comp=Z,6.5nm,0.6s,baz=84,slow=7.4,SNR=81 comp=Z,6.5nm,0.6s							
H19K	**Roundabout Mou**	**47.57**	**30**	IAmb		IAmb	15 58 51.9	
	comp=Z,5.0nm,1.1s							
E19K	**Redstone River**	**47.60**	**27**	IAmb		IAmb	15 58 51.3	
	comp=Z,5.9nm,0.8s							
PKI	**Pulchoki**	**47.81**	**278**	*eP*		**P**	**15 58 44.7**	**-0.6**
	comp=Z,9.0nm,0.6s							
MTN	**Manton Dam**	**48.24**	**193**	P		**P**	**15 58 48.9**	**+0.7**
GKN	**Gorkha**	**48.27**	**278**	*eP*		**P**	**15 58 48.9**	**+0.3**
	comp=Z,12nm,0.6s							
K20K	**Telida**	**48.35**	**33**	IAmb		IAmb	15 58 53.1	
	comp=Z,3.7nm,0.8s							
DANN	**Dangsing**	**48.85**	**279**	*eP*		**P**	**15 58 53.0**	**-0.3**
	comp=Z,19nm,0.5s							
TARG	**Taragay, Kyrgy**	**49.34**	**298**	P		**P**	**15 58 57.5**	**+0.5**
TARG	**Taragay, Kyrgy**	**49.34**	**298**	P		**P**	**15 58 57.5**	**+0.5**
TARG				pmax	pmax			
	comp=Z,8.0nm,0.8s							
D22K	**Ayikyak River**	**49.52**	**26**	IAmb		IAmb	15 59 06.3	
	comp=Z,5.3nm,0.9s							
PYUN	**Piuthan**	**49.57**	**279**	*eP*		**P**	**15 58 58.4**	**-0.3**
	comp=Z,8.3nm,0.4s							
E22K	**Anaktuvuk Pass**	**49.74**	**27**	IAmb		IAmb	15 59 08.4	
	comp=Z,6.6nm,1.1s							
MLY	**Manley**	**49.91**	**31**	P		**P**	**15 59 03.0**	**+2.4**
MLY				IAmb		IAmb	15 59 14.5	
	comp=Z,6.0nm,1.0s							
C23K	**Itkillik River**	**50.37**	**25**	IAmb		IAmb	15 59 12.0	
	comp=Z,4.9nm,0.8s							
NEA2	**Nenana**	**50.61**	**32**	IAmb		IAmb	15 59 14.1	

ASAR	**Alice Springs**	**58.46**	**188**	P	**P**	**16 00 04.3**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=19,slow=12,SNR=40							
ASAR				LR	LR	16 24 54.1		
	comp=Z,52nm,19.7s,baz=359,slow=36							
	comp=Z,1.0nm,0.8s							
ABKAR	**Akbulak array**	**59.35**	**311**	IAmb	IAmb	16 00 14.2		
	comp=Z,6.1nm,1.0s							
C36M	**Paulatuk**	**59.61**	**24**	IAmb	IAmb	16 00 17.8		
	comp=Z,5.2nm,0.8s							
AKTO	**Aktyubinsk**	**60.15**	**313**	P	**P**	**16 00 14.8**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=69,slow=16,SNR=3.3							
	comp=Z,0.7nm,0.4s							
DZM	**Mont Dzumac**	**61.32**	**153**	LR	LR	16 28 35.3		
	comp=Z,30nm,18.8s,baz=74,slow=38							
RES	**Resolute Bay**	**64.89**	**14**	P	**P**	**16 00 47.0**	**+1.1**
RES				IAmb	IAmb	16 00 53.9		
	comp=Z,7.5nm,1.3s							
RES	**Resolute Bay**	**64.89**	**14**	P	**P**	**16 00 47.0**	**+1.1**
RES				pmax	pmax			
	comp=Z,7.0nm,1.3s							
BELG	**Belogornoye**	**65.42**	**318**	*eP*	**P**	**16 00 51.9**	**+2.2**
BELG				pmax	pmax			
	comp=Z,3.0nm,1.0s							
BELG	**Belogornoye**	**65.42**	**318**	P	**P**	**16 00 50.3**	**+0.6**
	comp=Z,12nm,0.9s,baz=253,slow=7.2,SNR=4.2							
	comp=Z,12nm,0.9s							
YKA	**Yellowknife Ar**	**65.90**	**30**	P	**P**	**16 00 53.5**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=190,slow=26,SNR=9.5							
	comp=Z,0.4nm,0.7s							
ARCES	**ARCESS Array B**	**66.13**	**340**	LR	LR	16 34 02.1		
	comp=Z,66nm,19.6s,baz=61,slow=40							
STKA	**Stephens Creek**	**66.22**	**180**	P	**P**	**16 00 56.1**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=0.0,slow=9.1,SNR=1.8							
	comp=Z,1.1nm,0.8s							
OBN	**Obninsk**	**69.89**	**324**	*eP*	**P**	**16 01 18.4**	**+0.6**
OBN				*e*		16 01 40.1		
OBN				*e*		16 03 49.1		
OBN				pmax	pmax			
	comp=Z,4.0nm,1.0s							
FINES	**FINESS Array B**	**70.82**	**333**	P	**P**	**16 01 23.9**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=76,slow=7.3,SNR=2.7							
	comp=Z,2.5nm,0.8s							
NEW	**Newport**	**71.91**	**44**	LR	LR	16 33 19.5		
	comp=Z,47nm,18.3s,baz=34,slow=36							
KBZ	**Khabaz**	**72.33**	**311**	*eP*	**P**	**16 01 34.2**	**+1.5**
KBZ				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KBZ	**Khabaz**	**72.33**	**311**	P	**P**	**16 01 34.0**	**+1.2**
	comp=Z,7.3nm,0.8s,baz=90,slow=2.0,SNR=13							
	comp=Z,7.3nm,0.8s							
KIV	**Kislovodsk**	**72.34**	**311**	*eP*	**P**	**16 01 35.0**	**+2.0**
KIV				pmax	pmax			
	comp=Z,12nm,1.0s							
GNI	**Garni**	**73.00**	**307**	LR	LR	16 36 44.0		
	comp=Z,46nm,20.4s,baz=63,slow=38							
AKASG	**Malin Array Be**	**76.06**	**323**	P	**P**	**16 01 54.5**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=48,slow=5.7,SNR=8.2							
AKASG				LR	LR	16 37 45.1		
	comp=Z,46nm,19.7s,baz=357,slow=38							
	comp=Z,1.3nm,0.6s							
AKBB	**Malin Array Si**	**76.06**	**323**	*eP*	**P**	**16 01 56.7**	**+2.3**
AKBB				pmax	pmax			
	comp=Z,34nm,4.3s							
NB2	**NORSAR Subarra**	**76.28**	**337**	P	**P**	**16 01 58.2**	**+2.6**
	comp=Z,4.8nm,1.0s,baz=37,slow=6.2							
NOA	**NORSAR Array B**	**76.28**	**337**	P	**P**	**16 01 56.4**	**+0.8**
	comp=Z,1.5nm,0.9s,baz=26,slow=8.4,SNR=3.7							
NOA				LR	LR	16 39 31.7		
	comp=Z,51nm,20.1s,baz=35,slow=39							
	comp=Z,1.5nm,0.9s							
NVAR	**Mina Array Bea**	**76.50**	**53**	P	**P**	**16 01 59.5**	**+2.0**
	comp=Z,1.3nm,0.8s,baz=275,slow=5.9,SNR=9.9							
	comp=Z,1.3nm,0.8s							
PDAR	**Pinedale Array**	**79.41**	**45**	P	**P**	**16 02 14.5**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=274,slow=2.7,SNR=8.5							
	comp=Z,0.7nm,0.6s							
BR131	**Keskin Array S**	**80.30**	**312**	*eP*	**P**	**16 02 22.0**	**+3.7**
BRTR	**Keskin Array B**	**80.30**	**312**	P	**P**	**16 02 19.6**	**+1.2**
	comp=Z,2.6nm,1.0s,baz=97,slow=5.3,SNR=7.7							
	comp=Z,2.6nm,1.0s							
SRU	**San Rafael Swe**	**81.06**	**48**	P	**P**	**16 02 22.9**	**+0.5**
SRU	**San Rafael Swe**	**81.06**	**48**	P	**P**	**16 02 22.9**	**+0.5**
SRU				pmax	pmax			
	comp=Z,3.0nm,0.8s							
MLR	**Muntele Rosu**	**81.08**	**320**	LR	LR	16 39 41.1		
	comp=Z,61nm,20.0s,baz=18,slow=37							
ULM	**Lac du Bonnet**	**81.53**	**33**	P	**P**	**16 02 26.4**	**+2.0**
	comp=Z,1.9nm,1.0s,baz=179,slow=18,SNR=1.5							
	comp=Z,1.9nm,1.0s							
U15A	**North Rim**	**81.56**	**51**	P	**P**	**16 02 25.3**	**0.0**
VYHS	**Vyhne**	**82.57**	**326**	*eP*	**P**	**16 02 33.4**	**+3.4**
VYHS	**Vyhne**	**82.57**	**326**	*eP*	**P**	**16 02 33.4**	**+3.4**
VRAC	**Vranov**	**83.00**	**327**	P	**P**	**16 02 33.1**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=351,slow=17,SNR=1.5							
	comp=Z,0.6nm,0.4s							
GERES	**GERESS Array B**	**84.62**	**328**	P	**P**	**16 02 41.1**	**+0.5**
	comp=Z,1.9nm,1.1s,baz=12,slow=5.0,SNR=1.5							
	comp=Z,1.9nm,1.1s							
ANMO	**Albuquerque**	**86.20**	**50**	LR	LR	16 35 36.6		
	comp=Z,50nm,20.2s,baz=117,slow=32							
TXAR	**Lajitas Array**	**91.66**	**52**	P	**P**	**16 03 16.4**	**+1.7**
	comp=Z,0.2nm,0.7s,baz=323,slow=1.9,SNR=3.6							
	comp=Z,0.2nm,0.7s							

AFAD 26 15:50:47.1±0.0, 37.13N×28.54E, h7km±3km, ML1.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MULA	**Mugla, Merkez-**	**0.22**	**307**	P	Pg	15 50 51.6	+0.1
MULA				S	Sg	15 50 56.1	+1.6
MULA				*i* AML	AML	15 50 57.0	
	comp=E,261nm,0.6s						
MULA				*i* AML	AML	15 50 58.0	
	comp=N,108nm,0.5s						
TURN	**Turunc**	**0.42**	**214**	P	Pg	15 50 55.0	-0.3
TURN				S	Sb	15 51 02.2	-1.3
TURN				*i* AML	AML	15 51 04.0	
	comp=E,65nm,0.3s						
TURN				*i* AML	AML	15 51 08.0	
	comp=N,59nm,0.5s						
TAVA	**DENIZLI_Tavas**	**0.45**	**41**	P	Pg	15 50 55.5	-0.4
TAVA				S	Sg	15 51 03.0	+1.1
TAVA				*i* AML	AML	15 51 03.0	
	comp=N,67nm,0.4s						
TAVA				*i* AML	AML	15 51 03.0	
	comp=E,58nm,0.5s						
SABU	**Mula-Dalaman**	**0.46**	**131**	P	Pg	15 50 56.1	+0.2
SABU				S	Sb	15 51 03.7	-0.8
SABU				*i* AML	AML	15 51 05.0	
	comp=N,72nm,0.6s						
SABU				*i* AML	AML	15 51 05.0	
	comp=E,37nm,1.1s						
DNIZ	**Denizli-Tavas-**	**0.64**	**38**	P	Pg	15 50 59.4	0.0
DNIZ				S	Sg	15 51 08.3	+0.5
ESEN	**Aydn-Nazilli**	**0.69**	**347**	P	Pg	15 51 00.2	-0.2
ESEN				S	Sg	15 51 10.1	+0.8
ESEN				*i* AML	AML	15 51 11.0	
	comp=E,51nm,0.3s						
ESEN				*i* AML	AML	15 51 12.0	
	comp=N,51nm,0.3s						
BDRM	**Kayabasi**	**0.88**	**266**	P	Pb	15 51 04.6	-0.1
BDRM				S	Sn	15 51 20.3	+1.3
BDRM				*i* AML	AML	15 51 23.0	
	comp=E,22nm,0.4s						

*ISK **26** 15:56:43.3, 38.27N×42.92E, h11km, ML2.6/7*
*AFAD **26** 15:56:44.0±0.0, 38.27N×42.91E, h6km±3km, ML2.2*
ISC 26 15:56:43.6±0.9, 38.27N±0.03×42.92E±0.04, h11km±6km, n16, σ0.949/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKDM	**Akdamar-Van**	**0.08**	**40**	Pg	**Pg**	**15 56 46.4**	**+0.2**
AKDM				Sg	**Sg**	**15 56 48.1**	**0.0**
GEVA	**Gevas**	**0.12**	**69**	P	**Pg**	**15 56 46.6**	**-0.1**
GEVA				S	**Sg**	**15 56 49.1**	**+0.2**
PERV	**Siirt/Pervari-**	**0.44**	**223**	P	**Pb**	**15 56 53.0**	**-0.5**
PERV				S	**Sb**	**15 57 00.5**	**+0.4**
PERV				*i* AML	AML	15 57 03.0	
	comp=N,408nm,0.5s						
TVAN	**Van**	**0.46**	**56**	P	**Pg**	**15 56 52.5**	**-0.3**
TVAN				*i* AML	AML	15 57 01.0	
	comp=E,249nm,0.5s						
TVAN				*i* AML	AML	15 57 07.0	
	comp=N,204nm,0.4s						
VANB	**Van**	**0.49**	**49**	Pg	**Pg**	**15 56 52.6**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.56**	**344**	P	**Pb**	**15 56 55.2**	**-0.3**
ADCV				S	**Sb**	**15 57 04.0**	**+0.3**
ADCV				*i* AML	AML	15 57 08.0	
	comp=E,238nm,0.5s						
ADCV				*i* AML	AML	15 57 09.0	
	comp=N,183nm,0.5s						
BLIS	**Bitlis-Merkez**	**0.65**	**283**	P	**Pg**	**15 56 56.5**	**+0.3**
BLIS				S	**Sb**	**15 57 05.5**	**-0.6**
BLIS				*i* AML	AML	15 57 09.0	
	comp=N,130nm,0.3s						
BLIS				*i* AML	AML	15 57 11.0	
	comp=E,126nm,0.5s						
GURO	**Guroymak-BITLI**	**0.75**	**292**	Pg	**Pg**	**15 56 58.3**	**+0.2**
SIRN	**Sırnak**	**0.87**	**207**	P	**Pn**	**15 57 01.8**	**-0.1**
SIRN				S	**Sn**	**15 57 15.3**	**+0.7**
SIRN				*i* AML	AML	15 57 16.0	
	comp=N,138nm,0.4s						
VMUR	**Van-Muradiye**	**0.88**	**35**	P	**Pg**	**15 57 00.8**	**+0.1**
VMUR				*i* AML	AML	15 57 14.0	
	comp=E,60nm,0.7s						
VMUR				S	**Sb**	**15 57 14.3**	**+1.4**
VMUR				*i* AML	AML	15 57 15.0	
	comp=N,69nm,0.3s						
MLAZ	**Malazgirt-MUS**	**0.92**	**342**	Pg	**Pg**	**15 57 01.3**	**0.0**
HAKT	**HAKKARI**	**0.95**	**138**	P	**Pg**	**15 57 01.6**	**-0.3**
HAKT				*i* AML	AML	15 57 22.0	
	comp=N,53nm,0.4s						
HAKT				*i* AML	AML	15 57 23.0	
	comp=E,62nm,0.6s						
DORK	**Agr/Tutak/Do**	**1.12**	**355**	P	**Pg**	**15 57 04.5**	**-0.7**
DORK				S	**Sn**	**15 57 21.0**	**0.0**
DORK				*i* AML	AML	15 57 27.0	
	comp=N,46nm,0.8s						
DORK				*i* AML	AML	15 57 27.0	
	comp=E,49nm,0.6s						
CUKT	**Cukurca**	**1.16**	**152**	Pn	**Pg**	**15 57 05.9**	**0.0**
CLDR	**Caldiran**	**1.17**	**42**	Pn	**Pg**	**15 57 06.2**	**0.0**
AGRB	**Hanur-Agry**	**1.30**	**3**	Pn	**Pn**	**15 57 08.0**	**0.0**

*IDC **26** 16:32:32.3±2.0, 41.68S×174.18E, h0km, mb3.4/2, mbtmp3.4/4, ML2.8/2, Error ellipse: s-maj=48.2km s-min=27.7km az=133.0*
*NOU **26** 16:32:35.5±0.5, 41.80S×174.46E, h17km, MLv3.9/8, Cook Strait, New Zealand*
*WEL **26** 16:32:36.5±0.5, 42.5°S×17.4°E±°, h14km±5km, M3.4/13, ML3.7/13, MLv3.4/13, Error ellipse: s-maj=0.0km s-min=0.0km az=157.3, confirmed*
ISC 26 16:32:35.2±1.2, 41.79S±0.03×174.38E±0.02, h17km±8km, n90, σ1.903/102, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.13**	**289**	P	**Pb**	**16 32 40.2**	**+1.0**
CMWZ				S	**Sb**	**16 32 43.6**	**+1.7**
BSWZ	**Blackbirch Sta**	**0.38**	**281**	P	**Pg**	**16 32 43.5**	**+0.4**
TUWZ	**Tuamarina**	**0.49**	**318**	P	**Pg**	**16 32 44.6**	**-0.4**
TUWZ				S	**Sg**	**16 32 50.9**	**-0.7**
BHW	**Baring Head**	**0.53**	**44**	P	**Pb**	**16 32 46.8**	**+0.7**
SNZO	**South Karori**	**0.54**	**27**	P	**Pb**	**16 32 46.4**	**+0.2**
TCW	**Tory Channel**	**0.58**	**353**	P	**Pg**	**16 32 46.2**	**-0.6**
WEL	**Wellington**	**0.58**	**30**	P	**Pb**	**16 32 47.4**	**+0.4**
PLWZ	**Palliser**	**0.69**	**72**	P	**Pn**	**16 32 50.8**	**+0.5**
PLWZ				S	**Sn**	**16 33 02.3**	**+1.7**
MSWZ	**Moikau Station**	**0.75**	**61**	P	**Pn**	**16 32 51.9**	**+0.8**
MSWZ				S	**Sn**	**16 33 48.4**	**+1.3**
CAW	**Cannon Point**	**0.86**	**37**	P	**Pn**	**16 32 52.1**	**+0.4**
CAW				S	**Sn**	**16 33 05.4**	**+0.8**
KHZ	**Kahutara**	**0.88**	**225**	P	**Pn**	**16 32 54.1**	**+1.3**
KHZ	**Kahutara**	**0.88**	**225**	P	**Pn**	**16 32 53.9**	**+1.1**
KHZ				S	**Sn**	**16 33 07.4**	**+2.1**
PAWZ	**Paruwai Farm**	**0.89**	**63**	P	**Pn**	**16 32 53.3**	**+0.3**
PAWZ				S	**Sn**	**16 33 06.9**	**+1.5**
NNZ	**Nelson**	**0.94**	**307**	P	**Pb**	**16 32 52.6**	**-0.4**
NNZ				S	**Sb**	**16 33 05.5**	**+0.3**
KIW	**Kapiti Island**	**1.01**	**24**	P	**Pb**	**16 32 54.3**	**0.0**
KIW				S	**Sn**	**16 33 08.3**	**-0.2**
DUWZ	**D'Urville Isla**	**1.05**	**341**	P	**Pb**	**16 32 54.3**	**-0.6**
MTW	**Mount Morrison**	**1.05**	**54**	P	**Pg**	**16 32 55.4**	**-0.2**
TRWZ	**Traveller**	**1.06**	**69**	P	**Pb**	**16 32 55.4**	**+0.4**
THZ	**Tophouse**	**1.10**	**271**	P	**Pb**	**16 32 56.2**	**+0.3**
OGWZ	**Otaki Gorge**	**1.14**	**32**	P	**Pn**	**16 32 56.8**	**+0.4**
HOWZ	**Holdsworth Sta**	**1.24**	**44**	P	**Pn**	**16 32 57.8**	**+0.1**
MRNZ	**Matariki Terra**	**1.28**	**287**	P	**Pn**	**16 32 58.9**	**+0.6**
TKNZ	**Takaka Hill**	**1.31**	**305**	P	**Pn**	**16 32 58.9**	**+0.2**
TMWZ	**Te Maipa**	**1.33**	**60**	P	**Pn**	**16 32 59.0**	**0.0**
MRZ	**Mangatainoka R**	**1.45**	**39**	P	**Pn**	**16 33 00.8**	**+0.2**
TIWZ	**Tintock**	**1.52**	**49**	P	**Pn**	**16 33 01.9**	**+0.2**
GVZ	**Greta Valley S**	**1.54**	**220**	P	**Pn**	**16 33 02.7**	**+0.8**
CPWZ	**Castlepoint**	**1.63**	**58**	P	**Pg**	**16 33 09.2**	**+2.6**
QRZ	**Quartz Range**	**1.69**	**304**	P	**Pn**	**16 33 04.4**	**+0.4**
QRZ	**Quartz Range**	**1.69**	**304**	P	**Pn**	**16 33 05.1**	**+1.2**
PRWZ	**Pori Road**	**1.72**	**45**	P	**Pn**	**16 33 04.3**	**-0.1**
POWZ	**Post Office Ro**	**1.75**	**37**	P	**Pn**	**16 33 04.9**	**+0.1**
BFZ	**Birch Farm**	**1.79**	**52**	P	**Pn**	**16 33 04.8**	**-0.6**
BFZ	**Birch Farm**	**1.79**	**52**	P	**Pn**	**16 33 04.6**	**-0.8**
LTZ	**Lake Taylor**	**1.85**	**237**	P	**Pn**	**16 33 06.9**	**+0.7**
AMCZ	**Amberley**	**1.88**	**222**	P	**Pn**	**16 33 07.0**	**+0.4**
AMCZ				P	**Pn**	**16 33 07.0**	**+0.4**
DSZ	**Denniston Nort**	**1.93**	**270**	P	**Pn**	**16 33 08.3**	**+1.0**
DVHZ	**Dannevirke**	**2.01**	**43**	P	**Pn**	**16 33 07.7**	**-0.7**
ANWZ	**Angora Road**	**2.07**	**51**	P	**Pn**	**16 33 08.2**	**-0.9**
WAZ	**Wanganui**	**2.09**	**13**	P	**Pn**	**16 33 10.9**	**+1.5**
TSZ	**Takapari Road**	**2.11**	**35**	P	**Pn**	**16 33 09.5**	**-0.2**
OKCZ	**Okains Bay**	**2.16**	**206**	P	**Pn**	**16 33 10.6**	**+0.1**
MQZ	**McQueen's Vall**	**2.30**	**213**	P	**Pn**	**16 33 11.6**	**-0.6**
OXZ	**Oxford**	**2.31**	**228**	P	**Pn**	**16 33 12.1**	**-0.4**
LREZ	**Lake Rotokare**	**2.33**	**0**	P	**Pb**	**16 33 15.9**	**-0.8**
WPHZ	**Waipukurau**	**2.33**	**43**	P	**Pg**	**16 33 20.0**	**+0.1**
PNHZ	**Pukenui**	**2.33**	**37**	P	**Pn**	**16 33 12.3**	**-0.5**
AKCZ	**Akaroa Harbour**	**2.34**	**207**	P	**Pn**	**16 33 13.2**	**+0.2**
INZ	**Inchbonnie**	**2.37**	**246**	P	**Pn**	**16 33 14.0**	**+0.7**
NBEZ	**Newall Road No**	**2.55**	**351**	P	**Pb**	**16 33 19.4**	**-1.1**
MOVZ	**Moawhango**	**2.60**	**24**	P	**Pb**	**16 33 21.5**	**+0.1**
PKE	**Pukeiti**	**2.61**	**353**	P	**Pn**	**16 33 18.9**	**+2.3**
KRHZ	**Kereru**	**2.63**	**36**	P	**Pn**	**16 33 16.2**	**-0.7**
WNVZ	**Wahianoa**	**2.63**	**21**	P	**Pn**	**16 33 18.1**	**+1.1**
BHHZ	**Black Hill Sta**	**2.63**	**30**	P	**Pn**	**16 33 17.4**	**+0.4**
TRVZ	**Turoa**	**2.64**	**20**	P	**Pn**	**16 33 18.0**	**+0.7**
MAVZ	**Matarangi**	**2.68**	**20**	P	**Pb**	**16 33 24.2**	**+1.3**
VRZ	**Vera Road**	**2.68**	**6**	P	**Pn**	**16 33 19.5**	**+2.0**
FWVZ	**Far West T-bar**	**2.69**	**20**	P	**Pb**	**16 33 22.6**	**-0.4**
TUVZ	**Tukino**	**2.70**	**22**	P	**Pb**	**16 33 21.1**	**-2.0**
COVZ	**Chateau Observ**	**2.74**	**19**	P	**Pb**	**16 33 23.2**	**-0.5**
SNVZ	**South Ngauruho**	**2.77**	**21**	P	**Pb**	**16 33 25.5**	**+1.0**
OTVZ	**Oturere**	**2.80**	**21**	P	**Pb**	**16 33 25.7**	**+0.8**
KWHZ	**Kaweka Forest**	**2.83**	**34**	P	**Pn**	**16 33 19.7**	**0.0**
TWVZ	**Taurewa**	**2.83**	**17**	P	**Pb**	**16 33 26.4**	**+1.0**
WACZ	**Wakanui South**	**2.85**	**220**	P	**Pn**	**16 33 19.9**	**0.0**
WVZ	**Waitaha Valley**	**2.98**	**243**	P	**Pn**	**16 33 22.5**	**+0.8**
RATZ	**Rangitukua**	**3.11**	**21**	P	**Pb**	**16 33 29.9**	**-0.2**
RPZ	**Rata Peaks**	**3.11**	**231**	P	**Pn**	**16 33 23.4**	**-0.1**
RPZ	**Rata Peaks**	**3.11**	**231**	Pn	**Pn**	**16 33 23.3**	**-0.2**
	3.0nm,0.3s,baz=54,slow=19,SNR=11						
RPZ				Sn	**Sn**	**16 33 59.8**	**-0.5**
	2.4nm,0.3s,baz=124,slow=23,SNR=8.9						
	7.0nm,0.3s						
RPZ	**Rata Peaks**	**3.11**	**231**	P	**Pn**	**16 33 23.4**	**-0.1**
ARCZ	**Arundel**	**3.19**	**226**	P	**Pn**	**16 33 24.5**	**-0.1**
HIZ	**Hauiti**	**3.29**	**7**	P	**Pn**	**16 33 27.3**	**+1.3**
HIZ	**Hauiti**	**3.29**	**7**	P	**Pn**	**16 33 28.1**	**+2.1**
GCSZ	**Gaunt Creek Bo**	**3.36**	**242**	P	**Pn**	**16 33 27.5**	**+0.6**
TLZ	**Tolley Road**	**3.57**	**15**	P	**Pn**	**16 33 32.0**	**+2.2**
TMZ	**Timaru**	**3.58**	**222**	P	**Pn**	**16 33 29.9**	**0.0**
FOZ	**Fox Glacier**	**3.79**	**241**	P	**Pn**	**16 33 33.4**	**+0.7**
LBZ	**Lake Benmore**	**4.02**	**228**	P	**Pn**	**16 33 37.0**	**+1.0**
URZ	**Urewera**	**4.10**	**32**	Pn	**Pn**	**16 33 37.0**	**-0.2**
	0.3nm,0.3s,baz=52,slow=16,SNR=2.1						
URZ				Sn	**Sn**	**16 34 22.7**	**-2.0**
	1.2nm,0.3s,baz=39,slow=21,SNR=1.8						
	13nm,1.0s						
TOZ	**Tahuroa Road**	**4.15**	**12**	P	**Pn**	**16 33 40.8**	**+3.1**
ODZ	**Otahua Downs**	**4.24**	**219**	P	**Pn**	**16 33 39.1**	**+0.1**
ODZ	**Otahua Downs**	**4.24**	**219**	P	**Pn**	**16 33 38.3**	**-0.7**
JCZ	**Jackson Bay**	**4.70**	**239**	P	**Pn**	**16 33 46.7**	**+1.3**
JCZ	**Jackson Bay**	**4.70**	**239**	P	**Pn**	**16 33 45.8**	**+0.5**
MKAZ	**Moumakai**	**4.72**	**8**	P	**Pn**	**16 33 46.9**	**+1.3**
AWAZ	**Awhitu Peninsu**	**4.72**	**3**	P	**Pn**	**16 33 47.5**	**+1.8**
ASAR	**Alice Springs**	**38.13**	**285**	P	**P**	**16 39 51.4**	**-2.1**
	0.2nm,0.4s,baz=122,slow=6.6,SNR=7.2						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**40.21**	**290**	P	**P**	**16 40 09.1**	**-1.8**
	0.6nm,0.8s,baz=128,slow=8.4,SNR=6.5						
	0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.76**	**195**	PKPbc	**PKPbc**	**16 52 26.3**	**-0.6**
	0.3nm,0.5s,baz=153,slow=2.0,SNR=2.3						

*SJA **26** 17:12:56.7±0.7, 32.65S×69.18W, h127km±3km, ML3.7, MW3.7*
ISC 26 17:12:57.6±1.4, 32.65S±0.03×69.18W±0.04, h129km±9km, n46, σ1.917/84, 6C, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCO	**CERRO ARCO**	**0.28**	**133**	*eP*	**Pn**	**17 13 15.2**	**-0.6**
ARCO				IAML		17 13 29.7	
	comp=Z,1µm,0.2s						
ASAL	**Salagasta**	**0.29**	**78**	*eP*	**Pn**	**17 13 15.2**	**-0.5**
ASAL				*eS*	**Sn**	**17 13 28.5**	**-0.8**
ASAL				IAML		17 13 29.8	
	comp=Z,781nm,0.4s						
AAGR	**Agrelo**	**0.52**	**146**	*eP*	**Pn**	**17 13 16.5**	**-0.3**
RTLS	**Leoncito**	**0.85**	**353**	*eP*	**Pn**	**17 13 19.4**	**-0.1**
RTLS				*eS*	**Sn**	**17 13 35.5**	**-0.5**
RTLS				IAML		17 13 35.9	
	comp=Z,3µm,0.4s						
RTCV	**Cerro Valdivia**	**0.95**	**35**	*eP*	**Pn**	**17 13 19.5**	**-0.6**
RTCV				*eS*	**Sn**	**17 13 36.5**	**-0.5**
AVIZ	**Vizcacheras**	**0.99**	**146**	*eP*	**Pn**	**17 13 20.4**	**0.0**
MT04	**Ro Olivares**	**1.10**	**227**	*eP*	**Pn**	**17 13 22.0**	**+0.4**
MT04				*eS*	**Sn**	**17 13 40.3**	**+0.4**
ZON	**Zonda**	**1.18**	**21**	*eP*	**Pn**	**17 13 21.9**	**-0.4**
ZON				*eS*	**Sn**	**17 13 40.3**	**-0.7**
ZON				IAML		17 13 40.7	
	comp=Z,509nm,0.3s						
MT10	**Hacienda Santa**	**1.30**	**241**	↑*iP*	**Pn**	**17 13 24.0**	**+0.4**
MT10				*eS*	**Sn**	**17 13 43.9**	**+0.5**
MT10				IAML		17 13 46.0	
	comp=N,3µm,0.3s						
PEL	**Peldehue**	**1.36**	**248**	*eP*	**Pn**	**17 13 24.1**	**-0.1**
PEL				*eS*	**Sn**	**17 13 45.2**	**+0.9**
PEL	**Peldehue**	**1.36**	**248**	↑*iP*	**Pn**	**17 13 24.0**	**-0.1**
PEL				*eS*	**Sn**	**17 13 44.3**	**0.0**
PEL				IAML		17 13 45.7	
	comp=N,2µm,0.2s						
MT14	**Cerro Cal¡n**	**1.36**	**237**	*eP*	**Pn**	**17 13 24.4**	**+0.3**
MT14				*eS*	**Sn**	**17 13 45.0**	**+0.6**
MT14				IAML		17 13 46.8	
	comp=N,3µm,0.5s						
MT03	**Universidad Ad**	**1.40**	**233**	*eP*	**Pn**	**17 13 25.0**	**+0.4**
MT03				*eS*	**Sn**	**17 13 47.5**	**+2.3**
MT03				IAML		17 13 51.1	
	comp=Z,955nm,0.3s						
MT03	**Universidad Ad**	**1.40**	**233**	↑*iP*	**Pn**	**17 13 24.8**	**+0.2**
MT03				*eS*	**Sn**	**17 13 45.8**	**+0.6**
MT03				IAML		17 13 47.6	
	comp=N,2µm,0.3s						
MT13	**San Alfonso**	**1.43**	**220**	*eP*	**Pn**	**17 13 25.5**	**+0.5**
MT13				*eS*	**Sn**	**17 13 47.4**	**+1.5**
MT13				IAML		17 13 52.1	
	comp=N,918nm,0.2s						
MT15	**Las Vizcachas**	**1.46**	**229**	*eP*	**Pn**	**17 13 25.5**	**+0.3**
MT15				*eS*	**Sn**	**17 13 46.8**	**+0.5**
MT15				IAML		17 13 51.8	
	comp=E,2µm,0.3s						
LMEL	**Las Melosas**	**1.47**	**215**	*eP*	**Pn**	**17 13 25.9**	**+0.5**
LMEL				*eS*	**Sn**	**17 13 48.0**	**+1.3**
MT05	**Renca**	**1.50**	**240**	*eP*	**Pn**	**17 13 25.4**	**-0.4**
MT05				*eS*	**Sn**	**17 13 48.5**	**+1.3**
MT05				IAML		17 13 50.5	
	comp=Z,831nm,0.1s						
MT05	**Renca**	**1.50**	**240**	*eP*	**Pn**	**17 13 26.1**	**+0.4**
MT05				*eS*	**Sn**	**17 13 47.2**	**0.0**
MT05				IAML		17 13 49.6	
	comp=E,3µm,0.3s						
ROCH

*GUC **26** 17:19:53.0±0.8,29.˚30S×71.˚01W,h62km±5km,ML3.1*

ISC 26 17:19:53.5±1.5,29˚26S±0.˚03×71˚26W±0.˚06,h65km±16km, n27,σ1§90/43,3C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.65**	**179**	⇑*eP*			**Pn**	**17 20 07.8**	**+0.3**
CO05				*eS*			**Sn**	**17 20 18.3**	**+0.5**
CO05				IAML				17 20 19.5	
	comp=E,867nm,0.5s								
GO04	**Tololo Observa**	**0.99**	**157**	*eP*			**Pn**	**17 20 11.3**	**-0.6**
GO04				*eS*			**Sn**	**17 20 25.6**	**+0.1**
GO04	**Tololo Observa**	**0.99**	**157**	⇑*eP*			**Pn**	**17 20 11.3**	**-0.6**
GO04				*eS*			**Sn**	**17 20 24.9**	**-0.5**
GO04				IAML				17 20 27.4	
	comp=E,1μm,0.4s								
AC04	**Llanos de Chal**	**1.07**	**9**	*eP*			**Pn**	**17 20 13.7**	**+1.1**
AC04				*eS*			**Sn**	**17 20 27.9**	**+1.2**
AC04				IAML				17 20 29.1	
	comp=Z,792nm,0.6s								
AC04	**Llanos de Chal**	**1.07**	**9**	⇓*eP*			**Pn**	**17 20 13.7**	**+1.1**
AC04				*eS*			**Sn**	**17 20 28.6**	**+1.8**
AC04				IAML				17 20 29.5	
	comp=E,1μm,0.2s								
CO01	**Juntas del Tor**	**1.24**	**125**	*eP*			**Pn**	**17 20 13.7**	**-1.3**
CO01				*eS*			**Sn**	**17 20 29.2**	**-1.9**
CO01				IAML				17 20 30.0	
	comp=Z,474nm,0.2s								
CO01	**Juntas del Tor**	**1.24**	**125**	⇑*iP*			**Pn**	**17 20 14.0**	**-1.1**
CO01				*eS*			**Sn**	**17 20 29.2**	**-1.9**
CO01				IAML				17 20 30.0	
	comp=N,643nm,0.2s								
CO06	**Fray Jorge**	**1.44**	**193**	⇓*eP*			**Pn**	**17 20 18.4**	**+0.8**
CO06				*eS*			**Sn**	**17 20 37.2**	**+1.6**
CO06				IAML				17 20 38.7	
	comp=N,293nm,0.3s								
CO03	**El Pedregal**	**1.65**	**163**	*eP*			**Pn**	**17 20 20.5**	**+0.1**
CO03				IAML				17 20 44.4	
	comp=Z,124nm,0.7s								
CO03	**El Pedregal**	**1.65**	**163**	*eP*			**Pn**	**17 20 20.5**	**+0.1**
CO03				*eS*			**Sn**	**17 20 40.7**	**0.0**
CO03				IAML				17 20 42.0	
	comp=E,418nm,0.2s								
AROD	**Rodeo**	**1.79**	**121**	*eP*			**Pn**	**17 20 22.9**	**+0.4**
AROD				*eS*			**Sn**	**17 20 44.5**	**0.0**
GO03	**Copiap**	**1.89**	**29**	*eP*			**Pn**	**17 20 23.9**	**+0.2**
GO03				*eS*			**Sn**	**17 20 39.7**	**-6.8**
GO03	**Copiap**	**1.89**	**29**	*eP*			**Pn**	**17 20 23.8**	**+0.2**
GO03				*eS*			**Sn**	**17 20 45.9**	**-0.6**
CO02	**Combarbal**	**1.95**	**174**	*eP*			**Pn**	**17 20 24.7**	**+0.3**
CO02				*eS*			**Sn**	**17 20 41.9**	**-6.1**
CO02				IAML				17 20 49.8	
	comp=Z,198nm,0.3s								
CO02	**Combarbal**	**1.95**	**174**	⇓*eP*			**Pn**	**17 20 24.7**	**+0.3**
CO02				*eS*			**Sn**	**17 20 48.4**	**+0.4**
AC06	**Mina Casimiro**	**2.06**	**23**	⇓*eP*			**Pn**	**17 20 26.2**	**+0.4**
AC06				IAML				17 20 56.2	
	comp=N,181nm,0.6s								
ACCO	**Cerro Coronel**	**2.31**	**125**	*eP*			**Pn**	**17 20 31.1**	**+1.5**
ACCO				IAML				17 21 03.9	
	comp=Z,81nm,0.3s								
DOCA	**Reserva Natura**	**2.52**	**132**	*eP*			**Pn**	**17 20 33.6**	**+1.1**
DOCA				*eS*			**Sn**	**17 21 04.9**	**+2.6**
VCA	**Vinchina**	**2.72**	**80**	*eP*			**Pn**	**17 20 37.3**	**+2.3**
VCA				*eS*			**Sn**	**17 21 10.1**	**+3.2**
VCA				IAML				17 21 14.6	
	comp=Z,193nm,0.4s								
RTLS	**Leoncito**	**3.04**	**147**	*eP*			**Pn**	**17 20 41.5**	**+2.0**
RTLS				IAML				17 21 25.4	
	comp=Z,142nm,0.6s								
AC01	**Pan de Azucar**	**3.16**	**11**	*eP*			**Pn**	**17 20 39.9**	**-1.0**
AC01				IAML				17 21 33.0	
	comp=Z,40nm,0.3s								
ACLC	**CERRO LA CRUZ**	**3.76**	**94**	*eP*			**Pn**	**17 20 48.5**	**-0.7**
ACLC				IAML				17 21 36.5	
	comp=Z,63nm,0.4s								
ASAL	**Salagasta**	**3.92**	**149**	*eP*			**Pn**	**17 20 53.1**	**+1.8**
MT02	**Curacav**	**3.98**	**179**	*eP*			**Pn**	**17 20 52.4**	**+0.2**
MT02				IAML				17 21 51.8	
	comp=Z,30nm,0.3s								
APLL	**PUNTA DE LOS L**	**4.26**	**107**	*eP*			**Pn**	**17 20 55.6**	**-0.3**
MT01	**Popeta**	**4.59**	**180**	*eP*			**Pn**	**17 20 60.0**	**-0.4**
MT01				IAML				17 22 09.1	
	comp=Z,39nm,0.5s								
CYA	**Choya**	**4.85**	**82**	*eP*			**Pn**	**17 21 03.7**	**-0.3**
CYA				IAML				17 22 01.4	
	comp=Z,14nm,0.5s								

DJA 26 17:38:22.1±0.3,1˚S±4˚×12˚5E±˚,h10km,M3.8/11,mb4.1/4, mB4.8/1,MLv3.7/11,Mw(mB)4.1/1,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.37**	**335**	P			Pn	17 38 45.4	-1.9
LUWI	**Luwuk**	**1.81**	**259**	P			Pn	17 38 52.7	-0.7
MRSI	**Marisa**	**2.85**	**294**	P			Pn	17 39 06.6	-1.1
LBMI	**Labuha**	**2.95**	**89**	P			Pn	17 39 09.7	+0.6
TNTI	**Ternate**	**3.16**	**63**	P			Pn	17 39 12.7	+0.7
NLAI	**Namlea**	**3.60**	**135**	P			Pn	17 39 16.5	-1.5
TTSI	**Tana Toraja**	**5.28**	**244**	P			Pn	17 39 40.8	-0.3
	15nm,0.6s,981nm0.1nm								
SPSI	**Sidrap Palu**	**5.78**	**236**	P			Pn	17 39 49.0	+0.9
	21nm,0.8s,0.1nm								
BKSI	**Bulukumba**	**6.39**	**224**	P			Pn	17 39 57.0	+0.7

*IDC **26** 17:43:00.3±1.8,1˚.22S×122˚.57E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=302.1km s-min=28.4km az=61.0*

*DJA **26** 17:43:02.1±0.3,2˚S±3˚×12˚1E±˚,h10km,M4.1/11,mb4.2/3, MLv4.1/11*

ISC 26 17:43:04.6±1.1,2˚34S±0.˚06×120˚80E±0.˚07,h35km,n12, σ1§45/12,mb3.3/3,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.20**	**234**	P			**Pn**	**17 43 23.2**	**-1.8**
SPSI	**Sidrap Palu**	**1.92**	**212**	P			**Pn**	**17 43 33.9**	**-0.9**
LUWI	**Luwuk**	**2.36**	**57**	P			**Pn**	**17 43 40.1**	**-0.7**
MPSI	**Mapaga**	**2.80**	**341**	P			**Pn**	**17 43 47.0**	**0.0**
BKSI	**Bulukumba**	**3.04**	**193**	P			**Pn**	**17 43 49.7**	**-0.6**
BBSI	**Bau Bau**	**3.60**	**151**	P			**Pn**	**17 43 58.3**	**+0.4**
KMSI	**Cibinong**	**4.30**	**48**	P			**Pn**	**17 44 06.4**	**-1.2**
SANI	**Sanana**	**5.20**	**87**	P			**Pn**	**17 44 18.3**	**-1.6**
	10nm,0.9s,0.1nm								
LBMI	**Labuha**	**6.91**	**76**	P			**Pn**	**17 44 42.9**	**-0.6**
	45nm,0.6s,0.2nm								
WRA	**Warramunga Arr**	**21.94**	**144**	P			**P**	**17 47 54.1**	**-1.2**
	0.9nm,0.8s,baz=321,slow=11,SNR=6.9 0.9nm,0.8s								
ASAR	**Alice Springs**	**24.71**	**150**	P			**P**	**17 48 25.6**	**+2.9**
	0.7nm,1.0s,baz=344,slow=15,SNR=7.0 0.7nm,1.0s								
MKAR	**Makanchi Array**	**59.48**	**330**	P			**P**	**17 53 04.7**	**+0.5**
	0.4nm,0.9s,baz=134,slow=8.3,SNR=2.0 0.4nm,0.9s								

*EAF **26** 18:00:28.9±1.1,26˚.99S×27˚.30E,h0km±16km,MD3.6*
*BUL **26** 18:00:29.9±0.5,26˚.98S×27˚.27E,h6km±7km,MD3.8*
*PRE **26** 18:00:30.5±0.8,26˚.90S×26˚.70E,h2km,ML2.5*

ISC 26 18:00:30.9±0.7,26˚87S±0.˚03×26˚68E±0.˚04,h10km,n23, σ2§05/46,South Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSR	**Koster**	**1.03**	**11**	*eP*			**Pg**	**18 00 51.1**	**+0.3**
KSR				*eS*			**Sg**	**18 01 05.4**	**+1.0**
KSR				IAML				18 01 11.2	
	comp=Z,708nm,0.2s								
SWZ	**Schweizer**	**1.24**	**255**	*eP*			**Pn**	**18 00 54.0**	**-0.5**
SWZ				*eS*			**Sn**	**18 01 12.7**	**+1.3**
SWZ				IAML				18 01 18.7	
	comp=Z,267nm,0.3s								
SNKL	**Senekal, Frees**	**1.70**	**146**	*eP*			**Pn**	**18 01 02.1**	**+1.3**
SNKL				*eS*			**Sb**	**18 01 24.2**	**+0.3**
SNKL				IAML				18 01 28.2	
	comp=Z,136nm,0.4s								
LBTB	**Lobatse**	**2.09**	**332**	*iP*			**Pb**	**18 01 10.5**	**+1.5**
LBTB				*iS*			**Sg**	**18 01 39.6**	**+1.4**
LBTB	**Lobatse**	**2.09**	**332**	*iP*			**Pb**	**18 01 10.5**	**+1.5**
LBTB				*iS*			**Sg**	**18 01 39.6**	**+1.4**
BOSA	**Boshof**	**2.15**	**216**	*iP*			**Pb**	**18 01 09.2**	**-0.7**
BOSA				*iS*			**Sb**	**18 01 38.8**	**+2.1**
BOSA	**Boshof**	**2.15**	**216**	*iP*			**Pb**	**18 01 09.2**	**-0.7**
BOSA				*iS*			**Sb**	**18 01 38.8**	**+2.1**
NWCL	**Newcastle**	**2.98**	**107**	*eP*			**Pn**	**18 01 19.5**	**+1.1**
NWCL				*eS*			**Sn**	**18 01 55.3**	**+1.0**
NWCL				IAML				18 02 03.5	
	comp=Z,37nm,0.3s								
CRLN	**Carolina, Mapu**	**3.12**	**74**	*eP*			**Pn**	**18 01 20.9**	**+0.5**
CRLN				*eS*			**Sn**	**18 01 59.0**	**+1.2**
CRLN				IAML				18 02 08.6	
	comp=Z,10nm,0.2s								
LEPH	**Lephalale, Lim**	**3.17**	**19**	*eP*			**Pn**	**18 01 22.8**	**+1.8**
LEPH				*eS*			**Sn**	**18 02 00.4**	**+1.6**
LEPH				IAML				18 02 13.4	
	comp=Z,21nm,0.2s								
PILG	**Pilgrimsrest,**	**4.11**	**63**	*eP*			**Pn**	**18 01 35.1**	**+1.1**
PILG				*eS*			**Sn**	**18 02 22.5**	**+0.2**
PILG				IAML				18 02 43.0	
	comp=Z,19nm,0.4s								
UPI	**Upington**	**5.04**	**252**	*eP*			**Pn**	**18 01 48.1**	**+1.4**
UPI				*eS*			**Sn**	**18 02 44.9**	**-0.1**
UPI				IAML				18 03 13.7	
	comp=Z,9.0nm,0.3s								
KEIM	**Keimoes**	**5.38**	**249**	*eP*			**Pn**	**18 01 52.9**	**+1.6**
KEIM				*eS*			**Sn**	**18 02 53.0**	**-0.4**
KEIM				IAML				18 03 29.1	
	comp=Z,9.1nm,0.7s								
BFON	**Badsfontein, M**	**5.56**	**207**	*eP*			**Pn**	**18 01 55.7**	**+1.9**
BFON				*eS*			**Sn**	**18 02 56.3**	**-1.6**
BFON				IAML				18 03 27.9	
	comp=Z,12nm,0.5s								
GRAF	**Camdeboo Natio**	**5.72**	**199**	*eP*			**Pn**	**18 01 56.9**	**+0.9**
GRAF				*eS*			**Sn**	**18 03 01.2**	**-0.5**
GRAF				IAML				18 03 36.6	
	comp=Z,6.5nm,0.4s								
BRAK	**Brakfontein**	**5.90**	**213**	*eP*			**Pn**	**18 02 00.3**	**+1.8**
BRAK				*eS*			**Sn**	**18 03 05.2**	**-1.0**
BRAK				IAML				18 03 50.9	
	comp=Z,6.8nm,0.4s								
ROOI	**Rooidraai Farm**	**6.23**	**205**	*eP*			**Pn**	**18 02 04.4**	**+1.4**
ROOI				*eS*			**Sn**	**18 03 12.6**	**-1.8**
ROOI				IAML				18 03 51.5	
	comp=Z,7.0nm,0.5s								
MATP	**Matopo**	**6.63**	**15**	*iP*			**Pn**	**18 02 06.9**	**-1.6**
MATP				*iS*			**Sn**	**18 03 17.5**	**-6.8**
MATP	**Matopo**	**6.63**	**15**	*iP*			**Pn**	**18 02 06.9**	**-1.6**
MATP				*iS*			**Sn**	**18 03 17.5**	**-6.8**
GRAN	**Grantham**	**6.69**	**215**	*eP*			**Pn**	**18 02 10.8**	**+1.6**
GRAN				*eS*			**Sn**	**18 03 22.9**	**-2.6**
GRAN				IAML				18 04 07.7	
	comp=Z,5.0nm,0.3s								
FRAZ	**Fraserburg**	**6.82**	**221**	*eP*			**Pn**	**18 02 12.5**	**+1.3**
FRAZ				*eS*			**Sn**	**18 03 26.6**	**-2.4**
FRAZ				IAML				18 04 07.3	
	comp=Z,4.4nm,0.4s								
MERW	**Merweville**	**7.31**	**217**	*eP*			**Pn**	**18 02 19.0**	**+1.1**
MERW				*eS*			**Sn**	**18 03 39.0**	**-2.1**
MERW				IAML				18 03 59.4	
	comp=Z,3.9nm,0.5s								
SUR	**Sutherland**	**7.50**	**222**	*eP*			**Pn**	**18 02 21.8**	**+1.3**
SUR				*eS*			**Sn**	**18 03 43.8**	**-1.9**
SUR				IAML				18 04 31.6	
	comp=Z,1.9nm,0.5s								

IDC 26 18:07:13.2±3.3,4˚92S×153˚47E,h0km,mb3.3/2, mbtmp3.3/2,Error ellipse: s-maj=150.7km s-min=48.0km az=124.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.88**	**230**	P			P	18 12 29.6	+0.9
	0.4nm,0.4s,baz=57,slow=10,SNR=9.4 0.4nm,0.4s								
ASAR	**Alice Springs**	**26.52**	**223**	P			P	18 12 52.7	-0.1
	0.3nm,0.7s,baz=54,slow=9.2,SNR=1.9 0.3nm,0.7s								
H11S3	**WAKE ISLAND Hy**	**26.66**	**29**	T			T	18 40 30.2	
	baz=210								
H11S2	**WAKE ISLAND Hy**	**26.67**	**29**	T			T	18 40 29.2	
	baz=210								
H11S1	**WAKE ISLAND Hy**	**26.68**	**29**	T			T	18 40 30.2	
	baz=210								
TORD	**Torodi Ar. Bea**	**150.98**	**288**	PKPbc			PKPbc	18 27 08.1	-1.0
	0.3nm,0.4s,baz=88,slow=2.0,SNR=5.5								

*SJA **26** 18:21:22.3±0.7,31˚.39S×69˚.44W,h111km±3km,ML4.0, MW4.0*
*NEIC **26** 18:21:22.5±2.2,31˚.38S±0.˚05×69˚.48W±0.˚07,h124km±6km, mb4.2/12,Error ellipse: s-maj=8.8km s-min=6.4km az=73.0*
*IDC **26** 18:21:23.0±0.9,31˚.30S×68˚.97W,h121km±7km,mb3.3/6, mbtmp3.8/9,MS2.5/1,Error ellipse: s-maj=28.7km s-min=17.3km az=82.0*

ISC 26 18:21:21.5±0.5,31˚33S±0.˚03×69˚43W±0.˚03,h118km±5km, n143,σ1§85/175,mb4.0/12,11C-5D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.48**	**166**	*eP*			**Pn**	**18 21 40.2**	**+0.6**
RTLS				*eS*			**Sn**	**18 21 53.5**	**+0.4**
RTLS				IAML				18 21 54.4	
	comp=Z,13μm,0.2s								
DOCA	**Reserva Natura**	**0.49**	**38**	*eP*			**Pn**	**18 21 40.5**	**+0.8**
DOCA				*eS*			**Sn**	**18 21 54.2**	**+1.0**
ZON	**Zonda**	**0.68**	**108**				**Pn**	**18 21 41.2**	**+0.6**
ZON				Sn			**Sn**	**18 21 55.0**	**+0.1**
ZON	**Zonda**	**0.68**	**108**	*eP*			**Pn**	**18 21 41.2**	**+0.6**
ZON				IAML				18 21 57.2	
	comp=Z,2μm,0.3s								
SJA	**San Juan**	**0.77**	**105**	*eP*			**Pn**	**18 21 42.2**	**+0.9**
SJA				IAML				18 21 59.0	
	comp=Z,1μm,0.2s								
ACCO	**Cerro Coronel**	**0.81**	**23**	*eP*			**Pn**	**18 21 43.5**	**+1.5**
RTLL	**Cerro Villicun**	**0.82**	**90**	*eP*			Pn	18 21 32.9	-8.8
RTLL				IAML				18 21 42.6	
	comp=Z,5μm,0.3s								
RTLL	**Cerro Villicun**	**0.82**	**90**	⇓*iP*			**Pn**	**18 21 42.1**	**+0.4**
RTCV	**Cerro Valdivia**	**0.93**	**125**	*eS*			**Sn**	**18 21 58.7**	**-0.1**
CFA	**Coronel Fontan**	**1.06**	**105**	*eP*			**Sn**	**18 22 00.9**	**-0.1**
AROD	**Rodeo**	**1.16**	**358**	*eP*			**Pn**	**18 21 47.6**	**+2.9**
AROD				*eS*			**Sn**	**18 22 06.4**	**+2.9**
CO03	**El Pedregal**	**1.18**	**294**				**Pn**	**18 21 47.1**	**+1.7**
CO03				Sn			**Sn**	**18 22 05.4**	**+1.9**
CO03	**El Pedregal**	**1.18**	**294**	*eP*			**Pn**	**18 21 47.1**	**+1.7**
CO03				IAML				18 22 07.8	
	comp=Z,2μm,0.3s								
CO03	**El Pedregal**	**1.18**	**294**	⇑*iP*			**Pn**	**18 21 47.1**	**+1.7**
CO03				*iS*			**Sn**	**18 22 05.3**	**+1.9**
CO03				IAML				18 22 06.4	
	comp=E,5μm,0.3s								
ACDV	**Cuesta del Vie**	**1.19**	**13**	*eP*			**Pn**	**18 21 47.5**	**+1.9**
ACDV				*eS*			**Sn**	**18 22 06.1**	**+2.3**
ACDV				IAML				18 22 06.5	
	comp=Z,2μm,0.3s								
CO02	**Combarbal**	**1.35**	**275**				**Pn**	**18 21 48.5**	**+1.3**
CO02				Sn			**Sn**	**18 22 08.4**	**+1.7**
CO02	**Combarbal**	**1.35**	**275**	*eP*			**Pn**	**18 21 48.5**	**+1.3**
CO02				IAML				18 22 11.3	
	comp=Z,4μm,0.9s								
CO02	**Combarbal**	**1.35**	**275**	⇑*iP*			**Pn**	**18 21 48.6**	**+1.3**
CO02				*iS*			**Sn**	**18 22 07.7**	**+1.1**
CO02				IAML				18 22 10.7	
	comp=N,12μm,0.2s								
ASAL	**Salagasta**	**1.35**	**158**	*eP*			**Pn**	**18 21 48.2**	**+1.0**
ASAL				*eS*			**Sn**	**18 22 08.3**	**+1.5**
ASAL				IAML				18 22 09.1	
	comp=Z,771nm,0.4s								
CO01	**Juntas del Tor**	**1.47**	**337**				**Pn**	**18 21 51.5**	**+2.8**
CO01				Sn			**Sn**	**18 22 13.1**	**+3.8**
CO01	**Juntas del Tor**	**1.47**	**337**	*eP*			**Pn**	**18 21 51.2**	**+2.5**
CO01	**Juntas del Tor**	**1.47**	**337**	⇑*iP*			**Pn**	**18 21 51.6**	**+2.9**
CO01				*iS*			**Sn**	**18 22 13.7**	**+4.4**
CO01				IAML				18 22 16.2	
	comp=E,1μm,0.5s								
ARCO	**CERRO ARCO**	**1.56**	**164**	*eP*			**Pn**	**18 21 50.8**	**+1.1**
ARCO				*eP*				18 21 51.2	
ARCO				*eS*			**Sn**	**18 22 12.7**	**+1.4**
ARCO				IAML				18 22 13.9	
	comp=Z,2μm,0.7s								
GO04	**Tololo Observa**	**1.65**	**314**	Pn			**Pn**	**18 21 52.3**	**+1.4**
GO04							Sn	**18 22 14.5**	**+1.4**
GO04	**Tololo Observa**	**1.65**	**314**	*eP*			**Pn**	**18 21 52.3**	**+1.4**
GO04	**Tololo Observa**	**1.65**	**314**	⇑*iP*			**Pn**	**18 21 52.3**	**+1.4**
VA03	**San Esteban**	**1.71**	**213**				**Pn**	**18 21 52.6**	**+1.2**
VA03							Sn	**Sn**	**18 22 15.2**	**+0.9**
AAGR	**Agrelo**	**1.82**	**164**	*eP*			**Pn**	**18 21 53.7**	**+1.0**
AAGR				*eS*			**Sn**	**18 22 18.8**	**+2.1**
AAGR				IAML				18 22 20.8	
	comp=Z,790nm,0.9s								
CO06	**Fray Jorge**	**2.00**	**289**				**Pn**	**18 21 55.1**	**+0.2**
CO06							Sn	**Sn**	**18 22 19.3**	**-1.1**
CO06	**Fray Jorge**	**2.00**	**289**	⇑*iP*			**Pn**	**18 21 55.1**	**+0.2**
PEL	**Peldehue**	**2.09**	**210**				**Pn**	**18 21 56.8**	**+0.7**
PEL							Sn	**Sn**	**18 22 29.0**	**+0.3**
PEL	**Peldehue**	**2.09**	**210**	*eP*			**Pn**	**18 21 56.9**	**+0.8**
PEL	**Peldehue**	**2.09**	**210**	⇓*iP*			**Pn**	**18 21 56.8**	**+0.7**
CO05	**La Serena**	**2.10**	**312**				**Pn**	**18 21 57.1**	**+1.0**
CO05							Sn	**Sn**	**18 22 22.5**	**-0.1**
CO05	**La Serena**	**2.10**	**312**	⇑*iP*			**Pn**	**18 21 57.2**	**+1.0**
ROCH	**El Roble**	**2.11**	**219**	⇓*iP*			**Pn**	**18 21 56.9**	**+0.3**
ROC1	**El Roble**	**2.12**	**219**				**Pn**	**18 21 56.4**	**-0.2**
ROC1							Sn	**Sn**	**18 22 22.5**	**-1.0**
ROC1	**El Roble**	**2.12**	**219**	*eP*			**Pn**	**18 21 56.8**	**+0.2**
MT10	**Hacienda Santa**	**2.15**	**205**	⇓*iP*			**Pn**	**18 21 58.3**	**+1.4**
MT04	**Ro Olivares**	**2.15**	**196**	⇑*iP*			**Pn**	**18 21 58.8**	**+1.8**
MT14	**Cerro Calן n**	**2.26**	**204**	⇓*iP*			**Pn**	**18 21 59.6**	**+1.4**
AVIZ	**Vizcacheras**	**2.27**	**160**	*eP*			**Pn**	**18 21 59.3**	**+0.9**
AVIZ				*eS*			**Sn**	**18 22 26.6**	**-0.1**
MT16	**CCHEN**	**2.28**	**204**				**Pn**	**18 21 59.5**	**+1.0**
MT16							Sn	**Sn**	**18 22 27.6**	**+0.7**
MT16	**CCHEN**	**2.28**	**204**	⇑*iP*			**Pn**	**18 21 59.7**	**+1.1**
MT05	**Renca**	**2.33**	**208**	Pn			**Pn**	**18 21 59.7**	**+0.5**
MT05							Sn	**Sn**	**18 22 28.2**	**+0.3**
MT05	**Renca**	**2.33**	**208**	*eP*			**Pn**	**18 21 59.5**	**+0.3**
MT05				*eS*			**Sn**	**18 22 29.2**	**+1.2**
MT05				IAML				18 22 30.2	
	comp=Z,684nm,0.7s								
MT05	**Renca**	**2.33**	**208**	*eP*			**Pn**	**18 22 00.2**	**+1.1**
MT03	**Universidad Ad**	**2.34**	**203**				**Pn**	**18 22 00.5**	**+1.2**
MT03							Sn	**Sn**	**18 22 28.9**	**+0.6**
MT03	**Universidad Ad**	**2.34**	**203**	*eP*			**Pn**	**18 21 59.8**	**+0.6**
MT03				*eS*			**Sn**	**18 22 30.5**	**+2.3**
MT03				IAML				18 22 32.0	
	comp=Z,1μm,0.3s								
MT03	**Universidad Ad**	**2.34**	**203**	⇑*iP*			**Pn**	**18 22 00.5**	**+1.2**
MT02	**Curacav**	**2.40**	**216**				**Pn**	**18 21 59.6**	**-0.4**
MT02							Sn	**Sn**	**18 22 28.3**	**-1.2**
MT02	**Curacav**	**2.40**	**216**	*eP*			**Pn**	**18 21 59.5**	**-0.5**
MT02				IAML				18 22 31.8	
	comp=Z,308nm,0.3s								
MT02	**Curacav**	**2.40**	**216**	⇑*iP*			**Pn**	**18 22 00.1**	**+0.2**
MT15	**Las Vizcachas**	**2.43**	**202**	*eP*			**Pn**	**18 22 01.6**	**+1.2**
MT13	**San Alfonso**	**2.51**	**196**				**Pn**	**18 22 02.5**	**+1.0**
MT13							Sn	**Sn**	**18 22 33.5**	**+1.3**
MT13	**San Alfonso**	**2.51**	**196**	*eP*			**Pn**	**18 22 02.8**	**+1.3**
VA01	**Torpederas**	**2.52**	**228**	Pn			**Pn**	**18 22 00.7**	**-0.8**
VA01	**Torpederas**	**2.52**	**228**	*eP*			**Pn**	**18 22 01.0**	**-0.5**
VA01				IAML				18 22 36.9	
	comp=Z,305nm,0.9s								
LCO	**Las Campanas**	**2.56**	**334**				**Pn**	**18 22 03.4**	**+1.1**
MT12	**Pirque**	**2.57**	**201**	*eP*			**Pn**	**18 22 03.1**	**+0.9**
LMEL	**Las Melosas**	**2.59**	**194**				**Pn**	**18 22 03.0**	**+0.4**
LMEL	**Las Melosas**	**2.59**	**194**	⇑*iP*			**Pn**	**18 22 03.6**	**+1.1**
MT09	**Talagante**	**2.77**	**208**				**Pn**	**18 22 04.5**	**-0.3**
MT09	**Talagante**	**2.77**	**208**	*eP*			**Pn**	**18 22 04.6**	**-0.3**
VCA	**Vinchina**	**2.80**	**23**	*eP*			**Pn**	**18 22 07.4**	**+2.1**
VCA				*eS*			**Sn**	**18 22 41.9**	**+2.9**
VCA				IAML				18 22 51.8	
	comp=Z,1μm,0.4s								
BO04	**La Punta**	**2.83**	**200**				**Pn**	**18 22 05.9**	**+0.3**
BO04	**La Punta**	**2.83**	**200**	*eP*			**Pn**	**18 22 05.9**	**+0.3**
ACLC	**CERRO LA CRUZ**	**2.87**	**49**	*eP*			**Pn**	**18 22 07.0**	**+0.8**
ACLC				*eS*			**Sn**	**18 22 42.9**	**+2.3**
ACLC				IAML				18 22 47.8	
	comp=Z,790nm,0.3s								
MT01	**Popeta**	**2.95**	**211**				**Pn**	**18 22 06.2**	**-0.9**
**MT01

comp=Z,1.4nm,0.8s
TEIG Tepich 54.36 338 P **P** **18 30 37.4 +1.3**
QSPA South Pole Qui 58.90 180 P **P** **18 31 08.4 +0.5**
QSPA South Pole Qui 58.90 180 P **P** **18 31 09.3 +1.5**
comp=Z,0.3nm,0.5s,baz=199,slow=0.7,SNR=6.0
comp=Z,0.3nm,0.5s
BRDY Brady 68.30 333 P **P** **18 32 11.1 +1.3**
BRDY IAmb IAmb 18 32 13.2
comp=Z,4.9nm,1.4s
WHTX Lake Whitney, 68.34 335 P **P** **18 32 11.5 +1.4**
SAND Sanderson 68.41 330 P **P** **18 32 13.2 +2.5**
SAND IAmb IAmb 18 32 14.0
comp=Z,2.2nm,0.7s
TXAR Lajitas Array 68.56 328 P **P** **18 32 13.9 +2.3**
TXAR Lajitas Array 68.56 328 P **P** **18 32 14.1 +2.5**
comp=Z,0.5nm,0.6s,baz=154,slow=8.7,SNR=7.4
comp=Z,0.5nm,0.6s
TX31 Lajitas Ar. Si 68.56 328 P **P** **18 32 11.8 +0.1**
OZNA Ozona 68.83 331 P **P** **18 32 14.1 +0.8**
OZNA IAmb IAmb 18 32 16.4
comp=Z,3.0nm,0.6s
WVT Waverly 69.29 344 P **P** **18 32 16.1 +0.3**
WVT IAmb IAmb 18 32 54.5
comp=Z,3.2nm,0.9s
R40A Maddies Statio 72.47 341 P **P** **18 32 36.0 +1.1**
TORD Torodi Ar. Bea 81.22 69 P **P** **18 33 23.6 -1.1**
comp=Z,0.2nm,0.5s,baz=222,slow=1.9,SNR=1.7
TORD pP **pP** **18 33 54.6 -1.0**
comp=Z,1.1nm,0.9s,baz=284,slow=4.4,SNR=5.6
comp=Z,0.2nm,0.5s
PDAR Pinedale Array 82.43 331 P **P** **18 33 32.8 +2.1**
comp=Z,0.3nm,0.6s,baz=122,slow=7.7,SNR=4.0
comp=Z,0.3nm,0.6s
NVAR Mina Array Bea 83.01 323 P **P** **18 33 36.3 +2.5**
comp=Z,0.4nm,0.3s,baz=184,slow=7.0,SNR=5.2
comp=Z,0.4nm,0.3s
ASAR Alice Springs 120.92 205 PKP **PKiKP** **18 40 00.8 +0.1**
comp=Z,2.2nm,0.5s,baz=135,slow=1.6,SNR=5.6
WRA Warramunga Arr 124.14 207 PKP **PKiKP** **18 40 07.4 +0.4**
comp=Z,0.4nm,0.4s,baz=161,slow=1.7,SNR=17
WRA pPKP **pPKPdf** **18 40 39.8 +0.4**
comp=Z,0.2nm,0.5s,baz=170,slow=1.6,SNR=1.4
ZALV Zalesovo Beam 150.81 32 PKPbc **PKiKP** **18 41 01.3 +1.2**
comp=Z,1.2nm,0.4s,baz=334,slow=3.7,SNR=9.3
ZALV pPKPbc **pPKPbc** **18 41 33.0 +1.0**
comp=Z,1.0nm,0.5s,baz=317,slow=4.1,SNR=3.8

*IDC **26** 18:41:33.1±0.8,28°.41S×177°.79W,h130km±5km,mb3.8/6, mbtmp4.2/6,MS3.1/3,Error ellipse: s-maj=19.5km s-min=15.9km az=67.0*
*NEIC **26** 18:41:33.5±2.4,28°.7S±0°.1×177°.8W±0°.1,h143km±5km, mb4.6/23, Error ellipse: s-maj=15.4km s-min=14.7km az=170.0*
ISC 26 18:41:33.9±0.5,**28°.89S**±0°.08×**177°.86W**±0°.07,**h150**km, **n72**,σ2**s13**/60,**mb4.3**/12,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.36**	**189**		**Pn**	**18 41 54.9**	**+0.2**
RAO				Sn	**Sn**	**18 42 08.9**	**-1.6**
RAO	**Raoul Island**	**0.36**	**189**	P	**Pn**	**18 41 55.0**	**+0.3**
	4μm,0.3s,baz=228,slow=23,SNR=74						
RAO				LR	LR	18 42 09.3	
	comp=Z,225nm,18.3s,baz=325,slow=43						
RAO				S	**Sn**	**18 42 11.4**	**+0.8**
	10μm,0.3s,baz=84,slow=22,SNR=8.2						
MXZ	**Matakaoa Point**	**9.22**	**199**	Pn	**Pn**	**18 43 40.7**	**-2.8**
URZ	**Urewera**	**10.24**	**203**	P	**Pn**	**18 43 53.1**	**-3.9**
	3.2nm,0.4s,baz=358,slow=5.5,SNR=9.7						
URZ				S	**Sn**	**18 45 48.6**	**-1.6**
	23nm,0.4s,baz=261,slow=19,SNR=10						
TOZ	**Tahuroa Road**	**10.42**	**210**	Pn	**Pn**	**18 43 54.6**	**-4.7**
RTZ	**Ruatahuna**	**10.61**	**203**		**Pn**	**18 44 01.6**	**-0.3**
BKZ	**Black Stump Fm**	**11.27**	**203**	Pn	**Pn**	**18 44 09.9**	**-0.6**
HIZ	**Hauiti**	**11.35**	**210**	Pn	**Pn**	**18 44 11.3**	**-0.3**
NIUE	**Niue**	**12.16**	**38**	Pn	Pn	18 44 12.2	-10
BFZ	**Birch Farm**	**12.72**	**201**	Pn	**Pn**	**18 44 25.6**	**-3.7**
MRZ	**Mangatainoka R**	**12.92**	**203**	Pn	Pn	18 44 26.6	-5.3
TCW	**Tory Channel**	**13.87**	**206**	Pn	**Pn**	**18 44 40.4**	**-3.6**
TUWZ	**Tuamarina**	**14.18**	**206**	Pn	**Pn**	**18 44 43.8**	**-4.2**
TKNZ	**Takaka Hill**	**14.25**	**209**	Pn	**Pn**	**18 44 46.5**	**-2.3**
PINNC	**Pines Island,**	**14.64**	**292**	Pn	**Pn**	**18 44 52.6**	**-1.2**
KHZ	**Kahutara**	**15.19**	**205**	Pn	**Pn**	**18 44 57.1**	**-3.3**
DZM	**Mont Dzumac**	**15.71**	**292**		**Pn**	**18 45 06.8**	**-0.4**
DZM				IAmb	IAmb	18 45 15.4	
	comp=Z,35nm,1.5s						
DZM	**Mont Dzumac**	**15.71**	**292**	P	**P**	**18 45 11.8**	**+3.7**
	comp=Z,3.9nm,0.5s,baz=139,slow=14,SNR=8.7						
DZM				LR	LR	18 49 35.6	
	comp=Z,50nm,20.7s,baz=158,slow=31						
OXZ	**Oxford**	**16.54**	**207**	P	**P**	**18 45 14.9**	**-2.1**
OXZ				IAmb	IAmb	18 45 57.6	
	comp=Z,50nm,1.4s						
RPZ	**Rata Peaks**	**17.26**	**208**	P	**Pn**	**18 45 25.3**	**-0.4**
	comp=Z,4.8nm,0.5s,baz=110,slow=22,SNR=1.3						
RPZ				S	S	18 48 25.5	-12
	comp=Z,13nm,0.9s,baz=126,slow=22,SNR=7.1						
RAR	**Rarotonga**	**18.07**	**69**	P	**P**	**18 45 31.1**	**-2.8**
RAR	**Rarotonga**	**18.07**	**69**	P	**Pn**	**18 45 36.4**	**+0.9**
	comp=Z,4.6nm,0.4s,baz=8.4,slow=21,SNR=2.5						
RAR				S	S	18 48 34.5	-19
	comp=Z,4.0nm,0.4s,baz=208,slow=4.2,SNR=2.1						
KOUNC	**Koumac, New Ca**	**18.21**	**293**	P	**P**	**18 45 33.8**	**-1.8**
KOUNC				IAmb	IAmb	18 45 42.3	
	comp=Z,34nm,0.9s						
MLZ	**Mavora Lakes**	**19.84**	**210**	P	**P**	**18 45 53.4**	**+0.4**
MLZ				IAmb	IAmb	18 46 17.0	
	comp=Z,43nm,1.4s						
WHZ	**Wether Hill Ro**	**20.32**	**210**	P	**P**	**18 45 58.2**	**+0.1**
ARMA	**Armidale**	**26.53**	**259**	P	**P**	**18 46 56.1**	**-1.6**
ARMA				IAmb	IAmb	18 47 03.1	
	comp=Z,21nm,1.3s						
PPT	**Papeete**	**28.25**	**73**	LR	LR	18 56 17.9	
	comp=Z,20nm,19.5s,baz=182,slow=32						
CTAO	**Charters Tower**	**33.71**	**277**	P	**P**	**18 48 03.0**	**+1.9**
CTAO				IAmb	IAmb	18 48 05.3	
	comp=Z,6.9nm,0.8s						
STKA	**Stephens Creek**	**34.97**	**255**	P	**P**	**18 48 12.4**	**+0.7**
STKA	**Stephens Creek**	**34.97**	**255**	P	**P**	**18 48 14.6**	**+2.9**
	comp=Z,4.2nm,0.7s,baz=100,slow=10,SNR=13						
	comp=Z,4.2nm,0.7s						
PMG	**Port Moresby**	**38.10**	**294**	P	**P**	**18 48 39.0**	**+0.6**
PMG				IAmb	IAmb	18 49 10.0	
	comp=Z,18nm,1.2s						
COEN	**Coen**	**39.00**	**284**		**S**	**18 54 30.7**	**-3.2**
BBOO	**Buckleboo**	**39.52**	**252**	P	**P**	**18 48 50.6**	**+0.5**
BBOO				IAmb	IAmb	18 49 34.2	
	comp=Z,21nm,1.4s						
PTCN	**Pitcairn Islan**	**42.51**	**97**	P	**P**	**18 49 14.1**	**-0.6**
AS31	**Alice Springs**	**43.34**	**265**	P	**P**	**18 49 22.0**	**+0.7**
ASAR	**Alice Springs**	**43.34**	**265**	P	**P**	**18 49 20.7**	**-0.7**
ASAR	**Alice Springs**	**43.34**	**265**	P	**P**	**18 49 22.2**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=97,slow=7.3,SNR=36						
ASAR				pP	**pP**	**18 49 53.8**	**-0.1**
	comp=Z,5.1nm,0.9s,baz=106,slow=7.6,SNR=8.6						
	comp=Z,1.7nm,0.6s						
WR0	**Warramunga Arr**	**44.01**	**271**	P	**P**	**18 49 26.7**	**0.0**
WB2	**Warramunga Arr**	**44.18**	**271**	P	**P**	**18 49 27.3**	**-0.7**
WB2				IAmb	IAmb	18 49 30.1	
	comp=Z,5.8nm,0.8s						
WRA	**Warramunga Arr**	**44.19**	**271**		**P**	**18 49 27.8**	**-0.4**
WRA	**Warramunga Arr**	**44.19**	**271**	P	**P**	**18 49 28.6**	**+0.5**
	comp=Z,5.3nm,0.7s,baz=109,slow=7.7,SNR=30						
WRA				pP	**pP**	**18 50 00.7**	**-0.1**
	comp=Z,3.7nm,0.9s,baz=108,slow=7.8,SNR=7.0						
	comp=Z,5.3nm,0.7s						
WB0	**Warramunga Arr**	**44.20**	**271**		**P**	**18 49 28.3**	**0.0**
WB0				IAmb	IAmb	18 49 30.2	
	comp=Z,6.3nm,0.7s						
FORT	**Forrest**	**46.57**	**254**	P	**P**	**18 49 46.1**	**-0.6**
SBA	**Scott Base**	**49.55**	**184**	P	P	18 50 16.9	+8.0
VNDA	**Vanda**	**49.60**	**186**	P	P	18 50 15.4	+6.0
VNDA	**Vanda**	**49.60**	**186**	P	P	18 50 15.3	+6.0
	comp=Z,1.4nm,0.8s,baz=356,slow=8.0,SNR=6.3						
	comp=Z,1.4nm,0.8s						
CASY	**Casey**	**56.53**	**207**	P	**P**	**18 51 02.0**	**+1.9**
MORW	**Morawa**	**57.09**	**252**	P	**P**	**18 51 05.3**	**+0.5**
QSPA	**South Pole Qui**	**61.21**	**180**	P	**P**	**18 51 36.4**	**+3.8**
QSPA				IAmb	IAmb	18 51 42.3	
	comp=Z,6.2nm,1.0s						
QSPA	**South Pole Qui**	**61.21**	**180**	P	**P**	**18 51 37.1**	**+4.5**
	comp=Z,3.8nm,0.7s,baz=321,slow=0.6,SNR=14						
	comp=Z,3.8nm,0.7s						
H03S2	**Juan Fernandez**	**81.19**	**124**	T	T	20 23 46.9	
	baz=240,slow=74,SNR=10						
H03S1	**Juan Fernandez**	**81.20**	**124**	T	T	20 23 41.0	
	baz=240,slow=74,SNR=9.1						
H03S3	**Juan Fernandez**	**81.21**	**124**	T	T	20 23 39.5	
	baz=240,slow=74,SNR=8.7						
H03N3	**Juan Fernandez**	**81.38**	**123**	T	T	20 23 54.9	
	baz=245,slow=72,SNR=7.0						
H03N2	**Juan Fernandez**	**81.38**	**123**	T	T	20 23 55.6	
	baz=245,slow=72,SNR=5.3						
H03N1	**Juan Fernandez**	**81.39**	**123**	T	T	20 23 56.2	
	baz=245,slow=72,SNR=7.6						
NVAR	**Mina Array Bea**	**87.05**	**43**	P	**P**	**18 54 01.7**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=238,slow=5.0,SNR=2.9						
NVAR				pP	**pP**	**18 54 35.3**	**-4.5**
	comp=Z,0.3nm,0.6s,baz=250,slow=7.5,SNR=2.4						
	comp=Z,0.5nm,0.9s						
CMIG	**Matias Romero**	**92.17**	**72**	LR	LR	19 25 31.0	
	comp=Z,20nm,20.9s,baz=50,slow=29						
MKAR	**Makanchi Array**	**116.90**	**311**	PKP	**PKiKP**	**19 00 02.1**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=124,slow=1.7,SNR=4.0						
KURBB	**Kurchatov Arra**	**120.13**	**314**	PKP	**PKiKP**	**19 00 07.0**	**+0.4**
	comp=Z,0.6nm,0.2s,baz=61,slow=2.7,SNR=6.4						
H10S3	**ASCENSION HYDR**	**139.03**	**154**	T	T	21 36 30.4	
	baz=16,slow=74,SNR=13						
H10S2	**ASCENSION HYDR**	**139.03**	**154**	T	T	21 36 31.0	
	baz=204,slow=74,SNR=6.1						
H10N3	**ASCENSION HYDR**	**140.11**	**154**	T	T	21 37 50.6	
	baz=204,slow=75,SNR=8.5						
H10N1	**ASCENSION HYDR**	**140.11**	**154**	T	T	21 37 53.8	
	baz=204,slow=75,SNR=11						
H10N2	**ASCENSION HYDR**	**140.13**	**154**	T	T	21 37 53.9	
	baz=204,slow=75,SNR=11						
NB2	**NORSAR Subarra**	**147.28**	**352**	PKP	**PKPbc**	**19 00 58.4**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=10,slow=3.0						
NOA	**NORSAR Array B**	**147.28**	**352**	PKPbc	**PKPbc**	**19 00 58.3**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=39,slow=2.0,SNR=0.9						
HFS	**Hagfors**	**147.79**	**349**	PKPbc	**PKPbc**	**19 00 59.5**	**-0.9**
	comp=Z,5.4nm,0.9s,baz=48,slow=2.2,SNR=6.9						
AKASG	**Malin Array Be**	**150.16**	**324**	PKPbc	**PKPbc**	**19 01 06.2**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=45,slow=2.6,SNR=9.7						
MMAI	**Mount Meron Ar**	**151.25**	**287**	PKPbc	**PKiKP**	**19 01 12.1**	**+1.7**
	comp=Z,1.4nm,0.5s,baz=69,slow=4.8,SNR=5.6						
BRTR	**Keskin Array B**	**151.96**	**301**	PKPbc	**PKiKP**	**19 01 13.1**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=127,slow=4.1,SNR=6.3						
TORD	**Torodi Ar. Bea**	**164.33**	**178**	PKPab	**PKPab**	**19 02 18.9**	**+4.0**
	comp=Z,0.5nm,0.5s,baz=134,slow=2.7,SNR=5.9						

*IDC **26** 18:47:35.3±0.6,5°.60S×79°.37W,h98km±4km,mb3.7/10, mbtmp4.1/11,MS3.2/6,Error ellipse: s-maj=24.3km s-min=7.4km az=63.0*
*NEIC **26** 18:47:35.1±2.1,5°.73S±0°.06×79°.44W±0°.07,h81km±8km, mb4.3/15, Error ellipse: s-maj=12.1km s-min=6.2km az=49.0*
ISC 26 18:47:34.9±0.5,**5°.66S**±0°.04×**79°.37W**±0°.08,**h100**km,**n59**, σ1**s66**/69,**mb4.1**/15,**3C**,**Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCRA	**Macar, Loja**	**1.40**	**336**		**Pn**	**18 47 59.7**	**-0.3**
MCRA				Sn	**Sn**	**18 48 17.7**	**-1.4**
ATAH	**Atahualpa**	**1.76**	**147**	P	**Pn**	**18 48 06.7**	**+1.9**
	2μm,0.4s,baz=357,slow=7.4,SNR=2585						
ATAH				S	**Sn**	**18 48 29.4**	**+1.8**
	1μm,0.3s,baz=33,slow=19,SNR=9.1						
ARNL	**Arenillas**	**2.21**	**342**		**Pn**	**18 48 09.4**	**-0.7**
ARNL				Sn	**Sn**	**18 48 32.8**	**-4.3**
BOSC	**San Juan Bosco**	**2.64**	**19**		**Pn**	**18 48 17.1**	**+1.1**
BOSC				Sn	**Sn**	**18 48 45.7**	**-1.8**
COHC	**Cochancay**	**3.17**	**2**		**Pn**	**18 48 24.6**	**+1.7**
SALI	**Salinas**	**3.81**	**335**	Pn	**Pn**	**18 48 32.4**	**+0.9**
CHSH	**Refugio Sur-Vo**	**4.17**	**7**		**Pn**	**18 48 39.5**	**+2.7**
CHSH				Sn	**Sn**	**18 49 24.1**	**-0.8**
SLOR	**San Lorenzo -**	**4.97**	**10**		**Pn**	**18 48 50.4**	**+2.7**
PULU	**Pululahua**	**5.71**	**9**		**Pn**	**18 48 59.5**	**+1.9**
OTAV	**Otavalo**	**5.93**	**9**		**Pn**	**18 49 02.3**	**+1.7**
IMBA	**Imbabura, San**	**6.01**	**11**		**Pn**	**18 49 02.5**	**+0.8**
TULM	**Tulcn-Chalpat**	**6.53**	**14**		**Pn**	**18 49 10.5**	**+1.7**
NNA	**Nana**	**6.77**	**159**	Pn	**Pn**	**18 49 10.3**	**-1.4**
NNA	**Nana**	**6.77**	**159**	P	**Pn**	**18 49 11.1**	**-0.7**
	65nm,0.3s,baz=321,slow=12,SNR=23						
NNA				S	**Sn**	**18 50 19.3**	**-8.1**
	58nm,0.3s,baz=306,slow=21,SNR=1.6						
CZSB	**Cruzeiro do Su**	**6.94**	**108**		**Pn**	**18 49 13.6**	**-0.4**
TUMC	**Tumaco**	**7.46**	**5**	Pn	**Pn**	**18 49 22.2**	**+1.1**
TBTG	**Tabatinga, AM**	**9.54**	**82**	Pn	**Pn**	**18 49 48.8**	**-0.6**
ROSC	**El Rosal**	**11.58**	**26**	LR	LR	18 55 45.6	
	comp=Z,63nm,21.0s,baz=82,slow=42						
ETMB	**Extrema**	**13.68**	**108**		**Pn**	**18 50 41.5**	**-3.3**
LPAZ	**La Paz**	**15.27**	**135**		**Pn**	**18 51 05.6**	**-0.1**
PB18	**Visviri**	**15.30**	**142**		**Pn**	**18 51 06.5**	**+0.4**
PB18				IAmb	IAmb	18 51 13.6	
	comp=Z,33nm,0.9s						
PB12	**IPOC Station P**	**15.61**	**146**	Pn	**Pn**	**18 51 10.0**	**+0.5**
PB16	**IPOC Station P**	**15.86**	**143**		**Pn**	**18 51 13.6**	**+0.6**
PB16				IAmb	IAmb	18 51 48.0	
	comp=Z,13nm,0.9s						
LCR2	**La Lucha 2**	**15.98**	**343**	Pn	**Pn**	**18 51 14.8**	**+0.7**
SAML	**Samuel**	**16.39**	**102**	P	**Pn**	**18 51 18.2**	**-0.8**
JTS	**Las Juntas de**	**16.79**	**341**	LR	LR	18 56 36.3	
	comp=Z,66nm,20.2s,baz=74,slow=32						
SDV	**Santo Domingo**	**16.87**	**31**	LR	LR	18 57 58.0	
	comp=Z,68nm,20.6s,baz=264,slow=37						
PB11	**IPOC Station P**	**16.91**	**147**	P	**Pn**	**18 51 22.8**	**-2.8**
PB11				IAmb	IAmb	18 51 28.3	
	comp=Z,14nm,0.9s						
COVE	**Coope Vega, Sa**	**17.02**	**343**	P	**P**	**18 51 27.7**	**+0.6**
GO01	**Chusmiza**	**17.09**	**145**	P	**Pn**	**18 51 27.9**	**-0.2**
GO01				IAmb	IAmb	18 52 04.8	
	comp=Z,33nm,1.4s						
TA01	**Diego Aracena**	**17.30**	**150**	P	**Pn**	**18 51 30.7**	**+0.5**
TA01				IAmb	IAmb	18 51 54.7	
	comp=Z,17nm,1.1s						
SIV	**San Ignacio**	**20.68**	**121**	P	**P**	**18 52 07.9**	**+0.9**
	comp=Z,2.6nm,0.5s,baz=300,slow=10,SNR=14						
SIV				LR	LR	19 00 04.5	
	comp=Z,60nm,19.1s,baz=286,slow=36						
	comp=Z,2.6nm,0.5s						
PCRV	**Puerto La Cruz**	**21.51**	**43**	P	**P**	**18 52 15.2**	**-0.8**
	comp=Z,1.1nm,1.2s,baz=219,slow=14,SNR=2.5						
	comp=Z,31nm,1.2s						
PTLB	**Pontes e Lacer**	**22.12**	**118**	P	**P**	**18 52 22.9**	**+0.5**
PTLB				IAmb	IAmb	18 52 57.7	
	comp=Z,10nm,1.1s						
TEIG	**Tepich**	**27.17**	**341**	LR	LR	19 03 40.7	
	comp=Z,226nm,18.7s,baz=211,slow=36						
CMIG	**Matias Romero**	**27.31**	**326**	LR	LR	19 01 38.5	
	comp=Z,38nm,19.8s,baz=16,slow=31						
GO06	**Curarrehue**	**34.52**	**169**	P	**P**	**18 54 14.9**	**+1.2**
GO06				IAmb	IAmb	18 54 40.4	
	comp=Z,7.7nm,1.1s						
LR05	**Currie**	**35.05**	**170**	P	**P**	**18 54 19.1**	**+1.0**
PLCA	**Paso Flores**	**35.81**	**169**	P	**P**	**18 54 25.5**	**+0.8**
PLCA				IAmb	IAmb	18 55 04.8	
	comp=Z,9.2nm,1.2s						
PLCA	**Paso Flores**	**35.81**	**169**	P	**P**	**18 54 24.7**	**0.0**
	comp=Z,3.9nm,1.0s,baz=335,slow=9.8,SNR=7.2						
	comp=Z,3.9nm,1.0s						
SAND	**Sanderson**	**41.59**	**330**	P	**P**	**18 55 15.4**	**+2.2**
SAND				IAmb	IAmb	18 55 48.7	
	comp=Z,3.2nm,0.8s						
TXAR	**Lajitas Array**	**41.90**	**327**	pP	**pP**	**18 55 39.3**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=158,slow=9.7,SNR=2.0						
TXAR				sP	sP	18 55 49.6	-1.8
	comp=Z,0.8nm,0.8s,baz=147,slow=9.3,SNR=7.8						
PDAR	**Pinedale Array**	**55.44**	**333**	P	**P**	**18 57 01.3**	**+1.9**
	comp=Z,0.3nm,0.8s,baz=141,slow=5.8,SNR=3.1						
PDAR				pP	**pP**	**18 57 23.3**	**-0.9**
	comp=Z,0.6nm,0.9s,baz=133,slow=8.7,SNR=4.2						
PDAR				sP	**sP**	**18 57 33.9**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=120,slow=8.8,SNR=5.0						
	comp=Z,0.3nm,0.8s						
NVAR	**Mina Array Bea**	**56.81**	**324**	P	**P**	**18 57 10.0**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=126,slow=7.3,SNR=1.4						
NVAR				pP	**pP**	**18 57 33.8**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=161,slow=5.7,SNR=3.4						
	comp=Z,0.4nm,0.7s						
YKA	**Yellowknife Ar**	**73.10**	**344**	P	**P**	**18 58 54.0**	**0.0**
	comp=Z,0.1nm,0.6s,baz=138,slow=5.6,SNR=4.6						
YKA				pP	**pP**	**18 59 18.6**	**-1.7**
	comp=Z,0.5nm,1.0s,baz=143,slow=5.8,SNR=3.6						
	comp=Z,0.1nm,0.6s						
DBIC	**Dimbokro**	**75.37**	**82**	P	**P**	**18 59 09.0**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=235,slow=4.0,SNR=2.1						
DBIC				pP	**pP**	**18 59 34.0**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=226,slow=1.0,SNR=3.7						
DBIC				sP	**sP**	**18 59 44.8**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=274,slow=4.4,SNR=2.5						
	comp=Z,0.8nm,0.4s						
VNA2	**Neumayer--Watz**	**78.83**	**161**	⇑P	**P**	**18 59 27.2**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=295,slow=4.0						
SNAA	**Sanae**	**80.43**	**162**	⇑P	**P**	**18 59 36.0**	**+0.8**
	comp=Z,126nm,0.6s						
SNAA	**Sanae**	**80.43**	**162**	P	**P**	**18 59 35.9**	**+0.6**
	comp=Z,4.8nm,0.5s,baz=277,slow=6.9,SNR=24						
	comp=Z,4.8nm,0.5s						
TROLL	**Troll, Antarti**	**82.15**	**162**	⇑P	**P**	**18 59 45.3**	**+0.9**
	comp=Z,176nm,0.7s						
ESDC	**Sonseca Array**	**82.46**	**49**	pP	pP	19 00 13.2	0.0
	comp=Z,1.6nm,0.9s,baz=275,slow=7.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**82.62**	**76**	P	**P**	**18 59 48.3**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=298,slow=3.1,SNR=2.7						
TORD				pP	**pP**	**19 00 13.5**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=302,slow=6.2,SNR=5.1						
TORD				sP	**sP**	**19 00 24.8**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=291,slow=3.5,SNR=3.6						
	comp=Z,0.5nm,0.7s						
QSPA	**South Pole Qui**	**84.43**	**180**	P	**P**	**18 59 57.3**	**+1.1**
	comp=Z,10nm,0.9s,baz=162,slow=1.5,SNR=37						
	comp=Z,10nm,0.9s						
ZALV	**Zalesovo Beam**	**130.16**	**12**	PKP	**PKPdf**	**19 06 33.6**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=299,slow=1.5,SNR=5.8						
KURBB	**Kurchatov Arra**	**131.51**	**19**	PKP	**PKiKP**	**19 06 37.1**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=314,slow=2.2,SNR=1.5						
KURBB				pPKP	**pPKPdf**	**19 07 04.5**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=319,slow=2.7,SNR=1.7						
MKAR	**Makanchi Array**	**136.07**	**18**	PKP	**PKPdf**	**19 06 44.9**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=301,slow=2.8,SNR=3.3						
MKAR				pPKP	**pPKPdf**	**19 07 11.6**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=305,slow=2.5,SNR=2.5						
ASAR	**Alice Springs**	**136.37**	**227**	PKhKP	PKPpre	19 06 34.2	
	comp=Z,0.3nm,0.7s,baz=146,slow=3.4,SNR=1.6						
ASAR				PKP	**PKPdf**	**19 06 45.9**	**0.0**
	comp=Z,0.9nm,0.9s,baz=130,slow=2.1,SNR=6.2						
WRA	**Warramunga Arr**	**138.21**	**232**	PKP	**PKPdf**	**19 06 49.7**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=129,slow=1.7,SNR=9.8						
CMAR	**Chiang Mai Arr**	**167.17**	**7**	PKP	**PKPdf**	**19 07 30.1**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=340,slow=2.0,SNR=4.6						

*SJA **26** 18:50:09.2±0.6,27°.00S×70°.10W,h81km±4km,ML3.6, MW3.6*
*GUC **26** 18:50:09.1±0.9,27°.01S×70°.00W,h74km±6km,ML3.6*
ISC 26 18:50:11.1±1.4,**26°.97S**±0°.03×**70°.14W**±0°.07,**h73**km±12km, **n25**,σ1**s20**/30,**2C-2D**,**Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC06	**Mina Casimiro**	**0.43**	**206**	⇓*i*P	**Pn**	**18 50 23.1**	**-0.6**
AC06				*e*S	**Sn**	**18 50 32.7**	**-0.2**
GO03	**Copiap**	**0.63**	**187**	*e*P	**Pn**	**18 50 24.6**	**-1.0**
GO03				*e*S	**Sn**	**18 50 36.5**	**+0.2**
GO03	**Copiap**	**0.63**	**187**	⇑*i*P	**Pn**	**18 50 24.6**	**-1.0**
GO03				*i* S	**Sn**	**18 50 36.0**	**-0.3**
GO03				IAML		18 50 36.6	
	comp=E,3μm,0.2s						
AC01	**Pan de Azucar**	**0.91**	**333**	*e*P	**Pn**	**18 50 29.0**	**+0.3**
AC01				IAML		18 50 47.7	
	comp=Z,430nm,0.2s						
AC01	**Pan de Azucar**	**0.91**	**333**	⇓*i*P	**Pn**	**18 50 29.3**	**+0.7**
AC01				*i* S	**Sn**	**18 50 44.1**	**+2.3**
AC04	**Llanos de Chal**	**1.49**	**214**	*e*P	**Pn**	**18 50 35.6**	**-0.3**
AC04				IAML		18 51 01.4	
	comp=Z,667nm,0.6s						
AC04	**Llanos de Chal**	**1.49**	**214**	*e*P	**Pn**	**18 50 35.5**	**-0.5**
AC04				*i* S	**Sn**	**18 50 55.8**	**+1.0**
AC04				IAML		18 51 02.1	
	comp=E,2

D25K	**Kavik River**	**64.89**	**21**	P	**P**	**19 03 18.4**	**+0.4**
D25K				IAmb	IAmb	19 03 58.6	
	comp=Z,4.3nm,1.4s						
BMAR	**Burnt Mountain**	**65.15**	**24**	P	**P**	**19 03 19.5**	**-0.1**
BMAR				PcP	**PcP**	**19 03 51.7**	**+1.1**
BVAR	**Borovoye Array**	**65.92**	**320**	P	**P**	**19 03 24.8**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=88,slow=9.6,SNR=3.4						
	comp=Z,0.6nm,0.5s						
ABKAR	**Akbulak array**	**72.76**	**317**	P	**P**	**19 04 06.3**	**-0.5**
ABKAR	**Akbulak array**	**72.76**	**317**	P	**P**	**19 04 06.2**	**-0.6**
ABKAR				IAmb	IAmb	19 04 41.6	
	comp=Z,1.9nm,1.3s						
YKA	**Yellowknife Ar**	**78.07**	**28**	P	**P**	**19 04 36.8**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=288,slow=5.9,SNR=6.6						
	comp=Z,0.3nm,0.6s						
NVAR	**Mina Array Bea**	**83.47**	**52**	P	**P**	**19 05 06.1**	**0.0**
	comp=Z,0.4nm,0.6s,baz=264,slow=6.4,SNR=5.5						
	comp=Z,0.4nm,0.6s						
FINES	**FINESS Array B**	**86.42**	**335**	P	**P**	**19 05 19.2**	**-0.8**
	comp=Z,8.0nm,1.2s,baz=46,slow=4.0,SNR=3.9						

*DJA **26** 18:58:53.0±0.7,3°S±6°×13°9E±°, h11km±8km, M3.8/4, mb4.0/3, MLv3.6/4*
*IDC **26** 18:58:57.2±9.6,3°19S×139°23E, h0km, mb3.3/2, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=395.7km s-min=32.9km az=87.0*
ISC 26 18:58:54.3±1.1, 2°6S±0°.1×139°37E±0°.05, h27km, n7, σ1s07/9, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.80**	**90**	P			**Pn**	**18 59 09.2**	**-0.5**
GENI				S			Sn	18 59 21.4	+0.7
SMPI	**Sarmi**	**0.89**	**312**	P			**Pn**	**18 59 09.7**	**-1.4**
SMPI				S			Sn	18 59 24.4	+1.3
JAY	**Jayapura**	**1.33**	**87**	P			**Pn**	**18 59 16.1**	**-1.1**
JAY				S			Sb	18 59 36.5	+1.1
FAKI	**Fak Fak**	**7.12**	**267**	P			**Pn**	**19 00 37.0**	**+0.2**
	23nm,1.3s,0.1nm								
WRA	**Warramunga Arr**	**17.93**	**196**	P			**Pn**	**19 03 01.4**	**-0.4**
	0.2nm,0.3s,baz=14,slow=12,SNR=4.9								
	0.6nm,0.6s								
ASAR	**Alice Springs**	**21.61**	**194**	P			**P**	**19 03 42.1**	**-0.2**
	0.5nm,0.5s,baz=18,slow=9.9,SNR=19								
	0.5nm,0.5s								
MKAR	**Makanchi Array**	**70.10**	**322**	P			P	19 10 13.9	+10
	0.3nm,0.6s,baz=116,slow=6.6,SNR=3.2								
	0.3nm,0.6s								

*SJA **26** 18:59:01.0±0.7,21°.05S×68°.92W, h122km±4km, ML3.7, MW3.7*
*IDC **26** 18:59:03.4±1.0,21°.12S×68°.55W, h115km±8km, mb3.2/2, mbtmp3.5/3, Error ellipse: s-maj=42.5km s-min=9.6km az=107.0*
*GUC **26** 18:59:03.1±0.5,21°.07S×68°.85W, h106km±3km, ML3.8*
ISC 26 18:59:02.2±0.8, 21°02S±0°.03×68°.86W±0°.05, h110km±6km, n39, σ1s28/67, 2C-6D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.59**	**267**	*e*P			**Pn**	**18 59 19.5**	**-0.3**
PB01				*e*S			**Sn**	**18 59 33.0**	**-0.1**
PB01				IAML				18 59 34.0	
	comp=Z,2μm,0.2s								
PB01	**IPOC Station P**	**0.59**	**267**	⇑*i*P			**Pn**	**18 59 19.6**	**-0.1**
PB01				*i* S			**Sn**	**18 59 32.6**	**-0.5**
PB01				IAML				18 59 33.7	
	comp=E,3μm,0.2s								
PB09	**IPOC Station P**	**0.85**	**205**	*e*P			**Pn**	**18 59 22.4**	**+0.2**
PB09				*e*S			**Sn**	**18 59 38.1**	**+0.9**
PB09				IAML				18 59 41.1	
	comp=Z,891nm,0.5s								
PB09	**IPOC Station P**	**0.85**	**205**	*e*P			**Pn**	**18 59 22.4**	**+0.2**
PB09				*i* S			**Sn**	**18 59 37.2**	**0.0**
PB09				IAML				18 59 39.3	
	comp=E,1μm,0.2s								
PB08	**IPOC Station P**	**0.91**	**342**	*e*P			**Pn**	**18 59 24.0**	**+1.0**
PB08				*e*S			**Sn**	**18 59 40.3**	**+1.7**
PB08				IAML				18 59 40.7	
	comp=Z,761nm,0.2s								
PB08	**IPOC Station P**	**0.91**	**342**	⇓*i*P			**Pn**	**18 59 23.9**	**+1.0**
PB08				*i* S			**Sn**	**18 59 39.9**	**+1.3**
PB08				IAML				18 59 40.7	
	comp=E,3μm,0.2s								
PB02	**IPOC Station P**	**1.01**	**253**	*e*P			**Pn**	**18 59 23.8**	**+0.1**
PB02				*e*S			**Sn**	**18 59 40.0**	**+0.1**
PB02				IAML				18 59 41.5	
	comp=Z,2μm,0.4s								
PB02	**IPOC Station P**	**1.01**	**253**	⇑*i*P			**Pn**	**18 59 23.7**	**+0.1**
PB02				*i* S			**Sn**	**18 59 39.5**	**-0.4**
PB02				IAML				18 59 40.9	
	comp=E,3μm,0.2s								
PB07	**IPOC Station P**	**1.19**	**233**	*e*P			**Pn**	**18 59 25.3**	**-0.3**
PB07				*e*S			**Sn**	**18 59 43.8**	**+0.4**
PB07				IAML				18 59 45.9	
	comp=Z,655nm,0.3s								
PB07	**IPOC Station P**	**1.19**	**233**	*e*P			**Pn**	**18 59 25.4**	**-0.3**
PB07				*i* S			**Sn**	**18 59 42.5**	**-0.8**
HMBC	**Humberstone**	**1.21**	**307**	*e*P			**Pn**	**18 59 26.0**	**+0.2**
HMBC				*e*S			**Sn**	**18 59 44.3**	**+0.6**
HMBC	**Humberstone**	**1.21**	**307**	⇓*i*P			**Pn**	**18 59 26.0**	**+0.2**
HMBC				*i* S			**Sn**	**18 59 43.9**	**+0.2**
HMBC				IAML				18 59 44.8	
	comp=E,2μm,0.2s								
PATCX	**Punta Patache**	**1.22**	**279**	*e*P			**Pn**	**18 59 26.2**	**+0.3**
PATCX				*e*S			**Sn**	**18 59 44.9**	**+1.0**
PATCX	**Punta Patache**	**1.22**	**279**	⇓*i*P			**Pn**	**18 59 26.1**	**+0.3**
PATCX				*i* S			**Sn**	**18 59 44.1**	**+0.2**
PATCX				IAML				18 59 45.1	
	comp=E,4μm,0.2s								
TA01	**Diego Aracena**	**1.31**	**290**	*e*P			**Pn**	**18 59 26.9**	**0.0**
TA01				*e*S			**Sn**	**18 59 45.7**	**+0.2**
TA01				IAML				18 59 47.1	
	comp=Z,880nm,0.3s								
TA01	**Diego Aracena**	**1.31**	**290**	⇓*i*P			**Pn**	**18 59 26.8**	**0.0**
TA01				*i* S			**Sn**	**18 59 45.5**	**0.0**
TA01				IAML				18 59 46.9	
	comp=E,4μm,0.2s								
GO01	**Chusmiza**	**1.38**	**347**	*e*P			**Pn**	**18 59 28.4**	**+0.3**
GO01	**Chusmiza**	**1.38**	**347**	⇓*i*P			**Pn**	**18 59 29.0**	**+0.9**
GO01				*e*S			**Sn**	**18 59 48.9**	**+1.2**
GO01				IAML				18 59 51.9	
	comp=E,2μm,0.2s								
TA02	**Huaiquique**	**1.40**	**302**	*e*P			**Pn**	**18 59 28.1**	**+0.2**
TA02				*e*S			**Sn**	**18 59 47.8**	**+0.4**
TA02				IAML				18 59 51.4	
	comp=Z,1μm,0.1s								
TA02	**Huaiquique**	**1.40**	**302**	*e*P			**Pn**	**18 59 28.0**	**+0.2**
TA02				*i* S			**Sn**	**18 59 47.7**	**+0.4**
TA02				IAML				18 59 51.8	
	comp=N,2μm,0.1s								
PB11	**IPOC Station P**	**1.46**	**329**	*e*P			**Pn**	**18 59 29.1**	**+0.4**
PB11				*e*S			**Sn**	**18 59 50.4**	**+1.6**
PB11				IAML				18 59 51.6	
	comp=Z,865nm,0.2s								
PB11	**IPOC Station P**	**1.46**	**329**	⇓*i*P			**Pn**	**18 59 29.1**	**+0.4**
PB11				*i* S			**Sn**	**18 59 49.9**	**+1.1**
PB11				IAML				18 59 51.5	
	comp=E,2μm,0.2s								
LVC	**Limon Verde**	**1.58**	**182**	*e*P			**Pn**	**18 59 30.5**	**0.0**
LVC				*e*S			**Sn**	**18 59 52.2**	**+0.4**
LVC				IAML				18 59 55.0	
	comp=Z,328nm,0.2s								
LVC	**Limon Verde**	**1.58**	**182**	P			**Pn**	**18 59 30.8**	**+0.4**
	comp=Z,172nm,0.4s,baz=20,slow=9.6,SNR=663								
LVC				S			**Sn**	**18 59 52.2**	**+0.4**
	comp=Z,147nm,0.3s,baz=235,slow=22,SNR=37								
PB04	**IPOC Station P**	**1.78**	**222**	*e*P			**Pn**	**18 59 33.0**	**+0.4**
PB04				IAML				19 00 00.5	
	comp=Z,474nm,0.2s								
PB06	**IPOC Station P**	**1.81**	**201**	*e*P			**Pn**	**18 59 32.7**	**-0.2**
PB06				*e*S			**Sn**	**18 59 56.1**	**-0.2**
PB06				IAML				18 59 58.6	
	comp=Z,691nm,0.2s								
PB05	**IPOC Station P**	**2.21**	**214**	*e*P			**Pn**	**18 59 37.3**	**-0.7**
PB05				IAML				19 00 15.2	
	comp=Z,137nm,0.3s								
PB16	**IPOC Station P**	**2.74**	**347**	*e*P			**Pn**	**18 59 46.6**	**+1.2**
PB12	**IPOC Station P**	**2.76**	**330**	*e*P			**Pn**	**18 59 44.3**	**-0.8**
PB12				IAML				19 00 22.3	
	comp=Z,146nm,0.4s								
AP01	**Chacalluta**	**2.98**	**332**	*e*P			**Pn**	**18 59 47.6**	**-0.4**
AP01				IAML				19 00 36.2	
	comp=Z,323nm,0.2s								
YJA	**Yavi**	**3.32**	**111**	*e*P			**Pn**	**18 59 55.2**	**+2.4**
GO02	**Mina Guanaco**	**4.18**	**189**	*e*P			**Pn**	**19 00 02.9**	**-1.3**
AZAP	**Zapla**	**4.74**	**133**	*e*P			**Pn**	**19 00 13.2**	**+1.5**
LPAZ	**La Paz**	**4.75**	**8**	*e*P			**Pn**	**19 00 15.2**	**+2.9**
ALOL	**LOMAS DE OLMED**	**5.30**	**123**	*e*P			**Pn**	**19 00 19.3**	**+0.2**
SIV	**San Ignacio**	**8.92**	**57**	P			**Pn**	**19 01 06.0**	**-2.2**
	comp=Z,1.4nm,0.5s,baz=249,slow=11,SNR=3.3								
SIV				S			**Sn**	**19 02 39.7**	**-7.3**
	comp=Z,0.6nm,0.4s,baz=116,slow=21,SNR=1.3								
TORD	**Torodi Ar. Bea**	**77.15**	**70**	P			**P**	**19 10 43.1**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=259,slow=5.2,SNR=2.0								
TORD				pP			**pP**	**19 11 13.0**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=259,slow=5.4,SNR=2.8								
	comp=Z,0.2nm,0.5s								
YKA	**Yellowknife Ar**	**90.75**	**341**	P			**P**	**19 11 53.0**	**+0.8**
	comp=Z,0.2nm,0.8s,baz=133,slow=4.3,SNR=2.5								
YKA				pP			**pP**	**19 12 23.2**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=136,slow=4.3,SNR=3.4								
	comp=Z,0.2nm,0.8s								
MKAR	**Makanchi Array**	**145.22**	**36**	PKPbc			**PKPbc**	**19 18 27.4**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=329,slow=4.2,SNR=6.6								
MKAR				pPKPbc			**pPKPdf**	**19 18 57.2**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=327,slow=2.4,SNR=4.9								

WEL 26 19:03:04.3±0.3, 41°S±3°×17°5E±°, h24km±3km, M3.2/21, ML3.5/22, MLv3.2/21, Error ellipse: s-maj=0.0km s-min=0.0km az=150.8, confirmed, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.18**	**49**	P			Pn	19 03 11.4	-0.2
KIW				S			Sb	19 03 16.0	+2.8
CAW	**Cannon Point**	**0.28**	**118**	P			Pn	19 03 12.7	-0.3
CAW				S			Sn	19 03 18.7	+0.2
UHSS	**Upper Hutt Pri**	**0.29**	**121**	P			Pb	19 03 11.4	+0.3
UHSS				S			Sn	19 03 18.0	-0.7
WANS	**Wainuiomata Hi**	**0.29**	**150**	P			Pn	19 03 12.9	-0.3
WANS				S			Sn	19 03 18.7	-0.2
SOMS	**Somes Island**	**0.30**	**161**	P			Pn	19 03 12.5	-0.7
SOMS				S			Sn	19 03 18.5	-0.4
SEAV	**Seaview**	**0.30**	**155**	S			Sn	19 03 18.4	-0.5
TFSS	**Wellington Tho**	**0.30**	**173**	S			Sn	19 03 17.5	-1.4
WEL	**Wellington**	**0.31**	**175**	P			Pn	19 03 13.0	-0.4
WEL				S			Sn	19 03 19.1	-0.1
OGWZ	**Otaki Gorge**	**0.37**	**64**	P			Pn	19 03 13.5	-0.6
OGWZ				S			Sn	19 03 20.0	-0.6
TCW	**Tory Channel**	**0.42**	**236**	P			Pb	19 03 13.9	+0.8
TCW				S			Sn	19 03 20.5	-1.3
BHW	**Baring Head**	**0.44**	**167**	P			Pn	19 03 14.7	-0.6
MSWZ	**Moikau Station**	**0.59**	**139**	P			Pn	19 03 17.7	+0.5
MSWZ				S			Sn	19 03 26.7	+0.6
HOWZ	**Holdsworth Sta**	**0.60**	**83**	P			Pn	19 03 17.0	-0.3
HOWZ				S			Sn	19 03 27.0	+0.7
MTW	**Mount Morrison**	**0.61**	**108**	P			Pn	19 03 17.2	-0.2
MTW				S			Sn	19 03 27.2	+0.7
DUWZ	**D'Urville Isla**	**0.64**	**286**	P			Pb	19 03 17.2	+0.2
PAWZ	**Paruwai Farm**	**0.66**	**128**	P			Pn	19 03 17.9	-0.3
PLWZ	**Palliser**	**0.71**	**147**	P			Pb	19 03 18.5	+0.4
MRZ	**Mangatainoka R**	**0.71**	**64**	P			Pn	19 03 18.7	-0.2
TUWZ	**Tuamarina**	**0.75**	**233**	P			Pb	19 03 18.7	0.0
TRWZ	**Traveller**	**0.83**	**121**	P			Pb	19 03 20.1	-0.1
TMWZ	**Te Maipa**	**0.88**	**99**	P			Pb	19 03 20.8	-0.3
OHWZ	**Ohakea**	**0.89**	**30**	P			Pn	19 03 21.4	0.0
TIWZ	**Tintock**	**0.90**	**77**	P			Pb	19 03 21.1	-0.2
POWZ	**Post Office Ro**	**0.98**	**54**	P			Pn	19 03 22.2	-0.4
BSWZ	**Blackbirch Sta**	**0.98**	**221**	P			Pb	19 03 22.9	+0.3
PRWZ	**Pori Road**	**1.03**	**66**	P			Pn	19 03 23.0	-0.3
NNZ	**Nelson**	**1.05**	**256**	P			Pn	19 03 23.4	-0.1
CPWZ	**Castlepoint**	**1.11**	**87**	P			Pn	19 03 24.3	-0.1
BFZ	**Birch Farm**	**1.18**	**76**	P			Pn	19 03 24.5	-0.9
BFZ				S			Sn	19 03 40.0	-0.8
WAZ	**Wanganui**	**1.24**	**9**	P			Pb	19 03 27.2	+0.2
DVHZ	**Dannevirke**	**1.28**	**59**	P			Pn	19 03 25.8	-1.0
TSZ	**Takapari Road**	**1.31**	**46**	P			Pn	19 03 26.7	-0.5
TKNZ	**Takaka Hill**	**1.34**	**267**	P			Pn	19 03 27.8	+0.2
TKNZ				S			Sb	19 03 46.4	+0.7
LREZ	**Lake Rotokare**	**1.54**	**350**	P			Pb	19 03 32.8	+0.7
PNHZ	**Pukenui**	**1.54**	**47**	P			Pn	19 03 29.5	-0.8
MRNZ	**Matariki Terra**	**1.55**	**254**	P			Pn	19 03 31.1	+0.6
THZ	**Tophouse**	**1.58**	**240**	P			Pn	19 03 30.9	-0.1
WPHZ	**Waipukurau**	**1.59**	**56**	P			Pn	19 03 30.3	-0.7
PRHZ	**Porangahau**	**1.61**	**64**	P			Pn	19 03 29.3	-2.0
QRZ	**Quartz Range**	**1.68**	**274**	P			Pn	19 03 32.2	0.0
KHZ	**Kahutara**	**1.69**	**212**	P			Pn	19 03 31.9	-0.5
MOVZ	**Moawhango**	**1.75**	**27**	P			Pn	19 03 33.0	-0.3
KHEZ	**Kahui Hut**	**1.77**	**342**	P			Pb	19 03 34.9	-1.2
WNVZ	**Wahianoa**	**1.78**	**22**	P			Pn	19 03 34.3	+0.6
TRVZ	**Turoa**	**1.79**	**21**	P			Pn	19 03 34.8	+0.9
BHHZ	**Black Hill Sta**	**1.80**	**35**	P			Pn	19 03 33.7	-0.3
WHVZ	**Whangaehu Hut**	**1.81**	**21**	P			Pn	19 03 35.5	+1.2
MAVZ	**Matarangi**	**1.82**	**21**	P			Pb	19 03 37.0	-0.2
KRHZ	**Kereru**	**1.83**	**44**	P			Pn	19 03 33.3	-1.0
FWVZ	**Far West T-bar**	**1.83**	**20**	P			Pn	19 03 35.9	+1.4
NBEZ	**Newall Road No**	**1.83**	**338**	P			Pb	19 03 35.9	-1.3
TUVZ	**Tukino**	**1.85**	**23**	P			Pn	19 03 36.1	+1.4
VRZ	**Vera Road**	**1.85**	**1**	P			Pn	19 03 35.9	+1.3
PKE	**Pukeiti**	**1.87**	**342**	P			Pn	19 03 35.7	+0.8
COVZ	**Chateau Observ**	**1.88**	**20**	P			Pb	19 03 38.2	+0.1
SNVZ	**South Ngauruho**	**1.92**	**22**	P			Pn	19 03 36.7	+1.0
OTVZ	**Oturere**	**1.95**	**22**	P			Pb	19 03 39.0	-0.2
TWVZ	**Taurewa**	**1.98**	**16**	P			Pb	19 03 39.1	-0.6
KAHZ	**Kahuranaki**	**2.02**	**55**	P			Pn	19 03 35.7	-1.2
KWHZ	**Kaweka Forest**	**2.02**	**40**	P			Pn	19 03 36.1	-0.8
BKZ	**Black Stump Fm**	**2.26**	**37**	P			Pb	19 03 42.4	-2.1
DSZ	**Denniston Nort**	**2.33**	**250**	P			Pn	19 03 41.1	-0.2
GVZ	**Greta Valley S**	**2.36**	**212**	P			Pn	19 03 40.1	-1.4
HIZ	**Hauiti**	**2.46**	**2**	P			Pn	19 03 44.5	+1.5
LTZ	**Lake Taylor**	**2.58**	**225**	P			Pn	19 03 43.6	-1.0
TLZ	**Tolley Road**	**2.72**	**13**	P			Pb	19 03 52.6	+0.4
INZ	**Inchbonnie**	**3.02**	**234**	P			Pn	19 03 50.9	+0.4
WVZ	**Waitaha Valley**	**3.64**	**234**	P			Pn	19 04 01.8	+2.7
RPZ	**Rata Peaks**	**3.86**	**224**	P			Pb	19 04 08.1	-3.6
GCSZ	**Gaunt Creek Bo**	**4.03**	**233**	P			Pn	19 04 06.7	+2.2
TMZ	**Timaru**	**4.38**	**218**	P			Pn	19 04 08.0	-1.3
FOZ	**Fox Glacier**	**4.46**	**233**	P			Pn	19 04 11.4	+1.1
ODZ	**Otahua Downs**	**5.05**	**215**	P			Pn	19 04 16.7	-1.8
JCZ	**Jackson Bay**	**5.38**	**233**	P			Pn	19 04 22.2	-0.9

*NEIC **26** 19:09:59.9±1.8, 38°.73S±0°.04×70°.5W±0°.1, h190km±6km, mb4.2/24, Error ellipse: s-maj=13.1km s-min=5.9km az=89.0*
*IDC **26** 19:10:00.1±1.7, 38°.73S×70°.26W, h179km±12km, mb3.7/7, mbtmp4.2/8, Error ellipse: s-maj=61.7km s-min=17.0km az=103.0*
*GUC **26** 19:10:00.5±0.6, 38°.74S×70°.84W, h201km±5km, ML4.3*
ISC 26 19:09:59.1±0.6, 38°70S±0°.04×70°67W±0°.07, h188km±7km, n101, σ1s71/129, mb4.0/12, 4C-3D, Southern Argentina

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GO06	**Curarrehue**	**1.08**	**215**				**Pn**	**19 10 29.9**	**+1.6**
GO06							Sn	**19 10 53.4**	**+2.4**
GO06	**Curarrehue**	**1.08**	**215**	⇑*i*P			**Pn**	**19 10 30.0**	**+1.7**
GO06				*i* S			**Sn**	**19 10 53.0**	**+2.0**
LR03	**Panguipulli**	**1.60**	**234**	*e*P			**Pn**	**19 10 33.9**	**+1.2**
LR03				*e*S			**Sn**	**19 10 59.6**	**+0.9**
LR03				IAML				19 11 03.1	
	comp=E,515nm,0.3s								
LR05	**Currie**	**1.84**	**214**				**Pn**	**19 10 36.7**	**+1.6**
LR05	**Currie**	**1.84**	**214**	⇑*i*P			**Pn**	**19 10 36.6**	**+1.6**
LR05				IAML				19 10 38.8	
	comp=E,449nm,0.2s								
PLCA	**Paso Flores**	**2.03**	**177**	P			**Pn**	**19 10 38.1**	**+1.0**
	comp=E,60nm,0.4s,baz=356,slow=11,SNR=398								
PLCA				S			**Sn**	**19 11 06.1**	**-0.7**
	comp=E,21nm,0.7s,baz=321,slow=11,SNR=3.4								
PLCA	**Paso Flores**	**2.03**	**177**	⇑*i*P			**Pn**	**19 10 38.1**	**+1.0**
PLCA				*i* S			**Sn**	**19 11 07.0**	**+0.2**
LC02	**Puerto Saavedr**	**2.12**	**267**				**Pn**	**19 10 40.0**	**+2.0**
LC02							**Sn**	**19 11 08.7**	**+0.5**
LC02	**Puerto Saavedr**	**2.12**	**267**	*e*P			**Pn**	**19 10 40.0**	**+2.0**
LC02				*i* S			**Sn**	**19 11 08.7**	**+0.5**
LR02	**Universidad Au**	**2.29**	**240**	*e*P			**Pn**	**19 10 41.0**	**+1.3**
LR02				*i* S			**Sn**	**19 11 11.2**	**-0.3**
LR02				IAML				19 11 14.7	
	comp=E,3μm,0.3s								
LR04	**Corral**	**2.44**	**240**	⇑*i*P			**Pn**	**19 10 42.3**	**+0.8**
LR04				*i* S			**Sn**	**19 11 13.8**	**-0.7**
LR04				IAML				19 11 16.0	
	comp=N,2μm,0.2s								
BI05	**Punta Hualpn**	**2.79**	**314**				**Pn**	**19 10 47.9**	**+2.3**
BI05	**Punta Hualpn**	**2.79**	**314**	*e*P			**Pn**	**19 10 48.0**	**+2.4**
BI05				*i* S			**Sn**	**19 11 22.4**	**+0.5**
BI05				IAML				19 11 24.8	
	comp=E,813nm,0.2s								
ML02	**Panimavida**	**2.99**	**348**				**Pn**	**19 10 50.2**	**+2.1**
ML02	**Panimavida**	**2.99**	**348**	*i* P			**Pn**	**19 10 50.9**	**+2.8**
ML02				*i* S			**Sn**	**19 11 28.7**	**+2.4**
ML02				IAML				19 11 31.0	
	comp=N,479nm,0.4s								
LL05	**Los Muermos**	**3.45**	**218**	Pn			**Pn**	**19 10 52.1**	**-1.5**
LL05	**Los Muermos**	**3.45**	**218**	*i* S			**Sn**	**19 11 33.1**	**-3.1**
GO05	**Huala**	**3.82**	**344**				**Pn**	**19 11 00.0**	**+1.7**
GO05	**Huala**	**3.82**	**344**	*e*P			**Pn**	**19 11 00.5**	**+2.2**
GO05				*e*S			**Sn**	**19 11 43.7**	**-0.9**
BO02	**Sierra Bellavi**	**3.90**	**359**				**Pn**	**19 11 00.2**	**+0.8**
LL01	**San Ignacio de**	**3.91**	**199**	Pn			**Pn**	**19 10 59.3**	**+0.2**
LL01	**San Ignacio de**	**3.91**	**199**	*e*P			**Pn**	**19 10 59.4**	**+0.2**
LL01				*e*S			**Sn**	**19 11 46.6**	**+0.2**
LL06	**Loncomilla**	**4.17**	**212**	Pn			**Pn**	**19 11 00.4**	**-2.1**
LL06	**Loncomilla**	**4.17**	**212**	*e*P			**Pn**	**19 11 00.6**	**-1.9**
LL06				*e*S			**Sn**	**19 11 47.2**	**-5.2**
BO01	**Tunca**	**4.31**	**355**				**Pn**	**19 11 05.5**	**+1.0**
LL07	**Hotel Espejo d**	**4.64**	**206**	Pn			**Pn**	**19 11 07.3**	**-1.2**
LL07	**Hotel Espejo d**	**4.64**	**206**	*e*S			**Sn**	**19 11 58.6**	**-4.6**
BO04	**La Punta**	**4.70**	**1**				**Pn**	**19 11 10.4**	**+0.9**
MT01	**Popeta**	**4.85**	**354**				**Pn**	**19 11 11.9**	**+0.6**
LMEL	**Las Melosas**	**4.86**	**5**				**Pn**	**19 11 13.3**	**+1.6**
MT09	**Talagante**	**4.92**	**357**				**Pn**	**19 11 12.7**	**+0.3**
MT13	**San Alfonso**	**4.96**	**4**				**Pn**	**19 11 14.3**	**+1.4**
VA05	**Santo Domingo**	**5.09**	**351**				**Pn**	**19 11 14.9**	**+0.5**
MT03	**Universidad Ad**	**5.20**	**2**	Pn			**Pn**	**19 11 16.8**	**+0.8**
MT16	**CCHEN**	**5.26**	**1**	Pn			**Pn**	**19 11 17.8**	**+1.0**
MT16							**Sn**	**19 12 17.3**	**-0.6**
MT05	**Renca**	**5.30**	**359**	Pn			**Pn**	**19 11 18.4**	**+1.2**
MT05							**Sn**	**19 12 18.0**	**-0.7**
MT02	**Curacav**	**5.44**	**356**				**Pn**	**19 11 19.4**	**+0.3**
PEL	**Peldehue**	**5.55**	**360**				**Pn**	**19 11 20.2**	**-0.2**
PEL							**Sn**	**19 12 23.0**	**-1.4**
PEL	**Peldehue**	**5.55**	**360**	*i* P			**Pn**	**19 11 21.3**	**+0.9**
ROC1	**El Roble**	**5.72**	**357**				**Pn**	**19 11 23.2**	**+0.3**
ROC1	**El Roble**	**5.72**	**357**	*e*P			**Pn**	**19 11 23.3**	**+0.3**
ROC1				*e*S			**Sn**	**19 12 25.6**	**-3.2**
VA01	**Torpederas**	**5.72**	**352**	Pn			**Pn**	**19 11 22.9**	**+0.3**
AAGR	**Agrelo**	**5.80**	**16**	*i* P			**Pn**	**19 11 26.3**	**+2.5**
AY01	**Puyuhuapi**	**5.90**	**194**	Pn			**Pn**	**19 11 26.3**	**+1.5**
VA03	**San Esteban**	**5.93**	**1**				**Pn**	**19 11 24.8**	**-0.7**
ASAL	**Salagasta**	**6.28**	**14**	*i* P			**Pn**	**19 11 31.9**	**+1.9**
ASAL				*i* S			**Sn**	**19

comp=Z,8.8nm,1.3s
TORD Torodi Ar. Bea 84.83 69 P **P** 19 22 13.2 +0.5
comp=Z,0.4nm,0.5s,baz=237,slow=6.9,SNR=3.0
comp=Z,0.4nm,0.5s
BVAR Borovoye Array 149.76 49 PKPbc **PKPbc** 19 29 26.3 +0.3
comp=Z,0.3nm,0.4s,baz=292,slow=5.1,SNR=1.9
MKAR Makanchi Array 158.64 59 PKPab **PKPab** 19 30 09.9 -0.3
comp=Z,0.1nm,0.4s,baz=283,slow=4.5,SNR=2.1

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*DJA **26** 19:14:10.8±0.3,3°S×4°×13°7E±°, h67km±6km, M4.9/18, mb4.9/18, mB5.2/7, MLv5.1/9, Mw(mB)4.7/7, MwMwp6.5/1, Mwp6.4/1*
*NEIC **26** 19:14:10.7±1.8,3°.55S±0°.08×136°.92E±0°.08, h87km±8km, mb4.4/31, Error ellipse: s-maj=11.6km s-min=10.5km az=222.0*
*IDC **26** 19:14:12.6±4.6,3°.35S×137°.10E, h106km±45km, mb3.7/10, mbtmp4.2/12, MS3.1/3, Error ellipse: s-maj=34.0km s-min=16.0km az=81.0*
ISC 26 19:14:10.4±1.0,3°.62S±0°.08×136°.93E±0°.08, h100km, n92, σ2s18/47, mb4.2/21, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**3.22**	**269**	P		**Pn**	**19 15 01.4**	**+2.2**
KMPI				S		**Sn**	**19 15 39.6**	**+2.8**
GENI	**Genyem**	**3.39**	**72**	P		Pn	19 15 00.7	-0.7
GENI	**Genyem**	**3.39**	**72**	P		Pn	19 15 00.6	-0.8
JAY	**Jayapura**	**3.92**	**74**	P		Pn	19 15 07.1	-1.5
TABUBI	**Tabubil**	**4.58**	**111**	P		Pn	19 15 19.8	+2.3
FAKI	**Fak Fak**	**4.73**	**278**	Pn		**Pn**	**19 15 19.0**	**-0.5**
FAKI				Sn		**Sn**	**19 16 10.2**	**-3.0**
FAKI	**Fak Fak**	**4.73**	**278**	P		**Pn**	**19 15 19.8**	**+0.3**
FAKI	**Fak Fak**	**4.73**	**278**	P		**Pn**	**19 15 19.2**	**-0.3**
MMPI	**Merauke**	**5.91**	**145**	P		Pn	19 15 38.8	+3.3
	840nm,0.6s,16μm410μm4.0nm							
SWI	**Sorong**	**6.30**	**296**	P		**Pn**	**19 15 40.4**	**-0.4**
	218nm,0.5s,3μm0.9nm							
BNDI	**Bandanaira**	**7.07**	**263**	P		**Pn**	**19 15 53.2**	**+1.9**
	244nm,0.9s,1.5nm							
SAUI	**Saumlaki**	**7.08**	**232**			**Pn**	**19 15 52.2**	**+0.7**
SAUI	**Saumlaki**	**7.08**	**232**	P		**Pn**	**19 15 52.5**	**+1.0**
SAUI	**Saumlaki**	**7.08**	**232**	P		**Pn**	**19 15 53.3**	**+1.8**
	123nm,0.7s,1.0nm							
LBMI	**Labuha**	**9.88**	**287**	P		**Pn**	**19 16 30.1**	**+0.5**
	155nm,0.6s,2μm							
KDU	**Kakadu**	**10.03**	**206**	P		**Pn**	**19 16 32.8**	**+1.3**
TNTI	**Ternate**	**10.51**	**294**	Pn		**Pn**	**19 16 37.2**	**-0.9**
MANU	**Manus Island**	**10.54**	**82**	Pn		Pn	19 16 38.7	+0.2
MTN	**Manton Dam**	**10.81**	**212**	Pn		**Pn**	**19 16 43.8**	**+1.6**
MTN	**Manton Dam**	**10.81**	**212**	P		**Pn**	**19 16 43.7**	**+1.6**
SANI	**Sanana**	**11.04**	**278**	P		**Pn**	**19 16 44.6**	**-0.8**
SANI	**Sanana**	**11.04**	**278**	P		**Pn**	**19 16 44.2**	**-1.2**
PMG	**Port Moresby**	**11.67**	**120**			Pn	19 16 54.1	+0.4
PMG	**Port Moresby**	**11.67**	**120**	P		Pn	19 16 56.1	+2.3
PMG	**Port Moresby**	**11.67**	**120**	P		Pn	19 16 56.2	+2.4
PMG	**Port Moresby**	**11.67**	**120**	P		Pn	19 16 55.3	+1.5
	24nm,0.7s,baz=353,slow=8.5,SNR=17							
PMG				S		**Sn**	**19 18 59.9**	**-2.3**
	9.6nm,0.5s,baz=194,slow=23,SNR=1.2							
KMSI	**Cibinong**	**13.60**	**288**	P		**P**	**19 17 20.8**	**-3.9**
	134nm,0.8s							
SOEI	**Soe**	**13.97**	**244**	Pn		**Pn**	**19 17 24.1**	**-0.2**
SOEI	**Soe**	**13.97**	**244**	P		**P**	**19 17 27.1**	**-1.9**
	36nm,0.8s							
KNRA	**Kununurra**	**14.43**	**213**	Pn		**P**	**19 17 30.9**	**-2.9**
KNRA						**Sn**	**19 20 05.4**	**-3.6**
BBSI	**Bau Bau**	**14.44**	**262**	P		P	19 17 40.0	+6.0
MRSI	**Marisa**	**15.53**	**285**	P		**P**	**19 17 47.7**	**+1.6**
	34nm,0.5s,489nm							
WB0	**Warramunga Arr**	**16.24**	**189**	Pn		**P**	**19 17 53.2**	**-0.8**
WR0	**Warramunga Arr**	**16.40**	**188**	Pn		**P**	**19 17 55.8**	**0.0**
WR0				IAmb		IAmb	19 18 05.8	
	comp=Z,17nm,0.8s							
WRAB	**Tennant Creek**	**16.41**	**189**	P		**P**	**19 17 55.1**	**-0.7**
WB2	**Warramunga Arr**	**16.41**	**189**			**P**	**19 17 54.7**	**-1.2**
WRA	**Warramunga Arr**	**16.42**	**189**	Pn		**P**	**19 17 54.2**	**-1.8**
WRA	**Warramunga Arr**	**16.42**	**189**	P		**P**	**19 17 55.5**	**-0.5**
	comp=Z,8.1nm,0.4s,baz=8.9,slow=13,SNR=84							
WRA				S		**Sn**	**19 20 49.8**	**-7.3**
	comp=Z,11nm,0.7s,baz=0.4,slow=22,SNR=6.6							
TOLI2	**Tolitoli**	**16.81**	**286**			**P**	**19 18 01.4**	**+1.0**
TOLI2	**Tolitoli**	**16.81**	**286**	P		**P**	**19 18 03.3**	**+2.9**
FITZ	**Fitzroy Crossi**	**18.15**	**217**	P		**Pn**	**19 18 18.3**	**+2.3**
CTA	**Charters Tower**	**18.72**	**152**	P		Pn	19 18 28.5	+5.7
CTA	**Charters Tower**	**18.72**	**152**	P		**Pn**	**19 18 24.6**	**+1.8**
	comp=Z,18nm,0.8s,baz=332,slow=12,SNR=21							
CTA				LR		LR	19 26 23.6	
	comp=Z,50nm,18.7s,baz=4.0,slow=39							
CTAO	**Charters Tower**	**18.72**	**152**	P		**Pn**	**19 18 24.4**	**+1.5**
CTAO				IAmb		IAmb	19 18 28.9	
	comp=Z,21nm,0.8s							
CTAO	**Charters Tower**	**18.72**	**152**	P		Pn	19 18 28.5	+5.7
GUMO	**Guam**	**18.83**	**25**	LR		LR	19 23 51.5	
	comp=Z,57nm,21.0s,baz=85,slow=31							
PLAI	**Plampang**	**19.73**	**254**	P		**Pn**	**19 18 36.2**	**+1.5**
	comp=Z,16nm,0.9s							
AS31	**Alice Springs**	**20.14**	**188**	P		Pn	19 18 39.8	+0.3
AS31				IAmb		IAmb	19 19 03.5	
	comp=Z,9.0nm,0.6s							
ASAR	**Alice Springs**	**20.14**	**188**	P		Pn	19 18 39.8	+0.3
ASAR						**S**	**19 22 20.3**	**+2.7**
ASAR	**Alice Springs**	**20.14**	**188**	P		Pn	19 18 41.7	+2.2
	comp=Z,17nm,0.9s,baz=13,slow=10,SNR=107							
ASAR				S		**S**	**19 22 18.7**	**+1.2**
	comp=Z,5.1nm,0.6s,baz=4.5,slow=27,SNR=6.0							
	comp=Z,17nm,0.9s							
MYLDM	**Lahad Datu**	**20.39**	**295**	P		Pn	19 18 41.5	-0.9
MYLDM				IAmb		IAmb	19 18 47.7	
	comp=Z,24nm,1.2s							
WRKA	**Warakurna**	**22.86**	**201**	P		**P**	**19 19 10.0**	**+4.5**
OOD	**Oodnadatta**	**24.07**	**183**	P		P	19 19 22.6	+6.1
MBWA	**Marble Bar**	**24.16**	**222**	P		**P**	**19 19 18.9**	**+1.5**
MBWA				IAmb		IAmb	19 19 23.9	
	comp=Z,12nm,0.8s							
MBWA	**Marble Bar**	**24.16**	**222**	P		P	19 19 23.0	+5.6
PSA00	**Pilbara Seismi**	**24.37**	**222**	P		**P**	**19 19 21.2**	**+1.9**
PSA00	**Pilbara Seismi**	**24.37**	**222**	P		**P**	**19 19 21.4**	**+2.0**
PSA00				IAmb		IAmb	19 19 58.2	
	comp=Z,19nm,1.2s							
FORT	**Forrest**	**28.28**	**196**	P		**P**	**19 19 54.6**	**+0.1**
STKA	**Stephens Creek**	**28.45**	**172**	P		P	19 19 58.4	+2.4
STKA	**Stephens Creek**	**28.45**	**172**	P		P	19 20 00.1	+4.2
	comp=Z,0.6nm,0.5s,baz=337,slow=12,SNR=1.3							
	comp=Z,0.6nm,0.5s							
JNU	**Nakatsue**	**36.99**	**352**	P		P	19 21 09.9	-0.4
JNU	**Nakatsue**	**36.99**	**352**	P		P	19 21 10.1	-0.3
	comp=Z,9.4nm,0.9s,baz=312,slow=3.1,SNR=1.9							
	comp=Z,9.4nm,0.9s							
CMAR	**Chiang Mai Arr**	**43.38**	**302**	P		P	19 22 04.9	+1.6
	comp=Z,0.3nm,0.5s,baz=113,slow=6.9,SNR=2.9							
	comp=Z,0.3nm,0.5s							
TNCH	**TengChong**	**46.92**	**309**	eP		P	19 22 38.0	+6.5
TNCH				pmax		pmax		
	comp=Z,5.0nm,1.5s							
USRK	**Ussuriysk Ar.**	**47.81**	**355**	P		P	19 22 38.3	+0.5
USRK	**Ussuriysk Ar.**	**47.81**	**355**	P		P	19 22 37.8	0.0
	comp=Z,4.4nm,0.6s,baz=185,slow=8.2,SNR=7.3							
	comp=Z,4.4nm,0.6s							
URZ	**Urewera**	**50.28**	**139**	LR		LR	19 45 23.6	
	comp=Z,17nm,18.9s,baz=285,slow=37							
SONM	**Songino Array**	**57.81**	**336**	P		P	19 23 52.0	+0.5
	comp=Z,0.2nm,0.5s,baz=156,slow=7.6,SNR=2.3							
	comp=Z,0.2nm,0.5s							
YAK	**Yakutsk**	**65.71**	**356**	P		P	19 24 44.5	+0.5
YAK	**Yakutsk**	**65.71**	**356**	P		P	19 24 43.7	-0.3
	comp=Z,0.5nm,0.7s,baz=153,slow=1.7,SNR=5.4							
MK31	**Makanchi Array**	**69.44**	**323**	P		**P**	**19 25 07.6**	**-0.3**
MKAR	**Makanchi Array**	**69.44**	**323**	P		**P**	**19 25 07.6**	**-0.3**
MKAR	**Makanchi Array**	**69.44**	**323**	P		P	19 25 08.0	+0.1
	comp=Z,0.7nm,0.7s,baz=103,slow=9.9,SNR=6.5							
	comp=Z,0.7nm,0.7s							
VNDA	**Vanda**	**75.04**	**175**	P		P	19 25 42.4	+1.7
VNDA				IAmb		IAmb	19 25 57.3	
	comp=Z,7.4nm,1.4s							
VNDA	**Vanda**	**75.04**	**175**	P		P	19 25 43.8	+3.1
	comp=Z,0.6nm,0.5s,baz=336,slow=5.8,SNR=6.9							
	comp=Z,0.6nm,0.5s							
BVAR	**Borovoye Array**	**79.05**	**326**	P		P	19 26 04.1	+0.5
	comp=Z,0.6nm,0.5s,baz=132,slow=6.0,SNR=4.7							
	comp=Z,0.6nm,0.5s							
L14K	**Kuka Creek**	**79.47**	**25**	P		P	19 26 06.8	+1.2
L14K				IAmb		IAmb	19 26 08.2	
	comp=Z,7.7nm,1.3s							
K15K	**Wolf Creek Mou**	**80.40**	**25**	P		P	19 26 11.7	+1.1
K15K				IAmb		IAmb	19 26 40.4	
	comp=Z,8.0nm,1.4s							
H17K	**Granite Mounta**	**82.23**	**23**	P		P	19 26 21.5	+1.2
G18K	**Tagagawik**	**83.12**	**22**	P		P	19 26 25.8	+0.9
G18K				IAmb		IAmb	19 26 57.9	
	comp=Z,4.4nm,1.4s							
H19K	**Roundabout Mou**	**83.81**	**23**	P		P	19 26 30.2	+1.9
H19K				IAmb		IAmb	19 26 31.3	
	comp=Z,2.2nm,0.8s							
C19K	**Lookout Ridge**	**84.19**	**19**	P		P	19 26 31.9	+1.6
D19K	**Kuna River**	**84.41**	**20**	P		P	19 26 32.6	+1.1
D19K				IAmb		IAmb	19 26 33.7	
	comp=Z,3.4nm,0.8s							
IMAR	**Indian Mountai**	**85.01**	**23**	P		P	19 26 35.5	+1.0
B20K	**Meade River**	**85.34**	**18**	P		P	19 26 37.4	+1.4
B20K				IAmb		IAmb	19 26 41.3	
	comp=Z,6.3nm,1.4s							
MLY	**Manley**	**85.89**	**24**	P		P	19 26 39.8	+0.9
DHY	**Denali Highway**	**86.77**	**26**	P		P	19 26 44.8	+1.4
DHY				IAmb		IAmb	19 26 47.8	
	comp=Z,3.9nm,0.9s							
ILAR	**Eielson Array**	**87.39**	**25**	P		P	19 26 46.0	-0.2
	comp=Z,1.6nm,0.8s,baz=263,slow=4.4,SNR=16							
	comp=Z,1.6nm,0.8s							
F24K	**Squaw Lake**	**87.69**	**22**	P		P	19 26 49.8	+2.2
F24K				IAmb		IAmb	19 26 50.6	
	comp=Z,2.7nm,0.8s							
BMAR	**Burnt Mountain**	**88.91**	**22**	P		P	19 26 55.0	+1.6
BCAR	**Beaver Creek A**	**89.25**	**27**	P		P	19 26 56.9	+1.8
K27K	**Chicken**	**89.29**	**26**	P		P	19 26 57.2	+2.1

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*UCR **26** 19:15:14.8±1.1, 9°.47N×84°.58W, h17km±4km, MW4.2*
*CATAC **26** 19:15:14.2±0.3, 9°.46N×84°.58W, h3km±2km, ML4.0*
ISC 26 19:15:14.5±0.9, 9°.48N±0°.03×84°.58W±0°.02, h17km±6km, n81, σ0s98/104, 3C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.20**	**338**	eP		**Pg**	**19 15 19.4**	**-0.1**
JACO				eS		**Sg**	**19 15 23.5**	**+0.8**
JACO	**JACO, Garabito**	**0.20**	**338**	iP		**Pg**	**19 15 19.3**	**-0.1**
JACO				iS		**Sg**	**19 15 23.3**	**+0.6**
JACO				IAML			19 15 23.8	
	comp=Z,31μm,1.0s							
SVQ2	**Quepos**	**0.41**	**96**	eP		**Pg**	**19 15 22.5**	**-0.5**
LLNJ	**Naranjito**	**0.47**	**90**	eP		**Pg**	**19 15 23.9**	**-0.2**
LLNJ				eS		**Sb**	**19 15 31.4**	**+0.2**
CBL1	**Cabuya**	**0.52**	**283**	eP		**Pg**	**19 15 24.7**	**-0.1**
CBL1				eS		**Sn**	**19 15 35.4**	**-0.1**
ARZA	**Esparza**	**0.52**	**351**	eP		**Pb**	**19 15 25.7**	**+0.5**
ARZA				eS		**Sb**	**19 15 33.7**	**+1.3**
ABE2	**San Pablo**	**0.57**	**66**	eP		**Pg**	**19 15 25.6**	**-0.4**
ABE2				eS		**Sg**	**19 15 34.1**	**+0.5**
SANTA	**Santa Ana**	**0.60**	**41**	eP		**Pg**	**19 15 25.8**	**-0.7**
SANTA				eS		**Sg**	**19 15 34.3**	**-0.3**
SRA1	**San Ramn**	**0.61**	**9**	eP		**Pg**	**19 15 26.3**	**-0.5**
LCR2	**La Lucha 2**	**0.63**	**65**	eP		**Pg**	**19 15 26.2**	**-0.7**
LCR2				eS		**Sg**	**19 15 35.1**	**-0.3**
LCR2	**La Lucha 2**	**0.63**	**65**	iP		**Pg**	**19 15 26.3**	**-0.7**
LCR2				iS		**Sg**	**19 15 35.0**	**-0.4**
LCR2				IAML			19 15 35.5	
	comp=Z,6μm,1.0s							
TCS1	**Tacares**	**0.63**	**26**	iP		**Pg**	**19 15 26.9**	**-0.1**
TCS1				IAML			19 15 45.4	
	comp=Z,22μm,1.0s							
AMPA	**Desamparados**	**0.66**	**51**	eP		**Pg**	**19 15 26.8**	**-0.9**
AMPA				eS		**Sg**	**19 15 36.1**	**-0.4**
SJS3	**Mercedes San J**	**0.70**	**49**	eP		**Pg**	**19 15 27.7**	**-0.5**
SJS3				eS		**Sg**	**19 15 37.7**	**+0.2**
HDC	**Heredia**	**0.70**	**41**	eP		**Pg**	**19 15 27.7**	**-0.5**
HDC3	**Heredia 3**	**0.70**	**41**	iP		**Pg**	**19 15 27.8**	**-0.5**
HDC3				IAML			19 15 47.0	
	comp=Z,4μm,1.0s							
CORON	**Coronado**	**0.76**	**49**	eP		**Pg**	**19 15 29.0**	**-0.4**
CORON				eS		**Sb**	**19 15 40.2**	**+0.8**
RIMA	**Rio Macho**	**0.77**	**68**	eP		**Pg**	**19 15 28.4**	**-1.2**
RIMA				eS		**Sg**	**19 15 39.1**	**-0.7**
RIMA	**Rio Macho**	**0.77**	**68**	iP		**Pg**	**19 15 28.4**	**-1.2**
RIMA				iS		**Sg**	**19 15 39.0**	**-0.7**
RIMA				IAML			19 15 39.3	
	comp=Z,3μm,1.0s							
REPA	**Paraso**	**0.79**	**63**	eP		**Pg**	**19 15 30.0**	**+0.1**
REPA				eS		**Sb**	**19 15 41.2**	**+0.9**
POA5	**Crater Von Fra**	**0.80**	**26**	eP		**Pg**	**19 15 26.8**	**-3.5**
CDM	**Cerro de Muert**	**0.81**	**84**	iP		**Pg**	**19 15 29.5**	**-1.0**
CDM				IAML			19 15 47.0	
	comp=Z,3μm,1.0s							
CPMI	**Catarata Coope**	**0.83**	**14**	iP		**Pg**	**19 15 30.1**	**-0.6**
CPMI				IAML			19 15 42.7	
	comp=Z,2μm,1.0s							
BUS1	**Rivas**	**0.83**	**84**	eP		**Pg**	**19 15 29.5**	**-1.3**
VICA	**Volcano Irazu**	**0.89**	**55**	eP		**Pg**	**19 15 30.9**	**-0.9**
JTS	**Las Juntas de**	**0.89**	**336**	eP		**Pg**	**19 15 30.4**	**-1.5**
POPE	**POPE, Guanacas**	**0.89**	**311**	iP		**Pg**	**19 15 30.7**	**-1.2**
POPE				IAML			19 15 32.0	
	comp=Z,10μm,1.0s							
POPE				iS		**Sb**	**19 15 45.2**	**+2.1**
SOCE	**Pocosol**	**0.90**	**358**	eP		**Pg**	**19 15 31.6**	**-0.6**
SOCE	**Pocosol**	**0.90**	**358**	iP		**Pg**	**19 15 31.8**	**-0.3**
SOCE				IAML			19 15 53.4	
	comp=Z,5μm,1.0s							
INDI	**Punta indio, G**	**0.99**	**293**	eP		**Pg**	**19 15 32.4**	**-1.3**
INDI	**Punta indio, G**	**0.99**	**293**	iP		**Pg**	**19 15 32.4**	**-1.3**
INDI				iS		**Sb**	**19 15 47.0**	**+1.1**
INDI				IAML			19 15 50.1	
	comp=Z,2μm,1.0s							
VERB	**Verbena**	**0.99**	**62**	eP		**Pg**	**19 15 32.8**	**-1.0**
OCHAL	**Ojochal**	**1.00**	**112**	iP		**Pg**	**19 15 31.9**	**-2.0**
OCHAL				IAML			19 15 34.0	
	comp=Z,35nm,1.0s							
VACR	**Volcan Arenal**	**1.00**	**355**	iP		**Pg**	**19 15 33.5**	**-0.4**
VACR				IAML			19 15 52.4	
	comp=Z,2μm,1.0s							
SGBR	**La Fortuna**	**1.01**	**350**	eP		**Pg**	**19 15 33.6**	**-0.6**
SGBR				eS		**Sb**	**19 15 48.2**	**+1.5**
CEDE	**Laguna Cedeo**	**1.01**	**353**	eP		**Pg**	**19 15 33.7**	**-0.5**
ITAL	**Pital**	**1.02**	**17**	eP		**Pg**	**19 15 33.5**	**-0.7**
RVSTA	**Santa Teresita**	**1.05**	**62**	eP		**Pg**	**19 15 33.8**	**-1.0**
RIFO	**Rio Frio, Sara**	**1.06**	**38**	iP		**Pg**	**19 15 34.1**	**-1.0**
RIFO				iS		**Sb**	**19 15 49.0**	**+1.0**
RIFO				IAML			19 15 55.2	
	comp=Z,5μm,1.0s							
DUNO	**Dulce Nombre,**	**1.08**	**304**	eP		**Pg**	**19 15 33.9**	**-1.5**
DUNO	**Dulce Nombre,**	**1.08**	**304**	iP		**Pg**	**19 15 33.3**	**-2.2**
DUNO				IAML			19 15 55.8	
	comp=Z,2μm,1.0s							
SARA	**Sarapiqu**	**1.12**	**30**	eP		**Pb**	**19 15 34.7**	**-0.7**
LCOCO	**El Coco**	**1.18**	**59**	eP		**Pb**	**19 15 36.1**	**-0.3**
EDPN	**Palmar Norte**	**1.22**	**115**	eP		**Pn**	**19 15 36.7**	**-0.1**
SRBA	**San Rafael, Bu**	**1.23**	**101**	eP		**Pn**	**19 15 36.1**	**-0.9**
SRBA	**San Rafael, Bu**	**1.23**	**101**	iP		**Pn**	**19 15 36.5**	**-0.5**
SRBA				IAML			19 15 37.4	
	comp=Z,3μm,1.0s							
ORTG	**Ortega, Santa**	**1.23**	**316**	eP		**Pn**	**19 15 36.4**	**-0.6**
ORTG	**Ortega, Santa**	**1.23**	**316**	iP		**Pn**	**19 15 36.5**	**-0.6**
ORTG				IAML			19 16 02.7	
	comp=Z,1μm,1.0s							
ACAL	**Aguas Claras**	**1.24**	**339**	↑iP		**Pn**	**19 15 36.8**	**-0.3**
ACAL				eS		**Sb**	**19 15 53.4**	**+0.2**
COVE	**Coope Vega, Sa**	**1.25**	**8**	eP		**Pn**	**19 15 36.8**	**-0.5**
COVE	**Coope Vega, Sa**	**1.25**	**8**	iP		**Pn**	**19 15 36.9**	**-0.3**
COVE				IAML			19 16 00.6	
	comp=Z,2μm,1.0s							
EDBA	**Buenos Aires**	**1.33**	**103**	eP		**Pn**	**19 15 37.5**	**-0.8**
CAMAV	**Centro de Prod**	**1.36**	**334**	↑iP		**Pn**	**19 15 38.6**	**-0.2**
CAMAV				eS		**Sg**	**19 15 58.9**	**+0.3**
TRT2	**Tortugero**	**1.36**	**38**	iP		**Pn**	**19 15 38.7**	**0.0**
TRT2				IAML			19 15 59.6	
	comp=Z,2μm,1.0s							
VERA	**Finca Concepci**	**1.40**	**348**	eP		**Pn**	**19 15 39.6**	**+0.3**
VERA				eS		**Sb**	**19 15 59.2**	**+1.4**
LIBE	**Liberia**	**1.42**	**323**	iP		**Pn**	**19 15 40.8**	**+1.2**
LIBE				IAML			19 16 45.2	
	comp=Z,3μm,1.0s							
CANAL	**Canalete**	**1.43**	**341**	↑eP		**Pn**	**19 15 39.9**	**+0.3**
CANAL				eS		**Sn**	**19 15 59.1**	**+1.0**
VMAR	**Armenia, Volca**	**1.43**	**339**	eP		**Pn**	**19 15 40.1**	**+0.4**
VMAR	**Armenia, Volca**	**1.43**	**339**	iP		**Pn**	**19 15 40.2**	**+0.4**
VMAR				IAML			19 16 11.7	
	comp=Z,3μm,1.0s							
GPS3	**Bodega del ICE**	**1.49**	**329**	eP		**Pn**	**19 15 40.5**	**0.0**
POTG	**Potrero Grande**	**1.50**	**106**	iP		**Pn**	**19 15 41.2**	**+0.4**
POTG				IAML			19 16 08.8	
	comp=Z,3μm,1.0s							
VRLE	**La Escondida,**	**1.52**	**329**	iP		**Pn**	**19 15 41.0**	**0.0**
VRLE				IAML			19 15 42.4	
	comp=Z,790nm,1.0s							
JIME	**Puerto Jimenez**	**1.55**	**127**	eP		**Pg**	**19 15 44.2**	**-0.2**
GB1A	**Borinquen Arri**	**1.56**	**329**	eP		**Pn**	**19 15 42.0**	**+0.4**
HZTE	**Horizontes, Gu**	**1.58**	**321**	eP		**Pn**	**19 15 42.3**	**+0.5**
HZTE	**Horizontes, Gu**	**1.58**	**321**	iP		**Pn**	**19 15 42.6**	**+0.8**
HZTE				IAML			19 15 43.6	
	comp=Z,2μm,1.0s							
EDAD	**Golfito**	**1.62**	**120**	eP		**Pn**	**19 15 41.6**	**-0.8**
PIRO	**Carate, Puerto**	**1.63**	**131**	iP		**Pg**	**19 15 45.2**	**-0.6**
PIRO				IAML			19 16 17.4	
	comp=Z,2μm,1.0s							
BRIBI	**Bribri**	**1.71**	**85**	eP		**Pg**	**19 15 47.0**	**-0.5**
CTCR	**Cotoan**	**1.89**	**108**	iP		**Pn**	**19 15 46.6**	**+0.4**
LCRUZ	**La Cruz**	**1.90**	**327**	eP		**Pb**	**19 15 49.1**	**+0.4**
CCOL	**Caracol de Cor**	**1.91**	**124**	eP		**Pb**	**19 15 49.9**	**+1.0**
CCOL	**Caracol de Cor**	**1.91**	**124**	iP		**Pb**	**19 15 49.6**	**+0.7**
CCOL				IAML			19 16 24.7	
	comp=Z,3μm,1.0s							
CDITO	**Canoas**	**1.91**	**118**	iP		**Pn**	**19 15 47.5**	**+1.2**
CDITO				IAML			19 16 35.0	
	comp=Z,1μm,1.0s							
BRU2	**Volcan**	**1.99**	**110**	iP		**Pn**	**19 15 48.6**	**+1.1**
BRU2				IAML			19 16 26.9	
	comp=Z,920nm,1.0s							
MORN	**Al O del Volca**	**2.31**	**333**	iP		**Pg**	**19 15 57.8**	**-1.1**
CONN	**Concepcion**	**2.32**	**334**	iP		**Pb**	**19 15 54.8**	**-1.1**
ACON	**Acoyapa**	**2.54**	**347**	iP		**Pn**	**19 15 56.7**	**+1.7**
ACON				IAML			19 16 47.6	
	comp=Z,260nm,1.0s							
BLUN	**Bluefields**	**2.64**	**17**	iP		**Pn**	**19 15 59.1**	**+2.8**
BLUN				IAML			19 16 40.9	
	comp=Z,380nm,1.0s							
BOAB	**BOACO BROADBAN**	**3.14**	**340**	iP		**Pb**	**19 16 07.6**	**-2.3**
BOAB				IAML			19 17 08.2	
	comp=Z,160nm,1.0s							
BCIP	**Isla Barro Col**	**4.69**	**93**	iP		**Pn**	**19 16 26.1**	**+1.5**

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*MOS **26** 19:29:23.6±0.6, 55°.28N×165°.44E, h54km, mb4.2/1, Error ellipse: s-maj=9.6km s-min=7.5km az=1.4*
*KRSC **26** 19:29:23.5±1.2, 55°.27N×165°.21E, h62km±12km, Ml4.5*
*IDC **26** 19:29:28.6±6.2, 54°.33N×165°.45E, h90km±44km, mb3.0/3, mbtmp3.4/4, Error ellipse: s-maj=162.0km s-min=22.8km az=155.0*
ISC 26 19:29:26.3±0.9, 55°.31N±0°.04×165°.18E±0°.03, h35km, n77, σ1s18/90, mb3.1/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.47**	**103**	eP		**Pn**	**19 29 35.8**	**-0.6**
BKI				eS		**Sn**	**19 29 43.8**	**+0.4**
BKI	**Bering**	**0.47**	**103**	PN		**Pn**	**19 29 35.8**	**-0.6**
BKI				S		**Sn**	**19 29 43.8**	**+0.4**
KBTR	**Krutoberegovo**	**1.61**	**305**	eP		**Pn**	**19 29 51.0**	**-1.2**
KBTR				eS		**Sn**	**19 30 11.7**	**0.0**
KBTR	**Krutoberegovo**	**1.61**	**305**	PN		**Pn**	**19 29 51.0**	**-1.2**
KBTR				S		**Sn**	**19 30 11.7**	**0.0**
KBG	**Krutoberegovo**	**1.69**	**305**	eP		**Pn**	**19 29 52.5**	**-0.8**
KBG	**Krutoberegovo**	**1.69**	**305**	PN		**Pn**	**19 29 52.5**	**-0.8**
SMKR	**Semkarok**	**2.45**	**303**	eP		**Pn**

CMAR	Chiang Mai Arr	61.52	261	P		P	19 39 35.9	-3.8	
	0.2nm,0.3s,baz=27,slow=8.1,SNR=4.2								
	0.2nm,0.3s								

NEIC ***26*** *19:32:12.9±1.6, 17°.2S±0°.1×178°.98W±0°.10, h516km±8km, mb4.2/74, Error ellipse: s-maj=23.3km s-min=3.6km az=146.0*

IDC ***26*** *19:32:13.6±2.9, 17°.65S×178°.80W, h540km±31km, mb3.5/12, mbtmp4.3/12, Error ellipse: s-maj=27.2km s-min=14.5km az=141.0*

NOU ***26*** *19:32:17.8, 18°.16S×179°.03W, h525km, mb4.5/7, Fiji Islands Region*

ISC 26 19:32:13.4±0.5, 17°.6S±0°.1×178°.80W±0°.09, h539km, n147, σ1810/149, mb4.1/50, 5C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	0.64	181	P	P	19 33 20.6	+2.8
TAVE	Taveuni	1.38	310	P	P	19 33 23.6	+3.9
YSA	Yasawairara	3.58	284	P	P	19 33 35.1	+3.7
AFI	Afiamalu	7.69	63	P	P	19 34 05.4	-2.5
LIFNC	LIFOU	13.56	254	P	P	19 35 06.9	-1.3
PINNC	Pines Island,	13.85	247	P	P	19 35 09.5	-1.6
OUENC	Ouen Island, N	14.32	248	P	P	19 35 14.2	-1.9
DZM	Mont Dzumac	14.58	250	P	P	19 35 17.4	-1.5
DZM	Mont Dzumac	14.58	250	P	P	19 35 19.2	+0.4
KOUNC	Koumac, New Ca	16.26	257	P	P	19 35 35.2	-0.6
KOUNC	Koumac, New Ca	16.26	257	P	P	19 35 37.5	+1.7
KHZ	Kahutara	25.59	193	P	P	19 37 06.2	+6.4
JCZ	Jackson Bay	28.40	199	P	P	19 37 24.2	-0.3
EIDS	Eidsvold	29.02	249	P	P	19 37 29.8	-0.4
EIDS	comp=Z,4.3nm,0.6s			IAmb	IAmb	19 37 31.0	
ARMA	Armidale	29.78	239	P	P	19 37 37.4	+0.6
CTAO	Charters Tower	33.13	260	P	P	19 38 05.6	+0.2
CTAO	comp=Z,5.2nm,0.8s			IAmb	IAmb	19 38 06.1	
TOO	Toolangi	37.08	230	P	P	19 38 39.0	+0.9
STKA	Stephens Creek	38.45	241	P	P	19 38 50.0	+0.6
STKA	Stephens Creek	38.45	241	P	P	19 38 49.7	+0.3
	comp=Z,2.5nm,0.5s,baz=92,slow=11,SNR=13						
BBOO	comp=Z,2.5nm,0.5s Buckleboo	43.23	241	P	P	19 39 27.5	+0.2
WB0	Warramunga Arr	44.29	260	P	P	19 39 34.9	-0.8
WB2	Warramunga Arr	44.31	259	P	P	19 39 35.0	-0.9
WRA	Warramunga Arr	44.32	259	P	P	19 39 35.4	-0.6
	comp=Z,1.7nm,0.6s,baz=94,slow=7.1,SNR=60						
WRA				PcP	PcP	19 41 07.7	-0.8
	comp=Z,0.6nm,0.7s,baz=93,slow=3.2,SNR=3.5						
AS31	comp=Z,1.7nm,0.6s Alice Springs	44.52	254	P	P	19 39 37.6	+0.1
AS31				IAmb	IAmb	19 39 38.1	
ASAR	comp=Z,6.1nm,0.7s Alice Springs	44.52	254	P	P	19 39 36.8	-0.6
ASAR	Alice Springs	44.52	254	P	P	19 39 37.5	0.0
	comp=Z,21nm,0.6s,baz=88,slow=8.2,SNR=474						
ASAR				PcP	PcP	19 41 08.1	-1.0
	comp=Z,0.4nm,0.4s,baz=98,slow=4.1,SNR=2.4						
ASAR				ScP	ScP	19 44 10.6	+0.5
	comp=Z,0.6nm,0.9s,baz=96,slow=4.7,SNR=4.0						
ASAR				S	S	19 45 31.6	-2.3
	comp=Z,0.5nm,0.9s,baz=88,slow=15,SNR=4.0						
MTN	comp=Z,21nm,0.6s Manton Dam	48.43	268	P	P	19 40 07.0	-0.2
MTN				IAmb	IAmb	19 40 10.9	
FORT	comp=Z,9.7nm,1.1s Forrest	49.80	244	P	P	19 40 16.5	-0.6
FITZ	Fitzroy Crossi	52.71	260	P	P	19 40 38.9	+0.6
GIRL	Giralia	62.63	253	P	P	19 41 46.2	+0.6
MJAR	Matsushiro Arr	67.43	324	P	P	19 42 16.1	+0.5
	comp=Z,1.2nm,0.5s,baz=136,slow=6.2,SNR=4.5						
MAJO	comp=Z,1.2nm,0.5s Matsushiro	67.44	324	P	P	19 42 12.4	-3.2
AMKA	Amchitka	68.69	359	P	P	19 42 22.4	-0.4
QSPA	South Pole Qui	72.46	180	P	P	19 42 44.4	-0.7
	comp=Z,0.7nm,0.3s,baz=0.8,slow=2.7,SNR=3.7						
PETK	comp=Z,0.7nm,0.3s Petropavlovsk-	73.28	345	P	P	19 42 50.7	+0.9
	comp=Z,6.5nm,0.9s,baz=162,slow=6.1,SNR=2.2						
INCN	comp=Z,6.5nm,0.9s Inchon	75.06	318	P	P	19 42 58.9	-1.3
MCCM	Marconi Confer	76.31	42	P	P	19 43 07.5	+0.5
HOPS	Hopland Field	76.69	41	P	P	19 43 11.1	+1.9
SII	Sitkinak Islan	76.71	14	P	P	19 43 09.0	+0.1
KMRM	Mail Ridge	77.02	40	P	P	19 43 11.7	+0.7
KMRM	comp=Z,11nm,1.0s			IAmb	IAmb	19 43 13.2	
R17K	Ugashik Creek	77.24	12	P	P	19 43 11.4	-0.3
R17K	comp=Z,19nm,1.4s			IAmb	IAmb	19 43 16.4	
OHAK	Old Harbor	77.52	14	P	P	19 43 12.8	-0.4
OHAK	comp=Z,16nm,1.3s			IAmb	IAmb	19 43 24.7	
CMB	Columbia Colle	77.87	43	P	P	19 43 16.7	+1.0
KDAK	Kodiak Island	78.19	14	P	P	19 43 16.9	+0.1
YBH	Yreka Blue Hor	78.52	39	P	P	19 43 20.0	+0.8
M13K	Dall Lake	78.73	8	P	P	19 43 19.2	-0.5
M13K	comp=Z,19nm,1.4s			IAmb	IAmb	19 43 59.3	
O16K	Kokwok River B	78.75	11	P	P	19 43 18.3	-1.5
O16K	comp=Z,9.5nm,1.4s			IAmb	IAmb	19 43 52.9	
WAKR	Walker	78.75	43	P	P	19 43 21.0	+0.4
MPK	Martis Peak	78.80	43	P	P	19 43 21.4	+0.4
MPK	comp=Z,5.2nm,0.6s			IAmb	IAmb	19 43 22.1	
N15K	Kwethluk River	78.96	9	P	P	19 43 21.3	+0.4
N15K	comp=Z,14nm,1.4s			IAmb	IAmb	19 44 01.4	
PNTR	Pine Nut	78.97	43	P	P	19 43 21.7	0.0
PNTR	comp=Z,5.3nm,0.8s			IAmb	IAmb	19 43 23.4	
P18K	Big Mountain,	79.09	12	P	P	19 43 21.2	-0.5
P18K	comp=Z,8.6nm,0.8s			IAmb	IAmb	19 43 22.1	
YERR	Yerington	79.14	43	P	P	19 43 23.3	+0.7
M14K	Bethel	79.24	8	P	P	19 43 22.7	+0.4
M14K	comp=Z,15nm,1.4s			IAmb	IAmb	19 44 05.0	
NVAR	Mina Array Bea	79.46	44	P	P	19 43 25.1	+0.7
	comp=Z,1.7nm,0.8s,baz=223,slow=8.6,SNR=13						
O18K	comp=Z,1.7nm,0.8s Koktuh Hills	79.52	12	P	P	19 43 24.1	+0.2
O18K	comp=Z,11nm,0.9s			IAmb	IAmb	19 43 24.6	
L14K	Kuka Creek	79.72	8	P	P	19 43 26.3	+1.5
L14K	comp=Z,15nm,1.4s			IAmb	IAmb	19 43 51.4	
P19K	Oil Pt	79.74	13	P	P	19 43 24.9	-0.2
M16K	Timber Creek	79.95	10	P	P	19 43 26.1	0.0
M16K	comp=Z,9.6nm,1.1s			IAmb	IAmb	19 43 28.3	
ILSW	Iliamna Southw	80.06	13	P	P	19 43 26.0	-0.9
ILSW	comp=Z,9.1nm,1.0s			IAmb	IAmb	19 43 26.8	
J05D	Fort Rock, OR	80.31	39	P	P	19 43 29.1	+0.4
BRLK	Bradley Lake	80.36	14	P	P	19 43 28.2	-0.2
M17K	Holitna River	80.56	10	P	P	19 43 30.5	+1.2
M17K	comp=Z,8.2nm,1.5s			IAmb	IAmb	19 43 56.9	
PINE	Pine Mountain	80.78	38	P	P	19 43 32.0	+0.9
K15K	Wolf Creek Mou	80.79	8	P	P	19 43 31.4	+1.0
J14K	Nanvaranak Lak	80.97	7	P	P	19 43 31.4	+0.1
J14K	comp=Z,13nm,1.2s			IAmb	IAmb	19 44 04.6	
PRN	Pahroc Range	81.13	46	P	P	19 43 34.0	+1.0
OZB	Mount Ozzard	81.39	32	P	P	19 43 35.4	+1.5
L18K	Granite Mounta	81.45	10	P	P	19 43 34.1	+0.3
L18K	comp=Z,3.3nm,0.7s			IAmb	IAmb	19 43 35.3	
K17K	Iditarod	81.66	9	P	P	19 43 35.4	+0.5
K17K	comp=Z,15nm,1.5s			IAmb	IAmb	19 44 16.9	
I07A	Izee	81.80	39	P	P	19 43 36.7	+0.5
SUA	Susitna One	81.91	13	P	P	19 43 35.9	-0.5
SUA	comp=Z,6.3nm,1.0s			IAmb	IAmb	19 43 37.9	
TTA	Tatalina	82.23	10	P	P	19 43 38.5	+0.5
TTA	comp=Z,7.2nm,1.5s			IAmb	IAmb	19 44 14.1	
X16A	Lo Mia Camp, P	82.27	50	P	P	19 43 39.7	+0.8
BELA	Belgrano 2	82.52	173	P	P	19 43 37.5	-1.8
BELA				IAmb	IAmb	19 44 15.4	
	comp=Z,7.8nm,1.5s						
U15A	North Rim	82.59	48	P	P	19 43 41.9	+1.3
U15A	comp=Z,5.9nm,1.0s			IAmb	IAmb	19 43 42.6	
GHO	Glory Hole Cre	82.59	14	P	P	19 43 39.7	-0.1
GHO	comp=Z,5.8nm,0.6s			IAmb	IAmb	19 43 40.4	
K20K	Telida	82.97	11	P	P	19 43 41.4	-0.1
SCM	Sheep Creek Mo	83.02	14	P	P	19 43 41.4	-0.6
SCM	comp=Z,7.2nm,0.8s			IAmb	IAmb	19 43 42.3	
SEY	Seymchan	83.39	347	P	P	19 43 43.8	+0.2
	comp=Z,4.3nm,0.5s,baz=149,slow=5.9,SNR=18						
CAST	comp=Z,4.3nm,0.5s Castle Rocks	83.40	12	P	P	19 43 42.5	-1.2
CAST	comp=Z,3.7nm,0.7s			IAmb	IAmb	19 43 44.0	
GLB	Gilahina Butte	83.57	16	P	P	19 43 44.0	-0.6
GLB	comp=Z,3.9nm,0.6s			IAmb	IAmb	19 43 45.0	
TRF	Thorofare Moun	83.78	12	P	P	19 43 45.0	-0.8
TRF	comp=Z,5.9nm,0.8s			IAmb	IAmb	19 43 46.6	
DHY	Denali Highway	84.09	14	P	P	19 43 47.0	-0.2
DHY	comp=Z,7.3nm,1.5s			IAmb	IAmb	19 43 54.7	
MCK	McKinley	84.32	13	P	P	19 43 47.9	-0.4
MCK	comp=Z,9.4nm,1.4s			IAmb	IAmb	19 44 25.7	
HLID	Hailey	84.64	41	P	P	19 43 50.9	+0.4
G19K	Purcell Mounta	85.07	9	P	P	19 43 52.0	+0.1
Q32M	Nakina River	85.23	22	P	P	19 43 53.8	+0.7
Q32M	comp=Z,8.5nm,1.4s			IAmb	IAmb	19 44 21.4	
IMAR	Indian Mountai	85.44	10	P	P	19 43 53.2	-0.4
ILAR	Eielson Array	85.67	13	P	P	19 43 54.6	-0.2
ILAR	Eielson Array	85.67	13	P	P	19 43 53.8	-1.0
	comp=Z,0.6nm,0.4s,baz=223,slow=5.3,SNR=16						
J25K	comp=Z,0.6nm,0.4s Salcha River,	85.87	14	P	P	19 43 55.3	-0.5
TX31	Lajitas Ar. Si	86.14	58	P	P	19 43 58.5	+0.5
TX31	comp=Z,4.0nm,1.1s			IAmb	IAmb	19 44 07.6	
TXAR	Lajitas Array	86.14	58	P	P	19 43 59.3	+1.3
TXAR	Lajitas Array	86.14	58	P	P	19 43 59.0	+1.0
	comp=Z,1.3nm,0.8s,baz=217,slow=6.4,SNR=15						
E19K	comp=Z,1.3nm,0.8s Redstone River	86.28	8	P	P	19 43 57.3	-0.3
E19K	comp=Z,5.8nm,1.4s			IAmb	IAmb	19 44 10.0	
D19K	Kuna River	87.15	7	P	P	19 44 01.4	-0.3
D19K	comp=Z,6.2nm,1.4s			IAmb	IAmb	19 44 38.4	
PDAR	Pinedale Array	87.38	44	P	P	19 44 03.7	0.0
PDAR	Pinedale Array	87.38	44	P	P	19 44 03.9	+0.2
	comp=Z,0.8nm,0.6s,baz=210,slow=3.3,SNR=10						
I28M	comp=Z,0.8nm,0.6s Miner Creek	87.86	15	P	P	19 44 05.2	0.0
D22K	Ayikyak River	88.26	9	P	P	19 44 07.3	+0.4
D22K	comp=Z,2.7nm,0.8s			IAmb	IAmb	19 44 07.9	
BMAR	Burns Mountain	88.44	13	P	P	19 44 08.3	+0.5
C23K	Itkilik River	89.44	9	P	P	19 44 12.0	-0.3
YKA	Yellowknife Ar	94.20	25	P	P	19 44 34.0	-0.3
	comp=Z,0.4nm,0.8s,baz=248,slow=5.3,SNR=4.3						
MKAR	comp=Z,0.4nm,0.8s Makanchi Array	108.65	314	PKiKP	PKiKP	19 49 40.1	-1.1
	comp=Z,0.3nm,0.5s,baz=211,slow=1.4,SNR=5.8						
BVAR	Borovoye Array	116.37	321	PKP	PKPdf	19 49 54.5	-1.2
	comp=Z,0.8nm,0.4s,baz=95,slow=2.8,SNR=6.6						
BNN	Bunyan	143.17	312		PKPbc	19 50 44.9	0.0
BUR08	Bucovina Ar. S	144.15	332		PKPbc	19 50 47.1	-0.5
BURAR	Bucovina Array	144.16	332	⇓P	PKPdf	19 50 48.6	+0.5
BR131	Keskin Array S	144.30	315		PKPbc	19 50 47.3	-1.1
BRTR	Keskin Array B	144.30	315	PKP	PKPdf	19 50 48.5	-0.2
	comp=Z,1.3nm,0.7s,baz=108,slow=4.0,SNR=9.4						
TESR	Tescani	144.30	329	⇑P	PKPdf	19 50 48.2	0.0
TPGR	Topolog	144.53	326	⇑P	PKPab	19 50 50.0	+0.7
TURR	Turia	144.93	329	⇑P	PKiKP	19 50 51.9	-1.5
OSTC	Ostas	144.98	343	*e*PKP	PKPab	19 50 50.8	0.0
CHVC	Chvalec	145.00	343	*e*PKP	PKPab	19 50 50.3	-0.6
CLL	Collm	145.08	347	*i* PKPbc	PKPbc	19 50 50.0	-0.2
	comp=Z,4.0nm,0.6s						
DPC	Dobruska-Polom	145.14	343	*e*PKP	PKPab	19 50 50.9	-0.6
KRLC	Kraliky	145.26	342	*e*PKP	PKPab	19 50 51.3	-0.6
PVCC	Panska Ves	145.44	345	*e*PKP	PKPab	19 50 52.5	-0.1
MMAI	Mount Meron Ar	145.66	303	PKPbc	PKPab	19 50 52.9	-1.2
	comp=Z,2.3nm,0.6s,baz=72,slow=5.5,SNR=5.5						
MARR	Marisel-Cluj	145.81	333	⇓P	PKPbc	19 50 52.9	+0.3
PRU	Pruhonice	145.94	345	*e*PKP	PKPbc	19 50 52.9	+0.2
ARR	Arges	146.10	330	⇑P	PKPab	19 50 54.9	-0.5
SURR	Surduc	146.96	333	⇑P	PKPbc	19 50 55.6	-0.1
KHC	Kasperske Hory	146.98	345	*e*PKP	PKPbc	19 50 55.6	-0.1
CKRC	Cesky Krumlov	147.08	344	*e*PKP	PKPbc	19 50 56.0	+0.1
GERES	GERESS Array B	147.21	345	PKPbc	PKPbc	19 50 55.8	-0.5
	comp=Z,2.1nm,0.5s,baz=24,slow=2.9,SNR=15						
BZS	Buzias	147.28	333	⇓P	PKPbc	19 50 56.6	+0.1
CONA	Conrad Observa	147.45	342	*i* PKP	PKPbc	19 50 57.3	+0.3
	comp=Z,2.9nm,0.6s						
HERR	Hercuniane	147.50	331	⇓P	PKPbc	19 50 56.7	-0.4
RONA	Rosalia, Austr	147.52	341	*e*PKP	PKPbc	19 50 56.4	-0.7
	comp=Z,4.3nm,0.9s,SNR=4.6						
MOA	Molln	147.98	343	*i* PKiKP	PKiKP	19 51 00.4	+0.8
	comp=Z,10nm,1.8s						
ARSA	Arzberg	148.16	341	*i* PKP	PKPbc	19 50 59.0	+0.3
	comp=Z,4.4nm,1.2s						
BIOA	Bad Ischl, Aus	148.29	344	*e*PKiKP	PKiKP	19 51 01.8	+1.5
	comp=Z,6.2nm,1.1s						
LESA	Schwarzleotal	148.79	345	*i* PKP	PKPbc	19 51 00.3	-0.1
	comp=Z,2.8nm,0.4s						
SOKA	Soboth	148.82	341	*e*PKP	PKPbc	19 50 59.7	-0.7
	comp=Z,0.8nm,0.6s						
KBA	Koelnbreinsper	148.94	344	*e*PKP	PKPbc	19 50 59.9	-0.9
	comp=Z,2.0nm,0.4s						
OBKA	Obir	149.12	342	*e*PKP	PKiKP	19 51 01.7	-0.4
	comp=Z,9.8nm,1.5s						
WATA	Walderalm	149.13	346	*i* PKP	PKPbc	19 51 00.5	-0.7
	comp=Z,1.6nm,0.4s						
RETA	Reute	149.17	347	*i* PKP	PKPbc	19 51 01.0	-0.2
	comp=Z,1.6nm,0.5s						
WTTA	Wattenberg	149.19	346	*i* PKP	PKPbc	19 51 01.0	-0.5
	comp=Z,3.2nm,0.4s,SNR=6.7						
MYKA	Terra Mystica	149.27	343	*e*PKP	PKPbc	19 51 00.5	-1.0
	comp=Z,1.6nm,0.5s						
SQTA	Sankt Quirin	149.32	347	*i* PKP	PKPbc	19 51 01.6	-0.1
	comp=Z,2.8nm,0.5s						
ABTA	Abfaltersbach	149.46	345	*i* PKP	PKPbc	19 51 01.4	-0.6
	comp=Z,8.2nm,1.2s,SNR=5.8						
FETA	Feichten	149.62	347	*i* PKP	PKPbc	19 51 01.6	-0.9
	comp=Z,7.4nm,1.5s						
FNA	Florina	151.08	327	PKPdf	PKPdf	19 50 59.5	0.0
FNA					PKPbc	19 51 04.9	-1.0

IDC 26 19:35:04.7±999.0, 49°.40N×72°.65E, h0km, Error ellipse: s-maj=400.0km s-min=127.6km az=37.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	8.82	54	I	I	20 28 10.0	
	0.1nm,1.2s,baz=246,slow=316,SNR=2.6						
I34MN	SONGINO INFRAS	22.28	81	I	I	21 48 20.0	
	baz=285,slow=322,SNR=0.9						
I18DK	QAANAAQ INFRAS	51.20	350	I	I	00 49 20.0	
	baz=35,slow=336,SNR=2.4						

IDC ***26*** *19:36:53.0±0.8, 37°.70N×69°.50E, h0km, mb3.8/19, mbtmp3.9/26, ML3.9/7, MS3.1/14, Error ellipse: s-maj=16.0km s-min=11.2km az=170.0*

MOS ***26*** *19:36:53.9±1.2, 37°.91N×69°.45E, h11km, mb4.6/17, Error ellipse: s-maj=6.4km s-min=4.3km az=81.8*

NNC ***26*** *19:36:53.9±4.4, 37°.87N×69°.26E, h0km, mb4.6, mpv4.2, Error ellipse: s-maj=46.4km s-min=37.0km az=132.0*

NEIC ***26*** *19:36:54.8±1.9, 37°.89N±0°.06×69°.35E±0°.05, h7km±5km, mb4.5/35, Error ellipse: s-maj=9.5km s-min=6.0km az=168.0*

ISC 26 19:36:55.0±0.4, 37°.84N±0°.04×69°.42E±0°.04, h12km, n190, σ2906/205, mb4.4/46, MS3.1/7, 15C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	3.30	185		Pn	19 37 49.2	+2.5
KBL	Kabul	3.30	185	PN	Pn	19 37 49.2	+2.5
ARSB	Arslanbob	4.44	37		Pn	19 38 03.5	+1.3
ARSB	Arslanbob	4.44	37	PN	Pn	19 38 03.5	+1.3
NIL	Nilore	5.21	142		Pn	19 38 16.6	+3.9
NIL	Nilore	5.21	142	PN	Pn	19 38 16.6	+3.9
KK31	Karatay Array	5.33	9		Pn	19 38 15.3	+1.0
KK31	Karatay Array	5.33	9	PN	Pn	19 38 15.3	+1.0
KK31	Karatay Array	5.33	9	⇑Pn	Pn	19 38 16.1	+1.8
	5.2nm,0.3s,baz=201,slow=14,SNR=109						
KK31				⇑Pg	Pb	19 38 32.4	+4.4
	24nm,0.4s,baz=190,slow=18,SNR=14						
KK31				⇑Sn	Sn	19 39 16.1	+0.5
	15nm,0.3s,baz=242,slow=27,SNR=2.7						
KK31				Lg	Lg	19 39 42.0	
	164nm,0.7s,baz=200,slow=30,SNR=8.4						
KKAR	Karatay Array	5.33	9		Pn	19 38 15.2	+0.9
KKAR	Karatay Array	5.33	9		Pn	19 38 15.7	+1.4
KKAR	Karatay Array	5.33	9	PN	Pn	19 38 15.2	+0.9
KSH	Kashi	5.39	70	P	Pn	19 38 14.0	-1.3
KSH				sP	Pb	19 38 27.5	-1.7
KSH				S	Sn	19 39 06.3	-11
KSH				pmax	pmax		
	comp=Z,22nm,0.7s						
KSH				smax	smax		
	comp=N,240nm,1.0s						
KSH				smax	smax		
	comp=E,200nm,1.0s						
KSH				LR	LR		
	comp=N,710nm,6.0s						
KSH				LR	LR		
	comp=E,540nm,7.5s						
AML	Almayashu	5.40	36	P	Pn	19 38 17.6	+1.9
	SNR=25						
EKS2	Erkin-Say	5.86	33	P	Pn	19 38 24.3	+2.6
	SNR=20						
UCH	Uchtor	5.87	40	P	Pn	19 38 24.3	+2.1
	SNR=36						
KZA	Kyzart	6.16	45	P	Pn	19 38 28.2	+2.1
	SNR=27						
AAK	Ala-Archa	6.17	37	P	Pn	19 38 27.9	+1.9
	SNR=11						
AAK	Ala-Archa	6.17	37	Pn	Pn	19 38 26.7	+0.7
AAK	Ala-Archa	6.17	37	*de*PN	Pn	19 38 27.7	+1.7
AAK				pmax	pmax		
	comp=Z,39nm,0.6s						
AAK	Ala-Archa	6.17	37	Pn	Pn	19 38 27.8	+1.7
	comp=Z,19nm,0.3s,baz=197,slow=6.0,SNR=111						
AAK				Sn	Sn	19 39 36.7	+0.2
	comp=Z,2.1nm,0.3s,baz=210,slow=20,SNR=1.3						
AAK				Lg	Lg	19 40 03.8	
	comp=Z,3.2nm,0.3s,baz=315,slow=22,SNR=1.5						
AAK				LR	LR	19 41 18.5	
	comp=Z,198nm,19.4s,baz=233,slow=42						
	comp=Z,53nm,0.4s						
FRU1	Bishkek	6.36	37		Pn	19 38 30.5	+1.9
FRU1	Bishkek	6.36	37	PN	Pn	19 38 30.5	+1.9
KBK	Karagaybulak	6.41	40	P	Pn	19 38 31.7	+2.4
	SNR=9.5						
CHMS	Chumysh	6.56	37	P	Pn	19 38 33.8	+2.5
	SNR=7.4						
HRA	Herat	6.75	242		Pn	19 38 33.8	-0.3
JMU	Jammu	6.79	137	*e*P	Pn	19 38 36.8	+2.4
JMU				*e*S	Sn	19 39 52.8	+1.1
ULHL	Ulahol	6.84	48	P	Pn	19 38 37.8	+2.6
	SNR=14						
TKM2	Tokmak 2	6.93	41	P	Pn	19 38 38.5	+2.0
	SNR=18						
TARG	Taragay, Kyrgy	7.53	56		Pn	19 38 45.4	+0.4
TARG	Taragay, Kyrgy	7.53	56	P	Pn	19 38 45.4	+0.4
TNSS	Tian-Shan	7.74	45	*e*P	Pn	19 38 47.8	0.0
	baz=46						
TNSS	Tian-Shan	7.74	45	*e*P	Pn	19 38 47.7	0.0
AAA	Alma-Ata	7.83	44	*e*P	Pn	19 38 49.2	+0.4
	baz=44						
AAA	Alma-Ata	7.83	44	*e*P	Pn	19 38 49.1	+0.4
DHRM	DHARAMSHALA	7.93	133	*e*P	Pn	19 38 52.2	+2.0
DHRM				*e*S	Sn	19 40 19.8	-0.2
DHRM				IAML		19 40 24.1	
	comp=N,189nm,0.7s						
DHRM				IAML		19 40 24.4	
	comp=E,181nm,0.6s						
KUU	Kurty	8.00	39	*e*P	Pn	19 38 51.2	+0.1
	baz=39						
KUU	Kurty	8.00	39	*e*P	Pn	19 38 51.1	+0.1
PRZ	Przheval'sk	8.29	53		Pn	19 38 55.1	-0.1
PRZ	Przheval'sk	8.29	53	P	Pn	19 38 55.1	-0.1
BHK	Bhakra	8.61	136	*e*S	Sn	19 40 36.4	-0.2
GEYT	Alibeck	8.94	274	Pn	Pn	19 39 03.6	-0.3
GEYT	Alibeck	8.94	274	Pn	Pn	19 39 03.8	-0.2
	comp=E,4.7nm,0.3s,baz=110,slow=11,SNR=34						
GEYT				Sn	Sn	19 40 40.7	-3.9
	comp=E,1.5nm,0.3s,baz=100,slow=15,SNR=2.0						
GEYT				Lg	Lg	19 41 38.5	
	baz=91,slow=19						
	comp=E,7.8nm,0.3s						
GYA0B	ALIBECK ARRAY	8.94	274	Pn	Pn	19 39 03.5	-0.4
KPKS	Kokpek	9.01	48	*e*P	Pn	19 39 05.3	+0.5
	baz=49						
KPKS	Kokpek	9.01	48	*e*P	Pn	19 39 05.3	+0.5
SMLA	Simla	9.25	134	*e*P	Pn	19 39 08.2	+0.1
SMLA				*e*S	Sn	19 40 50.1	-2.1
SMLA				IAML		19 40 57.4	
	comp=N,48nm,0.5s						
SMLA				IAML		19 41 00.2	
	comp=E,56nm,0.6s						
SHLS	Shalkode	9.31	52	*e*P	Pn	19 39 13.3	+4.3
	baz=53						
SHLS	Shalkode	9.31	52	*e*P	Pn	19 39 13.3	+4.3
TDK	Taldyqorghan	9.83	40	*e*P	Pn	19 39 16.8	+0.6
	baz=40						
TDK	Taldyqorghan	9.83	40	*e*P	Pn	19 39 16.7	+0.6
JOSI	Joshimath	11.09	128	*e*P	Pn	19 39 34.8	+1.1
JOSI				*e*S	Sn	19 41 29.3	-8.4
KUDL	Kundal	11.34	146	*e*P	Pn	19 39 37.8	+1.0
KUDL				*e*S	Sn	19 41 37.0	-6.3
PTH	Pithoragarh

AKTO	**Aktyubinsk**	**15.00**	**331**	⇑P		**Pn**	**19 40 25.4**	**-1.3**
	comp=N,19nm,0.8s								
WMQ	**Urumqi**	**15.06**	**61**	*e*P		**P**	**19 40 32.5**	**-0.4**
BVA0	**Borovoye Array**	**15.20**	**2**	P		**Pn**	**19 40 27.5**	**-1.9**
BVA0	**Borovoye Array**	**15.20**	**2**	⇓P		**Pn**	**19 40 27.5**	**-1.9**
	comp=N,3.8nm,0.6s,baz=166,slow=12,SNR=32								
BVAR	**Borovoye Array**	**15.20**	**2**	Pn		**Pn**	**19 40 27.2**	**-2.2**
	comp=N,0.1nm,0.3s,baz=165,slow=12,SNR=10								
BVAR				Sn		**Sn**	**19 43 15.7**	**-1.9**
	comp=N,0.1nm,0.3s,baz=179,slow=16,SNR=2.2								
BVAR				Lg	Lg		19 44 48.7		
	baz=171,slow=19,SNR=2.1								
BVAR				LR	LR		19 47 11.8		
	comp=N,52nm,19.0s,baz=183,slow=40								
	comp=N,2.3nm,0.6s								
BRVK	**Borovoye**	**15.23**	**2**			**Pn**	**19 40 26.7**	**-3.0**
BRVK	**Borovoye**	**15.23**	**2**⇑	*e*P		**Pn**	**19 40 31.1**	**+1.4**
DANN	**Dangsing**	**15.28**	**124**	*e*P		**Pn**	**19 40 27.8**	**-3.0**
GKN	**Gorkha**	**16.09**	**123**	*e*P		**Pn**	**19 40 39.1**	**-2.0**
	comp=N,38nm,0.7s								
PKI	**Pulchoki**	**16.88**	**123**	*e*P		**Pn**	**19 40 49.7**	**-1.8**
	comp=N,26nm,0.7s								
GUN	**Gumba**	**16.98**	**121**	*e*P		**Pn**	**19 40 50.6**	**-2.1**
UOSS	**Minazif**	**17.08**	**225**	P		**Pn**	**19 40 53.5**	**-0.1**
JIRN	**Jiri**	**17.35**	**121**	*e*P		**Pn**	**19 40 55.8**	**-1.6**
	comp=N,9.6nm,0.4s								
DGZ	**Jazzator, Alta**	**17.55**	**42**⇑	*e*P		**Pn**	**19 40 57.8**	**-1.6**
RAMN	**Ramite**	**18.09**	**122**	*e*P		**Pn**	**19 41 06.0**	**-0.4**
	comp=N,22nm,0.6s								
TAPN	**Taplejung**	**18.59**	**119**	*e*P		**P**	**19 41 12.4**	**+0.1**
	comp=N,8.7nm,0.5s								
ZAA0	**Zalesovo Array**	**19.28**	**28**	P		**P**	**19 41 18.0**	**-1.3**
ZALV	**Zalesovo Beam**	**19.28**	**28**	P		**P**	**19 41 18.4**	**-1.0**
ZALV	**Zalesovo Beam**	**19.28**	**28**	*e*P		**P**	**19 41 19.3**	**-0.1**
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.3s								
ZALV	**Zalesovo Beam**	**19.28**	**28**	P		**P**	**19 41 19.0**	**-0.4**
	comp=Z,1.8nm,0.3s,baz=218,slow=10,SNR=32								
ZALV				S		**Sn**	**19 44 52.9**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=1.6,slow=10,SNR=1.4								
ZALV				Lg	Lg		19 47 00.8		
	comp=Z,0.1nm,0.3s,baz=310,slow=23,SNR=1.2								
ZALV				LR	LR		19 49 18.4		
	comp=Z,64nm,19.1s,baz=181,slow=38								
	comp=Z,9.4nm,0.5s								
GNI	**Garni**	**19.31**	**285**			**P**	**19 41 17.8**	**-2.2**
GNI				IAmb	IAmb		19 41 25.2		
	comp=Z,46nm,1.5s								
GNI	**Garni**	**19.31**	**285**	*ce*P		**Pn**	**19 41 24.0**	**+3.0**
GNI				pmax	pmax				
	comp=Z,33nm,1.5s								
GNI	**Garni**	**19.31**	**285**	P		**Pn**	**19 41 24.6**	**+3.5**
	comp=Z,9.4nm,0.6s,baz=292,slow=0.7,SNR=8.0								
LSA	**Lhasa**	**19.77**	**108**	P		**P**	**19 41 25.7**	**+0.3**
LSA	**Lhasa**	**19.77**	**108**	P		**P**	**19 41 25.7**	**+0.3**
LSA				pmax	pmax				
	comp=Z,6.0nm,0.8s								
SVE	**Sverdlovsk**	**19.88**	**346**	*e*P		**Pn**	**19 41 29.0**	**+1.5**
SVE				*e*S		**S**	**19 45 04.8**	**-4.5**
ARU	**Arti**	**19.97**	**342**			**P**	**19 41 25.7**	**-1.2**
ARU				IAmb	IAmb		19 41 31.9		
	comp=Z,17nm,0.8s								
ARU	**Arti**	**19.97**	**342**	*c* i P		**Pn**	**19 41 28.9**	**+0.3**
ARU				S		**Sn**	**19 45 13.2**	**+0.4**
ARU				pmax	pmax				
	comp=Z,18nm,0.8s								
ARU	**Arti**	**19.97**	**342**	P		**Pn**	**19 41 28.3**	**-0.2**
	comp=Z,20nm,0.8s,baz=133,slow=7.6,SNR=22								
ARU				S		**S**	**19 45 01.2**	**-10**
	comp=Z,1.1nm,0.3s,baz=77,slow=23,SNR=1.8								
ARU				LR	LR		19 48 44.4		
	comp=Z,58nm,18.9s,baz=138,slow=35								
	comp=Z,20nm,0.8s								
AKH	**Akhalkalaki**	**20.26**	**288**			**P**	**19 41 29.9**	**-0.5**
AKH				IAmb	IAmb		19 41 41.9		
	comp=Z,33nm,0.9s								
AKH	**Akhalkalaki**	**20.26**	**288**	P		**P**	**19 41 29.9**	**-0.5**
AKH				pmax	pmax				
	comp=Z,33nm,0.9s								
NCK	**Nalchik**	**20.35**	**294**⇓	*e*P		Pn	19 41 33.5	+0.3
NCK				pmax	pmax				
	comp=Z,19nm,0.6s								
ONI	**Oni**	**20.36**	**292**			**P**	**19 41 31.2**	**-0.1**
ONI				IAmb	IAmb		19 41 45.5		
	comp=Z,14nm,0.8s								
ONI	**Oni**	**20.36**	**292**	P		**P**	**19 41 31.2**	**-0.1**
ONI				pmax	pmax				
	comp=Z,14nm,0.8s								
KBZ	**Khabaz**	**20.88**	**295**	*e*P		Pn	19 41 39.5	+0.1
KBZ				pmax	pmax				
	comp=Z,5.0nm,0.7s								
KBZ	**Khabaz**	**20.88**	**295**	P		**P**	**19 41 37.7**	**+0.9**
	comp=Z,4.3nm,0.7s,baz=96,slow=14,SNR=14								
	comp=Z,4.3nm,0.7s								
GOF	**Gofitskoye**	**20.99**	**298**	*ce*P		Pn	19 41 43.9	+3.3
KVAR	**Kislovodsk Arr**	**21.06**	**295**	P		**P**	**19 41 41.4**	**+2.5**
	comp=Z,2.2nm,0.5s,baz=256,slow=23,SNR=2.4								
	comp=Z,2.2nm,0.5s								
BELG	**Belogornoye**	**21.06**	**321**	*ce*P		**P**	**19 41 39.8**	**+1.1**
BELG				pmax	pmax				
	comp=Z,8.0nm,0.9s								
BELG	**Belogornoye**	**21.06**	**321**	P		**P**	**19 41 39.6**	**+0.9**
	comp=Z,61nm,0.7s,baz=285,slow=0.9,SNR=47								
KIV	**Kislovodsk**	**21.06**	**295**	P		**P**	**19 41 38.2**	**-0.8**
KIV				IAmb	IAmb		19 41 43.5		
	comp=Z,13nm,0.6s								
KIV	**Kislovodsk**	**21.06**	**295**	*e*P		**P**	**19 41 39.0**	**0.0**
KIV				*e*S		**S**	**19 45 32.8**	**-0.4**
KIV				pmax	pmax				
	comp=Z,14nm,1.1s								
GURO	**Guroymak-BITLI**	**21.51**	**280**			**P**	**19 41 43.8**	**-0.1**
VRH	**Novokhopyorsk**	**23.68**	**313**	*e*P		**P**	**19 42 08.2**	**+2.0**
VRH				pmax	pmax				
	comp=Z,8.0nm,0.7s								
GTA	**Gaotai**	**23.75**	**77**	*e*P		**P**	**19 42 10.5**	**+3.3**
GTA				pP	sP		19 42 16.0	+3.3
GTA				pmax	pmax				
	comp=Z,2.0nm,1.1s								
KIRV	**Kirov**	**24.49**	**334**⇑	*e*P		**P**	**19 42 15.7**	**+2.0**
ANN	**Anapa**	**24.90**	**296**	*e*P		**P**	**19 42 15.8**	**-1.8**
ANN				*e*			19 42 51.8		
ANN				*e*S		**S**	**19 46 36.9**	**-3.6**
ANN				pmax	pmax				
	comp=Z,64nm,1.1s								
VORD	**Divnogorie**	**25.01**	**311**	*e*P		**P**	**19 42 18.9**	**+0.4**
VORD				pmax	pmax				
	comp=Z,8.0nm,0.8s								
VSR	**Storozhevoye**	**25.17**	**312**	*e*P		**P**	**19 42 20.6**	**+0.6**
VSR				pmax	pmax				
	comp=Z,10.0nm,0.7s								
LPSR	**Galich'ya Gora**	**25.82**	**315**	*e*P		**P**	**19 42 26.8**	**+1.0**
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
BNN	**Bunyan**	**26.27**	**283**	P		**P**	**19 42 29.3**	**-1.0**
BNN				IAmb	IAmb		19 42 49.4		
	comp=Z,19nm,1.3s								
SIM	**Simferopol'**	**27.26**	**296**	*e*P		P	19 42 46.8	+7.8
SIM				pmax	pmax				
	comp=Z,16nm,0.8s								
LZH	**Lanzhou**	**27.47**	**83**	*e*P		P	19 42 49.3	+8.2
LZH				pP	sP		19 42 55.0	+8.3
LZH				pmax	pmax				
	comp=Z,18nm,1.4s								
BRTR	**Keskin Array B**	**27.85**	**285**	P		**P**	**19 42 43.4**	**-1.1**
BRTR	**Keskin Array B**	**27.85**	**285**	P		**P**	**19 42 46.8**	**+2.4**
	comp=Z,0.2nm,0.4s,baz=72,slow=9.3,SNR=2.2								
	comp=Z,0.2nm,0.4s								
OBN	**Obninsk**	**28.10**	**319**	*e*P		**P**	**19 42 47.6**	**+1.3**
OBN				*e*			19 43 38.0		
OBN				pmax	pmax				
	comp=Z,5.0nm,0.9s								
SONM	**Songino Array**	**28.65**	**58**	P		**P**	**19 42 52.4**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=278,slow=9.5,SNR=4.1								
SONM				LR	LR		19 55 29.4		
	comp=Z,85nm,18.8s,baz=346,slow=39								
	comp=Z,0.3nm,0.5s								
EIL	**Elat**	**29.67**	**264**	LR	LR		19 58 08.1		
	comp=Z,32nm,18.8s,baz=70,slow=43								
AKASG	**Malin Array Be**	**31.13**	**307**	*i* P		**P**	**19 43 14.6**	**+1.4**
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**31.13**	**307**	P		**P**	**19 43 14.3**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=81,slow=7.4,SNR=11								
AKASG				LR	LR		19 56 49.6		
	comp=Z,40nm,18.8s,baz=62,slow=38								
	comp=Z,0.6nm,0.5s								
AKBB	**Malin Array Si**	**31.13**	**307**	P		**P**	**19 43 13.0**	**-0.2**
AKBB				IAmb	IAmb		19 43 38.7		
	comp=Z,8.9nm,1.4s								
AKBB	**Malin Array Si**	**31.13**	**307**	P		**P**	**19 43 13.0**	**-0.2**
AKBB				pmax	pmax				
	comp=Z,9.0nm,1.4s								
BTO	**Baotou**	**31.38**	**72**	*e*P		**P**	**19 43 11.8**	**-3.9**
BTO				pP		**sP**	**19 43 23.5**	**+2.2**
BTO				sP		pP	19 43 29.0	+9.3
BTO				PP		**PnPn**	**19 44 14.8**	**-3.4**
BTO				pmax	pmax				
	comp=Z,12nm,0.7s								
BTO				pmax	pmax				
	comp=Z,440nm,5.1s								
CMAR	**Chiang Mai Arr**	**32.20**	**119**	*e*P		**P**	**19 43 24.7**	**+1.7**
CMAR				pmax	pmax				
	comp=Z,1.0nm,1.0s								
CMAR	**Chiang Mai Arr**	**32.20**	**119**	P		**P**	**19 43 23.1**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=309,slow=8.5,SNR=5.4								
CMAR				LR	LR		19 58 29.2		
	comp=Z,19nm,18.8s,baz=335,slow=40								
	comp=Z,0.6nm,0.6s								
MLR	**Muntele Rosu**	**33.04**	**297**	P		**P**	**19 43 30.0**	**-0.2**
MLR				IAmb	IAmb		19 43 38.0		
	comp=Z,4.6nm,0.9s								
MLR	**Muntele Rosu**	**33.04**	**297**	P		**P**	**19 43 30.0**	**-0.2**
MLR				pmax	pmax				
	comp=Z,5.0nm,0.9s								
NRIK	**Noril'sk**	**33.06**	**12**⇑	*e*P		**P**	**19 43 31.4**	**+1.5**
NRIK				pmax	pmax				
	comp=Z,14nm,2.5s								
NRIK	**Noril'sk**	**33.06**	**12**	LR	LR		19 58 38.3		
	comp=Z,66nm,19.3s,baz=150,slow=39								
NACGM	**Naroch**	**33.38**	**315**	*e*P		**P**	**19 43 33.9**	**+1.0**
	comp=E,2μm,0.8s								
BURAR	**Bucovina Array**	**33.51**	**301**	P		**P**	**19 43 32.6**	**-1.7**
XLT	**XiLinHaoTe**	**35.42**	**65**	*e*P		**P**	**19 43 49.5**	**-1.4**
XLT				pP		sP	19 44 02.5	+6.1
XLT				sP		pP	19 44 09.5	+15
XLT				PP		**PnPn**	**19 45 09.0**	**-0.3**
XLT				PcP		**PcP**	**19 46 19.5**	**-1.0**
XLT				pmax	pmax				
	comp=Z,7.0nm,0.8s								
XLT				pmax	pmax				
	comp=Z,390nm,5.7s								
FINES	**FINESS Array B**	**35.67**	**326**	P		**P**	**19 43 53.4**	**+0.8**
FINES	**FINESS Array B**	**35.67**	**326**	*e*P		**P**	**19 43 54.0**	**+1.3**
FINES				pmax	pmax				
	comp=Z,1.0nm,0.4s								
FINES	**FINESS Array B**	**35.67**	**326**	P		**P**	**19 43 53.6**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=116,slow=8.7,SNR=8.4								
	comp=Z,1.0nm,0.4s								
LVZ	**Lovozero**	**35.75**	**338**	P		**P**	**19 43 52.7**	**-0.6**
LVZ	**Lovozero**	**35.75**	**338**	P		**P**	**19 43 52.7**	**-0.6**
LVZ				pmax	pmax				
	comp=Z,78nm,1.5s								
OJC	**Ojcow**	**37.10**	**306**	P		**P**	**19 44 06.2**	**+1.2**
OJC				IAmb	IAmb		19 44 34.3		
	comp=Z,7.8nm,1.2s								
OJC	**Ojcow**	**37.10**	**306**	P		**P**	**19 44 06.2**	**+1.2**
OJC				pmax	pmax				
	comp=Z,8.0nm,1.2s								
ARCES	**ARCESS Array B**	**39.43**	**337**			**P**	**19 44 25.5**	**+1.1**
ARCES	**ARCESS Array B**	**39.43**	**337**	P		**P**	**19 44 25.6**	**+1.2**
	comp=Z,7.3nm,0.9s,baz=109,slow=7.1,SNR=19								
	comp=Z,7.3nm,0.9s								
GERES	**GERESS Array B**	**41.13**	**304**	P		**P**	**19 44 39.1**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=94,slow=8.1,SNR=2.6								
	comp=Z,0.6nm,0.8s								
HFS	**Hagfors**	**41.24**	**321**	P		**P**	**19 44 39.8**	**+0.3**
	comp=Z,2.1nm,0.3s,baz=103,slow=10,SNR=19								
	comp=Z,2.1nm,0.3s								
NC303	**NORSAR Array S**	**42.50**	**323**	P		**P**	**19 44 50.5**	**+0.8**
NB201	**NORSAR Array S**	**42.52**	**322**	P		**P**	**19 44 50.5**	**+0.5**
NB2	**NORSAR Subarra**	**42.55**	**322**	P		**P**	**19 44 50.4**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=97,slow=8.6								
NOA	**NORSAR Array B**	**42.55**	**322**	P		**P**	**19 44 50.5**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=107,slow=7.1,SNR=8.2								
NOA				LR	LR		20 04 28.4		
	comp=Z,22nm,18.2s,baz=300,slow=39								
	comp=Z,0.4nm,0.3s								
YAK	**Yakutsk**	**43.62**	**36**⇑	*e*P		**P**	**19 44 58.0**	**-0.8**
YAK				pmax	pmax				
	comp=Z,55nm,3.3s								
TIXI	**Tiksi**	**45.02**	**23**	P		**P**	**19 45 10.2**	**+0.3**
TIXI	**Tiksi**	**45.02**	**23**	*ce*P		**P**	**19 45 10.9**	**+1.0**
TIXI				pmax	pmax				
	comp=Z,10.0nm,0.8s								
SPITS	**Spitsbergen Ar**	**45.91**	**347**	P		**P**	**19 45 18.4**	**+1.6**
	comp=Z,21nm,1.0s,baz=112,slow=11,SNR=7.6								
USRK	**Ussuriysk Ar.**	**46.63**	**61**	LR	LR		20 05 36.5		
	comp=Z,56nm,20.5s,baz=0.8,slow=37								
EKA	**Eskdalemuir Ar**	**50.45**	**315**	P		**P**	**19 45 52.5**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=74,slow=7.5,SNR=5.6								
	comp=Z,0.4nm,0.4s								
ESDC	**Sonseca Array**	**55.73**	**296**	P		**P**	**19 46 32.5**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=57,slow=8.0,SNR=4.8								
	comp=Z,0.6nm,0.5s								
TORD	**Torodi Ar. Bea**	**64.51**	**267**	P		**P**	**19 47 32.6**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=44,slow=6.6,SNR=8.5								
	comp=Z,1.4nm,0.7s								
B20K	**Meade River**	**67.27**	**16**	P		**P**	**19 47 49.8**	**+1.0**
B20K				IAmb	IAmb		19 47 54.3		
	comp=Z,5.7nm,1.2s								
C18K	**Utukok River**	**67.39**	**18**	P		**P**	**19 47 50.6**	**+0.8**
C18K				IAmb	IAmb		19 48 20.4		
	comp=Z,5.4nm,1.2s								
C19K	**Lookout Ridge**	**67.43**	**17**	P		**P**	**19 47 50.7**	**+0.7**
C19K				IAmb	IAmb		19 48 06.4		
	comp=Z,7.2nm,1.5s								
D19K	**Kuna River**	**68.24**	**17**	P		**P**	**19 47 55.3**	**+0.3**
F17K	**Baldwin Pennin**	**69.04**	**19**	P		**P**	**19 48 00.0**	**0.0**
E21K	**Killik River**	**69.21**	**16**	P		**P**	**19 48 01.6**	**+0.5**
E21K				IAmb	IAmb		19 48 08.7		
	comp=Z,3.8nm,1.1s								
TOLK	**Toolik Lake Re**	**69.94**	**14**	P		**P**	**19 48 06.7**	**+1.1**
TOLK				IAmb	IAmb		19 48 07.3		
	comp=Z,2.7nm,1.1s								
G19K	**Purcell Mounta**	**70.34**	**18**	P		**P**	**19 48 08.5**	**+0.4**
G19K				IAmb	IAmb		19 48 18.4		
	comp=Z,7.3nm,1.4s								
IMAR	**Indian Mountai**	**71.28**	**17**	P		**P**	**19 48 13.7**	**-0.1**
J16K	**Anvik River**	**71.64**	**21**	P		**P**	**19 48 17.1**	**+1.1**
BMAR	**Burnt Mountain**	**71.93**	**13**	P		**P**	**19 48 18.9**	**+1.2**
ILAR	**Eielson Array**	**73.83**	**15**	*e*P		**P**	**19 48 30.7**	**+1.7**
ILAR	**Eielson Array**	**73.83**	**15**	P		**P**	**19 48 28.6**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=355,slow=4.0,SNR=4.3								
	comp=Z,0.3nm,0.8s								
H29M	**Whitestone**	**74.08**	**11**	P		**P**	**19 48 31.5**	**+1.1**
TSUM	**Tsumeb**	**74.78**	**230**	P		**P**	**19 48 34.4**	**-0.8**
DHY	**Denali Highway**	**75.21**	**16**	P		**P**	**19 48 36.9**	**-0.3**
DHY				IAmb	IAmb		19 49 16.2		
	comp=Z,3.4nm,1.1s								
SUA	**Susitna One**	**75.80**	**19**	P		**P**	**19 48 41.0**	**+0.4**
K29M	**Barlow Dome**	**76.42**	**12**	P		**P**	**19 48 43.7**	**-0.4**
K29M				IAmb	IAmb		19 48 51.7		
	comp=Z,4.0nm,1.2s								
YKA	**Yellowknife Ar**	**79.96**	**2**	P		**P**	**19 49 04.6**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=349,slow=5.5,SNR=6.3								
	comp=Z,0.5nm,0.8s								
WRA	**Warramunga Arr**	**83.76**	**121**	P		**P**	**19 49 22.7**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=324,slow=4.6,SNR=2.2								
	comp=Z,0.4nm,0.7s								
ASAR	**Alice Springs**	**86.05**	**124**	P		**P**	**19 49 34.8**	**-0.8**
	comp=Z,0.2nm,0.9s,baz=305,slow=3.3,SNR=1.4								
	comp=Z,0.2nm,0.9s								
STKA	**Stephens Creek**	**96.59**	**125**	*e*P		**P**	**19 50 25.1**	**+0.4**
STKA				pmax	pmax				
	comp=Z,1.0nm,0.6s								

TAP 26 19:52:38.9,24.86N×121.38E,h10km,ML1.9,2C-6D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NWLT	**Wulai**	**0.14**	**124**	*i* P		Pg	19 52 43.0	+1.0
	baz=124							
NWLT				*i* S		Sg	19 52 45.6	+1.3
	baz=124							
BACT	**New Taipei Cit**	**0.15**	**23**	P		Pg	19 52 42.9	+0.7
	baz=22							
BACT				S		Sg	19 52 45.9	+1.3
	baz=22							
TATO	**Taipei**	**0.16**	**40**	*i* P		Pg	19 52 42.6	+0.2
	baz=42							
TATO				*i* S		Sg	19 52 45.8	+1.1
	baz=42							
NTY	**Taoyuan**	**0.16**	**333**	*i* P		Pg	19 52 42.9	+0.5
	baz=333							
NTY				S		Sg	19 52 45.9	+1.1
	baz=333							
NHDH	**Xindian Distri**	**0.17**	**52**	*e*P		Pg	19 52 43.2	+0.6
	baz=51							
NHDH				*e*S		Sg	19 52 46.3	+1.2
	baz=51							
NSK	**Sanguang**	**0.18**	**186**⇓	*i* P		Pg	19 52 43.7	+0.9
	baz=183							
NSK				*i* S		Sg	19 52 46.8	+1.4
	baz=183							
YHNB	**Yeheng**	**0.19**	**180**⇓	*i* P		Pg	19 52 43.8	+0.9
	baz=180							
YHNB				*i* S		Sg	19 52 46.9	+1.4
	baz=180							
NCUH	**Zhongli**	**0.21**	**303**	*e*P		Pg	19 52 43.6	+0.4
	baz=302							
NCUH				*e*S		Sg	19 52 47.1	+1.0
	baz=302							
FUSB	**Fushanzhiwuyua**	**0.21**	**117**⇑	*i* P		Pg	19 52 44.5	+1.2
	baz=116							
FUSB				*i* S		Sg	19 52 47.9	+1.6
	baz=116							
TWA	**Mucha**	**0.23**	**57**⇑	*i* P		Pg	19 52 44.7	+1.1
	baz=58							
TWA				*i* S		Sg	19 52 48.7	+2.0
	baz=58							
TWS1	**Kuangyinshan**	**0.25**	**9**⇓	*i* P		Pg	19 52 45.1	+1.2
	baz=9.0							
TWS1				*i* S		Sg	19 52 49.2	+1.9
	baz=9.0							
NHY	**Taipei**	**0.25**	**44**	*e*P		Pb	19 52 45.2	-0.4
	baz=43							
NHY				*e*S		Sb	19 52 50.0	0.0
	baz=43							
ENTT	**Nioudou**	**0.28**	**141**⇓	*i* P		Pb	19 52 46.0	0.0
	baz=140							
ENTT				*i* S		Sb	19 52 50.1	-0.6
	baz=140							
NDT	**Datong Townshi**	**0.28**	**154**⇓	*i* P		Pb	19 52 45.9	-0.2
	baz=153							
NDT				*i* S		Sb	19 52 50.3	-0.6
	baz=153							
TWE	**Neicheng**	**0.30**	**117**	*e*S		Sb	19 52 51.3	+0.1
	baz=116							
NTST	**Danshui**	**0.31**	**12**	P		Pb	19 52 46.4	-0.2
	baz=11							
NFF	**Wufeng Townshi**	**0.33**	**227**	P		Pg	19 52 45.8	+0.4
	baz=226							
NFF				S		Sb	19 52 51.7	-0.5
	baz=226							
YM01	**YM01**	**0.34**	**31**	*e*P		Pb	19 52 46.8	-0.3
	baz=31							
LATG	**Datong**	**0.35**	**157**⇓	*i* P		Pb	19 52 47.4	+0.1
	baz=157							
LATG				*i* S		Sb	19 52 52.7	-0.2
	baz=157							
ANP	**Anpu**	**0.35**	**21**	*e*P		Pb	19 52 47.2	-0.2
	baz=22							
SBCB	**Hsinchu**	**0.36**	**260**	*e*P		Pb	19 52 47.0	-0.5
	baz=259							
NDS	**Dongshan**	**0.38**	**126**	*e*P		Pb	19 52 47.3	-0.5
	baz=125							
NDS				*e*S		Sb	19 52 53.3	-0.4
	baz=125							
LIOB	**Emei**	**0.39**	**238**	*i* P		Pb	19 52 47.8	-0.1
	baz=237							
LIOB				S		Sb	19 52 54.4	+0.4
	baz=237							
NSTT	**Nanjuang**	**0.41**	**237**	*i* P		Pb	19 52 48.2	-0.1
	baz=236							
NSTT				*i* S		Sb	19 52 54.4	-0.1
	baz=236							
NNS	**Nan Shan**	**0.41**	**181**	*i* P		Pb	19 52 48.2	-0.2
	baz=179							
NNS				*i* S		Sb	19 52 53.9	-0.9
	baz=179							
TIPB	**Shuangxi**	**0.42**	**74**	*i* P		Pb	19 52 48.3	-0.2
	baz=74							
TIPB				*i* S		Sb	19 52 54.5	-0.5
	baz=74							
NNSB	**Datong**	**0.43**	**179**	*i* P		Pb	19 52 48.3	-0.3
	baz=179							
NNSB				*i* S		Sb	19 52 54.5	-0.7
	baz=179							
SXI1	**Grass Mountain**	**0.51**	**62**	P		Pb	19 52 50.1	+0.1
	baz=62							
SXI1				S		Sb	19 52 58.3	+0.8
	baz=62							
TWT	**Tachien**	**0.63**	**197**	*e*P		Pb	19 52 51.8	-0.2
	baz=198							
TWT				*e*S		Sb	19 53 00.4	-0.6
	baz=198							
TDCB	**Techi**	**0.63**	**198**	*e*P		Pb	19 52 52.2	0.0
	baz=198							
TDCB				*e*S		Sb	19 53 01.4	+0.3
	baz=198							
ETLH	**Xiulin Townshi**	**0.65**	**172**	*e*P		Pb	19 52 52.6	+0.1
	baz=171							
WHP	**Taichung City**	**0.70**	**214**	*e*P		P

	baz=267								
TWF1	**Yuli**	**0.68**	**266**	*i*	P	Pn	19 52 53.5	-0.5
	baz=258								
TWF1				*i*	S	Sn	19 53 03.5	0.0
	baz=258								
CHKT	**Chengkung**	**0.68**	**244**		P	Pn	19 52 53.1	-1.0
	baz=237								
ESL	**Shilin**	**0.69**	**307**	*i*	P	Pn	19 52 53.1	-1.0
ESL	baz=307			*i*	S	Sn	19 53 02.3	-1.4
	baz=307								
FULB	**Fuli**	**0.71**	**254**		P	Pn	19 52 53.6	-0.9
FULB	baz=246			*e*	S	Sn	19 53 03.9	-0.3
	baz=246								
ETM	**Tongmen**	**0.75**	**319**		P	Pn	19 52 54.6	-0.4
ETM	baz=319				S	Sn	19 53 04.3	-0.8
	baz=319								
EOS4	**EOS4**	**0.76**	**20**	*i*	P	Pn	19 52 54.8	-0.1
	baz=11								
EOS4					S	Sn	19 53 04.7	-0.3
	baz=11								
EDH	**Donghe**	**0.79**	**238**	*e*	P	Pn	19 52 53.5	-2.0
	baz=233								
EDH					S	Sn	19 53 04.9	-1.3
	baz=233								
EHD	**Haiduan**	**0.80**	**252**	*e*	P	Pn	19 52 53.6	-2.0
	baz=246								
LXIB	**Xiulin Townshi**	**0.84**	**318**		P	Pn	19 52 56.1	-0.3
	baz=327								
LXIB					S	Sn	19 53 07.0	-0.6
	baz=327								
ETL	**Fush Village**	**0.84**	**334**		P	Pn	19 52 55.7	-0.6
	baz=334								
ETL					S	Sn	19 53 06.8	-0.7
	baz=334								
NACB	**Ninganchiao**	**0.87**	**333**	*e*	P	Pn	19 52 55.9	-0.7
	baz=333								
NACB				*e*	S	Sn	19 53 07.4	-0.6
	baz=333								
VWDT	**VWDT**	**0.89**	**293**		P	Pn	19 52 56.6	-0.3
	baz=293								
VWDT					S	Sn	19 53 08.9	+0.3
	baz=293								
LDUT	**Ludao**	**0.89**	**216**	*e*	P	Pn	19 52 58.1	+1.2
	baz=215								
EOS3	**EOS3**	**0.92**	**17**	*i*	P	Pn	19 52 57.5	+0.4
	baz=12								
EOS3					S	Sn	19 53 09.7	+0.5
	baz=12								
ETLH	**Xiulin Townshi**	**0.95**	**328**		P	Pn	19 52 58.5	+0.7
	baz=328								
ETLH					S	Sn	19 53 10.2	0.0
	baz=328								
OWD	**Renai**	**0.96**	**305**	*e*	P	Pn	19 52 57.5	-0.4
	baz=305								
OWD				*e*	S	Sn	19 53 09.2	-1.4
	baz=305								
LONT	**Longtian**	**0.96**	**239**	*e*	P	Pn	19 52 57.7	-0.2
	baz=234								
LONT				*e*	S	Sn	19 53 10.7	+0.2
	baz=234								
CHGB	**Renai**	**1.02**	**310**	*e*	S	Sn	19 53 12.2	0.0
	baz=310								
WUSB	**Renai**	**1.02**	**305**	*e*	S	Sn	19 53 11.7	-0.4
	baz=305								
EOS2	**EOS2**	**1.03**	**10**	*e*	P	Pn	19 52 59.1	+0.4
	baz=5.0								
TWGBT	**Beinan**	**1.05**	**237**		P	Pn	19 52 58.6	-0.5
	baz=249								
TWGBT				*e*	S	Sn	19 53 11.3	-1.3
	baz=249								
SSLB	**Suanglung**	**1.06**	**291**	*e*	P	Pn	19 52 59.2	-0.1
	baz=291								
SSLB				*e*	S	Sn	19 53 12.7	-0.1
	baz=291								
WHYT	**Xinyi Township**	**1.12**	**285**	*e*	P	Pn	19 53 00.9	+0.8
	baz=285								
ALS	**Alishan**	**1.13**	**276**	*e*	P	Pn	19 53 01.2	+0.7
	baz=276								
ALS				*e*	S	Sn	19 53 16.0	+1.0
	baz=276								
SMLT	**Sun Moon Lake**	**1.14**	**295**	*e*	P	Pn	19 53 00.6	+0.1
	baz=295								
STYH	**Taoyuan**	**1.18**	**259**	*e*	P	Pn	19 53 01.6	+0.7
	baz=254								
NNSB	**Datong**	**1.18**	**330**	*e*	P	Pn	19 53 01.1	+0.1
	baz=320								
NNSB				*e*	S	Sn	19 53 15.4	-0.6
	baz=320								
TYC	**Yuchr**	**1.19**	**295**	*e*	P	Pn	19 53 00.9	-0.1
	baz=296								
NNS	**Nan Shan**	**1.20**	**330**	*e*	S	Sn	19 53 16.4	0.0
	baz=321								
LATG	**Datong**	**1.22**	**338**	*e*	P	Pn	19 53 01.9	+0.4
	baz=338								
CHN5	**Tsauling**	**1.26**	**279**	*e*	P	Pn	19 53 02.3	+0.2
	baz=279								
TPUB	**Ta-pu**	**1.29**	**266**	*e*	P	Pn	19 53 03.4	+0.9
	baz=266								
WCKO	**Fanlu**	**1.31**	**272**	*e*	P	Pn	19 53 03.6	+0.9
	baz=272								
WTP	**Ta-pu**	**1.31**	**264**	*e*	P	Pn	19 53 03.8	+1.1
	baz=263								
CHN4	**Tsaushan**	**1.32**	**268**	*e*	P	Pn	19 53 04.2	+1.4
	baz=268								
SLGT	**Liugui**	**1.34**	**253**	*e*	P	Pn	19 53 04.1	+1.0
	baz=248								
SGST	**Jiashian**	**1.37**	**257**	*e*	P	Pn	19 53 04.0	+0.6
	baz=257								
CHN1	**Nanshi**	**1.40**	**261**	*e*	P	Pn	19 53 05.3	+1.4
	baz=275								
SNST	**Tainan City**	**1.42**	**263**	*e*	P	Pn	19 53 05.4	+1.2
	baz=277								
TWK	**Hsinying**	**1.43**	**265**	*e*	P	Pn	19 53 05.5	+1.2
	baz=265								
TWQ1	**Liyutan**	**1.49**	**310**	*e*	P	Pn	19 53 05.8	+0.7
	baz=310								

IDC ***26*** *20:02:50.2ₛ1.2, 22°.95N×121°.29E, h0ᵏᵐ, mb3.5/7, mbtmp3.5/8, ML3.5/1, MS3.1/2, Error ellipse: s-maj=73.6km s-min=19.3km az=66.0*

TAP ***26*** *20:02:53.8, 23°.11N×121°.35E, h19ᵏᵐ, ML4.2, B*

NIED ***26*** *20:02:53.5, 23°.11N×121°.31E, h30ᵏᵐ, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; M_{rr}-3.68; $M_{\theta\theta}$-3.09; $M_{\phi\phi}$6.77; $M_{r\theta}$3.96; $M_{\theta\phi}$-0.86; $M_{\phi r}$2.36; Fault plane solution: $M_0$7.51000×10¹⁴ NP1: ϕ_s210.00000°, δ68.00000°, λ-46.00000°. NP2: ϕ_s321.00000°, δ48.00000°, λ-150.00000°.*

JMA ***26*** *20:02:53.5ₛ0.2, 23°.1N±0°.8×12°.1E±°, h30ᵏᵐ, MV3.7/17, TAIWAN REGION*

ASIES ***26*** *20:02:53.8, 23°.11N×121°.35E, h19ᵏᵐ, ML4.2, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}5.44; $M_{\theta\theta}$-1.72; $M_{\phi\phi}$-3.73; $M_{r\theta}$-1.66; $M_{\theta\phi}$-1.98; $M_{\phi r}$-0.83; Fault plane solution: $M_0$5.53068×10^{21} NP1: ϕ_s220.72000°, δ54.15000°, λ100.32000°. NP2: ϕ_s23.45000°, δ37.12000°, λ76.08000°. Principal axes: T Plg77.9660°, Azm168.1280°; N Plg8.3480°, Azm34.6290°; P Plg8.6060°, Azm303.3570°;*

ISC 26 20:02:53.2±0.8**, 23°.07N**±0°.01×**121°.43E**±0°.02**, h19**km±2km**, n192**, σ0**89**/263**, mb3.5**/7**, 7C-56D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.07**	**296**	⇑	*i*	P	**Pg**	**20 02 57.5**	**+0.8**
	baz=117								
CHKT					*i*	S	**Sg**	**20 03 00.1**	**+1.1**
	baz=117								
CHKH	**Chenggong**	**0.13**	**344**	⇑	*i*	P	**Pg**	**20 02 58.0**	**+0.7**
	baz=24								
CHKH					*i*	S	**Sg**	**20 03 00.9**	**+0.9**
	baz=24								
EDH	**Donghe**	**0.15**	**231**		*e*	P	**Pg**	**20 02 58.4**	**+0.9**
EDH						S	**Sg**	**20 03 01.8**	**+1.3**
	baz=199								
FULB	**Fuli**	**0.18**	**315**	⇑	*i*	P	**Pg**	**20 02 58.1**	**+0.1**
	baz=328								
FULB						S	**Sg**	**20 03 01.6**	**+0.4**
	baz=328								
ECS	**Chishang**	**0.20**	**278**	⇑	*i*	P	**Pg**	**20 02 58.8**	**+0.6**
	baz=265								
ECS						S	**Sg**	**20 03 03.0**	**+1.4**
	baz=265								
EHD	**Haiduan**	**0.22**	**291**	⇓	*i*	P	**Pb**	**20 02 58.5**	**+0.1**
	baz=287								
EHD					*i*	S	**Sb**	**20 03 01.7**	**0.0**
	baz=287								
ECBN	**Changbin**	**0.25**	**4**	⇑	*i*	P	**Pg**	**20 02 59.7**	**+0.8**
	baz=28								
ECBN						S	**Sg**	**20 03 03.9**	**+1.1**
	baz=28								
EYUL	**Yuli**	**0.30**	**339**	⇓	*e*	P	**Pg**	**20 03 00.1**	**+0.3**
	baz=342								
EYUL					*e*	S	**Sg**	**20 03 05.7**	**+1.5**
	baz=342								
TWF1	**Yuli**	**0.31**	**336**	⇓	*i*	P	**Pg**	**20 02 60.0**	**0.0**
	baz=336								
TWF1					*e*	S	**Sb**	**20 03 04.3**	**-0.6**
	baz=336								
LONT	**Longtian**	**0.32**	**240**	⇓	*i*	P	**Pg**	**20 03 00.5**	**+0.4**
	baz=236								
LONT					*e*	S	**Sb**	**20 03 05.7**	**+0.4**
	baz=236								
YULB	**Yu-li**	**0.35**	**339**			P	**Pg**	**20 03 00.3**	**-0.2**
YULB	**Yu-li**	**0.35**	**339**	⇓	*i*	P	**Pg**	**20 03 00.4**	**-0.2**
	baz=336								
YULB						S	**Sg**	**20 03 04.7**	**-0.9**
	baz=336								
LDUT	**Ludao**	**0.40**	**175**			P	**Pb**	**20 03 02.4**	**+0.7**
	baz=165								
LDUT						S	**Sb**	**20 03 09.2**	**+1.8**
	baz=165								
ELDTW	**Lidau**	**0.40**	**287**	⇓	*i*	P	**Pg**	**20 03 00.6**	**-1.0**
	baz=285								
ELDTW						S	**Sg**	**20 03 05.0**	**-2.3**
	baz=285								
TTN	**Taitung**	**0.41**	**220**	⇓	*e*	P	**Pb**	**20 03 02.5**	**+0.6**
	baz=210								
TTN					*e*	S	**Sn**	**20 03 09.7**	**-1.5**
	baz=210								
TWGBT	**Beinan**	**0.41**	**233**			P	**Pg**	**20 03 01.7**	**0.0**
TWGBT	**Beinan**	**0.41**	**233**	⇓	*i*	P	**Pg**	**20 03 01.6**	**0.0**
	baz=232								
TWGBT					*e*	S	**Sg**	**20 03 05.9**	**-1.5**
	baz=232								
TWG	**Pinlang**	**0.41**	**234**	⇓	*i*	P	**Pg**	**20 03 01.6**	**-0.1**
	baz=232								
TWG						S	**Sg**	**20 03 07.1**	**-0.4**
	baz=232								
HGSD	**Ruisui**	**0.42**	**359**	⇑		P	**Pg**	**20 03 02.1**	**+0.2**
	baz=14								
HGSD						S	**Sb**	**20 03 09.6**	**+1.3**
	baz=14								
EHY	**Hungye**	**0.45**	**347**	⇓	*i*	P	**Pg**	**20 03 02.0**	**-0.3**
	baz=342								
EHY						S	**Sg**	**20 03 08.0**	**-0.5**
	baz=342								
EGFH	**Guangfu**	**0.60**	**360**		*e*	P	**Pb**	**20 03 04.1**	**-0.9**
	baz=351								
STYH	**Taoyuan**	**0.61**	**280**	⇓	*i*	P	**Pb**	**20 03 04.4**	**-0.9**
	baz=277								
STYH					*i*	S	**Sb**	**20 03 11.8**	**-1.7**
	baz=277								
STYT	**Tauyuan**	**0.63**	**279**	⇓	*i*	P	**Pb**	**20 03 04.7**	**-0.9**
	baz=276								
STYT					*i*	S	**Sb**	**20 03 12.2**	**-1.8**
	baz=276								
ECL	**Taimali**	**0.64**	**223**	⇓	*i*	P	**Pb**	**20 03 04.8**	**-1.0**
	baz=226								
TEGC	**Jichi Village**	**0.65**	**9**		*e*	P	**Pg**	**20 03 06.4**	**+0.4**
	baz=359								
WARBT	**Fenglin Townsh**	**0.65**	**356**	⇓		P	**Pb**	**20 03 04.8**	**-1.2**
	baz=1.0								
ALS	**Alishan**	**0.73**	**307**	⇓	*i*	P	**Pb**	**20 03 06.9**	**-0.5**
	baz=308								
ALS						S	**Sb**	**20 03 16.1**	**-1.0**
	baz=308								
SLGT	**Liugui**	**0.73**	**264**	⇓	*i*	P	**Pb**	**20 03 07.0**	**-0.3**
	baz=263								
SLGT						S	**Sb**	**20 03 15.8**	**-1.1**
	baz=263								
VWDT	**VWDT**	**0.73**	**339**	⇓	*i*	P	**Pb**	**20 03 06.9**	**-0.5**
	baz=352								
VWDT					*i*	S	**Sb**	**20 03 15.9**	**-1.2**
	baz=352								
ESL	**Shilin**	**0.74**	**0**		*e*	P	**Pb**	**20 03 06.2**	**-1.4**
	baz=353								
TPUB	**Ta-pu**	**0.77**	**288**			P	**Pb**	**20 03 07.8**	**-0.3**
TPUB	**Ta-pu**	**0.77**	**288**	⇓	*i*	P	**Pb**	**20 03 07.7**	**-0.4**
	baz=292								
TPUB						S	**Sb**	**20 03 17.2**	**-1.0**
	baz=292								
WTP	**Ta-pu**	**0.77**	**283**	⇓	*i*	P	**Pb**	**20 03 07.6**	**-0.5**
	baz=279								
WTP						S	**Sb**	**20 03 17.8**	**-0.5**
	baz=279								
SGST	**Jiashian**	**0.78**	**271**	⇓	*i*	P	**Pb**	**20 03 07.1**	**-1.1**
	baz=270								
SGST					*e*	S	**Sb**	**20 03 16.1**	**-2.4**
	baz=270								
SSD	**Sandimen**	**0.81**	**247**	⇓	*e*	P	**Pb**	**20 03 06.5**	**-2.1**
	baz=243								
TSMG	**Majia**	**0.81**	**244**		*e*	P	**Pb**	**20 03 07.7**	**-1.0**
	baz=231								
WHYT	**Xinyi Township**	**0.82**	**320**	⇓	*i*	P	**Pb**	**20 03 08.7**	**-0.3**
	baz=326								
CHN4	**Tsaushan**	**0.82**	**290**	⇓	*i*	P	**Pb**	**20 03 08.8**	**-0.1**
	baz=293								
CHN4						S	**Sb**	**20 03 19.4**	**-0.3**
	baz=293								
SSLB	**Suanglung**	**0.84**	**329**			P	**Pb**	**20 03 08.4**	**-0.8**
SSLB	**Suanglung**	**0.84**	**329**	⇓	*i*	P	**Pb**	**20 03 08.4**	**-0.8**
	baz=338								
CHN1	**Nanshi**	**0.84**	**278**	⇓	*i*	P	**Pb**	**20 03 09.2**	**0.0**
	baz=274								
CHN1					*e*	S	**Sb**	**20 03 20.0**	**-0.2**
	baz=274								
WCKO	**Fanlu**	**0.85**	**296**	⇓	*i*	P	**Pb**	**20 03 09.3**	**-0.1**
	baz=295								
WCKO					*e*	S	**Sg**	**20 03 20.9**	**0.0**
	baz=295								
TAW	**Tawu**	**0.86**	**215**			P	**Pb**	**20 03 08.5**	**-1.1**
	baz=220								
TAW					*e*	S	**Sb**	**20 03 19.2**	**-1.6**
	baz=220								
MASBT	**Mashibuluo**	**0.87**	**239**	⇓	*i*	P	**Pb**	**20 03 08.8**	**-0.9**
	baz=227								
EAST	**Anshuo**	**0.87**	**218**	⇓		P	**Pb**	**20 03 08.4**	**-1.3**
	baz=214								
CHN5	**Tsauling**	**0.87**	**307**	⇓	*i*	P	**Pb**	**20 03 09.7**	**-0.1**
	baz=307								
CHN5					*e*	S	**Sg**	**20 03 21.7**	**-0.1**
	baz=307								
SNST	**Tainan City**	**0.87**	**280**	⇓		P	**Pb**	**20 03 09.7**	**-0.1**
	baz=278								
SNST					*e*	S	**Sg**	**20 03 21.8**	**-0.1**
	baz=278								
TAWH	**Dawu Township**	**0.88**	**215**	⇑		P	**Pb**	**20 03 08.8**	**-1.1**
	baz=212								
SCST	**Cishan**	**0.88**	**258**	⇓		P	**Pb**	**20 03 10.3**	**+0.3**
	baz=255								
TWK	**Hsinying**	**0.89**	**283**	⇓	*i*	P	**Pb**	**20 03 09.8**	**-0.3**
	baz=281								
TWK						S	**Sb**	**20 03 22.0**	**+0.3**
	baz=281								
ETM	**Tongmen**	**0.90**	**4**		*e*	P	**Pb**	**20 03 08.5**	**-1.6**
	baz=4.0								
OWD	**Renai**	**0.91**	**345**	⇓	*e*	P	**Pb**	**20 03 09.4**	**-1.1**
	baz=345								
HWA	**Hwalien**	**0.92**	**10**		*e*	P	**Pb**	**20 03 10.0**	**-0.5**
	baz=357								
SGLT	**Jiouru**	**0.93**	**249**		*e*	P	**Pb**	**20 03 11.2**	**+0.4**
	baz=244								
SMLT	**Sun Moon Lake**	**0.95**	**329**	⇓	*i*	P	**Pb**	**20 03 10.6**	**-0.5**
	baz=335								
SMLT					*e*	S	**Sb**	**20 03 23.8**	**+0.4**
	baz=335								
TSPT	**Pingtung City**	**0.95**	**246**		*e*	P	**Pb**	**20 03 10.9**	**-0.1**
	baz=242								
LXIB	**Xiulin Townshi**	**0.95**	**359**	⇓	*e*	P	**Pb**	**20 03 09.5**	**-1.7**
	baz=359								
TWM1	**Shoushan**	**0.96**	**256**	⇓	*i*	P	**Pg**	**20 03 12.3**	**+0.4**
	baz=253								
TWM1					*e*	S	**Sn**	**20 03 27.6**	**+2.6**
	baz=253								
WUSB	**Renai**	**0.96**	**343**		*e*	P	**Pb**	**20 03 10.3**	**-1.1**
	baz=343								
WUSB					*e*	S	**Sb**	**20 03 22.5**	**-1.3**
	baz=343								
CHN3	**Shinhua**	**0.98**	**271**	⇓	*i*	P	**Pg**	**20 03 13.0**	**+0.7**
	baz=278								
CHN3					*i*	S	**Sg**	**20 03 26.9**	**+1.6**
	baz=278								
TYC	**Yuchr**	**0.99**	**328**		*e*	P	**Pb**	**20 03 11.3**	**-0.4**
	baz=338								
TYC					*e*	S	**Sn**	**20 03 25.4**	**-0.2**
	baz=338								
WJS	**Zhushan**	**0.99**	**319**		*e*	P	**Pb**	**20 03 12.1**	**+0.3**
	baz=319								
WJS						S	**Sg**	**20 03 26.1**	**+0.5**
	baz=319								
CHN2	**Minshiung**	**0.99**	**298**	⇓		P	**Pn**	**20 03 12.3**	**+0.1**
	baz=296								
CHN2					*e*	S	**Sn**	**20 03 25.7**	**0.0**
	baz=296								
SHHT	**Tainan City**	**1.00**	**268**	⇓	*e*	P	**Pg**	**20 03 13.4**	**+0.8**
	baz=265								
SHHT						S	**Sg**	**20 03 28.1**	**+2.3**
	baz=265								
WGK	**Gukeng**	**1.01**	**308**	⇓		P	**Pn**	**20 03 12.4**	**0.0**
	baz=307								
WGK						S	**Sg**	**20 03 26.3**	**+0.2**
	baz=307								
CHGB	**Renai**	**1.01**	**347**	⇓		P	**Pb**	**20 03 11.3**	**-1.0**
	baz=346								
TWD	**Chiawan**	**1.02**	**8**		*e*	P	**Pb**	**20 03 10.9**	**-1.4**
	baz=355								
CHY	**Chiayi**	**1.02**	**295**	⇓		P	**Pn**	**20 03 12.6**	**0.0**
	baz=293								
CHY						S	**Sg**	**20 03 26.7**	**+0.2**
	baz=293								
SCZT	**Fangliau**	**1.02**	**227**	⇓	*i*	P	**Pb**	**20 03 11.5**	**-0.8**
	baz=221								
WDLH	**Douliu**	**1.03**	**307**		*e*	P	**Pn**	**20 03 12.9**	**+0.3**
	baz=306								
WDLH					*e*	S	**Sg**	**20 03 27.2**	**+0.5**
	baz=306								
LAY	**Lan-yu**	**1.03**	**174**		*e*	P	**Pb**	**20 03 11.2**	**-1.2**
	baz=162								
LAY					*e*	S	**Sb**	**20 03 25.2**	**-0.5**
	baz=162								
SLIU	**Shizi**	**1.03**	**215**		*e*	P	**Pb**	**20 03 10.9**	**-1.5**
	baz=202								
WPL	**Puli Township**	**1.04**	**335**		*e*	P	**Pb**	**20 03 12.4**	**-0.2**
	baz=342								
SSHA	**Shanhua**	**1.06**	**274**	⇓	*i*	P	**Pg**	**20 03 13.9**	**+0.2**
	baz=282								
SSHA						S	**Sg**	**20 03 29.5**	**+1.9**
	baz=282								
WNT	**Mingjian**	**1.06**	**320**	⇓		P	**Pn**	**20 03 13.3**	**+0.2**
	baz=319								
WNT						S	**Sg**	**20 03 27.8**	**+0.1**
	baz=319								
SNJT	**Kaohsiung City**	**1.06**	**253**		*e*	P	**Pg**	**20 03 14.8**	**+1.0**
	baz=251								
DPDB	**Guoxing**	**1.07**	**334**	⇓		P	**Pb**	**20 03 12.8**	**-0.4**
	baz=343								
DPDB					*e*	S	**Sn**	**20 03 27.4**	**-0.2**
	baz=343								
LYUB	**Lan-yu**	**1.07**	**172**		*e*	P	**Pb**	**20 03 10.5**	**-2.6**
	baz=159								
WHF	**Hehuan Shan**	**1.08**	**352**		*e*	P	**Pb**	**20 03 12.5**	**-1.1**
	baz=2.0								
WNT1	**Nantou City**	**1.08**	**321**	⇓	*i*	P	**Pn**	**20 03 13.9**	**+0.5**
	baz=319								
WNT1					*i*	S	**Sg**	**20 03 28.6**	**+0.2**
	baz=319								
WCS	**Beigang Elemen**	**1.09**	**334**		*e*	P	**Pn**	**20 03 13.1**	**-0.5**
	baz=339								
ETL	**Fush Village**	**1.10**	**9**		*e*	P	**Pn**	**20 03 12.3**	**-1.4**
	baz=356								
ICHU	**Yijhu**	**1.10**	**286**	⇓	*i*	P	**Pb**	**20 03 14.0**	**+0.4**
	baz=284								
ICHU						S	**Sg**	**20 03 29.1**	**+0.1**
	baz=284								
NACB	**Ninganchiao**	**1.11**	**8**			P	**Pn**	**20 03 13.6**	**-0.2**
NACB	**Ninganchiao**	**1.11**	**8**		*e*	P	**Pn**	**20 03 11.7**	**-2.1**
	baz=7.0								
NACB					*e*	S	**Sb**	**20 03 27.0**	**-0.9**
	baz=7.0								
TAI1	**Yung-k'ang**	**1.11**	**269**		*e*	P	**Pb**	**20 03 14.3**	**+0.5**
	baz=267								
ETLH	**Xiulin Townshi**	**1.13**	**2**		*e*	P	**Pn**	**20 03 12.4**	**-1.8**
	baz=1.0								
TAI	**Tainan**	**1.14**	**267**		*e*	P	**Pg**	**20 03 15.1**	**-0.2**
	baz=264								
TAI					*e*	S	**Sg**	**20 03 31.2**	**+0.9**
	baz=264								
WTK	**Tuku**	**1.14**	**303**	⇓		P	**Pb**	**20 03 14.5**	**+0.2**
	baz=301								
WTK						S	**Sg**	**20 03 30.4**	**+0.1**
	baz=301								
SCLT	**Jiali**	**1.15**	**276**		*e*	P	**Pb**	**20 03 14.8**	**+0.4**
	baz=274								
SCLT					*i*	S	**Sg**	**20 03 31.2**	**+0.7**
	baz=274								
KAU	**Kaohsiung**	**1.15**	**245**		*e*	P	**Pg**	**20 03 15.6**	**+0.1**
	baz=242								
CHN8	**Yiju**	**1.16**	**284**	⇓	*i*	P	**Pb**	**20 03 14.7**	**+0.1**
	baz=282								
CHN8						S	**Sg**	**20 03 30.5**	**-0.3**
	baz=282								
WSSB	**Gushan**	**1.16**	**249**		*e*	P	**Pg**	**20 03 16.0**	**+0.3**
	baz=247								
WSSB					*e*	S	**Sg**	**20 03 33.1**	**+2.2**
	baz=247								
WWF	**Wufeng**	**1.18**	**325**	⇓		P	**Pb**	**20 03 15.2**	**+0.2**
	baz=323								
WWF					*e*	S	**Sn**	**20 03 31.0**	**+0.7**
	baz=323								
WYL	**Yuanlin Townsh**	**1.18**	**319**		*e*	P	**Pb**	**20 03 15.3**	**+0.3**
	baz=317								
WYL						S	**Sg**	**20 03 31.2**	**-0.4**
	baz=317								
FUSS	**Fushou**	**1.19**	**352**		*e*	P	**Pn**	**20 03 14.1**	**-1.0**
	baz=360								
WSL	**Shuilin Townsh**	**1.20**	**292**	⇓		P	**Pn**	**20 03 15.2**	**+0.2**
	baz=290								
WSL					*e*	S	**Sg**	**20 03 31.4**	**-0.6**
	baz=290								
TWT	**Tachien**	**1.20**	**349**		*e*	P	**Pn**	**20 03 14.6**	**-0.6**
	baz=346								
TDCB	**Techi**	**1.21**	**348**		*e*	P	**Pn**	**20 03 14.4**	**-0.9**
	baz=346								
TWP	**Hsiaoliuchiu**	**1.22**	**234**		*e*	P	**Pg**	**20 03 18.4**	**+1.5**
	baz=215								
HEN	**Hengchun**	**1.24**	**211**		*e*	P	**Pg**	**20 03 16.9**	**-0.2**
	baz=201								
TSCK	**Chigu Township**	**1.24**	**274**		*e*	P	**Pn**	**20 03 15.8**	**+0.2**
	baz=282								
WSF	**Szhu**	**1.25**	**297**			P	**Pn**	**20 03 15.8**	**+0.2**
	baz=295								
WSF						S	**Sn**	**20 03 32.1**	**+0.1**
	baz=295								
TWK1	**Hengchun**	**1.26**	**208**		*e*	P	**Pn**	**20 03 15.7**	**-0.2**
	baz=197								
TWKBT	**Hengchun**	**1.26**	**207**		*e*	P	**Pn**	**

NNS	Nan Shan baz=10.0	1.37	358	*e*P		Pn	20 03 16.6	-0.8
EWUT	Wuta baz=357	1.41	13	*e*P		Pb	20 03 18.7	-0.2
TWQ1	Liyutan baz=332	1.41	335	⇓*i*P		Pb	20 03 19.3	+0.4
TWQ1	baz=332			*i* S		Sb	20 03 37.7	+1.1
LATG	Datong baz=15	1.46	3	*e*P		Pn	20 03 17.9	-0.8
LATG	Datong baz=258	1.46	3	*e*P		Pn	20 03 18.1	-0.7
WDJ	Dajia District baz=327	1.47	330	P		Pb	20 03 20.4	+0.5
WDJ	baz=327			*i* S		Sb	20 03 39.4	+1.2
NSY	Sanyi baz=332	1.48	335	⇓*i*P		Pb	20 03 20.6	+0.5
NSY	baz=332			S		Sb	20 03 39.7	+1.2
NDT	Datong Townshi baz=12	1.53	3	*e*P		Pn	20 03 20.3	+0.8
NDS	Dongshan baz=5.0	1.58	9	*e*P		Pb	20 03 21.7	-0.1
TWC	Suao baz=358	1.58	14	*e*P		Pn	20 03 20.8	+0.6
NFF	Wufeng Townshi baz=353	1.58	350	*e*P		Pb	20 03 21.6	-0.3
YHNB	Yeheng	1.59	358	P		Pn	20 03 20.8	+0.3
YHNB	Yeheng baz=9.0	1.59	358	*e*P		Pn	20 03 20.6	+0.1
NSK	Sanguang baz=8.0	1.60	358	*e*P		Pn	20 03 20.1	-0.5
NSTT	Nanjuang baz=342	1.60	346	*e*P		Pb	20 03 21.7	-0.5
LIOB	Emei baz=342	1.62	346	*e*P		Pb	20 03 21.9	-0.6
WDGT	Dungji baz=275	1.64	277	*e*P		Pn	20 03 20.7	-0.4
TWE	Neicheng baz=3.0	1.66	7	*e*P		Pn	20 03 22.4	+1.1
NJN	Zhunan baz=338	1.69	342	*e*P		Pb	20 03 23.2	-0.4
FUSB	Fushanzhiwuyua baz=14	1.69	5	*e*P		Pn	20 03 22.5	+0.7
NJD	Zhudong baz=345	1.69	349	*e*P		Pb	20 03 23.9	+0.2
NWLT	Wulai baz=13	1.70	2	*e*P		Pn	20 03 22.4	+0.5
HSN1	Hsinchu baz=343	1.74	348	*e*P		Pb	20 03 24.6	0.0
SBCB	Hsinchu baz=342	1.76	347	*e*P		Pb	20 03 25.1	+0.2
PHUB	P'eng-hu baz=283	1.77	285	*e*P		Pn	20 03 22.7	-0.1
HSN	Hsinchu baz=343	1.78	346	*e*P		Pb	20 03 25.9	+0.7
PNG	Penghu baz=285	1.80	286	*e*P		Pn	20 03 22.6	-0.6
EGS	baz=357	1.83	14	*e*P		Pb	20 03 26.2	+0.1
VCHM	Qimei baz=273	1.85	275	*e*P		Pn	20 03 23.8	-0.1
NHDH	Xindian Distri baz=10.0	1.89	3	*e*P		Pb	20 03 26.5	-0.6
TATO	Taipei	1.90	2	P		Pn	20 03 25.4	+0.8
TATO	Taipei baz=14	1.90	2	*e*P		Pn	20 03 26.0	+1.3
NCUH	Zhongli baz=332	1.91	353	*e*P		Pb	20 03 27.1	-0.3
TWA	Mucha baz=11	1.91	4	*e*P		Pn	20 03 25.4	+0.6
TIPB	Shuangxi baz=6.0	1.93	11	*e*P		Pn	20 03 25.9	+0.8
JYNG	Yonagunijimaku	1.95	45	*e*S		Sn	20 03 48.9	-0.5
TWB1	Santiao Chiao baz=358	2.00	15	*e*P		Pb	20 03 28.0	-0.9
YOJ	Yonaguni jima	2.00	46	*e*P		Pn	20 03 27.2	+1.2
YOJ				S		Sn	20 03 50.7	+0.1
YOJ	Yonaguni jima baz=51	2.00	46	*e*P		Pn	20 03 27.5	+1.4
NWF	Wu-fen Shan baz=4.0	2.02	9	*e*P		Pn	20 03 28.1	+1.7
WFSB	Wu-fen Shan baz=4.0	2.02	9	*e*P		Pb	20 03 28.1	-1.2
TWS1	Kuangyinshan baz=12	2.02	360	*e*P		Pn	20 03 27.6	+1.3
SXI1	Grass Mountain baz=6.0	2.06	11	*e*P		Pn	20 03 28.6	+1.7
YM01	YM01 baz=14	2.07	3	*e*P		Pn	20 03 28.7	+1.6
NTST	Danshui baz=12	2.09	0	*e*P		Pn	20 03 29.0	+1.8
HATJ	Hateruma jima	2.39	65	*e*P		Pn	20 03 31.9	+0.5
HATJ				*e*S		Sn	20 03 58.7	-1.4
IRIF	Iriomote-Funau	2.45	59	*e*P		Pn	20 03 33.2	+1.0
JKRS	Kuro-shima	2.63	63	P		Pn	20 03 35.5	+0.7
JKRS				*e*S		Sn	20 04 06.0	-0.2
VWUC	VWUC baz=316	2.64	317	*e*P		Pn	20 03 34.5	-0.3
JIJ	Ishigaki jima	2.80	62	P		Pn	20 03 37.5	+0.5
JISG	Ishigakijimahi	3.04	60	P		Pn	20 03 40.9	+0.6
JISG				*e*S		Sn	20 04 15.9	-0.2
KNM	Kinmen baz=294	3.06	297	*e*P		Pn	20 03 41.5	+1.0
KNMB	Chin-men Tao baz=296	3.12	297	⇓*e*P		Pn	20 03 40.6	-0.7
MATB	Ma-tsu baz=334	3.35	337	*e*P		Pn	20 03 44.0	-0.7
JTJ	Tarama	3.38	62	*e*P		Pn	20 03 45.3	+0.4
ZPLA	Ao Xicun baz=283	3.49	285	*e*P		Pn	20 03 46.5	+0.1
AXDP	Jialang baz=300	3.65	301	*e*P		Pn	20 03 48.4	-0.4
MHZQ	Yeshan baz=324	3.73	325	*e*P		Pn	20 03 50.0	+0.2
DSXP	Dongshan baz=278	3.74	281	*e*P		Pn	20 03 50.0	+0.1
LYJJ	Jianjiangzhen baz=334	3.79	337	*e*P		Pn	20 03 51.0	+0.4
JIRB	Irabujima	3.84	62	P		Pn	20 03 52.0	+0.7
JMJ2	Miyako jima3	3.93	64	P		Pn	20 03 53.4	+0.8
JMJ2				*e*S		Sn	20 04 38.4	+0.1
JMJ	Miyako jima 2 baz=68	3.94	63	*e*P		Pn	20 03 54.7	+2.1
XPSS	Dashiqiu baz=340	4.01	344	*e*P		Pn	20 03 53.0	-0.6
SXFK	Yanhouchang baz=314	4.78	315	⇓*e*P		Pn	20 04 04.0	-0.3
VDOS	Pratas Island baz=237	4.96	243	*e*P		Pn	20 04 07.9	+1.1
JOW	Kunigami baz=65	7.25	57	*e*P		Pn	20 04 38.6	+0.4
KSRS	Korea Array 0.2nm,0.3s,baz=197,slow=11,SNR=2.0 1.6nm,0.8s	15.39	20	Pn		Pn	20 06 30.3	+1.0
CMAR	Chiang Mai Arr comp=Z,37nm,18.7s,baz=90,slow=39	21.52	262	LR		LR	20 16 40.7	
SONM	Songino Array 0.4nm,0.7s,baz=157,slow=8.0,SNR=2.2 0.4nm,0.7s	27.48	338	P		P	20 08 39.1	+0.7
MKAR	Makanchi Array 0.6nm,0.7s,baz=109,slow=8.0,SNR=5.8 0.6nm,0.7s	39.30	317	P		P	20 10 20.0	-1.0
ZALV	Zalesovo Beam 0.4nm,0.4s,baz=112,slow=10,SNR=2.3 0.4nm,0.4s	41.30	328	P		P	20 10 36.4	-1.1
KURBB	Kurchatov Arra 0.2nm,0.5s,baz=125,slow=6.8,SNR=1.5 0.2nm,0.5s	43.11	321	P		P	20 10 53.5	+1.3
WRA	Warramunga Arr 0.7nm,0.7s,baz=344,slow=8.9,SNR=5.5 0.7nm,0.7s	44.57	163	P		P	20 11 03.5	-0.7
ASAR	Alice Springs 0.3nm,0.7s,baz=339,slow=7.0,SNR=5.2 0.3nm,0.7s	48.01	165	P		P	20 11 30.3	-0.9
BVAR	Borovoye Array 0.3nm,0.5s,baz=104,slow=6.1,SNR=1.7 0.3nm,0.5s	48.68	321	P		P	20 11 36.3	+0.2
NOA	NORSAR Array B comp=Z,12nm,19.4s,baz=290,slow=37	79.31	332	LR		LR	20 52 02.1	

TAP 26 20:03:02.1, 24.73N×122.51E, h14km±1km, ML2.8, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	EOS2 baz=219	0.40	220	*i* P	Pg	20 03 09.9	-0.2
EOS2	baz=219			S	Sg	20 03 15.9	+0.5
EOS3	EOS3 baz=202	0.47	202	P	Pg	20 03 11.2	-0.2
YOJ	Yonaguni jima baz=119	0.53	120	*i* P	Pg	20 03 12.3	-0.2
YOJ	baz=119			*i* S	Sg	20 03 19.3	-0.2
EGS	baz=282	0.54	283	*e*P	Pg	20 03 12.7	0.0
TWB1	Santiao Chiao baz=300	0.55	301	*e*P	Pg	20 03 12.8	-0.2
TWB1	baz=300			*e*S	Sg	20 03 19.9	-0.5
TWC	Suao baz=258	0.61	259	*e*P	Pg	20 03 12.5	-1.6
ESAO	Su ao baz=256	0.63	256	*e*P	Pb	20 03 14.8	-0.1
EOS4	EOS4 baz=196	0.63	196	*e*P	Pg	20 03 14.2	-0.1
TIPB	Shuangxi baz=291	0.67	292	*e*P	Pg	20 03 15.0	-0.2
SXI1	Grass Mountain baz=302	0.69	303	P	Pg	20 03 15.2	-0.3
SXI1	baz=302			S	Sg	20 03 24.3	-0.2
EWUT	Wuta baz=247	0.72	247	*e*P	Pg	20 03 15.3	-0.9
WFSB	Wu-fen Shan baz=297	0.75	298	*e*P	Pg	20 03 16.4	-0.2
WFSB	baz=297			*e*S	Sb	20 03 27.1	+0.1
ENA	Nanau baz=246	0.76	247	*e*P	Pg	20 03 16.3	-0.6
TWE	Neicheng baz=269	0.77	270	P	Pg	20 03 15.6	-1.4
TNOU	National Taiwa baz=302	0.79	302	*e*P	Pg	20 03 17.2	-0.3
EAHA	Aohua baz=240	0.81	241	*e*P	Pg	20 03 15.5	-2.3
FUSB	Fushanzhiwuyua baz=272	0.84	272	*e*P	Pg	20 03 17.4	-1.0
ENTT	Nioudou baz=264	0.86	265	*e*P	Pg	20 03 17.8	-1.1
NDT	Datong Townshi baz=262	0.92	263	*e*P	Pb	20 03 19.2	-0.6

IDC 26 20:10:02.5±2.7, 5.02S×135.42E, h0km, mb3.2/1, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=85.9km s-min=18.2km az=86.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.1nm,0.3s,baz=5.7,slow=13,SNR=10	14.87	184	Pn	Pn	20 13 34.2	-0.1
WRA				Sn	Sn	20 16 20.0	+0.1
	0.2nm,0.3s,baz=3.4,slow=23,SNR=2.7 0.3nm,0.6s						
ASAR	Alice Springs 0.6nm,0.3s,baz=8.6,slow=11,SNR=52	18.60	184	P	P	20 14 21.2	-0.4
ASAR				S	Sn	20 17 51.7	+1.3
	0.1nm,0.4s,baz=4.1,slow=27,SNR=1.6 3.2nm,0.5s						
MKAR	Makanchi Array 0.2nm,0.6s,baz=111,slow=7.9,SNR=1.9 0.2nm,0.6s	69.66	324	P	P	20 21 14.1	+0.1

*DJA **26** 20:18:14.8±0.2, 8.S×3.×12.9E±.°, h159km±8km, M4.5/16, mB5.0/7, mb4.6/15, MLv4.7/16, Mw(mB)4.3/7*
*NEIC **26** 20:18:14.1±2.0, 7.58S±0.06×128.58E±0.05, h135km±8km, mb4.5/47, Error ellipse: s-maj=9.4km s-min=5.8km az=145.0*
*IDC **26** 20:18:15.8±2.9, 7.40S×128.64E, h137km±25km, mb4.0/17, mbtmp4.4/19, MS3.3/5, Error ellipse: s-maj=24.0km s-min=11.1km az=66.0*

ISC 26 20:18:15.7±0.3, 7.57S±0.04×128.60E±0.04, h151km, n139, σ1.9 95/141, mb4.5/40, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.71	99	Pn	Pn	20 18 59.6	+0.2
SAUI				Sn	Sn	20 19 30.4	-2.9
SAUI	Saumlaki	2.71	99	P	Pn	20 19 00.3	+0.8
SAUI	Saumlaki	2.71	99	P	Pn	20 18 59.5	0.0
NLAI	Namlea	4.56	341	P	Pn	20 19 22.8	-0.6
SOEI	Soe	4.80	243	Pn	Pn	20 19 26.4	-0.2
SOEI				Sn	Sn	20 20 20.3	-1.6
SOEI	Soe	4.80	243	P	Pn	20 19 27.0	+0.3
SOEI	Soe	4.80	243	P	Pn	20 19 26.8	+0.1
MTN	Manton Dam	5.80	155	Pn	Pn	20 19 39.9	0.0
MTN				Sn	Sn	20 20 41.7	-3.9
MTN	Manton Dam	5.80	155	P	Pn	20 19 40.3	+0.5
FAKI	Fak Fak	5.88	38	Pn	Pn	20 19 37.8	-3.2
FAKI				Sn	Sn	20 20 41.4	-6.2
FAKI	Fak Fak	5.88	38	P	Pn	20 19 38.7	-2.2
FAKI	Fak Fak	5.88	38	P	Pn	20 19 38.3	-2.6
	260nm,0.5s,3μm1.0nm						
SANI	Sanana 12nm,1.3s,0.1nm	6.07	335	P	Pn	20 19 42.7	-0.8
BBSI	Bau Bau 40nm,0.9s,0.2nm	6.34	289	P	Pn	20 19 46.8	-0.2
KDU	Kakadu	6.35	143	P	Pn	20 19 47.1	-0.1
MMRI	Maumere	6.38	260	Pn	Pn	20 19 43.3	-4.3
MMRI	Maumere 140nm,0.7s,0.5nm	6.38	260	P	Pn	20 19 47.7	+0.1
KMPI	Kaimana, Papua 257nm,0.5s,4μm1.1nm	6.40	53	P	Pn	20 19 45.1	-2.7
EDFI	Ende, Flores 41nm,0.8s,801nm0.2nm	6.94	260	P	Pn	20 19 54.9	-0.2
LBMI	Labuha 41nm,1.0s,1μm0.2nm	6.98	351	P	Pn	20 19 54.3	-1.3
SWI	Sorong 63nm,0.4s,1μm0.3nm	7.17	22	P	Pn	20 19 56.6	-1.6
KNRA	Kununurra	8.05	179	Pn	Pn	20 20 09.2	-0.6
KNRA	Kununurra	8.05	179	P	Pn	20 20 10.0	+0.1
BASI	Baing, Sumba 116nm,0.8s	8.35	251	P	Pn	20 20 12.5	-1.3
TNTI	Ternate	8.38	352	Pn	Pn	20 20 12.8	-1.5
LUWI	Luwuk	8.71	318	Pn	Pn	20 20 17.2	-1.4
BKSI	Bulukumba 33nm,1.0s	8.71	284	P	Pn	20 20 18.0	-0.7
PLAI	Plampang 36nm,0.9s	10.78	263	P	Pn	20 20 44.7	-1.5
FITZ	Fitzroy Crossi	10.85	195	Pn	Pn	20 20 45.2	-1.8
SMPI	Sarmi 37nm,1.0s	11.50	62	P	Pn	20 20 52.5	-3.1
TOLI2	Tolitoli	11.63	318	Pn	Pn	20 20 58.1	+0.9
TABU	Tabubil	12.75	80	P	Pn	20 21 12.8	+0.9
WB0	Warramunga Arr	13.36	156	Pn	Pn	20 21 17.2	-2.4
WRAB	Tennant Creek	13.49	156		Pn	20 21 18.5	-2.7
WRA	Warramunga Arr	13.50	156	Pn	Pn	20 21 17.8	-3.5
WRA	Warramunga Arr 7.3nm,0.7s,baz=350,slow=21,SNR=82	13.50	156	P	Pn	20 21 19.4	-1.9
WRA				S	Sn	20 23 41.7	-9.2
	25nm,0.6s,baz=335,slow=21,SNR=13						
WB2	Warramunga Arr	13.50	156		Pn	20 21 18.6	-2.7
WR0	Warramunga Arr	13.59	156	Pn	Pn	20 21 20.0	-2.5
JAGI	Jajag, Banyuwa	14.33	265	Pn	Pn	20 21 28.8	-3.2
MBWA	Marble Bar	15.99	211	Pn	Pn	20 21 49.8	-2.6
MBWA				lAmb	lAmb	20 22 31.3	
	comp=Z,21nm,1.2s						
MYLDM	Lahad Datu	16.19	321	Pn	Pn	20 21 51.8	-3.1
PSA00	Pilbara Seismi	16.28	210	Pn	Pn	20 21 52.1	-3.8
PSA00	Pilbara Seismi	16.28	210		Pn	20 21 53.7	-2.3
PSA00				lAmb	lAmb	20 22 33.8	
	comp=Z,6.4nm,1.1s						
QIS	Mount Isa	16.74	142	P	Pn	20 22 03.2	+1.7
AS31	Alice Springs	16.79	163		P	20 21 59.7	-2.1
ASAR	Alice Springs	16.79	163		P	20 21 59.1	-2.7
ASAR	Alice Springs	16.79	163	P	Pn	20 22 03.3	+1.1
	comp=Z,5.8nm,0.7s,baz=331,slow=9.1,SNR=48						
ASAR				S	S	20 25 01.2	-7.6
	comp=Z,5.2nm,0.6s,baz=317,slow=17,SNR=7.9						
ASAR				ScP	ScP	20 30 05.5	+3.3
	comp=Z,1.1nm,0.5s,baz=343,slow=1.1,SNR=5.2						
KKM	Kota Kinabalu	18.32	317	P	P	20 22 16.6	-2.0
KKM				lAmb	lAmb	20 22 44.0	
	comp=Z,32nm,1.1s						
PMG	Port Moresby	18.45	97	P	P	20 22 19.7	-0.3
PMG				lAmb	lAmb	20 22 26.0	
	comp=Z,40nm,0.9s						
PMG	Port Moresby comp=Z,27nm,0.8s,baz=241,slow=5.9,SNR=7.7	18.45	97	P	Pn	20 22 25.0	+3.1
PMG	Port Moresby	18.45	97	P	Pn	20 22 24.8	+2.9
PMG	Port Moresby comp=Z,53nm,18.2s,baz=296,slow=44	18.45	97	P	Pn	20 22 22.3	+0.4
PMG				LR	LR	20 31 39.2	
SBUM	Sibu	19.14	301	P	P	20 22 26.3	-1.2
MANU	Manus Island	19.49	75	P	P	20 22 30.8	-0.5
KSM	Kuching	20.34	295	P	P	20 22 38.7	-1.8
LEM	Lembang comp=Z,37nm,18.7s,baz=238,slow=40	20.83	271	LR	LR	20 32 15.3	
CTA	Charters Tower comp=Z,1.7nm,0.6s,baz=331,slow=13,SNR=1.7	21.15	128	P	P	20 22 50.4	+1.3
CTA				LR	LR	20 32 15.8	
	comp=Z,81nm,18.1s,baz=269,slow=40 comp=Z,1.7nm,0.6s						
OOD	Oodnadatta	21.20	162	P	P	20 22 54.7	+5.2
XMIS	Christmas Isla	22.84	261	P	P	20 23 03.4	-2.8
QLP	Quilpie	24.05	144	P	P	20 23 21.1	+4.1
MORW	Morawa	24.44	207	P	P	20 23 21.1	+0.5
BBOO	Buckleboo	26.05	166	P	P	20 23 36.8	+1.7
BBOO				lAmb	lAmb	20 23 54.1	
	comp=Z,28nm,1.5s						
STKA	Stephens Creek	27.05	155	P	P	20 23 44.1	+0.1
STKA	Stephens Creek comp=Z,2.2nm,0.6s,baz=326,slow=9.2,SNR=9.3 comp=Z,2.2nm,0.6s	27.05	155	P	P	20 23 47.1	+3.1
NWAO	Narrogin (SRO)	27.34	201	P	P	20 23 45.2	-1.5
NWAO				lAmb	lAmb	20 24 03.8	
	comp=Z,23nm,1.2s						
NWAO	Narrogin (SRO)	27.34	201	P	P	20 23 45.1	-1.6
NWAO				lAmb	lAmb	20 24 03.7	
	comp=Z,82nm,1.2s						
CMSA	Cobar Meteorol	28.68	148	P	P	20 24 02.8	+4.2
KULM	Kulim	30.67	294	P	P	20 24 16.5	+0.1
KULM				lAmb	lAmb	20 24 58.5	
	comp=Z,24nm,1.4s						
HNR	Honiara comp=Z,177nm,19.8s,baz=166,slow=39	31.05	96	LR	LR	20 38 28.8	
RPSI	Rantau Prapat	31.32	288	P	P	20 24 21.4	-0.7
TOO	Toolangi	33.57	155	P	P	20 24 42.0	+0.6
TOO				lAmb	lAmb	20 25 05.7	
	comp=Z,16nm,1.4s						
CMAR	Chiang Mai Arr	39.05	312	P	P	20 25 27.3	-0.9
CMAR	Chiang Mai Arr comp=Z,3.0nm,0.9s,baz=142,slow=7.8,SNR=15	39.05	312	P	P	20 25 29.2	+1.1
CMAR				PcP	PcP	20 27 37.0	+1.8
	comp=Z,1.5nm,0.7s,baz=174,slow=2.7,SNR=9.4 comp=Z,3.0nm,0.9s						
CRAI	Chiangrai	39.17	315	P	P	20 25 28.5	-0.7
DZM	Mont Dzumac comp=Z,27nm,20.1s,baz=108,slow=35	39.19	116	LR	LR	20 41 21.7	
CHTO	Chiang Mai	39.28	312	P	P	20 25 29.9	-0.1
CHTO				lAmb	lAmb	20 25 35.0	
	comp=Z,6.9nm,1.0s						
JMN	Monobe	41.38	7	P	P	20 25 46.1	-1.1
KSRS	Korea Array comp=Z,1.3nm,0.8s,baz=172,slow=8.9,SNR=2.6 comp=Z,1.3nm,0.8s	44.80	359	P	P	20 26 14.8	+0.4
MJAR	Matsushiro Arr comp=Z,3.9nm,1.0s,baz=198,slow=9.7,SNR=5.1 comp=Z,3.9nm,1.0s	44.80	11	P	P	20 26 12.9	-1.6
XAN	Xi'an	45.40	337	⇓P	P	20 26 19.0	-0.3
XAN				pP	pP	20 26 24.8	-27
XAN				pmax	pmax		
	comp=Z,17nm,0.9s						
LZH	Lanzhou	49.27	333	*e*P	P	20 26 51.0	+1.6
LZH				pP	pP	20 26 56.0	-27
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
BTO	Baotou	50.91	342	*e*P	P	20 27 15.5	+14
BTO				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BTO				pmax	pmax		
	comp=Z,770nm,6.4s						
CN2	Changchun	51.21	357	*e*P	P	20 27 02.0	-1.7
USA0B	Ussuriysk Arra	51.62	3	P	P	20 27 07.7	+1.0
USA0B				lAmb	lAmb	20 27 25.8	
	comp=Z,14nm,1.1s						
USRK	Ussuriysk Ar.	51.62	3	P	P	20 27 07.8	+1.1
USRK	Ussuriysk Ar. comp=Z,2.1nm,0.7s,baz=192,slow=7.1,SNR=5.9 comp=Z,2.1nm,0.7s	51.62	3	P	P	20 27 06.8	+0.1
LSA	Lhasa	51.67	318	P	P	20 27 07.9	0.0
LSA				lAmb	lAmb	20 27 10.3	
	comp=Z,4.9nm,0.6s						
XLT	XiLinHaoTe	52.47	349	*e*P	P	20 27 19.5	+6.4
XLT				pP	pwP	20 27 51.0	-0.9
XLT				sP	sP	20 28 03.3	+0.4
XLT				PcP	PcP	20 28 29.3	+7.6
XLT				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,600nm,5.7s						
TAPN	Taplejung	52.64	313	*e*P	P	20 27 15.4	+0.5
RAMN	Ramite	53.23	312	*e*P	P	20 27 19.9	+0.7
GTA	Gaotai	53.82	332	P	P	20 27 24.0	+0.9
GTA				sP	PcP	20 28 29.3	+2.3
GTA				pmax	pmax		
	comp=Z,13nm,0.9s						
JIRN	Jiri	53.93	312	*e*P	P	20 27 24.5	+0.1
GUN	Gumba	54.30	312	*e*P	P	20 27 27.2	+0.1
PKI	Pulchoki comp=Z,3.9nm,0.3s	54.45	312	*e*P	P	20 27 28.0	-0.2
DMN	Daman	54.70	312	*e*P	P	20 27 30.2	+0.3
GKN	Gorkha comp=Z,14nm,0.2s	55.26	312	*e*P	P	20 27 34.3	+0.5
KOLN	Koldanda	55.91	311	*e*P	P	20 27 38.7	+0.2
DANN	Dangsing	56.10	312	*e*P	P	20 27 39.4	-0.5
PYUN	Piuthan	56.54	311	*e*P	P	20 27 43.1	+0.1
ULN	Ulaanbaatar	58.39	343	P	P	20 27 56.0	+0.5
SONM	Songino Array	58.56	343	P	P	20 27 56.9	+0.3
SONM	Songino Array comp=Z,5.6nm,0.9s,baz=167,slow=6.6,SNR=31 comp=Z,5.6nm,0.9s	58.56	343	P	P	20 27 57.8	+1.2
PETK	Petropavlovsk- comp=Z,7.0nm,0.8s,baz=217,slow=7.2,SNR=4.0 comp=Z,7.0nm,0.8s	65.31	19	P	P	20 28 43.0	+1.6
NIL	Nilore	66.55	312	P	P	20 28 48.7	-1.1
NIL				lAmb	lAmb	20 28 50.8	
	comp=Z,9.7nm,1.0s						
MK31	Makanchi Array	67.95	328	P	P	20 28 58.3	0.0
MK31				lAmb	lAmb	20 29 00.9	
	comp=Z,9.0nm,0.9s						
MKAR	Makanchi Array	67.95	328	P	P	20 28 58.5	+0.1
MKAR	Makanchi Array comp=Z,7.7nm,0.7s,baz=127,slow=7.7,SNR=54 comp=Z,7.7nm,0.7s	67.95	328	P	P	20 28 59.4	+1.1
MAKZ	Makanchi	68.13	327	P	P	20 28 59.3	-0.1
MAKZ				lAmb	lAmb	20 29 01.9	
	comp=Z,8.9nm,0.9s						
YAK	Yakutsk	69.40	1	P	P	20 29 06.5	-0.4
KBL	Kabul	70.08	311	P	P	20 29 11.0	-0.9
AAK	Ala-Archa	70.09	321	P	P	20 29 12.0	+0.2
AAK				lAmb	lAmb	20 29 14.5	
	comp=Z,8.2nm,1.1s						
ARSB	Arslanbob	70.39	319	P	P	20 29 12.9	-0.8
ZAA0	Zalesovo Array	71.49	334	P	P	20 29 19.3	-0.5
ZALV	Zalesovo Beam	71.49	334	P	P	20 29 19.4	-0.4
ZALV	Zalesovo Beam comp=Z,9.4nm,0.6s,baz=126,slow=5.3,SNR=59 comp=Z,9.4nm,0.6s	71.49	334	P	P	20 29 20.1	+0.3
VNDA	Vanda comp=Z,0.5nm,0.4s,baz=324,slow=7.0,SNR=6.5 comp=Z,0.5nm,0.4s	72.05	173	P	P	20 29 25.8	+3.0
KURBB	Kurchatov Arra comp=Z,11nm,0.7s,baz=130,slow=4.9,SNR=132 comp=Z,11nm,0.7s	72.28	329	P	P	20 29 25.3	+0.8
KURK	Kurchatov	72.29	329	P	P	20 29 24.5	-0.1
KK31	Karatay Array	72.86	319	P	P	20 29 28.6	+0.4
KK31				lAmb	lAmb	20 29 30.3	
	comp=Z,7.8nm,1.1s						
KKAR	Karatay Array	72.86	319	P	P	20 29 28.1	-0.1
KKAR	Karatay Array	72.86	319	P	P	20 29 28.4	+0.1
KKAR				lAmb	lAmb	20 29

comp=Z,1.3nm,0.3s,baz=127,slow=9.1,SNR=4.3
comp=Z,1.3nm,0.3s
ABKAR **Akbulak array** 82.10 322 P **P** **20 30 19.2 -0.2**
ABKAR **Akbulak array** 82.10 322 P **P** **20 30 18.9 -0.4**
QSPA **South Pole Qui** 82.41 180 P **P** **20 30 23.0 +2.2**
comp=Z,1.4nm,0.6s,baz=245,slow=2.0,SNR=6.0
comp=Z,1.4nm,0.6s
ARU **Arti** 85.46 328 P **P** **20 30 36.0 -0.2**
ARU IAmb IAmb 20 30 38.0
comp=Z,12nm,1.3s
C19K **Lookout Ridge** 90.64 20 P **P** **20 31 01.1 +0.3**
C19K IAmb IAmb 20 31 03.1
comp=Z,6.3nm,0.9s
E19K **Redstone River** 90.95 22 P **P** **20 31 01.9 -0.3**
E19K IAmb IAmb 20 31 03.7
comp=Z,2.8nm,0.8s
B21K **Ikpikpuk River** 92.48 20 P **P** **20 31 09.2 +0.1**
B21K IAmb IAmb 20 31 12.7
comp=Z,4.4nm,1.2s
ILAR **Eielson Array** 94.46 25 P **P** **20 31 17.4 -1.0**
comp=Z,0.8nm,0.8s,baz=269,slow=3.5,SNR=7.4
comp=Z,0.8nm,0.8s
YKA **Yellowknife Ar** 108.87 26 PKiKP **PKiKP** **20 36 27.9 +1.1**
comp=Z,0.4nm,0.7s,baz=289,slow=1.8,SNR=7.4
GERES **GERESS Array B** 111.96 320 PKiKP **PKiKP** **20 36 34.7 +1.5**
comp=Z,0.9nm,0.7s,baz=20,slow=1.6,SNR=5.3
PDAR **Pinedale Array** 118.28 45 PKP **PKiKP** **20 36 47.6 +1.9**
comp=Z,0.6nm,0.7s,baz=349,slow=1.5,SNR=6.6
TXAR **Lajitas Array** 126.41 59 PKP **PKiKP** **20 37 02.4 +0.4**
comp=Z,0.1nm,0.3s,baz=224,slow=2.5,SNR=2.6
TORD **Torodi Ar. Bea** 127.55 281 PKP **PKiKP** **20 37 04.9 +0.4**
comp=Z,2.6nm,0.8s,baz=45,slow=3.2,SNR=9.9
CPUP **Villa Florida** 145.81 171 PKPbc **PKPab** **20 37 39.9 +1.4**
comp=Z,3.0nm,0.8s,baz=45,slow=1.2,SNR=5.3

TAP ***26*** *20:32:52.1,24.83N×122.34E,h11km,ML3.4,C*
JMA ***26*** *20:32:53.0±0.1,24.7N±0.9×122.4E±0.4,h42km±3km, MV2.9/13,TAIWAN REGION*
ISC 26 20:32:50.7±1.2,24.84N±0.02×122.41E±0.02,h7km±9km, n125,σ0.96/230,19C-33D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=300	**0.42**	**294**	⇑*iP*		**Pb**	**Sg**	**20 33 00.2**	**-0.3**
TWB1				S			**Sg**	**20 33 05.2**	**+0.8**
EOS2	**EOS2** baz=195	**0.45**	**201**	P		**Pb**		**20 33 00.9**	**+0.1**
EOS2				S			**Sb**	**20 33 09.6**	**+2.0**
NTC	**Toucheng** baz=273	**0.53**	**272**	*e*P		**Pb**		**20 33 02.1**	**-0.2**
TIPB	**Shuangxi** baz=287	**0.55**	**284**	⇑P		**Pb**		**20 33 02.5**	**-0.2**
TIPB				*e*S			**Sb**	**20 33 10.8**	**+0.1**
SXI1	**Grass Mountain** baz=302	**0.55**	**298**	⇓P		**Pb**		**20 33 03.0**	**+0.3**
SXI1				*i* S			**Sb**	**20 33 10.6**	**-0.2**
EOS3	**EOS3** baz=179	**0.55**	**189**	⇑P		**Pb**		**20 33 03.2**	**+0.6**
EOS3				S			**Sb**	**20 33 12.1**	**+1.4**
TWC	**Suao** baz=251	**0.56**	**246**	⇓P		**Pg**		**20 33 01.6**	**+0.1**
TWC				*e*S			**Sg**	**20 33 08.1**	**-0.7**
ESAO	**Su ao** baz=248	**0.58**	**243**	P		**Pg**		**20 33 02.2**	**+0.3**
ESAO				*e*S			**Sg**	**20 33 08.3**	**-1.1**
ILA	**Ilan** baz=262	**0.61**	**264**	⇓P		**Pb**		**20 33 04.4**	**+0.7**
ILA				S			**Sb**	**20 33 12.8**	**+0.4**
NWF	**Wu-fen Shan** baz=295	**0.62**	**292**	⇑*iP*		**Pb**		**20 33 04.6**	**+0.7**
NWF				S			**Sb**	**20 33 13.4**	**+0.6**
WFSB	**Wu-fen Shan** baz=295	**0.62**	**292**	⇓P		**Pn**		**20 33 04.7**	**-1.2**
WFSB				S			**Sb**	**20 33 12.8**	**+0.1**
JYNG	**Yonagunijimaku**	**0.62**	**128**	P		**Pn**		**20 33 05.2**	**-0.7**
JYNG				S		**Sb**		**20 33 13.9**	**+1.1**
TNOU	**National Taiwa** baz=302	**0.66**	**299**	P		**Pb**		**20 33 05.2**	**+0.6**
TNOU				*i* S			**Sb**	**20 33 13.6**	**-0.3**
YOJ	**Yonaguni jima**	**0.66**	**124**	P		**Pn**		**20 33 06.2**	**-0.3**
YOJ				S		**Sb**		**20 33 14.9**	**+1.0**
YOJ	**Yonaguni jima** baz=120	**0.66**	**124**	⇓*iP*		**Pn**		**20 33 06.1**	**-0.3**
YOJ				S			**Sn**	**20 33 16.0**	**-1.1**
NDS	**Dongshan** baz=243	**0.66**	**252**	⇑P		**Pg**		**20 33 03.8**	**+0.3**
NDS				S			**Sb**	**20 33 13.6**	**-0.5**
TWE	**Neicheng** baz=259	**0.69**	**261**	⇑P		**Pb**		**20 33 04.4**	**-0.6**
TWE				*e*S			**Sb**	**20 33 14.6**	**-0.1**
EWUT	**Wuta** baz=233	**0.69**	**236**	⇑P		**Pg**		**20 33 04.3**	**+0.2**
EWUT				*e*S			**Sb**	**20 33 14.6**	**-0.3**
EOS4	**EOS4** baz=181	**0.72**	**187**	⇓P		**Pb**		**20 33 06.2**	**+0.9**
EOS4				S			**Sb**	**20 33 16.6**	**+1.4**
ENA	**Nanau** baz=233	**0.73**	**236**	⇑P		**Pg**		**20 33 05.0**	**+0.2**
ENA				S			**Sg**	**20 33 14.3**	**0.0**
FUSB	**Fushanzhiwuyua** baz=264	**0.75**	**264**	⇓P		**Pb**		**20 33 05.9**	**-0.3**
FUSB				S			**Sb**	**20 33 17.0**	**+0.3**
TWA	**Mucha** baz=282	**0.77**	**281**	⇓*iP*		**Pn**		**20 33 07.1**	**-0.8**
TWA				S			**Sb**	**20 33 17.0**	**0.0**
NWRT	**Kuosheng** baz=301	**0.77**	**298**	*e*P		**Pb**		**20 33 06.7**	**+0.2**
NWRT				*e*S			**Sb**	**20 33 17.5**	**+0.3**
NHY	**Taipei** baz=287	**0.79**	**285**	*e*P		**Pn**		**20 33 08.4**	**+0.2**
NHY				S			**Sb**	**20 33 18.2**	**+0.5**
EAHA	**Aohua** baz=235	**0.79**	**231**	⇓P		**Pg**		**20 33 06.4**	**+0.4**
EAHA				*e*S			**Sg**	**20 33 15.4**	**-0.9**
ENTT	**Nioudou** baz=254	**0.79**	**256**	*i* P		**Pb**		**20 33 06.8**	**-0.1**
ENTT				S			**Sb**	**20 33 17.6**	**-0.2**
EHP	**Heping Village** baz=239	**0.80**	**230**	*e*S		**Sg**		**20 33 17.4**	**+0.7**
NHDH	**Xindian Distri** baz=280	**0.81**	**279**	⇓P		**Pn**		**20 33 08.0**	**-0.6**
NHDH				S			**Sb**	**20 33 18.3**	**-0.1**
YM01	**YM01** baz=294	**0.82**	**292**	⇓*iP*		**Pn**		**20 33 08.0**	**-0.7**
YM01				S			**Sb**	**20 33 18.3**	**-0.4**
YM08	**YM08** baz=298	**0.82**	**295**	⇑P		**Pb**		**20 33 07.6**	**+0.3**
YM08				*e*S			**Sb**	**20 33 18.0**	**-0.6**
NWLT	**Wulai** baz=266	**0.83**	**266**	P		**Pb**		**20 33 07.6**	**+0.2**
NWLT				*e*S			**Sg**	**20 33 17.0**	**-0.5**
PCYT	**Pengchaiyu** baz=344	**0.85**	**339**	⇓*e*P		**Pn**		**20 33 10.2**	**+1.2**
NDT	**Datong Townshi** baz=261	**0.85**	**254**	⇑P		**Pb**		**20 33 08.0**	**+0.2**
NDT				*e*S			**Sg**	**20 33 17.4**	**-0.8**
TATO	**Taipei** baz=280	**0.85**	**280**	P		**Pb**		**20 33 08.2**	**+0.4**
TATO				*e*S			**Sb**	**20 33 19.0**	**-0.3**
TWY	**Chenhua** baz=304	**0.86**	**301**	⇑*iP*		**Pn**		**20 33 08.7**	**-0.5**
TWY				S			**Sn**	**20 33 20.6**	**-1.3**
LATG	**Datong** baz=248	**0.86**	**250**	*e*P		**Pg**		**20 33 07.6**	**+0.4**
LATG				S			**Sb**	**20 33 19.6**	**-0.2**
NSM	**Shimen** baz=304	**0.87**	**301**	*e*P		**Pn**		**20 33 09.8**	**+0.4**
NSM				*e*S			**Sn**	**20 33 21.3**	**-1.0**
ANP	**Anpu** baz=295	**0.88**	**294**	*e*P		**Pn**		**20 33 09.6**	**0.0**
ANP				*e*S			**Sg**	**20 33 18.2**	**-1.0**
BACT	**New Taipei Cit** baz=281	**0.90**	**281**	*e*S		**Sb**		**20 33 21.1**	**+0.4**
NTST	**Danshui** baz=292	**0.93**	**291**	⇓*e*P		**Pn**		**20 33 11.4**	**+1.2**
NTST				S			**Sn**	**20 33 22.6**	**-1.2**
TWS1	**Kuangyinshan** baz=288	**0.94**	**287**	⇓*e*P		**Pn**		**20 33 11.4**	**+1.1**
TWS1				*i* S			**Sb**	**20 33 22.6**	**+0.6**
YHNB	**Yeheng** baz=259	**0.96**	**260**	⇓*i*P		**Pb**		**20 33 09.4**	**-0.2**
YHNB				S			**Sb**	**20 33 22.4**	**-0.1**
NSK	**Sanguang** baz=260	**0.97**	**261**	⇓P		**Pb**		**20 33 09.7**	**-0.2**
NSK				*e*S			**Sg**	**20 33 21.1**	**-0.9**
ETL	**Fush Village** baz=235	**0.98**	**227**	⇓P		**Pg**		**20 33 09.8**	**+0.1**
ETL				*e*S			**Sg**	**20 33 21.4**	**-1.1**
NACB	**Ninganchiao** baz=236	**0.99**	**229**	⇓P		**Pg**		**20 33 09.4**	**-0.5**
NACB				*e*S			**Sg**	**20 33 21.4**	**-1.4**
NNSB	**Datong** baz=232	**1.02**	**247**	⇓P		**Pb**		**20 33 10.9**	**+0.1**
NNSB				*e*S			**Sg**	**20 33 23.0**	**-0.6**
NNS	**Nan Shan** baz=232	**1.02**	**248**	⇓P		**Pb**		**20 33 11.2**	**+0.3**
NNS				*i* S			**Sg**	**20 33 24.0**	**+0.3**
NTY	**Taoyuan** baz=280	**1.02**	**279**	*e*P		**Pn**		**20 33 11.3**	**-0.2**
NTY				*e*S			**Sn**	**20 33 25.0**	**-1.0**
ETLH	**Xiulin Townshi** baz=231	**1.05**	**234**	⇓*e*P		**Pg**		**20 33 10.6**	**-0.4**
TWD	**Chiawan** baz=230	**1.06**	**225**	*e*P		**Pg**		**20 33 10.7**	**-0.4**
TWD				*e*S			**Sb**	**20 33 26.3**	**+1.0**
NCUH	**Zhongli** baz=277	**1.12**	**277**	*e*P		**Pg**		**20 33 11.9**	**-0.3**
NCUH				*e*S			**Sn**	**20 33 28.2**	**-0.3**
HWA	**Hwalien** baz=195	**1.13**	**221**	⇑*e*P		**Pn**		**20 33 14.4**	**+1.5**
HWA				*e*S			**Sn**	**20 33 32.3**	**+3.7**
NFF	**Wufeng Townshi** baz=259	**1.19**	**260**	⇑P		**Pn**		**20 33 13.8**	**0.0**
NFF				S			**Sn**	**20 33 30.2**	**-0.1**
ETM	**Tongmen** baz=201	**1.21**	**224**	*e*P		**Pb**		**20 33 13.3**	**-0.5**
ETM				*e*S			**Sg**	**20 33 29.1**	**-0.4**
FUSS	**Fushou** baz=239	**1.21**	**241**	⇓*e*P		**Pg**		**20 33 13.7**	**-0.4**
FUSS				*e*S			**Sg**	**20 33 28.6**	**-1.2**
LXIB	**Xiulin Townshi** baz=225	**1.22**	**228**	⇑*e*P		**Pg**		**20 33 13.6**	**-0.6**
WHF	**Hehuan Shan** baz=234	**1.25**	**237**	P		**Pg**		**20 33 14.9**	**+0.1**
WHF				*e*S			**Sg**	**20 33 29.3**	**-1.7**
TWT	**Tachien** baz=241	**1.27**	**243**	⇓P		**Pg**		**20 33 15.6**	**+0.6**
TWT				*e*S			**Sg**	**20 33 31.5**	**+0.1**
TDCB	**Techi** baz=241	**1.28**	**243**	P		**Pg**		**20 33 15.7**	**+0.4**
TDCB				*e*S			**Sb**	**20 33 30.2**	**-1.7**
LIOB	**Emei** baz=260	**1.28**	**262**	⇑P		**Pg**		**20 33 15.3**	**-0.1**
LIOB				*e*S			**Sb**	**20 33 31.5**	**-0.4**
SBCB	**Hsinchu** baz=287	**1.30**	**268**	*e*P		**Pg**		**20 33 18.2**	**+2.6**
SBCB				*e*S			**Sn**	**20 33 34.6**	**+1.8**
NSTT	**Nanjuang** baz=260	**1.30**	**261**	P		**Pn**		**20 33 15.1**	**-0.2**
NSTT				S			**Sg**	**20 33 32.5**	**0.0**
SHUL	**Shoufeng** baz=196	**1.30**	**217**	⇓*iP*		**Pb**		**20 33 15.8**	**+0.3**
SHUL				*e*S			**Sn**	**20 33 35.0**	**+2.2**
IRIF	**Iriomote-Funau**	**1.30**	**112**	P		**Pn**		**20 33 15.1**	**-0.2**
ESL	**Shilin** baz=199	**1.35**	**221**	⇑P		**Pn**		**20 33 16.0**	**0.0**
ESL				S			**Sg**	**20 33 35.0**	**+0.7**
CHGB	**Renai** baz=233	**1.37**	**236**	⇓P		**Pg**		**20 33 17.0**	**0.0**
CHGB				*e*S			**Sb**	**20 33 34.0**	**-0.5**
OWD	**Renai** baz=213	**1.43**	**232**	⇑*iP*		**Pb**		**20 33 17.9**	**+0.1**
WHP	**Taichung City** baz=246	**1.45**	**248**	⇑P		**Pg**		**20 33 19.0**	**+0.5**
WUSB	**Renai** baz=248	**1.45**	**235**	⇓P		**Pb**		**20 33 18.3**	**+0.3**
WUSB				*e*S			**Sn**	**20 33 36.4**	**-0.3**
WARBT	**Fenglin Townsh** baz=200	**1.45**	**220**	*e*P		**Pn**		**20 33 17.0**	**-0.4**
WARBT				*e*S			**Sg**	**20 33 38.0**	**+0.5**
EGFH	**Guangfu** baz=196	**1.47**	**218**	P		**Pb**		**20 33 18.5**	**+0.1**
EGFH				S			**Sb**	**20 33 37.6**	**+0.4**
NSY	**Sanyi** baz=272	**1.56**	**255**	⇓*e*P		**Pg**		**20 33 22.7**	**+2.1**
TWQ1	**Liyutan** baz=250	**1.57**	**252**	⇓*e*P		**Pg**		**20 33 22.5**	**+1.6**
TWQ1				*e*S			**Sg**	**20 33 42.3**	**+1.1**
WCS	**Beigang Elemen** baz=238	**1.57**	**241**	*i* P		**Pb**		**20 33 20.4**	**+0.3**
WCS				*i* S			**Sb**	**20 33 40.2**	**+0.1**
JKRS	**Kuro-shima**	**1.57**	**112**	P		**Pn**		**20 33 19.5**	**+0.4**
VWDT	**VWDT** baz=206	**1.58**	**227**	⇑P		**Pb**		**20 33 20.2**	**0.0**
VWDT				S			**Sb**	**20 33 41.2**	**+0.7**
HGSD	**Ruisui** baz=195	**1.61**	**214**	⇓P		**Pn**		**20 33 19.5**	**-0.1**
HGSD				*e*S			**Sg**	**20 33 43.7**	**+1.1**
JIJ	**Ishigaki jima**	**1.65**	**106**	P		**Pn**		**20 33 20.2**	**+0.2**
EHY	**Hungye** baz=214	**1.66**	**217**	*e*P		**Pn**		**20 33 19.4**	**-0.8**
SMLT	**Sun Moon Lake** baz=233	**1.67**	**236**	⇓*iP*		**Pb**		**20 33 22.4**	**+0.5**
SMLT				*e*S			**Sg**	**20 33 45.3**	**+0.8**
WDJ	**Dajia District** baz=270	**1.68**	**254**	S		**Sg**		**20 33 44.4**	**-0.5**
SSLB	**Suanglung** baz=242	**1.69**	**232**	⇓P		**Pb**		**20 33 22.1**	**-0.1**
SSLB				*e*S			**Sn**	**20 33 41.1**	**-1.5**
TYC	**Yuchr** baz=234	**1.69**	**237**	*i* P		**Pb**		**20 33 22.7**	**+0.5**
TYC				*e*S			**Sn**	**20 33 42.7**	**+0.1**
TCU	**Taichung** baz=244	**1.72**	**247**	*e*P		**Pg**		**20 33 24.4**	**+0.6**
TCU				*e*S			**Sg**	**20 33 47.3**	**+1.2**
JISG	**Ishigakijimahi**	**1.75**	**98**	*e*P		**Pb**		**20 33 22.8**	**-0.3**
ECBN	**Changbin** baz=191	**1.75**	**210**	P		**Pn**		**20 33 22.0**	**+0.6**
YULB	**Yu-li** baz=212	**1.76**	**216**	P		**Pn**		**20 33 21.2**	**-0.5**
YULB				*e*S			**Sn**	**20 33 42.9**	**-1.4**
EYUL	**Yuli** baz=196	**1.79**	**214**	*e*P		**Pb**		**20 33 23.8**	**+0.1**
EYUL				S			**Sn**	**20 33 45.7**	**+0.8**
TWF1	**Yuli** baz=211	**1.79**	**215**	*e*P		**Pb**		**20 33 23.3**	**-0.6**
TWF1				S			**Sn**	**20 33 44.9**	**-0.2**
WHYT	**Xinyi Township** baz=241	**1.82**	**232**	P		**Pb**		**20 33 24.0**	**-0.3**
WHYT				S			**Sg**	**20 33 48.9**	**-0.3**
WJS	**Zhushan** baz=234	**1.84**	**237**	⇓P		**Pg**		**20 33 26.0**	**0.0**
WJS				S			**Sg**	**20 33 50.5**	**+0.7**
WNT	**Mingjian** baz=258	**1.84**	**239**	*e*S		**Sg**		**20 33 51.0**	**+1.1**
CHKH	**Chenggong** baz=191	**1.88**	**210**	P		**Pn**		**20 33 23.1**	**-0.2**
CHKH				S			**Sn**	**20 33 46.6**	**-0.6**
FULB	**Fuli** baz=193	**1.92**	**212**	*e*P		**Pb**		**20 33 25.3**	**-0.8**
FULB				*e*S			**Sn**	**20 33 48.5**	**+0.2**
ALS	**Alishan** baz=208	**1.97**	**228**	P		**Pb**		**20 33 26.5**	**-0.6**
ALS				*e*S			**Sb**	**20 33 53.1**	**+1.1**
CHN5	**Tsauling** baz=230	**2.01**	**232**	P		**Pb**		**20 33 27.6**	**0.0**
EHD	**Haiduan** baz=210	**2.01**	**214**	P		**Pn**		**20 33 25.1**	**+0.1**
EHD				*e*S			**Sn**	**20 33 51.4**	**+1.0**
WGK	**Gukeng** baz=233	**2.04**	**236**	*i* S		**Sb**		**20 33 54.8**	**+1.2**
WDLH	**Douliu** baz=254	**2.06**	**237**	*e*P		**Pb**		**20 33 28.6**	**+0.3**
WDLH				*e*S			**Sg**	**20 33 56.2**	**-0.6**
WRL	**Guolierlin Hig** baz=260	**2.08**	**244**	*e*P		**Pb**		**20 33 28.4**	**-0.3**
WRL				*e*S			**Sb**	**20 33 55.9**	**+1.2**
ELDTW	**Lidau** baz=200	**2.08**	**218**	*e*P		**Pn**		**20 33 25.9**	**-0.2**
ELDTW				S			**Sn**	**20 33 51.2**	**-1.0**
EDH	**Donghe** baz=192	**2.11**	**209**	P		**Pn**		**20 33 25.9**	**-0.6**
EDH				*e*S			**Sn**	**20 33 49.9**	**-3.0**
WCKO	**Fanlu** baz=227	**2.16**	**230**	*e*P		**Pb**		**20 33 30.2**	**+0.1**
WCKO				S			**Sb**	**20 33 58.5**	**+1.4**
WTK	**Tuku** baz=235	**2.17**	**239**	*e*P		**Pb**		**20 33 29.8**	**-0.5**
WTK				*e*S			**Sb**	**20 33 58.4**	**+1.0**
STYH	**Taoyuan** baz=205	**2.23**	**222**	*i* P		**Pb**		**20 33 29.9**	**-1.5**
STYH				S			**Sb**	**20 33 58.5**	**-0.7**
TPUB	**Ta-pu** baz=207	**2.23**	**227**	⇓P		**Pb**		**20 33 30.5**	**-0.9**
TPUB				S			**Sb**	**20 33 59.8**	**+0.5**
LONT	**Longtian** baz=208	**2.25**	**212**	P		**Pn**		**20 33 28.9**	**+0.5**
LONT				S			**Sn**	**20 33 54.7**	**-1.6**
CHY	**Chiayi** baz=249	**2.25**	**234**	P		**Pb**		**20 33 31.1**	**-0.6**
CHY				*e*S			**Sg**	**20 34 02.3**	**-0.8**
WTP	**Ta-pu** baz=207	**2.28**	**226**	P		**Pb**		**20 33 30.8**	**-1.4**
WTP				S			**Sb**	**20 34 01.1**	**+0.4**
LDUT	**Ludao** baz=198	**2.32**	**202**	P		**Pn**		**20 33 28.4**	**-0.8**
LDUT				S			**Sn**	**20 33 55.8**	**-2.2**
TWGBT	**Beinan** baz=208	**2.35**	**212**	*e*P		**Pn**		**20 33 30.5**	**+0.7**
TWGBT				*e*S			**Sn**	**20 33 58.8**	**0.0**
TWG	**Pinlang** baz=208	**2.35**	**212**	*i* P		**Pn**		**20 33 29.9**	**+0.2**
TWG				*e*S			**Sn**	**20 33 58.2**	**-0.6**
TWK	**Hsinying** baz=209	**2.35**	**229**	*i* P		**Pb**		**20 33 32.4**	**-1.0**
TWK				*e*S			**Sb**	**20 34 03.8**	**+1.1**
SNST	**Tainan City** baz=208	**2.38**	**228**	*i* P		**Pb**		**20 33 32.6**	**-1.3**
SNST				S			**Sb**	**20 34 03.7**	**+0.3**
CHN1	**Nanshi** baz=208	**2.38**	**227**	P		**Pb**		**20 33 33.0**	**-1.0**
CHN1				*i* S			**Sb**	**20 34 03.3**	**-0.2**
SGST	**Jiashian** baz=205	**2.42**	**224**	*e*P		**Pn**		**20 33 32.0**	**+1.4**
SGST				*e*S			**Sb**	**20 34 05.1**	**+0.6**
SLGT	**Liugui** baz=202	**2.44**	**222**	P		**Pb**		**20 33 33.5**	**-1.5**
SLGT				*e*S			**Sb**	**20 34 05.3**	**0.0**
SCST	**Cishan** baz=220	**2.62**	**223**	*e*P		**Pb**		**20 33 37.6**	**-0.4**
SCST				*e*S			**Sb**	**20 34 11.0**	**+0.8**
TSMG	**Majia** baz=200	**2.67**	**218**	*e*P		**Pb**		**20 33 37.9**	**-0.9**
TSMG				*e*S			**Sb**	**20 34 09.8**	**-2.0**
TSCK	**Chigu Township** baz=246	**2.71**	**232**	*i* P		**Pn**		**20 33 36.9**	**+2.2**
TSCK				*e*S			**Sn**	**20 34 09.0**	**+1.3**
MASBT	**Mashibuluo** baz=200	**2.75**	**217**	*i* P		**Pb**		**20 33 38.0**	**-2.2**
MASBT				S			**Sn**	**20 34 11.4**	**+2.7**
PHUB	**P'eng-hu** baz=240	**2.91**	**244**	P		**Pn**		**20 33 38.1**	**+0.7**
PHUB				*e*S			**Sn**	**20 34 10.1**	**-2.5**
LYUB	**Lan-yu** baz=191	**2.92**	**195**	P		**Pn**		**20 33 36.5**	**-1.1**
LYUB				*e*S			**Sn**	**20 34 09.8**	**-3.2**
SCZT	**Fangliau** baz=197	**2.95**	**214**	*e*P		**Pb**		**20 33 41.2**	**-2.5**
SCZT				*e*S			**Sn**	**20 34 16.2**	**+2.5**
AXDP	**Jialang** baz=274	**4.03**	**272**	*e*P		**Pn**		**20 33 52.9**	**0.0**

IDC 26 20:54:50.4±8.4,6.40S×149.09E,h58km±66km,mb2.9/1, mbtmp3.4/3,ML3.5/1,Error ellipse: s-maj=110.6km s-min=54.7km az=120.0,New Britain region

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

PMG	**Port Moresby**	**3.55 212**	P		Pn	20 55 43.6	+0.6
	10nm,0.3s,baz=19,slow=11,SNR=8.9						
PMG			S		Sn	20 56 24.3	+0.6
	71nm,0.7s,baz=37,slow=13,SNR=11						
WRA	**Warramunga Arr**	**19.66 225**	P		P	20 59 14.2	-0.4
	0.1nm,0.3s,baz=51,slow=11,SNR=8.2						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**22.54 219**	P		P	20 59 45.5	-0.2
	0.5nm,0.8s,baz=55,slow=9.3,SNR=8.5						
	0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**147.20 284**	PKPbc		PKPbc	21 14 27.7	-0.5
	0.2nm,0.5s,baz=73,slow=3.5,SNR=1.7						

NAO ***26*** *20:59:57.4±4.0, 72°.54N×2°.74E, ML3.1*
IDC ***26*** *20:59:59.5±1.0, 72°.57N×3°.06E, h0km, mb3.4/10, mbtmp3.5/15, ML3.0/5, MS2.9/2, Error ellipse: s-maj=21.6km s-min=16.0km az=68.0*
BER ***26*** *21:00:02.5±2.3, 72°.67N×3°.29E, h10km, mb(Pn)4.1, ML3.1(NAO), Confirmed Earthquake*

ISC 26 21:00:01.0±0.8, 72°.58N±0°.07×3°.60E±0°.08, h10km, n48, σ1≅42/56, mb3.3/10, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**5.43**	**30**	Pn	**Pn**	**21 01 20.1**	**-1.7**
HSPB	**Hornsund (broa**	**5.43**	**30**	*eP*	**Pn**	**21 01 19.9**	**-1.9**
HSPB				IAML		21 02 22.4	
	comp=Z,2.8nm,0.9s						
LOF	**Lofoten**	**5.58**	**138**	Pn	**Pn**	**21 01 24.4**	**+0.5**
LOF				Sn	**Sn**	**21 02 25.7**	**-2.2**
LOF	**Lofoten**	**5.58**	**138**	*eP*	**Pn**	**21 01 24.9**	**+1.0**
LOF				*eS*	**Sn**	**21 02 26.1**	**-1.9**
LOF				IAML		21 02 40.4	
	comp=Z,5.9nm,0.8s						
TRO	**Tromso**	**5.78**	**113**	Pn	**Pn**	**21 01 26.5**	**-0.1**
TRO				Sn	**Sn**	**21 02 29.0**	**-3.9**
TRO	**Tromso**	**5.78**	**113**	*eP*	**Pn**	**21 01 26.4**	**-0.3**
TRO				*eS*	**Sn**	**21 02 29.9**	**-3.0**
TRO				IAML		21 02 32.6	
	comp=Z,4.5nm,0.9s						
STEI	**Steigen**	**6.10**	**134**	*eP*	**Pn**	**21 01 31.1**	**+0.1**
STEI				*eS*	**Sn**	**21 02 37.4**	**-3.4**
STEI				IAML		21 02 41.6	
	comp=Z,3.6nm,0.7s						
JETT	**Jettan, Norway**	**6.24**	**111**	Pn	**Pn**	**21 01 33.2**	**+0.1**
JETT				Sn	**Sn**	**21 02 43.4**	**-1.0**
JETT	**Jettan, Norway**	**6.24**	**111**	Pn	**Pn**	**21 01 33.2**	**+0.1**
JETT				Sn	**Sn**	**21 02 43.4**	**-1.0**
JETT				IAML		21 02 46.1	
	comp=Z,4.6nm,0.8s						
SPA0	**Spitsbergen Ar**	**6.47**	**24**	Pn	**Pn**	**21 01 34.2**	**-1.8**
	baz=212,slow=16						
SPA0	**Spitsbergen Ar**	**6.47**	**24**	Pn	**Pn**	**21 01 34.2**	**-1.8**
	baz=212,slow=16						
SPITS	**Spitsbergen Ar**	**6.47**	**24**	Pn	**Pn**	**21 01 34.1**	**-2.0**
	baz=209,slow=17						
	comp=Z,2.1nm,0.4s						
FAUS	**Fauske**	**6.57**	**137**	*eP*	**Pn**	**21 01 37.2**	**-0.3**
FAUS				IAML		21 02 55.7	
	comp=Z,2.5nm,0.9s						
HAMF	**Hammerfest**	**6.63**	**97**	Pn	**Pn**	**21 01 38.7**	**+0.4**
HAMF	**Hammerfest**	**6.63**	**97**	*eP*	**Pn**	**21 01 39.0**	**+0.7**
KBS	**Kingsbay**	**6.69**	**14**	Pn	**Pn**	**21 01 38.9**	**-0.2**
KBS	**Kingsbay**	**6.69**	**14**	*eP*	**Pn**	**21 01 38.5**	**-0.6**
KIF	**Kilpisjarvi**	**6.70**	**114**	Pn	**Pn**	**21 01 39.5**	**+0.3**
KIF				Sn	**Sn**	**21 02 53.5**	**-1.9**
KIF	**Kilpisjarvi**	**6.70**	**114**	Pn	**Pn**	**21 01 39.5**	**+0.3**
KIF				Sn	**Sn**	**21 02 53.5**	**-1.9**
KONS	**Konsvik**	**6.95**	**147**	*eP*	**Pn**	**21 01 43.5**	**+0.9**
KTK1	**Kautokeino**	**7.37**	**109**	*eP*	**Pn**	**21 01 49.3**	**+0.7**
MOR8	**Moi Rana**	**7.47**	**144**	*eP*	**Pn**	**21 01 51.0**	**+1.1**
MOR8				IAML		21 03 15.4	
	comp=Z,2.4nm,0.6s						
ARA0	**ARCESS Array S**	**7.73**	**103**	Pn	**Pn**	**21 01 54.7**	**+1.4**
	baz=301,slow=12						
ARA0	**ARCESS Array S**	**7.73**	**103**	Pn	**Pn**	**21 01 54.7**	**+1.4**
	baz=301,slow=12						
ARCES	**ARCESS Array B**	**7.73**	**103**	Pn	**Pn**	**21 01 53.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=313,slow=12,SNR=18						
ARCES				LR	LR	21 03 54.1	
	comp=Z,30nm,19.7s,baz=116,slow=30						
	comp=Z,4.4nm,0.8s						
KEV	**Kevo**	**8.05**	**99**	Pn	**Pn**	**21 01 59.0**	**+1.2**
KEV	**Kevo**	**8.05**	**99**	*eP*	**Pn**	**21 01 58.5**	**+0.7**
VADS	**Vadso**	**8.57**	**94**	*eP*	**Pn**	**21 02 05.9**	**+1.0**
APA0	**Apatity Array**	**11.09**	**102**	Pn	**Pn**	**21 02 39.3**	**0.0**
	baz=323,slow=10						
APA0	**Apatity Array**	**11.09**	**102**	Pn	**Pn**	**21 02 39.3**	**0.0**
	baz=323,slow=10						
HFS	**Hagfors**	**13.11**	**157**	Pn	**Pn**	**21 03 06.3**	**-0.6**
	baz=342,slow=12						
HFS	**Hagfors**	**13.11**	**157**	Pn	**Pn**	**21 03 06.3**	**-0.6**
	baz=342,slow=12						
HFS	**Hagfors**	**13.11**	**157**	Pn	**Pn**	**21 03 06.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=345,slow=16,SNR=1.7						
	comp=Z,2.5nm,0.8s						
FIA0	**FINESS Array S**	**14.07**	**131**	Pn	**Pn**	**21 03 19.5**	**-0.5**
	baz=335,slow=10						
FIA0	**FINESS Array S**	**14.07**	**131**	Pn	**Pn**	**21 03 19.5**	**-0.5**
	baz=335,slow=10						
FINES	**FINESS Array B**	**14.07**	**131**	Pn	**Pn**	**21 03 19.9**	**-0.2**
	baz=319,slow=8.1,SNR=2.8						
	comp=Z,2.9nm,0.8s						
EKA	**Eskdalemuir Ar**	**17.55**	**193**	P	**Pn**	**21 04 03.9**	**-1.4**
	baz=16,slow=14						
	comp=Z,2.5nm,0.9s						
GERES	**GERESS Array B**	**24.25**	**164**	P	**P**	**21 05 19.3**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=10,slow=8.1,SNR=7.2						
	comp=Z,1.4nm,0.8s						
AKASG	**Malin Array Be**	**24.68**	**139**	P	**P**	**21 05 22.2**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=338,slow=9.8,SNR=2.2						
	comp=Z,0.3nm,0.4s						
BVAR	**Borovoye Array**	**33.73**	**89**	P	**P**	**21 06 43.3**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=343,slow=4.5,SNR=4.2						
	comp=Z,0.6nm,0.7s						
BRTR	**Keskin Array B**	**36.09**	**139**	P	**P**	**21 07 04.7**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=312,slow=9.5,SNR=3.0						
	comp=Z,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**37.22**	**75**	P	**P**	**21 07 14.8**	**+2.8**
	comp=Z,0.4nm,0.6s,baz=316,slow=10.0,SNR=2.2						
	comp=Z,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**38.28**	**83**	P	**P**	**21 07 22.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=332,slow=7.8,SNR=1.9						
	comp=Z,0.1nm,0.3s						
YKA	**Yellowknife Ar**	**38.88**	**319**	P	**P**	**21 07 24.7**	**-1.2**
	comp=Z,0.2nm,0.8s,baz=21,slow=9.5,SNR=3.2						
	comp=Z,0.2nm,0.8s						
ILAR	**Eielson Array**	**41.48**	**341**	P	**P**	**21 07 46.8**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=2.8,slow=8.9,SNR=4.6						
	comp=Z,0.4nm,0.9s						
GEYT	**Alibeck**	**43.78**	**111**	P	**P**	**21 08 07.9**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=352,slow=8.7,SNR=2.5						
	comp=Z,0.9nm,0.8s						
SONM	**Songino Array**	**48.72**	**61**	LR	LR	21 32 15.0	
	comp=Z,32nm,18.4s,baz=34,slow=40						
TORD	**Torodi Ar. Bea**	**59.42**	**182**	P	**P**	**21 10 03.0**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=358,slow=7.9,SNR=5.7						
	comp=Z,0.9nm,0.8s						

IDC ***26*** *21:12:21.3±0.7, 26°.99N×143°.15E, h0km, mb4.1/18, mbtmp4.1/21, ML3.6/3, MS3.8/1, Error ellipse: s-maj=17.2km s-min=14.4km az=54.0*
NEIC ***26*** *21:12:22.9±1.7, 27°.12N±0°.09×143°.34E±0°.07, h10km±1km, mb4.4/23, Error ellipse: s-maj=15.8km s-min=10.7km az=172.0*
JMA ***26*** *21:12:25.6±0.1, 27°.2N±0°.5×143°.2E±0°.5, h83km, MV4.2/24, NEAR CHICHIJIMA ISLAND*

ISC 26 21:12:26.0±0.6, 27°.16N±0°.06×143°.25E±0°.06, h32km, n72, σ1≅30/79, mb4.3/27, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.95**	**266**	*i* P	**Pb**	**21 12 44.0**	**0.0**
CBIJ				*eS*	**Sb**	**21 12 57.5**	**+1.2**
JCJ	**Chichijima**	**0.95**	**266**		**Pn**	**21 12 43.7**	**+0.6**
JCJ				Sn	**Sb**	**21 12 57.2**	**+0.9**
JCJ	**Chichijima**	**0.95**	**266**	LR	LR	21 12 25.9	
	comp=Z,116nm,20.3s,baz=127,slow=5.4						
JCJ				Pn	**Pn**	**21 12 39.8**	**-3.4**
	96nm,0.3s,baz=90,slow=19,SNR=19						
JCJ				Sn	**Sn**	**21 12 53.5**	**-2.2**
	566nm,0.3s,baz=274,slow=22,SNR=15						
JHH2	**Haha-jima-NKT2**	**1.09**	**242**	P	**Pn**	**21 12 45.9**	**+0.8**
JHH2				*eS*	**Sb**	**21 13 01.3**	**+1.0**
BSO1	**Boso 1**	**7.72**	**346**	*eP*	**Pn**	**21 14 14.3**	**-1.3**
BSO1				*eS*	**Sn**	**21 15 37.9**	**-3.8**
BSO3	**Boso 3**	**7.97**	**344**	*eP*	**Pn**	**21 14 17.9**	**-1.5**
BSO4	**Boso 4**	**8.20**	**343**	*eP*	**Pn**	**21 14 22.9**	**+0.4**
BSO4				*eS*	**Sn**	**21 15 53.0**	**-1.0**
JOD2	**Odawara 2**	**8.83**	**337**	*eP*	**Pn**	**21 14 31.6**	**+0.2**
JYN	**Shimob**	**9.23**	**335**	P	**Pn**	**21 14 39.5**	**+2.6**
JHU	**Hanno**	**9.30**	**340**	*eP*	**Pn**	**21 14 36.3**	**-1.6**
JHU				*eS*	**Sn**	**21 16 16.7**	**-4.7**
JRY	**Ryogami san**	**9.58**	**338**	P	**Pn**	**21 14 40.6**	**-1.1**
JRY				*eS*	**Sn**	**21 16 26.5**	**-1.6**
JAG	**Ashikaga**	**9.79**	**342**	P	**Pn**	**21 14 43.6**	**-0.9**
MJAR	**Matsushiro Arr**	**10.29**	**337**	Pn	**Pn**	**21 14 51.3**	**-0.1**
	0.2nm,0.3s,baz=163,slow=12,SNR=5.7						
MJAR				Sn	**Sn**	**21 16 45.1**	**-0.5**
	0.1nm,0.3s,baz=189,slow=21,SNR=1.6						
	1.2nm,0.3s						
MAJO	**Matsushiro**	**10.29**	**337**	Pn	**Pn**	**21 14 50.8**	**-0.6**
MJB9	**Matsu-Tunnel**	**10.29**	**337**	Pn	**Pn**	**21 14 51.7**	**+0.2**
JMM	**Marumori**	**10.88**	**350**	Pn	**Pn**	**21 14 57.4**	**-2.0**
KSRS	**Korea Array**	**16.51**	**312**	Pn	**P**	**21 16 16.4**	**-1.1**
	0.4nm,0.3s,baz=124,slow=11,SNR=5.3						
	1.2nm,0.5s						
USRK	**Ussuriysk Ar.**	**19.27**	**335**	Pn	**Pn**	**21 16 49.0**	**-0.1**
	0.2nm,0.3s,baz=161,slow=14,SNR=3.0						
	3.2nm,0.8s						
YHNB	**Yeheng**	**19.83**	**268**	P	**P**	**21 16 54.0**	**-0.3**
YULB	**Yu-li**	**20.20**	**264**	P	**P**	**21 16 58.8**	**+0.6**
YULB				IAmb	IAmb	21 17 05.8	
	comp=Z,38nm,1.3s						
TPUB	**Ta-pu**	**20.81**	**264**	P	**P**	**21 17 05.8**	**+1.0**
H11S3	**WAKE ISLAND Hy**	**23.23**	**107**	T	T	21 42 39.3	
	baz=294						
H11S1	**WAKE ISLAND Hy**	**23.23**	**107**	T	T	21 42 43.8	
	baz=294						
H11S2	**WAKE ISLAND Hy**	**23.25**	**107**	T	T	21 42 32.8	
	baz=294						
FAKI	**Fak Fak**	**31.73**	**201**	P	**P**	**21 18 45.5**	**-1.6**
SONM	**Songino Array**	**35.33**	**316**	P	**P**	**21 19 17.3**	**-1.1**
SONM	**Songino Array**	**35.33**	**316**	P	**P**	**21 19 19.3**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=119,slow=7.6,SNR=8.0						
	comp=Z,1.1nm,0.6s						
MTN	**Manton Dam**	**41.47**	**198**	P	**P**	**21 20 09.0**	**-1.0**
MTN				IAmb	IAmb	21 20 24.6	
	comp=Z,27nm,1.5s						
CM31	**Chiang Mai Arr**	**41.58**	**268**	P	**P**	**21 20 11.4**	**+0.4**
CM31				IAmb	IAmb	21 20 21.6	
	comp=Z,8.4nm,1.4s						
CMAR	**Chiang Mai Arr**	**41.58**	**268**	P	**P**	**21 20 11.0**	**0.0**
	comp=Z,1.1nm,0.6s,baz=73,slow=5.2,SNR=12						
	comp=Z,1.1nm,0.6s						
WB0	**Warramunga Arr**	**47.43**	**191**	P	**P**	**21 20 56.6**	**-1.1**
WRA	**Warramunga Arr**	**47.61**	**191**	P	**P**	**21 20 57.0**	**-2.1**
WRA	**Warramunga Arr**	**47.61**	**191**	P	**P**	**21 20 58.0**	**-1.1**
	comp=Z,5.9nm,0.6s,baz=12,slow=8.7,SNR=50						
WRA				PcP	**PcP**	**21 22 28.3**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=6.5,slow=2.9,SNR=0.9						
	comp=Z,5.9nm,0.6s						
ZAA0	**Zalesovo Array**	**50.06**	**319**	P	**P**	**21 21 18.6**	**+1.1**
ZAA0				IAmb	IAmb	21 21 19.2	
	comp=Z,4.0nm,1.3s						
ZALV	**Zalesovo Beam**	**50.06**	**319**	P	**P**	**21 21 18.4**	**+0.9**
ZALV	**Zalesovo Beam**	**50.06**	**319**	P	**P**	**21 21 18.6**	**+1.1**
	comp=Z,1.1nm,0.4s,baz=93,slow=9.1,SNR=6.6						
ZALV				PcP	**PcP**	**21 22 37.0**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=128,slow=4.4,SNR=1.5						
	comp=Z,1.1nm,0.4s						
RAMN	**Ramite**	**50.07**	**283**	*eP*	**P**	**21 21 18.9**	**+0.6**
JIRN	**Jiri**	**50.25**	**284**	*eP*	**P**	**21 21 20.5**	**+0.6**
	comp=Z,5.3nm,0.5s						
GUN	**Gumba**	**50.46**	**285**	*eP*	**P**	**21 21 22.0**	**+0.6**
PKI	**Pulchoki**	**50.95**	**285**	*eP*	**P**	**21 21 25.5**	**+0.5**
MK31	**Makanchi Array**	**51.17**	**310**	P	**P**	**21 21 26.7**	**+0.6**
MKAR	**Makanchi Array**	**51.17**	**310**	P	**P**	**21 21 26.5**	**+0.4**
MKAR	**Makanchi Array**	**51.17**	**310**	P	**P**	**21 21 26.7**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=87,slow=10.0,SNR=15						
	comp=Z,0.4nm,0.5s						
ASAR	**Alice Springs**	**51.33**	**191**	P	**P**	**21 21 26.0**	**-1.4**
ASAR	**Alice Springs**	**51.33**	**191**	P	**P**	**21 21 25.9**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=8.8,slow=6.3,SNR=17						
	comp=Z,0.9nm,0.7s						
DANN	**Dangsing**	**52.18**	**286**	*eP*	**P**	**21 21 34.7**	**+0.5**
	comp=Z,3.4nm,0.3s						
PYUN	**Pinan**	**52.90**	**286**	*eP*	**P**	**21 21 39.8**	**+0.3**
	comp=Z,4.1nm,0.5s						
KURK	**Kurchatov**	**53.62**	**314**	P	**P**	**21 21 44.8**	**+0.7**
KURK				IAmb	IAmb	21 21 45.8	
	comp=Z,6.2nm,0.9s						
D19K	**Kuna River**	**53.63**	**23**	P	**P**	**21 21 44.8**	**+0.8**
D19K				IAmb	IAmb	21 22 11.4	
	comp=Z,5.3nm,1.4s						
KURBB	**Kurchatov Arra**	**53.67**	**314**	P	**P**	**21 21 45.0**	**+0.4**
	comp=Z,7.6nm,0.6s,baz=90,slow=7.8,SNR=64						
	comp=Z,7.6nm,0.6s						
J20K	**Nowinta River**	**54.00**	**29**	P	**P**	**21 21 47.4**	**+0.7**
J20K				IAmb	IAmb	21 22 14.2	
	comp=Z,2.9nm,1.2s						
B20K	**Meade River**	**54.45**	**21**	P	**P**	**21 21 50.2**	**+0.4**
BMAR	**Burnt Mountain**	**58.39**	**26**	P	**P**	**21 22 18.6**	**+0.6**
BVAR	**Borovoye Array**	**58.64**	**317**	P	**P**	**21 22 21.1**	**+1.1**
	comp=Z,3.1nm,0.6s,baz=90,slow=7.1,SNR=21						
	comp=Z,3.1nm,0.6s						
BRVK	**Borovoye**	**58.70**	**318**	P	**P**	**21 22 21.0**	**+0.7**
BRVK				IAmb	IAmb	21 22 23.4	
	comp=Z,4.4nm,0.9s						
STKA	**Stephens Creek**	**58.73**	**182**	P	**P**	**21 22 19.1**	**-1.6**
STKA	**Stephens Creek**	**58.73**	**182**	P	**P**	**21 22 19.3**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=346,slow=8.1,SNR=5.7						
	comp=Z,1.4nm,0.6s						
KKAR	**Karatay Array**	**59.82**	**306**	P	**P**	**21 22 29.1**	**+0.8**
BBOO	**Buckleboo**	**60.03**	**187**	P	**P**	**21 22 28.2**	**-1.4**
ARU	**Arti**	**64.95**	**322**	P	**P**	**21 23 02.1**	**-0.3**
ARU				IAmb	IAmb	21 23 07.9	
	comp=Z,1.1nm,0.6s						
ABKAR	**Akbulak array**	**65.73**	**314**	P	**P**	**21 23 07.9**	**+0.4**
ABKAR	**Akbulak array**	**65.73**	**314**	P	**P**	**21 23 07.8**	**+0.3**
ABKAR				IAmb	IAmb	21 23 09.1	
	comp=Z,3.4nm,0.7s						
GEYT	**Alibeck**	**70.26**	**303**	P	**P**	**21 23 37.9**	**+1.6**
	comp=Z,1.4nm,0.7s,baz=73,slow=9.7,SNR=4.3						
	comp=Z,1.4nm,0.7s						
YKA	**Yellowknife Ar**	**71.63**	**29**	P	**P**	**21 23 45.2**	**+1.1**
	comp=Z,0.4nm,0.9s,baz=292,slow=6.6,SNR=3.8						
	comp=Z,0.4nm,0.9s						
ARCES	**ARCESS Array B**	**73.79**	**341**	P	**P**	**21 23 58.2**	**+1.4**
	comp=Z,9.1nm,1.1s,baz=70,slow=8.7,SNR=1.8						
	comp=Z,9.1nm,1.1s						
FINES	**FINESS Array B**	**78.31**	**334**	P	**P**	**21 24 23.1**	**+0.4**
	comp=Z,3.7nm,1.1s,baz=46,slow=4.0,SNR=9.5						
	comp=Z,3.7nm,1.1s						
KBZ	**Khabaz**	**78.66**	**313**	P	**P**	**21 24 25.6**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=162,slow=3.0,SNR=6.7						
	comp=Z,2.9nm,0.8s						
NVAR	**Mina Array Bea**	**79.73**	**52**	P	**P**	**21 24 31.8**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=311,slow=7.0,SNR=2.7						
	comp=Z,0.3nm,0.6s						
AKASG	**Malin Array Be**	**83.12**	**324**	P	**P**	**21 24 48.1**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=53,slow=5.5,SNR=5.9						
	comp=Z,1.1nm,0.6s						
PDAR	**Pinedale Array**	**83.50**	**45**	P	**P**	**21 24 52.9**	**+1.8**
	comp=Z,0.1nm,0.5s,baz=282,slow=4.4,SNR=2.1						
	comp=Z,0.1nm,0.5s						
HFS	**Hagfors**	**83.74**	**337**	P	**P**	**21 24 51.7**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=59,slow=6.9,SNR=1.1						
	comp=Z,1.8nm,0.8s						
VRAC	**Vranov**	**90.28**	**328**	LR	LR	22 11 01.8	
	comp=Z,41nm,19.2s,baz=324,slow=39						

IDC ***26*** *21:24:29.7±3.0, 35°.21N×50°.87E, h0km, mb3.8/7, mbtmp3.7/12, ML3.3/5, Error ellipse: s-maj=50.5km s-min=19.8km az=11.0*
AZER ***26*** *21:24:31.9±0.0, 35°.74N×51°.44E, h10km, Error ellipse: s-maj=1.4km s-min=0.5km az=238.0*
NEIC ***26*** *21:24:32.6±1.6, 35°.7N±0°.1×51°.26E±0°.10, h10km±2km, mb4.0/11, Error ellipse: s-maj=17.7km s-min=13.0km az=178.0*
TEH ***26*** *21:24:34.0, 35°.68N×50°.94E, h15km±9km, ML4.2*

ISC 26 21:24:33.6±0.9, 35°.61N±0°.02×51°.02E±0°.02, h10km±6km, n115, σ2≅56/140, mb3.8/13, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMD1	**Meshkindasht**	**0.14**	**342**	Pg	**Pg**	**21 24 37.2**	**+0.3**
AMD1				Sg	**Sg**	**21 24 40.0**	**+0.8**
IHSB	**Hasanabad**	**0.27**	**129**	Pg	**Pb**	**21 24 41.3**	**+0.6**
IMHD	**Mahdasht**	**0.29**	**285**	Pg	**Pg**	**21 24 39.1**	**-0.4**
IMHD				Sg	**Sg**	**21 24 42.9**	**-0.5**
TEH	**Tehran**	**0.32**	**67**	Pg	**Pb**	**21 24 41.6**	**+0.1**
IQOM	**Qom**	**0.77**	**177**	Pg	**Pb**	**21 24 49.9**	**+0.6**
IQOM				Sg	**Sb**	**21 25 01.6**	**+1.7**
IDMV	**Damavand**	**0.83**	**92**	Pg	**Pb**	**21 24 51.0**	**+0.7**
IVRN	**Varamin**	**0.85**	**136**	Pg	**Pb**	**21 24 51.6**	**+1.2**
IVRN				Sg	**Sn**	**21 25 04.8**	**+0.5**
IRAZ	**Razeghan**	**0.91**	**257**	Pg	**Pg**	**21 24 50.4**	**-0.7**
MZPU	**Pul - Mazandar**	**0.94**	**28**	Pg	**Pg**	**21 24 51.4**	**-0.3**
MZPU				Sg	**Sg**	**21 25 03.7**	**-0.3**
IPRN	**Peran**	**1.25**	**59**	Pg	**Pn**	**21 24 57.7**	**+0.5**
IFIR	**Firoozkooh**	**1.42**	**88**	Pg	**Pb**	**21 25 00.9**	**+0.6**
JIR1	**Jirandeh**	**1.47**	**318**	Pg	**Pn**	**21 24 59.6**	**-0.8**
IALA	**Alasht**	**1.53**	**72**	Pg	**Pb**	**21 25 03.0**	**+0.8**
ILAS	**Lasjerd**	**1.60**	**98**	Pg	**Pg**	**21 25 04.8**	**+0.5**
ISFB	**Sefidab**	**1.61**	**141**	Pg	**Pg**	**21 25 04.7**	**+0.2**
HAGD	**Aghdareh**	**1.73**	**243**	Pg	**Pn**	**21 25 05.1**	**+1.2**
LHJ2	**Lahijan - Gila**	**1.73**	**334**	Pg	**Pn**	**21 25 04.7**	**+0.9**
QSDN	**Sirdan**	**1.74**	**301**	Pg	**Pn**	**21 25 03.9**	**-0.2**
KRSH	**Karshahi**	**1.88**	**150**	Pn	**Pb**	**21 25 08.9**	**+0.8**
QAMS	**Qamsar**	**1.90**	**170**	Pn	**Pb**	**21 25 08.9**	**+0.5**
IKIA	**Kiasar**	**2.25**	**74**	Pn	**Pb**	**21 25 13.6**	**-0.8**
IKLH	**Kolahrood**	**2.33**	**168**	Pn	**Pb**	**21 25 15.6**	**-0.3**
IANJ	**Anjilo**	**2.37**	**93**	Pn	**Pb**	**21 25 15.9**	**-0.6**
HSAM	**Samen**	**2.42**	**236**	Pn	**Pn**	**21 25 15.9**	**+2.3**
IALM	**Almabolaq**	**2.45**	**253**	Pn	**Pn**	**21 25 15.8**	**+1.9**
CSN1	**Caspian**	**2.49**	**322**	Pn	**Pn**	**21 25 14.7**	**+0.6**
IBZA	**Bozab**	**2.83**	**247**	Pn	**Pn**	**21 25 21.8**	**+2.7**
IZEF	**Zefreh**	**2.92**	**158**	Pn	**Pn**	**21 25 24.0**	**+3.6**
IPIR	**Pirpir**	**2.92**	**182**	Pn	**Pn**	**21 25 25.0**	**-1.0**
IKOM	**Komasi**	**3.22**	**245**	Pn	**Pn**	**21 25 26.7**	**+2.3**
GAS1	**Astara - Iran**	**3.27**	**328**	Pn	**Pn**	**21 25 25.4**	**+0.5**
IKFM	**Kafar-mosalman**	**3.34**	**232**	Pn	**Pn**	**21 25 28.3**	**+2.4**
JHBN	**Jahan bin**	**3.38**	**185**	Pn	**Pn**	**21 25 31.3**	**+4.5**
ILIN	**Lien**	**3.39**	**259**	Pn	**Pn**	**21 25 29.0**	**+2.2**
ASTR	**Astara**	**3.44**	**330**	P	**Pn**	**21 25 26.2**	**-1.0**
	SNR=6.9						
ASTR				S	**Sg**	**21 26 23.6**	**-0.4**
IHSH	**Hashtrud**	**3.46**	**300**	Pn	**Pn**	**21 25 28.0**	**+0.1**
ISRB	**Sarab**	**3.48**	**310**	Pn	**Pn**	**21 25 28.8**	**+0.7**
ZNGN	**Zangian**	**3.49**	**182**	Pn	**Pn**	**21 25 31.8**	**+3.5**
KCHF	**Cheshme Sefid,**	**3.53**	**249**	Pn	**Pn**	**21 25 30.7**	**+2.1**
LKRN	**Lenkeran, Azer**	**3.57**	**331**	P	**Pn**	**21 25 29.4**	**+0.4**
LKRN				S	**Sg**	**21 26 25.6**	**-2.7**
LRK	**Lerik**	**3.71**	**326**	P	**Pn**	**21 25 31.8**	**+0.7**
	SNR=9.8						
LRK				S	**Sb**	**21 26 28.3**	**+4.0**
IGHG	**Ghaleghazi**	**3.87**	**252**	Pn	**Pn**	**21 25 35.5**	**+2.1**
IDHR	**Dehrash**	**3.90**	**258**	Pn	**Pn**	**21 25 35.8**	**+2.0**
IRAM	**Ramesheh**	**3.96**	**163**	Pn	**Pn**	**21 25 39.2**	**+4.6**
YRD	**Yardimli**	**3.97**	**327**	P	**Pn**	**21 25 35.4**	**+0.6**
	SNR=115						
YRD				S	**Sn**	**21 26 23.5**	**+2.0**
GRMI	**Germi**	**4.05**	**323**	Pn	**Pn**	**21 25 36.7**	**+1.0**
IHRS	**Heris**	**4.17**	**312**	Pn	**Pn**	**21 25 38.7**	**+1.1**
GLBA	**Clilabad**	**4.18**	**331**	P	**Pn**	**21 25 35.4**	**-2.0**

BRVK					IAmb	IAmb	21 29 43.5	
	comp=Z,3.6nm,0.8s							
BVAR	**Borovoye Array**	**22.13**	**32**	P	**P**		**21 29 30.6**	**+1.3**
	comp=Z,1.2nm,0.6s,baz=232,slow=11,SNR=9.0							
	comp=Z,1.2nm,0.6s							
BURAR	**Bucovina Array**	**22.60**	**310**	P	**P**		**21 29 32.2**	**-2.2**
BUR08	**Bucovina Ar. S**	**22.62**	**310**	P	**P**		**21 29 31.6**	**-3.0**
BUR08					IAmb	IAmb	21 30 13.9	
	comp=Z,10nm,1.5s							
KURBB	**Kurchatov Array**	**24.88**	**44**	P	**P**		**21 29 57.7**	**+1.3**
	comp=Z,0.6nm,0.2s,baz=248,slow=9.9,SNR=4.2							
	comp=Z,0.6nm,0.2s							
KURK	**Kurchatov**	**24.97**	**44**	P	**P**		**21 29 53.6**	**-3.6**
KURK					IAmb	IAmb	21 30 19.7	
	comp=Z,4.3nm,1.2s							
MK31	**Makanchi Array**	**25.88**	**55**	P	**P**		**21 30 02.5**	**-3.0**
MK31					IAmb	IAmb	21 30 17.9	
	comp=Z,2.3nm,1.3s							
MKAR	**Makanchi Array**	**25.88**	**55**	P	**P**		**21 30 02.8**	**-2.8**
MKAR	**Makanchi Array**	**25.88**	**55**	P	**P**		**21 30 07.4**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=249,slow=8.9,SNR=4.4							
	comp=Z,0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**29.80**	**41**	P	**P**		**21 30 40.9**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=238,slow=8.3,SNR=2.2							
	comp=Z,0.3nm,0.3s							
FUORN	**Ofenpass-Fuorn**	**32.28**	**303**	P	**P**		**21 31 02.2**	**-0.5**
FUORN					IAmb	IAmb	21 31 18.8	
	comp=Z,6.3nm,1.3s							
TUE	**Stuetta**	**32.90**	**302**	P	**P**		**21 31 06.1**	**-1.9**
HFS	**Hagfors**	**34.29**	**327**	P	**P**		**21 31 19.5**	**-0.3**
	comp=Z,4.7nm,0.9s,baz=108,slow=9.3,SNR=2.0							
	comp=Z,4.7nm,0.9s							
EKA	**Eskdalemuir Ar**	**41.56**	**316**	P	**P**		**21 32 20.7**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=96,slow=8.8,SNR=2.3							
	comp=Z,0.5nm,0.5s							

IDC 26 21:26:38.3±24.0, 22°59S×77°05E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=781.6km s-min=39.4km az=48.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H04N2	**CROZET ISLANDS**	**31.18**	**215**	T	T	22 05 14.2	
	baz=50,slow=75,SNR=5.8						
H04N1	**CROZET ISLANDS**	**31.19**	**215**	T	T	22 05 13.9	
	baz=50,slow=75,SNR=4.2						
H04N3	**CROZET ISLANDS**	**31.20**	**215**	T	T	22 05 13.7	
	baz=50,slow=75,SNR=4.7						
ASAR	**Alice Springs**	**51.99**	**103**	P	P	21 35 49.8	0.0
	0.7nm,0.8s,baz=262,slow=7.4,SNR=6.8						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**53.17**	**99**	P	P	21 35 58.4	-0.2
	0.8nm,0.9s,baz=261,slow=7.0,SNR=4.4						
	0.8nm,0.9s						
MKAR	**Makanchi Array**	**69.21**	**4**	P	P	21 37 46.8	0.0
	1.4nm,1.0s,baz=191,slow=7.4,SNR=5.3						
	1.4nm,1.0s						

IDC 26 21:44:51.1±2.7, 11°30S×123°54E, h0km, mb3.4/1, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=223.7km s-min=34.6km az=51.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.48**	**131**	Pn	Pn	21 48 03.0	-0.8
	0.1nm,0.3s,baz=307,slow=15,SNR=10						
WRA				Sn	Sn	21 50 21.4	-13
	0.6nm,0.3s,baz=300,slow=8.9,SNR=14						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**15.76**	**143**	Pn	Pn	21 48 35.5	+0.9
	0.1nm,0.3s,baz=319,slow=12,SNR=10						
ASAR				Sn	Sn	21 51 22.8	-7.3
	0.1nm,0.3s,baz=318,slow=22,SNR=5.1						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**68.58**	**331**	P	P	21 55 55.8	0.0
	0.3nm,0.6s,baz=128,slow=7.3,SNR=2.5						
	0.3nm,0.6s						

*IDC **26** 21:48:59.6±1.8, 17°23N×119°39E, h190km±17km, mb3.4/6, mbtmp3.9/8, MS3.1/5, Error ellipse: s-maj=39.5km s-min=13.5km az=55.0*

ISC 26 21:48:52.8±2.4, 17°9N±0°3×119°9E±0°3, h150km, n12, σ1§40/5, mb3.7/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**3.94**	**165**	P	**Pn**	**21 49 53.8**	**+1.5**
	97nm,0.4s,baz=0.0,slow=17,SNR=1.8						
TGY				S	**Sn**	**21 50 37.7**	**-0.9**
	163nm,0.5s,baz=356,slow=9.4,SNR=2.2						
JOW	**Kunigami**	**11.79**	**40**	LR	LR	21 55 37.0	
	comp=Z,196nm,21.4s,baz=90,slow=32						
CMAR	**Chiang Mai Arr**	**19.88**	**275**	P	**P**	**21 53 12.5**	**-0.1**
	0.7nm,0.3s,baz=80,slow=8.6,SNR=7.9						
CMAR				LR	LR	22 00 20.4	
	comp=Z,21nm,19.9s,baz=105,slow=35						
KAPI	**Kappang**	**22.80**	**180**	LR	LR	22 03 15.9	
	comp=Z,40nm,18.2s,baz=346,slow=39						
ASAJ	**Asahikawa**	**32.36**	**31**	LR	LR	22 08 41.1	
	comp=Z,47nm,18.0s,baz=12,slow=36						
WRA	**Warramunga Arr**	**40.23**	**159**	P	P	21 56 13.0	-1.9
	1.1nm,0.8s,baz=342,slow=8.8,SNR=6.9						
	1.1nm,0.8s						
MKAR	**Makanchi Array**	**42.20**	**321**	P	P	21 56 36.0	+5.2
	0.9nm,1.0s,baz=126,slow=7.3,SNR=3.8						
	0.9nm,1.0s						
ASAR	**Alice Springs**	**43.56**	**161**	P	**P**	**21 56 41.0**	**-1.0**
	1.2nm,0.6s,baz=339,slow=6.6,SNR=20						
	1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**44.97**	**331**	LR	LR	22 18 54.5	
	comp=Z,26nm,18.7s,baz=62,slow=40						
KURBB	**Kurchatov Array**	**46.27**	**324**	P	P	21 57 08.0	+5.0
	1.6nm,0.2s,baz=122,slow=8.3,SNR=10.0						
	1.6nm,0.2s						
STKA	**Stephens Creek**	**53.73**	**157**	P	**P**	**21 57 59.5**	**+0.1**
	1.4nm,0.6s,baz=341,slow=13,SNR=4.2						
	1.4nm,0.6s						
YKA	**Yellowknife Ar**	**89.19**	**22**	P	P	22 01 37.3	+6.1
	0.2nm,0.6s,baz=307,slow=4.6,SNR=5.0						
	0.2nm,0.6s						

*SJA **26** 21:53:51.5±0.7, 23°07S×66°78W, h217km±4km, ML3.7, MW3.7*

*GUC **26** 21:53:53.4±0.5, 23°13S×67°09W, h236km±7km, ML3.8*

ISC 26 21:53:50.2±1.7, 23°14S±0°04×66°83W±0°04, h230km±13km, n44, σ1§59/81, 6C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HJA	**Humahuaca**	**1.31**	**93**	*e*P	Pn	21 54 37.7	+12
YJA	**Yavi**	**1.55**	**52**	*e*P	**Pn**	**21 54 28.2**	**+0.6**
YJA				*e*S	**S**	**21 54 54.8**	**-1.9**
AZAP	**Zapla**	**1.94**	**124**	*e*P	**Pn**	**21 54 31.1**	**+0.3**
SLA	**San Lorenzo**	**1.98**	**143**	*e*P	**Pn**	**21 54 32.7**	**+1.6**
SLA				*e*S	**S**	**21 55 02.0**	**-1.0**
LVC	**Limon Verde**	**1.99**	**285**	*e*P	**Pn**	**21 54 32.6**	**+1.2**
LVC				*e*S	**S**	**21 55 02.2**	**-1.2**
LVC	**Limon Verde**	**1.99**	**285**	*i* P	**Pn**	**21 54 32.5**	**+1.2**
LVC				*e*S	**S**	**21 55 02.2**	**-1.2**
LVC				IAML		21 55 03.7	
	comp=Z,289nm,0.4s						
ASTB	**Santa Barbara**	**2.32**	**111**	*e*P	**Pn**	**21 54 35.3**	**+0.8**
PB15	**IPOC Station P**	**2.43**	**268**	*e*P	**Pn**	**21 54 37.0**	**+1.3**
PB15				*e*S	**S**	**21 55 10.9**	**-0.1**
PB15	**IPOC Station P**	**2.43**	**268**	⇑*i*P	**Pn**	**21 54 37.1**	**+1.5**
PB15				*e*S	**S**	**21 55 10.0**	**-1.0**
PB06	**IPOC Station P**	**2.57**	**279**	*e*P	**Pn**	**21 54 38.4**	**+1.4**
PB06				*e*S	**S**	**21 55 13.2**	**-0.2**
PB06				IAML		21 55 15.8	
	comp=Z,106nm,0.3s						
PB06	**IPOC Station P**	**2.57**	**279**	⇑*i*P	**Pn**	**21 54 38.3**	**+1.4**
PB06				*e*S	**S**	**21 55 12.1**	**-1.4**
PB06				IAML		21 55 17.1	
	comp=N,297nm,0.4s						
PB09	**IPOC Station P**	**2.60**	**301**	*e*P	**Pn**	**21 54 39.1**	**+1.7**
PB09				*e*S	**S**	**21 55 14.6**	**+0.3**
PB09				IAML		21 55 15.4	
	comp=Z,160nm,0.6s						
PB09	**IPOC Station P**	**2.60**	**301**	*i* P	**Pn**	**21 54 39.3**	**+1.9**
PB09				*e*S	**S**	**21 55 13.7**	**-0.6**
PB09				IAML		21 55 16.2	
	comp=E,129nm,0.4s						
ALOL	**LOMAS DE OLMED**	**2.70**	**105**	*e*P	**Pn**	**21 54 38.6**	**+0.4**
FSA	**Cafayete**	**3.06**	**166**	*e*P	**Pn**	**21 54 44.2**	**+1.9**
PB05	**IPOC Station P**	**3.12**	**275**	*e*P	**Pn**	**21 54 44.2**	**+1.2**
PB05				*e*S	**S**	**21 55 23.8**	**-0.6**
PB05				IAML		21 55 25.2	
	comp=Z,96nm,0.3s						
PB05	**IPOC Station P**	**3.12**	**275**	⇑*i*P	**Pn**	**21 54 44.3**	**+1.2**
PB05				*e*S	**S**	**21 55 22.1**	**-2.3**
PB05				IAML		21 55 26.4	
	comp=N,144nm,0.5s						
PB07	**IPOC Station P**	**3.16**	**296**	*e*P	**Pn**	**21 54 44.6**	**+1.0**
PB07				*e*S	**S**	**21 55 23.3**	**-2.0**
PB07				IAML		21 55 24.4	
	comp=Z,284nm,0.6s						
PB07	**IPOC Station P**	**3.16**	**296**	⇑*i*P	**Pn**	**21 54 44.8**	**+1.3**
PB07				*e*S	**S**	**21 55 23.1**	**-2.2**
PB04	**IPOC Station P**	**3.17**	**284**	*e*P	**Pn**	**21 54 45.0**	**+1.4**
PB04				*e*S	**S**	**21 55 23.6**	**-1.9**
PB04				IAML		21 55 27.6	
	comp=Z,203nm,0.1s						
PB04	**IPOC Station P**	**3.17**	**284**	⇑*i*P	**Pn**	**21 54 44.9**	**+1.3**
PB04				*i* S	**S**	**21 55 23.6**	**-1.9**
GO02	**Mina Guanaco**	**3.23**	**231**	*e*P	**Pn**	**21 54 46.2**	**+1.8**
GO02				*e*S	**S**	**21 55 27.5**	**+0.6**
GO02	**Mina Guanaco**	**3.23**	**231**	⇑*i*P	**Pn**	**21 54 46.0**	**+1.7**
GO02				*e*S	**S**	**21 55 26.7**	**-0.3**
PB01	**IPOC Station P**	**3.23**	**310**	*e*P	**Pn**	**21 54 45.6**	**+1.3**
PB01				*e*S	**S**	**21 55 26.0**	**-0.7**
PB01				IAML		21 55 28.5	
	comp=Z,93nm,0.4s						
PB01	**IPOC Station P**	**3.23**	**310**	*i* P	**Pn**	**21 54 45.5**	**+1.3**
PB01				*e*S	**S**	**21 55 24.7**	**-2.0**
PB02	**IPOC Station P**	**3.37**	**302**	*e*P	**Pn**	**21 54 47.0**	**+1.1**
PB02				*e*S	**S**	**21 55 28.2**	**-1.3**
PB02				IAML		21 55 31.5	
	comp=Z,216nm,0.4s						
PB02	**IPOC Station P**	**3.37**	**302**	*e*P	**Pn**	**21 54 47.0**	**+1.1**
PB02				*e*S	**S**	**21 55 27.0**	**-2.6**
PB14	**IPOC Station P**	**3.59**	**245**	*e*P	**Pn**	**21 54 49.8**	**+1.2**
PB14				*e*S	**S**	**21 55 33.7**	**-0.8**
PB14				IAML		21 55 36.0	
	comp=Z,86nm,0.2s						
PB14	**IPOC Station P**	**3.59**	**245**	*e*P	**Pn**	**21 54 49.9**	**+1.3**
PB14				*e*S	**S**	**21 55 32.7**	**-1.8**
PB08	**IPOC Station P**	**3.69**	**324**	*e*P	**Pn**	**21 54 52.4**	**+2.5**
PB08				*e*S	**S**	**21 55 37.4**	**+0.7**
PB08	**IPOC Station P**	**3.69**	**324**	*e*P	**Pn**	**21 54 52.5**	**+2.5**
PB08				*i* S	**S**	**21 55 37.0**	**+0.3**
PATCX	**Punta Patache**	**3.85**	**306**	*e*P	**Pn**	**21 54 52.6**	**+1.0**
PATCX				*e*S	**S**	**21 55 37.9**	**-1.9**
PATCX	**Punta Patache**	**3.85**	**306**	⇓*e*P	**Pn**	**21 54 52.5**	**+1.0**
PATCX				*e*S	**S**	**21 55 36.7**	**-3.2**
HMBC	**Humberstone**	**4.03**	**314**	*e*P	**Pn**	**21 54 54.6**	**+1.0**
HMBC				*e*S	**S**	**21 55 41.0**	**-2.7**
HMBC	**Humberstone**	**4.03**	**314**	*e*P	**Pn**	**21 54 55.5**	**+1.8**
HMBC				*e*S	**S**	**21 55 41.3**	**-2.4**
TA01	**Diego Aracena**	**4.03**	**309**	*e*P	**Pn**	**21 54 54.9**	**+1.3**
TA01				*e*S	**S**	**21 55 41.4**	**-2.2**
TA01				IAML		21 55 45.0	
	comp=Z,38nm,0.5s						
TA01	**Diego Aracena**	**4.03**	**309**	*e*P	**Pn**	**21 54 54.5**	**+0.9**
TA01				*e*S	**S**	**21 55 40.4**	**-3.2**
GO01	**Chusmiza**	**4.10**	**327**	*e*P	**Pn**	**21 54 57.0**	**+2.1**
GO01				*e*S	**S**	**21 55 46.8**	**+0.9**
GO01	**Chusmiza**	**4.10**	**327**	*e*P	**Pn**	**21 54 57.4**	**+2.4**
GO01				*i* S	**S**	**21 55 45.5**	**-0.3**
PB11	**IPOC Station P**	**4.27**	**321**	*e*P	**Pn**	**21 54 58.0**	**+1.2**
PB11				*e*S	**S**	**21 55 47.2**	**-1.9**
PB11				IAML		21 55 51.2	
	comp=Z,40nm,0.4s						
PB11	**IPOC Station P**	**4.27**	**321**	*e*P	**Pn**	**21 54 57.8**	**+1.1**
PB11				*e*S	**S**	**21 55 46.7**	**-2.5**
AC01	**Pan de Azucar**	**4.55**	**228**	*e*P	**Pn**	**21 55 00.3**	**+0.4**
AC01				*e*S	**S**	**21 55 52.9**	**-2.1**
AC01				IAML		21 55 54.9	
	comp=Z,40nm,0.1s						
AC01	**Pan de Azucar**	**4.55**	**228**	*e*P	**Pn**	**21 55 00.4**	**+0.5**
GO03	**Copiap**	**5.40**	**214**	*e*P	**Pn**	**21 55 11.1**	**+0.7**
GO03				*e*S	**S**	**21 56 12.5**	**-1.6**

*MEX **26** 21:54:39.8±0.5, 17°68N×102°19W, h41km±16km, MD4.4*

*IDC **26** 21:54:42.9±4.8, 19°30N×101°14W, h0km, mb3.3/4, mbtmp3.3/5, ML2.8/1, Error ellipse: s-maj=133.5km s-min=20.3km az=32.0*

ISC 26 21:54:35.5±1.8, 17°74N±0°05×102°23W±0°03, h8km±12km, n32, σ1§98/55, mb3.5/4, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.74**	**100**	*e*P	**Pb**	**21 54 51.3**	**+0.6**
ZIIG				*e*S	**Sg**	**21 55 00.6**	**+1.1**
PET2	**Petatlan**	**0.95**	**102**	*e*P	**Pb**	**21 54 54.7**	**+0.5**
PET2				*e*S	**Sg**	**21 55 05.7**	**-0.3**
MMIG	**Aquila**	**1.19**	**298**	*i* P	**Pn**	**21 54 58.9**	**+0.4**
MMIG				*e*S	**Sb**	**21 55 14.5**	**+0.4**
ATYC	**Atoyac**	**1.79**	**107**	*e*P	**Pn**	**21 55 03.2**	**-3.6**
ATYC				*e*S	**Sb**	**21 55 31.8**	**+0.5**
ARIG	**Puente Sto Nin**	**1.87**	**73**	*e*P	**Pn**	**21 55 07.4**	**-0.6**
ARIG				*e*S	**Sn**	**21 55 29.4**	**-2.5**
CAIG	**El Cayaco**	**2.00**	**110**	*i* P	**Pb**	**21 55 11.9**	**-0.3**
CAIG				*i* S	**Sn**	**21 55 36.1**	**+1.3**
MOIG	**Morelia**	**2.17**	**27**	*e*P	**Pn**	**21 55 11.9**	**-0.4**
MOIG				*e*S	**Sn**	**21 55 37.5**	**-2.0**
TEJU	**Tejupilco**	**2.29**	**59**	*e*P	**Pn**	**21 55 14.9**	**+1.1**
TEJU				*e*S	**Sn**	**21 55 39.8**	**-2.4**
ACP2	**Acapulco**	**2.40**	**111**	*e*S	**Sg**	**21 55 52.6**	**-0.1**
MEIG	**Mezcala**	**2.50**	**85**	*i* P	**Pb**	**21 55 19.6**	**-1.1**
MEIG				*e*S	**Sn**	**21 55 48.5**	**+1.2**
DAIG	**Los Arroyos**	**2.57**	**106**	*i* P	**Pb**	**21 55 21.3**	**-0.5**
DAIG				*i* S	**Sn**	**21 55 46.2**	**-2.7**
PLIG	**Platanillo**	**2.68**	**75**	*e*P	**Pn**	**21 55 21.3**	**+2.2**
PLIG				*i* S	**Sn**	**21 55 50.6**	**-1.2**
CRIG	**Cruz Grande**	**3.13**	**108**	*i* P	**Pn**	**21 55 26.3**	**+1.1**
CRIG				*i* S	**Sn**	**21 56 01.2**	**-1.6**
CJM	**Chamela**	**3.19**	**304**	*e*P	**Pb**	**21 55 31.9**	**-0.7**
CJM				*e*S	**Sn**	**21 56 07.0**	**+2.6**
YAIG	**Yautepec**	**3.21**	**69**	*i* P	**Pn**	**21 55 26.8**	**+0.3**
YAIG				*e*S	**Sn**	**21 56 08.9**	**+3.9**
JRQG	**Juriquilla Cam**	**3.40**	**29**	*e*P	**Pb**	**21 55 36.6**	**+0.4**
JRQG				*e*S	**Sb**	**21 56 20.2**	**+2.4**
TLIG	**Tlapa**	**3.50**	**92**	*e*P	**Pn**	**21 55 31.8**	**+1.4**
TLIG				*e*S	**Sn**	**21 56 16.6**	**+4.4**
FTIG	**Fresnillo de T**	**3.91**	**87**	*e*P	**Pn**	**21 55 37.0**	**+0.9**
FTIG				*e*S	**Sb**	**21 56 29.3**	**-3.1**
DEIG	**Demacu**	**3.96**	**49**	*e*P	**Pb**	**21 55 45.1**	**-0.7**
DEIG				*e*S	**Sn**	**21 56 24.6**	**+1.0**
PNIG	**Pinotepa**	**4.15**	**108**	*e*P	**Pn**	**21 55 40.5**	**+1.2**
PNIG				*e*S	**Sb**	**21 56 42.3**	**+3.1**
HLIG	**Huajuapan de L**	**4.22**	**88**	*e*P	**Pn**	**21 55 41.5**	**+1.1**
HLIG				*e*S	**Sn**	**21 56 33.0**	**+2.9**
TXIG	**Tlaxiaco**	**4.29**	**96**	*e*P	**Pn**	**21 55 42.8**	**+1.4**
TXIG				*e*S	**Sn**	**21 56 31.2**	**-0.6**
YOIG	**Yosondua**	**4.56**	**100**	*e*P	**Pn**	**21 55 47.2**	**+2.0**
YOIG				*e*S	**Sb**	**21 56 50.9**	**-0.5**
TOIG	**Toxpalan**	**4.93**	**85**	*e*P	**Pn**	**21 55 48.3**	**-1.9**
TOIG				*e*S	**Sn**	**21 56 51.1**	**+3.5**
ZAIG	**Zacatecas**	**5.02**	**356**	*e*P	**Pb**	**21 56 01.5**	**-2.4**
ZAIG				*e*S	**Sb**	**21 57 08.4**	**+0.4**
HUIG	**Huatulco**	**6.18**	**108**	*e*S	**Sb**	**21 57 38.6**	**+0.8**
CMIG	**Matias Romero**	**7.04**	**94**	Pn	**Pn**	**21 56 18.6**	**-0.5**
	0.2nm,0.3s,baz=291,slow=9.7,SNR=1.9						
CMIG				Sn	Sn	21 57 31.8	-7.6
	0.1nm,0.3s,baz=294,slow=22,SNR=1.9						
CMIG				Lg	Lg	21 58 03.1	
	1.0nm,0.3s,baz=106,slow=18,SNR=6.3						
	0.7nm,0.3s						
CMIG	**Matias Romero**	**7.04**	**94**	*e*		21 57 57.9	
NVAR	**Mina Array Bea**	**24.95**	**329**	P	**P**	**22 00 01.6**	**+1.9**
	1.1nm,0.7s,baz=148,slow=11,SNR=3.7						
	1.1nm,0.7s						
PDAR	**Pinedale Array**	**25.72**	**348**	P	**P**	**22 00 03.6**	**-3.1**
	0.2nm,0.6s,baz=153,slow=7.1,SNR=2.1						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**45.54**	**352**	P	**P**	**22 02 53.4**	**-2.2**
	0.4nm,0.8s,baz=165,slow=7.3,SNR=5.9						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**55.66**	**339**	P	**P**	**22 04 12.4**	**+0.4**
	0.5nm,0.8s,baz=149,slow=4.7,SNR=5.7						
	0.5nm,0.8s						

TEH 26 21:57:24.9, 30°82N×57°28E, h7km±56km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRM1	**Kerman Provinc**	**0.31**	**182**	Pg	Pg	21 57 31.5	+0.3
ZRDN	**Zarand Kerman**	**0.66**	**284**	Pg	Pb	21 57 38.5	-0.4
KHGB	**Koh Gabri**	**0.82**	**238**	Pg	Pg	21 57 41.0	+0.3
KHGB				Sg	Sb	21 57 52.3	-0.7
TVBK	**TV Kerman**	**0.94**	**209**	Pg	Pb	21 57 43.9	+0.1
CHMN	**Cheshme madani**	**0.98**	**167**	Pg	Pg	21 57 43.8	+0.1
NGRK	**Negar Kerman**	**1.26**	**202**	Pg	Pn	21 57 49.5	+0.2
IBAF	**Bafgh**	**1.66**	**298**	Pg	Pg	21 57 56.5	-0.3
BSRN	**Basiran**	**1.95**	**53**	Pn	Pn	21 57 59.6	+1.1
KBAM	**BAM**	**1.96**	**148**	Pn	Pb	21 58 00.1	-0.8
IKOO	**Kooshah**	**2.17**	**42**	Pn	Pn	21 58 03.1	+1.4
TPRV	**Parvadeh(Tabas**	**2.26**	**347**	Pn	Pb	21 58 04.6	-1.5
IMEH	**Mehriz**	**2.36**	**285**	Pn	Pb	21 58 06.8	-1.1
ITEG	**Tejag**	**2.42**	**31**	Pn	Pn	21 58 06.9	+1.8
NHDN	**Nehbandan**	**2.44**	**76**	Pn	Pb	21 58 07.7	-1.5
TKDS	**Koohdasht(Taba**	**2.79**	**357**	Pn	Pn	21 58 12.2	+2.1
ICHK	**Chekchek**	**2.84**	**301**	Pn	Pn	21 58 13.3	+2.5
IDAH	**Dahanechah**	**2.92**	**48**	Pn	Pn	21 58 14.6	+2.6
AFRZ	**Afriz**	**2.99**	**29**	Pn	Pn	21 58 14.6	+1.8
TNSJ	**Nastanj**	**3.19**	**350**	Pn	Pn	21 58 17.7	+2.1
ISAD	**Sadrabad**	**3.27**	**291**	Pn	Pn	21 58 18.9	+2.2
ZHDN	**Zahedan**	**3.37**	**114**	Pn	Pn	21 58 20.7	+2.6
SHRT	**Shahrakht**	**3.80**	**41**	Pn	Pn	21 58 26.3	+2.4
IRAM	**Ramesheh**	**4.31**	**285**	Pn	Pn	21 58 33.2	+2.1
IZEF	**Zefreh**	**4.70**	**297**	Pn	Pn	21 58 38.8	+2.4
TBJM	**Torbat-e-JAM**	**5.12**	**29**	Pn	Pn	21 58 44.4	+2.2
KRSH	**Karshahi**	**5.37**	**307**	Pn	Pn	21 58 48.1	+2.5
SBZV	**Sabzevar**	**5.56**	**3**	Pn	Pn	21 58 51.1	+2.8
IAKL	**Akhelmad**	**5.90**	**12**	Pn	Pn	21 58 54.6	+1.7
MRVT	**Maraveh tapeh**	**6.90**	**352**	Pn	Pn	21 59 08.7	+2.2

*IDC **26** 22:06:59.7±4.7, 37°70N×69°63E, h0km, mbtmp3.2/4, ML2.9/4, Error ellipse: s-maj=103.2km s-min=25.8km az=147.0*

ISC 26 22:07:02.4±2.8, 37°7N±0°2×69°5E±0°1, h27km, n5, σ1§64/8, 1C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.46**	**8**	⇓Pn	**Pn**	**22 08 21.9**	**-0.1**
	0.2nm,0.2s,baz=197,slow=12,SNR=12						
KK31				Pg	**Pb**	**22 08 38.5**	**+1.4**
	0.4nm,0.3s,baz=189,slow=16,SNR=6.5						
KK31				⇑Lg	Lg	22 09 48.3	
	2.2nm,0.6s,baz=196,slow=28,SNR=5.6						
AAK	**Ala-Archa**	**6.25**	**36**	Pn	**Pn**	**22 08 34.6**	**+1.6**
	0.7nm,0.3s,baz=225,slow=2.9,SNR=12						
AAK				Sn	**Sn**	**22 09 44.1**	**+0.4**
	baz=235,slow=10						
	1.9nm,0.4s						
GEYT	**Alibeck**	**8.99**	**275**	Pn	**Pn**	**22 09 12.1**	**+1.6**
	0.2nm,0.3s,baz=94,slow=7.7,SNR=1.7						
GEYT				Sn	**Sn**	**22 10 49.3**	**-1.6**
	0.2nm,0.3s,baz=89,slow=11,SNR=1.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**13.13**	**42**	Pn	**Pn**	**22 10 05.3**	**-1.8**
	baz=228,slow=12,SNR=1.9						
MKAR				Sn	Sn	22 12 19.8	-12
	0.1nm,0.3s,baz=218,slow=33,SNR=2.0						
	0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**19.38**	**28**	P	**Pn**	**22 11 26.5**	**-0.8**
	0.1nm,0.3s,baz=226,slow=12,SNR=3.6						
	0.6nm,0.5s						

KRSC 26 22:11:09.3±0.8, 55°05N×166°35E, h26km±9km, MI3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.26**	**305**	*e*P	Pb	22 11 16.0	+0.2
BKI				*e*S	Sb	22 11 21.4	+1.1
TUMD	**Tumrok D**	**3.42**	**275**	*e*S	Sn	22 12 44.3	+3.8
TUMR	**Tumrok**	**3.56**	**276**	*e*P	Pn	22 12 06.3	+3.3
TUMR				*e*S	Sb	22 12 49.6	-4.8
KII	**Karymskiy**	**4.14**	**259**	*e*P	Pn	22 12 15.1	+4.2
UGLR	**Uglovaya**	**4.79**	**250**	*e*P	Pn	22 12 24.8	+4.9
AVH	**Avacha**	**4.82**	**251**	*e*P	Pn

BUS1	Rivas	0.82	83	eP		Pg	23 20 20.3	-1.3	
CPMI	Catarata Coope	0.84	13	iP		Pg	23 20 21.1	-0.8	
CPMI				iS		Sb	23 20 32.8	+0.1	
CPMI				IAML			23 20 34.0		
	comp=Z,2µm,1.0s								
HAYA	Volcan Irazu	0.89	54	iP		Pg	23 20 22.0	-0.8	
HAYA				IAML			23 20 41.5		
	comp=Z,3µm,1.0s								
VICA	Volcano Irazu	0.89	54	eP		Pg	23 20 21.9	-1.0	
JTS	Las Juntas de	0.90	336	eP		Pg	23 20 21.1	-1.9	
POPE	POPE, Guanacas	0.90	312	iP		Pg	23 20 21.8	-1.2	
POPE				IAML			23 20 23.1		
	comp=Z,4µm,1.0s								
POPE				iS		Sn	23 20 35.9	-0.1	
SOCE	Pocosol	0.92	357	eP		Pg	23 20 22.5	-0.7	
SOCE	Pocosol	0.92	357	iP		Pg	23 20 22.6	-0.7	
SOCE				IAML			23 20 41.6		
	comp=Z,3µm,1.0s								
OCHAL	Ojochal	0.99	111	iP		Pb	23 20 23.1	-1.0	
OCHAL				IAML			23 20 40.1		
	comp=Z,19nm,1.0s								
VERB	Verbena	0.99	61	eP		Pg	23 20 23.8	-0.9	
INDI	Punta indio, G	1.00	294	eP		Pb	23 20 23.3	-1.0	
INDI	Punta indio, G	1.00	294	iP		Pb	23 20 24.2	-0.1	
INDI				IAML			23 20 43.7		
	comp=Z,2µm,1.0s								
VACR	Volcan Arenal	1.01	354	iP		Pb	23 20 24.2	-0.3	
VACR				IAML			23 20 44.8		
	comp=Z,2µm,1.0s								
SGBR	La Fortuna	1.03	350	eP		Pb	23 20 24.0	-0.8	
CEDE	Laguna Cedeo	1.03	353⇑	eP		Pb	23 20 24.6	-0.2	
ITAL	Pital	1.03	17	eP		Pb	23 20 24.6	-0.2	
RVSTA	Santa Teresita	1.05	61	eP		Pb	23 20 24.8	-0.4	
RIFO	Rio Frio, Sara	1.07	37	iP		Pb	23 20 25.0	-0.5	
RIFO				iS		Sg	23 20 40.0	-0.1	
RIFO				IAML			23 20 41.8		
	comp=Z,3µm,1.0s								
DUNO	Dulce Nombre,	1.09	304	eP		Pb	23 20 24.8	-1.0	
DUNO	Dulce Nombre,	1.09	304	iP		Pb	23 20 24.9	-1.0	
DUNO				IAML			23 20 44.7		
	comp=Z,2µm,1.0s								
LCOCO	El Coco	1.18	58	eP		Pb	23 20 27.2	-0.2	
EDPN	Palmar Norte	1.21	114	eP		Pn	23 20 27.4	-0.2	
ORTG	Ortega, Santa	1.25	316	eP		Pn	23 20 27.4	-0.8	
ORTG	Ortega, Santa	1.25	316	iP		Pn	23 20 27.6	-0.6	
ORTG				IAML			23 20 54.1		
	comp=Z,800nm,1.0s								
ACAL	Aguas Claras	1.25	339⇑	iP		Pn	23 20 27.8	-0.4	
ACAL				eS		Sb	23 20 44.7	+0.2	
COVE	Coope Vega, Sa	1.26	8	eP		Pn	23 20 28.4	+0.1	
COVE	Coope Vega, Sa	1.26	8	iP		Pg	23 20 33.3	+3.5	
TRT2	Tortugero	1.37	37	iP		Pn	23 20 29.8	0.0	
TRT2				IAML			23 20 54.8		
	comp=Z,1µm,1.0s								
CAMAV	Centro de Prod	1.37	334⇑	iP		Pn	23 20 29.6	-0.3	
CAMAV				eS		Sg	23 20 50.3	+0.4	
CANAL	Canalete	1.44	341⇑	eP		Pn	23 20 30.9	+0.1	
CANAL				eS		Sg	23 20 51.2	-0.9	
VMAR	Armenia, Volca	1.44	339	eP		Pn	23 20 31.0	+0.2	
VMAR			⇑	eP		Pn	23 20 30.9	0.0	
VMAR				eS		Sn	23 20 50.2	+0.8	
VMAR	Armenia, Volca	1.44	339	iP		Pn	23 20 31.1	+0.2	
VMAR				IAML			23 20 56.9		
	comp=Z,2µm,1.0s								
POTG	Potrero Grande	1.49	106	iP		Pn	23 20 31.9	+0.3	
POTG				IAML			23 20 56.5		
	comp=Z,2µm,1.0s								
GPS3	Bodega del ICE	1.50	329	eP		Pn	23 20 31.6	-0.1	
VRLE	La Escondida,	1.53	330	iP		Pn	23 20 32.1	0.0	
VRLE				IAML			23 21 07.4		
	comp=Z,590nm,1.0s								
JIME	Puerto Jimenez	1.54	126	eP		Pg	23 20 35.6	+0.5	
GB1A	Borinquen Arri	1.57	329	eP		Pn	23 20 33.1	+0.4	
HZTE	Horizontes, Gu	1.60	321	eP		Pn	23 20 33.4	+0.4	
HZTE	Horizontes, Gu	1.60	321	iP		Pn	23 20 33.8	+0.8	
HZTE				IAML			23 20 59.9		
	comp=Z,1µm,1.0s								
EDAD	Golfito	1.61	120	eP		Pn	23 20 32.5	-0.6	
PIRO	Carate, Puerto	1.61	131	iP		Pg	23 20 36.2	-0.3	
PIRO				IAML			23 20 40.7		
	comp=Z,930nm,1.0s								
BRIBI	Bribri	1.71	84	eP		Pg	23 20 39.5	+1.1	
CTCR	Cotoan	1.88	107	iP		Pg	23 20 45.3	+3.7	
BRU2	Volcan	1.98	109	iP		Pg	23 20 42.7	-0.7	
MORN	Al O del Volca	2.33	333	iP		Pg	23 20 51.6	+1.5	
CONN	Concepcion	2.33	334	iP		Pb	23 20 47.8	+0.8	
ACON	Acoyapa	2.56	347	iP		Pb	23 20 52.4	+1.5	

BJI ***26*** *23:25:25.7, 7.˚40S, 125.˚64E, h528km, mb4.6/54, mB5.0/27*
IDC ***26*** *23:25:32.7±1.1, 6.˚87S×125.˚37E, h540km±11km, mb3.8/19, mbtmp4.8/22, Error ellipse: s-maj=16.3km s-min=7.1km az=65.0*
DJA ***26*** *23:25:32.5±0.1, 7.˚S±2.˚×12.˚5E±.˚, h524km±2km, M4.5/39, mb4.7/39, mB5.0/19, MLv5.0/18, Mw(mB)4.3/19, MwMwp5.7/1, Mwp5.8/1*
NEIC ***26*** *23:25:32.2±1.2, 6.˚88S±0.˚09×125.˚29E±0.˚04, h533km±7km, mb4.6/66, Error ellipse: s-maj=13.7km s-min=4.9km az=198.0*

ISC 26 23:25:32.0±0.5, 6.˚90S±0.˚05×125.˚30E±0.˚06, h532km±5km, n213, σ0.91/233, mb4.5/67, 3C-4D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	3.01	200	P	P	23 26 46.0	+0.1
SOEI	Soe	3.01	200	P	P	23 26 46.4	+0.5
SOEI	Soe	3.01	200	P	P	23 26 46.3	+0.4
BBSI	Bau Bau	3.06	297	P	P	23 26 47.3	+1.3
MMRI	Maumere	3.49	240	P	P	23 26 47.9	-1.0
MMRI	Maumere	3.49	240	P	P	23 26 48.9	0.0
MMRI	Maumere	3.49	240	P	P	23 26 48.5	-0.4
EDFI	Ende, Flores	4.02	243	P	P	23 26 51.9	-1.1
NLAI	Namlea	4.06	26	P	P	23 26 53.1	-0.1
SANI	Sanana	4.87	8	P	P	23 26 59.6	-0.2
SANI	Sanana	4.87	8	P	P	23 26 59.9	+0.1
BKSI	Bulukumba	5.38	287	P	P	23 27 05.3	+1.1
	538nm,0.7s,4µm1.9nm						
BASI	Baing, Sumba	5.71	234	P	P	23 27 06.8	-0.4
KAPI	Kappang	5.83	288	P	P	23 27 09.5	+1.2
KAPI	Kappang	5.83	288	P	P	23 27 10.2	+1.9
	372nm,0.7s,baz=106,slow=8.2,SNR=99						
SAUI	Saumlaki	6.05	101	P	P	23 27 10.1	-0.2
SAUI	Saumlaki	6.05	101	P	P	23 27 11.0	+0.7
SAUI	Saumlaki	6.05	101	P	P	23 27 10.4	+0.1
	227nm,0.4s,12µm2.1nm						
SPSI	Sidrap Palu	6.23	298	P	P	23 27 12.6	+0.6
	446nm,0.7s,5µm1.7nm						
LUWI	Luwuk	6.34	336	P	P	23 27 13.8	+0.7
LUWI	Luwuk	6.34	336	P	P	23 27 14.1	+1.0
LUWI	Luwuk	6.34	336	P	P	23 27 13.9	+0.8
	258nm,1.0s,3µm0.8nm						
TTSI	Tana Toraja	6.67	305	P	P	23 27 17.8	+1.6
	234nm,0.9s,2µm0.8nm						
KMSI	Cibinong	7.54	350	P	P	23 27 25.2	+0.4
	339nm,0.7s,3.2nm						
PLAI	Plampang	7.69	255	P	P	23 27 24.9	-1.4
PLAI	Plampang	7.69	255	P	P	23 27 24.5	-1.8
	253nm,0.5s,3µm1.3nm						
FAKI	Fak Fak	7.97	61	P	P	23 27 28.3	-0.8
FAKI	Fak Fak	7.97	61	P	P	23 27 28.8	-0.3
FAKI	Fak Fak	7.97	61	P	P	23 27 28.3	-0.8
	136nm,0.7s,1µm						
MRSI	Marisa	8.06	335	P	P	23 27 30.2	+0.2
	70nm,0.8s,860nm0.2nm						
MTN	Manton Dam	8.24	136	P	P	23 27 32.0	+0.3
MTN	Manton Dam	8.24	136	P	P	23 27 32.4	+0.7
SWI	Sorong	8.45	45	P	P	23 27 33.9	0.0
	37nm,0.7s						
TWSI	Taliwang, Sumb	8.54	257	P	P	23 27 33.4	-1.4
	93nm,0.7s,1µm0.9nm						
KMPI	Kaimana, Papua	8.97	69	P	P	23 27 39.5	+0.3
	205nm,0.5s,2µm						
MPSI	Mapaga	8.99	323	P	P	23 27 39.7	+0.3
KDU	Kakadu	9.11	130	P	P	23 27 40.6	0.0
TOLI2	Tolitoli	9.15	330	P	P	23 27 40.5	-0.5
TOLI2	Tolitoli	9.15	330	P	P	23 27 41.1	+0.1
KNRA	Kununurra	9.36	159	P	P	23 27 43.6	+0.5
KNRA	Kununurra	9.36	159	P	P	23 27 43.9	+0.8
BBKI	Banjar Baru	10.96	288	P	P	23 28 00.8	+1.0
	102nm,1.1s						
FITZ	Fitzroy Crossi	11.13	178	P	P	23 28 01.4	-0.1
JAGI	Jajag, Banyuwa	11.16	261	P	P	23 27 59.4	-2.5
JAGI	Jajag, Banyuwa	11.16	261	P	P	23 28 00.9	-1.0
JAGI	Jajag, Banyuwa	11.16	261	P	P	23 28 00.1	-1.8
	54nm,0.8s						
KMMI	Kalianget	11.25	269	P	P	23 28 04.6	+1.8
	77nm,1.5s						
MBWA	Marble Bar	15.16	200	P	P	23 28 42.9	-0.6
MBWA				IAmb	IAmb	23 28 58.5	
	comp=Z,27nm,1.4s						
MBWA	Marble Bar	15.16	200	P	P	23 28 43.3	-0.2
GENI	Genyem	15.42	75	P	P	23 28 45.9	-0.4
	comp=Z,109nm,1.0s,comp=Z,5µm						
PSA00	Pilbara Seismi	15.51	199	P	P	23 28 46.0	-1.1
PSA00	Pilbara Seismi	15.51	199	P	P	23 28 46.8	-0.3
WB0	Warramunga Arr	15.54	146	P	P	23 28 46.1	-1.4
WRAB	Tennant Creek	15.65	147	P	P	23 28 47.3	-1.3
WRA	Warramunga Arr	15.65	147	P	P	23 28 47.5	-1.1
WRA	Warramunga Arr	15.65	147	P	P	23 28 47.7	-0.9
	comp=Z,58nm,0.7s,baz=336,slow=9.2,SNR=324						
WRA				S	S	23 31 29.4	-0.6
	comp=Z,13nm,0.9s,baz=327,slow=17,SNR=9.3						
WR0	Warramunga Arr	15.78	146	P	P	23 28 49.1	-0.8
TABU	Tabubil	15.92	85	P	P	23 28 50.8	-0.7
SBUM	Sibu	16.02	305	P	P	23 28 51.3	-1.1
KSM	Kuching	17.12	299	P	P	23 29 02.2	-0.7
KSM				IAmb	IAmb	23 29 04.4	
	comp=Z,16nm,0.7s						
BBJI	Bungbulang	17.52	267	P	P	23 29 07.9	+1.2
WRKA	Warakurna	18.26	171	P	P	23 29 14.6	+1.4
AS31	Alice Springs	18.61	155	P	P	23 29 16.9	+0.5
ASAR	Alice Springs	18.61	155	P	P	23 29 16.5	+0.1
ASAR	Alice Springs	18.61	155	P	P	23 29 17.0	+0.6
	comp=Z,41nm,0.3s,baz=346,slow=15,SNR=1047						
ASAR				S	S	23 32 18.5	-0.5
	comp=Z,12nm,1.0s,baz=342,slow=21,SNR=17						
ASAR				ScP	ScP	23 36 02.0	-1.3
	comp=Z,1.9nm,0.4s,baz=347,slow=2.0,SNR=12						
QIS	Mount Isa	19.40	136	P	P	23 29 24.1	+0.4
MEEK	Meekatharra	20.63	197	P	P	23 29 35.6	+0.8
PMG	Port Moresby	21.78	98	P	P	23 29 45.6	+0.3
	comp=Z,17nm,0.6s,baz=260,slow=8.2,SNR=5.8						
	comp=Z,17nm,0.6s						
OOD	Oodnadatta	23.00	156	P	P	23 29 57.0	+1.1
MORW	Morawa	23.72	200	P	P	23 30 02.0	-0.4
MORW				IAmb	IAmb	23 30 29.4	
	comp=Z,36nm,1.4s						
FORT	Forrest	23.89	174	P	P	23 30 03.9	0.0
FORT	Forrest	23.89	174	P	P	23 30 05.8	+1.9
CTA	Charters Tower	24.18	125	P	P	23 30 07.3	+0.6
CTAO	Charters Tower	24.18	125	P	P	23 30 06.4	-0.3
CTAO				IAmb	IAmb	23 30 08.1	
	comp=Z,19nm,0.9s						
CTAO	Charters Tower	24.18	125	P	P	23 30 07.3	+0.6
KMBL	Kambalda	24.55	187	P	P	23 30 10.3	+0.6
MULG	Mulgathing	24.67	162	P	P	23 30 11.7	+0.9
BLDU	Ballidu	24.93	198	P	P	23 30 13.5	+0.4
LCRK	Leigh Creek	26.38	154	P	P	23 30 26.7	+0.8
QLP	Quilpie	26.61	140	P	P	23 30 28.3	+0.3
NWAO	Narrogin (SRO)	26.96	195	P	P	23 30 30.9	0.0
NWAO				IAmb	IAmb	23 30 48.9	
	comp=Z,21nm,1.3s						
NWAO	Narrogin (SRO)	26.96	195	P	P	23 30 31.4	+0.4
BBOO	Buckleboo	27.65	160	P	P	23 30 37.0	-0.1
BBOO	Buckleboo	27.65	160	P	P	23 30 37.6	+0.5
STKA	Stephens Creek	29.13	151	P	P	23 30 50.3	+0.3
STKA				IAmb	IAmb	23 30 51.6	
	comp=Z,9.5nm,0.8s						
STKA	Stephens Creek	29.13	151	P	P	23 30 50.9	+0.9
STKA	Stephens Creek	29.13	151	P	P	23 30 50.8	+0.9
	comp=Z,38nm,0.6s,baz=319,slow=9.1,SNR=72						
	comp=Z,38nm,0.6s						
HTT	Hallett	29.26	156	P	P	23 30 52.4	+1.2
EIDS	Eidsvold	30.72	130	P	P	23 31 02.8	-1.0
SSLB	Suanglung	30.80	352	P	P	23 31 02.5	-2.0
SSLB				IAmb	IAmb	23 31 04.7	
	comp=Z,30nm,1.0s						
CMSA	Cobar Meteorol	31.05	145	P	P	23 31 07.6	+1.1
ARMA	Armidale	34.02	137	P	P	23 31 32.9	+1.0
ARMA				IAmb	IAmb	23 31 35.7	
	comp=Z,16nm,0.7s						
ARMA	Armidale	34.02	137	P	P	23 31 34.0	+2.1
YNG	Young	34.61	145	P	P	23 31 38.4	+1.7
SLVN	Son La	35.05	324	P	P	23 31 41.2	+0.6
TOO	Toolangi	35.62	152	P	P	23 31 46.4	+1.3
TOO				IAmb	IAmb	23 31 47.5	
	comp=Z,16nm,0.6s						
TOO	Toolangi	35.62	152	P	P	23 31 47.2	+2.1
CAN	Canberra	35.69	146	P	P	23 31 47.5	+1.8
CAN	Canberra	35.69	146	P	P	23 31 47.8	+2.0
CNB	Canberra Magne	35.89	145	P	P	23 31 48.9	+1.5
CMAR	Chiang Mai Arr	36.21	314	P	P	23 31 50.5	+0.3
	comp=Z,4.3nm,0.7s,baz=143,slow=6.3,SNR=26						
CMAR				PcP	PcP	23 34 02.0	+0.9
	comp=Z,1.8nm,0.5s,baz=172,slow=2.5,SNR=7.6						
CMAR				ScP	S	23 36 55.4	+2.7
	comp=Z,1.5nm,0.5s,baz=150,slow=3.8,SNR=7.3						
	comp=Z,4.3nm,0.7s						
CRAI	Chiangrai	36.44	318	P	P	23 31 51.5	-0.5
CRAI				IAmb	IAmb	23 31 53.1	
	comp=Z,7.6nm,0.8s						
CHTO	Chiang Mai	36.45	315	P	P	23 31 52.2	+0.1
CHTO				IAmb	IAmb	23 31 53.3	
	comp=Z,6.8nm,0.8s						
GYA	Guiyang	37.77	332	P	P	23 32 03.3	+0.3
GYA				pmax	pmax		
	comp=Z,25nm,0.7s						
KMI	Kunming	38.67	326	⇑P	P	23 32 09.5	-1.0
KMI				pmax	pmax		
	comp=Z,14nm,1.0s						
WHN	Wuhan	38.69	345	P	P	23 32 10.3	+0.1
WHN				pmax	pmax		
	comp=Z,38nm,0.9s						
NJ2	Nanjing	39.22	351	eP	P	23 32 16.3	+1.8
NJ2				pP	pP	23 33 48.8	+0.3
NJ2				sP	sP	23 34 48.3	+0.3
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,130nm,4.5s						
ENH	Enshi	39.96	338	P	P	23 32 19.9	-0.7
PZH	PanZhiHua	40.31	326	P	P	23 32 23.5	0.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,80nm,4.7s						
TAU	Tasmania Unive	40.78	155	P	P	23 32 26.3	-0.6
TAU				IAmb	IAmb	23 32 54.0	
	comp=Z,22nm,1.1s						
TAU	Tasmania Unive	40.78	155	P	P	23 32 27.6	+0.7
JMN	Monobe	41.22	11	P	P	23 32 30.3	-0.2
DZM	Mont Dzumac	42.43	115	P	P	23 32 40.0	-0.4
DZM				IAmb	IAmb	23 32 41.3	
	comp=Z,8.2nm,0.7s						
YATNC	Mamie plateau,	42.83	115	P	P	23 32 44.9	+1.5
OUENC	Ouen Island, N	42.87	116	P	P	23 32 43.8	+0.1
OUENC				IAmb	IAmb	23 32 45.0	
	comp=Z,13nm,0.7s						
CD2	Chengdu	42.89	332	P	P	23 32 43.3	-0.5
CD2				pmax	pmax		
	comp=Z,50nm,0.5s						
LYN	LuoYang	42.98	344	⇑P	P	23 32 44.0	-0.3
LYN				pP	pP	23 34 21.5	+2.3
LYN				sP	sP	23 35 16.0	-2.1
LYN				pmax	pmax		
	comp=Z,27nm,1.1s						
LYN				pmax	pmax		
	comp=Z,250nm,5.8s						
XAN	Xi'an	43.58	340	⇓P	P	23 32 48.0	-1.1
XAN				pmax	pmax		
	comp=Z,52nm,0.7s						
JGF	Kuroka	43.77	14	P	P	23 32 51.3	+0.7
KSRS	Korea Array	44.19	3	P	P	23 32 53.4	-0.3
	comp=Z,5.7nm,0.9s,baz=180,slow=10.0,SNR=8.5						
KSRS				PcP	PcP	23 34 25.7	-1.1
	comp=Z,1.5nm,0.5s,baz=182,slow=3.8,SNR=2.7						
	comp=Z,5.7nm,0.9s						
MJAR	Matsushiro Arr	44.88	15	P	P	23 32 58.1	-0.9
	comp=Z,8.6nm,0.8s,baz=194,slow=8.8,SNR=12						
	comp=Z,8.6nm,0.8s						
HNS	HongShan	45.17	348	⇓P	P	23 33 00.5	-0.7
HNS				pmax	pmax		
	comp=Z,18nm,0.9s						
LZH	Lanzhou	47.28	336	⇓P	P	23 33 18.0	+0.5
LZH				sP	sP	23 35 54.8	+1.6
LZH				pmax	pmax		
	comp=Z,45nm,1.3s						
BJI	Beijing	47.46	350	P	P	23 33 17.8	-0.8
BJI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,64nm,3.6s						
LSA	Lhasa	49.00	320	P	P	23 33 30.7	-0.2
HHC	Hu-ho-hao-te	49.17	346	eP	P	23 33 31.5	+0.1
HHC				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC				pmax	pmax		
	comp=Z,300nm,4.9s						
JTM	Tenmabayashi	49.62	16	P	P	23 33 34.5	-0.2
ODAN	Odare	49.75	314	eP	P	23 33 36.1	0.0
	comp=Z,70nm,0.5s						
ODAN	Odare	49.75	314	eP	P	23 33 36.2	+0.1
TAPN	Taplejung	49.82	315	eP	P	23 33 36.6	-0.1
	comp=Z,80nm,0.4s						
RAMN	Ramite	50.37	314	eP	P	23 33 41.3	+0.6
	comp=Z,153nm,0.6s						
CN2	Changchun	50.47	0	eP	P	23 33 38.5	-2.3
JIRN	Jiri	51.08	314	eP	P	23 33 46.0	0.0
	comp=Z,43nm,0.5s						
USA0B	Ussuriysk Arra	51.22	6	P	P	23 33 45.6	-0.7
USA0B				IAmb	IAmb	23 34 07.8	
	comp=Z,29nm,1.4s						
USRK	Ussuriysk Ar.	51.22	6	P	P	23 33 45.1	-1.1
USRK	Ussuriysk Ar.	51.22	6	P	P	23 33 46.0	-0.2
	comp=Z,8.6nm,0.6s,baz=190,slow=6.5,SNR=20						
	comp=Z,8.6nm,0.6s						
XLT	XiLinHaoTe	51.25	351⇑	iP	P	23 33 46.5	-0.1
XLT				PcP	PcP	23 34 51.5	-1.0
XLT				pP	pwP	23 35 31.3	-1.4
XLT				PP	PP	23 35 54.3	+3.3
XLT				sP	sP	23 36 29.3	+5.3
XLT				pmax	pmax		
	comp=Z,21nm,0.7s						
XLT				pmax	pmax		
	comp=Z,400nm,5.6s						
MDJ	Mudanjiang	51.43	4	P	P	23 33 47.4	-0.3
MDJ				IAmb	IAmb	23 33 49.2	
	comp=Z,20nm,0.8s						
MDJ	Mudanjiang	51.43	4	P	P	23 33 48.3	+0.6
MDJ				PcP	PcP	23 34 53.0	0.0
MDJ				pP	pP	23 35 28.3	+0.9
MDJ				PP	PP	23 35 53.5	+1.0
MDJ				sP	sP	23 36 24.8	-0.3
MDJ				ScP	ScP	23 37 58.8	0.0
MDJ				PcS	PcS	23 38 51.3	-0.4
MDJ				S	S	23 40 30.8	+3.1
MDJ				ScS	ScS	23 42 41.5	+0.1
MDJ				sS	sS	23 43 34.0	+6.1
MDJ				SS	SKiKP	23 44 17.0	+2.0
MDJ				pmax	pmax		
	comp=Z,29nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,1µm,5.5s						
GUN	Gumba	51.45	314	eP	P	23 33 48.5	-0.2
	comp=Z,80nm,0.5s						
GOMU	GeErMu	51.55	328	P	P	23 33 50.0	+0.8
PKI	Pulchoki	51.59	313	eP	P	23 33 49.2	-0.5
	comp=Z,52nm,0.5s						
GTA	Gaotai	51.77	335	⇓P	P	23 33 50.5	0.0
GTA				PcP	PcP	23 34 55.5	+0.9
GTA				pmax	pmax		
	comp=Z,13nm,1.1s						
KKN	Kakani	51.81	314	eP	P	23 33 50.9	-0.2
DMN	Daman	51.83	313	eP	P	23 33 51.2	-0.1
YSA	Yasawairara	51.96	106	P	P	23 33 52.9	+0.8
GKN	Gorkha	52.40	313	eP	P	23 33 55.1	-0.2
JCZ	Jackson Bay	52.99	142	P	P	23 34 00.4	+1.2
KOLN	Koldanda	53.02	312	eP	P	23 33 59.8	0.0
KOLN	Koldanda	53.02	312	eP	P	23 34 00.1	+0.3
DANN	Dangsing	53.23	313	eP	P	23 34 00.8	-0.6
	comp=Z,66nm,0.8s						
MLZ	Mavora Lakes	53.27	143	P	P	23 34 00.8	-0.3
MLZ				IAmb	IAmb	23 34 02.0	
	comp=Z,23nm,1.1s						
WHZ	Wether Hill Ro	53.45	144	P	P	23 34 02.0	-0.3
WHZ				IAmb	IAmb	23 34 37.8	
	comp=Z,47nm,1.5s						
PYUN	Piuthan	53.65	312	eP	P	23 34 04.2	0.0
QRZ	Quartz Range	53.89	136	P	P	23 34 06.5	+1.0
RPZ	Rata Peaks	54.23	140	P	P	23 34 08.7	+0.8
THZ	Tophouse	54.55	137	P	P	23 34 10.7	+0.5
THZ				IAmb	IAmb	23 34 11.7	
	comp=Z,34nm,1.0s						
GVZ	Greta Valley S	55.16	139	P	P	23 34 14.5	+0.1
KHZ	Kahutara	55.26	138	P	P	23 34 15.3	+0.3
BKZ	Black Stump Fm	56.03	133	P	P	23 34 20.2	-0.4
BKZ				IAmb	IAmb	23 34 49.9	
	comp=Z,45nm,1.3s						
URZ	Urewera	56.16	132	P	P	23 34 21.3	-0.1
URZ	Urewera	56.16	132	P	P	23 34 21.0	-0.3
	comp=Z,12nm,0.5s,baz=331,slow=5.2,SNR=12						
	comp=Z,12nm,0.5s						
BFZ	Birch Farm	56.41	135	P	P	23 34 23.4	+0.3
MXZ	Matakaoa Point	56.82	131	P	P	23 34 26.7	+0.7
ULN	Ulaanbaatar	56.86	345	P	P	23 34 26.1	-0.1
HEH	HeiHe	56.95	2	eP	P	23 34 25.8	-0.7
HEH				pmax	pmax		
	comp=Z,26nm,0.9s						
HEH				pmax	pmax		
	comp=Z,570nm,5.4s						
SONM	Songino Array	57.00	345	P	P	23 34 27.0	0.0
SONM	Songino Array	57.00	345	P	P	23 34 27.1	0.0
	comp=Z,6.4nm,0.7s,baz=161,slow=8.6,SNR=42						
SONM				ScP	ScP	23 38 22.1	-1.3
	comp=Z,0.9n

GEYT	**Alibeck**	**76.62**	**311**	P		**P**	**23 36 28.9**	**+0.6**
	comp=Z,5.7nm,0.8s,baz=191,slow=6.8,SNR=13							
	comp=Z,5.7nm,0.8s							
GYA0B	**ALIBECK ARRAY**	**76.62**	**311**	P		**P**	**23 36 28.8**	**+0.5**
VOI	**Vohitsoka**	**76.82**	**249**	P		**P**	**23 36 29.9**	**+0.1**
VOI				IAmb		IAmb	23 37 00.2	
	comp=Z,12nm,1.1s							
ATKA	**Atka Island**	**78.07**	**33**	P		**P**	**23 36 35.1**	**-0.6**
TIXI	**Tiksi**	**78.43**	**1**	P		**P**	**23 36 36.1**	**-1.1**
TIXI				IAmb		IAmb	23 36 37.2	
	comp=Z,14nm,0.5s							
ABKAR	**Akbulak array**	**79.57**	**323**	P		**P**	**23 36 43.2**	**-0.6**
NRIK	**Noril'sk**	**80.39**	**347**	P		**P**	**23 36 47.3**	**-0.3**
NRIK	**Noril'sk**	**80.39**	**347**	P		**P**	**23 36 47.6**	**0.0**
	comp=Z,3.4nm,0.5s,baz=145,slow=5.9,SNR=9.9							
	comp=Z,3.4nm,0.5s							
QSPA	**South Pole Qui**	**83.07**	**180**	P		**P**	**23 37 01.3**	**-0.4**
QSPA	**South Pole Qui**	**83.07**	**180**	P		**P**	**23 37 01.6**	**0.0**
	comp=Z,2.2nm,0.6s,baz=293,slow=0.9,SNR=19							
	comp=Z,2.2nm,0.6s							
ARU	**Arti**	**83.19**	**329**	P		**P**	**23 37 01.8**	**-0.4**
ARU				IAmb		IAmb	23 37 03.2	
	comp=Z,10nm,1.1s							
G19K	**Purcell Mounta**	**91.29**	**23**	P		**P**	**23 37 40.0**	**-0.3**
G19K				IAmb		IAmb	23 37 40.8	
	comp=Z,4.0nm,0.7s							
D19K	**Kuna River**	**91.49**	**21**	P		**P**	**23 37 40.7**	**-0.6**
D19K				IAmb		IAmb	23 37 41.4	
	comp=Z,3.9nm,0.7s							
E19K	**Redstone River**	**91.55**	**22**	P		**P**	**23 37 41.1**	**-0.5**
E19K				IAmb		IAmb	23 37 42.0	
	comp=Z,3.5nm,0.8s							
E22K	**Anaktuvuk Pass**	**93.71**	**22**	P		**P**	**23 37 51.4**	**-0.1**
E22K				IAmb		IAmb	23 37 52.7	
	comp=Z,8.0nm,1.4s							
ILAR	**Eielson Array**	**95.26**	**25**	P		**P**	**23 37 56.1**	**-2.4**
	comp=Z,0.3nm,0.6s,baz=256,slow=4.2,SNR=5.6							
	comp=Z,0.3nm,0.6s							
BRTR	**Keskin Array B**	**95.64**	**309**	P		**P**	**23 37 59.5**	**-1.6**
	comp=Z,0.9nm,0.9s,baz=111,slow=6.3,SNR=6.0							
	comp=Z,0.9nm,0.9s							
TORD	**Torodi Ar. Bea**	**124.21**	**281**	PKP		**PKPdf**	**23 43 30.4**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=73,slow=2.0,SNR=8.9							
DBIC	**Dimbokro**	**130.52**	**273**	PKP		**PKPdf**	**23 43 43.4**	**0.0**
	comp=Z,1.5nm,0.6s,baz=259,slow=12,SNR=1.9							
DBIC				SKPbc		**SKPbc**	**23 46 17.6**	**0.0**
	comp=Z,6.1nm,0.7s,baz=122,slow=2.4,SNR=9.8							
CPUP	**Villa Florida**	**146.87**	**176**	PKPbc		**PKPbc**	**23 44 14.9**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=165,slow=9.3,SNR=4.1							

*LDG **26** 23:33:18.8±0.2,51.60N×16.28E,h1km,Ml3.9/17,Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*IPEC **26** 23:33:20.5±0.2,51.55N×16.25E,h1km,ML3.4/5,Error ellipse: s-maj=2.0km s-min=1.1km az=38.0*
*IDC **26** 23:33:21.0±0.5,51.51N×16.00E,h0km,mb3.5/8, mbtmp3.5/15,ML3.0/6,Error ellipse: s-maj=10.0km s-min=6.2km az=95.0*
*BGR **26** 23:33:21.5±0.3,51.51N×16.19E,h1km,ML3.7/15,Error ellipse: s-maj=3.3km s-min=2.2km az=16.0*
*DNK **26** 23:33:21.5±1.6,51.69N×16.17E,h0km,ML3.5,Suspected explosion*
*PRU **26** 23:33:21.9,51.51N×16.17E,h0km,Felt In Jablonec N.n.*
*BNS **26** 23:33:22.1±0.3,51.44N×16.18E,h2km,ML3.7*
*VIE **26** 23:33:22.4±0.6,51.44N×16.15E,h0km,mb3.3/20, ml3.5/16,ms3.8/3,Error ellipse: s-maj=4.8km s-min=3.5km az=32.0 71 km NW of Wroclaw Suspected Mining induced.*
*UPP **26** 23:33:24.5±3.0,51.78N×15.73E,h0km,ML2.2*

ISC 26 23:33:19.6±0.5,51.59N±0.02×16.15E±0.02,h0km,n157, σ1875/267,mb3.5/8,8C-7D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**173**	*i* Pg	**Pg**	**23 33 34.6**	**+0.7**
KSP				*e*Sg	**Sg**	**23 33 43.8**	**+0.2**
KSP	**Ksiaz**	**0.75**	**173**	*e*Pg	**Pg**	**23 33 34.6**	**+0.7**
KSP				*e*Sg	**Sg**	**23 33 44.0**	**+0.4**
CHVC	**Chvalec**	**1.00**	**183**	*e*PG	**Pb**	**23 33 39.6**	**-0.2**
CHVC				*e*SG	**Sg**	**23 33 51.8**	**+0.1**
OSTC	**Ostas**	**1.03**	**178**	*e*PG	**Pb**	**23 33 40.1**	**-0.2**
OSTC				*e*SG	**Sg**	**23 33 52.8**	**+0.1**
UPC	**Upice**	**1.08**	**185**	*e*PG	**Pg**	**23 33 40.8**	**+0.5**
UPC				*e*SG	**Sg**	**23 33 54.6**	**+0.3**
DPC	**Dobruska-Polom**	**1.24**	**175**	*e*PG	**Pg**	**23 33 43.4**	**+0.1**
DPC				*e*SG	**Sg**	**23 33 58.9**	**-0.5**
DPC	**Dobruska-Polom**	**1.24**	**175**	*e*Pg	**Pg**	**23 33 43.5**	**+0.1**
DPC				*e*Sg	**Sg**	**23 33 58.9**	**-0.5**
PVCC	**Panska Ves**	**1.45**	**224**	*e*PG	**Pb**	**23 33 47.8**	**+0.3**
PVCC				*e*SG	**Sn**	**23 34 08.0**	**+1.2**
	comp=Z,666nm,0.5s						
BRG	**Berggiesshubel**	**1.56**	**244**	Pn	**Pn**	**23 33 48.6**	**+0.1**
BRG				Pg	**Pg**	**23 33 50.6**	**+1.2**
BRG				Sg	**Sg**	**23 34 11.1**	**+1.5**
BRG				Amp		23 34 12.5	
	comp=Z,622nm,0.5s						
BRG	**Berggiesshubel**	**1.56**	**244**	*e*Pn	**Pn**	**23 33 48.6**	**+0.1**
BRG				*e*Pg	**Pg**	**23 33 50.5**	**+1.1**
BRG				*e*Sg	**Sg**	**23 34 11.4**	**+1.8**
KRLC	**Kraliky**	**1.56**	**165**	*e*PG	**Pn**	**23 33 48.7**	**0.0**
KRLC				*e*SG	**Sn**	**23 34 08.9**	**-0.8**
	comp=Z,197nm,0.4s						
RICC	**Richard**	**1.66**	**232**	*e*SG	**Sg**	**23 34 13.5**	**+0.6**
RUE	**Ruedersdorf**	**1.71**	**302**	*e*P	**Pn**	**23 33 50.9**	**+0.2**
PRA	**Prague**	**1.87**	**216**	*e*PN	**Pn**	**23 33 53.4**	**+0.7**
FBE	**Freiberg**	**1.88**	**250**	*e*Pn	**Pn**	**23 33 53.3**	**+0.4**
FBE				*e*Pg	**Pg**	**23 33 56.2**	**+0.7**
FBE				*e*Sg	**Sg**	**23 34 21.0**	**+1.2**
GOPC	**GO Pecny, Ondr**	**1.88**	**208**	*e*PN	**Pn**	**23 33 53.3**	**+0.3**
GOPC				*e*PG	**Pb**	**23 33 55.3**	**+0.5**
GOPC				*e*SG	**Sb**	**23 34 19.5**	**+0.6**
PRU	**Pruhonice**	**1.90**	**213**	*e*PN	**Pn**	**23 33 53.2**	**0.0**
PRU				*e*PG	**Pb**	**23 33 55.4**	**+0.4**
PRU				*e*SG	**Sb**	**23 34 19.7**	**+0.5**
	comp=Z,179nm,0.3s						
HSKC	**Hora Svate Kat**	**1.97**	**241**	*e*SG	**Sg**	**23 34 22.4**	**-0.5**
	comp=Z,292nm,0.4s						
CLL	**Collm**	**1.99**	**263**	*i* Pn	**Pn**	**23 33 54.8**	**+0.4**
	comp=Z,33nm,0.4s						
CLL				*i* Pg	**Pg**	**23 33 58.5**	**+0.9**
CLL				*i* x	x	23 34 01.5	
CLL				*i* Sg	**Sg**	**23 34 25.2**	**+1.8**
	comp=Z,292nm,0.6s						
CLL	**Collm**	**1.99**	**263**	*e*Pn	**Pn**	**23 33 54.7**	**+0.4**
CLL				*e*Pg	**Pg**	**23 33 58.7**	**+1.1**
CLL				*e*Sg	**Sg**	**23 34 25.2**	**+1.8**
MORC	**Moravsky Berou**	**2.02**	**153**	⇓P	**Pn**	**23 33 54.8**	**-0.1**
MORC	**Moravsky Berou**	**2.02**	**153**	*e*Pn	**Pn**	**23 33 54.6**	**-0.3**
	baz=336						
MORC				*e*Sg	**Sn**	**23 34 21.8**	**+1.0**
	comp=Z,254nm,0.8s,baz=336						
MORC	**Moravsky Berou**	**2.02**	**153**	*e*Pn	**Pn**	**23 33 54.8**	**-0.1**
MORC				*e*Sg	**Sb**	**23 34 22.8**	**0.0**
OKC	**Ostrava-Krasne**	**2.16**	**143**	*e*PN	**Pn**	**23 33 56.4**	**-0.4**
OKC	**Ostrava-Krasne**	**2.16**	**143**	*e*Pn	**Pn**	**23 33 56.2**	**-0.6**
OKC				*e*Pg	**Pg**	**23 34 00.6**	**-0.4**
OKC				*e*Sg	**Sb**	**23 34 27.1**	**+0.1**
VRAC	**Vranov**	**2.30**	**173**	⇓P	**Pn**	**23 33 58.9**	**+0.1**
VRAC	**Vranov**	**2.30**	**173**	Pn	**Pn**	**23 33 59.1**	**+0.4**
	comp=Z,8.8nm,0.3s,baz=338,slow=14,SNR=92						
VRAC				Pg	**Pg**	**23 34 03.0**	**-0.6**
	comp=Z,22nm,0.3s,baz=357,slow=17,SNR=34						
VRAC				Lg	Lg	23 34 31.4	
	comp=Z,21nm,0.3s,baz=255,slow=23,SNR=10						
	comp=Z,43nm,0.4s						
VRAC	**Vranov**	**2.30**	**173**	*e*Pn	**Pn**	**23 33 58.8**	**+0.1**
	baz=355						
VRAC				*e*Sg	**Sb**	**23 34 31.2**	**+0.4**
	comp=Z,212nm,0.7s,baz=355						
TREC	**Trest**	**2.33**	**191**	*e*SG	**Sb**	**23 34 33.3**	**+1.5**
	comp=Z,97nm,0.3s						
KRUC	**Moravsky**	**2.53**	**176**	*e*Pn	**Pn**	**23 34 02.2**	**+0.3**
	baz=358						
KRUC				*e*Sg	**Sb**	**23 34 38.5**	**+1.0**
	comp=Z,208nm,0.9s,baz=358						
TANN	**Tannenbergstha**	**2.61**	**245**	*e*Pn	**Pn**	**23 34 04.0**	**+1.0**
TANN				*e*Pg	**Pg**	**23 34 10.1**	**+0.6**
TANN				*e*Sg	**Sg**	**23 34 43.1**	**-0.2**
WERD	**Werda**	**2.68**	**246**	*e*Pn	**Pn**	**23 34 04.9**	**+0.9**
WERD				*e*Pg	**Pg**	**23 34 11.7**	**+0.8**
WERD				*e*Sg	**Sg**	**23 34 45.3**	**-0.3**
OJC	**Ojcow**	**2.69**	**119**	*e*Pn	**Pn**	**23 34 02.5**	**-1.5**
OJC				*e*Pg	**Pg**	**23 34 11.9**	**+0.9**
OJC				*e*Sg	**Sg**	**23 34 46.2**	**+0.4**
OJC	**Ojcow**	**2.69**	**119**	*e*Pn	**Pn**	**23 34 02.6**	**-1.5**
OJC				*e*Pg	**Pg**	**23 34 10.3**	**-0.7**
OJC				*e*Sg	**Sg**	**23 34 46.1**	**+0.4**
NKC	**Novy Kostel**	**2.71**	**241**	*e*PN	**Pn**	**23 34 05.6**	**+1.3**
NKC				*e*PG	**Pg**	**23 34 12.5**	**+1.1**
NKC				*e*SG	**Sg**	**23 34 47.5**	**+1.1**
	comp=Z,468nm,0.5s						
BEL	**Belsk**	**2.90**	**83**	*e*Pg	**Pn**	**23 34 09.5**	**+2.6**
BEL				*e*Sg	**Sb**	**23 34 47.5**	**-0.5**
BEL				*e*Sg	Sg	23 35 06.3	+14
JAVC	**Velka Javorina**	**2.90**	**160**	*e*PN	**Pn**	**23 34 07.0**	**-0.1**
JAVC				*e*SG	**Sb**	**23 34 49.9**	**+1.7**
JAVC	**Velka Javorina**	**2.90**	**160**	*e*Pn	**Pn**	**23 34 06.9**	**-0.1**
	baz=342						
JAVC				*e*Sg	**Sb**	**23 34 49.8**	**+1.6**
	comp=Z,208nm,1.3s,baz=342						
KHC	**Kasperske Hory**	**2.96**	**215**	*e*PN	**Pn**	**23 34 08.1**	**+0.3**
KHC				*e*PG	**Pb**	**23 34 14.6**	**+1.5**
KHC				*e*SG	**Sg**	**23 34 53.7**	**-0.8**
	comp=Z,104nm,0.4s						
MOX	**Moxa**	**3.01**	**254**	*e*Pn	**Pn**	**23 34 09.1**	**+0.7**
MOX				*e*Pg	**Pg**	**23 34 17.9**	**+0.7**
MOX				*e*Sg	**Sg**	**23 34 57.5**	**+1.4**
CKRC	**Cesky Krumlov**	**3.01**	**204**	*e*PN	**Pn**	**23 34 09.3**	**+0.8**
CKRC				*e*PG	**Pb**	**23 34 15.8**	**+1.8**
CKRC				*e*SG	**Sb**	**23 34 53.8**	**+2.5**
	comp=Z,134nm,0.6s						
MANZ	**Manzenberg**	**3.02**	**240**	*e*Pn	**Pn**	**23 34 09.7**	**+1.0**
MANZ				*e*Pg	**Pg**	**23 34 18.5**	**+1.1**
MANZ				*e*Sg	**Sg**	**23 34 57.7**	**+1.1**
ROTZ	**Rotzenmuhle**	**3.10**	**236**	*e*Pn	**Pn**	**23 34 10.4**	**+0.7**
ROTZ				*e*Pg	**Pg**	**23 34 19.7**	**+0.8**
ROTZ				*e*Sg	**Sg**	**23 34 58.8**	**-0.3**
GEC2	**GERESS Array S**	**3.16**	**211**	*e*Pn	**Pn**	**23 34 11.2**	**+0.5**
GEC2				*e*Pg	**Pg**	**23 34 19.3**	**-0.8**
GEC2				*e*Sg	**Sg**	**23 34 58.8**	**-2.3**
GERES	**GERESS Array B**	**3.16**	**211**	Pn	**Pn**	**23 34 10.6**	**0.0**
	comp=Z,4.1nm,0.3s,baz=31,slow=12,SNR=104						
GERES				Lg	Lg	23 34 58.0	
	comp=Z,22nm,0.3s,baz=37,slow=27,SNR=9.0						
	comp=Z,11nm,0.4s						
WET	**Wettzell**	**3.22**	**222**	*e*Pn	**Pn**	**23 34 12.0**	**+0.6**
WET				*e*Sg	**Sg**	**23 35 01.7**	**-1.2**
LANS	**Liptovska Anna**	**3.23**	**138**	*e*Pn	**Pn**	**23 34 12.3**	**+0.7**
LANS				*e*PG	**Pg**	**23 34 21.5**	**0.0**
LANS				*e*SG	**Sg**	**23 35 01.6**	**-1.8**
MODS	**Modra-Piesok**	**3.30**	**167**	*e*PN	**Pn**	**23 34 13.2**	**+0.8**
MODS				*e*PG	**Pg**	**23 34 22.2**	**-0.5**
MODS				*e*SG	**Sg**	**23 35 05.0**	**-0.4**
NIE	**Niedzica**	**3.43**	**128**	*e*Pn	**Pn**	**23 34 15.0**	**+0.7**
NIE				*e*Pg	**Pg**	**23 34 27.0**	**+1.9**
NIE				*e*Sg	**Sg**	**23 35 11.0**	**+1.5**
ZST	**Bratislava**	**3.45**	**169**	*e*PN	**Pn**	**23 34 15.8**	**+1.3**
ZST				*e*SG	**Sg**	**23 35 09.0**	**-1.3**
VYHS	**Vyhne**	**3.55**	**150**	*e*PN	**Pn**	**23 34 15.7**	**-0.2**
VYHS				*e*PG	**Pg**	**23 34 28.1**	**+0.6**
VYHS				*e*SG	**Sg**	**23 35 11.9**	**-1.6**
CLZ	**Clausthal**	**3.60**	**276**	*e*Pn	**Pn**	**23 34 18.7**	**+2.0**
CLZ				*e*Pg	**Pg**	**23 34 29.1**	**+0.5**
CLZ				*e*Sg	**Sg**	**23 35 16.9**	**+1.7**
BSD	**Bornholm Skovb**	**3.61**	**349**	*e*P	**Pn**	**23 34 16.6**	**-0.1**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P	**Pn**	**23 34 17.8**	**+1.1**
BSD				*e*S	**Sn**	**23 34 56.8**	**-3.2**
BSD				IAML		23 35 07.3	
	comp=Z,24nm,0.7s						
GRF	**Grafenberg Arr**	**3.66**	**241**	*e*Pn	**Pn**	**23 34 18.8**	**+1.3**
GRF				*e*Pg	**Pg**	**23 34 31.4**	**+1.7**
GRF				*e*Sg	**Sg**	**23 35 18.2**	**+1.0**
CONA	**Conrad Observa**	**3.67**	**183**	*i* Pn	**Pn**	**23 34 18.3**	**+0.7**
	comp=Z,3.9nm,0.3s,SNR=18						
CONA				*i* Sn	**Sn**	**23 35 01.8**	**+0.2**
	comp=Z,36nm,0.4s						
RONA	**Rosalia, Austr**	**3.89**	**179**	*e*Pn	**Pn**	**23 34 21.2**	**+0.6**
	comp=Z,5.7nm,0.4s,SNR=18						
RONA				*i* Sn	**Sn**	**23 35 06.3**	**-0.8**
	comp=Z,57nm,0.5s						
STHS	**Stebnicka Huta**	**3.91**	**122**	*e*PN	**Pn**	**23 34 20.8**	**-0.1**
STHS				*e*PG	**Pg**	**23 34 34.3**	**-0.2**
STHS				*e*SG	**Sg**	**23 35 28.4**	**+3.3**
MOA	**Molln**	**3.94**	**199**	*i* Pn	**Pn**	**23 34 22.0**	**+0.8**
	comp=Z,111nm,0.4s,SNR=9.4						
MOA				*i* Sn	**Sn**	**23 35 07.7**	**-0.4**
	comp=Z,94nm,0.7s						
SRO	**Srobarova**	**4.03**	**159**	*e*PN	**Pn**	**23 34 24.1**	**+1.6**
SRO				*e*PG	**Pg**	**23 34 35.8**	**-0.9**
KECS	**Kecovo**	**4.18**	**136**	*e*PN	**Pn**	**23 34 23.9**	**-0.6**
KECS				*e*PG	**Pg**	**23 34 40.6**	**+1.0**
BIOA	**Bad Ischl, Aus**	**4.23**	**204**	*i* Pn	**Pn**	**23 34 26.0**	**+0.8**
	comp=Z,16nm,0.4s,SNR=28						
BIOA				*i* Sn	**Sn**	**23 35 15.2**	**-0.1**
	comp=Z,86nm,0.4s						
CRVS	**Cervenica-Dubn**	**4.34**	**126**	*e*PN	**Pn**	**23 34 27.7**	**+0.9**
CRVS				*e*PG	**Pg**	**23 34 42.8**	**+0.1**
ARSA	**Arzberg**	**4.36**	**186**	*e*Pn	**Pn**	**23 34 28.3**	**+1.3**
	comp=Z,5.4nm,0.3s,SNR=16						
ARSA				*i* Sn	**Sn**	**23 35 18.7**	**+0.2**
	comp=Z,34nm,0.5s						
LUNU	**Lund**	**4.36**	**339**	P	**Pn**	**23 34 27.5**	**+0.5**
LUNU	**Lund**	**4.36**	**339**	*i* P	**Pn**	**23 34 27.0**	**0.0**
LUNU				P	Pb	23 34 27.5	-9.5
LUNU				*i* S	**Sn**	**23 35 17.6**	**-0.9**
PSZ	**Piszkesteto**	**4.40**	**145**	⇓P	**Pn**	**23 34 28.8**	**+1.1**
BLEU	**Blekinge**	**4.73**	**358**	P	**Pn**	**23 34 32.9**	**+0.8**
BLEU				S	**Sn**	**23 35 25.5**	**-2.1**
BLEU	**Blekinge**	**4.73**	**358**	P	**Pn**	**23 34 32.9**	**+0.8**
BLEU				*e*P	Pb	23 34 33.6	-10
BLEU				*i* S	**Sn**	**23 35 25.3**	**-2.3**
BLEU				S	**Sn**	**23 35 25.5**	**-2.1**
LESA	**Schwarzleotal**	**4.74**	**210**	*e*Pn	**Pn**	**23 34 33.3**	**+0.9**
	comp=Z,3.5nm,0.3s						
LESA				*i* Sn	**Sn**	**23 35 28.3**	**+0.3**
	comp=Z,52nm,0.9s						
KOLS	**Kolonicke sedl**	**4.74**	**122**	*e*PN	**Pn**	**23 34 32.8**	**+0.5**
KOLS				*e*PG	**Pg**	**23 34 50.8**	**+0.4**
BJUU	**Bjuv**	**4.86**	**339**	P	**Pn**	**23 34 34.5**	**+0.6**
BJUU				S	**Sn**	**23 35 28.8**	**-2.0**
BJUU	**Bjuv**	**4.86**	**339**	P	**Pn**	**23 34 34.5**	**+0.6**
BJUU				*i* P	**Pn**	**23 34 34.8**	**+0.9**
BJUU				*e*S	**Sn**	**23 35 28.6**	**-2.2**
BJUU				S	**Sn**	**23 35 28.8**	**-2.0**
KBA	**Koelnbreinsper**	**4.87**	**203**	*i* Pn	**Pn**	**23 34 35.2**	**+1.1**
	comp=Z,20nm,0.5s						
KBA				*i* Sn	**Sn**	**23 35 30.8**	**-0.5**
	comp=Z,38nm,0.7s						
SOKA	**Soboth**	**4.97**	**189**	*e*Pn	**Pn**	**23 34 37.7**	**+2.2**
	comp=Z,4.4nm,0.5s						
SOKA				*i* Sn	**Sn**	**23 35 34.8**	**+1.2**
	comp=Z,6.3nm,0.3s						
BSZH	**Besenyszg**	**5.06**	**146**	⇑P	**Pn**	**23 34 37.4**	**+0.8**
DEL	**Delary**	**5.07**	**346**	P	**Pn**	**23 34 37.6**	**+0.8**
DEL	**Delary**	**5.07**	**346**	*e*P	**Pn**	**23 34 37.5**	**+0.7**
DEL	**Delary**	**5.07**	**346**	*i* P	**Pn**	**23 34 37.0**	**+0.2**
DEL				P	**Pn**	**23 34 37.6**	**+0.8**
DEL				*e*S	**Sn**	**23 35 33.6**	**-2.4**
OBKA	**Obir**	**5.19**	**192**	*i* Pn	**Pn**	**23 34 39.5**	**+1.0**
	comp=Z,3.1nm,0.7s						
OBKA				*i* Sn	**Sn**	**23 35 40.2**	**+1.1**
	comp=Z,46nm,0.5s						
WATA	**Walderalm**	**5.19**	**217**	*e*Pn	**Pn**	**23 34 40.1**	**+1.5**
	comp=Z,20nm,0.6s,SNR=16						
WATA				*i* Sn	**Sn**	**23 35 40.8**	**+1.5**
	comp=Z,12nm,0.3s						
MYKA	**Terra Mystica**	**5.23**	**199**	*i* Pn	**Pn**	**23 34 40.1**	**+1.1**
	comp=Z,1.2nm,0.4s						
MYKA				*i* Sn	**Sn**	**23 35 41.4**	**+1.4**
	comp=Z,7.3nm,0.4s						
WTTA	**Wattenberg**	**5.23**	**216**	*i* Pn	**Pn**	**23 34 40.8**	**+1.7**
	comp=Z,8.5nm,0.4s,SNR=18						
WTTA				*i* Sn	**Sn**	**23 35 41.8**	**+1.5**
	comp=Z,23nm,0.4s						
RETA	**Reutte**	**5.40**	**223**	*i* Pn	**Pn**	**23 34 41.5**	**+0.2**
	comp=Z,1.9nm,0.4s,SNR=11						
RETA				*i* Sn	**Sn**	**23 35 44.3**	**+0.1**
	comp=Z,30nm,0.5s						
ABTA	**Abfaltersbach**	**5.40**	**208**	*e*Pn	**Pn**	**23 34 41.6**	**+0.2**
	comp=Z,4.4nm,0.5s,SNR=14						
ABTA				*i* Sn	**Sn**	**23 35 45.5**	**+1.2**
	comp=Z,9.7nm,0.3s						
SQTA	**Sankt Quirin**	**5.43**	**218**	*e*Pn	**Pn**	**23 34 43.7**	**+1.9**
	comp=Z,9.4nm,0.4s						
SQTA				*i* Sn	**Sn**	**23 35 48.8**	**+3.8**
	comp=Z,18nm,0.5s						
KOE	**Koeppel**	**5.44**	**261**	*e*Pn	**Pn**	**23 34 42.7**	**+0.8**
SSRD	**Sdr. Stenderup**	**5.51**	**318**	*i* S	**Sn**	**23 35 45.2**	**-1.4**
SSRD				IAML		23 35 54.9	
	comp=Z,92nm,0.6s						
HOBG	**Hohbusch**	**5.56**	**267**	*e*Pn	**Pn**	**23 34 45.0**	**+1.4**
HOBG				*e*Sn	**Sn**	**23 35 47.9**	**-0.3**
	comp=Z,49nm,0.7s						
OSKU	**Oskarshamn**	**5.62**	**360**	P	**Pn**	**23 34 45.9**	**+1.6**
OSKU	**Oskarshamn**	**5.62**	**360**	P	**Pn**	**23 34 45.9**	**+1.6**
MORH	**Mrgy, Hungar**	**5.62**	**162**	⇓P	**Pn**	**23 34 44.3**	**0.0**
BYXU	**Byxelkrok**	**5.74**	**5**	P	**Pn**	**23 34 47.6**	**+1.8**
BYXU	**Byxelkrok**	**5.74**	**5**	P	**Pn**	**23 34 47.6**	**+1.8**
BGG	**Burgeitz**	**5.74**	**260**	*e*Pn	**Pn**	**23 34 47.1**	**+1.1**
FETA	**Feichten**	**5.78**	**220**	*i* Pn	**Pn**	**23 34 47.4**	**+0.7**
	comp=Z,4.2nm,0.8s,SNR=6.3						
FETA				*e*Sn	**Sn**	**23 35 53.5**	**-0.3**
	comp=Z,9.7nm,0.6s						
GNOU	**Gnosjoe**	**5.88**	**347**	P	**Pn**	**23 34 49.1**	**+1.1**
GNOU	**Gnosjoe**	**5.88**	**347**	P	**Pn**	**23 34 49.1**	**+1.1**
DAVA	**Damuels**	**5.93**	**226**	*i* Pn	**Pn**	**23 34 48.9**	**+0.1**
	comp=Z,1.6nm,0.3s						
DAVA				*e*Sn	**Sn**	**23 35 58.3**	**+0.8**
	comp=Z,29nm,0.5s						
STB	**Steinbach**	**5.95**	**264**	*e*Pn	**Pn**	**23 34 49.8**	**+1.0**
PABE	**Paberze**	**6.09**	**47**	*e*P	**Pn**	**23 34 53.3**	**+2.5**
BMR	**Baia Mare**	**6.17**	**127**	⇓P	**Pn**	**23 34 53.3**	**+1.4**
DAVOX	**Davos/Dischmat**	**6.32**	**223**	Pn	**Pn**	**23 34 55.7**	**+1.5**
	comp=Z,1.8nm,0.3s,baz=11,slow=19,SNR=3.1						
DAVOX				Lg	Lg	23 36 39.3	
	comp=Z,1.4nm,0.3s,baz=276,slow=23,SNR=4.0						
	comp=Z,4.5nm,0.4s						
SIRR	**Siria**	**6.44**	**144**	⇓P	**Pn**	**23 34 56.5**	**+0.8**
CDF	**Champ du Feu**	**6.54**	**244**	*e*Pn	**Pn**	**23 34 57.8**	**+0.7**
CDF	**Champ du Feu**	**6.54**	**244**	*e*Pg	**Pg**	**23 35 21.9**	**-2.9**
CDF				*e*Sg	**Sg**	**23 36 45.4**	**-4.1**
	comp=Z,58nm,0.7s						
MARR	**Marisel-Cluj**	**6.71**	**134**	⇓P	**Pn**	**23 35 00.9**	**+1.5**
FRGS	**Fruska Gora**	**6.88**	**158**	⇑P	**Pn**	**23 35 01.8**	**+0.2**
VIKU	**Vikbolandet**	**6.94**	**2**	*e*P	**Pn**	**23 35 03.8**	**+1.4**
BZS	**Buzias**	**6.99**	**147**	⇑P	**Pn**	**23 35 03.4**	**+0.3**
ARCR	**ARCALIA**	**7.00**	**127**	⇑P	**Pn**	**23 35 04.7**	**+1.4**
SURR	**Surduc**	**7.05**	**144**	⇑P	**Pn**	**23 35 04.7**	**+0.8**
BURAR	**Bucovina Array**	**7.11**	**120**	⇑P	**Pn**	**23 35 05.3**	**+0.5**
HINF	**Hinteralfeld**	**7.11**	**242**	*e*Pn	**Pn**	**23 35 02.7**	**-2.1**
HINF				*e*Sg	**Sg**	**23 37 02.9**	**-4.9**
	comp=Z,38nm,0.6s						
NACGM	**Naroch**	**7.19**	**58**	*e*P	**Pn**	**23 35 05.8**	**-0.1**
	comp=E,2μm,0.8s						
HAU	**Haudompre**	**7.28**	**244**	*e*Pn	**Pn**	**23 35 06.1**	**-1.1**
HAU	**Haudompre**	**7.28**	**244**	*e*Pg	Pg	23 35 34.0	-5.0
HAU				*e*Sg	**Sg**	**23 37 08.9**	**-4.4**
	comp=E,39nm,0.8s						
GIVF	**Givet**	**7.32**	**263**	*e*Pn	**Pn**	**23 35 06.9**	**-0.8**
GIVF				*e*Sg	**Sg**	**23 37 10.2**	**-4.4**
	comp=E,27nm,0.7s						
PAGF	**Fort de Pagny**	**7.36**	**250**	*e*Pn	**Pn**	**23 35 06.

Plg76.0000°, Azm236.0000°; P -2.2770, Plg14.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function
*IDC **26** 23:33:39.9±6.2, 13.96°×170.14°, h53km±56km, mb3.6/7, mbtmp3.9/8, ML3.8/1, MS3.8/34 Error ellipse: s-maj=44.0km s-min=29.3km az=146.0*
ISC 26 23:33:38.1±1.0, **13.95°**±0.2×**170.1°E**±0.2, **h35**km, **n46**, σ**0**§**62**/**8**, **mb3.9**/7, **MS3.8**/33, **Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.88**	**203**	*e*LR		LR	LR	23 37 32.3	
	comp=Z,775nm,24.6s								
DZM	**Mont Dzumac**	**8.88**	**203**	P		**Pn**	**Pn**	**23 35 44.6**	**+0.6**
	1.1nm,0.3s,baz=55,slow=5.5,SNR=11								
DZM						LR	LR	23 38 43.7	
	comp=Z,558nm,21.2s,baz=35,slow=34								
	5.4nm,0.5s								
HNR	**Honiara**	**10.91**	**293**	LR		LR	LR	23 40 24.0	
	comp=Z,2μm,19.0s,baz=127,slow=37								
RAO	**Raoul Island**	**18.89**	**146**	LR		LR	LR	23 43 14.5	
	comp=Z,936nm,20.9s,baz=302,slow=30								
PMG	**Port Moresby**	**22.93**	**279**	LR		LR	LR	23 46 10.0	
	comp=Z,316nm,20.2s,baz=5.5,slow=33								
CTA	**Charters Tower**	**23.64**	**252**	LR		LR	LR	23 46 40.3	
	comp=Z,329nm,19.2s,baz=82,slow=33								
URZ	**Urewera**	**25.06**	**167**	LR		LR	LR	23 47 39.8	
	comp=Z,125nm,18.0s,baz=122,slow=34								
RAR	**Rarotonga**	**29.57**	**109**	LR		LR	LR	23 49 25.0	
	comp=Z,46nm,18.2s,baz=314,slow=32								
RPZ	**Rata Peaks**	**29.75**	**179**	LR		LR	LR	23 48 56.3	
	comp=Z,172nm,21.6s,baz=344,slow=31								
STKA	**Stephens Creek**	**31.67**	**231**	P		**P**	**23 39 58.5**	**+0.2**	
	3.7nm,1.0s,baz=36,slow=8.7,SNR=4.3								
STKA						LR	LR	23 51 40.8	
	comp=Z,160nm,20.4s,baz=33,slow=34								
	3.7nm,1.0s								
H11S2	**WAKE ISLAND Hy 32.34**		**354**	T		T	T	00 14 11.8	
	baz=173,slow=76,SNR=17								
H11S3	**WAKE ISLAND Hy 32.34**		**354**	T		T	T	00 14 14.9	
	baz=173,slow=76,SNR=13								
H11S1	**WAKE ISLAND Hy 32.36**		**354**	T		T	T	00 14 13.9	
	baz=173,slow=76,SNR=13								
H11N1	**WAKE ISLAND Hy 33.53**		**354**	T		T	T	00 15 44.4	
	baz=172,slow=76,SNR=7.8								
H11N3	**WAKE ISLAND Hy 33.53**		**354**	T		T	T	00 15 47.7	
	baz=172,slow=76,SNR=5.8								
H11N2	**WAKE ISLAND Hy 33.55**		**354**	T		T	T	00 15 45.4	
	baz=172,slow=76,SNR=8.1								
WRA	**Warramunga Arr**	**34.73**	**255**	P		**P**	**23 40 24.8**	**-0.4**	
	0.3nm,0.6s,baz=85,slow=8.5,SNR=3.1								
	0.3nm,0.6s								
ASAR	**Alice Springs**	**35.57**	**249**	P		**P**	**23 40 32.0**	**-0.5**	
	2.8nm,0.8s,baz=79,slow=9.0,SNR=18								
ASAR						LR	LR	23 53 47.2	
	comp=Z,340nm,20.2s,baz=82,slow=34								
	2.8nm,0.8s								
PPT2	**Papeete2**	**38.91**	**101**	*e*LQ		LQ	LQ	23 49 58.2	
	1μm,41.0s								
PPT2				*e*LR		LR	LR	23 51 26.1	
	comp=Z,91nm,23.2s								
TBI	**Tubuai**	**39.32**	**110**	*e*LR		LR	LR	23 51 40.1	
	comp=Z,1μm,30.0s								
DAV	**Davao City (W)**	**48.87**	**292**	LR		LR	LR	00 02 33.8	
	comp=Z,68nm,18.4s,baz=104,slow=36								
KAPI	**Kappang**	**50.38**	**275**	LR		LR	LR	00 05 20.1	
	comp=Z,33nm,18.4s,baz=106,slow=38								
NWAO	**Narrogin (SRO)**	**51.57**	**239**	LR		LR	LR	00 04 26.2	
	comp=Z,236nm,18.8s,baz=220,slow=36								
JOW	**Kunigami**	**57.36**	**315**	LR		LR	LR	00 04 25.2	
	comp=Z,89nm,20.6s,baz=290,slow=32								
MJAR	**Matsushiro Arr**	**58.50**	**330**	LR		LR	LR	00 05 17.0	
	comp=Z,84nm,21.7s,baz=160,slow=32								
JNU	**Nakatsue**	**59.90**	**322**	LR		LR	LR	00 05 51.6	
	comp=Z,35nm,21.2s,baz=98,slow=32								
ASAJ	**Asahikawa**	**62.94**	**338**	LR		LR	LR	00 05 49.8	
	comp=Z,192nm,21.3s,baz=146,slow=31								
VNDA	**Vanda**	**63.79**	**182**	LR		LR	LR	00 06 36.2	
	comp=Z,38nm,21.6s,baz=2.5,slow=31								
KSRS	**Korea Array**	**64.65**	**324**	LR		LR	LR	00 07 47.9	
	comp=Z,51nm,21.9s,baz=125,slow=32								
USRK	**Ussuriysk Ar.**	**67.43**	**331**	LR		LR	LR	00 09 11.6	
	comp=Z,68nm,21.5s,baz=180,slow=32								
PETK	**Petropavlovsk-**	**67.56**	**352**	LR		LR	LR	00 07 22.5	
	comp=Z,147nm,21.0s,baz=171,slow=30								
KLR	**Kul'dur**	**71.39**	**335**	LR		LR	LR	00 13 03.4	
	comp=Z,58nm,19.9s,baz=204,slow=33								
MA2	**Magadan**	**74.86**	**350**	LR		LR	LR	00 11 17.5	
	comp=Z,146nm,21.8s,baz=109,slow=30								
RPN	**Rapa Nui**	**75.50**	**115**	LR		LR	LR	00 12 07.6	
	comp=Z,29nm,22.0s,baz=286,slow=31								
QSPA	**South Pole Qui**	**76.15**	**180**	P		**P**	**23 45 21.6**	**-0.8**	
	1.9nm,0.9s,baz=355,slow=4.0,SNR=2.2								
	1.9nm,0.9s								
CMAR	**Chiang Mai Arr**	**77.16**	**293**	LR		LR	LR	00 20 22.3	
	comp=Z,13nm,18.8s,baz=345,slow=36								
SEY	**Seymchan**	**77.81**	**352**	LR		LR	LR	00 14 39.9	
	comp=Z,97nm,21.3s,baz=228,slow=32								
YBH	**Yreka Blue Hor**	**82.87**	**44**	LR		LR	LR	00 21 39.1	
	comp=Z,47nm,18.6s,baz=261,slow=35								
SONM	**Songino Array**	**83.49**	**323**	P		**P**	**23 46 02.9**	**+0.5**	
	0.7nm,1.0s,baz=100,slow=3.5,SNR=3.0								
SONM						LR	LR	00 22 34.0	
	comp=Z,33nm,18.8s,baz=128,slow=35								
	0.7nm,1.0s								
MAW	**Mawson**	**83.70**	**202**	LR		LR	LR	00 18 19.2	
	comp=Z,42nm,20.6s,baz=73,slow=32								
NVAR	**Mina Array Bea**	**84.62**	**48**	P		**P**	**23 46 08.9**	**+0.4**	
	0.2nm,0.4s,baz=243,slow=10.0,SNR=2.4								
NVAR						LR	LR	00 21 10.2	
	comp=Z,59nm,19.2s,baz=261,slow=34								
	0.2nm,0.4s								
ILAR	**Eielson Array**	**84.88**	**17**	P		**P**	**23 46 08.7**	**-0.3**	
	0.6nm,0.7s,baz=222,slow=4.8,SNR=7.9								
	0.6nm,0.7s								
LPIG	**La Paz**	**86.33**	**64**	LR		LR	LR	00 19 39.7	
	comp=Z,43nm,18.4s,baz=354,slow=32								
ELK	**Elko**	**87.67**	**47**	LR		LR	LR	00 20 24.8	
	comp=Z,105nm,19.3s,baz=340,slow=32								
PDAR	**Pinedale Array**	**92.34**	**47**	LR		LR	LR	00 26 15.7	
	comp=Z,87nm,18.8s,baz=39,slow=34								
ANMO	**Albuquerque**	**92.54**	**55**	LR		LR	LR	00 20 48.3	
	comp=Z,90nm,19.3s,baz=22,slow=31								

*VIE **27** 00:17:07.4±1.0, 51.50N×16.56E, h0km, mb2.7/7, ml2.5/8, Error ellipse: s-maj=7.8km s-min=7.3km az=124.0 56 km NNW of Wroclaw Suspected Mining induced.*
*IPEC **27** 00:17:07.5±0.3, 51.51N×16.22E, h1km, ML2.1/4, Error ellipse: s-maj=2.1km s-min=1.1km az=37.0*
*PRU **27** 00:17:09.5, 51.47N×16.14E, h0km*
ISC 27 00:17:05.7±0.8, **51.64N**±0.03×**16.22E**±0.02, **h0**km, **n43**, σ**1**§**21**/**92**, **Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.80**	**177**	*e*Pg		**Pg**	**Pg**	**00 17 20.7**	**-0.3**
KSP				*e*Sg		**Sg**	**Sg**	**00 17 29.9**	**-1.3**
CHVC	**Chvalec**	**1.06**	**186**	*e*PG		**Pg**	**Pg**	**00 17 25.7**	**-0.2**
CHVC				*e*SG		**Sg**	**Sg**	**00 17 38.2**	**-1.4**
	comp=Z,26nm,0.4s								
OSTC	**Ostas**	**1.08**	**180**	*e*PG		**Pg**	**Pg**	**00 17 26.3**	**-0.1**
OSTC				*e*SG		**Sg**	**Sg**	**00 17 40.0**	**-0.5**
	comp=Z,18nm,0.3s								
UPC	**Upice**	**1.14**	**187**	*e*PG		**Pg**	**Pg**	**00 17 27.1**	**-0.4**
UPC				*e*SG		**Sg**	**Sg**	**00 17 41.8**	**-0.5**
	comp=Z,42nm,0.3s								
DPC	**Dobruska-Polom**	**1.29**	**177**	*e*PG		**Pg**	**Pg**	**00 17 29.6**	**-0.8**
DPC				*e*SG		**Sg**	**Sg**	**00 17 46.9**	**-0.2**
	comp=Z,27nm,0.2s								
PVCC	**Panska Ves**	**1.52**	**224**	*e*PG		**Pb**	**Pb**	**00 17 34.6**	**-0.2**
PVCC				*e*SG		**Sg**	**Sg**	**00 17 53.4**	**-1.2**
	comp=Z,108nm,0.2s								
KRLC	**Kraliky**	**1.61**	**167**	*e*PG		**Pn**	**Pn**	**00 17 34.9**	**-0.4**
KRLC				*e*SG		**Sn**	**Sn**	**00 17 55.5**	**-1.3**
	comp=Z,15nm,0.3s								
BRG	**Berggiesshubel**	**1.62**	**243**	Pg		**Pb**	**Pb**	**00 17 36.6**	**+0.1**
BRG				Sg		**Sn**	**Sn**	**00 17 57.1**	**-0.1**
BRG				Amp				00 17 58.1	
	comp=Z,49nm,0.3s								
RICC	**Richard**	**1.73**	**232**	*e*PG		**Pg**	**Pg**	**00 17 38.7**	**-0.1**
RICC				*e*SG		**Sb**	**Sb**	**00 18 00.1**	**-0.5**
	comp=Z,48nm,0.4s								
PRA	**Prague**	**1.94**	**217**	*e*PG		**Pg**	**Pg**	**00 17 42.5**	**-0.3**
PRA				*e*SG		**Sn**	**Sn**	**00 18 05.2**	**+0.4**
	comp=Z,12nm,0.7s								
GOPC	**GO Pecny, Ondr**	**1.95**	**208**	*e*PG		**Pb**	**Pb**	**00 17 41.6**	**-0.5**
GOPC				*e*SG		**Sn**	**Sn**	**00 18 05.5**	**+0.2**
	comp=Z,9.7nm,0.4s								
PRU	**Pruhonice**	**1.97**	**213**	*e*PG		**Pb**	**Pb**	**00 17 41.5**	**-0.8**
PRU				*e*SG		**Sn**	**Sn**	**00 18 06.0**	**+0.4**
	comp=Z,28nm,0.3s								
HSKC	**Hora Svate Kat**	**2.04**	**241**	*e*PG		**Pb**	**Pb**	**00 17 43.3**	**-0.3**
HSKC				*e*SG		**Sb**	**Sb**	**00 18 09.0**	**-0.5**
	comp=Z,17nm,0.4s								
CLL	**Collm**	**2.04**	**262**	*i* Pn		**Pn**	**Pn**	**00 17 41.0**	**-0.2**
CLL				*i* Pg		**Pg**	**Pg**	**00 17 44.5**	**-0.3**
CLL				*i* x		x	x	00 17 46.5	
CLL				*i* x		x	x	00 18 06.7	
CLL				*i* Sg		**Sg**	**Sg**	**00 18 11.3**	**+0.1**
	comp=Z,14nm,0.3s								
MORC	**Moravsky Berou**	**2.04**	**155**	*e*PN		**Pn**	**Pn**	**00 17 41.2**	**-0.2**
MORC				*e*SG		**Sn**	**Sn**	**00 18 08.0**	**+0.3**
MORC	**Moravsky Berou**	**2.04**	**155**	*e*Pn		**Pn**	**Pn**	**00 17 41.1**	**-0.3**
	baz=335								
MORC				*e*Sg		**Sn**	**Sn**	**00 18 07.9**	**+0.3**
	comp=Z,13nm,0.5s,baz=335								
OKC	**Ostrava-Krasne**	**2.18**	**145**	*e*PG		**Pb**	**Pb**	**00 17 45.5**	**-0.5**
OKC				*e*SG		**Sb**	**Sb**	**00 18 13.4**	**-0.1**
	comp=Z,14nm,0.4s								
VRAC	**Vranov**	**2.35**	**174**	*e*PN		**Pn**	**Pn**	**00 17 45.5**	**0.0**
VRAC				*e*SG		**Sb**	**Sb**	**00 18 17.1**	**-1.2**
VRAC	**Vranov**	**2.35**	**174**	*e*Pn		**Pn**	**Pn**	**00 17 45.4**	**0.0**
	baz=354								
VRAC				*e*Sg		**Sb**	**Sb**	**00 18 17.0**	**-1.2**
	comp=Z,10nm,0.4s,baz=354								
TREC	**Trest**	**2.39**	**192**	*e*PN		**Pn**	**Pn**	**00 17 46.9**	**+0.8**
TREC				*e*PG		**Pb**	**Pb**	**00 17 49.6**	**0.0**
TREC				*e*SG		**Sb**	**Sb**	**00 18 19.8**	**+0.1**
	comp=Z,11nm,0.3s								
MAUC	**Maruska**	**2.50**	**155**	*e*PN		**Pn**	**Pn**	**00 17 47.7**	**+0.1**
MAUC				*e*PG		**Pg**	**Pg**	**00 17 52.5**	**-1.0**
MAUC				*e*SG		**Sg**	**Sg**	**00 18 24.2**	**-1.6**
ZVC	**Zvikov**	**2.56**	**211**	*e*PN		**Pn**	**Pn**	**00 17 49.0**	**+0.7**
ZVC				*e*PG		**Pb**	**Pb**	**00 17 51.7**	**-0.7**
ZVC				*e*SG		**Sb**	**Sb**	**00 18 24.4**	**+0.1**
	comp=Z,10.0nm,0.3s								
KRUC	**Moravsky**	**2.58**	**177**	*e*Pn		**Pn**	**Pn**	**00 17 48.6**	**-0.1**
	baz=358								
KRUC				*e*Sg		**Sb**	**Sb**	**00 18 24.2**	**-0.9**
	comp=Z,6.0nm,0.3s,baz=358								
OJC	**Ojcow**	**2.67**	**121**	*e*Pg		**Pg**	**Pg**	**00 17 56.9**	**+0.1**
OJC				*e*Sg		**Sg**	**Sg**	**00 18 32.0**	**+0.5**
NKC	**Novy Kostel**	**2.77**	**241**	*e*PG		**Pg**	**Pg**	**00 17 58.6**	**-0.2**
NKC				*e*SG		**Sg**	**Sg**	**00 18 32.7**	**-2.0**
	comp=Z,31nm,0.3s								
KHC	**Kasperske Hory**	**3.03**	**215**	*e*PN		**Pn**	**Pn**	**00 17 54.0**	**-0.9**
KHC				*e*PG		**Pb**	**Pb**	**00 18 00.9**	**+0.5**
KHC				*e*SN		**Sn**	**Sn**	**00 18 28.5**	**-3.3**
KHC				*e*SG		**Sb**	**Sb**	**00 18 39.3**	**+1.3**
	comp=Z,6.1nm,0.3s								
CKRC	**Cesky Krumlov**	**3.08**	**204**	*e*PG		**Pb**	**Pb**	**00 18 02.1**	**+0.8**
CKRC				*e*SG		**Sb**	**Sb**	**00 18 39.9**	**+0.5**
	comp=Z,5.4nm,0.3s								
LANS	**Liptovska Anna**	**3.24**	**139**	*e*PG		**Pg**	**Pg**	**00 18 07.1**	**-0.7**
LANS				*e*SG		**Sg**	**Sg**	**00 18 49.5**	**-0.3**
MODS	**Modra-Piesok**	**3.34**	**168**	*e*PG		**Pg**	**Pg**	**00 18 08.9**	**-0.7**
MODS				*e*SG		**Sg**	**Sg**	**00 18 53.4**	**+0.5**
BSD	**Bornholm Skovb**	**3.57**	**348**	*i* P		**Pn**	**Pn**	**00 18 02.9**	**+0.7**
BSD				*i* S		**Sn**	**Sn**	**00 18 44.2**	**-0.9**
BSD					IAML			00 18 49.2	
	comp=Z,10nm,0.8s								
VYHS	**Vyhne**	**3.57**	**151**	*e*PN		**Pn**	**Pn**	**00 18 01.8**	**-0.5**
VYHS				*e*PG		**Pg**	**Pg**	**00 18 16.6**	**+2.5**
VYHS				*e*SG		**Sg**	**Sg**	**00 19 01.8**	**+1.5**
CONA	**Conrad Observa**	**3.72**	**184**	*i* Pn		**Pn**	**Pn**	**00 18 05.3**	**+0.8**
	comp=Z,0.1nm,0.1s								
CONA				*e*Sn		**Sn**	**Sn**	**00 18 49.9**	**+0.9**
	comp=Z,4.6nm,0.4s								
RONA	**Rosalia, Austr**	**3.94**	**179**	*i* Pn		**Pn**	**Pn**	**00 18 08.0**	**+0.5**
	comp=Z,0.2nm,0.2s								
RONA				*e*Sn		**Sn**	**Sn**	**00 18 52.8**	**-1.6**
	comp=Z,1.2nm,0.3s								
MOA	**Molln**	**4.00**	**199**	*i* Pn		**Pn**	**Pn**	**00 18 09.2**	**+1.0**
	comp=Z,0.3nm,0.2s								
MOA				*i* Sn		**Sn**	**Sn**	**00 18 57.5**	**+1.7**
	comp=Z,0.8nm,0.3s								
BIOA	**Bad Ischl, Aus**	**4.29**	**204**	*i* Pn		**Pn**	**Pn**	**00 18 13.8**	**+1.6**
	comp=Z,0.1nm,0.1s								
BIOA				*i* Sn		**Sn**	**Sn**	**00 19 07.2**	**+4.2**
	comp=Z,5.7nm,0.5s								
LUNU	**Lund**	**4.33**	**339**	*i* P		**Pn**	**Pn**	**00 18 13.4**	**+0.7**
LUNU				*e*S		**Sn**	**Sn**	**00 19 03.8**	**+0.1**
ARSA	**Arzberg**	**4.42**	**186**	*i* Pn		**Pn**	**Pn**	**00 18 14.5**	**+0.6**
	comp=Z,0.5nm,0.2s								
ARSA				*i* Sn		**Sn**	**Sn**	**00 19 09.0**	**+2.9**
	comp=Z,0.3nm,0.3s								
BLEU	**Blekinge**	**4.68**	**357**	*i* P		**Pn**	**Pn**	**00 18 19.9**	**+2.4**
BLEU				*e*S		**Sn**	**Sn**	**00 19 11.3**	**-1.2**
LESA	**Schwarzleotal**	**4.81**	**210**	*e*Pn		**Pn**	**Pn**	**00 18 21.0**	**+1.7**
	comp=Z,0.3nm,0.2s								
LESA				*i* Sn		**Sn**	**Sn**	**00 19 18.5**	**+2.7**
	comp=Z,0.8nm,0.3s								
BJUU	**Bjuv**	**4.83**	**338**	*i* P		**Pn**	**Pn**	**00 18 19.9**	**+0.4**
BJUU				*e*S		**Sn**	**Sn**	**00 19 14.1**	**-2.0**
KBA	**Koelnbreinsper**	**4.94**	**203**	*e*Pn		**Pn**	**Pn**	**00 18 22.6**	**+1.4**
	comp=Z,1.2nm,0.5s								
KBA				*i* Sn		**Sn**	**Sn**	**00 19 17.4**	**-1.7**
	comp=Z,0.8nm,0.4s								
DEL	**Delary**	**5.04**	**345**	*i* P		**Pn**	**Pn**	**00 18 23.4**	**+1.0**
WTTA	**Wattenberg**	**5.30**	**216**	*i* Pn		**Pn**	**Pn**	**00 18 26.4**	**+0.2**
	comp=Z,0.4nm,0.3s								
WTTA				*e*Sn		**Sn**	**Sn**	**00 19 31.9**	**+3.8**
	comp=Z,1.3nm,0.4s								

*JMA **27** 00:18:50.6±0.2, 24.7N±0.6×122.0E±0.4, h77km±2km, MV2.7/12, TAIWAN REGION*
*TAP **27** 00:18:51.0, 24.66N×122.04E, h76km, ML3.3, B*
ISC 27 00:18:51.5±1.3, **24.70N**±0.03×**122.06E**±0.02, **h74**km±6km, **n96**, σ**0**§**66**/161, **1C**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EGS		**0.19**	**322**	P		**Pn**	**Pn**	**00 19 02.6**	**0.0**
	baz=340								
TWC	**Suao**	**0.21**	**246**	*i* P		**Pn**	**Pn**	**00 19 02.5**	**-0.2**
	baz=251								
TWC				*e*S		**Sn**	**Sn**	**00 19 10.4**	**-0.4**
	baz=251								
ESAO	**Su ao**	**0.23**	**239**	P		**Pn**	**Pn**	**00 19 02.9**	**+0.2**
	baz=244								
ESAO				S		**Sn**	**Sn**	**00 19 10.6**	**-0.4**
	baz=244								
EOS2	**EOS2**	**0.32**	**150**	*e*P		**Pn**	**Pn**	**00 19 03.6**	**+0.5**
	baz=153								
EOS2				*e*S		**Sn**	**Sn**	**00 19 13.1**	**+1.4**
	baz=153								
NDS	**Dongshan**	**0.32**	**259**	P		**Pn**	**Pn**	**00 19 03.8**	**+0.4**
	baz=264								
NDS				*e*S		**Sn**	**Sn**	**00 19 12.2**	**+0.2**
	baz=264								
TWB1	**Santiao Chiao**	**0.32**	**348**	*i* P		**Pn**	**Pn**	**00 19 03.1**	**-0.2**
	baz=349								
TWB1				*i* S		**Sn**	**Sn**	**00 19 11.6**	**-0.3**
	baz=349								
TIPB	**Shuangxi**	**0.35**	**322**	*i* P		**Pn**	**Pn**	**00 19 03.4**	**-0.2**
	baz=316								
TIPB				S		**Sn**	**Sn**	**00 19 12.0**	**-0.4**
	baz=316								
EWUT	**Wuta**	**0.36**	**226**	P		**Pn**	**Pn**	**00 19 03.5**	**-0.1**
	baz=223								
EWUT				S		**Sn**	**Sn**	**00 19 12.6**	**+0.2**
	baz=223								
TWE	**Neicheng**	**0.36**	**274**	*i* P		**Pn**	**Pn**	**00 19 03.7**	**+0.1**
	baz=287								
ENA	**Nanau**	**0.39**	**227**	*i* P		**Pn**	**Pn**	**00 19 03.8**	**-0.1**
	baz=224								
ENA				S		**Sn**	**Sn**	**00 19 13.1**	**+0.2**
	baz=224								
SXI1	**Grass Mountain**	**0.43**	**337**	P		**Pn**	**Pn**	**00 19 03.9**	**-0.3**
	baz=330								
SXI1				*e*S		**Sn**	**Sn**	**00 19 13.6**	**0.0**
	baz=330								
FUSB	**Fushanzhiwuyua**	**0.43**	**279**	P		**Pn**	**Pn**	**00 19 04.2**	**-0.1**
	baz=290								
FUSB				*e*S		**Sn**	**Sn**	**00 19 13.8**	**+0.2**
	baz=290								
NWF	**Wu-fen Shan**	**0.45**	**326**	*i* P		**Pn**	**Pn**	**00 19 04.3**	**-0.1**
	baz=323								
NWF				*e*S		**Sn**	**Sn**	**00 19 13.7**	**-0.2**
	baz=323								
WFSB	**Wu-fen Shan**	**0.45**	**326**	P		**Pn**	**Pn**	**00 19 04.2**	**-0.1**
	baz=329								
ENTT	**Nioudou**	**0.45**	**263**	*i* P		**Pn**	**Pn**	**00 19 04.7**	**+0.4**
	baz=273								
EAHA	**Aohua**	**0.47**	**219**	*e*P		**Pn**	**Pn**	**00 19 04.2**	**-0.2**
	baz=213								
EAHA				*e*S		**Sn**	**Sn**	**00 19 14.1**	**+0.1**
	baz=213								
EOS3	**EOS3**	**0.47**	**150**	*e*P		**Pn**	**Pn**	**00 19 04.8**	**+0.5**
	baz=161								
EOS3				*e*S		**Sn**	**Sn**	**00 19 15.6**	**+1.8**
	baz=161								
NDT	**Datong Townshi**	**0.51**	**260**	*i* P		**Pn**	**Pn**	**00 19 05.1**	**+0.3**
	baz=263								
NDT				*i* S		**Sn**	**Sn**	**00 19 15.4**	**+0.8**
	baz=263								
LATG	**Datong**	**0.51**	**252**	*i* P		**Pn**	**Pn**	**00 19 05.1**	**+0.1**
	baz=249								
LATG				*e*S		**Sn**	**Sn**	**00 19 15.4**	**+0.5**
	baz=249								
NWLT	**Wulai**	**0.51**	**279**	P		**Pn**	**Pn**	**00 19 04.9**	**0.0**
	baz=291								
NWLT				*e*S		**Sn**	**Sn**	**00 19 14.4**	**-0.3**
	baz=291								
TWA	**Mucha**	**0.52**	**303**	*i* P		**Pn**	**Pn**	**00 19 04.7**	**-0.2**
	baz=312								
TWA				*e*S		**Sn**	**Sn**	**00 19 14.5**	**-0.3**
	baz=312								
TNOU	**National Taiwa**	**0.52**	**330**	*e*P		**Pn**	**Pn**	**00 19 04.6**	**-0.3**
	baz=327								
TNOU				*e*S		**Sn**	**Sn**	**00 19 14.3**	**-0.5**
	baz=327								
NHDH	**Xindian Distri**	**0.55**	**299**	P		**Pn**	**Pn**	**00 19 05.2**	**0.0**
	baz=308								
NHDH				*e*S		**Sn**	**Sn**	**00 19 15.1**	**-0.3**
	baz=308								
EOS4	**EOS4**	**0.62**	**158**	*e*P		**Pn**	**Pn**	**00 19 05.4**	**-0.1**
	baz=163								
EOS4				*e*S		**Sn**	**Sn**	**00 19 16.5**	**+0.6**
	baz=163								
YM01	**YM01**	**0.63**	**315**	P		**Pn**	**Pn**	**00 19 05.8**	**-0.3**
	baz=318								
NSK	**Sanguang**	**0.64**	**268**⇑	*i* P		**Pn**	**Pn**	**00 19 06.1**	**-0.1**
	baz=270								
NSK				S		**Sn**	**Sn**	**00 19 17.0**	**0.0**
	baz=270								
YM08	**YM08**	**0.65**	**319**	*e*P		**Pn**	**Pn**	**00 19 06.1**	**-0.2**
	baz=320								
YM08				*e*S		**Sn**	**Sn**	**00 19 15.9**	**-1.2**
	baz=320								
ETL	**Fush Village**	**0.67**	**217**	*e*P		**Pn**	**Pn**	**00 19 05.7**	**-0.8**
	baz=217								
NACB	**Ninganchiao**	**0.67**	**219**	P		**Pn**	**Pn**	**00 19 05.5**	**-0.9**
	baz=212								
NACB				*e*S		**Sn**	**Sn**	**00 19 17.0**	**-0.5**
	baz=212								
NNSB	**Datong**	**0.67**	**247**	*i* P		**Pn**	**Pn**	**00 19 06.5**	**-0.1**
	baz=241								
NNSB				S		**Sn**	**Sn**	**00 19 17.6**	**-0.1**
	baz=241								
NNS	**Nan Shan**	**0.67**	**248**	P		**Pn**	**Pn**	**00 19 06.6**	**0.0**
	baz=249								
NNS				S		**Sn**	**Sn**	**00 19 17.8**	**0.0**
	baz=249								
ANP	**Anpu**	**0.69**	**315**	*e*P		**Pn**	**Pn**	**00 19 06.8**	**0.0**
	baz=318								
TWS1	**Kuangyinshan**	**0.71**	**305**	P		**Pn**	**Pn**	**00 19 07.1**	**+0.2**
	baz=314								
TWS1				S		**Sn**	**Sn**	**00 19 18.7**	**+0.5**
	baz=314								
ETLH	**Xiulin Townshi**	**0.72**	**227**	P		**Pn**	**Pn**	**00 19 06.4**	**-0.6**

SMLT	**Sun Moon Lake**	**1.33**	**233**	*e*P	**Pn**	**00 19 15.2**	**+0.6**
	baz=234						
WDJ	**Dajia District**	**1.34**	**255**	*e*S	**Sn**	**00 19 31.6**	**-0.2**
	baz=256						
TYC	**Yuchr**	**1.35**	**235**	P	**Pn**	**00 19 15.1**	**+0.4**
	baz=231						
TYC				*e*S	**Sn**	**00 19 32.9**	**+0.8**
	baz=231						
SSLB	**Suanglung**	**1.35**	**228**	*i* P	**Pn**	**00 19 14.7**	**-0.1**
	baz=234						
SSLB				*e*S	**Sn**	**00 19 33.0**	**+0.7**
	baz=234						
EHY	**Hungye**	**1.36**	**210**	*i* P	**Pn**	**00 19 13.1**	**-1.7**
	baz=210						
EHY				*e*S	**Sn**	**00 19 30.0**	**-2.4**
	baz=210						
YULB	**Yu-li**	**1.47**	**208**	P	**Pn**	**00 19 14.4**	**-1.9**
	baz=209						
WHYT	**Xinyi Township**	**1.48**	**228**	*e*P	**Pn**	**00 19 17.4**	**+0.9**
	baz=237						
WHYT				*e*S	**Sn**	**00 19 36.4**	**+1.1**
	baz=237						
WJS	**Zhushan**	**1.49**	**235**	*e*S	**Sn**	**00 19 36.4**	**+0.9**
	baz=246						
WNT	**Mingjian**	**1.50**	**237**	*e*P	**Pn**	**00 19 17.0**	**+0.4**
	baz=249						
WNT				*e*S	**Sn**	**00 19 36.0**	**+0.6**
	baz=249						
EYUL	**Yuli**	**1.50**	**207**	*e*P	**Pn**	**00 19 16.9**	**+0.2**
	baz=208						
TWF1	**Yuli**	**1.51**	**208**	*e*P	**Pn**	**00 19 17.1**	**+0.3**
	baz=208						
IRIF	**Iriomote-Funau**	**1.56**	**103**	P	**Pn**	**00 19 17.2**	**-0.3**
IRIF				S	**Sn**	**00 19 36.5**	**-0.6**
CHKH	**Chenggong**	**1.62**	**202**	*e*P	**Pn**	**00 19 18.5**	**+0.4**
	baz=211						
ALS	**Alishan**	**1.65**	**224**	*i* P	**Pn**	**00 19 19.5**	**+0.7**
	baz=236						
ALS				*e*S	**Sn**	**00 19 40.2**	**+0.8**
	baz=236						
FULB	**Fuli**	**1.65**	**205**	*e*P	**Pn**	**00 19 19.1**	**+0.5**
	baz=212						
CHN5	**Tsauling**	**1.67**	**229**	*e*P	**Pn**	**00 19 19.7**	**+0.8**
	baz=240						
CHN5				*e*S	**Sn**	**00 19 40.4**	**+0.7**
	baz=240						
WDLH	**Douliu**	**1.71**	**234**	*e*P	**Pn**	**00 19 19.6**	**+0.2**
	baz=246						
WDLH				*e*S	**Sn**	**00 19 40.9**	**+0.3**
	baz=246						
HATJ	**Hateruma jima**	**1.71**	**111**	*e*P	**Pn**	**00 19 20.1**	**+0.6**
HATJ				*e*S	**Sn**	**00 19 41.4**	**+0.8**
WRL	**Guolierlin Hig**	**1.73**	**243**	*e*P	**Pn**	**00 19 19.1**	**-0.5**
	baz=251						
WRL				S	**Sn**	**00 19 40.0**	**-0.9**
	baz=251						
ELDTW	**Lidau**	**1.78**	**213**	*e*P	**Pn**	**00 19 20.7**	**+0.3**
	baz=208						
WCKO	**Fanlu**	**1.83**	**227**	*e*P	**Pn**	**00 19 21.4**	**+0.4**
	baz=236						
WCKO				S	**Sn**	**00 19 44.4**	**+1.1**
	baz=236						
WTK	**Tuku**	**1.83**	**237**	*e*S	**Sn**	**00 19 42.9**	**-0.4**
	baz=238						
JKRS	**Kuro-shima**	**1.83**	**104**	P	**Pn**	**00 19 21.3**	**+0.3**
JKRS				S	**Sn**	**00 19 43.6**	**+0.1**
EDH	**Donghe**	**1.85**	**202**	*e*P	**Pn**	**00 19 21.4**	**+0.1**
	baz=211						
CHN4	**Tsaushan**	**1.89**	**225**	*e*P	**Pn**	**00 19 22.9**	**+1.0**
	baz=237						
STYH	**Taoyuan**	**1.92**	**218**	*e*P	**Pn**	**00 19 23.0**	**+0.8**
	baz=211						
STYH				*e*S	**Sn**	**00 19 45.9**	**+0.4**
	baz=211						
JIJ	**Ishigaki jima**	**1.93**	**99**	P	**Pn**	**00 19 22.2**	**-0.1**
JIJ				S	**Sn**	**00 19 44.5**	**-1.2**
WTP	**Ta-pu**	**1.96**	**223**	*e*P	**Pn**	**00 19 23.3**	**+0.5**
	baz=235						
TWK	**Hsinying**	**2.02**	**226**	*e*P	**Pn**	**00 19 23.9**	**+0.3**
	baz=238						
CHN1	**Nanshi**	**2.06**	**223**	*e*P	**Pn**	**00 19 24.8**	**+0.7**
	baz=235						
SLGT	**Liugui**	**2.13**	**218**	*e*P	**Pn**	**00 19 26.1**	**+1.1**
	baz=219						
VWUC	**VWUC**	**2.39**	**278**	*e*P	**Pn**	**00 19 27.7**	**-0.8**
	baz=278						
MATB	**Ma-tsu**	**2.40**	**308**	*e*P	**Pn**	**00 19 28.1**	**-0.5**
	baz=307						
JTJ	**Tarama**	**2.41**	**91**	S	**Sn**	**00 19 57.4**	**+0.2**
MASBT	**Mashibuluo**	**2.45**	**213**	*e*P	**Pn**	**00 19 30.0**	**+0.6**
	baz=214						
XPSS	**Dashiqiu**	**2.79**	**323**	*e*P	**Pn**	**00 19 34.4**	**+0.4**
	baz=323						

*IDC **27** 00:19:40.1±1.1,27.°01N×140.°48E,h437km±11km, mb3.3/16,mbtmp4.1/19,Error ellipse: s-maj=25.9km s-min=10.6km az=74.0*

ISC 27 00:19:39.6±0.7,27.°0N±0.°1×140.°7E±0.°2,h443km,n21, σ1§36/26,mb3.8/16,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.29**	**85**	P	**P**	**00 20 35.0**	**-1.1**
	35nm,0.3s,baz=304,slow=18,SNR=1.9						
JCJ				S	**S**	**00 21 17.0**	**-4.9**
	197nm,0.4s,baz=287,slow=19,SNR=14						
MJAR	**Matsushiro Arr**	**9.77**	**348**	P	**P**	**00 21 55.2**	**+1.1**
	1.4nm,0.3s,baz=141,slow=7.3,SNR=5.0						
JNU	**Nakatsue**	**10.51**	**308**	P	**P**	**00 22 01.8**	**-0.4**
	12nm,0.7s,baz=172,slow=12,SNR=2.9						
USRK	**Ussuriysk Ar.**	**18.57**	**340**	P	**P**	**00 23 28.5**	**+0.5**
	3.2nm,0.5s,baz=169,slow=9.7,SNR=10.0						
KLR	**Kul'dur**	**23.28**	**345**	P	**P**	**00 24 11.9**	**+1.1**
	0.5nm,0.3s,baz=146,slow=12,SNR=2.0 0.5nm,0.3s						
SONM	**Songino Array**	**33.91**	**317**	P	**P**	**00 25 43.0**	**-1.0**
	0.3nm,0.6s,baz=137,slow=7.1,SNR=3.7						
SONM				ScP	**ScP**	**00 31 12.9**	**+0.4**
	0.4nm,0.8s,baz=128,slow=4.8,SNR=2.1 0.3nm,0.6s						
WRA	**Warramunga Arr**	**47.06**	**188**	P	**P**	**00 27 30.9**	**+1.0**
	2.6nm,0.4s,baz=3.7,slow=7.6,SNR=74						
WRA				ScP	**ScP**	**00 32 04.7**	**+0.3**
	0.2nm,0.6s,baz=356,slow=4.0,SNR=4.6 2.6nm,0.4s						
ZALV	**Zalesovo Beam**	**48.73**	**319**	P	**P**	**00 27 41.2**	**-0.8**
	1.5nm,0.3s,baz=113,slow=6.9,SNR=10						
ZALV				ScP	**ScP**	**00 32 10.3**	**-0.7**
	0.7nm,0.6s,baz=108,slow=4.8,SNR=4.3 1.5nm,0.3s						
MKAR	**Makanchi Array**	**49.55**	**310**	P	**P**	**00 27 47.8**	**-0.5**
	0.8nm,0.6s,baz=89,slow=11,SNR=14						
MKAR				ScP	**ScP**	**00 32 14.5**	**-0.3**
	0.6nm,0.5s,baz=74,slow=4.9,SNR=14 0.8nm,0.6s						
ASAR	**Alice Springs**	**50.78**	**188**	P	**P**	**00 27 58.6**	**+0.9**
	0.4nm,0.5s,baz=354,slow=4.3,SNR=12 0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**52.20**	**315**	P	**P**	**00 28 06.9**	**-0.7**
	3.6nm,0.6s,baz=91,slow=8.2,SNR=45 3.6nm,0.6s						
NRIK	**Noril'sk**	**52.29**	**339**	P	**P**	**00 28 07.8**	**-0.2**
	2.2nm,0.4s,baz=113,slow=9.5,SNR=9.5 2.2nm,0.4s						
BVAR	**Borovoye Array**	**57.26**	**317**	P	**P**	**00 28 43.1**	**-0.1**
	3.3nm,0.4s,baz=86,slow=6.7,SNR=22 3.3nm,0.4s						
YKA	**Yellowknife Ar**	**72.85**	**28**	P	**P**	**00 30 23.8**	**+2.0**
	0.1nm,0.3s,baz=295,slow=6.0,SNR=2.0 0.1nm,0.3s						
ARCES	**ARCESS Array B**	**73.22**	**341**	P	**P**	**00 30 24.3**	**+0.4**
	3.6nm,0.9s,baz=47,slow=8.8,SNR=4.1 3.6nm,0.9s						
KBZ	**Khabaz**	**77.14**	**313**	P	**P**	**00 30 46.7**	**+0.4**
	1.0nm,0.6s,baz=100,slow=6.1,SNR=5.0 1.0nm,0.6s						
FINES	**FINESS Array B**	**77.48**	**333**	P	**P**	**00 30 48.0**	**+0.2**
	2.9nm,0.4s,baz=69,slow=4.8,SNR=47 2.9nm,0.4s						
AKASG	**Malin Array Be**	**81.94**	**323**	P	**P**	**00 31 11.4**	**-0.3**
	0.8nm,0.5s,baz=52,slow=4.8,SNR=2.4 0.8nm,0.5s						
HFS	**Hagfors**	**83.01**	**336**	P	**P**	**00 31 16.3**	**-0.7**
	2.1nm,0.7s,baz=111,slow=6.5,SNR=5.6 2.1nm,0.7s						
NOA	**NORSAR Array B**	**83.23**	**338**	P	**P**	**00 31 18.0**	**-0.1**
	0.6nm,0.4s,baz=54,slow=6.1,SNR=2.2 0.6nm,0.4s						
PLCA	**Paso Flores**	**150.79**	**126**	PKPbc	**PKiKP**	**00 38 43.7**	**+2.2**
	1.1nm,0.5s,baz=269,slow=2.3,SNR=4.2						

*DSN **27** 00:33:47.6±1.5,28.°61N×50.°54E,h15km,ML3.9/10,Error ellipse: s-maj=16.4km s-min=11.3km az=129.0*
*IDC **27** 00:34:03.3±1.2,27.°78N×51.°86E,h0km,mb3.8/11, mbtmp3.8/14,ML3.4/3,MS4.1/1,Error ellipse: s-maj=26.8km s-min=20.7km az=8.0*
*NEIC **27** 00:34:05.2±2.1,27.°8N±0.°1×51.°9E±0.°1,h10km±2km, mb4.0/12,Error ellipse: s-maj=23.6km s-min=14.5km az=226.0*
*TEH **27** 00:34:06.5,27.°79N×51.°93E,h20km±37km,ML3.6*
*OMAN **27** 00:34:14.0±1.2,27.°63N×52.°41E,h16km,mb4.1/8, ml3.8/12,Error ellipse: s-maj=11.0km s-min=4.8km az=178.0*

ISC 27 00:34:06.0±0.5,27.°83N±0.°03×52.°02E±0.°04,h10km,n117, σ1§79/145,mb3.8/16,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	**Dashti - Bushe**	**0.85**	**309**	Pg	**Pg**	**00 34 22.3**	**-0.1**
DSBU				Sg	**Sb**	**00 34 34.8**	**+0.4**
QIR1	**Qir**	**1.11**	**55**	Pg	**Pb**	**00 34 28.9**	**+1.6**
QIR1				Sg	**Sn**	**00 34 46.3**	**+3.2**
LMD1	**Lamerd**	**1.13**	**115**	Pg	**Pg**	**00 34 29.3**	**+1.6**
AHBU	**AHRAM**	**1.21**	**329**	Pg	**Pn**	**00 34 29.0**	**+0.1**
AHBU				Sg	**Sn**	**00 34 47.3**	**+1.9**
JHRM	**Jahrom**	**1.53**	**64**	Pg	**Pb**	**00 34 36.4**	**+1.9**
SHI	**Shiraz**	**1.86**	**14**	Pn	**Pn**	**00 34 39.6**	**+1.6**
LAR1	**LAR**	**2.10**	**94**	Pn	**Pn**	**00 34 42.5**	**+1.2**
SHMA	**Al-Shehemyia** SNR=6.7	**2.18**	**206**	P	**Pg**	**00 34 48.3**	**+0.5**
SHMA				S	**Sg**	**00 35 19.1**	**+3.1**
SAKB	**Bahrain**	**2.27**	**216**	P	**Pg**	**00 34 51.5**	**+2.0**
SAKB				S	**Sg**	**00 35 22.9**	**+4.0**
KLNJ	**Kolanjah**	**3.19**	**353**	Pn	**Pn**	**00 34 58.4**	**+1.9**
IRAM	**Rameshеh**	**3.98**	**5**	Pn	**Pn**	**00 35 08.2**	**+1.0**
IBND	**Bandar-abas**	**4.03**	**94**	Pn	**Pn**	**00 35 09.5**	**+1.8**
SHME	**Shamm** SNR=9.2	**4.09**	**115**	*i* P	**Pn**	**00 35 10.8**	**+2.2**
SHME	**Shamm** SNR=9.2	**4.09**	**115**	P	**Pn**	**00 35 10.6**	**+2.0**
SHME				S	**Sn**	**00 35 54.4**	**-2.1**
SHME	**Shamm**	**4.09**	**115**	Pn	**Pn**	**00 35 09.2**	**+0.7**
IBRJ	**Brojen**	**4.12**	**351**	Pn	**Pn**	**00 35 10.7**	**+1.6**
IMEH	**Mehriz**	**4.21**	**32**	Pn	**Pn**	**00 35 13.3**	**+2.9**
AJN	**Ajban** SNR=11	**4.21**	**140**	*i* P	**Pn**	**00 35 11.5**	**+1.2**
AJN	**Ajban** SNR=11	**4.21**	**140**	P	**Pn**	**00 35 12.8**	**+2.5**
AJN				S	**Sn**	**00 35 58.9**	**-0.5**
BANOM	**Banah**	**4.27**	**115**	P	**Pn**	**00 35 12.7**	**+1.6**
BANOM	**Banah**	**4.27**	**115**	P	**Pn**	**00 35 13.0**	**+1.9**
BANOM				S	**Sn**	**00 35 58.7**	**-2.4**
BANOM	**Banah**	**4.27**	**115**	Pn	**Pn**	**00 35 12.8**	**+1.6**
NAZ	**Nazwa, Dubai**	**4.33**	**130**	P	**Pn**	**00 35 13.4**	**+1.6**
NAZ	**Nazwa, Dubai**	**4.33**	**130**	P	**Pn**	**00 35 14.7**	**+2.9**
NAZ				S	**Sn**	**00 36 00.2**	**-2.1**
NAZ	**Nazwa, Dubai**	**4.33**	**130**	Pn	**Pn**	**00 35 13.0**	**+1.2**
ASUD	**Al Ashush, Dub** SNR=48	**4.37**	**136**	*i* P	**Pn**	**00 35 14.2**	**+1.8**
ASUD	**Al Ashush, Dub** SNR=48	**4.37**	**136**	P	**Pn**	**00 35 14.6**	**+2.3**
ASUD				S	**Sn**	**00 36 03.4**	**+0.1**
ASUD	**Al Ashush, Dub**	**4.37**	**136**	Pn	**Pn**	**00 35 14.4**	**+2.1**
MZWR	**Madinat Zayed**	**4.39**	**157**	Pn	**Pn**	**00 35 14.9**	**+2.2**
ZNGN	**Zangian**	**4.39**	**347**	Pn	**Pn**	**00 35 14.4**	**+1.4**
FAQ	**Al Faqa, Dubai**	**4.45**	**133**	P	**Pn**	**00 35 16.1**	**+2.7**
FAQ				S	**Sn**	**00 36 05.7**	**+0.4**
MASF	**Masafi** SNR=8.8	**4.45**	**123**	P	**Pn**	**00 35 15.5**	**+2.0**
MASF				S	**Sn**	**00 36 05.1**	**-0.2**
MSFE	**Esma-Masafi** SNR=8.3	**4.45**	**123**	*i* P	**Pn**	**00 35 15.3**	**+1.7**
MSFE	**Esma-Masafi**	**4.45**	**123**	Pn	**Pn**	**00 35 15.5**	**+1.9**
AMIS	**Naft Sefid**	**4.50**	**329**	Pn	**Pn**	**00 35 14.2**	**+0.1**
NGRK	**Negar Kerman**	**4.52**	**65**	Pn	**Pn**	**00 35 16.7**	**+1.9**
JHRN	**Jahan bin**	**4.54**	**345**	Pn	**Pn**	**00 35 14.9**	**+1.2**
KHGB	**Koh Gabri**	**4.66**	**56**	Pn	**Pn**	**00 35 19.1**	**+2.6**
TVBK	**TV Kerman**	**4.68**	**62**	Pn	**Pn**	**00 35 20.0**	**+3.0**
UOSS	**Minazif**	**4.73**	**126**	Pn	**Pn**	**00 35 19.1**	**+1.7**
UOSS	**Minazif** SNR=10	**4.73**	**126**	*i* P	**Pn**	**00 35 19.9**	**+2.5**
HATD	**Hatta, Dubai** SNR=7.5	**4.75**	**128**	*i* P	**Pn**	**00 35 19.6**	**+1.8**
HATD	**Hatta, Dubai** SNR=7.6	**4.75**	**128**	P	**Pn**	**00 35 19.4**	**+1.6**
HATD				S	**Sn**	**00 36 11.6**	**-1.4**
ASHO	**Ashiyiah** SNR=31	**4.80**	**130**	*i* P	**Pn**	**00 35 20.0**	**+1.7**
ASHO	**Ashiyiah** SNR=31	**4.80**	**130**	P	**Pn**	**00 35 20.0**	**+1.7**
ASHO				S	**Sn**	**00 36 13.5**	**-0.5**
IBAF	**Bafgh**	**4.86**	**39**	Pn	**Pn**	**00 35 21.8**	**+2.6**
ICHK	**Chekchek**	**4.86**	**25**	Pn	**Pn**	**00 35 21.8**	**+2.4**
MZR	**Muzera**	**4.99**	**164**	P	**Pn**	**00 35 24.6**	**+3.7**
MZR				S	**Sn**	**00 36 19.4**	**+0.8**
ZRDN	**Zarand Kerman**	**5.03**	**51**	Pn	**Pn**	**00 35 24.2**	**+2.4**
KHNJ	**Kahnooj**	**5.04**	**87**	Pn	**Pn**	**00 35 23.5**	**+1.9**
ALNE	**Al Ain** SNR=16	**5.04**	**137**	*i* P	**Pn**	**00 35 22.8**	**+1.1**
ALNE	**Al Ain** SNR=16	**5.04**	**137**	P	**Pn**	**00 35 23.1**	**+1.4**
IZEF	**Zefreh**	**5.05**	**3**	Pn	**Pn**	**00 35 24.0**	**+1.9**
CHMN	**Cheshme madani**	**5.25**	**66**	Pn	**Pn**	**00 35 27.2**	**+2.3**
KRM1	**Kerman Provinc**	**5.31**	**59**	Pn	**Pn**	**00 35 28.1**	**+2.5**
IKLH	**Kolahrood**	**5.48**	**356**	Pn	**Pn**	**00 35 28.6**	**+0.7**
SOHO	**SOHO** SNR=13	**5.49**	**131**	*i* P	**Pn**	**00 35 29.0**	**+1.3**
SOHO	**SOHO**	**5.49**	**131**	P	**Pn**	**00 35 29.1**	**+1.4**
SOHO				S	**Sn**	**00 36 30.9**	**-0.1**
JASK	**Jask - Hormozg** SNR=15	**5.58**	**109**	P	**Pn**	**00 35 31.2**	**+2.1**
JASK				S	**Sn**	**00 36 34.2**	**+0.8**
JASK	**Jask - Hormozg**	**5.58**	**109**	Pn	**Pn**	**00 35 30.5**	**+1.4**
KBAM	**BAM**	**5.81**	**76**	Pn	**Pn**	**00 35 35.1**	**+2.7**
ARQ	**Araqi** SNR=27	**6.05**	**137**	P	**Pn**	**00 35 36.5**	**+1.0**
ARQ				S	**Sn**	**00 36 44.0**	**-0.9**
KRSH	**Karshahi**	**6.12**	**1**	Pn	**Pn**	**00 35 37.4**	**+0.8**
HOQ	**Hoqain** SNR=16	**6.38**	**130**	P	**Pn**	**00 35 42.2**	**+2.1**
HOQ				S	**Sn**	**00 36 51.6**	**-1.4**
TPRV	**Parvadeh(Tabas**	**6.56**	**37**	Pn	**Pn**	**00 35 45.0**	**+2.4**
BSY	**Bisya** SNR=23	**6.90**	**136**	P	**Pn**	**00 35 48.3**	**+1.0**
BSY				S	**Sn**	**00 37 03.4**	**-2.5**
BIDO	**Bidbid**	**6.99**	**127**	S	**Sn**	**00 37 05.3**	**-2.6**
HSAM	**Samen**	**7.00**	**336**	Pn	**Pn**	**00 35 49.4**	**+0.6**
SMDO	**Samad** SNR=5.9	**7.23**	**130**	P	**Pn**	**00 35 53.7**	**+1.9**
SMDO				S	**Sn**	**00 37 12.9**	**-1.3**
TKDS	**Koohdasht(Taba**	**7.25**	**36**	Pn	**Pn**	**00 35 53.8**	**+1.8**
TNSJ	**Nastanj**	**7.28**	**32**	Pn	**Pn**	**00 35 54.8**	**+2.3**
HAGD	**Aghdareh**	**7.39**	**341**	Pn	**Pn**	**00 35 55.1**	**+0.9**
IKOM	**Komasi**	**7.41**	**330**	Pn	**Pn**	**00 35 55.3**	**+1.0**
WSAR	**Wadi Sarin** SNR=9.2	**7.52**	**126**	P	**Pn**	**00 35 58.1**	**+2.3**
WSAR				S	**Sn**	**00 37 18.8**	**-2.4**
WSAR	**Wadi Sarin**	**7.52**	**126**	Pn	**Pn**	**00 35 56.6**	**+0.8**
	1.2nm,0.3s,baz=290,slow=7.9,SNR=17						
WSAR	2.1nm,0.3s,baz=30,slow=20,SNR=7.5 4.1nm,0.4s			Sn	**Sn**	**00 37 18.5**	**-2.7**
JMDO	**Jabal Madar**	**7.75**	**133**	P	**Pn**	**00 35 59.1**	**+0.3**
JMDO				S	**Sn**	**00 37 22.7**	**-4.0**
ZHDN	**Zahedan**	**7.89**	**77**	Pn	**Pn**	**00 36 03.1**	**+2.2**
CHBR	**Chabahar**	**7.89**	**104**	Pn	**Pn**	**00 36 01.7**	**+0.9**
WBK	**Wadi Bani Khal** SNR=7.1	**8.16**	**128**	P	**Pn**	**00 36 06.3**	**+1.6**
WBK				S	**Sn**	**00 37 33.9**	**-3.1**
NGCH	**Negor - Chabah** SNR=16	**8.53**	**105**	P	**Pn**	**00 36 10.9**	**+1.4**
NGCH	**Negor - Chabah**	**8.53**	**105**	Pn	**Pn**	**00 36 10.8**	**+1.2**
MHTO	**MHTO** SNR=33	**8.71**	**140**	P	**Pn**	**00 36 12.7**	**+0.7**
MHTO				S	**Sn**	**00 37 46.0**	**-4.3**
JLN	**Jalan Bani Buh**	**8.77**	**129**	P	**Pn**	**00 36 13.5**	**+0.5**
JLN				S	**Sn**	**00 37 48.8**	**-3.1**
DQM	**DQM**	**9.35**	**146**	P	**Pn**	**00 36 21.6**	**+0.8**
WHFO	**Wadi Hawf**	**10.00**	**170**	P	**Pn**	**00 36 31.7**	**+1.9**
GEYT	**Alibeck**	**11.30**	**25**	Pn	**Pn**	**00 36 49.9**	**+2.4**
GEYT	**Alibeck**	**11.30**	**25**	Pn	**Pn**	**00 36 48.7**	**+1.2**
	0.2nm,0.3s,baz=210,slow=16,SNR=5.3 3.5nm,0.8s						
CHGR	**Chuyangaron**	**17.92**	**49**		**Pn**	**00 38 15.7**	**+0.3**
BRTR	**Keskin Array B**	**19.30**	**313**	P	**P**	**00 38 30.0**	**-1.2**
	0.1nm,0.3s,baz=130,slow=14,SNR=5.2						
BRTR				ScP	**ScP**	**00 46 27.7**	**-2.0**
	0.3nm,0.6s,baz=157,slow=3.7,SNR=1.8 0.7nm,0.8s						
BR231	**Keskin MP Arra**	**19.92**	**312**	Pn	**P**	**00 38 37.9**	**-0.1**
BR231				IAmb	IAmb	00 38 42.0	
	comp=Z,5.9nm,0.7s						
KK31	**Karatay Array**	**21.36**	**40**	P	**P**	**00 38 54.1**	**+0.7**
KK31				IAmb	IAmb	00 38 56.5	
	comp=Z,2.1nm,0.7s						
KKAR	**Karatay Array**	**21.36**	**40**	P	**P**	**00 38 52.5**	**-0.8**
ABKAR	**Akbulak array**	**22.25**	**14**	P	**P**	**00 39 01.6**	**-1.2**
BVAR	**Borovoye Array**	**28.62**	**23**	P	**P**	**00 40 02.3**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=210,slow=7.9,SNR=6.6						
BVAR				PcP	**PcP**	**00 43 12.7**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=212,slow=2.2,SNR=2.6 comp=Z,0.7nm,0.5s						
BUR08	**Bucovina Ar. S**	**28.76**	**321**	P	**P**	**00 40 03.7**	**-0.2**
BUR08				IAmb	IAmb	00 40 23.5	
	comp=Z,4.2nm,1.2s						
MK31	**Makanchi Array**	**30.35**	**43**	P	**P**	**00 40 18.0**	**+0.2**
MK31				IAmb	IAmb	00 40 32.4	
	comp=Z,3.3nm,1.1s						
MKAR	**Makanchi Array**	**30.35**	**43**	P	**P**	**00 40 17.2**	**-0.7**
MKAR	**Makanchi Array**	**30.35**	**43**	P	**P**	**00 40 18.0**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=242,slow=3.9,SNR=4.1 comp=Z,1.2nm,0.9s						
KURBB	**Kurchatov Arra**	**30.37**	**34**	P	**P**	**00 40 17.4**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=231,slow=9.1,SNR=6.6 comp=Z,0.7nm,0.7s						
ZAA0	**Zalesovo Array**	**35.45**	**34**	P	**P**	**00 41 01.2**	**-1.0**
ZAA0				IAmb	IAmb	00 41 02.9	
	comp=Z,3.2nm,1.1s						
ZALV	**Zalesovo Beam**	**35.45**	**34**	P	**P**	**00 41 01.5**	**-0.7**
ZALV	**Zalesovo Beam**	**35.45**	**34**	P	**P**	**00 41 01.7**	**-0.6**
	comp=Z,2.0nm,0.4s,baz=243,slow=9.2,SNR=14 comp=Z,2.0nm,0.4s						
FIA1	**FINESS Array S**	**37.82**	**340**	P	**P**	**00 41 21.4**	**-0.9**
FINES	**FINESS Array B**	**37.82**	**340**	P	**P**	**00 41 21.4**	**-0.9**
FINES	**FINESS Array B**	**37.82**	**340**	P	**P**	**00 41 21.2**	**-1.1**
	comp=Z,5.6nm,1.0s,baz=145,slow=7.0,SNR=8.3 comp=Z,5.6nm,1.0s						
HFS	**Hagfors**	**41.42**	**332**	P	**P**	**00 41 51.3**	**-1.1**
	comp=Z,3.2nm,0.5s,baz=116,slow=10,SNR=15 comp=Z,3.2nm,0.5s						
NC405	**NORSAR Array S**	**42.78**	**332**	P	**P**	**00 42 01.9**	**-1.5**
NB2	**NORSAR Subarra**	**42.95**	**332**	P	**P**	**00 42 03.4**	**-1.5**
	comp=Z,1.5nm,0.6s,baz=122,slow=8.6						
NOA	**NORSAR Array B**	**42.95**	**332**	P	**P**	**00 42 03.0**	**-1.9**
	comp=Z,0.7nm,0.5s,baz=126,slow=8.9,SNR=4.5 comp=Z,0.7nm,0.5s						
SONM	**Songino Array**	**46.31**	**49**	P	**P**	**00 42 32.2**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=234,slow=5.0,SNR=2.1 comp=Z,0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**49.02**	**263**	P	**P**	**00 42 51.2**	**-2.1**
	comp=Z,0.5nm,0.8s,baz=67,slow=9.1,SNR=3.3 comp=Z,0.5nm,0.8s						
JMIC	**Jan Mayen**	**54.44**	**339**	LR	LR	01 08 13.7	
	comp=Z,172nm,18.8s,baz=287,slow=38						
C23K	**Itkillik River**	**81.25**	**8**	P	**P**	**00 46 22.2**	**+0.4**
C23K				IAmb	IAmb	00 46 33.8	
	comp=Z,4.4nm,1.4s						
E19K	**Redstone River**	**82.50**	**11**	P	**P**	**00 46 27.7**	**-0.7**
BMAR	**Burnt Mountain**	**84.22**	**6**	P	**P**	**00 46 37.1**	**-0.2**
YKA	**Yellowknife Ar**	**89.35**	**354**	P	**P**	**00 47 01.9**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=5.6,slow=5.6,SNR=7.5 comp=Z,0.2nm,0.6s						
WRA	**Warramunga Arr**	**92.65**	**111**	P	**P**	**00 47 17.4**	**-1.1**
	comp=Z,0.1nm,0.7s,baz=317,slow=3.7,SNR=1.0 comp=Z,0.1nm,0.7s						

*MOS **27** 01:06:27.5±0.9,48.°55N×153.°19E,h151km,mb4.2/5,Error ellipse: s-maj=16.5km s-min=8.5km az=63.4*
*SKHL **27** 01:06:28.5±0.0,48.°60N×153.°10E,h145km±4km,mb4.9/5, msh5.4/5*
*NEIC **27** 01:06:29.6±1.4,48.°7N±0.°2×153.°1E±0.°2,h149km±9km, mb4.1/41,Error ellipse: s-maj=25.6km s-min=12.3km az=144.0*
*IDC **27** 01:06:31.4±2.2,48.°65N×153.°22E,h170km±21km, mb3.4/16,mbtmp3.8/19,MS3.9/1,Error ellipse: s-maj=16.7km s-min=11.1km az=155.0*

ISC 27 01:06:28.8±0.5,48.°50N±0.°09×153.°23E±0.°08,h150km, n109,σ1§27/108,mb4.0/40,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.88**	**40**	*e*P	**Pn**	**01 07 14.0**	**-0.5**
SKR				AMB	AMB	01 07 16.5	
	80nm,0.4s						
SKR				*e*S	**Sn**	**01 07 48.1**	**-1.8**
SKR				A	A	01 07 51.8	
	330nm,0.5s						
SKR				A	A	01 07 51.8	
	320

NMR	Nemuro--Hokkai	7.33	228	*e*PN		Pn		01 08 13.8	+0.7
NMR				*e*S		Sn		01 09 31.5	-3.5
ASAJ	Asahikawa	8.57	243	P		Pn		01 08 33.9	+4.3
	comp=E,18nm,0.7s,baz=107,slow=12,SNR=3.7								
ERM	Erimo	9.62	231	Pn		Pn		01 08 46.4	+2.8
ERM	Erimo	9.62	231	PN		Pn		01 08 46.4	+2.8
JTM	Tenmabayashi	11.59	233	Pn		Pn		01 09 06.4	-3.2
KLR	Kul'dur	14.16	281	P		P		01 09 47.5	+2.1
	comp=E,2.4nm,0.6s,baz=80,slow=12,SNR=4.4								
USRK	Ussuriysk Ar.	15.28	262	P		P		01 10 00.3	+2.4
	comp=E,1.3nm,0.5s,baz=55,slow=12,SNR=4.6								
ATKA	Atka Island	21.01	68	P		P		01 11 01.2	+1.0
KSRS	Korea Array	21.46	248	P		P		01 11 06.9	+1.7
	comp=E,0.9nm,0.5s,baz=52,slow=8.3,SNR=2.2								
	comp=E,0.9nm,0.5s								
H18K	Honhosa River	30.30	39	P		P		01 12 25.6	+0.1
H18K				IAmb		IAmb		01 13 06.9	
	comp=E,8.3nm,1.4s								
G18K	Tagagawik	30.32	37	P		P		01 12 24.7	-0.9
G18K				IAmb		IAmb		01 13 06.4	
	comp=Z,4.1nm,1.2s								
M17K	Holitna River	30.32	46	P		P		01 12 25.7	0.0
M17K				IAmb		IAmb		01 13 01.8	
	comp=Z,6.0nm,1.1s								
N17K	Nushagak Hills	30.42	48	P		P		01 12 26.3	-0.3
N17K				IAmb		IAmb		01 12 28.5	
	comp=Z,8.2nm,1.4s								
H11N2	WAKE ISLAND Hy	30.75	154	T		T		01 44 49.6	
	baz=343,slow=76,SNR=8.2								
H11N1	WAKE ISLAND Hy	30.76	154	T		T		01 44 49.7	
	baz=343,slow=76,SNR=15								
H11N3	WAKE ISLAND Hy	30.77	154	T		T		01 45 04.7	
	baz=343,slow=76,SNR=2.7								
SONM	Songino Array	30.87	287	P		P		01 12 30.9	0.0
	comp=Z,0.5nm,0.7s,baz=57,slow=9.0,SNR=3.6								
	comp=Z,0.5nm,0.7s								
TTA	Tatalina	31.07	43	P		P		01 12 32.0	-0.3
TTA				IAmb		IAmb		01 12 40.3	
	comp=Z,5.9nm,1.4s								
TTA	Tatalina	31.07	43	P		P		01 12 32.0	-0.3
TTA				pmax		pmax			
	comp=Z,6.0nm,1.4s								
H19K	Roundabout Mou	31.15	38	P		P		01 12 32.3	-0.6
H19K				IAmb		IAmb		01 12 58.6	
	comp=Z,9.3nm,1.5s								
H11S1	WAKE ISLAND Hy	31.85	155	T		T		01 46 12.5	
	baz=344,slow=76,SNR=43								
H11S3	WAKE ISLAND Hy	31.86	155	T		T		01 46 15.7	
	baz=344,slow=76,SNR=56								
H11S2	WAKE ISLAND Hy	31.87	155	T		T		01 46 16.4	
	baz=344,slow=76,SNR=37								
IMAR	Indian Mountai	32.32	38	P		P		01 12 42.3	-0.8
B21K	Ikpikpuk River	32.61	31	P		P		01 12 45.7	+0.1
D22K	Ayikyak River	33.13	32	P		P		01 12 50.5	+0.3
B22K	Teshekpuk Lake	33.17	30	P		P		01 12 50.0	-0.5
B22K				IAmb		IAmb		01 12 53.5	
	comp=Z,8.4nm,1.4s								
E22K	Anaktuvuk Pass	33.34	34	P		P		01 12 51.4	-0.6
KTH	Kantishna Hill	33.39	42	P		P		01 12 53.4	+0.8
KTH				IAmb		IAmb		01 13 21.0	
	comp=Z,5.8nm,1.3s								
SUA	Susitna One	33.54	46	P		P		01 12 53.2	-0.7
SUA				IAmb		IAmb		01 13 09.5	
	comp=Z,7.8nm,1.4s								
TRF	Thorofare Moun	33.68	42	P		P		01 12 55.2	0.0
C23K	Itkillik River	34.02	31	P		P		01 12 58.0	+0.2
C23K				IAmb		IAmb		01 12 59.9	
	comp=Z,8.8nm,1.4s								
BWN	Browne	34.04	41	P		P		01 12 59.5	+1.5
GHO	Glory Hole Cre	34.38	45	P		P		01 13 00.3	-0.8
E24K	Your Creek	34.57	34	P		P		01 13 02.0	-0.6
SML	Sawmill	34.66	45	P		P		01 13 03.1	-0.4
CCB	Clear Creek Bu	34.75	40	P		P		01 13 04.0	-0.1
DHY	Denali Highway	35.01	43	P		P		01 13 06.2	-0.4
DHY				IAmb		IAmb		01 13 27.9	
	comp=Z,3.9nm,1.3s								
SCM	Sheep Creek Mo	35.13	45	P		P		01 13 07.5	-0.1
SCM	Sheep Creek Mo	35.13	45	P		P		01 13 07.5	-0.1
SCM				pmax		pmax			
	comp=Z,18nm,1.5s								
ILAR	Eielson Array	35.14	40	P		P		01 13 07.1	-0.4
ILAR	Eielson Array	35.14	40	P		P		01 13 07.1	-0.4
ILAR	Eielson Array	35.14	40	P		P		01 13 06.9	-0.6
	comp=Z,0.3nm,0.5s,baz=264,slow=5.3,SNR=15								
	comp=Z,0.3nm,0.5s								
PRP	Porcupine Dome	35.69	39	P		P		01 13 12.4	0.0
SCRK	Sand Creek	36.45	41	P		P		01 13 18.1	-0.7
SCRK				IAmb		IAmb		01 13 18.9	
	comp=Z,7.1nm,1.5s								
M26K	Nabesna, AK	37.09	44	P		P		01 13 25.2	+1.1
M26K				IAmb		IAmb		01 13 26.1	
	comp=Z,3.5nm,1.1s								
K27K	Chicken	37.28	41	P		P		01 13 25.4	-0.3
CRQM	Cirque	37.29	47	P		P		01 13 26.5	+0.5
BCAR	Beaver Creek A	37.54	43	P		P		01 13 28.7	+0.8
I28M	Miner Creek	38.02	39	P		P		01 13 32.5	+0.5
I28M				IAmb		IAmb		01 14 02.0	
	comp=Z,6.1nm,1.5s								
CTGM	Chitina Glacie	38.12	46	P		P		01 13 33.6	+0.7
G30M	tAoh Zraii Nji	39.31	36	P		P		01 13 43.1	+0.5
G30M				IAmb		IAmb		01 13 52.3	
	comp=Z,5.5nm,1.5s								
I30M	Mount Dempster	39.53	39	P		P		01 13 45.0	+0.4
I30M				IAmb		IAmb		01 14 06.1	
	comp=Z,5.9nm,1.5s								
ZALV	Zalesovo Beam	41.67	304	P		P		01 14 02.9	+0.8
	comp=Z,0.3nm,0.3s,baz=100,slow=15,SNR=1.9								
	comp=Z,0.3nm,0.3s								
TGY	Tagaytay City	43.42	229	LR		LR		01 33 00.4	
	comp=Z,162nm,21.6s,baz=122,slow=36								
MK31	Makanchi Array	46.23	296	P		P		01 14 39.1	+0.5
MK31				IAmb		IAmb		01 15 15.7	
	comp=Z,5.7nm,1.3s								
MK31	Makanchi Array	46.23	296	P		P		01 14 39.1	+0.5
MK31				pmax		pmax			
	comp=Z,6.0nm,1.3s								
MKAR	Makanchi Array	46.23	296	P		P		01 14 38.9	+0.3
MKAR	Makanchi Array	46.23	296	*e*P		P		01 14 38.9	+0.3
MKAR	Makanchi Array	46.23	296	P		P		01 14 38.9	+0.3
MKAR	Makanchi Array	46.23	296	P		P		01 14 38.3	-0.3
	comp=Z,1.1nm,0.8s,baz=56,slow=7.0,SNR=8.2								
	comp=Z,1.1nm,0.8s								
MAKZ	Makanchi	46.41	296	P		P		01 14 39.5	-0.5
MAKZ				IAmb		IAmb		01 15 07.6	
	comp=Z,8.0nm,1.2s								
MAKZ	Makanchi	46.41	296	P		P		01 14 39.5	-0.5
MAKZ				pmax		pmax			
	comp=Z,8.0nm,1.2s								
KURK	Kurchatov	46.48	302	P		P		01 14 40.3	-0.1
KURK				IAmb		IAmb		01 14 41.2	
	comp=Z,2.4nm,0.6s								
KURK	Kurchatov	46.48	302	*e*P		P		01 14 40.9	+0.5
KURK	Kurchatov	46.48	302	P		P		01 14 40.9	+0.5
KURBB	Kurchatov Arra	46.57	302	P		P		01 14 40.9	-0.2
	comp=Z,2.0nm,0.6s,baz=68,slow=8.4,SNR=26								
	comp=Z,2.0nm,0.6s								
EUNU	Eureka	47.39	12	P		P		01 14 47.2	-0.1
YKA	Yellowknife Ar	49.48	38	P		P		01 15 03.4	+0.1
	comp=Z,0.6nm,0.7s,baz=298,slow=7.4,SNR=9.8								
YKA				PcP		PcP		01 16 23.4	+0.5
	comp=Z,0.1nm,0.4s,baz=318,slow=3.9,SNR=2.2								
	comp=Z,0.6nm,0.7s								
BVAR	Borovoye Array	49.82	308	P		P		01 15 05.5	-0.5
	comp=Z,0.6nm,0.3s,baz=53,slow=8.5,SNR=6.8								
	comp=Z,0.6nm,0.3s								
ABKAR	Akbulak array	57.38	309	P		P		01 16 00.6	-0.5
PLID	Pearl Lake	58.62	56	P		P		01 16 10.3	+0.2
PLID				IAmb		IAmb		01 16 11.8	
	comp=Z,2.4nm,0.9s								
CHGR	Chuyangaron	58.78	294	P		P		01 16 10.9	-0.2
CHGR	Chuyangaron	58.78	294	P		P		01 16 10.9	-0.2
CHGR				pmax		pmax			
	comp=Z,5.0nm,0.8s								
CHMT	Chamberlain Mo	58.95	53	P		P		01 16 12.1	-0.2
FCC	Fort Churchill	59.76	34	P		P		01 16 16.9	-0.4
FCC	Fort Churchill	59.76	34	P		P		01 16 16.9	-0.4
FCC				pmax		pmax			
	comp=Z,2.0nm,1.2s								
BOZ	Bozeman (W)	60.66	53	P		P		01 16 24.2	+0.3
BOZ				IAmb		IAmb		01 16 48.8	
	comp=Z,3.1nm,1.5s								
BOZ	Bozeman (W)	60.66	53	P		P		01 16 24.2	+0.3
BOZ				pmax		pmax			
	comp=Z,3.0nm,1.5s								
NVAR	Mina Array Bea	61.56	63	P		P		01 16 30.2	+0.1
	comp=Z,0.6nm,0.7s,baz=292,slow=7.3,SNR=4.0								
	comp=Z,0.6nm,0.7s								
FINES	FINESS Array B	62.49	334	P		P		01 16 35.4	-0.3
FINES	FINESS Array B	62.49	334	P		P		01 16 35.4	-0.3
FINES	FINESS Array B	62.49	334	P		P		01 16 34.5	-1.2
	comp=Z,2.0nm,0.8s,baz=27,slow=6.4,SNR=7.5								
	comp=Z,2.0nm,0.8s								
Q12A	Willow Creek R	63.20	61	P		P		01 16 42.7	+1.8
PDAR	Pinedale Array	63.66	55	P		P		01 16 44.4	+0.4
	comp=Z,0.8nm,0.8s,baz=316,slow=2.1,SNR=7.3								
	comp=Z,0.8nm,0.8s								
HFS	Hagfors	66.85	339	P		P		01 17 03.4	-0.6
	comp=Z,5.0nm,1.0s,baz=32,slow=5.8,SNR=4.3								
	comp=Z,5.0nm,1.0s								
WRA	Warramunga Arr	70.20	199	P		P		01 17 25.4	+0.3
	comp=Z,8nm,0.7s,baz=14,slow=6.8,SNR=4.6								
	comp=Z,0.8nm,0.7s								
ASAR	Alice Springs	73.90	198	P		P		01 17 48.6	+1.5
	comp=Z,0.5nm,0.5s,baz=9.9,slow=5.5,SNR=11								
	comp=Z,0.5nm,0.5s								
EKA	Eskdalemuir Ar	74.66	346	P		P		01 17 51.2	0.0
	comp=Z,1.2nm,0.7s,baz=11,slow=4.9,SNR=4.2								
	comp=Z,1.2nm,0.7s								
TX31	Lajitas Ar. Si	76.56	61	P		P		01 18 02.9	+0.2
TXAR	Lajitas Array	76.56	61	P		P		01 18 02.5	-0.2
TXAR	Lajitas Array	76.56	61	P		P		01 18 02.8	+0.1
	comp=Z,0.3nm,0.4s,baz=297,slow=5.1,SNR=21								
	comp=Z,0.3nm,0.4s								
H03N2	Juan Fernandez	138.65	88	T		T		03 59 27.6	
	baz=310,slow=77,SNR=3.1								
H03N1	Juan Fernandez	138.66	88	T		T		03 59 28.4	
	baz=310,slow=77,SNR=3.4								
H03N3	Juan Fernandez	138.67	88	T		T		03 59 27.8	
	baz=310,slow=77,SNR=3.3								
PLCA	Paso Flores	148.24	92	PKPbc		PKPbc		01 25 56.1	-0.5
	comp=Z,1.2nm,0.7s,baz=19,slow=2.2,SNR=3.0								

*IDC **27** 01:08:33.7±1.7,54.°16N×169.°18E, h0km, mb3.3/4, mbtmp3.4/6, ML3.6/2, Error ellipse: s-maj=56.4km s-min=22.9km az=9.0*
*KRSC **27** 01:08:35.0±1.2,53.°78N×169.°14E, h40km±32km, Ml4.1*
ISC 27 01:08:35.7±0.9,**53.8N**±0.1×**169.26E**±0.06,**h17**km,**n21**,
σ1§**77**/22,**mb3.4**/4,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
BKI	Bering	2.35	307	*e*P		Pn	01 09 13.0	-0.5	
BKI				*e*S		Sn	01 09 40.9	-1.1	
SHEM	Shemya Is, Ala	3.11	109	Pn		Pn	01 09 25.2	+1.3	
	14nm,0.3s,baz=293,slow=15,SNR=1.8								
SHEM				Sn		Sn	01 10 01.7	+1.0	
	9.3nm,0.3s,baz=292,slow=22,SNR=1.2								
	46nm,0.5s								
TUMD	Tumrok D	5.34	288	*e*S		Sn	01 10 56.0	+0.4	
BZMR	Bezymyannaya	5.48	296	*e*S		Sn	01 11 02.2	+3.0	
TUMR	Tumrok	5.50	289	*e*S		Sn	01 10 58.8	-0.8	
KMNR	Kamenistaya	5.56	294	*e*P		Pn	01 09 59.4	+1.7	
KMNR				*e*S		Sn	01 11 01.0	-0.2	
KOK	Koryaka	6.35	269	*e*P		Pn	01 10 10.0	+1.5	
KRMR	Karymshinskiy	6.74	266	*e*P		Pn	01 10 15.9	+2.1	
KRMR				*e*S		Sn	01 11 28.5	-1.6	
GRL	Gorelyy	6.84	264	*e*P		Pn	01 10 17.8	+2.5	
GRL				*e*S		Sn	01 11 30.9	-1.9	
PETK	Petropavlovsk-	6.94	269	Pn		Pn	01 10 18.3	+1.8	
	2.3nm,0.3s,baz=81,slow=19,SNR=2.6								
PETK				Sn		Sn	01 11 34.0	-1.0	
	1.1nm,0.3s,baz=13,slow=26,SNR=4.1								
	2.6nm,0.4s								
ASAK	Asacha	6.99	263	*e*P		Pn	01 10 20.1	+2.8	
ASAK				*e*S		Sn	01 11 35.1	-1.3	
ILAR	Eielson Array	24.37	46	P		P	01 13 51.3	-1.2	
	0.2nm,0.6s,baz=252,slow=7.3,SNR=1.7								
	0.2nm,0.6s								
H11N2	WAKE ISLAND Hy	34.09	184	T		T	01 51 41.3		
	baz=2.4,slow=76,SNR=281								
H11N3	WAKE ISLAND Hy	34.11	184	T		T	01 51 35.4		
	baz=2.4,slow=76,SNR=14								
H11N1	WAKE ISLAND Hy	34.11	184	T		T	01 51 42.6		
	baz=2.4,slow=76,SNR=286								
H11S1	WAKE ISLAND Hy	35.32	184	T		T	01 53 12.7		
	baz=2.4,slow=76,SNR=164								
H11S3	WAKE ISLAND Hy	35.33	184	T		T	01 53 14.1		
	baz=2.4,slow=76,SNR=38								
H11S2	WAKE ISLAND Hy	35.34	184	T		T	01 53 13.9		
	baz=2.4,slow=76,SNR=108								
KURBB	Kurchatov Arra	51.97	306	P		P	01 17 40.9	-2.5	
	0.2nm,0.7s,baz=51,slow=7.2,SNR=1.3								
	0.2nm,0.7s								
BVAR	Borovoye Array	54.07	313	P		P	01 17 57.8	-1.1	
	0.6nm,0.5s,baz=47,slow=8.7,SNR=4.6								
	0.6nm,0.5s								
TXAR	Lajitas Array	65.23	74	P		P	01 19 17.4	+1.1	
	0.2nm,0.5s,baz=306,slow=5.6,SNR=5.3								
	0.2nm,0.5s								

*TEH **27** 01:15:52.8, 34.°30N×45.°70E, h10km±269km, ML2.6*
*ISN **27** 01:15:55.2±0.4, 34.°08N×45.°73E, h2km±3km, ML2.8*
ISC 27 01:15:52.9±1.2,**34.29N**±0.04×**45.70E**±0.04,**h10**km,**n8**,
σ1§**66**/11,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
KGS1	Ghasr-e-Shirin	0.23	336	Pg		Pg	01 15 58.6	+0.9	
IDHR	Dehrash	0.70	54	Pg		Pg	01 16 05.6	-0.8	
IDHR				Sg		Sb	01 16 16.2	-0.8	
ILBA	Ilam Banvizeh	0.79	148	Pg		Pg	01 16 07.7	-0.5	
IBDR	Badra	1.20	171	*e*Pg		Pg	01 16 17.0	+1.1	
	baz=350								
ILIN	Lien	1.21	59	Pg		Pg	01 16 16.7	+0.5	
BHD	Baghdad	1.50	228	*e*Pn		Pg	01 16 22.0	+0.3	
BHD				*e*Sn		Sg	01 16 41.0	-0.2	
BHD				AML		AML	01 16 51.5		
	comp=E,170nm,0.6s								
IKOM	Komasi	1.50	94	Pg		Pg	01 16 21.5	-0.3	
IKOM				Sg		Sg	01 16 45.3	+4.0	
HSAM	Samen	2.40	91	Pn		Pb	01 16 35.0	-1.5	

*IDC **27** 01:20:30.5±0.9, 15.°75S×173.°32W, h0km, mb3.8/8, mbtmp3.8/8, MS3.6/6, Error ellipse: s-maj=45.3km s-min=21.6km az=143.0*
*NOU **27** 01:20:53.0, 13.°32S×171.°96W, h15km, MLv3.1/4, Samoa Islands*
ISC 27 01:20:31.8±0.9,**15.5S**±0.2×**173.3W**±0.2,**h10**km,**n25**,
σ1§**88**/11,**mb3.7**/8,**MS3.5**/7,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
AFI	Afiamalu	2.18	42	P		Pn	01 21 05.6	-2.6	
RAO	Raoul Island	14.30	197	LR		LR	01 28 37.5		
	comp=Z,94nm,21.6s,baz=172,slow=35								
PAE	Paea	22.80	99	*e*T		T	01 49 32.2		
	3.4nm,0.3s								
PPT	Papeete	22.81	98	LR		LR	01 32 21.0		
	comp=Z,37nm,18.7s,baz=356,slow=31								
PPT2	Papeete2	22.81	98	*e*LR		LR	01 31 02.3		
	comp=Z,156nm,28.2s								
PPT2				*e*LR		LR	01 31 23.8		
	comp=Z,90nm,24.8s								
PPT2	Papeete2	22.81	98	*e*T		T	01 49 40.2		
	3.8nm,0.5s								
TBI	Tubuai	23.74	113	*e*LR		LR	01 31 30.6		
	comp=Z,707nm,25.5s								
TBI	Tubuai	23.74	113	*e*T		T	01 50 59.6		
	6.5nm,0.4s								
URZ	Urewera	24.16	199	LR		LR	01 34 27.1		
	comp=Z,153nm,18.8s,baz=121,slow=35								
HNR	Honiara	26.82	280	LR		LR	01 34 27.4		
	comp=Z,995nm,20.9s,baz=360,slow=31								
RPZ	Rata Peaks	31.09	202	LR		LR	01 38 26.5		
	comp=Z,84nm,18.4s,baz=34,slow=35								
H11N3	WAKE ISLAND Hy	40.09	330	T		T	02 09 41.8		
	baz=150,slow=76,SNR=11								
H11N1	WAKE ISLAND Hy	40.10	330	T		T	02 09 43.3		
	baz=150,slow=76,SNR=13								
H11N2	WAKE ISLAND Hy	40.11	330	T		T	02 09 45.2		
	baz=150,slow=76,SNR=12								
WRA	Warramunga Arr	49.93	257	P		P	01 29 26.2	0.0	
	0.6nm,0.7s,baz=90,slow=7.0,SNR=10								
	0.6nm,0.7s								
ASAR	Alice Springs	50.18	252	P		P	01 29 27.8	-0.3	
	2.1nm,0.5s,baz=85,slow=8.3,SNR=23								
	2.1nm,0.5s								
NVAR	Mina Array Bea	74.36	42	P		P	01 32 12.2	+2.1	
	0.5nm,0.8s,baz=217,slow=4.7,SNR=5.1								
	0.5nm,0.8s								
QSPA	South Pole Qui	74.50	180	P		P	01 32 08.6	-1.8	
	0.8nm,0.3s,baz=89,slow=11,SNR=5.1								
	0.8nm,0.3s								
TXAR	Lajitas Array	80.59	56	P		P	01 32 48.1	+3.0	
	0.5nm,0.9s,baz=224,slow=3.5,SNR=4.5								
	0.5nm,0.9s								
PDAR	Pinedale Array	82.29	42	P		P	01 32 56.0	+2.0	
	0.5nm,0.8s,baz=190,slow=2.7,SNR=4.1								
	0.5nm,0.8s								
ILAR	Eielson Array	82.56	11	P		P	01 32 54.1	-0.5	
	0.9nm,1.1s,baz=219,slow=7.6,SNR=5.0								
	0.9nm,1.1s								
YKA	Yellowknife Ar	90.18	23	P		P	01 33 31.5	-0.5	
	0.4nm,0.9s,baz=232,slow=5.0,SNR=5.2								
	0.4nm,0.9s								
SONM	Songino Array	95.03	318	LR		LR	02 15 44.7		
	comp=Z,31nm,19.2s,baz=340,slow=35								
GERES	GERESS Array B	146.30	352	PKPbc		PKPbc	01 40 12.5	-0.4	
	0.2nm,0.5s,baz=27,slow=6.6,SNR=2.2								
BRTR	Keskin Array B	146.34	321	PKPbc		PKPab	01 40 14.2	0.0	
	0.9nm,0.8s,baz=35,slow=4.5,SNR=5.9								

*GRAL **27** 01:56:56.5±0.4, 35.°53N×36.°59E, h0km±4km, MD3.1*
*AFAD **27** 01:56:59.7±0.0, 35.°66N×37.°04E, h7km±2km, ML1.9*
ISC 27 01:56:56.5±1.6,**35.40N**±0.04×**36.8E**±0.1,**h8**km±13km,**n12**,
σ1§**62**/16,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
RHAN	Hatay/Reyhanl	0.87	350	P		Pg	01 57 13.0	-0.3	
RHAN				S		Sg	01 57 25.1	+0.5	
RHAN				*i* AML		AML	01 57 26.0		
	comp=Z,47nm,0.2s								
RHAN				*i* AML		AML	01 57 26.0		
	comp=N,67nm,0.3s								
RHAN				*i* AML		AML	01 57 28.0		
	comp=E,80nm,0.6s								
BEIL	Beino	0.99	210	*e*P		Pg	01 57 15.2	-0.4	
BEIL				*e*S		Sg	01 57 28.9	+0.5	
HWQ	Hawqa	1.32	212	*e*P		Pg	01 57 20.6	-1.3	
HWQ				*e*S		Sg	01 57 38.6	-0.3	
HASA	Hatay-Hassa-Ha	1.37	350	P		Pg	01 57 21.9	-0.9	
HASA				S		Sg	01 57 38.7	-1.9	
BHL	Bhannes	1.76	212	*e*P		Pn	01 57 27.4	0.0	
KAMA	Osmaniye	1.78	357	P		Pn	01 57 29.0	+1.3	
KAMA				S		Sn	01 57 49.0	-1.6	
KAMA				*i* AML		AML	01 58 30.0		
	comp=E,16nm,2.0s								
HCB	Kahramanmara	1.94	3	P		Pn	01 57 31.9	+2.1	
HCB				S		Sn	01 57 52.1	-2.3	
KHMR	Kahramanmara	1.94	3	P		Pn	01 57 32.4	+2.5	
DQRL	Deir Qamar	1.97	211	*e*P		Pn	01 57 30.3	0.0	
GZT	Gaziantep	2.05	18	P		Pn	01 57 33.6	+2.2	
GZT				S		Sn	01 57 57.0	-0.2	
GZT				*i* AML		AML	01 58 03.0		
	comp=E,13nm,0.3s								
GZT				*i* AML		AML	01 58 06.0		
	comp=N,15nm,0.4s								
RCY	Rachaya	2.06	203	*e*P		Pn	01 57 32.2	+0.7	
SURC	SANLIURFA_SURC	2.09	44	P		Pn	01 57 32.3	+0.5	
SURC				S		Sn	01 57 56.9	-1.1	
SURC				*i* AML		AML	01 58 03.0		
	comp=Z,11nm,0.2s								
SURC				*i* AML		AML	01 58 03.0		
	comp=E,26nm,0.3s								
SURC				*i* AML		AML	01 58 04.0		
	comp=N,18nm,0.5s								

*IDC **27** 02:12:49.8±1.2, 67.°71N×33.°84E, h0km, mb3.3/1, mbtmp3.6/6, ML2.9/5, MS3.9/1, Error ellipse: s-maj=14.6km s-min=8.8km az=70.0*
*KOLA **27** 02:12:49.6, 67.°64N×33.°78E, h0km, ML2.3, Error ellipse: s-maj=8.7km s-min=3.0km az=140.0, Khibiny, mines Kirovsk, Yukspor,Khibiny, mines Rasvumchorr, Central*
*HEL **27** 02:12:50.3±0.2, 67.°74N×33.°70E, h0km, ML2.1, Suspected explosion*
ISC 27 02:12:48.2±0.8,**67.62N**±0.04×**33.83E**±0.03,**h0**km,**n35**,
σ1§**69**/57,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
APA	Apatity	0.17	253	P		Pg	02 12 52.6	+1.2	
APA				S		Sg	02 12 55.0	+1.4	
APA0	Apatity Array	0.32	268	P		Pg	02 12 54.7	+0.4	
APA0				S		Sg	02 12 59.1	+0.7	
LVZ	Lovozero	0.42	48	PG		Pg	02 12 56.7	+0.5	
LVZ				SG		Sg	02 13 03.2	+1.6	
VRF	Varrio	1.62	277	PG	

HFS Hagfors 11.57 239 Lg Lg 02 18 48.4
comp=Z,0.3nm,0.3s,baz=57,slow=30,SNR=2.4
SPITS Spitsbergen Ar 11.69 342 Pn **Pn** **02 15 32.6 -3.4**
baz=141,slow=16
comp=Z,18nm,1.1s
NOA NORSAR Array B 11.76 247 Pn **Pn** **02 15 34.6 -2.3**
baz=45,slow=11,SNR=3.9
NOA Lg Lg 02 18 57.4
baz=31,slow=20,SNR=5.1
comp=Z,1.1nm,1.1s
AKASG Malin Array Be 17.12 190 Pn **Pn** **02 16 44.6 -4.0**
comp=Z,0.3nm,0.3s,baz=7.5,slow=13,SNR=4.2
comp=Z,0.9nm,0.6s
BVAR Borovoye Array 22.78 112 P **P** **02 17 53.0 +1.2**
comp=Z,0.9nm,0.7s,baz=330,slow=8.6,SNR=4.4
comp=Z,0.9nm,0.7s
INK Inuvik 44.06 353 LR LR 02 40 31.9
comp=Z,135nm,20.5s,baz=210,slow=38

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*IDC **27** 02:21:33.2±1.4,3˙.31N×126˙.19E,h0km,mb3.8/6, mbtmp3.8/6,MS2.7/1,Error ellipse: s-maj=93.9km s-min=19.3km az=63.0*
*DJA **27** 02:21:36.4±0.7,3˙N×12˚5E±˚,h14km±6km,M4.2/10, mb4.2/3,mB5.7/2,MLv4.2/10,Mw(mB)5.3/2*
ISC 27 02:21:35.4±0.8,2˙.88N±0˙.07×125˙.1E±0˙.1,h10km,n13, σ0s90/13,mb3.7/6,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.90**	**26**	P	**Pb**	**02 21 53.4**	**+0.4**
SGSI				S	**Sn**	**02 22 07.0**	**-0.1**
KMSI	**Cibinong**	**2.56**	**207**	P	**Pn**	**02 22 16.7**	**-0.3**
TNTI	**Ternate**	**3.05**	**133**	P	**Pn**	**02 22 24.2**	**+0.4**
LBMI	**Labuha**	**4.21**	**146**	P	**Pn**	**02 22 39.2**	**-0.5**
LUWI	**Luwuk**	**4.55**	**211**	P	**Pn**	**02 22 45.2**	**+0.8**
MPSI	**Mapaga**	**5.81**	**244**	P	**Pn**	**02 23 02.0**	**+0.3**
	12nm,0.8s,5µm0.1nm						
KMPI	**Kaimana, Papua**	**10.74**	**127**	P	**Pn**	**02 24 09.7**	**+0.2**
WRA	**Warramunga Arr**	**24.41**	**159**	P	**P**	**02 26 53.4**	**-0.9**
	1.4nm,0.6s,baz=330,slow=11,SNR=14						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**27.73**	**163**	P	**P**	**02 27 24.2**	**-0.1**
	0.9nm,0.8s,baz=339,slow=5.3,SNR=5.5						
	0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.96**	**303**	P	P	02 27 49.4	+5.2
	1.1nm,0.3s,baz=127,slow=6.8,SNR=4.1						
CMAR				LR	LR	02 40 32.0	
	comp=Z,15nm,19.5s,baz=245,slow=37						
	1.1nm,0.3s						
STKA	**Stephens Creek**	**37.93**	**157**	P	**P**	**02 28 53.5**	**+0.4**
	3.2nm,0.9s,baz=8.7,slow=6.2,SNR=4.2						
	3.2nm,0.9s						
SONM	**Songino Array**	**47.62**	**343**	P	**P**	**02 30 09.8**	**-1.9**
	0.4nm,0.8s,baz=162,slow=8.6,SNR=2.6						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**57.36**	**326**	P	**P**	**02 31 25.4**	**+1.4**
	0.5nm,0.8s,baz=116,slow=8.9,SNR=2.1						
	0.5nm,0.8s						

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*NEIC **27** 02:57:59.5±2.2,18˙.00S±0˙.1×178˙.4W±0˙.1,h564km±7km, mb4.4/74,Error ellipse: s-maj=17.4km s-min=13.8km az=148.0*
*IDC **27** 02:58:00.7±2.0,17˙.99S×178˙.34W,h581km±24km, mb3.6/20,mbtmp4.5/22,Error ellipse: s-maj=12.2km s-min=11.4km az=148.0*
*NOU **27** 02:58:01.3,17˙.99S×178˙.33W,h583km,mb4.7/30,Fiji Islands Region*
ISC 27 02:57:59.5±0.6,18˙.00S±0˙.07×178˙.35W±0˙.06, h570km±6km,h571km:pP-P,n287,σ19s16/288,mb4.4/66, 45C-37D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVE	**Taveuni**	**1.96**	**310**	P	P	02 59 14.9	+4.0
DGTI	**Dogotuki**	**2.49**	**312**	P	**P**	**02 59 16.7**	**+3.3**
YSA	**Yasawairara**	**4.10**	**288**	P	**P**	**02 59 27.1**	**+3.6**
AFI	**Afiamalu**	**7.51**	**58**	P	**P**	**02 59 53.0**	**-0.2**
AFI	**Afiamalu**	**7.51**	**58**	P	**P**	**02 59 54.4**	**+1.1**
NIUE	**Niue**	**8.06**	**99**	P	**P**	**02 59 59.0**	**+0.6**
MARNC	**Mare, Loyalty**	**13.29**	**253**	P	**P**	**03 00 50.7**	**-0.6**
LIFNC	**LIFOU**	**13.88**	**256**	P	**P**	**03 00 57.1**	**-0.3**
LIFNC	**LIFOU**	**13.88**	**256**	P	**P**	**03 00 57.7**	**+0.3**
PINNC	**Pines Island,**	**14.10**	**249**	P	**P**	**03 01 00.2**	**+0.6**
DZM	**Mont Dzumac**	**14.86**	**252**	P	**P**	**03 01 07.3**	**+0.1**
DZM	**Mont Dzumac**	**14.86**	**252**	P	**P**	**03 01 08.0**	**+0.8**
DZM	**Mont Dzumac**	**14.86**	**252**	P	**P**	**03 01 07.4**	**+0.2**
	5.5nm,0.4s,baz=96,slow=19,SNR=20						
ONTNC	**Ouen Toro**	**14.90**	**251**	P	**P**	**03 01 07.4**	**-0.2**
NOUC	**Port Laguerre**	**14.99**	**252**	P	**P**	**03 01 09.6**	**+1.2**
KOUNC	**Koumac, New Ca**	**16.59**	**258**	P	**P**	**03 01 25.2**	**+1.5**
KOUNC	**Koumac, New Ca**	**16.59**	**258**	P	**P**	**03 01 26.4**	**+2.7**
RAR	**Rarotonga**	**17.79**	**103**	P	**P**	**03 01 34.9**	**+0.4**
	16nm,0.7s,baz=267,slow=6.3,SNR=5.9						
URZ	**Urewera**	**20.58**	**190**	P	**P**	**03 01 58.7**	**-0.9**
	6.2nm,0.7s,baz=36,slow=12,SNR=1.4						
	6.2nm,0.7s						
QRZ	**Quartz Range**	**24.07**	**197**	P	**P**	**03 02 32.0**	**+1.2**
QRZ	**Quartz Range**	**24.07**	**197**	P	**P**	**03 02 32.6**	**+1.8**
LTZ	**Lake Taylor**	**25.96**	**196**	P	**P**	**03 02 46.5**	**-1.0**
FOZ	**Fox Glacier**	**27.36**	**199**	P	**P**	**03 02 59.1**	**-0.5**
PPT	**Papeete**	**27.39**	**94**	P	**P**	**03 03 00.7**	**+0.4**
	23nm,0.6s,baz=217,slow=5.1,SNR=4.9						
	23nm,0.6s						
PPTF	**Pamatai, Papee**	**27.40**	**94**	P	**P**	**03 03 00.5**	**+0.1**
WKZ	**Wanaka**	**28.77**	**199**	P	**P**	**03 03 11.2**	**-0.8**
EIDS	**Eidsvold**	**29.29**	**250**	P	**P**	**03 03 17.3**	**+0.5**
EIDS				IAmb	IAmb	03 03 18.3	
	comp=Z,4.5nm,0.7s						
ARMA	**Armidale**	**29.95**	**240**	P	**P**	**03 03 23.2**	**+0.7**
ARMA				IAmb	IAmb	03 03 42.7	
	comp=Z,17nm,1.5s						
CTAO	**Charters Tower**	**33.49**	**261**	P	**P**	**03 03 53.4**	**+0.7**
CTAO				IAmb	IAmb	03 03 54.2	
	comp=Z,7.7nm,0.8s						
CAN	**Canberra**	**33.70**	**233**	P	**P**	**03 03 55.3**	**+1.1**
CAN				IAmb	IAmb	03 04 29.0	
	comp=Z,22nm,1.4s						
CMSA	**Cobar Meteorol**	**35.16**	**241**	P	**P**	**03 04 07.2**	**+0.8**
QLP	**Quilpie**	**35.56**	**249**	P	**P**	**03 04 10.8**	**+1.0**
TOO	**Toolangi**	**37.16**	**231**	P	**P**	**03 04 24.2**	**+1.3**
TOO				IAmb	IAmb	03 04 25.1	
	comp=Z,9.9nm,0.7s						
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**03 04 35.9**	**+1.0**
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**03 04 36.6**	**+1.7**
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**03 04 36.3**	**+1.4**
	comp=Z,7.5nm,0.6s,baz=93,slow=11,SNR=17						
STKA				PcP	**PcP**	**03 06 32.4**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=52,slow=3.5,SNR=3.2						
	comp=Z,7.5nm,0.6s						
INKA	**Innaminka**	**38.77**	**248**	P	**P**	**03 04 36.6**	**+0.6**
HTT	**Hallett**	**41.15**	**240**	P	**P**	**03 04 56.5**	**+1.5**
LCRK	**Leigh Creek**	**41.27**	**244**	P	**P**	**03 04 57.3**	**+1.3**
OOD	**Oodnadatta**	**43.24**	**248**	P	**P**	**03 05 12.9**	**+1.5**
BBOO	**Buckleboo**	**43.42**	**241**	P	**P**	**03 05 13.4**	**+0.7**
BBOO				IAmb	IAmb	03 05 13.8	
	comp=Z,14nm,0.6s						
HMH	**Humu'ula Sheep**	**43.59**	**32**	P	**P**	**03 05 14.5**	**0.0**
WR0	**Warramunga Arr**	**44.48**	**260**	P	**P**	**03 05 20.8**	**-0.4**
WR0				IAmb	IAmb	03 05 30.7	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**44.64**	**260**	P	**P**	**03 05 21.9**	**-0.5**
WB0				IAmb	IAmb	03 05 23.1	
	comp=Z,16nm,0.7s						
WB2	**Warramunga Arr**	**44.66**	**260**	P	**P**	**03 05 22.2**	**-0.4**
WB2				IAmb	IAmb	03 05 23.4	
	comp=Z,14nm,0.6s						
WRA	**Warramunga Arr**	**44.67**	**260**	P	**P**	**03 05 22.0**	**-0.7**
WRA	**Warramunga Arr**	**44.67**	**260**	P	**P**	**03 05 22.4**	**-0.2**
	comp=Z,10nm,0.7s,baz=96,slow=7.2,SNR=199						
WRA				PcP	**PcP**	**03 06 52.6**	**-0.2**
	comp=Z,2.1nm,0.4s,baz=90,slow=3.8,SNR=9.6						
WRA				S	**S**	**03 11 13.9**	**-4.4**
	comp=Z,1.0nm,0.9s,baz=92,slow=12,SNR=4.5						
	comp=Z,10nm,0.7s						
AS31	**Alice Springs**	**44.82**	**254**	P	**P**	**03 05 23.8**	**0.0**
AS31				IAmb	IAmb	03 05 25.3	
	comp=Z,13nm,0.6s						
ASAR	**Alice Springs**	**44.83**	**254**	P	**P**	**03 05 23.9**	**+0.2**
ASAR	**Alice Springs**	**44.83**	**254**	P	**P**	**03 05 24.3**	**+0.5**
	comp=Z,49nm,0.6s,baz=88,slow=8.5,SNR=582						
ASAR				PcP	**PcP**	**03 06 52.8**	**-0.5**
	comp=Z,4.7nm,0.5s,baz=99,slow=3.6,SNR=12						
ASAR				S	**S**	**03 11 17.6**	**-2.9**
	comp=Z,1.5nm,0.8s,baz=90,slow=14,SNR=11						
	comp=Z,49nm,0.6s						
MULG	**Mulgathing**	**44.83**	**245**	P	**P**	**03 05 24.4**	**+0.8**
KDU	**Kakadu**	**47.62**	**269**	P	**P**	**03 05 45.5**	**+0.6**
MTN	**Manton Dam**	**48.86**	**268**	P	**P**	**03 05 54.1**	**-0.1**
MTN				IAmb	IAmb	03 05 54.7	
	comp=Z,18nm,0.7s						
MTN	**Manton Dam**	**48.86**	**268**	P	**P**	**03 05 54.3**	**+0.2**
WRKA	**Wakurna**	**49.87**	**252**	P	**P**	**03 06 01.8**	**+0.2**
FORT	**Forrest**	**50.02**	**245**	P	**P**	**03 06 02.2**	**-0.2**
KNRA	**Kununurra**	**50.54**	**264**	P	**P**	**03 06 06.7**	**+0.2**
FAKI	**Fak Fak**	**50.65**	**281**	P	**P**	**03 06 07.0**	**-0.3**
FAKI				IAmb	IAmb	03 06 40.3	
	comp=Z,30nm,1.2s						
FITZ	**Fitzroy Crossi**	**53.07**	**261**	P	**P**	**03 06 24.7**	**+0.1**
SOEI	**Soe**	**56.13**	**270**	P	**P**	**03 06 47.2**	**+1.0**
SOEI	**Soe**	**56.13**	**270**	P	**P**	**03 06 48.3**	**+2.1**
SANI	**Sanana**	**56.81**	**280**	P	**P**	**03 06 51.0**	**+0.2**
PSA00	**Pilbara Seismi**	**57.95**	**255**	P	**P**	**03 06 57.9**	**-0.5**
MBWA	**Marble Bar**	**58.11**	**256**	P	**P**	**03 06 59.1**	**-0.4**
MBWA				IAmb	IAmb	03 07 00.6	
	comp=Z,50nm,1.4s						
SBA	**Scott Base**	**60.34**	**184**	P	**P**	**03 07 15.3**	**+2.0**
SBA				IAmb	IAmb	03 07 20.8	
	comp=Z,19nm,1.4s						
VNDA	**Vanda**	**60.36**	**185**	P	**P**	**03 07 14.6**	**+1.0**
VNDA	**Vanda**	**60.36**	**185**	P	**P**	**03 07 14.7**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=351,slow=8.4,SNR=14						
	comp=Z,1.0nm,0.5s						
MORW	**Morawa**	**60.50**	**246**	P	**P**	**03 07 15.0**	**-0.3**
MORW				IAmb	IAmb	03 07 46.6	
	comp=Z,13nm,1.1s						
TOLI2	**Tolitoli**	**62.79**	**281**	P	**P**	**03 07 31.1**	**+0.7**
TOLI2				IAmb	IAmb	03 07 31.4	
	comp=Z,8.4nm,0.8s						
TOLI2	**Tolitoli**	**62.79**	**281**	P	**P**	**03 07 31.1**	**+0.7**
GIRL	**Giralia**	**62.93**	**253**	P	**P**	**03 07 31.9**	**+0.7**
JAGI	**Jajag, Banyuwa**	**66.10**	**269**	P	**P**	**03 07 50.2**	**-1.2**
MJAR	**Matsushiro Arr**	**68.01**	**323**	P	**P**	**03 08 02.3**	**-0.3**
	comp=Z,6.5nm,0.5s,baz=161,slow=5.9,SNR=14						
	comp=Z,6.5nm,0.5s						
MAJO	**Matsushiro**	**68.01**	**323**	P	**P**	**03 08 01.5**	**-1.1**
MAJO				IAmb	IAmb	03 08 03.7	
	comp=Z,24nm,1.1s						
MJB9	**Matsu-Tunnel**	**68.02**	**323**	P	**P**	**03 08 02.7**	**+0.1**
MJB9				IAmb	IAmb	03 08 04.7	
	comp=Z,23nm,1.1s						
ADK	**Adak**	**69.59**	**1**	P	**P**	**03 08 11.1**	**-0.6**
UGM	**Wanagama**	**69.70**	**268**	P	**P**	**03 08 13.0**	**-0.3**
QSPA	**South Pole Qui**	**72.06**	**180**	P	**P**	**03 08 26.6**	**+0.3**
	comp=Z,11nm,0.8s,baz=35,slow=1.3,SNR=30						
	comp=Z,11nm,0.8s						
SSLB	**Suanglung**	**72.33**	**303**	P	**P**	**03 08 27.8**	**-0.7**
TPUB	**Ta-pu**	**72.36**	**302**	P	**P**	**03 08 27.8**	**-0.8**
KSM	**Kuching**	**72.75**	**277**	P	**P**	**03 08 31.6**	**+0.5**
PETK	**Petropavlovsk-**	**73.78**	**345**	P	**P**	**03 08 36.0**	**0.0**
	comp=Z,6.3nm,0.6s,baz=121,slow=7.1,SNR=4.4						
	comp=Z,6.3nm,0.6s						
KSRS	**Korea Array**	**74.81**	**318**	P	**P**	**03 08 42.4**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=85,slow=14,SNR=8.8						
	comp=Z,1.5nm,0.5s						
USRK	**Ussuriysk Ar.**	**76.72**	**326**	P	**P**	**03 08 54.2**	**+1.6**
USRK	**Ussuriysk Ar.**	**76.72**	**326**	P	**P**	**03 08 53.1**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=110,slow=4.2,SNR=6.1						
	comp=Z,2.8nm,0.8s						
MDJ	**Mudanjiang**	**78.29**	**325**	P	**P**	**03 09 01.9**	**+0.8**
MDJ				IAmb	IAmb	03 09 03.3	
	comp=Z,18nm,0.9s						
YBH	**Yreka Blue Hor**	**78.55**	**39**	P	**P**	**03 09 04.0**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=141,slow=13,SNR=2.7						
	comp=Z,1.3nm,0.7s						
PNTR	**Pine Nut**	**78.96**	**43**	P	**P**	**03 09 06.0**	**+0.9**
O16K	**Kokwok River B**	**79.06**	**10**	P	**P**	**03 09 03.4**	**-1.3**
O16K				IAmb	IAmb	03 09 20.3	
	comp=Z,18nm,1.5s						
L04D	**Klamath Falls**	**79.09**	**39**	P	**P**	**03 09 05.5**	**0.0**
L04D				IAmb	IAmb	03 09 15.1	
	comp=Z,13nm,1.4s						
N15K	**Kwethluk River**	**79.28**	**9**	P	**P**	**03 09 06.1**	**+0.1**
N15K				IAmb	IAmb	03 09 12.4	
	comp=Z,17nm,1.5s						
NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	**03 09 08.9**	**+1.3**
NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	**03 09 08.4**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=224,slow=8.5,SNR=11						
	comp=Z,1.2nm,0.7s						
M14K	**Bethel**	**79.58**	**8**	P	**P**	**03 09 07.7**	**+0.2**
M14K				IAmb	IAmb	03 09 26.2	
	comp=Z,17nm,1.4s						
O18K	**Koktuh Hills**	**79.83**	**12**	P	**P**	**03 09 08.7**	**-0.2**
O18K				IAmb	IAmb	03 09 09.3	
	comp=Z,11nm,0.8s						
KVN	**Kaiserville**	**79.92**	**43**	P	**P**	**03 09 10.3**	**+0.3**
L14K	**Kuka Creek**	**80.05**	**8**	P	**P**	**03 09 10.7**	**+0.8**
L14K				IAmb	IAmb	03 09 50.9	
	comp=Z,12nm,1.4s						
BNX	**BinXian**	**80.20**	**325**	⇑P	**P**	**03 09 11.8**	**+0.7**
BNX				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BNX				pmax	pmax		
	comp=Z,920nm,5.2s						
K05A	**Summer Lake**	**80.23**	**39**	P	**P**	**03 09 12.6**	**+1.0**
ILSW	**Iliamna Southw**	**80.36**	**13**	P	**P**	**03 09 10.9**	**-0.9**
ILSW				IAmb	IAmb	03 09 49.1	
	comp=Z,22nm,1.3s						
RADR	**Rader Ridge**	**80.79**	**35**	P	**P**	**03 09 14.0**	**-0.2**
L16K	**Owhat River**	**80.85**	**9**	P	**P**	**03 09 14.7**	**+0.6**
M17K	**Holitna River**	**80.88**	**10**	P	**P**	**03 09 14.8**	**+0.6**
RSO	**Redoubt South**	**80.88**	**13**	P	**P**	**03 09 14.0**	**-0.5**
K15K	**Wolf Creek Mou**	**81.12**	**8**	P	**P**	**03 09 16.1**	**+0.6**
K15K				IAmb	IAmb	03 09 17.4	
	comp=Z,11nm,0.9s						
BELA	**Belgrano 2**	**82.07**	**173**	P	**P**	**03 09 19.8**	**-0.5**
BELA				IAmb	IAmb	03 09 20.9	
	comp=Z,15nm,0.9s						
SUA	**Susitna One**	**82.20**	**13**	P	**P**	**03 09 20.5**	**-0.7**
GLI	**Glacier Island**	**82.52**	**15**	P	**P**	**03 09 21.4**	**-1.2**
TTA	**Tatalina**	**82.55**	**10**	P	**P**	**03 09 22.8**	**0.0**
KNK	**Knik Glacier**	**82.67**	**14**	P	**P**	**03 09 22.0**	**-1.4**
KNK				IAmb	IAmb	03 09 59.5	
	comp=Z,10.0nm,1.2s						
PMR	**Palmer**	**82.67**	**14**	P	**P**	**03 09 22.6**	**-0.8**
GHO	**Glory Hole Cre**	**82.88**	**14**	P	**P**	**03 09 24.0**	**-0.5**
GHO				IAmb	IAmb	03 09 25.0	
	comp=Z,9.4nm,0.8s						
SML	**Sawmill**	**83.04**	**14**	P	**P**	**03 09 24.3**	**-1.0**
SML				IAmb	IAmb	03 09 33.3	
	comp=Z,11nm,1.4s						
SCM	**Sheep Creek Mo**	**83.30**	**14**	P	**P**	**03 09 26.4**	**-0.2**
SCM				IAmb	IAmb	03 09 36.2	
	comp=Z,20nm,1.4s						
J19K	**Poorman**	**83.61**	**10**	P	**P**	**03 09 27.6**	**-0.3**
CAST	**Castle Rocks**	**83.70**	**12**	P	**P**	**03 09 26.6**	**-1.9**
CAST				IAmb	IAmb	03 09 28.2	
	comp=Z,5.0nm,0.7s						
N25K	**Chitina, Valde**	**83.77**	**15**	P	**P**	**03 09 28.7**	**-0.2**
N25K				IAmb	IAmb	03 09 29.7	
	comp=Z,5.9nm,0.8s						
MAW	**Mawson**	**83.80**	**200**	P	**P**	**03 09 28.9**	**-0.1**
MAW	**Mawson**	**83.80**	**200**	P	**P**	**03 09 29.2**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=164,slow=4.5,SNR=6.5						
	comp=Z,3.3nm,0.7s						
M24K	**Tolsona, Glenn**	**83.81**	**15**	P	**P**	**03 09 29.7**	**+0.6**
M24K				IAmb	IAmb	03 10 03.6	
	comp=Z,14nm,1.2s						
GLB	**Gilahina Butte**	**83.83**	**16**	P	**P**	**03 09 29.0**	**-0.2**
GLB				IAmb	IAmb	03 09 38.2	
	comp=Z,6.3nm,1.2s						
LYN	**LuoYang**	**83.93**	**309**	⇓P	**P**	**03 09 31.3**	**+1.1**
LYN				pmax	pmax		
	comp=Z,39nm,0.7s						
PSI	**Prapat**	**83.95**	**275**	P	**P**	**03 09 30.5**	**-0.5**
KTH	**Kantishna Hill**	**84.05**	**12**	P	**P**	**03 09 28.7**	**-1.5**
TRF	**Thorofare Moun**	**84.08**	**12**	P	**P**	**03 09 29.6**	**-1.0**
TRF				IAmb	IAmb	03 09 30.8	
	comp=Z,8.1nm,0.7s						
RND	**Reindeer**	**84.34**	**13**	P	**P**	**03 09 31.4**	**-0.3**
RND				IAmb	IAmb	03 09 32.1	
	comp=Z,6.8nm,0.8s						
ENH	**Enshi**	**84.37**	**304**	P	**P**	**03 09 34.2**	**+1.6**
DHY	**Denali Highway**	**84.37**	**14**	P	**P**	**03 09 31.2**	**-0.7**
ILAR	**Eielson Array**	**85.96**	**13**	P	**P**	**03 09 38.3**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=220,slow=5.1,SNR=27						
	comp=Z,1.1nm,0.5s						
TXAR	**Lajitas Array**	**85.99**	**58**	P	**P**	**03 09 41.9**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=219,slow=6.7,SNR=8.6						
	comp=Z,0.7nm,0.7s						
XAN	**Xi'an**	**86.36**	**307**	⇑P	**P**	**03 09 43.5**	**+1.4**
XAN				pP	PcP	03 09 48.8	+5.1
XAN				pmax	pmax		
	comp=Z,27nm,1.1s						
PDAR	**Pinedale Array**	**87.37**	**43**	P	**P**	**03 09 47.2**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=152,slow=4.0,SNR=2.8						
	comp=Z,0.3nm,0.7s						
HHC	**Hu-ho-hao-te**	**87.38**	**314**	*e*P	**P**	**03 09 48.3**	**+1.5**
HHC				pmax	pmax		
	comp=Z,19nm,0.6s						
HHC				pmax	pmax		
	comp=Z,550nm,5.4s						
CMAR	**Chiang Mai Arr**	**88.97**	**290**	P	**P**	**03 09 55.7**	**+1.2**
	comp=Z,3.9nm,0.8s,baz=119,slow=3.0,SNR=18						
	comp=Z,3.9nm,0.8s						
ELIB	**Princess Elisa**	**89.08**	**187**	*d*P	**P**	**03 09 53.9**	**-0.3**
	comp=Z,10nm,0.7s						
CHTO	**Chiang Mai**	**89.08**	**290**	P	**P**	**03 09 56.5**	**+1.4**
PZH	**PanZhiHua**	**89.25**	**298**	P	**P**	**03 09 55.8**	**0.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,5.2s						
TROLL	**Troll, Antarti**	**90.22**	**180**	⇑P	**P**	**03 09 59.3**	**-0.2**
	comp=Z,238nm,0.5s						
SNAA	**Sanae**	**90.51**	**179**	⇑P	**P**	**03 10 00.2**	**-0.6**
	comp=Z,53nm,0.5s						
SNAA	**Sanae**	**90.51**	**179**	P	**P**	**03 10 00.2**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=200,slow=12,SNR=15						
	comp=Z,2.3nm,0.6s						
VNA3	**Neumayer Olymp**	**90.65**	**176**	⇑P	**P**	**03 10 01.2**	**-0.2**
	comp=Z,11nm,0.7s						
VNA2	**Neumayer--Watz**	**91.09**	**177**	⇑P	**P**	**03 10 03.2**	**-0.1**
	comp=Z,8.9nm,0.7s,baz=181,slow=4.0						
VNA1	**Neumayer--Stat**	**91.32**	**177**	⇑P	**P**	**03 10 04.8**	**+0.4**
	comp=Z,11nm,0.9s						
SONM	**Songino Array**	**93.66**	**319**	P	**P**	**03 10 16.6**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=141,slow=3.4,SNR=5.6						
	comp=Z,0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**108.34**	**322**	PKiKP	**PKiKP**	**03 15 21.6**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=180,slow=0.1,SNR=4.5						
KURBB	**Kurchatov Arra**	**111.98**	**318**	PKiKP	**PKiKP**	**03 15 28.7**	**-1.5**
	comp=Z,1.4nm,0.6s,baz=93,slow=1.8,SNR=11						
BVAR	**Borovoye Array**	**116.95**	**321**	PKP	**PKPdf**	**03 15 38.9**	**-0.8**
	comp=Z,3.2nm,0.4s,baz=77,slow=0.4,SNR=14						
ARU	**Arti**	**122.95**	**326**		**PKPdf**	**03 15 49.7**	**-1.4**
ARCES	**ARCESS Array B**	**126.41**	**350**	PKP	**PKPdf**	**03 15 56.2**	**-1.3**
	comp=Z,5.2nm,1.0s,baz=90,slow=1.2,SNR=7.3						
FINES	**FINESS Array B**	**133.29**	**344**	PKhKP	PKPpre	03 16 02.1	
	comp=Z,4.2nm,0.9s,baz=90,slow=4.2,SNR=2.4						
FINES				PKP	sPdif	03 16 09.0	-3.4
	comp=Z,7.0nm,1.0s,baz=93,slow=4.0,SNR=7.0						
HFS	**Hagfors**	**137.03**	**351**	PKhKP	PKPpre	03 16 07.5	
	comp=Z,1.5nm,0.4s,baz=73,slow=5.1,SNR=10						
MNK	**Minsk**	**138.36**	**337**	*i* PKP	**PKPdf**	**03 16 17.9**	**-2.3**
	comp=E,7.0nm,0.9s						
MNK				*i* PKP	**PKPdf**	**03 16 17.9**	**-2.3**
	comp=N,29nm,0.8s						
MNK				*i* PKP	**PKPdf**	**03 16 17.9**	**-2.3**
	comp=Z,6.0nm,0.8s,baz=39						
MNK				*j* pPKP	**pPKPdf**	**03 18 24.5**	**-8.5**
MNK				*i* PP	**PP**	**03 19 15.1**	**-2.5**
MNK				*i* PPP	PPP	03 22 22.5	
MNK				*i* SKS	**SKSdf**	**03 22 37.0**	**+0.1**
MNK				*i* SS	**SS**	**03 36 45.9**	**+0.6**
MNK				*i* SSS	SSS	03 42 05.2	
AKASG	**Malin Array Be**	**140.66**	**332**	PKhKP	PKPpre	03 16 17.5	
	comp=Z,0.4nm,0.4s,baz=44,slow=3.9,SNR=6.6						
AKASG				PKP	**PKPdf**	**03 16 25.5**	**+1.0**
	comp=Z,1.2nm,0.4s,baz=43,slow=3.1,SNR=8.7						
ARPR	**Arapgir-MALATY**	**141.88**	**311**	PKPdf	**PKPdf**	**03 16 23.5**	**-3.8**
EKA	**Eskdalemuir Ar**	**142.55**	**5**	PKhKP	PKPpre	03 16 23.8	
	comp=Z,1.0nm,0.6s,baz=337,slow=1.9,SNR=4.1						
SORM	**Soroca**	**142.89**	**330**	⇑P	**PKPdf**	**03 16 25.9**	**-2.7**
PURM	**Purcari**	**143.24**	**327**	⇑P	PKPab	03 16 27.4	0.0
GAZ	**Gaziantep**	**143.43**	**309**	PKPdf

BCLA	**Clavier**	**147.52**	**356**	*d*PKP	**PKPbc**	**03 16 38.9**	**-1.1**
BCLA				*d*PKiKP	**PKiKP**	**03 16 40.4**	**-1.1**
BCLA				*d*sP	PKPab	03 17 14.5	+30
BCLA				*dp*PKPdf	**pPKPdf**	**03 18 46.2**	**-2.8**
BHOU	**Houvegnez**	**147.53**	**355**	*d*PKiKP	**PKPbc**	**03 16 40.4**	**+0.4**
BHOU				*dp*PKiKP	**pPKiKP**	**03 18 53.1**	**-0.3**
BGES	**Gesves**	**147.57**	**356**	*d*PKPdf	**PKPdf**	**03 16 34.9**	**-1.6**
BGES				*d*PKP	**PKPbc**	**03 16 37.8**	**-2.3**
BGES				*dp*PKPdf	**pPKPdf**	**03 18 48.1**	**-1.0**
CKRC	**Cesky Krumlov**	**147.58**	**344**	*e*PKP	**PKPbc**	**03 16 40.5**	**+0.3**
BMRD	**Maredsous**	**147.67**	**356**	*d*PKPdf	**PKPdf**	**03 16 36.5**	**-0.2**
BMRD				*d*PKP	**PKPbc**	**03 16 40.0**	**-0.3**
GEC2	**GERESS Array S**	**147.71**	**345**	PKPbc	**PKPbc**	**03 16 39.7**	**-0.9**
GERES	**GERESS Array B**	**147.71**	**345**	PKPbc	**PKPbc**	**03 16 40.6**	**0.0**
	comp=Z,7.3nm,0.6s,baz=20,slow=3.4,SNR=34						
ELND	**Elena**	**147.76**	**326**	⇓P	**PKPbc**	**03 16 41.4**	**+0.6**
VLAD	**Vladila**	**147.77**	**328**	⇓P	**PKPbc**	**03 16 41.8**	**+1.0**
RCHB	**Rochefort**	**147.79**	**356**	*d*PKP	**PKiKP**	**03 16 44.1**	**+2.1**
BZS	**Buzias**	**147.84**	**333**	⇑P	**PKPbc**	**03 16 40.9**	**0.0**
DOU	**Dourbes**	**147.89**	**356**	*d*PKP	**PKPbc**	**03 16 39.8**	**-1.1**
DOU				*dp*PKPdf	**pPKPdf**	**03 18 48.9**	**-0.7**
CONA	**Conrad Observa**	**147.96**	**342**	*i* PKP	**PKPbc**	**03 16 41.5**	**+0.2**
	comp=Z,18nm,1.6s						
RONA	**Rosalia, Austr**	**148.04**	**341**	*i* PKP	**PKPbc**	**03 16 41.5**	**+0.1**
	comp=Z,15nm,1.5s,SNR=8.2						
HERR	**Herculane**	**148.06**	**332**	⇑P	**PKPbc**	**03 16 41.5**	**0.0**
PLVB	**Pleven**	**148.10**	**327**	⇓P	**PKPbc**	**03 16 41.8**	**+0.1**
WLF	**Walferdange**	**148.20**	**354**	*d*PKiKP	**PKPbc**	**03 16 42.2**	**+0.5**
MDVR	**Moldovita**	**148.45**	**332**	⇑P	**PKPbc**	**03 16 42.6**	**0.0**
MOA	**Molln**	**148.49**	**344**	*i* PKiKP	**PKPbc**	**03 16 43.2**	**+0.7**
	comp=Z,6.4nm,1.1s						
MORH	**Mrgy, Hungar**	**148.53**	**337**	⇑P	**PKPbc**	**03 16 42.6**	**0.0**
ARSA	**Arzberg**	**148.67**	**342**	*i* PKP	**PKPbc**	**03 16 42.7**	**-0.3**
	comp=Z,8.6nm,1.5s						
BIOA	**Bad Ischl, Aus**	**148.80**	**344**	*i* PKP	**PKPbc**	**03 16 43.0**	**-0.2**
	comp=Z,7.9nm,1.1s						
BLKB	**Belogradchik**	**148.90**	**330**	⇓P	**PKPbc**	**03 16 43.4**	**-0.2**
ELL	**Elmali**	**148.90**	**313**	PKPbc	**PKPbc**	**03 16 42.5**	**-1.5**
FRGS	**Fruska Gora**	**148.96**	**335**	⇑P	**PKPbc**	**03 16 44.1**	**+0.3**
RDO	**Rodhopi**	**149.14**	**323**	PKPbc	**PKPbc**	**03 16 43.0**	**-1.2**
LESA	**Schwarzleotal**	**149.28**	**345**	*i* PKP	**PKPbc**	**03 16 44.1**	**-0.4**
	comp=Z,10nm,1.1s						
SOKA	**Soboth**	**149.34**	**342**	*i* PKP	**PKPbc**	**03 16 44.4**	**-0.3**
	comp=Z,12nm,1.1s						
BOVS	**Bovan**	**149.34**	**331**	⇓P	**PKPbc**	**03 16 43.6**	**-1.0**
KBA	**Koelnbreinsper**	**149.44**	**344**	*i* PKP	**PKPbc**	**03 16 44.9**	**-0.1**
	comp=Z,7.0nm,0.6s						
WATA	**Walderalm**	**149.62**	**347**	*i* PKP	**PKPbc**	**03 16 45.3**	**-0.1**
	comp=Z,7.9nm,0.6s						
OBKA	**Obir**	**149.63**	**342**	*e*PKP	**PKPbc**	**03 16 45.5**	**+0.1**
	comp=Z,16nm,1.6s						
RETA	**Reutte**	**149.65**	**348**	*i* PKP	**PKPbc**	**03 16 45.3**	**-0.1**
	comp=Z,3.7nm,0.6s,SNR=4.5						
WTTA	**Wattenberg**	**149.68**	**346**	*e*PKP	**PKPbc**	**03 16 45.2**	**-0.4**
	comp=Z,13nm,0.6s						
MYKA	**Terra Mystica**	**149.77**	**343**	*i* PKP	**PKPbc**	**03 16 45.0**	**-0.7**
	comp=Z,7.1nm,0.6s,SNR=4.5						
SQTA	**Sankt Quirin**	**149.81**	**347**	*i* PKP	**PKPbc**	**03 16 45.4**	**-0.5**
	comp=Z,10nm,0.6s,SNR=9.6						
GCIS	**Gornji Cirnik**	**149.88**	**340**	*i* PKPbc	**PKPbc**	**03 16 45.6**	**-0.2**
ABTA	**Abfaltersbach**	**149.96**	**345**	*e*PKP	**PKPbc**	**03 16 45.5**	**-0.6**
	comp=Z,16nm,0.7s,SNR=13						
DAVA	**Damuels**	**150.01**	**349**	*i* PKiKP	**PKPbc**	**03 16 47.0**	**+0.7**
	comp=Z,10nm,0.8s						
FETA	**Feichten**	**150.10**	**347**	*i* PKP	**PKPbc**	**03 16 46.2**	**-0.3**
	comp=Z,12nm,0.8s						
CRNS	**Crni Vrh**	**150.10**	**342**	*i* PKPbc	**PKPbc**	**03 16 45.7**	**-0.7**
CLUD	**Cludinico**	**150.13**	**344**	PKPbc	**PKPbc**	**03 16 44.9**	**-1.6**
BOJS	**Bojanci**	**150.32**	**340**	PKPbc	**PKPbc**	**03 16 46.9**	**0.0**
STAL	**STALIGIAL**	**150.36**	**344**	PKPbc	**PKPbc**	**03 16 45.8**	**-1.2**
FUORN	**Ofenpass-Fuorn**	**150.58**	**348**	PKPbc	**PKPbc**	**03 16 47.5**	**-0.3**
TUE	**Stuetta**	**150.90**	**349**	PKPbc	**PKPbc**	**03 16 48.3**	**-0.2**
PDG	**Podgorica**	**151.40**	**332**	⇑P	**PKPdf**	**03 16 43.0**	**+0.2**
FNA	**Florina**	**151.65**	**327**	PKPbc	**PKPbc**	**03 16 49.0**	**-1.1**
KEST	**Kesra**	**161.06**	**340**	PKPab	**PKPab**	**03 17 41.8**	**-0.6**
	comp=Z,3.5nm,1.0s,baz=102,slow=3.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**175.18**	**180**	PKP	**PKPdf**	**03 17 03.2**	**-2.1**
	comp=Z,1.6nm,1.0s,baz=244,slow=0.9,SNR=6.0						
TORD				PKPab	**PKPab**	**03 18 44.4**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=198,slow=3.0,SNR=4.3						

IDC 27 03:08:24.9±5.7, 20°.81S×178°.44W, h507km±59km, mb3.2/8, mbtmp4.0/8, Error ellipse: s-maj=27.1km s-min=24.6km az=62.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.05**	**265**	P	P	03 14 18.8	+0.6
	3.0nm,0.4s,baz=96,slow=9.1,SNR=8.9						
	3.0nm,0.4s						
ASAR	**Alice Springs**	**44.05**	**257**	P	P	03 15 47.1	-0.4
	4.7nm,0.5s,baz=94,slow=8.0,SNR=44						
ASAR				PcP	PcP	03 17 21.3	-0.8
	0.6nm,0.6s,baz=104,slow=4.0,SNR=5.9						
	4.7nm,0.5s						
WRA	**Warramunga Arr**	**44.15**	**262**	P	P	03 15 47.6	-0.7
	1.3nm,0.3s,baz=97,slow=7.0,SNR=114						
WRA				PcP	PcP	03 17 22.1	-0.3
	0.4nm,0.9s,baz=109,slow=5.2,SNR=2.2						
	1.3nm,0.3s						
VNDA	**Vanda**	**57.57**	**185**	P	P	03 17 25.8	+0.6
	0.8nm,0.9s,baz=22,slow=4.5,SNR=2.1						
	0.8nm,0.9s						
QSPA	**South Pole Qui**	**69.26**	**180**	P	P	03 18 40.5	0.0
	1.0nm,0.3s,baz=79,slow=5.2,SNR=6.0						
	1.0nm,0.3s						
NVAR	**Mina Array Bea**	**81.53**	**44**	P	P	03 19 47.5	-2.0
	0.1nm,0.4s,baz=224,slow=6.2,SNR=2.3						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**88.71**	**13**	P	P	03 20 24.5	+1.1
	0.9nm,1.1s,baz=224,slow=6.2,SNR=6.9						
	0.9nm,1.1s						
PDAR	**Pinedale Array**	**89.47**	**43**	P	P	03 20 28.7	+0.9
	0.2nm,0.6s,baz=216,slow=4.8,SNR=3.5						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**129.15**	**349**	PKP	PKPdf	03 26 34.1	-0.2
	3.7nm,1.0s,baz=354,slow=2.7,SNR=4.4						
FINES	**FINESS Array B**	**135.95**	**343**	PKP	PKPdf	03 26 46.2	-1.1
	3.3nm,0.9s,baz=86,slow=2.1,SNR=1.7						
HFS	**Hagfors**	**139.78**	**351**	PKhKP	PKPpre	03 26 48.1	
	4.1nm,0.9s,baz=58,slow=3.6,SNR=6.0						
AKASG	**Malin Array Be**	**143.08**	**331**	PKP	PKPbc	03 26 58.5	-0.1
	2.7nm,0.4s,baz=43,slow=4.2,SNR=27						
BRTR	**Keskin Array B**	**146.74**	**312**	PKPbc	PKPbc	03 27 10.2	+0.1
	1.2nm,0.6s,baz=132,slow=3.3,SNR=7.2						
MMAI	**Mount Meron Ar**	**147.61**	**299**	PKPbc	PKPbc	03 27 12.8	+0.4
	2.0nm,0.5s,baz=69,slow=4.7,SNR=4.9						
GERES	**GERESS Array B**	**150.38**	**344**	PKPbc	PKPbc	03 27 18.0	-0.8
	0.8nm,0.6s,baz=8.1,slow=1.4,SNR=6.7						

*NEIC **27** 03:19:35.9±1.2, 37°.100N±0°.009×121°.520W±0°.008, h17km±1km, Error ellipse: s-maj=1.5km s-min=0.7km az=206.0*

NCEDC 27 03:19:36.2±1.6, 37°.111N±0°.007×121°.52W±0°.01, h7km±4km, ML3.1/43, ML2.8/74(NEIC), Error ellipse: s-maj=1.2km s-min=1.1km az=62.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHS	**Gilroy Hot Spr**	**0.06**	**105**		Pg	03 19 37.6	-0.4
CDC	**Canada Road**	**0.09**	**163**		Pg	03 19 38.1	-0.2
HCAM	**Canada Road**	**0.09**	**163**		Pg	03 19 38.1	-0.2
HCAM					Sg	03 19 40.6	+0.8
CADM	**Anderson Res.**	**0.10**	**302**		Pg	03 19 38.5	-0.1
HLPM	**Lions Peak**	**0.11**	**233**		Pg	03 19 38.6	-0.1
HLPM					Sg	03 19 41.0	+0.5
HFEM	**San Felipe**	**0.16**	**144**		Pg	03 19 39.2	-0.3
JLAB	**Laurel Hill**	**0.18**	**284**		Pg	03 19 39.9	0.0
CCOB	**Coe Ranch Numb**	**0.19**	**320**		Pg	03 19 40.3	+0.1
CCOB					Sg	03 19 44.9	+2.1
OCR	**O'Connell Ranc**	**0.19**	**178**		Pg	03 19 41.9	+1.8
HPCM	**Pacheco Lake**	**0.20**	**105**		Pg	03 19 40.0	-0.3
PACP	**Pacheco Peak**	**0.21**	**119**		Pg	03 19 40.2	-0.3
PACP					Sg	03 19 43.8	+0.5
HCBM	**Chamberlain**	**0.21**	**213**		Pg	03 19 40.5	+0.1
ANZ	**Anzar Road**	**0.23**	**195**		Pg	03 19 41.1	+0.3
ARN	**Arnold Ranch**	**0.24**	**357**		Pg	03 19 40.8	-0.2
ARN					Sg	03 19 44.9	+0.6
SLD	**San Luis Dam**	**0.24**	**98**		Pg	03 19 40.7	-0.3
SLD					Sg	03 19 44.6	+0.3
MHC	**Mount Hamilton**	**0.25**	**337**		Pg	03 19 41.1	-0.2
MHC					Sg	03 19 45.4	+0.7
C072	**Blauer Lane Sa**	**0.26**	**313**		Pg	03 19 42.0	+0.6
HBTM	**San Juan Bauti**	**0.26**	**186**		Pg	03 19 41.9	+0.5
HCOM	**Corn Cob Canyo**	**0.27**	**214**		Pg	03 19 41.7	+0.1
HLTM	**Lone Tree Road**	**0.28**	**143**		Pg	03 19 41.9	+0.1
C054	**Valleyhaven Wa**	**0.29**	**303**		Pg	03 19 42.0	0.0
CMPM	**Mikes Peak**	**0.29**	**33**		Pg	03 19 42.0	-0.1
HSFM	**Saint Francis**	**0.30**	**177**		Pg	03 19 41.9	-0.2
JTGM	**Trout Gulch Ro**	**0.30**	**254**		Pg	03 19 41.1	-1.0
HTUM	**Tustin Road**	**0.30**	**200**		Pg	03 19 42.1	0.0
JELB	**Ellicott, Sant**	**0.31**	**234**		Pg	03 19 42.6	+0.3
JELB					Sg	03 19 47.5	+1.1
SCCB	**Santa Clara Co**	**0.33**	**303**		Pg	03 19 42.7	0.0
CMMM	**Mount Mocho**	**0.34**	**3**		Pg	03 19 42.9	-0.2
HERM	**Elkhorn Road**	**0.35**	**206**		Pg	03 19 43.2	+0.2
SAO	**San Andreas Ge**	**0.35**	**171**		Pg	03 19 43.4	+0.3
FRP	**Fremont Peak**	**0.36**	**176**		Pg	03 19 43.4	+0.1
BSLM	**Silva Ranch**	**0.36**	**158**		Pg	03 19 43.4	+0.1
C041	**El Campo Drive**	**0.36**	**317**		Pg	03 19 43.9	+0.6
SCKWR	**San Luis Creek**	**0.36**	**78**		Pg	03 19 43.6	+0.2
C046	**N 16th Street**	**0.38**	**310**		Pg	03 19 43.9	+0.2
JJOM	**Saint Joseph's**	**0.38**	**285**		Pg	03 19 43.3	-0.4
CMLM	**Mount Lewis**	**0.38**	**344**		Pg	03 19 43.6	-0.1
C016	**Longford Drive**	**0.40**	**316**		Pg	03 19 44.5	+0.5
MTOS	**Mt Oso, Westle**	**0.42**	**21**		Pg	03 19 44.2	-0.2
BSRM	**Salinas Radio**	**0.44**	**180**		Pg	03 19 44.6	-0.2
BJOM	**Mount Johnson**	**0.51**	**161**		Pg	03 19 46.2	+0.1
JSJM	**St Joseph**	**0.51**	**296**		Pg	03 19 46.1	0.0
SCZ	**Santa Cruz**	**0.52**	**170**		Pg	03 19 45.8	-0.5
C050	**Festivo Court**	**0.53**	**322**		Pg	03 19 46.5	+0.1
CSTL	**Corral Hollow**	**0.53**	**2**		Pg	03 19 46.6	+0.2
CSTL	**Corral Hollow**	**0.53**	**2**		Pg	03 19 46.8	+0.3
BPCNC	**Pine Canyon**	**0.54**	**189**		Pg	03 19 46.6	-0.1
WENL	**Wente Vineyard**	**0.55**	**140**		Pg	03 19 46.7	-0.1
JBMM	**Black Mountain**	**0.55**	**292**		Pg	03 19 46.3	-0.6
BEMM	**Emmet**	**0.56**	**143**		Pb	03 19 48.4	-0.1
BJCM	**Johnson Can.**	**0.57**	**170**		Pg	03 19 46.8	-0.5
CVLM	**Vallecito**	**0.57**	**334**		Pg	03 19 47.4	0.0
CSAM	**Sandia**	**0.58**	**345**		Pg	03 19 47.6	+0.2
C015	**Bright Common**	**0.59**	**320**		Pg	03 19 47.7	+0.1
JFP	**Foothills Park**	**0.59**	**295**		Pg	03 19 47.1	-0.6
BVL	**Bear Valley**	**0.60**	**154**		Pg	03 19 47.7	-0.1
CBZL	**Buffer Zone**	**0.60**	**345**		Pg	03 19 48.3	+0.5
CBZL	**Buffer Zone**	**0.60**	**345**		Pg	03 19 47.7	-0.2
JSFB	**Stanford Teles**	**0.60**	**299**		Pg	03 19 47.5	-0.3
BAVM	**Antelope Valle**	**0.61**	**140**		Pg	03 19 47.4	-0.5
CNIC	**Niles Canyon**	**0.61**	**324**		Pg	03 19 48.0	0.0
JRSC	**Jasper Ridge**	**0.65**	**297**		Pg	03 19 48.0	-0.7
CYD1	**Coyote D'meter**	**0.65**	**315**		Pg	03 19 48.1	-0.6
BBGB	**Big Mountain B**	**0.66**	**144**		Pg	03 19 48.7	-0.1
CDOM	**Doolan Road**	**0.67**	**338**		Pb	03 19 50.1	-0.1
JPSM		**0.67**	**278**		Pg	03 19 48.5	-0.7
BPIM	**Pinnacles**	**0.68**	**156**		Pg	03 19 48.8	-0.6
BGH	**Bear Gulch**	**0.69**	**290**		Pg	03 19 49.2	-0.5
BBNM	**San Benito**	**0.70**	**149**		Pg	03 19 49.6	0.0
CBSNC	**Byron Hot Spri**	**0.71**	**352**		Pg	03 19 50.4	+0.4
HAST	**Hastings Reser**	**0.72**	**182**		Pg	03 19 49.5	-0.6
BPRM	**Ponciano Ridge**	**0.72**	**194**		Pg	03 19 49.6	-0.5
BSGM	**Shirttail Gulc**	**0.73**	**163**		Pg	03 19 49.5	-0.7
BSMM	**Soledad Missio**	**0.73**	**174**		Pg	03 19 49.9	-0.4
C045	**Hawkins Drive**	**0.73**	**331**		Pb	03 19 51.2	-0.1
CMOB	**Morgan Territo**	**0.73**	**342**		Pg	03 19 50.8	+0.4
C071	**Via Corta San**	**0.75**	**320**		Pg	03 19 50.9	+0.2
CLCB	**Lake Chabot**	**0.76**	**325**		Pg	03 19 51.0	+0.1
C070	**Dillo Street S**	**0.77**	**321**		Pg	03 19 50.8	-0.2
CSLM	**San Leandro Hi**	**0.78**	**322**		Pg	03 19 50.8	-0.4
LRV	**Little Rabbit**	**0.79**	**149**		Pg	03 19 51.2	-0.3
JCHM	**Cahill Ridge**	**0.80**	**301**		Pg	03 19 50.7	-0.9
BCWM	**Chews Ridge**	**0.80**	**183**		Pg	03 19 50.5	-1.2
BGC	**Bolinger Pead**	**0.83**	**329**		Pg	03 19 51.9	-0.3
CMCM	**Mills College**	**0.85**	**322**		Pg	03 19 52.4	-0.2
CRPB	**Russellman Par**	**0.86**	**339**		Pg	03 19 52.4	-0.3
SAC	**San Andreas**	**0.86**	**304**		Pg	03 19 51.9	-0.8
SMCB	**Saint Mary's C**	**0.87**	**327**		Pg	03 19 52.4	-0.5
BPOM	**Post Ranch**	**0.90**	**193**		Pg	03 19 52.7	-0.9
MYLM	**Yosemite Lake**	**0.92**	**72**		Pg	03 19 52.8	-1.1
JMGM	**Milagra Ridge**	**0.93**	**305**		Pg	03 19 52.7	-1.3
BKS	**Berkeley--Byer**	**0.95**	**323**		Pg	03 19 53.7	-0.9
CVPM	**Vollmer Peak**	**0.95**	**324**		Pg	03 19 53.8	-0.7
VAK	**Adit at Lawren**	**0.96**	**323**		Pg	03 19 53.9	-0.8
BL67	**Building 67, L**	**0.96**	**323**		Pg	03 19 53.9	-0.8
BRK	**Berkeley--Havi**	**0.96**	**322**		Pg	03 19 54.0	-0.8
CYBM	**Yerba Buena Is**	**0.97**	**316**		Pg	03 19 53.9	-1.0
CTAM	**Taylor**	**1.00**	**337**		Pg	03 19 54.6	-0.8
JPRM	**Presidio of Sa**	**1.02**	**312**		Pg	03 19 54.3	-1.6
CPIM	**Pinole Ridge**	**1.04**	**328**		Pg	03 19 55.2	-1.0
PCCM	**Crazy Canyon**	**1.05**	**164**		Pg	03 19 55.3	-1.3
PMPB	**Monarch Peak**	**1.06**	**147**		Pg	03 19 55.7	-1.0
HERB	**Hercules**	**1.08**	**327**		Pg	03 19 55.8	-1.1
CPMM	**Point Molate**	**1.10**	**320**		Pg	03 19 55.5	-1.8
HULI	**Fort Hunter Li**	**1.11**	**168**		Pg	03 19 56.0	-1.6
MCUB	**Copperopolis B**	**1.12**	**39**		Pg	03 19 56.3	-1.4
PJUM	**Juniper Ridge**	**1.15**	**140**		Pg	03 19 57.6	-0.8
PPTM	**Peach Tree Val**	**1.19**	**147**		Pg	03 19 57.7	-1.3
PSAM	**San Ardo**	**1.20**	**155**		Pg	03 19 57.3	-1.9
PDRM	**Domengine Ranc**	**1.20**	**130**		Pg	03 19 57.8	-1.5
PWMM	**Westland Maint**	**1.25**	**122**		Pn	03 19 58.5	-1.6
PSMM	**Smith Mountain**	**1.28**	**144**		Pn	03 19 59.5	-1.1
CMB	**Columbia Colle**	**1.29**	**44**		Pn	03 19 59.1	-1.6
CMB	**Columbia Colle**	**1.29**	**44**	IAML		03 20 17.7	
	comp=N,187nm,0.4s						
CMB				IAML		03 20 20.6	
	comp=E,148nm,0.9s						
FARB	**Farallon Islan**	**1.32**	**297**		Pn	03 19 57.8	-3.2
PHSB	**Hesperia Broad**	**1.34**	**164**		Pn	03 19 59.4	-2.0
PHPM	**Hope Ranch**	**1.34**	**147**		Pn	03 19 59.9	-1.6
NOLM	**Olema**	**1.37**	**313**		Pn	03 19 59.4	-2.4
NADM	**Allendale**	**1.39**	**345**		Pn	03 20 00.5	-1.6
NBRB	**Beebe Ranch Br**	**1.41**	**325**		Pn	03 20 00.5	-1.9
PANM	**San Antonio Re**	**1.42**	**159**		Pn	03 20 00.6	-1.8
PVCM	**Vineyard Canyo**	**1.43**	**146**		Pn	03 20 00.6	-2.1
PSTM	**Stockdale Moun**	**1.43**	**145**		Pn	03 20 00.7	-2.0
PPO	**Portuguese Can**	**1.44**	**149**		Pn	03 20 00.9	-1.8
CVS	**Carmenet Viney**	**1.44**	**329**		Pn	03 20 00.5	-2.3
FRI	**Friant**	**1.45**	**94**		Pn	03 20 01.1	-1.9
PHCM	**Hearst Castle**	**1.46**	**168**		Pn	03 20 01.4	-1.6
MCCM	**Marconi Confer**	**1.50**	**314**		Pn	03 20 00.6	-2.9
MCCM	**Marconi Confer**	**1.50**	**314**	IAML		03 20 31.3	
	comp=E,179nm,0.9s						
PHFM	**Heflinger Ranc**	**1.52**	**143**		Pn	03 20 02.1	-1.7
PWKM	**Work Ranch**	**1.53**	**148**		Pn	03 20 02.1	-1.9
RAMR	**Ramage Ranch**	**1.56**	**160**		Pn	03 20 02.5	-1.9
NTYM	**Taylor**	**1.57**	**325**		Pn	03 20 02.5	-2.0
PKLM	**Kerr Lake**	**1.64**	**144**		Pn	03 20 03.7	-1.8
NBPM	**Berryessa Peak**	**1.64**	**341**		Pn	03 20 04.0	-1.5
NDHM	**Dunnigan Hills**	**1.68**	**349**		Pn	03 20 05.5	-0.6
TCHL	**Shandon**	**1.68**	**147**		Pn	03 20 04.3	-1.7
TRAM	**Private Proper**	**1.75**	**145**		Pn	03 20 05.4	-1.7
NHSM	**Mount Saint He**	**1.77**	**331**		Pn	03 20 05.8	-1.6
NMTM	**Middletown**	**1.84**	**337**		Pn	03 20 07.1	-1.2
AFDM	**Forest Hills D**	**1.88**	**13**		Pn	03 20 08.0	-0.9
MNRC	**McLaughlin Min**	**1.91**	**338**		Pn	03 20 08.2	-1.1
TSCS	**Shell Creek So**	**1.91**	**150**		Pn	03 20 07.0	-2.3
TRAV	**Twisselman Ran**	**1.92**	**144**		Pn	03 20 08.2	-1.2
GDXM	**Geysers**	**1.97**	**330**		Pn	03 20 08.3	-1.9
MDPB	**Devils Postpil**	**2.01**	**74**		Pn	03 20 11.1	+0.2
MDPB	**Devils Postpil**	**2.01**	**74**	IAML		03 20 37.5	
	comp=E,101nm,0.4s						
MDPB				IAML		03 20 37.5	
	comp=N,110nm,0.8s						
MRDM	**Red Cones**	**2.02**	**75**		Pn	03 20 11.5	+0.5
MINS	**Minaret Summit**	**2.03**	**74**		Pn	03 20 11.5	+0.3
MMSM	**Mammoth Summit**	**2.05**	**75**		Pn	03 20 12.4	+0.9
MDCM	**Deadman Creek**	**2.06**	**72**		Pn	03 20 12.0	+0.4
OMMB	**Old Mammoth Mi**	**2.07**	**75**		Pn	03 20 12.1	+0.4
OMMB	**Old Mammoth Mi**	**2.07**	**75**	IAML		03 20 38.7	
	comp=N,65nm,0.6s						
MDYM	**Dry Creek**	**2.07**	**74**		Pn	03 20 12.8	+1.1
MRHM	**Rocky Hill**	**2.12**	**112**		Pn	03 20 11.3	-0.9
SUTB	**Sutter Butte**	**2.13**	**354**		Pn	03 20 11.4	-0.7
MEMM	**East Mammoth H**	**2.13**	**74**		Pn	03 20 13.5	+1.1
MCSM	**Casa Diablo Ho**	**2.15**	**75**		Pn	03 20 14.1	+1.3
MCBM	**Casa Benchmark**	**2.15**	**75**		Pn	03 20 14.2	+1.4
WAKR	**Walker**	**2.16**	**49**		Pn	03 20 13.3	+0.5
WAKR	**Walker**	**2.16**	**49**	IAML		03 20 43.7	
	comp=E,101nm,0.6s						
EMB	**Emerald Bay**	**2.17**	**31**		Pn	03 20 13.4	+0.4
EMB	**Emerald Bay**	**2.17**	**31**	IAML		03 20 44.8	
	comp=E,94nm,0.5s						
MCVM	**Convict Lake**	**2.19**	**77**		Pn	03 20 14.3	+0.9
MLAC	**Mammoth, Mammo**	**2.20**	**76**		Pn	03 20 14.8	+1.3
MDRNC	**Doe Ridge**	**2.20**	**75**		Pn	03 20 14.8	+1.4
GHLM	**Highland Sprin**	**2.26**	**329**		Pn	03 20 11.8	-2.3
MTUM	**Tungsten Hills**	**2.37**	**83**		Pn	03 20 16.9	+1.2
CASR	**Casa Diablo Mo**	**2.41**	**78**		Pn	03 20 17.8	+1.5
BENR	**Benton**	**2.42**	**75**		Pn	03 20 17.9	+1.4
BHPR	**Bishop**	**2.43**	**85**		Pn	03 20 17.4	+0.8
ORV	**Oroville**	**2.44**	**0**		Pn	03 20 15.8	-0.7
MPK	**Martis Peak**	**2.48**	**28**		Pn	03 20 16.5	-0.8
MPK				IAML		03 20 59.4	
	comp=N,66nm,1.1s						
PNTR	**Pine Nut**	**2.49**	**37**		Pn	03 20 17.2	-0.2
PNTR				IAML		03 20 56.7	
	comp=E,75nm,0.8s						
OGOM	**Van Goodin Ran**	**2.54**	**358**		Pn	03 20 16.5	-1.4
YERR	**Yerington**	**2.59**	**43**		Pn	03 20 18.4	-0.4
LHV	**Little Huntoon**	**2.65**	**64**		Pn	03 20 19.6	+0.2
LHV				IAML		03 21 06.6	
	comp=E,59nm,1.1s						
BCW	**Bitter Crk WRg**	**2.76**	**141**	Pn	Pn	03 20 20.6	-0.4
BCW				IAML		03 21 27.8	
	comp=E,46nm,1.2s						
BCW				IAML		03 21 45.0	
	comp=N,32nm,3.6s						
RYN	**Ryan**	**2.81**	**56**	Pn	Pn	03 20 21.7	-0.1
RYN				IAML		03 21 05.1	
	comp=N,27nm,0.4s						
RYN				IAML		03 21 06.9	
	comp=E,41nm,0.8s						
ISA	**Isabella, Lake**	**2.85**	**120**	Pn	Pn	03 20 21.8	-0.4
NVAR	**Mina Array Bea**	**2.87**	**62**	Pn	Pn	03 20 22.8	+0.2
NV11	**Mina Array Sit**	**2.97**	**63**	P

KIF	**Kilpisjarvi**	**1.15**	**10**	PG	Pg	03 42 54.3	-0.9
	baz=195						
KIF				MSG		03 43 09.3	
	comp=Z,0.9nm,0.2s						
KIF				SG	Sg	03 43 10.1	0.0
HEF	**Hetta**	**1.38**	**66**	PG	Pg	03 42 57.4	-2.3
	baz=249						
HEF				MSG		03 43 14.8	
	comp=Z,0.4nm,0.2s						
HEF				SN	Sn	03 43 20.5	+1.8
PAJU	**Pajala**	**1.39**	**127**	SB	Sg	03 43 16.9	-1.1
ERTU	**Ertsjaerv**	**1.53**	**150**	PG	Pn	03 43 00.6	-1.2
ERTU				SN	Sn	03 43 22.5	+0.2
KLF	**Kolari**	**1.56**	**113**	MSG		03 43 20.0	
	comp=Z,0.3nm,0.2s						
KLF				SN	Sg	03 43 23.8	+0.4
KTK1	**Kautokeino**	**1.58**	**43**	PG	Pn	03 43 01.6	-0.9
KTK1				SN	Sg	03 43 24.8	+0.9
TRO	**Tromso**	**1.83**	**345**	SG	Sb	03 43 31.4	+0.4

BJI ***27*** *04:11:23.6, 46˚.42N×153˚.18E, h29km, mb4.9/63, mB5.2/33, Ms4.7/24, MS7 4.4/23*
SKHL ***27*** *04:11:23.2±0.5, 46˚.10N×153˚.60E, h49km±3km, mb5.3/7*
JMA ***27*** *04:11:24.0±1.1, 47˚N±7˚×15˚3E±1˚0, h30km, MV5.0/14, KURILE ISLANDS REGION*
MOS ***27*** *04:11:25.8±1.1, 46˚.35N×153˚.16E, h46km, mb5.0/39, MS4.1/8, Error ellipse: s-maj=6.8km s-min=4.8km az=114.9*
IDC ***27*** *04:11:27.0±2.1, 46˚.36N×153˚.18E, h43km±18km, mb4.3/31, mbtmp4.5/37, ML4.4/4, MS4.1/50, Error ellipse: s-maj=14.3km s-min=10.3km az=146.0*
NEIC ***27*** *04:11:27.4±1.0, 46˚.5N±0˚.1×153˚.1E±0˚.1, h34km±6km, mb4.8/191, Error ellipse: s-maj=18.4km s-min=10.2km az=140.0*
ISC 27 04:11:24.8±0.4, **46˚20N**±0˚.04×**153˚29E**±0˚.04, **h31**km±2km, **h31km:pP-P, n810,** σ**1s31**/770, **mb4.8**/195, **MS4.3**/59, **49C-54D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.92**	**258**	*e*P		**Pn**	**04 12 24.6**	**+1.8**
KUR				AMB		AMB	04 12 25.4	
	200nm,0.5s							
KUR				*e*S		**Sn**	**04 13 10.3**	**+2.6**
KUR				A		A	04 13 24.9	
	390nm,0.7s							
KUR				A		A	04 13 24.9	
	770nm,0.7s							
KUR	**Kuril'sk**	**3.92**	**258**	*e*PN		**Pn**	**04 12 24.6**	**+1.8**
KUR				*e*S		**Sn**	**04 13 10.3**	**+2.6**
KUR				pmax		pmax		
	comp=Z,2μm,0.5s							
KUR				pmax		pmax		
	comp=N,471nm,0.4s							
KUR				pmax		pmax		
	comp=E,237nm,0.3s							
KUR				smax		smax		
	comp=E,766nm,0.8s							
KUR				smax		smax		
	comp=N,387nm,0.6s							
SKR	**Severo-Kuril's**	**4.87**	**22**	*e*P		**Pn**	**04 12 35.4**	**-0.4**
SKR				AMB		AMB	04 12 39.6	
	comp=N,140nm,0.4s							
SKR				*e*S		**Sn**	**04 13 28.2**	**-2.8**
SKR				A		A	04 13 39.9	
	comp=N,230nm,0.4s							
SKR				A		A	04 13 39.9	
	comp=N,250nm,0.4s							
SKR				AMS		AMS	04 14 24.2	
	comp=N,2μm,15.0s							
SKR	**Severo-Kuril's**	**4.87**	**22**	*e*PN		**Pn**	**04 12 34.6**	**-1.2**
SKR				pmax		pmax		
	comp=Z,404nm,0.7s							
SKR				MLR		MLR		
	comp=Z,2μm,15.0s							
SHO	**Shikotan**	**5.13**	**245**	*e*P		**Pn**	**04 12 38.8**	**-0.8**
SHO				AMB		AMB	04 12 41.2	
	comp=Z,140nm,0.4s							
SHO				*e*S		**Sn**	**04 13 35.9**	**-1.8**
SHO				A		A	04 13 44.5	
	comp=Z,170nm,0.4s							
SHO				A		A	04 13 44.5	
	comp=Z,350nm,0.4s							
SHO	**Shikotan**	**5.13**	**245**	PN		**Pn**	**04 12 38.7**	**-0.8**
SHO				pmax		pmax		
	comp=N,50nm,0.3s							
SHO				pmax		pmax		
	comp=E,102nm,0.3s							
SHO				pmax		pmax		
	comp=Z,112nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**5.68**	**250**	*e*P		**Pn**	**04 12 48.7**	**+1.7**
YUK				AMB		AMB	04 12 52.4	
	comp=Z,330nm,0.4s							
YUK				*e*S		**Sn**	**04 13 52.0**	**+0.8**
YUK				A		A	04 13 57.6	
	comp=Z,570nm,0.5s							
YUK				A		A	04 13 57.6	
	comp=Z,440nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.68**	**250**	*e*PN		**Pn**	**04 12 48.6**	**+1.6**
YUK				pmax		pmax		
	comp=Z,387nm,0.2s							
YUK				pmax		pmax		
	comp=N,334nm,0.4s							
YUK				pmax		pmax		
	comp=E,344nm,0.4s							
PAU	**Pauzhetka**	**5.76**	**23**	*e*P		**Pn**	**04 12 48.0**	**-0.1**
PAU				AMB		AMB	04 12 49.0	
	comp=E,40nm,0.3s							
PAU				*e*S		**Sn**	**04 13 51.5**	**-1.6**
PAU				A		A	04 14 00.5	
	comp=E,260nm,0.5s							
PAU				A		A	04 14 00.5	
	comp=E,140nm,0.5s							
RUSJ	**Misakicho**	**6.06**	**253**	*e*PN		**Pn**	**04 12 55.0**	**+2.8**
RUSJ				S		**Sn**	**04 14 02.9**	**+2.5**
NEM2	**Nemuro 2**	**6.07**	**245**	P		**Pn**	**04 12 51.5**	**-0.9**
NEM2				*e*S		**Sn**	**04 13 56.9**	**-3.8**
NMR	**Nemuro--Hokkai**	**6.08**	**245**	*e*P		**Pn**	**04 12 51.9**	**-0.5**
NMR				*e*S		**Sn**	**04 13 58.7**	**-2.2**
NMR	**Nemuro--Hokkai**	**6.08**	**245**	*e*PN		**Pn**	**04 12 51.5**	**-0.9**
JRA	**Rausu**	**6.21**	**252**	*e*P		**Pn**	**04 12 55.8**	**+1.6**
JNK	**Nakash**	**6.62**	**250**	P		**Pn**	**04 13 00.7**	**+0.8**
AKK	**Akkeshi**	**6.81**	**245**	*e*P		**Pn**	**04 13 02.0**	**-0.6**
JAK	**Akkeshi**	**6.92**	**246**	P		**Pn**	**04 13 03.2**	**-0.7**
JAK				*e*S		**Sn**	**04 14 17.0**	**-4.5**
JTKR	**Abashiri--Toko**	**7.00**	**255**	*e*P		**Pn**	**04 13 06.8**	**+1.7**
YSS	**Yuzh-Sakhalins**	**7.30**	**280**	Pn		**Pn**	**04 13 09.9**	**+0.7**
YSS	**Yuzh-Sakhalins**	**7.30**	**280**	*e*P		**Pn**	**04 13 12.5**	**+3.3**
YSS				AMB		AMB	04 13 18.4	
	comp=E,40nm,0.5s							
YSS				*e*S		**Sn**	**04 14 33.5**	**+2.6**
YSS				A		A	04 14 39.7	
	comp=E,30nm,0.4s							
YSS				A		A	04 14 39.7	
	comp=E,30nm,0.4s							
YSS				AMS		AMS	04 16 00.0	
	comp=E,3μm,16.0s							
YSS				AMS		AMS	04 16 00.0	
	comp=E,3μm,16.0s							
YSS				AMS		AMS	04 16 00.0	
	comp=E,3μm,16.0s							
YSS	**Yuzh-Sakhalins**	**7.30**	**280**	*e*PN		**Pn**	**04 13 12.5**	**+3.3**
YSS				pmax		pmax		
	comp=Z,90nm,1.0s							
YSS				MLR		MLR		
	comp=Z,3μm,16.0s							
YSS				MLR		MLR		
	comp=N,3μm,15.0s							
YSS				MLR		MLR		
	comp=E,3μm,15.0s							
JAR	**Ashorobuto**	**7.37**	**250**	*e*P		**Pn**	**04 13 11.1**	**+0.9**
JAR				*e*S		**Sn**	**04 14 30.8**	**-2.0**
PEA0B	**Petropavlovsk-**	**7.49**	**21**	Pn		**Pn**	**04 13 10.8**	**-0.9**
PEA0B	**Petropavlovsk-**	**7.49**	**21**	↓*i*PN		**Pn**	**04 13 10.9**	**-0.9**
PETK	**Petropavlovsk-**	**7.49**	**21**	Pn		**Pn**	**04 13 10.3**	**-1.5**
PETK	**Petropavlovsk-**	**7.49**	**21**	P		**Pn**	**04 13 10.5**	**-1.3**
	comp=E,18nm,0.8s,baz=182,slow=12,SNR=10							
PETK				S		**Sn**	**04 14 33.8**	**-1.7**
	comp=E,4.6nm,0.6s,baz=186,slow=12,SNR=1.0							
JOB	**Onbets**	**7.51**	**247**	*e*P		**Pn**	**04 13 11.9**	**-0.3**
PET	**Petropavlovsk**	**7.67**	**25**	*e*PN		**Pn**	**04 13 11.8**	**-2.4**
PET				MLR		MLR		
	comp=Z,700nm,13.0s							
JKK2	**Kamakawa 2**	**7.82**	**256**	*e*P		**Pn**	**04 13 18.3**	**+1.9**
JKA	**Kamikawa-asahi**	**7.84**	**258**	Pn		**Pn**	**04 13 18.4**	**+1.8**
JKA	**Kamikawa-asahi**	**7.84**	**258**	*e*P		**Pn**	**04 13 18.6**	**+2.0**
ASAJ	**Asahikawa**	**7.84**	**258**	P		**Pn**	**04 13 18.6**	**+2.0**
	comp=Z,8.0nm,0.3s,baz=90,slow=15,SNR=13							
ASAJ				LR		LR	04 16 21.8	
	comp=Z,877nm,18.4s,baz=305,slow=38							
	comp=Z,43nm,0.6s							
JCH	**Churui**	**7.96**	**247**	*e*P		**Pn**	**04 13 18.1**	**-0.1**
JCH				*e*S		**Sn**	**04 14 42.3**	**-4.8**
UGL	**Uglegorsk**	**8.11**	**295**	*e*P		**Pn**	**04 13 23.4**	**+3.1**
UGL				AMB		AMB	04 13 25.0	
	comp=Z,150nm,0.6s							
UGL				*e*S		**Sn**	**04 14 53.7**	**+2.9**
UGL				A		A	04 14 59.9	
	comp=Z,90nm,0.6s							
UGL				A		A	04 14 59.9	
	comp=Z,100nm,0.6s							
JAB	**Ashibetsu**	**8.31**	**255**	*e*P		**Pn**	**04 13 25.9**	**+2.8**
ERM	**Erimo**	**8.40**	**244**	Pn		**Pn**	**04 13 25.0**	**+0.6**
ERM	**Erimo**	**8.40**	**244**	↓*e*PN		**Pn**	**04 13 26.1**	**+1.8**
TYV	**Tymovskoe**	**8.46**	**307**	*e*P		**Pn**	**04 13 29.0**	**+3.9**
TYV				AMB		AMB	04 13 38.3	
	comp=Z,50nm,0.7s							
TYV				AMB		AMB	04 13 40.7	
	comp=Z,1μm,3.0s							
TYV				*e*S		**Sn**	**04 15 02.5**	**+3.1**
TYV				A		A	04 15 07.3	
	comp=Z,10.0nm,0.6s							
TYV				A		A	04 15 07.3	
	comp=Z,10.0nm,0.6s							
TYV	**Tymovskoe**	**8.46**	**307**	*e*PN		Pb	04 13 37.2	-13
TYV				pmax		pmax		
	comp=Z,64nm,0.9s							
TYV				pmax		pmax		
	comp=Z,1μm,3.1s							
JNBK	**Urakawa-nobuka**	**8.52**	**246**	*e*P		**Pn**	**04 13 25.0**	**-0.9**
JTM	**Tenmabayashi**	**10.39**	**243**	Pn		**Pn**	**04 13 49.5**	**-2.1**
GRNR	**Gornyy**	**12.08**	**298**	*e*P		**Pn**	**04 14 16.2**	**+1.5**
GRNR	**Gornyy**	**12.08**	**298**	↑*i*PN		**Pn**	**04 14 16.2**	**+1.5**
GRNR				pmax		pmax		
	comp=Z,4.0nm,0.7s							
GRNR				MLR		MLR		
	comp=N,890nm,16.0s							
GRNR				MLR		MLR		
	comp=E,1μm,16.0s							
GRNR				MLR		MLR		
	comp=Z,1μm,14.0s							
MA2	**Magadan**	**13.49**	**354**	*e*P		**Pn**	**04 14 34.6**	**+0.8**
MA2	**Magadan**	**13.49**	**354**	↓*e*PN		**Pn**	**04 14 34.6**	**+0.8**
MA2				pmax		pmax		
	comp=Z,160nm,2.1s							
MA2	**Magadan**	**13.49**	**354**	P		**Pn**	**04 14 34.0**	**+0.2**
	comp=Z,18nm,0.6s,baz=178,slow=10.0,SNR=7.3							
MA2				LR		LR	04 19 58.8	
	comp=Z,495nm,18.0s,baz=114,slow=38							
KLR	**Kul'dur**	**14.80**	**290**	*ce*P		**Pn**	**04 14 54.0**	**+2.2**
KLR				pmax		pmax		
	comp=Z,38nm,1.1s							
KLR				MLR		MLR		
	comp=Z,971nm,16.0s							
KLR	**Kul'dur**	**14.80**	**290**	P		**Pn**	**04 14 53.2**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=96,slow=9.0,SNR=14							
KLR				LR		LR	04 20 43.8	
	comp=Z,667nm,19.1s,baz=83,slow=38							
	comp=Z,7.0nm,1.0s							
MAJO	**Matsushiro**	**14.85**	**235**			**P**	**04 14 59.8**	**+1.9**
MAJO	**Matsushiro**	**14.85**	**235**	↓*i*P		**Pn**	**04 14 54.9**	**+2.4**
MJAR	**Matsushiro Arr**	**14.85**	**235**	P		**Pn**	**04 14 50.2**	**-2.4**
	comp=Z,5.0nm,0.8s,baz=28,slow=14,SNR=5.7							
MJB9	**Matsu-Tunnel**	**14.85**	**235**	P		**P**	**04 15 00.6**	**+2.6**
SHEM	**Shemya Is, Ala**	**15.00**	**57**	LR		LR	04 21 10.4	
	comp=Z,138nm,19.5s,baz=140,slow=39							
USA0B	**Ussuriysk Arra**	**15.14**	**270**	Pn		**Pn**	**04 14 56.4**	**+0.1**
USA0B	**Ussuriysk Arra**	**15.14**	**270**	P		**Pn**	**04 14 56.4**	**+0.1**
USA0B				pmax		pmax		
	comp=Z,18nm,0.9s							
USRK	**Ussuriysk Ar.**	**15.14**	**270**	Pn		**Pn**	**04 14 56.2**	**-0.2**
USRK	**Ussuriysk Ar.**	**15.14**	**270**	P		**Pn**	**04 14 56.8**	**+0.5**
	comp=Z,2.4nm,0.3s,baz=72,slow=11,SNR=25							
USRK				LR		LR	04 20 47.7	
	comp=Z,420nm,18.4s,baz=69,slow=37							
	comp=Z,10nm,0.6s							
MDJ	**Mudanjiang**	**16.70**	**273**	Pn		**Pn**	**04 15 16.4**	**0.0**
MDJ				IAmb		IAmb	04 15 19.4	
	comp=Z,54nm,1.1s							
MDJ	**Mudanjiang**	**16.70**	**273**	P		**Pn**	**04 15 17.0**	**+0.6**
MDJ				S		**Sn**	**04 18 19.3**	**-1.5**
MDJ				pmax		pmax		
	comp=Z,16nm,0.8s							
MDJ				pmax		pmax		
	comp=Z,840nm,5.7s							
MDJ				LR		LR		
	comp=Z,930nm,5.8s							
MDJ				LR		LR		
	comp=Z,1μm,4.8s							
MDJ				LR		LR		
	comp=Z,1μm,5.4s							
SEY	**Seymchan**	**16.78**	**359**	P		**P**	**04 15 18.0**	**-1.2**
SEY	**Seymchan**	**16.78**	**359**	P		**P**	**04 15 17.9**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=180,slow=11,SNR=7.9							
SEY				LR		LR	04 22 41.2	
	comp=Z,465nm,18.9s,baz=188,slow=41							
	comp=Z,2.5nm,0.5s							
HEH	**HeiHe**	**17.68**	**293**	*e*P		**Pn**	**04 15 27.8**	**-0.6**
HEH				pmax		pmax		
	comp=Z,40nm,0.9s							
BNX	**BinXian**	**17.98**	**278**	↓P		**Pn**	**04 15 29.3**	**-2.9**
BNX				pmax		pmax		
	comp=Z,9.0nm,0.7s							
BNX				pmax		pmax		
	comp=Z,620nm,5.4s							
ZEA	**Zeya**	**18.30**	**304**	*e*P		**P**	**04 15 36.8**	**+0.9**
ZEA	**Zeya**	**18.30**	**304**	*e*P		**P**	**04 15 38.0**	**+2.1**
ZEA				pmax		pmax		
	comp=Z,10.0nm,1.1s							
KSRS	**Korea Array**	**20.75**	**254**	P		Pn	04 16 05.2	-0.1
	comp=Z,12nm,0.6s,baz=57,slow=10,SNR=33							
KSRS				LR		LR	04 23 12.1	
	comp=Z,231nm,19.4s,baz=45,slow=34							
	comp=Z,12nm,0.6s							
KSAR	**Wonju Array Be**	**20.79**	**254**	P		**P**	**04 16 04.5**	**+1.3**
KSAR	**Wonju Array Be**	**20.79**	**254**	P		**P**	**04 16 04.5**	**+1.3**
YAK	**Yakutsk**	**20.85**	**328**	*e*P		**P**	**04 16 03.2**	**-0.5**
YAK				*e*			04 16 39.9	
YAK				*e*S		**S**	**04 19 53.9**	**-0.5**
YAK				*e*SS		**SnSn**	**04 20 18.8**	**+3.4**
YAK				pmax		pmax		
	comp=Z,27nm,0.9s							
YAK				pmax		pmax		
	comp=N,7.0nm,1.1s							
YAK				pmax		pmax		
	comp=E,5.0nm,1.0s							
YAK				pmax		pmax		
	comp=Z,567nm,4.0s							
YAK				pmax		pmax		
	comp=N,2μm,6.3s							
YAK				pmax		pmax		
	comp=E,533nm,5.3s							
YAK				smax		smax		
	comp=E,612nm,5.1s							
YAK				smax		smax		
	comp=N,455nm,4.8s							
YAK	**Yakutsk**	**20.85**	**328**	P		**P**	**04 16 03.4**	**-0.4**
	comp=N,1.4nm,0.4s,baz=139,slow=2.8,SNR=5.6							
YAK				LR		LR	04 24 15.9	
	comp=N,16nm,18.5s,baz=112,slow=37							
JNU	**Nakatsue**	**21.55**	**241**	P		**P**	**04 16 12.6**	**+1.1**
	comp=N,18nm,0.9s,baz=24,slow=18,SNR=3.9							
JNU				LR		LR	04 24 54.7	
	comp=N,186nm,20.2s,baz=38,slow=38							
	comp=N,18nm,0.9s							
TJN	**Taejon**	**21.73**	**252**	↓*e*P		**P**	**04 16 15.1**	**+1.8**
BILL	**Bilibino**	**22.90**	**13**	P		**P**	**04 16 24.4**	**-1.2**
BILL				IAmb		IAmb	04 16 35.7	
	comp=Z,11nm,0.5s							
BILL	**Bilibino**	**22.90**	**13**	*e*P		**P**	**04 16 23.9**	**-1.7**
BILL	**Bilibino**	**22.90**	**13**	↑*e*P		**P**	**04 16 23.9**	**-1.7**
BILL				pmax		pmax		
	comp=Z,22nm,1.3s							
BILL				MLR		MLR		
	comp=Z,303nm,18.9s							
SPIA	**Saint Paul Isl**	**24.83**	**50**	P		**P**	**04 16 45.1**	**+1.2**
	baz=260							
NIKH	**Nikolski High**	**25.23**	**61**	P		**P**	**04 16 49.6**	**+1.9**
	baz=270							
XLT	**XiLinHaoTe**	**26.23**	**279**	*e*P		**P**	**04 16 57.0**	**0.0**
XLT				sP		pwP	04 17 11.5	+1.6
XLT				pmax		pmax		
	comp=Z,29nm,0.6s							
XLT				pmax		pmax		
	comp=Z,510nm,5.2s							
M11K	**Mekoryuk**	**27.54**	**44**	P		**P**	**04 17 07.6**	**-0.8**
	baz=255							
BJI	**Beijing**	**27.60**	**271**	P		**P**	**04 17 08.8**	**-0.3**
BJI				pmax		pmax		
	comp=Z,3.0nm,0.6s							
BJI				pmax		pmax		
	comp=Z,140nm,5.1s							
BJI				LR		LR		
	comp=Z,130nm,13.7s							
BJI				LR		LR		
	comp=Z,340nm,14.7s							
BJI				LR		LR		
	comp=Z,270nm,14.8s							
TIXI	**Tiksi**	**28.03**	**344**	*e*P		**P**	**04 17 13.8**	**+1.1**
TIXI	**Tiksi**	**28.03**	**344**	↑*e*P		**P**	**04 17 13.8**	**+1.1**
TIXI				pmax		pmax		
	comp=Z,5.0nm,1.1s							
TIXI				MLR		MLR		
	comp=Z,389nm,16.0s							
TIXI	**Tiksi**	**28.03**	**344**	LR		LR	04 28 43.9	
	comp=Z,16nm,18.6s,baz=199,slow=37							
FALS	**False Pass**	**28.45**	**56**	P		**P**	**04 17 17.8**	**+1.3**
	baz=271							
H11N2	**WAKE ISLAND Hy**	**28.67**	**152**	T		T	04 49 02.2	
	baz=340,slow=76,SNR=144							
H11N1	**WAKE ISLAND Hy**	**28.69**	**153**	T		T	04 49 29.3	
	baz=340,slow=76,SNR=108							
H11N3	**WAKE ISLAND Hy**	**28.69**	**152**	T		T	04 49 03.9	
	baz=340,slow=76,SNR=63							
TIA	**Tai'an**	**28.76**	**263**	P		**P**	**04 17 21.3**	**+1.8**
TIA				pmax		pmax		
	comp=Z,9.0nm,1.5s							
M13K	**Dall Lake**	**28.93**	**45**	P		**P**	**04 17 21.6**	**+0.8**
	baz=261							
J14K	**Nanvaranak Lak**	**29.32**	**40**	P		**P**	**04 17 25.1**	**+0.9**
	baz=256							
L14K	**Kuka Creek**	**29.42**	**43**	P		**P**	**04 17 26.7**	**+1.6**
	baz=260							
M14K	**Bethel**	**29.67**	**44**	P		**P**	**04 17 29.0**	**+1.7**
	baz=262							
N14K	**Kuskokwak Cree**	**29.69**	**46**	P		**P**	**04 17 28.6**	**+1.1**
	baz=263							
F15K	**North Star Dit**	**29.74**	**34**	P		**P**	**04 17 28.0**	**+0.1**
	baz=250							
G15K	**Niukluk**	**29.74**	**36**	P		**P**	**04 17 28.6**	**+0.6**
	baz=252							
H11S1	**WAKE ISLAND Hy**	**29.76**	**154**	T		T	04 50 36.3	
	baz=341,slow=76,SNR=134							
H11S3	**WAKE ISLAND Hy**	**29.77**	**154**	T		T	04 50 21.3	
	baz=341,slow=76,SNR=96							
H11S2	**WAKE ISLAND Hy**	**29.78**	**154**	T		T	04 50 23.9	
	baz=341,slow=76,SNR=113							
O14K	**Tigyukauivet M**	**29.82**	**47**	P		**P**	**04 17 29.2**	**+0.5**
	baz=265							
HNS	**HongShan**	**29.83**	**267**	↓P		**P**	**04 17 30.8**	**+1.8**
HNS				pmax		pmax		
	comp=Z,17nm,1.2s							
NJ2	**Nanjing**	**29.96**	**254**	*e*P		**P**	**04 17 30.8**	**+0.7**
NJ2				pP		**sP**	**04 17 39.8**	**-0.6**
NJ2				sP		**pwP**	**04 17 45.0**	**+0.6**
NJ2				pmax		pmax		
	comp=Z,11nm,0.5s							
NJ2				pmax		pmax		
	comp=Z,46nm,3.6s							
L15K	**Ungalak Mounta**	**30.05**	**43**	P		**P**	**04 17 31.6**	**+1.0**
	baz=260							
K15K	**Wolf Creek Mou**	**30.14**	**41**	P		**P**	**04 17 31.7**	**+0.2**
	baz=259							
M15K	**Kasigluk River**	**30.28**	**45**	P		**P**	**04 17 33.1**	**+0.4**
	baz=263							
H16K	**Elim**	**30.38**	**37**	P		**P**	**04 17 33.7**	**+0.1**
	baz=255							
HHC	**Hu-ho-hao-te**	**30.46**	**275**	*e*P		**P**	**04 17 36.0**	**+1.3**
HHC				pmax		pmax		
	comp=Z,68nm,0.9s							
HHC				pmax		pmax		
	comp=Z,700nm,5.3s							
HHC				LR		LR		
	comp=Z,870nm,13.2s							
HHC				LR		LR		
	comp=Z,1μm,12.8s							
HHC				LR		LR		
	comp=Z,1μm,17.8s							
N15K	**Kwethluk River**	**30.51**	**46**	P		**P**	**04 17 35.8**	**+1.0**
	baz=264							
O15K	**Ungalikthiuk R**	**30.56**	**48**	P		**P**	**04 17 36.9**	**+1.7**
	baz=266							
J16K	**Anvik River**	**30.75**	**40**	P		**P**	**04 17 37.4**	**+0.5**
	baz=259							
I17K	**Unalakleet**	**30.84**	**38**	P		**P**	**04 17 38.2**	**+0.6**
	baz=258							
L16K	**Owhat River**	**31.00**	**43**	P		**P**	**04 17 39.6**	**+0.5**
	baz=262							
M16K	**Timber Creek**	**31.16**	**44**	P		**P**	**04 17 41.4**	**+0.9**
M16K				IAmb		IAmb	04 17 43.1	
	comp=Z,20nm,1.4s							
M16K	**Timber Creek**	**31.16**	**44**	P		**P**	**04 17 41.4**	**+0.9**
	baz=264							
N16K	**Nishlik Lake**	**31.19**	**45**	P		**P**	**04 17 41.6**	**+0.7**
	baz=265							
ULN	**Ulaanbaatar**	**31.20**	**290**	P		**P**	**04 17 40.2**	**-1.0**
ULN	**Ulaanbaatar**	**31.20**	**290**	↓*i*P		**P**	**04 17 39.7**	**-1.5**
ULN				pmax		pmax		
	comp=Z,9.0nm,1.7s							
RDOG	**Red Dog Mine**	**31.23**	**30**	P		**P**	**04 17 41.6**	**+0.5**
	baz=248							
CHGN	**Chignik**	**31.26**	**53**	P		**P**	**04 17 43.1**	**+1.7**
	baz=272							
G17K	**Kiwalik Mounta**	**31.26**	**35**	P		**P**	**04 17 41.8**	**+0.5**
	baz=255							
E17K	**Hotham Inlet**	**31.28**	**32**	P		**P**	**04 17 42.1**	**+0.6**
	baz=251,SNR=5.2							
F17K	**Baldwin Pennin**	**31.29**	**33**	P		**P**	**04 17 42.7**	**+1.1**
F17K				IAmb		IAmb	04 17 47.0	
	comp=Z,22nm,1.6s							
F17K	**Baldwin Pennin**	**31.29**	**33**	P		**P**	**04 17 41.9**	**+0.3**
	baz=253							
C17K	**DeLong Mountai**	**31.30**	**29**	P		**P**	**04 17 41.8**	**+0.1**
	baz=248							
H17K	**Granite Mounta**	**31.41**	**37**	P		**P**	**04 17 43.6**	**+0.9**
	baz=257							
O16K	**Kokwok River B**	**31.47**	**47**	P		**P**	**04 17 44.9**	**+1.7**
	baz=267							
L17K	**Donlin**	**31.61**	**42**	P		**P**	**04 17 45.9**	**+1.5**
	baz=263							
BTO	**Baotou**	**31.63**	**276**	*e*P		**P**	**04 17 46.3**	**+1.3**
BTO				pP		**sP**	**04 17 55.8**	**0.0**
BTO				sP		**pwP**	**04 17 59.8**	**+1.9**
BTO				PP		**PnPn**	**04 18 50.3**	**+1.3**
BTO				S		**S**	**04 22 54.3**	**+2.3**
BTO				sS		**sS**	**04 23 06.3**	**+0.8**
BTO				SS		**SnSn**	**04 24 38.5**	**-0.5**
BTO				p

C18K	Utukok River	32.04	30	P	P	04 17 48.5	+0.3
	baz=250						
H18K	Honhosa River	32.10	36	P	P	04 17 49.6	+0.8
	baz=258						
B18K	Kokolik River	32.11	28	P	P	04 17 49.4	+0.7
	baz=248						
G18K	Tagagawik	32.16	35	P	P	04 17 49.9	+0.6
G18K	Tagagawik	32.16	35	P	P	04 17 50.0	+0.8
	baz=257						
Q16K	King Salmon	32.18	49	P	P	04 17 50.5	+1.1
	baz=270						
R17K	Ugashik Creek	32.33	51	P	P	04 17 51.9	+1.1
	baz=272						
L18K	Granite Mounta	32.37	42	P	P	04 17 52.4	+1.3
L18K	Granite Mounta	32.37	42	P	P	04 17 51.7	+0.6
	baz=264						
J18K	Innoko River	32.51	40	P	P	04 17 52.8	+0.4
J18K	Innoko River	32.51	40	P	P	04 17 53.1	+0.7
	baz=262						
Q17K	Contact Creek	32.58	50	P	P	04 17 53.7	+0.5
	baz=271						
N18K	Kilae Creek	32.63	45	P	P	04 17 54.4	+1.0
	baz=268						
A19K	Wainwright	32.67	27	P	P	04 17 54.4	+0.8
	baz=247						
M18K	Stony River	32.71	44	P	P	04 17 54.9	+0.9
	baz=266						
F19K	Shaleruckik Mo	32.73	33	P	P	04 17 54.9	+0.7
F19K				IAmb	IAmb	04 18 27.1	
	comp=Z,27nm,1.9s						
F19K	Shaleruckik Mo	32.73	33	P	P	04 17 54.8	+0.6
	baz=256						
C19K	Lookout Ridge	32.75	29	P	P	04 17 54.7	+0.3
	baz=251						
TTA	Tatalina	32.76	41	P	P	04 17 55.1	+0.5
	baz=264						
G19K	Purcell Mounta	32.84	35	P	P	04 17 55.4	+0.2
G19K	Purcell Mounta	32.84	35	P	P	04 17 55.7	+0.6
	baz=258						
LYN	LuoYang	32.86	264	⇑P	P	04 17 57.0	+1.3
LYN				pP	sP	04 18 06.5	-0.1
LYN				sP	pwP	04 18 09.3	+0.9
LYN				pmax	pmax		
	comp=Z,16nm,0.9s						
H19K	Roundabout Mou	32.97	36	P	P	04 17 57.1	+0.8
H19K				IAmb	IAmb	04 17 58.2	
	comp=Z,9.4nm,0.9s						
H19K	Roundabout Mou	32.97	36	P	P	04 17 57.1	+0.8
	baz=259						
ZAK	Zakamensk	33.02	296	eP	P	04 17 55.6	-1.5
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
D19K	Kuna River	33.06	30	P	P	04 17 57.6	+0.5
D19K	Kuna River	33.06	30	P	P	04 17 57.8	+0.6
	baz=253						
J19K	Poorman	33.06	39	P	P	04 17 57.6	+0.4
J19K	Poorman	33.06	39	P	P	04 17 57.9	+0.7
	baz=263,SNR=5.3						
E19K	Redstone River	33.09	32	P	P	04 17 58.2	+0.8
E19K	Redstone River	33.09	32	P	P	04 17 58.3	+0.9
	baz=256						
N19K	Bonanza Creek	33.32	45	P	P	04 18 00.7	+1.1
	baz=269						
F20K	Avaraart Lake	33.57	33	P	P	04 18 01.7	+0.2
	baz=258						
H20K	Anotleneega Mo	33.60	36	P	P	04 18 02.3	+0.5
	baz=261						
D20K	Etivluk River	33.65	30	P	P	04 18 02.8	+0.5
	baz=254						
K20K	Telida	33.68	40	P	P	04 18 03.6	+1.1
	baz=265						
E20K	Nigu River	33.68	31	P	P	04 18 03.8	+1.2
	baz=256						
L20K	Farewell, AK	33.70	42	P	P	04 18 03.4	+0.7
	baz=267						
J20K	Nowinta River	33.73	39	P	P	04 18 04.0	+1.1
J20K				IAmb	IAmb	04 18 05.0	
	comp=Z,10nm,1.2s						
J20K	Nowinta River	33.73	39	P	P	04 18 04.3	+1.3
	baz=264						
B20K	Meade River	33.85	28	P	P	04 18 04.4	+0.5
B20K	Meade River	33.85	28	P	P	04 18 04.7	+0.8
	baz=252						
WHN	Wuhan	33.91	256	P	P	04 18 06.0	+1.1
M20K	Styx River	34.01	43	P	P	04 18 06.7	+1.1
M20K	Styx River	34.01	43	P	P	04 18 07.0	+1.5
	baz=268						
OHAK	Old Harbor	34.02	51	P	P	04 18 07.0	+1.4
	baz=275						
O20K	Slope Mountain	34.24	46	P	P	04 18 09.1	+1.6
	baz=271						
G21K	Allakaket	34.33	35	P	P	04 18 08.8	+0.7
G21K	Allakaket	34.33	35	P	P	04 18 09.5	+1.3
	baz=261						
C21K	Knifeblade Rid	34.41	30	P	P	04 18 10.0	+1.2
	baz=256						
N20K	Mount Spurr	34.44	44	P	P	04 18 10.3	+1.1
	baz=270						
A21K	Barrow	34.45	26	P	P	04 18 09.9	+0.8
	baz=251,SNR=11						
H21K	Melozitna Rive	34.48	36	P	P	04 18 10.5	+1.0
H21K				IAmb	IAmb	04 18 11.6	
	comp=Z,8.7nm,1.1s						
H21K	Melozitna Rive	34.48	36	P	P	04 18 10.4	+1.0
	baz=263						
PPLA	Purkeypile	34.50	41	P	P	04 18 10.6	+0.7
	baz=268						
CHUM	Lake Minchumin	34.51	39	P	P	04 18 10.3	+0.7
	baz=266						
E21K	Killik River	34.52	31	P	P	04 18 10.3	+0.5
E21K				IAmb	IAmb	04 18 20.5	
	comp=Z,9.7nm,1.3s						
E21K	Killik River	34.52	31	P	P	04 18 10.3	+0.5
	baz=258						
CAST	Castle Rocks	34.58	40	P	P	04 18 11.5	+1.2
CAST	Castle Rocks	34.58	40	P	P	04 18 11.2	+0.8
	baz=267						
B21K	Ikpikpuk River	34.59	29	P	P	04 18 11.3	+1.1
B21K				IAmb	IAmb	04 18 14.9	
	comp=Z,13nm,0.8s						
B21K	Ikpikpuk River	34.59	29	P	P	04 18 11.5	+1.2
	baz=255						
I21K	Tanana	34.77	37	P	P	04 18 13.0	+1.1
I21K	Tanana	34.77	37	P	P	04 18 12.5	+0.6
	baz=264						
SKT	Skwentna	34.77	43	P	P	04 18 12.6	+0.6
	baz=270						
A22K	Sinclair Lake	34.86	27	P	P	04 18 13.5	+0.9
	baz=253,SNR=13						
F22K	John River	35.01	33	P	P	04 18 14.6	+0.6
	baz=261						
D22K	Ayikyak River	35.08	31	P	P	04 18 15.4	+0.7
D22K				IAmb	IAmb	04 19 11.8	
	comp=Z,14nm,1.4s						
D22K	Ayikyak River	35.08	31	P	P	04 18 15.2	+0.5
	baz=258						
H22K	Ishtalitna Cre	35.10	36	P	P	04 18 15.3	+0.5
	baz=264						
KTH	Kantishna Hill	35.10	40	P	P	04 18 16.0	+1.1
KTH				IAmb	IAmb	04 18 22.5	
	comp=Z,18nm,1.1s						
BPAW	Bear Paw Mtn.	35.10	39	P	P	04 18 15.3	+0.4
BPAW				IAmb	IAmb	04 18 50.3	
	comp=Z,32nm,2.0s						
BPAW	Bear Paw Mtn.	35.10	39	P	P	04 18 15.5	+0.6
	baz=267						
SUA	Susitna One	35.14	44	P	P	04 18 15.8	+0.4
	baz=271						
B22K	Teshekpuk Lake	35.17	28	P	P	04 18 15.2	-0.1
B22K				IAmb	IAmb	04 18 18.9	
	comp=Z,7.8nm,0.6s						
B22K	Teshekpuk Lake	35.17	28	P	P	04 18 15.8	+0.5
	baz=256						
G22K	Bettles	35.17	34	P	P	04 18 15.7	+0.3
	baz=262						
E22K	Anaktuvuk Pass	35.25	32	P	P	04 18 16.8	+0.7
E22K				IAmb	IAmb	04 18 17.7	
	comp=Z,7.2nm,0.8s						
E22K	Anaktuvuk Pass	35.25	32	P	P	04 18 16.2	+0.1
	baz=260,SNR=9.2						
MLY	Manley	35.28	38	P	P	04 18 17.5	+1.1
MLY				IAmb	IAmb	04 18 32.1	
	comp=Z,14nm,1.6s						
MLY	Manley	35.28	38	P	P	04 18 17.3	+0.9
	baz=266						
TRF	Thorofare Moun	35.38	40	P	P	04 18 17.8	+0.3
	baz=268						
M22K	Willow	35.44	43	P	P	04 18 18.0	+0.3
	baz=271						
XAN	Xi'an	35.59	266	⇑P	P	04 18 20.3	+0.8
XAN				pP	pP	04 18 26.0	-1.5
XAN				pmax	pmax		
	comp=Z,19nm,0.7s						
XAN	Xi'an	35.59	266	P	P	04 18 20.0	+0.5
XAN				pP	pwP	04 18 32.0	-0.3
RC01	Rabbit Creek A	35.64	44	P	P	04 18 19.8	+0.3
	baz=272						
O22K	Cooper Landing	35.67	45	P	P	04 18 20.4	+0.7
	baz=273						
COLD	Coldfoot	35.72	34	P	P	04 18 21.0	+0.8
	baz=263						
G23K	Bananza Creek	35.73	35	P	P	04 18 20.9	+0.6
	baz=264						
BWN	Browne	35.77	39	P	P	04 18 22.6	+2.0
D23K	Nanushuk River	35.81	31	P	P	04 18 21.6	+0.7
	baz=260						
SEW	Seward	35.83	46	P	P	04 18 22.1	+1.0
	baz=274						
I23K	Minto, Yukon-K	35.87	37	P	P	04 18 22.1	+0.8
	baz=267						
PMR	Palmer	35.91	43	P	P	04 18 22.8	+0.9
	baz=272						
NEA2	Nenana	35.96	38	P	P	04 18 23.2	+0.9
NEA2	Nenana	35.96	38	P	P	04 18 22.8	+0.5
	baz=268						
C23K	Itkillik River	35.99	29	P	P	04 18 23.1	+0.7
C23K	Itkillik River	35.99	29	P	P	04 18 22.7	+0.3
	baz=259						
MCK	McKinley	36.00	40	P	P	04 18 23.1	+0.5
	baz=269						
RND	Reindeer	36.03	40	P	P	04 18 23.0	+0.1
RND				IAmb	IAmb	04 18 23.7	
	comp=Z,8.8nm,1.0s						
RND	Reindeer	36.03	40	P	P	04 18 23.0	+0.1
RND				pmax	pmax		
	comp=Z,9.0nm,1.0s						
E23K	Chandalar	36.05	32	P	P	04 18 23.6	+0.5
	baz=263						
TOLK	Toolik Lake Re	36.15	31	P	P	04 18 24.6	+0.7
TOLK				IAmb	IAmb	04 18 46.7	
	comp=Z,27nm,1.8s						
TOLK	Toolik Lake Re	36.15	31	P	P	04 18 24.6	+0.7
	baz=262						
WAT1	Susitna Watana	36.16	41	P	P	04 18 23.8	-0.3
	baz=271						
KNK	Knik Glacier	36.24	44	P	P	04 18 25.3	+0.6
KNK	Knik Glacier	36.24	44	P	P	04 18 25.6	+0.9
	baz=273						
SML	Sawmill	36.29	43	P	P	04 18 25.7	+0.6
SML	Sawmill	36.29	43	P	P	04 18 25.8	+0.7
	baz=272,SNR=8.3						
E24K	Your Creek	36.48	32	IAmb	IAmb	04 18 34.7	
	comp=Z,21nm,1.4s						
E24K	Your Creek	36.48	32	P	P	04 18 27.2	+0.5
	baz=264,SNR=7.7						
D24K	Happy Valley	36.50	31	IAmb	IAmb	04 18 30.9	
	comp=Z,6.7nm,0.5s						
D24K	Happy Valley	36.50	31	P	P	04 18 27.2	+0.5
	baz=262						
COLA	College	36.50	38	P	P	04 18 27.8	+1.1
COLA				IAmb	IAmb	04 18 28.4	
	comp=Z,10nm,0.8s						
COLA	College	36.50	38	P	P	04 18 27.5	+0.7
	baz=269						
COLA	College	36.50	38	P	P	04 18 27.8	+1.1
COLA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
COLA	College	36.50	38	P	P	04 18 27.8	+1.1
COLA				pP	pwP	04 18 39.5	-2.3
CCB	Clear Creek Bu	36.51	38	P	P	04 18 27.5	+0.6
CCB				IAmb	IAmb	04 18 37.9	
	comp=Z,13nm,1.5s						
H24K	Noodor Dome	36.52	36	IAmb	IAmb	04 18 47.6	
	comp=Z,20nm,1.7s						
H24K	Noodor Dome	36.52	36	P	P	04 18 27.5	+0.4
	baz=267						
WAT6	Susitna Watana	36.54	42	P	P	04 18 27.6	+0.2
	baz=272						
M23K	Glacier View	36.58	43	P	P	04 18 28.4	+0.9
	baz=273						
C24K	Franklin Bluff	36.62	30	P	P	04 18 28.0	+0.2
	baz=261						
F24K	Squaw Lake	36.65	33	IAmb	IAmb	04 18 30.8	
	comp=Z,20nm,1.9s						
F24K	Squaw Lake	36.65	33	P	P	04 18 28.5	+0.4
	baz=265						
POKR	Poker Plat Res	36.68	38	IAmb	IAmb	04 18 30.3	
	comp=Z,11nm,0.8s						
POKR	Poker Plat Res	36.68	38	P	P	04 18 28.8	+0.5
	baz=269,SNR=11						
DHY	Denali Highway	36.70	41	P	P	04 18 29.1	+0.4
	baz=272						
G24K	Hadweenzic Riv	36.74	35	IAmb	IAmb	04 18 31.1	
	comp=Z,10nm,1.1s						
G24K	Hadweenzic Riv	36.74	35	P	P	04 18 29.8	+1.0
	baz=267						
SCM	Shep Creek Mo	36.76	43	P	P	04 18 29.5	+0.3
	baz=273						
HDA	Harding Lake	36.88	39	IAmb	IAmb	04 18 30.9	
	comp=Z,6.1nm,0.6s						
HDA	Harding Lake	36.88	39	P	P	04 18 30.5	+0.5
	baz=270						
HDA				P	P	04 18 30.5	+0.5
	baz=270						
IL31		36.91	38	IAmb	IAmb	04 19 12.9	
	comp=Z,22nm,1.7s						
ILAR	Eielson Array	36.91	38	P	P	04 18 30.1	-0.1
	comp=Z,1.3nm,0.6s,baz=256,slow=7.6,SNR=45						
ILAR				LR	LR	04 35 38.7	
	comp=Z,61nm,18.8s,baz=8.5,slow=39						
	comp=Z,1.3nm,0.6s						
G25K	Bearman Lake	37.29	35	P	P	04 18 34.3	+0.8
	baz=268						
M24K	Tolsona, Glenn	37.29	43	P	P	04 18 34.4	+0.7
	baz=274						
D25K	Kavik River	37.38	31	P	P	04 18 34.5	+0.2
	baz=264						
K24K	Donnelly Dome	37.40	40	P	P	04 18 35.0	+0.5
	baz=272						
KLU	Klutina	37.45	44	IAmb	IAmb	04 18 42.3	
	comp=Z,8.1nm,0.9s						
KLU	Klutina	37.45	44	P	P	04 18 35.5	+0.4
	baz=275						
PRP	Porcupine Dome	37.49	37	P	P	04 18 35.5	+0.1
PRP	Porcupine Dome	37.49	37	P	P	04 18 36.3	+0.9
	baz=270						
F25K	Christian Rive	37.51	33	P	P	04 18 35.5	+0.1
	baz=267						
J25K	Salcha River,	37.56	38	P	P	04 18 35.2	-0.7
	baz=271						
PAX	Paxson	37.57	41	P	P	04 18 36.5	+0.4
	baz=273						
E25K	Arctic Village	37.57	33	P	P	04 18 37.0	+1.1
	baz=266						
HARP	HAARP	37.75	42	P	P	04 18 38.0	+0.5
	baz=274						
RIDG	Independent Ri	37.81	40	IAmb	IAmb	04 18 48.4	
	comp=Z,14nm,1.4s						
RIDG	Independent Ri	37.81	40	P	P	04 18 38.3	+0.2
	baz=273						
C26K	Camden Bay	37.95	30	P	P	04 18 39.3	+0.3
	baz=265						
LZH	Lanzhou	38.03	273	⇑P	P	04 18 42.0	+1.7
LZH				pP	pwP	04 18 53.0	-0.2
LZH				sP	sP	04 18 57.0	+5.8
LZH				pmax	pmax		
	comp=Z,71nm,1.2s						
LZH				LR	LR		
	comp=Z,400nm,16.5s						
LZH				LR	LR		
	comp=Z,410nm,15.8s						
LZH				LR	LR		
	comp=Z,440nm,16.1s						
N25K	Chitina, Valde	38.08	43	P	P	04 18 41.4	+1.1
	baz=276						
F26K	Sheenjek River	38.09	33	P	P	04 18 41.0	+0.7
	baz=268						
BMRM	Bremner River	38.14	44	P	P	04 18 41.7	+0.9
	baz=277						
SCRK	Sand Creek	38.18	39	P	P	04 18 41.5	+0.3
	baz=273						
G26K	Porcupine Rive	38.21	35	P	P	04 18 42.2	+1.0
	baz=270						
J26L	Joseph Creek	38.34	38	IAmb	IAmb	04 18 44.3	
	comp=Z,26nm,2.0s						
J26L	Joseph Creek	38.34	38	P	P	04 18 43.0	+0.5
	baz=273						
L26K	Log Cabin Wild	38.53	41	P	P	04 18 45.2	+1.1
	baz=275						
M26K	Nabesna, AK	38.75	42	IAmb	IAmb	04 18 49.4	
	comp=Z,13nm,1.1s						
M26K	Nabesna, AK	38.75	42	P	P	04 18 47.4	+1.5
	baz=276						
MCARA	McCarthy VSAT	38.85	43	P	P	04 18 48.0	+1.3
	baz=277						
CRQM	Cirque	38.88	44	IAmb	IAmb	04 18 50.4	
	comp=Z,20nm,1.0s						
CRQE	Cirque	38.90	44	P	P	04 18 48.4	+1.2
	baz=278,SNR=6.6						
K27K	Chicken	39.02	39	P	P	04 18 49.2	+1.1
	baz=275						
G27K	Doyon Strip	39.05	35	P	P	04 18 49.9	+1.5
	baz=272						
E27K	Coleen River	39.06	33	P	P	04 18 49.5	+1.1
	baz=270						
I27K	Kandik River	39.11	37	P	P	04 18 48.8	-0.1
	baz=273						
H27K	Steamboat Moun	39.12	36	P	P	04 18 50.2	+1.2
	baz=273						
GTA	Gaotai	39.18	280	⇓P	P	04 18 51.5	+1.6
GTA				sP	pwP	04 19 04.8	+0.6
GTA				PcP	PcP	04 21 00.5	+1.7
GTA				pmax	pmax		
	comp=Z,23nm,0.9s						
GTA				LR	LR		
	comp=Z,240nm,13.5s						
GTA				LR	LR		
	comp=Z,360nm,13.5s						
GTA				LR	LR		
	comp=Z,340nm,14.3s						
L27K	Beaver Creek,	39.22	41	IAmb	IAmb	04 18 52.2	
	comp=Z,7.6nm,0.7s						
L27K	Beaver Creek,	39.22	41	P	P	04 18 51.5	+1.7
	baz=276						
M27K	Edge Creek, AK	39.27	42	P	P	04 18 51.4	+1.0
	baz=277						
ISLE	Juniper Island	39.29	45	IAmb	IAmb	04 18 55.8	
	comp=Z,15nm,1.0s						
NRIK	Noril'sk	39.30	329	P	P	04 18 50.0	-0.3
NRIK	Noril'sk	39.30	329	⇓eP	P	04 18 48.6	-1.7
NRIK				pmax	pmax		
	comp=Z,10.0nm,1.5s						
NRIK	Noril'sk	39.30	329	P	P	04 18 49.0	-1.3
	comp=Z,2.7nm,0.4s,baz=82,slow=22,SNR=7.8						
NRIK				LR	LR	04 36 48.9	
	comp=Z,277nm,18.8s,baz=118,slow=39						
	comp=Z,2.7nm,0.4s						
D27M	Malcolm River	39.30	31	P	P	04 18 51.8	+1.4
	baz=270						
EGAK	Eagle	39.36	38	P	P	04 18 51.0	+0.1
	baz=275,SNR=7.1						
BARN	Barnard Glacie	39.55	44	IAmb	IAmb	04 18 55.0	
	comp=Z,16nm,1.1s						
CTG	Chitna Glacier	39.72	44	P	P	04 18 55.6	+1.4
	baz=279,SNR=7.0						
F28M	Old Crow	39.72	33	P	P	04 18 55.2	+1.3
	baz=272						
CTGM	Chitina Glacie	39.72	44	IAmb	IAmb	04 18 58.6	
	comp=Z,9.9nm,0.8s						
BVCY	Beaver Creek	39.74	42	P	P	04 18 55.4	+1.3
	baz=278						
E28M	Babbage River	39.82	32	P	P	04 18 55.7	+1.0
	baz=272						
I28M	Miner Creek	39.82	37	P	P	04 18 56.0	+1.1
	baz=275						
YUK3	Moose Creek	40.01	43	P	P	04 18 57.8	+1.1
	baz=279						
DAWY	Dawson	40.19	39	P	P	04 18 59.1	+1.2
	baz=277						
PINM	Pinnacle	40.40	45	P	P	04 19 00.4	+0.7
	baz=281						
H29M	Whitestone	40.40	36	P	P	04 19 00.4	+0.9
	baz=276						
YUK8	Steele Glacier	40.42	43	P	P	04 19 01.1	+1.0
	baz=280						
E29M	Blow River	40.43	32	P	P	04 19 01.0	+1.3
	baz=273						
G29M	Pine Creek	40.48	34	IAmb	IAmb	04 19 02.8	
	comp=Z,17nm,1.1s						
G29M	Pine Creek	40.48	34	P	P	04 19 01.6	+1.4
	baz=275						
I29M	Ogilvie Camp,	40.51	37	P	P	04 19 02.2	+1.8
	baz=276						
M29M	Somme Creek	40.84	41	P	P	04 19 05.1	+1.8
	baz=280						
L29M	L29M	40.88	40	P	P	04 19 05.4	+1.8
	baz=279						
PNL	Peninsula	40.90	46	P	P	04 19 05.0	+1.2
	baz=282						
YUK4	Talbot Arm	40.94	43	P	P	04 19 05.7	+1.3
	baz=281						
K29M	Barlow Dome	41.04	39	IAmb	IAmb	04 19 14.9	
	comp=Z,30nm,1.9s						
K29M	Barlow Dome	41.04	39	P	P	04 19 06.3	+1.3
	baz=279,SNR=5.5						
EPYK	Eagle Plains	41.05	35	P	P	04 19 05.9	+1.0
EPYK				IAmb	IAmb	04 19 07.5	
	comp=Z,16nm,1.1s						
EPYK	Eagle Plains	41.05	35	P	P	04 19 06.0	+1.0
	baz=277,SNR=5.0						
YUK6	Outpost Mounta	41.15	44	P	P	04 19 07.0	+0.9
	baz=282						
O29M	Mount Kennedy	41.18	45	P	P	04 19 07.2	+1.0
	baz=282						
G30M	tAoh Zraii Nji	41.18	34	P	P	04 19 06.8	+0.8
	baz=276						
F30M	Barrier River	41.28	33	P	P	04 19 07.8	+1.0
	baz=276						
I30M	Mount Dempster	41.33	37	P	P	04 19 08.2	+0.8
	baz=278						
J30M	Hart River	41.45	38	P	P	04 19 09.1	+0.8
	baz=279						
M30M	Minto, Yukon	41.58	41	P	P	04 19 10.6	+1.3
	baz=281						
HYT	Haines Junctio	41.59	44	P	P	04 19 10.5	+1.0
	baz=282						
N30M	Aishikik Lake	41.66	43	P	P	04 19 11.0	+1.0
	baz=282						
GYA	Guiyang	41.72	258	⇓iP	P	04 19 12.3	+1.3
GYA				pP	sP	04 19 21.8	-0.3
GYA				sP	pwP	04 19 29.3	+4.5
GYA				pmax	pmax		
	comp=Z,48nm,0.8s						
P29M	Windy Craggy	41.73	45	P	P	04 19 11.8	+1.1
	baz=284						
MAYO	Mayo, Yukon	41.80	39	IAmb	IAmb	04 19 18.1	
	comp=Z,17nm,0.8s						
MAYO	Mayo, Yukon	41.80	39	P	P	04 19 12.2	+1.2
	baz=281						
G31M	Satah River	41.95	34	P	P	04 19 13.1	+0.9
	baz=278						
P30M	Million Dollar	42.00	45	P	P	04 19 14.4	+1.5
	baz=284						
INK	Inuvik	42.05	32	P	P	04 19 14.3	+1.2
	baz=277,SNR=6.2						
F31M	Tsiigehtchic	42.08	33	P	P	04 19 14.2	+0.9
	baz=278						
N31M	Braeburn, Yuko	42.26	42	P	P	04 19 16.1	+1.1
N31M				IAmb	IAmb	04 19 19.6	
	comp=Z,12nm,0.9s						
N31M	Braeburn, Yuko	42.26	42	P	P	04 19 16.4	+1.4
	baz=283						
O30N	Mendenhall	42.28	43	P	P	04 19 16.5	+1.5
	baz=284						
M31M	Drury Creek, Y	42.75	41	P	P	04 19 20.5	+1.6
M31M	Drury Creek, Y	42.75	41	P	P	04 19 20.1	+1.2
	baz=283						
WHY	Whitehorse	42.88	43	P	P	04 19 21.5	+1.5
	baz=284						
DGZ	Jazzator, Alta	42.98	300	iP	P	04 19 20.8	-0.2
DGZ				pmax	pmax		
	comp=Z,10.0nm,1.4s						
ZALV	Zalesovo Beam	43.03	306	iP	P	04 19 19.2	-2.0
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ZALV	Zalesovo Beam	43.03	306	P	P	04 19 19.2	-2.0
	comp=Z,4.4nm,0.6s,baz=65,slow=7.3,SNR=17						
ZALV				PcP	PcP	04 21 11.3	+0.4
	comp=Z,2.8nm,0.7s,baz=90,slow=4.4,SNR=5.8						
ZALV				LR	LR	04 38 20.6	
	comp=Z,550nm,19.0s,baz=64,slow=38						
	comp=Z,4.4nm,0.6s						

FARO	**Faro, Yukon**	**43.22**	**41**	P		**P**	**04 19 24.2**	**+1.6**		
	baz=284									
S32K	**Killisnoo**	**43.91**	**48**	P		**P**	**04 19 29.9**	**+1.8**		
	baz=288									
P33M	**Teslin, Yukon**	**43.99**	**44**	P		**P**	**04 19 30.7**	**+1.8**		
	baz=286									
GOMU	**GeErMu**	**44.21**	**279**	P		**P**	**04 19 32.5**	**+1.1**		
GOMU				pP		pP	04 19 37.3	-1.8		
GOMU				pmax		pmax				
	comp=Z,32nm,0.9s									
GOMU				LR		LR				
	comp=Z,240nm,14.2s									
GOMU				LR		LR				
	comp=Z,140nm,13.8s									
GOMU				LR		LR				
	comp=Z,230nm,13.0s									
A36M	**Sachs Harbour**	**44.29**	**26**	P		**P**	**04 19 32.5**	**+1.4**		
A36M				lAmb		lAmb	04 19 53.3			
	comp=Z,14nm,0.8s									
A36M	**Sachs Harbour**	**44.29**	**26**	P		**P**	**04 19 32.8**	**+1.7**		
	baz=281,SNR=12									
PZH	**PanZhiHua**	**45.06**	**262**	P		**P**	**04 19 39.0**	**+1.1**		
PZH				pmax		pmax				
	comp=Z,20nm,0.9s									
PZH				pmax		pmax				
	comp=Z,250nm,5.4s									
U33K	**Whale Pass**	**45.10**	**49**	P		**P**	**04 19 39.0**	**+1.2**		
	baz=290									
R33M	**Jennings River**	**45.12**	**44**	lAmb		lAmb	04 19 41.7			
	comp=Z,25nm,1.7s									
R33M	**Jennings River**	**45.12**	**44**	P		**P**	**04 19 40.0**	**+2.0**		
	baz=289									
C36M	**Paulatuk**	**45.24**	**30**	P		**P**	**04 19 39.5**	**+0.9**		
C36M				lAmb		lAmb	04 19 39.9			
	comp=Z,8.1nm,0.7s									
C36M	**Paulatuk**	**45.24**	**30**	P		**P**	**04 19 39.6**	**+1.0**		
	baz=284,SNR=7.6									
WMQ	**Urumqi**	**45.24**	**292**	*e*P		**P**	**04 19 39.5**	**+0.4**		
WMQ				pmax		pmax				
	comp=Z,11nm,0.9s									
WMQ				LR		LR				
	comp=Z,350nm,14.9s									
WMQ				LR		LR				
	comp=Z,260nm,17.7s									
KMI	**Kunming**	**45.26**	**260**	⇑P		**P**	**04 19 40.8**	**+1.1**		
KMI				pP		pwP	04 19 52.5	-1.1		
KMI				pmax		pmax				
	comp=Z,11nm,1.0s									
CRAG	**Craig**	**45.32**	**50**	P		**P**	**04 19 40.9**	**+1.4**		
	baz=291									
ZSN	**Zaisan**	**45.44**	**298**	*e*P		**P**	**04 19 39.9**	**-0.7**		
	baz=298									
ZSN	**Zaisan**	**45.44**	**298**	*e*P		**P**	**04 19 39.8**	**-0.7**		
S34M	**Telegraph Cree**	**45.52**	**46**	P		**P**	**04 19 42.6**	**+1.6**		
	baz=290									
TGTN	**Hyland Airport**	**45.72**	**41**	P		**P**	**04 19 44.0**	**+1.3**		
	baz=288									
DLBC	**Dease Lake**	**45.89**	**45**	P		**P**	**04 19 45.1**	**+1.0**		
	baz=290									
V35K	**Ketchikan**	**46.18**	**50**	P		**P**	**04 19 47.7**	**+1.5**		
	baz=292									
T35M	**Bob Quinn**	**46.29**	**47**	P		**P**	**04 19 49.5**	**+2.4**		
	baz=291									
MK31	**Makanchi Array**	**47.30**	**298**	*ce*P		**P**	**04 19 54.3**	**-1.0**		
MKAR	**Makanchi Array**	**47.30**	**298**	P		**P**	**04 19 54.4**	**-0.8**		
MKAR	**Makanchi Array**	**47.30**	**298**	*e*P		**P**	**04 19 54.4**	**-0.8**		
MKAR	**Makanchi Array**	**47.30**	**298**	P		**P**	**04 19 54.4**	**-0.8**		
MKAR	**Makanchi Array**	**47.30**	**298**	P		**P**	**04 19 54.1**	**-1.1**		
	comp=Z,13nm,0.8s,baz=67,slow=7.5,SNR=71									
MKAR				PcP		**PcP**	**04 21 26.5**	**+0.7**		
	comp=Z,1.3nm,0.6s,baz=80,slow=2.4,SNR=4.3									
MKAR				LR		LR	04 41 03.4			
	comp=Z,647nm,18.0s,baz=68,slow=38									
	comp=Z,13nm,0.8s									
MAKZ	**Makanchi**	**47.49**	**298**	P		**P**	**04 19 55.7**	**-1.0**		
KURK	**Kurchatov**	**47.77**	**304**	P		**P**	**04 19 57.5**	**-1.3**		
KURK	**Kurchatov**	**47.77**	**304**	*e*P		**P**	**04 19 57.0**	**-1.8**		
KURK	**Kurchatov**	**47.77**	**304**	*d* iP		**P**	**04 19 57.0**	**-1.8**		
KURK				pmax		pmax				
	comp=Z,25nm,1.0s									
KURK	**Kurchatov**	**47.77**	**304**	P		**P**	**04 19 57.3**	**-1.5**		
KURK				pP		**pwP**	**04 20 09.7**	**-2.4**		
KURBB	**Kurchatov Arra**	**47.86**	**304**	P		**P**	**04 19 58.2**	**-1.3**		
	comp=Z,15nm,0.8s,baz=68,slow=8.3,SNR=58									
KURBB				LR		LR	04 41 15.4			
	comp=Z,351nm,18.5s,baz=166,slow=38									
	comp=Z,15nm,0.8s									
TNCH	**TengChong**	**48.23**	**264**	P		**P**	**04 20 02.3**	**-0.5**		
TNCH				pmax		pmax				
	comp=Z,140nm,4.4s									
BBB	**Bella Bella**	**49.35**	**53**	LR		LR	04 42 01.7			
	comp=Z,159nm,18.4s,baz=40,slow=37									
GENI	**Genyem**	**49.95**	**197**	P		**P**	**04 20 18.3**	**+2.5**		
	comp=Z,22nm,0.5s									
ALE	**Alert**	**50.28**	**6**	P		**P**	**04 20 17.4**	**-0.2**		
ALE				pP		**pwP**	**04 20 29.6**	**-2.7**		
LSA	**Lhasa**	**50.43**	**274**	P		**P**	**04 20 20.7**	**+0.7**		
LSA	**Lhasa**	**50.43**	**274**	*e*P		**P**	**04 20 20.7**	**+0.7**		
LSA	**Lhasa**	**50.43**	**274**	P		**P**	**04 20 20.7**	**+0.7**		
LSA				pmax		pmax				
	comp=Z,13nm,0.7s									
TDK	**Taldyqorghan**	**50.54**	**297**	*e*P		**P**	**04 20 19.1**	**-1.0**		
	baz=297									
TDK	**Taldyqorghan**	**50.54**	**297**	*e*P		**P**	**04 20 19.1**	**-1.0**		
TNTI	**Ternate**	**50.63**	**214**	P		**P**	**04 20 19.9**	**-1.1**		
SHLS	**Shalkode**	**50.81**	**295**	*e*P		**P**	**04 20 19.3**	**-2.9**		
	baz=295									
SHLS	**Shalkode**	**50.81**	**295**	*e*P		**P**	**04 20 19.3**	**-2.9**		
UZB	**Uzynbulak**	**51.09**	**295**	*e*P		**P**	**04 20 23.9**	**-0.6**		
	baz=295									
UZB	**Uzynbulak**	**51.09**	**295**	*e*P		**P**	**04 20 23.8**	**-0.6**		
YKA	**Yellowknife Ar**	**51.30**	**36**	P		**P**	**04 20 26.1**	**+0.6**		
	comp=Z,3.8nm,0.9s,baz=296,slow=7.5,SNR=31									
	comp=Z,3.8nm,0.9s									
BVAR	**Borovoye Array**	**51.30**	**310**	P		**P**	**04 20 24.8**	**-0.9**		
	comp=Z,5.1nm,0.4s,baz=52,slow=7.6,SNR=24									
BVAR				PcP		**PcP**	**04 21 39.4**	**-0.9**		
	comp=Z,2.8nm,0.8s,baz=64,slow=3.4,SNR=5.1									
BVAR				LR		LR	04 44 07.2			
	comp=Z,250nm,18.6s,baz=61,slow=38									
	comp=Z,5.1nm,0.4s									
BRVK	**Borovoye**	**51.34**	**310**	P		**P**	**04 20 25.0**	**-1.0**		
BRVK	**Borovoye**	**51.34**	**310**	*e*P		**P**	**04 20 25.2**	**-0.8**		
BRVK	**Borovoye**	**51.34**	**310**	*d* iP		**P**	**04 20 25.2**	**-0.8**		
BRVK				pmax		pmax				
	comp=Z,22nm,1.4s									
BRVK	**Borovoye**	**51.34**	**310**	P		**P**	**04 20 25.0**	**-1.0**		
BRVK				pP		**pwP**	**04 20 37.4**	**-1.8**		
BRVK				PcP		**PcP**	**04 21 40.5**	**+0.1**		
WUS	**Wushi**	**51.98**	**293**	P		**P**	**04 20 31.6**	**+0.5**		
CHKK	**Chushkaly**	**52.00**	**297**	*e*P		**P**	**04 20 30.2**	**-0.8**		
	baz=297									
CHKK	**Chushkaly**	**52.00**	**297**	*e*P		**P**	**04 20 30.2**	**-0.8**		
CHTO	**Chiang Mai**	**52.11**	**257**	P		**P**	**04 20 33.6**	**+1.5**		
CHTO				lAmb		lAmb	04 20 35.0			
	comp=Z,11nm,0.9s									
CHTO	**Chiang Mai**	**52.11**	**257**	P		**P**	**04 20 33.6**	**+1.5**		
CHTO				pmax		pmax				
	comp=Z,11nm,0.9s									
KMSI	**Cibinong**	**52.21**	**218**	P		**P**	**04 20 30.8**	**-2.0**		
	comp=Z,171nm,0.5s									
MDOK	**Medeo**	**52.32**	**296**	*e*P		**P**	**04 20 33.0**	**-0.6**		
	baz=296									
MDOK	**Medeo**	**52.32**	**296**	*e*P		**P**	**04 20 33.0**	**-0.6**		
CMAR	**Chiang Mai Arr**	**52.36**	**257**	P		**P**	**04 20 35.1**	**+1.1**		
CMAR	**Chiang Mai Arr**	**52.36**	**257**	*i* P		**P**	**04 20 36.2**	**+2.2**		
CMAR				pmax		pmax				
	comp=Z,4.0nm,0.6s									
CMAR	**Chiang Mai Arr**	**52.36**	**257**	P		**P**	**04 20 34.7**	**+0.8**		
	comp=Z,3.3nm,0.6s,baz=35,slow=7.9,SNR=19									
	comp=Z,3.3nm,0.6s									
KUU	**Kurty**	**52.38**	**297**	*e*P		**P**	**04 20 32.8**	**-1.1**		
	comp=Z,7.5nm,0.6s,baz=297									
KUU	**Kurty**	**52.38**	**297**	*e*P		**P**	**04 20 32.7**	**-1.1**		
KUU				pmax		pmax				
	comp=Z,8.0nm,0.6s									
TNSS	**Tian-Shan**	**52.45**	**296**	*e*P		**P**	**04 20 34.4**	**-0.4**		
	baz=296									
TNSS	**Tian-Shan**	**52.45**	**296**	*e*P		**P**	**04 20 34.4**	**-0.4**		
SPITS	**Spitsbergen Ar**	**53.18**	**350**	P		**P**	**04 20 38.4**	**-0.9**		
	comp=Z,5.4nm,0.6s,baz=59,slow=8.1,SNR=7.4									
	comp=Z,5.4nm,0.6s									
BTLS	**Baital**	**53.18**	**300**	*e*P		**P**	**04 20 38.9**	**-0.9**		
	baz=299									
BTLS	**Baital**	**53.18**	**300**	*e*P		**P**	**04 20 38.8**	**-0.9**		
SGDS	**Sogindy**	**53.67**	**298**	*e*P		**P**	**04 20 43.3**	**-0.1**		
SGDS				pmax		pmax				
	comp=Z,5.0nm,0.8s									
SANI	**Sanana**	**53.75**	**215**	P		**P**	**04 20 43.7**	**-0.5**		
	comp=Z,21nm,0.4s									
AAK	**Ala-Archa**	**54.19**	**297**	P		**P**	**04 20 47.4**	**+0.1**		
AAK				lAmb		lAmb	04 20 48.8			
	comp=Z,12nm,0.8s									
AAK	**Ala-Archa**	**54.19**	**297**	*e*P		**P**	**04 20 47.1**	**-0.2**		
AAK	**Ala-Archa**	**54.19**	**297**	*de*P		**P**	**04 20 47.1**	**-0.2**		
AAK				pmax		pmax				
	comp=Z,13nm,0.9s									
AAK	**Ala-Archa**	**54.19**	**297**	LR		LR	04 45 06.2			
	comp=Z,312nm,19.1s,baz=44,slow=37									
AAK	**Ala-Archa**	**54.19**	**297**	P		**P**	**04 20 47.3**	**0.0**		
AAK				pP		**pwP**	**04 21 00.2**	**-0.4**		
AAK				PP		**PP**	**04 22 47.6**	**-1.3**		
MPSI	**Mapaga**	**54.26**	**223**	P		**P**	**04 20 45.3**	**-2.6**		
	comp=Z,3.9nm,0.9s									
ODAN	**Odare**	**54.78**	**273**	*e*P		**P**	**04 20 53.1**	**+1.2**		
KSH	**Kashi**	**54.98**	**293**	P		**P**	**04 20 57.5**	**+4.4**		
KSH				pmax		pmax				
	comp=Z,13nm,0.6s									
KSH				LR		LR				
	comp=Z,270nm,12.7s									
KSH				LR		LR				
	comp=Z,350nm,12.6s									
KSH				LR		LR				
	comp=Z,470nm,16.2s									
JIRN	**Jiri**	**55.11**	**275**	*e*P		**P**	**04 20 56.0**	**+1.5**		
	comp=Z,62nm,0.8s									
GUN	**Gumba**	**55.17**	**276**	*e*P		**P**	**04 20 56.1**	**+1.2**		
RAMN	**Ramite**	**55.27**	**274**	*e*P		**P**	**04 20 56.8**	**+1.3**		
ARU	**Arti**	**55.50**	**318**	P		**P**	**04 20 55.7**	**-0.7**		
ARU				lAmb		lAmb	04 20 55.8			
	comp=Z,9.8nm,0.8s									
ARU	**Arti**	**55.50**	**318**	*e*P		**P**	**04 20 55.0**	**-1.4**		
ARU	**Arti**	**55.50**	**318**	*c* iP		**P**	**04 20 55.0**	**-1.4**		
ARU							04 21 53.5			
ARU							04 22 57.1			
ARU				S		**S**	**04 28 37.3**	**-1.9**		
ARU				SS		**SS**	**04 32 17.9**	**-5.6**		
ARU				pmax		pmax				
	comp=Z,29nm,1.8s									
ARU	**Arti**	**55.50**	**318**	LR		LR	04 47 07.7			
	comp=Z,279nm,18.9s,baz=37,slow=39									
PMG	**Port Moresby**	**55.62**	**187**	LR		LR	04 40 51.4			
	comp=Z,58nm,21.8s,baz=157,slow=32									
KKN	**Kakani**	**55.66**	**276**	*e*P		**P**	**04 20 59.6**	**+1.4**		
HNR	**Honiara**	**55.70**	**172**	LR		LR	04 46 41.7			
	comp=Z,950nm,18.0s,baz=26,slow=38									
NEEM	**North Greenlan**	**55.70**	**6**	*i* P			**04 20 56.3**	**-1.6**		
NEEM				lAmb		lAmb	04 20 59.7			
	comp=Z,14nm,0.8s									
PKI	**Pulchoki**	**55.71**	**276**	*e*P		**P**	**04 20 59.8**	**+1.1**		
DMN	**Daman**	**55.89**	**276**	*e*P		**P**	**04 21 01.5**	**+1.5**		
	comp=Z,57nm,0.8s									
GKN	**Gorkha**	**55.97**	**276**	*e*P		**P**	**04 21 01.8**	**+1.4**		
	comp=Z,75nm,0.8s									
DANN	**Dangsing**	**56.36**	**277**	*e*P		**P**	**04 21 04.8**	**+1.5**		
	comp=Z,89nm,0.6s									
KK31	**Karatay Array**	**56.37**	**299**	lAmb		lAmb	04 21 03.9			
	comp=Z,6.0nm,0.8s									
KKAR	**Karatay Array**	**56.37**	**299**	lAmb		lAmb	04 21 03.9			
	comp=Z,5.9nm,0.8s									
EDM	**Edmonton**	**56.61**	**46**	P		**P**	**04 21 05.2**	**+0.7**		
EDM				lAmb		lAmb	04 21 05.9			
	comp=Z,7.7nm,0.9s									
EDM	**Edmonton**	**56.61**	**46**	P		**P**	**04 21 05.2**	**+0.7**		
EDM				pmax		pmax				
	comp=Z,8.0nm,0.9s									
KOLN	**Koldanda**	**56.83**	**277**	*e*P		**P**	**04 21 08.2**	**+1.6**		
KOLN	**Koldanda**	**56.83**	**277**	*e*P		**P**	**04 21 08.6**	**+2.0**		
	comp=Z,82nm,0.9s									
PYUN	**Piuthan**	**57.05**	**278**	*e*P		**P**	**04 21 09.7**	**+1.6**		
BKB	**Balikpapan**	**57.09**	**225**	P		**P**	**04 21 04.8**	**-3.4**		
DAG	**Danmarks Havn**	**57.20**	**358**	*i* P		**P**	**04 21 07.0**	**-1.2**		
DAG				lAmb		lAmb	04 21 09.1			
	comp=Z,3.0nm,0.8s									
LVZ	**Lovozero**	**57.32**	**337**	⇑*e*P		**P**	**04 21 06.5**	**-2.8**		
LVZ				pmax		pmax				
	comp=Z,108nm,2.5s									
NEW	**Newport**	**57.41**	**52**	P		**P**	**04 21 10.9**	**+0.6**		
	baz=305									
PRGR	**Permogore**	**57.90**	**328**	*e*P		**P**	**04 21 10.6**	**-2.7**		
PRGR				pmax		pmax				
	comp=Z,12nm,0.6s									
YBH	**Yreka Blue Hor**	**57.90**	**61**	LR		LR	04 44 37.2			
	comp=Z,102nm,19.2s,baz=30,slow=34									
KIRV	**Kirov**	**58.29**	**323**	⇑*e*P		**P**	**04 21 14.9**	**-1.2**		
KIRV	**Kirov**	**58.29**	**323**	LR		LR	04 46 59.1			
	comp=Z,110nm,21.8s,baz=20,slow=37									
ARCES	**ARCESS Array B**	**58.41**	**341**	P		**P**	**04 21 16.4**	**-0.4**		
	comp=Z,1.7nm,0.5s,baz=23,slow=6.7,SNR=22									
ARCES				LR		LR	04 49 30.0			
	comp=Z,177nm,19.9s,baz=15,slow=39									
	comp=Z,1.7nm,0.5s									
ABKAR	**Akbulak array**	**58.87**	**310**	lAmb		lAmb	04 21 20.5			
	comp=Z,12nm,1.0s									
AKTO	**Aktyubinsk**	**59.19**	**312**	LR		LR	04 49 17.0			
	comp=Z,675nm,18.3s,baz=42,slow=38									
SIMJ	**Simiganj**	**59.88**	**296**	P		**P**	**04 21 27.8**	**+0.1**		
SIMJ				PcP		**PcP**	**04 22 13.9**	**0.0**		
PLID	**Pearl Lake**	**59.89**	**55**	lAmb		lAmb	04 21 33.3			
	comp=Z,7.7nm,0.9s									
MSO	**Missoula**	**60.00**	**52**	lAmb		lAmb	04 21 35.6			
	comp=Z,10nm,1.3s									
MSO	**Missoula**	**60.00**	**52**	P		**P**	**04 21 28.9**	**+0.6**		
	baz=307									
NIL	**Nilore**	**60.20**	**289**	P		**P**	**04 21 30.0**	**+0.2**		
NIL	**Nilore**	**60.20**	**289**	P		**P**	**04 21 30.0**	**+0.2**		
NIL				pmax		pmax				
	comp=Z,57nm,0.9s									
NIL	**Nilore**	**60.20**	**289**	P		**P**	**04 21 31.0**	**+1.3**		
KLMR	**Klimovskoe**	**60.64**	**329**	*e*P		**P**	**04 21 30.7**	**-1.6**		
KLMR				AMP			04 21 39.1			
	comp=Z,19nm,1.6s									
KLMR				*e*PP		**PP**	**04 23 43.7**	**-1.9**		
KLMR	**Klimovskoe**	**60.64**	**329**	*e*P		**P**	**04 21 30.6**	**-1.7**		
KLMR				*e*			04 23 43.6			
KLMR				pmax		pmax				
	comp=Z,19nm,1.6s									
FFC	**Flin Flon**	**61.09**	**40**	P		**P**	**04 21 36.1**	**+0.6**		
SUMG	**Summit**	**61.24**	**4**	P		**P**	**04 21 36.7**	**0.0**		
SUMG	**Summit**	**61.24**	**4**	P		**P**	**04 21 36.7**	**0.0**		
SUMG				pmax		pmax				
	comp=Z,30nm,1.0s									
SUMG	**Summit**	**61.24**	**4**	*i* P		**P**	**04 21 37.0**	**+0.3**		
SUMG				lAmb		lAmb	04 21 41.0			
	comp=Z,15nm,0.8s									
EGMT	**Eagleton**	**61.53**	**49**	P		**P**	**04 21 39.8**	**+1.2**		
	baz=309									
YERR	**Yerington**	**61.66**	**62**	lAmb		lAmb	04 21 55.1			
	comp=Z,9.3nm,1.2s									
HLID	**Hailey**	**61.72**	**56**	lAmb		lAmb	04 22 23.1			
	comp=Z,21nm,2.0s									
HLID	**Hailey**	**61.72**	**56**	P		**P**	**04 21 41.9**	**+1.7**		
	baz=308									
KVN	**Kaiserville**	**62.32**	**62**	lAmb		lAmb	04 21 59.6			
	comp=Z,6.4nm,1.2s									
KBL	**Kabul**	**62.38**	**292**	P		**P**	**04 21 44.8**	**0.0**		
KBL	**Kabul**	**62.38**	**292**	P		**P**	**04 21 44.8**	**0.0**		
KBL				pmax		pmax				
	comp=Z,23nm,0.8s									
LHV	**Little Huntoon**	**62.57**	**62**	lAmb		lAmb	04 22 01.7			
	comp=Z,10nm,1.2s									
NVAR	**Mina Array Bea**	**62.58**	**62**	P		**P**	**04 21 47.0**	**+1.0**		
	comp=Z,1.4nm,0.8s,baz=302,slow=7.2,SNR=8.7									
	comp=Z,1.4nm,0.8s									
BELG	**Belogornoye**	**63.03**	**319**	*c* iP		**P**	**04 21 47.3**	**-1.1**		
BELG				pmax		pmax				
	comp=Z,3.0nm,0.9s									
BELG	**Belogornoye**	**63.03**	**319**	LR		LR	04 50 57.2			
	comp=Z,206nm,18.2s,baz=117,slow=38									
H17A	**Grant Village**	**63.36**	**53**	lAmb		lAmb	04 22 25.6			
	comp=Z,8.9nm,1.4s									
H17A	**Grant Village**	**63.36**	**53**	P		**P**	**04 21 53.1**	**+1.9**		
	baz=310									
RLMT	**Red Lodge**	**63.62**	**52**	P		**P**	**04 21 52.7**	**-0.2**		
	baz=310									
TPAW	**Teton Pass**	**63.73**	**54**	lAmb		lAmb	04 21 56.9			
	comp=Z,16nm,1.4s									
CWC	**Cottonwood Cre**	**63.97**	**64**	P		**P**	**04 21 56.5**	**+1.3**		
	baz=310									
GRAC	**Grapevine Rang**	**64.06**	**63**	P		**P**	**04 21 57.2**	**+1.6**		
	baz=310									
LAO	**LASA Array**	**64.23**	**49**	P		**P**	**04 21 57.5**	**+0.8**		
	baz=311									
SPUT	**South Promonto**	**64.27**	**57**	lAmb		lAmb	04 23 11.1			
	comp=Z,17nm,1.9s									
R11B	**Troy Canyon, C**	**64.29**	**61**	P		**P**	**04 21 58.4**	**+1.1**		
	baz=310									
MPMC	**Manual Prospec**	**64.58**	**64**	P		**P**	**04 22 00.9**	**+1.7**		
	baz=310									
FINES	**FINESS Array B**	**64.59**	**335**	P		**P**	**04 21 58.0**	**-0.7**		
	comp=Z,12nm,0.5s,baz=35,slow=7.4,SNR=102									
FINES				LR		LR	04 52 51.6			
	comp=Z,198nm,18.4s,baz=26,slow=39									
	comp=Z,12nm,0.5s									
ICESG	**Greenland Ices**	**64.63**	**5**	*i* P		**P**	**04 21 59.0**	**-0.3**		
ICESG				lAmb		lAmb	04 22 02.5			
	comp=Z,14nm,0.8s									
FURC	**Furnace Creek,**	**64.71**	**63**	P		**P**	**04 22 02.3**	**+2.6**		
	baz=310									
DUG	**Dugway, Tooele**	**64.77**	**58**	lAmb		lAmb	04 22 03.1			
	comp=Z,10nm,1.3s									
DUG	**Dugway, Tooele**	**64.77**	**58**	P		**P**	**04 22 01.4**	**+1.0**		
	baz=310									
TPNV	**Topopah Spring**	**64.78**	**62**	lAmb		lAmb	04 22 15.7			
	comp=Z,6.9nm,1.2s									
TPNV	**Topopah Spring**	**64.78**	**62**	P		**P**	**04 22 02.1**	**+1.6**		
	baz=310									
BW06	**Boulder Array**	**64.97**	**54**	lAmb		lAmb	04 22 28.6			
	comp=Z,12nm,1.9s									
BW06	**Boulder Array**	**64.97**	**54**	P		**P**	**04 22 02.9**	**+1.2**		
	baz=311									
PD31	**Pinedale Array**	**64.97**	**54**	lAmb		lAmb	04 23 45.4			
	comp=Z,17nm,1.9s									
PDAR	**Pinedale Array**	**64.97**	**54**	P		**P**	**04 22 02.3**	**+0.5**		
	comp=Z,1.8nm,0.8s,baz=318,slow=2.0,SNR=14									
	comp=Z,1.8nm,0.8s									
GWY	**Greenwater Val**	**65.01**	**63**	lAmb		lAmb	04 22 17.3			
	comp=Z,10nm,1.4s									
EDW2	**Edwards Air Fo**	**65.02**	**65**	P		**P**	**04 22 03.7**	**+1.8**		
	baz=310									
NLU	**North Lily Min**	**65.36**	**57**	P		**P**	**04 22 05.6**	**+1.3**		
SHOC	**Shoshone, Teco**	**65.44**	**63**	P		**P**	**04 22 06.3**	**+1.7**		
	baz=311									
GSC	**Goldstone, Bar**	**65.49**	**64**	P		**P**	**04 22 06.1**	**+1.1**		
	baz=311									
OBN	**Obninsk**	**65.83**	**326**	*e*P		**P**	**04 22 05.8**	**-0.9**		
OBN	**Obninsk**	**65.83**	**326**	⇑*e*P		**P**	**04 22 05.8**	**-0.9**		
OBN				*e*			04 24 28.1			
OBN				*e*S		**S**	**04 30 43.6**	**-7.5**		
OBN				pmax		pmax				
	comp=Z,29nm,1.7s									
OBN				MLR		MLR				
	comp=Z,215nm,18.0s									
OBN	**Obninsk**	**65.83**	**326**	LR		LR	04 54 06.8			
	comp=Z,197nm,18.0s,baz=338,slow=39									
GSI	**Gununqsitoli**	**65.95**	**245**	P		P	04 22 03.0	-5.1		
	comp=Z,32nm,1.2s,comp=Z,2μm									
TUQ	**Turquoise Moun**	**65.96**	**63**	P		**P**	**04 22 08.9**	**+0.8**		
	baz=311									
KRJI	**Kerinci**	**66.24**	**239**	P		**P**	**04 22 05.6**	**-4.4**		
	comp=Z,169nm,0.5s,comp=Z,24μm									
CTA	**Charters Tower**	**66.28**	**187**	LR		LR	04 54 11.9			
	comp=Z,47nm,18.0s,baz=83,slow=39									
P17A	**Butcher Ranch,**	**66.45**	**57**	lAmb		lAmb	04 22 26.5			
	comp=Z,9.5nm,1.2s									
GMRC	**Granite Mounta**	**66.54**	**64**	P		**P**	**04 22 13.4**	**+1.5**		
	baz=311									
LCMT	**Little Creek M**	**66.57**	**61**	lAmb		lAmb	04 22 27.4			
	comp=Z,5.3nm,1.0s									
DY2G	**Dye2**	**66.66**	**8**	*i* P		**P**	**04 22 12.1**	**-0.2**		
DY2G				lAmb		lAmb	04 22 17.3			
	comp=Z,6.4nm,0.7s									
K22A	**Casper**	**66.73**	**52**	P		**P**	**04 22 13.8**	**+0.8**		
	baz=312									
MDND	**Maddock**	**66.79**	**44**	P		**P**	**04 22 14.0**	**+0.9**		
	baz=314									

MNK				*i* SSS	SSS	SSS	04 39 19.0	
MNK				*i* LQ	LQ	LQ	04 48 08.6	
MNK				*i* LR	LR	LR	04 52 52.6	
MNK				*i* LRM	MLR	MLR	04 56 05.2	
	comp=N,82nm,15.3s							
MNK				*i* LRM	MLR	MLR	04 56 15.3	
	comp=E,59nm,16.1s							
MNK				*i* LRM	MLR	MLR	04 56 28.1	
	comp=Z,250nm,17.8s							
MNK	**Minsk**	**69.53**	**330**	*i* P	**P**	**P**	**04 22 28.1**	**-2.0**
MNK				*i* *PP	**sP**	**sP**	**04 22 40.0**	**-1.6**
MNK				*i*			04 22 51.1	
MNK				*i*			04 25 01.5	
MNK				*i* PPP	PPP	PPP	04 26 42.7	
MNK				*i* S	**S**	**S**	**04 31 32.6**	**-2.8**
MNK				*i* *SS	**sS**	**sS**	**04 31 53.1**	**+3.5**
MNK				*i*			04 32 25.7	
MNK				*i* SS	**SS**	**SS**	**04 36 01.2**	**-1.1**
MNK				pmax	pmax			
	comp=Z,37nm,0.8s							
MNK				pmax	pmax			
	comp=N,10.0nm,0.9s							
MNK				pmax	pmax			
	comp=E,4.0nm,0.8s							
MNK				MLR	MLR			
	comp=N,82nm,15.0s							
MNK				MLR	MLR			
	comp=E,59nm,16.0s							
MNK				MLR	MLR			
	comp=Z,250nm,18.0s							
NACGM	**Naroch**	**69.59**	**330**	*e*P	**P**	**P**	**04 22 30.1**	**-0.3**
	comp=Z,41nm,0.8s,baz=36							
S22A	**4UR Ranch, Cre**	**69.88**	**56**	IAmb	IAmb	IAmb	04 22 35.1	
	comp=Z,8.2nm,1.3s							
S22A	**4UR Ranch, Cre**	**69.88**	**56**	P	**P**	**P**	**04 22 34.4**	**+1.4**
	baz=314							
Q24A	**Divide**	**70.00**	**54**	P	**P**	**P**	**04 22 34.9**	**+1.2**
	baz=314							
214A	**Organ Pipe Nat**	**70.20**	**64**	P	**P**	**P**	**04 22 35.3**	**+0.6**
	baz=313							
GOF	**Gofitskoye**	**70.30**	**315**	*ce*P	**P**	**P**	**04 22 34.8**	**-0.2**
OGNE	**Ogallala**	**70.35**	**51**	P	**P**	**P**	**04 22 35.9**	**+0.4**
	baz=315							
EYMN	**Ely**	**70.51**	**40**	P	**P**	**P**	**04 22 36.7**	**+0.4**
	baz=319							
SDCO	**Great Sand Dun**	**70.64**	**56**	P	**P**	**P**	**04 22 38.0**	**+0.4**
	baz=314							
NCK	**Nalchik**	**71.15**	**314**⇑	*e*P	**P**	**P**	**04 22 42.0**	**+1.8**
NCK				pmax	pmax			
	comp=Z,7.0nm,0.3s							
ECSD	**EROS Data Cent**	**71.18**	**46**	P	**P**	**P**	**04 22 40.6**	**+0.2**
	baz=317							
TUC	**Tucson**	**71.22**	**63**	P	**P**	**P**	**04 22 42.7**	**+1.8**
	baz=314							
KIV	**Kislovodsk**	**71.27**	**314**	P	**P**	**P**	**04 22 41.5**	**+0.5**
KIV	**Kislovodsk**	**71.27**	**314**	*e*P	**P**	**P**	**04 22 42.0**	**+0.9**
KIV	**Kislovodsk**	**71.27**	**314**	*e*P	**P**	**P**	**04 22 42.0**	**+0.9**
KIV				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,245nm,18.0s							
KBZ	**Khabaz**	**71.33**	**314**	*e*P	**P**	**P**	**04 22 42.9**	**+1.7**
KBZ	**Khabaz**	**71.33**	**314**	*d i*P	**P**	**P**	**04 22 42.9**	**+1.7**
KBZ				pmax	pmax			
	comp=Z,16nm,0.9s							
KBZ	**Khabaz**	**71.33**	**314**	P	**P**	**P**	**04 22 42.0**	**+0.8**
	comp=Z,12nm,0.9s,baz=61,slow=1.7,SNR=21							
KBZ				LR	LR	LR	04 57 44.9	
	comp=Z,150nm,18.1s,baz=31,slow=39							
	comp=Z,12nm,0.9s							
KSCO	**Kaye Shedlock'**	**71.38**	**53**	P	**P**	**P**	**04 22 43.2**	**+1.3**
	baz=315							
ZEI	**Tsey**	**71.51**	**313**	*e*P	**P**	**P**	**04 22 42.0**	**-0.6**
ZEI				pmax	pmax			
	comp=Z,10.0nm,1.1s							
T25A	**Trinidad**	**71.69**	**55**	P	**P**	**P**	**04 22 44.7**	**+0.9**
	baz=315							
ASAR	**Alice Springs**	**71.72**	**199**	P	**P**	**P**	**04 22 44.8**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=13,slow=6.1,SNR=13							
ASAR				LR	LR	LR	04 53 19.9	
	comp=Z,42nm,20.2s,baz=355,slow=35							
	comp=Z,1.4nm,0.8s							
ONI	**Oni**	**71.88**	**313**	IAmb	IAmb	IAmb	04 22 47.2	
	comp=Z,9.9nm,0.8s							
ANMO	**Albuquerque**	**72.02**	**58**	P	**P**	**P**	**04 22 46.9**	**+1.0**
	baz=314							
ANMO	**Albuquerque**	**72.02**	**58**⇓	*i* P	**P**	**P**	**04 22 47.1**	**+1.2**
ANMO				pmax	pmax			
	comp=Z,28nm,4.0s							
AKASG	**Malin Array Be**	**72.07**	**326**	P	**P**	**P**	**04 22 44.9**	**-0.7**
	comp=Z,15nm,0.5s,baz=34,slow=6.3,SNR=96							
AKASG				LR	LR	LR	04 56 20.8	
	comp=Z,171nm,19.4s,baz=9.0,slow=38							
	comp=Z,15nm,0.5s							
AKBB	**Malin Array Si**	**72.07**	**326**	*de*P	**P**	**P**	**04 22 44.8**	**-0.8**
AKBB				pmax	pmax			
	comp=Z,31nm,0.6s							
BGNE	**Belgrade**	**72.08**	**49**	P	**P**	**P**	**04 22 46.8**	**+0.9**
	baz=317							
KIEV	**Kiev**	**72.08**	**326**	⇑P	**P**	**P**	**04 22 46.7**	**+1.0**
KIEV	**Kiev**	**72.08**	**326**	P	**P**	**P**	**04 22 45.3**	**-0.4**
KIEV	**Kiev**	**72.08**	**326**	⇑P	**P**	**P**	**04 22 46.7**	**+1.0**
KIEV	**Kiev**	**72.08**	**326**	P	**P**	**P**	**04 22 47.1**	**+1.4**
KIEV				pP	**pwP**	**pwP**	**04 22 59.7**	**-0.1**
PALK	**Pallekele**	**72.74**	**262**	LR	LR	LR	04 56 53.6	
	comp=Z,56nm,20.6s,baz=88,slow=38							
319A	**Douglas**	**72.79**	**63**	IAmb	IAmb	IAmb	04 23 05.6	
	comp=Z,7.4nm,0.9s							
121A	**Cookes Peak, D**	**72.90**	**61**	P	**P**	**P**	**04 22 52.9**	**+1.8**
	baz=315							
GNI	**Garni**	**72.98**	**311**	P	**P**	**P**	**04 22 52.5**	**+1.0**
GNI				IAmb	IAmb	IAmb	04 22 56.1	
	comp=Z,15nm,0.9s							
GNI	**Garni**	**72.98**	**311**	*d i*P	**P**	**P**	**04 22 52.7**	**+1.3**
GNI				pmax	pmax			
	comp=Z,21nm,1.1s							
GNI	**Garni**	**72.98**	**311**	LR	LR	LR	04 59 18.0	
	comp=Z,213nm,18.1s,baz=38,slow=39							
CBKS	**Cedar Bluff**	**73.10**	**51**	P	**P**	**P**	**04 22 53.2**	**+1.2**
	baz=316							
SORM	**Soroca**	**74.47**	**325**	⇑P	**P**	**P**	**04 22 59.5**	**-0.3**
SORM	**Soroca**	**74.47**	**325**	⇑P	**P**	**P**	**04 22 59.5**	**-0.3**
KSU1	**Kansas State U**	**74.57**	**49**	P	**P**	**P**	**04 23 00.3**	**-0.3**
	baz=318							
LVV	**L'vov**	**74.73**	**329**	*e*P	**P**	**P**	**04 23 02.1**	**+0.8**
AMTX	**Amarillo**	**74.84**	**55**	P	**P**	**P**	**04 23 03.1**	**+0.8**
	baz=316							
MSTX	**Muleshoe**	**74.87**	**57**	P	**P**	**P**	**04 23 03.1**	**+0.6**
	baz=316							
JFWS	**Jewell Farm**	**74.89**	**43**	P	**P**	**P**	**04 23 02.6**	**+0.2**
	baz=320							
MNTX	**Cornudas Mount**	**74.94**	**60**	P	**P**	**P**	**04 23 03.6**	**+0.7**
	baz=316							
MILM	**Milestii Mici**	**75.27**	**324**	*e*P	**P**	**P**	**04 23 04.0**	**-0.4**
	comp=Z,24nm,0.7s							
MILM	**Milestii Mici**	**75.27**	**324**	⇓P	**P**	**P**	**04 23 04.2**	**-0.2**
MILM	**Milestii Mici**	**75.27**	**324**	⇓P	**P**	**P**	**04 23 04.2**	**-0.2**
KWP	**Kalwaria Pacla**	**75.36**	**329**	*e*P	**P**	**P**	**04 23 05.8**	**+0.9**
SMWD	**Samnorwood**	**75.50**	**54**	IAmb	IAmb	IAmb	04 23 48.2	
	comp=Z,26nm,1.9s							
GURO	**Guroymak-BITLI**	**75.58**	**311**	IAmb	IAmb	IAmb	04 23 09.3	
	comp=Z,10.0nm,0.8s							
OJC	**Ojcow**	**75.86**	**331**	*e*P	**P**	**P**	**04 23 08.1**	**+0.3**
STHS	**Stebnicka Huta**	**76.05**	**330**	*e*P	**P**	**P**	**04 23 09.2**	**+0.3**
STHS	**Stebnicka Huta**	**76.05**	**330**	*e*P	**P**	**P**	**04 23 09.2**	**+0.3**
STHS				pmax	pmax			
	comp=Z,6.0nm,0.8s							
BUR08	**Bucovina Ar. S**	**76.10**	**327**	P	**P**	**P**	**04 23 09.4**	**+0.1**
BUR08				IAmb	IAmb	IAmb	04 23 25.3	
	comp=Z,14nm,1.0s							
KOLS	**Kolonicke sedl**	**76.10**	**329**	*e*P	**P**	**P**	**04 23 09.7**	**+0.5**
KOLS	**Kolonicke sedl**	**76.10**	**329**	*e*P	**P**	**P**	**04 23 09.7**	**+0.5**
KOLS				pmax	pmax			
	comp=Z,8.0nm,0.9s							
BURAR	**Bucovina Array**	**76.12**	**327**	⇑P	**P**	**P**	**04 23 09.6**	**+0.2**
BURAR	**Bucovina Array**	**76.12**	**327**	IAmb	IAmb	IAmb	04 23 13.7	
	comp=Z,11nm,0.7s							
BURAR	**Bucovina Array**	**76.12**	**327**	⇑P	**P**	**P**	**04 23 09.6**	**+0.2**
NIE	**Niedzica**	**76.38**	**331**	*e*P	**P**	**P**	**04 23 08.3**	**-2.5**
CRVS	**Cervenica-Dubn**	**76.41**	**330**	*e*P	**P**	**P**	**04 23 11.4**	**+0.4**
CRVS	**Cervenica-Dubn**	**76.41**	**330**	*e*P	**P**	**P**	**04 23 11.4**	**+0.4**
VLDR	**Vladesti**	**76.44**	**324**	⇓P	**P**	**P**	**04 23 11.7**	**+0.6**
KSP	**Ksiaz**	**76.45**	**334**	*e*P	**P**	**P**	**04 23 09.6**	**-1.5**
TESR	**Tescani**	**76.47**	**325**	⇑P	**P**	**P**	**04 23 11.6**	**+0.3**
GHRR		**76.53**	**325**	⇑P	**P**	**P**	**04 23 13.4**	**+1.8**
TLCR		**76.67**	**323**	⇑P	**P**	**P**	**04 23 12.8**	**+0.4**
TLCR		**76.67**	**323**	⇑P	**P**	**P**	**04 23 12.8**	**+0.4**
WSAR	**Wadi Sarin**	**76.68**	**290**	LR	LR	LR	05 01 09.6	
	comp=Z,101nm,19.8s,baz=52,slow=39							
OSTC	**Ostas**	**76.72**	**333**	*e*P	**P**	**P**	**04 23 12.6**	**-0.1**
OSTC	**Ostas**	**76.72**	**333**	*e*P	**P**	**P**	**04 23 12.6**	**-0.1**
CHVC	**Chvalec**	**76.75**	**334**	*e*P	**P**	**P**	**04 23 13.1**	**+0.3**
CHVC	**Chvalec**	**76.75**	**334**	*e*P	**P**	**P**	**04 23 13.1**	**+0.3**
MNHN	**Monahans**	**76.76**	**59**	IAmb	IAmb	IAmb	04 23 19.1	
	comp=Z,22nm,1.9s							
PANC	**Panciu**	**76.79**	**325**	⇑P	**P**	**P**	**04 23 13.6**	**+0.5**
IZVR	**Izvoarele**	**76.81**	**324**	⇑P	**P**	**P**	**04 23 15.0**	**+1.8**
UPC	**Upice**	**76.83**	**334**	*e*P	**P**	**P**	**04 23 14.3**	**+1.0**
UPC	**Upice**	**76.83**	**334**	*e*P	**P**	**P**	**04 23 14.3**	**+1.0**
DPC	**Dobruska-Polom**	**76.87**	**333**	*e*P	**P**	**P**	**04 23 14.1**	**+0.5**
DPC	**Dobruska-Polom**	**76.87**	**333**	*e*P	**P**	**P**	**04 23 14.1**	**+0.5**
LANS	**Liptovska Anna**	**76.89**	**331**	*e*P	**P**	**P**	**04 23 14.8**	**+1.1**
LANS	**Liptovska Anna**	**76.89**	**331**	*e*P	**P**	**P**	**04 23 14.8**	**+1.1**
LANS				pmax	pmax			
	comp=Z,5.0nm,0.7s							
EKA	**Eskdalemuir Ar**	**76.90**	**346**	P	**P**	**P**	**04 23 12.6**	**-1.0**
	comp=Z,1.5nm,0.4s,baz=22,slow=4.7,SNR=12							
	comp=Z,1.5nm,0.4s							
ODBI	**Odobesti**	**76.92**	**325**	⇓P	**P**	**P**	**04 23 15.9**	**+2.1**
ALPN	**Alpine**	**76.93**	**60**	IAmb	IAmb	IAmb	04 23 19.2	
	comp=Z,4.3nm,1.1s							
CFR	**Carcaliu**	**76.95**	**324**	⇓P	**P**	**P**	**04 23 14.1**	**+0.1**
CFR	**Carcaliu**	**76.95**	**324**	⇓P	**P**	**P**	**04 23 14.1**	**+0.1**
VRI	**Vrincioaia**	**76.97**	**325**	⇑P	**P**	**P**	**04 23 13.4**	**-0.7**
VRI	**Vrincioaia**	**76.97**	**325**	⇑P	**P**	**P**	**04 23 13.4**	**-0.7**
KRLC	**Kraliky**	**76.97**	**333**	*e*P	**P**	**P**	**04 23 13.9**	**-0.2**
KRLC	**Kraliky**	**76.97**	**333**	*e*P	**P**	**P**	**04 23 13.9**	**-0.2**
MORC	**Moravsky Berou**	**76.98**	**332**	⇓P	**P**	**P**	**04 23 15.1**	**+0.9**
MORC	**Moravsky Berou**	**76.98**	**332**	IAmb	IAmb	IAmb	04 23 16.9	
	comp=Z,9.7nm,0.9s							
MORC	**Moravsky Berou**	**76.98**	**332**	*e*P	**P**	**P**	**04 23 14.6**	**+0.4**
MORC	**Moravsky Berou**	**76.98**	**332**	⇓P	**P**	**P**	**04 23 15.1**	**+0.9**
PLOR	**Plostina**	**77.01**	**325**	⇓P	**P**	**P**	**04 23 15.6**	**+1.2**
PLOR	**Plostina**	**77.01**	**325**	⇓P	**P**	**P**	**04 23 15.6**	**+1.2**
CLL	**Collm**	**77.02**	**336**	*i* P	**P**	**P**	**04 23 14.0**	**-0.3**
	comp=Z,16nm,0.6s							
CLL				*i* pP	**PcP**	**PcP**	**04 23 26.0**	**+0.8**
	comp=Z,14nm,0.9s							
CLL	**Collm**	**77.02**	**336**	*i* P	**P**	**P**	**04 23 14.0**	**-0.3**
CLL				*i* *PP	**PcP**	**PcP**	**04 23 26.0**	**+0.8**
CLL				pmax	pmax			
	comp=Z,16nm,0.6s							
UOSS	**Minazif**	**77.06**	**292**	P	**P**	**P**	**04 23 16.3**	**+1.3**
TURR	**Turia**	**77.09**	**325**	⇑P	**P**	**P**	**04 23 16.4**	**+1.5**
TPGR	**Topolog**	**77.10**	**323**	⇓P	**P**	**P**	**04 23 15.3**	**+0.4**
OZUR		**77.15**	**326**	⇓P	**P**	**P**	**04 23 16.8**	**+1.6**
HDIL	**Hopedale**	**77.16**	**44**	P	**P**	**P**	**04 23 15.9**	**+0.6**
	baz=321							
COVR	**Voineasa-Covas**	**77.19**	**325**	⇑P	**P**	**P**	**04 23 16.5**	**+1.1**
BOSR	**Bodos**	**77.22**	**326**	⇑P	**P**	**P**	**04 23 18.8**	**+3.2**
BISRR	**Bisoca**	**77.23**	**325**	⇓P	**P**	**P**	**04 23 17.3**	**+1.5**
MAUC	**Maruska**	**77.25**	**332**	*e*P	**P**	**P**	**04 23 16.5**	**+0.8**
PVCC	**Panska Ves**	**77.25**	**334**	*e*P	**P**	**P**	**04 23 16.4**	**+0.8**
PVCC	**Panska Ves**	**77.25**	**334**	*e*P	**P**	**P**	**04 23 16.4**	**+0.8**
TUL3	**Leonard**	**77.36**	**51**	P	**P**	**P**	**04 23 17.0**	**+0.4**
	baz=319							
DOPR	**Dopca**	**77.41**	**326**	⇑P	**P**	**P**	**04 23 18.4**	**+1.8**
CBBR	**Cluj-Babes-Bol**	**77.45**	**327**	⇑P	**P**	**P**	**04 23 15.5**	**-1.3**
CJR	**Cluj-Napoca**	**77.48**	**327**	⇓P	**P**	**P**	**04 23 19.0**	**+1.9**
CJR	**Cluj-Napoca**	**77.48**	**327**	⇓P	**P**	**P**	**04 23 19.0**	**+1.9**
HSKC	**Hora Svate Kat**	**77.52**	**335**	*e*P	**P**	**P**	**04 23 17.6**	**+0.4**
MLR	**Muntele Rosu**	**77.59**	**325**	⇓P	**P**	**P**	**04 23 18.5**	**+0.7**
MLR	**Muntele Rosu**	**77.59**	**325**	P	**P**	**P**	**04 23 18.3**	**+0.5**
MLR	**Muntele Rosu**	**77.59**	**325**	⇓P	**P**	**P**	**04 23 18.5**	**+0.7**
MLR	**Muntele Rosu**	**77.59**	**325**	LR	LR	LR	05 03 13.9	
	comp=Z,209nm,18.1s,baz=10.0,slow=40							
ABTX	**Abilene, Hawle**	**77.65**	**56**	P	**P**	**P**	**04 23 18.7**	**+0.5**
	baz=318							
ISR	**Istrita**	**77.65**	**324**	⇓P	**P**	**P**	**04 23 19.0**	**+0.9**
ISR	**Istrita**	**77.65**	**324**	⇓P	**P**	**P**	**04 23 19.0**	**+0.9**
TX31	**Lajitas Ar. Si**	**77.66**	**61**	IAmb	IAmb	IAmb	04 23 33.3	
	comp=Z,13nm,1.1s							
TXAR	**Lajitas Array**	**77.66**	**61**	P	**P**	**P**	**04 23 19.3**	**+0.9**
	comp=Z,3.4nm,0.6s,baz=301,slow=4.3,SNR=37							
	comp=Z,3.4nm,0.6s							
VYHS	**Vyhne**	**77.67**	**331**	*e*P	**P**	**P**	**04 23 18.6**	**+0.6**
VYHS	**Vyhne**	**77.67**	**331**	*e*P	**P**	**P**	**04 23 18.6**	**+0.6**
VYHS				pmax	pmax			
	comp=Z,11nm,1.2s							
MARR	**Marisel-Cluj**	**77.69**	**327**	⇑P	**P**	**P**	**04 23 20.0**	**+1.7**
VRAC	**Vranov**	**77.70**	**333**	⇑P	**P**	**P**	**04 23 19.0**	**+0.8**
VRAC	**Vranov**	**77.70**	**333**	*e*P	**P**	**P**	**04 23 18.8**	**+0.6**
VRAC	**Vranov**	**77.70**	**333**	⇑P	**P**	**P**	**04 23 19.0**	**+0.8**
VRAC	**Vranov**	**77.70**	**333**	LR	LR	LR	05 03 14.7	
	comp=Z,161nm,19.1s,baz=0.0,slow=40							
PRU	**Pruhonice**	**77.74**	**334**	*e*P	**P**	**P**	**04 23 18.9**	**+0.5**
PRU	**Pruhonice**	**77.74**	**334**	*e*P	**P**	**P**	**04 23 18.9**	**+0.5**
JAVC	**Velka Javorina**	**77.74**	**332**	*e*P	**P**	**P**	**04 23 19.1**	**+0.6**
PSZ	**Piszkesteto**	**77.80**	**330**	⇓P	**P**	**P**	**04 23 20.6**	**+1.7**
PSZ	**Piszkesteto**	**77.80**	**330**	⇓P	**P**	**P**	**04 23 20.6**	**+1.7**
ICOR	**Ion Corvin**	**77.96**	**323**	⇓P	**P**	**P**	**04 23 21.1**	**+1.5**
KRUC	**Moravsky**	**77.98**	**333**	*e*P	**P**	**P**	**04 23 20.1**	**+0.4**
VOIR		**77.98**	**326**	⇑P	**P**	**P**	**04 23 21.8**	**+1.9**
VOIR		**77.98**	**326**	⇑P	**P**	**P**	**04 23 21.8**	**+1.9**
TREC	**Trest**	**78.06**	**333**	*e*P	**P**	**P**	**04 23 20.4**	**+0.2**
TREC	**Trest**	**78.06**	**333**	*e*P	**P**	**P**	**04 23 20.4**	**+0.2**
CCM	**Cathedral Cave**	**78.12**	**47**	P	**P**	**P**	**04 23 20.4**	**-0.3**
	baz=320							
ARR	**Arges**	**78.21**	**326**	⇓P	**P**	**P**	**04 23 22.6**	**+1.5**
MODS	**Modra-Piesok**	**78.29**	**332**	*e*P	**P**	**P**	**04 23 22.9**	**+1.4**
MODS	**Modra-Piesok**	**78.29**	**332**	*e*P	**P**	**P**	**04 23 22.9**	**+1.4**
ZVC	**Zvikov**	**78.33**	**334**	*e*P	**P**	**P**	**04 23 22.6**	**+0.9**
STKA	**Stephens Creek**	**78.43**	**190**	LR	LR	LR	04 58 02.5	
	comp=Z,47nm,19.9s,baz=24,slow=36							
SRO	**Srobarova**	**78.43**	**331**	*e*P	**P**	**P**	**04 23 23.3**	**+1.1**
SRO	**Srobarova**	**78.43**	**331**	*e*P	**P**	**P**	**04 23 23.3**	**+1.1**
KHC	**Kasperske Hory**	**78.79**	**334**	IAmb	IAmb	IAmb	04 23 27.2	
	comp=Z,11nm,0.9s							
KHC	**Kasperske Hory**	**78.79**	**334**	*e*P	**P**	**P**	**04 23 24.7**	**+0.5**
KHC	**Kasperske Hory**	**78.79**	**334**⇓	*e*P	**P**	**P**	**04 23 25.3**	**+1.1**
KHC				pmax	pmax			
	comp=Z,47nm,1.7s							
SURR	**Surduc**	**78.84**	**328**	⇑P	**P**	**P**	**04 23 25.6**	**+1.0**
CKRC	**Cesky Krumlov**	**78.84**	**334**	*e*P	**P**	**P**	**04 23 24.9**	**+0.4**
CKRC	**Cesky Krumlov**	**78.84**	**334**	*e*P	**P**	**P**	**04 23 24.9**	**+0.4**
BR131	**Keskin Array S**	**78.88**	**317**	IAmb	IAmb	IAmb	04 23 27.0	
	comp=Z,14nm,1.4s							
BR131	**Keskin Array S**	**78.88**	**317**⇓	*e*P	**P**	**P**	**04 23 25.2**	**+0.2**
BRTR	**Keskin Array B**	**78.88**	**317**	*i* P	**P**	**P**	**04 23 26.1**	**+1.1**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
BRTR	**Keskin Array B**	**78.88**	**317**	P	**P**	**P**	**04 23 25.2**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=51,slow=2.4,SNR=14							
BRTR				LR	LR	LR	05 04 15.2	
	comp=Z,208nm,18.3s,baz=346,slow=40							
	comp=Z,2.3nm,0.9s							
GZR	**Gura Zlata**	**78.90**	**327**	⇑P	**P**	**P**	**04 23 25.8**	**+0.8**
GZR	**Gura Zlata**	**78.90**	**327**	⇑P	**P**	**P**	**04 23 25.8**	**+0.8**
GRFO	**Grafenberg**	**78.97**	**336**	P	**P**	**P**	**04 23 26.5**	**+1.3**
GRFO	**Grafenberg**	**78.97**	**336**	P	**P**	**P**	**04 23 26.5**	**+1.3**
GRFO				pmax	pmax			
	comp=Z,121nm,1.9s							
COPA	**Copaceanca**	**79.00**	**325**	⇑P	**P**	**P**	**04 23 26.8**	**+1.4**
GEC2	**GERESS Array S**	**79.00**	**334**	IAmb	IAmb	IAmb	04 23 38.7	
	comp=Z,18nm,1.5s							
GERES	**GERESS Array B**	**79.00**	**334**	P	**P**	**P**	**04 23 25.4**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=33,slow=5.5,SNR=17							
GERES				LR	LR	LR	05 02 02.5	
	comp=Z,237nm,18.5s,baz=334,slow=38							
	comp=Z,3.2nm,0.6s							
JCT	**Junction City**	**79.12**	**57**	P	**P**	**P**	**04 23 26.7**	**+0.3**
	baz=318							
CONA	**Cod Observa**	**79.14**	**332**	*i* P	**P**	**P**	**04 23 27.1**	**+0.8**
	comp=Z,15nm,1.3s,SNR=14							
BZS	**Buzias**	**79.14**	**328**	⇑P	**P**	**P**	**04 23 26.9**	**+0.7**
BZS	**Buzias**	**79.14**	**328**	⇑P	**P**	**P**	**04 23 26.9**	**+0.7**
RONA	**Rosalia, Austr**	**79.20**	**332**	*i* P	**P**	**P**	**04 23 27.7**	**+1.2**
	comp=Z,17nm,1.6s,SNR=9.8							
O48B	**Farmland**	**79.35**	**42**	P	**P**	**P**	**04 23 27.4**	**0.0**
	baz=323							
RAR	**Rarotonga**	**79.41**	**136**	LR	LR	LR	04 54 16.6	
	comp=Z,134nm,19.8s,baz=348,slow=32							
DRIO	**Del Rio**	**79.42**	**59**	IAmb	IAmb	IAmb	04 23 48.1	
	comp=Z,15nm,1.4s							
VLAD	**Vladila**	**79.44**	**325**	⇓P	**P**	**P**	**04 23 29.5**	**+1.7**
BTNL	**Ternell**	**79.50**	**339**	*d*P	**P**	**P**	**04 23 28.2**	**+0.1**
MEM	**Membach**	**79.51**	**339**	*d*P	**P**	**P**	**04 23 29.3**	**+1.2**
	comp=Z,15nm,1.2s							
BSTI	**Sart Tilman**	**79.64**	**340**	*d*P	**P**	**P**	**04 23 29.6**	**+0.8**
MOA	**Molln**	**79.72**	**333**	*i* P	**P**	**P**	**04 23 30.8**	**+1.5**
	comp=Z,11nm,1.0s							
ELND	**Elena**	**79.73**	**324**	⇓P	**P**	**P**	**04 23 29.5**	**0.0**
ARSA	**Arzberg**	**79.85**	**332**	*i* P	**P**	**P**	**04 23 31.4**	**+1.3**
	comp=Z,3.7nm,0.5s							
BCLA	**Clavier**	**79.85**	**340**	*d*P	**P**	**P**	**04 23 30.1**	**+0.1**
PLVB	**Pleven**	**79.86**	**325**	⇑P	**P**	**P**	**04 23 31.0**	**+0.9**
BGES	**Gesves**	**79.94**	**340**	*d*P	**P**	**P**	**04 23 29.7**	**-0.7**
BIOA	**Bad Ischl, Aus**	**80.05**	**334**	*i* P	**P**	**P**	**04 23 32.3**	**+1.1**
	comp=Z,9.9nm,1.1s							
BMRD	**Maredsous**	**80.09**	**340**	*d*P	**P**	**P**	**04 23 29.9**	**-1.4**
RCHB	**Rochefort**	**80.11**	**340**	*d*P	**P**	**P**	**04 23 31.3**	**0.0**
FRGS	**Fruska Gora**	**80.20**	**329**	⇑P	**P**	**P**	**04 23 32.1**	**+0.1**
WLF	**Walferdange**	**80.34**	**339**	*d*P	**P**	**P**	**04 23 31.0**	**-1.7**
M53A	**WI Miller and**	**80.38**	**38**	P	**P**	**P**	**04 23 33.0**	**0.0**
	baz=326							
WCI	**Wyandotte Cave**	**80.42**	**44**	P	**P**	**P**	**04 23 33.3**	**0.0**
	baz=323							
BLKB	**Belogradchik**	**80.43**	**326**	⇑P	**P**	**P**	**04 23 33.3**	**0.0**
SOKA	**Soboth**	**80.51**	**332**	*i* P	**P**	**P**	**04 23 34.2**	**+0.5**
	comp=Z,9.5nm,0.7s							
LESA	**Schwarzleotal**	**80.58**	**334**	*i* P	**P**	**P**	**04 23 35.0**	**+0.9**
	comp=Z,13nm,0.9s							
KBA	**Koelnbreinsper**	**80.69**	**334**	*i* P	**P**	**P**	**04 23 35.9**	**+1.2**
	comp=Z,14nm,0.5s							
OBKA	**Obir**	**80.81**	**333**	*i* P	**P**	**P**	**04 23 35.7**	**+0.4**
	comp=Z,1.8nm,0.6s							
WATA	**Walderalm**	**80.99**	**335**	*i* P	**P**	**P**	**04 23 38.2**	**+1.8**
	comp=Z,10nm,0.5s							
MYKA	**Terra Mystica**	**81.00**	**333**	*i* P	**P**	**P**	**04 23 36.4**	**+0.1**
	comp=Z,2.7nm,0.5s							
WTTA	**Wattenberg**	**81.04**	**335**	*i* P	**P**	**P**	**04 23 37.7**	**+1.1**
	comp=Z,18nm,0.5s,SNR=23							
RETA	**Reutte**	**81.09**	**335**	*i* P	**P**	**P**	**04 23 37.5**	**+0.7**
	comp=Z,8.1nm,0.8s,SNR=5.0							
O53A	**New Philadelph**	**81.12**	**39**	P	**P**	**P**	**04 23 36.9**	**-0.1**
	baz=325							
SQTA	**S

PMG	**Port Moresby**	**3.73**	**183**	P	**Pn**	**04 36 39.5**	**+0.2**
	138nm,0.4s,baz=356,slow=5.9,SNR=50						
PMG				S	**Sn**	**04 37 21.6**	**-1.8**
	116nm,0.4s,baz=71,slow=23,SNR=15						
KRVT	**Keravat (AS076**	**4.87**	**74**	P	**Pn**	**04 36 54.3**	**+0.1**
WRA	**Warramunga Arr**	**19.01**	**220**	P	**Pn**	**04 39 54.2**	**-1.1**
	3.0nm,0.6s,baz=40,slow=11,SNR=66						
WRA				S	**S**	**04 43 19.8**	**-1.1**
	0.5nm,0.7s,baz=32,slow=19,SNR=2.8						
ASAR	**Alice Springs**	**22.09**	**214**	P	**P**	**04 40 27.4**	**+1.6**
	1.3nm,0.4s,baz=44,slow=8.8,SNR=22						
ASAR				S	**S**	**04 44 22.0**	**+3.2**
	1.4nm,0.7s,baz=33,slow=22,SNR=7.4						
	1.3nm,0.4s						
ZALV	**Zalesovo Beam**	**78.90**	**328**	P	**P**	**04 47 28.3**	**-0.7**
	0.6nm,0.3s,baz=97,slow=8.0,SNR=2.5						
	0.6nm,0.3s						
QSPA	**South Pole Qui**	**84.31**	**180**	P	**P**	**04 47 58.4**	**+1.0**
	0.6nm,0.7s,baz=45,slow=1.4,SNR=2.2						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**85.04**	**23**	P	**P**	**04 48 01.1**	**+0.1**
	0.8nm,0.7s,baz=261,slow=5.1,SNR=12						
	0.8nm,0.7s						
GERES	**GERESS Array B**	**121.81**	**326**	PKP	**PKPdf**	**04 54 17.7**	**-1.3**
	0.4nm,0.5s,baz=129,slow=1.4,SNR=2.6						
EKA	**Eskdalemuir Ar**	**125.11**	**340**	PKP	**PKiKP**	**04 54 25.5**	**+0.1**
	1.4nm,0.7s,baz=15,slow=2.9,SNR=2.1						
TORD	**Torodi Ar. Bea**	**145.32**	**285**	PKPbc	**PKPab**	**04 55 04.0**	**0.0**
	0.6nm,0.5s,baz=60,slow=3.9,SNR=5.8						

IDC 27 04:36:02.8±3.1, 55°51N×86°54E, h0km, mbtmp3.1/3, ML2.3/3, Error ellipse: s-maj=28.5km s-min=21.0km az=79.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**213**	I	I	04 50 41.1	
	0.1nm,2.1s,baz=33,slow=331,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.85**	**213**	Pg	Pn	04 36 35.6	-0.1
	1.9nm,0.3s,baz=32,slow=17,SNR=21						
ZALV				Lg	Lg	04 37 01.5	
	3.5nm,0.3s,baz=24,slow=28,SNR=9.9						
KURBB	**Kurchatov Arra**	**6.87**	**228**	Pn	Pn	04 37 45.1	+0.5
	0.1nm,0.3s,baz=46,slow=14,SNR=1.6						
KURBB				Lg	Lg	04 39 41.4	
	baz=58,slow=43,SNR=1.6						
	2.2nm,0.2s						
MKAR	**Makanchi Array**	**9.12**	**199**	Pn	Pn	04 38 16.5	+0.9
	0.1nm,0.3s,baz=19,slow=13,SNR=1.1						
MKAR				Lg	Lg	04 40 50.5	
	0.1nm,0.3s,baz=17,slow=13,SNR=3.0						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**9.77**	**262**	Pn	Pn	04 38 22.8	-1.6
	baz=70,slow=13,SNR=2.7						
	0.4nm,0.4s						

IDC 27 04:40:34.3±0.8, 36°.17N×77°.78E, h0km, mb3.8/16, mbtmp4.0/22, ML4.2/6, Error ellipse: s-maj=21.1km s-min=15.6km az=40.0
MOS 27 04:40:43.3±1.2, 36°.37N×77°.85E, h79km, mb4.3/6, Error ellipse: s-maj=12.7km s-min=5.7km az=97.3
BJI 27 04:40:47.0, 36°.54N×77°.96E, h105km, mb4.5/13, mB4.6/8
NNC 27 04:40:53.5±3.8, 36°.99N×77°.55E, h86km±24km, mb4.0, mpv4.5, Error ellipse: s-maj=29.7km s-min=22.6km az=167.0

ISC 27 04:40:48.0±0.6, 36°58N±0°.07×77°83E±0°.05, h100km, n69, σ2s12/83, mb3.8/20, 9C-10D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.28**	**334**	P	**Pn**	**04 41 36.5**	**-1.1**
KSH				S	**Sn**	**04 42 14.0**	**-1.9**
KSH				pmax	pmax		
	comp=Z,600nm,0.7s						
KSH				smax	smax		
	comp=N,1μm,0.5s						
KSH				smax	smax		
	comp=E,1μm,0.4s						
ULHL	**Ulahol**	**5.79**	**348**	P	**Pn**	**04 42 13.9**	**+2.2**
	SNR=25						
KZA	**Kyzart**	**5.84**	**341**	P	**Pn**	**04 42 14.1**	**+1.5**
	SNR=15						
UCH	**Uchtor**	**6.20**	**337**	P	**Pn**	**04 42 18.3**	**+0.9**
	SNR=67						
AML	**Almayashu**	**6.40**	**331**	P	**Pn**	**04 42 21.8**	**+1.7**
	SNR=17						
KBK	**Karagaybulak**	**6.46**	**341**	P	**Pn**	**04 42 22.2**	**+1.5**
	SNR=40						
TKM2	**Tokmak 2**	**6.56**	**345**	P	**Pn**	**04 42 23.5**	**+1.4**
	SNR=20						
AAK	**Ala-Archa**	**6.58**	**338**	*d* P	**Pn**	**04 42 23.4**	**+1.2**
AAK				pmax	pmax		
	comp=Z,45nm,0.7s						
AAK	**Ala-Archa**	**6.58**	**338**	Pn	**Pn**	**04 42 23.3**	**+1.0**
	comp=Z,19nm,0.3s,baz=155,slow=8.2,SNR=103						
AAK				Sn	**Sn**	**04 43 39.0**	**+3.2**
	comp=Z,4.3nm,0.3s,baz=41,slow=19,SNR=1.4						
	comp=Z,41nm,0.3s						
MDOK	**Medeo**	**6.60**	**355**	P	**Pn**	**04 42 24.1**	**+1.5**
MDOK				S	**Sn**	**04 43 31.9**	**-4.5**
MDOK	**Medeo**	**6.60**	**355**	P	**Pn**	**04 42 24.1**	**+1.5**
	comp=Z,10nm,0.4s						
MDOK				S	**Sn**	**04 43 31.9**	**-4.5**
	comp=Z,46nm,0.9s						
EKS2	**Erkin-Say**	**6.83**	**334**	P	**Pn**	**04 42 28.0**	**+2.3**
	SNR=9.8						
CHMS	**Chumysh**	**6.84**	**341**	P	**Pn**	**04 42 26.9**	**+1.2**
	SNR=30						
PDGK	**Podgornoye**	**6.86**	**10**	P	**Pn**	**04 42 26.3**	**+0.2**
PDGK				S	**Sn**	**04 43 42.4**	**-0.3**
PDGK	**Podgornoye**	**6.86**	**10**	⇓P	**Pn**	**04 42 26.3**	**+0.2**
	comp=Z,80nm,0.4s						
PDGK				⇓S	**Sn**	**04 43 42.2**	**-0.5**
	comp=Z,55nm,0.7s						
USP	**Ospenovka**	**7.15**	**340**	P	**Pn**	**04 42 32.0**	**+2.0**
	SNR=18						
KK31	**Karatay Array**	**8.61**	**321**	P	**Pn**	**04 42 49.2**	**-0.5**
KK31				S	**Sn**	**04 44 22.6**	**-2.5**
KK31	**Karatay Array**	**8.61**	**321**	⇓P	**Pn**	**04 42 49.2**	**-0.5**
	comp=Z,3.0nm,0.3s,baz=128,slow=13,SNR=103						
KK31				⇓S	**Sn**	**04 44 23.1**	**-2.0**
	comp=Z,13nm,0.6s,baz=327,slow=31,SNR=5.1						
PYUN	**Piuthan**	**9.51**	**151**	*e*Pn	Pn	04 42 55.1	-7.2
DANN	**Dangsing**	**9.61**	**147**	*e*Pn	Pn	04 42 55.9	-7.8
DANN				*e*Sn	Sn	04 44 34.6	-15
	comp=Z,60nm,0.4s						
GKN	**Gorkha**	**10.30**	**144**	*e*Pn	Pn	04 43 05.8	-7.2
WMQ	**Urumqi**	**10.45**	**43**	P	**Pn**	**04 43 12.5**	**-2.2**
WMQ				S	**Sn**	**04 45 06.5**	**-3.3**
MAKZ	**Makanchi**	**10.68**	**16**	P	**Pn**	**04 43 16.5**	**-1.4**
MAKZ				S	**Sn**	**04 45 14.5**	**-0.8**
MAKZ	**Makanchi**	**10.68**	**16**	⇓P	**Pn**	**04 43 16.5**	**-1.4**
	comp=Z,21nm,0.4s						
MAKZ				⇑S	**Sn**	**04 45 14.1**	**-1.3**
	comp=Z,12nm,0.7s						
MK31	**Makanchi Array**	**10.73**	**17**	*i* P	**Pn**	**04 43 17.3**	**-1.3**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MK31	**Makanchi Array**	**10.73**	**17**	⇓P	**Pn**	**04 43 17.5**	**-1.1**
	comp=Z,4.0nm,0.3s,baz=199,slow=13,SNR=617						
MK31				⇓S	**Sn**	**04 45 11.9**	**-4.8**
	comp=Z,49nm,0.8s,baz=199,slow=24,SNR=24						
MKAR	**Makanchi Array**	**10.73**	**17**	Pn	**Pn**	**04 43 17.4**	**-1.3**
	comp=Z,8.4nm,0.3s,baz=205,slow=12,SNR=190						
MKAR				Sn	**Sn**	**04 45 11.8**	**-4.9**
	comp=Z,9.4nm,0.3s,baz=202,slow=25,SNR=12						
	comp=Z,11nm,0.2s						
DMN	**Daman**	**10.86**	**143**	*e*Pn	Pn	04 43 13.6	-7.1
GUN	**Gumba**	**11.00**	**140**	*e*Pn	Pn	04 43 15.6	-7.0
PKI	**Pulchoki**	**11.04**	**142**	*e*Pn	Pn	04 43 15.5	-7.6
JIRN	**Jiri**	**11.36**	**139**	*e*Pn	Pn	04 43 20.6	-7.0
GOMU	**GeErMu**	**13.69**	**87**	P	**Pn**	**04 43 57.8**	**-0.4**
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KURBB	**Kurchatov Arra**	**14.05**	**2**	Pn	**Pn**	**04 44 00.2**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=186,slow=12,SNR=10						
	comp=Z,2.5nm,0.2s						
KURK	**Kurchatov**	**14.14**	**2**	⇓*i* P	**Pn**	**04 44 01.9**	**-1.7**
DGZ	**Jazzator, Alta**	**14.85**	**25**	*de*P	**Pn**	**04 44 11.6**	**-1.2**
GEYT	**Alibeck**	**15.76**	**281**	Pn	**Pn**	**04 44 19.5**	**-4.8**
	comp=Z,1.2nm,0.3s,baz=49,slow=9.7,SNR=1.7						
GEYT				Sn	Sn	04 47 03.6	-15
	comp=Z,1.0nm,0.3s,baz=92,slow=25,SNR=2.0						
	comp=Z,2.2nm,0.4s						
BVA0	**Borovoye Array**	**17.25**	**345**	*i* P	**Pn**	**04 44 45.3**	**+2.8**
BVAR	**Borovoye Array**	**17.25**	**345**	P	**P**	**04 44 42.5**	**0.0**
	comp=Z,0.5nm,0.3s,baz=146,slow=10,SNR=35						
	comp=Z,9.4nm,0.4s						
BRVK	**Borovoye**	**17.31**	**345**	*ce*P	**P**	**04 44 43.1**	**0.0**
BRVK				pmax	pmax		
	comp=Z,20nm,0.8s						
GTA	**Gaotai**	**17.55**	**74**	*e*P	**Pn**	**04 44 46.8**	**+0.4**
GTA				pP	pP	04 44 58.5	-6.9
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ZALV	**Zalesovo Beam**	**18.04**	**13**	*i* P	**P**	**04 44 51.0**	**0.0**
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ZALV	**Zalesovo Beam**	**18.04**	**13**	P	**P**	**04 44 50.8**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=202,slow=11,SNR=19						
	comp=Z,5.0nm,0.6s						
AB31	**Akbulak array**	**18.17**	**320**	P	**P**	**04 44 53.5**	**+1.0**
AB31	**Akbulak array**	**18.17**	**320**	⇑P	**P**	**04 44 53.1**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=123,slow=15,SNR=31						
AB31				⇑S	**S**	**04 48 08.8**	**-6.4**
	comp=Z,4.0nm,0.9s,baz=126,slow=25,SNR=6.9						
AKTO	**Aktyubinsk**	**19.87**	**320**	P	**P**	**04 45 11.1**	**-0.1**
	comp=Z,2.5nm,0.5s,baz=110,slow=2.1,SNR=6.9						
	comp=Z,2.5nm,0.5s						
AKTO	**Aktyubinsk**	**19.87**	**320**	⇑P	**Pn**	**04 45 14.1**	**+0.5**
	comp=Z,1.2nm,0.5s						
AKTO				⇑S	**S**	**04 48 48.3**	**-1.0**
	comp=Z,1.1nm,0.7s						
ARU	**Arti**	**23.73**	**333**	*c* P	**P**	**04 45 51.9**	**+1.2**
ARU						04 46 28.0	
ARU				S	**S**	**04 49 59.8**	**+1.6**
ARU				SS	**SnSn**	**04 50 49.9**	**+2.3**
ARU				pmax	pmax		
	comp=Z,26nm,3.6s						
SONM	**Songino Array**	**23.82**	**53**	P	**P**	**04 45 53.2**	**+1.3**
	comp=Z,3.4nm,0.7s,baz=249,slow=8.5,SNR=22						
	comp=Z,3.4nm,0.7s						
ULN	**Ulaanbaatar**	**24.26**	**53**	*ce*P	**P**	**04 45 57.6**	**+1.8**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BTO	**Baotou**	**25.40**	**71**	*e*P	**P**	**04 46 05.3**	**-0.9**
BTO				pP	**pP**	**04 46 31.5**	**+2.1**
BTO				sP	**sP**	**04 46 46.8**	**+5.4**
BTO				PP	**PnPn**	**04 46 49.0**	**+1.6**
BTO				pmax	pmax		
	comp=Z,17nm,0.6s						
BTO				pmax	pmax		
	comp=Z,320nm,6.9s						
CMAR	**Chiang Mai Arr**	**25.91**	**129**	P	**P**	**04 46 07.9**	**-2.9**
	comp=Z,0.9nm,0.4s,baz=310,slow=10.0,SNR=1.6						
	comp=Z,0.9nm,0.4s						
KIV	**Kislovodsk**	**27.66**	**296**	*e*P	**P**	**04 46 28.4**	**+2.0**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
NRIK	**Noril'sk**	**33.25**	**6**	*i* P	**P**	**04 47 16.5**	**+1.3**
NRIK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
OBN	**Obninsk**	**33.56**	**317**	⇑*e*P	**P**	**04 47 19.4**	**+1.3**
OBN				*e**PP	**pP**	**04 47 46.3**	**+4.5**
OBN				*e*		04 48 33.5	
OBN				*e*SS	SS	04 54 44.7	-17
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRTR	**Keskin Array B**	**34.63**	**289**	P	**P**	**04 47 27.5**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=92,slow=7.5,SNR=2.8						
	comp=Z,0.4nm,0.5s						
AKASG	**Malin Array Be**	**37.22**	**308**	P	**P**	**04 47 49.1**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=78,slow=7.5,SNR=2.3						
	comp=Z,0.3nm,0.4s						
ZEA	**Zeya**	**37.97**	**47**	*i* P	**P**	**04 47 56.7**	**+0.9**
FINES	**FINESS Array B**	**40.55**	**325**	P	**P**	**04 48 17.6**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=109,slow=8.8,SNR=20						
	comp=Z,1.2nm,0.3s						
KLR	**Kul'dur**	**40.64**	**54**	*i* P	**P**	**04 48 18.2**	**+0.2**
KLR				pmax	pmax		
	comp=Z,65nm,4.9s						
ARCES	**ARCESS Array B**	**43.24**	**336**	P	**P**	**04 48 39.2**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=109,slow=7.9,SNR=8.8						
	comp=Z,3.5nm,0.9s						
HFS	**Hagfors**	**46.42**	**322**	P	**P**	**04 49 04.1**	**-0.1**
	comp=Z,3.7nm,0.9s,baz=118,slow=10,SNR=7.6						
	comp=Z,3.7nm,0.9s						
GERES	**GERESS Array B**	**47.35**	**306**	P	**P**	**04 49 12.3**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=68,slow=12,SNR=2.2						
	comp=Z,0.4nm,0.6s						
NOA	**NORSAR Array B**	**47.64**	**323**	P	**P**	**04 49 13.3**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=96,slow=7.1,SNR=2.2						
	comp=Z,1.1nm,0.8s						
EKA	**Eskdalemuir Ar**	**56.02**	**317**	P	**P**	**04 50 17.3**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=91,slow=5.8,SNR=1.6						
	comp=Z,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**71.22**	**273**	P	**P**	**04 51 54.8**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=50,slow=5.6,SNR=8.1						
	comp=Z,0.2nm,0.3s						
ILAR	**Eielson Array**	**73.08**	**18**	P	**P**	**04 52 06.5**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=323,slow=33,SNR=4.7						
	comp=Z,0.3nm,0.6s						
WRA	**Warramunga Arr**	**77.48**	**127**	P	**P**	**04 52 30.1**	**-2.7**
	comp=Z,0.4nm,0.8s,baz=332,slow=5.8,SNR=2.9						
	comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**79.92**	**129**	P	**P**	**04 52 44.2**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=331,slow=5.6,SNR=2.2						
	comp=Z,0.2nm,0.3s						
YKA	**Yellowknife Ar**	**80.76**	**6**	P	**P**	**04 52 49.9**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=339,slow=5.8,SNR=8.2						
	comp=Z,0.3nm,0.7s						

IDC 27 05:08:42.4±1.5, 3°.82S×152°.14E, h0km, mb3.5/5, mbtmp3.6/6, ML2.1/1, MS3.5/7, Error ellipse: s-maj=53.5km s-min=14.5km az=99.0

ISC 27 05:08:47.4±1.5, 3°9S±0°.1×152°2E±0°.3, h35km, n13, σ0s66/8, mb3.6/5, MS3.3/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.49**	**203**	Pn	**Pn**	**05 08 57.1**	**-0.9**
KRVT				Sn	**Sn**	**05 09 05.8**	**+0.5**
PMG	**Port Moresby**	**7.46**	**222**	Pn	**Pn**	**05 10 34.0**	**+0.2**
	1.7nm,0.3s,baz=18,slow=20,SNR=1.5						
PMG				LR	LR	05 12 49.5	
	comp=Z,90nm,18.9s,baz=16,slow=33						
	5.2nm,0.4s						
HNR	**Honiara**	**9.47**	**126**	LR	LR	05 15 03.0	
	comp=Z,2μm,19.1s,baz=294,slow=40						
CTA	**Charters Tower**	**17.16**	**199**	LR	LR	05 19 19.5	
	comp=Z,81nm,18.6s,baz=82,slow=37						
DZM	**Mont Dzumac**	**22.77**	**144**	LR	LR	05 20 28.1	
	comp=Z,85nm,19.1s,baz=24,slow=31						
WRA	**Warramunga Arr**	**23.66**	**226**	P	**P**	**05 13 56.0**	**+0.1**
	0.3nm,1.5s,baz=50,slow=9.5,SNR=11						
	0.9nm,1.1s						
ASAR	**Alice Springs**	**26.48**	**220**	P	**P**	**05 14 21.6**	**+0.1**
	0.3nm,0.7s,baz=50,slow=8.7,SNR=1.3						
	0.3nm,0.7s						
KAPI	**Kappang**	**32.39**	**267**	LR	LR	05 29 45.2	
	comp=Z,31nm,19.3s,baz=226,slow=39						
RPZ	**Rata Peaks**	**43.06**	**160**	LR	LR	05 35 09.6	
	comp=Z,42nm,18.7s,baz=313,slow=37						
PETK	**Petropavlovsk-**	**56.93**	**4**	LR	LR	05 41 15.6	
	comp=Z,73nm,18.7s,baz=14,slow=34						
SONM	**Songino Array**	**65.21**	**328**	P	**P**	**05 19 24.8**	**-0.6**
	0.4nm,0.7s,baz=132,slow=6.4,SNR=2.4						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**81.50**	**22**	P	**P**	**05 21 01.7**	**+0.8**
	0.4nm,0.7s,baz=244,slow=5.4,SNR=3.3						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**88.14**	**323**	P	**P**	**05 21 34.3**	**-0.2**
	0.5nm,0.5s,baz=117,slow=5.0,SNR=2.0						
	0.5nm,0.5s						

IDC 27 06:06:36.7±3.2, 23°.85S×179°.01W, h356km±29km, mb3.4/7, mbtmp4.1/9, Error ellipse: s-maj=38.2km s-min=18.0km az=153.0

ISC 27 06:06:39.9±0.7, 23°9S±0°.1×179°0W±0°.1, h392km, n17, σ1s24/21, mb3.6/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.50**	**275**	P	**P**	**06 09 36.2**	**-0.4**
	5.5nm,0.6s,baz=296,slow=19,SNR=3.6						
URZ	**Urewera**	**14.66**	**192**	P	**P**	**06 09 47.9**	**-1.0**
	7.8nm,0.8s,baz=175,slow=16,SNR=2.2						
URZ				S	**S**	**06 12 25.8**	**+0.5**
	9.8nm,0.6s,baz=157,slow=22,SNR=9.5						

STKA	**Stephens Creek**	**35.54**	**248**	P	**P**	**06 13 02.0**	**+0.2**
	1.3nm,0.4s,baz=112,slow=11,SNR=5.4						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**42.91**	**260**	P	**P**	**06 14 02.0**	**-0.1**
	6.2nm,0.9s,baz=91,slow=8.5,SNR=46						
ASAR				PcP	**PcP**	**06 15 46.1**	**+1.3**
	0.5nm,0.7s,baz=103,slow=4.2,SNR=2.1						
ASAR				ScP	**ScP**	**06 19 01.4**	**+3.7**
	0.3nm,0.3s,baz=116,slow=4.2,SNR=3.8						
	6.2nm,0.9s						
WRA	**Warramunga Arr**	**43.29**	**266**	P	**P**	**06 14 04.3**	**-0.9**
	4.9nm,0.8s,baz=96,slow=8.4,SNR=106						
WRA				PcP	**PcP**	**06 15 45.9**	**-0.2**
	1.0nm,0.8s,baz=97,slow=3.8,SNR=5.5						
	4.9nm,0.8s						
NVAR	**Mina Array Bea**	**84.16**	**44**	P	**P**	**06 18 28.6**	**+0.1**
	0.3nm,0.5s,baz=216,slow=7.3,SNR=4.7						
	0.3nm,0.5s						
TXAR	**Lajitas Array**	**89.69**	**58**	P	**P**	**06 18 55.5**	**+0.5**
	1.4nm,1.0s,baz=213,slow=4.3,SNR=5.1						
	1.4nm,1.0s						
ILAR	**Eielson Array**	**91.85**	**13**	P	**P**	**06 19 03.3**	**-0.7**
	0.3nm,0.8s,baz=217,slow=6.9,SNR=2.3						
	0.3nm,0.8s						
PDAR	**Pinedale Array**	**92.09**	**44**	P	**P**	**06 19 05.2**	**-0.8**
	0.4nm,0.8s,baz=208,slow=2.9,SNR=4.3						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**121.04**	**319**	PKP	**PKiKP**	**06 24 47.0**	**+0.6**
	0.5nm,0.4s,baz=17,slow=1.5,SNR=3.1						
ARCES	**ARCESS Array B**	**132.09**	**349**	PKP	**PKPdf**	**06 25 07.6**	**+0.7**
	6.0nm,1.0s,baz=22,slow=1.0,SNR=2.5						
HFS	**Hagfors**	**142.74**	**350**	PKP	**PKPdf**	**06 25 24.3**	**-2.4**
	1.9nm,0.3s,baz=62,slow=3.8,SNR=14						
AKASG	**Malin Array Be**	**145.47**	**328**	PKPbc	**PKPdf**	**06 25 32.0**	**+0.3**
	2.5nm,0.6s,baz=42,slow=4.0,SNR=14						
BRTR	**Keskin Array B**	**148.30**	**308**	PKPbc	**PKPbc**	**06 25 41.0**	**0.0**
	0.7nm,0.4s,baz=152,slow=5.5,SNR=4.8						
EKA	**Eskdalemuir Ar**	**148.48**	**5**	PKPbc	**PKiKP**	**06 25 42.0**	**+0.1**
	3.2nm,0.8s,baz=359,slow=2.8,SNR=4.3						
MMAI	**Mount Meron Ar**	**148.52**	**295**	PKPbc	**PKiKP**	**06 25 42.5**	**-0.3**
	2.8nm,0.4s,baz=46,slow=2.4,SNR=6.2						
CLL	**Coll m**	**151.13**	**344**	*i* PKP	**PKiKP**	**06 25 48.8**	**+1.3**
	comp=Z,12nm,0.9s						

BER 27 06:11:40.9±1.4, 72°.72N×3°.17E, h10km, mb(Pn)4.0, Confirmed Earthquake

ISC 27 06:11:40.4±2.2, 72°8N±0°.1×4°2E±0°.2, h10km, n12, σ1s27/12, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOF	**Lofoten**	**5.61**	**141**	*e*P	**Pn**	**06 13 04.8**	**+1.1**
LOF				IAML		06 14 06.0	
	comp=Z,4.9nm,0.6s						
TRO	**Tromso**	**5.70**	**116**	*e*P	**Pn**	**06 13 06.8**	**+1.8**
TRO				*e*S	**Sn**	**06 14 08.5**	**-1.8**
TRO				IAML		06 14 10.9	
	comp=Z,2.3nm,1.3s						
STEI	**Steigen**	**6.11**	**137**	*e*P	**Pn**	**06 13 10.4**	**-0.2**
STEI				IAML		06 14 17.4	
	comp=Z,2.8nm,0.8s						
JETT	**Jettan, Norway**	**6.15**	**114**	*e*P	**Pn**	**06 13 11.6**	**+0.4**
JETT				*e*S	**Sn**	**06 14 21.1**	**-0.4**
SPA0	**Spitsbergen Ar**	**6.23**	**24**	*e*P	**Pn**	**06 13 12.2**	**0.0**
KBS	**Kingsbay**	**6.48**	**13**	*e*P	**Pn**	**06 13 15.1**	**-0.5**
FAUS	**Fauske**	**6.59**	**139**	*e*P	**Pn**	**06 13 17.6**	**+0.4**
KIF	**Kilpisjarvi**	**6.62**	**116**	*e*P	**Pn**	**06 13 18.2**	**+0.7**
DAG	**Danmarks Havn**	**7.19**	**314**	*i* P	Pn	06 13 17.0	-8.3
KTK1	**Kautokeino**	**7.28**	**112**	*e*P	**Pn**	**06 13 27.5**	**+0.9**
KEV	**Kevo**	**7.92**	**101**	*e*P	**Pn**	**06 13 37.4**	**+2.1**
SCO	**Scoresbysund**	**8.52**	**267**	*i* P	Pn	06 13 34.0	-9.5

BER 27 06:12:07.6±2.1, 72°57N×2°37E, h15km±27km, mb(Pn)4.1, Confirmed Earthquake, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOF	**Lofoten**	**5.83**	**134**	*e*P	Pn	06 13 32.5	-0.8
LOF				*e*S	Sn	06 14 33.0	-6.8
LOF				IAML		06 14 42.5	
	comp=Z,5.2nm,0.8s						
TRO	**Tromso**	**6.12**	**111**	*e*P	Pn	06 13 34.3	-3.0
TRO				*e*S	Sn	06 14 36.7	-10
TRO				IAML		06 14 43.3	
	comp=Z,3.7nm,0.7s						
STEI	**Steigen**	**6.37**	**131**	*e*P	Pn	06 13 38.7	-2.1
STEI				*e*S	Sn	06 14 46.0	-7.0
STEI				IAML		06 14 59.1	
	comp=Z,2.8nm,0.6s						
JETT	**Jettan, Norway**	**6.59**	**108**	*e*P	Pn	06 13 40.4	-3.4
JETT				*e*S	Sn	06 14 49.0	-9.5
JETT				IAML		06 14 50.9	
	comp=Z,4.3nm,0.5s						
SPA0	**Spitsberg

C072 Blauer Lane Sa 0.10 175 Pg 06 32 12.4 -0.1
C072 Sg 06 32 15.3 +0.8
MHC Mount Hamilton 0.11 113 Pg 06 32 11.8 -1.0
MHC Sg 06 32 13.9 -1.1
C054 Valleyhaven Wa 0.12 202 Pg 06 32 12.6 -0.1
SCCB Santa Clara Co 0.12 219 Pg 06 32 12.5 -0.3
CMLM Mount Lewis 0.13 45 Pg 06 32 12.0 -1.1
CMLM Sg 06 32 14.5 -1.0
C039 Semillon Drive 0.14 306 Pg 06 32 12.8 -0.3
CCOB Coe Ranch Numb 0.15 149 Pg 06 32 12.8 -0.3
C017 S Grimmer Bl F 0.18 314 Pg 06 32 13.3 -0.2
C050 Festivo Court 0.19 318 Pg 06 32 13.4 -0.4
ARN Arnold Ranch 0.19 100 Pg 06 32 12.9 -0.9
C001 Firth Court Fr 0.19 316 Pg 06 32 13.6 -0.2
C001 Sg 06 32 17.4 +0.6
CMMM Mount Mocho 0.23 72 Pg 06 32 13.7 -0.8
JLAB Laurel Hill 0.23 173 Pg 06 32 14.3 -0.1
WENL Wente Vineyard 0.24 2 Pg 06 32 14.1 -0.5
JJOM Saint Joseph's 0.24 223 Pg 06 32 14.6 -0.1
CADM Anderson Res. 0.25 153 Pg 06 32 14.7 0.0
CVLM Vallecito 0.25 347 Pg 06 32 14.5 -0.3
C015 Bright Common 0.25 314 Pg 06 32 14.4 -0.3
C048 Posada Way Fre 0.26 317 Pg 06 32 14.6 -0.3
JSJM St Joseph 0.26 259 Pg 06 32 15.3 +0.3
CNIC Niles Canyon 0.27 325 Pg 06 32 14.8 -0.4
CNIC Sg 06 32 19.3 +0.2
C002 Farnham Drive 0.28 309 Pg 06 32 14.8 -0.4
C069 Rotal Creek Pl 0.28 339 Pg 06 32 15.4 +0.1
CSAM Sandia 0.29 10 Pg 06 32 15.3 -0.2
C062 Calle Reynoso 0.30 339 Pb 06 32 16.0 -0.6
C062 Sb 06 32 22.0 +0.5
CBZL Buffer Zone 0.31 8 Pg 06 32 15.8 0.0
CBZL Buffer Zone 0.31 8 Pg 06 32 15.8 0.0
C006 Lk Pillsbury D 0.31 312 Pg 06 32 15.4 -0.4
JBMM Black Mountain 0.31 258 Pg 06 32 16.0 +0.1
CYD1 Coyote D'meter 0.32 304 Pg 06 32 15.4 -0.5
JSFB Stanford Teles 0.33 274 Pg 06 32 16.1 +0.1
CSTL Corral Hollow 0.33 40 Pg 06 32 15.9 -0.3
JFP Foothills Park 0.34 266 Pg 06 32 16.3 0.0
CDOM Doolan Road 0.35 351 Pb 06 32 16.8 -0.6
CMPM Mikes Peak 0.36 94 Pg 06 32 16.0 -0.7
HLPM Lions Peak 0.36 162 Pg 06 32 16.6 0.0
HLPM Sb 06 32 22.2 -0.8
JTGM Trout Gulch Ro 0.36 194 Pg 06 32 16.1 -0.7
MTOS Mt Oso, Westle 0.37 71 Pg 06 32 16.2 -0.6
MTOS Sg 06 32 21.9 -0.1
JRSC Jasper Ridge 0.38 273 Pg 06 32 16.7 -0.3
C056 Diablo Avenue 0.38 312 Pg 06 32 16.9 -0.1
GHS Gilroy Hot Spr 0.38 138 Pg 06 32 16.6 -0.6
C055 Cottonwood Ave 0.39 315 Pg 06 32 16.8 -0.4
C021 Meadowview Dri 0.39 323 Pg 06 32 17.2 -0.1
C045 Hawkins Drive 0.40 337 Pb 06 32 17.8 -0.4
C071 Via Corta San 0.42 316 Pg 06 32 17.4 -0.3
CDC Canada Road 0.42 148 Pg 06 32 17.6 -0.3
HCAM Canada Road 0.42 148 Pg 06 32 17.9 0.0
CLCB Lake Chabot 0.42 326 Pg 06 32 17.7 -0.2
CMOB Morgan Territo 0.43 356 Pb 06 32 18.2 -0.6
C070 Dillo Street S 0.43 318 Pg 06 32 17.6 -0.4
CSLM San Leandro Hi 0.44 321 Pg 06 32 17.8 -0.4
C027 Lawnview Circl 0.44 338 Pb 06 32 18.7 -0.3
CBSNC Byron Hot Spri 0.45 13 Pb 06 32 18.4 -0.6
BGH Bear Gulch 0.46 265 Pg 06 32 18.6 +0.1
JELB Ellicott, Sant 0.46 186 Pb 06 32 18.9 -0.3
HCBM Chamberlain 0.46 169 Pb 06 32 18.7 -0.6
C047 Rutherford Dri 0.49 336 Pb 06 32 19.5 -0.2
BGC Bolinger Road 0.49 332 Pg 06 32 19.0 -0.1
HFEM San Felipe 0.50 144 Pg 06 32 19.7 -0.5
HCOM Corn Cob Canyo 0.50 174 Pb 06 32 19.5 -0.5
JPSM 0.50 248 Pg 06 32 19.3 +0.1
C044 Maitland Drive 0.51 313 Pg 06 32 19.2 -0.1
HPCM Pacheco Lake 0.51 129 Pg 06 32 18.9 -0.6
OCR O'Connell Ranc 0.51 156 Pb 06 32 20.7 +0.6
CMCM Mills College 0.51 321 Pg 06 32 19.4 -0.2
ANZ Anzar Road 0.52 164 Pb 06 32 19.8 -0.4
C058 Eastshore Driv 0.52 316 Pg 06 32 19.3 -0.4
C051 Centre Court A 0.52 314 Pg 06 32 19.4 -0.3
SMCB Saint Mary's C 0.53 329 Pg 06 32 19.6 -0.2
SLD San Luis Dam 0.53 125 Pg 06 32 19.2 -0.7
C064 Brunell Drive 0.54 322 Pg 06 32 19.8 -0.2
C026 Kell Court Ala 0.54 335 Pb 06 32 20.4 -0.2
PACP Pacheco Peak 0.54 134 Pg 06 32 19.5 -0.5
C013 Ascot Lane Oak 0.55 323 Pg 06 32 20.1 -0.1
SAC San Andreas 0.55 291 Pg 06 32 19.8 -0.5
HBTM San Juan Bauti 0.56 162 Pb 06 32 20.6 -0.3
C049 Pacific Avenue 0.56 314 Pg 06 32 20.0 -0.5
HTUM Tustin Road 0.56 170 Pg 06 32 20.4 0.0
C005 Mandana Bl Oak 0.57 319 Pg 06 32 20.1 -0.4
C057 Hedge Avenue B 0.57 6 Pb 06 32 21.4 +0.2
HERM Elkhorn Road 0.59 176 Pg 06 32 20.9 +0.1
C010 Sunflower Cour 0.59 341 Pg 06 32 20.7 -0.3
SCKWR San Luis Creek 0.59 110 Pb 06 32 20.9 -0.6
C028 Eucalyptus Rd 0.60 321 Pg 06 32 20.9 -0.3
HSFM Saint Francis 0.61 159 Pg 06 32 20.7 -0.6
BKS Berkeley--Byer 0.62 323 Pg 06 32 21.1 -0.4
CVPM Vollmer Peak 0.62 324 Pg 06 32 21.3 -0.2
JMGM Milagra Ridge 0.62 294 Pg 06 32 20.8 -0.7
HLTM Lone Tree Road 0.62 143 Pg 06 32 20.7 -0.8
C033 Glashaus Lp Em 0.62 318 Pg 06 32 21.1 -0.5
CMSB University of 0.62 322 Pg 06 32 21.2 -0.3
BL67 Building 67, L 0.62 322 Pg 06 32 21.2 -0.5
VAK Adit at Lawren 0.62 322 Pg 06 32 21.2 -0.4
BL88 Building 88, L 0.63 322 Pg 06 32 21.3 -0.4
BRK Berkeley--Havi 0.63 321 Pg 06 32 21.1 -0.6
CYBM Yerba Buena Is 0.64 312 Pg 06 32 21.1 -0.8
C018 Christie Drive 0.66 335 Pb 06 32 22.5 -0.1
C008 Spokane Avenue 0.66 321 Pg 06 32 21.8 -0.5
FRP Fremont Peak 0.67 160 Pg 06 32 22.3 -0.1
C011 Colusa Avenue, 0.67 322 Pg 06 32 21.9 -0.5
SAO San Andreas Ge 0.67 157 Pb 06 32 22.6 -0.3
CTAM Taylor 0.67 343 Pg 06 32 22.4 -0.1
J061 Lakeshore Driv 0.68 301 Pg 06 32 22.0 -0.6
BSLM Silva Ranch 0.69 151 Pb 06 32 22.9 -0.3
JPRM Presidio of Sa 0.69 306 Pg 06 32 22.2 -0.7
RFSB Richmond Field 0.70 320 Pg 06 32 22.3 -0.6
CPIM Pinole Ridge 0.70 330 Pg 06 32 22.9 -0.2
C024 33rd St Richmo 0.72 321 Pg 06 32 22.8 -0.5
C067 Fleetwood El S 0.72 325 Pb 06 32 23.7 -0.1
HERB Hercules 0.74 328 Pg 06 32 23.3 -0.5
BSRM Salinas Radio 0.74 164 Pg 06 32 23.2 -0.6
CPMM Point Molate 0.77 318 Pg 06 32 23.3 -0.8
HMR Hamilton Ranch 0.77 358 Pb 06 32 24.9 +0.3
BPCNC Pine Canyon 0.82 172 Pg 06 32 24.9 -0.3
BJOM Mount Johnson 0.84 154 Pg 06 32 24.9 -0.7
SCZ Santa Cruz 0.84 159 Pg 06 32 24.6 -1.0
BJCM Johnson Can. 0.89 160 Pg 06 32 25.4 -1.2
BEMM Emmet 0.90 143 Pg 06 32 26.4 -0.4
BVL Bear Valley 0.93 150 Pg 06 32 26.4 -1.0
BAVM Antelope Valle 0.94 141 Pg 06 32 26.3 -1.3
NGVM 0.96 339 Pg 06 32 27.2 -0.8
BPRM Ponciano Ridge 0.97 178 Pg 06 32 27.1 -1.2
BBGB Big Mountain B 0.99 144 Pb 06 32 28.2 -0.2
HAST Hastings Reser 1.01 170 Pg 06 32 27.4 -1.5
BPIM Pinnacles 1.01 152 Pg 06 32 27.3 -1.7
FARB Farallon Islan 1.03 288 Pg 06 32 27.1 -2.2
BBNM San Benito 1.03 147 Pg 06 32 28.1 -1.3
BSMM Soledad Missio 1.03 165 Pg 06 32 28.0 -1.3
NOLM Olema 1.04 309 Pg 06 32 27.1 -2.4
BSGM Shirttail Gulc 1.05 157 Pg 06 32 27.8 -1.9
MYLM Yosemite Lake 1.07 90 Pg 06 32 28.1 -2.0
NBRB Beebe Ranch Br 1.07 325 Pg 06 32 28.3 -1.8
MCUB Copperopolis B 1.08 57 Pg 06 32 28.5 -1.9
NADM Allendale 1.09 352 Pb 06 32 28.7 -1.3
BCWM Chews Ridge 1.09 171 Pg 06 32 28.7 -1.7
CVS Carmenet Viney 1.10 331 Pb 06 32 28.4 -1.8
LRV Little Rabbit 1.13 148 Pb 06 32 29.5 -1.2
BPOM Post Ranch 1.15 180 Pb 06 32 29.5 -1.6
MCCM Marconi Confer 1.16 311 Pn Pb 06 32 29.4 -1.9
MCCM IAML 06 32 54.4
comp=E,2μm,0.5s
NPRM Point Reyes 1.16 302 Pb 06 32 29.4 -1.9
NTYM Taylor 1.23 325 Pn 06 32 30.8 -1.3
CMB Columbia Colle 1.27 59 Pn Pn 06 32 32.0 -0.8
CMB IAML 06 32 52.5
comp=E,1μm,0.8s
CMB IAML 06 32 52.9
comp=N,2μm,0.8s
NBPM Berryessa Peak 1.32 345 Pn 06 32 32.3 -1.2
PCCM Crazy Canyon 1.38 159 Pn 06 32 33.0 -1.3
NDHM Dunnigan Hills 1.38 355 Pn 06 32 33.3 -1.0

PMPB Monarch Peak 1.40 146 Pn Pn 06 32 33.8 -0.8
HULI Fort Hunter Li 1.43 162 Pn 06 32 33.5 -1.4
NHSM Mount Saint He 1.44 332 Pn 06 32 33.3 -1.9
PJUM Juniper Ridge 1.49 140 Pn 06 32 34.6 -1.2
NMTM Middletown 1.52 340 Pn 06 32 34.4 -1.7
PPTM Peach Tree Val 1.53 146 Pn 06 32 35.5 -0.7
PSAM San Ardo 1.53 152 Pn 06 32 35.1 -1.2
PDRM Domengine Ranc 1.53 133 Pn 06 32 35.1 -1.3
PWMM Westland Maint 1.57 127 Pn 06 32 36.0 -0.8
GCRM Castle Rock Sp 1.58 332 Pn 06 32 35.1 -1.9
GBGM Boggs Mountain 1.60 334 Pn 06 32 35.9 -1.4
PSMM Smith Mountain 1.61 144 Pn 06 32 36.8 -0.8
GGPM Geyser Peak 1.62 329 Pn 06 32 35.9 -1.7
GDXM Geysers 1.64 331 Pn 06 32 36.2 -1.7
GSGM Seigler Mounta 1.66 334 Pn 06 32 34.7 -3.3
PHSB Hesperia Broad 1.66 160 Pn 06 32 36.9 -1.2
GHCM House Creek 1.66 318 Pn 06 32 36.5 -1.7
AFDM Forest Hills D 1.68 22 Pn 06 32 36.7 -1.8
PHPM Hope Ranch 1.68 146 Pn 06 32 37.4 -1.0
FRI Friant 1.69 103 Pn 06 32 37.2 -1.3
GRTM Round Top Moun 1.71 336 Pn 06 32 37.6 -1.2
PANM San Antonio Re 1.74 156 Pn 06 32 38.2 -1.0
PVCM Vineyard Canyo 1.76 145 Pn 06 32 38.4 -1.2
PHCM Hearst Castle 1.77 164 Pn 06 32 38.4 -1.2
PSTM Stockdale Moun 1.77 145 Pn 06 32 38.5 -1.2
PPO Portuguese Can 1.77 148 Pn 06 32 38.9 -0.8
SUTB Sutter Butte 1.84 360 Pn 06 32 38.7 -1.9
CTM Castle Mountai 1.85 141 Pn 06 32 40.8 0.0
PHFM Heflinger Ranc 1.86 143 Pn 06 32 40.0 -0.8
PWKM Work Ranch 1.86 147 Pn 06 32 40.0 -1.0
PKEM Kettleman Hill 1.88 134 Pn 06 32 41.2 +0.1
OSUM Sutter Buttes 1.89 358 Pn 06 32 39.6 -1.6
RAMR Ramage Ranch 1.89 157 Pn 06 32 40.1 -1.1
PHAM Harlan Ranch 1.90 144 Pn 06 32 40.5 -0.9
HOPS Hopland Field 1.91 328 Pn 06 32 39.9 -1.6
HOPS Hopland Field 1.91 328 Pn 06 32 40.4 -1.1
HOPS IAML 06 33 22.8
comp=N,475nm,1.4s
HOPS IAML 06 33 25.3
comp=E,523nm,1.4s
GHC Gold Hill 1.92 143 Pn 06 32 41.1 -0.7
GHLM Highland Sprin 1.93 330 Pn 06 32 40.1 -1.8
PSRM Scobie Ranch 1.94 141 Pn 06 32 41.5 -0.5
KCC Kaiser Creek 1.95 91 Pn 06 32 42.7 +0.5
OHCM Honcut 1.96 6 Pn 06 32 40.8 -1.5
PKLM Kerr Lake 1.98 144 Pn 06 32 41.6 -0.9
OSTM Stimpson Lane 1.99 4 Pn 06 32 40.6 -2.0
GGUM Gualala 2.01 318 Pn 06 32 41.6 -1.3
PMRM Maxey Ranch 2.02 142 Pn 06 32 42.2 -0.9
TCHL Shandon 2.02 147 Pn 06 32 42.6 -0.5
TCAS Cass Winery, P 2.02 151 Pn 06 32 42.0 -1.1
EMB Emerald Bay 2.06 39 Pn 06 32 43.9 +0.1
EMB Emerald Bay 2.06 39 IAML 06 33 17.6
comp=E,916nm,0.9s
EMB IAML 06 33 23.1
comp=N,1μm,1.0s
PAM Palermo 2.07 5 Pn 06 32 42.5 -1.2
OWYM Wyandotte 2.08 6 Pn 06 32 42.0 -1.8
TRAM Private Proper 2.09 144 Pn 06 32 43.5 -0.5
MDPB Devils Postpil 2.15 83 Pn 06 32 45.3 +0.2
MDPB Devils Postpil 2.15 83 IAML 06 33 16.1
comp=N,1μm,0.6s
WAKR Walker 2.15 58 Pn 06 32 46.4 +1.3
WAKR IAML 06 33 21.8
comp=E,1μm,0.6s
WAKR IAML 06 33 22.4
comp=N,771nm,1.2s
PTAM Tassajara Cree 2.16 156 Pn 06 32 44.2 -0.9
TSCN Private Proper 2.16 148 Pn 06 32 44.2 -0.8
MRDM Red Cones 2.17 84 Pn 06 32 46.3 +1.0
MINS Minaret Summit 2.17 82 Pn 06 32 45.6 +0.2
ORV Oroville 2.18 5 Pn Pn 06 32 43.8 -1.5
GWRM Wonder Ranch 2.18 327 Pn 06 32 44.2 -1.2
VOG Valley Oaks Go 2.19 118 P Pn 06 32 45.8 +0.5
baz=300
MMSM Mammoth Summit 2.19 83 Pn 06 32 46.9 +1.2
MDCM Deadman Creek 2.19 81 Pn 06 32 45.8 +0.1
MMPM Mammoth Pass 2.19 83 Pn 06 32 46.8 +1.1
MLIM Lincoln Peak 2.20 83 Pb 06 32 47.4 -1.9
MDYM Dry Creek 2.21 82 Pn 06 32 47.0 +1.1
OMMB Old Mammoth Mi 2.21 83 Pn 06 32 46.3 +0.3
OMMB Old Mammoth Mi 2.21 83 IAML 06 33 15.8
comp=N,593nm,0.5s
OMMB IAML 06 33 16.0
comp=E,684nm,0.5s
EFD Emergency Oper 2.22 157 Pn 06 32 44.5 -1.3
KPK Kanaka Peak 2.23 9 Pn 06 32 45.3 -0.7
MMLB Mammoth Lakes 2.23 82 Pn 06 32 47.7 +1.4
TSCS Shell Creek So 2.25 149 Pn 06 32 45.0 -1.3
TRAY Twisselman Ran 2.26 144 Pn 06 32 45.8 -0.5
PBPM Bitterwater Pu 2.26 142 Pn 06 32 45.6 -0.7
VPDC Valencia Peak 2.26 161 Pn 06 32 45.2 -1.2
MEMM East Mammoth H 2.27 82 Pn 06 32 47.5 +0.8
DONR Donner Summit 2.27 30 Pn 06 32 46.6 -0.2
OGOM Van Goodin Ran 2.27 3 Pn 06 32 45.1 -1.4
MLCM Laurel Creek C 2.28 83 Pn 06 32 47.6 +0.7
DPD Davis Peak 2.29 159 Pn 06 32 45.7 -1.1
MCSM Casa Diablo Ho 2.29 82 Pn 06 32 48.3 +1.3
DCD Diablo Creek 2.29 161 Pn 06 32 45.3 -1.5
MCBM Casa Benchmark 2.30 83 Pb 06 32 48.9 -1.9
MLAC Mammoth, Mammo 2.34 83 Pn 06 32 48.8 +1.1
MLAC Mammoth, Mammo 2.34 83 P Pn 06 32 47.6 -0.1
baz=265,SNR=110
MDRNC Doe Ridge 2.34 83 Pn 06 32 49.0 +1.3
MCVM Convict Lake 2.35 84 Pn 06 32 49.3 +1.5
MPK Martis Peak 2.35 35 Pn 06 32 48.0 +0.2
MLHM Little Hot Cre 2.37 82 Pb 06 32 50.3 -1.6
PNTR Pine Nut 2.41 44 Pn 06 32 49.8 +1.1
MRHM Rocky Hill 2.41 116 Pn 06 32 47.4 -1.0
DCMP DeCamp, Califo 2.42 330 Pn 06 32 47.3 -1.2
GTC Three Chop Rid 2.45 326 Pn 06 32 47.8 -1.3
SMMC Simmler 2.51 145 Pn 06 32 49.1 -0.8
SMMC Simmler 2.51 145 P Pn 06 32 48.1 -1.7
baz=326,SNR=6.5
MTUM Tungsten Hills 2.55 90 Pn 06 32 52.4 +1.8
YERR Yerington 2.55 50 Pn 06 32 51.0 +0.5
BENR Benton 2.56 82 Pn 06 32 51.4 +0.7
LOY Loyalton 2.57 27 Pn 06 32 50.9 +0.1
CARC Carrizo Plain 2.59 143 Pn 06 32 50.5 -0.4
MRCM Red Rock Canyo 2.61 83 Pb 06 32 53.6 -2.5
BHPR Bishop 2.62 91 Pn 06 32 52.8 +1.3
PEAR Peavine Mounta 2.63 32 Pn 06 32 52.1 +0.3
MCDM Chidago Canyon 2.65 85 Pb 06 32 54.9 -1.9
VES Vestal, Richgr 2.65 125 P Pn 06 32 50.1 -1.6
baz=307,SNR=69
VES S Sn 06 33 24.4 +0.8
baz=307
KCPM Cahto Peak 2.70 329 Pn 06 32 52.1 -0.5
KCPM IAML 06 33 53.7
comp=E,188nm,1.7s
BEKR Beckworth 2.71 24 Pn 06 32 53.0 +0.3
LHV Little Huntoon 2.73 70 Pn 06 32 54.0 +1.3
TIN Tinemaha, Big 2.84 96 P Pn 06 32 54.7 +0.2
baz=278,SNR=48
RYN Ryan 2.85 63 Pn Pn 06 32 55.1 +0.5
RYN IAML 06 33 42.9
comp=N,440nm,1.1s
NVAR Mina Array Bea 2.93 68 Pn 06 32 57.0 +1.2
NVAR Mina Array Bea 2.93 68 Pn Pn 06 32 56.6 +0.8
comp=N,1.8nm,0.3s,baz=240,slow=15,SNR=70
NVAR Lg Lg 06 33 40.6
comp=N,46nm,0.3s,baz=238,slow=26,SNR=4.6
comp=N,8.6nm,0.7s
PKM Mcpherson Peak 2.95 147 Pn 06 32 55.6 -0.4
PKM Mcpherson Peak 2.95 147 P Pn 06 32 54.9 -1.1
baz=329
BMRR Black Mountain 2.96 23 Pn 06 32 57.6 +1.5
PAHR Pah Rah Range 2.98 38 Pn 06 32 56.3 -0.1
PAHR IAML 06 33 45.7
comp=N,162nm,1.7s
PAHR IAML 06 33 49.6
comp=E,260nm,1.5s
NV11 Mina Array Sit 3.04 69 Pn Pn 06 32 58.1 +0.9
NV11 IAML 06 33 50.1
comp=E,183nm,1.1s
NV11 IAML 06 33 52.4
comp=N,280nm,1.6s
WASM Alta Sierra Ca 3.06 121 Pn 06 32 58.5 +0.9
BCW Bitter Crk WRg 3.10 141 Pn 06 32 57.4 -0.5
BCW IAML 06 34 12.7
comp=N,389nm,1.1s
BCW IAML 06 34 19.4
comp=E,362nm,1.9s
CWC Cottonwood Cre 3.10 107 P Pn 06 32 58.4 +0.4
baz=289
ISA Isabella, Lake 3.16 122 Pn Pn 06 32 58.3 -0.5
ISA IAML 06 33 56.2
comp=E,206nm,0.7s
ISA IAML 06 34 00.8
comp=N,159nm,0.9s
ISA Isabella, Lake 3.16 122 P Pn 06 32 58.4 -0.4
baz=304,SNR=70
KMRM Mail Ridge 3.21 332 Pn Pn 06 32 59.8 +0.2
KMRM IAML 06 34 29.3
comp=E,123nm,2.1s
ARVC Arvin 3.27 133 P Pn 06 32 59.8 -0.5
baz=315,SNR=30
CGO Cerro Gordo 3.28 103 Pn 06 33 03.4 +2.7
KVN Kaiserville 3.33 59 Pn Pn 06 33 02.3 +1.0
KVN IAML 06 33 56.1
comp=E,327nm,0.8s
KVN IAML 06 33 57.6
comp=N,319nm,0.7s
SBC Santa Barbara 3.38 150 P Pn 06 33 01.0 -0.7
baz=332
MZP Montezuma Peak 3.50 83 Pn 06 33 04.4 +0.8
GRAC Grapevine Rang 3.54 95 Pn 06 33 05.4 +1.5
GRAC Grapevine Rang 3.54 95 P Pn 06 33 04.7 +0.7
baz=278,SNR=58
KMPM Mount Pierce 3.54 330 Pn 06 33 03.9 -0.1
GMN Gold Mountain 3.59 90 Pn 06 33 06.2 +1.3
GMN IAML 06 34 05.0
comp=N,146nm,0.8s
GMN IAML 06 34 05.1
comp=E,113nm,1.2s
TPH Tonopah 3.67 78 Pn 06 33 07.9 +2.0
MPMC Manual Prospec 3.68 110 P Pn 06 33 05.9 -0.2
baz=293,SNR=100
CCAC Calif City Air 3.76 125 Pn 06 33 06.9 -0.2
PLTX Planet X, Gerl 3.77 28 Pn 06 33 07.3 +0.1
SCZ2 Santa Cruz Isl 3.80 152 P Pn 06 33 06.2 -1.4
baz=334
LRMC Laurel Mtn Rad 3.80 119 P Pn 06 33 07.2 -0.5
baz=302,SNR=30
KHMM Horse Mountain 3.81 337 Pn 06 33 08.2 +0.4
JCC Jacoby Creek, 3.85 334 Pn Pn 06 33 09.0 +0.8
Q09A Carvers 3.90 67 Pn 06 33 12.2 +3.2
EDW2 Edwards Air Fo 3.94 128 P Pn 06 33 08.8 -0.8
baz=311,SNR=15
FURC Furnace Creek, 4.04 102 P Pn 06 33 11.9 +1.1
baz=285
WCT Wildcat Mounta 4.15 97 Pn Pn 06 33 13.2 +0.7
WCT IAML 06 34 20.9
comp=N,89nm,1.0s
WCT IAML 06 34 25.5
comp=E,104nm,0.6s
KRPM Rodgers 4.16 336 Pn Pn 06 33 15.0 +2.6
KRPM IAML 06 34 54.2
comp=E,63nm,4.5s
KRPM IAML 06 35 02.7
comp=N,58nm,3.8s
DECC Green Verdugo 4.19 137 P Pn 06 33 14.6 +1.7
baz=320
GWY Greenwater Val 4.26 105 Pn Pn 06 33 13.0 -1.1
GWY IAML 06 34 34.6
comp=N,72nm,1.3s
GWY IAML 06 34 41.1
comp=E,113nm,1.1s
PASC Pasadena Art C 4.33 137 Pn Pn 06 33 14.6 -0.2
PASC IAML 06 34 39.2
comp=E,56nm,2.0s
YBH Yreka Blue Hor 4.40 351 Pn 06 33 15.8 -0.1
YBH Yreka Blue Hor 4.40 351 Pn Pn 06 33 17.9 +2.0
comp=E,0.4nm,0.3s,baz=145,slow=8.7,SNR=6.4
YBH Sn Sb 06 34 13.8 -5.8
comp=E,0.5nm,0.3s,baz=125,slow=2.0,SNR=3.6
comp=E,2.6nm,0.5s
TPNV Topopah Spring 4.43 94 Pn Pn 06 33 18.6 +2.3
TPNV IAML 06 34 31.5
comp=E,131nm,1.1s
TPNV Topopah Spring 4.43 94 P Pn 06 33 17.5 +1.1
baz=278,SNR=7.0
KRMB Red Mountain 4.45 339 Pn 06 33 17.2 +0.6
GSC Goldstone, Bar 4.51 116 Pn Pn 06 33 16.5 -0.9
GSC IAML 06 34 44.5
comp=N,57nm,1.1s
GSC IAML 06 34 46.2
comp=E,98nm,1.2s
GSC Goldstone, Bar 4.51 116 P Pn 06 33 16.7 -0.7
baz=299,SNR=17
BFSC Mount Baldy Ra 4.58 132 P Pn 06 33 17.6 -0.8
baz=315,SNR=23
RRX Edison Barstow 4.60 122 P Pn 06 33 17.5 -1.1
baz=305
FMP Fort Macarthur 4.63 141 P Pn 06 33 18.3 -0.6
baz=324
SHOC Shoshone, Teco 4.66 107 P Pn 06 33 20.3 +1.0
baz=290
BMN Battle Mountai 4.67 48 Pn Pn 06 33 20.4 +0.8
BMN IAML 06 34 41.3
comp=E,54nm,3.0s
BMN IAML 06 34 43.0
comp=N,64nm,1.6s
KSXB Camp Six Broad 4.73 341 Pn Pn 06 33 22.6 +2.2
CIS Catalina Islan 4.83 144 P Pn 06 33 20.2 -1.4
baz=327
R11B Troy Canyon, C 4.99 77 Pn 06 33 26.2 +2.3
R11B IAML 06 34 55.5
comp=N,30nm,3.1s
R11B Troy Canyon, C 4.99 77 P Pn 06 33 25.9 +1.9
baz=261
BBRC Big Bear Solar 5.02 127 P Pn 06 33 23.4 -1.2
baz=310
HEC Hector,Ludlow 5.08 118 P Pn 06 33 24.7 -0.6
baz=302,SNR=12
TUQ Turquoise Moun 5.10 111 P Pn 06 33 24.7 -0.8
baz=294,SNR=17
SCI2 San Clemente I 5.12 148 P Pn 06 33 25.1 -0.7
baz=330
ELS Elsinore Mount 5.14 135 Pn Pn 06 33 26.1 +0.1
MURC Murrieta 5.31 134 P Pn 06 33 28.7 +0.4
baz=317
SHPR Sheep Range 5.36 97 Pn Pn 06 33 30.1 +0.9
WTNK Soaring Height 5.55 100 Pn Pn 06 33 33.8 +2.1
GMRC Granite Mounta 5.58 116 P Pn 06 33 31.2 -1.0
baz=300
WVOR Wild Horse Val 5.59 25 Pn Pn 06 33 34.7 +2.5
PFO Pinyon Flats O 5.74 129 Pn 06 33 34.2 -0.1
PFO Pinyon Flats O 5.74 129 P Pn 06 33 33.1 -1.2
baz=313
PMD Palm Desert 5.76 129 Pn Pn 06 33 33.4 -1.1
BELC Belle Mtn. Jos 5.78 124 P Pn 06 33 33.6 -1.3
baz=308,SNR=17
V12A Nelson 5.81 104 Pn Pn 06 33 36.8 +1.6
J05D Fort Rock, OR 5.91 4 Pn Pn 06 33 38.2 +1.6
SPR3 Spring Creek 3 6.08 72 Pn Pn 06 33 42.2 +3.1
ELK Elko 6.09 55 Pn Pn 06 33 40.5 +1.4
ELK Elko 6.09 55 Pn Pn 06 33 41.5 +2.4
comp=N,0.4nm,0.3s,baz=241,slow=13,SNR=15
ELK Sn Sn 06 34 50.8 +2.1
comp=N,0.4nm,0.3s,baz=338,slow=14,SNR=1.6
ELK Lg Lg 06 35 19.9
comp=N,3.1nm,0.3s,baz=112,slow=8.4,SNR=15
comp=N,2.6nm,0.7s
MONP2 Monument Peak 6.26 134 P Pn 06 33 40.8 -0.8
baz=318,SNR=7.2
IRM Iron Mountain 6.27 119 P Pn 06 33 40.2 -1.4
baz=303,SNR=22
BC3 Big Chuckawall 6.35 124 P Pn 06 33 41.1 -1.6
baz=308,SNR=14
SWSC Sam W. Stewart 6.59 130 P Pn 06 33 47.5 +1.6
baz=314
IKP In-Ko-Pah, Jac 6.62 134 P Pn 06 33 47.1 +0.8
baz=317
PDMCI Parker Dam,Lak 6.91 114 P Pn 06 33 50.1 -0.2
baz=299
BLYC Blythe 6.93 119 Pn 06 33 49.5 -1.0
ESJX Sierra Juarez 7.19 137 Pn Pn 06 33 55.3 +1.0
DUG Dugway, Tooele 7.54 65 Lg 06 36 04.7
TUC Tucson 10.35 116 P Pn 06 34 37.0 -0.5
baz=303
PDAR Pinedale Array 10.79 56 Pn Pn 06 34 48.1 +4.5
comp=N,0.1nm,0.3s,baz=222,slow=9.3,SNR=3.0
comp=N,0.3nm,0.6s
ANMO Albuquerque 12.61 97 Pn Pn 06 35 09.3 +0.7
baz=208,slow=16,SNR=3.0
comp=N,0.2nm,0.3s
TXAR Lajitas Array 17.10 113 P Pn 06 36 08.9 +0.7
baz=288,slow=9.4,SNR=1.9

comp=N,0.2nm,0.7s
TGTN Hyland Airport 24.51 352 P **P** **06 37 27.0 -1.2**
baz=167,SNR=86
YKA Yellowknife Ar 25.52 8 P **P** **06 37 40.2 +3.0**
comp=N,0.2nm,0.9s,baz=199,slow=9.8,SNR=3.5
comp=N,0.2nm,0.9s
ILAR Eielson Array 31.20 339 P **P** **06 38 30.4 +2.5**
comp=N,0.4nm,0.8s,baz=159,slow=7.7,SNR=4.4
comp=N,0.4nm,0.8s
H11N3 WAKE ISLAND Hy 63.70 275 T T 07 52 18.3
baz=56,slow=75
H11N2 WAKE ISLAND Hy 63.70 275 T T 07 52 20.0
baz=56,slow=75
H11N1 WAKE ISLAND Hy 63.72 275 T T 07 52 17.0
baz=56,slow=75
H11S1 WAKE ISLAND Hy 64.52 274 T T 07 52 28.3
baz=59,slow=74
H11S2 WAKE ISLAND Hy 64.53 274 T T 07 52 33.6
baz=59,slow=74
H11S3 WAKE ISLAND Hy 64.54 274 T T 07 52 35.7
baz=59

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*NNC **27** 06:44:45.1±4.4,49˚.57N×84˚.13E,h0km,mb3.1,mpv2.8, Error ellipse: s-maj=37.0km s-min=15.1km az=60.0, Suspected Mining explosion.*
*SOME **27** 06:44:47.2,49˚.60N×83˚.77E,h0km*
ISC 27 06:44:50.2±2.2,49˚.5N±0˚.1×83˚.3E±0˚.2,h0km,n6,σ0s66/6, 5C-3D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**2.20**	**297**	*e*Pg	**Pg**	**06 45 33.0**	**+0.6**
	22nm,0.1s						
SEM				*e*Lg	Lg	06 46 06.1	
	24nm,0.1s						
ZSN	**Zaisan**	**2.26**	**152**	*e*Pg	**Pn**	**06 45 28.7**	**-0.1**
	2.8nm,0.1s						
ZSN				*e*Lg	Lg	06 45 59.5	
	10nm,0.3s						
MK31	**Makanchi Array**	**2.76**	**195**	⇓Pg	**Pb**	**06 45 40.5**	**+0.1**
	0.3nm,0.3s,baz=20,slow=13,SNR=24						
MK31				⇑Lg	Lg	06 46 19.6	
	4.5nm,0.6s,baz=26,slow=30,SNR=6.3						
MAKZ	**Makanchi**	**2.80**	**199**	⇑Pg	**Pg**	**06 45 44.0**	**+0.1**
	2.5nm,0.3s						
MAKZ				⇓Lg	Lg	06 46 22.1	
	8.2nm,0.9s						
KURK	**Kurchatov**	**3.28**	**294**	⇑Pg	**Pg**	**06 45 53.3**	**+0.3**
	0.7nm,0.3s						
KURK				⇓Lg	Lg	06 46 42.5	
	6.4nm,0.8s						
KURBB	**Kurchatov Arra**	**3.30**	**292**	⇑Pg	**Pg**	**06 45 52.5**	**-0.9**
	2.0nm,0.4s						
KURBB				⇑Lg	Lg	06 46 43.7	
	6.4nm,0.7s						

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*NNC **27** 06:53:48.3±4.4,53˚.85N×90˚.96E,h0km,mb3.7,mpv3.2, Error ellipse: s-maj=32.8km s-min=24.4km az=50.0, Suspected Mining explosion.*
*IDC **27** 06:53:51.7±2.9,53˚.74N×90˚.75E,h0km,mbtmp3.3/4, ML3.0/3,Error ellipse: s-maj=25.7km s-min=19.8km az=56.0*
ISC 27 06:53:51.6±3.9,53˚.9N±0˚.1×90˚.6E±0˚.2,h0km,n11, σ2s40/16,6C-8D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.41**	**274**	⇓Pg	**Pb**	**06 54 52.5**	**-0.4**
	0.2nm,0.3s						
ZAA0				⇑Lg	Lg	06 55 43.1	
	12nm,0.9s						
ZALV	**Zalesovo Beam**	**3.41**	**274**	Pn	**Pn**	**06 54 48.0**	**+1.9**
	1.0nm,0.5s,baz=90,slow=16,SNR=2.5						
ZALV				Lg	Lg	06 55 43.3	
	2.4nm,0.3s,baz=90,slow=34,SNR=6.2						
KURK	**Kurchatov**	**7.99**	**251**	⇓Pn	**Pn**	**06 55 50.5**	**+1.6**
	0.6nm,0.3s						
KURK				⇓Sn	**Sn**	**06 57 24.9**	**+5.0**
	4.3nm,0.6s						
KURK				⇓Lg	Lg	06 58 09.5	
	14nm,0.9s						
KURBB	**Kurchatov Arra**	**8.08**	**251**	Pn	**Pn**	**06 55 50.8**	**+0.6**
	0.2nm,0.3s,baz=64,slow=14,SNR=13						
KURBB				Sn	**Sn**	**06 57 20.9**	**-1.3**
	baz=68,slow=23,SNR=4.4						
KURBB				Lg	Lg	06 58 10.0	
	0.1nm,0.3s,baz=62,slow=32,SNR=4.4						
	4.9nm,0.8s						
KURBB	**Kurchatov Arra**	**8.08**	**251**	⇓Pn	**Pn**	**06 55 51.0**	**+0.8**
	2.5nm,0.4s						
KURBB				⇑Sn	**Sn**	**06 57 23.1**	**+1.0**
	6.2nm,0.6s						
KURBB				⇓Lg	Lg	06 58 12.8	
	53nm,0.9s						
MK31	**Makanchi Array**	**8.85**	**220**	⇑Pn	**Pn**	**06 56 00.7**	**0.0**
	0.5nm,0.3s,baz=35,slow=12,SNR=13						
MK31				⇓Sn	**Sn**	**06 57 41.3**	**+0.2**
	1.6nm,0.6s,baz=47,slow=26,SNR=4.0						
MK31				⇑Lg	Lg	06 58 32.2	
	24nm,1.0s,baz=38,slow=33,SNR=5.0						
MKAR	**Makanchi Array**	**8.85**	**220**	Pn	**Pn**	**06 56 00.4**	**-0.3**
	0.3nm,0.3s,baz=34,slow=12,SNR=12						
MKAR				Sn	**Sn**	**06 57 40.4**	**-0.7**
	0.2nm,0.3s,baz=38,slow=21,SNR=4.9						
MKAR				Lg	Lg	06 58 31.9	
	0.1nm,0.3s,baz=36,slow=32,SNR=3.9						
	0.7nm,0.4s						
MAKZ	**Makanchi**	**8.96**	**221**	⇓Pn	**Pn**	**06 55 59.3**	**-2.9**
	5.4nm,0.5s						
MAKZ				⇑Sn	**Sn**	**06 57 46.4**	**+2.7**
	7.8nm,0.6s						
MAKZ				⇑Lg	Lg	06 58 33.0	
	34nm,1.3s						
SONM	**Songino Array**	**11.67**	**115**	Lg	Lg	06 59 43.9	
	baz=303,slow=19						
I34MN	**SONGINO INFRAS**	**11.69**	**115**	I	I	08 00 50.0	
	baz=310,slow=328,SNR=0.6						
BVAR	**Borovoye Array**	**12.07**	**274**	Pn	**Pn**	**06 56 45.3**	**+0.6**
	baz=112,slow=43,SNR=1.8						
BVAR				Sn	**Sn**	**06 58 55.1**	**-4.8**
	baz=219,slow=40,SNR=1.6						
	0.5nm,0.6s						

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*DJA **27** 07:02:05.6±0.4,8˚.S±4˚×10˚.5E±˚,h10km,M4.2/14,mb4.4/4, MLv4.1/14*
*IDC **27** 07:02:10.8±3.6,7˚.12S×106˚.01E,h0km,mb3.7/5, mbtmp3.7/5,Error ellipse: s-maj=171.7km s-min=29.7km az=50.0*
ISC 27 07:02:08.5±1.4,8˚.0S±0˚.1×105˚.1E±0˚.1,h10km,n24, σ0s85/17,mb3.8/5,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**1.50**	**25**	P	**Pn**	**07 02 35.4**	**-0.2**
SKJI	**Sukabumi**	**1.78**	**57**	P	**Pn**	**07 02 38.8**	**-0.6**
CNJI	**Cibinong**	**2.16**	**72**	P	**Pn**	**07 02 44.2**	**-0.4**
DBJI	**Dramaga**	**2.20**	**50**	P	**Pn**	**07 02 45.4**	**+0.2**
CBJI	**Citeko**	**2.36**	**49**	P	**Pn**	**07 02 47.2**	**-0.2**
KASI	**Kota Agung**	**2.51**	**347**	P	**Pn**	**07 02 49.0**	**-0.4**
LWLI	**Liwa**	**3.11**	**341**	P	**Pn**	**07 02 57.3**	**-0.5**
CMJI	**Cimerak**	**3.37**	**87**	P	**Pn**	**07 03 00.6**	**-0.6**
KPJI	**Karang Pucung**	**3.90**	**81**	P	**Pn**	**07 03 09.0**	**+0.5**
MNAI	**Manna**	**4.16**	**330**	P	Pn	07 03 09.4	-2.8
UGM	**Wanagama**	**5.42**	**90**	P	**Pn**	**07 03 29.5**	**0.0**
	157nm,1.8s,1.3nm						
PWJI	**Pagerwojo**	**6.68**	**91**	P	**Pn**	**07 03 45.7**	**-1.1**
CMAR	**Chiang Mai Arr**	**26.96**	**347**	P	**P**	**07 07 50.8**	**+0.3**
	0.6nm,0.3s,baz=182,slow=9.0,SNR=4.6						
	0.6nm,0.3s						
H01W3	**Cape Leeuwin H**	**28.04**	**164**	T	T	07 37 32.9	
	baz=345						
H01W1	**Cape Leeuwin H**	**28.05**	**164**	T	T	07 37 18.3	
	baz=345						
H01W2	**Cape Leeuwin H**	**28.05**	**164**	T	T	07 37 32.3	
	baz=345						
WRA	**Warramunga Arr**	**30.74**	**116**	P	**P**	**07 08 24.1**	**-0.2**
	0.1nm,0.3s,baz=291,slow=10,SNR=2.6						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**58.18**	**342**	P	**P**	**07 12 03.3**	**+0.5**
	0.4nm,0.4s,baz=166,slow=8.5,SNR=6.0						
	0.4nm,0.4s						
H04N2	**CROZET ISLANDS**	**59.27**	**220**	T	T	08 16 26.5	
	baz=66,slow=75,SNR=18						
H04N1	**CROZET ISLANDS**	**59.28**	**220**	T	T	08 16 25.7	
	baz=66,slow=75,SNR=18						
H04N3	**CROZET ISLANDS**	**59.28**	**220**	T	T	08 16 26.2	
	baz=66,slow=75,SNR=16						
KURBB	**Kurchatov Arra**	**62.74**	**341**	P	**P**	**07 12 32.7**	**-1.0**
	0.2nm,0.3s,baz=149,slow=7.4,SNR=1.5						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**64.03**	**347**	P	**P**	**07 12 41.2**	**-1.0**
	0.9nm,0.4s,baz=171,slow=5.1,SNR=4.0						
	0.9nm,0.4s						
TXAR	**Lajitas Array**	**145.66**	**48**	PKP	**PKPdf**	**07 21 50.3**	**+2.2**
	0.4nm,0.8s,baz=315,slow=2.3,SNR=2.3						

DJA 27 07:05:04.1±1.2,8˚S±3˚×10˚5E±˚,h12km±10km,M4.1/13, mb4.7/2,MLv3.8/13,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**1.50**	**25**	P	Pn	07 05 30.6	-0.3
SKJI	**Sukabumi**	**1.78**	**57**	P	Pn	07 05 34.4	-0.3
CNJI	**Cibinong**	**2.16**	**72**	P	Pn	07 05 39.8	-0.1
CNJI				S	Sn	07 06 07.2	+0.5
DBJI	**Dramaga**	**2.20**	**50**	P	Pn	07 05 40.2	-0.3
DBJI				S	Sn	07 06 08.8	+1.1
KASI	**Kota Agung**	**2.51**	**347**	P	Pn	07 05 45.1	+0.3
LEM	**Lembang**	**2.79**	**66**	P	Pn	07 05 48.9	+0.2
CMJI	**Cimerak**	**3.36**	**87**	P	Pn	07 05 57.4	+0.9
KPJI	**Karang Pucung**	**3.89**	**81**	P	Pn	07 06 04.2	+0.4
SMRI	**Semarang**	**5.42**	**80**	P	Pn	07 06 24.3	-0.5
	207nm,1.7s,0.9nm						
DSRI	**Dabo**	**7.48**	**356**	P	Pn	07 06 53.1	0.0

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*IDC **27** 07:05:29.0±6.1,52˚.26N×176˚.94W,h0km,mb3.7/5, mbtmp3.8/7,ML4.3/2,Error ellipse: s-maj=112.4km s-min=55.4km az=93.0*
*NEIC **27** 07:06:01.8±1.3,52˚.6N±0˚.1×174˚.4W±0˚.1,h182km±9km, mb4.1/38,ML3.4(AEIC),Error ellipse: s-maj=18.4km s-min=5.7km az=145.0*
*AEIC **27** 07:06:01.2±2.9,52˚.3N±0˚.2×174˚.4W±0˚.1,h187km±6km, Error ellipse: s-maj=26.5km s-min=10.0km az=166.0*
ISC 27 07:06:01.0±0.8,52˚.5N±0˚.1×174˚.41W±0˚.06,h200km,n79, σ1s21/73,mb4.0/10,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWE	**Korovin West**	**0.15**	**138**		**Pn**	**07 06 26.4**	**-0.9**
KOKL	**Mount Kliuchef**	**0.20**	**139**		**Pn**	**07 06 27.1**	**-0.4**
KOFP	**Korovin Flat P**	**0.28**	**136**		**Pn**	**07 06 27.1**	**-0.5**
ATKA	**Atka Island**	**0.30**	**154**	Pn	**Pn**	**07 06 26.3**	**-1.3**
ATKA	**Atka Island**	**0.30**	**154**		**Sn**	**07 06 45.9**	**-2.0**
GSTR	**Great Sitkin T**	**1.08**	**250**		**Pn**	**07 06 30.7**	**-0.7**
GSMY	**Great Sitkin M**	**1.10**	**247**		**Pn**	**07 06 30.7**	**-0.8**
GSCK	**Great Sitkin C**	**1.17**	**247**		**Pn**	**07 06 31.4**	**-0.7**
ADK	**Adak**	**1.52**	**248**	Pn	**Pn**	**07 06 34.1**	**-0.7**
ADK	**Adak**	**1.52**	**248**		**Sn**	**07 06 58.6**	**-2.5**
KIRH	**Kanaga Island**	**1.75**	**252**		**Pn**	**07 06 36.9**	**-0.1**
KIWB	**Kanaga Island**	**1.80**	**251**	Pn	**Pn**	**07 06 36.9**	**-0.6**
KIKV	**Kanaga Island**	**1.80**	**252**		**Pn**	**07 06 37.4**	**-0.2**
TAFP	**Tanaga Falls P**	**2.27**	**257**		**Pn**	**07 06 42.5**	**+0.1**
TAFP					**Sn**	**07 07 13.2**	**-1.4**
TASE	**Tanaga Southea**	**2.32**	**255**		**Pn**	**07 06 43.5**	**+0.5**
TANO	**Tanaga North**	**2.35**	**258**		**Sn**	**07 07 15.8**	**-0.3**
GAEA	**Gareloi East**	**2.76**	**257**		**Pn**	**07 06 48.0**	**+0.1**
GANE	**Gareloi Northe**	**2.77**	**258**		**Pn**	**07 06 48.1**	**+0.1**
GANE					**Sn**	**07 07 22.9**	**-1.0**
CLES	**Cleveland East**	**2.77**	**81**	Pn	**Pn**	**07 06 48.2**	**+0.2**
CLCO	**Concord Point,**	**2.88**	**82**		**Pn**	**07 06 48.8**	**-0.3**
NIKH	**Nikolski High**	**3.42**	**79**		**Pn**	**07 06 54.9**	**-0.6**
OKWE	**Okmok W'ng Wal**	**3.86**	**73**		**Pn**	**07 07 00.9**	**-0.1**
OKCE	**Okmok Cone E**	**3.90**	**73**		**Pn**	**07 07 01.6**	**+0.1**
OKER	**Okmok East Rim**	**3.97**	**73**		**Pn**	**07 07 02.1**	**-0.4**
MAPS	**Pakushin South**	**4.69**	**71**		**Pn**	**07 07 11.3**	**-0.1**
M14K	**Bethel**	**10.75**	**35**	Pn	**Pn**	**07 08 29.4**	**-0.2**
L16K	**Owhat River**	**12.28**	**35**	P	**P**	**07 08 54.1**	**+0.7**
O18K	**Koktuh Hills**	**12.97**	**48**	P	**P**	**07 09 00.2**	**-0.9**
ANM	**Nome**	**12.99**	**18**	Pn	**Pn**	**07 08 58.1**	**0.0**
OHAK	**Old Harbor**	**13.04**	**60**	Pn	**Pn**	**07 08 57.8**	**-1.0**
N18K	**Kilae Creek**	**13.06**	**44**	Pn	**Pn**	**07 08 59.9**	**+0.9**
SVW2	**Sparrevohn**	**13.41**	**43**	Pn	**P**	**07 09 04.5**	**-1.5**
O19K	**Port Alsworth**	**13.52**	**47**		**P**	**07 09 08.6**	**+1.4**
KDAK	**Kodiak Island**	**13.54**	**58**	Pn	**Pn**	**07 09 03.7**	**-1.3**
KDAK	**Kodiak Island**	**13.54**	**58**	Pn	**Pn**	**07 09 01.3**	**-3.7**
	3.7nm,0.3s,baz=260,slow=3.1,SNR=16						
KDAK				Sn	**S**	**07 11 31.8**	**-3.8**
	baz=116,slow=21						
	5.4nm,0.7s						
L19K	**White Mountain**	**14.29**	**40**	P	**P**	**07 09 17.4**	**+1.6**
TTA	**Tatalina**	**14.30**	**36**		**P**	**07 09 15.4**	**-0.6**
RSO	**Redoubt South**	**14.34**	**48**	P	**P**	**07 09 17.2**	**+0.7**
CNPM	**China Poot**	**14.71**	**52**	Pn	**Pn**	**07 09 19.3**	**-0.1**
BRLK	**Bradley Lake**	**14.95**	**52**	Pn	**Pn**	**07 09 21.6**	**-0.8**
K20K	**Telida**	**15.27**	**37**	IAmb	IAmb	07 09 41.4	
	comp=Z,4.7nm,0.7s						
SKT	**Skwentna**	**15.54**	**43**		**P**	**07 09 31.2**	**+1.7**
SKT				IAmb	IAmb	07 09 34.3	
	comp=Z,11nm,1.0s						
SUA	**Susitna One**	**15.64**	**46**	P	**P**	**07 09 31.5**	**+0.6**
FIS	**Fire Island**	**15.75**	**47**	P	**Pn**	**07 09 32.4**	**+0.4**
CAST	**Castle Rocks**	**16.04**	**38**	P	**Pn**	**07 09 36.2**	**+0.7**
KTH	**Kantishna Hill**	**16.55**	**39**	P	**Pn**	**07 09 42.0**	**+0.3**
GHO	**Glory Hole Cre**	**16.57**	**46**	P	**Pn**	**07 09 41.9**	**-0.1**
GHO				IAmb	IAmb	07 09 45.2	
	comp=Z,15nm,1.4s						
KNK	**Knik Glacier**	**16.64**	**47**	P	**Pn**	**07 09 42.3**	**-0.4**
KNK				IAmb	IAmb	07 09 51.5	
	comp=Z,8.8nm,1.2s						
TRF	**Thorofare Moun**	**16.75**	**40**	IAmb	IAmb	07 10 04.1	
	comp=Z,13nm,1.4s						
BPAW	**Bear Paw Mtn.**	**16.82**	**37**	P	**Pn**	**07 09 45.2**	**+0.3**
BPAW				IAmb	IAmb	07 09 49.4	
	comp=Z,5.4nm,0.7s						
RND	**Reindeer**	**17.29**	**41**	P	**P**	**07 09 48.8**	**0.0**
MLY	**Manley**	**17.43**	**35**	P	**Pn**	**07 09 51.9**	**-0.2**
MLY				IAmb	IAmb	07 09 55.5	
	comp=Z,12nm,1.3s						
DHY	**Denali Highway**	**17.75**	**43**	P	**P**	**07 09 54.1**	**+0.2**
DHY				IAmb	IAmb	07 09 57.1	
	comp=Z,9.9nm,1.0s						
KLU	**Klutina**	**17.82**	**48**	P	**Pn**	**07 09 55.4**	**-1.2**
I23K	**Minto, Yukon-K**	**17.98**	**35**	P	**Pn**	**07 09 56.9**	**-1.4**
I23K				IAmb	IAmb	07 09 58.8	
	comp=Z,7.2nm,0.9s						
MDM	**Murphy Dome**	**18.29**	**37**	P	**Pn**	**07 10 00.6**	**-1.5**
CCB	**Clear Creek Bu**	**18.29**	**38**	P	**P**	**07 10 00.1**	**+0.5**
CCB				IAmb	IAmb	07 10 02.8	
	comp=Z,6.0nm,1.0s						
HDA	**Harding Lake**	**18.50**	**39**	P	**P**	**07 10 02.6**	**+0.7**
IL31		**18.69**	**38**	P	**P**	**07 10 03.9**	**-0.1**
ILAR	**Eielson Array**	**18.69**	**38**	P	**Pn**	**07 10 05.3**	**-1.4**
ILAR	**Eielson Array**	**18.69**	**38**	P	**P**	**07 10 01.4**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=241,slow=9.3,SNR=39						
	comp=Z,1.9nm,0.6s						
RIDG	**Independent Ri**	**19.06**	**42**	IAmb	IAmb	07 10 11.8	
	comp=Z,9.4nm,1.1s						
B21K	**Ikpikpuk River**	**19.51**	**21**	IAmb	IAmb	07 10 13.2	
	comp=Z,4.9nm,0.7s						
F24K	**Squaw Lake**	**19.82**	**30**	IAmb	IAmb	07 10 18.4	
	comp=Z,8.2nm,1.2s						
K27K	**Chicken**	**20.31**	**43**	IAmb	IAmb	07 10 23.5	
	comp=Z,3.9nm,0.8s						
C23K	**Itkillik River**	**20.59**	**23**	P	**P**	**07 10 24.2**	**0.0**
BMAR	**Burnt Mountain**	**20.83**	**33**	P	**P**	**07 10 27.0**	**+0.1**
EGAK	**Eagle**	**20.94**	**41**	P	**P**	**07 10 28.4**	**+0.4**
EGAK				IAmb	IAmb	07 10 31.0	
	comp=Z,4.3nm,0.8s						
DAWY	**Dawson**	**21.44**	**44**	P	**P**	**07 10 33.6**	**+0.3**
I28M	**Miner Creek**	**21.65**	**40**	P	**P**	**07 10 35.1**	**-0.4**
I28M				IAmb	IAmb	07 10 38.1	
	comp=Z,5.5nm,1.0s						
K29M	**Barlow Dome**	**22.18**	**45**	IAmb	IAmb	07 10 41.7	
	comp=Z,3.8nm,0.7s						
J30M	**Hart River**	**22.86**	**43**	IAmb	IAmb	07 10 48.8	
	comp=Z,4.2nm,0.8s						
I30M	**Mount Dempster**	**23.01**	**42**	IAmb	IAmb	07 10 49.6	
	comp=Z,6.5nm,1.1s						
YKA	**Yellowknife Ar**	**32.49**	**48**	P	**P**	**07 12 12.3**	**0.0**
	comp=Z,0.2nm,0.7s,baz=285,slow=8.4,SNR=3.8						
	comp=Z,0.2nm,0.7s						
NEW	**Newport**	**35.96**	**73**	P	**P**	**07 12 43.8**	**+1.5**
	comp=Z,2.6nm,0.7s,baz=297,slow=9.0,SNR=7.1						
	comp=Z,2.6nm,0.7s						

PNTR Pine Nut 39.55 87 P **P** **07 13 14.9 +2.3**
PNTR IAmb IAmb 07 13 16.6
comp=Z,4.1nm,0.8s
NVAR Mina Array Bea 40.75 87 P **P** **07 13 25.4 +2.9**
comp=Z,0.7nm,0.7s,baz=302,slow=8.1,SNR=6.6
comp=Z,0.7nm,0.7s
PDAR Pinedale Array 43.40 76 P **P** **07 13 44.8 +0.9**
comp=Z,1.7nm,0.7s,baz=304,slow=3.1,SNR=17
comp=Z,1.7nm,0.7s
TXAR Lajitas Array 55.83 85 P **P** **07 15 19.2 +1.6**
comp=Z,0.4nm,0.7s,baz=321,slow=6.9,SNR=2.8
comp=Z,0.4nm,0.7s

JMA 27 07:10:16.7±0.2,37˚N±1˚×14˚4E±˚,h41km,MV3.7/25,FAR E OFF NORTH HONSHU,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.24**	**293**	P	Pn	07 10 52.5	+1.3
JIKH				*e*S	Sn	07 11 18.9	+1.3
JIO	**Ouri**	**2.38**	**295**	P	Pn	07 10 54.5	+1.4
JKMT	**Kesennumamotoy**	**2.46**	**304**	P	Pn	07 10 55.5	+1.3
OFUJ	**Ofunato**	**2.49**	**311**	P	Pn	07 10 56.0	+1.3
OFUJ				*e*S	Sn	07 11 25.1	+1.2
JMK	**Ichinoseki**	**2.70**	**304**	P	Pn	07 10 59.5	+1.9
JMK				*e*S	Sn	07 11 31.2	+2.1
JOM	**Ohasama**	**2.97**	**313**	P	Pn	07 11 03.2	+2.0
JOM				*e*S	Sn	07 11 37.7	+2.0
JOTO	**OTAMA OYAMA**	**2.98**	**273**	S	Sn	07 11 38.1	+2.0
JYK	**Kaneyama**	**3.27**	**297**	P	Pn	07 11 07.7	+2.2
JYK				*e*S	Sn	07 11 46.0	+2.9
JRY	**Ryogami san**	**4.41**	**252**	*e*P	Pn	07 11 21.2	+0.2
JRY				*e*S	Sn	07 12 08.7	-2.4
JOD2	**Odawara 2**	**4.59**	**243**	*e*S	Sn	07 12 13.8	-1.9
JCH	**Churui**	**5.17**	**354**	*e*S	Sn	07 12 27.7	-2.2
NEM2	**Nemuro 2**	**6.03**	**12**	*e*S	Sn	07 12 45.8	-5.1

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*BJI **27** 07:12:45.6,0˚.06S×121˚.34E,h106km,mb4.8/50,mB5.2/25*
*DJA **27** 07:12:49.6±0.1,0˚N±2˚×12˚1E±˚,h78km±2km,M5.0/44, mB5.3/10,mb5.0/44,MLv5.5/20,Mw(mB)4.8/14*
*NEIC **27** 07:12:50.5±2.0,0˚.51N±0˚.06×121˚.13E±0˚.07,h98km±6km, mb4.8/24,Error ellipse: s-maj=10.9km s-min=7.9km az=58.0*
*KLM **27** 07:12:50,0˚.42N×121˚.08E,h112km,mb5.0*
*IDC **27** 07:12:51.3±2.8,0˚.37N×121˚.11E,h112km±27km,mb4.0/17, mbtmp4.5/19,MS3.5/16,Error ellipse: s-maj=25.1km s-min=11.3km az=68.0*
ISC 27 07:12:50.0±0.4,0˚.44N±0˚.04×121˚.12E±0˚.05,h99km±3km, h99km:pP-P,n163,σ1s15/167,mb4.8/45,3C,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**0.75**	**333**	Pn	**Pn**	**07 13 05.5**	**-2.3**
MPSI	**Mapaga**	**1.23**	**265**	P	**Pn**	**07 13 11.2**	**-1.7**
MPSI				S	**Sn**	**07 13 28.2**	**-2.1**
GTOI	**Gorontalo**	**1.90**	**84**	P	**Pn**	**07 13 19.3**	**-1.9**
LUWI	**Luwuk**	**2.21**	**132**		**Pn**	**07 13 26.1**	**+0.8**
LUWI	**Luwuk**	**2.21**	**132**	P	**Pn**	**07 13 28.7**	**+3.4**
LUWI	**Luwuk**	**2.21**	**132**	P	**Pn**	**07 13 25.3**	**0.0**
KMSI	**Cibinong**	**2.86**	**87**	P	**Pn**	**07 13 34.6**	**+0.7**
TTSI	**Tana Toraja**	**3.70**	**201**	P	**Pn**	**07 13 45.1**	**-0.1**
SMKI	**Samarinda**	**4.01**	**257**	P	**Pn**	**07 13 48.8**	**-0.6**
BKB	**Balikpapan**	**4.55**	**248**	Pn	**Pn**	**07 13 55.8**	**-0.9**
BKB	**Balikpapan**	**4.55**	**248**	P	**Pn**	**07 13 56.3**	**-0.4**
BKB	**Balikpapan**	**4.55**	**248**	P	**Pn**	**07 13 55.7**	**-0.9**
SPSI	**Sidrap Palu**	**4.58**	**197**	P	**Pn**	**07 13 56.8**	**-0.3**
MYLDM	**Lahad Datu**	**5.39**	**331**	Pn	**Pn**	**07 14 08.0**	**-0.1**
SGSI	**Sangihe**	**5.46**	**54**	P	**Pn**	**07 14 07.4**	**-1.6**
	458nm,0.8s,8.8nm						
SANI	**Sanana**	**5.46**	**117**	P	**Pn**	**07 14 08.0**	**-1.0**
SANI	**Sanana**	**5.46**	**117**	P	**Pn**	**07 14 07.1**	**-1.9**
	79nm,0.9s,2µm1.2nm						
KAPI	**Kappang**	**5.59**	**194**	P	**Pn**	**07 14 10.7**	**-0.1**
	106nm,0.5s,baz=352,slow=6.4,SNR=99						
KAPI				S	**Sn**	**07 15 13.5**	**-0.2**
	102nm,0.5s,baz=81,slow=15,SNR=3.8						
KAPI				LR	LR	07 16 50.1	
	comp=Z,277nm,20.1s,baz=354,slow=43						
BKSI	**Bulukumba**	**5.81**	**190**	P	**Pn**	**07 14 12.2**	**-1.6**
	231nm,0.7s,2µm1.1nm						
BBSI	**Bau Bau**	**6.06**	**166**	P	**Pn**	**07 14 17.6**	**+0.3**
	580nm,1.0s,4µm1.8nm						
TNTI	**Ternate**	**6.25**	**87**	Pn	**Pn**	**07 14 19.6**	**-0.2**
TNTI	**Ternate**	**6.25**	**87**	P	**Pn**	**07 14 19.4**	**-0.4**
	111nm,0.8s,3µm0.7nm						
MTKI	**Muara Teweh, K**	**6.38**	**258**	P	**Pn**	**07 14 21.0**	**-0.5**
	364nm,0.5s,4.1nm						
LBMI	**Labuha**	**6.47**	**100**	P	**Pn**	**07 14 22.1**	**-0.6**
	574nm,0.8s,5µm4.7nm						
NLAI	**Namlea**	**7.00**	**121**	P	**Pn**	**07 14 30.5**	**+0.5**
	97nm,0.7s,6µm0.5nm						
BBKI	**Banjar Baru**	**7.38**	**238**	P	**Pn**	**07 14 35.2**	**+0.1**
	650nm,0.7s,9µm3.0nm						
KKM	**Kota Kinabalu**	**7.41**	**319**	Pn	**Pn**	**07 14 35.2**	**-0.5**
DAV	**Davao City (W)**	**7.95**	**34**	S	**Sn**	**07 16 13.3**	**+2.2**
	177nm,0.4s,baz=227,slow=15,SNR=1.2						
DA

MBWA Marble Bar 21.51 184 P **P** **07 17 33.5 +2.4**
PSA00 Pilbara Seismi 21.91 183 P **P** **07 17 35.1 -0.3**
GSI Gunungsitoli 23.56 272 P **P** **07 17 51.2 -0.7**
GSI Gunungsitoli 23.56 272 P **P** **07 17 51.1 -0.8**
51nm,1.0s,2μm
WRA Warramunga Arr 24.05 148 P **P** **07 17 54.9 -1.2**
WRA Warramunga Arr 24.05 148 P **P** **07 17 55.4 -0.8**
16nm,0.9s,baz=337,slow=9.0,SNR=87
16nm,0.9s
WB2 Warramunga Arr 24.05 148 P **P** **07 17 55.8 -0.5**
WR0 Warramunga Arr 24.17 148 P **P** **07 17 56.7 -0.6**
WRKA Warakurna 26.26 165 P **P** **07 18 16.3 0.0**
ASAR Alice Springs 26.99 153 P **P** **07 18 23.6 +0.8**
ASAR Alice Springs 26.99 153 P **P** **07 18 22.7 -0.1**
3.9nm,0.7s,baz=334,slow=8.8,SNR=45
ASAR LR LR 07 29 28.2
comp=Z,94nm,18.8s,baz=325,slow=37
3.9nm,0.7s
MEEK Meekatharra 27.03 185 P **P** **07 18 23.9 +0.8**
CMAR Chiang Mai Arr 28.20 311 P **P** **07 18 33.4 -0.2**
0.7nm,0.3s,baz=141,slow=9.1,SNR=4.6
CMAR LR LR 07 30 18.3
comp=Z,32nm,18.8s,baz=130,slow=37
0.7nm,0.3s
MORW Morawa 29.74 189 P **P** **07 18 46.8 -0.3**
MORW IAmb IAmb 07 18 48.1
comp=Z,17nm,0.8s
MORW Morawa 29.74 189 P **P** **07 18 46.9 -0.3**
NJ2 Nanjing 31.51 356 *eP* **P** **07 19 05.5 +2.8**
NJ2 pP **pP** **07 19 25.8 +0.5**
NJ2 sP **sP** **07 19 37.3 +0.4**
NJ2 pmax pmax
comp=Z,18nm,0.5s
NJ2 pmax pmax
comp=Z,310nm,3.9s
ENH Enshi 31.66 341 P **P** **07 19 04.8 +0.6**
ENH IAmb IAmb 07 19 06.0
comp=Z,21nm,0.9s
FORT Forrest 31.74 169 P **P** **07 19 04.0 -0.7**
PZH PanZhiHua 31.93 326 P **P** **07 19 07.8 +1.2**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,140nm,5.0s
CTA Charters Tower 31.97 131 LR LR 07 32 09.2
comp=Z,69nm,21.2s,baz=268,slow=36
MULG Mulgathing 32.94 159 P **P** **07 19 15.3 0.0**
NWAO Narrogin (SRO) 33.39 186 P **P** **07 19 19.0 -0.2**
NWAO Narrogin (SRO) 33.39 186 P **P** **07 19 19.5 +0.4**
NWAO Narrogin (SRO) 33.39 186 P **P** **07 19 19.6 +0.4**
NWAO Narrogin (SRO) 33.39 186 LR LR 07 32 49.0
comp=Z,75nm,18.2s,baz=288,slow=36
CD2 Chengdu 34.49 333 P **P** **07 19 29.3 +0.5**
CD2 pmax pmax
comp=Z,20nm,0.7s
LCRK Leigh Creek 34.76 154 P **P** **07 19 31.9 +0.9**
LYN LuoYang 34.89 347 ⇑P **P** **07 19 33.3 +1.3**
LYN pmax pmax
comp=Z,24nm,0.9s
TIA Tai'an 35.78 354 ⇑P **P** **07 19 40.3 +0.6**
TIA pmax pmax
comp=Z,18nm,0.9s
BBOO Buckleboo 35.95 158 P **P** **07 19 41.2 0.0**
HNS HongShan 37.25 352 ⇑P **P** **07 19 53.3 +1.2**
HNS pmax pmax
comp=Z,8.0nm,1.0s
KSRS Korea Array 37.36 9 P **P** **07 19 54.0 +0.9**
comp=Z,4.1nm,0.8s,baz=183,slow=10.0,SNR=11
KSRS LR LR 07 36 15.1
comp=Z,24nm,19.6s,baz=195,slow=38
comp=Z,4.1nm,0.8s
STKA Stephens Creek 37.53 151 P **P** **07 19 55.3 +0.6**
STKA Stephens Creek 37.53 151 P **P** **07 19 54.8 +0.1**
comp=Z,4.6nm,0.9s,baz=305,slow=8.8,SNR=7.7
STKA LR LR 07 38 16.8
comp=Z,54nm,18.3s,baz=20,slow=41
comp=Z,4.6nm,0.9s
HTT Hallett 37.63 155 P **P** **07 19 56.0 +0.5**
LZH Lanzhou 38.93 337 *eP* **P** **07 20 07.5 +1.0**
LZH pmax pmax
comp=Z,14nm,1.4s
BJI Beijing 39.67 354 P **P** **07 20 12.8 +0.4**
BJI sP **sP** **07 20 46.0 -0.9**
BJI pmax pmax
comp=Z,8.0nm,0.9s
BJI pmax pmax
comp=Z,75nm,5.1s
LSA Lhasa 40.76 318 P **P** **07 20 22.9 +0.7**
LSA IAmb IAmb 07 20 24.9
comp=Z,10.0nm,0.7s
PALK Pallekele 40.87 281 LR LR 07 37 50.8
comp=Z,97nm,19.1s,baz=212,slow=37
HHC Hu-ho-hao-te 41.15 349 *eP* **P** **07 20 25.8 +1.1**
HHC pmax pmax
comp=Z,25nm,0.5s
HHC pmax pmax
comp=Z,270nm,6.4s
BTO Baotou 41.23 347 *eP* **P** **07 20 27.8 +2.4**
BTO pP **pP** **07 20 50.5 +1.8**
BTO sP **sP** **07 21 02.0 +1.9**
BTO PP **PnPn** **07 22 08.5 +0.6**
BTO pmax pmax
comp=Z,32nm,0.8s
BTO pmax pmax
comp=Z,270nm,6.5s
RAMN Ramite 42.37 311 *eP* **P** **07 20 36.8 +1.8**
JIRN Jiri 43.05 312 *eP* **P** **07 20 42.2 +1.4**
GTA Gaotai 43.40 336 P **P** **07 20 44.3 +1.2**
GTA pP pP 07 21 06.0 -0.3
GTA pmax pmax
comp=Z,9.0nm,1.1s
GUN Gumba 43.42 312 *eP* **P** **07 20 44.6 +0.9**
XLT XiLinHaoTe 43.50 355 *eP* **P** **07 20 44.3 +0.6**
XLT pmax pmax
comp=Z,18nm,0.9s
XLT pmax pmax
comp=Z,320nm,4.9s
PKI Pulchoki 43.59 311 *eP* **P** **07 20 46.1 +1.1**
MDJ Mudanjiang 44.62 9 P **P** **07 20 52.1 -0.5**
MDJ Mudanjiang 44.62 9 P **P** **07 20 52.5 0.0**
MDJ sP sP 07 21 27.3 0.0
MDJ PcP **PcP** **07 22 31.0 -2.8**
MDJ PcS **PcS** **07 26 26.3 -0.9**
MDJ S **S** **07 27 19.8 -1.5**
MDJ ScS **ScS** **07 30 36.3 -4.1**
MDJ pmax pmax
comp=Z,33nm,1.0s
MDJ pmax pmax
comp=Z,490nm,4.5s
MDJ LR LR
comp=Z,890nm,5.5s
MDJ LR LR
comp=Z,860nm,6.0s
MDJ LR LR
comp=Z,1μm,5.3s
MDJ Mudanjiang 44.62 9 P **P** **07 20 52.6 0.0**
USRK Ussuriysk Ar. 44.63 11 P **P** **07 20 51.1 -1.5**
USRK Ussuriysk Ar. 44.63 11 P **P** **07 20 52.1 -0.6**
comp=Z,6.6nm,0.9s,baz=197,slow=9.7,SNR=7.9
comp=Z,6.6nm,0.9s
DANN Dangsing 45.24 311 *eP* **P** **07 20 58.7 +0.6**
PYUN Piuthan 45.70 310 *eP* **P** **07 21 02.5 +0.9**
comp=Z,26nm,0.9s
ASAJ Asahikawa 47.50 21 LR LR 07 42 51.0
comp=Z,78nm,18.6s,baz=86,slow=38
ULN Ulaanbaatar 48.79 347 P **P** **07 21 25.7 +0.4**
ULN Ulaanbaatar 48.79 347 P **P** **07 21 26.0 +0.7**
ULN pP **pP** **07 21 47.9 -1.1**
SONM Songino Array 48.91 347 P **P** **07 21 26.0 -0.2**
SONM IAmb IAmb 07 21 27.9
comp=Z,11nm,1.0s
SONM Songino Array 48.91 347 P **P** **07 21 27.0 +0.9**
comp=Z,8.5nm,0.9s,baz=165,slow=8.6,SNR=40
comp=Z,8.5nm,0.9s
KLR Kul'dur 49.45 9 LR LR 07 44 04.8
comp=Z,38nm,19.1s,baz=344,slow=38
HEH HeiHe 49.92 5 *eP* **P** **07 21 32.8 -0.7**
HEH pmax pmax
comp=Z,24nm,1.0s
WMQ Urumqi 52.46 330 *eP* **P** **07 21 53.8 +1.0**
WMQ pmax pmax
comp=Z,23nm,0.7s
KSH Kashi 56.61 319 P **P** **07 22 25.0 +2.0**
KSH S **S** **07 30 09.8 +2.2**
KSH pmax pmax
comp=Z,7.0nm,0.7s
MK31 Makanchi Array 57.26 329 P **P** **07 22 27.5 +0.2**
MK31 IAmb IAmb 07 22 28.7
comp=Z,7.0nm,0.9s
MKAR Makanchi Array 57.26 329 P **P** **07 22 28.0 +0.7**
MKAR Makanchi Array 57.26 329 P **P** **07 22 27.8 +0.4**
comp=Z,5.1nm,0.7s,baz=127,slow=9.1,SNR=35
MKAR LR LR 07 48 45.7
comp=Z,77nm,18.2s,baz=22,slow=38
comp=Z,5.1nm,0.7s
AAK Ala-Archa 59.21 321 P **P** **07 22 41.3 +0.1**
AAK IAmb IAmb 07 22 44.0
comp=Z,5.4nm,0.8s
AAK Ala-Archa 59.21 321 P **P** **07 22 43.0 +1.8**
ZAA0 Zalesovo Array 61.15 336 P **P** **07 22 52.5 -1.4**
ZAA0 IAmb IAmb 07 22 54.5
comp=Z,10nm,1.0s
ZALV Zalesovo Beam 61.15 336 P **P** **07 22 52.5 -1.4**
ZALV Zalesovo Beam 61.15 336 P **P** **07 22 53.7 -0.3**
comp=Z,8.2nm,0.9s,baz=123,slow=5.5,SNR=23
comp=Z,8.2nm,0.9s
KURBB Kurchatov Arra 61.65 331 P **P** **07 22 57.6 +0.2**
comp=Z,8.9nm,0.9s,baz=131,slow=6.2,SNR=47
comp=Z,8.9nm,0.9s
KURK Kurchatov 61.67 331 P **P** **07 22 57.3 -0.2**
KURK Kurchatov 61.67 331 P **P** **07 22 58.3 +0.8**
KURK pP **pP** **07 23 21.6 -0.5**
KKAR Karatay Array 61.97 320 P **P** **07 23 00.1 +0.4**
RPZ Rata Peaks 62.52 141 LR LR 07 49 37.6
comp=Z,58nm,20.6s,baz=296,slow=35
BVAR Borovoye Array 67.14 330 P **P** **07 23 33.6 +0.4**
comp=Z,12nm,0.8s,baz=138,slow=9.1,SNR=48
comp=Z,12nm,0.8s
BRVK Borovoye 67.22 329 P **P** **07 23 33.4 -0.2**
BRVK IAmb IAmb 07 23 35.4
comp=Z,15nm,0.9s
BRVK Borovoye 67.22 329 P **P** **07 23 33.8 +0.1**
BRVK sP **sP** **07 24 07.2 -2.4**
GEYT Alibeck 68.68 311 P **P** **07 23 43.7 +0.5**
comp=Z,2.9nm,0.8s,baz=82,slow=12,SNR=4.4
comp=Z,2.9nm,0.8s
ABKAR Akbulak array 71.24 323 P **P** **07 23 58.1 -0.4**
TIXI Tiksi 71.27 3 P **P** **07 23 56.5 -1.8**
NRIK Noril'sk 72.37 348 P **P** **07 24 05.0 +0.1**
comp=Z,2.4nm,0.5s,baz=124,slow=7.2,SNR=8.0
comp=Z,2.4nm,0.5s
MAW Mawson 78.78 199 LR LR 07 55 30.1
comp=Z,42nm,18.8s,baz=266,slow=32
VNDA Vanda 80.95 172 P **P** **07 24 52.7 -0.4**
VNDA Vanda 80.95 172 P **P** **07 24 52.4 -0.6**
comp=Z,1.1nm,0.8s,baz=295,slow=6.7,SNR=3.7
comp=Z,1.1nm,0.8s
L14K Kuka Creek 83.01 28 P **P** **07 25 03.0 -1.1**
L14K IAmb IAmb 07 25 05.8
comp=Z,10nm,0.9s
M14K Bethel 83.23 29 P **P** **07 25 05.8 +0.5**
M14K IAmb IAmb 07 25 07.2
comp=Z,14nm,0.9s
K15K Wolf Creek Mou 83.73 27 IAmb IAmb 07 25 38.9
comp=Z,14nm,1.1s
N15K Kwethluk River 84.04 30 IAmb IAmb 07 25 11.6
comp=Z,14nm,1.1s
KLMR Klimovskoe 85.52 331 *eP* P 07 25 10.1 -6.7
KLMR AMP 07 25 17.3
comp=Z,39nm,2.1s
KLMR *ep*P pP 07 25 41.8 -1.3
MMAI Mount Meron Ar 86.17 303 LR LR 08 09 26.7
comp=Z,21nm,20.3s,baz=290,slow=39
BRTR Keskin Array B 87.78 310 P **P** **07 25 27.8 -0.7**
comp=Z,0.2nm,0.3s,baz=23,slow=7.8,SNR=1.9
comp=Z,0.2nm,0.3s
QSPA South Pole Qui 90.37 180 P **P** **07 25 39.6 -0.5**
comp=Z,1.2nm,0.9s,baz=310,slow=3.9,SNR=3.6
comp=Z,1.2nm,0.9s
ILAR Eielson Array 90.46 25 P **P** **07 25 39.6 -0.8**
comp=Z,0.4nm,0.8s,baz=253,slow=6.1,SNR=3.2
comp=Z,0.4nm,0.8s
ARCES ARCESS Array B 91.56 340 LR LR 08 14 18.7
comp=Z,80nm,18.3s,baz=307,slow=40
TORD Torodi Ar. Bea 118.48 285 PKP **PKPdf** **07 31 25.6 -1.7**
comp=Z,0.6nm,0.7s,baz=45,slow=3.0,SNR=4.7

MOS **27** *07:14:06.7, 42.°61N×45.°55E, h16km, MPVA3.4*
TIF **27** *07:14:07.4, 42.°69N×45.°52E, h5km±1km*
DRS **27** *07:14:09.2, 42.°56N×45.°54E, h15km*
ISC 27 07:14:09.1±1.0, **42.°65N**±0.°04×**45.°56E**±0.°02, **h14**km±9km, **n22**,σ1°**15**/39, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLR	**Botlikh**	**0.49**	**88**	*e*Pg	**Pg**	**07 14 18.3**	**-0.4**
BTLR				*e*Sg	**Sg**	**07 14 25.8**	**+0.5**
DVE	**Vedeno**	**0.52**	**53**	*e*Pg	**Pg**	**07 14 18.1**	**-1.2**
DVE				*e*Sg	**Sg**	**07 14 26.5**	**+0.2**
CHRG	**Chargali**	**0.57**	**236**	P	**Pg**	**07 14 19.5**	**-0.7**
MTEO	**Meteo**	**0.76**	**273**	P	**Pg**	**07 14 21.8**	**-2.1**
GUDG	**Gudauri**	**0.82**	**258**	P	**Pg**	**07 14 23.7**	**-1.3**
GUDG				S	**Sb**	**07 14 35.4**	**-0.8**
XNZR	**Khunzakh**	**0.85**	**97**	*e*Pg	**Pg**	**07 14 25.0**	**-0.6**
XNZR	9.0nm,0.3s			*e*Sg	**Sg**	**07 14 37.2**	**+0.4**
	29nm,0.1s						
UNCR	**Uncukul**	**0.91**	**85**	*e*Pg	**Pb**	**07 14 26.7**	**0.0**
UNCR	26nm,0.2s			*e*Sg	**Sg**	**07 14 39.8**	**+1.1**
	21nm,0.4s						
LGD	**Lagodekhi**	**0.96**	**148**	P	**Pn**	**07 14 27.1**	**-1.0**
DBC	**Dubki**	**1.01**	**68**	*e*Pg	**Pb**	**07 14 28.7**	**+0.4**
DBC	17nm,0.3s			*e*Sg	**Sg**	**07 14 43.7**	**+2.0**
	32nm,0.4s						
KRNR	**Karanay**	**1.01**	**79**	*e*Pg	**Pb**	**07 14 27.8**	**-0.6**
KRNR	14nm,0.3s			*e*Sg	**Sb**	**07 14 42.1**	**+0.6**
	17nm,0.6s						
ARKR	**Arakani**	**1.06**	**92**	*e*Pg	**Pb**	**07 14 29.1**	**-0.1**
ARKR	10.0nm,0.5s			*e*Sg	**Sn**	**07 14 44.4**	**+0.3**
	45nm,0.5s						
GNBR	**Gunib**	**1.07**	**103**	*e*Pg	**Pb**	**07 14 28.9**	**-0.4**
GNBR	14nm,0.4s			*e*Sg	**Sg**	**07 14 43.9**	**+0.3**
	29nm,0.4s						
KORR	**Kora**	**1.18**	**292**	*e*Pg	**Pn**	**07 14 31.6**	**+0.4**
KORR				*e*Sg	**Sg**	**07 14 50.6**	**+3.3**
ZEI	**Tsey**	**1.23**	**277**	*e*Pg	**Pn**	**07 14 31.1**	**-0.9**
ZEI				*e*Sg	**Sn**	**07 14 48.6**	**0.0**
KMKR	**Kumukh**	**1.25**	**114**	*e*Pg	**Pn**	**07 14 31.6**	**-0.7**
KMKR	12nm,0.2s			*e*Sg	**Sg**	**07 14 49.0**	**-0.4**
	16nm,0.1s						
LSNR	**Lesken**	**1.42**	**297**	*e*Pg	**Pn**	**07 14 35.3**	**+0.8**
LSNR				*e*Sg	**Sg**	**07 14 55.7**	**+0.8**
DIGR	**Digorskoe uzhe**	**1.48**	**281**	*i* Pg	**Pn**	**07 14 35.1**	**-0.4**
DIGR				*e*Sg	**Sb**	**07 14 55.2**	**0.0**
VSHL	**Vashlovani**	**1.55**	**156**	P	**Pg**	**07 14 39.3**	**+0.5**
TRLG	**Trialeti**	**1.55**	**225**	P	**Pg**	**07 14 37.7**	**-1.2**
TRLG				S	**Sg**	**07 15 01.1**	**+2.1**
ONI	**Oni**	**1.56**	**269**	P	**Pn**	**07 14 36.1**	**-0.3**
URKR	**Urkarakh**	**1.61**	**107**	*e*Pg	**Pn**	**07 14 37.4**	**+0.2**
URKR	29nm,0.1s			*e*Sg	**Sb**	**07 14 59.5**	**+0.7**
	27nm,0.1s						
DMNI	**Dmanisi**	**1.67**	**218**	P	**Pg**	**07 14 39.6**	**-1.5**
DMNI				S	**Sg**	**07 15 05.2**	**+2.5**

IDC **27** *07:14:46.9±1.5, 13.°03S×74.°27W, h66km±16km, mb3.6/8, mbtmp3.9/11, MS3.4/6, Error ellipse: s-maj=23.4km s-min=9.8km az=40.0*
NEIC **27** *07:14:47.4±2.4, 13.°01S±0.°08×74.°36W±0.°09, h65km±19km, mb4.2/7, Error ellipse: s-maj=14.4km s-min=10.4km az=53.0*
VAO **27** *07:14:49.4±0.9, 12.°94S×74.°07W, h67km±9km, mb4.3*
ISC 27 07:14:45.9±0.5, **13.°04S**±0.°06×**74.°29W**±0.°06, **h50**km, **n107**, σ1°**36**/108, **mb4.0**/8, **MS3.5**/4, **Central Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.71**	**292**	P	**Pn**	**07 15 27.9**	**+0.9**
	486nm,0.4s,baz=134,slow=11,SNR=196			S			
NNA					**Sn**	**07 16 00.7**	**+2.1**
	1μm,0.4s,baz=201,slow=20,SNR=14						
NNA				LR	LR	07 16 15.9	

comp=Z,144nm,20.7s,baz=102,slow=33
CZSB Cruzeiro do Su 5.50 17 Pn **Pn** **07 16 07.5 +2.1**
CZSB Cruzeiro do Su 5.50 17 *eP* **Pn** **07 16 07.6 +2.3**
PB18 Visviri 6.48 135 Pn **Pn** **07 16 22.2 +3.0**
PB12 IPOC Station P 6.72 146 Pn **Pn** **07 16 23.6 +1.4**
LPAZ La Paz 6.78 119 Pn **Pn** **07 16 28.1 +4.7**
PB16 IPOC Station P 6.99 139 Pn **Pn** **07 16 28.6 +2.3**
ATAH Atahualpa 7.13 325 P **Pn** **07 16 27.8 -0.2**
94nm,0.6s,baz=136,slow=4.9,SNR=57
ATAH S **Sn** **07 17 50.9 +3.0**
79nm,0.9s,baz=82,slow=20,SNR=4.5
PB11 IPOC Station P 8.02 147 **Pn** **07 16 42.2 +2.1**
GO01 Chusmiza 8.20 144 **Pn** **07 16 44.0 +1.2**
TA02 Huaiquique 8.22 152 **Pn** **07 16 43.5 +0.9**
TA01 Diego Aracena 8.45 153 **Pn** **07 16 46.0 +0.3**
ETMB Extrema 8.54 69 Pn **Pn** **07 16 49.0 +2.0**
PB08 IPOC Station P 8.61 146 **Pn** **07 16 49.4 +1.1**
PB01 IPOC Station P 9.19 151 **Pn** **07 16 56.9 +1.0**
PB02 IPOC Station P 9.24 154 **Pn** **07 16 58.7 +2.0**
PB07 IPOC Station P 9.60 155 **Pn** **07 17 02.3 +0.6**
TBTG Tabatinga, AM 9.80 27 Pn **Pn** **07 17 03.7 -0.6**
PB09 IPOC Station P 9.95 152 **Pn** **07 17 08.4 +2.0**
PB04 IPOC Station P 10.05 157 Pn **Pn** **07 17 08.6 +0.9**
MCRA Macar, Loja 10.27 326 Pn **Pn** **07 17 09.1 -1.7**
PB05 IPOC Station P 10.50 159 **Pn** **07 17 14.9 +0.9**
LVC Limon Verde 10.80 152 Pn **Pn** **07 17 20.1 +1.8**
LVC Limon Verde 10.80 152 P **Pn** **07 17 19.0 +0.7**
4.6nm,0.4s,baz=324,slow=9.0,SNR=14
LVC S **Sn** **07 19 17.3 -0.7**
5.8nm,0.5s,baz=250,slow=22,SNR=6.5
LVC LR LR 07 21 58.1
comp=Z,91nm,19.3s,baz=351,slow=40
COHC Cochancay 11.60 335 **Pn** **07 17 28.6 -0.3**
SAML Samuel 11.63 71 Pn **Pn** **07 17 29.6 +0.3**
CHSH Refugio Sur-Vo 12.34 338 **Pn** **07 17 40.7 +1.2**
SLOR San Lorenzo - 12.92 341 **Pn** **07 17 47.5 +0.1**
SIV San Ignacio 13.13 105 P **Pn** **07 17 50.7 +0.9**
0.8nm,0.4s,baz=304,slow=8.5,SNR=9.7
SIV S **Sn** **07 20 13.2 -1.2**
1.2nm,0.6s,baz=233,slow=18,SNR=1.6
VILB Vilhena 13.73 91 Pn **Pn** **07 17 59.6 +1.6**
OTAV Otavalo 13.82 342 Pn **Pn** **07 17 59.7 0.0**
OTAV Otavalo 13.82 342 *eP* **Pn** **07 18 01.1 +1.4**
BBSD Serra de San D 13.83 109 *eP* **Pn** **07 18 00.2 +0.8**
TULM Tulcn-Chalpat 14.10 345 P **Pn** **07 18 04.6 +1.1**
TULM Tulcn-Chalpat 14.10 345 *eP* **Pn** **07 18 05.0 +1.6**
CMBC Cumbal 14.33 346 *eP* **Pn** **07 18 08.8 +2.4**
CRUC La Cruz 14.75 349 *eP* **Pn** **07 18 12.5 +0.6**
BBRB Robore, Bolivi 14.88 112 *eP* **Pn** **07 18 13.8 +0.5**
PTLB Pontes e Lacer 14.88 101 Pn **Pn** **07 18 14.8 +1.5**
GARC Garzon, Huila 15.18 355 *eP* **Pn** **07 18 18.0 +0.6**
BBAC Balboa, Cauca 15.25 349 *eP* **Pn** **07 18 19.6 +1.3**
POPC Popayan, Colom 15.66 351 *eP* **Pn** **07 18 24.1 +1.0**
BETC Betania 15.66 356 *eP* **P** **07 18 28.3 +1.5**
LCO Las Campanas 16.24 169 **Pn** **07 18 33.0 +2.1**
JAMC Jamundi, Valle 16.32 351 *eP* **Pn** **07 18 32.6 +0.6**
MACA Manacapuru-AM 16.65 55 Pn **Pn** **07 18 36.2 +0.2**
MACA IAmb IAmb 07 19 11.0
comp=Z,38nm,1.4s
MACA Manacapuru-AM 16.65 55 *eP* **Pn** **07 18 35.1 -0.9**
ORTC Ortega, Tolima 16.87 357 *eP* **P** **07 18 41.8 +1.7**
YOTC Yotoco, Valle 17.04 353 *eP* **Pn** **07 18 39.4 -1.4**
VILC Villavicencio, 17.05 2 *eP* **Pn** **07 18 40.6 -0.4**
PDRB Porto dos Gac 17.21 87 *eP* **Pn** **07 18 42.8 -0.2**
PLMC San Jos del P 17.94 354 *eP* **P** **07 18 53.3 +1.3**
MURT Porto Murtinho 18.07 121 *eP* **P** **07 18 54.0 +0.7**
GUY2C Guyana, Caldas 18.18 357 *eP* **Pn** **07 18 57.1 +1.8**
SALV Santo Antonio 18.23 101 *eP* **P** **07 18 55.3 +0.2**
BDQN Bodoquena, MS 18.33 116 *eP* **Pn** **07 18 57.1 +0.5**
SPBC San Pablo de B 18.57 1 *eP* **Pn** **07 19 00.5 +0.8**
CBOC Ciudad Bolivar 18.86 355 *eP* **Pn** **07 19 03.7 +0.5**
AQDB Aquidauana 19.26 115 P **Pn** **07 19 08.4 +0.5**
AQDB IAmb IAmb 07 19 10.1
comp=Z,11nm,1.2s
AQDB Aquidauana 19.26 115 *eP* **P** **07 19 07.1 +0.7**
CFA Coronel Fontan 19.30 164 P **P** **07 19 08.1 +1.3**
comp=Z,3.8nm,0.9s,baz=338,slow=12,SNR=11
PTBC PUERTO BERRIO, 19.45 359 *eP* **P** **07 19 08.9 +0.4**
BARC Barichara 19.54 3 *eP* **Pn** **07 19 11.2 -0.1**
NPGB Novo Progresso 19.56 74 *eP* **P** **07 19 09.7 -0.1**
DBBC Dabeiba 20.02 354 *eP* **Pn** **07 19 16.5 -0.4**
ITTB Itaituba 20.25 66 *eP* **P** **07 19 17.2 0.0**
PAMC Pampolona, Colo 20.31 5 *i* P **P** **07 19 15.9 +0.7**
ZARC Zaragoza, Cauc 20.41 358 *eP* **P** **07 19 19.0 +0.1**
BOAV Boa Vista 20.54 43 P **P** **07 19 21.2 +0.9**
BOAV IAmb IAmb 07 19 22.6
comp=Z,12nm,1.1s
BOAV Boa Vista 20.54 43 *eP* **P** **07 19 21.0 +0.6**
BOAV Boa Vista 20.54 43 *eP* **P** **07 19 21.3 +0.9**
UREC San Jos de Ur 20.69 357 *eP* **P** **07 19 18.2 -3.8**
CPUP Villa Florida 20.70 132 P **P** **07 19 23.1 +1.1**
comp=Z,1.3nm,0.5s,baz=330,slow=11,SNR=6.5
CPUP LR LR 07 28 28.1
comp=Z,112nm,19.5s,baz=358,slow=40
comp=Z,1.3nm,0.5s
OCAC Ocana 21.16 3 *eP* **P** **07 19 27.4 +0.1**
SDV Santo Domingo 22.08 10 P **P** **07 19 36.9 -0.2**
SDV IAmb IAmb 07 19 44.4
comp=Z,8.7nm,0.8s
SDV Santo Domingo 22.08 10 *eP* **P** **07 19 36.5 -0.6**
SNDB Serra Nova Dou 22.47 90 *eP* **P** **07 19 40.9 -0.3**
BAUV El Baul 22.70 16 P **P** **07 19 42.3 -1.3**
MALB Monte Alegre 22.73 62 *eP* **P** **07 19 43.8 0.0**
ARGC Ariguani, Magd 22.75 0 *eP* **P** **07 19 44.4 +0.4**
SJCC San Jacinto, C 22.80 358 *eP* **P** **07 19 44.2 -0.5**
ITQB Itaqui 23.28 138 *eP* **P** **07 19 51.8 +2.5**
PCMB Pacaembu 23.55 114 *eP* **P** **07 19 51.7 -0.3**
FRBT Francisco Belt 23.74 126 *eP* **P** **07 19 53.8 +1.0**
CRSM Crissiumal (Br 23.77 130 *eP* **P** **07 19 55.0 +1.1**
UNIS Unistalda (Bra 23.94 135 *eP* **P** **07 19 57.7 +2.2**
PTGB Pitanga 23.98 122 *eP* **P** **07 19 57.0 +1.0**
LDASE Londrina, Braz 24.26 118 *eP* **P** **07 19 59.4 +0.8**
RODS Rosario do Sul 24.66 137 *eP* **P** **07 20 03.4 +1.4**
PCRV Puerto La Cruz 24.98 23 LR LR 07 30 33.1
comp=Z,110nm,18.2s,slow=38
MCPB Macapa, AP 25.38 62 *eP* **P** **07 20 09.0 +0.3**
BDFB Brasilia 25.58 99 P **P** **07 20 09.8 -0.9**
comp=Z,1.2nm,0.6s,baz=188,slow=22,SNR=1.7
comp=Z,1.2nm,0.6s
FRTB Fartura 25.59 117 *eP* **P** **07 20 11.4 +0.8**
IPMB Ipameri, GO 25.59 104 *eP* **P** **07 20 09.8 -0.9**
MDP Montagnes des 28.06 51 LR LR 07 32 33.5
comp=Z,170nm,18.4s,baz=351,slow=38
GDU01 Guandu, BA 33.76 95 *eP* **P** **07 21 22.8 -0.4**
TXAR Lajitas Array 50.79 326 P **P** **07 23 40.6 -0.9**
comp=Z,0.3nm,0.6s,baz=155,slow=6.9,SNR=2.6
comp=Z,0.3nm,0.6s
NVAR Mina Array Bea 65.69 323 P **P** **07 25 24.6 -1.0**
comp=Z,0.2nm,0.6s,baz=140,slow=4.7,SNR=2.0
comp=Z,0.2nm,0.6s
SNAA Sanae 71.89 162 P **P** **07 26 02.5 -1.0**
comp=Z,3.3nm,0.9s,baz=263,slow=9.0,SNR=6.7
comp=Z,3.3nm,0.9s
TORD Torodi Ar. Bea 79.67 74 P **P** **07 26 47.6 -1.2**
comp=Z,2.7nm,0.8s,baz=278,slow=4.4,SNR=14
comp=Z,2.7nm,0.8s
YKA Yellowknife Ar 81.58 342 P **P** **07 26 56.2 -1.7**
comp=Z,0.9nm,0.9s,baz=139,slow=5.5,SNR=12
comp=Z,0.9nm,0.9s
ESDC Sonseca Array 83.65 47 P **P** **07 27 09.5 +0.1**
comp=Z,2.0nm,0.8s,baz=255,slow=6.3,SNR=5.8
comp=Z,2.0nm,0.8s
SUR Sutherland 87.35 122 LR LR 08 05 34.2
comp=Z,51nm,19.4s,baz=318,slow=35
ASAR Alice Springs 134.27 217 PKP **PKPdf** **07 33 57.0 -2.1**
comp=Z,0.4nm,0.7s,baz=135,slow=1.9,SNR=7.5
ZALV Zalesovo Beam 135.97 18 PKP **PKPdf** **07 34 00.2 -1.0**
comp=Z,0.8nm,0.5s,baz=298,slow=3.1,SNR=4.0
WRA Warramunga Arr 136.78 221 PKP **PKPdf** **07 34 01.9 -2.0**
comp=Z,0.3nm,0.4s,baz=137,slow=1.8,SNR=6.7
SONM Songino Array 145.31 359 PKPbc **PKPbc** **07 34 17.6 -0.6**
comp=Z,3.7nm,0.8s,baz=327,slow=2.6,SNR=26

SOME **27** *07:36:36.0, 40.°50N×75.°03E, h0km*
KRNET **27** *07:36:36.5±0.1, 40.°37N×75.°11E, h19km, mb3.2*
KNET **27** *07:36:39.2±0.5, 40.°58N×75.°14E, h2km±3km, ml3.2, Error ellipse: s-maj=4.3km s-min=3.1km az=130.0*
NNC **27** *07:36:41.3±2.1, 40.°62N×75.°03E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=15.8km s-min=11.3km az=167.0*
ISC 27 07:36:36.5±1.5, **40.°41N**±0.°04×**75.°03E**±0.°03, **h2**km±11km, **n66**,σ1°**39**/93, **32C-29D, Kyrgyzstan-Xinjiang border**

region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.23**	**252**	⇓*i*P	**Pn**	**07 36 59.7**	**-1.3**
	baz=54						
SFK				⇓*i*S	**Sn**	**07 37 17.0**	**-1.4**
	baz=54						
ARLS	**Aral**	**1.55**	**340**	⇑*i*P	**Pb**	**07 37 05.4**	**-0.6**
	baz=39						
ARLS				⇑*e*S	**Sg**	**07 37 27.1**	**+0.8**
	baz=39						
KZA	**Kyzart**	**1.68**	**6**	⇑P	**Pb**	**07 37 08.2**	**-0.2**
	34nm,0.2s,SNR=40						
KZA				⇑S	**Sg**	**07 37 31.2**	**+0.7**
	76nm,0.2s						
KZA	**Kyzart**	**1.68**	**6**	⇓*i*P	**Pb**	**07 37 08.1**	**-0.3**
	baz=4.0						
KZA				⇓*i*S	**Sg**	**07 37 30.9**	**+0.4**
	baz=4.0						
OHH	**Osh**	**1.71**	**275**	⇑*i*P	**Pb**	**07 37 09.0**	**+0.2**
	baz=76						
OHH				⇑*i*S	**Sg**	**07 37 32.3**	**+0.7**
	baz=76						
ARSB	**Arslanbob**	**1.80**	**301**	⇑*e*P	**Pb**	**07 37 10.2**	**-0.2**
	baz=1.0						
ARSB				⇑*e*S	**Sb**	**07 37 34.7**	**+1.2**
	baz=1.0						
UCH	**Uchtor**	**1.86**	**348**	⇑P	**Pb**	**07 37 11.7**	**+0.2**
	30nm,0.2s,SNR=43						
UCH				⇓S	**Sg**	**07 37 37.9**	**+1.5**
	73nm,0.2s						
UCH	**Uchtor**	**1.86**	**348**	⇓*i*P	**Pb**	**07 37 10.7**	**-0.9**
	baz=47						
UCH				⇓*i*S	**Sb**	**07 37 35.5**	**+0.1**
	baz=47						
AML	**Almayashu**	**2.00**	**330**	⇑P	**Pb**	**07 37 14.3**	**+0.5**
	29nm,0.2s,SNR=44						
AML				⇓S	**Sg**	**07 37 41.9**	**+1.2**
	58nm,0.3s						
AML	**Almayashu**	**2.00**	**330**	⇓*i*P	**Pb**	**07 37 12.6**	**-1.2**
	baz=29						
AML				⇓*i*S	**Sb**	**07 37 38.8**	**-0.5**
	baz=29						
ULHL	**Ulahol**	**2.05**	**26**	⇓P	**Pb**	**07 37 14.1**	**-0.6**
	20nm,0.2s,SNR=74						
ULHL				⇑S	**Sb**	**07 37 40.7**	**0.0**
	82nm,0.2s						
ULHL	**Ulahol**	**2.05**	**26**	⇓*e*P	**Pb**	**07 37 12.8**	**-1.9**
	baz=24						
ULHL				⇓*i*S	**Sb**	**07 37 39.2**	**-1.6**
	baz=24						
KBK	**Karagaybulak**	**2.25**	**359**	⇑P	**Pb**	**07 37 18.3**	**+0.3**
	21nm,0.1s,SNR=46						
KBK				⇑S	**Sg**	**07 37 48.7**	**-0.1**
	132nm,0.2s						
KBK	**Karagaybulak**	**2.25**	**359**	⇓*i*P	**Pb**	**07 37 15.9**	**-2.1**
	baz=57						
KBK				⇓*i*S	**Sb**	**07 37 44.4**	**-2.0**
	baz=57						
FRU1	**Bishkek**	**2.42**	**353**	⇑*i*P	**Pb**	**07 37 18.6**	**-2.3**
	baz=52						
FRU1				⇑*i*S	**Sb**	**07 37 48.8**	**-2.4**
	baz=52						
EKS2	**Erkin-Say**	**2.44**	**338**	⇑P	**Pb**	**07 37 21.4**	**+0.1**
	7.1nm,0.3s,SNR=16						
EKS2				⇓S	**Sg**	**07 37 54.1**	**-0.8**
	9.8nm,0.2s						
EKS2	**Erkin-Say**	**2.44**	**338**	⇑*i*P	**Pn**	**07 37 18.5**	**+0.9**
	baz=37						
EKS2				⇑*i*S	**Sb**	**07 37 49.3**	**-2.5**
	baz=37						
TKM2	**Tokmak 2**	**2.55**	**9**	⇑P	**Pb**	**07 37 22.2**	**-0.9**
	30nm,0.2s,SNR=54						
TKM2	**Tokmak 2**	**2.55**	**9**	⇑*i*P	**Pb**	**07 37 19.8**	**-3.3**
	baz=8.0						
TKM2				⇑*i*S	**Sb**	**07 37 51.4**	**-3.6**
	baz=8.0						
CHMS	**Chumysh**	**2.60**	**356**	⇑P	**Pb**	**07 37 23.1**	**-0.8**
	22nm,0.3s,SNR=10						
CHMS	**Chumysh**	**2.60**	**356**	⇑*i*P	**Pn**	**07 37 20.6**	**+1.0**
	baz=54						
CHMS				⇑*i*S	**Sb**	**07 37 52.6**	**-3.7**
	baz=54						
DRK	**Karamyk**	**2.65**	**251**	⇓*e*P	**Pn**	**07 37 21.5**	**+0.9**
	baz=52						
DRK				⇓*e*S	**Sb**	**07 37 54.4**	**-3.5**
	baz=52						
MRKS	**Merke**	**2.70**	**331**	*e*Pg	**Pb**	**07 37 25.2**	**-0.5**
	14nm,0.5s						
MRKS				*e*Lg	Lg	07 38 00.8	
	58nm,0.4s						
MRKS	**Merke**	**2.70**	**331**	Pg	**Pb**	**07 37 25.2**	**-0.5**
	14nm,0.5s						
MRKS				Lg	Lg	07 38 00.8	
	58nm,0.4s						
ARK	**Arkit**	**2.70**	**302**	⇓*e*P	**Pn**	**07 37 22.7**	**+1.6**
	baz=2.0						
ARK				⇓*e*S	**Sb**	**07 37 56.4**	**-2.9**
	baz=2.0						
KST	**Kastek**	**2.73**	**15**	*e*Pg	**Pb**	**07 37 26.5**	**+0.4**
	20nm,0.4s						
KST				*e*Lg	Lg	07 38 02.6	
	62nm,0.7s						
KST	**Kastek**	**2.73**	**15**	Pg	**Pb**	**07 37 26.5**	**+0.4**
	20nm,0.4s						
KST				Lg	Lg	07 38 02.6	
	62nm,0.7s						
IZV	**Izvestkoviy**	**2.88**	**24**	*e*Pg	**Pb**	**07 37 29.2**	**+0.4**
	18nm,0.1s						
IZV				*e*Lg	Lg	07 38 07.2	
	67nm,0.1s						
IZV	**Izvestkoviy**	**2.88**	**24**	Pg	**Pb**	**07 37 29.6**	**+0.8**
	14nm,0.2s						
IZV				Lg	Lg	07 38 07.9	
	15nm,0.3s						
USP	**Ospenovka**	**2.88**	**352**	⇓P	**Pb**	**07 37 27.6**	**-1.1**
	24nm,0.2s,SNR=26						
USP	**Ospenovka**	**2.88**	**352**	⇑*i*P	**Pn**	**07 37 24.5**	**+0.9**
	baz=51						
USP				⇑*i*S	**Sn**	**07 37 59.7**	**+0.8**
	baz=51						
DGS	**Degeres**	**2.89**	**11**	*e*Pg	**Pb**	**07 37 29.6**	**+0.7**
	15nm,0.2s						
DGS				*e*Lg	Lg	07 38 07.8	
	89nm,0.4s						
DGS	**Degeres**	**2.89**	**11**	Pg	**Pg**	**07 37 30.1**	**-1.8**
	16nm,0.5s						
DGS				Lg	Lg	07 38 09.1	
	49nm,0.7s						
MTBS	**Maitube**	**2.92**	**21**	*e*Pg	**Pb**	**07 37 28.7**	**-0.6**
	3.6nm,0.2s						
MTBS				*e*Lg	Lg	07 38 06.4	
	60nm,0.2s						
MTBS	**Maitube**	**2.92**	**21**	Pg	**Pg**	**07 37 30.6**	**-1.9**
	15nm,0.5s						
MTBS				Lg	Lg	07 38 09.6	
	60nm,0.3s						
TNSS	**Tian-Shan**	**3.00**	**28**	*e*Pg	**Pb**	**07 37 31.5**	**+0.6**
	44nm,0.4s						
TNSS				*e*Lg	Lg	07 38 11.6	
	22nm,0.5s						
TNSS	**Tian-Shan**	**3.00**	**28**	Pg	**Pb**	**07 37 31.5**	**+0.6**
	44nm,0.4s						
TNSS				Lg	Lg	07 38 11.6	
	22nm,0.5s						
SGDS	**Sogindy**	**3.06**	**355**	Pg	**Pb**	**07 37 33.0**	**+1.2**
	13nm,0.7s						
SGDS				Lg	Lg	07 38 14.0	
	44nm,0.3s						
ANVS	**Anan'yevo**	**3.09**	**39**	⇑*e*P	**Pn**	**07 37 26.7**	**+0.1**
	baz=38						
ANVS				⇑*e*S	**Sn**	**07 38 04.1**	**-0.1**
	baz=38						
MDOK	**Medeo**	**3.14**	**28**	*e*Pg	**Pb**	**07 37 33.8**	**+0.5**
	25nm,0.6s						
MDOK				*e*Lg	Lg	07 38 15.5	
	26nm,0.5s						
MDOK	**Medeo**	**3.14**	**28**	Pn	**Pb**	**07 37 33.5**	**+0.3**
	15nm,0.4s						
MDOK				Pg	**Pb**	**07 37 33.7**	**+0.5**
	25nm,0.6s						
MDOK				Lg	Lg	07 38 15.5	
	26nm,0.5s						
MDOK				Lg	Lg	07 38 15.9	
	36nm,0.6s						
TRKS	**Terek-Say**	**3.15**	**292**	⇓*e*P	**Pn**	**07 37 28.3**	**+1.0**
	baz=91						
TRKS				⇓*e*S	**Sn**	**07 38 06.5**	**+0.9**
	baz=91						
KNDC	**Almaty**	**3.16**	**27**	⇑Pn	**Pb**	**07 37 34.3**	**+0.9**
	32nm,0.5s						
KNDC				⇓Lg	Lg	07 38 17.0	
	79nm,0.7s						
KOTS	**Kotyrbulak**	**3.23**	**28**	*e*Pg	**Pb**	**07 37 35.7**	**+1.0**
	22nm,0.6s						
KOTS				*e*Lg	Lg	07 38 18.9	
	98nm,0.4s						
KOTS	**Kotyrbulak**	**3.23**	**28**	Pg	**Pb**	**07 37 35.7**	**+1.0**
	22nm,0.6s						
KOTS				Lg	Lg	07 38 18.9	
	98nm,0.4s						
BTK	**Batken**	**3.24**	**265**	⇓*e*P	**Pn**	**07 37 29.9**	**+1.4**
	baz=66						
BTK				⇓*e*S	**Sn**	**07 38 08.9**	**+1.2**
	baz=66						
KTBS	**Karatobe**	**3.52**	**20**	*e*Pg	**Pb**	**07 37 41.1**	**+1.4**
	13nm,0.4s						
KTBS				*e*Lg	Lg	07 38 27.7	
	63nm,0.8s						
KTBS	**Karatobe**	**3.52**	**20**	Pg	**Pb**	**07 37 41.1**	**+1.4**
	13nm,0.4s						
KTBS				Lg	Lg	07 38 27.7	
	63nm,0.8s						
KUU	**Kurty**	**3.62**	**15**	*e*Pg	**Pb**	**07 37 42.4**	**+1.2**
	4.0nm,0.6s						
KUU				*e*Lg	Lg	07 38 30.2	
	183nm,0.7s						
KUU	**Kurty**	**3.62**	**15**	Pg	**Pb**	**07 37 42.4**	**+1.2**
	4.0nm,0.6s						
KUU				Lg	Lg	07 38 30.2	
	183nm,0.7s						
SATY	**Saty**	**3.66**	**43**	*e*Pg	**Pb**	**07 37 42.6**	**+0.5**
	13nm,1.0s						
SATY				*e*Lg	Lg	07 38 30.8	
	41nm,0.7s						
SATY	**Saty**	**3.66**	**43**	Pg	**Pb**	**07 37 42.6**	**+0.5**
	13nm,1.0s						
SATY				Lg	Lg	07 38 30.8	
	41nm,0.7s						
CHKK	**Chushkaly**	**3.74**	**22**	*e*Pg	**Pb**	**07 37 44.8**	**+1.4**
	3.4nm,0.4s						
CHKK				*e*Lg	Lg	07 38 34.2	
	30nm,0.4s						
CHKK	**Chushkaly**	**3.74**	**22**	Pg	**Pb**	**07 37 44.8**	**+1.4**
	3.4nm,0.4s						
CHKK				Lg	Lg	07 38 34.3	
	30nm,0.4s						
UZB	**Uzynbulak**	**4.05**	**46**	*e*Pg	**Pb**	**07 37 49.2**	**+0.5**
	17nm,0.8s						
UZB				*e*Lg	Lg	07 38 41.5	
	14nm,0.6s						
UZB	**Uzynbulak**	**4.05**	**46**	Pg	**Pb**	**07 37 49.2**	**+0.5**
	17nm,0.8s						
UZB				Lg	Lg	07 38 41.5	
	14nm,0.6s						
SHLS	**Shalkode**	**4.31**	**49**	*e*Pg	**Pg**	**07 37 59.8**	**+0.7**
	15nm,0.4s						
SHLS				*e*Lg	Lg	07 38 59.6	
	20nm,0.4s						
SHLS	**Shalkode**	**4.31**	**49**	Pg	**Pg**	**07 37 59.8**	**+0.7**
	15nm,0.4s						
SHLS				Lg	Lg	07 38 59.6	
	20nm,0.4s						
KK31	**Karatay Array**	**4.32**	**310**	⇑Pg	**Pb**	**07 37 55.8**	**+2.6**
	1.2nm,0.5s,baz=122,slow=17,SNR=9.3						
KK31				⇓Lg	Lg	07 38 54.3	
	12nm,0.7s,baz=124,slow=28,SNR=7.2						
KKAR	**Karatay Array**	**4.32**	**310**	⇓*e*P	**Pn**	**07 37 44.9**	**+1.6**
	baz=10.0						
KKAR				⇓*i*S	**Sn**	**07 38 35.3**	**+1.0**
	baz=10.0						
ARXS	**Arharly**	**4.33**	**28**	*e*Pg	**Pb**	**07 37 54.6**	**+1.1**
	6.0nm,0.5s						
ARXS				*e*Lg	Lg	07 38 51.4	
	40nm,0.8s						
ARXS	**Arharly**	**4.33**	**28**	Pg	**Pb**	**07 37 54.6**	**+1.1**
	6.0nm,0.5s						
ARXS				Lg	Lg	07 38 51.4	
	40nm,0.8s						
PDGK	**Podgornoye**	**4.43**	**47**	Pg	**Pb**	**07 37 56.2**	**+1.1**
	10nm,1.1s						
PDGK				Lg	Lg	07 38 53.8	
	13nm,0.9s						
PDGK	**Podgornoye**	**4.43**	**47**	⇑Pg	**Pg**	**07 38 01.4**	**-0.1**
	12nm,0.6s						
PDGK				⇑Lg	Lg	07 39 00.9	
	20nm,1.1s						
BTLS	**Baital**	**4.69**	**351**	*e*Pg	**Pb**	**07 38 01.8**	**+2.3**
	1.2nm,0.6s						
BTLS				*e*Lg	Lg	07 39 03.7	
	8.5nm,0.6s						
BTLS	**Baital**	**4.69**	**351**	Pg	**Pb**	**07 38 01.8**	**+2.3**
	1.2nm,0.6s						
BTLS				Lg	Lg	07 39 03.7	
	8.5nm,0.6s						

IDC ***27*** *07:48:03.9±1.8, 7°.94S×125°.14E, h0km, mb3.7/1, mbtmp3.7/3, ML3.6/2, Error ellipse: s-maj=190.1km s-min=30.8km az=59.0*

DJA ***27*** *07:48:14.9±0.3, 9°.5S±2°×12°.4E±°, h99km±4km, M3.8/8, mb4.2/7, mB5.2/2, MLv3.5/8, Mw(mB)4.5/2*

ISC 27 07:48:13.7±0.8, 9°.27S±0°.06×123°.89E±0°.05, h100km, n20, σ2s91/32, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.60**	**142**	P	**Pn**	**07 48 34.3**	**+3.8**
SOEI				S	**Sn**	**07 48 48.5**	**+5.5**
MMRI	**Maumere**	**1.75**	**291**	P	**Pn**	**07 48 44.0**	**+0.8**
MMRI				S	**Sn**	**07 49 05.1**	**-0.5**
EDFI	**Ende, Flores**	**2.24**	**283**	P	**Pn**	**07 48 50.8**	**+1.3**
EDFI				S	**Sn**	**07 49 16.5**	**-0.4**
BASI	**Baing, Sumba**	**3.40**	**254**	P	**Pn**	**07 49 07.1**	**+2.2**
BBSI	**Bau Bau**	**3.98**	**341**	P	**Pn**	**07 49 12.6**	**-0.2**
WBSI	**Waikabubak, Su**	**4.46**	**265**	P	**Pn**	**07 49 20.0**	**+0.8**
BKSI	**Bulukumba**	**5.42**	**316**	P	**Pn**	**07 49 32.9**	**+0.7**
	16nm,1.2s,0.1nm						
PLAI	**Plampang**	**6.06**	**274**	P	**Pn**	**07 49 42.2**	**+1.3**
	24nm,1.2s,0.1nm						
TWSI	**Taliwang, Sumb**	**6.95**	**274**	P	**Pn**	**07 49 53.6**	**+0.7**
	23nm,1.2s,2μm0.1nm						
MTN	**Manton Dam**	**7.94**	**117**	P	**Pn**	**07 50 09.3**	**+2.8**
	baz=7.9,SNR=13						
MTN				S	**Sn**	**07 51 35.3**	**+0.5**
	baz=7.9						
KNRA	**Kununurra**	**7.94**	**144**	P	**Pn**	**07 50 08.7**	**+2.2**
	baz=7.8,SNR=11						
KNRA				S	**Sn**	**07 51 35.3**	**+0.5**
	baz=7.8						
FITZ	**Fitzroy Crossi**	**8.94**	**169**	P	**Pn**	**07 50 21.5**	**+1.5**
	baz=8.8,SNR=10						
FITZ				P		07 50 21.7	
	baz=8.8,SNR=4.4						
FITZ				S	**Sn**	**07 51 56.1**	**-2.8**
	baz=8.8						
KDU	**Kakadu**	**9.08**	**113**	P	**Pn**	**07 50 24.5**	**+2.5**
	baz=9.1,SNR=14						
KDU				P		07 50 24.9	
	baz=9.1,SNR=11						
KDU				S	**Sn**	**07 52 00.9**	**-1.6**
	baz=9.1						
SWI	**Sorong**	**11.12**	**42**	P	**Pn**	**07 50 49.6**	**-0.1**
	19nm,0.7s,2μm						
WRA	**Warramunga Arr**	**14.64**	**138**	Pn	**Pn**	**07 51 37.5**	**+1.4**
	0.3nm,0.3s,baz=319,slow=13,SNR=17						
WRA				Sn	**Sn**	**07 54 12.6**	**-5.0**
	1.0nm,0.3s,baz=304,slow=25,SNR=11						
	0.3nm,0.3s						
WB2	**Warramunga Arr**	**14.65**	**138**	P	**Pn**	**07 51 36.9**	**+0.7**
	baz=15						
WB2				S	**Sn**	**07 54 12.1**	**-5.7**
	baz=15						
ASPA	**Alice Springs**	**17.22**	**147**	P	**P**	**07 52 08.9**	**+0.7**
	baz=17						
ASPA				S	**Sn**	**07 55 14.4**	**-5.3**
	baz=17						
ASAR	**Alice Springs**	**17.22**	**147**	P	**Pn**	**07 52 11.7**	**+3.6**
	0.2nm,0.3s,baz=325,slow=12,SNR=28						
ASAR				S	**Sn**	**07 55 15.3**	**-4.5**
	2.0nm,0.8s,baz=312,slow=21,SNR=7.0						
	1.4nm,0.6s						
QIS	**Mount Isa**	**18.86**	**128**	P	**Pn**	**07 52 29.7**	**+1.8**
	baz=19						
QIS				S	**S**	**07 55 49.6**	**-5.8**
	baz=19						
MKAR	**Makanchi Array**	**67.00**	**330**	P	**P**	**07 58 55.3**	**-0.6**
	0.4nm,0.4s,baz=131,slow=6.5,SNR=7.0						
	0.4nm,0.4s						

IDC 27 07:59:24.6±51.0, 16°.23S×177°.30W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=943.9km s-min=165.8km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.38**	**240**	P	P	08 07 05.0	+0.6
	0.5nm,0.4s,baz=95,slow=12,SNR=4.4						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**46.00**	**258**	P	P	08 07 49.7	-0.5
	0.1nm,0.3s,baz=94,slow=7.8,SNR=7.2						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**46.28**	**253**	P	P	08 07 52.0	-0.3
	1.3nm,0.5s,baz=90,slow=8.0,SNR=30						
	1.3nm,0.5s						

DJA 27 08:01:19.7±0.3, 0°.5S±3°.3×12°.5E±°, h10km, M4.0/12, mb4.5/3, mB4.5/1, MLv3.8/12, Mw(mB)3.6/1, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.18**	**330**	P	Pb	08 01 41.3	-0.8
LUWI	**Luwuk**	**1.89**	**252**	P	Pn	08 01 53.0	+0.9
LUWI				S	Sn	08 02 16.7	+0.7
SANI	**Sanana**	**2.13**	**138**	P	Pn	08 01 55.3	-0.1
MRSI	**Marisa**	**2.79**	**289**	P	Pn	08 02 05.1	+0.7
LBMI	**Labuha**	**2.94**	**94**	P	Pn	08 02 06.3	-0.2
TNTI	**Ternate**	**3.05**	**67**	P	Pn	08 02 07.8	-0.2
NLAI	**Namlea**	**3.75**	**138**	P	Pn	08 02 18.5	+0.8
SGSI	**Sangihe**	**4.22**	**13**	P	Pn	08 02 23.9	-0.2
MPSI	**Mapaga**	**4.74**	**279**	P	Pn	08 02 31.1	-0.1
BBSI	**Bau Bau**	**5.39**	**202**	P	Pn	08 02 39.7	-0.5
	81nm,1.2s,0.3nm						

IDC ***27*** *08:05:20.2±1.5, 38°.26N×21°.28E, h0km, mb3.6/6, mbtmp3.5/7, ML2.9/1, MS3.2/1, Error ellipse: s-maj=33.1km s-min=26.8km az=143.0*

ATH ***27*** *08:05:22.8, 38°.16N×21°.21E, h18km±1km, ML3.2/10, Error ellipse: s-maj=1.8km s-min=0.6km az=181.0*

THE ***27*** *08:05:23.1, 38°.17N×21°.23E, h15km, ML3.2/19, Error ellipse: s-maj=0.9km s-min=0.3km az=203.0*

NAO ***27*** *08:06:01.0, 42°.09N×23°.02E, h33km, mb3.2*

ISC 27 08:05:22.7±0.9, 38°.17N±0°.02×21°.22E±0°.01, h17km±6km, n60, σ0s74/101, mb3.6/6, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.23**	**121**	P	**Pg**	**08 05 28.1**	**+0.1**
RLS				S	**Sb**	**08 05 32.2**	**+0.2**
	16μm,0.4s						
RLS	**Riolos of Patr**	**0.23**	**121**	P	**Pg**	**08 05 28.0**	**+0.1**
RLS				S	**Sb**	**08 05 31.7**	**-0.3**
RLS				AML	AML	08 05 32.4	
	comp=N,44517μm,0.4s						
RLS				AML	AML	08 05 32.5	
	comp=E,19133μm,0.3s						
UPR	**University Cam**	**0.46**	**76**	P	**Pg**	**08 05 32.2**	**+0.2**
UPR				S	**Sb**	**08 05 39.8**	**+1.0**
VLS	**Valsamata**	**0.50**	**271**	P	**Pg**	**08 05 32.4**	**-0.3**
VLS				S	**Sb**	**08 05 41.0**	**+1.0**
	comp=E,3μm,0.1s						
VLS	**Valsamata**	**0.50**	**271**	P	**Pg**	**08 05 32.5**	**-0.3**
VLS				S	**Sb**	**08 05 40.0**	**0.0**
VLS				AML	AML	08 05 41.7	
	comp=N,6306μm,0.1s						
VLS				AML	AML	08 05 41.8	
	comp=E,4437μm,0.1s						
PVO	**Paravola**	**0.50**	**28**	P	**Pg**	**08 05 33.0**	**+0.2**
PVO				S	**Sb**	**08 05 41.5**	**+1.4**
	comp=E,11μm,0.2s						
PVO	**Paravola**	**0.50**	**28**	P	**Pg**	**08 05 32.9**	**+0.2**
PVO				S	**Sb**	**08 05 40.7**	**+0.6**
PSDA	**Pessada-Kefalo**	**0.51**	**263**	P	**Pg**	**08 05 32.6**	**-0.3**
PSDA				S	**Sb**	**08 05 41.1**	**+0.9**
PSDA	**Pessada-Kefalo**	**0.51**	**263**	P	**Pg**	**08 05 32.6**	**-0.3**
PSDA				S	**Sg**	**08 05 40.0**	**+0.3**
LTHK	**Lithakia**	**0.56**	**213**	P	**Pg**	**08 05 33.8**	**0.0**
LTHK				S	**Sb**	**08 05 42.3**	**+0.8**
	comp=E,5μm,0.5s						
LTHK	**Lithakia**	**0.56**	**213**	P	**Pg**	**08 05 33.6**	**-0.1**
LTHK				S	**Sg**	**08 05 41.3**	**+0.1**
LTHK				AML	AML	08 05 50.7	
	comp=N,10158μm,0.4s						
LTHK				AML	AML	08 05 52.6	
	comp=E,8056μm,0.5s						
VSK1	**VASILIKIADES**	**0.57**	**295**	P	**Pg**	**08 05 33.7**	**-0.3**
VSK1				S	**Sb**	**08 05 43.7**	**+1.7**
	comp=E,1μm,0.2s						
FSK	**Fiskardo**	**0.59**	**299**	P	**Pg**	**08 05 34.2**	**-0.3**
FSK				S	**Sb**	**08 05 43.8**	**+1.1**
	comp=E,2μm,0.1s						
FSK	**Fiskardo**	**0.59**	**299**	P	**Pg**	**08 05 34.1**	**-0.3**
FSK				S	**Sg**	**08 05 42.7**	**+0.3**
FSK				AML	AML	08 05 45.4	
	comp=E,5764μm,0.1s						
FSK				AML	AML	08 05 45.5	
	comp=N,3300μm,0.2s						
EFP	**Efpalio**	**0.59**	**65**	P	**Pg**	**08 05 34.1**	**-0.4**
EFP				S	**Sb**	**08 05 43.7**	**+1.0**
	comp=N,3μm,0.4s						
EFP	**Efpalio**	**0.59**	**65**	P	**Pg**	**08 05 34.0**	**-0.5**
EFP				S	**Sb**	**08 05 43.3**	**+0.6**
EFP				AML	AML	08 05 44.7	
	comp=N,4327μm,0.5s						
EFP				AML	AML	08 05 45.2	
	comp=E,8171μm,0.4s						
LAKA	**Lakka**	**0.60**	**83**	P	**Pg**	**08 05 34.4**	**-0.2**
LAKA				S	**Sb**	**08 05 43.6**	**+0.7**
LAKA	**Lakka**	**0.60**	**83**	P	**Pg**	**08 05 34.3**	**-0.3**
LAKA				S	**Sg**	**08 05 42.5**	**-0.1**
KRI1	**kERI**	**0.60**	**212**	P	**Pg**	**08 05 34.6**	**-0.1**
KRI1				S	**Sb**	**08 05 44.1**	**+1.2**
LXRA	**Lixouri, Kepha**	**0.62**	**273**	P	**Pg**	**08 05 34.9**	**-0.1**
LXRA				S	**Sg**	**08 05 42.7**	**-0.5**
EVGI	**Lefkada island**	**0.63**	**315**	P	**Pg**	**08 05 35.4**	**+0.2**
EVGI				S	**Sb**	**08 05 44.9**	**+1.1**
	comp=E,2μm,0.2s						
KEF4	**Livadi, Kephal**	**0.63**	**278**	P	**Pg**	**08 05 35.1**	**-0.1**
KEF4				S	**Sb**	**08 05 44.9**	**+1.1**
KEF4	**Livadi, Kephal**	**0.63**	**278**	P	**Pg**	**08 05 34.8**	**-0.4**
DMLN	**Damoulianata-K**	**0.67**	**276**	P	**Pg**	**08 05 35.6**	**-0.3**
DMLN				S	**Sb**	**08 05 45.9**	**+0.9**
	comp=E,2μm,0.6s						
DMLN	**Damoulianata-K**	**0.67**	**276**	P	**Pg**	**08 05 35.5**	**-0.5**
NYDR	**Nydri-Lefkada**	**0.68**	**323**	P	**Pg**	**08 05 35.5**	**-0.6**
NYDR				S	**Sb**	**08 05 45.9**	**+0.8**
	comp=E,1μm,0.6s						
NYDR	**Nydri-Lefkada**	**0.68**	**323**	P	**Pg**	**08 05 35.3**	**-0.8**
ANX	**Ano Chora**	**0.69**	**52**	P	**Pg**	**08 05 35.9**	**-0.4**
ANX				S	**Sb**	**08 05 46.5**	**+0.9**
	comp=E,4μm,0.6s						
ANX	**Ano Chora**	**0.69**	**52**	P	**Pg**	**08 05 36.0**	**-0.4**
ANX				S	**Sb**	**08 05 46.2**	**+0.6**
ANX				AML	AML	08 05 49.9	
	comp=N,7536μm,0.7s						
ANX				AML	AML	08 05 51.6

LKD2	**Lefkada island**	**0.76**	**324**	P	**Pg**	08 05 37.0	-0.6
LKD2				S	**Sb**	08 05 49.0	+1.5
	comp=E,1μm,0.3s						
LKD2	**Lefkada island**	**0.76**	**324**	P	**Pg**	08 05 36.9	-0.7
LKD2				S	**Sb**	08 05 48.4	+0.9
LKD2				AML	AML	08 05 55.5	
	comp=N,2942μm,0.5s						
LKD2				AML	AML	08 05 57.7	
	comp=E,2965μm,0.2s						
TSLK	**Tsoukalades, L**	**0.79**	**326**	P	**Pg**	08 05 38.2	+0.1
TSLK				S	**Sb**	08 05 50.0	+1.7
	comp=E,1μm,0.7s						
TSLK	**Tsoukalades, L**	**0.79**	**326**	P	**Pg**	08 05 37.4	-0.7
TSLK				S	**Sg**	08 05 48.8	+0.3
EVR	**Evrytania**	**0.87**	**32**	P	**Pg**	08 05 40.1	+0.4
EVR				S	**Sb**	08 05 52.3	+1.5
	comp=E,1μm,0.7s						
EVR	**Evrytania**	**0.87**	**32**	P	**Pb**	08 05 39.6	+0.2
EVR				S	**Sg**	08 05 51.0	-0.3
EVR				AML	AML	08 05 57.9	
	comp=E,2963μm,0.6s						
EVR				AML	AML	08 06 02.9	
	comp=N,1574μm,0.7s						
GUR	**Goura**	**0.92**	**105**	P	**Pb**	08 05 39.5	-0.6
GUR				S	**Sg**	08 05 53.2	+0.6
	comp=N,4μm,0.4s						
GUR	**Goura**	**0.92**	**105**	P	**Pb**	08 05 39.5	-0.6
GUR				S	**Sg**	08 05 52.4	-0.2
GUR				AML	AML	08 05 56.5	
	comp=N,8009μm,0.3s						
GUR				AML	AML	08 05 57.0	
	comp=E,6273μm,0.5s						
MAKR	**Makrakomi, Fth**	**1.10**	**40**	P	**Pb**	08 05 43.3	0.0
MAKR				S	**Sn**	08 05 59.4	+1.3
	comp=E,2μm,0.7s						
MAKR	**Makrakomi, Fth**	**1.10**	**40**	P	**Pb**	08 05 43.0	-0.3
AGG	**Agios Georgios**	**1.21**	**45**	P	**Pn**	08 05 44.9	0.0
AGG				S	**Sg**	08 06 02.1	+0.1
	comp=E,615nm,0.7s						
AXAR	**Agios Charalam**	**1.27**	**62**	P	**Pn**	08 05 45.6	-0.1
AXAR				S	**Sg**	08 06 03.5	-0.4
	comp=E,2μm,0.5s						
OHR	**Ohrid**	**2.95**	**354**	*i* Pn	**Pb**	08 06 13.7	-1.2
STIP	**Stip**	**3.59**	**12**	*i* Pn	**Pb**	08 06 23.3	-2.4
BRTR	**Keskin Array B**	**9.80**	**77**	Pn	**Pn**	08 07 43.8	+0.9
	comp=E,0.1nm,0.3s,baz=266,slow=13,SNR=1.4						
	comp=E,0.3nm,0.4s						
KBZ	**Khabaz**	**17.27**	**64**	LR	LR	08 17 53.5	
	comp=E,82nm,21.5s,baz=330,slow=44						
HFS	**Hagfors**	**22.50**	**350**	P	**P**	08 10 19.8	-1.3
	comp=E,2.5nm,0.7s,baz=150,slow=12,SNR=7.7						
	comp=E,2.5nm,0.7s						
NB2	**NORSAR Subarra**	**23.73**	**348**	P	**P**	08 10 33.6	-0.1
	comp=Z,1.2nm,0.8s,baz=154,slow=11						
NOA	**NORSAR Array B**	**23.73**	**348**	P	**P**	08 10 33.2	-0.5
	comp=Z,0.4nm,0.5s,baz=160,slow=9.5,SNR=1.7						
	comp=Z,0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**30.38**	**220**	P	**P**	08 11 34.8	+1.0
	comp=Z,0.2nm,0.5s,baz=38,slow=9.7,SNR=1.8						
	comp=Z,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**41.79**	**54**	P	**P**	08 13 10.6	-0.3
	comp=Z,0.5nm,0.6s,baz=281,slow=8.9,SNR=2.3						
	comp=Z,0.5nm,0.6s						
MKAR	**Makanchi Array**	**44.83**	**59**	P	**P**	08 13 36.0	+0.3
	comp=Z,0.9nm,0.6s,baz=270,slow=8.5,SNR=9.3						
	comp=Z,0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**45.28**	**48**	P	**P**	08 13 37.8	-1.3
	comp=Z,1.0nm,0.6s,baz=273,slow=9.4,SNR=3.6						
	comp=Z,1.0nm,0.6s						

JMA 27 08:44:17.9±0.2, 38°.3N±0°.8×144°.5E±1°.0, h44km, MV3.9/30, FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.35**	**290**	*i* P	Pn	08 44 55.3	+1.3
OFUJ				*e*S	Sn	08 45 22.7	+1.1
JIKH	**Ishinomakikobu**	**2.38**	**271**	P	Pn	08 44 55.6	+1.2
JIKH				*e*S	Sn	08 45 23.5	+1.0
JKMT	**Kesennumamotoy**	**2.42**	**283**	P	Pn	08 44 56.4	+1.3
JKMT				S	Sn	08 45 24.9	+1.4
MIYJ	**Miyakonagasawa**	**2.45**	**302**	P	Pn	08 44 56.5	+1.1
MIYJ				*e*S	Sn	08 45 25.0	+0.9
JMK	**Ichinoseki**	**2.65**	**285**	P	Pn	08 44 59.9	+1.7
JMK				*e*S	Sn	08 45 30.8	+1.8
JOM	**Ohasama**	**2.76**	**296**	P	Pn	08 45 01.4	+1.7
JOM				S	Sn	08 45 34.3	+2.5
JYK	**Kaneyama**	**3.30**	**282**	P	Pn	08 45 09.5	+2.4
JYK				S	Sn	08 45 47.9	+2.9
JOTO	**OTAMA OYAMA**	**3.37**	**259**	S	Sn	08 45 49.3	+2.4
JOT	**Ohata**	**4.07**	**320**	*e*S	Sn	08 46 03.6	-0.3
JCH	**Churui**	**4.40**	**349**	*e*P	Pn	08 45 21.2	-1.0
JCH				*e*S	Sn	08 46 09.3	-2.9
BSO1	**Boso 1**	**4.61**	**219**	*e*S	Sn	08 46 16.9	+0.5
JRY	**Ryogami san**	**5.01**	**245**	P	Pn	08 45 32.1	+1.5
JRY				*e*S	Sn	08 46 26.4	-0.9
NEM2	**Nemuro 2**	**5.16**	**10**	P	Pn	08 45 29.6	-2.9
NEM2				S	Sn	08 46 23.7	-7.0
JOD2	**Odawara 2**	**5.29**	**237**	*e*S	Sn	08 46 32.9	-1.2
JTKR	**Abashiri--Toko**	**5.69**	**356**	P	Pn	08 45 39.4	-0.5
JTKR				*e*S	Sn	08 46 39.7	-4.1
JHR	**Hokuryu**	**5.83**	**340**	*e*S	Sn	08 46 48.5	+1.1

JMA 27 09:03:19.1±0.1, 23°.3N±0°.8×12°.2E±°, h50km±2km, MV3.1/16, TAIWAN REGION
TAP 27 09:03:19.6, 23°.30N×121°.58E, h40km, ML3.5, B
ISC 27 09:03:20.0±0.9, 23°.27N±0°.02×121°.64E±0°.02, h34km±7km, n128, σ0s91/190, 2C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECBN	**Changbin**	**0.18**	**286**	*i* P	**Pn**	**09 03 26.7**	**+2.0**
	baz=279						
ECBN				*e*S	**Sb**	**09 03 31.7**	**+0.8**
	baz=279						
CHKH	**Chenggong**	**0.23**	**251**	*i* P	**Pn**	**09 03 26.8**	**+0.5**
	baz=232						
CHKH				*i* S	**Sn**	**09 03 32.1**	**+2.9**
	baz=232						
HGSD	**Ruisui**	**0.30**	**319**	⇑*i* P	**Pb**	**09 03 27.2**	**-0.6**
	baz=324						
CHKT	**Chengkung**	**0.30**	**236**	*i* P	**Pn**	**09 03 27.5**	**-0.3**
	baz=218						
CHKT				S	**Sn**	**09 03 33.3**	**+1.1**
	baz=218						
EYUL	**Yuli**	**0.30**	**285**	*i* P	**Pb**	**09 03 27.8**	**0.0**
	baz=282						
FULB	**Fuli**	**0.32**	**258**	*i* P	**Pb**	**09 03 27.7**	**-0.4**
	baz=248						
FULB				*e*S	**Sn**	**09 03 33.8**	**+0.7**
	baz=248						
TWF1	**Yuli**	**0.32**	**285**	*i* P	**Pb**	**09 03 27.8**	**-0.4**
	baz=282						
YULB	**Yu-li**	**0.34**	**292**	P	**Pb**	**09 03 27.7**	**-0.6**
YULB	**Yu-li**	**0.34**	**292**	*i* P	**Pb**	**09 03 27.7**	**-0.6**
	baz=290						
YULB				*i* S	**Sn**	**09 03 33.6**	**0.0**
	baz=290						
EHY	**Hungye**	**0.37**	**310**	P	**Pb**	**09 03 28.0**	**-0.8**
	baz=302						
EHD	**Haiduan**	**0.41**	**254**	P	**Pb**	**09 03 28.6**	**-0.8**
	baz=257						
EHD				*e*S	**Sb**	**09 03 35.1**	**-0.7**
	baz=257						
ECS	**Chishang**	**0.42**	**246**	P	**Pb**	**09 03 29.6**	**+0.2**
	baz=250						
ECS				S	**Sb**	**09 03 37.0**	**+1.1**
	baz=250						
EDH	**Donghe**	**0.42**	**226**	*e*P	**Pb**	**09 03 29.5**	**0.0**
	baz=210						
EDH				*e*S	**Sb**	**09 03 36.5**	**+0.5**
	baz=210						
EGFH	**Guangfu**	**0.44**	**335**	P	**Pb**	**09 03 28.9**	**-0.9**
	baz=329						
EGFH				*e*S	**Sb**	**09 03 36.6**	**+0.1**
	baz=329						
TEGC	**Jichi Village**	**0.45**	**349**	*i* P	**Pb**	**09 03 29.3**	**-0.6**
	baz=2.0						
TEGC				S	**Sb**	**09 03 36.6**	**0.0**
	baz=2.0						
WARBT	**Fenglin Townsh**	**0.50**	**333**	*i* P	**Pn**	**09 03 29.3**	**-1.5**
	baz=326						
SHUL	**Shoufeng**	**0.52**	**353**	P	**Pn**	**09 03 30.1**	**-0.9**
	baz=4.0						
SHUL				*e*S	**Sn**	**09 03 38.3**	**-0.4**
	baz=4.0						
ELDTW	**Lidau**	**0.57**	**262**	*i* P	**Pn**	**09 03 30.6**	**-1.1**
	baz=252						
ELDTW				*e*S	**Sn**	**09 03 38.0**	**-2.0**
	baz=252						
ESL	**Shilin**	**0.57**	**341**	P	**Pn**	**09 03 30.8**	**-0.9**
	baz=334						
LONT	**Longtian**	**0.59**	**232**	P	**Pn**	**09 03 31.0**	**-0.9**
	baz=235						
LONT				*e*S	**Sn**	**09 03 39.4**	**-0.9**
	baz=235						
LDUT	**Ludao**	**0.61**	**195**	*e*P	**Pn**	**09 03 31.5**	**-0.6**
	baz=182						
VWDT	**VWDT**	**0.66**	**317**	*i* P	**Pn**	**09 03 32.0**	**-0.8**
	baz=319						
TWGBT	**Beinan**	**0.68**	**229**	P	**Pn**	**09 03 32.1**	**-1.0**
TWGBT	**Beinan**	**0.68**	**229**	P	**Pn**	**09 03 32.0**	**-1.2**
	baz=234						
TWGBT				S	**Sn**	**09 03 41.3**	**-1.2**
	baz=234						
TWG	**Pinlang**	**0.68**	**230**	P	**Pn**	**09 03 32.0**	**-1.1**
	baz=233						
TWG				*e*S	**Sn**	**09 03 41.3**	**-1.3**
	baz=233						
HWA	**Hwalien**	**0.71**	**358**	*e*P	**Pn**	**09 03 32.7**	**-0.8**
	baz=10.0						
ETM	**Tongmen**	**0.71**	**349**	P	**Pn**	**09 03 32.2**	**-1.3**
	baz=343						
LXIB	**Xiulin Townshi**	**0.78**	**345**	P	**Pn**	**09 03 33.0**	**-1.6**
	baz=349						
STYH	**Taoyuan**	**0.80**	**263**	*i* P	**Pn**	**09 03 34.2**	**-0.6**
	baz=260						
STYH				S	**Sn**	**09 03 44.6**	**-0.8**
	baz=260						
ALS	**Alishan**	**0.80**	**288**	*i* P	**Pn**	**09 03 34.7**	**-0.4**
	baz=286						
ALS				S	**Sn**	**09 03 45.4**	**-0.5**
	baz=286						
OWD	**Renai**	**0.80**	**328**	*e*P	**Pn**	**09 03 34.1**	**-0.9**
	baz=339						
TWD	**Chiawan**	**0.81**	**357**	P	**Pn**	**09 03 33.9**	**-1.1**
	baz=349						
TWD				*e*S	**Sn**	**09 03 44.8**	**-0.9**
	baz=349						
SSLB	**Suanglung**	**0.81**	**310**	P	**Pn**	**09 03 34.1**	**-0.9**
SSLB	**Suanglung**	**0.81**	**310**	⇑*i* P	**Pn**	**09 03 34.1**	**-0.9**
	baz=310						
SSLB				*e*S	**Sn**	**09 03 44.0**	**-1.8**
	baz=310						
WHYT	**Xinyi Township**	**0.83**	**301**	P	**Pn**	**09 03 35.1**	**-0.3**
	baz=303						
WHYT				S	**Sn**	**09 03 45.6**	**-0.8**
	baz=303						
WUSB	**Renai**	**0.86**	**327**	*i* P	**Pn**	**09 03 34.9**	**-0.9**
	baz=335						
WUSB				*e*S	**Sn**	**09 03 45.7**	**-1.6**
	baz=335						
ETL	**Fush Village**	**0.89**	**359**	*e*P	**Pn**	**09 03 35.3**	**-0.8**
	baz=9.0						
CHGB	**Renai**	**0.90**	**332**	*i* P	**Pn**	**09 03 35.4**	**-0.9**
	baz=341						
NACB	**Ninganchiao**	**0.90**	**358**	P	**Pn**	**09 03 35.2**	**-1.1**
NACB	**Ninganchiao**	**0.90**	**358**	*i* P	**Pn**	**09 03 35.0**	**-1.3**
	baz=352						
SMLT	**Sun Moon Lake**	**0.91**	**312**	*i* P	**Pn**	**09 03 36.0**	**-0.5**
	baz=317						
SMLT				S	**Sn**	**09 03 47.5**	**-0.9**
	baz=317						
TPUB	**Ta-pu**	**0.93**	**272**	P	**Pn**	**09 03 36.7**	**+0.1**
TPUB	**Ta-pu**	**0.93**	**272**	P	**Pn**	**09 03 36.5**	**0.0**
	baz=270						
TPUB				S	**Sn**	**09 03 48.8**	**+0.1**
	baz=270						
CHN5	**Tsauling**	**0.94**	**291**	*i* P	**Pn**	**09 03 37.0**	**+0.2**
	baz=290						
CHN5				S	**Sn**	**09 03 49.5**	**+0.4**
	baz=290						
WHF	**Hehuan Shan**	**0.94**	**339**	*i* P	**Pn**	**09 03 36.0**	**-1.2**
	baz=350						
WTP	**Ta-pu**	**0.94**	**269**	*i* P	**Pn**	**09 03 37.0**	**+0.2**
	baz=266						
WTP				S	**Sn**	**09 03 49.7**	**+0.7**
	baz=266						
ETLH	**Xiulin Townshi**	**0.95**	**352**	P	**Pn**	**09 03 35.4**	**-1.5**
	baz=356						
SLGT	**Liugui**	**0.95**	**254**	P	**Pn**	**09 03 37.3**	**+0.5**
	baz=250						
SLGT				S	**Sn**	**09 03 49.7**	**+0.5**
	baz=250						
TYC	**Yuchr**	**0.95**	**312**	*i* P	**Pn**	**09 03 36.6**	**-0.3**
	baz=319						
TYC				S	**Sn**	**09 03 49.0**	**-0.3**
	baz=319						
CHN4	**Tsaushan**	**0.96**	**275**	*i* P	**Pn**	**09 03 37.3**	**+0.3**
	baz=273						
CHN4				*i* S	**Sn**	**09 03 50.3**	**+0.7**
	baz=273						
WCKO	**Fanlu**	**0.96**	**280**	P	**Pn**	**09 03 37.5**	**+0.5**
	baz=279						
WCKO				*e*S	**Sn**	**09 03 50.5**	**+0.9**
	baz=279						
SGST	**Jiashian**	**0.98**	**259**	P	**Pn**	**09 03 36.9**	**-0.5**
	baz=256						
SGST				*e*S	**Sn**	**09 03 50.8**	**+0.7**
	baz=256						
WJS	**Zhushan**	**1.00**	**304**	P	**Pn**	**09 03 38.2**	**+0.7**
	baz=304						
WJS				S	**Sn**	**09 03 51.3**	**+0.8**
	baz=304						
CHN1	**Nanshi**	**1.02**	**266**	P	**Pn**	**09 03 38.3**	**+0.4**
	baz=263						
CHN1				S	**Sn**	**09 03 52.4**	**+1.3**
	baz=263						
WCS	**Beigang Elemen**	**1.03**	**320**	*i* P	**Pn**	**09 03 37.8**	**-0.2**
	baz=327						
SNST	**Tainan City**	**1.05**	**268**	P	**Pn**	**09 03 38.7**	**+0.5**
	baz=265						
SNST				*e*S	**Sn**	**09 03 53.0**	**+1.3**
	baz=265						
TWK	**Hsinying**	**1.05**	**270**	P	**Pn**	**09 03 38.7**	**+0.3**
	baz=268						
TWK				S	**Sn**	**09 03 53.0**	**+1.1**
	baz=268						
EOS4	**EOS4**	**1.06**	**36**	*e*P	**Pn**	**09 03 37.9**	**-0.1**
	baz=40						
EOS4				*e*S	**Sn**	**09 03 51.1**	**-0.2**
	baz=40						
WNT	**Mingjian**	**1.06**	**305**	*e*P	**Pn**	**09 03 39.0**	**+0.5**
	baz=293						
WNT				*e*S	**Sn**	**09 03 52.8**	**+0.7**
	baz=293						
TWT	**Tachien**	**1.07**	**337**	*i* P	**Pn**	**09 03 38.4**	**-0.3**
	baz=340						
TSMG	**Majia**	**1.07**	**239**	*e*P	**Pn**	**09 03 38.6**	**0.0**
	baz=230						
WGK	**Gukeng**	**1.07**	**293**	P	**Pn**	**09 03 39.4**	**+0.8**
	baz=292						
WGK				*e*S	**Sn**	**09 03 53.4**	**+1.2**
	baz=292						
TDCB	**Techi**	**1.07**	**336**	P	**Pn**	**09 03 38.4**	**-0.3**
	baz=338						
WDLH	**Douliu**	**1.09**	**293**	P	**Pn**	**09 03 39.5**	**+0.7**
	baz=292						
WDLH				*e*S	**Sn**	**09 03 53.3**	**+0.6**
	baz=292						
SCST	**Cishan**	**1.12**	**250**	*e*P	**Pn**	**09 03 40.6**	**+1.5**
	baz=247						
SCST				*e*S	**Sn**	**09 03 56.1**	**+2.8**
	baz=247						
MASBT	**Mashibuluo**	**1.13**	**235**	*i* P	**Pn**	**09 03 39.2**	**-0.2**
	baz=225						
TAW	**Tawu**	**1.13**	**217**	S	**Sn**	**09 03 52.5**	**-1.3**
	baz=212						
CHY	**Chiayi**	**1.14**	**282**	*i* S	**Sn**	**09 03 54.7**	**+0.9**
	baz=280						
EAST	**Anshuo**	**1.14**	**220**	*e*P	**Pn**	**09 03 39.0**	**-0.6**
	baz=208						
TAWH	**Dawu Township**	**1.15**	**217**	*e*P	**Pn**	**09 03 39.3**	**-0.4**
	baz=212						
TAWH				S	**Sn**	**09 03 52.8**	**-1.4**
	baz=212						
ENA	**Nanau**	**1.16**	**5**	*e*P	**Pn**	**09 03 39.1**	**-0.7**
	baz=19						
NNSB	**Datong**	**1.18**	**349**	*e*P	**Pn**	**09 03 40.2**	**+0.1**
	baz=2.0						
EWUT	**Wuta**	**1.18**	**6**	*e*P	**Pn**	**09 03 39.5**	**-0.6**
	baz=19						
EWUT				*e*S	**Sn**	**09 03 54.6**	**-0.3**
	baz=19						
WHP	**Taichung City**	**1.19**	**328**	*e*P	**Pn**	**09 03 40.9**	**+0.6**
	baz=334						
EOS3	**EOS3**	**1.19**	**31**	*e*P	**Pn**	**09 03 40.3**	**+0.3**
	baz=32						
EOS3				*e*S	**Sn**	**09 03 55.2**	**+0.2**
	baz=32						
NNS	**Nan Shan**	**1.19**	**348**	*e*P	**Pn**	**09 03 40.5**	**+0.1**
	baz=2.0						
TWM1	**Shoushan**	**1.20**	**249**	*e*P	**Pn**	**09 03 42.4**	**+2.1**
	baz=245						
SHHT	**Tainan City**	**1.21**	**259**	*e*P	**Pn**	**09 03 42.3**	**+1.9**
	baz=255						
WTK	**Tuku**	**1.22**	**290**	*e*S	**Sn**	**09 03 56.5**	**+0.7**
	baz=289						
LAY	**Lan-yu**	**1.23**	**184**	*e*P	**Pn**	**09 03 40.1**	**-0.6**
	baz=173						
TCU	**Taichung**	**1.24**	**315**	S	**Sn**	**09 03 57.8**	**+1.4**
	baz=303						
ICHU	**Yijhu**	**1.25**	**275**	*e*P	**Pn**	**09 03 41.2**	**+0.3**
	baz=273						
ICHU				*e*S	**Sn**	**09 03 57.7**	**+1.1**
	baz=273						
LYUB	**Lan-yu**	**1.26**	**182**	P	**Pn**	**09 03 40.0**	**-1.1**
	baz=172						
LATG	**Datong**	**1.27**	**356**	*e*P	**Pn**	**09 03 40.6**	**-0.7**
	baz=360						
EOS2	**EOS2**	**1.27**	**25**	*e*P	**Pn**	**09 03 42.0**	**+0.9**
	baz=33						
WCHH	**Zhanghua**	**1.28**	**310**	*e*S	**Sn**	**09 03 59.0**	**+1.7**
	baz=309						
SCZT	**Fangliau**	**1.29**	**227**	*e*P	**Pn**	**09 03 42.2**	**+0.6**
	baz=213						
SNJT	**Kaohsiung City**	**1.30**	**247**	*e*P	**Pn**	**09 03 43.6**	**+1.9**
	baz=243						
CHN8	**Yiju**	**1.31**	**274**	*e*P	**Pn**	**09 03 41.9**	**+0.1**
	baz=272						
CHN8				*e*S	**Sn**	**09 03 59.4**	**+1.2**
	baz=272						
WRL	**Guolierlin Hig**	**1.31**	**299**	*e*P	**Pn**	**09 03 42.3**	**+0.4**
	baz=299						
WRL				S	**Sn**	**09 03 58.8**	**+0.5**
	baz=299						
NDT	**Datong Townshi**	**1.33**	**355**	*e*P	**Pn**	**09 03 42.0**	**-0.2**
	baz=359						
TWQ1	**Liyutan**	**1.33**	**324**	P	**Pn**	**09 03 43.4**	**+1.1**
	baz=335						
TWQ1				S	**Sn**	**09 04 00.3**	**+1.5**
	baz=335						
TWC	**Suao**	**1.35**	**8**	*e*P	**Pn**	**09 03 42.5**	**+0.1**
	baz=13						
ENTT	**Nioudou**	**1.37**	**357**	*e*P	**Pn**	**09 03 42.9**	**+0.2**
	baz=2.0						
NSY	**Sanyi**	**1.40**	**325**	*e*P	**Pn**	**09 03 44.1**	**+1.0**
	baz=326						
NSY				S	**Sn**	**09 04 02.4**	**+2.1**
	baz=326						
WDJ	**Dajia District**	**1.41**	**320**	*e*P	**Pn**	**09 03 44.0**	**+0.7**
	baz=333						
WDJ				*e*S	**Sn**	**09 04 02.4**	**+1.8**
	baz=333						
NSK	**Sanguang**	**1.43**	**350**	*e*P	**Pn**	**09 03 43.8**	**+0.2**
	baz=354						
TSCK	**Chigu Township**	**1.43**	**266**	*e*P	**Pn**	**09 03 43.9**	**+0.4**
	baz=263						
TSCK				*e*S	**Sn**	**09 04 02.3**	**+1.2**
	baz=263						
NFF	**Wufeng Townshi**	**1.44**	**341**	*e*P	**Pn**	**09 03 44.7**	**+1.0**
	baz=351						
NSTT	**Nanjuang**	**1.48**	**337**	*e*P	**Pn**	**09 03 44.5**	**+0.4**
	baz=340						
LIOB	**Emei**	**1.48**	**338**	*e*P	**Pn**	**09 03 45.2**	**+0.9**
	baz=341						
FUSB	**Fushanzhiwuyua**	**1.49**	**358**	P	**Pn**	**09 03 44.6**	**+0.2**
	baz=3.0						
NWLT	**Wulai**	**1.51**	**355**	*e*P	**Pn**	**09 03 45.1**	**+0.5**
	baz=357						
NWLT				*e*S	**Sn**	**09 04 02.8**	**-0.3**
	baz=357						
TSEB	**Hengchuen, Pin**	**1.52**	**207**	*e*S	**Sn**	**09 04 04.4**	**+1.0**
	baz=195						
TWKBT	**Hengchun**	**1.52**	**210**	S	**Sn**	**09 04 03.4**	**0.0**
	baz=196						
TWK1	**Hengchun**	**1.52**	**210**	*e*P	**Pn**	**09 03 44.9**	**+0.2**
	baz=198						
JYNG	**Yonagunijimaku**	**1.68**	**45**	*e*P	**Pn**	**09 03 47.4**	**+0.5**
JYNG				*e*S	**Sn**	**09 04 07.9**	**+0.6**
TIPB	**Shuangxi**	**1.71**	**6**	P	**Pn**	**09 03 48.2**	**+0.8**
	baz=357						
TIPB				*e*S	**Sn**	**09 04 08.3**	**+0.3**
	baz=357						
YOJ	**Yonaguni jima**	**1.73**	**46**	P	**Pn**	**09 03 48.3**	**+0.6**
YOJ				*e*S	**Sn**	**09 04 09.1**	**+0.5**
YOJ	**Yonaguni jima**	**1.73**	**46**	*i* P	**Pn**	**09 03 48.3**	**+0.6**
	baz=50						
YOJ				*e*S	**Sn**	**09 04 09.4**	**+0.8**
	baz=50						
WDGT	**Dungji**	**1.82**	**270**	*i* P	**Pn**	**09 03 48.4**	**-0.4**
	baz=268						
SXI1	**Grass Mountain**	**1.83**	**7**	P	**Pn**	**09 03 50.0**	**+0.9**
	baz=359						
PHUB	**P'eng-hu**	**1.91**	**278**	P	**Pn**	**09 03 49.6**	**-0.5**
	baz=264						
PHUB				*e*S	**Sn**	**09 04 12.3**	**-0.6**
	baz=264						
PNG	**Penghu**	**1.93**	**279**	P	**Pn**	**09 03 50.0**	**-0.4**
	baz=266						
PNG				*e*S	**Sn**	**09 04 12.7**	**-0.8**
	baz=266						
VCHM	**Qimei**	**2.03**	**269**	*e*P	**Pn**	**09 03 51.3**	**-0.4**
	baz=267						
HATJ	**Hateruma jima**	**2.14**	**68**	P	**Pn**	**09 03 53.7**	**+0.5**
HATJ				*e*S	**Sn**	**09 04 18.4**	**-0.2**
IRIF	**Iriomote-Funau**	**2.19**	**61**	P	**Pn**	**09 03 54.6**	**+0.6**
IRIF				*e*S	**Sn**	**09 04 21.3**	**+1.4**
JKRS	**Kuro-shima**	**2.38**	**66**	P	**Pn**	**09 03 57.4**	**+0.8**
JKRS				*e*S	**Sn**	**09 04 25.4**	**+0.9**
JIJ	**Ishigaki jima**	**2.54**	**64**	P	**Pn**	**09 03 59.2**	**+0.4**
JIJ				S	**Sn**	**09 04 27.9**	**-0.7**
VWUC	**VWUC**	**2.63**	**311**	*e*P	**Pn**	**09 03 59.5**	**-0.5**
	baz=311						
JISG	**Ishigakijimahi**	**2.78**	**61**	P	**Pn**	**09 04 02.1**	**0.0**
JISG				S	**Sn**	**09 04 33.2**	**-1.2**
JTJ	**Tarama**	**3.12**	**63**	P	**Pn**	**09 04 07.5**	**+0.8**
JTJ				*e*S	**Sn**	**09 04 42.7**	**-0.2**
KNMB	**Chin-men Tao**	**3.20**	**292**	*e*P	**Pn**	**09 04 07.2**	**-0.7**
	baz=292						
JMJ2	**Miyako jima3**	**3.68**	**66**	*e*P	**Pn**	**09 04 15.1**	**+0.7**
MHZQ	**Yeshan**	**3.68**	**321**	*e*P	**Pn**	**09 04 14.2**	**-0.3**
	baz=321						
AXDP	**Jialang**	**3.72**	**297**	*e*P	**Pn**	**09 04 14.2**	**-0.8**
	baz=296						
JOGS	**Gusukube**	**3.75**	**66**	P	**Pn**	**09 04 15.9**	**+0.4**
SXFK	**Yanhouchang**	**4.78**	**312**	*e*P	**Pn**	**09 04 29.0**	**-0.6**
	baz=311						

*NEIC

VTX				*e*S		**Sb**	**09 10 32.3**	**-0.3**
VTX				IAML			09 10 32.5	
	comp=E,1μm,0.1s							
VTX				⇓*e*			09 10 32.5	
VTX				IAML			09 10 32.6	
	comp=N,1μm,0.1s							
VTX				⇑*e*			09 10 32.6	
SV2X	**San Vicente**	**0.54**	**213**	⇑*eP*		**Pb**	**09 10 28.1**	**-0.5**
SV2X				*e*S		**Sb**	**09 10 35.4**	**-0.6**
SV2X				IAML			09 10 35.9	
	comp=E,605nm,0.1s							
SV2X				⇑*e*			09 10 35.9	
SV2X				IAML			09 10 36.4	
	comp=N,693nm,0.1s							
SV2X				⇑*e*			09 10 36.4	
RHX	**Rio Hardy**	**0.62**	**57**	⇑*eP*		**Pb**	**09 10 29.7**	**-0.5**
CCX	**Cicese**	**0.65**	**277**	Pg		**Pb**	**09 10 30.4**	**-0.2**
CCX	**Cicese**	**0.65**	**277**	*e*P		**Pb**	**09 10 30.3**	**-0.4**
CCX				*e*S		**Sb**	**09 10 39.1**	**-0.3**
CCX				⇓*e*			09 10 39.5	
CCX				IAML			09 10 39.5	
	comp=N,647nm,0.2s							
PBX	**Punta Banda**	**0.70**	**266**	⇑*i*P		**Pb**	**09 10 31.2**	**-0.3**
PBX				*e*S		**Sb**	**09 10 40.9**	**+0.1**
CPBX	**Cerro Prieto**	**0.80**	**39**	Pg		**Pb**	**09 10 32.7**	**-0.5**
RMX	**La Rumorosa**	**0.82**	**349**	Pg		**Pb**	**09 10 31.9**	**-1.7**
RMX						**Sb**	**09 10 41.8**	**-2.5**
RMX				IAML			09 10 42.5	
	comp=E,177nm,0.3s							
RMX				IAML			09 10 42.7	
	comp=N,216nm,0.1s							
RMX	**La Rumorosa**	**0.82**	**349**	⇓*i*P		**Pb**	**09 10 31.9**	**-1.7**
RMX				*e*S		**Sb**	**09 10 41.9**	**-2.5**
CBX	**Cerro Bola**	**0.83**	**309**			**Pb**	**09 10 33.2**	**-0.5**
CBX				IAML			09 10 44.6	
	comp=N,301nm,0.2s							
CBX				IAML			09 10 44.8	
	comp=E,240nm,0.2s							
CBX	**Cerro Bola**	**0.83**	**309**	⇓*i*P		**Pb**	**09 10 33.2**	**-0.5**
CBX				*e*S		**Sb**	**09 10 44.1**	**-0.4**
CBX	**Cerro Bola**	**0.83**	**309**	*e*P		**Pb**	**09 10 32.9**	**-0.8**
CBX				*e*S		**Sb**	**09 10 43.4**	**-1.1**
SPIG	**San Pedro Mart**	**0.83**	**153**	⇓*i*P		**Pb**	**09 10 33.5**	**-0.4**
SPIG				*e*S		**Sb**	**09 10 44.6**	**-0.2**
SPIG	**San Pedro Mart**	**0.83**	**153**	*e*P		**Pb**	**09 10 33.5**	**-0.4**
SPIG				*e*S		**Sb**	**09 10 44.6**	**-0.2**
YUH	**Yuha Desert**	**0.85**	**359**			**Pb**	**09 10 33.3**	**-0.7**
YUH	**Yuha Desert**	**0.85**	**359**			**Sb**	**09 10 44.0**	**-1.0**
YUH	**Yuha Desert**	**0.85**	**359**	IAML			09 10 44.7	
	comp=E,176nm,0.3s							
YUH				IAML			09 10 46.0	
	comp=N,170nm,0.1s							
YUH2	**Yuha Desert**	**0.85**	**359**	*e*P		**Pb**	**09 10 33.2**	**-0.8**
MBIG	**Mexicali**	**0.85**	**44**	*e*P		**Pb**	**09 10 33.5**	**-0.6**
MBIG				*e*S		**Sb**	**09 10 44.5**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**0.87**	**348**			**Pb**	**09 10 33.8**	**-0.6**
IKP						**Sb**	**09 10 44.7**	**-1.1**
IKP	**In-Ko-Pah, Jac**	**0.87**	**348**	P		**Pb**	**09 10 33.8**	**-0.6**
	baz=167,SNR=52							
IKP				S		**Sb**	**09 10 44.7**	**-1.1**
	baz=167							
TJIG	**Tijuana**	**0.92**	**314**	*e*P		**Pb**	**09 10 34.3**	**-0.8**
TJIG				*i* S		**Sb**	**09 10 46.4**	**-0.6**
TJIG	**Tijuana**	**0.92**	**314**	*e*P		**Pb**	**09 10 34.3**	**-0.8**
TJIG				*e*S		**Sb**	**09 10 46.0**	**-1.0**
5053	**Calexico**	**0.94**	**21**			**Sn**	**09 10 49.2**	**+0.9**
WESC	**Westside Schoo**	**0.97**	**8**			**Sn**	**09 10 49.5**	**+0.4**
TKX	**Tecate**	**0.98**	**322**			**Pn**	**09 10 35.4**	**-0.8**
TKX						**Sb**	**09 10 48.0**	**-0.7**
TKX	**Tecate**	**0.98**	**322**	*e*P		**Pn**	**09 10 35.1**	**-1.1**
COK2	**Cook Ranch 2**	**1.06**	**8**			**Pb**	**09 10 38.4**	**+0.8**
COK2						**Sn**	**09 10 52.7**	**+1.3**
CRR	**Carrizo Plain**	**1.09**	**357**			**Pn**	**09 10 37.9**	**+0.2**
CRR						**Sb**	**09 10 52.4**	**+0.5**
DUZA	**Dulzura**	**1.10**	**318**			**Pn**	**09 10 37.3**	**-0.6**
DUZA						**Sn**	**09 10 51.5**	**-0.8**
BAR	**Barrett**	**1.10**	**324**			**Sn**	**09 10 51.5**	**-0.8**
BAR	**Barrett**	**1.10**	**324**	Pn		**Pn**	**09 10 37.4**	**-0.5**
BAR	**Barrett**	**1.10**	**324**	IAML			09 10 52.6	
	comp=E,104nm,0.1s							
BAR				IAML			09 10 52.8	
	comp=N,108nm,0.2s							
BAR	**Barrett**	**1.10**	**324**	⇓*i*P		**Pn**	**09 10 37.2**	**-0.7**
BAR				⇑*e*			09 10 52.5	
BAR				IAML			09 10 52.5	
	comp=E,103nm,0.1s							
SWSC	**Sam W. Stewart**	**1.15**	**4**			**Pb**	**09 10 39.1**	**0.0**
SWSC	**Sam W. Stewart**	**1.15**	**4**	P		**Pn**	**09 10 39.0**	**+0.4**
	baz=184,SNR=22							
SWSC				S		**Sb**	**09 10 53.6**	**0.0**
	baz=184							
SFX	**San Felipe**	**1.17**	**130**	Pn		**Pn**	**09 10 39.6**	**+0.8**
SFX				IAML			09 10 56.1	
	comp=N,93nm,0.6s							
SFX	**San Felipe**	**1.17**	**130**	*e*P		**Pn**	**09 10 39.6**	**+0.8**
SFX				*e*S		**Sn**	**09 10 54.5**	**+0.5**
MONP2	**Monument Peak**	**1.18**	**338**			**Pn**	**09 10 39.3**	**+0.1**
MONP2						**Sb**	**09 10 54.6**	**-0.1**
MONP2	**Monument Peak**	**1.18**	**338**	P		**Pn**	**09 10 39.1**	**-0.1**
	baz=157,SNR=29							
MONP2				S		**Sn**	**09 10 54.4**	**-0.2**
	baz=157							
OLP	**Otay Lakes Par**	**1.19**	**313**			**Pn**	**09 10 39.0**	**-0.2**
OLP						**Sn**	**09 10 54.3**	**-0.2**
TJX	**Tijuana**	**1.21**	**306**	Pn		**Pb**	**09 10 40.0**	**-0.1**
TJX				IAML			09 11 00.6	
	comp=N,94nm,0.8s							
TJX				IAML			09 11 02.6	
	comp=E,90nm,0.6s							
SQX	**San Quintin**	**1.21**	**179**	*e*P		**Pn**	**09 10 39.2**	**-0.2**
SDRC	**San Diego Road**	**1.29**	**317**			**Pn**	**09 10 40.6**	**+0.2**
SDRC						**Sn**	**09 10 56.8**	**-0.2**
EML	**El Monte Cty P**	**1.35**	**324**			**Pn**	**09 10 41.4**	**0.0**
EML						**Sn**	**09 10 58.8**	**+0.2**
RUN	**Ruthven**	**1.41**	**33**			**Pn**	**09 10 41.3**	**-0.9**
JUEM	**Julian Eagle M**	**1.41**	**336**			**Pb**	**09 10 43.3**	**-0.4**
JUEM						**Sb**	**09 11 01.2**	**-0.1**
SLH	**Sleepy Hollow**	**1.43**	**348**			**Pb**	**09 10 44.1**	**+0.3**
DPP	**Dos Picos Cty**	**1.49**	**324**			**Pn**	**09 10 43.9**	**+0.6**
DPP						**Sb**	**09 11 02.9**	**-0.6**
109C	**Camp Elliot, M**	**1.49**	**317**	Pn		**Pn**	**09 10 43.9**	**+0.6**
109C				IAML			09 11 04.4	
	comp=N,92nm,0.3s							
109C				IAML			09 11 07.0	
	comp=E,62nm,0.2s							
109C	**Camp Elliot, M**	**1.49**	**317**	P		**Pn**	**09 10 43.7**	**+0.4**
	baz=136,SNR=15							
109C				S		**Sn**	**09 11 02.6**	**+0.5**
	baz=136							
CPE	**Camp Elliot**	**1.49**	**317**			**Pn**	**09 10 43.8**	**+0.6**
CPE						**Sn**	**09 11 02.6**	**+0.6**
BORC	**Borrego Spring**	**1.53**	**344**			**Pb**	**09 10 45.6**	**0.0**
BORC						**Sb**	**09 11 05.3**	**+0.6**
MATG	**Mataguay Scout**	**1.54**	**336**			**Pb**	**09 10 45.3**	**-0.5**
MATG						**Sb**	**09 11 05.6**	**+0.7**
PLM	**Palomar**	**1.75**	**333**			**Pn**	**09 10 48.3**	**+1.3**
GORC	**Green Oak Ranc**	**1.76**	**321**			**Pn**	**09 10 48.3**	**+1.3**
FRD	**Ford Ranch, An**	**1.80**	**341**			**Pb**	**09 10 50.3**	**0.0**
FRD	**Ford Ranch, An**	**1.80**	**341**			**Pb**	**09 10 50.2**	**0.0**
BZNA	**Buzz No.'s Pla**	**1.81**	**339**			**Pb**	**09 10 50.5**	**0.0**
BZNA						**Sb**	**09 11 14.1**	**+1.3**
SNDA	**J Saunders Pla**	**1.85**	**341**			**Pb**	**09 10 51.4**	**+0.2**
PFO	**Pinyon Flats O**	**1.87**	**346**			**Pn**	**09 10 48.8**	**+0.2**
PFO	**Pinyon Flats O**	**1.87**	**346**	P		**Pn**	**09 10 48.8**	**+0.2**
	baz=165,SNR=5.9							
PFO				Sb		**Sb**	**09 11 15.7**	**+1.1**
	baz=165							
PMD	**Palm Desert**	**1.89**	**348**			**Pn**	**09 10 49.1**	**+0.3**
CRY	**Cary Ranch**	**1.90**	**338**			**Pb**	**09 10 52.1**	**+0.1**
113A	**Mohawk Valley,**	**2.05**	**61**			**Pn**	**09 10 50.9**	**-0.1**
PIX	**Pinacate**	**2.09**	**96**	Pn		**Pn**	**09 10 50.2**	**-1.3**
MURC	**Murrieta**	**2.11**	**329**	Pb		**Pb**	**09 10 53.9**	**-1.5**
	baz=148,SNR=5.3							
MURC				Sb		**Sb**	**09 11 22.8**	**+1.7**
	baz=148							
BELC	**Belle Mtn. Jos**	**2.20**	**358**	Sb		**Sb**	**09 11 26.4**	**+2.3**
	baz=178							
ELS	**Elsinore Mount**	**2.25**	**326**			**Pn**	**09 10 54.8**	**+1.0**
BBRC	**Big Bear Solar**	**2.61**	**341**	Sb		**Sb**	**09 11 38.4**	**+2.7**
	baz=160							
214A	**Organ Pipe Nat**	**2.63**	**86**	Pn		**Pn**	**09 10 58.8**	**-0.2**
214A				IAML			09 11 38.7	
	comp=N,13nm,3.2s							
X16A	**Lo Mia Camp, P**	**4.57**	**54**	Pn		**Pn**	**09 11 27.2**	**+1.5**

IDC ***27*** *09:11:18.2±0.8,29°.21N×142°.40E, h0km,mb3.7/11, mbtmp3.7/13,ML3.1/2,Error ellipse: s-maj=26.9km s-min=16.7km az=82.0*
JMA ***27*** *09:11:19.9±0.2,29°.4N±0°.4×14°.3E±°, h49km, MV3.9/20, NEAR TORISHIMA IS*
ISC 27 09:11:24.2±0.7,29°.26N±0°.06×142°.3E±0°.2, h50km, n20, σ2°.69/25, mb3.6/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.16**	**182**	*e*P		**Pn**	**09 11 56.1**	**-1.6**
CBIJ				*e*S		**Sn**	**09 12 22.7**	**-0.5**
JCJ	**Chichijima**	**2.16**	**182**	Pn		**Pn**	**09 11 53.0**	**-4.7**
	7.7nm,0.3s,baz=290,slow=22,SNR=1.6							
JCJ				Sn		**Sn**	**09 12 16.6**	**-6.6**
	14nm,0.3s,baz=122,slow=23,SNR=1.6 41nm,0.4s							
JHH2	**Haha-jima-NKT2**	**2.62**	**182**	*e*S		**Sn**	**09 12 34.4**	**-0.1**
JOD2	**Odawara 2**	**6.56**	**337**	P		**Pn**	**09 12 58.4**	**+0.3**
JHU	**Hanno**	**7.04**	**340**	*e*P		**Pn**	**09 13 03.0**	**-1.7**
JHU				*e*S		**Sn**	**09 14 21.5**	**-1.8**
JRY	**Ryogami san**	**7.31**	**338**	P		**Pn**	**09 13 07.4**	**-1.0**
JHO	**Hitachi**	**7.47**	**349**	*e*P		**Pn**	**09 13 07.5**	**-3.0**
JHO				*e*S		**Sn**	**09 14 27.4**	**-6.4**
JAG	**Ashikaga**	**7.53**	**342**	*e*P		**Pn**	**09 13 09.2**	**-2.1**
MJAR	**Matsushiro Arr**	**8.02**	**336**	Pn		**Pn**	**09 13 16.6**	**-1.5**
	0.2nm,0.3s,baz=159,slow=11,SNR=11 3.0nm,0.8s							
SONM	**Songino Array**	**33.24**	**314**	P		**P**	**09 17 58.2**	**+1.5**
	1.5nm,0.9s,baz=112,slow=7.6,SNR=7.6 1.5nm,0.9s							
MKAR	**Makanchi Array**	**49.18**	**308**	P		**P**	**09 20 07.6**	**+0.4**
	1.0nm,0.7s,baz=96,slow=11,SNR=4.5 2.0nm,0.7s							
WRA	**Warramunga Arr**	**49.51**	**190**	P		**P**	**09 20 10.4**	**+0.6**
	2.7nm,0.9s,baz=8.3,slow=7.9,SNR=13							
WRA				PcP		**PcP**	**09 21 33.6**	**+2.4**
	0.4nm,0.7s,baz=5.0,slow=3.8,SNR=1.5 2.7nm,0.9s							
KURBB	**Kurchatov Arra**	**51.60**	**313**	P		**P**	**09 20 27.8**	**+2.5**
	2.3nm,0.2s,baz=92,slow=6.8,SNR=9.3 2.3nm,0.2s							
ASAR	**Alice Springs**	**53.23**	**190**	P		**P**	**09 20 38.3**	**+0.6**
	0.4nm,0.6s,baz=4.0,slow=5.2,SNR=8.8 0.4nm,0.6s							
ILAR	**Eielson Array**	**55.79**	**29**	P		**P**	**09 20 55.6**	**-0.1**
	0.3nm,0.8s,baz=273,slow=6.1,SNR=2.4 0.3nm,0.8s							
BVAR	**Borovoye Array**	**56.52**	**317**	P		**P**	**09 21 03.3**	**+2.1**
	1.4nm,0.5s,baz=98,slow=6.6,SNR=8.4 1.4nm,0.5s							
YKA	**Yellowknife Ar**	**70.21**	**29**	P		**P**	**09 22 31.2**	**-0.2**
	0.2nm,0.7s,baz=301,slow=6.9,SNR=2.7 0.2nm,0.7s							
NVAR	**Mina Array Bea**	**79.12**	**52**	P		**P**	**09 23 25.5**	**+1.6**
	0.4nm,0.8s,baz=298,slow=6.1,SNR=2.7 0.4nm,0.8s							
PDAR	**Pinedale Array**	**82.62**	**45**	P		**P**	**09 23 44.6**	**+2.1**
	0.1nm,0.6s,baz=260,slow=2.7,SNR=1.6 0.1nm,0.6s							
BRTR	**Keskin Array B**	**84.59**	**313**	P		**P**	**09 23 53.6**	**+1.0**
	0.3nm,0.6s,baz=66,slow=3.5,SNR=2.0 0.3nm,0.6s							

NEIC ***27*** *09:16:01.5±0.7, 10°.3S±0°.1×161°.5E±0°.1, h58km±5km, mb4.1/23, Error ellipse: s-maj=16.4km s-min=14.1km az=216.0*
IDC ***27*** *09:16:03.6±4.1, 10°.47S×161°.32E, h75km±32km, mb3.5/7, mbtmp3.8/8, MS3.3/5, Error ellipse: s-maj=36.9km s-min=21.5km az=97.0*
ISC 27 09:16:01.6±0.7, 10°.40S±0°.10×161°.43E±0°.09, h61km, n37, σ0°.91/35, mb3.9/16, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.75**	**303**			**Pn**	**09 16 28.6**	**-1.0**
HNR	**Honiara**	**1.75**	**303**	P		**Pn**	**09 16 30.0**	**+0.4**
	2μm,0.3s,baz=150,slow=2.4,SNR=9.8							
HNR				S		**Sn**	**09 16 52.8**	**+2.0**
	10μm,0.3s,baz=188,slow=23,SNR=8.6							
HNR				LR		LR	09 17 24.1	
	comp=Z,4μm,18.7s,baz=132,slow=47							
DZM	**Mont Dzumac**	**12.57**	**158**	LR		LR	09 22 33.6	
	comp=Z,88nm,19.4s,baz=35,slow=31							
PMG	**Port Moresby**	**14.09**	**273**	LR		LR	09 24 08.0	
	comp=Z,128nm,20.1s,baz=82,slow=35							
CTA	**Charters Tower**	**17.51**	**235**	P		**Pn**	**09 20 00.7**	**-1.1**
	2.2nm,0.7s,baz=76,slow=12,SNR=2.1							
CTA				LR		LR	09 26 14.6	
	comp=Z,59nm,19.5s,baz=84,slow=35							
CTAO	**Charters Tower**	**17.51**	**235**			**Pn**	**09 20 01.2**	**-0.6**
CTAO				IAmb		IAmb	09 20 06.3	
	comp=Z,4.9nm,0.8s							
EIDS	**Eidsvold**	**17.84**	**212**	P		**P**	**09 20 05.8**	**+0.1**
AFI	**Afiamalu**	**26.42**	**100**	P		**P**	**09 21 32.1**	**-0.8**
AFI				IAmb		IAmb	09 21 58.6	
	comp=Z,18nm,1.1s							
RAO	**Raoul Island**	**26.92**	**137**	LR		LR	09 30 08.5	
	comp=Z,68nm,20.9s,baz=302,slow=31							
WR0	**Warramunga Arr**	**27.60**	**247**	P		**P**	**09 21 43.9**	**+0.5**
WB0	**Warramunga Arr**	**27.68**	**247**	P		**P**	**09 21 44.6**	**+0.5**
WB0				IAmb		IAmb	09 21 45.1	
	comp=Z,3.2nm,0.6s							
WRAB	**Tennant Creek**	**27.76**	**247**	P		**P**	**09 21 44.9**	**0.0**
WRAB				IAmb		IAmb	09 22 04.2	
	comp=Z,2.3nm,0.9s							
WB2	**Warramunga Arr**	**27.77**	**247**	P		**P**	**09 21 45.0**	**+0.1**
WB2				IAmb		IAmb	09 22 13.9	
	comp=Z,5.3nm,1.1s							
WRA	**Warramunga Arr**	**27.78**	**247**	P		**P**	**09 21 44.9**	**-0.1**
WRA	**Warramunga Arr**	**27.78**	**247**	P		**P**	**09 21 45.0**	**0.0**
	comp=Z,1.4nm,0.5s,baz=77,slow=8.8,SNR=9.9 comp=Z,1.4nm,0.5s							
NIUE	**Niue**	**28.98**	**111**	P		**P**	**09 21 55.0**	**-0.7**
AS31	**Alice Springs**	**29.37**	**240**	P		**P**	**09 21 58.5**	**-0.7**
ASAR	**Alice Springs**	**29.37**	**240**	P		**P**	**09 21 58.5**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=64,slow=10,SNR=12							
ASAR				LR		LR	09 33 43.6	
	comp=Z,101nm,18.1s,baz=57,slow=36 comp=Z,0.7nm,0.6s							
TOO	**Toolangi**	**30.63**	**205**	P		**P**	**09 22 11.0**	**+0.9**
TOO				IAmb		IAmb	09 22 14.3	
	comp=Z,8.5nm,1.1s							
MXZ	**Matakaoa Point**	**31.03**	**153**	P		**P**	**09 22 14.2**	**+0.6**
KNRA	**Kununurra**	**32.23**	**257**	P		**P**	**09 22 25.1**	**+0.8**
KNRA				IAmb		IAmb	09 22 44.5	
	comp=Z,1.6nm,0.7s							
BBOO	**Buckleboo**	**32.30**	**222**	P		**P**	**09 22 25.0**	**+0.2**
BBOO				IAmb		IAmb	09 22 29.3	
	comp=Z,6.4nm,1.1s							
TUWZ	**Tuamarina**	**32.82**	**163**	P		**P**	**09 22 29.9**	**+0.7**
FITZ	**Fitzroy Crossi**	**35.47**	**253**	P		**P**	**09 22 53.0**	**+0.5**
SOEI	**Soe**	**36.58**	**268**	P		**P**	**09 22 59.8**	**-2.4**
MMRI	**Maumere**	**38.68**	**269**	P		**P**	**09 23 12.1**	**-0.6**
PSA00	**Pilbara Seismi**	**41.37**	**249**	P		**P**	**09 23 42.5**	**+0.4**
PSA00				IAmb		IAmb	09 24 08.3	
	comp=Z,4.7nm,0.9s							
MBWA	**Marble Bar**	**41.41**	**250**	P		**P**	**09 23 42.5**	**+0.2**
MBWA				IAmb		IAmb	09 23 59.0	
	comp=Z,14nm,1.1s							
PTCN	**Pitcairn Islan**	**66.24**	**113**	P		**P**	**09 26 43.1**	**-0.6**
VNDA	**Vanda**	**67.11**	**180**	P		**P**	**09 26 49.2**	**+1.0**
VNDA				IAmb		IAmb	09 26 59.7	
	comp=Z,1.6nm,1.1s							
VNDA	**Vanda**	**67.11**	**180**	P		**P**	**09 26 48.5**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=1.3,slow=1.0,SNR=1.9 comp=Z,0.6nm,0.7s							
SONM	**Songino Array**	**75.68**	**325**	P		**P**	**09 27 39.9**	**-0.6**
SONM				IAmb		IAmb	09 27 44.3	
	comp=Z,1.0nm,0.7s							
SONM	**Songino Array**	**75.68**	**325**	P		**P**	**09 27 41.0**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=142,slow=5.8,SNR=5.8 comp=Z,0.8nm,0.6s							
QSPA	**South Pole Qui**	**79.60**	**180**	P		**P**	**09 28 02.8**	**+0.6**
QSPA				IAmb		IAmb	09 28 24.4	
	comp=Z,0.6nm,0.4s							
QSPA	**South Pole Qui**	**79.60**	**180**	P		**P**	**09 28 02.5**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=75,slow=2.0,SNR=3.4 comp=Z,1.0nm,0.7s							
ILAR	**Eielson Array**	**84.29**	**20**	P		**P**	**09 28 28.2**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=247,slow=5.0,SNR=4.7 comp=Z,0.2nm,0.5s							
MKAR	**Makanchi Array**	**90.17**	**318**	P		**P**	**09 28 53.7**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=113,slow=5.1,SNR=1.6 comp=Z,0.2nm,0.4s							

SJA ***27*** *09:17:13.9±0.7, 17°.66S×69°.69W, h177km±5km, ML3.6, MW3.5*
GUC ***27*** *09:17:16.2±0.7, 17°.70S×69°.50W, h159km±4km, ML3.5*
ISC 27 09:17:12.8±2.4, 17°.62S±0°.09×69°.6W±0°.1, h177km±13km, n32, σ1°.42/46, 8C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.14**	**77**	⇑*i*P		**Pn**	**09 17 38.0**	**+1.0**
PB16	**IPOC Station P**	**0.72**	**171**	*e*P		**Pn**	**09 17 40.0**	**+0.9**
PB16	**IPOC Station P**	**0.72**	**171**	⇑*i*P		**Pn**	**09 17 40.0**	**+0.9**
PB16				*e*S		**Sn**	**09 17 58.5**	**-0.9**
AP01	**Chacalluta**	**1.01**	**222**	*e*P		**Pn**	**09 17 41.0**	**+0.8**
AP01				IAML			09 18 07.7	
	comp=Z,1μm,0.1s							
AP01	**Chacalluta**	**1.01**	**222**	⇑*i*P		**Pn**	**09 17 41.4**	**+1.2**
AP01				*e*S		**Sn**	**09 18 01.3**	**-0.3**
AP01				IAML			09 18 02.4	
	comp=E,1μm,0.2s							
PB12	**IPOC Station P**	**1.19**	**214**	*e*P		**Pn**	**09 17 43.0**	**+1.1**
PB12				*e*S		**Sn**	**09 18 04.5**	**0.0**
PB12				IAML			09 18 04.9	
	comp=Z,332nm,0.3s							
PB12	**IPOC Station P**	**1.19**	**214**	⇑*i*P		**Pn**	**09 17 42.9**	**+1.1**
PB12				*e*S		**Sn**	**09 18 03.4**	**-1.1**
PB12				IAML			09 18 05.1	
	comp=N,926nm,0.5s							
LPAZ	**La Paz**	**1.95**	**47**	*e*P		**Pn**	**09 17 49.8**	**0.0**
GO01	**Chusmiza**	**2.08**	**169**	*e*P		**Pn**	**09 17 52.6**	**+1.6**
GO01	**Chusmiza**	**2.08**	**169**	*i* P		**Pn**	**09 17 51.9**	**+0.9**
GO01				*e*S		**Sn**	**09 18 19.9**	**-0.8**
PB11	**IPOC Station P**	**2.13**	**181**	*e*P		**Pn**	**09 17 51.5**	**+0.3**
PB11				*e*S		**Sn**	**09 18 21.0**	**-0.3**
PB11				IAML			09 18 23.3	
	comp=Z,100nm,0.2s							
PB11	**IPOC Station P**	**2.13**	**181**	*i* P		**Pn**	**09 17 51.3**	**+0.1**
PB11				*e*S		**Sn**	**09 18 19.6**	**-1.7**
PB11				IAML			09 18 22.1	
	comp=E,221nm,0.2s							
PB08	**IPOC Station P**	**2.55**	**170**	*e*P		**Pn**	**09 17 58.1**	**+1.8**
PB08				*e*S		**Sn**	**09 18 30.3**	**+0.2**
PB08	**IPOC Station P**	**2.55**	**170**	*i* P		**Pn**	**09 17 58.0**	**+1.8**
HMBC	**Humberstone**	**2.66**	**185**	*e*P		**Pn**	**09 17 58.3**	**+1.0**
HMBC	**Humberstone**	**2.66**	**185**	⇑*i*P		**Pn**	**09 17 58.1**	**+0.8**
HMBC				*e*S		**Sn**	**09 18 29.9**	**-2.1**
HMBC				IAML			09 18 36.1	
	comp=N,127nm,0.3s							
TA02	**Huaiquique**	**2.68**	**190**	*e*P		**Pn**	**09 17 58.5**	**+1.1**
TA02				*e*S		**Sn**	**09 18 31.3**	**-1.0**
TA02				IAML			09 18 36.2	
	comp=Z,115nm,0.1s							
TA01	**Diego Aracena**	**2.98**	**190**	*e*P		**Pn**	**09 18 01.7**	**+0.7**
TA01	**Diego Aracena**	**2.98**	**190**	⇑*i*P		**Pn**	**09 18 01.7**	**+0.7**
TA01				IAML			09 18 38.9	
	comp=E,78nm,0.1s							
PATCX	**Punta Patache**	**3.22**	**189**	*e*P		**Pn**	**09 18 05.7**	**+1.6**
PATCX	**Punta Patache**	**3.22**	**189**	*i* P		**Pn**	**09 18 05.2**	**+1.1**
PB01	**IPOC Station P**	**3.41**	**178**	*e*P		**Pn**	**09 18 07.7**	**+1.3**
PB01				IAML			09 18 52.7	
	comp=Z,79nm,0.4s							
PB01	**IPOC Station P**	**3.41**	**178**	⇑*i*P		**Pn**	**09 18 07.5**	**+1.1**
PB01				*e*S		**Sn**	**09 18 46.1**	**-2.3**
PB02	**IPOC Station P**	**3.69**	**184**	*e*P		**Pn**	**09 18 11.5**	**+1.6**
PB02				IAML			09 19 00.1	
	comp=Z,103nm,0.2s							
PB02	**IPOC Station P**	**3.69**	**184**	*i* P		**Pn**	**09 18 11.2**	**+1.2**
PB02				*e*S		**Sn**	**09 18 52.8**	**-1.9**
PB07	**IPOC Station P**	**4.09**	**183**	*e*P		**Pn**	**09 18 16.8**	**+1.6**
PB07				IAML			09 19 06.9	
	comp=Z,50nm,0.3s							
PB07	**IPOC Station P**	**4.09**	**183**	⇑*i*P		**Pn**	**09 18 16.8**	**+1.6**
PB09	**IPOC Station P**	**4.17**	**175**	*e*P		**Pn**	**09 18 18.0**	**+1.8**
PB09				IAML			09 19 10.5	
	comp=Z,39nm,0.3s							
PB04	**IPOC Station P**	**4.71**	**186**	*e*P		**Pn**	**09 18 24.2**	**+1.0**
PB04				*e*S		**Sn**	**09 19 14.2**	**-4.2**
P

σ1§66/12, mb3.2/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.19**	**352**	*eP*	**Pn**	**09 24 54.6**	**+0.9**
SKR				*eS*	**Sn**	**09 25 18.6**	**-1.0**
PAU	**Pauzhetka**	**2.96**	**3**	*eP*	**Pn**	**09 25 06.2**	**+1.9**
PAU				*eS*	**Sn**	**09 25 38.6**	**0.0**
KDTR	**Khodutka, Kamc**	**3.44**	**16**	*eS*	**Sn**	**09 25 49.4**	**-0.9**
ASAK	**Asacha**	**3.97**	**12**	*eP*	**Pn**	**09 25 20.3**	**+2.2**
GRL	**Gorelyy**	**4.16**	**13**	*eP*	**Pn**	**09 25 23.2**	**+2.4**
PETK	**Petropavlovsk-** 12nm,0.7s,baz=206,slow=13,SNR=7.3	**4.66**	**8**	P	**Pn**	**09 25 27.2**	**-0.3**
SMAR	**Somma**	**4.96**	**16**	*eP*	**Pn**	**09 25 34.0**	**+2.1**
JOW	**Kunigami** comp=Z,101nm,20.8s,baz=110,slow=37	**30.85**	**236**	LR	LR	09 43 18.0	
H11S1	**WAKE ISLAND Hy** baz=344,slow=76,SNR=6.1	**31.04**	**161**	T	T	10 04 24.8	
H11S3	**WAKE ISLAND Hy** baz=344,slow=76,SNR=4.3	**31.05**	**161**	T	T	10 04 25.7	
H11S2	**WAKE ISLAND Hy** baz=344,slow=76,SNR=2.6	**31.06**	**161**	T	T	10 04 24.3	
ILAR	**Eielson Array** 0.2nm,0.8s,baz=272,slow=8.6,SNR=2.0 0.2nm,0.8s	**33.70**	**40**	P	**P**	**09 30 55.1**	**-0.6**
YKA	**Yellowknife Ar** 0.4nm,0.7s,baz=299,slow=7.5,SNR=5.3 0.4nm,0.7s	**48.10**	**39**	P	**P**	**09 32 52.4**	**-1.6**
ASAR	**Alice Springs** 0.2nm,0.6s,baz=12,slow=5.8,SNR=1.5 0.2nm,0.6s	**74.66**	**201**	P	**P**	**09 35 54.3**	**+0.5**

DJA 27 09:26:54.8±0.3, 6°S×11°3E±°, h10km, M4.0/12, mb4.2/1, MLv4.0/12, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BWJI	**Bawean**	**0.67**	**258**	P	Pg	09 27 02.4	-5.5
KMMI	**Kalianget**	**1.48**	**154**	P	Pn	09 27 21.7	+0.2
BLJI	**Banyuglugur**	**2.04**	**172**	P	Pn	09 27 29.1	-0.1
ABJI	**Asem Bagus**	**2.26**	**156**	P	Pn	09 27 32.5	+0.2
UWJI	**Ujung Watu**	**2.46**	**253**	P	Pn	09 27 37.1	+2.1
NGJI	**Ngawi**	**2.47**	**228**	P	Pn	09 27 37.0	+1.8
BBKI	**Banjar Baru**	**2.70**	**34**	P	Pn	09 27 38.3	0.0
JAGI	**Jajag, Banyuwa**	**2.86**	**163**	P	Pn	09 27 40.7	+0.1
SRBI	**Singaraja**	**3.02**	**142**	P	Pn	09 27 42.1	-0.6
SMRI	**Semarang**	**3.16**	**245**	P	Pn	09 27 46.5	+1.9
TWSI	**Taliwang, Sumb**	**4.64**	**131**	P	Pn	09 28 04.2	-0.8
KPJI	**Karang Pucung**	**4.65**	**249**	P	Pn	09 28 05.9	+0.8
PLAI	**Plampang**	**5.40**	**125**	P	Pn	09 28 14.2	-1.2

IDC 27 09:50:05.4±2.0, 6°84N×124°97E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=207.6km s-min=21.0km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=341,slow=9.1,SNR=8.1 0.5nm,0.4s	**28.16**	**161**	P	P	09 55 59.8	+0.1
ASAR	**Alice Springs** 0.8nm,0.5s,baz=341,slow=7.4,SNR=27 0.8nm,0.5s	**31.55**	**164**	P	P	09 56 29.6	-0.1
MKAR	**Makanchi Array** 0.7nm,0.5s,baz=116,slow=8.2,SNR=9.4 0.7nm,0.5s	**54.02**	**325**	P	P	09 59 32.1	+0.6
KURBB	**Kurchatov Arra** 0.5nm,0.5s,baz=131,slow=6.3,SNR=6.6 0.5nm,0.5s	**58.20**	**327**	P	P	10 00 00.6	-0.7

*AFAD **27** 10:08:55.6±0.0, 38.°93N×26.°24E, h12km±3km, MW3.7*
*ISK **27** 10:08:55.5, 38.°94N×26.°25E, h10km, ML3.7/46*
*THE **27** 10:08:56.3, 38.°95N×26.°25E, h8km, ML3.4/17, Error ellipse: s-maj=1.0km s-min=0.5km az=86.0*
*ATH **27** 10:08:56.4, 38.°95N×26.°25E, h11km±1km, ML3.4/10, Error ellipse: s-maj=1.2km s-min=0.7km az=114.0*
*SOF **27** 10:08:59.1, 39.°27N×26.°23E, h10km, MD3.4*

ISC 27 10:08:56.4±0.8, 38°95N±0.°01×26°25E±0.°01, h14km±6km, n156, σ0§72/218, 15C-12D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAG3	**Mitilini, Lesv**	**0.28**	**61**	P	**Pg**	**10 09 02.0**	**-0.4**
EAG3				S	**Sg**	**10 09 05.8**	**-0.6**
LESV	**Lesvos island,** 102µm,0.3s	**0.29**	**57**	P	**Pg**	**10 09 02.0**	**-0.5**
LESV				S	**Sg**	**10 09 06.3**	**-0.3**
PRK	**Paraskevi** 13µm,0.5s	**0.30**	**3**	P	**Pg**	**10 09 02.2**	**-0.4**
PRK				S	**Sg**	**10 09 07.4**	**+0.6**
PRK	**Paraskevi**	**0.30**	**3**	P	**Pg**	**10 09 02.1**	**-0.5**
PRK				S	**Sg**	**10 09 07.2**	**+0.4**
PRK	comp=E,29869µm,0.7s			AML	AML	10 09 11.1	
PRK	comp=N,22817µm,0.6s			AML	AML	10 09 13.8	
KARB	**zmir-Karabur**	**0.31**	**156**	P	**Pg**	**10 09 02.4**	**-0.4**
KARB				S	**Sg**	**10 09 06.6**	**-0.5**
SIGR	**SIGRI**	**0.40**	**311**	Pg	**Pg**	**10 09 04.3**	**-0.2**
SIGR				Sg	**Sg**	**10 09 10.0**	**0.0**
SIGR	**SIGRI** comp=N,8µm,0.4s	**0.40**	**311**	P	**Pg**	**10 09 04.4**	**-0.1**
SIGR				S	**Sg**	**10 09 09.8**	**-0.2**
SIGR	**SIGRI**	**0.40**	**311**	P	**Pg**	**10 09 04.3**	**-0.2**
SIGR				S	**Sg**	**10 09 10.0**	**0.0**
SIGR	comp=E,20707µm,0.4s			AML	AML	10 09 10.7	
SIGR	comp=N,13052µm,0.4s			AML	AML	10 09 12.3	
EAG2	**Marmaro, Chios**	**0.42**	**195**	P	**Pg**	**10 09 04.4**	**-0.3**
CAND	**Candarli**	**0.43**	**89**	Pg	**Pg**	**10 09 05.2**	**+0.2**
FOCM	**Foa**	**0.44**	**122**	Pg	**Pg**	**10 09 04.6**	**-0.6**
FOCM				Sg	**Sg**	**10 09 10.8**	**-0.3**
AYVA	**Ayvalik**	**0.50**	**43**	P	**Pg**	**10 09 05.9**	**-0.3**
AYVA				S	**Sg**	**10 09 12.4**	**-0.5**
GPNR	**Gulpinar-Canak**	**0.52**	**350**	Pg	**Pg**	**10 09 06.1**	**-0.5**
RFT7	**Candarli**	**0.52**	**89**	Pg	**Pg**	**10 09 06.3**	**-0.4**
RFT7				Sg	**Sg**	**10 09 14.1**	**+0.4**
DKL	**Dikili**	**0.53**	**76**	Pg	**Pg**	**10 09 06.7**	**-0.1**
DKL				Sg	**Sg**	**10 09 13.9**	**+0.1**
KOCA	**Canakkale, Ayv**	**0.56**	**351**	P	**Pg**	**10 09 07.0**	**-0.4**
KOCA				S	**Sb**	**10 09 16.5**	**+0.5**
CHOS	**Chios island**	**0.58**	**195**	Pg	**Pg**	**10 09 07.4**	**-0.3**
CHOS	**Chios island**	**0.58**	**195**	P	**Pg**	**10 09 07.5**	**-0.3**
CHOS	comp=N,5µm,0.4s			S	**Sb**	**10 09 17.1**	**+0.6**
CHOS	**Chios island**	**0.58**	**195**	P	**Pg**	**10 09 07.5**	**-0.3**
CHOS				S	**Sg**	**10 09 15.8**	**+0.3**
CHOS	comp=E,10932µm,0.3s			AML	AML	10 09 20.2	
CHOS	comp=N,8806µm,0.5s			AML	AML	10 09 20.7	
ZEDA	**zmir-Bergama**	**0.65**	**88**	P	**Pg**	**10 09 08.6**	**-0.4**
ZEDA				S	**Sb**	**10 09 18.1**	**-0.3**
PSRA	**Psara**	**0.67**	**233**	P	**Pg**	**10 09 09.2**	**-0.3**
PSRA				S	**Sg**	**10 09 18.3**	**0.0**
PSRA	comp=N,8734µm,0.3s			AML	AML	10 09 19.5	
PSRA	comp=E,8144µm,0.6s			AML	AML	10 09 21.5	
ZEYE	**Izmir, Urla-Ze**	**0.73**	**164**	P	**Pg**	**10 09 09.8**	**-0.8**
ZEYE				S	**Sb**	**10 09 22.1**	**+1.2**
BAYC	**CANAKKALE_Bayr**	**0.83**	**16**	P	**Pg**	**10 09 11.0**	**-1.4**
BUHA	**Balikesir, Bur**	**0.85**	**49**	P	**Pg**	**10 09 12.0**	**-0.9**
BUHA				S	**Sb**	**10 09 24.7**	**+0.5**
EZN	**Ezine**	**0.88**	**4**	Pg	**Pg**	**10 09 12.6**	**-0.8**
EZN	**Ezine**	**0.88**	**4**	P	**Pg**	**10 09 12.7**	**-0.7**
EZN	comp=E,8µm,0.4s			S	**Sb**	**10 09 25.9**	**+0.8**
GMLD	**Gumuldur**	**1.01**	**149**	Pg	**Pg**	**10 09 15.3**	**-0.7**
DGB	**zmir**	**1.02**	**151**	P	**Pg**	**10 09 14.7**	**-1.4**
DGB				S	**Sg**	**10 09 29.1**	**-0.4**
ECEA	**Canakkale, Ece**	**1.10**	**357**	P	**Pb**	**10 09 16.4**	**-0.8**
ECEA				S	**Sb**	**10 09 32.0**	**+0.7**
CNKL	**anakkale-Mer**	**1.12**	**5**	P	**Pb**	**10 09 17.3**	**-0.3**
CNKL				S	**Sb**	**10 09 32.5**	**+0.3**
EFSA	**Agios Efstrati**	**1.14**	**302**	P	**Pb**	**10 09 17.8**	**-0.2**
EFSA				S	**Sb**	**10 09 32.7**	**-0.1**
EFSA	comp=E,6212µm,0.7s			AML	AML	10 09 35.4	
EFSA	comp=N,4882µm,0.4s			AML	AML	10 09 36.4	
COMU	**Canakkale**	**1.16**	**9**	Pn	**Pb**	**10 09 18.6**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.22**	**69**	P	**Pn**	**10 09 18.8**	**-0.3**
STEP				S	**Sb**	**10 09 35.4**	**+0.4**
AKS	**Akhisar**	**1.22**	**93**	Pn	**Pn**	**10 09 19.4**	**+0.3**
AKHS	**Akhisar**	**1.22**	**93**	P	**Pn**	**10 09 18.4**	**-0.7**
AKHS				S	**Sn**	**10 09 37.0**	**+1.4**
CANM	**Can-anakkale**	**1.23**	**30**	Pn	**Pn**	**10 09 19.0**	**-0.3**
GOAD	**anakkale-G¶**	**1.24**	**348**	P	**Pn**	**10 09 19.2**	**-0.2**
GOAD				S	**Sb**	**10 09 35.1**	**-0.4**
LIA	**Limnos Island** comp=N,4µm,0.3s	**1.26**	**319**	P	**Pn**	**10 09 19.5**	**-0.2**
LIA				S	**Sb**	**10 09 35.5**	**-0.5**
LIA	**Limnos Island** comp=N,9896µm,0.3s	**1.26**	**319**	P	**Pn**	**10 09 19.4**	**-0.2**
LIA				S	**Sb**	**10 09 35.4**	**-0.6**
LIA	comp=E,6122µm,0.5s			AML	AML	10 09 38.6	
LIA	comp=N,9896µm,0.3s			AML	AML	10 09 39.5	
GADA	**Gvkgeada**	**1.27**	**348**	Pn	**Pn**	**10 09 19.8**	**0.0**
GOKC	**Gokceada-Canak**	**1.28**	**349**	Pn	**Pb**	**10 09 20.5**	**+0.2**
SMG	**Samos**	**1.32**	**159**	P	**Pn**	**10 09 19.9**	**-0.6**
SMG	comp=N,4µm,0.5s			S	**Sg**	**10 09 38.8**	**-0.2**
SMG	**Samos**	**1.32**	**159**	P	**Pn**	**10 09 20.1**	**-0.4**
SMG				S	**Sb**	**10 09 37.6**	**-0.2**
SMG	comp=N,5875µm,0.4s			AML	AML	10 09 42.3	
SMG	comp=E,8504µm,0.6s			AML	AML	10 09 42.5	
GOMA	**Golmarmara-Man**	**1.32**	**100**	Pn	**Pn**	**10 09 20.8**	**+0.3**
BALY	**Balya**	**1.33**	**53**	P	**Pn**	**10 09 20.8**	**+0.2**
BALY				S	**Sn**	**10 09 38.8**	**+0.6**
SKY	**Skiros Island**	**1.33**	**268**	P	**Pn**	**10 09 19.8**	**-0.7**
GELI	**Tayfur-Gelibol**	**1.46**	**7**	Pn	**Pn**	**10 09 22.3**	**-0.1**
GCAM	**G?zelcami?**	**1.47**	**148**	Pn	**Pn**	**10 09 22.5**	**0.0**
GCAM	**G?zelcami?**	**1.47**	**148**	P	**Pb**	**10 09 23.2**	**-0.2**
GCAM				S	**Sb**	**10 09 42.2**	**+0.2**
LPK	**Lapseki**	**1.48**	**15**	Pn	**Pn**	**10 09 22.8**	**+0.2**
BKES	**Balkesir-Mer**	**1.52**	**58**	P	**Pn**	**10 09 23.1**	**-0.1**
BKES				S	**Sn**	**10 09 41.9**	**-1.0**
IZMR	**zmir-demi**	**1.56**	**121**	P	**Pb**	**10 09 25.1**	**0.0**
IZMR				S	**Sb**	**10 09 45.2**	**+0.4**
GONE	**Gonen-Balikesi**	**1.56**	**45**	Pn	**Pn**	**10 09 23.6**	**-0.2**
SMTH	**Samothraki Isl**	**1.62**	**340**	P	**Pn**	**10 09 24.5**	**-0.2**
SMTH	comp=E,542nm,0.4s			S	**Sn**	**10 09 45.5**	**+0.2**
SMTH	**Samothraki Isl**	**1.62**	**340**	P	**Pn**	**10 09 24.4**	**-0.2**
SMTH				S	**Sn**	**10 09 44.3**	**-1.1**
SMTH	comp=N,1223µm,0.4s			AML	AML	10 09 49.7	
SMTH	comp=E,998µm,0.3s			AML	AML	10 09 50.9	
KRBG	**Karabiga-Canak**	**1.66**	**29**	Pn	**Pn**	**10 09 24.8**	**-0.3**
ENZZ	**Sultanice-Enez**	**1.66**	**357**	Pn	**Pn**	**10 09 25.4**	**+0.3**
DDIM	**Aydin, Didim**	**1.68**	**152**	P	**Pn**	**10 09 26.3**	**+0.9**
DDIM				S	**Sb**	**10 09 48.3**	**+0.2**
KYMI	**Kymi, Euboea I**	**1.71**	**260**	P	**Pn**	**10 09 25.0**	**-0.8**
KYMI	comp=E,272nm,0.6s			S	**Sn**	**10 09 47.7**	**+0.2**
KYMI	**Kymi, Euboea I**	**1.71**	**260**	P	**Pn**	**10 09 25.3**	**-0.5**
ERIK	**Erikli-Kesan**	**1.73**	**7**	Pn	**Pn**	**10 09 26.0**	**-0.1**
CAVK	**Edirne/Enez-Ca**	**1.74**	**358**	P	**Pn**	**10 09 26.8**	**+0.5**
CAVK				S	**Sb**	**10 09 50.6**	**+0.7**
ENEZ	**Enez**	**1.79**	**358**	Pn	**Pn**	**10 09 27.3**	**+0.4**
ENEZ	**Enez**	**1.79**	**358**	P	**Pn**	**10 09 26.6**	**-0.3**
ENEZ	comp=E,1µm,0.3s			S	**Sn**	**10 09 50.2**	**+0.7**
KIRA	**zmir-Kiraz**	**1.84**	**113**	P	**Pn**	**10 09 27.7**	**-0.1**
KIRA				S	**Sb**	**10 09 52.9**	**-0.1**
DURS	**Dursunbey**	**1.85**	**69**	P	**Pn**	**10 09 27.7**	**-0.1**
MANT	**Manisa**	**1.86**	**103**	P	**Pn**	**10 09 28.1**	**0.0**
MANT				S	**Sb**	**10 09 53.8**	**+0.1**
EDC	**Edincik**	**1.87**	**41**	Pn	**Pn**	**10 09 28.3**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.88**	**22**	Pn	**Pn**	**10 09 28.4**	**+0.2**
SART	**Tekirdag**	**1.88**	**22**	P	**Pn**	**10 09 28.4**	**+0.1**
SART				S	**Sn**	**10 09 53.0**	**+1.1**
KULA	**Kula-Manisa**	**1.94**	**102**	Pn	**Pn**	**10 09 29.1**	**+0.1**
DST	**Dursunbey**	**1.95**	**70**	Pn	**Pn**	**10 09 29.4**	**+0.2**
ALN	**Alexandroupoli**	**1.95**	**355**	Pn	**Pn**	**10 09 29.8**	**+0.6**
ALN	**Alexandroupoli**	**1.95**	**355**	P	**Pn**	**10 09 29.1**	**-0.1**
ALN	comp=E,420nm,0.6s			S	**Sn**	**10 09 53.4**	**-0.1**
ALN	**Alexandroupoli**	**1.95**	**355**	P	**Pn**	**10 09 29.0**	**-0.1**
ALN				S	**Sn**	**10 09 52.7**	**-0.9**
ALN	comp=E,488µm,0.4s			AML	AML	10 10 00.2	
ALN	comp=N,731µm,0.7s			AML	AML	10 10 02.1	
APE	**Apeiranthos**	**1.96**	**197**	↓P	**Pn**	**10 09 28.1**	**-1.1**
APE	**Apeiranthos**	**1.96**	**197**	Pn	**Pn**	**10 09 28.6**	**-0.7**
APE	**Apeiranthos**	**1.96**	**197**	P	**Pn**	**10 09 28.2**	**-1.1**
APE	comp=N,235nm,0.7s			S	**Sn**	**10 09 53.7**	**0.0**
APE	**Apeiranthos**	**1.96**	**197**	P	**Pn**	**10 09 28.3**	**-1.0**
BAND	**Balkesir-Ban**	**2.00**	**45**	P	**Pn**	**10 09 29.8**	**-0.1**
BAND				S	**Sn**	**10 09 54.8**	**0.0**
ESEN	**Aydn-Nazilli**	**2.01**	**124**	P	**Pn**	**10 09 29.9**	**-0.1**
ESEN				S	**Sb**	**10 09 59.1**	**+1.5**
THAS	**Thassos island**	**2.03**	**325**	P	**Pn**	**10 09 29.6**	**-0.7**
THAS	comp=N,300nm,0.4s			S	**Sn**	**10 09 55.8**	**+0.3**
THAS	**Thassos island**	**2.03**	**325**	P	**Pn**	**10 09 29.8**	**-0.4**
THAS				S	**Sn**	**10 09 54.7**	**-0.8**
THAS	comp=E,581µm,0.4s			AML	AML	10 10 03.7	
THAS	comp=N,618µm,0.3s			AML	AML	10 10 06.4	
MLSB	**Milas**	**2.04**	**143**	Pn	**Pn**	**10 09 30.4**	**0.0**
BODT	**Bodrum**	**2.06**	**156**	Pn	**Pn**	**10 09 29.9**	**-0.8**
KCTX	**Karacabey (Bur**	**2.09**	**50**	Pn	**Pn**	**10 09 31.3**	**+0.2**
BDRM	**Kayabasi**	**2.10**	**153**	P	**Pg**	**10 09 37.7**	**+1.0**
BDRM				S	**Sg**	**10 10 03.4**	**-0.6**
SIMA	**Simav-Kutahya**	**2.13**	**85**	Pn	**Pn**	**10 09 31.9**	**+0.1**
USAK	**Uak-Merkez**	**2.17**	**95**	P	**Pn**	**10 09 33.0**	**+0.7**
UKOP	**Uzunkopru-Edir**	**2.20**	**8**	Pn	**Pn**	**10 09 33.1**	**+0.6**
PAIG	**Paliouri**	**2.22**	**297**	Pn	**Pn**	**10 09 33.1**	**+0.3**
PAIG	**Paliouri**	**2.22**	**297**	P	**Pn**	**10 09 32.3**	**-0.5**
PAIG	comp=N,138nm,0.5s			S	**Sn**	**10 10 01.0**	**+1.0**
OUR	**Ouranopolis**	**2.23**	**309**	Pn	**Pn**	**10 09 33.4**	**+0.4**
OUR	**Ouranopolis**	**2.23**	**309**	P	**Pn**	**10 09 33.0**	**0.0**
OUR	comp=N,315nm,0.6s			S	**Sn**	**10 10 01.2**	**+0.8**
RDO	**Rodhopi**	**2.26**	**346**	Pn	**Pn**	**10 09 33.9**	**+0.5**
RDO	**Rodhopi**	**2.26**	**346**	P	**Pn**	**10 09 33.0**	**-0.4**
RDO	comp=N,155nm,0.5s			S	**Sn**	**10 10 00.7**	**-0.5**
RDO	**Rodhopi**	**2.26**	**346**	P	**Pn**	**10 09 33.6**	**+0.2**
TKR	**Tekirdag**	**2.27**	**25**	Pn	**Pn**	**10 09 33.9**	**+0.4**
RFTAA	**Mazikoy-Bodrum**	**2.28**	**148**	Pn	**Pn**	**10 09 33.9**	**+0.3**
ORLT	**Orhaneli**	**2.32**	**61**	Pn	**Pn**	**10 09 34.7**	**+0.4**
MULA	**Mugla, Merkez-**	**2.35**	**135**	P	**Pg**	**10 09 40.7**	**-0.8**
MULA				S	**Sg**	**10 10 11.2**	**-0.7**
EMET	**Ktahya-Emet**	**2.43**	**79**	P	**Pb**	**10 09 43.4**	**+1.5**
EMET				S	**Sg**	**10 10 13.5**	**-0.9**
KAVA	**Kavala**	**2.44**	**327**	P	**Pn**	**10 09 35.8**	**-0.1**
DAT	**Datca**	**2.45**	**154**	P	**Pn**	**10 09 35.3**	**-0.9**
YAZI	**Mula-Dat§a-**	**2.46**	**157**	P	**Pn**	**10 09 35.3**	**-0.7**
YAZI				S	**Sg**	**10 10 16.0**	**+0.7**
MDNY	**Mudanya-Bursa**	**2.48**	**54**	Pn	**Pn**	**10 09 36.9**	**+0.5**
GDZ	**Gediz**	**2.52**	**86**	P	**Pb**	**10 09 41.0**	**-0.6**
GDZ				S	**Sb**	**10 10 12.5**	**0.0**
ULDT	**Uludag**	**2.53**	**61**	P	**Pb**	**10 09 42.8**	**+1.0**
ULDT				S	**Sg**	**10 10 15.6**	**-2.2**
DNIZ	**Denizli-Tavas-**	**2.56**	**120**	P	**Pn**	**10 09 37.8**	**+0.1**
TAVA	**DENIZLI_Tavas**	**2.57**	**124**	P	**Pn**	**10 09 37.3**	**-0.4**
ARMT	**Armutlu**	**2.58**	**50**	Pn	**Pn**	**10 09 38.4**	**+0.5**
PASA	**Karahalli, USA**	**2.61**	**102**	P	**Pn**	**10 09 38.8**	**+0.5**
IGD	**Bursa**	**2.63**	**59**	P	**Pb**	**10 09 45.2**	**+1.8**
TURN	**Turunc**	**2.68**	**143**	P	**Pn**	**10 09 41.2**	**+2.0**
TURN				S	**Sg**	**10 10 21.0**	**-1.5**
KDZ	**Kurdzhali**	**2.77**	**346**	Pn	**Pn**	**10 09 41.1**	**+0.7**
KDZ	**Kurdzhali**	**2.77**	**346**	P	**Pn**	**10 09 40.9**	**+0.5**
DOMA	**Ktahya-Doman**	**2.80**	**72**	P	**Pg**	**10 09 50.0**	**-0.1**
DOMA				S	**Sg**	**10 10 23.8**	**-2.6**
ANDZ	**Kutahya, Merke**	**2.89**	**78**	P	**Pn**	**10 09 42.9**	**+0.7**
ANDZ				S	**Sg**	**10 10 26.4**	**-2.9**
HORT	**Hortiatis**	**2.93**	**305**	Pn	**Pn**	**10 09 43.1**	**+0.4**
RZN	**Rozhen**	**2.98**	**338**	P	**Pn**	**10 09 44.0**	**+0.6**
NVR	**Nevrokopi**	**3.02**	**323**	P	**Pn**	**10 09 44.7**	**+0.9**
DIM	**Dimitrovgrad**	**3.14**	**351**	P	**Pn**	**10 09 46.1**	**+0.6**
MMB	**Musomishta**	**3.23**	**324**	P	**Pn**	**10 09 47.5**	**+0.8**
KARP	**Karpathos**	**3.47**	**168**	P	**Pn**	**10 09 49.0**	**-1.1**
KKB	**Krupnik**	**3.75**	**322**	*eP*	**Pn**	**10 09 55.5**	**+1.6**
ELND	**Elena**	**3.99**	**356**	↓P	**Pn**	**10 09 57.6**	**+0.5**
STIP	**Stip**	**4.14**	**313**	↑Pn	**Pn**	**10 09 59.0**	**-0.3**
PRD	**Provadia**	**4.30**	**11**	P	**Pn**	**10 10 01.8**	**+0.4**
SZH	**Strazhitsa**	**4.32**	**357**	*eP*	**Pn**	**10 10 02.3**	**+0.6**
VTS	**Vitosha**	**4.32**	**329**	*eP*	**Pn**	**10 10 02.9**	**+1.0**
LOZB	**Loznitsa**	**4.43**	**3**	↑P	**Pn**	**10 10 03.7**	**+0.5**
PLVB	**Pleven**	**4.60**	**345**	↑P	**Pn**	**10 10 07.3**	**+1.7**
RAZG	**Razgrad**	**4.62**	**2**	↑P	**Pn**	**10 10 06.5**	**+0.7**
ICOR	**Ion Corvin**	**5.29**	**12**	↓P	**Pn**	**10 10 16.0**	**+0.9**
BLKB	**Belogradchik**	**5.39**	**331**	↑P	**Pn**	**10 10 17.5**	**+1.1**
TIRR	**Tirgusor**	**5.74**	**16**	↑P	**Pn**	**10 10 21.7**	**+0.5**
BOVS	**Bovan**	**5.80**	**325**	↓P	**Pn**	**10 10 22.9**	**+0.9**
HARR	**Harsova**	**5.87**	**12**	↑P	**Pn**	**10 10 22.6**	**-0.5**
TPGR	**Topolog**	**6.12**	**15**	↑P	**Pn**	**10 10 25.7**	**-0.8**
DJES	**Djerdap**	**6.36**	**335**	↓P	**Pn**	**10 10 30.2**	**+0.5**
CFR	**Carcaliu**	**6.38**	**12**	↑P	**Pn**	**10 10 29.7**	**-0.3**
ARR	**Arges**	**6.53**	**350**	↓P	**Pn**	**10 10 33.1**	**+1.0**
VOIR		**6.55**	**353**	↑P	**Pn**	**10 10 33.1**	**+0.8**
HERR	**Herculane**	**6.58**	**336**	↓P	**Pn**	**10 10 33.0**	**+0.2**
MDVR	**Moldovita**	**6.74**	**331**	↓P	**Pn**	**10 10 35.1**	**+0.1**
COVR	**Voineasa-Covas**	**6.89**	**360**	↑P	**Pn**	**10 10 38.5**	**+1.4**
PLOR	**Plostina**	**6.91**	**2**	↓P	**Pn**	**10 10 38.4**	**+1.1**
VRI	**Vrincioaia**	**6.92**	**3**	↓P	**Pn**	**10 10 37.3**	**-0.2**
GZR	**Gura Zlata**	**6.94**	**339**	↓P	**Pn**	**10 10 37.8**	**+0.1**
TURR	**Turia**	**7.11**	**359**	↑P	**Pn**	**10 10 39.7**	**-0.3**
OZUR		**7.15**	**357**	↓P	**Pn**	**10 10 42.2**	**+1.6**
SURR	**Surduc**	**7.46**	**337**	↑P	**Pn**	**10 10 45.0**	**+0.2**
BZS	**Buzias**	**7.50**	**334**	↑P	**Pn**	**10 10 45.1**	**-0.2**
TESR	**Tescani**	**7.57**	**2**	↑P	**Pn**	**10 10 47.7**	**+1.4**
BURAR	**Bucovina Array**	**8.70**	**355**	↑P	**Pn**	**10 11 03.5**	**+1.6**
MODS	**Modra-Piesok**	**11.44**	**328**	*e*PN	Pn	10 11 33.1	-6.2

*NEIC **27** 10:11:10.2±0.7, 58.°00S±0.°08×25.°9W±0.°2, h53km±8km, mb4.7/34, Error ellipse: s-maj=17.4km s-min=5.2km az=49.0*
*IDC **27** 10:11:15.5±0.7, 58.°06S×25.°84W, h107km±5km, mb4.2/8, mbtmp4.5/10, Error ellipse: s-maj=19.2km s-min=13.6km az=105.0*

ISC 27 10:11:11.0±0.4, 57°99S±0.°07×26°03W±0.°08, h64km, n72, σ1§44/75, mb4.7/25, 2C-11D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat** comp=Z,6.8nm,0.3s	**14.76**	**156**	↓P	**P**	**10 14 37.7**	**-2.5**
VNA1	comp=Z,9.5nm,0.7s			↓S	Sn	10 17 03.9	-14
VNA3	**Neumayer Olymp** comp=Z,9.1nm,0.3s	**14.95**	**159**	↓P	**P**	**10 14 39.9**	**-2.5**
VNA3	comp=Z,3.5nm,0.3s			↓S	Sn	10 17 06.4	-16
VNA2	**Neumayer--Watz** comp=Z,3.1nm,0.2s,baz=307,slow=14	**15.16**	**156**	↓P	**P**	**10 14 42.5**	**-2.1**
VNA2	comp=Z,3.3nm,0.2s,baz=305,slow=24			↓S	Sn	10 17 12.8	-15
SNAA	**Sanae**	**16.71**	**154**		**Pn**	**10 14 59.8**	**-0.8**
SNAA	**Sanae** comp=Z,81nm,0.2s	**16.71**	**154**	↓P	**P**	**10 15 04.0**	**+2.0**
SNAA	comp=Z,206nm,0.7s			↑S	Sn	10 17 52.9	-12
SNAA	**Sanae** comp=Z,6.6nm,0.4s,baz=34,slow=7.4,SNR=68	**16.71**	**154**	P	**P**	**10 15 01.6**	**-0.3**
SNAA	comp=Z,3.6nm,0.6s,baz=346,slow=18,SNR=4.8			S	Sn	10 17 49.7	-15
TROLL	**Troll, Antarti** comp=Z,169nm,0.3s	**18.23**	**152**	↓P	**Pn**	**10 15 23.4**	**+4.2**
TROLL	comp=Z,116nm,0.3s			↑S	Sn	10 18 25.1	-17
PMSA	**Palmer Station**	**19.18**	**233**	P	**P**	**10 15 29.2**	**+0.2**
PMSA	**Palmer Station** comp=Z,16nm,0.9s,baz=204,slow=1.5,SNR=2.6	**19.18**	**233**	P	**Pn**	**10 15 31.6**	**+1.1**
EFI	**East Falkland**	**19.37**	**275**	P	**P**	**10 15 30.4**	**-0.8**
EFI	comp=Z,74nm,1.3s			IAmb	IAmb	10 15 42.6	
BELA	**Belgrano 2**	**20.19**	**185**	P	**P**	**10 15 39.6**	**-0.4**
SMAI	**San Martin Ant**	**20.75**	**224**	P	**P**	**10 15

comp=Z,6.2nm,0.8s
BOAV Boa Vista 66.20 322 P P 10 21 51.7 -0.2
BOAV IAmb IAmb 10 21 55.6
comp=Z,8.1nm,1.3s
LIC Lamto 66.22 23⇓*iP* P 10 21 52.1 +0.2
comp=Z,33nm,0.4s
KIC Kosan Boka 66.41 23⇓*iP* P 10 21 53.3 +0.1
comp=Z,23nm,0.6s
TIC Toumodi 66.63 23⇓*iP* P 10 21 54.5 -0.1
comp=Z,9.2nm,0.3s
DBIC Dimbokro 66.69 23 P P 10 21 55.2 +0.2
DBIC Dimbokro 66.69 23 P P 10 21 55.1 +0.2
comp=Z,6.9nm,0.3s,baz=180,slow=4.5,SNR=16
comp=Z,6.9nm,0.3s
SLOR San Lorenzo - 70.42 303 P P 10 22 18.0 -0.8
SLOR IAmb IAmb 10 22 25.0
comp=Z,10nm,1.2s
TOA0 Torodi Ar. Sit 74.45 28 P P 10 22 42.6 +0.4
TORD Torodi Ar. Bea 74.45 28 P P 10 22 42.6 +0.4
TORD Torodi Ar. Bea 74.45 28 P P 10 22 42.4 +0.3
comp=Z,20nm,0.5s,baz=200,slow=5.9,SNR=236
TORD pP **sP 10 23 10.1 +4.9**
comp=Z,4.4nm,0.6s,baz=194,slow=5.6,SNR=5.6
comp=Z,20nm,0.5s
ASAR Alice Springs 96.95 162 P P 10 24 33.0 -2.3
comp=Z,0.9nm,0.8s,baz=184,slow=3.8,SNR=12
ASAR pP **sP 10 25 00.5 +1.4**
comp=Z,0.5nm,0.7s,baz=184,slow=3.8,SNR=3.1
comp=Z,0.9nm,0.8s
PDAR Pinedale Array 121.90 300 PKP PKPdf 10 29 55.5 -1.7
comp=Z,0.2nm,0.5s,baz=120,slow=4.5,SNR=5.8
NVAR Mina Array Bea 122.72 291 PKP PKPdf 10 29 59.2 +0.3
comp=Z,0.2nm,0.5s,baz=153,slow=3.2,SNR=2.8
CMAR Chiang Mai Arr 123.79 111 PKP PKPdf 10 29 59.5 -1.8
comp=Z,1.1nm,0.6s,baz=237,slow=3.2,SNR=5.9
FINES FINESS Array B 125.80 28 PKP PKPdf 10 30 02.5 -1.3
comp=Z,2.0nm,0.6s,baz=159,slow=1.1,SNR=13
PZH PanZhiHua 131.91 108 PKP PKPdf 10 30 16.8 +0.1
ARCES ARCESS Array B 132.51 22 PKP PKPdf 10 30 14.8 -1.5
comp=Z,6.8nm,1.0s,baz=245,slow=1.8,SNR=11
BVAR Borovoye Array 135.27 59 PKP PKPdf 10 30 21.8 -0.2
comp=Z,1.0nm,0.4s,baz=212,slow=0.6,SNR=5.3
MKAR Makanchi Array 136.88 73 PKP PKPdf 10 30 24.9 -0.3
comp=Z,1.0nm,0.9s,baz=248,slow=1.6,SNR=2.4
YKA Yellowknife Ar 138.02 316 PKP PKPdf 10 30 25.9 -0.8
comp=Z,1.7nm,0.7s,baz=135,slow=1.9,SNR=35
BTO Baotou 147.21 103 *e*PKPbc **PKPbc 10 30 45.5 -0.8**
BTO PP **PP 10 34 16.3 +3.7**
BTO pmax pmax
comp=Z,44nm,1.0s
BTO pmax pmax
comp=Z,420nm,6.9s
NRIK Noril'sk 150.09 41 PKPbc PKPbc 10 30 51.9 -0.7
comp=Z,1.5nm,0.4s,baz=20,slow=5.5,SNR=3.6
SONM Songino Array 150.17 89 PKPbc PKPbc 10 30 52.1 -1.5
comp=Z,7.0nm,0.6s,baz=226,slow=3.3,SNR=37
SONM pPKPbc **sPKPbc 10 31 20.3 +2.7**
comp=Z,1.5nm,0.5s,baz=222,slow=2.8,SNR=4.7
ILAR Eielson Array 151.85 309 PKPbc PKPbc 10 30 56.0 -0.9
comp=Z,4.2nm,0.9s,baz=154,slow=1.7,SNR=46
MDJ Mudanjiang 159.87 121 PKP PKPdf 10 31 00.8 -0.8
MDJ pPKP sPKPdf 10 31 32.5 +6.7
MDJ sPKP 10 31 44.3
MDJ PP **PP 10 35 25.5 +1.9**
MDJ SKS **SKSdf 10 37 57.5 -3.4**

*NEIC **27** 10:24:37.3±1.7,20°.2S±0°.1×12°.29W±0°.04,h10km±1km, mb4.6/20, Error ellipse: s-maj=19.3km s-min=6.2km az=172.0*
*IDC **27** 10:24:38.1±2.8, 19°.93S×12°.01W, h0km, mb4.0/5, mbtmp4.0/5,MS4.1/39, Error ellipse: s-maj=274.4km s-min=30.5km az=103.0*
*GCMT **27** 10:24:44.3±0.3, 19°.64S±0°.04×11°.82W±0°.02, h12km, MW4.8/92, Moment Tensor Solution. s17,c19; s92,c112; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.95±.07; Mθθ0.27±.09; Mφφ1.68±.06; Mrθ1.79±.38; Mθφ-0.01±.07; Mφr-0.06±.29; Best double couple: M=2.31500×10^16 NP1:φs=331.00000°,δ55.00000°,λ-126.00000°. NP2: φs=202.00000°,δ49.00000°,λ-50.00000°. Principal axes: T 1.6840, Plg3.0000°, Azm86.0000°; N 1.2640, Plg29.0000°, Azm354.0000°; P -2.9460, Plg61.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 10:24:37.1±0.5, 20°.2S±0°.1×12°.26W±0°.10, h10km, n69, σ1§42/25, mb4.5/15, MS4.1/40, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHEL	**Horse Pasture**	**7.47**	**57**	Pn		**Pn**	**10 26 26.8**	**+0.6**
H10S2	**ASCENSION HYDR1**	**1.38**	**348**	T		T	10 38 51.2	
	baz=165,slow=7.4,SNR=18							
H10S3	**ASCENSION HYDR1**	**1.39**	**348**	T		T	10 38 58.1	
	baz=55,slow=74,SNR=33							
RCBR	**Riachuelo**	**27.03**	**299**	LR		LR	10 38 19.3	
	comp=Z,357nm,21.6s,baz=102,slow=30							
WIN	**Windhoek**	**27.43**	**100**	P		**P**	**10 30 23.8**	**+0.3**
WIN				IAmb		IAmb	10 30 40.7	
	comp=Z,25nm,1.4s							
DBIC	**Dimbokro**	**27.64**	**16**	P		**P**	**10 30 24.6**	**-0.5**
DBIC				IAmb		IAmb	10 30 46.0	
	comp=Z,13nm,1.5s							
DBIC	**Dimbokro**	**27.64**	**16**	LR		LR	10 39 08.1	
	comp=Z,220nm,18.4s,baz=169,slow=32							
TSUM	**Tsumeb**	**28.10**	**93**	P		**P**	**10 30 28.9**	**-0.5**
TSUM				IAmb		IAmb	10 30 52.1	
	comp=Z,16nm,1.5s							
TSUM	**Tsumeb**	**28.10**	**93**	LR		LR	10 40 01.5	
	comp=Z,567nm,18.8s,baz=326,slow=33							
SUR	**Sutherland**	**31.92**	**119**	LR		LR	10 41 07.5	
	comp=Z,315nm,21.2s,baz=306,slow=31							
SPB	**Sao Paulo**	**32.77**	**258**	P		P	10 31 08.3	-2.2
SPB				IAmb		IAmb	10 31 32.4	
	comp=Z,10nm,1.1s							
BDFB	**Brasilia**	**34.28**	**272**	P		**P**	**10 31 22.9**	**-1.0**
BDFB	**Brasilia**	**34.28**	**272**	LR		LR	10 43 10.9	
	comp=Z,457nm,19.4s,baz=126,slow=32							
BOSA	**Boshof**	**35.07**	**111**	P		**P**	**10 31 28.9**	**-1.8**
BOSA				IAmb		IAmb	10 31 38.7	
	comp=Z,11nm,1.3s							
BOSA	**Boshof**	**35.07**	**111**	LR		LR	10 43 18.2	
	comp=Z,268nm,20.6s,baz=268,slow=32							
LBTB	**Lobatse**	**35.20**	**105**	P		**P**	**10 31 31.9**	**+0.1**
LBTB	**Lobatse**	**35.20**	**105**	LR		LR	10 43 29.4	
	comp=Z,438nm,21.0s,baz=260,slow=32							
TOA0	**Torodi Ar. Sit**	**35.84**	**24**	P		**P**	**10 31 36.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**35.84**	**24**	P		**P**	**10 31 36.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**35.84**	**24**	P		**P**	**10 31 38.4**	**+1.3**
	comp=Z,1.4nm,0.5s,baz=202,slow=8.4,SNR=14							
	comp=Z,1.4nm,0.5s							
HOPE	**Hope Point**	**38.75**	**203**	P		**P**	**10 32 00.6**	**-0.8**
LSZ	**Lusaka**	**38.77**	**89**	LR		LR	10 45 44.1	
	comp=Z,348nm,21.9s,baz=282,slow=33							
ITQB	**Itaqui**	**41.12**	**248**	P		**P**	**10 32 21.2**	**-0.4**
ITQB				IAmb		IAmb	10 32 41.4	
	comp=Z,15nm,1.2s							
CPUP	**Villa Florida**	**41.70**	**253**	LR		LR	10 48 24.7	
	comp=Z,274nm,18.1s,baz=78,slow=34							
PTLB	**Pontes e Lacer**	**44.77**	**268**	P		**P**	**10 32 51.5**	**+0.3**
PTLB				IAmb		IAmb	10 33 07.6	
	comp=Z,8.7nm,1.4s							
MBAR	**Mbarara**	**46.32**	**71**	P		**P**	**10 33 03.5**	**-0.2**
MBAR				IAmb		IAmb	10 33 19.3	
	comp=Z,12nm,1.4s							
SIV	**San Ignacio**	**46.46**	**267**	LR		LR	10 50 34.7	
	comp=Z,554nm,20.2s,baz=108,slow=33							
MDP	**Montagnes des**	**46.96**	**298**	LR		LR	10 49 28.1	
	comp=Z,94nm,20.6s,baz=102,slow=32							
MACI	**Morro de la Ar**	**48.31**	**355**	P		**P**	**10 33 18.6**	**-0.3**
CFA	**Coronel Fontan**	**51.16**	**245**	LR		LR	10 52 52.6	
	comp=Z,161nm,20.2s,baz=98,slow=33							
SNAA	**Sanae**	**51.81**	**176**	P		**P**	**10 33 44.2**	**-0.7**
SNAA				IAmb		IAmb	10 34 00.7	
	comp=Z,11nm,1.5s							
SNAA	**Sanae**	**51.81**	**176**	LR		LR	10 51 33.5	
	comp=Z,62nm,18.3s,baz=357,slow=31							
KMBO	**Kilima Mbogo**	**51.93**	**75**	P		**P**	**10 33 45.4**	**-1.5**
KMBO				IAmb		IAmb	10 34 02.9	
	comp=Z,8.8nm,1.4s							
KMBO	**Kilima Mbogo**	**51.93**	**75**	LR		LR	10 54 10.2	
	comp=Z,255nm,19.3s,baz=204,slow=34							
LVC	**Limon Verde**	**52.54**	**257**	LR		LR	10 55 14.8	
	comp=Z,114nm,19.9s,baz=108,slow=35							
MDT	**Midelt**	**53.19**	**8**	LR		LR	10 53 58.3	
	comp=Z,137nm,19.8s,baz=14,slow=33							
PLCA	**Paso Flores**	**53.27**	**234**	LR		LR	10 55 46.7	
	comp=Z,78nm,18.1s,baz=64,slow=35							
PMSA	**Palmer Station**	**56.04**	**204**	LR		LR	10 54 24.9	
	comp=Z,109nm,18.4s,baz=206,slow=32							
PCRV	**Puerto La Cruz**	**59.71**	**295**	LR		LR	10 57 19.2	
	comp=Z,152nm,21.8s,slow=33							
NNA	**Nana**	**62.27**	**267**	LR		LR	11 00 41.6	
	comp=Z,238nm,20.2s,baz=118,slow=35							
VAE	**Valguarnera**	**62.60**	**24**	LR		LR	11 00 19.9	
	comp=Z,225nm,18.1s,baz=164,slow=34							
ATD	**Arta Tunnel**	**62.70**	**65**	LR		LR	10 59 58.6	
	comp=Z,11nm,20.5s,baz=228,slow=34							
SDV	**Santo Domingo**	**64.27**	**291**	LR		LR	11 02 42.7	
	comp=Z,286nm,18.3s,baz=91,slow=36							
SJG	**San Juan**	**65.12**	**302**	LR		LR	11 01 10.4	
	comp=Z,52nm,18.7s,baz=38,slow=34							
ATAH	**Atahualpa**	**65.20**	**271**	LR		LR	11 02 27.8	
	comp=Z,240nm,19.4s,baz=128,slow=35							
ROSC	**El Rosal**	**65.80**	**285**	LR		LR	11 02 58.3	
	comp=Z,339nm,18.9s,baz=113,slow=35							
MAW	**Mawson**	**65.86**	**156**	LR		LR	10 57 30.6	
	comp=Z,101nm,21.8s,baz=278,slow=30							
AGPR	**Aguadilla, PR**	**66.08**	**302**	P		P	10 35 20.8	-3.9
CASP	**Castiglione de**	**66.17**	**18**	P		**P**	**10 35 24.8**	**0.0**
EIL	**Elat**	**67.25**	**44**	LR		LR	11 01 08.3	
	comp=Z,77nm,21.6s,baz=244,slow=33							
MMAI	**Mount Meron Ar**	**69.77**	**41**	LR		LR	11 03 09.3	
	comp=Z,69nm,21.8s,baz=198,slow=33							
QSPA	**South Pole Qui**	**70.03**	**180**	P		**P**	**10 35 47.6**	**-1.3**
QSPA	**South Pole Qui**	**70.03**	**180**	LR		LR	11 02 01.3	
	comp=Z,77nm,21.6s,baz=207,slow=32							
GERES	**GERESS Array B**	**72.50**	**18**	LR		LR	11 05 29.5	
	comp=Z,102nm,20.5s,baz=306,slow=34							
BRTR	**Keskin Array B**	**73.38**	**35**	P		**P**	**10 36 08.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=241,slow=3.0,SNR=1.8							
	comp=Z,0.2nm,0.3s							
VRAC	**Vranov**	**73.77**	**19**	LR		LR	11 07 08.1	
	comp=Z,183nm,19.0s,baz=259,slow=35							
JTS	**Las Juntas de**	**77.63**	**286**	LR		LR	11 09 29.6	
	comp=Z,212nm,20.8s,baz=73,slow=35							
AKASG	**Malin Array Be**	**79.45**	**25**	P		**P**	**10 36 43.7**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=218,slow=5.4,SNR=5.2							
	comp=Z,0.3nm,0.3s							
GNI	**Garni**	**80.09**	**41**	LR		LR	11 11 11.8	
	comp=Z,54nm,18.5s,baz=296,slow=35							
WSAR	**Wadi Sarin**	**81.46**	**62**	LR		LR	11 12 33.6	
	comp=Z,225nm,19.5s,baz=232,slow=35							
VNDA	**Vanda**	**82.46**	**179**	P		**P**	**10 37 02.7**	**+3.4**
	comp=Z,1.1nm,1.0s,baz=180,slow=3.0,SNR=2.0							
	comp=Z,1.1nm,1.0s							
NOA	**NORSAR Array B**	**83.11**	**11**	LR		LR	11 13 41.7	
	comp=Z,42nm,19.1s,baz=305,slow=36							
FINES	**FINESS Array B**	**86.93**	**17**	P		**P**	**10 37 22.7**	**+0.8**
	comp=Z,3.1nm,0.9s,baz=215,slow=12,SNR=2.0							
	comp=Z,3.1nm,0.9s							
RPN	**Rapa Nui**	**87.00**	**242**	LR		LR	11 09 04.2	
	comp=Z,90nm,19.7s,baz=104,slow=30							
KIRV	**Kirov**	**93.35**	**28**	LR		LR	11 19 01.2	
	comp=Z,49nm,19.9s,baz=296,slow=35							
PALK	**Palmerston**	**95.23**	**84**	LR		LR	11 15 38.3	
	comp=Z,156nm,19.4s,baz=9.7,slow=32							
ARU	**Arti**	**96.52**	**32**	LR		LR	11 22 29.2	
	comp=Z,84nm,18.4s,baz=289,slow=36							
ASAR	**Alice Springs**	**125.36**	**141**	PKP		**PKiKP**	**10 43 42.6**	**+3.1**
	comp=Z,0.2nm,0.6s,baz=243,slow=0.6,SNR=4.4							
WRA	**Warramunga Arr**	**128.43**	**139**	PKP		**PKiKP**	**10 43 48.5**	**+2.8**
	comp=Z,0.3nm,0.8s,baz=232,slow=1.7,SNR=2.1							

*KEA **27** 10:27:35.2, 36°.04N×129°.30E, h1km, ML3.2/3*
*JMA **27** 10:27:43.3±0.6, 36°.N±2°.×13°.0E±°, h14km, MV3.3/8, S KOREAN PENINSULA REG*
*KMA **27** 10:27:45.0±0.3, 36°.11N×129°.36E, h8km±3km, Error ellipse: s-maj=2.8km s-min=1.7km az=83.0*
ISC 27 10:27:44.1±0.9, 36°.13N±0°.04×129°.30E±0°.05, h14km±7km, n11, σ0§80/20, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSPHA	**Pohang**	**0.09**	**40**	P		**Pg**	**10 27 47.3**	**+0.2**
	SNR=1602							
KSPHA				S		**Sg**	**10 27 48.9**	**-0.2**
YOCB	**Yeongcheon**	**0.32**	**242**	P		**Pb**	**10 27 52.0**	**+0.4**
	SNR=68							
YOCB				P		**Pb**	**10 27 52.0**	**+0.4**
	SNR=68							
KSADO	**Andong**	**0.40**	**315**	P		**Pb**	**10 27 53.8**	**+0.8**
	SNR=92							
KSADO				P		**Pb**	**10 27 53.8**	**+0.8**
	SNR=92							
YODB	**Yeongdeok**	**0.41**	**12**	P		**Pb**	**10 27 53.3**	**+0.1**
	SNR=207							
YODB				P		**Pb**	**10 27 53.3**	**+0.1**
	SNR=207							
JTU	**Tsushima**	**1.60**	**177**	P		**Pb**	**10 28 13.2**	**-0.2**
JTU				S		**Sb**	**10 28 34.5**	**+0.9**
JTSM	**Tsushimamitsus**	**1.79**	**178**	*e*P		**Pb**	**10 28 16.3**	**-0.3**
JTSM				S		**Sb**	**10 28 40.2**	**+1.4**
JII	**Iki**	**2.35**	**171**	P		**Pb**	**10 28 25.7**	**-0.6**
JII				*e*S		**Sb**	**10 28 55.2**	**0.0**
JTY	**Toyota**	**2.35**	**142**	*e*P		**Pn**	**10 28 22.1**	**-0.3**
JTY				*e*S		**Sn**	**10 28 51.1**	**+0.1**
HJU	**Haeju**	**3.44**	**305**	Pg		**Pb**	**10 28 43.1**	**-1.7**
HJU				Sg		**Sg**	**10 29 33.1**	**-1.5**
HJU				AML		AML		
	comp=N,184nm,0.5s							
HJU				AML		AML		
	comp=E,76nm,0.5s							
HJU				AML		AML		
	comp=Z,54nm,0.5s							
PYAG	**Pyongyang**	**4.05**	**317**	Sg		**Sg**	**10 29 54.9**	**+0.6**
PYAG				AML		AML		
	comp=N,18nm,0.1s							
PYAG				AML		AML		
	comp=E,34nm,0.5s							
PYAG				AML		AML		
	comp=Z,28nm,0.3s							
PYS	**Pyongsong**	**4.15**	**320**	Sg		**Sg**	**10 29 57.1**	**-0.2**
PYS				AML		AML		
	comp=N,78nm,0.3s							
PYS				AML		AML		
	comp=E,70nm,0.1s							
PYS				AML		AML		
	comp=Z,36nm,0.4s							

*KEA **27** 10:42:35.1, 36°.00N×129°.17E, h1km, ML2.9/3*
*JMA **27** 10:42:43.2±0.6, 36°.N±2°.×12°.9E±°, h10km, MV2.9/9, S KOREAN PENINSULA REG*
*KMA **27** 10:42:44.0±0.2, 36°.11N×129°.36E, h9km±2km, Error ellipse: s-maj=2.0km s-min=1.1km az=85.0*
ISC 27 10:42:43.9±0.9, 36°.19N±0°.05×129°.28E±0°.04, h11km±7km, n15, σ0§80/26, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSPHA	**Pohang**	**0.08**	**84**	P		**Pg**	**10 42 46.4**	**+0.1**
	SNR=885							
KSPHA				S		**Sg**	**10 42 48.0**	**-0.1**
YOCB	**Yeongcheon**	**0.34**	**232**	P		**Pg**	**10 42 51.1**	**+0.5**
	SNR=47							
YOCB				P		**Pg**	**10 42 51.1**	**+0.5**
	SNR=47							
KSADO	**Andong**	**0.35**	**311**	P		**Pb**	**10 42 52.9**	**+0.8**
	SNR=102							
KSADO				P		**Pb**	**10 42 52.9**	**+0.8**
	SNR=102							
YODB	**Yeongdeok**	**0.36**	**17**	P		**Pb**	**10 42 52.4**	**0.0**
	SNR=156							
YODB				P		**Pb**	**10 42 52.4**	**0.0**
	SNR=156							
YEYB	**Yeongyang**	**0.47**	**341**	P		**Pb**	**10 42 54.8**	**+0.7**
	SNR=71							
YEYB				P		**Pb**	**10 42 54.8**	**+0.7**
	SNR=71							
EUSB	**Uiseong**	**0.50**	**290**	P		**Pb**	**10 42 55.4**	**+0.6**
	SNR=67							
EUSB				P		**Pb**	**10 42 55.4**	**+0.6**
	SNR=67							
KSDAG	**Daegu**	**0.52**	**217**	P		**Pg**	**10 42 53.8**	**-0.2**
	SNR=139							
KSDAG				P		**Pg**	**10 42 53.8**	**-0.2**
	SNR=139							
KSULJ	**Uljin**	**0.53**	**12**	P		**Pb**	**10 42 55.4**	**+0.2**
	SNR=310							
KSULJ				P		**Pb**	**10 42 55.4**	**+0.2**
	SNR=310							
JTU	**Tsushima**	**1.66**	**176**	P		**Pn**	**10 43 12.3**	**-0.6**
JTU				S		**Sn**	**10 43 33.2**	**-1.0**
JTSM	**Tsushimamitsus**	**1.84**	**177**	P		**Pn**	**10 43 15.6**	**+0.2**
JTSM				S		**Sn**	**10 43 39.3**	**+0.5**
JII	**Iki**	**2.41**	**171**	*e*S		**Sn**	**10 43 54.1**	**+1.3**
JTY	**Toyota**	**2.41**	**142**	*e*S		**Sn**	**10 43 53.2**	**+0.4**
HJU	**Haeju**	**3.39**	**304**	Pg		**Pb**	**10 43 42.0**	**-2.0**
HJU				Sg		**Sg**	**10 44 31.2**	**-1.6**
HJU				AML		AML		
	comp=N,59nm,0.5s							
HJU				AML		AML		
	comp=E,25nm,0.5s							
HJU				AML		AML		
	comp=Z,23nm,0.7s							
PYAG	**Pyongyang**	**4.00**	**317**	Sg		**Sg**	**10 44 52.5**	**+0.3**
PYAG				AML		AML		
	comp=N,19nm,0.2s							
PYAG				AML		AML		
	comp=E,20nm,0.6s							
PYAG				AML		AML		
	comp=Z,12nm,0.2s							
PYS	**Pyongsong**	**4.09**	**319**	Sg		**Sg**	**10 44 55.9**	**+0.7**
PYS				AML		AML		
	comp=N,42nm,0.3s							
PYS				AML		AML		
	comp=E,23nm,0.5s							
PYS				AML		AML		
	comp=Z,15nm,0.5s							

*SOME **27** 10:49:47.6, 38°.50N×76°.42E, h0km*
*IDC **27** 10:49:56.1±15.0, 38°.80N×76°.79E, h0km, mb3.3/1, mbtmp3.4/4, ML2.4/2, MS3.7/1, Error ellipse: s-maj=216.1km s-min=53.4km az=50.0*
*NNC **27** 10:49:59.1±4.5, 38°.92N×76°.37E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=33.5km s-min=17.2km az=167.0*
ISC 27 10:49:58.8±2.8, 38°.9N±0°.2×76°.56E±0°.07, h10km, n24, σ2§15/25, 4C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KZA	**Kyzart**	**3.30**	**343**	P		**Pg**	**10 51 00.1**	**-2.0**
	SNR=6.0							
UCH	**Uchtor**	**3.65**	**335**	P		**Pb**	**10 51 05.9**	**+2.3**
	SNR=5.9							
AML	**Almayashu**	**3.88**	**327**	P		**Pb**	**10 51 08.8**	**+1.3**
	SNR=12							
KBK	**Karagaybulak**	**3.92**	**342**	P		**Pb**	**10 51 10.5**	**+2.3**
	SNR=14							
TKM2	**Tokmak 2**	**4.06**	**350**	P		**Pg**	**10 51 13.8**	**-2.8**
	SNR=7.0							
TNSS	**Tian-Shan**	**4.12**	**4**	*e*Pg		**Pb**	**10 51 13.7**	**+2.0**
	5.4nm,0.5s							
TNSS				*e*Lg		Lg	10 52 15.7	
	16nm,0.7s							
TNSS	**Tian-Shan**	**4.12**	**4**	Pg		**Pb**	**10 51 14.6**	**+2.9**
	7.6nm,0.6s							
TNSS				Lg		Lg	10 52 17.6	
	9.5nm,1.0s							
MDOK	**Medeo**	**4.25**	**5**	*e*Pg		**Pb**	**10 51 15.2**	**+1.4**
	4.4nm,0.4s							
MDOK				*e*Lg		Lg	10 52 18.3	
	29nm,0.7s							
MDOK	**Medeo**	**4.25**	**5**	Pg		**Pb**	**10 51 16.9**	**+3.1**
	12nm,0.9s							
MDOK				Pg		**Pg**	**10 51 18.1**	**-2.2**
	6.3nm,0.5s							
MDOK				Lg		Lg	10 52 14.9	
	42nm,0.8s							
MDOK				Lg		Lg	10 52 21.3	
	29nm,0.9s							
SATY	**Saty**	**4.36**	**18**	*e*Pg		**Pb**	**10 51 17.2**	**+1.6**
	4.9nm,0.5s							
SATY				*e*Lg		Lg	10 52 21.8	
	15nm,0.6s							
SATY	**Saty**	**4.36**	**18**	Pg		**Pg**	**10 51 19.4**	**-3.0**
	22nm,1.0s							
SATY				Lg		Lg	10 52 25.9	
	15nm,0.7s							
MRKS	**Merke**	**4.58**	**328**	*e*Pg		**Pb**	**10 51 18.9**	**-0.4**
	3.7nm,0.7s							
MRKS				*e*Lg		Lg	10 52 24.7	
	31nm,0.5s							
MRKS	**Merke**	**4.58**	**328**	Pg		**Pb**	**10 51 18.9**	**-0.4**
	18nm,0.6s							
MRKS				Lg		Lg	10 52 25.3	
	13nm,0.7s							
UZB	**Uzynbulak**	**4.61**	**23**	*e*Pg		**Pb**	**10 51 22.1**	**+2.2**
	2.7nm,0.2s							
UZB				*e*Lg		Lg	10 52 30.0	
	8.2nm,0.8s							
UZB	**Uzynbulak**	**4.61**	**23**	Pg		**Pb**	**10 51 22.1**	**+2.2**
	7.5nm,0.9s							
UZB				Lg		Lg	10 52 30.9	
	9.2nm,1.4s							
KTBS	**Karatobe**	**4.79**	**1**	*e*Pg		**Pb**	**10 51 25.1**	**+2.4**
	4.7nm,0.6s							
KTBS				*e*Lg		Lg	10 52 35.2	
	17nm,0.5s							
KTBS	**Karatobe**	**4.79**	**1**	Pg		**Pb**	**10 51 24.3**	**+1.5**
	6.0nm,0.7s							
KTBS				Lg		Lg	10 52 34.8	
	17nm,0.8s							
PDGK	**Podgornoye**	**4.93**	**26**	⇑Pg		**Pg**	**10 51 30.7**	**-2.4**
	4.3nm,0.5s							
PDGK				⇑Lg		Lg	10 52 36.2	
	19nm,1.0s							
KK31	**Karatay Array**	**6.19**	**314**	⇓Pn		**Pn**	**10 51 33.2**	**+2.9**
	1.1nm,0.4s,baz=129,slow=13,SNR=26							
KK31				⇑Sn		**Sn**	**10 52 40.6**	**-0.5**
	3.2nm,0.5s,baz=124,slow=20,SNR=5.1							
KK31				⇑Lg		Lg	10 53 12.9	
	4.0nm,0.6s,baz=126,slow=28,SNR=4.0							
MKAR	**Makanchi Array**	**8.92**	**26**	Pn		**Pn**	**10 52 07.8**	**+0.1**
	0.1nm,0.3s,baz=205,slow=12,SNR=1.9							
	0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**11.78**	**6**	Pn		**Pn**	**10 52 46.4**	**-0.5**
	0.6nm,0.2s,baz=193,slow=12,SNR=5.6							
ZALV	**Zalesovo Beam**	**16.05**	**18**	Pn		**Pn**	**10 53 44.9**	**+0.5**
	baz=207,slow=15,SNR=3.5							
	0.3nm,0.4s							
SONM	**Songino Array**	**23.33**	**58**	P		**P**	**10 55 05.0**	**-2.1**
	0.8nm,0.7s,baz=259,slow=9.9,SNR=7.8							
	0.8nm,0.7s							
LEM	**Lembang**	**53.87**	**141**	LR		LR	11 24 58.7	
	comp=Z,68nm,20.4s,baz=240,slow=39							

**IDC 27 11:08:11.1±1.5, 5°.75S×150°.45E, h0km, mb3.2/2, mbtmp3.3/2, Error ellipse: s-maj=111.5km s-min=20.8km az=136.0, New

NLAI	**Namlea**	**3.54**	**137**	P		**Pn**	**11 26 13.0**	**-1.5**
MPSI	**Mapaga**	**4.87**	**282**	P		**Pn**	**11 26 32.5**	**-0.2**
TTSI	**Tana Toraja**	**5.41**	**244**	P		**Pn**	**11 26 38.7**	**-1.3**
	32nm,0.7s,750nm0.2nm							
SPSI	**Sidrap Palu**	**5.91**	**236**	P		**Pn**	**11 26 45.6**	**-1.3**
	31nm,0.7s,6µm0.2nm							
BKSI	**Bulukumba**	**6.50**	**224**	P		**Pn**	**11 26 53.7**	**-1.3**
WRA	**Warramunga Arr**	**21.39**	**154**	P		**P**	**11 30 07.3**	**+2.5**
	0.7nm,0.8s,baz=330,slow=12,SNR=5.2							
	0.7nm,0.8s							
ASAR	**Alice Springs**	**24.58**	**159**	P		**P**	**11 30 40.0**	**+3.4**
	0.4nm,0.8s,baz=350,slow=10,SNR=4.0							
	0.4nm,0.8s							
MKAR	**Makanchi Array**	**60.04**	**328**	P		**P**	**11 35 22.1**	**-0.6**
	0.2nm,0.4s,baz=137,slow=7.2,SNR=1.3							
	0.2nm,0.4s							

*NNC **27** 11:28:48.6±5.3, 37°.91N×68°.83E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=48.9km s-min=27.8km az=12.0*
*MOS **27** 11:28:52.8±1.9, 37°.86N×70°.34E, h65km, mb4.2/10, Error ellipse: s-maj=12.4km s-min=7.1km az=88.5*
*IDC **27** 11:28:53.0±3.7, 37°.80N×69°.98E, h76km±32km, mb3.5/13, mbtmp3.9/18, MS3.3/1, Error ellipse: s-maj=27.3km s-min=15.9km az=21.0*

ISC 27 11:28:51.8±0.7, 37°.67N±0'.08×70°.12E±0'.06, h50km, n60, σ2s79/66, mb3.9/18, MS3.4/3, 12C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**4.94**	**66**	P	**Pn**	**11 30 02.0**	**-1.6**
KSH				sP		11 30 14.0	
KSH				S	**Sn**	**11 31 01.0**	**+1.5**
KSH				pmax	pmax		
	comp=Z,30nm,1.0s						
KSH				smax	smax		
	comp=N,160nm,0.7s						
KSH				smax	smax		
	comp=E,160nm,1.1s						
AML	**Almayashu**	**5.24**	**31**	P	**Pn**	**11 30 09.1**	**+1.2**
	SNR=17						
KK31	**Karatay Array**	**5.44**	**3**	PN	**Pn**	**11 30 08.7**	**-1.6**
KK31	**Karatay Array**	**5.44**	**3**	⇑Pn	**Pn**	**11 30 08.7**	**-1.6**
	comp=E,1.6nm,0.5s,baz=196,slow=14,SNR=27						
KK31				⇑Lg	Lg	11 31 38.4	
	comp=E,132nm,1.1s,baz=196,slow=26						
UCH	**Uchtor**	**5.67**	**35**	P	**Pn**	**11 30 15.5**	**+1.6**
	SNR=24						
AAK	**Ala-Archa**	**5.99**	**33**	P	**Pn**	**11 30 19.5**	**+1.5**
	SNR=16						
AAK	**Ala-Archa**	**5.99**	**33**	*ce*PN	**Pn**	**11 30 19.2**	**+1.2**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
AAK	**Ala-Archa**	**5.99**	**33**	P	**Pn**	**11 30 19.5**	**+1.5**
	comp=Z,9.5nm,0.4s,baz=224,slow=8.2,SNR=36						
AAK				Lg	Lg	11 31 56.8	
	comp=Z,2.1nm,0.3s,baz=252,slow=20,SNR=2.0						
KBK	**Karagaybulak**	**6.21**	**35**	P	**Pn**	**11 30 22.8**	**+1.9**
	SNR=7.4						
CHMS	**Chumysh**	**6.39**	**32**	P	**Pn**	**11 30 24.7**	**+1.3**
	SNR=19						
USP	**Ospenovka**	**6.51**	**29**	P	**Pn**	**11 30 26.3**	**+1.2**
	SNR=14						
TKM2	**Tokmak 2**	**6.71**	**37**	P	**Pn**	**11 30 29.4**	**+1.4**
	SNR=8.5						
GEYT	**Alibeck**	**9.51**	**275**	*e*P	Pn	11 31 18.0	+12
GEYT	**Alibeck**	**9.51**	**275**	S	Sn	11 32 38.4	-13
	comp=Z,17nm,0.8s,baz=93,slow=18,SNR=3.2						
MK31	**Makanchi Array**	**12.81**	**41**	*ce*P	**Pn**	**11 31 50.2**	**-1.0**
MKAR	**Makanchi Array**	**12.81**	**41**	*i* P	**Pn**	**11 31 50.5**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**12.81**	**41**	P	**Pn**	**11 31 50.6**	**-0.5**
	comp=Z,3.3nm,0.9s,baz=233,slow=12,SNR=10						
AB31	**Akbulak array**	**13.72**	**331**	P	Pn	11 31 56.0	-7.6
AB31	**Akbulak array**	**13.72**	**331**	⇓Pn	Pn	11 31 56.0	-7.6
	comp=Z,0.3nm,0.4s,baz=168,slow=11,SNR=42						
AB31				⇑Sn	Sn	11 34 20.9	-13
	comp=Z,6.2nm,1.1s,baz=153,slow=23,SNR=5.0						
KURBB	**Kurchatov Arra**	**14.28**	**22**	P	**Pn**	**11 32 07.4**	**-3.6**
	comp=Z,1.3nm,0.8s,baz=209,slow=12,SNR=7.4						
KURK	**Kurchatov**	**14.38**	**22**	*i* P	**Pn**	**11 32 09.2**	**-3.2**
BVAR	**Borovoye Array**	**15.36**	**1**	P	**Pn**	**11 32 22.2**	**-2.9**
	comp=Z,0.6nm,0.4s,baz=155,slow=14,SNR=4.2						
BRVK	**Borovoye**	**15.39**	**0**	*ce*P	**Pn**	**11 32 26.7**	**+1.2**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.7s						
AKTO	**Aktyubinsk**	**15.42**	**330**	P	**Pn**	**11 32 23.0**	**-2.9**
AKTO	**Aktyubinsk**	**15.42**	**330**	P	**Pn**	**11 32 23.0**	**-2.9**
	comp=Z,9.7nm,0.8s,baz=142,slow=10,SNR=20						
AKTO	**Aktyubinsk**	**15.42**	**330**	⇓Pn	Pn	11 32 18.1	-7.8
	comp=Z,1.2nm,0.6s						
AKTO				⇑Sn	Sn	11 35 06.0	-10
	comp=Z,2.7nm,0.9s						
DGZ	**Jazzator, Alta**	**17.31**	**40**	*i* P	**Pn**	**11 32 48.4**	**-1.5**
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZALV	**Zalesovo Beam**	**19.17**	**27**	*e*P	**P**	**11 33 09.5**	**-1.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**19.17**	**27**	P	**P**	**11 33 09.3**	**-1.7**
	comp=Z,5.2nm,0.7s,baz=223,slow=11,SNR=20						
GNI	**Garni**	**19.89**	**285**	*ce*P	**Pn**	**11 33 23.4**	**+2.3**
GNI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ARU	**Arti**	**20.30**	**341**	*c i*P	**P**	**11 33 25.1**	**+1.8**
ARU						11 33 48.6	
ARU				S	**S**	**11 37 05.2**	**-2.8**
ARU				SS	**SnSn**	**11 37 40.0**	**+12**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.3s						
ARU	**Arti**	**20.30**	**341**	P	**P**	**11 33 20.1**	**-3.2**
	comp=Z,1.4nm,0.3s,baz=158,slow=16,SNR=1.6						
	comp=Z,1.4nm,0.3s						
KBZ	**Khabaz**	**21.46**	**295**	*e*P	**P**	**11 33 39.4**	**+3.6**
KBZ				pmax	pmax		
	comp=Z,9.0nm,1.4s						
KBZ	**Khabaz**	**21.46**	**295**	P	**P**	**11 33 34.4**	**-1.4**
	comp=Z,1.8nm,0.8s,baz=167,slow=18,SNR=3.4						
	comp=Z,1.8nm,0.8s						
BELG	**Belogornoye**	**21.54**	**320**	*i* P	**P**	**11 33 39.1**	**+2.5**
BELG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BELG	**Belogornoye**	**21.54**	**320**	P	**P**	**11 33 33.2**	**-3.4**
	comp=Z,20nm,0.8s,baz=193,slow=5.4,SNR=5.3						
	comp=Z,20nm,0.8s						
KIV	**Kislovodsk**	**21.64**	**296**	*e*P	**P**	**11 33 42.6**	**+4.7**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GTA	**Gaotai**	**23.25**	**76**	*e*P	**P**	**11 33 57.5**	**+2.6**
GTA				pP	pP	11 34 05.3	-2.4
GTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
SONM	**Songino Array**	**28.27**	**57**	*e*P	**P**	**11 34 42.0**	**+1.6**
SONM	**Songino Array**	**28.27**	**57**	P	**P**	**11 34 40.5**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=270,slow=9.4,SNR=3.8						
	comp=Z,0.5nm,0.7s						
MMAI	**Mount Meron Ar**	**28.60**	**271**	LR	LR	11 49 37.5	
	comp=Z,66nm,20.0s,baz=306,slow=44						
OBN	**Obninsk**	**28.60**	**318**	*i*eP	**P**	**11 34 45.3**	**+2.3**
OBN				*e*		11 35 40.6	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,95nm,16.0s						
CMAR	**Chiang Mai Arr**	**31.63**	**119**	P	**P**	**11 35 10.4**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=304,slow=8.1,SNR=4.6						
	comp=Z,0.8nm,0.8s						
AKASG	**Malin Array Be**	**31.67**	**308**	*e*P	**P**	**11 35 13.9**	**+3.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**31.67**	**308**	P	**P**	**11 35 07.3**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=82,slow=7.1,SNR=4.2						
	comp=Z,0.2nm,0.3s						
MNK	**Minsk**	**33.18**	**314**	*i* P	**P**	**11 35 24.4**	**+1.1**
	comp=E,6.0nm,0.7s						
MNK				*i* P	**P**	**11 35 24.4**	**+1.1**
	comp=N,13nm,0.9s						
MNK				*i* P	**P**	**11 35 24.4**	**+1.1**
	comp=Z,6.0nm,0.8s,baz=102						
MNK				*i* pP	**sP**	**11 35 45.1**	**+2.3**
MNK				*i* PP	**PP**	**11 36 36.9**	**-2.1**
MNK				*i* S	**S**	**11 40 36.9**	**-2.5**
MNK				*i* sS	sS	11 41 13.2	+11
MNK				*i* SS	**SnSn**	**11 42 45.0**	**+2.6**
MNK				*i* LR	LR	11 48 57.3	
MNK				*i* LRM	MLR	11 51 46.2	
	comp=N,307nm,21.9s						
MNK				*i* LRM	MLR	11 51 57.1	
	comp=Z,54nm,12.9s						
MNK				*i* LRM	MLR	11 52 01.0	
	comp=E,35nm,16.8s						
MNK	**Minsk**	**33.18**	**314**	*i* P	**P**	**11 35 24.4**	**+1.1**
MNK				*i* *PP	**sP**	**11 35 45.0**	**+2.3**
MNK				*i*		11 36 36.8	
MNK				*i*		11 38 12.4	
MNK				*i* S	**S**	**11 40 36.8**	**-2.5**
MNK				*i* SS	**SnSn**	**11 42 44.9**	**+2.6**
MNK				*i*		11 45 42.4	
MNK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,13nm,0.9s						
MNK				pmax	pmax		
	comp=E,6.0nm,0.7s						
MNK				MLR	MLR		
	comp=N,307nm,22.0s						
MNK				MLR	MLR		
	comp=Z,54nm,13.0s						
MNK				MLR	MLR		
	comp=E,35nm,17.0s						
ARCES	**ARCESS Array B**	**39.80**	**337**	P	**P**	**11 36 17.5**	**-2.1**
	comp=E,3.2nm,0.9s,baz=119,slow=10,SNR=1.8						
	comp=E,3.2nm,0.9s						
HFS	**Hagfors**	**41.72**	**321**	P	**P**	**11 36 32.9**	**-2.6**
	comp=E,1.6nm,0.8s,baz=116,slow=6.6,SNR=1.1						
	comp=E,1.6nm,0.8s						
ZEA	**Zeya**	**41.81**	**48**	*e*P	**P**	**11 36 40.5**	**+4.2**
HEH	**HeiHe**	**42.11**	**54**	*e*P	**P**	**11 36 38.0**	**-0.8**
HEH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TIXI	**Tiksi**	**44.96**	**23**	*ce*P	**P**	**11 37 02.5**	**+1.1**
TIXI				pmax	pmax		
	comp=Z,15nm,2.5s						
TORD	**Torodi Ar. Bea**	**65.05**	**268**	P	**P**	**11 39 24.7**	**-2.6**
	comp=Z,1.5nm,0.8s,baz=47,slow=7.2,SNR=4.8						
	comp=Z,1.5nm,0.8s						
ILAR	**Eielson Array**	**73.85**	**16**	*e*P	**P**	**11 40 20.3**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR	**Eielson Array**	**73.85**	**16**	P	**P**	**11 40 16.6**	**-4.2**
	comp=Z,0.5nm,0.8s,baz=289,slow=3.6,SNR=6.5						
	comp=Z,0.5nm,0.8s						
YKA	**Yellowknife Ar**	**80.11**	**2**	*e*P	**P**	**11 40 55.9**	**-0.1**
YKA	**Yellowknife Ar**	**80.11**	**2**	P	**P**	**11 40 54.8**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=350,slow=5.8,SNR=6.4						
	comp=Z,0.3nm,0.7s						
WRA	**Warramunga Arr**	**83.20**	**121**	P	**P**	**11 41 11.6**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=324,slow=5.2,SNR=2.8						
	comp=Z,0.5nm,0.9s						
ASAR	**Alice Springs**	**85.49**	**124**	P	**P**	**11 41 23.4**	**-1.1**
	comp=Z,0.2nm,0.8s,baz=322,slow=5.9,SNR=1.7						
	comp=Z,0.2nm,0.8s						
SNAA	**Sanae**	**120.24**	**200**	*c i*PKIKP	**PKiKP**	**11 47 43.0**	**+6.8**
SNAA				pmax	pmax		
	comp=Z,8.0nm,1.7s						

IDC 27 11:36:15.2±5.3, 56°.80S×142°.22W, h0km, mb4.0/2, mbtmp4.0/2, MS3.6/6, Error ellipse: s-maj=472.9km s-min=57.2km az=158.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**31.95**	**274**	LR	LR	11 52 37.1	
	comp=Z,130nm,18.5s,baz=140,slow=31						
URZ	**Urewera**	**32.50**	**287**	LR	LR	11 54 30.9	
	comp=Z,67nm,18.2s,baz=211,slow=34						
QSPA	**South Pole Qui**	**33.35**	**180**	LR	LR	11 54 04.8	
	comp=Z,77nm,19.7s,baz=58,slow=32						
TBI	**Tubuai**	**33.83**	**348**	*e*T	T	12 18 18.1	
	48nm,0.3s						
RPN	**Rapa Nui**	**37.77**	**52**	LR	LR	11 55 04.0	
	comp=Z,43nm,20.2s,baz=84,slow=30						
MEH	**Mehetia**	**39.11**	**351**	*e*T	T	12 24 55.3	
	31nm,0.3s						
TVO	**Taravao**	**39.31**	**349**	*e*T	T	12 25 10.9	
	1.6nm,0.3s						
PAE	**Paea**	**39.47**	**349**	*e*T	T	12 25 15.0	
	2.3nm,0.3s						
PPT2	**Papeete2**	**39.54**	**349**	*e*LR	LR	11 54 08.8	
	comp=Z,121nm,25.5s						
PPT2	**Papeete2**	**39.54**	**349**	*e*T	T	12 25 18.9	
	4.1nm,0.3s						
VAH	**Vaihoa**	**41.69**	**352**	*e*T	T	12 28 08.6	
	23nm,0.2s						
TAOE	**Nuku Hiva Isla**	**47.86**	**3**	*e*LR	LR	11 58 11.4	
	comp=Z,80nm,26.5s						
H03S2	**Juan Fernandez**	**48.04**	**89**	T	T	12 36 40.0	
	baz=219,slow=74,SNR=31						
H03S1	**Juan Fernandez**	**48.04**	**89**	T	T	12 36 42.2	
	baz=219,slow=74,SNR=31						
H03S3	**Juan Fernandez**	**48.05**	**89**	T	T	12 36 41.7	
	baz=219,slow=74,SNR=40						
H03N3	**Juan Fernandez**	**48.33**	**89**	T	T	12 37 03.4	
	baz=223,slow=72,SNR=54						
H03N2	**Juan Fernandez**	**48.33**	**89**	T	T	12 37 04.2	
	baz=223,slow=72,SNR=43						
H03N1	**Juan Fernandez**	**48.34**	**89**	T	T	12 37 03.5	
	baz=223,slow=72,SNR=68						
MAW	**Mawson**	**54.52**	**192**	LR	LR	12 06 27.5	
	comp=Z,70nm,18.6s,baz=5.5,slow=33						
ASAR	**Alice Springs**	**67.22**	**261**	P	P	11 47 11.2	0.0
	1.3nm,0.7s,baz=144,slow=6.0,SNR=17						
	1.3nm,0.7s						
H01W1	**Cape Leeuwin H**	**68.35**	**239**	T	T	13 02 35.8	
	baz=143,slow=76,SNR=110						
H01W2	**Cape Leeuwin H**	**68.35**	**239**	T	T	13 02 33.4	
	baz=143,slow=76,SNR=121						
H01W3	**Cape Leeuwin H**	**68.36**	**239**	T	T	13 02 35.7	
	baz=143,slow=76,SNR=108						
WRA	**Warramunga Arr**	**69.99**	**264**	P	P	11 47 28.4	0.0
	1.0nm,0.7s,baz=147,slow=5.6,SNR=12						
	1.0nm,0.7s						
LBTB	**Lobatse**	**97.86**	**169**	LR	LR	12 27 52.9	
	comp=Z,88nm,21.4s,baz=278,slow=32						
H10N3	**ASCENSION HYDR**	**102.72**	**127**	T	T	13 45 44.2	
	baz=206,slow=75,SNR=7.6						
H10N1	**ASCENSION HYDR**	**102.73**	**127**	T	T	13 45 47.7	
	baz=206,slow=75,SNR=8.2						
H10N2	**ASCENSION HYDR**	**102.74**	**127**	T	T	13 45 45.8	
	baz=206,slow=75,SNR=5.6						
ILAR	**Eielson Array**	**121.30**	**358**	PKP	PKPdf	11 55 08.2	-0.3
	0.6nm,0.9s,baz=196,slow=2.4,SNR=5.7						
MKAR	**Makanchi Array**	**151.20**	**269**	PKPbc	PKPbc	11 56 09.3	-0.1
	0.9nm,0.8s,baz=104,slow=3.3,SNR=2.8						

*MOS **27** 11:39:35.7±1.1, 52°.2S×169°.97W, h43km, mb4.4/11, Error ellipse: s-maj=11.4km s-min=7.3km az=86.8*
*AEIC **27** 11:39:36.1±3.1, 52°.2N±0°.1×169°.9W±0°.2, h26km±7km, Error ellipse: s-maj=22.1km s-min=10.5km az=149.0*
*IDC **27** 11:39:37.5±3.2, 52°.35N×170°.14W, h39km±26km, mb3.9/29, mbtmp4.1/31, ML3.9/2, MS3.5/6, Error ellipse: s-maj=18.3km s-min=11.4km az=176.0*
*NEIC **27** 11:39:37.6±2.7, 52°.25N±0°.06×169°.96W±0°.09, h35km±2km, mb3.9/73, ML4.3/8, ML4.3(AEIC), Error ellipse: s-maj=10.9km s-min=7.6km az=143.0*

ISC 27 11:39:37.3±1.0, 52°.19N±0°.07×169°.94W±0°.04, h42km±7km, n238, σ1s39/246, mb4.1/46, MS3.5/6, 7C-1D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLCO	**Concord Point,**	**0.61**	**12**		**Pn**	**11 39 48.7**	**-0.9**
CLCO					**Sn**	**11 39 57.8**	**-0.5**
CLES	**Cleveland East**	**0.63**	**2**	Pn	**Pn**	**11 39 49.2**	**-0.7**
CLES					**Sn**	**11 39 58.3**	**-0.5**
NIKH	**Nikolski High**	**1.02**	**40**	Pn	**Pn**	**11 39 54.1**	**-1.1**
NIKH	**Nikolski High**	**1.02**	**40**		**Sn**	**11 40 07.0**	**-1.3**
OKCE	**Okmok Cone E**	**1.64**	**40**		**Pn**	**11 40 03.4**	**-0.2**
OKCE					**Sn**	**11 40 25.5**	**+1.9**
OKNC	**Okmok New Cone**	**1.68**	**40**		**Pn**	**11 40 04.2**	**+0.1**
OKNC					**Sn**	**11 40 27.1**	**+2.7**
OKER	**Okmok East Rim**	**1.71**	**41**		**Pn**	**11 40 04.5**	**0.0**
OKFG	**Magazine Ridge**	**1.73**	**44**		**Pn**	**11 40 04.6**	**-0.2**
OKFG					**Sn**	**11 40 25.2**	**-0.6**
MAPS	**Pakushin South**	**2.43**	**47**		**Pn**	**11 40 14.3**	**-0.2**
MAPS					**Sn**	**11 40 43.1**	**+0.2**
MGOD	**Makushin Gods**	**2.45**	**48**		**Pn**	**11 40 14.5**	**-0.3**
MGOD					**Sn**	**11 40 43.9**	**+0.4**
KOFP	**Korovin Flat P**	**2.56**	**274**		**Pn**	**11 40 16.6**	**+0.3**
MSW	**Makushin Switc**	**2.57**	**47**		**Pn**	**11 40 16.5**	**+0.1**
MSW					**Sn**	**11 40 47.2**	**+0.8**
MNAT	**Makushin Natee**	**2.59**	**48**		**Pn**	**11 40 16.9**	**+0.2**
ATKA	**Atka Island**	**2.62**	**272**	Pn	**Pn**	**11 40 16.7**	**-0.4**
KOKL	**Mount Kliuchef**	**2.62**	**275**		**Pn**	**11 40 18.8**	**+1.6**
MTBL	**Makushin Table**	**2.65**	**47**		**Pn**	**11 40 18.2**	**+0.6**
MTBL					**Sn**	**11 40 51.8**	**+3.3**
UNV	**Unalaska Valle**	**2.65**	**50**	Pn	**Pn**	**11 40 17.8**	**+0.3**
AKRB	**Akutan Reef Bi**	**3.03**	**49**		**Pn**	**11 40 24.0**	**+1.3**
ZRO	**Akutan Zero**	**3.05**	**50**		**Pn**	**11 40 24.2**	**+1.2**
LVA	**Lava Point**	**3.07**	**48**		**Pn**	**11 40 24.5**	**+1.3**
LVA					**Sn**	**11 41 01.4**	**+2.8**
AKBBA	**Akutan Broad B**	**3.08**	**50**		**Pn**	**11 40 24.3**	**+0.9**
AKV	**Akutan Volcano**	**3.08**	**49**		**Pn**	**11 40 24.6**	**+1.2**
AKLV	**Akutan Long Va**	**3.10**	**49**		**Pn**	**11 40 24.4**	**+0.7**
AKGG	**Akutan Green G**	**3.11**	**48**		**Pn**	**11 40 24.9**	**+1.1**
AKGG					**Sn**	**11 41 03.0**	**+3.3**
AHB	**Akutan Harbor**	**3.14**	**51**		**Pn**	**11 40 24.9**	**+0.6**
AKUT	**Akutan**	**3.17**	**51**		**Pn**	**11 40 24.2**	**-0.4**
AKUT				IAML		11 41 19.2	
	comp=N,579nm,0.9s						
AKUT				IAML		11 41 26.4	
	comp=E,686nm,1.0s						
AKSA	**Akutan Strait**	**3.21**	**51**		**Pn**	**11 40 25.9**	**+0.7**
GSTR	**Great Sitkin T**	**3.77**	**271**		**Pn**	**11 40 33.7**	**+0.8**
GSMY	**Great Sitkin M**	**3.77**	**270**		**Pn**	**11 40 33.6**	**+0.7**
GSCK	**Great Sitkin C**	**3.84**	**270**		**Pn**	**11 40 34.7**	**+0.9**
ADAG	**Mount Adagdak**	**4.12**	**270**		**Pn**	**11 40 38.6**	**+1.0**
ADK	**Adak**	**4.18**	**268**		**Pn**	**11 40 38.9**	**+0.5**
ADK				IAML		11 41 45.4	
	comp=E,482nm,0.9s						
ADK				IAML		11 41 48.3	
	comp=E,464nm,1.1s						
ADK	**Adak**	**4.18**	**268**	P	**Pn**	**11 40 38.9**	**+0.5**
P08K	**Saint George I**	**4.42**	**3**		**Pn**	**11 40 43.1**	**+1.3**
KIRH	**Kanaga Island**	**4.43**	**269**		**Pn**	**11 40 43.0**	**+1.1**
KIWB	**Kanaga Island**	**4.47**	**268**		**Pn**	**11 40 42.2**	**-0.2**
KICM	**Kanaga Island**	**4.49**	**269**		**Pn**	**11 40 44.9**	**+2.2**
ISNN	**Isanotski Nort**	**4.53**	**52**		**Pn**	**11 40 45.3**	**+2.0**
TAFP	**Tanaga Falls P**	**4.98**	**270**		**Pn**	**11 40 51.3**	**+1.9**
SPIA	**Saint Paul Isl**	**5.00**	**358**		**Pn**	**11 40 50.0**	**+0.3**
TASE	**Tanaga Southea**	**5.02**	**269**		**Pn**	**11 40 51.6**	**+1.7**
GAEA	**Gareloi East**	**5.46**	**269**		**Pn**	**11 40 58.9**	**+2.9**
GANE	**Gareloi Northe**	**5.47**	**270**		**Pn**	**11 40 59.2**	**+2.9**
GANO	**Gareloi North**	**5.49**	**270**		**Pn**	**11 40 59.0**	**+2.5**
CEPE	**Semis' Perret**	**6.43**	**272**		**Pn**	**11 41 11.6**	**+2.3**
SDPT	**Sand Point**	**6.44**	**57**	Pn	**Pn**	**11 41 08.4**	**-1.0**
CEAP	**Semis' Anvil P**	**6.47**	**272**		**Pn**	**11 41 12.3**	**+2.5**
CESW	**Semis' Southwe**	**6.49**	**272**		**Pn**	**11 41 12.3**	**+2.2**
AMKA	**Amchitka**	**6.73**	**267**	Pn	**Pn**	**11 41 13.0**	**-0.4**
LSPA	**Little Sitkin**	**7.09**	**273**		**Pn**	**11 41 21.2**	**+2.8**
CHGN	**Chignik**	**7.90**	**54**	Pn	**Pn**	**11 41 31.5**	**+2.0**
M11K	**Mekoryuk**	**8.47**	**13**		**Pn**	**11 41 39.8**	**+2.6**
O14K	**Tigyukauivet M**	**8.60**	**31**		**Pn**	**11 41 38.4**	**-0.6**
M13K	**Dall Lake**	**9.01**	**21**		**Pn**	**11 41 47.4**	**+2.8**
N14K	**Kuskokwak Cree**	**9.01**	**27**		**Pn**	**11 41 47.5**	**+2.9**
O15K	**Ungalikthiuk R**	**9.03**	**35**		**Pn**	**11 41 47.1**	**+2.2**
CHIR	**Chirikof Islan**	**9.18**	**61**	Pn	**Pn**	**11 41 46.9**	**-0.1**
R17K	**Ugashik Creek**	**9.51**	**50**		**Pn**	**11 41 50.3**	**-1.3**
M14K	**Bethel**	**9.64**	**24**	Pn	**Pn**	**11 41 53.5**	**+0.2**
N15K	**Kwethluk River**	**9.69**	**31**		**Pn**	**11 41 52.9**	**-1.0**
M15K	**Kasigluk River**	**9.93**	**27**		**Pn**	**11 42 01.0**	**+3.7**
O16K	**Kokwok River B**	**9.95**	**37**		**Pn**	**11 41 56.9**	**-0.6**
L14K	**Kuka Creek**	**9.99**	**21**		**Pn**	**11 41 58.0**	**0.0**
SII	**Sitkinak Islan**	**10.17**	**58**	Pn	**Pn**	**11 41 58.5**	**-2.1**
ANCK	**Angle Creek**	**10.21**	**48**		**Pn**	**11 42 03.0**	**+1.9**
ACHA	**Angle Creek He**	**10.29**	**48**		**Pn**	**11 42 04.1**	**+1.9**
N16K	**Nishlik Lake**	**10.35**	**32**		**Pn**	**11 42 06.4**	**+3.5**
O17K	**Koliganek Bris**	**10.45**	**38**		**Pn**	**11 42 06.5**	**+2.2**
L15K	**Ungalak Mounta**	**10.56**	**22**		**Pn**	**11 42 08.1**	**+2.3**
OHAK	**Old Harbor**	**10.86**	**56**	Pn	**Pn**	**11 42 08.0**	**-1.9**
N17K	**Nushagak Hills**	**10.93**	**35**		**Pn**	**11 42 14.0**	**+3.2**
P18K	**Big Mountain,**	**10.96**	**43**	Pn	**Pn**	**11 42 14.0**	**+2.6**
L16K	**Owhat River**	**11.10**	**27**	Pn	**Pn**	**11 42 15.9**	**+2.7**
O18K	**Koktuh Hills**	**11.24**	**41**	Pn	**Pn**	**11 42 17.9**	**+2.7**
Q19K	**Cape Douglas,**	**11.41**	**47**	Pn	**Pn**	**11 42 16.9**	**-0.6**
KDAK	**Kodiak Island**	**11.42**	**54**	*i* P	**Pn**	**11 42 17.2**	**-0.4**
KDAK	**Kodiak Island**	**11.42**	**54**	Pn	**Pn**	**11 42 15.7**	**-1.9**
	comp=E,0.8nm,0.3s,baz=218,slow=3.9,SNR=32						
SYI	**Shuyak

GRNC Granite Creek 17.64 50 P P 11 43 40.3 -0.1
GRNC IAmb IAmb 11 44 05.2
comp=Z,19nm,1.4s
M26K Nabesna, AK 17.64 44 P Pn 11 43 39.2 -0.5
M26K IAmb IAmb 11 44 13.7
comp=Z,10nm,1.3s
J25K Salcha River, 17.74 36 P Pn 11 43 38.8 -2.1
L26K Log Cabin Wild 17.75 42 P Pn 11 43 40.0 -1.0
CTGM Chitina Glacier 17.90 49 P Pn 11 43 42.8 -0.2
CTGM IAmb IAmb 11 43 57.6
comp=Z,15nm,1.3s
SCRK Sand Creek 17.93 39 P Pn 11 43 41.8 -1.5
LOGN Logan Glacier 18.02 50 P Pn 11 43 44.2 -0.2
LOGN IAmb IAmb 11 44 21.0
comp=Z,6.8nm,0.8s
PRP Porcupine Dome 18.20 33 P Pn 11 43 44.6 -2.0
J26L Joseph Creek 18.35 38 P P 11 43 46.3 -1.8
J26L IAmb IAmb 11 44 13.9
comp=Z,5.1nm,0.7s
BCAR Beaver Creek A 18.42 43 P P 11 43 47.5 -1.3
D22K Ayikyak River 18.64 20 P Pn 11 43 52.0 +0.3
B20K Meade River 18.83 14 P P 11 43 52.9 -0.2
B20K IAmb IAmb 11 44 11.7
comp=Z,9.1nm,1.2s
B21K Ikpikpuk River 18.90 17 P P 11 43 53.5 -0.4
B21K IAmb IAmb 11 44 01.0
comp=Z,7.6nm,1.3s
PET Petropavlovsk 19.02 285 *i* P **Pn 11 43 58.0 +1.6**
PET pmax pmax
comp=Z,31nm,1.1s
O29M Mount Kennedy 19.06 53 P Pn 11 43 59.0 +1.9
O29M IAmb IAmb 11 44 23.0
comp=Z,11nm,1.0s
TOLK Toolik Lake Re 19.14 23 P Pn 11 43 57.7 -0.1
TOLK IAmb IAmb 11 44 21.7
comp=Z,11nm,1.4s
P29M Windy Craggy 19.36 55 P P 11 43 59.0 -0.1
P29M IAmb IAmb 11 44 14.6
comp=Z,8.2nm,0.8s
EGAK Eagle 19.40 38 P P 11 43 59.2 -0.2
EGAK IAmb IAmb 11 44 09.8
comp=Z,12nm,1.5s
PETK Petropavlovsk- 19.57 286 P P 11 44 00.3 -1.2
comp=Z,4.4nm,0.3s,baz=84,slow=14,SNR=11
PETK LR LR 11 53 00.6
comp=Z,88nm,18.1s,baz=3.1,slow=41
comp=Z,12nm,0.4s
BILL Bilibino 19.60 333 P P 11 44 01.0 -0.6
BILL IAmb IAmb 11 44 08.7
comp=Z,4.2nm,0.8s
BILL Bilibino 19.60 333⇑ *e*P **Pn 11 44 03.7 +0.5**
BILL pmax pmax
comp=Z,21nm,2.0s
M29M Somme Creek 19.64 46 P P 11 44 02.1 -0.1
M29M IAmb IAmb 11 44 47.1
comp=Z,5.8nm,1.1s
BMAR Burnt Mountain 19.66 29 P P 11 44 02.2 -0.1
DAWY Dawson 19.80 41 P P 11 44 03.2 -0.6
DAWY IAmb IAmb 11 44 32.4
comp=Z,9.1nm,1.5s
E25K Arctic Village 19.82 27 P P 11 44 04.0 0.0
C23K Itkillik River 19.85 20 P P 11 44 04.2 -0.1
N30M Aishikik Lake 20.02 50 P P 11 44 06.7 +0.5
I28M Miner Creek 20.16 37 P P 11 44 07.0 -0.8
I28M IAmb IAmb 11 44 40.0
comp=Z,4.8nm,0.8s
D25K Kavik River 20.43 24 P P 11 44 10.6 -0.1
K29M Barlow Dome 20.49 43 P P 11 44 10.9 -0.5
K29M IAmb IAmb 11 44 25.7
comp=Z,8.5nm,1.5s
SKAG Skagway 20.56 56 P P 11 44 12.5 +0.4
N31M Braeburn, Yuko 20.64 50 P P 11 44 13.4 +0.5
H29M Whitestone 21.08 36 P P 11 44 16.9 -0.8
J30M Hart River 21.22 41 P P 11 44 19.4 +0.1
J30M IAmb IAmb 11 44 22.5
comp=Z,6.7nm,1.4s
F28M Old Crow 21.25 32 P P 11 44 19.9 +0.4
P32M Atlin 21.39 56 P P 11 44 20.3 -0.8
G29M Pine Creek 21.52 35 P P 11 44 21.3 -1.1
EPYK Eagle Plains 21.75 37 P P 11 44 23.4 -1.4
E28M Babbage River 21.89 30 P P 11 44 26.1 -0.2
P33M Teslin, Yukon 21.89 54 P P 11 44 27.6 +1.1
P33M IAmb IAmb 11 44 41.5
comp=Z,5.6nm,0.8s
G30M tAoh Zraii Nji 22.19 35 P P 11 44 28.6 -1.0
G30M IAmb IAmb 11 44 56.6
comp=Z,4.5nm,0.9s
E29M Blow River 22.29 31 P P 11 44 30.5 0.0
E29M IAmb IAmb 11 44 55.8
comp=Z,6.2nm,1.2s
SEY Seymchan 22.54 313 *i* P **P 11 44 32.2 -1.0**
SEY pmax pmax
comp=Z,57nm,3.1s
H02S1 DAWSON INLET T 22.56 72 T T 12 07 49.1
SNR=12
G31M Satah River 22.87 36 P P 11 44 35.2 -1.5
G31M IAmb IAmb 11 45 06.1
comp=Z,5.2nm,0.8s
F31M Tsiigehtchic 23.26 35 P P 11 44 40.0 -0.6
F31M IAmb IAmb 11 45 00.3
comp=Z,3.2nm,1.0s
DLBC Dease Lake 23.28 59 P P 11 44 42.9 +1.9
comp=Z,1.8nm,0.7s,baz=306,slow=11,SNR=3.7
comp=Z,1.8nm,0.7s
INK Inuvik 23.69 33 P P 11 44 42.7 -2.0
INK IAmb IAmb 11 44 45.2
comp=Z,2.9nm,0.6s
INK Inuvik 23.69 33 P P 11 44 42.7 -2.0
INK pmax pmax
comp=Z,3.0nm,0.6s
A36M Sachs Harbour 27.73 28 P P 11 45 21.4 +0.1
A36M IAmb IAmb 11 46 03.0
comp=Z,3.3nm,1.1s
YKA Yellowknife Ar 30.62 49 P P 11 45 47.4 +0.4
comp=Z,0.3nm,0.4s,baz=274,slow=8.5,SNR=13
YKA PcP **PcP 11 48 44.0 -0.2**
comp=Z,0.2nm,0.6s,baz=282,slow=4.4,SNR=5.6
YKA LR LR 11 59 01.3
comp=Z,344nm,18.3s,baz=158,slow=38
comp=Z,0.3nm,0.4s
TIXI Tiksi 32.71 329 *i* P **P 11 46 06.5 +1.3**
TIXI pmax pmax
comp=Z,29nm,4.7s
YAK Yakutsk 33.03 311 *i* P **P 11 46 07.8 -0.3**
YAK pmax pmax
comp=Z,6.0nm,0.8s
KLR Kul'dur 36.19 289 *i* P **P 11 46 34.0 -1.6**
KLR pmax pmax
comp=Z,4.0nm,1.3s
KLR Kul'dur 36.19 289 LR LR 12 04 26.8
comp=Z,79nm,18.3s,baz=44,slow=41
ZEA Zeya 36.77 298 *e*P **P 11 46 39.3 -1.2**
H11N2 WAKE ISLAND Hy 37.10 218 T T 12 26 39.5
baz=25
H11N3 WAKE ISLAND Hy 37.10 218 T T 12 26 35.5
baz=25,slow=74,SNR=49
H11N1 WAKE ISLAND Hy 37.12 218 T T 12 26 41.2
baz=25,slow=74,SNR=46
NVAR Mina Array Bea 38.01 90 P P 11 46 53.0 +1.6
comp=Z,0.4nm,0.7s,baz=315,slow=8.4,SNR=4.5
NVAR ScP **ScP 11 52 51.6 +1.4**
comp=Z,0.5nm,0.7s,baz=267,slow=3.0,SNR=4.3
comp=Z,0.4nm,0.7s
HEH HeiHe 38.20 293 *e*P **P 11 46 50.5 -2.1**
HEH pmax pmax
comp=Z,12nm,0.8s
H11S1 WAKE ISLAND Hy 38.29 217 T T 12 28 02.4
baz=23,slow=76,SNR=354
H11S2 WAKE ISLAND Hy 38.30 217 T T 12 28 02.8
baz=23,slow=76,SNR=200
H11S3 WAKE ISLAND Hy 38.30 217 T T 12 28 05.8
baz=23,slow=76,SNR=292
USRK Ussuriysk Ar. 38.59 282 P P **11 46 55.8 -0.1**
comp=Z,1.9nm,0.8s,baz=51,slow=11,SNR=2.2
comp=Z,1.9nm,0.8s
MJAR Matsushiro Arr 39.34 268 P P **11 47 02.2 -0.1**
comp=Z,2.1nm,0.8s,baz=32,slow=8.1,SNR=4.3
MJAR LR LR 12 03 01.2
comp=Z,39nm,20.4s,baz=27,slow=36
comp=Z,2.1nm,0.8s
BW06 Boulder Array 40.78 79 P P 11 47 16.5 +2.0
PD31 Pinedale Array 40.78 79 P P 11 47 16.4 +1.9
PDAR Pinedale Array 40.78 79 P P 11 47 16.1 +1.6
comp=Z,1.1nm,0.5s,baz=296,slow=3.8,SNR=25
comp=Z,1.1nm,0.5s
FCC Fort Churchill 41.32 50 P P 11 47 19.3 +0.9
FCC Fort Churchill 41.32 50 P P 11 47 19.3 +0.9
ULM Lac du Bonnet 44.54 62 P P 11 47 45.5 +0.9
comp=Z,2.1nm,0.8s,baz=284,slow=8.3,SNR=2.4
comp=Z,2.1nm,0.8s
KSRS Korea Array 45.08 276 P P 11 47 48.2 -0.7
comp=Z,1.9nm,0.6s,baz=56,slow=7.5,SNR=7.8
comp=Z,1.9nm,0.6s
JNU Nakatsue 46.11 270 LR LR 12 06 39.5
comp=Z,31nm,21.9s,baz=85,slow=35
NRIK Noril'sk 46.41 331 *i* P **P 11 47 59.0 -0.1**
NRIK pmax pmax
comp=Z,2.0nm,0.9s
NRIK Noril'sk 46.41 331 P **P 11 47 58.1 -1.0**
comp=Z,1.6nm,0.4s,baz=72,slow=7.1,SNR=3.9
comp=Z,1.6nm,0.4s
SPITS Spitsbergen Ar 49.84 358 P P **11 48 23.8 -1.7**
comp=Z,1.4nm,0.5s,baz=58,slow=8.0,SNR=6.4
comp=Z,1.4nm,0.5s
ULN Ulaanbaatar 50.72 300 *ce*P **P 11 48 32.3 -0.4**
ULN pmax pmax
comp=Z,6.0nm,1.4s
SONM Songino Array 51.09 301 P P **11 48 34.4 -1.1**
comp=Z,1.1nm,0.6s,baz=48,slow=6.1,SNR=14
SONM PcP **PcP 11 49 50.7 0.0**
comp=Z,1.0nm,0.6s,baz=59,slow=2.1,SNR=5.6
comp=Z,1.1nm,0.6s
HNS HongShan 53.09 285 ⇓P **P 11 48 50.8 +0.5**
HNS pmax pmax
comp=Z,15nm,0.6s
TXAR Lajitas Array 53.10 88 P P **11 48 51.8 +1.2**
comp=Z,1.0nm,0.6s,baz=306,slow=5.7,SNR=12
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 57.32 317 P P **11 49 20.4 -0.1**
comp=Z,0.5nm,0.3s,baz=80,slow=8.9,SNR=1.6
ZALV PcP **PcP 11 50 14.8 +0.7**
comp=Z,1.7nm,0.6s,baz=38,slow=2.9,SNR=6.4
comp=Z,0.5nm,0.3s
ARCES ARCESS Array B 58.06 354 P P **11 49 24.5 -1.0**
comp=Z,1.6nm,0.6s,baz=19,slow=7.0,SNR=18
comp=Z,1.6nm,0.6s
KURK Kurchatov 62.27 318 P P **11 49 54.0 -0.5**
KURK Kurchatov 62.27 318 *ce*P **P 11 49 54.6 0.0**
KURK pmax pmax
comp=Z,7.0nm,2.5s
KURBB Kurchatov Arra 62.38 318 P P **11 49 54.4 -0.9**
comp=Z,2.3nm,0.7s,baz=44,slow=6.9,SNR=18
KURBB PcP **PcP 11 50 34.3 -0.2**
comp=Z,0.7nm,0.6s,baz=35,slow=3.4,SNR=4.8
comp=Z,2.3nm,0.7s
BVAR Borovoye Array 63.64 324 P P **11 50 03.1 -0.5**
comp=Z,9.6nm,0.6s,baz=53,slow=7.2,SNR=31
BVAR PcP **PcP 11 50 40.0 +0.3**
comp=Z,3.8nm,0.6s,baz=41,slow=2.7,SNR=9.1
comp=Z,9.6nm,0.6s
BRVK Borovoye 63.66 324 *ce*P **P 11 50 04.1 +0.4**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 63.67 313 P P **11 50 02.8 -1.2**
comp=Z,1.1nm,0.6s,baz=52,slow=7.9,SNR=6.0
comp=Z,1.1nm,0.6s
ARU Arti 64.62 333 *c i*P **P 11 50 10.4 +0.4**
ARU 11 52 28.8
ARU S **S 11 58 49.4 +3.1**
ARU SS **SS 12 02 58.8 +2.4**
ARU pmax pmax
comp=Z,11nm,1.9s
KIRV Kirov 65.04 339 *ce*P **P 11 50 12.1 -0.5**
FINES FINESS Array B 66.00 352 P P **11 50 17.9 -0.9**
comp=Z,2.3nm,0.7s,baz=11,slow=8.7,SNR=13
comp=Z,2.3nm,0.7s
NB2 NORSAR Subarra 67.11 359 P P **11 50 25.5 -0.6**
comp=Z,0.4nm,0.4s,baz=358,slow=6.2
NOA NORSAR Array B 67.11 359 P P **11 50 25.4 -0.6**
comp=Z,0.8nm,0.6s,baz=0.7,slow=6.4,SNR=4.1
comp=Z,0.8nm,0.6s
HFS Hagfors 67.99 358 P P **11 50 30.6 -0.9**
comp=Z,3.3nm,0.4s,baz=0.0,slow=3.1,SNR=42
comp=Z,3.3nm,0.4s
EKA Eskdalemuir Ar 72.28 8 P P **11 50 57.7 -0.2**
comp=Z,0.6nm,0.4s,baz=352,slow=4.5,SNR=5.6
comp=Z,0.6nm,0.4s
AKASG Malin Array Be 76.21 348 P P **11 51 18.6 -2.2**
comp=Z,0.5nm,0.3s,baz=18,slow=6.2,SNR=3.4
comp=Z,0.5nm,0.3s
CMAR Chiang Mai Arr 76.32 282 P P **11 51 22.3 +0.4**
comp=Z,5.7nm,0.6s,baz=25,slow=6.6,SNR=39
CMAR LR LR 12 27 19.8
comp=Z,18nm,19.4s,baz=55,slow=38
comp=Z,5.7nm,0.6s
TBI Tubuai 77.32 161 *e*LR LR 11 51 33.5
comp=Z,654nm,30.0s
GERES GERESS Array B 79.29 358 P P **11 51 38.4 +0.3**
comp=Z,1.0nm,0.7s,baz=32,slow=3.9,SNR=2.5
comp=Z,1.0nm,0.7s
KIV Kislovodsk 80.17 337 *e*P **P 11 51 44.0 +1.0**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KBZ Khabaz 80.34 337 P P **11 51 43.5 -0.1**
comp=Z,2.2nm,0.8s,baz=0.0,slow=3.0,SNR=2.8
comp=Z,2.2nm,0.8s
BRTR Keskin Array B 86.19 342 *i* P **P 11 52 15.3 +1.2**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 86.19 342 P P **11 52 13.3 -0.8**
comp=Z,0.9nm,0.6s,baz=25,slow=3.3,SNR=5.4
comp=Z,0.9nm,0.6s
WRA Warramunga Arr 86.62 231 *ce*P **P 11 52 15.6 -0.6**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 86.62 231 P P **11 52 15.3 -0.9**
comp=Z,1.2nm,0.7s,baz=31,slow=6.2,SNR=11
comp=Z,1.2nm,0.7s
ESDC Sonseca Array 87.70 11 P P **11 52 21.0 -0.4**
comp=Z,1.8nm,0.8s,baz=346,slow=5.1,SNR=6.0
comp=Z,1.8nm,0.8s
ASAR Alice Springs 90.01 230 P P **11 52 32.4 +0.2**
comp=Z,3.1nm,0.7s,baz=30,slow=4.7,SNR=70
comp=Z,3.1nm,0.7s
H03N2 Juan Fernandez 116.18 111 T T 14 05 12.7
baz=322,slow=78,SNR=12
H03N1 Juan Fernandez 116.20 111 T T 14 05 08.0
baz=322,slow=78,SNR=14
H03N3 Juan Fernandez 116.20 111 T T 14 05 09.2
baz=322,slow=78,SNR=8.9
MAW Mawson 150.52 218 PKP **PKPdf 11 59 14.9 -2.5**
comp=Z,2.8nm,0.8s,baz=88,slow=17,SNR=3.9
MAW PKPbc **PKPbc 11 59 23.0 +0.1**
comp=Z,2.6nm,0.8s,baz=319,slow=8.2,SNR=3.1
BOSA Boshof 153.87 328 PKPbc **PKPbc 11 59 31.4 -0.4**
comp=Z,1.2nm,0.5s,baz=196,slow=2.4,SNR=5.2
BOSA PKPab **pPKPbc 11 59 44.5 +0.6**
comp=Z,2.0nm,0.7s,baz=4.5,slow=4.5,SNR=4.9

*TIR **27** 11:53:44.1, 40˚.53N×20˚.40E, h1km±1km, Md3.0, Ml2.7*
*SKO **27** 11:53:44.7, 40˚.46N×20˚.33E, h1¹km, ML2.9*
*THE **27** 11:53:45.8, 40˚.50N×20˚.43E, h16km±1km, ML2.6/10, Error ellipse: s-maj=1.6km s-min=0.7km az=74.0*
*ATH **27** 11:53:45.6, 40˚.55N×20˚.42E, h8km±3km, ML2.7/4, Error ellipse: s-maj=4.0km s-min=1.1km az=134.0*
*BEO **27** 11:53:45.3±1.1, 40˚.49N×20˚.33E, h8km±4km, ML2.5/6*
ISC 27 11:53:45.5±1.0, 40˚.49N±0˚.02×20˚.41E±0˚.02, h9km±9km, n44, σ0s67/75, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.32**	**65**	P		**Pg**	**11 53 51.7**	**-0.2**
	baz=72							
KBN				S		**Sg**	**11 53 56.3**	**+0.2**
	baz=72							
KBN				AMP				
	comp=N,5.6nm,0.4s,baz=72							
KBN	**Korca**	**0.32**	**65**	P		**Pg**	**11 53 51.7**	**-0.2**
KBN				S		**Sb**	**11 53 58.0**	**-0.8**
	comp=N,1μm,0.3s							
LSK	**Leskovik**	**0.37**	**157**	P		**Pg**	**11 53 52.7**	**-0.1**
	baz=158							
LSK				S		**Sb**	**11 53 59.5**	**-0.8**
	baz=158							
LSK				AMP				
	comp=N,4.1nm,0.2s,baz=158							
LSK	**Leskovik**	**0.37**	**157**	P		**Pg**	**11 53 52.6**	**-0.3**
LSK				S		**Sg**	**11 53 58.6**	**+0.8**
	comp=N,962nm,0.4s							
NEST	**Nestorio**	**0.50**	**99**	P		**Pg**	**11 53 55.2**	**0.0**
NEST				S		**Sb**	**11 54 03.0**	**-0.9**
	comp=N,542nm,0.4s							
NEST	**Nestorio**	**0.50**	**99**	P		**Pg**	**11 53 55.2**	**0.0**
NEST				S		**Sg**	**11 54 02.3**	**+0.6**
NEST				AML		AML	11 54 05.5	
	comp=E,1336μm,0.5s							
NEST				AML		AML	11 54 07.5	
	comp=N,1230μm,0.3s							
PENT	**Pentalofos**	**0.63**	**118**	P		**Pg**	**11 53 57.4**	**-0.4**
PENT				S		**Sb**	**11 54 07.1**	**-0.7**
PENT	**Pentalofos**	**0.63**	**118**	P		**Pg**	**11 53 57.7**	**-0.1**
PENT				S		**Sg**	**11 54 06.6**	**+0.6**
OHR	**Ohrid**	**0.69**	**26**	*e*Pg		**Pg**	**11 53 58.0**	**-0.8**
OHR				*e*Sg		**Sb**	**11 54 08.9**	**-0.5**
OHR	**Ohrid**	**0.69**	**26**	*i* Pg		**Pg**	**11 53 58.1**	**-0.8**
OHR				*i* Sg		**Sb**	**11 54 09.2**	**-0.1**
OHR				*e*Lg		Lg	11 54 09.6	
	comp=N,210nm,0.5s							
OHR				*e*Lg		Lg	11 54 09.7	
	comp=E,484nm,0.5s							
SRN	**Sarande**	**0.69**	**207**	P		**Pb**	**11 53 59.2**	**-0.4**
	baz=206							
SRN				S		**Sb**	**11 54 10.3**	**+1.0**
	baz=206							
SRN				AMP				
	comp=N,1.6nm,0.6s,baz=206							
SRN	**Sarande**	**0.69**	**207**	P		**Pb**	**11 53 59.2**	**-0.4**
SRN				S		**Sb**	**11 54 09.8**	**+0.6**
	comp=N,458nm,0.5s							
VLO	**Vlora**	**0.70**	**268**	P		**Pg**	**11 53 58.4**	**-0.6**
	baz=266							
VLO				S		**Sb**	**11 54 09.1**	**-0.4**
	baz=266							
VLO	**Vlora**	**0.70**	**268**	P		**Pg**	**11 53 59.0**	**+0.1**
VLO				S		**Sb**	**11 54 10.3**	**+0.8**
	comp=N,1μm,0.3s							
FNA	**Florina**	**0.79**	**68**	P		**Pg**	**11 54 00.0**	**-0.7**
	baz=71							
FNA				S		**Sb**	**11 54 12.3**	**-0.1**
	baz=71							
FNA				AMP				
	comp=N,1.1nm,0.2s,baz=71							
FNA	**Florina**	**0.79**	**68**	P		**Pg**	**11 54 00.1**	**-0.7**
FNA				S		**Sb**	**11 54 11.7**	**-0.7**
	comp=N,810nm,0.3s							
FNA	**Florina**	**0.79**	**68**	*e*Pg		**Pg**	**11 53 59.9**	**-0.9**
FNA				*e*Sg		**Sb**	**11 54 13.4**	**+1.0**
FNA	**Florina**	**0.79**	**68**	*i* Pg		**Pg**	**11 54 00.1**	**-0.7**
FNA				*i* Sg		**Sb**	**11 54 12.5**	**+0.1**
FNA	**Florina**	**0.79**	**68**	P		**Pg**	**11 54 00.1**	**-0.7**
FNA				S		**Sg**	**11 54 10.9**	**-0.2**
FNA				AML		AML	11 54 14.3	
	comp=N,1284μm,0.2s							
FNA				AML		AML	11 54 16.0	
	comp=E,1946μm,0.3s							
KASA	**Kassiopi**	**0.83**	**206**	P		**Pb**	**11 54 02.3**	**+0.2**
JAN	**Janina**	**0.90**	**158**	P		**Pg**	**11 54 02.7**	**-0.2**
JAN				S		**Sb**	**11 54 15.7**	**+0.2**
	comp=E,305nm,0.3s							
JAN	**Janina**	**0.90**	**158**	P		**Pb**	**11 54 03.4**	**0.0**
JAN				S		**Sb**	**11 54 16.5**	**+1.0**
JAN				AML		AML	11 54 24.3	
	comp=E,595μm,0.3s							
JAN				AML		AML	11 54 25.2	
	comp=N,616μm,0.3s							
KEK	**Kerkira**	**0.91**	**211**	P		**Pg**	**11 54 01.8**	**-1.2**
KEK				S		**Sb**	**11 54 16.0**	**+0.4**
	comp=N,400nm,0.4s							
KPRO	**Kipourio**	**0.91**	**126**	P		**Pg**	**11 54 02.3**	**-0.7**
KPRO				S		**Sg**	**11 54 14.7**	**-0.1**
	comp=N,240nm,0.4s							
KPRO	**Kipourio**	**0.91**	**126**	P		**Pg**	**11 54 02.5**	**-0.4**
IGT	**Igoumenitsa**	**0.96**	**183**	P		**Pn**	**11 54 04.7**	**-0.5**
	baz=184							
IGT				S		**Sn**	**11 54 20.4**	**+1.4**
	baz=184							
IGT				AMP				
	comp=N,2.4nm,0.8s,baz=184							
IGT	**Igoumenitsa**	**0.96**	**183**	P		**Pb**	**11 54 04.2**	**-0.1**
IGT				S		**Sn**	**11 54 18.3**	**-0.7**
	comp=N,665nm,0.7s							
IGT	**Igoumenitsa**	**0.96**	**183**	P		**Pn**	**11 54 04.8**	**-0.4**
IGT				S		**Sn**	**11 54 19.1**	**+0.1**
IGT				AML		AML	11 54 23.5	
	comp=N,1222μm,0.8s							
IGT				AML		AML	11 54 24.1	
	comp=E,1438μm,0.6s							
SCTE	**Santa Cesarea**	**1.54**	**255**	P		**Pn**	**11 54 12.4**	**-0.8**
GRG	**Griva**	**1.58**	**72**	*i* Pg		**Pb**	**11 54 14.7**	**-0.3**
GRG	**Griva**	**1.58**	**72**	P		**Pn**	**11 54 13.3**	**-0.5**
SKO	**Skopje**	**1.67**	**27**	*i* Pn		**Pb**	**11 54 16.5**	**0.0**
TSLK	**Tsoukalades, L**	**1.68**	**173**	P		**Pn**	**11 54 15.2**	**+0.2**
ULC	**Ulcinj**	**1.71**	**330**	*i* Pg		**Pn**	**11 54 15.3**	**-0.3**
STIP	**Stip**	**1.80**	**48**	*i* Pn		**Pg**	**11 54 19.9**	**-0.2**
VAY	**Valandovo**	**1.84**	**62**	*e*Pg		**Pb**	**11 54 19.7**	**+0.4**
VAY				*e*Sg		**Sg**	**11 54 44.3**	**-0.2**
VAY	**Valandovo**	**1.84**	**62**	*i* Pn		**Pn**	**11 54 17.8**	**+0.6**
BCI	**Bajram Curri**	**1.89**	**352**	P		**Pb**	**11 54 20.4**	**+0.1**
	baz=353							
BCI				S		**Sg**	**11 54 47.9**	**+1.6**
	baz=353							
KNT	**Kendrikon**	**2.00**	**70**	*i* Pn		**Pn**	**11 54 19.9**	**+0.3**
KNT	**Kendrikon**	**2.00**	**70**	P		**Pn**	**11 54 19.0**	**-0.6**
PRVS	**Prvonek**	**2.37**	**31**	*e*Pn		**Pn**	**11 54 25.5**	**+0.8**
PRVS				*e*Sn		**Sn**	**11 54 54.1**	**+0.2**
BARS	**Barje**	**2.55**	**24**	*e*Pn		**Pn**	**11 54 28.4**	**+1.3**
BARS				*e*Sn		**Sn**	**11 54 59.2**	**+0.9**
BARS	**Barje**	**2.55**	**24**	*i* Pn		**Pn**	**11 54 28.5**	**+1.4**
SJES	**Sjenica**	**2.79**	**353**	*e*Pn		**Pn**	**11 54 28.7**	**-1.7**
SJES				*e*Sn		**Sn**	**11 55 04.1**	**-0.1**

*BJI **27** 12:33:42.3, 23˚.27S×176˚.46W, h74km, mb5.3/44, mB5.9/19, Ms5.2/3, Ms7 5.1/3*
*NEIC **27** 12:33:44, 23˚.56S×176˚.37W, h120km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10¹⁶Nm; Mrr-0.88; Mθθ-3.66; Mϕϕ4.54; Mrθ-0.83; Mθϕ-4.15; Mϕr-4.55; Fault plane solution: M0 7.40000×10¹⁶ NP1: ϕs19.6300°, δ87.91000°, λ-38.66000°. NP2:ϕs111.30000°, δ51.37000°, λ-177.33000°. Principal axes: T 8.0505, Plg25.0000°, Azm72.0000°; N -1.3044, Plg51.0000°, Azm197.0000°; P -6.7462, Plg28.0000°, Azm328.0000°;*
*NEIC **27** 12:33:44, 23˚.76S×176˚.81W, h120km*
*NOU **27** 12:33:46.9, 23˚.88S×176˚.29W, h126km, mb5.4/103, South of Fiji Islands*
*MOS **27** 12:33:46.6±1.3, 23˚.64S×177˚.05W, h103km, mb5.4/17, Error ellipse: s-maj=9.6km s-min=8.6km az=103.4*
*IDC **27** 12:33:47.6±0.6, 23˚.70S×176˚.97W, h103km±4km, mb4.8/30, mbtmp5.2/32, MS3.9/27, Error ellipse: s-maj=11.9km s-min=8.8km az=108.0*
*NEIC **27** 12:33:47.9±2.2, 23˚.65S±0˚.07×176˚.90W±0˚.10, h102km±4km, mb5.2/367, Mww5.2/15, Error ellipse: s-maj=13.2km s-min=10.1km az=114.0*
*GCMT **27** 12:33:48.9±0.2, 23˚.78S±0˚.02×176˚.55W±0˚.01, h108km±2km, MW5.1/121, Moment Tensor Solution. s75,c105; s121,c193; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.90±.14; Mθθ-0.08±.17; Mϕϕ1.98±.16; Mrθ-1.38±.10; Mθϕ-0.57±.14; Mϕr-4.88±.08; Best double couple: M0 5.45400×10¹⁶ NP1:ϕs13.0000°, δ80.00000°, λ-80.00000°. NP2:ϕs145.00000°, δ14.00000°, λ-137.00000°. Principal axes: T 5.3090, Plg35.0000°, Azm94.0000°; N 0.2890, Plg10.0000°, Azm191.0000°; P -5.6000, Plg53.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 12:33:47.9±0.3, 23˚.79S±0˚.04×176˚.84W±0˚.05, h111km±2km, h112km:pP-P, n1180, σ1s25/1091, mb5.2/266, 88C-50D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.52**	**190**	S		**Sn**	**12 36 10.5**	**+0.6**
RAO	**Raoul Island**	**5.52**	**190**	Pn		**Pn**	**12 35 05.8**	**-2.0**
RAO	**Raoul Island**	**5.52**	**190**	P		**Pn**	**12 35 08.1**	**+0.4**
	200nm,0.2s,baz=76,slow=23,SNR=1.6							
RAO				S		**Sn**	**12 36 10.7**	**+0.8**
	898nm,0.3s,baz=79,slow=23,SNR=5.0							
RAO				LR		LR	12 36 50.2	
	comp=Z,598nm,21.4s,baz=178,slow=33							
GLKZ	**Green Lake**	**5.53**	**190**	P		**Pn**	**12 35 07.2**	**-0.7**
GLKZ				S		**Sn**	**12 36 09.4**	**-0.8**
TAVE	**Taveuni**	**7.61**	**337**	P		Pn	12 35 42.2	+6.0
NIUE	**Niue**	**7.97**	**55**	P		Pn	12 35 34.7	-6.3

	baz=7.6,SNR=19								
NIUE	**Niue**	**7.97**	**55**	Pn	Pn	12 35 35.2	-5.7		
NIUE	**Niue**	**7.97**	**55**	P	Pn	12 35 35.0	-6.0		
DGTI	**Dogotuki**	**8.12**	**336**	P	**Pn**	**12 35 47.0**	**+4.0**		
YSA	**Yasawairara**	**8.79**	**322**	P	**Pn**	**12 35 55.4**	**+3.3**		
AFI	**Afiamalu**	**10.94**	**27**	Pn	Pn	12 36 13.3	-8.0		
AFI	**Afiamalu**	**10.94**	**27**	P	Pn	12 36 14.4	-6.9		
AFI	**Afiamalu**	**10.94**	**27**	P	Pn	12 36 13.3	-8.0		
OUZ	**Omahuta**	**14.09**	**214**	P	**Pn**	**12 37 04.6**	**+2.1**		
OUZ	**Omahuta**	**14.09**	**214**	P	**P**	**12 37 06.7**	**0.0**		
MARNC	**Mare, Loyalty**	**14.16**	**276**	P	**P**	**12 37 09.4**	**+2.0**		
MARNC	**Mare, Loyalty**	**14.16**	**276**	P	**P**	**12 37 10.8**	**+3.3**		
WCZ	**Waipu Caves**	**14.31**	**210**	P	**P**	**12 37 09.9**	**+0.9**		
PINNC	**Pines Island,**	**14.50**	**272**		**Pn**	**12 37 08.3**	**+0.5**		
PINNC	**Pines Island,**	**14.50**	**272**	P	**P**	**12 37 14.1**	**+2.9**		
WMGZ	**Waiomatatini S**	**14.56**	**195**	P	Pn	12 37 02.4	-6.1		
HAZ	**Te Kaha**	**14.66**	**197**	P	Pn	12 37 00.2	-10		
LIFNC	**LIFOU**	**15.04**	**278**		**Pn**	**12 37 12.6**	**-2.0**		
LIFNC	**LIFOU**	**15.04**	**278**	P	**P**	**12 37 20.7**	**+3.4**		
OUENC	**Ouen Island, N**	**15.08**	**272**		**Pn**	**12 37 14.2**	**-0.9**		
OUENC	**Ouen Island, N**	**15.08**	**272**	P	**P**	**12 37 22.8**	**+5.1**		
YATNC	**Mamie plateau,**	**15.09**	**273**	P	**P**	**12 37 21.3**	**+3.4**		
DVP	**Devils Point**	**15.24**	**291**	P	**P**	**12 37 22.8**	**+3.2**		
URZ	**Urewera**	**15.32**	**198**	P	**Pn**	**12 37 16.9**	**-1.1**		
URZ	**Urewera**	**15.32**	**198**	P	**Pn**	**12 37 18.1**	**+0.1**		
	24nm,0.5s,baz=25,slow=2.9,SNR=24								
URZ				S	Sn	12 39 53.3	-14		
	10nm,0.3s,baz=100,slow=20,SNR=2.1								
URZ				LR	LR	12 43 07.8			
	comp=Z,138nm,19.3s,baz=108,slow=36								
TOZ	**Tahuroa Road**	**15.36**	**204**		**P**	**12 37 21.9**	**+1.1**		
ONTNC	**Ouen Toro**	**15.45**	**272**		**P**	**12 37 24.6**	**+2.7**		
DZM	**Mont Dzumac**	**15.49**	**273**	*eP*	**P**	**12 37 24.6**	**+2.1**		
	684nm,1.3s								
DZM				*e*LR	LR	12 40 46.5			
	comp=Z,1µm,30.9s								
DZM	**Mont Dzumac**	**15.49**	**273**	P	**P**	**12 37 24.5**	**+2.1**		
DZM	**Mont Dzumac**	**15.49**	**273**	P	**P**	**12 37 25.5**	**+3.0**		
DZM	**Mont Dzumac**	**15.49**	**273**	P	**P**	**12 37 24.3**	**+1.9**		
	152nm,0.9s,baz=70,slow=21,SNR=33								
NOUC	**Port Laguerre**	**15.62**	**273**	P	**P**	**12 37 27.5**	**+3.8**		
RAR	**Rarotonga**	**15.98**	**84**	Pn	**Pn**	**12 37 24.3**	**-2.1**		
RAR	**Rarotonga**	**15.98**	**84**	P	Pn	12 37 18.8	-7.6		
RAR	**Rarotonga**	**15.98**	**84**	P	**Pn**	**12 37 24.3**	**-2.1**		
RAR	**Rarotonga**	**15.98**	**84**	P	**Pn**	**12 37 23.8**	**-2.6**		
	164nm,0.8s,baz=239,slow=9.4,SNR=16								
RAR				S	Sn	12 40 04.6	-19		
	140nm,0.8s,baz=74,slow=17,SNR=7.3								
RAR				LR	LR	12 42 37.5			
	comp=Z,570nm,21.1s,baz=288,slow=33								
HIZ	**Hauiti**	**16.29**	**204**		**P**	**12 37 31.3**	**+0.3**		
HIZ	**Hauiti**	**16.29**	**204**	P	**Pn**	**12 37 29.8**	**-0.3**		
BKZ	**Black Stump Fm**	**16.34**	**199**	Pn	**Pn**	**12 37 29.7**	**-1.0**		
BKZ	**Black Stump Fm**	**16.34**	**199**	P	**Pn**	**12 37 30.1**	**-0.6**		
KOUNC	**Koumac, New Ca**	**17.77**	**277**	P	**P**	**12 37 46.6**	**-0.9**		
KOUNC	**Koumac, New Ca**	**17.77**	**277**	P	**Pn**	**12 37 52.1**	**+3.8**		
BFZ	**Birch Farm**	**17.81**	**197**	P	**P**	**12 37 46.5**	**-1.3**		
BFZ	**Birch Farm**	**17.81**	**197**	P	**P**	**12 37 47.2**	**-0.6**		
SNZO	**South Karori**	**18.85**	**200**	P	**P**	**12 37 59.8**	**+0.7**		
QRZ	**Quartz Range**	**19.18**	**205**	P	**P**	**12 38 02.1**	**-0.7**		
TKNZ	**Takaka Hill**	**19.20**	**204**	P	**P**	**12 37 57.6**	**-5.3**		
TKNZ				S	S	12 41 21.4	-13		
MRNZ	**Matariki Terra**	**19.59**	**204**	P	P	12 37 58.9	-8.3		
MRNZ				S	S	12 41 27.0	-15		
THZ	**Tophouse**	**19.86**	**203**	P	**P**	**12 38 07.9**	**-2.2**		
THZ				S	S	12 41 30.6	-17		
CTZ	**Chatham Island**	**19.89**	**180**	P	**P**	**12 38 10.0**	**-0.4**		
KHZ	**Kahutara**	**20.22**	**201**	P	**P**	**12 38 10.8**	**-3.1**		
KHZ	**Kahutara**	**20.22**	**201**	P	**P**	**12 38 10.5**	**-3.5**		
DSZ	**Denniston Nort**	**20.25**	**205**	P	Pn	12 38 16.8	-0.6		
DSZ				S	S	12 41 43.3	-12		
GVZ	**Greta Valley S**	**20.88**	**201**	P	**P**	**12 38 17.7**	**-3.4**		
GVZ				S	S	12 41 55.6	-12		
LTZ	**Lake Taylor**	**20.98**	**203**	P	**P**	**12 38 22.7**	**+0.6**		
LTZ	**Lake Taylor**	**20.98**	**203**	P	**P**	**12 38 18.5**	**-3.7**		
LTZ				S	S	12 41 55.8	-14		
AMCZ	**Amberley**	**21.19**	**202**	P	**P**	**12 38 23.0**	**-1.4**		
INZ	**Inchbonnie**	**21.23**	**204**	P	**P**	**12 38 24.9**	**+0.1**		
INZ	**Inchbonnie**	**21.23**	**204**	P	**P**	**12 38 24.6**	**-0.2**		
OXZ	**Oxford**	**21.54**	**203**	P	**P**	**12 38 27.7**	**-0.4**		
OXZ	**Oxford**	**21.54**	**203**	P	**P**	**12 38 24.9**	**-3.2**		
MQZ	**McQueen's Vall**	**21.66**	**201**	P	**P**	**12 38 29.6**	**+0.3**		
WVZ	**Waitaha Valley**	**21.80**	**205**	P	**P**	**12 38 29.1**	**-1.7**		
WACZ	**Wakanui South**	**22.14**	**202**	P	**P**	**12 38 34.7**	**+0.2**		
GCSZ	**Gaunt Creek Bo**	**22.16**	**205**	P	**P**	**12 38 35.1**	**+0.4**		
RPZ	**Rata Peaks**	**22.23**	**204**	P	**P**	**12 38 35.7**	**+0.3**		
RPZ	**Rata Peaks**	**22.23**	**204**	P	**P**	**12 38 34.9**	**-0.5**		
RPZ	**Rata Peaks**	**22.23**	**204**	P	**P**	**12 38 34.6**	**-0.8**		
	17nm,0.6s,baz=82,slow=0.7,SNR=15								
RPZ				S	**S**	**12 42 24.0**	**-8.5**		
	12nm,0.8s,baz=132,slow=18,SNR=2.7								
RPZ				LR	LR	12 47 11.8			
	comp=Z,218nm,20.3s,baz=28,slow=36								
	17nm,0.6s								
RPZ	**Rata Peaks**	**22.23**	**204**	P	**P**	**12 38 34.7**	**-0.6**		
ARCZ	**Arundel**	**22.38**	**203**	P	**P**	**12 38 36.1**	**-0.9**		
FOZ	**Fox Glacier**	**22.55**	**206**	P	**P**	**12 38 37.5**	**-1.1**		
FOZ	**Fox Glacier**	**22.55**	**206**	P	**P**	**12 38 36.0**	**-2.5**		
LHI	**Lord Howe Isla**	**22.66**	**245**	P	**P**	**12 38 41.3**	**+1.5**		
	baz=23,SNR=17								
LHI	**Lord Howe Isla**	**22.66**	**245**	P	**P**	**12 38 43.0**	**+3.2**		
LHI	**Lord Howe Isla**	**22.66**	**245**	P	**P**	**12 38 44.0**	**+4.2**		
TMZ	**Timaru**	**22.82**	**203**	P	**P**	**12 38 40.9**	**-0.4**		
LBZ	**Lake Benmore**	**23.12**	**204**	P	**P**	**12 38 42.2**	**-2.0**		
JCZ	**Jackson Bay**	**23.41**	**207**	P	**P**	**12 38 44.3**	**-2.7**		
ODZ	**Otahua Downs**	**23.52**	**203**	P	**P**	**12 38 45.6**	**-2.3**		
ODZ	**Otahua Downs**	**23.52**	**203**	P	**P**	**12 38 45.4**	**-2.5**		
TBI	**Tubuai**	**25.09**	**95**	*eP*	**P**	**12 39 01.3**	**-1.0**		
	151nm,1.1s								
TBI				*e*LR	LR	12 45 29.3			
	comp=Z,3µm,27.5s								
TBI	**Tubuai**	**25.09**	**95**	*eT*	T	13 04 27.3			
	36nm,0.4s								
DCZ	**Deep Cove**	**25.22**	**207**	P	**P**	**12 39 02.1**	**-1.1**		
WHZ	**Wether Hill Ro**	**25.25**	**205**	IAmb	IAmb	12 39 04.1			
	comp=Z,50nm,0.7s								
SYZ	**Scrubby Hill**	**25.34**	**203**	P	**P**	**12 39 04.1**	**-0.2**		
PYZ	**Puysegur Point**	**25.98**	**207**	P	**P**	**12 39 09.4**	**-0.7**		
PAE	**Paea**	**26.19**	**82**	*eP*	**P**	**12 39 10.6**	**-1.7**		
	comp=Z,47nm,1.3s								
PAE	**Paea**	**26.19**	**82**	*eT*	T	13 05 13.5			
	comp=Z,27nm,0.4s								
PPT2	**Papeete2**	**26.22**	**82**	*eP*	**P**	**12 39 10.8**	**-1.8**		
	comp=Z,107nm,1.3s								
PPT2				*e*LR	LR	12 45 32.8			
	comp=Z,844nm,34.8s								
PPT2				*e*LR	LR	12 46 00.3			
	comp=Z,858nm,25.2s								
PPT2	**Papeete2**	**26.22**	**82**	*eT*	T	13 05 20.8			
	comp=Z,12nm,0.3s								
PPT	**Papeete**	**26.22**	**81**	LR	LR	12 47 09.4			
	comp=Z,390nm,20.9s,baz=257,slow=30								
HNR	**Honiara**	**26.37**	**299**	P	**P**	**12 39 15.1**	**+1.2**		
HNR	**Honiara**	**26.37**	**299**	P	**P**	**12 39 14.7**	**+0.8**		
HNR	**Honiara**	**26.37**	**299**	P	**P**	**12 39 15.1**	**+1.2**		
HNR				pmax	pmax				
	comp=Z,208nm,1.0s								
HNR	**Honiara**	**26.37**	**299**	LR	LR	12 48 55.4			
	comp=Z,2µm,19.0s,baz=126,slow=35								
TIAR	**Tiarei**	**26.44**	**82**	*eP*	**P**	**12 39 13.9**	**-0.6**		
	comp=Z,3.9nm,0.8s								
TVO	**Taravao**	**26.45**	**82**	*eP*	**P**	**12 39 14.5**	**-0.2**		
	comp=Z,26nm,0.9s								
TVO	**Taravao**	**26.45**	**82**	*eT*	T	13 05 40.5			
	comp=Z,2.7nm,0.3s								
MEH	**Mehetia**	**27.50**	**83**	*eT*	T	13 07 10.8			
	comp=Z,35nm,0.2s								
ARMA	**Armidale**	**28.77**	**250**	P	**P**	**12 39 37.0**	**+1.6**		
	baz=29,SNR=38								
ARMA	**Armidale**	**28.77**	**250**	P	**P**	**12 39 37.1**	**+1.7**		
ARMA				IAmb	IAmb	12 39 38.5			
	comp=Z,33nm,0.7s								
ARMA	**Armidale**	**28.77**	**250**	P	**P**	**12 39 37.9**	**+2.5**		
VAH	**Vaihoa**	**28.78**	**78**	*eT*	T	13 09 05.3			
	comp=Z,7.7nm,0.3s								
EIDS	**Eidsvold**	**29.18**	**260**	P	**P**	**12 39 39.9**	**+1.0**		
	baz=30,SNR=18								
EIDS	**Eidsvold**	**29.18**	**260**	P	**P**	**12 39 39.8**	**+0.9**		
EIDS				IAmb	IAmb	12 39 40.6			
	comp=Z,34nm,0.7s								
EIDS	**Eidsvold**	**29.18**	**260**	P	**P**	**12 39 40.1**	**+1.2**		
MGCD	**Mangrove Creek**	**29.59**	**244**	P	**P**	**12 39 43.9**	**+1.5**		
	baz=30,SNR=54								
RIV	**Riverview**	**29.66**	**243**	P	**P**	**12 39 44.1**	**+1.0**		
	baz=30,SNR=4.1								
RIV	**Riverview**	**29.66**	**243**	P	**P**	**12 39 44.3**	**+1.2**		
RMQ	**Roma**	**31.20**	**258**	P	**P**	**12 39 58.5**	**+1.7**		
	baz=32,SNR=8.7								
CNB	**Canberra Magne**	**31.41**	**241**	P	**P**	**12 40 00.3**	**+1.7**		
	baz=32,SNR=47								
CNB	**Canberra Magne**	**31.41**	**241**	P	**P**	**12 40 00.9**	**+2.3**		
CAN	**Canberra**	**31.71**	**241**	P	**P**	**12 40 02.2**	**+1.0**		
CAN				IAmb	IAmb	12 40 03.7			
	comp=Z,34nm,0.7s								
CAN	**Canberra**	**31.71**	**241**	P	**P**	**12 40 02.9**	**+1.7**		
CAN	**Canberra**	**31.71**	**241**	P	**P**	**12 40 02.2**	**+1.0**		
CAN				pmax	pmax				
	comp=Z,34nm,0.7s								
CAN	**Canberra**	**31.71**	**241**	P	**P**	**12 40 02.3**	**+1.2**		
CAN				pP	**pwP**	**12 40 27.2**	**-0.6**		
CAN				sP	**sP**	**12 40 39.8**	**+2.1**		
CAN				PcP	**PcP**	**12 42 51.7**	**+1.3**		
CAN				ScP	**ScP**	**12 46 26.1**	**+2.6**		
MILA	**Mila**	**31.98**	**238**	P	**P**	**12 40 04.3**	**+0.8**		
	baz=32,SNR=19								
MILA	**Mila**	**31.98**	**238**	P	**P**	**12 40 04.2**	**+0.6**		
YNG	**Young**	**32.00**	**243**	P	**P**	**12 40 05.7**	**+2.0**		
CMSA	**Cobar Meteorol**	**33.94**	**248**	P	**P**	**12 40 20.7**	**+0.1**		
	baz=34,SNR=140								
CMSA	**Cobar Meteorol**	**33.94**	**248**	P	**P**	**12 40 21.9**	**+1.3**		
CTA	**Charters Tower**	**34.37**	**269**	P	**P**	**12 40 25.5**	**+1.0**		
CTA	**Charters Tower**	**34.37**	**269**	P	**P**	**12 40 25.4**	**+1.0**		
	comp=Z,140nm,0.6s,baz=96,slow=10.0,SNR=475								
CTA				LR	LR	12 52 25.1			
	comp=Z,173nm,20.6s,baz=87,slow=33								
	comp=Z,140nm,0.6s								
CTAO	**Charters Tower**	**34.37**	**269**	P	**P**	**12 40 25.1**	**+0.7**		
CTAO	**Charters Tower**	**34.37**	**269**	P	**P**	**12 40 25.4**	**+1.0**		
CTAO	**Charters Tower**	**34.37**	**269**	P	**P**	**12 40 25.1**	**+0.7**		
CTAO				pmax	pmax				
	comp=Z,144nm,0.6s								
CTAO	**Charters Tower**	**34.37**	**269**	P	**P**	**12 40 25.5**	**+1.0**		
CTAO				pP	**pP**	**12 40 50.1**	**+1.5**		
CTAO				PcP	**PcP**	**12 43 03.9**	**+5.9**		
TOO	**Toolangi**	**34.94**	**238**	P	**P**	**12 40 29.3**	**+0.1**		
	baz=35,SNR=28								
TOO	**Toolangi**	**34.94**	**238**	P	**P**	**12 40 29.7**	**+0.5**		
TOO				IAmb	IAmb	12 40 31.5			
	comp=Z,46nm,1.2s								
TOO	**Toolangi**	**34.94**	**238**	P	**P**	**12 40 30.2**	**+1.0**		
TOO	**Toolangi**	**34.94**	**238**	P	**P**	**12 40 29.7**	**+0.5**		
TOO				pmax	pmax				
	comp=Z,46nm,1.3s								
MOO	**Moorlands**	**35.06**	**229**	P	**P**	**12 40 31.0**	**+0.9**		
	baz=35,SNR=4.8								
MOO	**Moorlands**	**35.06**	**229**	P	**P**	**12 40 30.6**	**+0.5**		
TAU	**Tasmania Unive**	**35.14**	**228**	P	**P**	**12 40 30.8**	**0.0**		
QLP	**Quilpie**	**35.24**	**257**	P	**P**	**12 40 32.2**	**+0.3**		
	baz=36,SNR=11								
QLP	**Quilpie**	**35.24**	**257**	P	**P**	**12 40 32.9**	**+1.0**		
MTSU	**Mount Surprise**	**36.62**	**271**	P	**P**	**12 40 44.2**	**+0.5**		
	baz=37,SNR=123								
PMG	**Port Moresby**	**37.22**	**286**	P	**P**	**12 40 48.5**	**-0.2**		
PMG	**Port Moresby**	**37.22**	**286**	P	**P**	**12 40 49.5**	**+0.7**		
PMG	**Port Moresby**	**37.22**	**286**	P	**P**	**12 40 48.9**	**+0.1**		
	comp=Z,243nm,0.7s,baz=90,slow=5.5,SNR=118								
PMG				LR	LR	12 53 18.7			
	comp=Z,161nm,19.9s,baz=102,slow=32								
	comp=Z,243nm,0.7s								
PMG	**Port Moresby**	**37.22**	**286**	P	**P**	**12 40 49.0**	**+0.3**		
PMG				pP	**pwP**	**12 41 15.0**	**-0.7**		
PMG				PcP	**PcP**	**12 43 07.5**	**+1.0**		
STKA	**Stephens Creek**	**37.45**	**248**	P	**P**	**12 40 50.5**	**0.0**		
	baz=38,SNR=103								
STKA	**Stephens Creek**	**37.45**	**248**	P	**P**	**12 40 50.6**	**0.0**		
STKA	**Stephens Creek**	**37.45**	**248**	P	**P**	**12 40 50.8**	**+0.2**		
STKA	**Stephens Creek**	**37.45**	**248**	*i* P	**P**	**12 40 50.7**	**+0.2**		
STKA	**Stephens Creek**	**37.45**	**248**	P	**P**	**12 40 50.5**	**0.0**		
	comp=Z,35nm,0.6s,baz=97,slow=11,SNR=89								
STKA				PcP	**PcP**	**12 43 08.2**	**+1.3**		
	comp=Z,15nm,0.5s,baz=98,slow=5.7,SNR=7.3								
STKA				ScP	**ScP**	**12 46 45.5**	**+1.4**		
	comp=Z,4.5nm,0.8s,baz=79,slow=4.6,SNR=5.4								
	comp=Z,35nm,0.6s								
ARPS	**Mount Arapiles**	**37.67**	**240**	P	**P**	**12 40 52.7**	**+0.3**		
	baz=38,SNR=15								
TAOE	**Nuku Hiva Isla**	**38.08**	**73**	*eP*	P	12 40 49.3	-6.8		
	comp=Z,39nm,23.1s								
TAOE				*e*S	**S**	**12 46 38.1**	**-2.9**		
	comp=Z,40nm,20.5s								
TAOE				*e*LR	LR	12 50 50.0			
	comp=Z,476nm,34.7s								
TAOE	**Nuku Hiva Isla**	**38.08**	**73**	*eT*	T	13 20 06.1			
	comp=Z,21nm,0.2s								
INKA	**Innaminka**	**38.26**	**255**	P	**P**	**12 40 58.6**	**+1.2**		
HTT	**Hallett**	**39.75**	**246**	P	**P**	**12 41 09.2**	**-0.6**		
	baz=40,SNR=101								
HTT	**Hallett**	**39.75**	**246**	P	**P**	**12 41 09.3**	**-0.6**		
LCRK	**Leigh Creek**	**40.34**	**250**	P	**P**	**12 41 14.5**	**-0.2**		
QIS	**Mount Isa**	**40.35**	**266**	P	**P**	**12 41 14.3**	**-0.6**		
	baz=41,SNR=18								
QIS	**Mount Isa**	**40.35**	**266**	P	**P**	**12 41 14.1**	**-0.8**		
MANU	**Manus Island**	**40.82**	**297**	P	**P**	**12 41 18.1**	**-0.8**		
JOHN	**Johnston Islan**	**40.91**	**11**	P	**P**	**12 41 18.7**	**-0.7**		
JOHN	**Johnston Islan**	**40.91**	**11**	P	**P**	**12 41 19.0**	**-0.3**		
JOHN				pP	**pP**	**12 41 45.2**	**+1.3**		
BBOO	**Buckleboo**	**42.15**	**247**	P	**P**	**12 41 28.1**	**-1.4**		
	baz=42,SNR=64								
BBOO	**Buckleboo**	**42.15**	**247**	P	**P**	**12 41 28.5**	**-1.0**		
BBOO				IAmb	IAmb	12 41 31.0			
	comp=Z,46nm,0.8s								
BBOO	**Buckleboo**	**42.15**	**247**	P	**P**	**12 41 29.7**	**+0.2**		
OOD	**Oodnadatta**	**42.72**	**254**	P	**P**	**12 41 34.5**	**+0.3**		
MMPI	**Merauke**	**43.63**	**283**	P	**P**	**12 41 41.0**	**-0.6**		
	comp=Z,936nm,0.6s								
MULG	**Mulgathing**	**43.94**	**250**	P	**P**	**12 41 43.1**	**-0.8**		
AS31	**Alice Springs**	**44.90**	**260**	P	**P**	**12 41 51.4**	**-0.3**		
ASAR	**Alice Springs**	**44.90**	**260**	P	**P**	**12 41 50.9**	**-0.9**		
	comp=Z,35nm,0.8s,baz=92,slow=6.5,SNR=226								
ASAR				pP	**pP**	**12 42 15.9**	**-1.0**		
	comp=Z,5.9nm,0.7s,baz=100,slow=6.9,SNR=1.9								
ASAR				PcP	**PcP**	**12 43 32.0**	**+0.5**		
	comp=Z,13nm,0.7s,baz=108,slow=3.7,SNR=11								
ASAR				ScP	**ScP**	**12 47 15.5**	**+1.8**		
	comp=Z,1.8nm,1.0s,baz=112,slow=4.3,SNR=4.7								
ASAR				S	**S**	**12 48 16.1**	**-5.5**		
	comp=Z,1.5nm,1.1s,baz=97,slow=16,SNR=2.9								
ASAR				LR	LR	12 59 40.6			
	comp=Z,160nm,18.1s,baz=102,slow=35								
	comp=Z,35nm,0.8s								
WR0	**Warramunga Arr**	**45.11**	**265**	P	**P**	**12 41 52.2**	**-1.2**		
WR0				PcP	**PcP**	**12 43 33.1**	**+0.9**		
WR0				IAmb	IAmb	12 43 34.2			
	comp=Z,37nm,0.9s								
WB2	**Warramunga Arr**	**45.29**	**265**	P	**P**	**12 41 54.0**	**-0.8**		
WB2				IAmb	IAmb	12 41 55.6			
	comp=Z,48nm,0.6s								
WB2				PcP	**PcP**	**12 43 33.7**	**+0.8**		
WRAB	**Tennant Creek**	**45.29**	**265**	P	**P**	**12 41 53.8**	**-1.0**		
WRAB				IAmb	IAmb	12 41 55.5			
	comp=Z,36nm,0.7s								
WRAB	**Tennant Creek**	**45.29**	**265**	P	**P**	**12 41 53.8**	**-1.0**		
WRAB				pmax	pmax				
	comp=Z,36nm,0.7s								
WB0	**Warramunga Arr**	**45.29**	**265**	P	**P**	**12 41 53.9**	**-0.9**		
WB0				IAmb	IAmb	12 41 55.5			
	comp=Z,64nm,0.8s								
WRA	**Warramunga Arr**	**45.30**	**265**	P	**P**	**12 41 54.0**	**-0.9**		
WRA				PcP	**PcP**	**12 43 33.6**	**+0.8**		
WRA	**Warramunga Arr**	**45.30**	**265**	P	**P**	**12 41 53.8**	**-1.1**		
	comp=Z,35nm,0.6s,baz=94,slow=8.5,SNR=204								
WRA				PcP	**PcP**	**12 43 33.4**	**+0.5**		
	comp=Z,28nm,1.0s,baz=98,slow=3.9,SNR=14								
WRA				ScP	**ScP**	**12 47 16.9**	**+1.5**		
	comp=Z,1.6nm,0.8s,baz=95,slow=3.9,SNR=5.6								
WRA				S	**S**	**12 48 21.5**	**-5.8**		
	comp=Z,5.3nm,1.3s,baz=103,slow=14,SNR=5.8								
	comp=Z,35nm,0.6s								
WAKE	**Wake Island**	**45.74**	**338**	P	**P**	**12 41 57.0**	**-1.2**		
JAY	**Jayapura**	**46.16**	**291**	P	**P**	**12 42 00.5**	**-1.2**		
	comp=Z,51nm,0.9s,comp=Z,570nm								
JAY				pP	**pwP**	**12 42 30.2**	**+0.6**		
	comp=Z,51nm,0.9s,comp=Z,570nm								
GENI	**Genyem**	**46.58**	**290**	P	**P**	**12 42 03.6**	**-1.3**		
	comp=Z,38nm,1.6s								
FORT	**Forrest**	**49.05**	**249**	P	**P**	**12 42 22.4**	**-1.5**		
	baz=49,SNR=70								
FORT	**Forrest**	**49.05**	**249**	P	**P**	**12 42 22.6**	**-1.3**		
FORT	**Forrest**	**49.05**	**249**	P	**P**	**12 42 23.3**	**-0.6**		
KDU	**Kakadu**	**49.16**	**274**	P	**P**	**12 42 23.6**	**-1.3**		
	baz=50,SNR=40								
KDU	**Kakadu**	**49.16**	**274**	P	**P**	**12 42 24.0**	**-0.9**		
WRKA	**Warakurna**	**49.68**	**257**	P	**P**	**12 42 27.5**	**-1.3**		
	baz=50,SNR=72								
WRKA	**Warakurna**	**49.68**	**257**	P	**P**	**12 42 28.0**	**-0.8**		
MTN	**Manton Dam**	**50.33**	**273**	P	**P**	**12 42 32.1**	**-1.6**		
	baz=51,SNR=26								
MTN	**Manton Dam**	**50.33**	**273**	P	**P**	**12 42 32.4**	**-1.3**		
MTN				IAmb	IAmb	12 42 33.5			
	comp=Z,31nm,0.7s								
MTN				PcP	**PcP**	**12 43 50.9**	**-0.1**		
MTN	**Manton Dam**	**50.33**	**273**	P	**P**	**12 42 32.9**	**-0.9**		
DRV	**Dumont d'Urvil**	**50.64**	**201**	P	**P**	**12 42 35.6**	**+0.3**		
DRV				pP	**pP**	**12 43 00.9**	**-0.2**		
KNRA	**Kununurra**	**51.58**	**268**	P	**P**	**12 42 42.3**	**-0.7**		
	baz=52,SNR=9.5								
KNRA	**Kununurra**	**51.58**	**268**	P	**P**	**12 42 42.6**	**-0.4**		
SAUI	**Saumlaki**	**52.00**	**279**	P	**P**	**12 42 45.7**	**-0.5**		
SAUI	**Saumlaki**	**52.00**	**279**	P	**P**	**12 42 45.5**	**-0.7**		
	comp=Z,329nm,0.8s,comp=Z,8µm								
GUMO	**Guam**	**52.74**	**311**	P	**P**	**12 42 51.0**	**-0.5**		
GUMO	**Guam**	**52.74**	**311**	P	**P**	**12 42 51.1**	**-0.5**		
	comp=Z,35nm,0.4s,baz=73,slow=19,SNR=2.2								
	comp=Z,35nm,0.4s								
FAKI	**Fak Fak**	**53.34**	**285**	P	**P**	**12 42 55.0**	**-1.0**		
FAKI	**Fak Fak**	**53.34**	**285**	P	**P**	**12 42 56.5**	**+0.4**		
FAKI	**Fak Fak**	**53.34**	**285**	P	**P**	**12 42 54.2**	**-1.9**		
	comp=Z,68nm,0.9s								
FITZ	**Fitzroy Crossi**	**53.72**	**264**	P	**P**	**12 42 58.4**	**-0.4**		
	baz=54,SNR=14								
FITZ	**Fitzroy Crossi**	**53.72**	**264**	P	**P**	**12 42 58.0**	**-0.8**		
FITZ				IAmb	IAmb	12 43 31.4			
	comp=Z,57nm,1.9s								
KMBL	**Kambalda**	**54.24**	**248**	P	**P**	**12 43 01.0**	**-1.5**		
	baz=55,SNR=5.0								
SBA	**Scott Base**	**54.67**	**184**	P	**P**	**12 43 08.5**	**+3.6**		
SBA				IAmb	IAmb	12 43 09.5			
	comp=Z,77nm,1.7s								
SBA	**Scott Base**	**54.67**	**184**	P	**P**	**12 43 08.5**	**+3.6**		
SBA				pmax	pmax				
	comp=Z,77nm,1.7s								
SBA	**Scott Base**	**54.67**	**184**	P	**P**	**12 43 08.2**	**+3.4**		
SBA				pP	**pP**	**12 43 35.2**	**+4.2**		
SBA

comp=Z,25nm,1.1s,baz=16,slow=1.5,SNR=3.2
QSPA LR LR 13 09 22.4
comp=Z,42nm,21.1s,baz=46,slow=32
comp=Z,21nm,0.7s
QSPA South Pole Qui 66.29 180 P P 12 44 25.7 +1.6
QSPA pP pwP 12 44 53.6 +0.3
BLJI Banyuglugur 68.24 271 P P 12 44 35.8 -1.3
comp=Z,66nm,0.7s,comp=Z,4µm
UGM Wanagama 70.99 270 P P 12 44 53.7 -0.4
KKM Kota Kinabalu 71.65 285 P P 12 44 56.9 -1.2
KKM IAmb IAmb 12 44 58.0
comp=Z,23nm,0.5s
KKM Kota Kinabalu 71.65 285 P P 12 44 57.9 -0.2
JOW Kunigami 73.10 310 P P 12 45 06.2 0.0
comp=Z,25nm,0.9s,baz=100,slow=6.1,SNR=2.2
JOW LR LR 13 13 32.7
comp=Z,108nm,21.4s,baz=169,slow=33
comp=Z,25nm,0.9s
MJAR Matsushiro Arr 73.49 324 P P 12 45 07.1 -1.3
comp=Z,11nm,0.8s,baz=153,slow=5.7,SNR=18
comp=Z,11nm,0.8s
MAJO Matsushiro 73.49 324 P P 12 45 07.3 -1.1
MAJO IAmb IAmb 12 46 52.9
comp=Z,131nm,1.9s
MAJO Matsushiro 73.49 324 *i* P **P 12 45 07.0 -1.4**
MAJO pmax pmax
comp=Z,10.0nm,0.6s
MJB9 Matsu-Tunnel 73.49 324 P P 12 45 08.5 +0.1
MJB9 IAmb IAmb 12 46 53.9
comp=Z,130nm,1.9s
SBUM Sibu 73.63 280 P P 12 45 08.9 -0.8
LEM Lembang 74.07 269 LR LR 13 19 51.2
comp=Z,95nm,18.1s,baz=196,slow=37
XMIS Christmas Isla 74.49 265 P P 12 45 14.5 -0.3
XMIS IAmb IAmb 12 45 14.9
comp=Z,39nm,0.8s
AMKA Amchitka 74.92 357 P P 12 45 15.9 -0.3
KSM Kuching 74.94 278 P P 12 45 17.0 -0.4
KIWB Kanaga Island 75.32 360 P P 12 45 18.4 -0.2
ADK Adak 75.35 0 P P 12 45 18.6 -0.1
ADK Adak 75.35 0 P P 12 45 18.6 -0.1
ADK Adak 75.35 0 P P 12 45 18.6 -0.1
ADK pmax pmax
comp=Z,224nm,0.7s
ATKA Atka Island 75.70 2 P P 12 45 20.4 -0.3
CGJI Cibinong 75.91 269 P P 12 45 19.5 -3.4
comp=Z,63nm,0.5s
TWGBT Beinan 76.05 303 P P 12 45 23.3 -0.1
BELA Belgrano 2 76.17 172 P P 12 45 23.7 +0.4
BELA IAmb IAmb 12 45 52.9
comp=Z,32nm,1.2s
YULB Yu-li 76.20 303 P P 12 45 23.1 -1.2
NACB Ninganchiao 76.41 304 P P 12 45 24.4 -1.0
SHEM Shemya Is, Ala 76.61 354 P P 12 45 25.5 -0.3
comp=Z,96nm,0.8s,baz=68,slow=5.4,SNR=2.3
comp=Z,96nm,0.8s
TPUB Ta-pu 76.66 303 P P 12 45 24.9 -2.0
TPUB Ta-pu 76.66 303 P P 12 45 25.4 -1.5
SSLB Suanglung 76.68 304 P P 12 45 25.6 -1.4
SSLB IAmb IAmb 12 45 25.9
comp=Z,23nm,0.7s
SSLB Suanglung 76.68 304 P P 12 45 23.8 -3.2
NIKH Nikolski High 76.75 5 P P 12 45 25.2 -1.5
NIKH Nikolski High 76.75 5 P P 12 45 26.4 -0.3
baz=188,SNR=9.7
H06S1 SOCORRO T 76.90 63 T T 14 09 40.8
SNR=6.1
ASAJ Asahikawa 77.12 331 LR LR 13 14 13.8
comp=Z,79nm,19.1s,baz=114,slow=32
KASI Kota Agung 77.43 269 P P 12 45 28.2 -3.2
UNV Unalaska Valle 77.83 6 P P 12 45 32.7 +0.1
UNV Unalaska Valle 77.83 6 P P 12 45 31.9 -0.7
baz=190,SNR=7.2
PMSA Palmer Station 77.85 156 LR LR 13 15 37.7
comp=Z,46nm,18.1s,baz=262,slow=32
AKUT Akutan 78.19 7 P P 12 45 34.0 -0.6
MAW Mawson 78.84 200 P P 12 45 40.0 +1.8
baz=79,SNR=20
MAW Mawson 78.84 200 P P 12 45 39.9 +1.6
MAW Mawson 78.84 200 P P 12 45 39.9 +1.6
MAW pmax pmax
comp=Z,7.0nm,1.1s
MAW Mawson 78.84 200 P P 12 45 39.4 +1.2
comp=Z,20nm,0.8s,baz=135,slow=6.9,SNR=29
MAW LR LR 13 18 13.5
comp=Z,47nm,20.2s,baz=105,slow=34
comp=Z,20nm,0.8s
FALS False Pass 79.17 8 P P 12 45 40.0 0.0
baz=192
SCI2 San Clemente I 79.21 47 P P 12 45 40.2 -0.6
baz=232
YSS Yuzh-Sakhalins 79.31 333 *eP* **P 12 45 40.2 -0.7**
YSS pmax pmax
comp=Z,30nm,1.0s
PETK Petropavlovsk- 79.72 345 P P 12 45 42.2 -0.8
comp=Z,24nm,0.7s,baz=118,slow=6.8,SNR=14
comp=Z,24nm,0.7s
KSRS Korea Array 80.05 318 P P 12 45 45.0 -0.2
comp=Z,5.6nm,0.9s,baz=138,slow=5.4,SNR=11
comp=Z,5.6nm,0.9s
SDPT Sand Point 80.06 9 P P 12 45 44.8 0.0
SDPT Sand Point 80.06 9 P P 12 45 43.9 -0.9
SDPT Sand Point 80.06 9 P P 12 45 44.3 -0.5
baz=195
KSAR Wonju Array Be 80.07 318 P P 12 45 44.5 -0.8
KSAR Wonju Array Be 80.07 318 P P 12 45 44.5 -0.8
LPIG La Paz 80.19 58 LR LR 13 19 10.9
comp=Z,142nm,18.2s,baz=9.5,slow=34
ARVC Arvin 80.33 45 P P 12 45 47.4 +0.6
baz=232
MURC Murrieta 80.48 47 P P 12 45 48.6 +0.9
baz=233
KMPM Mont Pierce 80.53 38 IAmb IAmb 12 45 50.5
comp=Z,36nm,1.1s
BFSC Mount Baldy Ra 80.56 46 P P 12 45 49.4 +1.2
baz=233
MONP2 Monument Peak 80.58 48 P P 12 45 48.9 +0.5
baz=234
VES Vestal, Richgr 80.61 44 P P 12 45 49.1 +0.9
baz=232
KMRM Mail Ridge 80.63 38 IAmb IAmb 12 45 51.0
comp=Z,35nm,0.9s
IKP In-Ko-Pah, Jac 80.66 48 P P 12 45 49.9 +1.2
baz=234
EDW2 Edwards Air Fo 80.72 45 P P 12 45 50.5 +1.5
baz=232,SNR=15
SPIA Saint Paul Isl 80.84 4 P P 12 45 50.4 +1.4
baz=186
ISA Isabella, Lake 80.89 45 P P 12 45 51.5 +1.7
baz=232,SNR=12
MYKOM Kota Tinggi 80.94 276 IAmb IAmb 12 45 50.9
comp=Z,22nm,0.7s
PFO Pinyon Flats O 80.98 47 P P 12 45 50.9 +0.4
PFO Pinyon Flats O 80.98 47 P P 12 45 51.5 +1.0
baz=234
PFO Pinyon Flats O 80.98 47 P P 12 45 50.9 +0.4
PFO pmax pmax
comp=Z,14nm,1.5s
TPFO Pinon Flats 80.98 47 P P 12 45 51.8 +1.4
baz=234
SWSC Sam W. Stewart 81.04 48 P P 12 45 52.2 +1.6
baz=234
BBRC Big Bear Solar 81.06 47 P P 12 45 52.5 +1.5
baz=233
S14K Fog Glacier 81.10 10 P P 12 45 51.0 +0.5
baz=196
CMB Columbia Colle 81.17 42 P P 12 45 51.1 -0.1
CMB Columbia Colle 81.17 42 P P 12 45 51.1 -0.1
CMB pmax pmax
comp=Z,7.0nm,1.1s
LRMC Laurel Mtn Rad 81.29 45 P P 12 45 53.0 +0.9
baz=233
CHGN Chignik 81.30 10 P P 12 45 51.3 0.0
baz=197
CHIR Chirikof Islan 81.33 12 P P 12 45 51.8 +0.3
baz=200
BELC Belle Mtn. Jos 81.52 47 P P 12 45 54.5 +1.1
baz=234,SNR=7.3
CWC Cottonwood Cre 81.62 44 P P 12 45 54.9 +1.1
baz=232
BC3 Big Chuckawall 81.69 48 P P 12 45 56.1 +1.9
baz=234,SNR=5.6
GSC Goldstone, Bar 81.75 46 P P 12 45 55.4 +0.9
baz=233,SNR=5.8
MPMC Manual Prospec 81.76 45 P P 12 45 55.9 +1.2
baz=233,SNR=14
HEC Hector,Ludlow 81.78 46 P P 12 45 55.5 +0.9
baz=234
MLAC Mammoth, Mammo 81.87 43 P P 12 45 56.2 +1.0
baz=232
MPK Martis Peak 82.18 41 IAmb IAmb 12 46 28.0
comp=Z,27nm,1.2s
IRM Iron Mountain 82.19 47 P P 12 45 58.2 +1.5
baz=234,SNR=16
GMRC Granite Mounta 82.21 47 P P 12 45 58.3 +1.4
baz=234
USA0B Ussuriysk Arra 82.28 326 P P 12 45 57.3 +0.5
USA0B IAmb IAmb 12 45 58.1
comp=Z,28nm,0.8s
USA0B Ussuriysk Arra 82.28 326 P P 12 45 57.3 +0.5
USA0B pmax pmax
comp=Z,28nm,0.8s
USRK Ussuriysk Ar. 82.28 326 P P 12 45 57.0 +0.1
USRK Ussuriysk Ar. 82.28 326 P P 12 45 57.4 +0.6
comp=Z,31nm,0.8s,baz=119,slow=3.0,SNR=41
comp=Z,31nm,0.8s
SII Sitkinak Islan 82.30 12 P P 12 45 55.6 -1.1
SII Sitkinak Islan 82.30 12 P P 12 45 57.3 +0.6
baz=201
PNTR Pine Nut 82.31 41 IAmb IAmb 12 46 01.3
comp=Z,20nm,0.8s
GRAC Grapevine Rang 82.41 44 IAmb IAmb 12 46 02.0
comp=Z,35nm,1.4s
GRAC Grapevine Rang 82.41 44 P P 12 45 59.1 +1.3
baz=233
FURC Furnace Creek, 82.41 45 P P 12 45 59.2 +1.5
baz=233
TUQ Turquoise Moun 82.41 46 P P 12 45 59.5 +1.6
baz=234,SNR=13
SHOC Shoshone, Teco 82.46 46 P P 12 45 59.4 +1.4
baz=233,SNR=5.8
TYV Tymovskoe 82.47 335 *eP* **P 12 45 57.3 -0.3**
TYV *eS* **S 12 56 04.2 -0.6**
TYV pmax pmax
comp=Z,41nm,1.1s
TYV pmax pmax
comp=Z,1µm,3.2s
TYV smax smax
comp=N,1µm,5.3s
TYV smax smax
comp=E,1µm,5.3s
NVAR Mina Array Bea 82.69 42 P P 12 45 60.0 +0.5
NVAR Mina Array Bea 82.69 42 P P 12 46 00.3 +0.9
comp=E,3.6nm,0.6s,baz=222,slow=7.5,SNR=36
comp=E,3.6nm,0.6s
NV11 Mina Array Sit 82.79 43 P P 12 46 00.2 +0.3
NJ2 Nanjing 82.80 310 *eP* **P 12 46 00.3 +0.5**
NJ2 pP pP 12 46 19.0 -8.5
NJ2 sP **pwP 12 46 27.3 -3.6**
NJ2 pmax pmax
comp=E,18nm,0.8s
NJ2 pmax pmax
comp=E,220nm,4.1s
PAHR Pah Rah Range 82.83 41 P P 12 46 00.1 0.0
R17K Ugashik Creek 82.91 11 IAmb IAmb 12 46 02.1
comp=Z,32nm,0.8s
R17K Ugashik Creek 82.91 11 P P 12 46 00.0 +0.2
baz=199
PDMCI Parker Dam,Lak 82.95 48 P P 12 46 02.3 +1.8
baz=235
TPNV Topopah Spring 83.10 45 P P 12 46 03.0 +1.5
baz=233,SNR=8.8
OHAK Old Harbor 83.10 13 P P 12 45 56.8 -4.0
OHAK Old Harbor 83.10 13 P P 12 46 01.0 +0.2
baz=202
R18K Karluk 83.20 12 P P 12 46 01.6 +0.4
baz=200
H03S2 Juan Fernandez 83.26 124 T T 14 18 06.8
baz=245,slow=74,SNR=84
H03S1 Juan Fernandez 83.27 124 T T 14 18 04.1
baz=245,slow=74,SNR=81
H03S3 Juan Fernandez 83.28 124 T T 14 18 07.1
baz=245,slow=74,SNR=80
PLTX Planet X, Gerl 83.41 40 IAmb IAmb 12 46 12.9
comp=Z,14nm,0.8s
H03N2 Juan Fernandez 83.42 124 T T 14 18 09.3
baz=251,slow=72,SNR=107
H03N3 Juan Fernandez 83.42 124 T T 14 18 07.3
baz=251,slow=72,SNR=130
H03N1 Juan Fernandez 83.43 124 T T 14 18 05.0
baz=251,slow=72,SNR=129
ELIB Princess Elisa 83.50 186 *dP* **P 12 46 03.7 +0.6**
comp=Z,23nm,0.7s
Q17K Contact Creek 83.59 11 P P 12 46 03.3 -0.2
baz=199,SNR=19
O14K Tigyukauivet M 83.73 8 IAmb IAmb 12 46 06.2
comp=Z,23nm,0.8s
O14K Tigyukauivet M 83.73 8 P P 12 46 04.5 +0.5
baz=194,SNR=5.8
KDAK Kodiak Island 83.77 13 P P 12 46 04.4 +0.2
KDAK Kodiak Island 83.77 13 P P 12 46 05.2 +1.0
baz=202
KDAK Kodiak Island 83.77 13 *i* P **P 12 46 03.9 -0.2**
KDAK pmax pmax
comp=Z,30nm,0.7s
KDAK Kodiak Island 83.77 13 P P 12 46 04.3 +0.2
comp=Z,23nm,0.8s,baz=220,slow=3.6,SNR=17
comp=Z,23nm,0.8s
MDJ Mudanjiang 83.82 325 IAmb IAmb 12 46 06.0
comp=Z,20nm,0.8s
MDJ Mudanjiang 83.82 325 P P 12 46 05.0 +0.2
MDJ pP pP 12 46 25.0 -7.6
MDJ sP pwP 12 46 33.8 -2.1
MDJ PP **PP 12 49 21.0 +1.1**
MDJ S **S 12 56 26.0 +7.2**
MDJ pmax pmax
comp=Z,29nm,0.9s
MDJ pmax pmax
comp=Z,590nm,6.4s
O15K Ungalikthiuk R 83.85 9 P P 12 46 04.8 +0.2
baz=196,SNR=7.1
Q16K King Salmon 83.86 10 P P 12 46 05.0 +0.4
baz=198,SNR=12
K05A Sumner Lake 83.87 38 IAmb IAmb 12 46 36.1
comp=Z,30nm,1.1s
P16K Nushagak River 83.98 10 P P 12 46 05.7 +0.5
baz=197,SNR=9.5
J05D Fort Rock, OR 84.04 37 IAmb IAmb 12 46 08.3
comp=Z,17nm,0.9s
Q18K Katmai Hardscr 84.11 11 P P 12 46 06.1 0.0
baz=200,SNR=23
PRN Pahroc Range 84.14 45 IAmb IAmb 12 46 37.8
comp=Z,20nm,1.2s
TUC Tucson 84.18 51 P P 12 46 08.9 +1.9
TUC Tucson 84.18 51 P P 12 46 09.0 +1.9
baz=237
TUC Tucson 84.18 51 P P 12 46 08.9 +1.9
TUC pmax pmax
comp=Z,13nm,1.1s
LL02 Futaleuf 84.25 135 P P 12 46 08.4 +1.2
LL02 IAmb IAmb 12 46 37.6
comp=Z,24nm,1.0s
M11K Mekoryuk 84.32 5 P P 12 46 08.1 +1.2
baz=196
N14K Kuskokwak Cree 84.33 8 P P 12 46 07.9 +1.0
baz=194
R11B Troy Canyon, C 84.35 44 P P 12 46 08.7 +0.9
baz=234
P17K Kvichak River 84.38 10 P P 12 46 07.4 +0.1
baz=199,SNR=14
H04A Detroit Lake 84.44 36 P P 12 46 08.5 +0.5
TROLL Troll, Antarti 84.45 180 ⇓P **P 12 46 08.4 +0.5**
comp=Z,1µm,0.6s
O16K Kokwok River B 84.50 9 P P 12 46 07.5 -0.4
O16K IAmb IAmb 12 46 08.2
comp=Z,35nm,0.8s
O16K Kokwok River B 84.50 9 P P 12 46 07.6 -0.2
baz=197
PINE Pine Mountain 84.54 37 IAmb IAmb 12 46 39.5
comp=Z,29nm,1.1s
Q20K Shuyak Island 84.57 13 P P 12 46 09.0 +0.8
baz=202
BMN Battle Mountai 84.58 41 IAmb IAmb 12 46 39.2
comp=Z,21nm,1.2s
M13K Dall Lake 84.62 7 IAmb IAmb 12 46 13.5
comp=Z,47nm,0.8s
M13K Dall Lake 84.62 7 P P 12 46 10.5 +2.1
baz=192
Q19K Cape Douglas, 84.62 12 P P 12 46 08.7 +0.2
Q19K Cape Douglas, 84.62 12 P P 12 46 09.0 +0.5
baz=201
SNAA Sanae 84.70 178 P P 12 46 09.4 +0.4
SNAA IAmb IAmb 12 46 39.2
comp=Z,26nm,1.1s
SNAA Sanae 84.70 178 ⇓P **P 12 46 09.3 +0.2**
comp=Z,205nm,0.5s
SNAA Sanae 84.70 178 *i* P **P 12 46 09.0 -0.1**
SNAA pmax pmax
comp=Z,17nm,0.8s
SNAA Sanae 84.70 178 P **P 12 46 09.6 +0.5**
comp=Z,13nm,0.7s,baz=210,slow=3.3,SNR=18
comp=Z,13nm,0.7s
N15K Kwethluk River 84.77 8 P P 12 46 10.6 +1.3
baz=195
P18K Big Mountain, 84.77 11 P P 12 46 09.2 0.0
P18K IAmb IAmb 12 46 09.8
comp=Z,39nm,0.7s
P18K Big Mountain, 84.77 11 P P 12 46 09.4 +0.1
baz=200,SNR=5.8
VNA3 Neumayer Olymp 84.80 176 ⇓P **P 12 46 09.7 +0.2**
comp=Z,33nm,0.7s
O17K Koliganek Bris 84.83 10 P P 12 46 09.3 -0.1
baz=198,SNR=7.5
X16A Lo Mia Camp, P 84.86 49 IAmb IAmb 12 46 41.7
comp=Z,22nm,1.1s
E03A Lebam 84.97 34 IAmb IAmb 12 46 41.3
comp=Z,65nm,1.2s
M14K Bethel 85.11 7 IAmb IAmb 12 46 12.7
comp=Z,52nm,0.8s
M14K Bethel 85.11 7 P P 12 46 11.8 +0.9
baz=194,SNR=19
F04A Amboy 85.15 35 IAmb IAmb 12 46 14.5
comp=Z,13nm,0.7s
M15K Kasigluk River 85.21 8 P P 12 46 12.3 +0.9
baz=195
O18K Koktuh Hills 85.21 11 P P 12 46 11.7 +0.2
baz=200,SNR=13
N16K Nishlik Lake 85.25 9 P P 12 46 12.7 +1.1
baz=196
VNA2 Neumayer--Watz 85.25 177 ⇓P **P 12 46 12.2 +0.5**
comp=Z,24nm,0.6s,baz=176,slow=5.0
WHN Wuhan 85.25 306 P P 12 46 12.8 +0.5
KULM Kulim 85.29 278 IAmb IAmb 12 46 13.5
comp=Z,24nm,0.7s
KNB Kanab 85.37 46 IAmb IAmb 12 46 44.1
comp=Z,32nm,1.3s
P19K Oil Pt 85.38 12 P P 12 46 12.4 +0.1
baz=202
U15A North Rim 85.40 47 IAmb IAmb 12 46 43.8
comp=Z,17nm,1.0s
VNA1 Neumayer--Stat 85.47 176 ⇓P **P 12 46 13.2 +0.4**
comp=Z,25nm,0.8s
WUAZ Wupatki 85.51 48 IAmb IAmb 12 46 44.7
comp=Z,29nm,1.5s
WUAZ Wupatki 85.51 48 P P 12 46 14.9 +1.2
baz=237,SNR=5.1
N17K Nushagak Hills 85.53 10 IAmb IAmb 12 46 18.5
comp=Z,19nm,1.2s
N17K Nushagak Hills 85.53 10 P P 12 46 13.5 +0.5
baz=196
CN2 Changchun 85.55 322 *eP* **P 12 46 13.3 -0.2**
CN2 *ep* pP pP 12 46 35.0 -6.5
CN2 pmax pmax
comp=Z,10.0nm,0.6s
L14K Kuka Creek 85.60 7 IAmb IAmb 12 46 15.2
comp=Z,55nm,1.1s
L14K Kuka Creek 85.60 7 P P 12 46 14.5 +1.2
baz=193
G06A Carlson Farm, 85.64 36 IAmb IAmb 12 46 15.1
comp=Z,48nm,1.9s
O19K Port Alsworth 85.69 11 P P 12 46 13.7 0.0
baz=200,SNR=34
HOM Homer 85.69 13 P P 12 46 14.7 +1.0
baz=203
GULI GuiLin 85.71 300 ⇓P P 12 46 23.0 +8.3
GULI pmax pmax
comp=Z,20nm,0.6s
GULI pmax pmax
comp=Z,410nm,4.5s
BNX BinXian 85.72 325 ⇑P **P 12 46 14.0 -0.3**
BNX pmax pmax
comp=Z,27nm,0.9s
BNX pmax pmax
comp=Z,510nm,6.0s
M16K Timber Creek 85.75 9 P P 12 46 15.4 +1.3
baz=196
RPSI Rantau Prapat 85.80 275 P P 12 46 14.0 -1.5
RPSI IAmb IAmb 12 46 15.0
comp=Z,11nm,0.7s
PSI Prapat 85.85 275 P P 12 46 14.0 -1.8
PSI pmax pmax
comp=Z,11nm,0.7s
N18K Kilae Creek 85.88 10 IAmb IAmb 12 46 15.1
comp=Z,11nm,0.7s
N18K Kilae Creek 85.88 10 P P 12 46 15.0 +0.3
baz=199
O20K Slope Mountain 85.89 12 P P 12 46 15.2 +0.3
baz=202,SNR=6.5
KLR Kul'dur 85.89 329 *ce* **P P 12 46 15.1 0.0**
KLR pmax pmax
comp=Z,17nm,1.7s
BRSE Bradley Lake S 85.95 13 P P 12 46 15.5 +0.4
baz=204,SNR=15
PKCU Pink Cliffs 85.95 46 IAmb IAmb 12 46 47.1
comp=Z,34nm,1.1s
X18A Snowflake 85.96 50 IAmb IAmb 12 46 46.9
comp=Z,18nm,1.3s
ELK Elko 85.98 42 P P 12 46 16.2 +0.2
ELK Elko 85.98 42 P P 12 46 16.2 +0.2
ELK pmax pmax
comp=Z,11nm,1.3s
L15K Ungalak Mounta 86.06 7 P P 12 46 16.3 +0.7
baz=194
D05A Enumclaw 86.20 34 IAmb IAmb 12 46 47.8
comp=Z,43nm,1.3s
N19K Bonanza Creek 86.24 11 P P 12 46 16.9 +0.3
baz=200
PLCA Paso Flores 86.24 133 P P 12 46 19.0 +1.7
comp=Z,6.3nm,1.2s,baz=267,slow=4.0,SNR=3.8
PLCA pP **pP 12 46 46.4 +0.8**
comp=Z,8.1nm,1.0s,baz=236,slow=4.1,SNR=6.2
PLCA LR LR 13 16 14.8
comp=Z,48nm,21.4s,baz=272,slow=30
comp=Z,6.3nm,1.2s
TIA Tai'an 86.28 312 P P 12 46 17.3 0.0
TIA pmax pmax
comp=Z,29nm,0.8s
SVW2 Sparrevohn 86.33 10 IAmb IAmb 12 46 17.6
comp=Z,15nm,0.8s
SVW2 Sparrevohn 86.33 10 P P 12 46 17.1 +0.2
M17K Holitna River 86.33 9 P P 12 46 18.0 +1.1
baz=198
L16K Owhat River 86.34 8 IAmb IAmb 12 46 18.9
comp=Z,31nm,1.1s
L16K Owhat River 86.34 8 P P 12 46 17.9 +1.0
baz=196,SNR=9.8
MTPU Mont Pierson 86.37 46 IAmb IAmb 12 46 51.2
comp=Z,13nm,1.0s
GSI Gunungsitoli 86.48 273 P P 12 46 18.3 -0.5
GSI Gunungsitoli 86.48 273 P P 12 46 19.4 +0.6
CBB Campbell River 86.49 30 IAmb IAmb 12 46 21.9
comp=Z,56nm,1.7s
SEW Seward 86.55 13 P P 12 46 18.5 +0.5
baz=205,SNR=5.6
MVU Marysvale 86.61 45 IAmb IAmb 12 46 50.2
comp=Z,50nm,1.2s
K15K Wolf Creek Mou 86.66 7 P P 12 46 19.8 +1.3
baz=194
M18K Stony River 86.66 10 P P 12 46 19.0 +0.5
baz=199,SNR=12
CAPN Captain Cook N 86.81 12 P P 12 46 20.5 +1.3
baz=203
O22K Cooper Landing 86.83 13 P P 12 46 19.9 +0.5
baz=205,SNR=7.6
J14K Nanvaranak Lak 86.89 6 IAmb IAmb 12 47 44.8
comp=Z,27nm,0.7s
P23K Montague Islan 86.90 14 P P 12 46 20.3 +0.5
baz=207
L17K Donlin 86.91 9 P P 12 46 21.2 +1.4
baz=197
N20K Mount Spurr 87.01 12 P P 12 46 19.8 -0.5
baz=202,SNR=13
L18K Granite Mounta 87.22 9 P P 12 46 22.3 +1.1
baz=198
MA2 Magadan 87.23 344 P P 12 46 20.9 -0.4
MA2 IAmb IAmb 12 46 21.4
comp=Z,45nm,1.0s
MA2 Magadan 87.23 344 *ce* **P P 12 46 20.7 -0.6**
MA2 pmax pmax
comp=Z,61nm,1.7s
GAMB Gambell 87.37 2 P P 12 46 23.7 +1.9
baz=185

RC01 Rabbit Creek A 87.39 13 IAmb IAmb 12 46 23.2
comp=Z,52nm,1.0s
RC01 Rabbit Creek A 87.39 13 P P 12 46 22.1 +0.1
baz=205,SNR=16
K17K Iditarod 87.47 8 IAmb IAmb 12 46 25.5
comp=Z,20nm,0.8s
K17K Iditarod 87.47 8 P P 12 46 23.2 +0.8
baz=197
L19K White Mountain 87.47 10 IAmb IAmb 12 46 24.6
comp=Z,41nm,1.0s
L19K White Mountain 87.47 10 P P 12 46 22.9 +0.4
baz=200,SNR=22
M20K Styx River 87.48 11 IAmb IAmb 12 46 27.9
comp=Z,16nm,1.1s
M20K Styx River 87.48 11 P P 12 46 22.6 0.0
baz=202
SUA Susitna One 87.53 12 P P 12 46 22.8 -0.1
baz=204,SNR=32
TMUT Trail Mountain 87.70 45 IAmb IAmb 12 46 26.7
comp=Z,16nm,0.7s
J16K Anvik River 87.73 7 IAmb IAmb 12 47 37.0
comp=Z,24nm,0.7s
J16K Anvik River 87.73 7 P P 12 46 24.5 +0.9
baz=195,SNR=15
V35K Ketchikan 87.74 24 P P 12 46 25.3 +1.5
baz=220
GLI Glacier Island 87.76 14 P P 12 46 24.5 +0.7
baz=207,SNR=8.2
EYAK Cordova Ski Ar 87.77 15 P P 12 46 23.9 0.0
EYAK Cordova Ski Ar 87.77 15 P P 12 46 24.6 +0.8
baz=208,SNR=5.7
SIT Sitka 87.78 21 P P 12 46 24.5 +0.5
baz=217
FID Port Fidalgo 87.78 14 IAmb IAmb 12 46 25.0
comp=Z,46nm,1.2s
MNTX Cornudas Mount 87.79 54 P P 12 46 26.0 +1.3
baz=240
MNTX Cornudas Mount 87.79 54 P P 12 46 26.2 +1.5
baz=240
U33K Whale Pass 87.80 23 P P 12 46 25.1 +1.1
baz=219
SKT Skwentna 87.86 12 P P 12 46 23.7 -0.6
baz=203,SNR=5.2
L20K Farewell, AK 87.91 10 P P 12 46 24.7 +0.2
baz=201
M22K Willow 87.92 12 P P 12 46 25.0 +0.5
baz=204
TX31 Lajitas Ar. Si 87.94 57 IAmb IAmb 12 46 55.8
comp=Z,31nm,1.1s
TX31 Lajitas Ar. Si 87.94 57 P P 12 46 27.2 +1.6
baz=241
TXAR Lajitas Array 87.94 57 P P 12 46 26.6 +1.0
TXAR Lajitas Array 87.94 57 P P 12 46 26.9 +1.3
comp=Z,3.8nm,0.9s,baz=216,slow=6.9,SNR=20
TXAR pP pP 12 46 53.3 -0.7
comp=Z,5.0nm,0.8s,baz=211,slow=7.1,SNR=8.6
comp=Z,3.8nm,0.9s
KNK Knik Glacier 87.94 13 P P 12 46 25.5 +0.7
baz=206,SNR=5.3
F10A Beach Ranch, E 87.96 37 IAmb IAmb 12 46 33.7
comp=Z,13nm,0.8s
PMR Palmer 87.97 13 P P 12 46 24.7 0.0
PMR IAmb IAmb 12 46 25.8
comp=Z,29nm,0.8s
PMR Palmer 87.97 13 P P 12 46 24.9 +0.2
baz=205,SNR=12
PMR Palmer 87.97 13 P P 12 46 24.7 0.0
PMR pmax pmax
comp=Z,29nm,0.8s
TTA Tatalina 88.00 9 IAmb IAmb 12 46 26.6
comp=Z,43nm,1.1s
TTA Tatalina 88.00 9 P P 12 46 25.1 +0.1
TTA Tatalina 88.00 9 P P 12 46 25.6 +0.6
baz=199,SNR=25
SRU San Rafael Swe 88.04 45 IAmb IAmb 12 46 56.2
comp=Z,24nm,1.1s
P17A Butcher Ranch, 88.10 45 IAmb IAmb 12 46 56.7
comp=Z,19nm,1.2s
HLID Hailey 88.12 40 P P 12 46 26.1 -0.2
HLID Hailey 88.12 40 P P 12 46 26.7 +0.5
baz=234
S31K Pelican 88.21 20 IAmb IAmb 12 46 28.2
comp=Z,28nm,0.9s
S31K Pelican 88.21 20 P P 12 46 27.3 +1.3
baz=216
I17K Unalakleet 88.30 7 P P 12 46 27.1 +0.8
WRAK Wrangell Islan 88.31 23 P P 12 46 28.2 +1.7
baz=220
SML Sawmill 88.33 13 IAmb IAmb 12 46 29.3
comp=Z,37nm,1.3s
SML Sawmill 88.33 13 P P 12 46 27.5 +0.9
baz=206
S32K Killisnoo 88.36 21 P P 12 46 28.2 +1.5
baz=218
MVCO Mesa Verde 88.38 48 P P 12 46 28.1 +0.5
baz=238
J18K Innoko River 88.40 9 IAmb IAmb 12 46 28.3
comp=Z,54nm,1.2s
J18K Innoko River 88.40 9 P P 12 46 27.5 +0.7
baz=198
BMRM Bremner River 88.41 15 P P 12 46 27.6 +0.6
baz=209,SNR=7.7
M23K Glacier View 88.44 13 P P 12 46 27.5 +0.5
baz=206
ALPN Alpine 88.46 56 IAmb IAmb 12 47 00.6
comp=Z,28nm,1.7s
CUT Chulitna 88.48 12 P P 12 46 27.3 +0.1
baz=204,SNR=13
C09A Chrisman Ranch 88.52 35 IAmb IAmb 12 46 58.0
comp=Z,30nm,1.5s
HNS HongShan 88.55 312 ⇓P P 12 46 28.5 +0.4
HNS pmax pmax
comp=Z,20nm,1.0s
SCM Sheep Creek Mo 88.56 14 P P 12 46 28.6 +0.9
baz=207,SNR=8.8
KLU Klutina 88.57 14 IAmb IAmb 12 46 29.1
comp=Z,25nm,1.0s
KLU Klutina 88.57 14 P P 12 46 28.5 +0.7
baz=208,SNR=6.2
TCUT Toone Canyon 88.57 43 IAmb IAmb 12 46 58.8
comp=Z,54nm,1.6s
PPLA Purkeypile 88.58 11 P P 12 46 27.3 -0.6
baz=202
CRQE Cirque 88.59 16 P P 12 46 28.9 +1.0
baz=210,SNR=7.5
ANMO Albuquerque 88.63 51 P P 12 46 29.5 +0.6
ANMO IAmb IAmb 12 46 59.6
comp=Z,16nm,1.3s
ANMO Albuquerque 88.63 51 P P 12 46 29.7 +0.9
baz=240
ANMO Albuquerque 88.63 51 P P 12 46 29.8 +0.9
baz=240
ANMO Albuquerque 88.63 51 ceP P 12 46 29.0 +0.1
ANMO pmax pmax
comp=Z,5.0nm,0.9s
LYN LuoYang 88.65 309 eP P 12 46 29.5 +0.8
LYN pmax pmax
comp=Z,23nm,0.8s
PNL Peninsula 88.66 18 P P 12 46 29.5 +1.4
baz=214,SNR=5.7
HEH HeiHe 88.66 328 eP P 12 46 28.0 -0.3
HEH pmax pmax
comp=Z,30nm,0.6s
HEH pmax pmax
comp=Z,930nm,5.1s
TGL Tana Glacier 88.66 16 IAmb IAmb 12 46 29.9
comp=Z,48nm,1.1s
BSUT Blindstream Ca 88.66 44 IAmb IAmb 12 46 60.0
comp=Z,19nm,1.2s
K20K Telida 88.70 10 P P 12 46 29.2 +1.0
baz=201
ENH Enshi 88.76 304 P P 12 46 28.8 -0.6
PINM Pinnacle 88.78 17 P P 12 46 29.6 +0.9
baz=213
N25K Chitina, Valde 88.97 15 P P 12 46 30.4 +0.8
baz=209,SNR=24
BJI Beijing 88.97 315 P P 12 46 30.5 +0.5
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI pmax pmax
comp=Z,58nm,6.2s
GLB Gilahina Butte 89.02 15 IAmb IAmb 12 46 31.3
comp=Z,32nm,0.9s
M24K Tolsona, Glenn 89.06 14 P P 12 46 31.3 +1.3
baz=208,SNR=5.3
J19K Poorman 89.06 9 IAmb IAmb 12 46 31.1
comp=Z,17nm,0.7s
J19K Poorman 89.06 9 P P 12 46 30.4 +0.5
baz=199
CAST Castle Rocks 89.09 11 P P 12 46 29.5 -0.6
baz=202,SNR=26
P29M Windy Craggy 89.10 19 IAmb IAmb 12 46 32.6
comp=Z,24nm,0.9s
P29M Windy Craggy 89.10 19 P P 12 46 31.5 +1.3
baz=215
WAT6 Susitna Watana 89.14 13 P P 12 46 30.7 +0.2
baz=206,SNR=22
MCARA McCarthy VSAT 89.16 16 IAmb IAmb 12 46 32.9
comp=Z,45nm,1.1s
MCARA McCarthy VSAT 89.16 16 P P 12 46 31.6 +1.2
baz=211,SNR=8.6
WAT1 Susitna Watana 89.20 13 P P 12 46 31.1 +0.5
baz=206
CTG Chitna Glacier 89.22 16 P P 12 46 31.8 +0.9
baz=212,SNR=16
O29M Mount Kennedy 89.42 18 IAmb IAmb 12 46 34.0
comp=Z,23nm,1.1s
O29M Mount Kennedy 89.42 18 P P 12 46 33.1 +1.3
baz=214
SAND Sanderson 89.42 57 IAmb IAmb 12 47 03.1
comp=Z,5.3nm,1.1s
NEW Newport 89.42 35 IAmb IAmb 12 47 21.6
comp=Z,22nm,1.9s
NEW Newport 89.42 35 P P 12 46 32.9 +0.8
baz=232
TRF Thorofare Moun 89.44 12 P P 12 46 31.7 -0.2
baz=204,SNR=64
J20K Nowinta River 89.46 10 P P 12 46 32.2 +0.5
baz=201,SNR=24
CHUM Lake Minchumin 89.48 11 P P 12 46 31.4 -0.4
baz=202,SNR=17
T35M Bob Quinn 89.49 23 IAmb IAmb 12 46 34.9
comp=Z,30nm,1.4s
T35M Bob Quinn 89.49 23 P P 12 46 33.4 +1.3
baz=222
HARP HAARP 89.54 14 P P 12 46 33.0 +0.8
baz=209,SNR=6.6
GCSA Galena City Sc 89.60 8 P P 12 46 33.1 +0.8
baz=198,SNR=15
DHY Denali Highway 89.66 13 IAmb IAmb 12 46 36.4
comp=Z,21nm,1.0s
DHY Denali Highway 89.66 13 P P 12 46 33.2 +0.2
baz=207,SNR=8.9
AHID Auburn Hatcher 89.67 42 IAmb IAmb 12 46 46.9
comp=Z,19nm,1.6s
CMIG Matias Romero 89.69 71 LR LR 13 20 21.1
comp=Z,67nm,18.5s,baz=44,slow=31
SKAG Skagway 89.69 20 IAmb IAmb 12 46 35.7
comp=Z,42nm,1.2s
SKAG Skagway 89.69 20 P P 12 46 34.6 +1.7
baz=217,SNR=5.1
P30M Million Dollar 89.73 19 P P 12 46 34.8 +1.6
baz=216
S22A 4UR Ranch, Cre 89.79 48 IAmb IAmb 12 46 38.9
comp=Z,43nm,1.9s
S22A 4UR Ranch, Cre 89.79 48 P P 12 46 34.7 +0.4
baz=239
H18K Honhosa River 89.80 8 P P 12 46 35.4 +2.0
baz=197
SEY Seymchan 89.81 346 ceP P 12 46 33.3 -0.1
SEY pmax pmax
comp=Z,135nm,1.3s
SEY Seymchan 89.81 346 P P 12 46 33.7 +0.3
comp=Z,70nm,0.8s,baz=149,slow=5.3,SNR=99
comp=Z,70nm,0.8s
S34M Telegraph Cree 89.88 22 IAmb IAmb 12 46 36.5
comp=Z,36nm,1.1s
S34M Telegraph Cree 89.88 22 P P 12 46 35.5 +1.7
baz=221,SNR=13
YUK8 Steele Glacier 89.91 17 P P 12 46 35.4 +1.2
baz=213,SNR=13
BPAW Bear Paw Mtn. 89.91 11 P P 12 46 32.7 -1.2
baz=204
MCK McKinley 89.95 12 P P 12 46 34.1 0.0
baz=205,SNR=24
PAX Paxson 89.97 14 P P 12 46 34.7 +0.4
baz=208,SNR=7.2
I20K Naaghedeneel 89.99 9 P P 12 46 35.1 +0.9
baz=200
YUK6 Outpost Mounta 90.00 18 P P 12 46 35.6 +0.9
baz=215,SNR=5.9
M26K Nabesna, AK 90.04 15 IAmb IAmb 12 46 36.4
comp=Z,52nm,1.2s
M26K Nabesna, AK 90.04 15 P P 12 46 35.4 +0.8
baz=211,SNR=14
YUK3 Moose Creek 90.14 16 P P 12 46 36.1 +0.9
baz=213,SNR=37
HYT Haines Junctio 90.15 18 P P 12 46 36.4 +1.2
baz=215,SNR=8.3
YUK4 Talbot Arm 90.26 17 P P 12 46 37.1 +1.3
baz=214,SNR=6.6
Q32M Nakina River 90.29 21 IAmb IAmb 12 46 37.9
comp=Z,12nm,0.9s
Q32M Nakina River 90.29 21 P P 12 46 37.4 +1.4
baz=220
MSO Missoula 90.30 38 P P 12 46 36.8 +0.6
baz=234
P32M Atlin 90.30 20 IAmb IAmb 12 46 38.1
comp=Z,22nm,1.1s
P32M Atlin 90.30 20 P P 12 46 37.4 +1.6
baz=219,SNR=5.5
DRIO Del Rio 90.33 58 IAmb IAmb 12 46 40.2
comp=Z,10nm,0.9s
MENT Mentasta 90.34 14 IAmb IAmb 12 46 37.6
comp=Z,35nm,0.9s
LOHW Long Hollow 90.44 42 IAmb IAmb 12 46 39.0
comp=Z,26nm,1.7s
L26K Log Cabin Wild 90.50 15 IAmb IAmb 12 46 38.4
comp=Z,34nm,1.2s
L26K Log Cabin Wild 90.50 15 P P 12 46 37.2 +0.5
baz=210,SNR=13
O30N Mendenhall 90.51 19 IAmb IAmb 12 46 38.9
comp=Z,23nm,1.0s
O30N Mendenhall 90.51 19 P P 12 46 38.0 +1.1
baz=217,SNR=7.6
BVCY Beaver Creek 90.57 16 P P 12 46 38.1 +1.0
baz=212,SNR=32
H20K Anotleneega Mo 90.59 9 P P 12 46 38.1 +1.1
baz=200
BW06 Boulder Array 90.63 43 IAmb IAmb 12 47 07.3
comp=Z,13nm,1.4s
BW06 Boulder Array 90.63 43 P P 12 46 38.2 +0.2
baz=238
PDAR Pinedale Array 90.63 43 P P 12 46 38.2 +0.2
comp=Z,2.8nm,0.8s,baz=219,slow=3.3,SNR=26
PDAR pP pP 12 47 06.2 -0.3
comp=Z,4.7nm,1.0s,baz=204,slow=3.3,SNR=4.9
PDAR PKKPbc PKKPbc 13 04 04.3 -1.5
comp=Z,0.8nm,0.7s,baz=71,slow=3.7,SNR=5.3
comp=Z,2.8nm,0.8s
FLWY Flagg Ranch 90.64 41 IAmb IAmb 12 46 40.2
comp=Z,12nm,0.9s
K24K Donnelly Dome 90.64 13 P P 12 46 38.4 +1.0
baz=208,SNR=8.5
DLBC Dease Lake 90.66 23 IAmb IAmb 12 46 39.9
comp=Z,17nm,1.1s
DLBC Dease Lake 90.66 23 P P 12 46 39.2 +1.7
baz=222,SNR=6.4
DLBC Dease Lake 90.66 23 P P 12 46 38.5 +0.9
comp=Z,11nm,0.9s,baz=230,slow=6.3,SNR=12
comp=Z,11nm,0.9s
SDCO Great Sand Dun 90.70 49 P P 12 46 39.0 +0.5
baz=240
SDCO Great Sand Dun 90.70 49 P P 12 46 39.3 +0.7
baz=240
NEA2 Nenana 90.70 12 IAmb IAmb 12 46 39.4
comp=Z,10nm,0.8s
I21K Tanana 90.74 10 P P 12 46 38.0 +0.4
I21K IAmb IAmb 12 46 39.2
comp=Z,32nm,0.9s
I21K Tanana 90.74 10 P P 12 46 38.5 +0.8
baz=203
YHL Hebgen Lake 90.77 40 IAmb IAmb 12 47 09.8
comp=Z,34nm,1.3s
WRH Wood River Hil 90.78 12 IAmb IAmb 12 46 39.3
comp=Z,29nm,1.0s
N30M Aishikik Lake 90.78 18 IAmb IAmb 12 46 39.4
comp=Z,10nm,0.9s
N30M Aishikik Lake 90.78 18 P P 12 46 39.4 +1.3
baz=216
WHY Whitehorse 90.78 19 IAmb IAmb 12 46 40.2
comp=Z,14nm,1.0s
WHY Whitehorse 90.78 19 P P 12 46 39.6 +1.4
baz=218,SNR=7.2
RIDG Independent Ri 90.79 14 P P 12 46 38.9 +0.8
baz=209
833A Chaparral WMA, 90.79 59 P P 12 46 39.7 +0.9
baz=243
833A Chaparral WMA, 90.79 59 P P 12 46 39.8 +1.0
baz=243
YMR Madison River 90.80 41 IAmb IAmb 12 47 09.8
comp=Z,25nm,1.4s
MLY Manley 90.81 11 IAmb IAmb 12 46 38.4
comp=Z,27nm,1.2s
MSTX Muleshoe 90.81 53 IAmb IAmb 12 47 08.6
comp=Z,12nm,0.9s
MSTX Muleshoe 90.81 53 P P 12 46 39.8 +0.9
baz=242
MSTX Muleshoe 90.81 53 P P 12 46 39.8 +0.9
baz=242
H17A Grant Village 90.88 41 P P 12 46 41.3 +2.0
baz=237
L27K Beaver Creek, 90.89 15 IAmb IAmb 12 46 40.1
comp=Z,19nm,0.8s
L27K Beaver Creek, 90.89 15 P P 12 46 39.8 +1.3
baz=212
BCAR Beaver Creek A 90.90 15 P P 12 46 38.9 +0.3
G19K Purcell Mounta 90.91 8 P P 12 46 39.3 +0.8
baz=198
BOZ Bozeman (W) 90.92 40 IAmb IAmb 12 47 09.7
comp=Z,23nm,1.2s
BOZ Bozeman (W) 90.92 40 P P 12 46 40.4 +1.2
baz=236
HDA Harding Lake 90.94 13 P P 12 46 39.2 +0.5
baz=207,SNR=18
HDA P P 12 46 39.2 +0.5
baz=207,SNR=18
XAN Xi'an 90.97 307 ⇓P P 12 46 40.0 +0.4
XAN pmax pmax
comp=Z,27nm,1.0s
ZEA Zeya 91.01 331 eP P 12 46 39.6 +0.4
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
H21K Melozitna Rive 91.05 10 IAmb IAmb 12 46 42.0
comp=Z,18nm,0.8s
H21K Melozitna Rive 91.05 10 P P 12 46 40.4 +1.2
baz=202
R33M Jennings River 91.05 22 IAmb IAmb 12 46 41.9
comp=Z,17nm,1.2s
R33M Jennings River 91.05 22 P P 12 46 40.8 +1.4
baz=221
P33M Teslin, Yukon 91.07 20 P P 12 46 40.8 +1.3
baz=220,SNR=5.9
I23K Minto, Yukon-K 91.16 11 IAmb IAmb 12 46 41.0
comp=Z,15nm,0.9s
I23K Minto, Yukon-K 91.16 11 P P 12 46 40.0 +0.5
baz=205,SNR=8.6
T25A Trinidad 91.16 50 P P 12 46 40.9 +0.3
baz=241
N31M Braeburn, Yuko 91.18 18 P P 12 46 41.2 +1.3
baz=217,SNR=5.7
SCRK Sand Creek 91.18 14 IAmb IAmb 12 46 41.4
comp=Z,17nm,0.9s
SCRK Sand Creek 91.18 14 P P 12 46 40.8 +0.8
baz=210,SNR=7.2
COLA College 91.19 12 P P 12 46 39.3 -0.4
COLA College 91.19 12 P P 12 46 39.7 0.0
COLA College 91.19 12 P P 12 46 39.8 +0.1
baz=206
COLA College 91.19 12 P P 12 46 39.3 -0.4
COLA pmax pmax
comp=Z,42nm,0.8s
M29M Somme Creek 91.22 17 IAmb IAmb 12 46 42.0
comp=Z,23nm,0.9s
M29M Somme Creek 91.22 17 P P 12 46 41.1 +1.0
baz=215,SNR=16
IL31 91.28 12 IAmb IAmb 12 46 41.0
comp=Z,21nm,0.9s
ILAR Eielson Array 91.28 12 P P 12 46 39.6 -0.6
ILAR Eielson Array 91.28 12 P P 12 46 39.8 -0.4
comp=Z,9.9nm,0.8s,baz=221,slow=5.5,SNR=51
ILAR PP PP 12 50 17.3 -2.0
comp=Z,4.1nm,0.8s,baz=218,slow=6.9,SNR=4.5
ILAR PKKPbc PKKPdf 13 04 00.3 -1.4
comp=Z,0.4nm,0.6s,baz=337,slow=2.6,SNR=7.4
comp=Z,9.9nm,0.8s
POST Post 91.33 54 IAmb IAmb 12 47 11.0
comp=Z,18nm,1.1s
HNDO Hondo 91.42 58 IAmb IAmb 12 46 50.6
comp=Z,9.1nm,0.8s
JCT Junction City 91.44 57 IAmb IAmb 12 47 11.8
comp=Z,14nm,1.2s
JCT Junction City 91.44 57 P P 12 46 41.2 -0.7
baz=243
J25K Salcha River, 91.44 13 IAmb IAmb 12 46 42.3
comp=Z,25nm,0.9s
J25K Salcha River, 91.44 13 P P 12 46 41.6 +0.5
baz=208
POKR Poker Plat Res 91.48 12 IAmb IAmb 12 46 42.4
comp=Z,23nm,0.9s
POKR Poker Plat Res 91.48 12 P P 12 46 41.1 0.0
baz=207,SNR=12
F19K Shaleruckik Mo 91.48 7 P P 12 46 41.3 +0.2
baz=197
H22K Ishtalitna Cre 91.50 10 P P 12 46 41.6 +0.4
baz=203
K27K Chicken 91.66 15 IAmb IAmb 12 46 44.1
comp=Z,19nm,0.9s
K27K Chicken 91.66 15 P P 12 46 43.3 +1.3
baz=211
N32M Quiet Lake 91.72 20 IAmb IAmb 12 46 59.2
comp=Z,22nm,0.8s
N32M Quiet Lake 91.72 20 P P 12 46 43.7 +1.3
baz=219
J26L Joseph Creek 91.73 14 P P 12 46 43.9 +1.4
baz=210,SNR=37
G21K Allakaket 91.75 9 IAmb IAmb 12 46 43.8
comp=Z,23nm,1.0s
G21K Allakaket 91.75 9 P P 12 46 43.3 +1.0
baz=201
M30M Minto, Yukon 91.77 17 IAmb IAmb 12 46 44.8
comp=Z,17nm,0.8s
M30M Minto, Yukon 91.77 17 P P 12 46 43.3 +0.7
baz=216,SNR=16
KMI Kunming 91.79 297 ⇑P P 12 46 44.3 +0.5
KMI pmax pmax
comp=Z,11nm,1.3s
L29M L29M 91.85 17 P P 12 46 44.5 +1.6
baz=215
F20K Avaraart Lake 91.94 8 P P 12 46 44.2 +1.0
baz=199
RTBA Rita Blanca 92.00 51 IAmb IAmb 12 46 47.4
comp=Z,22nm,1.6s
H24K Noodor Dome 92.05 12 IAmb IAmb 12 50 22.9
comp=Z,35nm,1.8s
RLMT Red Lodge 92.06 41 P P 12 46 45.6 +1.0
baz=238
E19K Redstone River 92.15 7 P P 12 46 44.9 +0.8
baz=198
M31M Drury Creek, Y 92.15 18 IAmb IAmb 12 46 45.5
comp=Z,11nm,1.1s
M31M Drury Creek, Y 92.15 18 P P 12 46 44.9 +0.5
baz=218,SNR=5.6
PRP Porcupine Dome 92.21 13 IAmb IAmb 12 46 46.3
comp=Z,26nm,1.0s
PRP Porcupine Dome 92.21 13 P P 12 46 45.1 +0.4
baz=208,SNR=20
CM31 Chiang Mai Arr 92.21 289 IAmb IAmb 12 46 49.1
comp=Z,22nm,1.1s
CMAR Chiang Mai Arr 92.21 289 P P 12 46 46.5 +0.8
CMAR Chiang Mai Arr 92.21 289 ceP P 12 46 46.7 +1.1
CMAR pmax pmax
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 92.21 289 P P 12 46 46.8 +1.1
comp=Z,10nm,0.8s,baz=138,slow=3.3,SNR=66
CMAR PP PP 12 50 26.4 -1.2
comp=Z,1.0nm,0.7s,baz=131,slow=6.9,SNR=4.9
CMAR LR LR 13 29 45.3
comp=Z,30nm,18.6s,baz=155,slow=36
comp=Z,10nm,0.8s
DAWY Dawson 92.32 16 P P 12 46 45.8 +0.6
DAWY IAmb IAmb 12 46 46.9
comp=Z,19nm,0.9s
DAWY Dawson 92.32 16 P P 12 46 45.9 +0.8
baz=214,SNR=20
CHTO Chiang Mai 92.36 289 P P 12 46 46.2 -0.1
CHTO Chiang Mai 92.36 289 P P 12 46 47.7 +1.4
CHTO Chiang Mai 92.36 289 P P 12 46 46.2 -0.1
CHTO pmax pmax
comp=Z,24nm,0.9s
HHC Hu-ho-hao-te 92.41 314 eP P 12 46 47.0 +0.8
HHC pmax pmax

	comp=Z,20nm,0.8s									
HHC					pmax	pmax				
	comp=Z,390nm,5.1s									
BILL	**Bilibino**	**92.41**	**354**		P	**P**	**12 46 45.7**	**+0.3**		
BILL	**Bilibino**	**92.41**	**354**	⇑	*eP*	**P**	**12 46 45.2**	**-0.2**		
BILL					pmax	pmax				
	comp=Z,47nm,1.1s									
F21K	**Alatna River**	**92.41**	**9**		IAmb	IAmb	12 48 22.7			
	comp=Z,9.6nm,0.7s									
F21K	**Alatna River**	**92.41**	**9**		P	**P**	**12 46 46.1**	**+0.7**		
	baz=201									
BRDY	**Brady**	**92.42**	**57**		IAmb	IAmb	12 46 49.3			
	comp=Z,9.0nm,1.1s									
G22K	**Bettles**	**92.42**	**10**		P	**P**	**12 46 46.4**	**+1.0**		
	baz=203									
G23K	**Bananza Creek**	**92.47**	**10**		IAmb	IAmb	12 46 47.8			
	comp=Z,33nm,1.6s									
G23K	**Bananza Creek**	**92.47**	**10**		P	**P**	**12 46 46.5**	**+0.8**		
	baz=204,SNR=8.8									
APMT	**Aspermont**	**92.48**	**55**		IAmb	IAmb	12 47 16.4			
	comp=Z,69nm,1.9s									
FARO	**Faro, Yukon**	**92.48**	**19**		IAmb	IAmb	12 46 47.3			
	comp=Z,22nm,1.7s									
FARO	**Faro, Yukon**	**92.48**	**19**		P	**P**	**12 46 46.8**	**+1.0**		
	baz=219									
K22A	**Casper**	**92.48**	**44**		P	**P**	**12 46 46.7**	**+0.2**		
	baz=240									
EGAK	**Eagle**	**92.50**	**14**		IAmb	IAmb	12 46 47.4			
	comp=Z,20nm,0.9s									
EGAK	**Eagle**	**92.50**	**14**		P	**P**	**12 46 46.4**	**+0.6**		
	baz=212,SNR=12									
ABTX	**Abilene, Hawle**	**92.52**	**55**		IAmb	IAmb	12 47 17.6			
	comp=Z,39nm,1.6s									
ABTX	**Abilene, Hawle**	**92.52**	**55**		P	**P**	**12 46 47.7**	**+0.9**		
	baz=243									
K29M	**Barlow Dome**	**92.61**	**16**		IAmb	IAmb	12 46 48.5			
	comp=Z,25nm,1.1s									
K29M	**Barlow Dome**	**92.61**	**16**		P	**P**	**12 46 47.5**	**+0.9**		
	baz=216									
MAYO	**Mayo, Yukon**	**92.84**	**17**		P	**P**	**12 46 48.9**	**+1.4**		
	baz=217,SNR=12									
F22K	**John River**	**92.87**	**9**		P	**P**	**12 46 48.5**	**+0.9**		
	baz=202									
COLD	**Coldfoot**	**92.91**	**10**		P	**P**	**12 46 48.7**	**+1.0**		
	baz=204,SNR=15									
E20K	**Nigu River**	**93.03**	**8**		P	**P**	**12 46 49.2**	**+0.9**		
	baz=199									
D19K	**Kuna River**	**93.04**	**7**		P	**P**	**12 46 49.0**	**+0.7**		
	baz=197									
I27K	**Kandik River**	**93.10**	**14**		P	**P**	**12 46 49.4**	**+0.7**		
	baz=212									
PZH	**PanZhiHua**	**93.18**	**297**		P	**P**	**12 46 50.3**	**+0.2**		
PZH					pmax	pmax				
	comp=Z,10.0nm,0.7s									
PZH					pmax	pmax				
	comp=Z,130nm,6.0s									
G25K	**Bearman Lake**	**93.20**	**12**		P	**P**	**12 46 50.3**	**+1.3**		
	baz=208									
BTO	**Baotou**	**93.31**	**313**		*eP*	**P**	**12 46 51.5**	**+1.2**		
BTO					pP	**pP**	**12 47 12.5**	**-6.1**		
BTO					sP	**pwP**	**12 47 20.8**	**-0.7**		
BTO					PP	**PP**	**12 50 39.5**	**+3.5**		
BTO					pmax	pmax				
	comp=Z,22nm,0.9s									
BTO					pmax	pmax				
	comp=Z,490nm,5.3s									
EGMT	**Eagleton**	**93.32**	**38**		P	**P**	**12 46 50.6**	**+0.4**		
	baz=238									
I28M	**Miner Creek**	**93.35**	**15**		IAmb	IAmb	12 46 51.1			
	comp=Z,8.9nm,0.9s									
I28M	**Miner Creek**	**93.35**	**15**		P	**P**	**12 46 50.9**	**+0.9**		
	baz=213									
D20K	**Etivluk River**	**93.42**	**7**		P	**P**	**12 46 50.9**	**+0.8**		
	baz=198									
C19K	**Lookout Ridge**	**93.48**	**6**		IAmb	IAmb	12 46 51.9			
	comp=Z,23nm,0.9s									
C19K	**Lookout Ridge**	**93.48**	**6**		P	**P**	**12 46 51.1**	**+0.8**		
	baz=196									
E21K	**Killik River**	**93.49**	**8**		IAmb	IAmb	12 48 12.9			
	comp=Z,14nm,0.8s									
E21K	**Killik River**	**93.49**	**8**		P	**P**	**12 46 51.2**	**+0.8**		
	baz=201									
E22K	**Anaktuvuk Pass**	**93.50**	**9**		IAmb	IAmb	12 46 53.9			
	comp=Z,22nm,1.1s									
E22K	**Anaktuvuk Pass**	**93.50**	**9**		P	**P**	**12 46 51.6**	**+1.1**		
	baz=203,SNR=16									
J30M	**Hart River**	**93.51**	**16**		IAmb	IAmb	12 46 52.4			
	comp=Z,28nm,1.8s									
J30M	**Hart River**	**93.51**	**16**		P	**P**	**12 46 51.9**	**+1.2**		
	baz=216									
B18K	**Kokolik River**	**93.53**	**5**		P	**P**	**12 46 51.5**	**+1.0**		
	baz=194									
TGTN	**Hyland Airport**	**93.53**	**21**		P	**P**	**12 46 52.5**	**+1.8**		
	baz=223,SNR=6.0									
F24K	**Squaw Lake**	**93.56**	**11**		IAmb	IAmb	12 46 54.0			
	comp=Z,12nm,1.3s									
F24K	**Squaw Lake**	**93.56**	**11**		P	**P**	**12 46 51.7**	**+1.0**		
	baz=206									
PLPT	**Palo Pinto**	**93.61**	**56**		IAmb	IAmb	12 47 21.4			
	comp=Z,18nm,1.1s									
H27K	**Steamboat Moun**	**93.66**	**14**		P	**P**	**12 46 52.5**	**+1.2**		
	baz=212									
I29M	**Ogilvie Camp,**	**93.66**	**15**		IAmb	IAmb	12 46 53.2			
	comp=Z,15nm,1.3s									
I29M	**Ogilvie Camp,**	**93.66**	**15**		P	**P**	**12 46 51.4**	**+0.2**		
	baz=215,SNR=6.8									
E23K	**Chandalar**	**93.76**	**10**		P	**P**	**12 46 52.7**	**+0.9**		
	baz=205									
G26K	**Porcupine Rive**	**93.81**	**12**		P	**P**	**12 46 53.0**	**+1.1**		
	baz=210									
E24K	**Your Creek**	**93.96**	**10**		IAmb	IAmb	12 49 36.9			
	comp=Z,10nm,1.2s									
E24K	**Your Creek**	**93.96**	**10**		P	**P**	**12 46 53.7**	**+1.0**		
	baz=206									
I30M	**Mount Dempster**	**94.02**	**16**		IAmb	IAmb	12 46 55.1			
	comp=Z,8.6nm,0.8s									
I30M	**Mount Dempster**	**94.02**	**16**		P	**P**	**12 46 53.8**	**+0.7**		
	baz=216									
F25K	**Christian Rive**	**94.02**	**11**		P	**P**	**12 46 53.8**	**+0.9**		
	baz=208									
C21K	**Knifeblade Rid**	**94.06**	**8**		P	**P**	**12 46 54.1**	**+1.1**		
	baz=200									
D22K	**Ayikyak River**	**94.07**	**9**		IAmb	IAmb	12 48 57.5			
	comp=Z,16nm,1.1s									
D22K	**Ayikyak River**	**94.07**	**9**		P	**P**	**12 46 54.0**	**+1.0**		
	baz=202,SNR=13									
BMAR	**Burnt Mountain**	**94.08**	**12**		P	**P**	**12 46 53.8**	**+0.7**		
G27K	**Doyon Strip**	**94.12**	**13**		P	**P**	**12 46 54.0**	**+0.7**		
	baz=212									
NNA	**Nana**	**94.18**	**105**		LR	LR	13 20 51.6			
	comp=Z,134nm,19.2s,baz=276,slow=30									
EDM	**Edmonton**	**94.28**	**33**		IAmb	IAmb	12 50 38.2			
	comp=Z,27nm,1.8s									
TOLK	**Toolik Lake Re**	**94.30**	**10**		IAmb	IAmb	12 49 16.9			
	comp=Z,12nm,0.9s									
TOLK	**Toolik Lake Re**	**94.30**	**10**		P	**P**	**12 46 55.1**	**+0.9**		
	baz=205,SNR=5.3									
H29M	**Whitestone**	**94.35**	**15**		P	**P**	**12 46 55.2**	**+0.8**		
	baz=215									
F26K	**Sheenjek River**	**94.39**	**12**		P	**P**	**12 46 55.8**	**+1.3**		
	baz=210,SNR=6.4									
A19K	**Wainwright**	**94.41**	**5**		P	**P**	**12 46 55.3**	**+0.8**		
	baz=194									
D23K	**Nanushuk River**	**94.43**	**9**		P	**P**	**12 46 55.7**	**+1.0**		
	baz=204									
E25K	**Arctic Village**	**94.50**	**11**		IAmb	IAmb	12 46 58.5			
	comp=Z,6.9nm,1.1s									
E25K	**Arctic Village**	**94.50**	**11**		P	**P**	**12 46 56.0**	**+0.9**		
	baz=208,SNR=6.6									
B21K	**Ikpikpuk River**	**94.52**	**8**		IAmb	IAmb	12 47 15.7			
	comp=Z,9.7nm,0.8s									
B21K	**Ikpikpuk River**	**94.52**	**8**		P	**P**	**12 46 56.3**	**+1.3**		
	baz=200									
B20K	**Meade River**	**94.59**	**7**		IAmb	IAmb	12 46 56.8			
	comp=Z,15nm,1.2s									
B20K	**Meade River**	**94.59**	**7**		P	**P**	**12 46 56.2**	**+0.9**		
	baz=198									
LAO	**LASA Array**	**94.69**	**41**		P	**P**	**12 46 56.5**	**+0.1**		
	baz=240									
RSSD	**Black Hills**	**94.78**	**44**		P	**P**	**12 46 57.0**	**-0.1**		
RSSD					IAmb	IAmb	12 47 26.9			
	comp=Z,16nm,1.0s									
RSSD	**Black Hills**	**94.78**	**44**		P	**P**	**12 46 57.4**	**+0.3**		
	baz=241									
RSSD	**Black Hills**	**94.78**	**44**		P	**P**	**12 46 57.4**	**+0.3**		
	baz=241									
RSSD	**Black Hills**	**94.78**	**44**		P	**P**	**12 46 57.0**	**-0.1**		
RSSD					pmax	pmax				
	comp=Z,17nm,1.0s									
ATAH	**Atahualpa**	**94.82**	**100**		LR	LR	13 20 14.6			
	comp=Z,155nm,21.5s,baz=277,slow=29									
EPYK	**Eagle Plains**	**94.86**	**15**		IAmb	IAmb	12 50 15.6			
	comp=Z,30nm,1.7s									
EPYK	**Eagle Plains**	**94.86**	**15**		P	**P**	**12 46 57.6**	**+0.8**		
	baz=216									
D24K	**Happy Valley**	**94.88**	**10**		IAmb	IAmb	12 49 36.1			
	comp=Z,30nm,1.9s									
D24K	**Happy Valley**	**94.88**	**10**		P	**P**	**12 46 57.6**	**+0.9**		
	baz=206									
G29M	**Pine Creek**	**95.00**	**14**		P	**P**	**12 46 58.1**	**+0.8**		
	baz=215									
F28M	**Old Crow**	**95.18**	**13**		IAmb	IAmb	12 46 59.5			
	comp=Z,6.4nm,0.8s									
F28M	**Old Crow**	**95.18**	**13**		P	**P**	**12 46 58.7**	**+0.5**		
	baz=214,SNR=8.5									
C23K	**Itkillik River**	**95.24**	**9**		P	**P**	**12 46 59.3**	**+1.0**		
	baz=204,SNR=7.3									
E27K	**Coleen River**	**95.31**	**13**		IAmb	IAmb	12 47 00.6			
	comp=Z,17nm,1.5s									
E27K	**Coleen River**	**95.31**	**13**		P	**P**	**12 46 59.5**	**+0.8**		
	baz=212									
B22K	**Teshekpuk Lake**	**95.34**	**8**		IAmb	IAmb	12 47 01.5			
	comp=Z,12nm,1.1s									
B22K	**Teshekpuk Lake**	**95.34**	**8**		P	**P**	**12 46 59.7**	**+0.9**		
	baz=201									
C24K	**Franklin Bluff**	**95.42**	**10**		P	**P**	**12 47 00.0**	**+0.9**		
	baz=206									
D25K	**Kavik River**	**95.43**	**10**		IAmb	IAmb	12 46 59.3			
	comp=Z,22nm,1.9s									
D25K	**Kavik River**	**95.43**	**10**		P	**P**	**12 46 59.2**	**-0.1**		
	baz=208									
G30M	**tAoh Zraii Nji**	**95.47**	**15**		IAmb	IAmb	12 47 00.8			
	comp=Z,13nm,1.0s									
G30M	**tAoh Zraii Nji**	**95.47**	**15**		P	**P**	**12 47 00.0**	**+0.5**		
	baz=217									
YAK	**Yakutsk**	**95.55**	**338**		P	**P**	**12 46 59.1**	**-0.8**		
YAK	**Yakutsk**	**95.55**	**338**		*eP*	**P**	**12 46 58.9**	**-1.0**		
YAK					*e*		12 50 56.8			
YAK					*eS*	**SKSac**	**12 57 27.1**	**+1.9**		
YAK					*e*SS*	**ScS**	**12 58 08.4**	**+1.0**		
YAK					pmax	pmax				
	comp=Z,39nm,0.9s									
YAK					pmax	pmax				
	comp=N,3.0nm,0.9s									
YAK					pmax	pmax				
	comp=E,4.0nm,1.2s									
YAK					pmax	pmax				
	comp=Z,654nm,5.8s									
YAK					pmax	pmax				
	comp=N,596nm,5.7s									
YAK					pmax	pmax				
	comp=E,285nm,4.0s									
YAK					smax	smax				
	comp=E,565nm,6.2s									
YAK					smax	smax				
	comp=N,554nm,4.7s									
LZH	**Lanzhou**	**95.61**	**307**		*eP*	**P**	**12 47 01.5**	**+0.5**		
LZH					pmax	pmax				
	comp=N,12nm,1.2s									
A22K	**Sinclair Lake**	**95.78**	**7**		P	**P**	**12 47 01.9**	**+1.2**		
	baz=200									
G31M	**Satah River**	**95.90**	**16**		IAmb	IAmb	12 47 01.9			
	comp=Z,12nm,0.8s									
G31M	**Satah River**	**95.90**	**16**		P	**P**	**12 47 01.6**	**+0.2**		
	baz=218,SNR=10.0									
A21K	**Barrow**	**95.90**	**6**		P	**P**	**12 47 02.1**	**+0.8**		
	baz=198									
NATX	**Nacogdoches**	**95.97**	**58**		P	**P**	**12 47 02.3**	**-0.3**		
	baz=246									
E28M	**Babbage River**	**96.08**	**13**		IAmb	IAmb	12 47 03.6			
	comp=Z,11nm,0.8s									
E28M	**Babbage River**	**96.08**	**13**		P	**P**	**12 47 02.7**	**+0.5**		
	baz=214,SNR=14									
F30M	**Barrier River**	**96.08**	**15**		P	**P**	**12 47 03.0**	**+0.7**		
	baz=217									
LVC	**Limon Verde**	**96.16**	**118**		LR	LR	13 22 36.5			
	comp=Z,68nm,18.7s,baz=274,slow=30									
C26K	**Camden Bay**	**96.20**	**11**		P	**P**	**12 47 03.4**	**+0.7**		
	baz=209									
E29M	**Blow River**	**96.24**	**14**		P	**P**	**12 47 03.2**	**+0.3**		
	baz=215									
D27M	**Malcolm River**	**96.33**	**12**		IAmb	IAmb	12 47 06.6			
	comp=Z,5.2nm,0.9s									
D27M	**Malcolm River**	**96.33**	**12**		P	**P**	**12 47 04.0**	**+0.6**		
	baz=213									
WRGLY	**Wrigley**	**96.33**	**21**		P	**P**	**12 47 04.6**	**+1.2**		
	baz=228									
F31M	**Tsiigehtchic**	**96.43**	**15**		P	**P**	**12 47 04.0**	**+0.2**		
	baz=219,SNR=9.4									
TEIG	**Tepich**	**96.68**	**71**		LR	LR	13 23 29.0			
	comp=Z,609nm,18.6s,baz=180,slow=31									
DGMT	**Dagmar**	**96.75**	**40**		P	**P**	**12 47 06.0**	**+0.2**		
	baz=242									
D28M	**Stokes Point**	**96.84**	**13**		P	**P**	**12 47 06.4**	**+0.8**		
	baz=215									
INK	**Inuvik**	**97.16**	**15**		IAmb	IAmb	12 48 48.0			
	comp=Z,14nm,1.6s									
INK	**Inuvik**	**97.16**	**15**		P	Pdif	12 47 07.4	+0.3		
	baz=219									
ULN	**Ulaanbaatar**	**98.54**	**319**		P	**P**	**12 47 13.2**	**-0.8**		
ULN	**Ulaanbaatar**	**98.54**	**319**	*ce*	P	**P**	**12 47 13.5**	**-0.5**		
ULN					pmax	pmax				
	comp=Z,2.0nm,0.9s									
SONM	**Songino Array**	**98.92**	**318**		P	Pdif	12 47 15.7	0.0		
	comp=Z,1.2nm,0.8s,baz=101,slow=2.9,SNR=7.7									
	comp=Z,1.2nm,0.8s									
YKA	**Yellowknife Ar**	**99.05**	**25**		P	**Pdif**	**12 47 14.8**	**-0.8**		
	comp=Z,1.1nm,0.9s,baz=237,slow=4.6,SNR=12									
YKA					PKiKP	**PKiKP**	**12 51 46.0**	**+0.5**		
	comp=Z,0.3nm,0.6s,baz=268,slow=1.8,SNR=5.0									
YKA					PKKPbc	**PKKPbc**	**13 03 41.3**	**-2.4**		
	comp=Z,0.6nm,0.7s,baz=36,slow=2.3,SNR=6.2									
YKA					LR	LR	13 30 10.7			
	comp=Z,226nm,18.7s,baz=32,slow=34									
	comp=Z,1.1nm,0.9s									
C36M	**Paulatuk**	**100.28**	**17**		P	**Pdif**	**12 47 20.8**	**-0.2**		
	baz=228									
A36M	**Sachs Harbour**	**101.78**	**14**		P	**Pdif**	**12 47 28.1**	**+0.5**		
	baz=227									
TIXI	**Tiksi**	**102.19**	**345**		*i* P	**Pdif**	**12 47 29.4**	**0.0**		
TIXI					pmax	pmax				
	comp=Z,7.0nm,1.5s									
RAMN	**Ramite**	**105.92**	**293**		*eP*	**PKiKP**	**12 51 59.5**	**+0.1**		
	comp=Z,14nm,0.6s									
JIRN	**Jiri**	**106.49**	**293**		*eP*	**PKiKP**	**12 52 00.1**	**-0.5**		
	comp=Z,13nm,0.6s									
GUN	**Gumba**	**106.83**	**293**		*eP*	**PKiKP**	**12 52 00.5**	**-0.7**		
PKI	**Pulchoki**	**107.12**	**293**		*eP*	**PKiKP**	**12 52 00.6**	**-1.2**		
	comp=Z,13nm,0.6s									
KOLN	**Koldanda**	**108.71**	**293**		*eP*	**PKiKP**	**12 52 03.2**	**-1.4**		
DANN	**Dangsing**	**108.74**	**293**		*eP*	**PKiKP**	**12 52 04.0**	**-0.7**		
	comp=Z,21nm,0.6s									
ZALV	**Zalesovo Beam**	**113.71**	**320**		*i* PKiKP	**PKiKP**	**12 52 12.0**	**-0.9**		
ZALV	**Zalesovo Beam**	**113.71**	**320**		PKiKP	**PKiKP**	**12 52 11.9**	**-0.9**		
	comp=Z,4.5nm,0.5s,baz=142,slow=0.8,SNR=22									
NRIK	**Noril'sk**	**114.00**	**337**	*c*	*i* PKiKP	PKPdf	12 52 12.6	-0.4		
NRIK					pmax	pmax				
	comp=Z,3.0nm,0.8s									
NRIK	**Noril'sk**	**114.00**	**337**		PKiKP	PKPdf	12 52 12.6	-0.5		
	comp=Z,2.3nm,0.5s,baz=88,slow=2.8,SNR=6.9									
MK31	**Makanchi Array**	**114.21**	**312**	*c*	*i* PKiKP	PKPdf	12 52 13.6	-0.6		
MKAR	**Makanchi Array**	**114.21**	**312**		PKP	PKPdf	12 52 13.2	-1.0		
	comp=Z,1.8nm,0.4s,baz=211,slow=1.0,SNR=34									
KURK	**Kurchatov**	**117.12**	**316**		PKPdf	**PKPdf**	**12 52 18.8**	**-0.7**		
KURK	**Kurchatov**	**117.12**	**316**	*c*	*i* PKiKP	**PKPdf**	**12 52 19.1**	**-0.5**		
KURK					pmax	pmax				
	comp=Z,8.0nm,1.3s									
KURBB	**Kurchatov Arra**	**117.17**	**316**		PKP	**PKPdf**	**12 52 18.6**	**-1.1**		
	comp=Z,6.5nm,0.8s,baz=97,slow=1.8,SNR=48									
KURBB					PP	**PP**	**12 53 27.3**	**-4.6**		
	comp=Z,0.7nm,0.7s,baz=101,slow=6.9,SNR=4.4									
AAK	**Ala-Archa**	**119.15**	**307**			**PKPdf**	**12 52 23.7**	**-0.2**		
AAK	**Ala-Archa**	**119.15**	**307**	*c*	*i* PKiKP	**PKPdf**	**12 52 23.8**	**-0.2**		
AAK					pmax	pmax				
	comp=Z,11nm,2.5s									
NEEM	**North Greenlan**	**120.57**	**12**		*i* P	**PKPdf**	**12 52 25.1**	**-0.8**		
NEEM					IAmb	IAmb	12 52 26.6			
	comp=Z,10nm,0.6s									
BTK	**Batken**	**121.63**	**304**		PKPdf	**PKPdf**	**12 52 28.5**	**-0.3**		
BTK	**Batken**	**121.63**	**304**		PKiKP	**PKPdf**	**12 52 28.5**	**-0.3**		
BVAR	**Borovoye Array**	**122.27**	**319**		PKP	**PKPdf**	**12 52 29.0**	**-0.4**		
	comp=Z,12nm,0.5s,baz=108,slow=1.0,SNR=57									
BRVK	**Borovoye**	**122.33**	**319**		PKPdf	**PKPdf**	**12 52 29.2**	**-0.4**		
BRVK	**Borovoye**	**122.33**	**319**	*c*	*i* PKiKP	**PKPdf**	**12 52 28.8**	**-0.7**		
BRVK					pmax	pmax				
	comp=Z,11nm,1.3s									
KBL	**Kabul**	**122.37**	**297**		PKPdf	**PKiKP**	**12 52 30.6**	**-0.1**		
KBL	**Kabul**	**122.37**	**297**		PKiKP	PKiKP	**12 52 30.6**	**-0.1**		
BOSA	**Boshof**	**123.72**	**203**		PKiKP	**PKiKP**	**12 52 34.0**	**+0.5**		
BOSA	**Boshof**	**123.72**	**203**		PKP	**PKiKP**	**12 52 34.0**	**+0.5**		
	comp=Z,7.8nm,1.0s,baz=164,slow=4.4,SNR=8.3									
ILULI	**Ilulissat**	**124.45**	**21**		*i* P	**PKPdf**	**12 52 32.1**	**-1.0**		
SPA0	**Spitsbergen Ar**	**125.20**	**357**		*eP*	**PKPdf**	**12 52 34.4**	**0.0**		
SPITS	**Spitsbergen Ar**	**125.20**	**357**		PKP	**PKPdf**	**12 52 34.4**	**0.0**		
	comp=Z,25nm,0.8s,baz=79,slow=4.5,SNR=14									
DAG	**Danmarks Havn**	**125.89**	**6**		*i* P	**PKPdf**	**12 52 33.9**	**-1.8**		
SUMG	**Summit**	**126.08**	**14**			**PKPdf**	**12 52 36.7**	**0.0**		
SUMG	**Summit**	**126.08**	**14**		PKiKP	**PKPdf**	**12 52 36.7**	**0.0**		
SVE	**Sverdlovsk**	**127.29**	**324**	*e*	PKiKP	**PKPdf**	**12 52 38.9**	**0.0**		
ARU	**Arti**	**128.50**	**324**		PKPdf	**PKPdf**	**12 52 41.4**	**+0.2**		
ARU	**Arti**	**128.50**	**324**	*i*	PKiKP	**PKPdf**	**12 52 41.3**	**+0.1**		
ARU							12 54 48.3			
ARU							12 59 42.6			
ARU	**Arti**	**128.50**	**324**		PKP	**PKiKP**	**12 52 41.6**	**-0.3**		
	comp=Z,16nm,0.4s,baz=228,slow=0.4,SNR=29									
AKTO	**Aktyubinsk**	**130.21**	**317**		PKP	**PKiKP**	**12 52 45.1**	**-0.4**		
	comp=Z,8.6nm,0.6s,baz=70,slow=1.9,SNR=19									
SCO	**Scoresbysund**	**131.04**	**11**	*i*	P	**PKPdf**	**12 52 45.0**	**-0.6**		
GEYT	**Aibeck**	**131.41**	**300**		PKP	**PKiKP**	**12 52 48.0**	**-0.4**		
	comp=Z,4.6nm,0.7s,baz=86,slow=6.5,SNR=7.2									
KIRV	**Kirov**	**132.34**	**329**	*c*	*i* PKiKP	**PKPdf**	**12 52 48.3**	**-0.1**		
KIRV	**Kirov**	**132.34**	**329**		PKP	**PKPdf**	**12 52 48.1**	**-0.3**		
	comp=Z,24nm,0.7s,baz=199,slow=1.0,SNR=8.8									
ARA0	**ARCESS Array S**	**132.34**	**350**		*eP*	**PKPdf**	**12 52 48.4**	**+0.2**		
ARCES	**ARCESS Array B**	**132.34**	**350**		PKPdf	**PKPdf**	**12 52 48.2**	**0.0**		
ARCES	**ARCESS Array B**	**132.34**	**350**		PKiKP	**PKPdf**	**12 52 48.2**	**0.0**		
ARCES	**ARCESS Array B**	**132.34**	**350**		PKhKP	PKPpre	12 52 39.5			
	comp=Z,2.8nm,0.8s,baz=89,slow=0.7,SNR=5.6									
ARCES					PKP	**PKPdf**	**12 52 48.0**	**-0.2**		
	comp=Z,22nm,0.8s,baz=198,slow=0.4,SNR=41									
PRGR	**Permogore**	**132.47**	**334**		*eP*	**PKPdf**	**12 52 43.3**	**-5.3**		
PRGR					pmax	pmax				
	comp=Z,21nm,1.1s									
KTK1	**Kautokeino**	**133.17**	**350**		*eP*	**PKPdf**	**12 52 48.5**	**-1.2**		
TRO	**Tromso**	**133.19**	**353**		*eP*	**PKPdf**	**12 52 49.2**	**-0.5**		
LSZ	**Lusaka**	**134.10**	**215**		PKPdf	**PKPdf**	**12 52 51.9**	**-1.4**		
LSZ	**Lusaka**	**134.10**	**215**		PKiKP	**PKPdf**	**12 52 51.9**	**-1.4**		
BELG	**Belogornoye**	**135.86**	**322**		PKP	**PKPdf**	**12 52 55.4**	**+0.1**		
	comp=Z,19nm,0.5s,baz=38,slow=1.3,SNR=7.4									
KIBK	**Kibwezi**	**137.26**	**237**			**PKPdf**	**12 52 57.5**	**-1.7**		
KMBO	**Kilima Mbogo**	**138.64**	**238**			PKPpre	12 52 52.4			
KMBO	**Kilima Mbogo**	**138.64**	**238**		*i* PKiKP	**PKPdf**	**12 53 01.2**	**-0.7**		
KMBO	**Kilima Mbogo**	**138.64**	**238**		PKhKP	PKPpre	12 52 53.0			
	comp=Z,2.3nm,0.8s,baz=36,slow=5.1,SNR=4.4									
KMBO					PKP	**PKPdf**	**12 53 02.0**	**+0.1**		
	comp=Z,6.2nm,0.9s,baz=76,slow=0.5,SNR=7.4									
KMBO					SKPbc	**SKiKP**	**12 56 28.3**	**-1.9**		
	comp=Z,4.9nm,1.0s,baz=217,slow=3.0,SNR=5.5									
FINES	**FINESS Array B**	**139.22**	**343**	*c*	*i* PKiKP	**PKiKP**	**12 53 06.5**	**+3.0**		
FINES					pmax	pmax				
	comp=Z,6.0nm,0.4s									
FINES	**FINESS Array B**	**139.22**	**343**		PKhKP	PKPpre	12 52 51.9			
	comp=Z,3.7nm,0.5s,baz=53,slow=2

KPL	Plockton	145.88	9	*eP*	PKPbc	12 53 13.6	-0.2		
MCD	Coleburn Disti	145.93	6	*eP*	PKPdf	12 53 13.2	0.0		
SUW	Suwalki	146.28	339	PKPdf	PKPdf	12 53 14.4	+0.5		
SUW	Suwalki	146.28	339	PKP2	PKPdf	12 53 14.4	+0.5		
AKASG	Malin Array Be	146.39	330		PKPdf	12 53 13.5	-0.6		
AKASG	Malin Array Be	146.39	330	PKPbc	PKPbc	12 53 15.5	-0.1		
	comp=Z,112nm,0.5s,baz=43,slow=4.2,SNR=422								
AKBB	Malin Array Si	146.39	330		PKPbc	12 53 15.5	-0.1		
AKBB	Malin Array Si	146.39	330	PKP2	PKPbc	12 53 15.5	-0.1		
KIEV	Kiev	146.41	330	⇓P	PKPab	12 53 16.9	+0.1		
KIEV	Kiev	146.41	330		PKPbc	12 53 15.5	-0.1		
KIEV	Kiev	146.41	330	⇓PKP2	PKPab	12 53 16.9	+0.1		
DRUM	Mains of Drumt	146.66	6	*eP*	PKPbc	12 53 15.6	-0.6		
KLNR	Kaliningrad	146.70	342	*i* PKIKP	PKPdf	12 53 14.8	+0.3		
KLNR				pmax	pmax				
	comp=Z,409nm,1.0s								
LAWE	Loch Awe, Argy	146.97	9	*eP*	PKPbc	12 53 16.9	-0.2		
INVG	Invergeldie, C	146.98	7	*eP*	PKPbc	12 53 16.8	-0.3		
MUD	Monsted U'grnd	147.08	354	*i* P	PKPbc	12 53 17.0	-0.4		
SIM	Simferopol'	147.17	318	*i* PKP2	PKPbc	12 53 18.6	+0.6		
SIM				pmax	pmax				
	comp=Z,202nm,1.0s								
SIM				pmax	pmax				
	comp=Z,33nm,0.6s								
BSD	Bornholm Skovb	147.52	347	*i* P	PKPbc	12 53 19.2	+0.6		
PGBU	Glenifferbraes	147.53	8	*eP*	PKPbc	12 53 18.6	-0.1		
DIKM	Dikmen	147.90	311	⇑P	PKiKP	12 53 21.1	-0.9		
GAZ	Gaziantep	147.95	303		PKiKP	12 53 21.6	-0.7		
EKA	Eskdalemuir Ar	148.15	7	PKPbc	PKPbc	12 53 19.7	-0.6		
	comp=Z,33nm,0.7s,baz=334,slow=2.4,SNR=44								
ESK	Eskdalemuir	148.16	7	*eP*	PKPbc	12 53 19.9	-0.4		
ESK	Eskdalemuir	148.16	7		PKPbc	12 53 20.4	0.0		
ESK	Eskdalemuir	148.16	7	PKP2	PKPbc	12 53 20.4	0.0		
NEWG	New Galloway	148.24	8	*eP*	PKPbc	12 53 20.3	-0.3		
GAL1	Galloway	148.42	9	*eP*	PKPbc	12 53 20.4	-0.6		
BNN	Bunyan	148.50	306	PKPdf	PKPdf	12 53 18.0	-0.3		
BNN				PKPbc	PKPbc	12 53 22.6	+0.7		
SORM	Soroca	148.55	327	⇑P	PKPbc	12 53 21.6	0.0		
SORM	Soroca	148.55	327	⇑PKP2	PKPbc	12 53 21.6	0.0		
EDMD	Edmundbyers	148.77	6	*eP*	PKPbc	12 53 21.5	-0.5		
IOMK	Kirk Michael	149.03	9	*eP*	PKPbc	12 53 22.3	-0.3		
MILM	Milestii Mici	149.10	325	*i* PKP	PKPbc	12 53 22.6	-0.4		
	comp=Z,50nm,0.7s								
MILM	Milestii Mici	149.10	325	⇓P	PKPbc	12 53 22.6	-0.4		
MILM	Milestii Mici	149.10	325	⇓PKP2	PKPbc	12 53 22.6	-0.4		
WIM	Isle of Man	149.12	9	*eP*	PKPbc	12 53 23.0	+0.2		
LVV	L'vov	149.32	333	*e*PKP2	PKPbc	12 53 23.7	+0.2		
HPK	Haverah Park	149.66	6	*eP*	PKPbc	12 53 24.5	+0.3		
BR131	Keskin Array S	149.79	309		PKPbc	12 53 25.0	-0.2		
BR131				PKPab	PKPab	12 53 30.4	-0.5		
BR131	Keskin Array S	149.79	309	PKP2	PKPbc	12 53 25.0	-0.2		
BRTR	Keskin Array B	149.79	309	PKP	PKPdf	12 53 20.2	-0.1		
	comp=Z,12nm,0.9s,baz=132,slow=1.8,SNR=7.7								
BRTR				PKPbc	PKPbc	12 53 24.9	-0.3		
	comp=Z,13nm,0.8s,baz=141,slow=5.1,SNR=61								
VASR	Vaslui	149.82	325	⇑P	PKPab	12 53 28.9	-1.7		
WLF1	Llynfaes	150.00	9	*eP*	PKPbc	12 53 23.4	-1.6		
TLCR		150.18	322	⇑P	PKiKP	12 53 26.1	-0.4		
TLCR		150.18	322	⇑PKP2	PKiKP	12 53 26.1	-0.4		
VLDR	Vladesti	150.18	324	⇑P	PKiKP	12 53 28.2	+1.7		
MMAI	Mount Meron Ar	150.28	295	PKPbc	PKiKP	12 53 27.3	0.0		
	comp=Z,44nm,0.7s,baz=79,slow=5.2,SNR=47								
SCTR	Scanteiesti	150.33	323	⇓P	PKiKP	12 53 28.2	+1.4		
ANTO	Ankara	150.33	310	⇓P	PKPbc	12 53 26.6	+0.2		
ANTO	Ankara	150.33	310	PKPdf	PKPdf	12 53 20.1	-1.0		
ANTO					PKiKP	12 53 27.1	-0.1		
ANTO	Ankara	150.33	310	⇓PKIKP	PKPbc	12 53 26.6	+0.2		
JURR	Jurilovca	150.39	321	⇑P	PKiKP	12 53 26.7	-0.2		
GHRR		150.40	325	⇑P	PKiKP	12 53 27.6	+0.7		
BUR08	Bucovina Ar. S	150.42	329	PKPbc	PKiKP	12 53 27.7	+0.6		
BURAR	Bucovina Array	150.44	329	⇑P	PKiKP	12 53 28.0	+0.9		
BURAR	Bucovina Array	150.44	329	⇑PKIKP	PKiKP	12 53 28.0	+0.9		
TESR	Tescani	150.50	326	⇓P	PKiKP	12 53 28.2	+1.0		
FOEL	Foel Wylfa	150.55	8	*eP*	PKPbc	12 53 26.0	-0.4		
CFR	Carcaliu	150.56	323	⇑P	PKiKP	12 53 27.1	-0.2		
CFR	Carcaliu	150.56	323	⇑PKIKP	PKiKP	12 53 27.1	-0.2		
TPGR	Topolog	150.60	322	⇑P	PKPbc	12 53 26.1	-0.6		
OJC	Ojcow	150.60	338	PKPdf	PKPdf	12 53 21.7	+0.6		
OJC					PKiKP	12 53 27.0	-0.2		
OJC				PKPab	PKPab	12 53 34.4	+0.7		
OJC	Ojcow	150.60	338	PKIKP	PKPdf	12 53 21.7	+0.6		
OJC						12 53 34.4			
PANC	Panciu	150.66	325	⇑P	PKiKP	12 53 27.6	+0.2		
KOLS	Kolonicke sedl	150.73	334	*e*PKP	PKPdf	12 53 22.5	+1.2		
KOLS				*e*		12 53 28.0			
KOLS				*e*		12 53 34.4			
KOLS	Kolonicke sedl	150.73	334	*e*PKIKP	PKPdf	12 53 22.6	+1.2		
KOLS				*e*		12 53 34.4			
STHS	Stebnicka Huta	150.75	335	*e*PKP	PKPbc	12 53 27.0	0.0		
STHS				*e*		12 53 34.8			
STHS	Stebnicka Huta	150.75	335	*e*PKIKP	PKPbc	12 53 27.0	0.0		
STHS				*e*		12 53 34.8			
TIRR	Tirgusor	150.84	321	⇑P	PKiKP	12 53 27.8	-0.1		
TIRR	Tirgusor	150.84	321	⇑PKIKP	PKiKP	12 53 27.8	-0.1		
VRI	Vrincioaia	150.88	325	⇑P	PKPbc	12 53 27.6	+0.2		
VRI	Vrincioaia	150.88	325	⇑PKIKP	PKPbc	12 53 27.6	+0.2		
CWF	Charnwood Fore	150.90	6	*eP*	PKPbc	12 53 27.0	-0.2		
PLOR	Plostina	150.94	325	⇑P	PKPbc	12 53 27.5	-0.1		
PLOR	Plostina	150.94	325	⇑PKIKP	PKPbc	12 53 27.5	-0.1		
HARR	Harsova	150.98	322	⇑P	PKiKP	12 53 28.3	+0.1		
HARR	Harsova	150.98	322	⇑PKIKP	PKiKP	12 53 28.3	+0.1		
TLBR	Topalu	151.00	322	⇓P	PKPbc	12 53 27.9	+0.2		
MFTR	Murfatlar	151.00	321	⇑P	PKiKP	12 53 28.3	+0.1		
WACR	West Acre	151.05	3	*eP*	PKPbc	12 53 27.4	0.0		
CRVS	Cervenica-Dubn	151.08	335	*e*PKP	PKiKP	12 53 28.4	+0.1		
CRVS	Cervenica-Dubn	151.08	335	*e*PKIKP	PKiKP	12 53 28.4	+0.1		
JAWL	J.Aulia	151.12	258	*i* P	PKiKP	12 53 29.8	+0.5		
JAWL				*i*		12 53 32.5			
	baz=66,slow=14								
MANR	Mangalia	151.12	320	⇑P	PKiKP	12 53 28.8	+0.4		
COVR	Voineasa-Covas	151.17	325	⇑P	PKPbc	12 53 28.0	-0.1		
BMR	Baia Mare	151.18	331	⇓P	PKPbc	12 53 28.2	+0.2		
BMR	Baia Mare	151.18	331	⇓PKIKP	PKPbc	12 53 28.2	+0.2		
OZUR		151.22	326	⇓P	PKiKP	12 53 29.9	+1.2		
BOSR	Bodos	151.30	326	⇑P	PKiKP	12 53 29.3	+0.4		
NEHR	Nehoiu	151.40	325	⇑P	PKiKP	12 53 28.8	-0.3		
OSTC	Ostas	151.42	342	*e*PKP	PKiKP	12 53 29.5	+0.6		
OSTC				*e*PKPAB	PKPab	12 53 37.1	0.0		
OSTC	Ostas	151.42	342	*e*PKIKP	PKiKP	12 53 29.5	+0.6		
OSTC						12 53 37.1			
CHVC	Chvalec	151.43	343	⇑*e*PKP	PKiKP	12 53 29.3	+0.3		
CHVC				*e*PKPAB	PKPab	12 53 38.2	+1.0		
CHVC	Chvalec	151.43	343	*e*PKIKP	PKiKP	12 53 29.3	+0.3		
MCH1	Michaelchurch	151.45	8	*eP*	PKPbc	12 53 27.8	-0.6		
ISR	Istrita	151.47	324	⇓P	PKPab	12 53 36.4	-1.2		
ISR	Istrita	151.47	324	⇓PKIKP	PKPab	12 53 36.4	-1.2		
OKC	Ostrava-Krasne	151.48	339	⇑*e*PKP	PKiKP	12 53 29.6	+0.6		
OKC				*e*PKPAB	PKPab	12 53 38.3	+1.0		
OKC	Ostrava-Krasne	151.48	339	*e*PKIKP	PKiKP	12 53 29.6	+0.6		
CLL	Collm	151.50	347	*i* PKPdf	PKPdf	12 53 22.5	+0.1		
	comp=Z,13nm,1.2s								
CLL				⇓*i*PKPbc	PKiKP	12 53 29.0	0.0		
	comp=Z,103nm,0.8s								
CLL				*i* PKPab	PKPab	12 53 37.4	+0.1		
	comp=Z,83nm,1.1s								
CLL				*i* pPKPdf	pPKPdf	12 53 52.0	-0.1		
CLL				*i* pPKPbc	pPKPbc	12 53 59.6	+1.6		
	comp=Z,42nm,1.1s								
CLL	Collm	151.50	347	⇓*i*PKIKP	PKiKP	12 53 29.0	0.0		
CLL				*i*		12 53 37.4			
CLL				pmax	pmax				
	comp=Z,103nm,0.8s								
CLL				pmax	pmax				
	comp=Z,83nm,1.1s								
DOPR	Dopca	151.51	326	⇓P	PKiKP	12 53 29.2	0.0		
UPC	Upice	151.52	343	⇑*e*PKP	PKiKP	12 53 29.6	+0.5		
UPC				*e*PKPAB	PKPab	12 53 38.7	+1.2		
UPC	Upice	151.52	343	*e*PKIKP	PKiKP	12 53 29.6	+0.5		
MLR	Muntele Rosu	151.54	325	⇑P	PKPbc	12 53 29.1	0.0		
MLR	Muntele Rosu	151.54	325	PKPdf	PKPdf	12 53 22.5	-0.4		
MLR				PKPab	PKPab	12 53 36.0	-2.0		
MLR	Muntele Rosu	151.54	325	⇑PKIKP	PKPbc	12 53 29.1	0.0		
MLR	Muntele Rosu	151.54	325	PKPbc	PKPbc	12 53 28.9	-0.2		
	comp=Z,16nm,0.7s,baz=6.4,slow=2.7,SNR=17								
DPC	Dobruska-Polom	151.57	342	⇑*e*PKP	PKiKP	12 53 29.8	+0.5		
DPC				*e*PKPAB	PKPab	12 53 39.1	+1.3		
DPC	Dobruska-Polom	151.57	342	*e*PKIKP	PKiKP	12 53 29.8	+0.5		
LANS	Liptovska Anna	151.62	337	*e*PKP	PKiKP	12 53 30.3	+0.9		
LANS				*e*		12 53 37.9			
LANS	Liptovska Anna	151.62	337	*e*PKIKP	PKiKP	12 53 30.3	+0.9		
LANS				*e*		12 53 37.9			
MONM	Monmouth	151.63	8	*eP*	PKPbc	12 53 28.8	-0.1		
KRLC	Kraliky	151.69	341	⇑*e*PKP	PKiKP	12 53 30.0	+0.4		
KRLC				*e*PKPAB	PKPab	12 53 39.3	+1.0		
KRLC	Kraliky	151.69	341	*e*PKIKP	PKiKP	12 53 30.0	+0.4		
BRG	Berggiesshubel	151.70	346	⇓*e*PKPf		12 53 23.0			
BRG				Amp		12 53 24.0			
	comp=Z,9.7nm,1.1s								
BRG				PKPab	PKiKP	12 53 29.7	+0.2		
BRG				Amp		12 53 30.5			
	comp=Z,74nm,0.7s								
BRG				⇑PKP	PKPab	12 53 37.2	-1.1		
BRG				Amp		12 53 39.6			
	comp=Z,52nm,0.8s								
BRG	Berggiesshubel	151.70	346	*e*PKIKP	PKPdf	12 53 23.0	+0.3		
BRG				pmax	pmax				
	comp=Z,10.0nm,1.2s								
MORC	Moravsky Berou	151.72	340	⇑P	PKiKP	12 53 30.0	+0.4		
MORC	Moravsky Berou	151.72	340	*e*PKP	PKiKP	12 53 29.6	0.0		
MORC				*e*		12 53 39.1			
MORC	Moravsky Berou	151.72	340	⇑PKIKP	PKiKP	12 53 30.0	+0.4		
KECS	Kecovo	151.80	335	*e*PKIKP	PKPab	12 53 39.5	+0.8		
CBBR	Cluj-Babes-Bol	151.83	330	⇓P	PKPbc	12 53 27.0	-2.6		
CJR	Cluj-Napoca	151.85	329	⇑P	PKiKP	12 53 30.3	+0.3		
CJR	Cluj-Napoca	151.85	329	⇑PKIKP	PKiKP	12 53 30.3	+0.3		
PVCC	Panska Ves	151.87	344	⇑*e*PKP	PKiKP	12 53 30.5	+0.7		
PVCC				*e*PKPAB	PKPab	12 53 38.1	+0.8		
PVCC	Panska Ves	151.87	344	*e*PKIKP	PKiKP	12 53 30.5	+0.7		
PVCC				*e*		12 53 38.1			
HMAD	Nubian desert	151.90	268	*i* P	PKPbc	12 53 30.0	-0.5		
HMAD				*i*		12 53 32.5			
	baz=332,slow=14								
RICC	Richard	151.97	345	⇑*e*PKP	PKiKP	12 53 30.7	+0.7		
MAUC	Maruska	151.99	339	⇑*e*PKP	PKiKP	12 53 31.0	+0.8		
VOIR		152.04	326	⇑P	PKiKP	12 53 30.4	-0.1		
VOIR		152.04	326	⇑PKIKP	PKiKP	12 53 30.4	-0.1		
SWN1	Swindon	152.06	7	*eP*	PKPbc	12 53 29.6	-0.3		
HSKC	Hora Svate Kat	152.07	346	⇑*e*PKP	PKiKP	12 53 30.4	+0.1		
MARR	Marisel-Cluj	152.10	330	⇑P	PKiKP	12 53 30.6	0.0		
MTUR	Matau	152.18	326	⇓P	PKPab	12 53 36.8	-3.8		
MTUR	Matau	152.18	326	⇓PKIKP	PKPab	12 53 36.8	-3.8		
ARR	Arges	152.31	326	⇑P	PKPdf	12 53 24.3	+0.5		
PRA	Prague	152.33	344	⇑*e*PKP	PKiKP	12 53 30.8	0.0		
PRA	Prague	152.33	344	*e*PKIKP	PKiKP	12 53 30.8	0.0		
PRU	Pruhonice	152.38	344	⇑*e*PKP	PKiKP	12 53 31.1	+0.2		
PRU				*e*PKPAB	PKPab	12 53 38.1	-3.0		
PRU	Pruhonice	152.38	344	*e*PKIKP	PKiKP	12 53 31.1	+0.2		
PRU				*e*		12 53 38.1			
GOPC	GO Pecny, Ondr	152.38	344	⇑*e*PKP	PKiKP	12 53 31.3	+0.3		
GOPC	GO Pecny, Ondr	152.38	344	*e*PKIKP	PKiKP	12 53 31.3	+0.3		
VYHS	Vyhne	152.40	337	*e*PKP	PKPdf	12 53 24.8	+0.9		
VYHS				*e*		12 53 31.3			
VYHS				*e*		12 53 41.9			
VYHS	Vyhne	152.40	337	*e*PKIKP	PKPdf	12 53 24.8	+0.9		
VYHS				*e*		12 53 41.9			
VRAC	Vranov	152.43	341	⇓P	PKiKP	12 53 31.1	0.0		
VRAC	Vranov	152.43	341	*e*PKP	PKiKP	12 53 31.0	-0.1		
VRAC				*e*		12 53 42.0			
VRAC	Vranov	152.43	341	PKPbc	PKiKP	12 53 31.1	0.0		
	comp=Z,8.1nm,0.8s,baz=27,slow=1.7,SNR=7.7								
VRAC				PKPab	PKPab	12 53 41.6	+0.3		
	comp=Z,56nm,0.9s,baz=34,slow=2.5,SNR=35								
JAVC	Velka Javorina	152.48	339	*e*PKP	PKiKP	12 53 31.6	+0.4		
PSZ	Piszkesteto	152.49	335	⇓P	PKiKP	12 53 31.2	-0.1		
PSZ	Piszkesteto	152.49	335	PKPdf	PKPdf	12 53 23.4	-0.6		
PSZ					PKiKP	12 53 31.5	+0.2		
PSZ				PKPab	PKPab	12 53 42.4	+0.7		
PSZ	Piszkesteto	152.49	335	PKIKP	PKPdf	12 53 23.5	-0.6		
PSZ						12 53 42.4			
MRWI	Hamdab	152.59	265	*i* P	PKiKP	12 53 32.8	+0.5		
MRWI				*i*		12 53 36.0			
	baz=31,slow=2.4								
NKC	Novy Kostel	152.63	347	⇑*e*PKP	PKiKP	12 53 31.9	+0.4		
NKC				*e*PKPAB	PKPab	12 53 43.0	+0.8		
NKC	Novy Kostel	152.63	347	*e*PKIKP	PKiKP	12 53 31.9	+0.4		
ELSH	Elham, Standar	152.65	3	*eP*	PKiKP	12 53 31.6	+0.2		
KRUC	Moravsky	152.71	341	*e*PKP	PKiKP	12 53 31.7	+0.1		
KRUC				*e*		12 53 42.8			
SMOL	Smolenice	152.86	339	*e*PKIKP	PKiKP	12 53 32.8	+0.8		
ZVC	Zvikov	152.97	344	⇑*e*PKP	PKiKP	12 53 32.5	+0.3		
ZVC				*e*PKPAB	PKPab	12 53 44.7	+1.1		
MODS	Modra-Piesok	153.04	339	*e*PKP	PKiKP	12 53 33.2	+0.8		
MODS				*e*		12 53 44.8			
MODS	Modra-Piesok	153.04	339	*e*PKIKP	PKiKP	12 53 33.2	+0.8		
MEM	Membach	153.14	356	*d*PKPdf	PKPdf	12 53 25.0	+0.2		
MEM				*d*PKIKP	PKiKP	12 53 32.3	-0.1		
BTNL	Ternell	153.16	356	*d*PKPdf	PKPdf	12 53 25.3	+0.4		
BTNL				*d*PKIKP	PKPbc	12 53 32.4	0.0		
SRO	Srobarova	153.16	337	*e*PKP2	PKPab	12 53 45.6	+1.2		
GZR	Gura Zlata	153.21	328	⇑P	PKPdf	12 53 24.7	-0.5		
GZR	Gura Zlata	153.21	328	⇑PKIKP	PKPdf	12 53 24.7	-0.5		
ELND	Elena	153.23	321	⇑P	PKiKP	12 53 33.0	+0.1		
SURR	Surduc	153.25	330	⇓P	PKiKP	12 53 33.0	+0.2		
ZST	Bratislava	153.25	339	*e*PKP2	PKPab	12 53 46.1	+1.3		
BCLA	Clavier	153.37	357	*d*PKiKP	PKiKP	12 53 32.9	-0.1		
BCLA				*d*PKP	PKPab	12 53 44.8	-0.4		
BHOU	Houvegnez	153.40	356	*d*PKiKP	PKiKP	12 53 33.1	+0.1		
KHC	Kasperske Hory	153.41	345	PKPdf	PKPdf	12 53 24.7	-0.7		
KHC					PKiKP	12 53 33.7	+0.5		
KHC				PKPab	PKPab	12 53 46.4	+0.8		
KHC	Kasperske Hory	153.41	345	*e*PKPDF	PKPdf	12 53 25.7	+0.4		
KHC				⇑*e*PKP	PKiKP	12 53 33.4	+0.3		
KHC				*e*PKPAB	PKPab	12 53 46.5	+1.0		
KHC	Kasperske Hory	153.41	345	*e*PKIKP	PKPdf	12 53 25.7	+0.4		
BGES	Gesves	153.41	357	*d*PKIKP	PKPbc	12 53 32.8	-0.1		
BGES				*d*PKP	PKPab	12 53 44.9	-0.5		
BMRD	Maredsous	153.51	358	*d*PKIKP	PKiKP	12 53 33.5	+0.3		
CKRC	Cesky Krumlov	153.51	343	*e*PKPDF	PKPdf	12 53 26.0	+0.5		
CKRC				⇑*e*PKP	PKiKP	12 53 33.8	+0.5		
CKRC				*e*PKPAB	PKPab	12 53 46.8	+0.9		
CKRC	Cesky Krumlov	153.51	343	*e*PKIKP	PKPdf	12 53 26.0	+0.5		
SRE	Strehaia	153.52	327	⇑P	PKiKP	12 53 34.8	+1.3		
SRE	Strehaia	153.52	327	⇑PKIKP	PKiKP	12 53 34.8	+1.3		
BZS	Buzias	153.58	330	⇑P	PKPdf	12 53 25.4	-0.2		
BZS	Buzias	153.58	330	⇑PKIKP	PKPdf	12 53 25.4	-0.2		
RCHB	Rochefort	153.64	357	*d*PKiKP	PKiKP	12 53 33.7	+0.2		
GEC2	GERESS Array S	153.65	344	PKPbc	PKiKP	12 53 33.9	+0.1		
GEC2				PKPab	PKPab	12 53 46.8	+0.2		
GERES	GERESS Array B	153.65	344		PKPdf	12 53 24.7	-1.0		
GERES				PKPbc	PKPbc	12 53 33.6	-0.1		
GERES				PKPab	PKPab	12 53 47.1	+0.5		
GERES	GERESS Array B	153.65	344	PKIKP	PKiKP	12 53 26.0	+0.2		
GERES	GERESS Array B	153.65	344	PKP	PKPdf	12 53 26.0	+0.2		
	comp=Z,3.7nm,0.9s,baz=90,slow=1.9,SNR=7.3								
GERES				PKPbc	PKPbc	12 53 33.5	-0.1		
	comp=Z,6.9nm,0.7s,baz=357,slow=2.7,SNR=15								
PLVB	Pleven	153.65	323	⇑P	PKiKP	12 53 34.1	+0.4		
DOU	Dourbes	153.72	358	*d*PKiKP	PKiKP	12 53 33.6	0.0		
HERR	Herculane	153.75	328	⇑P	PKiKP	12 53 33.9	0.0		
CONA	Conrad Observa	153.88	340	*i* PKP	PKiKP	12 53 34.5	+0.3		
	comp=Z,14nm,0.8s								
CONA				*i* PKP	PKPab	12 53 48.7	+1.1		
	comp=Z,43nm,0.8s								
RONA	Rosalia, Austr	153.94	340	*i* PKP	PKiKP	12 53 34.7	+0.4		
	comp=Z,15nm,0.7s								
RONA				*e*PKP	PKPab	12 53 48.7	+0.9		
	comp=Z,38nm,0.8s								
WLF	Walferdange	154.07	356	*d*PKiKP	PKPbc	12 53 34.2	-0.1		
WLF				*d*PKP	PKPab	12 53 48.0	-0.2		
MORH	Mrgy, Hungar	154.38	335	⇓P	PKPdf	12 53 26.9	+0.2		
MOA	Molln	154.41	343	*e*PKiKP	PKiKP	12 53 36.1	+0.9		
	comp=Z,14nm,1.3s								
MOA				*i* PKP	PKPab	12 53 50.6	+0.8		
	comp=Z,31nm,0.7s,SNR=6.1								
RDO	Rodhopi	154.51	318	PKPdf	PKPdf	12 53 27.6	+0.5		
RDO				PKPab	PKPab	12 53 50.5	+0.1		
BLKB	Belogradchik	154.53	326	⇑P	PKPdf	12 53 26.6	-0.5		
ARSA	Arzberg	154.59	340	*e*PKP	PKPdf	12 53 26.2	-0.8		
	comp=Z,5.9nm,1.2s								
ARSA				*i* PKP	PKPab	12 53 51.1	+0.5		
	comp=Z,28nm,1.1s,SNR=5.5								
BIOA	Bad Ischl, Aus	154.73	343	*i* PKP	PKPdf	12 53 26.6	-0.6		
	comp=Z,8.7nm,1.3s								
BIOA				*i* PKP	PKPab	12 53 51.8	+0.7		
	comp=Z,55nm,0.8s,SNR=12								
FRGS	Fruska Gora	154.75	332	⇓P	PKiKP	12 53 36.6	+0.6		
BOVS	Bovan	155.01	327	⇑P	PKPdf	12 53 27.7	0.0		
BFO	Black Forest	155.17	352		PKPdf	12 53 36.9	+9.1		
BFO				PKPab	PKPab	12 53 53.3	+0.3		
BFO	Black Forest	155.17	352	PKP2	PKPab	12 53 53.3	+0.3		
LESA	Schwarzleotal	155.22	344	*i* PKP	PKPdf	12 53 27.5	-0.4		
	comp=Z,9.6nm,0.9s								
LESA				*i* PKP	PKPab	12 53 53.9	+0.6		
	comp=Z,74nm,1.3s								
SOKA	Soboth	155.25	340	*i* PKP	PKPdf	12 53 26.4	-1.6		
	comp=Z,12nm,1.6s								
SOKA				*i* PKP	PKPab	12 53 53.7	+0.2		
	comp=Z,40nm,1.1s,SNR=6.3								
KBA	Koelnbreinsper	155.37	343	*i* PKiKP	PKPdf	12 53 38.0	+10		
	comp=Z,5.9nm,0.7s								
KBA				*i* PKP	PKPab	12 53 55.4	+1.3		
	comp=Z,22nm,0.6s								
OBKA	Obir	155.55	341	*e*PKP	PKPdf	12 53 28.3	-0.2		
	comp=Z,5.4nm,0.8s								
OBKA				*i* PKP	PKPab	12 53 54.5	-0.3		
	comp=Z,25nm,0.8s								
WATA	Walderalm	155.56	346	*i* PKP	PKPdf	12 53 28.7	+0.2		
	comp=Z,4.5nm,0.5s								
WATA				*i* PKP	PKPab	12 53 55.3	+0.5		
	comp=Z,26nm,0.6s,SNR=6.3								
RETA	Reutte	155.59	347	*i* PKP	PKPdf	12 53 28.2	-0.3		
	comp=Z,15nm,1.2s								
RETA				*i* PKP	PKPab	12 53 55.3	+0.5		
	comp=Z,53nm,1.8s,SNR=5.4								

comp=N,331nm,3.9s
AIN IAML 12 47 30.4
comp=E,187nm,3.6s
UWE Uwekahuna 0.98 155 Pn Pn 12 47 03.7 -2.2
UWB Uwekahuna B 0.98 154 Pn Pn 12 47 03.9 -2.1
UWB IAML 12 47 26.6
comp=E,166nm,3.4s
UWB IAML 12 47 36.8
comp=N,168nm,4.0s
OBL Observatory Le 0.99 154 Pn Pn 12 47 04.0 -2.1
WRMHI West Rim 0.99 155 Pn Pn 12 47 04.0 -2.0
HATHI Halema'uma'u T 0.99 153 Pn Pn 12 47 04.0 -2.1
HATHI IAML 12 47 19.7
comp=N,292nm,1.7s
PUH Pauahi 1.06 152 Pn Pn 12 47 05.0 -1.9
PUH Sn Sn 12 47 16.9 -3.6
PUH IAML 12 47 33.8
comp=N,236nm,2.8s
PUH IAML 12 47 34.0
comp=E,174nm,3.9s
KHU Kahuku 1.07 174 Pn Pn 12 47 05.1 -2.1
KHU Sn Sn 12 47 17.6 -3.4
KHU IAML 12 47 27.9
comp=N,190nm,3.2s
KHU IAML 12 47 46.2
comp=E,272nm,4.9s
KNHH Kane Nui o Ham 1.07 150 Pn Pn 12 47 05.1 -2.1
HLP Hilina Pali 1.09 158 Pn Pn 12 47 05.3 -2.0
HLP Sn Sn 12 47 17.9 -3.4
HLP IAML 12 47 46.5
comp=N,268nm,3.9s
JOKA Jonika Flow 1.11 142 Pn Pn 12 47 05.6 -2.1
JOKA Sn Sn 12 47 18.1 -3.7
HTC Hot Caves 1.12 163 Pn Pn 12 47 06.0 -1.7

*IDC **27** 12:46:53.7±0.9,0.˚92N×120.˚23E,h0km,mb4.1/7, mbtmp4.1/7,MS3.1/2,Error ellipse: s-maj=123.4km s-min=17.0km az=64.0*
*NEIC **27** 12:46:57.4±1.5,1.˚02N±0.˚10×120.˚30E±0.˚04,h18km±6km, mb4.3/18,Error ellipse: s-maj=14.2km s-min=5.7km az=171.0*
*DJA **27** 12:46:57.1±0.3,1.˚N±4.˚×12.˚0E±.˚,h10km,M4.4/12,mb4.4/4, mB5.0/2,MLv4.3/12,Mw(mB)4.4/2*
ISC 27 12:46:58.6±0.6,**1.˚06N**±0.˚06×**120.˚34E**±0.˚06,**h32**km,**n54**, σ0§99/52,**mb4.2**/13,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOLI2	**Tolitoli**	**0.44**	**83**		**Pb**	**12 47 07.3**	**-0.9**
MPSI	**Mapaga**	**0.84**	**212**	P	**Pb**	**12 47 13.9**	**-0.9**
MRSI	**Marisa**	**1.70**	**110**	P	**Pn**	**12 47 26.6**	**+0.6**
GTOI	**Gorontalo**	**2.70**	**99**	P	**Pn**	**12 47 39.6**	**-0.2**
LUWI	**Luwuk**	**3.20**	**131**	P	**Pn**	**12 47 48.4**	**+1.7**
KMSI	**Cibinong**	**3.67**	**97**	P	**Pn**	**12 47 55.6**	**+2.5**
TTSI	**Tana Toraja**	**4.11**	**187**	P	Pn	12 48 03.4	+4.2
MYLDM	**Lahad Datu**	**4.49**	**336**		**Pn**	**12 48 05.2**	**+0.7**
SPSI	**Sidrap Palu**	**5.02**	**187**	P	**Pn**	**12 48 13.9**	**+2.2**
	50nm,0.7s,3µm0.2nm						
KAPI	**Kappang**	**6.06**	**186**	LR	LR	12 50 39.0	
	comp=Z,147nm,20.8s,baz=4.0,slow=38						
BKSI	**Bulukumba**	**6.34**	**182**	P	**Pn**	**12 48 32.1**	**+2.2**
	29nm,1.4s,0.1nm						
KKM	**Kota Kinabalu**	**6.44**	**320**	Pn	**Pn**	**12 48 29.6**	**-1.8**
LBMI	**Labuha**	**7.35**	**103**	P	**Pn**	**12 48 45.4**	**+1.6**
SBUM	**Sibu**	**8.24**	**280**	Pn	**Pn**	**12 48 55.9**	**0.0**
MTN	**Manton Dam**	**17.48**	**143**	P	**P**	**12 51 01.0**	**0.0**
MTN				IAmb	IAmb	12 51 01.7	
	comp=Z,9.5nm,0.4s						
MTN	**Manton Dam**	**17.48**	**143**	P	**P**	**12 51 00.8**	**-0.2**
KNRA	**Kununurra**	**18.59**	**154**	P	**P**	**12 51 11.5**	**-1.8**
KNRA				IAmb	IAmb	12 51 26.9	
	comp=Z,13nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.74**	**165**	P	**P**	**12 51 25.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**19.74**	**165**	P	**Pn**	**12 51 26.3**	**-1.1**
WB0	**Warramunga Arr**	**24.86**	**147**	P	**P**	**12 52 17.3**	**-1.2**
WRAB	**Tennant Creek**	**24.98**	**147**	P	**P**	**12 52 19.0**	**-0.5**
WRAB				IAmb	IAmb	12 52 19.9	
	comp=Z,9.5nm,0.7s						
WRA	**Warramunga Arr**	**24.98**	**147**	P	**P**	**12 52 18.2**	**-1.4**
WRA	**Warramunga Arr**	**24.98**	**147**	P	**P**	**12 52 18.4**	**-1.2**
	comp=Z,5.7nm,0.6s,baz=326,slow=11,SNR=87						
	comp=Z,5.7nm,0.6s						
WB2	**Warramunga Arr**	**24.98**	**147**	P	**P**	**12 52 18.9**	**-0.7**
WRKA	**Warakurna**	**27.06**	**164**	P	**P**	**12 52 38.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**27.21**	**311**	LR	LR	13 03 57.1	
	comp=Z,43nm,19.6s,baz=120,slow=38						
AS31	**Alice Springs**	**27.89**	**153**	P	**P**	**12 52 45.4**	**-0.4**
AS31				IAmb	IAmb	12 52 46.2	
	comp=Z,2.0nm,0.3s						
ASAR	**Alice Springs**	**27.89**	**153**	P	**P**	**12 52 45.8**	**0.0**
ASAR	**Alice Springs**	**27.89**	**153**	P	**P**	**12 52 45.1**	**-0.7**
	comp=Z,2.5nm,0.4s,baz=327,slow=8.7,SNR=100						
ASAR				PcP	**PcP**	**12 56 00.6**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=348,slow=2.4,SNR=4.5						
	comp=Z,2.5nm,0.4s						
QIS	**Mount Isa**	**28.59**	**140**	P	**P**	**12 52 51.4**	**-0.7**
MORW	**Morawa**	**30.24**	**187**	P	**P**	**12 53 06.1**	**-0.5**
MORW				IAmb	IAmb	12 53 23.9	
	comp=Z,8.8nm,1.0s						
BLDU	**Ballidu**	**31.69**	**186**	P	**P**	**12 53 18.3**	**-1.0**
OOD	**Oodnadatta**	**32.26**	**154**	P	**P**	**12 53 24.0**	**-0.3**
FORT	**Forrest**	**32.50**	**168**	P	**P**	**12 53 26.1**	**-0.4**
FORT	**Forrest**	**32.50**	**168**	P	**P**	**12 53 25.9**	**-0.5**
MULG	**Mulgathing**	**33.80**	**158**	P	**P**	**12 53 37.4**	**-0.4**
NWAO	**Narrogin (SRO)**	**33.93**	**185**	P	**P**	**12 53 38.6**	**-0.3**
INKA	**Innaminka**	**34.70**	**147**	P	**P**	**12 53 46.1**	**+0.4**
LCRK	**Leigh Creek**	**35.66**	**153**	P	**P**	**12 53 53.3**	**-0.6**
BBOO	**Buckleboo**	**36.81**	**158**	P	**P**	**12 54 03.0**	**-0.7**
BBOO				IAmb	IAmb	12 54 03.7	
	comp=Z,10nm,1.1s						
BBOO	**Buckleboo**	**36.81**	**158**	P	**P**	**12 54 03.0**	**-0.7**
STKA	**Stephens Creek**	**38.45**	**150**	P	**P**	**12 54 17.4**	**-0.2**
STKA	**Stephens Creek**	**38.45**	**150**	P	**P**	**12 54 17.4**	**-0.2**
	comp=Z,5.4nm,0.5s,baz=323,slow=8.8,SNR=15						
	comp=Z,5.4nm,0.5s						
HTT	**Hallett**	**38.51**	**155**	P	**P**	**12 54 18.3**	**+0.1**
TOO	**Toolangi**	**44.93**	**151**	P	**P**	**12 55 11.8**	**+1.2**
TOO				IAmb	IAmb	12 55 16.7	
	comp=Z,9.3nm,1.1s						
CAN	**Canberra**	**45.02**	**146**	P	**P**	**12 55 12.2**	**+0.9**
SONM	**Songino Array**	**48.14**	**347**	P	**P**	**12 55 36.8**	**+1.1**
SONM	**Songino Array**	**48.14**	**347**	P	**P**	**12 55 36.1**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=165,slow=9.6,SNR=5.5						
	comp=Z,1.5nm,0.9s						
MK31	**Makanchi Array**	**56.34**	**329**	P	**P**	**12 56 37.5**	**+0.9**
MK31				IAmb	IAmb	12 56 37.9	
	comp=Z,2.6nm,1.1s						
MKAR	**Makanchi Array**	**56.34**	**329**	P	**P**	**12 56 37.1**	**+0.5**
MKAR	**Makanchi Array**	**56.34**	**329**	P	**P**	**12 56 37.2**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=124,slow=9.7,SNR=6.1						
	comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**60.74**	**331**	P	**P**	**12 57 07.6**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=140,slow=6.3,SNR=4.3						
	comp=Z,0.7nm,0.5s						
VNDA	**Vanda**	**81.66**	**172**	P	**P**	**12 59 12.9**	**-0.3**
VNDA				IAmb	IAmb	12 59 15.6	
	comp=Z,1.5nm,0.9s						
VNDA	**Vanda**	**81.66**	**172**	P	**P**	**12 59 12.4**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=304,slow=7.7,SNR=5.3						
	comp=Z,0.7nm,0.5s						

*IDC **27** 12:49:02.6±0.7,12.˚42S×71.˚48W,h0km,mb4.1/11, mbtmp4.1/14,ML3.9/3,MS3.2/4,Error ellipse: s-maj=26.8km s-min=15.0km az=36.0*
*NEIC **27** 12:49:06.9±1.7,12.˚52S±0.˚07×71.˚69W±0.˚03,h30km±6km, mb4.3/6,Error ellipse: s-maj=10.2km s-min=3.3km az=164.0*
ISC 27 12:49:07.4±0.5,**12.˚53S**±0.˚07×**71.˚55W**±0.˚06,**h35**km,**n58**, σ1§45/56,**mb4.2**/13,**Central Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CZSB	**Cruzeiro do Su**	**4.90**	**346**	Pn	**Pn**	**12 50 18.2**	**-0.5**
LPAZ	**La Paz**	**4.99**	**139**	Pn	**Pn**	**12 50 22.2**	**+1.8**
NNA	**Nana**	**5.21**	**275**	Pn	**Pn**	**12 50 20.1**	**-2.7**
NNA	**Nana**	**5.21**	**275**	Pn	**Pn**	**12 50 23.3**	**+0.4**
	7.3nm,0.3s,baz=111,slow=9.1,SNR=5.1						
NNA				Sn	**Sn**	**12 51 23.7**	**+2.0**
	8.8nm,0.3s,baz=190,slow=5.3,SNR=3.8						
NNA				LR	LR	12 52 51.5	
	comp=Z,106nm,21.6s,baz=65,slow=44						

14nm,0.3s
PB18 Visviri 5.41 159 Pn **Pn** **12 50 26.8 +0.7**
ETMB Extrema 5.88 63 Pn **Pn** **12 50 35.1 +2.9**
PB16 IPOC Station P 6.10 161 Pn **Pn** **12 50 37.4 +1.8**
PB12 IPOC Station P 6.17 169 Pn **Pn** **12 50 37.1 +1.0**
PB11 IPOC Station P 7.42 166 **Pn** **12 50 54.4 +1.0**
GO01 Chusmiza 7.45 163 **Pn** **12 50 54.2 +0.1**
PB08 IPOC Station P 7.91 163 Pn **Pn** **12 50 59.8 -0.5**
TA01 Diego Aracena 8.10 171 Pn **Pn** **12 51 02.6 +0.1**
PATCX Punta Patache 8.35 171 Pn **Pn** **12 51 05.2 -0.9**
ATAH Atahualpa 8.62 308 Pn **Pn** **12 51 09.8 -0.2**
1.5nm,0.3s,baz=125,slow=10,SNR=13
ATAH Sn **Sn** **12 52 49.1 +2.8**
1.3nm,0.3s,baz=93,slow=17,SNR=1.6
ATAH LR LR 12 54 45.5
comp=Z,158nm,19.0s,baz=127,slow=40
16nm,0.8s
PB01 IPOC Station P 8.70 167 Pn **Pn** **12 51 10.9 +0.1**
SAML Samuel 8.95 67 Pn **Pn** **12 51 16.5 +2.2**
PB07 IPOC Station P 9.29 170 **Pn** **12 51 18.2 -0.8**
PB09 IPOC Station P 9.48 167 Pn **Pn** **12 51 21.8 +0.2**
LVC Limon Verde 10.34 166 Pn **Pn** **12 51 31.1 -2.4**
LVC Limon Verde 10.34 166 LR LR 12 55 42.1
comp=Z,89nm,20.9s,baz=317,slow=38
SIV San Ignacio 10.72 110 Pn **Pn** **12 51 39.0 +0.5**
0.1nm,0.3s,baz=294,slow=12,SNR=12
SIV Sn **Sn** **12 53 34.3 -3.2**
0.2nm,0.3s,baz=17,slow=15,SNR=3.4
SIV Lg Lg 12 54 42.0
0.6nm,0.3s,baz=315,slow=10,SNR=4.4
1.2nm,0.3s
VILB Vilhena 11.08 93 Pn **Pn** **12 51 44.1 +0.6**
BOSC San Juan Bosco 11.58 323 **Pn** **12 51 46.6 -3.9**
MCRA Macar, Loja 11.61 314 Pn 12 51 45.3 -5.4
PB14 IPOC Station P 12.08 175 Pn **Pn** **12 51 55.6 -1.9**
PTLB Pontes e Lacer 12.39 105 **Pn** **12 52 02.2 +0.9**
COHC Cochancay 12.58 322 **Pn** **12 52 01.8 -2.1**
CHSH Refugio Sur-Vo 13.15 326 **Pn** **12 52 10.2 -2.1**
MACA Manacapuru-AM 14.22 50 **Pn** **12 52 26.7 +0.3**
OTAV Otavalo 14.41 331 Pn **Pn** **12 52 27.6 -1.9**
AC05 El Transito 16.27 176 **Pn** **12 52 53.0 -0.4**
ROSC El Rosal 17.47 351 Lg Lg 12 58 15.4
2.8nm,0.3s,baz=93,slow=22,SNR=2.0
BOAV Boa Vista 18.43 37 P **Pn** **12 53 20.7 +0.5**
BOAV IAmb IAmb 12 53 29.9
comp=Z,11nm,1.1s
SDV Santo Domingo 21.29 2 Lg Lg 13 00 16.4
comp=Z,1.2nm,0.3s,baz=157,slow=23,SNR=1.4
BDFB Brasilia 23.03 100 P **P** **12 54 12.1 +2.3**
BDFB Lg Lg 13 01 13.2
comp=Z,4.2nm,0.5s,baz=260,slow=11,SNR=6.2
comp=Z,0.2nm,0.3s,baz=226,slow=24,SNR=1.6
BI05 Punta Hualpn 24.16 183 P **P** **12 54 20.0 -0.4**
TXAR Lajitas Array 51.90 324 P **P** **12 58 12.9 0.0**
comp=Z,0.4nm,0.7s,baz=140,slow=7.1,SNR=2.5
comp=Z,0.4nm,0.7s
T42A Van Buren 52.61 340 P **P** **12 58 17.1 -0.8**
T42A IAmb IAmb 12 58 35.8
comp=Z,3.6nm,1.0s
PDAR Pinedale Array 65.12 330 P **P** **12 59 45.1 +0.1**
comp=Z,0.5nm,0.5s,baz=124,slow=8.8,SNR=11
comp=Z,0.5nm,0.5s
ULM Lac du Bonnet 66.05 343 P **P** **12 59 49.5 -1.0**
comp=Z,9.0nm,0.5s,baz=158,slow=6.4,SNR=29
comp=Z,9.0nm,0.5s
ELK Elko 66.65 325 P **P** **12 59 55.4 +0.5**
comp=Z,0.3nm,0.4s,baz=17,slow=9.1,SNR=2.4
comp=Z,0.3nm,0.4s
NVAR Mina Array Bea 66.92 322 P **P** **12 59 57.8 +1.2**
comp=Z,0.6nm,0.8s,baz=162,slow=7.8,SNR=4.5
comp=Z,0.6nm,0.8s
DBIC Dimbokro 68.96 78 P **P** **13 00 10.2 +0.5**
comp=Z,1.3nm,0.4s,baz=258,slow=3.3,SNR=4.2
comp=Z,1.3nm,0.4s
SNAA Sanae 71.54 162 P **P** **13 00 25.1 +0.5**
SNAA IAmb IAmb 13 00 26.0
comp=Z,3.5nm,0.9s
SNAA Sanae 71.54 162 P **P** **13 00 25.6 +1.1**
comp=Z,2.2nm,0.3s,baz=5.0,slow=11,SNR=3.2
comp=Z,2.2nm,0.3s
TORD Torodi Ar. Bea 76.96 73 P **P** **13 00 57.0 -0.1**
comp=Z,1.6nm,0.5s,baz=260,slow=4.3,SNR=8.3
comp=Z,1.6nm,0.5s
QSPA South Pole Qui 77.61 180 P **P** **13 01 01.2 +1.2**
QSPA IAmb IAmb 13 01 02.2
comp=Z,4.1nm,1.1s
QSPA South Pole Qui 77.61 180 P **P** **13 01 01.0 +1.1**
comp=Z,1.5nm,0.7s,baz=120,slow=1.6,SNR=11
comp=Z,1.5nm,0.7s
YKA Yellowknife Ar 81.93 341 P **P** **13 01 23.2 +0.2**
comp=Z,4.9nm,0.8s,baz=139,slow=5.4,SNR=74
comp=Z,4.9nm,0.8s
ILAR Eielson Array 95.09 335 P **P** **13 02 27.4 +0.9**
comp=Z,0.2nm,0.5s,baz=134,slow=2.6,SNR=2.3
comp=Z,0.2nm,0.5s
LSZ Lusaka 95.91 107 LR LR 13 42 23.3
comp=Z,63nm,20.9s,baz=318,slow=33
ZALV Zalesovo Beam 134.54 19 PKP **PKiKP** **13 08 22.4 -1.1**
comp=Z,1.0nm,0.3s,baz=299,slow=3.0,SNR=2.1
KURBB Kurchatov Arra 134.85 27 PKP **PKiKP** **13 08 23.2 -0.8**
comp=Z,0.5nm,0.3s,baz=267,slow=1.7,SNR=4.6
ASAR Alice Springs 136.26 215 PKP **PKiKP** **13 08 26.4 -1.5**
comp=Z,0.2nm,0.3s,baz=126,slow=2.2,SNR=4.5
WRA Warramunga Arr 138.89 219 PKP **PKPdf** **13 08 30.9 -0.1**
comp=Z,0.6nm,0.6s,baz=144,slow=1.7,SNR=11
SONM Songino Array 144.76 2 PKP **PKPdf** **13 08 40.3 -0.6**
comp=Z,1.4nm,0.7s,baz=321,slow=2.8,SNR=12
KSRS Korea Array 149.68 328 PKPbc **PKiKP** **13 08 54.9 0.0**
comp=Z,4.5nm,0.8s,baz=24,slow=2.3,SNR=8.0
PZH PanZhiHua 164.73 23 PKP **PKPdf** **13 09 07.5 -1.0**

*BJI **27** 13:05:26.9,35.˚53N×140.˚35E,h74km,mb4.6/57,mB5.0/22, Ms4.5/2,Ms7 4.3/5*
*MOS **27** 13:05:28.1±1.2,35.˚48N×140.˚08E,h69km,mb5.0/37,Error ellipse: s-maj=10.0km s-min=5.0km az=114.4*
*NIED **27** 13:05:29.4,35.˚57N×140.˚08E,h69km,MW4.6,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr5.17; Mθθ0.69; Mφφ-5.85; Mrθ-0.07; Mφθ-0.41; Mφr5.86; Fault plane solution: Mw8.06000×10¹⁵ NP1:φ=0.00000°, δ68.00000°,λ,87.00000°. NP2:φ=188.00000°,δ22.00000°, λ,97.00000°.*
*JMA **27** 13:05:29.4±0.2,35.˚6N±0.˚5×140.˚1E±0.˚8,h69km±1km, MD4.5/40,MW4.6/40,CENTRAL CHIBA PREF*
JMA Felt III J1 at CENTRAL CHIBA PREF .
*NEIC **27** 13:05:30.5±1.3,35.˚46N±0.˚05×140.˚01E±0.˚08,h69km±7km, mb4.8/41,Error ellipse: s-maj=9.9km s-min=7.9km az=101.0*
*IDC **27** 13:05:31.2±1.2,35.˚45N×139.˚96E,h77km±11km,mb4.1/25, mbtmp4.4/29,MS3.6/9,Error ellipse: s-maj=14.5km s-min=8.3km az=77.0*
ISC 27 13:05:29.7±0.4,**35.˚50N**±0.˚03×**140.˚15E**±0.˚04,**h67**km±2km, **h67**km:**pP-P,n279,**σ1§49/290,**mb4.6**/92,**20C-20D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.09**	**150**	P	**Pn**	**13 05 40.4**	**+0.9**
JCN				S	**Sn**	**13 05 49.1**	**+2.4**
JCN	**Nagara**	**0.09**	**150**	A	A	13 05 40.4	
	comp=E,135nm,0.8s,comp=N,48nm,2.1s						
JSMT	**Sammumatsuo**	**0.29**	**59**	P	**Pn**	**13 05 41.1**	**+0.7**
JSMT	**Sammumatsuo**	**0.29**	**59**	A	A	13 05 41.1	
	comp=E,119nm,1.1s,comp=N,38nm,1.4s						
JKUC	**kamogawauchiur**	**0.34**	**173**	P	**Pn**	**13 05 41.4**	**+0.5**
JKUC				S	**Sn**	**13 05 50.0**	**+1.0**
JKUC	**kamogawauchiur**	**0.34**	**173**	A	A	13 05 41.4	
	comp=E,62nm,1.9s,comp=N,40nm,1.3s						
TOK	**Tokyo**	**0.37**	**301**	P	**Pn**	**13 05 41.6**	**+0.6**
TOK	**Tokyo**	**0.37**	**301**	A	A	13 05 41.6	
	comp=E,332nm,0.8s,comp=N,268nm,0.4s						
JYO	**Yokosk**	**0.48**	**235**	A	A	13 05 42.0	
	comp=E,114nm,2.5s,comp=N,178nm,1.2s						
TATJ	**Tateyama 2**	**0.51**	**204**	A	A	13 05 42.8	
	comp=E,75nm,1.4s,comp=N,49nm,1.0s						
JIHU	**Itakohorinouch**	**0.56**	**33**	A	A	13 05 42.6	
	comp=E,73nm,1.8s,comp=N,84nm,0.8s						
JYT	**Yasato**	**0.73**	**3**	A	A	13 05 44.0	
	comp=E,43nm,0.4s,comp=N,51nm,0.4s						
BSO3	**Boso 3**	**0.76**	**157**	P	**Pn**	**13 05 45.6**	**+0.8**
JSGW	**Sagamiharawaka**	**0.77**	**278**	A	A	13 05 44.5	
	comp=E,57nm,0.7s,comp=N,30nm,0.7s						
JHU	**Hanno**	**0.79**	**297**	A	A	13 05 44.5	
	comp=E,32nm,1.0s,comp=N,14nm,1.1s						

JOD2 Odawara 2 0.90 255 ⇓P **Pn** **13 05 46.3 -0.4**
JOD2 ⇓S **Sn** **13 05 58.4 -1.0**
JOD2 Odawara 2 0.90 255 A A 13 05 46.3
comp=Z,14nm,0.9s
JHYU Hitachinakayam 0.92 23 A A 13 05 46.5
comp=E,19nm,2.4s,comp=N,10.0nm,1.4s
JIM2 Oshima 3 0.97 217 P **Pn** **13 05 47.6 -0.1**
JIM2 S **Sn** **13 06 00.7 -0.4**
JIM2 Oshima 3 0.97 217 A A 13 05 47.6
comp=E,58nm,0.7s,comp=N,54nm,0.5s
JHTM Izuhatsuma 1.07 240 A A 13 05 48.9
comp=E,63nm,0.3s,comp=N,63nm,0.3s
BSO1 Boso 1 1.08 141 P **Pn** **13 05 49.2 +0.6**
JAG Ashikaga 1.08 329 P **Pn** **13 05 48.3 -0.8**
JAG S **Sn** **13 06 01.7 -1.8**
JAG Ashikaga 1.08 329 A A 13 05 48.3
comp=E,19nm,1.2s,comp=N,20nm,0.6s
JRY Ryogami san 1.14 297 ⇓P **Pn** **13 05 49.6 -0.2**
JRY ⇓*e*S **Sn** **13 06 04.4 -0.4**
JRY Ryogami san 1.14 297 A A 13 05 49.6
comp=E,11nm,1.5s,comp=N,9.0nm,1.9s
JHO Hitachi 1.16 17 A A 13 05 49.5
comp=E,7.0nm,1.9s,comp=N,6.0nm,2.0s
JFNN Fujinakano 1.23 256 ⇓P **Pn** **13 05 50.9 -0.1**
JFNN ⇓S **Sn** **13 06 06.6 -0.4**
JFNN Fujinakano 1.23 256 A A 13 05 50.9
comp=E,14nm,0.8s,comp=N,13nm,2.2s
JIZS Izushimoda 1.30 234 ⇓P **Pn** **13 05 51.7 -0.1**
JIZS ⇓S **Sn** **13 06 08.0 -0.5**
JIZS Izushimoda 1.30 234 A A 13 05 51.7
comp=E,15nm,1.0s,comp=N,16nm,1.6s
JYN Shimob 1.31 271 ⇓P **Pn** **13 05 51.7 -0.3**
JYN ⇓*e*S **Sn** **13 06 08.1 -0.7**
JKT Katashina 1.46 330 P **Pn** **13 05 53.2 -0.9**
JKT S **Sn** **13 06 10.5 -2.0**
JKT Katashina 1.46 330 A A 13 05 53.2
comp=E,23nm,0.3s,comp=N,16nm,0.5s
SHZ3 Shizuoka 3 1.64 255 A A 13 05 56.3
comp=E,19nm,1.2s,comp=N,24nm,1.0s
JSG Sagara 1.81 244 **Pn** **13 05 59.2 +0.7**
JSG Sagara 1.81 244 P **Pn** **13 05 59.6 +1.0**
JNY Yasuok 1.87 266 A A 13 05 59.2
comp=E,7.0nm,2.2s,comp=N,7.0nm,0.6s
MJAR Matsushiro Arr 1.89 304 P **Pn** **13 05 59.2 -0.5**
comp=N,192nm,0.3s,baz=182,slow=17,SNR=779
MAJO Matsushiro 1.89 304 **Pn** **13 05 60.0 +0.2**
MAJO Matsushiro 1.89 304 P **Pn** **13 06 00.1 +0.4**
MAJO Matsushiro 1.89 304 *d*iP **Pn** **13 05 59.6 -0.1**
MJB9 Matsu-Tunnel 1.89 304 **Pn** **13 06 00.8 +1.0**
JGF Kuroka 2.28 273 Pn **Pn** **13 06 03.1 -1.9**
JHJ Hachijo jima 2 2.39 187 P **Pn** **13 06 07.7 +1.1**
comp=N,898nm,0.3s,baz=75,slow=11,SNR=24
JHJ S **Sn** **13 06 35.6 +0.9**
comp=N,2µm,0.4s,baz=254,slow=24,SNR=6.1
JHJ2 Mitsune 2.40 187 **Pn** **13 06 07.7 +1.1**
JHJ2 Mitsune 2.40 187 P **Pn** **13 06 08.9 +2.3**
JMM Marumori 2.42 12 **Pn** **13 06 08.1 +1.2**
JMM Marumori 2.42 12 P **Pn** **13 06 08.1 +1.2**
JTM Tenmabayashi 5.33 8 **Pn** **13 06 47.1 +0.5**
JTM Tenmabayashi 5.33 8 P **Pn** **13 06 47.4 +0.8**
JMN Monobe 5.46 253 **Pn** **13 06 48.8 +0.3**
JMN Monobe 5.46 253 P **Pn** **13 06 49.8 +1.3**
ERM Erimo 6.92 19 P **Pn** **13 07 08.2 -0.1**
ERM Erimo 6.92 19 *i*P **Pn** **13 07 07.1 -1.2**
JEM Erimo 6.92 19 P **Pn** **13 07 08.6 +0.3**
JNU Nakatsue 8.03 255 Pn **Pn** **13 07 24.0 +0.4**
JNU Nakatsue 8.03 255 P **Pn** **13 07 25.2 +1.6**
JNU Nakatsue 8.03 255 P **Pn** **13 07 24.2 +0.7**
comp=N,33nm,0.7s,baz=136,slow=1.4,SNR=32
JNU LR LR 13 10 52.7
comp=N,270nm,21.4s,baz=58,slow=41
JCJ Chichijima 8.55 168 Pn **Pn** **13 07 28.4 -2.3**
JCJ Chichijima 8.55 168 P Pn 13 07 25.1 -5.7
comp=N,119nm,0.4s,baz=280,slow=20,SNR=7.3
JCJ S **Sn** **13 08 58.5 -7.3**
comp=N,98nm,0.4s,baz=276,slow=22,SNR=2.7
ASAJ Asahikawa 8.81 12 P **Pn** **13 07 32.8 -1.5**
comp=N,6.2nm,0.3s,baz=217,slow=13,SNR=29
ASAJ S **Sn** **13 09 06.6 -5.3**
comp=N,10nm,0.9s,baz=39,slow=32,SNR=1.2
JKA Kamikawa-asahi 8.81 12 Pn **Pn** **13 07 32.7 -1.5**
NMR Nemuro--Hokkai 8.97 27 *e*P **Pn** **13 07 32.4 -3.9**
YUK Yuzh-Kuril'sk 9.59 26 P **Pn** **13 07 41.4 -3.4**
SHO Shikotan 9.82 30 *e*P **Pn** **13 07 43.7 -4.2**
KSRS Korea Array 10.04 285 P **Pn** **13 07 53.9 +3.0**
comp=N,20nm,1.0s,baz=101,slow=14,SNR=30
KSRS LR LR 13 11 36.9
comp=N,293nm,21.9s,baz=100,slow=37
KS19 Wonju Array Si 10.09 285 **Pn** **13 07 53.1 +1.4**
TJN Taejon 10.40 279 *i*P **Pn** **13 07 54.4 -1.6**
USA0B Ussuriysk Arra 10.71 327 **Pn** **13 07 59.4 -0.8**
USA0B Ussuriysk Arra 10.71 327 *i*P **Pn** **13 08 01.1 +1.0**
USRK Ussuriysk Ar. 10.71 327 P **Pn** **13 08 02.7 +2.6**
comp=N,14nm,0.9s,baz=141,slow=1.1,SNR=9.9
YSS Yuzh-Sakhalins 11.61 9 *i*P **Pn** **13 08 13.2 +0.8**
YSS pmax pmax
comp=Z,22nm,1.0s
MDJ Mudanjiang 12.17 322 Pn **Pn** **13 08 20.4 +0.4**
MDJ Mudanjiang 12.17 322 P **Pn** **13 08 20.0 0.0**
MDJ sP P 13 08 38.5 +8.3
MDJ S **Sn** **13 10 36.0 +2.1**
MDJ PcP **PcP** **13 13 56.0 -2.5**
MDJ PcS **PcS** **13 17 30.5 -2.0**
MDJ pmax pmax
comp=Z,12nm,2.4s
MDJ LR LR
comp=Z,550nm,4.5s
JOW Kunigami 13.33 233 P **Pn** **13 08 38.2 +2.4**
comp=Z,8.0nm,0.4s,baz=112,slow=21,SNR=1.8
BNX BinXian 14.06 321 ⇑P **Pn** **13 08 45.3 -0.2**
BNX pmax pmax
comp=Z,21nm,1.0s
BNX pmax pmax
comp=Z,500nm,4.9s
KLR Kul'dur 15.05 338 *i*P **Pn** **13 08 58.7 +0.5**
KLR pmax pmax
comp=Z,4.0nm,0.9s
KLR Kul'dur 15.05 338 P **Pn** **13 08 58.0 -0.3**
comp=Z,1.6nm,0.4s,baz=160,slow=7.8,SNR=6.7
TYV Tymovskoe 15.47 6 *e*P **P** **13 09 09.4 +2.7**
TYV pmax pmax
comp=Z,17nm,1.3s
TYV pmax pmax
comp=Z,800nm,3.6s
NJ2 Nanjing 18.03 265 *e*P **P** **13 09 34.0 -1.2**
NJ2 pP **pP** **13 09 47.5 -1.6**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,200nm,4.1s
TIA Tai'an 18.67 279 *e*P **Pn** **13 09 42.0 -1.3**
BJI Beijing 19.47 291 P **Pn** **13 09 56.0 +3.3**
BJI pmax pmax
comp=Z,190nm,5.1s
NACB Ninganchiao 19.62 240 P **P** **13 09 51.5 -1.2**
NACB IAmb IAmb 13 10 11.8
comp=Z,31nm,1.1s
NACB Ninganchiao 19.62 240 P **Pn** **13 09 53.5 -1.1**
SSLB Suanglung 20.32 240 P **P** **13 09 59.8 -0.5**
HIA Hailar 20.32 319 *i*P **P** **13 09 58.2 -1.9**
HIA pmax pmax
comp=Z,7.0nm,0.8s
YULB Yu-li 20.33 239 P Pn 13 10 01.7 -1.3
ZEA Zeya 20.36 338 *e*P **P** **13 09 58.3 -2.1**
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,30nm,1.1s
HNS HongShan 20.54 283 ⇓P **P** **13 10 01

HHC pmax pmax
comp=Z,24nm,0.5s
HHC pmax pmax
comp=Z,290nm,5.8s
BTO Baotou 24.20 291 *e*P **P 13 10 41.5 +1.6**
BTO pP **pP 13 10 58.5 +2.6**
BTO sP **sP 13 11 08.0 +4.0**
BTO PP **PnPn 13 11 19.5 +6.7**
BTO pmax pmax
comp=Z,21nm,0.6s
BTO pmax pmax
comp=Z,260nm,6.0s
MA2 Magadan 25.07 13 *i* P **P 13 10 48.9 +1.4**
MA2 pmax pmax
comp=Z,17nm,0.8s
XAN Xi'an 25.64 276 ⇑P **P 13 10 52.5 -0.5**
XAN pmax pmax
comp=Z,10.0nm,0.9s
ENH Enshi 26.21 267 P **P 13 10 57.4 -0.8**
ENH IAmb IAmb 13 11 00.4
comp=Z,31nm,0.6s
YAK Yakutsk 27.36 349 *e*P **P 13 11 08.0 -0.1**
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=N,11nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.3s
ULN Ulaanbaatar 27.41 307 *ce*P **P 13 11 08.0 -1.0**
ULN pmax pmax
comp=Z,4.0nm,1.0s
GULI GuiLin 27.54 257 ⇑P P 13 11 17.5 +7.4
GULI pmax pmax
comp=Z,20nm,1.2s
GULI pmax pmax
comp=Z,380nm,3.8s
SONM Songino Array 27.84 307 P **P 13 11 11.7 -1.1**
SONM Songino Array 27.84 307 P **P 13 11 11.8 -0.9**
comp=Z,3.0nm,0.7s,baz=110,slow=9.0,SNR=19
SONM PcP **PcP 13 14 27.3 +0.1**
comp=Z,1.0nm,0.9s,baz=132,slow=2.8,SNR=4.0
SONM LR LR 13 23 40.2
comp=Z,103nm,19.0s,baz=186,slow=39
comp=Z,3.0nm,0.7s
H11N2 WAKE ISLAND Hy 28.31 117 T T 13 41 12.1
baz=308,slow=75,SNR=129
H11N1 WAKE ISLAND Hy 28.32 117 T T 13 41 07.9
baz=308,slow=75,SNR=89
BOD Bodaibo 28.32 330 *e*P **P 13 11 17.2 +0.5**
BOD pmax pmax
comp=Z,13nm,1.5s
H11N3 WAKE ISLAND Hy 28.33 117 T T 13 41 13.4
baz=308,slow=75,SNR=119
SEY Seymchan 28.50 12 *i* P **P 13 11 19.7 +1.5**
SEY pmax pmax
comp=Z,4.0nm,0.9s
H11S1 WAKE ISLAND Hy 28.95 119 T T 13 41 31.5
baz=310,slow=76,SNR=33
H11S3 WAKE ISLAND Hy 28.95 119 T T 13 41 52.2
baz=310,slow=76,SNR=29
H11S2 WAKE ISLAND Hy 28.97 119 T T 13 41 53.4
baz=310,slow=76,SNR=24
LZH Lanzhou 29.35 282 *e*P **P 13 11 27.3 +1.0**
LZH pmax pmax
comp=Z,9.0nm,1.3s
GYA Guiyang 29.97 262 ⇑*i*P **P 13 11 31.0 -0.9**
GYA pmax pmax
comp=Z,17nm,0.8s
CD2 Chengdu 30.68 272 P **P 13 11 37.5 -0.5**
GTA Gaotai 32.07 289 *e*P **P 13 11 50.5 +0.3**
GTA PcP **PcP 13 14 39.5 +1.2**
GTA pmax pmax
comp=Z,7.0nm,0.8s
KMI Kunming 33.73 263 ⇑P P 13 11 59.5 -5.5
KMI pmax pmax
comp=Z,15nm,2.7s
PZH PanZhiHua 33.94 266 P **P 13 12 07.3 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,210nm,5.5s
BILL Bilibino 35.79 16 *i* P **P 13 12 22.9 +1.0**
BILL pmax pmax
comp=Z,23nm,2.8s
GOMU GeErMu 36.50 285 P **P 13 12 29.3 +0.5**
GOMU pmax pmax
comp=Z,5.0nm,0.7s
TIXI Tiksi 36.70 354 P **P 13 12 29.8 +0.1**
TIXI IAmb IAmb 13 12 35.1
comp=Z,6.5nm,0.8s
TIXI Tiksi 36.70 354 *i* P **P 13 12 30.1 +0.5**
TIXI pmax pmax
comp=Z,40nm,4.0s
UBPT Khong Chiam 36.96 246 P **P 13 12 31.8 -0.7**
NONG Nongkai 37.05 252 P **P 13 12 32.6 -0.6**
CRAI Chiangrai 38.03 257 P **P 13 12 40.9 -0.7**
CLES Cleveland East 38.92 48 P **P 13 12 49.5 +0.9**
FAKI Fak Fak 38.92 193 P **P 13 12 48.3 -0.7**
FAKI IAmb IAmb 13 12 52.5
comp=Z,6.5nm,0.7s
FAKI Fak Fak 38.92 193 P **P 13 12 48.3 -0.7**
SANI Sanana 39.63 203 P **P 13 12 54.7 -0.2**
CMAR Chiang Mai Arr 40.12 256 P **P 13 12 58.2 -0.8**
comp=Z,1.3nm,0.8s,baz=49,slow=5.4,SNR=9.3
CMAR PcP **PcP 13 15 02.7 +0.3**
comp=Z,1.0nm,0.5s,baz=7.5,slow=1.6,SNR=7.8
comp=Z,1.3nm,0.8s
DGZ Jazzator, Alta 40.48 307 *i* P **P 13 13 02.2 +0.4**
DGZ pmax pmax
comp=Z,29nm,0.9s
WMQ Urumqi 40.64 298 *e*P **P 13 13 04.0 +0.9**
WMQ pmax pmax
comp=Z,26nm,0.9s
ZAA0 Zalesovo Array 42.21 314 P **P 13 13 15.2 -0.6**
ZAA0 IAmb IAmb 13 13 16.5
comp=Z,15nm,1.0s
ZALV Zalesovo Beam 42.21 314 P **P 13 13 15.2 -0.6**
ZALV Zalesovo Beam 42.21 314 P **P 13 13 15.8 +0.1**
comp=Z,9.5nm,0.6s,baz=96,slow=7.5,SNR=24
ZALV PcP **PcP 13 15 08.6 0.0**
comp=Z,5.3nm,0.5s,baz=101,slow=3.5,SNR=8.2
comp=Z,9.5nm,0.6s
MK31 Makanchi Array 44.09 303 P **P 13 13 31.0 0.0**
MK31 IAmb IAmb 13 13 32.0
comp=Z,9.4nm,0.8s
MK31 Makanchi Array 44.09 303 *ce*P **P 13 13 31.2 +0.2**
MKAR Makanchi Array 44.09 303 P **P 13 13 30.9 -0.1**
MKAR Makanchi Array 44.09 303 P **P 13 13 31.1 +0.1**
comp=Z,9.0nm,0.6s,baz=84,slow=9.7,SNR=98
MKAR LR LR 13 31 14.7
comp=Z,111nm,20.4s,baz=88,slow=35
comp=Z,9.0nm,0.6s
NRIK Noril'sk 44.24 336 P **P 13 13 31.6 -0.3**
NRIK IAmb IAmb 13 13 34.6
comp=Z,10nm,0.6s
NRIK Noril'sk 44.24 336 *ce*P **P 13 13 32.1 +0.2**
NRIK pmax pmax
comp=Z,12nm,1.0s
NRIK Noril'sk 44.24 336 P **P 13 13 32.0 +0.2**
comp=Z,9.6nm,0.6s,baz=108,slow=8.6,SNR=16
comp=Z,9.6nm,0.6s
MAKZ Makanchi 44.30 303 P **P 13 13 32.1 -0.6**
MAKZ IAmb IAmb 13 13 33.4
comp=Z,10.0nm,0.6s
MAKZ Makanchi 44.30 303 P **P 13 13 32.1 -0.6**
MAKZ pmax pmax
comp=Z,10.0nm,0.6s
MAKZ Makanchi 44.30 303 ⇑P **P 13 13 32.8 +0.1**
MAKZ sP **sP 13 13 56.8 -0.5**
KAPI Kappang 44.62 210 LR LR 13 33 31.1
comp=Z,42nm,18.9s,baz=352,slow=38
KURK Kurchatov 46.09 309 P **P 13 13 46.5 -0.2**
KURK Kurchatov 46.09 309 *ce*P **P 13 13 46.7 -0.1**
KURK pmax pmax
comp=Z,31nm,0.8s
KURK Kurchatov 46.09 309 ⇑P **P 13 13 46.5 -0.2**
KURK pP **pP 13 14 04.1 +0.4**
KURK PcP **PcP 13 15 21.6 -0.4**
RAMN Ramite 46.10 275 *e*P **P 13 13 47.3 -0.2**
comp=Z,42nm,0.6s
JIRN Jiri 46.15 276 *e*P **P 13 13 47.9 -0.1**
comp=Z,21nm,0.5s
KURBB Kurchatov Arra 46.16 309 P **P 13 13 47.1 -0.2**
comp=Z,18nm,0.8s,baz=84,slow=7.8,SNR=143
KURBB PcP **PcP 13 15 21.7 -0.5**
comp=Z,2.1nm,0.7s,baz=89,slow=3.8,SNR=5.6
comp=Z,18nm,0.8s
GUN Gumba 46.30 276 *e*P **P 13 13 48.6 -0.5**
comp=Z,40nm,0.9s
PKI Pulchoki 46.82 276 *e*P **P 13 13 52.4 -0.8**
comp=Z,17nm,0.8s
GKN Gorkha 47.27 277 *e*P **P 13 13 56.1 -0.4**
E19K Redstone River 47.31 28 P **P 13 13 57.2 +1.1**
DANN Dangsing 47.84 278 *e*P **P 13 14 01.1 0.0**
comp=Z,66nm,0.7s
TARG Taragay, Kyrgy 48.17 297 P **P 13 14 04.6 +1.0**
TARG IAmb IAmb 13 14 05.9
comp=Z,15nm,0.9s
TARG Taragay, Kyrgy 48.17 297 P **P 13 14 04.6 +1.0**
TARG pmax pmax
comp=Z,15nm,0.9s
KOLN Koldanda 48.20 277 *e*P **P 13 14 03.5 -0.3**
KDU Kakadu 48.47 190 P **P 13 14 06.5 +1.0**
PYUN Piuthan 48.56 278 *e*P **P 13 14 06.6 +0.1**
comp=Z,34nm,0.5s
B21K Ikpikpuk River 48.61 25 P **P 13 14 07.8 +1.8**
B21K IAmb IAmb 13 14 21.1
comp=Z,5.5nm,0.8s
E21K Killik River 48.67 27 P **P 13 14 07.5 +0.9**
MTN Manton Dam 48.83 192 P **P 13 14 07.7 -0.6**
MTN Manton Dam 48.83 192 P **P 13 14 08.8 +0.5**
KDAK Kodiak Island 48.93 41 P **P 13 14 09.9 +1.3**
KDAK Kodiak Island 48.93 41 P **P 13 14 09.9 +1.3**
KDAK pmax pmax
comp=Z,44nm,1.5s
KSH Kashi 50.11 295 P P 13 14 23.3 +5.2
KSH sP sP 13 14 48.3 +5.3
KSH pmax pmax
comp=Z,10.0nm,0.7s
AAK Ala-Archa 50.33 299 P **P 13 14 19.7 -0.1**
AAK IAmb IAmb 13 14 21.0
comp=Z,3.8nm,0.7s
AAK Ala-Archa 50.33 299 *ce*P **P 13 14 20.8 +1.0**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 50.33 299 LR LR 13 35 47.9
comp=Z,103nm,21.8s,baz=86,slow=36
MDM Murphy Dome 50.76 31 P **P 13 14 23.5 +1.0**
MDM IAmb IAmb 13 14 48.5
comp=Z,8.9nm,1.1s
BVAR Borovoye Array 50.86 313 P **P 13 14 23.3 -0.1**
comp=Z,2.1nm,0.4s,baz=87,slow=7.3,SNR=16
BVAR PcP **PcP 13 15 39.0 -0.2**
comp=Z,2.9nm,0.6s,baz=85,slow=4.9,SNR=4.8
comp=Z,2.1nm,0.4s
BRVK Borovoye 50.92 313 P **P 13 14 23.4 -0.4**
BRVK IAmb IAmb 13 14 27.0
comp=Z,5.2nm,0.9s
BRVK Borovoye 50.92 313 *i* P **P 13 14 23.2 -0.6**
BRVK pmax pmax
comp=Z,6.0nm,0.9s
ILAR Eielson Array 51.34 32 P **P 13 14 28.0 +1.2**
comp=Z,1.2nm,0.7s,baz=267,slow=6.3,SNR=17
comp=Z,1.2nm,0.7s
ARSB Arslanbob 51.77 298 P **P 13 14 31.1 +0.5**
ARSB Arslanbob 51.77 298 P **P 13 14 31.1 +0.5**
ARSB pmax pmax
comp=Z,6.0nm,1.3s
KNRA Kunumurra 52.02 194 P **P 13 14 32.3 0.0**
GSI Gunungsitoli 52.13 239 P **P 13 14 32.0 -1.4**
KKAR Karatay Array 53.02 301 P **P 13 14 39.1 -0.5**
KKAR Karatay Array 53.02 301 P **P 13 14 39.1 -0.5**
I28M Miner Creek 54.21 30 P **P 13 14 50.0 +2.0**
FITZ Fitzroy Crossi 55.05 197 P **P 13 14 55.5 +1.0**
WB0 Warramunga Arr 55.23 187 P **P 13 14 55.2 -0.6**
EPYK Eagle Plains 55.37 29 P **P 13 14 58.1 +1.8**
EPYK IAmb IAmb 13 15 18.4
comp=Z,7.3nm,0.9s
WRAB Tennant Creek 55.40 187 P **P 13 14 56.5 -0.5**
WRAB IAmb IAmb 13 14 58.1
comp=Z,20nm,1.2s
WRAB Tennant Creek 55.40 187 P **P 13 14 56.5 -0.5**
WRAB pmax pmax
comp=Z,21nm,1.2s
WRA Warramunga Arr 55.41 187 P **P 13 14 56.5 -0.6**
WRA Warramunga Arr 55.41 187 P **P 13 14 56.5 -0.6**
WRA pmax pmax
comp=Z,1.0nm,1.1s
WRA Warramunga Arr 55.41 187 P **P 13 14 56.5 -0.6**
comp=Z,7.2nm,0.4s,baz=2.0,slow=7.5,SNR=220
comp=Z,7.2nm,0.4s
SIMJ Simiganj 55.52 296 P **P 13 14 58.0 0.0**
SIMJ sP **sP 13 15 23.3 +0.3**
SVE Sverdlovsk 55.63 319 *e*P **P 13 14 58.4 +0.1**
SVE pmax pmax
comp=Z,10.0nm,0.9s
QIS Mount Isa 55.75 181 P **P 13 15 01.1 +1.6**
ARU Arti 56.84 319 P **P 13 15 06.4 -0.5**
ARU Arti 56.84 319 *c* *i*P **P 13 15 06.7 -0.2**
ARU *PP **pP 13 15 21.4 -3.0**
ARU 13 15 59.2
ARU 13 17 09.3
ARU S **S 13 22 56.0 +1.0**
ARU SS **SS 13 26 38.5 -4.9**
ARU pmax pmax
comp=Z,15nm,0.8s
ARU Arti 56.84 319 P **P 13 15 06.8 -0.2**
ARU pP **pP 13 15 24.8 +0.4**
ARU sP **sP 13 15 32.5 +0.4**
KBL Kabul 57.02 291 P **P 13 15 07.7 -1.1**
KBL IAmb IAmb 13 15 09.7
comp=Z,7.3nm,1.0s
KBL Kabul 57.02 291 P **P 13 15 07.7 -1.1**
KBL pmax pmax
comp=Z,7.0nm,1.0s
ABKAR Akbulak array 58.15 311 P **P 13 15 16.4 +0.1**
ABKAR IAmb IAmb 13 15 17.0
comp=Z,7.6nm,0.8s
ASAR Alice Springs 59.14 187 P **P 13 15 23.0 -0.4**
ASAR Alice Springs 59.14 187 P **P 13 15 23.4 0.0**
comp=Z,2.1nm,0.4s,baz=19,slow=12,SNR=46
comp=Z,2.1nm,0.4s
C36M Paulatuk 59.25 24 P **P 13 15 24.5 +0.9**
C36M IAmb IAmb 13 15 50.9
comp=Z,11nm,1.4s
MBWA Marble Bar 59.58 202 P **P 13 15 26.0 -0.4**
KIRV Kirov 60.86 323 *ce*P **P 13 15 35.1 +0.4**
KIRV Kirov 60.86 323 LR LR 13 44 53.7
comp=Z,97nm,18.1s,baz=39,slow=39
WRKA Warakurna 61.24 192 P **P 13 15 38.2 +0.5**
SPITS Spitsbergen Ar 61.83 349 P **P 13 15 41.7 +0.7**
comp=Z,5.3nm,0.7s,baz=91,slow=6.7,SNR=12
comp=Z,5.3nm,0.7s
KBS Kingsbay 61.99 350 *i* P **P 13 15 37.5 -4.6**
BELG Belogornoye 64.23 317 *i* P **P 13 15 57.0 -0.3**
BELG pmax pmax
comp=Z,3.0nm,1.0s
KLMR Klimovskoe 64.51 328 *e*P **P 13 15 56.1 -2.9**
KLMR AMP 13 16 05.9
comp=Z,19nm,1.5s
KLMR Klimovskoe 64.51 328 *e*P **P 13 15 56.1 -2.9**
KLMR pmax pmax
comp=Z,19nm,1.5s
ARCES ARCESS Array B 65.07 339 P **P 13 16 03.0 +0.5**
comp=Z,3.5nm,0.7s,baz=57,slow=6.8,SNR=11
comp=Z,3.5nm,0.7s
LCRK Leigh Creek 65.62 182 P **P 13 16 07.8 +1.4**
YKA Yellowknife Ar 65.65 29 P **P 13 16 07.1 +0.8**
comp=Z,0.8nm,0.7s,baz=302,slow=6.9,SNR=13
comp=Z,0.8nm,0.7s
MULG Mulgathing 65.68 186 P **P 13 16 07.4 +0.6**
FORT Forrest 66.90 191 P **P 13 16 14.6 0.0**
FORT Forrest 66.90 191 P **P 13 16 15.7 +1.1**
STKA Stephens Creek 67.03 179 P **P 13 16 15.8 +0.4**
comp=Z,2.2nm,0.6s,baz=326,slow=7.1,SNR=7.6
comp=Z,2.2nm,0.6s
NEEM North Greenlan 67.11 3 *i* P **P 13 16 15.4 -0.4**
NEEM IAmb IAmb 13 16 20.1
comp=Z,5.7nm,0.8s
DAG Danmarks Havn 67.21 355 *i* P **P 13 16 14.8 -1.3**
DAG IAmb IAmb 13 16 17.6
comp=Z,4.5nm,0.7s
VRH Novokhopyorsk 68.03 318 *e*P **P 13 16 19.9 -1.7**
VRH pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 68.71 323 ⇑*e*P **P 13 16 26.3 +0.5**
OBN *e* 13 19 04.0
OBN *e*S **S 13 25 25.5 +1.9**
OBN *e*SS **SS 13 29 54.3 +5.9**
OBN pmax pmax
comp=Z,61nm,2.5s
OBN MLR MLR
comp=Z,117nm,18.0s
LPSR Galich'ya Gora 68.82 320 *e*P **P 13 16 24.1 -2.5**
LPSR pmax pmax
comp=Z,20nm,0.8s
BLDU Ballidu 69.36 201 P **P 13 16 30.1 +0.1**
VSR Storozhevoye 69.41 319 *e*P **P 13 16 27.6 -2.6**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 69.47 318 *e*P **P 13 16 28.7 -1.9**
VORD pmax pmax
comp=Z,8.0nm,0.5s
FINES FINESS Array B 69.69 332 P **P 13 16 31.9 +0.1**
comp=Z,10nm,0.7s,baz=71,slow=6.1,SNR=26
comp=Z,10nm,0.7s
KBZ Khabaz 71.12 311 *ce*P **P 13 16 40.7 -0.1**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 71.12 311 P **P 13 16 41.2 +0.4**
comp=Z,5.6nm,0.9s,baz=45,slow=6.2,SNR=9.5
comp=Z,5.6nm,0.9s
KIV Kislovodsk 71.14 311 *e*P **P 13 16 41.1 0.0**
KIV pmax pmax
comp=Z,13nm,1.1s
NWAO Narrogin (SRO) 71.37 200 P **P 13 16 42.4 +0.1**
SUMG Summit 72.21 360 *i* P **P 13 16 48.0 +0.6**
SUMG IAmb IAmb 13 16 49.9
comp=Z,8.3nm,0.8s
MNK Minsk 73.19 326 *i* P **P 13 16 51.8 -1.2**
comp=E,5.0nm,0.7s
MNK *i* P **P 13 16 51.8 -1.2**
comp=N,22nm,0.8s
MNK *i* P **P 13 16 51.8 -1.2**
comp=Z,20nm,0.8s,baz=52
MNK *i* pP **PcP 13 17 08.3 -1.0**
MNK *i* PP **PP 13 19 35.1 -1.0**
MNK *i* PPP PPP 13 21 19.9
MNK *i* S **S 13 26 15.6 +0.1**
MNK *i* sS **sS 13 26 44.1 -2.2**
MNK *i* SS **SS 13 30 58.9 +1.9**
MNK *i* SSS SSS 13 34 20.0
MNK *i* LQ LQ 13 44 34.0
MNK *i* LR LR 13 49 32.2
MNK *i* LRM MLR 13 51 34.8
comp=Z,147nm,17.2s
MNK *i* LRM MLR 13 51 45.4
comp=N,89nm,16.3s
MNK *i* LRM MLR 13 52 22.8
comp=E,23nm,12.0s
MNK Minsk 73.19 326 *i* P **P 13 16 51.7 -1.2**
MNK *i* *PP **PcP 13 17 08.2 -1.0**
MNK *i* 13 19 35.1
MNK *i* PPP PPP 13 21 19.9
MNK *i* S **S 13 26 15.6 +0.1**
MNK *i* *SS **sS 13 26 44.1 -2.2**
MNK *i* 13 26 54.6
MNK *i* SS **SS 13 30 58.9 +1.9**
MNK pmax pmax
comp=E,5.0nm,0.6s
MNK pmax pmax
comp=N,22nm,0.8s
MNK pmax pmax
comp=Z,20nm,0.8s
MNK MLR MLR
comp=Z,147nm,17.0s
MNK MLR MLR
comp=N,89nm,16.0s
MNK MLR MLR
comp=E,23nm,12.0s
NACGM Naroch 73.44 326 *e*P **P 13 16 50.2 -4.2**
comp=Z,20nm,0.8s,baz=52
AKASG Malin Array Be 74.88 322 *ce*P **P 13 17 02.5 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 74.88 322 P **P 13 17 02.5 -0.4**
comp=Z,1.3nm,0.3s,baz=47,slow=5.8,SNR=22
comp=Z,1.3nm,0.3s
AKBB Malin Array Si 74.88 322 *ce*P **P 13 17 02.4 -0.5**
AKBB pmax pmax
comp=Z,12nm,0.9s
HFS Hagfors 75.06 335 P **P 13 17 03.8 0.0**
comp=Z,3.8nm,0.8s,baz=47,slow=2.8,SNR=8.5
comp=Z,3.8nm,0.8s
NB2 NORSAR Subarra 75.20 337 P **P 13 17 04.6 0.0**
comp=Z,1.7nm,0.6s,baz=40,slow=6.2
NOA NORSAR Array B 75.20 337 P **P 13 17 04.9 +0.3**
comp=Z,4.7nm,0.8s,baz=40,slow=5.8,SNR=11
comp=Z,4.7nm,0.8s
ICESG Greenland Ices 75.72 360 *i* P **P 13 17 08.2 +0.4**
ICESG IAmb IAmb 13 17 10.2
comp=Z,6.9nm,0.8s
NVAR Mina Array Bea 76.73 52 P **P 13 17 16.2 +2.2**
comp=Z,0.8nm,0.6s,baz=294,slow=5.6,SNR=12
comp=Z,0.8nm,0.6s
BRTR Keskin Array B 79.10 311 *ce*P **P 13 17 30.0 +3.0**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 79.10 311 P **P 13 17 27.4 +0.4**
comp=Z,2.1nm,0.7s,baz=98,slow=3.5,SNR=9.8
comp=Z,2.1nm,0.7s
PDAR Pinedale Array 79.47 45 P **P 13 17 30.4 +1.2**
comp=Z,1.0nm,0.6s,baz=272,slow=2.0,SNR=16
comp=Z,1.0nm,0.6s
STHS Stebnicka Huta 79.62 324 *e*P **P 13 17 29.8 +0.3**
STHS Stebnicka Huta 79.62 324 *e*P **P 13 17 29.8 +0.3**
STHS pmax pmax
comp=Z,5.0nm,0.9s
RDMU Red Mountain 80.85 46 P **P 13 17 38.1 +1.5**
SRU San Rafael Swe 81.20 48 P **P 13 17 39.5 +1.1**
SRU San Rafael Swe 81.20 48 P **P 13 17 39.5 +1.1**
SRU pmax pmax
comp=Z,3.0nm,0.7s
VYHS Vyhne 81.40 325 *e*P **P 13 17 40.4 +1.4**
VYHS Vyhne 81.40 325 *e*P **P 13 17 40.4 +1.4**
VYHS pmax pmax
comp=Z,13nm,1.4s
U15A North Rim 81.77 51 P **P 13 17 43.2 +1.7**
CLL Collm 81.91 330 *i* P **P 13 17 41.5 -0.1**
comp=Z,11nm,1.0s
CLL Collm 81.91 330 *i* P **P 13 17 41.5 -0.1**
CLL pmax pmax
comp=Z,11nm,1.0s
CONA Conrad Observa 83.18 326 *e*P **P 13 17 48.5 0.0**
comp=Z,0.8nm,0.4s
KHC Kasperske Hory 83.31 328 *ce*P **P 13 17 49.7 +0.7**
KHC pmax pmax
comp=Z,23nm,2.5s
GERES GERESS Array B 83.47 328 P **P 13 17 50.0 +0.1**
GERES GERESS Array B 83.47 328 P **P 13 17 50.0 +0.1**
comp=Z,1.2nm,0.7s,baz=7.8,slow=11,SNR=3.9
comp=Z,1.2nm,0.7s
EKA Eskdalemuir Ar 84.23 340 P **P 13 17 53.6 +0.1**
comp=Z,1.1nm,0.5s,baz=29,slow=3.8,SNR=5.2
comp=Z,1.1nm,0.5s
SOKA Soboth 84.49 326 *i* P **P 13 17 54.9 -0.3**
comp=Z,5.8nm,0.8s
PPT Papeete 84.88 116 LR LR 13 49 07.5
comp=Z,48nm,21.4s,baz=340,slow=31
KBA Koelnbreinsper 84.96 327 *i* P **P 13 17 57.9 +0.3**
comp=Z,3.2nm,0.6s
LESA Schwarzleotal 84.99 327 *i* P **P 13 17 57.1 -0.5**
comp=Z,0.9nm,0.3s
MYKA Terra Mystica 85.16 326 *i* P **P 13 17 58.0 -0.5**
comp=Z,2.1nm,0.5s
MEM Membach 85.21 333 *d*PcP **PcP 13 18 01.2 -0.4**
BSTI Sart Tilman 85.40 333 *d*P **P 13 17 59.4 -0.1**
ABTA Abfaltersbach 85.58 327 *e*P **P 13 17 58.5 -2.1**
comp=Z,11nm,1.5s
BCLA Clavier 85.63 333 *d*P **P 13 18 00.8 +0.1**
BGES Gesves 85.74 333 *d*P **P 13 18 01.1 -0.1**
BGES *d*PcP **PcP 13 18 04.3 +0.3**
BMRD Maredsous 85.92 333 *d*P **P 13 18 02.2 +0.1**
BMRD *d*pP **pP 13 18 17.8 -2.9**
DOU Dourbes 86.16 333 *d*P **P 13 18 03.3 +0.1**
TORD Torodi Ar. Bea 117.66 313 PKP **PKiKP 13 24 08.3 -0.3**
comp=Z,1.0nm,0.6s,baz=24,slow=1.7,SNR=7.3
QSPA South Pole Qui 125.24 180 PKP **PKiKP 13 24 21.8 -0.2**
comp=Z,1.6nm,0.8s,baz=293,slow=1.3,SNR=11
DBIC Dimbokro 126.67 315 PKP **PKiKP 13 24 26.3 -0.1**
comp=Z,1.3nm,0.4s,baz=70,slow=2.7,SNR=4.2

NOU 27 13:11:42.3, 21.06S×169.88E, h0km, MLv3.9/8, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.48**	**276**	P	Pn	13 12 24.3	+0.3
PINNC	**Pines Island,**	**2.74**	**235**	P	Pn	13 12 27.4	-0.1
YATNC	**Mamie plateau,**	**2.96**	**250**	P	Pn	13 12 29.6	-0.9
OUENC	**Ouen Island, N**	**3.13**	**244**	P	Pn	13 12 32.8	-0.1
DZM	**Mont Dzumac**	**3.35**	**252**	P	Pn	13 12 35.7	-0.4
ONTNC	**Ouen Toro**	**3.42**	**248**	P	Pn	13 12 37.7	+0.8
NOUC	**Port Laguerre**	**3.49**	**252**	P	Pn	13 12 38.1	+0.3
KOUNC	**Koumac, New Ca**	**5.26**	**275**	P	Pn	13 13 01.8	-0.4

TEH ***27*** *13:16:33.7, 28°.29N×57°.35E, h9km±34km, ML3.2*
OMAN ***27*** *13:16:38.5±0.1, 27°.68N×57°.56E, h10km, ml3.1/16, Error ellipse: s-maj=1.6km s-min=1.2km az=16.0*
ISC 27 13:16:32.5±0.9**, 28°.17N**±0°.04×**57°.47E**±0°.05**, h10**km**, n29,** σ1§**72**/40**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.30**	**137**	Pg	**Pb**	**13 16 43.6**	**+3.5**
IBND	**Bandar-abas**	**1.09**	**229**	Pg	**Pb**	**13 16 54.8**	**+1.4**
IBND				Sg	**Sn**	**13 17 10.9**	**+1.9**
KBAM	**BAM**	**1.29**	**42**	Pg	**Pb**	**13 16 57.9**	**+0.9**
NGRK	**Negar Kerman**	**1.61**	**336**	Pg	**Pg**	**13 17 02.1**	**-1.3**
CHMN	**Cheshme madani**	**1.69**	**2**	Pg	**Pg**	**13 17 03.6**	**-1.2**
JASK	**Jask - Hormozg** SNR=90	**2.32**	**171**	P	**Pn**	**13 17 11.9**	**+1.1**
JASK				S	**Sn**	**13 17 39.1**	**-0.3**
SHME	**Shamm** SNR=14	**2.42**	**210**	P	**Pn**	**13 17 12.1**	**0.0**
SHME				S	**Sn**	**13 17 42.4**	**+0.6**
BANOM	**Banah**	**2.47**	**205**	P	**Pn**	**13 17 13.2**	**+0.4**
BANOM				S	**Sn**	**13 17 43.1**	**0.0**
MASF	**Masafi**	**3.02**	**203**	P	**Pn**	**13 17 20.9**	**+0.4**
MASF				S	**Sn**	**13 17 53.7**	**-3.0**
HATD	**Hatta, Dubai**	**3.54**	**200**	P	**Pn**	**13 17 29.0**	**+1.5**
ASHO	**Ashiyiah** SNR=7.1	**3.69**	**200**	P	**Pn**	**13 17 30.2**	**+0.5**
FAQ	**Al Faqa, Dubai**	**3.80**	**207**	P	**Pn**	**13 17 31.7**	**+0.6**
FAQ				S	**Sn**	**13 18 14.2**	**-1.7**
NHDN	**Nehbandan**	**3.92**	**34**	Pn	**Pn**	**13 17 35.4**	**+2.6**
ASUD	**Al Ashush, Dub**	**4.02**	**209**	P	**Pn**	**13 17 35.3**	**+1.2**
ASUD				S	**Sn**	**13 18 19.0**	**-2.2**
SOHO	**SOHO**	**4.11**	**192**	P	**Pn**	**13 17 33.7**	**-1.6**
SOHO				S	Sn	13 18 17.5	-5.9
AJN	**Ajban**	**4.23**	**212**	P	Pn	13 17 32.9	-4.0
AJN				S	**Sn**	**13 18 24.2**	**-2.1**
IKOO	**Kooshah**	**4.44**	**17**	Pn	**Pn**	**13 17 42.5**	**+2.3**
HOQ	**Hoqain**	**4.57**	**182**	P	**Pn**	**13 17 41.3**	**-0.4**
HOQ				S	Sn	13 18 28.8	-6.1
BIDO	**Bidbid**	**4.67**	**173**	P	**Pn**	**13 17 42.6**	**-0.4**
BIDO				S	Sn	13 18 32.7	-4.6
ARQ	**Araqi** SNR=11	**4.89**	**190**	P	**Pn**	**13 17 47.5**	**+1.4**
ARQ				S	**Sn**	**13 18 41.7**	**-1.1**
WSAR	**Wadi Sarin** SNR=61	**5.02**	**168**	P	**Pn**	**13 17 47.4**	**-0.5**
WSAR				S	Sn	13 18 40.7	-5.3
SMDO	**Samad**	**5.12**	**174**	P	**Pn**	**13 17 49.0**	**-0.3**
SMDO				S	**Sn**	**13 18 44.8**	**-3.7**
BSY	**Bisya**	**5.41**	**183**	P	**Pn**	**13 17 54.1**	**+0.9**
BSY				S	**Sn**	**13 18 51.5**	**-4.1**
WBK	**Wadi Bani Khal**	**5.70**	**166**	P	**Pn**	**13 17 56.7**	**-0.5**
WBK				S	Sn	13 18 57.5	-5.3
IRAM	**Ramesheh**	**5.71**	**311**	Pn	**Pn**	**13 17 59.0**	**+1.4**
JMDO	**Jabal Madar**	**5.80**	**174**	P	**Pn**	**13 17 59.6**	**+0.9**
JMDO				S	**Sn**	**13 19 03.1**	**-2.2**
KLNJ	**Kolanjah**	**5.85**	**300**	Pn	**Pn**	**13 18 00.8**	**+1.2**
JLN	**Jalan Bani Buh**	**6.25**	**163**	P	**Pn**	**13 18 04.2**	**-0.6**
JLN				S	Sn	13 19 09.0	-7.2
MHTO	**MHTO** SNR=7.9	**7.17**	**176**	P	**Pn**	**13 18 17.5**	**+0.2**
MHTO				S	Sn	13 19 34.2	-4.6

DJA ***27*** *13:34:30.8±0.2, 7°.S×2°.×12°.9E±°, h251km±4km, M4.7/31, mB5.2/22, mb4.9/31, MLv5.1/17, Mw(mB)4.6/22*
NEIC ***27*** *13:34:31.5±2.2, 6°.67S±0°.06×128°.58E±0°.08, h256km±7km, mb4.6/28, Error ellipse: s-maj=11.7km s-min=8.5km az=83.0*
IDC ***27*** *13:34:37.1±3.4, 6°.69S×128°.57E, h324km±36km, mb3.8/16, mbtmp4.4/17, Error ellipse: s-maj=19.9km s-min=8.6km az=74.0*
ISC 27 13:34:30.6±0.3**, 6°.72S**±0°.04×**128°.55E**±0°.05**, h250**km**, n145,** σ1§**31**/153**, mb4.4**/35**, 4C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.56**	**32**	P	**Pn**	**13 35 21.1**	**+2.5**
BNDI	**Bandanaira**	**2.56**	**32**	P	**Pn**	**13 35 20.7**	**+2.1**
SAUI	**Saumlaki**	**3.00**	**115**	Pn	**Pn**	**13 35 24.8**	**+1.7**
SAUI				Sn	**S**	**13 36 05.0**	**+0.4**
SAUI	**Saumlaki**	**3.00**	**115**	P	**Pn**	**13 35 25.2**	**+2.1**
SAUI	**Saumlaki**	**3.00**	**115**	P	**Pn**	**13 35 24.9**	**+1.8**
NLAI	**Namlea**	**3.75**	**337**	P	**Pn**	**13 35 34.5**	**+3.0**
SOEI	**Soe**	**5.20**	**234**	Pn	**Pn**	**13 35 49.4**	**+0.4**
SOEI	**Soe**	**5.20**	**234**	P	**Pn**	**13 35 50.2**	**+1.1**
SOEI	**Soe** 736nm,0.9s,15μm3.8nm	**5.20**	**234**	P	**Pn**	**13 35 49.6**	**+0.5**
FAKI	**Fak Fak**	**5.27**	**44**	Pn	**Pn**	**13 35 48.3**	**-1.6**
FAKI	**Fak Fak** 208nm,0.5s,7μm1.3nm	**5.27**	**44**	P	**Pn**	**13 35 48.2**	**-1.6**
SANI	**Sanana**	**5.30**	**331**	P	**Pn**	**13 35 51.4**	**+1.3**
SANI	**Sanana** 344nm,0.5s,4μm1.1nm	**5.30**	**331**	P	**Pn**	**13 35 51.0**	**+0.9**
KMPI	**Kaimana, Papua** 1μm,0.7s,20μm5.9nm	**5.96**	**60**	P	**Pn**	**13 35 57.6**	**-0.7**
BBSI	**Bau Bau** 86nm,0.9s,0.3nm	**6.07**	**281**	P	**Pn**	**13 36 01.7**	**+2.0**
LBMI	**Labuha** 112nm,0.6s,1.1nm	**6.13**	**350**	P	**Pn**	**13 36 00.5**	**0.0**
SWI	**Sorong** 227nm,0.7s,4μm0.9nm	**6.41**	**25**	P	**Pn**	**13 36 01.7**	**-2.3**
MMRI	**Maumere**	**6.54**	**253**		**Pn**	**13 36 05.7**	**+0.1**
MMRI	**Maumere**	**6.54**	**253**	P	**Pn**	**13 36 06.9**	**+1.3**
MMRI	**Maumere** 227nm,1.4s,5μm1.1nm	**6.54**	**253**	P	**Pn**	**13 36 04.2**	**-1.4**
MTN	**Manton Dam**	**6.60**	**158**	Pn	**Pn**	**13 36 06.8**	**+0.6**
MTN	**Manton Dam**	**6.60**	**158**	P	**Pn**	**13 36 07.1**	**+0.9**
KDU	**Kakadu**	**7.08**	**147**	P	**Pn**	**13 36 12.8**	**+0.5**
EDFI	**Ende, Flores** 113nm,0.6s,2μm0.5nm	**7.09**	**253**	P	**Pn**	**13 36 12.1**	**-0.5**
LUWI	**Luwuk** 139nm,1.2s,2μm	**8.06**	**314**	P	**Pn**	**13 36 26.1**	**+1.3**
KMSI	**Cibinong** 204nm,0.7s,2μm	**8.56**	**328**	P	**Pn**	**13 36 31.6**	**+0.5**
BASI	**Baing, Sumba** 396nm,1.2s,8μm	**8.62**	**246**	P	**Pn**	**13 36 31.2**	**-0.6**
KNRA	**Kununurra**	**8.90**	**179**	Pn	**Pn**	**13 36 36.2**	**+0.8**
KNRA	**Kununurra**	**8.90**	**179**	P	**Pn**	**13 36 36.1**	**+0.7**
TTSI	**Tana Toraja** 28nm,0.8s,2μm	**9.44**	**292**	P	**Pn**	**13 36 42.4**	**+0.3**
MRSI	**Marisa** 198nm,0.9s,1μm	**9.73**	**317**	P	**Pn**	**13 36 47.0**	**+1.2**
PLAI	**Plampang**	**10.88**	**258**	P	**Pn**	**13 36 59.9**	**-0.4**
PLAI	**Plampang** 141nm,0.6s,1μm	**10.88**	**258**	P	**Pn**	**13 36 59.5**	**-0.8**
TOLI2	**Tolitoli**	**10.98**	**315**	Pn	**Pn**	**13 37 03.0**	**+1.4**
TOLI2	**Tolitoli**	**10.98**	**315**	P	**Pn**	**13 37 03.2**	**+1.6**
MPSI	**Mapaga** 12nm,0.8s,2μm	**11.12**	**309**	P	**Pn**	**13 37 04.4**	**+1.0**
FITZ	**Fitzroy Crossi**	**11.66**	**194**	Pn	**Pn**	**13 37 10.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**11.66**	**194**	P	**Pn**	**13 37 10.1**	**+0.1**
TWSI	**Taliwang, Sumb** 32nm,0.6s	**11.74**	**259**	P	**Pn**	**13 37 10.0**	**-1.0**
GENI	**Genyem**	**12.28**	**71**	P	**P**	**13 37 20.5**	**+0.1**
GENI	**Genyem** 228nm,1.0s,2μm	**12.28**	**71**	P	**P**	**13 37 20.0**	**-0.4**
JAY	**Jayapura** 81nm,0.9s,839nm	**12.81**	**72**	P	**Pn**	**13 37 24.4**	**0.0**
SRBI	**Singaraja** 41nm,0.9s	**13.30**	**263**	P	**Pn**	**13 37 30.5**	**+0.2**
WB0	**Warramunga Arr**	**14.16**	**157**		**Pn**	**13 37 40.6**	**-0.2**
WRA	**Warramunga Arr**	**14.29**	**157**		**Pn**	**13 37 42.3**	**-0.2**
WRA	**Warramunga Arr** 109nm,0.7s,baz=337,slow=12,SNR=250	**14.29**	**157**	P	**Pn**	**13 37 42.1**	**-0.4**
WRA	36nm,0.9s,baz=341,slow=21,SNR=10			S	**S**	**13 40 17.6**	**-3.1**
WB2	**Warramunga Arr**	**14.30**	**157**	P	**Pn**	**13 37 42.3**	**-0.2**
JAGI	**Jajag, Banyuwa**	**14.38**	**262**	P	**Pn**	**13 37 43.0**	**-0.5**
WR0	**Warramunga Arr**	**14.39**	**157**		**Pn**	**13 37 43.2**	**-0.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTKI	**Muara Teweh, K**	**14.78**	**292**	P	**P**	**13 37 48.1**	**-0.1**
MYLDM	**Lahad Datu**	**15.50**	**319**	P	**Pn**	**13 37 57.1**	**+0.1**
MYLDM	comp=Z,37nm,0.9s			IAmb	IAmb	13 38 21.0	
MBWA	**Marble Bar**	**16.70**	**210**		**P**	**13 38 09.7**	**+0.5**
MBWA	comp=Z,28nm,0.6s			IAmb	IAmb	13 38 13.1	
MBWA	**Marble Bar**	**16.70**	**210**	P	**P**	**13 38 09.9**	**+0.7**
PSA00	**Pilbara Seismi**	**17.00**	**209**	P	**P**	**13 38 13.3**	**+0.9**
PSA00	comp=Z,36nm,0.8s			IAmb	IAmb	13 38 38.2	
PSA00	**Pilbara Seismi**	**17.00**	**209**	P	**P**	**13 38 13.3**	**+0.9**
PSA00	comp=Z,30nm,1.4s			IAmb	IAmb	13 38 38.2	
PSA00	**Pilbara Seismi**	**17.00**	**209**	P	**P**	**13 38 13.1**	**+0.7**
QIS	**Mount Isa**	**17.44**	**143**	P	**Pn**	**13 38 18.6**	**-1.1**
AS31	**Alice Springs**	**17.62**	**164**	P	**Pn**	**13 38 20.9**	**-0.9**
ASAR	**Alice Springs**	**17.62**	**164**	P	**Pn**	**13 38 21.2**	**-0.6**
ASAR	**Alice Springs** comp=Z,334nm,0.6s,baz=342,slow=11,SNR=6418	**17.62**	**164**	P	**Pn**	**13 38 20.7**	**-1.1**
ASAR	comp=Z,22nm,0.8s,baz=348,slow=23,SNR=16			S	**S**	**13 41 28.7**	**-0.4**
KKM	**Kota Kinabalu**	**17.67**	**316**	P	**P**	**13 38 20.4**	**+0.5**
KKM	comp=Z,24nm,1.1s			IAmb	IAmb	13 38 28.2	
KKM	**Kota Kinabalu**	**17.67**	**316**	P	**P**	**13 38 21.0**	**+1.1**
UGM	**Wanagama**	**17.92**	**265**	P	**Pn**	**13 38 24.6**	**-0.9**
WRKA	**Warakurna**	**18.22**	**181**	P	**P**	**13 38 27.2**	**+1.5**
PMG	**Port Moresby** comp=Z,5.9nm,0.6s,baz=171,slow=4.7,SNR=2.5	**18.61**	**99**	P	**Pn**	**13 38 33.3**	**-0.3**
SBUM	**Sibu**	**18.68**	**299**	P	**P**	**13 38 32.3**	**+1.7**
BBJI	**Bungbulang**	**20.76**	**267**	P	**P**	**13 38 52.3**	**-0.7**
GIRL	**Giralia**	**21.00**	**220**	P	**P**	**13 38 55.9**	**+0.6**
GIRL	**Giralia**	**21.00**	**220**	P	**P**	**13 38 55.3**	**0.0**
CTA	**Charters Tower** comp=Z,8.4nm,0.5s,baz=304,slow=11,SNR=28 comp=Z,8.4nm,0.5s	**21.72**	**129**	P	**P**	**13 39 03.5**	**+1.4**
CTAO	**Charters Tower**	**21.72**	**129**	P	**P**	**13 39 03.6**	**+1.4**
CTAO	comp=Z,44nm,1.4s			IAmb	IAmb	13 39 05.6	
CTAO	**Charters Tower**	**21.72**	**129**	P	**P**	**13 39 03.7**	**+1.5**
MEEK	**Meekatharra**	**21.95**	**204**	P	**P**	**13 39 04.4**	**+0.1**
OOD	**Oodnadatta**	**22.03**	**163**	P	**P**	**13 39 06.3**	**+1.4**
INKA	**Innaminka**	**23.89**	**152**	P	**P**	**13 39 23.9**	**+2.0**
FORT	**Forrest**	**23.94**	**181**	P	**P**	**13 39 22.8**	**+0.5**
FORT	comp=Z,28nm,0.8s			IAmb	IAmb	13 39 23.2	
FORT	**Forrest**	**23.94**	**181**	P	**P**	**13 39 23.0**	**+0.7**
MULG	**Mulgathing**	**24.00**	**168**	P	**P**	**13 39 23.5**	**+0.6**
QLP	**Quilpie**	**24.76**	**145**	P	**P**	**13 39 31.7**	**+1.9**
LCRK	**Leigh Creek**	**25.29**	**160**	P	**P**	**13 39 34.9**	**+0.4**
BLDU	**Ballidu**	**26.24**	**204**	P	**P**	**13 39 44.1**	**+1.1**
BBOO	**Buckleboo**	**26.88**	**166**	P	**P**	**13 39 49.3**	**+0.6**
BBOO	comp=Z,21nm,0.7s			IAmb	IAmb	13 39 49.8	
BBOO	**Buckleboo**	**26.88**	**166**	P	**P**	**13 39 49.1**	**+0.4**
STKA	**Stephens Creek**	**27.84**	**156**	P	**P**	**13 39 57.7**	**+0.5**
STKA	**Stephens Creek**	**27.84**	**156**	P	**P**	**13 39 57.7**	**+0.5**
STKA	**Stephens Creek** comp=Z,7.1nm,0.5s,baz=332,slow=9.3,SNR=35 comp=Z,7.1nm,0.5s	**27.84**	**156**	P	**P**	**13 39 57.5**	**+0.3**
NWAO	**Narrogin (SRO)**	**28.12**	**200**	P	**P**	**13 39 60.0**	**+0.3**
HTT	**Hallett**	**28.27**	**161**	P	**P**	**13 40 01.8**	**+0.8**
EIDS	**Eidsvold**	**28.42**	**133**	P	**P**	**13 40 03.4**	**+1.0**
CMSA	**Cobar Meteorol**	**29.44**	**149**	P	**P**	**13 40 12.3**	**+1.0**
ARMA	**Armidale**	**32.02**	**140**	P	**P**	**13 40 36.2**	**+2.1**
ARMA	comp=Z,8.1nm,0.7s			IAmb	IAmb	13 40 37.0	
ARMA	**Armidale**	**32.02**	**140**	P	**P**	**13 40 36.7**	**+2.6**
YNG	**Young**	**33.00**	**149**	P	**P**	**13 40 44.0**	**+1.5**
JOW	**Kunigami**	**33.35**	**360**	P	**P**	**13 40 45.1**	**-0.4**
CAN	**Canberra**	**34.11**	**149**	P	**P**	**13 40 54.0**	**+1.9**
CAN	**Canberra**	**34.11**	**149**	P	**P**	**13 40 54.0**	**+1.9**
CNB	**Canberra Magne**	**34.29**	**149**	P	**P**	**13 40 55.9**	**+2.3**
TOO	**Toolangi**	**34.36**	**156**	P	**P**	**13 40 56.4**	**+2.3**
TOO	comp=Z,10nm,0.6s			IAmb	IAmb	13 40 56.6	
TOO	**Toolangi**	**34.36**	**156**	P	**P**	**13 40 56.3**	**+2.2**
CMAR	**Chiang Mai Arr** comp=Z,1.9nm,0.8s,baz=141,slow=7.0,SNR=20 comp=Z,1.9nm,0.8s	**38.46**	**311**	P	**P**	**13 41 29.1**	**+0.3**
NJ2	**Nanjing**	**39.65**	**347**	*e*P	**P**	**13 41 38.0**	**-0.5**
NJ2	comp=Z,12nm,0.5s			pmax	pmax		
PZH	**PanZhiHua**	**42.03**	**323**	P	**P**	**13 42 00.5**	**+2.3**
PZH	comp=Z,10.0nm,0.5s			pmax	pmax		
PZH	comp=Z,170nm,5.3s			pmax	pmax		
KSRS	**Korea Array** comp=Z,3.5nm,0.6s,baz=177,slow=9.1,SNR=20 comp=Z,3.5nm,0.6s	**43.95**	**359**	P	**P**	**13 42 12.7**	**-0.4**
MJAR	**Matsushiro Arr** comp=Z,5.1nm,0.9s,baz=187,slow=8.6,SNR=7.4 comp=Z,5.1nm,0.9s	**43.98**	**11**	P	**P**	**13 42 11.0**	**-2.4**
XAN	**Xi'an**	**44.60**	**337**	⇑P	**P**	**13 42 16.5**	**-1.9**
XAN				pP	pP	13 42 18.8	-51
XAN	comp=Z,18nm,0.6s			pmax	pmax		
HNS	**HongShan**	**45.76**	**345**	⇑P	**P**	**13 42 26.0**	**-1.3**
HNS	comp=Z,15nm,0.8s			pmax	pmax		
BJI	**Beijing**	**47.91**	**347**	P	**P**	**13 42 42.5**	**-1.4**
BJI				S	**S**	**13 49 23.3**	**+1.5**
BJI	comp=Z,6.0nm,0.8s			pmax	pmax		
BJI	comp=Z,55nm,3.9s			pmax	pmax		
LZH	**Lanzhou**	**48.49**	**333**	⇑P	**P**	**13 42 48.5**	**-0.2**
LZH				pP	pwP	13 43 44.5	+2.8
LZH				sP	PcP	13 44 14.3	+3.7
LZH	comp=Z,23nm,1.2s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**49.84**	**343**	⇑P	**P**	**13 43 00.8**	**+2.1**
HHC	comp=Z,34nm,0.6s			pmax	pmax		
HHC	comp=Z,200nm,3.9s			pmax	pmax		
USRK	**Ussuriysk Ar.**	**50.78**	**3**	P	**P**	**13 43 04.5**	**-0.9**
USRK	**Ussuriysk Ar.** comp=Z,2.9nm,0.7s,baz=187,slow=6.4,SNR=5.5 comp=Z,2.9nm,0.7s	**50.78**	**3**	P	**P**	**13 43 04.3**	**-1.1**
MDJ	**Mudanjiang**	**51.11**	**1**	P	**P**	**13 43 09.8**	**+1.9**
MDJ				pP	pwP	13 44 04.3	-1.3
MDJ				PcP	**PcP**	**13 44 20.5**	**+0.7**
MDJ				PP	**PP**	**13 45 09.5**	**+2.0**
MDJ				PcS	**PcS**	**13 48 18.3**	**+0.6**
MDJ				S	**S**	**13 50 09.3**	**+3.3**
MDJ				sS	sS	13 51 47.0	+7.4
MDJ				ScS	**ScS**	**13 52 32.8**	**+0.9**
MDJ	**Mudanjiang**	**51.11**	**1**	SS	**SS**	**13 53 50.0**	**+5.0**
MDJ	comp=Z,7.0nm,1.7s			pmax	pmax		
MDJ	comp=Z,970nm,5.0s			pmax	pmax		
XLT	**XiLinHaoTe**	**51.63**	**349**	*e*P	P	13 43 03.8	-8.1
XLT	comp=Z,13nm,1.1s			pmax	pmax		
XLT	comp=Z,230nm,4.7s			pmax	pmax		
RPZ	**Rata Peaks**	**52.34**	**142**	P	**P**	**13 43 18.0**	**+0.9**
RPZ	comp=Z,26nm,1.0s			IAmb	IAmb	13 43 19.9	
RAMN	**Ramite**	**52.63**	**311**	*e*P	**P**	**13 43 19.7**	**-0.1**
GTA	**Gaotai**	**53.05**	**332**	P	**P**	**13 43 22.0**	**-0.4**
GTA				sP	sP	13 44 39.3	-4.7
GTA	comp=Z,12nm,0.7s			pmax	pmax		
JIRN	**Jiri**	**53.32**	**312**	*e*P	**P**	**13 43 23.7**	**-1.3**
GUN	**Gumba**	**53.69**	**312**	*e*P	**P**	**13 43 26.6**	**-1.0**
DANN	**Dangsing**	**55.50**	**311**	*e*P	**P**	**13 43 39.9**	**-0.6**
PYUN	**Piuthan**	**55.95**	**310**	*e*P	**P**	**13 43 42.7**	**-0.9**
SONM	**Songino Array** comp=Z,4.3nm,0.7s,baz=157,slow=7.6,SNR=31 comp=Z,4.3nm,0.7s	**57.73**	**343**	P	**P**	**13 43 55.0**	**-0.6**
WMQ	**Urumqi**	**62.38**	**328**	*e*P	**P**	**13 44 26.5**	**-0.6**
WMQ	comp=Z,12nm,1.3s			pmax	pmax		
PETK	**Petropavlovsk-** comp=Z,9.6nm,0.8s,baz=182,slow=5.0,SNR=16 comp=Z,9.6nm,0.8s	**64.52**	**19**	P	**P**	**13 44 39.9**	**-0.9**
MK31	**Makanchi Array**	**67.21**	**327**	P	**P**	**13 44 57.8**	**-0.3**
MK31	comp=Z,4.0nm,0.7s			IAmb	IAmb	13 44 58.4	
MKAR	**Makanchi Array**	**67.21**	**327**	P	**P**	**13 44 57.7**	**-0.4**
MKAR	**Makanchi Array** comp=Z,4.9nm,0.6s,baz=117,slow=8.3,SNR=66 comp=Z,4.9nm,0.6s	**67.21**	**327**	P	**P**	**13 44 57.5**	**-0.6**
MAKZ	**Makanchi**	**67.39**	**327**	P	**P**	**13 44 58.5**	**-0.6**
MAKZ	comp=Z,11nm,1.4s			IAmb	IAmb	13 44 60.0	
YAK	**Yakutsk**	**68.55**	**1**	P	**P**	**13 45 05.0**	**-1.0**
ZALV	**Zalesovo Beam**	**70.70**	**334**	P	**P**	**13 45 17.5**	**-1.8**
ZALV	**Zalesovo Beam** comp=Z,1.9nm,0.4s,baz=130,slow=6.4,SNR=5.1 comp=Z,1.9nm,0.4s	**70.70**	**334**	P	**P**	**13 45 17.7**	**-1.6**
KURBB	**Kurchatov Arra** comp=Z,3.2nm,0.5s,baz=133,slow=4.9,SNR=39 comp=Z,3.2nm,0.5s	**71.53**	**329**	P	**P**	**13 45 23.6**	**-0.8**
KURK	**Kurchatov**	**71.53**	**329**	P	**P**	**13 45 23.3**	**-1.0**
KURK	comp=Z,6.0nm,0.9s			IAmb	IAmb	13 45 24.6	
KK31	**Karatay Array**	**72.19**	**319**	P	**P**	**13 45 28.0**	**-0.4**
KKAR	**Karatay Array**	**72.19**	**319**	P	**P**	**13 45 28.3**	**-0.1**
VNDA	**Vanda**	**72.90**	**173**	P	**P**	**13 45 32.1**	**0.0**
VNDA	**Vanda** comp=Z,1.2nm,0.7s,baz=327,slow=5.0,SNR=8.1 comp=Z,1.2nm,0.7s	**72.90**	**173**	P	**P**	**13 45 31.1**	**-0.9**
MAW	**Mawson** comp=Z,1.8nm,0.5s,baz=180,slow=14,SNR=6.2 comp=Z,1.8nm,0.5s	**74.69**	**201**	P	**P**	**13 45 41.0**	**-1.4**
BVAR	**Borovoye Array** comp=Z,1.3nm,0.4s,baz=124,slow=8.7,SNR=9.9 comp=Z,1.3nm,0.4s	**77.06**	**328**	P	**P**	**13 45 54.4**	**-1.8**
BRVK	**Borovoye**	**77.14**	**328**	P	**P**	**13 45 55.7**	**-0.9**
ABKAR	**Akbulak array**	**81.40**	**322**	P	**P**	**13 46 18.9**	**-0.8**
AKUT	**Akutan**	**81.56**	**33**	P	**P**	**13 46 19.9**	**-0.5**
QSPA	**South Pole Qui** comp=Z,2.0nm,0.6s,baz=288,slow=0.6,SNR=9.0 comp=Z,2.0nm,0.6s	**83.26**	**180**	P	**P**	**13 46 28.0**	**-1.1**
ILAR	**Eielson Array** comp=Z,0.5nm,0.5s,baz=262,slow=4.7,SNR=8.7 comp=Z,0.5nm,0.5s	**93.71**	**25**	P	**P**	**13 47 15.9**	**-2.7**
PDAR	**Pinedale Array** comp=Z,0.4nm,0.8s,baz=281,slow=0.8,SNR=3.5	**117.71**	**45**	PKP	**PKPdf**	**13 52 46.5**	**-1.2**

SNET ***27*** *13:54:51.3±0.9, 10°.83N×87°.16W, h15km±136km, ML4.1*
IDC ***27*** *13:54:52.6±0.9, 11°.74N×86°.45W, h0km, mb3.9/7, mbtmp4.0/10, ML3.5/3, MS3.2/4, Error ellipse: s-maj=54.8km s-min=14.9km az=47.0*
CATAC ***27*** *13:54:54.1±0.7, 11°.14N×86°.99W, h11km±5km, ML4.2*
NEIC ***27*** *13:54:58.2±2.0, 11°.27N±0°.07×86°.78W±0°.07, h48km±5km, mb4.4/33, Error ellipse: s-maj=12.6km s-min=6.5km az=48.0*
ISC 27 13:54:57.4±1.0**, 11°.18N**±0°.05×**86°.93W**±0°.05**, h49**km±10km**, n117,** σ1§**35**/127**, mb4.4**/23**, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSHP	**Masachapa**	**0.76**	**30**	*i* P	**Pn**	**13 55 11.3**	**-0.6**
MSHP				*i* S	**Sn**	**13 55 24.5**	**+2.1**
MSHP	comp=Z,1μm,1.0s			IAML		13 55 32.4	
NADN	**Granada**	**1.04**	**57**	*i* P	**Pn**	**13 55 13.9**	**-1.9**
NADN				*i* S	**Sn**	**13 55 29.7**	**+0.4**
NADN	comp=Z,7μm,1.0s			IAML		13 55 44.9	
MASN	**Masaya**	**1.11**	**43**	*i* P	**Pn**	**13 55 16.3**	**-0.4**
MASN	comp=Z,820nm,1.0s			IAML		13 55 55.4	
ABCN	**Banco Central**	**1.12**	**33**	*i* P	**Pn**	**13 55 15.6**	**-1.2**
ABCN	comp=Z,14μm,1.0s			IAML		13 55 41.6	
UNAN	**Cigeo UNAN**	**1.13**	**35**	*i* P	**Pn**	**13 55 16.2**	**-0.7**
UNAN	comp=Z,33μm,1.0s			IAML		13 56 05.3	
ENAN	**Enatrel Managu**	**1.14**	**35**	*i* P	**Pn**	**13 55 16.8**	**-0.2**
ENAN				*i* S	**Sn**	**13 55 34.1**	**+2.5**
ENAN	comp=Z,12μm,1.0s			IAML		13 55 44.8	
TISN	**Laguna Tiscapa**	**1.16**	**34**	*i* P	**Pn**	**13 55 13.5**	**-3.8**
TISN	comp=Z,470nm,1.0s			IAML		13 55 36.5	
APYN	**Apoyeque**	**1.19**	**28**	*i* P	**Pn**	**13 55 16.8**	**-1.0**
APYN				*i* S	**Sn**	**13 55 34.0**	**+1.1**
APYN	comp=Z,4μm,1.0s			IAML		13 55 42.6	
LEVN	**Ruinas Leon Vi**	**1.26**	**14**	*i* P	**Pn**	**13 55 17.8**	**-0.8**
LEVN				*i* S	**Sn**	**13 55 35.3**	**+0.9**
LEVN	comp=Z,6μm,1.0s			IAML		13 55 43.3	
JAPN	**AI SSO del Vol**	**1.27**	**74**	*i* P	**Pn**	**13 55 19.4**	**+0.6**
JAPN	comp=Z,1μm,1.0s			IAML		13 55 22.0	
MOMN	**Momotombo**	**1.28**	**17**	*i* P	**Pn**	**13 55 17.9**	**-1.1**
MOMN	comp=Z,300nm,1.0s			IAML		13 55 37.0	
MORN	**AI O del Volca**	**1.31**	**73**	*i* P	**Pn**	**13 55 19.2**	**-0.1**
MORN	comp=Z,5μm,1.0s			IAML		13 55 45.5	
OMEN	**AI SSO del Vol**	**1.32**	**75**	*i* P	**Pn**	**13 55 18.1**	**-1.4**
OMEN	comp=Z,2μm,1.0s			IAML		13 55 48.7	
MOM2	**El Cardon**	**1.33**	**19**	*i* P	**Pn**	**13 55 18.7**	**-0.9**
MOM2				*i* S	**Sn**	**13 55 37.3**	**+1.2**
MOM2

LCND	**La Caada**	**2.32**	**336**	*e*P		**Pn**	**13 55 32.3**	**-0.9**
LCND				IAML			13 56 09.6	
	comp=Z,914nm,0.4s							
LCND	**La Caada**	**2.32**	**336**	*i* P		**Pn**	**13 55 32.3**	**-0.9**
LCND				IAML			13 56 09.1	
	comp=Z,930nm,1.0s							
RCPN	**Sur Rio San Ju**	**2.47**	**19**	*i* P		**Pn**	**13 55 34.4**	**-1.0**
RCPN				IAML			13 55 41.9	
	comp=Z,2.1nm,1.0s							
COVE	**Coope Vega, Sa**	**2.52**	**100**	Pn		**Pn**	**13 55 34.5**	**-1.4**
PACA	**Pacayal**	**2.66**	**329**	*e*P		**Pn**	**13 55 36.9**	**-1.1**
PACA	**Pacayal**	**2.66**	**329**	*i* P		**Pn**	**13 55 37.8**	**-0.1**
PACA				IAML			13 56 31.0	
	comp=Z,7μm,1.0s							
JACO	**JACO, Garabito**	**2.69**	**124**	Pn		**Pn**	**13 55 37.8**	**-0.5**
TECA	**Tecapa**	**2.77**	**326**	*e*P		**Pn**	**13 55 38.9**	**-0.7**
CAHU	**Cacacuatique**	**2.87**	**334**	*e*P		**Pn**	**13 55 40.6**	**-0.3**
TGUH	**Tegucigalpa,Un**	**2.88**	**353**	Pn		**Pn**	**13 55 40.6**	**-0.5**
TGUH	**Tegucigalpa,Un**	**2.88**	**353**	*i* P		**Pn**	**13 55 42.0**	**+0.9**
TGUH				IAML			13 56 43.3	
	comp=Z,950nm,1.0s							
PQSS	**Presa 15 de Se**	**2.91**	**327**	*e*P		**Pn**	**13 55 39.6**	**-1.7**
COEG	**Centro de Oper**	**3.09**	**322**	*e*P		**Pn**	**13 55 42.0**	**-1.8**
COEG	**Centro de Oper**	**3.09**	**322**	*i* P		**Pn**	**13 55 43.9**	**+0.1**
COEG				IAML			13 56 41.4	
	comp=Z,440nm,1.0s							
SJTE	**Alcalda de S**	**3.16**	**320**	*e*P		**Pn**	**13 55 42.9**	**-1.9**
LCR2	**La Lucha 2**	**3.21**	**116**	Pn		**Pn**	**13 55 45.6**	**+0.1**
LCR2	**La Lucha 2**	**3.21**	**116**	*i* P		**Pn**	**13 55 46.9**	**+1.4**
LCR2				IAML			13 57 01.7	
	comp=Z,270nm,1.0s							
LOMA	**Loma Larga**	**3.29**	**318**	*e*P		**Pn**	**13 55 44.2**	**-2.5**
LOMA				*e*S		**Sn**	**13 56 25.6**	**+0.9**
RIMA	**Rio Macho**	**3.32**	**115**	Pn		**Pn**	**13 55 47.8**	**+0.7**
RIMA	**Rio Macho**	**3.32**	**115**	*i* P		**Pn**	**13 55 48.9**	**+1.8**
RIMA				IAML			13 57 04.8	
	comp=Z,390nm,1.0s							
CDM	**Cerro de Muert**	**3.50**	**117**	*i* P		**Pn**	**13 55 51.4**	**+1.6**
CDM				IAML			13 57 03.0	
	comp=Z,230nm,1.0s							
MTO3	**Montecristo**	**3.99**	**324**			**Pn**	**13 55 54.8**	**-1.5**
SRBA	**San Rafael, Bu**	**4.01**	**118**			**Pn**	**13 55 56.8**	**+0.4**
DRK0	**Durika**	**4.09**	**117**			**Pn**	**13 55 57.0**	**-0.7**
ESQI	**Esquipulas**	**4.11**	**325**	Pn		**Pn**	**13 55 58.5**	**+0.7**
CCIG	**Comitan**	**7.17**	**316**	Pn		**Pn**	**13 56 41.3**	**+1.4**
CMIG	**Matias Romero**	**9.70**	**308**	Pn		**Pn**	**13 57 14.8**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=152,slow=13,SNR=9.0							
	comp=Z,4.8nm,0.5s							
TLIG	**Tlapa**	**12.94**	**301**	Pn		**Pn**	**13 58 00.4**	**+1.5**
ROSC	**El Rosal**	**13.97**	**116**	LR		LR	14 04 45.9	
	comp=Z,131nm,19.8s,baz=62,slow=43							
COHC	**Cochancay**	**15.55**	**150**	P		**P**	**13 58 36.3**	**-0.8**
MOIG	**Morelia**	**16.13**	**303**	P		**P**	**13 58 43.8**	**0.0**
MOIG				IAmb		IAmb	13 58 56.6	
	comp=Z,29nm,0.5s							
SDV	**Santo Domingo**	**16.20**	**97**	Pn		**Pn**	**13 58 37.6**	**-4.5**
	comp=Z,0.5nm,0.3s,baz=324,slow=15,SNR=2.0							
	comp=Z,1.4nm,0.4s							
GOGA	**Godfrey**	**22.36**	**8**	P		**P**	**13 59 50.7**	**-0.7**
GOGA				IAmb		IAmb	14 00 02.1	
	comp=Z,11nm,0.8s							
BRDY	**Brady**	**22.92**	**333**	P		**P**	**13 59 55.9**	**-1.5**
BRDY				IAmb		IAmb	14 00 09.6	
	comp=Z,9.6nm,0.8s							
TXAR	**Lajitas Array**	**23.88**	**322**	P		**P**	**14 00 07.4**	**+0.7**
TXAR	**Lajitas Array**	**23.88**	**322**	P		**P**	**14 00 07.0**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=134,slow=10.0,SNR=32							
TXAR				PcP		**PcP**	**14 03 51.3**	**+2.6**
	comp=Z,1.0nm,0.9s,baz=158,slow=3.6,SNR=3.8							
	comp=Z,3.2nm,0.7s							
TX31	**Lajitas Ar. Si**	**23.88**	**322**	P		**P**	**14 00 07.3**	**+0.6**
PLPT	**Palo Pinto**	**23.95**	**336**	P		**P**	**14 00 08.1**	**+1.0**
PLPT				IAmb		IAmb	14 00 17.8	
	comp=Z,11nm,0.8s							
FW03	**Perrin-Whitt E**	**24.05**	**337**	P		**P**	**14 00 08.2**	**+0.2**
FW03				IAmb		IAmb	14 00 11.4	
	comp=Z,12nm,0.7s							
CPCT	**Cooper Cave**	**24.26**	**5**	P		**P**	**14 00 09.1**	**-0.9**
CPCT				IAmb		IAmb	14 00 12.4	
	comp=Z,12nm,0.9s							
WHAR	**Wooly Hollow**	**24.50**	**349**	P		**P**	**14 00 10.7**	**-1.4**
WHAR				IAmb		IAmb	14 00 19.2	
	comp=Z,12nm,0.8s							
WTFS	**Witchita Falls**	**24.84**	**337**	P		**P**	**14 00 14.1**	**-1.3**
WTFS				IAmb		IAmb	14 00 28.2	
	comp=Z,10nm,0.8s							
MNHN	**Monahans**	**24.85**	**326**	P		**P**	**14 00 14.0**	**-1.5**
MNHN				IAmb		IAmb	14 00 21.6	
	comp=Z,9.5nm,0.7s							
FCAR	**Ozark Folk Cen**	**25.05**	**350**	P		**P**	**14 00 15.6**	**-1.6**
FCAR				IAmb		IAmb	14 00 24.3	
	comp=Z,9.2nm,0.8s							
LCAR	**Lake Charles**	**25.08**	**352**	P		**P**	**14 00 15.4**	**-2.0**
LCAR				IAmb		IAmb	14 00 24.0	
	comp=Z,9.1nm,0.7s							
APMT	**Aspermont**	**25.15**	**333**	P		**P**	**14 00 17.4**	**-0.7**
APMT				IAmb		IAmb	14 00 20.8	
	comp=Z,7.1nm,0.9s							
DKNS	**Dickens**	**25.80**	**332**	P		**P**	**14 00 23.9**	**-0.2**
DKNS				IAmb		IAmb	14 00 41.2	
	comp=Z,6.6nm,0.8s							
WMOK	**Wichita Mounta**	**25.82**	**337**	P		**P**	**14 00 23.4**	**-0.8**
CCM	**Cathedral Cave**	**27.05**	**352**	P		**P**	**14 00 33.9**	**-1.3**
CCM				IAmb		IAmb	14 00 41.9	
	comp=Z,7.4nm,0.8s							
P38A	**Dawn**	**28.93**	**349**	P		**P**	**14 00 51.1**	**-1.0**
ETMB	**Extrema**	**29.31**	**135**	P		**P**	**14 00 57.2**	**+1.6**
ANMO	**Albuquerque**	**29.60**	**326**	LR		LR	14 13 50.4	
	comp=Z,159nm,18.1s,baz=138,slow=39							
SAML	**Samuel**	**30.94**	**129**	P		**P**	**14 01 10.0**	**-0.1**
SAML				IAmb		IAmb	14 01 11.6	
	comp=Z,9.2nm,0.9s							
SDCO	**Great Sand Dun**	**31.27**	**331**	P		**P**	**14 01 13.4**	**+0.4**
X16A	**Lo Mia Camp, P**	**32.17**	**320**	P		**P**	**14 01 21.9**	**+1.0**
MVCO	**Mesa Verde**	**32.38**	**327**	P		**P**	**14 01 23.6**	**+0.8**
MVCO				IAmb		IAmb	14 01 29.8	
	comp=Z,4.2nm,0.9s							
ECSD	**EROS Data Cent**	**33.51**	**347**	P		**P**	**14 01 29.8**	**-2.4**
SRU	**San Rafael Swe**	**34.86**	**327**	P		**P**	**14 01 45.2**	**+1.0**
SRU				IAmb		IAmb	14 02 03.2	
	comp=Z,4.5nm,0.8s							
F33A	**5 Mile Ranch,**	**35.46**	**349**	P		**P**	**14 01 47.6**	**-1.5**
BSUT	**Blindstream Ca**	**36.02**	**328**	P		**P**	**14 01 55.2**	**+0.7**
BSUT				IAmb		IAmb	14 02 04.1	
	comp=Z,3.4nm,0.9s							
PD31	**Pinedale Array**	**37.13**	**332**	P		**P**	**14 02 03.5**	**-0.2**
PDAR	**Pinedale Array**	**37.13**	**332**	P		**P**	**14 02 03.5**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=127,slow=9.6,SNR=14							
PDAR				PcP		**PcP**	**14 04 24.5**	**+1.2**
	comp=Z,0.6nm,0.9s,baz=152,slow=2.5,SNR=4.2							
	comp=Z,1.0nm,0.6s							
HWUT	**Hardware Ranch**	**37.23**	**329**	P		**P**	**14 02 04.7**	**+0.2**
HWUT				IAmb		IAmb	14 02 13.7	
	comp=Z,4.3nm,0.8s							
REDW	**Red Top Meadow**	**38.19**	**331**	P		**P**	**14 02 13.5**	**+0.8**
NVAR	**Mina Array Bea**	**39.00**	**319**	P		**P**	**14 02 20.2**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=132,slow=7.5,SNR=8.7							
NVAR				PcP		**PcP**	**14 04 31.4**	**+2.3**
	comp=Z,1.8nm,0.8s,baz=139,slow=4.0,SNR=14							
	comp=Z,0.7nm,0.7s							
ULM	**Lac du Bonnet**	**39.65**	**351**	P		**P**	**14 02 22.3**	**-2.2**
ULM	**Lac du Bonnet**	**39.65**	**351**	P		**P**	**14 02 22.2**	**-2.2**
	comp=Z,4.9nm,0.8s,baz=175,slow=8.6,SNR=8.4							
	comp=Z,4.9nm,0.8s							
RPN	**Rapa Nui**	**43.85**	**209**	LR		LR	14 16 35.3	
	comp=Z,37nm,19.9s,baz=336,slow=29							
BDFB	**Brasilia**	**46.84**	**124**	P		**P**	**14 03 23.6**	**+0.6**
	comp=Z,4.2nm,0.8s,baz=284,slow=4.7,SNR=6.1							
	comp=Z,4.2nm,0.8s							
MT09	**Talagante**	**47.20**	**162**	P		**P**	**14 03 25.6**	**-0.1**
MT01	**Popeta**	**47.21**	**162**	P		**P**	**14 03 24.9**	**-0.6**
YKA	**Yellowknife Ar**	**54.97**	**345**	P		**P**	**14 04 21.9**	**-1.4**
	comp=Z,0.9nm,0.9s,baz=138,slow=7.3,SNR=12							
YKA				PcP		**PcP**	**14 05 25.3**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=147,slow=4.1,SNR=4.2							
	comp=Z,0.9nm,0.9s							
ILAR	**Eielson Array**	**67.39**	**336**	P		**P**	**14 05 47.2**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=116,slow=4.2,SNR=5.6							
	comp=Z,0.5nm,0.9s							
KSRS	**Korea Array**	**121.62**	**328**	PKP		**PKiKP**	**14 13 48.0**	**+1.7**
	comp=Z,1.0nm,0.6s,baz=12,slow=2.1,SNR=4.7							
ASAR	**Alice Springs**	**139.26**	**247**	PKP		**PKPdf**	**14 14 21.2**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=103,slow=2.0,SNR=5.6							
WRA	**Warramunga Arr**	**139.39**	**252**	PKP		**PKiKP**	**14 14 21.8**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=92,slow=2.0,SNR=9.0							
PZH	**PanZhiHua**	**141.61**	**347**	PKP		**PKPdf**	**14 14 23.0**	**-1.3**
CMAR	**Chiang Mai Arr**	**149.99**	**349**	PKP		**PKPdf**	**14 14 39.2**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=291,slow=1.2,SNR=5.2							
CMAR				PKPbc		**PKiKP**	**14 14 43.7**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=342,slow=3.0,SNR=6.7							

BJI ***27*** *13:56:49.0,38.64N×72.01E,h10km,mb4.7/49,mB5.1/27, ML4.9/5,Ms4.7/42,Ms7 4.5/38*

NNC ***27*** *13:56:53.2±2.6,38.63N×72.27E,h4km±15km,mb5.1, mpv4.8,Error ellipse: s-maj=16.0km s-min=13.6km az=175.0*

IDC ***27*** *13:56:53.1±0.5,38.77N×72.52E,h0km,mb4.6/35, mbtmp4.6/44,ML4.0/9,MS4.2/64,Error ellipse: s-maj=9.2km s-min=8.4km az=163.0*

MOS ***27*** *13:56:56.7±1.2,38.92N×72.54E,h29km,mb5.0/41, MS4.1/14,Error ellipse: s-maj=4.8km s-min=2.9km az=80.9*

GCMT ***27*** *13:56:58.5±0.3,38.98N±0.02×72.33E±0.02,h21km±1km, MW4.8/83,Moment Tensor Solution. s6,c6; s83,c109; Duration: 0 Moment tensor: Scale 10^16Nm; Mr0.42±.13; Mθθ-1.68±.10; Mφφ1.25±.09; Mrθ-0.16±.15; Mrφ-1.21±.07; Mθφ0.40±.18; Best double couple: M0 1.96800×10^16 NP1:φs294.00000°,δ78.00000°,λ167.00000°. NP2: φs27.00000°,δ78.00000°,λ12.00000°. Principal axes: T 1.8200, Plg17.0000°, Azm250.0000°; N 0.2890, Plg73.0000°, Azm71.0000°; P -2.1150, Plg0.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***27*** *13:56:59.5±1.6,38.88N±0.06×72.51E±0.07,h41km±7km, mb4.9/64 Error ellipse: s-maj=8.6km s-min=7.7km az=141.0*

ISC 27 13:56:57.4±0.4,38.90N±0.03×72.59E±0.03,h27km±2km, h27km:pP-P,n504,σ2s06/534,mb4.8/120,MS4.2/79, 51C-28D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.32**	**32**	*i* PG		**Pn**	**13 57 17.5**	**-2.8**
OHH	**Osh**	**1.63**	**5**	*i* PN		**Pn**	**13 57 22.2**	**-2.3**
OHH				*i* S		**Sn**	**13 57 43.3**	**-1.4**
BTK	**Batken**	**1.79**	**311**	Pn		**Pn**	**13 57 24.6**	**-2.1**
BTK	**Batken**	**1.79**	**311**	PN		**Pn**	**13 57 24.6**	**-2.1**
KSH	**Kashi**	**2.70**	**76**	Pn		**Pn**	**13 57 36.3**	**-2.9**
KSH				Sn		**Sn**	**13 58 07.3**	**-3.8**
KSH				smax		smax		
	comp=N,6μm,1.4s							
KSH				smax		smax		
	comp=E,5μm,1.3s							
ARK	**Arkit**	**2.94**	**351**	*i* PN		**Pn**	**13 57 40.9**	**-1.5**
ARLS	**Aral**	**3.25**	**24**	*i* PN		**Pn**	**13 57 45.7**	**-1.0**
AML	**Almayashu**	**3.34**	**14**	P		**Pn**	**13 57 51.3**	**+3.1**
	SNR=1677							
AML	**Almayashu**	**3.34**	**14**	*i* PN		**Pn**	**13 57 47.2**	**-1.0**
UCH	**Uchtor**	**3.64**	**23**	P		**Pn**	**13 57 56.1**	**+3.7**
	SNR=77							
UCH	**Uchtor**	**3.64**	**23**	*i* PN		**Pn**	**13 57 51.4**	**-1.0**
KZA	**Kyzart**	**3.77**	**32**	P		**Pn**	**13 57 57.2**	**+3.1**
	SNR=16							
KZA	**Kyzart**	**3.77**	**32**	*i* PN		**Pn**	**13 57 53.1**	**-1.1**
EKS2	**Erkin-Say**	**3.87**	**13**	P		**Pn**	**13 57 58.6**	**+3.4**
	SNR=145							
EKS2	**Erkin-Say**	**3.87**	**13**	*i* PN		**Pn**	**13 57 54.0**	**-1.2**
AAK	**Ala-Archa**	**4.01**	**21**	P		**Pn**	**13 58 00.5**	**+3.3**
	SNR=265							
AAK	**Ala-Archa**	**4.01**	**21**	Pn		**Pn**	**13 57 59.8**	**+2.6**
AAK	**Ala-Archa**	**4.01**	**21**	P		**Pn**	**13 58 01.2**	**+4.0**
AAK				S		**Sb**	**13 58 51.8**	**-3.7**
AAK	**Ala-Archa**	**4.01**	**21**	P		**Pn**	**13 58 00.8**	**+3.6**
AAK				S		**Sn**	**13 58 45.4**	**+2.1**
AAK	**Ala-Archa**	**4.01**	**21**	*ce*PN		**Pn**	**13 58 00.2**	**+3.0**
AAK				pmax		pmax		
	comp=Z,388nm,1.0s							
AAK				MLR		MLR		
	comp=Z,2μm,2.0s							
AAK	**Ala-Archa**	**4.01**	**21**	Pn		**Pn**	**13 58 00.7**	**+3.6**
	comp=Z,54nm,0.3s,baz=201,slow=9.0,SNR=258							
AAK				Sn		**Sb**	**13 58 52.6**	**-2.9**
	comp=Z,51nm,0.3s,baz=95,slow=16,SNR=15							
	comp=Z,158nm,0.5s							
CHM	**Chimkent**	**4.11**	**327**	*e*Pn		**Pn**	**13 58 00.4**	**+2.0**
	baz=329							
CHM				*e*Pg		**Pb**	**13 58 12.4**	**+3.4**
	baz=329							
CHM	**Chimkent**	**4.11**	**327**	*e*PN		**Pn**	**13 58 00.4**	**+2.0**
CHM				*e*			13 58 12.3	
KBK	**Karagaybulak**	**4.16**	**25**	P		**Pn**	**13 58 03.8**	**+4.5**
	SNR=143							
KBK	**Karagaybulak**	**4.16**	**25**	*i* PN		**Pn**	**13 57 58.5**	**-0.8**
FRU1	**Bishkek**	**4.21**	**21**	Pn		**Pn**	**13 58 03.5**	**+3.7**
FRU1	**Bishkek**	**4.21**	**21**	PN		**Pn**	**13 58 03.5**	**+3.7**
ULHL	**Ulahol**	**4.35**	**39**	P		**Pn**	**13 58 05.0**	**+3.0**
	SNR=27							
ULHL	**Ulahol**	**4.35**	**39**	*i* PN		**Pn**	**13 58 01.3**	**-0.7**
CHMS	**Chumysh**	**4.42**	**21**	P		**Pn**	**13 58 06.1**	**+3.5**
	SNR=347							
CHMS	**Chumysh**	**4.42**	**21**	*i* PN		**Pn**	**13 58 01.6**	**-1.0**
KK31	**Karatay Array**	**4.49**	**340**			**Pn**	**13 58 05.7**	**+2.1**
KK31	**Karatay Array**	**4.49**	**340**	PN		**Pn**	**13 58 05.7**	**+2.1**
KK31	**Karatay Array**	**4.49**	**340**	⇑Pn		**Pn**	**13 58 06.1**	**+2.5**
	comp=Z,234nm,0.4s,baz=164,slow=12,SNR=2361							
KK31				⇓Sn		**Sn**	**13 59 00.8**	**+5.9**
	comp=Z,298nm,0.6s,baz=148,slow=22,SNR=4.3							
KK31				⇓Lg		Lg	13 59 19.4	
	comp=Z,633nm,0.9s,baz=167,slow=28,SNR=3.5							
KKAR	**Karatay Array**	**4.49**	**340**			**Pn**	**13 58 05.8**	**+2.1**
KKAR	**Karatay Array**	**4.49**	**340**	PN		**Pn**	**13 58 05.8**	**+2.1**
SGDS	**Sogindy**	**4.81**	**18**	*e*Pn		**Pn**	**13 58 10.9**	**+2.8**
	baz=18							
SGDS				*e*Pg		Pb	13 58 25.4	+4.4
	baz=18							
SGDS	**Sogindy**	**4.81**	**18**	*e*PN		**Pn**	**13 58 10.9**	**+2.8**
SGDS				*e*			13 58 25.3	
TARG	**Taragay, Kyrgy**	**4.89**	**53**			**Pn**	**13 58 11.3**	**+1.8**
TARG	**Taragay, Kyrgy**	**4.89**	**53**	PN		**Pn**	**13 58 11.3**	**+1.8**
KBL	**Kabul**	**5.19**	**214**	Pn		**Pn**	**13 58 16.2**	**+2.6**
KBL	**Kabul**	**5.19**	**214**	P		**Pn**	**13 58 16.1**	**+2.6**
	SNR=180							
KBL				S		**Sn**	**13 59 15.8**	**+3.1**
KBL	**Kabul**	**5.19**	**214**	PN		**Pn**	**13 58 16.2**	**+2.6**
NIL	**Nilore**	**5.26**	**174**			**Pn**	**13 58 16.4**	**+2.1**
NIL	**Nilore**	**5.26**	**174**	PN		**Pn**	**13 58 16.4**	**+2.1**
TNSS	**Tian-Shan**	**5.29**	**37**	*e*Pn		**Pn**	**13 58 17.8**	**+2.7**
	baz=37							
TNSS				*i* Pg		Pb	13 58 34.9	+5.5
	baz=37							
TNSS	**Tian-Shan**	**5.29**	**37**	*e*PN		**Pn**	**13 58 17.7**	**+2.7**
TNSS				*i*			13 58 34.8	
KASK	**Kaskelen**	**5.29**	**34**	⇑Pn		**Pn**	**13 58 19.1**	**+4.3**
KASK				⇑Pg		Pb	13 58 39.0	+10
KASK				⇑Lg		Lg	13 59 52.0	
AAA	**Alma-Ata**	**5.41**	**36**	*e*Pn		**Pn**	**13 58 19.4**	**+3.1**
	baz=36							
AAA				*e*Pg		Pb	13 58 37.1	+5.9
	baz=36							
AAA	**Alma-Ata**	**5.41**	**36**	*e*PN		**Pn**	**13 58 19.4**	**+3.1**
AAA				*e*			13 58 37.1	
MDOK	**Medeo**	**5.44**	**37**	*e*Pn		**Pn**	**13 58 20.3**	**+3.5**
	baz=37							
MDOK				*e*Pg		Pb	13 58 37.8	+6.0
	baz=37							
MDOK	**Medeo**	**5.44**	**37**	*e*PN		**Pn**	**13 58 20.3**	**+3.5**
MDOK				*e*			13 58 37.7	
MDOK	**Medeo**	**5.44**	**37**	Pn		**Pn**	**13 58 21.3**	**+4.5**
	comp=Z,7.3nm,0.4s							
MDOK				Pg		Pb	13 58 38.3	+6.6
	comp=Z,56nm,0.5s							
MDOK				Lg		Lg	13 59 57.2	
	comp=Z,476nm,0.9s							
KNDC	**Almaty**	**5.44**	**36**	PN		**Pn**	**13 58 20.7**	**+4.0**
KNDC	**Almaty**	**5.44**	**36**	⇓Pn		**Pn**	**13 58 20.7**	**+4.0**
	comp=Z,48nm,0.4s							
KNDC				⇓Pg		Pb	13 58 38.6	+6.8
	comp=Z,176nm,0.6s							
KNDC				⇓Lg		Lg	13 59 59.9	
	comp=Z,1μm,0.8s							
PRZ	**Przheval'sk**	**5.69**	**49**	Pn		**Pn**	**13 58 23.2**	**+3.0**
PRZ	**Przheval'sk**	**5.69**	**49**	PN		**Pn**	**13 58 23.3**	**+3.0**
KUU	**Kurty**	**5.74**	**28**	*e*Pn		**Pn**	**13 58 23.4**	**+2.6**
	baz=28							
KUU				*e*Pg		Pb	13 58 42.4	+5.7
	baz=28							
KUU	**Kurty**	**5.74**	**28**	*e*PN		**Pn**	**13 58 23.3**	**+2.6**
KUU				*e*			13 58 42.4	
CHKK	**Chushkaly**	**5.96**	**32**	*e*Pn		**Pn**	**13 58 25.2**	**+1.4**
	baz=32							
CHKK	**Chushkaly**	**5.96**	**32**	*e*PN		**Pn**	**13 58 25.2**	**+1.4**
SATY	**Saty**	**6.06**	**45**	⇑*e*Pn		**Pn**	**13 58 27.6**	**+2.3**
	baz=45							
SATY				*e*Pg		Pb	13 58 48.8	+6.5
	baz=45							
SATY	**Saty**	**6.06**	**45**	*ce*PN		**Pn**	**13 58 27.6**	**+2.3**
SATY				*e*			13 58 48.7	
ZHN	**Zhinishke**	**6.14**	**44**	*e*Pn		**Pn**	**13 58 28.9**	**+2.4**
	baz=44							
ZHN	**Zhinishke**	**6.14**	**44**	*e*PN		**Pn**	**13 58 28.9**	**+2.4**
BTLS	**Baital**	**6.24**	**10**	⇓*i* Pn		**Pn**	**13 58 30.3**	**+2.7**
	baz=10							
BTLS	**Baital**	**6.24**	**10**	*d* iPN		**Pn**	**13 58 30.3**	**+2.7**
JMU	**Jammu**	**6.45**	**162**	*e*P		**Pn**	**13 58 31.0**	**+0.5**
JMU				*e*S		**Sn**	**13 59 43.9**	**+0.7**
UZB	**Uzynbulak**	**6.46**	**47**	*e*Pn		**Pn**	**13 58 33.0**	**+2.2**
	baz=47							
UZB	**Uzynbulak**	**6.46**	**47**	*e*PN		**Pn**	**13 58 33.0**	**+2.2**
SHLS	**Shalkode**	**6.72**	**48**	*e*Pn		**Pn**	13 58 40.4	+6.1
	baz=50							
SHLS				*e*Pg		Pb	13 59 05.5	+12
	baz=50							
SHLS	**Shalkode**	**6.72**	**48**	*e*PN		Pn	13 58 40.4	+6.0
SHLS				*e*			13 59 05.5	
PDGK	**Podgornoye**	**6.84**	**47**	PN		**Pn**	**13 58 37.3**	**+1.3**
PDGK	**Podgornoye**	**6.84**	**47**	⇑Pn		**Pn**	**13 58 37.3**	**+1.3**
	comp=Z,26nm,0.6s							
PDGK				⇑Lg		Lg	14 00 41.4	
	comp=Z,543nm,1.2s							
DHRM	**DHARAMSHALA**	**7.29**	**154**	*e*P		**Pn**	**13 58 41.6**	**-0.7**
DHRM				*e*S		**Sn**	**14 00 04.9**	**+0.6**
DHRM				IAML			14 00 10.2	
	comp=E,509nm,0.8s							
DHRM				IAML			14 00 14.1	
	comp=N,488nm,1.1s							
TDK	**Taldyqorghan**	**7.48**	**34**	*e*Pn		**Pn**	**13 58 47.9**	**+3.1**
	baz=34							
TDK				*e*Pg		Pb	13 59 14.4	+8.0
	baz=34							
TDK	**Taldyqorghan**	**7.48**	**34**	*e*P		**Pn**	**13 58 47.9**	**+3.1**
BHK	**Bhakra**	**8.09**	**156**	*e*P		**Pn**	**13 58 53.5**	**+0.4**
BHK				*e*S		**Sn**	**14 00 25.3**	**+1.5**
SMLA	**Simla**	**8.61**	**153**	*e*P		**Pn**	**13 58 57.4**	**-2.8**
OTUK	**Ortayu**	**9.35**	**359**	⇓Pn		**Pn**	**13 59 10.8**	**+0.5**
	comp=N,5.0nm,0.3s							
OTUK				Lg		Lg	14 01 57.8	
	comp=N,301nm,1.0s							
HRA	**Herat**	**9.45**	**245**	Pn		**Pn**	**13 59 10.9**	**-1.0**
MAKZ	**Makanchi**	**10.48**	**38**	Pn		**Pn**	**13 59 28.9**	**+3.0**
MAKZ	**Makanchi**	**10.48**	**38**	P		**Pn**	**13 59 28.9**	**+3.0**
MAKZ	**Makanchi**	**10.48**	**38**	⇓P		**Pn**	**13 59 29.3**	**+3.4**
	comp=N,68nm,0.9s							
MK31	**Makanchi Array**	**10.63**	**39**	Pn		**Pn**	**13 59 29.9**	**+2.1**
MK31	**Makanchi Array**	**10.63**	**39**	*i* P		**Pn**	**13 59 30.1**	**+2.3**
MK31				pmax		pmax		
	comp=Z,30nm,0.8s							
MK31	**Makanchi Array**	**10.63**	**39**	⇑P		**Pn**	**13 59 30.1**	**+2.3**
	comp=Z,17nm,0.7s,baz=215,slow=12,SNR=94							
MKAR	**Makanchi Array**	**10.63**	**39**	Pn		**Pn**	**13 59 30.0**	**+2.2**
MKAR	**Makanchi Array**	**10.63**	**39**	P		**Pn**	**13 59 30.0**	**+2.2**
MKAR	**Makanchi Array**	**10.63**	**39**	Pn		**Pn**	**13 59 30.4**	**+2.6**
	comp=Z,1.2nm,0.3s,baz=226,slow=12,SNR=54							
MKAR				Lg	

DMN	**Daman**	**15.36**	**133**	*e*P		Pn		14 00 25.1	-7.4
AKTO	**Aktyubinsk**	**15.48**	**323**	P		**Pn**		**14 00 31.5**	**-2.2**
AKTO	**Aktyubinsk**	**15.48**	**323**	Pn		**Pn**		**14 00 32.0**	**-1.7**
	comp=Z,2.5nm,0.3s,baz=124,slow=15,SNR=32								
AKTO				Sn		**Sn**		**14 03 17.1**	**-7.0**
	comp=Z,0.5nm,0.3s,baz=342,slow=16,SNR=1.6								
AKTO				LR		LR		14 06 56.7	
	comp=Z,2μm,18.1s,baz=132,slow=39								
	comp=Z,16nm,0.5s								
AKTO	**Aktyubinsk**	**15.48**	**323**	⇑P		**Pn**		**14 00 30.9**	**-2.8**
	comp=Z,20nm,0.6s								
AKTO				⇑S		**Sn**		**14 03 28.9**	**+4.7**
	comp=Z,31nm,1.1s								
PKI	**Pulchoki**	**15.56**	**133**	*e*P		Pn		14 00 27.5	-7.7
GUN	**Gumba**	**15.58**	**131**	*e*P		Pn		14 00 28.3	-7.2
JIRN	**Jiri**	**15.95**	**131**	*e*P		**Pn**		**14 00 33.7**	**-6.6**
	comp=Z,46nm,0.6s								
RAMN	**Ramite**	**16.72**	**131**	*e*P		Pn		14 00 42.8	-7.2
	comp=Z,67nm,0.7s								
ZAA0	**Zalesovo Array**	**17.22**	**25**	Pn		**Pn**		**14 00 55.0**	**-0.8**
ZALV	**Zalesovo Beam**	**17.22**	**25**			**Pn**		**14 00 55.0**	**-0.8**
ZALV	**Zalesovo Beam**	**17.22**	**25**	*i* P		**Pn**		**14 00 55.4**	**-0.4**
ZALV				pmax		pmax			
	comp=Z,17nm,0.6s								
ZALV	**Zalesovo Beam**	**17.22**	**25**	P		**Pn**		**14 00 56.0**	**+0.2**
	comp=Z,2.0nm,0.3s,baz=210,slow=13,SNR=12								
ZALV				S		**Sn**		**14 04 11.4**	**+5.1**
	comp=Z,1.9nm,0.3s,baz=233,slow=22,SNR=1.6								
ZALV				LR		LR		14 08 09.0	
	comp=Z,194nm,18.3s,baz=71,slow=39								
	comp=Z,17nm,0.6s								
ODAN	**Odare**	**17.25**	**130**	*e*P		**Pn**		**14 00 50.5**	**-6.2**
GOMU	**GeErMu**	**17.83**	**92**	P		**Pn**		**14 01 03.0**	**-0.8**
GOMU				pP		P		14 01 08.0	+3.6
GOMU				sP		pP		14 01 12.0	-1.1
GOMU				S		**Sn**		**14 04 17.0**	**-4.9**
GOMU				pmax		pmax			
	comp=Z,9.0nm,0.8s								
GOMU				LR		LR			
	comp=Z,560nm,15.0s								
GOMU				LR		LR			
	comp=Z,350nm,15.4s								
GOMU				LR		LR			
	comp=Z,810nm,15.3s								
LSA	**Lhasa**	**17.84**	**115**	P		**Pn**		**14 01 03.8**	**-0.4**
LSA	**Lhasa**	**17.84**	**115**	P		**P**		**14 01 06.0**	**+1.2**
LSA	**Lhasa**	**17.84**	**115**	P		**Pn**		**14 01 03.8**	**-0.4**
LSA				pmax		pmax			
	comp=Z,22nm,1.0s								
JASK	**Jask - Hormozg**	**17.95**	**228**	P		**P**		**14 01 06.1**	**+0.6**
AKL	**Akola**	**18.53**	**167**	*e*P		**P**		**14 01 08.5**	**-3.4**
AKL				IAmb		IAmb		14 01 14.0	
	comp=Z,48nm,1.0s								
BOK	**Bokaro**	**18.82**	**139**	*e*P		**P**		**14 01 13.4**	**-1.6**
BOK				IAmb		IAmb		14 01 17.1	
	comp=Z,38nm,0.8s								
BANOM	**Banah**	**18.84**	**231**	P		**Pn**		**14 01 17.2**	**+1.2**
BANOM				S		**S**		**14 04 50.5**	**+2.6**
SHME	**Shamm**	**18.84**	**232**	P		**Pn**		**14 01 15.2**	**-0.7**
SHME				S		**S**		**14 04 52.2**	**+4.2**
MASF	**Masafi**	**19.33**	**231**	P		**Pn**		**14 01 23.8**	**+1.9**
MASF				P		**Pn**		**14 01 23.8**	**+1.9**
MSFE	**Esma-Masafi**	**19.34**	**231**	P		**Pn**		**14 01 20.8**	**-1.1**
MAK	**Makhachkala**	**19.36**	**290**	*e*P		**P**		**14 01 17.6**	**-3.2**
MAK				*e*S		**Sn**		**14 04 52.8**	**-5.4**
MAK				pmax		pmax			
	comp=Z,86nm,1.3s								
MAK				MLR		MLR			
	comp=Z,742nm,12.0s								
UMQ	**Umm Al-Quwin**	**19.52**	**232**	P		**Pn**		**14 01 23.6**	**-0.5**
SVE	**Sverdlovsk**	**19.60**	**340**	*e*P		**Pn**		**14 01 24.4**	**-0.4**
SVE				*e*S		**S**		**14 05 02.8**	**0.0**
SVE				pmax		pmax			
	comp=Z,70nm,1.0s								
SVE				MLR		MLR			
	comp=Z,1μm,10.0s								
WSAR	**Wadi Sarin**	**19.62**	**221**	P		**Pn**		**14 01 24.3**	**-0.9**
WSAR	**Wadi Sarin**	**19.62**	**221**	P		**P**		**14 01 23.0**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=74,slow=11,SNR=6.9								
WSAR				LR		LR		14 11 04.1	
	comp=Z,232nm,21.3s,baz=62,slow=44								
	comp=Z,20nm,1.0s								
UOSS	**Minazif**	**19.62**	**230**			**Pn**		**14 01 23.9**	**-1.4**
UOSS	**Minazif**	**19.62**	**230**	P		**P**		**14 01 23.1**	**-0.8**
UOSS	**Minazif**	**19.62**	**230**	P		**Pn**		**14 01 24.3**	**-1.0**
UOSS				P		**Pn**		**14 01 24.3**	**-1.0**
HATD	**Hatta, Dubai**	**19.76**	**230**	P		**P**		**14 01 23.4**	**-1.9**
HATD	**Hatta, Dubai**	**19.76**	**230**	P		**Pn**		**14 01 27.3**	**+0.4**
HATD				P		**Pn**		**14 01 27.3**	**+0.4**
ARU	**Arti**	**19.85**	**337**			**P**		**14 01 25.7**	**-0.3**
ARU				IAmb		IAmb		14 01 31.5	
	comp=Z,61nm,1.0s								
ARU	**Arti**	**19.85**	**337**	*c i* P		**P**		**14 01 25.8**	**-0.3**
ARU				S		**S**		**14 05 08.8**	**+0.7**
ARU				pmax		pmax			
	comp=Z,93nm,1.9s								
ARU				MLR		MLR			
	comp=Z,985nm,14.0s								
ARU	**Arti**	**19.85**	**337**	P		**P**		**14 01 25.4**	**-0.7**
	baz=139,slow=7.9,SNR=22								
ARU				LR		LR		14 09 35.7	
	comp=Z,1μm,19.4s,baz=144,slow=38								
	comp=Z,27nm,0.7s								
ASHO	**Ashiyiah**	**19.91**	**229**	P		**P**		**14 01 25.5**	**-1.5**
ASHO	**Ashiyiah**	**19.91**	**229**	P		**Pn**		**14 01 27.7**	**-1.0**
	SNR=16								
ASHO				P		**Pn**		**14 01 27.7**	**-1.0**
	SNR=16								
NAZ	**Nazwa, Dubai**	**19.92**	**231**	P		**Pn**		**14 01 28.9**	**+0.1**
NAZ				P		**P**		**14 01 29.1**	**+2.1**
WBK	**Wadi Bani Khal**	**19.97**	**220**	P		**Pn**		**14 01 28.4**	**-1.1**
WBK				P		**Pn**		**14 01 28.4**	**-1.1**
HOQ	**Hoqain**	**20.05**	**225**	P		**Pn**		**14 01 29.1**	**-1.2**
HOQ				P		**Pn**		**14 01 29.1**	**-1.2**
SOHO	**SOHO**	**20.05**	**227**	P		**P**		**14 01 28.3**	**-0.1**
SMDO	**Samad**	**20.07**	**222**	P		**P**		**14 01 28.8**	**0.0**
SMDO				P		**P**		**14 01 28.8**	**0.0**
JLN	**Jalan Bani Buh**	**20.14**	**218**	P		Pn		14 01 30.4	-1.0
ASUD	**Al Ashush, Dub**	**20.39**	**231**	P		Pn		14 01 33.1	-1.2
ALNE	**Al Ain**	**20.57**	**229**	P		**P**		**14 01 32.2**	**-1.9**
ALNE	**Al Ain**	**20.57**	**229**	P		**P**		**14 01 33.9**	**-0.2**
	SNR=9.8								
ALNE				P		**P**		**14 01 33.9**	**-0.2**
	SNR=9.8								
JMDO	**Jabal Madar**	**20.61**	**221**	P		**P**		**14 01 35.0**	**+0.4**
	SNR=9.4								
JMDO				P		**P**		**14 01 35.0**	**+0.4**
	SNR=9.4								
ARQ	**Araqi**	**20.68**	**226**	P		**P**		**14 01 35.6**	**+0.2**
	SNR=9.8								
BSY	**Bisya**	**20.78**	**224**	P		**P**		**14 01 36.6**	**+0.1**
BSY				P		**P**		**14 01 36.6**	**+0.1**
SHL	**Shillong**	**20.99**	**124**	P		**P**		**14 01 38.7**	**-0.2**
SHL				IAmb		IAmb		14 01 52.0	
	comp=Z,107nm,1.5s								
SHL	**Shillong**	**20.99**	**124**	P		**P**		**14 01 38.7**	**-0.2**
SHL				pmax		pmax			
	comp=Z,107nm,1.5s								
GTA	**Gaotai**	**21.10**	**80**	⇑P		**P**		**14 01 41.3**	**+1.4**
GTA				pP		pP		14 01 46.8	-1.7
GTA				pmax		pmax			
	comp=Z,86nm,0.8s								
GTA				pmax		pmax			
	comp=Z,250nm,5.6s								
GTA				LR		LR			
	comp=Z,860nm,15.9s								
GTA				LR		LR			
	comp=Z,1μm,16.3s								
GTA				LR		LR			
	comp=Z,1μm,22.3s								
GNI	**Garni**	**21.49**	**282**	P		**P**		**14 01 43.3**	**-0.8**
GNI	**Garni**	**21.49**	**282**	P		**P**		**14 01 44.6**	**+0.5**
GNI	**Garni**	**21.49**	**282**	P		**P**		**14 01 46.5**	**+2.5**
GNI	**Garni**	**21.49**	**282**	*i* P		**P**		**14 01 43.6**	**-0.5**
GNI				pmax		pmax			
	comp=Z,107nm,1.1s								
GNI	**Garni**	**21.49**	**282**	P		**P**		**14 01 42.5**	**-1.5**
	comp=Z,13nm,0.7s,baz=92,slow=4.7,SNR=3.5								
	comp=Z,13nm,0.7s								
JRN	**Qarnain Island**	**21.71**	**236**	P		**P**		**14 01 44.8**	**-1.6**
JRN				P		**P**		**14 01 44.8**	**-1.6**
MHTO	**MHTO**	**21.84**	**219**	P		**P**		**14 01 48.5**	**+0.8**
	SNR=10								
MHTO				P		**P**		**14 01 48.5**	**+0.8**
	SNR=10								

BELG	**Belogornoye**	**21.92**	**316**	*i* P		**P**		**14 01 47.7**	**-0.7**
BELG				pmax		pmax			
	comp=Z,28nm,1.0s								
BELG				MLR		MLR			
	comp=Z,33nm,7.0s								
BELG	**Belogornoye**	**21.92**	**316**	P		**P**		**14 01 47.0**	**-1.3**
	comp=Z,110nm,1.1s,baz=174,slow=1.0,SNR=11								
BELG				LR		LR		14 11 27.2	
	comp=Z,418nm,18.8s,baz=147,slow=40								
	comp=Z,110nm,1.1s								
ZEI	**Tsey**	**22.00**	**289**	*e*P		**P**		**14 01 49.6**	**0.0**
ZEI				pmax		pmax			
	comp=Z,32nm,0.8s								
ONI	**Oni**	**22.33**	**289**	P		**P**		**14 01 53.4**	**+0.4**
ONI	**Oni**	**22.33**	**289**	P		**P**		**14 01 53.4**	**+0.4**
ONI				pmax		pmax			
	comp=Z,210nm,1.3s								
AKH	**Akhalkalaki**	**22.34**	**286**	P		**P**		**14 01 54.4**	**+1.2**
AKH	**Akhalkalaki**	**22.34**	**286**	P		**P**		**14 01 54.4**	**+1.2**
AKH				pmax		pmax			
	comp=Z,430nm,1.4s								
SHMA	**Al-Shehemyia**	**22.35**	**241**	P		**P**		**14 01 52.8**	**-0.5**
SAKB	**Bahrain**	**22.56**	**242**	P		**P**		**14 01 54.5**	**-1.0**
GOF	**Gofitskoye**	**22.73**	**295**	*ce*P		**P**		**14 02 01.7**	**+4.5**
KBZ	**Khabaz**	**22.75**	**292**	*ce*P		**P**		**14 01 56.5**	**-0.9**
KBZ				pmax		pmax			
	comp=Z,22nm,0.9s								
KBZ	**Khabaz**	**22.75**	**292**	P		**P**		**14 01 55.6**	**-1.7**
	comp=Z,20nm,0.9s,baz=126,slow=8.6,SNR=20								
KBZ				S		**S**		**14 06 08.6**	**+4.2**
	comp=Z,8.1nm,1.1s,baz=335,slow=14,SNR=2.0								
KBZ				LR		LR		14 13 09.5	
	comp=Z,382nm,19.1s,baz=96,slow=43								
	comp=Z,20nm,0.9s								
KVAR	**Kislovodsk Arr**	**22.91**	**292**	P		**P**		**14 01 57.6**	**-1.6**
	comp=Z,3.3nm,0.4s,baz=78,slow=19,SNR=1.7								
KVAR				S		**S**		**14 06 03.0**	**-4.4**
	comp=Z,2.8nm,0.4s,baz=194,slow=14,SNR=1.3								
	comp=Z,3.3nm,0.4s								
KIV	**Kislovodsk**	**22.91**	**292**	P		**P**		**14 01 57.1**	**-2.1**
KIV				IAmb		IAmb		14 02 15.6	
	comp=Z,50nm,0.9s								
KIV	**Kislovodsk**	**22.91**	**292**	P		**P**		**14 01 58.3**	**-0.9**
KIV	**Kislovodsk**	**22.91**	**292**	P		**P**		**14 01 58.0**	**-1.2**
KIV				P		**P**		**14 01 58.0**	**-1.2**
KIV	**Kislovodsk**	**22.91**	**292**	*e*P		**P**		**14 01 58.0**	**-1.2**
KIV				*e*S		**S**		**14 06 06.1**	**-1.3**
KIV				pmax		pmax			
	comp=Z,29nm,1.0s								
KIV				MLR		MLR			
	comp=Z,276nm,14.0s								
TRNA	**Turayna**	**22.93**	**238**	P		**P**		**14 02 00.2**	**+0.8**
DQM	**DQM**	**22.94**	**219**	P		**P**		**14 02 00.7**	**+1.2**
SMRA	**Abu-Samra**	**23.18**	**239**	P		**P**		**14 02 01.5**	**-0.5**
SMRA				P		**pP**		**14 02 05.0**	**-5.8**
	SNR=5.1								
MOY	**Mondy**	**23.55**	**48**	*e*P		**P**		**14 02 07.2**	**+1.7**
MOY				pmax		pmax			
	comp=Z,56nm,1.7s								
GURO	**Guroymak-BITLI**	**23.79**	**279**	P		**P**		**14 02 09.3**	**+1.3**
ZAK	**Zakamensk**	**24.50**	**52**	*e*P		**P**		**14 02 14.6**	**+0.2**
ZAK				pmax		pmax			
	comp=Z,19nm,1.3s								
KIRV	**Kirov**	**24.71**	**330**	*ce*P		**P**		**14 02 15.1**	**-0.9**
KIRV	**Kirov**	**24.71**	**330**	P		**P**		**14 02 16.1**	**+0.2**
	comp=Z,30nm,0.5s,baz=125,slow=9.4,SNR=13								
KIRV				LR		LR		14 12 50.6	
	comp=Z,725nm,19.7s,baz=130,slow=39								
	comp=Z,30nm,0.5s								
VRH	**Novokhopyorsk**	**24.84**	**310**	*e*P		P		14 02 27.6	+10
VRH				pmax		pmax			
	comp=Z,34nm,0.6s								
LZH	**Lanzhou**	**24.90**	**87**	⇑P		**P**		**14 02 19.5**	**+1.3**
LZH				sP		sP		14 02 28.3	-3.2
LZH				sS		sS		14 06 51.0	-4.4
LZH				pmax		pmax			
	comp=Z,26nm,1.4s								
LZH				LR		LR			
	comp=Z,1μm,14.8s								
LZH				LR		LR			
	comp=Z,2μm,13.7s								
LZH				LR		LR			
	comp=Z,2μm,15.1s								
SOC	**Sochi**	**25.06**	**291**	*e*P		**P**		**14 02 15.2**	**-4.2**
SOC				*e*PPP		PPP		14 02 58.2	
SOC				*e*S		**S**		**14 06 37.5**	**-4.5**
SOC				*e*SSS		SSS		14 07 48.1	
SOC				MLR		MLR			
	comp=Z,291nm,17.0s								
SHAO	**Shalim**	**25.51**	**220**	P		**P**		**14 02 25.4**	**+1.8**
IRK	**Irkutsk**	**25.65**	**48**	*e*P		**P**		**14 02 24.3**	**-0.4**
IRK				pmax		pmax			
	comp=Z,53nm,4.0s								
TNCH	**TengChong**	**25.88**	**115**	P		**P**		**14 02 30.5**	**+3.4**
TNCH				sP		sP		14 02 38.8	-1.5
TNCH				PP		**PnPn**		**14 03 08.0**	**+3.2**
TNCH				S		**S**		**14 06 53.5**	**-2.1**
TNCH				sS		pS		14 07 04.3	-2.0
TNCH				pmax		pmax			
	comp=Z,26nm,1.2s								
TNCH				pmax		pmax			
	comp=Z,150nm,3.6s								
TNCH				LR		LR			
	comp=Z,440nm,10.8s								
TNCH				LR		LR			
	comp=Z,350nm,14.9s								
TNCH				LR		LR			
	comp=Z,400nm,12.0s								
SONM	**Songino Array**	**25.98**	**59**	P		**P**		**14 02 28.2**	**+0.3**
SONM				IAmb		IAmb		14 02 32.9	
	comp=Z,38nm,1.3s								
SONM	**Songino Array**	**25.98**	**59**	P		**P**		**14 02 28.2**	**+0.3**
SONM				pmax		pmax			
	comp=Z,38nm,1.3s								
SONM	**Songino Array**	**25.98**	**59**	P		**P**		**14 02 28.7**	**+0.9**
	comp=Z,13nm,1.0s,baz=261,slow=9.4,SNR=35								
SONM				LR		LR		14 13 50.3	
	comp=Z,1μm,21.0s,baz=265,slow=39								
	comp=Z,13nm,1.0s								
DMTO	**DMTO**	**26.11**	**221**	P		**P**		**14 02 29.6**	**+0.6**
VORD	**Divnogorie**	**26.25**	**308**	*e*P		**P**		**14 02 32.2**	**+2.2**
VORD				pmax		pmax			
	comp=Z,40nm,1.0s								
VSR	**Storozhevoye**	**26.39**	**309**	*e*P		**P**		**14 02 30.0**	**-1.3**
VSR				pmax		pmax			
	comp=Z,30nm,0.8s								
ULN	**Ulaanbaatar**	**26.42**	**59**	P		**P**		**14 02 32.5**	**+0.6**
ULN	**Ulaanbaatar**	**26.42**	**59**	P		**P**		**14 02 31.1**	**-0.8**
ULN				P		**P**		**14 02 31.1**	**-0.8**
ULN	**Ulaanbaatar**	**26.42**	**59**	*ce*P		**P**		**14 02 32.5**	**+0.6**
ULN				pmax		pmax			
	comp=Z,9.0nm,0.8s								
VORR	**Voronezh**	**26.48**	**310**	*e*P		**P**		**14 02 31.6**	**-0.5**
VORR				pmax		pmax			
	comp=Z,20nm,1.0s								
ARPR	**Arapgir-MALATY**	**26.53**	**281**	P		**P**		**14 02 32.8**	**-0.1**
ARPR				IAmb		IAmb		14 02 44.7	
	comp=Z,57nm,1.2s								
WHFO	**Wadi Hawf**	**26.56**	**223**	P		**P**		**14 02 32.8**	**-0.3**
WHFO				P		**P**		**14 02 32.8**	**-0.3**
RBK	**Rabkut**	**26.67**	**222**	P		**P**		**14 02 34.1**	**-0.1**
CD2	**Chengdu**	**26.68**	**98**	P		**P**		**14 02 35.0**	**+0.8**
CD2				pP		pP		14 02 42.0	-1.6
CD2				sP		sP		14 02 46.5	-1.0
CD2				S		**S**		**14 07 08.0**	**0.0**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CD2				LR		LR			
	comp=Z,760nm,10.4s								
CD2				LR		LR			
	comp=Z,710nm,8.2s								
CD2				LR		LR			
	comp=Z,530nm,13.0s								
LPSR	**Galich'ya Gora**	**26.91**	**312**	*e*P		**P**		**14 02 35.6**	**-0.4**
LPSR				pmax		pmax			
	comp=Z,50nm,1.0s								
ABTO	**Aybut**	**27.27**	**224**	P		**P**		**14 02 41.5**	**+1.8**
PZH	**PanZhiHua**	**27.35**	**108**	P		**P**		**14 02 43.5**	**+3.1**
PZH				S		**S**		**14 07 12.5**	**-6.2**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.6s								
PZH				pmax		pmax			
	comp=Z,110nm,6.0s								
PZH				LR		LR			
	comp=Z,310nm,13.9s								

PZH				LR		LR			
	comp=Z,360nm,14.1s								
PZH				LR		LR			
	comp=Z,390nm,12.7s								
PRGR	**Permogore**	**28.17**	**333**	*e*P		**P**		**14 02 45.5**	**-1.6**
PRGR				pmax		pmax			
	comp=Z,15nm,0.8s								
DIKM	**Dikmen**	**28.47**	**288**	P		**P**		**14 02 52.6**	**+2.5**
MOS	**Moscow**	**28.67**	**318**	*e*P		**P**		**14 02 49.8**	**-1.9**
MOS				*e*				14 03 41.3	
MOS				pmax		pmax			
	comp=Z,43nm,0.8s								
MOS				MLR		MLR			
	comp=Z,800nm,16.0s								
OBN	**Obninsk**	**29.02**	**316**	⇑*e*P		**P**		**14 02 54.6**	**-0.2**
OBN				*e*				14 03 47.7	
OBN				*e*S		**S**		**14 07 51.4**	**+7.2**
OBN				*e*SS		**SnSn**		**14 09 05.4**	**-3.0**
OBN				pmax		pmax			
	comp=Z,42nm,1.3s								
OBN				MLR		MLR			
	comp=Z,430nm,16.0s								
OBN	**Obninsk**	**29.02**	**316**	P		**P**		**14 02 54.3**	**-0.5**
	comp=Z,22nm,0.4s,baz=169,slow=5.2,SNR=3.4								
OBN				LR		LR		14 14 26.6	
	comp=Z,262nm,21.7s,baz=156,slow=36								
	comp=Z,22nm,0.4s								
SIM	**Simferopol'**	**29.06**	**295**	*e*P		**P**		**14 02 54.0**	**-1.3**
SIM				*e*S		S		14 07 36.4	-8.6
SIM				pmax		pmax			
	comp=Z,48nm,1.0s								
SIM				smax		smax			
	comp=N,91nm,18.4s								
SIM				MLR		MLR			
	comp=Z,154nm,26.0s								
XAN	**Xi'an**	**29.49**	**88**	⇑P		**P**		**14 02 59.8**	**+0.5**
XAN				pP		pP		14 03 03.5	-5.2
XAN				pmax		pmax			
	comp=Z,15nm,0.9s								
XAN				LR		LR			
	comp=Z,1μm,12.4s								
XAN				LR		LR			
	comp=Z,870nm,13.7s								
XAN				LR		LR			
	comp=Z,2μm,19.1s								
HHC	**Hu-ho-hao-te**	**29.81**	**74**	*e*P		**P**		**14 03 03.3**	**+1.1**
HHC				pmax		pmax			
	comp=Z,19nm,0.6s								
HHC				pmax		pmax			
	comp=Z,200nm,5.2s								
HHC				LR		LR			
	comp=Z,690nm,10.4s								
HHC				LR		LR			
	comp=Z,980nm,12.2s								
HHC				LR		LR			
	comp=Z,1μm,12.4s								
BR131	**Keskin Array S**	**29.99**	**284**	P		**P**		**14 03 04.5**	**+0.7**
BR131	**Keskin Array S**	**29.99**	**284**	P		**P**		**14 03 05.1**	**+1.4**
	SNR=6.2								
BR131	**Keskin Array S**	**29.99**	**284**	P		**P**		**14 03 04.5**	**+0.7**
BR131				pmax		pmax			
	comp=Z,12nm,0.9s								
BRTR	**Keskin Array B**	**29.99**	**284**	P		**P**		**14 03 04.5**	**+0.7**
BRTR	**Keskin Array B**	**29.99**	**284**	P		**P**		**14 03 04.5**	**+0.7**
BRTR	**Keskin Array B**	**29.99**	**284**	P		**P**		**14 03 04.6**	**+0.8**
	comp=Z,6.4nm,0.9s,baz=95,slow=8.2,SNR=16								
BRTR				LR		LR		14 17 01.5	
	comp=Z,209nm,21.0s,baz=76,slow=40								
	comp=Z,6.4nm,0.9s								
KLMR	**Klimovskoe**	**30.07**	**328**	*e*P		**P**		**14 03 01.7**	**-2.3**
KLMR				AMP				14 03 07.9	
	comp=Z,35nm,1.5s								
KLMR				*e*PP		**PnPn**		**14 03 58.6**	**-2.7**
KLMR	**Klimovskoe**	**30.07**	**328**	*e*P		**P**		**14 03 01.6**	**-2.4**
KLMR				*e*				14 03 58.6	
KLMR				pmax		pmax			
	comp=Z,35nm,1.5s								
MMAI	**Mount Meron Ar**	**30.52**	**271**	LR		LR		14 17 55.0	
	comp=Z,298nm,18.5s,baz=40,slow=41								
CMAR	**Chiang Mai Arr**	**30.63**	**124**	*i* P		**P**		**14 03 12.0**	**+2.6**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**30.63**	**124**	P		**P**		**14 03 09.4**	**0.0**
	comp=Z,0.7nm,0.6s,baz=318,slow=9.1,SNR=6.9								
	comp=Z,0.7nm,0.6s								
GYA	**Guiyang**	**31.07**	**103**	P		**P**		**14 03 12.5**	**-0.9**
GYA				S		**S**		**14 08 14.5**	**-2.7**
GYA				pmax		pmax			
	comp=Z,20nm,0.7s								
GYA				LR		LR			
	comp=Z,710nm,12.6s								
GYA				LR		LR			
	comp=Z,600nm,12.2s								
GYA				LR		LR			
	comp=Z,410nm,15.0s								
NRIK	**Noril'sk**	**31.55**	**10**	P		**P**		**14 03 18.6**	**+1.5**
NRIK				IAmb		IAmb		14 03 22.1	
	comp=Z,18nm,1.1s								
NRIK	**Noril'sk**	**31.55**	**10**	*ce*P		**P**		**14 03 19.4**	**+2.4**
NRIK				pmax		pmax			
	comp=Z,19nm,1.1s								
NRIK	**Noril'sk**	**31.55**	**10**	P		**P**		**14 03 19.0**	**+2.0**
	comp=Z,15nm,1.0s,baz=210,slow=6.1,SNR=8.5								
NRIK				LR		LR		14 16 40.0	
	comp=Z,153nm,19.9s,baz=193,slow=38								
	comp=Z,15nm,1.0s								
LYN	**LuoYang**	**32.08**	**85**	*e*P		**P**		**14 03 23.5**	**+1.4**
LYN				pmax		pmax			
	comp=Z,15nm,1.0s								
LYN				pmax		pmax			
	comp=Z,370nm,5.3s								
LYN				LR		LR			
	comp=Z,680nm,14.2s								
LYN				LR		LR			
	comp=Z,1μm,12.4s								
LYN				LR		LR			
	comp=Z,1μm,18.0s								
**EIL

MNK *i* LRM MLR 14 18 44.1
comp=Z,241nm,15.5s
MNK *i* LRM MLR 14 18 44.7
comp=E,132nm,14.8s
MNK Minsk 33.75 312 *i* P **P** **14 03 33.9 -2.5**
MNK *i* 14 06 12.5
MNK *i* S **S** **14 08 56.0 -2.1**
MNK *i* SS **SnSn** **14 11 03.4 0.0**
MNK *i* 14 13 56.2
MNK pmax pmax
comp=N,14nm,0.8s
MNK pmax pmax
comp=E,6.0nm,0.8s
MNK pmax pmax
comp=Z,10.0nm,0.7s
MNK MLR MLR
comp=N,269nm,13.0s
MNK MLR MLR
comp=Z,241nm,15.0s
MNK MLR MLR
comp=E,132nm,15.0s
TESR Tescani 34.20 298 ⇓P **P** **14 03 42.5 +2.0**
BISRR Bisoca 34.24 296 ⇓P **P** **14 03 42.9 +2.0**
PLOR Plostina 34.25 297 ⇑P **P** **14 03 43.4 +2.4**
PLOR Plostina 34.25 297 ⇑P **P** **14 03 43.4 +2.4**
NACGM Naroch 34.44 313 *e*P **P** **14 03 43.6 +1.2**
COVR Voineasa-Covas 34.56 297 ⇑P **P** **14 03 45.5 +1.8**
MLR Muntele Rosu 34.78 296 ⇑P **P** **14 03 48.6 +3.0**
MLR Muntele Rosu 34.78 296 P **P** **14 03 46.1 +0.5**
MLR Muntele Rosu 34.78 296 ⇑P **P** **14 03 48.6 +3.0**
MLR Muntele Rosu 34.78 296 P **P** **14 03 45.8 +0.2**
comp=E,5.6nm,0.9s,baz=90,slow=9.1,SNR=3.6
MLR LR LR 14 19 42.2
comp=E,432nm,19.8s,baz=56,slow=39
comp=E,5.6nm,0.9s
WHN Wuhan 35.08 91 P **P** **14 03 49.5 +1.3**
WHN pmax pmax
comp=E,58nm,1.3s
BURAR Bucovina Array 35.11 300 ⇑P **P** **14 03 50.7 +2.3**
BURAR Bucovina Array 35.11 300 P **P** **14 03 48.7 +0.3**
BURAR Bucovina Array 35.11 300 ⇑P **P** **14 03 50.7 +2.3**
BUR08 Bucovina Ar. S 35.12 300 P **P** **14 03 48.6 +0.1**
BUR08 IAmb IAmb 14 05 07.5
comp=Z,14nm,1.1s
DOPR Dopca 35.12 297 ⇓P **P** **14 03 50.6 +2.2**
VSU Vasula 35.15 319 *ce*P **P** **14 03 48.4 0.0**
VSU pmax pmax
comp=Z,56nm,1.7s
TIA Tai'an 35.15 80 P **P** **14 03 49.5 +0.7**
TIA S **S** **14 09 21.0 +0.9**
TIA pmax pmax
comp=Z,13nm,0.8s
TIA pmax pmax
comp=Z,180nm,4.5s
TIA LR LR
comp=Z,150nm,13.7s
TIA LR LR
comp=Z,610nm,15.1s
TIA LR LR
comp=Z,870nm,20.8s
MTUR Matau 35.43 296 ⇑P **P** **14 03 53.3 +2.1**
MTUR Matau 35.43 296 ⇑P **P** **14 03 53.3 +2.1**
ARR Arges 35.71 296 ⇑P **P** **14 03 55.3 +1.7**
ARCR ARCALIA 35.73 299 ⇑P **P** **14 03 55.8 +2.1**
LVV L'vov 35.81 304 *e*P **P** **14 03 53.2 -1.1**
APA Apatity 35.94 336 ⇓P P 14 03 46.4 -8.8
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,1μm,12.0s
KARP Karpathos 36.04 279 P **P** **14 03 56.1 -0.4**
PABE Paberze 36.12 314 P **P** **14 03 56.6 -0.2**
PABE Paberze 36.12 314 *e*P **P** **14 03 57.3 +0.5**
VSVD Vaisvydziai 36.20 314 *e*P **P** **14 03 59.5 +2.0**
FINES FINESS Array B 36.25 324 *ce*P **P** **14 03 57.4 -0.4**
FINES pmax pmax
comp=Z,12nm,0.4s
FINES FINESS Array B 36.25 324 P **P** **14 03 57.9 0.0**
comp=Z,12nm,0.4s,baz=116,slow=10.0,SNR=135
FINES LR LR 14 19 29.6
comp=Z,637nm,19.4s,baz=101,slow=37
comp=Z,12nm,0.4s
SUW Suwalki 36.44 311 *e*P **P** **14 04 00.9 +1.3**
MARR Marisel-Cluj 36.61 299 ⇓P **P** **14 04 03.9 +2.5**
MTSE Matsula 36.70 319 *e*P **P** **14 04 02.7 +1.0**
KOLS Kolonicke sedl 36.99 302 *e*P **P** **14 04 05.5 +1.1**
KOLS *e* 14 05 16.0
KOLS *e*PP **PnPn** **14 05 33.0 +3.9**
KOLS Kolonicke sedl 36.99 302 *e*P **P** **14 04 05.5 +1.1**
KOLS *e* 14 05 33.0
GZR Gura Zlata 37.01 297 ⇑P **P** **14 04 06.9 +2.3**
GZR Gura Zlata 37.01 297 ⇑P **P** **14 04 06.9 +2.3**
PBUR Paburge 37.32 314 *e*P **P** **14 04 08.3 +1.2**
HERR Herculane 37.33 296 ⇓P **P** **14 04 09.4 +2.1**
BLKB Belogradchik 37.36 294 ⇓P **P** **14 04 09.9 +2.3**
SURR Surduc 37.41 297 ⇓P **P** **14 04 10.2 +2.3**
CRVS Cervenica-Dubn 37.53 303 *e*P **P** **14 04 11.4 +2.4**
CRVS Cervenica-Dubn 37.53 303 *e*P **P** **14 04 11.4 +2.4**
STHS Stebnicka Huta 37.64 303 *e*P **P** **14 04 10.4 +0.5**
STHS Stebnicka Huta 37.64 303 *e*P **P** **14 04 10.4 +0.5**
BZS Buzias 37.78 297 ⇑P **P** **14 04 13.5 +2.4**
BZS Buzias 37.78 297 ⇑P **P** **14 04 13.5 +2.4**
QIZ Qiongzhong 37.79 111 P **P** **14 04 11.8 +0.3**
QIZ S **S** **14 10 02.5 +1.8**
QIZ LR LR
comp=Z,680nm,13.3s
QIZ LR LR
comp=Z,560nm,16.7s
QIZ LR LR
comp=Z,590nm,13.0s
MDVR Moldovita 37.84 296 ⇓P **P** **14 04 13.9 +2.1**
NJ2 Nanjing 37.97 86 *e*P **P** **14 04 14.3 +1.5**
NJ2 pmax pmax
comp=Z,12nm,0.5s
ATD Arta Tunnel 37.98 232 LR LR 14 21 38.2
comp=Z,9.2nm,20.4s,baz=26,slow=39
BOVS Bovan 38.05 294 ⇓P **P** **14 04 16.3 +2.9**
OJC Ojcow 38.52 305 P **P** **14 04 16.9 -0.4**
OJC IAmb IAmb 14 04 26.1
comp=Z,23nm,1.1s
OJC Ojcow 38.52 305 P **P** **14 04 16.9 -0.4**
OJC pmax pmax
comp=Z,23nm,1.1s
VYHS Vyhne 39.30 302 *e*P **P** **14 04 25.5 +1.7**
VYHS Vyhne 39.30 302 *e*P **P** **14 04 25.5 +1.7**
CN2 Changchun 39.43 65 *e*P **P** **14 04 25.8 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
ARA0 ARCESS Array S 39.44 336 *e*P **P** **14 04 25.7 +1.0**
ARCES ARCESS Array B 39.44 336 P **P** **14 04 25.6 +0.8**
ARCES ARCESS Array B 39.44 336 P **P** **14 04 25.0 +0.2**
ARCES ARCESS Array B 39.44 336 P **P** **14 04 25.0 +0.2**
comp=Z,5.1nm,0.4s,baz=113,slow=7.6,SNR=80
ARCES LR LR 14 21 35.4
comp=Z,666nm,18.7s,baz=115,slow=38
comp=Z,5.1nm,0.4s
ZEA Zeya 39.54 50 *e*P **P** **14 04 27.3 +1.5**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
HEH HeiHe 39.82 55 *e*P **P** **14 04 28.8 +0.7**
HEH pmax pmax
comp=Z,20nm,0.8s
HEH pmax pmax
comp=Z,450nm,5.0s
KTK1 Kautokeino 39.96 335 *e*P **P** **14 04 29.5 +0.4**
MORC Moravsky Berou 40.01 304 ⇑P **P** **14 04 31.2 +1.5**
MORC Moravsky Berou 40.01 304 ⇑P **P** **14 04 31.2 +1.5**
JAVC Velka Javorina 40.02 303 *e*P **P** **14 04 31.0 +1.1**
HAMF Hammerfest 40.48 337 *e*P **P** **14 04 34.5 +1.1**
VRAC Vranov 40.67 304 *e*P **P** **14 04 36.0 +0.8**
VRAC Vranov 40.67 304 P **P** **14 04 35.1 -0.2**
comp=Z,2.9nm,0.6s,baz=103,slow=5.2,SNR=5.8
VRAC LR LR 14 25 19.9
comp=Z,199nm,18.7s,baz=92,slow=42
comp=Z,2.9nm,0.6s
DPC Dobruska-Polom 40.73 305 *e*P **P** **14 04 37.3 +1.6**
DPC Dobruska-Polom 40.73 305 *e*P **P** **14 04 37.3 +1.6**
KRUC Moravsky 40.83 303 *e*P **P** **14 04 37.5 +1.0**
UPC Upice 40.91 306 *e*P **P** **14 04 38.6 +1.4**
UPC Upice 40.91 306 *e*P **P** **14 04 38.6 +1.4**
RONA Rosalia, Austr 41.09 301 *i* P **P** **14 04 39.9 +1.2**
comp=Z,9.8nm,1.0s
JETT Jettan, Norway 41.10 335 *e*P **P** **14 04 40.0 +1.5**

YAK Yakutsk 41.29 37 P **P** **14 04 39.2 -0.9**
YAK IAmb IAmb 14 04 42.9
comp=Z,24nm,0.7s
YAK Yakutsk 41.29 37 *e*P **P** **14 04 39.4 -0.7**
YAK *e**PP **pP** **14 04 48.5 -1.1**
YAK *e*PPP PPP 14 06 46.5
YAK *e*S **S** **14 10 51.1 -1.2**
YAK *e**SS **sS** **14 11 10.0 +1.9**
YAK *e*SS **SS** **14 13 53.8 -2.1**
YAK pmax pmax
comp=Z,32nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.9s
YAK pmax pmax
comp=E,17nm,1.9s
YAK pmax pmax
comp=Z,642nm,5.3s
YAK pmax pmax
comp=N,595nm,5.3s
YAK pmax pmax
comp=E,381nm,6.2s
YAK smax smax
comp=E,358nm,5.8s
YAK smax smax
comp=N,444nm,4.8s
YAK MLR MLR
comp=Z,263nm,16.0s
YAK MLR MLR
comp=N,259nm,24.0s
YAK MLR MLR
comp=E,198nm,16.0s
YAK Yakutsk 41.29 37 LR LR 14 22 06.7
comp=E,14nm,18.9s,baz=277,slow=36
CONA Conrad Observa 41.35 302 *e*P **P** **14 04 41.8 +0.9**
comp=E,0.7nm,0.4s
TRO Tromso 41.61 335 *e*P **P** **14 04 44.5 +1.9**
ARSA Arzberg 41.68 301 *i* P **P** **14 04 44.7 +1.1**
comp=E,3.7nm,0.8s
PRU Pruhonice 41.91 305 *e*P **P** **14 04 47.3 +1.9**
PRU Pruhonice 41.91 305 *e*P **P** **14 04 47.3 +1.9**
HFS Hagfors 42.00 320 P **P** **14 04 45.9 0.0**
comp=E,19nm,0.6s,baz=99,slow=9.2,SNR=71
HFS LR LR 14 23 07.2
comp=E,671nm,18.6s,baz=91,slow=37
comp=E,19nm,0.6s
SOKA Soboth 42.12 300 *i* P **P** **14 04 48.9 +1.7**
comp=E,18nm,1.6s
BRG Berggiesshubel 42.18 306 *e*P **P** **14 04 48.8 +1.3**
BRG Amp 14 04 50.2
comp=Z,5.9nm,0.8s
BRG Berggiesshubel 42.18 306 *e*P **P** **14 04 48.8 +1.3**
BRG pmax pmax
comp=Z,6.0nm,0.8s
ZVC Zvikov 42.21 304 *e*P **P** **14 04 49.8 +2.0**
CKRC Cesky Krumlov 42.23 303 *e*P **P** **14 04 51.0 +3.0**
CKRC Cesky Krumlov 42.23 303 *e*P **P** **14 04 51.0 +3.0**
FAUS Fauske 42.29 331 *e*P **P** **14 04 50.2 +2.0**
MOR8 Moi Rana 42.38 329 *e*P **P** **14 04 49.4 +0.4**
MOA Molln 42.42 302 *e*P **P** **14 04 50.9 +1.3**
comp=Z,11nm,1.4s
STEI Steigen 42.43 332 *e*P **P** **14 04 50.2 +0.8**
OBKA Obir 42.48 300 *e*P **P** **14 04 51.8 +1.7**
comp=Z,14nm,1.3s
GEC2 GERESS Array S 42.62 303 P **P** **14 04 51.0 -0.3**
GEC2 IAmb IAmb 14 04 59.1
comp=Z,26nm,1.5s
GERES GERESS Array B 42.62 303 P **P** **14 04 52.4 +1.1**
comp=Z,3.2nm,0.7s,baz=65,slow=7.8,SNR=7.6
GERES LR LR 14 24 09.0
comp=Z,230nm,19.7s,baz=89,slow=38
comp=Z,3.2nm,0.7s
KHC Kasperske Hory 42.65 304 *e*P **P** **14 04 51.9 +0.4**
KHC Kasperske Hory 42.65 304 *e*P **P** **14 04 53.3 +1.8**
KHC Kasperske Hory 42.65 304 *e*P **P** **14 04 53.3 +1.8**
CLL Collm 42.71 307 P **P** **14 04 51.1 -0.7**
CLL IAmb IAmb 14 05 20.6
comp=Z,24nm,1.5s
CLL Collm 42.71 307 *i* P **P** **14 04 51.9 +0.1**
comp=Z,6.0nm,0.8s
CLL *i* PP **PP** **14 06 28.6 -2.4**
CLL AMS AMS 14 22 00.0
comp=Z,400nm,18.7s
CLL Collm 42.71 307 *i* P **P** **14 04 51.9 +0.1**
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL MLR MLR
comp=Z,400nm,18.7s
KLR Kul'dur 42.74 56 *i* P **P** **14 04 52.7 +0.6**
KLR pmax pmax
comp=Z,5.0nm,1.5s
KLR Kul'dur 42.74 56 LR LR 14 23 38.4
comp=Z,362nm,19.5s,baz=232,slow=38
BIOA Bad Ischl, Aus 42.86 302 *i* P **P** **14 04 54.7 +1.5**
comp=Z,15nm,1.3s
KSRS Korea Array 42.96 74 P **P** **14 04 54.6 +0.6**
comp=Z,4.0nm,1.0s,baz=281,slow=6.5,SNR=8.3
KSRS LR LR 14 25 01.9
comp=Z,461nm,20.5s,baz=275,slow=39
comp=Z,4.0nm,1.0s
KONS Konsvik 42.96 330 *e*P **P** **14 04 55.9 +2.3**
MYKA Terra Mystica 43.07 300 *i* P **P** **14 04 57.3 +2.4**
comp=Z,14nm,1.6s
TIXI Tiksi 43.08 23 ⇓P **P** **14 04 54.7 +0.1**
NC602 NORSAR Array S 43.09 321 *e*P **P** **14 04 55.0 +0.2**
LOF Lofoten 43.10 332 *e*P **P** **14 04 55.7 +0.9**
NC303 NORSAR Array S 43.19 322 P **P** **14 04 55.1 -0.5**
NB2 NORSAR Subarra 43.26 321 P **P** **14 04 55.7 -0.5**
comp=Z,4.5nm,0.6s,baz=91,slow=8.6
NB2 NORSAR Subarra 43.26 321 P **P** **14 04 55.7 -0.5**
baz=91,slow=8.6
NOA NORSAR Array B 43.26 321 P **P** **14 04 56.0 -0.2**
comp=Z,4.3nm,0.6s,baz=108,slow=7.2,SNR=24
NOA LR LR 14 23 57.0
comp=Z,493nm,18.5s,baz=90,slow=38
comp=Z,4.3nm,0.6s
BJO1 Bjornoya 43.38 342 *e*P **P** **14 04 56.1 -0.8**
NC204 NORSAR Array S 43.49 322 P **P** **14 04 57.5 -0.6**
LESA Schwarzleotal 43.55 301 *i* P **P** **14 04 59.6 +0.8**
comp=Z,11nm,1.0s
ABTA Abfaltersbach 43.80 301 *i* P **P** **14 05 01.9 +1.0**
comp=Z,8.4nm,0.8s
USRK Ussuriysk Ar. 43.93 63 P **P** **14 05 03.9 +2.1**
comp=Z,2.2nm,0.8s,baz=275,slow=6.8,SNR=4.5
USRK LR LR 14 25 15.8
comp=Z,457nm,18.2s,baz=292,slow=39
comp=Z,2.2nm,0.8s
WTTA Wattenberg 44.28 301 *i* P **P** **14 05 05.6 +0.8**
comp=Z,7.2nm,0.8s
WATA Walderalm 44.30 302 *i* P **P** **14 05 06.0 +1.1**
comp=Z,4.2nm,0.7s
DOMB Dombas 44.31 323 *e*P **P** **14 05 05.4 +0.7**
SQTA Sankt Quirin 44.57 302 *i* P **P** **14 05 08.6 +1.5**
comp=Z,6.4nm,1.1s
MOTA Moosalm 44.62 302 *i* P **P** **14 05 08.5 +1.1**
comp=Z,12nm,1.1s
RETA Reutte 44.81 302 *i* P **P** **14 05 11.6 +2.7**
comp=Z,10nm,1.5s
FETA Feichten 44.94 301 *i* P **P** **14 05 12.0 +2.0**
comp=Z,9.2nm,1.0s
VAE Valguarnera 45.07 287 LR LR 14 27 32.1
comp=Z,118nm,19.3s,baz=340,slow=41
DAVA Damuels 45.44 302 *i* P **P** **14 05 14.7 +0.7**
comp=Z,12nm,0.8s
SPITS Spitsbergen Ar 45.46 346 P **P** **14 05 15.2 +1.6**
comp=Z,9.6nm,0.7s,baz=128,slow=11,SNR=15
SPITS LR LR 14 27 40.3
comp=Z,298nm,19.1s,baz=129,slow=40
comp=Z,9.6nm,0.7s
DAVOX Davos/Dischmat 45.56 301 LR LR 14 26 17.4
comp=Z,170nm,21.7s,baz=70,slow=39
KBS Kingsbay 46.57 347 *e*P **P** **14 05 24.4 +2.1**
KBS Kingsbay 46.57 347 *ce*P **P** **14 05 23.3 +1.0**
KBS pmax pmax
comp=Z,29nm,1.0s
KBS Kingsbay 46.57 347 *i* P **P** **14 05 23.5 +1.2**
KBS Kingsbay 46.57 347 P **P** **14 05 24.4 +2.1**
KBS pP **sP** **14 05 34.4 -1.5**
KBS sP pP 14 05 38.6 +6.8
JNU Nakatsue 46.82 78 LR LR 14 28 08.6
comp=Z,155nm,18.3s,baz=295,slow=40
SENIN Lac Senin/Sane 47.39 301 P **P** **14 05 29.1 -0.3**
JOW Kunigami 47.64 87 LR LR 14 28 01.6
comp=Z,248nm,18.8s,baz=316,slow=39
KEST Kesra 49.50 287 LR LR 14 30 28.2
comp=Z,154nm,18.8s,baz=314,slow=41
MJAR Matsushiro Arr 50.94 71 P **P** **14 05 56.5 +0.1**
comp=Z,9.1nm,1.0s,baz=290,slow=7.9,SNR=6.9
MJAR LR LR 14 28 22.9
comp=Z,192nm,20.2s,baz=305,slow=37
comp=Z,9.1nm,1.0s
ASAJ Asahikawa 51.25 60 LR LR 14 29 30.1
comp=Z,499nm,18.9s,baz=332,slow=38
KMBO Kilima Mbogo 51.37 228 *i* P **P** **14 06 00.4 +0.3**
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 51.37 228 P **P** **14 05 59.9 -0.2**
comp=Z,1.9nm,0.2s,baz=17,slow=13,SNR=3.5
KMBO LR LR 14 29 37.9
comp=Z,75nm,19.0s,baz=88,slow=38
comp=Z,1.9nm,0.2s
EKA Eskdalemuir Ar 51.47 315 P **P** **14 06 00.1 +0.1**
comp=Z,2.9nm,0.5s,baz=90,slow=9.0,SNR=11
comp=Z,2.9nm,0.5s
SEY Seymchan 51.73 35 LR LR 14 29 15.9
comp=Z,226nm,19.0s,baz=295,slow=38
DAG Danmarks Havn 52.80 343 *i* P **P** **14 06 10.1 +0.4**
DAG IAmb IAmb 14 06 13.7
comp=Z,17nm,0.7s
MBAR Mbarara 54.92 235 P **P** **14 06 26.1 -0.1**
MBAR IAmb IAmb 14 06 27.9
comp=Z,9.8nm,0.9s
MBAR Mbarara 54.92 235 P **P** **14 06 26.8 +0.6**
MBAR P **P** **14 06 26.8 +0.6**
MBAR Mbarara 54.92 235 P **P** **14 06 26.1 -0.1**
MBAR pmax pmax
comp=Z,10.0nm,1.0s
MBAR Mbarara 54.92 235 P **P** **14 06 27.2 +1.0**
MBAR sP **sP** **14 06 41.4 +1.5**
LEM Lembang 55.90 136 LR LR 14 32 56.3
comp=Z,157nm,19.4s,baz=282,slow=39
BILL Bilibino 55.91 27 P **P** **14 06 33.2 +0.8**
BILL IAmb IAmb 14 07 52.5
comp=Z,39nm,2.0s
BILL Bilibino 55.91 27 P **P** **14 06 33.2 +0.8**
BILL pP **sP** **14 06 43.7 -2.3**
BILL sP **pP** **14 06 47.8 +5.6**
DAV Davao City (W) 57.14 109 LR LR 14 33 16.2
comp=Z,112nm,20.4s,baz=329,slow=38
BORG Borgarnes 57.18 329 LR LR 14 31 02.3
comp=Z,355nm,20.3s,baz=53,slow=36
PETK Petropavlovsk- 57.38 45 LR LR 14 31 56.6
comp=Z,208nm,18.7s,baz=304,slow=37
ESDC Sonseca Array 57.47 297 P **P** **14 06 43.8 -0.2**
comp=Z,3.5nm,0.9s,baz=58,slow=7.0,SNR=8.8
comp=Z,3.5nm,0.9s
MPSI Mapaga 57.81 120 P **P** **14 06 47.4 +0.8**
comp=Z,6.6nm,1.0s
JCJ Chichijima 58.28 79 LR LR 14 35 16.4
comp=Z,162nm,18.5s,baz=236,slow=40
NEEM North Greenlan 58.96 348 *i* P **P** **14 06 53.3 -0.9**
NEEM IAmb IAmb 14 07 01.2
comp=Z,14nm,0.8s
SUMG Summit 59.21 341 P **P** **14 06 57.0 +0.9**
SUMG Summit 59.21 341 P **P** **14 06 57.0 +0.9**
SUMG pmax pmax
comp=Z,20nm,0.7s
SUMG Summit 59.21 341 *i* P **P** **14 06 57.0 +0.9**
SUMG IAmb IAmb 14 07 00.8
comp=Z,20nm,0.7s
KAPI Kappang 61.69 124 LR LR 14 36 56.3
comp=Z,54nm,18.2s,baz=282,slow=39
ILULI Ilulissat 64.56 341 *i* P **P** **14 07 32.4 +0.8**
ILULI IAmb IAmb 14 07 38.3
comp=Z,13nm,0.7s
DY2G Dye2 65.06 337 *i* P **P** **14 07 35.1 -0.1**
DY2G IAmb IAmb 14 07 42.1
comp=Z,13nm,0.7s
B20K Meade River 65.56 17 P **P** **14 07 38.6 +0.6**
B20K IAmb IAmb 14 07 45.5
comp=Z,10nm,1.0s
C18K Utukok River 65.60 19 P **P** **14 07 38.7 +0.2**
C18K IAmb IAmb 14 07 48.3
comp=Z,8.5nm,0.8s
SFJD Kangerlussuaq 65.98 339 LR LR 14 35 52.5
comp=Z,279nm,18.8s,baz=201,slow=35
TOA0 Torodi Ar. Sit 67.03 269 P **P** **14 07 46.8 -1.5**
TORD Torodi Ar. Bea 67.03 269 P **P** **14 07 47.4 -0.9**
comp=Z,6.8nm,0.7s,baz=42,slow=6.8,SNR=48
TORD LR LR 14 42 02.3
comp=Z,190nm,18.6s,baz=22,slow=40
comp=Z,6.8nm,0.7s
GUMO Guam 67.86 90 LR LR 14 38 41.3
comp=Z,46nm,21.1s,baz=39,slow=37
LSZ Lusaka 68.02 227 LR LR 14 41 11.7
comp=Z,190nm,18.3s,baz=20,slow=39
F20K Avaraart Lake 68.18 18 P **P** **14 07 55.6 +0.8**
F20K IAmb IAmb 14 08 52.6
comp=Z,11nm,1.6s
G19K Purcell Mounta 68.54 19 P **P** **14 07 57.2 +0.1**
E24K Your Creek 68.98 15 P **P** **14 07 59.5 -0.4**
E24K IAmb IAmb 14 08 32.2
comp=Z,23nm,1.9s
E25K Arctic Village 69.53 14 P **P** **14 08 03.8 +0.6**
E25K IAmb IAmb 14 08 13.1
comp=Z,26nm,1.9s
J16K Anvik River 69.73 23 P **P** **14 08 05.2 +0.8**
J16K IAmb IAmb 14 08 12.0
comp=Z,7.8nm,0.8s
E28M Babbage River 70.17 12 P **P** **14 08 07.9 +0.8**
J18K Innoko River 70.72 21 P **P** **14 08 11.7 +1.2**
H24K Noodor Dome 71.00 16 P **P** **14 08 13.3 +1.0**
PRP Porcupine Dome 71.78 16 P **P** **14 08 19.1 +1.9**
PRP IAmb IAmb 14 08 26.0
comp=Z,15nm,1.7s
COLA College 71.83 17 P **P** **14 08 18.1 +0.9**
COLA IAmb IAmb 14 08 20.9
comp=Z,8.3nm,0.8s
COLA College 71.83 17 P **P** **14 08 18.1 +0.9**
COLA pmax pmax
comp=Z,8.0nm,0.8s
COLA College 71.83 17 P **P** **14 08 17.4 +0.3**
COLA sP **sP** **14 08 32.2 +1.4**
ILAR Eielson Array 72.13 17 P **P** **14 08 20.0 +0.9**
ILAR Eielson Array 72.13 17 P **P** **14 08 19.9 +0.9**
comp=Z,4.0nm,1.0s,baz=321,slow=4.4,SNR=22
comp=Z,4.0nm,1.0s
KTH Kantishna Hill 72.20 19 P **P** **14 08 20.1 +0.5**
KTH IAmb IAmb 14 08 23.9
comp=Z,14nm,1.2s
H29M Whitestone 72.53 13 P **P** **14 08 21.6 +0.2**
H29M IAmb IAmb 14 08 31.0
comp=Z,15nm,1.1s
I28M Miner Creek 72.95 14 P **P** **14 08 24.2 +0.2**
J26L Joseph Creek 73.08 15 P **P** **14 08 25.2 +0.3**
FRB Frobisher Bay 73.15 343 LR LR 14 46 19.2
comp=Z,374nm,18.1s,baz=158,slow=40
SCRK Sand Creek 73.45 16 P **P** **14 08 27.9 +0.8**
M27K Edge Creek, AK 75.34 16 P **P** **14 08 39.1 +1.1**
M27K IAmb IAmb 14 08 52.1
comp=Z,14nm,1.4s
M29M Somme Creek 75.95 14 P **P** **14 08 42.5 +1.0**
M29M IAmb IAmb 14 09 11.4
comp=Z,22nm,1.8s
DBIC Dimbokro 76.07 267 P **P** **14 08 42.7 -0.1**
comp=Z,2.4nm,0.7s,baz=77,slow=11,SNR=3.9
DBIC LR LR 14 46 57.1
comp=Z,238nm,18.9s,baz=28,slow=40
comp=Z,2.4nm,0.7s
KDAK Kodiak Island 76.51 23 P **P** **14 08 45.8 +1.3**
comp=Z,6.5nm,0.8s,baz=345,slow=8.3,SNR=4.9
comp=Z,6.5nm,0.8s
LBTB Lobatse 77.29 223 P **P** **14 08 49.3 -0.2**
LBTB Lobatse 77.29 223 P **P** **14 08 49.3 -0.2**
LBTB pmax pmax
comp=Z,56nm,2.0s
LBTB Lobatse 77.29 223 LR LR 14 44 03.6
comp=Z,71nm,18.6s,baz=12,slow=37
TSUM Tsumeb 77.38 232 P **P** **14 08 50.3 +0.2**
TSUM IAmb IAmb 14 08 52.6
comp=Z,14nm,1.1s
TSUM Tsumeb 77.38 232 LR LR 14 46 03.0
comp=Z,117nm,20.8s,baz=322,slow=38
YKA Yellowknife Ar 78.79 3 *ce*P **P** **14 08 57.5 +0.3**
YKA pmax pmax
comp=Z,9.0nm,1.1s
YKA Yellowknife Ar 78.79 3 P **P** **14 08 57.6 +0.3**
comp=Z,6.4nm,1.0s,baz=347,slow=5.6,SNR=54
YKA LR LR 14 48 27.2
comp=Z,232nm,18.0s,baz=315,slow=39
comp=Z,6.4nm,1.0s
SCHQ Schefferville 80.38 338 LR LR 14 43 17.9
comp=Z,565nm,18.4s,baz=80,slow=35

BOSA	**Boshof**	**80.38**	**221**	P	**P**	**14 09 06.0**	**-0.4**	
	comp=Z,2.7nm,0.8s,baz=34,slow=9.7,SNR=4.4							
BOSA				LR	LR	14 44 59.8		
	comp=Z,49nm,20.0s,baz=20,slow=36							
	comp=Z,2.7nm,0.8s							
WB0	**Warramunga Arr**	**82.13**	**123**	P	**P**	**14 09 14.4**	**-1.3**	
WRA	**Warramunga Arr**	**82.22**	**123**	*ce*P	**P**	**14 09 15.0**	**-1.2**	
WRA				pmax	pmax			
	comp=Z,6.0nm,0.7s							
WRA	**Warramunga Arr**	**82.22**	**123**	P	**P**	**14 09 15.2**	**-1.0**	
	comp=Z,7.5nm,0.9s,baz=324,slow=4.8,SNR=38							
	comp=Z,7.5nm,0.9s							
WR0	**Warramunga Arr**	**82.36**	**123**	P	**P**	**14 09 16.2**	**-0.8**	
WR0				IAmb	IAmb	14 09 21.9		
	comp=Z,9.1nm,0.9s							
NWAO	**Narrogin (SRO)**	**82.61**	**143**	LR	LR	14 44 42.7		
	comp=Z,64nm,21.9s,baz=318,slow=35							
AS31	**Alice Springs**	**84.62**	**126**	P	**P**	**14 09 27.2**	**-1.3**	
ASAR	**Alice Springs**	**84.62**	**126**	P	**P**	**14 09 27.7**	**-0.8**	
	comp=Z,4.6nm,0.9s,baz=314,slow=5.2,SNR=21							
ASAR				LR	LR	14 52 46.9		
	comp=Z,65nm,18.9s,baz=336,slow=40							
	comp=Z,4.6nm,0.9s							
SUR	**Sutherland**	**85.68**	**222**	LR	LR	14 52 19.2		
	comp=Z,79nm,18.2s,baz=4.0,slow=39							
BBB	**Bella Bella**	**87.52**	**13**	LR	LR	14 53 02.4		
	comp=Z,160nm,18.2s,baz=32,slow=38							
CTA	**Charters Tower**	**90.42**	**116**	P	**P**	**14 09 56.5**	**-0.1**	
	comp=Z,4.3nm,0.9s,baz=280,slow=11,SNR=2.6							
CTA				LR	LR	14 55 37.5		
	comp=Z,45nm,18.7s,baz=264,slow=39							
	comp=Z,4.3nm,0.9s							
ULM	**Lac du Bonnet**	**90.65**	**353**	P	**P**	**14 09 57.2**	**-0.1**	
	comp=Z,2.8nm,0.9s,baz=30,slow=8.1,SNR=2.4							
ULM				LR	LR	14 53 06.2		
	comp=Z,207nm,20.2s,baz=47,slow=37							
	comp=Z,2.8nm,0.9s							
NEW	**Newport**	**92.79**	**6**	LR	LR	14 55 57.2		
	comp=Z,466nm,18.3s,baz=50,slow=38							
STKA	**Stephens Creek**	**95.21**	**127**	LR	LR	14 57 56.6		
	comp=Z,66nm,18.3s,baz=14,slow=38							
YBH	**Yreka Blue Hor**	**98.55**	**12**	LR	LR	14 58 25.1		
	comp=Z,97nm,21.3s,baz=34,slow=37							
PDAR	**Pinedale Array**	**98.69**	**2**	LR	LR	15 00 53.8		
	comp=Z,160nm,18.2s,baz=47,slow=39							
QSPA	**South Pole Qui**	**128.69**	**180**	PKP	**PKPdf**	**14 16 01.1**	**0.0**	
	comp=Z,3.1nm,1.0s,baz=271,slow=1.0,SNR=5.8							
PLCA	**Paso Flores**	**151.75**	**254**	PKPbc	**PKPbc**	**14 16 49.0**	**-0.3**	
	comp=Z,4.3nm,1.0s,baz=56,slow=3.6,SNR=4.7							

ROM 27 14:12:42.0±0.1, 42°.829N±0°.002×13°.145E±0°.004, h8km, Md0.6/2, 1C-1D, Error ellipse: s-maj=0.2km s-min=0.2km az=262.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.02**	**281**	⇓P	Pg	14 12 43.6	+0.1
NRCA				S	Sg	14 12 44.7	+0.1
NRCA				AML	AML		
	comp=E,386μm,0.1s						
NRCA				AML	AML		
	comp=N,1032μm,0.1s						
NRCA				END			
T1214	**Arquata del Tr**	**0.08**	**146**	P	Pg	14 12 44.3	+0.2
T1214				S	Sg	14 12 46.1	+0.4
MC2	**Monte Cornacci**	**0.09**	**22**	⇑P	Pg	14 12 44.4	+0.1
MC2				S	Sg	14 12 46.3	+0.3
MC2				END			
FDMO	**Fiordimonte**	**0.21**	**349**	P	Pg	14 12 46.8	+0.6
FDMO				AML	AML		
	comp=N,1895μm,1.3s						
FDMO				AML	AML		
	comp=E,1595μm,0.4s						

ROM 27 14:13:10.5±0.1, 42°.993N±0°.003×12°.998E±0°.005, h9km, ML2.0/51, 3C-1D, Error ellipse: s-maj=0.3km s-min=0.2km az=82.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FEMA	**Monte Fema**	**0.05**	**130**	P	Pg	14 13 12.4	-0.1
FEMA				S	Sg	14 13 13.6	-0.3
CESI	**CESI - Serrava**	**0.07**	**280**	P	Pg	14 13 12.8	+0.2
CESI				S	Sg	14 13 14.3	+0.2
CESI				AML	AML		
	comp=N,6435μm,0.7s						
CESI				AML	AML		
	comp=E,5165μm,0.8s						
CESI				AML	AML		
	comp=E,4937μm,0.2s						
CESI				AML	AML		
	comp=N,6307μm,0.4s						
FDMO	**Fiordimonte**	**0.08**	**56**	⇑P	Pg	14 13 12.7	0.0
FDMO				S	Sg	14 13 14.6	+0.4
FDMO				AML	AML		
	comp=N,1895μm,1.3s						
FDMO				AML	AML		
	comp=E,1595μm,0.4s						
FDMO				AML	AML		
	comp=N,1839μm,0.2s						
FDMO				AML	AML		
	comp=E,1536μm,0.2s						
SEF1	**Sefro**	**0.16**	**346**	P	Pg	14 13 14.5	+0.6
SEF1				S	Sg	14 13 17.7	+1.4
MC2	**Monte Cornacci**	**0.16**	**120**	P	Pg	14 13 14.6	+0.5
T1221	**Campello sul C**	**0.17**	**220**	P	Pg	14 13 15.0	+0.9
T1221				S	Sg	14 13 18.5	+1.8
T1221				AML	AML		
	comp=N,720μm,0.4s						
T1221				AML	AML		
	comp=E,715μm,0.6s						
T1221				AML	AML		
	comp=N,719μm,0.4s						
CSP1	**Cessapalombo**	**0.18**	**57**	P	Pg	14 13 14.8	+0.5
CSP1				S	Sg	14 13 18.3	+1.3
CSP1				AML	AML		
	comp=E,556μm,0.7s						
CSP1				AML	AML		
	comp=N,302μm,0.4s						
CSP1				AML	AML		
	comp=E,556μm,0.7s						
CSP1				AML	AML		
	comp=E,450μm,0.3s						
CSP1				AML	AML		
	comp=N,302μm,0.4s						
NRCA	**Norcia**	**0.18**	**152**	⇓P	Pg	14 13 14.9	+0.6
NRCA				S	Sg	14 13 18.4	+1.6
NRCA				AML	AML		
	comp=E,2585μm,0.2s						
NRCA				AML	AML		
	comp=N,2190μm,0.2s						
NRCA				AML	AML		
	comp=N,2235μm,0.2s						
NRCA				AML	AML		
	comp=E,2420μm,0.1s						
NRCA				AML	AML		
	comp=N,2188μm,0.2s						
NRCA				AML	AML		
	comp=N,2235μm,0.2s						
NRCA				AML	AML		
	comp=E,2424μm,0.1s						
NRCA				AML	AML		
	comp=E,2585μm,0.2s						
PF6	**Pievefavera**	**0.21**	**42**	P	Pg	14 13 15.1	+0.3
PF6				S	Sg	14 13 19.1	+1.4
MDAR	**Monte D'Aria**	**0.23**	**28**	P	Pg	14 13 15.6	+0.5
MDAR				S	Sg	14 13 19.6	+1.3
GAG1	**Gagliole**	**0.25**	**12**	P	Pg	14 13 16.8	+1.3
GAG1				S	Sg	14 13 20.9	+2.0
ASSB	**Assisi San Ben**	**0.25**	**281**	AML	AML		
	comp=N,1166μm,0.2s						
ASSB				AML	AML		
	comp=E,838μm,0.3s						
ASSB				AML	AML		
	comp=N,1165μm,0.2s						
ASSB				AML	AML		
	comp=N,1165μm,1.8s						
ASSB				AML	AML		
	comp=E,838μm,0.3s						
GUMA	**Gualdo di Mace**	**0.26**	**74**	P	Pb	14 13 16.5	-0.8
GUMA				S	Sb	14 13 21.5	-0.5
GUMA				AML	AML		
	comp=N,1850μm,1.1s						
GUMA				AML	AML		
	comp=E,2715μm,0.2s						
GUMA				AML	AML		
	comp=N,1692μm,0.3s						
GUMA				AML	AML		
	comp=N,1541μm,0.4s						
GUMA				AML	AML		
	comp=E,1829μm,0.3s						
GUMA				AML	AML		
	comp=E,2714μm,0.2s						
MMO1	**Montemonaco**	**0.26**	**111**	P	Pg	14 13 16.2	+0.5
MMO1				S	Sb	14 13 21.1	-1.0
SNTG	**Esanatoglia**	**0.27**	**351**	P	Pg	14 13 16.4	+0.5
SNTG				S	Sb	14 13 21.4	-0.8
SNTG				AML	AML		
	comp=E,228μm,1.3s						
SNTG				AML	AML		
	comp=N,246μm,1.4s						
SNTG				AML	AML		
	comp=E,228μm,0.7s						
SNTG				AML	AML		
	comp=E,239μm,0.4s						
SNTG				AML	AML		
	comp=E,211μm,0.2s						
SNTG				AML	AML		
	comp=N,226μm,0.2s						
SNTG				AML	AML		
	comp=N,234μm,0.3s						
T1214	**Arquata del Tr**	**0.28**	**146**	P	Pg	14 13 16.7	+0.5
T1214				S	Sb	14 13 21.6	-1.1
T1214				AML	AML		
	comp=E,440μm,1.3s						
T1214				AML	AML		
	comp=E,418μm,1.2s						
T1214				AML	AML		
	comp=N,390μm,0.8s						
T1214				AML	AML		
	comp=N,433μm,0.5s						
T1214				AML	AML		
	comp=E,440μm,0.7s						
T1214				AML	AML		
	comp=E,418μm,0.8s						
T1214				AML	AML		
	comp=N,393μm,0.3s						
T1214				AML	AML		
	comp=N,340μm,0.2s						
T1214				AML	AML		
	comp=E,348μm,0.3s						
T1214				AML	AML		
	comp=E,340μm,0.3s						
GAVE	**Gavelli**	**0.31**	**194**	AML	AML		
GAVE	comp=N,502μm,0.3s			AML	AML		
	comp=E,656μm,0.2s						
ATCC	**AVT- Casa Cast**	**0.33**	**306**	P	Pb	14 13 18.1	-0.5
ATCC				AML	AML		
	comp=E,307μm,0.9s						
ATCC				AML	AML		
	comp=N,352μm,0.9s						
ATCC				AML	AML		
	comp=N,352μm,1.1s						
ATCC				AML	AML		
	comp=E,307μm,1.1s						
ATCC				AML	AML		
	comp=N,303μm,1.0s						
ATCC				AML	AML		
	comp=E,307μm,0.9s						
EL6	**Elcito**	**0.34**	**13**	⇑P	Pg	14 13 17.8	+0.4
EL6				S	Sb	14 13 23.7	-0.8
EL6				AML	AML		
	comp=E,770μm,0.9s						
EL6				AML	AML		
	comp=E,770μm,1.1s						
EL6				AML	AML		
	comp=N,664μm,0.3s						
EL6				AML	AML		
	comp=N,664μm,0.3s						
EL6				AML	AML		
	comp=E,759μm,0.2s						
FOSV	**Fossato di Vic**	**0.35**	**330**	P	Pg	14 13 17.9	+0.6
FOSV				S	Sb	14 13 24.0	-0.6
FOSV				AML	AML		
	comp=E,248μm,1.4s						
FOSV				AML	AML		
	comp=E,248μm,0.6s						
FOSV				AML	AML		
	comp=N,416μm,0.3s						
FOSV				AML	AML		
	comp=E,219μm,0.2s						
FOSV				AML	AML		
	comp=N,415μm,0.3s						
LNSS	**Leonessa**	**0.39**	**175**	P	Pg	14 13 18.8	+0.6
CING	**Cingoli**	**0.41**	**21**	⇑P	Pg	14 13 18.9	+0.4
CING				AML	AML		
	comp=E,840μm,0.2s						
CING				AML	AML		
	comp=N,452μm,1.2s						
CING				AML	AML		
	comp=N,408μm,0.2s						
CING				AML	AML		
	comp=E,840μm,0.2s						
SMA1	**SAN MARTINO**	**0.44**	**146**	P	Pg	14 13 19.6	+0.5
SMA1				AML	AML		
	comp=E,256μm,1.6s						
SMA1				AML	AML		
	comp=N,234μm,0.8s						
SMA1				AML	AML		
	comp=E,256μm,0.4s						
SMA1				AML	AML		
	comp=E,194μm,0.2s						
SMA1				AML	AML		
	comp=N,235μm,0.8s						
CESX	**Cesi**	**0.49**	**219**	P	Pg	14 13 20.6	+0.6
CESX				AML	AML		
	comp=E,253μm,0.4s						
CESX				AML	AML		
	comp=N,236μm,0.8s						
CESX				AML	AML		
	comp=N,236μm,1.2s						
CESX				AML	AML		
	comp=E,253μm,0.4s						
CESX				AML	AML		
	comp=N,217μm,0.3s						
ARVD	**Arcevia**	**0.51**	**355**	P	Pg	14 13 20.6	+0.3
ARVD				S	Sb	14 13 29.2	0.0
ARVD				AML	AML		
	comp=E,130μm,0.2s						
ARVD				AML	AML		
	comp=N,112μm,0.4s						
ARVD				AML	AML		
	comp=N,92μm,0.2s						
ARVD				AML	AML		
	comp=E,130μm,0.2s						
RM33	**Pellescritta (**	**0.51**	**162**	P	Pg	14 13 20.6	+0.3
RM33				S	Sb	14 13 28.9	-0.3
RM33				AML	AML		
	comp=E,130μm,1.4s						
RM33				AML	AML		
	comp=N,116μm,0.8s						
RM33				AML	AML		
	comp=E,130μm,0.6s						
RM33				AML	AML		
	comp=N,90μm,0.5s						
RM33				AML	AML		
	comp=N,254μm,0.8s						
RM33				AML	AML		
	comp=E,182μm,0.3s						
RM33				AML	AML		
	comp=E,104μm,0.3s						
TERO	**Teramo**	**0.58**	**130**	P	Pg	14 13 21.9	+0.2
TERO				S	Sb	14 13 31.4	+0.2
TERO				AML	AML		
	comp=E,118μm,0.8s						
TERO				AML	AML		
	comp=N,120μm,0.7s						
TERO				AML	AML		
	comp=N,120μm,1.3s						
TERO				AML	AML		
	comp=N,109μm,0.8s						
TERO				AML	AML		
	comp=E,118μm,0.3s						
TERO				AML	AML		
	comp=N,117μm,0.4s						
PIEI	**Pieia**	**0.64**	**328**	P	Pg	14 13 22.9	0.0
PIEI				AML	AML		
	comp=E,83μm,0.3s						
PIEI				AML	AML		
	comp=N,76μm,1.2s						
PIEI				AML	AML		
	comp=N,76μm,0.8s						
PIEI				AML	AML		
	comp=E,83μm,1.7s						
PIEI				AML	AML		
	comp=N,68μm,0.3s						
PIEI				AML	AML		
	comp=E,83μm,0.3s						

DJA 27 14:17:39.5±0.2, 4°S±2°×12°3E±°, h10km, M4.2/15, mb4.4/6, mB5.1/6, MLv4.0/15, Mw(mB)4.4/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBSI	**Bau Bau**	**2.06**	**206**	P	Pn	14 18 14.3	+0.1
LUWI	**Luwuk**	**2.65**	**345**	P	Pn	14 18 21.9	-0.4
SANI	**Sanana**	**2.97**	**58**	P	Pn	14 18 27.1	+0.4
SANI				S	Sn	14 19 01.0	-1.4
TTSI	**Tana Toraja**	**3.68**	**279**	P	Pn	14 18 35.9	-0.6
SPSI	**Sidrap Palu**	**3.70**	**265**	P	Pn	14 18 36.4	-0.4
BKSI	**Bulukumba**	**3.73**	**243**	P	Pn	14 18 37.5	+0.3
KMSI	**Cibinong**	**4.20**	**7**	P	Pn	14 18 44.5	+0.9
GTOI	**Gorontalo**	**4.25**	**354**	P	Pn	14 18 46.6	+2.2
MRSI	**Marisa**	**4.34**	**340**	P	Pn	14 18 45.4	-0.2
LBMI	**Labuha**	**5.01**	**54**	P	Pn	14 18 55.6	+0.8
	22nm,0.9s,848nm0.1nm						
MPSI	**Mapaga**	**5.30**	**318**	P	Pn	14 18 57.4	-1.4
	33nm,0.7s,566nm0.1nm						
EDFI	**Ende, Flores**	**5.39**	**199**	P	Pn	14 19 00.2	+0.1
	13nm,0.6s,1μm0.1nm						
DNP	**Denpasar**	**9.62**	**238**	P	Pn	14 19 57.7	-0.4

*IDC **27** 15:10:58.7±0.8, 2°.39N×84°.51W, h0km, mb4.3/10, mbtmp4.5/15, ML4.4/5, MS4.2/48, Error ellipse: s-maj=30.4km s-min=16.0km az=59.0*

*NEIC **27** 15:11:00.1±1.7, 2°.27N±0°.07×84°.44W±0°.08, h10km±1km, mb4.8/209, Error ellipse: s-maj=13.9km s-min=11.1km az=243.0*

*GCMT **27** 15:11:03.1±0.2, 2°.28N±0°.01×84°.59W±0°.01, h19km±1km, MW5.1/114, Moment Tensor Solution. s53,c70; s114,c161; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.39±.13; $M_{\theta\theta}$1.35±.13; $M_{\phi\phi}$-0.95±.14; $M_{r\theta}$0.92±.26; $M_{\theta\phi}$4.70±.13; $M_{r\phi}$0.78±.26; Best double couple: M_o4.96800×10^{16} NP1:ϕ_s6.00000°, δ82.00000°, λ171.00000°. NP2:ϕ_p98.00000°, δ81.00000°, λ.8.00000°. Principal axes: T 5.2920, Plg12.0000°, Azm322.0000°; N -0.6480, Plg78.0000°, Azm145.0000°; P -4.6440, Plg1.0000°, Azm52.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 15:10:59.7±0.4, 2°.24N±0°.05×84°.45W±0°.07, h10km, n562, σ1s00/444, mb4.8/110, MS4.3/46, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPLP	**Puerto Lpez**	**5.26**	**136**	*e*P	**Pn**	**15 12 16.9**	**-1.5**
SALI	**Salinas**	**5.59**	**142**	Pn	**Pn**	**15 12 21.9**	**-1.1**
PAC1	**Pacto, Paraso**	**5.99**	**109**	*e*P	**Pn**	**15 12 28.2**	**-0.3**
OTAV	**Otavalo**	**6.32**	**108**	Pn	**Pn**	**15 12 33.1**	**-0.3**
OTAV	**Otavalo**	**6.32**	**108**	*e*P	**Pn**	**15 12 33.7**	**+0.3**
PULU	**Pululahua**	**6.34**	**110**	Pn	**Pn**	**15 12 33.5**	**-0.1**
CUSE	**Cuicocha Este**	**6.35**	**108**	*e*P	**Pn**	**15 12 34.0**	**+0.2**
CDITO	**Canoas**	**6.48**	**14**	*i* P	**Sb**	**15 14 09.2**	**-1.0**
PAYG	**Puerto Ayora**	**6.52**	**244**	Pn	**Pn**	**15 12 36.4**	**+0.7**
IMBA	**Imbabura, San**	**6.54**	**107**	Pn	**Pn**	**15 12 37.1**	**+0.6**
SLOR	**San Lorenzo -**	**6.64**	**116**	Pn	**Pn**	**15 12 38.0**	**+0.2**
CHSH	**Refugio Sur-Vo**	**6.70**	**124**	Pn	**Pn**	**15 12 38.8**	**+0.1**
TULM	**Tulcn-Chalpat**	**6.83**	**103**	Pn	**Pn**	**15 12 41.2**	**+0.8**
TULM	**Tulcn-Chalpat**	**6.83**	**103**	*e*P	**Pn**	**15 12 41.8**	**+1.3**
PIAT	**Ana Tenorio**	**6.97**	**117**	*e*P	**Pn**	**15 12 44.1**	**+1.8**
COHC	**Cochancay**	**6.99**	**132**		**Pn**	**15 12 42.1**	**-0.1**
COHC	**Cochancay**	**6.99**	**132**	*e*P	**Pn**	**15 12 41.3**	**-0.8**
COHC				*e*P	**Pn**	**15 12 42.3**	**+0.1**
SRBA	**San Rafael, Bu**	**7.03**	**9**	Pn	**Pn**	**15 12 41.7**	**-1.2**
DRK0	**Durika**	**7.08**	**10**		**Pn**	**15 12 42.4**	**-1.1**
BONI	**La Bonita**	**7.14**	**104**	*e*P	**Pn**	**15 12 46.5**	**+2.0**
BBAC	**Balboa, Cauca**	**7.20**	**92**	*e*P	**Pn**	**15 12 44.6**	**-0.6**
ARNL	**Arenillas**	**7.23**	**143**	Pn	**Pn**	**15 12 45.2**	**-0.3**
MALC	**Bahia Malaga**	**7.32**	**76**	*e*P	**Pn**	**15 12 47.6**	**+0.9**
JACO	**JACO, Garabito**	**7.38**	**358**	Pn	**Pn**	**15 12 45.8**	**-1.7**
LCR2	**La Lucha 2**	**7.46**	**3**	Pn	**Pn**	**15 12 47.7**	**-1.2**
RIMA	**Rio Macho**	**7.50**	**4**	Pn	**Pn**	**15 12 49.4**	**0.0**
CRUC	**La Cruz**	**7.52**	**95**	*e*P	**Pn**	**15 12 51.5**	**+1.7**
HDC	**Heredia**	**7.72**	**2**	Pn	**Pn**	**15 12 51.4**	**-0.9**
POPC	**Popayan, Colom**	**7.77**	**88**	*e*P	**Pn**	**15 12 54.5**	**+1.4**
JAMC	**Jamundi, Valle**	**7.83**	**83**	*e*P	**Pn**	**15 12 54.7**	**+0.8**
DUNO	**Dulce Nombre,**	**7.86**	**352**	Pn	**Pn**	**15 12 52.2**	**-1.9**
MCRA	**Macar, Loja**	**7.96**	**146**	Pn	**Pn**	**15 12 54.8**	**-0.7**
MCRA	**Macar, Loja**	**7.96**	**146**	*e*P	**Pn**	**15 12 55.4**	**-0.1**
BOSC	**San Juan Bosco**	**8.01**	**132**	Pn	**Pn**	**15 12 58.5**	**+2.2**
JTS	**Las Juntas de**	**8.01**	**356**	Pn	**Pn**	**15 12 54.4**	**-1.8**
JTS	**Las Juntas de**	**8.01**	**356**	Pn	**Pn**	**15 12 55.2**	**-1.0**
	20nm,0.3s,baz=29,slow=8.2,SNR=17						
JTS				Sn	Sn	15 14 18.3	-8.8
	4.1nm,0.3s,baz=312,slow=19,SNR=2.0						
JTS				LR	LR	15 15 26.1	
	comp=Z,2μm,21.5s,baz=170,slow=34						
	69nm,0.5s						
SOCE	**Pocosol**	**8.09**	**359**	Pn	**Pn**	**15 12 57.3**	**-0.1**
ORTG	**Ortega, Santa**	**8.13**	**353**	*i* P	**Pn**	**15 12 56.1**	**-1.8**
ARE1	**Arenal 1**	**8.17**	**358**	Pn	**Pn**	**15 12 58.5**	**+0.1**
BCIP	**Isla Barro Col**	**8.27**	**34**	*e*P	**Pn**	**15 13 00.3**	**+0.6**
YOTC	**Yotoco, Valle**	**8.27**	**78**	*e*P	**Pn**	**15 13 00.0**	**0.0**
COVE	**Coope Vega, Sa**	**8.42**	**0**		**Pn**	**15 13 02.3**	**+0.5**
HZTE	**Horizontes, Gu**	**8.49**	**352**	Pn	**Pn**	**15 13 02.2**	**-0.6**
HZTE	**Horizontes, Gu**	**8.49**	**352**	*i* P	**Pn**	**15 13 02.7**	**-0.2**
PLMC	**San Jos del P**	**8.57**	**72**	*e*P	**Pn**	**15 13 04.0**	**+0.1**
FLOC	**Florencia**	**8.81**	**94**	*e*P	**Pn**	**15 13 09.3**	**+2.0**
CBOC	**Ciudad Bolivar**	**9.15**	**67**	*e*P	**Pn**	**15 13 13.6**	**+1.6**
ORTC	**Ortega, Tolima**	**9.34**	**80**	*e*P	**Pn**	**15 13 15.9**	**+1.4**
DBBC	**Dabeiba**	**9.48**	**60**	*e*P	**Pn**	**15 13 18.6**	**+2.1**
GUY2C	**Guyana, Caldas**	**9.54**	**72**	*e*P	**Pn**	**15 13 18.7**	**+1.2**
NADN	**Granada**	**9.57**	**351**	*i* P	**Pn**	**15 13 18.4**	**+0.7**
NADN				IAML		15 13 23.7	
	comp=Z,1μm,1.0s						
PRAC	**Prado**	**9.66**	**81**	*e*P	**Pn**	**15 13 21.1**	**+2.2**
ACON	**Acoyapa**	**9.69**	**356**	Pn	**Pn**	**15 13 18.5**	**-0.7**
UNAN	**Cigeo UNAN**	**9.97**	**350**	*i* P	**Pn**	**15 13 25.0**	**+1.9**
UNAN				IAML		15 13 28.6	
	comp=Z,2μm,1.0s						
UNAN				*i* S		15 13 44.6	
BOAB	**BOACO BROADBAN**	**10.21**	**353**	Pn	**Pn**	**15 13 26.5**	**+0.1**
MOMN	**Momotombo**	**10.31**	**349**	*i* P	**Pn**	**15 13 29.2**	**+1.4**
MOMN				IAML		15 13 31.3	
	comp=Z,11nm,1.0s						
MOM2	**El Cardon**	**10.33**	**349**	*i* P	**Pn**	**15 13 29.5**	**+1.5**
MOM2				IAML		15 13 31.8	
	comp=Z,200nm,1.0s						
MOM3	**MOM3**	**10.41**	**349**	*i* P	**Pn**	**15 13 30.8**	**+1.7**
MOM3				IAML		15 13 32.2	
	comp=Z,16nm,1.0s						
UREC	**San Jos de Ur**	**10.43**	**58**	*e*P	**Pn**	**15 13 32.9**	**+3.4**
ROSC	**El Rosal**	**10.43**	**75**	Pn	**Pn**	**15 13 30.6**	**+0.8**
ROSC	**El Rosal**	**10.43**	**75**	Pn	**Pn**	**15 13 33.7**	**+3.9**
	comp=Z,5.6nm,0.3s,baz=262,slow=7.9,SNR=12						
ROSC				LR	LR	15 17 19.0	
	comp=Z,984nm,18.9s,baz=240,slow=36						
CRIN	**San Cristobal**	**10.71**	**346**	Pn	**Pn**	**15 13 33.8**	**+0.6**
CRIN	**San Cristobal**	**10.71**	**346**	*i* P	**Pn**	**15 13 35.3**	**+2.0**
CRIN				IAML		15 13 41.3	
	comp=Z,460nm,1.0s						
CRIN				*i* S		15 14 03.6	
MATN	**Matagalpa**	**10.72**	**352**	Pn	**Pn**	**15 13 33.1**	**-0.4**
PTBC	**PUERTO BERRIO,**	**10.84**	**66**	*e*P	**Pn**	**15 13 38.0**	**+3.0**
ZARC	**Zaragoza, Cauc**	**10.88**	**61**	*e*P	**Pn**	**15 13 38.7**	**+3.1**
VILC	**Villavicencio,**	**10.90**	**80**	*e*P	**Pn**	**15 13 40.1**	**+4.2**
LIMN	**Finca el Limon**	**10.92**	**350**	*i* P	**Pn**	**15 13 37.1**	**+0.9**
LIMN				IAML		15 13 40.3	
	comp=Z,120nm,1.0s						
LIMN				*i* S		15 14 18.6	
ATAH	**Atahualpa**	**11.10**	**147**	Pn	**Pn**	**15 13 42.0**	**+3.0**
	comp=Z,0.9nm,0.3s,baz=346,slow=16,SNR=9.3						
ATAH				LR	LR	15 17 33.2	
	comp=Z,2μm,18.6s,baz=323,slow=35						
	comp=Z,16nm,0.7s						
AMPH	**Amapala**	**11.42**	**344**	*i* P	**Pn**	**15 13 45.5**	**+2.5**
CNCH	**Conchagua**	**11.46**	**343**	*i* P	**Pn**	**15 13 46.0**	**+2.3**
LCND	**La Caada**	**11.51**	**343**	*i* P	**Pn**	**15 13 46.5**	**+2.3**
YUSH	**Yuscaran**	**11.88**	**349**	*i* P	**Pn**	**15 13 52.7**	**+3.4**

SJCC **San Jacinto, C** 11.94 50 *e*P Pn 15 13 51.8 +1.6
BARC **Barichara** 12.03 69 *e*P Pn 15 13 53.1 +1.5
TGUH **Tegucigalpa,Un** 12.07 347 Pn Pn 15 13 53.0 +1.1
SCLA **Alcaldia de Sa** 12.15 340 *i* P Pn 15 13 55.5 +2.5
JAYA **Jayaque - finc** 12.37 337 *i* P Pn 15 14 00.5 +4.4
PMON **Piamonte** 12.37 337 *i* P Pn 15 13 59.5 +3.4
COMHN **El Horno** 12.51 346 *i* P Pn 15 14 00.2 +2.2
NUBE **Las Nubes** 12.73 336 *i* P Pn 15 14 05.2 +4.2
PAMC **Pamplona, Colo** 12.75 66 *e*P Pn 15 14 06.2 +4.5
MTO3 **Montecristo** 13.02 338 Pn Pn 15 14 05.5 +0.5
SDV **Santo Domingo** 15.24 64 Pn Pn 15 14 34.8 -0.6
SDV **Santo Domingo** 15.24 64 Pn Pn 15 14 35.5 +0.1
comp=Z,5.9nm,0.8s,baz=289,slow=7.6,SNR=7.5
SDV LR LR 15 20 05.6
comp=Z,1µm,20.1s,baz=244,slow=36
CZSB **Cruzeiro do Su** 15.34 130 Pn Pn 15 14 34.5 -1.9
CZSB IAmb IAmb 15 14 44.4
comp=Z,38nm,0.8s
NNA **Nana** 16.03 152 Pn P 15 14 48.2 -0.7
comp=Z,2.6nm,0.3s,baz=322,slow=16,SNR=7.2
NNA LR LR 15 20 33.2
comp=Z,353nm,19.2s,baz=318,slow=36
comp=Z,4.8nm,0.3s
BAUV **El Baul** 17.62 67 Pn Pn 15 15 05.6 0.0
CMIG **Matias Romero** 17.97 326 P Pn 15 15 09.9 0.0
comp=Z,0.3nm,0.3s,baz=127,slow=9.4,SNR=15
CMIG LR LR 15 20 41.7
comp=Z,1µm,20.9s,baz=152,slow=33
comp=Z,22nm,1.0s
TEIG **Tepich** 18.26 348 P Pn 15 15 11.8 -1.6
comp=Z,2.1nm,0.3s,baz=300,slow=14,SNR=6.5
TEIG LR LR 15 21 35.4
comp=Z,7µm,19.0s,baz=332,slow=35
TLIG **Tlapa** 20.59 319 P P 15 15 40.0 +0.8
TLIG IAmb IAmb 15 15 42.1
comp=Z,58nm,1.3s
PCRV **Puerto La Cruz** 21.20 67 P P 15 15 47.0 +1.2
comp=Z,35nm,1.0s,baz=183,slow=18,SNR=4.8
comp=Z,35nm,1.0s
ETMB **Extrema** 21.76 124 P P 15 15 51.5 -0.1
SAML **Samuel** 23.93 118 P P 15 16 13.8 -0.3
LPAZ **La Paz** 24.47 139 P P 15 16 20.4 +0.5
PB12 **IPOC Station P** 24.95 147 P P 15 16 23.6 0.0
LVC **Limon Verde** 28.98 149 LR LR 15 29 24.7
comp=Z,553nm,19.5s,baz=308,slow=38
SIV **San Ignacio** 29.36 129 LR LR 15 29 23.6
comp=Z,2µm,18.5s,baz=308,slow=38
LRAL **Lakeview Retre** 30.73 356 IAmb IAmb 15 17 15.7
comp=Z,17nm,1.1s
LRAL **Lakeview Retre** 30.73 356 P P 15 17 14.4 -0.6
baz=175
GOGA **Godfrey** 31.02 2 P P 15 17 16.9 -0.7
baz=182
DRIO **Del Rio** 31.10 332 P P 15 17 17.9 -0.5
DRIO IAmb IAmb 15 17 19.0
comp=Z,7.0nm,0.9s
MDP **Montagnes des** 31.86 84 LR LR 15 30 43.2
comp=Z,328nm,18.5s,baz=295,slow=37
HPIG 31.89 322 IAmb IAmb 15 17 26.8
comp=Z,14nm,1.2s
HODGE **Hodges** 31.89 3 P P 15 17 24.6 -0.7
HODGE IAmb IAmb 15 17 26.1
comp=Z,16nm,1.1s
BRDY **Brady** 31.99 336 IAmb IAmb 15 18 28.4
comp=Z,9.0nm,1.0s
OXF **Oxford** 32.44 352 P P 15 17 29.8 -0.3
baz=171
TXAR **Lajitas Array** 32.56 328 P P 15 17 31.2 -0.1
comp=Z,1.7nm,0.6s,baz=144,slow=9.9,SNR=14
TXAR LR LR 15 29 51.7
comp=Z,306nm,19.1s,baz=103,slow=35
comp=Z,1.7nm,0.6s
KMSC **Kings Mountain** 32.86 5 P P 15 17 33.3 -0.5
baz=186
PLPT **Palo Pinto** 33.08 338 P P 15 17 34.4 -1.3
PLPT IAmb IAmb 15 17 36.4
comp=Z,46nm,1.6s
LPIG **La Paz** 33.12 313 LR LR 15 27 49.0
comp=Z,345nm,21.3s,baz=95,slow=31
ABTX **Abilene, Hawle** 33.43 336 P P 15 17 37.6 -1.2
ABTX IAmb IAmb 15 17 39.8
comp=Z,9.3nm,0.9s
ABTX **Abilene, Hawle** 33.43 336 P P 15 17 38.2 -0.6
baz=152
MNHN **Monahans** 33.72 331 P P 15 17 40.9 -0.5
MNHN IAmb IAmb 15 17 42.5
comp=Z,12nm,1.0s
WVT **Waverly** 33.87 355 P P 15 17 41.0 -1.6
baz=174
WTFS **Witchita Falls** 33.99 339 P P 15 17 42.8 -0.9
WTFS IAmb IAmb 15 17 44.4
comp=Z,27nm,1.1s
TZTN **Tazewell** 34.14 1 P P 15 17 44.3 -0.7
baz=182
SN01 **Snyder 1** 34.15 335 IAmb IAmb 15 17 45.7
comp=Z,16nm,0.8s
APMT **Aspermont** 34.23 336 IAmb IAmb 15 17 46.8
comp=Z,14nm,1.1s
PECS **Pecos** 34.29 330 IAmb IAmb 15 17 48.2
comp=Z,25nm,1.4s
DKNS **Dickens** 34.86 336 IAmb IAmb 15 17 52.1
comp=Z,19nm,0.8s
BLA **Blacksburg** 35.00 6 P P 15 17 52.0 -0.4
baz=187
T42A **Van Buren** 35.16 351 IAmb IAmb 15 17 53.6
comp=Z,8.8nm,0.9s
CGM3 **Cape Girardeau** 35.21 353 IAmb IAmb 15 18 01.4
comp=Z,22nm,1.4s
S51A **Beattyville** 35.23 1 P P 15 17 53.1 -1.3
S51A IAmb IAmb 15 17 54.4
comp=Z,13nm,0.8s
MNTX **Cornudas Mount** 35.33 328 P P 15 17 54.8 -0.5
baz=142,SNR=9.6
MGMO **Mountain Grove** 35.48 349 IAmb IAmb 15 17 56.7
comp=Z,15nm,0.9s
SMWD **Samnorwood** 35.84 338 IAmb IAmb 15 18 00.5
comp=Z,20nm,0.7s
WCI **Wyandotte Cave** 35.85 358 P P 15 17 59.2 -0.5
baz=177
H03N2 **Juan Fernandez** 35.87 172 T T 15 55 59.2
baz=351,slow=76,SNR=152
H03N1 **Juan Fernandez** 35.87 172 T T 15 56 01.8
baz=351,slow=76,SNR=167
H03N3 **Juan Fernandez** 35.89 172 T T 15 55 58.7
baz=351,slow=76,SNR=153
MSTX **Muleshoe** 35.91 334 IAmb IAmb 15 18 00.7
comp=Z,9.4nm,0.8s
MSTX **Muleshoe** 35.91 334 P P 15 17 59.2 -1.2
baz=148
R53A **Hurricane** 35.99 3 P P 15 17 59.9 -0.9
CCM **Cathedral Cave** 36.18 351 P P 15 18 01.6 -1.0
CCM IAmb IAmb 15 18 02.3
comp=Z,16nm,0.9s
CCM **Cathedral Cave** 36.18 351 P P 15 18 01.7 -0.8
baz=168
S39A **Bolivar** 36.21 348 IAmb IAmb 15 18 02.5
comp=Z,11nm,0.8s
AMTX **Amarillo** 36.22 336 P P 15 18 02.5 -0.5
baz=150
VA03 **San Esteban** 37.22 160 P P 15 18 10.5 -1.0
VA03 IAmb IAmb 15 18 15.6
comp=Z,25nm,1.1s
121A **Cookes Peak, D** 37.27 326 IAmb IAmb 15 18 14.3
comp=Z,18nm,0.8s
121A **Cookes Peak, D** 37.27 326 P P 15 18 13.4 +1.4
baz=139,SNR=8.1
P43A **Skaggs, Pawnee** 37.51 354 IAmb IAmb 15 18 19.7
comp=Z,36nm,1.5s
RPN **Rapa Nui** 37.79 218 LR LR 15 28 29.2
comp=Z,61nm,20.7s,baz=33,slow=28
ACSO **Alum Creek Sta** 37.84 2 P P 15 18 16.2 -0.4
baz=182
O48B **Farmland** 37.85 359 P P 15 18 15.0 -1.7
baz=179
RTBA **Rita Blanca** 37.99 336 IAmb IAmb 15 18 19.0
comp=Z,18nm,1.0s
SFIN **Lafayette** 38.04 357 P P 15 18 16.5 -1.7
baz=176
P38A **Dawn** 38.12 349 IAmb IAmb 15 18 18.2
comp=Z,12nm,0.9s
HDIL **Hopedale** 38.39 354 P P 15 18 20.2 -1.0
baz=172
ANMO **Albuquerque** 38.45 330 P P 15 18 21.5 -0.5
ANMO **Albuquerque** 38.45 330 P P 15 18 22.0 0.0
baz=143
CPUP **Villa Florida** 38.65 139 LR LR 15 36 29.2
comp=Z,359nm,19.4s,baz=324,slow=39

TUC **Tucson** 38.83 323 P P 15 18 24.7 -0.5
TUC **Tucson** 38.83 323 P P 15 18 25.3 +0.1
baz=135
CBKS **Cedar Bluff** 38.99 341 IAmb IAmb 15 18 27.4
comp=Z,16nm,0.8s
CBKS **Cedar Bluff** 38.99 341 P P 15 18 26.6 +0.3
baz=155
T25A **Trinidad** 39.30 334 P P 15 18 30.1 +0.9
baz=148,SNR=8.2
N35A **Tabor** 39.75 347 IAmb IAmb 15 18 33.5
comp=Z,15nm,0.8s
214A **Organ Pipe Nat** 39.83 321 IAmb IAmb 15 18 35.2
comp=Z,17nm,1.1s
214A **Organ Pipe Nat** 39.83 321 P P 15 18 34.4 +0.8
baz=132,SNR=7.6
L44A **Lake County Fo** 39.88 356 P P 15 18 34.6 +1.0
baz=175
BDFB **Brasilia** 40.17 118 LR LR 15 35 28.6
comp=Z,616nm,19.0s,baz=306,slow=36
KSCO **Kaye Shedlock'** 40.18 338 P P 15 18 35.9 -0.5
KSCO **Kaye Shedlock'** 40.18 338 P P 15 18 36.9 +0.5
baz=151
SDCO **Great Sand Dun** 40.28 334 IAmb IAmb 15 18 39.0
comp=Z,14nm,0.9s
SDCO **Great Sand Dun** 40.28 334 P P 15 18 37.7 +0.3
baz=146,SNR=20
W18A **Petrified Fore** 40.28 327 IAmb IAmb 15 18 39.3
comp=Z,19nm,1.0s
W18A **Petrified Fore** 40.28 327 P P 15 18 38.4 +1.0
baz=139,SNR=12
BINY **Binghamton** 40.50 10 P P 15 18 39.9 +1.1
baz=193
S22A **4UR Ranch, Cre** 40.88 333 P P 15 18 43.0 +0.6
baz=144
Q24A **Divide** 41.15 335 P P 15 18 44.4 -0.1
baz=148
MVCO **Mesa Verde** 41.24 330 P P 15 18 45.4 0.0
MVCO IAmb IAmb 15 18 46.8
comp=Z,29nm,1.5s
MVCO **Mesa Verde** 41.24 330 P P 15 18 45.8 +0.4
baz=142,SNR=6.6
Y14A **Wickenburg** 41.30 323 IAmb IAmb 15 18 47.3
comp=Z,14nm,1.1s
WUAZ **Wupatki** 41.47 326 P P 15 18 47.7 +0.6
WUAZ IAmb IAmb 15 18 48.9
comp=Z,17nm,0.9s
WUAZ **Wupatki** 41.47 326 P P 15 18 47.7 +0.6
baz=137,SNR=14
OGNE **Ogallala** 41.67 340 P P 15 18 49.8 +1.1
baz=153
ISCO **Idaho Springs** 42.04 335 P P 15 18 51.8 -0.1
ISCO **Idaho Springs** 42.04 335 P P 15 18 52.1 +0.2
baz=148,SNR=5.8
SMCO **Snowmass** 42.11 334 IAmb IAmb 15 18 53.9
comp=Z,16nm,0.8s
PDMCI **Parker Dam,Lak** 42.24 322 P P 15 18 53.9 +0.7
baz=133
YUH **Yuha Desert** 42.28 319 P P 15 18 54.3 +0.7
SWSC **Sam W. Stewart** 42.39 320 P P 15 18 55.4 +0.9
baz=130
IKP **In-Ko-Pah, Jac** 42.41 319 P P 15 18 55.4 +0.7
baz=129
SADO **Sadowa** 42.61 6 LR LR 15 35 57.7
comp=Z,486nm,18.4s,baz=64,slow=35
BC3 **Big Chuckawall** 42.62 321 P P 15 18 56.9 +0.4
baz=131,SNR=8.1
W13A **Hualapai Mount** 42.62 323 IAmb IAmb 15 18 58.3
comp=Z,11nm,0.8s
U15A **North Rim** 42.65 326 IAmb IAmb 15 18 58.9
comp=Z,15nm,1.1s
ECSD **EROS Data Cent** 42.71 347 P P 15 18 55.4 -1.5
baz=162
IRM **Iron Mountain** 42.76 321 P P 15 18 58.0 +0.5
baz=131,SNR=14
MONP2 **Monument Peak** 42.76 319 P P 15 18 58.2 +0.4
baz=129
N23A **Red Feather La** 43.10 336 P P 15 19 00.4 -0.1
baz=148
BELC **Belle Mtn. Jos** 43.19 321 P P 15 19 01.5 +0.4
baz=130,SNR=9.0
PMD **Palm Desert** 43.21 320 P P 15 19 01.2 +0.1
TPFO **Pinon Flats** 43.23 320 P P 15 19 02.1 +0.6
baz=129
PFO **Pinyon Flats O** 43.24 320 P P 15 19 01.2 -0.4
PFO **Pinyon Flats O** 43.24 320 P P 15 19 02.1 +0.5
baz=129,SNR=5.6
LBNH **Lisbon** 43.27 13 P P 15 19 02.3 +0.8
baz=198
KNB **Kanab** 43.36 326 IAmb IAmb 15 19 04.4
comp=Z,20nm,1.2s
SPMN **Marine on St.** 43.43 351 IAmb IAmb 15 19 02.1
comp=Z,26nm,1.2s
SPMN **Marine on St.** 43.43 351 P P 15 19 00.8 -1.9
baz=168
O20A **White River Ci** 43.45 333 P P 15 19 05.0 +1.8
baz=144
GMRC **Granite Mounta** 43.49 322 P P 15 19 04.1 +0.6
baz=131,SNR=7.7
V12A **Nelson** 43.63 323 IAmb IAmb 15 19 06.0
comp=Z,14nm,0.8s
MTPU **Mount Pierson** 43.77 328 P P 15 19 05.3 -0.6
HEC **Hector,Ludlow** 43.94 321 P P 15 19 08.0 +0.9
baz=131,SNR=5.2
BBRC **Big Bear Solar** 43.95 320 P P 15 19 08.3 +1.0
baz=130
TUQ **Turquoise Moun** 44.08 322 P P 15 19 08.5 +0.2
baz=132,SNR=7.8
CIS **Catalina Islan** 44.39 318 P P 15 19 10.7 0.0
baz=127
BFSC **Mount Baldy Ra** 44.41 320 P P 15 19 11.5 +0.6
baz=129
RDMU **Red Mountain** 44.41 332 IAmb IAmb 15 19 11.6
comp=Z,15nm,0.9s
FMP **Fort Macarthur** 44.50 319 P P 15 19 12.5 +1.0
baz=128
GSC **Goldstone, Bar** 44.54 321 IAmb IAmb 15 19 13.4
comp=Z,24nm,1.6s
GSC **Goldstone, Bar** 44.54 321 P P 15 19 12.5 +0.6
baz=130
SHOC **Shoshone, Teco** 44.60 322 P P 15 19 13.0 +0.7
baz=131
PLCA **Paso Flores** 44.61 165 P P 15 19 13.2 +0.8
comp=Z,4.0nm,1.0s,baz=355,slow=11,SNR=4.5
PLCA LR LR 15 33 23.7
comp=Z,132nm,18.2s,baz=338,slow=30
comp=Z,4.0nm,1.0s
F33A **5 Mile Ranch,** 44.65 348 P P 15 19 10.7 -1.7
F33A IAmb IAmb 15 19 12.0
comp=Z,15nm,0.9s
K22A **Casper** 44.81 337 P P 15 19 14.3 +0.2
baz=148
PKME **Peaks-Kenny Pk** 44.88 15 P P 15 19 14.1 -0.2
baz=202
BSUT **Blindstream Ca** 44.94 331 IAmb IAmb 15 19 16.2
comp=Z,27nm,1.8s
EDW2 **Edwards Air Fo** 45.02 320 P P 15 19 16.0 +0.3
baz=129,SNR=6.9
SNCC **San Nicolas Is** 45.05 317 P P 15 19 16.8 +0.9
baz=126
RSSD **Black Hills** 45.17 340 P P 15 19 16.6 -0.4
RSSD IAmb IAmb 15 19 17.4
comp=Z,7.8nm,0.8s
RSSD **Black Hills** 45.17 340 P P 15 19 16.9 0.0
baz=152
LRMC **Laurel Mtn Rad** 45.20 321 P P 15 19 17.6 +0.4
baz=130,SNR=7.8
TPNV **Topopah Spring** 45.28 324 P P 15 19 18.6 +0.7
baz=132,SNR=6.4
FURC **Furnace Creek,** 45.33 323 P P 15 19 18.6 +0.6
baz=131
WCT **Wildcat Mounta** 45.41 323 IAmb IAmb 15 19 20.4
comp=Z,9.7nm,1.1s
MPMC **Manual Prospec** 45.45 322 P P 15 19 19.5 +0.2
baz=130,SNR=6.2
SPR3 **Spring Creek 3** 45.62 327 IAmb IAmb 15 19 21.5
comp=Z,16nm,1.3s
DUG **Dugway, Tooele** 45.69 329 P P 15 19 21.6 +0.5
baz=138
TCUT **Toone Canyon** 45.70 331 IAmb IAmb 15 19 22.2
comp=Z,12nm,0.9s
ISA **Isabella, Lake** 45.82 321 P P 15 19 22.6 +0.6
baz=129
R11B **Troy Canyon, C** 45.85 325 P P 15 19 21.9 -0.5
R11B **Troy Canyon, C** 45.85 325 P P 15 19 22.9 +0.5
baz=134,SNR=7.9
Q12A **Willow Creek R** 45.92 327 IAmb IAmb 15 19 24.2
comp=Z,8.2nm,1.0s
CWC **Cottonwood Cre** 46.06 322 P P 15 19 24.5 +0.4
baz=130
BW06 **Boulder Array** 46.16 334 P P 15 19 24.1 -0.7
baz=144
PDAR **Pinedale Array** 46.16 334 P P 15 19 23.7 -1.2
comp=Z,2.8nm,0.8s,baz=136,slow=8.9,SNR=22
PDAR PcP PcP 15 21 00.0 -0.8
comp=Z,0.7nm,0.8s,baz=180,slow=4.5,SNR=3.3
PDAR LR LR 15 39 11.3
comp=Z,519nm,20.3s,baz=136,slow=37
comp=Z,2.8nm,0.8s
PKM **Mcpherson Peak** 46.21 319 P P 15 19 25.5 +0.2
baz=127
VES **Vestal, Richgr** 46.32 320 P P 15 19 26.4 +0.5
baz=128,SNR=6.5
BGU **Big Grassy Mou** 46.35 330 IAmb IAmb 15 19 27.0
comp=Z,7.5nm,0.8s
SPUT **South Promonto** 46.35 331 IAmb IAmb 15 19 27.0
comp=Z,7.7nm,0.8s
SMMC **Simmler** 46.59 319 P P 15 19 28.3 +0.2
baz=127
MDND **Maddock** 47.28 346 P P 15 19 32.6 -0.7
baz=159,SNR=7.0
ELK **Elko** 47.35 328 IAmb IAmb 15 19 35.1
comp=Z,6.7nm,0.9s
ELK **Elko** 47.35 328 LR LR 15 39 11.3
comp=Z,602nm,18.4s,baz=108,slow=36
NV11 **Mina Array Sit** 47.40 324 P P 15 19 33.2 -1.3
NV11 IAmb IAmb 15 19 36.0
comp=Z,8.8nm,0.9s
MDPB **Devils Postpil** 47.44 322 IAmb IAmb 15 19 36.1
comp=Z,9.2nm,0.9s
NVAR **Mina Array Bea** 47.48 324 P P 15 19 35.4 +0.1
comp=Z,6.6nm,0.7s,baz=131,slow=7.4,SNR=54
NVAR PcP PcP 15 21 05.7 +0.2
comp=Z,0.7nm,0.7s,baz=150,slow=4.2,SNR=3.1
NVAR LR LR 15 37 43.2
comp=Z,340nm,20.6s,baz=104,slow=34
comp=Z,6.6nm,0.7s
LHV **Little Huntoon** 47.49 323 IAmb IAmb 15 19 36.8
comp=Z,8.8nm,0.8s
RYN **Ryan** 47.74 324 IAmb IAmb 15 19 38.5
comp=Z,8.7nm,1.2s
KVN **Kaiserville** 47.77 324 IAmb IAmb 15 19 38.2
comp=Z,16nm,0.8s
RLMT **Red Lodge** 47.97 336 P P 15 19 37.9 -1.0
baz=146
LAO **LASA Array** 48.17 340 P P 15 19 39.2 -1.0
baz=150
BMN **Battle Mountai** 48.21 326 IAmb IAmb 15 19 41.6
comp=Z,6.9nm,0.9s
YMR **Madison River** 48.30 335 IAmb IAmb 15 19 43.8
comp=Z,7.1nm,0.9s
ULM **Lac du Bonnet** 48.81 350 P P 15 19 43.7 -1.3
comp=Z,14nm,0.8s,baz=171,slow=7.4,SNR=23
ULM LR LR 15 39 49.1
comp=Z,190nm,18.3s,baz=66,slow=36
comp=Z,14nm,0.8s
HLID **Hailey** 49.01 331 P P 15 19 46.7 -0.2
baz=139,SNR=5.9
DGMT **Dagmar** 49.09 343 P P 15 19 47.2 0.0
baz=154
RCBR **Riachuelo** 49.14 100 LR LR 15 42 39.0
comp=Z,150nm,18.7s,baz=269,slow=39
BOZ **Bozeman (W)** 49.33 335 IAmb IAmb 15 19 49.8
comp=Z,7.2nm,0.8s
BOZ **Bozeman (W)** 49.33 335 P P 15 19 49.3 0.0
baz=143
ORV **Oroville** 50.12 323 P P 15 19 55.2 0.0
ORV IAmb IAmb 15 19 56.6
comp=Z,10nm,1.0s
WVOR **Wild Horse Val** 50.35 327 IAmb IAmb 15 19 57.7
comp=Z,19nm,1.3s
PLID **Pearl Lake** 50.90 331 IAmb IAmb 15 20 01.0
comp=Z,8.2nm,0.8s
J08A **Circle Bar Ran** 50.90 328 IAmb IAmb 15 20 11.8
comp=Z,13nm,1.5s
MSO **Missoula** 51.29 334 IAmb IAmb 15 20 04.0
comp=Z,9.1nm,0.8s
MSO **Missoula** 51.29 334 P P 15 20 04.0 0.0
baz=141,SNR=7.3
K05A **Summer Lake** 51.79 326 IAmb IAmb 15 20 15.2
comp=Z,11nm,0.8s
I07A **Izee** 51.94 328 IAmb IAmb 15 20 08.6
comp=Z,25nm,1.9s
F10A **Beach Ranch, E** 52.14 331 P P 15 20 09.1 -1.4
F10A IAmb IAmb 15 20 11.2
comp=Z,9.7nm,0.8s
KMPM **Mount Pierce** 52.24 322 IAmb IAmb 15 20 12.5
comp=Z,14nm,1.0s
L04D **Klamath Falls** 52.26 325 IAmb IAmb 15 20 11.5
comp=Z,9.8nm,0.9s
J05D **Fort Rock, OR** 52.34 326 IAmb IAmb 15 20 12.8
comp=Z,13nm,0.8s
PINE **Pine Mountain** 52.52 327 IAmb IAmb 15 20 14.4
comp=Z,13nm,1.1s
E09A **Wood Farm, Sta** 52.97 331 IAmb IAmb 15 20 17.3
comp=Z,11nm,0.9s
G06A **Carlson Farm,** 53.32 329 IAmb IAmb 15 20 19.7
comp=Z,6.7nm,0.8s
NEW **Newport** 53.78 333 P P 15 20 21.5 -0.9
baz=138
NEW **Newport** 53.78 333 LR LR 15 43 37.4
comp=Z,289nm,18.8s,baz=85,slow=36
E07A **Sunnyside** 53.83 330 IAmb IAmb 15 20 24.1
comp=Z,7.0nm,0.7s
SCHQ **Schefferville** 54.36 12 LR LR 15 43 45.5
comp=Z,515nm,18.1s,baz=86,slow=36
EDM **Edmonton** 56.15 340 P P 15 20 37.3 -2.1
TAOE **Nuku Hiva Isla** 56.60 258 *e*LR LR 15 37 20.0
comp=Z,442nm,26.6s
FCC **Fort Churchill** 56.87 354 IAmb IAmb 15 20 44.2
comp=Z,7.9nm,0.8s
YKA **Yellowknife Ar** 64.18 345 P P 15 21 32.7 -1.5
comp=Z,4.9nm,0.8s,baz=141,slow=6.2,SNR=80
YKA LR LR 15 50 15.2
comp=Z,173nm,20.4s,baz=304,slow=37
comp=Z,4.9nm,0.8s
KOTAN **Kotaneelee Air** 65.23 339 P P 15 21 41.3 +0.1
baz=136
T35M **Bob Quinn** 65.55 334 IAmb IAmb 15 21 47.3
comp=Z,9.5nm,1.1s
WRAK **Wrangell Islan** 66.14 333 P P 15 21 47.0 -0.1
baz=126
U33K **Whale Pass** 66.31 333 P P 15 21 48.9 +0.7
baz=125
DLBC **Dease Lake** 66.36 336 P P 15 21 49.4 +0.7
baz=129
DLBC **Dease Lake** 66.36 336 LR LR 15 54 05.1
comp=Z,209nm,18.2s,baz=86,slow=39
S34M **Telegraph Cree** 66.50 335 P P 15 21 50.3 +0.9
baz=128
PPT **Papeete** 67.09 250 LR LR 15 44 01.7
comp=Z,255nm,18.4s,baz=76,slow=30
PPT2 **Papeete2** 67.10 250 *e*SS SS 15 35 00.5 -7.4
comp=Z,65nm,24.8s
PPT2 *e*LR LR 15 42 00.0
comp=Z,653nm,26.0s
PPT2 *e*LR LR 15 42 08.5
comp=Z,459nm,27.0s
WRGLY **Wrigley** 67.28 342 P P 15 21 54.3 0.0
baz=137
R33M **Jennings River** 67.34 336 P P 15 21 55.1 +0.2
baz=128
TGTN **Hyland Airport** 67.69 339 P P 15 21 58.0 +1.0
baz=132
S32K **Killisnoo** 67.74 333 P P 15 21 58.4 +1.1
baz=124
TBI **Tubuai** 68.12 244 *e*LR LR 15 42 25.2
comp=Z,1µm,28.0s
PMSA **Palmer Station** 68.52 171 LR LR 15 45 49.4
comp=Z,55nm,18.8s,baz=352,slow=30
P33M **Teslin, Yukon** 68.58 336 P P 15 22 02.9 +0.2
baz=127
S31K **Pelican** 68.75 333 P P 15 22 03.9 +0.3
baz=123
SFJD **Kangerlussuaq** 68.78 14 LR LR 15 55 57.4
comp=Z,273nm,18.0s,baz=210,slow=39
SKAG **Skagway** 69.18 335 P P 15 22 07.3 +1.0
baz=124
WHY **Whitehorse** 69.68 336 P P 15 22 09.7 +0.1
baz=125
FARO **Faro, Yukon** 70.00 338 IAmb IAmb 15 22 12.7
comp=Z,15nm,1.5s
FARO **Faro, Yukon** 70.00 338 P P 15 22 11.8 +0.4
baz=127
O30N **Mendenhall** 70.23 336 P P 15 22 13.7 +0.9
baz=124
P30M **Million Dollar** 70.24 335 P P 15 22 13.9 +1.0
baz=123

P29M Windy Craggy 70.31 334 P **P** 15 22 13.7 +0.4
baz=122
M31M Drury Creek, Y 70.38 338 P **P** 15 22 14.1 +0.4
baz=126
N31M Braeburn, Yuko 70.51 337 P **P** 15 22 14.7 +0.2
baz=124
HYT Haines Junctio 70.84 336 P **P** 15 22 16.9 +0.2
baz=122
N30M Aishikik Lake 71.02 336 P **P** 15 22 17.9 +0.3
baz=123
PNL Peninsula 71.05 334 P **P** 15 22 18.6 +0.8
baz=120
M30M Minto, Yukon 71.51 337 IAmb IAmb 15 22 21.5
comp=Z,7.8nm,1.1s
M30M Minto, Yukon 71.51 337 P **P** 15 22 20.3 -0.2
baz=124
YUK4 Talbot Arm 71.59 336 P **P** 15 22 21.3 0.0
baz=122
YUK8 Steele Glacier 72.02 335 P **P** 15 22 24.2 +0.2
baz=120
M29M Somme Creek 72.09 337 IAmb IAmb 15 22 31.8
comp=Z,8.1nm,0.8s
M29M Somme Creek 72.09 337 P **P** 15 22 24.6 +0.4
baz=122
L29M L29M 72.32 337 IAmb IAmb 15 22 26.3
comp=Z,6.8nm,0.9s
L29M L29M 72.32 337 P **P** 15 22 25.8 +0.4
baz=122
J30M Hart River 72.46 339 P **P** 15 22 26.7 +0.3
baz=124
K29M Barlow Dome 72.49 338 IAmb IAmb 15 22 27.1
comp=Z,5.9nm,0.9s
K29M Barlow Dome 72.49 338 P **P** 15 22 26.4 -0.1
baz=123
CTG Chitna Glacier 72.53 335 P **P** 15 22 27.1 +0.2
baz=119
YUK3 Moose Creek 72.56 336 P **P** 15 22 27.3 +0.2
baz=120
RES Resolute Bay 72.63 357 LR LR 15 53 18.8
comp=Z,264nm,18.3s,baz=108,slow=35
I30M Mount Dempster 72.85 340 P **P** 15 22 28.8 +0.1
baz=125
BVCY Beaver Creek 73.04 336 P **P** 15 22 30.0 +0.3
baz=120
G31M Satah River 73.15 342 IAmb IAmb 15 22 31.6
comp=Z,10nm,1.0s
G31M Satah River 73.15 342 P **P** 15 22 30.5 +0.4
baz=127
CRQE Cirque 73.19 334 P **P** 15 22 30.9 +0.2
baz=117
F31M Tsiigehtchic 73.30 342 P **P** 15 22 31.3 +0.3
baz=128
DAWY Dawson 73.31 338 P **P** 15 22 30.4 -0.8
DAWY Dawson 73.31 338 P **P** 15 22 31.2 0.0
baz=121
KAIM Kayak Island 73.42 333 P **P** 15 22 31.9 0.0
baz=116
M27K Edge Creek, AK 73.43 336 P **P** 15 22 32.4 +0.2
baz=118
MCARA McCarthy VSAT 73.45 335 P **P** 15 22 32.2 +0.1
baz=117
I29M Ogilvie Camp, 73.60 339 P **P** 15 22 33.2 +0.2
baz=123
EPYK Eagle Plains 73.62 341 P **P** 15 22 33.2 +0.1
baz=124
L27K Beaver Creek, 73.74 336 IAmb IAmb 15 22 35.2
comp=Z,12nm,1.4s
L27K Beaver Creek, 73.74 336 P **P** 15 22 33.9 0.0
baz=119
INK Inuvik 73.77 343 IAmb IAmb 15 22 34.7
comp=Z,9.5nm,1.1s
INK Inuvik 73.77 343 P **P** 15 22 34.8 +0.9
baz=128
INK Inuvik 73.77 343 LR LR 15 56 16.7
comp=Z,323nm,18.9s,baz=10.0,slow=37
M26K Nabesna, AK 73.91 336 P **P** 15 22 35.1 +0.3
baz=118
BMRM Bremner River 73.95 334 P **P** 15 22 35.4 +0.2
baz=116
F30M Barrier River 74.04 342 P **P** 15 22 35.8 +0.4
baz=126
H29M Whitestone 74.09 340 P **P** 15 22 36.1 +0.4
baz=123
A36M Sachs Harbour 74.20 348 P **P** 15 22 36.6 +0.3
baz=137
I28M Miner Creek 74.22 339 P **P** 15 22 37.3 +0.6
baz=121
EYAK Cordova Ski Ar 74.28 333 P **P** 15 22 37.7 +0.8
baz=114
K27K Chicken 74.31 337 P **P** 15 22 37.9 +0.8
baz=119
EGAK Eagle 74.33 338 P **P** 15 22 37.1 0.0
baz=120
L26K Log Cabin Wild 74.34 336 P **P** 15 22 37.2 -0.1
baz=117
G29M Pine Creek 74.35 341 IAmb IAmb 15 22 38.4
comp=Z,10nm,0.9s
G29M Pine Creek 74.35 341 P **P** 15 22 37.6 +0.2
baz=123
KLU Klutina 74.75 334 P **P** 15 22 39.8 0.0
baz=114
HARP HAARP 74.81 335 P **P** 15 22 40.8 +0.8
baz=115
I27K Kandik River 74.91 339 P **P** 15 22 40.6 0.0
baz=120
SCRK Sand Creek 75.03 337 P **P** 15 22 41.5 0.0
baz=117
J26L Joseph Creek 75.11 337 IAmb IAmb 15 22 43.0
comp=Z,8.1nm,0.9s
J26L Joseph Creek 75.11 337 P **P** 15 22 42.2 +0.4
baz=118
M24K Tolsona, Glenn 75.11 335 P **P** 15 22 41.9 +0.1
baz=114
E29M Blow River 75.14 342 P **P** 15 22 42.0 +0.2
baz=124
PAX Paxson 75.18 336 P **P** 15 22 42.1 -0.2
baz=115
H27K Steamboat Moun 75.19 339 P **P** 15 22 42.6 +0.4
baz=120
RIDG Independent Ri 75.26 336 P **P** 15 22 42.9 +0.2
baz=116
I26K Coal Creek Min 75.33 338 P **P** 15 22 42.6 -0.3
baz=118
F28M Old Crow 75.34 341 P **P** 15 22 43.5 +0.5
baz=122
SCM Sheep Creek Mo 75.50 334 P **P** 15 22 44.2 0.0
baz=113
G27K Doyon Strip 75.52 340 IAmb IAmb 15 22 55.1
comp=Z,19nm,1.9s
G27K Doyon Strip 75.52 340 P **P** 15 22 44.3 +0.2
baz=120
M23K Glacier View 75.66 334 P **P** 15 22 45.1 +0.1
baz=113
K24K Donnelly Dome 75.67 336 P **P** 15 22 45.1 +0.1
baz=115
SUMG Summit 75.75 13 *i* P **P** 15 22 45.3 -0.4
SUMG IAmb IAmb 15 22 51.2
comp=Z,3.9nm,0.9s
E28M Babbage River 75.76 342 P **P** 15 22 45.4 0.0
baz=122
KNK Knik Glacier 75.84 334 P **P** 15 22 45.8 -0.1
KNK Knik Glacier 75.84 334 P **P** 15 22 45.9 -0.1
baz=112
J25K Salcha River, 75.85 337 P **P** 15 22 46.1 0.0
baz=116
D28M Stokes Point 75.91 343 P **P** 15 22 46.7 +0.6
baz=123
SML Sawmill 75.93 334 P **P** 15 22 46.5 -0.1
baz=112
WAT6 Susitna Watana 75.97 335 P **P** 15 22 46.5 -0.4
baz=113
DHY Denali Highway 76.02 335 P **P** 15 22 47.2 +0.1
baz=114
O22K Cooper Landing 76.07 332 P **P** 15 22 46.9 -0.4
baz=111
E27K Coleen River 76.19 341 IAmb IAmb 15 22 48.7
comp=Z,8.6nm,1.2s
E27K Coleen River 76.19 341 P **P** 15 22 47.9 0.0
baz=120
RC01 Rabbit Creek A 76.29 333 P **P** 15 22 48.7 +0.1
baz=111
PRP Porcupine Dome 76.31 338 P **P** 15 22 48.7 -0.1
baz=116
G26K Porcupine Rive 76.33 340 P **P** 15 22 48.4 -0.2
baz=118
HDA Harding Lake 76.39 337 IAmb IAmb 15 22 52.7
comp=Z,18nm,1.5s
HDA Harding Lake 76.39 337 P **P** 15 22 48.9 -0.1
baz=114
HDA P **P** 15 22 48.9 -0.1
baz=114
WAT1 Susitna Watana 76.42 335 P **P** 15 22 49.6 +0.3
baz=112
ILAR Eielson Array 76.51 337 P **P** 15 22 48.6 -1.1
ILAR Eielson Array 76.51 337 P **P** 15 22 49.0 -0.8
comp=Z,2.3nm,0.9s,baz=130,slow=3.5,SNR=17
ILAR LR LR 15 58 06.6
comp=Z,284nm,19.1s,baz=89,slow=37
comp=Z,2.3nm,0.9s
D27M Malcolm River 76.54 342 P **P** 15 22 50.3 +0.4
baz=121
KDAK Kodiak Island 76.58 329 P **P** 15 22 51.5 +1.3
baz=108
KDAK Kodiak Island 76.58 329 LR LR 15 56 51.5
comp=Z,139nm,18.6s,baz=90,slow=36
M22K Willow 76.70 334 P **P** 15 22 51.6 +0.8
baz=111
RND Reindeer 76.76 335 IAmb IAmb 15 22 55.7
comp=Z,11nm,1.0s
BORG Borgarnes 76.77 23 LR LR 15 56 19.1
comp=Z,103nm,18.4s,baz=254,slow=36
OHAK Old Harbor 76.77 329 P **P** 15 22 51.8 +0.5
baz=107
F26K Sheenjek River 76.80 340 P **P** 15 22 51.8 +0.5
baz=118
BMAR Burnt Mountain 76.82 340 P **P** 15 22 50.4 -1.1
CAPN Captain Cook N 76.83 332 P **P** 15 22 51.6 0.0
baz=110
POKR Poker Plat Res 76.87 337 P **P** 15 22 51.8 +0.1
baz=114
SUA Susitna One 76.88 333 P **P** 15 22 51.9 -0.1
baz=110
MCK McKinley 76.92 336 P **P** 15 22 52.0 -0.1
baz=112
CUT Chulitna 77.00 334 P **P** 15 22 53.0 +0.5
baz=111
G25K Bearman Lake 77.06 339 P **P** 15 22 53.7 +0.9
baz=116
RAR Rarotonga 77.16 248 LR LR 15 48 24.5
comp=Z,34nm,21.2s,baz=158,slow=29
F25K Christian Rive 77.26 340 P **P** 15 22 54.8 +0.8
baz=116
NEEM North Greenlan 77.26 7 *i* P **P** 15 22 54.3 +0.2
NEEM IAmb IAmb 15 22 58.8
comp=Z,9.9nm,0.8s
NEA2 Nenana 77.30 336 IAmb IAmb 15 22 54.5
comp=Z,6.1nm,1.0s
NEA2 Nenana 77.30 336 P **P** 15 22 54.1 -0.1
baz=112
H24K Noodor Dome 77.33 338 IAmb IAmb 15 22 55.1
comp=Z,8.4nm,1.1s
H24K Noodor Dome 77.33 338 P **P** 15 22 54.6 +0.2
baz=114
TRF Thorofare Moun 77.38 335 P **P** 15 22 54.6 -0.3
baz=111
SKT Skwentna 77.41 334 P **P** 15 22 54.5 -0.4
baz=109
N20K Mount Spurr 77.46 333 P **P** 15 22 55.5 +0.3
baz=109
E25K Arctic Village 77.47 340 IAmb IAmb 15 23 02.7
comp=Z,6.5nm,1.1s
E25K Arctic Village 77.47 340 P **P** 15 22 55.5 +0.4
baz=116
R18K Karluk 77.47 329 P **P** 15 22 55.0 -0.3
baz=106
G24K Hadweenzic Riv 77.53 339 P **P** 15 22 55.0 -0.4
baz=114
I23K Minto, Yukon-K 77.63 337 IAmb IAmb 15 22 56.7
comp=Z,6.9nm,1.1s
I23K Minto, Yukon-K 77.63 337 P **P** 15 22 55.6 -0.4
baz=112
BPAW Bear Paw Mtn. 77.90 336 P **P** 15 22 57.2 -0.4
baz=110
PPLA Purkeypile 78.00 334 P **P** 15 22 57.7 -0.6
baz=109
F24K Squaw Lake 78.01 339 IAmb IAmb 15 23 35.3
comp=Z,16nm,1.7s
F24K Squaw Lake 78.01 339 P **P** 15 22 57.5 -0.7
baz=114
Q18K Katmai Hardscr 78.05 330 P **P** 15 22 57.5 -1.2
baz=106
C26K Camden Bay 78.08 342 P **P** 15 22 58.2 -0.2
baz=117
CAST Castle Rocks 78.13 335 IAmb IAmb 15 23 02.4
comp=Z,13nm,1.5s
CAST Castle Rocks 78.13 335 P **P** 15 22 58.1 -0.7
baz=109
MLY Manley 78.13 337 P **P** 15 22 57.9 -1.0
MLY IAmb IAmb 15 23 05.5
comp=Z,8.1nm,1.4s
MLY Manley 78.13 337 P **P** 15 22 57.9 -1.0
baz=111
O19K Port Alsworth 78.14 331 P **P** 15 22 58.0 -1.0
baz=106
D25K Kavik River 78.27 341 IAmb IAmb 15 23 05.3
comp=Z,9.8nm,1.2s
D25K Kavik River 78.27 341 P **P** 15 22 59.1 -0.4
baz=116
P18K Biuntain, 78.36 330 P **P** 15 22 59.1 -1.2
baz=106
CHUM Lake Minchumin 78.38 335 P **P** 15 22 59.5 -0.6
baz=109
Q17K Contact Creek 78.40 329 P **P** 15 23 00.1 -0.4
baz=105
N19K Bonanza Creek 78.40 332 P **P** 15 22 59.8 -0.6
baz=106
E24K Your Creek 78.45 340 P **P** 15 23 00.1 -0.4
baz=114
G23K Bananza Creek 78.47 338 P **P** 15 23 00.6 0.0
baz=112
O18K Koktuh Hills 78.48 331 P **P** 15 23 00.6 -0.3
baz=106
R17K Ugashik Creek 78.50 329 P **P** 15 23 00.7 -0.3
baz=104
L20K Farewell, AK 78.61 334 P **P** 15 23 01.1 -0.5
baz=107
I21K Tanana 78.67 337 P **P** 15 23 01.4 -0.3
baz=110
H22K Ishtalitna Cre 78.68 337 P **P** 15 23 02.1 +0.2
baz=110
COLD Coldfoot 78.72 339 P **P** 15 23 02.4 +0.4
baz=112
E23K Chandalar 78.83 340 P **P** 15 23 03.4 +0.7
baz=112
Q16K King Salmon 78.89 330 P **P** 15 23 03.8 +0.7
baz=104
K20K Telida 78.96 334 IAmb IAmb 15 23 04.2
comp=Z,16nm,1.5s
K20K Telida 78.96 334 P **P** 15 23 02.5 -0.9
baz=107
L19K White Mountain 78.96 333 P **P** 15 23 02.7 -0.8
baz=106
D24K Happy Valley 78.99 341 P **P** 15 23 03.9 +0.4
baz=113
N18K Kilae Creek 79.03 332 IAmb IAmb 15 23 03.9
comp=Z,9.2nm,1.1s
N18K Kilae Creek 79.03 332 P **P** 15 23 03.6 -0.2
baz=105
TOLK Toolik Lake Re 79.04 340 P **P** 15 23 03.7 -0.1
baz=113
G22K Bettles 79.09 338 P **P** 15 23 04.7 +0.7
baz=110
H21K Melozitna Rive 79.16 337 P **P** 15 23 03.5 -0.9
baz=109
C24K Franklin Bluff 79.18 341 P **P** 15 23 04.6 +0.1
baz=114
M18K Stony River 79.21 332 P **P** 15 23 04.1 -0.7
baz=105
J20K Nowinta River 79.24 335 IAmb IAmb 15 23 05.0
comp=Z,14nm,1.4s
J20K Nowinta River 79.24 335 P **P** 15 23 04.6 -0.3
baz=108
O17K Koliganek Bris 79.38 331 P **P** 15 23 05.4 -0.3
baz=104
DBIC Dimbokro 79.41 84 LR LR 15 56 05.3
comp=Z,75nm,18.1s,baz=312,slow=34
D23K Nanushuk River 79.53 340 P **P** 15 23 06.2 -0.2
baz=112
F22K John River 79.54 339 P **P** 15 23 06.8 +0.3
baz=110
I20K Naaghedeneel 79.56 336 P **P** 15 23 07.3 +0.7
baz=107
N17K Nushagak Hills 79.61 331 P **P** 15 23 06.9 -0.1
baz=104
E22K Anaktuvuk Pass 79.63 339 P **P** 15 23 07.2 +0.2
baz=110
P16K Nushagak River 79.65 330 P **P** 15 23 07.8 +0.6
baz=103
TTA Tatalina 79.68 334 P **P** 15 23 07.5 0.0
baz=106
G21K Allakaket 79.70 338 P **P** 15 23 07.4 0.0
baz=108
L18K Granite Mounta 79.80 333 P **P** 15 23 07.8 -0.2
baz=105
J19K Poorman 79.80 335 P **P** 15 23 07.7 -0.3
baz=106
O16K Kokwok River B 79.83 330 P **P** 15 23 08.5 +0.3
baz=103
C23K Itkillik River 79.84 341 P **P** 15 23 08.1 +0.1
baz=112
F21K Alatna River 79.92 338 P **P** 15 23 08.7 +0.1
baz=109
H20K Anotleneega Mo 79.93 336 P **P** 15 23 08.3 -0.4
baz=107
M17K Holitna River 79.94 332 P **P** 15 23 08.6 -0.1
baz=104
J18K Innoko River 80.13 334 P **P** 15 23 09.6 -0.2
baz=105
SDPT Sand Point 80.23 326 P **P** 15 23 10.3 -0.1
baz=100
MDT Midelt 80.25 57 LR LR 15 51 39.1
comp=Z,61nm,20.6s,baz=346,slow=30
N16K Nishlik Lake 80.36 331 P **P** 15 23 10.9 -0.2
baz=103
E21K Killik River 80.49 339 P **P** 15 23 11.8 +0.2
baz=108
L17K Donlin 80.51 333 P **P** 15 23 11.6 -0.2
baz=103
GCSA Galena City Sc 80.53 336 P **P** 15 23 12.1 +0.2
baz=105
H19K Roundabout Mou 80.56 336 P **P** 15 23 12.4 +0.3
baz=106
M16K Timber Creek 80.57 332 P **P** 15 23 12.0 -0.2
baz=102
O15K Ungalikthiuk R 80.61 330 P **P** 15 23 12.8 +0.4
baz=102
K17K Iditarod 80.65 333 P **P** 15 23 12.3 -0.2
baz=103
B22K Teshekpuk Lake 80.91 341 P **P** 15 23 14.5 +0.7
baz=109
L16K Owhat River 80.96 332 P **P** 15 23 14.6 +0.4
L16K IAmb IAmb 15 23 18.3
comp=Z,18nm,1.4s
L16K Owhat River 80.96 332 P **P** 15 23 14.4 +0.2
baz=102
G19K Purcell Mounta 80.98 337 P **P** 15 23 14.7 +0.4
baz=105
B21K Ikpikpuk River 81.07 341 P **P** 15 23 14.2 -0.4
baz=108
E20K Nigu River 81.22 339 P **P** 15 23 15.6 0.0
baz=106
ESDC Sonseca Array 81.25 50 LR LR 15 59 42.7
comp=Z,156nm,19.1s,baz=307,slow=36
H18K Honhosa River 81.25 336 P **P** 15 23 15.9 +0.1
baz=104
M15K Kasigluk River 81.33 331 P **P** 15 23 16.6 +0.4
baz=101
E19K Redstone River 81.38 338 P **P** 15 23 15.9 -0.5
baz=105
F19K Shalerockik Mo 81.42 337 P **P** 15 23 16.5 0.0
baz=104
D20K Etivluk River 81.49 339 P **P** 15 23 16.7 -0.3
baz=106
G18K Tagagawik 81.54 336 P **P** 15 23 17.0 -0.3
G18K IAmb IAmb 15 23 18.6
comp=Z,11nm,1.4s
G18K Tagagawik 81.54 336 P **P** 15 23 17.6 +0.3
baz=104
A22K Sinclair Lake 81.62 342 P **P** 15 23 17.5 0.0
baz=108
N14K Kuskokwak Cree 81.68 330 P **P** 15 23 18.2 +0.2
baz=100
J16K Anvik River 81.79 334 P **P** 15 23 18.6 0.0
baz=101
H17K Granite Mounta 81.84 335 P **P** 15 23 19.2 +0.4
baz=102
L15K Ungalak Mounta 81.89 332 P **P** 15 23 19.8 +0.6
baz=100
M14K Bethel 81.95 331 P **P** 15 23 20.1 +0.6
baz=100
D19K Kuna River 81.97 339 P **P** 15 23 20.2 +0.7
baz=104
B20K Meade River 82.03 341 P **P** 15 23 20.2 +0.5
baz=106
G17K Kiwalik Mounta 82.26 336 P **P** 15 23 21.0 0.0
baz=102
DAG Danmarks Havn 82.41 12 *i* P **P** 15 23 21.2 -0.4
DAG IAmb IAmb 15 23 23.2
comp=Z,1.5nm,0.6s
M13K Dall Lake 82.58 331 P **P** 15 23 22.3 -0.5
baz=98
C19K Lookout Ridge 82.63 340 P **P** 15 23 23.3 +0.3
baz=103
F17K Baldwin Pennin 82.69 337 P **P** 15 23 22.9 -0.3
baz=101
H16K Elim 82.76 335 P **P** 15 23 24.1 +0.4
baz=100
J14K Nanvaranak Lak 83.03 333 P **P** 15 23 25.6 +0.5
baz=99
E17K Hotham Inlet 83.03 337 P **P** 15 23 25.4 +0.3
baz=101
C18K Utukok River 83.11 339 P **P** 15 23 25.2 -0.3
baz=102
EKA Eskdalemuir Ar 83.20 35 P **P** 15 23 26.6 +0.4
comp=Z,1.4nm,0.8s,baz=257,slow=6.5,SNR=1.6
comp=Z,1.4nm,0.8s
G15K Niukluk 83.58 335 P **P** 15 23 27.8 -0.1
baz=98
BELA Belgrano 2 84.36 171 P **P** 15 23 31.3 -0.3
C16K Lisburne Hills 84.55 338 P **P** 15 23 32.8 0.0
baz=98
TORD Torodi Ar. Bea 85.74 77 P **P** 15 23 40.9 +1.0
comp=Z,0.5nm,0.6s,baz=293,slow=5.5,SNR=3.4
TORD LR LR 16 01 16.8
comp=Z,115nm,19.1s,baz=303,slow=35
comp=Z,0.5nm,0.6s
SNAA Sanae 89.47 162 LR LR 15 56 59.4
comp=Z,89nm,22.0s,baz=352,slow=31
NOA NORSAR Array B 90.81 29 LR LR 16 01 46.4
comp=Z,51nm,20.0s,baz=255,slow=34
DAVOX Davos/Dischmat 91.35 43 LR LR 16 04 52.9
comp=Z,118nm,18.0s,baz=294,slow=35
KEST Kesra 91.79 54 LR LR 16 02 16.2
comp=Z,33nm,18.2s,baz=310,slow=34
HFS Hagfors 92.13 30 LR LR 16 07 58.4
comp=Z,77nm,18.7s,baz=265,slow=37
QSPA South Pole Qui 92.27 180 P **P** 15 24 11.6 +1.7
QSPA South Pole Qui 92.27 180 LR LR 16 00 07.5
comp=Z,92nm,18.4s,baz=157,slow=32
GERES GERESS Array B 93.69 41 LR LR 16 05 23.4
comp=Z,116nm,18.3s,baz=282,slow=35
VRAC Vranov 95.50 40 LR LR 16 06 42.3
comp=Z,157nm,18.1s,baz=294,slow=35
VAE Valguarnera 95.67 52 LR LR 16 07 01.6
comp=Z,70nm,18.0s,baz=161,slow=35
MNK Minsk 100.95 33 *i* P **Pdif** 15 24 49.1 -0.2
MNK comp=E,6.0nm,1.0s *i* P **Pdif** 15 24 49.1 -0.2
MNK comp=N,18nm,0.8s *i* P **Pdif** 15 24 49.1 -0.2
MNK comp=Z,6.0nm,0.7s,baz=290 *i* PP **PP** 15 28 57.2 +0.1
MNK *i* PPP PPP 15 31 05.2
MNK *i* S **SKSac** 15 35 28.3 -0.4
MNK *i* PS **PS** 15 37 59.9 +0.7
MNK *i* SS **SS** 15 43 27.3 +1.8
MNK *i* SSS SSS 15 47 18.5
MNK *i* LQ LQ 16 04 26.6
MNK *i* LR LR 16 09 52.6
MNK comp=N,133nm,17.4s *i* LRM MLR 16 11 20.9
MNK comp=Z,92nm,14.8s *i* LRM MLR 16 11 37.6
MNK comp=E,57nm,18.7s *i* LRM MLR 16 11 43.4
DZM Mont Dzumac 108.54 248 *e* LR LR 16 01 15.8
comp=E,155nm,27.9s
KURBB Kurchatov Arra 125.36 13 PKP **PKiKP** 15 30 02.4 +1.0
comp=E,0.7nm,0.2s,baz=343,slow=2.2,SNR=4.8
MKAR Makanchi Array 129.79 12 PKP **PKiKP** 15 30 10.4 0.0
comp=E,0.5nm,0.8s,baz=306,slow=3.4,SNR=3.5
HHC Hu-ho-hao-te 134.69 343 *e* P **PKPdf** 15 30 14.8 -4.4
ASAR Alice Springs 137.22 237 PKP **PKPdf** 15 30 24.9 +0.6
comp=E,0.9nm,0.8s,baz=98,slow=1.9,SNR=8.8

WRA	**Warramunga Arr**	**138.24**	**242**	PKP		**PKPdf**	**15 30 26.7**	**+0.5**
	comp=E,1.2nm,0.8s,baz=104,slow=2.2,SNR=10							
NJ2	**Nanjing**	**139.36**	**329**	*eP*		**PKPdf**	**15 30 26.3**	**-1.6**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
H01W1	**Cape Leeuwin H**	**143.19**	**206**	T		T	18 11 01.3	
	baz=149,slow=74							
H01W2	**Cape Leeuwin H**	**143.19**	**206**	T		T	18 10 57.5	
	baz=149,slow=74							
H01W3	**Cape Leeuwin H**	**143.21**	**206**	T		T	18 11 02.7	
	baz=149							
DANN	**Dangsing**	**147.54**	**20**	*eP*		**PKPbc**	**15 30 44.7**	**-0.6**
	comp=Z,52nm,0.8s							
KOLN	**Koldanda**	**148.02**	**20**	*eP*		**PKiKP**	**15 30 48.0**	**-0.4**
	comp=Z,74nm,2.3s							
GKN	**Gorkha**	**148.15**	**18**	*eP*		**PKPbc**	**15 30 46.3**	**-0.5**
GUN	**Gumba**	**148.61**	**17**	*eP*		**PKPbc**	**15 30 47.8**	**-0.5**
	comp=Z,29nm,0.8s							
RAMN	**Ramite**	**149.72**	**16**	*eP*		**PKiKP**	**15 30 52.6**	**+0.6**
	comp=Z,23nm,0.8s							
PZH	**PanZhiHua**	**150.80**	**349**	PKPbc		**PKPdf**	**15 30 46.5**	**-1.3**
CMAR	**Chiang Mai Arr**	**159.16**	**351**	PKP		**PKPdf**	**15 31 01.0**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=300,slow=2.0,SNR=3.1							

VAO 27 15:35:34.9±1.3, 23°10S×63°15W, h132km±29km, mb4.2, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TICA	**Tres Isletas**	**4.13**	**143**	*eP*	Pn	15 36 36.5	+0.2
MURT	**Porto Murtinho**	**5.33**	**75**	*eP*	Pn	15 36 51.2	-1.3
BBRB	**Robore, Bolivi**	**5.73**	**34**	*eP*	Pn	15 36 57.7	-0.2
SCCA	**San Cayetano,**	**6.04**	**138**	*eP*	Pn	15 37 02.5	+0.5
BBSD	**Serra de San D**	**6.35**	**23**	*eP*	Pn	15 37 06.1	-0.1
BDQN	**Bodoquena, MS**	**6.51**	**67**	*eP*	Pn	15 37 09.3	+1.0
AQDB	**Aquidauana**	**7.40**	**71**	*eP*	Pn	15 37 21.0	+0.7
UNIS	**Unistalda (Bra**	**9.38**	**131**	*eP*	Pn	15 37 46.0	-0.9

*IDC **27** 15:53:46.7±0.9, 2°.73S×130°.08E, h0km, mb3.9/9, mbtmp3.9/10, ML4.1/1, Error ellipse: s-maj=46.3km s-min=16.8km az=62.0*
*NEIC **27** 15:53:52.3±2.6, 2°.92S±0°.09×129°.73E±0°.09, h41km±6km, mb4.0/16, Error ellipse: s-maj=15.7km s-min=10.0km az=223.0*
*DJA **27** 15:53:53.1±1.0, 3°S±4°×13°0E±°, h37km±25km, M4.1/12, mb4.3/4, mB5.4/1, MLv4.0/12, Mw(mB)4.8/1*
ISC 27 15:53:51.7±0.6, 2°.88S±0°.05×129°.79E±0°.06, h35km, n52, σ1s85/54, mb4.0/12, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.64**	**176**	P	**Pn**	**15 54 21.6**	**+3.6**
BNDI	**Bandanaira**	**1.64**	**176**	P	**Pn**	**15 54 20.7**	**+2.7**
FAKI	**Fak Fak**	**2.45**	**91**		**Pn**	**15 54 30.8**	**+1.5**
FAKI	**Fak Fak**	**2.45**	**91**	P	**Pn**	**15 54 31.2**	**+1.9**
FAKI	**Fak Fak**	**2.45**	**91**	P	**Pn**	**15 54 30.8**	**+1.5**
SWI	**Sorong**	**2.48**	**36**	P	**Pn**	**15 54 30.1**	**+0.4**
SWI				S	**Sn**	**15 54 59.4**	**+0.6**
NLAI	**Namlea**	**2.71**	**262**	P	**Pn**	**15 54 33.8**	**+0.9**
LBMI	**Labuha**	**3.19**	**314**	P	**Pn**	**15 54 39.2**	**-0.3**
SANI	**Sanana**	**3.89**	**282**	P	**Pn**	**15 54 46.4**	**-2.7**
SANI				S	**Sn**	**15 55 30.0**	**-3.6**
TNTI	**Ternate**	**4.36**	**326**	Pn	**Pn**	**15 54 55.0**	**-0.6**
KMSI	**Cibinong**	**6.75**	**300**	P	**Pn**	**15 55 27.7**	**-0.7**
	59nm,1.3s,3μm0.4nm						
GTOI	**Gorontalo**	**7.63**	**297**	P	**Pn**	**15 55 42.5**	**+2.1**
	10nm,1.1s,0.0nm						
TOLI2	**Tolitoli**	**9.84**	**294**	Pn	**Pn**	**15 56 10.8**	**-0.1**
TOLI2	**Tolitoli**	**9.84**	**294**	P	**Pn**	**15 56 15.0**	**+4.1**
MTN	**Manton Dam**	**9.99**	**172**	Pn	**Pn**	**15 56 12.6**	**-0.2**
MTN	**Manton Dam**	**9.99**	**172**	P	**Pn**	**15 56 14.7**	**+1.8**
KAPI	**Kappang**	**10.24**	**258**	Pn	Pn	15 56 20.5	+4.2
	1.5nm,0.3s,baz=30,slow=20,SNR=2.1						
	4.5nm,0.4s						
KNRA	**Kununurra**	**12.76**	**185**	Pn	**Pn**	**15 56 48.9**	**-1.9**
KNRA	**Kununurra**	**12.76**	**185**	P	**Pn**	**15 56 53.1**	**+2.4**
PLAI	**Plampang**	**13.33**	**243**	P	**Pn**	**15 57 01.9**	**+3.3**
FITZ	**Fitzroy Crossi**	**15.66**	**195**	Pn	**Pn**	**15 57 28.4**	**-1.6**
JAGI	**Jajag, Banyuwa**	**16.52**	**250**		**P**	**15 57 42.3**	**-0.9**
JAGI	**Jajag, Banyuwa**	**16.52**	**250**	P	**P**	**15 57 43.8**	**+0.6**
WB0	**Warramunga Arr**	**17.38**	**165**	Pn	**Pn**	**15 57 48.9**	**-2.8**
WB0				IAmb	IAmb	15 57 54.5	
	comp=Z,8.1nm,0.9s						
WRAB	**Tennant Creek**	**17.52**	**166**	Pn	**Pn**	**15 57 50.3**	**-3.2**
WRA	**Warramunga Arr**	**17.53**	**166**	Pn	**Pn**	**15 57 49.6**	**-3.9**
WRA	**Warramunga Arr**	**17.53**	**166**	P	**Pn**	**15 57 51.1**	**-2.5**
	comp=Z,2.2nm,0.3s,baz=353,slow=12,SNR=41						
WRA				S	Sn	16 00 54.5	-13
	comp=Z,0.5nm,0.7s,baz=344,slow=22,SNR=2.9						
WB2	**Warramunga Arr**	**17.53**	**166**	Pn	**Pn**	**15 57 51.1**	**-2.5**
WB2				IAmb	IAmb	15 57 56.1	
	comp=Z,5.3nm,0.7s						
WR0	**Warramunga Arr**	**17.60**	**165**	Pn	**Pn**	**15 57 52.3**	**-2.1**
WR0				IAmb	IAmb	15 57 59.4	
	comp=Z,12nm,1.4s						
QIS	**Mount Isa**	**20.01**	**152**	P	**P**	**15 58 22.2**	**+0.6**
MBWA	**Marble Bar**	**20.64**	**208**	P	**P**	**15 58 26.4**	**-2.1**
PSA00	**Pilbara Seismi**	**20.95**	**207**	P	**P**	**15 58 29.3**	**-2.5**
PSA00	**Pilbara Seismi**	**20.95**	**207**	P	**P**	**15 58 31.3**	**-0.5**
AS31	**Alice Springs**	**21.04**	**169**	P	**P**	**15 58 33.0**	**+0.2**
AS31				IAmb	IAmb	15 58 33.9	
	comp=Z,5.4nm,0.5s						
ASAR	**Alice Springs**	**21.04**	**169**	P	**P**	**15 58 32.7**	**-0.1**
ASAR	**Alice Springs**	**21.04**	**169**	P	**P**	**15 58 32.9**	**0.0**
	comp=Z,8.4nm,0.4s,baz=349,slow=11,SNR=294						
ASAR				S	**S**	**16 02 22.9**	**-2.5**
	comp=Z,0.6nm,0.6s,baz=355,slow=22,SNR=4.9						
	comp=Z,8.4nm,0.4s						
WRKA	**Warakurna**	**22.08**	**184**	P	**P**	**15 58 43.3**	**-0.6**
CTA	**Charters Tower**	**23.47**	**138**	P	**P**	**15 58 58.8**	**+0.4**
	comp=Z,3.4nm,1.0s,baz=321,slow=14,SNR=2.6						
	comp=Z,3.4nm,1.0s						
CTAO	**Charters Tower**	**23.47**	**138**	P	**P**	**15 58 59.0**	**+0.7**
CTAO				IAmb	IAmb	15 59 23.4	
	comp=Z,11nm,1.4s						
BBOO	**Buckleboo**	**30.35**	**170**	P	**P**	**15 59 59.5**	**-0.8**
BBOO				IAmb	IAmb	16 00 17.2	
	comp=Z,5.8nm,1.1s						
STKA	**Stephens Creek**	**30.91**	**160**	P	**P**	**16 00 04.2**	**-1.1**
STKA	**Stephens Creek**	**30.91**	**160**	P	**P**	**16 00 05.6**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=337,slow=9.6,SNR=4.8						
	comp=Z,0.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**37.04**	**306**	P	**P**	**16 00 59.9**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=138,slow=8.1,SNR=6.2						
	comp=Z,0.6nm,0.7s						
SONM	**Songino Array**	**54.50**	**341**	P	**P**	**16 03 15.0**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=120,slow=8.5,SNR=2.0						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**64.70**	**326**	P	**P**	**16 04 25.4**	**-1.0**
MKAR	**Makanchi Array**	**64.70**	**326**	P	**P**	**16 04 27.2**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=113,slow=8.8,SNR=6.4						
	comp=Z,0.4nm,0.5s						
MAKZ	**Makanchi**	**64.89**	**326**	P	**P**	**16 04 28.1**	**+0.6**
MAKZ				IAmb	IAmb	16 04 54.3	
	comp=Z,2.1nm,1.2s						
KURBB	**Kurchatov Arra**	**68.92**	**328**	P	**P**	**16 04 53.9**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=130,slow=6.0,SNR=6.8						
	comp=Z,0.7nm,0.5s						
BVAR	**Borovoye Array**	**74.50**	**327**	P	**P**	**16 05 27.4**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=146,slow=2.9,SNR=4.6						
	comp=Z,1.2nm,0.9s						
VNDA	**Vanda**	**76.54**	**173**	P	**P**	**16 05 37.9**	**0.0**
VNDA				IAmb	IAmb	16 05 38.7	
	comp=Z,1.8nm,0.9s						
VNDA	**Vanda**	**76.54**	**173**	P	**P**	**16 05 38.3**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=327,slow=1.7,SNR=2.9						
	comp=Z,0.8nm,0.6s						
ABKAR	**Akbulak array**	**79.18**	**321**	P	**P**	**16 05 53.4**	**+0.3**

IDC 27 16:01:27.7±8.2, 25°.99S×28°.74E, h0km, mbtmp2.6/1, ML2.0/1, Error ellipse: s-maj=88.1km s-min=55.9km az=139.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**4.05**	**229**	Pn	Pn	16 02 30.6	-0.5
	0.1nm,0.3s,baz=38,slow=12,SNR=1.4						
BOSA				Pg	Pg	16 02 42.8	-2.6
	0.1nm,0.3s,baz=46,slow=17,SNR=1.5						
BOSA				Lg	Lg	16 03 35.8	
	0.4nm,0.3s,baz=156,slow=15,SNR=6.4						
	1.7nm,0.9s						
I47ZA	**BOSHOF INFRASO**	**4.07**	**229**	I	I	16 27 40.0	
	0.1nm,0.6s,baz=50,slow=314,SNR=1.2						
I35NA	**TSUMEB INFRASO**	**12.33**	**301**	I	I	17 18 37.5	
	baz=124,slow=311,SNR=7.5						

*IDC **27** 16:10:55.2±3.0, 22°.87N×11°.82W, h0km, mb3.8/5, mbtmp3.8/6, ML3.2/1, Error ellipse: s-maj=88.1km s-min=43.3km az=77.0*
ISC 27 16:11:01.4±3.0, 23°.2N±0°.3×11°.0W±0°.5, h10km, n8, σ0s37/8, mb3.8/5, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**15.64**	**128**	Pn	**Pn**	**16 14 42.0**	**0.0**
	0.1nm,0.3s,baz=306,slow=12,SNR=4.2						
TORD				Sn	**Sn**	**16 17 35.5**	**-0.1**
	0.1nm,0.3s,baz=311,slow=23,SNR=1.5						
	0.7nm,0.6s						
I48TN	**KESRA INFRASON**	**21.59**	**50**	I	I	18 28 30.0	
	baz=235,slow=314,SNR=1.6						
HFS	**Hagfors**	**40.72**	**19**	P	**P**	**16 18 41.4**	**-0.7**
	4.6nm,1.0s,baz=216,slow=12,SNR=5.7						
	4.6nm,1.0s						
FINES	**FINESS Array B**	**45.83**	**24**	P	**P**	**16 19 23.7**	**+0.4**
	0.8nm,0.6s,baz=216,slow=8.6,SNR=1.0						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**72.09**	**42**	P	**P**	**16 22 25.9**	**+0.1**
	0.5nm,0.5s,baz=279,slow=5.3,SNR=3.3						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**75.57**	**45**	P	**P**	**16 22 46.6**	**+0.2**
	0.3nm,0.5s,baz=285,slow=6.1,SNR=9.7						
	0.3nm,0.5s						
SONM	**Songino Array**	**89.71**	**37**	P	**P**	**16 24 00.3**	**+0.2**
	0.2nm,0.5s,baz=298,slow=3.1,SNR=1.5						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**147.61**	**91**	PKPbc	**PKPdf**	**16 30 44.0**	**-0.2**
	0.4nm,0.7s,baz=297,slow=2.6,SNR=2.8						

*IDC **27** 16:13:02.4±0.7, 17°.71S×65°.54E, h0km, mb4.0/16, mbtmp4.0/16, MS4.0/37, Error ellipse: s-maj=23.1km s-min=18.3km az=53.0*
*NEIC **27** 16:13:03.6±1.7, 18°.1S±0°.1×65°.2E±0°.1, h10km±1km, mb4.6/17, Error ellipse: s-maj=23.6km s-min=15.7km az=317.0*
*GCMT **27** 16:13:07.7±0.2, 17°.75S±0°.01×65°.35E±0°.01, h18km±1km, MW5.0/106, Moment Tensor Solution. s34,c42; s106,c159; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.36±.10; $M_{\theta\theta}$-2.61±.09; $M_{\phi\phi}$2.96±.10; $M_{r\theta}$-0.39±.20; $M_{\theta\phi}$1.67±.07; $M_{\phi r}$-1.52±.24; Best double couple: M_o3.53100×10^{16} NP1:φs149.00000°, δ77.00000°, λ165.00000°. NP2:φs242.00000°, δ76.00000°, λ14.00000°. Principal axes: T 3.9890, Plg20.0000°, Azm105.0000°; N -0.9250, Plg70.0000°, Azm287.0000°; P -3.0730, Plg1.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 16:13:04.5±0.6, 18°.0S±0°.1×65°.3E±0°.1, h17km, n74, σ1s38/38, mb4.2/19, MS4.0/40, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCAM	**Rodrigues Isla**	**2.55**	**225**	Pn	**Pn**	**16 13 44.2**	**-1.0**
RER	**Riviere de l'E**	**9.55**	**249**	Pn	**Pn**	**16 15 18.5**	**-2.9**
H08S1	**Diego Carcia H**	**12.41**	**35**	T	T	16 28 18.6	
	baz=213						
H08S2	**Diego Garcia H**	**12.42**	**35**	T	T	16 28 16.5	
	baz=213,slow=74						
H08S3	**Diego Garcia H**	**12.43**	**35**	T	T	16 28 16.5	
	baz=213,slow=74						
ABPO	**Ambohimpanom**	**17.18**	**264**	Pn	**Pn**	**16 17 02.5**	**-1.6**
OPO	**Ambohidratompo**	**17.21**	**265**	P	**Pn**	**16 17 05.0**	**+0.5**
	3.5nm,0.7s,baz=70,slow=9.6,SNR=3.8						
OPO				S	Sn	16 20 03.2	-13
	1.9nm,0.8s,baz=270,slow=16,SNR=1.6						
VOI	**Vohitsoka**	**17.83**	**254**		**Pn**	**16 17 11.2**	**-1.0**
VOI				IAmb	IAmb	16 17 17.1	
	comp=Z,57nm,1.5s						
PALK	**Pallekele**	**29.33**	**33**	LR	LR	16 26 50.2	
	comp=Z,107nm,21.3s,baz=313,slow=29						
H04N2	**CROZET ISLANDS**	**30.27**	**199**	T	T	16 51 10.9	
	baz=26,slow=75,SNR=891						
H04N1	**CROZET ISLANDS**	**30.27**	**199**	T	T	16 51 12.3	
	baz=26,slow=75,SNR=911						
H04N3	**CROZET ISLANDS**	**30.28**	**199**	T	T	16 51 08.1	
	baz=26,slow=75,SNR=841						
KMBO	**Kilima Mbogo**	**32.23**	**298**	P	**P**	**16 19 32.8**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=227,slow=3.8,SNR=3.8						
KMBO				LR	LR	16 30 32.2	
	comp=Z,225nm,18.1s,baz=95,slow=32						
	comp=Z,1.0nm,0.7s						
LSZ	**Lusaka**	**35.62**	**269**	LR	LR	16 32 42.1	
	comp=Z,175nm,20.8s,baz=105,slow=33						
ATD	**Arta Tunnel**	**36.75**	**321**	LR	LR	16 34 24.3	
	comp=Z,6.7nm,18.1s,baz=148,slow=35						
LBTB	**Lobatse**	**37.50**	**252**	LR	LR	16 33 00.6	
	comp=Z,199nm,21.1s,baz=88,slow=32						
BOSA	**Boshof**	**38.12**	**246**	LR	LR	16 33 05.2	
	comp=Z,178nm,21.0s,baz=86,slow=31						
WSAR	**Wadi Sarin**	**41.47**	**351**	LR	LR	16 34 25.3	
	comp=Z,110nm,20.0s,baz=190,slow=31						
SUR	**Sutherland**	**42.44**	**241**	LR	LR	16 35 50.9	
	comp=Z,219nm,18.3s,baz=76,slow=32						
LEM	**Lembang**	**42.69**	**80**	LR	LR	16 34 59.1	
	comp=Z,176nm,20.4s,baz=248,slow=31						
TSUM	**Tsumeb**	**45.13**	**261**	LR	LR	16 38 40.3	
	comp=Z,166nm,19.5s,baz=169,slow=34						
H01W2	**Cape Leeuwin H**	**46.40**	**121**	T	T	17 11 07.4	
	baz=278,slow=75,SNR=58						
H01W3	**Cape Leeuwin H**	**46.40**	**121**	T	T	17 11 12.3	
	baz=278,slow=75,SNR=40						
H01W1	**Cape Leeuwin H**	**46.42**	**121**	T	T	17 11 08.7	
	baz=278,slow=75,SNR=48						
NWAO	**Narrogin (SRO)**	**48.74**	**118**	LR	LR	16 39 04.7	
	comp=Z,113nm,18.0s,baz=240,slow=32						
CM31	**Chiang Mai Arr**	**49.03**	**44**	P	**P**	**16 21 52.2**	**+1.4**
CM31				IAmb	IAmb	16 21 55.1	
	comp=Z,11nm,1.1s						
CMAR	**Chiang Mai Arr**	**49.03**	**44**	P	**P**	**16 21 51.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**49.03**	**44**	P	**P**	**16 21 47.9**	**-3.0**
	comp=Z,1.7nm,0.9s,baz=235,slow=8.8,SNR=20						
CMAR				LR	LR	16 39 56.2	
	comp=Z,121nm,19.2s,baz=260,slow=33						
	comp=Z,1.7nm,0.9s						
MAW	**Mawson**	**49.64**	**181**	LR	LR	16 40 02.7	
	comp=Z,108nm,18.0s,baz=356,slow=32						
SHL	**Shillong**	**50.41**	**32**	P	**P**	**16 22 01.8**	**+0.3**
KBL	**Kabul**	**52.33**	**4**	P	**P**	**16 22 15.9**	**+0.1**
KBL				IAmb	IAmb	16 22 34.9	
	comp=Z,4.9nm,0.9s						
KAPI	**Kappang**	**54.70**	**83**	LR	LR	16 42 09.6	
	comp=Z,116nm,21.9s,baz=250,slow=32						
ARSB	**Arslanbob**	**59.41**	**7**	P	**P**	**16 23 07.2**	**+0.9**
AAK	**Ala-Archa**	**60.89**	**8**	LR	LR	16 46 56.5	
	comp=Z,82nm,20.0s,baz=204,slow=34						
GNI	**Garni**	**60.91**	**342**	LR	LR	16 50 07.9	
	comp=Z,57nm,18.4s,baz=228,slow=37						
ASAR	**Alice Springs**	**63.85**	**108**	P	**P**	**16 23 35.9**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=269,slow=5.7,SNR=20						
ASAR				LR	LR	16 47 04.8	
	comp=Z,457nm,22.0s,baz=264,slow=32						
	comp=Z,1.8nm,0.8s						
AS31	**Alice Springs**	**63.85**	**108**	P	**P**	**16 23 35.8**	**-0.9**
KBZ	**Khabaz**	**64.73**	**342**	LR	LR	16 50 48.3	
	comp=Z,98nm,19.0s,baz=172,slow=35						
WRA	**Warramunga Arr**	**64.90**	**104**	P	**P**	**16 23 42.7**	**-0.8**
WRA	**Warramunga Arr**	**64.90**	**104**	P	**P**	**16 23 43.0**	**-0.5**
	comp=Z,4.5nm,1.0s,baz=262,slow=5.7,SNR=23						
	comp=Z,4.5nm,1.0s						
WRAB	**Tennant Creek**	**64.91**	**104**	P	**P**	**16 23 42.5**	**-1.1**
WB0	**Warramunga Arr**	**64.98**	**104**	P	**P**	**16 23 43.8**	**-0.3**
WR0	**Warramunga Arr**	**65.08**	**104**	P	**P**	**16 23 43.8**	**-0.8**
MK31	**Makanchi Array**	**66.25**	**13**	P	**P**	**16 23 53.5**	**+1.9**
MK31				IAmb	IAmb	16 23 57.5	
	comp=Z,3.7nm,1.2s						
MKAR	**Makanchi Array**	**66.25**	**13**	P	**P**	**16 23 50.0**	**-1.7**
MKAR	**Makanchi Array**	**66.25**	**13**	P	**P**	**16 23 49.4**	**-2.2**
	comp=Z,1.4nm,1.1s,baz=200,slow=7.7,SNR=4.2						
MKAR				LR	LR	16 50 49.1	
	comp=Z,123nm,18.8s,baz=311,slow=34						
	comp=Z,1.4nm,1.1s						
ABKAR	**Akbulak array**	**67.09**	**356**	P	**P**	**16 23 57.2**	**+0.4**
KURBB	**Kurchatov Arra**	**69.27**	**9**	P	**P**	**16 24 09.6**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=208,slow=6.3,SNR=2.7						
KURBB				LR	LR	16 52 02.6	
	comp=Z,136nm,19.2s,baz=170,slow=34						
	comp=Z,0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**69.94**	**292**	P	**P**	**16 24 17.3**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=139,slow=4.8,SNR=3.3						
TORD				LR	LR	16 52 27.5	
	comp=Z,115nm,18.4s,baz=328,slow=34						
	comp=Z,0.2nm,0.3s						
BVAR	**Borovoye Array**	**70.83**	**3**	P	**P**	**16 24 18.3**	**-1.7**
	comp=Z,2.0nm,0.9s,baz=190,slow=4.2,SNR=8.4						
BVAR				LR	LR	16 53 02.2	
	comp=Z,77nm,20.6s,baz=178,slow=34						
	comp=Z,2.0nm,0.9s						
QSPA	**South Pole Qui**	**72.14**	**180**	P	**P**	**16 24 28.6**	**+0.5**
QSPA				IAmb	IAmb	16 24 51.5	
	comp=Z,8.2nm,1.1s						
QSPA	**South Pole Qui**	**72.14**	**180**	P	**P**	**16 24 29.6**	**+1.6**
	comp=Z,4.1nm,1.0s,baz=268,slow=1.4,SNR=6.9						
QSPA				LR	LR	16 51 33.1	
	comp=Z,54nm,21.4s,baz=253,slow=32						
	comp=Z,4.1nm,1.0s						
DBIC	**Dimbokro**	**73.41**	**283**	LR	LR	16 57 32.2	
	comp=Z,82nm,18.1s,baz=98,slow=36						
ZALV	**Zalesovo Beam**	**73.56**	**12**	P	**P**	**16 24 35.7**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=186,slow=4.3,SNR=1.4						
	comp=Z,0.9nm,0.3s						
VNDA	**Vanda**	**74.00**	**167**	P	**P**	**16 24 36.7**	**-2.1**
VNDA				IAmb	IAmb	16 24 49.6	
	comp=Z,6.7nm,1.4s						
VNDA	**Vanda**	**74.00**	**167**	P	**P**	**16 24 41.9**	**+3.1**
	comp=Z,0.7nm,1.0s,baz=281,slow=5.2,SNR=2.4						
VNDA				LR	LR	16 53 16.8	
	comp=Z,148nm,19.7s,baz=264,slow=32						
	comp=Z,0.7nm,1.0s						
SONM	**Songino Array**	**75.12**	**27**	P	**P**	**16 24 45.5**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=192,slow=5.6,SNR=7.5						
	comp=Z,1.7nm,0.9s						
AKASG	**Malin Array Be**	**75.37**	**337**	P	**P**	**16 24 46.6**	**-0.3**
AKASG				LR	LR	16 57 34.5	
	comp=Z,76nm,18.0s,baz=20,slow=36						
	comp=Z,0.1nm,0.3s						
CTA	**Charters Tower**	**75.80**	**107**	LR	LR	16 57 08.3	
	comp=Z,118nm,18.3s,baz=281,slow=35						
KIRV	**Kirov**	**77.39**	**352**	LR	LR	17 00 24.7	
	comp=Z,50nm,18.6s,baz=249,slow=37						
KSRS	**Korea Array**	**80.64**	**46**	P	**P**	**16 25 16.1**	**-0.5**
	comp=Z,2.8nm,0.9s,baz=243,slow=5.2,SNR=6.0						
KSRS				LR	LR	16 58 39.5	
	comp=Z,61nm,20.5s,baz=190,slow=34						
	comp=Z,2.8nm,0.9s						
MDT	**Midelt**	**83.68**	**307**	LR	LR	17 03 35.3	
	comp=Z,129nm,18.5s,baz=51,slow=36						
ESDC	**Sonseca Array**	**86.26**	**314**	P	**P**	**16 25 46.1**	**+0.6**
	comp=Z,1.5nm,1.1s,baz=94,slow=3.9,SNR=2.8						
ESDC				LR	LR	17 04 20.2	
	comp=Z,139nm,18.8s,baz=306,slow=36						
	comp=Z,1.5nm,1.1s						
MJAR	**Matsushiro Art**	**87.50**	**50**	P	**P**	**16 25 51.6**	**0.0**
	comp=Z,4.0nm,1.0s,baz=235,slow=3.9,SNR=4.2						
MJAR				LR	LR	17 04 44.5	
	comp=Z,38nm,20.2s,baz=212,slow=36						
	comp=Z,4.0nm,1.0s						
NRIK	**Noril'sk**	**88.51**	**8**	LR	LR	17 04 30.7	
	comp=Z,137nm,18.4s,baz=184,slow=35						
RPZ	**Rata Peaks**	**88.64**	**136**	LR	LR	16 57 24.4	
	comp=Z,100nm,19.6s,baz=255,slow=30						
PMSA	**Palmer Station**	**88.95**	**199**	LR	LR	17 00 18.4	
	comp=Z,64nm,19.6s,baz=51,slow=32						
HNR	**Honiara**	**91.50**	**100**	LR	LR	17 06 26.1	
	comp=Z,855nm,19.2s,baz=222,slow=35						
DZM	**Mont Dzumac**	**93.22**	**114**	LR	LR	17 05 01.2	
	comp=Z,167nm,20.6s,baz=237,slow=34						
YAK	**Yakutsk**	**94.38**	**25**	LR	LR	17 07 46.3	
	comp=Z,5.1nm,18.1s,baz=51,slow=35						
URZ	**Urewera**	**95.13**	**133**	LR	LR	17 03 09.1	
	comp=Z,89nm,18.1s,baz=89,slow=32						
TIXI	**Tiksi**	**99.01**	**17**	LR	LR	17 11 21.4	
	comp=Z,7.9nm,18.7s,baz=202,slow=36						
NVAR	**Mina Array Bea**	**159.37**	**8**	PKPab	**PKPab**	**16 33 40.1**	**0.0**
	comp=Z,1.2nm,0.8s,baz=338,slow=2.3,SNR=6.4						
TXAR	**Lajitas Array**	**164.84**	**320**	PKPab	**PKPab**	**16 34 04.8**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=45,slow=5.2,SNR=2.1						

*IDC

INKA Innaminka 25.41 210 P P 16 38 20.1 +0.1
LHI Lord Howe Isla 25.70 172 P P 16 38 23.2 +0.6
AS31 Alice Springs 26.69 227 P P 16 38 31.4 -0.3
ASAR Alice Springs 26.69 227 P P 16 38 30.9 -0.8
ASAR Alice Springs 26.69 227 P P 16 38 31.6 -0.1
comp=Z,4.1nm,0.7s,baz=56,slow=9.2,SNR=126
ASAR PcP PcP 16 41 51.5 -0.2
comp=Z,1.4nm,0.6s,baz=56,slow=3.2,SNR=4.8
ASAR S S 16 42 54.2 -2.0
comp=Z,1.5nm,1.0s,baz=50,slow=16,SNR=5.1
ASAR ScP ScP 16 45 16.6 -1.2
comp=Z,1.2nm,0.8s,baz=62,slow=2.9,SNR=7.2
comp=Z,4.1nm,0.7s
H11S3 WAKE ISLAND Hy 27.02 26 T T 17 07 31.9
baz=208,slow=76,SNR=10
H11S2 WAKE ISLAND Hy 27.02 26 T T 17 07 32.2
baz=208,slow=76,SNR=6.1
H11S1 WAKE ISLAND Hy 27.04 26 T T 17 07 32.6
baz=208,slow=76,SNR=5.8
NLAI Namlea 27.73 274 P P 16 38 41.1 0.0
comp=Z,19nm,0.9s
LBMI Labuha 27.75 280 P P 16 38 41.8 +0.6
comp=Z,104nm,1.0s,comp=Z,1µm
TNTI Ternate 28.19 283 P P 16 38 45.6 +0.4
comp=Z,39nm,0.7s,comp=Z,2µm
OOD Oodnadatta 28.26 218 P P 16 38 45.7 +0.1
STKA Stephens Creek 28.55 204 P P 16 38 48.1 0.0
STKA Stephens Creek 28.55 204 P P 16 38 47.9 -0.2
comp=Z,0nm,0.4s,baz=354,slow=9.5,SNR=7.2
comp=Z,2.0nm,0.4s
SANI Sanana 28.99 277 P P 16 38 52.1 -0.1
SANI Sanana 28.99 277 P P 16 38 51.8 -0.4
comp=Z,27nm,1.1s
FITZ Fitzroy Crossi 30.88 245 P P 16 39 08.3 -0.6
KMSI Cibinong 31.44 281 P P 16 39 13.8 -0.1
comp=Z,249nm,0.7s,comp=Z,2µm
BBOO Buckleboo 31.87 211 P P 16 39 17.0 -0.4
BBOO IAmb IAmb 16 39 17.5
comp=Z,7.1nm,0.8s
LUWI Luwuk 32.32 278 P P 16 39 21.6 +0.1
LUWI Luwuk 32.32 278 P P 16 39 22.6 +1.0
LUWI Luwuk 32.32 278 P P 16 39 22.0 +0.4
comp=Z,112nm,1.1s,comp=Z,1µm
EDFI Ende, Flores 32.93 263 P P 16 39 26.1 -0.9
comp=Z,19nm,0.9s
MRSI Marisa 33.42 280 P P 16 39 30.4 -0.7
comp=Z,35nm,1.0s
TOLI2 Tolitoli 34.68 281 P P 16 39 40.7 -1.3
TOLI2 Tolitoli 34.68 281 P P 16 39 41.2 -0.8
KAPI Kappang 34.89 270 P P 16 39 43.1 -0.6
comp=Z,8.5nm,0.4s,baz=106,slow=14,SNR=1.9
comp=Z,8.5nm,0.4s
FORT Forrest 35.17 222 P P 16 39 45.8 -0.3
FORT IAmb IAmb 16 40 28.0
comp=Z,20nm,1.0s
MPSI Mapaga 35.40 279 P P 16 39 46.8 -1.3
comp=Z,92nm,0.8s,comp=Z,942nm
PLAI Plampang 36.80 263 P P 16 39 58.4 -1.7
comp=Z,39nm,1.1s
MBWA Marble Bar 37.14 243 P P 16 40 01.6 -1.2
PSA00 Pilbara Seismi 37.17 242 P P 16 40 02.8 -0.4
TAU Tasmania Unive 37.35 189 P P 16 40 05.8 +1.5
RTZ Ruatahuna 38.19 151 P P 16 40 12.1 +0.6
LTZ Lake Taylor 39.76 160 P P 16 40 24.8 +0.3
LTZ IAmb IAmb 16 40 55.0
comp=Z,38nm,1.4s
MORW Morawa 43.18 233 P P 16 40 52.1 -0.4
MORW IAmb IAmb 16 40 58.9
comp=Z,26nm,1.3s
SBUM Sibu 43.33 280 P P 16 40 53.5 -0.4
YULB Yu-li 43.86 313 P P 16 40 56.8 -1.2
YULB IAmb IAmb 16 41 03.2
comp=Z,34nm,1.2s
TPUB Ta-pu 44.29 312 P P 16 41 00.1 -1.4
SSLB Suanglung 44.34 313 P P 16 41 01.1 -0.8
KSM Kuching 45.03 278 P P 16 41 06.8 -0.7
KSM IAmb IAmb 16 41 08.1
comp=Z,18nm,0.7s
KSM Kuching 45.03 278 P P 16 41 07.3 -0.2
JNU Nakatsue 45.05 331 P P 16 41 05.7 -1.6
JNU Nakatsue 45.05 331 LR LR 16 58 14.2
comp=Z,77nm,18.1s,baz=206,slow=34
MJAR Matsushiro Arr 45.08 341 P P 16 41 06.0 -1.5
comp=Z,3.0nm,0.8s,baz=171,slow=8.3,SNR=6.9
comp=Z,3.0nm,0.8s
KPJI Karang Pucung 45.55 266 P P 16 41 10.6 -1.0
comp=Z,27nm,1.0s
CMJI Cimerak 46.02 265 P P 16 41 14.5 -0.8
comp=Z,70nm,0.9s
BBJI Bungbulang 46.82 265 P P 16 41 20.4 -1.2
LEM Lembang 46.87 266 P P 16 41 22.0 -0.1
comp=Z,54nm,0.8s
CNJI Cibinong 47.34 266 P P 16 41 24.3 -1.2
comp=Z,75nm,0.9s,comp=Z,600nm
TNG Tangerang 47.86 267 P P 16 41 44.2 +15
CGJI Cibinong 48.79 266 P P 16 41 34.6 -2.0
comp=Z,77nm,0.8s
TJN Taejon 49.37 331 P P 16 41 40.4 -0.3
TJN Taejon 49.37 331 P P 16 41 40.5 -0.2
KSRS Korea Array 49.97 332 P P 16 41 43.7 -1.5
comp=Z,7.9nm,1.0s,baz=147,slow=8.3,SNR=17
comp=Z,7.9nm,1.0s
KSAR Wonju Array Be 49.98 332 P P 16 41 44.4 -0.8
INCN Inchon 50.61 331 P P 16 41 49.1 -0.9
INCN Inchon 50.61 331 P P 16 41 50.0 0.0
NJ2 Nanjing 51.02 320 eP P 16 41 53.3 +0.1
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,230nm,3.5s
USA0B Ussuriysk Arra 54.03 340 P P 16 42 14.9 -0.2
USA0B IAmb IAmb 16 42 50.0
comp=Z,20nm,1.4s
USRK Ussuriysk Ar. 54.03 340 P P 16 42 14.7 -0.4
comp=Z,7.9nm,0.8s,baz=164,slow=8.3,SNR=13
comp=Z,7.9nm,0.8s
KULM Kulim 55.20 281 P P 16 42 23.1 -1.0
KULM IAmb IAmb 16 42 23.8
comp=Z,6.2nm,0.7s
MDJ Mudanjiang 55.25 338 P P 16 42 26.0 +2.1
MDJ pP pwP 16 43 01.5 +1.3
MDJ PcP PcP 16 43 23.5 +0.6
MDJ PP PP 16 44 31.0 +1.9
MDJ PcS PcS 16 47 24.5 +1.6
MDJ S S 16 49 59.0 +3.2
MDJ sS sS 16 51 08.0 +12
MDJ Mudanjiang 55.25 338 SS SS 16 53 47.8 +5.2
MDJ pmax pmax
comp=Z,9.0nm,1.6s
MDJ pmax pmax
comp=Z,460nm,4.3s
MDJ LR LR
comp=N,440nm,5.3s
MDJ LR LR
comp=E,820nm,4.5s
MDJ LR LR
comp=Z,510nm,5.5s
NONG Nongkai 56.28 296 P P 16 42 32.0 +0.3
ENH Enshi 56.42 312 P P 16 42 32.9 +0.4
ENH IAmb IAmb 16 42 33.9
comp=Z,8.7nm,0.7s
BNX BinXian 57.02 337 ⇓P P 16 42 36.5 +0.1
BNX pmax pmax
comp=Z,17nm,0.8s
BNX pmax pmax
comp=Z,200nm,4.9s
HNS HongShan 57.10 322 ⇓P P 16 42 37.8 +0.7
HNS pmax pmax
comp=Z,12nm,1.3s
PEA0B Petropavlovsk- 58.94 2 P P 16 42 49.7 +0.1
PETK Petropavlovsk- 58.94 2 P P 16 42 49.5 -0.1
comp=Z,37nm,0.8s,baz=180,slow=6.3,SNR=27
comp=Z,37nm,0.8s
CRAI Chiangrai 59.48 298 P P 16 42 54.0 -0.1
CMAR Chiang Mai Arr 60.18 295 P P 16 42 58.7 -0.1
CMAR Chiang Mai Arr 60.18 295 P P 16 42 59.1 +0.3
comp=Z,5.2nm,0.8s,baz=116,slow=5.2,SNR=40
comp=Z,5.2nm,0.8s
CM31 Chiang Mai Arr 60.18 295 P P 16 42 58.1 -0.7
CHTO Chiang Mai 60.29 296 P P 16 42 58.9 -0.7
CHTO IAmb IAmb 16 43 00.7
comp=Z,13nm,1.4s
CHTO Chiang Mai 60.29 296 P P 16 43 00.1 +0.5
PZH PanZhiHua 60.68 305 P P 16 43 04.5 +2.3
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,150nm,4.8s
XLT XiLinHaoTe 60.71 329 eP P 16 43 01.0 -1.0
XLT pmax pmax
comp=Z,36nm,0.7s
XLT pmax pmax
comp=Z,120nm,4.8s
HEH HeiHe 60.84 340 eP P 16 43 01.8 -0.8
HEH pmax pmax
comp=Z,9.0nm,0.8s
HEH pmax pmax
comp=Z,440nm,6.2s
CD2 Chengdu 61.02 310 P P 16 43 04.3 -0.1
HHC Hu-ho-hao-te 61.18 324 eP P 16 43 07.8 +2.5
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,410nm,4.8s
ADK Adak 62.60 19 P P 16 43 14.6 +0.2
HIA Hailar 62.94 335 P P 16 43 18.0 +1.2
HIA IAmb IAmb 16 43 18.1
comp=Z,11nm,0.8s
LZH Lanzhou 63.47 315 eP P 16 43 22.5 +1.8
LZH pP pP 16 43 47.3 -8.5
LZH sP PcP 16 44 02.8 +6.6
LZH pmax pmax
comp=Z,13nm,1.2s
MA2 Magadan 65.45 358 P P 16 43 32.8 0.0
MA2 Magadan 65.45 358 P P 16 43 33.2 +0.3
GTA Gaotai 67.88 317 eP P 16 43 48.8 -0.1
GTA pP PcP 16 44 15.0 +0.7
GTA pmax pmax
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 68.06 328 P P 16 43 49.6 -0.3
SONM Songino Array 68.39 327 P P 16 43 51.6 -0.3
SONM Songino Array 68.39 327 P P 16 43 52.0 +0.1
comp=Z,4.6nm,0.8s,baz=133,slow=6.3,SNR=21
comp=Z,4.6nm,0.8s
SHL Shillong 68.62 300 P P 16 43 52.0 -1.8
SHL IAmb IAmb 16 43 55.4
comp=Z,16nm,0.8s
YAK Yakutsk 70.55 348 P P 16 44 04.2 -0.4
VNDA Vanda 71.57 178 P P 16 44 09.8 -0.8
VNDA Vanda 71.57 178 P P 16 44 10.1 -0.6
comp=Z,1.0nm,0.9s,baz=65,slow=6.2,SNR=2.2
comp=Z,1.0nm,0.9s
TAPN Taplejung 72.72 301 eP P 16 44 17.8 -1.0
M11K Mekoryuk 72.92 19 P P 16 44 19.6 +0.8
baz=221
RAMN Ramite 73.56 300 eP P 16 44 23.8 +0.1
O14K Tigyukauivet M 73.81 22 P P 16 44 25.6 +1.5
baz=226
CHIR Chirikof Islan 73.85 27 P P 16 44 25.5 +1.1
baz=232
M13K Dall Lake 73.89 20 P P 16 44 26.2 +1.7
baz=224
GAMB Gambell 74.01 15 P P 16 44 26.4 +1.2
baz=215
JIRN Jiri 74.10 301 eP P 16 44 27.0 0.0
N14K Kuskokwak Cree 74.13 21 P P 16 44 26.8 +0.9
baz=225
O15K Ungalikthiuk R 74.30 22 P P 16 44 28.1 +1.1
baz=227
BILL Bilibino 74.31 4 P P 16 44 26.8 0.0
GUN Gumba 74.43 301 eP P 16 44 28.2 -0.7
comp=Z,36nm,0.7s
M14K Bethel 74.61 20 P P 16 44 29.2 +0.5
M14K Bethel 74.61 20 P P 16 44 30.0 +1.3
baz=225
R17K Ugashik Creek 74.66 25 P P 16 44 29.8 +0.7
baz=231
PKI Pulchoki 74.75 301 eP P 16 44 30.2 -0.4
comp=Z,14nm,0.8s
L14K Kuka Creek 74.79 20 P P 16 44 30.9 +1.2
baz=224
N15K Kwethluk River 74.87 22 P P 16 44 31.3 +1.0
baz=227
KKN Kakani 74.91 301 eP P 16 44 31.6 +0.1
comp=Z,32nm,0.8s
DMN Daman 75.01 301 eP P 16 44 32.6 +0.5
comp=Z,49nm,0.7s
M15K Kasigluk River 75.02 21 P P 16 44 32.4 +1.3
baz=223
Q17K Contact Creek 75.26 24 P P 16 44 32.6 0.0
baz=231,SNR=6.1
L15K Ungalak Mounta 75.43 20 P P 16 44 33.9 +0.5
baz=225
GKN Gorkha 75.52 301 eP P 16 44 34.9 0.0
comp=Z,33nm,0.8s
J14K Nanvaranak Lak 75.53 18 P P 16 44 35.6 +1.7
baz=223
N16K Nilik Lake 75.57 22 P P 16 44 35.8 +1.6
baz=228,SNR=7.3
P17K Kvichak River 75.62 24 P P 16 44 35.9 +1.4
baz=230
OHAK Old Harbor 75.73 26 P P 16 44 36.1 +1.0
baz=234
O17K Koliganek Bris 75.74 23 P P 16 44 35.5 +0.3
baz=230
K15K Wolf Creek Mou 75.85 19 P P 16 44 37.2 +1.4
baz=225
Q18K Katmai Hardscr 75.86 24 P P 16 44 36.0 0.0
baz=232,SNR=6.7
M16K Timber Creek 75.86 21 P P 16 44 37.3 +1.4
baz=228
L16K Owhat River 76.15 21 P P 16 44 37.3 -0.2
L16K IAmb IAmb 16 44 39.0
comp=Z,16nm,0.9s
L16K Owhat River 76.15 21 P P 16 44 38.3 +0.8
baz=227,SNR=9.0
N17K Nushagak Hills 76.19 22 P P 16 44 37.2 -0.5
N17K IAmb IAmb 16 44 39.9
comp=Z,19nm,1.2s
N17K Nushagak Hills 76.19 22 P P 16 44 39.2 +1.5
baz=230
ANM Nome 76.34 17 IAmb IAmb 16 44 40.9
comp=Z,19nm,0.9s
ANM Nome 76.34 17 P P 16 44 39.7 +1.2
baz=221,SNR=7.2
KOLN Koldanda 76.35 300 eP P 16 44 39.6 0.0
comp=Z,33nm,0.8s
DANN Dangsing 76.35 301 eP P 16 44 38.9 -0.9
comp=Z,22nm,0.7s
KDAK Kodiak Island 76.37 26 P P 16 44 39.6 +0.8
baz=234
TNA Tin City 76.42 15 P P 16 44 39.7 +0.8
baz=218
O18K Koktuh Hills 76.53 23 P P 16 44 39.8 +0.1
baz=232
Q19K Cape Douglas, 76.59 25 P P 16 44 40.5 +0.4
baz=233
M17K Holitna River 76.67 21 IAmb IAmb 16 44 43.3
comp=Z,23nm,1.1s
M17K Holitna River 76.67 21 P P 16 44 41.9 +1.5
baz=229
F14K Arctic Creek 76.77 16 P P 16 44 42.2 +1.2
baz=220
N18K Kilae Creek 76.78 23 IAmb IAmb 16 44 43.6
comp=Z,22nm,0.9s
N18K Kilae Creek 76.78 23 P P 16 44 42.3 +1.2
baz=231
L17K Donlin 76.85 21 P P 16 44 42.8 +1.4
baz=228
J16K Anvik River 76.86 19 P P 16 44 42.2 +0.8
J16K IAmb IAmb 16 44 43.8
comp=Z,18nm,0.8s
J16K Anvik River 76.86 19 P P 16 44 43.0 +1.6
baz=226,SNR=10.0
PYUN Piuthan 76.95 301 eP P 16 44 42.9 -0.1
comp=Z,25nm,0.8s
G15K Niukluk 77.04 17 P P 16 44 43.9 +1.4
baz=222
O19K Port Alsworth 77.09 23 P P 16 44 43.2 +0.4
baz=232
SVW2 Sparrevohn 77.16 22 IAmb IAmb 16 44 45.2
comp=Z,15nm,1.0s
SVW2 Sparrevohn 77.16 22 P P 16 44 43.6 +0.4
P19K Oil Pt 77.20 24 P P 16 44 43.9 +0.4
baz=233
K17K Iditarod 77.23 20 IAmb IAmb 16 44 45.6
comp=Z,18nm,1.0s
K17K Iditarod 77.23 20 P P 16 44 44.6 +1.0
baz=228
I17K Unalakleet 77.25 19 IAmb IAmb 16 44 46.0
comp=Z,21nm,1.0s
I17K Unalakleet 77.25 19 P P 16 44 45.3 +1.8
baz=226,SNR=8.8
H16K Elim 77.31 18 P P 16 44 44.7 +0.8
baz=224
M18K Stony River 77.32 22 P P 16 44 45.3 +1.2
baz=231
N19K Bonanza Creek 77.40 23 P P 16 44 45.4 +0.7
baz=232
F15K North Star Dit 77.41 16 P P 16 44 46.1 +1.6
baz=222,SNR=8.0
L18K Granite Mounta 77.47 21 IAmb IAmb 16 44 47.1
comp=Z,22nm,0.9s
L18K Granite Mounta 77.47 21 P P 16 44 46.3 +1.5
baz=230
O20K Slope Mountain 77.70 24 P P 16 44 47.0 +0.7
baz=234
G16K Koyuk River 77.82 17 P P 16 44 47.7 +1.0
baz=224
HOM Homer 77.85 25 P P 16 44 48.3 +1.3
baz=235
L19K White Mountain 78.11 22 IAmb IAmb 16 44 50.8
comp=Z,18nm,0.8s
L19K White Mountain 78.11 22 P P 16 44 49.6 +1.2
baz=231
TTA Tatalina 78.17 21 P P 16 44 48.7 -0.1
TTA IAmb IAmb 16 44 50.4
comp=Z,10.0nm,0.9s
TTA Tatalina 78.17 21 P P 16 44 49.5 +0.6
TTA Tatalina 78.17 21 P P 16 44 49.7 +0.8
baz=230,SNR=9.9
H17K Granite Mounta 78.23 18 IAmb IAmb 16 44 50.9
comp=Z,12nm,0.8s
H17K Granite Mounta 78.23 18 P P 16 44 50.1 +1.1
baz=226,SNR=7.6
J18K Innoko River 78.27 20 IAmb IAmb 16 44 50.8
comp=Z,14nm,1.0s
J18K Innoko River 78.27 20 P P 16 44 49.8 +0.5
baz=230
G17K Kiwalik Mounta 78.40 17 P P 16 44 50.9 +0.9
baz=225
M20K Styx River 78.57 22 P P 16 44 51.9 +0.8
M20K IAmb IAmb 16 44 52.6
comp=Z,18nm,1.1s
M20K Styx River 78.57 22 P P 16 44 51.7 +0.6
baz=233
L20K Farewell, AK 78.66 22 P P 16 44 52.4 +1.0
baz=232
H18K Honhosa River 78.85 18 P P 16 44 53.4 +0.9
baz=228
F17K Baldwin Pennin 78.89 17 P P 16 44 53.0 +0.4
baz=225
J19K Poorman 78.99 20 P P 16 44 54.0 +0.8
baz=230
SEW Seward 79.02 25 P P 16 44 53.8 +0.4
baz=237
GCSA Galena City Sc 79.06 19 P P 16 44 54.5 +1.0
baz=229,SNR=8.1
O22K Cooper Landing 79.11 25 P P 16 44 54.2 +0.3
baz=236
K20K Telida 79.13 21 IAmb IAmb 16 44 55.8
comp=Z,13nm,1.0s
K20K Telida 79.13 21 P P 16 44 55.2 +1.2
baz=232
C16K Lisburne Hills 79.17 14 P P 16 44 55.3 +1.2
baz=220
E17K Hotham Inlet 79.19 16 P P 16 44 55.0 +0.7
baz=224,SNR=18
SKT Skwentna 79.24 23 P P 16 44 54.7 +0.1
baz=235
SUA Susitna One 79.25 23 IAmb IAmb 16 44 55.1
comp=Z,15nm,1.1s
SUA Susitna One 79.25 23 P P 16 44 54.5 -0.4
baz=235
G18K Tagagawik 79.27 18 P P 16 44 55.1 +0.4
baz=227
FIS Fire Island 79.28 24 P P 16 44 54.1 -0.7
TIXI Tiksi 79.35 352 P P 16 44 54.3 -0.7
RC01 Rabbit Creek A 79.44 24 IAmb IAmb 16 44 56.7
comp=Z,22nm,1.1s
RC01 Rabbit Creek A 79.44 24 P P 16 44 56.0 +0.2
baz=236,SNR=5.7
J20K Nowinta River 79.61 20 IAmb IAmb 16 44 58.4
comp=Z,14nm,0.9s
J20K Nowinta River 79.61 20 P P 16 44 57.4 +0.8
baz=232,SNR=14
RDOG Red Dog Mine 79.61 15 IAmb IAmb 16 44 58.4
comp=Z,9nm,0.8s
RDOG Red Dog Mine 79.61 15 P P 16 44 57.6 +1.1
baz=223,SNR=7.2
M22K Willow 79.66 23 IAmb IAmb 16 44 57.8
comp=Z,30nm,1.2s
M22K Willow 79.66 23 P P 16 44 57.1 +0.3
baz=236
H19K Roundabout Mou 79.70 19 IAmb IAmb 16 44 58.7
comp=Z,20nm,0.9s
H19K Roundabout Mou 79.70 19 P P 16 44 57.6 +0.5
baz=229,SNR=14
E18K Tukpahlearik C 79.77 16 P P 16 44 58.0 +0.7
baz=225
C17K DeLong Mountai 79.86 15 P P 16 44 58.5 +0.7
baz=222
CAST Castle Rocks 79.88 21 IAmb IAmb 16 44 58.6
comp=Z,11nm,1.0s
CAST Castle Rocks 79.88 21 P P 16 44 57.9 -0.2
baz=234,SNR=8.3
I20K Naaghedeneel 79.88 20 P P 16 44 58.9 +0.9
baz=231
G19K Purcell Mounta 79.91 18 IAmb IAmb 16 44 59.9
comp=Z,21nm,1.1s
G19K Purcell Mounta 79.91 18 P P 16 44 58.7 +0.5
baz=229,SNR=12
PMR Palmer 79.97 24 P P 16 44 57.2 -1.3
PMR IAmb IAmb 16 44 59.3
comp=Z,17nm,1.1s
PMR Palmer 79.97 24 P P 16 44 58.7 +0.2
PMR Palmer 79.97 24 P P 16 44 58.7 +0.2
baz=237
Q23K Middleton Isla 80.00 26 P P 16 44 59.6 +0.9
baz=240
CHUM Lake Minchumin 80.07 21 P P 16 44 59.5 +0.5
baz=234,SNR=11
KNK Knik Glacier 80.14 24 P P 16 44 59.3 -0.2
KNK IAmb IAmb 16 45 00.8
comp=Z,23nm,1.2s
KNK Knik Glacier 80.14 24 P P 16 44 59.9 +0.3
baz=238
GHO Glory Hole Cre 80.15 24 IAmb IAmb 16 45 00.6
comp=Z,13nm,1.0s
F19K Shaleruckik Mo 80.17 17 P P 16 45 00.4 +0.9
baz=228
H20K Anotleneega Mo 80.19 19 P P 16 45 00.7 +1.1
baz=231
SML Sawmill 80.40 24 P P 16 45 01.6 +0.6
baz=238,SNR=9.1
GLI Glacier Island 80.42 25 P P 16 45 01.1 +0.1
baz=239
C18K Utukok River 80.48 15 P P 16 45 01.9 +0.6
baz=224
TRF Thorofare Moun 80.56 22 P P 16 45 01.9 0.0
baz=236
M23K Glacier View 80.64 24 P P 16 45 02.7 +0.5
baz=238
BPAW Bear Paw Mtn. 80.67 21 P P 16 45 01.1 -1.2
BPAW Bear Paw Mtn. 80.67 21 P P 16 45 02.3 0.0
baz=235
E19K Redstone River 80.74 17 IAmb IAmb 16 45 04.4
comp=Z,16nm,0.8s
E19K Redstone River 80.74 17 P P 16 45 03.2 +0.6
baz=228
SCM Sheep Creek Mo 80.82 24 P P 16 45 03.6 +0.4
baz=238
B18K Kokolik River 80.85 14 P P 16 45 04.0 +0.9
baz=224
WAT1 Susitna Watana 80.87 23 P P 16 45 03.1 -0.3
baz=237
F20K Avaraart Lake 80.92 18 P P 16 45 04.1 +0.6
baz=230
I21K Tanana 80.96 20 IAmb IAmb 16 45 05.9
comp=Z,12nm,1.0s
I21K Tanana 80.96 20 P P 16 45 04.6 +0.8
baz=234
H21K Melozitna Rive 80.97 19 P P 16 45 04.6 +0.8
baz=233
WAT6 Susitna Watana 81.05 23 P P 16 45 04.5 0.0
baz=238,SNR=5.5
RND Reindeer 81.07 22 IAmb IAmb 16 45 04.9
comp=Z,13nm,1.0s
D19K Kuna River 81.19 16 IAmb IAmb 16 45 06.3
comp=Z,8.4nm,0.7s
D19K Kuna River 81.19 16 P P 16 45 05.8 +0.8

	baz=227						
MCK	**McKinley**	81.22	22	P	**P**	16 45 05.1	-0.1
	baz=237,SNR=11						
C19K	**Lookout Ridge**	81.22	15	IAmb	IAmb	16 45 06.9	
	comp=Z,16nm,1.0s						
C19K	**Lookout Ridge**	81.22	15	P	**P**	**16 45 06.3**	**+1.1**
	baz=226						
KLU	**Klutina**	81.22	25	IAmb	IAmb	16 45 07.5	
	comp=Z,23nm,1.2s						
KLU	**Klutina**	81.22	25	P	**P**	**16 45 05.9**	**+0.6**
	baz=240,SNR=6.8						
BWN	**Browne**	81.26	21	IAmb	IAmb	16 45 06.7	
	comp=Z,31nm,1.3s						
G21K	**Allakaket**	81.27	19	P	**P**	**16 45 05.0**	**-0.4**
G21K	**Allakaket**	81.27	19	P	**P**	**16 45 05.9**	**+0.5**
	baz=232						
MLY	**Manley**	81.30	20	P	**P**	**16 45 05.8**	**+0.2**
	baz=235,SNR=7.4						
M24K	**Tolsona, Glenn**	81.43	24	P	**P**	**16 45 07.0**	**+0.6**
	baz=240						
DHY	**Denali Highway**	81.45	23	P	**P**	**16 45 07.0**	**+0.4**
	baz=238						
E20K	**Nigu River**	81.57	17	P	**P**	**16 45 07.6**	**+0.6**
	baz=229						
H22K	**Ishtalitna Cre**	81.58	20	P	**P**	**16 45 08.1**	**+1.0**
	baz=234						
A19K	**Wainwright**	81.63	14	P	**P**	**16 45 08.4**	**+1.2**
	baz=224						
NEA2	**Nenana**	81.64	21	P	**P**	**16 45 07.3**	**-0.1**
	baz=237,SNR=5.8						
F21K	**Alatna River**	81.71	18	P	**P**	**16 45 08.2**	**+0.5**
	baz=232						
D20K	**Etivluk River**	81.75	16	P	**P**	**16 45 08.6**	**+0.7**
	baz=229						
N25K	**Chitina, Valde**	81.83	25	IAmb	IAmb	16 45 10.1	
	comp=Z,21nm,1.4s						
N25K	**Chitina, Valde**	81.83	25	P	**P**	**16 45 09.1**	**+0.6**
	baz=241						
I23K	**Minto, Yukon-K**	81.85	21	P	**P**	**16 45 08.9**	**+0.5**
	baz=236						
HARP	**HAARP**	81.99	24	P	**P**	**16 45 09.9**	**+0.6**
	baz=240						
CRQE	**Cirque**	82.07	26	P	**P**	**16 45 10.4**	**+0.5**
	baz=242						
GLB	**Gilahina Butte**	82.08	25	IAmb	IAmb	16 45 11.8	
	comp=Z,12nm,1.0s						
MDM	**Murphy Dome**	82.14	21	IAmb	IAmb	16 45 10.8	
	comp=Z,17nm,1.5s						
G22K	**Bettles**	82.14	19	P	**P**	**16 45 10.8**	**+0.8**
	baz=234						
PAX	**Paxson**	82.15	23	P	**P**	**16 45 10.4**	**+0.3**
	baz=240						
COLA	**College**	82.23	21	P	**P**	**16 45 10.0**	**-0.4**
COLA	**College**	82.23	21	P	**P**	**16 45 11.1**	**+0.7**
	baz=238						
F22K	**John River**	82.28	18	P	**P**	**16 45 11.6**	**+0.9**
	baz=233						
HDA	**Harding Lake**	82.32	22	P	**P**	**16 45 11.1**	**+0.1**
	baz=239						
HDA				P	**P**	**16 45 11.1**	**+0.1**
	baz=239						
E21K	**Killik River**	82.32	17	P	**P**	**16 45 11.5**	**+0.6**
	baz=231						
MCARA	**McCarthy VSAT**	82.39	25	P	**P**	**16 45 12.1**	**+0.7**
	baz=242						
K24K	**Donnelly Dome**	82.45	23	P	**P**	**16 45 11.8**	**+0.1**
	baz=240						
B20K	**Meade River**	82.46	15	P	**P**	**16 45 12.3**	**+0.8**
	baz=228						
G23K	**Bananza Creek**	82.50	19	P	**P**	**16 45 12.6**	**+0.7**
	baz=235,SNR=7.2						
POKR	**Poker Plat Res**	82.51	21	P	**P**	**16 45 12.1**	**+0.2**
	baz=238						
MKAR	**Makanchi Array**	82.53	319	P	**P**	**16 45 11.6**	**-0.9**
MKAR	**Makanchi Array**	82.53	319	P	**P**	**16 45 11.8**	**-0.7**
	comp=Z,9.3nm,0.7s,baz=102,slow=6.1,SNR=75						
	comp=Z,9.3nm,0.7s						
ILAR	**Eielson Array**	82.53	22	P	**P**	**16 45 10.2**	**-1.8**
ILAR	**Eielson Array**	82.53	22	P	**P**	**16 45 10.8**	**-1.2**
	comp=Z,6.0nm,1.1s,baz=254,slow=5.2,SNR=28						
ILAR				pP	**pP**	**16 45 45.5**	**-3.7**
	comp=Z,2.0nm,1.0s,baz=254,slow=5.3,SNR=3.0						
	comp=Z,6.0nm,1.1s						
C21K	**Knifeblade Rid**	82.54	16	P	**P**	**16 45 12.9**	**+0.9**
	baz=231						
MAKZ	**Makanchi**	82.74	319	P	**P**	**16 45 13.0**	**-0.5**
MAKZ				IAmb	IAmb	16 45 14.8	
	comp=Z,12nm,0.8s						
COLD	**Coldfoot**	82.74	19	P	**P**	**16 45 13.8**	**+0.7**
	baz=235						
H24K	**Noodor Dome**	82.74	20	P	**P**	**16 45 13.6**	**+0.5**
	baz=238						
E22K	**Anaktuvuk Pass**	82.77	18	P	**P**	**16 45 13.8**	**+0.6**
	baz=234,SNR=6.2						
M26K	**Nabesna, AK**	82.88	25	P	**P**	**16 45 14.3**	**+0.4**
	baz=242						
B21K	**Ikpikpuk River**	82.88	16	P	**P**	**16 45 14.1**	**+0.4**
	baz=231						
CTG	**Chitna Glacier**	82.93	26	P	**P**	**16 45 14.8**	**+0.4**
	baz=244						
D22K	**Ayikyak River**	82.96	17	IAmb	IAmb	16 45 16.2	
	comp=Z,11nm,0.8s						
D22K	**Ayikyak River**	82.96	17	P	**P**	**16 45 14.8**	**+0.6**
	baz=233						
J25K	**Salcha River,**	83.01	22	IAmb	IAmb	16 45 15.3	
	comp=Z,15nm,1.1s						
J25K	**Salcha River,**	83.01	22	P	**P**	**16 45 14.8**	**+0.2**
	baz=240						
L26K	**Log Cabin Wild**	83.02	24	P	**P**	**16 45 14.8**	**+0.2**
	baz=242						
SCRK	**Sand Creek**	83.22	23	P	**P**	**16 45 15.6**	**-0.2**
	baz=241						
ZAA0	**Zalesovo Array**	83.25	326	IAmb	IAmb	16 45 16.7	
	comp=Z,7.1nm,0.8s						
ZALV	**Zalesovo Beam**	83.25	326	P	**P**	**16 45 13.8**	**-2.1**
ZALV	**Zalesovo Beam**	83.25	326	P	**P**	**16 45 14.4**	**-1.5**
	comp=Z,5.8nm,0.7s,baz=106,slow=5.4,SNR=11						
	comp=Z,5.8nm,0.7s						
PNL	**Peninsula**	83.26	28	P	**P**	**16 45 16.4**	**+0.5**
	baz=246						
M27K	**Edge Creek, AK**	83.32	25	IAmb	IAmb	16 45 18.2	
	comp=Z,22nm,1.2s						
M27K	**Edge Creek, AK**	83.32	25	P	**P**	**16 45 16.6**	**+0.3**
	baz=243						
G24K	**Hadweenzic Riv**	83.34	20	P	**P**	**16 45 16.6**	**+0.5**
	baz=238						
E23K	**Chandalar**	83.40	18	P	**P**	**16 45 17.2**	**+0.7**
	baz=236						
PRP	**Porcupine Dome**	83.41	21	P	**P**	**16 45 17.7**	**+1.0**
	baz=240						
A21K	**Barrow**	83.47	14	P	**P**	**16 45 17.1**	**+0.4**
	baz=229						
D23K	**Nanushuk River**	83.60	17	P	**P**	**16 45 18.5**	**+1.1**
	baz=235						
J26L	**Joseph Creek**	83.64	23	P	**P**	**16 45 18.6**	**+0.8**
	baz=242						
F24K	**Squaw Lake**	83.65	19	P	**P**	**16 45 18.8**	**+1.0**
	baz=237						
B22K	**Teshekpuk Lake**	83.66	16	P	**P**	**16 45 18.6**	**+1.0**
	baz=232						
L27K	**Beaver Creek,**	83.66	24	P	**P**	**16 45 19.1**	**+1.2**
	baz=243						
YUK3	**Moose Creek**	83.67	26	P	**P**	**16 45 18.4**	**+0.2**
	baz=245						
A22K	**Sinclair Lake**	83.67	15	P	**P**	**16 45 18.7**	**+1.0**
	baz=230						
BCAR	**Beaver Creek A**	83.67	24	P	**P**	**16 45 17.6**	**-0.4**
TOLK	**Toolik Lake Re**	83.74	18	P	**P**	**16 45 19.1**	**+0.8**
	baz=236,SNR=5.8						
E24K	**Your Creek**	83.76	18	P	**P**	**16 45 19.4**	**+1.0**
	baz=237						
YUK8	**Steele Glacier**	83.76	26	P	**P**	**16 45 19.2**	**+0.4**
	baz=246						
BVCY	**Beaver Creek**	83.77	25	P	**P**	**16 45 19.4**	**+0.9**
	baz=244						
G25K	**Bearman Lake**	83.84	20	P	**P**	**16 45 19.2**	**+0.5**
	baz=239						
O29M	**Mount Kennedy**	83.89	27	P	**P**	**16 45 20.0**	**+0.8**
	baz=247						
QSPA	**South Pole Qui**	83.97	180	P	**P**	**16 45 19.2**	**-0.3**
QSPA	**South Pole Qui**	83.97	180	P	**P**	**16 45 19.2**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=37,slow=2.0,SNR=5.5						
QSPA				pP	**pP**	**16 45 53.4**	**-3.4**
	comp=Z,4.8nm,0.8s,baz=319,slow=0.6,SNR=6.1						
	comp=Z,1.6nm,0.7s						
K27K	**Chicken**	83.99	23	IAmb	IAmb	16 45 21.6	
	comp=Z,10nm,1.2s						
K27K	**Chicken**	83.99	23	P	**P**	**16 45 21.0**	**+1.5**
	baz=243						
C23K	**Itkillik River**	84.12	17	IAmb	IAmb	16 45 22.4	
	comp=Z,23nm,1.2s						
C23K	**Itkillik River**	84.12	17	P	**P**	**16 45 20.9**	**+0.9**
	baz=235						
I26K	**Coal Creek Min**	84.17	22	P	**P**	**16 45 21.2**	**+0.8**
	baz=242						
D24K	**Happy Valley**	84.25	17	IAmb	IAmb	16 45 22.4	
	comp=Z,9.4nm,0.9s						
YUK4	**Talbot Arm**	84.28	26	P	**P**	**16 45 22.5**	**+1.2**
	baz=247						
F25K	**Christian Rive**	84.42	19	P	**P**	**16 45 22.8**	**+1.1**
	baz=240						
P30M	**Million Dollar**	84.57	28	P	**P**	**16 45 23.1**	**+0.5**
	baz=248						
HYT	**Haines Junctio**	84.59	27	P	**P**	**16 45 23.7**	**+1.0**
	baz=248						
C24K	**Franklin Bluff**	84.61	17	P	**P**	**16 45 23.7**	**+1.2**
	baz=236						
EGAK	**Eagle**	84.68	23	P	**P**	**16 45 22.9**	**-0.1**
EGAK				IAmb	IAmb	16 45 24.0	
	comp=Z,11nm,1.2s						
EGAK	**Eagle**	84.68	23	P	**P**	**16 45 23.9**	**+1.0**
	baz=244						
BMAR	**Burnt Mountain**	84.69	20	P	**P**	**16 45 22.7**	**-0.3**
E25K	**Arctic Village**	84.71	19	P	**P**	**16 45 24.3**	**+1.1**
	baz=240						
G26K	**Porcupine Rive**	84.73	20	P	**P**	**16 45 24.3**	**+1.2**
	baz=241						
S32K	**Killisnoo**	84.79	31	P	**P**	**16 45 24.9**	**+1.3**
	baz=250						
M29M	**Somme Creek**	84.80	25	P	**P**	**16 45 25.0**	**+1.2**
	baz=246						
I27K	**Kandik River**	84.88	22	P	**P**	**16 45 25.4**	**+1.4**
	baz=243						
F26K	**Sheenjek River**	84.97	20	P	**P**	**16 45 25.7**	**+1.3**
	baz=241,SNR=5.5						
N30M	**Aishikik Lake**	85.01	27	P	**P**	**16 45 25.7**	**+0.9**
	baz=248						
DAWY	**Dawson**	85.07	24	P	**P**	**16 45 26.0**	**+1.0**
	baz=246						
D25K	**Kavik River**	85.08	18	P	**P**	**16 45 25.4**	**+0.5**
	baz=239						
H27K	**Steamboat Moun**	85.19	21	P	**P**	**16 45 26.5**	**+0.9**
	baz=243						
L29M	**L29M**	85.20	25	P	**P**	**16 45 26.8**	**+1.1**
	baz=247						
O30N	**Mendenhall**	85.21	27	P	**P**	**16 45 26.9**	**+1.2**
	baz=249						
KSH	**Kashi**	85.22	310	P	**P**	**16 45 28.3**	**+1.9**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MAW	**Mawson**	85.23	203	P	**P**	**16 45 25.7**	**0.0**
	comp=Z,4.2nm,0.7s,baz=101,slow=8.1,SNR=6.4						
	comp=Z,4.2nm,0.7s						
G27K	**Doyon Strip**	85.41	21	P	**P**	**16 45 27.5**	**+0.9**
	baz=243						
I28M	**Miner Creek**	85.44	22	P	**P**	**16 45 27.7**	**+0.9**
	baz=245						
M30M	**Minto, Yukon**	85.56	26	IAmb	IAmb	16 45 29.2	
	comp=Z,11nm,1.4s						
M30M	**Minto, Yukon**	85.56	26	P	**P**	**16 45 28.3**	**+0.9**
	baz=248						
N31M	**Braeburn, Yuko**	85.61	27	P	**P**	**16 45 28.9**	**+1.2**
	baz=249						
WHY	**Whitehorse**	85.73	28	P	**P**	**16 45 29.5**	**+1.0**
	baz=250						
K29M	**Barlow Dome**	85.74	24	IAmb	IAmb	16 45 30.6	
	comp=Z,11nm,1.2s						
K29M	**Barlow Dome**	85.74	24	P	**P**	**16 45 29.5**	**+1.1**
	baz=247						
C26K	**Camden Bay**	85.83	18	P	**P**	**16 45 30.1**	**+1.6**
	baz=240						
KURK	**Kurchatov**	85.93	322	P	**P**	**16 45 28.0**	**-1.5**
KURBB	**Kurchatov Arra**	85.96	322	P	**P**	**16 45 28.2**	**-1.4**
	comp=Z,2.1nm,0.6s,baz=100,slow=4.8,SNR=26						
	comp=Z,2.1nm,0.6s						
I29M	**Ogilvie Camp,**	86.03	23	IAmb	IAmb	16 45 30.5	
	comp=Z,13nm,1.4s						
I29M	**Ogilvie Camp,**	86.03	23	P	**P**	**16 45 30.6**	**+0.9**
	baz=246						
E27K	**Coleen River**	86.05	20	IAmb	IAmb	16 45 32.2	
	comp=Z,12nm,1.0s						
E27K	**Coleen River**	86.05	20	P	**P**	**16 45 31.1**	**+1.3**
	baz=243						
MAYO	**Mayo, Yukon**	86.32	25	P	**P**	**16 45 32.5**	**+1.3**
	baz=249						
F28M	**Old Crow**	86.39	20	IAmb	IAmb	16 45 33.0	
	comp=Z,8.7nm,1.1s						
F28M	**Old Crow**	86.39	20	P	**P**	**16 45 32.2**	**+0.8**
	baz=245,SNR=8.5						
M31M	**Drury Creek, Y**	86.48	26	P	**P**	**16 45 32.7**	**+0.7**
	baz=250						
J30M	**Hart River**	86.50	24	IAmb	IAmb	16 45 34.1	
	comp=Z,14nm,1.2s						
J30M	**Hart River**	86.50	24	P	**P**	**16 45 33.2**	**+1.1**
	baz=248						
P33M	**Teslin, Yukon**	86.55	28	P	**P**	**16 45 33.6**	**+1.2**
	baz=252						
S34M	**Telegraph Cree**	86.69	31	P	**P**	**16 45 34.2**	**+1.2**
	baz=253						
N32M	**Quiet Lake**	86.72	28	P	**P**	**16 45 34.2**	**+1.0**
	baz=251						
I30M	**Mount Dempster**	86.72	23	IAmb	IAmb	16 45 34.6	
	comp=Z,11nm,1.2s						
I30M	**Mount Dempster**	86.72	23	P	**P**	**16 45 34.0**	**+0.8**
	baz=248						
D27M	**Malcolm River**	86.73	19	P	**P**	**16 45 34.1**	**+1.0**
	baz=244						
G29M	**Pine Creek**	86.75	21	IAmb	IAmb	16 45 34.7	
	comp=Z,20nm,1.2s						
G29M	**Pine Creek**	86.75	21	P	**P**	**16 45 34.0**	**+0.8**
	baz=247,SNR=6.8						
T35M	**Bob Quinn**	86.88	32	P	**P**	**16 45 34.9**	**+0.9**
	baz=254						
E28M	**Babbage River**	86.92	20	IAmb	IAmb	16 45 35.7	
	comp=Z,14nm,1.3s						
E28M	**Babbage River**	86.92	20	P	**P**	**16 45 35.2**	**+1.2**
	baz=247						
AAK	**Ala-Archa**	86.92	313	P	**P**	**16 45 34.3**	**-0.5**
FARO	**Faro, Yukon**	86.95	26	P	**P**	**16 45 35.3**	**+1.0**
	baz=251						
EPYK	**Eagle Plains**	87.02	22	IAmb	IAmb	16 45 36.0	
	comp=Z,17nm,1.1s						
EPYK	**Eagle Plains**	87.02	22	P	**P**	**16 45 35.5**	**+1.0**
	baz=248,SNR=7.1						
R33M	**Jennings River**	87.19	30	P	**P**	**16 45 36.7**	**+1.1**
	baz=252						
E29M	**Blow River**	87.38	20	P	**P**	**16 45 37.1**	**+1.0**
	baz=247						
G30M	**tAoh Zraii Nji**	87.43	22	P	**P**	**16 45 37.5**	**+1.0**
	baz=248						
NRIK	**Noril'sk**	87.74	341	P	**P**	**16 45 36.3**	**-1.5**
	comp=Z,4.0nm,0.6s,baz=113,slow=4.2,SNR=6.7						
	comp=Z,4.0nm,0.6s						
F30M	**Barrier River**	87.82	21	P	**P**	**16 45 39.1**	**+0.8**
	baz=249						
G31M	**Satah River**	88.13	22	P	**P**	**16 45 40.3**	**+0.6**
	baz=250						
HUMO	**Hull Mountain**	88.34	47	IAmb	IAmb	16 45 44.1	
	comp=Z,9.5nm,1.2s						
F31M	**Tsiigehtchic**	88.50	21	P	**P**	**16 45 41.8**	**+0.4**
	baz=251						
INK	**Inuvik**	88.86	21	P	**P**	**16 45 43.3**	**+0.2**
	baz=251						
J05D	**Fort Rock, OR**	89.70	47	P	**P**	**16 45 47.8**	**0.0**
J05D				IAmb	IAmb	16 45 49.8	
	comp=Z,6.3nm,1.0s						
MPK	**Martis Peak**	90.04	51	IAmb	IAmb	16 45 52.9	
	comp=Z,13nm,1.2s						
MDPB	**Devils Postpil**	90.56	52	IAmb	IAmb	16 45 53.9	
	comp=Z,4.8nm,1.0s						
CIS	**Catalina Islan**	90.59	57	P	**P**	**16 45 53.0**	**+0.9**
	baz=263						
YERR	**Yerington**	90.61	51	IAmb	IAmb	16 45 54.0	
	comp=Z,4.3nm,0.9s						
ISA	**Isabella, Lake**	90.81	54	P	**P**	**16 45 53.4**	**+0.4**
	baz=263						
EDW2	**Edwards Air Fo**	91.11	55	P	**P**	**16 45 55.6**	**+1.2**
	baz=264						
CWC	**Cottonwood Cre**	91.22	54	P	**P**	**16 45 55.7**	**+0.7**
	baz=264						
NVAR	**Mina Array Bea**	91.27	52	P	**P**	**16 45 56.1**	**+0.8**
	comp=Z,7.1nm,0.9s,baz=252,slow=6.4,SNR=36						
	comp=Z,7.1nm,0.9s						
BFSC	**Mount Baldy Ra**	91.32	56	P	**P**	**16 45 56.5**	**+1.0**
	baz=264						
BVAR	**Borovoye Array**	91.38	323	P	**P**	**16 45 53.1**	**-2.1**
	comp=Z,4.3nm,0.6s,baz=107,slow=4.9,SNR=27						
	comp=Z,4.3nm,0.6s						
NV11	**Mina Array Sit**	91.38	52	IAmb	IAmb	16 45 57.6	
	comp=Z,8.2nm,0.9s						
LRMC	**Laurel Mtn Rad**	91.43	55	P	**P**	**16 45 56.9**	**+0.9**
	baz=264,SNR=6.2						
BRVK	**Borovoye**	91.45	323	P	**P**	**16 45 53.3**	**-2.2**
BRVK				IAmb	IAmb	16 45 55.5	
	comp=Z,4.6nm,0.8s						
KVN	**Kaiserville**	91.50	51	IAmb	IAmb	16 45 58.0	
	comp=Z,8.4nm,1.0s						
G08A	**Pilot Rock**	91.58	45	P	**P**	**16 45 56.4**	**-0.1**
G08A				IAmb	IAmb	16 45 57.5	
	comp=Z,5.7nm,1.2s						
MPMC	**Manual Prospec**	91.65	54	P	**P**	**16 45 58.0**	**+0.8**
	baz=264						
GRAC	**Grapevine Rang**	91.85	53	P	**P**	**16 45 58.1**	**+0.3**
	baz=264						
MZP	**Montezuma Peak**	91.91	52	IAmb	IAmb	16 46 00.1	
	comp=Z,5.1nm,1.0s						
BBRC	**Big Bear Solar**	91.93	56	P	**P**	**16 45 59.5**	**+1.0**
	baz=264						
GSC	**Goldstone, Bar**	92.13	55	P	**P**	**16 46 00.2**	**+1.0**
	baz=264						
MONP2	**Monument Peak**	92.20	57	P	**P**	**16 46 00.8**	**+1.0**
	baz=264						
PFO	**Pinyon Flats O**	92.24	57	P	**P**	**16 46 00.8**	**+1.0**
	baz=264						
TPFO	**Pinon Flats**	92.25	57	P	**P**	**16 46 00.7**	**+0.9**
	baz=264						
E09A	**Wood Farm, Sta**	92.29	44	P	**P**	**16 45 58.8**	**-0.8**
BMN	**Battle Mountai**	92.32	50	IAmb	IAmb	16 46 01.6	
	comp=Z,6.4nm,1.0s						
GWY	**Greenwater Val**	92.33	54	IAmb	IAmb	16 46 01.9	
	comp=Z,3.8nm,0.9s						
WCT	**Wildcat Mounta**	92.42	53	IAmb	IAmb	16 46 02.5	
	comp=Z,7.7nm,1.1s						
IKP	**In-Ko-Pah, Jac**	92.44	58	P	**P**	**16 46 01.4**	**+0.7**
	baz=264						
C36M	**Paulatuk**	92.45	21	P	**P**	**16 46 00.6**	**+0.8**
	baz=260						
HEC	**Hector,Ludlow**	92.46	55	P	**P**	**16 46 01.6**	**+0.8**
	baz=264						
SHOC	**Shoshone, Teco**	92.61	54	P	**P**	**16 46 02.3**	**+1.0**
	baz=264						
BELC	**Belle Mtn. Jos**	92.66	56	P	**P**	**16 46 02.8**	**+1.0**
	baz=265,SNR=7.0						
SWSC	**Sam W. Stewart**	92.73	57	P	**P**	**16 46 03.5**	**+1.6**
	baz=265						
TPNV	**Topopah Spring**	92.73	53	IAmb	IAmb	16 46 04.1	
	comp=Z,6.9nm,1.1s						
TPNV	**Topopah Spring**	92.73	53	P	**P**	**16 46 03.3**	**+1.2**
	baz=265						
TUQ	**Turquoise Moun**	92.86	55	P	**P**	**16 46 03.7**	**+1.1**
	baz=265						
F10A	**Beach Ranch, E**	92.87	44	IAmb	IAmb	16 46 02.8	
	comp=Z,5.5nm,1.1s						
GMRC	**Granite Mounta**	93.01	56	P	**P**	**16 46 04.3**	**+1.0**
	baz=265						
BC3	**Big Chuckawall**	93.08	57	P	**P**	**16 46 04.8**	**+1.1**
	baz=265						
NEW	**Newport**	93.16	42	P	**P**	**16 46 04.3**	**+0.7**
	baz=265						
IRM	**Iron Mountain**	93.38	56	P	**P**	**16 46 06.3**	**+1.3**
	baz=265,SNR=8.6						
R11B	**Troy Canyon, C**	93.39	52	IAmb	IAmb	16 46 06.9	
	comp=Z,6.9nm,1.1s						
R11B	**Troy Canyon, C**	93.39	52	P	**P**	**16 46 06.2**	**+1.2**
	baz=265,SNR=8.6						
PRN	**Pahroc Range**	93.73	53	IAmb	IAmb	16 46 08.8	
	comp=Z,7.6nm,1.1s						
ELK	**Elko**	93.85	50	IAmb	IAmb	16 46 08.8	
	comp=Z,4.6nm,1.1s						
Q12A	**Willow Creek R**	94.03	51	P	**P**	**16 46 07.7**	**-0.3**
PDMCI	**Parker Dam,Lak**	94.22	56	P	**P**	**16 46 09.7**	**+1.0**
	baz=266						
SPR3	**Spring Creek 3**	94.42	51	P	**P**	**16 46 09.6**	**-0.3**
HLID	**Hailey**	94.67	47	P	**P**	**16 46 11.8**	**+0.9**
	baz=266						
YKA	**Yellowknife Ar**	95.56	28	P	**P**	**16 46 13.6**	**-0.6**
	comp=Z,1.7nm,1.0s,baz=269,slow=4.8,SNR=15						
YKA				pP	**pP**	**16 46 47.9**	**-4.4**
	comp=Z,0.4nm,0.9s,baz=270,slow=4.3,SNR=2.1						
	comp=Z,1.7nm,1.0s						
DUG	**Dugway, Tooele**	95.66	50	P	**P**	**16 46 16.6**	**+1.2**
	baz=267						
WUAZ	**Wupatki**	96.57	55	P	**P**	**16 46 21.2**	**+1.6**
	baz=267						
BOZ	**Bozeman (W)**	96.75	45	P	**P**	**16 46 21.8**	**+1.6**
	baz=268						
W18A	**Petrified Fore**	97.89	55	P	Pdif	16 46 26.9	+1.3
	baz=268						
RDMU	**Red Mountain**	98.15	50	P	**P**	**16 46 26.1**	**-0.6**
PDAR	**Pinedale Array**	98.19	48	P	**P**	**16 46 25.5**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=264,slow=1.5,SNR=7.3						
	comp=Z,0.9nm,0.8s						
RLMT	**Red Lodge**	98.41	45	P	Pdif	16 46 29.2	+1.4
	baz=270						
O20A	**White River Ci**	99.16	50	P	**Pdif**	**16 46 32.0**	**+0.8**
	baz=270						
EYMN	**Ely**	110.23	41	P	**PKiKP**	**16 51 21.4**	**+0.8**
	baz=284						
L44A	**Lake County Fo**	114.11	46	P	PKPdf	16 51 28.6	+0.5
	baz=284						
SFIN	**Lafayette**	115.15	48	P	**PKiKP**	**16 51 30.6**	**+0.5**
	baz=284						
O48B	**Farmland**	116.62	48	P	**PKiKP**	**16 51 33.7**	**+0.6**
	baz=286						
LRAL	**Lakeview Retre**	116.83	56	P	**PKPdf**	**16 51 33.8**	**+0.2**
	baz=281						
TZTN	**Tazewell**	118.81	51	P	**PKPdf**	**16 51 37.8**	**+0.4**
	baz=285						
ERPA	**Erie**	119.75	44	P	**PKPdf**	**16 51 39.1**	**+0.1**
	baz=291						
MCWV	**Mont Chateau**	120.69	47	P	**PKPdf**	**16 51 40.9**	**0.0**
	baz=290						
NHSC	**New Hope**	122.39	54	P	**PKPdf**	**16 51 44.1**	**-0.1**
	baz=285						
BINY	**Binghamton**	122.47	43	P	**PKPdf**	**16 51 44.2**	**0.0**
	baz=294						
LANS	**Liptovska Anna**	122.87	327	*e*PKP	**PKiKP**	**16 51 45.2**	**+0.2**
VYHS	**Vyhne**	123.58	326	*e*PKP	**PKiKP**	**16 51 49.0**	**+2.6**
MODS	**Modra-Piesok**	124.50	327	*e*PKP	**PKiKP**	**16 51 52.0**	**+3.7**
L61B	**Northampton**	124.57	41	P	**PKPdf**	**16 51 48.2**	**0.0**
	baz=297						
HRV	**Adam Dziewonsk**	125.28	41	P	**PKPdf**	**16 51 49.5**	**-

MTHZ	**Maungataniwha**	**1.07 155**	P	**Pn**	**16 45 54.8 +1.6**	
MTHZ			S	**S**	**16 46 16.7 -1.8**	
MWZ	**Matawai**	**1.10 115**	P	**Pn**	**16 45 54.8 +1.4**	
MWZ			S	**S**	**16 46 16.5 -2.2**	
RAGZ	**Rawiri**	**1.10 124**	P	**Pn**	**16 45 55.4 +1.9**	
RAGZ			S	**S**	**16 46 17.0 -1.8**	
RUGZ	**Raukumara Rang**	**1.12 95**	P	**Pn**	**16 45 54.3 +0.6**	
RUGZ			S	**S**	**16 46 15.6 -3.5**	
RITZ	**Rihia Road**	**1.14 196**	P	**Pn**	**16 45 55.9 +2.2**	
MKAZ	**Moumakai**	**1.17 311**	P	**Pn**	**16 45 56.0 +2.1**	
KATZ	**Kakaramea**	**1.18 202**	P	**Pn**	**16 45 56.1 +2.0**	
HAZ	**Te Kaha**	**1.21 85**	P	**Pn**	**16 45 55.2 +1.0**	
HAZ			S	**S**	**16 46 17.3 -2.5**	
KUZ	**Kuaotunu**	**1.21 339**	P	**Pn**	**16 45 55.8 +1.5**	
KUZ	**Kuaotunu**	**1.21 339**	P	**Pn**	**16 45 55.8 +1.5**	
RAHZ	**Arahi**	**1.22 148**	P	**Pn**	**16 45 56.5 +2.2**	
RAHZ			S	**S**	**16 46 19.4 -0.9**	
SNGZ	**Shannon Statio**	**1.24 137**	P	**Pn**	**16 45 56.5 +2.1**	
SNGZ			S	**S**	**16 46 18.9 -1.5**	
HIZ	**Hauiti**	**1.28 240**	P	**Pn**	**16 45 56.7 +2.1**	
HIZ	**Hauiti**	**1.28 240**	P	**Pn**	**16 45 56.7 +2.1**	
NMHZ	**Naumai**	**1.29 161**	P	**Pn**	**16 45 57.3 +2.5**	
NMHZ			S	**S**	**16 46 21.1 -0.2**	
BKZ	**Black Stump Fm**	**1.30 172**	P	**Pn**	**16 45 56.3 +1.5**	
BKZ	**Black Stump Fm**	**1.30 172**	P	**Pn**	**16 45 56.4 +1.6**	
BKZ			S	**S**	**16 46 19.3 -2.0**	
NTVZ	**North Tongarir**	**1.30 201**	P	**Pn**	**16 45 57.2 +2.2**	
TWVZ	**Taurewa**	**1.35 208**	P	**Pn**	**16 45 57.2 +1.9**	
OTVZ	**Oturere**	**1.36 200**	P	**Pn**	**16 45 57.6 +2.1**	
TKGZ	**Te Karaka**	**1.37 115**	P	**Pn**	**16 45 57.5 +2.2**	
TKGZ			S	**S**	**16 46 20.8 -1.2**	
TWGZ	**Tauwhareparae**	**1.39 103**	P	**Pn**	**16 45 57.7 +2.1**	
TWGZ			S	**S**	**16 46 21.9 -0.5**	
SNVZ	**South Ngauruho**	**1.39 200**	P	**Pn**	**16 45 57.6 +1.9**	
NGZ	**Ngauruhoe**	**1.39 202**	P	**Pn**	**16 45 58.0 +2.3**	
WIAZ	**Waiheke Island**	**1.41 320**	P	**Pn**	**16 45 57.7 +2.0**	
WHNZ	**Waihua**	**1.42 148**	P	**Pn**	**16 45 58.1 +2.3**	
WHNZ			S	**S**	**16 46 22.1 -0.7**	
PKGZ	**Pakihiroa**	**1.44 91**	P	**Pn**	**16 45 57.8 +1.8**	
RIGZ	**Rimuhau**	**1.44 125**	P	**Pn**	**16 45 58.6 +2.6**	
RIGZ			S	**S**	**16 46 22.6 -0.6**	
TUVZ	**Tukino**	**1.47 199**	P	**Pn**	**16 45 58.2 +2.0**	
FWVZ	**Far West T-bar**	**1.48 202**	P	**Pn**	**16 45 58.5 +2.0**	
ARHZ	**Aropaoanui**	**1.50 158**	P	**Pn**	**16 45 58.9 +2.5**	
ARHZ			S	**S**	**16 46 23.2 -0.7**	
WHVZ	**Whangaehu Hut**	**1.50 200**	P	**Pn**	**16 45 58.6 +2.0**	
TRVZ	**Turoa**	**1.52 201**	P	**Pn**	**16 45 58.9 +2.0**	
WNVZ	**Wahianoa**	**1.54 200**	P	**Pn**	**16 45 58.7 +1.8**	
KWHZ	**Kaweka Forest**	**1.55 175**	P	**Pn**	**16 45 58.8 +2.0**	
MOVZ	**Moawhango**	**1.58 195**	P	**Pn**	**16 45 58.6 +1.4**	
PKVZ	**Pokaka**	**1.58 207**	P	**Pn**	**16 45 59.1 +2.0**	
PUZ	**Puketiti**	**1.59 98**	P	**Pn**	**16 45 59.0 +1.8**	
KNZ	**Kokohu**	**1.59 136**	P	**Pn**	**16 45 59.5 +2.3**	
MCHZ	**McNeill Hill**	**1.60 168**	P	**Pn**	**16 45 59.8 +2.6**	
BHHZ	**Black Hill Sta**	**1.61 185**	P	**Pn**	**16 45 59.0 +1.6**	
BHHZ			S	**S**	**16 46 23.5 -2.4**	
MTVZ	**Mangateitei**	**1.62 202**	P	**Pn**	**16 45 59.5 +2.0**	
PRGZ	**Paritu Road**	**1.64 130**	P	**Pn**	**16 45 60.0 +2.3**	
CNGZ	**Carnagh Statio**	**1.65 112**	P	**Pn**	**16 46 00.6 +2.9**	
MXZ	**Matakaoa Point**	**1.65 80**	P	**Pn**	**16 45 59.7 +2.0**	
MXZ	**Matakaoa Point**	**1.65 80**	P	**Pn**	**16 45 59.7 +2.0**	
WMGZ	**Waiomatatini S**	**1.71 89**	P	**Pn**	**16 46 00.2 +2.0**	
VRZ	**Vera Road**	**1.71 223**	P	**Pn**	**16 46 00.9 +2.6**	
KRHZ	**Kereru**	**1.76 177**	P	**Pn**	**16 46 00.6 +1.9**	
KRHZ			S	**S**	**16 46 27.5 -0.7**	
MHGZ	**Mahia Peninsul**	**1.81 135**	P	**Pn**	**16 46 00.2 +1.1**	
CKHZ	**Cape Kidnapper**	**1.89 161**	P	**Pn**	**16 46 02.4 +2.6**	
KAHZ	**Kahuranaki**	**1.97 166**	P	**Pn**	**16 46 03.2 +2.5**	
PNHZ	**Pukenui**	**2.03 181**	P	**Pn**	**16 46 03.0 +1.8**	
WAZ	**Wanganui**	**2.12 208**	P	**Pn**	**16 46 04.4 +2.2**	
WPHZ	**Waipukurau**	**2.19 176**	P	**Pn**	**16 46 04.8 +2.1**	
TSZ	**Takapari Road**	**2.19 186**	P	**Pn**	**16 46 04.7 +1.8**	
PXZ	**Pawanui**	**2.20 168**	P	**Pn**	**16 46 05.0 +2.2**	
PKE	**Pukeiti**	**2.21 233**	P	**Pn**	**16 46 06.5 +3.4**	
PRHZ	**Porangahau**	**2.40 173**	P	**Pn**	**16 46 07.0 +2.0**	
DVHZ	**Dannevirke**	**2.42 182**	P	**Pn**	**16 46 06.8 +1.6**	
POWZ	**Post Office Ro**	**2.54 189**	P	**Pn**	**16 46 08.0 +1.5**	
ANWZ	**Angora Road**	**2.58 176**	P	**Pn**	**16 46 09.0 +2.1**	
ANWZ			S	**S**	**16 46 41.9 -0.9**	
PRWZ	**Pori Road**	**2.68 185**	P	**Pn**	**16 46 09.8 +1.8**	
BFZ	**Birch Farm**	**2.80 180**	P	**Pn**	**16 46 10.8 +1.5**	
BFZ	**Birch Farm**	**2.80 180**	P	**Pn**	**16 46 10.8 +1.5**	
MRZ	**Mangatainoka R**	**2.83 191**	P	**Pn**	**16 46 10.9 +1.2**	
TIWZ	**Tintock**	**2.91 186**	P	**Pn**	**16 46 12.1 +1.5**	
OGWZ	**Otaki Gorge**	**3.05 196**	P	**Pn**	**16 46 13.3 +0.9**	
HOWZ	**Holdsworth Sta**	**3.07 191**	P	**Pn**	**16 46 13.3 +0.9**	
KIW	**Kapiti Island**	**3.16 199**	P	**Pn**	**16 46 14.3 +0.9**	
MTW	**Mount Morrison**	**3.33 190**	P	**Pn**	**16 46 16.0 +0.7**	
CAW	**Cannon Point**	**3.35 196**	P	**Pn**	**16 46 16.6 +0.9**	
DUWZ	**D'Urville Isla**	**3.44 211**	P	**Pn**	**16 46 17.5 +0.9**	
TRWZ	**Traveller**	**3.54 187**	P	**Pn**	**16 46 19.0 +1.1**	
PAWZ	**Paruwai Farm**	**3.56 190**	P	**Pn**	**16 46 18.7 +0.6**	
WEL	**Wellington**	**3.59 198**	P	**Pn**	**16 46 19.7 +1.2**	
TCW	**Tory Channel**	**3.66 204**	P	**Pn**	**16 46 20.3 +1.0**	
PLWZ	**Palliser**	**3.77 192**	P	**Pn**	**16 46 21.0 +0.4**	
TUWZ	**Tuamarina**	**3.97 206**	P	**Pn**	**16 46 23.9 +0.8**	
NNZ	**Nelson**	**4.01 213**	P	**Pn**	**16 46 24.9 +1.4**	
TKNZ	**Takaka Hill**	**4.05 218**	P	**Pn**	**16 46 25.2 +1.1**	
QRZ	**Quartz Range**	**4.13 223**	P	**Pn**	**16 46 26.7 +1.7**	
QRZ	**Quartz Range**	**4.13 223**	P	**Pn**	**16 46 25.7 +0.7**	
BSWZ	**Blackbirch Sta**	**4.25 205**	P	**Pn**	**16 46 27.8 +1.3**	
MRNZ	**Matariki Terra**	**4.43 216**	P	**Pn**	**16 46 30.4 +1.6**	
THZ	**Tophouse**	**4.66 215**	P	**Pn**	**16 46 33.3 +1.7**	
KHZ	**Kahutara**	**4.99 204**	P	**Pn**	**16 46 36.6 +1.0**	
KHZ	**Kahutara**	**4.99 204**	P	**Pn**	**16 46 36.5 +0.9**	
DSZ	**Denniston Nort**	**5.17 220**	P	**Pn**	**16 46 39.0 +1.0**	
GVZ	**Greta Valley S**	**5.65 205**	P	**Pn**	**16 46 44.5 +0.5**	
LTZ	**Lake Taylor**	**5.77 211**	P	**Pn**	**16 46 46.0 +0.4**	
INZ	**Inchbonnie**	**6.08 216**	P	**Pn**	**16 46 50.4 +0.9**	
OXZ	**Oxford**	**6.32 209**	P	**Pn**	**16 46 52.3 -0.2**	
MQZ	**McQueen's Vall**	**6.43 204**	P	**Pn**	**16 46 53.4 -0.6**	
RACZ	**Rakaia**	**6.62 207**	P	**Pn**	**16 46 56.7 +0.3**	
RPZ	**Rata Peaks** 28nm,1.5s	**7.04 212**	P	**Pn**	**16 47 03.9 +2.1**	
RPZ	**Rata Peaks**	**7.04 212**	P	**Pn**	**16 47 02.6 +0.8**	
GCSZ	**Gaunt Creek Bo**	**7.06 218**	P	**Pn**	**16 47 02.6 +0.6**	
ARCZ	**Arundel**	**7.18 211**	P	**Pn**	**16 47 03.9 +0.3**	
FOZ	**Fox Glacier**	**7.47 219**	P	**Pn**	**16 47 07.6 +0.4**	
TMZ	**Timaru**	**7.61 210**	P	**Pn**	**16 47 09.4 +0.3**	
ODZ	**Otahua Downs** 17nm,1.3s	**8.30 209**	P	**Pn**	**16 47 19.0 +0.9**	
ODZ	**Otahua Downs**	**8.30 209**	P	**Pn**	**16 47 18.9 +0.9**	
JCZ	**Jackson Bay**	**8.38 220**	P	**Pn**	**16 47 20.3 +1.2**	
RIZ	**Raoul Island**	**9.88 31**	P	Pn	16 47 38.3 -0.1	

IDC 27 16:53:50.6±51.0, 15°47'S×173°42'W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=983.0km s-min=185.5km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.98**	**240**	P	P	17 01 59.0	-0.9
	1.1nm,0.8s,baz=81,slow=13,SNR=2.0 1.1nm,0.8s						
WRA	**Warramunga Arr**	**49.81**	**257**	P	P	17 02 45.8	+0.1
	0.2nm,0.3s,baz=91,slow=7.0,SNR=12 0.2nm,0.3s						
ASAR	**Alice Springs**	**50.07**	**252**	P	P	17 02 47.8	+0.1
	2.3nm,0.5s,baz=88,slow=7.9,SNR=92 2.3nm,0.5s						

NNC 27 17:11:00.6±5.7, 38°72N×85°71E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=154.8km s-min=37.7km az=47.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**6.48**	**315**	Pg	Pb	17 12 56.5	+2.2
	6.3nm,0.2s						
SHLS				Lg	Lg	17 14 20.7	
	41nm,0.6s						
PDGK	**Podgornoye**	**6.58**	**316**	Pg	Pb	17 12 59.6	+3.6
	2.8nm,0.3s						
PDGK				Lg	Lg	17 14 28.6	
	11nm,0.7s						
UZB	**Uzynbulak**	**6.72**	**313**	Pg	Pb	17 13 03.4	+5.0
	6.7nm,0.4s						
UZB				Lg	Lg	17 14 34.3	
	20nm,0.6s						
DJR	**Jarkent**	**7.16**	**324**	Pg	Pg	17 13 12.6	-5.0
	1.2nm,0.5s						
DJR				Lg	Lg	17 14 48.7	
	4.5nm,0.5s						
KNOS	**Konyrlen**	**7.47**	**321**	Pg	Pb	17 13 13.7	+2.6
	2.3nm,0.6s						
KNOS				Lg	Lg	17 14 57.1	
	6.5nm,0.5s						

*DSN **27** 18:01:09.7±1.3, 31°12N×58°38E, h26km, mb4.7/1, ML4.3/10, Error ellipse: s-maj=24.1km s-min=6.6km az=82.0*

*IDC **27** 18:01:12.9±0.5, 30°67N×57°25E, h0km, mb4.7/32, mbtmp4.6/40, ML3.9/8, MS3.9/35, Error ellipse: s-maj=12.2km s-min=10.1km az=167.0*

*TEH **27** 18:01:13.5, 30°78N×57°25E, h8km±27km, ML5.1*

*BJI **27** 18:01:13.7, 30°61N×57°05E, h22km, mb4.5/52, mB5.3/25, Ms4.7/29, Ms7 4.5/28*

*THR **27** 18:01:14.3±1.2, 30°82N×57°20E, h14km±7km, ML5.0*

*MOS **27** 18:01:14.0±0.9, 30°78N×57°21E, h16km, mb5.1/58, Error ellipse: s-maj=4.8km s-min=3.4km az=103.1*

*GCMT **27** 18:01:15.1±0.3, 30°63N±0°02×57°17E±0°03, h20km±1km, MW4.9/70, Moment Tensor Solution. s20,c23; s70,c90; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.77±.17; Mθθ -1.16±.11; Mφφ -0.60±.10; Mrθ 0.68±.19; Mrφ 1.06±.06; Mθφ 1.68±.24; Best double couple: Mo 2.50500×10^16 NP1:φs 341.00000°, δ 63.00000°, λ 125.00000°. NP2: φs 104.00000°, δ 43.00000°, λ 42.00000°. Principal axes: T 2.9350, Plg 57.0000°, Azm 299.0000°; N -0.8570, Plg 31.0000°, Azm 143.0000°; P -2.0760, Plg 11.0000°, Azm 46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **27** 18:01:15.1±2.1, 30°81N±0°07×57°25E±0°08, h10km±1km, mb5.0/187 Error ellipse: s-maj=12.3km s-min=10.2km az=134.0*

*OMAN **27** 18:01:15.9±0.1, 30°80N×57°12E, h10km, mb5.3/35, ml3.6/2, ms3.4/2, Error ellipse: s-maj=0.9km s-min=0.6km az=271.0*

ISC 27 18:01:14.9±0.4, 30°79N±0°02×57°19E±0°02, h12km±2km, h12km:pP-P, n810, σ1s55/769, mb5.0/209, MS3.9/45, 47C-29D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.29**	**167**	Pg	**Pg**	**18 01 19.7**	**-1.3**
KRM1				Sg	**Sg**	**18 01 23.7**	**-1.5**
ZRDN	**Zarand Kerman**	**0.59**	**288**	Pg	**Pg**	**18 01 26.2**	**-0.4**
KHGB	**Koh Gabri**	**0.74**	**236**	Pg	**Pg**	**18 01 28.0**	**-1.3**
KRBR	**Kerman**	**0.89**	**205**	*e*Pg	**Pg**	**18 01 31.1**	**-1.0**
CHMN	**Cheshme madani**	**0.97**	**162**	Pg	**Pb**	**18 01 31.3**	**-2.6**
NGRK	**Negar Kerman**	**1.21**	**199**	Pg	**Pb**	**18 01 36.9**	**-1.1**
NGRK				Sg	**Sn**	**18 01 53.5**	**-1.0**
IBAF	**Bafgh**	**1.61**	**300**	Pg	**Pb**	**18 01 44.4**	**-0.3**
KBAM	**BAM**	**1.98**	**146**	Pn	**Pb**	**18 01 48.4**	**-2.5**
BSRN	**Basiran**	**2.02**	**54**	*e*Pn	**Pb**	**18 01 49.6**	**-2.2**
BSRN				*e*Sg	**Sb**	**18 02 17.3**	**+0.3**
BSRN				IAML		18 02 23.6	
	comp=N,5μm,0.6s						
BSRN				IAML		18 02 30.6	
	comp=E,4μm,0.7s						
BSRN	**Basiran**	**2.02**	**54**	Pn	**Pn**	**18 01 49.2**	**+0.2**
IKOO	**Kooshah**	**2.25**	**43**	Pn	**Pn**	**18 01 52.6**	**+0.4**
TPRV	**Parvadeh(Tabas**	**2.27**	**349**	Pn	**Pb**	**18 01 53.5**	**-2.5**
IMEH	**Mehriz**	**2.29**	**286**	Pn	**Pb**	**18 01 54.2**	**-2.2**
ITEG	**Tejag**	**2.48**	**32**	Pn	**Pn**	**18 01 55.8**	**+0.4**
NHDN	**Nehbandan**	**2.52**	**75**	Pn	**Pn**	**18 01 56.4**	**+0.5**
BAGH	**Bagheran - Bir**	**2.62**	**40**	Pn	**Pn**	**18 01 57.3**	**-0.1**
YZKH	**Yazd**	**2.73**	**306**	*e*Pn	**Pn**	**18 02 00.1**	**+1.4**
YZKH				*e*Sg	**Sb**	**18 02 38.6**	**+1.2**
YZKH				IAML		18 02 45.0	
	comp=N,5μm,0.4s						
YZKH				IAML		18 02 45.2	
	comp=E,6μm,0.5s						
ICHK	**Chekchek**	**2.79**	**302**	Pn	**Pn**	**18 02 00.9**	**+1.4**
TKDS	**Koohdasht(Taba**	**2.82**	**359**	Pn	**Pn**	**18 02 00.7**	**+0.8**
TABS	**Tabas**	**2.85**	**359**	*e*Pn	**Pn**	**18 02 01.6**	**+1.2**
TABS				IAML		18 02 56.1	
	comp=N,8μm,0.5s						
TABS				IAML		18 02 56.3	
	comp=E,4μm,0.5s						
KHNJ	**Kahnooj**	**2.87**	**171**	Pn	**Pb**	**18 02 02.5**	**-3.6**
IDAH	**Dahanechah**	**2.99**	**49**	Pn	**Pn**	**18 02 02.9**	**+0.4**
AFRZ	**Afriz**	**3.05**	**30**	Pn	**Pn**	**18 02 03.5**	**+0.4**
TNSJ	**Nastanj**	**3.20**	**351**	Pn	**Pn**	**18 02 06.2**	**+1.0**
ISAD	**Sadrabad**	**3.20**	**291**	Pn	**Pn**	**18 02 06.8**	**+1.4**
ZHSF	**Zahedan**	**3.31**	**110**	*e*Pn	**Pn**	**18 02 07.8**	**+1.0**
IBND	**Bandar-abas**	**3.38**	**190**	Pn	Pb	18 02 09.9	-4.9
ZHDN	**Zahedan**	**3.43**	**113**	Pn	**Pn**	**18 02 08.3**	**0.0**
BNDS	**Bandar-Abbas**	**3.50**	**195**	*e*Pn	**Pn**	**18 02 11.4**	**+2.2**
ANAR	**Anarak**	**3.79**	**310**	Pn	**Pn**	**18 02 14.2**	**+0.9**
SHRT	**Shahrakht**	**3.87**	**42**	*e*Pn	**Pn**	**18 02 15.4**	**+1.0**
SHRT	**Shahrakht**	**3.87**	**42**	Pn	**Pn**	**18 02 15.7**	**+1.4**
JHRM	**Jahrom**	**3.88**	**235**	Pn	**Pn**	**18 02 16.9**	**+2.3**
SHI	**Shiraz**	**4.21**	**255**	Pn	**Pn**	**18 02 20.7**	**+1.6**
NASN	**Na'in**	**4.24**	**299**	*e*Pn	**Pn**	**18 02 20.8**	**+1.1**
IRAM	**Ramesheh**	**4.24**	**285**	Pn	**Pn**	**18 02 21.1**	**+1.6**
GHIR	**Ghir-Karzin**	**4.43**	**237**	*e*Pn	**Pn**	**18 02 23.5**	**+1.4**
IZEF	**Zefreh**	**4.64**	**298**	Pn	**Pn**	**18 02 26.9**	**+1.8**
IGAR	**Gharneh**	**4.68**	**291**	Pn	**Pn**	**18 02 27.9**	**+2.3**
SHME	**Shamm** SNR=18	**4.81**	**191**	*i* P	**Pn**	**18 02 28.0**	**+0.8**
SHME	**Shamm** SNR=12	**4.81**	**191**	P	**Pn**	**18 02 28.8**	**+1.6**
SHME				S	**Sn**	**18 03 27.2**	**+4.2**
KLNJ	**Kolanjah**	**4.82**	**274**	Pn	**Pn**	**18 02 29.3**	**+1.6**
BANOM	**Banah**	**4.91**	**189**	P	**Pn**	**18 02 30.2**	**+1.7**
BANOM	**Banah**	**4.91**	**189**	P	**Pn**	**18 02 30.3**	**+1.7**
BANOM				S	**Sn**	**18 03 30.5**	**+5.1**
TBHD	**Torbat heydari**	**4.92**	**20**	Pn	**Pn**	**18 02 29.8**	**+1.0**
LMD1	**Lamerd**	**4.92**	**227**	Pn	**Pn**	**18 02 30.1**	**+1.3**
JASK	**Jask - Hormozg** SNR=56	**4.94**	**173**	P	**Pn**	**18 02 31.0**	**+2.0**
JASK				P	Pb	18 02 31.2	-10
	SNR=19						
JASK				S	**Sn**	**18 03 28.4**	**+2.3**
JASK	**Jask - Hormozg**	**4.94**	**173**	Pn	**Pn**	**18 02 30.9**	**+2.0**
TBJM	**Torbat-e-JAM**	**5.18**	**30**	Pn	**Pn**	**18 02 33.7**	**+1.2**
IBRJ	**Brojen**	**5.20**	**284**	Pn	**Pn**	**18 02 35.1**	**+2.3**
SHRO	**Shahrood**	**5.28**	**350**	*e*Pn	**Pn**	**18 02 35.2**	**+1.5**
SHRO				IAML		18 04 09.3	
	comp=E,1μm,0.4s						
SHRO				IAML		18 04 13.1	
	comp=N,1μm,0.6s						
KRSH	**Karshahi**	**5.33**	**308**	Pn	**Pn**	**18 02 36.0**	**+1.6**
IKLH	**Kolahrood**	**5.39**	**299**	Pn	**Pn**	**18 02 37.2**	**+1.8**
IANJ	**Anjilo**	**5.42**	**330**	Pn	**Pn**	**18 02 36.3**	**+0.6**
UMQ	**Umm Al-Quwin**	**5.42**	**195**	P	**Pn**	**18 02 38.1**	**+2.6**
UMQ				S	**Sn**	**18 03 39.3**	**+1.5**
AHBU	**AHRAM**	**5.47**	**251**	Pn	**Pn**	**18 02 37.1**	**+0.8**
MASF	**Masafi** SNR=40	**5.47**	**190**	P	**Pn**	**18 02 38.5**	**+2.1**
MASF				S	**Sn**	**18 03 41.5**	**+2.1**
ISFB	**Sefidab**	**5.49**	**312**	Pn	**Pn**	**18 02 38.2**	**+1.7**
MSFE	**Esma-Masafi** SNR=40	**5.49**	**190**	*i* P	**Pn**	**18 02 38.1**	**+1.6**
HRA	**Herat**	**5.57**	**49**	Pn	**Pn**	**18 02 38.8**	**+1.0**
ZNGN	**Zangian**	**5.58**	**285**	Pn	**Pn**	**18 02 40.2**	**+2.2**
SBZV	**Sabzevar**	**5.59**	**3**	Pn	**Pn**	**18 02 39.1**	**+1.0**
IMOG	**Moghan**	**5.60**	**18**	Pn	**Pn**	**18 02 39.8**	**+1.5**
SRVN	**Saravan**	**5.67**	**125**	Pn	**Pn**	**18 02 41.0**	**+1.9**
IPIR	**Pirpir**	**5.69**	**291**	Pn	**Pn**	**18 02 42.2**	**+2.7**
DSBU	**Dashti - Bushe**	**5.71**	**246**	Pn	**Pn**	**18 02 40.7**	**+1.1**
QAMS	**Qamsar**	**5.72**	**302**	Pn	**Pn**	**18 02 42.3**	**+2.4**
JRKH	**Jarkhoshk**	**5.75**	**27**	Pn	**Pn**	**18 02 41.5**	**+1.4**
JHBN	**Jahan bin**	**5.76**	**286**	Pn	**Pn**	**18 02 42.5**	**+2.0**
ILAS	**Lasjerd**	**5.80**	**323**	Pn	**Pn**	**18 02 42.3**	**+1.3**
IPAY	**Payeh**	**5.84**	**14**	Pn	**Pn**	**18 02 43.5**	**+1.9**
UOSS	**Minazif**	**5.89**	**189**	Pn	**Pn**	**18 02 44.2**	**+2.2**
UOSS	**Minazif** SNR=22	**5.89**	**189**	*i* P	**Pn**	**18 02 44.0**	**+2.0**
CHBR	**Chabahar**	**5.93**	**150**	*e*Pn	**Pn**	**18 02 44.1**	**+1.5**
CHBR	**Chabahar**	**5.93**	**150**	Pn	**Pn**	**18 02 40.0**	**-2.6**
NAZ	**Nazwa, Dubai** SNR=9.1	**5.94**	**194**	*i* P	**Pn**	**18 02 44.5**	**+1.9**
NAZ	**Nazwa, Dubai** SNR=9.0	**5.94**	**194**	P	**Pn**	**18 02 44.9**	**+2.3**
NAZ				S	**Sn**	**18 03 53.4**	**+2.8**
IAKL	**Akhelmad**	**5.94**	**12**	Pn	**Pn**	**18 02 44.9**	**+1.9**
HATD	**Hatta, Dubai**	**6.02**	**189**	P	**Pn**	**18 02 45.4**	**+1.6**
HATD	**Hatta, Dubai** SNR=13	**6.02**	**189**	P	**Pn**	**18 02 46.3**	**+2.5**
HATD				S	**Sn**	**18 03 54.7**	**+2.1**
IMYA	**Miami**	**6.04**	**23**	Pn	**Pn**	**18 02 46.3**	**+2.0**
IFIR	**Firoozkooh**	**6.10**	**324**	Pn	**Pn**	**18 02 45.7**	**+0.5**
ASHO	**Ashiyiah** SNR=25	**6.17**	**190**	*i* P	**Pn**	**18 02 47.5**	**+1.7**
ASHO				S	Sn	18 04 04.7	+8.3
ASHO	**Ashiyiah** SNR=25	**6.17**	**190**	P	**Pn**	**18 02 48.0**	**+2.1**
ASHO				S	**Sn**	**18 04 01.0**	**+4.7**
FAQ	**Al Faqa, Dubai** SNR=16	**6.19**	**194**	*i* P	**Pn**	**18 02 47.5**	**+1.4**
FAQ	**Al Faqa, Dubai** SNR=16	**6.19**	**194**	P	**Pn**	**18 02 48.2**	**+2.1**
FAQ				S	**Sn**	**18 04 02.3**	**+5.5**
GHVR	**GHOM**	**6.19**	**308**	*e*Pn	**Pn**	**18 02 48.4**	**+2.2**
IVRN	**Varamin**	**6.22**	**314**	Pn	**Pn**	**18 02 47.8**	**+1.1**
IKRD	**Kardeh**	**6.28**	**17**	Pn	**Pn**	**18 02 49.3**	**+1.7**
ISFR	**Sfrayin**	**6.28**	**6**	Pn	**Pn**	**18 02 49.3**	**+1.6**
IGLO	**Ghaloghah**	**6.35**	**335**	Pn	**Pn**	**18 02 50.8**	**+2.2**
ASUD	**Al Ashush, Dub** SNR=27	**6.36**	**196**	*i* P	**Pn**	**18 02 50.7**	**+2.2**
ASUD	**Al Ashush, Dub** SNR=27	**6.36**	**196**	P	**Pn**	**18 02 51.1**	**+2.6**
IALA	**Alasht**	**6.42**	**326**	Pn	**Pn**	**18 02 51.5**	**+1.9**
NGCH	**Negor - Chabah**	**6.43**	**146**	P	**Pn**	**18 02 49.6**	**+0.1**
NGCH				S	**Sn**	**18 04 09.0**	**+6.1**
NGCH	**Negor - Chabah**	**6.43**	**146**	Pn	**Pn**	**18 02 49.4**	**-0.1**
IDMV	**Damavand**	**6.44**	**319**	Pn	**Pn**	**18 02 51.1**	**+1.2**
AJN	**Ajban** SNR=6.2	**6.50**	**198**	P	**Pn**	**18 02 51.9**	**+1.5**
DAMV	**Damavand**	**6.51**	**319**	*e*Pn	**Pn**	**18 02 52.0**	**+1.2**
IQOM	**Qom**	**6.55**	**310**	Pn	**Pn**	**18 02 52.0**	**+0.7**
IMND	**Minoodasht**	**6.62**	**348**	Pn	**Pn**	**18 02 53.5**	**+1.5**
SOHO	**SOHO** SNR=19	**6.66**	**185**	*i* P	**Pn**	**18 02 52.5**	**0.0**
SOHO	**SOHO**	**6.66**	**185**	P	**Pn**	**18 02 52.7**	**+0.2**
IEMG	**Emamgholi**	**6.72**	**10**	Pn	**Pn**	**18 02 55.7**	**+2.0**
IPRN	**Peran**	**6.78**	**325**	Pn	**Pn**	**18 02 56.1**	**+1.7**
IHSB	**Hasanabad**	**6.79**	**315**	Pn	**Pn**	**18 02 55.9**	**+1.4**
KHMZ	**Khomeyn**	**6.80**	**298**	*e*Pn	**Pn**	**18 02 57.0**	**+2.3**
AMIS	**Naft Sefid**	**6.83**	**279**	Pn	**Pn**	**18 02 55.1**	**+0.2**
ALNE	**Al Ain** SNR=10	**6.83**	**191**	*i* P	**Pn**	**18 02 55.9**	**+0.9**
ALNE	**Al Ain** SNR=11	**6.83**	**191**	P	**Pn**	**18 02 57.2**	**+2.3**
ALNE				S	**Sn**	**18 04 17.0**	**+4.3**
MRVT	**Maraveh tapeh**	**6.91**	**353**	*e*Pn	**Pn**	**18 02 58.0**	**+1.8**
MRVT	**Maraveh tapeh**	**6.91**	**353**	Pn	**Pn**	**18 02 58.1**	**+2.0**
TEH	**Tehran**	**6.93**	**317**	Pn	**Pn**	**18 02 57.1**	**+0.6**
JRN	**Qarnain Island** SNR=6.4	**6.98**	**214**	P	**Pn**	**18 02 57.8**	**+0.8**
JRN				S	**Sn**	**18 04 15.7**	**-0.7**
ASAO	**Ashtian**	**7.11**	**304**	*e*Pn	**Pn**	**18 03 01.5**	**+2.4**
GEYT	**Alibeck** comp=N,1.7nm,0.3s,baz=191,slow=15,SNR=27	**7.16**	**6**	Pn	**Pn**	**18 03 00.9**	**+1.4**
GEYT				S	**Sn**	**18 04 19.8**	**-1.1**
	baz=272,slow=38						
GEYT				Lg	Lg	18 04 57.2	
	comp=N,4.2nm,0.3s,baz=297,slow

comp=Z,8.0nm,0.8s
MAK Makhachkala 14.40 330 *e*P **Pn** **18 04 33.9 -4.6**
MAK *e*S **Sn** **18 07 12.0 -6.0**
MAK pmax pmax
comp=Z,169nm,1.2s
BTK Batken 14.44 46 **Pn** **18 04 39.0 -0.2**
BTK Batken 14.44 46 P **Pn** **18 04 39.0 -0.2**
GURO Guroymak-BITLI 14.67 306 Pn **P** **18 04 44.8 -3.9**
CHM Chimkent 15.21 37 *e*P **Pn** **18 04 50.1 +0.7**
baz=38
CHM Chimkent 15.21 37 *e*P **Pn** **18 04 50.1 +0.7**
AKH Akhalkalaki 15.31 318 Pn **P** **18 04 53.2 -2.6**
AKH Akhalkalaki 15.31 318 P **P** **18 04 53.2 -2.6**
AKH pmax pmax
comp=Z,36nm,1.0s
ZEI Tsey 16.00 322 *e*P **P** **18 05 01.2 -2.3**
ZEI pmax pmax
comp=Z,64nm,1.6s
ONI Oni 16.10 321 P **P** **18 05 02.9 -1.6**
ONI Oni 16.10 321 P **P** **18 05 02.9 -1.6**
ONI pmax pmax
comp=Z,23nm,1.6s
KK31 Karatay Array 16.23 37 Pn **Pn** **18 05 01.8 -1.0**
KK31 Karatay Array 16.23 37 P **Pn** **18 05 01.8 -1.0**
KK31 pmax pmax
comp=Z,41nm,1.4s
KKAR Karatay Array 16.23 37 Pn **Pn** **18 05 01.2 -1.6**
KKAR Karatay Array 16.23 37 **Pn** **18 05 01.2 -1.6**
KKAR Karatay Array 16.23 37 P **Pn** **18 05 01.2 -1.6**
KKAR pmax pmax
comp=Z,40nm,1.4s
ARSB Arslanbob 16.51 46 **Pn** **18 05 05.9 -0.6**
ARSB Arslanbob 16.51 46 P **Pn** **18 05 05.9 -0.6**
DZA Taraz 16.52 39 *e*P **P** **18 05 07.1 -2.0**
baz=39
DZA Taraz 16.52 39 *e*P **P** **18 05 07.1 -2.0**
KBZ Khabaz 17.18 323*ce*P **Pn** **18 05 14.4 -0.3**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
KBZ Khabaz 17.18 323 P **P** **18 05 16.2 0.0**
comp=Z,0.1nm,0.3s,baz=154,slow=11,SNR=8.4
comp=Z,6.3nm,0.8s
KVAR Kislovodsk Arr 17.44 323 P **P** **18 05 21.1 +1.8**
baz=265,slow=23
comp=Z,6.9nm,1.0s
KIV Kislovodsk 17.45 323 ⇓P **P** **18 05 21.1 +1.7**
KIV Kislovodsk 17.45 323 **P** **18 05 18.8 -0.6**
KIV Kislovodsk 17.45 323 P **P** **18 05 20.6 +1.2**
KIV Kislovodsk 17.45 323 *e*P **P** **18 05 19.4 0.0**
KIV pmax pmax
comp=Z,37nm,1.0s
ARPR Arapgir-MALATY 17.52 303 Pn **Pn** **18 05 17.3 -1.8**
KSH Kashi 17.63 55 P **Pn** **18 05 16.0 -4.5**
KSH pP P 18 05 19.3 -2.2
KSH sP pP 18 05 22.3 -2.8
KSH pmax pmax
comp=Z,17nm,0.7s
KSH LR LR
comp=Z,710nm,13.0s
KSH LR LR
comp=Z,670nm,8.6s
KSH LR LR
comp=Z,970nm,8.8s
GAZ Gaziantep 17.74 296 P **P** **18 05 22.4 -0.3**
GAZ IAmb IAmb 18 05 29.7
comp=Z,100nm,1.3s
GOF Gofitskoye 18.06 326*ce*P **P** **18 05 25.5 -0.5**
AAK Ala-Archa 18.19 45 P **P** **18 05 27.1 -0.6**
AAK Ala-Archa 18.19 45 P **P** **18 05 28.4 +0.8**
AAK Ala-Archa 18.19 45*d i*P **P** **18 05 26.8 -0.8**
AAK pmax pmax
comp=Z,77nm,1.6s
AAK Ala-Archa 18.19 45 P **P** **18 05 28.2 +0.6**
comp=Z,0.4nm,0.3s,baz=221,slow=13,SNR=14
AAK LR LR 18 14 01.3
comp=Z,192nm,19.4s,baz=244,slow=42
comp=Z,13nm,0.8s
FRU1 Bishkek 18.37 44 P **Pn** **18 05 28.1 -1.4**
FRU1 Bishkek 18.37 44 P **Pn** **18 05 28.1 -1.4**
FRU1 pmax pmax
comp=Z,67nm,1.4s
ABKAR Akbulak array 18.56 6 P **Pn** **18 05 30.8 -0.9**
MMAI Mount Meron Ar 18.63 283 P **Pn** **18 05 34.4 +1.6**
comp=Z,0.6nm,0.3s,baz=97,slow=14,SNR=14
MMAI LR LR 18 14 18.1
comp=Z,340nm,19.6s,baz=66,slow=42
comp=Z,11nm,0.8s
SGDS Sogindy 18.74 43 *e*P **Pn** **18 05 34.6 +0.6**
baz=43
SGDS Sogindy 18.74 43 *e*P **Pn** **18 05 34.6 +0.6**
SOC Sochi 18.84 317 *e*P **P** **18 05 29.7 -5.0**
SOC *e* 18 08 57.5
SOC MLR MLR
comp=Z,262nm,14.0s
EIL Elat 19.25 272 P **Pn** **18 05 41.3 +1.1**
comp=Z,0.5nm,0.3s,baz=57,slow=4.5,SNR=28
comp=Z,25nm,0.8s
BNN Bunyan 19.25 300 IAmb IAmb 18 05 47.6
comp=Z,103nm,1.0s
BTLS Baital 19.42 38 *e*P **Pn** **18 05 42.6 +0.4**
comp=Z,62nm,2.2s,baz=38
BTLS Baital 19.42 38 *e*P **Pn** **18 05 42.5 +0.4**
BTLS pmax pmax
comp=Z,62nm,2.2s
AKTO Aktyubinsk 19.63 2 P **Pn** **18 05 44.5 -0.2**
comp=Z,3.1nm,0.3s,baz=182,slow=9.3,SNR=78
AKTO LR LR 18 14 11.8
comp=Z,573nm,19.2s,baz=149,slow=39
comp=Z,40nm,0.8s
TNSS Tian-Shan 19.91 47 *e*P **Pn** **18 05 48.1 -0.4**
baz=47
TNSS Tian-Shan 19.91 47 *e*P **Pn** **18 05 48.0 -0.4**
AAA Alma-Ata 19.98 46 *e*P **Pn** **18 05 48.9 -0.1**
baz=46
AAA Alma-Ata 19.98 46 *e*P **Pn** **18 05 48.8 -0.1**
KUU Kurty 20.01 44 *e*P Pn 18 05 48.5 -0.7
comp=Z,52nm,1.2s,baz=44
KUU Kurty 20.01 44 *e*P Pn 18 05 48.4 -0.8
KUU pmax pmax
comp=Z,52nm,1.2s
MDOK Medeo 20.04 46 *e*P Pn 18 05 48.5 -1.3
baz=47
MDOK Medeo 20.04 46 *e*P Pn 18 05 48.4 -1.4
CHKK Chushkaly 20.38 45 *e*P Pn 18 05 52.5 -1.0
baz=45
CHKK Chushkaly 20.38 45 *e*P Pn 18 05 52.4 -1.1
CSS Mathiatis 20.46 288 IAmb IAmb 18 06 02.4
comp=Z,122nm,1.1s
DIKM Dikmen 20.70 308 ⇓P Pn 18 05 56.8 -0.4
ANN Anapa 20.89 318 *e*P Pn 18 05 59.2 -0.2
ANN *e*S Sn 18 09 54.6 -0.6
ANN pmax pmax
comp=Z,103nm,1.1s
ZHN Zhinishke 20.92 48 *e*P Pn 18 05 58.4 -1.6
baz=48
ZHN Zhinishke 20.92 48 *e*P Pn 18 05 58.3 -1.7
BR131 Keskin Array S 21.15 301 IAmb IAmb 18 06 02.1
comp=Z,105nm,1.1s
BR131 Keskin Array S 21.15 301 P **P** **18 06 01.0 +0.9**
SNR=51
BR131 Keskin Array S 21.15 301 *i* P **P** **18 06 00.7 +0.7**
BRTR Keskin Array B 21.15 301*ce*P **P** **18 06 00.8 +0.7**
BRTR pmax pmax
comp=Z,47nm,0.9s
BRTR Keskin Array B 21.15 301 P **P** **18 06 00.8 +0.7**
comp=Z,46nm,0.9s,baz=121,slow=12,SNR=180
BRTR PcP **PcP** **18 10 05.3 -0.4**
comp=Z,1.1nm,1.0s,baz=157,slow=3.1,SNR=2.7
BRTR LR LR 18 15 16.2
comp=Z,244nm,21.3s,baz=102,slow=40
comp=Z,46nm,0.9s
UZB Uzynbulak 21.29 49 *e*P **P** **18 06 02.3 +0.8**
comp=Z,38nm,1.6s,baz=49
UZB Uzynbulak 21.29 49 *e*P **P** **18 06 02.2 +0.8**
UZB pmax pmax
comp=Z,38nm,1.6s
SHLS Shalkode 21.58 49 *e*P **P** **18 06 08.9 +4.3**
comp=Z,47nm,1.5s,baz=49
SHLS Shalkode 21.58 49 *e*P **P** **18 06 08.8 +4.3**
SHLS pmax pmax
comp=Z,47nm,1.5s
ANTO Ankara 21.82 301 P **P** **18 06 08.0 +0.9**
ANTO Ankara 21.82 301 P **P** **18 06 08.5 +1.4**
ANTO Ankara 21.82 301 P **P** **18 06 08.0 +0.9**
ANTO pmax pmax
comp=Z,32nm,0.9s

BR231 Keskin MP Arra 21.82 301 IAmb IAmb 18 06 11.1
comp=Z,42nm,0.8s
TDK Taldyqorghan 21.86 44 *e*P **P** **18 06 08.4 +1.0**
baz=44
TDK Taldyqorghan 21.86 44 *e*P **P** **18 06 08.3 +1.0**
BELG Belogornoye 22.70 345 *i* P **P** **18 06 15.7 -0.6**
BELG pmax pmax
comp=Z,25nm,1.1s
SIM Simferopol' 22.95 314 *e*P **P** **18 06 20.8 +1.7**
SIM *e*S **S** **18 10 25.5 -3.5**
SIM pmax pmax
comp=Z,60nm,1.1s
SIM smax smax
comp=E,64nm,17.6s
SIM MLR MLR
comp=Z,28nm,14.8s
ISP Isparta 23.07 295*ce*P **P** **18 06 20.7 +0.2**
ISP pmax pmax
comp=Z,256nm,1.3s
DANN Dangsing 23.22 89 *e*P **P** **18 06 23.7 +1.5**
comp=Z,417nm,1.2s
ATD Arta Tunnel 23.33 218 P **P** **18 06 24.0 +0.9**
ATD Arta Tunnel 23.33 218 P **P** **18 06 23.6 +0.5**
comp=Z,0.8nm,1.0s,baz=353,slow=8.1,SNR=2.0
ATD LR LR 18 16 55.1
comp=Z,14nm,19.4s,baz=16,slow=40
VRH Novokhopyorsk 23.41 335 *e*P **P** **18 06 23.6 0.0**
VRH pmax pmax
comp=Z,70nm,1.2s
HYB Hyderabad 23.55 120 *e*P **P** **18 06 25.9 +0.5**
HYB *es*P **pP** **18 06 29.7 +0.4**
HYB *e*S **S** **18 10 40.1 +0.8**
GKN Gorkha 24.05 90 *e*P **P** **18 06 30.6 +0.4**
comp=Z,197nm,1.4s
BRVK Borovoye 24.21 19 P **P** **18 06 32.1 +0.8**
BRVK IAmb IAmb 18 06 37.8
comp=Z,97nm,1.5s
BRVK Borovoye 24.21 19 P **P** **18 06 32.3 +1.0**
BRVK Borovoye 24.21 19*ce*P **P** **18 06 32.7 +1.4**
BRVK pmax pmax
comp=Z,51nm,1.3s
BVAR Bovovye Array 24.21 20 P **P** **18 06 32.4 +1.1**
comp=Z,34nm,0.8s,baz=204,slow=6.5,SNR=92
BVAR LR LR 18 16 51.8
comp=Z,317nm,19.9s,baz=206,slow=39
comp=Z,34nm,0.8s
VSR Storozhevoye 24.40 332 *e*P **P** **18 06 32.7 -0.3**
VSR pmax pmax
comp=Z,30nm,0.8s
DMN Daman 24.55 90 *e*P **P** **18 06 35.3 +0.4**
comp=Z,74nm,1.0s
KULA Kula-Manisa 24.64 296 P **P** **18 06 35.4 0.0**
VORR Voronezh 24.74 333 *e*P **P** **18 06 36.4 +0.4**
VORR pmax pmax
comp=Z,93nm,0.8s
ARG Arkhangelos 24.79 290 P **P** **18 06 36.6 -0.1**
PKI Pulchoki 24.82 90 *e*P **P** **18 06 37.7 +0.3**
comp=Z,157nm,1.3s
MAKZ Makanchi 24.93 43 P **P** **18 06 38.7 +0.8**
MAKZ IAmb IAmb 18 06 44.9
comp=Z,37nm,0.9s
MAKZ Makanchi 24.93 43 P **P** **18 06 38.7 +0.8**
MAKZ pmax pmax
comp=Z,37nm,0.9s
MK31 Makanchi Array 25.10 43 P **P** **18 06 40.3 +0.8**
MK31 IAmb IAmb 18 06 46.3
comp=Z,32nm,1.2s
MK31 Makanchi Array 25.10 43*ce*P **P** **18 06 40.6 +1.1**
MKAR Makanchi Array 25.10 43 P **P** **18 06 40.1 +0.6**
MKAR Makanchi Array 25.10 43 P **P** **18 06 40.5 +1.0**
comp=Z,4.6nm,0.7s,baz=230,slow=9.0,SNR=50
comp=Z,4.6nm,0.7s
GUN Gumba 25.14 89 *e*P **P** **18 06 41.1 +0.7**
comp=Z,267nm,1.3s
DAT Datca 25.27 292 P **P** **18 06 41.2 +0.1**
KURBB Kurchatov Arra 25.41 33 P **P** **18 06 43.5 +1.3**
comp=Z,25nm,1.0s,baz=232,slow=8.4,SNR=102
KURBB LR LR 18 18 06.0
comp=Z,422nm,18.2s,baz=200,slow=40
comp=Z,25nm,1.0s
JIRN Jiri 25.47 90 *e*P **P** **18 06 44.0 +0.6**
comp=Z,202nm,1.2s
BODT Bodrum 25.51 292 P **P** **18 06 43.1 -0.1**
KURK Kurchatov 25.52 33 P **P** **18 06 44.0 +0.9**
KURK IAmb IAmb 18 06 50.5
comp=Z,67nm,1.4s
KURK Kurchatov 25.52 33 P **P** **18 06 44.4 +1.3**
KURK Kurchatov 25.52 33*ce*P **P** **18 06 44.7 +1.6**
KURK pmax pmax
comp=Z,46nm,1.3s
KARP Karpathos 25.53 289 P **P** **18 06 43.9 +0.4**
LPSR Galich'ya Gora 25.57 334 *e*P **P** **18 06 43.6 0.0**
LPSR pmax pmax
comp=Z,60nm,0.8s
ARU Arti 25.65 2 P **P** **18 06 44.5 +0.2**
ARU IAmb IAmb 18 06 52.2
comp=Z,52nm,1.2s
ARU Arti 25.65 2*d i*P **P** **18 06 46.4 +2.1**
ARU 18 07 24.2
ARU S **S** **18 11 18.6 +6.4**
ARU SS **SnSn** **18 12 13.5 +7.1**
ARU pmax pmax
comp=Z,35nm,1.2s
ARU Arti 25.65 2 P **P** **18 06 46.3 +2.1**
comp=Z,38nm,1.1s,baz=183,slow=7.6,SNR=18
ARU LR LR 18 17 37.2
comp=Z,219nm,19.2s,baz=176,slow=38
comp=Z,38nm,1.1s
RAMN Ramite 26.00 91 *e*P **P** **18 06 48.3 +0.2**
comp=Z,122nm,0.9s
SEM Semipalatinsk 26.09 35 *e*P **P** **18 06 49.9 +1.2**
comp=Z,40nm,1.2s,baz=35
SEM Semipalatinsk 26.09 35 *e*P **P** **18 06 49.8 +1.2**
SEM pmax pmax
comp=Z,41nm,1.2s
SVE Sverdlovsk 26.14 4 *e*P **P** **18 06 52.4 +3.7**
SVE pmax pmax
comp=Z,47nm,1.4s
MFTR Murfatlar 26.30 309 ⇑P **P** **18 06 52.7 +2.4**
PURM Purcari 26.32 314 ⇓P **P** **18 06 52.9 +2.5**
TIRR Tirgusor 26.41 309 ⇑P **P** **18 06 52.3 +1.0**
TIRR Tirgusor 26.41 309 P **P** **18 06 52.3 +1.0**
TPGR Topolog 26.55 310 ⇓P **P** **18 06 53.4 +0.8**
CHOS Chios island 26.64 295 P **P** **18 06 54.2 +0.6**
TLBR Topalu 26.68 309 ⇑P **P** **18 06 56.6 +2.9**
ICOR Ion Corvin 26.70 308 ⇑P **P** **18 06 55.2 +1.3**
HARR Harsova 26.81 309 ⇓P **P** **18 06 57.2 +2.3**
HARR Harsova 26.81 309 P **P** **18 06 57.2 +2.3**
TAPN Taplejung 26.85 90 *e*P **P** **18 06 56.0 +0.2**
comp=Z,50nm,1.1s
CFR Carcaliu 26.86 311 ⇑P **P** **18 06 55.8 +0.4**
CFR Carcaliu 26.86 311 P **P** **18 06 55.7 +0.4**
APE Apeiranthos 26.93 292 P **P** **18 06 55.8 -0.3**
ZSN Zaisan 26.96 44 *e*P **P** **18 06 57.8 +1.5**
baz=44
ZSN Zaisan 26.96 44 *e*P **P** **18 06 57.7 +1.5**
ALN Alexandroupoli 27.06 300 IAmb IAmb 18 06 58.6
comp=Z,37nm,1.2s
LOZB Loznitsa 27.29 306 ⇑P **P** **18 07 00.3 +1.0**
WMQ Urumqi 27.36 53 *e*P **P** **18 07 05.5 +5.5**
WMQ PP **PnPn** **18 07 48.3 +4.3**
WMQ pmax pmax
comp=Z,27nm,1.5s
SMTH Samothraki Isl 27.36 299 P **P** **18 06 59.6 -0.4**
RAZG Razgrad 27.41 306 ⇑P **P** **18 07 01.0 +0.7**
RDO Rodhopi 27.49 301 IAmb IAmb 18 07 02.4
comp=Z,44nm,1.0s
RDO Rodhopi 27.49 301 P **P** **18 07 01.3 +0.2**
VASR Vaslui 27.66 313 ⇑P **P** **18 07 04.3 +1.7**
ODBI Odobesti 27.78 311 ⇓P **P** **18 07 05.8 +2.2**
SORM Soroca 27.98 316 ⇑P **P** **18 07 05.8 +0.4**
SORM Soroca 27.98 316 P **P** **18 07 05.7 +0.4**
VRI Vrincioaia 28.03 311 ⇓P **P** **18 07 07.6 +1.6**
VRI Vrincioaia 28.03 311 P **P** **18 07 07.5 +1.6**
PLOR Plostina 28.08 311 ⇑P **P** **18 07 08.0 +1.6**
PLOR Plostina 28.08 311 P **P** **18 07 08.0 +1.6**
NEHR Nehoiu 28.16 310 ⇑P **P** **18 07 09.1 +2.1**
KYMI Kymi, Euboea I 28.19 295 P **P** **18 07 08.2 +0.8**
DION Dionisos Attik 28.27 294 P **P** **18 07 09.6 +1.5**
KIRV Kirov 28.30 351*ce*P **P** **18 07 08.6 +0.6**
KIRV Kirov 28.30 351 LR LR 18 20 51.1
comp=Z,525nm,18.2s,baz=172,slow=41
PTL Penteli 28.32 294 P **P** **18 07 10.0 +1.4**
TESR Tescani 28.33 312 ⇓P **P** **18 07 09.8 +1.2**
COVR Voineasa-Covas 28.37 311 ⇑P **P** **18 07 10.1 +1.2**

ATHU Athens Univers 28.38 294 P **P** **18 07 06.4 -2.7**
OBN Obninsk 28.40 335 ⇑P **P** **18 07 11.9 +2.9**
OBN Obninsk 28.40 335 P **P** **18 07 09.6 +0.6**
OBN Obninsk 28.40 335*ce*P **P** **18 07 10.1 +1.1**
OBN *e* 18 07 57.7
OBN *e*S S 18 12 04.1 +8.5
OBN pmax pmax
comp=Z,77nm,1.3s
OBN MLR MLR
comp=Z,184nm,15.0s
MLR Muntele Rosu 28.41 310 ⇑P **P** **18 07 11.8 +2.4**
MLR Muntele Rosu 28.41 310 P **P** **18 07 10.6 +1.2**
MLR IAmb IAmb 18 07 13.5
comp=Z,29nm,1.1s
MLR Muntele Rosu 28.41 310 P **P** **18 07 10.6 +1.2**
MLR pmax pmax
comp=Z,29nm,1.1s
MLR Muntele Rosu 28.41 310 P **P** **18 07 11.4 +2.0**
comp=Z,11nm,0.6s,baz=6.1,slow=2.8,SNR=20
comp=Z,11nm,0.6s
MOS Moscow 28.52 337 *e*P **P** **18 07 08.9 -1.2**
MOS pmax pmax
comp=Z,65nm,0.8s
TURR Turia 28.57 311 ⇑P **P** **18 07 12.4 +1.7**
KOKK Kokkinochori, 28.57 300 P **P** **18 07 10.6 -0.2**
OZUR 28.73 311 ⇑P **P** **18 07 13.1 +1.0**
VILL Villia 28.77 294 P **P** **18 07 12.3 -0.3**
NVR Nevrokopi 28.77 301 P **P** **18 07 13.9 +1.3**
AKASG Malin Array Be 28.79 322 P **P** **18 07 13.2 +0.6**
comp=Z,8.4nm,0.8s,baz=124,slow=8.3,SNR=39
AKASG LR LR 18 20 21.4
comp=Z,118nm,19.1s,baz=172,slow=40
comp=Z,8.4nm,0.8s
AKBB Malin Array Si 28.79 322 IAmb IAmb 18 07 13.8
comp=Z,20nm,0.8s
AKBB Malin Array Si 28.79 322*ce*P **P** **18 07 12.7 +0.2**
AKBB pmax pmax
comp=Z,19nm,0.9s
KIEV Kiev 28.79 322 ⇑P **P** **18 07 15.0 +2.5**
KIEV Kiev 28.79 322 P **P** **18 07 12.8 +0.2**
KIEV IAmb IAmb 18 07 13.8
comp=Z,19nm,0.9s
KIEV Kiev 28.79 322 P **P** **18 07 12.8 +0.2**
KIEV pmax pmax
comp=Z,19nm,0.9s
MTUR Matau 28.91 309 ⇑P **P** **18 07 14.7 +0.8**
MTUR Matau 28.91 309 P **P** **18 07 14.6 +0.8**
SRS Serrai 28.93 300 P **P** **18 07 14.1 +0.2**
DOPR Dopca 28.94 311 ⇑P **P** **18 07 15.2 +1.2**
VOIR 28.99 309 ⇑P **P** **18 07 16.4 +1.9**
VOIR 28.99 309 P **P** **18 07 16.4 +1.9**
HORT Hortiatis 29.21 299 P **P** **18 07 16.6 +0.1**
ARR Arges 29.24 309 ⇓P **P** **18 07 18.0 +1.3**
AXAR Agios Charalam 29.33 295 P **P** **18 07 16.8 -0.7**
GUR Goura 29.52 293 P **P** **18 07 18.9 -0.4**
DGZ Jazzator, Alta 29.53 42 *i* P **P** **18 07 20.1 +0.8**
DGZ pmax pmax
comp=Z,9.0nm,1.0s
BUR01 Bucovina Ar. S 29.66 314 ⇑P **P** **18 07 22.9 +2.5**
BURAR Bucovina Array 29.66 314 P **P** **18 07 21.3 +0.8**
BURAR Bucovina Array 29.66 314 P **P** **18 07 21.8 +1.3**
KLV Kalavryta, Ach 29.67 294 P **P** **18 07 20.1 -0.5**
BUR08 Bucovina Ar. S 29.68 314 IAmb IAmb 18 07 27.5
comp=Z,22nm,1.2s
TYRN Tyrnavos 29.75 297 P **P** **18 07 20.7 -0.5**
GRG Griva 29.79 300 P **P** **18 07 21.4 -0.2**
ARCR ARCALIA 30.01 312 ⇓P **P** **18 07 25.4 +2.0**
BLKB Belogradchik 30.11 305 ⇑P **P** **18 07 25.4 +1.0**
DJES Djerdap 30.47 307 ⇓P **P** **18 07 28.1 +0.6**
GZR Gura Zlata 30.50 308 ⇑P **P** **18 07 28.4 +0.5**
ZALV Zalesovo Beam 30.51 33 *i* P **P** **18 07 28.3 +0.6**
ZALV pmax pmax
comp=Z,20nm,0.6s
ZALV Zalesovo Beam 30.51 33 P **P** **18 07 28.4 +0.6**
comp=Z,19nm,0.6s,baz=238,slow=9.0,SNR=80
ZALV LR LR 18 20 17.4
comp=Z,129nm,20.9s,baz=302,slow=37
comp=Z,19nm,0.6s
FNA Florina 30.54 299 IAmb IAmb 18 07 29.3
comp=Z,16nm,1.1s
FNA Florina 30.54 299 P **P** **18 07 28.2 0.0**
LTHK Lithakia 30.70 293 P **P** **18 07 28.2 -1.4**
NEST Nestorio 30.74 298 P **P** **18 07 31.2 +1.1**
BOVS Bovan 30.80 305 ⇑P **P** **18 07 30.9 +0.5**
VLS Valsamata 30.91 294 P **P** **18 07 30.0 -1.5**
MESR Meseseni 30.93 312 ⇓P **P** **18 07 33.5 +1.9**
KBN Korca 30.96 299 P **P** **18 07 31.8 -0.2**
IGT Igoumenitsa 31.20 296 P **P** **18 07 32.8 -1.2**
LVV L'vov 31.28 317 *e*P **P** **18 07 35.7 +1.1**
BZS Buzias 31.34 308 ⇓P **P** **18 07 36.0 +0.7**
BZS Buzias 31.34 308 P **P** **18 07 35.9 +0.7**
MNK Minsk 31.63 327 *i* P **P** **18 07 38.1 +0.5**
comp=E,15nm,1.0s
MNK *i* P **P** **18 07 38.1 +0.5**
comp=N,22nm,1.1s
MNK *i* P **P** **18 07 38.1 +0.5**
comp=Z,28nm,0.8s,baz=127
MNK *i* PPP PPP 18 08 50.7
MNK *i* S **S** **18 12 47.8 +1.4**
MNK *i* SS **SnSn** **18 14 34.5 +2.3**
MNK *i* SSS SSS 18 14 49.7
MNK *i* LQ LQ 18 17 58.8
MNK *i* LR LR 18 20 17.7
MNK *i* LRM MLR 18 21 44.4
comp=Z,171nm,18.0s
MNK *i* LRM MLR 18 21 53.8
comp=E,73nm,19.3s
MNK *i* LRM MLR 18 22 15.7
comp=N,155nm,15.4s
MNK Minsk 31.63 327 *i* P **P** **18 07 38.1 +0.5**
MNK *i* PPP PPP 18 08 50.6
MNK *i* 18 10 33.1
MNK *i* S **S** **18 12 47.8 +1.4**
MNK *i* SS **SnSn** **18 14 34.5 +2.3**
MNK *i* 18 18 11.3
MNK pmax pmax
comp=Z,28nm,0.9s
MNK pmax pmax
comp=N,22nm,1.1s
MNK pmax pmax
comp=E,15nm,1.0s
MNK MLR MLR
comp=Z,171nm,18.0s
MNK MLR MLR
comp=E,73nm,19.0s
MNK MLR MLR
comp=N,155nm,15.0s
GOMU GeErMu 31.70 70 P P 18 07 43.3 +4.4
GOMU pP sP 18 07 47.3 +2.4
GOMU pmax pmax
comp=N,7.0nm,1.2s
GOMU LR LR
comp=N,470nm,11.3s
GOMU LR LR
comp=N,240nm,12.0s
GOMU LR LR
comp=N,530nm,11.1s
PRGR Permogore 31.77 350 *e*P **P** **18 07 34.6 -4.2**
PRGR pmax pmax
comp=Z,13nm,0.8s
KOLS Kolonicke sedl 31.98 315 *e*P **P** **18 07 43.1 +2.3**
KOLS Kolonicke sedl 31.98 315 *e*P **P** **18 07 43.1 +2.3**
KOLS pmax pmax
comp=Z,78nm,1.0s
KWP Kalwaria Pacla 31.98 316 *e*P **P** **18 07 42.6 +1.8**
KLMR Klimovskoe 32.27 344 *e*P **P** **18 07 41.6 -1.6**
KLMR AMP 18 07 46.1
comp=Z,73nm,1.4s
KLMR LQ LQ 18 19 57.3
KLMR LQ LQ 18 19 57.3
KLMR LR LR 18 23 04.9
KLMR Klimovskoe 32.27 344 *e*P **P** **18 07 41.5 -1.6**
KLMR pmax pmax
comp=Z,73nm,1.4s
NACGM Naroch 32.39 327 *e*P **P** **18 07 43.5 -0.7**
comp=Z,32nm,0.9s,baz=126
CRVS Cervenica-Dubn 32.47 314 *e*P **P** **18 07 46.5 +1.4**
CRVS Cervenica-Dubn 32.47 314 *e*P **P** **18 07 46.5 +1.4**
CRVS pmax pmax
comp=Z,48nm,1.3s
KECS Kecovo 32.94 313 *e*P **P** **18 07 50.6 +1.4**
KECS Kecovo 32.94 313 *e*P **P** **18 07 50.6 +1.4**
ISAL Salakas 33.08 328 *e*P **P** **18 07 51.5 +1.2**
SUW Suwalki 33.68 323 *e*P **P** **18 07 56.6 +1.1**

SUW	**Suwalki**		**33.68**	**323**	P	**P**		**18 07 55.6**	**+0.1**
SUW	**Suwalki**		**33.68**	**323**	*e*P	**P**		**18 07 57.1**	**+1.6**
SUW	**Suwalki**		**33.68**	**323**	P	**P**		**18 07 55.6**	**+0.1**
SUW					pmax	pmax			
	comp=Z,43nm,1.0s								
LANS	**Liptovska Anna**		**33.79**	**314**	*e*P	**P**		**18 07 57.7**	**+1.0**
LANS	**Liptovska Anna**		**33.79**	**314**	*e*P	**P**		**18 07 57.7**	**+1.0**
LANS					pmax	pmax			
	comp=Z,10.0nm,1.5s								
TIP	**Timpagrande**		**33.94**	**295**	IAmb	IAmb		18 08 03.4	
	comp=Z,35nm,1.1s								
OJC	**Ojcow**		**33.95**	**316**	*e*P	**P**		**18 07 59.0**	**+1.0**
VYHS	**Vyhne**		**33.98**	**312**	*e*P	**P**		**18 07 59.2**	**+0.9**
VYHS	**Vyhne**		**33.98**	**312**	*e*P	**P**		**18 07 59.2**	**+0.9**
VYHS					pmax	pmax			
	comp=Z,11nm,0.9s								
PABE	**Paberze**		**34.06**	**326**	*e*P	**P**		**18 08 00.1**	**+1.2**
SRO	**Srobarova**		**34.13**	**311**	*e*P	**P**		**18 08 00.7**	**+1.2**
SRO	**Srobarova**		**34.13**	**311**	*e*P	**P**		**18 08 00.7**	**+1.2**
LODK	**Lodwar**		**34.14**	**221**	P	**P**		**18 08 01.8**	**+1.7**
LODK					IAmb	IAmb		18 08 06.4	
	comp=Z,16nm,1.1s								
LODK	**Lodwar**		**34.14**	**221**	P	**P**		**18 08 01.9**	**+1.7**
	SNR=12								
VSU	**Vasula**		**34.59**	**332**	*e*P	**P**		**18 08 03.7**	**+0.3**
VSU	**Vasula**		**34.59**	**332**	*i* P	**P**		**18 08 04.0**	**+0.6**
VSU					pmax	pmax			
	comp=Z,32nm,1.1s								
JAVC	**Velka Javorina**		**34.83**	**313**	*e*P	**P**		**18 08 07.1**	**+1.4**
MODS	**Modra-Piesok**		**34.95**	**312**	*e*P	**P**		**18 08 07.9**	**+1.2**
MODS	**Modra-Piesok**		**34.95**	**312**	*e*P	**P**		**18 08 07.9**	**+1.2**
MORC	**Moravsky Berou**		**35.18**	**314**	*e*P	**P**		**18 08 09.2**	**+0.5**
RONA	**Rosalia, Austr**		**35.41**	**310**	*i* P	**P**		**18 08 11.1**	**+0.4**
	comp=Z,16nm,0.8s								
VRAC	**Vranov**		**35.63**	**313**	⇑P	**P**		**18 08 13.3**	**+0.7**
VRAC	**Vranov**		**35.63**	**313**	*e*P	**P**		**18 08 12.9**	**+0.3**
VRAC	**Vranov**		**35.63**	**313**	P	**P**		**18 08 13.1**	**+0.6**
	comp=Z,6.4nm,0.9s,baz=113,slow=7.6,SNR=7.0								
	comp=Z,6.4nm,0.9s								
GTA	**Gaotai**		**35.64**	**64**	P	**P**		**18 08 14.3**	**+1.4**
GTA					pP	sP		18 08 18.8	-0.1
GTA					pmax	pmax			
	comp=Z,7.0nm,0.8s								
GTA					LR	LR			
	comp=Z,490nm,10.4s								
GTA					LR	LR			
	comp=Z,620nm,11.9s								
GTA					LR	LR			
	comp=Z,530nm,9.6s								
KRUC	**Moravsky**		**35.69**	**313**	*e*P	**P**		**18 08 13.4**	**+0.3**
CONA	**Conrad Observa**		**35.75**	**311**	*i* P	**P**		**18 08 13.9**	**+0.2**
	comp=Z,14nm,1.3s								
VAE	**Valguarnera**		**35.80**	**293**	P	**P**		**18 08 16.6**	**+2.4**
	comp=Z,15nm,0.7s,baz=316,slow=13,SNR=2.2								
	comp=Z,15nm,0.7s								
ARSA	**Arzberg**		**35.83**	**309**	*i* P	**P**		**18 08 15.1**	**+0.8**
	comp=Z,13nm,0.8s								
SOKA	**Soboth**		**36.04**	**308**	*e*P	**P**		**18 08 16.2**	**+0.1**
	comp=Z,11nm,1.2s								
DPC	**Dobruska-Polom**		**36.10**	**315**	*e*P	**P**		**18 08 17.6**	**+1.0**
DPC	**Dobruska-Polom**		**36.10**	**315**	*e*P	**P**		**18 08 17.6**	**+1.0**
OSTC	**Ostas**		**36.23**	**315**	*e*P	**P**		**18 08 18.8**	**+1.2**
OSTC	**Ostas**		**36.23**	**315**	*e*P	**P**		**18 08 18.8**	**+1.2**
KSP	**Ksiaz**		**36.27**	**315**	*e*P	**P**		**18 08 19.4**	**+1.5**
CHVC	**Chvalec**		**36.33**	**315**	*e*P	**P**		**18 08 19.6**	**+1.0**
CHVC	**Chvalec**		**36.33**	**315**	*e*P	**P**		**18 08 19.6**	**+1.0**
MOA	**Molln**		**36.78**	**310**	*i* P	**P**		**18 08 22.9**	**+0.4**
	comp=Z,18nm,0.7s								
FINES	**FINESS Array B**		**36.80**	**336**	P	**P**		**18 08 23.1**	**+0.8**
	comp=Z,13nm,0.8s,baz=138,slow=7.9,SNR=19								
	comp=Z,13nm,0.8s								
TNCH	**TengChong**		**36.81**	**89**	P	**P**		**18 08 20.8**	**-2.3**
TNCH					pP	pP		18 08 27.3	0.0
TNCH					sP	sP		18 08 30.0	+0.9
CKRC	**Cesky Krumlov**		**36.97**	**312**	*e*P	**P**		**18 08 24.7**	**+0.7**
CKRC	**Cesky Krumlov**		**36.97**	**312**	*e*P	**P**		**18 08 24.7**	**+0.7**
KMBO	**Kilima Mbogo**		**36.98**	**215**	P	**P**		**18 08 25.6**	**+1.0**
KMBO	**Kilima Mbogo**		**36.98**	**215**	*ce*P	**P**		**18 08 25.6**	**+1.0**
KMBO					pmax	pmax			
	comp=Z,9.0nm,1.1s								
KMBO	**Kilima Mbogo**		**36.98**	**215**	P	**P**		**18 08 24.8**	**+0.2**
	comp=Z,5.7nm,1.0s,baz=37,slow=11,SNR=9.2								
KMBO					LR	LR		18 23 38.5	
	comp=Z,128nm,18.8s,baz=80,slow=36								
	comp=Z,5.7nm,1.0s								
PRED	**Cave del Predi**		**37.00**	**308**	IAmb	IAmb		18 08 25.2	
	comp=Z,19nm,0.9s								
BIOA	**Bad Ischl, Aus**		**37.17**	**310**	*i* P	**P**		**18 08 26.0**	**+0.2**
	comp=Z,14nm,0.7s								
ZVC	**Zvikov**		**37.19**	**313**	*e*P	**P**		**18 08 26.4**	**+0.6**
KBA	**Koelnbreinsper**		**37.25**	**309**	*i* P	**P**		**18 08 27.1**	**+0.5**
	comp=Z,15nm,0.7s								
GEC2	**GERESS Array S**		**37.36**	**311**	IAmb	IAmb		18 08 28.8	
	comp=Z,30nm,0.8s								
GERES	**GERESS Array B**		**37.36**	**311**	P	**P**		**18 08 28.1**	**+0.6**
	comp=Z,22nm,0.8s,baz=104,slow=9.8,SNR=52								
	comp=Z,22nm,0.8s								
KHC	**Kasperske Hory**		**37.51**	**312**	IAmb	IAmb		18 08 30.0	
	comp=Z,24nm,0.9s								
KHC	**Kasperske Hory**		**37.51**	**312**	*e*P	**P**		**18 08 28.8**	**+0.2**
KHC	**Kasperske Hory**		**37.51**	**312**	*ce*P	**P**		**18 08 29.1**	**+0.5**
KHC					pmax	pmax			
	comp=Z,103nm,1.7s								
BRG	**Berggiesshubel**		**37.70**	**315**	*i* P	**P**		**18 08 31.1**	**+0.9**
BRG					Amp			18 08 32.0	
	comp=Z,7.4nm,1.0s								
BRG	**Berggiesshubel**		**37.70**	**315**	*i* P	**P**		**18 08 31.0**	**+0.9**
BRG					pmax	pmax			
	comp=Z,7.0nm,1.0s								
LESA	**Schwarzleotal**		**37.76**	**309**	*i* P	**P**		**18 08 30.7**	**-0.1**
	comp=Z,19nm,0.6s								
ABTA	**Abfaltersbach**		**37.76**	**308**	*e*P	**P**		**18 08 30.7**	**-0.1**
	comp=Z,20nm,0.7s								
HSKC	**Hora Svate Kat**		**37.95**	**314**	*e*P	**P**		**18 08 32.8**	**+0.5**
MOY	**Mondy**		**38.25**	**44**	*e*P	**P**		**18 08 36.8**	**+1.9**
MOY					pmax	pmax			
	comp=Z,43nm,1.3s								
RUE	**Ruedersdorf**		**38.25**	**317**	*e*P	**P**		**18 08 36.0**	**+1.3**
CLL	**Collm**		**38.39**	**315**	IAmb	IAmb		18 08 38.2	
	comp=Z,38nm,1.1s								
CLL	**Collm**		**38.39**	**315**	*i* P	**P**		**18 08 37.0**	**+1.1**
	comp=Z,41nm,1.1s								
CLL					*i* x	x		18 08 41.1	
	comp=Z,54nm,1.3s								
CLL	**Collm**		**38.39**	**315**	*i* P	**P**		**18 08 37.0**	**+1.1**
CLL					pmax	pmax			
	comp=Z,41nm,1.1s								
WTTA	**Wattenberg**		**38.43**	**309**	*i* P	**P**		**18 08 36.3**	**-0.3**
	comp=Z,40nm,0.7s,SNR=10.0								
NKC	**Novy Kostel**		**38.47**	**313**	*e*P	**P**		**18 08 36.8**	**+0.1**
NKC	**Novy Kostel**		**38.47**	**313**	*e*P	**P**		**18 08 36.8**	**+0.1**
WATA	**Walderalm**		**38.48**	**309**	*i* P	**P**		**18 08 36.3**	**-0.6**
	comp=Z,27nm,0.8s,SNR=10.0								
BSD	**Bornholm Skovb**		**38.49**	**322**	*e*P	**P**		**18 08 36.9**	**+0.2**
BSD	**Bornholm Skovb**		**38.49**	**322**	*i* P	**P**		**18 08 36.0**	**-0.7**
BSD					IAmb	IAmb		18 08 37.3	
	comp=Z,61nm,0.8s								
SQTA	**Sankt Quirin**		**38.71**	**308**	*i* P	**P**		**18 08 38.5**	**-0.3**
	comp=Z,38nm,0.6s,SNR=8.4								
MOTA	**Moosalm**		**38.80**	**309**	*i* P	**P**		**18 08 38.9**	**-0.7**
	comp=Z,32nm,1.1s,SNR=7.3								
LZH	**Lanzhou**		**39.00**	**69**	*e*P	**P**		**18 08 41.8**	**+0.4**
LZH					pP	sP		18 08 47.3	-0.1
LZH					pmax	pmax			
	comp=Z,9.0nm,1.2s								
LZH					LR	LR			
	comp=Z,480nm,12.0s								
LZH					LR	LR			
	comp=Z,660nm,12.0s								
LZH					LR	LR			
	comp=Z,550nm,12.4s								
FETA	**Feichten**		**39.01**	**308**	*i* P	**P**		**18 08 41.0**	**-0.4**
	comp=Z,30nm,0.7s,SNR=9.1								
RETA	**Reutte**		**39.05**	**309**	*i* P	**P**		**18 08 40.9**	**-0.7**
	comp=Z,19nm,0.6s								
GRA1	**Grafenberg Arr**		**39.13**	**312**	IAmb	IAmb		18 08 44.0	
	comp=Z,28nm,1.0s								
GRFO	**Grafenberg**		**39.13**	**312**	P	**P**		**18 08 42.6**	**+0.4**
GRFO					IAmb	IAmb		18 08 43.9	
	comp=Z,29nm,1.1s								
GRFO	**Grafenberg**		**39.13**	**312**	P	**P**		**18 08 42.6**	**+0.4**
GRFO					pmax	pmax			
	comp=Z,29nm,1.1s								
PZH	**PanZhiHua**		**39.14**	**85**	P	P		18 08 46.5	+3.8
PZH					pmax	pmax			
	comp=Z,10.0nm,1.3s								
PZH					pmax	pmax			
	comp=Z,130nm,4.8s								
ZAK	**Zakamensk**		**39.34**	**47**	*e*P	**P**		**18 08 44.6**	**+0.5**
ZAK					*e*			18 10 51.0	
ZAK					pmax	pmax			
	comp=Z,10.0nm,1.3s								
ZAK					pmax	pmax			
	comp=Z,4.0nm,1.3s								
APA	**Apatity**		**39.42**	**346**	⇓*i* P	**P**		**18 08 43.6**	**-0.7**
APA					pmax	pmax			
	comp=Z,51nm,0.8s								
APA					MLR	MLR			
	comp=Z,700nm,14.0s								
LUNU	**Lund**		**39.46**	**322**	*i* P	**P**		**18 08 43.7**	**-1.1**
CHTO	**Chiang Mai**		**39.52**	**98**	P	**P**		**18 08 45.3**	**-0.5**
CHTO	**Chiang Mai**		**39.52**	**98**	P	**P**		**18 08 45.3**	**-0.5**
CHTO					pmax	pmax			
	comp=Z,17nm,1.1s								
DEL	**Delary**		**39.54**	**323**	*e*P	**P**		**18 08 46.3**	**+0.8**
DEL	**Delary**		**39.54**	**323**	*i* P	**P**		**18 08 44.1**	**-1.4**
DAVOX	**Davos/Dischmat**		**39.56**	**308**	LR	LR		18 26 53.5	
	comp=Z,195nm,18.3s,baz=80,slow=39								
DAVA	**Damuels**		**39.62**	**308**	*i* P	**P**		**18 08 45.8**	**-0.7**
	comp=Z,41nm,0.7s								
CMAR	**Chiang Mai Arr**		**39.67**	**98**	P	**P**		**18 08 47.3**	**+0.2**
	comp=Z,3.6nm,1.0s,baz=290,slow=8.4,SNR=12								
CMAR					PcP	**PcP**		**18 10 52.5**	**-1.4**
	comp=Z,1.5nm,0.7s,baz=293,slow=5.1,SNR=6.0								
	comp=Z,3.6nm,1.0s								
CD2	**Chengdu**		**39.74**	**77**	P	**P**		**18 08 46.8**	**-0.8**
CD2					S	**S**		**18 14 50.8**	**-0.6**
CD2					LR	LR			
	comp=Z,310nm,10.4s								
CD2					LR	LR			
	comp=Z,330nm,12.3s								
CD2					LR	LR			
	comp=Z,310nm,10.5s								
BJUU	**Bjuv**		**39.84**	**322**	*i* P	**P**		**18 08 48.4**	**+0.4**
KEST	**Kesra**		**40.00**	**290**	P	**P**		**18 08 50.9**	**+1.2**
	comp=Z,11nm,0.9s,baz=312,slow=3.5,SNR=6.2								
	comp=Z,11nm,0.9s								
MBAR	**Mbarara**		**40.09**	**224**	P	**P**		**18 08 51.2**	**+0.5**
MBAR	**Mbarara**		**40.09**	**224**	*i* P	**P**		**18 08 51.8**	**+1.1**
CRAI	**Chiangrai**		**40.15**	**95**	P	**P**		**18 08 51.8**	**+0.7**
FABU	**Falkenberg**		**40.33**	**324**	*i* P	**P**		**18 08 51.9**	**-0.1**
KMI	**Kunming**		**40.41**	**86**	⇓P	**P**		**18 08 53.8**	**+0.4**
KMI					pmax	pmax			
	comp=Z,24nm,0.9s								
KMI					LR	LR			
	comp=Z,220nm,14.2s								
KMI					LR	LR			
	comp=Z,260nm,13.7s								
KMI					LR	LR			
	comp=Z,200nm,14.0s								
BORU	**Boraas**		**40.54**	**325**	*i* P	**P**		**18 08 53.9**	**+0.2**
ONAU	**Onsala**		**40.88**	**324**	*i* P	**P**		**18 08 57.2**	**+0.7**
SONM	**Songino Array**		**40.95**	**51**	P	**P**		**18 08 57.3**	**-0.2**
SONM	**Songino Array**		**40.95**	**51**	P	**P**		**18 08 57.3**	**-0.2**
SONM					pmax	pmax			
	comp=Z,15nm,1.3s								
SONM	**Songino Array**		**40.95**	**51**	P	**P**		**18 08 58.7**	**+1.1**
	comp=Z,16nm,1.3s,baz=265,slow=8.0,SNR=16								
SONM					LR	LR		18 28 20.6	
	comp=Z,232nm,18.2s,baz=298,slow=40								
	comp=Z,16nm,1.3s								
HFS	**Hagfors**		**41.12**	**328**	P	**P**		**18 08 59.1**	**+0.6**
	comp=Z,6.6nm,0.9s,baz=128,slow=9.6,SNR=8.9								
	comp=Z,6.6nm,0.9s								
SENIN	**Lac Senin/Sane**		**41.29**	**307**	P	**P**		**18 08 59.2**	**-1.2**
ULN	**Ulaanbaatar**		**41.40**	**51**	P	**P**		**18 09 00.6**	**-0.6**
ULN	**Ulaanbaatar**		**41.40**	**51**	*ce*P	**P**		**18 09 02.5**	**+1.3**
ULN					pmax	pmax			
	comp=Z,12nm,1.3s								
ECH	**Echery**		**41.55**	**309**	P	**P**		**18 09 01.0**	**-1.3**
ECH	**Echery**		**41.55**	**309**	P	**P**		**18 09 01.0**	**-1.3**
ECH					pmax	pmax			
	comp=Z,21nm,1.2s								
BNI	**Bardonecchia**		**41.66**	**305**	P	**P**		**18 09 01.9**	**-1.4**
BNI					IAmb	IAmb		18 09 07.8	
	comp=Z,37nm,1.1s								
BNI	**Bardonecchia**		**41.66**	**305**	P	**P**		**18 09 01.9**	**-1.4**
BNI					pmax	pmax			
	comp=Z,37nm,1.1s								
MUD	**Monsted U'grnd**		**41.99**	**322**	*i* P	**P**		**18 09 06.8**	**+1.1**
MUD					IAmb	IAmb		18 09 08.5	
	comp=Z,26nm,0.8s								
NRIK	**Noril'sk**		**42.29**	**15**	P	**P**		**18 09 08.7**	**+0.7**
NRIK					IAmb	IAmb		18 09 14.7	
	comp=Z,37nm,1.1s								
NRIK	**Noril'sk**		**42.29**	**15**	*ce*P	**P**		**18 09 08.9**	**+0.9**
NRIK					pmax	pmax			
	comp=Z,18nm,1.0s								
NRIK	**Noril'sk**		**42.29**	**15**	P	**P**		**18 09 09.1**	**+1.1**
	comp=Z,26nm,1.0s,baz=220,slow=6.6,SNR=13								
NRIK					LR	LR		18 28 09.8	
	comp=Z,164nm,21.8s,baz=202,slow=38								
	comp=Z,26nm,1.0s								
WLF	**Walferdange**		**42.37**	**311**	*d*P	**P**		**18 09 08.8**	**-0.1**
	comp=Z,8.3nm,0.9s								
WLF					*d*PP	**PP**		**18 10 43.7**	**-3.3**
BTNL	**Ternell**		**42.51**	**313**	*d*P	**P**		**18 09 11.2**	**+1.2**
BTNL					*d*PP	**PP**		**18 10 47.5**	**-1.0**
MEM	**Membach**		**42.59**	**313**	*d*P	**P**		**18 09 11.3**	**+0.7**
	comp=Z,10nm,0.9s								
MEM					*d*PP	**PP**		**18 10 47.2**	**-2.1**
NB2	**NORSAR Subarra**		**42.61**	**329**	P	**P**		**18 09 10.4**	**-0.3**
	comp=Z,27nm,1.7s,baz=116,slow=7.9								
NOA	**NORSAR Array B**		**42.61**	**329**	P	**P**		**18 09 10.2**	**-0.5**
	comp=Z,4.2nm,1.1s,baz=115,slow=7.7,SNR=5.6								
	comp=Z,4.2nm,1.1s								
ARCES	**ARCESS Array B**		**42.75**	**344**	P	**P**		**18 09 12.3**	**+0.6**
	comp=Z,11nm,0.8s,baz=151,slow=2.8,SNR=11								
ARCES					LR	LR		18 28 25.3	
	comp=Z,150nm,19.2s,baz=122,slow=38								
	comp=Z,11nm,0.8s								
BCLA	**Clavier**		**43.01**	**312**	*d*P	**P**		**18 09 14.9**	**+0.9**
	comp=Z,9.7nm,1.1s								
BCLA					*d*PP	**PP**		**18 10 52.9**	**-0.9**
RCHB	**Rochefort**		**43.02**	**312**	*d*P	**P**		**18 09 15.0**	**+0.8**
	comp=Z,12nm,1.0s								
BGES	**Gesves**		**43.14**	**312**	*d*P	**P**		**18 09 15.5**	**+0.3**
	comp=Z,10nm,1.0s								
BMRD	**Maredsous**		**43.34**	**312**	*d*P	**P**		**18 09 17.9**	**+1.2**
	comp=Z,13nm,0.9s								
DOU	**Dourbes**		**43.42**	**312**	*d*P	**P**		**18 09 17.6**	**+0.1**
	comp=Z,16nm,1.0s								
BTO	**Baotou**		**43.44**	**62**	*e*P	**P**		**18 09 18.3**	**+0.5**
BTO					pP	**sP**		**18 09 22.8**	**-1.1**
BTO					sP	**pP**		**18 09 25.3**	**+3.1**
BTO					PP	**PP**		**18 11 01.0**	**+2.3**
BTO					S	**S**		**18 15 47.3**	**+1.2**
BTO					SS	**SS**		**18 18 50.3**	**-10**
BTO					pmax	pmax			
	comp=Z,24nm,1.0s								
BTO					pmax	pmax			
	comp=Z,460nm,9.2s								
BTO					LR	LR			
	comp=Z,1μm,12.2s								
BTO					LR	LR			
	comp=Z,1μm,14.2s								
HHC	**Hu-ho-hao-te**		**44.59**	**61**	*e*P	**P**		**18 09 27.0**	**-0.1**
HHC					*e*S	**S**		**18 16 01.8**	**-1.0**
HHC					pmax	pmax			
	comp=Z,11nm,0.7s								
HHC					pmax	pmax			
	comp=Z,270nm,4.5s								
HHC					LR	LR			
	comp=Z,750nm,9.0s								
HHC					LR	LR			
	comp=Z,930nm,12.9s								
HHC					LR	LR			
	comp=Z,430nm,15.9s								
LYN	**LuoYang**		**46.20**	**70**	*e*P	P		18 09 44.8	+5.0
LYN					pmax	pmax			
	comp=Z,30nm,0.9s								
TAM	**Tamanrasset**		**46.47**	**273**	P	**P**		**18 09 42.5**	**+0.2**
TAM	**Tamanrasset**		**46.47**	**273**	P	**P**		**18 09 42.5**	**+0.2**
TAM					pmax	pmax			
	comp=Z,6.0nm,1.2s								
BOD	**Bodaibo**		**46.97**	**38**	*e*P	**P**		**18 09 45.9**	**+0.4**
BOD					pmax	pmax			
	comp=Z,61nm,1.3s								
XLT	**XiLinHaoTe**		**47.67**	**57**	*e*P	P		18 09 57.3	+6.0
XLT					pmax	pmax			
	comp=Z,13nm,1.1s								
XLT					pmax	pmax			
	comp=Z,200nm,5.1s								
EKA	**Eskdalemuir Ar**		**48.60**	**319**	P	**P**		**18 09 57.9**	**-0.3**
	comp=Z,6.9nm,0.9s,baz=109,slow=7.0,SNR=15								
	comp=Z,6.9nm,0.9s								
TIA	**Tai'an**		**49.59**	**67**	P	P		18 10 10.8	+4.8
TIA					pmax	pmax			
	comp=Z,16nm,1.0s								
ESDC	**Sonseca Array**		**49.89**	**298**	P	**P**		**18 10 07.3**	**-1.0**
	comp=Z,7.9nm,1.1s,baz=74,slow=7.4,SNR=13								
	comp=Z,7.9nm,1.1s								
MDT	**Midelt**		**51.89**	**289**	LR	LR		18 35 20.6	
	comp=Z,42nm,18.5s,baz=354,slow=39								
MVO	**Moncorvo**		**51.94**	**300**	*e*P	**P**		**18 10 23.2**	**-0.6**
	comp=Z,56nm,2.5s								
NJ2	**Nanjing**		**51.98**	**72**	*e*P	**P**		**18 10 25.3**	**+1.2**
NJ2					pP	**sP**		**18 10 30.0**	**-0.2**
NJ2					pmax	pmax			
	comp=Z,13nm,0.5s								
NJ2					pmax	pmax			
	comp=Z,360nm,3.9s								
PBAR	**Barrancos**		**52.53**	**297**	*e*P	**P**		**18 10 27.4**	**-0.7**
	comp=Z,45nm,1.5s								
PMRV	**Marv??o**		**52.54**	**298**	*e*P	**P**		**18 10 24.5**	**-3.7**
	comp=Z,27nm,1.5s								
LSZ	**Lusaka**		**53.63**	**216**	P	**P**		**18 10 36.5**	**0.0**
LSZ					IAmb	IAmb		18 10 41.2	
	comp=Z,16nm,1.3s								
LSZ	**Lusaka**		**53.63**	**216**	P	**P**		**18 10 36.5**	**0.0**
LSZ					pmax	pmax			
	comp=Z,16nm,1.3s								
LSZ	**Lusaka**		**53.63**	**216**	LR	LR		18 35 41.7	
	comp=Z,121nm,20.7s,baz=349,slow=39								
TOA0	**Torodi Ar. Sit**		**53.85**	**264**	P	**P**		**18 10 36.8**	**-1.3**
TOA0	**Torodi Ar. Sit**		**53.85**	**264**	P	**P**		**18 10 38.0**	**-0.2**
	SNR=10								
TORD	**Torodi Ar. Bea**		**53.85**	**264**	P	**P**		**18 10 37.0**	**-1.1**
TORD	**Torodi Ar. Bea**		**53.85**	**264**	P	**P**		**18 10 37.3**	**-0.8**
	comp=Z,24nm,0.8s,baz=51,slow=8.3,SNR=150								
TORD					LR	LR		18 34 31.6	
	comp=Z,202nm,18.3s,baz=55,slow=37								
	comp=Z,24nm,0.8s								
ZEA	**Zeya**		**54.26**	**43**	*e*P	**P**		**18 10 42.2**	**+1.6**
ZEA					pmax	pmax			
	comp=N,10.0nm,1.2s								
ZEA					pmax	pmax			
	comp=Z,10.0nm,1.1s								
CN2	**Changchun**		**54.40**	**56**	*e*P	**P**		**18 10 42.3**	**+0.6**
CN2					pmax	pmax			
	comp=Z,10.0nm,0.7s								
YAK	**Yakutsk**		**55.16**	**33**	P	**P**		**18 10 46.2**	**-0.8**
YAK	**Yakutsk**		**55.16**	**33**	*e*P	**P**		**18 10 46.3**	**-0.7**
YAK					*e**PP	**sP**		**18 10 53.6**	**+0.5**
YAK					*e*			18 11 49.7	
YAK					*e*			18 12 53.2	
YAK					*e*S	**S**		**18 18 30.1**	**+0.5**
YAK					*e**SS	**sS**		**18 18 37.8**	**+0.8**
YAK					*e*			18 20 31.9	
YAK					pmax	pmax			
	comp=Z,19nm,0.9s								
YAK					pmax	pmax			
	comp=N,1.0nm,1.0s								
YAK					pmax	pmax			
	comp=E,6.0nm,0.8s								
YAK					pmax	pmax			
	comp=Z,394nm,5.1s								
YAK					pmax	pmax			
	comp=N,415nm,4.2s								
YAK					pmax	pmax			
	comp=E,331nm,4.3s								
YAK					smax	smax			
	comp=E,183nm,3.5s								
YAK					smax	smax			
	comp=N,112nm,4.8s								
YAK	**Yakutsk**		**55.16**	**33**	LR	LR		18 35 22.2	
	comp=N,8.9nm,18.7s,baz=300,slow=37								
TIXI	**Tiksi**		**55.33**	**21**	P	**P**		**18 10 47.9**	**-0.2**
TIXI	**Tiksi**		**55.33**	**21**	*ce*P	**P**		**18 10 48.7**	**+0.7**
TIXI					pmax	pmax			
	comp=Z,16nm,1.3s								
TIXI	**Tiksi**		**55.33**	**21**	LR	LR		18 36 55.3	
	comp=Z,6.2nm,18.9s,baz=248,slow=39								
MDJ	**Mudanjiang**		**57.15**	**54**	P	**P**		**18 11 00.3**	**-1.2**
MDJ					PcS	**PcS**		**18 15 56.3**	**-0.7**
MDJ					S	**S**		**18 18 55.8**	**-0.8**
MDJ					ScS	**ScS**		**18 20 49.8**	**-1.0**
MDJ					SS	**SS**		**18 22 45.8**	**+0.6**
MDJ					pmax	pmax			
	comp=Z,21nm,2.2s								
MDJ					pmax	pmax			
	comp=Z,700nm,5.2s								
MDJ					LR	LR			
	comp=Z,610nm,5.2s								
MDJ					LR	LR			
	comp

SEY	**Seymchan**	**65.33**	**30**	*ce*P	**P**	**18 11 57.0**	**+0.4**
SEY				pmax	pmax			
	comp=Z,28nm,1.3s							
SEY	**Seymchan**	**65.33**	**30**	LR	LR	18 44 01.6		
	comp=Z,165nm,19.5s,baz=315,slow=39							
YSS	**Yuzh-Sakhalins**	**65.37**	**49**	*e*P	**P**	**18 11 57.7**	**+0.6**
YSS				pmax	pmax			
	comp=Z,40nm,1.3s							
MJAR	**Matsushiro Arr**	**65.78**	**61**	LR	LR	18 42 04.3		
	comp=Z,62nm,19.2s,baz=312,slow=37							
BOSA	**Boshof**	**66.46**	**210**	P	**P**	**18 12 04.3**	**-0.1**
	comp=Z,8.3nm,1.0s,baz=30,slow=7.0,SNR=7.1							
BOSA				LR	LR	18 44 23.5		
	comp=Z,107nm,18.0s,baz=16,slow=39							
	comp=Z,8.3nm,1.0s							
DY2G	**Dye2**	**67.29**	**335**	*i* P	**P**	**18 12 09.1**	**-0.3**
DY2G				IAmb	IAmb	18 12 10.9		
	comp=Z,12nm,0.7s							
DAV	**Davao City (W)**	**67.86**	**95**	LR	LR	18 43 41.4		
	comp=Z,37nm,22.0s,baz=313,slow=38							
BILL	**Bilibino**	**68.52**	**22**	P	**P**	**18 12 16.9**	**0.0**
BILL				IAmb	IAmb	18 12 23.4		
	comp=Z,19nm,1.2s							
BILL	**Bilibino**	**68.52**	**22**	*e*P	**P**	**18 12 18.1**	**+1.3**
BILL				pmax	pmax			
	comp=Z,21nm,1.3s							
KAPI	**Kappang**	**69.46**	**109**	LR	LR	18 47 19.0		
	comp=Z,39nm,18.2s,baz=303,slow=40							
SUR	**Sutherland**	**71.66**	**212**	LR	LR	18 48 45.5		
	comp=Z,57nm,18.3s,baz=32,slow=40							
PET	**Petropavlovsk**	**72.38**	**38**	*i* P	**P**	**18 12 41.0**	**+0.3**
PET				pmax	pmax			
	comp=Z,25nm,1.1s							
A21K	**Barrow**	**75.41**	**11**	P	**P**	**18 12 58.9**	**+0.8**
	baz=330							
A19K	**Wainwright**	**75.60**	**13**	P	**P**	**18 12 59.7**	**+0.6**
	baz=327							
A22K	**Sinclair Lake**	**75.95**	**10**	P	**P**	**18 13 00.8**	**-0.4**
	baz=332							
B18K	**Kokolik River**	**76.16**	**13**	P	**P**	**18 13 03.2**	**+0.8**
	baz=326							
C16K	**Lisburne Hills**	**76.31**	**15**	P	**P**	**18 13 03.5**	**+0.3**
	baz=323							
B20K	**Meade River**	**76.47**	**12**	IAmb	IAmb	18 13 10.8		
	comp=Z,26nm,1.2s							
B20K	**Meade River**	**76.47**	**12**	P	**P**	**18 13 04.1**	**-0.1**
	baz=330							
C17K	**DeLong Mountai**	**76.62**	**14**	P	**P**	**18 13 05.1**	**0.0**
	baz=325							
B22K	**Teshekpuk Lake**	**76.78**	**10**	P	**P**	**18 13 05.9**	**0.0**
	baz=333							
C19K	**Lookout Ridge**	**76.81**	**13**	P	**P**	**18 13 05.8**	**-0.4**
	baz=328							
C18K	**Utukok River**	**76.88**	**14**	IAmb	IAmb	18 13 14.8		
	comp=Z,20nm,1.1s							
C18K	**Utukok River**	**76.88**	**14**	P	**P**	**18 13 06.7**	**+0.1**
	baz=327							
RDOG	**Red Dog Mine**	**77.02**	**14**	P	**P**	**18 13 07.6**	**+0.2**
	baz=325							
B21K	**Ikpikpuk River**	**77.24**	**11**	P	**P**	**18 13 08.6**	**+0.1**
	baz=332							
A36M	**Sachs Harbour**	**77.49**	**1**	P	**P**	**18 13 09.8**	**-0.1**
	baz=358							
D19K	**Kuna River**	**77.61**	**13**	P	**P**	**18 13 10.7**	**0.0**
	baz=329							
C21K	**Knifeblade Rid**	**77.62**	**11**	P	**P**	**18 13 11.1**	**+0.4**
	baz=332							
C23K	**Itkillik River**	**77.65**	**10**	P	**P**	**18 13 11.0**	**+0.2**
	baz=336							
D20K	**Etivluk River**	**77.70**	**12**	P	**P**	**18 13 11.2**	**0.0**
	baz=331							
C24K	**Franklin Bluff**	**78.03**	**9**	P	**P**	**18 13 13.0**	**+0.1**
	baz=337							
E18K	**Tukpahlearik C**	**78.04**	**14**	IAmb	IAmb	18 13 19.8		
	comp=Z,24nm,1.1s							
E18K	**Tukpahlearik C**	**78.04**	**14**	P	**P**	**18 13 12.5**	**-0.5**
	baz=327							
E17K	**Hotham Inlet**	**78.06**	**15**	P	**P**	**18 13 13.0**	**-0.1**
	baz=326							
E20K	**Nigu River**	**78.17**	**12**	P	**P**	**18 13 13.5**	**-0.3**
	baz=331							
D22K	**Ayikyak River**	**78.21**	**11**	IAmb	IAmb	18 13 23.2		
	comp=Z,20nm,1.0s							
D22K	**Ayikyak River**	**78.21**	**11**	P	**P**	**18 13 13.5**	**-0.5**
	baz=334							
C26K	**Camden Bay**	**78.31**	**8**	P	**P**	**18 13 14.7**	**+0.3**
	baz=341							
F14K	**Arctic Creek**	**78.32**	**17**	P	**P**	**18 13 15.8**	**+1.2**
	baz=323							
E21K	**Killik River**	**78.40**	**11**	IAmb	IAmb	18 13 21.1		
	comp=Z,31nm,1.5s							
E21K	**Killik River**	**78.40**	**11**	P	**P**	**18 13 14.8**	**-0.3**
	baz=333							
D23K	**Nanushuk River**	**78.44**	**10**	P	**P**	**18 13 15.6**	**+0.3**
	baz=336							
D24K	**Happy Valley**	**78.53**	**9**	IAmb	IAmb	18 13 23.1		
	comp=Z,11nm,0.8s							
D24K	**Happy Valley**	**78.53**	**9**	P	**P**	**18 13 16.0**	**+0.3**
	baz=337							
F15K	**North Star Dit**	**78.55**	**16**	P	**P**	**18 13 16.3**	**+0.5**
	baz=324							
E19K	**Redstone River**	**78.68**	**13**	P	**P**	**18 13 16.8**	**+0.2**
	baz=330							
D25K	**Kavik River**	**78.70**	**8**	IAmb	IAmb	18 13 24.0		
	comp=Z,15nm,1.1s							
D25K	**Kavik River**	**78.70**	**8**	P	**P**	**18 13 16.9**	**+0.2**
	baz=339							
F17K	**Baldwin Pennin**	**78.73**	**15**	IAmb	IAmb	18 13 23.1		
	comp=Z,9.0nm,0.9s							
F17K	**Baldwin Pennin**	**78.73**	**15**	P	**P**	**18 13 17.5**	**+0.7**
	baz=327							
TOLK	**Toolik Lake Re**	**78.90**	**10**	P	**P**	**18 13 18.5**	**+0.6**
	baz=337							
E22K	**Anaktuvuk Pass**	**79.03**	**11**	IAmb	IAmb	18 13 25.5		
	comp=Z,15nm,1.1s							
E22K	**Anaktuvuk Pass**	**79.03**	**11**	P	**P**	**18 13 18.3**	**-0.2**
	baz=335							
F19K	**Shaleruckik Mo**	**79.12**	**13**	IAmb	IAmb	18 13 25.0		
	comp=Z,15nm,1.1s							
F19K	**Shaleruckik Mo**	**79.12**	**13**	P	**P**	**18 13 18.9**	**0.0**
	baz=330							
G15K	**Niukluk**	**79.28**	**17**	P	**P**	**18 13 20.0**	**+0.1**
	baz=325							
ANM	**Nome**	**79.30**	**17**	P	**P**	**18 13 20.3**	**+0.3**
	baz=324							
F20K	**Avaraart Lake**	**79.32**	**13**	P	**P**	**18 13 20.0**	**0.0**
	baz=332							
G16K	**Koyuk River**	**79.36**	**16**	P	**P**	**18 13 19.8**	**-0.4**
	baz=326							
E23K	**Chandalar**	**79.43**	**10**	P	**P**	**18 13 20.7**	**-0.1**
	baz=337							
F22K	**John River**	**79.54**	**11**	P	**P**	**18 13 21.2**	**-0.1**
	baz=335							
F21K	**Alatna River**	**79.57**	**12**	IAmb	IAmb	18 13 29.8		
	comp=Z,11nm,1.0s							
F21K	**Alatna River**	**79.57**	**12**	P	**P**	**18 13 21.9**	**+0.4**
	baz=334							
E24K	**Your Creek**	**79.58**	**10**	P	**P**	**18 13 21.4**	**-0.1**
	baz=338							
G17K	**Kiwalik Mounta**	**79.65**	**15**	P	**P**	**18 13 22.2**	**+0.3**
	baz=328							
G18K	**Tagagawik**	**79.75**	**14**	IAmb	IAmb	18 13 28.0		
	comp=Z,24nm,1.6s							
G18K	**Tagagawik**	**79.75**	**14**	P	**P**	**18 13 22.1**	**-0.4**
	baz=329							
G19K	**Purcell Mounta**	**79.86**	**13**	IAmb	IAmb	18 13 29.6		
	comp=Z,20nm,1.1s							
G19K	**Purcell Mounta**	**79.86**	**13**	P	**P**	**18 13 22.8**	**-0.2**
	baz=330							
E25K	**Arctic Village**	**79.93**	**8**	IAmb	IAmb	18 13 32.0		
	comp=Z,11nm,0.9s							
E25K	**Arctic Village**	**79.93**	**8**	P	**P**	**18 13 23.1**	**-0.4**
	baz=340							
COLD	**Coldfoot**	**80.11**	**10**	P	**P**	**18 13 24.4**	**0.0**
	baz=336							
E28M	**Babbage River**	**80.13**	**6**	P	**P**	**18 13 24.4**	**-0.1**
	baz=345							
C36M	**Paulatuk**	**80.15**	**0**	IAmb	IAmb	18 13 24.9		
	comp=Z,48nm,1.8s							
C36M	**Paulatuk**	**80.15**	**0**	P	**P**	**18 13 23.6**	**-0.9**
	baz=359							
G22K	**Bettles**	**80.18**	**11**	P	**P**	**18 13 24.8**	**0.0**
	baz=335							
F24K	**Squaw Lake**	**80.19**	**10**	P	**P**	**18 13 24.9**	**+0.1**
	baz=338							
G21K	**Allakaket**	**80.20**	**12**	P	**P**	**18 13 24.3**	**-0.6**
	baz=334							
H17K	**Granite Mounta**	**80.30**	**15**	IAmb	IAmb	18 13 30.6		
	comp=Z,36nm,1.9s							
H17K	**Granite Mounta**	**80.30**	**15**	P	**P**	**18 13 24.9**	**-0.5**
	baz=328							
E27K	**Coleen River**	**80.33**	**7**	P	**P**	**18 13 25.8**	**+0.2**
	baz=344							
F25K	**Christian Rive**	**80.42**	**9**	P	**P**	**18 13 26.3**	**+0.2**
	baz=340							
H18K	**Honhosa River**	**80.45**	**14**	IAmb	IAmb	18 13 31.6		
	comp=Z,30nm,1.5s							
H18K	**Honhosa River**	**80.45**	**14**	P	**P**	**18 13 25.8**	**-0.5**
	baz=330							
E29M	**Blow River**	**80.48**	**6**	P	**P**	**18 13 26.7**	**+0.3**
	baz=347							
F26K	**Sheenjek River**	**80.51**	**8**	P	**P**	**18 13 26.4**	**-0.2**
	baz=342							
H19K	**Roundabout Mou**	**80.52**	**14**	IAmb	IAmb	18 13 32.8		
	comp=Z,18nm,1.4s							
H19K	**Roundabout Mou**	**80.52**	**14**	P	**P**	**18 13 26.5**	**-0.1**
	baz=331							
G23K	**Bananza Creek**	**80.61**	**11**	P	**P**	**18 13 27.3**	**+0.1**
	baz=336							
H20K	**Anotleneega Mo**	**80.86**	**13**	P	**P**	**18 13 27.8**	**-0.7**
	baz=332							
INK	**Inuvik**	**80.88**	**4**	P	**P**	**18 13 28.2**	**-0.3**
	baz=351							
G24K	**Hadweenzic Riv**	**81.01**	**10**	IAmb	IAmb	18 13 36.9		
	comp=Z,26nm,1.1s							
G24K	**Hadweenzic Riv**	**81.01**	**10**	P	**P**	**18 13 29.1**	**-0.1**
	baz=339							
I17K	**Unalakleet**	**81.01**	**16**	IAmb	IAmb	18 13 36.6		
	comp=Z,17nm,1.1s							
I17K	**Unalakleet**	**81.01**	**16**	P	**P**	**18 13 29.2**	**0.0**
	baz=328							
F28M	**Old Crow**	**81.06**	**7**	P	**P**	**18 13 29.2**	**-0.3**
	baz=345							
H21K	**Melozitna Rive**	**81.11**	**12**	IAmb	IAmb	18 13 36.9		
	comp=Z,17nm,1.1s							
H21K	**Melozitna Rive**	**81.11**	**12**	P	**P**	**18 13 29.4**	**-0.3**
	baz=334							
H22K	**Ishtalitna Cre**	**81.14**	**11**	P	**P**	**18 13 30.4**	**+0.4**
	baz=335							
G25K	**Bearman Lake**	**81.14**	**9**	P	**P**	**18 13 29.4**	**-0.4**
	baz=340							
J14K	**Nanvaranak Lak**	**81.25**	**18**	P	**P**	**18 13 30.6**	**+0.1**
	baz=325							
G26K	**Porcupine Rive**	**81.27**	**8**	P	**P**	**18 13 30.4**	**-0.1**
	baz=342							
F30M	**Barrier River**	**81.42**	**5**	P	**P**	**18 13 31.5**	**+0.1**
	baz=349							
J16K	**Anvik River**	**81.55**	**16**	IAmb	IAmb	18 13 41.2		
	comp=Z,16nm,1.1s							
J16K	**Anvik River**	**81.55**	**16**	P	**P**	**18 13 31.7**	**-0.4**
	baz=328							
I20K	**Naaghedeneel**	**81.56**	**13**	IAmb	IAmb	18 13 39.5		
	comp=Z,24nm,1.1s							
I20K	**Naaghedeneel**	**81.56**	**13**	P	**P**	**18 13 32.4**	**+0.3**
	baz=333							
G27K	**Doyon Strip**	**81.65**	**7**	P	**P**	**18 13 32.9**	**+0.2**
	baz=344							
I21K	**Tanana**	**81.69**	**12**	P	**P**	**18 13 32.5**	**-0.3**
	baz=335							
F31M	**Tsiigehtchic**	**81.73**	**4**	IAmb	IAmb	18 13 39.8		
	comp=Z,26nm,1.1s							
F31M	**Tsiigehtchic**	**81.73**	**4**	P	**P**	**18 13 33.0**	**+0.1**
	baz=350							
H24K	**Noodor Dome**	**81.76**	**10**	IAmb	IAmb	18 13 40.1		
	comp=Z,32nm,1.8s							
H24K	**Noodor Dome**	**81.76**	**10**	P	**P**	**18 13 32.7**	**-0.6**
	baz=338							
G29M	**Pine Creek**	**81.92**	**6**	P	**P**	**18 13 33.6**	**-0.5**
	baz=347							
G30M	**tAoh Zraii Nji**	**82.00**	**5**	IAmb	IAmb	18 13 41.0		
	comp=Z,13nm,1.0s							
G30M	**tAoh Zraii Nji**	**82.00**	**5**	P	**P**	**18 13 34.0**	**-0.5**
	baz=348							
MLY	**Manley**	**82.04**	**12**	P	**P**	**18 13 34.2**	**-0.6**
	baz=336							
J19K	**Poorman**	**82.05**	**14**	IAmb	IAmb	18 13 46.9		
	comp=Z,33nm,1.8s							
J19K	**Poorman**	**82.05**	**14**	P	**P**	**18 13 34.5**	**-0.2**
	baz=332							
K15K	**Wolf Creek Mou**	**82.15**	**17**	P	**P**	**18 13 35.2**	**-0.2**
	baz=327							
I23K	**Minto, Yukon-K**	**82.17**	**11**	IAmb	IAmb	18 13 46.2		
	comp=Z,12nm,1.4s							
I23K	**Minto, Yukon-K**	**82.17**	**11**	P	**P**	**18 13 35.3**	**0.0**
	baz=337							
J20K	**Nowinta River**	**82.18**	**13**	P	**P**	**18 13 35.2**	**-0.2**
	baz=333							
G31M	**Satah River**	**82.20**	**5**	IAmb	IAmb	18 13 42.1		
	comp=Z,15nm,0.9s							
G31M	**Satah River**	**82.20**	**5**	P	**P**	**18 13 34.7**	**-0.8**
	baz=350							
H27K	**Steamboat Moun**	**82.22**	**8**	P	**P**	**18 13 35.4**	**-0.3**
	baz=344							
J18K	**Innoko River**	**82.28**	**15**	IAmb	IAmb	18 13 43.1		
	comp=Z,18nm,1.3s							
J18K	**Innoko River**	**82.28**	**15**	P	**P**	**18 13 36.2**	**+0.2**
	baz=331							
PRP	**Porcupine Dome**	**82.40**	**9**	P	**P**	**18 13 36.7**	**0.0**
PRP				IAmb	IAmb	18 13 46.5		
	comp=Z,9.6nm,1.1s							
PRP	**Porcupine Dome**	**82.40**	**9**	P	**P**	**18 13 36.4**	**-0.3**
	baz=340							
POKR	**Poker Plat Res**	**82.50**	**10**	IAmb	IAmb	18 13 44.3		
	comp=Z,16nm,1.0s							
POKR	**Poker Plat Res**	**82.50**	**10**	P	**P**	**18 13 36.6**	**-0.5**
	baz=339							
MDM	**Murphy Dome**	**82.52**	**11**	IAmb	IAmb	18 13 44.1		
	comp=Z,17nm,1.0s							
EPYK	**Eagle Plains**	**82.56**	**6**	P	**P**	**18 13 37.6**	**+0.1**
	baz=348							
H29M	**Whitestone**	**82.56**	**6**	IAmb	IAmb	18 13 44.2		
	comp=Z,8.3nm,0.9s							
H29M	**Whitestone**	**82.56**	**6**	P	**P**	**18 13 36.9**	**-0.5**
	baz=346							
K17K	**Iditarod**	**82.58**	**16**	P	**P**	**18 13 37.5**	**-0.1**
	baz=330							
NEA2	**Nenana**	**82.73**	**11**	IAmb	IAmb	18 13 44.7		
	comp=Z,7.7nm,0.9s							
NEA2	**Nenana**	**82.73**	**11**	P	**P**	**18 13 37.8**	**-0.5**
	baz=337							
CHUM	**Lake Minchumin**	**82.80**	**13**	P	**P**	**18 13 38.2**	**-0.5**
	baz=335							
I27K	**Kandik River**	**82.82**	**8**	P	**P**	**18 13 38.6**	**-0.2**
	baz=344							
BPAW	**Bear Paw Mtn.**	**82.85**	**12**	P	**P**	**18 13 39.1**	**+0.1**
	baz=336							
ILAR	**Eielson Array**	**82.91**	**10**	P	**P**	**18 13 38.7**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=328,slow=4.4,SNR=14							
ILAR				LR	LR	18 55 47.9		
	comp=Z,65nm,19.4s,baz=7.5,slow=40							
	comp=Z,1.3nm,0.7s							
K20K	**Telida**	**82.93**	**14**	IAmb	IAmb	18 13 45.9		
	comp=Z,24nm,1.4s							
K20K	**Telida**	**82.93**	**14**	P	**P**	**18 13 38.9**	**-0.5**
	baz=333							
L17K	**Donlin**	**83.08**	**16**	P	**P**	**18 13 39.3**	**-0.9**
	baz=330							
I28M	**Miner Creek**	**83.16**	**7**	P	**P**	**18 13 39.9**	**-0.7**
	baz=345							
L16K	**Owhat River**	**83.17**	**17**	IAmb	IAmb	18 13 45.9		
	comp=Z,24nm,1.4s							
CAST	**Castle Rocks**	**83.27**	**13**	P	**P**	**18 13 41.5**	**+0.4**
	baz=335							
J25K	**Salcha River,**	**83.28**	**10**	IAmb	IAmb	18 13 48.0		
	comp=Z,18nm,1.4s							
J25K	**Salcha River,**	**83.28**	**10**	P	**P**	**18 13 41.0**	**-0.2**
	baz=341							
L18K	**Granite Mounta**	**83.38**	**15**	P	**P**	**18 13 41.4**	**-0.3**
	baz=331							
I29M	**Ogilvie Camp,**	**83.41**	**6**	IAmb	IAmb	18 13 47.6		
	comp=Z,34nm,1.9s							
I29M	**Ogilvie Camp,**	**83.41**	**6**	P	**P**	**18 13 41.0**	**-0.8**
	baz=347							
MCK	**McKinley**	**83.55**	**11**	P	**P**	**18 13 42.6**	**0.0**
	baz=338							
TRF	**Thorofare Moun**	**83.57**	**12**	P	**P**	**18 13 42.8**	**-0.1**
	baz=336							
J26L	**Joseph Creek**	**83.64**	**9**	IAmb	IAmb	18 13 49.8		
	comp=Z,9.1nm,0.8s							
J26L	**Joseph Creek**	**83.64**	**9**	P	**P**	**18 13 42.8**	**-0.3**
	baz=342							
EGAK	**Eagle**	**83.67**	**8**	IAmb	IAmb	18 13 52.9		
	comp=Z,14nm,1.1s							
EGAK	**Eagle**	**83.67**	**8**	P	**P**	**18 13 43.4**	**+0.2**
	baz=344							
I30M	**Mount Dempster**	**83.72**	**6**	IAmb	IAmb	18 13 48.5		
	comp=Z,6.8nm,0.9s							
I30M	**Mount Dempster**	**83.72**	**6**	P	**P**	**18 13 43.5**	**0.0**
	baz=348							
PPLA	**Purkeypile**	**83.72**	**13**	P	**P**	**18 13 44.9**	**+1.3**
	baz=335							
M15K	**Kasigluk River**	**83.72**	**18**	P	**P**	**18 13 43.4**	**-0.1**
	baz=328							
L20K	**Farewell, AK**	**83.76**	**14**	P	**P**	**18 13 43.4**	**-0.3**
	baz=333							
L19K	**White Mountain**	**83.82**	**15**	P	**P**	**18 13 44.2**	**+0.2**
	baz=333							
RND	**Reindeer**	**83.86**	**11**	IAmb	IAmb	18 13 50.1		
	comp=Z,16nm,1.1s							
M17K	**Holitna River**	**83.93**	**16**	IAmb	IAmb	18 13 53.1		
	comp=Z,14nm,1.0s							
SCRK	**Sand Creek**	**84.08**	**9**	P	**P**	**18 13 45.4**	**0.0**
SCRK				IAmb	IAmb	18 13 52.6		
	comp=Z,17nm,1.1s							
SCRK	**Sand Creek**	**84.08**	**9**	P	**P**	**18 13 44.9**	**-0.5**
	baz=342							
K27K	**Chicken**	**84.28**	**8**	P	**P**	**18 13 46.1**	**-0.2**
	baz=343							
J30M	**Hart River**	**84.36**	**6**	IAmb	IAmb	18 13 53.9		
	comp=Z,12nm,1.2s							
J30M	**Hart River**	**84.36**	**6**	P	**P**	**18 13 46.9**	**+0.1**
	baz=348							
WAT1	**Susitna Watana**	**84.45**	**12**	P	**P**	**18 13 46.5**	**-0.7**
	baz=338							
DAWY	**Dawson**	**84.56**	**7**	P	**P**	**18 13 47.4**	**-0.4**
	baz=346							
SKT	**Skwentna**	**84.69**	**13**	P	**P**	**18 13 48.6**	**+0.2**
	baz=335							
K29M	**Barlow Dome**	**84.97**	**6**	IAmb	IAmb	18 13 56.9		
	comp=Z,6.3nm,0.9s							
K29M	**Barlow Dome**	**84.97**	**6**	P	**P**	**18 13 49.6**	**-0.3**
	baz=347							
MENT	**Mentasta**	**85.11**	**9**	IAmb	IAmb	18 14 02.8		
	comp=Z,7.8nm,1.0s							
N19K	**Bonanza Creek**	**85.12**	**15**	IAmb	IAmb	18 13 57.5		
	comp=Z,14nm,1.1s							
N19K	**Bonanza Creek**	**85.12**	**15**	P	**P**	**18 13 50.7**	**0.0**
	baz=333							
L27K	**Beaver Creek,**	**85.24**	**9**	IAmb	IAmb	18 13 53.8		
	comp=Z,21nm,1.6s							
L27K	**Beaver Creek,**	**85.24**	**9**	P	**P**	**18 13 51.3**	**+0.1**
	baz=344							
SUA	**Susitna One**	**85.31**	**13**	P	**P**	**18 13 51.1**	**-0.5**
	baz=336							
O17K	**Koliganek Bris**	**85.43**	**17**	P	**P**	**18 13 52.6**	**+0.5**
	baz=331							
SML	**Sawmill**	**85.44**	**12**	P	**P**	**18 13 51.8**	**-0.5**
	baz=338							
PMR	**Palmer**	**85.50**	**12**	IAmb	IAmb	18 14 09.2		
	comp=Z,22nm,1.2s							
PMR	**Palmer**	**85.50**	**12**	P	**P**	**18 13 52.0**	**-0.4**
	baz=338							
L29M	**L29M**	**85.63**	**7**	P	**P**	**18 13 52.9**	**-0.2**
	baz=347							
M26K	**Nabesna, AK**	**85.72**	**9**	IAmb	IAmb	18 14 04.8		
	comp=Z,21nm,1.6s							
KNK	**Knik Glacier**	**85.79**	**12**	P	**P**	**18 13 53.8**	**-0.1**
	baz=338							
RC01	**Rabbit Creek A**	**85.85**	**13**	IAmb	IAmb	18 14 02.2		
	comp=Z,11nm,0.8s							
RC01	**Rabbit Creek A**	**85.85**	**13**	P	**P**	**18 13 53.7**	**-0.5**
	baz=337							
M27K	**Edge Creek, AK**	**85.92**	**9**	IAmb	IAmb	18 14 02.3		
	comp=Z,15nm,1.1s							
M27K	**Edge Creek, AK**	**85.92**	**9**	P	**P**	**18 13 54.5**	**-0.2**
	baz=344							
KLU	**Klutina**	**86.15**	**11**	IAmb	IAmb	18 14 12.9		
	comp=Z,18nm,1.2s							
M29M	**Somme Creek**	**86.24**	**7**	IAmb	IAmb	18 14 04.0		
	comp=Z,7.6nm,1.1s							
M29M	**Somme Creek**	**86.24**	**7**	P	**P**	**18 13 56.2**	**-0.1**
	baz=346							
M30M	**Minto, Yukon**	**86.28**	**6**	IAmb	IAmb	18 14 04.8		
	comp=Z,9.3nm,1.1s							
M30M	**Minto, Yukon**	**86.28**	**6**	P	**P**	**18 13 56.6**	**+0.2**
	baz=348							
WRGLY	**Wrigley**	**86.30**	**0**	IAmb	IAmb	18 14 03.9		
	comp=Z,18nm,1.1s							
WRGLY	**Wrigley**	**86.30**	**0**	P	**P**	**18 13 56.5**	**+0.2**
	baz=359							
YUK3	**Moose Creek**	**86.66**	**8**	P	**P**	**18 13 58.9**	**+0.4**
	baz=345							
YKA	**Yellowknife Ar**	**86.81**	**356**	P	**P**	**18 13 58.8**	**-0.1**
	comp=Z,4.1nm,1.0s,baz=356,slow=5.3,SNR=38							
	comp=Z,4.1nm,1.0s							
BMRM	**Bremner River**	**86.85**	**10**	P	**P**	**18 13 59.6**	**+0.3**
	baz=341							
M31M	**Drury Creek, Y**	**86.86**	**5**	IAmb	IAmb	18 14 06.1		
	comp=Z,10nm,1.1s							
M31M	**Drury Creek, Y**	**86.86**	**5**	P	**P**	**18 13 59.0**	**-0.2**
	baz=350							
FARO	**Faro, Yukon**	**86.92**	**5**	IAmb	IAmb	18 14 10.7		
	comp=Z,11nm,1.1s							
YUK4	**Talbot Arm**	**87.29**	**8**	P	**P**	**18 14 01.7**	**+0.2**
	baz=346							
CTG	**Chitna Glacier**	**87.33**	**9**	P	**P**	**18 14 02.2**	**+0.5**
	baz=344							
N30M	**Aishikik Lake**	**87.35**	**7**	P	**P**	**18 14 01.9**	**+0.3**
	baz=348							
TGTN	**Hyland Airport**	**87.91**	**3**	P	**P**	**18 14 04.4**	**+0.1**
	baz=355							
HYT	**Haines Junctio**	**87.93**	**7**	P	**P**	**18 14 04.6**	**+0.1**
	baz=347							
O30N	**Mendenhall**	**88.12**	**6**	P	**P**	**18 14 04.9**	**-0.5**
	baz=349							
KDAK	**Kodiak Island**	**88.28**	**15**	LR	LR	19 03 01.7		
	comp=Z,105nm,18.8s,baz=72,slow=42							
P33M	**Teslin, Yukon**	**88.96**	**5**	P	**P**	**18 14 08.2**	**-1.1**
	baz=351							
WRA	**Warramunga Arr**	**89.58**	**113**	P	**P**	**18 14 11.2**	**-1.5**
	comp=Z,1.1nm,0.9s,baz=310,slow=3.8,SNR=6.0							
	comp=Z,1.1nm,0.9s							
ASAR	**Alice Springs**	**91.26**	**117**	P	**P**	**18 14 19.2**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=302,slow=5.1,SNR=6.9							
	comp=Z,0.9nm,0.9s							
ULM	**Lac du Bonnet**	**95.86**	**343**	P	**P**	**18 14 40.3**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=27,slow=4.5,SNR=2.2							
ULM				LR	LR	19 00 18.7		
	comp=Z,171nm,19.5s,baz=42,slow=37							
	comp=Z,2.0nm,0.6s							

IDC ***27*** *18:06:06.6±2.8, 43°.38N×105°.33W, h0km, mbtmp3.0/3, ML2.5/2, Error ellipse: s-maj=60.1km s-min=10.0km az=153.0*

NEIC ***27*** *18:06:10.1±1.4, 43°.55N±0°.06×105°.31W±0°.04, h0km±2km, ML3.3/72, Error ellipse: s-maj=11.4km s-min=4.4km az=18.0*

ISC 27 18:06:09.0±0.9, 43°.53N±0°.04×105°.33W±0°.04, h0km, n39, σ1§41/38, Wyoming

| Code | Station Name | Δ° | AZ° | Phase Op | ID ISC |

LOHW	**Long Hollow**	**3.84**	**273**			**Pn**	**18 07 10.8**	**+1.3**
LOHW				IAML			18 08 19.9	
	comp=E,30nm,3.8s							
LOHW				IAML			18 08 27.5	
	comp=E,33nm,4.1s							
H17A	**Grant Village**	**3.89**	**285**			**Pn**	**18 07 11.4**	**+1.1**
H17A				IAML			18 08 16.7	
	comp=E,36nm,2.8s							
H17A				IAML			18 08 17.4	
	comp=N,48nm,5.0s							
FLWY	**Flagg Ranch**	**3.93**	**280**			**Pb**	**18 07 20.8**	**+1.5**
MOOW	**Moose Ponds**	**3.94**	**275**			**Pn**	**18 07 10.4**	**-0.6**
REDW	**Red Top Meadow**	**4.03**	**270**	Pn		**Pn**	**18 07 12.0**	**-0.2**
O20A	**White River Ci**	**4.03**	**214**			**Pn**	**18 07 13.3**	**+1.1**
YNR	**Norris Junctio**	**4.03**	**289**			**Pn**	**18 07 13.2**	**+1.0**
YNR				IAML			18 08 55.7	
	comp=E,29nm,4.8s							
YFT	**Old Faithful**	**4.08**	**285**	Pn		**Pn**	**18 07 11.5**	**-1.4**
YFT				IAML			18 08 23.4	
	comp=E,30nm,3.0s							
YFT				IAML			18 08 26.7	
	comp=N,35nm,2.6s							
IMW	**Indian Meadow**	**4.09**	**277**			**Pn**	**18 07 14.2**	**+1.2**
IMW				IAML			18 08 38.7	
	comp=N,29nm,1.8s							
IMW				IAML			18 08 43.1	
	comp=N,35nm,0.8s							
TPAW	**Teton Pass**	**4.09**	**271**			**Pn**	**18 07 14.1**	**+1.0**
TPAW				IAML			18 08 41.6	
	comp=N,43nm,3.5s							
TPAW				IAML			18 09 14.1	
	comp=N,34nm,3.8s							
YMR	**Madison River**	**4.22**	**288**			**Pn**	**18 07 14.6**	**-0.1**
AHID	**Auburn Hatcher**	**4.29**	**262**			**Pn**	**18 07 14.0**	**-1.8**
AHID				IAML			18 09 09.9	
	comp=N,32nm,3.6s							
AHID				IAML			18 09 14.2	
	comp=N,36nm,4.1s							
RDMU	**Red Mountain**	**4.33**	**228**	Pn		**Pn**	**18 07 17.6**	**+1.3**
RDMU				IAML			18 08 35.1	
	comp=N,41nm,3.5s							
RDMU				IAML			18 09 01.2	
	comp=E,35nm,1.4s							
YHL	**Hebgen Lake**	**4.41**	**289**			**Pb**	**18 07 29.5**	**+1.9**
YHL				IAML			18 08 44.8	
	comp=N,39nm,3.3s							
QLMT	**Earthquake Lak**	**4.58**	**289**	Pg		**Pb**	**18 07 30.6**	**+0.2**
BOZ	**Bozeman (W)**	**4.96**	**297**			**Pb**	**18 07 38.1**	**+1.4**
BOZ				IAML			18 09 05.7	
	comp=N,19nm,4.1s							
BOZ				IAML			18 09 38.2	
	comp=N,16nm,5.0s							
TCUT	**Toone Canyon**	**5.11**	**244**	Pg		**Pb**	**18 07 38.1**	**-1.3**
SPUT	**South Promonto**	**5.72**	**250**			**Pb**	**18 07 53.2**	**+3.4**
P17A	**Butcher Ranch,**	**5.74**	**227**			**Pb**	**18 07 48.9**	**-1.2**
MDND	**Maddock**	**5.89**	**41**			**Pn**	**18 07 37.5**	**0.0**
I10CA	**LAC DU BONNET**	**9.22**	**40**	I		I	19 03 40.0	
	comp=N,0.1nm,1.0s,baz=220,slow=334,SNR=5.3							
ULM	**Lac du Bonnet**	**9.32**	**41**	Pn		**Pn**	**18 08 21.0**	**-3.6**
	comp=N,0.3nm,0.3s,baz=224,slow=13,SNR=7.2							
ULM				Pg			18 09 00.7	
	comp=N,0.2nm,0.3s,baz=244,slow=14,SNR=3.1							
ULM				Lg	Lg		18 10 56.6	
	comp=N,0.2nm,0.3s,baz=237,slow=12,SNR=2.2							
	comp=N,0.8nm,0.3s							
YKA	**Yellowknife Ar**	**19.76**	**347**	P		**P**	**18 10 40.2**	**0.0**
	baz=155,slow=12,SNR=4.2							
	comp=N,0.1nm,0.6s							

*IDC **27** 18:12:24.4±0.7,25°.08N×96°.38E,h0km,mb4.0/18, mbtmp4.0/19,ML4.4/1,MS3.7/7,Error ellipse: s-maj=37.9km s-min=12.7km az=60.0*
*NEIC **27** 18:12:31.1±1.9,24°.91N±0°.05×96°.46E±0°.09,h55km±9km, mb4.2/13,Error ellipse: s-maj=13.4km s-min=5.5km az=65.0*

ISC 27 18:12:25.8±1.3,25°.09N±0°.04×96°.51E±0°.03,h9km±9km, n71,σ1s67/90,mb4.0/25,MS3.7/7,1C,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
TNCH	**TengChong**	**1.82**	**92**	Pn		**Pn**	**18 12 58.0**		**+0.5**
TNCH				Pg		**Pb**	**18 13 00.3**		**+0.9**
TNCH				Sg		**Sg**	**18 13 26.5**		**+2.0**
TNCH				smax		smax			
	comp=N,2μm,1.4s								
TNCH				smax		smax			
	comp=E,2μm,0.8s								
TNCH				LR		LR			
	comp=N,5μm,2.3s								
TNCH				LR		LR			
	comp=E,5μm,1.8s								
TNCH				LR		LR			
	comp=E,810nm,4.2s								
MOKO	**MOKOCHONG**	**2.17**	**305**	*e*P		**Pb**	**18 13 06.1**		**+0.8**
MOKO				*e*S		**Sg**	**18 13 36.1**		**+0.4**
MOKO				IAML			18 13 39.2		
	comp=N,2μm,0.6s								
MOKO				IAML			18 13 39.2		
	comp=E,2μm,0.7s								
KOHI	**KOHIMA**	**2.26**	**287**	*e*P		**Pb**	**18 13 06.6**		**-0.2**
KOHI				*e*S		**Sg**	**18 13 39.9**		**+1.5**
KOHI				IAML			18 13 50.6		
	comp=E,852nm,0.8s								
KOHI				IAML			18 13 51.3		
	comp=N,990nm,1.3s								
IMP	**Imphal**	**2.34**	**264**	*e*P		**Pb**	**18 13 07.4**		**-0.7**
IMP				*e*S		**Sb**	**18 13 39.6**		**+2.4**
IMP				IAML			18 13 46.0		
	comp=E,164nm,0.5s								
IMP				IAML			18 13 46.3		
	comp=N,204nm,0.5s								
JORH	**JORHAT**	**2.62**	**309**	*e*P		**Pb**	**18 13 12.1**		**-0.6**
JORH				*e*S		**Sb**	**18 13 44.5**		**-0.5**
JORH				IAML			18 13 51.9		
	comp=E,1μm,0.5s								
MND	**Mandalay**	**3.08**	**187**	Pn		**Pn**	**18 13 14.3**		**-0.3**
MND				Sn		**Sb**	**18 13 58.4**		**0.0**
ITAN	**ITANAGAR**	**3.23**	**310**	*e*P		**Pn**	**18 13 19.2**		**+2.6**
ITAN				*e*S		**Sn**	**18 13 59.3**		**+4.0**
ITAN				IAML			18 14 07.2		
	comp=N,722nm,0.4s								
ITAN				IAML			18 14 11.4		
	comp=E,394nm,0.5s								
ZIRO	**ZIRO**	**3.40**	**316**	*e*P		**Pn**	**18 13 21.3**		**+2.1**
ZIRO				*e*S		**Sn**	**18 14 01.6**		**+1.9**
ZIRO				IAML			18 14 06.6		
	comp=E,1μm,0.5s								
TEZP	**TEZPUR**	**3.67**	**295**	*e*P		**Pn**	**18 13 24.0**		**+1.3**
TEZP				*e*S		**Sn**	**18 14 07.0**		**+0.9**
TEZP				IAML			18 14 12.4		
	comp=E,74nm,0.2s								
TEZP				IAML			18 14 12.5		
	comp=N,161nm,0.3s								
SAIH	**SAIHA**	**4.14**	**232**	*e*P		**Pn**	**18 13 31.6**		**+2.4**
SAIH				*e*S		**Sn**	**18 14 22.8**		**+5.0**
SAIH				IAML			18 14 39.2		
	comp=N,178nm,0.6s								
SAIH				IAML			18 14 45.8		
	comp=E,158nm,0.7s								
SHL	**Shillong**	**4.21**	**277**	Pn		**Pn**	**18 13 32.4**		**+2.1**
SHL	**Shillong**	**4.21**	**277**	*e*P		**Pn**	**18 13 31.6**		**+1.3**
SHL				*e*S		**Sn**	**18 14 20.5**		**+0.8**
PZH	**PanZhiHua**	**4.92**	**72**	Pn		**Pn**	**18 13 40.0**		**0.0**
PZH				P*		**Pb**	**18 13 52.0**		**-0.2**
PZH				Pg		Pg	18 13 57.5		-2.6
PZH				Sn		**Sn**	**18 14 42.5**		**+5.4**
PZH				Sg		**Sg**	**18 15 04.8**		**+0.9**
PZH				smax		smax			
	comp=N,40nm,1.0s								
PZH				smax		smax			
	comp=E,50nm,1.2s								
PZH				LR		LR			
	comp=N,1μm,10.6s								
PZH				LR		LR			
	comp=E,710nm,10.0s								
PZH				LR		LR			
	comp=E,870nm,11.1s								
KMI	**Kunming**	**5.65**	**88**	⇑Pn		**Pn**	**18 13 48.5**		**-1.6**
KMI				Pg		**Pg**	**18 14 13.0**		**-1.0**
KMI				Sg		**Sg**	**18 15 24.5**		**-2.7**
KMI				smax		smax			
	comp=N,81nm,1.4s								
KMI				smax		smax			
	comp=E,37nm,1.7s								
KMI				LR		LR			
	comp=N,230nm,6.1s								
KMI				LR		LR			
	comp=E,930nm,6.4s								
KMI				LR		LR			
	comp=Z,1μm,11.8s								
CRAI	**Chiangrai**	**6.01**	**143**	Pn		**Pn**	**18 13 54.9**		**0.0**
LSA	**Lhasa**	**6.61**	**315**	Pn		**Pn**	**18 14 07.3**		**+3.7**
CHTO	**Chiang Mai**	**6.64**	**160**	Pn		**Pn**	**18 14 04.5**		**+1.0**
CM31	**Chiang Mai Arr**	**6.98**	**161**			**Pn**	**18 14 09.3**		**+1.2**
CMAR	**Chiang Mai Arr**	**6.98**	**161**	Pn		**Pn**	**18 14 09.3**		**+1.2**
CMAR	**Chiang Mai Arr**	**6.98**	**161**	Pn		**Pn**	**18 14 09.4**		**+1.3**
	comp=Z,1.6nm,0.3s,baz=336,slow=13,SNR=40								
CMAR				Pg		Pg	18 14 34.1		-5.3
	comp=Z,0.9nm,0.3s,baz=330,slow=17,SNR=9.7								
CMAR				Lg		Lg	18 16 06.2		
	comp=Z,0.4nm,0.3s,baz=303,slow=35,SNR=2.2								
	comp=Z,2.7nm,0.3s								
GTK	**Tadong**	**7.44**	**289**	*e*P		**Pn**	**18 14 16.1**		**+1.5**
GTK				*e*S		**Sn**	**18 15 39.5**		**+0.2**
TAPN	**Taplejung**	**8.21**	**288**	*e*Pn		**Pn**	**18 14 26.1**		**+0.7**
	comp=Z,33nm,0.4s								
TAPN				*e*Sn		**Sn**	**18 15 59.0**		**+0.5**
	comp=Z,58nm,0.7s								
ODAN	**Odare**	**8.39**	**284**	*e*Pn		**Pn**	**18 14 28.8**		**+1.0**
RAMN	**Ramite**	**9.10**	**284**	*e*Pn		**Pn**	**18 14 39.1**		**+1.6**
	comp=Z,37nm,0.5s								
RAMN				*e*Sn		**Sn**	**18 16 22.6**		**+2.3**
	comp=Z,38nm,0.6s								
JIRN	**Jiri**	**9.60**	**288**	*e*Pn		**Pn**	**18 14 45.0**		**+0.5**
	comp=Z,56nm,0.7s								
JIRN				*e*Sn		**Sn**	**18 16 31.7**		**-1.0**
	comp=Z,23nm,0.5s								
GUN	**Gumba**	**9.93**	**289**	*e*Pn		**Pn**	**18 14 49.4**		**+0.5**
	comp=Z,45nm,0.5s								
GUN				*e*Sn		**Sn**	**18 16 38.5**		**-2.1**
	comp=Z,48nm,0.7s								
PKI	**Pulchoki**	**10.26**	**286**	*e*Pn		**Pn**	**18 14 53.2**		**-0.3**
	comp=Z,25nm,0.6s								
KKN	**Kakani**	**10.41**	**287**	*e*Pn		**Pn**	**18 14 55.5**		**0.0**
DMN	**Daman**	**10.53**	**286**	*e*Pn		**Pn**	**18 14 57.1**		**0.0**
	comp=Z,21nm,0.6s								
DMN				*e*Sn		**Sn**	**18 16 54.1**		**-1.2**
	comp=Z,60nm,1.0s								
GKN	**Gorkha**	**11.02**	**288**	*e*Pn		**Pn**	**18 15 03.3**		**-0.4**
	comp=Z,28nm,0.5s								
GKN				*e*Sn		**Sn**	**18 17 04.8**		**-2.3**
	comp=Z,81nm,1.1s								
DANN	**Dangsing**	**11.85**	**289**	*e*Pn		**Pn**	**18 15 13.6**		**-1.6**
	comp=Z,12nm,0.5s								
DANN				*e*Sn		**Sn**	**18 17 23.3**		**-4.4**
	comp=Z,83nm,1.3s								
HYB	**Hyderabad**	**18.38**	**249**	*e*P		Pn	18 16 49.1		+8.0
HYB				*es*P		sP	18 17 08.4		+23
HYB				*e*S		**Sn**	**18 20 05.9**		**-0.7**
WMQ	**Urumqi**	**20.02**	**341**	*e*P		Pn	18 17 05.3		+4.7
WMQ				pmax		pmax			
	comp=Z,17nm,0.7s								
TIA	**Tai'an**	**20.87**	**53**	P		Pn	18 17 09.8		-0.8
IPM	**Ipoh**	**20.95**	**167**	P		**P**	**18 17 06.9**		**-2.2**
NIL	**Nilore**	**21.95**	**298**	P		**P**	**18 17 19.1**		**-0.7**
KSH	**Kashi**	**22.47**	**315**	P		**P**	**18 17 29.5**		**+4.1**
KSH				pmax		pmax			
	comp=Z,6.0nm,1.3s								
SONM	**Songino Array**	**24.01**	**17**	P		**P**	**18 17 41.8**		**+0.9**
SONM	**Songino Array**	**24.01**	**17**	P		**P**	**18 17 41.5**		**+0.6**
	comp=Z,1.2nm,0.7s,baz=197,slow=9.7,SNR=6.0								
	comp=Z,1.2nm,0.7s								
ULN	**Ulaanbaatar**	**24.21**	**17**	P		**P**	**18 17 43.1**		**+0.3**
MK31	**Makanchi Array**	**24.45**	**336**	P		**P**	**18 17 45.9**		**+1.1**
MKAR	**Makanchi Array**	**24.45**	**336**	P		**P**	**18 17 45.6**		**+0.8**
MKAR	**Makanchi Array**	**24.45**	**336**	P		**P**	**18 17 46.1**		**+1.3**
	comp=Z,3.1nm,0.5s,baz=133,slow=10.0,SNR=29								
MKAR				LR		LR	18 28 33.8		
	comp=Z,88nm,18.7s,baz=275,slow=40								
	comp=Z,3.1nm,0.5s								
AAK	**Ala-Archa**	**25.19**	**319**	P		**P**	**18 17 52.5**		**+0.8**
AAK				IAmb		IAmb	18 17 58.8		
	comp=Z,6.0nm,1.1s								
KBL	**Kabul**	**25.56**	**298**	P		**P**	**18 17 53.3**		**-1.9**
KBL				IAmb		IAmb	18 18 16.8		
	comp=Z,9.7nm,0.9s								
BTK	**Batken**	**26.17**	**311**	P		**P**	**18 18 01.8**		**+1.2**
BTK				IAmb		IAmb	18 18 18.0		
	comp=Z,7.5nm,0.8s								
KURBB	**Kurchatov Arra**	**29.02**	**336**	P		**P**	**18 18 26.4**		**+0.5**
	comp=Z,0.5nm,0.3s,baz=150,slow=8.8,SNR=8.5								
	comp=Z,0.5nm,0.3s								
KURK	**Kurchatov**	**29.06**	**336**	P		**P**	**18 18 27.7**		**+1.5**
KURK				IAmb		IAmb	18 18 36.1		
	comp=Z,4.5nm,1.1s								
ZALV	**Zalesovo Beam**	**30.11**	**346**	P		**P**	**18 18 36.1**		**+0.6**
ZALV	**Zalesovo Beam**	**30.11**	**346**	P		**P**	**18 18 34.1**		**-1.4**
	comp=Z,0.7nm,0.3s,baz=152,slow=6.4,SNR=2.0								
	comp=Z,0.7nm,0.3s								
BVAR	**Borovoye Array**	**34.12**	**332**	P		**P**	**18 19 10.6**		**-0.1**
	comp=Z,1.0nm,0.4s,baz=260,slow=40,SNR=2.0								
	comp=Z,1.0nm,0.4s								
BRVK	**Borovoye**	**34.19**	**332**	P		**P**	**18 19 12.6**		**+1.3**
BRVK				IAmb		IAmb	18 19 18.0		
	comp=Z,2.9nm,0.7s								
GEYT	**Alibeck**	**34.90**	**301**	P		**P**	**18 19 17.5**		**-0.2**
	comp=Z,1.3nm,0.8s,baz=221,slow=24,SNR=2.3								
	comp=Z,1.3nm,0.8s								
ABKAR	**Akbulak array**	**37.27**	**320**	P		**P**	**18 19 38.2**		**+0.4**
ABKAR				IAmb		IAmb	18 19 42.3		
	comp=Z,2.6nm,0.7s								
AKTO	**Aktyubinsk**	**38.92**	**321**	P		**P**	**18 19 51.2**		**-0.5**
	comp=Z,1.1nm,0.4s,baz=99,slow=4.9,SNR=4.2								
AKTO				LR		LR	18 37 22.4		
	comp=Z,87nm,18.6s,baz=54,slow=39								
	comp=Z,1.1nm,0.4s								
ARU	**Arti**	**41.59**	**329**	P		**P**	**18 20 12.9**		**-0.8**
	comp=Z,1.7nm,0.3s,baz=91,slow=5.3,SNR=3.6								
	comp=Z,1.7nm,0.3s								
GNI	**Garni**	**45.50**	**302**	P		**P**	**18 20 45.6**		**0.0**
MA2	**Magadan**	**50.76**	**32**	LR		LR	18 46 44.8		
	comp=Z,72nm,20.3s,baz=89,slow=40								
BRTR	**Keskin Array B**	**54.03**	**302**	P		**P**	**18 21 49.6**		**-1.1**
	comp=Z,0.4nm,0.6s,baz=102,slow=10,SNR=2.8								
	comp=Z,0.4nm,0.6s								
AKASG	**Malin Array Be**	**56.76**	**315**	P		**P**	**18 22 08.3**		**-1.6**
	comp=Z,0.3nm,0.4s,baz=77,slow=6.5,SNR=5.5								
	comp=Z,0.3nm,0.4s								
WRA	**Warramunga Arr**	**57.95**	**137**	P		**P**	**18 22 18.9**		**+0.2**
	comp=Z,1.1nm,0.8s,baz=324,slow=7.5,SNR=7.5								
	comp=Z,1.1nm,0.8s								
FINES	**FINESS Array B**	**58.95**	**328**	P		**P**	**18 22 24.4**		**-0.8**
	comp=Z,2.1nm,0.8s,baz=100,slow=7.9,SNR=3.6								
	comp=Z,2.1nm,0.8s								
PMG	**Port Moresby**	**60.08**	**118**	LR		LR	18 51 00.8		
	comp=Z,30nm,18.1s,baz=342,slow=38								
ARCES	**ARCESS Array B**	**60.09**	**337**	P		**P**	**18 22 32.7**		**-0.2**
	comp=Z,4.0nm,0.9s,baz=96,slow=8.3,SNR=1.9								
	comp=Z,4.0nm,0.9s								
ASAR	**Alice Springs**	**60.52**	**140**	P		**P**	**18 22 37.0**		**+0.5**
	comp=Z,0.7nm,0.8s,baz=318,slow=6.5,SNR=11								
	comp=Z,0.7nm,0.8s								
VRAC	**Vranov**	**64.99**	**315**	LR		LR	18 55 54.2		
	comp=Z,131nm,19.2s,baz=277,slow=40								
HFS	**Hagfors**	**65.05**	**327**	P		**P**	**18 23 04.9**		**-1.2**
	comp=Z,9.8nm,1.2s,baz=104,slow=6.1,SNR=4.2								
	comp=Z,9.8nm,1.2s								
NOA	**NORSAR Array B**	**66.13**	**328**	P		**P**	**18 23 13.4**		**+0.2**
	comp=Z,0.6nm,0.8s,baz=83,slow=6.5,SNR=2.0								
	comp=Z,0.6nm,0.8s								
GERES	**GERESS Array B**	**66.94**	**315**	P		**P**	**18 23 18.4**		**-0.3**
	comp=Z,1.5nm,0.7s,baz=72,slow=7.3,SNR=5.0								
GERES				LR		LR	18 59 01.5		
	comp=Z,94nm,18.9s,baz=301,slow=42								
	comp=Z,1.5nm,0.7s								
EKA	**Eskdalemuir Ar**	**74.98**	**324**	P		**P**	**18 24 08.1**		**+0.9**
	comp=Z,0.6nm,0.6s,baz=66,slow=5.5,SNR=1.5								
	comp=Z,0.6nm,0.6s								
TSUM	**Tsumeb**	**88.47**	**248**	LR		LR	19 06 42.8		
	comp=Z,33nm,18.1s,baz=345,slow=37								

*BER **27** 18:37:30.1±2.9,80°.69N×2°.57W,h10km,mb(Pn)4.1, ML4.4(NAO),Confirmed Earthquake*
*NEIC **27** 18:37:32.2±1.6,80°.4N±0°.1×2°.2W±0°.3,h10km±1km, mb4.4/11,Error ellipse: s-maj=20.7km s-min=8.2km az=352.0*
*DNK **27** 18:37:32.0±4.0,80°.37N×2°.08W,h18km±37km,ML2.6*
*IDC **27** 18:37:32.2±0.6,80°.38N×2°.75W,h0km,mb3.8/15, mbtmp3.8/17,ML3.0/2,MS3.7/26,Error ellipse: s-maj=19.7km s-min=12.9km az=37.0*
*KOLA **27** 18:37:36.4,80°.72N×0°.80E,h0km,ML3.1,Error ellipse: s-maj=50.8km s-min=15.4km az=40.0,Greenland sea,Knipovich ridge, north*
*IEPN **27** 18:37:36.0,80°.25N×0°.44W,h10km*

ISC 27 18:37:32.7±3.8,80.45N±0°.06×2°.18W±0°.04,h11km±24km, n108,σ2s95/113,mb4.2/22,MS3.6/23,4C,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
KBS	**Kingsbay**	**2.96**	**114**	Pn		**Pn**	**18 38 17.6**		**-1.9**
KBS				Sn		**Sn**	**18 38 52.6**		**-2.3**
KBS	**Kingsbay**	**2.96**	**114**			**Pn**	**18 38 17.4**		**-2.0**
KBS	**Kingsbay**	**2.96**	**114**	⇑*i*P		**Pn**	**18 38 17.5**		**-2.0**
KBS				S		**Sn**	**18 38 48.2**		**-6.7**
KBS	**Kingsbay**	**2.96**	**114**	P		**Pn**	**18 38 17.1**		**-2.4**
KBS				S		**Sn**	**18 38 49.6**		**-5.3**
KBS	**Kingsbay**	**2.96**	**114**	⇑*i*P		**Pn**	**18 38 17.6**		**-1.9**
KBS				*e*S		**Sn**	**18 38 50.1**		**-4.8**
KBS				IAML			18 38 54.3		
	comp=Z,43nm,0.3s								
KBS	**Kingsbay**	**2.96**	**114**	⇑*i*P		**Pn**	**18 38 17.6**		**-1.9**
KBS				*i* S		**Sn**	**18 38 50.2**		**-4.6**
BRBB	**Barentsburg B**	**3.86**	**119**	Pn		**Pn**	**18 38 31.2**		**-0.6**
BRBB				Sn		**Sn**	**18 39 14.6**		**-2.3**
BRBB	**Barentsburg B**	**3.86**	**119**	P		**Pn**	**18 38 30.9**		**-0.9**
BRBB				S		**Sn**	**18 39 12.5**		**-4.5**
BRBB	**Barentsburg B**	**3.86**	**119**	*e*P		**Pn**	**18 38 30.9**		**-0.9**
BRBB				*e*S		**Sn**	**18 39 14.5**		**-2.5**
BRBA	**Barentsburg A**	**3.88**	**120**	Pn		**Pn**	**18 38 31.6**		**-0.5**
BRBA				Sn		**Sn**	**18 39 13.3**		**-4.3**
BRBA	**Barentsburg A**	**3.88**	**120**	*e*P		**Pn**	**18 38 31.6**		**-0.5**
BRBA				*e*S		**Sn**	**18 39 13.9**		**-3.7**
BRBA				IAML			18 39 17.7		
	comp=Z,25nm,0.4s								
SPB4	**Spitsbergen Ar**	**4.12**	**114**	Pn		**Pn**	**18 38 34.5**		**-0.9**
SPA0	**Spitsbergen Ar**	**4.12**	**114**	Pn		**Pn**	**18 38 34.2**		**-1.2**
	baz=326,slow=10								
SPA0				Sn		**Sn**	**18 39 20.0**		**-3.5**
	baz=327,slow=18								
SPA0	**Spitsbergen Ar**	**4.12**	**114**	⇑*i*P		**Pn**	**18 38 34.3**		**-1.2**
SPA0				*e*S		**Sn**	**18 39 17.8**		**-5.7**
SPA0	**Spitsbergen Ar**	**4.12**	**114**	Pn		**Pn**	**18 38 34.2**		**-1.2**
	baz=326,slow=10								
SPA0				Sn		**Sn**	**18 39 20.0**		**-3.5**
	baz=327,slow=18								
SPA0				IAML			18 39 33.1		
	comp=Z,26nm,0.8s								
SPITS	**Spitsbergen Ar**	**4.12**	**114**	P		**Pn**	**18 38 33.7**		**-1.7**
SPITS				S		**Sn**	**18 39 19.7**		**-3.8**
SPITS	**Spitsbergen Ar**	**4.12**	**114**	Pn		**Pn**	**18 38 34.2**		**-1.2**
	baz=321,slow=7.5								
SPITS				Sn		**Sn**	**18 39 17.8**		**-5.7**
	baz=336,slow=5.9								
SPB2	**Spitsbergen Ar**	**4.12**	**114**			**Pn**	**18 38 34.1**		**-1.4**
HSPB	**Hornsund (broa**	**4.88**	**126**	Pn		**Pn**	**18 38 44.9**		**-0.9**
HSPB	**Hornsund (broa**	**4.88**	**126**	P		**Pn**	**18 38 44.7**		**-1.1**
HSPB				S		**Sn**	**18 39 38.2**		**-3.9**
HSPB	**Hornsund (broa**	**4.88**	**126**	*e*P		**Pn**	**18 38 44.7**		**-1.1**
HSPB				*e*S		**Sn**	**18 39 38.5**		**-3.6**
HSPB				IAML			18 39 43.7		
	comp=Z,12nm,0.6s								
DAG	**Danmarks Havn**	**4.91**	**230**	*e*P		**Pn**	**18 38 44.1**		**-2.1**
DAG				*e*S		**Sn**	**18 39 35.6**		**-7.2**
DAG	**Danmarks Havn**	**4.91**	**230**	*e*		**Pn**	**18 38 42.3**		**-3.9**
	baz=50,slow=16								
DAG				*i* P		**Pn**	**18 38 43.0**		**-3.2**
DAG				*i* P		**Pn**	**18 38 44.2**		**-2.1**
DAG				*i* S		**Sn**	**18 39 35.1**		**-7.7**
DAG				IAML			18 39 41.4		
	comp=Z,78nm,0.3s								
HOPEN	**Hopen**	**6.65**	**112**	Pn		**Pn**	**18 39 08.2**		**-1.9**
HOPEN				Sn		**Sn**	**18 40 20.4**		**-5.2**
HOPEN	**Hopen**	**6.65**	**112**	*e*P		**Pn**	**18 39 07.2**		**-2.8**
HOPEN				*e*S		Sn	18 40 15.9		-10
HOPEN	**Hopen**	**6.65**	**112**	*e*P		**Pn**	**18 39 07.4**		**-2.7**
HOPEN				*e*S		**Sn**	**18 40 19.6**		**-6.0**
ZFI2	**Zemlya Franca-**	**7.92**	**63**	*e*P		**Pn**	**18 39 25.9**		**-1.6**
ZFI2				*e*S		**Sn**	**18 40 49.5**		**-7.5**
	comp=Z,19nm,2.7s								
OMEGA	**Omega**	**7.95**	**63**	*e*P		**Pn**	**18 39 26.2**		**-1.7**
OMEGA				*e*S		**Sn**	**18 40 49.2**		**-8.3**
	comp=Z,22nm,2.2s								
NEEM	**North Greenlan**	**9.57**	**277**	*e*P		Pn	18 39 45.0		-5.3
NEEM				*i* S		Sn	18 41 25.4		-12
NEEM				IAML			18 41 32.4		
	comp=Z,35nm,0.3s								
NEEM	**North Greenlan**	**9.57**	**277**	*e*P		Pn	18 39 45.0		-5.3
NEEM				*i* S

	comp=Z,5.6nm,0.8s							
NRIK	**Noril'sk**	**22.77**	**66**	P	**P**	**18 42 34.5**	**0.0**
NRIK				IAmb	IAmb	18 42 42.6		
	comp=Z,8.4nm,0.8s							
NRIK	**Noril'sk**	**22.77**	**66**	P	**P**	**18 42 38.4**	**+3.9**
	comp=Z,6.1nm,0.8s,baz=355,slow=9.6,SNR=9.4							
	comp=Z,6.1nm,0.8s							
KLMR	**Klimovskoe**	**22.96**	**123**	*eP*	**P**	**18 42 40.0**	**+3.5**
	comp=Z,30nm,1.7s							
PRGR	**Permogore**	**23.10**	**116**	*eP*	**P**	**18 42 38.2**	**+0.3**
	comp=Z,55nm,2.2s							
A36M	**Sachs Harbour**	**24.68**	**321**	P	**P**	**18 42 53.9**	**+1.0**
A36M				IAmb	IAmb	18 42 55.9		
	comp=Z,6.3nm,0.9s							
EKA	**Eskdalemuir Ar**	**25.24**	**181**	P	**P**	**18 42 59.9**	**+1.8**
	comp=Z,2.4nm,0.8s,baz=352,slow=9.7,SNR=3.2							
	comp=Z,2.4nm,0.8s							
KIRV	**Kirov**	**26.59**	**114**	LR	LR	18 54 58.1		
	comp=Z,99nm,18.7s,baz=335,slow=39							
E29M	**Blow River**	**29.36**	**328**	P	**P**	**18 43 35.8**	**+0.8**
ARU	**Arti**	**30.10**	**105**	LR	LR	18 57 26.6		
	comp=Z,93nm,18.7s,baz=345,slow=40							
F28M	**Old Crow**	**30.29**	**329**	P	**P**	**18 43 43.2**	**0.0**
G31M	**Satah River**	**30.46**	**325**	P	**P**	**18 43 45.1**	**+0.5**
G31M				IAmb	IAmb	18 43 46.0		
	comp=Z,3.9nm,0.8s							
G30M	**tAoh Zraii Nji**	**30.59**	**326**	P	**P**	**18 43 45.5**	**-0.4**
G30M				IAmb	IAmb	18 44 29.1		
	comp=Z,5.4nm,1.2s							
AKASG	**Malin Array Be**	**31.62**	**141**	P	**P**	**18 43 55.1**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=352,slow=9.5,SNR=4.6							
AKASG				LR	LR	18 57 09.1		
	comp=Z,77nm,19.3s,baz=15,slow=37							
	comp=Z,1.1nm,0.6s							
BELG	**Belogornoye**	**32.31**	**119**	LR	LR	18 57 31.7		
	comp=Z,107nm,18.3s,baz=335,slow=37							
YKA	**Yellowknife Ar**	**32.47**	**307**	P	**P**	**18 44 03.0**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=5.4,slow=8.9,SNR=10							
YKA				PcP	**PcP**	**18 46 49.7**	**+0.9**	
	comp=Z,0.3nm,0.7s,baz=15,slow=2.9,SNR=4.7							
	comp=Z,0.5nm,0.8s							
ILAR	**Eielson Array**	**33.65**	**333**	P	**P**	**18 44 14.8**	**+2.1**
	comp=Z,1.1nm,0.8s,baz=4.9,slow=7.0,SNR=12							
ILAR				PcP	**PcP**	**18 46 52.8**	**+0.6**	
	comp=Z,0.3nm,0.5s,baz=335,slow=3.8,SNR=5.1							
	comp=Z,1.1nm,0.8s							
BVAR	**Borovoye Array**	**35.31**	**95**	P	**P**	**18 44 29.6**	**+2.5**
	comp=Z,0.6nm,0.7s,baz=354,slow=6.1,SNR=3.5							
BVAR				LR	LR	19 01 26.5		
	comp=Z,79nm,19.5s,baz=331,slow=40							
	comp=Z,0.6nm,0.7s							
AKTO	**Aktyubinsk**	**35.80**	**108**	LR	LR	19 00 31.5		
	comp=Z,65nm,19.2s,baz=306,slow=38							
ZALV	**Zalesovo Beam**	**36.83**	**80**	LR	LR	19 01 35.9		
	comp=Z,76nm,18.8s,baz=351,slow=39							
KURBB	**Kurchatov Arra**	**38.99**	**88**	P	**P**	**18 45 00.7**	**+2.3**
	comp=Z,0.6nm,0.4s,baz=340,slow=7.7,SNR=12							
KURBB				LR	LR	19 04 43.8		
	comp=Z,110nm,18.1s,baz=174,slow=42							
	comp=Z,0.6nm,0.4s							
KBZ	**Khabaz**	**40.12**	**127**	P	**P**	**18 45 10.8**	**+3.0**
	comp=Z,1.7nm,0.8s,baz=337,slow=9.2,SNR=2.7							
KBZ				LR	LR	19 02 06.7		
	comp=Z,88nm,18.4s,baz=342,slow=37							
	comp=Z,1.7nm,0.8s							
MKAR	**Makanchi Array**	**43.33**	**85**	P	**P**	**18 45 36.6**	**+2.5**
	comp=Z,0.9nm,0.8s,baz=339,slow=7.6,SNR=6.3							
MKAR				LR	LR	19 08 05.2		
	comp=Z,79nm,18.4s,baz=12,slow=42							
	comp=Z,0.9nm,0.8s							
GNI	**Garni**	**43.89**	**126**	LR	LR	19 04 13.8		
	comp=Z,47nm,20.0s,baz=342,slow=36							
AAK	**Ala-Archa**	**46.07**	**94**	LR	LR	19 08 06.5		
	comp=Z,111nm,18.5s,baz=356,slow=40							
SONM	**Songino Array**	**46.15**	**62**	P	**P**	**18 45 57.9**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=353,slow=5.8,SNR=2.1							
SONM				LR	LR	19 06 58.5		
	comp=Z,132nm,18.6s,baz=9.0,slow=38							
	comp=Z,0.3nm,0.4s							
NEW	**Newport**	**46.65**	**304**	LR	LR	19 05 29.3		
	comp=Z,245nm,20.8s,baz=32,slow=36							
MSO	**Missoula**	**47.60**	**300**	P	**P**	**18 46 07.2**	**-0.9**
MSO				IAmb	IAmb	18 46 15.9		
	comp=Z,13nm,1.5s							
MMAI	**Mount Meron Ar**	**49.77**	**138**	LR	LR	19 11 04.9		
	comp=Z,32nm,18.2s,baz=310,slow=40							
PDAR	**Pinedale Array**	**50.93**	**295**	LR	LR	19 08 02.8		
	comp=Z,193nm,21.1s,baz=42,slow=36							
EIL	**Elat**	**58.03**	**139**	LR	LR	19 09 55.3		
	comp=Z,33nm,21.7s,baz=5.5,slow=37							
O20A	**White River Ci**	**53.30**	**293**	P	**P**	**18 46 50.4**	**-0.9**
O20A				IAmb	IAmb	18 46 53.8		
	comp=Z,7.7nm,1.0s							
GTA	**Gaotai**	**53.38**	**71**	*eP*	**P**	**18 46 54.3**	**+2.5**
GTA				pP	pwP	18 47 01.8	+2.4	
GTA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ANMO	**Albuquerque**	**58.10**	**290**	LR	LR	19 14 08.0		
	comp=Z,285nm,19.9s,baz=131,slow=38							
425A	**Indio Mountain**	**61.95**	**288**	P	**P**	**18 47 53.2**	**+1.1**
ALPN	**Alpine**	**62.14**	**287**	P	**P**	**18 47 53.4**	**0.0**
ALPN				IAmb	IAmb	18 47 55.2		
	comp=Z,3.5nm,0.7s							
TX31	**Lajitas Ar. Si**	**63.16**	**286**	P	**P**	**18 48 00.6**	**+0.4**
TXAR	**Lajitas Array**	**63.16**	**286**	P	**P**	**18 48 00.4**	**+0.2**
TXAR	**Lajitas Array**	**63.16**	**286**	P	**P**	**18 48 01.1**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=38,slow=4.8,SNR=14							
TXAR				LR	LR	19 18 22.4		
	comp=Z,158nm,18.2s,baz=26,slow=39							
	comp=Z,1.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**67.35**	**176**	P	**P**	**18 48 27.7**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=354,slow=7.7,SNR=3.8							
	comp=Z,0.8nm,0.8s							
JOW	**Kunigami**	**69.77**	**46**	LR	LR	19 23 15.6		
	comp=Z,56nm,18.2s,baz=112,slow=39							
CMIG	**Matias Romero**	**73.71**	**276**	LR	LR	19 24 44.5		
	comp=Z,71nm,18.6s,baz=30,slow=38							
CMAR	**Chiang Mai Arr**	**73.76**	**76**	P	**P**	**18 49 07.2**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=344,slow=7.8,SNR=1.6							
CMAR				LR	LR	19 28 32.1		
	comp=Z,15nm,19.4s,baz=15,slow=41							
	comp=Z,0.8nm,0.3s							
ASAR	**Alice Springs**	**120.25**	**47**	PKP	**PKiKP**	**18 56 23.3**	**+0.3**	
	comp=Z,0.2nm,0.5s,baz=0.0,slow=1.9,SNR=1.8							

*NEIC **27** 18:39:09.9±1.6, 7.0S±0.1°×125.4E±0.1°, h477km±12km, mb4.1/13, Error ellipse: s-maj=22.3km s-min=15.2km az=59.0*
*IDC **27** 18:39:10.6±1.8, 7.07S×125.52E, h495km±20km, mb3.1/9, mbtmp4.0/12, Error ellipse: s-maj=56.4km s-min=9.4km az=60.0*
*DJA **27** 18:39:11.1±0.3, 7°S±3°×12°5E±°, h479km±7km, M4.1/14, mb4.2/12, mB4.5/6, MLv4.3/14, Mw(mB)3.7/6*

ISC 27 18:39:09.5±0.5, 7°12S±0°07×125°38E±0°09, h477km, n67, σ1$74/71, mb3.7/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.84**	**203**	P	**P**	**18 40 19.7**	**+2.0**
SOEI				S	**S**	**18 41 06.6**	**-6.4**
SOEI	**Soe**	**2.84**	**203**	P	**P**	**18 40 20.3**	**+2.6**
SOEI	**Soe**	**2.84**	**203**	P	**P**	**18 40 19.3**	**+1.6**
BBSI	**Bau Bau**	**3.23**	**300**	P	**P**	**18 40 24.5**	**+4.1**
MMRI	**Maumere**	**3.46**	**244**	P	**P**	**18 40 22.4**	**+0.3**
MMRI	**Maumere**	**3.46**	**244**	P	**P**	**18 40 25.7**	**+3.6**
EDFI	**Ende, Flores**	**4.00**	**246**	P	**P**	**18 40 27.5**	**+1.0**
NLAI	**Namlea**	**4.22**	**24**	P	**P**	**18 40 30.7**	**+2.3**
SANI	**Sanana**	**5.08**	**7**	P	**P**	**18 40 38.4**	**+2.3**
SANI	**Sanana**	**5.08**	**7**	P	**P**	**18 40 37.3**	**+1.2**
	25nm,0.6s,0.1nm						
BKSI	**Bulukumba**	**5.53**	**289**	P	**P**	**18 40 43.0**	**+2.7**
	38nm,0.9s,0.1nm						
BASI	**Baing, Sumba**	**5.66**	**237**	P	**P**	**18 40 44.6**	**+3.0**
	150nm,1.2s,0.7nm						
SAUI	**Saumlaki**	**5.93**	**99**	P	**P**	**18 40 44.7**	**+0.5**
SAUI	**Saumlaki**	**5.93**	**99**	P	**P**	**18 40 44.4**	**+0.2**
	137nm,0.8s,0.6nm						
KAPI	**Kappang**	**5.98**	**290**	P	**P**	**18 40 46.8**	**+2.1**
	11nm,0.5s,baz=117,slow=9.4,SNR=7.6						
LUWI	**Luwuk**	**6.58**	**337**	P	**P**	**18 40 47.7**	**-3.0**
LUWI	**Luwuk**	**6.58**	**337**	P	**P**	**18 40 52.4**	**+1.7**
LBMI	**Labuha**	**6.78**	**18**	P	**P**	**18 40 54.7**	**+1.9**
	15nm,0.9s,0.1nm						
PLAI	**Plampang**	**7.72**	**257**	P	**P**	**18 41 02.0**	**-0.5**
KMSI	**Cibinong**	**7.77**	**350**	P	**P**	**18 41 06.1**	**+3.0**
	78nm,0.6s,0.4nm						
FAKI	**Fak Fak**	**8.01**	**59**	P	**P**	**18 41 05.6**	**0.0**
FAKI	**Fak Fak**	**8.01**	**59**	P	**P**	**18 41 07.1**	**+1.5**
FAKI	**Fak Fak**	**8.01**	**59**	P	**P**	**18 41 06.7**	**+1.1**
	12nm,1.2s,0.1nm						
MTN	**Manton Dam**	**8.03**	**136**	P	**P**	**18 41 07.0**	**+1.4**
MTN	**Manton Dam**	**8.03**	**136**	P	**P**	**18 41 07.5**	**+1.8**
TNTI	**Ternate**	**8.09**	**14**	P	**P**	**18 41 06.8**	**+0.4**
TNTI	**Ternate**	**8.09**	**14**	P	**P**	**18 41 07.6**	**+1.2**
	26nm,0.9s						
MRSI	**Marisa**	**8.29**	**335**	P	**P**	**18 41 10.9**	**+2.4**
	128nm,0.7s,1µm						
KDU	**Kakadu**	**8.91**	**129**	P	**P**	**18 41 16.2**	**+1.2**
KNRA	**Kununurra**	**9.12**	**159**	P	**P**	**18 41 18.9**	**+1.6**
KNRA	**Kununurra**	**9.12**	**159**	P	**P**	**18 41 18.9**	**+1.6**
MPSI	**Mapaga**	**9.21**	**323**	P	**P**	**18 41 21.1**	**+2.8**
TOLI2	**Tolitoli**	**9.38**	**331**	P	**P**	**18 41 21.6**	**+1.5**
TOLI2	**Tolitoli**	**9.38**	**331**	P	**P**	**18 41 22.0**	**+1.9**
FITZ	**Fitzroy Crossi**	**10.91**	**179**	P	**P**	**18 41 37.8**	**+1.3**
WB0	**Warramunga Arr**	**15.31**	**146**	P	**P**	**18 42 23.1**	**-0.4**
WB0				IAmb	IAmb	18 42 26.2		
	comp=Z,11nm,1.4s							
WRA	**Warramunga Arr**	**15.43**	**147**	P	**P**	**18 42 24.9**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=336,slow=9.6,SNR=32							
WRA				S	**S**	**18 45 04.9**	**-0.9**	
	comp=Z,1.6nm,0.8s,baz=321,slow=17,SNR=6.0							
WB2	**Warramunga Arr**	**15.43**	**147**	P	**P**	**18 42 25.1**	**+0.3**
WB2				IAmb	IAmb	18 42 42.7		
	comp=Z,7.4nm,1.2s							
WR0	**Warramunga Arr**	**15.55**	**146**	P	**P**	**18 42 25.6**	**-0.4**
KSM	**Kuching**	**17.30**	**299**	P	**P**	**18 42 45.0**	**+0.7**
AS31	**Alice Springs**	**18.37**	**154**	P	**P**	**18 42 55.1**	**+0.5**
ASAR	**Alice Springs**	**18.37**	**154**	P	**P**	**18 42 55.2**	**+0.6**
	comp=Z,1.5nm,0.3s,baz=332,slow=9.7,SNR=98							
ASAR				S	**S**	**18 45 57.6**	**-0.8**	
	comp=Z,5.3nm,0.9s,baz=344,slow=22,SNR=24							
ASAR				ScP	**ScP**	**18 49 48.2**	**-2.5**	
	comp=Z,0.4nm,0.7s,baz=346,slow=2.8,SNR=3.6							
BBOO	**Buckleboo**	**27.42**	**160**	P	**P**	**18 44 16.1**	**+0.4**
BBOO				IAmb	IAmb	18 44 18.0		
	comp=Z,13nm,1.4s							
STKA	**Stephens Creek**	**28.90**	**151**	P	**P**	**18 44 29.3**	**+0.6**
STKA	**Stephens Creek**	**28.90**	**151**	P	**P**	**18 44 29.1**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=326,slow=7.7,SNR=7.5							
	comp=Z,1.7nm,0.5s							
TPUB	**Ta-pu**	**30.59**	**351**	P	**P**	**18 44 42.0**	**-1.5**
CAN	**Canberra**	**35.47**	**146**	P	**P**	**18 45 26.8**	**+1.9**
CAN				IAmb	IAmb	18 45 40.0		
	comp=Z,16nm,1.3s							
CMAR	**Chiang Mai Arr**	**36.42**	**315**	P	**P**	**18 45 33.8**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=138,slow=7.5,SNR=9.3							
	comp=Z,1.1nm,0.7s							
TAPN	**Taplejung**	**50.03**	**315**	*eP*	**P**	**18 47 19.9**	**+0.1**
	comp=Z,6.8nm,0.4s							
RAMN	**Ramite**	**50.58**	**314**	*eP*	**P**	**18 47 24.2**	**+0.4**
	comp=Z,12nm,0.5s							
JIRN	**Jiri**	**51.29**	**314**	*eP*	**P**	**18 47 29.7**	**+0.5**
GUN	**Gumba**	**51.66**	**314**	*eP*	**P**	**18 47 31.5**	**-0.3**
	comp=Z,9.2nm,0.4s							
PKI	**Pulchoki**	**51.80**	**313**	*eP*	**P**	**18 47 32.2**	**-0.6**
	comp=Z,5.4nm,0.5s							
GKN	**Gorkha**	**52.61**	**313**	*eP*	**P**	**18 47 38.0**	**-0.4**
DANN	**Dangsing**	**53.44**	**313**	*eP*	**P**	**18 47 43.7**	**-0.8**
PYUN	**Piuthan**	**53.86**	**312**	*eP*	**P**	**18 47 46.6**	**-0.8**
SONM	**Songino Array**	**57.23**	**345**	P	**P**	**18 48 10.0**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=152,slow=6.5,SNR=1.9							
	comp=Z,0.4nm,0.6s							
MK31	**Makanchi Array**	**65.89**	**329**	P	**P**	**18 49 06.5**	**-0.7**
MKAR	**Makanchi Array**	**65.89**	**329**	P	**P**	**18 49 06.4**	**-0.8**
MKAR	**Makanchi Array**	**65.89**	**329**	P	**P**	**18 49 07.0**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=125,slow=7.5,SNR=38							
	comp=Z,1.0nm,0.5s							
KBL	**Kabul**	**67.38**	**312**	P	**P**	**18 49 16.0**	**-1.0**
KBL				IAmb	IAmb	18 49 17.5		
	comp=Z,2.6nm,0.9s							
ZALV	**Zalesovo Beam**	**69.74**	**336**	P	**P**	**18 49 29.6**	**-0.9**
ZALV	**Zalesovo Beam**	**69.74**	**336**	P	**P**	**18 49 29.2**	**-1.4**
	comp=Z,1.5nm,0.4s,baz=132,slow=6.4,SNR=3.6							
	comp=Z,1.5nm,0.4s							
KURBB	**Kurchatov Arra**	**70.28**	**330**	P	**P**	**18 49 33.3**	**-0.6**
	comp=Z,0.4nm,0.2s,baz=138,slow=4.9,SNR=6.9							
	comp=Z,0.4nm,0.2s							
VNDA	**Vanda**	**72.91**	**172**	P	**P**	**18 49 48.5**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=304,slow=7.3,SNR=2.0							
	comp=Z,0.6nm,0.7s							
BVAR	**Borovoye Array**	**75.78**	**329**	P	**P**	**18 50 05.2**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=121,slow=7.4,SNR=5.1							
	comp=Z,0.5nm,0.5s							
GEYT	**Alibeck**	**76.83**	**311**	P	**P**	**18 50 11.6**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=64,slow=6.6,SNR=2.2							
	comp=Z,0.6nm,0.4s							

*IDC **27** 18:50:02.9±5.3, 3.52S×131.28E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=462.2km s-min=26.1km az=72.0*
*DJA **27** 18:50:07.2±1.1, 3°S±3°×13°1E±°, h25km±12km, M3.7/11, mb3.8/1, MLv3.6/11*

ISC 27 18:50:05.6±0.8, 3.55S±0.05×131.26E±0.06, h24km, n13, σ3$16/15, mb3.9/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.17**	**58**	P	**Pb**	**18 50 27.8**	**+0.8**
BNDI	**Bandanaira**	**1.67**	**234**	P	**Pn**	**18 50 35.3**	**+2.0**
KMPI	**Kaimana, Papua**	**2.44**	**93**	P	**Pn**	**18 50 45.6**	**+1.7**
SWI	**Sorong**	**2.67**	**360**	P	**Pn**	**18 50 46.7**	**-0.4**
SWI				S	**Sn**	**18 51 19.0**	**+0.3**
NLAI	**Namlea**	**4.17**	**274**	P	**Pn**	**18 51 10.5**	**+2.8**
SAUI	**Saumlaki**	**4.41**	**180**	P	**Pn**	**18 51 13.8**	**+2.8**
LBMI	**Labuha**	**4.74**	**307**	P	**Pn**	**18 51 16.2**	**+0.6**
SANI	**Sanana**	**5.48**	**286**	P	**Pn**	**18 51 24.7**	**-1.0**
WRA	**Warramunga Arr**	**16.57**	**170**	Pn	**Pn**	**18 53 51.5**	**-4.9**
	0.1nm,0.3s,baz=349,slow=12,SNR=11						
WRA				Sn	Sn	18 56 46.6	-13	
	0.1nm,0.3s,baz=360,slow=21,SNR=4.8						
ASAR	**Alice Springs**	**20.16**	**173**	P	**P**	**18 54 39.6**	**+1.2**
	1.7nm,0.4s,baz=349,slow=10,SNR=49						
ASAR				S	**S**	**18 58 15.8**	**-8.0**	
	0.2nm,0.5s,baz=359,slow=27,SNR=1.7						
	1.7nm,0.4s						
MKAR	**Makanchi Array**	**66.08**	**325**	P	**P**	**19 00 51.9**	**+1.2**
	0.6nm,0.8s,baz=125,slow=7.2,SNR=6.0						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**70.27**	**327**	P	**P**	**19 01 17.9**	**+1.0**
	0.3nm,0.3s,baz=122,slow=5.6,SNR=5.9						
	0.3nm,0.3s						
VNDA	**Vanda**	**75.70**	**173**	P	**P**	**19 01 49.8**	**+1.2**
	1.3nm,1.0s,baz=323,slow=5.1,SNR=2.2						
	1.3nm,1.0s						

IDC 27 18:58:20.1±5.2, 22.47N×94.50E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=425.1km s-min=29.2km az=60.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**26.20**	**341**	P	P	19 03 56.5	0.0
	0.2nm,0.6s,baz=150,slow=11,SNR=4.7						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**57.37**	**134**	P	P	19 08 10.1	-0.4
	0.4nm,0.9s,baz=321,slow=7.6,SNR=4.8						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**59.76**	**138**	P	P	19 08 27.5	+0.3
	0.6nm,1.1s,baz=317,slow=6.8,SNR=4.7						
	0.6nm,1.1s						

*SFS **27** 19:02:16.4, 40.20N×8.87W, h16km, ML2.9/6, ML2.9/4, MLv2.9/6*
*MDD **27** 19:02:18.8±0.5, 39.97N×8.67W, h11km, mb_Lg2.5/7, Error ellipse: s-maj=4.5km s-min=2.3km az=106.0*

ISC 27 19:02:18.1±1.2, 40.01N±0.03×8.61W±0.04, h13km±10km, n13, σ0$91/30, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**1.18**	**207**	Sg	**Sg**	**19 02 55.9**	**-0.1**
PMAFR				Pg	**Pg**	**19 02 40.6**	**-0.1**
PESTR	**Estremoz**	**1.38**	**145**	Sn	**Sn**	**19 03 03.4**	**+2.2**
PESTR				Pn	**Pn**	**19 02 43.5**	**+0.5**
EVO	**Evora**	**1.54**	**162**	Sn	**Sg**	**19 03 08.0**	**+0.3**
EVO				Pn	**Pn**	**19 02 45.7**	**+0.4**
EBAD	**Badajoz**	**1.76**	**135**	Pg	**Pb**	**19 02 50.7**	**+0.5**
EBAD				Sg	**Sb**	**19 03 12.9**	**+0.9**
EBAD				*i* Vmb_Lg		19 03 18.4	
EBAD	**Badajoz**	**1.76**	**135**	Sn	**Sg**	**19 03 14.2**	**-0.4**
EBAD				Pn	**Pn**	**19 02 48.7**	**+0.5**
PNCL	**Nicolau / Gran**	**1.90**	**178**	Pn	**Pn**	**19 02 49.5**	**-0.6**
ELOB	**Lobios**	**1.90**	**12**	Pg	**Pg**	**19 02 54.2**	**-0.4**
ELOB				Sn	**Sn**	**19 03 13.6**	**-0.5**
ELOB				Sg	**Sg**	**19 03 19.6**	**+0.3**
ELOB				*i* Vmb_Lg		19 03 27.9	
EPLA	**Plasencia**	**1.94**	**88**	Pn	**Pn**	**19 02 51.2**	**+0.5**
EPLA				Pg	**Pg**	**19 02 55.6**	**+0.3**
EPLA				Sg	**Sg**	**19 03 20.5**	**0.0**
EPLA				*i* Vmb_Lg		19 03 27.8	
PBAR	**Barrancos**	**2.20**	**146**	Pn	**Pn**	**19 02 54.1**	**-0.1**
EMIN	**Mina Concepcio**	**2.70**	**145**	Pn	**Pn**	**19 03 00.1**	**-1.0**
EMIN				Sn	**Sn**	**19 03 31.6**	**-2.0**
EMIN				*i* Vmb_Lg		19 03 38.9	
EMIN				Sg	**Sg**	**19 03 44.2**	**-0.5**
ECAB	**El Cabril**	**3.14**	**127**	Pn	**Pn**	**19 03 08.6**	**+1.3**
ECAB				Sn	**Sn**	**19 03 44.5**	**-0.1**
ECAB				Sg	**Sg**	**19 03 58.0**	**-1.1**
ECAB				*i* Vmb_Lg		19 04 10.1	
PAB	**San Pablo**	**3.31**	**97**	Pn	**Pn**	**19 03 10.2**	**+0.6**
PAB				Sn	**Sn**	**19 03 47.8**	**-1.1**
PAB				Sg	**Sg**	**19 04 03.1**	**-1.4**
PAB				*i* Vmb_Lg		19 04 13.9	
EADA	**Adamuz**	**3.63**	**119**	Pn	**Pn**	**19 03 13.2**	**-0.8**
EADA				Sn	**Sn**	**19 03 55.6**	**-1.1**
EADA				Sg	**Sg**	**19 04 14.5**	**-0.2**
EADA				*i* Vmb_Lg		19 04 18.9	

*IDC **27** 19:17:04.8±2.1, 25.06N×96.45E, h0km, mb3.2/2, mbtmp3.2/2, Error ellipse: s-maj=79.6km s-min=23.4km az=73.0*

ISC 27 19:17:09.0±1.3, 25.2N±0.1×96.3E±0.2, h21km, n7, σ1$22/7, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.12**	**159**	Pg	**Pb**	**19 19 11.8**	**-0.1**
	0.1nm,0.3s,baz=338,slow=17,SNR=4.5						
CMAR				Lg	Lg	19 20 46.0	
	baz=3.0,slow=33						
TAPN	**Taplejung**	**8.02**	**288**	*eP*	**Pn**	**19 19 04.9**	**+0.3**
	3.4nm,0.4s						
RAMN	**Ramite**	**8.91**	**284**	*eP*	**Pn**	**19 19 18.4**	**+1.7**
	6.0nm,0.5s						
JIRN	**Jiri**	**9.40**	**287**	*eP*	**Pn**	**19 19 23.0**	**-0.6**
	5.3nm,0.5s						
PKI	**Pulchoki**	**10.06**	**286**	*eP*	**Pn**	**19 19 31.0**	**-1.6**
	1.4nm,0.5s						
SONM	**Songino Array**	**23.98**	**17**	P	**P**	**19 22 22.2**	**+0.1**
	0.3nm,0.5s,baz=188,slow=8.7,SNR=2.4						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**24.30**	**336**	P	**P**	**19 22 25.1**	**+0.2**
	0.4nm,0.6s,baz=147,slow=8.3,SNR=7.0						
	0.4nm,0.6s						

WEL 27 19:35:07.7±0.3, 42°S±3°×174°E±°, h21km±2km, M3.5/25, ML3.8/25, MLv3.5/25, Error ellipse: s-maj=0.0km s-min=0.0km az=155.8, confirmed, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.13**	**174**	P	Pb	19 35 13.6	-0.4
CMWZ				S	Sb	19 35 18.7	+0.2
BSWZ	**Blackbirch Sta**	**0.26**	**248**	P	Pb	19 35 14.9	+0.9
BSWZ				S	Sb	19 35 19.9	+1.6
TUWZ	**Tuamarina**	**0.27**	**315**	P	Pb	19 35 14.9	+0.9
TUWZ				S	Sn	19 35 20.2	-1.6
TCW	**Tory Channel**	**0.41**	**9**	P	Pb	19 35 17.0	+0.9
TCW				S	Sb	19 35 23.3	+1.6
WEL	**Wellington**	**0.55**	**52**	P	Pn	19 35 19.6	-0.6
WEL				S	Sn	19 35 28.9	+0.2
BHW	**Baring Head**	**0.55**	**68**	P	Pn	19 35 19.7	-0.6
BHW				S	Sn	19 35 28.1	-0.7
NNZ	**Nelson**	**0.73**	**303**	P	Pn	19 35 22.4	-0.3
PLWZ	**Palliser**	**0.80**	**87**	P	Pb	19 35 23.1	+0.3
PLWZ				S	Sn	19 35 35.0	0.0
MSWZ	**Moikau Station**	**0.82**	**76**	P	Pn	19 35 23.8	-0.2
MSWZ				S	Sn	19 35 35.6	+0.1
CAW	**Cannon Point**	**0.83**	**52**	P	P

mbtmp4.1/9, Error ellipse: s-maj=36.9km s-min=18.2km az=158.0

ISC 27 19:43:49.8±0.6, 24°53S±0.10×179°97W±0.09, h475km, n46, σ1§43/48, mb4.1/19, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**10.79**	**62**	P	**P**	**19 46 16.2**	**+0.6**
MARNC	**Mare, Loyalty**	**11.46**	**283**	P	**P**	**19 46 26.1**	**+3.3**
PINNC	**Pines Island,**	**11.70**	**277**	P	**P**	**19 46 27.7**	**+2.4**
OUENC	**Ouen Island, N**	**12.28**	**277**	P	**P**	**19 46 31.4**	**-0.2**
DZM	**Mont Dzumac**	**12.72**	**278**	P	**P**	**19 46 36.8**	**+0.4**
DZM	**Mont Dzumac**	**12.72**	**278**	P	**P**	**19 46 40.1**	**+3.7**
	8.0nm,0.7s,baz=57,slow=15,SNR=9.3						
URZ	**Urewera**	**13.91**	**190**	P	**P**	**19 46 49.7**	**+1.0**
	1.7nm,0.3s,baz=176,slow=23,SNR=1.4						
URZ				S	**S**	**19 49 19.6**	**+3.3**
	8.8nm,1.1s,baz=90,slow=13,SNR=1.5						
BKZ	**Black Stump Fm**	**14.89**	**191**	P	**P**	**19 46 57.5**	**-1.7**
MRZ	**Mangatainoka R**	**16.51**	**192**	P	**P**	**19 47 14.1**	**-2.1**
MRNZ	**Matariki Terra**	**17.88**	**198**	P	**P**	**19 47 29.5**	**-0.6**
BSWZ	**Blackbirch Sta**	**17.88**	**195**	P	**P**	**19 47 29.9**	**-0.2**
THZ	**Tophouse**	**18.18**	**197**	P	**P**	**19 47 31.2**	**-1.8**
LTZ	**Lake Taylor**	**19.30**	**197**	P	**P**	**19 47 41.7**	**-1.5**
ARMA	**Armidale**	**25.83**	**251**	P	**P**	**19 48 40.9**	**-1.4**
ARMA				IAmb	IAmb	19 49 24.9	
	comp=Z,20nm,1.5s						
EIDS	**Eidsvold**	**26.24**	**262**	P	**P**	**19 48 45.9**	**+0.1**
EIDS				IAmb	IAmb	19 48 59.6	
	comp=Z,10.0nm,1.3s						
CTAO	**Charters Tower**	**31.51**	**271**	P	**P**	**19 49 32.9**	**+0.9**
CTAO				IAmb	IAmb	19 49 33.8	
	comp=Z,14nm,0.8s						
TOO	**Toolangi**	**32.13**	**238**	P	**P**	**19 49 35.3**	**-1.7**
TOO				IAmb	IAmb	19 50 02.7	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**34.51**	**249**	P	**P**	**19 49 57.3**	**0.0**
STKA	**Stephens Creek**	**34.51**	**249**	P	**P**	**19 49 58.3**	**+1.0**
	comp=Z,4.0nm,0.5s,baz=101,slow=11,SNR=21						
	comp=Z,4.0nm,0.5s						
BBOO	**Buckleboo**	**39.22**	**248**	P	**P**	**19 50 36.2**	**0.0**
BBOO				IAmb	IAmb	19 50 36.8	
	comp=Z,8.1nm,1.1s						
AS31	**Alice Springs**	**41.96**	**261**	P	**P**	**19 50 58.3**	**0.0**
ASAR	**Alice Springs**	**41.96**	**261**	P	**P**	**19 50 57.6**	**-0.7**
ASAR	**Alice Springs**	**41.96**	**261**	P	**P**	**19 50 58.5**	**+0.1**
	comp=Z,3.9nm,1.0s,baz=92,slow=7.4,SNR=49						
ASAR				ScP	**ScP**	**19 55 44.8**	**-3.0**
	comp=Z,0.4nm,0.9s,baz=114,slow=4.4,SNR=2.9						
	comp=Z,3.9nm,1.0s						
WB2	**Warramunga Arr**	**42.38**	**267**	P	**P**	**19 51 01.1**	**-0.5**
WB2				IAmb	IAmb	19 51 02.9	
	comp=Z,7.5nm,1.0s						
WRAB	**Tennant Creek**	**42.38**	**267**	P	**P**	**19 51 00.1**	**-1.6**
WRAB				IAmb	IAmb	19 51 01.6	
	comp=Z,4.6nm,0.6s						
WB0	**Warramunga Arr**	**42.39**	**267**	P	**P**	**19 51 01.2**	**-0.5**
WB0				IAmb	IAmb	19 51 02.0	
	comp=Z,7.9nm,0.7s						
WRA	**Warramunga Arr**	**42.39**	**267**	P	**P**	**19 51 01.2**	**-0.5**
WRA	**Warramunga Arr**	**42.39**	**267**	P	**P**	**19 51 01.3**	**-0.5**
	comp=Z,5.2nm,0.6s,baz=98,slow=6.7,SNR=23						
WRA				ScP	**ScP**	**19 55 47.6**	**-2.0**
	comp=Z,2.1nm,0.9s,baz=100,slow=3.8,SNR=10						
	comp=Z,5.2nm,0.6s						
FORT	**Forrest**	**46.12**	**250**	P	**P**	**19 51 29.9**	**-0.6**
KNRA	**Kununurra**	**48.71**	**270**	P	**P**	**19 51 49.6**	**-0.7**
KNRA				IAmb	IAmb	19 51 57.3	
	comp=Z,25nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.81**	**266**	P	**P**	**19 52 05.8**	**+0.1**
PSA00	**Pilbara Seismi**	**55.08**	**260**	P	**P**	**19 52 35.5**	**-0.8**
PSA00				IAmb	IAmb	19 53 13.5	
	comp=Z,36nm,1.4s						
MBWA	**Marble Bar**	**55.29**	**260**	P	**P**	**19 52 37.2**	**-0.6**
MORW	**Morawa**	**56.68**	**250**	P	**P**	**19 52 46.8**	**-0.6**
MORW				IAmb	IAmb	19 52 56.1	
	comp=Z,18nm,1.2s						
BELA	**Belgrano 2**	**75.81**	**173**	P	**P**	**19 54 45.8**	**0.0**
KULM	**Kulim**	**82.57**	**279**	P	**P**	**19 55 21.9**	**-0.9**
KULM				IAmb	IAmb	19 55 48.4	
	comp=Z,19nm,1.5s						
NVAR	**Mina Array Bea**	**85.19**	**44**	P	**P**	**19 55 36.3**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=221,slow=6.7,SNR=2.7						
	comp=Z,0.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.77**	**290**	P	**P**	**19 55 58.6**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=143,slow=3.6,SNR=3.5						
	comp=Z,0.3nm,0.7s						
TXAR	**Lajitas Array**	**90.74**	**58**	P	**P**	**19 56 03.1**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=222,slow=6.6,SNR=7.5						
	comp=Z,0.9nm,0.8s						
PDAR	**Pinedale Array**	**93.13**	**44**	P	**P**	**19 56 11.4**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=262,slow=4.4,SNR=2.0						
	comp=Z,0.2nm,0.6s						
ARCES	**ARCESS Array B**	**132.51**	**348**	PKP	**PKPdf**	**20 02 08.7**	**-0.1**
	comp=Z,5.1nm,1.0s,baz=114,slow=2.2,SNR=1.9						
FINES	**FINESS Array B**	**139.05**	**341**	PKP	**PKPdf**	**20 02 21.2**	**+0.1**
	comp=Z,1.9nm,0.9s,baz=90,slow=1.9,SNR=3.5						
HFS	**Hagfors**	**143.17**	**349**	PKhKP	PKPpre	20 02 24.6	
	comp=Z,1.6nm,0.4s,baz=58,slow=3.7,SNR=18						
AKASG	**Malin Array Be**	**145.51**	**327**	PKPbc	**PKPdf**	**20 02 33.0**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=38,slow=4.2,SNR=4.3						
BRTR	**Keskin Array B**	**147.97**	**306**	PKPbc	**PKPbc**	**20 02 40.5**	**-0.9**
	comp=Z,0.5nm,1.0s,baz=130,slow=2.7,SNR=1.7						
EKA	**Eskdalemuir Ar**	**149.15**	**4**	PKPbc	**PKPbc**	**20 02 42.2**	**-1.3**
	comp=Z,2.1nm,0.9s,baz=10,slow=4.5,SNR=4.2						

MOS 27 19:47:08.5±1.3, 45°84N×150°56E, h123km, mb4.5/1, Error ellipse: s-maj=30.9km s-min=13.6km az=47.9
SKHL 27 19:47:09.2±0.2, 45°30N×150°80E, h129km±5km, mb4.8/3, msh5.6/3
IDC 27 19:47:10.8±10.0, 45°94N×150°62E, h118km±66km, mb3.1/5, mbtmp3.5/6, Error ellipse: s-maj=106.2km s-min=31.9km az=0.0
JMA 27 19:47:12.0±0.8, 45°N-6°×15°1E±°, h108km, MV4.0/11, KURILE ISLANDS REGION

ISC 27 19:47:06.0±1.1, 45°3N±0.1×151°1E±0.1, h100km, n34, σ1§95/38, mb3.3/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.28**	**270**	*e*P	**Pn**	**19 47 44.2**	**+2.0**
KUR				AMB	AMB	19 47 44.7	
	160nm,0.5s						
KUR				*e*S	**Sn**	**19 48 09.8**	**0.0**
KUR				A	A	19 48 11.2	
	700nm,0.7s						
KUR				A	A	19 48 11.2	
	1μm,0.7s						
KUR	**Kuril'sk**	**2.28**	**270**	*e*PN	**Pn**	**19 47 44.2**	**+2.0**
KUR				*e*S	**Sn**	**19 48 09.8**	**0.0**
KUR				pmax	pmax		
	comp=Z,162nm,0.3s						
KUR				smax	smax		
	comp=E,1μm,0.4s						
KUR				smax	smax		
	comp=N,703nm,0.7s						
SHO	**Shikotan**	**3.36**	**247**	*e*P	**Pn**	**19 47 58.5**	**+1.9**
SHO				AMB	AMB	19 47 59.0	
	comp=N,20nm,0.2s						
SHO				*e*S	**Sn**	**19 48 34.4**	**-1.2**
SHO				A	A	19 48 36.5	
	comp=N,140nm,0.3s						
SHO				A	A	19 48 36.5	
	comp=N,140nm,0.3s						
SHO	**Shikotan**	**3.36**	**247**	*e*PN	**Pn**	**19 47 58.4**	**+1.9**
SHO				*e*S	**Sn**	**19 48 33.9**	**-1.7**
SHO				pmax	pmax		
	comp=Z,30nm,0.3s						
SHO				pmax	pmax		
	comp=N,12nm,0.2s						
SHO				smax	smax		
	comp=N,196nm,0.2s						
SHO				smax	smax		
	comp=E,102nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**3.94**	**253**	*e*P	**Pn**	**19 48 06.7**	**+2.4**
YUK				AMB	AMB	19 48 08.6	
	comp=E,60nm,0.3s						
YUK				*e*S	**Sn**	**19 48 49.7**	**+0.2**
YUK				A	A	19 48 52.9	
	comp=E,290nm,0.5s						
YUK				A	A	19 48 52.9	
	comp=E,300nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.94**	**253**	*e*PN	**Pn**	**19 48 06.9**	**+2.6**
YUK				*e*S	**Sn**	**19 48 49.7**	**+0.2**
YUK				pmax	pmax		
	comp=Z,144nm,0.3s						
YUK				smax	smax		
	comp=E,244nm,0.2s						
YUK				smax	smax		
	comp=N,236nm,0.1s						
NEM2	**Nemuro 2**	**4.29**	**245**	*e*P	**Pn**	**19 48 11.2**	**+2.1**
NEM2				*e*S	**Sn**	**19 48 56.8**	**-1.2**
NMR	**Nemuro--Hokkai**	**4.30**	**245**	*e*P	**Pn**	**19 48 10.7**	**+1.5**
NMR				*e*S	**Sn**	**19 48 56.7**	**-1.6**
NMR	**Nemuro--Hokkai**	**4.30**	**245**	*e*PN	**Pn**	**19 48 10.7**	**+1.5**
NMR				*e*S	**Sn**	**19 48 56.0**	**-2.2**
RUSJ	**Misakicho**	**4.33**	**256**	*e*PN	**Pn**	**19 48 12.8**	**+3.2**
RUSJ				*e*S	**Sn**	**19 49 00.1**	**+1.1**
JRA	**Rausu**	**4.47**	**255**	*e*P	**Pn**	**19 48 14.2**	**+2.7**
JNK	**Nakash**	**4.87**	**252**	*e*S	**Sn**	**19 49 11.9**	**-0.2**
AKK	**Akkeshi**	**5.04**	**245**	*e*P	**Pn**	**19 48 21.5**	**+2.3**
AKK				*e*S	**Sn**	**19 49 14.0**	**-2.1**
JAK	**Akkeshi**	**5.14**	**246**	*e*S	**Sn**	**19 49 16.8**	**-1.9**
JTKR	**Abashiri--Toko**	**5.29**	**258**	*e*P	**Pn**	**19 48 24.8**	**+2.2**
JAR	**Ashorobuto**	**5.62**	**252**	*e*P	**Pn**	**19 48 30.7**	**+3.6**
JAR				*e*S	**Sn**	**19 49 29.8**	**-0.5**
JOB	**Onbets**	**5.74**	**248**	*e*S	**Sn**	**19 49 31.6**	**-1.7**
JCH	**Churui**	**6.19**	**247**	*e*P	**Pn**	**19 48 36.8**	**+2.0**
JCH				*e*S	**Sn**	**19 49 41.5**	**-2.6**
PETK	**Petropavlovsk-**	**8.94**	**27**	P	**Pn**	**19 49 10.9**	**-1.2**
	comp=N,3.2nm,0.9s,baz=206,slow=9.5,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**28.65**	**148**	T	T	20 24 41.7	
	baz=337,slow=76,SNR=76						
H11N1	**WAKE ISLAND Hy**	**28.67**	**148**	T	T	20 24 44.9	
	baz=337,slow=76,SNR=71						
H11N3	**WAKE ISLAND Hy**	**28.67**	**148**	T	T	20 24 45.2	
	baz=337,slow=76,SNR=67						
H11S1	**WAKE ISLAND Hy**	**29.70**	**149**	T	T	20 26 00.9	
	baz=338,slow=76,SNR=120						
H11S3	**WAKE ISLAND Hy**	**29.71**	**149**	T	T	20 25 59.7	
	baz=338,slow=76,SNR=81						
H11S2	**WAKE ISLAND Hy**	**29.72**	**149**	T	T	20 26 00.5	
	baz=338,slow=76,SNR=87						
ILAR	**Eielson Array**	**38.57**	**37**	P	**P**	**19 54 19.4**	**+0.8**
	comp=N,0.2nm,0.8s,baz=263,slow=7.2,SNR=1.5						
	comp=N,0.2nm,0.8s						
MKAR	**Makanchi Array**	**46.37**	**298**	*e*P	**P**	**19 55 20.9**	**-1.1**
MKAR	**Makanchi Array**	**46.37**	**298**	P	**P**	**19 55 20.5**	**-1.5**
	comp=N,0.1nm,0.5s,baz=62,slow=9.9,SNR=1.5						
	comp=N,0.1nm,0.5s						
FINES	**FINESS Array B**	**64.75**	**334**	P	**P**	**19 57 30.9**	**-2.4**
	comp=N,2.4nm,0.9s,baz=46,slow=8.0,SNR=3.5						
	comp=N,2.4nm,0.9s						
NOA	**NORSAR Array B**	**69.14**	**340**	P	**P**	**19 57 59.5**	**-1.6**
	comp=N,0.8nm,0.7s,baz=32,slow=5.8,SNR=4.1						
	comp=N,0.8nm,0.7s						
TXAR	**Lajitas Array**	**79.44**	**59**	P	**P**	**19 59 03.8**	**+2.2**
	comp=N,0.2nm,0.4s,baz=289,slow=3.9,SNR=4.0						
	comp=N,0.2nm,0.4s						
H03N2	**Juan Fernandez**	**140.15**	**91**	T	T	22 43 41.7	
	baz=306,slow=77,SNR=5.2						
H03N3	**Juan Fernandez**	**140.16**	**91**	T	T	22 43 44.5	
	baz=306,slow=77,SNR=4.9						
H03N1	**Juan Fernandez**	**140.16**	**91**	T	T	22 43 43.0	
	baz=306,slow=77,SNR=4.7						

IDC 27 19:57:39.4±2.0, 43°56N×105°30W, h0km, mbtmp2.9/4, ML2.8/4, Error ellipse: s-maj=45.5km s-min=10.4km az=149.0
NEIC 27 19:57:40.9±2.4, 43°65N±0.04×105°17W±0.05, h0km±2km, ML3.3/69, Error ellipse: s-maj=9.1km s-min=3.1km az=320.0

ISC 27 19:57:39.4±0.9, 43°62N±0.05×105°18W±0.05, h0km, n32, σ1§62/23, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.97**	**59**		**Pb**	**19 57 59.0**	**-0.2**
K22A	**Casper**	**1.38**	**226**	Pn	**Pg**	**19 58 05.4**	**-0.5**
PHWY	**Pilot Hill**	**2.33**	**185**	Pn	**Pn**	**19 58 18.2**	**-1.0**
PHWY				IAML		19 58 60.0	
	120nm,0.6s						
RWWY	**Rawlins**	**2.44**	**218**	Pn	**Pn**	**19 58 20.6**	**-0.2**
RWWY				IAML		19 59 05.1	
	188nm,0.9s						
RWWY				IAML		19 59 05.1	
	238nm,1.1s						
N23A	**Red Feather La**	**2.78**	**192**		**Pn**	**19 58 27.2**	**+1.7**
N23A				IAML		19 59 11.7	
	comp=E,100nm,1.0s						
N23A				IAML		19 59 25.0	
	comp=N,114nm,1.0s						
BRIGG	**Briggsdale**	**3.11**	**168**		**Pb**	**19 58 33.8**	**-1.8**
LAO	**LASA Array**	**3.15**	**347**	Pn	**Pn**	**19 58 30.0**	**-0.4**
RLMT	**Red Lodge**	**3.29**	**299**	Pn	**Pn**	**19 58 33.6**	**+1.1**
RLMT				IAML		19 59 41.8	
	comp=N,64nm,3.3s						
BW06	**Boulder Array**	**3.31**	**257**		**Pn**	**19 58 34.7**	**+1.9**
PD31	**Pinedale Array**	**3.31**	**257**		**Pn**	**19 58 34.7**	**+2.0**
PDAR	**Pinedale Array**	**3.31**	**257**		**Pn**	**19 58 34.4**	**+1.7**
PDAR	**Pinedale Array**	**3.31**	**257**	Pn	**Pn**	**19 58 34.1**	**+1.4**
	comp=N,1.1nm,0.3s,baz=72,slow=16,SNR=28						
PDAR				Lg	Lg	19 59 19.7	
	comp=N,2.9nm,0.3s,baz=81,slow=34,SNR=4.5						
	comp=N,2.1nm,0.4s						
OGNE	**Ogallala**	**3.55**	**138**	Pg	**Pb**	**19 58 44.7**	**+1.5**
LOHW	**Long Hollow**	**3.94**	**272**	IAML		19 59 50.2	
	comp=N,36nm,4.4s						
LOHW				IAML		20 00 11.0	
	comp=N,28nm,3.8s						
H17A	**Grant Village**	**3.97**	**283**		**Pn**	**19 58 42.5**	**+0.7**
H17A				IAML		19 59 50.2	
	comp=E,33nm,3.5s						
H17A				IAML		19 59 55.0	
	comp=N,33nm,1.5s						
FLWY	**Flagg Ranch**	**4.02**	**278**	IAML		19 59 53.3	
	comp=N,57nm,3.2s						
FLWY				IAML		20 00 02.1	
	comp=N,41nm,3.5s						
REDW	**Red Top Meadow**	**4.13**	**268**	Pg	**Pg**	**19 58 57.0**	**-1.6**
O20A	**White River Ci**	**4.17**	**214**		**Pn**	**19 58 46.0**	**+1.6**
O20A				IAML		20 00 39.3	
	comp=E,54nm,4.7s						
IMW	**Indian Meadow**	**4.18**	**276**	IAML		20 00 01.3	
	comp=E,32nm,0.7s						
IMW				IAML		20 00 16.5	
	comp=E,28nm,3.7s						
K30B	**Basset**	**4.18**	**101**	Pg	**Pg**	**19 58 58.5**	**-1.1**
AHID	**Auburn Hatcher**	**4.41**	**261**	IAML		20 00 08.2	
	comp=E,47nm,0.9s						
AHID				IAML		20 00 13.2	
	comp=E,35nm,2.6s						
RDMU	**Red Mountain**	**4.47**	**228**		**Pn**	**19 58 51.4**	**+2.8**
RDMU				IAML		20 00 12.7	
	comp=E,36nm,2.9s						
RDMU				IAML		20 00 48.7	
	comp=N,31nm,2.2s						
YHL	**Hebgen Lake**	**4.48**	**288**		**Pn**	**19 58 50.1**	**+1.2**
YHL				IAML		20 00 07.0	
	comp=N,37nm,2.9s						
YHL				IAML		20 00 35.2	
	comp=E,36nm,4.2s						
SMCO	**Snowmass**	**4.64**	**197**	IAML		20 00 37.1	
	comp=E,25nm,3.7s						
DGMT	**Dagmar**	**4.90**	**8**		**Pn**	**19 58 56.8**	**+2.5**
BOZ	**Bozeman (W)**	**5.01**	**295**	IAML		19 59 41.1	
	comp=E,17nm,4.8s						
BOZ				IAML		19 59 48.0	
	comp=E,18nm,4.9s						
BSUT	**Blindstream Ca**	**5.17**	**235**	IAML		20 00 31.7	
	comp=N,19nm,3.9s						
BSUT				IAML		20 00 36.2	
	comp=E,20nm,4.1s						
I10CA	**LAC DU BONNET**	**9.08**	**40**	I	I	20 51 45.0	
	comp=E,0.2nm,1.2s,baz=219,slow=333,SNR=6.4						
ULM	**Lac du Bonnet**	**9.19**	**41**	Pn	**Pn**	**19 59 52.8**	**-0.3**
	comp=E,0.2nm,0.3s,baz=223,slow=13,SNR=1.6						
ULM				Pg		20 00 29.2	
	comp=E,0.3nm,0.3s,baz=14,slow=16,SNR=1.5						
ULM				Lg	Lg	20 02 25.2	
	comp=E,0.2nm,0.3s,baz=312,slow=20,SNR=1.9						
	comp=E,0.9nm,0.5s						
NVAR	**Mina Array Bea**	**11.18**	**247**	Pn	**Pn**	**20 00 22.9**	**+2.2**
	baz=59,slow=14,SNR=1.4						
	comp=E,0.4nm,0.9s						
TXAR	**Lajitas Array**	**14.31**	**175**	Pg	Pg	20 02 11.1	
	comp=E,0.1nm,0.3s,baz=7.8,slow=14,SNR=5.4						
TXAR				Lg	Lg	20 05 12.9	
	baz=104,slow=41,SNR=1.9						
YKA	**Yellowknife Ar**	**19.69**	**347**	P	**P**	**20 02 08.7**	**-1.2**
	baz=161,slow=12,SNR=2.4						
	comp=E,0.2nm,0.9s						

UPP 27 20:02:31.4±0.7, 65°77N×24°66E, h0km, ML1.5

HEL 27 20:02:32.5±0.1, 65°78N×24°62E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOF	**Tornio**	**0.32**	**338**	PG	Pg	20 02 37.8	-0.9
TOF				SG	Sg	20 02 39.3	-3.6
KALU	**Kalix**	**0.53**	**279**	P	Pg	20 02 41.6	-0.9
KALU				S	Sg	20 02 49.4	+0.1
KALU	**Kalix**	**0.53**	**279**	PG	Pg	20 02 42.5	-0.1
KALU				SG	Sg	20 02 49.3	-0.1
OUL	**Oulu**	**0.88**	**142**	PG	Pg	20 02 47.4	-1.9
OUL				SG	Sg	20 02 60.0	-0.7
OBF4	**Vikkela, Lumij**	**0.99**	**168**	PG	Pg	20 02 50.9	-0.6
	baz=349						
OBF4				MSG		20 03 02.8	
	comp=Z,1.9nm,0.2s						
OBF4				SB	Sg	20 03 04.6	+0.3
RNF	**Rovaniemi**	**1.01**	**34**	PB	Pg	20 02 51.4	-0.3
RNF				SN	Sn	20 03 08.8	+0.1
ERTU	**Ertsjaerv**	**1.26**	**309**	P	Pg	20 02 55.1	-1.4
ERTU	**Ertsjaerv**	**1.26**	**309**	PN	Pg	20 02 56.6	+0.1
ERTU				SN	Sn	20 03 15.1	+0.3
SJUU	**Sjulsmark**	**1.28**	**259**	P	Pg	20 02 55.9	-1.1
SJUU				S	Sb	20 03 14.7	+0.3
OBF0	**Syolatti, Pyha**	**1.30**	**187**	PG	Pg	20 02 55.9	-1.5
OBF0				MSG		20 03 11.7	
	comp=Z,1.9nm,0.2s						
OBF0				SN	Sn	20 03 15.4	-0.4
PAJU	**Pajala**	**1.39**	**335**	P	Pg	20 02 57.5	-1.6
PAJU				S	Sg	20 03 16.9	-0.1
PAJU	**Pajala**	**1.39**	**335**	PN	Pg	20 02 58.4	-0.6
OUF	**Merijarvi**	**1.42**	**178**	PN	Pn	20 02 58.6	-0.9
OUF				MSG		20 03 15.3	
	comp=Z,2.0nm,0.2s						
OUF				SN	Sg	20 03 17.9	-0.1
KLF	**Kolari**	**1.48**	**350**	PN	Pn	20 02 60.0	-0.4
KLF				MSG		20 03 17.1	
	comp=Z,2.8nm,0.2s						
KLF				SN	Sg	20 03 19.2	-0.9
HARU	**Harads**	**1.54**	**286**	P	Pn	20 03 00.1	-1.0
MSF	**Maaselka**	**1.82**	**84**	PG	Pn	20 03 05.2	+0.1
MSF				SG	Sb	20 03 29.7	-0.3
SGF	**Sodankyl**	**1.83**	**24**	PG	Pn	20 03 05.8	+0.6
OLKF	**Oulanka, Finla**	**2.02**	**72**	PG	Pb	20 03 09.3	-0.8
OLKF				MSG		20 03 32.6	
	comp=Z,2.2nm,0.2s						
OLKF				SG	Sb	20 03 35.4	-0.5
KU6	**Riekki**	**2.18**	**81**	PG	Pn	20 03 10.9	+0.9
KU6				MSG		20 03 37.0	
	comp=Z,0.9nm,0.2s						
KU6				SG	Sb	20 03 39.4	-0.9
LANU	**Lannavaara**	**2.50**	**337**	PG	Pb	20 03 17.2	-1.0
LANU				SG	Sg	20 03 51.4	-1.3
UMAU	**Umeaa**	**2.54**	**223**	PG	Pn	20 03 15.9	+1.0
UMAU				SB	Sn	20 03 48.5	+2.0
ARA0	**ARCESS Array S**	**3.79**	**5**	PN	Pn	20 03 32.9	+0.9
ARA0				SB	Sn	20 04 20.8	+3.6

IDC 27 20:03:34.3±4.2, 17°63S×176°24W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=301.7km s-min=33.4km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.72**	**259**	P	P	20 12 05.5	0.0
	0.1nm,0.3s,baz=95,slow=7.5,SNR=11						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**46.86**	**254**	P	P	20 12 06.4	-0.2
	0.6nm,0.6s,baz=88,slow=8.5,SNR=16						
	0.6nm,0.6s						
NVAR	**Mina Array Bea**	**77.80**	**43**	P	P	20 15 33.9	0.0
	0.3nm,0.4s,baz=227,slow=4.8,SNR=2.1						
	0.3nm,0.4s						

SJA 27 20:12:48.9±1.4, 31°54S×71°86W, h17km±7km, ML3.6, MW3.7
GUC 27 20:12:50.2±0.7, 31°58S×71°80W, h40km±3km, ML3.7

ISC 27 20:12:48.3±1.5, 31°57S±0.02×71°79W±0.05, h10km±10km, n36, σ1§66/72, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.77**	**62**	*e*P	**Pn**	**20 13 05.0**	**-0.3**
CO02				*e*S	**Sn**	**20 13 16.4**	**-0.8**
CO02				IAML		20 13 16.5	
	comp=Z,5μm,0.2s						
CO02	**Combarbal**	**0.77**	**62**	↓*i*P	**Pn**	**20 13 05.1**	**-0.3**
CO02				*i* S	**Sn**	**20 13 15.9**	**-1.3**
CO02				IAML		20 13 16.5	
	comp=E,9μm,0.2s						
CO06	**Fray Jorge**	**0.90**	**9**	*e*P	**Pb**	**20 13 06.6**	**+0.5**
CO06				*i* S	**Sb**	**20 13 19.1**	**+0.9**
CO03	**El Pedregal**	**1.19**	**53**	*e*P	**Pn**	**20 13 12.0**	**+0.8**
CO03				*e*S	**Sn**	**20 13 30.4**	**+2.8**
CO03				IAML		20 13 32.7	
	comp=Z,800nm,0.8s						
CO03	**El Pedregal**	**1.19**	**53**	↓*i*P	**Pn**	**20 13 11.8**	**+0.6**
CO03				*i* S	**Sn**	**20 13 27.9**	**+0.4**
CO03				IAML		20 13 31.6	
	comp=E,1μm,0.4s						
ROCH	**El Roble**	**1.55**	**155**	↑*i*P	**Pn**	**20 13 16.5**	**+0.2**
ROCH				*i* S	**Sb**	**20 13 37.1**	**0.0**
ROCH				IAML		20 13 41.9	
	comp=N,2μm,0.3s						
ROC1	**El Roble**	**1.55**	**155**	*e*P	**Pn**	**20 13 15.9**	**-0.4**
ROC1				*e*S	**Sb**	**20 13 37.4**	**+0.2**
GO04	**Tololo Observa**	**1.63**	**32**	*e*P	**Pg**	**20

MT15					IAML			20 14 04.7	
	comp=N,802nm,0.3s								
MT09	**Talagante**	**2.30**	**163**	*e*P		**Pn**	**20 13 27.4**	**+0.9**	
MT09				*i* S		**Sn**	**20 13 55.8**	**+0.7**	
MT09				IAML			20 14 05.0		
	comp=E,434nm,0.4s								
MT04	**Ro Olivares**	**2.31**	**143**	*e*P		**Pn**	**20 13 28.0**	**+1.4**	
MT04				*i* S		**Sn**	**20 13 55.5**	**+0.3**	
MT04				IAML			20 14 05.3		
	comp=E,319nm,0.2s								
MT01	**Popeta**	**2.33**	**169**	⇑*i*P		**Pn**	**20 13 26.8**	**-0.1**	
MT01				*i* S		**Sn**	**20 13 54.0**	**-1.6**	
MT12	**Pirque**	**2.40**	**154**	*e*P		**Pn**	**20 13 28.5**	**+0.6**	
MT12				*i* S		**Sn**	**20 13 58.2**	**+0.9**	
MT12				IAML			20 14 08.8		
	comp=E,662nm,0.4s								
AROD	**Rodeo**	**2.43**	**56**	*e*P		**Pb**	**20 13 33.1**	**+0.6**	
AROD				*e*S		**Sg**	**20 14 06.5**	**-0.1**	
MT13	**San Alfonso**	**2.52**	**150**	*e*P		**Pn**	**20 13 30.8**	**+1.3**	
MT13				*i* S		**Sn**	**20 14 00.1**	**-0.1**	
MT13				IAML			20 14 14.8		
	comp=E,396nm,0.4s								
ACCO	**Cerro Coronel**	**2.54**	**68**	*e*P		**Pb**	**20 13 34.8**	**+0.6**	
ACCO				*e*S		**Sg**	**20 14 11.0**	**+1.1**	
ACCO				IAML			20 14 12.2		
	comp=Z,154nm,0.3s								
ZON	**Zonda**	**2.66**	**90**	*e*P		**Pb**	**20 13 36.5**	**+0.4**	
ZON				*e*P		**Pg**	**20 13 37.2**	**-2.1**	
ZON				*e*S		**Sn**	**20 14 00.6**	**-3.1**	
ASAL	**Salagasta**	**2.71**	**113**	*e*P		**Pb**	**20 13 37.2**	**+0.2**	
ASAL				*e*P		**Pg**	**20 13 37.4**	**-2.9**	
ASAL				*e*S		**Sg**	**20 14 22.1**	**+6.7**	
ASAL				IAML			20 14 22.7		
	comp=Z,117nm,0.4s								
ARCO	**CERRO ARCO**	**2.74**	**118**	*e*P		**Pb**	**20 13 38.0**	**+0.5**	
ARCO				IAML			20 14 24.4		
	comp=Z,114nm,0.6s								
AAGR	**Agrelo**	**2.93**	**122**	*e*P		**Pb**	**20 13 40.8**	**0.0**	
AAGR				*e*S		**Sg**	**20 14 25.1**	**+2.6**	
AAGR				IAML			20 14 27.9		
	comp=Z,148nm,0.7s								
AGUA	**GUANDACOL**	**3.52**	**55**	*e*P		**Pb**	**20 13 48.2**	**-2.6**	
AGUA				IAML			20 14 50.4		
	comp=Z,134nm,0.5s								
VCA	**Vinchina**	**4.20**	**49**	*e*P		**Pb**	**20 13 59.2**	**-3.2**	
VCA				*e*S		**Sb**	**20 14 55.6**	**+2.4**	
VCA				IAML			20 15 12.3		
	comp=Z,137nm,0.8s								
ACLC	**CERRO LA CRUZ**	**4.69**	**64**	*e*P		**Pn**	**20 14 02.9**	**+3.5**	
ACLC				*e*S		**Sb**	**20 15 01.3**	**-6.2**	
ACLC				IAML			20 15 08.0		
	comp=Z,112nm,0.5s								

IDC ***27*** *20:21:05.8±2.3, 32°.23S×68°.45W, h0km, mb3.7/2, mbtmp3.7/3, ML4.2/1, Error ellipse: s-maj=100.7km s-min=43.8km az=6.0*

SJA ***27*** *20:21:27.1±0.8, 27°.72S×68°.72W, h127km±5km, ML3.6, MW3.6*

GUC ***27*** *20:21:28.9±0.6, 27°.77S×68°.74W, h123km±3km, ML3.8*

ISC 27 20:21:27.9±0.9,**27.75S**±0.03×**68.70W**±0.03,**h125**km±7km, **n49,** σ**1**°**45/86, 6C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TINO	**Tinogasta**	**1.05**	**108**	*e*P	**Pn**	**20 21 51.0**	**+0.1**
VCA	**Vinchina**	**1.08**	**156**	*e*P	**Pn**	**20 21 51.8**	**+0.5**
VCA				*e*S	**Sn**	**20 22 09.3**	**+0.3**
VCA				IAML		20 22 10.3	
	comp=Z,1μm,0.2s						
VCA	**Vinchina**	**1.08**	**156**	⇑*i*P	**Pn**	**20 21 51.6**	**+0.4**
VCA				*e*S	**Sn**	**20 22 08.7**	**-0.3**
VCA				IAML		20 22 11.0	
	comp=N,1μm,0.2s						
GO03	**Copiap**	**1.37**	**276**	*e*P	**Pn**	**20 21 54.4**	**+0.1**
GO03				*e*S	**Sn**	**20 22 14.0**	**-0.2**
GO03	**Copiap**	**1.37**	**276**	⇑*i*P	**Pn**	**20 21 54.3**	**+0.1**
GO03				*e*S	**Sn**	**20 22 13.5**	**-0.7**
GO03				IAML		20 22 15.0	
	comp=E,3μm,0.3s						
AC06	**Mina Casimiro**	**1.52**	**284**	*e*P	**Pn**	**20 21 55.8**	**-0.1**
AC06				*e*S	**Sn**	**20 22 16.2**	**-0.9**
AGUA	**GUANDACOL**	**1.75**	**174**	*e*P	**Pn**	**20 21 59.3**	**+0.7**
AGUA				*e*S	**Sn**	**20 22 23.2**	**+1.1**
AGUA				IAML		20 22 23.9	
	comp=Z,285nm,0.8s						
AC04	**Llanos de Chal**	**2.15**	**257**	*e*P	**Pn**	**20 22 03.1**	**-0.3**
AC04				*e*S	**Sn**	**20 22 29.8**	**-0.9**
AC04				IAML		20 22 30.7	
	comp=Z,236nm,0.6s						
AC04	**Llanos de Chal**	**2.15**	**257**	⇑*i*P	**Pn**	**20 22 03.2**	**-0.3**
AC04				*e*S	**Sn**	**20 22 29.6**	**-1.0**
AC04				IAML		20 22 37.1	
	comp=N,485nm,0.3s						
LCO	**Las Campanas**	**2.17**	**234**	*e*P	**Pn**	**20 22 04.2**	**+0.3**
LCO				*e*S	**Sn**	**20 22 31.5**	**0.0**
LCO	**Las Campanas**	**2.17**	**234**	⇑*i*P	**Pn**	**20 22 03.9**	**0.0**
LCO				*e*S	**Sn**	**20 22 30.7**	**-0.8**
ACLC	**CERRO LA CRUZ**	**2.27**	**138**	*e*P	**Pn**	**20 22 05.3**	**+0.1**
ACLC				*e*S	**Sn**	**20 22 32.7**	**-1.1**
ACLC				IAML		20 22 33.9	
	comp=Z,295nm,0.3s						
AC01	**Pan de Azucar**	**2.32**	**313**	*e*P	**Pn**	**20 22 05.8**	**+0.2**
AC01				*e*S	**Sn**	**20 22 33.0**	**-1.6**
AC01				IAML		20 22 39.9	
	comp=Z,292nm,0.3s						
AC01	**Pan de Azucar**	**2.32**	**313**	*e*P	**Pn**	**20 22 05.9**	**+0.3**
AC01				*e*S	**Sn**	**20 22 33.3**	**-1.3**
AC01				IAML		20 22 39.1	
	comp=N,440nm,0.3s						
AROD	**Rodeo**	**2.51**	**195**	*e*P	**Pn**	**20 22 09.4**	**+1.2**
AROD				*e*S	**Sn**	**20 22 41.5**	**+2.3**
CO01	**Juntas del Tor**	**2.54**	**208**	*e*P	**Pn**	**20 22 09.9**	**+1.3**
CO01				*e*S	**Sn**	**20 22 41.9**	**+2.0**
CO01	**Juntas del Tor**	**2.54**	**208**	*e*P	**Pn**	**20 22 09.8**	**+1.3**
CO01				*e*S	**Sn**	**20 22 41.8**	**+2.0**
CYA	**Choya**	**2.65**	**106**	*e*P	**Pn**	**20 22 09.8**	**-0.1**
CYA				*e*S	**Sn**	**20 22 39.7**	**-2.4**
CYA				IAML		20 22 40.5	
	comp=Z,84nm,0.9s						
CYA	**Choya**	**2.65**	**106**	⇑*i*P	**Pn**	**20 22 09.8**	**-0.1**
CYA				*e*S	**Sn**	**20 22 39.3**	**-2.8**
GO02	**Mina Guanaco**	**2.69**	**343**	*e*P	**Pn**	**20 22 11.6**	**+1.0**
GO02				*e*S	**Sn**	**20 22 45.3**	**+1.8**
GO02	**Mina Guanaco**	**2.69**	**343**	*e*P	**Pn**	**20 22 11.5**	**+0.8**
GO02				*e*S	**Sn**	**20 22 43.9**	**+0.4**
GO02				IAML		20 22 48.2	
	comp=E,392nm,0.1s						
ACCO	**Cerro Coronel**	**2.85**	**186**	*e*P	**Pn**	**20 22 13.8**	**+1.1**
ACCO				*e*S	**Sn**	**20 22 48.8**	**+1.7**
ACCO				IAML		20 22 49.3	
	comp=Z,83nm,0.5s						
FSA	**Cafayete**	**2.92**	**57**	*e*P	**Pn**	**20 22 14.9**	**+1.4**
GO04	**Tololo Observa**	**3.04**	**217**	*e*P	**Pn**	**20 22 14.8**	**-0.2**
GO04				*e*S	**Sn**	**20 22 51.0**	**-0.4**
GO04	**Tololo Observa**	**3.04**	**217**	*e*P	**Pn**	**20 22 14.7**	**-0.3**
GO04				*e*S	**Sn**	**20 22 50.2**	**-1.2**
AHML	**Horco Molle**	**3.15**	**73**	*e*P	**Pn**	**20 22 16.9**	**+0.6**
AHML				*e*S	**Sn**	**20 22 54.3**	**+0.7**
AHML	**Horco Molle**	**3.15**	**73**	⇑*i*P	**Pn**	**20 22 16.8**	**+0.6**
DOCA	**Reserva Natura**	**3.21**	**186**	*e*P	**Pn**	**20 22 18.0**	**+0.6**
DOCA				*e*S	**Sn**	**20 22 56.5**	**+0.9**
GUSE	**Guasayan**	**3.42**	**93**	*e*P	**Pn**	**20 22 19.4**	**-0.5**
PB14	**IPOC Station P**	**3.46**	**333**	*e*P	**Pn**	**20 22 21.6**	**+0.9**
PB14				*e*S	**Sn**	**20 23 03.5**	**+2.0**
PB14				IAML		20 23 07.8	
	comp=Z,125nm,0.7s						
PB14	**IPOC Station P**	**3.46**	**333**	*e*P	**Pn**	**20 22 21.5**	**+0.8**
PB14				*e*S	**Sn**	**20 22 59.4**	**-2.1**
PB14				IAML		20 23 06.6	
	comp=N,96nm,0.2s						
CO03	**El Pedregal**	**3.54**	**209**	*e*P	**Pn**	**20 22 21.4**	**-0.1**
CO03				*e*S	**Sn**	**20 23 03.0**	**0.0**
CO03				IAML		20 23 06.8	
	comp=Z,88nm,0.3s						
CO03	**El Pedregal**	**3.54**	**209**	*e*P	**Pn**	**20 22 21.3**	**-0.1**
CO03				*e*S	**Sn**	**20 23 00.8**	**-2.2**
CO03				IAML		20 23 03.6	
	comp=E,182nm,0.3s						
CFA	**Coronel Fontan**	**3.87**	**174**	*e*P	**Pn**	**20 22 26.0**	**+0.2**
CFA				*e*S	**Sn**	**20 23 08.7**	**-2.0**
CFA				IAML		20 23 12.2	
	comp=Z,42nm,0.2s						
CO06	**Fray Jorge**	**3.88**	**221**	*e*P	**Pn**	**20 22 24.4**	**-1.5**
CO06				*e*S	**Sn**	**20 23 06.7**	**-4.3**
CO06				IAML		20 23 24.5	
	comp=N,81nm,0.3s						
CO02	**Combarbal**	**3.99**	**210**	*e*P	**Pn**	**20 22 26.6**	**-0.8**
CO02				*e*S	**Sn**	**20 23 11.9**	**-1.7**
CO02				IAML		20 23 13.0	
	comp=Z,89nm,0.6s						
CO02	**Combarbal**	**3.99**	**210**	*e*P	**Pn**	**20 22 26.9**	**-0.5**
CO02				*e*S	**Sn**	**20 23 11.5**	**-2.1**
RTLS	**Leoncito**	**4.07**	**187**	*e*P	**Pn**	**20 22 29.4**	**+0.6**
RTLS				*e*S	**Sn**	**20 23 16.4**	**+0.5**
RTLS				IAML		20 23 19.4	
	comp=Z,102nm,0.8s						
PB15	**IPOC Station P**	**4.57**	**351**	*e*P	**Pn**	**20 22 35.8**	**+0.5**
ASAL	**Salagasta**	**4.83**	**181**	*e*P	**Pn**	**20 22 39.1**	**+0.5**
ASAL				*e*S	**Sn**	**20 23 35.4**	**+1.6**
PB05	**IPOC Station P**	**5.06**	**344**	*e*P	**Pn**	**20 22 40.4**	**-1.4**
PB05				*e*S	**Sn**	**20 23 34.4**	**-4.9**
TCA	**Tanti**	**5.06**	**136**	*e*P	**Pn**	**20 22 40.8**	**-1.0**
TCA				*e*S	**Sn**	**20 23 34.5**	**-4.8**
TCA				IAML		20 23 35.3	
	comp=Z,39nm,0.9s						
AAGR	**Agrelo**	**5.32**	**181**	*e*P	**Pn**	**20 22 45.8**	**+0.4**
AAGR				*e*S	**Sn**	**20 23 45.8**	**+0.1**
CPUP	**Villa Florida**	**10.24**	**85**	Pn	**Pn**	**20 23 49.0**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=258,slow=15,SNR=4.3						
	comp=Z,1.4nm,0.4s						
TXAR	**Lajitas Array**	**65.89**	**327**	P	P	20 32 18.2	+18
	comp=Z,0.2nm,0.5s,baz=138,slow=9.6,SNR=2.3						
	comp=Z,0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**79.34**	**69**	P	**P**	**20 33 21.9**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=224,slow=4.0,SNR=11						
	comp=Z,0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**146.27**	**38**	PKPbc	**PKiKP**	**20 40 55.5**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=301,slow=3.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**147.40**	**29**	PKPbc	**PKPab**	**20 40 59.0**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=298,slow=3.1,SNR=2.5						
MKAR	**Makanchi Array**	**150.35**	**42**	PKPbc	**PKiKP**	**20 41 06.3**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=292,slow=2.5,SNR=15						

NEIC ***27*** *20:38:34.1±1.6, 20°.0S×177°.7W±0°.2, h367km±7km, mb4.2/35, Error ellipse: s-maj=23.8km s-min=15.4km az=72.0*

IDC ***27*** *20:38:45.4±4.9, 20°.45S×177°.88W, h496km±55km, mb3.0/7, mbtmp3.9/8, Error ellipse: s-maj=46.2km s-min=21.1km az=161.0*

ISC 27 20:38:45.9±0.6,**20°.2S**±0°.1×**178°.1W**±0°.1,**h500**km,**n56,** σ**0**°**98/55, mb4.1/26, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.48**	**192**	P	**P**	**20 42 27.5**	**-2.9**
	8.4nm,0.7s,baz=14,slow=8.3,SNR=2.6						
QRZ	**Quartz Range**	**22.07**	**199**	P	**P**	**20 43 00.8**	**-2.3**
GVZ	**Greta Valley S**	**23.90**	**196**	P	**P**	**20 43 17.7**	**-1.8**
LTZ	**Lake Taylor**	**23.94**	**198**	P	**P**	**20 43 19.7**	**-0.2**
LTZ				IAmb	IAmb	20 43 42.6	
	comp=Z,24nm,1.2s						
MLZ	**Mavora Lakes**	**27.57**	**201**	P	**P**	**20 43 51.5**	**-0.4**
MLZ				IAmb	IAmb	20 44 00.3	
	comp=Z,15nm,1.3s						
CTAO	**Charters Tower**	**33.43**	**264**	P	**P**	**20 44 43.1**	**+0.3**
PATS	**Pohnpei**	**35.50**	**317**	P	**P**	**20 44 57.7**	**-2.4**
BBOO	**Buckleboo**	**42.60**	**243**	P	**P**	**20 45 58.5**	**+0.9**
WR0	**Warramunga Arr**	**44.37**	**262**	P	**P**	**20 46 12.8**	**+1.3**
ASAR	**Alice Springs**	**44.50**	**256**	P	**P**	**20 46 13.7**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=98,slow=7.7,SNR=8.8						
ASAR				PcP	**PcP**	**20 47 45.5**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=98,slow=3.7,SNR=5.3						
	comp=Z,0.5nm,0.5s						
WB0	**Warramunga Arr**	**44.53**	**262**	P	**P**	**20 46 13.6**	**+0.8**
WB0				IAmb	IAmb	20 46 14.4	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**44.55**	**262**	P	**P**	**20 46 14.0**	**+1.0**
WRA	**Warramunga Arr**	**44.55**	**262**	P	**P**	**20 46 13.7**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=97,slow=6.9,SNR=10						
WRA				PcP	**PcP**	**20 47 45.2**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=75,slow=4.4,SNR=5.1						
	comp=Z,0.2nm,0.3s						
SBA	**Scott Base**	**58.17**	**184**	P	**P**	**20 47 53.0**	**+2.2**
VNDA	**Vanda**	**58.21**	**185**	P	**P**	**20 47 50.4**	**-0.6**
NVAR	**Mina Array Bea**	**80.86**	**43**	P	**P**	**20 50 07.7**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=232,slow=8.8,SNR=4.1						
	comp=Z,0.5nm,0.7s						
J19K	**Poorman**	**85.72**	**10**	P	**P**	**20 50 31.7**	**+0.7**
J19K				IAmb	IAmb	20 50 38.4	
	comp=Z,7.2nm,1.5s						
RND	**Reindeer**	**86.42**	**13**	P	**P**	**20 50 35.1**	**+0.6**
TXAR	**Lajitas Array**	**86.97**	**57**	P	**P**	**20 50 38.5**	**+0.6**
TXAR	**Lajitas Array**	**86.97**	**57**	P	**P**	**20 50 38.7**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=236,slow=6.4,SNR=5.9						
	comp=Z,0.7nm,0.8s						
CCB	**Clear Creek Bu**	**87.74**	**13**	P	**P**	**20 50 39.9**	**-0.6**
IMAR	**Indian Mountai**	**87.87**	**10**	P	**P**	**20 50 41.4**	**+0.2**
MDM	**Murphy Dome**	**87.93**	**12**	P	**P**	**20 50 41.0**	**-0.5**
MDM				IAmb	IAmb	20 51 07.1	
	comp=Z,3.6nm,1.3s						
IL31		**88.03**	**13**	P	**P**	**20 50 40.9**	**-1.0**
IL31				IAmb	IAmb	20 50 50.4	
	comp=Z,6.2nm,1.4s						
ILAR	**Eielson Array**	**88.03**	**13**	P	**P**	**20 50 41.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=216,slow=5.6,SNR=12						
	comp=Z,0.7nm,0.5s						
IL03	**Eielson Array**	**88.04**	**13**	P	**P**	**20 50 40.8**	**-1.2**
F19K	**Shaleruckik Mo**	**88.09**	**8**	P	**P**	**20 50 41.8**	**-0.3**
F19K				IAmb	IAmb	20 51 08.2	
	comp=Z,4.2nm,1.4s						
M29M	**Somme Creek**	**88.13**	**17**	P	**P**	**20 50 42.8**	**+0.2**
M29M				IAmb	IAmb	20 50 44.3	
	comp=Z,3.0nm,0.8s						
J25K	**Salcha River,**	**88.22**	**13**	P	**P**	**20 50 42.3**	**-0.6**
J26L	**Joseph Creek**	**88.53**	**14**	P	**P**	**20 50 45.6**	**+1.2**
J26L				IAmb	IAmb	20 50 45.7	
	comp=Z,2.3nm,0.8s						
M30M	**Minto, Yukon**	**88.71**	**18**	P	**P**	**20 50 45.6**	**+0.4**
M30M				IAmb	IAmb	20 50 47.1	
	comp=Z,6.6nm,1.3s						
E19K	**Redstone River**	**88.75**	**8**	P	**P**	**20 50 45.4**	**+0.2**
E19K				IAmb	IAmb	20 50 47.1	
	comp=Z,3.2nm,0.9s						
L29M	**L29M**	**88.75**	**17**	P	**P**	**20 50 45.7**	**+0.3**
L29M				IAmb	IAmb	20 51 01.2	
	comp=Z,5.4nm,1.3s						
PDAR	**Pinedale Array**	**88.80**	**43**	P	**P**	**20 50 46.5**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=197,slow=4.6,SNR=4.5						
	comp=Z,0.5nm,0.7s						
DAWY	**Dawson**	**89.19**	**16**	P	**P**	**20 50 47.8**	**+0.4**
DAWY				IAmb	IAmb	20 50 49.2	
	comp=Z,4.8nm,1.2s						
K29M	**Barlow Dome**	**89.51**	**17**	P	**P**	**20 50 49.7**	**+0.8**
K29M				IAmb	IAmb	20 50 51.1	
	comp=Z,2.6nm,0.9s						
D19K	**Kuna River**	**89.62**	**7**	P	**P**	**20 50 50.1**	**+0.8**
D19K				IAmb	IAmb	20 51 09.1	
	comp=Z,3.8nm,1.3s						
CMAR	**Chiang Mai Arr**	**89.93**	**290**	P	**P**	**20 50 52.9**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=120,slow=3.2,SNR=5.8						
	comp=Z,0.7nm,0.7s						
I28M	**Miner Creek**	**90.18**	**15**	P	**P**	**20 50 52.1**	**+0.1**
I28M				IAmb	IAmb	20 50 57.2	
	comp=Z,6.4nm,1.4s						
D22K	**Ayikyak River**	**90.70**	**9**	P	**P**	**20 50 54.9**	**+0.7**
D22K				IAmb	IAmb	20 51 28.7	
	comp=Z,5.1nm,1.4s						
BMAR	**Burnt Mountain**	**90.81**	**12**	P	**P**	**20 50 54.9**	**0.0**
I30M	**Mount Dempster**	**90.90**	**16**	P	**P**	**20 50 55.1**	**-0.3**
I30M				IAmb	IAmb	20 51 06.2	
	comp=Z,3.4nm,1.4s						
B20K	**Meade River**	**91.17**	**7**	P	**P**	**20 50 57.2**	**+0.8**
H29M	**Whitestone**	**91.19**	**15**	P	**P**	**20 50 56.0**	**-0.5**
H29M				IAmb	IAmb	20 50 57.7	
	comp=Z,3.8nm,1.1s						
G30M	**tAoh Zraii Nji**	**92.32**	**15**	P	**P**	**20 51 00.5**	**-1.2**
G31M	**Satah River**	**92.76**	**16**	P	**P**	**20 51 03.4**	**-0.3**
E28M	**Babbage River**	**92.85**	**13**	P	**P**	**20 51 04.8**	**+0.6**
MKAR	**Makanchi Array**	**110.92**	**314**	PKiKP	**PKiKP**	**20 56 20.9**	**-0.9**
	comp=Z,0.3nm,0.9s,baz=207,slow=0.4,SNR=4.4						
KURBB	**Kurchatov Arra**	**113.76**	**317**	PKiKP		20 56 27.1	
	comp=Z,0.2nm,0.7s,baz=144,slow=3.4,SNR=4.1						
BVAR	**Borovoye Array**	**118.79**	**320**	PKP	**PKPdf**	**20 56 36.1**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=115,slow=1.6,SNR=7.8						
HFS	**Hagfors**	**139.22**	**351**	PKhKP	PKPpre	20 57 07.5	
	comp=Z,2.0nm,0.9s,baz=45,slow=4.3,SNR=5.1						
AKASG	**Malin Array Be**	**142.70**	**331**	PKhKP	PKPpre	20 57 18.4	
	comp=Z,1.5nm,0.4s,baz=42,slow=4.2,SNR=18						
BRTR	**Keskin Array B**	**146.57**	**313**	PKPbc	**PKPbc**	**20 57 31.2**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=93,slow=5.8,SNR=7.1						
MMAI	**Mount Meron Ar**	**147.58**	**300**	PKPbc	**PKiKP**	**20 57 35.2**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=76,slow=7.0,SNR=13						
CLL	**Collm**	**147.74**	**347**	*i* PKPbc	**PKPbc**	**20 57 34.2**	**+0.4**
	comp=Z,6.0nm,0.9s						
GERES	**GERESS Array B**	**149.88**	**344**	PKPbc	**PKPbc**	**20 57 39.2**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=54,slow=1.7,SNR=4.3						

NEIC ***27*** *20:59:14.0±1.6, 16°.40S±0°.08×168°.2E±0°.1, h188km±6km, mb5.0/73, Error ellipse: s-maj=16.2km s-min=12.1km az=76.0*

GCMT ***27*** *20:59:14.0±0.5, 16°.52S±0°.03×168°.05E±0°.03, h220km±4km, MW5.0/65, Moment Tensor Solution. s19,c19; s65,c83; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.71±.20; Mθθ=2.20±.21; Mφφ=-1.49±.19; Mrθ=-2.32±.16; Mθφ=-0.86±.28; Mφr=-2.40±.15; Best double couple: M=3.90400×10¹⁶ NP1:φs57.00000°,δ84.00000°,λ-122.00000°. NP2: φs318.00000°,δ33.00000°,λ-11.00000°. Principal axes: T 3.5260, Plg31.0000°, Azm173.0000°; N 0.7540, Plg32.0000°, Azm60.0000°; P -4.2830, Plg42.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***27*** *20:59:14.7±1.1, 16°.43S×168°.08E, h196km±9km, mb4.3/18, mbtmp4.9/20, MS3.2/3 Error ellipse: s-maj=10.9km s-min=9.3km az=116.0*

BJI ***27*** *20:59:14.8, 15°.98S×167°.96E, h188km, mb4.9/57, mB5.2/22*

NOU ***27*** *20:59:15.4, 16°.43S×168°.00E, h193km, mb5.0/72, Vanuatu Islands*

MOS ***27*** *20:59:15.6±0.9, 16°.44S×167°.96E, h214km, mb4.8/21, Error ellipse: s-maj=11.9km s-min=9.2km az=43.8*

ISC 27 20:59:14.9±0.3,**16°.44S**±0°.05×**168°.13E**±0°.05,**h200**km, **n327,** σ**0**°**94**/321,**mb5.0**/113,**21C-7D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.28**	**177**	P	**Pn**	**20 59 46.5**	**-0.2**
LIFNC	**LIFOU**	**4.40**	**191**		**Pn**	**21 00 20.7**	**-0.9**
LIFNC	**LIFOU**	**4.40**	**191**	P	**Pn**	**21 00 21.0**	**-0.6**
MARNC	**Mare, Loyalty**	**5.02**	**181**		**Pn**	**21 00 28.4**	**-1.2**
MARNC	**Mare, Loyalty**	**5.02**	**181**	P	**Pn**	**21 00 29.1**	**-0.4**
KOUNC	**Koumac, New Ca**	**5.48**	**221**		**Pn**	**21 00 35.9**	**+0.4**
KOUNC	**Koumac, New Ca**	**5.48**	**221**	P	**Pn**	**21 00 35.8**	**+0.4**
YATNC	**Mamie plateau,**	**5.71**	**192**	P	**Pn**	**21 00 37.9**	**-0.6**
DZM	**Mont Dzumac**	**5.83**	**196**		**Pn**	**21 00 39.6**	**-0.4**
DZM	**Mont Dzumac**	**5.83**	**196**	P	**Pn**	**21 00 40.3**	**+0.3**
DZM	**Mont Dzumac**	**5.83**	**196**	P	**Pn**	**21 00 39.5**	**-0.5**
	88nm,1.2s,baz=40,slow=16,SNR=25						
DZM				S	**Sn**	**21 01 48.2**	**+0.9**
	95nm,1.1s,baz=312,slow=20,SNR=6.4						
DZM				LR	LR	21 02 14.9	
	comp=Z,198nm,19.2s,baz=212,slow=31						
NOUC	**Port Laguerre**	**5.89**	**197**	P	**Pn**	**21 00 41.3**	**+0.6**
ONTNC	**Ouen Toro**	**6.05**	**195**		**Pn**	**21 00 43.2**	**+0.4**
ONTNC	**Ouen Toro**	**6.05**	**195**	P	**Pn**	**21 00 44.4**	**+1.6**
OUENC	**Ouen Island, N**	**6.07**	**191**		**Pn**	**21 00 42.9**	**-0.2**
OUENC	**Ouen Island, N**	**6.07**	**191**	P	**Pn**	**21 00 44.0**	**+0.9**
PINNC	**Pines Island,**	**6.18**	**186**		**Pn**	**21 00 43.2**	**-1.2**
PINNC	**Pines Island,**	**6.18**	**186**	P	**Pn**	**21 00 45.3**	**+0.9**
HNR	**Honiara**	**10.58**	**310**		**Pn**	**21 01 41.0**	**-0.7**
HNR	**Honiara**	**10.58**	**310**	P	**Pn**	**21 01 41.2**	**-0.5**
HNR	**Honiara**	**10.58**	**310**	P	**Pn**	**21 01 41.0**	**-0.7**
HNR	**Honiara**	**10.58**	**310**	P	**Pn**	**21 01 42.0**	**+0.3**
	999nm,0.8s,baz=239,slow=4.8,SNR=6.0						
HNR				S	**S**	**21 03 40.6**	**+0.3**
	264nm,0.2s,baz=149,slow=16,SNR=1.4						
DGTI	**Dogotuki**	**11.15**	**91**	P	**P**	**21 01 52.4**	**-2.7**
TAVE	**Taveuni**	**11.48**	**93**	P	**Pn**	**21 01 55.0**	**+1.8**
LKBA	**Tubou, Lakemba**	**12.60**	**100**	P	**P**	**21 02 10.1**	**-1.1**
EIDS	**Eids

STKA LR LR 21 16 33.0
comp=Z,84nm,18.3s,baz=70,slow=36
comp=Z,9.8nm,0.5s
TABU Tabubil 28.61 290 P **P** **21 04 55.0 +2.1**
MLZ Mavora Lakes 28.84 180 IAmb IAmb 21 04 56.1
comp=Z,26nm,1.1s
DCZ Deep Cove 28.95 181 IAmb IAmb 21 04 57.1
comp=Z,22nm,0.9s
TOO Toolangi 29.01 219 P **P** **21 04 56.1 -0.1**
baz=29,SNR=3.8
SYZ Scrubby Hill 30.02 179 P **P** **21 05 06.7 +1.8**
LCRK Leigh Creek 30.67 238 P **P** **21 05 10.7 -0.1**
GENI Genyem 30.75 294 P **P** **21 05 12.9 +1.2**
GENI Genyem 30.75 294 P **P** **21 05 11.2 -0.5**
comp=Z,89nm,1.0s
HTT Hallett 31.27 232 P **P** **21 05 16.1 0.0**
baz=31,SNR=36
HTT Hallett 31.27 232 P **P** **21 05 16.3 +0.1**
OOD Oodnadatta 32.01 244 P **P** **21 05 22.8 +0.2**
WR0 Warramunga Arr 32.07 259 IAmb IAmb 21 05 22.7
comp=Z,24nm,1.1s
WB0 Warramunga Arr 32.20 259 IAmb IAmb 21 05 23.7
comp=Z,29nm,0.6s
WB2 Warramunga Arr 32.24 259 IAmb IAmb 21 05 25.4
comp=Z,19nm,0.8s
WRA Warramunga Arr 32.26 259 *ce*P **P** **21 05 23.5 -1.4**
WRA pmax pmax
comp=Z,9.0nm,0.6s
WRA Warramunga Arr 32.26 259 P **P** **21 05 22.9 -2.0**
comp=Z,12nm,0.6s,baz=78,slow=6.3,SNR=124
WRA PcP **PcP** **21 08 07.0 -1.4**
comp=Z,1.4nm,0.7s,baz=87,slow=2.3,SNR=3.6
WRA S **S** **21 10 24.9 +1.4**
comp=Z,1.6nm,1.0s,baz=80,slow=15,SNR=4.6
WRA ScP **ScP** **21 11 33.9 +0.7**
comp=Z,3.2nm,0.8s,baz=85,slow=3.6,SNR=16
comp=Z,12nm,0.6s
ASAR Alice Springs 32.88 252 P **P** **21 05 29.2 -1.1**
comp=Z,198nm,0.6s,baz=76,slow=9.2,SNR=3796
ASAR PcP **PcP** **21 08 09.3 -0.9**
comp=Z,1.5nm,0.7s,baz=81,slow=2.9,SNR=2.9
ASAR S **S** **21 10 30.4 -2.8**
comp=Z,0.9nm,0.8s,baz=73,slow=16,SNR=4.7
ASAR ScP **ScP** **21 11 34.9 -0.4**
comp=Z,6.6nm,0.8s,baz=95,slow=3.8,SNR=27
BBOO Buckleboo 33.23 235 P **P** **21 05 33.1 -0.1**
baz=33,SNR=63
BBOO Buckleboo 33.23 235 P **P** **21 05 33.0 -0.1**
BBOO IAmb IAmb 21 05 33.8
comp=Z,32nm,0.6s
BBOO Buckleboo 33.23 235 P **P** **21 05 33.2 0.0**
MULG Mulgathing 34.03 240 P **P** **21 05 39.6 -0.5**
KDU Kakadu 34.68 271 P **P** **21 05 43.9 -1.9**
baz=35,SNR=12
KDU Kakadu 34.68 271 P **P** **21 05 44.6 -1.2**
MTN Manton Dam 35.94 271 P **P** **21 05 55.7 -0.8**
baz=36,SNR=10
MTN Manton Dam 35.94 271 IAmb IAmb 21 05 57.0
comp=Z,14nm,0.6s
MTN Manton Dam 35.94 271 P **P** **21 05 55.8 -0.8**
FAKI Fak Fak 37.74 287 P **P** **21 06 10.7 -1.1**
FAKI Fak Fak 37.74 287 P **P** **21 06 11.2 -0.6**
comp=Z,82nm,0.9s
KNRA Kununurra 37.80 265 P **P** **21 06 11.2 -1.0**
baz=38,SNR=22
KNRA Kununurra 37.80 265 P **P** **21 06 11.1 -1.1**
WRKA Warakurna 38.11 250 P **P** **21 06 13.8 -1.0**
baz=38,SNR=62
WRKA Warakurna 38.11 250 P **P** **21 06 14.1 -0.7**
FORT Forrest 39.17 241 P **P** **21 06 23.3 -0.2**
baz=39,SNR=52
FORT Forrest 39.17 241 P **P** **21 06 23.1 -0.5**
FORT Forrest 39.17 241 P **P** **21 06 23.2 -0.3**
SWI Sorong 39.48 289 P **P** **21 06 25.8 -0.4**
comp=Z,106nm,1.1s
FITZ Fitzroy Crossi 40.54 261 P **P** **21 06 34.5 -0.4**
baz=40,SNR=67
NLAI Namlea 42.39 284 P **P** **21 06 50.1 +0.1**
comp=Z,40nm,1.4s,comp=Z,5μm
LBMI Labuha 42.99 287 P **P** **21 06 54.9 0.0**
comp=Z,76nm,1.0s,comp=Z,2μm
SOEI Soe 43.16 273 P **P** **21 06 56.1 -0.3**
SOEI Soe 43.16 273 P **P** **21 06 56.5 +0.1**
comp=Z,42nm,1.2s
TNTI Ternate 43.69 289 P **P** **21 07 00.5 +0.1**
comp=Z,20nm,0.9s
SANI Sanana 43.85 285 P **P** **21 07 01.0 -0.7**
SANI Sanana 43.85 285 P **P** **21 07 01.2 -0.5**
comp=Z,65nm,0.8s,comp=Z,647nm
KMBL Kambalda 44.49 242 P **P** **21 07 05.9 -0.7**
baz=44,SNR=40
KMBL Kambalda 44.49 242 P **P** **21 07 05.9 -0.7**
MMRI Maumere 45.38 274 P **P** **21 07 12.8 -0.9**
MMRI IAmb IAmb 21 07 13.8
comp=Z,104nm,1.1s
MMRI Maumere 45.38 274 P **P** **21 07 12.9 -0.9**
comp=Z,110nm,1.0s,comp=Z,2μm
PSA00 Pilbara Seismi 45.80 256 P **P** **21 07 16.7 -0.2**
PSA00 IAmb IAmb 21 07 17.8
comp=Z,76nm,1.1s
PSA00 Pilbara Seismi 45.80 256 IAmb IAmb 21 07 17.8
comp=Z,43nm,1.4s
PSA00 Pilbara Seismi 45.80 256 P **P** **21 07 17.4 +0.4**
EDFI Ende, Flores 45.87 274 P **P** **21 07 16.8 -1.0**
comp=Z,75nm,0.9s
MBWA Marble Bar 45.92 256 P **P** **21 07 17.7 -0.3**
MBWA IAmb IAmb 21 07 18.5
comp=Z,70nm,0.7s
MBWA Marble Bar 45.92 256 P **P** **21 07 17.8 -0.1**
MBWA Marble Bar 45.92 256 ⇓P **P** **21 07 17.9 -0.1**
BASI Baing, Sumba 46.59 271 P **P** **21 07 23.3 0.0**
comp=Z,241nm,1.0s
MEEK Meekatharra 46.91 249 P **P** **21 07 25.3 -0.4**
LUWI Luwuk 47.21 284 P **P** **21 07 27.8 -0.2**
comp=Z,72nm,1.1s
BKSI Bulukumba 48.30 278 P **P** **21 07 35.6 -0.8**
comp=Z,37nm,0.9s
NWAO Narrogin (SRO) 48.61 240 P **P** **21 07 37.6 -1.0**
NWAO IAmb IAmb 21 07 38.5
comp=Z,37nm,0.8s
NWAO Narrogin (SRO) 48.61 240 P **P** **21 07 37.9 -0.6**
NWAO Narrogin (SRO) 48.61 240 P **P** **21 07 37.6 -1.0**
NWAO pmax pmax
comp=Z,37nm,0.9s
NWAO Narrogin (SRO) 48.61 240 P **P** **21 07 37.8 -0.8**
KAPI Kappang 48.74 278 P **P** **21 07 39.4 -0.4**
KAPI IAmb IAmb 21 07 40.9
comp=Z,68nm,0.9s
KAPI Kappang 48.74 278 P **P** **21 07 39.4 -0.4**
KAPI pmax pmax
comp=Z,68nm,0.9s
KAPI Kappang 48.74 278 P **P** **21 07 39.8 +0.1**
comp=Z,47nm,0.8s,baz=134,slow=4.2,SNR=8.3
comp=Z,47nm,0.8s
SPSI Sidrap Palu 49.04 279 P **P** **21 07 40.8 -1.3**
comp=Z,50nm,1.2s
TTSI Tana Toraja 49.29 280 P **P** **21 07 43.8 -0.1**
comp=Z,22nm,0.8s
MORW Morawa 49.30 246 P **P** **21 07 43.1 -0.7**
baz=49,SNR=12
MORW Morawa 49.30 246 P **P** **21 07 43.4 -0.5**
MUN Mundaring 49.37 242 P **P** **21 07 43.7 -0.6**
baz=49,SNR=3.4
PLAI Plampang 49.60 272 P **P** **21 07 45.9 -0.4**
PLAI Plampang 49.60 272 P **P** **21 07 45.8 -0.5**
comp=Z,124nm,0.8s,comp=Z,931nm
TOLI2 Tolitoli 49.85 286 P **P** **21 07 46.3 -1.9**
TOLI2 IAmb IAmb 21 07 48.0
comp=Z,33nm,0.9s
TOLI2 Tolitoli 49.85 286 P **P** **21 07 47.0 -1.2**
MPSI Mapaga 50.38 285 P **P** **21 07 51.5 -0.7**
comp=Z,120nm,0.8s,comp=Z,1μm
TWSI Taliwang, Sumb 50.48 272 P **P** **21 07 52.6 -0.3**
comp=Z,277nm,1.0s,comp=Z,2μm
GIRL Giralia 50.94 254 P **P** **21 07 56.6 +0.3**
DNP Denpasar 52.10 272 P **P** **21 08 05.0 0.0**
comp=Z,275nm,0.9s,comp=Z,15μm
SRBI Singaraja 52.24 272 P **P** **21 08 05.1 -0.9**
comp=Z,46nm,0.8s
JAGI Jajag, Banyuwa 53.17 272 P **P** **21 08 11.5 -1.3**
JAGI Jajag, Banyuwa 53.17 272 P **P** **21 08 11.4 -1.3**
comp=Z,80nm,0.8s
ABJI Asem Bagus 53.25 272 P **P** **21 08 13.0 -0.4**
comp=Z,107nm,1.4s
DRV Dumont d'Urvil 53.48 194 ⇑P **P** **21 08 14.5 +0.3**
MYLDM Lahad Datu 53.56 289 P **P** **21 08 16.1 +0.4**
MYLDM IAmb IAmb 21 08 27.7
comp=Z,40nm,1.3s
KKM Kota Kinabalu 55.99 289 P **P** **21 08 32.1 -1.1**
KKM IAmb IAmb 21 08 34.1
comp=Z,79nm,1.5s
UGM Wanagama 56.78 271 P **P** **21 08 37.9 -0.9**
KPJI Karang Pucung 58.46 271 P **P** **21 08 50.1 -0.2**
comp=Z,55nm,0.8s
JMN Monobe 59.62 327 P **P** **21 08 57.4 -0.6**
KSM Kuching 59.75 282 P **P** **21 08 58.3 -0.9**
KSM IAmb IAmb 21 08 59.8
comp=Z,37nm,0.9s
KSM Kuching 59.75 282 P **P** **21 08 59.1 -0.1**
MJAR Matsushiro Arr 59.79 332 P **P** **21 08 58.6 -0.5**
comp=Z,12nm,0.9s,baz=161,slow=6.5,SNR=14
comp=Z,12nm,0.9s
MAJO Matsushiro 59.79 332 P **P** **21 08 58.6 -0.5**
MAJO Matsushiro 59.79 332 P **P** **21 08 59.9 +0.8**
MAJO Matsushiro 59.79 332 P **P** **21 08 58.6 -0.5**
MAJO pmax pmax
comp=Z,152nm,2.0s
MAJO Matsushiro 59.79 332 P **P** **21 08 58.8 -0.3**
MJB9 Matsu-Tunnel 59.80 332 P **P** **21 08 59.5 +0.4**
MJB9 IAmb IAmb 21 09 00.9
comp=Z,35nm,1.2s
LEM Lembang 59.84 272 P **P** **21 09 00.3 +0.2**
comp=Z,89nm,0.9s
LEM Lembang 59.84 272 P **P** **21 09 00.2 +0.2**
comp=Z,71nm,0.6s,baz=104,slow=8.3,SNR=8.6
comp=Z,71nm,0.6s
CNJI Cibinong 60.19 271 P **P** **21 09 01.4 -0.8**
comp=Z,31nm,0.9s
CBJI Citeko 60.69 272 P **P** **21 09 04.1 -1.5**
comp=Z,77nm,0.8s
TPUB Ta-pu 60.95 309 P **P** **21 09 06.1 -1.1**
VNDA Vanda 61.19 182 P **P** **21 09 08.3 +0.4**
VNDA IAmb IAmb 21 09 10.1
comp=Z,31nm,1.9s
VNDA Vanda 61.19 182 P **P** **21 09 08.3 +0.4**
VNDA pmax pmax
comp=Z,31nm,1.9s
VNDA Vanda 61.19 182 P **P** **21 09 08.6 +0.7**
comp=Z,2.8nm,0.5s,baz=355,slow=8.8,SNR=20
comp=Z,2.8nm,0.5s
VNDA Vanda 61.19 182 P **P** **21 09 08.3 +0.4**
SBA Scott Base 61.44 180 P **P** **21 09 11.3 +1.7**
SBA IAmb IAmb 21 09 12.5
comp=Z,33nm,1.1s
SBA Scott Base 61.44 180 P **P** **21 09 11.3 +1.7**
SBA pmax pmax
comp=Z,33nm,1.1s
SBA Scott Base 61.44 180 P **P** **21 09 11.3 +1.7**
SBA pP **pP** **21 09 56.1 +0.8**
SBA sP **sP** **21 10 17.0 0.0**
CGJI Cibinong 61.75 271 P **P** **21 09 11.3 -1.4**
comp=Z,84nm,0.7s
CASY Casey 62.27 203 P **P** **21 09 16.0 +0.7**
CCD Concordia, Ant 63.41 192 P **P** **21 09 23.6 +0.4**
DSRI Dabo 64.55 277 P **P** **21 09 31.0 -0.1**
comp=Z,25nm,1.2s
JKA Kamikawa-asahi 64.62 340 P **P** **21 09 32.5 +1.6**
ASAJ Asahikawa 64.62 340 P **P** **21 09 32.5 +1.6**
ASAJ pmax pmax
comp=Z,49nm,0.8s
KSRS Korea Array 65.61 326 P **P** **21 09 37.5 +0.2**
comp=Z,1.8nm,0.8s,baz=154,slow=7.8,SNR=6.2
KSRS LR LR 21 36 36.7
comp=Z,13nm,20.7s,baz=205,slow=34
comp=Z,1.8nm,0.8s
KRJI Kerinci 67.04 275 P **P** **21 09 46.8 -0.4**
comp=Z,45nm,0.9s
YSS Yuzh-Sakhalins 67.10 341 P **P** **21 09 47.4 +0.8**
YSS Yuzh-Sakhalins 67.10 341 P **P** **21 09 48.8 +2.1**
YSS Yuzh-Sakhalins 67.10 341 *eP* **P** **21 09 47.8 +1.1**
YSS pmax pmax
comp=Z,70nm,1.0s
NJ2 Nanjing 67.47 316 *eP* **P** **21 09 52.5 +3.2**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,230nm,3.6s
USA0B Ussuriysk Arra 68.77 333 *i* P **P** **21 09 58.4 +1.2**
USRK Ussuriysk Ar. 68.77 333 P **P** **21 09 57.1 -0.1**
USRK Ussuriysk Ar. 68.77 333 P **P** **21 09 57.1 -0.1**
USRK Ussuriysk Ar. 68.77 333 P **P** **21 09 58.3 +1.1**
comp=Z,3.4nm,0.6s,baz=103,slow=6.5,SNR=5.4
comp=Z,3.4nm,0.6s
WHN Wuhan 69.69 312 P **P** **21 10 02.5 -0.6**
PETK Petropavlovsk- 69.84 353 P **P** **21 10 04.0 +0.5**
comp=Z,4.7nm,0.7s,baz=131,slow=8.4,SNR=7.7
comp=Z,4.7nm,0.7s
GULI GuiLin 69.88 305 ⇓P P 21 10 13.3 +8.9
GULI pmax pmax
comp=Z,60nm,0.7s
GULI pmax pmax
comp=Z,250nm,5.5s
KULM Kulim 70.10 282 P **P** **21 10 05.4 -0.6**
MDJ Mudanjiang 70.17 332 IAmb IAmb 21 10 07.7
comp=Z,21nm,1.0s
MDJ Mudanjiang 70.17 332 P **P** **21 10 06.7 +1.0**
RPSI Rantau Prapat 70.90 279 P **P** **21 10 09.1 -1.7**
RPSI IAmb IAmb 21 10 10.6
comp=Z,18nm,0.9s
PSI Prapat 70.93 279 P **P** **21 10 10.5 -0.7**
PSI Prapat 70.93 279 P **P** **21 10 09.1 -2.1**
PSI pmax pmax
comp=Z,18nm,0.9s
TIA Tai'an 71.16 318 ⇑P **P** **21 10 12.0 +0.1**
TIA pmax pmax
comp=Z,12nm,0.8s
CN2 Changchun 71.53 329 *eP* **P** **21 10 14.0 +0.1**
CN2 *ep*P pP 21 11 01.0 +0.3
CN2 *eS* **S** **21 19 16.3 0.0**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
GSI Gunungsitoli 71.75 277 P **P** **21 10 15.6 -0.4**
GSI IAmb IAmb 21 10 16.7
comp=Z,39nm,0.8s
GSI Gunungsitoli 71.75 277 P **P** **21 10 16.0 0.0**
GSI Gunungsitoli 71.75 277 P **P** **21 10 16.0 0.0**
comp=Z,53nm,0.9s
BNX BinXian 72.02 331 ⇑P **P** **21 10 17.0 +0.2**
BNX pmax pmax
comp=Z,16nm,0.9s
BNX pmax pmax
comp=Z,480nm,6.2s
KLR Kul'dur 72.89 336 *ce*P **P** **21 10 23.0 +1.1**
KLR pmax pmax
comp=Z,19nm,1.7s
ENH Enshi 73.08 309 IAmb IAmb 21 10 24.3
comp=Z,41nm,1.0s
LYN LuoYang 73.26 315 ⇑P **P** **21 10 25.5 +1.1**
LYN pmax pmax
comp=Z,37nm,0.6s
GYA Guiyang 73.36 305 ⇑*i*P **P** **21 10 26.0 +0.7**
GYA pmax pmax
comp=Z,28nm,1.0s
HNS HongShan 73.42 318 ⇓P **P** **21 10 26.0 +0.8**
HNS pmax pmax
comp=Z,20nm,0.8s
QSPA South Pole Qui 73.60 180 P **P** **21 10 26.3 +0.2**
QSPA IAmb IAmb 21 10 27.8
comp=Z,39nm,0.9s
QSPA South Pole Qui 73.60 180 P **P** **21 10 26.8 +0.8**
comp=Z,31nm,0.8s,baz=23,slow=2.0,SNR=59
comp=Z,31nm,0.8s
XAN Xi'an 75.44 313 ⇓P **P** **21 10 37.5 +0.4**
XAN pmax pmax
comp=Z,29nm,0.8s
CRAI Chiangrai 75.84 296 P **P** **21 10 39.9 +0.3**
KMI Kunming 75.90 302 ⇑P **P** **21 10 40.0 -0.1**
KMI pmax pmax
comp=Z,20nm,1.4s
CMAR Chiang Mai Arr 76.39 294 *ce*P **P** **21 10 43.7 +1.0**
CMAR pmax pmax
comp=Z,8.0nm,0.8s
CMAR Chiang Mai Arr 76.39 294 P **P** **21 10 43.7 +1.0**
comp=Z,7.0nm,0.8s,baz=133,slow=4.7,SNR=57
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 76.53 294 P **P** **21 10 43.3 -0.2**
CHTO Chiang Mai 76.53 294 P **P** **21 10 43.3 -0.2**
CHTO pmax pmax
comp=Z,10.0nm,0.8s
PZH PanZhiHua 77.31 303 P **P** **21 10 47.8 0.0**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,200nm,5.5s
HHC Hu-ho-hao-te 77.41 320 *eP* **P** **21 10 49.5 +1.4**
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,300nm,5.4s
CD2 Chengdu 77.70 308 P **P** **21 10 50.8 +1.0**
CD2 pmax pmax
comp=Z,40nm,0.9s
ZEA Zeya 78.18 337 *eP* **P** **21 10 52.5 +0.7**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,10.0nm,1.0s
BTO Baotou 78.24 319 *eP* **P** **21 10 55.8 +3.2**
BTO pmax pmax
comp=Z,9.0nm,0.5s
BTO pmax pmax
comp=Z,380nm,5.5s
TNCH TengChong 79.33 300 P **P** **21 10 58.5 -0.5**
TNCH pP pP 21 11 47.0 -0.2
TNCH pmax pmax
comp=Z,18nm,2.7s
SEY Seymchan 80.07 353 *ce*P **P** **21 11 01.9 +0.1**
SEY pmax pmax
comp=Z,30nm,1.7s
LZH Lanzhou 80.07 312 ⇓P **P** **21 11 04.5 +1.8**
LZH pP pP 21 11 52.3 +1.6
LZH pmax pmax
comp=Z,44nm,1.2s
MND Mandalay 80.20 296 P **P** **21 11 04.2 +0.7**
L19K White Mountain 83.62 17 P **P** **21 11 20.3 -0.1**
YAK Yakutsk 83.89 343 P **P** **21 11 22.2 +0.5**
YAK IAmb IAmb 21 11 22.9
comp=Z,26nm,0.8s
YAK Yakutsk 83.89 343 *eP* **P** **21 11 22.3 +0.5**
YAK pmax pmax
comp=Z,21nm,0.8s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.3s
ULN Ulaanbaatar 83.99 324 P **P** **21 11 22.8 0.0**
ULN IAmb IAmb 21 11 24.6
comp=Z,19nm,1.0s
ULN Ulaanbaatar 83.99 324 *ce*P **P** **21 11 23.7 +0.9**
ULN pmax pmax
comp=Z,20nm,1.0s
BILL Bilibino 84.25 359 ⇑*e*P **P** **21 11 24.9 +1.4**
BILL pmax pmax
comp=Z,15nm,2.5s
SONM Songino Array 84.35 323 P **P** **21 11 25.1 +0.4**
comp=Z,7.1nm,0.9s,baz=138,slow=5.7,SNR=32
comp=Z,7.1nm,0.9s
GTA Gaotai 84.44 314 ⇓P **P** **21 11 26.3 +1.0**
GTA pP pP 21 12 14.0 +0.3
GTA pmax pmax
comp=Z,38nm,1.1s
SHL Shillong 85.10 298 IAmb IAmb 21 11 30.0
comp=Z,33nm,0.8s
GOMU GeErMu 86.70 309 P **P** **21 11 38.5 +1.7**
GOMU pmax pmax
comp=Z,4.0nm,0.7s
ZAK Zakamensk 87.41 325 *eP* **P** **21 11 39.3 -0.2**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
NVAR Mina Array Bea 87.76 49 P **P** **21 11 41.9 +0.3**
NVAR Mina Array Bea 87.76 49 P **P** **21 11 42.9 +1.3**
comp=Z,1.4nm,0.8s,baz=229,slow=8.2,SNR=9.6
comp=Z,1.4nm,0.8s
NV11 Mina Array Sit 87.87 49 P **P** **21 11 41.3 -0.7**
IL31 87.89 18 P **P** **21 11 40.0 -1.2**
ILAR Eielson Array 87.89 18 P **P** **21 11 39.8 -1.5**
comp=Z,0.9nm,0.7s,baz=240,slow=4.9,SNR=20
comp=Z,0.9nm,0.7s
KVN Kaiserville 88.15 48 P **P** **21 11 44.0 +0.6**
KVN Kaiserville 88.15 48 P **P** **21 11 44.0 +0.6**
KVN pmax pmax
comp=Z,10.0nm,2.0s
ELIB Princess Elisa 88.70 190 *dP* **P** **21 11 45.4 0.0**
comp=Z,6.6nm,1.1s
TAPN Taplejung 89.22 299 *eP* **P** **21 11 48.6 -0.2**
ODAN Odare 89.33 298 *eP* **P** **21 11 49.1 -0.2**
RAMN Ramite 90.03 298 *eP* **P** **21 11 52.6 0.0**
comp=Z,4.2nm,0.5s
JIRN Jiri 90.60 299 *eP* **P** **21 11 55.2 -0.1**
comp=Z,6.2nm,0.5s
GUN Gumba 90.94 299 *eP* **P** **21 11 56.7 -0.2**
PKI Pulchoki 91.23 298 *eP* **P** **21 11 57.5 -0.7**
TROLL Troll, Antarti 91.24 184 ⇑P **P** **21 11 57.3 +0.1**
comp=Z,2μm,1.1s
DMN Daman 91.50 298 *eP* **P** **21 11 59.3 -0.1**
TIXI Tiksi 91.80 348 *ce*P **P** **21 12 00.8 +1.4**
TIXI pmax pmax
comp=Z,2.0nm,0.9s
SNAA Sanae 91.90 183 P **P** **21 11 59.6 -0.6**
SNAA IAmb IAmb 21 12 00.7
comp=Z,24nm,1.5s
SNAA Sanae 91.90 183 ⇑P **P** **21 11 59.9 -0.3**
SNAA Sanae 91.90 183 *ce*P **P** **21 12 00.4 +0.2**
SNAA pmax pmax
comp=Z,7.0nm,0.9s
SNAA Sanae 91.90 183 P **P** **21 11 59.7 -0.5**
comp=Z,4.6nm,0.6s,baz=181,slow=7.9,SNR=17
comp=Z,4.6nm,0.6s
GKN Gorkha 92.01 298 *eP* **P** **21 12 00.7 -0.9**
VNA3 Neumayer Olymp 92.53 181 ⇑P **P** **21 12 02.5 -0.5**
comp=Z,13nm,0.7s
VNA2 Neumayer--Watz 92.81 181 ⇑P **P** **21 12 04.1 -0.2**
baz=178,slow=5.0
DANN Dangsing 92.85 299 *eP* **P** **21 12 04.3 -1.4**
comp=Z,11nm,0.8s
VNA1 Neumayer--Stat 93.10 181 ⇑P **P** **21 12 01.9 -3.7**
comp=Z,16nm,0.9s
WMQ Urumqi 94.50 314 *eP* **P** **21 12 13.5 +0.9**
WMQ pmax pmax
comp=Z,7.0nm,0.7s
DGZ Jazzator, Alta 96.49 320 *i* P **P** **21 12 22.5 +0.9**
DGZ pmax pmax
comp=Z,4.0nm,0.9s
ZALV Zalesovo Beam 99.25 324 *i* P **Pdif** **21 12 33.7 +0.1**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 99.25 324 P **Pdif** **21 12 33.1 -0.5**
comp=Z,1.8nm,0.5s,baz=78,slow=6.6,SNR=7.7
comp=Z,1.8nm,0.5s
NRIK Noril'sk 101.95 339 *i* P **Pdif** **21 12 45.5 +0.2**
NRIK pmax pmax
comp=Z,2.0nm,0.9s
KURK Kurchatov 102.23 319 P **Pdif** **21 12 47.1 +0.2**
KURBB Kurchatov Arra 102.27 319 P **Pdif** **21 12 47.1 0.0**
comp=Z,0.6nm,0.9s,baz=97,slow=3.9,SNR=6.8
ARCES ARCESS Array B 122.10 345 PKP **PKPdf** **21 17 44.7 -0.3**
comp=Z,1.8nm,0.6s,baz=61,slow=4.2,SNR=8.2
BATG Bathurst New B 126.04 43 PKPdf **PKPdf** **21 17 51.0 -2.3**
OBN Obninsk 126.58 328 ⇑*e*PKIKP **PKiKP** **21 17 54.7 +0.3**
OBN *e* 21 19 53.3
OBN *e* 21 24 46.1
OBN pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 126.61 313 *e*PKIKP **PKPdf** **21 17 53.4 -1.1**
KIV pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 127.60 338 PKP **PKiKP** **21 17 56.1 -0.2**
comp=Z,5.6nm,1.1s,baz=15,slow=1.6,SNR=4.9
FINES SKPbc SKPbc 21 20 55.2
comp=Z,1.0nm,0.5s,baz=48,slow=4.9,SNR=7.6
BDFB Brasilia 132.17 130 PKP **PKPdf** **21 18 06.2 +0.2**
comp=Z,2.6nm,0.7s,baz=270,slow=4.0,SNR=4.4
NOA NORSAR Array B 132.48 345 PKP **PKPdf** **21 18 04.6 -0.5**
comp=Z,0.5nm,0.7s,baz=32,slow=1.9,SNR=1.9
NOA SKPbc **SKPbc** **21 21 13.1 -0.1**
comp=Z,2.5nm,0.8s,baz=29,slow=3.0,SNR=5.4
HFS Hagfors 132.59 343 SKPbc **SKPbc** **21 21 14.2 +0.6**
comp=Z,3.8nm,0.9s,baz=71,slow=11,SNR=2.4
AKASG Malin Array Be 132.60 325 PKP **PKPdf** **21 18 04.0 -1.6**
comp=Z,0.3nm,0.4s,baz=63,slow=0.6,SNR=1.9
AKASG SKPbc **SKPbc** **21 21 14.6 +0.6**
comp=Z,2.2nm,0.6s,baz=47,slow=4.7,SNR=11
BRTR Keskin Array B 134.24 310 SKPbc **SKPbc** **21 21 20.8 +0.8**
comp=Z,1.0nm,0.9s,baz=98,slow=4.4,SNR=4.7
MMAI Mount Meron Ar 134.39 300 SKPbc **SKPab** **21 21 22.8 -1.3**
comp=Z,3.4nm,0.7s,baz=70,slow=4.7,SNR=6.2

VYHS	**Vyhne**	**139.36 329**	*e*PKP	**PKiKP**	**21 18 22.1 +1.5**			
VYHS	**Vyhne**	**139.36 329**	*e*PKIKP	**PKiKP**	**21 18 22.1 +1.5**			
CLL	**Collm**	**139.94 336**	*i* PKIKP	**PKiKP**	**21 18 21.4 -0.2**			
CLL			pmax	pmax				
	comp=Z,5.0nm,1.3s							
MODS	**Modra-Piesok**	**140.21 330**	*e*PKP	**PKiKP**	**21 18 23.5 +1.2**			
MODS	**Modra-Piesok**	**140.21 330**	*e*PKIKP	**PKiKP**	**21 18 23.5 +1.2**			
GERES	**GERESS Array B**	**141.53 333**	PKhKP	PKPpre	21 18 17.8			
	comp=Z,1.1nm,0.8s,baz=23,slow=5.3,SNR=4.8							
GERES			SKPbc	**SKPbc**	**21 21 40.6 +0.1**			
	comp=Z,1.5nm,1.0s,baz=48,slow=1.5,SNR=4.2							
OBKA	**Obir**	**142.84 329**	*i* PKP	**PKPdf**	**21 18 22.0 -2.6**			
	comp=Z,28nm,1.7s							
LESA	**Schwarzleotal**	**143.05 332**	*e*PKP	PKPbc	21 18 23.0 +0.6			
	comp=Z,6.0nm,0.8s							
ABTA	**Abfaltersbach**	**143.63 331**	*i* PKP	PKPbc	21 18 23.9 -0.1			
	comp=Z,9.2nm,0.7s							
WTTA	**Wattenberg**	**143.63 333**	*i* PKP	**PKPdf**	**21 18 25.8 -0.3**			
	comp=Z,4.3nm,0.6s							
MOTA	**Moosalm**	**143.80 333**	*i* PKP	PKPbc	21 18 25.3 +0.7			
	comp=Z,7.2nm,0.8s,SNR=4.3							
RETA	**Reutte**	**143.84 334**	*i* PKP	**PKPdf**	**21 18 26.1 -0.2**			
	comp=Z,6.2nm,1.2s							
SQTA	**Sankt Quirin**	**143.85 333**	*i* PKP	**PKPdf**	**21 18 25.7 -0.8**			
	comp=Z,7.2nm,0.7s,SNR=6.0							
BFO	**Black Forest**	**144.14 337**	PKPdf	PKPbc	21 18 25.6 +0.2			
BFO	**Black Forest**	**144.14 337**	PKIKP	PKPbc	21 18 25.6 +0.2			
FETA	**Feichten**	**144.22 333**	*e*PKP	**PKPdf**	**21 18 26.6 -0.5**			
	comp=Z,19nm,0.9s							
DAVA	**Damuels**	**144.37 334**	*i* PKP	**PKPdf**	**21 18 26.9 -0.5**			
	comp=Z,21nm,0.7s							
CTI	**Castel Tesino**	**144.55 331**	PKPbc	**PKPab**	**21 18 26.0 -0.7**			
CTI	**Castel Tesino**	**144.55 331**	PKIKP	**PKPab**	**21 18 26.0 -0.7**			
ECH	**Echery**	**144.66 338**	PKPbc	PKPbc	21 18 27.1 0.0			
ECH	**Echery**	**144.66 338**	PKIKP	PKPbc	21 18 27.1 +0.1			
FUORN	**Ofenpass-Fuorn**	**144.73 333**	PKPbc	**PKPdf**	**21 18 28.4 +0.2**			
TUE	**Stuetta**	**145.24 334**	PKPbc	**PKPab**	**21 18 29.5 +0.1**			
FDMO	**Fiordimonte**	**146.01 326**	PKPbc	**PKPbc**	**21 18 31.2 -0.1**			
NRCA	**Norcia**	**146.13 326**	PKPbc	**PKPdf**	**21 18 31.1 +0.6**			
BNI	**Bardonecchia**	**147.48 335**	PKPdf	**PKPdf**	**21 18 32.2 -0.5**			
BNI	**Bardonecchia**	**147.48 335**	PKIKP	**PKPdf**	**21 18 32.2 -0.5**			
KEST	**Kesra**	**153.04 319**	PKPbc	**PKPbc**	**21 18 47.1 -2.0**			
	comp=Z,5.9nm,1.0s,baz=184,slow=19,SNR=2.1							
KEST			PKPab	**PKPab**	**21 19 00.1 -1.2**			
	comp=Z,12nm,1.0s,baz=4.6,slow=5.6,SNR=5.9							
ESDC	**Sonseca Array**	**155.84 345**	PKPab	**PKPab**	**21 19 13.7 +0.7**			
	comp=Z,2.0nm,0.7s,baz=13,slow=4.1,SNR=9.6							
TORD	**Torodi Ar. Bea**	**166.48 258**	PKP	**PKPdf**	**21 18 56.1 -1.0**			
	comp=Z,0.4nm,0.7s,baz=42,slow=2.3,SNR=3.1							
TORD			PKPab	**PKPab**	**21 19 59.9 -0.3**			
	comp=Z,5.1nm,0.9s,baz=87,slow=4.7,SNR=22							

*IDC **27** 21:08:21.9±2.0, 43.°66N×105.°42W, h0km, mbtmp3.5/3, ML3.3/3, Error ellipse: s-maj=57.8km s-min=9.1km az=150.0*
*NEIC **27** 21:08:23.3±0.9, 43.°79N±0.°04×105.°31W±0.°06, h0km±2km, ML3.1/43, Error ellipse: s-maj=9.6km s-min=3.1km az=306.0*
ISC 27 21:08:22.8±1.1, 43.°80N±0.°05×105.°37W±0.°05, h0km, n26, σ0s 82/25, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.02**	**71**	Pg	**Pg**	**21 08 41.9**	**-0.4**
K22A	**Casper**	**1.42**	**217**		**Pg**	**21 08 48.9**	**-1.1**
K22A				IAML		21 09 13.8	
	comp=E,336nm,0.3s						
PHWY	**Pilot Hill**	**2.50**	**181**	Pn	**Pn**	**21 09 05.3**	**+0.5**
RWWY	**Rawlins**	**2.50**	**213**		**Pn**	**21 09 05.7**	**+0.7**
RWWY				IAML		21 09 44.2	
	comp=E,57nm,0.3s						
RWWY				IAML		21 09 44.2	
	comp=E,58nm,0.3s						
N23A	**Red Feather La**	**2.93**	**188**	Pn	**Pn**	**21 09 11.5**	**+0.6**
N23A				IAML		21 09 56.5	
	comp=N,46nm,0.3s						
LAO	**LASA Array**	**2.95**	**349**		**Pn**	**21 09 11.9**	**+0.9**
RLMT	**Red Lodge**	**3.09**	**297**	Pn	**Pn**	**21 09 13.4**	**+0.5**
RLMT				IAML		21 10 10.8	
	comp=N,43nm,2.6s						
RLMT				IAML		21 10 53.6	
	comp=N,39nm,3.2s						
PD31	**Pinedale Array**	**3.22**	**253**	Pn	**Pn**	**21 09 15.7**	**+0.8**
PDAR	**Pinedale Array**	**3.22**	**253**	Pn	**Pn**	**21 09 15.8**	**+1.0**
	comp=N,2.3nm,0.3s,baz=71,slow=17,SNR=55						
PDAR				Lg	Lg	21 10 00.1	
	comp=N,6.3nm,0.3s,baz=75,slow=27,SNR=3.3						
	comp=N,3.4nm,0.3s						
BRIGG	**Briggsdale**	**3.31**	**166**		**Pn**	**21 09 16.3**	**+0.4**
YMP	**Mirror Lake PI**	**3.56**	**287**	Pn	**Pn**	**21 09 20.1**	**+0.5**
YMP				IAML		21 10 22.8	
	comp=N,43nm,3.4s						
OGNE	**Ogallala**	**3.77**	**138**		**Pn**	**21 09 22.5**	**+0.2**
FLWY	**Flagg Ranch**	**3.86**	**276**	Pn	**Pn**	**21 09 24.5**	**+1.0**
FLWY				IAML		21 10 48.7	
	comp=N,27nm,5.0s						
FLWY				IAML		21 11 06.5	
	comp=N,27nm,4.9s						
ISCO	**Idaho Springs**	**4.00**	**183**		**Pn**	**21 09 26.2**	**+0.7**
O20A	**White River Ci**	**4.24**	**211**		**Pn**	**21 09 29.9**	**+1.1**
O20A				IAML		21 10 53.7	
	comp=E,27nm,4.8s						
AHID	**Auburn Hatcher**	**4.31**	**258**	Pn	**Pn**	**21 09 29.5**	**-0.2**
AHID				IAML		21 10 17.3	
	comp=E,18nm,3.0s						
AHID				IAML		21 10 43.0	
	comp=E,15nm,3.2s						
K30B	**Basset**	**4.36**	**103**		**Pn**	**21 09 31.9**	**+1.7**
RDMU	**Red Mountain**	**4.49**	**225**	Pn	**Pn**	**21 09 33.2**	**+1.0**
RDMU				IAML		21 10 53.2	
	comp=N,14nm,4.0s						
RDMU				IAML		21 11 04.0	
	comp=E,16nm,5.0s						
Q24A	**Divide**	**4.83**	**178**	Pn	**Pn**	**21 09 37.0**	**0.0**
HWUT	**Hardware Ranch**	**5.06**	**246**	Pn	**Pn**	**21 09 40.3**	**+0.3**
HWUT				IAML		21 11 05.2	
	comp=E,14nm,3.2s						
HWUT				IAML		21 11 42.4	
	comp=E,15nm,3.5s						
KSCO	**Kaye Shedlock'**	**5.21**	**156**	Pn	**Pn**	**21 09 42.0**	**0.0**
EGMT	**Eagleton**	**5.22**	**326**	Pn	**Pn**	**21 09 41.9**	**-0.2**
ELMT	**Elliston**	**5.72**	**301**	Pn	**Pn**	**21 09 50.0**	**+0.8**
ELK	**Elko**	**7.93**	**251**	Pn	**Pn**	**21 10 20.3**	**+0.8**
	comp=E,0.2nm,0.3s,baz=63,slow=6.8,SNR=3.0						
	comp=E,0.5nm,0.3s						
I10CA	**LAC DU BONNET**	**9.04**	**42**	I	I	22 11 40.0	
	baz=221,slow=336,SNR=5.9						
ULM	**Lac du Bonnet**	**9.15**	**42**	Pn	**Pn**	**21 10 34.8**	**-1.1**
ULM				Lg	Lg	21 13 05.4	
	comp=E,1.0nm,0.3s,baz=228,slow=14,SNR=14						
	comp=E,0.3nm,0.3s,baz=290,slow=14,SNR=1.6						
	comp=E,1.8nm,0.3s						

*NNC **27** 21:11:55.2±0.7, 45.°01N×82.°45E, h2km±7km, mb3.8, mpv3.5, Error ellipse: s-maj=8.6km s-min=4.1km az=138.0*
*SOME **27** 21:11:55.8, 44.°95N×82.°53E, h20km*
ISC 27 21:11:54.7±1.0, 44.°96N±0.°05×82.°64E±0.°05, h10km, n45, σ2s 05/58, 4C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**1.85**	**353**	⇓Pn	**Pn**	**21 12 27.2**	**+0.6**
	27nm,0.3s,baz=171,slow=16,SNR=1883						
MK31				⇑Sn	**Sn**	**21 12 50.4**	**+0.3**
	52nm,0.6s,baz=171,slow=28,SNR=38						
MAKZ	**Makanchi**	**1.91**	**346**	⇓Pn	**Pn**	**21 12 27.6**	**+0.3**
	33nm,0.4s						
MAKZ				⇓Sn	**Sn**	**21 12 52.9**	**+1.5**
	64nm,0.8s						
DJR	**Jarkent**	**2.13**	**254**	*e*Pg	**Pb**	**21 12 33.1**	**-0.3**
	8.8nm,0.2s						
DJR				*e*Lg	Lg	21 12 59.8	
	131nm,0.7s						
DJR	**Jarkent**	**2.13**	**254**	Pg	**Pb**	**21 12 32.8**	**-0.6**
	6.9nm,0.3s						
DJR				Pg	**Pb**	**21 12 33.1**	**-0.3**
	8.8nm,0.2s						
DJR				Lg	Lg	21 12 59.8	
	131nm,0.7s						
DJR				Lg	Lg	21 12 59.9	
	130nm,0.6s						
KNOS	**Konyrlen**	**2.54**	**258**	Pg	**Pb**	**21 12 40.8**	**+0.3**
	42nm,0.3s						
KNOS				Pg	**Pg**	**21 12 41.0**	**-2.4**
	12nm,0.1s						
KNOS				Lg	Lg	21 13 12.5	
	156nm,0.6s						
KNOS				Lg	Lg	21 13 13.0	
	155nm,0.6s						
PDGK	**Podgornoye**	**2.79**	**235**	Pg	**Pb**	**21 12 44.8**	**+0.1**
	4.4nm,0.2s						
PDGK				Pg	**Pb**	**21 12 44.9**	**+0.1**
	3.4nm,0.2s						
PDGK				Lg	Lg	21 13 19.1	
	108nm,0.8s						
PDGK				Lg	Lg	21 13 19.5	
	108nm,0.6s						
PDGK	**Podgornoye**	**2.79**	**235**	⇓Pn	**Pb**	**21 12 43.0**	**-1.8**
	2.9nm,0.4s						
PDGK				⇑Lg	Lg	21 13 22.9	
	181nm,0.6s						
SHLS	**Shalkode**	**2.91**	**233**	*e*Pg	**Pn**	**21 12 42.5**	**+1.3**
	14nm,0.2s						
SHLS				*e*Lg	Lg	21 13 16.4	
	104nm,0.7s						
SHLS	**Shalkode**	**2.91**	**233**	Pg	**Pn**	**21 12 42.5**	**+1.3**
	14nm,0.2s						
SHLS				Pg	**Pb**	**21 12 43.2**	**-3.6**
	13nm,0.3s						
SHLS				Lg	Lg	21 13 16.4	
	104nm,0.7s						
SHLS				Lg	Lg	21 13 16.9	
	150nm,0.4s						
ZSN	**Zaisan**	**2.93**	**31**	*e*Pg	**Pb**	**21 12 46.6**	**-0.4**
	17nm,0.5s						
ZSN				*e*Lg	Lg	21 13 22.8	
	25nm,0.6s						
ZSN	**Zaisan**	**2.93**	**31**	Pg	**Pb**	**21 12 46.7**	**-0.4**
	17nm,0.5s						
ZSN				Pg	Pn	21 12 46.9	+5.5
	17nm,0.4s						
ZSN				Lg	Lg	21 13 22.8	
	25nm,0.6s						
ZSN				Lg	Lg	21 13 24.1	
	23nm,0.4s						
TDK	**Taldyqorghan**	**3.00**	**272**	Pg	**Pb**	**21 12 48.6**	**+0.3**
	37nm,0.3s						
TDK				Lg	Lg	21 13 26.0	
	142nm,0.4s						
UZB	**Uzynbulak**	**3.17**	**236**	*e*Pg	**Pb**	**21 12 51.2**	**-0.1**
	6.2nm,0.2s						
UZB				*e*Lg	Lg	21 13 30.6	
	81nm,0.3s						
UZB	**Uzynbulak**	**3.17**	**236**	Pg	**Pb**	**21 12 50.5**	**-0.7**
	4.6nm,0.1s						
UZB				Pg	**Pg**	**21 12 51.4**	**-4.2**
	6.2nm,0.2s						
UZB				Lg	Lg	21 13 29.8	
	54nm,0.4s						
UZB				Lg	Lg	21 13 30.7	
	82nm,0.5s						
ARXS	**Arharly**	**3.52**	**259**	*e*Pg	**Pb**	**21 12 57.7**	**+0.6**
	8.8nm,0.5s						
ARXS				*e*Lg	Lg	21 13 41.7	
	92nm,0.9s						
ARXS	**Arharly**	**3.52**	**259**	Pg	**Pb**	**21 12 57.3**	**+0.2**
	8.8nm,0.3s						
ARXS				Pg	**Pb**	**21 12 57.7**	**+0.6**
	8.8nm,0.5s						
ARXS				Lg	Lg	21 13 41.7	
	92nm,0.9s						
ARXS				Lg	Lg	21 13 41.7	
	92nm,0.5s						
ZHN	**Zhinishke**	**3.52**	**241**	Pg	**Pb**	**21 12 57.6**	**+0.5**
	16nm,0.4s						
ZHN				Lg	Lg	21 13 41.4	
	185nm,0.2s						
KURS	**Kuram**	**3.53**	**247**	*e*Pg	**Pb**	**21 12 58.4**	**+1.1**
	2.5nm,0.5s						
KURS				*e*Lg	Lg	21 13 42.5	
	14nm,0.5s						
KURS	**Kuram**	**3.53**	**247**	Pg	**Pb**	**21 12 58.4**	**+1.1**
	2.5nm,0.5s						
KURS				Pg	**Pg**	**21 12 58.8**	**-3.6**
	9.4nm,0.4s						
KURS				Lg	Lg	21 13 42.5	
	14nm,0.5s						
KURS				Lg	Lg	21 13 43.8	
	18nm,0.4s						
SATY	**Saty**	**3.60**	**240**	*e*Pg	**Pb**	**21 12 59.0**	**+0.5**
	3.1nm,0.2s						
SATY				*e*Lg	Lg	21 13 43.2	
	48nm,0.6s						
SATY	**Saty**	**3.60**	**240**	Pg	**Pb**	**21 12 58.9**	**+0.5**
	3.6nm,0.2s						
SATY				Pg	**Pb**	**21 12 59.0**	**+0.5**
	3.1nm,0.2s						
SATY				Lg	Lg	21 13 43.2	
	48nm,0.6s						
SATY				Lg	Lg	21 13 43.7	
	104nm,0.3s						
WMQ	**Urumqi**	**3.80**	**106**	Pn	**Pn**	**21 12 56.3**	**+3.0**
WMQ				Sn	**Sn**	**21 13 40.5**	**+2.4**
WMQ				smax	smax		
	comp=N,30nm,1.3s						
WMQ				smax	smax		
	comp=E,18nm,1.3s						
CHKK	**Chushkaly**	**4.20**	**257**	*e*Pg	**Pb**	**21 13 09.4**	**+0.8**
	comp=E,1.9nm,0.1s						
CHKK				*e*Lg	Lg	21 14 01.5	
	comp=E,39nm,0.4s						
CHKK	**Chushkaly**	**4.20**	**257**	Pg	**Pb**	**21 13 08.9**	**+0.3**
	comp=E,2.2nm,0.1s						
CHKK				Pg	Pg	21 13 09.5	-5.6
	comp=E,1.9nm,0.1s						
CHKK				Lg	Lg	21 14 01.5	
	comp=E,39nm,0.4s						
CHKK				Lg	Lg	21 14 01.5	
	comp=E,39nm,0.3s						
KOTS	**Kotyrbulak**	**4.34**	**249**	*e*Pg	**Pb**	**21 13 13.5**	**+2.4**
	comp=E,1.9nm,0.3s						
KOTS				*e*Lg	Lg	21 14 08.8	
	comp=E,71nm,0.4s						
KOTS	**Kotyrbulak**	**4.34**	**249**	Pg	**Pb**	**21 13 12.5**	**+1.3**
	comp=E,6.3nm,0.4s						
KOTS				Pg	**Pg**	**21 13 15.0**	**-2.8**
	comp=E,6.3nm,0.1s						
KOTS				Lg	Lg	21 14 07.3	
	comp=E,71nm,0.5s						
KOTS				Lg	Lg	21 14 10.8	
	comp=E,71nm,0.7s						
MDOK	**Medeo**	**4.41**	**248**	*e*Pg	**Pb**	**21 13 13.9**	**+1.5**
	comp=E,4.7nm,0.6s						
MDOK				*e*Lg	Lg	21 14 08.7	
	comp=E,53nm,0.5s						
MDOK	**Medeo**	**4.41**	**248**	Pg	**Pb**	**21 13 13.5**	**+1.2**
	comp=E,4.7nm,0.8s						
MDOK				Pg	Pg	21 13 13.9	-5.3
	comp=E,4.7nm,0.6s						
MDOK				Pg	Pn	21 13 15.9	+14
	comp=E,3.2nm,0.5s						
MDOK				Lg	Lg	21 14 08.7	
	comp=E,53nm,0.5s						
MDOK				Lg	Lg	21 14 08.9	
	comp=E,54nm,0.7s						
MDOK				Lg	Lg	21 14 17.6	
	comp=E,48nm,0.6s						
KTBS	**Karatobe**	**4.45**	**256**	*e*Pg	**Pb**	**21 13 14.0**	**+1.0**
	comp=E,1.5nm,0.4s						
KTBS				*e*Lg	Lg	21 14 09.2	
	comp=E,43nm,0.7s						
KTBS	**Karatobe**	**4.45**	**256**	Pg	**Pb**	**21 13 13.9**	**+0.9**
	comp=E,4.2nm,0.5s						
KTBS				Pg	Pg	21 13 14.0	-6.0
	comp=E,1.5nm,0.4s						
KTBS				Lg	Lg	21 14 09.2	
	comp=E,43nm,0.7s						
KTBS				Lg	Lg	21 14 09.6	
	comp=E,47nm,0.5s						
TNSS	**Tian-Shan**	**4.53**	**247**	*e*Pg	**Pb**	**21 13 17.5**	**+3.0**
	comp=E,0.8nm,0.1s						
TNSS				*e*Lg	Lg	21 14 15.8	
	comp=E,9.6nm,0.5s						
TNSS	**Tian-Shan**	**4.53**	**247**	Pg	**Pb**	**21 13 17.5**	**+3.0**
	comp=E,2.6nm,0.5s						
TNSS				Pg	**Pg**	**21 13 18.4**	**-3.2**
	comp=E,2.6nm,0.3s						
TNSS				Lg	Lg	21 14 15.6	
	comp=E,7.1nm,0.5s						
TNSS				Lg	Lg	21 14 17.2	
	comp=E,10.0nm,0.5s						
KUU	**Kurty**	**4.64**	**259**	*e*Pg	**Pb**	**21 13 17.3**	**+1.2**
	comp=E,1.3nm,0.3s						
KUU				*e*Lg	Lg	21 14 15.0	
	comp=E,23nm,0.7s						
KUU	**Kurty**	**4.64**	**259**	Pg	**Pb**	**21 13 17.3**	**+1.2**
	comp=E,1.3nm,0.3s						
KUU				Pg	Pg	21 13 17.4	-6.0
	comp=E,4.1nm,0.4s						
KUU				Lg	Lg	21 14 15.0	
	comp=E,23nm,0.7s						
KUU				Lg	Lg	21 14 15.7	
	comp=E,24nm,0.5s						
MTBS	**Maitube**	**4.83**	**250**	*e*Pg	**Pb**	**21 13 21.0**	**+1.5**
	comp=E,2.9nm,0.3s						
MTBS				*e*Lg	Lg	21 14 20.9	
	comp=E,44nm,0.4s						
MTBS	**Maitube**	**4.83**	**250**	Pg	**Pb**	**21 13 21.0**	**+1.5**
	comp=E,2.9nm,0.3s						
MTBS				Pg	Pg	21 13 21.3	-5.9
	comp=E,3.9nm,0.4s						
MTBS				Lg	Lg	21 14 20.9	
	comp=E,44nm,0.4s						
MTBS				Lg	Lg	21 14 22.3	
	comp=E,44nm,0.5s						
KST	**Kastek**	**5.18**	**251**	*e*Pg	**Pb**	**21 13 29.1**	**+3.6**
	comp=E,1.4nm,0.8s						
KST				*e*Lg	Lg	21 14 35.2	
	comp=E,27nm,0.4s						
KST	**Kastek**	**5.18**	**251**	Pg	**Pb**	**21 13 28.8**	**+3.3**
	comp=E,4.0nm,0.5s						
KST				Pg	**Pb**	**21 13 29.1**	**+3.6**
	comp=E,1.4nm,0.8s						
KST				Lg	Lg	21 14 35.2	
	comp=E,27nm,0.4s						
KST				Lg	Lg	21 14 35.3	
	comp=E,27nm,0.5s						
DGS	**Degeres**	**5.24**	**253**	*e*Pg	**Pb**	**21 13 30.2**	**+3.8**
	comp=E,2.8nm,0.3s						
DGS				*e*Lg	Lg	21 14 37.0	
	comp=E,28nm,1.0s						
DGS	**Degeres**	**5.24**	**253**	Pg	**Pb**	**21 13 29.8**	**+3.4**
	comp=E,3.2nm,0.3s						
DGS				Pg	**Pb**	**21 13 30.2**	**+3.8**
	comp=E,2.8nm,0.3s						
DGS				Lg	Lg	21 14 37.0	
	comp=E,28nm,1.0s						
DGS				Lg	Lg	21 14 37.1	
	comp=E,28nm,0.7s						
SGDS	**Sogindy**	**5.95**	**258**	Pg	**Pb**	**21 13 42.7**	**+4.2**
	comp=E,1.5nm,1.1s						
SGDS				Lg	Lg	21 14 58.2	
	comp=E,3.7nm,0.4s						
KURBB	**Kurchatov Arra**	**6.31**	**335**	⇑Pn	**Pn**	**21 13 28.4**	**+0.8**
	comp=E,0.6nm,0.4s						
KURBB				⇓Lg	Lg	21 15 11.6	
	comp=E,24nm,0.7s						
KURK	**Kurchatov**	**6.36**	**336**	⇓Pn	**Pn**	**21 13 28.7**	**+0.2**
	comp=E,0.2nm,0.4s						
KURK				⇑Lg	Lg	21 15 16.1	
	comp=E,20nm,0.9s						
MRKS	**Merke**	**7.16**	**255**	*e*Pg	Pg	21 14 06.7	-5.0
	comp=E,0.9nm,0.3s						
MRKS				*e*Lg	Lg	21 15 39.9	
	comp=E,5.9nm,0.6s						
MRKS	**Merke**	**7.16**	**255**	Pg	Pb	21 14 03.9	+4.9
	comp=E,0.7nm,0.3s						
MRKS				Lg	Lg	21 15 34.5	
	comp=E,3.6nm,0.5s						

IDC 27 21:38:47.1±4.0, 9.°90S×119.°31E, h0km, mb4.0/1, mbtmp3.6/3, ML3.5/2, MS3.8/2, Error ellipse: s-maj=111.6km s-min=32.8km az=39.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.61**	**126**	P	P	21 42 55.1	-0.2
	0.1nm,0.3s,baz=304,slow=13,SNR=9.8						
WRA				S	Sn	21 46 13.7	+2.5
	0.5nm,0.3s,baz=300,slow=27,SNR=4.1						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**19.54**	**136**	P	Pn	21 43 18.4	+0.7
	0.2nm,0.3s,baz=314,slow=9.1,SNR=14						
ASAR				S	Sn	21 46 57.3	-0.4
	0.3nm,0.6s,baz=327,slow=25,SNR=3.0						
	0.7nm,0.5s						
STKA	**Stephens Creek**	**30.07**	**140**	P	P	21 44 57.0	-1.4
	0.9nm,0.4s,baz=330,slow=8.1,SNR=2.4						
	0.9nm,0.4s						
KSRS	**Korea Array**	**47.79**	**9**	LR	LR	22 07 44.3	
	comp=Z,30nm,18.9s,baz=10.0,slow=36						
KDAK	**Kodiak Island**	**97.28**	**33**	LR	LR	22 37 38.2	
	comp=Z,120nm,18.6s,baz=328,slow=36						

*NEIC **27** 21:52:36.9±1.8, 37.°80N±0.°01×113.°29W±0.°01, h9km±11km, Error ellipse: s-maj=2.0km s-min=1.2km az=212.0*
UUSS 27 21:52:37.0±1.4, 37.°79N±0.°01×113.°28W±0.°01, h7km±5km, ML2.7/4, ML2.7/52(NEIC), Error ellipse: s-maj=2.1km s-min=1.5km az=149.0, Utah

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARUT	**Antelope Range**	**0.13**	**269**		Pg	21 52 40.2	+0.3
DWU	**Dry Willow Pea**	**0.38**	**35**		Pg	21 52 44.9	+0.2
LCMT	**Little Creek M**	**0.78**	**178**	Pg	Pg	21 52 52.0	0.0
LCMT				Sg	Sg	21 53 01.9	-0.2
LCMT				IAML		21 53 04.3	
	comp=E,297nm,0.2s						
LCMT				IAML		21 53 05.4	
	comp=N,238nm,0.1s						
NMUT	**North Mineral**	**0.80**	**25**		Pg	21 52 52.3	-0.1
ICU	**Indian Springs**	**0.82**	**219**		Pg	21 52 53.2	+0.3
PKCU	**Pink Cliffs**	**0.84**	**114**		Pg	21 52 53.5	+0.3
PKCU				Sg	Sg	21 53 04.5	+0.4
PKCU				IAML		21 53 06.0	
	comp=N,193nm,0.4s						
IMU	**Iron Mountain**	**0.85**	**6**		Pg	21 52 53.5	+0.2
KNB	**Kanab**	**0.85**	**155**	Pg	Pg	21 52 53.3	-0.1
KNB				Sg	Sg	21 53 04.6	+0.1
KNB				IAML		21 53 05.3	
	comp=E,261nm,0.6s						
MTPU	**Mount Pierson**	**0.90**	**74**		Pb	21 52 54.8	-0.4
MTPU				Sg	Sb	21 53 07.0	-0.5
EKU	**East Kanab**	**0.95**	**139**		Pb	21 52 55.6	-0.3
TCRU	**Three Creeks R**	**1.05**	**38**		Pg	21 52 57.2	+0.1
TCRU				IAML		21 53 15.3	
	comp=E,140nm,0.6s						
TCRU				IAML		21 53 15.3	
	comp=N,196nm,0.6s						
MVU	**Marysvale**	**1.10**	**49**		Pb	21 52 58.4	-0.1
BTU	**Barney Top**	**1.11**	**91**		Pb	21 52 58.9	+0.1
MSU	**Marysvale**	**1.13**	**50**		Pb	21 52 58.9	-0.1
PRN	**Pahroc Range**	**1.46**	**255**		Pb	21 53 04.4	-0.2
SPR3	**Spring Creek 3**	**1.46**	**326**		Pn	21 53 03.4	-0.8
SPR3				IAML		21 53 23.9	
	comp=E,129nm,0.5s						
WCU	**Willow Creek**	**1.50

	comp=N,16nm,0.6s							
GWY				IAML		21 54 37.0		
	comp=E,21nm,3.2s							
SPUT	**South Promonto**	**3.57**	**10**		Pn	21 53 33.8	+0.8	
SPUT				IAML		21 54 17.0		
	comp=N,9.3nm,3.0s							
SPUT				IAML		21 54 28.1		
	comp=E,12nm,4.8s							
X16A	**Lo Mia Camp, P**	**3.68**	**156**		Pn	21 53 34.7	+0.1	
X16A				IAML		21 54 35.8		
	comp=E,16nm,3.0s							
KVN	**Kaiserville**	**3.99**	**290**		Pn	21 53 39.0	+0.1	
KVN				IAML		21 54 46.1		
	comp=N,12nm,1.4s							
KVN				IAML		21 54 47.9		
	comp=E,13nm,2.7s							

ANF ***27*** *22:00:41.8±1.3, 37°.80N×113°.27W, h1km±11km, ML3.2/10, ML3.2/10, Error ellipse: s-maj=3.4km s-min=3.2km az=100.0*

UUSS ***27*** *22:00:42.6±0.7, 37°.79N±0°.02×113°.28W±0°.02, h6km±7km, ML2.7/7, ML2.8/53(NEIC), Error ellipse: s-maj=2.7km s-min=2.2km az=122.0*

NEIC ***27*** *22:00:42.7±0.9, 37°.790N±0°.009×113°.29W±0°.02, h6km±10km, Error ellipse: s-maj=2.8km s-min=1.1km az=108.0*

ISC 27 22:00:42.5±0.8, 37°.78N±0°.02×113°.27W±0°.02, h10km, n47, σ1§65/54, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARUT	**Antelope Range**	**0.14**	**275**		**Pg**	**22 00 45.7**	**-0.1**
DWU	**Dry Willow Pea**	**0.39**	**33**		**Pg**	**22 00 50.7**	**+0.4**
LCMT	**Little Creek M**	**0.76**	**179**		**Pg**	**22 00 57.1**	**-0.1**
LCMT				IAML		22 01 10.5	
	comp=E,413nm,0.2s						
LCMT				IAML		22 01 12.7	
	comp=N,276nm,0.2s						
NMUT	**North Mineral**	**0.81**	**24**		**Pg**	**22 00 57.9**	**-0.2**
ICU	**Indian Springs**	**0.81**	**220**		**Pb**	**22 00 58.5**	**-0.3**
PKCU	**Pink Cliffs**	**0.83**	**113**		**Pg**	**22 00 58.9**	**+0.4**
PKCU				IAML		22 01 11.3	
	comp=N,281nm,0.6s						
PKCU				IAML		22 01 14.4	
	comp=E,478nm,0.4s						
KNB	**Kanab**	**0.84**	**155**		**Pg**	**22 00 58.6**	**-0.1**
KNB				IAML		22 01 10.7	
	comp=E,352nm,0.6s						
IMU	**Iron Mountain**	**0.86**	**6**		**Pg**	**22 00 59.0**	**0.0**
MTPU	**Mount Pierson**	**0.90**	**73**		**Pg**	**22 00 59.9**	**+0.1**
EKU	**East Kanab**	**0.93**	**139**		**Pb**	**22 01 01.0**	**+0.2**
TCRU	**Three Creeks R**	**1.05**	**38**		**Pg**	**22 01 02.5**	**-0.3**
TCRU				IAML		22 01 19.0	
	comp=E,182nm,0.6s						
TCRU				IAML		22 01 20.9	
	comp=N,271nm,0.6s						
MVU	**Marysvale**	**1.10**	**49**		**Pb**	**22 01 03.8**	**0.0**
BTU	**Barney Top**	**1.10**	**91**		**Pn**	**22 01 04.5**	**+0.2**
MSU	**Marysvale**	**1.13**	**49**		**Pg**	**22 01 03.9**	**-0.3**
PRN	**Pahroc Range**	**1.46**	**256**		**Pb**	**22 01 09.8**	**0.0**
SPR3	**Spring Creek 3**	**1.48**	**326**		**Pn**	**22 01 08.8**	**-0.6**
SPR3				IAML		22 01 30.5	
	comp=E,166nm,0.6s						
WCU	**Willow Creek**	**1.50**	**38**		**Pg**	**22 01 11.0**	**-0.3**
U15A	**North Rim**	**1.56**	**150**		**Pb**	**22 01 11.2**	**-0.3**
MMU	**Miners Mountai**	**1.62**	**74**		**Pb**	**22 01 12.9**	**+0.4**
Q12A	**Willow Creek R**	**1.76**	**316**		**Pb**	**22 01 14.4**	**-0.5**
FLU	**Fool Peak**	**1.81**	**28**		**Pn**	**22 01 14.6**	**+0.6**
R11B	**Troy Canyon, C**	**1.92**	**288**		**Pn**	**22 01 15.7**	**+0.3**
R11B				IAML		22 01 44.7	
	comp=E,116nm,0.4s						
R11B	**Troy Canyon, C** baz=106,SNR=53	**1.92**	**288**	P	**Pn**	**22 01 15.4**	**+0.1**
R11B				Sb	**Sg**	**22 01 43.2**	**-0.8**
	baz=106						
S11A	**Rachel**	**1.97**	**267**		**Pb**	**22 01 17.1**	**-1.4**
SHPR	**Sheep Range**	**1.97**	**231**		**Pn**	**22 01 17.1**	**+1.0**
SHPR				IAML		22 01 46.7	
	comp=E,53nm,0.6s						
Q16A	**Castle Valley**	**2.00**	**55**		**Pb**	**22 01 18.0**	**-1.2**
Q16A				IAML		22 01 46.4	
	comp=N,59nm,0.5s						
Q16A				IAML		22 01 46.7	
	comp=E,60nm,0.7s						
HMU	**Henry Mountain**	**2.01**	**85**	Pn	**Pn**	**22 01 17.7**	**+1.0**
HMU				IAML		22 01 53.6	
	comp=E,94nm,0.6s						
HMU				IAML		22 01 56.5	
	comp=N,64nm,1.3s						
WTNK	**Soaring Height**	**2.11**	**222**	Pn	**Pn**	**22 01 19.0**	**+1.1**
TMUT	**Trail Mountain**	**2.22**	**46**		**Pn**	**22 01 20.4**	**+0.8**
TMUT				IAML		22 01 55.5	
	comp=N,76nm,0.7s						
TMUT				IAML		22 01 58.4	
	comp=E,69nm,0.9s						
V12A	**Nelson**	**2.41**	**212**		**Pn**	**22 01 22.7**	**+0.7**
V12A				IAML		22 01 58.6	
	comp=E,39nm,0.5s						
V12A				IAML		22 01 58.6	
	comp=N,39nm,0.5s						
DUG	**Dugway, Tooele**	**2.44**	**8**		**Pn**	**22 01 22.9**	**+0.4**
DUG	**Dugway, Tooele** baz=189,SNR=25	**2.44**	**8**	P	**Pn**	**22 01 22.8**	**+0.2**
DUG				Sb	**Sg**	**22 01 59.2**	**-1.7**
	baz=189						
TPNV	**Topopah Spring**	**2.52**	**252**		**Pn**	**22 01 24.1**	**+0.5**
TPNV				IAML		22 02 07.4	
	comp=N,55nm,0.5s						
TPNV				IAML		22 02 09.9	
	comp=N,44nm,0.7s						
TPNV	**Topopah Spring** baz=70,SNR=12	**2.52**	**252**	P	**Pn**	**22 01 24.0**	**+0.5**
TPNV				S	**Sn**	**22 01 56.0**	**+1.7**
	baz=70						
SRU	**San Rafael Swe**	**2.53**	**57**		**Pn**	**22 01 25.6**	**+1.8**
SRU				IAML		22 02 02.8	
	comp=N,42nm,0.8s						
SRU				IAML		22 02 02.9	
	comp=E,32nm,0.8s						
WUAZ	**Wupatki** baz=327,SNR=15	**2.72**	**145**	Pb	**Pb**	**22 01 31.9**	**+0.5**
WUAZ				Sb	**Sb**	**22 02 07.1**	**+2.3**
	baz=327						
WCT	**Wildcat Mounta**	**2.85**	**251**		**Pn**	**22 01 29.4**	**+1.2**
WCT				IAML		22 02 16.6	
	comp=E,38nm,0.8s						
WCT				IAML		22 02 19.2	
	comp=N,22nm,1.2s						
SHOC	**Shoshone, Teco** baz=51,SNR=8.2	**3.05**	**233**	Pb	**Pb**	**22 01 38.0**	**+1.1**
SHOC				Sb	**Sb**	**22 02 17.2**	**+2.9**
	baz=51						
CTU	**Camp Tracy**	**3.14**	**22**		**Pn**	**22 01 32.8**	**+0.6**
TUQ	**Turquoise Moun** baz=41	**3.17**	**223**	P	**Pn**	**22 01 33.5**	**+1.0**
TUQ				Sb	**Sg**	**22 02 21.4**	**-2.8**
	baz=41						
GMRC	**Granite Mounta** baz=32	**3.56**	**214**	Sb	**Sg**	**22 02 33.1**	**-3.6**
GSC	**Goldstone, Bar** baz=48	**3.77**	**230**	Sb	**Sg**	**22 02 39.3**	**-4.3**
MPMC	**Manual Prospec** baz=62	**3.79**	**244**	P	**Pn**	**22 01 42.3**	**+1.1**
MPMC				Sg	**Sg**	**22 02 45.4**	**+1.1**
	baz=62						
HEC	**Hector,Ludlow** baz=39	**3.84**	**221**	Sb	**Sg**	**22 02 42.5**	**-3.4**
W18A	**Petrified Fore** baz=314	**3.89**	**132**	Sb	**Sg**	**22 02 43.3**	**-4.2**
IRM	**Iron Mountain** baz=22	**3.92**	**203**	Sb	**Sg**	**22 02 44.7**	**-3.6**
BELC	**Belle Mtn. Jos** baz=29	**4.37**	**211**	Sb	**Sg**	**22 02 58.9**	**-3.9**

STR 27 22:08:24.6±0.8, 49°N±3°×±°, h9km±6km, MLv2.2/8, Error ellipse: s-maj=0.0km s-min=0.0km az=75.9, preliminary, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEMB	**Lembach**	**0.46**	**194**	Pg	Pg	22 08 33.2	-0.3
LEMB				Sg	Sg	22 08 39.5	-0.1
ABH	**Alteburg**	**0.47**	**328**	Pg	Pg	22 08 33.8	0.0
ABH	**Alteburg**	**0.47**	**328**	Sg	Sg	22 08 40.1	0.0
NEEW	**Neewiller pres**	**0.54**	**168**	Pg	Pg	22 08 35.1	+0.1
NEEW				Sg	Sg	22 08 42.8	+0.7
SZBH	**soultz borehol**	**0.55**	**185**	Pg	Pg	22 08 35.1	-0.1
SZBH				Sg	Sg	22 08 43.1	+0.6
SUBF	**Surbourg**	**0.57**	**186**	Pg	Pg	22 08 35.6	0.0
SUBF	**Surbourg**	**0.57**	**186**	Sg	Sg	22 08 43.5	+0.4
BABA	**Baden-Baden-Ne**	**0.78**	**167**	Pg	Pg	22 08 39.2	-0.4
BABA	**Baden-Baden-Ne**	**0.78**	**167**	Sg	Sg	22 08 49.2	-0.6
OPP	**Oppenau**	**1.00**	**170**	Pg	Pg	22 08 43.0	-0.8
OPP	**Oppenau**	**1.00**	**170**	Sg	Sg	22 08 56.0	-0.7
ECH	**Echery**	**1.36**	**202**	Pn	Pn	22 08 49.1	-0.7
ECH				Sn	Sb	22 09 07.5	-0.3

SOME 27 22:08:34.4, 39°.05N×73°.17E, h15km, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**3.69**	**1**	*e*Pg	Pb	22 09 42.1	+2.7
	4.0nm,0.4s						
MRKS				*e*Lg	Lg	22 10 31.1	
	11nm,0.5s						
DZA	**Taraz**	**4.08**	**341**	*e*Pg	Pb	22 09 48.2	+2.2
	32nm,0.2s						
DZA				*e*Lg	Lg	22 10 41.4	
	38nm,0.5s						
KST	**Kastek**	**4.51**	**27**	*e*Pg	Pb	22 09 57.1	+3.7
	0.7nm,0.1s						
KST				*e*Lg	Lg	22 10 56.6	
	6.9nm,0.6s						
DGS	**Degeres**	**4.63**	**24**	*e*Pg	Pb	22 09 58.6	+3.3
	0.5nm,0.4s						
DGS				*e*Lg	Lg	22 10 59.2	
	3.0nm,0.5s						
CHKK	**Chushkaly**	**5.59**	**30**	*e*Pg	Pg	22 10 18.2	-3.2
	0.3nm,0.1s						

IDC ***27*** *22:27:17.2±0.7, 56°.13N×154°.55W, h0km, mb4.4/23, mbtmp4.3/26, ML3.8/3, MS3.4/13, Error ellipse: s-maj=17.1km s-min=11.8km az=144.0*

MOS ***27*** *22:27:18.9±0.9, 56°.44N×154°.67W, h12km, mb4.6/26, Error ellipse: s-maj=15.4km s-min=6.3km az=90.5*

NEIC ***27*** *22:27:19.6±1.2, 56°.15N±0°.03×154°.36W±0°.07, h19km±4km, Error ellipse: s-maj=6.3km s-min=4.0km az=128.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.43; Mθθ-0.28; Mφφ-1.14; Mrθ1.09; Mθφ-0.31; Mφr1.01; Fault plane solution: M₀2.01000×10¹⁵ NP1: φs187.40000°, δ23.56000°, λ61.46000°. NP2:φs38.08000°, δ69.44000°, λ101.77000°. Principal axes: T 2.1532, Plg64.0000°, Azm327.0000°; N -0.3337, Plg11.0000°, Azm214.0000°; P -1.8195, Plg24.0000°, Azm119.0000°;*

AEIC ***27*** *22:27:21.5±1.2, 56°.17N±0°.04×154°.33W±0°.08, h24km±5km, ML4.0, mb4.5/13(NEIC), ML4.2/54(NEIC), Mwr4.1/85(NEIC) Error ellipse: s-maj=7.8km s-min=4.2km az=135.0*

NEIC ***27*** *22:27:21.5, 56°.17N×154°.33W, h24km*

ISC 27 22:27:20.7±1.0, 56°.18N±0°.04×154°.36W±0°.04, h23km±6km, n330, σ1§09/341, mb4.5/57, MS3.5/12, 17C-1D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.40**	**14**		**Pb**	**22 27 29.4**	**+0.3**
SII					**Sb**	**22 27 35.7**	**+0.9**
SII				IAML		22 27 36.6	
	comp=E,25μm,1.1s						
SII				IAML		22 27 40.5	
	comp=N,19μm,0.4s						
SII	**Sitkinak Islan**	**0.40**	**14**	P	**Pb**	**22 27 29.6**	**+0.5**
SII	**Sitkinak Islan** baz=188	**0.40**	**14**	P	**Pb**	**22 27 29.5**	**+0.3**
SII				S	**Sb**	**22 27 35.9**	**+1.0**
	baz=188						
CHIR	**Chirikof Islan**	**0.79**	**244**		**Pb**	**22 27 35.4**	**-0.3**
CHIR				Sn	**Sb**	**22 27 46.1**	**0.0**
CHIR				IAML		22 27 49.7	
	comp=N,9μm,0.8s						
CHIR				IAML		22 27 57.0	
	comp=E,11μm,0.7s						
CHIR	**Chirikof Islan** baz=66	**0.79**	**244**	P	**Pb**	**22 27 35.5**	**-0.3**
CHIR				S	**Sb**	**22 27 46.5**	**+0.5**
	baz=66						
OHAK	**Old Harbor**	**1.20**	**29**		**Pn**	**22 27 41.3**	**-0.7**
OHAK				Sn	**Sn**	**22 27 57.1**	**-0.5**
OHAK	**Old Harbor**	**1.20**	**29**	P	**Pn**	**22 27 41.6**	**-0.5**
OHAK	**Old Harbor** baz=208	**1.20**	**29**	P	**Pn**	**22 27 41.4**	**-0.7**
OHAK				S	**Sn**	**22 27 56.4**	**-1.2**
	baz=208						
R18K	**Karluk**	**1.40**	**358**		**Pn**	**22 27 44.2**	**-0.4**
R18K					**Sb**	**22 28 03.2**	**-0.1**
R18K	**Karluk** baz=176	**1.40**	**358**	P	**Pn**	**22 27 44.3**	**-0.4**
R18K				S	**Sn**	**22 28 02.9**	**+0.5**
	baz=176						
R17K	**Ugashik Creek**	**1.84**	**324**		**Pn**	**22 27 50.7**	**-0.1**
R17K					**Sb**	**22 28 15.3**	**-0.9**
R17K				IAML		22 28 30.2	
	comp=N,3μm,1.0s						
R17K	**Ugashik Creek** baz=142	**1.84**	**324**	P	**Pn**	**22 27 50.7**	**-0.1**
R17K				S	**Sn**	**22 28 13.8**	**+0.5**
	baz=142						
PLK3	**Peulik 3**	**1.84**	**326**		**Pn**	**22 27 50.5**	**-0.4**
PLK3					**Sn**	**22 28 15.0**	**+1.6**
KDAK	**Kodiak Island**	**1.88**	**30**		**Pn**	**22 27 50.8**	**-0.6**
KDAK	**Kodiak Island**	**1.88**	**30**	Pn	**Pn**	**22 27 50.8**	**-0.6**
	comp=N,19nm,0.3s,baz=236,slow=8.6,SNR=440						
KDAK				LR	LR	22 28 10.2	
	comp=N,132nm,18.0s,baz=312,slow=27						
KDAK				Sn	**Sn**	**22 28 11.8**	**-2.5**
	comp=N,41nm,0.3s,baz=32,slow=22,SNR=4.1						
KDAK				Lg	Lg	22 28 20.0	
	comp=N,50nm,0.3s,baz=94,slow=6.2,SNR=14						
PLBL	**Peulik Blue Cr**	**2.04**	**320**		**Pn**	**22 27 54.2**	**+0.7**
PLK1	**Peulik 1**	**2.04**	**324**		**Pn**	**22 27 53.8**	**+0.2**
ACHA	**Angle Creek He**	**2.11**	**346**		**Pn**	**22 27 54.0**	**-0.6**
ANCK	**Angle Creek**	**2.12**	**344**		**Pn**	**22 27 53.9**	**-0.8**
KCE	**Katmai Mt Cerb**	**2.12**	**348**		**Pn**	**22 27 55.2**	**+0.5**
ANNE	**Aniakchak Nort**	**2.18**	**291**		**Pn**	**22 27 55.6**	**+0.1**
R16K	**Pilot Point**	**2.25**	**310**		**Pn**	**22 27 56.0**	**-0.4**
R16K	**Pilot Point** baz=127	**2.25**	**310**	P	**Pn**	**22 27 56.1**	**-0.4**
CNTC	**Contact Creek**	**2.25**	**339**		**Pn**	**22 27 55.8**	**-0.8**
Q17K	**Contact Creek** baz=157	**2.25**	**339**	P	**Pn**	**22 27 55.8**	**-0.8**
CHGN	**Chignik**	**2.27**	**275**	Pn	**Pn**	**22 27 56.2**	**-0.4**
CHGN				IAML		22 28 35.7	
	comp=N,1μm,0.8s						
CHGN				IAML		22 28 42.3	
	comp=E,981nm,0.9s						
KVTA	**Katmai Vly 10**	**2.27**	**347**		**Pn**	**22 27 57.1**	**+0.4**
KAHG	**Katmai Hook Gl**	**2.33**	**358**		**Pn**	**22 27 57.6**	**+0.1**
KAHC	**Katmai Hardscr** baz=171	**2.50**	**352**	P	**Pn**	**22 27 59.6**	**-0.4**
Q18K	**Katmai Hardscr** baz=171	**2.50**	**352**	P	**Pn**	**22 27 59.5**	**-0.6**
Q20K	**Shuyak Island** baz=203	**2.66**	**23**	P	**Pn**	**22 28 02.1**	**0.0**
SYI	**Shuyak Island**	**2.66**	**23**	Pn	**Pn**	**22 28 01.8**	**-0.3**
Q19K	**Cape Douglas,**	**2.79**	**8**		**Pn**	**22 28 04.3**	**+0.4**
Q19K	**Cape Douglas,** baz=187	**2.79**	**8**	P	**Pn**	**22 28 04.1**	**+0.2**
Q16K	**King Salmon**	**2.80**	**335**		**Pn**	**22 28 03.5**	**-0.4**
Q16K	**King Salmon** baz=152	**2.80**	**335**	P	**Pn**	**22 28 03.5**	**-0.4**
S14K	**Fog Glacier** baz=90	**2.90**	**274**	P	**Pn**	**22 28 05.4**	**-0.1**
VNFG	**Fog Glacier, M**	**2.90**	**274**		**Pn**	**22 28 05.3**	**-0.2**
AUQ	**Augustine Qik'**	**3.23**	**9**		**Pn**	**22 28 10.5**	**+0.6**
AUCH	**Augustine Cone**	**3.23**	**8**		**Pn**	**22 28 10.7**	**+0.6**
P18K	**Big Mountain,**	**3.26**	**352**	Pn	**Pn**	**22 28 09.7**	**-0.6**
P18K	**Big Mountain,** baz=171	**3.26**	**352**	P	**Pn**	**22 28 09.8**	**-0.5**
P16K	**Nushagak River**	**3.46**	**327**		**Pn**	**22 28 12.1**	**-1.1**
P16K	**Nushagak River** baz=144	**3.46**	**327**	P	**Pn**	**22 28 12.5**	**-0.6**
P19K	**Oil Pt**	**3.54**	**9**	Pn	**Pn**	**22 28 14.4**	**+0.2**
P19K				IAML		22 29 24.6	
	comp=E,442nm,1.1s						
P19K				IAML		22 29 26.6	
	comp=N,342nm,1.1s						
P19K	**Oil Pt** baz=190	**3.54**	**9**	P	**Pn**	**22 28 14.6**	**+0.4**
SDPT	**Sand Point**	**3.55**	**259**	Pn	**Pn**	**22 28 13.6**	**-0.7**
SDPT	**Sand Point**	**3.55**	**259**	P	**Pn**	**22 28 14.1**	**-0.2**
SDPT	**Sand Point** baz=74	**3.55**	**259**	P	**Pn**	**22 28 14.2**	**-0.1**
O18K	**Koktuh Hills**	**3.72**	**353**		**Pn**	**22 28 16.0**	**-0.6**
O18K				IAML		22 29 24.7	
	comp=N,281nm,1.1s						
O18K				IAML		22 29 26.8	
	comp=E,272nm,1.1s						
O18K	**Koktuh Hills** baz=172	**3.72**	**353**	P	**Pn**	**22 28 16.4**	**-0.3**
CNPM	**China Poot**	**3.75**	**25**		**Pn**	**22 28 16.7**	**-0.4**
CNPM				IAML		22 29 34.8	
	comp=E,414nm,1.3s						
CNPM				IAML		22 29 35.0	
	comp=N,309nm,1.3s						
ILSW	**Iliamna Southw**	**3.87**	**9**		**Pn**	**22 28 18.4**	**-0.5**
O17K	**Koliganek Bris**	**3.89**	**339**		**Pn**	**22 28 17.6**	**-1.3**
O17K	**Koliganek Bris** baz=156	**3.89**	**339**	P	**Pn**	**22 28 17.9**	**-1.1**
IVE	**Iliamna Volcan**	**3.92**	**10**		**Pn**	**22 28 19.0**	**-0.4**
O16K	**Kokwok River B**	**3.96**	**331**		**Pn**	**22 28 18.8**	**-1.2**
O16K				IAML		22 29 37.2	
	comp=E,244nm,1.1s						
O20K	**Slope Mountain**	**4.02**	**13**		**Pn**	**22 28 21.1**	**+0.2**
O20K	**Slope Mountain** baz=193	**4.02**	**13**	P	**Pn**	**22 28 21.3**	**+0.4**
O19K	**Port Alsworth**	**4.03**	**0**		**Pn**	**22 28 20.9**	**0.0**
O19K				IAML		22 29 26.2	
	comp=E,367nm,1.0s						
O19K				IAML		22 29 41.5	
	comp=N,242nm,0.5s						
BRLK	**Bradley Lake**	**4.04**	**26**		**Pn**	**22 28 19.9**	**-1.2**
BRLK				IAML		22 29 38.5	
	comp=E,214nm,1.8s						
BRSE	**Bradley Lake S** baz=209	**4.06**	**27**	P	**Pn**	**22 28 20.5**	**-0.9**
O15K	**Ungalikthiuk R**	**4.20**	**318**		**Pn**	**22 28 22.4**	**-0.9**
O15K	**Ungalikthiuk R** baz=133	**4.20**	**318**	P	**Pn**	**22 28 22.4**	**-0.9**
RED	**Redoubt Volcan**	**4.34**	**10**		**Pn**	**22 28 24.9**	**-0.3**
RSO	**Redoubt South**	**4.38**	**10**		**Pn**	**22 28 25.5**	**-0.4**
RDWB	**Redoubt West**	**4.40**	**10**		**Pn**	**22 28 25.9**	**-0.2**
N18K	**Kilae Creek**	**4.59**	**351**		**Pn**	**22 28 27.9**	**-0.7**
N18K				IAML		22 29 43.9	
	comp=E,142nm,1.4s						
N18K	**Kilae Creek** baz=169	**4.59**	**351**	P	**Pn**	**22 28 28.1**	**-0.5**
N17K	**Nushagak Hills**	**4.61**	**342**		**Pn**	**22 28 27.8**	**-1.0**
N17K				IAML		22 30 01.8	
	comp=N,138nm,1.2s						
N17K				IAML		22 30 04.8	
	comp=E,132nm,1.1s						
N19K	**Bonanza Creek**	**4.65**	**359**		**Pn**	**22 28 29.7**	**+0.1**
N19K				IAML		22 29 54.1	
	comp=E,187nm,1.4s						
N19K				IAML		22 30 01.4	
	comp=N,128nm,1.4s						
N19K	**Bonanza Creek** baz=179	**4.65**	**359**	P	**Pn**	**22 28 29.5**	**0.0**
SEW	**Seward**	**4.72**	**31**		**Pn**	**22 28 28.4**	**-1.9**
SEW	**Seward** baz=215	**4.72**	**31**	P	**Pn**	**22 28 29.3**	**-1.0**
O14K	**Tigyukauivet M**	**4.82**	**313**		**Pn**	**22 28 31.1**	**-0.5**
O14K				IAML		22 30 08.0	
	comp=N,232nm,1.2s						
O14K				IAML		22 30 11.9	
	comp=E,173nm,1.4s						
O14K	**Tigyukauivet M** baz=127	**4.82**	**313**	P	**Pn**	**22 28 31.3**	**-0.4**
SLKM	**Skilak Lake**	**4.86**	**25**		**Pn**	**22 28 31.3**	**-1.0**
N16K	**Nishlik Lake**	**4.90**	**334**		**Pn**	**22 28 32.2**	**-0.6**
N16K	**Nishlik Lake** baz=150	**4.90**	**334**	P	**Pn**	**22 28 32.2**	**-0.6**
O22K	**Cooper Landing**	**4.96**	**28**	Pn	**Pn**	**22 28 33.5**	**-0.2**
SVW2	**Sparrevohn**	**4.98**	**353**	Pn	**Pn**	**22 28 33.5**	**-0.4**
SVW2				IAML		22 30 08.7	
	comp=E,138nm,1.0s						
SVW2				IAML		22 30 11.1	
	comp=N,105nm,1.5s						
SVW2	**Sparrevohn**	**4.98**	**353**	P	**Pn**	**22 28 33.3**	**-0.6**
N15K	**Kwethluk River**	**5.02**	**325**		**Pn**	**22 28 34.0**	**-0.5**
N15K				IAML		22 30 15.1	
	comp=E,188nm,1.1s						
N15K				IAML		22 30 18.6	
	comp=N,216nm,1.1s						
N20K	**Mount Spurr** baz=193	**5.16**	**12**	P	**Pn**	**22 28 36.5**	**0.0**
SPCR	**Spurr Chakacha**	**5.16**	**12**		**Pn**	**22 28 36.0**	**-0.5**
SPCP	**Crater Peak Br**	**5.23**	**12**		**Pn**	**22 28 37.3**	**-0.3**
P23K	**Montague Islan**	**5.32**	**41**		**Pn**	**22 28 36.6**	**-2.0**
P23K	**Montague Islan** baz=228	**5.32**	**41**	P	**Pn**	**22 28 37.0**	**-1.6**
M18K	**Stony River**	**5.38**	**352**		**Pn**	**22 28 39.0**	**-0.5**
M18K	**Stony River** baz=171	**5.38**	**352**	P	**Pn**	**22 28 39.0**	**-0.5**
N14K	**Kuskokwak Cree**	**5.41**	**317**		**Pn**	**22 28 39.8**	**+0.1**
N14K	**Kuskokwak Cree** baz=131	**5.41**	**317**	P	**Pn**	**22 28 39.8**	**+0.1**
M16K	**Timber Creek**	**5.42**	**336**		**Pn**	**22 28 39.2**	**-0.8**
M16K	**Timber Creek** baz=152	**5.42**	**336**	P	**Pn**	**22 28 39.4**	**-0.6**
M17K	**Holitna River**	**5.48**	**344**		**Pn**	**22 28 40.0**	**-0.8**
M17K	**Holitna River** baz=161	**5.48**	**344**	P	**Pn**	**22 28 40.2**	**-0.6**
RC01	**Rabbit Creek A**	**5.49**	**24**		**Pn**	**22 28 39.6**	**-1.3**
RC01	**Rabbit Creek A** baz=208	**5.49**	**24**	P	**Pn**	**22 28 39.9**	**-1.0**
STLK	**Strandline Lak**	**5.50**	**13**		**Pn**	**22 28 40.7**	**-0.4**
SUA	**Susitna One**	**5.62**	**18**	Pn	**Pn**	**22 28 42.4**	**-0.5**
SUA	**Susitna One** baz=201	**5.62**	**18**	P	**Pn**	**22 28 42.8**	**-0.1**
M20K	**Styx River**	**5.76**	**6**		**Pn**	**22 28 44.9**	**+0.2**
M20K	**Styx River** baz=186	**5.76**	**6**	P	**Pn**	**22 28 45.1**	**+0.4**
HIN	**Hinchinbrook I**	**5.92**	**41**	Pn	**Pn**	**22 28 45.1**	**-1.8**
SKT	**Skwentna**	**6.00**	**13**		**Pn**	**22 28 46.9**	**-1.0**
SKT	**Skwentna** baz=195	**6.00**	**13**	P	**Pn**	**22 28 47.0**	**-1.0**
L19K	**White Mountain**	**6.03**	**358**		**Pn**	**22 28 48.1**	**-0.2**
L19K	**White Mountain** baz=177	**6.03**	**358**	P	**Pn**	**22 28 48.6**	**+0.3**
PMR	**Palmer**	**6.07**	**24**	P	**Pn**	**22 28 50.0**	**+1.1**
M14K	**Bethel**	**6.08**	**322**		**Pn**	**22 28 48.8**	**-0.1**
M14K	**Bethel** baz=136	**6.08**	**322**	P	**Pn**	**22 28 49.8**	**+0.8**
KNK	**Knik Glacier**	**6.08**	**28**		**Pn**	**22 28 47.5**	**-1.6**
KNK	**Knik Glacier** baz=212	**6.08**	**28**	P	**Pn**	**22 28 47.8**	**-1.3**
L16K	**Owhat River**	**6.15**	**337**	Pn	**Pn**	**22 28 48.8**	**-1.2**
FID	**Port Fidalgo**	**6.17**	**39**		**Pn**	**22 28 48.0**	**-2.4**
L18K	**Granite Mounta**	**6.18**	**350**		**Pn**	**22 28 49.7**	**-0.6**
GHO	**Glory Hole Cre**	**6.28**	**24**		**Pn**	**22 28 50.2**	**-1.6**
EYAK	**Cordova Ski Ar**	**6.30**	**42**		**Pn**	**22 28 51.3**	**-0.8**

baz=190
AKUT Akutan 6.85 257 Pn Pn 22 28 58.4 -1.2
K17K Iditarod 6.86 345 Pn 22 28 59.1 -0.6
K17K Iditarod 6.86 345 P Pn 22 28 59.1 -0.6
baz=161
KLU Klutina 6.89 36 Pn Pn 22 28 59.0 -1.3
KLU Klutina 6.89 36 P Pn 22 28 59.0 -1.3
baz=223
BMRM Bremner River 7.00 43 P Pn 22 29 00.6 -1.2
baz=231
BERG Berg Lake 7.03 49 Pn 22 29 00.3 -1.7
K15K Wolf Creek Mou 7.15 332 P Pn 22 29 03.9 +0.2
baz=146
K20K Telida 7.21 1 Pn 22 29 04.1 -0.4
K20K Telida 7.21 1 P Pn 22 29 04.1 -0.4
baz=181
WAT7 Susitna Watana 7.24 20 Pn 22 29 04.4 -0.6
WAT6 Susitna Watana 7.25 25 Pn 22 29 04.5 -0.8
WAT6 Susitna Watana 7.25 25 P Pn 22 29 04.5 -0.8
baz=210
M24K Tolsona, Glenn 7.28 32 Pn 22 29 04.9 -0.7
SNH Sunshine Point 7.29 52 Pn Pn 22 29 04.9 -0.8
WAT1 Susitna Watana 7.30 21 Pn 22 29 05.6 -0.2
WAT1 Susitna Watana 7.30 21 P Pn 22 29 05.6 -0.2
baz=206
CAST Castle Rocks 7.36 8 P Pn 22 29 06.7 +0.2
baz=190
UNV Unalaska Valle 7.36 257 P Pn 22 29 05.4 -1.2
J18K Innoko River 7.41 352 Pn 22 29 07.4 +0.2
N25K Chitina, Valde 7.42 39 Pn 22 29 06.7 -0.9
N25K Chitina, Valde 7.42 39 P Pn 22 29 07.2 -0.4
baz=227
MSW Makushin Switc 7.49 258 Pn 22 29 07.3 -1.1
BARK Barkley Ridge 7.55 51 Pn 22 29 08.4 -0.9
TRF Thorofare Moun 7.58 14 Pn 22 29 09.1 -0.7
TRF Thorofare Moun 7.58 14 P Pn 22 29 09.1 -0.7
baz=197
GLB Gilahina Butte 7.60 42 Pn 22 29 08.9 -1.1
MESA MESA 7.69 53 Pn Pn 22 29 11.4 +0.1
RND Reindeer 7.76 19 Pn 22 29 11.4 -0.8
RND Reindeer 7.76 19 P Pn 22 29 11.4 -0.8
DHY Denali Highway 7.77 24 Pn 22 29 11.3 -1.0
DHY Denali Highway 7.77 24 P Pn 22 29 11.8 -0.5
baz=210
J16K Anvik River 7.79 339 Pn 22 29 11.3 -1.2
J16K Anvik River 7.79 339 P Pn 22 29 11.2 -1.2
baz=153
J19K Poorman 7.87 356 Pn 22 29 13.2 -0.4
J19K Poorman 7.87 356 P Pn 22 29 13.5 -0.1
baz=175
KIAG Kiagna River 7.87 48 Pn 22 29 12.8 -1.0
PTPK Patty Peak 7.97 46 Pn 22 29 13.9 -1.2
J20K Nowinta River 8.03 1 Pn Pn 22 29 15.2 -0.5
GRNC Granite Creek 8.03 50 Pn 22 29 15.0 -1.0
J14K Nanvaranak Lak 8.08 328 Pn 22 29 16.9 +0.5
BPAW Bear Paw Mtn. 8.12 11 Pn 22 29 16.6 -0.5
BPAW Bear Paw Mtn. 8.12 11 P Pn 22 29 16.5 -0.5
baz=193
LOGN Logan Glacier 8.40 51 Pn 22 29 19.9 -1.1
PCA Pinnacle 8.43 56 Pn 22 29 21.1 -0.2
PINM Pinnacle 8.43 56 P Pn 22 29 20.8 -0.6
baz=248
BCPM Bancas Point 8.67 58 Pn Pn 22 29 24.1 -0.5
PNL Peninsula 8.70 60 P Pn 22 29 24.5 -0.4
M27K Edge Creek, AK 8.89 41 Pn Pn 22 29 27.4 -0.3
RIDG Independent Ri 8.95 28 Pn 22 29 28.2 -0.2
MLY Manley 9.06 10 Pn 22 29 28.0 -1.9
MLY Manley 9.06 10 P Pn 22 29 28.2 -1.7
baz=193
I21K Tanana 9.11 6 P Pn 22 29 29.1 -1.4
baz=188
MDM Murphy Dome 9.31 16 Pn 22 29 32.2 -1.1
I23K Minto, Yukon-K 9.33 13 P Pn 22 29 32.2 -1.3
baz=197
IL31 9.37 20 Pn 22 29 32.6 -1.4
ILAR Eielson Array 9.37 20 Pn Pn 22 29 33.3 -0.8
ILAR Eielson Array 9.37 20 P Pn 22 29 33.3 -0.8
ILAR Eielson Array 9.37 20 Pn Pn 22 29 30.2 -3.9
comp=N,0.9nm,0.3s,baz=216,slow=14,SNR=48
ILAR Sn **Sn 22 31 10.9 -7.7**
comp=N,0.1nm,0.3s,baz=193,slow=23,SNR=2.0
ILAR LR LR 22 33 29.5
comp=N,301nm,20.4s,baz=227,slow=39
comp=N,0.7nm,0.3s
BCAR Beaver Creek A 9.38 37 Pn Pn 22 29 34.0 -0.3
H21K Melozitna Rive 9.54 4 P Pn 22 29 35.5 -1.0
baz=185
POKR Poker Plat Res 9.59 18 Pn Pn 22 29 36.3 -0.8
IMAR Indian Mountai 9.85 1 Pn 22 29 39.7 -1.0
HYT Haines Junctio 9.96 55 Pn Pn 22 29 42.4 0.0
S31K Pelican 10.03 72 Pn Pn 22 29 42.5 -0.7
SKAG Skagway 10.66 64 Pn Pn 22 29 51.1 -0.7
EGAK Eagle 10.78 32 Pn 22 29 53.7 +0.2
F17K Baldwin Pennin 10.81 345 Pn Pn 22 29 53.3 +0.5
S32K Killisnoo 10.91 75 Pn Pn 22 29 55.6 +0.3
F20K Avaraart Lake 10.93 357 Pn 22 29 55.0 -0.4
WHY Whitehorse 11.14 58 Pn Pn 22 29 58.6 +0.1
E19K Redstone River 11.40 354 Pn 22 30 01.9 0.0
P32M Atlin 11.49 64 Pn Pn 22 30 03.2 0.0
E22K Anaktuvuk Pass 12.06 5 Pn 22 30 09.7 -1.2
BMAR Burnt Mountain 12.18 18 Pn Pn 22 30 10.3 -2.3
DLBC Dease Lake 13.32 70 Pn Pn 22 30 28.7 +0.5
comp=N,0.1nm,0.3s,baz=270,slow=16,SNR=1.6
comp=N,0.5nm,0.3s
ADK Adak 13.78 261 Pn Pn 22 30 33.1 -1.3
ADK Adak 13.78 261 P Pn 22 30 33.1 -1.3
B20K Meade River 13.94 356 Pn 22 30 34.5 -2.0
E29M Blow River 14.37 25 Pn 22 30 42.5 +0.1
INK Inuvik 15.44 30 Pn 22 30 56.5 -0.2
INK Inuvik 15.44 30 P Pn 22 30 56.5 -0.2
INK pmax pmax
comp=Z,7.0nm,1.1s
INK Inuvik 15.44 30 Pn Pn 22 30 58.0 +1.3
comp=Z,0.7nm,0.3s,baz=228,slow=12,SNR=13
INK LR LR 22 37 30.9
comp=Z,222nm,21.4s,baz=206,slow=40
comp=Z,2.2nm,0.4s
BBB Bella Bella 15.83 94 LR LR 22 34 38.8
comp=Z,181nm,19.8s,baz=330,slow=28
C36M Paulatuk 18.84 34 P P 22 31 38.1 -0.4
A36M Sachs Harbour 19.97 26 P P 22 31 50.6 -0.3
A36M IAmb IAmb 22 31 54.9
comp=Z,24nm,0.9s
YKA Yellowknife Ar 20.96 56 P P 22 32 01.7 +0.1
YKA Yellowknife Ar 20.96 56 P P 22 32 01.7 +0.1
YKA Yellowknife Ar 20.96 56 P P 22 32 03.0 +1.4
comp=Z,3.3nm,0.9s,baz=271,slow=10,SNR=24
comp=Z,3.3nm,0.9s
BILL Bilibino 21.45 319 P P 22 32 04.9 -2.0
BILL Bilibino 21.45 319 eP P 22 32 05.5 -1.4
BILL pmax pmax
comp=Z,15nm,1.3s
PET Petropavlovsk 26.99 283 i P P 22 33 00.8 +0.5
PET pmax pmax
comp=Z,40nm,1.2s
SEY Seymchan 27.10 306 i P P 22 32 59.3 -2.0
SEY pmax pmax
comp=Z,5.0nm,1.0s
SEY Seymchan 27.10 306 LR LR 22 45 01.2
comp=Z,123nm,18.2s,baz=299,slow=39
PEA0B Petropavlovsk- 27.47 284 P P 22 33 05.2 +0.5
PEA0B IAmb IAmb 22 33 09.7
comp=Z,10nm,1.1s
PEA0B Petropavlovsk- 27.47 284 i P P 22 33 05.1 +0.4
PETK Petropavlovsk- 27.47 284 P P 22 33 05.5 +0.8
comp=Z,3.7nm,0.4s,baz=69,slow=12,SNR=13
PETK LR LR 22 44 06.4
comp=Z,62nm,19.0s,baz=36,slow=37
comp=Z,3.7nm,0.4s
ELK Elko 29.70 105 LR LR 22 44 01.6
comp=Z,96nm,20.2s,baz=52,slow=34
PDAR Pinedale Array 31.45 96 P P 22 33 42.5 +2.1
PDAR Pinedale Array 31.45 96 P P 22 33 40.4 0.0
comp=Z,0.3nm,0.5s,baz=298,slow=3.5,SNR=4.5
comp=Z,0.3nm,0.5s
TIXI Tiksi 34.22 327 P P 22 34 03.1 -0.8
TIXI IAmb IAmb 22 34 03.4
comp=Z,3.7nm,0.8s
TIXI Tiksi 34.22 327 ceP P 22 34 02.1 -1.9
TIXI pmax pmax
comp=Z,4.0nm,1.3s
TIXI Tiksi 34.22 327 LR LR 22 50 24.2
comp=Z,6.0nm,18.7s,baz=190,slow=40
YAK Yakutsk 37.34 311 ceP P 22 34 29.3 -1.4
YAK pmax pmax
comp=Z,8.0nm,0.5s
YAK Yakutsk 37.34 311 LR LR 22 51 06.8
comp=Z,6.6nm,18.5s,baz=145,slow=38
ANMO Albuquerque 38.68 103 i P P 22 34 46.5 +3.9
ZEA Zeya 42.80 301 eP P 22 35 14.9 -1.2
ZEA pmax pmax
comp=Z,10.0nm,0.6s
KLR Kul'dur 43.30 293 ceP P 22 35 20.5 +0.2
KLR pmax pmax
comp=Z,11nm,2.5s
TXAR Lajitas Array 44.49 105 P P 22 35 31.7 +1.6
comp=Z,0.2nm,0.5s,baz=330,slow=5.2,SNR=2.5
TXAR PcP **PcP 22 37 13.4 +0.1**
comp=Z,0.3nm,0.6s,baz=270,slow=2.0,SNR=3.6
TXAR LR LR 22 53 43.0
comp=Z,32nm,20.2s,baz=29,slow=36
SPITS Spitsbergen Ar 45.78 3 P P 22 35 39.9 +0.2
comp=Z,1.1nm,0.3s,baz=22,slow=4.6,SNR=24
comp=Z,1.1nm,0.3s
H11N2 WAKE ISLAND Hy 46.44 234 T T 23 26 01.3
baz=29,slow=75,SNR=7.2
H11N3 WAKE ISLAND Hy 46.45 234 T T 23 26 00.5
baz=29,slow=75,SNR=8.0
H11N1 WAKE ISLAND Hy 46.46 234 T T 23 26 02.2
baz=29,slow=75,SNR=4.7
NRIK Noril'sk 47.03 335 P P 22 35 49.3 -0.3
NRIK Noril'sk 47.03 335 ceP P 22 35 49.5 -0.1
NRIK pmax pmax
comp=Z,14nm,0.9s
NRIK Noril'sk 47.03 335 P P 22 35 48.7 -0.9
comp=Z,17nm,0.8s,baz=51,slow=6.8,SNR=24
comp=Z,17nm,0.8s
H11S1 WAKE ISLAND Hy 47.60 234 T T 23 27 27.1
baz=28,slow=75,SNR=28
H11S2 WAKE ISLAND Hy 47.61 234 T T 23 27 28.2
baz=28,slow=75,SNR=7.5
H11S3 WAKE ISLAND Hy 47.62 234 T T 23 27 28.2
baz=28,slow=75,SNR=6.3
MAJO Matsushiro 48.37 276 P P 22 36 00.9 +0.5
MAJO Matsushiro 48.37 276 P P 22 36 00.9 +0.5
MAJO pmax pmax
comp=Z,10.0nm,1.0s
KSRS Korea Array 53.37 284 P P 22 36 37.2 -0.8
comp=Z,2.8nm,0.8s,baz=45,slow=7.6,SNR=8.5
comp=Z,2.8nm,0.8s
ARCES ARCESS Array B 54.59 0 P P 22 36 46.3 -0.2
comp=Z,5.1nm,1.0s,baz=45,slow=7.4,SNR=5.7
comp=Z,5.1nm,1.0s
ULN Ulaanbaatar 56.17 307 ceP P 22 36 59.1 +0.7
ULN pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 56.49 307 P P 22 37 00.2 -0.5
comp=Z,6.6nm,0.9s,baz=46,slow=7.1,SNR=25
SONM PcP **PcP 22 37 57.4 +0.2**
comp=Z,1.5nm,0.7s,baz=60,slow=2.8,SNR=4.0
comp=Z,6.6nm,0.9s
ZALV Zalesovo Beam 60.04 324 i P P 22 37 25.3 +0.1
ZALV pmax pmax
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 60.04 324 P P 22 37 25.4 +0.2
comp=Z,3.8nm,0.7s,baz=29,slow=6.8,SNR=13
comp=Z,3.8nm,0.7s
HNS HongShan 60.39 294 ⇓P P 22 37 28.3 +0.5
HNS pmax pmax
comp=Z,12nm,0.8s
NB2 NORSAR Subarra 62.57 8 P P 22 37 42.4 +0.2
comp=Z,1.4nm,0.6s,baz=352,slow=6.9
NOA NORSAR Array B 62.57 8 P P 22 37 42.8 +0.6
comp=Z,3.6nm,0.9s,baz=351,slow=6.7,SNR=7.9
comp=Z,3.6nm,0.9s
FINES FINESS Array B 62.72 360 P P 22 37 43.1 0.0
comp=Z,3.8nm,0.7s,baz=357,slow=10.0,SNR=13
comp=Z,3.8nm,0.7s
KLMR Klimovskoe 62.80 352 eP P 22 37 42.6 -1.1
KLMR AMP 22 37 44.9
comp=Z,21nm,1.3s
KLMR Klimovskoe 62.80 352 eP P 22 37 42.6 -1.1
KLMR pmax pmax
comp=Z,21nm,1.3s
HFS Hagfors 63.65 7 P P 22 37 49.8 +0.5
comp=Z,25nm,1.2s,baz=29,slow=3.4,SNR=19
comp=Z,25nm,1.2s
KIRV Kirov 64.01 346 ceP P 22 37 52.2 +0.5
KIRV Kirov 64.01 346 LR LR 23 08 14.6
comp=Z,23nm,19.6s,baz=343,slow=38
ARU Arti 64.62 340 P P 22 37 55.1 -0.7
ARU IAmb IAmb 22 37 56.0
comp=Z,5.3nm,0.8s
ARU Arti 64.62 340 c iP P 22 37 55.1 -0.7
ARU 22 38 26.0
ARU 22 40 13.3
ARU S **S 22 46 34.0 +0.2**
ARU SS **SS 22 50 39.1 -4.3**
ARU pmax pmax
comp=Z,6.0nm,0.8s
KURK Kurchatov 64.79 326 ceP P 22 37 57.6 +0.6
KURK pmax pmax
comp=Z,4.0nm,1.3s
KURBB Kurchatov Arra 64.90 326 P P 22 37 56.7 -0.9
comp=Z,2.4nm,1.0s,baz=30,slow=6.2,SNR=8.7
comp=Z,2.4nm,1.0s
BRVK Borovoye 65.11 332 P P 22 37 58.5 -0.5
BRVK IAmb IAmb 22 37 59.7
comp=Z,4.5nm,0.9s
BRVK Borovoye 65.11 332 ceP P 22 37 59.0 0.0
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 65.11 332 P P 22 37 58.9 -0.1
comp=Z,6.5nm,0.8s,baz=33,slow=6.8,SNR=28
comp=Z,6.5nm,0.8s
GTA Gaotai 66.04 305 eP P 22 38 05.0 -0.4
GTA pP pP 22 38 09.0 -3.7
GTA pmax pmax
comp=Z,4.0nm,0.9s
EKA Eskdalemuir Ar 66.40 17 P P 22 38 07.1 -0.2
comp=Z,1.4nm,0.6s,baz=320,slow=5.0,SNR=6.5
comp=Z,1.4nm,0.6s
MK31 Makanchi Array 66.97 321 ceP P 22 38 11.5 +0.4
MKAR Makanchi Array 66.97 321 P P 22 38 10.9 -0.3
comp=Z,1.1nm,0.6s,baz=49,slow=7.0,SNR=12
comp=Z,1.1nm,0.6s
MAKZ Makanchi 67.07 322 P P 22 38 10.8 -0.9
MAKZ IAmb IAmb 22 38 19.6
comp=Z,3.7nm,1.1s
MAKZ Makanchi 67.07 322 P P 22 38 10.8 -0.9
MAKZ pmax pmax
comp=Z,4.0nm,1.1s
OBN Obninsk 68.71 353 ⇑eP P 22 38 21.0 -0.8
OBN e 22 40 50.8
OBN eS **SKiKP 22 48 07.7 -4.4**
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,133nm,17.0s
NACGM Naroch 69.28 359 eP P 22 38 23.9 -1.5
MNK Minsk 69.67 359 i P P 22 38 27.4 -0.3
comp=E,10.0nm,1.0s
MNK i P P 22 38 27.4 -0.3
comp=N,11nm,0.8s
MNK i P P 22 38 27.4 -0.3
comp=Z,15nm,1.0s,baz=1.4
MNK i PP PP 22 41 01.4 +0.3
MNK i PPP PPP 22 42 42.6
MNK i S S 22 47 35.8 +1.3
MNK i SS SS 22 52 05.1 +3.7
MNK i SSS SSS 22 55 22.7
MNK i LQ LQ 23 04 30.9
MNK i LR LR 23 09 31.7
MNK i LRM MLR 23 14 33.4
comp=Z,102nm,16.9s
MNK i LRM MLR 23 14 35.9
comp=N,322nm,17.8s
MNK i LRM MLR 23 14 43.6
comp=E,143nm,18.7s
MNK Minsk 69.67 359 i P P 22 38 27.4 -0.3
MNK i 22 38 49.9
MNK i 22 41 01.4
MNK i PPP PPP 22 42 42.6
MNK i S **S 22 47 35.8 +1.3**
MNK i 22 48 27.9
MNK i SS **SS 22 52 05.1 +3.7**
MNK pmax pmax
comp=E,10.0nm,1.0s
MNK pmax pmax
comp=Z,15nm,1.0s
MNK pmax pmax
comp=N,11nm,0.8s
BELG Belogornoye 70.28 346 i P P 22 38 32.6 +1.0
BELG pmax pmax
comp=Z,4.0nm,1.1s
ABKAR Akbulak array 71.12 337 P P 22 38 36.5 -0.2
AAK Ala-Archa 73.26 325 P P 22 38 50.7 +0.8
AAK IAmb IAmb 22 38 51.4
comp=Z,4.5nm,0.9s
AAK Ala-Archa 73.26 325 ceP P 22 38 51.2 +1.3
AAK pmax pmax
comp=Z,4.0nm,1.3s
AAK Ala-Archa 73.26 325 LR LR 23 14 10.7
comp=Z,106nm,18.9s,baz=15,slow=38
AKASG Malin Array Be 73.45 358 i P P 22 38 50.2 -0.4
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 73.45 358 P P 22 38 50.3 -0.3
comp=Z,0.6nm,0.3s,baz=3.4,slow=5.8,SNR=9.7
comp=Z,0.6nm,0.3s
AKBB Malin Array Si 73.45 358 ceP P 22 38 50.1 -0.5
AKBB pmax pmax
comp=Z,5.0nm,0.9s
KHC Kasperske Hory 74.58 8 ceP P 22 38 57.5 +0.2
KHC pmax pmax
comp=Z,8.0nm,1.0s
VRAC Vranov 74.61 6 LR LR 23 13 46.3
comp=Z,28nm,18.2s,baz=287,slow=37
STHS Stebnicka Huta 74.71 3 eP P 22 38 58.6 +0.5
STHS Stebnicka Huta 74.71 3 eP P 22 38 58.6 +0.5
STHS pmax pmax
comp=Z,4.0nm,0.7s
GERES GERESS Array B 74.87 8 P P 22 38 59.8 +0.7
comp=Z,1.7nm,0.7s,baz=350,slow=5.4,SNR=7.9
comp=Z,1.7nm,0.7s
LANS Liptovska Anna 74.92 4 eP P 22 39 01.0 +1.7
LANS Liptovska Anna 74.92 4 eP P 22 39 01.0 +1.7
LANS pmax pmax
comp=Z,3.0nm,0.8s
KOLS Kolonicke sedl 75.22 2 eP P 22 39 01.7 +0.7
KOLS Kolonicke sedl 75.22 2 eP P 22 39 01.7 +0.7
KOLS pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 75.54 5 eP P 22 39 03.8 +0.9
VYHS Vyhne 75.54 5 eP P 22 39 03.8 +0.9
KSH Kashi 75.56 322 P P 22 39 07.3 +4.0
KSH pmax pmax
comp=Z,9.0nm,0.8s
MODS Modra-Piesok 75.58 6 eP P 22 39 04.7 +1.6
MODS Modra-Piesok 75.58 6 eP P 22 39 04.7 +1.6
SQTA Sankt Quirin 76.27 10 eP P 22 39 08.2 +1.0
comp=Z,1.3nm,0.4s
FETA Feichten 76.41 10 eP P 22 39 08.8 +0.8
comp=Z,3.1nm,0.8s
ARSA Arzberg 76.59 7 eP P 22 39 10.0 +1.2
comp=Z,0.8nm,0.4s
ABTA Abfaltersbach 76.86 9 eP P 22 39 10.3 -0.2
comp=Z,2.2nm,0.8s
SOKA Soboth 77.13 7 eP P 22 39 12.6 +0.7
comp=Z,1.2nm,0.5s
OBKA Obir 77.26 8 eP P 22 39 11.3 -1.4
comp=Z,2.4nm,0.4s
GOF Gofitskoye 78.08 347 ceP P 22 39 17.5 +0.3
KIV Kislovodsk 79.20 348 eP P 22 39 24.4 +0.9
KIV pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 79.40 347 ceP P 22 39 25.0 +0.5
KBZ Khabaz 79.40 347 P P 22 39 25.4 +0.9
comp=Z,4.3nm,0.9s,baz=0.0,slow=3.0,SNR=6.5
comp=Z,4.3nm,0.9s
ESDC Sonseca Array 81.26 23 P P 22 39 35.5 +0.8
comp=Z,1.7nm,0.8s,baz=338,slow=4.6,SNR=7.5
comp=Z,1.7nm,0.8s
GEYT Alibeck 82.28 335 P P 22 39 40.9 +0.9
comp=Z,3.2nm,0.8s,baz=336,slow=3.2,SNR=7.9
GEYT LR LR 23 25 29.9
comp=Z,30nm,19.1s,baz=68,slow=42
comp=Z,3.2nm,0.8s
CMAR Chiang Mai Arr 83.78 294 P P 22 39 48.1 +0.1
comp=Z,2.1nm,0.3s,baz=8.8,slow=5.9,SNR=18
comp=Z,2.1nm,0.3s
BRTR Keskin Array B 84.22 354 P P 22 39 50.8 +0.6
comp=Z,1.6nm,0.8s,baz=10,slow=3.8,SNR=9.4
comp=Z,1.6nm,0.8s
QSPA South Pole Qui 145.96 180 PKPbc PKPbc 22 46 57.2 +0.4
comp=Z,3.2nm,0.7s,baz=31,slow=3.5,SNR=8.3
BOSA Boshof 152.45 1 PKPbc PKPbc 22 47 14.1 -0.5
comp=Z,1.3nm,0.6s,baz=0.0,slow=4.0,SNR=1.9

IDC 27 22:38:19.9±30.0, 54.56S×143.03E, h0km, mb3.7/3, mbtmp3.7/3, MS3.6/2, Error ellipse: s-maj=558.4km s-min=172.1km az=136.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**22.70**	**357**	P	P	22 43 23.2	+0.2
	0.5nm,0.3s,baz=173,slow=14,SNR=2.0						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**31.60**	**344**	P	P	22 44 44.5	+0.2
	1.0nm,0.8s,baz=164,slow=9.9,SNR=6.4						
	1.0nm,0.8s						
WRA	**Warramunga Arr**	**35.19**	**346**	P	P	22 45 15.3	-0.3
	1.5nm,0.9s,baz=175,slow=9.1,SNR=20						
	1.5nm,0.9s						
DZM	**Mont Dzumac**	**36.92**	**38**	LR	LR	22 58 30.2	
	comp=Z,86nm,19.6s,baz=68,slow=33						
MAW	**Mawson**	**37.91**	**218**	LR	LR	22 59 52.9	
	comp=Z,68nm,18.9s,baz=76,slow=34						

*NEIC **27** 22:50:17.8±1.3, 19.43N±0.10×68.71W±0.05, h13km±13km, ML2.6/12, Md2.7/5(RSPR), Error ellipse: s-maj=14.8km s-min=6.6km az=192.0*
*RSPR **27** 22:50:21.1, 19.45N×68.85W, h17km±14km, MD2.6/5*
ISC 27 22:50:13.9±1.9, 19.7N±0.1×68.50W±0.06, h10km, n17, σ0=84/21, 1C-3D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**1.15**	**175**	⇓eP	**Pg**	**22 50 36.1**	**+0.2**
PCDR	**Punta Cana, DR**	**1.15**	**175**	eS	**Sb**	**22 50 50.7**	**-0.1**
PCDR	**Punta Cana, DR**	**1.15**	**175**		**Pg**	**22 50 36.0**	**+0.1**
PCDR					**Sb**	**22 50 51.0**	**+0.2**
LSP	**Las Mesas**	**1.99**	**138**	⇑eP	**Pg**	**22 50 52.4**	**+0.3**
LSP	**Las Mesas**	**1.99**	**138**	eS	**Sg**	**22 51 18.4**	**+0.4**
LSP	**Las Mesas**	**1.99**	**138**		**Pg**	**22 50 52.4**	**+0.3**
LSP					**Sg**	**22 51 18.4**	**+0.4**
AOPR	**Arecibo Observ**	**2.10**	**128**	eS	**Sg**	**22 51 21.5**	**0.0**
AOPR	**Arecibo Observ**	**2.10**	**128**	Pn	**Pg**	**22 50 53.9**	**-0.4**
AOPR					**Sg**	**22 51 21.6**	**0.0**
AOPR				IAML		22 51 25.4	
	comp=N,45nm,1.4s						
CRPR	**Cabo Rojo, PR**	**2.11**	**141**	⇓eP	**Pg**	**22 50 54.8**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.11**	**141**	eS	**Sg**	**22 51 20.2**	**-1.4**
CRPR	**Cabo Rojo, PR**	**2.11**	**141**		**Pb**	**22 50 52.2**	**0.0**
CRPR				IAML		22 51 07.5	
	comp=E,43nm,2.9s						
CRPR	**Cabo Rojo, PR**	**2.11**	**141**		**Sg**	**22 51 20.2**	**-1.4**
MLPR	**Magueyes Islan**	**2.17**	**141**	⇓eP	**Pg**	**22 50 55.0**	**-0.6**
MLPR	**Magueyes Islan**	**2.17**	**141**	eS	**Sb**	**22 51 21.6**	**+1.3**
MLPR	**Magueyes Islan**	**2.17**	**141**		**Pg**	**22 50 53.8**	**-1.8**
MLPR				IAML		22 51 09.7	
	comp=N,40nm,3.1s						
MLPR					**Sb**	**22 51 21.9**	**+1.5**
CELP	**Cerrillos**	**2.41**	**131**	Pn	**Pb**	**22 50 56.9**	**-0.4**
CELP				IAML		22 51 12.9	
	comp=E,27nm,3.0s						
CELP				IAML		22 51 39.0	
	comp=N,27nm,2.5s						
SDDR	**Presa de Saban**	**2.72**	**256**	Pn	**Pn**	**22 50 57.8**	**+0.1**
SDDR				IAML		22 52 14.5	
	comp=N,25nm,2.8s						

*IDC **27** 22:58:09.7±1.1, 43.57N×105.39W, h0km, mbtmp3.2/4, ML3.5/4, Error ellipse: s-maj=20.1km s-min=8.6km az=151.0*
*NEIC **27** 22:58:10.9±1.0, 43.70N±0.05×105.28W±0.07, h0km±2km, ML3.2/56, Error ellipse: s-maj=9.3km s-min=6.6km az=131.0*
ISC 27 22:58:10.0±1.0, 43.70N±0.06×105.28W±0.07, h0km, n37, σ0=88/36, Wyoming

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

RSSD	Black Hills	0.99	64			Pb	22 58 30.0	-0.3
K22A	Casper	1.39	221			Pn	22 58 35.2	-1.5
PHWY	Pilot Hill	2.40	183			Pn	22 58 51.3	+0.4
RWWY	Rawlins	2.46	216			Pn	22 58 52.4	+0.8
RWWY					IAML		22 59 26.2	
	140nm,0.4s							
RWWY					IAML		22 59 28.7	
	128nm,0.7s							
N23A	Red Feather La	2.84	190			Pn	22 58 57.3	+0.4
N23A					IAML		22 59 39.3	
	comp=N,77nm,0.4s							
N23A					IAML		22 59 40.3	
	comp=E,81nm,0.3s							
LAO	LASA Array	3.07	348			Pn	22 59 00.6	+0.8
LAO					IAML		22 59 50.8	
	comp=E,76nm,3.0s							
RLMT	Red Lodge	3.19	298			Pn	22 59 02.1	+0.4
RLMT					IAML		22 59 49.9	
	comp=E,39nm,1.8s							
RLMT					IAML		22 59 51.1	
	comp=E,55nm,3.0s							
BRIGG	Briggsdale	3.19	167			Pn	22 59 01.2	-0.4
PD31	Pinedale Array	3.26	255	Pn		Pn	22 59 03.1	+0.4
PDAR	Pinedale Array	3.26	255	Pn		Pn	22 59 03.1	+0.4
PDAR	Pinedale Array	3.26	255	Pn		Pn	22 59 03.8	+1.1
	comp=E,5.7nm,0.3s,baz=78,slow=18,SNR=60							
PDAR				Lg		Lg	22 59 48.4	
	comp=E,35nm,0.3s,baz=76,slow=31,SNR=23							
	comp=E,5.8nm,0.3s							
OGNE	Ogallala	3.65	138			Pn	22 59 09.0	+1.1
YMP	Mirror Lake PI	3.66	288	Pn		Pn	22 59 08.5	+0.4
LOHW	Long Hollow	3.86	271			Pn	22 59 12.6	+1.7
LOHW					IAML		23 00 11.8	
	comp=E,26nm,3.4s							
H17A	Grant Village	3.88	282			Pn	22 59 12.9	+1.7
H17A					IAML		23 00 14.8	
	comp=N,28nm,0.3s							
H17A					IAML		23 00 15.4	
	comp=E,25nm,0.7s							
ISCO	Idaho Springs	3.90	184	Pn		Pn	22 59 12.7	+1.2
FLWY	Flagg Ranch	3.94	278	Pn		Pn	22 59 12.9	+1.0
FLWY					IAML		23 00 43.3	
	comp=E,37nm,4.9s							
MOOW	Moose Ponds	3.96	273			Pn	22 59 13.1	+0.8
O20A	White River Ci	4.19	213			Pn	22 59 15.9	+0.5
AHID	Auburn Hatcher	4.35	260			Pn	22 59 18.3	+0.7
AHID					IAML		23 00 26.5	
	comp=E,20nm,0.7s							
AHID					IAML		23 00 28.1	
	comp=E,24nm,0.3s							
RDMU	Red Mountain	4.46	227	Pn		Pn	22 59 20.2	+1.0
RDMU					IAML		23 00 28.4	
	comp=E,22nm,2.9s							
RDMU					IAML		23 01 02.6	
	comp=N,18nm,4.8s							
Q24A	Divide	4.73	179			Pn	22 59 23.5	+0.6
DGMT	Dagmar	4.83	9			Pn	22 59 25.4	+1.3
BOZ	Bozeman (W)	4.91	295			Pn	22 59 25.3	0.0
BOZ					IAML		23 00 51.8	
	comp=N,16nm,3.9s							
HWUT	Hardware Ranch	5.08	248			Pn	22 59 27.5	-0.2
HWUT					IAML		23 00 58.1	
	comp=N,16nm,3.3s							
HWUT					IAML		23 01 00.8	
	comp=N,16nm,3.2s							
KSCO	Kaye Shedlock'	5.09	156			Pn	22 59 28.3	+0.6
BSUT	Blindstream Ca	5.16	234			Pn	22 59 29.4	+0.6
BSUT					IAML		23 00 51.2	
	comp=N,13nm,4.9s							
BSUT					IAML		23 01 11.8	
	comp=E,10nm,2.4s							
SPUT	South Promonto	5.81	248	Pn		Pn	22 59 38.8	+1.2
ELMT	Elliston	5.83	301	Pn		Pn	22 59 38.2	+0.2
SDCO	Great Sand Dun	5.95	182	Pn		Pn	22 59 40.9	+1.3
ECSD	EROS Data Cent	6.28	87	Pn		Pn	22 59 44.2	+0.2
DUG	Dugway, Tooele	6.62	241	Pn		Pn	22 59 49.2	+0.5
F33A	5 Mile Ranch,	6.75	68	Pn		Pn	22 59 49.7	-0.6
I10CA	LAC DU BONNET	9.07	41	I		I	23 59 30.0	
	baz=222,slow=336,SNR=2.4							
ULM	Lac du Bonnet	9.18	41	Pn		Pn	23 00 22.9	-0.7
	comp=E,2.1nm,0.3s,baz=232,slow=12,SNR=20							
ULM				Lg		Lg	23 02 57.8	
	comp=E,0.4nm,0.3s,baz=142,slow=19,SNR=2.0							
	comp=E,3.5nm,0.3s							
TXAR	Lajitas Array	14.39	174	Pn		Pn	23 01 34.4	-0.7
	baz=344,slow=12,SNR=1.6							
TXAR				Lg		Lg	23 05 33.4	
	baz=321,slow=9.7,SNR=1.9							
	comp=E,0.2nm,0.6s							
YKA	Yellowknife Ar	19.61	347	P		Pn	23 02 40.6	-0.3
	comp=E,0.1nm,0.3s,baz=162,slow=14,SNR=4.8							
	comp=E,0.1nm,0.3s							

*IDC **27** 23:03:59.5±1.1,56°.08N×154°.76W,h0km,mb3.8/13, mbtmp3.8/16,ML3.4/2,Error ellipse: s-maj=25.7km s-min=13.8km az=136.0*

*NEIC **27** 23:04:00.1±1.3,56°.02N±0°.04×154°.27W±0°.09,h10km±2km, Error ellipse: s-maj=9.4km s-min=5.1km az=127.0*

*AEIC **27** 23:04:02.5±1.4,56°.11N±0°.06×154°.24W±0°.08,h8km±5km, ML3.3,mb3.5/2(NEIC),ML3.4/48(NEIC),Error ellipse: s-maj=8.7km s-min=6.3km az=180.0*

ISC 27 23:04:03.6±1.1,56°.15N±0°.05×154°.32W±0°.05,h27km±8km, n110,σ0≤99/122,mb3.9/12,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SII	Sitkinak Islan	0.42	10				Pb	23 04 12.4	-0.1
SII							Sb	23 04 18.9	+0.2
SII	Sitkinak Islan	0.42	10	P			Pb	23 04 12.5	-0.1
	baz=177								
SII				S			Sb	23 04 18.6	0.0
	baz=177								
CHIR	Chirikof Islan	0.80	247				Pb	23 04 18.5	-0.5
CHIR							Sb	23 04 28.6	-0.8
CHIR					IAML			23 04 32.8	
	comp=N,1μm,0.6s								
CHIR					IAML			23 04 39.7	
	comp=E,1μm,0.7s								
CHIR	Chirikof Islan	0.80	247	P			Pb	23 04 18.4	-0.5
	baz=73								
CHIR				S			Sb	23 04 29.1	-0.3
	baz=73								
OHAK	Old Harbor	1.22	27				Pn	23 04 24.1	-0.7
OHAK	Old Harbor	1.22	27	P			Pn	23 04 24.4	-0.4
	baz=202								
R18K	Karluk	1.42	357				Pn	23 04 27.2	-0.5
R18K							Sb	23 04 47.5	+0.4
R18K	Karluk	1.42	357	P			Pn	23 04 27.1	-0.5
	baz=173								
R18K				S			Sb	23 04 47.4	+0.4
	baz=173								
R17K	Ugashik Creek	1.88	324				Pn	23 04 33.4	-0.5
R17K					IAML			23 05 04.1	
	comp=N,524nm,0.5s								
PLK3	Peulik 3	1.88	326				Pn	23 04 33.9	-0.1
PLK3							Sb	23 05 00.0	-0.2
KDAK	Kodiak Island	1.89	29	Pn			Pn	23 04 33.9	-0.2
KDAK	Kodiak Island	1.89	29	Pn			Pn	23 04 33.8	-0.3
	comp=N,3.9nm,0.3s,baz=235,slow=8.8,SNR=97								
KDAK				Pg			Pb	23 04 38.6	+1.2
	comp=N,23nm,0.3s,baz=242,slow=9.7,SNR=18								
KDAK				Sn			Sn	23 04 55.1	-2.0
	comp=N,10nm,0.3s,baz=233,slow=9.9,SNR=8.0								
KDAK				Lg			Lg	23 05 06.0	
	comp=N,15nm,0.3s,baz=82,slow=6.5,SNR=13								
	comp=N,9.4nm,0.3s								
ACHA	Angle Creek He	2.14	346				Pn	23 04 37.3	-0.3
ACHA							Sb	23 05 06.6	-1.2
ANCK	Angle Creek	2.15	343				Pn	23 04 37.1	-0.6
ANCK							Sb	23 05 06.9	-1.3
ANNE	Aniakchak Nort	2.21	292				Pn	23 04 38.5	0.0
CNTC	Contact Creek	2.29	339				Sn	23 05 09.5	+2.6
Q17K	Contact Creek	2.29	339	P			Pn	23 04 39.0	-0.6
	baz=156								
Q17K				S			Sb	23 05 11.3	-0.8
	baz=156								
CHGN	Chignik	2.29	276	Pn			Pn	23 04 38.9	-0.7
CHGN					IAML			23 05 22.4	
	comp=N,200nm,0.7s								
CHGN					IAML			23 05 24.7	
	comp=E,201nm,0.7s								
KVTA	Katmai Vly 10	2.30	347				Pn	23 04 39.9	+0.2
KAHG	Katmai Hook Gl	2.36	357				Pn	23 04 40.8	+0.2
KAHC	Katmai Hardscr	2.54	352				Pn	23 04 42.6	-0.4
KAHC	Katmai Hardscr	2.54	352	P			Pn	23 04 42.8	-0.2
	baz=169								
Q18K	Katmai Hardscr	2.54	352	P			Pn	23 04 42.6	-0.4
	baz=169								
Q20K	Shuyak Island	2.68	22	P			Pn	23 04 44.8	-0.1
	baz=201								
SYI	Shuyak Island	2.68	22	Pn			Pn	23 04 44.6	-0.3
SYI					IAML			23 05 34.3	
	comp=N,137nm,1.2s								
SYI					IAML			23 05 37.7	
	comp=E,166nm,1.1s								
Q19K	Cape Douglas,	2.81	7	Pn			Pn	23 04 47.0	+0.3
Q19K	Cape Douglas,	2.81	7	P			Pn	23 04 47.3	+0.6
	baz=186								
S14K	Fog Glacier	2.93	275	P			Pn	23 04 49.3	+0.9
	baz=92								
VNFG	Fog Glacier, M	2.93	275	Pn			Pn	23 04 48.5	+0.1
P17K	Kvichak River	3.26	340				Pn	23 04 51.8	-1.1
P17K	Kvichak River	3.26	340	P			Pn	23 04 51.8	-1.1
	baz=157								
P18K	Big Mountain,	3.29	352				Pn	23 04 53.0	-0.4
P18K	Big Mountain,	3.29	352	P			Pn	23 04 52.8	-0.5
	baz=170								
P16K	Nushagak River	3.50	327				Pn	23 04 55.3	-0.9
P16K	Nushagak River	3.50	327	P			Pn	23 04 58.2	+2.1
	baz=143								
P19K	Oil Pt	3.56	9	Pn			Pn	23 04 57.1	+0.1
P19K					IAML			23 05 57.0	
	comp=N,97nm,0.6s								
P19K	Oil Pt	3.56	9	P			Pn	23 04 57.4	+0.3
	baz=188								
SDPT	Sand Point	3.57	260				Pn	23 04 57.0	-0.2
O18K	Koktuh Hills	3.75	353				Pn	23 04 59.3	-0.3
O18K					IAML			23 06 05.8	
	comp=E,51nm,0.9s								
O18K					IAML			23 06 08.0	
	comp=N,49nm,1.2s								
O18K	Koktuh Hills	3.75	353	P			Pn	23 04 59.5	-0.1
	baz=171								
CNPM	China Poot	3.77	25				Pn	23 04 59.6	-0.3
CNPM					IAML			23 06 12.3	
	comp=N,67nm,1.2s								
CNPM					IAML			23 06 15.6	
	comp=E,54nm,1.4s								
ILS	Iliamna Low So	3.88	9				Pn	23 05 01.3	-0.1
ILSW	Iliamna Southw	3.90	9				Pn	23 05 01.5	-0.3
O16K	Kokwok River B	4.00	331	Pn			Pn	23 05 02.8	-0.3
O16K					IAML			23 06 20.0	
	comp=E,41nm,1.3s								
O20K	Slope Mountain	4.05	12				Pn	23 05 04.2	+0.4
O20K	Slope Mountain	4.05	12	P			Pn	23 05 04.2	+0.4
	baz=192								
BRLK	Bradley Lake	4.06	25	Pn			Pn	23 05 02.9	-1.0
BRLK					IAML			23 06 22.7	
	comp=E,43nm,0.8s								
BRSE	Bradley Lake S	4.08	26				Pn	23 05 03.5	-0.6
BRSE	Bradley Lake S	4.08	26	P			Pn	23 05 03.5	-0.6
	baz=208								
O15K	Ungalikthiuk R	4.24	318				Pn	23 05 05.8	-0.5
O15K	Ungalikthiuk R	4.24	318	P			Pn	23 05 05.8	-0.5
	baz=133								
PN7A	Pavlof North-7	4.39	264				Pn	23 05 08.7	+0.2
RSO	Redoubt South	4.41	10	Pn			Pn	23 05 09.0	+0.2
N18K	Kilae Creek	4.62	350				Pn	23 05 11.2	-0.4
N18K					IAML			23 06 28.8	
	comp=E,27nm,1.2s								
N18K	Kilae Creek	4.62	350	P			Pn	23 05 11.2	-0.4
	baz=168								
N17K	Nushagak Hills	4.64	342				Pn	23 05 10.7	-1.2
N17K					IAML			23 06 33.9	
	comp=N,26nm,3.0s								
N17K					IAML			23 06 36.7	
	comp=E,28nm,1.3s								
N19K	Bonanza Creek	4.68	359				Pn	23 05 12.2	-0.2
N19K					IAML			23 06 44.2	
	comp=N,28nm,1.6s								
N19K					IAML			23 06 51.7	
	comp=E,31nm,0.9s								
N19K	Bonanza Creek	4.68	359	P			Pn	23 05 12.4	-0.1
	baz=178								
O14K	Tigyukauivet M	4.86	313				Pn	23 05 14.1	-0.6
O14K					IAML			23 06 22.6	
	comp=E,27nm,4.5s								
O14K					IAML			23 06 50.8	
	comp=N,33nm,1.1s								
O14K	Tigyukauivet M	4.86	313	P			Pn	23 05 14.4	-0.4
	baz=127								
SVW2	Sparrevohn	5.01	353				Pn	23 05 16.5	-0.4
SVW2					IAML			23 06 52.0	
	comp=E,28nm,1.5s								
N15K	Kwethluk River	5.06	325				Pn	23 05 17.3	-0.3
N15K					IAML			23 06 28.5	
	comp=E,38nm,4.0s								
N15K					IAML			23 06 46.6	
	comp=N,35nm,1.0s								
N15K	Kwethluk River	5.06	325	P			Pn	23 05 20.3	+2.7
	baz=140								
M16K	Timber Creek	5.46	336				Pn	23 05 22.2	-0.9
M17K	Holitna River	5.51	344				Pn	23 05 23.1	-0.7
SUA	Susitna One	5.64	18				Pn	23 05 25.3	-0.4
HIN	Hinchinbrook I	5.93	41	Pn			Pn	23 05 28.2	-1.4
L19K	White Mountain	6.06	358	Pn			Pn	23 05 31.7	+0.4
M14K	Bethel	6.11	322				Pn	23 05 32.2	+0.2
FID	Port Fidalgo	6.18	38	Pn			Pn	23 05 30.7	-2.3
L16K	Owhat River	6.18	337	Pn			Pn	23 05 33.1	+0.1
L18K	Granite Mounta	6.21	350	Pn			Pn	23 05 33.0	-0.4
GHO	Glory Hole Cre	6.29	24				Pn	23 05 35.0	+0.4
KAIM	Kayak Island	6.48	50	Pn			Pn	23 05 36.4	-0.7
RAGM	Ragged Mountai	6.63	46	Pn			Pn	23 05 37.7	-1.4
SCM	Sheep Creek Mo	6.75	29	Pn			Pn	23 05 39.9	-0.9
L14K	Kuka Creek	6.78	324				Pn	23 05 43.7	+2.5
SUCK	Suckling Hills	6.83	50	Pn			Pn	23 05 41.1	-0.7
TTA	Tatalina	6.86	353	Pn			Pn	23 05 42.5	+0.2
TGL	Tana Glacier	7.59	48	Pn			Pn	23 05 51.8	-0.6
GLB	Gilahina Butte	7.61	41	Pn			Pn	23 05 51.1	-1.5
J16K	Anvik River	7.83	339				Pn	23 05 56.5	+1.0
GRNC	Granite Creek	8.03	50	Pn			Pn	23 05 57.6	-0.9
LOGN	Logan Glacier	8.40	51	Pn			Pn	23 06 02.4	-1.2
HDA	Harding Lake	9.05	21	Pn			Pn	23 06 12.5	+0.2
MLY	Manley	9.08	10	Pn			Pn	23 06 11.6	-1.2
ILAR	Eielson Array	9.39	20	Pn			Pn	23 06 13.4	-3.5
	comp=N,0.7nm,0.5s,baz=283,slow=16,SNR=1.4								
ILAR						Sn	Sn	23 07 57.5	-4.0
	comp=N,0.1nm,0.3s,baz=207,slow=23,SNR=3.3								
P29M	Windy Craggy	9.49	62	Pn			Pn	23 06 18.1	-0.2
IMAR	Indian Mountai	9.87	1	Pn			Pn	23 06 23.1	-0.4
BMAR	Burnt Mountain	12.20	18	Pn			Pn	23 06 53.9	-1.4
E29M	Blow River	14.39	25	Pn			Pn	23 07 26.6	+1.5
D27M	Malcolm River	14.44	19	Pn			Pn	23 07 27.3	+1.4
INK	Inuvik	15.45	30	Pn			Pn	23 07 41.0	+1.7
INK					IAmb		IAmb	23 08 01.6	
	comp=Z,2.4nm,1.0s								
INK	Inuvik	15.45	30	Pn			Pn	23 07 41.2	+1.9
	comp=Z,0.3nm,0.3s,baz=218,slow=10.0,SNR=11								
	comp=Z,0.8nm,0.4s								
C36M	Paulatuk	18.85	34	P			P	23 08 21.3	+0.2
C36M					IAmb		IAmb	23 08 23.4	
	comp=Z,3.0nm,0.7s								
YKA	Yellowknife Ar	20.95	56	P			P	23 08 44.6	+0.6
YKA	Yellowknife Ar	20.95	56	P			Pn	23 08 46.0	-0.7
	comp=Z,0.6nm,0.6s,baz=272,slow=10,SNR=9.2								
	comp=Z,0.6nm,0.6s								
PDAR	Pinedale Array	31.43	96	P			P	23 10 24.7	+2.1
	comp=Z,0.2nm,0.4s,baz=320,slow=9.4,SNR=1.9								
	comp=Z,0.2nm,0.4s								
SPITS	Spitsbergen Ar	45.81	3	P			P	23 12 21.9	-0.5
	comp=Z,8.0nm,0.9s,baz=336,slow=3.2,SNR=6.4								
	comp=Z,8.0nm,0.9s								
NRIK	Norilʹsk	47.07	335	P			P	23 12 31.4	-0.9
	comp=Z,2.5nm,0.4s,baz=45,slow=6.1,SNR=8.1								
	comp=Z,2.5nm,0.4s								
SONM	Songino Array	56.53	307	P			P	23 13 43.4	+0.1
	comp=Z,0.8nm,0.9s,baz=42,slow=6.2,SNR=3.8								
	comp=Z,0.8nm,0.9s								
ZALV	Zalesovo Beam	60.08	324	P			P	23 14 07.2	-0.6
	comp=Z,0.4nm,0.4s,baz=19,slow=6.2,SNR=2.3								
	comp=Z,0.4nm,0.4s								
NOA	NORSAR Array B	62.60	8	P			P	23 14 24.8	+0.1
	comp=Z,0.9nm,0.8s,baz=0.0,slow=5.8,SNR=2.2								
	comp=Z,0.9nm,0.8s								
FINES	FINESS Array B	62.75	360	P			P	23 14 25.7	0.0
	comp=Z,1.4nm,0.7s,baz=347,slow=2.5,SNR=5.0								
	comp=Z,1.4nm,0.7s								
HFS	Hagfors	63.67	7	P			P	23 14 32.3	+0.4
	comp=Z,3.2nm,1.0s,baz=354,slow=4.3,SNR=1.8								
	comp=Z,3.2nm,1.0s								
BVAR	Borovoye Array	65.15	332	P			P	23 14 41.7	+0.1
	comp=Z,0.9nm,0.5s,baz=23,slow=5.5,SNR=5.4								
	comp=Z,0.9nm,0.5s								
EKA	Eskdalemuir Ar	66.42	18	P			P	23 14 50.0	+0.2
	comp=Z,0.4nm,0.5s,baz=332,slow=5.7,SNR=1.4								
	comp=Z,0.4nm,0.5s								
MKAR	Makanchi Array	67.01	321	P			P	23 14 53.0	-0.7
	comp=Z,0.3nm,0.6s,baz=39,slow=5.6,SNR=4.5								
	comp=Z,0.3nm,0.6s								
CMAR	Chiang Mai Arr	83.81	294	P			P	23 16 29.9	-0.7
	comp=Z,0.4nm,0.5s,baz=1.0,slow=4.9,SNR=4.2								
	comp=Z,0.4nm,0.5s								
QSPA	South Pole Qui	145.93	180	PKPbc			PKPab	23 23 39.6	0.0
	comp=Z,0.5nm,0.6s,baz=17,slow=1.4,SNR=2.0								

*KRNET **27** 23:16:21.7±0.1,39°.04N×72°.60E,h12km,mb3.2*

*SOME **27** 23:16:23.4,39°.10N×72°.38E,h5km*

*NNC **27** 23:16:24.9±1.9,39°.15N×72°.28E,h0km,mb3.9,mpv3.4, Error ellipse: s-maj=14.0km s-min=8.0km az=1.0*

ISC 27 23:16:24.0±2.1,39°.1N±0°.1×72°.56E±0°.04,h10km,n25, σ≤20/39,22C-6D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.69	302	⇑*e*P			Pg	23 16 36.2	-1.3
	baz=6.0								
DRK				⇑*e*S			Sg	23 16 46.9	+0.2
	baz=6.0								
SFK	Sufi-Kurgan	1.16	39	⇓*i*P			Pb	23 16 44.5	-1.7
	baz=35								
SFK				⇓*i*S			Sg	23 17 01.3	0.0
	baz=35								
OHH	Osh	1.42	7	⇑*i*P			Pb	23 16 49.8	-0.8
	baz=6.0								
OHH				⇑*i*S			Sg	23 17 10.3	+0.6
	baz=6.0								
BTK	Batken	1.65	306	⇑*i*P			Pb	23 16 53.4	-1.1
	baz=7.0								
BTK				⇑*i*S			Sg	23 17 17.1	+0.2
	baz=7.0								
ARSB	Arslanbob	2.23	8	⇑*e*P			Pb	23 17 03.0	-1.5
	baz=7.0								
ARSB				⇑*i*S			Sb	23 17 32.9	+0.7
	baz=7.0								
TRKS	Terek-Say	2.65	336	⇑*e*P			Pn	23 17 08.3	+1.4
	baz=36								
TRKS				⇑*e*S			Sn	23 17 41.4	+2.2
	baz=36								
ARK	Arkit	2.72	351	⇓*i*P			Pb	23 17 09.9	-2.9
	baz=50								
ARK				⇓*e*S			Sb	23 17 45.1	-1.2
	baz=50								
ARLS	Aral	3.05	26	⇑*i*P			Pn	23 17 14.2	+1.7
	baz=25								
ARLS				⇑*i*S			Sn	23 17 52.3	+3.1
	baz=25								
AML	Almayashu	3.13	16	⇑*i*P			Pn	23 17 15.7	+1.9
	baz=15								
AML				⇑*i*S			Sn	23 17 54.9	+3.4
	baz=15								
UCH	Uchtor	3.45	25	⇑*i*P			Pn	23 17 19.6	+1.4
	baz=24								
UCH				⇑*i*S			Sn	23 18 02.1	+2.8
	baz=24								
EKS2	Erkin-Say	3.66	14	⇑*i*P			Pn	23 17 22.5	+1.7
	baz=14								
EKS2				⇑*i*S			Sn	23 18 07.2	+3.1
	baz=14								
MRKS	Merke	3.66	8	*e*Pg			Pg	23 17 32.1	-2.1
	3.2nm,0.3s								
MRKS				*e*Lg			Lg	23 18 21.8	
	11nm,0.4s								
MRKS	Merke	3.66	8	Pg			Pb	23 17 26.2	-2.7
	5.1nm,0.6s								
MRKS				Lg			Lg	23 18 12.3	
	4.9nm,0.5s								
AAK	Ala-Archa	3.81	22	⇑*i*P			Pn	23 17 24.6	+1.7
	baz=21								
AAK				⇑*i*S			Sn	23 18 10.5	+2.6
	baz=21								
DZA	Taraz	3.89	347	*e*Pg			Pg	23 17 35.6	-2.9
	21nm,0.1s								
DZA				*e*Lg			Lg	23 18 27.8	
	31nm,0.2s								
DZA	Taraz	3.89	347	Pg			Pb	23 17 29.1	-3.6
	50nm,0.4s								
DZA				Lg			Lg	23 18 16.9	
	24nm,0.3s								
KBK	Karagaybulak	3.97	26	⇑*e*P			Pn	23 17 26.9	+1.7
	baz=26								
KBK				⇑*i*S			Sn	23 18 14.4	+2.5
	baz=26								
KKAR	Karatay Array	4.28	339	⇓*i*P			Pn	23 17 31.5	+2.3
	baz=39								
KKAR				⇓*i*S			Sn	23 18 22.4	+3.3
	baz=39								
SGDS	Sogindy	4.61	19	Pg			Pg	23 17 50.1	-2.1
	2.7nm,0.8s								
SGDS				Lg			Lg	23 18 53.4	
	4.1nm,0.7s								
KST	Kastek	4.69	32	*e*Pg			Pg	23 17 51.4	-2.5
	2.6nm,0.9s								
KST				*e*Lg			Lg	23 18 54.7	
	5.3nm,0.6s								
KST	Kastek	4.69	32	Pg			Pg	23 17 51.3	-2.5
	2.6nm,0.9s								
KST				Lg			Lg	23 18 55.9	
	5.3nm,0.6s								
DGS	Degeres	4.78	29	*e*Pg			Pg	23 17 54.2	-1.4
	4.2nm,0.7s								
DGS				*e*Lg			Lg	23 18 59.3	
	3.5nm,0.9s								
DGS	Degeres	4.78	29	Pg			Pg	23 17 54.2	-1.4
	4.2nm,0

MYLDM	**Lahad Datu**	**7.81**	**271**	Pn	**Pn**	**23 35 59.4**	**-0.8**
MPSI	**Mapaga**	**7.98**	**234**	P	**Pn**	**23 36 04.7**	**+2.1**
	13nm,0.8s,0.1nm						
NLAI	**Namlea**	**8.31**	**175**	P	**Pn**	**23 36 06.0**	**-1.2**
	36nm,0.7s						
FAKI	**Fak Fak**	**9.91**	**143**	Pn	**Pn**	**23 36 27.0**	**-2.1**
FAKI	**Fak Fak**	**9.91**	**143**	P	**Pn**	**23 36 28.9**	**-0.1**
	21nm,1.1s						
KAPI	**Kappang**	**12.00**	**213**	P	**Pn**	**23 36 57.0**	**-0.5**
	3.9nm,0.4s,baz=30,slow=14,SNR=1.1						
KAPI				LR	LR	23 41 41.1	
	comp=Z,151nm,21.8s,baz=52,slow=38						
MTKI	**Muara Teweh, K**	**12.90**	**243**	P	**Pn**	**23 37 10.1**	**+0.2**
SBUM	**Sibu**	**14.33**	**260**	Pn	**Pn**	**23 37 26.8**	**-1.9**
SOEI	**Soe**	**14.89**	**188**	Pn	**Pn**	**23 37 36.6**	**+0.5**
JAGI	**Jajag, Banyuwa**	**18.14**	**222**	P	**P**	**23 38 15.5**	**-0.6**
JAGI				IAmb	IAmb	23 38 30.4	
	comp=Z,57nm,1.5s						
MTN	**Manton Dam**	**18.44**	**165**	P	**P**	**23 38 18.3**	**-1.0**
MTN				IAmb	IAmb	23 38 26.5	
	comp=Z,29nm,1.4s						
KNRA	**Kununurra**	**20.77**	**173**	P	**P**	**23 38 45.2**	**+0.5**
JOW	**Kunigami**	**21.70**	**5**	LR	LR	23 46 18.1	
	comp=Z,47nm,20.2s,baz=38,slow=33						
FITZ	**Fitzroy Crossi**	**23.05**	**182**	P	**P**	**23 39 08.8**	**-0.1**
PMG	**Port Moresby**	**25.26**	**125**	LR	LR	23 49 50.0	
	comp=Z,28nm,18.6s,baz=294,slow=37						
WB0	**Warramunga Arr**	**25.94**	**162**	P	**P**	**23 39 36.6**	**+1.4**
WB0				IAmb	IAmb	23 39 41.4	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**26.09**	**163**	P	**P**	**23 39 36.8**	**+0.2**
WRA	**Warramunga Arr**	**26.09**	**163**	P	**P**	**23 39 36.4**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=339,slow=10,SNR=46						
WRA				PcP	**PcP**	**23 43 03.1**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=343,slow=2.4,SNR=1.4						
WRA				ScP	**ScP**	**23 46 36.4**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=344,slow=3.0,SNR=1.7						
	comp=Z,2.3nm,0.5s						
JCJ	**Chichijima**	**26.59**	**33**	LR	LR	23 48 48.1	
	comp=Z,40nm,21.6s,baz=42,slow=33						
MBWA	**Marble Bar**	**26.88**	**194**	P	**P**	**23 39 43.0**	**-0.7**
PSA00	**Pilbara Seismi**	**27.25**	**193**	P	**P**	**23 39 46.1**	**-0.9**
PSA00				IAmb	IAmb	23 39 48.8	
	comp=Z,12nm,0.8s						
NJ2	**Nanjing**	**27.72**	**346**	*e*P	**P**	**23 39 51.5**	**+0.4**
NJ2				pP	**pP**	**23 40 03.3**	**-4.0**
NJ2				sP	**pwP**	**23 40 08.0**	**-2.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
JNU	**Nakatsue**	**28.21**	**8**	LR	LR	23 50 33.5	
	comp=Z,50nm,21.3s,baz=188,slow=35						
AS31	**Alice Springs**	**29.52**	**166**	P	**P**	**23 40 06.9**	**-0.3**
ASAR	**Alice Springs**	**29.52**	**166**	P	**P**	**23 40 07.1**	**-0.1**
ASAR	**Alice Springs**	**29.52**	**166**	P	**P**	**23 40 07.5**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=345,slow=7.0,SNR=37						
ASAR				PcP	**PcP**	**23 43 09.6**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=336,slow=2.0,SNR=2.1						
ASAR				ScP	**ScP**	**23 46 46.5**	**-0.5**
	comp=Z,0.8nm,1.1s,baz=352,slow=3.7,SNR=2.3						
	comp=Z,1.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**29.86**	**299**	P	**P**	**23 40 10.8**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=114,slow=9.0,SNR=1.7						
	comp=Z,0.9nm,0.3s						
PZH	**PanZhiHua**	**31.71**	**315**	P	**P**	**23 40 29.0**	**+2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.6s						
LYN	**LuoYang**	**32.01**	**338**	⇑P	**P**	**23 40 32.3**	**+3.3**
LYN				pmax	pmax		
	comp=Z,13nm,1.0s						
TIA	**Tai'an**	**32.11**	**346**	*e*P	P	23 40 15.3	-15
TIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KSRS	**Korea Array**	**32.24**	**2**	P	**P**	**23 40 31.7**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=181,slow=9.1,SNR=2.5						
	comp=Z,1.3nm,0.7s						
XAN	**Xi'an**	**33.03**	**333**	⇓P	**P**	**23 40 42.0**	**+3.9**
XAN				pP	pP	23 40 44.3	-10
XAN				pmax	pmax		
	comp=Z,25nm,0.8s						
HNS	**HongShan**	**33.87**	**343**	⇑P	**P**	**23 40 48.3**	**+3.1**
HNS				pmax	pmax		
	comp=Z,8.0nm,1.3s						
FORT	**Forrest**	**35.70**	**177**	P	**P**	**23 41 00.1**	**-0.9**
BJI	**Beijing**	**35.98**	**347**	P	**P**	**23 41 05.5**	**+2.2**
BJI				pP	**pP**	**23 41 16.0**	**-3.8**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BJI				pmax	pmax		
	comp=Z,47nm,4.8s						
LZH	**Lanzhou**	**37.14**	**329**	*e*P	P	23 41 19.3	+5.8
LZH				pP	pP	23 41 27.5	-2.4
LZH				pmax	pmax		
	comp=Z,18nm,1.5s						
HHC	**Hu-ho-hao-te**	**37.99**	**342**	*e*P	**P**	**23 41 21.8**	**+1.2**
HHC				pmax	pmax		
	comp=Z,27nm,0.7s						
HHC				pmax	pmax		
	comp=Z,150nm,5.6s						
EIDS	**Eidsvold**	**38.66**	**143**	P	**P**	**23 41 26.8**	**+0.5**
EIDS				IAmb	IAmb	23 41 33.3	
	comp=Z,11nm,1.4s						
NWAO	**Narrogin (SRO)**	**38.78**	**192**	P	**P**	**23 41 27.4**	**+0.3**
BBOO	**Buckleboo**	**38.81**	**167**	P	**P**	**23 41 27.7**	**+0.3**
BBOO				IAmb	IAmb	23 41 29.0	
	comp=Z,8.4nm,0.8s						
USA0B	**Ussuriysk Arra**	**39.27**	**6**	P	**P**	**23 41 29.6**	**-1.4**
USA0B				IAmb	IAmb	23 41 40.5	
	comp=Z,11nm,1.1s						
USRK	**Ussuriysk Ar.**	**39.27**	**6**	P	**P**	**23 41 30.3**	**-0.7**
USRK	**Ussuriysk Ar.**	**39.27**	**6**	P	**P**	**23 41 31.5**	**+0.5**
	comp=Z,3.8nm,0.6s,baz=190,slow=6.3,SNR=9.3						
	comp=Z,3.8nm,0.6s						
MDJ	**Mudanjiang**	**39.47**	**4**	P	**P**	**23 41 33.8**	**+1.1**
MDJ				pP	pP	23 41 46.5	-2.7
MDJ				sP	pwP	23 41 51.8	-1.1
MDJ				PP	**PP**	**23 43 06.0**	**+1.4**
MDJ				PcP	**PcP**	**23 43 38.5**	**-0.9**
MDJ				PcS	**PcS**	**23 47 28.5**	**-0.7**
MDJ				S	**S**	**23 47 35.5**	**+5.9**
MDJ				SS	**SnSn**	**23 50 32.0**	**+0.2**
MDJ	**Mudanjiang**	**39.47**	**4**	ScS	ScS	23 51 36.8	+2.7
MDJ				pmax	pmax		
	comp=Z,13nm,2.4s						
MDJ				pmax	pmax		
	comp=Z,260nm,3.6s						
MDJ				LR	LR		
	comp=N,570nm,19.9s						
MDJ				LR	LR		
	comp=E,1μm,17.9s						
MDJ				LR	LR		
	comp=Z,1μm,19.2s						
STKA	**Stephens Creek**	**39.53**	**159**	P	**P**	**23 41 33.6**	**+0.2**
STKA	**Stephens Creek**	**39.53**	**159**	P	**P**	**23 41 33.9**	**+0.5**
	comp=Z,5.2nm,0.6s,baz=334,slow=7.3,SNR=6.5						
	comp=Z,5.2nm,0.6s						
GTA	**Gaotai**	**41.74**	**329**	*e*P	**P**	**23 41 55.3**	**+3.6**
GTA				pP	pP	23 42 02.5	-5.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARMA	**Armidale**	**42.81**	**147**	P	**P**	**23 42 00.7**	**+0.2**
GUN	**Gumba**	**44.62**	**305**	*e*P	**P**	**23 42 15.9**	**+0.5**
ULN	**Ulaanbaatar**	**45.71**	**342**	P	**P**	**23 42 23.2**	**-0.2**
SONM	**Songino Array**	**45.89**	**341**	P	**P**	**23 42 25.0**	**+0.2**
SONM				IAmb	IAmb	23 42 31.2	
	comp=Z,5.1nm,1.1s						
SONM	**Songino Array**	**45.89**	**341**	P	**P**	**23 42 25.1**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=162,slow=8.5,SNR=10						
	comp=Z,2.5nm,0.8s						
KOLN	**Koldanda**	**46.44**	**304**	*e*P	**P**	**23 42 28.8**	**-0.8**
DANN	**Dangsing**	**46.52**	**305**	*e*P	**P**	**23 42 30.3**	**0.0**
PYUN	**Piuthan**	**47.06**	**304**	*e*P	**P**	**23 42 34.9**	**+0.5**
MK31	**Makanchi Array**	**56.22**	**325**	P	**P**	**23 43 41.1**	**-1.2**
MKAR	**Makanchi Array**	**56.22**	**325**	P	**P**	**23 43 40.7**	**-1.5**
MKAR	**Makanchi Array**	**56.22**	**325**	P	**P**	**23 43 41.2**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=117,slow=7.4,SNR=21						
	comp=Z,0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**59.21**	**333**	P	**P**	**23 44 03.1**	**+0.1**
ZALV	**Zalesovo Beam**	**59.21**	**333**	P	**P**	**23 44 03.2**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=134,slow=6.4,SNR=8.1						
	comp=Z,0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**60.39**	**327**	P	**P**	**23 44 10.6**	**-0.6**
	comp=Z,0.9nm,0.2s,baz=124,slow=6.9,SNR=7.8						
	comp=Z,0.9nm,0.2s						
KURK	**Kurchatov**	**60.39**	**327**	P	**P**	**23 44 09.3**	**-1.9**
KKAR	**Karatay Array**	**61.98**	**317**	P	**P**	**23 44 21.7**	**-0.4**
BVAR	**Borovoye Array**	**65.97**	**327**	P	**P**	**23 44 48.1**	**0.0**
	comp=Z,0.7nm,0.5s,baz=124,slow=5.3,SNR=1.6						
	comp=Z,0.7nm,0.5s						
BRVK	**Borovoye**	**66.05**	**327**	P	**P**	**23 44 47.8**	**-0.7**
BRVK				IAmb	IAmb	23 44 56.4	
	comp=Z,4.1nm,0.8s						
TIXI	**Tiksi**	**66.50**	**1**	P	**P**	**23 44 50.2**	**-0.9**
NRIK	**Noril'sk**	**69.02**	**346**	P	**P**	**23 45 06.8**	**-0.2**
NRIK				IAmb	IAmb	23 45 10.8	
	comp=Z,2.9nm,0.8s						
NRIK	**Noril'sk**	**69.02**	**346**	P	**P**	**23 45 07.9**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=124,slow=5.4,SNR=8.0						
	comp=Z,2.4nm,0.7s						
ABKAR	**Akbulak array**	**70.86**	**321**	P	**P**	**23 45 17.9**	**-0.8**
AKTO	**Aktyubinsk**	**72.36**	**321**	P	**P**	**23 45 27.4**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=82,slow=6.0,SNR=5.0						
	comp=Z,1.1nm,0.5s						
ARU	**Arti**	**73.58**	**328**	P	**P**	**23 45 33.5**	**-1.3**
ARU				IAmb	IAmb	23 45 40.2	
	comp=Z,3.3nm,0.6s						
ARU	**Arti**	**73.58**	**328**	P	**P**	**23 45 34.1**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=74,slow=3.7,SNR=2.4						
	comp=Z,0.8nm,0.3s						
H17K	**Granite Mounta**	**78.55**	**25**	P	**P**	**23 46 03.5**	**+0.7**
H17K				IAmb	IAmb	23 46 15.4	
	comp=Z,5.1nm,1.3s						
L18K	**Granite Mounta**	**79.45**	**28**	P	**P**	**23 46 08.5**	**+0.7**
TTA	**Tatalina**	**79.87**	**27**	P	**P**	**23 46 10.4**	**+0.2**
IMAR	**Indian Mountai**	**81.27**	**24**	P	**P**	**23 46 17.3**	**-0.2**
B21K	**Ikpikpuk River**	**81.44**	**20**	P	**P**	**23 46 18.8**	**+0.5**
B21K				IAmb	IAmb	23 46 22.9	
	comp=Z,5.5nm,1.1s						
CAST	**Castle Rocks**	**81.70**	**27**	P	**P**	**23 46 19.8**	**0.0**
CAST				IAmb	IAmb	23 46 40.8	
	comp=Z,5.2nm,1.4s						
SUA	**Susitna One**	**82.17**	**29**	P	**P**	**23 46 22.3**	**-0.2**
SUA				IAmb	IAmb	23 46 39.6	
	comp=Z,6.4nm,1.0s						
BPAW	**Bear Paw Mtn.**	**82.24**	**26**	P	**P**	**23 46 22.6**	**-0.1**
BPAW				IAmb	IAmb	23 46 50.5	
	comp=Z,7.3nm,1.3s						
MLY	**Manley**	**82.42**	**25**	P	**P**	**23 46 23.9**	**+0.3**
KNK	**Knik Glacier**	**83.26**	**29**	P	**P**	**23 46 26.9**	**-1.2**
KNK				IAmb	IAmb	23 46 29.5	
	comp=Z,6.8nm,1.1s						
ILAR	**Eielson Array**	**84.05**	**25**	P	**P**	**23 46 30.2**	**-1.8**
VNDA	**Vanda**	**84.82**	**173**	P	**P**	**23 46 36.6**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=350,slow=6.1,SNR=5.1						
	comp=Z,0.7nm,0.7s						
BMAR	**Burnt Mountain**	**84.98**	**23**	P	**P**	**23 46 37.4**	**+0.7**
F28M	**Old Crow**	**86.78**	**23**	P	**P**	**23 46 45.5**	**0.0**
F28M				IAmb	IAmb	23 47 02.3	
	comp=Z,4.2nm,1.1s						
ARCES	**ARCESS Array B**	**89.04**	**340**	P	**P**	**23 46 56.0**	**-0.3**
ARCES	**ARCESS Array B**	**89.04**	**340**	P	**P**	**23 46 54.9**	**-1.4**
	comp=Z,5.2nm,0.9s,baz=63,slow=3.0,SNR=7.6						
	comp=Z,5.2nm,0.9s						
FINES	**FINESS Array B**	**90.45**	**332**	P	**P**	**23 47 02.5**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=57,slow=7.0,SNR=7.8						
	comp=Z,1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**122.12**	**289**	PKP	**PKPdf**	**23 52 56.9**	**0.0**
	comp=Z,0.4nm,0.6s,baz=35,slow=3.2,SNR=2.6						

NEIC 27 23:50:37.6±1.4, 31.18N±0.02×103.33W±0.02, h5km±2km, mb_Lg2.7/9, ML2.6/44, Error ellipse: s-maj=4.8km s-min=3.1km az=134.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.49**	**292**		Pg	23 50 45.9	-1.2
PECS				IAML		23 50 58.3	
	526nm,0.4s						
PECS				IAML		23 51 01.0	
	314nm,0.7s						
MNHN	**Monahans**	**0.51**	**72**	Pg	Pg	23 50 46.0	-1.5
MNHN				Sg	Sg	23 50 53.4	-0.7
MNHN				IAML		23 50 58.2	
	473nm,0.5s						
MNHN				IAML		23 51 00.8	
	416nm,0.6s						
ALPN	**Alpine**	**0.85**	**198**		Pg	23 50 52.0	-1.8
ALPN				Sg	Sg	23 51 03.8	-1.1
ALPN				IAML		23 51 10.6	
	132nm,0.2s						
ALPN				IAML		23 51 11.7	
	130nm,0.3s						
ODSA	**Odessa**	**1.15**	**35**		Pg	23 50 57.4	-2.2
ODSA				IAML		23 51 14.9	
	120nm,0.6s						
ODSA				IAML		23 51 31.1	
	188nm,0.7s						
CLNB	**Carlsbad**	**1.17**	**337**	Pg	Pg	23 50 59.2	-0.9
CLN7	**Carlsbad 7**	**1.29**	**342**	Pg	Pg	23 51 01.1	-1.3
GDL2	**Guadalupe Moun**	**1.34**	**319**		Pn	23 51 01.2	-1.9
425A	**Indio Mountain**	**1.48**	**255**		Pn	23 51 03.5	-1.4
425A				IAML		23 51 29.0	
	119nm,0.5s						
425A				IAML		23 51 29.0	
	75nm,0.3s						
SAND	**Sanderson**	**1.61**	**139**	Pg	Pn	23 51 05.7	-1.0
SAND				IAmb_Lg		23 51 31.2	
	comp=Z,29nm,0.8s						
SAND				IAML		23 51 32.5	
	comp=Z,100nm,0.6s						
SAND				IAML		23 51 32.6	
	comp=Z,147nm,0.3s						
TX31	**Lajitas Ar. Si**	**1.87**	**189**		Pn	23 51 09.9	-0.4
TXAR	**Lajitas Array**	**1.87**	**189**		Pn	23 51 09.9	-0.4
OZNA	**Ozona**	**1.91**	**97**		Pn	23 51 10.8	0.0
OZNA				IAML		23 51 37.6	
	comp=Z,88nm,0.4s						
OZNA				IAML		23 51 40.6	
	comp=Z,66nm,0.6s						
SGCY	**Sterling City**	**2.02**	**68**	Pn	Pn	23 51 11.9	-0.4
SGCY				IAmb_Lg		23 51 44.6	
	comp=Z,27nm,1.0s						
SGCY				IAML		23 51 44.8	
	comp=Z,77nm,0.7s						
SGCY				IAML		23 51 46.3	
	comp=Z,102nm,0.6s						
POST	**Post**	**2.44**	**39**	Pn	Pn	23 51 17.3	-0.8
POST				IAML		23 51 53.8	
	comp=Z,95nm,0.7s						
POST				IAmb_Lg		23 51 54.4	
	comp=Z,48nm,1.3s						
POST				IAML		23 51 56.1	
	comp=Z,84nm,0.6s						
SN01	**Snyder 1**	**2.66**	**50**		Pn	23 51 21.0	-0.2
SN01				IAML		23 52 05.5	
	comp=Z,110nm,0.3s						
SN01				IAML		23 52 06.5	
	comp=Z,92nm,0.5s						
MSTX	**Muleshoe**	**2.82**	**9**		Pn	23 51 23.8	+0.4
DRIO	**Del Rio**	**2.93**	**126**		Pn	23 51 25.4	+0.6
DRIO				IAML		23 52 10.8	
	comp=Z,82nm,0.3s						
DRIO				IAmb_Lg		23 52 13.2	
	comp=Z,49nm,0.7s						
DRIO				IAML		23 52 13.8	
	comp=Z,65nm,0.4s						
JCT	**Junction City**	**3.12**	**102**		Pn	23 51 27.4	0.0
DKNS	**Dickens**	**3.21**	**39**		Pn	23 51 27.9	-0.7
DKNS				IAmb_Lg		23 52 19.7	
	comp=Z,18nm,0.7s						
DKNS				IAML		23 52 24.6	
	comp=Z,68nm,0.7s						
DKNS				IAML		23 52 27.6	
	comp=Z,60nm,0.6s						
ABTX	**Abilene, Hawle**	**3.45**	**64**		Pn	23 51 31.6	-0.4
APMT	**Aspermont**	**3.46**	**51**		Pn	23 51 31.4	-0.7
APMT				IAML		23 52 31.9	
	comp=Z,78nm,0.5s						
APMT				IAML		23 52 31.0	
	comp=Z,74nm,0.4s						
APMT				IAmb_Lg		23 52 36.8	
	comp=Z,18nm,0.7s						
BRDY	**Brady**	**3.71**	**87**		Pn	23 51 35.8	+0.2
BRDY				IAML		23 52 39.0	
	comp=Z,18nm,0.5s						
BRDY				IAML		23 52 39.2	
	comp=Z,31nm,0.7s						
HNDO	**Hondo**	**3.87**	**114**		Pn	23 51 37.8	0.0
HNDO				IAML		23 52 45.0	
	comp=Z,36nm,0.7s						
HNDO				IAML		23 52 46.8	
	comp=Z,30nm,0.5s						
AMTX	**Amarillo**	**3.94**	**20**		Pn	23 51 39.1	+0.2
121A	**Cookes Peak, D**	**4.02**	**291**	Pn	Pn	23 51 39.5	-0.5
PLPT	**Palo Pinto**	**4.56**	**68**		Pn	23 51 46.1	-1.2
PLPT				IAML		23 53 05.3	
	comp=Z,45nm,0.6s						
PLPT				IAML		23 53 07.4	
	comp=Z,36nm,0.6s						
WTFS	**Witchita Falls**	**4.85**	**57**		Pn	23 51 51.0	-0.2
WTFS				IAML		23 52 55.8	
	comp=Z,36nm,4.9s						
WTFS				IAML		23 53 18.0	
	comp=Z,26nm,0.6s						
Z35A	**Perchaven, San**	**5.58**	**66**	IAmb_Lg		23 53 48.8	
	comp=Z,14nm,0.8s						

NNC 27 23:53:58.4±0.7, 45.00N×80.74E, h2km±4km, mb3.9, mpv3.6, Error ellipse: s-maj=7.4km s-min=2.7km az=123.0
SOME 27 23:53:59.1, 44.93N×80.75E, h10km

ISC 27 23:53:57.9±1.8, 44.95N±0.05×80.80E±0.06, h0km±14km, n42, σ0°83/50, 5C-6D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.95**	**230**	*e*P	**Pb**	**23 54 17.3**	**0.0**
	101nm,0.2s						
DJR				*e*S	**Sb**	**23 54 30.1**	**-0.4**
	139nm,0.4s						
DJR	**Jarkent**	**0.95**	**230**	P	**Pb**	**23 54 17.3**	**0.0**
	101nm,0.2s						
DJR				S	**Sb**	**23 54 30.1**	**-0.4**
	139nm,0.4s						
KNOS	**Konyrlen**	**1.30**	**243**	P	**Pn**	**23 54 23.3**	**-0.2**
	162nm,0.3s						
KNOS				S	**Sn**	**23 54 40.8**	**-0.8**
	132nm,0.3s						
TDK	**Taldyqorghan**	**1.70**	**273**	*e*P	**Pg**	**23 54 30.3**	**-0.2**
	289nm,0.4s						
TDK				*e*S	**Sg**	**23 54 52.3**	**-0.2**
	326nm,0.4s						
TDK	**Taldyqorghan**	**1.70**	**273**	P	**Pg**	**23 54 30.3**	**-0.2**
	289nm,0.4s						
TDK				S	**Sg**	**23 54 52.3**	**-0.2**
	326nm,0.4s						
PDGK	**Podgornoye**	**1.88**	**211**	⇓Pn	**Pn**	**23 54 31.8**	**+0.5**
	3.9nm,0.3s						
PDGK				⇓Sn	**Sb**	**23 54 57.4**	**+0.2**
	407nm,0.9s						
MAKZ	**Makanchi**	**2.03**	**23**	⇓Pn	**Pn**	**23 54 33.4**	**0.0**
	2.0nm,0.2s						
MAKZ				⇓Sn	**Sn**	**23 54 59.8**	**+0.3**
	19nm,0.5s						
SHLS	**Shalkode**	**2.04**	**209**	*e*P	**Pn**	**23 54 34.3**	**+0.7**
	27nm,0.2s						
SHLS				*e*S	**Sn**	**23 54 59.0**	**-0.8**
	382nm,0.3s						
SHLS	**Shalkode**	**2.04**	**209**	P	**Pn**	**23 54 34.3**	**+0.7**
	27nm,0.2s						
SHLS				S	**Sn**	**23 54 59.0**	**-0.8**
	382nm,0.3s						
MK31	**Makanchi Array**	**2.12**	**29**	⇑Pn	**Pn**	**23 54 34.4**	**-0.2**
	2.9nm,0.3s,baz=209,slow=14,SNR=704						
MK31				⇑Sn	**Sn**	**23 55 01.1**	**-0.5**
	9.5nm,0.4s,baz=209,slow=26,SNR=12						
UZB	**Uzynbulak**	**2.21**	**216**	*e*Pg	**Pb**	**23 54 39.6**	**+0.7**
	14nm,0.2s						
UZB				*e*Lg	Lg	23 55 07.9	
	139nm,0.3s						
UZB	**Uzynbulak**	**2.21**	**216**	Pg	**Pb**	**23 54 39.6**	**+0.7**
	14nm,0.2s						
UZB				Lg	Lg	23 55 07.9	
	139nm,0.3s						
ARXS	**Arharly**	**2.25**	**252**	*e*Pg	**Pg**	**23 54 40.3**	**-0.7**
	31nm,0.3s						
ARXS				*e*Lg	Lg	23 55 09.9	
	163nm,0.2s						
ARXS	**Arharly**	**2.25**	**252**	Pg	**Pg**	**23 54 40.3**	**-0.7**
	31nm,0.3s						
ARXS				Lg	Lg	23 55 09.9	
	163nm,0.2s						
KURS	**Kuram**	**2.39**	**233**	*e*Pg	**Pb**	**23 54 42.3**	**+0.5**
	11nm,0.4s						
KURS				*e*Lg	Lg	23 55 12.8	
	90nm,0.4s						
KURS	**Kuram**	**2.39**	**233**	Pg	**Pb**	**23 54 42.3**	**+0.5**
	11nm,0.4s						
KURS				Lg	Lg	23 55 12.8	
	90nm,0.4s						
SATY	**Saty**	**2.56**	**223**	*e*Pg	**Pb**	**23 54 45.9**	**+1.1**
	18nm,0.3s						
SATY				*e*Lg	Lg	23 55 18.8	
	282nm,0.3s						
SATY	**Saty**	**2.56**	**223**	Pg	**Pb**	**23 54 45.9**	**+1.1**
	18nm,0.3s						
SATY				Lg	Lg	23 55 18.8	
	282nm,0.3s						
CHKK	**Chushkaly**	**2.94**	**249**	*e*Pg	**Pb**	**23 54 52.4**	**+1.2**
	8.0nm,0.5s						
CHKK				*e*Lg	Lg	23 55 30.3	
	95nm,0.3s						
CHKK	**Chushkaly**	**2.94**	**249**	Pg	**Pb**	**23 54 52.4**	**+1.2**
	8.0nm,0.5s						
CHKK				Lg	Lg	23 55 30.3	
	95nm,0.3s						
KOTS	**Kotyrbulak**	**3.16**	**238**	*e*Pg	**Pb**	**23 54 56.1**	**+1.1**
	10nm,0.5s						
KOTS				*e*Lg	Lg	23 55 36.5	
	76nm,0.3s						
KOTS	**Kotyrbulak**	**3.16**	**238**	Pg	**Pb**	**23 54 56.1**	**+1.1**
	10nm,0.5s						
KOTS				Lg	Lg	23 55 36.5	
	76nm,0.3s						
KTBS	**Karatobe**	**3.20**	**249**	*e*Pg	**Pb**	**23 54 56.8**	**+1.1**
	7.5nm,0.3s						
KTBS				*e*Lg	Lg	23 55 37.5	
	69nm,0.5s						
KTBS	**Karatobe**	**3.20**	**249**	Pg	**Pb**	**23 54 56.8**	**+1.1**
	7.5nm,0.3s						
KTBS				Lg	Lg	23 55 37.5	
	69nm,0.5s						
MDOK	**Medeo**	**3.24**	**238**	*e*Pg	**Pb**	**23 54 56.9**	**+0.5**
	8.2nm,0.4s						
MDOK				*e*Lg	Lg	23 55 37.9	
	27nm,0.6s						
MDOK	**Medeo**	**3.24**	**238**

	11nm,0.5s					
ZSN				Lg	Lg	23 55 54.3
	21nm,0.4s					
KST	**Kastek**	**3.98 243**	*e*Pg		**Pb**	**23 55 10.7 +1.8**
	6.6nm,0.5s					
KST			*e*Lg		Lg	23 56 01.3
	25nm,0.6s					
KST	**Kastek**	**3.98 243**	Pg		**Pb**	**23 55 10.7 +1.8**
	6.6nm,0.5s					
KST			Lg		Lg	23 56 01.3
	25nm,0.6s					
DGS	**Degeres**	**4.00 246**	*e*Pg		**Pb**	**23 55 10.1 +0.7**
	8.1nm,0.4s					
DGS			*e*Lg		Lg	23 56 00.6
	18nm,0.4s					
DGS	**Degeres**	**4.00 246**	Pg		**Pb**	**23 55 10.1 +0.7**
	8.1nm,0.4s					
DGS			Lg		Lg	23 56 00.6
	18nm,0.4s					
KURBB	**Kurchatov Arra**	**5.88 346**	⇑Lg		Lg	23 57 06.0
	16nm,0.8s					
KURK	**Kurchatov**	**5.95 347**	⇓Lg		Lg	23 57 06.9
	8.9nm,0.8s					
KK31	**Karatay Array**	**7.64 260**	⇑Lg		Lg	23 57 59.1
	4.5nm,0.9s,baz=64,slow=26,SNR=4.5					

BJI ***27*** *23:57:59.6, 12˚.16N× 144˚.53E, h8km, mb5.1/77, mB5.4/58, Ms5.0/69, Ms7 4.7/67*

IDC ***27*** *23:58:00.2± 0.4, 12˚.09N× 144˚.34E, h0km, mb5.0/36, mbtmp5.0/38, ML5.3/2, MS4.6/58, Error ellipse: s-maj=16.1km s-min=9.9km az=77.0*

NEIC ***27*** *23:58:00.8, 12˚.02N× 144˚.40E, h24km*

MOS ***27*** *23:58:00.5± 0.8, 12˚.03N× 144˚.28E, h16km, mb5.5/82, MS4.7/10, Error ellipse: s-maj=7.7km s-min=4.2km az=110.8*

NEIC ***27*** *23:58:00.8, 12˚.02N× 144˚.40E, h24km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^17 Nm; Mrr-1.50; Mθθ1.60; Mφφ-0.10; Mrθ0.69; Mθφ0.77; Mφr0.36; Fault plane solution: M0 1.86000×10^17 NP1: φs245.47000°, δ57.36000°, λ-94.14000°. NP2: φs73.11000°, δ32.87000°, λ-83.57000°. Principal axes: T 2.0615, Plg12.0000°, Azm338.0000°; N -0.3931, Plg3.0000°, Azm248.0000°; P -1.6684, Plg77.0000°, Azm142.0000°;*

NEIC ***27*** *23:58:03.4± 1.4, 12˚.04N± 0˚.06× 144˚.37E± 0˚.08, h19km± 2km, mb5.5/193, Ms_20 5.0/87, Mww5.4/20 Error ellipse: s-maj=11.1km s-min=8.4km az=111.0*

DJA ***27*** *23:58:04.9± 0.5, 12˚N± 2˚× 14˚4E± ˚, h25km± 3km, M5.3/64, mB5.8/37, mb5.3/64, MLv5.0/1, Mw(mB)5.3/37, MwMwp5.3/10, Mwp5.5/10*

GCMT ***27*** *23:58:07.4± 0.1, 11˚.88N± 0˚.01× 144˚.28E± 0˚.01, h18km, MW5.4/138, Moment Tensor Solution. s101,c165; s138,c251; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr-1.06± .03; Mθθ1.28± .02; Mφφ-0.21± .02; Mrθ0.91± .06; Mθφ0.80± .02; Mφr0.72± .06; Best double couple: M0 1.79400×10^17 NP1: φs233.00000°, δ67.00000°, λ-105.00000°. NP2: φs87.00000°, δ28.00000°, λ-58.00000°. Principal axes: T 2.0390, Plg20.0000°, Azm334.0000°; N -0.4880, Plg14.0000°, Azm239.0000°; P -1.5490, Plg65.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 23:58:04.1± 0.4, 12˚.06N± 0˚.03× 144˚.42E± 0˚.04, h25km± 2km, h25km: pP-P, n973, σ1§43/950, mb5.4/232, MS4.8/135, 23C-21D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.58**	**16**	Pn	**Pn**	**23 58 31.5**	**+0.9**
GUMO				Sn	**Sn**	**23 58 51.0**	**+0.7**
GUMO	**Guam**	**1.58**	**16**	P	**Pb**	**23 58 32.0**	**-0.8**
GUMO	**Guam**	**1.58**	**16**	Pn	**Pn**	**23 58 31.0**	**+0.4**
	1μm,0.3s,baz=157,slow=2.4,SNR=85						
GUMO				Sn	**Sn**	**23 58 48.8**	**-1.5**
	2μm,0.3s,baz=250,slow=23,SNR=6.7						
MANU	**Manus Island**	**14.31**	**168**		**Pn**	**00 01 24.1**	**-1.2**
MANU	**Manus Island**	**14.31**	**168**	P	**Pn**	**00 01 27.6**	**+2.3**
PATS	**Pohnpei**	**14.65**	**109**	Pn	**Pn**	**00 01 26.4**	**-3.5**
JAY	**Jayapura**	**14.94**	**195**	P	**Pn**	**00 01 34.6**	**+0.8**
	43nm,1.2s,1μm						
SMPI	**Sarmi**	**15.06**	**202**	P	**Pn**	**00 01 36.9**	**+1.5**
	114nm,1.9s,3μm						
JCJ	**Chichijima**	**15.11**	**352**	Pn	**Pn**	**00 01 35.7**	**-0.2**
	6.4nm,0.3s,baz=280,slow=23,SNR=2.1						
	110nm,0.8s						
GENI	**Genyem**	**15.15**	**196**	P	**P**	**00 01 41.4**	**-0.1**
GENI	**Genyem**	**15.15**	**196**	P	**Pn**	**00 01 38.0**	**+1.3**
	118nm,1.2s,4μm6μm						
TABU	**Tabubil**	**17.50**	**191**	P	**P**	**00 02 10.2**	**+2.5**
SWI	**Sorong**	**18.32**	**226**	P	**Pn**	**00 02 17.5**	**+0.9**
	68nm,1.3s,2μm3μm						
JMZ	**Minamidaito 2**	**18.50**	**320**	P	**Pn**	**00 02 18.6**	**-0.1**
JMZ				IAmb	IAmb	00 02 27.9	
	comp=Z,351nm,1.2s						
KMPI	**Kaimana, Papua**	**18.90**	**215**	P	**Pn**	**00 02 24.5**	**+0.8**
	comp=Z,160nm,1.0s,comp=Z,3μmcomp=Z,4μm						
FAKI	**Fak Fak**	**19.17**	**220**	P	**P**	**00 02 25.4**	**-0.6**
FAKI	**Fak Fak**	**19.17**	**220**	P	**Pn**	**00 02 28.3**	**+1.3**
FAKI	**Fak Fak**	**19.17**	**220**	P	**P**	**00 02 26.1**	**+0.1**
	comp=Z,101nm,1.1s,comp=Z,2μm						
DAV	**Davao City (W)**	**19.22**	**257**	P	**P**	**00 02 26.4**	**-0.1**
DAV	**Davao City (W)**	**19.22**	**257**	P	**P**	**00 02 24.4**	**-2.1**
	comp=Z,16nm,0.3s,baz=67,slow=13,SNR=1.4						
DAV				LR	LR	00 11 22.1	
	comp=Z,715nm,19.2s,baz=97,slow=42						
	comp=Z,97nm,0.5s						
TNTI	**Ternate**	**20.29**	**238**	P	**P**	**00 02 36.3**	**-2.0**
TNTI	**Ternate**	**20.29**	**238**	P	**P**	**00 02 38.7**	**+0.5**
	comp=Z,64nm,0.7s,comp=Z,4μm						
MMPI	**Merauke**	**20.78**	**191**	P	**P**	**00 02 40.3**	**-3.2**
LBMI	**Labuha**	**21.00**	**234**	P	**P**	**00 02 46.6**	**+0.6**
	comp=Z,190nm,1.3s,comp=Z,3μm						
JOW	**Kunigami**	**21.12**	**316**	P	**P**	**00 02 47.0**	**-0.1**
JOW				IAmb	IAmb	00 02 51.4	
	comp=Z,148nm,0.6s						
JOW	**Kunigami**	**21.12**	**316**	P	**P**	**00 02 47.9**	**+0.8**
JOW	**Kunigami**	**21.12**	**316**	P	**P**	**00 02 47.4**	**+0.3**
	comp=Z,135nm,0.6s,baz=154,slow=10,SNR=36						
JOW				LR	LR	00 10 55.8	
	comp=Z,1μm,19.7s,baz=140,slow=37						
	comp=Z,135nm,0.6s						
JHJ	**Hachijo jima 2**	**21.39**	**349**	LR	LR	00 08 54.5	
	comp=Z,993nm,21.6s,baz=294,slow=31						
PMG	**Port Moresby**	**21.50**	**173**	P	**P**	**00 02 49.2**	**-2.0**
PMG	**Port Moresby**	**21.50**	**173**	P	**P**	**00 02 51.4**	**+0.2**
PMG	**Port Moresby**	**21.50**	**173**	P	**P**	**00 02 51.3**	**+0.1**
PMG	**Port Moresby**	**21.50**	**173**	P	**P**	**00 02 50.2**	**-0.9**
	comp=Z,8.7nm,0.4s,baz=358,slow=8.3,SNR=10						
PMG				LR	LR	00 10 55.6	
	comp=Z,2μm,19.1s,baz=346,slow=36						
	comp=Z,8.7nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**22.41**	**71**	T	T	00 26 32.4	
	baz=261,slow=75						
H11S1	**WAKE ISLAND Hy**	**22.42**	**71**	T	T	00 26 24.1	
	baz=261,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**22.42**	**71**	T	T	00 26 25.4	
	baz=261,slow=75						
WAKE	**Wake Island**	**22.57**	**69**	P	**P**	**00 03 02.4**	**-0.3**
WAKE	**Wake Island**	**22.57**	**69**	P	**P**	**00 03 07.3**	**+4.6**
H11N1	**WAKE ISLAND Hy**	**22.90**	**68**	T	T	00 26 55.8	
	baz=252						
H11N2	**WAKE ISLAND Hy**	**22.91**	**68**	T	T	00 27 59.6	
	baz=252,slow=74						
H11N3	**WAKE ISLAND Hy**	**22.92**	**68**	T	T	00 26 57.5	
	baz=252,slow=74,SNR=19						
TGY	**Tagaytay City**	**22.96**	**278**	LR	LR	00 12 05.6	
	comp=Z,1μm,19.0s,baz=100,slow=37						
NLAI	**Namlea**	**22.96**	**230**	P	**P**	**00 03 07.6**	**+0.7**
	comp=Z,10nm,0.8s,comp=Z,6μmcomp=Z,982μm						
SANI	**Sanana**	**23.06**	**234**	P	**P**	**00 03 10.7**	**+2.8**
SANI	**Sanana**	**23.06**	**234**	P	**P**	**00 03 06.4**	**-1.5**
	comp=Z,25nm,1.5s,comp=Z,1μm						
KMSI	**Cibinong**	**23.27**	**242**	P	**P**	**00 03 11.8**	**+1.8**
	comp=Z,370nm,0.8s						
JMN	**Monobe**	**23.62**	**338**	P	**P**	**00 03 12.6**	**-0.7**
JMN				IAmb	IAmb	00 03 14.4	
	comp=Z,264nm,1.7s						
JMN	**Monobe**	**23.62**	**338**	P	**P**	**00 03 13.1**	**-0.2**
SAUI	**Saumlaki**	**23.80**	**214**	P	**P**	**00 03 14.6**	**-0.6**
SAUI	**Saumlaki**	**23.80**	**214**	P	**P**	**00 03 16.2**	**+1.1**
	comp=Z,148nm,1.1s,comp=Z,19μm						
GTOI	**Gorontalo**	**24.08**	**243**	P	**P**	**00 03 17.9**	**+0.1**
	comp=Z,32nm,1.3s,comp=Z,692nm						
JNU	**Nakatsue**	**24.36**	**332**	P	**P**	**00 03 19.1**	**-1.1**
JNU	**Nakatsue**	**24.36**	**332**	P	**P**	**00 03 21.3**	**+1.1**
YULB	**Yu-li**	**24.70**	**300**	P	**P**	**00 03 22.2**	**-1.1**
YULB	**Yu-li**	**24.70**	**300**	P	**P**	**00 03 25.2**	**+1.8**
NACB	**Ninganchiao**	**24.77**	**302**	P	**P**	**00 03 21.9**	**-2.0**
NACB				IAmb	IAmb	00 03 29.7	
	comp=Z,233nm,2.0s						
MJAR	**Matsushiro Arr**	**25.01**	**348**	P	**P**	**00 03 24.2**	**-1.9**
	comp=Z,19nm,0.7s,baz=166,slow=9.7,SNR=21						
MJAR				PcP	**PcP**	**00 07 01.9**	**+1.1**
	comp=Z,2.5nm,0.6s,baz=160,slow=3.6,SNR=3.1						
MJAR				LR	LR	00 12 46.7	
	comp=Z,1μm,18.7s,baz=160,slow=36						
	comp=Z,19nm,0.7s						
MAJO	**Matsushiro**	**25.01**	**348**	P	**P**	**00 03 25.0**	**-1.1**
MAJO				IAmb	IAmb	00 03 45.7	
	comp=Z,194nm,1.7s						
MAJO	**Matsushiro**	**25.01**	**348**	P	**P**	**00 03 27.6**	**+1.5**
MAJO	**Matsushiro**	**25.01**	**348**	*i* P	**P**	**00 03 25.4**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,24nm,0.6s						
MJB9	**Matsu-Tunnel**	**25.02**	**348**	P	**P**	**00 03 25.8**	**-0.4**
MJB9				IAmb	IAmb	00 03 46.7	
	comp=Z,192nm,1.7s						
MRSI	**Marisa**	**25.09**	**244**	P	**P**	**00 03 27.7**	**+0.7**
	comp=Z,137nm,1.2s,comp=Z,2μm						
LUWI	**Luwuk**	**25.13**	**240**	P	**P**	**00 03 26.2**	**-1.2**
LUWI	**Luwuk**	**25.13**	**240**	P	**P**	**00 03 28.9**	**+1.6**
LUWI	**Luwuk**	**25.13**	**240**	P	**P**	**00 03 26.5**	**-0.8**
	comp=Z,271nm,1.0s,comp=Z,6μmcomp=Z,4μm						
SSLB	**Suanglung**	**25.14**	**301**	P	**P**	**00 03 26.4**	**-1.1**
SSLB				IAmb	IAmb	00 03 49.7	
	comp=Z,77nm,1.0s						
SSLB	**Suanglung**	**25.14**	**301**	P	**P**	**00 03 28.9**	**+1.5**
TATO	**Taipei**	**25.20**	**304**	IAMs_20	IAMs_20	00 11 07.8	
	comp=Z,3μm,22.0s						
TPUB	**Ta-pu**	**25.23**	**300**	P	**P**	**00 03 28.2**	**0.0**
TOLI2	**Tolitoli**	**25.84**	**247**	P	**P**	**00 03 32.3**	**-1.5**
TOLI2	**Tolitoli**	**25.84**	**247**	P	**P**	**00 03 36.2**	**+2.4**
JMM	**Marumori**	**25.90**	**353**	P	**P**	**00 03 32.8**	**-1.3**
MYLDM	**Lahad Datu**	**26.50**	**257**	P	**P**	**00 03 40.0**	**+0.1**
MYLDM				IAmb	IAmb	00 04 18.9	
	comp=Z,106nm,1.0s						
MPSI	**Mapaga**	**26.97**	**246**	P	**P**	**00 03 43.2**	**-0.8**
	comp=Z,22nm,1.0s,comp=Z,2μm						
KDU	**Kakadu**	**27.29**	**206**	P	**P**	**00 03 49.2**	**+2.4**
BBSI	**Bau Bau**	**27.85**	**232**	P	**P**	**00 03 57.4**	**+5.5**
	comp=Z,90nm,1.1s,comp=Z,1μm						
MTN	**Manton Dam**	**28.03**	**208**	P	**P**	**00 03 51.5**	**-2.0**
MTN	**Manton Dam**	**28.03**	**208**	P	**P**	**00 03 56.1**	**+2.6**
SSE	**Sheshan**	**28.62**	**315**	P	**P**	**00 03 59.0**	**+0.4**
SSE				S	**S**	**00 08 48.5**	**+2.7**
SSE				pmax	pmax		
	comp=Z,15nm,0.6s						
SSE				pmax	pmax		
	comp=Z,130nm,4.3s						
SSE				LR	LR		
	comp=Z,320nm,17.6s						
SSE				LR	LR		
	comp=Z,380nm,16.4s						
TJN	**Taejon**	**28.68**	**330**	P	**P**	**00 03 57.6**	**-1.4**
TJN	**Taejon**	**28.68**	**330**	P	**P**	**00 03 59.4**	**+0.3**
TJN	**Taejon**	**28.68**	**330**	*ce* P	**P**	**00 03 58.7**	**-0.4**
TTSI	**Tana Toraja**	**28.69**	**240**	P	**P**	**00 04 00.8**	**+1.4**
	comp=Z,20nm,0.7s						
SPSI	**Sidrap Palu**	**29.22**	**238**	P	**P**	**00 04 04.6**	**+0.5**
	comp=Z,24nm,0.9s						
KSRS	**Korea Array**	**29.29**	**332**	P	**P**	**00 04 03.9**	**-0.6**
	comp=Z,9.2nm,0.7s,baz=139,slow=9.7,SNR=34						
KSRS				PcP	**PcP**	**00 07 12.3**	**+1.4**
	comp=Z,2.3nm,0.7s,baz=154,slow=2.9,SNR=6.5						
KSRS				ScP	**ScP**	**00 10 55.6**	**+4.4**
	comp=Z,0.8nm,0.4s,baz=120,slow=4.9,SNR=2.5						
	comp=Z,9.2nm,0.7s						
KSAR	**Wonju Array Be**	**29.30**	**332**	P	**P**	**00 04 03.1**	**-1.5**
KSAR	**Wonju Array Be**	**29.30**	**332**	P	**P**	**00 04 03.1**	**-1.5**
KS19	**Wonju Array Si**	**29.36**	**332**	P	**P**	**00 04 03.6**	**-1.5**
SOEI	**Soe**	**29.50**	**224**	P	**P**	**00 04 04.8**	**-1.9**
SOEI				IAmb	IAmb	00 04 45.2	
	comp=Z,56nm,1.0s						
SOEI	**Soe**	**29.50**	**224**	P	**P**	**00 04 07.5**	**+0.8**
	comp=Z,43nm,1.0s						
KAPI	**Kappang**	**29.82**	**237**	P	**P**	**00 04 07.3**	**-2.1**
KAPI	**Kappang**	**29.82**	**237**	P	**P**	**00 04 07.3**	**-2.1**
KAPI				pmax	pmax		
	comp=Z,26nm,1.1s						
KAPI	**Kappang**	**29.82**	**237**	LR	LR	00 17 25.6	
	comp=Z,399nm,19.4s,baz=39,slow=39						
BKB	**Balikpapan**	**30.37**	**246**	IAMs_20	IAMs_20	00 14 39.6	
	comp=Z,2μm,19.0s						
EDFI	**Ende, Flores**	**30.62**	**229**	P	**P**	**00 04 16.7**	**+0.1**
	comp=Z,21nm,1.4s						
KNRA	**Kununurra**	**31.61**	**210**	P	**P**	**00 04 24.6**	**-0.6**
KNRA				IAmb	IAmb	00 04 45.5	
	comp=Z,67nm,1.0s						
KNRA	**Kununurra**	**31.61**	**210**	P	**P**	**00 04 26.5**	**+1.3**
CTA	**Charters Tower**	**32.00**	**177**	P	**P**	**00 04 31.8**	**+3.3**
CTA	**Charters Tower**	**32.00**	**177**	P	**P**	**00 04 28.8**	**+0.3**
	comp=Z,12nm,0.8s,baz=345,slow=9.6,SNR=14						
CTA				LR	LR	00 16 52.9	
	comp=Z,1μm,21.3s,baz=352,slow=35						
	comp=Z,12nm,0.8s						
CTAO	**Charters Tower**	**32.00**	**177**	P	**P**	**00 04 28.1**	**-0.4**
CTAO	**Charters Tower**	**32.00**	**177**	P	**P**	**00 04 31.5**	**+3.0**
CTAO	**Charters Tower**	**32.00**	**177**	P	**P**	**00 04 28.1**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,14nm,0.8s						
CTAO				MLR	MLR		
	comp=Z,1μm,21.0s						
QIS	**Mount Isa**	**32.75**	**188**	P	**P**	**00 04 35.8**	**+0.6**
WB0	**Warramunga Arr**	**33.13**	**197**	P	**P**	**00 04 37.6**	**-0.9**
WB0				IAmb	IAmb	00 04 59.8	
	comp=Z,65nm,1.6s						
WR0	**Warramunga Arr**	**33.27**	**197**	P	**P**	**00 04 38.7**	**-1.0**
SBUM	**Sibu**	**33.29**	**256**	P	**P**	**00 04 38.2**	**-1.8**
WRAB	**Tennant Creek**	**33.30**	**197**	IAMs_20	IAMs_20	00 17 43.5	
	comp=Z,3μm,20.0s						
WRA	**Warramunga Arr**	**33.31**	**197**	P	**P**	**00 04 38.5**	**-1.6**
WRA	**Warramunga Arr**	**33.31**	**197**	*ce* P	**P**	**00 04 40.0**	**-0.1**
WRA				pmax	pmax		
	comp=Z,18nm,0.9s						
WRA	**Warramunga Arr**	**33.31**	**197**	P	**P**	**00 04 39.4**	**-0.7**
	comp=Z,20nm,0.9s,baz=20,slow=9.7,SNR=78						
WRA				PKiKP	**PKiKP**	**00 14 47.2**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=311,slow=1.3,SNR=4.6						
	comp=Z,20nm,0.9s						
WHN	**Wuhan**	**33.35**	**308**	P	**P**	**00 04 40.8**	**+0.5**
WHN				pP	**pP**	**00 04 44.3**	**-1.0**
WHN				S	**S**	**00 09 59.8**	**0.0**
WHN				pmax	pmax		
	comp=Z,34nm,0.8s						
WHN				pmax	pmax		
	comp=Z,530nm,3.8s						
WHN				LR	LR		
	comp=Z,1μm,12.8s						
WHN				LR	LR		
	comp=Z,1μm,13.5s						
WHN				LR	LR		
	comp=Z,3μm,21.6s						
DL2	**Dalian**	**33.54**	**327**	P	**P**	**00 04 42.3**	**+0.4**
DL2				S	**S**	**00 10 06.0**	**+3.5**
DL2				pmax	pmax		
	comp=Z,65nm,1.2s						
DL2				LR	LR		
	comp=Z,1μm,12.8s						
DL2				LR	LR		
	comp=Z,840nm,15.2s						
DL2				LR	LR		
	comp=Z,1μm,14.6s						
USRK	**Ussuriysk Ar.**	**33.77**	**344**	P	**P**	**00 04 43.1**	**-0.7**
USRK	**Ussuriysk Ar.**	**33.77**	**344**	P	**P**	**00 04 43.1**	**-0.7**
USRK	**Ussuriysk Ar.**	**33.77**	**344**	P	**P**	**00 04 42.4**	**-1.4**
	comp=Z,5.0nm,0.6s,baz=139,slow=9.8,SNR=12						
USRK				PcP	**PcP**	**00 07 23.2**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=159,slow=2.9,SNR=1.9						
USRK				LR	LR	00 17 33.7	
	comp=Z,514nm,20.0s,baz=147,slow=35						
	comp=Z,5.0nm,0.6s						
USA0B	**Ussuriysk Arra**	**33.77**	**344**	P	**P**	**00 04 42.9**	**-0.8**
USA0B	**Ussuriysk Arra**	**33.77**	**344**	*i* P	**P**	**00 04 42.3**	**-1.5**
QIZ	**Qiongzhong**	**33.98**	**286**	P	**P**	**00 04 45.5**	**-0.5**
QIZ				S	**S**	**00 10 11.5**	**+1.7**
QIZ				LR	LR		
	comp=Z,1μm,20.6s						
QIZ				LR	LR		
	comp=Z,1μm,20.4s						
QIZ				LR	LR		
	comp=Z,1μm,21.6s						
TIA	**Tai'an**	**34.40**	**319**	P	**P**	**00 04 49.0**	**-0.4**
TIA				S	S	00 10 06.3	-10
TIA				pmax	pmax		
	comp=Z,9.0nm,1.5s						
TIA				pmax	pmax		
	comp=Z,160nm,9.8s						
TIA				LR	LR		
	comp=Z,670nm,17.7s						
TIA				LR	LR		
	comp=Z,630nm,20.1s						
TIA				LR	LR		
	comp=Z,1μm,19.6s						
GULI	**GuiLin**	**34.73**	**297**	⇓P	P	00 05 01.5	+9.1
GULI				S	**S**	**00 10 23.3**	**+2.1**
GULI				pmax	pmax		
	comp=Z,20nm,1.1s						
GULI				pmax	pmax		
	comp=Z,490nm,3.9s						
GULI				LR	LR		
	comp=N,960nm,17.3s						
GULI				LR	LR		
	comp=E,1μm,22.8s						
GULI				LR	LR		
	comp=Z,2μm,23.9s						
YSS	**Yuzh-Sakhalins**	**34.81**	**358**	*e*P	**P**	**00 04 52.4**	**-0.4**
YSS				*e*S	**S**	**00 10 20.4**	**-1.5**
YSS				MLR	MLR		
	comp=Z,2μm,15.0s						
MDJ	**Mudanjiang**	**34.85**	**341**	P	**P**	**00 04 53.1**	**-0.1**
MDJ	**Mudanjiang**	**34.85**	**341**	P	**P**	**00 04 52.8**	**-0.4**
MDJ				pP	pP	00 04 57.0	-1.7
MDJ				sP	sP	00 05 00.5	+0.5
MDJ				PP	**PP**	**00 06 12.3**	**-0.1**
MDJ				PcP	**PcP**	**00 07 22.8**	**-3.1**
MDJ				S	**S**	**00 10 27.3**	**+4.7**
MDJ				PcS	**PcS**	**00 11 07.3**	**-5.2**
MDJ				pmax	pmax		
	comp=Z,20nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,340nm,6.5s						
MDJ				LR	LR		
	comp=Z,1μm,14.7s						
MDJ				LR	LR		
	comp=Z,1μm,15.5s						
MDJ				LR	LR		
	comp=Z,1μm,16.1s						
FITZ	**Fitzroy Crossi**	**35.23**	**212**	P	**P**	**00 04 56.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**35.23**	**212**	P	**P**	**00 04 59.3**	**+2.6**
KSM	**Kuching**	**35.41**	**255**	P	**P**	**00 04 57.4**	**-1.0**
KSM	**Kuching**	**35.41**	**255**	P	**P**	**00 05 01.0**	**+2.6**
BNX	**BinXian**	**36.56**	**340**	⇓P	**P**	**00 05 07.8**	**0.0**
BNX				pmax	pmax		
	comp=Z,41nm,1.2s						
BNX				pmax	pmax		
	comp=Z,240nm,3.5s						
LYN	**LuoYang**	**36.65**	**313**	⇑P	**P**	**00 05 08.0**	**-0.8**
LYN				pP	pP	00 05 12.0	-1.8
LYN				sP	sP	00 05 14.5	-1.2
LYN				S	**S**	**00 10 49.0**	**-1.5**
LYN				pmax	pmax		
	comp=Z,170nm,0.6s						
LYN				pmax	pmax		
	comp=Z,570nm,3.5s						
LYN				LR	LR		
	comp=Z,3μm,16.9s						
LYN				LR	LR		
	comp=Z,2μm,17.3s						
LYN				LR	LR		
	comp=Z,2μm,20.6s						
HNS	**HongShan**	**36.66**	**319**	⇑P	**P**	**00 05 09.3**	**+0.5**
HNS				PP	**PnPn**	**00 06 30.5**	**-1.9**
HNS				PcP	**PcP**	**00 07 33.8**	**+2.4**
HNS				S	**S**	**00 10 49.0**	**-1.6**
HNS				pmax	pmax		
	comp=Z,54nm,0.9s						
HNS				LR	LR		
	comp=Z,860nm,17.8s						
HNS				LR	LR		
	comp=Z,1μm,18.3s						
HNS				LR	LR		
	comp=Z,2μm,19.4s						
AS31	**Alice Springs**	**36.96**	**196**	P	**P**	**00 05 10.7**	**-0.8**
ASAR	**Alice Springs**	**36.96**	**196**	P	**P**	**00 05 10.6**	**-0.9**
ASAR	**Alice Springs**	**36.96**	**196**	P	**P**	**00 05 11.2**	**-0.4**
	comp=Z,10nm,0.8s,baz=17,slow=10,SNR=79						
ASAR				LR	LR	00 19 48.7	
	comp=Z,3μm,21.8s,baz=18,slow=35						
	comp=Z,10nm,0.8s						
ENH	**Enshi**	**37.07**	**305**	P	**P**	**00 05 11.6**	**-0.8**
ENH				IAmb	IAmb	00 05 14.1	
	comp=Z,125nm,1.5s						
ENH	**Enshi**	**37.07**	**305**	P	**P**	**00 05 13.2**	**+0.8**
BJI	**Beijing**	**37.38**	**323**	P	**P**	**00 05 14.5**	**-0.4**
BJI				pP	**pP**	**00 05 19.0**	**-0.7**
BJI				S	**S**	**00 11 02.0**	**+0.5**
BJI				pmax	pmax		
	comp=Z,18nm,1.3s						
BJI				pmax	pmax		
	comp=Z,230nm,3.7s						
BJI				LR	LR		
	comp=Z,500nm,22.8s						
BJI				LR	LR		
	comp=Z,490nm,22.3s						
BJI				LR	LR		
	comp=Z,780nm,24.9s						
EIDS	**Eidsvold**	**37.76**	**170**	P	**P**	**00 05 17.0**	**-1.3**
EIDS	**Eidsvold**	**37.76**	**170**	P	**P**	**00 05 20.9**	**+2.7**
KOUNC	**Koumac, New Ca**	**37.84**	**149**	P	**P**	**00 05 17.9**	**-1.1**
KOUNC				IAMs_20	IAMs_20	00 19 44.8	
	comp=Z,2μm,20.0s						
GYA	**Guiyang**	**38.25**	**298**	⇓P	**P**	**00 05 24.3**	**+1.7**
GYA				S	**S**	**00 11 16.5**	**+1.2**
GYA				pmax	pmax		
	comp=Z,40nm,1.9s						
GYA				pmax	pmax		
	comp=Z,490nm,4.6s						
GYA				LR	LR		
	comp=Z,640nm,19.2s						
GYA				LR	LR		
	comp=Z,430nm,14.2s						
GYA				LR	LR		
	comp=Z,620nm,20.9s						
TIY	**Taiyuan**	**38.33**	**317**	⇓P	P	**00 05 23.8**	**+0.8**
TIY				S	**S**	**00 11 12.8**	**-3.3**
TIY				pmax	pmax		
	comp=Z,34nm,0.5

comp=E,2µm,11.7s
GRNR Gornyy 39.15 352 ⇑*i*P **P** **00 05 29.0 -0.7**
GRNR pmax pmax
comp=Z,10.0nm,0.7s
INKA Innaminka 39.72 185 P **P** **00 05 38.1 +3.5**
SLVN Son La 39.79 289 P **P** **00 05 35.0 -0.5**
SLVN IAMs_20 IAMs_20 00 19 30.2
comp=Z,1µm,22.0s
XLT XiLinHaoTe 40.02 328 ⇓*i*P **P** **00 05 37.5 +0.4**
XLT pP pP 00 05 42.5 +0.5
XLT sP sP 00 05 44.5 +0.5
XLT S **S** **00 11 36.5 -4.9**
XLT sS sS 00 11 55.0 +4.1
XLT pmax pmax
comp=Z,40nm,1.1s
XLT pmax pmax
comp=Z,370nm,4.0s
XLT LR LR
comp=Z,1µm,14.8s
XLT LR LR
comp=Z,2µm,16.8s
WRKA Warakurna 40.08 203 P **P** **00 05 37.7 0.0**
NOUC Port Laguerre 40.17 148 P **P** **00 05 39.7 +1.3**
DZM Mont Dzumac 40.22 147 *e*P **P** **00 05 40.7 +1.8**
comp=Z,77nm,1.1s
DZM *e*S **S** **00 11 45.7 +1.0**
comp=Z,950nm,27.9s
DZM *e*LR LR 00 16 20.0
comp=Z,2µm,22.5s
DZM Mont Dzumac 40.22 147 P **P** **00 05 38.6 -0.4**
DZM Mont Dzumac 40.22 147 P **P** **00 05 41.5 +2.6**
DZM Mont Dzumac 40.22 147 P **P** **00 05 39.2 +0.3**
comp=Z,4.2nm,0.5s,baz=293,slow=13,SNR=2.2
comp=Z,4.2nm,0.5s
OOD Oodnadatta 40.51 192 P **P** **00 05 40.5 -0.6**
HEH HeiHe 40.57 343 *e*P **P** **00 05 40.8 -0.6**
HEH pmax pmax
comp=Z,53nm,1.4s
HEH pmax pmax
comp=Z,540nm,5.6s
HHC Hu-ho-hao-te 40.66 321 ⇓P **P** **00 05 43.5 +1.1**
HHC S **S** **00 11 54.3 +3.2**
HHC sS sS 00 12 05.5 +4.9
HHC sS **sS** **00 14 51.3 -0.5**
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,530nm,4.5s
HHC LR LR
comp=Z,2µm,15.7s
HHC LR LR
comp=Z,2µm,15.9s
HHC LR LR
comp=Z,3µm,18.6s
MBWA Marble Bar 40.96 216 P **P** **00 05 45.3 +0.3**
LEM Lembang 41.12 245 LR LR 00 22 36.9
comp=Z,492nm,21.9s,baz=56,slow=36
PSA00 Pilbara Seismi 41.22 216 P **P** **00 05 46.4 -0.7**
PSA00 IAmb IAmb 00 05 52.3
comp=Z,62nm,0.9s
PSA00 Pilbara Seismi 41.22 216 P **P** **00 05 48.6 +1.5**
AULRC Lightning Ridg 41.39 175 P **P** **00 05 52.2 +3.8**
KMI Kunming 41.41 294 ⇓P **P** **00 05 50.8 +1.8**
KMI S **S** **00 11 59.3 -3.7**
KMI pmax pmax
comp=Z,29nm,1.4s
KMI pmax pmax
comp=Z,370nm,4.6s
KMI LR LR
comp=Z,950nm,15.3s
KMI LR LR
comp=Z,630nm,15.3s
KMI LR LR
comp=Z,1µm,26.3s
MYKOM Kota Tinggi 41.48 259 P **P** **00 05 48.4 -1.1**
MYKOM IAmb IAmb 00 06 22.5
comp=Z,122nm,1.6s
BTO Baotou 41.48 320 *e*P **P** **00 05 51.0 +1.7**
BTO pP **sP** **00 05 55.5 -0.7**
BTO sP **pP** **00 05 58.0 +3.8**
BTO PP **PP** **00 07 30.5 +5.2**
BTO S **S** **00 12 10.0 +6.6**
BTO sS **sS** **00 12 16.5 +3.5**
BTO SS **SS** **00 15 06.3 -2.0**
BTO pmax pmax
comp=Z,76nm,1.2s
BTO pmax pmax
comp=Z,880nm,5.3s
BTO LR LR
comp=Z,2µm,21.5s
BTO LR LR
comp=Z,1µm,20.7s
BTO LR LR
comp=Z,3µm,28.2s
CD2 Chengdu 41.93 303 P **P** **00 05 52.5 -0.5**
CD2 pP pP 00 05 56.5 -1.6
CD2 sP sP 00 05 58.8 -1.4
CD2 S **S** **00 12 10.5 +0.3**
CD2 sS sS 00 12 18.5 -0.5
CD2 pmax pmax
comp=Z,70nm,0.9s
CD2 pmax pmax
comp=Z,250nm,7.2s
CD2 LR LR
comp=Z,810nm,16.9s
CD2 LR LR
comp=Z,680nm,15.1s
CD2 LR LR
comp=Z,920nm,16.4s
NAYO Nakonayok 41.98 278 P **P** **00 05 55.7 +2.2**
PETK Petropavlovsk- 42.30 12 P **P** **00 05 54.4 -1.2**
comp=Z,2.5nm,0.5s,baz=181,slow=6.5,SNR=2.5
PETK PcP **PcP** **00 07 49.5 +0.5**
comp=Z,8.2nm,0.8s,baz=151,slow=3.3,SNR=4.4
PETK LR LR 00 21 25.5
comp=Z,1µm,21.7s,baz=191,slow=33
comp=Z,2.5nm,0.5s
HIA Hailar 42.34 336 P **P** **00 05 54.8 -1.3**
HIA Hailar 42.34 336 P **P** **00 05 56.3 +0.2**
HIA Hailar 42.34 336 *i*P **P** **00 05 56.1 0.0**
HIA pmax pmax
comp=Z,20nm,1.0s
PZH PanZhiHua 42.56 296 P **P** **00 05 58.8 +0.5**
PZH pP **pP** **00 06 03.3 -0.1**
PZH S **S** **00 12 17.5 -2.1**
PZH SS **SS** **00 15 24.3 -5.6**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,310nm,6.3s
PZH LR LR
comp=Z,840nm,18.4s
PZH LR LR
comp=Z,620nm,17.3s
PZH LR LR
comp=Z,760nm,20.1s
LCRK Leigh Creek 42.68 188 P **P** **00 05 58.9 0.0**
CGJI Cibinong 42.74 246 P **P** **00 05 59.5 -0.2**
comp=Z,55nm,1.2s
ARMA Armidale 42.80 171 P **P** **00 05 58.9 -1.1**
ARMA Armidale 42.80 171 P **P** **00 06 01.5 +1.5**
CRAI Chiangrai 42.97 287 P **P** **00 06 01.2 -0.4**
MULG Mulgathing 43.26 193 P **P** **00 06 03.6 0.0**
AUPHS Peel High Scho 43.36 172 P **P** **00 06 05.8 +1.4**
CMSA Cobar Meteorol 43.36 178 P **P** **00 06 04.0 -0.4**
SKLT Songkhla 43.42 268 P **P** **00 06 07.3 +2.1**
LZH Lanzhou 43.65 310 ⇑P **P** **00 06 07.8 +0.8**
LZH sP sP 00 06 16.5 +2.4
LZH S **S** **00 12 35.3 -0.2**
LZH SS **SS** **00 15 43.3 -7.8**
LZH pmax pmax
comp=Z,57nm,1.3s
LZH pmax pmax
comp=Z,490nm,4.8s
LZH LR LR
comp=Z,960nm,16.8s
LZH LR LR
comp=Z,620nm,17.9s
LZH LR LR
comp=Z,1µm,18.5s
KULM Kulim 43.74 265 P **P** **00 06 07.1 -0.8**
ZEA Zeya 43.76 345 *e*P **P** **00 06 06.3 -1.1**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=E,400nm,14.0s
ZEA MLR MLR
comp=Z,400nm,19.0s
STKA Stephens Creek 43.77 183 P **P** **00 06 06.0 -1.7**
STKA Stephens Creek 43.77 183 P **P** **00 06 10.7 +3.0**
STKA Stephens Creek 43.77 183 *i*P **P** **00 06 07.2 -0.5**
STKA Stephens Creek 43.77 183 P **P** **00 06 06.8 -0.9**
comp=Z,8.8nm,0.7s,baz=352,slow=8.3,SNR=14
STKA LR LR 00 26 42.4
comp=Z,1µm,18.2s,baz=360,slow=39
comp=Z,8.8nm,0.7s
SURA Surathani 44.08 271 P **P** **00 06 13.7 +3.2**
SRIT Nakonsritamara 44.19 270 P **P** **00 06 11.3 -0.1**
SRIT IAmb IAmb 00 06 21.8
comp=Z,70nm,0.8s
SRIT Nakonsritamara 44.19 270 P **P** **00 06 14.7 +3.3**
AUDCS Dubbo College 44.22 175 P **P** **00 06 14.5 +3.2**
CM31 Chiang Mai Arr 44.24 284 P **P** **00 06 11.1 -0.7**
CMAR Chiang Mai Arr 44.24 284 P **P** **00 06 11.2 -0.6**
CMAR Chiang Mai Arr 44.24 284 *ce*P **P** **00 06 13.6 +1.8**
CMAR pmax pmax
comp=Z,15nm,0.7s
CMAR Chiang Mai Arr 44.24 284 P **P** **00 06 12.3 +0.5**
comp=Z,14nm,0.7s,baz=85,slow=6.2,SNR=71
CMAR LR LR 00 23 09.1
comp=Z,540nm,21.9s,baz=115,slow=34
comp=Z,14nm,0.7s
CHTO Chiang Mai 44.25 285 P **P** **00 06 09.5 -2.4**
CHTO Chiang Mai 44.25 285 P **P** **00 06 12.7 +0.8**
CHTO Chiang Mai 44.25 285 P **P** **00 06 09.5 -2.4**
CHTO pmax pmax
comp=Z,49nm,1.8s
CHTO MLR MLR
comp=Z,700nm,18.0s
MNAI Manna 44.33 251 P **P** **00 06 11.0 -1.6**
BKNI Bangkinang 44.59 258 P **P** **00 06 13.8 -0.8**
BKNI IAmb IAmb 00 06 34.2
comp=Z,85nm,1.1s
TNCH TengChong 45.18 293 P **P** **00 06 19.8 +0.4**
TNCH pP pP 00 06 23.8 -0.8
TNCH sP sP 00 06 26.0 -0.6
TNCH S **S** **00 12 58.0 0.0**
TNCH sS sS 00 13 07.5 +0.3
TNCH SS **ScS** **00 16 16.5 +1.1**
TNCH pmax pmax
comp=Z,72nm,1.2s
TNCH pmax pmax
comp=Z,290nm,4.3s
TNCH LR LR
comp=Z,330nm,11.6s
TNCH LR LR
comp=Z,580nm,13.1s
TNCH LR LR
comp=Z,1µm,17.9s
BBOO Buckleboo 45.32 190 P **P** **00 06 18.9 -1.2**
BBOO IAmb IAmb 00 06 24.9
comp=Z,58nm,0.8s
BBOO Buckleboo 45.32 190 P **P** **00 06 19.9 -0.2**
FORT Forrest 45.40 200 P **P** **00 06 20.2 -0.5**
FORT IAmb IAmb 00 06 26.3
comp=Z,80nm,0.9s
FORT Forrest 45.40 200 P **P** **00 06 23.4 +2.7**
GIRL Giralia 45.43 221 P **P** **00 06 20.8 -0.4**
PDSI Padang 45.51 257 P **P** **00 06 21.0 -1.0**
comp=Z,27nm,0.8s,comp=Z,20µm
HTT Hallett 45.54 186 P **P** **00 06 24.9 +3.0**
PSI Prapat 45.97 262 P **P** **00 06 25.2 -0.6**
PSI pmax pmax
comp=Z,22nm,0.9s
RPSI Rantau Prapat 46.00 262 P **P** **00 06 25.2 -0.7**
YNG Young 46.25 175 P **P** **00 06 30.7 +3.2**
KCSI Kotacane, Aceh 46.92 264 P **P** **00 06 33.6 +0.5**
comp=Z,69nm,1.1s,comp=Z,3µm
CIT Chita 46.99 334 *e*P **P** **00 06 33.4 +0.2**
CIT pmax pmax
comp=Z,80nm,1.7s
MND Mandalay 47.06 289 P **P** **00 06 35.8 +1.7**
CAN Canberra 47.32 175 P **P** **00 06 34.5 -1.3**
CAN Canberra 47.32 175 P **P** **00 06 34.5 -1.3**
CAN pmax pmax
comp=Z,19nm,1.1s
LHMI Lhok Sumawe 47.36 266 P **P** **00 06 36.4 -0.1**
LHMI Lhok Sumawe 47.36 266 P **P** **00 06 40.2 +3.7**
LHMI Lhok Sumawe 47.36 266 P **P** **00 06 38.3 +1.8**
comp=Z,167nm,0.7s
ULN Ulaanbaatar 47.39 326 P **P** **00 06 35.2 -1.3**
ULN Ulaanbaatar 47.39 326 IAMs_20 IAMs_20 00 27 31.6
comp=Z,910nm,19.0s
ULN Ulaanbaatar 47.39 326 *ce*P **P** **00 06 36.4 -0.1**
ULN pmax pmax
comp=Z,41nm,1.7s
GSI Gunungsitoli 47.65 261 P **P** **00 06 37.3 -1.5**
GSI IAmb IAmb 00 06 47.5
comp=Z,73nm,1.1s
GSI Gunungsitoli 47.65 261 P **P** **00 06 39.8 +1.0**
GSI Gunungsitoli 47.65 261 P **P** **00 06 38.6 -0.2**
comp=Z,57nm,0.9s,comp=Z,3µm
MA2 Magadan 47.66 4 P **P** **00 06 38.0 -0.1**
MA2 Magadan 47.66 4 *i*P **P** **00 06 37.7 -0.5**
MA2 pmax pmax
comp=Z,17nm,0.6s
MA2 Magadan 47.66 4 LR LR 00 25 19.5
comp=Z,583nm,21.9s,baz=156,slow=34
SONM Songino Array 47.73 326 P **P** **00 06 38.8 -0.3**
SONM IAmb IAmb 00 06 43.6
comp=Z,76nm,1.8s
SONM Songino Array 47.73 326 P **P** **00 06 38.8 -0.3**
SONM pmax pmax
comp=Z,77nm,1.8s
SONM Songino Array 47.73 326 P **P** **00 06 39.6 +0.6**
comp=Z,6.6nm,0.6s,baz=143,slow=8.2,SNR=36
SONM PcP **PcP** **00 08 08.8 +0.7**
comp=Z,5.7nm,0.6s,baz=145,slow=4.2,SNR=4.2
SONM LR LR 00 28 03.1
comp=Z,811nm,18.4s,baz=126,slow=38
comp=Z,6.6nm,0.6s
GTA Gaotai 47.87 313 P **P** **00 06 41.0 +0.7**
GTA pP pP 00 06 44.8 -0.5
GTA PcP **PcP** **00 08 11.0 +2.3**
GTA S **S** **00 13 34.0 -2.2**
GTA sS sS 00 13 51.5 +6.5
GTA ScS **ScS** **00 16 31.3 -1.1**
GTA pmax pmax
comp=Z,49nm,0.7s
GTA LR LR
comp=Z,420nm,17.9s
GTA LR LR
comp=Z,500nm,18.3s
GTA LR LR
comp=Z,760nm,19.1s
KMBL Kambalda 48.29 206 P **P** **00 06 47.9 +4.5**
MORW Morawa 49.22 213 P **P** **00 06 49.5 -1.1**
MORW IAmb IAmb 00 06 55.6
comp=Z,64nm,0.9s
MORW Morawa 49.22 213 P **P** **00 06 51.1 +0.5**
TOO Toolangi 49.38 179 P **P** **00 06 51.2 -0.4**
TOO IAmb IAmb 00 07 09.2
comp=Z,113nm,1.9s
TOO Toolangi 49.38 179 P **P** **00 06 53.1 +1.5**
TOO Toolangi 49.38 179 P **P** **00 06 51.2 -0.4**
TOO pmax pmax
comp=Z,113nm,1.9s
BLDU Ballidu 50.10 212 P **P** **00 06 57.5 +0.3**
GOMU GeErMu 50.59 307 P **P** **00 07 02.5 +1.1**
GOMU pP pP 00 07 06.0 -0.6
GOMU sP sP 00 07 10.5 +1.9
GOMU S S 00 14 05.8 -9.1
GOMU pmax pmax
comp=Z,14nm,0.5s
GOMU LR LR
comp=Z,340nm,17.9s
GOMU LR LR
comp=Z,370nm,17.1s
GOMU LR LR
comp=Z,680nm,17.8s
ADK Adak 50.60 30 P **P** **00 07 00.2 -0.5**
ADK IAmb IAmb 00 07 20.0
comp=Z,84nm,1.2s
ADK Adak 50.60 30 P **P** **00 07 00.3 -0.5**
ADK pmax pmax
comp=Z,84nm,1.2s
ZAK Zakamensk 50.87 327 *e*P **P** **00 07 01.9 -1.1**
ZAK pmax pmax
comp=Z,23nm,1.1s
YAK Yakutsk 51.02 351 P **P** **00 07 02.8 -1.0**
YAK Yakutsk 51.02 351 IAMs_20 IAMs_20 00 28 51.6
comp=Z,1µm,18.0s
YAK Yakutsk 51.02 351 *e*P **P** **00 07 03.0 -0.7**
YAK *e**PP **pP** **00 07 05.4 -3.3**
YAK *e* 00 09 08.3
YAK *e*S **S** **00 14 18.8 -0.4**
YAK *e**SS **pS** **00 14 25.6 -0.5**
YAK *e* 00 16 49.9
YAK *e*SS **SS** **00 17 51.4 -3.0**
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=Z,631nm,5.6s
YAK pmax pmax
comp=N,504nm,4.8s
YAK pmax pmax
comp=E,379nm,4.1s
YAK smax smax
comp=E,51nm,2.2s
YAK smax smax
comp=N,325nm,4.1s
YAK MLR MLR
comp=Z,1µm,18.0s
YAK MLR MLR
comp=E,272nm,16.0s
YAK MLR MLR
comp=N,567nm,15.0s
YAK Yakutsk 51.02 351 LR LR 00 28 52.4
comp=N,53nm,19.0s,baz=135,slow=36
SEY Seymchan 51.12 5 *ce*P **P** **00 07 05.3 +0.9**
SEY pmax pmax
comp=Z,28nm,1.3s
SEY Seymchan 51.12 5 LR LR 00 30 59.5
comp=Z,255nm,18.1s,baz=188,slow=39
BOD Bodaibo 51.19 340 *e*P **P** **00 07 03.1 -2.0**
BOD pmax pmax
comp=Z,18nm,1.8s
SHL Shillong 51.20 293 P **P** **00 07 03.5 -2.5**
SHL Shillong 51.20 293 P **P** **00 07 03.5 -2.5**
SHL pmax pmax
comp=Z,51nm,0.6s
MUN Mundaring 51.45 211 P **P** **00 07 10.3 +2.9**
NWAO Narrogin (SRO) 51.72 209 P **P** **00 07 07.7 -1.7**
NWAO Narrogin (SRO) 51.72 209 P **P** **00 07 07.7 -1.7**
NWAO pmax pmax
comp=Z,45nm,1.3s
NWAO Narrogin (SRO) 51.72 209 LR LR 00 29 16.7
comp=Z,858nm,21.7s,baz=34,slow=36
LSA Lhasa 52.31 298 P **P** **00 07 13.4 -1.1**
LSA Lhasa 52.31 298 P **P** **00 07 13.4 -1.1**
LSA pmax pmax
comp=Z,27nm,0.8s
MOY Mondy 52.78 327 *e*P **P** **00 07 17.3 +0.1**
MOY pmax pmax
comp=Z,89nm,3.7s
RAO Raoul Island 54.85 139 LR LR 00 27 39.2
comp=Z,2µm,21.6s,baz=294,slow=32
NIKH Nikolski High 55.19 32 P **P** **00 07 35.5 +0.9**
baz=240
SPIA Saint Paul Isl 56.73 28 P **P** **00 07 46.8 +1.3**
baz=236
UNV Unalaska Valle 56.85 32 P **P** **00 07 47.6 +1.1**
baz=242
AKUT Akutan 57.37 32 P **P** **00 07 49.6 -0.5**
TOZ Tahuroa Road 57.47 151 IAMs_20 IAMs_20 00 29 15.5
comp=Z,1µm,21.0s
BILL Bilibino 57.74 10 P **P** **00 07 51.7 -0.8**
BILL IAmb IAmb 00 08 11.4
comp=Z,56nm,1.0s
BILL Bilibino 57.74 10 ⇑*e*P **P** **00 07 52.0 -0.5**
BILL pmax pmax
comp=Z,47nm,1.3s
WMQ Urumqi 57.88 314 ⇑P **P** **00 07 55.0 +1.0**
WMQ S **S** **00 15 52.3 -0.1**
WMQ pmax pmax
comp=Z,40nm,0.9s
WMQ pmax pmax
comp=Z,520nm,4.7s
WMQ LR LR
comp=Z,960nm,18.1s
WMQ LR LR
comp=Z,740nm,19.5s
WMQ LR LR
comp=Z,500nm,19.5s
MLH Mauna Loa 58.16 74 P **P** **00 07 56.5 -0.1**
URZ Urewera 58.66 150 LR LR 00 30 01.9
comp=Z,782nm,20.8s,baz=75,slow=33
DSZ Denniston Nort 59.18 156 IAMs_20 IAMs_20 00 30 09.7
comp=Z,2µm,21.0s
DGZ Jazzator, Alta 59.74 321 *i*P **P** **00 08 06.8 -0.2**
DGZ pmax pmax
comp=Z,53nm,0.9s
FOZ Fox Glacier 59.98 159 IAMs_20 IAMs_20 00 30 06.8
comp=Z,2µm,22.0s
GAMB Gambell 60.05 21 P **P** **00 08 09.6 +1.0**
baz=232
M11K Mekoryuk 60.23 26 P **P** **00 08 10.9 +1.0**
baz=239
TIXI Tiksi 60.30 354 P **P** **00 08 09.9 -0.4**
TIXI Tiksi 60.30 354 *ce*P **P** **00 08 10.5 +0.3**
TIXI pmax pmax
comp=Z,12nm,1.3s
TIXI Tiksi 60.30 354 LR LR 00 33 39.1
comp=Z,11nm,21.7s,baz=164,slow=36
KHZ Kahutara 60.44 156 IAMs_20 IAMs_20 00 29 54.0
comp=Z,2µm,22.0s
RPZ Rata Peaks 60.59 158 LR LR 00 34 10.1
comp=Z,78nm,18.1s,baz=294,slow=36
SDPT Sand Point 60.66 33 P **P** **00 08 12.9 0.0**
SDPT Sand Point 60.66 33 P **P** **00 08 13.7 +0.8**
baz=247
GVZ Greta Valley S 60.70 156 IAMs_20 IAMs_20 00 30 11.9
comp=Z,2µm,21.0s
ZSN Zaisan 60.73 318 *e*P **P** **00 08 14.2 +0.5**
comp=Z,12nm,0.7s,baz=318
ZSN Zaisan 60.73 318 *e*P **P** **00 08 14.1 +0.5**
ZSN pmax pmax
comp=Z,12nm,0.7s
DCZ Deep Cove 60.83 162 P **P** **00 08 13.9 -0.2**
DCZ IAmb IAmb 00 08 36.3
comp=Z,47nm,1.3s
MLZ Mavora Lakes 61.04 161 P **P** **00 08 15.0 -0.6**
MLZ IAmb IAmb 00 08 34.9
comp=Z,34nm,1.0s
WHZ Wether Hill Ro 61.45 161 P **P** **00 08 17.5 -1.0**
WHZ IAmb IAmb 00 08 35.1
comp=Z,22nm,0.7s
M13K Dall Lake 61.48 27 P **P** **00 08 19.5 +1.1**
baz=242
S14K Fog Glacier 61.51 32 P **P** **00 08 19.9 +1.1**
baz=247
N14K Kuskokwak Cree 61.99 27 P **P** **00 08 22.8 +0.9**
baz=244
L14K Kuka Creek 62.21 26 P **P** **00 08 23.0 -0.2**
L14K IAmb IAmb 00 08 43.4
comp=Z,57nm,1.1s
L14K Kuka Creek 62.21 26 P **P** **00 08 24.3 +1.1**
baz=242
M14K Bethel 62.24 27 P **P** **00 08 24.5 +1.0**
baz=243,SNR=5.8
MK31 Makanchi Array 62.29 317 P **P** **00 08 24.2 0.0**
MK31 IAmb IAmb 00 08 25.9
comp=Z,28nm,0.7s
MK31 Makanchi Array 62.29 317 *ce*P **P** **00 08 24.3 +0.1**
MKAR Makanchi Array 62.29 317 P **P** **00 08 24.1 -0.1**
comp=Z,40nm,0.6s,baz=93,slow=8.3,SNR=248
MKAR LR LR 00 39 01.7
comp=Z,270nm,18.3s,baz=94,slow=40
comp=Z,40nm,0.6s
TNA Tin City 62.43 20 P **P** **00 08 25.6 +0.9**
baz=235
O15K Ungalikthiuk R 62.53 29 P **P** **00 08 26.0 +0.5**
baz=246
J14K Nanvaranak Lak 62.53 24 IAMs_20 IAMs_20 00 34 01.6
comp=Z,1µm,19.0s
J14K Nanvaranak Lak 62.53 24 P **P** **00 08 26.1 +0.6**
baz=240
ZAA0 Zalesovo Array 62.61 325 P **P** **00 08 25.6 -0.5**
ZAA0 IAmb IAmb 00 08 26.9
comp=Z,17nm,0.8s
ZALV Zalesovo Beam 62.61 325 P **P** **00 08 25.3 -0.8**
ZALV Zalesovo Beam 62.61 325 P **P** **00 08 25.6 -0.5**

comp=Z,20nm,0.7s,baz=108,slow=6.6,SNR=83
ZALV LR LR 00 36 55.3

comp=Z,537nm,19.4s,baz=112,slow=37
comp=Z,20nm,0.7s
ANM Nome 62.77 22 P **P 00 08 27.0 0.0**
ANM IAmb IAmb 00 08 46.2

comp=Z,58nm,1.4s
ANM Nome 62.77 22 P **P 00 08 27.8 +0.7**
baz=238,SNR=5.1
ANM Nome 62.77 22 P **P 00 08 27.0 0.0**
ANM pmax pmax

comp=Z,58nm,1.4s
M15K Kasigluk River 62.78 27 P **P 00 08 27.7 +0.6**
baz=244
N15K Kwethluk River 62.82 28 P **P 00 08 27.8 +0.3**
N15K IAmb IAmb 00 08 47.5

comp=Z,56nm,1.2s
N15K IAMs_20 IAMs_20 00 33 19.4

comp=Z,1µm,20.0s
N15K Kwethluk River 62.82 28 P **P 00 08 28.1 +0.6**
baz=245,SNR=7.4
L15K Ungalak Mounta 62.87 26 P **P 00 08 28.9 +1.2**
baz=243
PALK Pallekele 62.88 272 LR LR 00 36 14.5

comp=Z,224nm,19.9s,baz=191,slow=36
F14K Arctic Creek 62.93 21 P **P 00 08 28.9 +0.9**
baz=236
K15K Wolf Creek Mou 63.13 25 IAMs_20 IAMs_20 00 32 35.7

comp=Z,1µm,21.0s
K15K Wolf Creek Mou 63.13 25 P **P 00 08 30.4 +0.9**
baz=243
P16K Nushagak River 63.34 29 P **P 00 08 31.6 +0.8**
baz=248
CHIR Chirikof Islan 63.40 33 P **P 00 08 32.6 +1.2**
baz=251
G15K Niukluk 63.48 22 P **P 00 08 32.1 +0.4**
baz=239
O16K Kokwok River B 63.51 29 P **P 00 08 32.7 +0.7**
baz=247
N16K Nishlik Lake 63.54 28 P **P 00 08 32.8 +0.5**
baz=246
SHLS Shalkode 63.61 312 *e*P **P 00 08 31.3 -1.9**

comp=Z,10nm,0.5s,baz=312
SHLS Shalkode 63.61 312 *e*P **P 00 08 31.2 -1.9**
SHLS pmax pmax

comp=Z,10.0nm,0.5s
PDGK Podgornoye 63.61 312 P **P 00 08 32.8 -0.4**
R17K Ugashik Creek 63.62 31 P **P 00 08 33.5 +0.8**
baz=250
F15K North Star Dit 63.64 21 P **P 00 08 33.3 +0.5**
baz=238
HYB Hyderabad 63.66 284 *e*P **P 00 08 33.6 -0.2**
HYB *es*P **sP 00 08 41.6 +1.1**
HYB *e*PP **PP 00 10 53.2 -0.9**
HYB *e*S **S 00 17 07.3 +0.2**
M16K Timber Creek 63.68 27 P **P 00 08 34.3 +1.1**
baz=246
L16K Owhat River 63.75 26 IAMs_20 IAMs_20 00 33 27.9

comp=Z,2µm,22.0s
L16K Owhat River 63.75 26 P **P 00 08 34.9 +1.4**
baz=245
Q16K King Salmon 63.85 30 P **P 00 08 35.0 +0.7**
baz=249
UZB Uzynbulak 63.93 312 *e*P **P 00 08 35.3 -0.1**

comp=Z,12nm,0.6s,baz=312
UZB Uzynbulak 63.93 312 *e*P **P 00 08 35.2 -0.1**
UZB pmax pmax

comp=Z,12nm,0.6s
J16K Anvik River 63.97 24 IAMs_20 IAMs_20 00 32 59.7

comp=Z,1µm,22.0s
J16K Anvik River 63.97 24 P **P 00 08 35.8 +0.8**
baz=243
H16K Elim 63.97 23 P **P 00 08 35.8 +0.8**
baz=241
RAR Rarotonga 64.01 121 LR LR 00 29 22.0

comp=Z,329nm,21.5s,baz=336,slow=29
O17K Koliganek Bris 64.04 29 P **P 00 08 36.9 +1.4**
baz=248,SNR=8.1
Q17K Contact Creek 64.08 30 P **P 00 08 36.3 +0.3**
baz=250
I17K Unalakleet 64.21 24 P **P 00 08 37.1 +0.6**
baz=243
KPKS Kokpek 64.21 313 *i*P **P 00 08 37.0 -0.1**

comp=Z,11nm,0.7s,baz=312
KPKS Kokpek 64.21 313 *di*P **P 00 08 37.0 -0.1**
KPKS pmax pmax

comp=Z,11nm,0.7s
N17K Nushagak Hills 64.28 28 P **P 00 08 37.6 +0.5**
N17K IAmb IAmb 00 08 58.6

comp=Z,74nm,1.6s
N17K Nushagak Hills 64.28 28 P **P 00 08 37.9 +0.8**
baz=248
PRZ Przheval'sk 64.29 311 P **P 00 08 38.2 +0.4**
PRZ Przheval'sk 64.29 311 P **P 00 08 38.2 +0.4**
PRZ pmax pmax

comp=Z,80nm,0.8s
ZHN Zhinishke 64.35 312 *e*P **P 00 08 38.0 -0.1**
baz=312
ZHN *e*S **S 00 17 17.1 +2.0**

baz=312
ZHN Zhinishke 64.35 312 *e*P **P 00 08 38.0 -0.1**
ZHN *e*S **S 00 17 17.0 +2.0**
SATY Saty 64.36 312 *e*P **P 00 08 38.3 +0.1**

comp=Z,9.0nm,0.6s,baz=312
SATY *e*S **S 00 17 16.9 +1.7**

baz=312
SATY Saty 64.36 312 *e*P **P 00 08 38.2 +0.1**
SATY *e*S **S 00 17 16.8 +1.7**
SATY pmax pmax

comp=Z,9.0nm,0.6s
SEM Semipalatinsk 64.39 320 *e*P **P 00 08 38.6 +0.3**

comp=Z,11nm,0.6s,baz=320
SEM LR LR 00 37 52.6

comp=Z,386nm,17.2s,baz=320
SEM Semipalatinsk 64.39 320 *e*P **P 00 08 38.5 +0.3**
SEM pmax pmax

comp=Z,11nm,0.6s
SEM MLR MLR

comp=Z,386nm,17.0s
SII Sitkinak Islan 64.40 33 P **P 00 08 39.4 +1.4**
baz=252
L17K Donlin 64.43 26 P **P 00 08 38.9 +0.8**
baz=246
M17K Holitna River 64.51 27 P **P 00 08 39.5 +1.0**
baz=247,SNR=7.3
R18K Karluk 64.57 32 P **P 00 08 39.4 +0.4**
baz=252
TDK Taldyqorghan 64.63 314 *e*P **P 00 08 40.3 +0.5**
baz=314
TDK LR LR 00 37 47.8

comp=Z,313nm,17.5s,baz=314
TDK Taldyqorghan 64.63 314 *e*P **P 00 08 40.2 +0.5**
TDK MLR MLR

comp=Z,313nm,17.0s
TARG Taragay, Kyrgy 64.64 311 P **P 00 08 39.9 -0.4**
TARG Taragay, Kyrgy 64.64 311 P **P 00 08 39.9 -0.4**
TARG pmax pmax

comp=Z,10.0nm,0.6s
Q18K Katmai Hardscr 64.65 30 P **P 00 08 40.3 +0.6**
baz=250
K17K Iditarod 64.67 25 IAMs_20 IAMs_20 00 33 23.2

comp=Z,1µm,21.0s
K17K Iditarod 64.67 25 P **P 00 08 40.8 +1.2**
baz=246
P18K Big Mountain, 64.79 29 P **P 00 08 40.4 -0.1**
baz=250
C16K Lisburne Hills 64.81 18 P **P 00 08 42.0 +1.6**
baz=236
N18K Kilae Creek 64.94 28 P **P 00 08 42.7 +1.3**
baz=249
O18K Koktuh Hills 64.96 29 P **P 00 08 43.0 +1.5**
baz=250
G17K Kiwalik Mounta 64.97 22 P **P 00 08 42.6 +1.0**
baz=242
H17K Granite Mounta 64.99 23 P **P 00 08 43.4 +1.7**
baz=243
OHAK Old Harbor 65.07 32 P **P 00 08 44.6 +2.4**
OHAK Old Harbor 65.07 32 P **P 00 08 43.3 +1.0**
baz=253
L18K Granite Mounta 65.16 26 IAMs_20 IAMs_20 00 34 10.2

comp=Z,2µm,22.0s
L18K Granite Mounta 65.16 26 P **P 00 08 44.0 +1.2**
baz=247
F17K Baldwin Pennin 65.21 21 P **P 00 08 43.9 +0.9**
baz=241
SVW2 Sparrevohn 65.23 28 P **P 00 08 43.8 +0.5**
SVW2 Sparrevohn 65.23 28 P **P 00 08 45.2 +1.9**
M18K Stony River 65.26 27 P **P 00 08 44.4 +1.0**
baz=248
E17K Hotham Inlet 65.33 20 P **P 00 08 44.8 +1.1**
baz=240,SNR=15
MDOK Medeo 65.36 312 *e*P **P 00 08 45.0 +0.3**
baz=312
MDOK Medeo 65.36 312 *e*P **P 00 08 45.0 +0.3**
Q19K Cape Douglas, 65.41 30 P **P 00 08 45.5 +1.0**
baz=252
TNSS Tian-Shan 65.42 312 *e*P **P 00 08 45.8 +0.4**
baz=312
TNSS Tian-Shan 65.42 312 *e*P **P 00 08 45.8 +0.4**
AAA Alma-Ata 65.46 312 *e*P **P 00 08 45.6 +0.4**
baz=312
AAA Alma-Ata 65.46 312 *e*P **P 00 08 45.6 +0.4**
RDOG Red Dog Mine 65.46 19 P **P 00 08 46.3 +1.6**
baz=239
KURK Kurchatov 65.47 320 P **P 00 08 44.4 -0.6**
KURK Kurchatov 65.47 320 IAMs_20 IAMs_20 00 40 17.9

comp=Z,1µm,20.0s
KURK Kurchatov 65.47 320 *ce*P **P 00 08 44.7 -0.3**
KURK pmax pmax

comp=Z,80nm,0.7s
CHKK Chushkaly 65.48 313 *e*P **P 00 08 45.1 -0.3**
baz=313
CHKK Chushkaly 65.48 313 *e*P **P 00 08 45.0 -0.3**
O19K Port Alsworth 65.50 29 P **P 00 08 45.8 +0.8**
baz=250
KURBB Kurchatov Arra 65.51 320 P **P 00 08 45.0 -0.2**
KURBB Kurchatov Arra 65.51 320 P **P 00 08 44.7 -0.5**

comp=Z,68nm,0.7s,baz=105,slow=6.6,SNR=262
KURBB LR LR 00 38 04.9

comp=Z,208nm,19.6s,baz=110,slow=37
comp=Z,68nm,0.7s
KDAK Kodiak Island 65.60 32 P **P 00 08 45.8 +0.1**
KDAK IAmb IAmb 00 08 47.8

comp=Z,52nm,1.1s
KDAK Kodiak Island 65.60 32 P **P 00 08 47.0 +1.3**
baz=253
KDAK Kodiak Island 65.60 32 P **P 00 08 45.8 +0.1**
KDAK pmax pmax

comp=Z,52nm,1.2s
KDAK Kodiak Island 65.60 32 LR LR 00 33 55.2

comp=Z,460nm,21.9s,baz=263,slow=33
C17K DeLong Mountai 65.60 19 P **P 00 08 46.7 +1.2**
baz=238
N19K Bonanza Creek 65.63 28 P **P 00 08 46.9 +0.9**
baz=250
J18K Innoko River 65.63 25 IAMs_20 IAMs_20 00 33 39.7

comp=Z,1µm,22.0s
J18K Innoko River 65.63 25 P **P 00 08 46.4 +0.5**
baz=247
H18K Honhosa River 65.68 23 IAMs_20 IAMs_20 00 33 24.8

comp=Z,1µm,21.0s
H18K Honhosa River 65.68 23 P **P 00 08 47.0 +0.9**
baz=244
TTA Tatalina 65.72 26 P **P 00 08 46.6 +0.1**
TTA IAmb IAmb 00 09 06.5

comp=Z,52nm,1.6s
TTA Tatalina 65.72 26 P **P 00 08 49.4 +2.9**
TTA Tatalina 65.72 26 P **P 00 08 47.2 +0.7**
baz=248
TTA Tatalina 65.72 26 P **P 00 08 46.6 +0.1**
TTA pmax pmax

comp=Z,52nm,1.6s
KSH Kashi 65.82 308 P **P 00 08 51.0 +3.3**
KSH pP sP 00 08 56.5 +1.5
KSH S **S 00 17 38.0 +4.8**
KSH pmax pmax

comp=Z,22nm,0.7s
P19K Oil Pt 65.84 30 P **P 00 08 47.4 +0.1**
baz=252
G18K Tagagawik 65.89 22 IAMs_20 IAMs_20 00 35 24.4

comp=Z,1µm,21.0s
G18K Tagagawik 65.89 22 P **P 00 08 48.6 +1.1**
baz=244
E18K Tukpahlearik C 65.91 20 P **P 00 08 48.7 +1.2**
baz=241
Q20K Shuyak Island 65.93 31 P **P 00 08 48.9 +1.0**
baz=253
L19K White Mountain 65.94 27 P **P 00 08 48.9 +1.0**
baz=249
KUU Kurty 65.96 313 *e*P **P 00 08 48.1 -0.3**
baz=313
KUU LR LR 00 38 56.4

baz=313
KUU Kurty 65.96 313 *e*P **P 00 08 48.0 -0.3**
GCSA Galena City Sc 66.08 24 P **P 00 08 50.5 +1.8**
baz=246
J19K Poorman 66.29 25 P **P 00 08 50.5 +0.4**
J19K IAmb IAmb 00 09 09.5

comp=Z,42nm,1.3s
J19K IAMs_20 IAMs_20 00 33 47.0

comp=Z,1µm,22.0s
J19K Poorman 66.29 25 P **P 00 08 51.3 +1.3**
baz=248
C18K Utukok River 66.31 19 P **P 00 08 51.3 +1.1**
baz=240
L20K Farewell, AK 66.47 26 P **P 00 08 52.6 +1.3**
baz=250
B18K Kokolik River 66.49 18 P **P 00 08 53.0 +1.8**
baz=239
H19K Roundabout Mou 66.56 23 P **P 00 08 53.3 +1.6**
baz=246
G19K Purcell Mounta 66.58 22 IAMs_20 IAMs_20 00 36 05.5

comp=Z,868nm,21.0s
G19K Purcell Mounta 66.58 22 P **P 00 08 53.0 +1.1**
baz=245
M20K Styx River 66.60 27 IAMs_20 IAMs_20 00 35 28.4

comp=Z,2µm,21.0s
M20K Styx River 66.60 27 P **P 00 08 53.4 +1.2**
baz=251
F19K Shaleruckik Mo 66.62 21 P **P 00 08 53.0 +0.9**
baz=244
K20K Telida 66.70 26 P **P 00 08 53.3 +0.6**
K20K IAmb IAmb 00 09 12.6

comp=Z,34nm,1.1s
K20K Telida 66.70 26 P **P 00 08 54.2 +1.5**
baz=249
CNPM China Poot 66.77 30 P **P 00 08 53.0 -0.2**
N20K Mount Spurr 66.80 28 P **P 00 08 54.7 +1.2**
baz=252
KBK Karagaybulak 66.84 311 P **P 00 08 54.3 0.0**
SNR=34
J20K Nowinta River 66.96 25 IAMs_20 IAMs_20 00 36 38.7

comp=Z,1µm,21.0s
J20K Nowinta River 66.96 25 P **P 00 08 55.9 +1.6**
baz=249
BRLK Bradley Lake 67.01 30 P **P 00 08 54.2 -0.6**
BRLK IAmb IAmb 00 09 03.2

comp=Z,70nm,1.4s
CHMS Chumysh 67.02 312 P **P 00 08 56.1 +1.0**
SNR=14
C19K Lookout Ridge 67.05 19 P **P 00 08 56.1 +1.2**
baz=242
I20K Naaghedeneel 67.05 24 IAMs_20 IAMs_20 00 36 30.1

comp=Z,1µm,21.0s
I20K Naaghedeneel 67.05 24 P **P 00 08 56.5 +1.7**
baz=248
BRSE Bradley Lake S 67.07 30 P **P 00 08 55.5 +0.4**
baz=254
E19K Redstone River 67.08 21 P **P 00 08 57.3 +2.3**
baz=245
FRU1 Bishkek 67.09 311 P **P 00 08 55.6 -0.1**
FRU1 Bishkek 67.09 311 P **P 00 08 55.6 -0.1**
FRU1 pmax pmax

comp=Z,42nm,0.5s
UCH Uchtor 67.13 311 P **P 00 08 58.3 +1.8**
SNR=37
A19K Wainwright 67.13 18 P **P 00 08 57.7 +2.4**
baz=240
SGDS Sogindy 67.15 312 *ie*P **P 00 08 55.7 -0.4**
baz=312
SGDS Sogindy 67.15 312 *de*P **P 00 08 55.6 -0.4**
H20K Anotleneega Mo 67.15 23 P **P 00 08 56.8 +1.3**
baz=248
AAK Ala-Archa 67.18 311 P **P 00 08 56.7 +0.3**
SNR=5.4
AAK Ala-Archa 67.18 311 P **P 00 08 56.1 -0.3**
AAK IAmb IAmb 00 08 57.9

comp=Z,16nm,0.6s
AAK IAMs_20 IAMs_20 00 41 31.3

comp=Z,551nm,18.0s
AAK Ala-Archa 67.18 311 *ce*P **P 00 08 56.2 -0.1**
AAK pmax pmax

comp=Z,16nm,0.8s
AAK Ala-Archa 67.18 311 P **P 00 08 56.3 0.0**

comp=Z,10nm,0.4s,baz=120,slow=5.8,SNR=54
AAK LR LR 00 41 15.7

comp=Z,337nm,18.5s,baz=90,slow=39
comp=Z,10nm,0.4s
D19K Kuna River 67.24 20 P **P 00 08 56.9 +0.8**
baz=243
PPLA Purkeypile 67.35 26 P **P 00 08 58.6 +1.6**
baz=251,SNR=7.4
SKT Skwentna 67.35 27 P **P 00 08 56.0 -0.9**
SKT IAmb IAmb 00 09 15.9

comp=Z,40nm,1.3s
SKT Skwentna 67.35 27 P **P 00 08 56.8 -0.1**
baz=252,SNR=9.0
NRIK Noril'sk 67.43 341 P **P 00 08 57.2 0.0**
NRIK IAmb IAmb 00 09 43.7

comp=Z,29nm,1.2s
NRIK Noril'sk 67.43 341 *ce*P **P 00 08 56.9 -0.3**
NRIK pmax pmax

comp=Z,14nm,1.1s
NRIK Noril'sk 67.43 341 P **P 00 08 56.6 -0.5**
comp=Z,8.7nm,0.9s,baz=115,slow=7.6,SNR=15
NRIK LR LR 00 39 52.5

comp=Z,426nm,18.6s,baz=114,slow=37
comp=Z,8.7nm,0.9s
F20K Avaraart Lake 67.44 22 P **P 00 08 58.7 +1.4**
baz=246
SUA Susitna One 67.56 28 P **P 00 08 58.7 +0.4**
baz=253,SNR=7.1
CAST Castle Rocks 67.56 26 P **P 00 08 58.4 +0.2**
CAST IAmb IAmb 00 09 18.3

comp=Z,83nm,1.6s
CAST IAMs_20 IAMs_20 00 35 58.7

comp=Z,2µm,22.0s
CAST Castle Rocks 67.56 26 P **P 00 08 59.5 +1.3**
baz=251,SNR=26
CHUM Lake Minchumin 67.61 25 P **P 00 08 59.9 +1.4**
baz=251,SNR=9.4
BTLS Baital 67.71 314 *e*P **P 00 08 59.3 -0.1**

comp=Z,11nm,0.7s,baz=314
BTLS Baital 67.71 314 *e*P **P 00 08 59.3 -0.1**
BTLS pmax pmax

comp=Z,11nm,0.7s
EKS2 Erkin-Say 67.71 311 P **P 00 09 00.9 +1.3**
SNR=8.9
AML Almayashu 67.73 311 P **P 00 09 00.7 +0.6**
SNR=14
O22K Cooper Landing 67.76 29 P **P 00 09 00.5 +1.0**
baz=255,SNR=13
IMAR Indian Mountai 67.77 23 P **P 00 08 59.8 +0.4**
E20K Nigu River 67.78 20 P **P 00 09 00.7 +1.1**
baz=246
NIL Nilore 67.80 301 P **P 00 09 00.0 -0.2**
NIL Nilore 67.80 301 P **P 00 09 00.0 -0.2**
NIL pmax pmax

comp=Z,94nm,0.7s
SEW Seward 67.80 30 P **P 00 09 00.4 +0.7**
baz=255
D20K Etivluk River 67.83 20 P **P 00 09 00.9 +1.1**
baz=245
RC01 Rabbit Creek A 67.92 29 IAMs_20 IAMs_20 00 35 26.3

comp=Z,2µm,22.0s
RC01 Rabbit Creek A 67.92 29 P **P 00 09 00.7 +0.3**
baz=254,SNR=17
M22K Willow 67.92 28 P **P 00 09 00.8 +0.4**
baz=254
H21K Melozitna Rive 68.02 23 P **P 00 09 01.8 +0.8**
baz=250,SNR=14
CUT Chulitna 68.04 27 P **P 00 09 02.0 +0.8**
baz=253
G21K Allakaket 68.05 22 P **P 00 09 02.0 +0.8**
baz=249
KTH Kantishna Hill 68.10 26 P **P 00 09 01.2 -0.5**
KTH IAmb IAmb 00 09 10.3

comp=Z,52nm,1.1s
I21K Tanana 68.18 24 P **P 00 09 03.3 +1.3**
baz=251
ARSB Arslanbob 68.22 310 P **P 00 09 02.6 -0.3**
ARSB Arslanbob 68.22 310 P **P 00 09 02.6 -0.3**
ARSB pmax pmax

comp=Z,13nm,0.6s
B20K Meade River 68.22 18 P **P 00 09 04.0 +1.9**
baz=244
BPAW Bear Paw Mtn. 68.24 25 P **P 00 09 02.2 -0.2**
BPAW IAMs_20 IAMs_20 00 35 54.6

comp=Z,1µm,20.0s
BPAW Bear Paw Mtn. 68.24 25 P **P 00 09 03.1 +0.6**
baz=252,SNR=11
F21K Alatna River 68.32 22 P **P 00 09 04.5 +1.6**
baz=248
PMR Palmer 68.33 28 P **P 00 09 03.1 +0.1**
PMR IAmb IAmb 00 09 22.1

comp=Z,82nm,1.7s
PMR Palmer 68.33 28 P **P 00 09 05.1 +2.1**
PMR Palmer 68.33 28 P **P 00 09 03.6 +0.6**
baz=255,SNR=8.1
PMR Palmer 68.33 28 P **P 00 09 03.1 +0.1**
PMR pmax pmax

comp=Z,82nm,1.7s
TRF Thorofare Moun 68.34 26 P **P 00 09 02.6 -0.6**
TRF IAmb IAmb 00 09 21.7

comp=Z,26nm,1.0s
TRF Thorofare Moun 68.34 26 P **P 00 09 03.3 +0.1**
baz=253,SNR=7.3
KNK Knik Glacier 68.60 28 P **P 00 09 04.7 0.0**
KNK Knik Glacier 68.60 28 P **P 00 09 04.8 0.0**
baz=256,SNR=12
E21K Kilik River 68.61 20 P **P 00 09 05.9 +1.2**
baz=248
C21K Knifeblade Rid 68.62 20 P **P 00 09 05.2 +0.6**
baz=246
MLY Manley 68.63 24 P **P 00 09 05.8 +0.9**
baz=252,SNR=24
H22K Ishtalitna Cre 68.65 23 P **P 00 09 06.5 +1.5**
baz=251
SML Sawmill 68.76 28 P **P 00 09 05.7 -0.1**
SML Sawmill 68.76 28 P **P 00 09 06.2 +0.4**
baz=256,SNR=21
P23K Montague Islan 68.77 30 P **P 00 09 07.0 +1.3**
baz=257
B21K Ikpikpuk River 68.86 19 P **P 00 09 07.9 +1.7**
baz=246
F22K John River 68.89 22 P **P 00 09 08.1 +1.6**
baz=250
WAT1 Susitna Watana 68.92 27 P **P 00 09 07.4 +0.7**
baz=255
G22K Bettles 68.94 22 P **P 00 09 07.8 +1.1**
baz=251
RND Reindeer 68.94 26 P **P 00 09 06.5 -0.4**
RND IAmb IAmb 00 09 29.9

comp=Z,18nm,0.8s
RND Reindeer 68.94 26 P **P 00 09 06.5 -0.4**
RND pmax pmax

comp=Z,18nm,0.8s
A21K Barrow 68.96 17 P **P 00 09 08.0 +1.2**
baz=244
MCK McKinley 69.00 26 P **P 00 09 08.2 +1.0**
baz=254
M23K Glacier View 69.03 28 P **P 00 09 08.4 +1.0**
baz=256,SNR=7.8
GLI Glacier Island 69.11 29 IAMs_20 IAMs_20 00 35 14.0

comp=Z,2µm,21.0s
GLI Glacier Island 69.11 29 P **P 00 09 08.3 +0.4**
baz=257
BRZS Berezniki 69.12 319 *e*P **P 00 09 07.8 -0.4**

comp=Z,11nm,0.7s,baz=319
BRZS Berezniki 69.12 319 *e*P **P 00 09 07.8 -0.4**
BRZS pmax pmax

comp=Z,11nm,0.7s
Q23K Middleton Isla 69.17 31 P **P 00 09 09.4 +1.2**
baz=258
OTUK Ortayu 69.17 317 P **P 00 09 08.0 -0.6**
NEA2 Nenana 69.18 25 P **P 00 09 08.7 +0.5**
baz=254
D22K Ayikyak River 69.21 20 P **P 00 09 10.3 +1.9**
baz=249
I23K Minto, Yukon-K 69.22 24 P **P 00 09 09.8 +1.4**
baz=253,SNR=12
WAT6 Susitna Watana 69.22 27 P **P 00 09 09.3 +0.5**
baz=256,SNR=12
SCM Sheep Creek Mo 69.23 28 P **P 00 09 08.9 +0.2**
SCM Sheep Creek Mo 69.23 28 P **P 00 09 09.6 +0.9**
baz=256,SNR=27
SCM Sheep Creek Mo 69.23 28 P **P 00 09 08.9 +0.2**
SCM pmax pmax

comp=Z,90nm,1.1s
E22K Anaktuvuk Pass 69.24 21 P **P 00 09 09.1 +0.5**
baz=250

A22K Sinclair Lake 69.31 18 P P 00 09 09.8 +0.9
baz=246
G23K Bananza Creek 69.43 23 P P 00 09 10.8 +1.0
baz=252
DHY Denali Highway 69.50 27 P P 00 09 11.3 +0.8
baz=256,SNR=12
DZA Taraz 69.52 311 eP P 00 09 10.2 -0.7
comp=Z,9.1nm,0.6s,baz=311
DZA Taraz 69.52 311 eP P 00 09 10.1 -0.7
DZA pmax pmax
comp=Z,9.0nm,0.6s
B22K Teshekpuk Lake 69.52 19 P P 00 09 11.1 +0.9
baz=248
COLD Coldfoot 69.52 22 P P 00 09 11.7 +1.4
baz=252,SNR=20
EYAK Cordova Ski Ar 69.69 30 P P 00 09 12.4 +1.0
baz=258
CCB Clear Creek Bu 69.72 25 P P 00 09 10.9 -0.7
CCB IAmb IAmb 00 09 30.5
comp=Z,49nm,1.5s
COLA College 69.76 25 P P 00 09 11.2 -0.6
COLA College 69.76 25 P P 00 09 14.4 +2.6
COLA College 69.76 25 P P 00 09 13.1 +1.3
baz=255
COLA College 69.76 25 P P 00 09 11.2 -0.6
COLA pmax pmax
comp=Z,18nm,0.3s
KLU Klutina 69.80 29 P P 00 09 13.6 +1.3
baz=258,SNR=15
BTK Batken 69.81 308 P P 00 09 11.8 -1.0
BTK IAmb IAmb 00 09 32.1
comp=Z,31nm,0.6s
BTK Batken 69.81 308 P P 00 09 11.8 -1.0
M24K Tolsona, Glenn 69.82 28 P P 00 09 13.8 +1.5
baz=257,SNR=9.5
D23K Nanushuk River 69.92 20 P P 00 09 14.7 +1.9
baz=251
POKR Poker Plat Res 70.00 25 P P 00 09 13.7 +0.4
baz=255
E23K Chandalar 70.00 21 P P 00 09 14.9 +1.5
baz=252
H24K Noodor Dome 70.01 24 P P 00 09 14.0 +0.6
baz=254,SNR=17
HDA Harding Lake 70.02 25 P P 00 09 13.2 -0.2
baz=256,SNR=8.6
HDA P P 00 09 13.2 -0.2
baz=256,SNR=8.6
KK31 Karatay Array 70.13 312 P P 00 09 13.9 -0.7
KK31 IAmb IAmb 00 09 34.0
comp=Z,31nm,0.8s
KK31 Karatay Array 70.13 312 eP P 00 09 14.7 +0.1
KKAR Karatay Array 70.13 312 P P 00 09 14.1 -0.5
KKAR Karatay Array 70.13 312 P P 00 09 14.1 -0.5
IL31 70.13 25 P P 00 09 12.7 -1.4
ILAR Eielson Array 70.13 25 P P 00 09 12.7 -1.5
ILAR Eielson Array 70.13 25 P P 00 09 12.8 -1.3
comp=Z,12nm,0.4s,baz=252,slow=5.7,SNR=264
ILAR LR LR 00 39 29.3
comp=Z,406nm,19.9s,baz=244,slow=36
comp=Z,12nm,0.4s
TOLK Toolik Lake Re 70.19 21 IAMs_20 IAMs_20 00 38 11.1
comp=Z,893nm,20.0s
TOLK Toolik Lake Re 70.19 21 P P 00 09 15.8 +1.3
baz=252,SNR=15
KAIM Kayak Island 70.22 30 P P 00 09 14.9 +0.1
baz=260
C23K Itkillik River 70.23 20 P P 00 09 16.0 +1.4
baz=250
BMRM Bremner River 70.32 29 P P 00 09 16.7 +1.3
baz=259,SNR=11
PAX Paxson 70.33 27 P P 00 09 16.7 +1.2
baz=258,SNR=21
HARP HAARP 70.35 28 P P 00 09 16.2 +0.7
baz=258,SNR=15
K24K Donnelly Dome 70.37 26 P P 00 09 15.8 +0.1
baz=257,SNR=14
G24K Hadweenzic Riv 70.40 23 P P 00 09 16.6 +0.9
baz=254,SNR=14
E24K Your Creek 70.41 22 P P 00 09 16.8 +1.0
baz=253
N25K Chitina, Valde 70.45 29 P P 00 09 17.5 +1.3
baz=259,SNR=8.2
F24K Squaw Lake 70.47 22 P P 00 09 17.7 +1.6
baz=254
D24K Happy Valley 70.61 20 P P 00 09 18.7 +1.7
baz=252
J25K Salcha River, 70.73 25 P P 00 09 17.6 -0.2
baz=257,SNR=19
RIDG Independent Ri 70.77 26 P P 00 09 17.7 -0.4
RIDG IAmb IAmb 00 09 25.1
comp=Z,30nm,0.9s
RIDG Independent Ri 70.77 26 P P 00 09 18.2 +0.1
baz=258,SNR=14
GLB Gilahina Butte 70.79 29 P P 00 09 18.2 0.0
GLB IAmb IAmb 00 09 26.6
comp=Z,71nm,1.4s
GLB IAMs_20 IAMs_20 00 38 38.2
comp=Z,1µm,19.0s
C24K Franklin Bluff 70.83 20 P P 00 09 19.8 +1.5
baz=252
BVA0 Borovoye Array 70.85 322 i P P 00 09 18.4 -0.4
BVAR Borovoye Array 70.85 322 P P 00 09 18.4 -0.4
comp=Z,98nm,0.6s,baz=103,slow=7.8,SNR=268
BVAR LR LR 00 43 11.5
comp=Z,1µm,18.1s,baz=97,slow=38
comp=Z,98nm,0.6s
PRP Porcupine Dome 70.87 24 P P 00 09 17.9 -0.9
baz=257
BRVK Borovoye 70.92 322 P P 00 09 19.3 +0.1
BRVK Borovoye 70.92 322 IAMs_20 IAMs_20 00 43 36.0
comp=Z,1µm,19.0s
BRVK Borovoye 70.92 322 ceP P 00 09 18.8 -0.3
BRVK pmax pmax
comp=Z,71nm,0.7s
VRDI Verde Repeater 70.92 29 P P 00 09 19.6 +0.4
VRDI IAmb IAmb 00 09 39.6
comp=Z,37nm,1.2s
G25K Bearman Lake 70.94 23 P P 00 09 20.4 +1.4
baz=256
CRQM Cirque 70.99 30 P P 00 09 19.0 -0.7
CRQM IAmb IAmb 00 09 22.0
comp=Z,36nm,0.8s
CRQE Cirque 71.01 30 P P 00 09 21.0 +1.3
baz=261,SNR=6.0
CHGR Chuyangaron 71.09 307 P P 00 09 20.2 -0.4
CHGR Chuyangaron 71.09 307 P P 00 09 20.2 -0.4
CHGR pmax pmax
comp=Z,71nm,0.7s
MENT Mentasta 71.11 27 P P 00 09 22.4 +2.3
MCARA McCarthy VSAT 71.15 29 P P 00 09 22.0 +1.6
baz=260,SNR=10
SCRK Sand Creek 71.19 26 P P 00 09 20.4 -0.3
SCRK IAmb IAmb 00 09 40.6
comp=Z,26nm,1.0s
SCRK Sand Creek 71.19 26 P P 00 09 21.2 +0.4
baz=259,SNR=13
KBL Kabul 71.27 302 P P 00 09 21.5 -0.4
KBL Kabul 71.27 302 P P 00 09 21.5 -0.4
KBL pmax pmax
comp=Z,23nm,1.0s
L26K Log Cabin Wild 71.29 27 P P 00 09 21.8 +0.6
baz=260,SNR=13
F25K Christian Rive 71.32 22 P P 00 09 22.6 +1.2
baz=256,SNR=19
M26K Nabesna, AK 71.34 28 IAMs_20 IAMs_20 00 37 04.6
comp=Z,2µm,21.0s
M26K Nabesna, AK 71.34 28 P P 00 09 22.7 +1.1
baz=260
J26L Joseph Creek 71.47 26 P P 00 09 23.3 +0.9
baz=259
E25K Arctic Village 71.47 22 P P 00 09 23.6 +1.3
baz=256,SNR=17
MESA MESA 71.49 30 P P 00 09 23.4 +0.7
baz=262
D25K Kavik River 71.50 20 P P 00 09 23.5 +1.1
baz=255,SNR=32
PPT Papeete 71.51 113 LR LR 00 33 25.1
comp=Z,597nm,19.8s,baz=326,slow=30
PPT2 Papeete2 71.52 113 eP P 00 09 29.9 +6.5
comp=Z,131nm,23.5s
PPT2 eS S 00 18 36.0 -5.3
comp=Z,335nm,24.0s
PPT2 Papeete2 71.52 113 eLR LR 00 30 48.2
comp=Z,923nm,23.0s
PPT2 eLR LR 00 30 56.7
comp=Z,745nm,23.5s
GRNC Granite Creek 71.66 30 P P 00 09 23.9 +0.2
GRNC IAmb IAmb 00 09 26.2
comp=Z,30nm,0.8s
BMAR Burnt Mountain 71.68 23 P P 00 09 24.4 +0.9
I26K Coal Creek Min 71.80 25 P P 00 09 24.3 +0.1
baz=259
M27K Edge Creek, AK 71.84 28 P P 00 09 25.5 +0.7
baz=261,SNR=15
G26K Porcupine Rive 71.87 23 P P 00 09 26.2 +1.6
baz=258
CTG Chitna Glacier 71.89 30 P P 00 09 26.2 +1.1
baz=262,SNR=14
CTGM Chitina Glacie 71.90 30 P P 00 09 25.9 +0.8
CTGM IAmb IAmb 00 09 28.3
comp=Z,38nm,0.9s
F26K Sheenjek River 71.90 22 P P 00 09 26.4 +1.5
baz=257
L27K Beaver Creek, 71.98 27 P P 00 09 26.7 +1.3
baz=261
BCAR Beaver Creek A 72.00 27 P P 00 09 25.5 -0.1
K27K Chicken 72.02 26 P P 00 09 27.0 +1.4
baz=260
C26K Camden Bay 72.14 20 P P 00 09 28.1 +1.8
baz=256
PINM Pinnacle 72.32 31 P P 00 09 28.6 +1.0
baz=263
BVCY Beaver Creek 72.32 28 P P 00 09 28.8 +1.3
baz=262,SNR=11
YUK3 Moose Creek 72.42 29 P P 00 09 29.4 +1.0
baz=263,SNR=16
I27K Kandik River 72.48 25 P P 00 09 29.6 +1.2
baz=260
EGAK Eagle 72.54 26 P P 00 09 29.6 +1.0
EGAK IAmb IAmb 00 09 48.9
comp=Z,79nm,1.6s
EGAK Eagle 72.54 26 P P 00 09 30.2 +1.5
baz=261,SNR=11
H27K Steamboat Moun 72.62 24 P P 00 09 30.4 +1.2
baz=260
G27K Doyon Strip 72.67 23 P P 00 09 30.5 +1.0
baz=260
YUK8 Steele Glacier 72.69 29 P P 00 09 31.4 +1.4
baz=263,SNR=11
PNL Peninsula 72.70 31 P P 00 09 30.8 +1.1
baz=264
E27K Coleen River 72.94 22 P P 00 09 32.5 +1.5
baz=260
I28M Miner Creek 73.15 25 P P 00 09 33.8 +1.4
baz=262
O29M Mount Kennedy 73.17 30 P P 00 09 33.9 +1.2
baz=265
DAWY Dawson 73.20 26 P P 00 09 33.5 +0.8
DAWY IAmb IAmb 00 09 53.4
comp=Z,80nm,1.5s
DAWY Dawson 73.20 26 P P 00 09 34.1 +1.5
baz=263,SNR=20
YUK4 Talbot Arm 73.24 29 P P 00 09 34.7 +1.5
baz=264,SNR=17
YUK6 Outpost Mounta 73.33 30 P P 00 09 35.1 +1.3
baz=265
D27M Malcolm River 73.36 21 P P 00 09 35.9 +2.3
baz=260
M29M Somme Creek 73.43 28 P P 00 09 35.2 +1.0
baz=264
F28M Old Crow 73.49 23 P P 00 09 35.5 +1.2
baz=261,SNR=20
P29M Windy Craggy 73.54 31 P P 00 09 35.9 +1.2
baz=266,SNR=9.4
TBI Tubuai 73.61 119 eP P 00 09 48.0 +12
TBI comp=Z,571nm,27.0s eS S 00 19 06.6 +1.7
TBI comp=Z,2µm,29.8s eSS SS 00 23 45.1 -3.5
TBI comp=Z,947nm,30.2s eLQ LQ 00 28 58.3
TBI comp=Z,1µm,28.0s eLR LR 00 31 58.5
comp=Z,2µm,23.0s
L29M L29M 73.65 28 P P 00 09 37.0 +1.7
baz=264
HYT Haines Junctio 73.74 30 P P 00 09 37.0 +0.9
HYT IAmb IAmb 00 09 39.2
comp=Z,26nm,0.8s
HYT Haines Junctio 73.74 30 P P 00 09 37.2 +1.1
baz=266,SNR=14
E28M Babbage River 73.76 22 P P 00 09 37.9 +2.1
baz=261
I29M Ogilvie Camp, 73.81 25 P P 00 09 37.4 +1.2
baz=264,SNR=12
H29M Whitestone 73.89 24 P P 00 09 37.8 +1.2
baz=263
P30M Million Dollar 73.96 31 P P 00 09 38.9 +1.6
baz=266
N30M Aishikik Lake 73.99 29 P P 00 09 39.0 +1.6
baz=266
K29M Barlow Dome 74.00 27 P P 00 09 38.2 +0.8
baz=265,SNR=29
G29M Pine Creek 74.11 24 P P 00 09 39.1 +1.2
baz=263
D28M Stokes Point 74.15 21 P P 00 09 40.0 +1.9
baz=262,SNR=13
M30M Minto, Yukon 74.22 28 P P 00 09 40.1 +1.5
baz=266,SNR=13
S31K Pelican 74.22 33 P P 00 09 39.5 +0.8
baz=268
E29M Blow River 74.33 22 P P 00 09 40.4 +1.3
baz=263,SNR=13
O30N Mendenhall 74.43 30 P P 00 09 40.7 +0.7
baz=267
EPYK Eagle Plains 74.57 24 P P 00 09 41.0 +0.3
EPYK Eagle Plains 74.57 24 P P 00 09 41.7 +1.1
baz=265,SNR=10.0
J30M Hart River 74.58 26 P P 00 09 42.1 +1.3
baz=266
I30M Mount Dempster 74.61 25 P P 00 09 42.3 +1.3
baz=265
N31M Braeburn, Yuko 74.62 29 P P 00 09 42.8 +1.8
baz=267,SNR=8.1
MAYO Mayo, Yukon 74.70 27 P P 00 09 42.8 +1.4
baz=266
SKAG Skagway 74.75 31 P P 00 09 45.7 +4.0
SKAG Skagway 74.75 31 P P 00 09 43.7 +2.0
baz=268
G30M tAoh Zraii Nji 74.82 24 P P 00 09 43.0 +0.9
baz=265
WHY Whitehorse 75.02 30 P P 00 09 44.0 +0.6
WHY IAmb IAmb 00 10 05.5
comp=Z,81nm,1.6s
WHY Whitehorse 75.02 30 P P 00 09 45.0 +1.5
baz=268,SNR=15
F30M Barrier River 75.04 23 P P 00 09 44.5 +1.2
baz=265
S32K Killineo 75.09 34 P P 00 09 44.2 +0.5
baz=269
R32K Eaglecrest 75.14 33 P P 00 09 44.9 +0.9
baz=269
JIS Juneau Island 75.21 33 P P 00 09 45.6 +1.2
M31M Drury Creek, Y 75.31 29 P P 00 09 46.0 +1.0
baz=268,SNR=14
P32M Atlin 75.58 31 P P 00 09 48.0 +1.4
baz=269,SNR=11
G31M Satah River 75.58 24 P P 00 09 46.9 +0.5
baz=267,SNR=24
FARO Faro, Yukon 75.80 29 P P 00 09 49.0 +1.2
baz=269,SNR=6.2
F31M Tsiigehtchic 75.82 23 P P 00 09 48.9 +1.2
baz=267,SNR=9.5
U33K Whale Pass 75.89 35 P P 00 09 49.2 +0.9
baz=271
N32M Quiet Lake 75.91 30 P P 00 09 50.0 +1.6
baz=269
INK Inuvik 75.94 22 P P 00 09 48.4 0.0
INK Inuvik 75.94 22 P P 00 09 49.3 +0.9
baz=267,SNR=17
INK Inuvik 75.94 22 P P 00 09 48.4 0.0
INK pmax pmax
comp=Z,131nm,1.7s
P33M Teslin, Yukon 76.03 31 P P 00 09 50.6 +1.4
baz=270,SNR=8.5
WRAK Wrangell Islan 76.32 35 P P 00 09 50.5 -0.3
WRAK IAmb IAmb 00 09 54.0
comp=Z,42nm,0.9s
WRAK Wrangell Islan 76.32 35 P P 00 09 51.5 +0.7
baz=271
Q32M Nakina River 76.32 32 P P 00 09 52.1 +1.0
baz=271,SNR=6.8
DIB Dawson Inlet, 76.32 38 P P 00 09 51.4 +0.5
DIB IAmb IAmb 00 10 11.4
comp=Z,58nm,1.0s
SVE Sverdlovsk 76.61 326 deP P 00 09 53.1 +0.7
SVE eS S 00 19 38.3 +1.2
SVE pmax pmax
comp=Z,58nm,0.9s
SVE MLR MLR
comp=Z,785nm,19.0s
HRA Herat 76.89 303 P P 00 09 54.6 -0.2
HRA IAmb IAmb 00 10 02.1
comp=Z,31nm,0.9s
S34M Telegraph Cree 76.94 33 P P 00 09 55.7 +1.4
baz=272,SNR=12
R33M Jennings River 76.98 32 P P 00 09 55.9 +1.2
baz=272
AB31 Akbulak array 77.38 318 i P P 00 09 56.0 -0.9
ABKAR Akbulak array 77.38 318 P P 00 09 56.2 -0.7
ABKAR Akbulak array 77.38 318 P P 00 09 56.5 -0.5
ABKAR IAmb IAmb 00 10 15.8
comp=Z,39nm,0.6s
T35M Bob Quinn 77.45 34 P P 00 09 58.9 +1.6
baz=273,SNR=8.7
DLBC Dease Lake 77.50 32 P P 00 09 58.3 +0.8
DLBC Dease Lake 77.50 32 P P 00 09 58.9 +1.4
baz=273,SNR=20
DLBC Dease Lake 77.50 32 LR LR 00 42 31.4
comp=Z,286nm,18.8s,baz=286,slow=34
ARU Arti 77.77 325 P P 00 09 58.4 -0.5
ARU Arti 77.77 325 c iP P 00 09 58.6 -0.4
ARU 00 10 09.3
ARU 00 12 51.6
ARU S S 00 19 53.7 +3.9
ARU SS SS 00 24 46.0 -3.8
ARU pmax pmax
comp=Z,48nm,0.7s
ARU Arti 77.77 325 P P 00 09 58.4 -0.5
comp=Z,53nm,0.6s,baz=93,slow=3.6,SNR=127
ARU LR LR 00 47 45.2
comp=Z,249nm,18.0s,baz=80,slow=38
comp=Z,53nm,0.6s
TAOE Nuku Hiva Isla 77.80 102 eLR LR 00 34 01.1
comp=Z,657nm,21.5s
WTLY Watson Lake, Y 78.05 31 P P 00 10 02.3 +1.8
baz=273
TGTN Hyland Airport 78.22 29 P P 00 10 03.2 +1.8
baz=274,SNR=24
AKTO Aktyubinsk 78.53 319 P P 00 10 03.1 -0.2
comp=Z,10nm,0.7s,baz=90,slow=5.9,SNR=28
comp=Z,10nm,0.7s
A36M Sachs Harbour 78.73 18 P P 00 10 04.1 +0.2
A36M IAmb IAmb 00 10 23.8
comp=Z,58nm,0.9s
A36M Sachs Harbour 78.73 18 P P 00 10 04.9 +0.9
baz=274
BBB Bella Bella 79.04 39 LR LR 00 40 40.8
comp=Z,975nm,20.9s,baz=263,slow=32
C36M Paulatuk 79.34 21 P P 00 10 09.1 +1.7
baz=276
GEYT Alibeck 79.81 307 P P 00 10 10.4 -0.2
GEYT IAmb IAmb 00 10 18.3
comp=Z,31nm,0.9s
GEYT Alibeck 79.81 307 P P 00 10 10.4 -0.2
GEYT pmax pmax
comp=Z,31nm,0.9s
GEYT Alibeck 79.81 307 P P 00 10 11.3 +0.7
comp=Z,13nm,0.7s,baz=96,slow=1.5,SNR=38
GEYT LR LR 00 50 42.2
comp=Z,228nm,18.4s,baz=96,slow=40
comp=Z,13nm,0.7s
GYA0B ALIBECK ARRAY 79.81 307 P P 00 10 11.4 +0.8
GYA0B IAmb IAmb 00 10 18.2
comp=Z,31nm,0.9s
WRGLY Wrigley 80.29 27 P P 00 10 14.8 +2.2
baz=277,SNR=12
KOTAN Kotaneelee Air 80.41 30 P P 00 10 14.7 +1.3
baz=277,SNR=10
WSAR Wadi Sarin 81.52 292 LR LR 00 47 25.0
comp=Z,97nm,21.9s,baz=90,slow=36
NLWA Neilton Lookou 82.39 43 P P 00 10 25.1 +1.0
NLWA IAmb IAmb 00 10 45.9
comp=Z,38nm,1.1s
KIRV Kirov 82.41 328 ceP P 00 10 24.0 +0.1
KIRV Kirov 82.41 328 LR LR 00 49 39.1
comp=Z,254nm,19.0s,baz=81,slow=38
GNW Green Mountain 83.06 43 P P 00 10 28.6 +1.0
GNW IAmb IAmb 00 10 49.1
comp=Z,38nm,1.1s
KSXB Camp Six Broad 83.33 49 P P 00 10 29.5 +0.2
KSXB IAmb IAmb 00 10 51.1
comp=Z,46nm,1.3s
UOSS Minazif 83.41 294 P P 00 10 29.7 -0.2
L02F Cave Junction 83.50 48 P P 00 10 29.5 -0.6
PRGR Permogore 83.63 332 ij iP P 00 10 30.6 +0.4
PRGR pmax pmax
comp=Z,60nm,0.7s
HUMO Hull Mountain 83.86 48 P P 00 10 31.7 -0.2
HUMO IAmb IAmb 00 10 53.6
comp=Z,48nm,1.2s
YBH Yreka Blue Hor 84.21 49 P P 00 10 33.6 -0.1
YBH IAmb IAmb 00 10 52.6
comp=Z,26nm,1.0s
YBH Yreka Blue Hor 84.21 49 P P 00 10 33.6 -0.1
YBH pmax pmax
comp=Z,26nm,1.0s
YBH Yreka Blue Hor 84.21 49 LR LR 00 42 48.8
comp=Z,373nm,21.7s,baz=290,slow=32
HILA High Level 84.24 31 P P 00 10 33.6 +0.2
YKA Yellowknife Ar 84.41 27 P P 00 10 34.1 -0.1
YKA Yellowknife Ar 84.41 27 ceP P 00 10 34.5 +0.3
YKA pmax pmax
comp=Z,8.0nm,0.7s
YKA Yellowknife Ar 84.41 27 P P 00 10 34.5 +0.3
comp=Z,7.4nm,0.7s,baz=286,slow=5.5,SNR=56
YKA LR LR 00 48 14.0
comp=Z,534nm,19.8s,baz=278,slow=36
comp=Z,7.4nm,0.7s
EUNU Eureka 84.44 8 P P 00 10 34.5 +0.4
BELG Belogornoye 84.66 322 i P P 00 10 35.8 +0.2
BELG pmax pmax
comp=Z,5.0nm,0.9s
BELG Belogornoye 84.66 322 LR LR 00 51 01.1
comp=Z,623nm,18.3s,baz=104,slow=38
PINE Pine Mountain 85.08 46 P P 00 10 38.5 +0.2
SPA0 Spitsbergen Ar 85.48 351 P P 00 10 39.7 +0.4
SPA0 Spitsbergen Ar 85.48 351 eP P 00 10 40.1 +0.8
SPITS Spitsbergen Ar 85.48 351 P P 00 10 38.9 -0.5
comp=Z,4.1nm,0.4s,baz=90,slow=7.5,SNR=19
SPITS LR LR 00 50 07.7
comp=Z,275nm,21.5s,baz=6.0,slow=37
comp=Z,4.1nm,0.4s
HAWA Hanford 85.50 44 P P 00 10 40.7 +0.7
HAWA IAmb IAmb 00 11 00.6
comp=Z,81nm,1.9s
ORV Oroville 85.54 51 P P 00 10 40.9 +0.5
ORV IAmb IAmb 00 11 01.3
comp=Z,30nm,1.3s
ORV Oroville 85.54 51 P P 00 10 40.9 +0.5
ORV pmax pmax
comp=Z,30nm,1.3s
MOD Modoc Plateau 85.94 48 IAMs_20 IAMs_20 00 46 44.1
comp=Z,740nm,21.0s
RES Resolute Bay 86.13 13 P P 00 10 42.9 +0.3
RES IAmb IAmb 00 10 51.0
comp=Z,41nm,0.9s
RES Resolute Bay 86.13 13 P P 00 10 42.9 +0.3
RES pmax pmax
comp=Z,41nm,0.9s
RES Resolute Bay 86.13 13 LR LR 00 49 08.7
comp=Z,206nm,21.9s,baz=339,slow=36
LVZ Lovozero 86.16 339 P P 00 10 41.7 -1.2
LVZ Lovozero 86.16 339 P P 00 10 41.7 -1.2
LVZ pmax pmax
comp=Z,100nm,1.5s
HSPB Hornsund (broa 86.38 350 eP P 00 10 45.2 +1.5
NEW Newport 86.66 41 P P 00 10 45.8 0.0
NEW IAmb IAmb 00 11 06.7
comp=Z,48nm,1.1s
NEW Newport 86.66 41 P P 00 10 46.9 +1.1
baz=284,SNR=27
NEW Newport 86.66 41 P P 00 10 45.8 0.0
NEW pmax pmax
comp=Z,48nm,1.1s
NEW Newport 86.66 41 LR LR 00 43 03.7
comp=Z,678nm,19.9s,baz=304,slow=31
KLMR Klimovskoe 86.68 332 eP P 00 10 43.5 -2.0
KLMR AMP 00 10 51.2
comp=Z,20nm,0.8s
KLMR Klimovskoe 86.68 332 eP P 00 10 43.5 -2.0

KLMR pmax pmax
comp=Z,20nm,0.8s
APA Apatity 86.73 339 ⇓ *i* P **P 00 10 42.8 -2.8**
APA pmax pmax
comp=Z,16nm,0.9s
MAK Makhachkala 86.87 313 *e* P **P 00 10 43.5 -3.3**
MAK *e* 00 14 03.6
MAK *e* 00 21 07.6
MAK *e* SS SS 00 27 06.5 +0.8
MAK *e* SSS SSS 00 30 38.4
MAK pmax pmax
comp=Z,104nm,1.6s
VADS Vadso 86.94 342 *e* P **P 00 10 46.8 +0.2**
WVOR Wild Horse Val 87.02 47 P **P 00 10 48.1 +0.3**
WVOR IAmb IAmb 00 11 09.0
comp=Z,48nm,1.2s
WVOR Wild Horse Val 87.02 47 P **P 00 10 48.1 +0.3**
WVOR pmax pmax
comp=Z,48nm,1.3s
BMO Blue Mountains 87.38 45 P **P 00 10 50.0 +0.6**
BMO Blue Mountains 87.38 45 P **P 00 10 50.0 +0.6**
BMO pmax pmax
comp=Z,44nm,1.1s
EDM Edmonton 87.64 36 P **P 00 10 50.8 +0.4**
EDM Edmonton 87.64 36 P **P 00 10 50.8 +0.4**
EDM pmax pmax
comp=Z,86nm,1.2s
KEV Kevo 87.83 342 P **P 00 10 50.1 -0.8**
KEV Kevo 87.83 342 P **P 00 10 50.1 -0.8**
KEV pmax pmax
comp=Z,62nm,1.2s
PKM Mcpherson Peak 87.86 55 P **P 00 10 53.2 +1.2**
baz=283,SNR=7.2
PLID Pearl Lake 88.22 44 P **P 00 10 53.3 -0.3**
PLID IAmb IAmb 00 11 13.9
comp=Z,31nm,1.1s
NVAR Mina Array Bea 88.22 51 P **P 00 10 54.3 +0.6**
NVAR Mina Array Bea 88.22 51 P **P 00 10 55.1 +1.4**
comp=Z,5.7nm,0.6s,baz=270,slow=4.8,SNR=46
NVAR LR LR 00 46 28.6
comp=Z,238nm,19.3s,baz=289,slow=33
comp=Z,5.7nm,0.6s
VES Vestal, Richgr 88.22 54 P **P 00 10 54.4 +0.9**
baz=284,SNR=6.2
ARA0 ARCESS Array S 88.40 342 *e* P **P 00 10 54.0 +0.3**
ARCES ARCESS Array B 88.40 342 P **P 00 10 52.8 -0.9**
ARCES ARCESS Array A 88.40 342 P **P 00 10 52.8 -0.9**
ARCES pmax pmax
comp=Z,112nm,1.7s
ARCES ARCESS Array B 88.40 342 P **P 00 10 52.5 -1.1**
comp=Z,8.5nm,0.6s,baz=61,slow=4.0,SNR=46
comp=Z,8.5nm,0.6s
VRH Novokhopyorsk 88.50 322 *e* P **P 00 10 53.5 -1.0**
VRH pmax pmax
comp=Z,25nm,0.7s
ISA Isabella, Lake 88.75 54 P **P 00 10 57.4 +1.3**
baz=284,SNR=5.4
CWC Cottonwood Cre 88.87 53 P **P 00 10 57.6 +0.9**
baz=284
MSO Missoula 89.12 42 P **P 00 10 58.5 +0.8**
baz=287
GRAC Grapevine Rang 89.29 52 P **P 00 10 59.9 +1.4**
baz=285
EDW2 Edwards Air Fo 89.32 55 P **P 00 11 00.5 +1.8**
baz=284,SNR=12
CIS Catalina Islan 89.33 56 P **P 00 11 00.1 +1.2**
baz=284
PASC Pasadena Art C 89.33 55 P **P 00 10 59.2 +0.4**
PASC IAmb IAmb 00 11 02.5
comp=Z,70nm,1.7s
MOS Moscow 89.35 327 *e* P **P 00 10 55.7 -2.6**
MOS pmax pmax
comp=Z,33nm,0.9s
KTK1 Kautokeino 89.36 342 *e* P **P 00 10 58.8 +0.7**
LRMC Laurel Mtn Rad 89.42 54 P **P 00 11 00.8 +1.5**
baz=284,SNR=17
MPMC Manual Prospec 89.43 53 P **P 00 11 01.0 +1.5**
baz=284,SNR=22
ZEI Tsey 89.48 314 *e* P **P 00 10 58.2 -1.4**
ZEI pmax pmax
comp=Z,13nm,1.0s
GNI Garni 89.58 311 P **P 00 10 58.7 -1.4**
GNI IAmb IAmb 00 11 11.7
comp=Z,58nm,1.9s
GNI Garni 89.58 311 *i* P **P 00 10 59.8 -0.2**
GNI pmax pmax
comp=Z,2.0nm,0.5s
GNI Garni 89.58 311 LR LR 00 54 27.7
comp=Z,89nm,20.4s,baz=81,slow=38
LPSR Galich'ya Gora 89.70 324 *e* P **P 00 10 58.4 -1.7**
LPSR pmax pmax
comp=Z,30nm,1.0s
HLID Hailey 89.73 45 P **P 00 11 01.1 +0.5**
HLID IAmb IAmb 00 11 21.9
comp=Z,31nm,1.2s
HLID Hailey 89.73 45 P **P 00 11 02.1 +1.5**
baz=286,SNR=19
BFSC Mount Baldy Ra 89.74 55 P **P 00 11 02.4 +1.6**
baz=284
FURC Furnace Creek, 89.81 53 P **P 00 11 02.5 +1.6**
baz=285,SNR=6.3
VORR Voronezh 89.85 323 *e* P **P 00 10 59.1 -1.7**
VORR pmax pmax
comp=Z,24nm,0.4s
ONI Oni 89.85 314 P **P 00 10 60.0 -1.1**
ONI Oni 89.85 314 P **P 00 11 00.0 -1.1**
ONI pmax pmax
comp=Z,8.0nm,0.9s
JETT Jettan, Norway 89.88 343 IAmb IAmb 00 11 01.5
comp=Z,26nm,0.8s
JETT *e* P **P 00 11 01.5 +0.9**
ELK Elko 89.92 48 P **P 00 11 01.7 0.0**
ELK Elko 89.92 48 P **P 00 11 01.7 0.0**
ELK pmax pmax
comp=Z,78nm,1.5s
ELK Elko 89.92 48 LR LR 00 46 01.2
comp=Z,537nm,21.4s,baz=292,slow=32
KBZ Khabaz 89.92 315 *e* P **P 00 10 59.2 -2.1**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 89.92 315 P **P 00 11 00.1 -1.1**
comp=Z,4.4nm,0.8s,baz=141,slow=2.5,SNR=13
KBZ LR LR 00 58 09.0
comp=Z,191nm,18.0s,baz=71,slow=40
comp=Z,4.4nm,0.8s
VNDA Vanda 89.97 176 LR LR 00 50 10.8
comp=Z,206nm,19.1s,baz=347,slow=35
KIV Kislovodsk 90.00 315 *e* P **P 00 11 00.7 -1.1**
KIV pmax pmax
comp=Z,7.0nm,1.1s
VSR Storozhevoye 90.03 323 *e* P **P 00 10 59.2 -2.4**
VSR pmax pmax
comp=Z,10.0nm,0.6s
ELS Elsinore Mount 90.08 56 P **P 00 11 02.5 +0.2**
OBN Obninsk 90.14 327 ⇓ *e* P **P 00 11 01.6 -0.4**
OBN *e* 00 14 35.4
OBN *e* S **SKSac 00 21 35.8 +4.4**
OBN *e* SS **SS 00 27 48.4 -3.9**
OBN pmax pmax
comp=Z,25nm,1.1s
OBN MLR MLR
comp=Z,323nm,20.0s
AKH Akhalkalaki 90.15 312 P **P 00 11 01.7 -1.0**
AKH IAmb IAmb 00 11 26.6
comp=Z,36nm,1.0s
AKH Akhalkalaki 90.15 312 P **P 00 11 01.7 -1.0**
AKH pmax pmax
comp=Z,36nm,1.0s
GSC Goldstone, Bar 90.16 54 P **P 00 11 04.3 +1.6**
baz=285,SNR=17
ELMT Elliston 90.16 42 P **P 00 11 02.8 +0.1**
TPNV Topopah Spring 90.17 52 P **P 00 11 02.9 +0.1**
TPNV IAmb IAmb 00 11 06.2
comp=Z,68nm,1.6s
TPNV Topopah Spring 90.17 52 P **P 00 11 04.4 +1.6**
baz=285,SNR=15
TPNV Topopah Spring 90.17 52 P **P 00 11 02.9 +0.1**
TPNV pmax pmax
comp=Z,68nm,1.7s
NEEM North Greenlan 90.21 3 *i* P **P 00 11 02.7 +0.3**
TRO Tromso 90.25 343 *e* P **P 00 11 02.1 -0.2**
TRO IAmb IAmb 00 11 02.6
comp=Z,426nm,2.6s
MURC Murrieta 90.27 56 P **P 00 11 04.8 +1.6**
baz=285
R11B Troy Canyon, C 90.30 51 P **P 00 11 05.2 +1.7**
baz=286,SNR=20
SHOC Shoshone, Teco 90.42 53 P **P 00 11 05.6 +1.7**
baz=285
109C Camp Elliot, M 90.53 56 P **P 00 11 05.5 +1.2**
baz=285
HEC Hector,Ludlow 90.65 54 P **P 00 11 06.9 +1.8**
baz=285
KARS Kars 90.67 312 P **P 00 11 04.0 -1.1**
KARS Kars 90.67 312 P **P 00 11 04.0 -1.1**
KARS pmax pmax
comp=Z,55nm,1.0s
DAG Danmarks Havn 90.78 356 *i* P **P 00 11 04.0 -0.6**
DAG IAmb IAmb 00 11 05.2
comp=Z,5.7nm,0.6s
TUQ Turquoise Moun 90.82 54 P **P 00 11 07.1 +1.3**
baz=285,SNR=19
PFO Pinyon Flats O 90.86 55 P **P 00 11 06.4 +0.3**
PFO IAmb IAmb 00 11 09.1
comp=Z,22nm,1.3s
PFO Pinyon Flats O 90.86 55 P **P 00 11 07.8 +1.6**
baz=285,SNR=6.7
PFO Pinyon Flats O 90.86 55 P **P 00 11 06.4 +0.3**
PFO pmax pmax
comp=Z,22nm,1.3s
TPFO Pinon Flats 90.87 55 P **P 00 11 08.0 +1.9**
baz=285,SNR=7.6
BOZ Bozeman (W) 91.02 43 P **P 00 11 06.4 -0.2**
BOZ IAmb IAmb 00 11 27.7
comp=Z,31nm,1.4s
BOZ Bozeman (W) 91.02 43 P **P 00 11 08.0 +1.4**
baz=288,SNR=9.3
BOZ Bozeman (W) 91.02 43 P **P 00 11 06.4 -0.2**
BOZ pmax pmax
comp=Z,31nm,1.4s
MONP2 Monument Peak 91.08 56 P **P 00 11 08.1 +0.9**
baz=285,SNR=10
BELC Belle Mtn. Jos 91.13 55 P **P 00 11 08.1 +0.7**
baz=285,SNR=10
GMRC Granite Mounta 91.20 54 P **P 00 11 09.2 +1.6**
baz=286,SNR=12
IKP In-Ko-Pah, Jac 91.40 56 P **P 00 11 10.4 +1.9**
baz=285
EGMT Eagleton 91.45 40 P **P 00 11 08.8 +0.4**
EGMT IAmb IAmb 00 13 17.0
comp=Z,40nm,1.5s
EGMT Eagleton 91.45 40 P **P 00 11 10.2 +1.7**
baz=290
BGU Big Grassy Mou 91.47 48 P **P 00 11 08.9 +0.1**
YHL Hebgen Lake 91.56 44 P **P 00 11 09.9 +0.6**
SWSC Sam W. Stewart 91.57 56 P **P 00 11 10.9 +1.7**
baz=285
BC3 Big Chuckawall 91.66 55 P **P 00 11 11.3 +1.6**
baz=286,SNR=11
IRM Iron Mountain 91.78 55 P **P 00 11 11.8 +1.6**
baz=286,SNR=12
DUG Dugway, Tooele 91.84 48 P **P 00 11 11.0 +0.4**
DUG IAmb IAmb 00 11 31.8
comp=Z,32nm,1.3s
DUG Dugway, Tooele 91.84 48 P **P 00 11 12.0 +1.4**
baz=287,SNR=10
DUG Dugway, Tooele 91.84 48 P **P 00 11 11.0 +0.4**
DUG pmax pmax
comp=Z,32nm,1.3s
GURO Guroymak-BITLI 92.05 310 P **P 00 11 10.8 -0.7**
H17A Grant Village 92.11 44 P **P 00 11 13.5 +1.7**
baz=289
SOC Sochi 92.17 315 *e* P **P 00 11 09.8 -1.9**
SOC *e* 00 14 50.1
SOC *e* PPP PPP 00 16 50.4
SOC *e* S **SKSac 00 21 42.4 -1.1**
SOC *e* SS **SS 00 28 25.2 +2.9**
SOC *e* SSS SSS 00 32 00.1
SOC pmax pmax
comp=Z,6.0nm,0.5s
SOC MLR MLR
comp=Z,248nm,19.0s
AHID Auburn Hatcher 92.28 46 P **P 00 11 12.4 -0.2**
FINES FINESS Array B 92.36 335 P **P 00 11 10.6 -1.6**
comp=Z,24nm,0.5s,baz=70,slow=4.9,SNR=169
FINES LR LR 00 53 38.8
comp=Z,292nm,21.9s,baz=52,slow=36
comp=Z,24nm,0.5s
STEI Steigen 92.37 343 *e* P **P 00 11 12.3 +0.2**
STEI IAmb IAmb 00 11 12.9
comp=Z,33nm,0.7s
BLYC Blythe 92.38 55 P **P 00 11 13.0 0.0**
BLYC IAmb IAmb 00 11 37.1
comp=Z,13nm,0.8s
W13A Hualapai Mount 92.51 53 P **P 00 11 14.0 +0.2**
W13A IAmb IAmb 00 11 35.5
comp=Z,34nm,1.5s
PDMCI Parker Dam,Lak 92.53 54 P **P 00 11 15.4 +1.7**
baz=286,SNR=7.9
FAUS Fauske 92.72 343 *e* P **P 00 11 13.8 0.0**
FAUS IAmb IAmb 00 11 14.7
comp=Z,12nm,0.6s
RLMT Red Lodge 92.75 43 P **P 00 11 16.8 +2.1**
baz=290,SNR=11
FFC Flin Flon 93.33 32 P **P 00 11 16.7 -0.2**
FFC IAmb IAmb 00 11 19.1
comp=Z,13nm,0.9s
FFC Flin Flon 93.33 32 P **P 00 11 16.7 -0.2**
FFC pmax pmax
comp=Z,13nm,0.9s
BW06 Boulder Array 93.35 45 P **P 00 11 19.6 +2.0**
baz=290
PD31 Pinedale Array 93.35 45 P **P 00 11 17.0 -0.6**
PDAR Pinedale Array 93.35 45 P **P 00 11 17.6 +0.1**
comp=Z,0.7nm,0.5s,baz=235,slow=1.4,SNR=9.3
comp=Z,0.7nm,0.5s
VSU Vasula 93.57 332 *i* P **P 00 11 17.8 -0.1**
VSU pmax pmax
comp=Z,20nm,1.0s
MOR8 Moi Rana 93.77 342 *e* P **P 00 11 17.3 -1.4**
MOR8 IAmb IAmb 00 11 18.2
comp=Z,38nm,1.4s
LAO LASA Array 94.17 41 P **P 00 11 21.1 0.0**
LAO LASA Array 94.17 41 P **P 00 11 23.4 +2.4**
baz=292,SNR=7.7
214A Organ Pipe Nat 94.27 56 P **P 00 11 23.9 +2.1**
baz=287
UPNV Upernavik 94.28 6 *i* P **P 00 11 20.8 -0.1**
WUAZ Wupatki 94.35 52 P **P 00 11 24.5 +2.3**
baz=288,SNR=7.1
DGMT Dagmar 94.73 38 P **P 00 11 24.6 +1.1**
baz=294
MNK Minsk 94.95 328 *i* P **P 00 11 21.6 -2.7**
MNK *i* 00 15 10.5
MNK *i* PPP PPP 00 17 12.2
MNK *i* S **SKSac 00 21 57.0 -1.3**
MNK *i* PS **PS 00 23 54.3 -2.1**
MNK *i* SS **SS 00 29 02.4 +1.1**
MNK *i* SSS SSS 00 32 51.7
MNK pmax pmax
comp=N,18nm,1.1s
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK pmax pmax
comp=Z,11nm,0.9s
MNK MLR MLR
comp=E,174nm,20.0s
FCC Fort Churchill 95.12 26 P **P 00 11 25.1 +0.2**
FCC IAmb IAmb 00 11 44.4
comp=Z,25nm,1.1s
FCC Fort Churchill 95.12 26 P **P 00 11 25.1 +0.2**
FCC pmax pmax
comp=Z,25nm,1.2s
O20A White River Ci 95.18 47 P **P 00 11 27.4 +1.4**
baz=290
K22A Casper 95.48 44 P **P 00 11 27.8 +0.5**
K22A Casper 95.48 44 P **P 00 11 29.0 +1.7**
baz=292
SUMG Summit 95.53 1 *i* P **P 00 11 30.0 +2.9**
NSS Namsos 95.64 341 *e* P **P 00 11 27.6 +0.4**
W18A Petrified Fore 95.75 52 P **P 00 11 30.5 +1.9**
baz=289
TUC Tucson 95.81 55 P **P 00 11 30.9 +2.0**
baz=288
MVCO Mesa Verde 96.00 50 P **P 00 11 31.1 +1.3**
baz=290
AKASG Malin Array Be 96.00 325 P **P 00 11 28.4 -0.8**
comp=Z,0.7nm,0.2s,baz=55,slow=4.1,SNR=6.5
AKASG LR LR 00 58 08.3
comp=Z,398nm,19.4s,baz=46,slow=38
comp=Z,0.7nm,0.2s
AKBB Malin Array Si 96.00 325 *i* P **P 00 11 29.2 0.0**
AKBB pmax pmax
comp=Z,5.0nm,1.3s
N23A Red Feather La 96.54 46 P **P 00 11 33.5 +1.2**
baz=292
RSSD Black Hills 96.59 42 P **P 00 11 33.7 +1.3**
baz=294
S22A 4UR Ranch, Cre 97.05 49 P Pdif 00 11 36.0 +1.3
baz=291
DUN6 Lazy B Ranch 97.09 55 P Pdif 00 11 35.8 +1.0
ISCO Idaho Springs 97.18 47 P Pdif 00 11 36.4 +1.1
baz=292
MDND Maddock 97.77 38 P Pdif 00 11 38.0 +0.7
baz=298
BR131 Keskin Array S 97.79 313 P **P 00 11 36.0 -1.7**
BR131 Keskin Array S 97.79 313 P **P 00 11 36.0 -1.7**
BR131 pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 97.79 313 P **P 00 11 36.5 -1.3**
comp=Z,1.3nm,0.7s,baz=140,slow=3.9,SNR=11
comp=Z,1.3nm,0.7s
Q24A Divide 97.83 48 P Pdif 00 11 39.3 +1.0
baz=292
MAW Mawson 97.85 202 LR LR 00 54 03.8
comp=Z,555nm,19.0s,baz=80,slow=34
HFS Hagfors 98.03 337 P **P 00 11 37.1 -1.1**
comp=Z,4.0nm,0.5s,baz=66,slow=3.6,SNR=26
comp=Z,4.0nm,0.5s
SDCO Great Sand Dun 98.03 49 P Pdif 00 11 40.4 +1.3
baz=292
121A Cookes Peak, D 98.14 54 P Pdif 00 11 40.7 +1.2
baz=290
NB2 NORSAR Subarra 98.31 339 P **P 00 11 38.3 -1.2**
comp=Z,2.0nm,0.7s,baz=47,slow=5.1
NB2 NORSAR Subarra 98.31 339 P **P 00 11 38.3 -1.2**
baz=47,slow=5.1
NOA NORSAR Array B 98.31 339 P **P 00 11 39.0 -0.4**
comp=Z,1.4nm,0.6s,baz=38,slow=5.1,SNR=7.2
NOA LR LR 01 00 43.7
comp=Z,109nm,18.3s,baz=50,slow=38
comp=Z,1.4nm,0.6s
ANMO Albuquerque 98.33 52 P Pdif 00 11 41.3 +0.9
baz=291
ANMO Albuquerque 98.33 52 *i* P **P 00 11 39.3 -1.1**
ANMO pmax pmax
comp=Z,1.0nm,1.1s
ANMO Albuquerque 98.33 52 LR LR 00 50 03.8
comp=Z,324nm,21.9s,baz=39,slow=32
LPIG La Paz 98.70 63 LR LR 00 48 35.2
comp=Z,430nm,21.4s,baz=262,slow=31
ULM Lac du Bonnet 98.75 34 P Pdif 00 11 41.6 0.0
comp=Z,3.9nm,0.9s,baz=330,slow=3.7,SNR=5.0
ULM LR LR 00 51 57.3
comp=Z,736nm,20.5s,baz=290,slow=33
comp=Z,3.9nm,0.9s
MMAI Mount Meron Ar 98.93 306 P **P 00 11 42.2 -0.7**
comp=Z,3.8nm,0.8s,baz=38,slow=5.4,SNR=2.6
MMAI LR LR 01 02 01.8
comp=Z,121nm,20.8s,baz=44,slow=39
comp=Z,3.8nm,0.8s
MNTX Cornudas Mount 100.34 54 P **Pdif 00 11 50.8 +1.6**
baz=291
QSPA South Pole Qui 101.91 180 IAMs_20 IAMs_20 00 56 45.4
comp=Z,815nm,21.0s
TXAR Lajitas Array 102.57 56 P **Pdif 00 12 00.4 +1.2**
comp=Z,0.2nm,0.5s,baz=284,slow=3.9,SNR=4.1
O48B Farmland 110.60 38 P **PKiKP 00 16 34.7 -0.2**
baz=307
ELIB Princess Elisa 110.77 197 *d* PKiKP **PKiKP 00 16 34.4 0.0**
ELIB *d* PP **PP 00 17 07.0 -4.6**
LRAL Lakeview Retre 113.57 46 P **PKiKP 00 16 40.3 -0.4**
baz=304
GOGA Godfrey 115.78 44 P **PKiKP 00 16 45.0 0.0**
baz=306
KEST Kesra 116.28 320 PKP **PKiKP 00 16 46.7 +0.7**
comp=Z,7.3nm,1.1s,baz=210,slow=1.6,SNR=4.4
SNAA Sanae 117.21 191 PKP **PKPdf 00 16 46.2 -0.4**
comp=Z,1.1nm,0.5s,baz=205,slow=16,SNR=5.6
ESDC Sonseca Array 120.72 332 PKP **PKiKP 00 16 54.5 0.0**
comp=Z,0.7nm,0.7s,baz=15,slow=1.8,SNR=5.0
SNET Serv Nac Est T 120.98 66 IAMs_20 IAMs_20 01 02 21.9
comp=Z,376nm,20.0s
BOSA Boshof 121.19 244 PKP **PKiKP 00 16 56.4 +0.6**
comp=Z,2.3nm,0.7s,baz=110,slow=2.7,SNR=5.6
CAPC Capurgana 133.67 66 *e* P **PKPdf 00 17 12.6 -7.0**
TORD Torodi Ar. Bea 135.34 303 PKhKP PKPpre 00 17 13.2
comp=Z,0.7nm,0.6s,baz=44,slow=3.5,SNR=4.9
TORD PKP **PKiKP 00 17 23.6 -0.7**
comp=Z,3.0nm,0.5s,baz=24,slow=2.8,SNR=23
PAC1 Pacto, Paraso 135.40 77 *e* P **PKPdf 00 17 23.7 +0.6**
PLMC San Jos del P 136.16 70 *e* P **PKiKP 00 17 26.1 -0.1**
BBAC Balboa, Cauca 136.31 74 *e* P **PKPdf 00 17 25.7 +0.8**
ZARC Zaragoza, Cauc 136.39 66 *e* P **PKPdf 00 17 24.9 +0.1**
JAMC Jamundi, Valle 136.43 72 *e* P **PKPdf 00 17 24.8 -0.4**
CRJC Cerrejon, Guaj 136.44 60 *e* P PKiKP 00 17 34.5 +7.8
YOTC Yotoco, Valle 136.46 71 *e* P **PKPdf 00 17 23.8 -1.2**
BONI La Bonita 136.55 76 *e* P **PKiKP 00 17 27.4 +0.2**
POPC Popayan, Colom 136.67 73 *e* P **PKPdf 00 17 26.5 +0.9**
GUY2C Guyana, Caldas 136.88 69 *e* P **PKPdf 00 17 23.9 -2.4**
OCAC Ocana 137.41 64 *e* P **PKiKP 00 17 28.1 -0.7**
PRAC Prado 137.91 71 *e* P PKPpre 00 17 18.0
PLCA Paso Flores 138.08 139 PKP **PKiKP 00 17 28.4 -0.8**
comp=Z,4.8nm,0.9s,baz=332,slow=1.8,SNR=6.9
AUSP Uspallata 143.04 128 *i* P **PKPdf 00 17 35.4 -1.3**
CZSB Cruzeiro do Su 143.20 87 PKPdf PKPbc 00 17 34.5 +0.3
CZSB Cruzeiro do Su 143.20 87 *e* P PKPab 00 17 31.3 -1.5
LCO Las Campanas 143.23 123 PKPdf PKPbc 00 17 34.7 +0.6
LCO Las Campanas 143.23 123 PKIKP PKPbc 00 17 34.7 +0.6
ASAL Salagasta 143.31 129 *i* P PKPab 00 17 29.0 -3.8
CO01 Juntas del Tor 143.38 125 PKPbc 00 17 35.6 +1.2
AC05 El Transito 143.64 123 PKPbc 00 17 36.1 +1.0
AROD Rodeo 143.81 125 *i* P PKPbc 00 17 36.5 +0.7
ZON Zonda 143.88 128 PKPbc 00 17 36.4 +0.8
ZON Zonda 143.88 128 PKIKP PKPbc 00 17 36.4 +0.8
ACCO Cerro Coronel 143.97 126 *i* P PKPbc 00 17 37.4 +1.1
AC06 Mina Casimiro 144.05 120 PKPdf PKPbc 00 17 36.6 +0.3
GO03 Copiap 144.08 121 PKPbc 00 17 36.7 +0.4
CFA Coronel Fontan 144.19 128 PKP PKPbc 00 17 37.0 +0.4
comp=Z,17nm,0.7s,baz=246,slow=3.9,SNR=40
AC01 Pan de Azucar 144.20 118 PKPdf PKPbc 00 17 37.3 +0.5
DBIC Dimbokro 144.22 300 PKP PKPbc 00 17 37.2 +0.1
comp=Z,42nm,0.8s,baz=48,slow=3.4,SNR=57
KIC Kosan Boka 144.29 299 ⇓ *e* P PKPbc 00 17 37.2 -0.1
comp=Z,73nm,0.8s
TIC Toumodi 144.38 300 ⇓ *e* P PKPbc 00 17 37.9 +0.3
comp=Z,57nm,0.7s
LIC Lamto 144.60 299 ⇓ *e* P PKPbc 00 17 38.7 +0.4
comp=Z,192nm,0.8s
AGUA GUANDACOL 144.85 125 *i* P **PKPdf 00 17 40.0 +0.3**
AVFE Valle Fertil 145.20 127 *i* P **PKPdf 00 17 40.4 +0.1**
VCA Vinchina 145.37 124 *i* P **PKPab 00 17 42.5 +1.7**
ACHE Chepes 145.60 128 ⇓ *i* P **PKPbc 00 17 41.2 0.0**
ACLC CERRO LA CRUZ 146.11 125 *i* P **PKPab 00 17 43.4 -0.2**
LVC Limon Verde 146.58 113 PKPbc **PKPab 00 17 46.2 +0.5**
comp=Z,16nm,0.6s,baz=256,slow=1.6,SNR=13
GO01 Chusmiza 146.84 107 PKPbc **PKPdf 00 17 44.7 +0.9**
CYA Choya 147.43 125 *i* P **PKPbc 00 17 47.1 +0.5**
LPAZ La Paz 148.19 101 **PKPdf 00 17 47.3 +1.0**
LPAZ La Paz 148.19 101 PKP2 **PKPdf 00 17 47.3 +1.0**
SLA San Lorenzo 149.02 118 *i* P **PKiKP 00 17 52.3 0.0**
AZAP Zapla 149.56 118 *i* P **PKiKP 00 17 54.5 +1.0**
ETMB Extrema 149.85 89 PKPdf **PKPdf 00 17 47.9 -0.4**
BOAV Boa Vista 151.36 62 *e* P **PKPdf 00 17 51.6 +0.9**
SAML Samuel 152.69 86 IAMs_20 IAMs_20 01 27 59.6
comp=Z,363nm,20.0s
SAML Samuel 152.69 86 *e* P **PKPdf 00 17 52.8 +0.2**
CPUP Villa Florida 155.09 128 PKP **PKPdf 00 17 56.6 +0.9**
comp=Z,1.3nm,0.6s,baz=240,slow=6.0,SNR=4.3
CPUP PKPab **PKPab 00 18 20.4 +0.1**
comp=Z,2.8nm,0.6s,baz=303,slow=3.0,SNR=2.8
PTLB Pontes e Lacer 156.88 101 PKPdf **PKPdf 00 17 57.8 -0.6**
PTLB PKPab **PKPab 00 18 27.7 -0.5**
BDFB Brasilia 167.41 108 PKP **PKPdf 00 18 10.4 +1.3**
comp=Z,3.6nm,0.5s,baz=217,slow=3.9,SNR=9.0
BDFB PKPab **PKPab 00 19 15.8 +1.3**
comp=Z,3.1nm,0.7s,baz=218,slow=1.2,SNR=3.7

*NEIC **28** 00:01:00.2±0.5, 31°.81S±0°.07×178°.5W±0°.2, h7km±4km, mb4.5/10, Error ellipse: s-maj=26.5km s-min=7.1km az=107.0*
*IDC **28** 00:01:27.8±15.0, 31°.87S×179°.08W, h239km±132km, mb4.1/5, mbtmp4.7/5, Error ellipse: s-maj=73.3km s-min=16.6km az=59.0*
*WEL **28** 00:02:29.1, 37°S±23°×17°8E±1°5, h19km±17km, M2.4/8,*

ML2.4/9,MLv2.4/8,Error ellipse: s-maj=0.0km s-min=0.0km az=166.3

ISC 28 00:01:04.3±0.7, 31°77S±0'08×178°4W±0'1, h45km±53, σ1s27/49, mb4.6/9, 3C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.55**	**10**		**Pn**	**00 01 42.5**	**-0.7**
RAO				Sn	**Sn**	**00 02 14.1**	**+1.2**
MXZ	**Matakaoa Point**	**6.37**	**204**	Pn	**Pn**	**00 02 33.0**	**-2.6**
MXZ	**Matakaoa Point**	**6.37**	**204**	P	**Pn**	**00 02 33.6**	**-2.1**
WMGZ	**Waiomatatini S**	**6.57**	**202**	P	**Pn**	**00 02 37.1**	**-1.2**
HAZ	**Te Kaha**	**6.74**	**206**	P	Pn	00 02 31.3	-9.3
PKGZ	**Pakihiroa**	**6.75**	**204**	P	**Pn**	**00 02 38.5**	**-2.3**
PUZ	**Puketiti**	**6.85**	**202**	P	**Pn**	**00 02 42.3**	**+0.1**
RUGZ	**Raukumara Rang**	**6.96**	**206**	P	**Pn**	**00 02 42.6**	**-1.2**
TWGZ	**Tauwhareparae**	**7.04**	**204**	P	**Pn**	**00 02 43.1**	**-1.7**
CNGZ	**Carnagh Statio**	**7.24**	**201**	P	**Pn**	**00 02 47.5**	**0.0**
TKGZ	**Te Karaka**	**7.32**	**204**	P	**Pn**	**00 02 48.5**	**-0.1**
MWZ	**Matawai**	**7.34**	**206**	P	**Pn**	**00 02 48.9**	**0.0**
URZ	**Urewera**	**7.44**	**208**	P	**Pn**	**00 02 49.7**	**-0.5**
TOZ	**Tahuroa Road**	**7.76**	**218**	P	Pn	00 03 00.4	+5.7
RTZ	**Ruatahuna**	**7.79**	**208**	Pn	**Pn**	**00 02 53.5**	**-1.7**
SNGZ	**Shannon Statio**	**7.80**	**205**	P	**Pn**	**00 02 54.9**	**-0.3**
MTHZ	**Maungataniwha**	**8.05**	**207**	P	**Pn**	**00 02 59.5**	**+0.7**
NMHZ	**Naumai**	**8.28**	**207**	P	**Pn**	**00 03 00.5**	**-1.3**
BKZ	**Black Stump Fm**	**8.46**	**208**	P	**Pn**	**00 03 02.7**	**-1.6**
HIZ	**Hauiti**	**8.69**	**217**	P	**Pn**	**00 03 09.7**	**+2.4**
BHHZ	**Black Hill Sta**	**8.91**	**209**	P	**Pn**	**00 03 08.3**	**-2.1**
FWVZ	**Far West T-bar**	**8.93**	**212**	P	**Pn**	**00 03 09.9**	**-1.0**
CTA	**Charters Tower**	**33.68**	**282**	P	**P**	**00 07 42.5**	**+1.3**
	7.5nm,0.7s,baz=106,slow=9.6,SNR=10						
	7.5nm,0.7s						
CTAO	**Charters Tower**	**33.68**	**282**	P	**P**	**00 07 42.1**	**+0.9**
CTAO				IAmb	IAmb	00 07 44.2	
	comp=Z,6.7nm,0.7s						
STKA	**Stephens Creek**	**33.83**	**259**	P	**P**	**00 07 42.7**	**+0.3**
BBOO	**Buckleboo**	**38.26**	**256**	P	**P**	**00 08 19.4**	**-0.9**
AS31	**Alice Springs**	**42.69**	**269**	P	**P**	**00 08 56.6**	**-0.4**
AS31				IAmb	IAmb	00 08 57.8	
	comp=Z,2.2nm,0.6s						
ASAR	**Alice Springs**	**42.69**	**269**	P	**P**	**00 08 56.6**	**-0.4**
	comp=Z,4.4nm,0.5s,baz=106,slow=7.3,SNR=19						
	comp=Z,4.4nm,0.5s						
WR0	**Warramunga Arr**	**43.62**	**274**	P	**P**	**00 09 04.0**	**-0.5**
WR0				IAmb	IAmb	00 09 04.5	
	comp=Z,5.8nm,0.5s						
WRA	**Warramunga Arr**	**43.80**	**274**	P	**P**	**00 09 05.1**	**-0.9**
WRA	**Warramunga Arr**	**43.80**	**274**	P	**P**	**00 09 05.5**	**-0.5**
	comp=Z,8.9nm,0.5s,baz=114,slow=7.9,SNR=46						
	comp=Z,8.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**52.00**	**271**	P	**P**	**00 10 09.3**	**-0.1**
FITZ				IAmb	IAmb	00 10 17.9	
	comp=Z,7.5nm,1.5s						
QSPA	**South Pole Qui**	**58.35**	**180**	P	**P**	**00 10 55.5**	**+0.8**
QSPA	**South Pole Qui**	**58.35**	**180**	P	**P**	**00 10 57.2**	**+2.6**
	comp=Z,7.2nm,0.5s,baz=293,slow=1.0,SNR=26						
	comp=Z,7.2nm,0.5s						
BELA	**Belgrano 2**	**68.48**	**172**	P	**P**	**00 12 02.3**	**+1.0**
BELA				IAmb	IAmb	00 12 20.2	
	comp=Z,3.5nm,1.1s						
SNAA	**Sanae**	**76.80**	**179**	P	**P**	**00 12 52.6**	**+1.8**
SNAA				IAmb	IAmb	00 12 56.4	
	comp=Z,5.2nm,0.8s						
SNAA	**Sanae**	**76.80**	**179**	⇑P	P	00 12 55.7	+4.9
	comp=Z,70nm,0.5s						
SNAA	**Sanae**	**76.80**	**179**	P	**P**	**00 12 52.8**	**+2.0**
	comp=Z,4.8nm,0.8s,baz=249,slow=7.5,SNR=12						
	comp=Z,4.8nm,0.8s						
VNA3	**Neumayer Olymp**	**76.97**	**176**	⇑P	P	00 12 57.3	+5.6
VNA2	**Neumayer--Watz**	**77.40**	**177**	⇑P	P	00 13 00.1	+6.0
	baz=164,slow=5.0						
KURBB	**Kurchatov Arra**	**121.75**	**313**	PKP	**PKPdf**	**00 19 51.2**	**-1.7**
	comp=Z,0.5nm,0.4s,baz=102,slow=2.2,SNR=2.2						
BVAR	**Borovoye Array**	**127.12**	**315**	PKP	**PKPdf**	**00 20 02.4**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=155,slow=2.3,SNR=5.8						
ARCES	**ARCESS Array B**	**139.84**	**347**	PKP	**PKPdf**	**00 20 25.1**	**-1.3**
	comp=Z,4.9nm,0.9s,baz=82,slow=1.3,SNR=4.3						
FINES	**FINESS Array B**	**146.29**	**339**	PKPbc	**PKPdf**	**00 20 38.5**	**+0.5**
	comp=Z,3.1nm,0.4s,baz=46,slow=4.0,SNR=40						
NC303	**NORSAR Array S**	**149.84**	**351**	PKPbc	**PKPbc**	**00 20 48.7**	**0.0**
NB2	**NORSAR Subarra**	**150.04**	**351**	PKP	**PKPbc**	**00 20 49.0**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.04**	**351**	PKPbc	**PKPbc**	**00 20 48.3**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=52,slow=1.6,SNR=5.8						
HFS	**Hagfors**	**150.50**	**348**	PKPbc	**PKPbc**	**00 20 49.8**	**-0.5**
	comp=Z,1.9nm,0.4s,baz=180,slow=1.5,SNR=12						
MMAI	**Mount Meron Ar**	**151.47**	**282**	PKPbc	**PKPbc**	**00 20 53.2**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=91,slow=7.2,SNR=6.8						
PABE	**Paberze**	**151.51**	**333**	PKPbc	**PKPbc**	**00 20 52.6**	**-0.2**
AKASG	**Malin Array Be**	**152.14**	**321**	PKPbc	**PKPbc**	**00 20 54.1**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=63,slow=1.9,SNR=4.7						
BRTR	**Keskin Array B**	**152.90**	**296**	PKPbc	**PKPbc**	**00 20 56.0**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=127,slow=3.4,SNR=6.5						
TORD	**Torodi Ar. Bea**	**161.47**	**180**	PKPab	**PKPab**	**00 21 42.9**	**-2.1**
	comp=Z,2.2nm,0.9s,baz=184,slow=3.0,SNR=6.5						

*UCR **28** 00:05:46.7±1.0, 10°43N×86°43W, h15km±8km, MW3.6*
*CATAC **28** 00:05:47.3±0.8, 10°34N×86°34W, h9km±7km, ML3.2*

ISC 28 00:05:47.3±2.0, 10°36N±0°05×86°34W±0°08, h12km±11km, n50, σ0s63/58, 1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HZTE	**Horizontes, Gu**	**0.81**	**64**	*e*P	**Pb**	**00 06 03.7**	**+0.2**
HZTE				*e*S	**Sb**	**00 06 15.5**	**+1.1**
HZTE	**Horizontes, Gu**	**0.81**	**64**	*i* P	**Pb**	**00 06 03.6**	**+0.2**
HZTE				IAML		00 06 03.9	
	comp=Z,1μm,1.0s						
HZTE				*i* S	**Sb**	**00 06 15.7**	**+1.3**
JUD3	**Juan Diaz 3**	**0.81**	**104**	*e*P	**Pg**	**00 06 03.5**	**+0.4**
ELI1	**Hacienda Flor**	**0.82**	**70**	*e*P	**Pb**	**00 06 04.4**	**+0.7**
ORTG	**Ortega, Santa**	**0.87**	**90**	*e*P	**Pg**	**00 06 04.1**	**-0.1**
ORTG	**Ortega, Santa**	**0.87**	**90**	*i* P	**Pg**	**00 06 04.2**	**+0.1**
ORTG				*i* S	**Sg**	**00 06 15.8**	**+0.3**
ORTG				IAML		00 06 22.4	
	comp=Z,540nm,1.0s						
DUNO	**Dulce Nombre,**	**0.88**	**108**	*i* P	**Pg**	**00 06 04.3**	**0.0**
DUNO				IAML		00 06 24.0	
	comp=Z,550nm,1.0s						
INDI	**Punta indio, G**	**0.96**	**121**	*e*P	**Pb**	**00 06 06.1**	**+0.2**
INDI	**Punta indio, G**	**0.96**	**121**	*i* P	**Pb**	**00 06 05.9**	**-0.1**
INDI				IAML		00 06 31.7	
	comp=Z,200nm,1.0s						
CMARA	**Lajas Hojancha**	**0.96**	**111**	*e*P	**Pn**	**00 06 07.3**	**+0.5**
GBS3	**Finca Las Img**	**0.97**	**64**	*i* P	**Pb**	**00 06 05.6**	**-0.5**
PLVR	**Palo Verde**	**0.97**	**91**	*e*P	**Pg**	**00 06 05.9**	**-0.3**
LAPC	**Finca la Perla**	**0.98**	**66**	*i* P	**Pb**	**00 06 05.6**	**-0.7**
LCRUZ	**La Cruz**	**1.00**	**44**	*e*P	**Pn**	**00 06 07.2**	**0.0**
LCRUZ				*e*S	**Sn**	**00 06 21.6**	**+0.3**
BUEV	**Buena Vista**	**1.01**	**65**	*i* P	**Pb**	**00 06 06.3**	**-0.7**
GB1A	**Boringuen Arri**	**1.03**	**64**	*e*P	**Pb**	**00 06 06.7**	**-0.6**
GPS3	**Bodega del ICE**	**1.04**	**68**	*i* P	**Pb**	**00 06 06.7**	**-0.6**
GPS2	**Hotel Rincn d**	**1.05**	**68**	*i* P	**Pb**	**00 06 06.9**	**-0.6**
VRLE	**La Escondida,**	**1.05**	**66**	*e*P	**Pb**	**00 06 06.8**	**-0.8**
VRLE	**La Escondida,**	**1.05**	**66**	*i* P	**Pb**	**00 06 07.1**	**-0.4**
VRLE				*i* S	**Sb**	**00 06 21.3**	**0.0**
VRLE				IAML		00 06 27.3	
	comp=Z,390nm,1.0s						
GPS1	**Guardaparques**	**1.06**	**67**	*i* P	**Pb**	**00 06 07.0**	**-0.7**
GP77	**Hacienda Santa**	**1.08**	**68**	*i* P	**Pb**	**00 06 07.4**	**-0.6**
POPE	**POPE, Guanacas**	**1.10**	**105**	*e*P	**Pb**	**00 06 07.9**	**-0.5**
POPE	**POPE, Guanacas**	**1.10**	**105**	*i* P	**Pb**	**00 06 07.9**	**-0.5**
POPE				*i* S	**Sb**	**00 06 21.1**	**-1.6**
POPE				IAML		00 06 38.4	
	comp=Z,260nm,1.0s						
BUAI	**Buenos Aires**	**1.12**	**63**	⇓*i* P	**Pg**	**00 06 09.2**	**+0.3**
COLC	**Colonia**	**1.16**	**75**	*i* P	**Pn**	**00 06 08.6**	**-0.9**
CAMAV	**Centro de Prod**	**1.18**	**73**	*e*P	**Pn**	**00 06 09.0**	**-0.7**
MESS	**Mesas**	**1.19**	**71**	*i* P	**Pn**	**00 06 09.0**	**-0.9**
CUI	**Cuipilapa**	**1.19**	**76**	*i* P	**Pn**	**00 06 09.2**	**-0.8**
HORNC	**Hornillas**	**1.20**	**73**	*i* P	**Pn**	**00 06 09.1**	**-0.9**
CLARA	**Aguas Claras**	**1.22**	**70**	*i* P	**Pn**	**00 06 09.2**	**-1.2**
VMAR	**Armenia, Volca**	**1.29**	**69**	*e*P	**Pn**	**00 06 10.0**	**-1.3**
VMAR				*i* P	**Pn**	**00 06 11.1**	**-0.2**
VMAR	**Armenia, Volca**	**1.29**	**69**	*i* P	**Pn**	**00 06 11.0**	**-0.2**
VMAR				*i* S	**Sn**	**00 06 29.2**	**+0.7**
VMAR				IAML		00 06 35.3	
	comp=Z,750nm,1.0s						
MOTZ	**Rio Naranjo**	**1.29**	**75**	*i* P	**Pn**	**00 06 10.8**	**-0.5**
ACAL	**Aguas Claras**	**1.31**	**78**	*i* P	**Pn**	**00 06 11.2**	**-0.4**
JAPN	**Al SSO del Vol**	**1.33**	**29**	*i* P	**Pb**	**00 06 12.0**	**-0.3**
JAPN				IAML		00 06 19.9	
	comp=Z,370nm,1.0s						
CANAL	**Canalete**	**1.35**	**70**	*i* P	**Pn**	**00 06 11.4**	**-0.7**
MORN	**Al O del Volca**	**1.36**	**30**	*i* P	**Pn**	**00 06 12.1**	**-0.1**
MORN				IAML		00 06 36.6	
	comp=Z,550nm,1.0s						
JTS	**Las Juntas de**	**1.37**	**93**	*e*P	**Pb**	**00 06 13.0**	**+0.1**
PTEN	**Parque Tenorio**	**1.38**	**75**	*i* P	**Pn**	**00 06 12.4**	**-0.1**
CONN	**Concepcion**	**1.39**	**30**	*i* P	**Pn**	**00 06 12.1**	**-0.5**
CONN				IAML		00 06 32.1	
	comp=Z,2μm,1.0s						
COTE	**Lago Cote**	**1.42**	**81**	*i* P	**Pn**	**00 06 12.8**	**-0.3**
ARE1	**Arenal 1**	**1.60**	**86**	*e*P	**Pb**	**00 06 17.1**	**+0.2**
CEDE	**Laguna Cedeo**	**1.61**	**85**	*i* P	**Pb**	**00 06 17.7**	**+0.5**
VACR	**Volcan Arenal**	**1.64**	**86**	*i* P	**Pn**	**00 06 15.8**	**-0.3**
VACR				IAML		00 06 50.6	
	comp=Z,250nm,1.0s						
SOCE	**Pocosol**	**1.69**	**89**	*i* P	**Pn**	**00 06 17.3**	**+0.4**
SOCE				IAML		00 06 51.2	
	comp=Z,180nm,1.0s						
MOMN	**Momotombo**	**2.04**	**355**	*i* P	**Pn**	**00 06 21.6**	**-0.1**
MOM3	**MOM3**	**2.14**	**355**	*i* P	**Pn**	**00 06 23.0**	**0.0**
BOAB	**BOACO BROADBAN**	**2.18**	**18**	*i* P	**Pn**	**00 06 22.8**	**-0.7**
TRT2	**Tortugero**	**2.57**	**85**	*i* P	**Pb**	**00 06 32.4**	**-1.0**

WEL 28 00:07:50.7, 40°S±39°×17°4E±6°7, h74km±116km, M2.5/8, ML2.5/9, MLv2.5/8, Error ellipse: s-maj=0.1km s-min=0.1km az=81.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OGWZ	**Otaki Gorge**	**1.16**	**130**	P	Pn	00 08 16.2	+4.8
MRZ	**Mangatainoka R**	**1.34**	**117**	P	Pn	00 08 14.2	+0.5
QRZ	**Quartz Range**	**1.36**	**236**	P	Pn	00 08 15.4	+1.5
TUWZ	**Tuamarina**	**1.36**	**182**	P	Pn	00 08 13.2	-0.8
FWVZ	**Far West T-bar**	**1.45**	**56**	P	Pn	00 08 17.2	+1.9
MOVZ	**Moawhango**	**1.50**	**65**	P	Pn	00 08 16.7	+0.8
WTVZ	**West Tongariro**	**1.55**	**53**	P	Pn	00 08 16.0	-0.5
NNVZ	**North Ngauruho**	**1.56**	**54**	P	Pn	00 08 16.6	-0.1
MTW	**Mount Morrison**	**1.58**	**134**	P	Pn	00 08 17.5	+0.7
ETVZ	**East Tongariro**	**1.61**	**55**	P	Pn	00 08 18.7	+1.4
BHHZ	**Black Hill Sta**	**1.69**	**71**	P	Pn	00 08 18.7	+0.4
KRHZ	**Kereru**	**1.87**	**78**	P	Pn	00 08 18.6	-2.1
THZ	**Tophouse**	**1.89**	**206**	P	Pn	00 08 09.5	-11
KHZ	**Kahutara**	**2.37**	**188**	P	Pn	00 08 12.6	-15

IDC 28 00:09:06.3±56.0, 18°51S×179°67E, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=1010.0km s-min=148.8km az=79.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.74**	**241**	P	P	00 16 15.9	+0.4
	0.8nm,0.3s,baz=100,slow=9.6,SNR=5.0						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**42.73**	**260**	P	P	00 17 05.1	-0.5
	0.3nm,0.3s,baz=96,slow=8.2,SNR=16						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**42.87**	**255**	P	P	00 17 06.7	-0.1
	3.5nm,0.4s,baz=89,slow=8.9,SNR=72						
	3.5nm,0.4s						

IDC 28 00:19:54.4±2.2, 2°78S×127°25E, h0km, mb3.4/2, mbtmp3.4/3, ML3.5/1, MS3.7/1, Error ellipse: s-maj=183.7km s-min=28.4km az=66.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.41**	**158**	P	Pn	00 24 10.4	-1.0
	0.2nm,0.3s,baz=340,slow=13,SNR=13						
WRA				S	Sn	00 27 30.3	-7.5
	0.3nm,0.8s,baz=351,slow=20,SNR=1.9						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**21.74**	**163**	P	P	00 24 48.5	+0.8
	0.6nm,0.4s,baz=345,slow=10,SNR=12						
ASAR				S	S	00 28 43.5	-5.8
	0.4nm,0.9s,baz=352,slow=24,SNR=2.0						
	0.6nm,0.4s						
GUMO	**Guam**	**23.87**	**47**	LR	LR	00 35 23.2	
	comp=Z,171nm,18.7s,baz=184,slow=39						
MKAR	**Makanchi Array**	**63.21**	**327**	P	P	00 30 24.2	-0.4
	0.3nm,0.7s,baz=118,slow=5.0,SNR=2.9						
	0.3nm,0.7s						

*NEIC **28** 00:22:45.8±1.2, 36°66N±0°04×121°34W±0°02, h11km±5km, Error ellipse: s-maj=6.2km s-min=2.5km az=194.0*
*NCEDC **28** 00:22:45.3±1.1, 36°68N±0°05×121°31W±0°04, h4km±6km, ML3.3/37, ML3.2/66(NEIC), Error ellipse: s-maj=8.3km s-min=1.9km az=207.0*
*ANF **28** 00:22:46.5±1.0, 36°53N×121°25W, h5km, ML3.5/16, Error ellipse: s-maj=10.2km s-min=5.5km az=115.0*

ISC 28 00:22:45.3±0.9, 36°66N±0°02×121°35W±0°02, h13km±5km, n200, σ0s75/207, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BJOM	**Mount Johnson**	**0.04**	**142**		**Pg**	**00 22.3**	**+0.6**
SCZ	**Santa Cruz**	**0.08**	**215**		**Pg**	**00 22 49.3**	**+1.2**
BSLM	**Silva Ranch**	**0.11**	**359**		**Pg**	**00 22 48.5**	**0.0**
BJCM	**Johnson Can.**	**0.12**	**198**		**Pg**	**00 22 48.3**	**-0.2**
SAO	**San Andreas Ge**	**0.13**	**321**		**Pb**	**00 22 49.8**	**+0.1**
BSRM	**Salinas Radio**	**0.14**	**272**		**Pg**	**00 22 48.7**	**-0.1**
FRP	**Fremont Peak**	**0.15**	**308**		**Pg**	**00 22 48.5**	**-0.5**
BVL	**Bear Valley**	**0.15**	**125**		**Pg**	**00 22 48.5**	**-0.5**
HSFM	**Saint Francis**	**0.19**	**321**		**Pb**	**00 22 50.9**	**+0.1**
BPCNC	**Pine Canyon**	**0.24**	**249**		**Pg**	**00 22 51.0**	**+0.5**
HBTM	**San Juan Bauti**	**0.25**	**319**		**Pg**	**00 22 50.7**	**+0.1**
BAVM	**Antelope Valle**	**0.26**	**94**		**Pg**	**00 22 50.8**	**0.0**
BSGM	**Shirttail Gulc**	**0.26**	**163**		**Pg**	**00 22 50.5**	**-0.3**
BBGB	**Big Mountain B**	**0.26**	**109**		**Pg**	**00 22 51.3**	**+0.5**
BBGB					**Sb**	**00 22 56.5**	**+0.1**
BBNM	**San Benito**	**0.27**	**125**		**Pg**	**00 22 51.0**	**+0.1**
OCR	**O'Connell Ranc**	**0.28**	**333**		**Pg**	**00 22 50.9**	**-0.4**
BSMM	**Soledad Missio**	**0.29**	**193**		**Pg**	**00 22 51.6**	**+0.4**
HTUM	**Tustin Road**	**0.29**	**305**		**Pg**	**00 22 51.3**	**0.0**
ANZ	**Anzar Road**	**0.30**	**319**		**Pg**	**00 22 51.4**	**-0.1**
HAST	**Hastings Reser**	**0.32**	**211**		**Pg**	**00 22 52.2**	**+0.4**
HAST					**Sg**	**00 22 57.1**	**+0.9**
HERM	**Elkhorn Road**	**0.32**	**295**		**Pg**	**00 22 52.2**	**+0.3**
HFEM	**San Felipe**	**0.32**	**352**		**Pg**	**00 22 52.3**	**+0.4**
PACP	**Pacheco Peak**	**0.35**	**8**		**Pg**	**00 22 52.7**	**+0.3**
LRV	**Little Rabbit**	**0.36**	**132**		**Pg**	**00 22 52.6**	**+0.1**
HCOM	**Corn Cob Canyo**	**0.37**	**308**		**Pg**	**00 22 52.9**	**+0.2**
HCBM	**Chamberlain**	**0.37**	**317**		**Pg**	**00 22 53.1**	**+0.3**
CDC	**Canada Road**	**0.38**	**343**		**Pg**	**00 22 53.5**	**+0.5**
HCAM	**Canada Road**	**0.38**	**343**		**Pb**	**00 22 53.7**	**-0.3**
BCWM	**Chews Ridge**	**0.40**	**207**		**Pg**	**00 22 53.7**	**+0.4**
BPRM	**Ponciano Ridge**	**0.40**	**231**		**Pg**	**00 22 53.8**	**+0.4**
HPCM	**Pacheco Lake**	**0.40**	**8**		**Pg**	**00 22 53.6**	**+0.2**
SLD	**San Luis Dam**	**0.42**	**14**		**Pg**	**00 22 53.8**	**0.0**
GHS	**Gilroy Hot Spr**	**0.44**	**349**		**Pg**	**00 22 54.4**	**+0.4**
HLPM	**Lions Peak**	**0.44**	**329**		**Pg**	**00 22 54.5**	**+0.4**
HMOM	**Monterey**	**0.46**	**262**		**Pg**	**00 22 54.9**	**+0.4**
JELB	**Ellicott, Sant**	**0.47**	**305**		**Pg**	**00 22 54.8**	**+0.2**
BAPM	**Anderson Peak**	**0.54**	**206**		**Pb**	**00 22 56.4**	**-0.3**
CADM	**Anderson Res.**	**0.55**	**336**		**Pg**	**00 22 56.3**	**+0.3**
BPOM	**Post Ranch**	**0.55**	**218**		**Pg**	**00 22 56.4**	**+0.3**
SCKWR	**San Luis Creek**	**0.56**	**23**		**Pg**	**00 22 56.8**	**+0.4**
JLAB	**Laurel Hill**	**0.58**	**328**		**Pb**	**00 22 57.2**	**-0.2**
PCCM	**Crazy Canyon**	**0.59**	**165**		**Pg**	**00 22 57.1**	**+0.3**
PMPB	**Monarch Peak**	**0.63**	**135**		**Pg**	**00 22 57.4**	**-0.1**
HULI	**Fort Hunter Li**	**0.65**	**172**		**Pg**	**00 22 58.0**	**+0.1**
CCOB	**Coe Ranch Numb**	**0.65**	**336**		**Pb**	**00 22 58.9**	**+0.3**
CMPM	**Mikes Peak**	**0.69**	**2**		**Pb**	**00 22 59.3**	**0.0**
ARN	**Arnold Ranch**	**0.70**	**348**		**Pb**	**00 22 59.3**	**-0.1**
C072	**Blauer Lane Sa**	**0.70**	**332**		**Pn**	**00 23 00.2**	**-0.7**
C054	**Valleyhaven Wa**	**0.72**	**328**		**Pb**	**00 22 60.0**	**+0.3**
MHC	**Mount Hamilton**	**0.72**	**341**		**Pb**	**00 22 59.7**	**-0.1**
PSAM	**San Ardo**	**0.74**	**150**		**Pg**	**00 22 59.4**	**-0.2**
JJOM	**Saint Joseph's**	**0.74**	**317**		**Pg**	**00 22 59.5**	**-0.2**
PJUM	**Juniper Ridge**	**0.75**	**125**		**Pb**	**00 23 00.1**	**-0.1**
PPTM	**Peach Tree Val**	**0.75**	**137**		**Pg**	**00 22 59.5**	**-0.4**
SCCB	**Santa Clara Co**	**0.75**	**327**		**Pb**	**00 23 00.4**	**+0.2**
CMMM	**Mount Mocho**	**0.80**	**352**		**Pb**	**00 23 01.2**	**0.0**
MTOS	**Mt Oso, Westle**	**0.84**	**1**		**Pg**	**00 23 02.1**	**+0.5**
PSMM	**Smith Mountain**	**0.85**	**134**		**Pb**	**00 23 02.0**	**0.0**
CMLM	**Mount Lewis**	**0.85**	**343**		**Pb**	**00 23 02.1**	**+0.1**
PDRM	**Domengine Ranc**	**0.85**	**112**		**Pg**	**00 23 02.3**	**+0.5**
CALM	**Calaveras Res.**	**0.87**	**335**		**Pb**	**00 23 02.2**	**0.0**
PHSB	**Hesperia Broad**	**0.87**	**164**		**Pb**	**00 23 02.0**	**-0.3**
JSJM	**St Joseph**	**0.90**	**319**		**Pg**	**00 23 02.9**	**+0.3**
PHPM	**Hope Ranch**	**0.91**	**139**		**Pb**	**00 23 02.3**	**-0.6**
JBMM	**Black Mountain**	**0.92**	**316**		**Pb**	**00 23 02.7**	**-0.5**
PWMM	**Westland Maint**	**0.94**	**104**		**Pn**	**00 23 04.1**	**-0.1**
PANM	**San Antonio Re**	**0.95**	**158**		**Pb**	**00 23 03.4**	**-0.3**
JPSM		**0.96**	**304**		**Pb**	**00 23 03.4**	**-0.5**
JFP	**Foothills Park**	**0.97**	**316**		**Pb**	**00 23 03.5**	**-0.5**
CSTL	**Corral Hollow**	**0.98**	**353**		**Pn**	**00 23 04.7**	**-0.2**
PVCM	**Vineyard Canyo**	**0.99**	**138**		**Pb**	**00 23 03.7**	**-0.6**
PPO	**Portuguese Can**	**0.99**	**143**		**Pb**	**00 23 04.1**	**-0.2**
PHCM	**Hearst Castle**	**0.99**	**171**		**Pb**	**00 23 04.2**	**-0.1**
JSFB	**Stanford Teles**	**0.99**	**318**		**Pb**	**00 23 04.0**	**-0.4**
PSTM	**Stockdale Moun**	**1.00**	**137**		**Pb**	**00 23 03.7**	**-0.7**
WENL	**Wente Vineyard**	**1.01**	**341**		**Pb**	**00 23 04.7**	**-0.1**
JRSC	**Jasper Ridge**	**1.03**	**316**		**Pb**	**00 23 04.1**	**-0.9**
MYLM	**Yosemite Lake**	**1.03**	**46**		**Pb**	**00 23 04.7**	**-0.3**
CVLM	**Vallecito**	**1.04**	**338**		**Pb**	**00 23 05.1**	**0.0**
CNIC	**Niles Canyon**	**1.06**	**333**		**Pb**	**00 23 05.1**	**-0.5**
PWKM	**Work Ranch**	**1.08**	**141**		**Pb**	**00 23 05.4**	**-0.6**
PHFM	**Heflinger Ranc**	**1.09**	**135**		**Pb**	**00 23 05.5**	**-0.5**
CTM	**Castle Mountai**	**1.09**	**132**		**Pg**	**00 23 06.7**	**+0.2**
RAMR	**Ramage Ranch**	**1.09**	**159**		**Pb**	**00 23 05.6**	**-0.5**
PHAM	**Harlan Ranch**	**1.13**	**137**		**Pb**	**00 23 06.0**	**-0.7**
CDOM	**Doolan Road**	**1.14**	**340**		**Pg**	**00 23 08.1**	**+1.0**
GHC	**Gold Hill**	**1.16**	**136**		**Pn**	**00 23 06.3**	**-0.9**
PKEM	**Kettleman Hill**	**1.17**	**121**		**Pg**	**00 23 08.2**	**+0.4**
PSRM	**Scobie Ranch**	**1.18**	**133**		**Pn**	**00 23 06.9**	**-0.6**
JCHM	**Cahill Ridge**	**1.19**	**316**		**Pn**	**00 23 06.5**	**-1.1**
CMOB	**Morgan Territo**	**1.20**	**342**		**Pn**	**00 23 07.3**	**-0.7**
PKLM	**Kerr Lake**	**1.20**	**137**		**Pn**	**00 23 07.2**	**-0.7**
PSNM	**Stone Corral**	**1.22**	**135**		**Pn**	**00 23 07.2**	**-0.3**
CSLM	**San Leandro Hi**	**1.23**	**330**		**Pn**	**00 23 07.3**	**-0.9**
TCAS	**Cass Winery, P**	**1.23**	**149**		**Pn**	**00 23 07.6**	**-0.6**
TCHL	**Shandon**	**1.24**	**142**		**Pn**	**00 23 08.0**	**-0.

RYN	**Ryan**	**2.98**	**48**		**Pn**	**00 23 34.0**	**+1.6**
RYN				IAML		00 24 23.3	
	comp=E,104nm,1.1s						
RYN				IAML		00 24 24.4	
	comp=N,83nm,1.0s						
NVAR	**Mina Array Bea**	**2.99**	**53**		**Pn**	**00 23 34.8**	**+2.1**
CCAC	**Calif City Air**	**3.09**	**118**		**Pn**	**00 23 34.2**	**+0.3**
CCAC				IAML		00 24 41.7	
	comp=E,98nm,1.3s						
MPMC	**Manual Prospec**	**3.17**	**100**	P	**Pn**	**00 23 36.5**	**+1.4**
	baz=283						
GRAC	**Grapevine Rang**	**3.21**	**83**		**Pn**	**00 23 35.9**	**+0.4**
GRAC				IAML		00 24 44.4	
	comp=E,91nm,1.1s						
EDW2	**Edwards Air Fo**	**3.25**	**122**	P	**Pn**	**00 23 37.0**	**+0.9**
	baz=305,SNR=11						
MZP	**Montezuma Peak**	**3.33**	**71**		**Pn**	**00 23 37.8**	**+0.5**
MZP				IAML		00 24 39.8	
	comp=N,32nm,1.1s						
GMN	**Gold Mountain**	**3.33**	**78**		**Pn**	**00 23 37.9**	**+0.5**
GMN				IAML		00 24 40.9	
	comp=N,51nm,1.0s						
GMN				IAML		00 24 41.0	
	comp=E,34nm,1.4s						
PAHR	**Pah Rah Range**	**3.41**	**26**		**Pn**	**00 23 38.6**	**+0.3**
PAHR				IAML		00 24 41.8	
	comp=E,41nm,2.0s						
KVN	**Kaiserville**	**3.50**	**46**		**Pn**	**00 23 40.4**	**+0.7**
KVN				IAML		00 24 41.8	
	comp=E,52nm,1.5s						
KVN				IAML		00 24 45.3	
	comp=N,58nm,0.9s						
WCT	**Wildcat Mounta**	**3.79**	**87**		**Pn**	**00 23 44.4**	**+0.8**
GWY	**Greenwater Val**	**3.80**	**96**		**Pn**	**00 23 44.2**	**+0.5**
GWY				IAML		00 24 55.8	
	comp=E,23nm,1.2s						
GWY				IAML		00 25 02.8	
	comp=N,23nm,1.6s						
GSC	**Goldstone, Bar**	**3.92**	**109**		**Pn**	**00 23 45.1**	**-0.2**
GSC				IAML		00 25 04.8	
	comp=N,33nm,2.0s						
GSC				IAML		00 25 05.1	
	comp=E,43nm,1.8s						
TPNV	**Topopah Spring**	**4.10**	**84**		**Pn**	**00 23 48.7**	**+0.8**
TPNV				IAML		00 25 10.6	
	comp=E,30nm,1.3s						
TPNV				IAML		00 25 16.2	
	comp=E,34nm,1.5s						
TPNV	**Topopah Spring**	**4.10**	**84**	P	**Pn**	**00 23 49.3**	**+1.4**
	baz=268						
SCI2	**San Clemente I**	**4.34**	**147**	P	**Pn**	**00 23 51.3**	**+0.4**
	baz=329						
HEC	**Hector,Ludlow**	**4.47**	**113**	P	**Pn**	**00 23 53.6**	**+0.8**
	baz=296						
TUQ	**Turquoise Moun**	**4.56**	**104**	P	**Pn**	**00 23 54.9**	**+0.7**
	baz=288						
MURC	**Murrieta**	**4.57**	**131**	P	**Pn**	**00 23 54.9**	**+0.6**
	baz=314						
PRN	**Pahroc Range**	**5.09**	**80**		**Pn**	**00 24 01.6**	**+0.1**
PRN				IAML		00 25 38.5	
	comp=N,21nm,1.0s						
PRN				IAML		00 25 45.7	
	comp=E,21nm,0.9s						
DPP	**Dos Picos Cty**	**5.15**	**134**		**Pn**	**00 24 04.0**	**+1.9**

NEIC 28 00:25:09.4±1.3, 2°.03N±0°.06×84°.68W±0°.08, h10km±1km, mb4.3/6, Error ellipse: s-maj=16.2km s-min=7.4km az=238.0, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**5.58**	**139**	Pn	Pn	00 26 32.6	+0.1
SALI				Sn	Sn	00 27 35.1	-1.7
PAYG	**Puerto Ayora**	**6.22**	**244**	Pn	Pn	00 26 40.2	-1.1
OTAV	**Otavalo**	**6.47**	**106**	Pn	Pn	00 26 44.5	-0.8
PULU	**Pululahua**	**6.49**	**108**		Pn	00 26 44.1	-1.3
IMBA	**Imbabura, San**	**6.71**	**105**		Pn	00 26 48.5	0.0
SLOR	**San Lorenzo -**	**6.76**	**114**	Pn	Pn	00 26 49.6	+0.3
CHSH	**Refugio Sur-Vo**	**6.78**	**121**		Pn	00 26 49.5	-0.1
TULM	**Tulcn-Chalpat**	**7.01**	**101**	Pn	Pn	00 26 52.5	-0.2
COHC	**Cochancay**	**7.02**	**129**	Pn	Pn	00 26 52.0	-0.4
ARNL	**Arenillas**	**7.21**	**140**	Pn	Pn	00 26 54.6	-0.3
DRK0	**Durika**	**7.33**	**11**	Pn	Pn	00 26 56.3	-0.5
JACO	**JACO, Garabito**	**7.58**	**0**	Pn	Pn	00 26 59.1	-1.1
LCR2	**La Lucha 2**	**7.69**	**5**	Pn	Pn	00 27 00.9	-0.9
RIMA	**Rio Macho**	**7.73**	**6**	Pn	Pn	00 27 01.8	-0.6
MCRA	**Macar, Loja**	**7.92**	**143**	Pn	Pn	00 27 04.8	0.0
BOSC	**San Juan Bosco**	**8.04**	**130**	Pn	Pn	00 27 07.5	+0.9
JTS	**Las Juntas de**	**8.21**	**358**		Pn	00 27 08.2	-0.6
SOCE	**Pocosol**	**8.30**	**0**	Pn	Pn	00 27 10.2	+0.2
ORTG	**Ortega, Santa**	**8.32**	**355**	Pn	Pn	00 27 09.0	-1.2
ARE1	**Arenal 1**	**8.38**	**360**		Pn	00 27 11.3	+0.2
COVE	**Coope Vega, Sa**	**8.64**	**2**	Pn	Pn	00 27 14.8	+0.2
HZTE	**Horizontes, Gu**	**8.68**	**354**	Pn	Pn	00 27 15.1	-0.1
CZSB	**Cruzeiro do Su**	**15.38**	**129**	Pn	Pn	00 28 44.1	-2.6
CZSB				IAmb	IAmb	00 28 55.2	
	comp=Z,12nm,0.9s						
ETMB	**Extrema**	**21.83**	**123**	P	P	00 30 00.8	-1.5
SAML	**Samuel**	**24.04**	**117**	P	P	00 30 23.6	-1.4
SAML				IAmb	IAmb	00 30 29.0	
	comp=Z,8.8nm,1.2s						
LPAZ	**La Paz**	**24.46**	**139**	P	P	00 30 29.0	-0.5
PB16	**IPOC Station P**	**25.15**	**144**	P	P	00 30 35.8	+0.1
PB16				IAmb	IAmb	00 30 40.9	
	comp=Z,7.3nm,0.7s						
PB11	**IPOC Station P**	**26.20**	**146**	P	P	00 30 43.6	-1.1
425A	**Indio Mountain**	**34.46**	**328**	P	P	00 31 56.9	-0.9
425A				IAmb	IAmb	00 31 59.7	
	comp=Z,2.7nm,0.8s						

IDC 28 00:33:31.1±3.4, 5°.93S×146°.89E, h134km±32km, mb3.3/2, mbtmp3.7/4, Error ellipse: s-maj=62.6km s-min=16.7km az=117.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.47**	**176**	P	Pn	00 34 24.9	+0.9
	21nm,0.3s,baz=335,slow=7.8,SNR=12						
PMG				S	Sn	00 35 05.1	+0.2
	122nm,0.6s,baz=170,slow=23,SNR=4.1						
WRA	**Warramunga Arr**	**18.52**	**220**	P	P	00 37 37.1	-0.2
	0.5nm,0.4s,baz=37,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**21.61**	**214**	P	P	00 38 10.4	-0.3
	1.6nm,0.7s,baz=51,slow=8.9,SNR=22						
ASAR				S	S	00 42 02.9	+1.0
	0.6nm,0.8s,baz=29,slow=18,SNR=4.8						
	1.6nm,0.7s						
ILAR	**Eielson Array**	**85.46**	**23**	P	P	00 45 53.4	0.0
	0.4nm,0.5s,baz=253,slow=5.0,SNR=11						
	0.4nm,0.5s						

IDC 28 00:40:56.7±5.7, 22°.86S×148°.50E, h0km, mbtmp3.2/3, ML3.3/3, Error ellipse: s-maj=47.0km s-min=32.5km az=95.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**3.46**	**322**	Pn	Pn	00 41 51.8	-0.1
	8.7nm,0.3s,baz=132,slow=15,SNR=80						
CTA				Pg	Pg	00 42 01.3	-1.8
	10nm,0.3s,baz=146,slow=17,SNR=15						
CTA				Sn	Sn	00 42 34.0	+0.3
	2.3nm,0.3s,baz=357,slow=22,SNR=1.5						
CTA				Lg	Lg	00 42 45.5	
	2.7nm,0.3s,baz=72,slow=22,SNR=10						
	16nm,0.2s						
ASAR	**Alice Springs**	**13.44**	**264**	Pn	Pn	00 44 09.7	+0.8
	0.1nm,0.3s,baz=84,slow=13,SNR=2.4						
ASAR				Lg	Lg	00 48 02.9	
	baz=84,slow=29,SNR=2.6						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**13.51**	**280**	Pn	Pn	00 44 08.1	-1.7
	0.1nm,0.3s,baz=94,slow=12,SNR=8.5						
WRA				Lg	Lg	00 48 09.8	
	baz=110,slow=28,SNR=4.5						
	0.1nm,0.2s						
I07AU	**WARRAMUNGA INF**	**13.52**	**280**	I	I	02 04 40.0	
	baz=104,slow=308,SNR=2.1						

*DNK **28** 00:43:27.1±1.0, 51°.45N×15°.83E, h0km, ML2.8, Suspected explosion*

*IPEC **28** 00:43:28.6±0.2, 51°.50N×16°.19E, h1km, ML2.2/4, Error ellipse: s-maj=2.0km s-min=1.1km az=36.0*
*IDC **28** 00:43:28.7±1.3, 51°.40N×16°.39E, h0km, mbtmp3.2/4, ML2.4/3, Error ellipse: s-maj=31.9km s-min=8.4km az=112.0*
*VIE **28** 00:43:30.4±0.7, 51°.38N×16°.06E, h0km, mb2.8/6, ml2.5/8, Error ellipse: s-maj=7.2km s-min=3.8km az=48.0 73 km WNW of Wroclaw Suspected Mining induced.*
*UPP **28** 00:43:30.2±3.1, 51°.55N×15°.50E, h0km, ML2.1*
*PRU **28** 00:43:31.5, 51°.40N×16°.09E, h0km*

ISC 28 00:43:27.8±0.8, 51°.54N±0°.03×16°.12E±0°.03, h0km, n48, σ1°.01/95, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**171**	*e*Pg	**Pg**	**00 43 41.7**	**+0.3**
KSP				*e*Sg	**Sg**	**00 43 50.1**	**-0.4**
CHVC	**Chvalec**	**0.96**	**182**	*e*PG	**Pg**	**00 43 46.4**	**+0.3**
CHVC				*e*SG	**Sg**	**00 43 58.1**	**-0.4**
OSTC	**Ostas**	**0.99**	**176**	*e*PG	**Pg**	**00 43 47.0**	**+0.3**
OSTC				*e*SG	**Sg**	**00 43 59.3**	**-0.3**
	comp=Z,31nm,0.3s						
UPC	**Upice**	**1.04**	**184**	*e*PG	**Pg**	**00 43 47.9**	**+0.2**
UPC				*e*SG	**Sg**	**00 44 00.4**	**-0.7**
DPC	**Dobruska-Polom**	**1.20**	**174**	*e*PG	**Pg**	**00 43 50.5**	**-0.3**
DPC				*e*SG	**Sg**	**00 44 04.8**	**-1.6**
PVCC	**Panska Ves**	**1.41**	**224**	*e*PG	**Pg**	**00 43 54.8**	**0.0**
PVCC				*e*SG	**Sb**	**00 44 13.5**	**0.0**
	comp=Z,98nm,0.2s						
BRG	**Berggiesshubel**	**1.52**	**245**	Pn	**Pn**	**00 43 56.1**	**-0.2**
BRG				Pg	**Pg**	**00 43 57.4**	**+0.4**
BRG				Sg	**Sn**	**00 44 17.5**	**+0.7**
BRG				Amp		00 44 19.5	
	comp=Z,35nm,0.3s						
KRLC	**Kraliky**	**1.53**	**164**	*e*PG	**Pb**	**00 43 56.9**	**-0.1**
KRLC				*e*SG	**Sg**	**00 44 15.0**	**-1.9**
	comp=Z,30nm,0.5s						
PRA	**Prague**	**1.82**	**217**	*e*PN	**Pn**	**00 44 00.3**	**0.0**
PRA				*e*PG	**Pb**	**00 44 01.6**	**-0.3**
PRU	**Pruhonice**	**1.85**	**213**	*e*PN	**Pn**	**00 44 00.5**	**-0.2**
PRU				*e*PG	**Pb**	**00 44 02.2**	**-0.3**
PRU				*e*SG	**Sb**	**00 44 25.8**	**-0.3**
	comp=Z,16nm,0.3s						
HSKC	**Hora Svate Kat**	**1.94**	**242**	*e*PG	**Pb**	**00 44 04.2**	**+0.3**
HSKC				*e*SG	**Sb**	**00 44 28.9**	**+0.3**
	comp=Z,36nm,0.7s						
CLL	**Collm**	**1.96**	**264**	*i* Pg	**Pb**	**00 44 04.9**	**+0.5**
CLL				*i* x	x	00 44 09.6	
CLL				*i* Sg	**Sg**	**00 44 32.2**	**+1.4**
	comp=Z,15nm,0.3s						
MORC	**Moravsky Berou**	**1.99**	**152**	*e*Pn	**Pn**	**00 44 02.4**	**-0.3**
	baz=334						
MORC				*e*Sg	**Sn**	**00 44 28.9**	**+0.6**
	comp=Z,21nm,0.5s,baz=334						
VRAC	**Vranov**	**2.26**	**172**	*e*Pn	**Pn**	**00 44 06.2**	**-0.2**
	baz=354						
VRAC				*e*Sg	**Sb**	**00 44 37.6**	**-0.3**
	comp=Z,13nm,0.4s,baz=354						
KRUC	**Moravsky**	**2.49**	**176**	*e*Pn	**Pn**	**00 44 09.6**	**0.0**
	baz=357						
KRUC				*e*Sg	**Sb**	**00 44 45.3**	**+0.7**
	comp=Z,14nm,0.6s,baz=357						
NKC	**Novy Kostel**	**2.67**	**242**	*e*PN	**Pn**	**00 44 12.6**	**+0.6**
NKC				*e*PG	**Pg**	**00 44 18.6**	**-0.3**
NKC				*e*SG	**Sg**	**00 44 53.3**	**-0.1**
	comp=Z,24nm,0.3s						
OJC	**Ojcow**	**2.68**	**118**	*e*Pg	**Pg**	**00 44 20.3**	**+1.1**
OJC				*e*Sg	**Sg**	**00 44 55.4**	**+1.5**
JAVC	**Velka Javorina**	**2.87**	**159**	*e*Pn	**Pn**	**00 44 14.4**	**-0.4**
	baz=341						
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**00 44 16.0**	**+0.6**
KHC				*e*PG	**Pb**	**00 44 21.7**	**+1.1**
KHC				*e*SN	**Sn**	**00 44 50.3**	**-0.8**
KHC				*e*SG	**Sg**	**00 44 59.6**	**-1.7**
CKRC	**Cesky Krumlov**	**2.96**	**204**	*e*PN	**Pn**	**00 44 16.8**	**+0.7**
CKRC				*e*PG	**Pb**	**00 44 22.4**	**+1.0**
CKRC				*e*SG	**Sb**	**00 45 00.5**	**+2.3**
GERES	**GERESS Array B**	**3.12**	**211**	Pn	**Pn**	**00 44 19.1**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=34,slow=8.4,SNR=15						
GERES				Pg	**Pb**	**00 44 24.9**	**+0.9**
	comp=Z,2.2nm,0.3s,baz=29,slow=17,SNR=23						
GERES				Sn	**Sn**	**00 44 56.1**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=37,slow=25,SNR=5.1						
GERES				Lg	Lg	00 45 05.9	
	comp=Z,3.2nm,0.3s,baz=38,slow=25,SNR=7.3						
	comp=Z,1.2nm,0.3s						
LANS	**Liptovska Anna**	**3.22**	**137**	*e*PG	**Pg**	**00 44 29.2**	**-0.2**
LANS				*e*SG	**Sg**	**00 45 09.9**	**-1.2**
MODS	**Modra-Piesok**	**3.26**	**166**	*e*PG	**Pg**	**00 44 29.7**	**-0.5**
MODS				*e*SG	**Sg**	**00 45 11.2**	**-1.3**
VYHS	**Vyhne**	**3.52**	**149**	*e*PN	**Pn**	**00 44 23.6**	**-0.1**
VYHS				*e*PG	**Pg**	**00 44 34.1**	**-1.1**
VYHS				*e*SG	**Sg**	**00 45 25.6**	**+4.8**
CONA	**Conrad Observa**	**3.62**	**183**	*i* Pn	**Pn**	**00 44 26.1**	**+0.9**
	comp=Z,1.2nm,0.3s						
CONA				*i* Pg	**Pg**	**00 44 36.1**	**-1.1**
	comp=Z,3.0nm,0.3s						
CONA				*e*Sg	**Sg**	**00 45 22.8**	**-1.3**
	comp=Z,6.3nm,0.3s						
BSD	**Bornholm Skovb**	**3.65**	**349**	*i* P	**Pn**	**00 44 25.4**	**0.0**
BSD				*i* S	**Sn**	**00 45 09.0**	**-0.2**
BSD				IAML		00 45 22.1	
	comp=Z,10nm,0.8s						
MOA	**Molln**	**3.89**	**199**	*i* Pn	**Pn**	**00 44 29.3**	**+0.6**
	comp=Z,1.2nm,0.2s						
MOA				*e*Sg	**Sg**	**00 45 31.5**	**-1.2**
	comp=Z,5.7nm,0.4s						
BIOA	**Bad Ischl, Aus**	**4.18**	**204**	*e*Pn	**Pn**	**00 44 33.3**	**+0.6**
	comp=Z,0.7nm,0.1s						
BIOA				*e*Sg	**Sg**	**00 45 41.4**	**-0.5**
	comp=Z,8.1nm,0.5s						
ARSA	**Arzberg**	**4.32**	**185**	*e*Pn	**Pn**	**00 44 34.3**	**-0.4**
	comp=Z,0.9nm,0.2s						
ARSA				*e*Sg	**Sg**	**00 45 46.6**	**+0.3**
	comp=Z,5.7nm,0.6s						
LUNU	**Lund**	**4.39**	**340**	P	**Pn**	**00 44 35.5**	**-0.1**
LUNU	**Lund**	**4.39**	**340**	P	**Pn**	**00 44 35.5**	**-0.1**
LUNU				*i* P	Pb	00 44 36.0	-10
LUNU				*i* S	**Sn**	**00 45 25.9**	**-1.6**
LESA	**Schwarzleotal**	**4.69**	**210**	*i* Pn	**Pn**	**00 44 40.3**	**+0.4**
	comp=Z,0.6nm,0.2s						
LESA				*e*Pg	**Pg**	**00 44 57.6**	**-0.1**
	comp=Z,1.5nm,0.3s						
LESA				*e*Sg	**Sg**	**00 45 56.7**	**-1.7**
	comp=Z,1.3nm,0.3s						
BLEU	**Blekinge**	**4.77**	**358**	P	**Pn**	**00 44 42.2**	**+1.3**
BLEU				S	**Sn**	**00 45 35.9**	**-0.9**
BLEU	**Blekinge**	**4.77**	**358**	P	**Pn**	**00 44 42.2**	**+1.3**
BLEU				S	**Sn**	**00 45 35.9**	**-0.9**
BJUU	**Bjuv**	**4.89**	**339**	P	**Pn**	**00 44 42.6**	**0.0**
BJUU				S	**Sn**	**00 45 38.9**	**-0.9**
BJUU	**Bjuv**	**4.89**	**339**	*e*P	**Pn**	**00 44 42.1**	**-0.4**
BJUU				P	**Pn**	**00 44 42.6**	**0.0**
BJUU				*e*S	**Sn**	**00 45 37.5**	**-2.3**
BJUU				S	**Sn**	**00 45 38.9**	**-0.9**
DEL	**Delary**	**5.11**	**346**	P	**Pn**	**00 44 45.9**	**+0.4**
DEL	**Delary**	**5.11**	**346**	P	**Pn**	**00 44 45.9**	**+0.4**
DEL				*i* P	**Pn**	**00 44 46.0**	**+0.5**
WTTA	**Wattenberg**	**5.19**	**216**	*i* Pn	**Pn**	**00 44 47.2**	**+0.4**
	comp=Z,0.5nm,0.2s						
MOTA	**Moosalm**	**5.32**	**220**	*i* Pn	**Pn**	**00 44 49.3**	**+0.7**
	comp=Z,0.4nm,0.1s						
SQTA	**Sankt Quirin**	**5.38**	**218**	*i* Pn	**Pn**	**00 44 50.1**	**+0.7**
	comp=Z,1.1nm,0.2s						
VXJU	**Vaexsjoe**	**5.43**	**353**	P	**Pn**	**00 44 51.1**	**+1.2**
VXJU	**Vaexsjoe**	**5.43**	**353**	P	**Pn**	**00 44 51.1**	**+1.2**
OSKU	**Oskarshamn**	**5.66**	**360**	P	**Pn**	**00 44 54.4**	**+1.3**
OSKU	**Oskarshamn**	**5.66**	**360**	P	**Pn**	**00 44 54.4**	**+1.3**
HFS	**Hagfors**	**8.72**	**352**	Pn	**Pn**	**00 45 35.6**	**+0.7**
	comp=Z,3.6nm,1.1s,baz=163,slow=15,SNR=1.7						
NOA	**NORSAR Array B**	**9.90**	**346**	Pn	**Pn**	**00 45 50.7**	**-0.5**
	baz=163,slow=12,SNR=0.8						
	comp=Z,0.3nm,0.7s						
FINES	**FINESS Array B**	**11.33**	**25**	Pn	**Pn**	**00 46 08.5**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=217,slow=11,SNR=5.3						
	comp=Z,1.5nm,0.8s						

*IDC **28** 00:50:56.0±0.7, 1°.58S×128°.89W, h0km, mb4.5/11, mbtmp4.5/11, MS3.8/8, Error ellipse: s-maj=33.1km s-min=18.4km az=83.0*
*NEIC **28** 00:50:59.0±1.6, 1°.65S±0°.1×128°.63W±0°.09, h10km±1km, mb4.8/98, Error ellipse: s-maj=23.3km s-min=13.0km az=202.0*

ISC 28 00:50:57.5±0.6, 1°.65S±0°.10×128°.7W±0°.1, h10km, n421, σ0°.74/412, mb4.8/60, MS3.7/8, South Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**25.91**	**231**	LR	LR	01 03 52.1	
	comp=Z,142nm,18.4s,baz=1.5,slow=30						
LPIG	**La Paz**	**31.21**	**34**	LR	LR	01 06 10.7	
	comp=Z,190nm,20.1s,baz=272,slow=29						
SFX	**San Felipe**	**35.07**	**21**	P	**P**	**00 57 51.4**	**+0.5**
SFX				IAmb	IAmb	00 57 53.0	
	comp=Z,9.9nm,1.0s						
RAR	**Rarotonga**	**36.00**	**235**	LR	LR	01 08 39.0	
	comp=Z,127nm,21.9s,baz=346,slow=30						
109C	**Camp Elliot, M**	**36.05**	**17**	P	**P**	**00 58 00.8**	**+1.5**
	baz=200						
HPIG		**36.06**	**36**	P	**P**	**00 57 59.7**	**0.0**
HPIG				IAmb	IAmb	00 58 01.9	
	comp=Z,23nm,1.4s						
IKP	**In-Ko-Pah, Jac**	**36.13**	**18**	P	**P**	**00 58 01.4**	**+1.3**
	baz=202						
YUH	**Yuha Desert**	**36.18**	**18**	P	**P**	**00 58 00.8**	**+0.4**
MONP2	**Monument Peak**	**36.26**	**18**	P	**P**	**00 58 02.5**	**+1.2**
	baz=201						
SWSC	**Sam W. Stewart**	**36.50**	**18**	P	**P**	**00 58 05.4**	**+2.3**
	baz=202						
FMP	**Fort Macarthur**	**36.51**	**15**	P	**P**	**00 58 05.3**	**+2.1**
	baz=198						
214A	**Organ Pipe Nat**	**36.66**	**23**	P	**P**	**00 58 04.6**	**0.0**
214A	**Organ Pipe Nat**	**36.66**	**23**	P	**P**	**00 58 05.9**	**+1.3**
	baz=207						
MURC	**Murrieta**	**36.69**	**16**	P	**P**	**00 58 05.7**	**+0.9**
	baz=199						
TPFO	**Pinon Flats**	**36.91**	**17**	P	**P**	**00 58 08.0**	**+1.2**
	baz=200						
PFO	**Pinyon Flats O**	**36.92**	**17**	P	**P**	**00 58 08.1**	**+1.3**
	baz=200						
BFSC	**Mount Baldy Ra**	**37.17**	**15**	P	**P**	**00 58 10.2**	**+1.1**
	baz=198						
BC3	**Big Chuckawall**	**37.26**	**18**	P	**P**	**00 58 11.4**	**+1.7**
	baz=202						
BELC	**Belle Mtn. Jos**	**37.42**	**17**	P	**P**	**00 58 13.0**	**+1.8**
	baz=201						
EDW2	**Edwards Air Fo**	**37.70**	**14**	P	**P**	**00 58 14.6**	**+1.2**
	baz=198,SNR=6.5						
TUC	**Tucson**	**37.79**	**25**	P	**P**	**00 58 15.2**	**+1.0**
	baz=210						
IRM	**Iron Mountain**	**37.82**	**18**	P	**P**	**00 58 15.8**	**+1.3**
	baz=202						
CMIG	**Matias Romero**	**38.19**	**59**	LR	LR	01 10 00.3	
	comp=Z,245nm,18.9s,baz=314,slow=30						
GMRC	**Granite Mounta**	**38.25**	**17**	P	**P**	**00 58 19.2**	**+1.1**
	baz=201						
PDMCI	**Parker Dam,Lak**	**38.28**	**20**	P	**P**	**00 58 20.0**	**+1.7**
	baz=204						
ISA	**Isabella, Lake**	**38.33**	**13**		**P**	**00 58 18.9**	**+0.2**
ISA	**Isabella, Lake**	**38.33**	**13**	P	**P**	**00 58 20.1**	**+1.4**
	baz=196						
LRMC	**Laurel Mtn Rad**	**38.34**	**15**	P	**P**	**00 58 20.2**	**+1.3**
	baz=198,SNR=6.8						
Y14A	**Wickenburg**	**38.35**	**21**	P	**P**	**00 58 19.8**	**+0.9**
GSC	**Goldstone, Bar**	**38.40**	**16**	P	**P**	**00 58 20.5**	**+1.2**
	baz=199,SNR=5.9						
TUQ	**Turquoise Moun**	**38.77**	**17**	P	**P**	**00 58 24.1**	**+1.5**
	baz=200,SNR=6.3						
TXAR	**Lajitas Array**	**39.02**	**36**	P	**P**	**00 58 25.4**	**+0.8**
TXAR	**Lajitas Array**	**39.02**	**36**	P	**P**	**00 58 25.6**	**+0.9**
	comp=Z,4.1nm,0.8s,baz=205,slow=10,SNR=43						
TXAR				PcP	**PcP**	**01 00 35.5**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=199,slow=4.0,SNR=10.0						
	comp=Z,4.1nm,0.8s						
W13A	**Hualapai Mount**	**39.10**	**19**	P	**P**	**00 58 26.0**	**+0.7**
SHOC	**Shoshone, Teco**	**39.11**	**16**	P	**P**	**00 58 27.0**	**+1.7**
	baz=200						
CWC	**Cottonwood Cre**	**39.16**	**14**	P	**P**	**00 58 27.4**	**+1.6**
	baz=197						
121A	**Cookes Peak, D**	**39.33**	**28**	P	**P**	**00 58 29.0**	**+1.7**
	baz=214						
425A	**Indio Mountain**	**39.37**	**33**	P	**P**	**00 58 28.5**	**+0.9**
TIN	**Tinemaha, Big**	**39.71**	**13**	P	**P**	**00 58 32.0**	**+1.6**
	baz=196						
GRAC	**Grapevine Rang**	**39.86**	**14**	P	**P**	**00 58 33.2**	**+1.7**
	baz=198						
MNTX	**Cornudas Mount**	**39.86**	**32**	P	**P**	**00 58 32.6**	**+1.1**
	baz=218,SNR=10.0						
MDPB	**Devils Postpil**	**40.08**	**12**	P	**P**	**00 58 34.4**	**+0.8**
TPNV	**Topopah Spring**	**40.10**	**16**		**P**	**00 58 33.7**	**0.0**
TPNV	**Topopah Spring**	**40.10**	**16**	P	**P**	**00 58 35.4**	**+1.7**
	baz=199,SNR=11						
WUAZ	**Wupatki**	**40.36**	**22**		**P**	**00 58 36.6**	**+0.8**
WUAZ	**Wupatki**	**40.36**	**22**	P	**P**	**00 58 37.4**	**+1.6**
	baz=207,SNR=6.1						
TPH	**Tonopah**	**40.92**	**14**	P	**P**	**00 58 40.8**	**+0.3**
TPH				IAmb	IAmb	00 58 43.5	
	comp=Z,32nm,1.2s						
NVAR	**Mina Array Bea**	**41.01**	**12**	P	**P**	**00 58 42.1**	**+0.9**
NVAR	**Mina Array Bea**	**41.01**	**12**	P	**P**	**00 58 42.5**	**+1.3**
	comp=Z,6.1nm,0.7s,baz=202,slow=10,SNR=49						
NVAR				PcP	**PcP**	**01 00 42.1**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=189,slow=5.0,SNR=5.1						
	comp=Z,6.1nm,0.7s						
NV11	**Mina Array Sit**	**41.05**	**13**	P	**P**	**00 58 42.0**	**+0.5**
PNTR	**Pine Nut**	**41.39**	**11**	P	**P**	**00 58 44.8**	**+0.5**
PNTR				IAmb	IAmb	00 58 46.6	
	comp=Z,9.2nm,0.

PINE IAmb IAmb 00 59 21.9
comp=Z,7.6nm,1.0s
HWUT Hardware Ranch 45.77 18 P P 00 59 19.9 +0.4
HWUT IAmb IAmb 00 59 21.8
comp=Z,8.1nm,0.9s
WMOK Wichita Mounta 45.78 35 P P 00 59 19.6 +0.1
MFID Camas Ranch 46.32 13 P P 00 59 24.3 +0.4
MFID IAmb IAmb 00 59 25.8
comp=Z,8.9nm,1.1s
ISCO Idaho Springs 46.35 25 P P 00 59 25.4 +1.1
ISCO Idaho Springs 46.35 25 P P 00 59 26.6 +2.3
baz=213,SNR=5.2
HLID Hailey 46.80 14 P P 00 59 28.3 +0.7
HLID Hailey 46.80 14 P P 00 59 29.0 +1.4
baz=200,SNR=28
BMO Blue Mountains 47.39 11 P P 00 59 32.1 -0.1
BW06 Boulder Array 47.46 19 P P 00 59 32.7 -0.1
BW06 Boulder Array 47.46 19 P P 00 59 33.5 +0.6
baz=206
PDAR Pinedale Array 47.46 19 P P 00 59 32.9 +0.1
comp=Z,2.0nm,0.7s,baz=206,slow=6.0,SNR=21
PDAR PcP PcP 01 01 02.6 -0.6
comp=Z,1.7nm,0.3s,baz=182,slow=4.5,SNR=4.0
comp=Z,2.0nm,0.7s
G08A Pilot Rock 47.53 9 P P 00 59 33.0 -0.2
G08A IAmb IAmb 00 59 35.3
comp=Z,14nm,1.1s
CBKS Cedar Bluff 48.28 30 P P 00 59 39.5 +0.5
baz=220
TUL3 Leonard 48.34 36 P 00 59 39.6 +0.1
TUL3 Leonard 48.34 36 P P 00 59 40.0 +0.4
baz=226,SNR=9.0
K22A Casper 48.42 22 P P 00 59 40.5 +0.3
K22A IAmb IAmb 00 59 41.9
comp=Z,13nm,1.2s
K22A Casper 48.42 22 P P 00 59 40.9 +0.7
baz=210
OGNE Ogallala 48.85 27 P P 00 59 44.1 +0.7
baz=216
BOZ Bozeman (W) 49.41 16 P P 00 59 48.5 +0.7
baz=203
RLMT Red Lodge 49.66 18 P P 00 59 50.6 +0.8
baz=206
CHSH Refugio Sur-Vo 49.80 91 P P 00 59 51.2 -0.6
MSO Missoula 49.99 13 P P 00 59 52.3 +0.2
MSO IAmb IAmb 00 59 54.0
comp=Z,12nm,1.0s
MSO Missoula 49.99 13 P P 00 59 53.1 +1.1
baz=199
KSU1 Kansas State U 50.13 33 P P 00 59 53.8 +0.6
baz=224,SNR=7.2
LYMT Lyon Mountain 50.51 15 P P 00 59 56.5 +0.3
RSSD Black Hills 50.62 23 P P 00 59 56.6 -0.4
RSSD IAmb IAmb 00 59 58.3
comp=Z,32nm,1.8s
RSSD Black Hills 50.62 23 P P 00 59 57.1 0.0
baz=212
NEW Newport 50.72 10 P P 00 59 57.8 +0.3
NEW IAmb IAmb 00 59 59.1
comp=Z,17nm,0.8s
NEW Newport 50.72 10 P P 00 59 58.2 +0.7
baz=195,SNR=17
MGMO Mountain Grove 51.28 37 P P 01 00 01.8 -0.2
MGMO IAmb IAmb 01 00 03.0
comp=Z,20nm,0.9s
LAO LASA Array 52.03 19 P P 01 00 08.0 +0.6
baz=209
EGMT Eagleton 52.15 16 P P 01 00 08.9 +0.6
baz=204
CCM Cathedral Cave 52.49 37 P P 01 00 10.3 -0.6
CCM IAmb IAmb 01 00 11.5
comp=Z,11nm,0.9s
CCM Cathedral Cave 52.49 37 P P 01 00 10.6 -0.3
baz=230
FVM French Village 52.94 38 P P 01 00 13.9 -0.4
FVM IAmb IAmb 01 00 27.4
comp=Z,9.2nm,1.2s
WVT Waverly 53.47 41 P P 01 00 17.9 -0.2
WVT IAmb IAmb 01 00 19.4
comp=Z,13nm,1.0s
WVT Waverly 53.47 41 P P 01 00 18.4 +0.2
baz=234
ECSD EROS Data Cent 53.54 29 P P 01 00 18.1 -0.4
ECSD IAmb IAmb 01 00 19.2
comp=Z,5.2nm,0.8s
ECSD EROS Data Cent 53.54 29 P P 01 00 18.2 -0.4
baz=221,SNR=6.6
TIGA Tifton 53.97 48 P P 01 00 21.7 -0.2
baz=241
DWPF Disney Wildern 54.13 53 P P 01 00 23.2 0.0
baz=245
SWET Sewanee 54.23 43 P P 01 00 23.2 -0.6
SWET IAmb IAmb 01 00 24.6
comp=Z,11nm,0.9s
DGMT Dagmar 54.26 20 P P 01 00 24.3 +0.5
baz=211
T47A Sharon Grove 54.44 41 P P 01 00 25.3 +0.1
GOGA Godfrey 55.02 46 P P 01 00 29.3 -0.2
baz=240
HDIL Hopedale 55.24 36 P P 01 00 30.4 -0.6
baz=230
MDND Maddock 55.44 23 P P 01 00 32.0 -0.3
baz=216
WCI Wyandotte Cave 55.68 40 P P 01 00 34.0 -0.2
baz=235
CZSB Cruzeiro do Su 56.09 98 P P 01 00 37.8 +0.3
CZSB IAmb IAmb 01 00 41.1
comp=Z,5.7nm,0.7s
EDM Edmonton 56.16 11 P P 01 00 37.4 0.0
JFWS Jewell Farm 56.23 33 P P 01 00 37.9 -0.2
baz=228
SFIN Lafayette 56.45 37 P P 01 00 39.3 -0.3
baz=233
SPMN Marine on St. 56.49 30 P P 01 00 39.4 -0.5
baz=224,SNR=5.6
L44A Lake County Fo 57.08 35 P P 01 00 43.9 -0.1
baz=231
P49A Miami Univ. Ec 57.44 40 P P 01 00 46.3 -0.4
baz=235
O48B Farmland 57.58 39 P P 01 00 46.8 -0.9
O48B Farmland 57.58 39 P P 01 00 47.1 -0.6
baz=235,SNR=5.4
ULM Lac du Bonnet 58.84 24 P P 01 00 55.2 -1.1
ULM IAmb IAmb 01 00 56.0
comp=Z,12nm,0.8s
ULM Lac du Bonnet 58.84 24 P P 01 00 55.2 -1.1
comp=Z,11nm,0.6s,baz=220,slow=6.5,SNR=31
comp=Z,11nm,0.6s
ACSO Alum Creek Sta 58.93 40 P P 01 00 56.8 -0.4
baz=237
COWI Conover 58.95 31 P P 01 00 56.8 -0.4
S32K Killisnoo 59.12 356 P P 01 00 58.3 +0.3
baz=173
P52A Corning 59.16 41 P P 01 00 58.3 -0.4
baz=238
AAM Ann Arbor 59.67 37 P P 01 01 01.7 -0.6
baz=235
S31K Pelican 59.73 355 P P 01 01 02.8 +0.5
baz=171
DLBC Dease Lake 59.91 359 P P 01 01 03.9 +0.3
baz=178
R32K Eaglecrest 59.92 356 P P 01 01 04.0 +0.4
baz=173
O53A New Philadelph 60.09 41 P P 01 01 04.7 -0.4
baz=238
Q32M Nakina River 60.49 358 P P 01 01 07.9 +0.1
baz=176
GLMI Grayling 60.59 35 P P 01 01 08.5 0.0
baz=233
AC01 Pan de Azucar 60.83 119 P P 01 01 09.9 -0.6
R33M Jennings River 60.89 359 P P 01 01 11.2 +0.8
baz=177
M53A WI Miller and 61.06 40 P P 01 01 11.9 +0.1
baz=238
P32M Atlin 61.19 357 P P 01 01 13.0 +0.7
baz=174
LPAZ La Paz 61.33 108 P 01 01 15.3 +0.5
CHIR Chirikof Islan 61.35 343 P P 01 01 13.5 +0.1
baz=149
URZ Urewera 61.45 227 LR LR 01 22 18.5
comp=Z,54nm,18.1s,baz=346,slow=31
P29M Windy Craggy 61.51 355 P P 01 01 14.8 +0.3
baz=170
LVC Limon Verde 61.59 115 P P 01 01 14.2 -1.9
LVC IAmb IAmb 01 01 21.1
comp=Z,6.8nm,1.2s
KOTAN Kotaneelee Air 61.70 3 P P 01 01 16.4 +0.7
baz=185
PNL Peninsula 61.71 354 P P 01 01 16.4 +0.6
baz=168
P33M Teslin, Yukon 61.77 358 P P 01 01 16.7 +0.5
baz=175
P30M Million Dollar 61.93 355 P P 01 01 18.2 +0.8
baz=171
OHAK Old Harbor 61.94 345 P P 01 01 17.8 +0.5
baz=152
CO01 Juntas del Tor 62.22 123 P P 01 01 18.8 -1.3
CO01 IAmb IAmb 01 02 30.1
comp=Z,11nm,1.4s
PINM Pinnacle 62.23 353 P P 01 01 20.0 +0.6
baz=167
O29M Mount Kennedy 62.25 354 P P 01 01 20.0 +0.5
baz=169
KDAK Kodiak Island 62.26 346 P P 01 01 19.4 0.0
KDAK Kodiak Island 62.26 346 P P 01 01 20.1 +0.6
baz=153
AF01 San Pedro de A 62.31 115 P 01 01 20.2 -0.7
WHY Whitehorse 62.32 357 P P 01 01 20.6 +0.6
WHY Whitehorse 62.32 357 P P 01 01 20.7 +0.7
baz=173,SNR=6.8
O30N Mendenhall 62.51 356 P P 01 01 21.8 +0.6
baz=172
MESA MESA 62.51 353 P P 01 01 22.1 +0.7
baz=165
ETMB Extrema 62.61 100 P P 01 01 21.6 -1.1
HYT Haines Junctio 62.67 355 P P 01 01 22.5 +0.2
HYT IAmb IAmb 01 01 24.1
comp=Z,8.4nm,0.9s
HYT Haines Junctio 62.67 355 P P 01 01 23.1 +0.8
baz=170
N32M Quiet Lake 62.72 358 P P 01 01 23.6 +1.0
baz=175
BERG Berg Lake 62.96 352 P P 01 01 24.4 +0.3
TGTN Hyland Airport 63.00 0 P P 01 01 25.1 +0.6
baz=180
LOGN Logan Glacier 63.02 353 P P 01 01 24.5 -0.3
GRNC Granite Creek 63.02 353 P P 01 01 24.8 0.0
N31M Braeburn, Yuko 63.20 356 P P 01 01 26.9 +1.1
baz=172
CTG Chitna Glacier 63.20 353 P P 01 01 26.6 +0.7
baz=166
CRQE Cirque 63.22 352 P P 01 01 26.4 +0.4
baz=164
CRQM Cirque 63.23 352 P P 01 01 26.2 0.0
N30M Aishikik Lake 63.26 355 P P 01 01 27.2 +0.9
baz=170
YUK4 Talbot Arm 63.28 355 P P 01 01 26.9 +0.4
baz=169
YUK8 Steele Glacier 63.34 354 P P 01 01 27.5 +0.6
baz=168,SNR=5.8
Q18K Katmai Hardscr 63.63 345 P P 01 01 28.5 -0.3
baz=150
FARO Faro, Yukon 63.80 358 P P 01 01 30.2 +0.5
baz=175
MCARA McCarthy VSAT 63.82 352 P P 01 01 30.3 +0.5
MCARA McCarthy VSAT 63.82 352 P P 01 01 30.4 +0.5
baz=164
M31M Drury Creek, Y 63.83 357 P P 01 01 29.7 -0.2
M31M Drury Creek, Y 63.83 357 P P 01 01 30.4 +0.6
baz=174,SNR=10
YUK3 Moose Creek 63.89 354 P P 01 01 31.1 +0.5
baz=167,SNR=7.9
Q16K King Salmon 64.09 344 P P 01 01 31.8 +0.2
baz=149
N25K Chitina, Valde 64.25 352 P P 01 01 32.9 +0.2
baz=162
KLU Klutina 64.34 351 P P 01 01 33.3 -0.1
baz=161
M30M Minto, Yukon 64.35 356 P P 01 01 33.7 +0.4
baz=171
M29M Somme Creek 64.35 355 P P 01 01 33.4 0.0
M29M IAmb IAmb 01 01 34.5
comp=Z,8.3nm,1.0s
M29M Somme Creek 64.35 355 P P 01 01 33.7 +0.2
baz=169
BINY Binghamton 64.47 41 P P 01 01 34.7 +0.2
baz=242
BVCY Beaver Creek 64.56 354 P P 01 01 35.3 +0.6
baz=166
M27K Edge Creek, AK 64.62 353 P P 01 01 35.6 +0.4
M27K Edge Creek, AK 64.62 353 P P 01 01 35.8 +0.6
baz=165
RC01 Rabbit Creek A 64.63 349 P P 01 01 35.3 +0.1
baz=156
KNK Knik Glacier 64.70 350 P P 01 01 35.2 -0.4
KNK IAmb IAmb 01 01 36.5
comp=Z,11nm,0.9s
KNK Knik Glacier 64.70 350 P P 01 01 35.7 +0.1
baz=158
O18K Koktuh Hills 64.73 346 P P 01 01 35.4 -0.4
baz=150
M26K Nabesna, AK 64.80 353 P P 01 01 35.9 -0.4
baz=164
YKA Yellowknife Ar 64.86 7 P P 01 01 35.5 -1.1
YKA Yellowknife Ar 64.86 7 P P 01 01 36.4 -0.2
comp=Z,4.2nm,0.8s,baz=194,slow=6.8,SNR=69
YKA PcP PcP 01 02 09.0 -0.8
comp=Z,0.7nm,0.6s,baz=200,slow=4.4,SNR=5.5
comp=Z,4.2nm,0.8s
SCM Sheep Creek Mo 64.89 350 P P 01 01 35.9 -1.0
baz=159
M23K Glacier View 64.92 350 P P 01 01 36.7 -0.4
baz=159
L29M L29M 64.98 355 P P 01 01 37.4 0.0
baz=170
PMR Palmer 64.98 349 P P 01 01 37.4 0.0
baz=157
SML Sawmill 65.04 350 P P 01 01 37.8 -0.1
baz=158
O17K Koliganek Bris 65.15 345 P P 01 01 38.1 -0.4
baz=148
SUA Susitna One 65.17 349 P P 01 01 38.0 -0.8
baz=156
PLCA Paso Flores 65.20 135 P P 01 01 40.6 +1.3
PLCA IAmb IAmb 01 01 44.3
comp=Z,10nm,1.1s
PLCA Paso Flores 65.20 135 P P 01 01 40.7 +1.3
comp=Z,4.9nm,0.9s,baz=290,slow=7.6,SNR=7.2
comp=Z,4.9nm,0.9s
N20K Mount Spurr 65.24 348 P P 01 01 38.4 -0.7
baz=154
O16K Kokwok River B 65.27 344 P P 01 01 38.9 -0.4
baz=147
BCAR Beaver Creek A 65.29 353 P P 01 01 38.7 -0.8
L27K Beaver Creek, 65.30 353 P P 01 01 39.4 -0.1
baz=166
PAL Palisades 65.32 43 P P 01 01 39.2 -0.8
baz=244
L26K Log Cabin Wild 65.44 353 P P 01 01 40.4 0.0
baz=164
SAML Samuel 65.56 99 P P 01 01 42.3 +0.3
SAML IAmb IAmb 01 01 44.1
comp=Z,4.9nm,1.1s
N18K Kilae Creek 65.62 346 P P 01 01 41.2 -0.4
baz=150
K29M Barlow Dome 65.66 356 P P 01 01 42.3 +0.4
baz=170,SNR=8.0
WAT6 Susitna Watana 65.66 350 P P 01 01 42.0 0.0
baz=159
PAX Paxson 65.68 352 P P 01 01 41.1 -0.9
baz=162
SKT Skwentna 65.80 348 P P 01 01 42.7 -0.1
baz=155
N17K Nushagak Hills 65.82 345 P P 01 01 42.7 -0.1
baz=148
DAWY Dawson 66.03 355 P P 01 01 44.0 -0.3
DAWY IAmb IAmb 01 01 44.7
comp=Z,7.2nm,0.9s
DAWY Dawson 66.03 355 P P 01 01 44.6 +0.3
baz=168,SNR=6.5
WAT1 Susitna Watana 66.03 350 P P 01 01 44.1 -0.1
baz=158
M20K Styx River 66.05 348 P P 01 01 46.1 +1.7
baz=153
DZM Mont Dzumac 66.14 247 LR LR 01 24 13.6
comp=Z,43nm,19.9s,baz=222,slow=30
K27K Chicken 66.26 354 P P 01 01 46.0 +0.4
baz=165
J30M Hart River 66.30 356 P P 01 01 46.1 +0.1
baz=172,SNR=6.7
M18K Stony River 66.31 346 P P 01 01 45.4 -0.6
baz=150
RIDG Independent Ri 66.33 352 P P 01 01 45.5 -0.6
RIDG Independent Ri 66.33 352 P P 01 01 46.0 -0.1
baz=162,SNR=7.7
SCRK Sand Creek 66.44 353 P P 01 01 46.2 -0.8
SCRK IAmb IAmb 01 01 47.6
comp=Z,13nm,1.2s
SCRK Sand Creek 66.44 353 P P 01 01 46.7 -0.2
baz=163,SNR=7.9
K24K Donnelly Dome 66.52 352 P P 01 01 46.9 -0.5
baz=161
H11S2 WAKE ISLAND Hy 66.56 291 T T 02 14 06.2
baz=101,slow=74
H11S1 WAKE ISLAND Hy 66.56 291 T T 02 14 09.9
baz=101,slow=74
H11S3 WAKE ISLAND Hy 66.57 291 T T 02 14 13.8
baz=101,slow=74
H11N3 WAKE ISLAND Hy 66.59 292 T T 02 14 28.6
baz=102
H11N2 WAKE ISLAND Hy 66.60 292 T T 02 14 12.1
baz=102
H11N1 WAKE ISLAND Hy 66.60 292 T T 02 14 11.8
baz=102
M17K Holitna River 66.63 345 P P 01 01 47.3 -0.7
baz=148
L19K White Mountain 66.69 347 P P 01 01 47.5 -1.0
baz=151
L20K Farewell, AK 66.74 348 P P 01 01 47.8 -1.0
baz=152
PPLA Purkeypile 66.76 349 P P 01 01 48.3 -0.7
PPLA Purkeypile 66.76 349 P P 01 01 48.4 -0.7
baz=154,SNR=5.5
L61B Northampton 66.77 42 P P 01 01 48.4 -0.9
baz=244
J26L Joseph Creek 66.89 353 P P 01 01 49.3 -0.5
baz=164
EGAK Eagle 66.89 354 P P 01 01 48.5 -1.2
EGAK IAmb IAmb 01 01 50.2
comp=Z,7.8nm,0.9s
EGAK Eagle 66.89 354 P P 01 01 49.2 -0.4
baz=166
TRF Thorofare Moun 66.91 350 P P 01 01 49.4 -0.7
baz=156
MCK McKinley 66.94 350 P P 01 01 49.3 -0.7
baz=158
I30M Mount Dempster 66.95 356 P P 01 01 49.7 -0.5
baz=172
KTH Kantishna Hill 67.12 349 P P 01 01 50.2 -1.0
KTH IAmb IAmb 01 01 51.5
comp=Z,13nm,1.0s
L18K Granite Mounta 67.15 346 P P 01 01 50.6 -0.7
baz=149
CAST Castle Rocks 67.22 349 P P 01 01 50.7 -1.1
baz=154,SNR=5.6
J25K Salcha River, 67.23 352 P P 01 01 51.5 -0.4
baz=162
HDA Harding Lake 67.26 352 P P 01 01 50.9 -1.2
HDA IAmb IAmb 01 01 52.3
comp=Z,10nm,1.0s
HDA Harding Lake 67.26 352 P P 01 01 51.6 -0.5
baz=160,SNR=7.8
HDA P P 01 01 51.6 -0.5
baz=160,SNR=7.8
I28M Miner Creek 67.44 355 P P 01 01 52.8 -0.4
baz=168
L17K Donlin 67.47 345 P P 01 01 52.8 -0.6
baz=148
K20K Telida 67.56 348 P P 01 01 54.7 +0.7
baz=152
IL31 67.59 352 P P 01 01 52.9 -1.1
IL31 IAmb IAmb 01 02 51.9
comp=Z,24nm,1.9s
ILAR Eielson Array 67.59 352 P P 01 01 52.9 -1.2
comp=Z,2.8nm,0.9s,baz=169,slow=4.9,SNR=17
comp=Z,2.8nm,0.9s
TTA Tatalina 67.61 347 P P 01 01 53.3 -1.1
baz=150
CCB Clear Creek Bu 67.61 351 P P 01 01 53.0 -1.2
CCB IAmb IAmb 01 01 54.5
comp=Z,7.5nm,0.7s
I26K Coal Creek Min 67.62 353 P P 01 01 53.8 -0.5
baz=164,SNR=5.4
BPAW Bear Paw Mtn. 67.63 350 P P 01 01 53.3 -1.1
BPAW IAmb IAmb 01 01 54.4
comp=Z,11nm,1.1s
BPAW Bear Paw Mtn. 67.63 350 P P 01 01 53.7 -0.7
baz=156,SNR=5.0
I27K Kandik River 67.75 354 P P 01 01 54.5 -0.7
baz=166
NEA2 Nenana 67.76 351 P P 01 01 54.2 -1.0
baz=158,SNR=8.3
COLA College 67.83 351 P P 01 01 55.1 -0.4
baz=159
MACA Manacapuru-AM 67.95 93 P P 01 01 57.4 0.0
MDM Murphy Dome 67.97 351 P P 01 01 55.7 -0.8
POKR Poker Plat Res 68.00 352 P P 01 01 56.1 -0.6
baz=160
H29M Whitesne 68.07 356 P P 01 01 56.8 -0.3
baz=170
EPYK Eagle Plains 68.11 357 P P 01 01 56.9 -0.5
baz=171,SNR=7.7
PRP Porcupine Dome 68.11 353 P P 01 01 57.0 -0.5
PRP IAmb IAmb 01 01 57.7
comp=Z,3.3nm,0.8s
PRP Porcupine Dome 68.11 353 P P 01 01 56.8 -0.7
baz=162
J18K Innoko River 68.23 347 P P 01 01 57.5 -0.7
baz=150
J20K Nowinta River 68.31 348 P P 01 01 57.5 -1.1
baz=152
I23K Minto, Yukon-K 68.32 351 P P 01 01 58.2 -0.4
baz=158
H27K Steamboat Moun 68.35 354 P P 01 01 58.3 -0.6
baz=166,SNR=7.2
MLY Manley 68.44 350 P P 01 01 58.8 -0.7
baz=158,SNR=13
K15K Wolf Creek Mou 68.45 344 P P 01 01 59.6 +0.1
baz=144
J19K Poorman 68.45 348 P P 01 01 58.3 -1.2
baz=151
G31M Satah River 68.53 358 P P 01 01 59.2 -0.7
baz=174
VILB Vilhena 68.68 103 P P 01 02 01.6 -0.3
VILB IAmb IAmb 01 02 04.7
comp=Z,10nm,1.0s
G30M tAoh Zraii Nji 68.69 357 P P 01 02 00.6 -0.4
baz=172,SNR=6.2
G29M Pine Creek 68.73 356 P P 01 02 00.6 -0.6
baz=170
H24K Noodor Dome 68.74 352 P P 01 02 01.1 -0.2
baz=159,SNR=17
I21K Tanana 68.80 350 P P 01 02 01.0 -0.6
baz=155
I20K Naaghedeneel 68.92 348 P P 01 02 01.7 -0.7
baz=152
G27K Doyon Strip 68.92 355 P P 01 02 02.0 -0.5
baz=166,SNR=6.0
J16K Anvik River 69.02 345 P P 01 02 02.6 -0.5
baz=146
F31M Tsiigehtchic 69.03 358 P P 01 02 02.8 -0.2
baz=174
G26K Porcupine Rive 69.28 354 P P 01 02 04.3 -0.3
baz=164
F30M Barrier River 69.29 357 P P 01 02 04.4 -0.3
baz=172
H22K Ishtalitna Cre 69.34 350 P P 01 02 04.3 -0.8
baz=156
G25K Bearman Lake 69.38 353 P P 01 02 04.9 -0.3
baz=161
J14K Nanvaranak Lak 69.38 344 P P 01 02 04.8 -0.5
baz=142
H21K Melozitna Rive 69.38 350 P P 01 02 04.4 -0.9
baz=154,SNR=7.7
G24K Hadweenzic Riv 69.50 352 P P 01 02 05.3 -0.7
baz=160
I17K Unalakleet 69.54 346 P P 01 02 06.1 -0.1
baz=146
F28M Old Crow 69.56 355 P P 01 02 05.5 -0.8
baz=168,SNR=12
H20K Anotleneega Mo 69.62 349 P P 01 02 06.0 -0.8
baz=152
BMAR Burnt Mountain 69.83 354 P P 01 02 08.1 0.0
IMAR Indian Mountai 69.84 349 P P 01 02 06.5 -1.6
G23K Bananza Creek 69.88 351 P P 01 02 08.0 -0.4
baz=157
INK Inuvik 69.89 358 P P 01 02 07.3 -1.0
INK IAmb IAmb 01 02 08.6
comp=Z,6.7nm,1.1s
INK Inuvik 69.89 358 P P 01 02 08.1 -0.2
baz=175
H19K Roundabout Mou 69.97 348 P P 01 02 08.8 -0.1

baz=150
F26K Sheenjek River 70.04 354 P P 01 02 09.5 +0.1
baz=164
H18K Honhosa River 70.06 347 P P 01 02 10.0 +0.6
baz=148
F25K Christian Rive 70.11 353 P P 01 02 10.3 +0.5
baz=162,SNR=5.2
E29M Blow River 70.18 356 P P 01 02 09.0 -1.1
baz=170
H17K Granite Mounta 70.23 346 P P 01 02 10.3 -0.2
baz=146
E27K Coleen River 70.26 355 P P 01 02 10.6 -0.1
baz=166
G21K Allakaket 70.28 350 P P 01 02 09.8 -1.0
baz=154
G22K Bettles 70.31 351 P P 01 02 10.3 -0.6
baz=156
F24K Squaw Lake 70.32 352 P P 01 02 11.0 -0.1
baz=160
COLD Coldfoot 70.38 351 P P 01 02 11.6 +0.2
baz=157
E28M Babbage River 70.51 356 P P 01 02 11.3 -0.9
baz=168
H16K Elim 70.55 345 P P 01 02 13.1 +0.6
baz=144
E25K Arctic Village 70.61 353 P P 01 02 13.4 +0.6
baz=162,SNR=6.1
G19K Purcell Mounta 70.64 348 P P 01 02 13.6 +0.7
baz=150
G18K Tagagawik 70.75 347 P P 01 02 14.6 +0.9
baz=148
TRQA Tornquist 70.76 130 P P 01 02 14.3 -0.1
TRQA IAmb IAmb 01 02 55.9
comp=Z,20nm,1.5s
G17K Kiwalik Mounta 70.87 346 P P 01 02 14.7 +0.3
baz=146
F21K Alatna River 70.91 350 P P 01 02 15.3 +0.7
baz=154
C36M Paulatuk 70.92 2 P P 01 02 14.6 0.0
baz=185
E24K Your Creek 70.93 352 P P 01 02 15.2 +0.4
baz=159
F22K John River 70.95 351 P P 01 02 15.3 +0.4
baz=155
E23K Chandalar 71.07 352 P P 01 02 16.2 +0.5
baz=158
F20K Avaraart Lake 71.16 349 P P 01 02 16.6 +0.5
baz=151
D28M Stokes Point 71.17 356 P P 01 02 15.4 -0.7
baz=169
G16K Koyuk River 71.19 346 P P 01 02 16.5 +0.1
baz=144
D27M Malcolm River 71.24 355 P P 01 02 16.6 -0.1
baz=167
G15K Niukluk 71.29 345 P P 01 02 16.8 -0.2
baz=142
ANM Nome 71.31 344 P P 01 02 17.4 +0.3
baz=141
F19K Shaleruckik Mo 71.37 348 P P 01 02 18.0 +0.6
baz=149
E22K Anaktuvuk Pass 71.46 351 P P 01 02 18.3 +0.3
baz=156
TOLK Toolik Lake Re 71.60 352 P P 01 02 18.9 +0.1
baz=158
F17K Baldwin Pennin 71.79 347 P P 01 02 20.3 +0.4
baz=145
E19K Redstone River 71.81 349 P P 01 02 20.2 +0.1
baz=150
D25K Kavik River 71.84 353 P P 01 02 20.2 0.0
D25K IAmb IAmb 01 02 21.1
comp=Z,5.1nm,0.8s
D25K Kavik River 71.84 353 P P 01 02 20.3 0.0
baz=161,SNR=6.5
D24K Happy Valley 71.98 353 P P 01 02 21.5 +0.4
baz=159
F15K North Star Dit 72.02 345 P P 01 02 21.7 +0.3
baz=142
D23K Nanushuk River 72.06 352 P P 01 02 22.6 +1.0
baz=157
E21K Killik River 72.09 350 P P 01 02 22.3 +0.5
baz=153
C26K Camden Bay 72.26 354 P P 01 02 23.5 +0.8
baz=163
F14K Arctic Creek 72.27 344 P P 01 02 23.5 +0.6
baz=140
D22K Ayikyak River 72.28 351 P P 01 02 23.6 +0.7
baz=155
E20K Nigu River 72.31 350 P P 01 02 23.4 +0.2
baz=151
E17K Hotham Inlet 72.45 347 P P 01 02 24.2 +0.3
baz=145
E18K Tukpahlearik C 72.46 348 P P 01 02 24.4 +0.4
baz=146
C24K Franklin Bluff 72.50 353 P P 01 02 24.6 +0.5
baz=159
CPUP Villa Florida 72.59 117 P P 01 02 26.5 +1.0
comp=Z,1.8nm,0.7s,baz=264,slow=4.5,SNR=5.2
comp=Z,1.8nm,0.7s
GAMB Gambell 72.59 341 P P 01 02 25.2 +0.5
baz=134
TNA Tin City 72.77 344 P P 01 02 26.0 +0.2
baz=138
D20K Etivluk River 72.78 350 P P 01 02 26.1 +0.2
baz=151
C23K Itkillik River 72.86 352 P P 01 02 27.0 +0.7
baz=157
C21K Knifeblade Rid 72.86 351 P P 01 02 27.0 +0.7
baz=153,SNR=6.2
D19K Kuna River 72.87 349 P P 01 02 26.9 +0.4
baz=149
B21K Ikpikpuk River 73.25 351 P P 01 02 29.0 +0.4
baz=153
RDOG Red Dog Mine 73.48 347 P P 01 02 30.7 +0.7
baz=144
A36M Sachs Harbour 73.54 1 P P 01 02 30.5 +0.3
baz=184
C18K Utukok River 73.61 348 P P 01 02 31.7 +0.8
baz=146
C19K Lookout Ridge 73.67 349 P P 01 02 31.8 +0.6
baz=148
B22K Teshekpuk Lake 73.71 352 P P 01 02 31.3 0.0
B22K IAmb IAmb 01 02 32.3
comp=Z,5.0nm,0.8s
B22K Teshekpuk Lake 73.71 352 P P 01 02 31.7 +0.5
baz=154
C17K DeLong Mountai 73.89 347 P P 01 02 33.0 +0.6
baz=144
B20K Meade River 74.01 350 P P 01 02 34.0 +1.0
baz=150
B18K Kokolik River 74.33 348 P P 01 02 36.1 +1.2
baz=145
A22K Sinclair Lake 74.54 351 P P 01 02 36.8 +0.7
baz=153
A19K Wainwright 74.88 349 P P 01 02 39.6 +1.5
baz=146
SCHQ Schefferville 75.55 32 P P 01 02 41.8 -0.5
comp=Z,9.0nm,0.8s,baz=293,slow=4.8,SNR=4.8
comp=Z,9.0nm,0.8s
RES Resolute Bay 78.86 9 P P 01 02 59.4 -1.0
RES IAmb IAmb 01 03 00.8
comp=Z,6.3nm,0.7s
BDFB Brasilia 80.58 105 P P 01 03 12.6 +1.4
comp=Z,3.8nm,0.7s,baz=239,slow=6.1,SNR=8.4
comp=Z,3.8nm,0.7s
VNDA Vanda 84.02 192 P P 01 03 28.5 +0.7
comp=Z,1.8nm,1.1s,baz=87,slow=5.3,SNR=2.4
comp=Z,1.8nm,1.1s
CTA Charters Tower 84.79 250 LR LR 01 35 56.4
comp=Z,49nm,18.5s,baz=83,slow=32
BELA Belgrano 2 89.26 168 P P 01 03 54.2 +0.8
BELA IAmb IAmb 01 05 05.1
comp=Z,9.4nm,1.5s
MDJ Mudanjiang 99.49 315 P Pdif 01 04 41.0 0.0
MDJ pmax pmax
comp=Z,15nm,1.0s
MDJ pmax pmax
comp=Z,450nm,4.7s
FINES FINESS Array B 117.36 13 PKP PKPdf 01 09 42.4 -0.8
comp=Z,2.9nm,0.9s,baz=192,slow=1.8,SNR=3.3
ZALV Zalesovo Beam 121.04 338 PKPdf PKPdf 01 09 49.7 -0.8
FUORN Ofenpass-Fuorn 122.70 33 PKPdf PKiKP 01 09 55.0 +0.6
GERES GERESS Array B 122.99 29 PKP PKPdf 01 09 54.5 -0.1
comp=Z,0.3nm,0.5s,baz=260,slow=3.9,SNR=1.9
DBIC Dimbokro 123.79 83 PKPdf PKPdf 01 09 55.9 -1.0
DBIC Dimbokro 123.79 83 PKP PKiKP 01 09 57.1 0.0
comp=Z,2.4nm,0.6s,baz=287,slow=2.4,SNR=6.4
PZH PanZhiHua 125.68 302 PKP PKPdf 01 10 00.0 -0.4
KURBB Kurchatov Arra 126.03 339 PKP PKPdf 01 09 59.7 -0.5
comp=Z,1.3nm,0.8s,baz=28,slow=1.8,SNR=13
BVAR Borovoye Array 126.40 346 PKP PKiKP 01 10 01.0 -0.2
comp=Z,2.4nm,0.6s,baz=326,slow=0.7,SNR=16
MK31 Makanchi Array 127.56 334 PKPdf PKPdf 01 10 03.2 -0.1
MKAR Makanchi Array 127.56 334 PKPdf PKPdf 01 10 02.9 -0.4
MKAR Makanchi Array 127.56 334 PKP PKPdf 01 10 02.5 -0.7
comp=Z,1.4nm,0.7s,baz=48,slow=1.5,SNR=12
AKASG Malin Array Be 127.67 18 PKP PKPdf 01 10 02.2 -1.1
comp=Z,2.2nm,0.7s,baz=337,slow=2.4,SNR=8.1
TORD Torodi Ar. Bea 129.59 74 PKPdf PKPdf 01 10 07.3 -0.6
TORD Torodi Ar. Bea 129.59 74 PKP PKPdf 01 10 07.9 -0.1
comp=Z,0.9nm,0.9s,baz=331,slow=4.1,SNR=4.3
CMAR Chiang Mai Arr 130.42 293 PKP PKPdf 01 10 09.6 +0.2
comp=Z,0.5nm,0.3s,baz=112,slow=0.5,SNR=4.0
ABKAR Akbulak array 132.00 352 PKPdf PKPdf 01 10 11.7 +0.1
ABKAR Akbulak array 132.00 352 PKPdf PKPdf 01 10 11.4 -0.1
BR131 Keskin Array S 138.82 21 PKPdf PKPdf 01 10 24.4 -0.4
BRTR Keskin Array B 138.82 21 PKP PKPdf 01 10 24.4 -0.4
comp=Z,1.4nm,0.7s,baz=48,slow=2.1,SNR=11
MMAI Mount Meron Ar 145.40 24 PKPbc PKPbc 01 10 36.2 -0.2
comp=Z,2.1nm,0.5s,baz=5.4,slow=3.5,SNR=7.7
HRA Herat 145.86 344 PKPbc PKPbc 01 10 37.7 -0.4
EIL Elat 148.08 28 PKPbc PKPbc 01 10 43.8 -0.5
comp=Z,6.0nm,0.9s,baz=273,slow=4.1,SNR=5.1

*IDC **28** 01:05:13.9±0.9,40.92N×32.60E,h0km,mb3.2/3, mbtmp3.2/7,ML3.1/4,Error ellipse: s-maj=15.7km s-min=8.3km az=56.0*
*AFAD **28** 01:05:13.9±0.0,40.87N×32.47E,h14km±1km,ML3.4*
*ISK **28** 01:05:13.6,40.88N×32.49E,h5km,ML3.4/25*
ISC 28 01:05:14.1±1.0,40.88N±0.02×32.49E±0.02,h9km±7km, n69,σ1911/100,mb3.1/3,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCAM	**Yenicaga**	**0.33**	**259**	P	**Pg**	**01 05 20.7**	**+0.1**
BCAM				S	**Sg**	**01 05 25.7**	**+0.7**
BCAM				*i* AML	AML	01 05 26.0	
	comp=N,5μm,0.6s						
KBUK	**KARABUK-Merkez**	**0.37**	**16**	P	**Pg**	**01 05 21.8**	**+0.5**
KBUK				S	**Sg**	**01 05 25.8**	**-0.5**
CMDR	**Camlidere-ANKA**	**0.39**	**182**	P	**Pg**	**01 05 21.9**	**+0.1**
CMDR				S	**Sg**	**01 05 25.2**	**-1.6**
SAFT	**Safranbolu**	**0.39**	**22**	Pg	**Pg**	**01 05 22.2**	**+0.5**
DEVR	**Zonguldak/Devr**	**0.47**	**304**	P	**Pg**	**01 05 23.4**	**+0.2**
DEVR				S	**Sg**	**01 05 28.0**	**-1.4**
BOLU	**Bolu-Merkez-Mu**	**0.63**	**261**	P	**Pg**	**01 05 26.3**	**+0.1**
BOLU				S	**Sg**	**01 05 34.1**	**-0.3**
BOLU				*i* AML	AML	01 05 37.0	
	comp=E,3μm,0.5s						
BOLU				*i* AML	AML	01 05 43.0	
	comp=N,2μm,1.0s						
PELI	**Kastamonı-Ara**	**0.75**	**56**	P	**Pg**	**01 05 28.8**	**+0.3**
BTIN	**Bartın**	**0.78**	**347**	P	**Pg**	**01 05 28.6**	**-0.4**
BTIN				S	**Sg**	**01 05 37.8**	**-1.3**
BTIN				*i* AML	AML	01 05 44.0	
	comp=N,1μm,0.5s						
BTIN				*i* AML	AML	01 05 44.0	
	comp=E,1μm,0.6s						
YUVA	**Yuva-Kibriscik**	**0.78**	**232**	Pg	**Pb**	**01 05 29.5**	**-0.4**
YIGI	**Dzce**	**0.79**	**276**	P	**Pg**	**01 05 29.2**	**-0.1**
YIGI				S	**Sg**	**01 05 39.4**	**-0.3**
ELDT	**Eldivan**	**0.81**	**119**	P	**Pg**	**01 05 29.5**	**-0.2**
KURC	**Kurucasile-Bar**	**0.98**	**11**	Pg	**Pb**	**01 05 33.2**	**0.0**
KURC				Sg	**Sn**	**01 05 48.7**	**+0.7**
LOD	**Lodumlu**	**1.01**	**168**	Pg	**Pb**	**01 05 34.1**	**+0.3**
LOD				Sg	**Sn**	**01 05 49.0**	**+0.1**
YENC	**ankr-Yen**	**1.05**	**101**	P	**Pb**	**01 05 34.5**	**+0.1**
YENC				*i* AML	AML	01 05 53.0	
	comp=N,543nm,0.8s						
CIDE	**Kastamonu/Cide**	**1.06**	**19**	P	**Pb**	**01 05 34.9**	**+0.4**
CIDE				S	**Sb**	**01 05 48.8**	**+0.3**
CIDE				*i* AML	AML	01 05 53.0	
	comp=N,1μm,0.3s						
CIDE				*i* AML	AML	01 05 53.0	
	comp=E,1μm,0.5s						
MDUB	**Mudurnu**	**1.07**	**248**	Pg	**Pb**	**01 05 34.7**	**0.0**
MDUB				Sg	**Sn**	**01 05 50.9**	**+0.6**
KMON	**Kastamonu**	**1.09**	**63**	Pn	**Pb**	**01 05 35.5**	**+0.3**
TOS	**Tosya**	**1.17**	**82**	Pn	**Pn**	**01 05 37.3**	**+0.6**
TOS				Sn	**Sn**	**01 05 54.5**	**+1.6**
BTAS	**Taskesti**	**1.18**	**255**	P	**Pg**	**01 05 36.3**	**-0.3**
BTAS				S	**Sg**	**01 05 50.8**	**-1.1**
BTAS				*i* AML	AML	01 05 58.0	
	comp=N,1μm,0.7s						
BTAS				*i* AML	AML	01 06 00.0	
	comp=E,754nm,0.6s						
SEYI	**Kastamonu-Seyd**	**1.21**	**51**	P	**Pg**	**01 05 37.1**	**-0.1**
AUMIH	**MIHALICIK**	**1.27**	**218**	P	**Pg**	**01 05 37.0**	**-1.5**
AUMIH				S	**Sg**	**01 05 54.4**	**-0.6**
SUSU	**Bolu-G¶lynk-**	**1.37**	**247**	P	**Pg**	**01 05 40.1**	**-0.2**
SUSU				S	**Sb**	**01 05 57.9**	**+0.5**
DELI	**KIRIKKALE**	**1.40**	**129**	P	**Pn**	**01 05 40.1**	**+0.2**
DELI				S	**Sb**	**01 05 56.6**	**-1.9**
BBAL	**Bala**	**1.42**	**160**	P	**Pg**	**01 05 41.3**	**0.0**
BRTR	**Keskin Array B**	**1.45**	**142**	Pg	**Pb**	**01 05 41.2**	**-0.1**
	41nm,0.3s,baz=324,slow=14,SNR=716						
BRTR				Lg	Lg	01 06 00.8	
	31nm,0.3s,baz=317,slow=20,SNR=16						
KESK	**Krkkale-Ke**	**1.50**	**146**	P	**Pb**	**01 05 41.9**	**-0.2**
KESK				S	**Sn**	**01 06 01.4**	**+0.5**
AFSR	**Afar-Bala (An**	**1.50**	**163**	Pn	**Pg**	**01 05 42.4**	**-0.4**
AFSR				Sn	**Sg**	**01 06 04.0**	**+1.7**
SUNG	**orum-Sungurl**	**1.51**	**117**	P	**Pn**	**01 05 40.9**	**-0.4**
SUNG				S	**Sg**	**01 06 02.3**	**-0.2**
KAGI	**orum-Kargı**	**1.52**	**80**	P	**Pg**	**01 05 43.1**	**-0.2**
KAGI				S	**Sn**	**01 05 59.8**	**-1.7**
GULT	**Gulveren**	**1.57**	**254**	Pn	**Pg**	**01 05 44.4**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.61**	**208**	Pn	**Pb**	**01 05 44.2**	**+0.1**
SVRH				Sn	**Sg**	**01 06 06.8**	**+0.9**
AUSIV	**SIVRIHISAR**	**1.61**	**207**	P	**Pg**	**01 05 44.5**	**-0.5**
AUSIV				S	**Sg**	**01 06 06.1**	**+0.1**
KAYN	**Sakarya, Kayna**	**1.63**	**274**	P	**Pn**	**01 05 43.8**	**+0.9**
KAYN				S	**Sn**	**01 06 04.0**	**-0.1**
SAU	**Serdivan-Sakar**	**1.65**	**266**	Pn	**Pb**	**01 05 44.9**	**+0.3**
SRCK	**Saricakaya, Es**	**1.65**	**240**	Pn	**Pb**	**01 05 44.6**	**-0.1**
GEYV	**SAKARYA_Geyve**	**1.72**	**257**	P	**Pn**	**01 05 45.0**	**+0.9**
KKUL	**Konya-Kulu**	**1.74**	**169**	P	**Pg**	**01 05 47.1**	**-0.3**
KKUL				S	**Sg**	**01 06 10.7**	**+0.7**
KAND	**Kocaeli-Kandir**	**1.75**	**278**	P	**Pb**	**01 05 46.0**	**-0.4**
CTAK	**Corum_Osmancik**	**1.76**	**97**	P	**Pn**	**01 05 45.8**	**+0.9**
CTAK				S	**Sn**	**01 06 05.5**	**-2.1**
BOYA	**Sinop/Boyabat-**	**1.77**	**68**	P	**Pb**	**01 05 46.3**	**-0.5**
BOYA				S	**Sn**	**01 06 07.8**	**+0.2**
CORM	**Corum**	**1.77**	**113**	Pn	**Pb**	**01 05 46.8**	**0.0**
AKPI	**Kirsehir/Akpin**	**1.80**	**140**	P	**Pn**	**01 05 45.9**	**+0.6**
AKPI				S	**Sb**	**01 06 09.5**	**-0.4**
BORA	**Eskisehir**	**1.85**	**238**	P	**Pn**	**01 05 46.4**	**+0.4**
BORA				S	**Sb**	**01 06 12.1**	**+0.7**
SGAZ	**Eskisehir, Sey**	**1.85**	**224**	P	**Pb**	**01 05 47.4**	**-0.7**
CIFT	**Cifteler, Eski**	**1.87**	**216**	Pn	**Pb**	**01 05 48.8**	**+0.3**
KULU	**Kulu**	**1.88**	**168**	Pn	**Pb**	**01 05 48.1**	**-0.5**
HISA	**Bilecik-Osmane**	**2.00**	**259**	P	**Pb**	**01 05 49.9**	**-0.7**
HISA				S	**Sb**	**01 06 16.2**	**+0.6**
HISA				*i* AML	AML	01 06 27.0	
	comp=E,193nm,0.6s						
KIZT	**Kizilcal**	**2.05**	**193**	Pn	**Pn**	**01 05 49.4**	**+0.5**
SEMS	**Kocaeli-¶rfe**	**2.09**	**271**	P	**Pb**	**01 05 51.2**	**-0.9**
SERE	**Sereflikochisa**	**2.10**	**157**	Pn	**Pb**	**01 05 51.5**	**-0.9**
AUBOZ	**BOZOYUK**	**2.11**	**243**	P	**Pg**	**01 05 53.6**	**-1.0**
BILE	**Bilecik/Merkez**	**2.12**	**251**	P	**Pb**	**01 05 53.1**	**+0.4**
CAVI	**Cavuskoy**	**2.13**	**252**	Pn	**Pb**	**01 05 52.2**	**-0.6**
ADVT	**Abdulvahap**	**2.14**	**259**	Pn	**Pb**	**01 05 52.1**	**-0.9**
HRT	**Hereke**	**2.14**	**269**	Pn	**Pb**	**01 05 52.0**	**-1.1**
SILT	**Sile**	**2.17**	**278**	Pn	**Pb**	**01 05 52.3**	**-1.2**
YAYX	**Yaylak**	**2.19**	**152**	Pn	**Pb**	**01 05 52.5**	**-1.4**
DIKM	**Dikmen**	**2.22**	**69**	Pn	**Pb**	**01 05 53.1**	**-1.3**
CHBY	**Cihanbeyli**	**2.32**	**172**	Pn	**Pn**	**01 05 54.2**	**+1.7**
KOZK	**Kozakli-Nevseh**	**2.47**	**132**	Pn	**Pn**	**01 05 56.6**	**+2.0**
YOZ	**Yozgat**	**2.50**	**119**	Pn	**Pn**	**01 05 56.6**	**+1.6**
KVT	**Kavak**	**2.70**	**85**	Pn	**Pn**	**01 06 00.1**	**+2.4**
MLR	**Muntele Rosu**	**6.64**	**316**	Pn	**Pn**	**01 06 53.7**	**+1.8**
	0.3nm,0.3s,baz=170,slow=18,SNR=3.8						
MLR				Sn	**Sn**	**01 08 10.4**	**+2.6**
	0.4nm,0.3s,baz=134,slow=14,SNR=3.7						
	1.0nm,0.5s						
KVAR	**Kislovodsk Arr**	**8.15**	**64**	Pn	**Pn**	**01 07 13.5**	**+0.9**
	baz=223,slow=19						
	4.4nm,1.2s						
KBZ	**Khabaz**	**8.22**	**66**	Pn	**Pn**	**01 07 14.7**	**+1.3**
	baz=270,slow=20,SNR=2.2						
	1.2nm,0.9s						
AKASG	**Malin Array Be**	**10.08**	**348**	Pn	**Pn**	**01 07 37.3**	**-1.6**
	1.1nm,0.3s,baz=166,slow=13,SNR=5.5						
AKASG				Sn	**Sn**	**01 09 26.3**	**-5.7**
	0.7nm,0.3s,baz=199,slow=23,SNR=3.0						
	0.3nm,0.2s						
KURBB	**Kurchatov Arra**	**33.08**	**57**	P	**P**	**01 11 51.8**	**+1.9**
	0.1nm,0.4s,baz=275,slow=9.4,SNR=3.2						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**35.91**	**63**	P	**P**	**01 12 16.0**	**+1.5**
	0.3nm,0.8s,baz=282,slow=8.1,SNR=2.3						
	0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**38.57**	**233**	P	**P**	**01 12 38.3**	**+1.0**
	0.3nm,0.8s,baz=40,slow=7.6,SNR=2.0						
	0.3nm,0.8s						

*IDC **28** 01:25:30.0±4.2,37.59N×71.61E,h99km±27km,mb3.4/6, mbtmp3.8/12,MS3.1/2,Error ellipse: s-maj=48.8km s-min=20.9km az=144.0*
*NNC **28** 01:25:34.6±11.0,37.91N×70.04E,h0km,mb4.3,mpv4.4, Error ellipse: s-maj=121.6km s-min=74.4km az=116.0*
ISC 28 01:25:30.6±1.4,37.7N±0.1×71.49E±0.08,h100km,n23, σ2935/26,mb4.0/5,5C,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.78**	**20**	P	**Pn**	**01 26 42.5**	**+1.8**
	SNR=212						
UCH	**Uchtor**	**5.12**	**26**	P	**Pn**	**01 26 46.4**	**+1.1**
	SNR=5.6						
EKS2	**Erkin-Say**	**5.30**	**19**	P	**Pn**	**01 26 49.8**	**+2.4**
	SNR=67						
AAK	**Ala-Archa**	**5.48**	**24**	P	**Pn**	**01 26 51.5**	**+1.6**
	SNR=8.9						
AAK	**Ala-Archa**	**5.48**	**24**	P	**Pn**	**01 26 51.5**	**+1.6**
	5.9nm,0.3s,baz=173,slow=6.9,SNR=40						
AAK				S	**Sn**	**01 27 51.5**	**-0.3**
	6.7nm,0.5s,baz=326,slow=22,SNR=1.4						
KK31	**Karatay Array**	**5.49**	**353**	⇑P	**Pn**	**01 26 52.7**	**+2.8**
	23nm,0.4s,baz=170,slow=11,SNR=237						
KK31				⇑S	**Sn**	**01 27 56.0**	**+4.3**
	18nm,0.7s,baz=172,slow=21,SNR=7.8						
CHMS	**Chumysh**	**5.89**	**24**	P	**Pn**	**01 26 57.0**	**+1.7**
	SNR=8.7						
GEYT	**Alibeck**	**10.59**	**276**	P	**Pn**	**01 27 59.2**	**0.0**
	1.7nm,0.3s,baz=110,slow=10,SNR=14						
GEYT				S	**Sn**	**01 29 53.1**	**-2.7**
	2.1nm,0.3s,baz=104,slow=30,SNR=9.5						
MKAR	**Makanchi Array**	**12.13**	**38**	P	**Pn**	**01 28 19.0**	**-0.9**
	0.5nm,0.7s,baz=230,slow=15,SNR=2.6						
MKAR				S	**Sn**	**01 30 28.8**	**-4.4**
	0.1nm,0.3s,baz=208,slow=27,SNR=1.7						
KURBB	**Kurchatov Arra**	**13.90**	**19**	P	**Pn**	**01 28 40.5**	**-2.6**
	0.3nm,0.7s,baz=210,slow=12,SNR=2.2						
AB31	**Akbulak array**	**14.29**	**328**	⇑P	**Pn**	**01 28 48.1**	**+0.1**
	0.4nm,0.3s,baz=141,slow=11,SNR=39						
AB31				⇑S	**Sn**	**01 31 16.4**	**-8.8**
	0.9nm,0.6s,baz=155,slow=23,SNR=4.8						
BVAR	**Borovoye Array**	**15.39**	**358**	P	**Pn**	**01 29 01.6**	**-0.4**
	1.1nm,0.5s,baz=156,slow=11,SNR=11						
AKTO	**Aktyubinsk**	**15.99**	**327**	P	**P**	**01 29 11.5**	**+0.4**
	9.3nm,0.5s,baz=129,slow=11,SNR=27						
AKTO				S	**Sn**	**01 32 00.2**	**-6.3**
	0.4nm,0.5s,baz=3.5,slow=19,SNR=1.5						
AKTO	**Aktyubinsk**	**15.99**	**327**	⇑P	**P**	**01 29 13.0**	**+1.8**
	4.6nm,0.6s						
ZALV	**Zalesovo Beam**	**18.70**	**25**	P	**P**	**01 29 40.6**	**-0.3**
	0.8nm,0.4s,baz=214,slow=11,SNR=5.7						
ARU	**Arti**	**20.68**	**339**	P	**P**	**01 30 03.0**	**+0.8**
	1.6nm,0.6s,baz=149,slow=7.5,SNR=4.2						
	1.6nm,0.6s						
GNI	**Garni**	**20.94**	**285**	LR	LR	01 39 54.2	
	comp=Z,65nm,19.4s,baz=195,slow=41						
KBZ	**Khabaz**	**22.44**	**295**	LR	LR	01 40 18.0	
	comp=Z,47nm,20.2s,baz=74,slow=39						
FINES	**FINESS Array B**	**36.75**	**325**	P	**P**	**01 32 29.6**	**+1.7**
	1.8nm,0.8s,baz=127,slow=12,SNR=5.7						
	1.8nm,0.8s						
ARCES	**ARCESS Array B**	**40.23**	**337**	P	**P**	**01 32 58.1**	**+1.1**
	3.5nm,1.0s,baz=108,slow=8.9,SNR=1.5						
	3.5nm,1.0s						
HFS	**Hagfors**	**42.40**	**321**	P	**P**	**01 33 13.8**	**-1.1**
	2.2nm,0.6s,baz=90,slow=13,SNR=6.0						
	2.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**66.14**	**268**	P	**P**	**01 36 07.9**	**+0.3**
	0.4nm,0.8s,baz=36,slow=10,SNR=2.3						
	0.4nm,0.8s						
YKA	**Yellowknife Ar**	**80.07**	**3**	P	**P**	**01 37 28.4**	**-0.4**
	0.2nm,0.6s,baz=348,slow=5.5,SNR=2.4						
	0.2nm,0.6s						

*BEO **28** 01:29:29.7±0.4,43.56N×17.14E,h0km,ML3.4/11*
*LDG **28** 01:29:29.1±0.0,43.56N×17.27E,h2km,ML3.7/18,Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*RHSSO **28** 01:29:30.9±0.2,43.57N×17.28E,h4km±1km,ML3.4/22*
*PDG **28** 01:29:30.4±0.5,43.56N×17.33E,h1km±1km,ML3.6/12, Error ellipse: s-maj=0.8km s-min=1.2km az=0.0*
*VIE **28** 01:29:31.4±0.8,43.45N×17.30E,h8km,mb3.4/20, ml3.4/13,ms4.1/5,Error ellipse: s-maj=9.8km s-min=6.4km az=45.0 67 km E of Split*
*PRU **28** 01:29:32.3,43.58N×17.28E,h1km*
*BGR **28** 01:29:33.5±0.8,43.52N×17.22E,h10km,ML3.6/3,Error ellipse: s-maj=13.3km s-min=11.1km az=69.0*
ISC 28 01:29:30.2±0.9,43.56N±0.02×17.26E±0.02,h7km±7km, n142,σ2934/249,17C-4D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RICI	**Ricice**	**0.12**	**233**	*e*Pg	**Pg**	**01 29 32.4**	**-0.4**
RICI				Sg	**Sg**	**01 29 34.7**	**+0.3**
MAKA	**Makarska**	**0.33**	**212**	*i* Pg	**Pg**	**01 29 36.4**	**-0.2**
MAKA				Sg	**Sg**	**01 29 41.8**	**+1.0**
NEVS	**Nevesinje**	**0.67**	**113**	*e*Pg	**Pg**	**01 29 42.4**	**-0.7**
NEVS				*e*Sg	**Sg**	**01 29 52.1**	**+0.3**
KIJV	**Kijevo**	**0.76**	**306**	*i* Pg	**Pg**	**01 29 43.6**	**-1.2**
KIJV				Sg	**Sg**	**01 29 54.9**	**+0.2**
STON	**Ston**	**0.76**	**155**	*i* Pg	**Pg**	**01 29 44.2**	**-0.6**
STON				Sg	**Sb**	**01 29 56.3**	**-0.1**
STON	**Ston**	**0.76**	**155**	*e*Pg	**Pg**	**01 29 44.0**	**-0.8**
STON				*e*Sg	**Sg**	**01 29 55.7**	**+1.0**
STON	**Ston**	**0.76**	**155**	⇑*i*Pg	**Pg**	**01 29 43.8**	**-1.0**
STON				*e*Sg	**Sb**	**01 29 56.1**	**-0.2**
LSTV	**Lastovo**	**0.84**	**199**	*i* Pg	**Pg**	**01 29 45.2**	**-1.1**
LSTV				Sg	**Sg**	**01 29 58.4**	**+1.2**
MGRS	**Mrkonjic Grad**	**0.86**	**352**	⇑*i*Pg	**Pg**	**01 29 46.1**	**-0.7**
MGRS				*e*Sg	**Sg**	**01 29 58.4**	**+0.4**
KLINJ	**Klinje**	**1.04**	**112**	*e*Pg	**Pg**	**01 29 49.5**	**-0.7**
KLINJ				*e*Sg	**Sg**	**01 30 04.0**	**+0.2**
A050A	**Klekovaca**	**1.06**	**330**	⇑*i*Pg	**Pg**	**01 29 49.5**	**-1.0**
A050A				*e*Sg	**Sg**	**01 30 04.5**	**+0.2**
DBRK	**Dubrovnik**	**1.10**	**144**	*e*Pg	**Pb**	**01 29 50.3**	**-1.3**
DBRK				Sg	**Sn**	**01 30 07.4**	**-0.2**
BRY	**Bratogost**	**1.15**	**125**	⇑*i*Pg	**Pb**	**01 29 51.0**	**-1.4**
BRY	**Bratogost**	**1.15**	**125**	⇓*i*Pg	**Pb**	**01 29 50.7**	**-1.7**
BRY				*i* Sg	**Sn**	**01 30 08.0**	**-0.8**
TREB	**Trebinje**	**1.16**	**136**	*e*Pg	**Pb**	**01 29 50.7**	**-1.9**
TREB

A051A	**Mrakovica**	**1.47**	**350**	*e*Pg	**Pn**	**01 29 57.7**	**+0.5**
A051A				*e*Sg	**Sb**	**01 30 17.2**	**+0.3**
NKME	**Niksic**	**1.47**	**122**⇑	*i*Pg	**Pn**	**01 29 56.7**	**-0.5**
NKME				*i* Sg	**Sg**	**01 30 19.2**	**+1.7**
RUDO	**Rudo**	**1.54**	**87**⇑	*i*Pg	**Pn**	**01 29 57.1**	**-0.9**
RUDO				*e*Sg	**Sb**	**01 30 18.1**	**-0.5**
PLE	**Pljevlja**	**1.57**	**98**⇓	*i*Pg	**Pn**	**01 29 58.4**	**-0.2**
PLE				*i* Sg	**Sg**	**01 30 22.3**	**+1.7**
CEME	**Cevo**	**1.58**	**129**⇓	*i*Pg	**Pn**	**01 29 58.8**	**0.0**
CEME				*i* Sg	**Sg**	**01 30 23.1**	**+2.0**
BBLS	**Lazići**	**1.58**	**78**	*e*Pg	**Pb**	**01 29 59.4**	**-0.5**
BBLS				*e*Sg	**Sg**	**01 30 22.2**	**+1.1**
BBLS	**Lazići**	**1.58**	**78**⇑	*i*Pn	**Pn**	**01 29 59.1**	**+0.3**
BBLS				*e*Sn	**Sg**	**01 30 20.5**	**-0.6**
DUGI	**Dugi Otok**	**1.65**	**286**	*e*Pn	**Pn**	**01 30 00.1**	**+0.5**
DUGI				Sn	**Sg**	**01 30 24.4**	**+1.2**
A251A	**Rujevac**	**1.72**	**336**	*e*Pn	**Pb**	**01 30 02.8**	**+0.6**
A251A				Sn	**Sg**	**01 30 26.6**	**+1.2**
BUM	**Brajici-Budva**	**1.74**	**136**⇓	*i*Pn	**Pn**	**01 30 01.9**	**+1.0**
BUM				*i* Sn	**Sg**	**01 30 27.6**	**+1.5**
VIRC	**Vir**	**1.75**	**295**	*e*Pn	**Pn**	**01 30 02.1**	**+1.1**
VIRC				Sn	**Sg**	**01 30 28.1**	**+1.6**
PLIT	**Plitvice**	**1.76**	**319**	*e*Pn	**Pb**	**01 30 03.7**	**+0.8**
PLIT				Sn	**Sb**	**01 30 26.6**	**+1.4**
KOME	**Kolasin**	**1.80**	**113**⇑	*i*Pn	**Pn**	**01 30 02.6**	**+0.9**
KOME				*i* Sn	**Sg**	**01 30 28.7**	**+0.8**
PDG	**Podgorica**	**1.85**	**127**	*e*Pg	**Pb**	**01 30 03.8**	**-0.6**
PDG				*e*Sg	**Sg**	**01 30 30.8**	**+1.1**
PDG	**Podgorica**	**1.85**	**127**⇑	*i*Pn	**Pn**	**01 30 03.0**	**+0.7**
PDG				*e*Sn	**Sn**	**01 30 26.5**	**+0.5**
PDG	**Podgorica**	**1.85**	**127**⇑	*i*Pn	**Pb**	**01 30 03.7**	**-0.6**
PDG				*i* Sn	**Sg**	**01 30 30.1**	**+0.4**
BLJ	**Bijeljina**	**1.89**	**49**	*e*Pn	**Pn**	**01 30 03.3**	**+0.4**
BLJ				*e*Sn	**Sn**	**01 30 26.1**	**-0.9**
TEKS	**Tekeris**	**1.91**	**58**	*e*Pn	**Pb**	**01 30 04.4**	**-1.0**
TEKS				*e*Sn	**Sg**	**01 30 30.5**	**-1.1**
TEKS	**Tekeris**	**1.91**	**58**	*e*Pn	**Pn**	**01 30 04.2**	**+1.0**
TEKS				*e*Sn	**Sb**	**01 30 28.3**	**-1.2**
DRME	**Dracevica, Mon**	**1.97**	**134**	*e*Pn	**Pb**	**01 30 05.6**	**-0.9**
DRME				*e*Sn	**Sb**	**01 30 30.2**	**-1.0**
DRME	**Dracevica, Mon**	**1.97**	**134**⇑	*i*Pn	**Pb**	**01 30 05.5**	**-0.9**
DRME				*i* Sn	**Sg**	**01 30 33.1**	**-0.5**
NVLJ	**Novalja**	**1.99**	**301**	*i* Pn	**Pb**	**01 30 06.5**	**-0.3**
NVLJ				Sn	**Sg**	**01 30 34.4**	**+0.2**
SJES	**Sjenica**	**2.00**	**98**	*e*Pn	**Pb**	**01 30 06.3**	**-0.7**
SJES	**Sjenica**	**2.00**	**98**⇑	*i*Pn	**Pb**	**01 30 05.8**	**-1.2**
SJES				*e*Sn	**Sn**	**01 30 30.1**	**+0.2**
IVA	**Berane**	**2.05**	**109**	*e*Pn	**Pn**	**01 30 06.3**	**+1.2**
IVA				*i* Sn	**Sb**	**01 30 34.5**	**+1.1**
DIVS	**Divibare**	**2.05**	**74**	*e*Pn	**Pn**	**01 30 06.2**	**+1.0**
DIVS				*e*Sn	**Sb**	**01 30 33.0**	**-0.5**
DIVS	**Divibare**	**2.05**	**74**	*e*Pn	**Pn**	**01 30 05.7**	**+0.5**
DIVS				*e*Sn	**Sn**	**01 30 31.8**	**+0.8**
MOSL	**Moslavina**	**2.08**	**350**	*e*Pn	**Pb**	**01 30 07.6**	**-0.7**
IVAS	**Ivanjica**	**2.10**	**89**	*e*Pn	**Pn**	**01 30 06.9**	**+1.0**
IVAS				*e*Sn	**Sb**	**01 30 34.8**	**-0.2**
RABC	**Rab**	**2.14**	**305**	*e*Pn	**Pb**	**01 30 09.4**	**+0.1**
RABC				Sn	**Sb**	**01 30 37.1**	**+1.1**
ULC	**Ulcinj**	**2.17**	**137**	*e*Pn	**Pn**	**01 30 08.1**	**+1.4**
ULC				*i* Sn	**Sb**	**01 30 37.8**	**+1.0**
PVY	**Plav**	**2.20**	**115**	*e*Pn	**Pn**	**01 30 08.5**	**+1.2**
PVY				*i* Sn	**Sb**	**01 30 38.5**	**+0.5**
TRUS	**Trudelj**	**2.37**	**73**	*e*Pn	**Pn**	**01 30 10.1**	**+0.6**
TRUS				*e*Sn	**Sb**	**01 30 42.3**	**-0.3**
OZLJ	**Ozalj**	**2.42**	**329**	*e*Pn	**Pb**	**01 30 12.9**	**-1.2**
FRGS	**Fruska Gora**	**2.43**	**48**	*e*Pn	**Pn**	**01 30 10.5**	**+0.2**
FRGS				*e*Sn	**Sb**	**01 30 43.7**	**-0.6**
FRGS	**Fruska Gora**	**2.43**	**48**	*e*Pn	**Pn**	**01 30 10.6**	**+0.2**
FRGS				*e*Sn	**Sn**	**01 30 41.2**	**+0.9**
PTJ	**Puntijarka**	**2.52**	**339**	*e*Pn	**Pn**	**01 30 13.3**	**+1.7**
GRUS	**Gruza**	**2.53**	**81**	*e*Pn	**Pn**	**01 30 12.3**	**+0.6**
RIY	**Rijeka**	**2.66**	**313**	*e*Pn	**Pb**	**01 30 17.0**	**-1.1**
RIY				Sn	**Sb**	**01 30 50.6**	**-0.3**
SMRN	**Sveta Marina**	**2.67**	**305**	*e*Pn	**Pn**	**01 30 15.8**	**+2.2**
SMRN				Sn	**Sb**	**01 30 51.0**	**-0.3**
MORH	**Mrgy, Hungar**	**2.83**	**20**	*e*Pn	**Pn**	**01 30 16.2**	**+0.4**
MORH				*e*Sn	**Sn**	**01 30 50.6**	**+0.5**
SELS	**Selova**	**2.83**	**96**	*e*Pn	**Pn**	**01 30 16.5**	**+0.6**
SELS				*e*Sn	**Sb**	**01 30 54.0**	**-2.1**
BEHE	**Becsehely**	**2.93**	**353**	*e*Pn	**Pn**	**01 30 17.9**	**+0.7**
BEHE				*e*Sn	**Sn**	**01 30 53.8**	**+1.2**
SVIS	**Svilajnac**	**2.94**	**75**	*e*Pn	**Pn**	**01 30 18.9**	**+1.5**
SUBS	**Subotica**	**3.06**	**33**	*e*Pn	**Pn**	**01 30 20.4**	**+1.4**
BOVS	**Bovan**	**3.23**	**87**	*e*Pn	**Pn**	**01 30 21.6**	**+0.3**
BOVS				*e*Sn	**Sn**	**01 31 02.6**	**+2.5**
BARS	**Barje**	**3.41**	**101**	*e*Pn	**Pn**	**01 30 25.7**	**+1.8**
SOKA	**Soboth**	**3.49**	**334**	*i* Pn	**Pn**	**01 30 26.3**	**+1.3**
	16nm,0.3s,SNR=24						
SOKA				*e*Sn	**Sn**	**01 31 08.3**	**+1.7**
	28nm,0.7s						
OBKA	**Obir**	**3.52**	**328**	*i* Pn	**Pn**	**01 30 29.0**	**+3.6**
	3.9nm,0.2s						
OBKA				*i* Sn	**Sb**	**01 31 12.5**	**-3.2**
	70nm,0.5s						
OBKA	**Obir**	**3.52**	**328**	*e*Pn	**Pn**	**01 30 26.7**	**+1.3**
OBKA				*e*Sn	**Sn**	**01 31 07.5**	**+0.2**
OBKA	**Obir**	**3.52**	**328**	*e*Pn	**Pn**	**01 30 28.0**	**+2.6**
ZAGS	**Zajecar**	**3.62**	**84**	*e*Pn	**Pn**	**01 30 28.1**	**+1.5**
PRVS	**Prvonek**	**3.69**	**105**	*e*Pn	**Pn**	**01 30 29.9**	**+2.3**
ARSA	**Arzberg**	**3.88**	**342**	*e*Pn	**Pn**	**01 30 31.3**	**+1.0**
	26nm,0.5s,SNR=14						
ARSA				*e*Sn	**Sn**	**01 31 17.1**	**+0.8**
	12nm,0.5s						
ARSA	**Arzberg**	**3.88**	**342**⇑	*i*Pn	**Pn**	**01 30 31.3**	**+1.0**
ARSA				*e*Sn	**Sn**	**01 31 15.8**	**-0.4**
ARSA	**Arzberg**	**3.88**	**342**	*e*Pn	**Pn**	**01 30 31.8**	**+1.4**
ARSA				*e*Sn	**Sn**	**01 31 16.9**	**+0.7**
ZAPS	**Zavoj**	**3.93**	**92**	*e*Pn	**Pn**	**01 30 33.5**	**+2.6**
ZAPS				*e*Sn	**Sn**	**01 31 18.9**	**+1.6**
MYKA	**Terra Mystica**	**4.00**	**321**	*i* Pn	**Pn**	**01 30 35.4**	**+3.4**
	3.3nm,0.2s						
RONA	**Rosalia, Austr**	**4.19**	**351**	*i* Pn	**Pn**	**01 30 35.9**	**+1.3**
	20nm,0.5s,SNR=13						
RONA				*e*Sn	**Sn**	**01 31 25.0**	**+1.1**
	11nm,0.3s						
SRO	**Srobarova**	**4.32**	**9**	*e*SN	**Sn**	**01 31 30.9**	**+4.2**
KBA	**Koelnbreinsper**	**4.47**	**323**	*i* Pn	**Pn**	**01 30 42.2**	**+3.7**
	4.0nm,0.2s						
KBA				*i* Sn	**Sn**	**01 31 35.1**	**+4.3**
	11nm,0.4s						
KBA	**Koelnbreinsper**	**4.47**	**323**	*e*Pn	**Pn**	**01 30 42.2**	**+3.7**
CONA	**Conrad Observa**	**4.47**	**348**	*i* Pn	**Pn**	**01 30 39.9**	**+1.4**
	7.6nm,0.3s,SNR=16						
CONA				*e*Sn	**Sn**	**01 31 32.1**	**+1.3**
	24nm,0.5s						
VTS	**Vitosha**	**4.48**	**100**	*e*Pn	**Pn**	**01 30 40.6**	**+2.0**
ABTA	**Abfaltersbach**	**4.63**	**315**	*e*Pn	**Pn**	**01 30 42.8**	**+2.2**
	8.6nm,0.5s,SNR=11						
ABTA				*e*Sn	**Sn**	**01 31 39.0**	**+4.3**
	67nm,0.9s						
ZST	**Bratislava**	**4.63**	**359**	*e*PN	**Pn**	**01 30 41.6**	**+1.0**
ZST				*e*SN	**Sn**	**01 31 33.8**	**-0.9**
MOA	**Molln**	**4.77**	**335**	*i* Pn	**Pn**	**01 30 45.4**	**+2.8**
	11nm,0.3s,SNR=25						
MOA				*e*Sn	**Sn**	**01 31 41.5**	**+3.4**
	35nm,0.8s						
MOA	**Molln**	**4.77**	**335**	*e*Pn	**Pn**	**01 30 45.3**	**+2.8**
MOA				*e*Sn	**Sn**	**01 31 41.3**	**+3.2**
MODS	**Modra-Piesok**	**4.81**	**0**	*e*PN	**Pn**	**01 30 44.2**	**+1.1**
MODS				*e*SN	**Sn**	**01 31 38.0**	**-1.1**
BIOA	**Bad Ischl, Aus**	**4.85**	**330**	*i* Pn	**Pn**	**01 30 46.6**	**+3.0**
	7.0nm,0.3s,SNR=16						
BIOA				*e*Sn	**Sn**	**01 31 42.9**	**+3.0**
	15nm,0.5s						
LESA	**Schwarzleotal**	**5.03**	**322**	*i* Pn	**Pn**	**01 30 48.8**	**+2.6**
	39nm,0.4s						
LESA				*i* Sn	**Sn**	**01 31 49.3**	**+4.8**
	18nm,0.6s						
VYHS	**Vyhne**	**5.05**	**12**	*e*PN	**Pn**	**01 30 47.6**	**+1.2**
VYHS				*e*SN	**Sn**	**01 31 45.4**	**+0.4**
WTTA	**Wattenberg**	**5.42**	**315**	*i* Pn	**Pn**	**01 30 53.8**	**+2.3**
	20nm,0.3s,SNR=38						
WTTA				*e*Sn	**Sn**	**01 31 58.1**	**+3.9**
	20nm,0.4s						
WTTA	**Wattenberg**	**5.42**	**315**	*e*Pn	**Pn**	**01 30 53.9**	**+2.4**
WATA	**Walderalm**	**5.50**	**315**	*e*Pn	**Pn**	**01 30 55.2**	**+2.6**
	17nm,0.3s,SNR=31						
WATA				*e*Sn	**Sn**	**01 32 00.4**	**+4.3**
	25nm,0.6s						
KRUC	**Moravsky**	**5.53**	**354**	*e*PN	**Pn**	**01 30 53.6**	**+0.6**
KRUC				*e*SN	**Sn**	**01 31 55.2**	**-1.6**
SQTA	**Sankt Quirin**	**5.61**	**313**	*i* Pn	**Pn**	**01 30 57.1**	**+2.9**
	6.0nm,0.3s,SNR=12						
SQTA				*e*Sn	**Sn**	**01 32 03.7**	**+4.7**
	23nm,0.4s						
CKRC	**Cesky Krumlov**	**5.64**	**340**	*e*PN	**Pn**	**01 30 56.8**	**+2.3**
CKRC				*e*SN	**Sn**	**01 32 00.1**	**+0.6**
MOTA	**Moosalm**	**5.75**	**313**	*i* Pn	**Pn**	**01 30 59.1**	**+3.0**
	13nm,0.5s,SNR=23						
MOTA				*i* Sn	**Sn**	**01 32 07.2**	**+4.8**
	32nm,0.8s						
FETA	**Feichten**	**5.76**	**309**	*i* Pn	**Pn**	**01 30 59.0**	**+2.8**
	4.3nm,0.5s						
FETA				*e*Sn	**Sn**	**01 32 05.4**	**+2.7**
	12nm,0.7s						
VRAC	**Vranov**	**5.76**	**356**	*e*PN	**Pn**	**01 30 56.6**	**+0.4**
VRAC				*e*SN	**Sn**	**01 32 00.3**	**-2.2**
GEC2	**GERESS Array S**	**5.83**	**336**	*e*Pn	**Pn**	**01 31 00.8**	**+3.7**
GEC2				*e*Sn	**Sn**	**01 32 05.1**	**+0.8**
RETA	**Reutte**	**6.02**	**313**	*i* Pn	**Pn**	**01 31 02.2**	**+2.5**
	2.5nm,0.2s,SNR=7.9						
RETA				*i* Sn	**Sn**	**01 32 11.8**	**+3.0**
	13nm,0.5s						
CRVS	**Cervenica-Dubn**	**6.08**	**27**	*e*PN	**Pn**	**01 31 02.7**	**+2.2**
KHC	**Kasperske Hory**	**6.12**	**337**	*e*PN	**Pn**	**01 31 02.9**	**+1.8**
KHC				*e*SN	**Sn**	**01 32 11.5**	**+0.1**
FUR	**Furstenfeldbru**	**6.21**	**320**	*e*Pn	**Pn**	**01 31 04.9**	**+2.6**
MORC	**Moravsky Berou**	**6.22**	**2**	*e*SN	**Sn**	**01 32 12.6**	**-1.2**
WET	**Wettzell**	**6.35**	**333**	*e*Pn	**Pn**	**01 31 07.2**	**+3.0**
UBR	**Ueberruh**	**6.49**	**312**	*e*Pn	**Pn**	**01 31 08.4**	**+2.3**
UBR				*e*Sn	**Sn**	**01 32 21.5**	**+1.1**
NORI	**Noerdlinger Ri**	**6.92**	**321**	*e*Pn	**Pn**	**01 31 13.9**	**+2.0**
SBF	**Sospel**	**7.13**	**276**	*e*Pn	**Pn**	**01 31 12.7**	**-2.2**
SBF				*e*Sn	**Sn**	**01 32 29.0**	**-7.1**
	34nm,0.7s						
EMING	**Emmingen-Lipti**	**7.31**	**309**	*e*Pn	**Pn**	**01 31 19.3**	**+1.9**
SLE	**Schleitheim**	**7.44**	**307**	*e*Pn	**Pn**	**01 31 21.8**	**+2.7**
METMA	**Mettma DE**	**7.55**	**306**	*e*Pn	**Pn**	**01 31 22.8**	**+2.0**
METMA				*e*Sn	**Sn**	**01 32 43.3**	**-3.3**
MBDF	**Montbardon**	**7.63**	**282**	*e*Pn	**Pn**	**01 31 21.0**	**-1.0**
MBDF				*e*Sn	**Sn**	**01 32 41.2**	**-7.6**
	14nm,0.7s						
STU	**Stuttgart**	**7.64**	**316**	*e*Pn	**Pn**	**01 31 23.8**	**+1.9**
BERGE	**Lenzkirch (DE)**	**7.68**	**307**	*e*Pn	**Pn**	**01 31 24.5**	**+2.1**
LPG	**La Plagne**	**7.75**	**288**	*e*P	**Pn**	**01 31 26.4**	**+2.7**
LPG				*e*Sn	**Sn**	**01 32 44.3**	**-7.6**
	18nm,0.6s						
LPL	**La Plagne**	**7.77**	**288**	*e*P	**Pn**	**01 31 26.4**	**+2.5**
LPL				*e*Sn	**Sn**	**01 32 44.6**	**-7.6**
	21nm,0.6s						
LMR	**La Mourre**	**7.83**	**272**	*e*P	**Pn**	**01 31 26.0**	**+1.6**
LMR				*e*Sn	**Sn**	**01 32 45.6**	**-7.7**
	2.9nm,0.4s						
BFO	**Black Forest**	**7.84**	**311**	*e*Pn	**Pn**	**01 31 25.8**	**+1.2**
BFO				*e*Sn	**Sn**	**01 32 51.3**	**-2.3**
MOX	**Moxa**	**8.06**	**333**	*e*Pn	**Pn**	**01 31 30.6**	**+3.0**
CLL	**Collm**	**8.27**	**341**	*e*Pn	**Pn**	**01 31 34.0**	**+3.6**
CLL				*e*(Sn)	**Sn**	**01 33 02.0**	**-2.0**
CLL				*e*Sb	Sb	01 33 30.0	-2.1
CLL				*e*Sg	**Sg**	**01 33 53.0**	**-2.3**
ORIF	**Oris-en-Rattie**	**8.28**	**283**	*e*P	**Pn**	**01 31 32.5**	**+1.7**
ORIF				*e*Sn	**Sn**	**01 32 56.6**	**-8.0**
	18nm,0.8s						
MILB	**Miltenberg**	**8.32**	**322**	*e*Pn	**Pn**	**01 31 32.8**	**+1.6**
HINF	**Hinteralfeld**	**8.43**	**304**	*e*P	**Pn**	**01 31 34.2**	**+1.4**
HINF				*e*Sn	**Sn**	**01 33 00.3**	**-7.9**
	12nm,0.7s						
CABF	**La Chapelle**	**8.47**	**295**	*e*P	**Pn**	**01 31 34.4**	**+1.0**
CABF				*e*Sn	**Sn**	**01 33 01.0**	**-8.2**
	10.0nm,0.8s						
HAU	**Haudompre**	**8.82**	**304**	*e*P	**Pn**	**01 31 40.0**	**+1.9**
HAU				*e*Sn	**Sn**	**01 33 09.5**	**-8.3**
	15nm,0.6s						
TNS	**Taunus Mts**	**8.98**	**321**	*e*Pn	**Pn**	**01 31 42.2**	**+1.9**
VIVF	**Saint-Julien-l**	**9.13**	**282**	*e*Pn	**Pn**	**01 31 40.2**	**-2.2**
VIVF				*e*Sn	Sn	01 33 16.9	-8.5
	2.7nm,0.5s						
SMF	**Signal de Mont**	**9.97**	**293**	*e*P	**Pn**	**01 31 53.8**	**-0.1**
SMF				*e*Sn	Sn	01 33 37.5	-8.6
	7.4nm,0.6s						
LOR	**Lormes**	**10.12**	**296**	*e*P	**Pn**	**01 31 56.3**	**+0.4**
	baz=107						
LOR				*e*Sn	**Sn**	**01 33 41.6**	**-8.1**
	8.3nm,0.6s						
SSF	**Saint Saulge**	**10.30**	**295**	*e*P	**Pn**	**01 32 01.0**	**+2.7**
SSF				*e*Sn	Sn	01 33 44.7	-9.3
	13nm,0.9s						
AVF	**Avril sur Loir**	**10.34**	**293**	*e*P	**Pn**	**01 31 58.8**	**0.0**
AVF				*e*Sn	Sn	01 33 45.5	-9.4
	2.3nm,0.5s						
BGF	**Bois d'Agland**	**10.63**	**291**	*e*P	**Pn**	**01 32 06.0**	**+3.2**
BGF				*e*Sn	Sn	01 33 52.5	-10
	9.0nm,0.6s						
TCF	**Toulx Ste Croi**	**11.01**	**290**	*e*Sn	Sn	01 34 01.9	-10
	2.0nm,0.5s						

NEIC ***28*** *01:49:14.0±0.8, 19°.357N±0°.010×155°.222W±0°.006, h7km±1km, Error ellipse: s-maj=1.5km s-min=0.7km az=160.0*

HVO 28 01:49:13.2±0.6, 19°.358N±0°.007×155°.209W±0°.005, h2km±5km, ML2.6/20, ML1.9/36(NEIC), Error ellipse: s-maj=1.1km s-min=0.6km az=197.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.02**	**337**			Pg	01 49 15.0	+1.2
KNHH	**Kane Nui o Ham**	**0.04**	**60**			Pg	01 49 14.9	+0.8
BYL	**Byron's Ledge**	**0.07**	**318**			Pg	01 49 15.6	+0.9
BYL	**Byron's Ledge**	**0.07**	**318**	IAML			01 49 16.6	
	comp=N,714nm,3.0s							
BYL				IAML			01 49 17.1	
	comp=E,486nm,4.2s							
HATHI	**Halema'uma'u T**	**0.08**	**323**			Pg	01 49 15.7	+0.9
HATHI	**Halema'uma'u T**	**0.08**	**323**			Sg	01 49 18.1	+2.1
HATHI	**Halema'uma'u T**	**0.08**	**323**	IAML			01 49 17.6	
	comp=N,998nm,0.6s							
HATHI				IAML			01 49 17.7	
	comp=E,634nm,0.4s							
STCH	**Steam Cracks**	**0.08**	**71**			Pg	01 49 15.8	+0.9
STCH	**Steam Cracks**	**0.08**	**71**	IAML			01 49 17.6	
	comp=E,1μm,0.2s							
STCH				IAML			01 49 17.8	
	comp=N,821nm,0.3s							
SDHHI	**Sand Hill**	**0.09**	**291**			Pg	01 49 16.1	+1.1
SDHHI	**Sand Hill**	**0.09**	**291**			Sg	01 49 18.3	+2.2
SDHHI	**Sand Hill**	**0.09**	**291**	IAML			01 49 16.6	
	comp=N,2μm,0.3s							
SDHHI				IAML			01 49 17.9	
	comp=E,1μm,0.2s							
SBLHI	**Steaming Bluff**	**0.09**	**321**			Pg	01 49 15.8	+0.8
SBLHI	**Steaming Bluff**	**0.09**	**321**			Sg	01 49 18.2	+2.0
SBLHI	**Steaming Bluff**	**0.09**	**321**	IAML			01 49 17.9	
	comp=E,699nm,0.5s							
SBLHI				IAML			01 49 18.0	
	comp=N,414nm,0.3s							
OBL	**Observatory Le**	**0.09**	**310**			Pg	01 49 16.3	+1.2
OBL	**Observatory Le**	**0.09**	**310**	IAML			01 49 17.7	
	comp=N,2μm,0.6s							
OBL				IAML			01 49 17.7	
	comp=E,2μm,0.6s							
UWB	**Uwekahuna B**	**0.09**	**316**			Pg	01 49 15.9	+0.8
UWB	**Uwekahuna B**	**0.09**	**316**	IAML			01 49 17.2	
	comp=E,283nm,0.8s							
UWB				IAML			01 49 18.1	
	comp=N,390nm,1.8s							
WRMHI	**West Rim**	**0.10**	**299**			Pg	01 49 16.5	+1.3
WRMHI	**West Rim**	**0.10**	**299**	IAML			01 49 16.9	
	comp=N,1μm,1.1s							
WRMHI				IAML			01 49 18.6	
	comp=E,959nm,0.8s							
NPOC	**North of Pu'u**	**0.10**	**69**			Pg	01 49 16.1	+0.9
NPOC	**North of Pu'u**	**0.10**	**69**	IAML			01 49 18.5	
	comp=N,580nm,0.4s							
NPOC				IAML			01 49 18.6	
	comp=E,919nm,0.5s							
UWE	**Uwekahuna**	**0.10**	**308**			Pg	01 49 15.0	-0.3
UWE				IAML			01 49 15.5	
	comp=N,856nm,1.1s							
UWE				IAML			01 49 17.8	
	comp=E,730nm,0.7s							
JCUZ	**Jacuzzi**	**0.10**	**75**			Pg	01 49 16.3	+1.0
JCUZ	**Jacuzzi**	**0.10**	**75**	IAML			01 49 17.9	
	comp=E,560nm,0.3s							
JCUZ				IAML			01 49 19.0	
	comp=N,502nm,0.3s							

HLP	**Hilina Pali**	**0.11**	**237**		Pg	01 49 16.5	+1.1
HLP	**Hilina Pali**	**0.11**	**237**		Sg	01 49 19.2	+2.4
HLP	**Hilina Pali**	**0.11**	**237**	IAML		01 49 19.1	
	comp=E,739nm,0.5s						
RSD	**Rainshed**	**0.12**	**328**		Pg	01 49 16.5	+0.8
RSD	**Rainshed**	**0.12**	**328**	IAML		01 49 18.7	
	comp=N,282nm,1.1s						
RSD				IAML		01 49 19.3	
	comp=E,338nm,0.8s						
JOKA	**Jonika Flow**	**0.21**	**69**		Pg	01 49 17.8	+0.5
HTC	**Hot Caves**	**0.21**	**236**		Pg	01 49 18.3	+1.0
MLH	**Mauna Loa**	**0.21**	**309**		Pg	01 49 18.3	+0.9
MLH	**Mauna Loa**	**0.21**	**309**	IAML		01 49 21.7	
	comp=E,144nm,3.2s						
MLH				IAML		01 49 22.3	
	comp=N,184nm,3.2s						
HMH	**Humu'ula Sheep**	**0.35**	**313**		Pg	01 49 20.7	+0.6
HMH	**Humu'ula Sheep**	**0.35**	**313**	IAML		01 49 21.6	
	comp=E,111nm,2.9s						
HMH				IAML		01 49 26.3	
	comp=N,160nm,4.1s						
MWH	**Moku'aweowe**	**0.39**	**289**		Pg	01 49 21.2	+0.5
MWH	**Moku'aweowe**	**0.39**	**289**	IAML		01 49 30.5	
	comp=N,190nm,2.0s						
MWH				IAML		01 49 31.5	
	comp=E,247nm,0.9s						
KHU	**Kahuku**	**0.40**	**254**		Pg	01 49 21.7	+0.8
KHU	**Kahuku**	**0.40**	**254**	IAML		01 49 25.9	
	comp=N,319nm,3.6s						
KHU				IAML		01 49 30.9	
	comp=E,305nm,3.1s						
ALEP	**Alea Permanent**	**0.45**	**294**		Pg	01 49 22.1	+0.3
ALEP					Sg	01 49 29.2	+1.5

KRNET ***28*** *02:08:26.5±0.1, 40°.06N×78°.53E, mb2.8*
NNC ***28*** *02:08:36.7±5.3, 42°.04N×80°.24E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=40.3km s-min=21.1km az=165.0*

SOME 28 02:08:32.8, 42.35N×80.73E, h0km, 6C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
UZB	**Uzunbulak**	**1.49**	**303**	*e*P		Pg	02 09 01.3	-0.1
	3.7nm,1.7s							
UZB				*e*S		Sn	02 09 21.5	+0.2
	3.0nm,0.2s							
UZB	**Uzynbulak**	**1.49**	**303**	P		Pg	02 09 01.4	0.0
	4.9nm,0.5s							
UZB				S		Sn	02 09 21.9	+0.7
	3.0nm,0.5s							
PRZ	**Przheval'sk**	**1.73**	**275**⇑	*e*P		Pg	02 09 09.4	+3.4
	baz=58							
PRZ			⇑	*e*S		Sg	02 09 40.5	+12
	baz=58							
SATY	**Saty**	**1.86**	**293**	*e*P		Pb	02 09 07.9	+0.3
	2.5nm,0.2s							
SATY				*e*S		Sg	02 09 33.3	+0.9
	8.8nm,0.2s							
KPKS	**Kokpek**	**1.87**	**307**	*e*P		Pb	02 09 08.2	+0.2
	1.3nm,0.1s							
KPKS				*e*S		Sg	02 09 34.0	+1.0
	11nm,0.2s							
DJR	**Jarkent**	**2.10**	**341**	*e*P		Pg	02 09 13.1	+0.1
	0.3nm,0.0s							
DJR				*e*S		Sg	02 09 42.2	+2.0
	1.6nm,0.2s							
DJR	**Jarkent**	**2.10**	**341**	Pg		Pg	02 09 13.1	+0.1
	0.4nm,0.3s							
DJR				Lg		Lg	02 09 42.2	
	3.6

ENA	**Nanau**	**0.63**	**238**	*e*P		**Pg**	**02 15 40.1**	**+0.2**
	baz=233							
ENA				*e*S		**Sg**	**02 15 48.2**	**0.0**
	baz=233							
TNOU	**National Taiwa**	**0.63**	**307**	*e*S		**Sg**	**02 15 48.7**	**+0.5**
	baz=304							
EOS4	**EOS4**	**0.64**	**181**	P		**Pb**	**02 15 40.8**	**-0.1**
	baz=172							
JYNG	**Yonagunijimaku**	**0.64**	**119**	P		**Pg**	**02 15 40.0**	**-0.1**
JYNG				S		**Sb**	**02 15 49.6**	**-0.7**
FUSB	**Fushanzhiwuyua**	**0.67**	**270**	P		**Pg**	**02 15 40.8**	**+0.1**
	baz=265							
FUSB				*e*S		**Sb**	**02 15 50.7**	**-0.6**
	baz=265							
EAHA	**Aohua**	**0.69**	**231**	P		**Pg**	**02 15 41.1**	**+0.1**
	baz=235							
EAHA				*e*S		**Sg**	**02 15 50.2**	**+0.2**
	baz=235							
YOJ	**Yonaguni jima**	**0.69**	**116**	P		**Pg**	**02 15 40.8**	**-0.2**
YOJ				*e*S		**Sg**	**02 15 49.8**	**-0.2**
YOJ	**Yonaguni jima**	**0.69**	**116**	*i* P		**Pg**	**02 15 41.2**	**+0.2**
	baz=118							
ENTT	**Nioudou**	**0.70**	**260**	*e*P		**Pg**	**02 15 41.4**	**+0.1**
	baz=255							
TWA	**Mucha**	**0.71**	**288**	*e*S		**Sb**	**02 15 51.6**	**-0.6**
	baz=284							
NWLT	**Wulai**	**0.75**	**271**	P		**Pg**	**02 15 42.4**	**+0.2**
	baz=267							
NWLT				S		**Sb**	**02 15 52.9**	**-0.6**
	baz=267							
NHDH	**Xindian Distri**	**0.76**	**285**	*e*P		**Pb**	**02 15 42.8**	**-0.3**
	baz=271							
NHDH				S		**Sb**	**02 15 53.3**	**-0.3**
	baz=271							
NDT	**Datong Townshi**	**0.76**	**258**	*e*P		**Pg**	**02 15 42.6**	**+0.3**
	baz=262							
NDT				*e*S		**Sb**	**02 15 53.2**	**-0.5**
	baz=262							
LATG	**Datong**	**0.77**	**253**	*i* P		**Pg**	**02 15 42.6**	**+0.1**
	baz=257							
YM01	**YM01**	**0.79**	**299**	*e*P		**Pg**	**02 15 43.1**	**+0.2**
	baz=296							
YM01				S		**Sg**	**02 15 53.9**	**+0.8**
	baz=296							
YM08	**YM08**	**0.79**	**302**	*e*P		**Pg**	**02 15 42.8**	**-0.1**
	baz=300							
YM08				*e*S		**Sg**	**02 15 53.1**	**-0.2**
	baz=300							
TWY	**Chenhua**	**0.83**	**308**	*e*P		**Pg**	**02 15 43.6**	**-0.2**
	baz=305							
TWY				*e*S		**Sg**	**02 15 55.3**	**+0.7**
	baz=305							
ETL	**Fush Village**	**0.88**	**227**	*e*P		**Pg**	**02 15 44.8**	**+0.1**
	baz=223							
NSK	**Sanguang**	**0.89**	**264**	P		**Pg**	**02 15 44.6**	**-0.2**
	baz=260							
NSK				*e*S		**Sg**	**02 15 56.8**	**+0.5**
	baz=260							
NACB	**Ninganchiao**	**0.89**	**229**	P		**Pg**	**02 15 44.4**	**-0.4**
	baz=236							
NACB				*e*S		**Sg**	**02 15 56.6**	**+0.2**
	baz=236							
PCYT	**Pengchaiyu**	**0.89**	**345**	*e*P		**Pg**	**02 15 45.0**	**+0.2**
	baz=346							
NNSB	**Datong**	**0.92**	**249**	*e*P		**Pg**	**02 15 45.4**	**-0.1**
	baz=245							
NNSB				*e*S		**Sb**	**02 15 58.2**	**-0.3**
	baz=245							
NNS	**Nan Shan**	**0.93**	**250**	*e*P		**Pg**	**02 15 45.7**	**+0.1**
	baz=246							
NNS				*e*S		**Sb**	**02 15 58.1**	**-0.5**
	baz=246							
ETLH	**Xiulin Townshi**	**0.95**	**234**	*e*P		**Pg**	**02 15 45.8**	**-0.2**
	baz=231							
ETLH				*e*S		**Sg**	**02 15 57.7**	**-0.7**
	baz=231							
ETM	**Tongmen**	**1.10**	**224**	*e*P		**Pg**	**02 15 48.9**	**0.0**
	baz=201							
NFF	**Wufeng Townshi**	**1.11**	**263**	P		**Pg**	**02 15 48.8**	**-0.2**
	baz=267							
NFF				*e*S		**Sb**	**02 16 04.2**	**+0.3**
	baz=267							
LXIB	**Xiulin Townshi**	**1.12**	**229**	P		**Pg**	**02 15 48.2**	**-0.9**
	baz=225							
WHF	**Hehuan Shan**	**1.15**	**238**	P		**Pg**	**02 15 49.8**	**-0.1**
	baz=234							
SHUL	**Shoufeng**	**1.20**	**216**	*e*P		**Pn**	**02 15 50.8**	**+0.1**
	baz=195							
LIOB	**Emei**	**1.20**	**265**	*e*P		**Pb**	**02 15 50.3**	**-0.4**
	baz=283							
NSTT	**Nanjuang**	**1.22**	**264**	*e*P		**Pb**	**02 15 50.4**	**-0.6**
	baz=282							
CHGB	**Renai**	**1.27**	**237**	P		**Pg**	**02 15 52.0**	**0.0**
	baz=233							
CHGB				*e*S		**Sn**	**02 16 08.8**	**-0.4**
	baz=233							
OWD	**Renai**	**1.33**	**233**	*e*P		**Pn**	**02 15 52.6**	**-0.1**
	baz=230							
WUSB	**Renai**	**1.35**	**235**	P		**Pb**	**02 15 53.3**	**0.0**
	baz=232							
WUSB				*e*S		**Sn**	**02 16 11.3**	**+0.2**
	baz=232							
WHP	**Taichung City**	**1.35**	**249**	*e*P		**Pg**	**02 15 54.0**	**+0.4**
	baz=246							
WHP				*e*S		**Sn**	**02 16 11.3**	**+0.2**
	baz=246							
WARBT	**Fenglin Townsh**	**1.35**	**220**	*e*P		**Pn**	**02 15 52.6**	**-0.3**
	baz=199							
WCS	**Beigang Elemen**	**1.47**	**242**	*e*P		**Pb**	**02 15 55.2**	**-0.1**
	baz=239							
VWDT	**VWDT**	**1.48**	**227**	*e*P		**Pb**	**02 15 55.4**	**-0.1**
	baz=208							
EHY	**Hungye**	**1.56**	**216**	*e*P		**Pb**	**02 15 56.3**	**-0.5**
	baz=213							
SMLT	**Sun Moon Lake**	**1.57**	**236**	*e*P		**Pb**	**02 15 57.0**	**-0.1**
	baz=233							
SSLB	**Suanglung**	**1.59**	**232**	P		**Pb**	**02 15 57.1**	**-0.2**
	baz=230							
TYC	**Yuchr**	**1.59**	**238**	*e*P		**Pb**	**02 15 57.2**	**-0.2**
	baz=235							
JKRS	**Kuro-shima**	**1.62**	**109**	P		**Pn**	**02 15 57.2**	**+0.7**
YULB	**Yu-li**	**1.66**	**215**	*e*P		**Pb**	**02 15 57.9**	**-0.6**
	baz=212							
JIJ	**Ishigaki jima**	**1.70**	**103**	P		**Pb**	**02 15 58.8**	**-0.4**
FULB	**Fuli**	**1.82**	**211**	*e*P		**Pn**	**02 16 00.3**	**+0.9**
	baz=192							
ALS	**Alishan**	**1.87**	**228**	*e*P		**Pb**	**02 16 01.6**	**-0.7**
	baz=208							
CHN4	**Tsaushan**	**2.12**	**229**	*e*P		**Pn**	**02 16 04.8**	**+1.4**
	baz=226							

IDC 28 02:20:04.1±1.5, 3.71S×151.78E, h0km, mb3.5/4, mbtmp3.5/4, MS3.2/1, Error ellipse: s-maj=35.0km s-min=10.7km az=62.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.64**	**158**	Pg	Pg	02 20 16.5	0.0
	baz=162,slow=20						
KRVT				Lg	Lg	02 20 25.5	
	baz=163,slow=20						
DZM	**Mont Dzumac**	**23.14**	**143**	LR	LR	02 33 17.3	
	comp=Z,56nm,20.8s,baz=9.0,slow=34						
WRA	**Warramunga Arr**	**23.45**	**225**	P	P	02 25 15.4	0.0
	0.9nm,0.9s,baz=51,slow=9.9,SNR=5.9						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**26.30**	**219**	P	P	02 25 41.5	-0.2
	0.1nm,0.3s,baz=58,slow=8.9,SNR=2.5						
	0.1nm,0.3s						
CMAR	**Chiang Mai Arr**	**56.50**	**295**	P	P	02 29 48.8	+0.2
	0.7nm,0.3s,baz=94,slow=5.5,SNR=2.8						
	0.7nm,0.3s						
ILAR	**Eielson Array**	**81.54**	**22**	P	P	02 32 23.1	-0.3
	0.2nm,0.8s,baz=232,slow=5.5,SNR=1.9						
	0.2nm,0.8s						

IDC 28 02:29:15.6±31.0, 19.36S×175.00W, h173km±233km, mb3.5/3, mbtmp4.0/4, ML3.9/1, Error ellipse: s-maj=231.2km s-min=148.8km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**17.57**	**258**	P	Pn	02 33 09.7	-0.5
	0.4nm,0.3s,baz=73,slow=19,SNR=3.0						
	4.7nm,0.8s						

CTA	**Charters Tower**	**36.43**	**262**	P		P	02 36 04.5	+0.5
	1.7nm,0.5s,baz=86,slow=9.5,SNR=5.8							
	1.7nm,0.5s							
ASAR	**Alice Springs**	**47.53**	**255**	P		P	02 37 33.6	-0.3
	1.0nm,0.5s,baz=95,slow=7.9,SNR=17							
ASAR				PcP		PcP	02 39 01.8	+0.6
	0.5nm,0.8s,baz=116,slow=4.2,SNR=2.6							
	1.0nm,0.5s							
WRA	**Warramunga Arr**	**47.57**	**260**	P		P	02 37 33.4	-0.8
	0.5nm,0.4s,baz=98,slow=7.6,SNR=20							
WRA				PcP		PcP	02 39 01.2	-0.2
	0.4nm,0.8s,baz=102,slow=2.9,SNR=1.9							
	0.5nm,0.4s							
AKASG	**Malin Array Be**	**143.31**	**334**	PKP		PKPbc	02 48 27.4	+0.8
	0.6nm,0.4s,baz=34,slow=4.0,SNR=5.6							

NOU 28 02:45:04.5, 21.74S×171.15E, h0km, MLv4.2/7, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PINNC	**Pines Island,**	**3.54**	**255**	P	Pn	02 46 00.6	-0.2
YATNC	**Mamie plateau,**	**3.97**	**265**	P	Pn	02 46 05.8	-0.9
OUENC	**Ouen Island, N**	**4.05**	**260**	P	Pn	02 46 07.8	0.0
DZM	**Mont Dzumac**	**4.38**	**265**	P	Pn	02 46 12.5	+0.1
ONTNC	**Ouen Toro**	**4.39**	**262**	P	Pn	02 46 12.6	+0.1
NOUC	**Port Laguerre**	**4.51**	**265**	P	Pn	02 46 14.3	+0.1
KOUNC	**Koumac, New Ca**	**6.51**	**279**	P	Pn	02 46 41.6	-0.1

IDC 28 02:46:27.9±5.9, 5.47S×150.71E, h0km, mb2.9/3, mbtmp3.0/3, Error ellipse: s-maj=176.4km s-min=41.4km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.47**	**226**	P	P	02 51 19.2	+1.0
	0.5nm,0.9s,baz=52,slow=10,SNR=2.3						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**24.28**	**220**	P	P	02 51 46.3	-0.9
	0.2nm,0.6s,baz=54,slow=9.3,SNR=1.3						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**79.47**	**319**	P	P	02 58 36.5	+0.1
	0.1nm,0.5s,baz=109,slow=6.2,SNR=1.4						
	0.1nm,0.5s						

IDC 28 02:51:03.4±7.1, 29.32N×143.48E, h0km, mb3.6/5, mbtmp3.5/6, ML2.5/1, Error ellipse: s-maj=272.4km s-min=27.3km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**8.45**	**330**	Pn	Pn	02 53 07.2	+0.1
	0.1nm,0.3s,baz=159,slow=10,SNR=2.6						
	0.7nm,0.4s						
SONM	**Songino Array**	**33.96**	**313**	P	P	02 57 49.8	+1.2
	0.4nm,0.6s,baz=95,slow=8.7,SNR=1.4						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**49.76**	**191**	P	P	02 59 57.8	+0.1
	0.6nm,0.7s,baz=11,slow=8.4,SNR=6.4						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**49.97**	**308**	P	P	02 59 58.1	-1.1
	0.2nm,0.6s,baz=95,slow=8.8,SNR=3.1						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**52.33**	**313**	P	P	03 00 17.1	+0.3
	0.9nm,0.6s,baz=91,slow=7.7,SNR=13						
	0.9nm,0.6s						
BVAR	**Borovoye Array**	**57.20**	**317**	P	P	03 00 50.9	-1.2
	0.5nm,0.6s,baz=81,slow=8.9,SNR=3.6						
	0.5nm,0.6s						

SJA ***28*** *02:51:07.5±0.7, 20.01S×70.98W, h30km±2km, ML3.3, MW3.6*
GUC ***28*** *02:51:09.4±0.8, 19.99S×70.97W, h13km±7km, ML3.3*
ISC 28 02:51:09.4±1.4, 19.96S±0.02×70.94W±0.06, h24km±14km, n35, σ1ˢ22/64, 6C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TA02	**Huaiquique**	**0.82**	**112**	*e*P	**Pb**	**02 51 24.1**	**-0.9**
TA02				*e*S	**Sn**	**02 51 36.7**	**-0.2**
TA02				IAML		02 51 37.9	
	comp=Z,667nm,0.1s						
TA02	**Huaiquique**	**0.82**	**112**	*i* P	**Pb**	**02 51 24.1**	**-0.9**
TA02				*e*S	**Sb**	**02 51 35.0**	**-0.6**
TA02				IAML		02 51 36.8	
	comp=N,2μm,0.1s						
TA01	**Diego Aracena**	**0.94**	**130**	*e*P	**Pb**	**02 51 26.1**	**-0.8**
TA01				*e*S	**Sn**	**02 51 39.2**	**-0.5**
TA01				IAML		02 51 39.9	
	comp=Z,812nm,0.9s						
TA01	**Diego Aracena**	**0.94**	**130**	*e*P	**Pb**	**02 51 25.9**	**-1.1**
TA01				*e*S	**Sb**	**02 51 37.4**	**-1.5**
TA01				IAML		02 51 39.2	
	comp=N,2μm,0.2s						
PATCX	**Punta Patache**	**1.13**	**139**	*e*P	**Pn**	**02 51 29.1**	**-0.8**
PATCX				*e*S	**Sn**	**02 51 45.1**	**+0.4**
PATCX	**Punta Patache**	**1.13**	**139**	⇑*i*P	**Pn**	**02 51 29.1**	**-0.8**
PATCX				*i* S	**Sb**	**02 51 43.9**	**-0.8**
PATCX				IAML		02 51 49.1	
	comp=N,809nm,0.5s						
PX02	**IPOC Station P**	**1.22**	**35**	*e*P	**Pn**	**02 51 30.2**	**-0.8**
PX02				*e*S	**Sn**	**02 51 46.7**	**-0.1**
PX02				IAML		02 51 50.0	
	comp=Z,834nm,0.3s						
PB11	**IPOC Station P**	**1.23**	**81**	*e*P	**Pn**	**02 51 31.0**	**-0.2**
PB11				*e*S	**Sb**	**02 51 48.4**	**+1.0**
PB11				IAML		02 51 48.6	
	comp=Z,911nm,0.2s						
PB11	**IPOC Station P**	**1.23**	**81**	⇓*i*P	**Pn**	**02 51 31.0**	**-0.2**
PB11				*e*S	**Sn**	**02 51 47.0**	**-0.2**
PB11				IAML		02 51 49.2	
	comp=N,2μm,0.2s						
PX03	**IPOC Station P**	**1.31**	**110**	*e*P	**Pn**	**02 51 31.3**	**-1.0**
PX03				*i* S	**Sn**	**02 51 49.1**	**+0.1**
PX03				IAML		02 51 55.5	
	comp=Z,1μm,0.5s						
PB12	**IPOC Station P**	**1.46**	**24**	*e*P	**Pn**	**02 51 34.5**	**+0.2**
PB12				*e*S	**Sb**	**02 51 56.0**	**+1.9**
PB12				IAML		02 51 57.7	
	comp=Z,240nm,0.5s						
PB12	**IPOC Station P**	**1.46**	**24**	⇑*i*P	**Pn**	**02 51 34.5**	**+0.2**
PB12				*e*S	**Sb**	**02 51 53.6**	**-0.5**
PB12				IAML		02 52 01.1	
	comp=E,470nm,0.3s						
PB02	**IPOC Station P**	**1.67**	**144**	*e*P	**Pn**	**02 51 36.9**	**-0.5**
PB02				*e*S	**Sb**	**02 52 02.1**	**+2.0**
PB02				IAML		02 52 07.4	
	comp=Z,628nm,0.5s						
PB02	**IPOC Station P**	**1.67**	**144**	⇑*i*P	**Pn**	**02 51 36.8**	**-0.5**
PB02				*e*S	**Sn**	**02 51 58.1**	**0.0**
PB02				IAML		02 52 06.3	
	comp=E,1μm,0.3s						
GO01	**Chusmiza**	**1.67**	**80**	*e*P	**Pn**	**02 51 38.0**	**+0.3**
GO01				*e*S	**Sb**	**02 52 00.8**	**+0.2**
GO01	**Chusmiza**	**1.67**	**80**	⇑*i*P	**Pn**	**02 51 37.9**	**+0.3**
GO01				*i* S	**Sb**	**02 52 01.2**	**+0.6**
GO01				IAML		02 52 03.2	
	comp=N,1μm,0.2s						
AP01	**Chacalluta**	**1.68**	**20**	*e*P	**Pb**	**02 51 38.6**	**-1.0**
AP01				IAML		02 52 13.2	
	comp=Z,301nm,0.7s						
AP01	**Chacalluta**	**1.68**	**20**	*e*P	**Pn**	**02 51 37.6**	**+0.3**
AP01				*i* S	**Sb**	**02 52 00.0**	**-0.3**
AP01				IAML		02 52 06.2	
	comp=N,935nm,0.4s						
PB08	**IPOC Station P**	**1.69**	**96**	*e*P	**Pn**	**02 51 38.0**	**+0.1**
PB08				*e*S	**Sb**	**02 52 00.7**	**-0.4**
PB08				IAML		02 52 01.8	
	comp=Z,263nm,0.8s						
PB08	**IPOC Station P**	**1.69**	**96**	⇑*i*P	**Pn**	**02 51 37.9**	**+0.1**
PB08				*i* S	**Sb**	**02 52 00.8**	**-0.3**
PB08				IAML		02 52 04.0	
	comp=N,342nm,0.5s						
PB01	**IPOC Station P**	**1.74**	**129**	*e*P	**Pn**	**02 51 38.2**	**0.0**
PB01				*e*S	**Sb**	**02 52 01.7**	**-0.4**
PB01				IAML		02 52 05.1	
	comp=Z,353nm,0.4s						
PB01	**IPOC Station P**	**1.74**	**129**	⇑*i*P	**Pn**	**02 51 38.0**	**-0.2**
PB01				*e*S	**Sn**	**02 51 59.8**	**+0.1**
PB01				IAML		02 52 07.7	
	comp=E,499nm,0.3s						

PB07	**IPOC Station P**	**2.02**	**151**	*e*P		**Pn**	**02 51 41.4**	**-0.7**
PB07				*e*S		**Pb**	**02 51 48.9**	**+3.5**
PB07				IAML			02 52 16.4	
	comp=Z,267nm,0.6s							
PB07	**IPOC Station P**	**2.02**	**151**	*e*P		**Pn**	**02 51 41.2**	**-0.9**
PB07				*i* S		**Sn**	**02 52 07.8**	**+1.1**
PB07				IAML			02 52 17.6	
	comp=E,261nm,0.4s							
PB16	**IPOC Station P**	**2.11**	**40**	*e*P		**Pn**	**02 51 44.5**	**+0.8**
PB16				IAML			02 52 18.9	
	comp=Z,216nm,0.4s							
PB16	**IPOC Station P**	**2.11**	**40**	*e*P		**Pn**	**02 51 44.5**	**+0.8**
PB16				*e*S		**Sb**	**02 52 14.0**	**+0.7**
PB16				IAML			02 52 15.7	
	comp=N,299nm,0.2s							
PB09	**IPOC Station P**	**2.42**	**139**	*e*P		**Pn**	**02 51 48.2**	**+0.6**
PB09				*e*S		**Sb**	**02 52 24.9**	**+3.0**
PB09				IAML			02 52 32.2	
	comp=Z,257nm,0.6s							
PB09	**IPOC Station P**	**2.42**	**139**	*e*P		**Pn**	**02 51 48.4**	**+0.7**
PB09				*e*S		**Sb**	**02 52 20.0**	**-1.9**
PB09				IAML			02 52 29.5	
	comp=E,263nm,0.4s							
PB04	**IPOC Station P**	**2.48**	**163**	*e*P		**Pn**	**02 51 47.2**	**-1.2**
PB04				*e*S		**Sn**	**02 52 15.2**	**-2.8**
PB04				IAML			02 52 34.5	
	comp=Z,116nm,0.5s							
PB04	**IPOC Station P**	**2.48**	**163**	*e*P		**Pn**	**02 51 47.2**	**-1.2**
PB05	**IPOC Station P**	**2.96**	**167**	*e*P		**Pn**	**02 51 53.5**	**-1.5**
PB05				IAML			02 52 58.1	
	comp=Z,43nm,0.4s							
PB06	**IPOC Station P**	**3.02**	**155**	*e*P		**Pn**	**02 51 55.0**	**-0.8**
PB06				IAML			02 52 47.1	
	comp=Z,75nm,0.4s							
LVC	**Limon Verde**	**3.25**	**145**	*e*P		**Pn**	**02 51 59.7**	**+0.5**
LVC				*e*S		**Sb**	**02 52 50.6**	**+4.8**
LVC				IAML			02 52 51.6	
	comp=Z,51nm,0.4s							
PB15	**IPOC Station P**	**3.51**	**157**	*e*P		**Pb**	**02 52 11.0**	**+0.1**
PB15				IAML			02 53 15.8	
	comp=Z,96nm,0.3s							
GO02	**Mina Guanaco**	**5.33**	**167**	*e*P		**Pn**	**02 52 27.4**	**-0.4**
GO02				*e*S		**Sn**	**02 53 27.9**	**-0.7**

SKHL ***28*** *02:57:46.3±0.2, 45.90N×150.60E, h142km±7km, mb5.1/5, msh5.5/4*
MOS ***28*** *02:57:47.2±1.6, 46.33N×150.17E, h156km, mb3.8/11, Error ellipse: s-maj=11.0km s-min=7.4km az=56.5*
NEIC ***28*** *02:57:48.9±1.7, 46.5N±0.2×150.0E±0.2, h137km±11km, mb4.1/38, Error ellipse: s-maj=34.3km s-min=12.0km az=152.0*
IDC ***28*** *02:57:50.6±2.1, 46.48N×149.98E, h166km±19km, mb3.2/13, mbtmp3.8/19, Error ellipse: s-maj=19.1km s-min=11.7km az=143.0*
JMA ***28*** *02:57:50.6±0.9, 45.5N±5.5×15.0E±., h140km, MV4.0/12, KURILE ISLANDS REGION*
ISC 28 02:57:47.7±0.6, 46.15N±0.07×150.20E±0.07, h152km, n119, σ1ˢ76/130, mb4.0/42, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.88**	**242**	*i* P	**Pn**	**02 58 21.7**	**+0.2**
KUR				AMB	AMB	02 58 22.1	
	590nm,0.5s						
KUR				*e*S	**Sn**	**02 58 51.3**	**+3.9**
KUR				A	A	02 58 53.8	
	430nm,0.6s						
KUR				A	A	02 58 53.8	
	160nm,0.6s						
KUR	**Kuril'sk**	**1.88**	**242**	⇑*i*PN	**Pn**	**02 58 21.7**	**+0.2**
KUR				*e*S	**Sn**	**02 58 51.3**	**+3.9**
KUR				pmax	pmax		
	comp=Z,590nm,0.5s						
KUR				pmax	pmax		
	comp=N,158nm,0.3s						
KUR				smax	smax		
	comp=N,425nm,0.6s						
KUR				smax	smax		
	comp=E,161nm,0.2s						
SHO	**Shikotan**	**3.31**	**228**	*e*P	**Pn**	**02 58 37.7**	**-1.3**
SHO				AMB	AMB	02 58 41.1	
	comp=E,40nm,0.2s						
SHO				*e*S	**Sn**	**02 59 15.7**	**-3.0**
SHO				A	A	02 59 22.1	
	comp=E,250nm,0.3s						
SHO				A	A	02 59 22.1	
	comp=E,80nm,0.3s						
SHO	**Shikotan**	**3.31**	**228**	*e*PN	**Pn**	**02 58 37.4**	**-1.6**
YUK	**Yuzh-Kuril'sk**	**3.73**	**237**	*e*P	**Pn**	**02 58 45.2**	**+0.8**
YUK				AMB	AMB	02 58 48.1	
	comp=E,140nm,0.4s						
YUK				*e*S	**Sn**	**02 59 28.8**	**+0.3**
YUK				A	A	02 59 40.4	
	comp=E,320nm,0.5s						
YUK				A	A	02 59 40.4	
	comp=E,400nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.73**	**237**	PN	**Pn**	**02 58 46.7**	**+2.3**
YUK				S	**Sn**	**02 59 31.9**	**+3.4**
YUK				smax	smax		
	comp=N,280nm,0.3s						
YUK				smax	smax		
	comp=E,161nm,0.2s						
RUSJ	**Misakicho**	**4.06**	**242**	*e*PN	**Pn**	**02 58 52.6**	**+3.9**
RUSJ				*e*S	**Sn**	**02 59 41.4**	**+5.2**
NEM2	**Nemuro 2**	**4.22**	**230**	*e*P	**Pn**	**02 58 49.6**	**-1.2**
NEM2				*e*S	**Sn**	**02 59 36.1**	**-3.9**
JRA	**Rausu**	**4.23**	**240**	*e*P	**Pn**	**02 58 52.5**	**+1.6**
NMR	**Nemuro--Hokkai**	**4.23**	**231**	*e*P	**Pn**	**02 58 49.8**	**-1.1**
NMR				*e*S	**Sn**	**02 59 37.1**	**-3.0**
NMR	**Nemuro--Hokkai**	**4.23**	**231**	*e*PN	**Pn**	**02 58 49.4**	**-1.5**
JNK	**Nakash**	**4.67**	**239**	*e*P	**Pn**	**02 58 57.6**	**+0.9**
AKK	**Akkeshi**	**4.95**	**233**	*e*P	**Pn**	**02 58 59.4**	**-1.0**
JAK	**Akkeshi**	**5.04**	**233**	*e*P	**Pn**	**02 59 00.7**	**-1.0**
JAK				*e*S	**Sn**	**02 59 55.6**	**-3.7**
JAR	**Ashorobuto**	**5.40**	**240**	*e*P	**Pn**	**02 59 08.2**	**+1.8**
JAR				*e*S	**Sn**	**03 00 08.1**	**+0.3**
JOB	**Onbets**	**5.59**	**237**	*e*P	**Pn**	**02 59 09.0**	**+0.1**
JOB				*e*S	**Sn**	**03 00 09.1**	**-3.3**
JKA	**Kamikawa-asahi**	**5.75**	**252**	Pn	**Pn**	**02 59 13.2**	**+2.1**
JKA	**Kamikawa-asahi**	**5.75**	**252**	*e*P	**Pn**	**02 59 13.3**	**+2.3**
ASAJ	**Asahikawa**	**5.75**	**252**	P	**Pn**	**02 59 13.3**	**+2.3**
	comp=E,15nm,0.8s,baz=73,slow=31,SNR=4.8						
JKK2	**Kamakawa 2**	**5.75**	**249**	*e*P	**Pn**	**02 59 13.2**	**+2.1**
SKR	**Severo-Kuril's**	**6.00**	**39**	*e*S	**Sn**	**03 00 18.2**	**-3.9**
SKR	**Severo-Kuril's**	**6.00**	**39**	*i* PN	**Pn**	**02 59 13.1**	**-1.2**
SKR	**Severo-Kuril's**	**6.00**	**39**	*e*P	**Pn**	**02 59 13.2**	**-1.1**
SKR				AMB	AMB	02 59 15.7	
	comp

HEH pmax pmax
comp=Z,430nm,4.8s
ZEA Zeya 16.56 306 *e*P **Pn 03 01 31.4 +0.5**
ZEA Zeya 16.56 306 *e*P **Pn 03 01 31.4 +0.5**
KSRS Korea Array 18.70 250 *e*P **Pn 03 01 58.9 +2.5**
KSRS pmax pmax
comp=Z,4.0nm,0.6s
KSRS Korea Array 18.70 250 P **Pn 03 01 57.4 +1.0**
comp=Z,4.4nm,0.6s,baz=53,slow=11,SNR=9.4
TIXI Tiksi 27.51 346 *i* P **P 03 03 17.5 -1.9**
TIXI pmax pmax
comp=Z,1.0nm,0.9s
ULN Ulaanbaatar 29.20 289 *i* P **P 03 03 34.9 +0.1**
ULN pmax pmax
comp=Z,2.0nm,1.2s
H11N2 WAKE ISLAND Hy 29.71 147 T T 03 34 52.2
baz=336,slow=76
H11N1 WAKE ISLAND Hy 29.73 147 T T 03 35 13.7
baz=336,slow=76
H11N3 WAKE ISLAND Hy 29.73 147 T T 03 34 54.1
baz=336,slow=76
H11S1 WAKE ISLAND Hy 30.76 148 T T 03 36 27.4
baz=337,slow=76
H11S3 WAKE ISLAND Hy 30.77 148 T T 03 36 31.6
baz=337,slow=76
H11S2 WAKE ISLAND Hy 30.78 148 T T 03 36 32.1
baz=337,slow=76
M16K Timber Creek 32.69 44 P **P 03 04 05.3 +0.2**
C18K Utukok River 33.15 30 P **P 03 04 08.5 -0.6**
C18K IAmb IAmb 03 04 14.5
comp=Z,5.6nm,1.3s
H18K Honhosa River 33.42 37 P **P 03 04 11.6 +0.1**
G18K Tagagawik 33.43 35 P **P 03 04 12.1 +0.6**
G18K IAmb IAmb 03 04 55.5
comp=Z,4.4nm,1.5s
C19K Lookout Ridge 33.84 30 P **P 03 04 15.2 +0.1**
C19K IAmb IAmb 03 04 50.5
comp=Z,4.4nm,1.1s
L18K Granite Mounta 33.84 42 P **P 03 04 17.1 +2.0**
L18K IAmb IAmb 03 04 17.4
comp=Z,3.1nm,0.9s
D19K Kuna River 34.20 31 P **P 03 04 18.4 +0.3**
D19K IAmb IAmb 03 04 54.0
comp=Z,3.5nm,1.1s
TTA Tatalina 34.20 41 P **P 03 04 19.4 +1.1**
TTA Tatalina 34.20 41 P **P 03 04 19.4 +1.1**
TTA pmax pmax
comp=Z,3.0nm,1.0s
H19K Roundabout Mou 34.27 36 P **P 03 04 19.1 +0.3**
E19K Redstone River 34.29 33 P **P 03 04 20.1 +1.1**
E19K IAmb IAmb 03 04 44.6
comp=Z,4.6nm,1.3s
F20K Avaraart Lake 34.79 34 P **P 03 04 22.7 -0.5**
B20K Meade River 34.91 29 P **P 03 04 25.0 +0.9**
B20K IAmb IAmb 03 04 26.0
comp=Z,2.9nm,0.8s
J20K Nowinta River 35.11 39 P **P 03 04 27.6 +1.6**
J20K IAmb IAmb 03 05 07.0
comp=Z,6.0nm,1.4s
IMAR Indian Mountai 35.44 36 P **P 03 04 29.4 +0.6**
M20K Styx River 35.51 43 P **P 03 04 31.1 +1.6**
G21K Allakaket 35.59 35 P **P 03 04 31.3 +1.2**
G21K IAmb IAmb 03 04 32.2
comp=Z,3.0nm,0.9s
B21K Ikpikpuk River 35.68 30 P **P 03 04 32.2 +1.4**
B21K IAmb IAmb 03 04 34.0
comp=Z,3.2nm,0.7s
CAST Castle Rocks 36.00 40 P **P 03 04 34.6 +1.0**
CAST IAmb IAmb 03 05 12.1
comp=Z,4.5nm,1.5s
D22K Ayikyak River 36.22 31 P **P 03 04 36.3 +0.9**
D22K IAmb IAmb 03 05 18.0
comp=Z,4.1nm,1.4s
B22K Teshekpuk Lake 36.23 28 P **P 03 04 35.6 +0.2**
E22K Anaktuvuk Pass 36.43 32 P **P 03 04 38.5 +1.2**
E22K IAmb IAmb 03 04 39.4
comp=Z,4.6nm,1.3s
BPAW Bear Paw Mtn. 36.49 39 P **P 03 04 38.6 +0.8**
BPAW IAmb IAmb 03 05 09.7
comp=Z,5.0nm,1.4s
KTH Kantishna Hill 36.52 40 P **P 03 04 39.5 +1.4**
KTH IAmb IAmb 03 04 45.2
comp=Z,5.1nm,1.2s
MLY Manley 36.62 38 P **P 03 04 40.4 +1.5**
TRF Thorofare Moun 36.80 40 P **P 03 04 41.5 +0.9**
TRF IAmb IAmb 03 05 20.9
comp=Z,5.7nm,1.4s
C23K Itkillik River 37.09 30 P **P 03 04 43.2 +0.5**
TOLK Toolik Lake Re 37.31 32 P **P 03 04 45.6 +0.9**
TOLK IAmb IAmb 03 04 49.8
comp=Z,5.5nm,1.4s
E24K Your Creek 37.67 33 P **P 03 04 48.8 +1.1**
MDM Murphy Dome 37.69 38 P **P 03 04 49.6 +1.8**
SML Sawmill 37.79 43 P **P 03 04 48.9 +0.2**
H24K Noodor Dome 37.83 36 P **P 03 04 48.0 -1.1**
H24K IAmb IAmb 03 05 13.7
comp=Z,4.2nm,1.4s
CCB Clear Creek Bu 37.88 38 P **P 03 04 50.9 +1.5**
G24K Hadweenzic Riv 38.00 35 P **P 03 04 51.9 +1.4**
G24K IAmb IAmb 03 05 34.8
comp=Z,4.7nm,1.4s
DHY Denali Highway 38.14 41 P **P 03 04 52.6 +0.8**
DHY IAmb IAmb 03 05 35.0
comp=Z,5.5nm,1.3s
NRIK Noril'sk 38.24 329 *i* P **P 03 04 52.9 +0.5**
NRIK pmax pmax
comp=Z,1.0nm,1.1s
HDA Harding Lake 38.25 39 P **P 03 04 53.0 +0.4**
ILAR Eielson Array 38.27 38 P **P 03 04 53.4 +0.7**
comp=Z,0.5nm,0.6s,baz=265,slow=6.8,SNR=14
comp=Z,0.5nm,0.6s
DGZ Jazzator, Alta 41.13 299 *i* P **P 03 05 17.3 +0.6**
DGZ pmax pmax
comp=Z,8.0nm,3.1s
ZALV Zalesovo Beam 41.33 306 PcP **PcP 03 07 13.7 +0.3**
comp=Z,0.6nm,0.4s,baz=84,slow=4.9,SNR=4.0
MK31 Makanchi Array 45.42 297 P **P 03 05 50.2 -0.8**
MK31 Makanchi Array 45.42 297 P **P 03 05 50.2 -0.8**
MK31 pmax pmax
comp=Z,1.0nm,1.1s
MKAR Makanchi Array 45.42 297 P **P 03 05 50.5 -0.5**
MKAR Makanchi Array 45.42 297 *e*P **P 03 05 50.8 -0.2**
MKAR Makanchi Array 45.42 297 P **P 03 05 50.1 -0.9**
comp=Z,0.4nm,0.7s,baz=71,slow=7.6,SNR=4.3
MKAR PcP **PcP 03 07 28.3 +0.9**
comp=Z,0.6nm,0.5s,baz=63,slow=3.6,SNR=8.3
comp=Z,0.4nm,0.7s
KURK Kurchatov 46.01 303 P **P 03 05 54.5 -0.9**
KURK Kurchatov 46.01 303 *i* P **P 03 05 54.6 -0.9**
KURK pmax pmax
comp=Z,2.0nm,1.0s
KURBB Kurchatov Arra 46.10 303 P **P 03 05 55.0 -1.2**
comp=Z,1.4nm,0.8s,baz=70,slow=8.5,SNR=7.9
KURBB PcP **PcP 03 07 30.1 +0.4**
comp=Z,0.3nm,0.6s,baz=75,slow=3.4,SNR=3.1
comp=Z,1.4nm,0.8s
BVAR Borovoye Array 49.68 309 PcP **PcP 03 07 43.1 +0.6**
comp=Z,0.8nm,0.3s,baz=81,slow=3.8,SNR=7.7
CMAR Chiang Mai Arr 50.27 254 P **P 03 06 30.6 +2.0**
comp=Z,1.3nm,0.4s,baz=31,slow=7.2,SNR=5.8
comp=Z,1.3nm,0.4s
YKA Yellowknife Ar 52.59 36 P **P 03 06 45.6 +0.4**
comp=Z,0.2nm,0.8s,baz=296,slow=6.4,SNR=3.1
comp=Z,0.2nm,0.8s
ARU Arti 54.08 317 *e*P **P 03 06 55.7 -0.5**
ARU Arti 54.08 317 *c i*P **P 03 06 54.7 -1.5**
ARU 03 07 58.0
ARU S **S 03 14 19.8 -0.6**
ARU SS **SS 03 17 57.8 -5.6**
ARU pmax pmax
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 57.25 309 P **P 03 07 17.9 -0.9**
ABKAR Akbulak array 57.25 309 P **P 03 07 17.9 -0.9**
FINES FINESS Array B 63.70 334 P **P 03 08 00.1 -2.2**
comp=Z,3.0nm,0.9s,baz=48,slow=6.2,SNR=4.6
comp=Z,3.0nm,0.9s
NVAR Mina Array Bea 64.49 60 P **P 03 08 10.1 +1.9**
comp=Z,0.3nm,0.5s,baz=291,slow=7.6,SNR=2.7
comp=Z,0.3nm,0.5s
PDAR Pinedale Array 66.71 52 P **P 03 08 23.6 +1.2**
comp=Z,0.5nm,0.8s,baz=222,slow=2.0,SNR=3.9
comp=Z,0.5nm,0.8s
WRA Warramunga Arr 67.33 196 P **P 03 08 27.8 +1.6**
comp=Z,0.3nm,0.6s,baz=15,slow=7.0,SNR=2.3
comp=Z,0.3nm,0.6s
NOA NORSAR Array B 68.12 340 P **P 03 08 29.6 -1.1**
comp=Z,0.9nm,0.9s,baz=34,slow=4.7,SNR=1.9
comp=Z,0.9nm,0.9s
KIV Kislovodsk 69.75 313 *e*P **P 03 08 41.1 0.0**
KIV Kislovodsk 69.75 313 *e*P **P 03 08 40.0 -1.1**
KIV pmax pmax
comp=Z,3.0nm,1.1s
KBZ Khabaz 69.81 312 *e*P **P 03 08 42.4 +1.1**
KBZ Khabaz 69.81 312 *i*P **P 03 08 42.4 +1.1**
KBZ pmax pmax
comp=Z,2.0nm,1.0s
AKASG Malin Array Be 70.90 325 P **P 03 08 46.1 -1.7**
comp=Z,0.3nm,0.4s,baz=40,slow=6.3,SNR=2.5
comp=Z,0.3nm,0.4s
ASAR Alice Springs 71.04 196 P **P 03 08 51.6 +2.6**
comp=Z,0.4nm,0.6s,baz=4.7,slow=5.5,SNR=10
comp=Z,0.4nm,0.6s
TXAR Lajitas Array 79.53 59 P **P 03 09 38.8 +1.1**
comp=Z,0.4nm,0.5s,baz=306,slow=4.5,SNR=10
comp=Z,0.4nm,0.5s

*NNC **28** 03:22:11.5±0.4,46.48N×82.33E,h0km,mb3.4,mpv2.8,*
Error ellipse: s-maj=2.2km s-min=1.6km az=109.0
*SOME **28** 03:22:11.9,46.52N×82.08E,h5km*
ISC 28 03:22:12.0±1.0,46°51'N±0.0'×82°13'E±0.0',07,h12km±2.9km,
n24,σ1°43'/36,14C-8D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK08	**Makanchi Array**	**0.27**	**24**	↑P	**Pg**	**03 22 17.5**	**-0.2**
MK08				↑S	**Sg**	**03 22 21.5**	**0.0**
MK07	**Makanchi Array**	**0.28**	**28**	↓P	**Pg**	**03 22 17.4**	**-0.4**
MK07				↑S	**Sg**	**03 22 21.2**	**-0.5**
MK03	**Makanchi Array**	**0.28**	**25**	↓P	**Pg**	**03 22 17.5**	**-0.4**
MK03				↓S	**Sg**	**03 22 21.5**	**-0.3**
MK09	**Makanchi Array**	**0.28**	**21**	↓P	**Pg**	**03 22 17.7**	**-0.2**
MK09				↑S	**Sg**	**03 22 21.6**	**-0.3**
MK01	**Makanchi Array**	**0.29**	**24**	↑P	**Pg**	**03 22 17.5**	**-0.4**
MK01				↑S	**Sg**	**03 22 21.5**	**-0.4**
MK04	**Makanchi Array**	**0.29**	**24**	↓P	**Pg**	**03 22 17.7**	**-0.3**
MK04				↓S	**Sg**	**03 22 21.6**	**-0.3**
MK02	**Makanchi Array**	**0.29**	**25**	↑P	**Pg**	**03 22 17.5**	**-0.5**
MK02				↑S	**Sg**	**03 22 21.5**	**-0.5**
MK06	**Makanchi Array**	**0.30**	**25**	↑P	**Pg**	**03 22 17.6**	**-0.5**
MK06				↑S	**Sg**	**03 22 21.5**	**-0.7**
MK31	**Makanchi Array**	**0.31**	**21**	↑P	**Pg**	**03 22 17.9**	**-0.4**
	7.8nm,0.2s,baz=159,slow=13,SNR=1692						
MK31				↑S	**Sg**	**03 22 22.2**	**-0.4**
	15nm,0.2s,baz=136,slow=41,SNR=7.7						
MK05	**Makanchi Array**	**0.31**	**21**	↓P	**Pg**	**03 22 17.9**	**-0.4**
MK05				↑S	**Sg**	**03 22 22.2**	**-0.4**
MAKZ	**Makanchi**	**0.32**	**341**	↑P	**Pb**	**03 22 19.8**	**+0.2**
	1.7nm,0.2s						
MAKZ				↓S	**Sb**	**03 22 25.3**	**+0.6**
	68nm,0.4s						
ZSN	**Zaisan**	**2.10**	**62**	*e*P	**Pn**	**03 22 46.7**	**-0.3**
	7.9nm,0.2s						
ZSN				*e*S	**Sn**	**03 23 11.8**	**-1.1**
	12nm,0.5s						
DJR	**Jarkent**	**2.73**	**218**	*e*Pg	**Pb**	**03 23 02.4**	**+1.6**
	0.9nm,0.1s						
DJR				*e*Lg	Lg	03 23 38.6	
	4.2nm,0.2s						
DJR	**Jarkent**	**2.73**	**218**	Pg	**Pb**	**03 23 02.2**	**+1.5**
	1.4nm,0.4s						
DJR				Lg	Lg	03 23 38.6	
	4.3nm,0.5s						
KNOS	**Konyrlen**	**2.99**	**225**	Pg	**Pb**	**03 23 06.3**	**+1.1**
	1.5nm,0.5s						
KNOS				Lg	Lg	03 23 45.5	
	2.6nm,0.2s						
PDGK	**Podgornoye**	**3.69**	**211**	Pg	**Pb**	**03 23 20.3**	**+3.2**
	0.4nm,0.6s						
PDGK				Lg	Lg	03 24 09.5	
	2.8nm,0.5s						
ARXS	**Arharly**	**3.80**	**234**	*e*Pg	**Pb**	**03 23 21.8**	**+2.8**
	1.4nm,0.2s						
ARXS				*e*Lg	Lg	03 24 11.9	
	6.5nm,0.2s						
ARXS	**Arharly**	**3.80**	**234**	Pg	**Pg**	**03 23 23.0**	**-1.9**
	2.0nm,0.5s						
ARXS				Lg	Lg	03 24 14.4	
	6.5nm,0.6s						
SHLS	**Shalkode**	**3.85**	**210**	*e*Pg	**Pb**	**03 23 20.2**	**+0.3**
	2.6nm,0.1s						
SHLS				*e*Lg	Lg	03 24 09.3	
	9.2nm,0.2s						
SHLS	**Shalkode**	**3.85**	**210**	Pg	**Pb**	**03 23 20.3**	**+0.4**
	3.8nm,0.4s						
SHLS				Lg	Lg	03 24 09.3	
	10nm,0.4s						
KPKS	**Kokpek**	**3.90**	**220**	*e*Pg	**Pb**	**03 23 23.5**	**+2.8**
	1.5nm,0.1s						
KPKS				*e*Lg	Lg	03 24 15.2	
	16nm,0.2s						
KPKS	**Kokpek**	**3.90**	**220**	Pg	**Pb**	**03 23 23.5**	**+2.8**
	1.2nm,0.2s						
KPKS				Lg	Lg	03 24 15.1	
	16nm,0.6s						
UZB	**Uzynbulak**	**4.02**	**214**	*e*Pg	**Pb**	**03 23 26.2**	**+3.4**
	2.1nm,0.1s						
UZB				*e*Lg	Lg	03 24 19.8	
	5.0nm,0.2s						
UZB	**Uzynbulak**	**4.02**	**214**	Pg	**Pg**	**03 23 26.4**	**-2.6**
	4.2nm,0.3s						
UZB				Lg	Lg	03 24 19.8	
	5.2nm,0.6s						

*CATAC **28** 03:33:34.3±0.5,9.50N×84.53W,h12km±6km,ML3.1*
*UCR **28** 03:33:34.2±1.2,9.42N×84.61W,h17km±6km,MW3.9*
ISC 28 03:33:33.7±1.0,9°42'N±0.0'×84°59'W±0.0',h18km,n92,
σ0°66'/93,2C-2D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACO	**JACO, Garabito**	**0.25**	**344**	*e*P	**Pg**	**03 33 39.0**	**-0.4**
LLNJ	**Naranjito**	**0.48**	**84**	*e*P	**Pg**	**03 33 43.2**	**-0.4**
CBL1	**Cabuya**	**0.52**	**289**	*e*P	**Pg**	**03 33 44.0**	**-0.2**
ACOS	**Acosta**	**0.56**	**48**	*e*P	**Pg**	**03 33 45.0**	**0.0**
ARZA	**Esparza**	**0.57**	**352**	*e*P	**Pb**	**03 33 45.8**	**+0.6**
ABE2	**San Pablo**	**0.60**	**62**	*e*P	**Pg**	**03 33 45.5**	**-0.2**
RAZU	**San Marcos de**	**0.61**	**67**	*e*P	**Pg**	**03 33 45.9**	**0.0**
LCR2	**La Lucha 2**	**0.66**	**61**	*e*P	**Pg**	**03 33 46.3**	**-0.5**
LCR2	**La Lucha 2**	**0.66**	**61**	*i*P	**Pg**	**03 33 46.4**	**-0.4**
LCR2				*i*S	**Sn**	**03 33 57.8**	**-0.6**
LCR2				IAML		03 34 00.6	
	comp=Z,500nm,1.0s						
SRA1	**San Ramn**	**0.67**	**9**	*e*P	**Pb**	**03 33 46.7**	**-0.2**
BELE	**Belen**	**0.68**	**36**	*e*P	**Pg**	**03 33 47.5**	**+0.3**
TCS1	**Tacares**	**0.68**	**25**	*i*P	**Pb**	**03 33 47.2**	**+0.1**
TCS1				IAML		03 34 11.9	
	comp=Z,4μm,1.0s						
HDC	**Heredia**	**0.74**	**39**	*e*P	**Pg**	**03 33 48.6**	**+0.2**
HDC3	**Heredia 3**	**0.75**	**39**	*i*P	**Pg**	**03 33 48.7**	**+0.3**
HDC3				*i*S	**Sn**	**03 33 59.9**	**-0.5**
HDC3				IAML		03 34 09.5	
	comp=Z,600nm,1.0s						
OCM	**Ochomogo**	**0.78**	**53**	*e*P	**Pb**	**03 33 48.3**	**-0.6**
OCM	**Ochomogo**	**0.78**	**53**	*i*S	Sb	03 33 48.1	-11
RIMA	**Rio Macho**	**0.79**	**64**	*e*P	**Pb**	**03 33 48.4**	**-0.7**
RIMA	**Rio Macho**	**0.79**	**64**	*i*P	**Pb**	**03 33 48.6**	**-0.5**
RIMA				IAML		03 34 02.9	
	comp=Z,410nm,1.0s						
REPA	**Paraso**	**0.82**	**60**	*e*P	**Pb**	**03 33 49.2**	**-0.3**
CDM	**Cerro de Muert**	**0.82**	**81**	*e*P	**Pb**	**03 33 49.0**	**-0.8**
CDM	**Cerro de Muert**	**0.82**	**81**	*i*P	**Pb**	**03 33 49.4**	**-0.4**
CDM				IAML		03 33 51.9	
	comp=Z,610nm,1.0s						
BUS1	**Rivas**	**0.84**	**81**	*e*P	**Pb**	**03 33 49.2**	**-0.9**
CPMI	**Catarata Coope**	**0.88**	**13**	*e*P	**Pb**	**03 33 50.9**	**+0.2**
CPMI	**Catarata Coope**	**0.88**	**13**	*i*P	**Pb**	**03 33 50.2**	**-0.4**
CPMI				IAML		03 34 13.6	
	comp=Z,480nm,1.0s						
MONTE	**Monteverde**	**0.91**	**346**	*e*P	**Pb**	**03 33 50.6**	**-0.4**
POPE	**POPE, Guanacas**	**0.92**	**314**	*e*P	**Pb**	**03 33 50.5**	**-0.7**
POPE	**POPE, Guanacas**	**0.92**	**314**	*i*P	**Pb**	**03 33 50.8**	**-0.4**
POPE				IAML		03 34 07.0	
	comp=Z,680nm,1.0s						
HAYA	**Volcan Irazu**	**0.92**	**53**	*i*P	**Pb**	**03 33 51.6**	**+0.2**
HAYA				IAML		03 33 55.8	
	comp=Z,780nm,1.0s						
VICA	**Volcano Irazu**	**0.92**	**53**	*e*P	**Pn**	**03 33 53.4**	**+1.2**
ICR3	**Volcano Irazu**	**0.93**	**53**	*e*P	**Pn**	**03 33 52.5**	**+0.3**
JTS	**Las Juntas de**	**0.94**	**338**	*e*P	**Pb**	**03 33 50.6**	**-0.8**
SOCE	**Pocosol**	**0.96**	**358**	*e*P	**Pb**	**03 33 52.0**	**+0.2**
SOCE	**Pocosol**	**0.96**	**358**	*i*P	**Pb**	**03 33 51.9**	**+0.1**
SOCE				IAML		03 34 11.9	
	comp=Z,590nm,1.0s						
VTRT	**Volcan Turrial**	**0.97**	**54**	*e*P	**Pn**	**03 33 54.3**	**+1.5**
OCHAL	**Ojochal**	**0.98**	**109**	*i*P	**Pb**	**03 33 52.6**	**+0.3**
OCHAL				IAML		03 34 11.1	
	comp=Z,4.3nm,1.0s						
VTLA	**Turrialba Volc**	**0.99**	**54**	*e*P	**Pn**	**03 33 53.4**	**+0.3**
INDI	**Punta indio, G**	**1.00**	**296**	*e*P	**Pb**	**03 33 52.3**	**-0.2**
INDI	**Punta indio, G**	**1.00**	**296**	*i*P	**Pb**	**03 33 53.1**	**+0.5**
INDI				IAML		03 34 15.1	
	comp=Z,360nm,1.0s						
CVTV	**Tajo**	**1.01**	**55**	*e*P	**Pg**	**03 33 53.6**	**+0.1**
CVTR	**Volcan Turrial**	**1.01**	**54**	*e*P	**Pn**	**03 33 54.5**	**+1.1**
CMARA	**Lajas Hojancha**	**1.01**	**306**	*e*P	**Pb**	**03 33 52.4**	**-0.5**
CASO	**Castillo**	**1.02**	**352**	*e*P	**Pb**	**03 33 52.6**	**-0.3**
VTCV	**VTCV, Calle Va**	**1.02**	**57**	*e*P	**Pb**	**03 33 53.1**	**+0.2**
VERB	**Verbena**	**1.02**	**59**	*e*P	**Pb**	**03 33 52.9**	**-0.1**
ARE1	**Arenal 1**	**1.04**	**353**	*e*P	**Pb**	**03 33 53.2**	**-0.1**
FORC	**Fortuna**	**1.04**	**356**	‖P	**Pb**	**03 33 53.3**	**0.0**
VACR	**Volcan Arenal**	**1.05**	**355**	*e*P	**Pb**	**03 33 53.4**	**0.0**
VACR	**Volcan Arenal**	**1.05**	**355**	*i*P	**Pb**	**03 33 52.9**	**-0.5**
VACR				IAML		03 34 15.8	
	comp=Z,340nm,1.0s						
CEDE	**Laguna Cedeo**	**1.07**	**354**	*e*P	**Pn**	**03 33 54.1**	**+0.3**
RVSTA	**Santa Teresita**	**1.08**	**59**	*e*P	**Pb**	**03 33 53.8**	**-0.1**
TABAC	**Tabacon**	**1.09**	**351**	*e*P	**Pb**	**03 33 54.2**	**+0.1**
NICO	**Nicoya**	**1.10**	**310**	*e*P	**Pb**	**03 33 54.7**	**+0.4**
RIFO	**Rio Frio, Sara**	**1.11**	**36**	*e*P	**Pb**	**03 33 54.4**	**0.0**
RIFO	**Rio Frio, Sara**	**1.11**	**36**	*i*P	**Pb**	**03 33 54.5**	**+0.1**
RIFO				IAML		03 34 12.8	
	comp=Z,870nm,1.0s						
PLVR	**Palo Verde**	**1.19**	**321**	*e*P	**Pn**	**03 33 55.1**	**-0.6**
COTE	**Lago Cote**	**1.19**	**344**	*e*P	**Pn**	**03 33 55.8**	**+0.2**
JUD3	**Juan Diaz 3**	**1.19**	**308**	*e*P	**Pn**	**03 33 55.5**	**-0.1**
EDPN	**Palmar Norte**	**1.21**	**112**	*e*P	**Pn**	**03 33 56.2**	**+0.5**
LCOCO	**El Coco**	**1.21**	**57**	*e*P	**Pn**	**03 33 56.2**	**+0.4**
ORTG	**Ortega, Santa**	**1.27**	**318**	*e*P	**Pn**	**03 33 56.7**	**0.0**
ORTG	**Ortega, Santa**	**1.27**	**318**	*i*P	**Pn**	**03 33 56.5**	**-0.1**
ORTG				IAML		03 34 26.4	
	comp=Z,180nm,1.0s						
ACAL	**Aguas Claras**	**1.28**	**340**	‖*e*P	**Pn**	**03 33 56.9**	**+0.1**
COVE	**Coope Vega, Sa**	**1.30**	**8**	*e*P	**Pn**	**03 33 57.2**	**+0.2**
COVE	**Coope Vega, Sa**	**1.30**	**8**	*i*P	**Pn**	**03 33 56.9**	**-0.2**
COVE				IAML		03 34 30.1	
	comp=Z,400nm,1.0s						
EDBA	**Buenos Aires**	**1.32**	**101**	*e*P	**Pn**	**03 33 54.1**	**-3.2**
DRK0	**Durika**	**1.34**	**97**	*e*P	**Pn**	**03 33 58.5**	**+0.8**
MOTZ	**Rio Naranjo**	**1.34**	**339**	↑*i*P	**Pn**	**03 33 58.2**	**+0.6**
PTEN	**Parque Tenorio**	**1.34**	**343**	*e*P	**Pn**	**03 33 58.1**	**+0.4**
COLC	**Colonia**	**1.38**	**334**	*e*P	**Pn**	**03 33 58.6**	**+0.5**
CAMAV	**Centro de Prod**	**1.40**	**335**	*e*P	**Pn**	**03 33 58.9**	**+0.4**
HORNC	**Hornillas**	**1.41**	**336**	*e*P	**Pn**	**03 33 58.7**	**+0.2**
MESS	**Mesas**	**1.44**	**336**	↑*i*P	**Pn**	**03 33 59.5**	**+0.5**
VERA	**Finca Concepci**	**1.45**	**349**	*e*P	**Pn**	**03 33 59.7**	**+0.7**
EDP2	**Potrero Grande**	**1.45**	**106**	*e*P	**Pn**	**03 34 00.0**	**+1.0**
CLARA	**Aguas Claras**	**1.47**	**337**	*e*P	**Pn**	**03 33 59.5**	**+0.1**
CANAL	**Canalete**	**1.48**	**342**	*e*P	**Pn**	**03 34 00.3**	**+0.9**
VMAR	**Armenia, Volca**	**1.48**	**340**	*e*P	**Pn**	**03 34 00.5**	**+1.0**
VMAR	**Armenia, Volca**	**1.48**	**340**	*i*P	**Pn**	**03 34 00.3**	**+0.8**
VMAR				IAML		03 34 29.2	
	comp=Z,440nm,1.0s						
POTG	**Potrero Grande**	**1.50**	**104**	*e*P	**Pn**	**03 34 00.4**	**+0.7**
POTG	**Potrero Grande**	**1.50**	**104**	*i*P	**Pn**	**03 34 00.6**	**+0.8**
POTG				IAML		03 34 37.0	
	comp=Z,320nm,1.0s						
GP77	**Hacienda Santa**	**1.52**	**332**	*e*P	**Pn**	**03 34 00.6**	**+0.5**
GPS2	**Hotel Rincn d**	**1.52**	**331**	*e*P	**Pn**	**03 34 00.8**	**+0.7**
GPS3	**Bodega del ICE**	**1.53**	**330**	*e*P	**Pn**	**03 34 00.0**	**-0.2**
VRLE	**La Escondida,**	**1.56**	**331**	*e*P	**Pn**	**03 34 01.2**	**+0.5**
VRLE	**La Escondida,**	**1.56**	**331**	*i*P	**Pn**	**03 34 01.2**	**+0.5**
VRLE				IAML		03 34 35.5	
	comp=Z,190nm,1.0s						
LAPC	**Finca la Perla**	**1.57**	**328**	*e*P	**Pn**	**03 34 01.8**	**+1.0**
BUEV	**Buena Vista**	**1.59**	**330**	*e*P	**Pn**	**03 34 01.8**	**+0.8**
PIRO	**Carate, Puerto**	**1.60**	**129**	*e*P	**Pb**	**03 34 03.7**	**+0.9**
GBS3	**Finca Las Img**	**1.60**	**328**	*e*P	**Pn**	**03 34 02.1**	**+1.0**
GB1A	**Borinquen Arri**	**1.60**	**330**	*e*P	**Pn**	**03 34 01.9**	**+0.7**
HZTE	**Horizontes, Gu**	**1.62**	**322**	*e*P	**Pn**	**03 34 02.4**	**+1.0**
HZTE	**Horizontes, Gu**	**1.62**	**322**	*i*P	**Pn**	**03 34 02.7**	**+1.3**
HZTE				IAML		03 34 43.9	
	comp=Z,230nm,1.0s						

*CATAC **28** 03:36:38.5±0.7,9.40N×84.60W,h10km,ML3.0*
*UCR **28** 03:36:40.9±1.1,9.54N×84.59W,h52km±25km,MW3.7*
ISC 28 03:36:38.6±1.6,9°46'N±0.0'6×84°60'W±0.0'2,h7km±12km,
n42,σ0°68'/49,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBL1	**Cabuya**	**0.50**	**285**	*e*P	**Pn**	**03 36 52.1**	**-0.1**
CBL1				*e*S	**Sb**	**03 36 59.8**	**+2.6**
ABE2	**San Pablo**	**0.59**	**66**	*e*P	**Pn**	**03 36 52.6**	**-1.1**
TCS1	**Tacares**	**0.65**	**27**	*i*P	**Pg**	**03 36 51.8**	**+0.6**
TCS1				IAML		03 37 08.4	
	comp=Z,2μm,1.0s						
LCR2	**La Lucha 2**	**0.65**	**65**	*i*P	**Pg**	**03 36 51.4**	**+0.1**
LCR2				*i*S	**Sb**	**03 37 01.5**	**-0.4**
LCR2				IAML		03 37 01.5	
	comp=Z,320nm,1.0s						
HDC3	**Heredia 3**	**0.73**	**42**	*i*P	**Pb**	**03 36 53.8**	**+0.1**
HDC3				*i*S	**Sb**	**03 37 04.5**	**+0.6**
HDC3				IAML		03 37 09.4	
	comp=Z,410nm,1.0s						
OCM	**Ochomogo**	**0.77**	**56**	*i*P	**Pg**	**03 36 53.6**	**+0.2**
OCM				IAML		03 37 12.7	
	comp=Z,170nm,1.0s						
CDM	**Cerro de Muert**	**0.83**	**83**	*e*P	**Pb**	**03 36 56.2**	**+0.5**
CDM	**Cerro de Muert**	**0.83**	**83**	*i*P	**Pb**	**03 36 54.9**	**+0.2**
CDM				IAML		03 36 56.3	
	comp=Z,430nm,1.0s						
CDM				*i*S	**Sb**	**03 37 07.6**	**+0.3**
POPE	**POPE, Guanacas**	**0.89**	**313**	*i*P	**Pg**	**03 36 55.2**	**-0.5**
POPE				*i*S	**Sn**	**03 37 09.5**	**-1.1**
POPE				IAML		03 37 12.0	
	comp=Z,660nm,1.0s						
JTS	**Las Juntas de**	**0.90**	**337**	*e*P	**Pg**	**03 36 55.5**	**-0.4**
SOCE	**Pocosol**	**0.92**	**359**	*i*P	**Pg**	**03 36 56.7**	**+0.4**
SOCE				IAML		03 37 16.7	
	comp=Z,300nm,1.0s						
**

LAPC	Finca la Perla	1.54	328	*i* P	Pn	03 37 05.8	-0.7
HZTE	Horizontes, Gu	1.58	322	*i* P	Pb	03 37 08.0	-0.3

*IDC **28** 03:38:16.6±1.1,29.°90S×13.°82W,h0km,mb3.9/5, mbtmp3.9/5,MS4.4/2,Error ellipse: s-maj=35.3km s-min=28.9km az=139.0*

*NEIC **28** 03:38:20.8±1.2,29.°7S±0.°1×14.°0W±0.°2,h10km±1km, mb4.5/11,Error ellipse: s-maj=29.1km s-min=15.5km az=137.0*

ISC 28 03:38:19.0±0.9,29.°8S±0.°2×13.°9W±0.°2,h10km,n23, σ1°02/19,mb4.3/11,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H10S2	ASCENSION HYDR	20.71	358		T	T	04 04 45.3	
	baz=177							
H10S3	ASCENSION HYDR	20.72	358		T	T	04 04 27.4	
	baz=43							
BDFB	Brasilia	34.36	287	P		P	03 45 06.5	+0.2
BDFB					IAmb	IAmb	03 45 07.6	
	comp=Z,5.5nm,0.9s							
BDFB	Brasilia	34.36	287	P		P	03 45 06.2	-0.2
	comp=Z,4.5nm,0.9s,baz=113,slow=7.7,SNR=7.9							
	comp=Z,4.5nm,0.9s							
CPUP	Villa Florida	38.35	264	P		P	03 45 39.5	-0.8
	comp=Z,0.5nm,0.4s,baz=135,slow=5.7,SNR=2.4							
	comp=Z,0.5nm,0.4s							
AQDB	Aquidauana	38.82	274	P		P	03 45 44.7	+0.4
LSZ	Lusaka	41.19	79	LR		LR	04 01 24.6	
	comp=Z,154nm,19.2s,baz=212,slow=34							
PTLB	Pontes e Lacer	43.88	279	P		P	03 46 26.8	+0.9
TOA0	Torodi Ar. Sit	45.23	22	P		P	03 46 37.4	+0.8
TOA0					IAmb	IAmb	03 46 38.6	
	comp=Z,6.2nm,1.4s							
TORD	Torodi Ar. Bea	45.23	22	P		P	03 46 36.6	0.0
	comp=Z,1.0nm,0.7s,baz=203,slow=7.6,SNR=6.1							
	comp=Z,1.0nm,0.7s							
SIV	San Ignacio	45.31	277	LR		LR	04 04 56.5	
	comp=Z,1μm,18.9s,baz=234,slow=35							
PB09	IPOC Station P	50.10	266	P		P	03 47 14.4	-0.4
PB09					IAmb	IAmb	03 47 27.3	
	comp=Z,11nm,1.3s							
SAML	Samuel	50.49	284	P		P	03 47 18.4	+0.9
SAML					IAmb	IAmb	03 47 19.2	
	comp=Z,2.5nm,0.8s							
PB08	IPOC Station P	50.64	268	P		P	03 47 18.6	-0.4
PB08					IAmb	IAmb	03 47 27.8	
	comp=Z,5.4nm,0.8s							
GO01	Chusmiza	50.85	268	P		P	03 47 20.6	-0.2
GO01					IAmb	IAmb	03 47 21.1	
	comp=Z,5.4nm,0.8s							
PB16	IPOC Station P	51.65	269	P		P	03 47 26.7	-0.2
PB16					IAmb	IAmb	03 47 32.8	
	comp=Z,8.0nm,1.4s							
PB12	IPOC Station P	52.25	269	P		P	03 47 30.6	-0.2
QSPA	South Pole Qui	60.47	180	P		P	03 48 31.7	+2.9
QSPA	South Pole Qui	60.47	180	P		P	03 48 27.2	-1.5
	comp=Z,1.5nm,0.8s,baz=222,slow=6.2,SNR=3.6							
	comp=Z,1.5nm,0.8s							
AGPR	Aguadilla, PR	70.23	306	P		P	03 49 32.1	-0.3
BRTR	Keskin Array B	82.03	35	P		P	03 50 39.1	-0.4
	comp=Z,0.6nm,0.8s,baz=205,slow=6.4,SNR=2.1							
	comp=Z,0.6nm,0.8s							
ASAR	Alice Springs	118.50	146	PKP		PKPdf	03 57 06.2	-1.4
	comp=Z,0.4nm,0.6s,baz=195,slow=2.4,SNR=4.6							
ILAR	Eielson Array	134.47	334	PKP		PKPdf	03 57 36.9	+0.2
	comp=Z,0.4nm,0.8s,baz=61,slow=2.8,SNR=5.8							

*NEIC **28** 03:53:06.4±1.2,13.°8S±0.°2×167.°2E±0.°2,h189km±11km, mb4.3/24,Error ellipse: s-maj=35.2km s-min=19.1km az=125.0*

*IDC **28** 03:53:11.8±5.3,13.°95S×167.°07E,h240km±45km,mb3.9/7, mbtmp4.3/8,Error ellipse: s-maj=34.2km s-min=27.8km az=20.0*

ISC 28 03:53:07.0±0.7,13.°79S±0.°09×167.°1E±0.°1,h200km,n37, σ0°89/40,mb4.2/17,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.26	184	Pn		Pn	03 55 02.9	-0.8
DZM	Mont Dzumac	8.26	184	P		Pn	03 55 06.3	+2.6
	4.7nm,0.9s,baz=0.4,slow=15,SNR=1.9							
DZM				S		Sn	03 56 36.0	-0.8
	4.5nm,1.0s,baz=280,slow=21,SNR=1.2							
EIDS	Eidsvold	18.96	230	P		Pn	03 57 15.5	-0.9
EIDS					IAmb	IAmb	03 57 16.8	
	comp=Z,4.4nm,0.7s							
ARMA	Armidale	21.85	218	P		P	03 57 45.3	+1.4
ARMA					IAmb	IAmb	03 57 46.6	
	comp=Z,8.4nm,1.1s							
STKA	Stephens Creek	29.49	228	P		P	03 58 53.6	+1.1
STKA	Stephens Creek	29.49	228	P		P	03 58 53.9	+1.4
	comp=Z,6.5nm,0.5s,baz=53,slow=9.0,SNR=29							
	comp=Z,6.5nm,0.5s							
TOO	Toolangi	30.51	215	P		P	03 59 01.5	-0.1
TOO					IAmb	IAmb	03 59 03.3	
	comp=Z,5.9nm,0.9s							
WR0	Warramunga Arr	31.72	254	P		P	03 59 12.2	-0.1
WR0					IAmb	IAmb	03 59 31.2	
	comp=Z,7.0nm,1.3s							
WB0	Warramunga Arr	31.84	255	P		P	03 59 13.4	-0.1
WB2	Warramunga Arr	31.90	254	P		P	03 59 14.3	+0.4
WB2					IAmb	IAmb	03 59 19.4	
	comp=Z,17nm,1.5s							
WRA	Warramunga Arr	31.91	254	P		P	03 59 14.4	+0.4
WRA	Warramunga Arr	31.91	254	P		P	03 59 13.9	-0.1
	comp=Z,1.1nm,0.6s,baz=87,slow=8.5,SNR=17							
WRA				PcP		PcP	04 01 57.8	-1.8
	comp=Z,0.2nm,0.5s,baz=86,slow=3.2,SNR=1.8							
	comp=Z,1.1nm,0.6s							
AS31	Alice Springs	32.87	248	P		P	03 59 22.1	-0.2
ASAR	Alice Springs	32.87	248	P		P	03 59 22.0	-0.3
ASAR	Alice Springs	32.87	248	P		P	03 59 22.3	0.0
	comp=Z,3.0nm,0.5s,baz=74,slow=9.4,SNR=71							
ASAR				PcP		PcP	04 02 02.3	0.0
	comp=Z,0.4nm,0.9s,baz=119,slow=2.2,SNR=4.3							
	comp=Z,3.0nm,0.5s							
BBOO	Buckleboo	34.03	231	P		P	03 59 32.9	+0.6
BBOO					IAmb	IAmb	03 59 33.7	
	comp=Z,6.9nm,0.8s							
MTN	Manton Dam	35.00	267	P		P	03 59 40.4	-0.4
MTN					IAmb	IAmb	04 00 20.6	
	comp=Z,7.1nm,1.1s							
FORT	Forrest	39.64	238	P		P	04 00 19.9	+0.3
NWAO	Narrogin (SRO)	49.10	238	P		P	04 01 34.3	-0.2
NWAO	Narrogin (SRO)	49.10	238	P		P	04 01 34.2	-0.2
NWAO					IAmb	IAmb	04 02 08.2	
	comp=Z,88nm,1.3s							
NWAO	Narrogin (SRO)	49.10	238	P		P	04 01 34.2	-0.2
	comp=Z,5.8nm,0.6s,baz=120,slow=15,SNR=1.9							
	comp=Z,5.8nm,0.6s							
CMAR	Chiang Mai Arr	74.43	294	P		P	04 04 24.2	+0.5
	comp=Z,1.3nm,0.3s,baz=112,slow=5.1,SNR=5.2							
	comp=Z,1.3nm,0.3s							
QSPA	South Pole Qui	76.23	180	P		P	04 04 32.3	-1.0
	comp=Z,1.0nm,0.4s,baz=211,slow=0.9,SNR=5.2							
	comp=Z,1.0nm,0.4s							
M16K	Timber Creek	79.31	16	P		P	04 04 49.2	-0.8
GHO	Glory Hole Cre	82.88	19	P		P	04 05 09.1	+0.2
GHO					IAmb	IAmb	04 05 11.2	
	comp=Z,9.9nm,1.2s							
RND	Reindeer	84.10	18	P		P	04 05 15.5	+0.4
LSA	Lhasa	84.93	302	P		P	04 05 19.0	-1.5
J25K	Salcha River,	86.04	19	P		P	04 05 25.3	+0.6
J25K					IAmb	IAmb	04 05 29.6	
	comp=Z,4.9nm,1.4s							
E21K	Killik River	86.61	13	P		P	04 05 27.9	+0.6
D22K	Ayikyak River	87.24	14	P		P	04 05 31.4	+1.0
D22K					IAmb	IAmb	04 06 04.3	
	comp=Z,5.7nm,1.4s							
TOLK	Toolik Lake Re	87.80	15	P		P	04 05 34.8	+1.8
TOLK					IAmb	IAmb	04 06 02.9	
	comp=Z,6.2nm,1.4s							
121A	Cookes Peak, D	93.26	57	P		P	04 05 59.1	-0.3
MKAR	Makanchi Array	96.42	316	P		P	04 06 14.3	+1.0
MKAR	Makanchi Array	96.42	316	P		P	04 06 13.9	+0.6
	comp=Z,0.7nm,0.6s,baz=93,slow=7.0,SNR=8.4							
	comp=Z,0.7nm,0.6s							
ARCES	ARCESS Array B	119.31	345	PKP		PKPdf	04 11 31.7	-0.1
	comp=Z,2.8nm,0.8s,baz=58,slow=2.5,SNR=9.5							
FINES	FINESS Array B	124.80	338	PKP		PKPdf	04 11 42.7	+0.1
	comp=Z,1.7nm,0.9s,baz=110,slow=4.1,SNR=6.5							
KEST	Kesra	150.39	321	PKPbc		PKiKP	04 12 36.4	+0.5

comp=Z,6.1nm,1.0s,baz=128,slow=4.7,SNR=4.1

*VAO **28** 03:54:46.4±0.3,24.°82S×70.°17W,h10km,mb5.5*

*SJA **28** 03:54:50.7±0.4,24.°93S×70.°21W,h33km±9km,ML4.7, MW4.8*

*NEIC **28** 03:54:52.0±1.6,24.°89S±0.°04×70.°21W±0.°07,h48km±3km, mb5.4/337,Mwb5.5/23,Mwr5.4/53,Mww5.4/42,Error ellipse: s-maj=8.9km s-min=5.5km az=102.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.52; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$-1.45; $M_{r\theta}$0.57; $M_{\theta\phi}$-0.12; $M_{r\phi}$-1.49; Fault plane solution: $M_0$2.19000×10^{17} NP1: ϕ_s167.37000°,δ68.87000°,λ77.81000°. NP2:ϕ_s18.29000°, δ24.25000°,λ118.64000°. Principal axes: T 2.2833, Plg64.0000°, Azm57.0000°; N -0.2059, Plg11.0000°, Azm172.0000°; P -2.0774, Plg23.0000°, Azm267.0000°; Moment Tensor Solution. Moment tensor: Scale 10^{17} Nm; M_{rr}1.12; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-1.15; $M_{r\theta}$0.08; $M_{\theta\phi}$0.12; $M_{r\phi}$-1.28; Fault plane solution: $M_0$1.72000×10^{17} NP1: ϕ_s175.76000°,δ69.19000°,λ91.15000°. NP2: ϕ_s352.53000°,δ20.84000°,λ86.99000°. Principal axes: T 1.6966, Plg66.0000°, Azm88.0000°; N 0.0432, Plg1.0000°, Azm355.0000°; P -1.7399, Plg24.0000°, Azm265.0000°;*

*NEIC **28** 03:54:52.5,24.°88S×70.°20W,h49km*

*IDC **28** 03:54:52.4±0.4,24.°83S×69.°97W,h52km±3km,mb4.8/19, mbtmp5.0/24,MS4.5/49,Error ellipse: s-maj=14.7km s-min=8.9km az=71.0*

*NEIC **28** 03:54:52,24.°89S×70.°22W,h60km*

*NEIC **28** 03:54:52,24.°89S×70.°33W,h60km,Moment Tensor Solution. Duration: ≥7 Moment tensor: Scale 10^{17}Nm; M_{rr}1.19; $M_{\theta\theta}$-0.05; $M_{\phi\phi}$-1.13; $M_{r\theta}$0.18; $M_{\theta\phi}$0.32; $M_{r\phi}$-0.84; Fault plane solution: $M_0$1.48000×10^{17} NP1: ϕ_s166.51000°,δ62.69000°,λ91.72000°. NP2: ϕ_s342.76000°,δ27.36000°,λ86.67000°. Principal axes: T 1.4599, Plg72.0000°, Azm81.0000°; N 0.0335, Plg2.0000°, Azm346.0000°; P -1.4934, Plg18.0000°, Azm255.0000°;*

*NEIC **28** 03:54:52.4,24.°90S×70.°18W,h53km*

*MOS **28** 03:54:52.0±1.3,24.°63S×70.°00W,h52km,mb5.5/20,Error ellipse: s-maj=13.4km s-min=6.9km az=98.7*

*GUC **28** 03:54:52.2±0.7,24.°91S×70.°17W,h53km±1km,ML5.5*

*BJI **28** 03:54:55.0,24.°90S×70.°00W,h48km,mBS.8/9,Ms5.6/8, Ms7 5.3/11*

*GCMT **28** 03:54:57.0±0.1,24.°94S±0.°01×70.°49W±0.°01,h67km, MW5.4/132,Moment Tensor Solution. s131,c213; s132,c231; Duration: 1≥2 Moment tensor: Scale 10^{17} Nm; M_{rr}1.09±.02; $M_{\theta\theta}$0.32±.02; $M_{\phi\phi}$-1.41±.02; $M_{r\theta}$0.32±.01; $M_{\theta\phi}$0.33±.02; $M_{r\phi}$-1.04±.02; Best double couple: $M_0$1.68200×10^{17} NP1:ϕ_s164.00000°,δ65.00000°, λ84.00000°. NP2:ϕ_s358.00000°,δ25.00000°,λ103.00000°. Principal axes: T 1.4980, Plg69.0000°, Azm62.0000°; N 0.3650, Plg5.0000°, Azm167.0000°; P -1.8650, Plg20.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 03:54:51.7±0.2,24.°88S±0.°02×70.°25W±0.°03,h51km±2km, h52km:pP-P,n1020,σ1°64/1005,mb5.4/207,MS4.5/52, 31C-11D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB14	IPOC Station P	0.29	332			Pn	03 55 02.3	+1.1
PB14					Sn	Sn	03 55 09.7	+1.7
PB14	IPOC Station P	0.29	332	P		Pn	03 54 59.9	-1.3
PB14	IPOC Station P	0.29	332	*e*P		Pn	03 55 02.1	+0.8
PB14				*i* S		Sn	03 55 10.6	+2.6
PB14	IPOC Station P	0.29	332	*i* P		Pn	03 55 02.3	+1.1
PB14				*e*S		Sn	03 55 09.8	+1.8
GO02	Mina Guanaco	0.66	115			Pn	03 55 05.2	-0.1
GO02					Sn	Sn	03 55 14.6	-0.6
GO02	Mina Guanaco	0.66	115	*e*P		Pn	03 55 04.8	-0.5
GO02				*e*SA			03 55 15.2	
GO02	Mina Guanaco	0.66	115	⇓*i*P		Pn	03 55 05.3	-0.1
GO02				*e*S		Sn	03 55 14.6	-0.6
GO02				IAML			03 55 15.7	
	comp=E,545μm,0.9s							
AC01	Pan de Azucar	1.30	194			Pn	03 55 15.0	+1.5
AC01					Sn	Sn	03 55 31.8	+2.0
AC01	Pan de Azucar	1.30	194	*e*P		Pn	03 55 14.9	+1.5
AC01				*e*S		Sn	03 55 32.8	+3.1
AC01				IAML			03 55 36.8	
	comp=Z,40μm,0.5s							
AC01	Pan de Azucar	1.30	194	⇓*i*P		Pn	03 55 15.0	+1.5
AC01				*e*S		Sn	03 55 31.3	+1.5
AC01				IAML			03 55 35.3	
	comp=E,77μm,0.4s							
PB15	IPOC Station P	1.81	23	Pn		Pn	03 55 22.3	+1.6
PB15					Sn	Sn	03 55 44.3	+1.6
PB15	IPOC Station P	1.81	23	*i* P		Pn	03 55 22.6	+1.9
PB15				⇓*e*S		Sn	03 55 46.6	+3.9
PB15				IAML			03 55 47.3	
	comp=Z,145μm,0.3s							
PB15	IPOC Station P	1.81	23	*e*P		Pn	03 55 22.7	+2.0
PB15				*i* S		Sn	03 55 46.9	+4.2
PB15				IAML			03 55 50.1	
	comp=Z,121μm,0.3s							
PB15	IPOC Station P	1.81	23	⇓*i*P		Pn	03 55 22.4	+1.6
PB15				*e*S		Sn	03 55 45.0	+2.3
PB05	IPOC Station P	2.02	1			Pn	03 55 24.1	+0.7
PB05	IPOC Station P	2.02	1	*e*P		Pn	03 55 24.2	+0.7
PB05				*i* S		Sn	03 55 50.6	+2.9
PB05	IPOC Station P	2.02	1	*i* P		Pn	03 55 24.9	+1.4
PB05				IAML			03 56 01.3	
	comp=E,30μm,0.4s							
PB06	IPOC Station P	2.26	16			Pn	03 55 27.5	+0.8
PB06	IPOC Station P	2.26	16	*e*P		Pn	03 55 27.7	+1.0
PB06				*i* S		Sn	03 55 57.8	+4.3
PB06				IAML			03 56 03.4	
	comp=Z,30μm,0.7s							
PB06	IPOC Station P	2.26	16	⇑*i*P		Pn	03 55 27.7	+1.0
PB06				*e*S		Sn	03 55 55.6	+2.2
PB06				IAML			03 56 04.6	
	comp=E,45μm,0.6s							
AC06	Mina Casimiro	2.46	182			Pn	03 55 30.5	+1.0
AC06	Mina Casimiro	2.46	182	*i* P		Pn	03 55 30.5	+1.0
PB04	IPOC Station P	2.54	2			Pn	03 55 31.0	+0.4
PB04	IPOC Station P	2.54	2	*e*P		Pn	03 55 31.1	+0.4
PB04				*i* S		Sn	03 56 06.9	+6.5
PB04				IAML			03 56 18.3	
	comp=Z,17μm,0.6s							
PB04	IPOC Station P	2.54	2	⇑*i*P		Pn	03 55 31.1	+0.5
PB04				*e*S		Sn	03 56 05.3	+4.8
PB04				IAML			03 56 15.0	
	comp=N,25μm,0.4s							
LVC	Limon Verde	2.58	29			Pn	03 55 32.8	+1.5
LVC	Limon Verde	2.58	29	P		Pn	03 55 32.8	+1.5
LVC	Limon Verde	2.58	29	*i* P		Pn	03 55 33.0	+1.7
LVC				*e*S		Sn	03 56 04.9	+3.3
LVC				IAML			03 56 13.5	
	comp=Z,12μm,0.6s							
LVC	Limon Verde	2.58	29	*e*P		Pn	03 55 32.8	+1.5
LVC				*e*S		Sn	03 56 05.0	+3.4
LVC				IAML			03 56 13.5	
	comp=Z,21μm,0.7s							
LVC	Limon Verde	2.58	29	P		Pn	03 55 32.9	+1.7
	comp=Z,1μm,0.3s,baz=159,slow=8.0,SNR=764							
LVC				S		Sn	03 56 04.3	+2.7
	comp=Z,4μm,0.3s,baz=237,slow=14,SNR=5.9							
LVC				LR		LR	03 56 11.5	
	comp=Z,9μm,19.3s,baz=201,slow=33							
LVC	Limon Verde	2.58	29	⇑*i*P		Pn	03 55 32.8	+1.5
GO03	Copiap	2.70	180			Pn	03 55 33.6	+0.9
GO03	Copiap	2.70	180	*i* P		Pn	03 55 33.8	+1.1
GO03	Copiap	2.70	180	*e*P		Pn	03 55 33.9	+1.1
GO03	Copiap	2.70	180	⇓*i*P		Pn	03 55 33.7	+1.1
GO03				*e*S		Sn	03 56 06.0	+1.9
AF01	San Pedro de A	2.70	45			Pn	03 55 33.8	+0.9
AF01	San Pedro de A	2.70	45	*i* P		Pn	03 55 34.8	+1.8
AF01				*e*S		Sn	03 56 08.6	+4.0
PB07	IPOC Station P	3.16	6			Pn	03 55 39.4	+0.2
PB07	IPOC Station P	3.16	6	*e*P		Pn	03 55 39.2	+0.1
PB07				IAML			03 56 37.1	
	comp=Z,17μm,0.5s							
PB07	IPOC Station P	3.16	6	⇑*i*P		Pn	03 55 39.2	+0.2
PB09	IPOC Station P	3.21	17			Pn	03 55 40.0	+0.2
PB09	IPOC Station P	3.21	17	*e*P		Pn	03 55 41.1	+1.3
PB09				*i* S		Sn	03 56 24.3	+7.4
PB09				IAML			03 56 36.6	
	comp=Z,19μm,1.1s							
PB09	IPOC Station P	3.21	17	*i* P		Pn	03 55 41.6	+1.8
PB09				*e*S		Sn	03 56 19.3	+2.4
AC04	Llanos de Chal	3.39	192			Pn	03 55 41.2	-0.8
AC04	Llanos de Chal	3.39	192	*e*P		Pn	03 55 41.3	-0.7
AC04				*e*S		Sn	03 56 33.8	+13
AC04				IAML			03 56 44.6	
	comp=Z,9μm,0.6s							
AC04	Llanos de Chal	3.39	192	*i* P		Pn	03 55 41.1	-1.0
AC04				IAML			03 56 41.4	
	comp=N,8μm,0.6s							
PB02	IPOC Station P	3.56	5			Pn	03 55 44.6	0.0
PB02	IPOC Station P	3.56	5	*e*P		Pn	03 55 44.4	-0.1
PB02				*i* S		Sn	03 56 39.4	+14
PB02				IAML			03 56 45.2	
	comp=Z,17μm,0.8s							
PB02	IPOC Station P	3.56	5	⇑*i*P		Pn	03 55 44.3	-0.2
PB01	IPOC Station P	3.89	11			Pn	03 55 49.1	+0.1
PB01	IPOC Station P	3.89	11	⇑*i*P		Pn	03 55 49.1	+0.1
AC05	El Transito	3.94	180			Pn	03 55 50.7	+1.1
AC05	El Transito	3.94	180	*e*P		Pn	03 55 50.8	+1.1
AC05				*e*S		Sn	03 56 45.6	+11
AC05				IAML			03 56 58.6	
	comp=Z,9μm,0.8s							
AC05	El Transito	3.94	180	⇓*i*P		Pn	03 55 50.8	+1.1
PATCX	Punta Patache	4.04	1			Pn	03 55 50.3	-0.9
PATCX	Punta Patache	4.04	1	⇑*i*P		Pn	03 55 50.2	-0.9
FSA	Cafayete	4.05	108	*i* P		Pn	03 55 53.5	+2.2
LCO	Las Campanas	4.13	185	Pn		Pn	03 55 51.7	-0.8
LCO	Las Campanas	4.13	185	P		Pn	03 55 51.7	-0.8
LCO	Las Campanas	4.13	185	*e*P		Pn	03 55 52.2	-0.3
LCO				*i* S		Sn	03 56 54.1	+14
LCO				IAML			03 57 07.6	
	comp=Z,6μm,0.8s							
LCO	Las Campanas	4.13	185	*i* P		Pn	03 55 52.2	-0.3
VCA	Vinchina	4.25	155	*i* P		Pn	03 55 57.5	+3.4
VCA				IAML			04 00 11.5	
	comp=Z,177nm,1.1s							
VCA	Vinchina	4.25	155	*e*P		Pn	03 55 57.5	+3.4
VCA				*e*S		Sn	03 56 56.3	+14
VCA				IAML			03 57 01.1	
	comp=Z,6μm,0.8s							
VCA	Vinchina	4.25	155	⇑*i*P		Pn	03 55 57.3	+3.3
TA01	Diego Aracena	4.30	1			Pn	03 55 53.3	-1.2
TA01	Diego Aracena	4.30	1	*e*P		Pn	03 55 53.0	-1.5
TA01				*e*S		Sn	03 56 54.9	+11
TA01				IAML			03 57 01.6	
	comp=Z,7μm,0.8s							
SLA	San Lorenzo	4.32	89	*i* P		Pn	03 55 57.6	+2.6
SLA				IAML			04 00 29.9	
	comp=Z,103nm,2.7s							
SLA	San Lorenzo	4.32	89	*e*P		Pn	03 55 58.3	+3.3
SLA				IAML			03 56 56.4	
	comp=Z,2μm,1.9s							
TA02	Huaiquique	4.59	1			Pn	03 55 57.2	-1.4
AZAP	Zapla	4.77	83	*i* P		Pn	03 56 03.3	+2.1
AZAP				IAML			04 00 03.2	
	comp=Z,255nm,2.3s							
AZAP	Zapla	4.77	83	*e*P		Pn	03 56 03.5	+2.3
AZAP				IAML			03 57 07.3	
	comp=Z,2μm,0.8s							
AHML	Horco Molle	4.82	114	*i* P		Pn	03 56 03.8	+2.0
AHML				*i* P			03 56 03.9	
AHML				IAML			04 00 15.2	
	comp=Z,67nm,1.6s							
AHML	Horco Molle	4.82	114	*e*P		Pn	03 56 04.1	+2.3
AHML				*i* S		Sn	03 57 02.2	+5.8
AHML	Horco Molle	4.82	114	⇓*i*P		Pn	03 56 03.8	+2.0
AHML				*e*S		Sn	03 56 56.3	-0.1
PB08	IPOC Station P	4.83	12			Pn	03 56 02.0	-0.2
PB08	IPOC Station P	4.83	12	*i* P		Pn	03 56 02.1	-0.1
AGUA	GUANDACOL	4.85	161	*i* P		Pn	03 56 05.1	+2.9
AGUA				*e*S		Sn	03 57 05.1	+8.1
AGUA				IAML			03 57 13.2	
	comp=Z,2μm,0.6s							
AGUA	GUANDACOL	4.85	161	*e*P		Pn	03 56 05.3	+3.1
AGUA				*i* S		Sn	03 57 07.1	+10
AGUA				IAML			03 57 13.2	
	comp=Z,4μm,0.6s							
CO01	Juntas del Tor	5.08	178			Pn	03 56 06.1	+0.7
CO01	Juntas del Tor	5.08	178	*e*P		Pn	03 56 06.3	+0.9
CO01				*e*S		Sn	03 57 18.7	+16
CO01				IAML			03 57 33.8	
	comp=Z,2μm,0.9s							
CO05	La Serena	5.09	190			Pn	03 56 04.4	-1.0
YJA	Yavi	5.12	59	*e*P		Pn	03 56 09.3	+3.1
PB11	IPOC Station P	5.13	6			Pn	03 56 04.9	-1.2
GO01	Chusmiza	5.28	11			Pn	03 56 07.6	-0.8
GO01	Chusmiza	5.28	11	*e*P		Pn	03 56 07.9	-0.6
GO01				*e*S		Sn	03 57 19.4	+11
GO04	Tololo Observa	5.29	185			Pn	03 56 08.2	-0.1
GO04	Tololo Observa	5.29	185	*e*P		Pn	03 56 08.9	+0.5
ACDV	Cuesta del Vie	5.36	169	*i* P		Pn	03 56 12.4	+3.1
ACDV				*e*S		Sn	03 57 18.0	+8.2
ACDV				IAML			03 57 30.5	
	comp=Z,2μm,1.5s							
ACLC	CERRO LA CRUZ	5.40	148	*i* P		Pn	03 56 12.1	+2.3
ACLC				*e*S		Sn	03 57 14.2	+3.5
ACLC				IAML			03 57 21.7	
	comp=Z,2μm,1.5s							
ACCO	Cerro Coronel	5.78	170	*i* P		Pn	03 56

H03S2 Juan Fernandez 11.69 218 T T 04 09 41.5
baz=45,slow=75,SNR=31

BBRB Robore, Bolivi 11.73 58 *eP* **Pn** **03 57 32.1 -4.3**
CPUP Villa Florida 11.75 100 **Pn** **03 57 34.4 -2.3**
CPUP Villa Florida 11.75 100 P **Pn** **03 57 34.4 -2.3**
CPUP Villa Florida 11.75 100 *eP* **Pn** **03 57 33.3 -3.3**
CPUP Villa Florida 11.75 100 P **Pn** **03 57 34.0 -2.7**
comp=Z,25nm,0.6s,baz=277,slow=12,SNR=56
CPUP S **Sn** **03 59 42.4 -4.0**
comp=Z,23nm,0.8s,baz=304,slow=14,SNR=1.2
CPUP LR LR 04 02 46.0
comp=Z,4µm,18.7s,baz=284,slow=41
BBSD Serra de San D 11.82 51 *eP* **Pn** **03 57 34.0 -3.6**
MURT Porto Murtinho 12.06 77 *eP* **Pn** **03 57 37.8 -3.0**
SIV San Ignacio 12.34 46 P **Pn** **03 57 40.7 -4.0**
comp=Z,67nm,0.6s,baz=233,slow=9.3,SNR=178
SIV S Sn 03 59 48.9 -12
comp=Z,32nm,0.6s,baz=243,slow=13,SNR=1.1
ITQB Itaqui 13.02 114 **Pn** **03 57 52.2 -1.8**
ITQB Itaqui 13.02 114 *eP* **Pn** **03 57 53.2 -0.8**
BDQN Bodoquena, MS 13.22 73 *eP* **Pn** **03 57 53.7 -3.0**
PTLB Pontes e Lacer 14.03 50 Pn **Pn** **03 58 04.3 -3.4**
PTLB Pontes e Lacer 14.03 50 *eP* **Pn** **03 58 04.0 -3.8**
AQDB Aquidauana 14.13 75 Pn **Pn** **03 58 05.0 -4.1**
AQDB Aquidauana 14.13 75 *eP* **Pn** **03 58 05.5 -3.6**
UNIS Unistalda (Bra 14.16 110 *eP* **Pn** **03 58 06.6 -2.9**
NNA Nana 14.26 333 *ceP* **Pn** **03 58 10.3 -0.6**
NNA pmax pmax
comp=Z,24nm,2.5s
NNA Nana 14.26 333 P **Pn** **03 58 13.5 +2.6**
comp=Z,2.8nm,0.3s,baz=277,slow=14,SNR=1.8
NNA S **Sn** **04 00 45.7 -2.1**
comp=Z,6.3nm,0.3s,baz=200,slow=16,SNR=1.5
NNA LR LR 04 03 06.7
comp=Z,1µm,21.2s,baz=162,slow=34
RODS Rosario do Sul 14.41 116 *eP* **Pn** **03 58 10.3 -2.4**
LPA La Plata 14.62 136 *eP* **Pn** **03 58 16.9 +1.5**
LPA pP P 03 58 29.0 +8.4
LPA sP 03 58 35.7
LPA S **Sn** **04 01 01.8 +5.7**
LPA sS **S** **04 01 13.2 +0.4**
LPA PCP **PcP** **04 03 24.2 -1.7**
LPA SCS **ScS** **04 10 41.1 +8.0**
LPA PKIKP **PKiKP** **04 11 18.5 -2.9**
LPA SKIKP 04 15 04.9
LPA PKIKS 04 15 10.9
LPA SKIKS 04 18 17.6
GO06 Curarrehue 14.69 184 **Pn** **03 58 16.3 -0.2**
MCR1 Mareschal Candi 14.75 92 *eP* **Pn** **03 58 15.4 -1.9**
CRSM Crissiumal (Br 14.79 104 *eP* **Pn** **03 58 15.8 -1.9**
TRQA Tornquist 14.90 154 Pn **Pn** **03 58 16.8 -2.3**
TRQA Tornquist 14.90 154 P **Pn** **03 58 16.8 -2.3**
TRQA Tornquist 14.90 154 *eP* **Pn** **03 58 18.2 -0.9**
VILB Vilhena 15.20 40 Pn **Pn** **03 58 19.8 -3.3**
VILB Vilhena 15.20 40 *eP* **Pn** **03 58 19.8 -3.3**
RVDE Rio Verde (Bra 15.35 71 *eP* **Pn** **03 58 22.8 -2.3**
LR05 Currie 15.37 185 Pn **Pn** **03 58 23.4 -1.8**
ETMB Extrema 15.47 15 Pn **Pn** **03 58 22.8 -3.8**
ETMB Extrema 15.47 15 *eP* **Pn** **03 58 22.9 -3.7**
FRBT Francisco Belt 15.57 98 *eP* **Pn** **03 58 26.2 -1.7**
PLCA Paso Flores 15.81 181 Pn **Pn** **03 58 31.0 +0.2**
PLCA Paso Flores 15.81 181 *eP* **P** **03 58 35.1 +1.2**
PLCA Paso Flores 15.81 181 *eP* **Pn** **03 58 30.6 -0.3**
PLCA Paso Flores 15.81 181 P **Pn** **03 58 30.4 -0.5**
comp=Z,15nm,0.8s,baz=4.2,slow=15,SNR=3.1
PLCA S **Sn** **04 01 27.9 +2.8**
comp=Z,12nm,1.2s,baz=331,slow=16,SNR=1.7
PLCA LR LR 04 04 54.6
comp=Z,4µm,20.8s,baz=356,slow=38
ALGR Alto Alegre (B 15.86 108 *eP* **Pn** **03 58 29.0 -2.6**
CPSB Cacapava Do Su 15.88 114 *eP* **Pn** **03 58 28.7 -3.1**
RPRD Ribas do Rio P 15.89 77 *eP* **Pn** **03 58 29.5 -2.5**
PP1B Ponte de Pedra 16.05 66 *eP* **Pn** **03 58 30.0 -4.0**
PLTB Pedras Altas 16.18 119 Pn **Pn** **03 58 31.8 -3.8**
PLTB Pedras Altas 16.18 119 *eP* **Pn** **03 58 32.5 -3.1**
SALV Santo Antonio 16.30 60 *eP* **Pn** **03 58 33.5 -3.7**
LL03 Petrohue 16.31 186 P **Pn** **03 58 38.0 +0.9**
ITAB Concordia 16.45 102 Pn **Pn** **03 58 36.3 -2.8**
ITAB Concordia 16.45 102 *eP* **Pn** **03 58 36.7 -2.3**
PTGB Pitanga 16.52 93 *eP* **Pn** **03 58 37.3 -2.8**
CZSB Cruzeiro do Su 17.22 352 **Pn** **03 58 48.1 -0.6**
CZSB Cruzeiro do Su 17.22 352 *eP* **Pn** **03 58 47.5 -1.2**
SAML Samuel 17.22 24 Pn **Pn** **03 58 44.7 -4.0**
SAML Samuel 17.22 24 *eP* **Pn** **03 58 47.6 -1.1**
SAML Samuel 17.22 24 P **Pn** **03 58 44.7 -4.0**
SAML pmax pmax
comp=Z,76nm,0.9s
SAML Samuel 17.22 24 *eP* **Pn** **03 58 45.4 -3.3**
C2SB Chapadao do Su 17.27 73 *eP* **Pn** **03 58 47.8 -1.5**
LDASE Londrina, Braz 17.53 89 *eP* **Pn** **03 58 49.8 -2.7**
LL01 San Ignacio de 17.54 185 P **Pn** **03 58 51.9 -0.6**
PCMB Pacaembu 17.75 83 *eP* **Pn** **03 58 51.8 -3.5**
CNLB Canela 17.83 109 *eP* **Pn** **03 58 52.8 -3.3**
LL02 Futaleuf 18.31 184 P **P** **03 58 59.9 -1.5**
PDRB Porto dos Gac 18.40 47 *eP* **P** **03 58 59.3 -3.3**
GO07 Milladeo Hill, 18.40 188 P **P** **03 59 00.9 -1.5**
FRTB Fartura 18.95 90 *eP* **P** **03 59 06.8 -1.8**
ITRB Iturama 19.11 78 *eP* **P** **03 59 08.5 -2.0**
ATAH Atahualpa 19.29 335 P **Pn** **03 59 17.5 +3.3**
comp=Z,8.3nm,0.7s,baz=122,slow=15,SNR=3.7
ATAH S **Sn** **04 02 55.1 +5.0**
comp=Z,2.4nm,0.6s,baz=274,slow=21,SNR=1.0
ATAH LR LR 04 07 08.7
comp=Z,670nm,18.9s,baz=156,slow=38
CLDB Colider 19.56 47 *eP* **P** **03 59 14.6 -0.7**
COYC Coyhaique 20.70 184 P **P** **03 59 25.5 -1.9**
SPB Sao Paulo 20.85 91 P **P** **03 59 27.5 -1.8**
SPB IAmb IAmb 03 59 32.7
comp=Z,173nm,0.8s
SPB Sao Paulo 20.85 91 *eP* **P** **03 59 28.0 -1.3**
PET01 Itanhaem-SP 20.90 93 *eP* **P** **03 59 27.9 -2.0**
RCLB Rio Claro- Sao 20.96 88 *eP* **P** **03 59 28.1 -2.4**
VAO Valinhos 21.36 90 *eP* **P** **03 59 32.3 -2.6**
IPMB Ipameri, GO 21.62 76 *eP* **P** **03 59 34.7 -3.0**
TEFE Tefe 21.93 15 *eP* **P** **03 59 40.4 -0.5**
SNDB Serra Nova Dou 22.06 58 *eP* **P** **03 59 39.9 -2.5**
MCRA Macar, Loja 22.43 334 P **P** **03 59 47.8 +1.5**
MCRA Macar, Loja 22.43 334 *eP* **P** **03 59 45.0 -1.4**
PARB Paraibuna 22.53 91 *eP* **P** **03 59 45.9 -1.5**
NPGB Novo Progresso 22.76 41 *eP* **P** **03 59 46.8 -3.0**
BDFB Brasilia 22.77 70 P **P** **03 59 47.0 -3.0**
BDFB IAmb IAmb 03 59 52.1
comp=Z,133nm,0.8s
BDFB Brasilia 22.77 70 P **P** **03 59 47.1 -3.0**
BDFB pmax pmax
comp=Z,133nm,0.8s
BDFB Brasilia 22.77 70 P **P** **03 59 46.6 -3.4**
comp=Z,95nm,0.7s,baz=245,slow=9.8,SNR=74
BDFB PcP **PcP** **04 03 40.5 +0.2**
comp=Z,15nm,0.8s,baz=207,slow=6.3,SNR=3.1
BDFB LR LR 04 09 37.7
comp=Z,2µm,21.3s,baz=236,slow=39
comp=Z,95nm,0.7s
PMNB Patos De Minas 22.99 79 *eP* **P** **03 59 49.8 -2.5**
BOSC San Juan Bosco 23.02 339 P **P** **03 59 52.3 -0.3**
ARNL Arenillas 23.22 334 P **P** **03 59 55.8 +1.4**
MACA Manacapuru-AM 23.48 25 P **P** **03 59 55.6 -1.3**
MACA Manacapuru-AM 23.48 25 *eP* **P** **03 59 55.9 -1.0**
GO08 Villa O'Higgin 23.61 184 P **P** **03 59 57.8 0.0**
BSCB Bom Sucesso 23.77 86 *eP* **P** **03 59 58.0 -1.7**
COHC Cochancay 23.92 337 P **P** **04 00 01.8 +0.8**
COHC Cochancay 23.92 337 *eP* **P** **04 00 04.4 +3.5**
ITTB Itaituba 24.72 37 *eP* **P** **04 00 07.0 -1.3**
PIAT Ana Tenorio 24.98 341 *eP* **P** **04 00 11.8 +0.8**
PTLC Puerto Leguiza 25.29 349 *eP* **P** **04 00 11.5 -2.0**
DUN01 Friburgo-RJ 25.71 90 *eP* **P** **04 00 15.5 -1.8**
BONI La Bonita 26.15 343 *eP* P 04 00 36.1 +15
OTAV Otavalo 26.20 341 P **P** **04 00 23.2 +1.0**
OTAV Otavalo 26.20 341 *eP* **P** **04 00 26.0 +3.8**
OTAV Otavalo 26.20 341 P **P** **04 00 23.2 +1.0**
OTAV pmax pmax
comp=Z,17nm,0.9s
OTAV Otavalo 26.20 341 *eP* **P** **04 00 22.6 +0.4**
JANB Januaria 26.23 73 *eP* **P** **04 00 20.0 -2.0**
PAC1 Pacto, Paraso 26.33 340 *eP* **P** **04 00 22.8 -0.3**
CMBC Cumbal 26.70 343 *eP* P 04 00 41.5 +15
FLOC Florencia 26.82 348 *eP* **P** **04 00 29.1 +1.7**
GCUF Volcan Galeras 26.85 344 *eP* **P** **04 00 30.9 +2.7**
SDBA SAO DESIDERIO 26.98 67 *eP* **P** **04 00 26.8 -2.0**
PRPB Parauapebas 27.02 50 *eP* **P** **04 00 27.7 -1.4**
CRUC La Cruz 27.08 345 *eP* **P** **04 00 33.4 +3.3**
GARC Garzon, Huila 27.39 349 *eP* **P** **04 00 33.7 +1.1**

ALF01 Guarapari-ES 27.53 87 *eP* **P** **04 00 32.4 -1.3**
BBAC Balboa, Cauca 27.59 345 *eP* **P** **04 00 36.6 +2.1**
MALB Monte Alegre 27.61 36 *eP* **P** **04 00 33.2 -1.2**
SJMB Sao Joao De Ma 27.65 83 *eP* **P** **04 00 33.0 -1.7**
POPC Popayan, Colom 27.96 346 *eP* P 04 00 26.6 -11
RIB01 Linhares ES 28.18 85 *eP* **P** **04 00 37.6 -1.9**
EFI East Falkland 28.33 164 P **P** **04 00 39.1 -1.4**
EFI IAmb IAmb 04 00 57.8
comp=Z,203nm,1.8s
EFI East Falkland 28.33 164 *i* P **P** **04 00 41.1 +0.7**
EFI pmax pmax
comp=Z,22nm,1.0s
JAMC Jamundi, Valle 28.62 347 *eP* **P** **04 00 44.8 +1.2**
BOAV Boa Vista 28.71 21 P **P** **04 00 43.7 -0.5**
BOAV Boa Vista 28.71 21 *eP* **P** **04 00 43.2 -1.0**
BOAV Boa Vista 28.71 21 *eP* **P** **04 00 44.2 0.0**
PRAC Prado 28.78 350 *eP* P 04 00 31.4 -13
PTGC Puerto Gaitan, 28.97 356 *eP* **P** **04 00 46.0 -0.4**
VILC Villavicencio, 29.02 353 *eP* **P** **04 00 48.1 +1.1**
ORTC Ortega, Tolima 29.03 350 *eP* **P** **04 00 46.5 -0.5**
YOTC Yotoco, Valle 29.30 348 *eP* **P** **04 00 51.0 +1.5**
GUA01 Guaratinga, BA 29.60 80 *eP* **P** **04 00 50.3 -1.8**
ROSC El Rosal 29.81 352 P **P** **04 00 55.1 +0.8**
ROSC El Rosal 29.81 352 *eP* **P** **04 00 56.9 +2.5**
ROSC El Rosal 29.81 352 P **P** **04 00 55.3 +1.0**
comp=Z,11nm,0.5s,baz=153,slow=5.2,SNR=6.4
ROSC LR LR 04 13 33.5
comp=Z,1µm,20.7s,baz=204,slow=38
comp=Z,11nm,0.5s
MCPB Macapa, AP 30.07 39 *eP* **P** **04 00 55.5 -0.8**
ABR01 Abrolhos, BA 30.12 83 *eP* **P** **04 00 56.1 -0.6**
PLMC San Jos del P 30.18 348 *eP* **P** **04 00 58.8 +1.5**
GUY2C Guyana, Caldas 30.34 350 *eP* **P** **04 00 58.9 -0.2**
SPBC San Pablo de B 30.58 353 *eP* **P** **04 01 01.4 +0.6**
CBOC Ciudad Bolivar 31.07 349 *eP* **P** **04 01 04.3 -1.0**
TAMC Tame, Arauca 31.17 357 *eP* P 04 00 54.4 -11
BARC Barichara 31.41 354 *eP* **P** **04 01 08.1 -0.2**
PTBC PUERTO BERRIO, 31.50 352 *eP* **P** **04 01 07.1 -1.7**
PAMC Pamplona, Colo 32.12 355 *eP* **P** **04 01 13.5 -1.3**
DBBC Dabeiba 32.23 349 *eP* **P** **04 01 16.3 +3.0**
ZARC Zaragoza, Cauc 32.49 351 *eP* **P** **04 01 17.2 -0.3**
UREC San Jos de Ur 32.84 350 *eP* **P** **04 01 21.2 +0.6**
APAC Apartado, Choc 33.16 348 *eP* **P** **04 01 26.6 +3.2**
SDV Santo Domingo 33.57 359 P **P** **04 01 26.0 -1.1**
SDV Santo Domingo 33.57 359 *eP* **P** **04 01 26.6 -0.5**
SDV Santo Domingo 33.57 359 LR LR 04 16 31.3
comp=Z,965nm,18.7s,baz=175,slow=39
CACAO El Cacao, Vera 33.66 341 *eP* **P** **04 01 26.6 -1.1**
BAUV El Baul 33.69 4 P **P** **04 01 26.9 -1.0**
MDP Montagnes des 34.38 32 LR LR 04 17 46.7
comp=Z,684nm,18.3s,baz=206,slow=40
MPGF Montagnes des 34.39 32 P **P** **04 01 33.8 -0.3**
MPGF pP **pP** **04 01 48.0 -0.1**
ARGC Ariguani, Magd 34.75 353 *eP* **P** **04 01 36.3 -0.9**
SJCC San Jacinto, C 34.90 351 *eP* **P** **04 01 38.3 -0.2**
RPN Rapa Nui 35.10 258 LR LR 04 12 45.6
comp=Z,831nm,19.5s,baz=114,slow=30
PCRV Puerto La Cruz 35.27 10 LR LR 04 17 06.2
comp=Z,1µm,19.0s,slow=38
JTS Las Juntas de 37.79 336 *i* P **P** **04 02 04.8 +1.7**
RCBR Riachuelo 37.98 66 *eP* **P** **04 02 04.5 -0.3**
RCBR Riachuelo 37.98 66 LR LR 04 18 30.2
comp=Z,631nm,19.4s,baz=236,slow=38
RCBR Riachuelo 37.98 66 ⇑P **P** **04 02 04.5 -0.3**
RCBR pP **pP** **04 02 18.3 -0.7**
RCBR sP **sP** **04 02 24.4 -0.9**
HOPE Hope Point 38.59 148 P **P** **04 02 09.6 +0.2**
HOPE sP **sP** **04 02 29.7 0.0**
ORCD Orcadas 39.90 161 P **P** **04 02 15.6 -4.7**
PMSA Palmer Station 40.09 176 LR LR 04 18 20.0
comp=Z,2µm,21.6s,baz=296,slow=35
FDF Fort de France 40.37 14 P **P** **04 02 25.2 +0.5**
FDF Fort de France 40.37 14 P **P** **04 02 25.2 +0.5**
FDF pmax pmax
comp=Z,168nm,1.3s
SJG San Juan 42.92 6 P **P** **04 02 43.0 -2.5**
SJG San Juan 42.92 6 P **P** **04 02 43.0 -2.5**
SJG pmax pmax
comp=Z,36nm,0.8s
SJG San Juan 42.92 6 LR LR 04 21 44.2
comp=Z,357nm,21.6s,baz=190,slow=38
SJG San Juan 42.92 6 P **P** **04 02 42.9 -2.5**
MTO3 Montecristo 43.27 332 P **P** **04 02 49.6 +1.1**
PETF Flores 45.73 333 P **P** **04 03 07.6 -0.4**
PETF IAmb IAmb 04 03 26.2
comp=Z,24nm,0.8s
CMIG Matias Romero 48.13 328 LR LR 04 20 08.9
comp=Z,203nm,21.6s,baz=152,slow=31
TEIG Tepich 48.15 337 P **P** **04 03 27.0 +0.2**
TEIG IAmb IAmb 04 03 44.5
comp=Z,28nm,0.6s
TEIG Tepich 48.15 337 *eP* **P** **04 03 26.8 0.0**
TEIG Tepich 48.15 337 LR LR 04 23 38.9
comp=Z,2µm,20.7s,baz=328,slow=36
TEIG Tepich 48.15 337 P **P** **04 03 27.6 +0.9**
TEIG pP **pP** **04 03 41.8 +0.6**
SOR Soroa 48.98 344 P **P** **04 03 33.6 +0.5**
SOR IAmb IAmb 04 03 55.8
comp=Z,42nm,1.1s
SOR Soroa 48.98 344 P **P** **04 03 33.7 +0.5**
SOR pmax pmax
comp=Z,42nm,1.1s
061Z Ochoppi 51.49 348 P **P** **04 03 52.4 +0.3**
BELA Belgrano 2 55.59 171 P **P** **04 04 21.4 -0.2**
BELA IAmb IAmb 04 04 24.3
comp=Z,28nm,1.0s
ASCN Ascension 55.82 83 P **P** **04 04 22.2 -1.9**
VNA3 Neumayer Olymp 57.30 160 ⇑P **P** **04 04 33.7 -0.1**
comp=Z,30nm,0.7s
TIGA Tifton 57.44 346 P **P** **04 04 35.5 +0.4**
baz=166
VNA1 Neumayer--Stat 57.54 160 ⇑P **P** **04 04 35.9 +0.4**
comp=Z,41nm,0.9s
352A Blakely 57.78 345 P **P** **04 04 37.6 0.0**
352A pP **pP** **04 04 51.4 -1.0**
352A Blakely 57.78 345 P **P** **04 04 37.8 +0.2**
baz=164,SNR=7.0
VNA2 Neumayer--Watz 57.90 160 ⇑P **P** **04 04 38.0 0.0**
comp=Z,37nm,0.7s,baz=288,slow=8.0
BRAL Brewton 58.01 343 P **P** **04 04 39.2 0.0**
BRAL pP **pP** **04 04 54.6 +0.5**
BRAL Brewton 58.01 343 P **P** **04 04 39.1 0.0**
baz=162
BRAL Brewton 58.01 343 P **P** **04 04 39.7 +0.5**
baz=162
NHSC New Hope 58.44 350 P **P** **04 04 42.1 0.0**
baz=169
NHSC New Hope 58.44 350 P **P** **04 04 42.8 +0.7**
baz=169
154A Montrose 58.48 347 P **P** **04 04 42.4 0.0**
baz=166,SNR=6.0
250A Grady 58.58 344 P **P** **04 04 42.6 -0.5**
250A pP **pP** **04 04 57.8 -0.2**
250A Grady 58.58 344 P **P** **04 04 43.2 +0.1**
baz=163
152A Waverly Hall 58.87 346 P **P** **04 04 45.4 +0.2**
152A **pP** **04 04 59.6 -0.5**
152A IAmb IAmb 04 05 01.8
comp=Z,29nm,0.9s
152A Waverly Hall 58.87 346 P **P** **04 04 44.6 -0.6**
baz=165,SNR=9.5
346A Big Creek Wild 58.90 341 P **P** **04 04 46.6 +1.2**
346A pP **pP** **04 05 00.5 +0.3**
346A Big Creek Wild 58.90 341 P **P** **04 04 46.1 +0.8**
baz=160
HAW Hawthorne Fire 58.92 349 P **P** **04 04 45.6 +0.1**
baz=168,SNR=7.3
Y60A Bolivia 59.05 352 P **P** **04 04 47.2 +0.8**
Y60A Bolivia 59.05 352 P **P** **04 04 47.2 +0.8**
baz=172
Y60A P **P** **04 04 47.2 +0.8**
baz=172
Y58A Scranton 59.15 351 P **P** **04 04 47.3 +0.3**
Y58A **pP** **04 05 02.2 +0.2**
Y58A Scranton 59.15 351 P **P** **04 04 47.9 +0.9**
baz=170,SNR=5.1
Y58A P **P** **04 04 47.9 +0.9**
baz=170,SNR=5.1
GOGA Godfrey 59.32 347 P **P** **04 04 48.3 +0.1**
GOGA pP **pP** **04 05 02.8 -0.4**
GOGA IAmb IAmb 04 05 05.0
comp=Z,57nm,1.6s
GOGA Godfrey 59.32 347 P **P** **04 04 48.3 +0.1**
baz=166

GOGA Godfrey 59.32 347 P **P** **04 04 48.3 +0.1**
GOGA *PP **pP** **04 05 02.8 -0.4**
GOGA pmax pmax
comp=Z,57nm,1.6s
Y57A Sumter 59.36 350 P **P** **04 04 49.2 +0.7**
Y57A IAmb IAmb 04 05 05.9
comp=Z,36nm,0.8s
Y57A Sumter 59.36 350 P **P** **04 04 49.2 +0.7**
baz=169
Y57A P **P** **04 04 49.2 +0.7**
baz=169
SNAA Sanae 59.52 160 P **P** **04 04 49.4 0.0**
SNAA Sanae 59.52 160 ⇑P **P** **04 04 49.1 -0.2**
comp=Z,599nm,0.6s
SNAA Sanae 59.52 160 *ceP* **P** **04 04 49.0 -0.3**
SNAA pmax pmax
comp=Z,63nm,1.2s
SNAA Sanae 59.52 160 P **P** **04 04 49.0 -0.3**
comp=Z,42nm,0.9s,baz=282,slow=7.7,SNR=71
SNAA pP **pP** **04 05 04.1 +0.1**
comp=Z,9.2nm,0.8s,baz=308,slow=12,SNR=2.4
SNAA LR LR 04 28 47.1
comp=Z,375nm,21.8s,baz=341,slow=34
comp=Z,42nm,0.9s
X58A Rowland 59.74 351 P **P** **04 04 51.5 +0.4**
X58A Rowland 59.74 351 P **P** **04 04 51.7 +0.7**
baz=170,SNR=6.3
X58A P **P** **04 04 51.7 +0.7**
baz=170,SNR=6.3
JSC Jenkinsville 59.76 349 P **P** **04 04 51.7 +0.4**
JSC IAmb IAmb 04 04 52.2
comp=Z,17nm,0.7s
JSC **pP** **04 05 05.3 -0.9**
JSC Jenkinsville 59.76 349 P **P** **04 04 51.5 +0.2**
baz=168,SNR=8.8
JSC Jenkinsville 59.76 349 P **P** **04 04 51.7 +0.4**
JSC *PP **pP** **04 05 05.3 -0.9**
JSC pmax pmax
comp=Z,17nm,0.7s
LRAL Lakeview Retre 59.77 344 P **P** **04 04 51.0 -0.3**
LRAL Lakeview Retre 59.77 344 P **P** **04 04 52.2 +0.9**
baz=162
LRAL Lakeview Retre 59.77 344 P **P** **04 04 51.3 -0.1**
baz=162
HKT Hockley 59.79 334 *i* P **P** **04 04 52.2 +0.7**
HKT pmax pmax
comp=Z,7.0nm,1.1s
833A Chaparral WMA, 59.88 330 P **P** **04 04 53.4 +1.2**
833A IAmb IAmb 04 05 16.4
comp=Z,33nm,0.8s
833A Chaparral WMA, 59.88 330 P **P** **04 04 52.5 +0.3**
baz=149,SNR=11
833A Chaparral WMA, 59.88 330 P **P** **04 04 53.8 +1.6**
baz=149,SNR=11
Y52A Lilburn 59.88 347 P **P** **04 04 52.2 +0.1**
Y52A **pP** **04 05 06.3 -0.8**
Y52A IAmb IAmb 04 05 08.8
comp=Z,21nm,0.8s
Y52A Lilburn 59.88 347 P **P** **04 04 51.8 -0.3**
baz=166
Y52A P **P** **04 04 51.8 -0.3**
baz=166
HODGE Hodges 59.89 349 P **P** **04 04 52.4 +0.3**
HODGE **pP** **04 05 07.2 +0.1**
HODGE IAmb IAmb 04 05 07.5
comp=Z,21nm,1.1s
HODGE Hodges 59.89 349 P **P** **04 04 52.0 -0.1**
baz=167
146A Union 59.95 342 P **P** **04 04 53.3 +0.7**
146A IAmb IAmb 04 05 09.8
comp=Z,31nm,0.8s
146A Union 59.95 342 P **P** **04 04 53.3 +0.7**
baz=160
BIRD Birdtown, Kers 59.99 350 P **P** **04 04 53.5 +0.7**
BIRD **pP** **04 05 06.9 -0.9**
BIRD IAmb IAmb 04 05 09.7
comp=Z,35nm,0.9s
BIRD Birdtown, Kers 59.99 350 P **P** **04 04 53.4 +0.6**
baz=169,SNR=8.7
EF01 Eagle Ford 01 60.12 332 P **P** **04 04 53.6 -0.3**
EF01 pP **pP** **04 05 06.8 -2.0**
EF01 IAmb IAmb 04 05 10.0
comp=Z,28nm,0.7s
Z47A Carrollton 60.20 343 P **P** **04 04 54.2 -0.1**
Z47A IAmb IAmb 04 05 10.6
comp=Z,30nm,0.7s
Z47A Carrollton 60.20 343 P **P** **04 04 54.3 -0.1**
baz=161
W59A Clinton 60.23 352 P **P** **04 04 55.0 +0.6**
W59A IAmb IAmb 04 04 58.9
comp=Z,35nm,0.9s
W59A Clinton 60.23 352 P **P** **04 04 55.6 +1.1**
baz=171
CNNC Cliffs of the 60.23 353 P **P** **04 04 55.3 +0.9**
CNNC Cliffs of the 60.23 353 P **P** **04 04 54.6 +0.1**
baz=172
CNNC Cliffs of the 60.23 353 P **P** **04 04 55.2 +0.8**
baz=172
PAULI Pauline 60.38 349 P **P** **04 04 55.6 +0.1**
PAULI **pP** **04 05 08.5 -1.9**
PAULI IAmb IAmb 04 05 12.3
comp=Z,35nm,1.1s
PAULI Pauline 60.38 349 P **P** **04 04 56.0 +0.5**
baz=168
Y49A Blount Mountai 60.40 345 P **P** **04 04 55.9 +0.2**
Y49A IAmb IAmb 04 05 11.7
comp=Z,17nm,0.8s
Y49A Blount Mountai 60.40 345 P **P** **04 04 55.4 -0.4**
baz=163,SNR=6.7
W57A Gilead 60.42 351 P **P** **04 04 56.0 +0.3**
W57A IAmb IAmb 04 04 57.2
comp=Z,28nm,0.8s
W57A **pP** **04 05 11.0 +0.3**
W57A Gilead 60.42 351 P **P** **04 04 56.1 +0.3**
baz=170,SNR=8.1
W57A P **P** **04 04 56.1 +0.3**
baz=170,SNR=8.1
KMSC Kings Mountain 60.61 350 P **P** **04 04 57.9 +0.8**
KMSC **pP** **04 05 11.3 -0.8**
KMSC IAmb IAmb 04 05 13.9
comp=Z,26nm,0.9s
KMSC Kings Mountain 60.61 350 P **P** **04 04 57.3 +0.2**
baz=168,SNR=5.4
KMSC Kings Mountain 60.61 350 P **P** **04 04 57.6 +0.5**
baz=168,SNR=5.4
SHEL Horse Pasture 60.64 95 P **P** **04 04 57.9 +0.1**
143A Socs Landing, 60.71 340 P **P** **04 04 58.1 +0.3**
143A Socs Landing, 60.71 340 P **P** **04 04 59.7 +1.9**
baz=158,SNR=5.1
X51A Calhoun 60.73 346 P **P** **04 04 57.9 +0.1**
X51A Calhoun 60.73 346 P **P** **04 04 58.2 +0.4**
baz=165,SNR=7.3
X51A P **P** **04 04 58.2 +0.4**
baz=165,SNR=7.3
BG3 Lake Jocassee 60.75 348 P **P** **04 04 57.1 -1.0**
BG3 **pP** **04 05 12.5 -0.6**
BG3 IAmb IAmb 04 05 14.2
comp=Z,52nm,1.4s
CASEE Lake Jocassee 60.75 348 P **P** **04 04 58.3 +0.2**
baz=167
HNDO Hondo 60.86 331 P **P** **04 04 59.7 +0.7**
HNDO **pP** **04 05 13.0 -0.8**
HNDO IAmb IAmb 04 05 17.7
comp=Z,43nm,0.7s
FPAL Fort Paine 60.87 346 P **P** **04 04 59.1 +0.2**
FPAL **pP** **04 05 13.3 -0.6**
FPAL IAmb IAmb 04 05 14.6
comp=Z,37nm,1.2s
W58A Windy Hill, Pi 60.93 352 P **P** **04 04 59.6 +0.4**
W58A IAmb IAmb 04 05 15.5
comp=Z,39nm,0.9s
W58A Windy Hill, Pi 60.93 352 P **P** **04 04 59.4 +0.2**
baz=171,SNR=11
W58A P **P** **04 04 59.4 +0.2**
baz=171,SNR=11
NATX Nacogdoches 60.97 336 P **P** **04 05 00.5 +0.9**
baz=155
W52A Murphy 61.04 347 P **P** **04 05 00.7 +0.7**
W52A IAmb IAmb 04 05 16.7
comp=Z,32nm,1.2s
W52A Murphy 61.04 347 P **P** **04 05 00.4 +0.3**
baz=166
X48A Hartselle 61.12 344 P **P** **04 05 00.7 +0.1**
X48A Hartselle 61.12 344 P **P** **04 05 00.5 -0.1**

baz=163,SNR=14
435B Jarrell 61.23 333 P **P** **04 05 02.0 +0.6**
435B **pP** **04 05 15.4 -0.9**
TROLL Troll, Antarti 61.23 160 ⇑P **P** **04 05 01.1 0.0**
comp=Z,1µm,0.6s
Y45A Yeager Farm, C 61.24 342 P **P** **04 05 01.4 0.0**
Y45A pP **pP** **04 05 14.8 -1.5**
Y45A Yeager Farm, C 61.24 342 P **P** **04 05 01.9 +0.6**
baz=160
V55A Taylorsville 61.29 350 pP **04 05 15.6 -1.1**
V55A Taylorsville 61.29 350 P **P** **04 05 02.3 +0.6**
baz=169,SNR=9.7
V55A P **P** **04 05 02.3 +0.6**
baz=169,SNR=9.7
U59A Littleton 61.32 353 P **P** **04 05 02.7 +0.8**
U59A IAmb IAmb 04 05 03.7
comp=Z,25nm,0.8s
U59A **pP** **04 05 16.3 -0.6**
U59A Littleton 61.32 353 P **P** **04 05 02.7 +0.8**
baz=172,SNR=5.4
U59A P **P** **04 05 02.7 +0.8**
baz=172,SNR=5.4
DRIO Del Rio 61.37 330 P **P** **04 05 02.5 +0.1**
DRIO IAmb IAmb 04 05 25.6
comp=Z,22nm,1.1s
V53A Saluda 61.38 348 P **P** **04 05 02.6 +0.2**
V53A IAmb IAmb 04 05 19.4
comp=Z,17nm,0.8s
V53A Saluda 61.38 348 P **P** **04 05 02.3 -0.1**
baz=167,SNR=7.0
V53A P **P** **04 05 02.3 -0.1**
baz=167,SNR=7.0
W50A Signal Mountai 61.44 346 P **P** **04 05 02.9 +0.1**
W50A Signal Mountai 61.44 346 P **P** **04 05 02.8 0.0**
baz=164,SNR=11
CPCT Cooper Cave 61.51 347 P **P** **04 05 03.0 -0.2**
CPCT IAmb IAmb 04 05 18.5
comp=Z,34nm,1.0s
TKL Tuckaleechee C 61.56 347 P **P** **04 05 03.5 0.0**
TKL IAmb IAmb 04 05 18.6
comp=Z,26nm,0.8s
TKL Tuckaleechee C 61.56 347 P **P** **04 05 03.3 -0.2**
baz=166,SNR=8.1
TKL Tuckaleechee C 61.56 347 P **P** **04 05 03.5 0.0**
TKL pmax pmax
comp=Z,26nm,0.9s
SWET Sewanee 61.59 345 P **P** **04 05 03.7 0.0**
U56A King 61.65 351 P **P** **04 05 04.7 +0.6**
U56A **pP** **04 05 18.6 -0.5**
U56A IAmb IAmb 04 05 21.3
comp=Z,32nm,0.9s
U56A King 61.65 351 P **P** **04 05 05.0 +0.9**
baz=170
U56A P **P** **04 05 05.0 +0.9**
baz=170
Z41A Richland Creek 61.68 339 P **P** **04 05 05.1 +0.8**
Z41A **pP** **04 05 18.3 -1.0**
V52A Sevierville 61.70 348 P **P** **04 05 03.7 -0.8**
V52A pP **pP** **04 05 18.6 -0.9**
V52A Sevierville 61.70 348 P **P** **04 05 03.8 -0.7**
baz=166,SNR=7.9
OXF Oxford 61.80 342 P **P** **04 05 04.0 -1.2**
OXF Oxford 61.80 342 P **P** **04 05 05.4 +0.3**
baz=160,SNR=11
OXF Oxford 61.80 342 P **P** **04 05 04.6 -0.5**
baz=160,SNR=11
OXF Oxford 61.80 342 P **P** **04 05 04.0 -1.2**
OXF pmax pmax
comp=Z,60nm,1.0s
V51A Loudon 61.81 347 P **P** **04 05 05.8 +0.6**
V51A Loudon 61.81 347 P **P** **04 05 05.4 +0.1**
baz=166
HPIG 61.82 324 P **P** **04 05 06.2 +0.5**
HPIG IAmb IAmb 04 05 23.5
comp=Z,41nm,1.5s
PLAL Pickwick Lake 61.89 343 P **P** **04 05 06.3 +0.5**
PLAL IAmb IAmb 04 05 22.1
comp=Z,25nm,0.9s
JCT Junction City 61.91 331 P **P** **04 05 07.0 +1.0**
JCT Junction City 61.91 331 P **P** **04 05 06.3 +0.3**
baz=150,SNR=9.8
JCT Junction City 61.91 331 P **P** **04 05 07.3 +1.3**
baz=150,SNR=9.8
JCT Junction City 61.91 331 P **P** **04 05 07.0 +1.0**
JCT pmax pmax
comp=Z,39nm,0.7s
T59A Double "B" Far 61.91 353 P **P** **04 05 05.8 0.0**
T59A IAmb IAmb 04 05 08.4
comp=Z,22nm,0.9s
U54A Nelsons Funny 62.04 349 P **P** **04 05 07.3 +0.5**
U54A Nelsons Funny 62.04 349 P **P** **04 05 07.0 +0.2**
baz=168,SNR=9.1
U54A P **P** **04 05 07.0 +0.2**
baz=168,SNR=9.1
T57A Hurt 62.13 352 P **P** **04 05 07.8 +0.5**
T57A IAmb IAmb 04 05 24.4
comp=Z,20nm,0.9s
T57A Hurt 62.13 352 P **P** **04 05 07.9 +0.6**
baz=171,SNR=5.2
T57A P **P** **04 05 07.9 +0.6**
baz=171,SNR=5.2
WLAR White Oak Lake 62.17 339 P **P** **04 05 08.4 +0.8**
WHTX Lake Whitney, 62.24 334 pP pP 04 05 23.9 +0.8
WHTX Lake Whitney, 62.24 334 P **P** **04 05 09.0 +0.9**
baz=152
BRDY Brady 62.26 332 P **P** **04 05 09.3 +0.9**
BRDY IAmb IAmb 04 05 24.8
comp=Z,72nm,1.7s
LPIG La Paz 62.27 318 LR LR 04 25 47.5
comp=Z,210nm,18.6s,baz=111,slow=30
V48A Smith Brothers 62.30 345 P **P** **04 05 08.8 +0.4**
V48A Smith Brothers 62.30 345 P **P** **04 05 08.4 -0.1**
baz=163,SNR=14
TZTN Tazewell 62.37 348 P **P** **04 05 09.5 +0.5**
baz=166
Z38A Mt. Pleasant 62.43 337 P **P** **04 05 09.8 +0.4**
Z38A IAmb IAmb 04 05 28.6
comp=Z,61nm,1.4s
BLA Blacksburg 62.50 351 P **P** **04 05 10.3 +0.4**
BLA IAmb IAmb 04 05 13.8
comp=Z,31nm,1.2s
BLA Blacksburg 62.50 351 P **P** **04 05 09.9 0.0**
baz=170
BLA Blacksburg 62.50 351 P **P** **04 05 10.3 +0.4**
BLA pmax pmax
comp=Z,31nm,1.2s
SAND Sanderson 62.52 329 P **P** **04 05 10.9 +0.8**
SAND IAmb IAmb 04 05 27.7
comp=Z,53nm,1.5s
CLTN Cedars of Leba 62.52 345 P **P** **04 05 10.5 +0.6**
CLTN IAmb IAmb 04 05 25.7
comp=Z,28nm,0.9s
TXAR Lajitas Array 62.74 327 P **P** **04 05 13.2 +1.5**
comp=Z,1.9nm,0.6s,baz=144,slow=8.1,SNR=20
TXAR pP **pP** **04 05 27.6 +0.9**
comp=Z,2.4nm,0.7s,baz=152,slow=7.9,SNR=8.6
TXAR LR LR 04 28 28.3
comp=Z,208nm,20.6s,baz=132,slow=32
TXAR PKPPKP **P'P'df** **04 34 15.5 +4.7**
comp=Z,0.6nm,1.0s,baz=333,slow=1.4,SNR=4.2
comp=Z,1.9nm,0.6s
TX31 Lajitas Ar. Si 62.74 327 P **P** **04 05 12.4 +0.8**
TX31 Lajitas Ar. Si 62.74 327 P **P** **04 05 13.2 +1.5**
baz=146
U49A Red Boiling Sp 62.80 346 P **P** **04 05 11.8 0.0**
U49A IAmb IAmb 04 05 28.1
comp=Z,17nm,0.8s
U49A Red Boiling Sp 62.80 346 P **P** **04 05 11.5 -0.3**
baz=164,SNR=7.6
X40A Basin Creek Fa 62.81 339 P **P** **04 05 12.6 +0.7**
S57A Dark Hollow, R 62.85 352 P **P** **04 05 12.8 +0.8**
S57A Dark Hollow, R 62.85 352 P **P** **04 05 12.8 +0.8**
baz=171,SNR=7.4
S57A P **P** **04 05 12.8 +0.8**
baz=171,SNR=7.4
OZNA Ozona 62.87 330 P **P** **04 05 13.2 +0.7**
OZNA IAmb IAmb 04 05 35.7
comp=Z,28nm,1.3s
WVT Waverly 62.91 344 P **P** **04 05 12.4 -0.1**
WVT Waverly 62.91 344 P **P** **04 05 13.5 +0.9**
baz=162
WVT Waverly 62.91 344 P **P** **04 05 12.0 -0.6**
baz=162,SNR=21
WVT Waverly 62.91 344 P **P** **04 05 12.4 -0.1**
WVT pmax pmax
comp=Z,46nm,0.8s
WVT Waverly 62.91 344 P **P** **04 05 12.2 -0.3**
WVT pP **pP** **04 05 27.0 -0.6**
WVT sP **sP** **04 05 33.4 -0.3**
R58B Mineral 62.92 353 P **P** **04 05 13.4 +0.8**
R58B IAmb IAmb 04 05 15.5
comp=Z,30nm,1.0s
R58B **pP** **04 05 26.9 -0.7**
R58B Mineral 62.92 353 P **P** **04 05 13.6 +1.1**
baz=172,SNR=8.5
R58B P **P** **04 05 13.6 +1.1**
baz=172,SNR=8.5
UALR University of 62.92 340 IAmb IAmb 04 05 15.1
comp=Z,26nm,1.1s
T50A Nancy 63.09 347 IAmb IAmb 04 06 09.7
comp=Z,72nm,1.9s
PLPT Palo Pinto 63.31 334 IAmb IAmb 04 05 32.2
comp=Z,59nm,1.6s
Z35A Perchaven, San 63.34 335 P **P** **04 05 17.0 +1.5**
baz=153,SNR=5.1
FW03 Perrin-Whitt E 63.40 334 IAmb IAmb 04 05 32.6
comp=Z,15nm,0.9s
T47A Sharon Grove 63.56 345 P **P** **04 05 16.5 -0.3**
baz=163,SNR=18
ALPN Alpine 63.59 328 IAmb IAmb 04 05 36.7
comp=Z,45nm,1.9s
ABTX Abilene, Hawle 63.69 332 P **P** **04 05 18.4 +0.6**
baz=150,SNR=14
ABTX Abilene, Hawle 63.69 332 P **P** **04 05 18.8 +1.0**
baz=150,SNR=14
SGCY Sterling City 63.72 331 IAmb IAmb 04 05 34.9
comp=Z,20nm,1.1s
LCAR Lake Charles 63.76 341 IAmb IAmb 04 05 34.7
comp=Z,26nm,0.8s
LCAR Lake Charles 63.76 341 P **P** **04 05 18.2 0.0**
baz=159,SNR=13
FCAR Ozark Folk Cen 63.88 340 IAmb IAmb 04 05 35.5
comp=Z,58nm,1.3s
LOOK Love County 63.90 335 **P** **04 05 19.7 +0.6**
LOOK IAmb IAmb 04 05 37.0
comp=Z,27nm,0.8s
T45B Paducah 63.96 344 P **P** **04 05 19.8 +0.3**
baz=161,SNR=8.8
NVL N'lazarevskaya 64.14 159 *e*P **P** **04 05 22.1 +1.9**
NVL pmax pmax
comp=Z,55nm,1.1s
Q56A Snyder Ridge, 64.14 352 IAmb IAmb 04 05 23.8
comp=Z,29nm,0.9s
Q56A Snyder Ridge, 64.14 352 P **P** **04 05 21.7 +1.1**
baz=171,SNR=6.5
Q56A P **P** **04 05 21.7 +1.1**
baz=171,SNR=6.5
WTFS Witchita Falls 64.20 334 P **P** **04 05 21.7 +0.6**
WTFS **pP** **04 05 36.9 +0.7**
WTFS IAmb IAmb 04 05 39.4
comp=Z,21nm,0.7s
R50A Paris 64.20 348 P **P** **04 05 21.0 -0.1**
baz=166
R50A P **P** **04 05 21.0 -0.1**
baz=166
PBMO Poplar Bluff 64.21 342 IAmb IAmb 04 05 38.1
comp=Z,37nm,0.8s
PBMO Poplar Bluff 64.21 342 P **P** **04 05 21.2 +0.1**
baz=160,SNR=14
SN01 Snyder 1 64.42 332 IAmb IAmb 04 05 41.2
comp=Z,29nm,0.7s
P57A Homestead Farm 64.44 353 P **P** **04 05 24.0 +1.5**
baz=172,SNR=5.9
P57A P **P** **04 05 24.0 +1.5**
baz=172,SNR=5.9
CGM3 Cape Girardeau 64.49 343 IAmb IAmb 04 05 39.0
comp=Z,94nm,1.7s
APMT Aspermont 64.49 332 IAmb IAmb 04 05 41.7
comp=Z,41nm,0.7s
Q52A Bidwell 64.50 350 IAmb IAmb 04 06 51.3
comp=Z,47nm,1.4s
PECS Pecos 64.52 328 IAmb IAmb 04 05 41.9
comp=Z,97nm,2.0s
ODSA Odessa 64.53 330 IAmb IAmb 04 05 42.4
comp=Z,33nm,0.8s
U40A Yellville 64.54 340 P **P** **04 05 23.7 +0.4**
baz=157,SNR=18
U40A P **P** **04 05 23.7 +0.4**
baz=157,SNR=18
WCI Wyandotte Cave 64.56 346 P **P** **04 05 22.9 -0.4**
WCI IAmb IAmb 04 05 39.7
comp=Z,32nm,0.7s
WCI Wyandotte Cave 64.56 346 P **P** **04 05 23.4 +0.1**
baz=164
WCI Wyandotte Cave 64.56 346 P **P** **04 05 23.0 -0.4**
baz=164,SNR=8.3
WCI Wyandotte Cave 64.56 346 P **P** **04 05 22.9 -0.4**
WCI pmax pmax
comp=Z,31nm,0.7s
WCI Wyandotte Cave 64.56 346 P **P** **04 05 22.8 -0.6**
WCI pP **pP** **04 05 37.9 -0.5**
WCI sP **sP** **04 05 43.8 -0.7**
425A Indio Mountain 64.58 327 IAmb IAmb 04 05 48.2
comp=Z,23nm,0.9s
USIN University of 64.62 345 IAmb IAmb 04 05 39.7
comp=Z,45nm,0.9s
T42A Van Buren 64.64 342 P **P** **04 05 24.0 +0.1**
baz=159
Q51A Peebles 64.75 349 IAmb IAmb 04 05 40.2
comp=Z,27nm,1.1s
S44A Carbondale 64.76 343 P **P** **04 05 24.7 0.0**
baz=161,SNR=14
HHAR Hobbs 64.82 339 IAmb IAmb 04 05 42.1
comp=Z,25nm,0.7s
W35A Tecumseh 64.82 336 IAmb IAmb 04 05 40.7
comp=Z,70nm,1.6s
MCWV Mont Chateau 64.83 352 P **P** **04 05 26.0 +1.0**
baz=170
MCWV Mont Chateau 64.83 352 P **P** **04 05 25.7 +0.6**
baz=170
POST Post 64.86 331 IAmb IAmb 04 05 44.8
comp=Z,127nm,1.9s
P53A Whipple 64.88 350 IAmb IAmb 04 05 41.6
comp=Z,34nm,1.1s
P53A Whipple 64.88 350 P **P** **04 05 25.6 +0.2**
baz=169
P53A P **P** **04 05 25.6 +0.2**
baz=169
RLO Rose Lookout 65.07 338 IAmb IAmb 04 05 43.9
comp=Z,19nm,0.7s
MGMO Mountain Grove 65.10 341 IAmb IAmb 04 05 43.9
comp=Z,32nm,0.8s
TUL3 Leonard 65.11 337 P **P** **04 05 27.7 +0.7**
baz=154,SNR=11
TUL3 Leonard 65.11 337 P **P** **04 05 27.4 +0.4**
baz=154,SNR=11
U38A Gravette 65.11 339 IAmb IAmb 04 05 44.3
comp=Z,20nm,0.8s
U38A Gravette 65.11 339 P **P** **04 05 27.2 +0.2**
baz=156,SNR=11
DKNS Dickens 65.13 332 IAmb IAmb 04 05 46.7
comp=Z,19nm,0.6s
P52A Corning 65.13 350 IAmb IAmb 04 05 43.2
comp=Z,49nm,1.2s
P52A Corning 65.13 350 P **P** **04 05 27.2 +0.1**
baz=168
P51A Williamsport 65.14 349 IAmb IAmb 04 05 28.6
comp=Z,22nm,0.6s
P51A Williamsport 65.14 349 P **P** **04 05 27.1 0.0**
baz=167,SNR=6.4
P51A P **P** **04 05 27.1 0.0**
baz=167,SNR=6.4
WMOK Wichita Mounta 65.18 334 P **P** **04 05 27.6 +0.1**
WMOK Wichita Mounta 65.18 334 P **P** **04 05 27.6 +0.1**
WMOK pmax pmax
comp=Z,6.0nm,0.8s
PABK Blue Knob Stat 65.28 353 P **P** **04 05 28.8 +0.8**
baz=172
DEOK Depew 65.30 337 **P** **04 05 28.0 -0.2**
DEOK **pP** **04 05 42.5 -0.8**
QSPA South Pole Qui 65.32 180 P **P** **04 05 29.1 +0.8**
QSPA South Pole Qui 65.32 180 P **P** **04 05 29.3 +1.1**
comp=Z,50nm,0.9s,baz=162,slow=1.0,SNR=98
QSPA pP **pP** **04 05 44.1 +1.0**
comp=Z,14nm,0.6s,baz=231,slow=3.3,SNR=6.4
comp=Z,50nm,0.9s
QSPA South Pole Qui 65.32 180 P **P** **04 05 29.3 +1.1**
QSPA pP **pP** **04 05 44.3 +1.2**
QSPA sP **sP** **04 05 50.6 +1.5**
FVM French Village 65.34 343 P **P** **04 05 28.6 +0.2**
baz=160,SNR=22
BRNJ Basking Ridge 65.35 356 P **P** **04 05 29.5 +1.1**
baz=176
OLIL Olney 65.45 345 P **P** **04 05 28.6 -0.6**
baz=162
P49A Miami Univ. Ec 65.49 348 IAmb IAmb 04 05 45.2
comp=Z,28nm,1.0s
P49A Miami Univ. Ec 65.49 348 P **P** **04 05 29.6 +0.2**
baz=166,SNR=6.5
P49A Miami Univ. Ec 65.49 348 P **P** **04 05 28.5 -0.9**
baz=166,SNR=6.5
BLO Bloomington 65.51 346 IAmb IAmb 04 05 45.5
comp=Z,18nm,0.7s
MNTX Cornudas Mount 65.52 327 P **P** **04 05 29.8 0.0**
baz=145,SNR=11
MNTX Cornudas Mount 65.52 327 P **P** **04 05 30.5 +0.8**
baz=145,SNR=11
OK052 Battle Ridge R 65.54 337 IAmb IAmb 04 05 46.7
comp=Z,31nm,0.7s
O52A Adamsville 65.56 350 IAmb IAmb 04 05 30.9
comp=Z,20nm,0.7s
O52A Adamsville 65.56 350 P **P** **04 05 29.7 -0.1**
baz=168,SNR=5.3
O52A P **P** **04 05 29.7 -0.1**
baz=168,SNR=5.3
P48A Milroy 65.56 347 IAmb IAmb 04 05 32.0
comp=Z,29nm,1.2s
P48A Milroy 65.56 347 P **P** **04 05 29.0 -0.9**
baz=165
P48A P **P** **04 05 29.0 -0.9**
baz=165
O53A New Philadelph 65.60 351 P **P** **04 05 30.6 +0.5**
baz=169
CCM Cathedral Cave 65.64 342 P **P** **04 05 30.7 +0.4**
CCM IAmb IAmb 04 05 47.5
comp=Z,36nm,0.8s
CCM Cathedral Cave 65.64 342 P **P** **04 05 30.4 0.0**
baz=159
CCM Cathedral Cave 65.64 342 P **P** **04 05 30.3 0.0**
baz=159,SNR=20
CCM Cathedral Cave 65.64 342 P **P** **04 05 30.7 +0.4**
CCM pmax pmax
comp=Z,36nm,0.8s
CCM Cathedral Cave 65.64 342 P **P** **04 05 30.4 0.0**
CCM pP **pP** **04 05 45.5 +0.1**
CCM sP **sP** **04 05 51.4 -0.2**
OK033 Mehan 65.64 336 IAmb IAmb 04 05 47.4
comp=Z,27nm,0.7s
N58A Sunbury 65.66 355 IAmb IAmb 04 06 27.0
comp=Z,89nm,1.9s
UPAO U. Pittsburgh 65.66 352 P **P** **04 05 31.3 +0.8**
baz=170
QUOK Quay 65.67 337 IAmb IAmb 04 05 49.2
comp=Z,65nm,1.3s
Q44A Meyer Farm, Va 65.84 344 IAmb IAmb 04 05 47.5
comp=Z,54nm,1.2s
Q44A Meyer Farm, Va 65.84 344 P **P** **04 05 30.9 -0.7**
baz=161
ACSO Alum Creek Sta 65.86 349 IAmb IAmb 04 05 32.5
comp=Z,40nm,0.8s
ACSO Alum Creek Sta 65.86 349 P **P** **04 05 31.7 0.0**
baz=167,SNR=8.3
ACSO Alum Creek Sta 65.86 349 P **P** **04 05 31.5 -0.2**
baz=167,SNR=8.3
S39A Bolivar 65.91 340 P **P** **04 05 32.9 +0.7**
baz=157,SNR=39
OK048 Pawnee Station 65.97 337 IAmb IAmb 04 05 49.8
comp=Z,40nm,0.8s
O49A Covington 66.05 348 IAmb IAmb 04 05 49.5
comp=Z,27nm,0.9s
O49A Covington 66.05 348 P **P** **04 05 32.6 -0.4**
baz=166
O49A P **P** **04 05 32.6 -0.4**
baz=166
SMWD Samnorwood 66.08 333 IAmb IAmb 04 05 50.0
comp=Z,42nm,0.8s
P46A Rosedale 66.09 346 IAmb IAmb 04 05 48.4
comp=Z,28nm,0.9s
P46A Rosedale 66.09 346 P **P** **04 05 32.6 -0.6**
baz=163
PSDB Penn State Uni 66.15 353 P **P** **04 05 34.8 +1.2**
baz=172
R40A Maddies Statio 66.15 341 P **P** **04 05 34.1 +0.5**
baz=158,SNR=31
MSTX Muleshoe 66.19 331 IAmb IAmb 04 05 51.0
comp=Z,42nm,1.1s
MSTX Muleshoe 66.19 331 P **P** **04 05 33.9 -0.3**
baz=148,SNR=9.1
MSTX Muleshoe 66.19 331 P **P** **04 05 35.1 +1.0**
baz=148,SNR=9.1
T35A Sooner Cattle 66.26 337 IAmb IAmb 04 05 51.7
comp=Z,29nm,1.1s
O48B Farmland 66.28 348 P **P** **04 05 34.5 +0.1**
baz=165
BLOK Blackwell 66.38 337 IAmb IAmb 04 05 52.5
comp=Z,33nm,0.8s
CROK Carrier 66.43 336 IAmb IAmb 04 05 52.6
comp=Z,31nm,0.9s
BRYW Bryant College 66.47 359 IAmb IAmb 04 05 38.1
comp=Z,40nm,0.8s
M55A Ridgway 66.48 353 P **P** **04 05 36.4 +0.6**
baz=172,SNR=10
M55A P **P** **04 05 36.4 +0.6**
baz=172,SNR=10
AMTX Amarillo 66.49 332 P **P** **04 05 36.2 +0.1**
baz=149
ELIS Ellis County 66.59 335 IAmb IAmb 04 05 54.7
comp=Z,25nm,0.9s
PAOC Oil Creek Stat 66.64 352 P **P** **04 05 37.2 +0.5**
baz=171
P43A Skaggs, Pawnee 66.66 344 IAmb IAmb 04 05 52.5
comp=Z,45nm,0.9s
P43A Skaggs, Pawnee 66.66 344 P **P** **04 05 36.6 -0.3**
baz=161,SNR=5.5
M53A WI Miller and 66.69 351 P **P** **04 05 37.2 +0.1**
baz=170
KAN13 South Haven SW 66.69 337 IAmb IAmb 04 05 54.5
comp=Z,31nm,1.0s
U32A Winter Ranch, 66.70 335 IAmb IAmb 04 05 56.4
comp=Z,33nm,0.8s
N49A Columbus Grove 66.74 349 IAmb IAmb 04 05 53.0
comp=Z,56nm,1.1s
N49A Columbus Grove 66.74 349 P **P** **04 05 37.1 -0.3**
baz=166,SNR=13
N49A P **P** **04 05 37.1 -0.3**
baz=166,SNR=13
SFIN Lafayette 66.80 346 IAmb IAmb 04 07 43.9
comp=Z,66nm,1.6s
SFIN Lafayette 66.80 346 P **P** **04 05 37.8 +0.1**
baz=163
ALLY Alegheny Colle 66.83 352 P **P** **04 05 38.5 +0.6**
baz=170
KAN09 Caldwell North 66.86 336 IAmb IAmb 04 05 56.0
comp=Z,32nm,1.0s
L59A Walton 66.88 356 IAmb IAmb 04 05 40.5
comp=Z,36nm,0.8s
L59A Walton 66.88 356 P **P** **04 05 39.4 +1.1**
baz=175,SNR=8.6
L59A P **P** **04 05 39.4 +1.1**
baz=175,SNR=8.6
KAN01 Argonia South 66.92 336 IAmb IAmb 04 06 05.8
comp=Z,22nm,0.9s
BINY Binghamton 66.95 355 IAmb IAmb 04 06 52.1
comp=Z,81nm,1.6s
BINY Binghamton 66.95 355 P **P** **04 05 39.3 +0.5**
baz=174
BINY Binghamton 66.95 355 P **P** **04 05 39.6 +0.9**
baz=174
L56A Greenwood 67.02 354 IAmb IAmb 04 05 55.3
comp=Z,25nm,0.9s
L56A Greenwood 67.02 354 P **P** **04 05 40.1 +0.9**
baz=173
L56A P **P** **04 05 40.1 +0.9**
baz=173
L61B Northampton 67.03 358 IAmb IAmb 04 06 16.7
comp=Z,44nm,1.2s
L61B Northampton 67.03 358 P **P** **04 05 40.1 +1.0**
baz=178
L61B Northampton 67.03 358 P **P** **04 05 40.2 +1.0**
baz=178
HRV Adam Dziewonsk 67.06 359 P **P** **04 05 40.3 +1.0**
HRV IAmb IAmb 04 05 41.4
comp=Z,32nm,0.8s
HRV Adam Dziewonsk 67.06 359 P **P** **04 05 39.9 +0.6**
baz=179
HRV Adam Dziewonsk 67.06 359 P **P** **04 05 40.3 +1.0**
HRV pmax pmax
comp=Z,33nm,0.8s
HRV Adam Dziewonsk 67.06 359 P **P** **04 05 40.5 +1.1**
HRV pP **pP** **04 05 55.7 +1.2**
HRV sP **sP** **04 06 01.7 +1.1**

KAN08 **Anthony NE Sta** 67.06 336 IAmb IAmb 04 05 57.5
comp=Z,23nm,0.7s
P40A **Paris** 67.24 342 P **P** **04 05 40.9 +0.3**
baz=159,SNR=17
319A **Douglas** 67.25 324 IAmb IAmb 04 06 00.8
comp=Z,21nm,0.7s
ERPA **Erie** 67.27 352 P **P** **04 05 41.7 +1.1**
baz=170
TRY **Troy** 67.35 357 IAmb IAmb 04 05 43.6
comp=Z,33nm,0.9s
TRY **Troy** 67.35 357 P **P** **04 05 42.7 +1.5**
baz=177,SNR=6.7
WVNY **West Valley, N** 67.39 353 P **P** **04 05 42.1 +0.6**
baz=172,SNR=7.3
HDIL **Hopedale** 67.47 344 IAmb IAmb 04 06 03.4
comp=Z,31nm,0.8s
HDIL **Hopedale** 67.47 344 P **P** **04 05 43.1 +1.1**
baz=161
HDIL **Hopedale** 67.47 344 P **P** **04 05 41.6 -0.4**
baz=161
ELIB **Princess Elisa** 67.68 160 *d*P **P** **04 05 43.2 0.0**
comp=Z,20nm,1.1s
P38A **Dawn** 67.76 341 IAmb IAmb 04 06 00.7
comp=Z,38nm,0.8s
P38A **Dawn** 67.76 341 P **P** **04 05 44.4 +0.5**
baz=157,SNR=13
L48A **N Adams** 67.77 349 IAmb IAmb 04 06 00.4
comp=Z,27nm,0.7s
L48A **N Adams** 67.77 349 P **P** **04 05 43.4 -0.5**
baz=166,SNR=6.4
L48A P **P** **04 05 43.4 -0.5**
baz=166,SNR=6.4
J61A **Chester** 67.92 358 IAmb IAmb 04 05 47.3
comp=Z,26nm,0.8s
J61A **Chester** 67.92 358 P **P** **04 05 46.6 +1.8**
baz=178
J61A P **P** **04 05 46.6 +1.8**
baz=178
AAM **Ann Arbor** 67.98 349 P **P** **04 05 45.8 +0.6**
baz=167
J59A **Piesco** 68.12 357 IAmb IAmb 04 06 04.9
comp=Z,42nm,1.1s
TAOE **Nuku Hiva Isla** 68.13 270 *e*P P 04 05 37.6 -9.3
comp=Z,55nm,26.1s
TAOE *e*S **S** **04 14 37.2 -6.3**
comp=Z,243nm,26.8s
TAOE **Nuku Hiva Isla** 68.13 270 *e*LR LR 04 26 20.0
comp=Z,993nm,28.7s
KSU1 **Kansas State U** 68.26 338 P **P** **04 05 48.2 +1.2**
baz=154
RTBA **Rita Blanca** 68.26 332 IAmb IAmb 04 06 12.0
comp=Z,11nm,0.8s
HNH **Hanover** 68.28 358 IAmb IAmb 04 05 49.6
comp=Z,25nm,0.9s
R32A **Long Quarter,** 68.39 336 P **P** **04 05 48.9 +1.0**
baz=152,SNR=9.5
NCB **Newcomb** 68.61 357 IAmb IAmb 04 07 01.6
comp=Z,89nm,1.9s
ANMO **Albuquerque** 68.69 329 P **P** **04 05 50.7 +0.7**
baz=145
ANMO **Albuquerque** 68.69 329 *ce*P **P** **04 05 50.1 +0.1**
ANMO pmax pmax
comp=Z,26nm,2.5s
ANMO **Albuquerque** 68.69 329 P **P** **04 05 52.1 +2.1**
comp=Z,4.2nm,0.5s,baz=259,slow=4.8,SNR=7.1
ANMO LR LR 04 32 35.6
comp=Z,232nm,21.8s,baz=230,slow=33
comp=Z,4.2nm,0.5s
ANMO **Albuquerque** 68.69 329 P **P** **04 05 52.4 +2.4**
ANMO pP **pP** **04 06 07.5 +2.3**
L44A **Lake County Fo** 68.69 346 P **P** **04 05 50.6 +1.0**
baz=163
N38A **Joes South For** 68.75 341 IAmb IAmb 04 06 08.0
comp=Z,38nm,0.7s
N38A **Joes South For** 68.75 341 P **P** **04 05 50.1 +0.1**
baz=158,SNR=5.6
TUC **Tucson** 68.78 324 P **P** **04 05 51.4 +0.9**
baz=141
TUC **Tucson** 68.78 324 P **P** **04 05 51.1 +0.6**
TUC pP **pP** **04 06 06.4 +0.7**
LBNH **Lisbon** 68.80 359 P **P** **04 05 51.5 +1.3**
baz=178
J47A **Sunmer** 69.10 349 IAmb IAmb 04 05 53.7
comp=Z,53nm,1.1s
J47A **Sunmer** 69.10 349 P **P** **04 05 51.8 -0.3**
baz=166,SNR=5.3
J47A P **P** **04 05 51.8 -0.3**
baz=166,SNR=5.3
CBKS **Cedar Bluff** 69.12 336 P **P** **04 05 54.0 +1.6**
baz=152,SNR=6.1
CBKS **Cedar Bluff** 69.12 336 P **P** **04 05 53.8 +1.4**
baz=151,SNR=6.1
LONY **Lake Ozonia** 69.28 357 IAmb IAmb 04 05 55.9
comp=Z,38nm,1.2s
LONY **Lake Ozonia** 69.28 357 P **P** **04 05 54.4 +1.1**
baz=176
K43A **Burlington** 69.29 346 IAmb IAmb 04 06 09.8
comp=Z,85nm,1.2s
K43A **Burlington** 69.29 346 P **P** **04 05 53.4 +0.1**
baz=162
L40A **Anamosa** 69.38 343 IAmb IAmb 04 06 09.9
comp=Z,49nm,0.9s
L40A **Anamosa** 69.38 343 P **P** **04 05 53.9 +0.1**
baz=160,SNR=11
FRNY **Flat Rock** 69.45 357 IAmb IAmb 04 05 56.3
comp=Z,26nm,0.8s
FRNY **Flat Rock** 69.45 357 P **P** **04 05 55.1 +0.9**
baz=177,SNR=5.6
BMNY **Brushton-Moira** 69.49 357 P **P** **04 05 55.3 +0.8**
baz=176,SNR=8.0
N35A **Tabor** 69.53 340 IAmb IAmb 04 06 12.2
comp=Z,47nm,0.7s
N35A **Tabor** 69.53 340 P **P** **04 05 55.4 +0.5**
baz=156,SNR=5.9
T25A **Trinidad** 69.57 331 IAmb IAmb 04 06 13.8
comp=Z,75nm,1.6s
T25A **Trinidad** 69.57 331 P **P** **04 05 57.2 +1.7**
baz=147
214A **Organ Pipe Nat** 69.62 322 P **P** **04 05 57.2 +1.5**
baz=139
PIX **Pinacate** 69.69 321 IAmb IAmb 04 06 16.6
comp=Z,61nm,1.9s
WBO **Williamsburg** 69.70 356 IAmb IAmb 04 05 57.5
comp=Z,40nm,0.8s
G62A **West of Eustis** 69.76 360 IAmb IAmb 04 06 13.7
comp=Z,31nm,0.8s
SCIA **State Center** 69.77 342 P **P** **04 05 57.2 +0.9**
baz=158
SADO **Sadowa** 69.79 353 IAmb IAmb 04 05 57.1
comp=Z,29nm,0.7s
SADO **Sadowa** 69.79 353 LR LR 04 37 01.5
comp=Z,238nm,21.8s,baz=190,slow=36
JFWS **Jewell Farm** 69.93 344 IAmb IAmb 04 06 14.6
comp=Z,26nm,0.7s
JFWS **Jewell Farm** 69.93 344 P **P** **04 05 57.9 +0.6**
baz=161,SNR=7.8
JFWS **Jewell Farm** 69.93 344 P **P** **04 05 57.7 +0.4**
baz=161,SNR=7.8
MNTQ **Montreal, Queb** 70.11 357 IAmb IAmb 04 06 01.1
comp=Z,62nm,1.2s
K38A **Parkersburg** 70.33 343 P **P** **04 05 60.0 +0.2**
baz=158
KSCO **Kaye Shedlock'** 70.41 334 IAmb IAmb 04 06 20.5
comp=Z,32nm,0.8s
KSCO **Kaye Shedlock'** 70.41 334 P **P** **04 06 01.9 +1.4**
baz=149
KSCO **Kaye Shedlock'** 70.41 334 P **P** **04 06 02.6 +2.2**
baz=149
F64A **Sherman** 70.43 1 P **P** **04 06 01.2 +1.0**
baz=182
F64A P **P** **04 06 01.2 +1.0**
baz=182
LIC **Lamto** 70.53 73⇑ *i*P **P** **04 06 01.0 -0.6**
comp=Z,136nm,0.8s
I42A **Draeger Farm,** 70.55 346 IAmb IAmb 04 06 18.3
comp=Z,104nm,1.7s
SDCO **Great Sand Dun** 70.56 331 IAmb IAmb 04 06 19.9
comp=Z,69nm,1.6s
SDCO **Great Sand Dun** 70.56 331 P **P** **04 06 03.2 +1.6**
baz=146,SNR=12
SDCO **Great Sand Dun** 70.56 331 P **P** **04 06 03.6 +2.0**
baz=146,SNR=12
GLMI **Grayling** 70.60 349 P **P** **04 06 02.3 +1.0**
baz=166
TIC **Toumodi** 70.74 73⇑ *e*P **P** **04 06 02.3 -0.6**
comp=Z,127nm,1.0s
L34A **Svendsen Farm,** 70.77 340 P **P** **04 06 03.0 +0.6**
baz=155,SNR=5.5

KIC **Kosan Boka** 70.85 73⇑ *i*P **P** **04 06 03.1 -0.4**
comp=Z,176nm,0.7s
BGNE **Belgrade** 70.85 338 P **P** **04 06 05.4 +2.4**
baz=153
BGNE **Belgrade** 70.85 338 P **P** **04 06 04.3 +1.4**
baz=153
DBIC **Dimbokro** 70.89 73 P **P** **04 06 03.5 -0.3**
DBIC **Dimbokro** 70.89 73 P **P** **04 06 03.5 -0.3**
DBIC pmax pmax
comp=Z,111nm,0.8s
DBIC **Dimbokro** 70.89 73 P **P** **04 06 03.2 -0.6**
comp=Z,114nm,0.8s,baz=224,slow=6.0,SNR=116
DBIC LR LR 04 34 42.1
comp=Z,944nm,21.8s,baz=214,slow=34
comp=Z,114nm,0.8s
DBIC **Dimbokro** 70.89 73 P **P** **04 06 03.4 -0.4**
DBIC pP **pP** **04 06 19.5 +0.4**
DBIC sP **sP** **04 06 24.9 -0.2**
TBI **Tubuai** 71.26 252 *e*S **S** **04 15 17.1 -2.8**
comp=Z,2µm,33.5s
TBI **Tubuai** 71.26 252 *e*LR LR 04 27 53.5
comp=Z,4µm,29.2s
TBI *e*LR LR 04 27 55.9
comp=Z,1µm,26.8s
TBI **Tubuai** 71.26 252 *e*T T 05 23 38.1
comp=Z,3.4nm,0.2s
Q24A **Divide** 71.42 332 P **P** **04 06 07.9 +1.1**
Q24A **Divide** 71.42 332 P **P** **04 06 08.2 +1.3**
baz=147,SNR=11
D62A **Allapoint, All** 71.64 1 P **P** **04 06 08.6 +1.0**
I37B **Waseca** 71.77 343 P **P** **04 06 09.0 +0.5**
baz=158,SNR=8.8
IKP **In-Ko-Pah, Jac** 72.00 320 P **P** **04 06 12.9 +2.7**
baz=137
E46A **Sault Ste Mari** 72.05 350 IAmb IAmb 04 06 11.9
comp=Z,88nm,1.4s
E46A **Sault Ste Mari** 72.05 350 P **P** **04 06 09.9 -0.1**
baz=167,SNR=7.0
ISCO **Idaho Springs** 72.31 332 P **P** **04 06 14.5 +2.4**
baz=147,SNR=5.0
MONP2 **Monument Peak** 72.36 320 P **P** **04 06 14.5 +2.0**
baz=137
BC3 **Big Chuckawall** 72.36 322 P **P** **04 06 14.8 +2.4**
baz=138
ECSD **EROS Data Cent** 72.44 340 IAmb IAmb 04 06 29.3
comp=Z,39nm,1.2s
ECSD **EROS Data Cent** 72.44 340 P **P** **04 06 13.2 +0.7**
baz=155,SNR=14
ECSD **EROS Data Cent** 72.44 340 P **P** **04 06 12.7 +0.2**
baz=155,SNR=14
K30B **Basset** 72.47 338 P **P** **04 06 14.3 +1.6**
baz=152,SNR=9.1
LDAQ **Lac Daran** 72.52 359 IAmb IAmb 04 07 17.9
comp=Z,128nm,2.0s
E43A **Lone Tree Farm** 72.53 348 IAmb IAmb 04 06 30.8
comp=Z,28nm,0.9s
IRM **Iron Mountain** 72.56 322 P **P** **04 06 15.0 +1.6**
baz=138
COWI **Conover** 72.70 346 IAmb IAmb 04 06 45.8
comp=Z,94nm,2.0s
SPMN **Marine on St.** 72.74 344 IAmb IAmb 04 06 30.3
comp=Z,55nm,1.4s
SPMN **Marine on St.** 72.74 344 P **P** **04 06 14.4 +0.2**
baz=159,SNR=9.3
SPMN **Marine on St.** 72.74 344 P **P** **04 06 14.2 0.0**
baz=159,SNR=9.3
PFO **Pinyon Flats O** 72.90 321 P **P** **04 06 17.4 +1.8**
baz=137
BELC **Belle Mtn. Jos** 72.92 322 P **P** **04 06 18.2 +2.5**
baz=137
VLDQ **Val d'Or** 72.95 355 IAmb IAmb 04 06 17.9
comp=Z,49nm,1.2s
GMRC **Granite Mounta** 73.31 322 P **P** **04 06 20.4 +2.4**
baz=138
VNDA **Vanda** 73.32 190 P **P** **04 06 18.9 +1.6**
VNDA **Vanda** 73.32 190 P **P** **04 06 18.9 +1.6**
VNDA pmax pmax
comp=Z,10.0nm,1.2s
VNDA **Vanda** 73.32 190 P **P** **04 06 18.6 +1.3**
comp=Z,4.4nm,0.8s,baz=133,slow=7.0,SNR=16
VNDA LR LR 04 36 37.9
comp=Z,127nm,20.4s,baz=144,slow=34
comp=Z,4.4nm,0.8s
MURC **Murrieta** 73.32 320 P **P** **04 06 19.4 +1.5**
baz=136
N23A **Red Feather La** 73.36 333 P **P** **04 06 21.0 +2.6**
baz=146
PPT2 **Papeete2** 73.37 258 *e*P **P** **04 06 16.5 -2.2**
comp=Z,64nm,29.5s
PPT2 *e*S **S** **04 15 41.5 -2.8**
comp=Z,538nm,29.5s
PPT2 **Papeete2** 73.37 258 *e*LR LR 04 28 59.4
comp=Z,3µm,29.8s
PPT2 *e*LR LR 04 29 06.7
comp=Z,2µm,31.8s
D41A **Chassel** 73.49 347 P **P** **04 06 19.4 +0.8**
baz=163,SNR=6.9
F36A **Milaca** 73.52 343 P **P** **04 06 18.4 -0.4**
baz=158,SNR=8.1
BBRC **Big Bear Solar** 73.64 321 P **P** **04 06 23.2 +3.1**
baz=137
HEC **Hector,Ludlow** 73.72 322 P **P** **04 06 23.0 +2.7**
baz=137
E38A **The Farm, Brul** 73.72 345 IAmb IAmb 04 06 36.2
comp=Z,77nm,1.6s
O20A **White River Ci** 73.73 331 P **P** **04 06 22.8 +2.3**
baz=144
SUSD **Miller** 73.82 339 IAmb IAmb 04 06 22.2
comp=Z,37nm,0.8s
SUSD **Miller** 73.82 339 P **P** **04 06 21.9 +1.3**
baz=153
CIS **Catalina Islan** 73.89 320 P **P** **04 06 23.3 +2.1**
baz=135
TUQ **Turquoise Moun** 73.93 323 P **P** **04 06 23.0 +1.4**
baz=138
BFSC **Mount Baldy Ra** 74.04 321 P **P** **04 06 24.8 +2.5**
baz=136
F33A **5 Mile Ranch,** 74.26 341 IAmb IAmb 04 06 45.8
comp=Z,58nm,1.6s
F33A **5 Mile Ranch,** 74.26 341 P **P** **04 06 23.7 +0.6**
baz=156
GSC **Goldstone, Bar** 74.33 322 P **P** **04 06 27.0 +3.1**
baz=137
EDW2 **Edwards Air Fo** 74.70 321 P **P** **04 06 28.7 +2.7**
baz=136
OSI **Osito Audit: C** 74.93 320 P **P** **04 06 29.4 +2.1**
baz=135
LRMC **Laurel Mtn Rad** 74.95 322 P **P** **04 06 29.8 +2.2**
baz=136
EYMN **Ely** 74.97 345 P **P** **04 06 29.3 +2.1**
baz=160
SCZ2 **Santa Cruz Isl** 75.03 319 P **P** **04 06 29.3 +1.4**
baz=135
K22A **Casper** 75.06 333 IAmb IAmb 04 06 47.4
comp=Z,96nm,1.9s
K22A **Casper** 75.06 333 P **P** **04 06 30.1 +2.0**
baz=146,SNR=5.5
K22A **Casper** 75.06 333 P **P** **04 06 29.9 +1.8**
baz=146,SNR=5.5
FURC **Furnace Creek,** 75.21 323 P **P** **04 06 31.4 +2.6**
baz=137
TPNV **Topopah Spring** 75.22 323 P **P** **04 06 31.3 +2.2**
baz=138
MPMC **Manual Prospec** 75.26 322 P **P** **04 06 31.1 +1.7**
baz=136
RSSD **Black Hills** 75.32 336 P **P** **04 06 30.4 +0.8**
RSSD **Black Hills** 75.32 336 P **P** **04 06 30.8 +1.3**
baz=149
RSSD **Black Hills** 75.32 336 P **P** **04 06 31.3 +1.7**
baz=149
RSSD **Black Hills** 75.32 336 P **P** **04 06 30.4 +0.8**
RSSD pmax pmax
comp=Z,12nm,0.8s
ISA **Isabella, Lake** 75.53 321 P **P** **04 06 33.4 +2.6**
baz=136,SNR=5.7
PKM **Mcpherson Peak** 75.76 320 P **P** **04 06 34.9 +2.7**
baz=135
CWC **Cottonwood Cre** 75.86 322 P **P** **04 06 35.4 +2.6**
baz=136
B35A **Bob, Littlefor** 75.89 344 P **P** **04 06 32.7 +0.2**
baz=158,SNR=5.1
R11B **Troy Canyon, C** 75.91 325 P **P** **04 06 35.5 +2.5**
baz=138
DUG **Dugway, Tooele** 75.91 328 P **P** **04 06 35.7 +2.8**
baz=141
VES **Vestal, Richgr** 76.00 321 P **P** **04 06 35.7 +2.4**
baz=135
SMMC **Simmler** 76.16 320 P **P** **04 06 37.2 +2.9**
baz=135

E28A **Huff** 76.28 339 P **P** **04 06 36.1 +1.3**
baz=152,SNR=5.5
HWUT **Hardware Ranch** 76.42 329 IAmb IAmb 04 06 56.9
comp=Z,22nm,0.7s
BW06 **Boulder Array** 76.44 331 P **P** **04 06 37.1 +1.1**
baz=144
PDAR **Pinedale Array** 76.44 331 P **P** **04 06 37.1 +1.1**
comp=Z,2.8nm,0.5s,baz=133,slow=7.8,SNR=25
PDAR pP **pP** **04 06 52.2 +0.8**
comp=Z,1.6nm,0.5s,baz=143,slow=5.2,SNR=4.6
PDAR LR LR 04 41 28.6
comp=Z,102nm,18.2s,baz=148,slow=36
comp=Z,2.8nm,0.5s
MDND **Maddock** 77.06 340 P **P** **04 06 40.7 +1.6**
baz=153,SNR=8.5
MDND **Maddock** 77.06 340 P **P** **04 06 40.5 +1.4**
baz=153,SNR=8.5
AHID **Auburn Hatcher** 77.12 330 IAmb IAmb 04 06 59.0
comp=Z,51nm,1.4s
NVAR **Mina Array Bea** 77.42 323 P **P** **04 06 43.3 +1.7**
comp=Z,2.6nm,0.8s,baz=151,slow=6.0,SNR=3.7
NVAR pP **pP** **04 06 57.6 +0.6**
comp=Z,2.8nm,0.6s,baz=152,slow=6.9,SNR=6.3
NVAR LR LR 04 36 44.9
comp=Z,140nm,20.0s,baz=126,slow=32
comp=Z,2.6nm,0.8s
ELK **Elko** 77.53 327 P **P** **04 06 43.9 +1.8**
comp=Z,4.1nm,0.8s,baz=198,slow=2.6,SNR=4.5
ELK LR LR 04 37 46.6
comp=Z,293nm,20.9s,baz=132,slow=33
comp=Z,4.1nm,0.8s
TPAW **Teton Pass** 77.63 331 IAmb IAmb 04 07 02.1
comp=Z,43nm,1.5s
SUR **Sutherland** 77.95 120 P **P** **04 06 45.5 +0.6**
SUR **Sutherland** 77.95 120 LR LR 04 36 33.4
comp=Z,333nm,21.3s,baz=241,slow=32
FLWY **Flagg Ranch** 77.99 331 IAmb IAmb 04 07 03.9
comp=Z,23nm,0.7s
ULM **Lac du Bonnet** 78.18 344 P **P** **04 06 45.5 +0.3**
comp=Z,8.2nm,0.4s,baz=159,slow=5.9,SNR=25
ULM pP **pP** **04 07 01.3 +0.6**
comp=Z,13nm,0.6s,baz=156,slow=5.8,SNR=8.8
comp=Z,8.2nm,0.4s
H17A **Grant Village** 78.19 332 P **P** **04 06 48.3 +2.5**
baz=143
RLMT **Red Lodge** 78.22 333 P **P** **04 06 48.0 +2.0**
baz=144,SNR=14
LAO **LASA Array** 78.32 336 P **P** **04 06 48.7 +2.5**
baz=147
YMR **Madison River** 78.58 332 IAmb IAmb 04 07 07.5
comp=Z,32nm,0.8s
PNTR **Pine Nut** 78.60 323 IAmb IAmb 04 07 08.0
comp=Z,27nm,0.7s
YHL **Hebgen Lake** 78.81 332 IAmb IAmb 04 07 08.8
comp=Z,72nm,1.7s
DGMT **Dagmar** 79.10 338 IAmb IAmb 04 06 55.4
comp=Z,30nm,0.8s
DGMT **Dagmar** 79.10 338 P **P** **04 06 52.4 +1.9**
baz=149,SNR=10.0
DGMT **Dagmar** 79.10 338 P **P** **04 06 52.2 +1.8**
baz=149,SNR=10.0
HLID **Hailey** 79.26 329 P **P** **04 06 54.2 +2.6**
baz=140,SNR=13
SCHQ **Schefferville** 79.44 2 P **P** **04 06 52.2 +0.1**
comp=Z,11nm,0.7s,baz=203,slow=5.0,SNR=11
SCHQ pP **pP** **04 07 07.8 +0.2**
comp=Z,6.6nm,0.7s,baz=219,slow=13,SNR=2.8
SCHQ LR LR 04 42 27.3
comp=Z,213nm,21.8s,baz=262,slow=36
comp=Z,11nm,0.7s
BOZ **Bozeman (W)** 79.60 332 P **P** **04 06 55.4 +2.0**
baz=142
TORD **Torodi Ar. Bea** 79.66 70 P **P** **04 06 53.6 -0.6**
comp=Z,62nm,0.7s,baz=264,slow=4.8,SNR=428
TORD LR LR 04 42 36.9
comp=Z,606nm,18.2s,baz=226,slow=36
comp=Z,62nm,0.7s
ORV **Oroville** 79.97 322 IAmb IAmb 04 07 14.0
comp=Z,58nm,1.6s
TSUM **Tsumeb** 80.26 107 P **P** **04 06 57.7 +0.1**
TSUM IAmb IAmb 04 06 59.7
comp=Z,48nm,1.0s
TSUM **Tsumeb** 80.26 107 LR LR 04 38 36.8
comp=Z,281nm,21.9s,baz=250,slow=33
EGMT **Eagleton** 80.78 334 P **P** **04 07 00.9 +1.3**
baz=144
RAR **Rarotonga** 80.93 251 LR LR 04 35 27.1
comp=Z,276nm,19.5s,baz=164,slow=30
MAW **Mawson** 81.45 164 P **P** **04 07 03.6 +0.7**
comp=Z,57nm,0.8s,baz=215,slow=6.7,SNR=49
MAW LR LR 04 44 32.8
comp=Z,210nm,19.8s,baz=221,slow=37
comp=Z,57nm,0.8s
SOE **Somerset East** 81.52 122 P **P** **04 07 04.3 +0.2**
SOE IAmb IAmb 04 07 06.1
comp=Z,53nm,1.1s
MSO **Missoula** 81.56 331 P **P** **04 07 05.5 +1.7**
baz=141
K05A **Summer Lake** 81.86 325 IAmb IAmb 04 07 24.2
comp=Z,94nm,1.7s
GRHM **Grahamstown, E** 81.91 123 P **P** **04 07 06.3 +0.2**
GRHM IAmb IAmb 04 07 21.9
comp=Z,35nm,1.0s
TIO **Tiouine** 81.93 51 P **P** **04 07 06.2 +0.1**
YBH **Yreka Blue Hor** 82.14 323 LR LR 04 40 34.7
comp=Z,103nm,19.4s,baz=133,slow=33
PINE **Pine Mountain** 82.64 326 IAmb IAmb 04 07 30.5
comp=Z,37nm,1.5s
BOSA **Boshof** 82.95 118 *i*P **P** **04 07 11.4 -0.3**
BOSA **Boshof** 82.95 118 P **P** **04 07 11.2 -0.5**
comp=Z,68nm,0.9s,baz=247,slow=4.0,SNR=58
BOSA LR LR 04 41 24.7
comp=Z,268nm,18.2s,baz=228,slow=34
comp=Z,68nm,0.9s
BOSA **Boshof** 82.95 118 *i*P **P** **04 07 11.4 -0.3**
AVE **Averroes** 83.19 49 P **P** **04 07 13.6 +1.1**
HAWA **Hanford** 83.80 328 IAmb IAmb 04 07 18.6
comp=Z,43nm,1.9s
FFC **Flin Flon** 83.84 342 P **P** **04 07 16.2 +0.9**
FFC **Flin Flon** 83.84 342 P **P** **04 07 16.2 +0.9**
FFC pmax pmax
comp=Z,8.0nm,1.0s
NEW **Newport** 84.06 331 P **P** **04 07 17.4 +0.8**
baz=138
NEW **Newport** 84.06 331 P **P** **04 07 16.8 +0.2**
comp=Z,2.1nm,0.7s,baz=128,slow=8.6,SNR=6.7
NEW LR LR 04 45 36.4
comp=Z,120nm,19.2s,baz=129,slow=36
comp=Z,2.1nm,0.7s
LBTB **Lobatse** 84.72 115 P **P** **04 07 20.6 -0.2**
LBTB IAmb IAmb 04 07 22.1
comp=Z,39nm,0.8s
LBTB **Lobatse** 84.72 115 *i*P **P** **04 07 20.9 +0.1**
LBTB **Lobatse** 84.72 115 P **P** **04 07 20.6 -0.2**
LBTB pmax pmax
comp=Z,39nm,0.9s
LBTB **Lobatse** 84.72 115 LR LR 04 42 05.3
comp=Z,235nm,20.2s,baz=244,slow=34
LBTB **Lobatse** 84.72 115 *i*P **P** **04 07 20.9 +0.1**
MORF **Marmelete** 84.73 45 *e*P **P** **04 07 22.0 +1.7**
comp=Z,86nm,2.0s
MORF **Marmelete** 84.73 45 *e*P **P** **04 07 20.3 0.0**
MORF IAmb IAmb 04 07 23.1
comp=Z,58nm,1.3s
PTEO **Sao Teotonio** 84.83 45 *e*P **P** **04 07 22.5 +1.8**
MDT **Midelt** 84.86 50 LR LR 04 44 51.6
comp=Z,172nm,19.0s,baz=222,slow=35
IFR **Ifrane** 84.89 50 P **P** **04 07 22.4 +1.1**
PBDV **Barranco-do-Ve** 85.15 45 *e*P **P** **04 07 24.2 +1.8**
comp=Z,81nm,1.7s
PNCL **Nicolau / Gran** 85.29 44 *e*P **P** **04 07 24.3 +1.3**
comp=Z,50nm,1.8s
PNCL **Nicolau / Gran** 85.29 44 P **P** **04 07 23.8 +0.9**
PCVE **Castro Verde** 85.31 45 *e*P **P** **04 07 24.7 +1.6**
comp=Z,67nm,1.5s
PCVE **Castro Verde** 85.31 45 P **P** **04 07 24.3 +1.1**
MESJ **Messejana** 85.32 45 *e*P **P** **04 07 24.6 +1.4**
MESJ **Messejana** 85.32 45 *e*P **P** **04 07 23.2 0.0**
MESJ IAmb IAmb 04 07 26.8
comp=Z,115nm,1.7s
EGRO **El Granado** 85.61 45 P **P** **04 07 25.7 +1.1**
PBEJ **Beja** 85.66 45 *e*P **P** **04 07 26.1 +1.3**
comp=Z,56nm,1.9s
EVO **Evora** 85.86 44 *e*P **P** **04 07 27.1 +1.3**
EVO **Evora** 85.86 44 P **P** **04 07 26.7 +0.8**
PMTG **Montargil** 86.05 44 *e*P **P** **04 07 27.8 +1.1**
PBAR **Barrancos** 86.27 45 *e*P **P** **04 07 28.9 +1.0**

	comp=Z,51nm,1.8s						
PBAR	**Barrancos**	**86.27**	**45**	P	**P**	**04 07 28.7**	**+0.8**
PESTR	**Estremoz**	**86.33**	**44**	*eP*	**P**	**04 07 29.0**	**+0.8**
	comp=Z,49nm,1.5s						
PMRV	**Marv??o**	**86.78**	**44**	*eP*	**P**	**04 07 30.3**	**-0.1**
	comp=Z,47nm,1.9s						
PCBR	**Castelo Branco**	**86.97**	**43**	*eP*	**P**	**04 07 31.4**	**+0.2**
	comp=Z,72nm,1.8s						
EMAL	**Malaga-Limoner**	**87.17**	**47**	P	**P**	**04 07 33.5**	**+1.2**
PVRL	**Vila Real**	**87.67**	**42**	*eP*	**P**	**04 07 35.6**	**+1.0**
	comp=Z,52nm,2.0s						
POLO	**Lamas de Olo**	**87.68**	**42**	*eP*	**P**	**04 07 35.8**	**+1.0**
	comp=Z,40nm,1.8s						
FRB	**Frobisher Bay**	**88.34**	**1**	LR	LR	04 47 07.4	
	comp=Z,166nm,21.7s,baz=192,slow=36						
ESDC	**Sonseca Array**	**89.10**	**45**	P	**P**	**04 07 41.4**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=263,slow=3.8,SNR=16						
ESDC				pP	**pP**	**04 07 56.2**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=268,slow=4.1,SNR=3.6						
ESDC				LR	LR	04 46 09.2	
	comp=Z,240nm,18.6s,baz=242,slow=35						
	comp=Z,3.5nm,0.8s						
URZ	**Urewera**	**90.98**	**227**	LR	LR	04 39 19.7	
	comp=Z,372nm,21.6s,baz=151,slow=29						
LSZ	**Lusaka**	**91.10**	**107**	P	**P**	**04 07 51.6**	**+0.1**
LSZ				IAmb	IAmb	04 08 05.1	
	comp=Z,10nm,1.0s						
LSZ	**Lusaka**	**91.10**	**107**	P	**P**	**04 07 51.6**	**+0.1**
LSZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LSZ	**Lusaka**	**91.10**	**107**	LR	LR	04 45 48.6	
	comp=Z,286nm,19.3s,baz=257,slow=34						
RPZ	**Rata Peaks**	**91.61**	**220**	LR	LR	04 38 59.1	
	comp=Z,341nm,21.2s,baz=108,slow=29						
BBB	**Bella Bella**	**91.85**	**329**	LR	LR	04 47 05.4	
	comp=Z,63nm,21.6s,baz=135,slow=34						
RAO	**Raoul Island**	**92.14**	**236**	LR	LR	04 39 31.4	
	comp=Z,131nm,20.7s,baz=140,slow=29						
SFJD	**Kangerlussuaq**	**92.78**	**8**	LR	LR	04 53 16.1	
	comp=Z,200nm,18.1s,baz=186,slow=38						
YKA	**Yellowknife Ar**	**93.96**	**341**	P	**P**	**04 08 03.7**	**+0.3**
	comp=Z,5.4nm,0.8s,baz=141,slow=4.3,SNR=101						
YKA				pP	**pP**	**04 08 19.5**	**+0.4**
	comp=Z,5.5nm,0.6s,baz=139,slow=4.2,SNR=16						
YKA				LR	LR	04 53 23.3	
	comp=Z,174nm,19.4s,baz=223,slow=37						
	comp=Z,5.4nm,0.8s						
KOTAN	**Kotaneelee Air**	**95.38**	**336**	P	**P**	**04 08 11.4**	**+1.5**
	baz=133						
T35M	**Bob Quinn**	**95.83**	**332**	P	**P**	**04 08 13.2**	**+1.1**
	baz=128						
KEST	**Kesra**	**96.31**	**54**	LR	LR	04 54 00.4	
	comp=Z,164nm,19.0s,baz=184,slow=37						
WRAK	**Wrangell Islan**	**96.41**	**330**	P	**P**	**04 08 16.9**	**+2.2**
	baz=126						
DLBC	**Dease Lake**	**96.63**	**333**	P	**P**	**04 08 17.3**	**+1.5**
	baz=128						
DLBC	**Dease Lake**	**96.63**	**333**	LR	LR	04 54 06.7	
	comp=Z,130nm,19.4s,baz=94,slow=37						
S34M	**Telegraph Cree**	**96.77**	**332**	P	**P**	**04 08 17.8**	**+1.5**
	baz=127						
BORG	**Borgarnes**	**97.01**	**19**	LR	LR	04 49 24.2	
	comp=Z,84nm,21.7s,baz=236,slow=34						
TGTN	**Hyland Airport**	**97.86**	**336**	P	Pdif	04 08 23.0	+1.7
	baz=129						
FARO	**Faro, Yukon**	**100.21**	**335**	P	**Pdif**	**04 08 33.3**	**+1.6**
	baz=125						
M31M	**Drury Creek, Y**	**100.60**	**335**	P	**Pdif**	**04 08 35.1**	**+1.7**
	baz=124						
M30M	**Minto, Yukon**	**101.74**	**334**	P	**Pdif**	**04 08 39.8**	**+1.3**
	baz=122						
PINM	**Pinnacle**	**101.92**	**331**	P	**Pdif**	**04 08 40.8**	**+1.4**
	baz=119						
YUK8	**Steele Glacier**	**102.29**	**332**	P	**Pdif**	**04 08 42.5**	**+1.2**
	baz=120						
M29M	**Somme Creek**	**102.34**	**334**	P	**Pdif**	**04 08 42.7**	**+1.4**
	baz=120						
L29M	**L29M**	**102.54**	**334**	P	**Pdif**	**04 08 43.6**	**+1.5**
	baz=120						
J30M	**Hart River**	**102.62**	**336**	P	**Pdif**	**04 08 43.9**	**+1.4**
	baz=122						
K29M	**Barlow Dome**	**102.68**	**335**	P	**Pdif**	**04 08 43.9**	**+1.1**
	baz=121						
CTG	**Chitna Glacier**	**102.81**	**332**	P	**Pdif**	**04 08 44.9**	**+1.4**
	baz=118						
YUK3	**Moose Creek**	**102.82**	**333**	P	**Pdif**	**04 08 45.0**	**+1.5**
	baz=119						
I30M	**Mount Dempster**	**102.98**	**337**	P	**Pdif**	**04 08 45.8**	**+1.8**
	baz=122						
CRQE	**Cirque**	**103.47**	**331**	P	**Pdif**	**04 08 47.8**	**+1.4**
	baz=117						
DAWY	**Dawson**	**103.51**	**335**	P	**Pdif**	**04 08 47.4**	**+1.1**
	baz=119						
A36M	**Sachs Harbour**	**103.63**	**345**	P	**Pdif**	**04 08 47.7**	**+1.1**
	baz=130						
INK	**Inuvik**	**103.69**	**340**	P	**Pdif**	**04 08 48.3**	**+1.4**
	baz=123						
M27K	**Edge Creek, AK**	**103.69**	**333**	P	**Pdif**	**04 08 48.4**	**+1.1**
	baz=118						
ILAR	**Eielson Array**	**106.74**	**334**	Pdiff	**Pdif**	**04 09 00.0**	**-0.6**
	comp=Z,0.2nm,0.8s,baz=124,slow=5.6,SNR=2.5						
ILAR				PP	**PP**	**04 13 28.4**	**+1.4**
	comp=Z,0.3nm,0.8s,baz=94,slow=7.1,SNR=4.6						
DZM	**Mont Dzumac**	**107.83**	**235**	*e*S	**Sdif**	**04 21 00.6**	**-7.8**
DZM	comp=Z,160nm,27.0s						
	comp=Z,183nm,27.4s			*e*SS	**SS**	**04 28 34.2**	**-9.4**
DZM	**Mont Dzumac**	**107.83**	**235**	*e*LR	LR	04 45 11.5	
	comp=Z,722nm,29.3s						
NACGM	**Naroch**	**113.95**	**39**	PP	**PP**	**04 14 12.7**	**-6.6**
	baz=261						
AKASG	**Malin Array Be**	**114.71**	**44**	PKP	PKPdf	04 13 25.3	-0.8
	comp=Z,0.9nm,0.4s,baz=268,slow=2.6,SNR=14						
AKBB	**Malin Array Si**	**114.71**	**44**	*c i*PKIKP	PKPdf	04 13 25.6	-0.4
ARCES	**ARCESS Array B**	**115.07**	**23**	PKP	**PKiKP**	**04 13 25.7**	**-0.5**
	comp=Z,2.3nm,1.0s,baz=352,slow=7.5,SNR=3.7						
MMAI	**Mount Meron Ar**	**115.65**	**64**	PKP	**PKPdf**	**04 13 28.4**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=48,slow=2.1,SNR=2.0						
BR131	**Keskin Array S**	**115.76**	**56**		**PKPdf**	**04 13 28.6**	**0.0**
BR131	**Keskin Array S**	**115.76**	**56**	PKIKP	**PKPdf**	**04 13 28.6**	**0.0**
BRTR	**Keskin Array B**	**115.76**	**56**	PKP	**PKPdf**	**04 13 28.3**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=183,slow=3.2,SNR=12						
BRTR				PP	**PP**	**04 14 31.0**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=251,slow=4.4,SNR=1.6						
APA	**Apatity**	**117.95**	**25**	*i*PKIKP	**PKiKP**	**04 13 35.4**	**+3.6**
APA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
OBN	**Obninsk**	**119.57**	**39**	*e*PKIKP	**PKPdf**	**04 13 34.3**	**-0.9**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SOC	**Sochi**	**120.86**	**53**	*i*PKIKP	**PKPdf**	**04 13 36.8**	**-1.3**
SOC				*e*PPP	PPP	04 17 38.9	
SOC				*e*PS	**PS**	**04 24 57.2**	**-2.5**
SOC				*e*SS	SS	04 31 35.9	+0.4
SOC				pmax	pmax		
	comp=Z,11nm,0.7s						
SOC				MLR	MLR		
	comp=Z,126nm,18.0s						
KLMR	**Klimovskoe**	**121.02**	**33**	*e*PKPdf	**PKPdf**	**04 13 37.1**	**-0.8**
KLMR				AMP		04 13 37.9	
	comp=Z,17nm,1.5s						
KLMR				LR	LR	04 57 18.2	
KLMR	**Klimovskoe**	**121.02**	**33**	*e*PKIKP	**PKPdf**	**04 13 37.0**	**-0.8**
KLMR				pmax	pmax		
	comp=Z,17nm,1.5s						
KIV	**Kislovodsk**	**123.03**	**52**	*i*PKIKP	**PKiKP**	**04 13 42.7**	**+0.1**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,66nm,22.0s						
KBZ	**Khabaz**	**123.17**	**53**	*c i*PKIKP	**PKPdf**	**04 13 41.7**	**-0.8**
KBZ	**Khabaz**	**123.17**	**53**	PKP	**PKiKP**	**04 13 43.0**	**+0.3**
	comp=Z,11nm,0.9s,baz=263,slow=2.4,SNR=21						
ZEI	**Tsey**	**123.84**	**54**	*i*PKIKP	**PKiKP**	**04 13 44.6**	**+0.2**
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PRGR	**Permogore**	**123.85**	**31**	*e*PKIKP	**PKPdf**	**04 13 43.0**	**-0.3**
PRGR				*e*		04 15 36.3	
PRGR				pmax	pmax		
	comp=Z,26nm,1.0s						
GNI	**Garni**	**124.26**	**57**	PKPdf	**PKPdf**	**04 13 45.1**	**+0.1**
GNI	**Garni**	**124.26**	**57**	*c i*PKIKP	**PKiKP**	**04 13 45.8**	**+0.5**
GNI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BILL	**Bilibino**	**125.18**	**337**	*i*PKIKP	**PKiKP**	**04 13 46.1**	**+0.1**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BELG	**Belogornoye**	**126.22**	**42**	*i*PKIKP	**PKiKP**	**04 13 48.5**	**0.0**
BELG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIRV	**Kirov**	**126.30**	**34**	*c i*PKIKP	**PKiKP**	**04 13 49.1**	**+0.6**
ASAR	**Alice Springs**	**126.36**	**208**	PKP	**PKPdf**	**04 13 49.3**	**-0.2**
	comp=Z,5.6nm,0.8s,baz=145,slow=2.3,SNR=35						
ASAR				pPKP	**pPKPdf**	**04 14 05.6**	**0.0**
	comp=Z,3.9nm,0.7s,baz=130,slow=1.5,SNR=7.8						
H11S2	**WAKE ISLAND Hyl**	**127.00**	**275**	T	T	06 33 37.2	
	baz=108,slow=75,SNR=1763						
H11S1	**WAKE ISLAND Hyl**	**127.01**	**275**	T	T	06 33 38.6	
	baz=108,slow=75,SNR=1965						
H11S3	**WAKE ISLAND Hyl**	**127.02**	**275**	T	T	06 33 36.2	
	baz=108,slow=75,SNR=1666						
H11N3	**WAKE ISLAND Hyl**	**127.18**	**277**	T	T	06 33 51.7	
	baz=108,slow=75,SNR=156						
H11N1	**WAKE ISLAND Hyl**	**127.19**	**277**	T	T	06 33 49.3	
	baz=108,slow=75,SNR=124						
H11N2	**WAKE ISLAND Hyl**	**127.19**	**277**	T	T	06 33 52.3	
	baz=108,slow=75,SNR=169						
WRA	**Warramunga Arr**	**129.42**	**210**	PKP	**PKPdf**	**04 13 55.6**	**+0.3**
	comp=Z,6.9nm,0.9s,baz=154,slow=1.8,SNR=33						
WRA				pPKP	**pPKPdf**	**04 14 11.6**	**0.0**
	comp=Z,4.3nm,0.7s,baz=160,slow=1.7,SNR=8.3						
WRAB	**Tennant Creek**	**129.43**	**210**		**PKiKP**	**04 13 55.8**	**-0.3**
WRAB	**Tennant Creek**	**129.43**	**210**	PKIKP	**PKiKP**	**04 13 55.8**	**-0.3**
ARU	**Arti**	**131.62**	**35**	PKPdf	**PKiKP**	**04 13 59.0**	**-0.2**
ARU	**Arti**	**131.62**	**35**	*c i*PKIKP	**PKiKP**	**04 13 59.8**	**+0.5**
ARU				pmax	pmax		
	comp=Z,21nm,1.7s						
UOSS	**Minazif**	**131.72**	**78**	PKPdf	**PKiKP**	**04 14 00.3**	**-0.2**
TIXI	**Tiksi**	**131.97**	**352**	PKPdf	**PKPdf**	**04 13 58.1**	**-0.4**
TIXI	**Tiksi**	**131.97**	**352**	*c i*PKIKP	**PKiKP**	**04 13 59.3**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,17nm,2.5s						
SEY	**Seymchan**	**132.67**	**335**	*i*PKIKP	**PKiKP**	**04 14 00.8**	**-0.4**
SEY				pmax	pmax		
	comp=Z,12nm,1.4s						
NRIK	**Noril'sk**	**133.60**	**11**	*c i*PKIKP	**PKiKP**	**04 14 03.8**	**+0.9**
NRIK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PETK	**Petropavlovsk-**	**134.47**	**321**	PKP	**PKPdf**	**04 14 04.4**	**+0.7**
	comp=Z,3.8nm,0.9s,baz=35,slow=5.3,SNR=2.3						
PETK				pPKP	**pPKPdf**	**04 14 20.2**	**+0.2**
	comp=Z,5.2nm,0.8s,baz=83,slow=5.1,SNR=3.4						
GEYT	**Alibeck**	**134.59**	**61**	PKP	**PKPdf**	**04 14 04.4**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=255,slow=4.5,SNR=4.9						
BRVK	**Borovoye**	**139.19**	**36**	*c i*PKIKP	**PKiKP**	**04 14 15.1**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BVAR	**Borovoye Array**	**139.26**	**36**	PKhKP	PKPpre	04 14 03.6	
	comp=Z,0.4nm,0.4s,baz=252,slow=2.9,SNR=2.2						
BVAR				PKP	**PKPdf**	**04 14 12.7**	**+0.1**
	comp=Z,7.2nm,0.8s,baz=298,slow=3.2,SNR=18						
EDFI	**Ende, Flores**	**144.60**	**201**	PKP	**PKPab**	**04 14 22.1**	**+0.1**
KURK	**Kurchatov**	**144.81**	**35**	PKPdf	**PKPdf**	**04 14 22.6**	**0.0**
KURK	**Kurchatov**	**144.81**	**35**	*i*PKIKP	**PKPdf**	**04 14 22.6**	**0.0**
KURBB	**Kurchatov Arra**	**144.82**	**35**	PKP	PKPbc	04 14 22.2	+0.4
	comp=Z,38nm,0.7s,baz=301,slow=3.6,SNR=21						
KURBB				pPKP	pPKPdf	04 14 38.8	-0.1
	comp=Z,6.5nm,0.6s,baz=302,slow=3.6,SNR=3.4						
ZALV	**Zalesovo Beam**	**145.53**	**26**	PKPbc	**PKPab**	**04 14 24.5**	**+0.4**
	comp=Z,154nm,0.9s,baz=312,slow=4.2,SNR=343						
ZALV				pPKPbc	**pPKPdf**	**04 14 38.1**	**-1.9**
	comp=Z,56nm,0.9s,baz=294,slow=4.5,SNR=4.7						
EKS2	**Erkin-Say**	**145.56**	**50**	P	**PKPab**	**04 14 25.9**	**+0.9**
	SNR=42						
PLAI	**Plampang**	**145.59**	**194**	PKP	**PKPab**	**04 14 25.7**	**+0.2**
AML	**Almayashu**	**145.68**	**51**	P	**PKPab**	**04 14 26.6**	**+0.9**
	SNR=7.7						
SEM	**Semipalatinsk**	**145.83**	**34**	*e*PKP	**PKPab**	**04 14 26.9**	**+1.1**
	baz=34						
SEM	**Semipalatinsk**	**145.83**	**34**	*e*PKIKP	**PKPab**	**04 14 26.8**	**+1.1**
USP	**Ospenovka**	**145.85**	**49**	P	**PKPab**	**04 14 26.1**	**+0.3**
	SNR=28						
TWSI	**Taliwang, Sumb**	**145.87**	**193**	PKP	**PKPdf**	**04 14 25.1**	**-0.4**
SGDS	**Sogindy**	**145.88**	**48**	*i*PKP	**PKPab**	**04 14 26.0**	**0.0**
	baz=48						
SGDS	**Sogindy**	**145.88**	**48**	*c i*PKIKP	**PKPab**	**04 14 25.9**	**0.0**
AAK	**Ala-Archa**	**146.07**	**50**	P	**PKPab**	**04 14 27.0**	**+0.1**
	SNR=40						
AAK	**Ala-Archa**	**146.07**	**50**		**PKPbc**	**04 14 26.5**	**+0.3**
AAK	**Ala-Archa**	**146.07**	**50**	PKP2	**PKPbc**	**04 14 26.5**	**+0.3**
CHMS	**Chumysh**	**146.12**	**49**	P	**PKPab**	**04 14 27.3**	**+0.4**
	SNR=16						
UCH	**Uchtor**	**146.22**	**50**	P	**PKPab**	**04 14 27.8**	**-0.1**
	SNR=46						
KBK	**Karagaybulak**	**146.38**	**49**	P	**PKPab**	**04 14 28.9**	**+0.8**
	SNR=48						
TKM2	**Tokmak 2**	**146.73**	**49**	P	**PKPbc**	**04 14 27.6**	**-0.6**
	SNR=27						
KZA	**Kyzart**	**146.79**	**50**	P	**PKPab**	**04 14 30.3**	**+0.3**
	SNR=17						
KUU	**Kurty**	**146.85**	**47**	*e*PKP	**PKPbc**	**04 14 27.5**	**-0.7**
	baz=47						
KUU	**Kurty**	**146.85**	**47**	*e*PKP2	**PKPbc**	**04 14 27.5**	**-0.7**
BOD	**Bodaibo**	**146.95**	**356**	*e*PKP2	**PKPbc**	**04 14 27.6**	**-0.4**
BOD				pmax	pmax		
	comp=Z,41nm,1.1s						
CHKK	**Chushkaly**	**147.29**	**46**	*e*PKP	**PKPdf**	**04 14 27.9**	**+0.7**
	baz=46						
CHKK	**Chushkaly**	**147.29**	**46**	*e*PKIKP	**PKPdf**	**04 14 27.8**	**+0.7**
BLJI	**Banyuglugur**	**147.35**	**187**	PKP	**PKPdf**	**04 14 28.2**	**+0.2**
ULHL	**Ulahol**	**147.42**	**50**	P	**PKPbc**	**04 14 29.7**	**-0.4**
	SNR=9.7						
AAA	**Alma-Ata**	**147.51**	**48**	*e*PKP	**PKPbc**	**04 14 29.9**	**-0.3**
	baz=48						
AAA	**Alma-Ata**	**147.51**	**48**	*e*PKP2	**PKPbc**	**04 14 29.8**	**-0.3**
TNSS	**Tian-Shan**	**147.60**	**48**	*e*PKP	**PKPbc**	**04 14 29.6**	**-1.2**
	baz=48						
TNSS	**Tian-Shan**	**147.60**	**48**	*e*PKP2	**PKPbc**	**04 14 29.6**	**-1.2**
MDOK	**Medeo**	**147.62**	**48**	*e*PKP	**PKPbc**	**04 14 29.5**	**-1.1**
	baz=48						
MDOK	**Medeo**	**147.62**	**48**	*e*PKP2	**PKPbc**	**04 14 29.4**	**-1.1**
ARXS	**Arharly**	**147.69**	**45**	*e*PKIKP	**PKPdf**	**04 14 28.3**	**+0.5**
TDK	**Taldyqorghan**	**147.70**	**44**	*e*PKP	**PKPbc**	**04 14 29.8**	**-0.8**
	baz=44						
TDK	**Taldyqorghan**	**147.70**	**44**	*e*PKP2	**PKPbc**	**04 14 29.7**	**-0.8**
CNJI	**Cibinong**	**147.90**	**175**	PKP	**PKPdf**	**04 14 28.7**	**-0.3**
KSH	**Kashi**	**148.12**	**55**	PKPbc	**PKPdf**	**04 14 30.3**	**+1.6**
BKSI	**Bulukumba**	**148.32**	**200**	PKP	**PKPdf**	**04 14 30.5**	**+0.8**
ZEA	**Zeya**	**148.34**	**340**	*e*PKP2	**PKPbc**	**04 14 32.3**	**+0.4**
SATY	**Saty**	**148.56**	**47**	*e*PKP	**PKPbc**	**04 14 31.5**	**-1.6**
	baz=47						
SATY	**Saty**	**148.56**	**47**	*e*PKIKP	**PKPbc**	**04 14 31.4**	**-1.6**
KPKS	**Kokpek**	**148.57**	**46**	*e*PKP	**PKPbc**	**04 14 31.2**	**-1.8**
	baz=46						
KPKS	**Kokpek**	**148.57**	**46**	*e*PKIKP	**PKPbc**	**04 14 31.2**	**-1.8**
KAPI	**Kappang**	**148.73**	**199**	PKPab	**PKPbc**	**04 14 34.9**	**+0.8**
KAPI	**Kappang**	**148.73**	**199**	PKIKP	**PKPbc**	**04 14 34.9**	**+0.8**
MAKZ	**Makanchi**	**148.88**	**38**	PKPdf	**PKPdf**	**04 14 30.5**	**+0.9**
MAKZ	**Makanchi**	**148.88**	**38**	PKIKP	**PKPdf**	**04 14 30.5**	**+0.9**
UZB	**Uzynbulak**	**148.93**	**46**	*e*PKP	**PKPdf**	**04 14 31.7**	**+1.7**
	baz=46						
UZB	**Uzynbulak**	**148.93**	**46**	*e*PKIKP	**PKPdf**	**04 14 31.6**	**+1.7**
MK31	**Makanchi Array**	**149.07**	**38**	*i*PKIKP	**PKPdf**	**04 14 29.6**	**-0.3**
MKAR	**Makanchi Array**	**149.07**	**38**	PKPbc	**PKPbc**	**04 14 34.3**	**+0.3**
	comp=Z,38nm,0.7s,baz=318,slow=2.4,SNR=103						
SHLS	**Shalkode**	**149.22**	**46**	*e*PKP	**PKPbc**	**04 14 33.0**	**-1.8**
	baz=46						
SHLS	**Shalkode**	**149.22**	**46**	*e*PKIKP	**PKPbc**	**04 14 32.9**	**-1.8**
KASI	**Kota Agung**	**149.35**	**170**	PKP	**PKPdf**	**04 14 32.1**	**+0.8**
DGZ	**Jazzator, Alta**	**149.75**	**29**	*i*PKIKP	**PKPdf**	**04 14 30.7**	**-0.4**
DGZ				pmax	pmax		
	comp=Z,13nm,0.6s						
KLR	**Kul'dur**	**150.23**	**330**	*c i*PKIKP	**PKiKP**	**04 14 37.6**	**0.0**
KLR				pmax	pmax		
	comp=Z,21nm,1.7s						
MOY	**Mondy**	**152.43**	**12**	*e*PKIKP	**PKiKP**	**04 14 43.1**	**+0.9**
MOY				pmax	pmax		
	comp=Z,48nm,2.3s						
PDSI	**Padang**	**152.82**	**159**	PKP	**PKPdf**	**04 14 36.3**	**-0.4**
MJAR	**Matsushiro Arr**	**153.01**	**302**	PKPbc	**PKPbc**	**04 14 43.6**	**0.0**
	comp=Z,5.2nm,0.9s,baz=105,slow=1.4,SNR=7.4						
MJAR				pPKPab	**pPKPab**	**04 15 11.0**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=78,slow=4.5,SNR=4.9						
USRK	**Ussuriysk Ar.**	**153.56**	**322**	PKP	**PKPdf**	**04 14 37.3**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=66,slow=5.2,SNR=2.5						
USRK				PKPbc	**PKiKP**	**04 14 44.6**	**0.0**
	comp=Z,4.4nm,0.8s,baz=261,slow=0.9,SNR=6.4						
USRK				pPKPbc	**pPKPbc**	**04 15 00.3**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=4.4,slow=3.8,SNR=3.5						
WMQ	**Urumqi**	**153.90**	**38**	*e*PKPbc	**PKPdf**	**04 14 37.0**	**-0.4**
WMQ				LR	LR		
	comp=Z,340nm,23.8s						
ZAK	**Zakamensk**	**154.06**	**9**	*e*PKIKP	**PKPdf**	**04 14 38.5**	**+1.1**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
TOLI2	**Tolitoli**	**154.07**	**206**		**PKPbc**	**04 14 45.7**	**-0.8**
MDJ	**Mudanjiang**	**154.56**	**326**	PKPbc	**PKPdf**	**04 14 39.0**	**+0.8**
MDJ				pPKP	pPKPdf	04 14 53.8	-0.6
MDJ				sPKP		04 14 59.0	
MDJ				SS	SS	04 38 20.5	+7.2
MDJ				AMB	AMB		
	comp=Z,560nm,4.2s						
MDJ				LR	LR		
	comp=Z,770nm,14.9s						
MDJ				LR	LR		
	comp=Z,810nm,14.9s						
MDJ				LR	LR		
	comp=Z,370nm,20.6s						
BNX	**BinXian**	**154.79**	**330**	||P	**PKPab**	**04 15 03.3**	**+1.0**
BNX				pmax	pmax		
	comp=Z,16nm,0.9s						
BNX				pmax	pmax		
	comp=Z,250nm,5.7s						
DANN	**Dangsing**	**156.53**	**76**	*e*P	**PKPdf**	**04 14 42.1**	**+0.4**
SONM	**Songino Array**	**156.94**	**6**	PKP	**PKPdf**	**04 14 42.3**	**+0.9**
	comp=Z,3.0nm,0.9s,baz=291,slow=1.3,SNR=5.9						
SONM				PKPab	**PKPab**	**04 15 11.6**	**+0.1**
	comp=Z,7.1nm,0.8s,baz=322,slow=3.5,SNR=9.0						
SONM				pPKPab	**pPKPab**	**04 15 27.1**	**-0.3**
	comp=Z,4.3nm,0.7s,baz=332,slow=3.4,SNR=4.0						
ULN	**Ulaanbaatar**	**156.96**	**5**	PKPab	**PKPab**	**04 15 12.5**	**+0.8**
ULN	**Ulaanbaatar**	**156.96**	**5**	PKP2	**PKPab**	**04 15 12.5**	**+0.8**
CN2	**Changchun**	**157.18**	**330**	*e*PKP	**PKPdf**	**04 14 44.5**	**+2.8**
DMN	**Daman**	**157.74**	**78**	*e*P	**PKPdf**	**04 14 43.3**	**+0.1**
PKI	**Pulchoki**	**158.01**	**78**	*e*P	**PKPdf**	**04 14 44.4**	**+0.7**
GUN	**Gumba**	**158.42**	**77**	*e*P	**PKPdf**	**04 14 46.6**	**+2.4**
JIRN	**Jiri**	**158.70**	**77**	*e*P	**PKPdf**	**04 14 47.5**	**+2.9**
KSRS	**Korea Array**	**160.07**	**313**	PKP	**PKPdf**	**04 14 45.9**	**+0.6**
	comp=Z,1.3nm,0.4s,baz=356,slow=1.1,SNR=8.0						
KSRS				PKPab	**PKPab**	**04 15 25.9**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=50,slow=6.8,SNR=5.2						
KSRS				pPKPab	**pPKPab**	**04 15 42.3**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=55,slow=4.4,SNR=4.2						
KSAR	**Wonju Array Be**	**160.10**	**313**	PKPdf	**PKPdf**	**04 14 45.6**	**+0.2**
KSAR	**Wonju Array Be**	**160.10**	**313**	PKIKP	**PKPdf**	**04 14 45.6**	**+0.2**
GTA	**Gaotai**	**163.27**	**28**	PKP	**PKPdf**	**04 14 49.8**	**+1.0**
GTA				PKPab	**PKPab**	**04 15 40.0**	**+0.6**
SHL	**Shillong**	**163.82**	**84**	PKPab	**PKPab**	**04 15 41.9**	**-0.6**
SHL	**Shillong**	**163.82**	**84**	PKP2	**PKPab**	**04 15 41.9**	**-0.6**
HHC	**Hu-ho-hao-te**	**164.01**	**355**	*e*PKP	**PKPdf**	**04 14 52.3**	**+2.9**
LZH	**Lanzhou**	**167.73**	**23**	*e*PKP	**PKPdf**	**04 14 52.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**168.10**	**120**		**PKPab**	**04 16 00.1**	**-1.0**
CMAR	**Chiang Mai Arr**	**168.10**	**120**	PKP	**PKPdf**	**04 14 53.7**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=280,slow=2.3,SNR=9.8						
CMAR				PKPab	**PKPab**	**04 16 01.1**	**-0.1**
	comp=Z,6.8nm,0.9s,baz=248,slow=4.6,SNR=16						
CHTO	**Chiang Mai**	**168.29**	**119**	PKPab	**PKPab**	**04 16 00.9**	**-1.1**
CHTO	**Chiang Mai**	**168.29**	**119**

Q12A	**Willow Creek R**	**1.75**	**315**		**Pn**	**04 03 20.3**	**+0.7**
FLU	**Fool Peak**	**1.79**	**28**		**Pb**	**04 03 21.2**	**-0.7**
FSU	**Fish Springs**	**1.92**	**357**		**Pn**	**04 03 22.3**	**+0.4**
R11B	**Troy Canyon, C**	**1.92**	**287**		**Pn**	**04 03 21.5**	**-0.4**
R11B				IAML		04 03 51.2	
	comp=E,225nm,0.4s						
R11B				IAML		04 03 51.2	
	comp=N,259nm,0.4s						
R11B	**Troy Canyon, C**	**1.92**	**287**	P	**Pn**	**04 03 21.7**	**-0.3**
	baz=106,SNR=129						
R11B				Sb	**Sg**	**04 03 49.7**	**-1.1**
	baz=106						
Q16A	**Castle Valley**	**1.98**	**55**		**Pn**	**04 03 22.8**	**+0.1**
Q16A				IAML		04 03 53.0	
	comp=N,133nm,0.5s						
Q16A				IAML		04 03 53.2	
	comp=E,107nm,0.8s						
HMU	**Henry Mountain**	**1.99**	**85**		**Pn**	**04 03 23.0**	**+0.1**
HMU				IAML		04 04 00.2	
	comp=E,200nm,0.6s						
HMU				IAML		04 04 03.0	
	comp=N,131nm,0.7s						
S11A	**Rachel**	**1.99**	**266**	Pn	**Pn**	**04 03 22.0**	**-0.8**
SHPR	**Sheep Range**	**2.00**	**230**		**Pn**	**04 03 22.3**	**-0.7**
SHPR				IAML		04 03 53.3	
	comp=E,84nm,0.6s						
WTNK	**Soaring Height**	**2.14**	**222**		**Pn**	**04 03 24.2**	**-0.5**
TMUT	**Trail Mountain**	**2.19**	**46**	Pn	**Pn**	**04 03 26.1**	**+0.4**
TMUT				IAML		04 04 00.8	
	comp=E,107nm,0.8s						
TMUT				IAML		04 04 02.0	
	comp=N,146nm,0.7s						
NLU	**North Lily Min**	**2.33**	**23**		**Pn**	**04 03 27.7**	**+0.1**
DUG	**Dugway, Tooele**	**2.41**	**8**	Pn	**Pn**	**04 03 28.4**	**-0.2**
DUG	**Dugway, Tooele**	**2.41**	**8**	P	**Sn**	**04 03 29.4**	**+0.7**
	baz=189,SNR=35						
DUG				Sb	**Sg**	**04 04 06.0**	**-0.5**
	baz=189						
V12A	**Nelson**	**2.44**	**212**		**Pn**	**04 03 28.3**	**-0.6**
V12A				IAML		04 04 05.1	
	comp=N,65nm,0.5s						
V12A				IAML		04 04 05.2	
	comp=E,69nm,0.5s						
SRU	**San Rafael Swe**	**2.51**	**58**		**Pn**	**04 03 30.4**	**+0.5**
SRU				IAML		04 04 09.3	
	comp=N,96nm,0.8s						
SRU				IAML		04 04 13.1	
	comp=E,87nm,0.5s						
TPNV	**Topopah Spring**	**2.54**	**251**	Pn	**Pn**	**04 03 29.5**	**-0.9**
TPNV				IAML		04 04 17.9	
	comp=E,95nm,0.7s						
TPNV				IAML		04 04 18.0	
	comp=E,79nm,0.6s						
TPNV	**Topopah Spring**	**2.54**	**251**	P	**Pn**	**04 03 30.8**	**+0.4**
	baz=70,SNR=23						
TPNV				S	**Sn**	**04 04 02.5**	**+1.1**
	baz=70						
MPU	**Maple Canyon**	**2.54**	**29**	Pn	**Pn**	**04 03 30.5**	**0.0**
P17A	**Butcher Ranch,**	**2.58**	**49**		**Pb**	**04 03 33.8**	**-1.5**
P17A				IAML		04 04 11.5	
	comp=E,46nm,0.6s						
P17A				IAML		04 04 11.5	
	comp=N,56nm,0.6s						
WUAZ	**Wupatki**	**2.73**	**146**	Pn	**Pn**	**04 03 32.7**	**-0.4**
WUAZ	**Wupatki**	**2.73**	**146**	Pb	**Pb**	**04 03 37.8**	**-0.2**
	baz=327,SNR=32						
WUAZ				Sb	**Sb**	**04 04 13.7**	**+1.9**
	baz=327						
W13A	**Hualapai Mount**	**2.75**	**191**		**Pn**	**04 03 34.7**	**+1.4**
WCT	**Wildcat Mounta**	**2.88**	**250**		**Pn**	**04 03 35.1**	**+0.1**
WCT				IAML		04 04 23.2	
	comp=E,59nm,0.8s						
SHOC	**Shoshone, Teco**	**3.08**	**233**	Pb	**Pb**	**04 03 44.7**	**+0.8**
	baz=51,SNR=17						
SHOC				Sb	**Sb**	**04 04 23.7**	**+2.1**
	baz=51						
CTU	**Camp Tracy**	**3.11**	**21**	Pn	**Pn**	**04 03 38.4**	**+0.2**
BGU	**Big Grassy Mou**	**3.12**	**3**	Pn	**Pn**	**04 03 37.9**	**-0.5**
TPH	**Tonopah**	**3.15**	**276**		**Pn**	**04 03 38.6**	**-0.3**
GWY	**Greenwater Val**	**3.18**	**241**		**Pn**	**04 03 38.6**	**-0.6**
GWY				IAML		04 04 33.2	
	comp=N,43nm,0.4s						
GWY				IAML		04 04 40.3	
	comp=E,57nm,1.2s						
FURC	**Furnace Creek,**	**3.18**	**246**	Pg	**Pg**	**04 03 48.3**	**-1.6**
	baz=64,SNR=16						
FURC				Sb	**Sg**	**04 04 28.5**	**-2.6**
	baz=64						
TUQ	**Turquoise Moun**	**3.20**	**223**	P	**Pn**	**04 03 40.2**	**+0.8**
	baz=41,SNR=8.3						
TUQ				S	**Sn**	**04 04 20.0**	**+2.4**
	baz=41						
NEE2	**Needles Airpor**	**3.23**	**200**	Pg	**Pg**	**04 03 50.2**	**-0.6**
	baz=19						
GMN	**Gold Mountain**	**3.23**	**262**		**Pn**	**04 03 39.0**	**-0.9**
GMN				IAML		04 04 45.9	
	comp=N,30nm,0.7s						
Q09A	**Carvers**	**3.26**	**290**	Pn	**Pn**	**04 03 41.8**	**+1.4**
MZP	**Montezuma Peak**	**3.28**	**269**	Pn	**Pn**	**04 03 40.5**	**-0.2**
NAIU	**Northern Antel**	**3.30**	**14**		**Pn**	**04 03 42.5**	**+1.6**
ELK	**Elko**	**3.32**	**333**	Pn	**Pn**	**04 03 40.8**	**-0.4**
BSUT	**Blindstream Ca**	**3.34**	**35**	Pn	**Pn**	**04 03 42.1**	**+0.5**
BSUT				IAML		04 04 37.7	
	comp=E,24nm,4.1s						
GRAC	**Grapevine Rang**	**3.38**	**257**	Pn	**Pn**	**04 03 41.5**	**-0.3**
GRAC	**Grapevine Rang**	**3.38**	**257**	P	**Pn**	**04 03 42.6**	**+0.8**
	baz=75						
SPUT	**South Promonto**	**3.55**	**10**		**Pn**	**04 03 45.2**	**+0.9**
SPUT				IAML		04 04 51.8	
	comp=N,24nm,3.6s						
GMRC	**Granite Mounta**	**3.59**	**214**	P	**Pn**	**04 03 45.1**	**+0.3**
	baz=32						
GMRC				Sb	**Sb**	**04 04 39.2**	**+3.0**
	baz=32						
TCUT	**Toone Canyon**	**3.60**	**23**	Pn	**Pn**	**04 03 45.8**	**+0.7**
TCUT				IAML		04 04 59.1	
	comp=E,43nm,3.3s						
TCUT				IAML		04 05 00.3	
	comp=N,39nm,4.3s						
X16A	**Lo Mia Camp, P**	**3.68**	**156**	Pn	**Pn**	**04 03 47.2**	**+1.0**
X16A				IAML		04 04 50.1	
	comp=E,35nm,1.0s						
X16A				IAML		04 04 56.9	
	comp=N,35nm,1.2s						
GSC	**Goldstone, Bar**	**3.80**	**230**	Pn	**Pn**	**04 03 47.3**	**-0.4**
GSC				IAML		04 04 53.9	
	comp=N,22nm,0.9s						
GSC				IAML		04 04 55.9	
	comp=E,38nm,0.8s						
GSC	**Goldstone, Bar**	**3.80**	**230**	Pb	**Pb**	**04 03 57.0**	**+0.9**
	baz=48,SNR=16						
GSC				Sb	**Sb**	**04 04 45.2**	**+3.0**
	baz=48						
MPMC	**Manual Prospec**	**3.82**	**244**	P	**Pn**	**04 03 48.5**	**+0.5**
	baz=62,SNR=10.0						
MVCO	**Mesa Verde**	**3.82**	**97**		**Pn**	**04 03 47.9**	**-0.2**
MVCO	**Mesa Verde**	**3.82**	**97**	P	**Pn**	**04 03 50.1**	**+2.0**
	baz=280,SNR=24						
MVCO				Sb	**Sg**	**04 04 48.0**	**-3.7**
	baz=280						
Y14A	**Wickenburg**	**3.86**	**177**	Pn	**Pn**	**04 03 49.1**	**+0.6**
Y14A				IAML		04 04 55.6	
	comp=E,24nm,0.5s						
Y14A				IAML		04 04 56.8	
	comp=N,23nm,1.6s						
HEC	**Hector,Ludlow**	**3.88**	**221**	P	**Pn**	**04 03 49.2**	**+0.5**
	baz=39						
HEC				Sb	**Sg**	**04 04 48.8**	**-4.6**
	baz=39						
W18A	**Petrified Fore**	**3.90**	**132**	Pn	**Pn**	**04 03 48.8**	**-0.3**
W18A	**Petrified Fore**	**3.90**	**132**	Pg	**Pg**	**04 04 02.4**	**-1.3**
	baz=314,SNR=23						
W18A				Sb	**Sg**	**04 04 50.0**	**-4.2**
	baz=314						
NV11	**Mina Array Sit**	**3.92**	**281**	Pn	**Pn**	**04 03 49.2**	**-0.2**
NV11				IAML		04 04 56.9	
	comp=E,16nm,0.6s						
NV11				IAML		04 05 02.9	
	comp=N,15nm,0.9s						
IRM	**Iron Mountain**	**3.95**	**203**	Pb	**Pb**	**04 04 00.8**	**+2.1**
	baz=22,SNR=9.0						
IRM				Sb	**Sg**	**04 04 51.4**	**-4.4**
	baz=22						
KVN	**Kaiserville**	**4.01**	**290**	Pn	**Pn**	**04 03 50.5**	**-0.1**
KVN				IAML		04 04 58.1	
	comp=N,37nm,0.5s						
HWUT	**Hardware Ranch**	**4.01**	**18**	Pn	**Pn**	**04 03 50.2**	**-0.4**
HWUT				IAML		04 05 07.0	
	comp=N,17nm,4.7s						
HWUT				IAML		04 05 24.9	
	comp=N,14nm,3.0s						
NVAR	**Mina Array Bea**	**4.04**	**280**	Pn	**Pn**	**04 03 50.9**	**-0.1**
BMN	**Battle Mountai**	**4.05**	**312**	Pn	**Pn**	**04 03 50.5**	**-0.7**
BMN				IAML		04 05 00.1	
	comp=E,32nm,0.5s						
BMN				IAML		04 05 05.2	
	comp=N,33nm,2.1s						
LHV	**Little Huntoon**	**4.17**	**278**	Pn	**Pn**	**04 03 53.6**	**+0.9**
LHV				IAML		04 05 08.0	
	comp=N,37nm,0.6s						
BLYC	**Blythe**	**4.17**	**195**	Pn	**Pn**	**04 03 52.8**	**0.0**
BLYC				IAML		04 05 08.5	
	comp=N,18nm,1.1s						
BLYC				IAML		04 05 10.3	
	comp=E,17nm,0.7s						
X18A	**Snowflake**	**4.22**	**140**	Pn	**Pn**	**04 03 54.2**	**+0.7**
RYN	**Ryan**	**4.24**	**283**	Pn	**Pn**	**04 03 53.9**	**+0.3**
RYN				IAML		04 05 04.7	
	comp=N,29nm,0.5s						
RYN				IAML		04 05 04.9	
	comp=E,34nm,0.6s						
O20A	**White River Ci**	**4.54**	**58**	Pn	**Pn**	**04 03 57.9**	**-0.1**
O20A	**White River Ci**	**4.54**	**58**	Sb	**Sg**	**04 05 10.7**	**-4.1**
	baz=241						
OMMB	**Old Mammoth Mi**	**4.56**	**269**	Pn	**Pn**	**04 03 56.8**	**-1.6**
ISA	**Isabella, Lake**	**4.71**	**245**	Pn	**Pn**	**04 03 59.1**	**-1.0**
YERR	**Yerington**	**4.85**	**286**	Pn	**Pn**	**04 04 01.6**	**-0.6**
YERR				IAML		04 05 25.2	
	comp=N,16nm,0.7s						
YERR				IAML		04 05 27.6	
	comp=E,20nm,1.8s						
PFO	**Pinyon Flats O**	**4.93**	**213**	Pn	**Pn**	**04 04 04.6**	**+1.4**
PFO				IAML		04 05 30.1	
	comp=E,9.1nm,3.2s						
S22A	**4UR Ranch, Cre**	**5.09**	**89**	Pn	**Pn**	**04 04 06.1**	**+0.6**
S22A				IAML		04 05 12.6	
	comp=E,12nm,3.3s						
S22A				IAML		04 07 30.3	
	comp=N,6.4nm,4.4s						
HLID	**Hailey**	**5.82**	**352**	Pn	**Pn**	**04 04 12.9**	**-2.6**

*JMA **28** 04:11:09.6±0.3,33.6°N±0.8×14.1°E±°, h42km, MV3.2/17, E OFF HACHIJOJIMA ISLAND*
*IDC **28** 04:11:18.0±8.3,33.77°N×140.32°E, h127km±127km, mb3.5/2, mbtmp3.6/3, ML2.2/1, Error ellipse: s-maj=141.9km s-min=94.0km az=44.0*
ISC 28 04:11:10.5±1.5,33.59°N±0.07°×141.1°E±0.1, h50km, n13, σ1§10/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.06**	**356**	*eP*	**Pn**	**04 11 28.4**	**-0.1**
JHJ2	**Mitsune**	**1.16**	**246**	P	**Pn**	**04 11 30.0**	**-0.4**
JHJ2				*eS*	**Sn**	**04 11 45.0**	**0.0**
JMKN	**Mikurajimanish**	**1.27**	**284**	*eP*	**Pn**	**04 11 31.8**	**0.0**
JMYK	**Miyake Tsubota**	**1.35**	**291**	*eP*	**Pn**	**04 11 33.2**	**+0.2**
JTHY	**Toshimahigashi**	**1.75**	**303**	*eP*	**Pn**	**04 11 38.7**	**+0.3**
JTHY				*eS*	**Sn**	**04 12 00.3**	**+0.8**
JIM2	**Oshima 3**	**1.76**	**310**	P	**Pn**	**04 11 38.3**	**-0.3**
JOD2	**Odawara 2**	**2.34**	**316**	P	**Pn**	**04 11 46.5**	**0.0**
JOD2				*eS*	**Sn**	**04 12 14.4**	**+0.3**
MJAR	**Matsushiro Arr**	**3.77**	**322**	P	**Pn**	**04 12 07.7**	**+1.7**
	0.3nm,0.3s,baz=142,slow=13,SNR=5.5						
MJAR				S	**Sn**	**04 12 46.3**	**-2.8**
	0.7nm,0.3s,baz=312,slow=37,SNR=1.0						
H11N2	**WAKE ISLAND Hy**	**26.80**	**114**	T	T	04 45 41.4	
	baz=306						
H11N1	**WAKE ISLAND Hy**	**26.81**	**115**	T	T	04 45 44.4	
	baz=306						
H11N3	**WAKE ISLAND Hy**	**26.82**	**114**	T	T	04 45 44.9	
	baz=306						
WRA	**Warramunga Arr**	**53.62**	**188**	P	**P**	**04 20 26.1**	**-0.8**
	0.9nm,0.3s,baz=4.4,slow=7.6,SNR=23						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**57.35**	**188**	P	**P**	**04 20 54.6**	**+1.0**
	0.3nm,0.4s,baz=14,slow=12,SNR=6.3						
	0.3nm,0.4s						

*KOLA **28** 04:25:37.4,80.08N×21.53E, h0km, ML2.7, Error ellipse: s-maj=11.4km s-min=10.2km az=80.0, Spitsbergen*
*IEPN **28** 04:25:44.0,79.87N×20.15E, h10km*
*BER **28** 04:25:44.1±4.3,80.12N±20.00E, h15km±33km, ML2.6, ML3.0(NAO), Confirmed Earthquake*
*NAO **28** 04:25:45.7±2.9,79.87N×19.92E, h19km±13km, ML3.0*
ISC 28 04:25:43.4±1.3,80.02N±0.07°×20.09E±0.04, h10km, n26, σ2§09/49, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.86**	**238**	Pn	**Pn**	**04 26 14.8**	**-0.4**
KBS				Pg	**Pb**	**04 26 18.6**	**+1.2**
KBS				Lg	Lg	04 26 40.7	
KBS	**Kingsbay**	**1.86**	**238**	*eP*	**Pn**	**04 26 14.8**	**-0.4**
KBS				S	**Sn**	**04 26 37.3**	**-1.5**
KBS	**Kingsbay**	**1.86**	**238**	P	**Pn**	**04 26 14.7**	**-0.6**
KBS				S	**Sn**	**04 26 40.2**	**+1.5**
KBS	**Kingsbay**	**1.86**	**238**	*eP*	**Pn**	**04 26 14.4**	**-0.8**
KBS				*ePg*	**Pb**	**04 26 18.1**	**+0.7**
KBS				*eSg*	**Sn**	**04 26 40.7**	**+2.0**
KBS				IAML		04 26 42.9	
	comp=Z,167nm,0.2s						
SPA0	**Spitsbergen Ar**	**1.99**	**203**	Pn	**Pn**	**04 26 15.6**	**-1.4**
	baz=38,slow=11						
SPA0				Pg	**Pb**	**04 26 19.5**	**-0.1**
	baz=31,slow=16						
SPA0				Lg	Lg	04 26 44.1	
	baz=21,slow=28						
SPA0	**Spitsbergen Ar**	**1.99**	**203**	*iP*	**Pn**	**04 26 15.6**	**-1.4**
SPA0				*i*	**Sn**	**04 26 38.5**	**-3.5**
SPA0	**Spitsbergen Ar**	**1.99**	**203**	*eP*	**Pn**	**04 26 15.6**	**-1.4**
SPA0				Pn	**Pn**	**04 26 15.6**	**-1.4**
	baz=38,slow=11						
SPA0				Pg	**Pb**	**04 26 19.5**	**-0.1**
	baz=31,slow=16						
SPA0				Sg	**Sn**	**04 26 44.1**	**+2.2**
	baz=21,slow=28						
SPA0				IAML		04 26 49.0	
	comp=Z,78nm,0.5s						
SPITS	**Spitsbergen Ar**	**1.99**	**203**	P	**Pn**	**04 26 14.2**	**-2.8**
SPITS				S	**Sn**	**04 26 42.8**	**+0.9**
BRBB	**Barentsburg B**	**2.24**	**213**	Pn	**Pn**	**04 26 19.5**	**-1.0**
BRBB				Pg	**Pb**	**04 26 24.4**	**+0.5**
BRBB				Sn	**Sn**	**04 26 44.5**	**-3.6**
BRBB				Lg	Lg	04 26 51.7	
BRBB	**Barentsburg B**	**2.24**	**213**	P	**Pn**	**04 26 19.2**	**-1.2**
BRBB				S	**Sn**	**04 26 52.0**	**+3.9**
BRBB	**Barentsburg B**	**2.24**	**213**	*eP*	**Pn**	**04 26 19.5**	**-1.0**
BRBA	**Barentsburg A**	**2.27**	**213**	Pn	**Pn**	**04 26 19.6**	**-1.3**
BRBA				Sn	**Sn**	**04 26 45.3**	**-3.6**
BRBA				Lg	Lg	04 26 54.1	
BRBA	**Barentsburg A**	**2.27**	**213**	*eSg*	**Sb**	**04 26 54.3**	**+1.8**
HSPB	**Hornsund (broa**	**3.17**	**199**	Pn	**Pn**	**04 26 32.6**	**-0.7**
HSPB				Pg	**Pb**	**04 26 40.6**	**+0.9**
HSPB				Lg	Lg	04 27 21.0	
HSPB	**Hornsund (broa**	**3.17**	**199**	S	**Sn**	**04 27 07.4**	**-3.7**
HSPB	**Hornsund (broa**	**3.17**	**199**	*eP*	**Pn**	**04 26 33.1**	**-0.1**
HSPB				*ePg*	**Pb**	**04 26 40.5**	**+0.8**
HSPB				*eSg*	**Sb**	**04 27 19.8**	**+1.4**
HSPB				IAML		04 27 27.7	
	comp=Z,33nm,0.4s						
HOPEN	**Hopen**	**3.67**	**162**	Pn	**Pn**	**04 26 38.5**	**-1.6**
HOPEN				Pg	**Pb**	**04 26 50.6**	**+2.3**
HOPEN				Lg	Lg	04 27 37.1	
HOPEN	**Hopen**	**3.67**	**162**	P	**Pn**	**04 26 38.8**	**-1.3**
HOPEN				*eS*	**Sn**	**04 27 19.4**	**-4.0**
HOPEN	**Hopen**	**3.67**	**162**	*eP*	**Pn**	**04 26 39.1**	**-1.0**
HOPEN				*ePg*	**Pb**	**04 26 51.2**	**+2.9**
HOPEN				*eSg*	**Sb**	**04 27 37.6**	**+4.9**
OMEGA	**Omega**	**4.66**	**67**	*eP*	**Pn**	**04 26 54.1**	**+0.5**
OMEGA				*eS*	**Sn**	**04 27 45.5**	**-2.1**
	comp=Z,13nm,2.9s						
VADS	**Vadso**	**10.21**	**162**	P	**Pn**	**04 28 08.3**	**-1.5**
VADS				S	Sn	04 29 55.0	-9.2
KEV	**Kevo**	**10.47**	**167**	Pn	**Pn**	**04 28 11.7**	**-1.6**
KEV	**Kevo**	**10.47**	**167**	Pn	**Pn**	**04 28 11.7**	**-1.6**
ARA0	**ARCESS Array S**	**10.63**	**170**	Pn	**Pn**	**04 28 12.8**	**-2.8**
	baz=0.5,slow=11						
ARA0	**ARCESS Array S**	**10.63**	**170**	Pn	**Pn**	**04 28 12.8**	**-2.8**
	baz=0.5,slow=11						
ARCES	**ARCESS Array B**	**10.63**	**170**	P	**Pn**	**04 28 13.6**	**-2.0**
ARCES				S	Sn	04 30 02.8	-12

*NOU **28** 04:28:38.7,38.39S×175.90E, h187km, MLv3.6/10, North Island, New Zealand*
*WEL **28** 04:28:42.2±0.6,38°S±4°×17°6E±°, h152km±5km, M2.8/45, ML2.2/9, MLv2.8/45, Error ellipse: s-maj=0.0km s-min=0.0km az=152.5, confirmed*
ISC 28 04:28:36.4±1.7,38.36S±0.06×175.93E±0.05, h196km±9km, n121, σ1§85/142, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRRZ	**Galatos Road**	**0.14**	**86**	P	**Pn**	**04 29 03.4**	**+1.2**
KUTZ	**Kaahu Road**	**0.15**	**212**	P	**Pn**	**04 29 03.6**	**+1.4**
WPRZ	**Whakapapatarin**	**0.24**	**131**	P	**Pn**	**04 29 03.5**	**+1.1**
HSRZ	**Hossack Road**	**0.25**	**79**	P	**Pn**	**04 29 03.6**	**+1.3**
HRRZ	**Handcock Road**	**0.28**	**96**	P	**Pn**	**04 29 03.6**	**+1.2**
TLZ	**Tolley Road**	**0.31**	**275**	P	**Pn**	**04 29 04.1**	**+1.6**
WATZ	**Wairara**	**0.38**	**204**	P	**Pn**	**04 29 04.2**	**+1.5**
ALRZ	**Allen Road**	**0.38**	**122**	P	**Pn**	**04 29 03.8**	**+1.1**
KARZ	**Kaharoa**	**0.42**	**36**	P	**Pn**	**04 29 03.9**	**+1.1**
RRRZ	**Republican Roa**	**0.46**	**88**	P	**Pn**	**04 29 04.0**	**+1.0**
RATZ	**Rangitukua**	**0.52**	**194**	P	**Pn**	**04 29 04.7**	**+1.5**
HATZ	**Hinemaiaia**	**0.55**	**166**	P	**Pn**	**04 29 04.5**	**+1.2**
MRHZ	**Matea Rd**	**0.61**	**141**	P	**Pn**	**04 29 04.7**	**+1.2**
RITZ	**Rihia Road**	**0.62**	**185**	P	**Pn**	**04 29 05.5**	**+1.9**
KATZ	**Kakaramea**	**0.64**	**196**	P	**Pn**	**04 29 05.5**	**+1.7**
TOZ	**Tahuroa Road**	**0.71**	**332**	P	**Pn**	**04 29 05.7**	**+1.7**
NTVZ	**North Tongarir**	**0.76**	**195**	P	**Pn**	**04 29 06.3**	**+1.9**
TMVZ	**Te Maari**	**0.78**	**193**	P	**Pn**	**04 29 06.4**	**+1.9**
WTVZ	**West Tongariro**	**0.80**	**199**	P	**Pn**	**04 29 06.5**	**+1.9**
TWVZ	**Taurewa**	**0.81**	**208**	P	**Pn**	**04 29 06.5**	**+1.9**
NNVZ	**North Ngauruho**	**0.81**	**197**	P	**Pn**	**04 29 06.8**	**+2.1**
OTVZ	**Oturere**	**0.83**	**194**	P	**Pn**	**04 29 07.0**	**+2.2**
NGZ	**Ngauruhoe**	**0.85**	**197**	P	**Pn**	**04 29 06.9**	**+1.9**
HIZ	**Hauiti**	**0.86**	**259**	P	**Pn**	**04 29 06.9**	**+2.1**
HIZ	**Hauiti**	**0.86**	**259**	P	**Pn**	**04 29 06.8**	**+2.1**
RTZ	**Ruatahuna**	**0.86**	**108**	P	**Pn**	**04 29 06.2**	**+1.3**
RTZ				S	Sn	04 29 24.8	-2.3
MTHZ	**Maungataniwha**	**0.87**	**125**	P	**Pn**	**04 29 06.6**	**+1.6**
MTHZ				S	Sn	04 29 24.8	-2.3
BKZ	**Black Stump Fm**	**0.92**	**151**	P	**Pn**	**04 29 06.7**	**+1.4**
BKZ	**Black Stump Fm**	**0.92**	**151**	P	**Pn**	**04 29 06.8**	**+1.6**
BKZ				S	Sn	04 29 25.1	-2.6
TUVZ	**Tukino**	**0.93**	**193**	P	**Pn**	**04 29 07.5**	**+2.0**
URZ	**Urewera**	**0.94**	**84**	P	**Pn**	**04 29 06.1**	**+0.8**
URZ	**Urewera**	**0.94**	**84**	P	**Pn**	**04 29 06.1**	**+0.8**
URZ				S	Sn	04 29 24.3	-3.3
FWVZ	**Far West T-bar**	**0.94**	**198**	P	**Pn**	**04 29 07.9**	**+2.3**
MAVZ	**Matarangi**	**0.95**	**197**	P	**Pn**	**04 29 08.0**	**+2.2**
WHVZ	**Whangaehu Hut**	**0.96**	**196**	P	**Pn**	**04 29 07.8**	**+2.0**
TRVZ	**Turoa**	**0.98**	**197**	P	**Pn**	**04 29 07.9**	**+2.0**
WNVZ	**Wahianoa**	**1.00**	**195**	P	**Pn**	**04 29 07.8**	**+1.9**
WNVZ				S	Sn	04 29 27.5	-1.5
NMHZ	**Naumai**	**1.01**	**137**	P	**Pn**	**04 29 08.3**	**+2.5**
NMHZ				S	Sn	04 29 28.4	-0.4
PKVZ	**Pokaka**	**1.03**	**206**	P	**Pn**	**04 29 08.1**	**+2.0**
PKVZ				S	Sn	04 29 28.5	-0.7
MOVZ	**Moawhango**	**1.05**	**187**	P	**Pn**	**04 29 07.9**	**+1.7**
MOVZ				S	Sn	04 29 26.9	-2.6
RAHZ	**Arahi**	**1.06**	**122**	P	**Pn**	**04 29 08.2**	**+2.0**
RAHZ				S	Sn	04 29 28.3	-1.1
KWHZ	**Kaweka Forest**	**1.13**	**160**	P	**Pn**	**04 29 08.8**	**+2.0**
BHHZ	**Black Hill Sta**	**1.13**	**175**	P	**Pn**	**04 29 08.5**	**+1.7**
BHHZ				S	Sn	04 29 28.3	-2.2
RAGZ	**Rawiri**	**1.18**	**97**	P	**Pn**	**04 29 08.9**	**+1.7**
RAGZ				S	Sn	04 29 29.1	-1.8
SNGZ	**Shannon Statio**	**1.18**	**111**	P	**Pn**	**04 29 09.2**	**+2.1**
VRZ	**Vera Road**	**1.19**	**230**	P	**Pn**	**04 29 09.8**	**+2.7**
VRZ				S	Sn	04 29 32.1	+1.1
ARHZ	**Aropaoanui**	**1.23**	**138**	P	**Pn**	**04 29 09.8**	**+2.4**
ARHZ				S	Sn	04 29 30.6	-0.9
MCHZ	**McNeill Hill**	**1.24**	**151**	P	**Pn**	**04 29 10.2**	**+2.7**
WHHZ	**Waihua**	**1.25**	**125**	P	**Pn**	**04 29 09.9**	**+2.3**
MWZ	**Matawai**	**1.26**	**89**	P	**Pn**	**04 29 09.2**	**+1.5**
MWZ				S	Sn	04 29 29.4	-2.5
KRHZ	**Kereru**	**1.33**	**165**	P	**Pn**	**04 29 10.5**	**+2.2**
MKAZ	**Moumakai**	**1.39**	**334**	P	**Pn**	**04 29 11.1**	**+2.3**
RUGZ	**Raukumara Rang**	**1.43**	**75**	P	**Pn**	**04 29 10.0**	**+0.7**
RIGZ	**Rimuhau**	**1.48**	**104**	P	**Pn**	**04 29 11.8**	**+2.2**
RIGZ				S	Sn	04 29 34.0	-1.4
TKGZ	**Te Karaka**	**1.51**	**94**	P	**Pn**	**04 29 12.4**	**+2.5**
TKGZ				S	Sn	04 29 34.3	-1.4
KNZ	**Kokohu**	**1.52**	**116**	P	**Pn**	**04 29 11.9**	**+2.0**
KNZ				S	Sn	04 29 34.1	-1.7
PNHZ	**Pukenui**	**1.57**	**172**	P	**Pn**	**04 29 12.4**	**+2.1**
WAZ	**Wanganui**	**1.57**	**207**	P	**Pn**	**04 29 13.0**	**+2.6**
CKHZ	**Cape Kidnapper**	**1.58**	**146**	P	**Pn**	**04 29 13.1**	**+2.7**
CKHZ				S	Sn	04 29 36.0	-0.9
HAZ	**Te Kaha**	**1.58**	**68**	P	**Pn**	**04 29 11.4**	**+0.9**
KAHZ	**Kahuranaki**	**1.61**	**153**

JCZ S **Sn** 04 31 51.6 -4.5

SCB 28 04:32:51.8±0.9, 18°.52S×63°.60W, h30km±4km, ML3.4/1, MW3.7, Error ellipse: s-maj=3.8km s-min=2.8km az=2.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOTI	**Planta Incahua**	**1.30**	**183**	Pg	Pb	04 33 16.9	+1.2
SOET	**ToroToro**	**2.14**	**280**	Pg	Pb	04 33 31.6	+1.4
MOCB	**Mochara**	**3.33**	**215**	Pn	Pb	04 33 46.7	-3.7
MOCB				Sn	Sb	04 34 29.2	-1.4
MOCB				IAML		04 34 40.8	
	87nm,0.5s						
SIV	**San Ignacio**	**3.48**	**44**	Pn	Pb	04 33 49.5	-3.4
SOEO	**Opoqueri**	**4.07**	**269**	Pn	Pb	04 33 58.1	-5.0
BBOE	**La Paz, Chanca**	**4.51**	**291**	Pn	Pn	04 34 03.8	+5.1
LPAZ	**La Paz**	**4.86**	**296**	Pn	Pn	04 34 08.7	+5.2
BBOD	**La Paz, Gloria**	**5.12**	**291**	Pn	Pn	04 34 12.2	+5.1
PTLB	**Pontes e Lacer**	**5.25**	**55**	Pn	Pn	04 34 12.9	+4.6
VILB	**Vilhena**	**6.43**	**31**	Pn	Pn	04 34 29.6	+5.1

*IDC **28** 04:37:22.1±2.7, 22°.45S×148°.05E, h0km, mbtmp3.2/3, ML3.2/3, Error ellipse: s-maj=33.1km s-min=23.1km az=64.0*
*AUST **28** 04:37:22.2±1.3, 22°.48S×148°.28E, h0km, Error ellipse: s-maj=22.9km s-min=11.3km az=49.0, Mining explosion.*
ISC 28 04:37:19.7±0.9, 22°.33S±0°.06×148°.29E±0°.08, h0km, n12, σ1§59/16, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUNRC	**North Rockhamp**	**2.30**	**116**	P	**Pn**	**04 38 00.5**	**+1.6**
	baz=2.2						
AUNRC				S	**Sb**	**04 38 31.3**	**+0.2**
	baz=2.2						
CTA	**Charters Tower**	**2.93**	**319**	P	**Pn**	**04 38 09.0**	**+1.5**
	baz=3.1						
CTA				S	**Sg**	**04 38 52.8**	**-1.0**
	baz=3.1						
CTA	**Charters Tower**	**2.93**	**319**	Pn	**Pn**	**04 38 09.2**	**+1.6**
	4.3nm,0.3s,baz=144,slow=18,SNR=57						
CTA				Pg	**Pg**	**04 38 15.9**	**+0.1**
	12nm,0.3s,baz=144,slow=17,SNR=21						
CTA				Lg	Lg	04 38 51.7	
	12nm,0.3s,baz=237,slow=23,SNR=11						
	8.5nm,0.3s						
EIDS	**Eidsvold**	**3.96**	**140**	P	**Pn**	**04 38 23.3**	**+1.6**
	baz=3.9						
EIDS				S	**Sg**	**04 39 25.0**	**-2.0**
	baz=3.9						
RMQ	**Roma**	**4.16**	**174**	S	**Sg**	**04 39 31.9**	**-1.4**
	baz=4.0						
MTSU	**Mount Surprise**	**5.60**	**318**	P	**Pn**	**04 38 46.4**	**+2.2**
	baz=5.7						
MTSU				S	**Sg**	**04 40 18.2**	**-1.4**
	baz=5.7						
QLP	**Quilpie**	**5.61**	**220**	P	**Pn**	**04 38 46.6**	**+2.2**
	baz=5.5						
QIS	**Mount Isa**	**8.28**	**281**	P	**Pn**	**04 39 21.6**	**+0.6**
	baz=8.3						
WRA	**Warramunga Arr**	**13.23**	**278**	Pn	**Pn**	**04 40 27.1**	**-1.9**
	0.1nm,0.3s,baz=90,slow=12,SNR=12						
WRA				Lg	Lg	04 44 16.3	
	0.1nm,0.3s,baz=107,slow=30,SNR=5.5						
	0.4nm,0.7s						
I07AU	**WARRAMUNGA INF**	**13.24**	**278**	I	I	05 56 40.0	
	baz=104,slow=308,SNR=1.8						
ASAR	**Alice Springs**	**13.31**	**262**	Pn	**Pn**	**04 40 30.6**	**+0.6**
	0.1nm,0.3s,baz=87,slow=14,SNR=2.3						
ASAR				Lg	Lg	04 44 19.8	
	baz=69,slow=31,SNR=4.7						
	0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**146.96**	**260**	PKPbc	**PKPab**	**04 57 06.0**	**-0.5**
	0.5nm,0.9s,baz=90,slow=3.7,SNR=4.2						

*IDC **28** 04:52:12.1±3.2, 20°.85S×148°.25E, h0km, mbtmp3.3/1, ML3.0/1, Error ellipse: s-maj=85.4km s-min=46.1km az=3.0*
*AUST **28** 04:52:16.2±3.3, 21°.98S×148°.28E, h0km, Error ellipse: s-maj=99.3km s-min=18.7km az=41.0, Mining explosion.*
ISC 28 04:52:11.7±1.1, 22°.2S±0°.2×148°.0E±0°.1, h0km, n5, σ1§48/6, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUNRC	**North Rockhamp**	**2.62**	**117**	P	**Pn**	**04 52 55.0**	**-0.2**
	baz=2.5						
AUNRC				S	**Sb**	**04 53 33.1**	**+0.8**
	baz=2.5						
CTA	**Charters Tower**	**2.63**	**321**	P	**Pb**	**04 52 58.1**	**-1.6**
	baz=2.7						
CTA				S	**Sg**	**04 53 37.9**	**+1.8**
	baz=2.7						
WRA	**Warramunga Arr**	**12.95**	**277**	Pn	**Pn**	**04 55 17.4**	**+0.4**
	0.1nm,0.3s,baz=95,slow=13,SNR=5.7						
WRA				Lg	Lg	04 59 09.5	
	0.1nm,0.3s,baz=94,slow=27,SNR=2.8						
	0.4nm,0.5s						
I07AU	**WARRAMUNGA INF**	**12.96**	**277**	I	I	06 13 20.0	
	baz=103,slow=312,SNR=3.3						
TORD	**Torodi Ar. Bea**	**146.73**	**260**	PKPbc	**PKPab**	**05 11 57.7**	**0.0**
	0.2nm,0.6s,baz=121,slow=2.2,SNR=1.9						

*UPA **28** 05:03:40.8±0.8, 8°.40N×82°.91W, h6km±4km, MW3.3*
*CATAC **28** 05:03:41.0±0.7, 8°.34N×82°.92W, h0km, ML3.1*
ISC 28 05:03:41.3±1.1, 8°.39N±0°.03×82°.91W±0°.03, h18km±4km, n21, σ1§09/32, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDITO	**Canoas**	**0.19**	**12**	*e*P	**Pb**	**05 03 45.6**	**-0.4**
CDITO	**Canoas**	**0.19**	**12**	*i* P	**Pb**	**05 03 45.5**	**-0.4**
CDITO				*i* S	**Sg**	**05 03 49.4**	**+0.2**
CDITO				IAML		05 03 54.2	
	comp=Z,1μm,1.0s						
PTPM	**Petroterminale**	**0.19**	**169**	*e*P	**Pb**	**05 03 45.1**	**-0.9**
PTPM				*e*S	**Sb**	**05 03 49.0**	**-0.1**
LIMO3	**Limones**	**0.29**	**170**	*e*P	**Pg**	**05 03 47.9**	**+0.3**
PIRO	**Carate, Puerto**	**0.42**	**272**	*i* P	**Pg**	**05 03 49.5**	**-0.4**
PIRO				IAML		05 04 00.4	
	comp=Z,910nm,1.0s						
BRU2	**Volcan**	**0.46**	**29**	*e*P	**Pg**	**05 03 50.7**	**+0.1**
BRU2				*e*S	**Sb**	**05 03 58.0**	**+0.5**
BRU2	**Volcan**	**0.46**	**29**	*i* P	**Pg**	**05 03 50.8**	**+0.1**
BRU2				*i* S	**Sg**	**05 03 56.9**	**-0.1**
BRU2				IAML		05 04 04.6	
	comp=Z,540nm,1.0s						
DVD	**David**	**0.46**	**84**	*e*P	**Pg**	**05 03 50.1**	**-0.5**
DVD				*e*S	**Sb**	**05 03 57.8**	**+0.4**
BCO2	**Palmira**	**0.50**	**49**	*e*P	**Pb**	**05 03 51.3**	**-0.4**
BCO2				*e*S	**Sb**	**05 03 59.8**	**+1.0**
BC3P	**Paso Ancho**	**0.52**	**35**	*e*P	**Pb**	**05 03 51.4**	**-0.6**
POTG	**Potrero Grande**	**0.69**	**343**	*i* P	**Pb**	**05 03 54.1**	**-0.7**
POTG				*i* S	**Sb**	**05 04 03.5**	**-0.5**
POTG				IAML		05 04 07.7	
	comp=Z,850nm,1.0s						
OCHAL	**Ojochal**	**1.01**	**314**	*i* P	**Pb**	**05 03 58.5**	**-1.7**
OCHAL				*i* S	**Sn**	**05 04 14.0**	**-0.3**
OCHAL				IAML		05 04 22.5	
	comp=Z,3.8nm,1.0s						
CNI2	**El Empalme, Bo**	**1.12**	**23**	*e*P	**Pn**	**05 04 01.2**	**-0.8**
CDM	**Cerro de Muert**	**1.43**	**324**	*i* P	**Pn**	**05 04 05.9**	**-0.9**
CDM				IAML		05 04 32.7	
	comp=Z,300nm,1.0s						
RIMA	**Rio Macho**	**1.66**	**326**	*i* P	**Pn**	**05 04 09.6**	**-0.1**
RIMA				*i* S	**Sb**	**05 04 32.2**	**+0.1**
RIMA				IAML		05 04 38.5	
	comp=Z,74nm,1.0s						
LCR2	**La Lucha 2**	**1.72**	**321**	*i* P	**Pb**	**05 04 12.4**	**-0.1**
LCR2				*i* S	**Sg**	**05 04 37.0**	**+0.1**
LCR2				IAML		05 04 37.9	
	comp=Z,290nm,1.0s						
HDC3	**Heredia 3**	**1.99**	**324**	*i* P	**Pb**	**05 04 17.6**	**+0.5**
HDC3				*i* S	**Sg**	**05 04 44.2**	**-1.3**
HDC3				IAML		05 04 47.1	
	comp=Z,180nm,1.0s						
SOCE	**Pocosol**	**2.60**	**320**	*i* P	**Pb**	**05 04 26.0**	**-1.4**
SOCE				IAML		05 04 28.8	
	comp=Z,87nm,1.0s						
POPE	**POPE, Guanacas**	**2.85**	**306**	*i* P	**Pn**	**05 04 27.6**	**+1.6**
POPE				IAML		05 05 16.9	
	comp=Z,35nm,1.0s						
ORTG	**Ortega, Santa**	**3.19**	**308**	*i* P	**Pn**	**05 04 33.1**	**+2.5**
ORTG				IAML		05 06 10.6	
	comp=Z,37nm,1.0s						
HZTE	**Horizontes, Gu**	**3.51**	**311**	*i* P	**Pn**	**05 04 38.4**	**+3.4**
HZTE				IAML		05 05 29.5	
	comp=Z,100nm,1.0s						

IDC 28 05:09:03.2±7.1, 19°.75S×177°.70W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=307.2km s-min=37.8km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.97**	**256**	P	P	05 17 20.5	0.0
	1.2nm,0.5s,baz=95,slow=7.8,SNR=19						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**44.99**	**261**	P	P	05 17 20.5	-0.2
	0.6nm,0.6s,baz=97,slow=7.5,SNR=14						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**87.53**	**13**	P	P	05 21 52.5	0.0
	0.6nm,0.9s,baz=213,slow=4.8,SNR=5.7						
	0.6nm,0.9s						

*NEIC **28** 05:12:51.9±1.7, 25°.1S±0°.1×179°.8W±0°.1, h450km±8km, mb4.7/42, Error ellipse: s-maj=19.4km s-min=16.1km az=111.0*
*IDC **28** 05:12:53.9±1.1, 24°.99S×179°.84W, h481km±12km, mb3.6/16, mbtmp4.5/19, Error ellipse: s-maj=12.7km s-min=11.9km az=81.0*
*NOU **28** 05:12:54.8, 25°.07S×179°.56W, h520km, mb4.7/41, South of Fiji Islands*
ISC 28 05:12:54.9±0.4, 25°.12S±0°.06×179°.85W±0°.07, h496km, n141, σ1§52/150, mb4.5/31, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.46**	**158**	P	**P**	**05 14 17.5**	**+0.7**
	299nm,0.5s,baz=284,slow=20,SNR=3.9						
RAO				S	**S**	**05 15 23.1**	**-0.5**
	256nm,0.3s,baz=81,slow=23,SNR=2.6						
GLKZ	**Green Lake**	**4.47**	**158**	P	**P**	**05 14 15.7**	**-1.2**
GLKZ				S	**S**	**05 15 21.3**	**-2.5**
LKBA	**Tubou, Lakemba**	**6.92**	**8**	P	**P**	**05 14 40.7**	**+0.4**
TAVE	**Taveuni**	**8.37**	**360**	P	**P**	**05 14 56.4**	**+1.1**
YSA	**Yasawairara**	**8.72**	**344**	P	**P**	**05 14 59.0**	**+0.1**
DGTI	**Dogotuki**	**8.79**	**357**	P	**P**	**05 15 00.2**	**+0.6**
OUZ	**Omahuta**	**11.54**	**208**	P	**P**	**05 15 31.6**	**+3.1**
MARNC	**Mare, Loyalty**	**11.71**	**286**	P	**P**	**05 15 27.6**	**-2.8**
GRZ	**Great Barrier**	**11.80**	**199**	P	**P**	**05 15 33.4**	**+2.2**
PINNC	**Pines Island,**	**11.89**	**280**	P	**P**	**05 15 30.4**	**-1.9**
KUZ	**Kuaotunu**	**12.19**	**197**	P	**P**	**05 15 37.5**	**+2.1**
KUZ	**Kuaotunu**	**12.19**	**197**	P	**P**	**05 15 37.4**	**+2.1**
WIAZ	**Waiheke Island**	**12.40**	**199**	P	**P**	**05 15 40.0**	**+2.5**
OUENC	**Ouen Island, N**	**12.48**	**280**	P	**P**	**05 15 35.0**	**-3.6**
MXZ	**Matakaoa Point**	**12.50**	**187**	P	**P**	**05 15 39.5**	**+0.9**
MXZ	**Matakaoa Point**	**12.50**	**187**	P	**P**	**05 15 37.9**	**-0.7**
MXZ				S	**S**	**05 17 57.1**	**+3.5**
YATNC	**Mamie plateau,**	**12.53**	**281**	P	**P**	**05 15 41.0**	**+1.8**
ETAZ	**East Tamaki Re**	**12.61**	**200**	P	**P**	**05 15 42.4**	**+2.6**
LIFNC	**LIFOU**	**12.65**	**287**	P	**P**	**05 15 41.1**	**+0.6**
MKAZ	**Moumakai**	**12.68**	**198**	P	**P**	**05 15 42.6**	**+2.0**
WMGZ	**Waiomatatini S**	**12.74**	**186**	P	**P**	**05 15 41.5**	**+0.3**
WMGZ				S	**S**	**05 17 57.2**	**-1.1**
HAZ	**Te Kaha**	**12.76**	**189**	P	**P**	**05 15 40.4**	**-0.9**
HAZ				S	**S**	**05 17 56.9**	**-1.6**
AWAZ	**Awhitu Peninsu**	**12.80**	**200**	P	**P**	**05 15 43.9**	**+2.1**
PKGZ	**Pakihiroa**	**12.85**	**187**	P	**P**	**05 15 41.3**	**-1.0**
ONTNC	**Ouen Toro**	**12.85**	**280**		**P**	**05 15 40.6**	**-2.0**
DZM	**Mont Dzumac**	**12.93**	**281**		**P**	**05 15 41.9**	**-1.6**
DZM	**Mont Dzumac**	**12.93**	**281**	P	**P**	**05 15 45.2**	**+1.7**
DZM	**Mont Dzumac**	**12.93**	**281**	P	**P**	**05 15 44.2**	**+0.7**
	48nm,0.9s,baz=207,slow=23,SNR=28						
RUGZ	**Raukumara Rang**	**12.97**	**189**	P	**P**	**05 15 42.6**	**-1.2**
RUGZ				S	**S**	**05 18 03.3**	**+0.3**
TGRZ	**Tauranga**	**13.00**	**194**	P	**P**	**05 15 45.8**	**+2.0**
NOUC	**Port Laguerre**	**13.04**	**280**	P	**P**	**05 15 46.4**	**+1.8**
URZ	**Urewera**	**13.35**	**190**	P	**P**	**05 15 46.5**	**-1.1**
	40nm,0.4s,baz=83,slow=0.8,SNR=22						
URZ				S	**S**	**05 18 07.8**	**-2.2**
	13nm,0.7s,baz=294,slow=17,SNR=2.3						
AFI	**Afiamalu**	**13.50**	**36**	P	**P**	**05 15 46.0**	**-3.6**
AFI	**Afiamalu**	**13.50**	**36**	P	**P**	**05 15 47.0**	**-2.6**
HIZ	**Hauiti**	**14.08**	**197**	P	**P**	**05 15 57.8**	**+2.4**
BKZ	**Black Stump Fm**	**14.34**	**192**	P	**P**	**05 15 56.8**	**-1.3**
KOUNC	**Koumac, New Ca**	**15.31**	**284**	P	**P**	**05 16 05.9**	**-2.7**
KOUNC				IAmb	IAmb	05 16 21.4	
	comp=Z,16nm,0.8s						
BFZ	**Birch Farm**	**15.86**	**191**	P	**P**	**05 16 13.6**	**-0.3**
MRZ	**Mangatainoka R**	**15.96**	**193**	P	**P**	**05 16 13.1**	**-1.9**
SNZO	**South Karori**	**16.77**	**194**	P	**P**	**05 16 22.6**	**-0.9**
TCW	**Tory Channel**	**16.77**	**196**		**P**	**05 16 22.8**	**-0.7**
BHW	**Baring Head**	**16.82**	**194**	P	**P**	**05 16 23.2**	**-0.9**
QRZ	**Quartz Range**	**16.90**	**200**	P	**P**	**05 16 23.6**	**-1.3**
QRZ	**Quartz Range**	**16.90**	**200**	P	**P**	**05 16 24.5**	**-0.4**
TKNZ	**Takaka Hill**	**16.96**	**199**	P	**P**	**05 16 24.1**	**-1.3**
NNZ	**Nelson**	**17.01**	**198**	P	**P**	**05 16 23.8**	**-2.1**
TUWZ	**Tuamarina**	**17.06**	**196**	P	**P**	**05 16 25.7**	**-0.7**
BSWZ	**Blackbirch Sta**	**17.35**	**196**	P	**P**	**05 16 29.1**	**-0.1**
MRNZ	**Matariki Terra**	**17.36**	**199**	P	**P**	**05 16 28.9**	**-0.4**
THZ	**Tophouse**	**17.65**	**198**	P	**P**	**05 16 32.5**	**+0.3**
DSZ	**Denniston Nort**	**17.96**	**201**	P	**P**	**05 16 35.6**	**+0.6**
KHZ	**Kahutara**	**18.09**	**196**	P	**P**	**05 16 35.5**	**-0.5**
KHZ	**Kahutara**	**18.09**	**196**	P	**P**	**05 16 35.6**	**-0.5**
GVZ	**Greta Valley S**	**18.74**	**196**	P	**P**	**05 16 41.9**	**-0.2**
LTZ	**Lake Taylor**	**18.77**	**198**	P	**P**	**05 16 41.5**	**-0.9**
INZ	**Inchbonnie**	**18.96**	**200**	P	**P**	**05 16 43.4**	**-0.7**
INZ				IAmb	IAmb	05 16 45.0	
	comp=Z,43nm,0.8s						
OXZ	**Oxford**	**19.34**	**198**	P	**P**	**05 16 46.8**	**-0.8**
RPZ	**Rata Peaks**	**19.98**	**200**	P	**P**	**05 16 54.1**	**+0.6**
RPZ				IAmb	IAmb	05 16 56.0	
	comp=Z,27nm,0.5s						
RPZ	**Rata Peaks**	**19.98**	**200**	P	**P**	**05 16 53.9**	**+0.4**
	comp=Z,25nm,0.5s,baz=350,slow=0.9,SNR=13						
RPZ				S	**S**	**05 20 12.2**	**+4.8**
	comp=Z,8.6nm,0.8s,baz=4.7,slow=17,SNR=1.8						
	comp=Z,25nm,0.5s						
FOZ	**Fox Glacier**	**20.22**	**202**	P	**P**	**05 16 55.6**	**+0.1**
FOZ				IAmb	IAmb	05 17 03.2	
	comp=Z,36nm,0.8s						
JCZ	**Jackson Bay**	**21.05**	**203**	P	**P**	**05 17 03.1**	**-0.1**
ODZ	**Otahua Downs**	**21.31**	**199**	P	**P**	**05 17 04.7**	**-0.8**
MLZ	**Mavora Lakes**	**22.41**	**203**	P	**P**	**05 17 15.3**	**-0.2**
MLZ				IAmb	IAmb	05 17 15.5	
	comp=Z,16nm,1.0s						
WHZ	**Wether Hill Ro**	**22.93**	**202**	P	**P**	**05 17 20.8**	**+0.8**
WHZ				IAmb	IAmb	05 17 21.8	
	comp=Z,14nm,0.7s						
ARMA	**Armidale**	**25.74**	**252**	P	**P**	**05 17 46.1**	**+0.8**
ARMA				IAmb	IAmb	05 17 48.7	
	comp=Z,13nm,0.8s						
ARMA	**Armidale**	**25.74**	**252**	P	**P**	**05 17 48.0**	**+2.6**
EIDS	**Eidsvold**	**26.27**	**263**	P	**P**	**05 17 50.3**	**+0.3**
EIDS				IAmb	IAmb	05 17 51.7	
	comp=Z,16nm,0.6s						
EIDS	**Eidsvold**	**26.27**	**263**	P	**P**	**05 17 51.6**	**+1.6**
CAN	**Canberra**	**28.67**	**242**	P	**P**	**05 18 11.5**	**+0.5**
CAN	**Canberra**	**28.67**	**242**	P	**P**	**05 18 13.4**	**+2.4**
CMSA	**Cobar Meteorol**	**30.91**	**250**	P	**P**	**05 18 31.1**	**+0.7**
CTA	**Charters Tower**	**31.64**	**272**	P	**P**	**05 18 37.3**	**+0.5**
CTA	**Charters Tower**	**31.64**	**272**	P	**P**	**05 18 37.0**	**+0.2**
	comp=Z,19nm,0.4s,baz=97,slow=9.8,SNR=30						
	comp=Z,19nm,0.4s						
CTAO	**Charters Tower**	**31.64**	**272**	P	**P**	**05 18 37.2**	**+0.5**
CTAO				IAmb	IAmb	05 18 38.5	
	comp=Z,29nm,0.7s						
CTAO	**Charters Tower**	**31.64**	**272**	P	**P**	**05 18 37.4**	**+0.6**
TOO	**Toolangi**	**31.91**	**239**	P	**P**	**05 18 39.8**	**+0.8**
QLP	**Quilpie**	**32.29**	**260**	P	**P**	**05 18 42.9**	**+0.6**
STKA	**Stephens Creek**	**34.41**	**250**	P	**P**	**05 19 00.7**	**+0.5**
STKA	**Stephens Creek**	**34.41**	**250**	P	**P**	**05 19 01.1**	**+0.9**
STKA	**Stephens Creek**	**34.41**	**250**	P	**P**	**05 19 00.8**	**+0.5**
	comp=Z,3.9nm,0.6s,baz=98,slow=12,SNR=12						
	comp=Z,3.9nm,0.6s						
PMG	**Port Moresby**	**35.03**	**291**	P	**P**	**05 19 05.3**	**-0.3**
PMG				IAmb	IAmb	05 19 06.9	
	comp=Z,14nm,0.6s						
PMG	**Port Moresby**	**35.03**	**291**	P	**P**	**05 19 04.9**	**-0.7**
	comp=Z,12nm,0.5s,baz=63,slow=4.6,SNR=5.1						
	comp=Z,12nm,0.5s						
HTT	**Hallett**	**36.71**	**247**	P	**P**	**05 19 19.9**	**+0.5**
LCRK	**Leigh Creek**	**37.32**	**252**	P	**P**	**05 19 24.7**	**+0.3**
QIS	**Mount Isa**	**37.54**	**269**	P	**P**	**05 19 27.6**	**+1.3**
BBOO	**Buckleboo**	**39.10**	**248**	P	**P**	**05 19 38.5**	**-0.4**
BBOO	**Buckleboo**	**39.10**	**248**	P	**P**	**05 19 38.6**	**-0.4**
OOD	**Oodnadatta**	**39.73**	**256**	P	**P**	**05 19 44.9**	**+0.9**
MULG	**Mulgathing**	**40.92**	**252**	P	**P**	**05 19 53.3**	**-0.2**
AS31	**Alice Springs**	**41.98**	**262**	P	**P**	**05 20 02.4**	**+0.2**
AS31				IAmb	IAmb	05 20 04.4	
	comp=Z,5.1nm,0.4s						
ASAR	**Alice Springs**	**41.98**	**262**	P	**P**	**05 20 02.2**	**+0.1**
ASAR	**Alice Springs**	**41.98**	**262**	P	**P**	**05 20 02.0**	**-0.1**
	comp=Z,10nm,0.7s,baz=102,slow=8.4,SNR=85						
ASAR				ScP	**ScP**	**05 24 51.1**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=103,slow=4.5,SNR=2.6						
ASAR				S	**S**	**05 25 37.1**	**-7.6**
	comp=Z,0.9nm,0.8s,baz=97,slow=15,SNR=2.6						
	comp=Z,10nm,0.7s						
WR0	**Warramunga Arr**	**42.28**	**267**	P	**P**	**05 20 04.0**	**-0.6**
WR0				IAmb	IAmb	05 20 05.7	
	comp=Z,14nm,0.6s						
WB2	**Warramunga Arr**	**42.46**	**267**	P	**P**	**05 20 05.5**	**-0.4**
WB2				IAmb	IAmb	05 20 07.2	
	comp=Z,26nm,0.6s						
WRAB	**Tennant Creek**	**42.47**	**267**	P	**P**	**05 20 05.7**	**-0.2**
WRAB				IAmb	IAmb	05 20 07.2	
	comp=Z,20nm,0.6s						
WB0	**Warramunga Arr**	**42.47**	**268**	P	**P**	**05 20 05.4**	**-0.6**
WB0				IAmb	IAmb	05 20 07.3	
	comp=Z,32nm,0.6s						
WRA	**Warramunga Arr**	**42.47**	**267**	P	**P**	**05 20 05.6**	**-0.4**
WRA	**Warramunga Arr**	**42.47**	**267**	P	**P**	**05 20 05.2**	**-0.8**
	comp=Z,22nm,0.5s,baz=99,slow=7.1,SNR=174						
WRA				PP	**PP**	**05 21 56.8**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=103,slow=9.1,SNR=3.5						
WRA				ScP	**ScP**	**05 24 51.5**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=99,slow=3.9,SNR=4.2						
WRA				S	**S**	**05 25 46.9**	**-4.9**
	comp=Z,2.5nm,0.9s,baz=101,slow=14,SNR=7.8						
	comp=Z,22nm,0.5s						
FORT	**Forrest**	**46.02**	**251**	P	**P**	**05 20 32.8**	**-0.6**
FORT				IAmb	IAmb	05 20 34.9	
	comp=Z,15nm,0.6s						
FORT	**Forrest**	**46.02**	**251**	P	**P**	**05 20 33.2**	**-0.2**
WRKA	**Warakurna**	**46.71**	**259**	P	**P**	**05 20 38.3**	**-0.5**
KNRA	**Kununurra**	**48.83**	**271**	P	**P**	**05 20 54.7**	**0.0**
KNRA				IAmb	IAmb	05 20 56.8	
	comp=Z,28nm,0.9s						
KNRA	**Kununurra**	**48.83**	**271**	P	**P**	**05 20 54.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**50.88**	**267**	P	**P**	**05 21 10.4**	**+0.6**
VNDA	**Vanda**	**53.18**	**185**	P	**P**	**05 21 25.6**	**+0.2**
VNDA	**Vanda**	**53.18**	**185**	P	**P**	**05 21 25.4**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=340,slow=6.0,SNR=6.0						
	comp=Z,0.9nm,0.7s						
SOEI	**Soe**	**55.09**	**276**	P	**P**	**05 21 40.2**	**+0.2**
SOEI				IAmb	IAmb	05 21 51.5	
	comp=Z,14nm,0.9s						
MBWA	**Marble Bar**	**55.30**	**261**	P	**P**	**05 21 40.7**	**-0.6**
QSPA	**South Pole Qui**	**64.97**	**180**	P	**P**	**05 22 47.3**	**+2.3**
QSPA	**South Pole Qui**	**64.97**	**180**	P	**P**	**05 22 46.7**	**+1.7**
	comp=Z,2.4nm,0.7s,baz=258,slow=0.4,SNR=9.5						
	comp=Z,2.4nm,0.7s						
BELA	**Belgrano 2**	**75.21**	**173**	P	**P**	**05 23 46.9**	**+1.2**
ADK	**Adak**	**76.72**	**2**	P	**P**	**05 23 53.8**	**-0.4**
ADK				IAmb	IAmb	05 24 05.5	
	comp=Z,54nm,1.1s						
KSRS	**Korea Array**	**79.27**	**320**	P	**P**	**05 24 07.8**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=134,slow=7.0,SNR=5.5						
	comp=Z,1.3nm,0.7s						
PEA0B	**Petropavlovsk-**	**80.31**	**346**	P	**P**	**05 24 14.1**	**+0.7**
PEA0B				IAmb	IAmb	05 24 36.6	
	comp=Z,11nm,0.9s						
PETK	**Petropavlovsk-**	**80.31**	**346**	P	**P**	**05 24 13.2**	**-0.2**
	comp=Z,5.6nm,0.6s,baz=115,slow=7.3,SNR=8.2						
	comp=Z,5.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**81.86**	**327**	P	**P**	**05 24 22.1**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=154,slow=4.3,SNR=4.1						
	comp=Z,1.8nm,0.6s						
SNAA	**Sanae**	**83.45**	**179**	P	**P**	**05 24 28.5**	**-0.9**
NVAR	**Mina Array Bea**	**85.54**	**44**	P	**P**	**05 24 40.0**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=222,slow=8.8,SNR=12						
	comp=Z,1.1nm,0.7s						
PLCA	**Paso Flores**	**87.32**	**134**	P	**P**	**05 24 49.9**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=179,slow=4.4,SNR=3.1						
	comp=Z,0.9nm,0.6s						
I07A	**Izee**	**88.25**	**39**	P	**P**	**05 24 54.3**	**+1.4**
I07A				IAmb	IAmb	05 24 56.3	
	comp=Z,5.1nm,1.0s						
L19K	**White Mountain**	**89.28**	**11**	P	**P**	**05 24 58.6**	**+1.5**
L19K				IA

OGWZ	**Otaki Gorge**	**1.38**	**158**	P		Pn	05 13 26.0	+1.3
MRZ	**Mangatainoka R**	**1.40**	**143**	P		Pn	05 13 25.9	+1.0
MRZ	**Mangatainoka R**	**1.40**	**143**	P		Pn	05 13 25.7	+0.8
MRZ				S		Sn	05 13 45.9	+0.7
KRHZ	**Kereru**	**1.47**	**95**	P		Pn	05 13 26.6	+1.0
DVHZ	**Dannevirke**	**1.51**	**121**	P		Pn	05 13 26.6	+0.5
DVHZ	**Dannevirke**	**1.51**	**121**	P		Pn	05 13 25.5	-0.5
DVHZ				S		Sn	05 13 47.6	+0.3
PRWZ	**Pori Road**	**1.53**	**132**	P		Pn	05 13 27.4	+1.1
PRWZ	**Pori Road**	**1.53**	**132**	P		Pn	05 13 26.8	+0.5
PRWZ				S		Sn	05 13 48.6	+0.8
HOWZ	**Holdsworth Sta**	**1.57**	**150**	P		Pn	05 13 26.4	-0.4
HOWZ	**Holdsworth Sta**	**1.57**	**150**	P		Pn	05 13 26.3	-0.5
HOWZ				S		Sn	05 13 48.4	-0.3
WPHZ	**Waipukurau**	**1.60**	**110**	S		Sn	05 13 49.5	+0.3
CAW	**Cannon Point**	**1.63**	**164**	P		Pn	05 13 28.4	+1.0
CAW	**Cannon Point**	**1.63**	**164**	P		Pn	05 13 28.6	+1.1
CAW				S		Sn	05 13 52.0	+2.2
TCW	**Tory Channel**	**1.68**	**185**	P		Pn	05 13 26.8	-1.2
TCW	**Tory Channel**	**1.68**	**185**	P		Pn	05 13 28.7	+0.7
TCW				S		Sn	05 13 51.0	+0.2
BFZ	**Birch Farm**	**1.77**	**131**	P		Pn	05 13 29.1	0.0
BFZ	**Birch Farm**	**1.77**	**131**	P		Pn	05 13 28.7	-0.5
BFZ				S		Sn	05 13 53.0	+0.1
MTW	**Mount Morrison**	**1.80**	**154**	P		Pn	05 13 29.2	-0.2
PRHZ	**Porangahau**	**1.81**	**114**	P		Pn	05 13 30.1	+0.4
HRRZ	**Handcock Road**	**1.82**	**51**	P		Pn	05 13 27.0	-2.8
NNZ	**Nelson**	**1.87**	**206**	P		Pn	05 13 30.8	+0.5
NNZ	**Nelson**	**1.87**	**206**	P		Pn	05 13 30.8	+0.5
NNZ				S		Sn	05 13 56.7	+1.8
TKNZ	**Takaka Hill**	**1.89**	**217**	P		Pn	05 13 30.8	+0.2
TKNZ	**Takaka Hill**	**1.89**	**217**	P		Pn	05 13 30.3	-0.2
TKNZ				S		Sn	05 13 55.2	-0.2
TUWZ	**Tuamarina**	**1.93**	**192**	P		Pn	05 13 31.3	+0.3
TUWZ	**Tuamarina**	**1.93**	**192**	P		Pn	05 13 31.6	+0.6
TUWZ				S		Sn	05 13 55.1	-1.1
QRZ	**Quartz Range**	**1.97**	**229**	P		Pn	05 13 31.4	-0.1
BSWZ	**Blackbirch Sta**	**2.22**	**192**	P		Pn	05 13 34.5	-0.1
BSWZ				S		Sn	05 14 02.1	-0.6
MRNZ	**Matariki Terra**	**2.27**	**215**	S		Sn	05 14 05.0	+1.2
THZ	**Tophouse**	**2.52**	**208**	P		Pn	05 13 39.1	+0.6
THZ	**Tophouse**	**2.52**	**208**	P		Pn	05 13 39.2	+0.7
THZ				S		Sn	05 14 09.5	0.0
KHZ	**Kahutara**	**2.96**	**194**	P		Pn	05 13 43.2	-0.9
KHZ				S		Sn	05 14 19.2	-0.3

*SNET **28** 05:14:05.5±1.2, 13°.73N×89°.25W, h3km, ML2.5*
*CATAC **28** 05:14:05.6±0.7, 13°.72N×89°.26W, h5km±4km, ML2.2*

ISC 28 05:14:05.6±1.1, 13°.73N±0°.04×89°.26W±0°.03, h10km, n22, σ0°69/30, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOQS	**Boqueron**	**0.03**	**281**	*e*P	**Pg**	**05 14 06.5**	**-1.1**
BOQS				*e*S	**Sg**	**05 14 07.7**	**-1.4**
SEMO	**Seminario San**	**0.04**	**132**	*i* P	**Pg**	**05 14 06.7**	**-0.9**
SEMO				IAML		05 14 09.3	
	comp=Z,8μm,1.0s						
SNET	**Serv Nac Est T**	**0.05**	**153**	*e*P	**Pg**	**05 14 06.8**	**-0.8**
SNET	**Serv Nac Est T**	**0.05**	**153**	*i* P	**Pg**	**05 14 07.0**	**-0.7**
SNET				IAML		05 14 10.4	
	comp=Z,6μm,1.0s						
MAGS	**Ministerio de**	**0.06**	**214**	*e*P	**Pg**	**05 14 07.5**	**-0.3**
MAGS				*e*S	**Sg**	**05 14 09.3**	**0.0**
MAGS	**Ministerio de**	**0.06**	**214**	*i* P	**Pg**	**05 14 07.4**	**-0.3**
MAGS				*i* S	**Sg**	**05 14 08.6**	**-0.7**
MAGS				IAML		05 14 10.6	
	comp=Z,2μm,1.0s						
ITCA	**Escuela Especi**	**0.06**	**202**	*e*S	**Sg**	**05 14 09.6**	**+0.2**
ITCA	**Escuela Especi**	**0.06**	**202**	*i* P	**Pg**	**05 14 07.5**	**-0.3**
ITCA				*i* S	**Sg**	**05 14 10.7**	**+1.3**
ITCA				IAML		05 14 12.5	
	comp=Z,6μm,1.0s						
PMON	**Piamonte**	**0.06**	**253**	*e*P	**Pg**	**05 14 07.4**	**-0.4**
PMON	**Piamonte**	**0.06**	**253**	*i* P	**Pg**	**05 14 07.5**	**-0.3**
PMON				IAML		05 14 13.0	
	comp=Z,3μm,1.0s						
IGN	**Direccin Gen**	**0.08**	**101**	*i* P	**Pg**	**05 14 07.8**	**-0.2**
IGN				*i* S	**Sg**	**05 14 09.9**	**+0.1**
IGN				IAML		05 14 11.5	
	comp=Z,7μm,1.0s						
UDBS	**Universidad Do**	**0.10**	**99**	*i* P	**Pg**	**05 14 08.2**	**0.0**
UDBS				*i* S	**Sg**	**05 14 10.5**	**+0.4**
UDBS				IAML		05 14 11.9	
	comp=Z,2μm,1.0s						
QUEZ	**Alcaldia de Qu**	**0.10**	**351**	*e*S	**Sg**	**05 14 10.7**	**+0.4**
QUEZ	**Alcaldia de Qu**	**0.10**	**351**	*i* P	**Pg**	**05 14 08.2**	**-0.1**
QUEZ				*i* S	**Sg**	**05 14 11.2**	**+1.0**
QUEZ				IAML		05 14 17.9	
	comp=Z,4μm,1.0s						
LOMA	**Loma Larga**	**0.12**	**136**	*e*P	**Pg**	**05 14 08.6**	**0.0**
LOMA	**Loma Larga**	**0.12**	**136**	*i* P	**Pg**	**05 14 08.3**	**-0.2**
LOMA				IAML		05 14 13.1	
	comp=Z,400nm,1.0s						
PANCS	**Alcalda de**	**0.14**	**148**	*i* P	**Pg**	**05 14 08.9**	**+0.1**
PANCS				IAML		05 14 43.4	
	comp=Z,1μm,1.0s						
JAYA	**Jayaque - finc**	**0.20**	**248**	*e*P	**Pg**	**05 14 10.4**	**+0.4**
JAYA				*e*S	**Sg**	**05 14 14.3**	**+1.4**
JAYA	**Jayaque - finc**	**0.20**	**248**	*i* P	**Pg**	**05 14 10.5**	**+0.6**
JAYA				IAML		05 14 14.6	
	comp=Z,490nm,1.0s						
PAVA	**Las Pavas**	**0.31**	**93**	*i* P	**Pg**	**05 14 12.3**	**+0.5**
PAVA				IAML		05 14 18.3	
	comp=Z,150nm,1.0s						
COEG	**Centro de Oper**	**0.38**	**107**	*i* P	**Pb**	**05 14 14.1**	**-0.4**
COEG				IAML		05 14 22.4	
	comp=Z,110nm,1.0s						
SCLA	**Alcaldia de Sa**	**0.51**	**93**	*i* P	**Pg**	**05 14 16.1**	**+0.5**
SCLA				IAML		05 14 39.4	
	comp=Z,19nm,1.0s						

*MEX **28** 05:15:59.5±1.5, 18°.65N×106°.53W, h12km±125km, MD4.1*
*NEIC **28** 05:16:02.5±2.4, 18°.83N±0°.05×106°.05W±0°.07, h14km±4km, mb3.9/11, Md4.1/29(MEX), Error ellipse: s-maj=9.8km s-min=7.1km az=92.0*
*IDC **28** 05:16:06.0±27.0, 19°.39N×107°.19W, h0km, mb2.8/2, mbtmp3.0/3, ML3.3/1, Error ellipse: s-maj=375.5km s-min=82.9km az=161.0*

ISC 28 05:16:01.0±1.1, 18°.81N±0°.06×106°.09W±0°.06, h10km, n43, σ1°58/57, mb3.6/4, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**1.21**	**55**	*i* P	**Pn**	**05 16 24.2**	**+0.3**
CJM				*i* S	**Sn**	**05 16 43.6**	**+3.3**
CIHU	**Emiliano Zapat**	**1.36**	**70**	*i* P	**Pn**	**05 16 26.4**	**+0.3**
CIHU				*i* S	**Sg**	**05 16 47.1**	**+2.3**
CDAR	**Ciudad de Arme**	**1.97**	**86**	*i* P	**Pn**	**05 16 34.9**	**+0.4**
CDAR				*e*S	**Sb**	**05 17 02.2**	**+0.6**
PUVA	**Puert Vallarta**	**1.99**	**24**		**Pn**	**05 16 33.7**	**-1.0**
PUVA					**Sb**	**05 17 02.0**	**0.0**
PUVA	**Puert Vallarta**	**1.99**	**24**	*e*P	**Pn**	**05 16 33.7**	**-1.0**
PUVA				*e*S	**Sb**	**05 17 02.0**	**0.0**
COIG	**Colima**	**2.30**	**80**	*i* P	**Pn**	**05 16 39.9**	**+0.8**
COIG				*e*S	**Sb**	**05 17 11.9**	**+0.7**
MNGA	**Volcan de Coli**	**2.42**	**74**	*e*P	**Pb**	**05 16 43.4**	**-1.4**
MNGA				*e*S	**Sg**	**05 17 17.4**	**-1.6**
SOMAC	**Volcano de Col**	**2.43**	**73**	*e*P	**Pb**	**05 16 43.6**	**-1.5**
SOMAC				*e*S	**Sg**	**05 17 17.1**	**-2.1**
EZ5V		**2.44**	**74**		**Pb**	**05 16 43.6**	**-1.7**
EZ5V		**2.44**	**74**	*i* P	**Pb**	**05 16 43.6**	**-1.7**
EZ5V				*e*S	**Sg**	**05 17 18.7**	**-0.9**
INCO	**Volcan de Coli**	**2.46**	**73**	*i* P	**Pb**	**05 16 43.8**	**-1.7**
INCO				*i* P	**Pn**	**05 16 44.2**	**+2.7**
INCO				*e*S	**Sg**	**05 17 17.7**	**-2.3**
JUBC	**Volcan de Coli**	**2.48**	**73**	*i* P	**Pb**	**05 16 44.2**	**-1.7**
JUBC				*e*S	**Sg**	**05 17 19.1**	**-1.8**
MMIG	**Aquila**	**2.66**	**101**		**Pn**	**05 16 44.2**	**+0.4**
MMIG					**Sn**	**05 17 18.4**	**+2.3**
MMIG	**Aquila**	**2.66**	**101**	*e*P	**Pn**	**05 16 44.2**	**+0.4**
MMIG				*e*S	**Sn**	**05 17 18.4**	**+2.3**
ANIG	**Ahuacatlan**	**2.68**	**33**		**Pn**	**05 16 45.6**	**+1.4**
ANIG					**Sb**	**05 17 21.6**	**-0.5**
ANIG	**Ahuacatlan**	**2.68**	**33**	*e*P	**Pn**	**05 16 45.6**	**+1.4**
ANIG				*e*S	**Sb**	**05 17 21.6**	**-0.5**
H06S1	**SOCORRO T**	**4.61**	**270**	T	T	05 21 16.2	
	SNR=14						
H06N1	**SOCORRO T-PHAS**	**4.64**	**271**	T	T	05 21 15.3	
	SNR=4.3						
MOIG	**Morelia**	**4.71**	**79**	Pn	**Pn**	**05 17 09.4**	**-3.0**
ZAIG	**Zacatecas**	**5.14**	**39**		**Pn**	**05 17 17.4**	**-0.8**
TLIG	**Tlapa**	**7.26**	**99**		**Pn**	**05 17 49.7**	**+2.4**
HPIG		**8.10**	**3**	Pn	**Pn**	**05 18 00.1**	**+1.2**
SRIG	**Santa Rosalia**	**10.19**	**327**	Pn	**Pn**	**05 18 27.1**	**-0.2**
TX31	**Lajitas Ar. Si**	**10.71**	**11**		**Pn**	**05 18 34.7**	**+0.1**
TXAR	**Lajitas Array**	**10.71**	**11**	Pn	**Pn**	**05 18 34.1**	**-0.5**
TXAR	**Lajitas Array**	**10.71**	**11**	Pn	**Pn**	**05 18 38.0**	**+3.4**
	0.1nm,0.3s,baz=195,slow=14,SNR=9.9						
	0.8nm,0.8s						
HSIG		**11.09**	**337**	Pn	**Pn**	**05 18 39.8**	**+0.1**
833A	**Chaparral WMA,**	**11.29**	**32**		**Pn**	**05 18 42.3**	**-0.1**
KVTX	**Kingsville**	**11.51**	**39**	Pn	**Pn**	**05 18 44.5**	**-0.9**
DRIO	**Del Rio**	**11.69**	**24**	Pn	**Pn**	**05 18 47.9**	**+0.1**
HNDO	**Hondo**	**12.35**	**29**	Pn	**Pn**	**05 18 57.4**	**+0.5**
ABTX	**Abilene, Hawle**	**14.93**	**22**	Pn	**Pn**	**05 19 32.4**	**+0.2**
WHTX	**Lake Whitney,**	**15.26**	**29**	Pn	**Pn**	**05 19 36.0**	**-0.6**
WHTX				IAmb	IAmb	05 19 38.6	
	comp=Z,6.1nm,0.6s						
DKNS	**Dickens**	**15.50**	**16**	Pn	**Pn**	**05 19 39.9**	**+0.1**
DKNS				IAmb	IAmb	05 20 05.5	
	comp=Z,4.6nm,1.0s						
113A	**Mohawk Valley,**	**15.52**	**335**		**Pn**	**05 19 42.1**	**+2.1**
PETF	**Flores**	**15.56**	**94**	Pn	**Pn**	**05 19 38.4**	**-2.2**
PETF				IAmb	IAmb	05 20 01.1	
	comp=Z,6.9nm,0.9s						
GMN	**Gold Mountain**	**20.86**	**334**	P	**P**	**05 20 44.9**	**+1.5**
GMN				IAmb	IAmb	05 20 53.8	
	comp=Z,2.6nm,1.1s						
NVAR	**Mina Array Bea**	**22.26**	**334**	P	**P**	**05 20 55.0**	**-3.4**
	comp=Z,0.1nm,0.4s,baz=160,slow=11,SNR=7.0						
	comp=Z,0.1nm,0.4s						
RWWY	**Rawlins**	**22.83**	**358**	P	**P**	**05 21 06.4**	**+1.9**
PDAR	**Pinedale Array**	**24.06**	**354**	P	**P**	**05 21 16.0**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=182,slow=12,SNR=2.3						
	comp=Z,0.2nm,0.6s						
RIOS	**Rincon, Osa**	**24.09**	**112**	P	**P**	**05 21 17.4**	**+0.4**
ROSC	**El Rosal**	**33.97**	**110**	P	**P**	**05 22 43.7**	**-1.7**
ROSC				IAmb	IAmb	05 22 54.6	
	comp=Z,4.0nm,0.7s						
SDV	**Santo Domingo**	**35.74**	**101**	P	**P**	**05 23 00.5**	**0.0**
SDV				IAmb	IAmb	05 23 21.6	
	comp=Z,3.6nm,0.7s						

*DNK **28** 05:24:46.2±0.7, 51°.43N×17°.03E, h40km±11km, ML2.8*
*IPEC **28** 05:24:48.4±0.3, 51°.55N×16°.25E, h1km, ML2.1/4, Error ellipse: s-maj=2.1km s-min=1.2km az=37.0*
*VIE **28** 05:24:49.3±0.7, 51°.49N×16°.20E, h0km, mb2.7/5, ml2.6/5, Error ellipse: s-maj=8.2km s-min=3.7km az=54.0 72 km NW of Wroclaw Suspected Mining induced.*
*PRU **28** 05:24:50.1, 51°.52N×16°.16E, h0km*

ISC 28 05:24:46.9±0.8, 51°.64N±0°.03×16°.21E±0°.03, h0km, n31, σ0°89/65, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.80**	**176**	*i* Pg	**Pg**	**05 25 02.5**	**+0.2**
KSP				*e*Sg	**Sg**	**05 25 11.9**	**-0.8**
CHVC	**Chvalec**	**1.06**	**185**	*e*PG	**Pg**	**05 25 07.4**	**+0.1**
CHVC				*e*SG	**Sg**	**05 25 20.2**	**-0.8**
	comp=Z,37nm,0.5s						
OSTC	**Ostas**	**1.09**	**180**	*e*PG	**Pg**	**05 25 08.0**	**+0.2**
OSTC				*e*SG	**Sg**	**05 25 21.2**	**-0.7**
UPC	**Upice**	**1.15**	**186**	*e*PG	**Pg**	**05 25 08.7**	**-0.1**
UPC				*e*SG	**Sg**	**05 25 23.1**	**-0.6**
DPC	**Dobruska-Polom**	**1.30**	**177**	*e*PG	**Pg**	**05 25 11.3**	**-0.5**
DPC				*e*SG	**Sg**	**05 25 27.2**	**-1.4**
PVCC	**Panska Ves**	**1.52**	**223**	*e*PG	**Pn**	**05 25 15.3**	**-0.1**
PVCC				*e*SG	**Sn**	**05 25 35.7**	**-0.2**
	comp=Z,72nm,0.3s						
KRLC	**Kraliky**	**1.61**	**167**	*e*PG	**Pn**	**05 25 17.0**	**+0.3**
KRLC				*e*SG	**Sn**	**05 25 37.1**	**-1.1**
	comp=Z,26nm,0.6s						
BRG	**Berggiesshubel**	**1.62**	**242**	Pn	**Pn**	**05 25 17.1**	**+0.3**
BRG				Pg	**Pb**	**05 25 17.9**	**+0.2**
BRG				Sg	**Sn**	**05 25 38.8**	**+0.5**
BRG				Amp		05 25 40.3	
	comp=Z,70nm,0.4s						
RICC	**Richard**	**1.73**	**231**	*e*PG	**Pb**	**05 25 19.3**	**-0.2**
RICC				*e*SG	**Sb**	**05 25 42.0**	**+0.2**
	comp=Z,37nm,0.3s						
PRU	**Pruhonice**	**1.97**	**213**	*e*PN	**Pn**	**05 25 21.0**	**-0.5**
PRU				*e*PG	**Pb**	**05 25 22.9**	**-0.7**
PRU				*e*SG	**Sn**	**05 25 47.9**	**+1.1**
	comp=Z,16nm,0.5s						
CLL	**Collm**	**2.03**	**262**	*i* Pn	**Pn**	**05 25 22.2**	**-0.2**
	comp=Z,5.0nm,0.4s						
CLL				*i* Pg	**Pb**	**05 25 25.5**	**+0.8**
CLL				*i* x	x	05 25 29.5	
CLL				*i* Sg	**Sb**	**05 25 52.2**	**+1.7**
	comp=Z,21nm,0.5s						
HSKC	**Hora Svate Kat**	**2.04**	**240**	*e*PG	**Pb**	**05 25 24.3**	**-0.5**
HSKC				*e*SG	**Sb**	**05 25 50.5**	**-0.1**
	comp=Z,28nm,0.4s						
MORC	**Moravsky Berou**	**2.05**	**155**	*e*PN	**Pn**	**05 25 22.5**	**-0.3**
MORC				*e*SG	**Sn**	**05 25 49.7**	**+0.7**
MORC	**Moravsky Berou**	**2.05**	**155**	*e*Pn	**Pn**	**05 25 22.4**	**-0.3**
	baz=336						
MORC				*e*Sg	**Sn**	**05 25 49.6**	**+0.6**
	comp=Z,12nm,0.4s,baz=336						
VRAC	**Vranov**	**2.35**	**174**	*e*Pn	**Pn**	**05 25 26.4**	**-0.4**
	baz=355						
VRAC				*e*Sg	**Sb**	**05 25 59.2**	**-0.5**
	comp=Z,10nm,0.4s,baz=355						
KRUC	**Moravsky**	**2.59**	**177**	*e*Pn	**Pn**	**05 25 30.4**	**+0.4**
	baz=358						
KRUC				*e*Sg	**Sb**	**05 26 06.2**	**-0.3**
	comp=Z,9.2nm,0.4s,baz=358						
OJC	**Ojcow**	**2.68**	**121**	*e*Pg	**Pg**	**05 25 38.7**	**+0.4**
OJC				*e*Sg	**Sg**	**05 26 14.5**	**+1.5**
NKC	**Novy Kostel**	**2.77**	**241**	*e*PN	**Pn**	**05 25 33.1**	**+0.6**
NKC				*e*PG	**Pb**	**05 25 38.9**	**+1.7**
NKC				*e*SG	**Sg**	**05 26 15.9**	**+0.1**
	comp=Z,35nm,0.4s						
KHC	**Kasperske Hory**	**3.03**	**215**	*e*PN	**Pn**	**05 25 35.8**	**-0.3**
KHC				*e*PG	**Pb**	**05 25 42.0**	**+0.3**
KHC				*e*SG	**Sg**	**05 26 22.7**	**-1.4**
CKRC	**Cesky Krumlov**	**3.08**	**204**	*e*PN	**Pn**	**05 25 37.4**	**+0.6**
CKRC				*e*PG	**Pb**	**05 25 43.4**	**+0.8**
LANS	**Liptovska Anna**	**3.25**	**139**	*e*PG	**Pg**	**05 25 49.7**	**+0.5**
LANS				*e*SG	**Sg**	**05 26 31.1**	**-0.3**
MODS	**Modra-Piesok**	**3.35**	**168**	*e*PG	**Pg**	**05 25 50.4**	**-0.6**
MODS				*e*SG	**Sg**	**05 26 34.1**	**-0.3**
BSD	**Bornholm Skovb**	**3.56**	**348**	*i* P	**Pn**	**05 25 43.7**	**+0.3**
BSD				*i* S	**Sn**	**05 26 26.3**	**+0.2**
BSD				IAML		05 26 35.2	
	comp=Z,10nm,0.8s						
VYHS	**Vyhne**	**3.58**	**151**	*e*PN	**Pn**	**05 25 43.4**	**-0.3**
VYHS				*e*PG	**Pg**	**05 25 56.4**	**+0.9**
VYHS				*e*SG	**Sg**	**05 26 41.6**	**-0.2**
CONA	**Conrad Observa**	**3.73**	**184**	*i* Pn	**Pn**	**05 25 46.3**	**+0.5**
	comp=Z,0.7nm,0.1s						
CONA				*e*Sg	**Sg**	**05 26 43.9**	**-2.7**
	comp=Z,4.9nm,0.3s						
MOA	**Molln**	**4.00**	**199**	*i* Pn	**Pn**	**05 25 49.7**	**+0.2**
	comp=Z,1.5nm,0.2s						
MOA				*e*Sg	**Sg**	**05 26 54.0**	**-1.4**
	comp=Z,7.8nm,0.5s						
ARSA	**Arzberg**	**4.42**	**186**	*e*Sg	**Sg**	**05 27 10.1**	**+1.3**
	comp=Z,5.0nm,0.5s						
BLEU	**Blekinge**	**4.67**	**357**	*e*P	**Pn**	**05 25 58.6**	**-0.1**
BLEU				*e*S	**Sn**	**05 26 50.4**	**-3.2**
DEL	**Delary**	**5.03**	**345**	*i* P	**Pn**	**05 26 03.8**	**+0.3**
DEL				*i* S	**Sn**	**05 27 00.8**	**-1.4**
WATA	**Walderalm**	**5.26**	**217**	*i* Pn	**Pn**	**05 26 07.2**	**+0.3**
	comp=Z,0.7nm,0.2s						
SQTA	**Sankt Quirin**	**5.50**	**218**	*i* Pn	**Pn**	**05 26 11.3**	**+1.2**
	comp=Z,1.5nm,0.2s						

NNC 28 05:42:30.1±3.6, 53°.65N×90°.57E, h0km, mb3.8, mpv3.5, 5C-4D, Error ellipse: s-maj=27.4km s-min=21.2km az=52.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**3.42**	**277**	⇓Pg	Pb	05 43 31.3	-0.3
	0.7nm,0.5s						
ZAA0				⇑Lg	Lg	05 44 23.1	
	10nm,1.0s						
KURK	**Kurchatov**	**7.91**	**253**	⇑Pn	Pn	05 44 26.7	+0.4
	5.2nm,1.1s						
KURK				⇓Sn	Sn	05 45 55.9	-0.5
	12nm,0.9s						
KURK				⇓Lg	Lg	05 46 42.3	
	34nm,1.1s						
KURBB	**Kurchatov Arra**	**8.00**	**253**	⇑Pn	Pn	05 44 28.5	+0.9
	9.2nm,1.4s						
KURBB				⇑Sn	Sn	05 45 58.8	+0.1
	48nm,0.8s						
KURBB				⇓Lg	Lg	05 46 45.3	
	40nm,1.2s						
MK31	**Makanchi Array**	**8.67**	**221**	Pn	Pn	05 44 37.6	+0.8
	3.1nm,1.0s,baz=34,slow=13,SNR=33						
MK31				Sn	Sn	05 46 17.1	+1.9
	2.2nm,0.8s,baz=40,slow=24,SNR=3.8						
MK31				⇑Lg	Lg	05 47 04.6	
	13nm,1.1s,baz=26,slow=33,SNR=3.6						

*IDC **28** 06:19:52.4±1.3, 11°.37S×165°.76E, h0km, mb3.9/6, mbtmp3.9/7, ML4.0/1, MS3.3/8, Error ellipse: s-maj=39.0km s-min=26.2km az=124.0*

ISC 28 06:19:58.1±1.2, 11°.55S±0°.1×165°.8E±0°.2, h37km, n12, σ1°08/8, mb3.9/5, MS3.2/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.14**	**289**	LR	LR	06 23 11.0	
	comp=Z,474nm,18.7s,baz=93,slow=33						
DZM	**Mont Dzumac**	**10.48**	**177**	Pn	**Pn**	**06 22 26.7**	**+0.7**
	1.3nm,0.3s,baz=110,slow=20,SNR=12						
DZM				Sn	**Sn**	**06 24 20.9**	**-1.3**
	0.1nm,0.3s,baz=102,slow=21,SNR=1.1						
DZM				LR	LR	06 26 29.6	
	comp=Z,77nm,18.6s,baz=32,slow=37						
	4.3nm,0.5s						
PMG	**Port Moresby**	**18.46**	**275**	LR	LR	06 30 53.3	
	comp=Z,83nm,18.5s,baz=158,slow=36						
CTA	**Charters Tower**	**20.63**	**243**	P	**P**	**06 24 35.5**	**+1.0**
	4.9nm,0.9s,baz=58,slow=9.9,SNR=6.3						
CTA				LR	LR	06 30 49.4	
	comp=Z,57nm,18.3s,baz=83,slow=32						
	4.9nm,0.9s						
RAO	**Raoul Island**	**23.25**	**142**	LR	LR	06 31 34.3	
	comp=Z,51nm,20.2s,baz=6.5,slow=30						
STKA	**Stephens Creek**	**30.13**	**224**	LR	LR	06 36 54.3	
	comp=Z,55nm,21.4s,baz=24,slow=34						
WRA	**Warramunga Arr**	**31.38**	**251**	P	**P**	**06 26 14.9**	**-0.7**
	0.9nm,0.8s,baz=79,slow=8.7,SNR=7.3						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**32.63**	**244**	P	**P**	**06 26 25.8**	**-0.9**
	0.9nm,0.8s,baz=76,slow=9.4,SNR=8.3						
ASAR				LR	LR	06 39 02.2	
	comp=Z,45nm,18.4s,baz=356,slow=35						
	0.9nm,0.8s						
NWAO	**Narrogin (SRO)**	**49.24**	**236**	LR	LR	06 48 25.0	
	comp=Z,58nm,19.1s,baz=284,slow=35						
QSPA	**South Pole Qui**	**78.46**	**180**	P	**P**	**06 31 56.0**	**+0.9**
	1.6nm,1.0s,baz=351,slow=5.9,SNR=2.6						
	1.6nm,1.0s						
ILAR	**Eielson Array**	**83.96**	**18**	P	**P**	**06 32 23.4**	**-0.7**
	0.5nm,0.6s,baz=239,slow=4.9,SNR=12						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**93.93**	**317**	P	**P**	**06 33 12.1**	**+0.1**
	0.7nm,0.7s,baz=95,slow=5.5,SNR=7.7						
	0.7nm,0.7s						

*IPEC **28** 06:31:33.8±0.2, 51°.60N×16°.17E, h1km, ML2.9/4, Error ellipse: s-maj=2.0km s-min=1.2km az=35.0*
*IDC **28** 06:31:34.6±0.8, 51°.55N×16°.11E, h0km, mbtmp3.3/7, ML2.7/7, Error ellipse: s-maj=11.1km s-min=7.1km az=120.0*
*PRU **28** 06:31:36.7, 51°.49N×16°.07E, h0km*
*VIE **28** 06:31:36.3±1.0, 51°.44N×15°.89E, h0km, mb2.8/6, ml3.0/6, Error ellipse: s-maj=11.3km s-min=4.6km az=42.0 87 km WNW of Wroclaw Suspected Mining induced.*

ISC 28 06:31:31.9±0.7, 51°.67N±0°.03×16°.13E±0°.02, h0km, n49, σ1°39/97, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.84**	**173**	*e*Pg	**Pg**	**06 31 48.8**	**+0.8**
KSP				*e*Sg	**Sg**	**06 31 58.5**	**-0.2**
CHVC	**Chvalec**	**1.09**	**183**	*e*PG	**Pb**	**06 31 53.6**	**0.0**
CHVC				*e*SG	**Sg**	**06 32 06.3**	**-0.5**
OSTC	**Ostas**	**1.12**	**177**	*e*PG	**Pg**	**06 31 54.1**	**+0.8**
OSTC				*e*SG	**Sg**	**06 32 07.6**	**-0.2**
	comp=Z,132nm,0.7s						

GERES				Pg		**Pb**	**06 32 31.4**	**+1.2**
	comp=Z,3.2nm,0.3s,baz=28,slow=15,SNR=19							
GERES				Sn		**Sn**	**06 33 02.3**	**-0.8**
	comp=Z,1.9nm,0.3s,baz=41,slow=21,SNR=4.3							
GERES				Lg		Lg	06 33 12.2	
	comp=Z,5.0nm,0.3s,baz=31,slow=27,SNR=9.1							
	comp=Z,2.4nm,0.3s							
LANS	**Liptovska Anna**	**3.31**	**139**	*e*PG		**Pg**	**06 32 35.5**	**+0.3**
LANS				*e*SG		**Sg**	**06 33 16.0**	**-2.0**
MODS	**Modra-Piesok**	**3.39**	**167**	*e*PG		**Pg**	**06 32 37.4**	**+0.7**
MODS				*e*SG		**Sg**	**06 33 20.6**	**0.0**
NIE	**Niedzica**	**3.49**	**129**	*e*P		**Pg**	**06 32 39.5**	**+0.8**
NIE				*e*S		**Sg**	**06 33 24.8**	**+0.9**
BSD	**Bornholm Skovb**	**3.52**	**349**	*i* P		**Pn**	**06 32 29.5**	**+1.7**
BSD				*e*S		**Sn**	**06 33 09.5**	**-0.6**
BSD				IAML			06 33 20.4	
	comp=Z,13nm,0.8s							
ZST	**Bratislava**	**3.54**	**169**	*e*SG		**Sg**	**06 33 26.0**	**+0.5**
VYHS	**Vyhne**	**3.63**	**150**	*e*PN		**Pn**	**06 32 29.6**	**+0.3**
VYHS				*e*PG		**Pg**	**06 32 43.3**	**+1.9**
VYHS				*e*SG		**Sg**	**06 33 30.2**	**+1.8**
CONA	**Conrad Observa**	**3.75**	**183**	*e*Pn		**Pn**	**06 32 32.5**	**+1.4**
	comp=Z,2.1nm,0.3s,SNR=5.8							
CONA				*e*Sg		**Sg**	**06 33 30.5**	**-1.9**
	comp=Z,31nm,0.5s							
STHS	**Stebnicka Huta**	**3.97**	**123**	*e*PN		**Pn**	**06 32 36.1**	**+2.1**
STHS				*e*PG		**Pg**	**06 32 49.3**	**+1.4**
STHS				*e*SG		**Sg**	**06 33 42.5**	**+3.3**
RONA	**Rosalia, Austr**	**3.98**	**178**	*e*Sg		**Sg**	**06 33 38.1**	**-1.5**
	comp=Z,26nm,0.6s							
MOA	**Molln**	**4.01**	**198**	*i* Pn		**Pn**	**06 32 35.6**	**+1.0**
	comp=Z,7.8nm,0.3s,SNR=5.5							
MOA				*e*Sg		**Sg**	**06 33 38.5**	**-2.3**
	comp=Z,23nm,0.5s							
ARSA	**Arzberg**	**4.45**	**185**	*i* Pn		**Pn**	**06 32 42.7**	**+2.2**
	comp=Z,2.1nm,0.3s							
ARSA				*e*Sg		**Sg**	**06 33 52.3**	**-2.3**
	comp=Z,20nm,0.6s							
BLEU	**Blekinge**	**4.64**	**358**	*i* P		**Pn**	**06 32 46.4**	**+3.2**
BLEU				*i* S		**Sn**	**06 33 36.6**	**-1.1**
BJUU	**Bjuv**	**4.78**	**339**	*e*P		**Pn**	**06 32 46.6**	**+1.6**
BJUU				*e*S		**Sn**	**06 33 39.4**	**-1.6**
LESA	**Schwarzleotal**	**4.81**	**209**	*e*Pn		**Pn**	**06 32 47.3**	**+1.7**
	comp=Z,0.3nm,0.1s							
LESA				Sg		**Sg**	**06 34 04.9**	**-1.4**
	comp=Z,10nm,0.5s							
DEL	**Delary**	**4.99**	**345**	*i* P		**Pn**	**06 32 49.0**	**+1.1**
DEL				*i* S		**Sn**	**06 33 44.8**	**-1.4**
WTTA	**Wattenberg**	**5.30**	**215**	*i* Pn		**Pn**	**06 32 54.6**	**+2.2**
	comp=Z,1.4nm,0.4s							
WTTA				Sg		**Sg**	**06 34 24.2**	**+2.2**
	comp=Z,13nm,0.5s							
DAVOX	**Davos/Dischmat**	**6.38**	**222**	Pn		**Pn**	**06 33 07.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=37,slow=20,SNR=1.2							
DAVOX				Sn		**Sn**	**06 34 22.1**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=43,slow=23,SNR=1.4							
DAVOX				Lg		Lg	06 34 54.5	
	comp=Z,0.6nm,0.3s,baz=210,slow=21,SNR=3.8							
	comp=Z,0.7nm,0.3s							
AKASG	**Malin Array Be**	**8.29**	**92**	Pn		**Pn**	**06 33 33.3**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=279,slow=12,SNR=7.9							
AKASG				Sn		**Sn**	**06 35 01.5**	**-5.9**
	comp=Z,0.2nm,0.3s,baz=151,slow=10,SNR=1.0							
AKASG				Lg		Lg	06 35 58.4	
	baz=282,slow=29							
	comp=Z,0.7nm,0.6s							
HFS	**Hagfors**	**8.59**	**352**	Pn		**Pn**	**06 33 39.2**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=195,slow=10,SNR=1.1							
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**11.21**	**25**	Pn		**Pn**	**06 34 12.2**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=219,slow=11,SNR=2.3							
	comp=Z,4.1nm,1.0s							
EKA	**Eskdalemuir Ar**	**12.05**	**295**	Pn		**Pn**	**06 34 22.8**	**-1.9**
	baz=100,slow=14							
ARCES	**ARCESS Array B**	**18.46**	**10**	Pn		**P**	**06 35 47.3**	**-1.5**
	baz=193,slow=14,SNR=1.2							
	comp=Z,1.7nm,0.9s							

IDC ***28*** *06:38:40.8±1.3,5°.21S×147°.63E,h0km,mb3.6/4, mbtmp3.6/6,ML3.6/1,Error ellipse: s-maj=52.6km s-min=22.4km az=103.0*

ISC 28 06:38:45.2±1.2,5°.2S±0°.1×147°.5E±0°.3,h29km,n7,σ0s98/8, mb3.6/4,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.18**	**185**	Pn		**Pn**	**06 39 46.2**	**-0.9**
	5.3nm,0.4s,baz=205,slow=18,SNR=1.6							
PMG				Sn		**Sn**	**06 40 36.3**	**+1.4**
	3.2nm,0.3s,baz=159,slow=3.7,SNR=3.7							
WRA	**Warramunga Arr**	**19.47**	**220**	P		**Pn**	**06 43 10.5**	**-0.7**
	0.2nm,0.3s,baz=42,slow=11,SNR=16							
	0.8nm,0.6s							
ASAR	**Alice Springs**	**22.56**	**214**	P		**P**	**06 43 44.1**	**+0.8**
	0.9nm,0.5s,baz=50,slow=9.0,SNR=40							
	0.9nm,0.5s							
MKAR	**Makanchi Array**	**77.23**	**320**	P		**P**	**06 50 36.9**	**+0.1**
	0.1nm,0.4s,baz=122,slow=7.0,SNR=1.4							
	0.1nm,0.4s							
ILAR	**Eielson Array**	**84.56**	**23**	P		**P**	**06 51 16.0**	**+0.5**
	0.4nm,0.7s,baz=258,slow=5.5,SNR=5.4							
	0.4nm,0.7s							
QSPA	**South Pole Qui**	**84.74**	**180**	P		**P**	**06 51 15.8**	**-0.8**
	1.5nm,0.8s,baz=272,slow=0.6,SNR=8.1							
	1.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**145.40**	**286**	PKPbc		**PKPab**	**06 58 21.8**	**+0.2**
	0.3nm,0.6s,baz=74,slow=4.8,SNR=2.9							

IDC ***28*** *06:49:35.4±2.3,34°.82N×45°.66E,h0km,mb4.1/4, mbtmp3.9/5,ML3.9/1,Error ellipse: s-maj=45.1km s-min=33.2km az=156.0*

ISN ***28*** *06:49:36.8±0.3,34°.76N×45°.81E,h11km±19km,ML3.5*

TEH ***28*** *06:49:37.0,34°.75N×45°.85E,h8km±57km,ML3.6*

ISC 28 06:49:37.0±0.6,34°.77N±0°.03×45°.82E±0°.03,h10km,n42, σ1s40/47,mb4.0/5,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.32**	**216**	Pg		**Pg**	**06 49 43.9**	**+0.5**
IDHR	**Dehrash**	**0.47**	**98**	Pg		**Pg**	**06 49 46.0**	**-0.4**
IDHR				Sg		**Sg**	**06 49 53.3**	**+0.6**
IGHG	**Ghaleghazi**	**0.76**	**125**	Pg		**Pg**	**06 49 51.4**	**-0.4**
ILIN	**Lien**	**0.95**	**81**	Pg		**Pg**	**06 49 54.8**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.12**	**115**	Pg		**Pg**	**06 49 57.9**	**-0.7**
ILBA	**Ilam Banvizeh**	**1.18**	**164**	Pg		**Pb**	**06 49 59.2**	**-0.5**
IKRK	**Kirkuk**	**1.37**	**298**	*e*Pg		**Pg**	**06 50 03.0**	**-0.3**
IKRK				*e*Sg		**Sg**	**06 50 22.0**	**+1.0**
IKRK				AML		AML	06 50 25.8	
	comp=E,1μm,0.8s							
IKRK				AML		AML	06 50 26.5	
	comp=N,815nm,0.6s							
SDS1	**Sardasht. Az.**	**1.41**	**349**	Pg		**Pg**	**06 50 04.8**	**+0.7**
IKOM	**Komasi**	**1.52**	**112**	Pg		**Pb**	**06 50 05.6**	**+0.2**
IBDR	**Badra**	**1.66**	**177**	*e*Pn		**Pb**	**06 50 07.5**	**-0.1**
IBDR				*e*Sn		**Sg**	**06 50 30.0**	**-0.2**
IBDR				AML		AML	06 50 36.5	
	comp=N,743nm,0.2s							
IBDR				AML		AML	06 50 42.1	
	comp=E,694nm,0.2s							
IBZA	**Bozab**	**1.71**	**99**	Pg		**Pb**	**06 50 08.5**	**-0.3**
BHD	**Baghdad**	**1.91**	**219**	*e*Pn		**Pb**	**06 50 11.0**	**-1.0**
BHD				*e*Sn		**Sb**	**06 50 36.0**	**+0.1**
BHD				AML		AML	06 50 45.5	
	comp=E,618nm,0.3s							
IALM	**Almabolaq**	**1.94**	**87**	Pn		**Pb**	**06 50 12.4**	**-0.2**
MAHB	**Mahabad**	**2.00**	**357**	Pn		**Pb**	**06 50 12.6**	**-1.0**
IKFM	**Kafar-mosalman**	**2.09**	**126**	Pn		**Pb**	**06 50 14.2**	**-0.8**
HSAM	**Samen**	**2.37**	**103**	Pn		**Pn**	**06 50 17.8**	**+1.6**
HAGD	**Aghdareh**	**2.74**	**88**	Pn		**Pn**	**06 50 23.5**	**+2.2**
IHSH	**Hashtrud**	**2.79**	**24**	Pn		**Pb**	**06 50 25.3**	**-1.9**
IAZR	**Azarshahr**	**2.91**	**3**	Pn		**Pn**	**06 50 25.3**	**+1.6**
RAFI	**Al-Rafai**	**3.04**	**175**	*e*Pn		**Pn**	**06 50 27.0**	**+1.7**
RAFI				*e*Sn		**Sn**	**06 51 03.5**	**+1.8**
RAFI				AML		AML	06 51 26.7	
	comp=E,228nm,0.3s							
RAFI				AML		AML	06 51 40.4	
	comp=N,285nm,0.3s							
QSDN	**Sirdan**	**3.24**	**57**	Pn		**Pn**	**06 50 30.3**	**+2.2**
ISRB	**Sarab**	**3.40**	**26**	Pn		**Pn**	**06 50 32.5**	**+2.1**
IRAZ	**Razeghan**	**3.43**	**78**	Pn		**Pn**	**06 50 33.0**	**+2.2**
IHRS	**Heris**	**3.68**	**15**	Pn		**Pn**	**06 50 37.5**	**+3.3**
IMRD	**Marand**	**3.94**	**359**	Pn		**Pn**	**06 50 39.8**	**+2.0**
AMIS	**Naft Sefid**	**4.25**	**136**	Pn		**Pn**	**06 50 42.4**	**+0.6**
GRMI	**Germi**	**4.37**	**22**	Pn		**Pn**	**06 50 45.7**	**+2.1**
KLST	**Kelardasht - M**	**4.61**	**66**	Pn		**Pn**	**06 50 49.0**	**+1.9**
IPIR	**Pirpir**	**4.71**	**115**	Pn		**Pn**	**06 50 48.8**	**+0.4**
QAMS	**Qamsar**	**4.74**	**101**	Pn		**Pn**	**06 50 50.8**	**+2.0**
JHBN	**Jahan bin**	**4.78**	**121**	Pn		**Pn**	**06 50 50.4**	**+1.1**
IKLH	**Kolahrood**	**5.00**	**105**	Pn		**Pn**	**06 50 54.2**	**+1.9**
IDMV	**Damavand**	**5.16**	**79**	Pn		**Pn**	**06 50 56.3**	**+1.8**
KLNJ	**Kolanjah**	**6.13**	**126**	Pn		**Pn**	**06 51 09.2**	**+1.1**
IRAM	**Ramesheh**	**6.24**	**116**	Pn		**Pn**	**06 51 10.9**	**+1.5**
DSBU	**Dashti - Bushe**	**7.89**	**142**	Pn		**Pn**	**06 51 32.5**	**+0.6**
AKASG	**Malin Array Be**	**19.98**	**328**	P		**P**	**06 54 07.9**	**-1.5**
	comp=N,0.4nm,0.3s,baz=137,slow=9.2,SNR=2.2							
	comp=N,0.2nm,0.3s							
FINES	**FINESS Array B**	**29.52**	**341**	P		**P**	**06 55 40.5**	**-0.9**
	comp=N,3.5nm,1.0s,baz=149,slow=11,SNR=3.4							
	comp=N,3.5nm,1.0s							
MKAR	**Makanchi Array**	**29.86**	**55**	P		**P**	**06 55 45.0**	**+0.5**
	comp=N,0.8nm,0.9s,baz=248,slow=7.6,SNR=4.3							
	comp=N,0.8nm,0.9s							
HFS	**Hagfors**	**32.82**	**331**	P		**P**	**06 56 09.1**	**-1.3**
	comp=N,1.2nm,0.6s,baz=136,slow=7.7,SNR=6.3							
	comp=N,1.2nm,0.6s							
ARCES	**ARCESS Array B**	**36.59**	**348**	P		**P**	**06 56 42.3**	**-0.6**
	comp=N,4.4nm,1.0s,baz=157,slow=7.8,SNR=2.0							
	comp=N,4.4nm,1.0s							
TORD	**Torodi Ar. Bea**	**45.25**	**253**	P		**P**	**06 57 53.9**	**-1.0**
	comp=N,0.2nm,0.6s,baz=54,slow=6.0,SNR=1.6							

IEPN ***28*** *06:55:51.0,81°.27N×3°.29W,h10km*

BER ***28*** *06:55:51.9±1.2,81°.19N×3°.65W,h15km±42km,mb(Pn)3.3, ML1.7(DNK),Confirmed Earthquake*

DNK ***28*** *06:55:52.5±2.8,81°.08N×2°.86W,h30km±27km,ML1.7*

KOLA ***28*** *06:55:55.9,81°.23N×0°.56W,h0km,ML2.5,Error ellipse: s-maj=66.6km s-min=15.4km az=40.0,Greenland sea,Knipovich ridge, north*

ISC 28 06:55:48.2±1.2,81°.08N±0°.10×3°.46W±0°.05,h10km,n21, σ1s86/33,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**3.44**	**121**	*e*P		**Pn**	**06 56 42.6**	**+0.9**
KBS				S		**Sn**	**06 57 22.1**	**-0.2**
KBS	**Kingsbay**	**3.44**	**121**	P		**Pn**	**06 56 42.8**	**+1.1**
KBS				S		**Sn**	**06 57 19.2**	**-3.1**
KBS	**Kingsbay**	**3.44**	**121**	*e*P		**Pn**	**06 56 43.8**	**+2.2**
KBS				*e*S		**Sn**	**06 57 19.4**	**-2.9**
KBS				IAML			06 57 30.5	
	comp=Z,6.7nm,0.3s							
KBS	**Kingsbay**	**3.44**	**121**	*i* P		**Pn**	**06 56 42.9**	**+1.2**
KBS				*i* S		**Sn**	**06 57 19.1**	**-3.1**
BRBB	**Barentsburg B**	**4.36**	**124**	P		**Pn**	**06 56 57.1**	**+2.7**
BRBB				S		**Sn**	**06 57 44.5**	**-0.8**
BRBB	**Barentsburg B**	**4.36**	**124**	*e*P		**Pn**	**06 56 57.3**	**+2.9**
BRBB				*e*S		**Sn**	**06 57 45.4**	**+0.1**
BRBA	**Barentsburg A**	**4.39**	**124**	*e*P		**Pn**	**06 56 58.1**	**+3.3**
SPA0	**Spitsbergen Ar**	**4.59**	**119**	*e*P		**Pn**	**06 56 59.0**	**+1.5**
SPA0				*e*S		**Sn**	**06 57 49.3**	**-1.5**
SPA0	**Spitsbergen Ar**	**4.59**	**119**	*e*P		**Pn**	**06 56 59.4**	**+1.8**
SPA0				IAML			06 57 40.8	
	comp=Z,5.7nm,0.8s							
SPA0				*e*S		**Sn**	**06 57 50.0**	**-0.8**
SPITS	**Spitsbergen Ar**	**4.59**	**119**	P		**Pn**	**06 56 59.1**	**+1.6**
SPITS				S		**Sn**	**06 57 49.1**	**-1.6**
DAG	**Danmarks Havn**	**5.20**	**222**	*i* P		**Pn**	**06 57 07.6**	**+1.7**
DAG				*e*S		**Sn**	**06 58 04.1**	**-1.6**
DAG				IAML			06 58 13.1	
	comp=Z,3.5nm,0.4s							
DAG	**Danmarks Havn**	**5.20**	**222**	*e*		**Pn**	**06 57 06.5**	**+0.6**
	baz=43,slow=12							
DAG				*i* P		**Pn**	**06 57 07.6**	**+1.7**
DAG				*e*S		**Sn**	**06 58 04.1**	**-1.6**
DAG				IAML			06 58 13.1	
	comp=Z,3.5nm,0.4s							
HSPB	**Hornsund (broa**	**5.43**	**129**	P		**Pn**	**06 57 11.2**	**+2.2**
HSPB	**Hornsund (broa**	**5.43**	**129**	*e*P		**Pn**	**06 57 11.9**	**+2.9**
HOPEN	**Hopen**	**7.09**	**115**	*e*P		**Pn**	**06 57 32.9**	**+1.1**
HOPEN				*e*S		Sn	06 58 48.3	-4.0
ZFI2	**Zemlya Franca-**	**7.84**	**66**	*e*P		**Pn**	**06 57 42.9**	**+0.8**
ZFI2				*e*S		Sn	06 59 03.1	-7.7
	comp=Z,19nm,2.8s							
OMEGA	**Omega**	**7.87**	**67**	*e*P		**Pn**	**06 57 43.1**	**+0.7**
OMEGA				*e*S		Sn	06 59 04.5	-6.8
	comp=Z,16nm,3.4s							
NEEM	**North Greenlan**	**9.31**	**272**	*i* P		**Pn**	**06 58 02.6**	**+0.2**
NEEM				*i* S		Sn	06 59 39.2	-7.9
NEEM				IAML			06 59 45.8	
	comp=Z,2.0nm,0.5s							
NEEM	**North Greenlan**	**9.31**	**272**	*i* P		**Pn**	**06 58 02.6**	**+0.2**
NEEM				*i* S		Sn	06 59 39.2	-7.9
NEEM				IAML			06 59 45.8	
	comp=Z,2.0nm,0.5s							
SUMG	**Summit**	**11.37**	**241**	*i* P		**Pn**	**06 58 30.3**	**-0.4**
SUMG				*e*S		Sn	07 00 26.7	-11
SUMG				IAML			07 00 40.7	
	comp=Z,0.9nm,0.4s							
SUMG	**Summit**	**11.37**	**241**	*i* P		**Pn**	**06 58 30.3**	**-0.4**
SUMG				*e*S		Sn	07 00 26.7	-11
SUMG				IAML			07 00 40.7	
	comp=Z,0.9nm,0.4s							

TRN ***28*** *06:58:31.6,10°.69N×62°.45W,h30km,MD4.6*

IDC ***28*** *06:58:32.0±1.8,10°.85N×62°.36W,h88km±16km,mb3.6/10, mbtmp3.9/12,MS2.7/1,Error ellipse: s-maj=18.8km s-min=15.1km az=89.0*

NEIC ***28*** *06:58:32.1±1.1,10°.72N±0°.07×62°.4W±0°.1,h76km±14km, mb4.2/13,Error ellipse: s-maj=16.9km s-min=9.6km az=107.0*

FUNV ***28*** *06:58:33.5,10°.66N×62°.36W,h32km,MW4.1*

ISC 28 06:58:31.0±0.7,10°.69N±0°.04×62°.45W±0°.04,h80km±8km, n105,σ1s74/136,mb4.0/14,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.78**	**269**	*i* P		**Pn**	**06 58 49.0**	**+1.6**
CRUV				*e*S		**Sn**	**06 58 59.7**	**0.0**
TRN	**Trinidad (W)**	**1.02**	**92**	*e*P		**Pn**	**06 58 51.2**	**+0.9**
TRN				*e*S		**Sn**	**06 59 03.8**	**-1.1**
GRGR	**Grenville**	**1.63**	**28**			**Pn**	**06 58 58.7**	**+0.7**
GRGR				Sn		Sn	**06 59 18.2**	**-0.3**
GRGR	**Grenville**	**1.63**	**28**	*e*P		**Pn**	**06 58 58.7**	**+0.7**
GRGR				*e*S		**Sn**	**06 59 18.5**	**0.0**
GRHS	**Sauteurs**	**1.71**	**27**	*e*P		**Pn**	**06 59 20.2**	**+0.5**
GRHS				*e*S		**Sn**	**06 59 20.2**	**-0.3**
CUMV	**Cumana_UDO**	**1.74**	**261**	*i* P		**Pn**	**06 59 02.5**	**+3.0**
CUMV				*e*S		**Sn**	**06 59 23.7**	**+2.6**
GCMP	**Grenada, Carri**	**2.04**	**29**	*e*P		**Pn**	**06 59 04.4**	**+0.8**
GCMP				*e*S		**Sn**	**06 59 28.4**	**+0.1**
PCRV	**Puerto La Cruz**	**2.21**	**257**	*e*P		**Pn**	**06 59 08.3**	**+2.5**
PCRV				*e*S		**Sn**	**06 59 33.2**	**+0.7**
PCRV	**Puerto La Cruz**	**2.21**	**257**	P		**Pn**	**06 59 08.1**	**+2.3**
	52nm,0.3s,baz=59,slow=4.7,SNR=258							
PCRV				S		**Sn**	**06 59 33.2**	**+0.7**
	121nm,0.3s,baz=344,slow=10,SNR=24							
SVOC	**Richmond Hill,**	**2.73**	**26**	*e*P		**Pn**	**06 59 13.2**	**+0.5**
SVOC				*e*S		**Sn**	**06 59 46.1**	**+1.4**
SVB	**Belmont**	**2.82**	**24**	*e*P		**Pn**	**06 59 15.7**	**+1.7**
SVB				*e*S		**Sn**	**06 59 47.1**	**+0.1**
SSV	**Crater Summit**	**2.89**	**25**	*e*P		**Pn**	**06 59 16.3**	**+1.3**
SSV				*e*S		**Sn**	**06 59 48.1**	**-0.8**
SLB	**Belfond**	**3.41**	**24**	*e*P		**Pn**	**06 59 23.9**	**+1.9**
SLCP	**Castries, St.**	**3.59**	**23**	*e*P		**Pn**	**06 59 26.4**	**+2.0**
SLBI	**Saint Lucia, B**	**3.61**	**23**	*e*P		**Pn**	**06 59 25.3**	**+0.6**
SLBI				*e*S		**Sn**	**07 00 05.9**	**-0.3**
BBGH	**Gun Hill**	**3.73**	**49**	*e*P		**Pn**	**06 59 28.5**	**+2.2**
BBGH				*e*S		**Sn**	**07 00 09.9**	**+0.7**
H05S1	**Guadeloupe/Mar**	**4.03**	**23**	P		**Pn**	**06 59 28.6**	**-1.8**
	SNR=4.7							
H05S1				S		**Sn**	**07 00 13.2**	**-3.2**
BIM	**Bigot**	**4.03**	**19**	Pn		**Pn**	**06 59 31.5**	**+1.0**
BIM				Sn		**Sn**	**07 00 14.1**	**-2.5**
BIM	**Bigot**	**4.03**	**19**	*e*P		**Pn**	**06 59 31.8**	**+1.3**
BIM				*e*S		**Sn**	**07 00 16.6**	**+0.1**
MPOM	**Morne Pois Mar**	**4.04**	**22**	Pn		**Pn**	**06 59 31.1**	**+0.6**
MPOM	**Morne Pois Mar**	**4.04**	**22**	*e*P		**Pn**	**06 59 31.7**	**+1.2**
MPOM				*e*S		**Sn**	**07 00 16.4**	**-0.3**
FDF	**Fort de France**	**4.21**	**17**	Pn		**Pn**	**06 59 33.9**	**+0.9**
FDF	**Fort de France**	**4.21**	**17**	*e*P		**Pn**	**06 59 34.3**	**+1.4**
FDF	**Fort de France**	**4.21**	**17**	*e*S		**Sn**	**07 00 20.2**	**-0.8**
FUNV	**FUNVISIS**	**4.30**	**267**	*e*P		**Pn**	**06 59 37.1**	**+3.0**
FUNV				*e*S		**Sn**	**07 00 23.1**	**0.0**
ILAM	**Ilet Lapin Mar**	**4.34**	**21**	*e*P		**Pn**	**06 59 37.2**	**+2.6**
ILAM	**Ilet Lapin Mar**	**4.34**	**21**	*e*S		**Sn**	**07 00 23.3**	**-0.7**
TACV	**Tcata**	**4.54**	**263**	*e*P		**Pn**	**06 59 39.7**	**+2.3**
TACV				*e*S		**Sn**	**07 00 28.8**	**-0.3**
LUEV	**Luepa**	**4.91**	**168**	*e*P		**Pn**	**06 59 42.7**	**0.0**
LUEV				*e*S		**Sn**	**07 00 34.5**	**-3.9**
CACV	**CAICARA DEL OR**	**5.10**	**233**	*e*P		Pn	06 59 40.8	-4.2
CACV				*e*S		Sn	07 00 31.9	-11
BENV	**Beln**	**5.12**	**262**	*e*P		**Pn**	**06 59 48.0**	**+2.6**
BENV				*e*S		**Sn**	**07 00 42.2**	**-1.1**
TURV	**Turiamo**	**5.31**	**268**	*e*P		**Pn**	**06 59 49.9**	**+2.0**
TURV				*e*S		**Sn**	**07 00 46.4**	**-1.3**
MAGL	**Barre de l'ile**	**5.35**	**12**	Pn		**Pn**	**06 59 47.9**	**-0.5**
CBE	**Ff, Capester**	**5.41**	**9**	Pn		**Pn**	**06 59 49.9**	**+0.6**
CBE	**Ff, Capester**	**5.41**	**9**	*e*P		**Pn**	**06 59 51.0**	**+1.7**
CBE	**Ff, Capester**	**5.41**	**9**	*e*S		**Sn**	**07 00 50.0**	**-0.1**
GDSD	**La Dsirade Is**	**5.75**	**13**	Pn		**Pn**	**06 59 54.0**	**+0.2**
H05N1	**Guadeloupe/Mar**	**5.75**	**13**	P		**Pn**	**06 59 53.9**	**0.0**
	SNR=10.0							
H05N1				S		**Sn**	**07 00 52.6**	**-6.0**
BAUV	**El Baul**	**5.78**	**253**	Pn		**Pn**	**06 59 55.7**	**+1.4**
BAUV	**El Baul**	**5.78**	**253**	*e*P		**Pn**	**06 59 55.8**	**+1.4**
BAUV				*e*S		**Sn**	**07 00 57.4**	**-1.9**
BAUV	**El Baul**	**5.78**	**253**	*e*P		**Pn**	**06 59 55.9**	**+1.5**
BAUV	**El Baul**	**5.78**	**253**	*e*S		**Sn**	**07 00 58.2**	**-1.1**
ABD	**La Joyeuse, An**	**5.82**	**9**	*e*P		**Pn**	**06 59 57.9**	**+3.1**
ABD	**La Joyeuse, An**	**5.82**	**9**	*e*S		**Sn**	**07 00 58.9**	**-1.4**
MLYT	**Lee's Yard**	**6.00**	**2**	*e*P		**Pn**	**07 00 00.1**	**+2.7**
MLYT	**Lee's Yard**	**6.00**	**2**	*e*S		**Sn**	**07 01 04.4**	**-0.2**
MBFL	**Flemmings, Mon**	**6.03**	**2**	*e*P		**Pn**	**06 59 59.4**	**+1.8**
MBFL	**Flemmings, Mon**	**6.03**	**2**	*e*S		**Sn**	**07 01 05.3**	**0.0**
ANBD	**Bethesda, Anti**	**6.35**	**6**	*e*P		**Pn**	**07 00 04.1**	**+2.0**
ANBD	**Bethesda, Anti**	**6.35**	**6**	*e*S		**Sn**	**07 01 12.7**	**-0.5**
TEPV	**Terepaima**	**6.68**	**264**	*e*P		**Pn**	**07 00 07.9**	**+1.3**
TEPV				*e*S		**Sn**	**07 01 18.7**	**-2.6**
SANV	**Sanarito**	**7.08**	**261**	*e*P		**Pn**	**07 00 13.7**	**+1.5**
SANV				*e*S		**Sn**	**07 01 28.0**	**-3.3**
SIQV	**Siquisique**	**7.24**	**270**	*e*P		**Pn**	**07 00 15.9**	**+1.7**
SIQV				*e*S		**Sn**	**07 01 31.6**	**-3.4**
CURV	**Curarigua**	**7.43**	**265**	*e*P		**Pn**	**07 00 18.4**	**+1.5**
CURV				*e*S		**Sn**	**07 01 36.0**	**-3.6**
SJG	**San Juan**	**8.20**	**334**	P		**Pn**	**07 00 26.0**	**-1.4**
	4.7nm,0.6s,baz=333,slow=23,SNR=1.4							
SJG				S		Sn	07 01 50.6	-7.9
	9.1nm,0.4s,baz=309,slow=17,SNR=5.6							
SJG				LR		LR	07 03 46.8	
	comp=Z,46nm,18.1s,baz=296,slow=39							
SDV	**Santo Domingo**	**8.27**	**258**	Pn		**Pn**	**07 00 29.1**	**+0.7**
SDV	**Santo Domingo**	**8.27**	**258**	P		**Pn**	**07 00 27.7**	**-0.7**
	7.0nm,0.3s,baz=20,slow=11,SNR=4.1							
SDV				S		**Sn**	**07 01 56.4**	**-4.0**
	26nm,0.4s,baz=39,slow=11,SNR=11							
BOAV	**Boa

TRLG				S		**Sb**	**07 04 19.1**	**-0.9**
TRLG	**Trialeti**	**0.26**	**246**	*e*Pg		**Pg**	**07 04 14.6**	**+0.2**
TRLG				*e*Sg		**Sb**	**07 04 19.1**	**-0.9**
SEAG	**Tbilisi Sea**	**0.31**	**68**	P		**Pg**	**07 04 15.1**	**-0.2**
SEAG				S		**Sg**	**07 04 19.9**	**+0.3**
DMNI	**Dmanisi**	**0.36**	**208**	P		**Pg**	**07 04 16.0**	**-0.2**
DMNI				S		**Sg**	**07 04 21.4**	**+0.2**
BRNG	**Burnasheti**	**0.44**	**267**	P		**Pg**	**07 04 18.2**	**+0.5**
ALIG	**Mtskhetisjvari**	**0.73**	**309**	P		**Pg**	**07 04 22.1**	**-1.0**
ALIG				S		**Sg**	**07 04 32.0**	**-0.8**
AKH	**Akhalkalaki**	**0.73**	**251**	Pg		**Pg**	**07 04 22.6**	**-0.6**
AKH				Sg		**Sg**	**07 04 32.3**	**-0.5**
AKH	**Akhalkalaki**	**0.73**	**251**	P		**Pg**	**07 04 22.5**	**-0.7**
AKH				S		**Sg**	**07 04 32.3**	**-0.5**
CHRG	**Chargali**	**0.78**	**29**	P		**Pg**	**07 04 23.1**	**-0.9**
MTEO	**Meteo**	**1.03**	**5**	P		**Pg**	**07 04 28.1**	**-0.8**
LACR	**Lac**	**1.18**	**356**	*e*Pg		**Pn**	**07 04 30.6**	**-0.6**
LACR				*e*Sg		**Sg**	**07 04 47.4**	**+0.3**
ONI	**Oni**	**1.19**	**323**	Pn		**Pn**	**07 04 30.5**	**-0.7**
ONI	**Oni**	**1.19**	**323**	P		**Pn**	**07 04 30.6**	**-0.7**
ONI				S		**Sb**	**07 04 47.1**	**+0.6**
ONI	**Oni**	**1.19**	**323**	*e*Pg		**Pn**	**07 04 30.6**	**-0.7**
ONI				*e*Sg		**Sb**	**07 04 47.1**	**+0.6**
ZEI	**Tsey**	**1.20**	**342**	*e*Pg		**Pg**	**07 04 32.1**	**+0.1**
ZEI				*e*Sg		**Sn**	**07 04 49.3**	**+1.4**
ABS	**Abastumani**	**1.21**	**276**	P		**Pn**	**07 04 30.8**	**-0.9**
ABS				S		**Sb**	**07 04 47.6**	**+0.4**
ABS	**Abastumani**	**1.21**	**276**	*e*Pg		**Pn**	**07 04 30.8**	**-0.9**
ABS				*e*Sg		**Sb**	**07 04 47.6**	**+0.4**
EPOS	**Posof**	**1.28**	**264**	P		**Pn**	**07 04 32.4**	**-0.2**
EPOS				S		**Sb**	**07 04 48.1**	**-1.1**
EPOS				*i* AML	AML		07 04 53.0	
	comp=N,34nm,1.2s							
EPOS				*i* AML	AML		07 04 53.0	
	comp=E,15nm,0.6s							
DIGR	**Digorskoe uzhe**	**1.40**	**334**	*e*Pg		**Pn**	**07 04 34.8**	**+0.5**
DIGR				*e*Sg		**Sg**	**07 04 54.4**	**+0.4**
AHAN	**Ardahan-Merkez**	**1.43**	**251**	P		**Pn**	**07 04 34.2**	**-0.5**
AHAN				S		**Sb**	**07 04 54.2**	**+0.4**
AHAN				*i* AML	AML		07 04 58.0	
	comp=N,16nm,0.5s							
AHAN				*i* AML	AML		07 05 00.0	
	comp=E,24nm,0.4s							
KARS	**Kars**	**1.44**	**225**	Pn		**Pn**	**07 04 34.7**	**0.0**
KORR	**Kora**	**1.46**	**350**	*e*Pg		**Pg**	**07 04 36.7**	**-0.2**
KORR				*e*Sg		**Sg**	**07 04 57.4**	**+1.5**
DIGO	**Kars**	**1.46**	**213**	P		**Pn**	**07 04 35.2**	**0.0**
DIGO				S		**Sb**	**07 04 54.6**	**-0.1**
DIGO				*i* AML	AML		07 04 56.0	
	comp=E,100nm,0.3s							
DIGO				*i* AML	AML		07 04 57.0	
	comp=N,126nm,0.6s							
ARNR	**Ardon**	**1.54**	**356**	*e*Pg		**Pg**	**07 04 38.2**	**-0.2**
ARNR				*e*Sg		**Sg**	**07 04 58.8**	**+0.5**
VSHL	**Vashlovani**	**1.55**	**105**	P		**Pb**	**07 04 37.3**	**0.0**
VSHL				S		**Sg**	**07 05 00.9**	**+2.3**
GOLE	**Ardahan-G¶le**	**1.59**	**240**	P		**Pb**	**07 04 38.2**	**-0.1**
GOLE				S		**Sg**	**07 04 59.5**	**-0.7**
GOLE				*i* AML	AML		07 05 00.0	
	comp=E,57nm,0.3s							
GOLE				*i* AML	AML		07 05 01.0	
	comp=N,31nm,0.2s							
TASB	**TASBURUN-IGDIR**	**1.67**	**185**	Pn		**Pn**	**07 04 37.8**	**-0.1**
TASB				Sn		**Sb**	**07 04 59.7**	**-0.7**
LSNR	**Lesken**	**1.69**	**345**	*e*Pg		**Pg**	**07 04 40.7**	**-0.5**
LSNR				*e*Sg		**Sg**	**07 05 04.1**	**+1.0**
STDR	**Stavd-Durt**	**1.74**	**351**	*e*Pg		**Pg**	**07 04 42.0**	**-0.3**
STDR				*e*Sg		**Sg**	**07 05 05.6**	**+0.8**
DVE	**Vedeno**	**1.82**	**43**	*e*Pg		**Pb**	**07 04 42.8**	**+0.7**
DVE				*e*Sg		**Sg**	**07 05 06.1**	**-0.9**
SENK	**Senkaya-Erzuru**	**1.90**	**236**	Pn		**Sn**	**07 04 41.3**	**+0.1**
SENK				Sn		**Sb**	**07 05 06.3**	**-1.0**
DAGI	**Agillar**	**1.97**	**254**	P		**Pb**	**07 04 45.0**	**+0.4**
DAGI				S		**Sb**	**07 05 09.9**	**+0.8**
GNBR	**Gunib**	**2.04**	**68**	*e*Pg		**Pb**	**07 04 45.0**	**-0.7**
GNBR				*e*Sg		**Sb**	**07 05 12.1**	**+1.1**
KMKR	**Kumukh**	**2.06**	**76**	*e*Pg		**Pb**	**07 04 45.4**	**-0.8**
KMKR				*e*Sg		**Sb**	**07 05 13.0**	**+1.2**
KOTA	**Agri, Merkez-K**	**2.06**	**207**	P		**Pb**	**07 04 45.1**	**-1.2**
KOTA				S		**Sg**	**07 05 16.2**	**+1.1**
KOTA				*i* AML	AML		07 05 25.0	
	comp=N,7.0nm,1.5s							
KOTA				*i* AML	AML		07 05 28.0	
	comp=E,4.9nm,0.9s							
UNCR	**Uncukul**	**2.06**	**58**	*e*Pg		**Pb**	**07 04 45.7**	**-0.5**
UNCR				*e*Sg		**Sg**	**07 05 13.6**	**-1.5**
BCA	**Borcka**	**2.11**	**265**	Pn		**Pn**	**07 04 44.5**	**+0.6**
BCA				Sn		**Sn**	**07 05 11.5**	**+1.5**
ARKR	**Arakani**	**2.14**	**63**	*e*Pg		**Pb**	**07 04 47.4**	**-0.2**
ARKR				*e*Sg		**Sg**	**07 05 16.4**	**-1.3**
DBAD	**Bademkaya**	**2.15**	**254**	P		**Pb**	**07 04 47.5**	**-0.1**
DBAD				*i* AML	AML		07 05 36.0	
	comp=N,9.8nm,0.8s							
DBC	**Dubki**	**2.25**	**52**	*e*Pn		**Pb**	**07 04 48.9**	**-0.6**
DBC				*e*Sn		**Sg**	**07 05 19.7**	**-1.6**

*NNC **28** 07:13:07.5±0.6,50°.02N×78°.70E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=6.2km s-min=3.0km az=72.0, Suspected Mining explosion.*
*IDC **28** 07:13:08.5±0.8,50°.06N×78°.74E, h0km, mbtmp3.1/4, ML2.7/4, Error ellipse: s-maj=12.1km s-min=6.2km az=67.0*

ISC 28 07:13:08.4±0.8, 50°.03N±0°.04×78°.68E±0°.04, h0km, n24, σ1§23/36, 19C-10D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.56**	**349**	⇑P	**Pg**	**07 13 19.0**	**-0.2**
KUR07				⇑S	**Sg**	**07 13 27.9**	**+1.3**
KUR06	**Kurchatov Arra**	**0.58**	**350**	⇓P	**Pg**	**07 13 19.3**	**-0.3**
KUR06				⇑S	**Sg**	**07 13 28.3**	**+1.2**
KUR14	**Kurchatov Arra**	**0.59**	**354**	⇑P	**Pg**	**07 13 19.4**	**-0.3**
KUR14				⇓S	**Sg**	**07 13 28.4**	**+1.1**
KUR15	**Kurchatov Arra**	**0.59**	**352**	⇑P	**Pg**	**07 13 19.5**	**-0.4**
KUR15				⇓S	**Sb**	**07 13 28.9**	**-1.8**
KURBB	**Kurchatov Arra**	**0.60**	**351**	Pg	**Pg**	**07 13 19.9**	**-0.1**
	4.7nm,0.3s,baz=166,slow=17,SNR=228						
KURBB				Lg	Lg	07 13 28.2	
	3.9nm,0.3s,baz=163,slow=39,SNR=14						
KURBB	**Kurchatov Arra**	**0.60**	**351**	⇑P	**Pg**	**07 13 19.7**	**-0.3**
	30nm,0.3s						
KURBB				⇓S	**Sg**	**07 13 28.6**	**+0.8**
	39nm,0.5s						
KUR16	**Kurchatov Arra**	**0.61**	**349**	⇓P	**Pg**	**07 13 20.0**	**-0.1**
KUR16				⇑S	**Sb**	**07 13 29.7**	**-1.3**
KUR17	**Kurchatov Arra**	**0.62**	**347**	⇑P	**Pg**	**07 13 19.9**	**-0.4**
KUR17				⇑S	**Sb**	**07 13 29.8**	**-1.5**
KUR05	**Kurchatov Arra**	**0.62**	**351**	⇑P	**Pg**	**07 13 19.9**	**-0.4**
KUR05				⇑S	**Sg**	**07 13 29.9**	**+0.9**
KUR04	**Kurchatov Arra**	**0.64**	**352**	⇑P	**Pg**	**07 13 20.3**	**-0.4**
KUR04				⇑S	**Sg**	**07 13 30.1**	**+1.1**
KURK	**Kurchatov**	**0.69**	**357**	⇑P	**Pg**	**07 13 21.1**	**-0.6**
	11nm,0.3s						
KURK				⇑S	**Sg**	**07 13 30.4**	**-0.1**
	26nm,0.4s						
SEM	**Semipalatinsk**	**1.07**	**69**	P	**Pg**	**07 13 28.7**	**-0.3**
	12nm,0.1s						
SEM				S	**Sb**	**07 13 43.8**	**-0.9**
	38nm,0.1s						
MAKZ	**Makanchi**	**3.90**	**145**	⇓Pg	**Pb**	**07 14 15.8**	**-2.3**
	1.4nm,0.4s						
MAKZ				⇓Lg	Lg	07 15 11.1	
	6.9nm,0.6s						
MK31	**Makanchi Array**	**4.03**	**142**	⇑Pn	**Pn**	**07 14 11.9**	**+0.4**
	0.5nm,0.3s,baz=314,slow=15,SNR=69						
MK31				Pg	**Pb**	**07 14 18.6**	**-1.7**
	0.5nm,0.2s,baz=314,slow=15,SNR=26						
MK31				⇓Lg	Lg	07 15 15.2	
	10nm,0.6s,baz=323,slow=27,SNR=17						
MKAR	**Makanchi Array**	**4.03**	**142**	Pn	**Pn**	**07 14 11.9**	**+0.5**
	0.7nm,0.3s,baz=321,slow=10,SNR=92						
MKAR				Sn	**Sn**	**07 15 00.3**	**+0.9**
	1.0nm,0.3s,baz=331,slow=20,SNR=4.6						
MKAR				Lg	Lg	07 15 13.3	
	1.6nm,0.3s,baz=333,slow=28,SNR=3.5						
	0.6nm,0.3s						
OTUK	**Ortayu**	**4.53**	**249**	⇓Pn	**Pn**	**07 14 18.4**	**+0.1**
	1.1nm,0.2s						
OTUK				⇑Pg	**Pb**	**07 14 30.3**	**+1.5**
	0.8nm,0.3s						
OTUK				⇓Lg	Lg	07 15 31.6	
	2.8nm,0.5s						
ZSN	**Zaisan**	**4.84**	**120**	Pg	**Pb**	**07 14 36.4**	**+2.4**
	3.5nm,0.3s						
ZSN				Lg	Lg	07 15 40.8	
	6.1nm,0.4s						
I46RU	**ZALESOVO INFRA**	**5.45**	**42**	I	I	07 45 50.0	
	baz=218,slow=321,SNR=1.8						
ZALV	**Zalesovo Beam**	**5.45**	**42**	Pn	**Pn**	**07 14 32.0**	**+1.1**
	1.2nm,0.3s,baz=231,slow=13,SNR=12						
	2.0nm,0.3s						
BVA0	**Borovoye Array**	**5.98**	**303**	⇑Sn	**Sn**	**07 15 48.6**	**+1.2**
	1.5nm,0.5s,baz=109,slow=24,SNR=4.1						
BVA0				⇑Lg	Lg	07 16 15.8	
	1.1nm,0.4s						
BVAR	**Borovoye Array**	**5.98**	**303**	Pn	**Pn**	**07 14 37.9**	**-0.2**
	baz=110,slow=15,SNR=2.7						
BVAR				Sn	**Sn**	**07 15 43.7**	**-3.7**
	0.1nm,0.3s,baz=106,slow=27,SNR=4.6						
BVAR				Lg	Lg	07 16 20.7	
	0.1nm,0.3s,baz=116,slow=26,SNR=2.2						
	0.4nm,0.4s						
KPKS	**Kokpek**	**6.57**	**180**	Pg	Pg	07 15 09.0	-5.2
	1.2nm,0.5s						
KPKS				Lg	Lg	07 16 35.9	
	8.1nm,0.7s						
PDGK	**Podgornoye**	**6.73**	**175**	Pg	Pb	07 15 11.2	+4.9
	0.4nm,0.4s						
PDGK				Lg	Lg	07 16 41.5	
	1.8nm,0.5s						
AAK	**Ala-Archa**	**7.94**	**203**	Pn	**Pn**	**07 15 05.7**	**+0.5**
	0.6nm,0.3s,baz=18,slow=20,SNR=4.7						
AAK				Lg	Lg	07 17 22.7	
	0.3nm,0.3s,baz=52,slow=18,SNR=4.7						
	0.9nm,0.3s						

IDC 28 07:15:01.1±1.8, 54°.51N×83°.67E, h0km, mbtmp3.1/2, Error ellipse: s-maj=15.4km s-min=10.9km az=6.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.88**	**129**	I	I	07 20 00.0	
	0.1nm,3.5s,baz=314,slow=335,SNR=1.3						
ZALV	**Zalesovo Beam**	**0.88**	**129**	Pg	Pg	07 15 17.9	0.0
	3.2nm,0.3s,baz=307,slow=17,SNR=21						
ZALV				Lg	Lg	07 15 30.7	
	4.7nm,0.3s,baz=307,slow=20,SNR=9.2						
MKAR	**Makanchi Array**	**7.78**	**187**	Pn	Pn	07 16 55.6	+0.1
	0.4nm,0.3s,baz=16,slow=12,SNR=1.5						
MKAR				Lg	Lg	07 19 05.3	
	baz=7.6,slow=26,SNR=3.0						
BVAR	**Borovoye Array**	**8.01**	**265**	Pn	Pn	07 16 58.0	-0.7
	0.5nm,0.3s,baz=78,slow=12,SNR=2.1						

IDC 28 07:44:52.2±3.4, 29°.46N×80°.10E, h0km, mb3.5/5, mbtmp3.5/6, ML3.4/1, MS2.6/1, Error ellipse: s-maj=147.8km s-min=22.1km az=70.0, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.39**	**5**	P	P	07 48 57.9	+0.2
	0.1nm,0.3s,baz=184,slow=11,SNR=7.0						
	0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**20.38**	**118**	LR	LR	07 58 56.8	
	comp=Z,15nm,19.2s,baz=215,slow=41						
KURBB	**Kurchatov Arra**	**21.17**	**357**	P	P	07 49 38.8	-0.1
	1.2nm,0.7s,baz=183,slow=11,SNR=11						
	1.2nm,0.7s						
BVAR	**Borovoye Array**	**24.60**	**346**	P	P	07 50 14.0	0.0
	0.4nm,0.6s,baz=153,slow=9.7,SNR=2.0						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**24.71**	**7**	P	P	07 50 14.5	-0.5
	0.8nm,0.7s,baz=200,slow=7.2,SNR=2.1						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**71.73**	**126**	P	P	07 56 16.8	+0.3
	0.5nm,0.7s,baz=322,slow=6.2,SNR=7.4						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**73.93**	**130**	P	P	07 56 29.3	-0.2
	0.5nm,0.7s,baz=317,slow=5.8,SNR=6.0						
	0.5nm,0.7s						

*ISK **28** 07:58:43.1, 37°.30N×37°.08E, h5km, ML3.5/28*
*AFAD **28** 07:58:43.4±0.0, 37°.30N×37°.14E, h8km, MW3.5*

ISC 28 07:58:43.6±0.9, 37°.30N±0°.02×37°.15E±0°.01, h8km±6km, n60, σ1§16/93, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMN	**Narli-Kahraman**	**0.10**	**3**	Pg	**Pg**	**07 58 45.8**	**-0.2**
KHMN				Sg	**Sg**	**07 58 47.4**	**-0.3**
GAZ	**Gaziantep**	**0.13**	**159**	Pg	**Pg**	**07 58 46.9**	**+0.4**
HCB	**Kahramanmara**	**0.20**	**284**	P	**Pg**	**07 58 47.7**	**+0.1**
HCB				S	**Sg**	**07 58 51.0**	**+0.5**
KHMR	**Kahramanmara**	**0.20**	**284**	P	**Pg**	**07 58 47.7**	**+0.1**
KHMR				P		07 58 47.8	
KHMR				S	**Sg**	**07 58 51.1**	**+0.7**
KHMR				S	**Sg**	**07 58 51.1**	**+0.7**
KAHM	**Kahramanmaras,**	**0.26**	**329**	P	**Pg**	**07 58 48.6**	**-0.1**
KAHM				S	**Sg**	**07 58 52.3**	**+0.1**
KMRS	**Kahramanmaras**	**0.29**	**316**	Pg	**Pg**	**07 58 49.3**	**0.0**
KMRS				Sg	**Sg**	**07 58 53.5**	**+0.3**
GZT	**Gaziantep**	**0.33**	**80**	P	**Pg**	**07 58 50.4**	**+0.2**
GZT				S	**Sg**	**07 58 55.3**	**+0.7**
KAMA	**Osmaniye**	**0.40**	**254**	P	**Pg**	**07 58 51.4**	**-0.1**
KAMA				S	**Sg**	**07 58 56.5**	**-0.2**
NZIP	**Nizip/Gaziante**	**0.49**	**121**	P	**Pb**	**07 58 53.8**	**-0.7**
NZIP				S	**Sb**	**07 59 00.3**	**-1.5**
AKCA	**Adyaman/G¶l**	**0.66**	**40**	P	**Pg**	**07 58 56.4**	**+0.2**
AKCA				S	**Sg**	**07 59 05.1**	**+0.3**
ANDN	**Andirin**	**0.70**	**294**	P	**Pg**	**07 58 56.9**	**-0.2**
ANDN				S	**Sg**	**07 59 06.4**	**+0.1**
HASA	**Hatay-Hassa-Ha**	**0.76**	**225**	P	**Pb**	**07 58 58.5**	**-0.6**
HASA				S	**Sb**	**07 59 09.2**	**-0.3**
ATAB	**Bozova**	**0.93**	**79**	P	**Pb**	**07 59 01.5**	**-0.3**
ATAB				S	**Sb**	**07 59 14.0**	**-0.4**
AZEY	**Adyaman-Merk**	**1.01**	**59**	P	**Pg**	**07 59 03.0**	**0.0**
AZEY				S	**Sb**	**07 59 16.9**	**0.0**
ELBS	**KAHRAMANMARAS**	**1.03**	**359**	P	**Pb**	**07 59 03.3**	**-0.4**
ELBS				S	**Sn**	**07 59 19.9**	**+0.9**
KOZT	**Kozan**	**1.07**	**280**	Pg	**Pb**	**07 59 03.9**	**-0.4**
KOZT				Sg	**Sn**	**07 59 18.8**	**-1.1**
SAIM	**ADANA**	**1.09**	**309**	P	**Pb**	**07 59 04.2**	**-0.5**
SAIM				S	**Sn**	**07 59 19.6**	**-0.9**
RHAN	**Hatay/Reyhanl**	**1.12**	**203**	P	**Pg**	**07 59 05.9**	**+0.8**
RHAN				S	**Sn**	**07 59 20.1**	**-1.1**
CEYT	**Ceyhan**	**1.16**	**256**	Pn	**Pg**	**07 59 05.5**	**-0.3**
CEYT				Sn	**Sn**	**07 59 21.5**	**-0.5**
AKCD	**Akcadag**	**1.17**	**31**	P	**Pn**	**07 59 05.8**	**-0.6**
AKCD				S	**Sn**	**07 59 22.1**	**-0.5**
TAHT	**Tahtakopru-Hat**	**1.20**	**220**	Pn	**Pg**	**07 59 06.7**	**+0.1**
TAHT				Sn	**Sn**	**07 59 23.9**	**+0.8**
SURC	**SANLIURFA_SURC**	**1.24**	**109**	P	**Pg**	**07 59 07.4**	**+0.1**
SURC				S	**Sg**	**07 59 23.7**	**+0.3**
SARI	**SarD1z-Kayseri**	**1.25**	**333**	Pn	**Pg**	**07 59 07.5**	**-0.1**
SARI				Sn	**Sg**	**07 59 25.7**	**+1.8**
DARE	**Darende-Malaty**	**1.30**	**12**	Pn	**Pg**	**07 59 09.2**	**+0.7**
DARE				Sn	**Sg**	**07 59 27.9**	**+2.5**
YURE	**YUREGIR**	**1.30**	**249**	P	**Pg**	**07 59 09.0**	**+0.5**
YURE				S	**Sg**	**07 59 26.4**	**+0.9**
URFA	**Urfa**	**1.34**	**83**	Pn	**Pg**	**07 59 09.7**	**+0.5**
AKO	**Adana**	**1.37**	**277**	P	**Pb**	**07 59 09.0**	**-0.4**
AKO				S	**Sg**	**07 59 28.0**	**+0.5**
HANM	**anlurfa/Hi**	**1.41**	**78**	P	**Pn**	**07 59 09.0**	**-0.5**
HANM				S	**Sg**	**07 59 28.2**	**-0.6**
NARI	**Adyaman-Kaht**	**1.41**	**65**	P	**Pn**	**07 59 09.2**	**-0.3**
NARI				S	**Sg**	**07 59 30.4**	**+1.6**
CUGUR	**Gurin_SVAS**	**1.43**	**4**	P	**Pg**	**07 59 10.7**	**-0.3**
CUGUR				S	**Sg**	**07 59 31.6**	**+2.0**
MAYA	**Malatya/Merkez**	**1.44**	**44**	P	**Pb**	**07 59 10.3**	**-0.3**
MAYA				S	**Sg**	**07 59 30.4**	**+0.5**
SANL	**SANLIURFA_Merk**	**1.47**	**94**	P	**Pb**	**07 59 10.4**	**-0.8**
SANL				S	**Sg**	**07 59 30.1**	**-0.7**
ASUZ	**Hatay-Arsuz**	**1.49**	**228**	P	**Pb**	**07 59 10.9**	**-0.5**
ASUZ				S	**Sg**	**07 59 32.6**	**+1.3**
YAHY	**KAYSERI_Yahyal**	**1.63**	**300**	P	**Pb**	**07 59 13.4**	**-0.5**
YAHY				S	**Sg**	**07 59 35.3**	**-0.6**
KARA	**Karaisali**	**1.67**	**269**	Pn	**Pb**	**07 59 14.0**	**-0.6**
CMRD	**Camardi-Nigde**	**1.76**	**283**	Pn	**Pb**	**07 59 15.4**	**-0.7**
BNN	**Bunyan**	**1.86**	**327**	Pn	**Pb**	**07 59 17.2**	**-0.7**
GULE	**Gulek**	**1.89**	**270**	P	**Pg**	**07 59 18.9**	**-1.0**
GUNE	**Kayseri**	**2.01**	**324**	P	**Pg**	**07 59 22.0**	**0.0**
NIDE	**Nigde/Merkez-G**	**2.01**	**291**	P	**Pb**	**07 59 19.2**	**-1.2**
ARPR	**Arapgir-MALATY**	**2.02**	**27**	Pn	**Pb**	**07 59 20.1**	**-0.6**
CUKAN	**kangal_SIVAS**	**2.03**	**7**	P	**Pg**	**07 59 21.9**	**-0.6**
MERS	**Mersin**	**2.15**	**259**	Pn	**Pb**	**07 59 21.2**	**-1.5**
KEMA	**Kemaliye**	**2.23**	**28**	P	**Pg**	**07 59 26.8**	**+0.4**
CUSAR	**Sarkisla-SIVAS**	**2.24**	**342**	P	**Pg**	**07 59 25.3**	**-1.1**
AVNS	**Nevsehir-Avano**	**2.36**	**310**	P	**Pb**	**07 59 27.0**	**+0.5**
PTK	**Pertek**	**2.38**	**47**	Pn	**Pb**	**07 59 24.9**	**-1.9**
ILIC	**ilic-Erzincan**	**2.42**	**27**	Pn	**Pb**	**07 59 26.1**	**-1.4**
DYBB	**Diyarbakir**	**2.46**	**74**	Pn	**Pb**	**07 59 27.3**	**-0.8**
GULA	**Gulagac**	**2.54**	**295**	Pn	**Pb**	**07 59 26.9**	**-2.5**
KIZK	**Mersin**	**2.54**	**252**	Pn	**Pn**	**07 59 25.9**	**+0.8**
KOZK	**Kozakli-Nevseh**	**2.62**	**317**	Pn	**Pn**	**07 59 27.3**	**+1.0**
MAZI	**Mazidag**	**2.63**	**85**	Pn	**Pb**	**07 59 29.8**	**-1.2**
YOZ	**Yozgat**	**2.75**	**329**	Pn	**Pn**	**07 59 29.4**	**+1.4**
ERZN	**Erzincan**	**3.05**	**41**	Pn	**Pb**	**07 59 35.7**	**-2.5**
BNGB	**Bingl**	**3.26**	**58**	Pn	**Pb**	**07 59 38.2**	**-3.4**
SVAN	**Silvan-Diyarba**	**3.32**	**74**	Pn	**Pb**	**07 59 39.8**	**-2.9**
YEDI	**Yedisu-Bingol**	**3.42**	**50**	Pn	**Pn**	**07 59 39.9**	**+2.6**
VRTB	**Varto-Mus**	**3.87**	**60**	Pn	**Pn**	**07 59 47.2**	**+3.8**
GURO	**Guroymak-BITLI**	**4.06**	**71**	Pn	**Pn**	**07 59 49.5**	**+3.5**

*NEIC **28** 07:59:51.8±1.1, 46°.90N±0°.04×112°.54W±0°.06, h17km±7km, ML3.4/46, ML3.5/20(BUT), Error ellipse: s-maj=6.8km s-min=4.9km az=131.0*
*BUT **28** 07:59:52.7±1.9, 46°.90N±0°.04×112°.52W±0°.08, h12km±2km, Error ellipse: s-maj=9.3km s-min=6.9km az=271.0*
*IDC **28** 07:59:53.2±1.0, 46°.77N×112°.81W, h0km, mbtmp2.7/3, ML3.2/3, Error ellipse: s-maj=16.9km s-min=6.4km az=49.0*

ISC 28 07:59:52.2±1.3, 46°.86N±0°.03×112°.56W±0°.04, h14km±10km, n44, σ1§38/43, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEMT	**Mount Belmont**	**0.20**	**126**		**Pg**	**07 59 57.1**	**+0.2**
LYMT	**Lyon Mountain**	**0.21**	**60**		**Pb**	**07 59 56.9**	**-1.1**
ELMT	**Elliston**	**0.34**	**173**		**Pb**	**08 00 00.1**	**-0.1**
HRY	**Holter Researc**	**0.52**	**107**	Pg	**Pb**	**08 00 03.0**	**-0.2**
MSO	**Missoula**	**0.95**	**268**		**Pn**	**08 00 10.9**	**-0.3**
MSO				IAML		08 00 26.2	
	589nm,0.7s						
MSO				IAML		08 00 28.2	
	967nm,0.5s						
LRM	**Limekiln Ridge**	**1.04**	**176**	Pg	**Pg**	**08 00 13.1**	**+0.7**
BOZ	**Bozeman (W)**	**1.42**	**153**	Pn	**Pb**	**08 00 18.7**	**+0.1**
BOZ					**Sn**	**08 00 35.9**	**-0.4**
BOZ				IAML		08 00 39.6	
	285nm,0.5s						
BOZ				IAML		08 00 44.0	
	283nm,0.4s						
EGMT	**Eagleton**	**2.23**	**58**		**Pn**	**08 00 29.3**	**+0.5**
EGMT				IAML		08 01 01.9	
	524nm,0.4s						
EGMT				IAML		08 01 02.6	
	339nm,0.4s						
YHL	**Hebgen Lake**	**2.23**	**154**		**Pb**	**08 00 30.7**	**-1.7**
YHL				IAML		08 01 08.1	
	comp=E,324nm,0.9s						
YHL				IAML		08 01 08.2	
	comp=N,401nm,0.9s						
MKRVA	**Milk River, Al**	**2.34**	**13**		**Pb**	**08 00 33.1**	**-1.0**
MKRVA	**Milk River, Al**	**2.34**	**13**	IAML		08 01 10.3	
	comp=N,330nm,0.6s						
YPDC	**Denny Creek**	**2.34**	**156**		**Pb**	**08 00 32.3**	**-2.0**
YMC	**Maple Creek**	**2.37**	**152**		**Pn**	**08 00 32.4**	**+1.6**
YHH	**Holmes Hill**	**2.40**	**149**		**Pn**	**08 00 32.3**	**+1.0**
YMR	**Madison River**	**2.46**	**153**		**Pn**	**08 00 33.1**	**+1.0**
YMR				IAML		08 01 16.4	
	comp=N,215nm,0.9s						
YMR				IAML		08 01 18.6	
	comp=E,188nm,0.9s						
YNR	**Norris Junctio**	**2.52**	**148**	Pn	**Pn**	**08 00 33.3**	**+0.4**
YNR				IAML		08 01 18.0	
	comp=N,76nm,0.4s						
YFT	**Old Faithful**	**2.70**	**153**		**Pn**	**08 00 35.9**	**+0.6**
H17A	**Grant Village**	**2.83**	**150**	Pn	**Pn**	**08 00 38.5**

HCB				*i* AML	AML	08 04 25.0			
	comp=E,42nm,0.3s								
KHMR	**Kahramanmara**	**0.18**	**279**	P	Pg	08 04 20.3	+0.5		
KHMR				P		08 04 20.5			
KHMR				S	Sg	08 04 23.3	+1.0		
KHMR				S		08 04 23.4			
KHMR				*i* AML	AML	08 04 24.0			
	comp=E,24nm,0.6s								
KHMR				*i* AML	AML	08 04 24.0			
	comp=E,35nm,0.3s								
KHMR				*i* AML	AML	08 04 26.0			
	comp=N,32nm,0.6s								
KHMR				*i* AML	AML	08 04 26.0			
	comp=N,43nm,1.0s								
KAHM	**Kahramanmaras,**	**0.23**	**331**	P	Pg	08 04 21.4	+0.6		
KAHM				S	Sg	08 04 24.8	+0.9		
KAHM				*i* AML	AML	08 04 25.0			
	comp=N,31nm,0.3s								
KAHM				*i* AML	AML	08 04 25.0			
	comp=E,31nm,0.2s								
KMRS	**Kahramanmaras**	**0.26**	**316**	Pg	Pg	08 04 20.1	-1.3		
GZT	**Gaziantep**	**0.35**	**83**	P	Pg	08 04 23.1	0.0		
GZT				S	Sg	08 04 27.3	-0.4		
GZT				*i* AML	AML	08 04 28.0			
	comp=N,29nm,0.4s								
GZT				*i* AML	AML	08 04 29.0			
	comp=E,24nm,0.4s								
KAMA	**Osmaniye**	**0.39**	**251**	P	Pg	08 04 23.9	+0.1		
KAMA				S	Sg	08 04 29.4	+0.5		
KAMA				*i* AML	AML	08 04 30.0			
	comp=N,12nm,0.1s								
KAMA				*i* AML	AML	08 04 30.0			
	comp=E,16nm,0.4s								
AKCA	**Adyaman/G¶‖**	**0.65**	**43**	P	Pg	08 04 28.7	-0.1		
AKCA				S	Sb	08 04 38.5	-0.9		
AKCA				*i* AML	AML	08 04 41.0			
	comp=E,13nm,0.2s								
ATAB	**Bozova**	**0.94**	**80**	P	Pb	08 04 35.1	+0.2		
ATAB				S	Sg	08 04 46.5	0.0		
ATAB				*i* AML	AML	08 04 49.0			
	comp=N,26nm,0.3s								
ATAB				*i* AML	AML	08 04 49.0			
	comp=E,35nm,0.5s								
KOZT	**Kozan**	**1.05**	**279**	Pg	Pg	08 04 29.9	-6.4		
TAHT	**Tahtakopru-Hat**	**1.21**	**219**	Pg	Pg	08 04 31.1	-8.2		
SARI	**SarD1z-Kayseri**	**1.23**	**333**	Pn	Pg	08 04 37.8	-1.9		
DARE	**Darende-Malaty**	**1.28**	**13**	Pn	Pn	08 04 40.7	0.0		
URFA	**Urfa**	**1.35**	**84**	Pn	Pg	08 04 42.4	+0.2		
CMRD	**Camardi-Nigde**	**1.73**	**282**	Pn	Pn	08 04 41.3	-5.6		
BNN	**Bunyan**	**1.84**	**327**	Pn	Pn	08 04 45.6	-2.8		
ARPR	**Arapgir-MALATY**	**2.01**	**28**	Pn	Pn	08 04 50.9	+0.1		

*IDC **28** 08:06:58.3±10.0, 26°.68S×178°.60W, h320km±101km, mb3.2/3, mbtmp4.1/4, Error ellipse: s-maj=61.3km s-min=37.0km az=15.0*

ISC 28 08:07:01.7±1.3, 26°.83S±0°.09×178°.7W±0°.2, h350km, n26, σ1§28/38, mb3.4/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.51**	**165**	P	**Pn**	**08 07 58.3**	**+1.5**
GLKZ				S	**Sn**	**08 08 40.8**	**-0.3**
MXZ	**Matakaoa Point**	**11.00**	**193**	P	**Pn**	**08 09 31.4**	**0.0**
MXZ				S	**Sn**	**08 11 34.7**	**+0.1**
HAZ	**Te Kaha**	**11.30**	**195**	P	**Pn**	**08 09 33.7**	**-1.3**
HAZ				S	**Sn**	**08 11 42.3**	**+1.1**
RUGZ	**Raukumara Rang**	**11.52**	**195**	P	**P**	**08 09 39.0**	**+0.9**
MWZ	**Matawai**	**11.91**	**195**	P	**Pn**	**08 09 43.3**	**+1.1**
MWZ				S	**Sn**	**08 11 52.0**	**-2.7**
URZ	**Urewera**	**11.94**	**196**	P	**P**	**08 09 41.4**	**-1.1**
	12nm,0.3s,baz=334,slow=4.0,SNR=28						
URZ				S	**S**	**08 11 53.0**	**-2.2**
	14nm,0.6s,baz=160,slow=22,SNR=14						
URZ	**Urewera**	**11.94**	**196**	P	**P**	**08 09 42.5**	**0.0**
URZ				S	**S**	**08 11 55.0**	**-0.3**
RTZ	**Ruatahuna**	**12.30**	**196**	P	**P**	**08 09 46.6**	**-0.1**
MTHZ	**Maungataniwha**	**12.56**	**196**	P	**Pn**	**08 09 50.8**	**+0.7**
MTHZ				S	**S**	**08 12 07.6**	**-0.8**
RAHZ	**Arahi**	**12.56**	**195**	P	**Pn**	**08 09 50.6**	**+0.6**
RAHZ				S	**S**	**08 12 06.0**	**-2.4**
HIZ	**Hauiti**	**12.86**	**203**	P	Pn	08 09 58.6	+5.1
BKZ	**Black Stump Fm**	**12.95**	**197**	P	**Pn**	**08 09 55.4**	**+0.8**
SNVZ	**South Ngauruho**	**13.21**	**200**	P	**P**	**08 09 57.3**	**+0.6**
KWHZ	**Kaweka Forest**	**13.21**	**197**	P	**P**	**08 09 57.2**	**+0.6**
KWHZ				S	**S**	**08 12 19.2**	**-2.3**
WNVZ	**Wahianoa**	**13.35**	**200**	P	**P**	**08 09 58.6**	**+0.3**
WNVZ				S	**S**	**08 12 26.5**	**+1.9**
BHHZ	**Black Hill Sta**	**13.37**	**198**	P	**P**	**08 09 58.9**	**+0.6**
PKVZ	**Pokaka**	**13.39**	**200**	P	**Pn**	**08 10 00.8**	**+1.0**
KRHZ	**Kereru**	**13.43**	**197**	P	**P**	**08 09 59.6**	**+0.6**
VRZ	**Vera Road**	**13.44**	**203**	P	**Pn**	**08 10 02.9**	**+2.6**
PNHZ	**Pukenui**	**13.73**	**197**	P	**P**	**08 10 01.9**	**-0.4**
PNHZ				S	**S**	**08 12 29.8**	**-2.2**
BFZ	**Birch Farm**	**14.44**	**196**	P	**P**	**08 10 11.0**	**+0.9**
BFZ				S	**S**	**08 12 45.7**	**-0.6**
STKA	**Stephens Creek**	**34.86**	**252**	P	**P**	**08 13 22.0**	**+0.8**
	0.8nm,0.5s,baz=94,slow=13,SNR=5.4						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**42.82**	**263**	P	**P**	**08 14 26.2**	**-0.5**
	0.7nm,0.5s,baz=93,slow=7.0,SNR=23						
ASAR				PcP	**PcP**	**08 16 10.7**	**0.0**
	0.1nm,0.4s,baz=110,slow=3.8,SNR=1.6						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**43.48**	**269**	P	**P**	**08 14 30.8**	**-1.2**
	2.3nm,0.8s,baz=107,slow=7.6,SNR=18						
	2.3nm,0.8s						
NOA	**NORSAR Array B**	**145.15**	**352**	PKPbc	**PKPbc**	**08 25 56.7**	**-1.0**
	0.8nm,0.8s,baz=32,slow=1.0,SNR=1.9						
HFS	**Hagfors**	**145.64**	**349**	PKPbc	**PKPdf**	**08 25 57.4**	**-0.7**
	1.9nm,0.7s,baz=38,slow=2.6,SNR=7.7						

*UPP **28** 08:15:37.2±0.0, 67°.82N×20°.21E, h0km, ML2.2, Confirmed Induced event*
*HEL **28** 08:15:37.1±0.2, 67°.81N×20°.13E, h0km, ML1.7, Explosion*
*IDC **28** 08:15:39.4±1.2, 67°.78N×20°.82E, h0km, mbtmp3.1/4, ML1.9/4, Error ellipse: s-maj=19.5km s-min=9.2km az=111.0*

ISC 28 08:15:37.6±0.8, 67°.82N±0°.02×20°.24E±0°.03, h0km, n35, σ0§98/53, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**14**	P	**Pg**	**08 15 40.3**	**0.0**
KUA				S	**Sg**	**08 15 42.4**	**+0.3**
RATU	**Laukkuluspa**	**0.25**	**272**	P	**Pg**	**08 15 41.9**	**-0.4**
KOVU	**Salmi**	**0.41**	**356**	P	**Pg**	**08 15 45.0**	**-0.4**
KOVU				S	**Sg**	**08 15 50.4**	**-0.3**
LANU	**Lannavaara**	**0.70**	**70**	P	**Pg**	**08 15 50.6**	**-0.4**
LANU	**Lannavaara**	**0.70**	**70**	PG	**Pg**	**08 15 50.6**	**-0.4**
LANU				SB	**Sg**	**08 16 00.1**	**+0.1**
DUNU	**Dundret**	**0.71**	**170**	P	**Pg**	**08 15 50.5**	**-0.6**
MASU	**Masugnsbyn**	**0.76**	**117**	P	**Pg**	**08 15 51.9**	**-0.3**
SALU	**Saltoluokta**	**0.80**	**237**	P	**Pg**	**08 15 51.9**	**-0.9**
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	**Pg**	**08 16 00.7**	**-0.1**
KIF	**Kilpisjarvi**	**1.21**	**10**	PG	**Pg**	**08 15 59.9**	**-0.8**
KIF				MSG		08 16 15.5	
	comp=Z,13nm,0.2s						
KIF				SG	**Sg**	**08 16 16.4**	**0.0**
PAJU	**Pajala**	**1.36**	**124**	P	**Pg**	**08 16 02.5**	**-1.2**
PAJU	**Pajala**	**1.36**	**124**	PG	**Pg**	**08 16 02.0**	**-1.7**
	baz=304						
PAJU				SG	**Sg**	**08 16 21.4**	**+0.1**
HEF	**Hetta**	**1.41**	**64**	*e*P	**Pn**	**08 16 03.5**	**-1.0**
HEF	**Hetta**	**1.41**	**64**	PG	**Pn**	**08 16 03.1**	**-1.4**
HEF				MSG		08 16 20.9	
	comp=Z,4.6nm,0.2s						
HEF				SG	**Sg**	**08 16 22.7**	**-0.1**
ERTU	**Ertsjaerv**	**1.48**	**148**	P	**Pn**	**08 16 04.3**	**-1.0**
ERTU	**Ertsjaerv**	**1.48**	**148**	PG	**Pn**	**08 16 04.0**	**-1.4**
ERTU				SN	**Sn**	**08 16 27.2**	**+1.8**
KLF	**Kolari**	**1.54**	**110**	PG	**Pn**	**08 16 05.4**	**-0.9**
KLF				MSG		08 16 24.5	
	comp=Z,3.8nm,0.2s						
KLF				SN	**Sn**	**08 16 26.9**	**-0.1**
KTK1	**Kautokeino**	**1.63**	**41**	PG	**Pn**	**08 16 07.2**	**-0.4**
KTK1				SN	**Sb**	**08 16 29.7**	**0.0**
HARU	**Harads**	**1.69**	**170**	P	**Pn**	**08 16 07.9**	**-0.4**
TRO	**Tromso**	**1.89**	**346**	PG	**Pn**	**08 16 10.7**	**-0.3**
TRO				SG	**Sb**	**08 16 36.5**	**-0.4**
KALU	**Kalix**	**2.32**	**146**	PG	**Pn**	**08 16 17.5**	**+0.5**
	baz=324						
KALU				SG	**Sb**	**08 16 50.2**	**+0.9**
TOF	**Tornio**	**2.37**	**135**	PB	**Pn**	**08 16 18.6**	**+1.0**
TOF				MSG		08 16 47.8	
	comp=Z,3.1nm,0.2s						
TOF				SG	**Sb**	**08 16 51.5**	**+0.7**
SGF	**Sodankyl**	**2.43**	**96**	PB	**Pn**	**08 16 19.4**	**+0.9**
SGF				SG	**Sb**	**08 16 53.5**	**+0.9**
RNF	**Rovaniemi**	**2.55**	**116**	PB	**Pn**	**08 16 21.6**	**+1.5**
	baz=302						
RNF				SG	**Sb**	**08 16 54.9**	**-1.1**
ARA0	**ARCESS Array S**	**2.58**	**46**	PN	**Pn**	**08 16 21.0**	**+0.4**
	baz=230						
ARA0				SB	**Sb**	**08 16 55.5**	**-1.5**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**08 16 21.0**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=230,slow=14,SNR=58						
ARCES				Sn	**Sn**	**08 16 53.5**	**+0.8**
	comp=Z,1.5nm,0.3s,baz=226,slow=26,SNR=18						
	comp=Z,1.0nm,0.3s						
KEV	**Kevo**	**3.14**	**49**	PN	**Pn**	**08 16 28.6**	**+0.5**
KEV				SN	**Sn**	**08 17 07.3**	**+1.1**
BURU	**Burvik**	**3.28**	**171**	PB	**Pn**	**08 16 31.6**	**+1.5**
OUL	**Oulu**	**3.56**	**138**	PG	**Pb**	**08 16 41.2**	**-0.1**
OLKF	**Oulanka, Finla**	**3.88**	**108**	PN	**Pn**	**08 16 39.3**	**+0.9**
MSF	**Maaselka**	**3.96**	**115**	PN	**Pn**	**08 16 40.7**	**+1.2**
KU6	**Riekki**	**4.20**	**111**	PN	**Pn**	**08 16 43.9**	**+1.1**
FINES	**FINESS Array B**	**6.87**	**156**	Pn	**Pn**	**08 17 19.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=342,slow=12,SNR=4.4						
FINES				Sn	**Sn**	**08 18 36.2**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=346,slow=23,SNR=1.6						
FINES				Lg	Lg	08 19 11.3	
	comp=Z,0.2nm,0.3s,baz=348,slow=27,SNR=2.0						
	comp=Z,3.3nm,0.8s						
NOA	**NORSAR Array B**	**7.83**	**214**	Pn	**Pn**	**08 17 35.5**	**+2.9**
	baz=28,slow=16,SNR=2.2						
	comp=Z,1.3nm,1.1s						
HFS	**Hagfors**	**8.23**	**204**	Pn	**Pn**	**08 17 37.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=39,slow=12,SNR=1.4						
	comp=Z,1.5nm,0.8s						

*IDC **28** 08:22:37.9±0.5, 11°.48S×165°.91E, h0km, mb4.6/22, mbtmp4.6/24, ML5.3/2, MS4.2/44, Error ellipse: s-maj=18.6km s-min=14.0km az=106.0*
*BJI **28** 08:22:39.4, 11°.04S×166°.28E, h13km, mb5.0/56, mB5.4/35, Ms5.1/14, Ms7 4.8/16*
*NEIC **28** 08:22:40.7±1.2, 11°.42S±0°.08×165°.9E±0°.1, h10km±1km, mb5.1/62, Error ellipse: s-maj=19.7km s-min=13.0km az=65.0*
*MOS **28** 08:22:42.5±1.2, 11°.42S×165°.68E, h34km, mb5.2/23, Error ellipse: s-maj=10.2km s-min=8.2km az=129.0*
*GCMT **28** 08:22:44.7±0.2, 11°.54S±0°.02×165°.61E±0°.01, h18km, MW5.2/100, Moment Tensor Solution. s79,c104; s100,c149; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr5.56±.19; Mθθ-1.57±.14; Mφφ-3.99±.14; Mrθ2.15±.32; Mrφ2.61±.09; Mθφ-4.13±.31; Best double couple: M07.28900×10^16 NP1,φ151.00000°,δ65.00000°, λ93.00000°. NP2,φ324.00000°,δ25.00000°,λ84.00000°. Principal axes: T 7.2500, Plg70.0000°, Azm67.0000°; N 0.0790, Plg3.0000°, Azm329.0000°; P -7.3290, Plg20.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NOU **28** 08:22:47.7, 11°.66S×165°.66E, h49km, mb5.0/43, Santa Cruz Islands*

ISC 28 08:22:40.7±0.3, 11°.53S±0°.05×165°.88E±0°.05, h10km, h10km:pP-P, n572, σ1§37/511, mb5.0/92, MS4.3/53, 15C-8D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.19**	**289**	Pn	**Pn**	**08 24 11.1**	**-1.2**
HNR	**Honiara**	**6.19**	**289**	P	**Pn**	**08 24 14.1**	**+1.8**
HNR	**Honiara**	**6.19**	**289**	Pn	**Pn**	**08 24 11.7**	**-0.5**
	326nm,0.3s,baz=192,slow=2.6,SNR=8.2						
HNR				Sn	**Sn**	**08 25 19.0**	**-4.2**
	92nm,0.3s,baz=75,slow=21,SNR=10						
HNR				LR	LR	08 26 47.2	
	comp=Z,43μm,19.8s,baz=125,slow=40						
	803nm,0.4s						
KOUNC	**Koumac, New Ca**	**9.10**	**189**	Pn	**Pn**	**08 24 52.5**	**+0.4**
KOUNC	**Koumac, New Ca**	**9.10**	**189**	P	**Pn**	**08 24 52.6**	**+0.5**
LIFNC	**LIFOU**	**9.28**	**172**	Pn	**Pn**	**08 24 57.1**	**+2.4**
LIFNC	**LIFOU**	**9.28**	**172**	P	**Pn**	**08 24 55.0**	**+0.3**
DZM	**Mont Dzumac**	**10.49**	**177**	*e*P	**Pn**	**08 25 14.5**	**+3.2**
	83nm,0.8s						
DZM				*e*LR	LR	08 27 30.6	
	comp=Z,2μm,23.4s						
DZM	**Mont Dzumac**	**10.49**	**177**	P	**Pn**	**08 25 12.5**	**+1.2**
DZM	**Mont Dzumac**	**10.49**	**177**	P	**Pn**	**08 25 12.3**	**+1.0**
DZM	**Mont Dzumac**	**10.49**	**177**	Pn	**Pn**	**08 25 12.1**	**+0.8**
	4.3nm,0.3s,baz=351,slow=15,SNR=33						
DZM				Sn	**Sn**	**08 27 05.6**	**-3.5**
	0.5nm,0.3s,baz=299,slow=7.5,SNR=0.8						
DZM				LR	LR	08 29 14.9	
	comp=Z,3μm,18.2s,baz=16,slow=38						
	25nm,0.6s						
YATNC	**Mamie plateau,**	**10.51**	**175**	P	**Pn**	**08 25 12.9**	**+1.4**
YATNC	**Mamie plateau,**	**10.51**	**175**	P	**Pn**	**08 25 12.7**	**+1.2**
NOUC	**Port Laguerre**	**10.52**	**178**	P	**Pn**	**08 25 15.5**	**+3.9**
NOUC	**Port Laguerre**	**10.52**	**178**	P	**Pn**	**08 25 14.1**	**+2.5**
ONTNC	**Ouen Toro**	**10.73**	**177**	Pn	**Pn**	**08 25 15.8**	**+1.4**
ONTNC	**Ouen Toro**	**10.73**	**177**	P	**Pn**	**08 25 16.9**	**+2.4**
ONTNC	**Ouen Toro**	**10.73**	**177**	P	**Pn**	**08 25 16.2**	**+1.7**
OUENC	**Ouen Island, N**	**10.86**	**175**		**Pn**	**08 25 17.8**	**+1.5**
OUENC	**Ouen Island, N**	**10.86**	**175**	P	**Pn**	**08 25 20.0**	**+3.7**
PINNC	**Pines Island,**	**11.12**	**172**	Pn	**Pn**	**08 25 22.5**	**+2.7**
PINNC	**Pines Island,**	**11.12**	**172**	P	**Pn**	**08 25 23.0**	**+3.2**
KAVG	**Kavieng**	**17.39**	**300**	P	**Pn**	**08 26 44.3**	**+0.7**
PMG	**Port Moresby**	**18.53**	**275**	P	**P**	**08 26 56.5**	**-1.0**
PMG	**Port Moresby**	**18.53**	**275**	P	**P**	**08 26 59.6**	**+2.1**
PMG	**Port Moresby**	**18.53**	**275**	P	**P**	**08 26 56.5**	**-1.0**
PMG				pmax	pmax		
	comp=Z,62nm,1.1s						
PMG	**Port Moresby**	**18.53**	**275**	LR	LR	08 33 37.7	
	comp=Z,2μm,19.7s,baz=84,slow=36						
AUAYR	**Ayr State High**	**19.49**	**244**	P	**P**	**08 27 09.1**	**+1.0**
EIDS	**Eidsvold**	**19.63**	**223**	P	**P**	**08 27 09.1**	**-0.4**
	baz=20,SNR=8.7						
EIDS	**Eidsvold**	**19.63**	**223**		**P**	**08 27 08.7**	**-0.9**
EIDS	**Eidsvold**	**19.63**	**223**	P	**P**	**08 27 10.3**	**+0.8**
MANU	**Manus Island**	**20.64**	**296**	P	**P**	**08 27 20.5**	**-0.1**
MANU				IAmb	IAmb	08 27 36.0	
	comp=Z,141nm,1.1s						
MANU	**Manus Island**	**20.64**	**296**	P	**P**	**08 27 20.6**	**-0.1**
CTA	**Charters Tower**	**20.69**	**243**	P	**P**	**08 27 21.2**	**0.0**
CTA	**Charters Tower**	**20.69**	**243**	P	**P**	**08 27 20.3**	**-0.9**
	comp=Z,31nm,1.0s,baz=68,slow=10,SNR=26						
CTA				LR	LR	08 34 52.1	
	comp=Z,1μm,18.1s,baz=76,slow=35						
	comp=Z,31nm,1.0s						
CTAO	**Charters Tower**	**20.69**	**243**		**P**	**08 27 19.7**	**-1.5**
CTAO	**Charters Tower**	**20.69**	**243**	P	**P**	**08 27 21.2**	**0.0**
CTAO	**Charters Tower**	**20.69**	**243**	P	**P**	**08 27 19.7**	**-1.5**
CTAO				pmax	pmax		
	comp=Z,60nm,1.1s						
MTSU	**Mount Surprise**	**21.84**	**250**	P	**P**	**08 27 33.1**	**-0.4**
	baz=22,SNR=35						
ARMA	**Armidale**	**22.98**	**213**	P	**P**	**08 27 45.7**	**0.0**
	baz=23,SNR=14						
ARMA	**Armidale**	**22.98**	**213**	P	**P**	**08 27 44.1**	**-1.6**
ARMA	**Armidale**	**22.98**	**213**	P	**P**	**08 27 45.7**	**0.0**
AUPHS	**Peel High Scho**	**23.91**	**213**	P	**P**	**08 27 54.8**	**0.0**
AULRC	**Lightning Ridg**	**24.39**	**220**	P	**P**	**08 27 58.6**	**-0.7**
QLP	**Quilpie**	**25.29**	**231**	P	**P**	**08 28 08.4**	**+1.0**
AUDCS	**Dubbo College**	**26.01**	**215**	P	**P**	**08 28 16.4**	**+2.4**
QIS	**Mount Isa**	**26.76**	**247**	P	**P**	**08 28 19.7**	**-1.2**
	baz=27,SNR=9.5						
QIS	**Mount Isa**	**26.76**	**247**	P	**P**	**08 28 21.3**	**+0.4**
CMSA	**Cobar Meteorol**	**27.27**	**220**	P	**P**	**08 28 25.4**	**0.0**
	baz=27,SNR=18						
CMSA	**Cobar Meteorol**	**27.27**	**220**	P	**P**	**08 28 27.4**	**+2.0**
INKA	**Innaminka**	**28.55**	**232**	P	**P**	**08 28 38.3**	**+1.5**
RTZ	**Ruatahuna**	**28.73**	**162**	P	**P**	**08 28 39.6**	**+1.2**
RTZ				IAmb	IAmb	08 28 49.3	
	comp=Z,52nm,1.1s						
STKA	**Stephens Creek**	**30.18**	**224**	P	**P**	**08 28 51.0**	**-0.2**
	baz=30,SNR=8.3						
STKA	**Stephens Creek**	**30.18**	**224**	P	**P**	**08 28 50.7**	**-0.5**
STKA	**Stephens Creek**	**30.18**	**224**	P	**P**	**08 28 50.7**	**-0.5**
STKA	**Stephens Creek**	**30.18**	**224**	*c* P	**P**	**08 28 50.9**	**-0.4**
STKA	**Stephens Creek**	**30.18**	**224**	P	**P**	**08 28 50.1**	**-1.1**
	comp=Z,7.6nm,0.9s,baz=25,slow=10,SNR=11						
STKA				LR	LR	08 39 50.1	
	comp=Z,728nm,21.9s,baz=44,slow=34						
	comp=Z,7.6nm,0.9s						
THZ	**Tophouse**	**30.74**	**170**	P	**P**	**08 28 58.4**	**+2.3**
WR0	**Warramunga Arr**	**31.26**	**251**	P	**P**	**08 28 59.1**	**-1.8**
WB0	**Warramunga Arr**	**31.36**	**251**	P	**P**	**08 29 00.3**	**-1.6**
WB0				IAmb	IAmb	08 29 04.9	
	comp=Z,45nm,1.1s						
WRAB	**Tennant Creek**	**31.43**	**251**	P	**P**	**08 29 01.6**	**-0.8**
WRAB				IAmb	IAmb	08 29 15.5	
	comp=Z,19nm,1.0s						
WRAB	**Tennant Creek**	**31.43**	**251**	P	**P**	**08 29 01.6**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,19nm,1.0s						
WB2	**Warramunga Arr**	**31.43**	**251**	P	**P**	**08 29 01.3**	**-1.1**
WB2				IAmb	IAmb	08 29 13.3	
	comp=Z,34nm,1.1s						
WRA	**Warramunga Arr**	**31.44**	**251**	P	P	08 29 00.8	-1.8
WRA	**Warramunga Arr**	**31.44**	**251**	*i* P	P	08 29 00.6	-2.0
WRA				pmax	pmax		
	comp=Z,28nm,1.2s						
WRA	**Warramunga Arr**	**31.44**	**251**	P	P	08 29 00.4	-2.1
	comp=Z,28nm,1.2s,baz=80,slow=8.6,SNR=28						
WRA				PcP	**PcP**	**08 31 55.2**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=78,slow=2.8,SNR=2.9						
	comp=Z,28nm,1.2s						
INZ	**Inchbonnie**	**31.45**	**172**	P	**P**	**08 29 02.5**	**+0.2**
LTZ	**Lake Taylor**	**31.62**	**171**	P	**P**	**08 29 04.9**	**+1.0**
TOO	**Toolangi**	**31.73**	**212**	P	**P**	**08 29 05.3**	**+0.4**
LCRK	**Leigh Creek**	**31.81**	**230**	P	**P**	**08 29 05.0**	**-0.7**
RPZ	**Rata Peaks**	**32.38**	**173**	P	**P**	**08 29 11.4**	**+1.0**
RPZ	**Rata Peaks**	**32.38**	**173**	LR	LR	08 41 31.0	
	comp=Z,757nm,19.5s,baz=351,slow=35						
GUMO	**Guam**	**32.51**	**320**	LR	LR	08 40 50.4	
	comp=Z,562nm,22.0s,baz=147,slow=34						
OOD	**Oodnadatta**	**32.58**	**236**	P	**P**	**08 29 11.9**	**-0.5**
KDU	**Kakadu**	**32.67**	**264**	P	**P**	**08 29 13.7**	**+0.3**
AS31	**Alice Springs**	**32.69**	**244**	P	P	08 29 12.0	-1.5
ASAR	**Alice Springs**	**32.69**	**244**	P	P	08 29 10.8	-2.7
	comp=Z,17nm,1.1s,baz=75,slow=9.2,SNR=39						
ASAR				PcP	**PcP**	**08 31 59.9**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=73,slow=2.7,SNR=2.3						
ASAR				ScP	**ScP**	**08 35 44.1**	**+0.5**
	comp=Z,1.4nm,1.1s,baz=80,slow=2.9,SNR=4.6						
ASAR				LR	LR	08 41 49.6	
	comp=Z,616nm,19.5s,baz=76,slow=35						
	comp=Z,17nm,1.1s						
HTT	**Hallett**	**32.91**	**224**	P	**P**	**08 29 14.9**	**-0.5**
	baz=33,SNR=4.1						
HTT	**Hallett**	**32.91**	**224**	P	**P**	**08 29 14.8**	**-0.5**
MTN	**Manton Dam**	**33.97**	**264**	P	**P**	**08 29 24.5**	**-0.2**
MTN	**Manton Dam**	**33.97**	**264**	P	**P**	**08 29 27.1**	**+2.4**
RAR	**Rarotonga**	**34.27**	**111**	LR	LR	08 40 48.6	
	comp=Z,462nm,20.7s,baz=331,slow=32						
BBOO	**Buckleboo**	**34.59**	**228**	P	**P**	**08 29 30.7**	**+0.7**
BBOO				IAmb	IAmb	08 29 39.8	
	comp=Z,18nm,1.1s						
BBOO	**Buckleboo**	**34.59**	**228**	P	**P**	**08 29 28.8**	**-1.2**
MULG	**Mulgathing**	**34.91**	**233**	P	P	08 29 30.7	-2.0
KNRA	**Kununurra**	**36.27**	**259**	P	P	08 29 43.2	-1.3
	baz=36,SNR=5.6						
KNRA	**Kununurra**	**36.27**	**259**	P	**P**	**08 29 43.4**	**-1.2**
KNRA				IAmb	IAmb	08 29 48.0	
	comp=Z,40nm,1.1s						
KNRA	**Kununurra**	**36.27**	**259**	P	**P**	**08 29 43.7**	**-0.9**
WRKA	**Warakurna**	**37.98**	**244**	P	P	08 29 57.3	-1.8
	baz=38,SNR=7.7						
WRKA	**Warakurna**	**37.98**	**244**	P	P	08 29 56.8	-2.3
NLAI	**Namlea**	**39.29**	**279**	P	**P**	**08 30 11.7**	**+1.6**
	comp=Z,15nm,1.1s,comp=Z,2μm						
FITZ	**Fitzroy Crossi**	**39.38**	**256**	P	P	08 30 09.4	-1.5
	baz=39,SNR=11						
FITZ	**Fitzroy Crossi**	**39.38**	**256**	P	**P**	**08 30 09.8**	**-1.0**
FORT	**Forrest**	**39.87**	**235**	P	**P**	**08 30 14.2**	**-0.6**
PPT	**Papeete**	**43.46**	**103**	LR	LR	08 47 11.7	
	comp=Z,654nm,18.4s,baz=272,slow=34						
PPT2	**Papeete2**	**43.46**	**103**	*e*P	P	08 30 36.3	-8.1
	comp=Z,84nm,24.8s						
PPT2				*e*S	**S**	**08 37 10.1**	**-3.2**
	comp=Z,311nm,24.8s						
PPT2				*e*LQ	LQ	08 40 54.3	
	comp=Z,1μm,27.2s						
PPT2			

USA0B Ussuriysk Arra 63.44 333 *e*P **P** **08 33 09.3 -1.3**
USRK Ussuriysk Ar. 63.44 333 P **P** **08 33 10.6 -0.1**
comp=Z,6.6nm,0.9s,baz=123,slow=7.0,SNR=7.2
USRK LR LR 08 57 39.6
comp=Z,127nm,21.8s,baz=158,slow=33
comp=Z,6.6nm,0.9s
PEA0B Petropavlovsk- 64.76 355⇑ *e*P P 08 33 16.3 -2.9
PETK Petropavlovsk- 64.76 355 P P 08 33 17.6 -1.5
comp=Z,5.7nm,0.9s,baz=216,slow=12,SNR=3.6
PETK LR LR 08 59 30.2
comp=Z,133nm,18.3s,baz=188,slow=34
comp=Z,5.7nm,0.9s
WHN Wuhan 64.81 312 P P 08 33 25.3 +5.4
MDJ Mudanjiang 64.84 332 P **P** **08 33 19.5 -0.3**
MDJ pP pP 08 33 23.0 +1.5
MDJ sP sP 08 33 24.0 +1.9
MDJ PcP **PcP** **08 33 52.8 -0.4**
MDJ PP **PP** **08 35 41.0 -1.7**
MDJ S **S** **08 42 00.8 -0.2**
MDJ sS sS 08 42 07.8 +3.7
MDJ ScS **SKSac** **08 43 14.3 -0.3**
MDJ SS **SS** **08 46 12.3 -0.5**
MDJ pmax pmax
comp=Z,14nm,1.2s
MDJ pmax pmax
comp=Z,340nm,6.2s
MDJ LR LR
comp=Z,740nm,14.8s
MDJ LR LR
comp=Z,480nm,14.4s
MDJ LR LR
comp=Z,410nm,12.3s
CASY Casey 65.97 201 P **P** **08 33 28.1 +1.2**
VNDA Vanda 66.01 181 P **P** **08 33 27.2 +0.2**
VNDA Vanda 66.01 181 P **P** **08 33 27.2 +0.2**
VNDA pmax pmax
comp=Z,8.0nm,1.1s
VNDA Vanda 66.01 181 P **P** **08 33 26.3 -0.7**
comp=Z,5.1nm,1.2s,baz=352,slow=5.6,SNR=4.3
VNDA LR LR 08 59 30.2
comp=Z,149nm,18.4s,baz=4.5,slow=34
comp=Z,5.1nm,1.2s
CN2 Changchun 66.22 329 *e*P **P** **08 33 27.8 -1.0**
CN2 *es*P pP 08 33 34.0 +3.5
CN2 pmax pmax
comp=Z,20nm,1.0s
SBA Scott Base 66.31 180 P **P** **08 33 29.6 +0.7**
SBA IAmb IAmb 08 33 43.1
comp=Z,20nm,1.1s
SBA Scott Base 66.31 180 P **P** **08 33 29.6 +0.7**
SBA pmax pmax
comp=Z,20nm,1.1s
BNX BinXian 66.70 332 ⇓P **P** **08 33 31.0 -0.8**
BNX pmax pmax
comp=Z,13nm,1.2s
BNX pmax pmax
comp=Z,230nm,4.6s
KULM Kulim 67.00 281 P **P** **08 33 33.8 -0.6**
KULM IAmb IAmb 08 33 53.6
comp=Z,12nm,1.1s
KLR Kul'dur 67.55 337⇓ *e*P **P** **08 33 37.2 0.0**
KLR pmax pmax
comp=Z,8.0nm,1.3s
KLR Kul'dur 67.55 337 LR LR 08 59 45.7
comp=Z,110nm,21.8s,baz=130,slow=33
LYN LuoYang 68.28 314 ⇓P **P** **08 33 42.0 -0.1**
LYN S **S** **08 42 40.8 -2.3**
LYN sS sS 08 42 50.0 +4.1
LYN SS **SS** **08 47 09.0 +2.4**
LYN pmax pmax
comp=Z,35nm,0.7s
LYN pmax pmax
comp=Z,370nm,5.2s
LYN LR LR
comp=Z,500nm,17.2s
LYN LR LR
comp=Z,350nm,14.1s
LYN LR LR
comp=Z,400nm,14.4s
ENH Enshi 68.30 309 P **P** **08 33 41.3 -1.1**
HNS HongShan 68.33 318⇑ P **P** **08 33 42.0 -0.3**
HNS pmax pmax
comp=Z,19nm,1.3s
BJI Beijing 68.94 321 P **P** **08 33 46.0 -0.1**
BJI pmax pmax
comp=Z,6.0nm,1.0s
BJI pmax pmax
comp=Z,83nm,6.6s
BJI LR LR
comp=Z,140nm,15.5s
BJI LR LR
comp=Z,110nm,15.6s
BJI LR LR
comp=Z,160nm,17.3s
HEH HeiHe 70.11 335 *e*P **P** **08 33 52.5 -0.5**
HEH pmax pmax
comp=Z,8.0nm,0.9s
HEH pmax pmax
comp=Z,390nm,4.7s
XAN Xi'an 70.54 312 ⇓P **P** **08 33 56.0 -0.2**
XAN pP sP 08 34 02.0 +3.5
XAN pmax pmax
comp=Z,24nm,1.1s
KMI Kunming 71.48 301⇑ P **P** **08 34 04.0 +1.7**
KMI pmax pmax
comp=Z,20nm,1.3s
CRAI Chiangrai 71.74 296 P **P** **08 34 02.6 -1.1**
CRAI IAmb IAmb 08 34 30.0
comp=Z,14nm,1.0s
MA2 Magadan 71.91 352 LR LR 09 03 59.9
comp=Z,105nm,18.1s,baz=146,slow=34
HHC Hu-ho-hao-te 72.28 320 *e*P **P** **08 34 06.5 -0.1**
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,340nm,5.4s
HHC LR LR
comp=Z,560nm,13.0s
HHC LR LR
comp=Z,460nm,13.8s
HHC LR LR
comp=Z,370nm,14.5s
CMAR Chiang Mai Arr 72.42 294 P **P** **08 34 07.4 -0.4**
CMAR Chiang Mai Arr 72.42 294 P **P** **08 34 07.4 -0.4**
CMAR Chiang Mai Arr 72.42 294 P **P** **08 34 07.9 +0.1**
comp=Z,4.4nm,0.9s,baz=112,slow=4.3,SNR=19
CMAR LR LR 09 05 58.5
comp=Z,32nm,19.6s,baz=165,slow=36
comp=Z,4.4nm,0.9s
CHTO Chiang Mai 72.54 294 P **P** **08 34 08.2 -0.3**
CHTO Chiang Mai 72.54 294 P **P** **08 34 08.2 -0.3**
CHTO pmax pmax
comp=Z,9.0nm,1.1s
ZEA Zeya 72.84 337 *e*P **P** **08 34 09.2 -0.3**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
PZH PanZhiHua 72.84 302 P **P** **08 34 10.3 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,220nm,6.5s
CD2 Chengdu 73.00 307 P **P** **08 34 10.5 -0.5**
CD2 pP pP 08 34 14.0 +1.3
CD2 pmax pmax
comp=Z,30nm,0.9s
BTO Baotou 73.14 319 *e*P **P** **08 34 14.0 +2.3**
BTO pP **sP** **08 34 19.0 +5.0**
BTO sP **pwP** **08 34 21.3 +1.4**
BTO PP **PP** **08 36 59.5 +4.7**
BTO S **S** **08 43 42.5 +2.8**
BTO sS **SKiKP** **08 43 51.3 +6.8**
BTO pmax pmax
comp=Z,24nm,0.6s
BTO pmax pmax
comp=Z,570nm,7.3s
S14K Fog Glacier 73.43 19 P **P** **08 34 11.8 -1.3**
baz=216
CHIR Chirikof Islan 74.40 21 P **P** **08 34 17.4 -1.3**
baz=219
TNCH TengChong 75.01 300 P **P** **08 34 26.5 +3.4**
TNCH pmax pmax
comp=Z,230nm,2.2s
M11K Mekoryuk 75.07 14 P **P** **08 34 21.2 -1.1**
baz=208
LZH Lanzhou 75.18 312 *e*P **P** **08 34 24.5 +0.7**
LZH pP sP 08 34 29.8 +3.7
LZH sP pwP 08 34 34.0 +2.0
LZH pmax pmax
comp=Z,22nm,1.3s
SII Sitkinak Islan 75.49 22 P **P** **08 34 24.1 -0.9**
baz=220
R17K Ugashik Creek 75.56 20 P **P** **08 34 24.1 -1.2**
baz=218
P16K Nushagak River 76.16 18 P P 08 34 26.7 -1.9
baz=216
R18K Karluk 76.16 21 P **P** **08 34 27.8 -0.9**
baz=220
Q17K Contact Creek 76.22 20 P **P** **08 34 28.2 -0.9**
baz=219
Q16K King Salmon 76.29 19 P **P** **08 34 28.4 -1.0**
baz=218
OHAK Old Harbor 76.31 21 P **P** **08 34 28.8 -0.8**
baz=221
M14K Bethel 76.44 16 P P 08 34 28.8 -1.4
baz=212
N15K Kwethluk River 76.47 17 P **P** **08 34 29.8 -0.6**
N15K IAmb IAmb 08 34 30.9
comp=Z,14nm,0.9s
N15K Kwethluk River 76.47 17 P **P** **08 34 29.2 -1.2**
baz=214
O16K Kokwok River B 76.58 18 P P 08 34 29.1 -1.9
baz=216
M15K Kasigluk River 76.74 16 P P 08 34 30.4 -1.5
baz=214
L14K Kuka Creek 76.76 15 P **P** **08 34 31.1 -0.9**
baz=212
P17K Kvichak River 76.77 19 P P 08 34 30.2 -1.9
baz=218
Q18K Katmai Hardscr 76.81 20 P P 08 34 30.5 -2.0
baz=219
KDAK Kodiak Island 76.98 21 P P 08 34 31.7 -1.6
baz=222
KDAK Kodiak Island 76.98 21 LR LR 09 08 46.5
comp=Z,157nm,18.2s,baz=242,slow=36
GAMB Gambell 77.02 10 P **P** **08 34 32.3 -1.1**
baz=203
O17K Koliganek Bris 77.03 18 P P 08 34 32.0 -1.6
baz=217
N16K Nishlik Lake 77.09 17 P **P** **08 34 32.9 -1.0**
baz=216
P18K Big Mountain, 77.31 19 P **P** **08 34 34.0 -1.2**
baz=219
L15K Ungalak Mounta 77.35 15 P **P** **08 34 34.2 -1.1**
baz=213
Q19K Cape Douglas, 77.48 20 P P 08 34 34.7 -1.4
baz=221
M16K Timber Creek 77.49 17 P **P** **08 34 35.6 -0.6**
M16K Timber Creek 77.49 17 P **P** **08 34 35.1 -1.0**
baz=215
N17K Nushagak Hills 77.60 18 P **P** **08 34 35.6 -1.1**
baz=217
O18K Kokuh Hills 77.68 19 P **P** **08 34 36.0 -1.3**
baz=219
J14K Nanvaranak Lak 77.75 14 P **P** **08 34 36.5 -1.0**
baz=211
K15K Wolf Creek Mou 77.86 15 P **P** **08 34 37.8 -0.4**
K15K IAmb IAmb 08 34 38.8
comp=Z,20nm,1.1s
K15K Wolf Creek Mou 77.86 15 P **P** **08 34 37.1 -1.1**
baz=213
L16K Owhat River 77.91 16 P **P** **08 34 37.1 -1.3**
baz=215
N18K Kilae Creek 78.11 18 P **P** **08 34 38.6 -1.1**
baz=218
P19K Oil Pt 78.17 20 P P 08 34 38.4 -1.6
baz=221
O19K Port Alsworth 78.23 19 P **P** **08 34 39.5 -0.8**
baz=220
M17K Holitna River 78.23 17 P **P** **08 34 39.3 -1.0**
M17K IAmb IAmb 08 34 41.7
comp=Z,18nm,1.0s
M17K Holitna River 78.23 17 P **P** **08 34 39.7 -0.6**
baz=217
QSPA South Pole Qui 78.47 180 P **P** **08 34 41.6 -0.3**
QSPA South Pole Qui 78.47 180 P **P** **08 34 41.4 -0.5**
comp=Z,14nm,1.0s,baz=24,slow=2.0,SNR=23
comp=Z,14nm,1.0s
L17K Donlin 78.58 16 P **P** **08 34 41.3 -0.9**
baz=216
YAK Yakutsk 78.60 344 *e*P P 08 34 40.8 -1.4
YAK pmax pmax
comp=Z,31nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK Yakutsk 78.60 344 LR LR 09 11 11.8
comp=E,6.8nm,18.0s,baz=118,slow=37
N19K Bonanza Creek 78.65 19 P **P** **08 34 41.6 -1.1**
baz=220
O20K Slope Mountain 78.69 20 P **P** **08 34 42.0 -0.9**
baz=222
HOM Homer 78.71 20 P **P** **08 34 42.3 -0.6**
baz=222
ULN Ulaanbaatar 78.77 324 P **P** **08 34 43.4 -0.4**
ULN IAmb IAmb 08 34 44.8
comp=Z,18nm,1.0s
ULN Ulaanbaatar 78.77 324 *ce*P **P** **08 34 43.3 -0.4**
ULN pmax pmax
comp=Z,24nm,1.3s
M18K Stony River 78.77 18 P **P** **08 34 42.4 -0.8**
baz=218
J16K Anvik River 78.92 15 P **P** **08 34 43.7 -0.4**
J16K IAmb IAmb 08 34 45.0
comp=Z,25nm,1.0s
J16K Anvik River 78.92 15 P **P** **08 34 44.3 +0.2**
baz=214
ANM Nome 78.94 12 P **P** **08 34 44.2 +0.1**
baz=209
BRLK Bradley Lake 79.05 21 P **P** **08 34 44.3 -0.5**
K17K Iditarod 79.05 16 P **P** **08 34 44.8 0.0**
baz=216
BRSE Bradley Lake S 79.08 21 P **P** **08 34 43.7 -1.4**
baz=223
L18K Granite Mounta 79.10 17 P **P** **08 34 44.9 -0.2**
baz=217,SNR=15
SONM Songino Array 79.13 324 P **P** **08 34 45.3 -0.4**
SONM Songino Array 79.13 324 P P 08 34 44.3 -1.4
comp=Z,4.6nm,0.9s,baz=132,slow=6.2,SNR=16
SONM LR LR 09 10 11.9
comp=Z,72nm,18.6s,baz=86,slow=36
comp=Z,4.6nm,0.9s
BILL Bilibino 79.36 0 P **P** **08 34 45.8 -0.6**
BILL IAmb IAmb 08 34 46.5
comp=Z,30nm,1.1s
BILL Bilibino 79.36 0 *e*P **P** **08 34 45.4 -1.0**
I17K Unalakleet 79.41 14 P **P** **08 34 46.4 -0.3**
baz=213,SNR=5.1
GTA Gaotai 79.49 314⇑ P **P** **08 34 48.3 +0.4**
GTA pP pP 08 34 52.5 +2.9
GTA pmax pmax
comp=Z,22nm,1.3s
GTA LR LR
comp=Z,280nm,16.7s
GTA LR LR
comp=Z,230nm,19.1s
GTA LR LR
comp=Z,220nm,14.7s
F14K Arctic Creek 79.55 11 P **P** **08 34 46.9 -0.5**
baz=208
G15K Niukluk 79.59 13 P **P** **08 34 47.3 -0.3**
baz=210
L19K White Mountain 79.60 18 P **P** **08 34 47.3 -0.5**
baz=219
N20K Mount Spurr 79.67 19 P **P** **08 34 47.9 -0.3**
baz=222
H16K Elim 79.68 13 P **P** **08 34 48.2 +0.1**
baz=212
SEW Seward 79.79 21 P **P** **08 34 48.5 -0.3**
baz=224
TTA Tatalina 79.86 17 P **P** **08 34 48.6 -0.6**
TTA IAmb IAmb 08 34 49.7
comp=Z,13nm,1.0s
TTA Tatalina 79.86 17 P **P** **08 34 48.9 -0.3**
baz=218,SNR=9.3
TTA Tatalina 79.86 17 P **P** **08 34 48.7 -0.6**
TTA pmax pmax
comp=Z,13nm,1.0s
M20K Styx River 79.89 18 P **P** **08 34 48.6 -0.9**
baz=221
O22K Cooper Landing 79.97 21 P **P** **08 34 48.9 -0.8**
baz=224
J18K Innoko River 80.09 16 P **P** **08 34 49.9 -0.5**
baz=217,SNR=9.2
F15K North Star Dit 80.09 12 P **P** **08 34 50.0 -0.4**
baz=209
L20K Farewell, AK 80.12 18 P **P** **08 34 49.6 -1.0**
baz=220,SNR=14
RPN Rapa Nui 80.25 116 LR LR 09 03 31.9
comp=Z,248nm,18.9s,baz=268,slow=31
G16K Koyuk River 80.30 13 P **P** **08 34 51.1 -0.3**
baz=212
SUA Susitna One 80.34 20 P **P** **08 34 50.7 -1.3**
baz=223
RC01 Rabbit Creek A 80.40 20 P P 08 34 50.7 -1.5
baz=224
P23K Montague Islan 80.45 22 P **P** **08 34 51.9 -0.5**
baz=226
H17K Granite Mounta 80.47 14 P P 08 34 50.8 -1.6
baz=214
K20K Telida 80.74 17 P **P** **08 34 53.1 -0.9**
baz=220,SNR=5.1
M22K Willow 80.76 20 P **P** **08 34 53.2 -0.7**
baz=224
G17K Kiwalik Mounta 80.77 13 P **P** **08 34 53.7 -0.4**
baz=213
J19K Poorman 80.80 16 P **P** **08 34 53.3 -1.0**
baz=218
PPLA Purkeypile 80.95 18 P **P** **08 34 54.4 -0.8**
baz=222
PMR Palmer 80.97 20 P **P** **08 34 54.3 -0.8**
baz=225
BOD Bodaibo 81.03 335 *e*P **P** **08 34 54.4 -1.1**
BOD pmax pmax
comp=Z,12nm,2.1s
H18K Honhosa River 81.03 14 P **P** **08 34 54.2 -1.2**
baz=215
KNK Knik Glacier 81.07 20 P **P** **08 34 55.0 -0.7**
baz=225
GCSA Galena City Sc 81.07 15 P **P** **08 34 55.0 -0.6**
baz=217
GLI Glacier Island 81.17 21 P **P** **08 34 55.3 -0.9**
baz=226
J20K Nowinta River 81.35 17 P **P** **08 34 56.3 -0.8**
baz=220
CAST Castle Rocks 81.37 18 P P 08 34 55.3 -2.0
CAST IAmb IAmb 08 34 59.0
comp=Z,13nm,0.8s
CAST Castle Rocks 81.37 18 P P 08 34 55.5 -1.8
baz=222,SNR=15
SML Sawmill 81.39 20 P P 08 34 56.0 -1.5
baz=225
EYAK Cordova Ski Ar 81.43 22 P P 08 34 56.1 -1.5
baz=228
F17K Baldwin Pennin 81.43 13 P **P** **08 34 56.6 -0.9**
baz=213
KAIM Kayak Island 81.51 23 P **P** **08 34 56.8 -1.3**
baz=229
G18K Tagagawik 81.56 14 P P 08 34 56.8 -1.4
baz=215
M23K Glacier View 81.58 20 P P 08 34 56.9 -1.5
baz=226
CHUM Lake Minchumin 81.65 17 P **P** **08 34 57.9 -0.9**
baz=221
I20K Naaghedeneel 81.74 16 P **P** **08 34 58.7 -0.5**
baz=219
SCM Sheep Creek Mo 81.75 20 P **P** **08 34 58.1 -1.3**
SCM IAmb IAmb 08 34 59.8
comp=Z,24nm,1.0s
SCM Sheep Creek Mo 81.75 20 P **P** **08 34 58.4 -1.0**
baz=226,SNR=6.3
SCM Sheep Creek Mo 81.75 20 P **P** **08 34 58.1 -1.3**
SCM pmax pmax
comp=Z,24nm,1.0s
H19K Roundabout Mou 81.81 15 P **P** **08 34 58.7 -0.8**
baz=217
KTH Kantishna Hill 81.82 18 P **P** **08 34 59.0 -0.7**
KTH IAmb IAmb 08 35 00.5
comp=Z,11nm,1.0s
E17K Hotham Inlet 81.86 12 P **P** **08 34 59.8 0.0**
baz=212
F18K Selawik 81.92 13 P **P** **08 34 59.5 -0.5**
baz=214
TRF Thorofare Moun 81.94 18 P **P** **08 34 60.0 -0.5**
baz=223
KLU Klutina 82.00 21 P **P** **08 35 00.0 -0.7**
baz=228,SNR=5.4
WAT1 Susitna Watana 82.04 19 P **P** **08 35 00.3 -0.6**
baz=225
BMRM Bremner River 82.13 22 P **P** **08 35 00.6 -0.8**
baz=229
WAT6 Susitna Watana 82.13 20 P **P** **08 35 00.4 -1.1**
baz=226,SNR=10.0
G19K Purcell Mounta 82.14 14 P **P** **08 35 00.5 -0.8**
baz=217
ZAK Zakamensk 82.17 325 *e*P **P** **08 35 00.6 -1.3**
ZAK pmax pmax
comp=Z,9.0nm,1.2s
H20K Anotleneega Mo 82.18 15 P **P** **08 35 00.6 -0.9**
baz=219
BPAW Bear Paw Mtn. 82.20 18 P **P** **08 35 01.2 -0.5**
baz=223
C16K Lisburne Hills 82.22 10 P **P** **08 35 01.0 -0.5**
baz=208
M24K Tolsona, Glenn 82.33 21 P **P** **08 35 01.8 -0.7**
baz=227,SNR=9.6
E18K Tukpahlearik C 82.40 12 P **P** **08 35 02.3 -0.3**
E18K IAmb IAmb 08 35 03.6
comp=Z,18nm,0.8s
E18K Tukpahlearik C 82.40 12 P **P** **08 35 02.9 +0.3**
baz=213
RDOG Red Dog Mine 82.47 11 P **P** **08 35 02.6 -0.4**
baz=211
F19K Shaleruckik Mo 82.54 14 P **P** **08 35 03.1 -0.2**
baz=216
CRQE Cirque 82.55 23 P **P** **08 35 02.7 -1.0**
baz=230,SNR=6.2
N25K Chitina, Valde 82.55 22 P **P** **08 35 02.4 -1.3**
N25K IAmb IAmb 08 35 03.8
comp=Z,24nm,1.1s
N25K Chitina, Valde 82.55 22 P **P** **08 35 02.5 -1.1**
baz=229,SNR=9.9
MCK McKinley 82.56 19 P **P** **08 35 02.2 -1.4**
baz=224,SNR=6.9
DHY Denali Highway 82.60 20 P **P** **08 35 02.6 -1.3**
baz=226
I21K Tanana 82.72 17 P **P** **08 35 03.3 -1.0**
baz=222
C17K DeLong Mountai 82.79 11 P **P** **08 35 04.0 -0.6**
baz=210
H21K Melozitna Rive 82.86 16 P **P** **08 35 04.6 -0.5**
baz=221
HARP HAARP 82.88 21 P **P** **08 35 04.4 -0.9**
baz=228,SNR=5.1
MLY Manley 82.97 17 P **P** **08 35 04.6 -1.1**
baz=223
MCARA McCarthy VSAT 82.98 22 P **P** **08 35 05.4 -0.4**
baz=230
NEA2 Nenana 83.14 18 P **P** **08 35 05.8 -0.7**
baz=224
PAX Paxson 83.16 20 P **P** **08 35 05.7 -1.1**
baz=228
E19K Redstone River 83.17 13 P **P** **08 35 05.8 -0.8**
E19K IAmb IAmb 08 35 07.4
comp=Z,20nm,1.1s
E19K Redstone River 83.17 13 P **P** **08 35 06.2 -0.5**
baz=216
F20K Avaraart Lake 83.19 14 P **P** **08 35 06.3 -0.4**
baz=218
PINM Pinnacle 83.25 24 P **P** **08 35 05.9 -1.4**
baz=233
C18K Utukok River 83.32 12 P **P** **08 35 06.5 -0.9**
C18K IAmb IAmb 08 35 07.7
comp=Z,18nm,0.9s
C18K Utukok River 83.32 12 P **P** **08 35 06.5 -0.9**
baz=212
G21K Allakaket 83.33 15 P **P** **08 35 06.6 -0.9**
baz=220
CTG Chitna Glacier 83.35 23 P **P** **08 35 06.7 -1.2**
baz=232,SNR=15
CTGM Chitina Glacie 83.36 23 P **P** **08 35 06.9 -1.0**
H22K Ishtalitna Cre 83.43 16 P **P** **08 35 07.3 -0.7**
baz=222
I23K Minto, Yukon-K 83.45 17 P **P** **08 35 07.1 -1.0**
baz=224
K24K Donnelly Dome 83.62 19 P **P** **08 35 08.4 -0.6**
baz=228,SNR=6.7
M26K Nabesna, AK 83.65 21 P **P** **08 35 08.3 -1.0**
baz=230,SNR=28
HDA Harding Lake 83.66 19 P **P** **08 35 08.2 -1.0**
baz=226,SNR=30
HDA P P **08 35 08.2 -1.0**

baz=226,SNR=30
COLA College 83.71 18 P P 08 35 08.5 -0.9
baz=225
B18K Kokolik River 83.81 11 P P 08 35 08.9 -0.9
baz=212,SNR=5.8
D19K Kuna River 83.82 13 P P 08 35 09.0 -1.0
D19K Kuna River 83.82 13 P P 08 35 09.4 -0.6
baz=215
F21K Alatna River 83.88 15 P P 08 35 09.6 -0.7
F21K Alatna River 83.88 15 P P 08 35 09.0 -1.3
baz=220
RIDG Independent Ri 83.89 20 P P 08 35 09.5 -1.0
baz=228,SNR=10.0
L26K Log Cabin Wild 83.92 21 P P 08 35 09.4 -1.3
baz=230,SNR=16
ILAR Eielson Array 83.93 18 P P 08 35 08.4 -2.2
comp=Z,4.6nm,0.7s,baz=252,slow=4.6,SNR=53
ILAR LR LR 09 13 25.8
comp=Z,89nm,19.2s,baz=223,slow=36
comp=Z,4.6nm,0.7s
PKM Mcpherson Peak 83.99 53 P P 08 35 09.8 -2.0
baz=252
P29M Windy Craggy 84.00 25 P P 08 35 10.0 -1.1
baz=235
POKR Poker Plat Res 84.00 18 P P 08 35 09.4 -1.5
baz=226
C19K Lookout Ridge 84.02 12 P P 08 35 10.3 -0.7
baz=214,SNR=14
M27K Edge Creek, AK 84.02 22 P P 08 35 10.6 -0.7
M27K Edge Creek, AK 84.02 22 P P 08 35 10.5 -0.8
baz=231
E20K Nigu River 84.05 13 P P 08 35 10.2 -1.0
baz=217
MOY Mondy 84.05 325 *e*P P 08 35 11.2 -0.4
YBH Yreka Blue Hor 84.14 45 LR LR 09 10 08.1
comp=Z,111nm,18.2s,baz=253,slow=34
YUK8 Steele Glacier 84.15 23 P P 08 35 11.0 -1.2
baz=233,SNR=7.8
G22K Bettles 84.16 16 P P 08 35 10.8 -0.9
baz=222
YUK3 Moose Creek 84.19 23 P P 08 35 11.2 -1.0
baz=232,SNR=8.1
J25K Salcha River, 84.30 19 P P 08 35 11.3 -1.2
baz=228
MAW Mawson 84.32 202 P P 08 35 12.4 -0.2
comp=Z,5.7nm,0.9s,baz=103,slow=7.1,SNR=2.6
MAW LR LR 09 10 02.8
comp=Z,140nm,18.2s,baz=100,slow=34
comp=Z,5.7nm,0.9s
D20K Etivluk River 84.32 13 P P 08 35 11.8 -0.7
baz=217
SCRK Sand Creek 84.33 20 P P 08 35 11.7 -1.1
baz=229,SNR=34
H24K Noodor Dome 84.38 17 P P 08 35 12.3 -0.6
baz=225
G23K Bananza Creek 84.40 16 P P 08 35 13.1 +0.1
G23K IAmb IAmb 08 35 14.3
comp=Z,8.1nm,0.8s
G23K Bananza Creek 84.40 16 P P 08 35 12.6 -0.4
baz=223
F22K John River 84.43 15 P P 08 35 12.7 -0.3
baz=221
BVCY Beaver Creek 84.43 22 P P 08 35 12.3 -0.9
baz=232
L27K Beaver Creek, 84.48 21 P P 08 35 13.0 -0.5
baz=231
YUK6 Outpost Mounta 84.50 24 P P 08 35 12.7 -1.2
baz=234
V35K Ketchikan 84.52 31 P P 08 35 13.1 -0.6
baz=241
P30M Million Dollar 84.60 25 P P 08 35 13.6 -0.6
baz=236
YUK4 Talbot Arm 84.62 24 P P 08 35 14.2 -0.2
baz=234,SNR=5.0
A19K Wainwright 84.66 11 P P 08 35 14.1 0.0
baz=212
WRAK Wrangell Islan 84.70 29 P P 08 35 14.5 -0.1
baz=240
E21K Killik River 84.71 14 P P 08 35 13.7 -0.8
E21K IAmb IAmb 08 35 15.3
comp=Z,7.3nm,0.8s
E21K Killik River 84.71 14 P P 08 35 14.5 0.0
baz=219
COLD Coldfoot 84.73 16 P P 08 35 14.7 +0.1
baz=223,SNR=13
HYT Haines Junctio 84.78 24 P P 08 35 14.5 -0.6
baz=235
J26L Joseph Creek 84.81 20 P P 08 35 14.8 -0.4
baz=230,SNR=10
PRP Porcupine Dome 84.86 18 P P 08 35 15.1 -0.4
baz=228
BBB Bella Bella 84.91 34 LR LR 09 13 41.4
comp=Z,246nm,18.2s,baz=218,slow=36
SKAG Skagway 84.92 26 P P 08 35 16.2 +0.5
baz=237
E22K Anaktuvuk Pass 84.99 15 P P 08 35 15.8 -0.2
baz=222
K27K Chicken 85.01 20 P P 08 35 15.6 -0.4
K27K IAmb IAmb 08 35 17.0
comp=Z,16nm,1.1s
K27K Chicken 85.01 20 P P 08 35 15.8 -0.2
baz=231,SNR=12
C21K Knifeblade Rid 85.08 13 P P 08 35 16.6 +0.3
baz=219
G24K Hadweenzic Riv 85.10 17 P P 08 35 16.3 -0.2
baz=226
B20K Meade River 85.25 12 P P 08 35 16.5 -0.6
B20K IAmb IAmb 08 35 18.0
comp=Z,10.0nm,0.8s
B20K Meade River 85.25 12 P P 08 35 16.7 -0.4
baz=216,SNR=11
ISA Isabella, Lake 85.27 52 P P 08 35 17.0 -1.1
baz=252
N30M Aishikik Lake 85.30 24 P P 08 35 17.1 -0.6
baz=236
O30N Mendenhall 85.32 25 P P 08 35 17.0 -0.8
baz=237
M29M Somme Creek 85.34 23 P P 08 35 17.1 -0.8
baz=234
D22K Ayikyak River 85.35 14 P P 08 35 17.5 -0.2
baz=221
EDW2 Edwards Air Fo 85.41 53 P P 08 35 18.3 -0.5
baz=253
I26K Coal Creek Min 85.47 19 P P 08 35 18.1 -0.2
baz=230
B21K Ikpikpuk River 85.48 13 P P 08 35 18.0 -0.3
baz=219
BFSC Mount Baldy Ra 85.48 54 P P 08 35 18.0 -1.3
baz=253
E23K Chandalar 85.49 15 P P 08 35 18.3 -0.2
baz=224
G25K Bearman Lake 85.54 17 P P 08 35 18.5 -0.1
baz=227
F24K Squaw Lake 85.56 16 P P 08 35 19.1 +0.3
baz=225,SNR=7.5
MURC Murrieta 85.67 55 P P 08 35 19.0 -1.1
baz=253
P32M Atlin 85.69 26 P P 08 35 19.2 -0.4
baz=239
WHY Whitehorse 85.76 25 P P 08 35 19.1 -0.9
baz=238
EGAK Eagle 85.79 20 P P 08 35 19.6 -0.3
baz=232,SNR=18
E24K Your Creek 85.80 16 P P 08 35 19.4 -0.6
baz=225
CWC Cottonwood Cre 85.81 52 P P 08 35 19.5 -1.4
baz=252
LRMC Laurel Mtn Rad 85.83 53 P P 08 35 20.0 -1.0
baz=253
N31M Braeburn, Yuko 85.84 24 P P 08 35 19.1 -1.2
baz=237
L29M L29M 85.85 22 P P 08 35 19.6 -0.7
baz=235
D23K Nanushuk River 85.89 14 P P 08 35 20.3 0.0
baz=222
TOLK Toolik Lake Re 85.93 15 P P 08 35 20.6 0.0
baz=224
DAWY Dawson 85.96 21 P P 08 35 19.8 -1.0
DAWY IAmb IAmb 08 35 21.2
comp=Z,8.0nm,0.9s
DAWY Dawson 85.96 21 P P 08 35 19.9 -1.0
baz=233,SNR=8.6
Q32M Nakina River 86.01 27 P P 08 35 20.4 -1.0
baz=240
S34M Telegraph Cree 86.01 28 P P 08 35 20.4 -0.8
baz=241
M30M Minto, Yukon 86.05 23 P P 08 35 19.9 -1.4
baz=236,SNR=5.6

MONP2 Monument Peak 86.08 55 P P 08 35 20.9 -1.5
baz=254
MPMC Manual Prospec 86.15 52 P P 08 35 21.4 -1.3
baz=253
I27K Kandik River 86.16 19 P P 08 35 21.7 -0.1
baz=231,SNR=12
NVAR Mina Array Bea 86.24 50 P P 08 35 21.8 -1.3
comp=Z,1.8nm,1.0s,baz=236,slow=7.8,SNR=9.4
NVAR LR LR 09 12 05.1
comp=Z,452nm,18.1s,baz=252,slow=34
comp=Z,1.8nm,1.0s
F25K Christian Rive 86.24 17 P P 08 35 22.3 +0.1
baz=227
PFO Pinyon Flats O 86.26 55 P P 08 35 22.4 -0.8
baz=254
TPFO Pinon Flats 86.26 55 P P 08 35 22.7 -0.4
baz=254
IKP In-Ko-Pah, Jac 86.27 56 P P 08 35 22.2 -1.0
baz=254
B22K Teshekpuk Lake 86.30 13 P P 08 35 22.0 -0.3
B22K Teshekpuk Lake 86.30 13 P P 08 35 22.5 +0.2
baz=220,SNR=12
G26K Porcupine Rive 86.35 18 P P 08 35 22.8 +0.2
baz=229
A21K Barrow 86.42 11 P P 08 35 22.5 -0.4
baz=217,SNR=7.7
BMAR Burnt Mountain 86.43 17 P P 08 35 22.8 -0.3
GSC Goldstone, Bar 86.46 53 P P 08 35 23.1 -0.9
baz=253
D24K Happy Valley 86.49 15 P P 08 35 23.6 +0.3
baz=224,SNR=9.1
A22K Sinclair Lake 86.49 12 P P 08 35 23.4 +0.1
baz=218
K29M Barlow Dome 86.50 22 P P 08 35 23.4 -0.2
baz=235
GRAC Grapevine Rang 86.52 51 P P 08 35 24.2 -0.1
baz=253
C23K Itkillik River 86.55 14 P P 08 35 24.4 +0.9
baz=223
H27K Steamboat Moun 86.58 19 P P 08 35 23.8 -0.1
baz=231
TIXI Tiksi 86.59 349 *ce*P P 08 35 22.7 -1.0
TIXI pmax pmax
comp=Z,12nm,1.3s
SWSC Sam W. Stewart 86.60 56 P P 08 35 24.2 -0.5
baz=254
I28M Miner Creek 86.61 20 P P 08 35 23.7 -0.4
baz=233
E25K Arctic Village 86.62 16 P P 08 35 24.2 +0.2
baz=227,SNR=7.9
HEC Hector,Ludlow 86.70 54 P P 08 35 24.5 -0.7
baz=254
BELC Belle Mtn. Jos 86.73 55 P P 08 35 24.8 -0.7
baz=254
F26K Sheenjek River 86.73 17 P P 08 35 24.9 +0.3
baz=228
PALK Pallekele 86.74 278 LR LR 09 18 35.6
comp=Z,77nm,18.0s,baz=208,slow=39
FURC Furnace Creek, 86.75 52 P P 08 35 24.1 -1.2
baz=253
N32M Quiet Lake 86.77 25 P P 08 35 23.6 -1.3
baz=239
DLBC Dease Lake 86.78 28 P P 08 35 24.1 -0.9
baz=242
DLBC Dease Lake 86.78 28 LR LR 09 06 60.0
comp=Z,186nm,20.2s,baz=258,slow=31
M31M Drury Creek, Y 86.78 24 P P 08 35 24.2 -0.8
baz=238
R33M Jennings River 86.80 27 P P 08 35 24.7 -0.6
baz=241
G27K Doyon Strip 86.90 18 P P 08 35 24.8 -0.6
baz=231
C24K Franklin Bluff 86.92 14 P P 08 35 25.7 +0.3
baz=224
SHOC Shoshone, Teco 87.05 53 P P 08 35 26.2 -0.7
baz=254
BC3 Big Chuckawall 87.08 55 P P 08 35 25.8 -1.3
baz=254
I29M Ogilvie Camp, 87.11 20 P P 08 35 25.0 -1.5
baz=234
TUQ Turquoise Moun 87.19 53 P P 08 35 26.5 -1.2
baz=254
FARO Faro, Yukon 87.21 24 P P 08 35 25.9 -1.2
baz=239
GMRC Granite Mounta 87.22 54 P P 08 35 26.6 -1.2
baz=254
D25K Kavik River 87.23 15 P P 08 35 26.3 -0.7
baz=227
J30M Hart River 87.35 21 P P 08 35 27.5 -0.3
baz=236
TPNV Topopah Spring 87.36 52 P P 08 35 27.1 -1.4
baz=254
IRM Iron Mountain 87.46 55 P P 08 35 28.1 -0.7
baz=254
H29M Whitestone 87.59 20 P P 08 35 28.0 -0.7
baz=234
I30M Mount Dempster 87.69 21 P P 08 35 28.1 -1.3
baz=236
E27K Coleen River 87.79 17 P P 08 35 29.4 -0.3
baz=231
F28M Old Crow 87.95 18 P P 08 35 30.7 +0.3
baz=233
C26K Camden Bay 88.01 15 P P 08 35 31.0 +0.4
baz=228,SNR=19
G29M Pine Creek 88.11 19 P P 08 35 31.1 -0.1
baz=234
EPYK Eagle Plains 88.22 20 P P 08 35 30.2 -1.5
baz=236
R11B Troy Canyon, C 88.26 50 P P 08 35 31.8 -1.0
baz=254
PDMCI Parker Dam,Lak 88.30 55 P P 08 35 31.9 -0.9
baz=255
D27M Malcolm River 88.63 17 P P 08 35 33.5 -0.2
baz=232
E28M Babbage River 88.65 17 P P 08 35 32.8 -0.9
baz=233
G30M tAoh Zraii Nji 88.73 19 P P 08 35 33.4 -0.8
baz=236
214A Organ Pipe Nat 88.78 57 P P 08 35 34.6 -0.7
baz=255
E29M Blow River 89.01 18 P P 08 35 34.5 -0.9
baz=235
LPIG La Paz 89.09 65 LR LR 09 09 12.3
comp=Z,110nm,18.2s,baz=266,slow=31
ELK Elko 89.17 48 LR LR 09 11 27.1
comp=Z,181nm,18.0s,baz=258,slow=33
F30M Barrier River 89.22 19 P P 08 35 35.5 -0.9
baz=237
D28M Stokes Point 89.31 17 P P 08 35 35.9 -0.8
baz=234
G31M Satah River 89.34 20 P P 08 35 35.7 -1.3
baz=238
WMQ Urumqi 89.53 315 *e*P P 08 35 37.8 -0.7
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ LR LR
comp=Z,120nm,22.3s
F31M Tsiigehtchic 89.79 20 P P 08 35 37.8 -1.3
baz=238
NEW Newport 90.03 41 P P 08 35 40.0 -0.7
baz=253
NEW Newport 90.03 41 LR LR 09 12 10.8
comp=Z,180nm,18.1s,baz=281,slow=33
INK Inuvik 90.32 19 P P 08 35 41.4 -0.1
baz=239
INK Inuvik 90.32 19 LR LR 09 10 30.6
comp=Z,155nm,20.3s,baz=182,slow=32
HLID Hailey 90.52 46 P P 08 35 42.7 -0.6
baz=255
TUC Tucson 90.54 57 P P 08 35 43.1 -0.4
baz=257
FLDN Fort Liard 90.58 28 P P 08 35 43.4 +0.5
baz=248
WUAZ Wupatki 90.80 54 P P 08 35 44.0 -0.8
baz=256
DUG Dugway, Tooele 90.82 49 P P 08 35 43.9 -0.8
baz=256
DGZ Jazzator, Alta 91.35 320 *e*P P 08 35 45.6 -1.4
DGZ pmax pmax
comp=Z,11nm,1.0s
BOZ Bozeman (W) 92.96 44 P P 08 35 54.3 -0.2
baz=257
PDAR Pinedale Array 93.79 47 P P 08 35 55.9 -2.6
comp=Z,0.1nm,0.4s,baz=316,slow=2.5,SNR=2.0
PDAR LR LR 09 18 37.7
comp=Z,99nm,18.3s,baz=248,slow=36
comp=Z,0.1nm,0.4s
MK31 Makanchi Array 93.96 317 P P 08 35 58.1 -0.8

MK31 IAmb IAmb 08 35 59.4
comp=Z,12nm,1.0s
MK31 Makanchi Array 93.96 317 *c* P P 08 35 57.9 -1.0
MKAR Makanchi Array 93.96 317 P P 08 35 58.0 -1.0
MKAR Makanchi Array 93.96 317 P P 08 35 58.2 -0.8
comp=Z,10nm,0.9s,baz=101,slow=6.3,SNR=68
MKAR LR LR 09 16 50.0
comp=Z,78nm,21.6s,baz=88,slow=35
comp=Z,10nm,0.9s
ZAA0 Zalesovo Array 94.03 324 P P 08 35 57.6 -1.3
ZAA0 IAmb IAmb 08 35 58.3
comp=Z,8.8nm,1.0s
ZALV Zalesovo Beam 94.03 324 P P 08 35 57.2 -1.8
ZALV Zalesovo Beam 94.03 324 P P 08 35 57.2 -1.8
ZALV Zalesovo Beam 94.03 324 P P 08 35 56.9 -2.1
comp=Z,5.9nm,0.9s,baz=102,slow=5.0,SNR=15
ZALV LR LR 09 19 56.8
comp=Z,82nm,18.0s,baz=84,slow=37
comp=Z,5.9nm,0.9s
MAKZ Makanchi 94.18 317 P P 08 35 59.4 -0.5
MAKZ Makanchi 94.18 317 P P 08 35 59.4 -0.5
MAKZ pmax pmax
comp=Z,17nm,1.1s
A36M Sachs Harbour 94.53 17 P P 08 35 59.6 -1.3
A36M Sachs Harbour 94.53 17 P P 08 36 01.1 +0.2
baz=246
ANMO Albuquerque 94.62 55 LR LR 09 11 14.2
comp=Z,208nm,19.9s,baz=346,slow=31
EGMT Eagleton 94.74 42 P P 08 36 01.9 -0.7
baz=258
YKA Yellowknife Ar 95.35 27 P P 08 36 01.8 -3.0
comp=Z,1.1nm,0.8s,baz=254,slow=4.8,SNR=13
YKA LR LR 09 19 56.0
comp=Z,180nm,18.6s,baz=264,slow=36
comp=Z,1.1nm,0.8s
TXAR Lajitas Array 95.95 61 P P 08 36 06.1 -2.4
comp=Z,0.6nm,1.1s,baz=223,slow=6.2,SNR=2.6
TXAR LR LR 09 13 37.5
comp=Z,207nm,18.4s,baz=242,slow=32
comp=Z,0.6nm,1.1s
NRIK Noril'sk 96.62 340 ‖ *e*P P 08 36 09.1 -1.4
NRIK pmax pmax
comp=Z,7.0nm,1.2s
NRIK Noril'sk 96.62 340 P P 08 36 08.7 -1.8
comp=Z,3.1nm,0.9s,baz=92,slow=4.8,SNR=5.7
comp=Z,3.1nm,0.9s
SNAA Sanae 96.64 184 LR LR 09 20 26.7
comp=Z,258nm,18.0s,baz=176,slow=36
KURK Kurchatov 97.10 320 P P 08 36 11.6 -1.5
KURBB Kurchatov Arra 97.14 320 P P 08 36 11.6 -1.7
comp=Z,0.8nm,0.7s,baz=96,slow=5.0,SNR=3.0
KURBB LR LR 09 22 40.8
comp=Z,96nm,18.2s,baz=162,slow=37
comp=Z,0.8nm,0.7s
AAK Ala-Archa 98.72 312 *de*P P 08 36 20.0 -0.8
AAK pmax pmax
comp=Z,3.0nm,1.7s
AAK Ala-Archa 98.72 312 LR LR 09 20 06.5
comp=Z,53nm,21.5s,baz=98,slow=35
BVAR Borovoye Array 102.41 322 P Pdif 08 36 34.2 -2.6
comp=Z,1.1nm,0.8s,baz=101,slow=6.3,SNR=5.7
BRVK Borovoye 102.48 322 ‖ *e*P Pdif 08 36 34.3 -2.8
JFWS Jewell Farm 107.91 49 P PKiKP 08 41 08.4 -0.3
baz=271
TZTN Tazewell 113.27 55 P PKiKP 08 41 17.8 -1.3
baz=273
ACSO Alum Creek Sta 113.48 51 P PKiKP 08 41 18.6 -0.8
baz=275
O53A New Philadelph 114.83 51 P PKPdf 08 41 20.9 -1.0
baz=276
ARCES ARCESS Array B 116.84 345 PKP PKPdf 08 41 23.9 -1.1
comp=Z,6.2nm,0.8s,baz=18,slow=1.7,SNR=9.5
BINY Binghamton 118.45 48 P PKPdf 08 41 28.4 -0.5
baz=281
L61B Northampton 120.80 47 P PKPdf 08 41 32.2 -1.1
baz=283
LBNH Lisbon 120.89 45 P PKPdf 08 41 32.9 -0.7
baz=285
GNI Garni 121.06 310 ⇑ *i*PKIKP PKPdf 08 41 33.7 -0.5
OBN Obninsk 121.29 329 ⇑ *i*PKIKP PKPdf 08 41 33.9 0.0
OBN pmax pmax
comp=Z,30nm,1.7s
HRV Adam Dziewonsk 121.59 47 P PKPdf 08 41 33.6 -1.3
baz=284
KIV Kislovodsk 121.66 315 *i* PKIKP PKPdf 08 41 35.2 +0.1
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,94nm,22.0s
FINES FINESS Array B 122.27 338 PKP PKPdf 08 41 34.8 -0.8
comp=Z,4.3nm,0.8s,baz=99,slow=9.8,SNR=7.6
CPUP Villa Florida 123.60 132 PKP PKPdf 08 41 37.6 -1.7
comp=Z,5.6nm,1.0s,baz=252,slow=0.8,SNR=11
BOSA Boshof 124.85 223 PKP PKPdf 08 41 39.3 -2.5
comp=Z,2.4nm,0.9s,baz=118,slow=5.4,SNR=2.2
NB2 NORSAR Subarra 127.20 345 PKPdf PKPdf 08 41 44.5 -0.7
comp=Z,8.8nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra 127.20 345 PKPdf PKPdf 08 41 44.5 -0.7
baz=31,slow=1.9
NOA NORSAR Array B 127.20 345 PKP PKPdf 08 41 43.5 -1.7
comp=Z,2.8nm,0.8s,baz=30,slow=1.9,SNR=8.4
HFS Hagfors 127.29 343 PKP PKPdf 08 41 43.2 -2.1
comp=Z,4.1nm,0.8s,baz=22,slow=1.6,SNR=4.8
AKASG Malin Array Be 127.34 327 PKP PKPdf 08 41 44.3 -1.3
comp=Z,2.6nm,0.8s,baz=54,slow=1.8,SNR=12
AKBB Malin Array Si 127.34 327 ⇑ *i*PKIKP PKPdf 08 41 45.5 -0.2
BRTR Keskin Array B 129.39 312 PKP PKPdf 08 41 48.8 -1.3
comp=Z,1.7nm,1.0s,baz=132,slow=1.8,SNR=8.1
MORC Moravsky Berou 133.79 332 *e*PKP PKPdf 08 41 57.8 -0.2
OSTC Ostas 133.83 333 *e*PKPDF PKPdf 08 41 59.7 +1.7
OSTC Ostas 133.83 333 *e*PKIKP PKPdf 08 41 59.7 +1.7
CHVC Chvalec 133.88 334 *e*PKPDF PKPdf 08 41 59.2 +1.1
CHVC Chvalec 133.88 334 *e*PKIKP PKPdf 08 41 59.2 +1.1
DPC Dobruska-Polom 133.93 333 *e*PKPDF PKPdf 08 41 59.6 +1.3
DPC Dobruska-Polom 133.93 333 *e*PKIKP PKPdf 08 41 59.6 +1.3
MAUC Maruska 133.95 331 *e*PKPDF PKPdf 08 41 59.2 +0.9
JAVC Velka Javorina 134.37 331 *e*PKP PKPdf 08 42 00.0 +0.8
VRAC Vranov 134.56 332 *e*PKP PKPdf 08 41 59.2 -0.2
CLL Collm 134.60 336 *e*PKPdf PKPdf 08 41 59.0 -0.4
KRUC Moravsky 134.83 332 *e*PKP PKPdf 08 41 59.8 -0.1
EKA Eskdalemuir Ar 135.46 351 PKP PKPdf 08 41 59.9 -1.0
comp=Z,3.4nm,0.9s,baz=17,slow=4.2,SNR=4.4
ZVC Zvikov 135.54 334 *e*PKPDF PKPdf 08 42 00.2 -1.0
ZVC *ex* x 08 42 11.3
RONA Rosalia, Austr 135.84 331 *e*PKP PKPdf 08 42 01.3 -0.6
comp=Z,7.7nm,1.2s
CONA Conrad Observa 135.88 331 *e*PKP PKPdf 08 42 01.6 -0.4
comp=Z,6.8nm,1.0s
CKRC Cesky Krumlov 135.95 333 *e*PKPDF PKPdf 08 42 02.4 +0.3
CKRC Cesky Krumlov 135.95 333 *e*PKIKP PKPdf 08 42 02.4 +0.3
KHC Kasperske Hory 136.03 334 *e*PKPDF PKPdf 08 42 02.5 +0.3
KHC Kasperske Hory 136.03 334 ⇓ *i*PKIKP PKPdf 08 42 02.2 0.0
KHC pmax pmax
comp=Z,36nm,2.5s
GERES GERESS Array B 136.20 334 PKP PKPdf 08 42 00.6 -2.1
comp=Z,2.4nm,0.9s,baz=27,slow=2.4,SNR=2.3
BDFB Brasilia 136.94 128 PKIKP PKPdf 08 42 04.0 -1.0
BDFB Brasilia 136.94 128 PKP PKPdf 08 42 04.0 -1.0
comp=Z,7.4nm,0.9s,baz=173,slow=4.2,SNR=10.0
SOKA Soboth 137.17 330 *e*PKIKP PKPdf 08 42 05.4 +0.9
comp=Z,6.5nm,1.1s
LESA Schwarzleotal 137.72 333 *i* PKiKP PKPdf 08 42 06.8 +1.3
comp=Z,11nm,1.2s
MYKA Terra Mystica 137.87 331 *e*PKP PKPdf 08 42 05.0 -0.7
comp=Z,7.3nm,1.1s
WATA Walderalm 138.27 334 *e*PKP PKPdf 08 42 05.3 -1.3
comp=Z,1.1nm,0.5s
WTTA Wattenberg 138.30 334 *i* pPKP PKPdf 08 42 08.6 +1.9
comp=Z,15nm,1.1s
ABTA Abfaltersbach 138.30 332 *i* PKP PKPdf 08 42 05.7 -0.9
comp=Z,16nm,1.2s
MOTA Moosalm 138.47 334 *i* PKiKP PKPdf 08 42 07.0 0.0
comp=Z,16nm,1.1s
RETA Reutte 138.50 334 *i* pPKP PKPdf 08 42 08.9 +2.0
comp=Z,10nm,1.7s
SQTA Sankt Quirin 138.52 334 *i* PKP PKPdf 08 42 06.7 -0.3
comp=Z,14nm,1.2s
FETA Feichten 138.88 334 *i* PKP PKPdf 08 42 06.3 -1.4
comp=Z,10nm,1.0s
DAVA Damuels 139.03 335 *i* PKiKP PKPdf 08 42 08.6 +0.6
comp=Z,13nm,1.2s
KEST Kesra 147.88 322 PKPbc PKPdf 08 42 25.9 +2.1
comp=Z,30nm,0.9s,baz=308,slow=4.0,SNR=16
POLO Lamas de Olo 149.76 351 *e*PKPdf PKPdf 08 42 30.9 +4.3
MVO Moncorvo 149.83 349 *e*PKPdf PKPdf 08 42 31.5 +4.8
PVRL Vila Real 149.84 350 *e*PKPdf PKPdf 08 42 31.5 +4.8
PVIS Viseu 150.42 350 *e*PKPdf PKPdf 08 42 32.5 +4.9

ESDC	**Sonseca Array**	**150.56**	**344**	PKP	**PKPdf**	**08 42 26.5**	**-1.4**	
	comp=Z,7.0nm,1.2s,baz=340,slow=2.4,SNR=4.4							
ESDC				PKPbc	**pPKPdf**	**08 42 32.9**	**+3.3**	
	comp=Z,6.8nm,0.9s,baz=7.1,slow=2.3,SNR=24							
ESDC				PKPab	**sPKPbc**	**08 42 39.5**	**+3.9**	
	comp=Z,7.2nm,0.8s,baz=9.0,slow=3.6,SNR=12							
MTE	**Manteigas**	**150.67**	**350**	ePKPdf	**PKPdf**	**08 42 33.8**	**+5.7**	
PCBR	**Castelo Branco**	**151.20**	**349**	ePKPdf	**PKPdf**	**08 42 34.7**	**+5.9**	
PMRV	**Marv??o**	**151.58**	**349**	ePKPdf	**PKPdf**	**08 42 35.5**	**+6.1**	
PMTG	**Montargil**	**152.08**	**350**	ePKPdf	**PKPdf**	**08 42 36.3**	**+6.2**	
PESTR	**Estremoz**	**152.16**	**349**	ePKPdf	**PKPdf**	**08 42 36.5**	**+6.2**	
TORD	**Torodi Ar. Bea**	**164.46**	**278**	PKP	**PKPdf**	**08 42 44.9**	**-0.8**	
	comp=Z,3.1nm,0.9s,baz=18,slow=2.2,SNR=14							
DBIC	**Dimbokro**	**169.65**	**243**	PKP	**PKPdf**	**08 42 48.5**	**-1.1**	
	comp=Z,7.3nm,1.1s,baz=192,slow=2.8,SNR=3.6							

*IDC **28** 08:47:00.2±1.0, 11.°56S×165.°07E, h0km, mb3.9/7, mbtmp3.9/9, ML3.7/2, MS4.0/3, Error ellipse: s-maj=31.2km s-min=20.8km az=141.0*

ISC 28 08:47:02.1±0.9, 11.°65S±0.°09×165.°1E±0.°1, h10km, n18, σ1§34/13, mb3.9/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.48**	**293**	Pn		**Pn**	**08 48 24.7**	**+0.8**
	237nm,0.3s,baz=141,slow=9.2,SNR=4.1							
HNR				Sn		**Sn**	**08 49 26.2**	**-0.8**
	116nm,0.3s,baz=165,slow=23,SNR=1.2							
HNR				LR		LR	08 50 23.8	
	comp=Z,2µm,20.3s,baz=156,slow=37							
DZM	**Mont Dzumac**	**10.45**	**173**	Pn		**Pn**	**08 49 34.4**	**+2.2**
	0.5nm,0.3s,baz=314,slow=10,SNR=31							
DZM				Sn		**Sn**	**08 51 27.2**	**-2.2**
	baz=48,slow=15,SNR=1.4							
	3.0nm,0.4s							
CTA	**Charters Tower**	**19.92**	**243**	P		**P**	**08 51 35.6**	**+1.4**
	0.2nm,0.3s,baz=86,slow=9.2,SNR=6.2							
	4.5nm,0.8s							
STKA	**Stephens Creek**	**29.54**	**223**	P		**P**	**08 53 05.7**	**-1.3**
	1.0nm,0.8s,baz=11,slow=14,SNR=2.9							
	1.0nm,0.8s							
H11S2	**WAKE ISLAND Hy**	**29.99**	**3**	T		T	09 24 36.2	
	baz=184,slow=76,SNR=13							
H11S3	**WAKE ISLAND Hy**	**30.00**	**3**	T		T	09 24 41.0	
	baz=184,slow=76,SNR=11							
H11S1	**WAKE ISLAND Hy**	**30.01**	**3**	T		T	09 24 38.2	
	baz=184,slow=76,SNR=9.7							
WRA	**Warramunga Arr**	**30.64**	**251**	P		**P**	**08 53 17.2**	**+0.2**
	2.1nm,0.9s,baz=82,slow=8.8,SNR=9.6							
WRA				PcP		**PcP**	**08 56 14.0**	**-1.3**
	0.5nm,0.8s,baz=75,slow=3.1,SNR=2.7							
	2.1nm,0.9s							
H11N1	**WAKE ISLAND Hy**	**31.22**	**3**	T		T	09 26 06.7	
	baz=182,slow=76,SNR=8.2							
H11N3	**WAKE ISLAND Hy**	**31.22**	**3**	T		T	09 26 10.7	
	baz=182,slow=76,SNR=6.3							
H11N2	**WAKE ISLAND Hy**	**31.23**	**3**	T		T	09 26 04.3	
	baz=182,slow=76,SNR=6.5							
ASAR	**Alice Springs**	**31.92**	**244**	P		**P**	**08 53 28.1**	**-0.1**
	1.3nm,0.8s,baz=73,slow=9.4,SNR=13							
ASAR				PcP		**PcP**	**08 56 18.3**	**-0.4**
	0.3nm,1.0s,baz=77,slow=2.1,SNR=0.9							
	1.3nm,0.8s							
KDAK	**Kodiak Island**	**77.39**	**22**	LR		LR	09 26 26.3	
	comp=Z,61nm,20.6s,baz=85,slow=31							
QSPA	**South Pole Qui**	**78.36**	**180**	LR		LR	09 29 21.4	
	comp=Z,122nm,21.3s,baz=247,slow=32							
ILAR	**Eielson Array**	**84.30**	**19**	P		**P**	**08 59 33.1**	**-0.8**
	0.4nm,0.6s,baz=247,slow=4.6,SNR=8.8							
	0.4nm,0.6s							
NVAR	**Mina Array Bea**	**86.93**	**50**	P		**P**	**08 59 48.4**	**+0.5**
	0.7nm,0.8s,baz=243,slow=6.0,SNR=1.2							
	0.7nm,0.8s							
MKAR	**Makanchi Array**	**93.50**	**317**	P		**P**	**09 00 18.1**	**-0.2**
	0.5nm,0.6s,baz=99,slow=5.6,SNR=5.0							
	0.5nm,0.6s							
YKA	**Yellowknife Ar**	**95.82**	**27**	P		P	09 00 26.6	-1.8
	0.3nm,0.8s,baz=256,slow=5.0,SNR=2.8							
	0.3nm,0.8s							

*IDC **28** 08:51:09.4±1.0, 47.°13N×76.°27W, h0km, mb3.1/2, mbtmp3.8/7, ML2.9/5, MS3.8/1, Error ellipse: s-maj=23.7km s-min=6.6km az=123.0*

*OTT **28** 08:51:12.4±0.0, 47.°18N×76.°29W, h18km, MN4.2/56*

OTT 83km northwest from Ferme-Neuve, Qc. Felt Western Quebec Seismic Zone. Felt at Maniwaki, Qc.

*NEIC **28** 08:51:13.6±1.2, 47.°07N±0.°02×76.°29W±0.°01, h16km±6km, mb_Lg3.6/100, mb_Lg4.2(OTT), Error ellipse: s-maj=3.2km s-min=0.9km az=165.0*

ISC 28 08:51:11.7±0.7, 47.°15N±0.°02×76.°28W±0.°02, h10km, n180, σ1§48/239, 1D, Southern Quebec

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GRQ	**Grand Remous**	**0.62**	**152**	Pg		**Pg**	**08 51 24.4**	**+0.7**
GRQ				Sg		**Sg**	**08 51 32.7**	**+1.0**
GRQ	**Grand Remous**	**0.62**	**152**	||PG		**Pg**	**08 51 24.4**	**+0.7**
GRQ				SG		**Sg**	**08 51 32.7**	**+1.0**
GRQ				Trac			08 51 33.0	
	comp=Z,2µm,0.1s							
VLDQ	**Val d'Or**	**1.25**	**321**			**Pb**	**08 51 37.9**	**+2.5**
VLDQ	**Val d'Or**	**1.25**	**321**			**Pb**	**08 51 37.9**	**+2.5**
VLDQ				Sg		**Sn**	**08 51 56.2**	**+4.2**
VLDQ	**Val d'Or**	**1.25**	**321**	PG		**Pb**	**08 51 37.9**	**+2.5**
VLDQ				SG		**Sn**	**08 51 56.6**	**+4.5**
VLDQ				Trac			08 51 58.9	
	comp=Z,2µm,0.2s							
VABQ	**Val Des Bois**	**1.33**	**159**			**Pn**	**08 51 36.5**	**+0.1**
VABQ				Sg		**Sb**	**08 51 54.1**	**+0.3**
VABQ	**Val Des Bois**	**1.33**	**159**	PG		**Pn**	**08 51 36.4**	**0.0**
VABQ				SG		**Sb**	**08 51 54.1**	**+0.3**
VABQ				Trac			08 51 56.2	
	comp=Z,596nm,0.2s							
CRLO	**Chalk River**	**1.35**	**215**			**Pn**	**08 51 36.5**	**-0.1**
CRLO				Sg		**Sb**	**08 51 55.0**	**+0.7**
CRLO	**Chalk River**	**1.35**	**215**	PG		**Pn**	**08 51 36.5**	**-0.1**
CRLO				SG		**Sb**	**08 51 55.0**	**+0.7**
CRLO				Trac			08 51 58.7	
	comp=Z,813nm,0.1s							
TRQ	**Mont Tremblant**	**1.51**	**127**			**Pn**	**08 51 38.9**	**0.0**
TRQ				Sn		**Sn**	**08 51 59.0**	**+0.4**
TRQ	**Mont Tremblant**	**1.51**	**127**	Pn		**Pn**	**08 51 39.0**	**+0.1**
TRQ				Sn		**Sn**	**08 51 58.2**	**-0.4**
TRQ	**Mont Tremblant**	**1.51**	**127**	PN		**Pn**	**08 51 39.0**	**+0.1**
TRQ				SN		**Sn**	**08 51 58.3**	**-0.4**
TRQ				Trac			08 52 01.7	
	comp=Z,248nm,0.1s							
GAC	**Glen Almond**	**1.55**	**159**	PN		**Pn**	**08 51 39.8**	**+0.4**
GAC				PN		**Pn**	**08 51 39.8**	**+0.4**
GAC				SN		**Sn**	**08 51 59.5**	**0.0**
GAC				SN		**Sn**	**08 51 59.6**	**0.0**
GAC				Trac			08 52 02.3	
	comp=Z,554nm,0.3s							
GAC				Trac			08 52 03.1	
	comp=Z,260nm,0.1s							
PEMO	**Pembroke**	**1.62**	**205**	Pn		**Pn**	**08 51 40.2**	**-0.1**
PEMO				Sn		**Sn**	**08 52 00.3**	**-0.9**
PEMO	**Pembroke**	**1.62**	**205**	PN		**Pn**	**08 51 40.2**	**-0.1**
PEMO				SN		**Sn**	**08 52 01.0**	**-0.2**
PEMO				Trac			08 52 04.0	
	comp=Z,381nm,0.1s							
KB1O	**Rock site, Kin**	**1.75**	**178**	Pn		**Pn**	**08 51 42.3**	**+0.1**
KB1O				Sn		**Sn**	**08 52 03.6**	**-1.0**
KB1O	**Rock site, Kin**	**1.75**	**178**	PN		**Pn**	**08 51 42.3**	**+0.1**
KB1O				SN		**Sn**	**08 52 03.6**	**-1.0**
KB1O				Trac			08 52 12.0	
	comp=Z,606nm,0.2s							
ORIO	**Orleans, Innes**	**1.78**	**162**	Pn		**Pn**	**08 51 43.0**	**+0.4**
ORIO				Sn		**Sn**	**08 52 05.4**	**+0.1**
ORIO	**Orleans, Innes**	**1.78**	**162**	PN		**Pn**	**08 51 43.0**	**+0.4**
ORIO				SN		**Sn**	**08 52 05.1**	**-0.2**
ORIO				Trac			08 52 10.2	
	comp=Z,360nm,0.2s							
OTT	**Ottawa**	**1.80**	**167**	Pn		**Pn**	**08 51 43.0**	**+0.1**
OTT				Sn		**Sn**	**08 52 05.4**	**-0.2**
OTT	**Ottawa**	**1.80**	**167**	PN		**Pn**	**08 51 42.9**	**+0.1**
OTT				SN		**Sn**	**08 52 05.4**	**-0.2**
OTT				LG		Lg	08 52 09.2	
OTT				Trac			08 52 10.5	
	comp=Z,413nm,0.1s							
KIPQ	**Kipawa,Quebec**	**1.93**	**260**	PN		**Pn**	**08 51 44.7**	**0.0**
KIPQ				SN		**Sn**	**08 52 07.9**	**-1.1**
KIPQ				LG		Lg	08 52 12.2	
KIPQ				Trac			08 52 16.5	
	comp=Z,565nm,0.1s							
EEO	**Eldee**	**1.98**	**256**	Pn		**Pn**	**08 51 45.7**	**+0.4**
EEO				Sn		**Sn**	**08 52 09.1**	**-1.1**
EEO	**Eldee**	**1.98**	**256**	PN		**Pn**	**08 51 45.5**	**+0.1**
EEO				SN		**Sn**	**08 52 09.1**	**-1.1**
EEO				Trac			08 52 18.0	
	comp=Z,458nm,0.1s							
PLVO	**Plevna**	**2.18**	**195**	Pn		**Pn**	**08 51 48.0**	**-0.1**
PLVO				Sn		**Sn**	**08 52 13.9**	**-1.2**
PLVO	**Plevna**	**2.18**	**195**	PN		**Pn**	**08 51 48.0**	**-0.1**
PLVO				SN		**Sn**	**08 52 14.4**	**-0.8**
PLVO				LG		Lg	08 52 20.6	
PLVO				Trac			08 52 21.9	
	comp=Z,238nm,0.1s							
WBO	**Williamsburg**	**2.26**	**162**			**Pn**	**08 51 48.1**	**-1.1**
WBO	**Williamsburg**	**2.26**	**162**	Pn		**Pn**	**08 51 49.3**	**+0.1**
WBO				Sn		**Sn**	**08 52 16.0**	**-1.0**
WBO	**Williamsburg**	**2.26**	**162**	PN		**Pn**	**08 51 49.3**	**+0.1**
WBO				SN		**Sn**	**08 52 16.1**	**-1.0**
WBO				LG		Lg	08 52 23.9	
WBO				Trac			08 52 25.1	
	comp=Z,255nm,0.2s							
LATQ	**La Tuque**	**2.40**	**83**	PN		**Pn**	**08 51 50.7**	**-0.3**
LATQ				SN		**Sn**	**08 52 20.1**	**-0.3**
LATQ				LG		Lg	08 52 27.1	
LATQ				Trac			08 52 31.6	
	comp=Z,432nm,0.1s							
DPQ	**Saint Jean**	**2.45**	**100**	Pn		**Pn**	**08 51 51.1**	**-0.7**
DPQ				Sn		**Sn**	**08 52 21.7**	**0.0**
DPQ	**Saint Jean**	**2.45**	**100**	PN		**Pn**	**08 51 51.1**	**-0.7**
DPQ				SN		**Sn**	**08 52 20.3**	**-1.4**
DPQ				LG		Lg	08 52 29.2	
DPQ				Trac			08 52 38.4	
	comp=Z,200nm,0.1s							
MNTQ	**Montreal, Queb**	**2.47**	**131**			**Pn**	**08 51 52.1**	**+0.1**
MNTQ	**Montreal, Queb**	**2.47**	**131**	PN		**Pn**	**08 51 51.9**	**-0.2**
MNTQ				SN		**Sn**	**08 52 21.7**	**-0.6**
MNTQ				LG		Lg	08 52 30.8	
MNTQ				Trac			08 52 31.4	
	comp=Z,242nm,0.2s							
KILO	**Kirkland Lake**	**2.68**	**301**	PN		**Pn**	**08 51 54.0**	**-1.0**
KILO				SN		**Sn**	**08 52 25.6**	**-1.9**
KILO				LG		Lg	08 52 34.8	
KILO				Trac			08 52 39.0	
	comp=Z,143nm,0.1s							
BECQ	**Becancour**	**2.73**	**106**	PN		**Pn**	**08 51 55.4**	**-0.2**
BECQ				SN		**Sn**	**08 52 27.4**	**-1.2**
BECQ				LG		Lg	08 52 38.8	
BECQ				Trac			08 52 40.0	
	comp=Z,76nm,0.2s							
BUKO	**Buck Lake**	**2.75**	**233**	PN		**Pn**	**08 51 55.7**	**-0.3**
BUKO				SN		**Sn**	**08 52 27.3**	**-2.0**
BUKO				LG		Lg	08 52 38.5	
BUKO				Trac			08 52 42.1	
	comp=Z,314nm,0.1s							
DELO	**Deloro Mine**	**2.79**	**200**			**Pn**	**08 51 56.6**	**+0.1**
DELO	**Deloro Mine**	**2.79**	**200**	PN		**Pn**	**08 51 56.3**	**-0.2**
DELO				SN		**Sn**	**08 52 28.9**	**-1.3**
DELO				LG		Lg	08 52 40.4	
DELO				Trac			08 52 48.2	
	comp=Z,164nm,0.1s							
LONY	**Lake Ozonia**	**2.80**	**154**			**Pn**	**08 51 56.1**	**-0.4**
LONY				IAmb_Lg			08 52 39.8	
	comp=Z,149nm,0.8s							
LONY	**Lake Ozonia**	**2.80**	**154**	PN		**Pn**	**08 51 56.5**	**-0.1**
LONY				SN		**Sn**	**08 52 29.0**	**-1.3**
LONY				Trac			08 52 41.9	
	comp=Z,232nm,0.2s							
KGNO	**Kingston**	**2.93**	**183**	PN		**Pn**	**08 51 58.9**	**+0.6**
KGNO				SN		**Sn**	**08 52 32.4**	**-1.1**
KGNO				LG		Lg	08 52 44.1	
KGNO				Trac			08 52 44.8	
	comp=Z,93nm,0.1s							
FRNY	**Flat Rock**	**2.98**	**140**			**Pn**	**08 51 58.9**	**-0.2**
FRNY	**Flat Rock**	**2.98**	**140**	P		**Pn**	**08 51 59.7**	**+0.6**
	baz=322,SNR=12							
FRNY				Sb		**Sb**	**08 52 44.5**	**+3.2**
	baz=322							
FRNY	**Flat Rock**	**2.98**	**140**	PN		**Pn**	**08 51 59.0**	**-0.1**
FRNY				SN		**Sn**	**08 52 33.2**	**-1.6**
FRNY				LG		Lg	08 52 45.6	
FRNY				Trac			08 52 49.4	
	comp=Z,134nm,0.2s							
SADO	**Sadowa**	**3.11**	**221**	Pn		**Pn**	**08 52 00.3**	**-0.5**
	comp=Z,5.5nm,0.3s,baz=44,slow=13,SNR=42							
SADO				Pg		Pb	08 52 04.0	-3.1
	comp=Z,32nm,0.3s,baz=37,slow=14,SNR=32							
SADO				Sn		**Sn**	**08 52 37.1**	**-0.8**
	comp=Z,42nm,0.3s,baz=5.0,slow=18,SNR=9.9							
SADO				Lg		Lg	08 52 43.8	
	comp=Z,40nm,0.3s,baz=137,slow=22,SNR=19							
	comp=Z,66nm,0.3s							
SADO	**Sadowa**	**3.11**	**221**	PN		**Pn**	**08 52 00.2**	**-0.5**
SADO				SN		**Sn**	**08 52 36.3**	**-1.6**
SADO				LG		Lg	08 52 49.7	
SADO				Trac			08 52 52.9	
	comp=Z,238nm,0.1s							
WCNY	**West Carthage**	**3.20**	**172**	P		**Pn**	**08 52 02.7**	**+0.6**
	baz=352,SNR=17							
PECO	**Prince Edward**	**3.25**	**189**	PN		**Pn**	**08 52 02.6**	**-0.3**
PECO				SN		**Sn**	**08 52 39.9**	**-1.7**
PECO				LG		Lg	08 52 55.1	
PECO				Trac			08 52 57.5	
	comp=Z,170nm,0.1s							
SUBO	**Sudbury**	**3.37**	**263**	PN		**Pn**	**08 52 03.8**	**-0.6**
SUBO				SN		**Sn**	**08 52 41.7**	**-2.8**
SUBO				LG		Lg	08 52 58.1	
SUBO				Trac			08 52 59.3	
	comp=Z,242nm,0.2s							
NCB	**Newcomb**	**3.49**	**155**			**Pn**	**08 52 06.2**	**+0.1**
NCB	**Newcomb**	**3.49**	**155**	P		**Pn**	**08 52 06.2**	**+0.1**
	baz=336,SNR=51							
NCB				Sb		**Sb**	**08 52 58.9**	**+2.7**
	baz=336							
BCLQ	**Boischatel**	**3.50**	**92**	PN		**Pn**	**08 52 04.9**	**-1.3**
BCLQ				SN		**Sn**	**08 52 45.6**	**-2.1**
BCLQ				LG		Lg	08 53 02.2	
BCLQ				Trac			08 53 08.8	
	comp=Z,121nm,0.2s							
LDAQ	**Lac Daran**	**3.51**	**75**			**Pn**	**08 52 05.4**	**-1.0**
LDAQ	**Lac Daran**	**3.51**	**75**	PN		**Pn**	**08 52 05.6**	**-0.8**
LDAQ				SN		**Sn**	**08 52 45.3**	**-2.6**
LDAQ				LG		Lg	08 53 02.7	
LDAQ				Trac			08 53 06.9	
	comp=Z,181nm,0.2s							
WLVO	**Wesleyville**	**3.55**	**205**	PN		**Pn**	**08 52 06.6**	**-0.3**
WLVO				SN		**Sn**	**08 52 47.0**	**-1.9**
WLVO				LG		Lg	08 53 04.1	
WLVO				Trac			08 53 10.3	
	comp=Z,157nm,0.1s							
DRWO	**Darlington Wes**	**3.70**	**209**	PN		**Pn**	**08 52 08.7**	**-0.3**
DRWO				SN		**Sn**	**08 52 50.6**	**-2.0**
DRWO				LG		Lg	08 53 09.2	
DRWO				Trac			08 53 14.6	
	comp=Z,288nm,0.1s							
PKRO	**Pickering**	**3.74**	**213**	PN		**Pn**	**08 52 09.0**	**-0.5**
PKRO				SN		**Sn**	**08 52 52.6**	**-1.0**
PKRO				LG		Lg	08 53 10.7	
PKRO				Trac			08 53 20.8	
	comp=Z,540nm,0.2s							
J57A	**Williamstown**	**3.75**	**177**			**Pn**	**08 52 09.7**	**+0.1**
J57A	**Williamstown**	**3.75**	**177**	P		**Pn**	**08 52 09.9**	**+0.4**
	baz=357,SNR=50							
J57A				P		**Pn**	**08 52 09.9**	**+0.4**
	baz=357,SNR=50							
VT1	**Waterbury**	**3.75**	**137**			**Pn**	**08 52 09.9**	**+0.3**
J58A	**Remsen**	**3.85**	**169**			**Pn**	**08 52 11.6**	**+0.5**
J58A	**Remsen**	**3.85**	**169**	P		**Pn**	**08 52 11.5**	**+0.4**
	baz=350,SNR=23							
J58A				P		**Pn**	**08 52 11.5**	**+0.4**
	baz=350,SNR=23							
J59A	**Piesco**	**3.89**	**161**	Pn		**Pn**	**08 52 11.5**	**-0.1**
J59A				IAmb_Lg			08 53 14.2	
	comp=Z,107nm,0.7s							
J59A	**Piesco**	**3.89**	**161**	P		**Pn**	**08 52 12.0**	**+0.3**
	baz=342							
J59A				P		**Pn**	**08 52 12.0**	**+0.3**
	baz=342							
J56A	**Wolcott**	**3.90**	**186**			**Pn**	**08 52 11.5**	**-0.1**
J56A				IAmb_Lg			08 53 15.1	
	comp=Z,188nm,0.9s							
J56A	**Wolcott**	**3.90**	**186**	P		**Pn**	**08 52 11.7**	**0.0**
	baz=5.7,SNR=14							
J56A				P		**Pn**	**08 52 11.7**	**0.0**
	baz=5.7,SNR=14							
CLWO	**Collingwood**	**3.90**	**228**	PN		**Pn**	**08 52 11.0**	**-0.7**
CLWO				SN		**Sn**	**08 52 55.1**	**-2.4**
CLWO				LG		Lg	08 53 13.6	
CLWO				Trac			08 53 15.3	
	comp=Z,328nm,0.3s							
MCVT	**Middlebury Col**	**3.94**	**143**	P		**Pn**	**08 52 12.6**	**+0.3**
	baz=326,SNR=20							
A54	**Misere**	**4.00**	**83**	PN		**Pn**	**08 52 11.5**	**-1.7**
A54				SN		**Sn**	**08 52 57.0**	**-3.1**
A54				LG		Lg	08 53 18.0	
A54				Trac			08 53 18.9	
	comp=Z,75nm,0.2s							
J55A	**Hilton**	**4.03**	**196**	Pn		**Pn**	**08 52 13.0**	**-0.5**
J55A	**Hilton**	**4.03**	**196**	P		**Pn**	**08 52 13.3**	**-0.2**
	baz=15,SNR=20							
J55A				P		**Pn**	**08 52 13.3**	**-0.2**
	baz=15,SNR=20							
J55A	**Hilton**	**4.03**	**196**	PN		**Pn**	**08 52 13.2**	**-0.2**
J55A				SN		**Sn**	**08 52 58.0**	**-2.7**
LMQ	**La Malbaie**	**4.07**	**82**			**Pn**	**08 52 12.5**	**-1.6**
LMQ				IAmb_Lg			08 53 25.3	
	comp=Z,127nm,0.9s							
LMQ	**La Malbaie**	**4.07**	**82**	PN		**Pn**	**08 52 12.4**	**-1.6**
LMQ				SN		**Sn**	**08 52 58.0**	**-3.7**
LMQ				LG		Lg	08 53 18.4	
LMQ				Trac			08 53 23.7	
	comp=Z,114nm,0.2s							
TOBO	**Tobermory, Bru**	**4.12**	**244**	PN		**Pn**	**08 52 15.2**	**+0.6**
TOBO				SN		**Sn**	**08 53 00.4**	**-2.5**
TOBO				LG		Lg	08 53 22.4	
TOBO				Trac			08 53 24.9	
	comp=Z,113nm,0.2s							
TORO	**Toronto--Lesli**	**4.14**	**212**	PN		**Pn**	**08 52 14.4**	**-0.6**
TORO				SN		**Sn**	**08 53 00.7**	**-2.8**
TORO				LG		Lg	08 53 22.8	
TORO				Trac			08 53 27.8	
	comp=Z,2µm,0.3s							
A11	**Saint Roch-des**	**4.15**	**87**	PN		**Pn**	**08 52 14.0**	**-1.1**
A11				SN		**Sn**	**08 52 60.0**	**-3.6**
A11				LG		Lg	08 53 20.8	
A11				Trac			08 53 24.9	
	comp=Z,117nm,0.4s							
ACCN	**Adirondack Com**	**4.19**	**153**			**Pn**	**08 52 16.3**	**+0.5**
ACCN				IAmb_Lg			08 53 27.4	
	comp=Z,106nm,0.8s							
LBNH	**Lisbon**	**4.22**	**132**	Pn		**Pn**	**08 52 16.5**	**+0.4**
LBNH				IAmb_Lg			08 53 29.1	
	comp=Z,103nm,0.9s							
LBNH	**Lisbon**	**4.22**	**132**	P		**Pn**	**08 52 16.2**	**+0.1**
	baz=316,SNR=23							
LBNH	**Lisbon**	**4.22**	**132**	PN		**Pn**	**08 52 16.0**	**-0.1**
LBNH				SN		**Sn**	**08 53 04.0**	**-1.4**
LBNH				Trac			08 53 28.8	
	comp=Z,137nm,0.5s							
J54A	**Appleton**	**4.22**	**204**			**Pn**	**08 52 16.4**	**+0.2**
J54A	**Appleton**	**4.22**	**204**	PN		**Pn**	**08 52 16.3**	**+0.2**
J54A				SN		**Sn**	**08 53 04.1**	**-1.3**
A61	**Sainte Mathild**	**4.24**	**80**	PN		**Pn**	**08 52 14.9**	**-1.5**
A61				SN		**Sn**	**08 53 03.3**	**-2.5**
A61				LG		Lg	08 53 25.6	
A61				Trac			08 53 25.8	
	comp=Z,247nm,0.5s							
MEDO	**Medina**	**4.27**	**202**			**Pn**	**08 52 16.3**	**-0.5**
MEDO				IAmb_Lg			08 53 37.7	
	comp=Z,180nm,0.8s							
MEDO	**Medina**	**4.27**	**202**	PN		**Pn**	**08 52 16.3**	**-0.5**
MEDO				SN		**Sn**	**08 53 04.2**	**-2.5**
MEDO				LG		Lg	08 53 26.4	
MEDO				Trac			08 53 33.7	
	comp=Z,36nm,0.0s							
A16	**Riviere Ouelle**	**4.28**	**83**	PN		**Pn**	**08 52 15.6**	**-1.3**
A16				SN		**Sn**	**08 53 04.2**	**-2.6**
A16				LG		Lg	08 53 27.7	
A16				Trac			08 53 28.0	
	comp=Z,132nm,0.3s							
BMRO	**Meriville Lake**	**4.29**	**235**	PN		**Pn**	**08 52 16.7**	**-0.3**
BMRO				SN		**Sn**	**08 53 04.3**	**-2.9**
BMRO				LG		Lg	08 53 25.6	
BMRO				Trac			08 53 29.3	
	comp=Z,215nm,0.3s							
A64	**Saint Simeon**	**4.38**	**79**	PN		**Pn**	**08 52 17.0**	**-1.3**
A64				SN		**Sn**	**08 53 06.0**	**-3.4**
A64				LG		Lg	08 53 29.6	
A64				Trac			08 53 34.7	
	comp=Z,80nm,0.2s							
H62A	**Milan**	**4.41**	**124**			**Pn**	**08 52 18.6**	**-0.1**
H62A				IAmb_Lg			08 53 35.3	
	comp=Z,90nm,0.8s							
K57A	**Scipio Center**	**4.42**	**182**			**Pn**	**08 52 18.8**	**-0.1**
ACTO	**Acton**	**4.43**	**218**	PN		**Pn**	**08 52 18.8**	**-0.2**
ACTO				SN		**Sn**	**08 53 07.9**	**-2.7**
ACTO				Trac			08 53 34.8	
	comp=Z,126nm,0.1s							
G62A	**West of Eustis**	**4.44**	**114**	Pn		**Pn**	**08 52 19.1**	**0.0**
G62A	**West of Eustis**	**4.44**	**114**	P		**Pn**	**08 52 18.6**	**-0.5**
	baz=298,SNR=22							
G62A				P		**Pn**	**08 52 18.6**	**-0.5**
	baz=298,SNR=22							
STCO	**Saint Catharin**	**4.44**	**208**	PN		**Pn**	**08 52 18.5**	**-0.6**
STCO				SN		**Sn**	**08 53 08.0**	**-2.7

D62A	**Allapoint, All**	**4.94**	**88**	Pn	**Pn**	**08 52 25.8**	**-0.2**
D62A	**Allapoint, All**	**4.94**	**88**	P	**Pn**	**08 52 25.0**	**-0.9**
	baz=274,SNR=55						
D62A				P	**Pn**	**08 52 25.0**	**-0.9**
	baz=274,SNR=55						
BINY	**Binghamton**	**4.96**	**177**		**Pn**	**08 52 26.9**	**+0.7**
BINY				IAmb_Lg		08 53 56.7	
	comp=Z,133nm,0.7s						
BINY	**Binghamton**	**4.96**	**177**	P	**Pn**	**08 52 26.9**	**+0.7**
	baz=358,SNR=13						
BINY	**Binghamton**	**4.96**	**177**	PN	**Pn**	**08 52 26.5**	**+0.3**
BINY				SN	**Sn**	**08 53 19.8**	**-3.8**
BINY				LG	Lg	08 53 47.2	
WVNY	**West Valley, N**	**5.02**	**200**		**Pn**	**08 52 26.9**	**-0.3**
WVNY				IAmb_Lg		08 53 53.2	
	comp=Z,167nm,0.7s						
WVNY	**West Valley, N**	**5.02**	**200**	P	**Pn**	**08 52 26.7**	**-0.4**
	baz=18,SNR=18						
L59A	**Walton**	**5.04**	**169**		**Pn**	**08 52 27.6**	**+0.2**
L59A				IAmb_Lg		08 53 50.3	
	comp=Z,157nm,1.0s						
L59A	**Walton**	**5.04**	**169**	P	**Pn**	**08 52 27.3**	**-0.1**
	baz=350,SNR=19						
L59A				P	**Pn**	**08 52 27.3**	**-0.1**
	baz=350,SNR=19						
I63A	**Otisfield**	**5.06**	**126**	Pn	**Pn**	**08 52 27.2**	**-0.4**
I63A	**Otisfield**	**5.06**	**126**	P	**Pn**	**08 52 27.9**	**+0.2**
	baz=310,SNR=11						
I63A				P	**Pn**	**08 52 27.9**	**+0.2**
	baz=310,SNR=11						
FORQ	**Forestville**	**5.08**	**69**	PN	**Pn**	**08 52 26.8**	**-1.0**
FORQ				SN	**Sn**	**08 53 22.6**	**-3.8**
FORQ				LG	Lg	08 53 50.0	
FORQ				Trac		08 53 51.8	
	comp=Z,66nm,0.2s						
L56A	**Greenwood**	**5.09**	**191**		**Pn**	**08 52 28.3**	**+0.1**
L56A	**Greenwood**	**5.09**	**191**	P	**Pn**	**08 52 28.2**	**0.0**
	baz=9.7,SNR=31						
L56A				P	**Pn**	**08 52 28.2**	**0.0**
	baz=9.7,SNR=31						
F63A	**Nahmakanta, Br**	**5.17**	**104**	Pn	**Pn**	**08 52 28.2**	**-1.0**
PKME	**Peaks-Kenny Pk**	**5.21**	**109**	Pn	**Pn**	**08 52 28.6**	**-1.0**
PKME	**Peaks-Kenny Pk**	**5.21**	**109**	PN	**Pn**	**08 52 28.8**	**-0.9**
PKME				SN	**Sn**	**08 53 25.8**	**-3.9**
PKME				Trac		08 54 25.3	
	comp=Z,215nm,0.8s						
ELFO	**Elginfield**	**5.32**	**224**	PN	**Pn**	**08 52 30.6**	**-0.6**
ELFO				SN	**Sn**	**08 53 30.2**	**-2.3**
ELFO				LG	Lg	08 54 01.9	
ELFO				Trac		08 54 09.1	
	comp=Z,148nm,0.2s						
L61B	**Northampton**	**5.35**	**150**	IAmb_Lg		08 54 02.1	
	comp=Z,103nm,0.8s						
E46A	**Sault Ste Mari**	**5.57**	**265**	Pn	**Pn**	**08 52 34.0**	**-0.6**
E46A				IAmb_Lg		08 54 07.4	
	comp=Z,138nm,0.8s						
KSPA	**Keystone Colle**	**5.61**	**176**	Pn	**Pn**	**08 52 35.2**	**+0.1**
KSPA				IAmb_Lg		08 54 15.0	
	comp=Z,109nm,0.8s						
KSPA	**Keystone Colle**	**5.61**	**176**	P	**Pn**	**08 52 35.7**	**+0.6**
	baz=356,SNR=12						
ERPA	**Erie**	**5.68**	**209**	PN	**Pn**	**08 52 35.7**	**-0.5**
ERPA				SN	**Sn**	**08 53 36.2**	**-5.3**
M57A	**Sunshine Farm,**	**5.84**	**186**	IAmb_Lg		08 54 21.5	
	comp=Z,100nm,0.9s						
M57A	**Sunshine Farm,**	**5.84**	**186**	P	**Pn**	**08 52 38.6**	**+0.2**
	baz=5.6,SNR=20						
M57A				P	**Pn**	**08 52 38.6**	**+0.2**
	baz=5.6,SNR=20						
WES	**Weston**	**5.93**	**142**	IAmb_Lg		08 54 25.3	
	comp=Z,107nm,1.2s						
M55A	**Ridgway**	**5.95**	**198**	IAmb_Lg		08 54 27.5	
	comp=Z,74nm,0.9s						
M55A	**Ridgway**	**5.95**	**198**	P	**Pn**	**08 52 39.7**	**-0.2**
	baz=16,SNR=11						
M55A				P	**Pn**	**08 52 39.7**	**-0.2**
	baz=16,SNR=11						
BRNY	**Black Rk. Fore**	**5.96**	**163**	P	**Pn**	**08 52 39.7**	**-0.3**
	baz=345,SNR=8.5						
ODNJ	**Ogdensburg**	**6.18**	**168**	P	**Pn**	**08 52 42.7**	**-0.4**
	baz=349,SNR=16						
YLE	**Yale**	**6.31**	**156**	IAmb_Lg		08 54 28.0	
	comp=Z,110nm,0.9s						
N58A	**Sunbury**	**6.32**	**183**	IAmb_Lg		08 54 29.2	
	comp=Z,71nm,0.8s						
N58A	**Sunbury**	**6.32**	**183**	P	**Pn**	**08 52 44.9**	**0.0**
	baz=2.6,SNR=12						
N58A				P	**Pn**	**08 52 44.9**	**0.0**
	baz=2.6,SNR=12						
BRNJ	**Basking Ridge**	**6.58**	**169**	IAmb_Lg		08 54 43.0	
	comp=Z,115nm,0.9s						
LUPA	**Lehigh Univers**	**6.58**	**174**	IAmb_Lg		08 54 45.1	
	comp=Z,85nm,0.8s						
N53A	**Lisbon**	**7.14**	**209**	IAmb_Lg		08 54 58.2	
	comp=Z,74nm,0.8s						
AAM	**Ann Arbor**	**7.15**	**230**	IAmb_Lg		08 54 53.9	
	comp=Z,86nm,0.7s						
MVL	**Millersville**	**7.15**	**180**	IAmb_Lg		08 54 58.1	
	comp=Z,56nm,0.8s						
WUPA	**West Chester U**	**7.23**	**176**	IAmb_Lg		08 54 59.5	
	comp=Z,52nm,0.8s						
M50A	**Fremont**	**7.52**	**223**	IAmb_Lg		08 55 09.0	
	comp=Z,84nm,0.7s						
O54A	**Avella**	**7.57**	**205**	IAmb_Lg		08 55 25.2	
	comp=Z,74nm,0.8s						
N51A	**Ashland**	**7.62**	**217**	IAmb_Lg		08 55 15.1	
	comp=Z,81nm,0.7s						
O53A	**New Philadelph**	**7.77**	**209**	IAmb_Lg		08 55 17.8	
	comp=Z,51nm,0.7s						
P57A	**Homestead Farm**	**7.77**	**190**	IAmb_Lg		08 55 17.5	
	comp=Z,65nm,0.9s						
MCWV	**Mont Chateau**	**7.92**	**200**	IAmb_Lg		08 55 19.7	
	comp=Z,81nm,0.9s						
O52A	**Adamsville**	**8.10**	**212**	IAmb_Lg		08 55 36.4	
	comp=Z,56nm,0.8s						
Q56A	**Snyder Ridge,**	**8.38**	**196**	IAmb_Lg		08 55 45.0	
	comp=Z,48nm,0.7s						
N49A	**Columbus Grove**	**8.43**	**225**	IAmb_Lg		08 55 49.2	
	comp=Z,67nm,1.1s						
P53A	**Whipple**	**8.52**	**208**	IAmb_Lg		08 55 39.4	
	comp=Z,65nm,0.9s						
P52A	**Corning**	**8.63**	**212**	IAmb_Lg		08 55 49.0	
	comp=Z,45nm,0.8s						
CBN	**Corbin Frederi**	**8.98**	**186**	IAmb_Lg		08 56 11.8	
	comp=Z,56nm,0.8s						
N47A	**Urbana**	**9.23**	**231**	IAmb_Lg		08 56 04.7	
	comp=Z,49nm,0.8s						
Q52A	**Bidwell**	**9.28**	**210**	IAmb_Lg		08 56 08.0	
	comp=Z,52nm,0.8s						
R55A	**Marlinton**	**9.30**	**199**	IAmb_Lg		08 56 17.4	
	comp=Z,48nm,0.9s						
R55A	**Marlinton**	**9.30**	**199**	P	**Pn**	**08 53 24.7**	**-1.2**
	baz=16,SNR=14						
R55A				P	**Pn**	**08 53 24.7**	**-1.2**
	baz=16,SNR=14						
Q51A	**Peebles**	**9.62**	**215**	IAmb_Lg		08 56 14.9	
	comp=Z,66nm,0.7s						
Q51A	**Peebles**	**9.62**	**215**	P	**Pn**	**08 53 29.3**	**-0.9**
	baz=30,SNR=7.4						
Q51A				P	**Pn**	**08 53 29.3**	**-0.9**
	baz=30,SNR=7.4						
SCHQ	**Schefferville**	**9.72**	**34**	Pn	**Pn**	**08 53 30.7**	**-0.8**
SCHQ	**Schefferville**	**9.72**	**34**	Pn	Pn	08 53 28.9	-2.6
	comp=Z,0.3nm,0.3s,baz=218,slow=3.9,SNR=2.1						
SCHQ				Sn	Sn	08 55 10.5	-10
	comp=Z,1.4nm,0.3s,baz=258,slow=9.3,SNR=2.7						
SCHQ				Lg	Lg	08 56 05.5	
	comp=Z,4.1nm,0.3s,baz=275,slow=18,SNR=6.7						
	comp=Z,12nm,1.2s						
P49A	**Miami Univ. Ec**	**9.78**	**222**	IAmb_Lg		08 56 27.6	
	comp=Z,57nm,0.8s						
S54A	**Dingess, Beckl**	**10.05**	**203**	IAmb_Lg		08 56 40.2	
	comp=Z,61nm,1.3s						
TKL	**Tuckaleechee C**	**12.78**	**209**	Pn	Pn	08 54 09.4	-4.0
	comp=Z,0.4nm,0.3s,baz=15,slow=11,SNR=1.9						
TKL				Sn	Sn	08 56 26.4	-9.3
	comp=Z,0.7nm,0.3s,baz=4.9,slow=20,SNR=3.1						
TKL				Lg	Lg	08 57 43.6	
	comp=Z,1.5nm,0.3s,baz=107,slow=16,SNR=5.2						
	comp=Z,2.5nm,0.7s						
ULM	**Lac du Bonnet**	**13.30**	**291**	Pn	Pn	08 54 14.5	-6.0
	comp=Z,0.4nm,0.3s,baz=97,slow=13,SNR=6.3						
ULM				Sn	Sn	08 56 32.9	-15
	comp=Z,0.3nm,0.3s,baz=65,slow=19,SNR=1.6						
ULM				Lg	Lg	08 57 58.4	
	comp=Z,1.2nm,0.3s,baz=164,slow=18,SNR=3.8						
	comp=Z,2.0nm,0.5s						

FRB	**Frobisher Bay**	**17.18**	**12**	P	**Pn**	**08 55 09.8**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=193,slow=13,SNR=1.6						
FRB				S	Sn	08 58 07.0	-15
	comp=Z,1.3nm,0.3s,baz=237,slow=10.0,SNR=1.8						
FRB				Lg	Lg	08 59 54.9	
	comp=Z,0.5nm,0.3s,baz=114,slow=20,SNR=4.7						
	comp=Z,3.9nm,1.0s						
PDAR	**Pinedale Array**	**23.84**	**272**	P	**P**	**08 56 25.0**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=70,slow=12,SNR=4.3						
	comp=Z,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**26.37**	**320**	P	**P**	**08 56 47.0**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=102,slow=9.4,SNR=2.6						
	comp=Z,0.2nm,0.6s						
CMIG	**Matias Romero**	**33.68**	**213**	LR	LR	09 14 04.6	
	comp=Z,150nm,18.1s,baz=209,slow=41						
WRA	**Warramunga Arr**	**143.16**	**307**	PKP	PKPbc	09 10 45.7	+2.7
	comp=Z,0.2nm,0.6s,baz=39,slow=2.9,SNR=1.3						
ASAR	**Alice Springs**	**146.37**	**304**	PKPbc	**PKPdf**	**09 10 51.8**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=41,slow=3.4,SNR=8.7						

IDC ***28*** *08:52:10.4±5.2,52.°09N×174.°23E,h30km±36km, mb3.9/19, mbtmp4.1/21,ML2.5/1,MS3.9/2,Error ellipse: s-maj=17.2km s-min=14.1km az=6.0*
NEIC ***28*** *08:52:12.2±1.6,52.°15N±0.°06×174.°0E±0.°2,h37km±10km, mb4.1/68,Error ellipse: s-maj=17.8km s-min=9.1km az=83.0*

ISC 28 08:52:10.3±0.6,52.°07N±0.°08×174.°08E±0.°06,h28km,n109, σ0s89/102,mb4.1/46,Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEM	**Shemya Is, Ala**	**0.67**	**1**	Pn	**Pb**	**08 52 23.3**	**-0.1**
	537nm,0.3s,baz=157,slow=4.5,SNR=119						
SHEM				Sn	**Sb**	**08 52 32.2**	**-0.1**
	408nm,0.3s,baz=187,slow=7.1,SNR=10						
SMY	**Shemya**	**0.67**	**1**		**Pb**	**08 52 23.4**	**0.0**
KIWB	**Kanaga Island**	**5.43**	**89**	Pn	**Pn**	**08 53 30.0**	**+0.6**
ADK	**Adak**	**5.71**	**88**	Pn	**Pn**	**08 53 33.1**	**-0.2**
PETK	**Petropavlovsk-**	**10.02**	**282**	Pn	**Pn**	**08 54 35.1**	**+2.7**
	0.2nm,0.3s,baz=79,slow=15,SNR=2.6						
PETK				Sn	**Sn**	**08 56 20.8**	**-3.0**
	0.5nm,0.3s,baz=98,slow=15,SNR=1.5						
	5.0nm,0.9s						
O14K	**Tigyukauivet M**	**15.60**	**53**	Pn	**Pn**	**08 55 49.6**	**+1.6**
O14K				IAmb	IAmb	08 55 56.0	
	comp=Z,17nm,0.9s						
L14K	**Kuka Creek**	**15.70**	**45**		**P**	**08 55 51.8**	**-1.2**
M14K	**Bethel**	**15.78**	**47**		**P**	**08 55 52.7**	**-1.2**
M14K				IAmb	IAmb	08 55 54.9	
	comp=Z,14nm,0.8s						
ANM	**Nome**	**16.43**	**32**	Pn	**Pn**	**08 55 58.9**	**+0.3**
N15K	**Kwethluk River**	**16.44**	**50**		**P**	**08 56 00.4**	**-0.9**
N15K				IAmb	IAmb	08 56 05.5	
	comp=Z,13nm,0.8s						
L16K	**Owhat River**	**17.25**	**46**	P	**P**	**08 56 10.3**	**+0.1**
N17K	**Nushagak Hills**	**17.93**	**51**	P	**P**	**08 56 17.7**	**+0.1**
G16K	**Koyuk River**	**17.95**	**33**	P	**P**	**08 56 18.0**	**+0.2**
M17K	**Holitna River**	**18.06**	**48**	P	**P**	**08 56 19.9**	**+0.7**
M17K				IAmb	IAmb	08 56 23.3	
	comp=Z,18nm,1.1s						
K17K	**Iditarod**	**18.15**	**43**		**P**	**08 56 21.7**	**+1.5**
N18K	**Kilae Creek**	**18.58**	**51**	P	**Pn**	**08 56 26.3**	**+1.0**
O18K	**Koktuh Hills**	**18.73**	**53**	P	**Pn**	**08 56 27.3**	**+0.2**
O18K				IAmb	IAmb	08 56 33.9	
	comp=Z,12nm,0.8s						
SVW2	**Sparrevohn**	**18.84**	**49**	P	**Pn**	**08 56 28.2**	**-0.1**
SII	**Sitkinak Islan**	**18.95**	**64**	P	**P**	**08 56 29.1**	**+0.1**
TTA	**Tatalina**	**19.20**	**44**	P	**Pn**	**08 56 32.5**	**-0.3**
H18K	**Honhosa River**	**19.22**	**36**	P	**Pn**	**08 56 32.9**	**0.0**
N19K	**Bonanza Creek**	**19.29**	**51**	P	**Pn**	**08 56 33.6**	**-0.2**
N19K				IAmb	IAmb	08 56 46.1	
	comp=Z,6.4nm,0.8s						
Q19K	**Cape Douglas,**	**19.38**	**57**	P	**P**	**08 56 33.6**	**-0.1**
OHAK	**Old Harbor**	**19.45**	**62**	P	**P**	**08 56 33.5**	**-1.0**
OHAK				IAmb	IAmb	08 56 36.4	
	comp=Z,14nm,0.9s						
L19K	**White Mountain**	**19.47**	**47**	P	**P**	**08 56 35.3**	**+0.7**
L19K				IAmb	IAmb	08 56 43.5	
	comp=Z,7.1nm,0.9s						
G18K	**Tagagawik**	**19.50**	**34**	P	**Pn**	**08 56 36.1**	**-0.1**
J19K	**Poorman**	**19.76**	**41**	P	**P**	**08 56 38.5**	**+0.7**
KDAK	**Kodiak Island**	**19.85**	**60**	P	**P**	**08 56 38.4**	**-0.4**
KDAK	**Kodiak Island**	**19.85**	**60**	P	**P**	**08 56 37.2**	**-1.6**
	comp=Z,11nm,0.6s,baz=281,slow=6.8,SNR=16						
SYI	**Shuyak Island**	**20.00**	**58**	P	**Pn**	**08 56 41.6**	**-0.6**
RSO	**Redoubt South**	**20.05**	**52**	P	**P**	**08 56 41.8**	**+0.6**
G19K	**Purcell Mounta**	**20.18**	**35**	P	**P**	**08 56 42.9**	**+0.6**
C18K	**Utukok River**	**20.38**	**26**	P	**P**	**08 56 45.4**	**+0.9**
C18K				IAmb	IAmb	08 56 46.2	
	comp=Z,4.3nm,0.7s						
CNPM	**Chipa Poot**	**20.68**	**55**	P	**P**	**08 56 48.2**	**+0.4**
E19K	**Redstone River**	**20.82**	**31**	P	**P**	**08 56 50.4**	**+1.1**
BRLK	**Bradley Lake**	**20.88**	**55**	P	**P**	**08 56 49.6**	**-0.4**
SKT	**Skwentna**	**20.93**	**48**		Pn	08 56 52.4	-0.7
SKT				IAmb	IAmb	08 56 57.2	
	comp=Z,6.7nm,0.8s						
CAST	**Castle Rocks**	**21.05**	**44**	P	**P**	**08 56 54.3**	**+2.5**
CAST				IAmb	IAmb	08 56 58.8	
	comp=Z,8.4nm,0.8s						
D19K	**Kuna River**	**21.16**	**28**	P	**P**	**08 56 53.5**	**+0.7**
D19K				IAmb	IAmb	08 56 56.8	
	comp=Z,6.1nm,0.8s						
IMAR	**Indian Mountai**	**21.31**	**37**	P	**P**	**08 56 53.9**	**-0.6**
KTH	**Kantishna Hill**	**21.59**	**44**	P	**P**	**08 56 59.5**	**+2.0**
G21K	**Allakaket**	**21.63**	**36**	P	**P**	**08 56 58.1**	**+0.2**
BPAW	**Bear Paw Mtn.**	**21.71**	**43**	P	**P**	**08 57 00.0**	**+1.1**
TRF	**Thorofare Moun**	**21.83**	**45**	P	**P**	**08 57 01.7**	**+1.3**
TRF				IAmb	IAmb	08 57 04.8	
	comp=Z,6.4nm,0.8s						
GHO	**Glory Hole Cre**	**22.10**	**50**	P	**P**	**08 57 03.6**	**+0.5**
GHO				IAmb	IAmb	08 57 08.5	
	comp=Z,4.2nm,0.7s						
MLY	**Manley**	**22.11**	**41**	P	**P**	**08 57 04.6**	**+1.5**
MLY				IAmb	IAmb	08 57 08.4	
	comp=Z,4.1nm,0.8s						
KNK	**Knik Glacier**	**22.27**	**51**	P	**P**	**08 57 06.3**	**+1.4**
KNK				IAmb	IAmb	08 57 17.7	
	comp=Z,8.2nm,1.2s						
SML	**Sawmill**	**22.39**	**50**	P	**P**	**08 57 06.8**	**+0.6**
NEA2	**Nenana**	**22.66**	**42**	P	**P**	**08 57 08.9**	**0.0**
I23K	**Minto, Yukon-K**	**22.70**	**41**	P	**P**	**08 57 09.8**	**+0.5**
I23K				IAmb	IAmb	08 57 14.8	
	comp=Z,5.4nm,1.1s						
B21K	**Ikpikpuk River**	**22.84**	**28**	P	**P**	**08 57 10.4**	**-0.4**
B21K				IAmb	IAmb	08 57 14.2	
	comp=Z,4.1nm,0.8s						
SCM	**Sheep Creek Mo**	**22.86**	**50**	P	**P**	**08 57 11.2**	**0.0**
DHY	**Denali Highway**	**23.04**	**46**	P	**P**	**08 57 12.8**	**-0.3**
DHY				IAmb	IAmb	08 57 17.3	
	comp=Z,3.5nm,0.6s						
MDM	**Murphy Dome**	**23.10**	**42**	P	**P**	**08 57 13.7**	**+0.1**
MDM				IAmb	IAmb	08 57 18.2	
	comp=Z,9.1nm,1.1s						
CCB	**Clear Creek Bu**	**23.20**	**42**	P	**P**	**08 57 13.9**	**-0.5**
CCB				IAmb	IAmb	08 57 18.5	
	comp=Z,4.7nm,0.6s						
H24K	**Noodor Dome**	**23.50**	**40**	P	**P**	**08 57 18.3**	**+0.8**
HDA	**Harding Lake**	**23.50**	**43**	P	**P**	**08 57 18.1**	**+0.6**
B22K	**Teshekpuk Lake**	**23.58**	**27**	P	**P**	**08 57 17.9**	**-0.3**
B22K				IAmb	IAmb	08 57 21.3	
	comp=Z,4.8nm,0.6s						
ILAR	**Eielson Array**	**23.61**	**42**	P	**P**	**08 57 17.3**	**-1.3**
	comp=Z,2.0nm,0.6s,baz=251,slow=7.8,SNR=30						
	comp=Z,2.0nm,0.6s						
TOLK	**Toolik Lake Re**	**23.91**	**32**	P	**P**	**08 57 21.5**	**0.0**
C23K	**Itkillik River**	**24.14**	**29**	P	**P**	**08 57 23.1**	**-0.3**
C23K				IAmb	IAmb	08 57 25.9	
	comp=Z,5.3nm,0.8s						
GLB	**Gilahina Butte**	**24.50**	**51**	P	**P**	**08 57 27.1**	**+0.2**
GLB				IAmb	IAmb	08 57 29.6	
	comp=Z,5.2nm,1.0s						
MENT	**Mentasta**	**24.67**	**47**	P	**P**	**08 57 28.9**	**+0.5**
SCRK	**Sand Creek**	**24.69**	**45**	P	**P**	**08 57 28.0**	**-0.7**
MCARA	**McCarthy VSAT**	**24.87**	**51**	P	**P**	**08 57 30.8**	**+0.6**
E25K	**Arctic Village**	**25.09**	**35**	P	**P**	**08 57 33.2**	**+1.1**
E25K				IAmb	IAmb	08 57 36.9	
	comp=Z,4.3nm,0.8s						
BMAR	**Burnt Mountain**	**25.23**	**37**	P	**P**	**08 57 34.5**	**+1.1**
D25K	**Kavik River**	**25.25**	**32**	P	**P**	**08 57 33.4**	**-0.2**
D25K				IAmb	IAmb	08 57 38.1	
	comp=Z,2.4nm,0.6s						
BARN	**Barnard Glacie**	**25.52**	**52**	P	**P**	**08 57 36.7**	**+0.4**
BARN				IAmb	IAmb	08 57 47.1	
	comp=Z,4.4nm,0.9s						
K27K	**Chicken**	**25.53**	**45**	P	**P**	**08 57 36.7**	**+0.6**
L27K	**Beaver Creek,**	**25.54**	**47**	P	**P**	**08 57 36.6**	**+0.3**
L27K				IAmb	IAmb	08 57 40.7	
	comp=Z,5.0nm,0.8s						
BCAR	**Beaver Creek A**	**25.56**	**47**	P	**P**	**08 57 36.8**	**+0.3**
LOGN	**Logan Glacier**	**25.84**	**53**	P	**P**	**08 57 39.2**	**0.0**
LOGN				IAmb	IAmb	08 57 51.8	
	comp=Z,6.7nm,1.0s						
DAWY	**Dawson**	**26.71**	**45**	P	**P**	**08 57 48.0**	**+1.1**
L29M	**L29M**	**27.22**	**47**	P	**P**	**08 57 53.0**	**+1.5**
L29M				IAmb	IAmb	08 58 05.1	
	comp=Z,3.7nm,1.1s						
HYT	**Haines Junctio**	**27.56**	**52**	P	**P**	**08 57 55.0**	**+0.4**
HYT				IAmb	IAmb	08 58 02.3	
	comp=Z,4.0nm,1.0s						
M30M	**Minto, Yukon**	**27.83**	**49**	P	**P**	**08 57 58.9**	**+1.9**
J30M	**Hart River**	**28.07**	**44**	P	**P**	**08 57 59.9**	**+0.8**
J30M				IAmb	IAmb	08 58 19.5	
	comp=Z,3.2nm,0.9s						
G31M	**Satah River**	**29.07**	**40**	P	**P**	**08 58 07.1**	**-0.8**
G31M				IAmb	IAmb	08 58 15.9	
	comp=Z,4.5nm,1.1s						
MDJ	**Mudanjiang**	**30.09**	**274**	P	**P**	**08 58 16.8**	**-0.3**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,380nm,6.9s						
H11N2	**WAKE ISLAND Hy**	**32.76**	**193**	T	T	09 33 46.5	
	baz=8.8,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**32.77**	**193**	T	T	09 33 40.5	
	baz=8.8,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**32.77**	**193**	T	T	09 33 39.3	
	baz=8.8,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**33.99**	**193**	T	T	09 35 10.6	
	baz=8.5,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**34.00**	**193**	T	T	09 35 12.7	
	baz=8.5,slow=76,SNR=9.9						
H11S2	**WAKE ISLAND Hy**	**34.00**	**193**	T	T	09 35 12.8	
	baz=8.5,slow=76,SNR=10						
YKA	**Yellowknife Ar**	**37.95**	**46**	P	**P**	**08 59 24.7**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=287,slow=8.2,SNR=5.4						
	comp=Z,0.4nm,0.5s						
NEW	**Newport**	**42.74**	**67**	P	**P**	**09 00 05.4**	**+0.6**
NEW				IAmb	IAmb	09 00 08.4	
	comp=Z,3.5nm,0.7s						
HHC	**Hu-ho-hao-te**	**43.22**	**281**	*eP*	**P**	**09 00 08.5**	**-0.4**
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,220nm,5.2s						
NVAR	**Mina Array Bea**	**47.81**	**79**	P	**P**	**09 00 43.8**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=294,slow=6.8,SNR=1.7						
	comp=Z,0.3nm,0.6s						
SPITS	**Spitsbergen Ar**	**49.31**	**354**	P	**P**	**09 00 55.8**	**-0.3**
	comp=Z,4.0nm,0.6s,baz=51,slow=6.6,SNR=12						
	comp=Z,4.0nm,0.6s						
PDAR	**Pinedale Array**	**50.25**	**69**	P	**P**	**09 01 03.0**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=309,slow=2.7,SNR=16						
	comp=Z,1.9nm,0.7s						
KURBB	**Kurchatov Arra**	**55.36**	**310**	P	**P**	**09 01 41.2**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=50,slow=6.9,SNR=12						
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**56.05**	**304**	P	**P**	**09 01 46.2**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=55,slow=6.3,SNR=15						
	comp=Z,0.7nm,0.4s						
ARCES	**ARCESS Array B**	**56.55**	**347**	P	**P**	**09 01 48.8**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=34,slow=6.6,SNR=5.0						
	comp=Z,2.3nm,0.8s						
SFJD	**Kangerlussuaq**	**56.57**	**19**	LR	LR	09 31 04.0	
	comp=Z,192nm,18.1s,baz=265,slow=41						
BVAR	**Borovoye Array**	**57.40**	**316**	P	**P**	**09 01 56.0**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=62,slow=7.7,SNR=10.0						
	comp=Z,1.9nm,0.3s						
PZH	**PanZhiHua**	**58.86**	**274**	P	**P**	**09 02 07.5**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,180nm,6.3s						
TXAR	**Lajitas Array**	**62.87**	**76**	P	**P**	**09 02 33.3**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=307,slow=5.5,SNR=26						
	comp=Z,0.4nm,0.3s						
BORG	**Borgarnes**	**62.91**	**7**	LR	LR	09 30 01.7	
	comp=Z,57nm,20.4s,baz=269,slow=36						
FINES	**FINESS Array B**	**64.00**	**344**	P	**P**	**09 02 40.1**	**-0.5**
	comp=Z,2.9nm,1.0s,baz=31,slow=16,SNR=1.8						
	comp=Z,2.9nm,1.0s						
AKTO	**Aktyubinsk**	**64.44

PJUM	**Juniper Ridge**	**0.73**	**123**			**Pb**	**08 54 27.5**	**+0.1**
CMPM	**Mikes Peak**	**0.73**	**2**			**Pb**	**08 54 27.5**	**0.0**
ARN	**Arnold Ranch**	**0.74**	**349**			**Pg**	**08 54 27.5**	**+0.4**
MHC	**Mount Hamilton**	**0.76**	**342**			**Pg**	**08 54 27.9**	**+0.4**
JJOM	**Saint Joseph's**	**0.77**	**319**			**Pg**	**08 54 27.7**	**0.0**
PSMM	**Smith Mountain**	**0.82**	**132**			**Pg**	**08 54 28.9**	**+0.2**
PHSB	**Hesperia Broad**	**0.83**	**163**			**Pg**	**08 54 29.2**	**+0.4**
CMMM	**Mount Mocho**	**0.84**	**352**			**Pb**	**08 54 29.4**	**0.0**
PDRM	**Domengine Ranc**	**0.84**	**110**			**Pg**	**08 54 29.4**	**+0.4**
PHPM	**Hope Ranch**	**0.88**	**137**			**Pb**	**08 54 29.4**	**-0.5**
MTOS	**Mt Oso, Westle**	**0.88**	**1**			**Pg**	**08 54 30.3**	**+0.5**
CMLM	**Mount Lewis**	**0.89**	**344**			**Pb**	**08 54 30.2**	**0.0**
CALM	**Calaveras Res.**	**0.90**	**337**			**Pb**	**08 54 30.3**	**-0.1**
PANM	**San Antonio Re**	**0.91**	**157**			**Pb**	**08 54 30.6**	**+0.1**
JSJM	**St Joseph**	**0.93**	**320**			**Pn**	**08 54 31.5**	**-0.1**
PWMM	**Westland Maint**	**0.94**	**101**			**Pg**	**08 54 31.3**	**+0.4**
JBMM	**Black Mountain**	**0.95**	**317**			**Pb**	**08 54 31.1**	**-0.1**
PPO	**Portuguese Can**	**0.96**	**142**			**Pb**	**08 54 31.4**	**+0.1**
PVCM	**Vineyard Canyo**	**0.96**	**136**			**Pb**	**08 54 31.0**	**-0.4**
PSTM	**Stockdale Moun**	**0.97**	**135**			**Pb**	**08 54 31.0**	**-0.5**
JPSM		**0.99**	**306**			**Pb**	**08 54 31.4**	**-0.4**
JFP	**Foothills Park**	**1.00**	**318**			**Pb**	**08 54 31.5**	**-0.4**
CSTL	**Corral Hollow**	**1.02**	**353**			**Pb**	**08 54 32.6**	**+0.2**
JSFB	**Stanford Teles**	**1.02**	**320**			**Pb**	**08 54 31.9**	**-0.5**
WENL	**Wente Vineyard**	**1.05**	**342**			**Pg**	**08 54 33.4**	**+0.4**
PWKM	**Work Ranch**	**1.05**	**140**			**Pb**	**08 54 32.6**	**-0.3**
JRSC	**Jasper Ridge**	**1.06**	**318**			**Pb**	**08 54 32.2**	**-0.7**
RAMR	**Ramage Ranch**	**1.06**	**158**			**Pb**	**08 54 32.7**	**-0.3**
PHAM	**Harlan Ranch**	**1.10**	**135**			**Pb**	**08 54 33.5**	**-0.2**
CNIC	**Niles Canyon**	**1.10**	**334**			**Pb**	**08 54 33.2**	**-0.5**
PKEM	**Kettleman Hill**	**1.15**	**119**			**Pg**	**08 54 35.4**	**+0.5**
TCHL	**Shandon**	**1.21**	**140**			**Pn**	**08 54 35.5**	**0.0**
CMOB	**Morgan Territo**	**1.24**	**343**			**Pg**	**08 54 37.9**	**+1.3**
MHDM	**Hidden Dam**	**1.27**	**67**			**Pn**	**08 54 34.8**	**-1.4**
SAC	**San Andreas**	**1.28**	**319**			**Pn**	**08 54 35.4**	**-1.0**
TSCN	**Private Proper**	**1.35**	**143**			**Pn**	**08 54 37.0**	**-0.4**
PBPM	**Bitterwater Pu**	**1.47**	**135**			**Pb**	**08 54 39.8**	**-0.1**
MCUB	**Copperopolis B**	**1.47**	**23**			**Pn**	**08 54 38.1**	**-1.0**
JPRM	**Presidio of Sa**	**1.48**	**323**			**Pn**	**08 54 37.6**	**-1.5**
CPIM	**Pinole Ridge**	**1.53**	**333**			**Pn**	**08 54 39.5**	**-0.4**
CMB	**Columbia Colle**	**1.61**	**28**	Pn		**Pn**	**08 54 40.5**	**-0.5**
CMB				IAML			08 55 05.8	
	comp=E,131nm,0.8s							
VOG	**Valley Oaks Go**	**1.61**	**100**	P		**Pn**	**08 54 41.4**	**+0.4**
	baz=283							
VOG				S		**Sb**	**08 55 02.2**	**-0.6**
	baz=283							
SMMC	**Simmler**	**1.71**	**139**	P		**Pn**	**08 54 42.3**	**-0.1**
	baz=323							
MCCM	**Marconi Confer**	**1.95**	**322**	Pn		**Pn**	**08 54 44.5**	**-1.1**
MCCM				IAML			08 55 22.0	
	comp=E,126nm,0.8s							
VES	**Vestal, Richgr**	**1.99**	**112**	P		**Pn**	**08 54 45.7**	**-0.4**
	baz=295							
VES				S		**Sn**	**08 55 11.0**	**0.0**
	baz=295							
MDPB	**Devils Postpil**	**2.08**	**60**			**Pn**	**08 54 48.0**	**+0.4**
MDPB				IAML			08 55 19.0	
	comp=E,134nm,0.4s							
MINS	**Minaret Summit**	**2.10**	**60**			**Pb**	**08 54 49.8**	**-1.2**
MMPM	**Mammoth Pass**	**2.10**	**61**			**Pb**	**08 54 50.6**	**-0.4**
MLIM	**Lincoln Peak**	**2.12**	**61**			**Pb**	**08 54 51.5**	**+0.1**
OMMB	**Old Mammoth Mi**	**2.12**	**62**			**Pn**	**08 54 48.8**	**+0.5**
OMMB				IAML			08 55 18.4	
	comp=N,122nm,0.3s							
OMMB				IAML			08 55 21.4	
	comp=E,107nm,0.9s							
PKM	**Mcpherson Peak**	**2.13**	**144**	P		**Pn**	**08 54 48.5**	**+0.1**
	baz=326							
PKM				S		**Sb**	**08 55 16.7**	**-1.2**
	baz=326							
MDYM	**Dry Creek**	**2.14**	**60**			**Pb**	**08 54 50.5**	**-1.0**
MMLB	**Mammoth Lakes**	**2.16**	**61**			**Pb**	**08 54 52.0**	**+0.1**
MCBM	**Casa Benchmark**	**2.21**	**62**			**Pb**	**08 54 53.2**	**+0.3**
LUL	**Lundy Lake**	**2.24**	**50**			**Pn**	**08 54 50.2**	**+0.3**
LUL						**Pb**	**08 54 54.6**	**+1.2**
BCW	**Bitter Crk WRg**	**2.30**	**136**			**Pn**	**08 54 51.2**	**+0.7**
BCW				IAML			08 55 40.1	
	comp=N,88nm,1.2s							
BCW				IAML			08 55 43.4	
	comp=E,103nm,0.9s							
MGNR	**McGee Canyon**	**2.43**	**60**			**Pn**	**08 54 53.7**	**+1.2**
BENR	**Benton**	**2.47**	**63**			**Pb**	**08 54 56.3**	**-0.9**
MCDM	**Chidago Canyon**	**2.50**	**67**			**Pb**	**08 54 57.9**	**+0.2**
ISA	**Isabella, Lake**	**2.52**	**111**			**Pn**	**08 54 53.9**	**+0.4**
ISA				IAML			08 55 40.6	
	comp=N,50nm,1.1s							
ISA	**Isabella, Lake**	**2.52**	**111**	P		**Pn**	**08 54 54.0**	**+0.5**
	baz=294							
ISA				S		**Sn**	**08 55 24.9**	**+0.8**
	baz=294							
ARVC	**Arvin**	**2.53**	**125**	P		**Pn**	**08 54 54.3**	**+0.7**
	baz=308							
ARVC				S		**Sb**	**08 55 27.0**	**-2.2**
	baz=308							
EMB	**Emerald Bay**	**2.55**	**22**			**Pn**	**08 54 54.7**	**+0.6**
EMB				IAML			08 55 43.3	
	comp=N,101nm,1.0s							
EMB				IAML			08 55 43.8	
	comp=E,82nm,1.2s							
CWC	**Cottonwood Cre**	**2.64**	**93**	P		**Pn**	**08 54 55.9**	**+0.6**
	baz=276							
CWC				S		**Sn**	**08 55 27.9**	**+0.6**
	baz=276							
ORV	**Oroville**	**2.93**	**358**			**Pn**	**08 54 59.5**	**+0.4**
EDW2	**Edwards Air Fo**	**3.24**	**121**	P		**Pn**	**08 55 03.8**	**+0.4**
	baz=305							
EDW2				S		**Sn**	**08 55 42.7**	**+0.8**
	baz=305							
GMN	**Gold Mountain**	**3.35**	**77**			**Pn**	**08 55 06.0**	**+0.9**
PAHR	**Pah Rah Range**	**3.45**	**26**			**Pn**	**08 55 07.0**	**+0.6**
PAHR				IAML			08 56 09.4	
	comp=N,24nm,2.5s							
PAHR				IAML			08 56 10.8	
	comp=E,37nm,1.5s							
GSC	**Goldstone, Bar**	**3.92**	**108**			**Pn**	**08 55 13.1**	**+0.4**
GSC				IAML			08 56 18.8	
	comp=N,14nm,2.0s							
GSC				IAML			08 56 32.6	
	comp=E,18nm,1.9s							
TPNV	**Topopah Spring**	**4.11**	**84**			**Pn**	**08 55 14.4**	**-1.0**
TPNV				IAML			08 56 48.3	
	comp=E,23nm,1.4s							
TPNV				IAML			08 56 48.3	
	comp=E,17nm,1.9s							
BAR	**Barrett**	**5.51**	**134**	Pn		**Pn**	**08 55 34.7**	**+0.1**
KSXB	**Camp Six Broad**	**5.56**	**340**	Pn		**Pn**	**08 55 34.8**	**-0.6**

*IDC **28** 09:16:15.3±1.6, 13°.72N×92°.18W, h0km, mb3.8/3, mbtmp3.7/6, ML3.3/3, Error ellipse: s-maj=41.2km s-min=20.4km az=35.0*
*MEX **28** 09:16:20.3±1.1, 13°.77N×92°.45W, h13km±41km, MD4.2*
*CATAC **28** 09:16:23.3±0.6, 14°.03N×92°.16W, h10km, ML4.0*
*NEIC **28** 09:16:24.0±2.9, 13°.97N±0°.06×92°.32W±0°.07, h38km±16km, mb4.2/19, Md4.2/24(MEX), Error ellipse: s-maj=11.0km s-min=6.0km az=50.0*
*GCG **28** 09:16:34.2±0.4, 14°.46N×91°.48W, h7km, MD4.3*

ISC 28 09:16:20.2±1.7, 13°.94N±0°.06×92°.28W±0°.04, h11km±9km, n84, σ1°.71/89, mb4.1/8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SULM	**Suchitepequez,**	**0.78**	**62**	*eP*	**Pn**	**09 16 38.2**	**+1.1**	
RTAL	**Retalhuleu**	**0.81**	**44**		**Pg**	**09 16 37.2**	**+1.3**	
RTAL	**Retalhuleu**	**0.81**	**44**	*i* P	**Pg**	**09 16 37.0**	**+1.2**	
RTAL				*i* S	**Sn**	**09 16 49.8**	**+0.2**	
RTAL	**Retalhuleu**	**0.81**	**44**	*i* P	**Pg**	**09 16 37.2**	**+1.3**	
RTAL				*i* S	**Sg**	**09 16 45.0**	**-1.5**	
RTAL				IAML		09 16 51.0		
	comp=Z,5μm,1.0s							
SMCA	**Catarina**	**0.93**	**12**	*i* P	**Pg**	**09 16 38.8**	**+0.6**	
SMCA				IAML		09 17 11.3		
	comp=Z,1μm,1.0s							
THIG		**0.96**	**1**		**Pg**	**09 16 38.4**	**-0.3**	
THIG					**Sg**	**09 16 52.6**	**+1.2**	
THIG		**0.96**	**1**	*eP*	**Pg**	**09 16 38.4**	**-0.3**	
THIG				*eS*	**Sg**	**09 16 52.6**	**+1.2**	
STG3	**Santiaguito 3,**	**1.03**	**42**	*eP*	**Pg**	**09 16 40.6**	**+0.6**	
SMSP	**San Marcos**	**1.14**	**25**	*i* P	**Pg**	**09 16 41.5**	**-0.5**	
SMSP				*i* S	**Sg**	**09 16 56.6**	**-0.4**	
SMSP	**San Marcos**	**1.14**	**25**	*i* P	**Pg**	**09 16 41.6**	**-0.5**	
SMSP				IAML		09 17 02.4		
	comp=Z,4μm,1.0s							
CHUJ	**Union Juarez**	**1.16**	**8**	*eP*	**Pg**	**09 16 41.1**	**-1.4**	
CHUJ				*eS*	**Sg**	**09 16 57.8**	**+0.1**	
PATR	**El Naranjo**	**1.17**	**2**	*eP*	**Pb**	**09 16 41.1**	**-1.5**	
PATR				*eS*	**Sg**	**09 16 58.5**	**+0.4**	
SOKI	**Kika Raxquin**	**1.22**	**44**	*i* P	**Pg**	**09 16 43.3**	**-0.4**	
SOKI				*i* S	**Sg**	**09 16 58.7**	**-0.9**	
SOKI				IAML		09 17 16.0		
	comp=Z,1μm,1.0s							
PAVE	**Pavencul**	**1.25**	**4**	*eP*	**Pb**	**09 16 42.3**	**-1.6**	
PAVE				*eS*	**Sb**	**09 17 00.4**	**+0.2**	
FUG	**Fuego 3**	**1.48**	**70**	*eP*	**Pn**	**09 16 46.9**	**0.0**	
HUEH	**Huehuetenango**	**1.56**	**29**		**Pn**	**09 16 48.8**	**+0.7**	
HUEH	**Huehuetenango**	**1.56**	**29**	*i* P	**Pn**	**09 16 49.0**	**+0.9**	
HUEH				*i* S	**Sb**	**09 17 10.4**	**+1.3**	
HUEH	**Huehuetenango**	**1.56**	**29**	*i* P	**Pn**	**09 16 49.2**	**+1.1**	
HUEH				IAML		09 16 49.7		
	comp=Z,4μm,1.0s							
PCG	**Pacaya**	**1.68**	**74**	*eP*	**Pn**	**09 16 51.2**	**+1.5**	
QUIS	**Sacapulas**	**1.77**	**40**	*i* P	**Pn**	**09 16 52.1**	**+1.3**	
QUIS				IAML		09 16 54.6		
	comp=Z,870nm,1.0s							
GCG4	**OSOP**	**1.81**	**69**	*i* P	**Pn**	**09 16 51.8**	**+0.4**	
GCG4				IAML		09 17 24.2		
	comp=Z,1μm,1.0s							
PCIG		**1.98**	**333**		Pn	09 16 51.5	-2.1	
PCIG					**Sn**	**09 17 15.8**	**-2.6**	
PCIG		**1.98**	**333**	*eP*	Pn	09 16 51.5	-2.1	
PCIG				*eS*	**Sn**	**09 17 15.8**	**-2.6**	
NBG	**Las Nubes**	**1.98**	**71**	*eP*	**Pn**	**09 16 55.3**	**+1.4**	
GUNB	**GUNB**	**1.98**	**71**	*i* P	**Pn**	**09 16 54.2**	**+0.3**	
GUNB				IAML		09 17 30.3		
	comp=Z,710nm,1.0s							
CCIG	**Comitan**	**2.33**	**3**	Pn	**Pn**	**09 17 01.0**	**+2.4**	
CCIG	**Comitan**	**2.33**	**3**	*eP*	**Pn**	**09 17 00.7**	**+2.1**	
CCIG				*eS*	**Sn**	**09 17 30.8**	**+3.3**	
CCIG	**Comitan**	**2.33**	**3**	*i* P	**Pn**	**09 17 01.7**	**+3.0**	
CCIG				IAML		09 17 02.2		
	comp=Z,690nm,1.0s							
CCIG				*i* S	**Sn**	**09 17 29.4**	**+2.0**	
AVCB	**Coban**	**2.37**	**50**	*i* P	**Pn**	**09 17 02.2**	**+3.1**	
AVCB				IAML		09 17 53.0		
	comp=Z,1μm,1.0s							
NUBE	**Las Nubes**	**2.42**	**91**	*i* P	**Pn**	**09 16 59.2**	**-0.7**	
NUBE				*i* S	**Sn**	**09 17 31.8**	**+2.2**	
NUBE				IAML		09 17 35.0		
	comp=Z,310nm,1.0s							
CEVE	**Cerro Verde**	**2.58**	**92**	*i* P	**Pn**	**09 17 02.0**	**-0.1**	
CEVE				IAML		09 17 44.9		
	comp=Z,490nm,1.0s							
JAYA	**Jayaque - finc**	**2.76**	**96**	*i* P	**Pn**	**09 17 06.7**	**+2.2**	
JAYA				IAML		09 17 47.3		
	comp=Z,530nm,1.0s							
CEDA	**San Andres**	**2.80**	**92**	*i* P	**Pn**	**09 17 07.6**	**+2.6**	
CEDA				IAML		09 17 31.0		
	comp=Z,2μm,1.0s							
MTO3	**Montecristo**	**2.87**	**80**	Pn	**Pn**	**09 17 05.5**	**-0.5**	
MTO3	**Montecristo**	**2.87**	**80**	*i* P	**Pn**	**09 17 05.2**	**-0.8**	
MTO3				IAML		09 17 49.6		
	comp=Z,150nm,1.0s							
PMON	**Piamonte**	**2.89**	**94**	*i* P	**Pn**	**09 17 07.6**	**+1.4**	
PMON				IAML		09 17 55.1		
	comp=Z,590nm,1.0s							
ESQI	**Esquipulas**	**2.91**	**77**		**Pn**	**09 17 06.3**	**-0.2**	
ESQI	**Esquipulas**	**2.91**	**77**	*i* P	**Pn**	**09 17 08.4**	**+1.9**	
ESQI				IAML		09 18 21.2		
	comp=Z,320nm,1.0s							
SNET	**Serv Nac Est T**	**2.97**	**94**		**Pn**	**09 17 10.1**	**+2.7**	
SNET	**Serv Nac Est T**	**2.97**	**94**	*i* P	**Pn**	**09 17 10.3**	**+3.0**	
SNET				IAML		09 17 55.5		
	comp=Z,400nm,1.0s							
SEMO	**Seminario San**	**2.98**	**94**	*i* P	**Pn**	**09 17 09.7**	**+2.3**	
SEMO				IAML		09 18 27.0		
	comp=Z,3μm,1.0s							
LOMA	**Loma Larga**	**3.03**	**95**	*i* P	**Pn**	**09 17 10.7**	**+2.5**	
LOMA				IAML		09 18 03.9		
	comp=Z,260nm,1.0s							
SJTE	**Alcalda de S**	**3.19**	**95**	*i* P	**Pn**	**09 17 13.8**	**+3.4**	
SJTE				IAML		09 17 58.1		
	comp=Z,140nm,1.0s							
PAVA	**Las Pavas**	**3.25**	**94**	*i* P	**Pn**	**09 17 10.2**	**-1.0**	
PAVA				IAML		09 18 00.9		
	comp=Z,270nm,1.0s							
COEG	**Centro de Oper**	**3.31**	**95**	*i* P	**Pn**	**09 17 11.4**	**-0.7**	
COEG				IAML		09 18 20.2		
	comp=Z,120nm,1.0s							
SARH	**Santa Rosa de**	**3.51**	**76**	*i* P	**Pb**	**09 17 20.7**	**-1.6**	
PETF	**Flores**	**3.77**	**38**	Pn	**Pn**	**09 17 21.0**	**+2.8**	
PETF	**Flores**	**3.77**	**38**	*i* P	Pn	09 17 23.7	+5.5	
PACA	**Pacayal**	**3.87**	**96**	*i* P	**Pn**	**09 17 22.6**	**+2.8**	
PACA				IAML		09 18 38.9		
	comp=Z,640nm,1.0s							
CMIG	**Matias Romero**	**4.02**	**322**	Pn	Pn	09 17 20.4	-1.2	
	comp=Z,0.8nm,0.3s,baz=157,slow=15,SNR=12							
CMIG				Sn	**Sn**	**09 18 15.6**	**+6.8**	
	comp=Z,2.8nm,0.3s,baz=115,slow=8.1,SNR=4.1							
	comp=Z,5.3nm,0.7s							
HUIG	**Huatulco**	**4.13**	**297**	*eP*	Pn	09 17 17.7	-5.5	
HUIG				*eS*	Sn	09 18 00.2	-11	
TGUH	**Tegucigalpa,Un**	**4.86**	**88**		**Pn**	**09 17 36.1**	**+2.8**	
TXIG	**Tlaxiaco**	**6.23**	**303**		Pn	09 17 51.5	-0.9	
TXIG					**Sn**	**09 19 04.5**	**+0.8**	
TXIG	**Tlaxiaco**	**6.23**	**303**	*eP*	Pn	09 17 51.5	-0.9	
TXIG				*eS*	**Sn**	**09 19 04.5**	**+0.8**	
TLIG	**Tlapa**	**7.05**	**302**	Pn	**Pn**	**09 18 04.1**	**+0.7**	
HZTE	**Horizontes, Gu**	**7.27**	**115**	*i* P	Pn	09 18 14.6	+8.2	
TEIG	**Tepich**	**7.33**	**31**	Pn	**Pn**	**09 18 08.2**	**+1.0**	
TEIG	**Tepich**	**7.33**	**31**	Pn	**Pn**	**09 18 07.2**	**+0.1**	
	comp=Z,27nm,0.3s,baz=165,slow=4.0,SNR=22							
TEIG				Sn	**Sn**	**09 19 31.4**	**+1.0**	
	baz=219,slow=18							
ORTG	**Ortega, Santa**	**7.55**	**117**		**Pn**	**09 18 10.2**	**-0.1**	
ORTG	**Ortega, Santa**	**7.55**	**117**	*i* P	Pn	09 18 18.3	+7.9	
JTS	**Las Juntas de**	**8.03**	**116**	Pn	Pn	09 18 11.4	-5.4	
	comp=Z,0.5nm,0.3s,baz=300,slow=20,SNR=1.6							
JTS				Lg	Lg	09 20 24.7		
	comp=Z,0.3nm,0.3s,baz=57,slow=20,SNR=4.3							
	comp=Z,4.7nm,0.7s							
RIMA	**Rio Macho**	**9.22**	**116**		**Pn**	**09 18 34.6**	**+1.3**	
SAND	**Sanderson**	**18.35**	**332**	P	**Pn**	**09 20 34.8**	**0.0**	
SAND				IAmb	IAmb	09 20 39.5		
	comp=Z,4.9nm,1.1s							
TXAR	**Lajitas Array**	**18.60**	**327**	P	**P**	**09 20 39.0**	**+1.3**	
TXAR	**Lajitas Array**	**18.60**	**327**	P	**P**	**09 20 37.5**	**-0.1**	
	baz=148,slow=9.7,SNR=13							
	comp=Z,1.4nm,0.8s							
TX31	**Lajitas Ar. Si**	**18.60**	**327**	P	**P**	**09 20 38.4**	**+0.7**	
SGCY	**Sterling City**	**19.64**	**337**		**P**	**09 20 48.7**	**-0.3**	
SGCY				IAmb	IAmb	09 20 49.9		
	comp=Z,5.9nm,0.8s							
MNHN	**Monahans**	**19.82**	**333**	P	**P**	**09 20 51.2**	**+0.3**	
MNHN				IAmb	IAmb	09 20 52.8		
	comp=Z,11nm,0.7s							
ODSA	**Odessa**	**20.39**	**334**		**P**	**09 20 57.1**	**-0.1**	
ODSA				IAmb	IAmb	09 20 58.3		
	comp=Z,11nm,0.8s							
SN01	**Snyder 1**	**20.41**	**339**	P	**P**	**09 20 56.9**	**-0.4**	
SN01				IAmb	IAmb	09 21 02.0		
	comp=Z,8.1nm,0.7s							
APMT	**Aspermont**	**20.58**	**341**	IAmb	IAmb	09 21 02.7		
	comp=Z,5.0nm,0.8s							
POST	**Post**	**20.82**	**338**	P	**P**	**09 21 01.2**	**-0.5**	
POST				IAmb	IAmb	09 21 01.9		
	comp=Z,7.1nm,0.8s							
DKNS	**Dickens**	**21.15**	**340**	IAmb	IAmb	09 21 09.1		
	comp=Z,4.6nm,0.8s							
W35A	**Tecumseh**	**21.53**	**350**	P	**P**	**09 21 07.6**	**-1.7**	
W35A				IAmb	IAmb	09 21 08.6		
	comp=Z,9.9nm,0.7s							
SMWD	**Samnorwood**	**22.27**	**343**	P	**P**	**09 21 17.3**	**0.0**	
SMWD				IAmb	IAmb	09 21 18.7		
	comp=Z,21nm,0.7s							
AMTX	**Amarillo**	**22.52**	**339**	P	**P**	**09 21 19.0**	**-1.1**	
RTBA	**Rita Blanca**	**24.29**	**339**	P	**P**	**09 21 37.4**	**-0.4**	
RTBA				IAmb	IAmb	09 21 44.9		
	comp=Z,7.4nm,1.2s							
ANMO	**Albuquerque**	**24.52**	**331**	P	**P**	**09 21 39.4**	**-0.6**	
ANMO				IAmb	IAmb	09 21 41.8		
	comp=Z,8.8nm,1.5s							
NVAR	**Mina Array Bea**	**33.55**	**321**	P	**P**	**09 23 00.4**	**+0.1**	
	comp=Z,0.9nm,0.7s,baz=131,slow=8.8,SNR=8.6							
	comp=Z,0.9nm,0.7s							
F10A	**Beach Ranch, E**	**38.24**	**332**	P	**P**	**09 23 39.4**	**-0.9**	
F10A				IAmb	IAmb	09 24 09.0		
	comp=Z,4.2nm,1.1s							
YKA	**Yellowknife Ar**	**51.02**	**347**	P	P	09 25 19.6	-2.3	
	comp=Z,1.7nm,0.7s,baz=152,slow=7.2,SNR=28							
YKA				PcP	**PcP**	**09 26 35.9**	**-1.9**	
	comp=Z,0.5nm,0.8s,baz=144,slow=3.9,SNR=6.2							
	comp=Z,1.7nm,0.7s							
ILAR	**Eielson Array**	**62.79**	**337**	P	P	09 26 43.3	-2.1	
	comp=Z,0.7nm,0.8s,baz=129,slow=4.9,SNR=11							
	comp=Z,0.7nm,0.8s							
EKA	**Eskdalemuir Ar**	**78.17**	**36**	P	P	09 28 14.6	-4.9	
	comp=Z,2.4nm,0.8s,baz=275,slow=7.7,SNR=2.6							
CMAR	**Chiang Mai Arr**	**145.96**	**341**	PKPbc	**PKPdf**	**09 35 57.9**	**-2.3**	
	comp=Z,3.0nm,0.7s,baz=335,slow=3.8,SNR=13							

*SOME **28** 09:28:29.8, 43°.42N×69°.58E*
*NNC **28** 09:28:33.7±1.0, 43°.64N×69°.70E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=5.9km s-min=4.5km az=76.0, Suspected Mining explosion.*
*KRNET **28** 09:28:34.1±0.1, 43°.68N×69°.78E, mb2.5*

ISC 28 09:28:36.9±2.9, 43°.64N±0°.09×69°.8E±0°.2, h0km, n16, σ0°.88/24, 13C-3D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KK31	**Karatay Array**	**0.74**	**136**	⇑P	**Pg**	**09 28 49.6**		**-1.5**
	0.8nm,0.3s,baz=309,slow=17,SNR=96							
KK31				⇓S	**Sg**	**09 29 00.4**		**-0.2**
	67nm,0.8s,baz=303,slow=27,SNR=116							
KKAR	**Karatay Array**	**0.74**	**136**	⇑*i*P	**Pg**	**09 28 49.4**		**-1.7**
	baz=37							
KKAR				⇑*i*S	**Sg**	**09 29 00.6**		**-0.1**
	baz=37							
TRKS	**Terek-Say**	**2.33**	**155**	⇑*i*P	**Pn**	**09 29 17.6**		**+1.0**
	baz=55							
TRKS				⇑*i*S	**Sb**	**09 29 49.2**		**+0.1**
	baz=55							
ARK	**Arkit**	**2.43**	**138**	⇑*e*P	**Pn**	**09 29 18.0**		**0.0**
	baz=39							
ARK				⇑*e*S	**Sn**	**09 29 49.9**		**+1.5**
	baz=39							
MRKS	**Merke**	**2.65**	**108**	Pg	**Pn**	**09 29 22.4**		**+1.4**
	2.9nm,0.5s							
MRKS				Lg	Lg	09 30 00.2		
	14nm,0.4s							
EKS2	**Erkin-Say**	**3.06**	**107**	⇑*e*P	**Pn**	**09 29 26.7**		**0.0**
	baz=8.0							
EKS2				⇑*i*S	**Sn**	**09 30 05.0**		**+0.9**
	baz=8.0							
AML	**Almayashu**	**3.23**	**116**	⇓*i*P	**Pn**	**09 29 29.2**		**0.0**
	baz=17							
AML				⇓*i*S	**Sn**	**09 30 09.4**		**+0.9**
	baz=17							
ARSB	**Arslanbob**	**3.29**	**134**	⇑*e*P	**Pn**	**09 29 30.2**		**+0.3**
	baz=34							
ARSB				⇑*e*S	**Sn**	**09 30 11.1**		**+1.3**
	baz=34							
ARLS	**Aral**	**3.77**	**117**	⇑*e*P	**Pn**	**09 29 36.9**		**+0.5**
	baz=17							
ARLS				⇑*e*S	**Sn**	**09 30 22.5**		**+0.9**
	baz=17							
KRBS	**Karabastau**	**4.26**	**87**	Pg	**Pb**	**09 29 52.5**		**-0.2**
	2.2nm,0.4s							
KRBS				Lg	Lg	09 30 52.7		
	4.0nm,0.5s							
DGS	**Degeres**	**4.36**	**93**	Pg	**Pb**	**09 29 53.5**		**-1.0**
	1.9nm,0.5s							
DGS				Lg	Lg	09 30 54.6		
	10.0nm,0.7s							
KST	**Kastek**	**4.53**	**95**	Pg	**Pb**	**09 29 58.0**		**+0.7**
	1.2nm,0.2s							
KST				Lg	Lg	09 31 01.6		
	8.9nm,0.5s							
KUU	**Kurty**	**4.74**	**85**	Pg	**Pb**	**09 30 00.3**		**-0.5**
	1.0nm,0.3s							
KUU				Lg	Lg	09 31 05.7		
	11nm,0.4s							
KTBS	**Karatobe**	**4.99**	**87**	Pg	**Pb**	**09 30 05.4**		**+0.3**
	2.1nm,0.7s							
KTBS				Lg	Lg	09 31 13.9		
	8.6

FIA0				MSG			09 30 12.7		
	comp=Z,2.8nm,0.1s								
FINES	**FINESS Array B**	**2.01 336**		Pg		**Pb**	**09 29 43.1**	**-1.3**	
	comp=Z,0.5nm,0.3s,baz=156,slow=16,SNR=38								
FINES				Lg		Lg	09 30 11.3		
	comp=Z,1.0nm,0.3s,baz=160,slow=29,SNR=26								
FIA1	**FINESS Array S**	**2.02 336**	*e*P			**Pb**	**09 29 43.7**	**-0.7**	
FIA1			*e*SB			**Sb**	**09 30 10.0**	**0.0**	
EE01	**Perakula, Nova**	**2.18 261**	*e*P			**Pn**	**09 29 45.6**	**+1.1**	
EE01			*e*PB			**Pb**	**09 29 46.5**	**-0.8**	
EE01			*e*SB			**Sb**	**09 30 14.8**	**-0.1**	
MTSE	**Matsula**	**2.25 248**	*e*P			**Pb**	**09 29 47.6**	**-0.9**	
MTSE			*e*S			**Sb**	**09 30 15.9**	**-0.9**	
MTSE	**Matsula**	**2.25 248**	*e*P			**Pb**	**09 29 47.8**	**-0.7**	
MTSE	**Matsula**	**2.25 248**	*e*PB			**Pb**	**09 29 47.6**	**-0.9**	
MTSE			*e*SB			**Sb**	**09 30 16.0**	**-0.9**	
KAF	**Kangasniemi**	**2.60 344**	*e*PB			**Pb**	**09 29 53.8**	**-0.6**	
RAF	**Rauma**	**3.32 298**	*e*P			**Pn**	**09 30 02.1**	**+2.1**	
RAF				AML		AML	09 30 31.1		
	comp=E,4.0nm,0.7s								
RAF				AML		AML	09 30 50.0		
	comp=N,3.4nm,0.6s								
RAF				AML		AML	09 31 32.4		
	comp=Z,5.4nm,0.7s								
RAF	**Rauma**	**3.32 298**	*e*P			**Pn**	**09 30 02.1**	**+2.1**	
HFS	**Hagfors**	**7.12 280**	Pn			**Pn**	**09 30 53.9**	**+1.5**	
	comp=Z,0.2nm,0.3s,baz=96,slow=12,SNR=1.4								
	comp=Z,7.6nm,1.2s								
NOA	**NORSAR Array B**	**8.35 287**	Pn			**Pn**	**09 31 08.2**	**-1.0**	
	baz=97,slow=9.1,SNR=1.3								
	comp=Z,0.2nm,0.6s								
ARCES	**ARCESS Array B**	**10.00 355**	Pn			**Pn**	**09 31 30.6**	**-1.1**	
	baz=172,slow=13,SNR=7.8								
	comp=Z,2.2nm,0.8s								

NEIC ***28*** *09:35:19.1±2.1, 19°.22N±0°.03×68°.39W±0°.03, h2km±5km, ML3.4/24, Md3.1/15(RSPR), Error ellipse: s-maj=5.0km s-min=2.3km az=47.0*
SDD ***28*** *09:35:21.8±2.0, 19°.16N×68°.40W, h20km±43km, MD3.6, ML3.2, MW3.6*
RSPR ***28*** *09:35:22.9, 19°.10N×68°.48W, h4km±3km, MD3.1/15*
OSPL ***28*** *09:35:23.1±3.1, 19°.08N×68°.35W, h25km±17km, ML3.0*

ISC 28 09:35:20.8±1.2, 19.13N±0.05×68.40W±0.02, h9km±9km, n61, σ0.86/80, 24C-12D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
						Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.61 178**		⇓*e*P		**Pg**	**09 35 32.8**	**+0.2**	
PCDR	**Punta Cana, DR**	**0.61 178**		*e*S		**Sb**	**09 35 42.3**	**0.0**	
PCDR	**Punta Cana, DR**	**0.61 178**				**Pg**	**09 35 32.8**	**+0.2**	
PCDR						**Sb**	**09 35 42.3**	**0.0**	
PCDR	**Punta Cana, DR**	**0.61 178**		IAML			09 35 45.1		
	comp=N,1μm,0.4s								
PCDR	**Punta Cana, DR**	**0.61 178**		⇓*e*Pg		**Pg**	**09 35 32.8**	**+0.2**	
PCDR				⇓*e*Sg		**Sb**	**09 35 42.4**	**+0.2**	
PCDR				IAML			09 35 45.0		
	comp=N,1μm,0.5s								
PCDR				IAML			09 35 52.3		
	comp=E,604nm,0.4s								
PCDR	**Punta Cana, DR**	**0.61 178**		⇓*i*P		**Pg**	**09 35 32.7**	**+0.2**	
PCDR				*e*S		**Sg**	**09 35 40.2**	**-0.3**	
PCDR				IAML			09 35 47.5		
	comp=Z,822nm,0.5s								
MIDR	**Miches**	**0.63 257**		⇑*e*Pg		**Pg**	**09 35 31.7**	**-1.2**	
MIDR				⇑*e*Sg		**Sg**	**09 35 42.1**	**+0.9**	
MIDR				IAML			09 35 42.3		
	comp=E,840nm,0.2s								
MIDR				IAML			09 35 48.5		
	comp=N,544nm,0.2s								
SMDR	**Samana, DR**	**0.76 283**		⇑*e*Pg		**Pg**	**09 35 35.2**	**-0.2**	
SMDR				⇓*e*Sg		**Sg**	**09 35 46.5**	**+1.1**	
SMDR				IAML			09 35 54.8		
	comp=N,520nm,0.5s								
SMDR				IAML			09 35 56.4		
	comp=E,415nm,0.2s								
HATOM	**Hato Mayor del**	**0.99 250**		⇑*e*Pg		**Pb**	**09 35 38.3**	**-1.8**	
HATOM				⇓*e*Sg		**Sb**	**09 35 53.0**	**-0.2**	
HATOM				IAML			09 35 58.9		
	comp=E,200nm,0.2s								
HATOM				IAML			09 35 59.5		
	comp=N,241nm,0.2s								
SADR	**Isla Saona**	**0.99 201**		⇑*e*Pg		**Pb**	**09 35 39.3**	**-0.9**	
SADR				⇑*e*Sg		**Sg**	**09 35 53.4**	**+0.6**	
SADR				IAML			09 36 00.9		
	comp=E,463nm,0.6s								
SADR				IAML			09 36 03.0		
	comp=N,822nm,0.5s								
IDE	**Isla Desecheo**	**1.15 130**		⇑*e*P		**Pb**	**09 35 41.1**	**-1.6**	
IDE	**Isla Desecheo**	**1.15 130**		*e*S		**Sb**	**09 35 57.8**	**0.0**	
IDE	**Isla Desecheo**	**1.15 130**				**Pb**	**09 35 41.1**	**-1.6**	
IDE						**Sb**	**09 35 57.8**	**0.0**	
AGPR	**Aguadilla, PR**	**1.39 118**		⇑*e*P		**Pn**	**09 35 45.9**	**-0.4**	
AGPR	**Aguadilla, PR**	**1.39 118**		*e*S		**Sg**	**09 36 06.2**	**+0.8**	
AGPR	**Aguadilla, PR**	**1.39 118**				**Pn**	**09 35 45.9**	**-0.4**	
AGPR						**Sg**	**09 36 06.2**	**+0.8**	
AGPR	**Aguadilla, PR**	**1.39 118**		IAML			09 36 08.7		
	comp=N,602nm,0.2s								
AGPR				IAML			09 36 13.7		
	comp=E,678nm,0.3s								
AGPR	**Aguadilla, PR**	**1.39 118**		⇑*e*Pg		**Pn**	**09 35 46.7**	**+0.4**	
AGPR				⇓*e*Sg		**Sn**	**09 36 04.6**	**-0.2**	
AGPR				IAML			09 36 13.5		
	comp=E,641nm,0.2s								
AGPR				IAML			09 36 16.9		
	comp=N,494nm,0.3s								
AGPR	**Aguadilla, PR**	**1.39 118**		*i* P		**Pn**	**09 35 46.7**	**+0.4**	
AGPR				*e*S		**Sb**	**09 36 05.2**	**+0.5**	
AGPR				IAML			09 36 15.6		
	comp=Z,280nm,0.2s								
PRSN	**Puerto Rico Se**	**1.50 127**		⇓*e*P		**Pn**	**09 35 48.7**	**+0.9**	
PRSN	**Puerto Rico Se**	**1.50 127**		*e*S		**Sn**	**09 36 07.6**	**+0.1**	
PRSN	**Puerto Rico Se**	**1.50 127**				**Pn**	**09 35 48.7**	**+0.9**	
PRSN						**Sn**	**09 36 07.6**	**+0.1**	
LSP	**Las Mesas**	**1.56 127**		⇑*e*P		**Pn**	**09 35 47.9**	**-0.9**	
LSP	**Las Mesas**	**1.56 127**				**Pn**	**09 35 47.9**	**-0.9**	
SDD	**Santo Domingo**	**1.58 245**		⇑*e*P		**Pn**	**09 35 48.7**	**-0.3**	
SDD	**Santo Domingo**	**1.58 245**		*e*S		**Sn**	**09 36 08.2**	**-1.3**	
SDD	**Santo Domingo**	**1.58 245**				**Pn**	**09 35 48.7**	**-0.3**	
SDD						**Sn**	**09 36 08.2**	**-1.3**	
SDD	**Santo Domingo**	**1.58 245**		⇑*i* P		**Pn**	**09 35 49.6**	**+0.7**	
SDD				*e*S		**Sn**	**09 36 09.4**	**-0.2**	
CRPR	**Cabo Rojo, PR**	**1.66 132**		⇓*e*P		**Pn**	**09 35 48.9**	**-1.1**	
CRPR	**Cabo Rojo, PR**	**1.66 132**		*e*S		**Sb**	**09 36 12.4**	**0.0**	
CRPR	**Cabo Rojo, PR**	**1.66 132**				**Pn**	**09 35 48.9**	**-1.1**	
CRPR						**Sb**	**09 36 12.4**	**0.0**	
CRPR	**Cabo Rojo, PR**	**1.66 132**		⇑*e*Pg		**Pn**	**09 35 51.1**	**+1.1**	
CRPR				⇓*e*Sg		**Sb**	**09 36 12.5**	**0.0**	
CRPR				IAML			09 36 17.9		
	comp=E,234nm,0.3s								
CRPR				IAML			09 36 18.6		
	comp=N,303nm,0.3s								
CRPR	**Cabo Rojo, PR**	**1.66 132**		⇑*i* P		**Pn**	**09 35 49.2**	**-0.8**	
CRPR				*e*S		**Sn**	**09 36 11.7**	**+0.3**	
CRPR				IAML			09 36 26.4		
	comp=Z,384nm,0.5s								
MLPR	**Magueyes Islan**	**1.73 132**		⇓*e*P		**Pn**	**09 35 49.9**	**-1.1**	
MLPR	**Magueyes Islan**	**1.73 132**		*e*S		**Sn**	**09 36 13.2**	**0.0**	
MLPR	**Magueyes Islan**	**1.73 132**				**Pn**	**09 35 49.9**	**-1.1**	
MLPR						**Sn**	**09 36 13.2**	**0.0**	
MLPR	**Magueyes Islan**	**1.73 132**		IAML			09 36 19.2		
	comp=E,271nm,0.3s								
AOPR	**Arecibo Observ**	**1.74 116**		⇑*e*P		**Pn**	**09 35 51.5**	**+0.3**	
AOPR	**Arecibo Observ**	**1.74 116**		*e*S		**Sb**	**09 36 15.0**	**0.0**	
AOPR	**Arecibo Observ**	**1.74 116**				**Pn**	**09 35 51.5**	**+0.3**	
AOPR						**Sb**	**09 36 15.0**	**0.0**	
AOPR	**Arecibo Observ**	**1.74 116**		⇑*e*Pg		**Pn**	**09 35 51.8**	**+0.5**	
AOPR				⇑*e*Sg		**Sb**	**09 36 14.9**	**-0.1**	
AOPR				IAML			09 36 20.5		
	comp=E,1μm,0.3s								
AOPR				IAML			09 36 27.3		
	comp=N,668nm,0.5s								
LOSC1	**San Cristbal**	**1.77 246**		*i* P		**Pn**	**09 35 52.9**	**+1.3**	
LOSC1				*e*S		**Sg**	**09 36 18.1**	**+0.5**	
GBPR	**Guanica, Bosqu**	**1.84 128**		⇓*e*P		**Pn**	**09 35 54.1**	**+1.5**	
GBPR	**Guanica, Bosqu**	**1.84 128**				**Pn**	**09 35 54.1**	**+1.5**	
OBIP	**Obispado Ponce**	**2.01 122**		⇓*e*P		**Pn**	**09 35 55.5**	**+0.6**	
OBIP	**Obispado Ponce**	**2.01 122**		*e*S		**Sb**	**09 36 22.1**	**-0.7**	
OBIP	**Obispado Ponce**	**2.01 122**				**Pn**	**09 35 55.5**	**+0.6**	
OBIP						**Sb**	**09 36 22.1**	**-0.7**	
OBIP	**Obispado Ponce**	**2.01 122**		IAML			09 36 25.8		
	comp=N,320nm,0.7s								
OBIP				IAML			09 36 28.4		
	comp=E,332nm,0.6s								
ABDR	**Alto Bandera**	**2.13 262**		⇑*e*Pg		**Pn**	**09 35 58.2**	**+1.3**	
ABDR				⇑*e*Sg		**Sb**	**09 36 27.3**	**+0.8**	
ABDR				IAML			09 36 39.3		
	comp=N,277nm,0.3s								
ABDR				IAML			09 36 47.4		
	comp=E,231nm,0.6s								
SC01	**Santiago de lo**	**2.22 278**				**Pn**	**09 35 57.4**	**-0.4**	
SC01	**Santiago de lo**	**2.22 278**		⇑*e*Pg		**Pn**	**09 35 59.1**	**+1.3**	
SC01				⇑*e*Sg		**Sb**	**09 36 28.8**	**+0.1**	
SC01				IAML			09 36 42.8		
	comp=N,317nm,0.6s								
SC01				IAML			09 36 45.7		
	comp=E,293nm,1.4s								
SJG	**San Juan**	**2.36 115**		⇑*e*P		**Pn**	**09 35 59.4**	**-0.4**	
SJG	**San Juan**	**2.36 115**		*e*S		**Sn**	**09 36 29.1**	**+0.3**	
SJG	**San Juan**	**2.36 115**				**Pn**	**09 35 59.4**	**-0.4**	
SJG	**San Juan**	**2.36 115**		IAML			09 36 35.5		
	comp=E,208nm,0.4s								
SJG				IAML			09 36 36.1		
	comp=E,232nm,0.6s								
IGPR	**InterUniversit**	**2.46 118**		⇑*e*P		**Pn**	**09 36 00.8**	**-0.4**	
IGPR	**InterUniversit**	**2.46 118**				**Pn**	**09 36 00.8**	**-0.4**	
SDDR	**Presa de Saban**	**2.73 267**				**Pn**	**09 36 06.7**	**+1.8**	
SDDR				IAML			09 36 56.7		
	comp=E,178nm,0.6s								
SDDR				IAML			09 36 57.0		
	comp=E,159nm,0.6s								
SDDR	**Presa de Saban**	**2.73 267**		*i* P		**Pn**	**09 36 06.7**	**+1.8**	
SDDR				IAML			09 36 56.3		
	comp=Z,106nm,0.5s								
PAPH	**Port-au-Prince**	**3.74 261**		Pn		**Pn**	**09 36 17.1**	**-1.7**	
PAPH				IAML			09 37 26.4		
	comp=N,84nm,0.7s								
PAPH				IAML			09 37 28.5		
	comp=E,80nm,1.4s								
BAUV	**El Baul**	**10.13 178**		Pn		**Pn**	**09 37 48.2**	**+1.7**	

CATAC ***28*** *09:43:31.4±4.6, 13°.76N×92°.62W, h1km±18km, ML3.8*
IDC ***28*** *09:43:32.3±1.9, 13°.77N×92°.29W, h0km, mb3.5/4, mbtmp3.5/7, ML3.3/3, MS3.6/4, Error ellipse: s-maj=42.7km s-min=26.9km az=35.0*
MEX ***28*** *09:43:36.2±1.0, 13°.73N×92°.39W, h15km, MD4.1*
GCG ***28*** *09:43:48.9±0.3, 14°.42N×91°.55W, h31km±3km, MD3.9*

ISC 28 09:43:33.4±1.8, 13.79N±0.06×92.40W±0.05, h9km±11km, n40, σ2.23/56, mb3.6/4, MS3.6/3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
						Op	ISC	h m s	ISC
SULM	**Suchitepequez,**	**0.96**	**57**	*e*P		**Pn**	**09 43 54.5**	**+1.5**	
RTAL	**Retalhuleu**	**1.00**	**43**	*i* P		**Pn**	**09 43 53.7**	**+0.1**	
RTAL				IAML			09 44 07.3		
	comp=Z,2μm,1.0s								
SMCA	**Catarina**	**1.11**	**16**	*i* P		**Pb**	**09 43 54.4**	**-0.3**	
SMCA				*i* S		**Sn**	**09 44 10.4**	**-0.1**	
SMCA				IAML			09 44 22.1		
	comp=Z,720nm,1.0s								
THIG		**1.12**	**6**	*e*P		**Pb**	**09 43 54.5**	**-0.4**	
THIG				*e*S		**Sg**	**09 44 10.5**	**+1.0**	
STG3	**Santiaguito 3,**	**1.22**	**41**	*e*P		**Pg**	**09 43 57.0**	**+0.2**	
SMSP	**San Marcos**	**1.32**	**27**	*i* P		**Pn**	**09 43 56.9**	**-1.4**	
SMSP				IAML			09 44 22.1		
	comp=Z,2μm,1.0s								
CHUJ	**Union Juarez**	**1.33**	**12**	*i* P		**Pn**	**09 43 57.4**	**-0.9**	
CHUJ				*i* S		**Sn**	**09 44 14.3**	**-1.9**	
PATR	**El Naranjo**	**1.33**	**7**	*i* P		**Pn**	**09 43 57.4**	**-0.9**	
PATR				*i* S		**Sb**	**09 44 14.5**	**-1.4**	
SOKI	**Kika Raxquin**	**1.41**	**43**	*i* P		**Pg**	**09 43 59.7**	**-0.7**	
SOKI				IAML			09 44 47.4		
	comp=Z,490nm,1.0s								
PAVE	**Pavencul**	**1.41**	**9**	*i* P		**Pn**	**09 43 58.6**	**-0.8**	
PAVE				*i* S		**Sb**	**09 44 17.2**	**-1.0**	
FUG	**Fuego 3**	**1.64**	**66**	*e*P		**Pb**	**09 44 02.7**	**-1.3**	
HUEH	**Huehuetenango**	**1.75**	**30**	*i* P		**Pb**	**09 44 05.0**	**-0.8**	
HUEH				IAML			09 44 06.0		
	comp=Z,2μm,1.0s								
PCG	**Pacaya**	**1.84**	**71**	*e*P		**Pb**	**09 44 06.4**	**-0.9**	
QUIS	**Sacapulas**	**1.96**	**40**	*i* P		**Pb**	**09 44 08.3**	**-1.0**	
QUIS				IAML			09 44 10.6		
	comp=Z,450nm,1.0s								
PCIG		**2.06**	**337**	*e*P		**Pn**	**09 44 07.5**	**-0.7**	
PCIG				*e*S		**Sn**	**09 44 31.3**	**-2.8**	
NBG	**Las Nubes**	**2.14**	**68**	*e*P		**Pb**	**09 44 11.3**	**-1.2**	
CCIG	**Comitan**	**2.49**	**6**	*e*P		**Pb**	**09 44 17.6**	**-0.8**	
CCIG				*e*S		**Sb**	**09 44 48.2**	**-1.1**	
TGIG		**3.05**	**347**	*e*P		**Pn**	**09 44 21.8**	**-0.1**	
TGIG				*e*S		**Sn**	**09 44 56.4**	**-2.2**	
NILT	**Santiago Nilte**	**3.50**	**322**	*e*P		**Pn**	**09 44 31.1**	**+3.2**	
NILT				*e*S		**Sn**	**09 45 08.5**	**-1.0**	
SCLA	**Alcaldia de Sa**	**3.56**	**91**	*i* P		**Pn**	**09 44 35.8**	**-0.9**	
UXUV	**UXUV**	**3.89**	**335**	*e*P		**Pn**	**09 44 35.6**	**+2.2**	
UXUV				*e*S		**Sn**	**09 45 24.7**	**+5.5**	
CMIG	**Matias Romero**	**4.07**	**324**	Pn		**Pn**	**09 44 36.9**	**+1.2**	
	comp=Z,0.8nm,0.3s,baz=152,slow=13,SNR=14								
CMIG						Sn	**Sn**	**09 45 24.4**	**+0.9**
	comp=Z,3.0nm,0.3s,baz=109,slow=9.2,SNR=5.1								
	comp=Z,2.6nm,0.3s								
CMIG	**Matias Romero**	**4.07**	**324**	*e*P		**Pn**	**09 44 36.8**	**+1.0**	
CMIG				*e*S		**Sn**	**09 45 22.9**	**-0.7**	
HUIG	**Huatulco**	**4.09**	**299**	*e*P		**Pn**	**09 44 34.5**	**-1.6**	
HUIG				*e*S		**Sn**	**09 45 18.8**	**-5.4**	
NEUV	**Arroyo Zacate**	**5.10**	**320**	*e*P		**Pn**	**09 44 52.4**	**+2.4**	
NEUV				*e*S		**Sn**	**09 45 42.8**	**-6.2**	
PNIG	**Pinotepa**	**6.11**	**296**	*e*P		**Pn**	**09 45 04.5**	**+0.6**	
PNIG				*e*S		Sn	09 46 03.9	-10	
TOIG	**Toxpalan**	**6.21**	**314**	*e*P		Pn	09 45 11.2	+5.9	
TOIG				*e*S		**Sn**	**09 46 20.3**	**+3.8**	
TXIG	**Tlaxiaco**	**6.22**	**304**	*e*P		**Pn**	**09 45 08.3**	**+2.6**	
TXIG				*e*S		**Sn**	**09 46 17.4**	**+0.4**	
HLIG	**Huajuapan de L**	**6.58**	**308**	*e*P		**Pn**	**09 45 11.6**	**+1.1**	
HLIG				*e*S		**Sn**	**09 46 22.4**	**-3.3**	
FTIG	**Fresnillo de T**	**6.87**	**307**	*e*P		**Pn**	**09 45 16.9**	**+2.4**	
FTIG				*e*S		**Sn**	**09 46 26.2**	**-6.7**	
TEIG	**Tepich**	**7.52**	**31**	Pn		**Pn**	**09 45 24.1**	**+0.9**	
	comp=Z,15nm,0.3s,baz=164,slow=6.9,SNR=15								
TEIG						Sn	**Sn**	**09 46 48.4**	**-0.2**
	comp=Z,3.2nm,0.3s,baz=204,slow=20,SNR=1.9								
TEIG						LR	LR	09 48 11.9	
	comp=Z,651nm,20.6s,baz=54,slow=37								
JTS	**Las Juntas de**	**8.07**	**115**	Pn		**Pn**	**09 45 29.6**	**-1.2**	
	comp=Z,0.3nm,0.3s,baz=288,slow=20,SNR=2.2								
	comp=Z,5.3nm,0.8s								
TXAR	**Lajitas Array**	**18.66**	**328**	P		**P**	**09 47 52.5**	**+0.6**	
	baz=151,slow=13,SNR=6.2								
	comp=Z,0.6nm,0.8s								
TKL	**Tuckaleechee C**	**23.12**	**18**	LR		LR	09 59 06.4		
	comp=Z,194nm,18.1s,baz=28,slow=40								
NNA	**Nana**	**29.89**	**148**	LR		LR	09 59 13.8		
	comp=Z,25nm,18.1s,baz=0.0,slow=32								
PDAR	**Pinedale Array**	**32.45**	**336**	P		**P**	**09 50 06.1**	**+1.9**	
	comp=Z,0.4nm,1.0s,baz=121,slow=9.7,SNR=2.1								
	comp=Z,0.4nm,1.0s								
NVAR	**Mina Array Bea**	**33.60**	**322**	P		**P**	**09 50 16.8**	**+2.5**	
	comp=Z,0.2nm,0.3s,baz=128,slow=9.6,SNR=2.5								
NVAR				LR		LR	10 03 56.2		
	comp=Z,155nm,19.3s,baz=70,slow=36								
	comp=Z,0.2nm,0.3s								
YKA	**Yellowknife Ar**	**51.14**	**347**	P		**P**	**09 52 36.1**	**-0.3**	
	comp=Z,0.8nm,0.7s,baz=153,slow=7.2,SNR=14								
	comp=Z,0.8nm,0.7s								
ILAR	**Eielson Array**	**62.88**	**337**	P		**P**	**09 54 00.1**	**+0.5**	
	comp=Z,0.5nm,0.8s,baz=145,slow=5.0,SNR=5.9								
	comp=Z,0.5nm,0.8s								
CMAR	**Chiang Mai Arr**	**146.06**	**340**	PKPbc		**PKPdf**	**10 03 13.9**	**0.0**	
	comp=Z,1.2nm,0.6s,baz=331,slow=3.4,SNR=7.2								

SDD ***28*** *09:45:24.9±2.0, 18°.78N×70°.34W, h114km±11km, MD3.3, ML3.1, MW3.3*
SSNC ***28*** *09:45:25.4±3.9, 19°.98N×70°.33W, h120km±215km, MD3.9*
OSPL ***28*** *09:45:27.0±3.1, 18°.82N×70°.30W, h98km±16km, ML2.7*

ISC 28 09:45:22.1±1.5, 18.86N±0.05×70.36W±0.04, h125km±8km, n27, σ1.98/51, 13C-9D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
						Op	ISC	h m s	ISC
ABDR	**Alto Bandera**	**0.26**	**260**	⇓*e*Pg		**Pn**	**09 45 40.1**	**+0.2**	
ABDR				⇑*e*Sg		**Sn**	**09 45 50.9**	**-2.3**	
ABDR				IAML			09 45 52.3		
	comp=E,998nm,0.3s								
ABDR				IAML			09 45 53.4		
	comp=N,575nm,0.2s								
BANI	**BANI**	**0.46**	**180**	⇓*e*Pg		**Pn**	**09 45 41.2**	**+0.7**	
BANI				⇓*e*Sg		**Sn**	**09 45 53.1**	**-1.3**	
BANI				IAML			09 45 54.6		
	comp=N,886nm,0.2s								
BANI				IAML			09 45 54.8		
	comp=E,523nm,0.3s								
LOSC1	**San Cristbal**	**0.51**	**152**	*i* P		**Pn**	**09 45 41.3**	**+0.7**	
LOSC1				*e*S		**Sn**	**09 45 50.7**	**-3.8**	
SDD	**Santo Domingo**	**0.58**	**133**	⇓*e*Pg		**Pn**	**09 45 39.1**	**-1.9**	
SDD				⇑*e*Sg		**Sn**	**09 45 54.0**	**-1.3**	
SDD				IAML			09 45 55.7		
	comp=E,72nm,0.2s								
SDD				IAML			09 45 55.7		
	comp=N,54nm,0.2s								
SDD	**Santo Domingo**	**0.58**	**133**	*i* P		**Pn**	**09 45 41.3**	**+0.3**	
SDD				*e*S		**Sn**	**09 45 53.2**	**-2.1**	
SC01	**Santiago de lo**	**0.67**	**328**	⇑*e*Pg		**Pn**	**09 45 42.8**	**+1.1**	
SC01				⇑*e*Sg		**Sn**	**09 45 57.0**	**+0.6**	
SC01				IAML			09 45 58.8		
	comp=E,629nm,0.2s								
SC01				IAML			09 45 58.8		
	comp=N,395nm,0.2s								
SC01	**Santiago de lo**	**0.67**	**328**	*i* P		**Pn**	**09 45 43.0**	**+1.4**	
SC01				*e*S		**Sn**	**09 45 56.8**	**+0.3**	
SC01				IAML			09 45 59.4		
	comp=Z,229nm,0.2s								
LONA1	**Toro Cenizo, N**	**0.70**	**42**	*i* P		**Pn**	**09 45 43.1**	**+1.3**	
LONA1				*e*S		**Sn**	**09 45 57.1**	**+0.3**	
LONA1				IAML			09 45 59.2		
	comp=Z,2μm,9.8s								
SDDR	**Presa de Saban**	**0.89**	**278**	⇑*e*Pg		**Pn**	**09 45 44.5**	**+0.9**	
SDDR				⇓*e*Sg		**Sn**	**09 45 58.9**	**-0.9**	
SDDR				IAML			09 46 05.5		
	comp=E,121nm,0.5s								
SDDR				IAML			09 46 06.2		
	comp=N,219nm,0.3s								
SDDR	**Presa de Saban**	**0.89**	**278**	*i* P		**Pn**	**09 45 44.4**	**+0.9**	
SDDR				*e*S		**Sn**	**09 45 58.9**	**-0.9**	
SDDR				IAML			09 46 05.8		
	comp=Z,146nm,0.7s								
HATOM	**Hato Mayor del**	**0.93**	**94**	⇑*e*Pg		**Pn**	**09 45 44.4**	**+0.6**	
HATOM				⇑*e*Sg		**Sn**	**09 45 58.3**	**-2.0**	
HATOM				IAML			09 46 01.6		
	comp=E,199nm,0.2s								
HATOM				IAML			09 46 01.6		
	comp=N,228nm,0.2s								
MADR	**Mao Valverde**	**1.00**	**315**	⇑*e*Pg		**Sn**	**09 45 45.9**	**+1.4**	
MADR				⇑*e*Sg		**Sn**	**09 46 02.2**	**+0.8**	
MADR				IAML			09 46 03.1		
	comp=N,690nm,0.3s								
MADR				IAML			09 46 05.6		
	comp=E,664nm,0.4s								
PODR	**Polo**	**1.11**	**232**	⇓*e*Pg		**Pn**	**09 45 47.1**	**+1.3**	
PODR				⇑*e*Sg		**Sn**	**09 46 03.0**	**-0.9**	
PODR				IAML			09 46 07.7		
	comp=N,197nm,0.6s								
PODR				IAML			09 46 08.2		
	comp=E,289nm,0.3s								
PODR	**Polo**	**1.11**	**232**	*i* P		**Pn**	**09 45 47.3**	**+1.5**	
PODR				*e*S		**Sn**	**09 46 04.4**	**+0.5**	
SMDR	**Samana, DR**	**1.19**	**69**	⇑*e*Pg		**Pn**	**09 45 47.4**	**+1.1**	
SMDR				⇓*e*Sg		**Sn**	**09 46 04.4**	**-0.4**	
SMDR				IAML			09 46 08.4		
	comp=N,195nm,0.6s								
SMDR				IAML			09 46 10.9		
	comp=E,200nm,0.5s								
MIDR	**Miches**	**1.24**	**84**	⇑*e*Pg		**Pn**	**09 45 48.5**	**+1.6**	
MIDR

RUF	**Ruokolahti**	**3.36**	**191**	PN	**Pn**	**10 00 46.0**	**+1.2**
KEF	**Keuruu**	**3.54**	**226**	PN	**Pn**	**10 00 50.2**	**+2.9**
	baz=47						
KLF	**Kolari**	**3.63**	**317**	PN	**Pn**	**10 00 52.3**	**+3.7**
KLF				SG	**Sg**	**10 01 47.9**	**+0.2**
PAJU	**Pajala**	**3.77**	**311**	P	**Pn**	**10 00 53.4**	**+3.0**
PAJU	**Pajala**	**3.77**	**311**	PB	**Pb**	**10 00 55.9**	**-2.5**
PAJU				SG	**Sg**	**10 01 52.4**	**+0.4**
SJUU	**Sjulsmark**	**3.78**	**286**	P	**Pn**	**10 00 54.5**	**+4.0**
VAF	**Ylistaro**	**3.78**	**247**	PB	**Pb**	**10 00 56.9**	**-1.8**
FIA0	**FINESS Array S**	**3.81**	**212**	PG	**Pb**	**10 01 02.0**	**+2.9**
FINES	**FINESS Array B**	**3.81**	**212**	Pn	**Pn**	**10 00 52.0**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=34,slow=13,SNR=2.1						
FINES				Lg	Lg	10 01 51.8	
	comp=Z,0.8nm,0.3s,baz=34,slow=25,SNR=12						
	comp=Z,4.5nm,1.1s						
ERTU	**Ertsjaerv**	**3.85**	**302**	P	**Pn**	**10 00 54.2**	**+2.7**
ERTU	**Ertsjaerv**	**3.85**	**302**	PN	**Pn**	**10 00 54.4**	**+2.9**
BURU	**Burvik**	**3.86**	**272**	P	**Pn**	**10 00 53.3**	**+1.7**
BURU				S	**Sb**	**10 01 45.5**	**-1.6**
BURU	**Burvik**	**3.86**	**272**	PN	**Pn**	**10 00 54.1**	**+2.6**
ODEU	**Stanfors**	**4.16**	**270**	P	**Pn**	**10 00 56.8**	**+1.0**
UMAU	**Umeaa**	**4.29**	**263**	P	**Pn**	**10 00 58.4**	**+0.9**
UMAU	**Umeaa**	**4.29**	**263**	PN	**Pn**	**10 00 58.4**	**+0.9**
UMAU				SG	**Sg**	**10 02 09.1**	**+0.4**
LILU	**Lilltraesk**	**4.49**	**282**	P	**Pn**	**10 01 02.1**	**+1.8**
HEF	**Hetta**	**4.57**	**327**	SG	**Sg**	**10 02 15.1**	**-2.6**
PVF	**Pernaja**	**4.66**	**208**	PB	Pn	10 01 09.9	+7.3
ARCES	**ARCESS Array B**	**5.20**	**341**	P	**Pn**	**10 01 10.8**	**+0.8**
ARCES				S	**Sn**	**10 02 12.0**	**+1.4**
ARCES	**ARCESS Array B**	**5.20**	**341**	Pn	**Pn**	**10 01 08.9**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=152,slow=13,SNR=17						
ARCES				Sn	**Sn**	**10 02 06.5**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=155,slow=28,SNR=1.2						
ARCES				Lg	Lg	10 02 33.0	
	comp=Z,0.3nm,0.3s,baz=141,slow=35,SNR=1.9						
	comp=Z,0.4nm,0.3s						
VADS	**Vadso**	**5.45**	**356**	P	**Pn**	**10 01 14.1**	**+0.7**
VADS				S	**Sn**	**10 02 17.0**	**+0.4**
FAUS	**Fauske**	**6.68**	**300**	S	**Sn**	**10 02 46.5**	**-0.6**
HFS	**Hagfors**	**8.97**	**247**	Pn	**Pn**	**10 02 01.7**	**0.0**
	comp=Z,0.1nm,0.3s,baz=57,slow=16,SNR=1.5						
	comp=Z,3.7nm,1.0s						
NOA	**NORSAR Array B**	**9.46**	**256**	Pn	**Pn**	**10 02 05.6**	**-2.9**
	baz=58,slow=12,SNR=1.4						
NOA				Sn	**Sn**	**10 03 49.5**	**-6.0**
	baz=55,slow=21,SNR=1.1						
	comp=Z,0.6nm,0.9s						

*IDC **28** 10:08:18.0±1.2,61.°12N×149.°95W,h0km,mb3.2/3, mbtmp3.2/7,ML3.1/4, Error ellipse: s-maj=27.1km s-min=10.9km az=106.0*
*NEIC **28** 10:08:19.3±0.9,61.°43N±0.°05×151.°50W±0.°09,h97km±5km, Error ellipse: s-maj=6.7km s-min=6.1km az=158.0*
*AEIC **28** 10:08:20.4±0.8,61.°43N±0.°04×151.°49W±0.°08,h92km±4km, ML3.0,ML3.3/188(NEIC), Error ellipse: s-maj=6.6km s-min=5.8km az=202.0*

ISC 28 10:08:19.8±0.8,61.°43N±0.°03×151.°46W±0.°03,h98km±5km, n259,σ0°90/243,mb3.1/3,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STLK	**Strandline Lak**	**0.19**	**293**		**Pn**	**10 08 32.8**	**-1.0**
STLK					**Sn**	**10 08 42.4**	**-1.8**
SPCG	**Spurr Capps Gl**	**0.30**	**244**		**Pn**	**10 08 33.3**	**-0.9**
SPCG					**Sn**	**10 08 43.5**	**-1.5**
SUA	**Susitna One**	**0.35**	**83**		**Pn**	**10 08 34.4**	**0.0**
SUA	**Susitna One**	**0.35**	**83**	IAML		10 08 46.4	
	comp=E,684nm,0.5s						
SUA	**Susitna One**	**0.35**	**83**	P	**Pn**	**10 08 34.5**	**0.0**
	baz=264						
SPCP	**Crater Peak Br**	**0.37**	**245**		**Pn**	**10 08 33.8**	**-0.9**
SPCP					**Sn**	**10 08 44.7**	**-1.0**
SPCN	**Chakachatna No**	**0.40**	**240**		**Pn**	**10 08 34.0**	**-0.7**
SPCN					**Sn**	**10 08 45.4**	**-0.5**
N20K	**Mount Spurr**	**0.42**	**238**	P	**Pn**	**10 08 34.0**	**-0.9**
	baz=56						
SPCR	**Spurr Chakacha**	**0.42**	**238**		**Pn**	**10 08 34.0**	**-0.9**
SKT	**Skwentna**	**0.56**	**357**		**Pn**	**10 08 34.9**	**-0.9**
SKT	**Skwentna**	**0.56**	**357**	P	**Pn**	**10 08 34.9**	**-0.9**
	baz=178						
SPNN	**North Nagishla**	**0.60**	**265**		**Pn**	**10 08 35.6**	**-0.7**
SPNN					**Sn**	**10 08 48.0**	**-0.5**
FIS	**Fire Island**	**0.66**	**115**		**Pn**	**10 08 37.3**	**+0.7**
FIS				IAML		10 08 51.9	
	comp=E,978nm,0.4s						
FIS				IAML		10 08 52.1	
	comp=N,1μm,0.5s						
FIS	**Fire Island**	**0.66**	**115**		**Sn**	**10 08 49.1**	**-0.1**
CAPN	**Captain Cook N**	**0.68**	**167**		**Pn**	**10 08 37.9**	**+1.2**
M22K	**Willow**	**0.72**	**62**		**Pn**	**10 08 37.1**	**+0.1**
M22K	**Willow**	**0.72**	**62**	P	**Pn**	**10 08 37.2**	**+0.1**
	baz=244						
RC01	**Rabbit Creek A**	**0.90**	**111**		**Pn**	**10 08 38.8**	**-0.2**
RC01				IAML		10 08 54.7	
	comp=E,701nm,0.3s						
RC01	**Rabbit Creek A**	**0.90**	**111**		**Sn**	**10 08 53.4**	**+0.1**
RC01	**Rabbit Creek A**	**0.90**	**111**	P	**Pn**	**10 08 38.7**	**-0.2**
	baz=292						
RC01				S	**Sn**	**10 08 53.4**	**+0.1**
	baz=292						
M20K	**Styx River**	**0.92**	**301**		**Pn**	**10 08 38.5**	**-0.7**
M20K	**Styx River**	**0.92**	**301**	P	**Pn**	**10 08 38.5**	**-0.7**
	baz=120						
RDJH	**Redoubt Jeurge**	**1.06**	**219**		**Sn**	**10 08 57.2**	**+0.5**
SLKM	**Skilak Lake**	**1.10**	**146**		**Pn**	**10 08 40.7**	**-0.5**
PMR	**Palmer**	**1.13**	**80**		**Pn**	**10 08 40.7**	**-0.7**
PMR	**Palmer**	**1.13**	**80**	P	**Pn**	**10 08 40.7**	**-0.7**
	baz=263						
CUT	**Chulitna**	**1.13**	**29**		**Pn**	**10 08 41.4**	**-0.1**
CUT	**Chulitna**	**1.13**	**29**		**Sn**	**10 08 57.8**	**0.0**
CUT	**Chulitna**	**1.13**	**29**	P	**Pn**	**10 08 41.4**	**-0.1**
	baz=211						
CUT				S	**Sn**	**10 08 57.8**	**0.0**
	baz=211						
RSO	**Redoubt South**	**1.15**	**214**	Pn	**Pn**	**10 08 40.8**	**-1.2**
RDSO	**Redoubt South**	**1.16**	**213**		**Sn**	**10 08 59.1**	**+0.5**
GHO	**Glory Hole Cre**	**1.26**	**73**	Pn	**Pn**	**10 08 42.5**	**-0.6**
GHO				IAML		10 09 02.2	
	comp=E,656nm,0.3s						
GHO				IAML		10 09 02.0	
	comp=N,612nm,0.4s						
O22K	**Cooper Landing**	**1.27**	**137**		**Pn**	**10 08 42.9**	**-0.1**
O22K	**Cooper Landing**	**1.27**	**137**	P	**Pn**	**10 08 43.0**	**-0.1**
	baz=318						
KNK	**Knik Glacier**	**1.44**	**89**		**Pn**	**10 08 44.6**	**-0.6**
KNK	**Knik Glacier**	**1.44**	**89**	P	**Pn**	**10 08 44.6**	**-0.6**
	baz=272						
O20K	**Slope Mountain**	**1.47**	**203**		**Pn**	**10 08 45.2**	**-0.3**
O20K					**Sn**	**10 09 04.9**	**-0.1**
O20K	**Slope Mountain**	**1.47**	**203**	P	**Pn**	**10 08 45.2**	**-0.3**
	baz=22						
O20K				S	**Sn**	**10 09 04.9**	**-0.1**
	baz=22						
PPLA	**Purkeypile**	**1.52**	**347**		**Pn**	**10 08 45.6**	**-0.6**
PPLA	**Purkeypile**	**1.52**	**347**	P	**Pn**	**10 08 45.6**	**-0.6**
	baz=167						
SML	**Sawmill**	**1.54**	**74**	Pn	**Pn**	**10 08 45.7**	**-0.8**
SML				IAML		10 09 06.8	
	comp=N,396nm,0.3s						
SML				IAML		10 09 07.1	
	comp=E,384nm,0.5s						
SML	**Sawmill**	**1.54**	**74**		**Sn**	**10 09 06.4**	**-0.3**
SML	**Sawmill**	**1.54**	**74**	P	**Pn**	**10 08 45.7**	**-0.8**
	baz=257						
SML				S	**Sn**	**10 09 06.5**	**-0.2**
	baz=257						
L20K	**Farewell, AK**	**1.56**	**314**		**Pn**	**10 08 45.7**	**-0.8**
L20K	**Farewell, AK**	**1.56**	**314**	P	**Pn**	**10 08 45.8**	**-0.8**
	baz=132						
N19K	**Bonanza Creek**	**1.59**	**249**		**Pn**	**10 08 46.6**	**-0.5**
N19K				IAML		10 09 08.2	
	comp=N,200nm,0.9s						
N19K	**Bonanza Creek**	**1.59**	**249**	P	**Pn**	**10 08 46.6**	**-0.5**
	baz=66						
SEW	**Seward**	**1.65**	**142**		**Pn**	**10 08 47.0**	**-0.8**
SEW					**Sn**	**10 09 07.3**	**-1.6**
SEW	**Seward**	**1.65**	**142**	P	**Pn**	**10 08 47.0**	**-0.8**
	baz=324						
SEW				S	**Sn**	**10 09 07.3**	**-1.6**
	baz=324						
ILS	**Iliamna Low So**	**1.67**	**209**		**Pn**	**10 08 47.7**	**-0.4**
BRLK	**Bradley Lake**	**1.69**	**170**		**Pn**	**10 08 48.0**	**-0.3**
BRLK				IAML		10 09 14.7	
	comp=N,161nm,0.5s						
BRLK				IAML		10 09 15.0	
	comp=E,139nm,0.3s						
BRSE	**Bradley Lake S**	**1.73**	**168**	P	**Pn**	**10 08 48.2**	**-0.5**
	baz=348						
HOM	**Homer**	**1.78**	**183**		**Pn**	**10 08 49.1**	**-0.2**
HOM	**Homer**	**1.78**	**183**	IAML		10 09 15.1	
	comp=N,280nm,0.8s						
HOM				IAML		10 09 15.5	
	comp=E,268nm,0.9s						
L19K	**White Mountain**	**1.78**	**297**		**Pn**	**10 08 48.9**	**-0.5**
L19K	**White Mountain**	**1.78**	**297**	IAML		10 09 12.3	
	comp=E,122nm,0.9s						
M23K	**Glacier View**	**1.82**	**77**	P	**Pn**	**10 08 49.1**	**-0.8**
	baz=260						
O19K	**Port Alsworth**	**1.87**	**230**		**Pn**	**10 08 49.9**	**-0.6**
O19K				IAML		10 09 14.2	
	comp=N,228nm,0.5s						
O19K				IAML		10 09 21.1	
	comp=E,286nm,0.4s						
O19K	**Port Alsworth**	**1.87**	**230**	P	**Pn**	**10 08 49.9**	**-0.6**
	baz=47						
WAT7	**Susitna Watana**	**1.87**	**40**		**Pn**	**10 08 50.4**	**-0.2**
WAT7					**Sn**	**10 09 13.3**	**-0.9**
CNPM	**China Poot**	**1.91**	**177**	Pn	**Pn**	**10 08 50.5**	**-0.6**
CNPM				IAML		10 09 16.5	
	comp=E,128nm,0.4s						
CNPM				IAML		10 09 21.6	
	comp=N,126nm,0.3s						
WAT1	**Susitna Watana**	**1.96**	**43**	P	**Pn**	**10 08 51.5**	**-0.3**
	baz=226						
P19K	**Oil Pt**	**1.98**	**207**		**Pn**	**10 08 51.6**	**-0.4**
P19K				IAML		10 09 19.5	
	comp=N,307nm,0.3s						
P19K	**Oil Pt**	**1.98**	**207**	P	**Pn**	**10 08 51.9**	**-0.2**
	baz=25						
SCM	**Sheep Creek Mo**	**2.02**	**76**		**Pn**	**10 08 52.0**	**-0.5**
SCM	**Sheep Creek Mo**	**2.02**	**76**		**Sn**	**10 09 16.5**	**-0.9**
SCM	**Sheep Creek Mo**	**2.02**	**76**	P	**Pn**	**10 08 51.8**	**-0.7**
	baz=260						
SCM				S	**Sn**	**10 09 16.5**	**-0.9**
	baz=260						
SVW2	**Sparrevohn**	**2.02**	**262**	Pn	**Pn**	**10 08 51.6**	**-0.8**
CAST	**Castle Rocks**	**2.02**	**352**	Pn	**Pn**	**10 08 51.8**	**-0.7**
CAST	**Castle Rocks**	**2.02**	**352**	P	**Pn**	**10 08 51.8**	**-0.7**
	baz=172						
M18K	**Stony River**	**2.10**	**274**		**Pn**	**10 08 52.8**	**-0.6**
M18K	**Stony River**	**2.10**	**274**	P	**Pn**	**10 08 52.6**	**-0.8**
	baz=90						
TRF	**Thorofare Moun**	**2.10**	**15**	Pn	**Pn**	**10 08 53.4**	**-0.3**
TRF				IAML		10 09 18.7	
	comp=E,190nm,0.5s						
TRF				IAML		10 09 19.0	
	comp=N,234nm,0.6s						
TRF	**Thorofare Moun**	**2.10**	**15**	P	**Pn**	**10 08 53.3**	**-0.3**
	baz=196						
WAT6	**Susitna Watana**	**2.10**	**55**	P	**Pn**	**10 08 53.2**	**-0.5**
	baz=238						
KTH	**Kantishna Hill**	**2.15**	**6**	Pn	**Pn**	**10 08 54.3**	**0.0**
KTH				IAML		10 09 20.6	
	comp=E,128nm,0.6s						
KTH				IAML		10 09 21.3	
	comp=N,105nm,0.5s						
GLI	**Glacier Island**	**2.19**	**103**		**Sn**	**10 09 20.2**	**-1.1**
GLI	**Glacier Island**	**2.19**	**103**	P	**Pn**	**10 08 52.9**	**-1.7**
	baz=286						
GLI				S	**Sn**	**10 09 20.2**	**-1.1**
	baz=286						
AUL	**Augustine Lava**	**2.27**	**206**		**Pn**	**10 08 55.7**	**-0.1**
N18K	**Kilae Creek**	**2.28**	**253**		**Pn**	**10 08 55.1**	**-0.7**
K20K	**Telida**	**2.29**	**329**		**Pn**	**10 08 55.1**	**-0.9**
AUCH	**Augustine Cone**	**2.29**	**206**		**Pn**	**10 08 56.0**	**-0.1**
RND	**Reindeer**	**2.33**	**30**	Pn	**Pn**	**10 08 56.4**	**-0.1**
RND				IAML		10 09 25.3	
	comp=E,109nm,0.3s						
RND				IAML		10 09 26.4	
	comp=N,78nm,0.3s						
O18K	**Koktuh Hills**	**2.43**	**231**		**Pn**	**10 08 57.5**	**-0.4**
O18K				IAML		10 09 27.6	
	comp=N,82nm,0.9s						
O18K	**Koktuh Hills**	**2.43**	**231**	P	**Pn**	**10 08 57.5**	**-0.4**
	baz=48						
P23K	**Montague Islan**	**2.46**	**124**		**Pn**	**10 08 56.7**	**-1.5**
P23K					**Sn**	**10 09 25.8**	**-1.9**
P23K	**Montague Islan**	**2.46**	**124**	P	**Pn**	**10 08 56.7**	**-1.5**
	baz=307						
P23K				S	**Sn**	**10 09 25.8**	**-1.9**
	baz=307						
CHUM	**Lake Minchumin**	**2.50**	**351**		**Pn**	**10 08 58.0**	**-0.6**
FID	**Port Fidalgo**	**2.51**	**103**		**Pn**	**10 08 56.8**	**-2.1**
DHY	**Denali Highway**	**2.53**	**47**		**Pn**	**10 08 59.2**	**-0.1**
DHY	**Denali Highway**	**2.53**	**47**	P	**Pn**	**10 08 59.0**	**-0.2**
	baz=271						
MCK	**McKinley**	**2.59**	**26**	P	**Pn**	**10 09 00.1**	**+0.1**
	baz=208						
L18K	**Granite Mounta**	**2.60**	**290**		**Pn**	**10 08 59.5**	**-0.6**
M24K	**Tolsona, Glenn**	**2.60**	**72**	IAML		10 09 43.4	
	comp=N,185nm,0.7s						
M24K	**Tolsona, Glenn**	**2.60**	**72**	P	**Pn**	**10 09 00.3**	**+0.1**
	baz=257						
TTA	**Tatalina**	**2.61**	**307**		**Pn**	**10 08 59.3**	**-1.0**
TTA	**Tatalina**	**2.61**	**307**	P	**Pn**	**10 08 59.4**	**-0.9**
	baz=124						
HIN	**Hinchinbrook I**	**2.63**	**111**		**Pn**	**10 08 58.8**	**-1.7**
KLU	**Klutina**	**2.66**	**86**		**Pn**	**10 08 59.9**	**-1.0**
KLU				IAML		10 09 33.2	
	comp=E,177nm,0.5s						
KLU	**Klutina**	**2.66**	**86**		**Sn**	**10 09 31.5**	**-1.1**
KLU	**Klutina**	**2.66**	**86**	P	**Pn**	**10 08 59.8**	**-1.2**
	baz=271						
KLU				S	**Sn**	**10 09 31.5**	**-1.1**
	baz=271						
BPAW	**Bear Paw Mtn.**	**2.69**	**4**	Pn	**Pn**	**10 09 00.6**	**-0.7**
BPAW				IAML		10 09 37.8	
	comp=E,61nm,0.4s						
BPAW	**Bear Paw Mtn.**	**2.69**	**4**	P	**Pn**	**10 09 00.5**	**-0.8**
	baz=185						
Q19K	**Cape Douglas,**	**2.73**	**204**		**Pn**	**10 09 01.7**	**-0.2**
Q19K	**Cape Douglas,**	**2.73**	**204**	IAML		10 10 06.9	
	comp=N,96nm,1.4s						
Q19K				IAML		10 10 35.7	
	comp=E,131nm,1.2s						
Q19K	**Cape Douglas,**	**2.73**	**204**	P	**Pn**	**10 09 01.8**	**-0.1**
	baz=22						
DIV	**Divide**	**2.76**	**94**		**Sn**	**10 09 33.6**	**-1.5**
P18K	**Big Mountain,**	**2.77**	**224**		**Pn**	**10 09 01.9**	**-0.4**
P18K				IAML		10 09 35.6	
	comp=N,56nm,0.7s						
P18K	**Big Mountain,**	**2.77**	**224**	P	**Pn**	**10 09 01.9**	**-0.4**
	baz=41						
SYI	**Shuyak Island**	**2.86**	**190**		**Pn**	**10 09 03.0**	**-0.6**
SYI	**Shuyak Island**	**2.86**	**190**	IAML		10 09 43.0	
	comp=N,69nm,0.4s						
SYI				IAML		10 09 45.9	
	comp=E,65nm,0.4s						
Q20K	**Shuyak Island**	**2.86**	**190**	P	**Pn**	**10 09 03.0**	**-0.6**
	baz=8.7						
M17K	**Holitna River**	**2.87**	**272**		**Pn**	**10 09 03.2**	**-0.5**
M17K				IAML		10 09 38.2	
	comp=E,75nm,1.0s						
M17K				IAML		10 09 55.5	
	comp=N,58nm,0.9s						
M17K	**Holitna River**	**2.87**	**272**	P	**Pn**	**10 09 03.2**	**-0.5**
	baz=87						
BWN	**Browne**	**2.91**	**18**	Pn	**Pn**	**10 09 05.4**	**+1.3**
BWN				IAML		10 09 46.5	
	comp=N,82nm,0.6s						
BWN				IAML		10 10 02.3	
	comp=E,84nm,1.0s						
N17K	**Nushagak Hills**	**2.93**	**255**		**Pn**	**10 09 03.8**	**-0.7**
J20K	**Nowinta River**	**3.02**	**337**		**Pn**	**10 09 04.9**	**-0.8**
J20K	**Nowinta River**	**3.02**	**337**	P	**Pn**	**10 09 04.9**	**-0.8**
	baz=155						
HARP	**HAARP**	**3.14**	**69**		**Pn**	**10 09 07.6**	**+0.4**
HARP	**HAARP**	**3.14**	**69**	P	**Pn**	**10 09 07.6**	**+0.4**
	baz=255						
J18K	**Innoko River**	**3.19**	**312**		**Pn**	**10 09 07.1**	**-0.8**
PAX	**Paxson**	**3.21**	**58**		**Pn**	**10 09 08.4**	**+0.1**
PAX	**Paxson**	**3.21**	**58**	P	**Pn**	**10 09 08.7**	**+0.5**
	baz=244						
J19K	**Poorman**	**3.21**	**325**		**Pn**	**10 09 07.5**	**-0.7**
Q23K	**Middleton Isla**	**3.23**	**126**		**Pn**	**10 09 07.7**	**-0.8**
MID	**Middleton Isla**	**3.23**	**126**		**Pn**	**10 09 07.7**	**-0.8**
MID	**Middleton Isla**	**3.23**	**126**	IAML		10 10 11.9	
	comp=N,119nm,2.5s						
O17K	**Koliganek Bris**	**3.23**	**242**	P	**Pn**	**10 09 08.4**	**-0.1**
	baz=57						
N25K	**Chitina, Valde**	**3.29**	**84**		**Pn**	**10 09 08.3**	**-1.1**
N25K	**Chitina, Valde**	**3.29**	**84**	IAML		10 09 48.7	
	comp=E,86nm,0.5s						
N25K				IAML		10 09 57.9	
	comp=N,66nm,0.4s						
N25K	**Chitina, Valde**	**3.29**	**84**	P	**Pn**	**10 09 08.3**	**-1.1**
	baz=270						
KAHC	**Katmai Hardscr**	**3.31**	**214**		**Pn**	**10 09 09.2**	**-0.4**
Q18K	**Katmai Hardscr**	**3.31**	**214**	P	**Pn**	**10 09 09.4**	**-0.2**
	baz=31						
L17K	**Donlin**	**3.32**	**285**		**Pn**	**10 09 09.1**	**-0.6**
KAHG	**Katmai Hook Gl**	**3.33**	**209**		**Pn**	**10 09 09.9**	**+0.1**
P17K	**Kvichak River**	**3.34**	**230**		**Pn**	**10 09 10.3**	**+0.4**
P17K	**Kvichak River**	**3.34**	**230**	P	**Pn**	**10 09 10.0**	**+0.1**
	baz=46						
NEA2	**Nenana**	**3.36**	**18**		**Pn**	**10 09 09.1**	**-1.1**
NEA2	**Nenana**	**3.36**	**18**	IAML		10 09 46.0	
	comp=E,34nm,0.8s						
NEA2	**Nenana**	**3.36**	**18**	P	**Pn**	**10 09 09.1**	**-1.1**
	baz=200						
GOAT	**Goat Mountain**	**3.39**	**102**		**Pn**	**10 09 08.9**	**-1.7**
WACK	**Wrangell Chich**	**3.44**	**77**		**Pn**	**10 09 11.4**	**-0.2**
K17K	**Iditarod**	**3.47**	**295**		**Pn**	**10 09 11.3**	**-0.4**
K17K	**Iditarod**	**3.47**	**295**	IAML		10 10 04.8	
	comp=E,34nm,0.9s						
RAGM	**Ragged Mountai**	**3.48**	**104**	Pn	**Pn**	**10 09 12.7**	**+0.9**
K24K	**Donnelly Dome**	**3.55**	**45**		**Pn**	**10 09 14.5**	**+1.7**
MLY	**Manley**	**3.63**	**5**	P	**Pn**	**10 09 13.7**	**-0.3**
	baz=186						
CCB	**Clear Creek Bu**	**3.64**	**26**	IAML		10 09 53.5	
	comp=E,33nm,0.8s						
CCB				IAML		10 09 54.1	
	comp=N,26nm,0.8s						
HDA	**Harding Lake**	**3.64**	**33**		**Pn**	**10 09 13.6**	**-0.3**
HDA	**Harding Lake**	**3.64**	**33**	IAML		10 09 54.9	
	comp=N,76nm,0.6s						
HDA				IAML		10 09 55.1	
	comp=E,55nm,0.3s						
HDA	**Harding Lake**	**3.64**	**33**	P	**Pn**	**10 09 13.6**	**-0.3**
	baz=217						
HDA				P	**Pn**	**10 09 13.6**	**-0.3**
	baz=217						
M16K	**Timber Creek**	**3.65**	**267**		**Pn**	**10 09 13.6**	**-0.4**
I20K	**Naaghedeneel**	**3.65**	**339**		**Pn**	**10 09 13.4**	**-0.6**
I20K	**Naaghedeneel**	**3.65**	**339**	IAML		10 10 43.6	
	comp=E,65nm,1.2s						
I20K				IAML		10 10 44.3	
	comp=N,57nm,1.2s						
GLB	**Gilahina Butte**	**3.68**	**86**		**Pn**	**10 09 13.5**	**-1.0**
GLB	**Gilahina Butte**	**3.68**	**86**	IAML		10 09 58.5	
	comp=E,51nm,0.6s						
GLB				IAML		10 10 00.0	
	comp=N,51nm,0.4s						
HMT	**Hamilton**	**3.69**	**104**		**Pn**	**10 09 12.6**	**-2.0**
N16K	**Nishlik Lake**	**3.69**	**258**		**Pn**	**10 09 14.2**	**-0.4**
KDAK	**Kodiak Island**	**3.70**	**189**		**Pn**	**10 09 12.6**	**-2.2**
KDAK	**Kodiak Island**	**3.70**	**189**	IAML		10 10 01.1	
	comp=N,36nm,2.8s						
KDAK				IAML		10 10 42.7	
	comp=N,36nm,3.5s						
KDAK	**Kodiak Island**	**3.70**	**189**	Pn	**Pn**	**10 09 12.9**	**-1.9**
	comp=N,0.4nm,0.3s,baz=54,slow=9.0,SNR=30						
KDAK				Sn	**Sn**	**10 09 54.0**	**-3.3**
	comp=N,2.3nm,0.3s,baz=252,slow=17,SNR=9.5						
	comp=N,7.9nm,0.9s						
O16K	**Kokwok River B**	**3.76**	**244**		**Pn**	**10 09 15.2**	**-0.3**
ANCK	**Angle Creek**	**3.82**	**214**		**Pn**	**10 09 16.5**	**-0.1**
COLA	**College**	**3.83**	**24**		**Pn**	**10 09 16.0**	**-0.5**
MDM	**Murphy Dome**	**3.84**	**21**		**Pn**	**10 09 16.1**	**-0.6**
RIDG	**Independent Ri**	**3.84**	**50**	IAML		10 10 14.3	
	comp=N,59nm,0.5s						
L16K	**Owhat River**	**3.84**	**278**		**Pn**	**10 09 16.1**	**-0.6**
L16K	**Owhat River**	**3.84**	**278**	P	**Pn**	**10 09 16.1**	**-0.6**
	baz=91						
I23K	**Minto, Yukon-K**	**3.85**	**13**		**Pn**	**10 09 16.3**	**-0.5**
I23K	**Minto, Yukon-K**	**3.85**	**13**	IAML		10 10 13.8	
	comp=N,22nm,3.6s						
I23K	**Minto, Yukon-K**	**3.85**	**13**	P	**Pn**	**10 09 16.3**	**-0.5**
	baz=195						
VRDI	**Verde Repeater**	**3.87**	**89**		**Pn**	**10 09 15.7**	**-1.5**
VRDI	**Verde Repeater**	**3.87**	**89**	IAML		10 09 60.0	
	comp=N,28nm,0.5s						
VRDI				IAML		10 10 09.8	
	comp=E,22nm,0.7s						
CNTC	**Contact Creek**	**3.88**	**217**		**Pn**	**10 09 17.2**	**-0.1**
BERG	**Berg Lake**	**3.93**	**102**		**Pn**	**10 09 15.7**	**-2.2**
MENT	**Mentasta**	**3.93**	**64**		**Pn**	**10 09 17.9**	**0.0**
MENT				IAML		10 10 23.8	
	comp=N,70nm,0.7s						
ILAR	**Eielson Array**	**3.95**	**30**	Pn	**Pn**	**10 09 17.2**	**-0.9**
	comp=N,2.0nm,0.3s,baz=206,slow=14,SNR=84						
ILAR				Sn	**Sn**	**10 10 00.9**	**-2.5**
	comp=N,4.5nm,0.3s,baz=207,slow=28,SNR=5.8						
	comp=N,3.2nm,0.3s						
P16K	**Nushagak River**	**4.04**	**236**		**Pn**	**10 09 19.5**	**+0.1**
MCARA	**McCarthy VSAT**	**4.06**	**87**		**Pn**	**10 09 20.2**	**+0.6**
MCARA	**McCarthy VSAT**	**

	comp=E,14nm,3.4s							
H24K	**Noodor Dome**	**4.71**	**18**	P	**Pn**	**10 09 28.6**	**+0.2**
	baz=202							
O15K	**Ungalikthiuk R**	**4.73**	**245**		**Pn**	**10 09 29.0**	**+0.3**
J26L	**Joseph Creek**	**4.74**	**46**		**Pn**	**10 09 28.8**	**-0.1**
J26L	**Joseph Creek**	**4.74**	**46**	IAML		10 10 29.5	
	comp=N,36nm,0.5s							
BARN	**Barnard Glacie**	**4.75**	**90**		**Pn**	**10 09 28.4**	**-0.8**
BARN	**Barnard Glacie**	**4.75**	**90**	IAML		10 10 34.1	
	comp=E,26nm,1.3s							
BARN				IAML		10 10 38.0		
	comp=N,17nm,0.5s							
GRNC	**Granite Creek**	**4.77**	**94**		**Pn**	**10 09 28.5**	**-0.9**
GRNC	**Granite Creek**	**4.77**	**94**	IAML		10 10 23.5		
	comp=E,26nm,0.7s							
L27K	**Beaver Creek,**	**4.79**	**66**		**Pn**	**10 09 29.4**	**-0.2**
L27K	**Beaver Creek,**	**4.79**	**66**	IAML		10 10 24.0		
	comp=N,13nm,4.8s							
K15K	**Wolf Creek Mou**	**4.85**	**285**		**Pn**	**10 09 30.1**	**-0.2**
K15K	**Wolf Creek Mou**	**4.85**	**285**	IAML		10 10 29.2		
	comp=E,15nm,4.1s							
K15K				IAML		10 11 06.9		
	comp=N,19nm,3.2s							
H18K	**Honhosa River**	**4.87**	**323**		**Pn**	**10 09 30.2**	**-0.3**
H18K	**Honhosa River**	**4.87**	**323**	IAML		10 10 30.2		
	comp=N,14nm,4.2s							
H18K				IAML		10 11 50.6		
	comp=E,13nm,4.9s							
PRP	**Porcupine Dome**	**4.89**	**30**		**Pn**	**10 09 30.9**	**-0.1**
PRP	**Porcupine Dome**	**4.89**	**30**	IAML		10 10 27.7		
	comp=E,22nm,0.7s							
PRP				IAML		10 10 28.1		
	comp=N,26nm,0.4s							
PRP	**Porcupine Dome**	**4.89**	**30**	P	**Pn**	**10 09 30.9**	**-0.1**
	baz=216							
CTG	**Chitna Glacier**	**4.92**	**91**	P	**Pn**	**10 09 31.0**	**-0.4**
	baz=280							
CTGM	**Chitina Glacie**	**4.92**	**91**		**Pn**	**10 09 30.8**	**-0.6**
CTGM	**Chitina Glacie**	**4.92**	**91**	IAML		10 10 40.0		
	comp=E,17nm,3.9s							
CTGM				IAML		10 10 47.0		
	comp=N,18nm,1.4s							
K27K	**Chicken**	**5.04**	**55**		**Pn**	**10 09 32.7**	**-0.3**
K27K	**Chicken**	**5.04**	**55**	IAML		10 10 57.6		
	comp=N,19nm,5.0s							
K27K				IAML		10 11 41.8		
	comp=E,11nm,4.8s							
YUK2	**White River**	**5.08**	**81**		**Pn**	**10 09 33.6**	**0.0**
BVCY	**Beaver Creek**	**5.11**	**74**		**Pn**	**10 09 34.2**	**+0.4**
BVCY	**Beaver Creek**	**5.11**	**74**	P	**Pn**	**10 09 34.2**	**+0.4**
	baz=264							
LOGN	**Logan Glacier**	**5.11**	**92**		**Pn**	**10 09 33.2**	**-0.8**
LOGN	**Logan Glacier**	**5.11**	**92**	IAML		10 10 31.2		
	comp=N,29nm,0.5s							
LOGN				IAML		10 10 33.7		
	comp=E,21nm,0.6s							
YUK3	**Moose Creek**	**5.27**	**81**		**Pn**	**10 09 36.4**	**+0.3**
YUK3	**Moose Creek**	**5.27**	**81**	P	**Pn**	**10 09 36.6**	**+0.4**
	baz=271							
G24K	**Hadweenzic Riv**	**5.58**	**17**		**Pn**	**10 09 40.1**	**0.0**
G24K	**Hadweenzic Riv**	**5.58**	**17**	P	**Pn**	**10 09 40.1**	**0.0**
	baz=200							
F20K	**Avaraart Lake**	**5.94**	**344**		**Pn**	**10 09 42.1**	**-2.9**
BCPM	**Bancas Point**	**6.00**	**99**	Pn	**Pn**	**10 09 43.6**	**-2.2**
DAWY	**Dawson**	**6.14**	**59**	Pn	**Pn**	**10 09 48.1**	**+0.2**
YUK4	**Talbot Arm**	**6.16**	**85**	P	**Pn**	**10 09 48.7**	**+0.5**
	baz=276							
H27K	**Steamboat Moun**	**6.52**	**38**		**Pn**	**10 09 52.0**	**-1.0**
H27K	**Steamboat Moun**	**6.52**	**38**	P	**Pn**	**10 09 52.3**	**-0.7**
	baz=227							
I28M	**Miner Creek**	**6.55**	**47**		**Pn**	**10 09 53.3**	**-0.2**
BMAR	**Burnt Mountain**	**6.72**	**23**	Pn	**Pn**	**10 09 55.8**	**+0.1**
G27K	**Doyon Strip**	**6.89**	**34**		**Pn**	**10 09 57.4**	**-0.6**
G27K	**Doyon Strip**	**6.89**	**34**	P	**Pn**	**10 09 57.4**	**-0.6**
	baz=223							
INK	**Inuvik**	**10.25**	**40**	Pn	**Pn**	**10 10 42.9**	**-0.7**
	comp=E,0.1nm,0.3s,baz=226,slow=23,SNR=8.2							
INK				Sn	**Sn**	**10 12 34.0**	**-2.2**
	baz=266,slow=18,SNR=1.9							
	comp=E,0.9nm,0.7s							
YKA	**Yellowknife Ar**	**17.21**	**70**	Pn	**Pn**	**10 12 11.9**	**-1.8**
	comp=E,0.1nm,0.3s,baz=275,slow=9.2,SNR=4.8							
	comp=E,0.1nm,0.5s							
NVAR	**Mina Array Bea**	**30.81**	**123**	P	**P**	**10 14 28.6**	**+2.4**
	comp=E,0.2nm,0.6s,baz=316,slow=6.2,SNR=3.5							
	comp=E,0.2nm,0.6s							
PDAR	**Pinedale Array**	**31.05**	**108**	P	**P**	**10 14 29.7**	**+1.3**
	comp=E,0.2nm,0.5s,baz=302,slow=4.1,SNR=1.8							
	comp=E,0.2nm,0.5s							
TXAR	**Lajitas Array**	**44.81**	**113**	P	**P**	**10 16 25.9**	**+2.1**
	comp=E,0.2nm,0.6s,baz=332,slow=5.6,SNR=2.5							
	comp=E,0.2nm,0.6s							

IDC 28 10:12:06.7±7.2, 6°38'N×96°55'E, h0km, mb3.2/2, mbtmp3.2/2, Error ellipse: s-maj=402.6km s-min=104.9km az=51.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.45**	**126**	P	P	10 20 27.9	0.0
	0.3nm,0.6s,baz=306,slow=9.1,SNR=5.4						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**47.13**	**131**	P	P	10 20 40.9	-0.2
	0.2nm,0.8s,baz=303,slow=7.6,SNR=1.5						
	0.2nm,0.8s						
TXAR	**Lajitas Array**	**139.52**	**28**	PKP	PKPdf	10 31 36.8	-0.4
	0.2nm,0.7s,baz=333,slow=0.2,SNR=1.8						

IDC 28 10:20:02.6±2.5, 4°38'N×127°21'E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=224.3km s-min=24.1km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.16**	**164**	P	P	10 25 29.0	-0.9
	0.4nm,0.7s,baz=343,slow=9.7,SNR=5.9						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**28.63**	**167**	P	P	10 26 02.0	+0.9
	0.3nm,0.8s,baz=349,slow=8.5,SNR=5.1						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**57.30**	**325**	P	P	10 29 53.5	+1.1
	0.2nm,0.5s,baz=118,slow=8.6,SNR=1.7						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**61.46**	**327**	P	P	10 30 19.9	-1.1
	0.4nm,0.2s,baz=133,slow=5.5,SNR=1.8						
	0.4nm,0.2s						

TEH 28 10:41:02.3, 35.76N×60.33E, h8km±44km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRKH	**Jarkhoshk**	**0.15**	**7**	Pg	Pg	10 41 05.0	-0.6
TBJM	**Torbat-e-JAM**	**0.49**	**180**	Pg	Pg	10 41 12.3	+0.5
TBJM				Sg	Sb	10 41 19.7	-0.9
IMYA	**Miami**	**0.61**	**343**	Pg	Pb	10 41 15.1	-0.2
IMYA				Sg	Sb	10 41 24.5	+0.3
IMOG	**Moghan**	**0.87**	**294**	Pg	Pg	10 41 19.4	+0.3
IMOG				Sg	Sb	10 41 31.8	-0.1
TBHD	**Torbat heydari**	**0.95**	**249**	Pg	Pb	10 41 21.6	+0.4
IKRD	**Kardeh**	**1.21**	**327**	Pg	Pn	10 41 24.9	-0.6
IPAY	**Payeh**	**1.28**	**303**	Pg	Pn	10 41 26.1	-0.7
IAKL	**Akhelmad**	**1.52**	**304**	Pg	Pn	10 41 30.0	-0.1
SHRT	**Shahrakht**	**2.11**	**181**	Pn	Pb	10 41 40.5	-0.3
IEMG	**Emamgholi**	**2.13**	**321**	Pn	Pb	10 41 40.2	-1.1
ISFR	**Sfrayin**	**2.28**	**305**	Pn	Pb	10 41 42.9	-0.9
AFRZ	**Afriz**	**2.57**	**205**	Pn	Pb	10 41 47.0	-1.6
IDAH	**Dahanechah**	**3.04**	**187**	Pn	Pn	10 41 52.7	+1.8
BAGH	**Bagheran - Bir**	**3.11**	**198**	Pn	Pn	10 41 53.2	+1.3
ITEG	**Tejag**	**3.14**	**205**	Pn	Pn	10 41 54.9	+2.7
TKDS	**Koohdasht(Taba**	**3.40**	**232**	Pn	Pn	10 41 57.7	+2.0
IKOO	**Kooshah**	**3.50**	**199**	Pn	Pn	10 41 59.2	+1.9
TPRV	**Parvadeh(Tabas**	**4.06**	**229**	Pn	Pn	10 42 07.5	+2.7
IGLO	**Ghaloghah**	**5.31**	**280**	Pn	Pn	10 42 25.1	+3.0

*SOME **28** 10:41:03.7, 44.55N×82.00E, h15km*
*NNC **28** 10:41:05.3±1.3, 44.79N×81.85E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=17.7km s-min=5.6km az=122.0*
ISC 28 10:41:02.0±2.0, 44°62'N±0.08×82°3'E±0.1, h10km, n19, σ0s99/21, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.79**	**262**	*e*P	**Pn**	**10 41 33.8**	**+0.8**
	11nm,0.2s						
DJR				*e*S	**Sn**	**10 41 55.4**	**-0.5**
	20nm,0.3s						
MK31	**Makanchi Array**	**2.18**	**1**	Pn	**Pb**	**10 41 41.1**	**-0.4**
	5.2nm,0.3s,baz=185,slow=16,SNR=362			⇓Lg			
MK31					Lg	10 42 09.1	
	12nm,0.5s,baz=189,slow=27,SNR=19						
MAKZ	**Makanchi**	**2.20**	**355**	⇓Pn	**Pb**	**10 41 41.1**	**-0.8**
	3.8nm,0.3s						
MAKZ				⇓Lg	Lg	10 42 08.9	
	3.4nm,0.3s						
KNOS	**Konyrlen**	**2.22**	**264**	Pg	**Pb**	**10 41 41.1**	**-1.2**
	25nm,0.2s						
KNOS				Lg	Lg	10 42 08.2	
	33nm,0.3s						
PDGK	**Podgornoye**	**2.38**	**238**	Pg	**Pb**	**10 41 43.8**	**-1.2**
	3.9nm,0.2s						
PDGK				Lg	Lg	10 42 13.2	
	9.9nm,0.5s						
PDGK	**Podgornoye**	**2.38**	**238**	⇑Pn	**Pb**	**10 41 43.9**	**-1.0**
	3.8nm,0.5s						
PDGK				⇑Sn	**Sb**	**10 42 14.9**	**+0.5**
	14nm,0.5s						
SHLS	**Shalkode**	**2.49**	**235**	Pg	**Pn**	**10 41 43.7**	**+0.9**
	21nm,0.2s						
SHLS				Lg	Lg	10 42 12.8	
	31nm,0.5s						
UZB	**Uzynbulak**	**2.76**	**239**	*e*Pg	**Pb**	**10 41 50.1**	**-1.4**
	6.9nm,0.2s						
UZB				*e*Lg	Lg	10 42 23.6	
	3.7nm,0.1s						
UZB	**Uzynbulak**	**2.76**	**239**	Pg	**Pb**	**10 41 50.5**	**-1.1**
	6.9nm,0.2s						
UZB				Lg	Lg	10 42 24.8	
	6.0nm,0.4s						
TDK	**Taldyqorghan**	**2.77**	**279**	Pg	**Pb**	**10 41 50.3**	**-1.3**
	46nm,0.5s						
TDK				Lg	Lg	10 42 24.2	
	36nm,0.5s						
KPKS	**Kokpek**	**2.82**	**247**	*e*Pg	**Pb**	**10 41 51.7**	**-0.9**
	9.7nm,0.1s						
KPKS				*e*Lg	Lg	10 42 26.5	
	28nm,0.4s						
SATY	**Saty**	**3.19**	**242**	*e*Pg	**Pb**	**10 41 57.0**	**-1.9**
	3.2nm,0.2s						
SATY				*e*Lg	Lg	10 42 35.3	
	18nm,0.3s						
SATY	**Saty**	**3.19**	**242**	Pg	**Pb**	**10 41 58.4**	**-0.4**
	3.2nm,0.2s						
SATY				Lg	Lg	10 42 38.6	
	18nm,0.3s						
ARXS	**Arharly**	**3.20**	**264**	*e*Pg	**Pb**	**10 41 58.4**	**-0.6**
	2.8nm,0.1s						
ARXS				*e*Lg	Lg	10 42 37.7	
	8.4nm,0.4s						
CHKK	**Chushkaly**	**3.86**	**260**	*e*Pg	**Pb**	**10 42 10.0**	**-0.3**
	0.8nm,0.1s						
CHKK				*e*Lg	Lg	10 42 57.7	
	8.4nm,0.2s						
CHKK	**Chushkaly**	**3.86**	**260**	Pg	**Pb**	**10 42 09.7**	**-0.5**
	0.8nm,0.1s						
CHKK				Lg	Lg	10 42 57.5	
	8.4nm,0.2s						
KTBS	**Karatobe**	**4.11**	**259**	*e*Pg	**Pb**	**10 42 14.4**	**-0.1**
	0.5nm,0.1s						
KTBS				*e*Lg	Lg	10 43 05.1	
	3.8nm,0.2s						
TNSS	**Tian-Shan**	**4.15**	**250**	*e*Pg	**Pb**	**10 42 16.5**	**+1.1**
	2.4nm,0.3s						
TNSS				*e*Lg	Lg	10 43 09.0	
	1.3nm,0.2s						
KUU	**Kurty**	**4.31**	**262**	*e*Pg	**Pb**	**10 42 18.1**	**+0.2**
	1.6nm,0.2s						
KUU				*e*Lg	Lg	10 43 11.6	
	5.2nm,0.3s						

*NEIC **28** 10:48:17.5±0.5, 19.24N±0.03×155.49W±0.03, h39km±4km, Error ellipse: s-maj=4.8km s-min=4.1km az=136.0*
HVO 28 10:48:18.5±0.6, 19°21'N±0.03×155°48'W±0.03, h36km±2km, Md2.3/24, ML2.5/47(NEIC), Error ellipse: s-maj=4.5km s-min=4.2km az=152.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.09**	**72**		Pn	10 48 24.2	-0.6
KHU	**Kahuku**	**0.13**	**286**		Pn	10 48 24.4	-5.9
KHU				IAML		10 48 29.1	
	comp=N,786nm,0.1s						
AIN	**Ainahou**	**0.16**	**9**		Pn	10 48 24.8	-4.2
AIN	**Ainahou**	**0.16**	**9**	IAML		10 48 29.5	
	comp=E,301nm,0.3s						
AIN				IAML		10 48 30.0	
	comp=N,347nm,0.4s						
HLP	**Hilina Pali**	**0.19**	**63**		Sn	10 48 29.3	-7.9
HLP	**Hilina Pali**	**0.19**	**63**		Pn	10 48 24.7	-3.3
HLP	**Hilina Pali**	**0.19**	**63**	IAML		10 48 28.7	
	comp=E,354nm,1.7s						
HLP	**Hilina Pali**	**0.19**	**63**	IAML		10 48 38.0	
	comp=N,402nm,2.2s						
SDHHI	**Sand Hill**	**0.25**	**45**		Pn	10 48 25.1	-1.9
SDHHI	**Sand Hill**	**0.25**	**45**	IAML		10 48 30.4	
	comp=N,810nm,0.9s						
SDHHI				IAML		10 48 38.3	
	comp=E,851nm,1.4s						
WRMHI	**West Rim**	**0.26**	**42**	IAML		10 48 39.6	
	comp=N,732nm,1.1s						
RIM	**Rim**	**0.27**	**47**	IAML		10 48 39.7	
	comp=E,592nm,1.7s						
UWB	**Uwekahuna B**	**0.29**	**42**	IAML		10 48 38.7	
	comp=N,338nm,1.6s						
BYL	**Byron's Ledge**	**0.29**	**46**	IAML		10 48 37.1	
	comp=N,566nm,1.7s						
BYL				IAML		10 48 37.6	
	comp=E,535nm,2.3s						
SBLHI	**Steaming Bluff**	**0.30**	**43**	IAML		10 48 35.6	
	comp=N,378nm,1.0s						
SBLHI				IAML		10 48 40.1	
	comp=E,490nm,1.6s						
MLH	**Mauna Loa**	**0.30**	**18**		Pn	10 48 25.7	-1.3
MLH	**Mauna Loa**	**0.30**	**18**	IAML		10 48 31.3	
	comp=E,176nm,0.3s						
MLH				IAML		10 48 34.2	
	comp=N,364nm,1.4s						
HATHI	**Halema'uma'u T**	**0.30**	**45**	IAML		10 48 37.5	
	comp=N,432nm,1.3s						
HATHI				IAML		10 48 40.2	
	comp=E,573nm,1.7s						
PUH	**Pauahi**	**0.30**	**57**	IAML		10 48 36.2	
	comp=N,344nm,2.3s						
RSD	**Rainshed**	**0.32**	**38**	IAML		10 48 38.3	
	comp=N,269nm,3.1s						
MLOA	**Mauna Loa Obse**	**0.34**	**345**	Pn	Pn	10 48 26.1	-1.3
STCH	**Steam Cracks**	**0.38**	**63**	IAML		10 48 33.6	
	comp=E,312nm,0.5s						
STCH				IAML		10 48 39.2	
	comp=N,355nm,0.9s						
HMH	**Humu'ula Sheep**	**0.39**	**0**	IAML		10 48 33.6	
	comp=N,251nm,3.7s						
CPH	**Captain Cook**	**0.49**	**304**		Pn	10 48 27.6	-1.5
KHLU	**Kahalu`u**	**0.54**	**315**	IAML		10 48 35.5	
	comp=N,178nm,0.2s						
POHA	**Pohakuloa**	**0.55**	**355**	Pn	Pn	10 48 28.7	-1.5
POHA				IAML		10 48 46.2	
	comp=N,186nm,3.9s						
HUH	**Hualalai**	**0.58**	**325**	IAML		10 48 42.2	
	comp=N,197nm,0.2s						
HUH				IAML		10 48 51.9	
	comp=E,254nm,3.8s						
HPAH	**Hawaii Prepara**	**0.84**	**346**	IAML		10 48 42.4	
	comp=E,144nm,0.2s						
HPAH				IAML		10 48 42.5	
	comp=N,126nm,0.1s						

*TEH **28** 11:02:51.5, 27.55N×56.44E, h10km±433km, ML2.8*
*OMAN **28** 11:02:51.9±0.8, 27.46N×56.63E, h10km, ml3.0/12, Error ellipse: s-maj=6.7km s-min=6.5km az=98.0*
*DSN **28** 11:02:51.8±0.8, 27.52N×56.09E, h10km, ML2.6/6, Error ellipse: s-maj=41.4km s-min=6.3km az=83.0*
ISC 28 11:02:50.7±1.0, 27°60'N±0.04×56°56'E±0.07, h15km±7km, n31, σ0s89/41, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.15**	**185**	Pg	**Pg**	**11 02 54.6**	**-0.1**
IBND				Sg	**Sg**	**11 02 57.4**	**+0.2**
SHME	**Shamm**	**1.59**	**194**	P	**Pn**	**11 03 18.2**	**0.0**
SHME				S	**Sn**	**11 03 38.5**	**+0.1**
SHME	**Shamm**	**1.59**	**194**	P	**Pn**	**11 03 18.3**	**0.0**
	SNR=5.5						
SHME				S	**Sn**	**11 03 38.9**	**+0.5**
BANOM	**Banah**	**1.68**	**188**	P	**Pn**	**11 03 20.3**	**+0.7**
BANOM				S	**Sn**	**11 03 42.1**	**+1.2**
BANOM	**Banah**	**1.68**	**188**	P	**Pn**	**11 03 20.2**	**+0.7**
BANOM				S	**Sn**	**11 03 42.1**	**+1.2**
NGRK	**Negar Kerman**	**2.04**	**4**	Pn	**Pn**	**11 03 28.8**	**-1.2**
MASF	**Masafi**	**2.25**	**189**	P	**Pb**	**11 03 29.8**	**-1.1**
	SNR=11						
MSFE	**Esma-Masafi**	**2.26**	**189**	P	**Pn**	**11 03 28.4**	**+1.0**
KBAM	**BAM**	**2.27**	**47**	Pn	**Pb**	**11 03 32.7**	**+1.3**
MDH	**Madha**	**2.30**	**186**	P	**Pn**	**11 03 28.2**	**+0.1**
MDH	**Madha**	**2.30**	**186**	P	**Pn**	**11 03 28.3**	**+0.2**
MDH				S	**Sn**	**11 03 54.5**	**-1.6**
CHMN	**Cheshme madani**	**2.42**	**21**	Pn	**Pb**	**11 03 34.2**	**+0.2**
UOSS	**Minazif**	**2.66**	**187**	P	**Pn**	**11 03 34.1**	**+1.2**
KHGB	**Koh Gabri**	**2.77**	**359**	Pn	**Pb**	**11 03 39.2**	**-0.8**
HATD	**Hatta, Dubai**	**2.79**	**188**	P	**Pn**	**11 03 35.1**	**+0.4**
HATD	**Hatta, Dubai**	**2.79**	**188**	P	**Pn**	**11 03 35.3**	**+0.5**
ASHO	**Ashiyiah**	**2.94**	**189**	P	**Pn**	**11 03 37.1**	**+0.3**
ASHO	**Ashiyiah**	**2.94**	**189**	P	**Pn**	**11 03 37.4**	**+0.6**
ASHO				S	**Sn**	**11 04 13.1**	**+1.3**
FAQ	**Al Faqa, Dubai**	**2.97**	**197**	P	**Pn**	**11 03 37.7**	**+0.5**
ASUD	**Al Ashush, Dub**	**3.16**	**201**	P	**Pn**	**11 03 40.7**	**+0.9**
	SNR=7.8						
SOHO	**SOHO**	**3.45**	**180**	P	**Pn**	**11 03 45.3**	**+1.5**
ARQ	**Araqi**	**4.24**	**180**	P	**Pn**	**11 03 55.4**	**+0.7**
BIDO	**Bidbid**	**4.30**	**160**	P	**Pn**	**11 03 54.5**	**-1.0**
NGCH	**Negor - Chabah**	**4.67**	**117**	P	**Pn**	**11 04 00.8**	**+0.2**
SMDO	**Samad**	**4.72**	**163**	P	**Pn**	**11 04 02.2**	**+0.8**
SMDO				S	**Sn**	**11 04 54.6**	**-1.2**
WSAR	**Wadi Sarin**	**4.73**	**156**	P	**Pn**	**11 04 01.7**	**+0.3**
WSAR				S	**Sn**	**11 04 55.0**	**-1.0**
BSY	**Bisya**	**4.87**	**173**	P	**Pn**	**11 04 04.7**	**+1.3**
BSY				S	**Sn**	**11 05 00.3**	**+0.8**
SHMA	**Al-Shehemyia**	**5.29**	**252**	P	**Pn**	**11 04 10.0**	**+0.8**
WBK	**Wadi Bani Khal**	**5.43**	**156**	P	**Pn**	**11 04 11.3**	**+0.3**
MHTO	**MHTO**	**6.71**	**169**	P	**Pn**	**11 04 29.0**	**+0.4**
WHFO	**Wadi Hawf**	**9.97**	**195**	P	**Pn**	**11 05 12.5**	**-0.9**
	SNR=8.2						

IDC 28 11:06:13.4±4.2, 9°38'N×126°47'E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=344.6km s-min=29.5km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.15**	**165**	P	P	11 12 25.2	-0.2
	0.3nm,0.8s,baz=346,slow=9.6,SNR=1.8						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**33.64**	**168**	P	P	11 12 56.1	+0.1
	0.1nm,0.3s,baz=349,slow=6.4,SNR=4.3						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**52.85**	**323**	P	P	11 15 30.8	-0.1
	0.4nm,0.6s,baz=130,slow=7.6,SNR=4.0						
	0.4nm,0.6s						

*DMN **28** 11:17:24.7±0.5, 31.10N×79.11E, h10km, Ml4.6/6, Error ellipse: s-maj=27.8km s-min=8.8km az=30.0*
*NDI **28** 11:17:25.9±2.8, 30.52N×79.19E, h5km, ML4.1*
*IDC **28** 11:17:29.5±4.2, 30.58N×79.20E, h50km±38km, mb3.5/16, mbtmp3.8/19, ML4.1/3, MS3.1/2, Error ellipse: s-maj=25.0km s-min=14.3km az=38.0*
ISC 28 11:17:27.1±0.7, 30°59'N±0.05×79°15'E±0.03, h30km±5km, n48, σ2s18/70, mb3.8/17, 1C, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**0.98**	**254**	*e*S	**Sn**	**11 17 56.1**	**-1.6**
DDI				IAML		11 17 58.8	
	comp=N,12μm,0.4s						
DDI				IAML		11 17 59.9	
	comp=E,7μm,0.5s						
PTH	**Pithoragarh**	**1.39**	**138**	*e*P	**Pn**	**11 17 50.9**	**+0.2**
PTH				*e*S	**Sn**	**11 18 08.0**	**-0.1**
LGTI	**Lohaghat**	**1.48**	**140**	*e*P	**Pb**	**11 17 52.7**	**-1.4**
LGTI				*e*S	**Sn**	**11 18 09.6**	**-0.5**
SMLA	**Simla**	**1.78**	**288**	*e*P	**Pb**	**11 17 58.0**	**-1.2**
SMLA				*e*S	**Sb**	**11 18 21.4**	**+0.3**
SMLA				IAML		11 18 23.4	
	comp=N,4μm,0.5s						
SMLA				IAML		11 18 23.7	
	comp=E,4μm,0.3s						
BHK	**Bhakra**	**2.48**	**290**	*e*P	**Pn**	**11 18 07.7**	**+2.2**
BHK				*e*S	**Sb**	**11 18 39.7**	**-1.6**
BHK				IAML		11 18 46.0	
	comp=N,2μm,0.4s						
BHK				IAML		11 18 46.4	
	comp=E,1μm,0.4s						
NDI	**New Delhi**	**2.54**	**222**	*e*P	**Pn**	**11 18 07.0**	**+0.8**
NDI				*e*S	**Sn**	**11 18 38.1**	**+2.0**
NDI				IAML		11 18 43.3	
	comp=N,454nm,0.5s						
NDI				IAML		11 18 43.5	
	comp=E,895nm,0.4s						
DHRM	**DHARAMSHALA**	**2.94**	**305**	*e*P	**Pn**	**11 18 15.0**	**+3.0**
DHRM				*e*S	**Sb**	**11 18 51.6**	**-3.0**
DHRM				IAML		11 19 03.7	
	comp=E,1μm,0.3s						
DHRM				IAML		11 19 05.4	
	comp=N,892nm,0.6s						
SONA	**Sohna**	**2.95**	**218**	*e*P	**Pn**	**11 18 13.4**	**+1.5**
SONA				*e*S	**Sn**	**11 18 48.4**	**+2.2**
KUDL	**Kundal**	**3.37**	**224**	*e*P	**Pn**	**11 18 17.7**	**+0.1**
KUDL				*e*S	**Sn**	**11 19 00.4**	**+3.9**
THN	**Thein Dam**	**3.46**	**303**	*e*P	**Pn**	**11 18 21.5**	**+2.7**
THN				*e*S	**Sn**	**11 19 01.9**	**+3.1**
THN				IAML		11 19 20.6	
	comp=E,496nm,0.6s						
KHET	**Khetri**	**3.85**	**230**	*e*P	**Pn**	**11 18 23.9**	**-0.4**
PYUN	**Piuthan**	**4.17**	**126**	*e*Pn	**Pn**	**11 18 28.6**	**-0.3**
PYUN				*e*Sn	**Sn**	**11 19 21.1**	**+4.3**
	comp=E,189nm,0.4s						
JMU	**Jammu**	**4.20**	**301**	*e*P	**Pn**	**11 18 32.9**	**+4.0**
JMU

AAK				S		Sn	11 22 40.3	-3.1	
	comp=E,0.9nm,0.3s,baz=180,slow=13,SNR=1.7								
	comp=E,2.1nm,0.4s								
MKAR	**Makanchi Array**	16.36	8	P		Pn	11 21 14.8	+0.3	
	comp=E,0.5nm,0.3s,baz=182,slow=13,SNR=10								
MKAR				S		Sn	11 24 08.2	-6.8	
	comp=E,1.0nm,0.6s,baz=187,slow=24,SNR=6.3								
	comp=E,1.2nm,0.4s								
GEYT	**Alibeck**	18.84	298	P		Pn	11 21 45.9	+0.6	
	comp=E,1.4nm,0.3s,baz=101,slow=6.7,SNR=1.8								
	comp=E,1.6nm,0.3s								
KURBB	**Kurchatov Arra**	20.02	359	P		P	11 21 57.4	+0.1	
	comp=E,1.0nm,0.2s,baz=186,slow=9.6,SNR=15								
	comp=E,1.0nm,0.2s								
CMAR	**Chiang Mai Arr**	21.65	119	P		P	11 22 15.5	+0.4	
	comp=E,1.2nm,0.6s,baz=319,slow=10,SNR=9.4								
	comp=E,1.2nm,0.6s								
BVAR	**Borovoye Array**	23.31	347	P		P	11 22 33.0	+0.7	
	comp=E,1.6nm,0.4s,baz=150,slow=12,SNR=10								
	comp=E,1.6nm,0.4s								
ZALV	**Zalesovo Beam**	23.70	8	P		P	11 22 36.2	+0.2	
	comp=E,1.3nm,0.5s,baz=190,slow=7.5,SNR=6.3								
	comp=E,1.3nm,0.5s								
BTO	**Baotou**	26.90	60	*e*P		P	11 23 06.8	+1.3	
BTO				pP		pP	11 23 16.3	+0.3	
BTO				sP		sP	11 23 20.0	+0.3	
BTO				PP		PnPn	11 23 52.0	+4.0	
BTO				pmax	pmax				
	comp=Z,12nm,0.8s								
BTO				pmax	pmax				
	comp=Z,540nm,6.0s								
SONM	**Songino Array**	27.04	43	P		P	11 23 07.9	+1.2	
	comp=Z,1.3nm,0.8s,baz=240,slow=7.7,SNR=5.3								
	comp=Z,1.3nm,0.8s								
SNY	**Shenyang**	37.19	60	⇑P		P	11 24 30.0	-5.4	
SNY				S		S	11 30 10.5	-10	
SNY				pmax	pmax				
	comp=Z,11nm,0.5s								
SNY				pmax	pmax				
	comp=Z,140nm,4.3s								
SNY				LR	LR				
	comp=N,140nm,4.5s								
SNY				LR	LR				
	comp=E,190nm,4.5s								
SNY				LR	LR				
	comp=Z,260nm,5.7s								
BRTR	**Keskin Array B**	37.96	297	P		P	11 24 43.7	+1.4	
	comp=Z,0.6nm,0.5s,baz=106,slow=7.7,SNR=1.9								
	comp=Z,0.6nm,0.5s								
KSRS	**Korea Array**	40.63	67	P		P	11 25 03.8	-0.5	
	comp=Z,0.7nm,0.7s,baz=278,slow=10.0,SNR=2.4								
KSRS				LR		LR	11 44 53.5		
	comp=Z,18nm,19.0s,baz=305,slow=40								
	comp=Z,0.7nm,0.7s								
JOW	**Kunigami**	42.98	82	LR		LR	11 44 44.7		
	comp=Z,36nm,19.4s,baz=30,slow=38								
FINES	**FINESS Array B**	46.13	328	P		P	11 25 48.5	+0.1	
	comp=Z,1.4nm,0.6s,baz=119,slow=11,SNR=6.5								
	comp=Z,1.4nm,0.6s								
ARCES	**ARCESS Array B**	49.17	338	P		P	11 26 13.1	+1.2	
	comp=Z,2.1nm,0.6s,baz=108,slow=7.8,SNR=10.0								
	comp=Z,2.1nm,0.6s								
HFS	**Hagfors**	51.85	325	P		P	11 26 32.6	+0.4	
	comp=Z,2.0nm,0.6s,baz=95,slow=14,SNR=4.8								
	comp=Z,2.0nm,0.6s								
NOA	**NORSAR Array B**	53.13	326	P		P	11 26 41.1	-0.6	
	comp=Z,0.9nm,0.8s,baz=83,slow=7.2,SNR=1.2								
	comp=Z,0.9nm,0.8s								
TORD	**Torodi Ar. Bea**	72.73	275	P		P	11 28 52.7	0.0	
	comp=Z,0.7nm,0.6s,baz=59,slow=6.3,SNR=6.4								
	comp=Z,0.7nm,0.6s								
WRA	**Warramunga Arr**	73.06	126	P		P	11 28 54.2	-0.4	
	comp=Z,0.7nm,0.6s,baz=322,slow=5.9,SNR=13								
	comp=Z,0.7nm,0.6s								
ASAR	**Alice Springs**	75.28	129	P		P	11 29 07.1	-0.3	
	comp=Z,0.4nm,0.5s,baz=316,slow=6.2,SNR=12								
	comp=Z,0.4nm,0.5s								
ILAR	**Eielson Array**	78.41	18	P		P	11 29 24.1	-0.3	
	comp=Z,0.3nm,0.7s,baz=312,slow=5.9,SNR=6.1								
	comp=Z,0.3nm,0.7s								
YKA	**Yellowknife Ar**	86.58	6	P		P	11 30 06.3	-0.7	
	comp=Z,0.2nm,0.6s,baz=339,slow=5.0,SNR=2.9								
	comp=Z,0.2nm,0.6s								

*IDC **28** 11:20:41.2±0.4,5°.66N×32°.80W,h0km,mb4.4/29, mbtmp4.4/31,ML4.0/2,MS4.3/71,Error ellipse: s-maj=14.5km s-min=11.8km az=142.0*

*MOS **28** 11:20:41.4±0.8,5°.63N×32°.77W,h13km,mb5.1/40,Error ellipse: s-maj=13.3km s-min=6.0km az=48.2*

*NEIC **28** 11:20:43.3±1.7,5°.6N±0°.1×32°.75W±0°.10,h10km±1km, mb4.9/143,Error ellipse: s-maj=19.5km s-min=14.8km az=149.0*

*GCMT **28** 11:20:46.3±0.2,5°.75N±0°.02×32°.83W±0°.01,h12km, MW5.0/120,Moment Tensor Solution. s47,c58; s120,c186; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.88±.10; Mθθ=1.69±.10; Mϕϕ4.58±.07; Mrθ 1.91±.35; Mθϕ0.06±.08; Mϕr-1.06±.23; Best double couple: Mo4.55500×10^16^ NP1:ϕs331.00000°,δ62.00000°, λ-130.00000°. NP2:ϕs212.00000°,δ47.00000°, λ-40.00000°. Principal axes: T 4.7340, Plg8.0000°, Azm88.0000°; N -0.3490, Plg35.0000°, Azm352.0000°; P -4.3750, Plg54.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 11:20:42.8±0.3,5.58N±0.07×32.78W±0.06,h12km,n341, σ0§92/241,mb4.8/155,MS4.3/78,38C-13D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	11.75	195	Pn		Pn	11 23 29.5	-0.9
	1.4nm,0.3s,baz=22,slow=16,SNR=14							
RCBR				Sn		Sn	11 25 31.6	-10
	0.3nm,0.3s,baz=356,slow=14,SNR=1.3							
RCBR				LR		LR	11 26 57.1	
	comp=Z,1μm,19.6s,baz=360,slow=32							
	9.4nm,0.5s							
SACV	**Santiago Islan**	12.98	43	Pn		Pn	11 23 46.0	-1.2
MBO	**M'Bour**	17.87	59			P	11 24 52.3	+0.2
MDP	**Montagnes des**	19.78	270	P		P	11 25 12.0	-1.1
	0.3nm,0.3s,baz=96,slow=17,SNR=1.7							
MDP				LR		LR	11 31 10.1	
	comp=Z,966nm,21.5s,baz=112,slow=32							
	6.9nm,0.9s							
H10N3	**ASCENSION HYDR**	22.59	126	T		T	11 49 14.3	
	baz=305,slow=75,SNR=681							
H10N2	**ASCENSION HYDR**	22.59	126	T		T	11 49 14.7	
	baz=305,slow=75,SNR=715							
H10N1	**ASCENSION HYDR**	22.61	126	T		T	11 49 10.9	
	baz=305,slow=75,SNR=783							
H10S3	**ASCENSION HYDR**	23.12	129	T		T	11 49 52.8	
	baz=304,slow=74,SNR=409							
H10S2	**ASCENSION HYDR**	23.14	129	T		T	11 49 53.7	
	baz=276,slow=74,SNR=109							
BDFB	**Brasilia**	25.92	215	P		P	11 26 15.3	0.0
BDFB	**Brasilia**	25.92	215	P		P	11 26 15.3	0.0
BDFB				pmax	pmax			
	comp=Z,15nm,0.9s							
BDFB	**Brasilia**	25.92	215	P		P	11 26 15.3	0.0
	comp=Z,9.4nm,0.7s,baz=52,slow=12,SNR=9.7							
BDFB				LR		LR	11 35 33.5	
	comp=Z,1μm,18.7s,baz=26,slow=34							
	comp=Z,9.4nm,0.7s							
LIC	**Lamto**	27.61	87	⇑*i*P		P	11 26 30.6	+0.2
	comp=Z,92nm,0.8s							
TIC	**Toumodi**	27.62	86	⇑*i*P		P	11 26 30.4	-0.2
	comp=Z,4.6nm,0.2s							
DBIC	**Dimbokro**	27.79	86	P		P	11 26 31.6	-0.4
DBIC	**Dimbokro**	27.79	86	P		P	11 26 31.6	-0.4
DBIC				pmax	pmax			
	comp=Z,85nm,1.3s							
DBIC	**Dimbokro**	27.79	86	P		P	11 26 32.0	0.0
	comp=Z,48nm,1.1s,baz=263,slow=11,SNR=22							
DBIC				LR		LR	11 35 11.3	
	comp=Z,1μm,20.9s,baz=244,slow=31							
	comp=Z,48nm,1.1s							
BOAV	**Boa Vista**	27.85	265	P		P	11 26 33.8	+1.2
BOAV				IAmb		IAmb	11 26 44.1	
	comp=Z,58nm,1.7s							
KIC	**Kosan Boka**	27.90	87	⇑*i*P		P	11 26 33.1	+0.1
	comp=Z,55nm,0.9s							
H05S1	**Guadeloupe/Mar**	28.96	290	T		T	11 56 54.9	
	SNR=22							
H05N1	**Guadeloupe/Mar**	29.70	293	T		T	11 57 46.7	
	SNR=4.7							

PCRV	**Puerto La Cruz**	31.87	280	LR		LR	11 39 13.6		
	comp=Z,733nm,21.6s,slow=35								
PSMA	**Santa Maria**	32.05	12	*e*T		T	12 00 19.7		
PSMN	**Pico do Norte,**	32.07	12	*e*T		T	12 00 18.4		
BART	**Pico Bartolome**	32.79	11	*e*T		T	12 01 08.6		
PTLB	**Pontes e Lacer**	33.44	231	P		P	11 27 22.7	+0.8	
PTLB				IAmb		IAmb	11 27 30.3		
	comp=Z,17nm,1.3s								
SAML	**Samuel**	33.57	245	P		P	11 27 22.9	-0.2	
SAML				IAmb		IAmb	11 27 30.4		
	comp=Z,17nm,1.1s								
SAML	**Samuel**	33.57	245	P		P	11 27 22.9	-0.2	
SAML				pmax	pmax				
	comp=Z,17nm,1.1s								
AQDB	**Aquidauana**	34.31	220	P		P	11 27 29.5	+0.1	
AQDB				IAmb		IAmb	11 27 38.0		
	comp=Z,16nm,1.3s								
TOA0	**Torodi Ar. Sit**	34.80	75	P		P	11 27 33.0	-0.8	
TORD	**Torodi Ar. Bea**	34.80	75	P		P	11 27 31.5	-2.3	
TORD	**Torodi Ar. Bea**	34.80	75	P		P	11 27 33.5	-0.3	
	comp=Z,10nm,0.7s,baz=273,slow=8.3,SNR=76								
TORD				LR		LR	11 40 00.1		
	comp=Z,1μm,20.6s,baz=250,slow=33								
	comp=Z,10nm,0.7s								
SJG	**San Juan**	34.88	294	LR		LR	11 38 41.6		
	comp=Z,909nm,21.8s,baz=98,slow=31								
BAUV	**El Baul**	35.13	278	P		P	11 27 37.1	+0.5	
SIV	**San Ignacio**	35.26	232	LR		LR	11 40 58.1		
	comp=Z,793nm,20.3s,baz=86,slow=34								
ETMB	**Extrema**	36.65	245	P		P	11 27 49.2	-0.5	
ETMB				IAmb		IAmb	11 27 57.2		
	comp=Z,35nm,1.5s								
SDV	**Santo Domingo**	37.68	277	P		P	11 27 59.1	+0.4	
SDV	**Santo Domingo**	37.68	277	LR		LR	11 43 15.0		
	comp=Z,520nm,20.5s,baz=90,slow=36								
MDT	**Midelt**	37.73	41	LR		LR	11 42 43.4		
	comp=Z,562nm,18.4s,baz=246,slow=35								
CPUP	**Villa Florida**	39.65	216	P		P	11 28 15.4	+0.6	
CPUP	**Villa Florida**	39.65	216	P		P	11 28 15.4	+0.6	
CPUP				pmax	pmax				
	comp=Z,19nm,1.3s								
CPUP	**Villa Florida**	39.65	216	P		P	11 28 15.5	+0.7	
	comp=Z,5.8nm,1.0s,baz=34,slow=7.5,SNR=8.2								
CPUP				LR		LR	11 44 08.7		
	comp=Z,803nm,18.4s,baz=40,slow=35								
	comp=Z,5.8nm,1.0s								
TAM	**Tamanrasset**	40.71	61	P		P	11 28 25.0	+1.1	
TAM				IAmb		IAmb	11 28 26.9		
	comp=Z,25nm,1.3s								
TAM	**Tamanrasset**	40.71	61	P		P	11 28 25.0	+1.1	
TAM				pmax	pmax				
	comp=Z,25nm,1.3s								
LPAZ	**La Paz**	41.17	238	P		P	11 28 28.6	+0.4	
LPAZ	**La Paz**	41.17	238	P		P	11 28 28.6	+0.4	
ROSC	**El Rosal**	41.37	271	P		P	11 28 30.3	+0.6	
ROSC				IAmb		IAmb	11 28 33.6		
	comp=Z,37nm,1.2s								
ROSC	**El Rosal**	41.37	271	P		P	11 28 30.3	+0.6	
ROSC				pmax	pmax				
	comp=Z,37nm,1.2s								
ROSC	**El Rosal**	41.37	271	P		P	11 28 30.6	+1.0	
	comp=Z,5.5nm,0.3s,baz=73,slow=6.0,SNR=9.4								
ROSC				LR		LR	11 44 17.3		
	comp=Z,843nm,21.9s,baz=108,slow=34								
	comp=Z,5.5nm,0.3s								
ITQB	**Itaqui**	41.86	212	P		P	11 28 32.4	-0.6	
ITQB				IAmb		IAmb	11 28 34.8		
	comp=Z,31nm,1.2s								
PLTB	**Pedras Altas**	42.11	207	P		P	11 28 34.7	-0.3	
PLTB				IAmb		IAmb	11 28 37.9		
	comp=Z,24nm,1.2s								
ESDC	**Sonseca Array**	42.74	33	P		P	11 28 40.0	-0.2	
ESDC	**Sonseca Array**	42.74	33	P		P	11 28 40.2	+0.1	
	comp=Z,7.3nm,1.2s,baz=228,slow=8.7,SNR=11								
ESDC				LR		LR	11 43 15.1		
	comp=Z,190nm,19.6s,baz=194,slow=32								
	comp=Z,7.3nm,1.2s								
PB18	**Visviri**	42.93	237	IAmb		IAmb	11 28 48.5		
	comp=Z,24nm,1.0s								
PB09	**IPOC Station P**	44.90	231	IAmb		IAmb	11 29 00.1		
	comp=Z,45nm,1.7s								
LVC	**Limon Verde**	45.09	230	P		P	11 28 59.8	+0.2	
LVC	**Limon Verde**	45.09	230	P		P	11 28 59.8	+0.2	
LVC				pmax	pmax				
	comp=Z,10.0nm,1.1s								
LVC	**Limon Verde**	45.09	230	LR		LR	11 48 25.1		
	comp=Z,351nm,20.3s,baz=50,slow=37								
PB07	**IPOC Station P**	45.37	232	IAmb		IAmb	11 29 11.0		
	comp=Z,26nm,1.5s								
PB05	**IPOC Station P**	46.22	231	IAmb		IAmb	11 29 19.2		
	comp=Z,18nm,1.0s								
BOSC	**San Juan Bosco**	46.48	260	P		P	11 29 09.0	-1.5	
COHC	**Cochancay**	47.10	261	IAmb		IAmb	11 29 21.4		
	comp=Z,10nm,1.2s								
NNA	**Nana**	47.16	248	LR		LR	11 48 56.9		
	comp=Z,532nm,18.1s,baz=74,slow=36								
ATAH	**Atahualpa**	47.23	255	LR		LR	11 49 30.3		
	comp=Z,1μm,18.2s,baz=87,slow=37								
PB14	**IPOC Station P**	47.35	229	IAmb		IAmb	11 29 25.1		
	comp=Z,23nm,1.2s								
MCRA	**Macar, Loja**	48.14	259	P		P	11 29 21.6	-1.7	
KEST	**Kesra**	48.95	46	LR		LR	11 49 60.0		
	comp=Z,727nm,19.3s,baz=210,slow=36								
AC04	**Llanos de Chal**	49.90	226	IAmb		IAmb	11 29 48.2		
	comp=Z,26nm,1.0s								
CFA	**Coronel Fontan**	50.10	220	LR		LR	11 51 02.4		
	comp=Z,218nm,18.1s,baz=68,slow=36								
CO01	**Juntas del Tor**	50.29	223	IAmb		IAmb	11 29 44.1		
	comp=Z,47nm,1.6s								
JTS	**Las Juntas de**	51.84	279	LR		LR	11 53 05.9		
	comp=Z,261nm,19.7s,baz=79,slow=38								
BO04	**La Lunta**	53.17	220	IAmb		IAmb	11 30 09.2		
	comp=Z,12nm,0.8s								
VAE	**Valguarnera**	53.38	47	LR		LR	11 53 18.1		
	comp=Z,580nm,18.1s,baz=324,slow=37								
DOU	**Dourbes**	54.32	29	*d*P		P	11 30 09.4	+0.3	
	comp=Z,11nm,1.1s								
ECH	**Echery**	54.40	32	P		P	11 30 09.8	+0.1	
ECH				IAmb		IAmb	11 30 13.4		
	comp=Z,14nm,1.2s								
ECH	**Echery**	54.40	32	P		P	11 30 09.8	+0.1	
ECH				pmax	pmax				
	comp=Z,14nm,1.2s								
BMRD	**Maredsous**	54.54	29	*d*P		P	11 30 11.2	+0.5	
RCHB	**Rochefort**	54.66	29	*d*P		P	11 30 10.9	-0.6	
BCLA	**Clavier**	54.88	29	*d*P		P	11 30 13.9	+0.8	
	comp=Z,6.0nm,1.7s								
EKA	**Eskdalemuir Ar**	55.00	20	P		P	11 30 13.0	-0.9	
	comp=Z,1.6nm,0.7s,baz=207,slow=6.1,SNR=2.2								
	comp=Z,1.6nm,0.7s								
DAVOX	**Davos/Dischmat**	55.03	35	LR		LR	11 53 40.4		
	comp=Z,226nm,18.0s,baz=264,slow=36								
BFO	**Black Forest**	55.09	32	P		P	11 30 14.4	-0.4	
BFO				IAmb		IAmb	11 30 17.7		
	comp=Z,42nm,1.8s								
BFO	**Black Forest**	55.09	32	P		P	11 30 14.4	-0.4	
BFO				pmax	pmax				
	comp=Z,42nm,1.8s								
DAVA	**Damuels**	55.32	34	*e*P		P	11 30 17.1	+0.5	
	comp=Z,8.4nm,1.0s								
MEM	**Membach**	55.34	29	*d*P		P	11 30 16.9	+0.5	
	comp=Z,12nm,1.0s								
TSUM	**Tsumeb**	55.36	118	P		P	11 30 16.3	-0.9	
TSUM	**Tsumeb**	55.36	118	LR		LR	11 48 33.9		
	comp=Z,725nm,21.5s,baz=326,slow=30								
BTNL	**Ternell**	55.38	29	*d*P		P	11 30 17.7	+0.8	
	comp=Z,9.3nm,1.2s								
TKL	**Tuckaleechee C**	55.52	310	LR		LR	11 48 38.1		
	comp=Z,246nm,21.9s,baz=108,slow=30								
FETA	**Feichten**	55.65	35	*e*P		P	11 30 19.1	+0.1	
	comp=Z,8.3nm,1.0s								
TEIG	**Tepich**	55.76	291	LR		LR	11 52 07.7		
	comp=Z,1μm,20.4s,baz=193,slow=34								
RETA	**Reutte**	55.93	34	*i* P		P	11 30 21.3	+0.4	
	comp=Z,6.9nm,1.1s								
SQTA	**Sankt Quirin**	56.03	35	*i* P		P	11 30 21.7	0.0	
	comp=Z,9.8nm,1.0s								
MOTA	**Moosalm**	56.04	35	*e*P		P	11 30 22.1	+0.4	
	comp=Z,13nm,1.5s								
SADO	**Sadowa**	56.15	322	LR		LR	11 49 20.4		
	comp=Z,214nm,19.9s,baz=56,slow=31								
SCHQ	**Schefferville**	56.23	337	P		P	11 30 22.6	-0.2	
	comp=Z,9.4nm,1.1s,baz=138,slow=8.8,SNR=4.1								
SCHQ				LR		LR	11 51 59.1		
	comp=Z,79nm,18.4s,baz=97,slow=33								
	comp=Z,9.4nm,1.1s								
WTTA	**Wattenberg**	56.30	35	*i* P		P	11 30 23.8	+0.1	
	comp=Z,5.7nm,0.8s								
WATA	**Walderalm**	56.30	35	*e*P		P	11 30 23.7	+0.1	
	comp=Z,9.3nm,1.0s								
ABTA	**Abfaltersbach**	56.52	36	*i* P		P	11 30 26.4	+1.2	
	comp=Z,22nm,1.5s								
LESA	**Schwarzleotal**	56.98	35	*i* P		P	11 30 28.3	-0.1	
	comp=Z,7.8nm,1.1s								
MYKA	**Terra Mystica**	57.13	36	*i* P		P	11 30 31.8	+2.4	
	comp=Z,33nm,1.3s								
KBA	**Koelnbreinsper**	57.18	36	*i* P		P	11 30 31.1	+1.1	
	comp=Z,17nm,0.8s								
GO06	**Curarrehue**	57.38	215	IAmb		IAmb	11 30 31.8		
	comp=Z,9.0nm,0.8s								
OBKA	**Obir**	57.61	37	*e*P		P	11 30 35.3	+2.4	
	comp=Z,20nm,1.3s								
PLCA	**Paso Flores**	57.65	213	P		P	11 30 33.2	0.0	
	comp=Z,2.8nm,1.1s,baz=11,slow=5.2,SNR=2.8								
PLCA				LR		LR	11 54 55.7		
	comp=Z,597nm,21.1s,baz=44,slow=36								
	comp=Z,2.8nm,1.1s								
BIOA	**Bad Ischl, Aus**	57.67	35	*e*P		P	11 30 34.4	+1.2	
	comp=Z,13nm,1.4s								
SOKA	**Soboth**	57.98	37	*i* P		P	11 30 37.7	+2.2	
	comp=Z,21nm,1.2s								
MOA	**Molln**	58.12	35	*e*P		P	11 30 36.9	+0.6	
	comp=Z,10nm,1.4s								
GEC2	**GERESS Array S**	58.32	34	IAmb		IAmb	11 30 41.1		
	comp=Z,15nm,1.1s								
GERES	**GERESS Array B**	58.32	34	P		P	11 30 37.6	-0.2	
	comp=Z,6.4nm,0.9s,baz=217,slow=4.7,SNR=12								
	comp=Z,6.4nm,0.9s								
KHC	**Kasperske Hory**	58.40	34	IAmb		IAmb	11 30 41.6		
	comp=Z,10nm,1.1s								
KHC	**Kasperske Hory**	58.40	34	*e*P		P	11 30 38.5	+0.2	
KHC	**Kasperske Hory**	58.40	34	*e*P		P	11 30 38.5	+0.2	
CKRC	**Cesky Krumlov**	58.65	35	*e*P		P	11 30 40.3	+0.3	
CKRC	**Cesky Krumlov**	58.65	35	*e*P		P	11 30 40.3	+0.3	
CONA	**Conrad Observa**	59.09	36	*e*P		P	11 30 43.9	+0.7	
	comp=Z,13nm,1.6s								
HSKC	**Hora Svate Kat**	59.12	32	*e*P		P	11 30 44.2	+0.9	
RONA	**Rosalia, Austr**	59.23	36	*i* P		P	11 30 44.8	+0.7	
	comp=Z,10.0nm,1.1s								
PRU	**Pruhonice**	59.39	33	*e*P		P	11 30 45.5	+0.4	
PRU	**Pruhonice**	59.39	33	*e*P		P	11 30 45.5	+0.4	
BRG	**Berggiesshubel**	59.54	32	*e*P		P	11 30 47.0	+0.9	
BRG				Amp			11 30 49.4		
	comp=Z,8.3nm,1.1s								
BRG	**Berggiesshubel**	59.54	32	P		P	11 30 54.3	+8.2	
BRG				Amp			11 30 55.4		
	comp=Z,6.3nm,1.1s								
BRG	**Berggiesshubel**	59.54	32	*e*P		P	11 30 46.9	+0.9	
BRG							11 30 54.2		
BRG				pmax	pmax				
	comp=Z,8.0nm,1.1s								
BRG				pmax	pmax				
	comp=Z,6.0nm,1.1s								
BORG	**Borgarnes**	59.63	6	LR		LR	11 51 47.8		
	comp=Z,136nm,18.4s,baz=239,slow=31								
KRUC	**Moravsky**	59.95	35	*e*P		P	11 30 48.7	-0.3	
MODS	**Modra-Piesok**	60.13	36	*e*P		P	11 30 50.5	+0.2	
MODS	**Modra-Piesok**	60.13	36	*e*P		P	11 30 50.5	+0.2	
MODS				pmax	pmax				
	comp=Z,37nm,1.3s								
VRAC	**Vranov**	60.19	35	⇑P		P	11 30 51.7	+1.1	
VRAC	**Vranov**	60.19	35	*e*P		P	11 30 49.7	-0.9	
VRAC	**Vranov**	60.19	35	⇑P		P	11 30 51.7	+1.1	
VRAC	**Vranov**	60.19	35	LR		LR	11 54 40.6		
	comp=Z,158nm,19.8s,baz=270,slow=34								
UPC	**Upice**	60.46	34	*e*P		P	11 30 53.4	+0.9	
UPC	**Upice**	60.46	34	*e*P		P	11 30 53.4	+0.9	
SRO	**Srobarova**	60.48	37	*e*P		P	11 30 53.8	+1.2	
SRO	**Srobarova**	60.48	37	*e*P		P	11 30 53.8	+1.2	
SRO				pmax	pmax				
	comp=Z,27nm,1.4s								
DPC	**Dobruska-Polom**	60.55	34	*e*P		P	11 30 53.9	+0.7	
DPC	**Dobruska-Polom**	60.55	34	*e*P		P	11 30 53.9	+0.7	
OSTC	**Ostas**	60.60	34	*e*P		P	11 30 54.3	+0.9	
OSTC	**Ostas**	60.60	34	*e*P		P	11 30 54.3	+0.9	
BOVS	**Bovan**	60.91	43	⇑P		P	11 30 56.1	+0.5	
MAUC	**Maruska**	60.92	35	*e*P		P	11 30 56.7	+1.0

comp=Z,127nm,1.6s
SCO Scoresbysund 65.20 4 *i* P **P** **11 31 23.8 +0.2**
SCO IAmb IAmb 11 31 28.9
comp=Z,2.5nm,0.9s
BOSA Boshof 65.34 125 P **P** **11 31 25.0 -0.5**
BOSA Boshof 65.34 125 P **P** **11 31 25.0 -0.5**
BOSA pmax pmax
comp=Z,15nm,0.9s
BOSA Boshof 65.34 125 P **P** **11 31 25.5 0.0**
comp=Z,15nm,0.8s,baz=304,slow=5.6,SNR=22
BOSA LR LR 11 54 18.9
comp=Z,318nm,21.2s,baz=268,slow=31
comp=Z,15nm,0.8s
CFR Carcaliu 65.77 43⇑ P **P** **11 31 26.6 -1.2**
CFR Carcaliu 65.77 43⇑ P **P** **11 31 26.6 -1.2**
SORM Soroca 66.82 40⇑ P **P** **11 31 33.8 -0.7**
SORM Soroca 66.82 40⇑ P **P** **11 31 33.8 -0.7**
BRDY Brady 66.83 302 P **P** **11 31 34.0 -0.9**
BRDY IAmb IAmb 11 31 48.8
comp=Z,8.1nm,1.1s
SUMG Summit 67.02 358 *i* P **P** **11 31 37.0 +1.2**
SUMG IAmb IAmb 11 31 49.7
comp=Z,3.0nm,0.8s
EIL Elat 67.93 60 LR LR 12 02 40.7
comp=Z,307nm,18.2s,baz=249,slow=37
LODK Lodwar 67.94 89 P **P** **11 31 44.1 +1.8**
LODK IAmb IAmb 11 31 45.7
comp=Z,12nm,1.1s
KIEV Kiev 68.17 37⇑ P **P** **11 31 42.3 -0.7**
KIEV Kiev 68.17 37 P **P** **11 31 41.8 -1.2**
KIEV Kiev 68.17 37⇑ P **P** **11 31 42.3 -0.7**
AKASG Malin Array Be 68.19 37 IAmb IAmb 11 31 45.4
comp=Z,11nm,1.1s
AKASG Malin Array Be 68.19 37 P **P** **11 31 42.8 -0.3**
comp=Z,12nm,1.0s,baz=249,slow=6.9,SNR=26
AKASG LR LR 12 01 06.9
comp=Z,128nm,19.3s,baz=256,slow=36
comp=Z,12nm,1.0s
AKBB Malin Array Si 68.19 37⇑ *eP* **P** **11 31 43.1 0.0**
NACGM Naroch 68.28 32 *eP* **P** **11 31 44.2 +0.6**
comp=Z,38nm,0.8s,baz=248
BR131 Keskin Array S 68.38 49‖ *eP* **P** **11 31 45.2 +0.5**
BRTR Keskin Array B 68.38 49 P **P** **11 31 44.6 -0.1**
BRTR Keskin Array B 68.38 49 *ce*P **P** **11 31 45.5 +0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 68.38 49 P **P** **11 31 45.0 +0.3**
comp=Z,1.7nm,0.8s,baz=243,slow=5.8,SNR=8.2
comp=Z,1.7nm,0.8s
OZNA Ozona 68.59 301 P **P** **11 31 46.6 +0.5**
OZNA IAmb IAmb 11 32 01.3
comp=Z,18nm,1.5s
ULM Lac du Bonnet 68.70 322 P **P** **11 31 45.6 -0.8**
comp=Z,2.9nm,0.9s,baz=103,slow=6.8,SNR=1.8
ULM LR LR 11 56 35.1
comp=Z,171nm,21.0s,baz=122,slow=31
comp=Z,2.9nm,0.9s
MMAI Mount Meron Ar 68.71 57 P **P** **11 31 48.3 +1.5**
comp=Z,0.5nm,0.2s,baz=222,slow=1.9,SNR=1.4
MMAI LR LR 12 06 01.0
comp=Z,133nm,18.1s,baz=226,slow=40
comp=Z,0.5nm,0.2s
MNK Minsk 68.73 33 *i* P **P** **11 31 45.9 -0.5**
comp=E,7.0nm,0.9s
MNK *i* P **P** **11 31 45.9 -0.5**
comp=N,21nm,0.9s
MNK *i* P **P** **11 31 45.9 -0.5**
comp=Z,16nm,0.9s,baz=249
MNK *i* PcP **PcP** **11 32 10.3 -0.8**
MNK *i* PP **PP** **11 34 17.6 -0.5**
MNK *i* PPP PPP 11 35 57.0
MNK *i* S **S** **11 40 50.2 +0.8**
MNK *i* SS SS 11 43 58.0 -76
MNK *i* SSS SSS 11 49 57.7
MNK *i* LQ LQ 11 57 06.8
MNK *i* LR LR 12 01 38.3
MNK *i* LRM MLR 12 05 56.1
comp=Z,101nm,16.4s
MNK *i* LRM MLR 12 06 22.7
comp=E,133nm,16.9s
MNK *i* LRM MLR 12 06 53.6
comp=N,298nm,16.1s
MNK Minsk 68.73 33 *i* P **P** **11 31 45.9 -0.5**
MNK *i* 11 32 10.2
MNK *i* 11 34 17.5
MNK *i* PPP PPP 11 35 57.0
MNK *i* S **S** **11 40 50.2 +0.8**
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=N,21nm,0.9s
MNK pmax pmax
comp=Z,16nm,0.9s
MNK MLR MLR
comp=Z,101nm,16.0s
MNK MLR MLR
comp=E,133nm,17.0s
MNK MLR MLR
comp=N,298nm,16.0s
SAND Sanderson 69.35 300 P **P** **11 31 51.6 +0.8**
SAND IAmb IAmb 11 32 10.8
comp=Z,33nm,1.9s
KMBO Kilima Mbogo 70.25 93‖ *eP* **P** **11 31 57.4 +0.5**
KMBO Kilima Mbogo 70.25 93 P **P** **11 31 57.7 +0.8**
comp=Z,1.0nm,0.3s,baz=265,slow=8.7,SNR=6.9
KMBO LR LR 12 00 27.9
comp=Z,369nm,19.1s,baz=272,slow=34
comp=Z,1.0nm,0.3s
FINES FINESS Array B 70.61 26 *i* P **P** **11 31 58.4 +0.6**
FINES pmax pmax
comp=Z,9.0nm,0.9s
FINES FINESS Array B 70.61 26 P **P** **11 31 57.2 -0.6**
comp=Z,9.7nm,0.9s,baz=242,slow=8.8,SNR=7.7
FINES LR LR 12 03 27.8
comp=Z,64nm,18.0s,baz=227,slow=36
comp=Z,9.7nm,0.9s
TXAR Lajitas Array 70.63 299 P **P** **11 31 58.7 -0.1**
comp=Z,0.3nm,0.5s,baz=107,slow=6.0,SNR=7.6
TXAR LR LR 11 59 43.8
comp=Z,87nm,21.7s,baz=69,slow=33
comp=Z,0.3nm,0.5s
FCC Fort Churchill 70.64 331 P **P** **11 31 57.5 -0.6**
FCC Fort Churchill 70.64 331 P **P** **11 31 57.5 -0.6**
FCC pmax pmax
comp=Z,37nm,1.7s
ALPN Alpine 70.69 300 IAmb IAmb 11 32 12.4
comp=Z,14nm,1.4s
KIBK Kibwezi 71.17 94 P **P** **11 32 01.7 -0.6**
KIBK IAmb IAmb 11 32 07.0
comp=Z,16nm,1.5s
ISCO Idaho Springs 73.27 310 P **P** **11 32 15.0 +0.3**
ISCO IAmb IAmb 11 32 23.8
comp=Z,18nm,1.4s
ISCO Idaho Springs 73.27 310 P **P** **11 32 15.0 +0.3**
ISCO pmax pmax
comp=Z,18nm,1.5s
ANMO Albuquerque 73.45 305⇑ *eP* **P** **11 32 17.0 +1.3**
ANMO Albuquerque 73.45 305 LR LR 12 00 33.5
comp=Z,332nm,21.6s,baz=182,slow=33
FFC Flin Flon 73.52 326 P **P** **11 32 15.1 -0.3**
FFC Flin Flon 73.52 326 P **P** **11 32 15.1 -0.3**
FFC pmax pmax
comp=Z,41nm,1.7s
OBN Obninsk 73.70 34⇑ *eP* **P** **11 32 17.3 +0.9**
OBN *e* 11 35 02.4
OBN pmax pmax
comp=Z,19nm,1.2s
OBN MLR MLR
comp=Z,170nm,18.0s
S22A 4UR Ranch, Cre 74.00 308 IAmb IAmb 11 32 43.7
comp=Z,17nm,1.9s
ARCES ARCESS Array B 74.08 18 P **P** **11 32 18.0 -0.4**
comp=Z,4.0nm,0.9s,baz=248,slow=7.4,SNR=3.6
ARCES LR LR 11 58 54.3
comp=Z,109nm,21.1s,baz=256,slow=31
comp=Z,4.0nm,0.9s
VSR Storozhevoye 74.39 38 *eP* **P** **11 32 18.0 -2.6**
VSR pmax pmax
comp=Z,20nm,1.2s
VORD Divnogorie 74.42 39 *eP* **P** **11 32 19.4 -1.4**
VORD pmax pmax
comp=Z,10.0nm,1.1s
MOS Moscow 74.43 34 *eP* **P** **11 32 19.5 -1.2**
MOS *e* 11 32 31.7
MOS pmax pmax
comp=Z,45nm,0.8s
VORR Voronezh 74.50 38 *eP* **P** **11 32 22.0 +0.8**
VORR pmax pmax
comp=Z,87nm,0.4s
LPSR Galich'ya Gora 74.51 37 *eP* **P** **11 32 20.4 -0.9**
LPSR pmax pmax
comp=Z,20nm,1.0s
ATD Arta Tunnel 74.85 80 LR LR 12 03 58.2
comp=Z,13nm,19.2s,baz=342,slow=35
O20A White River Ci 75.31 310 IAmb IAmb 11 32 40.7
comp=Z,16nm,1.1s
KIV Kislovodsk 75.69 46 *eP* **P** **11 32 28.9 +0.5**
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,55nm,18.0s
KBZ Khabaz 75.82 46⇑ *eP* **P** **11 32 29.4 +0.5**
KBZ pmax pmax
comp=Z,7.0nm,1.3s
KBZ Khabaz 75.82 46 P **P** **11 32 29.5 +0.5**
comp=Z,3.2nm,0.8s,baz=249,slow=9.4,SNR=6.8
KBZ LR LR 12 08 57.9
comp=Z,75nm,18.5s,baz=264,slow=38
comp=Z,3.2nm,0.8s
VRH Novokhopyorsk 75.97 39 *eP* **P** **11 32 29.3 -0.4**
VRH pmax pmax
comp=Z,49nm,2.1s
ONI Oni 76.11 48 IAmb IAmb 11 32 32.7
comp=Z,9.0nm,0.9s
LPIG La Paz 76.37 293 LR LR 12 05 03.1
comp=Z,65nm,20.1s,baz=72,slow=35
ZEI Tsey 76.46 47 *eP* **P** **11 32 33.1 +0.1**
ZEI pmax pmax
comp=Z,8.0nm,1.1s
PDAR Pinedale Array 76.53 313 P **P** **11 32 33.3 -0.1**
comp=Z,1.8nm,0.9s,baz=95,slow=9.1,SNR=9.4
PDAR LR LR 12 02 18.1
comp=Z,222nm,21.0s,baz=106,slow=33
comp=Z,1.8nm,0.9s
RLMT Red Lodge 76.54 315 IAmb IAmb 11 32 50.6
comp=Z,15nm,1.6s
KLMR Klimovskoe 76.57 29 *eP* **P** **11 32 31.1 -1.8**
KLMR AMP 11 32 34.5
comp=Z,44nm,1.5s
KLMR Klimovskoe 76.57 29 *eP* **P** **11 32 31.1 -1.8**
KLMR pmax pmax
comp=Z,44nm,1.5s
SPITS Spitsbergen Ar 76.78 9 LR LR 11 57 55.5
comp=Z,128nm,20.0s,baz=222,slow=29
GNI Garni 76.89 50⇑ *eP* **P** **11 32 36.0 +0.6**
GNI pmax pmax
comp=Z,20nm,1.5s
GNI Garni 76.89 50 LR LR 12 07 51.9
comp=Z,74nm,21.4s,baz=270,slow=37
TUC Tucson 76.91 302 P **P** **11 32 35.6 0.0**
TUC Tucson 76.91 302 P **P** **11 32 35.6 0.0**
TUC pmax pmax
comp=Z,6.0nm,1.0s
HMU Henry Mountain 77.10 308 P **P** **11 32 37.2 +0.5**
HMU IAmb IAmb 11 32 45.2
comp=Z,11nm,1.4s
LOHW Long Hollow 77.36 313 IAmb IAmb 11 32 46.5
comp=Z,16nm,1.4s
FLWY Flagg Ranch 77.46 314 IAmb IAmb 11 32 43.2
comp=Z,9.6nm,1.1s
RES Resolute Bay 77.48 346 IAmb IAmb 11 32 46.1
comp=Z,19nm,1.2s
WUAZ Wupatki 77.50 305 IAmb IAmb 11 32 48.3
comp=Z,7.9nm,1.0s
IMW Indian Meadow 77.62 314 IAmb IAmb 11 32 47.4
comp=Z,15nm,1.4s
YMR Madison River 77.70 314 IAmb IAmb 11 32 44.8
comp=Z,13nm,1.1s
TCUT Toone Canyon 77.79 311 IAmb IAmb 11 32 49.7
comp=Z,22nm,1.5s
YHL Hebgen Lake 77.87 315 IAmb IAmb 11 33 03.2
comp=Z,17nm,1.7s
HWUT Hardware Ranch 77.93 311 IAmb IAmb 11 32 45.2
comp=Z,6.8nm,0.8s
MTPU Mount Pierson 78.24 308 IAmb IAmb 11 32 52.0
comp=Z,8.1nm,1.0s
DUG Dugway, Tooele 78.81 310 P **P** **11 32 46.0 -0.1**
DUG Dugway, Tooele 78.81 310 P **P** **11 32 46.0 -0.1**
DUG pmax pmax
comp=Z,10.0nm,1.5s
SNAA Sanae 79.55 171⇑ *eP* **P** **11 32 50.3 +1.0**
SNAA pmax pmax
comp=Z,5.0nm,0.9s
SNAA Sanae 79.55 171 P **P** **11 32 51.9 +2.5**
comp=Z,3.6nm,0.8s,baz=328,slow=6.7,SNR=4.4
comp=Z,3.6nm,0.8s
PRGR Permogore 79.61 28 *eP* **P** **11 32 48.5 -1.3**
PRGR pmax pmax
comp=Z,54nm,1.1s
BELG Belogornoye 79.75 38⇑ *eP* **P** **11 32 51.5 +0.8**
BELG pmax pmax
comp=Z,4.0nm,1.3s
BELG Belogornoye 79.75 38 LR LR 12 09 23.8
comp=Z,94nm,18.1s,baz=179,slow=37
EDM Edmonton 79.91 323 P **P** **11 32 51.5 -0.2**
EDM IAmb IAmb 11 32 59.1
comp=Z,23nm,1.0s
EDM Edmonton 79.91 323 P **P** **11 32 51.5 -0.2**
EDM pmax pmax
comp=Z,23nm,1.0s
RPN Rapa Nui 80.65 241 LR LR 12 04 19.0
comp=Z,172nm,21.5s,baz=79,slow=32
ELK Elko 80.68 310 LR LR 12 06 03.6
comp=Z,154nm,19.7s,baz=91,slow=34
S11A Rachel 81.06 307 IAmb IAmb 11 33 26.7
comp=Z,12nm,1.2s
KIRV Kirov 81.20 32*d* *i*P **P** **11 32 58.8 +0.5**
KIRV Kirov 81.20 32 LR LR 12 06 55.7
comp=Z,87nm,19.6s,baz=265,slow=34
YKA Yellowknife Ar 81.30 332 P **P** **11 32 58.4 -0.5**
comp=Z,2.5nm,1.1s,baz=94,slow=5.5,SNR=13
YKA LR LR 12 05 45.5
comp=Z,140nm,19.4s,baz=30,slow=33
comp=Z,2.5nm,1.1s
WCT Wildcat Mounta 81.77 306 IAmb IAmb 11 33 11.0
comp=Z,9.0nm,1.2s
GWY Greenwater Val 81.81 306 IAmb IAmb 11 33 11.2
comp=Z,7.8nm,1.1s
NEW Newport 82.10 318 IAmb IAmb 11 33 10.6
comp=Z,10nm,1.3s
NEW Newport 82.10 318 LR LR 12 07 18.8
comp=Z,99nm,19.2s,baz=81,slow=34
E09A Wood Farm, Sta 82.80 316 IAmb IAmb 11 33 14.1
comp=Z,8.2nm,1.2s
NVAR Mina Array Bea 83.06 308 P **P** **11 33 09.8 +0.9**
comp=Z,1.5nm,0.9s,baz=105,slow=5.5,SNR=8.7
NVAR LR LR 12 07 13.7
comp=Z,44nm,21.5s,baz=94,slow=34
comp=Z,1.5nm,0.9s
LHV Little Huntoon 83.23 308 IAmb IAmb 11 33 18.2
comp=Z,11nm,1.2s
RYN Ryan 83.23 308 IAmb IAmb 11 33 17.5
comp=Z,13nm,1.7s
ISA Isabella, Lake 83.29 305 IAmb IAmb 11 33 19.0
comp=Z,6.6nm,1.1s
BELA Belgrano 2 83.34 180 P **P** **11 33 08.9 -0.3**
BELA IAmb IAmb 11 33 12.8
comp=Z,13nm,1.0s
PNTR Pine Nut 84.05 309 IAmb IAmb 11 33 24.1
comp=Z,4.1nm,0.7s
I05D Terrebonne, OR 85.11 314 IAmb IAmb 11 33 24.3
comp=Z,8.6nm,0.7s
A36M Sachs Harbour 85.50 342 IAmb IAmb 11 33 28.9
comp=Z,14nm,1.1s
H04A Detroit Lake 85.70 314 IAmb IAmb 11 33 25.6
comp=Z,8.4nm,1.1s
ARU Arti 86.14 34 P **P** **11 33 24.1 +0.3**
ARU Arti 86.14 34*ce*P **P** **11 33 25.3 +1.5**
ARU pmax pmax
comp=Z,42nm,1.7s
ARU Arti 86.14 34 LR LR 12 08 59.7
comp=Z,173nm,22.0s,baz=268,slow=34
AKTO Aktyubinsk 86.25 40 LR LR 12 10 27.5
comp=Z,81nm,21.6s,baz=220,slow=35
YBH Yreka Blue Hor 86.28 311 LR LR 12 09 14.7
comp=Z,122nm,19.3s,baz=74,slow=34
UOSS Minazif 86.76 65 P **P** **11 33 27.7 +0.2**
L02F Cave Junction 86.89 312 P **P** **11 33 28.8 +0.9**
L02F IAmb IAmb 11 33 49.3
comp=Z,21nm,1.4s
GEYT Alibeck 87.32 52 P **P** **11 33 30.5 +0.5**
comp=Z,1.2nm,0.3s,baz=291,slow=4.3,SNR=1.6
GEYT LR LR 12 16 28.8
comp=Z,90nm,19.8s,baz=316,slow=38
comp=Z,1.2nm,0.3s
ABKAR Akbulak array 87.60 41 P **P** **11 33 30.4 -0.7**
ABKAR IAmb IAmb 11 33 34.7
comp=Z,9.7nm,1.2s
BBB Bella Bella 88.91 322 LR LR 12 09 56.9
comp=Z,94nm,21.5s,baz=76,slow=33
WSAR Wadi Sarin 89.12 67 LR LR 12 14 29.5
comp=Z,413nm,20.2s,baz=268,slow=36
G31M Satah River 89.39 337 IAmb IAmb 11 33 46.5
comp=Z,12nm,1.2s
H29M Whitestone 91.16 337 IAmb IAmb 11 33 52.3
comp=Z,19nm,1.6s
D27M Malcolm River 91.18 340 IAmb IAmb 11 33 55.9
comp=Z,14nm,1.3s
E27K Coleen River 91.74 339 IAmb IAmb 11 33 58.5
comp=Z,9.3nm,1.2s
DAWY Dawson 92.20 335 P **P** **11 33 54.7 +2.4**
DAWY IAmb IAmb 11 34 07.4
comp=Z,18nm,1.8s
G27K Doyon Strip 92.23 338 IAmb IAmb 11 34 00.7
comp=Z,17nm,1.7s
BRVK Borovoye 93.37 36 P **P** **11 33 59.8 +1.9**
BRVK Borovoye 93.37 36‖ *eP* **P** **11 33 59.0 +1.1**
BRVK pmax pmax
comp=Z,4.0nm,1.2s
BVAR Borovoye Array 93.44 36 P **P** **11 33 58.3 +0.1**
comp=Z,0.7nm,0.7s,baz=283,slow=8.7,SNR=2.6
BVAR LR LR 12 14 42.6
comp=Z,101nm,20.2s,baz=286,slow=35
comp=Z,0.7nm,0.7s
TOLK Toolik Lake Re 94.28 341 P **P** **11 34 04.2 +2.3**
TOLK IAmb IAmb 11 34 09.3
comp=Z,9.1nm,1.2s
ILAR Eielson Array 94.99 337 P **P** **11 34 04.9 -0.3**
comp=Z,0.9nm,1.0s,baz=46,slow=4.8,SNR=7.8
ILAR LR LR 12 15 58.8
comp=Z,96nm,18.0s,baz=72,slow=35
comp=Z,0.9nm,1.0s
D22K Ayikyak River 95.16 342 IAmb IAmb 11 34 14.1
comp=Z,12nm,1.2s
QSPA South Pole Qui 95.61 180 LR LR 12 11 33.0
comp=Z,51nm,20.2s,baz=220,slow=32
MAW Mawson 97.28 157 LR LR 12 12 20.2
comp=Z,68nm,18.4s,baz=256,slow=32
AAK Ala-Archa 98.80 45‖ *eP* Pdif 11 34 24.0 +0.9
AAK pmax pmax
comp=Z,2.0nm,1.1s
AAK Ala-Archa 98.80 45 LR LR 12 22 29.9
comp=Z,47nm,20.6s,baz=262,slow=38
KURBB Kurchatov Arra 98.97 37 LR LR 12 17 48.9
comp=Z,89nm,20.7s,baz=154,slow=35
TAOE Nuku Hiva Isla 107.96 263 *e*SS SS 11 54 46.7 -0.4
comp=Z,47nm,25.4s
TAOE Nuku Hiva Isla 107.96 263 *e*LR LR 12 10 43.9
comp=Z,120nm,21.8s
TBI Tubuai 116.67 247 *e*LR LR 12 14 45.4
comp=Z,458nm,27.5s
PPT2 Papeete2 117.19 253 *e*SS SS 11 57 04.0 +14
comp=Z,159nm,28.2s
PPT2 Papeete2 117.19 253 *e*LR LR 12 14 53.8
comp=Z,166nm,23.8s
PPT2 *e*LR LR 12 15 09.1
comp=Z,166nm,22.5s
HHC Hu-ho-hao-te 123.41 32 *eP* **PKPdf** **11 39 36.5 -4.0**
CD2 Chengdu 124.86 46 PKP **PKPdf** **11 39 42.8 -0.7**
CMAR Chiang Mai Arr 126.75 62 PKP **PKiKP** **11 39 48.1 +0.3**
comp=Z,1.4nm,0.8s,baz=297,slow=3.8,SNR=8.5
MDJ Mudanjiang 127.58 16 PKP **PKPdf** **11 39 48.3 +0.1**
MDJ pPKP sPKPdf 11 39 52.5 +0.4
MDJ sPKP 11 39 55.8
MDJ PP **PP** **11 41 48.3 +0.5**
MDJ SKS **SKSdf** **11 47 01.8 +1.7**
MDJ Mudanjiang 127.58 16 SS SS 11 59 04.8 +6.8
MDJ AMB AMB
comp=Z,500nm,4.9s
MDJ LR LR
comp=N,360nm,15.7s
MDJ LR LR
comp=E,390nm,14.3s
MDJ LR LR
comp=Z,450nm,15.9s
NJ2 Nanjing 133.85 34 *eP* **PKPdf** **11 40 00.3 -0.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
DZM Mont Dzumac 155.21 227 *e*LR LR 12 32 26.7
comp=Z,67nm,22.6s
ASAR Alice Springs 157.91 146 PKP **PKPdf** **11 40 40.8 +0.3**
comp=Z,1.6nm,0.9s,baz=195,slow=1.0,SNR=15
ASAR PKPab **PKPab** **11 41 13.1 -0.2**
comp=Z,1.0nm,0.8s,baz=208,slow=4.7,SNR=6.4
WRA Warramunga Arr 161.00 140 PKP **PKPdf** **11 40 45.5 +1.3**
comp=Z,1.4nm,1.1s,baz=250,slow=1.9,SNR=4.7
WRA PKPab **PKPab** **11 41 27.3 +0.5**
comp=Z,2.8nm,1.2s,baz=221,slow=2.5,SNR=4.5

*NOU **28** 11:29:47.1, 39°.53S×174°.17E, h231km, MLv3.7/12, North Island, New Zealand*
*WEL **28** 11:29:50.8±0.8, 40°.5±6°×17°.4E±°, h192km±6km, M3.0/26, ML2.8/11, MLv3.0/26, Error ellipse: s-maj=0.0km s-min=0.0km az=126.8, confirmed*
ISC 28 11:29:46.0±1.7, **39°.54S**±0°.06×**174°.14E**±0°.06, **h227**km±10km, **n98**, σ1**$ 44**/105, **North Island**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.22**	**69**	P	P	**Pn**	**11 30 17.1**	**+1.5**
LREZ				S	S	**S**	**11 30 38.4**	**-0.3**
VRZ	**Vera Road**	**0.64**	**50**	P	P	**Pn**	**11 30 17.4**	**+0.7**
VRZ				S	S	**S**	**11 30 39.2**	**-1.5**
WAZ	**Wanganui**	**0.69**	**108**	P	P	**Pn**	**11 30 19.1**	**+2.2**
WAZ				S	S	**S**	**11 30 40.7**	**-0.5**
PKVZ	**Pokaka**	**0.97**	**75**	P	P	**Pn**	**11 30 19.6**	**+1.1**
MTVZ	**Mangateitei**	**1.05**	**82**	P	P	**Pn**	**11 30 20.2**	**+1.3**
MTVZ				S	S	**S**	**11 30 42.9**	**-1.7**
TWVZ	**Taurewa**	**1.11**	**66**	P	P	**Pn**	**11 30 20.5**	**+1.0**
TRVZ	**Turoa**	**1.12**	**78**	P	P	**Pn**	**11 30 21.1**	**+1.4**
FWVZ	**Far West T-bar**	**1.14**	**76**	P	P	**Pn**	**11 30 21.0**	**+1.3**
WNVZ	**Wahianoa**	**1.15**	**80**	P	P	**Pn**	**11 30 21.2**	**+1.5**
WNVZ				S	S	**S**	**11 30 44.2**	**-1.9**
WHVZ	**Whangaehu Hut**	**1.16**	**78**	P	P	**Pn**	**11 30 21.4**	**+1.6**
HIZ	**Hauiti**	**1.17**	**29**	P	P	**Pn**	**11 30 20.5**	**+0.8**
HIZ	**Hauiti**	**1.17**	**29**	P	P	**Pn**	**11 30 20.5**	**+0.8**
TUVZ	**Tukino**	**1.21**	**77**	P	P	**Pn**	**11 30 21.8**	**+1.7**
SNVZ	**South Ngauruho**	**1.22**	**74**	P	P	**Pn**	**11 30 22.0**	**+1.7**
MOVZ	**Moawhango**	**1.26**	**84**	P	P	**Pn**	**11 30 21.4**	**+1.0**
MOVZ				S	S	**S**	**11 30 44.2**	**-3.0**
DUWZ	**D'Urville Isla**	**1.27**	**187**	P	P	**Pn**	**11 30 22.1**	**+1.7**
KIW	**Kapiti Island**	**1.45**	**156**	P	P	**Pn**	**11 30 23.0**	**+1.4**
KIW				S	S	**S**	**11 30 47.0**	**-2.6**
BHHZ	**Black Hill Sta**	**1.49**	**89**	P	P	**Pn**	**11 30 23.1**	**+1.0**
TSZ	**Takapari Road**	**1.50**	**111**	P	P	**Pn**	**11 30 24.0**	**+1.9**
OGWZ	**Otaki Gorge**	**1.50**	**148**	P	P	**Pn**	**11 30 23.7**	**+1.6**
POWZ	**Post Office Ro**	**1.52**	**125**	P	P	**Pn**	**11 30 23.7**	**+1.5**
MRZ	**Mangatainoka R**	**1.57**	**136**	P	P	**Pn**	**11 30 24.0**	**+1.3**
PNHZ	**Pukenui**	**1.64**	**104**	P	P	**Pn**	**11 30 24.8**	**+1.6**
TCW	**Tory Channel**	**1.67**	**176**	P	P	**Pn**	**11 30 25.4**	**+1.9**
HOWZ	**Holdsworth Sta**	**1.72**	**142**	P	P	**Pn**	**11 30 25.2**	**+1.3**
CAW	**Cannon Point**	**1.72**	**156**	P	P	**Pn**	**11 30 25.4**	**+1.4**
KRHZ	**Kereru**	**1.73**	**94**	P	P	**Pn**	**11 30 25.8**	**+1.7**
PRWZ	**Pori Road**	**1.74**	**126**	P	P	**Pn**	**11 30 25.9**	**+1.8**
DVHZ	**Dannevirke**	**1.74**	**117**	P	P	**Pn**	**11 30 25.6**	**+1.5**
TKNZ	**Takaka Hill**	**1.74**	**211**	P	P	**Pn**	**11 30 25.3**	**+1.2**
NNZ	**Nelson**	**1.77**	**199**	P	P	**Pn**	**11 30 25.8**	**+1.4**
KWHZ	**Kaweka Forest**	**1.77**	**87**	P	P	**Pn**	**11 30 26.4**	**+1.9**
QRZ	**Quartz Range**	**1.78**	**223**	P	P	**Pn**	**11 30 26.2**	**+1.8**
QRZ	**Quartz Range**	**1.78**	**223**	P	P	**Pn**	**11 30 25.5**	**+1.1**
WEL	**Wellington**	**1.81**	**165**	P	P	**Pn**	**11 30 26.1**	**+1.4**
SNZO	**South Karori**	**1.82**	**166**	P	P	**Pn**	**11 30 26.2**	**+1.4**
BKZ	**Black Stump Fm**	**1.87**	**79**	P	P	**Pn**	**11 30 26.5**	**+1.1**
BKZ	**Black Stump Fm**	**1.87**	**79**	P	P	**Pn**	**11 30 26.5**	**+1.1**
TUWZ	**Tuamarina**	**1.89**	**184**	P	P	**Pn**	**11 30 27.1**	**+1.6**
MRHZ	**Matea Rd**	**1.91**	**69**	P	P	**Pn**	**11 30 26.5**	**+0.7**
MTW	**Mount Morrison**	**1.92**	**148**	P	P	**Pn**	**11 30 27.0**	**+1.2**
BFZ	**Birch Farm**	**1.98**	**126**	P	P	**Pn**	**11 30 28.0**	**+1.7**
BFZ	**Birch Farm**	**1.98**	**126**	P	P	**Pn**	**11 30 27.8**	**+1.5**
MCHZ	**McNeill Hill**	**1.98**	**88**	P	P	**Pn**	**11 30 28.7**	**+2.3**
TMWZ	**Te Maipa**	**2.06**	**140**	P	P	**Pn**	**11 30 28.5**	**+1.4**
PAWZ	**Paruwai Farm**	**2.09**	**152**	P	P	**Pn**	**11 30 28.6**	**+1.2**
TOZ	**Tahuroa Road**	**2.10**	**31**	P	P	**Pn**	**11 30 28.0**	**+0.5**
NMHZ	**Naumai**	**2.12**	**79**	P	P	**Pn**	**11 30 30.1**	**+2.2**
KAHZ	**Kahuranaki**	**2.13**	**98**	P	P	**Pn**	**11 30 30.0**	**+2.2**
MRNZ	**Matariki Terra**	**2.13**	**209**	P	P	**Pn**	**11 30 29.2**	**+1.4**

BSWZ	Blackbirch Sta	2.18	185	P		Pn	11 30 30.5	+2.3	
PLWZ	Palliser	2.20	158	P		Pn	11 30 29.7	+1.2	
TRWZ	Traveller	2.20	148	P		Pn	11 30 29.7	+1.2	
MTHZ	Maungataniwha	2.21	73	P		Pn	11 30 29.9	+1.2	
ARHZ	Aropaoanui	2.23	84	P		Pn	11 30 30.8	+1.9	
RAHZ	Arahi	2.38	76	P		Pn	11 30 32.0	+1.7	
RTZ	Ruatahuna	2.40	68	P		Pn	11 30 31.6	+0.9	
THZ	Tophouse	2.41	202	P		Pn	11 30 32.1	+1.5	
MKAZ	Moumakai	2.56	19	P		Pn	11 30 34.4	+2.1	
SNGZ	Shannon Statio	2.60	74	P		Pn	11 30 34.3	+1.5	
URZ	Urewera	2.65	62	P		Pn	11 30 33.8	+0.6	
URZ	Urewera	2.65	62	P		Pn	11 30 33.6	+0.4	
DSZ	Denniston Nort	2.83	218	P		Pn	11 30 36.5	+1.3	
MWZ	Matawai	2.91	67	P		Pn	11 30 36.7	+0.7	
KHZ	Kahutara	2.91	189	P		Pn	11 30 38.1	+2.2	
KHZ	Kahutara	2.91	189	P		Pn	11 30 37.7	+1.8	
RIGZ	Rimuhau	2.94	75	P		Pn	11 30 37.8	+1.4	
MHGZ	Mahia Peninsul	2.95	84	P		Pn	11 30 38.6	+2.1	
PRGZ	Paritu Road	2.98	79	P		Pn	11 30 38.4	+1.5	
KUZ	Kuaotunu	3.06	25	P		Pn	11 30 39.8	+2.0	
KUZ	Kuaotunu	3.06	25	P		Pn	11 30 39.7	+2.0	
TKGZ	Te Karaka	3.10	70	P		Pn	11 30 39.7	+1.5	
RUGZ	Raukumara Rang	3.19	62	P		Pn	11 30 39.1	-0.2	
CNGZ	Carnagh Statio	3.34	73	P		Pn	11 30 42.8	+1.8	
HAZ	Te Kaha	3.37	59	P		Pn	11 30 41.1	-0.2	
PKGZ	Pakihiroa	3.50	63	P		Pn	11 30 43.4	+0.6	
GVZ	Greta Valley S	3.52	193	P		Pn	11 30 43.9	+0.8	
LTZ	Lake Taylor	3.53	203	P		Pn	11 30 44.4	+1.3	
PUZ	Puketiti	3.54	67	P		Pn	11 30 44.1	+0.8	
WMGZ	Waiomatatini S	3.77	64	P		Pn	11 30 46.4	+0.4	
INZ	Inchbonnie	3.77	212	P		Pn	11 30 46.7	+0.8	
MXZ	Matakaoa Point	3.82	60	P		Pn	11 30 47.3	+0.7	
MXZ	Matakaoa Point	3.82	60	P		Pn	11 30 47.3	+0.7	
OXZ	Oxford	4.10	202	P		Pn	11 30 50.5	+0.6	
MQZ	McQueen's Vall	4.31	194	P		Pn	11 30 52.1	-0.2	
WVZ	Waitaha Valley	4.36	215	P		Pn	11 30 54.4	+1.3	
RACZ	Rakaia	4.44	199	P		Pn	11 30 54.6	+0.6	
WACZ	Wakanui South	4.72	201	P		Pn	11 30 58.2	+0.8	
GCSZ	Gaunt Creek Bo	4.74	216	P		Pn	11 30 58.2	+0.6	
RPZ	Rata Peaks	4.77	208	P		Pn	11 30 58.9	+0.8	
RPZ	Rata Peaks	4.77	208	P		Pn	11 30 58.7	+0.7	
ARCZ	Arundel	4.93	206	P		Pn	11 31 00.7	+0.6	
FOZ	Fox Glacier	5.14	218	P		Pn	11 31 03.0	+0.3	
TMZ	Timaru	5.37	205	P		Pn	11 31 06.5	+0.9	
JCZ	Jackson Bay	6.04	220	P		Pn	11 31 15.5	+1.4	
JCZ	Jackson Bay	6.04	220	P		Pn	11 31 15.1	+1.0	
ODZ	Otahua Downs	6.08	204	P		Pn	11 31 15.9	+1.4	
ODZ	Otahua Downs	6.08	204	P		Pn	11 31 15.7	+1.2	

*ANF **28** 11:39:49.6±1.4, 36°.65N×121°.30W, h5km, ML3.0/13, Error ellipse: s-maj=13.9km s-min=8.4km az=97.0*
*NEIC **28** 11:39:50.9±1.3, 36°.63N±0°.04×121°.32W±0°.07, h13km±3km, Error ellipse: s-maj=10.1km s-min=1.6km az=56.0*
*NCEDC **28** 11:39:50.7±1.4, 36°.66N±0°.02×121°.29W±0°.03, h7km±2km, ML3.0/30, ML2.9/48(NEIC), Error ellipse: s-maj=3.2km s-min=1.9km az=63.0*

ISC 28 11:39:50.6±0.8, 36°.63N±0°.02×121°.34W±0°.02, h15km±5km, n146, σ0s67/151, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJOM	Mount Johnson	0.02	91		Pg	11 39 53.7	+0.6
BCGM	Cienega Road	0.08	359		Pg	11 39 53.9	+0.2
BJCM	Johnson Can.	0.09	207		Pg	11 39 53.6	-0.1
BVL	Bear Valley	0.13	114		Pg	11 39 53.5	-0.8
BSLM	Silva Ranch	0.15	357		Pg	11 39 54.6	+0.1
BSRM	Salinas Radio	0.15	285		Pg	11 39 54.5	0.0
SAO	San Andreas Ge	0.16	328	Pg	Pg	11 39 54.1	-0.5
FRP	Fremont Peak	0.17	316		Pg	11 39 54.5	-0.4
BPIM	Pinnacles	0.20	355		Pg	11 39 54.7	-0.5
HSFM	Saint Francis	0.22	325		Pb	11 39 58.3	+0.2
BSGM	Shirttail Gulc	0.23	162		Pg	11 39 55.4	-0.2
BSGM					Sg	11 39 58.9	-0.1
BPCNC	Pine Canyon	0.24	257		Pg	11 39 56.6	+0.7
BBNM	San Benito	0.24	119		Pg	11 39 55.8	-0.2
BBGB	Big Mountain B	0.25	102		Pg	11 39 56.0	-0.1
BAVM	Antelope Valle	0.25	86		Pg	11 39 55.6	-0.4
BSMM	Soledad Missio	0.26	196		Pg	11 39 56.7	+0.5
HLTM	Lone Tree Road	0.26	6		Pg	11 39 56.7	+0.5
HBTM	San Juan Bauti	0.28	323		Pg	11 39 56.6	+0.1
HAST	Hastings Reser	0.29	215		Pg	11 39 57.4	+0.6
HAST					Sg	11 40 02.2	+1.1
HTUM	Tustin Road	0.31	309		Pg	11 39 57.1	0.0
OCR	O'Connell Ranc	0.32	335		Pg	11 39 56.7	-0.5
ANZ	Anzar Road	0.33	322		Pg	11 39 57.2	-0.1
LRV	Little Rabbit	0.33	128		Pg	11 39 57.4	-0.1
HERM	Elkhorn Road	0.34	300		Pg	11 39 58.1	+0.4
HFEM	San Felipe	0.36	352		Pg	11 39 58.3	+0.2
BCWM	Chews Ridge	0.37	210		Pg	11 39 58.9	+0.7
PACP	Pacheco Peak	0.38	7		Pg	11 39 58.4	0.0
BPRM	Ponciano Ridge	0.38	235		Pg	11 39 59.1	+0.7
HCOM	Corn Cob Canyo	0.39	311		Pg	11 39 58.7	+0.2
HCBM	Chamberlain	0.40	320		Pg	11 39 59.2	+0.6
CDC	Canada Road	0.41	344		Pg	11 39 59.2	+0.3
HCAM	Canada Road	0.41	344		Pg	11 39 59.3	+0.3
SLD	San Luis Dam	0.46	12		Pg	11 39 59.5	-0.3
HLPM	Lions Peak	0.47	331		Pg	11 40 00.2	+0.1
JELB	Ellicott, Sant	0.49	308		Pg	11 40 00.6	+0.2
BPOM	Post Ranch	0.53	221		Pg	11 40 01.6	+0.6
PCCM	Crazy Canyon	0.56	165		Pg	11 40 02.0	+0.4
CADM	Anderson Res.	0.58	337		Pg	11 40 02.3	+0.2
SCKWR	San Luis Creek	0.59	21		Pg	11 40 02.5	+0.2
PMPB	Monarch Peak	0.60	133		Pg	11 40 02.1	-0.3
HULI	Fort Hunter Li	0.61	172		Pg	11 40 02.8	+0.2
JLAB	Laurel Hill	0.61	329		Pg	11 40 02.9	+0.2
CCOB	Coe Ranch Numb	0.68	337		Pg	11 40 04.5	+0.5
PSAM	San Ardo	0.70	149		Pg	11 40 04.1	-0.3
PPTM	Peach Tree Val	0.72	136		Pg	11 40 04.3	-0.4
PJUM	Juniper Ridge	0.72	123		Pg	11 40 04.6	-0.1
CMPM	Mikes Peak	0.73	1		Pg	11 40 05.0	+0.2
ARN	Arnold Ranch	0.74	348		Pg	11 40 05.1	+0.1
C054	Valleyhaven Wa	0.75	329		Pg	11 40 05.4	+0.2
MHC	Mount Hamilton	0.75	341		Pg	11 40 05.4	+0.1
JJOM	Saint Joseph's	0.77	319		Pg	11 40 05.0	-0.6
SCCB	Santa Clara Co	0.78	328		Pg	11 40 05.3	-0.5
PSMM	Smith Mountain	0.82	133		Pg	11 40 06.4	-0.2
CMMM	Mount Mocho	0.83	352		Pg	11 40 07.0	+0.1
PDRM	Domengine Ranc	0.84	110		Pb	11 40 06.9	0.0
PHSB	Hesperia Broad	0.84	164		Pg	11 40 06.9	0.0
MTOS	Mt Oso, Westle	0.88	1		Pg	11 40 07.8	+0.2
PHPM	Hope Ranch	0.88	137		Pg	11 40 06.9	-0.7
CMLM	Mount Lewis	0.88	344		Pg	11 40 07.6	-0.2
CALM	Calaveras Res.	0.90	336		Pg	11 40 07.8	-0.3
PANM	San Antonio Re	0.92	157		Pg	11 40 08.0	-0.4
JSJM	St Joseph	0.93	320		Pg	11 40 08.3	-0.3
PWMM	Westland Maint	0.93	102		Pb	11 40 08.8	+0.3
JBMM	Black Mountain	0.95	317		Pg	11 40 08.2	-0.8
PHCM	Hearst Castle	0.96	171		Pg	11 40 09.0	-0.2
PPO	Portuguese Can	0.96	142		Pg	11 40 08.9	-0.3
PVCM	Vineyard Canyo	0.96	137		Pg	11 40 08.5	-0.8
PSTM	Stockdale Moun	0.97	136		Pg	11 40 08.5	-0.9
JPSM		0.99	305		Pb	11 40 08.9	-0.6
JFP	Foothills Park	1.00	317		Pb	11 40 08.9	-0.8
CSTL	Corral Hollow	1.02	353		Pb	11 40 10.1	+0.1
JSFB	Stanford Teles	1.02	319		Pb	11 40 09.0	-1.1
WENL	Wente Vineyard	1.05	342		Pb	11 40 09.9	-0.5
MYLM	Yosemite Lake	1.05	44		Pb	11 40 09.6	-1.0
PWKM	Work Ranch	1.05	140		Pb	11 40 09.9	-0.7
JRSC	Jasper Ridge	1.06	317		Pb	11 40 09.6	-1.0
RAMR	Ramage Ranch	1.06	159		Pb	11 40 10.2	-0.5
PHFM	Heflinger Ranc	1.06	134		Pb	11 40 10.2	-0.6
CTM	Castle Mountai	1.07	130		Pg	11 40 11.3	+0.1
CVLM	Vallecito	1.07	338		Pb	11 40 10.9	0.0
PKEM	Kettleman Hill	1.14	119		Pg	11 40 12.8	+0.1
PSRM	Scobie Ranch	1.15	132		Pb	11 40 12.1	-0.2
PKLM	Kerr Lake	1.18	136		Pb	11 40 11.9	-0.8
TCAS	Cass Winery, P	1.20	148		Pn	11 40 12.2	-0.7
ARDC	Alexander Ranc	1.20	166		Pn	11 40 12.4	-0.5
TCHL	Shandon	1.21	141		Pn	11 40 12.7	-0.4
CBSNC	Byron Hot Spri	1.21	349		Pn	11 40 13.4	+0.3
PMRM	Maxey Ranch	1.23	133		Pn	11 40 12.7	-0.7
CMOB	Morgan Territo	1.24	343		Pb	11 40 14.4	+0.6
CSLM	San Leandro Hi	1.26	331		Pn	11 40 12.8	-0.9
MHDM	Hidden Dam	1.26	67		Pn	11 40 12.3	-1.5
SAC	San Andreas	1.28	318		Pn	11 40 12.9	-1.2
TRAM	Private Proper	1.28	137		Pn	11 40 13.7	-0.5
TSCN	Private Proper	1.35	143		Pn	11 40 14.3	-0.7
JMGM	Milagra Ridge	1.35	318		Pn	11 40 13.7	-1.3
LSDC	Los Osos Digit	1.39	163		Pn	11 40 14.8	-0.7
EFD	Emergency Oper	1.40	159		Pn	11 40 15.0	-0.6
CYBM	Yerba Buena Is	1.43	326		Pn	11 40 14.3	-1.8
BKS	Berkeley--Byer	1.44	330		Pn	11 40 15.3	-0.9
TRAY	Twisselman Ran	1.46	137		Pn	11 40 15.7	-0.8
MCUB	Copperopolis B	1.46	23		Pn	11 40 15.6	-1.0
PBPM	Bitterwater Pu	1.46	135		Pn	11 40 16.3	-0.3
MMIM	Miami Mountain	1.50	58		Pn	11 40 16.5	-0.7
CMB	Columbia Colle	1.60	28	Pn	Pn	11 40 18.0	-0.5
VOG	Valley Oaks Go	1.61	100	P	Pn	11 40 18.5	0.0
VOG	baz=283			S	Sb	11 40 39.9	-0.3
VOG	baz=283						
SMMC	Simmler	1.71	140		Pn	11 40 19.3	-0.6
SMMC	Simmler	1.71	140	P	Pn	11 40 19.8	-0.2
SMMC	baz=323			S	Sb	11 40 43.2	+0.2
SMMC	baz=323						
CARC	Carrizo Plain	1.79	137		Pn	11 40 20.6	-0.6
PMLM	Mount Lospe	1.83	161		Pn	11 40 21.0	-0.6
MRHM	Rocky Hill	1.85	100		Pn	11 40 20.9	-1.0
MCCM	Marconi Confer	1.95	321	Pn	Pn	11 40 21.4	-1.8
MCCM	comp=E,71nm,0.7s			IAML		11 40 59.5	
VES	Vestal, Richgr	1.99	113	P	Pn	11 40 23.3	-0.5
VES	baz=295			S	Sn	11 40 48.4	0.0
VES	baz=295						
MDPB	Devils Postpil	2.07	60		Pn	11 40 26.0	+0.9
MDPB	comp=E,104nm,0.3s			IAML		11 40 55.4	
MDPB	comp=N,154nm,0.7s			IAML		11 40 56.9	
MINS	Mineret Summit	2.09	60		Pn	11 40 26.1	+0.6
MMPM	Mammoth Pass	2.09	61		Pn	11 40 26.8	+1.3
MLIM	Lincoln Peak	2.11	61		Pb	11 40 28.7	-0.2
OMMB	Old Mammoth Mi	2.11	62	Pn	Pn	11 40 26.6	+0.8
OMMB	comp=N,84nm,0.3s			IAML		11 40 55.9	
OMMB	comp=E,80nm,0.8s			IAML		11 40 58.8	
MDYM	Dry Creek	2.13	60		Pn	11 40 26.9	+0.9
MDCM	Deadman Creek	2.13	59		Pn	11 40 27.0	+1.0
PKM	Mcpherson Peak	2.13	144	P	Pn	11 40 25.4	-0.5
PKM	baz=326			S	Sb	11 40 54.4	-1.1
PKM	baz=326						
MMLB	Mammoth Lakes	2.15	61		Pn	11 40 27.7	+1.4
MLAC	Mammoth, Mammo	2.24	63	P	Pn	11 40 26.8	-0.6
BCW	baz=244 Bitter Crk WRg	2.30	137		Pn	11 40 29.3	+1.1
BCW	comp=N,70nm,0.5s			IAML		11 41 11.2	
BCW	comp=E,111nm,0.9s			IAML		11 41 20.8	
AFDM	Forest Hills D	2.33	7	Pn	Pn	11 40 28.2	-0.4
WAKR	Walker	2.41	38	IAML		11 41 10.9	
ISA	comp=N,79nm,0.7s Isabella, Lake	2.51	112	Pn	Pn	11 40 31.6	+0.5
ISA	comp=N,44nm,0.9s			IAML		11 41 18.0	
ISA	comp=E,38nm,1.4s			IAML		11 41 18.6	
ISA	Isabella, Lake	2.51	112	P	Pn	11 40 31.5	+0.5
ISA	baz=294			S	Sn	11 41 02.2	+0.7
ISA	baz=294						
ARVC	Arvin	2.53	126	P	Pn	11 40 31.6	+0.4
ARVC	baz=308			S	Sn	11 41 03.9	+2.1
ARVC	baz=308						
TIN	Tinemaha, Big	2.53	79	P	Pn	11 40 31.3	0.0
TIN	baz=262			S	Sn	11 41 02.9	+0.8
TIN	baz=262						
EMB	Emerald Bay	2.54	22	IAML		11 41 11.9	
EMB	comp=N,81nm,0.4s			IAML		11 41 14.1	
SBC	comp=E,60nm,0.5s Santa Barbara	2.55	148	P	Pn	11 40 31.6	0.0
CWC	baz=330 Cottonwood Cre	2.63	93	P	Pn	11 40 33.2	+0.4
LHV	baz=276 Little Huntoon	2.78	53	Pn	Pb	11 40 38.8	-1.2
PNTR	Pine Nut	2.82	29		Pn	11 40 36.7	+1.3
MPK	Martis Peak	2.86	21		Pn	11 40 37.0	+1.0
MPK	comp=E,66nm,0.9s			IAML		11 41 28.1	
MPK	comp=N,66nm,1.0s			IAML		11 41 32.8	
YERR	Yerington	2.88	35	IAML		11 41 33.2	
ORV	comp=N,45nm,0.7s Oroville	2.92	358	Pn	Pn	11 40 36.8	+0.2
SCZ2	Santa Cruz Isl	2.98	152	P	Pn	11 40 38.0	+0.6
CCAC	baz=334 Calif City Air	3.08	118		Pn	11 40 39.8	+1.1
CCAC	comp=N,47nm,1.5s			IAML		11 41 42.5	
CCAC	comp=E,37nm,1.6s			IAML		11 41 55.9	
MPMC	Manual Prospec	3.16	99	P	Pn	11 40 40.3	+0.2
LRMC	baz=282 Laurel Mtn Rad	3.18	110	P	Pn	11 40 39.4	-0.9
EDW2	baz=293 Edwards Air Fo	3.23	122	P	Pn	11 40 40.9	-0.1
MZP	baz=305 Montezuma Peak	3.34	70	Pn	Pn	11 40 43.8	+1.2
PAHR	Pah Rah Range	3.44	26	Pn	Pn	11 40 43.8	0.0
GSC	Goldstone, Bar	3.91	108		Pn	11 40 50.7	+0.4
GSC	comp=E,15nm,1.0s			IAML		11 41 52.2	
GSC	comp=N,13nm,3.1s			IAML		11 42 09.0	
TPNV	Topopah Spring	4.10	84	IAML		11 42 13.6	
TPNV	comp=N,14nm,3.8s			IAML		11 42 25.8	
	comp=N,16nm,1.1s						

IDC 28 11:44:04.0±661.0, 58°.46N×59°.52E, h0km, Error ellipse: s-maj=352.9km s-min=188.0km az=54.0, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	14.74	97	I	I	13 12 20.0	
	0.1nm,1.0s,baz=297,slow=326,SNR=2.0						
I18DK	QAANAAQ INFRAS	40.69	345	I	I	15 50 40.0	
	baz=33,slow=343,SNR=1.1						
I53US	FAIRBANKS INFR	55.25	14	I	I	17 24 50.0	
	baz=345,slow=340,SNR=0.9						

*TIR **28** 11:50:54.9, 41°.38N×20°.25E, h19km±2km, Ml3.5*
*SKO **28** 11:50:54.9, 41°.37N×20°.19E, h12km, ML3.5*
*PDG **28** 11:50:55.4±0.1, 41°.37N×20°.19E, h8km, ML3.4/12, Error ellipse: s-maj=0.2km s-min=0.1km az=90.0*
*ATH **28** 11:50:55.6, 41°.56N×20°.20E, h22km±5km, ML3.1/12, Error ellipse: s-maj=6.2km s-min=1.3km az=340.0*
*BEO **28** 11:50:56.8±0.3, 41°.38N×20°.26E, h7km±2km, ML3.2/16*
*THE **28** 11:50:56.5, 41°.34N×20°.26E, h0km±1km, ML3.2/7, Error ellipse: s-maj=1.7km s-min=0.6km az=314.0*
*PRU **28** 11:50:59.2, 41°.79N×20°.54E, h0km*
*VIE **28** 11:51:02.6±1.9, 42°.21N×20°.31E, h8km, mb3.2/12, ms4.0/10, Error ellipse: s-maj=50.7km s-min=7.0km az=26.0 100 km WNW of Skopje*
*SOF **28** 11:51:04.4, 41°.48N×21°.07E, h19km, MD3.2*

ISC 28 11:50:55.7±1.0, 41°.37N±0°.01×20°.23E±0°.02, h7km±9km, n184, σ0s97/249, 16C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.36	27	P	Pg	11 51 01.8	-0.9
PHP	baz=24			S	Sg	11 51 08.7	+1.3
PHP	baz=24			AMP			
PHP	comp=N,25nm,0.3s,baz=24			P	Pg	11 51 03.2	+0.5
PHP	Peshkopia	0.36	27	S	Sb	11 51 09.4	-0.9
OHR	comp=N,6μm,0.6s Ohrid	0.50	120	*e*Pg	Pg	11 51 06.0	+0.6
OHR				*e*Sg	Sb	11 51 13.8	-0.7
OHR	Ohrid	0.50	120	⇑*i*Pg	Pg	11 51 06.1	+0.6
OHR				*i* Sg	Sb	11 51 14.8	+0.3
OHR	comp=N,2μm,0.5s			*e*Lg	Lg	11 51 15.1	
OHR	comp=E,3μm,0.5s			*e*Lg	Lg	11 51 15.6	
KBN	Korca	0.86	150	P	Pg	11 51 12.3	+0.1
KBN	baz=151			S	Sn	11 51 26.5	-0.6
KBN	baz=151			AMP			
KBN	comp=E,5.3nm,0.7s,baz=151			P	Pg	11 51 12.0	-0.2
KBN	Korca	0.86	150	S	Sb	11 51 24.4	-0.3
ULC	comp=E,2μm,0.7s Ulcinj	0.95	309	*i* Pg	Pg	11 51 12.5	-1.4
ULC	Ulcinj	0.95	309	⇑*i* Pg	Pg	11 51 12.3	-1.6
ULC				*i* Sg	Sg	11 51 26.7	+0.5
BCI	Bajram Curri	1.01	353	P	Pg	11 51 14.2	-0.9
BCI	baz=353			S	Sg	11 51 28.2	+0.1
BCI	baz=353			AMP			
FNA	comp=N,8.2nm,0.6s,baz=353 Florina	1.05	123	P	Pg	11 51 14.9	-0.9
FNA	baz=124			S	Sb	11 51 30.0	-0.2
FNA	baz=124			AMP			
FNA	comp=N,4.0nm,0.6s,baz=124 Florina	1.05	123	P	Pg	11 51 14.9	-0.9
FNA				S	Sb	11 51 30.5	+0.3
FNA	comp=N,2μm,0.5s Florina	1.05	123	*e*Pg	Pg	11 51 15.2	-0.7
FNA				*e*Sg	Sb	11 51 30.3	+0.2
FNA	Florina	1.05	123	*i* Pg	Pg	11 51 15.2	-0.7
FNA				*i* Sg	Sb	11 51 30.4	+0.2
FNA	Florina	1.05	123	P	Pg	11 51 15.2	-0.7
FNA				S	Sb	11 51 30.4	+0.2
FNA	comp=N,5625μm,0.7s			AML	AML	11 51 32.5	
FNA	comp=E,3665μm,0.3s			AML	AML	11 51 32.9	
VLO	Vlora	1.05	212	P	Pg	11 51 15.3	-0.6
VLO	baz=213			S	Sg	11 51 29.1	-0.5
VLO	baz=213			AMP			
VLO	Vlora	1.05	212	P	Pg	11 51 15.4	-0.6
SKO	Skopje	1.09	56	*e*Pg	Pg	11 51 16.1	-0.6
SKO				*e*Sg	Sb	11 51 31.5	+0.1
SKO	Skopje	1.09	56	*i* Pg	Pg	11 51 16.1	-0.6
SKO				*i* Sg	Sb	11 51 32.0	+0.6
DRME	Dracevica, Mon	1.13	317	*e*Pn	Pg	11 51 15.6	-1.8
DRME	Dracevica, Mon	1.13	317	*e*Pg	Pg	11 51 15.7	-1.7
DRME				*i* Sg	Sb	11 51 33.1	+0.6
NEST	Nestorio	1.14	146	P	Pg	11 51 17.0	-0.6
NEST	comp=E,485nm,0.5s			S	Sn	11 51 34.2	+0.1
NEST	Nestorio	1.14	146	P	Pg	11 51 17.1	-0.4
NEST				S	Sn	11 51 34.6	+0.5
NEST	comp=N,1011μm,0.7s			AML	AML	11 51 37.5	
NEST	comp=E,1433μm,0.5s			AML	AML	11 51 42.4	
PVY	Plav	1.24	351	*e*Pg	Pg	11 51 18.2	-1.4
PVY				*i* Sg	Sn	11 51 37.3	+0.6
LSK	Leskovik	1.25	167	P	Pn	11 51 18.1	-1.5
LSK	baz=167			S	Sg	11 51 35.2	-0.7
LSK	baz=167			AMP			
LSK	comp=N,5.4nm,0.8s,baz=167 Leskovik	1.25	167	P	Pn	11 51 19.0	-0.7
LSK				S	Sg	11 51 36.0	+0.1
PDG	comp=N,1μm,0.8s Podgorica	1.28	326	⇓P	Pn	11 51 19.1	-1.0
PDG	Podgorica	1.28	326	*e*Pg	Pn	11 51 18.8	-1.3
PDG				*e*Sg	Sn	11 51 38.2	+0.6
PDG	Podgorica	1.28	326	*e*Pn	Pn	11 51 18.7	-1.3
PDG	Podgorica	1.28	326	*e*Pg	Pn	11 51 18.6	-1.5
PDG				*i* Sg	Sn	11 51 38.5	+0.9
PENT	Pentalofos	1.36	149	P	Pn	11 51 21.0	-0.2
PENT	Pentalofos	1.36	149	P	Pn	11 51 21.4	+0.2
PENT				S	Sn	11 51 39.8	+0.2
BUM	Brajici-Budva	1.36	314	⇓*i* Pg	Pn	11 51 20.1	-1.2
BUM				*i* Sg	Sn	11 51 40.9	+1.3
SRN	Sarande	1.50	187	P	Pg	11 51 25.0	+0.6
SRN	baz=188			S	Sg	11 51 46.6	+2.8
SRN	baz=188			AMP			
SRN	Sarande	1.50	187	P	Sg	11 51 24.7	+0.3
SRN				S	Sg	11 51 44.7	+0.9
BEY	Berane	1.52	351	*i* Pg	Pn	11 51 23.9	+0.4
IVA	Berane	1.52	351	⇓*i* Pg	Pn	11 51 23.3	-0.2
IVA				*i* Sg	Sg	11 51 46.3	+1.6
CEME	Cevo	1.53	321	*e*Pg	Pn	11 51 23.1	-0.4
CEME				*i* Sg	Sg	11 51 46.2	+1.3
KOME	Kolasin	1.57	341	⇑*i* Pg	Pn	11 51 24.1	-0.1
KOME				*i* Sg	Sg	11 51 47.4	+1.1
KASA	Kassiopi	1.63	188	P	Pn	11 51 25.2	+0.3
KASA				S	Sb	11 51 47.0	0.0
KPRO	Kipourio	1.66	148	P	Pb	11 51 26.2	-0.4
KPRO	Kipourio	1.66	148	P	Pn	11 51 25.3	+0.1
KPRO				S	Sn	11 51 46.7	-0.1
KPRO	comp=E,893μm,0.6s			AML	AML	11 51 58.9	
KPRO	comp=N,1309μm,0.8s			AML	AML	11 52 08.4	
HCY	Herceg Novi	1.68	310	*e*Pn	Pn	11 51 25.5	-0.1
HCY	Herceg Novi	1.68	310	⇑*i*Pn	Pn	11 51 25.7	+0.1
HCY				*i* Sn	Sg	11 51 50.0	+0.2
KEK	Kerkira	1.68	191	P	Pn	11 51 25.4	-0.2
KEK				S	Sb	11 51 49.1	+0.7
KEK	comp=N,430nm,1.1s						
KEK	Kerkira	1.68	191	P	Pn	11 51 25.9	+0.3
KEK				S	Sn	11 51 47.8	+0.4
KEK	comp=E,779μm,0.6s			AML	AML	11 51 57.7	
KEK	comp=N,726μm,1.2s			AML	AML	11 52 01.0	
NKME	Niksic	1.69	326	⇑*i*Pn	Pn	11 51 26.0	+0.3
NKME				*i* Sn	Sg	11 51 50.1	+0.1
GRG	Griva	1.69	103	P	Pn	11 51 25.2	-0.6
GRG	Griva	1

TREB	**Trebinje**		**1.94**	**315**	*e*Pn	**Pn**	**11 51 28.9**	**-0.2**
SELS	**Selova**		**1.97**	**19**	*e*Pn	**Pn**	**11 51 29.0**	**-0.5**
SELS					*e*Sn	**Sn**	**11 51 53.9**	**-0.5**
BRY	**Bratogost**		**1.98**	**321**	*e*Pn	**Pn**	**11 51 30.4**	**+0.6**
BRY	**Bratogost**		**1.98**	**321**	*e*Pn	**Pn**	**11 51 30.0**	**+0.2**
BRY					*i* Sn	**Sb**	**11 51 57.2**	**+0.1**
BOSS	**Bosilegrad**		**2.03**	**55**	*e*Pn	**Pn**	**11 51 30.6**	**+0.3**
BOSS					*e*Sn	**Sn**	**11 51 56.0**	**+0.1**
KNT	**Kendrikon**		**2.03**	**95**	P	**Pn**	**11 51 31.0**	**+0.7**
KNT					S	**Sn**	**11 51 56.3**	**+0.4**
KNT	**Kendrikon**		**2.03**	**95**	*i* Pn	**Pn**	**11 51 30.2**	**-0.1**
KNT	**Kendrikon**		**2.03**	**95**	P	**Pn**	**11 51 28.3**	**-2.0**
PLE	**Pljevlja**		**2.06**	**343**	*e*Pn	**Pn**	**11 51 31.1**	**+0.3**
PLE					*i* Sn	**Sb**	**11 51 59.1**	**-0.2**
IVAS	**Ivanjica**		**2.21**	**359**	*e*Pn	**Pn**	**11 51 34.4**	**+1.5**
IVAS					*e*Sn	**Sn**	**11 52 01.2**	**+0.7**
KKB	**Krupnik**		**2.23**	**77**	*i* Pn	**Pn**	**11 51 32.9**	**-0.2**
KKB	**Krupnik**		**2.23**	**77**	P	**Pn**	**11 51 32.9**	**-0.2**
KKB	**Krupnik**		**2.23**	**77**	Pg	**Pb**	**11 51 36.3**	**0.0**
TYRN	**Tyrnavos**		**2.25**	**137**	P	**Pn**	**11 51 33.7**	**+0.3**
TYRN					S	**Sn**	**11 52 02.2**	**+0.8**
TYRN	**Tyrnavos**		**2.25**	**137**	P	**Pn**	**11 51 33.7**	**+0.3**
THL	**Klokotos Trika**		**2.26**	**142**	P	**Pn**	**11 51 34.5**	**+1.0**
THL					S	**Sn**	**11 52 02.9**	**+1.3**
THL	**Klokotos Trika**		**2.26**	**142**	P	**Pn**	**11 51 33.7**	**+0.2**
THL					S	**Sn**	**11 52 01.8**	**+0.2**
THL					AML	AML	11 52 14.1	
	comp=E,210μm,0.6s							
THL					AML	AML	11 52 16.7	
	comp=N,255μm,0.6s							
HORT	**Hortiatis**		**2.31**	**109**	P	**Pn**	**11 51 33.8**	**-0.5**
RUDO	**Rudo**		**2.34**	**345**	*e*Pn	**Pn**	**11 51 35.1**	**+0.5**
STON	**Ston**		**2.41**	**310**	*e*Pn	**Pn**	**11 51 35.6**	**+0.1**
STON	**Ston**		**2.41**	**310**	*e*Pn	**Pn**	**11 51 35.6**	**+0.1**
SOH	**Sokhos**		**2.43**	**102**	P	**Pn**	**11 51 36.6**	**+0.8**
SOH	**Sokhos**		**2.43**	**102**	*i* Pn	**Pn**	**11 51 36.7**	**+0.9**
SOH	**Sokhos**		**2.43**	**102**	P	**Pn**	**11 51 34.5**	**-1.3**
SOH					AML	AML	11 52 18.4	
	comp=N,505μm,1.0s							
SOH					AML	AML	11 52 20.6	
	comp=E,555μm,0.6s							
NEVS	**Nevesinje**		**2.49**	**322**	*e*Pn	**Pn**	**11 51 37.8**	**+1.0**
BOVS	**Bovan**		**2.52**	**25**	⇑P	**Pn**	**11 51 36.9**	**-0.1**
BOVS	**Bovan**		**2.52**	**25**	*e*Pn	**Pn**	**11 51 37.4**	**+0.4**
BOVS					*e*Sn	**Sn**	**11 52 08.5**	**+0.5**
GRUS	**Gruza**		**2.55**	**8**	*e*Pn	**Pn**	**11 51 39.2**	**+1.8**
GRUS					*e*Sn	**Sn**	**11 52 10.5**	**+1.8**
SRS	**Serrai**		**2.55**	**95**	P	**Pn**	**11 51 37.6**	**+0.1**
SRS	**Serrai**		**2.55**	**95**	*e*Pn	**Pn**	**11 51 38.2**	**+0.7**
SRS	**Serrai**		**2.55**	**95**	*i* Pn	**Pn**	**11 51 38.2**	**+0.7**
SRS	**Serrai**		**2.55**	**95**	P	**Pn**	**11 51 36.2**	**-1.4**
SRS					AML	AML	11 52 22.4	
	comp=N,166μm,0.9s							
SRS					AML	AML	11 52 25.1	
	comp=E,173μm,1.2s							
VTS	**Vitosha**		**2.57**	**60**	P	**Pn**	**11 51 38.4**	**+0.5**
BBLS	**Lazići**		**2.57**	**347**	*e*Pn	**Pn**	**11 51 39.6**	**+1.8**
BBLS	**Lazići**		**2.57**	**347**	*e*Pn	**Pn**	**11 51 38.7**	**+0.9**
LKD2	**Lefkada island**		**2.60**	**173**	P	**Pn**	**11 51 38.7**	**+0.5**
LKD2	**Lefkada island**		**2.60**	**173**	P	**Pn**	**11 51 38.4**	**+0.2**
ZAPS	**Zavoj**		**2.61**	**42**	*e*Pn	**Pn**	**11 51 39.5**	**+1.1**
PLNA	**Plana**		**2.63**	**64**	P	**Pn**	**11 51 39.3**	**+0.5**
MMB	**Musomishta**		**2.66**	**85**	P	**Pn**	**11 51 39.1**	**+0.1**
NYDR	**Nydri-Lefkada**		**2.67**	**172**	P	**Pn**	**11 51 39.2**	**0.0**
NYDR					S	**Sn**	**11 52 13.4**	**+1.6**
NYDR	**Nydri-Lefkada**		**2.67**	**172**	P	**Pn**	**11 51 39.6**	**+0.4**
EVR	**Evrytania**		**2.73**	**153**	P	**Pn**	**11 51 42.4**	**+2.3**
EVR	**Evrytania**		**2.73**	**153**	P	**Pn**	**11 51 40.7**	**+0.6**
EVR					AML	AML	11 52 23.8	
	comp=N,231μm,0.5s							
EVR					AML	AML	11 52 24.6	
	comp=E,266μm,0.9s							
DIVS	**Divibare**		**2.73**	**356**	*e*Pn	**Pn**	**11 51 42.6**	**+2.5**
DIVS					*e*Sn	**Sn**	**11 52 13.2**	**-0.3**
DIVS	**Divibare**		**2.73**	**356**	*e*Pn	**Pn**	**11 51 40.8**	**+0.7**
NVR	**Nevrokopi**		**2.74**	**89**	P	**Pn**	**11 51 41.5**	**+1.4**
NVR	**Nevrokopi**		**2.74**	**89**	P	**Pn**	**11 51 38.6**	**-1.5**
NVR					AML	AML	11 52 28.1	
	comp=N,254μm,1.0s							
NVR					AML	AML	11 52 29.1	
	comp=E,206μm,1.1s							
EVGI	**Lefkada island**		**2.76**	**173**	P	**Pn**	**11 51 40.5**	**+0.1**
EVGI	**Lefkada island**		**2.76**	**173**	P	**Pn**	**11 51 40.8**	**+0.4**
MAKR	**Makrakomi, Fth**		**2.77**	**148**	P	**Pn**	**11 51 39.7**	**-0.8**
MAKR					S	**Sn**	**11 52 15.7**	**+1.5**
MAKR	**Makrakomi, Fth**		**2.77**	**148**	P	**Pn**	**11 51 40.1**	**-0.4**
MAKR					AML	AML	11 52 21.8	
	comp=E,669μm,0.6s							
MAKR					AML	AML	11 52 47.2	
	comp=N,851μm,0.9s							
AGG	**Agios Georgios**		**2.84**	**145**	P	**Pn**	**11 51 41.4**	**-0.2**
AGG					S	**Sn**	**11 52 16.7**	**+0.6**
AGG	**Agios Georgios**		**2.84**	**145**	P	**Pn**	**11 51 41.7**	**+0.1**
TRUS	**Trudelj**		**2.86**	**3**	*e*Pn	**Pn**	**11 51 43.3**	**+1.6**
ZAGS	**Zajecar**		**2.86**	**31**	*e*Pn	**Pn**	**11 51 42.2**	**+0.5**
HAPS	**Han Pijesak,Bl**		**2.88**	**341**	*e*Pn	**Pn**	**11 51 43.5**	**+1.4**
HAPS	**Han Pijesak,Bl**		**2.88**	**341**	*e*Pn	**Pn**	**11 51 42.7**	**+0.6**
BLKB	**Belogradchik**		**2.89**	**38**	⇑P	**Pn**	**11 51 43.4**	**+1.2**
KOKK	**Kokkinochori,**		**2.91**	**100**	P	**Pn**	**11 51 43.4**	**+1.0**
KOKK	**Kokkinochori,**		**2.91**	**100**	P	**Pn**	**11 51 41.6**	**-0.8**
SVIS	**Svilajnac**		**2.99**	**14**	*e*Pn	**Pn**	**11 51 44.1**	**+0.6**
PAIG	**Paliouri**		**3.00**	**118**	P	**Pn**	**11 51 43.8**	**+0.2**
ANX	**Ano Chora**		**3.06**	**154**	P	**Pn**	**11 51 46.9**	**+2.3**
ANX	**Ano Chora**		**3.06**	**154**	P	**Pn**	**11 51 45.0**	**+0.3**
NEO	**Neokhori**		**3.08**	**131**	P	**Pn**	**11 51 46.8**	**+2.0**
NEO	**Neokhori**		**3.08**	**131**	P	**Pn**	**11 51 45.5**	**+0.7**
PGB	**Panagyurishte**		**3.16**	**67**	*e*P	**Pb**	**11 51 49.6**	**-2.6**
VLS	**Valsamata**		**3.20**	**175**	P	**Pn**	**11 51 46.4**	**0.0**
VLS	**Valsamata**		**3.20**	**175**	P	**Pn**	**11 51 46.3**	**-0.1**
AXAR	**Agios Charalam**		**3.20**	**143**	P	**Pn**	**11 51 47.8**	**+1.4**
AXAR	**Agios Charalam**		**3.20**	**143**	P	**Pn**	**11 51 46.6**	**+0.2**
EFP	**Efpalio**		**3.21**	**156**	P	**Pn**	**11 51 48.7**	**+2.2**
EFP	**Efpalio**		**3.21**	**156**	P	**Pn**	**11 51 47.5**	**+1.0**
TEKS	**Tekeris**		**3.22**	**351**	*e*Pn	**Pn**	**11 51 47.5**	**+0.8**
TEKS	**Tekeris**		**3.22**	**351**	*e*Pn	**Pn**	**11 51 47.2**	**+0.5**
KAVA	**Kavala**		**3.26**	**95**	P	**Pn**	**11 51 47.2**	**0.0**
KAVA	**Kavala**		**3.26**	**95**	P	**Pn**	**11 51 46.4**	**-0.8**
MPEP	**Malo Peshtene**		**3.28**	**51**	P	**Pn**	**11 51 49.5**	**+2.0**
MPEP	**Malo Peshtene**		**3.28**	**51**	Pg	**Pg**	**11 51 58.2**	**-0.3**
TRIZ	**Trizonia**		**3.32**	**154**	P	**Pn**	**11 51 48.7**	**+0.7**
LAKA	**Lakka**		**3.40**	**156**	P	**Pn**	**11 51 50.0**	**+0.8**
CUC	**Castrocucco**		**3.62**	**249**	P	**Pn**	**11 51 50.6**	**-1.6**
KLV	**Kalavryta, Ach**		**3.64**	**155**	P	**Pn**	**11 51 53.5**	**+1.1**
DJES	**Djerdap**		**3.70**	**26**	⇑P	**Pn**	**11 51 53.9**	**+0.6**
GUR	**Goura**		**3.80**	**154**	P	**Pn**	**11 51 56.5**	**+1.8**
GUR	**Goura**		**3.80**	**154**	P	**Pn**	**11 51 55.9**	**+1.1**
FRGS	**Fruska Gora**		**3.80**	**356**	⇑P	**Pn**	**11 51 54.0**	**-0.8**
FRGS	**Fruska Gora**		**3.80**	**356**	*e*Pn	**Pn**	**11 51 55.5**	**+0.8**
FRGS					*e*Sn	**Sn**	**11 52 38.8**	**-0.9**
FRGS	**Fruska Gora**		**3.80**	**356**	*e*Pn	**Pn**	**11 51 54.8**	**+0.1**
MGRS	**Mrkonjic Grad**		**3.82**	**324**	*e*Pn	**Pn**	**11 51 54.5**	**-0.5**
PLVB	**Pleven**		**3.83**	**57**	⇓P	**Pn**	**11 51 58.8**	**+3.7**
HERR	**Herculane**		**3.86**	**24**	⇑P	**Pn**	**11 51 55.6**	**+0.1**
BLV	**Banja Luka**		**4.05**	**328**	*e*Pn	**Pn**	**11 51 58.3**	**+0.2**
A050A	**Klekovaca**		**4.13**	**320**	*e*Pn	**Pn**	**11 52 00.1**	**+0.8**
BZS	**Buzias**		**4.37**	**13**	⇑P	**Pn**	**11 52 02.6**	**+0.2**
BZS	**Buzias**		**4.37**	**13**	*e*Pn	**Pn**	**11 52 01.7**	**-0.8**
A051A	**Mrakovica**		**4.38**	**327**	*e*Pn	**Pn**	**11 52 03.0**	**+0.3**
GZR	**Gura Zlata**		**4.43**	**24**	⇑P	**Pn**	**11 52 04.3**	**+0.9**
MORH	**Mrgy, Hungar**		**4.98**	**347**	⇑P	**Pn**	**11 52 10.2**	**-0.7**
ARR	**Arges**		**5.13**	**37**	⇑P	**Pn**	**11 52 14.1**	**+1.1**
VOIR			**5.38**	**39**	⇑P	**Pn**	**11 52 17.8**	**+1.4**
MLR	**Muntele Rosu**		**5.86**	**43**	⇑P	**Pn**	**11 52 25.1**	**+2.0**
SOKA	**Soboth**		**6.49**	**327**	*i* Pn	**Pn**	**11 52 32.1**	**+0.3**
	comp=N,1.4nm,0.3s,SNR=5.9							
VRI	**Vrincioaia**		**6.52**	**44**	⇓P	**Pn**	**11 52 35.0**	**+3.0**
PSZ	**Piszkesteto**		**6.55**	**358**	⇓P	**Pn**	**11 52 33.2**	**+0.6**
OBKA	**Obir**		**6.57**	**323**	*i* Pn	**Pn**	**11 52 33.4**	**+0.5**
	comp=N,2.6nm,0.5s							
ARSA	**Arzberg**		**6.78**	**332**	*i* Pn	**Pn**	**11 52 36.5**	**+0.9**
	comp=N,1.3nm,0.3s							
RONA	**Rosalia, Austr**		**6.92**	**337**	*i* Pn	**Pn**	**11 52 37.8**	**+0.2**
	comp=N,3.9nm,0.8s							
MYKA	**Terra Mystica**		**7.08**	**320**	*i* Pn	**Pn**	**11 52 40.5**	**+0.6**
	comp=N,1.4nm,0.3s							
KECS	**Kecovo**		**7.12**	**1**	*e*PN	**Pn**	**11 52 41.6**	**+1.4**
VYHS	**Vyhne**		**7.19**	**353**	*e*PN	**Pn**	**11 52 43.5**	**+2.2**
VYHS					*e*SN	**Sn**	**11 54 01.9**	**-1.3**
CONA	**Conrad Observa**		**7.26**	**336**	*i* Pn	**Pn**	**11 52 41.0**	**-1.3**
	comp=N,5.1nm,0.7s							
ABTA	**Abfaltersbach**		**7.73**	**317**	*i* Pn	**Pn**	**11 52 49.3**	**+0.6**
	comp=N,1.3nm,0.4s							
LESA	**Schwarzleotal**		**8.11**	**321**	*e*Pn	**Pn**	**11 52 53.9**	**0.0**
	comp=N,1.2nm,0.3s							
WTTA	**Wattenberg**		**8.52**	**317**	*i* Pn	**Pn**	**11 52 59.7**	**+0.1**
	comp=N,0.8nm,0.2s							
WATA	**Walderalm**		**8.60**	**317**	*i* Pn	**Pn**	**11 53 01.4**	**+0.8**
	comp=N,2.5nm,0.5s,SNR=5.5							
SQTA	**Sankt Quirin**		**8.72**	**315**	*i* Pn	**Pn**	**11 53 02.8**	**+0.5**
	comp=N,2.7nm,0.4s							
MOTA	**Moosalm**		**8.85**	**316**	*e*Pn	**Pn**	**11 53 03.3**	**-0.9**
	comp=N,3.0nm,0.5s							
FETA	**Feichten**		**8.86**	**313**	*i* Pn	**Pn**	**11 53 05.2**	**+1.0**
	comp=N,1.3nm,0.5s							
KHC	**Kasperske Hory**		**9.06**	**331**	*e*PN	**Pn**	**11 53 08.7**	**+1.7**

*DJA **28** 11:52:17.2±0.2,3°S±2°×12°7E±°, h10km,M4.5/19, mb4.8/14,mB5.1/6,MLv4.5/19,Mw(mB)4.5/6*
*NEIC **28** 11:52:19.9±2.6,3.40S±0.09×127.60E±0.09, h65km±10km, mb4.4/12, Error ellipse: s-maj=15.1km s-min=10.4km az=47.0*
*IDC **28** 11:52:21.8±2.8,3.54S×127.23E, h66km±24km, mb3.7/13, mbtmp4.1/14,MS3.5/6, Error ellipse: s-maj=24.0km s-min=14.0km az=80.0*

ISC 28 11:52:14.4±0.4,3.40S±0.05×127.50E±0.05, h10km, n69, σ2$08/70, mb4.1/17, MS3.7/4, Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.43**	**291**	P	**Pg**		**11 52 22.2**	**-0.7**
NLAI				S	**Sg**		**11 52 26.3**	**-2.3**
SANI	**Sanana**	**2.02**	**311**	P	**Pn**		**11 52 47.6**	**-1.0**
SANI				S	**Sn**		**11 53 11.4**	**-2.5**
BNDI	**Bandanaira**	**2.65**	**115**	P	**Pb**		**11 53 01.2**	**-0.8**
LBMI	**Labuha**	**2.74**	**0**	P	**Pb**		**11 53 03.0**	**-0.6**
LBMI				S	**Sb**		**11 53 36.6**	**-0.7**
TNTI	**Ternate**	**4.14**	**358**		**Pn**		**11 53 20.4**	**+2.6**
TNTI	**Ternate**	**4.14**	**358**	P	**Pn**		**11 53 20.4**	**+2.6**
SWI	**Sorong**	**4.52**	**56**	P	Pn		11 53 28.4	+5.4
SWI				S	**Sb**		**11 54 24.4**	**-4.2**
FAKI	**Fak Fak**	**4.76**	**84**	Pn	**Pn**		**11 53 28.6**	**+2.2**
FAKI	**Fak Fak**	**4.76**	**84**	P	Pn		11 53 31.9	+5.5
LUWI	**Luwuk**	**5.27**	**296**	Pn	**Pn**		**11 53 35.5**	**+2.1**
LUWI	**Luwuk**	**5.27**	**296**	P	**Pn**		**11 53 33.1**	**-0.2**
	208nm,0.7s,0.9nm							
KMSI	**Cibinong**	**5.29**	**318**	P	**Pn**		**11 53 34.1**	**+0.6**
	202nm,0.5s,12μm1.5nm							
BBSI	**Bau Bau**	**5.34**	**247**	P	**Pn**		**11 53 34.6**	**+0.4**
	136nm,1.0s,0.5nm							
MRSI	**Marisa**	**6.76**	**305**	P	**Pn**		**11 53 55.5**	**+1.7**
	185nm,0.5s,2μm0.8nm							
SOEI	**Soe**	**7.09**	**207**		**Pn**		**11 54 02.2**	**+3.8**
SOEI	**Soe**	**7.09**	**207**	P	**Pn**		**11 54 01.8**	**+3.4**
	72nm,0.9s,0.3nm							
BKSI	**Bulukumba**	**7.60**	**255**	P	**Pn**		**11 54 07.8**	**+2.4**
	43nm,0.7s,699nm0.2nm							
EDFI	**Ende, Flores**	**7.85**	**227**	P	**Pn**		**11 54 10.0**	**+1.1**
	29nm,0.7s,0.1nm							
KAPI	**Kappang**	**7.89**	**258**		**Pn**		**11 54 13.1**	**+3.8**
KAPI	**Kappang**	**7.89**	**258**	P	**Pn**		**11 54 10.8**	**+1.4**
	12nm,0.5s,baz=108,slow=4.5,SNR=8.8							
KAPI				S		**Sn**	**11 55 35.6**	**-3.2**
	4.9nm,0.3s,baz=116,slow=22,SNR=1.0							
KAPI				LR	LR		11 57 30.2	
	comp=Z,144nm,19.0s,baz=78,slow=41							
TOLI2	**Tolitoli**	**8.07**	**304**		**Pn**		**11 54 15.5**	**+3.6**
TOLI2	**Tolitoli**	**8.07**	**304**	P	**Pn**		**11 54 16.2**	**+4.4**
MPSI	**Mapaga**	**8.46**	**296**	P	**Pn**		**11 54 20.0**	**+2.9**
	44nm,0.7s							
MTN	**Manton Dam**	**10.05**	**159**	Pn	**Pn**		**11 54 40.8**	**+1.8**
MTN	**Manton Dam**	**10.05**	**159**	P	**Pn**		**11 54 41.4**	**+2.4**
DAV	**Davao City (W)**	**10.57**	**350**	LR	LR		11 59 48.3	
	comp=Z,64nm,20.3s,baz=160,slow=42							
PLAI	**Plampang**	**11.07**	**240**	P	**Pn**		**11 54 54.5**	**+1.5**
	23nm,1.1s							
KNRA	**Kununurra**	**12.27**	**174**	Pn	**Pn**		**11 55 10.2**	**+0.9**
MYLDM	**Lahad Datu**	**12.39**	**313**	Pn	**Pn**		**11 55 12.3**	**+1.3**
FITZ	**Fitzroy Crossi**	**14.72**	**187**	Pn	**Pn**		**11 55 44.4**	**+1.4**
WB0	**Warramunga Arr**	**17.61**	**158**		**Pn**		**11 56 18.9**	**-1.2**
WB0				IAmb	IAmb		11 56 27.7	
	comp=Z,16nm,0.9s							
WRAB	**Tennant Creek**	**17.74**	**158**	P	**Pn**		**11 56 21.4**	**-0.4**
WRA	**Warramunga Arr**	**17.75**	**158**		**Pn**		**11 56 20.6**	**-1.3**
WRA	**Warramunga Arr**	**17.75**	**158**	P	**Pn**		**11 56 21.0**	**-0.8**
	comp=Z,7.8nm,0.7s,baz=340,slow=12,SNR=34							
WB2	**Warramunga Arr**	**17.75**	**158**	P		**Pn**	**11 56 21.7**	**-0.2**
WB2				IAmb	IAmb		11 56 27.7	
	comp=Z,16nm,0.8s							
WR0	**Warramunga Arr**	**17.84**	**158**	P	**Pn**		**11 56 21.5**	**-1.4**
COEN	**Coen**	**18.70**	**125**	P	**Pn**		**11 56 35.0**	**+1.5**
KPJI	**Karang Pucung**	**18.89**	**257**	P	**P**		**11 56 35.5**	**+0.2**
	comp=Z,24nm,1.4s							
LEM	**Lembang**	**20.09**	**259**	LR	LR		12 04 51.2	
	comp=Z,232nm,19.3s,baz=113,slow=38							
BBJI	**Bungbulang**	**20.17**	**258**	P	**P**		**11 56 50.7**	**+1.4**
QIS	**Mount Isa**	**20.74**	**146**	P	**P**		**11 56 57.6**	**+2.2**
AS31	**Alice Springs**	**21.08**	**163**		**P**		**11 56 59.8**	**+0.7**
AS31				IAmb	IAmb		11 57 02.0	
	comp=Z,8.2nm,0.8s							
ASAR	**Alice Springs**	**21.08**	**163**	P	**P**		**11 57 00.9**	**+1.8**
	comp=Z,24nm,0.8s,baz=346,slow=12,SNR=257							
ASAR				PcP	**PcP**		**12 01 04.5**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=336,slow=1.3,SNR=5.4							
ASAR				ScP	**ScP**		**12 04 38.1**	**-4.8**
	comp=Z,0.4nm,0.7s,baz=346,slow=3.1,SNR=4.9							
	comp=Z,24nm,0.8s							
WRKA	**Warakurna**	**21.53**	**178**	P	**P**		**11 57 05.6**	**+1.6**
MEEK	**Meekatharra**	**24.63**	**199**	P	**P**		**11 57 35.9**	**+0.6**
OOD	**Oodnadatta**	**25.49**	**163**	P	**P**		**11 57 45.7**	**+2.7**
FORT	**Forrest**	**27.24**	**179**	P	**P**		**11 57 58.1**	**-0.7**
FORT				IAmb	IAmb		11 58 16.0	
	comp=Z,22nm,1.0s							
RPSI	**Rantau Prapat**	**29.20**	**282**	P	**P**		**11 58 16.2**	**-0.3**
RPSI				IAmb	IAmb		11 58 19.6	
	comp=Z,6.2nm,0.9s							
BBOO	**Buckleboo**	**30.34**	**166**	P	**P**		**11 58 23.4**	**-3.0**
NWAO	**Narrogin (SRO)**	**30.91**	**197**	P	**P**		**11 58 29.1**	**-2.3**
NWAO	**Narrogin (SRO)**	**30.91**	**197**	LR	LR		12 10 33.9	
	comp=Z,40nm,20.2s,baz=218,slow=36							
STKA	**Stephens Creek**	**31.28**	**156**	P	**P**		**11 58 36.0**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=348,slow=11,SNR=3.6							
	comp=Z,0.9nm,0.5s							
ARMA	**Armidale**	**35.25**	**142**	P	**P**		**11 59 07.0**	**-2.5**
ARMA				IAmb	IAmb		11 59 35.7	
	comp=Z,13nm,1.4s							
CAN	**Canberra**	**37.49**	**151**	P	**P**		**11 59 26.3**	**-2.3**
KSRS	**Korea Array**	**40.64**	**1**	P	**P**		**11 59 57.5**	**+2.7**
	comp=Z,1.7nm,0.7s,baz=172,slow=9.5,SNR=7.9							
	comp=Z,1.7nm,0.7s							
MJAR	**Matsushiro Arr**	**40.97**	**13**	P	**P**		**11 59 59.0**	**+1.4**
	comp=Z,2.2nm,0.7s,baz=191,slow=8.8,SNR=5.4							
	comp=Z,2.2nm,0.7s							
USRK	**Ussuriysk Ar.**	**47.55**	**4**	P	**P**		**12 00 52.7**	**+2.6**
	comp=Z,4.1nm,0.7s,baz=198,slow=7.3,SNR=8.2							
	comp=Z,4.1nm,0.7s							
PALK	**Palkekele**	**47.89**	**283**	LR	LR		12 22 59.8	
	comp=Z,169nm,20.1s,baz=26,slow=39							
SONM	**Songino Array**	**54.27**	**343**	P	**P**		**12 01 41.4**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=160,slow=8.8,SNR=2.2							
SONM				LR	LR		12 29 56.8	
	comp=Z,106nm,18.7s,baz=278,slow=42							
	comp=Z,0.5nm,0.6s							
MKAR	**Makanchi Array**	**63.87**	**327**	P	**P**		**12 02 47.8**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=129,slow=7.4,SNR=11							
	comp=Z,1.0nm,0.7s							
ZALV	**Zalesovo Beam**	**67.27**	**334**	P	**P**		**12 03 09.3**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=132,slow=6.0,SNR=2.4							
	comp=Z,0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**68.16**	**329**	P	**P**		**12 03 14.6**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=131,slow=5.6,SNR=9.5							
	comp=Z,1.4nm,0.9s							
BVAR	**Borovoye Array**	**73.71**	**328**	P	**P**		**12 03 46.8**	**-1.7**
	comp=Z,1.0nm,0.8s,baz=131,slow=8.4,SNR=4.5							
	comp=Z,1.0nm,0.8s							
VNDA	**Vanda**	**76.31**	**173**	P	**P**		**12 04 02.1**	**-1.0**
	comp=Z,1.7nm,0.9s,baz=328,slow=7.5,SNR=3.8							
	comp=Z,1.7nm,0.9s							
QSPA	**South Pole Qui**	**86.56**	**180**	P	**P**		**12 04 56.0**	**-1.8**
	comp=Z,1.9nm,0.7s,baz=357,slow=3.4,SNR=4.8							
	comp=Z,1.9nm,0.7s							
ILAR	**Eielson Array**	**91.17**	**25**	P	**P**		**12 05 19.9**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=283,slow=3.9,SNR=4.1							
	comp=Z,0.3nm,0.7s							
TXAR	**Lajitas Array**	**125.12**	**56**	PKP		**PKPdf**	**12 11 16.0**	**0.0**
	comp=Z,0.1nm,0.8s,baz=222,slow=1.2,SNR=1.8							
TORD	**Torodi Ar. Bea**	**125.61**	**284**	PKP		**PKPdf**	**12 11 16.3**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=65,slow=2.8,SNR=2.9							
CPUP	**Villa Florida**	**150.08**	**171**	PKPbc		**PKPdf**	**12 12 04.5**	**+3.2**
	comp=Z,0.6nm,0.5s,baz=190,slow=6.1,SNR=2.9							

WEL 28 12:35:43.7±0.3,41°S±2°×17°6E±°, h21km±2km, M3.2/25, ML3.5/26, MLv3.2/25, Error ellipse: s-maj=0.0km s-min=0.0km az=129.2, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HOWZ	**Holdsworth Sta**	**0.18**	**280**	P		**Pb**	**12 35 50.0**	**+0.4**
HOWZ				S		**Sb**	**12 35 54.3**	**+0.5**
TIWZ	**Tintock**	**0.18**	**33**	P		**Pb**	**12 35 50.1**	**+0.4**
TIWZ				S		**Sb**	**12 35 54.6**	**+0.8**
TMWZ	**Te Maipa**	**0.20**	**149**	P		**Pb**	**12 35 50.6**	**+0.9**
TMWZ				S		**Sb**	**12 35 55.8**	**+1.9**
MTW	**Mount Morrison**	**0.30**	**220**	P		**Pn**	**12 35 51.7**	**-1.1**
MTW				S		**Sn**	**12 35 57.5**	**-1.0**
MRZ	**Mangatainoka R**	**0.30**	**334**	P		**Pb**	**12 35 51.4**	**+1.0**
MRZ				S		**Sn**	**12 35 56.8**	**-1.8**
CPWZ	**Castlepoint**	**0.34**	**87**	P		**Pn**	**12 35 53.3**	**0.0**
PRWZ	**Pori Road**	**0.41**	**24**	P		**Pn**	**12 35 53.6**	**-0.8**
BFZ	**Birch Farm**	**0.45**	**57**	P		**Pn**	**12 35 53.9**	**-0.9**
BFZ				S		**Sn**	**12 36 01.8**	**-0.6**
OGWZ	**Otaki Gorge**	**0.46**	**284**	P		**Pn**	**12 35 54.1**	**-0.8**
OGWZ				S		**Sn**	**12 36 01.1**	**-1.4**
TRWZ	**Traveller**	**0.47**	**186**	P		**Pn**	**12 35 54.3**	**-0.9**
PAWZ	**Paruwai Farm**	**0.51**	**208

comp=Z,5.2nm,0.4s
PLCA Paso Flores 4.41 126 *e*P **Pn** **12 44 34.7 +0.5**
PLCA *e*S **Sn** **12 45 30.0 +4.2**
BO03 Pichilemu 4.55 36 *e*P **Pn** **12 44 34.9 -1.1**
BO03 *e*S **Sn** **12 45 24.7 -4.5**
LL01 San Ignacio de 4.69 153 **Pn** **12 44 37.4 -0.3**
LL01 San Ignacio de 4.69 153 *e*P **Pn** **12 44 37.5 -0.3**
LL01 *e*S **Sn** **12 45 28.3 -4.1**
LL01 IAML 12 45 31.5
comp=Z,78nm,0.3s
LL01 San Ignacio de 4.69 153 *e*P **Pn** **12 44 37.4 -0.3**
LL01 *e*S **Sn** **12 45 26.4 -6.0**
BO02 Sierra Bellavi 4.95 48 **Pn** **12 44 41.1 -0.5**
BO02 Sierra Bellavi 4.95 48 *e*P **Pn** **12 44 41.0 -0.5**
BO02 *e*S **Sn** **12 45 35.1 -4.0**
BO02 IAML 12 45 41.6
comp=Z,187nm,0.2s
BO02 Sierra Bellavi 4.95 48 *e*P **Pn** **12 44 40.9 -0.7**
BO02 *e*S **Sn** **12 45 37.1 -2.0**
GO07 Milladeo Hill, 5.04 167 **Pn** **12 44 41.8 -0.9**
GO07 Milladeo Hill, 5.04 167 *e*P **Pn** **12 44 41.9 -0.8**
GO07 *e*S **Sn** **12 45 36.5 -4.6**
BO01 Tunca 5.08 43 **Pn** **12 44 43.0 -0.2**
BO01 Tunca 5.08 43 *e*P **Pn** **12 44 43.1 -0.1**
BO01 *e*S **Sn** **12 45 40.4 -1.7**
BO01 IAML 12 45 50.0
comp=Z,72nm,0.2s
BO01 Tunca 5.08 43 *i* P **Pn** **12 44 43.0 -0.2**
H03S1 Juan Fernandez 5.28 325 T T 12 50 28.5
baz=146,slow=71,SNR=73
H03S2 Juan Fernandez 5.29 324 T T 12 50 14.4
baz=146,slow=71,SNR=89
H03S3 Juan Fernandez 5.30 325 T T 12 50 16.5
baz=146,slow=71,SNR=57
MT01 Popeta 5.41 38 **Pn** **12 44 46.9 -0.9**
MT01 Popeta 5.41 38 *e*P **Pn** **12 44 46.9 -0.9**
MT01 *e*S **Sn** **12 45 48.0 -2.3**
MT01 IAML 12 45 50.6
comp=Z,86nm,0.3s
MT01 Popeta 5.41 38 *e*P **Pn** **12 44 46.7 -1.0**
MT01 *e*S **Sn** **12 45 46.3 -4.0**
VA05 Santo Domingo 5.41 34 **Pn** **12 44 47.5 -0.3**
VA04 Juan Fernndez 5.42 326 Pn **Pn** **12 44 46.8 -1.0**
VA04 Juan Fernndez 5.42 326 *e*P **Pn** **12 44 46.5 -1.3**
LL02 Futaleuf 5.60 154 Pn **Pn** **12 44 50.4 +0.1**
MT09 Talagante 5.61 39 Pn **Pn** **12 44 49.7 -0.9**
MT09 Talagante 5.61 39 *i* P **Pn** **12 44 50.0 -0.7**
MT09 *e*S **Sn** **12 45 52.3 -3.1**
BO04 La Punta 5.64 43 **Pn** **12 44 50.5 -0.4**
BO04 La Punta 5.64 43 *e*P **Pn** **12 44 50.6 -0.4**
MT12 Pirque 5.87 42 *e*P **Pn** **12 44 54.6 +0.5**
MT02 Curacav 5.96 35 **Pn** **12 44 53.9 -1.5**
MT02 Curacav 5.96 35 *e*P **Pn** **12 44 53.9 -1.5**
MT02 *e*S **Sn** **12 45 59.2 -4.7**
MT05 Renca 6.04 39 *e*P **Pn** **12 44 56.4 -0.1**
MT03 Universidad Ad 6.07 41 **Pn** **12 44 56.9 -0.1**
FCH Farellones 6.32 41 *e*P **Pn** **12 44 59.6 -0.9**
FCH *e*S **Sn** **12 46 09.0 -4.2**
AY01 Puyuhuapi 6.50 163 **Pn** **12 45 03.2 +0.5**
COYC Coyhaique 7.72 163 **Pn** **12 45 20.3 +0.9**
GO04 Tololo Observa 8.82 26 **Pn** **12 45 34.7 -0.1**
LCO Las Campanas 9.92 24 **Pn** **12 45 48.0 -2.0**
AC05 El Transito 10.22 25 **Pn** **12 45 53.3 -0.7**
GO08 Villa O'Higgin 10.43 170 **Pn** **12 45 57.3 +0.8**
TRQA Tornquist 10.44 93 **Pn** **12 45 58.1 +1.2**
PB14 IPOC Station P 14.16 18 **Pn** **12 46 46.9 -1.0**
PB05 IPOC Station P 15.91 17 P **Pn** **12 47 08.9 -2.2**
LVC Limon Verde 16.47 21 Pn **Pn** **12 47 19.5 +0.8**
comp=Z,0.1nm,0.3s,baz=208,slow=16,SNR=2.3
LVC LR LR 12 51 45.1
comp=Z,26nm,22.0s,baz=198,slow=30
comp=Z,2.4nm,0.7s
PLTB Pedras Altas 18.84 77 P **P** **12 47 46.1 -1.0**
CPUP Villa Florida 19.19 57 P **P** **12 47 50.0 -1.0**
CPUP Villa Florida 19.19 57 P **Pn** **12 47 52.5 +0.7**
comp=Z,0.3nm,0.3s,baz=233,slow=10,SNR=8.3
CPUP LR LR 12 55 34.4
comp=Z,122nm,21.9s,baz=233,slow=38
comp=Z,3.4nm,0.8s
PB16 IPOC Station P 20.43 16 P Pn 12 48 06.3 -1.0
SIV San Ignacio 25.41 33 P **P** **12 48 57.1 +2.1**
comp=Z,3.7nm,0.8s,baz=218,slow=7.8,SNR=16
comp=Z,3.7nm,0.8s
NNA Nana 26.16 356 LR LR 12 57 09.4
comp=Z,28nm,18.6s,baz=104,slow=31
PMSA Palmer Station 27.41 170 LR LR 12 58 41.4
comp=Z,49nm,19.8s,baz=258,slow=34
RPN Rapa Nui 30.60 281 LR LR 12 58 25.6
comp=Z,100nm,18.5s,baz=106,slow=30
BDFB Brasilia 32.87 54 P **P** **12 50 04.4 +2.9**
comp=Z,2.1nm,0.7s,baz=194,slow=4.2,SNR=2.0
BDFB LR LR 13 04 06.7
comp=Z,96nm,19.4s,baz=209,slow=38
comp=Z,2.1nm,0.7s
BAUV El Baul 47.39 10 P **P** **12 52 01.4 -0.3**
SNAA Sanae 48.72 156 P **P** **12 52 11.5 0.0**
SNAA IAmb IAmb 12 52 13.6
comp=Z,9.6nm,1.0s
SNAA Sanae 48.72 156 P **P** **12 52 11.8 +0.3**
comp=Z,9.6nm,1.1s,baz=264,slow=9.9,SNR=6.3
comp=Z,9.6nm,1.1s
QSPA South Pole Qui 52.03 180 P **P** **12 52 37.5 +0.8**
QSPA IAmb IAmb 12 52 38.3
comp=Z,6.1nm,0.6s
QSPA South Pole Qui 52.03 180 P **P** **12 52 37.0 +0.4**
comp=Z,6.8nm,0.7s,baz=143,slow=2.7,SNR=18
comp=Z,6.8nm,0.7s
MAW Mawson 69.86 164 P **P** **12 54 37.5 -0.1**
comp=Z,4.6nm,1.0s,baz=166,slow=8.3,SNR=3.6
comp=Z,4.6nm,1.0s
TXAR Lajitas Array 72.27 334 P **P** **12 54 54.0 +1.2**
comp=Z,1.7nm,0.7s,baz=153,slow=8.5,SNR=20
comp=Z,1.7nm,0.7s
SAND Sanderson 72.32 336 IAmb IAmb 12 54 58.3
comp=Z,8.6nm,1.3s
MNHN Monahans 73.81 336 IAmb IAmb 12 55 04.0
comp=Z,3.6nm,0.7s
V48A Smith Brothers 74.36 350 IAmb IAmb 12 55 09.0
comp=Z,14nm,0.8s
APMT Aspermont 74.85 339 P **P** **12 55 08.8 +1.1**
APMT IAmb IAmb 12 55 12.0
comp=Z,5.2nm,0.7s
WVT Waverly 74.89 349 P **P** **12 55 07.7 -0.2**
WVT IAmb IAmb 12 55 11.5
comp=Z,20nm,1.2s
SUR Sutherland 75.04 119 LR LR 13 23 34.9
comp=Z,23nm,20.3s,baz=167,slow=32
DKNS Dickens 75.40 338 IAmb IAmb 12 55 15.3
comp=Z,4.4nm,0.6s
SMWD Samnorwood 76.55 339 IAmb IAmb 12 55 22.2
comp=Z,6.1nm,0.8s
CCM Cathedral Cave 77.32 347 **P** **12 55 22.2 +0.5**
CCM IAmb IAmb 12 55 25.5
comp=Z,9.0nm,0.6s
ANMO Albuquerque 78.34 334 P **P** **12 55 28.9 +1.2**
DBIC Dimbokro 78.95 72 P **P** **12 55 32.2 +0.9**
comp=Z,3.4nm,0.8s,baz=200,slow=4.9,SNR=4.9
comp=Z,3.4nm,0.8s
T25A Trinidad 79.67 337 IAmb IAmb 12 55 40.7
comp=Z,5.8nm,0.9s
BOSA Boshof 80.36 119 P **P** **12 55 38.9 -0.2**
comp=Z,3.5nm,0.9s,baz=216,slow=8.8,SNR=3.7
comp=Z,3.5nm,0.9s
TSUM Tsumeb 80.51 107 LR LR 13 27 05.5
comp=Z,29nm,18.5s,baz=136,slow=32
LBTB Lobatse 82.83 116 LR LR 13 30 59.3
comp=Z,34nm,20.1s,baz=154,slow=34
ECSD EROS Data Cent 83.84 345 IAmb IAmb 12 56 00.5
comp=Z,5.5nm,0.9s
RDMU Red Mountain 84.47 334 IAmb IAmb 12 56 02.8
comp=Z,4.0nm,0.9s
SPR3 Spring Creek 3 84.82 330 IAmb IAmb 12 56 05.0
comp=Z,4.7nm,1.1s
NVAR Mina Array Bea 85.95 327 P **P** **12 56 07.8 +0.3**
comp=Z,0.2nm,0.5s,baz=168,slow=4.6,SNR=3.1
comp=Z,0.2nm,0.5s
HWUT Hardware Ranch 86.08 334 IAmb IAmb 12 56 12.8
comp=Z,5.2nm,1.1s
PDAR Pinedale Array 86.43 335 P **P** **12 56 11.1 +1.2**
comp=Z,0.7nm,0.8s,baz=136,slow=7.2,SNR=6.2
comp=Z,0.7nm,0.8s
TORD Torodi Ar. Bea 88.03 72 P **P** **12 56 17.7 -0.3**
comp=Z,0.7nm,0.7s,baz=249,slow=3.3,SNR=2.3
comp=Z,0.7nm,0.7s
MDT Midelt 96.44 53 LR LR 13 40 22.0
comp=Z,43nm,18.1s,baz=350,slow=35

WRA Warramunga Arr 115.83 211 PKP **PKiKP** **13 02 09.5 -1.0**
comp=Z,0.3nm,0.5s,baz=155,slow=1.6,SNR=6.5
GERES GERESS Array B 116.92 48 PKP **PKPdf** **13 02 11.0 -0.7**
comp=Z,0.8nm,0.9s,baz=225,slow=9.6,SNR=2.0
BRTR Keskin Array B 126.06 65 PKP **PKPdf** **13 02 29.9 +0.3**
comp=Z,0.6nm,0.6s,baz=192,slow=2.7,SNR=3.3
GEYT Alibeck 143.58 76 PKP PKPbc 13 02 59.8 +0.3
comp=Z,3.4nm,0.6s,baz=239,slow=4.9,SNR=7.5
TIXI Tiksi 144.30 347 PKP **PKPab** **13 02 59.9 -0.3**
comp=Z,0.2nm,0.9s,baz=72,slow=4.9,SNR=8.6
ARU Arti 144.60 44 PKP PKPbc 13 03 02.5 +0.5
comp=Z,1.1nm,0.4s,baz=222,slow=4.2,SNR=4.2
AKTO Aktyubinsk 144.96 54 PKPbc **PKPab** **13 03 03.4 0.0**
comp=Z,4.3nm,1.0s,baz=275,slow=4.1,SNR=5.9
NRIK Noril'sk 147.46 11 PKPbc **PKPbc** **13 03 10.8 +0.6**
comp=Z,1.4nm,0.4s,baz=333,slow=2.3,SNR=4.1
ASAJ Asahikawa 151.10 294 PKPbc **PKiKP** **13 03 20.8 +0.1**
comp=Z,12nm,0.9s,baz=113,slow=5.7,SNR=5.3
YAK Yakutsk 151.65 335 PKPbc **PKPbc** **13 03 20.7 -0.1**
comp=Z,0.6nm,0.5s,baz=28,slow=0.5,SNR=5.1
BVAR Borovoye Array 152.09 47 PKP **PKPdf** **13 03 16.3 +0.8**
comp=Z,2.1nm,0.6s,baz=316,slow=4.1,SNR=3.9
BVAR PKPbc **sPKPbc** **13 03 23.0 -0.3**
comp=Z,2.3nm,0.7s,baz=305,slow=3.7,SNR=7.8
BVAR PKPab **PKPab** **13 03 32.0 +0.2**
comp=Z,0.9nm,0.6s,baz=309,slow=0.9,SNR=4.4
KURBB Kurchatov Arra 157.66 48 PKP **PKPdf** **13 03 23.8 +0.5**
comp=Z,0.6nm,0.7s,baz=276,slow=1.7,SNR=5.2
KURBB PKPab **pPKPab** **13 03 56.0 -0.5**
comp=Z,0.4nm,0.5s,baz=292,slow=4.5,SNR=2.7
ZALV Zalesovo Beam 159.16 35 PKP **PKPdf** **13 03 24.5 -0.5**
comp=Z,0.4nm,0.4s,baz=321,slow=2.0,SNR=4.7
ZALV PKPab **pPKPab** **13 04 02.6 -0.2**
comp=Z,1.9nm,0.8s,baz=300,slow=6.3,SNR=6.8
MKAR Makanchi Array 161.39 55 PKP **PKPdf** **13 03 27.6 -0.1**
comp=Z,0.5nm,0.8s,baz=259,slow=1.4,SNR=4.3
MKAR PKPab **PKPab** **13 04 12.1 +0.1**
comp=Z,0.5nm,0.6s,baz=271,slow=5.0,SNR=4.7

*NEIC **28** 13:08:01.2±2.2,9.7°S±0.7°×112.7°E±0.7°,06,h48km±7km, mb4.6/40, Error ellipse: s-maj=10.6km s-min=8.8km az=160.0*
*DJA **28** 13:08:02.0±0.2,10.3°S±0.4°×111.3°E±0.4°, h58km±4km, M4.8/26, mB5.4/7, mb4.8/26, MLv4.8/21, Mw(mB)4.9/7*
*IDC **28** 13:08:03.6±2.1,9.45S±112.94E, h55km±18km, mb4.1/17, mbtmp4.4/19, ML4.2/2, MS3.4/9, Error ellipse: s-maj=18.6km s-min=10.2km az=36.0*

ISC 28 13:08:01.6±0.5,9.74S±0.04×112.88E±0.04,h47km±4km, n155,σ1s73/167,mb4.7/40,MS3.6/8,2D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.79**	**45**	Pn		**Pn**	**13 08 28.9**	**-1.1**
JAGI				Sn		**Sn**	**13 08 50.3**	**-1.2**
JAGI	**Jajag, Banyuwa**	**1.79**	**45**	P		**Pn**	**13 08 29.1**	**-0.9**
JAGI	**Jajag, Banyuwa**	**1.79**	**45**	P		**Pn**	**13 08 29.1**	**-0.9**
JAGI				S		**Sn**	**13 08 51.4**	**-0.1**
BLJI	**Banyuglugur**	**2.11**	**20**	P		**Pn**	**13 08 34.7**	**+0.3**
BLJI				S		**Sn**	**13 09 00.4**	**+1.0**
ABJI	**Asem Bagus**	**2.36**	**35**	P		**Pn**	**13 08 38.7**	**+0.9**
ABJI				S		**Sn**	**13 09 08.0**	**+2.5**
DNP	**Denpasar**	**2.54**	**65**	P		**Pn**	**13 08 41.4**	**+1.1**
DNP				S		**Sn**	**13 09 10.5**	**+0.5**
NGJI	**Ngawi**	**2.74**	**329**	P		**Pn**	**13 08 44.3**	**+1.2**
SRBI	**Singaraja**	**2.84**	**55**	P		**Pn**	**13 08 44.8**	**+0.4**
KMMI	**Kalianget**	**2.89**	**22**	P		**Pn**	**13 08 45.7**	**+0.6**
UGM	**Wanagama**	**2.95**	**308**	Pn		**Pn**	**13 08 46.4**	**+0.4**
UGM	**Wanagama**	**2.95**	**308**	P		**Pn**	**13 08 46.6**	**+0.6**
UGM	**Wanagama**	**2.95**	**308**	P		**Pn**	**13 08 46.3**	**+0.3**
YOGI	**Yogyakarta**	**3.19**	**307**	P		**Pn**	**13 08 50.2**	**+0.9**
SMRI	**Semarang**	**3.60**	**318**			**Pn**	**13 08 55.1**	**+0.2**
SMRI	**Semarang**	**3.60**	**318**	P		**Pn**	**13 08 56.5**	**+1.6**
SMRI	**Semarang**	**3.60**	**318**	P		**Pn**	**13 08 55.7**	**+0.8**
BWJI	**Bawean**	**3.87**	**357**	P		**Pn**	**13 08 59.0**	**+0.3**
TWSI	**Taliwang, Sumb**	**4.08**	**76**	P		**Pn**	**13 09 02.9**	**+1.4**
KPJI	**Karang Pucung**	**4.58**	**301**	P		**Pn**	**13 09 09.0**	**+0.7**
CMJI	**Cimerak**	**4.79**	**294**	P		**Pn**	**13 09 11.3**	**+0.1**
PLAI	**Plampang**	**4.92**	**80**	P		**Pn**	**13 09 14.4**	**+1.3**
PLAI	**Plampang**	**4.92**	**80**	P		**Pn**	**13 09 14.3**	**+1.2**
BBJI	**Bungbulang**	**5.64**	**293**	P		**Pn**	**13 09 23.4**	**+0.4**
LEM	**Lembang**	**5.96**	**299**	P		**Pn**	**13 09 28.4**	**+1.0**
	33nm,0.6s,0.4nm							
LEM	**Lembang**	**5.96**	**299**	P		**Pn**	**13 09 29.3**	**+1.9**
	5.0nm,0.3s,baz=257,slow=23,SNR=1.9							
LEM				S		**Sn**	**13 10 35.8**	**+1.4**
	41nm,0.6s,baz=321,slow=24,SNR=2.2							
LEM				LR		LR	13 12 01.2	
	comp=Z,206nm,20.1s,baz=196,slow=40							
	14nm,0.4s							
CNJI	**Cibinong**	**6.18**	**293**	P		**Pn**	**13 09 31.8**	**+1.5**
	24nm,1.0s,729nm0.2nm							
BBKI	**Banjar Baru**	**6.54**	**17**	P		**Pn**	**13 09 36.1**	**+0.8**
	94nm,0.6s,3µm0.8nm							
XMI	**Christmas Isla**	**7.11**	**264**	P		**Pn**	**13 09 43.1**	**0.0**
XMIS	**Christmas Isla**	**7.15**	**264**	Pn		**Pn**	**13 09 42.7**	**-1.0**
XMIS	**Christmas Isla**	**7.15**	**264**	P		**Pn**	**13 09 43.3**	**-0.4**
BASI	**Baing, Sumba**	**7.60**	**94**	P		**Pn**	**13 09 50.6**	**+0.8**
	89nm,0.5s,0.6nm							
CGJI	**Cibinong**	**7.76**	**293**	P		**Pn**	**13 09 53.4**	**+1.4**
KAPI	**Kappang**	**8.28**	**56**	Pn		**Pn**	**13 09 58.6**	**-0.6**
KAPI	**Kappang**	**8.28**	**56**	P		**Pn**	**13 09 59.5**	**+0.4**
	3.2nm,0.3s,baz=237,slow=3.7,SNR=8.4							
KAPI				S		**Sn**	**13 11 29.3**	**-2.1**
	6.0nm,0.6s,baz=37,slow=16,SNR=1.5							
KAPI				LR		LR	13 13 27.0	
	comp=Z,159nm,20.8s,baz=234,slow=40							
	7.4nm,0.3s							
BKSI	**Bulukumba**	**8.42**	**59**	P		**Pn**	**13 10 00.4**	**-0.7**
	42nm,0.6s							
EDFI	**Ende, Flores**	**8.76**	**84**	P		**Pn**	**13 10 05.2**	**-0.6**
	43nm,0.5s,1µm							
KASI	**Kota Agung**	**9.30**	**296**	P		**Pn**	**13 10 12.9**	**-0.2**
	40nm,0.5s							
STKI	**Sintang**	**9.84**	**352**	P		**Pn**	**13 10 21.1**	**+0.5**
	21nm,0.5s							
LWLI	**Liwa**	**9.92**	**298**	P		**Pn**	**13 10 21.8**	**0.0**
MNAI	**Manna**	**11.20**	**298**	Pn		**Pn**	**13 10 37.9**	**-1.3**
MNAI	**Manna**	**11.20**	**298**	P		**Pn**	**13 10 39.9**	**+0.7**
MNAI	**Manna**	**11.20**	**298**	P		**Pn**	**13 10 38.4**	**-0.8**
	201nm,1.1s							
SOEI	**Soe**	**11.23**	**91**	P		**Pn**	**13 10 41.8**	**+2.2**
SOEI	**Soe**	**11.23**	**91**	P		**Pn**	**13 10 39.8**	**+0.2**
	54nm,0.6s							
SBUM	**Sibu**	**12.13**	**357**	Pn		**Pn**	**13 10 53.4**	**+1.6**
GIRL	**Giralia**	**12.89**	**174**	Pn		**Pn**	**13 11 01.6**	**-0.6**
GIRL	**Giralia**	**12.89**	**174**	P		**Pn**	**13 11 02.1**	**-0.1**
MBWA	**Marble Bar**	**13.13**	**151**			**Pn**	**13 11 03.5**	**-2.0**
MBWA	**Marble Bar**	**13.13**	**151**	P		**Pn**	**13 11 03.5**	**-2.0**
TOLI2	**Tolitoli**	**13.35**	**37**	Pn		**P**	**13 11 13.8**	**-3.2**
PSA00	**Pilbara Seismi**	**13.54**	**151**	Pn		**Pn**	**13 11 09.0**	**-2.1**
PSA00	**Pilbara Seismi**	**13.54**	**151**	P		**Pn**	**13 11 09.7**	**-1.3**
GTOI	**Gorontalo**	**14.43**	**45**	P		**Pn**	**13 11 23.9**	**+0.8**
	16nm,0.9s							
FITZ	**Fitzroy Crossi**	**14.91**	**125**	Pn		**Pn**	**13 11 28.3**	**-1.1**
FITZ	**Fitzroy Crossi**	**14.91**	**125**	P		**P**	**13 11 32.2**	**-2.0**
KNRA	**Kununurra**	**16.58**	**112**			**P**	**13 11 52.4**	**-0.3**
KNRA				IAmb	IAmb		13 12 01.3	
	comp=Z,42nm,1.4s							
MEEK	**Meekatharra**	**17.66**	**163**	P		**P**	**13 12 06.6**	**+1.9**
BNDI	**Bandanaira**	**17.67**	**74**	P		**Pn**	**13 12 03.1**	**-1.3**
	comp=Z,284nm,1.8s							
TNTI	**Ternate**	**17.81**	**55**	P		**Pn**	**13 12 05.6**	**-0.6**
	comp=Z,28nm,0.5s							
MTN	**Manton Dam**	**18.17**	**101**	P		**Pn**	**13 12 10.6**	**+0.1**
MTN				IAmb	IAmb		13 12 31.1	
	comp=Z,17nm,0.5s							
MTN	**Manton Dam**	**18.17**	**101**	P		**Pn**	**13 12 12.4**	**+1.9**
IPM	**Ipoh**	**18.41**	**320**	P		**P**	**13 12 09.5**	**-3.6**
KULM	**Kulim**	**19.27**	**320**	P		**P**	**13 12 18.6**	**-3.8**
KDU	**Kakadu**	**19.44**	**100**	P		**P**	**13 12 25.0**	**+0.7**
SWI	**Sorong**	**20.30**	**65**	P		**P**	**13 12 32.5**	**-1.2**
	comp=Z,25nm,0.8s							
FAKI	**Fak Fak**	**20.40**	**72**	P		**P**	**13 12 32.6**	**-2.3**
FAKI				IAmb	IAmb		13 12 37.1	
	comp=Z,19nm,0.6s							
FAKI	**Fak Fak**	**20.40**	**72**	P		**P**	**13 12 32.2**	**-2.6**
	comp=Z,27nm,0.8s							
WRKA	**Warakurna**	**21.13**	**138**	P		**P**	**13 12 46.9**	**+4.3**
WB0	**Warramunga Arr**	**23.04**	**118**	P		**P**	**13 13 03.9**	**+0.8**
WRA	**Warramunga Arr**	**23.06**	**119**	P		**P**	**13 13 04.5**	**+1.2**
WRA	**Warramunga Arr**	**23.06**	**119**	P		**P**	**13 13 04.1**	**+0.9**
	comp=Z,3.2nm,0.5s,baz=293,slow=11,SNR=55							
WRA				S		**S**	**13 17 15.0**	**+4.1**
	comp=Z,0.3nm,0.5s,baz=283,slow=24,SNR=3.5							
	comp=Z,3.2nm,0.5s							
WRAB	**Tennant Creek**	**23.07**	**118**	P		**P**	**13 13 04.9**	**+1.6**
WB2	**Warramunga Arr**	**23.07**	**119**	P		**P**	**13 13 03.2**	**-0.1**
WB2				IAmb	IAmb		13 13 06.5	
	comp=Z,20nm,1.4s							
WR0	**Warramunga Arr**	**23.25**	**118**	P		**P**	**13 13 06.1**	**+1.1**
NWAO	**Narrogin (SRO)**	**23.42**	**171**	LR		LR	13 23 11.0	
	comp=Z,94nm,18.8s,baz=82,slow=38							
ASAR	**Alice Springs**	**24.39**	**127**	P		**P**	**13 13 17.2**	**+1.5**
ASAR	**Alice Springs**	**24.39**	**127**	P		**P**	**13 13 17.7**	**+2.0**
	comp=Z,7.1nm,0.5s,baz=305,slow=8.5,SNR=75							
ASAR				LR		LR	13 23 28.9	
	comp=Z,70nm,18.8s,baz=316,slow=38							
	comp=Z,7.1nm,0.5s							
AS31	**Alice Springs**	**24.39**	**127**	P		**P**	**13 13 17.6**	**+1.9**
FORT	**Forrest**	**25.26**	**148**	P		**P**	**13 13 26.6**	**+3.2**
FORT				IAmb	IAmb		13 13 55.5	
	comp=Z,24nm,0.9s							
FORT	**Forrest**	**25.26**	**148**	P		**P**	**13 13 28.4**	**+5.0**
QIS	**Mount Isa**	**27.90**	**116**	P		**P**	**13 13 49.3**	**+1.9**
OOD	**Oodnadatta**	**28.00**	**133**	P		**P**	**13 13 50.6**	**+2.5**
MULG	**Mulgathing**	**28.42**	**139**	P		**P**	**13 13 54.4**	**+2.5**
CM31	**Chiang Mai Arr**	**31.21**	**334**	P		**P**	**13 14 15.2**	**-1.4**
CM31				IAmb	IAmb		13 14 17.9	
	comp=Z,4.9nm,0.8s							
CMAR	**Chiang Mai Arr**	**31.21**	**334**	P		**P**	**13 14 14.3**	**-2.4**
CMAR	**Chiang Mai Arr**	**31.21**	**334**	P		**P**	**13 14 16.9**	**+0.2**
	comp=Z,4.3nm,0.8s,baz=167,slow=8.7,SNR=36							
CMAR				LR		LR	13 29 09.9	
	comp=Z,52nm,19.1s,baz=145,slow=41							
	comp=Z,4.3nm,0.8s							
BBOO	**Buckleboo**	**31.38**	**140**	P		**P**	**13 14 18.6**	**+0.6**
BBOO				IAmb	IAmb		13 14 30.6	
	comp=Z,18nm,1.4s							
CRAI	**Chiangrai**	**32.23**	**338**	P		**P**	**13 14 24.8**	**-0.7**
STKA	**Stephens Creek**	**34.53**	**134**	P		**P**	**13 14 45.3**	**-0.3**
STKA	**Stephens Creek**	**34.53**	**134**	P		**P**	**13 14 48.8**	**+3.2**
STKA	**Stephens Creek**	**34.53**	**134**	P		**P**	**13 14 48.4**	**+2.8**
	comp=Z,3.2nm,0.5s,baz=311,slow=8.0,SNR=13							
STKA				LR		LR	13 29 44.0	
	comp=Z,134nm,20.3s,baz=340,slow=38							
	comp=Z,3.2nm,0.5s							
PZH	**PanZhiHua**	**37.62**	**344**	P		**P**	**13 15 13.0**	**+0.9**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,180nm,7.3s							
H08S2	**Diego Garcia H**	**39.96**	**270**	T		T	13 58 28.3	
	baz=95							
H08S3	**Diego Garcia H**	**39.97**	**270**	T		T	13 58 21.3	
	baz=95,SNR=5.9							
H08S1	**Diego Garcia H**	**39.98**	**270**	T		T	13 58 32.2	
	baz=95							
WHN	**Wuhan**	**40.08**	**2**	P		P	13 15 45.8	+13
TOO	**Toolangi**	**40.37**	**139**	P		**P**	**13 15 38.0**	**+3.0**
SHL	**Shillong**	**40.62**	**330**	P		**P**	**13 15 35.5**	**-1.7**
NJ2	**Nanjing**	**41.95**	**8**	*e*P		**P**	**13 15 49.0**	**+1.1**
NJ2				pP		**pwP**	**13 16 02.5**	**-1.1**
NJ2				sP		**sP**	**13 16 08.3**	**+3.4**
NJ2				pmax	pmax			
	comp=Z,11nm,0.6s							
NJ2				pmax	pmax			
	comp=Z,230nm,4.3s							
XAN	**Xi'an**	**43.70**	**355**	↓P		**P**	**13 16 01.5**	**-0.6**
XAN				pP		pP	13 16 04.0	-10
XAN				pmax	pmax			
	comp=Z,10.0nm,0.6s							
LYN	**LuoYang**	**44.05**	**360**	↓P		P	13 16 12.5	+7.6
LYN				pmax	pmax			
	comp=Z,13nm,0.6s							
LZH	**Lanzhou**	**46.37**	**350**	*e*P		**P**	**13 16 23.5**	**0.0**
LZH				pP		pP	13 16 35.5	+0.1
LZH				pmax	pmax			
	comp=Z,23nm,1.2s							
KSRS	**Korea Array**	**49.02**	**16**	P		**P**	**13 16 43.2**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=208,slow=9.1,SNR=7.8							
	comp=Z,1.2nm,0.6s							
BTO	**Baotou**	**50.16**	**357**	*e*P		**P**	**13 16 53.3**	**+0.8**
BTO				pP		**pP**	**13 17 05.8**	**+1.2**
BTO				sP		**sP**	**13 17 11.0**	**+1.2**
BTO				PP		**PP**	**13 18 50.5**	**+2.2**
BTO				pmax	pmax			
	comp=Z,61nm,0.7s							
BTO				pmax	pmax			
	comp=Z,430nm,6.5s							
GTA	**Gaotai**	**50.39**	**347**	*e*P		**P**	**13 16 54.5**	**+0.2**
GTA				pP		pwP	13 17 11.5	+0.8
GTA				pmax	pmax			
	comp=Z,6.0nm,0.5s							
MAJO	**Matsushiro**	**51.84**	**26**	P		**P**	**13 17 01.7**	**-3.5**
MAJO				IAmb	IAmb		13 17 11.1	
	comp=Z,6.0nm,0.8s							
MJAR	**Matsushiro Arr**	**51.84**	**26**	P		**P**	**13 17 02.8**	**-2.3**
	comp=Z,6.5nm,0.8s,baz=196,slow=8.0,SNR=10							
	comp=Z,6.5nm,0.8s							
MJB9	**Matsu-Tunnel**	**51.84**	**26**	P		**P**	**13 17 02.7**	**-2.5**
MJB9				IAmb	IAmb		13 17 03.4	
	comp=Z,14nm,1.3s							
XLT	**XiLinHaoTe**	**53.47**	**3**	*e*P		**P**	**13 17 15.5**	**-1.6**
XLT				sP		pwP	13 17 33.3	+0.1
XLT				pmax	pmax			
	comp=Z,17nm,0.9s							
XLT				pmax	pmax			
	comp=Z,160nm,4.9s							
MDJ	**Mudanjiang**	**56.18**	**14**	P		**P**	**13 17 36.0**	**-0.6**
MDJ				pP		pP	13 17 39.3	-10
MDJ				sP		pwP	13 17 40.5	-12
MDJ				PcP		**PcP**	**13 18 32.5**	**-1.4**
MDJ				PP		**PP**	**13 19 41.3**	**-1.0**
MDJ				ScP		**ScP**	**13 22 32.5**	**+3.1**
MDJ			

MAKZ	**Makanchi**	**62.69**	**337**	P	**P**	**13 18 20.4**	**-1.1**
MAKZ				IAmb	IAmb	13 18 21.5	
	comp=Z,2.6nm,0.6s						
AAK	**Ala-Archa**	**62.82**	**329**	P	**P**	**13 18 22.6**	**0.0**
	SNR=5.9						
AAK	**Ala-Archa**	**62.82**	**329**	P	**P**	**13 18 21.8**	**-0.9**
AAK				IAmb	IAmb	13 18 23.5	
	comp=Z,4.2nm,0.7s						
AML	**Almayashu**	**62.87**	**328**	P	**P**	**13 18 23.1**	**-0.1**
	SNR=19						
KKAR	**Karatay Array**	**65.23**	**327**	P	**P**	**13 18 37.7**	**-0.6**
MAW	**Mawson**	**66.54**	**199**	P	**P**	**13 18 44.1**	**-2.2**
MAW	**Mawson**	**66.54**	**199**	LR	LR	13 42 12.1	
	comp=Z,31nm,19.7s,baz=342,slow=31						
KURBB	**Kurchatov Arra**	**67.12**	**337**	P	**P**	**13 18 49.4**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=155,slow=5.5,SNR=16						
	comp=Z,1.7nm,0.6s						
KURK	**Kurchatov**	**67.16**	**337**	P	**P**	**13 18 49.7**	**-0.8**
KURK				IAmb	IAmb	13 18 50.8	
	comp=Z,3.7nm,0.7s						
ZAA0	**Zalesovo Array**	**67.75**	**343**	P	**P**	**13 18 52.2**	**-1.9**
ZALV	**Zalesovo Beam**	**67.75**	**343**	P	**P**	**13 18 52.3**	**-1.8**
ZALV	**Zalesovo Beam**	**67.75**	**343**	P	**P**	**13 18 52.9**	**-1.2**
	comp=Z,8.4nm,0.4s,baz=157,slow=4.6,SNR=34						
	comp=Z,8.4nm,0.4s						
GEYT	**Alibeck**	**69.70**	**316**	P	**P**	**13 19 06.5**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=156,slow=7.5,SNR=7.1						
	comp=Z,2.3nm,0.6s						
BVAR	**Borovoye Array**	**72.24**	**335**	P	**P**	**13 19 20.7**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=146,slow=8.4,SNR=13						
	comp=Z,1.7nm,0.6s						
VNDA	**Vanda**	**72.25**	**170**	P	**P**	**13 19 22.0**	**+0.6**
VNDA				IAmb	IAmb	13 19 41.5	
	comp=Z,7.2nm,1.4s						
VNDA	**Vanda**	**72.25**	**170**	P	**P**	**13 19 24.4**	**+3.0**
	comp=Z,0.9nm,0.8s,baz=321,slow=5.9,SNR=2.5						
VNDA				LR	LR	13 50 43.4	
	comp=Z,38nm,18.4s,baz=271,slow=35						
	comp=Z,0.9nm,0.8s						
ABKAR	**Akbulak array**	**74.80**	**327**	P	**P**	**13 19 36.5**	**-0.2**
QSPA	**South Pole Qui**	**80.26**	**180**	P	**P**	**13 20 05.5**	**-1.7**
QSPA				IAmb	IAmb	13 20 14.6	
	comp=Z,5.6nm,1.2s						
TIXI	**Tiksi**	**81.91**	**5**	P	**P**	**13 20 14.2**	**-1.4**
TIXI				IAmb	IAmb	13 20 15.1	
	comp=Z,6.0nm,0.8s						
KBZ	**Khabaz**	**82.60**	**317**	P	**P**	**13 20 20.3**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=97,slow=7.2,SNR=3.8						
	comp=Z,1.0nm,0.5s						
MMAI	**Mount Meron Ar**	**84.92**	**305**	P	**P**	**13 20 33.4**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=98,slow=10,SNR=1.7						
	comp=Z,0.5nm,0.3s						
BRTR	**Keskin Array B**	**88.00**	**311**	P	**P**	**13 20 47.5**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=146,slow=7.0,SNR=7.5						
	comp=Z,1.5nm,0.7s						
SNAA	**Sanae**	**88.61**	**197**	P	**P**	**13 20 49.7**	**+0.4**
SNAA				IAmb	IAmb	13 20 58.4	
	comp=Z,6.6nm,1.1s						
YKA	**Yellowknife Ar**	**117.27**	**23**	PKP	**PKiKP**	**13 26 42.4**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=326,slow=2.4,SNR=6.0						
NVAR	**Mina Array Bea**	**126.12**	**49**	PKP	**PKiKP**	**13 27 01.4**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=305,slow=3.2,SNR=2.0						

DJA 28 13:19:16.6±0.6, 3°S±7°×14°0E±°, h31km±7km, M4.2/3, mb5.3/1, MLv3.7/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.44**	**85**	P	Pn	13 19 28.4	+1.6
GENI				S	Sn	13 19 34.6	+0.9
JAY	**Jayapura**	**0.98**	**83**	P	Pb	13 19 34.9	-0.2
JAY				S	Sn	13 19 47.4	+0.3
SMPI	**Sarmi**	**1.20**	**302**	P	Pn	13 19 37.0	-0.3
MMPI	**Merauke**	**5.83**	**174**	P	Pn	13 20 41.7	+0.7

*NEIC **28** 13:30:01.1±1.9, 19°.1N±0°.1×68°.91W±0°.07, h35km±2km, ML2.7/14, Md2.6/5(RSPR), Error ellipse: s-maj=20.9km s-min=7.8km az=202.0*
*RSPR **28** 13:30:04.7, 19°.27N×68°.55W, h64km±9km, MD2.6/5*
*SDD **28** 13:30:05.5±2.1, 19°.11N×68°.39W, h20km±50km, MD3.3, ML2.6, MW3.5*

ISC 28 13:30:04.2±2.2, 19°.15N±0°.07×68°.39W±0°.03, h13km±17km, n31, σ0°86/37, 11C-5D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.63**	**180**	⇓*e*P	**Pb**	**13 30 16.3**	**-0.8**
PCDR	**Punta Cana, DR**	**0.63**	**180**	*e*S	**Sg**	**13 30 25.9**	**+1.1**
PCDR	**Punta Cana, DR**	**0.63**	**180**		**Pb**	**13 30 16.3**	**-0.8**
PCDR					**Sg**	**13 30 25.9**	**+1.1**
PCDR	**Punta Cana, DR**	**0.63**	**180**	IAML		13 30 29.2	
	comp=N,239nm,0.9s						
PCDR	**Punta Cana, DR**	**0.63**	**180**	⇑*e*Pg	**Pb**	**13 30 16.4**	**-0.8**
PCDR				IAML		13 30 27.8	
	comp=E,85nm,0.2s						
PCDR				IAML		13 30 46.7	
	comp=N,488nm,2.0s						
HIDR	**Higuey Centro**	**0.64**	**210**	⇑*e*Pg	**Pb**	**13 30 16.2**	**-1.0**
MIDR	**Miches**	**0.65**	**255**	⇓*e*Pg	**Pb**	**13 30 16.1**	**-1.3**
MIDR				⇑*e*Sg	**Sb**	**13 30 25.4**	**-0.9**
MIDR				IAML		13 30 25.8	
	comp=N,128nm,0.2s						
SMDR	**Samana, DR**	**0.77**	**281**	⇓*e*Pg	**Pb**	**13 30 18.6**	**-0.9**
SMDR				⇑*e*Sg	**Sb**	**13 30 30.9**	**+1.0**
SMDR				IAML		13 30 31.5	
	comp=E,96nm,0.7s						
SMDR				IAML		13 30 32.0	
	comp=N,126nm,0.5s						
HATOM	**Hato Mayor del**	**1.01**	**249**	⇑*e*Sg	**Sb**	**13 30 36.3**	**-0.5**
HATOM				IAML		13 30 37.0	
	comp=N,43nm,0.7s						
HATOM				IAML		13 30 38.2	
	comp=Z,42nm,0.7s						
SADR	**Isla Saona**	**1.02**	**201**	⇑*e*Pg	**Pb**	**13 30 22.8**	**-1.0**
SADR				IAML		13 30 37.7	
	comp=N,164nm,0.4s						
SADR				IAML		13 30 41.6	
	comp=E,145nm,1.1s						
DR08	**Loma La Naviza**	**1.56**	**263**	*e*Pg	**Pn**	**13 30 31.9**	**+0.2**
DR08				⇑*e*Sg	**Sb**	**13 30 53.8**	**+1.2**
DR08				IAML		13 30 54.9	
	comp=N,482nm,0.2s						
LSP	**Las Mesas**	**1.57**	**128**	⇑*e*P	**Pn**	**13 30 31.3**	**-0.4**
LSP	**Las Mesas**	**1.57**	**128**	*e*S	**Sb**	**13 30 53.6**	**+0.8**
LSP	**Las Mesas**	**1.57**	**128**		**Pn**	**13 30 31.3**	**-0.4**
LSP					**Sb**	**13 30 53.6**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.66**	**133**	⇑*e*P	**Pn**	**13 30 33.0**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.66**	**133**	*e*S	**Sg**	**13 30 56.9**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.66**	**133**		**Pn**	**13 30 33.0**	**0.0**
CRPR					**Sg**	**13 30 56.9**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.66**	**133**	IAML		13 31 01.0	
	comp=N,37nm,0.7s						
CRPR	**Cabo Rojo, PR**	**1.66**	**133**	*e*Pg	**Pn**	**13 30 32.7**	**-0.3**
CRPR				IAML		13 30 59.6	
	comp=E,39nm,1.4s						
CRPR				IAML		13 31 00.9	
	comp=N,51nm,0.5s						
MLPR	**Magueyes Islan**	**1.73**	**132**	⇓*e*P	**Pb**	**13 30 35.3**	**-0.5**
MLPR	**Magueyes Islan**	**1.73**	**132**	*e*S	**Sb**	**13 30 57.4**	**-0.1**
MLPR	**Magueyes Islan**	**1.73**	**132**		**Pb**	**13 30 35.3**	**-0.5**
MLPR					**Sb**	**13 30 57.4**	**-0.1**
MLPR	**Magueyes Islan**	**1.73**	**132**	IAML		13 31 01.3	
	comp=N,45nm,0.5s						
MLPR				IAML		13 31 02.6	
	comp=E,42nm,0.3s						
AOPR	**Arecibo Observ**	**1.74**	**117**	⇑*e*P	**Pn**	**13 30 34.9**	**+0.7**
AOPR	**Arecibo Observ**	**1.74**	**117**	*e*S	**Sb**	**13 30 58.7**	**+0.9**
AOPR	**Arecibo Observ**	**1.74**	**117**		**Pn**	**13 30 34.9**	**+0.7**
AOPR					**Sb**	**13 30 58.7**	**+0.9**
AOPR	**Arecibo Observ**	**1.74**	**117**	*e*Pg	**Pb**	**13 30 35.5**	**-0.6**
AOPR				⇓*e*Sg	**Sb**	**13 30 58.8**	**+1.0**
AOPR				IAML		13 31 04.8	
	comp=E,206nm,0.2s						
AOPR				IAML		13 31 10.8	
	comp=N,125nm,0.5s						
BANI	**BANI**	**2.02**	**248**	⇑*e*Pg	**Pn**	**13 30 39.7**	**+1.7**
BANI				*e*Sg	**Sb**	**13 31 05.7**	**-0.1**
BANI				IAML		13 31 10.2	
	comp=N,99nm,1.9s						
BANI				IAML		13 31 14.1	
	comp=E,71nm,0.2s						
OBIP	**Obispado Ponce**	**2.02**	**123**	Pn	**Pb**	**13 30 39.6**	**-1.0**
OBIP				IAML		13 31 09.0	
	comp=N,66nm,0.7s						
OBIP				IAML		13 31 11.9	
	comp=E,53nm,0.6s						
CELP	**Cerrillos**	**2.02**	**122**	Pn	**Pb**	**13 30 39.8**	**-0.9**
CELP				IAML		13 31 10.3	
	comp=N,75nm,0.6s						
SDDR	**Presa de Saban**	**2.75**	**267**	Pn	Pn	13 30 36.2	-12
SDDR				IAML		13 31 35.6	
	comp=N,39nm,0.6s						

*IDC **28** 13:44:17.4±4.3, 2°.43N×125°.55E, h96km±38km, mb3.6/11, mbtmp3.9/11, Error ellipse: s-maj=56.5km s-min=11.8km az=69.0*
*NEIC **28** 13:44:20.2±2.7, 2°.39N±0°.10×125°.9E±0°.1, h123km±8km, mb4.3/33, Error ellipse: s-maj=16.7km s-min=11.8km az=46.0*
*DJA **28** 13:44:20.3±0.5, 3°N±3°×12°6E±°, h120km±7km, M4.3/11, mb4.5/2, mB5.2/1, MLv4.3/11, Mw(mB)4.5/1*

ISC 28 13:44:18.0±0.5, 2°.51N±0°.05×125°.98E±0°.06, h100km, n61, σ2°01/65, mb4.3/28, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.25**	**339**	P	**Pn**	**13 44 45.0**	**+3.7**
SGSI				S	**Sn**	**13 45 03.5**	**+4.7**
TNTI	**Ternate**	**2.22**	**141**		**Pn**	**13 44 57.0**	**+3.6**
TNTI	**Ternate**	**2.22**	**141**	P	**Pn**	**13 44 57.3**	**+3.9**
TNTI				S	**Sn**	**13 45 24.9**	**+4.4**
KMSI	**Cibinong**	**2.77**	**226**	P	**Pn**	**13 45 04.8**	**+4.1**
LBMI	**Labuha**	**3.48**	**154**	P	**Pn**	**13 45 13.8**	**+3.6**
GTOI	**Gorontalo**	**3.50**	**238**	P	**Pn**	**13 45 13.8**	**+3.3**
GTOI				S	**Sn**	**13 45 54.9**	**+3.8**
MRSI	**Marisa**	**4.51**	**243**	P	**Pn**	**13 45 27.0**	**+2.9**
SANI	**Sanana**	**4.53**	**180**	P	**Pn**	**13 45 25.5**	**+1.1**
LUWI	**Luwuk**	**4.77**	**222**	P	Pn	13 45 33.0	+5.4
TOLI2	**Tolitoli**	**5.38**	**255**		**Pn**	**13 45 37.9**	**+2.0**
NLAI	**Namlea**	**5.82**	**169**	P	**Pn**	**13 45 44.1**	**+2.2**
MTN	**Manton Dam**	**16.09**	**162**	Pn	**Pn**	**13 47 55.1**	**-3.4**
KNRA	**Kununurra**	**18.28**	**171**	P	**P**	**13 48 18.9**	**-5.1**
FITZ	**Fitzroy Crossi**	**20.48**	**181**	P	**P**	**13 48 48.2**	**+0.2**
TPUB	**Ta-pu**	**21.31**	**346**	P	**P**	**13 48 56.2**	**-0.6**
WB0	**Warramunga Arr**	**23.63**	**160**	P	**P**	**13 49 19.3**	**-1.0**
WRAB	**Tennant Creek**	**23.77**	**160**	P	**P**	**13 49 21.1**	**-0.4**
WRA	**Warramunga Arr**	**23.78**	**160**	P	**P**	**13 49 21.6**	**0.0**
WRA	**Warramunga Arr**	**23.78**	**160**	P	**P**	**13 49 21.6**	**0.0**
	0.7nm,0.4s,baz=331,slow=11,SNR=44						
WRA				S	**S**	**13 53 32.0**	**+2.1**
	0.7nm,0.7s,baz=345,slow=17,SNR=5.9						
	0.7nm,0.4s						
WB2	**Warramunga Arr**	**23.78**	**160**	P	**P**	**13 49 20.7**	**-0.9**
WR0	**Warramunga Arr**	**23.86**	**160**	P	**P**	**13 49 22.1**	**-0.2**
WR0				IAmb	IAmb	13 49 48.0	
	comp=Z,13nm,1.5s						
ASAR	**Alice Springs**	**27.14**	**164**	P	**P**	**13 49 52.4**	**+0.4**
ASAR	**Alice Springs**	**27.14**	**164**	P	**P**	**13 49 52.1**	**+0.2**
	comp=Z,0.2nm,0.2s,baz=338,slow=7.0,SNR=5.5						
ASAR				PcP	**PcP**	**13 53 10.1**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=350,slow=1.8,SNR=6.6						
	comp=Z,0.2nm,0.2s						
KSRS	**Korea Array**	**34.82**	**3**	P	**P**	**13 50 59.8**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=179,slow=10,SNR=4.2						
	comp=Z,0.5nm,0.5s						
BBOO	**Buckleboo**	**36.40**	**166**	P	**P**	**13 51 12.8**	**-0.1**
STKA	**Stephens Creek**	**37.28**	**158**	P	**P**	**13 51 21.3**	**+1.0**
	comp=Z,0.7nm,0.4s,baz=322,slow=17,SNR=3.6						
	comp=Z,0.7nm,0.4s						
USA0B	**Ussuriysk Arra**	**41.85**	**6**	P	**P**	**13 51 58.5**	**+0.4**
USRK	**Ussuriysk Ar.**	**41.85**	**6**	P	**P**	**13 51 58.4**	**+0.3**
USRK	**Ussuriysk Ar.**	**41.85**	**6**	P	**P**	**13 51 59.0**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=194,slow=5.7,SNR=2.2						
	comp=Z,0.9nm,0.6s						
SONM	**Songino Array**	**48.22**	**342**	P	**P**	**13 52 49.3**	**+0.7**
SONM	**Songino Array**	**48.22**	**342**	P	**P**	**13 52 48.6**	**0.0**
	comp=Z,0.5nm,0.6s,baz=167,slow=7.0,SNR=2.2						
	comp=Z,0.5nm,0.6s						
PEA0B	**Petropavlovsk-**	**56.83**	**22**	P	**P**	**13 53 52.2**	**+0.2**
PETK	**Petropavlovsk-**	**56.83**	**22**	P	**P**	**13 53 51.7**	**-0.2**
MK31	**Makanchi Array**	**58.13**	**326**	P	**P**	**13 53 58.9**	**-2.3**
MK31				IAmb	IAmb	13 54 01.1	
	comp=Z,1.2nm,0.5s						
MKAR	**Makanchi Array**	**58.13**	**326**	P	**P**	**13 53 59.7**	**-1.6**
MKAR	**Makanchi Array**	**58.13**	**326**	P	**P**	**13 53 59.8**	**-1.5**
	comp=Z,1.8nm,0.5s,baz=122,slow=8.2,SNR=33						
	comp=Z,1.8nm,0.5s						
MAKZ	**Makanchi**	**58.31**	**326**	P	**P**	**13 54 00.1**	**-2.4**
MAKZ				IAmb	IAmb	13 54 02.4	
	comp=Z,1.8nm,0.6s						
ZALV	**Zalesovo Beam**	**61.33**	**334**	P	**P**	**13 54 22.1**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=116,slow=3.4,SNR=2.1						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**62.36**	**328**	P	**P**	**13 54 29.2**	**-0.8**
	comp=Z,2.0nm,0.2s,baz=130,slow=6.1,SNR=12						
	comp=Z,2.0nm,0.2s						
KURK	**Kurchatov**	**62.37**	**328**	P	**P**	**13 54 28.0**	**-1.9**
KURK				IAmb	IAmb	13 54 30.3	
	comp=Z,4.4nm,0.7s						
BVAR	**Borovoye Array**	**67.93**	**327**	P	**P**	**13 55 04.5**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=140,slow=10,SNR=4.6						
	comp=Z,0.4nm,0.4s						
NRIK	**Noril'sk**	**71.43**	**347**	P	**P**	**13 55 26.5**	**-0.6**
	comp=Z,2.8nm,0.6s,baz=124,slow=6.4,SNR=7.9						
	comp=Z,2.8nm,0.6s						
ABKAR	**Akbulak array**	**72.62**	**321**	P	**P**	**13 55 32.5**	**-2.0**
J18K	**Innoko River**	**82.10**	**26**	P	**P**	**13 56 25.7**	**-1.5**
J18K				IAmb	IAmb	13 56 33.5	
	comp=Z,7.1nm,1.4s						
VNDA	**Vanda**	**82.32**	**173**	P	**P**	**13 56 26.3**	**-1.8**
VNDA				IAmb	IAmb	13 56 49.2	
	comp=Z,7.5nm,1.5s						
G19K	**Purcell Mounta**	**82.44**	**24**	P	**P**	**13 56 29.3**	**+0.4**
D19K	**Kuna River**	**82.52**	**21**	P	**P**	**13 56 30.2**	**+0.8**
D19K				IAmb	IAmb	13 56 51.6	
	comp=Z,6.7nm,1.4s						
H19K	**Roundabout Mou**	**82.58**	**24**	P	**P**	**13 56 29.6**	**0.0**
H19K				IAmb	IAmb	13 56 32.0	
	comp=Z,5.9nm,1.0s						
J19K	**Poorman**	**82.67**	**26**	P	**P**	**13 56 30.4**	**+0.2**
J19K				IAmb	IAmb	13 56 55.0	
	comp=Z,6.7nm,1.4s						
N19K	**Bonanza Creek**	**82.71**	**29**	P	**P**	**13 56 30.8**	**+0.2**
F20K	**Avaraart Lake**	**83.14**	**23**	P	**P**	**13 56 30.0**	**-2.5**
F20K				IAmb	IAmb	13 56 31.9	
	comp=Z,5.2nm,1.3s						
IMAR	**Indian Mountai**	**83.75**	**24**	P	**P**	**13 56 36.7**	**+1.0**
B21K	**Ikpikpuk River**	**83.97**	**20**	P	**P**	**13 56 37.6**	**+0.9**
B21K				IAmb	IAmb	13 56 38.8	
	comp=Z,4.1nm,0.8s						
E21K	**Killik River**	**84.02**	**21**	P	**P**	**13 56 36.7**	**-0.3**
E21K				IAmb	IAmb	13 56 39.0	
	comp=Z,2.3nm,0.8s						
BRLK	**Bradley Lake**	**84.38**	**30**	P	**P**	**13 56 38.0**	**-1.0**
B22K	**Teshekpuk Lake**	**84.48**	**20**	P	**P**	**13 56 39.6**	**+0.3**
B22K				IAmb	IAmb	13 56 41.0	
	comp=Z,2.6nm,0.7s						
E22K	**Anaktuvuk Pass**	**84.77**	**22**	P	**P**	**13 56 40.9**	**0.0**
E22K				IAmb	IAmb	13 56 42.6	
	comp=Z,7.3nm,1.4s						
C23K	**Itkillik River**	**85.38**	**20**	P	**P**	**13 56 44.3**	**+0.5**
C23K				IAmb	IAmb	13 56 45.9	
	comp=Z,1.6nm,0.7s						
TOLK	**Toolik Lake Re**	**85.65**	**21**	P	**P**	**13 56 44.5**	**-0.7**
TOLK				IAmb	IAmb	13 56 58.0	
	comp=Z,4.0nm,1.5s						
KNK	**Knik Glacier**	**85.68**	**29**	P	**P**	**13 56 44.4**	**-1.1**
QSPA	**South Pole Qui**	**92.43**	**180**	P	**P**	**13 57 17.6**	**+0.2**
QSPA				IAmb	IAmb	13 58 01.4	
	comp=Z,3.2nm,1.2s						

IDC 28 13:58:05.0±4.8, 7°.60N×34°.54W, h0km, mb3.6/4, mbtmp3.6/4, MS3.4/17, Error ellipse: s-maj=201.5km s-min=33.7km az=9.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**18.16**	**263**	LR	LR	14 07 46.8	
	comp=Z,84nm,21.7s,baz=168,slow=32						
H10N3	**ASCENSION HYDR**	**25.19**	**127**	T	T	14 29 37.0	
	baz=306,slow=75,SNR=11						
H10N2	**ASCENSION HYDR**	**25.19**	**127**	T	T	14 29 37.1	
	baz=306,slow=75,SNR=12						
H10N1	**ASCENSION HYDR**	**25.21**	**127**	T	T	14 29 38.5	
	baz=306,slow=75,SNR=11						
H10S3	**ASCENSION HYDR**	**25.75**	**129**	T	T	14 30 17.2	
	baz=288,SNR=5.4						
H10S2	**ASCENSION HYDR**	**25.76**	**129**	T	T	14 30 19.1	
	baz=292						
BDFB	**Brasilia**	**26.67**	**210**	LR	LR	14 13 23.8	
	comp=Z,65nm,19.1s,baz=252,slow=34						
DBIC	**Dimbokro**	**29.47**	**90**	LR	LR	14 13 16.0	
	comp=Z,68nm,19.3s,baz=231,slow=31						
SJG	**San Juan**	**32.48**	**292**	LR	LR	14 14 40.3	
	comp=Z,60nm,21.4s,baz=128,slow=31						
SDV	**Santo Domingo**	**35.73**	**275**	LR	LR	14 18 59.8	
	comp=Z,28nm,18.7s,baz=60,slow=35						
TORD	**Torodi Ar. Bea**	**36.04**	**78**	P	P	14 05 08.4	-0.1
	0.9nm,0.9s,baz=283,slow=8.9,SNR=3.8						
TORD				LR	LR	14 18 08.0	
	comp=Z,70nm,21.4s,baz=282,slow=33						
	0.9nm,0.9s						
ROSC	**El Rosal**	**39.63**	**268**	LR	LR	14 21 01.4	
	comp=Z,63nm,20.1s,baz=176,slow=35						
CPUP	**Villa Florida**	**40.34**	**212**	LR	LR	14 21 26.0	
	comp=Z,39nm,19.0s,baz=85,slow=35						
LVC	**Limon Verde**	**45.09**	**227**	LR	LR	14 25 31.9	
	comp=Z,35nm,19.6s,baz=24,slow=36						
ATAH	**Atahualpa**	**46.11**	**253**	LR	LR	14 25 28.4	
	comp=Z,31nm,21.8s,baz=61,slow=36						
NNA	**Nana**	**46.34**	**246**	LR	LR	14 25 23.3	
	comp=Z,38nm,21.0s,baz=20,slow=35						
TSUM	**Tsumeb**	**57.85**	**118**	LR	LR	14 27 01.5	
	comp=Z,65nm,22.0s,baz=318,slow=30						
PLCA	**Paso Flores**	**58.40**	**212**	LR	LR	14 32 58.9	
	comp=Z,48nm,19.4s,baz=56,slow=36						
NOA	**NORSAR Array B**	**63.17**	**23**	LR	LR	14 32 48.1	
	comp=Z,12nm,20.1s,baz=340,slow=33						
TXAR	**Lajitas Array**	**68.13**	**298**	P	P	14 09 07.4	-0.1
	0.2nm,0.6s,baz=100,slow=4.7,SNR=2.9						
	0.2nm,0.6s						
EIL	**Elat**	**68.47**	**61**	LR	LR	14 39 32.2	
	comp=Z,36nm,19.9s,baz=247,slow=36						
ANMO	**Albuquerque**	**70.87**	**304**	LR	LR	14 40 52.7	
	comp=Z,19nm,18.1s,baz=141,slow=36						
PDAR	**Pinedale Array**	**73.88**	**312**	P	P	14 09 42.4	+0.1
	0.4nm,0.8s,baz=98,slow=7.6,SNR=5.3						
PDAR				LR	LR	14 41 50.8	
	comp=Z,22nm,18.2s,baz=44,slow=36						
	0.4nm,0.8s						
YKA	**Yellowknife Ar**	**78.71**	**332**	P	P	14 10 09.1	+0.1
	0.5nm,0.6s,baz=96,slow=5.5,SNR=6.6						
	0.5nm,0.6s						

*IDC **28** 14:03:48.8±0.9, 60°.42S×26°.89W, h0km, mb4.1/5, mbtmp4.1/5, MS3.0/1, Error ellipse: s-maj=45.3km s-min=25.3km az=86.0*
*NEIC **28** 14:03:50.4±2.0, 60°.5S±0°.1×26°.8W±0°.2, h10km±1km, mb4.5/19, Error ellipse: s-maj=23.4km s-min=17.7km az=36.0*

ISC 28 14:03:49.9±0.7, 60°.5S±0°.1×26°.9W±0°.1, h10km, n44, σ1°11/30, mb4.4/15, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORCD	**Orcadas**	**8.78**	**261**	Pn	**Pn**	**14 05 56.5**	**-0.3**
VNA1	**Neumayer--Stat**	**12.71**	**151**	⇑P	Pn	14 06 45.5	-4.9
	comp=Z,38nm,0.4s						
VNA3	**Neumayer Olymp**	**12.82**	**154**	⇑P	Pn	14 06 46.3	-5.6
	comp=Z,6.7nm,0.2s						
SNAA	**Sanae**	**14.71**	**149**	Pn	Pn	14 07 12.2	-5.6
SNAA	**Sanae**	**14.71**	**149**	⇑P	Pn	14 07 12.3	-5.5
	comp=Z,33nm,0.3s						
SNAA	**Sanae**	**14.71**	**149**	Pn	Pn	14 07 11.9	-5.9
	comp=Z,0.8nm,0.3s,baz=314,slow=19,SNR=17						
SNAA				LR	LR	14 12 03.1	
	comp=Z,56nm,18.4s,baz=357,slow=34						
TROLL	**Troll, Antarti**	**16.30**	**147**	⇑P	**Pn**	**14 07 37.0**	**-1.7**
	comp=Z,26nm,0.2s						
BELA	**Belgrano 2**	**17.66**	**185**		**P**	**14 07 56.4**	**-0.2**
QSPA	**South Pole Qui**	**29.76**	**180**	P	**P**	**14 09 57.1**	**+0.8**
QSPA	**South Pole Qui**	**29.76**	**180**	P	**P**	**14 09 57.4**	**+1.1**
	comp=Z,1.9nm,1.0s,baz=205,slow=2.7,SNR=9.9						
	comp=Z,1.9nm,1.0s						
PLTB	**Pedras Altas**	**33.70**	**316**	P	**P**	**14 10 30.8**	**-0.2**
PLTB				IAmb	IAmb	14 10 42.6	
	comp=Z,5.9nm,1.0s						
MT13	**San Alfonso**	**38.72**	**294**	P	**P**	**14 11 15.1**	**+1.0**
MT09	**Talagante**	**39.02**	**293**	P	**P**	**14 11 18.3**	**+1.8**
MT09				IAmb	IAmb	14 11 27.0	
	comp=Z,8.4nm,1.0s						
MT01	**Popeta**	**39.06**	**293**	P	**P**	**14 11 16.8**	**0.0**
MT01				IAmb	IAmb	14 11 43.0	
	comp=Z,8.7nm,1.1s						
MT02	**Curacav**	**39.52**	**293**	P	**P**	**14 11 20.9**	**+0.3**
MT02				IAmb	IAmb	14 11 32.2	
	comp=Z,16

1.2nm,0.3s,baz=287,slow=23,SNR=1.6
1.9nm,0.3s

STKA	**Stephens Creek**	**24.10**	**301**	LR	LR	14 33 34.6		
	comp=Z,57nm,18.5s,baz=30,slow=31							
ASAR	**Alice Springs**	**34.74**	**302**	P	P	14 28 07.9	-0.1	
	0.3nm,0.6s,baz=134,slow=7.9,SNR=4.4							
	0.3nm,0.6s							
WRA	**Warramunga Arr**	**37.43**	**306**	P	P	14 28 30.4	-0.6	
	0.3nm,0.8s,baz=141,slow=7.6,SNR=2.1							
	0.3nm,0.8s							
H01W1	**Cape Leeuwin H**	**40.19**	**269**	T	T	15 11 07.0		
	baz=125,slow=75,SNR=108							
H01W2	**Cape Leeuwin H**	**40.20**	**269**	T	T	15 11 07.2		
	baz=125,slow=75,SNR=109							
H01W3	**Cape Leeuwin H**	**40.21**	**269**	T	T	15 11 12.9		
	baz=125,slow=75,SNR=108							
PPT	**Papeete**	**46.98**	**66**	LR	LR	14 46 35.4		
	comp=Z,24nm,18.4s,baz=256,slow=32							
KAPI	**Kappang**	**57.76**	**302**	LR	LR	14 57 03.0		
	comp=Z,51nm,18.3s,baz=207,slow=37							
H04S2	**CROZET ISLANDS**	**69.92**	**222**	T	T	15 48 48.7		
	baz=139,slow=75,SNR=6.1							
H04S1	**CROZET ISLANDS**	**69.92**	**222**	T	T	15 48 54.4		
	baz=139,slow=75,SNR=5.9							
H04S3	**CROZET ISLANDS**	**69.94**	**222**	T	T	15 48 53.2		
	baz=139,slow=75,SNR=4.4							
H08S2	**Diego Garcia H**	**86.72**	**262**	T	T	16 09 02.6		
	baz=138,slow=76,SNR=34							
H08S1	**Diego Carcia H**	**86.73**	**262**	T	T	16 09 07.4		
	baz=138,slow=76,SNR=16							
H08S3	**Diego Garcia H**	**86.74**	**262**	T	T	16 09 02.7		
	baz=138,slow=76,SNR=70							
BRTR	**Keskin Array B**	**145.00**	**275**	PKPbc	PKPbc	14 40 54.0	-0.3	
	0.8nm,0.8s,baz=123,slow=4.6,SNR=4.2							

BEO ***28*** *14:57:18.8±0.4,44˚.20N×16˚.54E,h0km,ML2.7/6*
RHSSO ***28*** *14:57:19.5±0.3,44˚.20N×16˚.58E,h4km±1km,ML2.7/16*
VIE ***28*** *14:57:21.1±1.1,44˚.31N×16˚.66E,h8km,mb2.7/7,ml2.4/15,*
Error ellipse: s-maj=12.1km s-min=8.0km az=172.0 89 km N of Split
PRU ***28*** *14:57:24.1,44˚.76N×17˚.35E,h1km*
ISC 28 14:57:18.2±1.1,44˚.18N±0˚.02×16˚.53E±0˚.02,h0km±10km,
n72,σ0≥96/118,6D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIJV	**Kijevo**	**0.19**	**209**	*i* Pg	**Pg**	**14 57 21.5**	**-0.4**
A050A	**Klekovaca**	**0.31**	**360**	⇓*i* Pg	**Pg**	**14 57 24.0**	**-0.1**
A050A				*e*Sg	**Sg**	**14 57 29.6**	**+1.5**
MGRS	**Mrkonjic Grad**	**0.46**	**58**	⇓*i* Pg	**Pg**	**14 57 27.0**	**-0.1**
MGRS				*e*Sg	**Sg**	**14 57 33.3**	**+0.2**
UDBI	**Udbina**	**0.66**	**303**	*i* Pg	**Pg**	**14 57 30.9**	**+0.2**
UDBI				Sg	**Sg**	**14 57 39.0**	**-0.3**
BLY	**Banja Luka**	**0.74**	**39**	*e*Pg	**Pg**	**14 57 32.5**	**+0.1**
BLY				*e*Sg	**Sg**	**14 57 42.3**	**+0.4**
BLY	**Banja Luka**	**0.74**	**39**	⇓*i* Pg	**Pg**	**14 57 32.1**	**-0.3**
BLY				*e*Sg	**Sg**	**14 57 42.4**	**+0.5**
RICI	**Ricice**	**0.81**	**147**	*e*Pg	**Pg**	**14 57 32.6**	**-1.0**
RICI				Sg	**Sg**	**14 57 44.3**	**+0.2**
PRIJ	**Prijedor**	**0.81**	**9**	*e*Pg	**Pg**	**14 57 33.9**	**+0.1**
PRIJ				*e*Sg	**Sg**	**14 57 44.0**	**-0.3**
ZIRJ	**Zirje**	**0.83**	**231**	*e*Pg	**Pg**	**14 57 33.1**	**-1.0**
ZIRJ				Sg	**Sg**	**14 57 45.1**	**+0.4**
A051A	**Mrakovica**	**0.88**	**18**	⇓*i* Pg	**Pg**	**14 57 35.4**	**+0.4**
A051A				*e*Sg	**Sg**	**14 57 47.1**	**+0.7**
MAKA	**Makarska**	**0.95**	**158**	Sg	**Sg**	**14 57 49.0**	**+0.2**
PLIT	**Plitvice**	**0.96**	**317**	*e*Pg	**Pg**	**14 57 36.2**	**-0.4**
A251A	**Rujevac**	**0.97**	**349**	*i* Pg	**Pg**	**14 57 37.1**	**+0.3**
A251A				Sg	**Sg**	**14 57 49.5**	**0.0**
VIRC	**Vir**	**1.07**	**277**	*e*Pg	**Pg**	**14 57 38.1**	**-0.6**
VIRC				Sg	**Sb**	**14 57 54.4**	**+0.3**
DUGI	**Dugi Otok**	**1.08**	**261**	*e*Pg	**Pg**	**14 57 37.8**	**-1.1**
DUGI				Sg	**Sb**	**14 57 54.0**	**-0.4**
DOB	**Doboj**	**1.25**	**63**	*e*Pg	**Pg**	**14 57 41.2**	**-1.0**
DOB				*e*Sg	**Sg**	**14 57 57.1**	**-1.3**
NVLJ	**Novalja**	**1.25**	**289**	*e*Pg	**Pg**	**14 57 41.1**	**-1.1**
NVLJ				Sg	**Sn**	**14 57 59.8**	**-0.7**
RABC	**Rab**	**1.38**	**295**	*e*Pn	**Pn**	**14 57 44.5**	**-0.2**
RABC				Sn	**Sn**	**14 58 06.1**	**+2.5**
LSTV	**Lastovo**	**1.43**	**169**	*e*Pn	**Pn**	**14 57 44.5**	**-0.9**
LSTV				Sg	**Sg**	**14 58 03.4**	**-0.7**
LSTV				Sn	**Sb**	**14 58 04.1**	**-0.3**
NEVS	**Nevesinje**	**1.44**	**127**	*e*Pg	**Pn**	**14 57 45.5**	**0.0**
NEVS				*e*Sg	**Sg**	**14 58 04.8**	**+0.5**
MOSL	**Moslavina**	**1.45**	**6**	*e*Pn	**Pn**	**14 57 44.5**	**-1.1**
STON	**Ston**	**1.56**	**147**	*e*Pn	**Pn**	**14 57 46.9**	**-0.1**
STON				Sn	**Sg**	**14 58 08.7**	**+0.6**
STON	**Ston**	**1.56**	**147**	*e*Pn	**Sg**	**14 57 46.5**	**-0.6**
STON				*e*Sn	**Sg**	**14 58 09.7**	**+1.6**
STON	**Ston**	**1.56**	**147**	⇓*i* Pn	**Pb**	**14 57 47.9**	**+0.1**
STON				*e*Sn	**Sg**	**14 58 08.8**	**+0.6**
HAPS	**Han Pijesak,Bl**	**1.74**	**92**	*e*Pn	**Pn**	**14 57 49.1**	**-0.7**
HAPS				*e*Sn	**Sg**	**14 58 15.0**	**+0.8**
HAPS	**Han Pijesak,Bl**	**1.74**	**92**	⇓*i* Pn	**Pn**	**14 57 49.6**	**-0.2**
HAPS				*e*Sn	**Sn**	**14 58 12.5**	**-0.2**
KLINJ	**Klinje**	**1.80**	**123**	*e*Sn	**Sn**	**14 58 14.3**	**+0.3**
RIY	**Rijeka**	**1.86**	**309**	*i* Pn	**Pb**	**14 57 52.9**	**-0.1**
RIY				Sn	**Sg**	**14 58 19.0**	**+1.1**
RIY	**Rijeka**	**1.86**	**309**	*e*Pn	**Pn**	**14 57 51.9**	**+0.6**
RIY				*e*Sn	**Sn**	**14 58 15.6**	**+0.2**
SMRN	**Sveta Marina**	**1.91**	**298**	*e*Pn	**Pb**	**14 57 53.1**	**-0.7**
SMRN				Sn	**Sg**	**14 58 19.5**	**+0.1**
DBRK	**Dubrovnik**	**1.91**	**141**	*e*Pn	**Pn**	**14 57 53.2**	**+1.2**
DBRK				Sn	**Sb**	**14 58 19.3**	**+1.0**
BRY	**Bratogost**	**1.94**	**130**	*e*Pn	**Pn**	**14 57 53.1**	**+0.6**
BRY				*e*Sn	**Sn**	**14 58 18.1**	**+0.6**
TREB	**Trebinje**	**1.97**	**137**	*e*Pn	**Pn**	**14 57 53.8**	**+1.0**
TREB				*e*Sn	**Sb**	**14 58 19.5**	**-0.4**
TREB	**Trebinje**	**1.97**	**137**	*e*Pn	**Pn**	**14 57 53.7**	**+1.0**
TREB				*e*Sn	**Sn**	**14 58 18.5**	**+0.4**
BBLS	**Lazići**	**2.09**	**98**	*e*Pn	**Pn**	**14 57 54.0**	**-0.6**
BBLS				*e*Sn	**Sn**	**14 58 21.5**	**+0.2**
BBLS	**Lazići**	**2.09**	**98**	*e*Pn	**Pn**	**14 57 54.7**	**+0.1**
BBLS				*e*Sn	**Sn**	**14 58 20.7**	**-0.6**
RUDO	**Rudo**	**2.12**	**104**	*e*Pn	**Pn**	**14 57 55.0**	**+0.1**
RUDO				*e*Sn	**Sn**	**14 58 22.1**	**+0.1**
TEKS	**Tekeris**	**2.18**	**79**	*e*Pn	**Pn**	**14 57 57.4**	**+1.7**
TEKS	**Tekeris**	**2.18**	**79**	*e*Pn	**Pn**	**14 57 56.4**	**+0.7**
TEKS				*e*Sn	**Sn**	**14 58 22.8**	**-0.6**
SKDS	**Skadanscina**	**2.26**	**308**	*e*Pn	**Pn**	**14 57 57.6**	**+0.8**
SKDS				*e*Sn	**Sn**	**14 58 25.1**	**-0.2**
DIVS	**Divibare**	**2.49**	**91**	*e*Pn	**Pn**	**14 58 01.8**	**+1.8**
DIVS				*e*Sn	**Sn**	**14 58 31.1**	**-0.1**
DIVS	**Divibare**	**2.49**	**91**	*e*Pn	**Pn**	**14 57 59.9**	**-0.1**
DIVS				*e*Sn	**Sn**	**14 58 31.1**	**-0.1**
MORH	**Mrgy, Hungar**	**2.53**	**35**	*e*Pn	**Pn**	**14 58 01.4**	**+1.0**
MORH				*e*Sn	**Sn**	**14 58 32.1**	**+0.2**
FRGS	**Fruska Gora**	**2.54**	**66**	*e*Pn	**Pn**	**14 58 00.8**	**+0.2**
FRGS				*e*Sn	**Sn**	**14 58 32.2**	**0.0**
FRGS	**Fruska Gora**	**2.54**	**66**	*e*Pn	**Pn**	**14 58 00.9**	**+0.3**
FRGS				*e*Sn	**Sn**	**14 58 32.0**	**-0.2**
PDG	**Podgorica**	**2.64**	**130**	*e*Sn	**Sn**	**14 58 35.3**	**+0.5**
SJES	**Sjenica**	**2.66**	**109**	*e*Pn	**Pn**	**14 58 02.2**	**-0.1**
SJES	**Sjenica**	**2.66**	**109**	*e*Pn	**Pn**	**14 58 02.2**	**-0.1**
SJES				*e*Sn	**Sn**	**14 58 35.4**	**+0.1**
IVAS	**Ivanjica**	**2.68**	**102**	*e*Pn	**Pn**	**14 58 03.3**	**+0.6**
SOKA	**Soboth**	**2.72**	**338**	*e*Pn	**Pn**	**14 58 02.7**	**-0.4**
	0.8nm,0.3s						
OBKA	**Obir**	**2.72**	**330**	*e*Pn	**Pn**	**14 58 03.6**	**+0.4**
OBKA	**Obir**	**2.72**	**330**	*e*Pn	**Pn**	**14 58 03.6**	**+0.4**
OBKA				*e*Sn	**Sn**	**14 58 36.9**	**0.0**
DRME	**Dracevica, Mon**	**2.78**	**135**	*e*Pn	**Pn**	**14 58 04.9**	**+1.0**
DRME				*e*Sn	**Sn**	**14 58 38.6**	**+0.5**
GRUS	**Gruza**	**3.03**	**94**	*e*Pn	**Pn**	**14 58 07.0**	**-0.4**
ARSA	**Arzberg**	**3.16**	**347**	*i* Pn	**Pn**	**14 58 09.0**	**-0.2**
	2.1nm,0.3s						
ARSA	**Arzberg**	**3.16**	**347**	*e*Pn	**Pn**	**14 58 08.9**	**-0.2**
ARSA				*e*Sn	**Sn**	**14 58 47.1**	**-0.4**
MYKA	**Terra Mystica**	**3.19**	**321**	*e*Pn	**Pn**	**14 58 10.5**	**+0.9**
	1.5nm,0.3s						
RONA	**Rosalia, Austr**	**3.53**	**357**	*e*Pn	**Pn**	**14 58 14.3**	**0.0**
	1.2nm,0.1s						
CONA	**Conrad Observa**	**3.78**	**353**	*i* Pn	**Pn**	**14 58 18.1**	**+0.3**
	2.7nm,0.5s						
ABTA	**Abfaltersbach**	**3.82**	**314**	*i* Pn	**Pn**	**14 58 19.4**	**+1.0**
	0.6nm,0.2s						
MOA	**Molln**	**4.00**	**338**	*i* Pn	**Pn**	**14 58 21.8**	**+1.1**
	0.4nm,0.2s						
LESA	**Schwarzleotal**	**4.22**	**322**	*e*Pn	**Pn**	**14 58 24.8**	**+1.0**
	0.7nm,0.2s						
VYHS	**Vyhne**	**4.60**	**19**	*e*PN	**Pn**	**14 58 28.6**	**-0.4**
VYHS				*e*SN	**Sn**	**14 59 22.5**	**-0.7**
WTTA	**Wattenberg**	**4.62**	**314**	*e*Pn	**Pn**	**14 58 31.2**	**+1.9**
	0.3nm,0.2s						
WATA	**Walderalm**	**4.69**	**314**	*e*Pn	**Pn**	**14 58 32.2**	**+1.9**
	0.8nm,0.2s						
SQTA	**Sankt Quirin**	**4.81**	**311**	*i* Pn	**Pn**	**14 58 33.3**	**+1.3**
	1.2nm,0.2s						
KRUC	**Moravsky**	**4.89**	**359**	*e*PN	**Pn**	**14 58 32.1**	**-0.8**
KRUC				*e*SN	**Sn**	**14 59 28.6**	**-1.6**
CKRC	**Cesky Krumlov**	**4.89**	**342**	*e*SN	**Sn**	**14 59 26.8**	**-3.5**
MOTA	**Moosalm**	**4.95**	**312**	*e*Pn	**Pn**	**14 58 36.2**	**+2.3**
	0.3nm,0.2s						
FETA	**Feichten**	**4.97**	**307**	*e*Pn	**Pn**	**14 58 36.8**	**+2.6**
	0.5nm,0.3s						
RETA	**Reutte**	**5.22**	**311**	*e*Pn	**Pn**	**14 58 40.5**	**+3.0**
	0.7nm,0.3s						
KHC	**Kasperske Hory**	**5.36**	**339**	*e*SN	**Sn**	**14 59 38.7**	**-3.1**

AEIC ***28*** *14:58:41.4±1.9,52˚.51N±0˚.09×174˚.46W±0˚.09,*
h188km±3km,Error ellipse: s-maj=13.1km s-min=6.8km az=160.0
MOS ***28*** *14:58:41.1±0.9,52˚.73N×174˚.54W,h183km,mb4.6/32,*
Error ellipse: s-maj=9.3km s-min=7.3km az=61.9
IDC ***28*** *14:58:42.5±0.6,52˚.66N×174˚.57W,h181km±4km,mb3.8/28,*
mbtmp4.3/29,Error ellipse: s-maj=11.9km s-min=7.8km az=168.0
NEIC ***28*** *14:58:42.5±2.2,52˚.58N±0˚.09×174˚.49W±0˚.09,*
h182km±4km,mb4.8/283,ML4.6/6,ML4.3(AEIC),Error ellipse: s-maj=13.2km s-min=6.9km az=161.0
ISC 28 14:58:42.4±0.4,52˚.54N±0˚.06×174˚.47W±0˚.03,
h185km±2km,h185km;pP-P,n849,σ1≥01/869,mb4.6/142,
6C-6D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWE	**Korovin West**	**0.22**	**142**		**Pn**	**14 59 06.1**	**-0.9**
KONE	**Korovin Northe**	**0.26**	**124**		**Pn**	**14 59 07.4**	**+0.3**
KOKL	**Mount Kliuchef**	**0.27**	**142**		**Pn**	**14 59 07.8**	**+0.6**
KOKL					**Sn**	**14 59 26.4**	**+0.2**
KOFP	**Korovin Flat P**	**0.35**	**139**		**Pn**	**14 59 07.7**	**+0.3**
ATKA	**Atka Island**	**0.38**	**153**	Pn	**Pn**	**14 59 07.2**	**-0.2**
ATKA				IAML		14 59 27.9	
	comp=N,7μm,0.6s						
ATKA	**Atka Island**	**0.38**	**153**		**Sn**	**14 59 25.6**	**-0.9**
ATKA	**Atka Island**	**0.38**	**153**	P	**Pn**	**14 59 07.4**	**0.0**
GSTR	**Great Sitkin T**	**1.07**	**246**	Pn	**Pn**	**14 59 10.6**	**-0.6**
GSMY	**Great Sitkin M**	**1.09**	**244**		**Pn**	**14 59 11.3**	**0.0**
GSCK	**Great Sitkin C**	**1.17**	**244**		**Pn**	**14 59 12.2**	**+0.3**
ADAG	**Mount Adagdak**	**1.42**	**248**		**Pn**	**14 59 14.4**	**+0.3**
ADK	**Adak**	**1.51**	**245**	Pn	**Pn**	**14 59 14.9**	**0.0**
ADK				Sn	**Sn**	**14 59 39.8**	**-0.2**
ADK				IAML		14 59 40.6	
	comp=N,4μm,0.4s						
ADK				IAML		14 59 42.5	
	comp=N,4μm,0.3s						
ADK	**Adak**	**1.51**	**245**	P	**Pn**	**14 59 15.1**	**+0.2**
ADK	**Adak**	**1.51**	**245**	P	**Pn**	**14 59 14.9**	**0.0**
ADK						14 59 39.8	
KIRH	**Kanaga Island**	**1.73**	**249**		**Pn**	**14 59 17.5**	**+0.5**
KIWB	**Kanaga Island**	**1.79**	**248**	Pn	**Pn**	**14 59 17.8**	**+0.3**
KICM	**Kanaga Island**	**1.79**	**251**		**Pn**	**14 59 18.0**	**+0.4**
TAFP	**Tanaga Falls P**	**2.25**	**255**		**Pn**	**14 59 23.4**	**+0.8**
TAFP					**Sn**	**14 59 53.3**	**-0.5**
TASE	**Tanaga Southea**	**2.31**	**254**		**Pn**	**14 59 23.8**	**+0.6**
GALAA	**Gareloi Lava P**	**2.76**	**255**		**Pn**	**14 59 28.9**	**+0.5**
CLES	**Cleveland East**	**2.80**	**82**		**Pn**	**14 59 29.6**	**+0.8**
CLES	**Cleveland East**	**2.80**	**82**	IAML		15 00 17.9	
	comp=E,2μm,0.4s						
GASW	**Gareloi Southw**	**2.81**	**256**		**Pn**	**14 59 29.3**	**+0.4**
CLCO	**Concord Point,**	**2.90**	**83**		**Pn**	**14 59 30.6**	**+0.6**
CLCO					**Sn**	**15 00 07.4**	**+0.2**
NIKH	**Nikolski High**	**3.44**	**81**	Pn	**Pn**	**14 59 32.5**	**-4.1**
NIKH	**Nikolski High**	**3.44**	**81**		**Sn**	**15 00 17.1**	**-1.8**
NIKH	**Nikolski High**	**3.44**	**81**	P	**Pn**	**14 59 36.9**	**+0.3**
NIKH	**Nikolski High**	**3.44**	**81**	P	**Pn**	**14 59 36.9**	**+0.3**
	baz=264,SNR=7.8						
OKNC	**OkmokNew Cone**	**3.94**	**74**		**Sn**	**15 00 32.1**	**+1.8**
OKFG	**Magazine Ridge**	**4.06**	**75**		**Pn**	**14 59 45.2**	**+0.8**
MGOD	**Makushin Gods**	**4.74**	**72**		**Pn**	**14 59 53.5**	**+0.4**
MNAT	**Makushin Natee**	**4.87**	**71**		**Pn**	**14 59 55.4**	**+0.7**
UNV	**Unalaska Valle**	**4.97**	**72**	P	**Pn**	**14 59 56.8**	**+0.9**
UNV	**Unalaska Valle**	**4.97**	**72**	P	**Pn**	**14 59 56.6**	**+0.7**
	baz=257						
P08K	**Saint George I**	**4.98**	**33**		**Pn**	**14 59 56.9**	**+0.9**
P08K	**Saint George I**	**4.98**	**33**	P	**Pn**	**14 59 56.7**	**+0.8**
	baz=216						
SPIA	**Saint Paul Isl**	**5.25**	**26**	Pn	**Pn**	**15 00 01.1**	**+1.6**
SPIA	**Saint Paul Isl**	**5.25**	**26**	P	**Pn**	**15 00 01.4**	**+1.9**
SPIA	**Saint Paul Isl**	**5.25**	**26**	P	**Pn**	**15 00 00.9**	**+1.4**
	baz=269						
AKV	**Akutan Volcano**	**5.34**	**69**		**Pn**	**15 00 01.6**	**+0.8**
AHB	**Akutan Harbor**	**5.42**	**70**		**Pn**	**15 00 02.8**	**+1.0**
AKUT	**Akutan**	**5.45**	**70**	P	**Pn**	**15 00 03.2**	**+1.0**
WEBT	**Westdahl Beart**	**6.14**	**67**		**Pn**	**15 00 12.1**	**+0.9**
SSBA	**Shishaldin**	**6.54**	**66**		**Pn**	**15 00 16.8**	**+0.3**
ISLZ	**Isanotski Laza**	**6.76**	**67**		**Pn**	**15 00 19.7**	**+0.3**
FALS	**False Pass**	**6.96**	**66**	P	**Pn**	**15 00 22.3**	**+0.5**
	baz=255						
SDPT	**Sand Point**	**8.72**	**66**	Pn	**Pn**	**15 00 43.8**	**-1.1**
SDPT	**Sand Point**	**8.72**	**66**	P	**Pn**	**15 00 43.5**	**-1.4**
SDPT	**Sand Point**	**8.72**	**66**	P	**Pn**	**15 00 44.8**	**-0.1**
	baz=257						
M11K	**Mekoryuk**	**9.09**	**27**	P	**Pn**	**15 00 51.5**	**+1.8**
	baz=213						
S14K	**Fog Glacier**	**9.47**	**61**	P	**Pn**	**15 00 55.1**	**+0.3**
	baz=252						
M13K	**Dall Lake**	**9.99**	**33**	P	**Pn**	**15 01 02.5**	**+1.0**
	baz=222						
O14K	**Tigyukauivet M**	**10.00**	**43**	P	**Pn**	**15 01 02.7**	**+1.2**
	baz=233						
CHGN	**Chignik**	**10.08**	**62**	Pn	**Pn**	**15 01 01.9**	**-0.8**
CHGN	**Chignik**	**10.08**	**62**	P	**Pn**	**15 01 02.6**	**-0.1**
	baz=254						
N14K	**Kuskokwak Cree**	**10.25**	**39**	P	**Pn**	**15 01 05.7**	**+0.9**
	baz=229						
O15K	**Ungalikthiuk R**	**10.57**	**45**	P	**Pn**	**15 01 10.1**	**+1.2**
	baz=237,SNR=5.5						
M14K	**Bethel**	**10.71**	**35**	Pn	**Pn**	**15 01 11.6**	**+0.8**
M14K	**Bethel**	**10.71**	**35**	P	**Pn**	**15 01 11.9**	**+1.1**
	baz=225						
L14K	**Kuka Creek**	**10.90**	**31**	P	**Pn**	**15 01 14.2**	**+1.0**
	baz=221						
R16K	**Pilot Point**	**10.91**	**56**	P	**Pn**	**15 01 13.3**	**-0.1**
	baz=249						
N15K	**Kwethluk River**	**11.03**	**40**	Pn	**Pn**	**15 01 16.1**	**+1.2**
N15K	**Kwethluk River**	**11.03**	**40**	P	**Pn**	**15 01 15.1**	**+0.2**
	baz=232						
M15K	**Kasigluk River**	**11.13**	**37**	P	**Pn**	**15 01 17.5**	**+1.2**
	baz=228						
P16K	**Nushagak River**	**11.31**	**48**	P	**Pn**	**15 01 19.1**	**+0.5**
	baz=242,SNR=9.1						
GAMB	**Gambell**	**11.36**	**6**	P	**Pn**	**15 01 20.5**	**+1.3**
	baz=188						
R17K	**Ugashik Creek**	**11.54**	**57**	P	**Pn**	**15 01 22.0**	**+0.5**
	baz=251						
L15K	**Ungalak Mounta**	**11.54**	**32**	P	**Pn**	**15 01 23.0**	**+1.5**
	baz=223						
O16K	**Kokwok River B**	**11.54**	**46**	Pn	**Pn**	**15 01 22.5**	**+0.9**
O16K	**Kokwok River B**	**11.54**	**46**	P	**Pn**	**15 01 22.4**	**+0.9**
	baz=239,SNR=7.9						
N16K	**Nishlik Lake**	**11.74**	**41**	P	**Pn**	**15 01 25.7**	**+1.6**
	baz=234						
J14K	**Nanvaranak Lak**	**11.77**	**25**	Pn	**Pn**	**15 01 26.2**	**+1.8**
J14K	**Nanvaranak Lak**	**11.77**	**25**	P	**Pn**	**15 01 25.5**	**+1.2**
	baz=214,SNR=9.8						
Q16K	**King Salmon**	**11.78**	**52**	P	**Pn**	**15 01 25.3**	**+0.8**
	baz=246,SNR=21						
K15K	**Wolf Creek Mou**	**11.98**	**30**	P	**Pn**	**15 01 28.3**	**+1.1**
	baz=221						
M16K	**Timber Creek**	**11.99**	**39**	Pn	**Pn**	**15 01 28.0**	**+0.7**
M16K	**Timber Creek**	**11.99**	**39**	P	**Pn**	**15 01 28.8**	**+1.4**
	baz=231,SNR=12						
Q17K	**Contact Creek**	**12.00**	**54**	P	**Pn**	**15 01 28.0**	**+0.5**
	baz=249,SNR=6.6						
O17K	**Koliganek Bris**	**12.07**	**46**	P	**Pn**	**15 01 29.0**	**+0.8**
	baz=240,SNR=16						
P17K	**Kvichak River**	**12.10**	**49**	P	**Pn**	**15 01 29.4**	**+0.8**
	baz=244,SNR=16						
L16K	**Owhat River**	**12.25**	**36**	Pn	**Pn**	**15 01 31.5**	**+0.9**
L16K	**Owhat River**	**12.25**	**36**	P	**Pn**	**15 01 31.8**	**+1.3**
	baz=228,SNR=12						
N17K	**Nushagak Hills**	**12.42**	**43**	Pn	**Pn**	**15 01 32.9**	**+0.2**
N17K	**Nushagak Hills**	**12.42**	**43**	P	**Pn**	**15 01 33.5**	**+0.8**
	baz=237,SNR=14						
SII	**Sitkinak Islan**	**12.43**	**63**	Pn	**Pn**	**15 01 30.6**	**-2.4**
SII	**Sitkinak Islan**	**12.43**	**63**	P	**Pn**	**15 01 32.7**	**-0.3**
SII	**Sitkinak Islan**	**12.43**	**63**	P	**Pn**	**15 01 33.4**	**+0.4**
	baz=259						
R18K	**Karluk**	**12.51**	**58**	P	**Pn**	**15 01 34.4**	**+0.5**
	baz=254,SNR=8.0						
Q18K	**Katmai Hardscr**	**12.57**	**53**	P	**Pn**	**15 01 35.3**	**+0.5**
	baz=249,SNR=27						
P18K	**Big Mountain,**	**12.74**	**50**	Pn	**Pn**	**15 01 36.4**	**-0.5**
P18K	**Big Mountain,**	**12.74**	**50**	P	**Pn**	**15 01 37.6**	**+0.7**
	baz=246						
M17K	**Holitna River**	**12.81**	**39**	Pn	**Pn**	**15 01 37.2**	**-0.5**
M17K	**Holitna River**	**12.81**	**39**	P	**Pn**	**15 01 38.7**	**+1.0**
	baz=233,SNR=19						
ANM	**Nome**	**12.94**	**18**	Pn	**Pn**	**15 01 40.6**	**+1.3**
ANM	**Nome**	**12.94**	**18**	P	**Pn**	**15 01 40.0**	**+0.7**
	baz=205						
ANM	**Nome**	**12.94**	**18**	P	**Pn**	**15 01 40.6**	**+1.3**
L17K	**Donlin**	**12.95**	**36**	P	**Pn**	**15 01 40.3**	**+0.9**
	baz=229						
O18K	**Koktuh Hills**	**12.95**	**48**	Pn	**Pn**	**15 01 38.5**	**-0.9**
O18K	**Koktuh Hills**	**12.95**	**48**	P	**Pn**	**15 01 40.7**	**+1.2**
	baz=244,SNR=27						
J16K	**Anvik River**	**13.01**	**29**	P	**Pn**	**15 01 41.0**	**+0.8**
	baz=220,SNR=7.4						
N18K	**Kilae Creek**	**13.04**	**44**	Pn	**Pn**	**15 01 39.6**	**-1.0**
N18K	**Kilae Creek**	**13.04**	**44**	P	**Pn**	**15 01 41.5**	**+0.8**
	baz=238,SNR=33						
OHAK	**Old Harbor**	**13.04**	**61**	Pn	**Pn**	**15 01 37.5**	**-3.2**
OHAK	**Old Harbor**	**13.04**	**61**	P	**Pn**	**15 01 40.2**	**-0.4**
	baz=258,SNR=24						
Q19K	**Cape Douglas,**	**13.33**	**53**	Pn	**Pn**	**15 01 43.3**	**-1.0**
Q19K	**Cape Douglas,**	**13.33**	**53**	P	**Pn**	**15 01 44.9**	**+0.6**
	baz=250,SNR=15						
K17K	**Iditarod**	**13.33**	**34**	Pn	**Pn**	**15 01 43.3**	**-0.9**
K17K	**Iditarod**	**13.33**	**34**	P	**Pn**	**15 01 45.1**	**+0.9**
	baz=227						
SVW2	**Sparrevohn**	**13.39**	**43**	Pn	**Pn**	**15 01 45.6**	**+0.6**
SVW2	**Sparrevohn**	**13.39**	**43**	P	**P**	**15 01 46.7**	**-1.4**
I17K	**Unalakleet**	**13.45**	**27**		**Pn**	**15 01 45.7**	**0.0**
I17K	**Unalakleet**	**13.45**	**27**	P	**Pn**	**15 01 46.5**	**+0.8**
	baz=218						
TNA	**Tin City**	**13.47**	**12**	P	**P**	**15 01 47.7**	**-1.2**
	baz=197						
M18K	**Stony River**	**13.50**	**41**	P	**Pn**	**15 01 47.5**	**+1.2**
	baz=236,SNR=29						
O19K	**Port Alsworth**	**13.50**	**47**		**P**	**15 01 48.2**	**-1.0**
O19K	**Port Alsworth**	**13.50**	**47**	P	**Pn**	**15 01 47.2**	**+0.9**
	baz=244,SNR=39						
KDAK	**Kodiak Island**	**13.54**	**59**	P	**Pn**	**15 01 46.4**	**-0.4**
	baz=256						
KDAK	**Kodiak Island**	**13.54**	**59**	*de*P	**Pn**	**

H19K	**Roundabout Mou**	**15.89**	**28**	P	**P**	**15 02 16.8**	**+1.1**	
	baz=223,SNR=7.0							
F18K	**Selawik**	**15.90**	**22**	P	**Pn**	**15 02 17.3**	**+1.5**	
	baz=214							
RC01	**Rabbit Creek A**	**15.93**	**48**	P	**P**	**15 02 15.4**	**-0.7**	
RC01				IAmb	IAmb	15 02 19.6		
	comp=Z,24nm,0.4s							
RC01	**Rabbit Creek A**	**15.93**	**48**	P	**Pn**	**15 02 16.7**	**+0.5**	
	baz=248,SNR=14							
I20K	**Naaghedeneel**	**15.99**	**32**	P	**Pn**	**15 02 17.8**	**+0.9**	
	baz=229							
CAST	**Castle Rocks**	**16.01**	**38**	P	**Pn**	**15 02 17.2**	**0.0**	
CAST	**Castle Rocks**	**16.01**	**38**	P	**Pn**	**15 02 18.3**	**+1.1**	
	baz=237,SNR=54							
M22K	**Willow**	**16.02**	**45**		**Pn**	**15 02 17.9**	**+0.6**	
M22K	**Willow**	**16.02**	**45**	P	**Pn**	**15 02 18.0**	**+0.8**	
	baz=246							
G19K	**Purcell Mounta**	**16.17**	**26**	P	**Pn**	**15 02 20.5**	**+1.4**	
	baz=221,SNR=15							
CHUM	**Lake Minchumin**	**16.18**	**37**	P	**Pn**	**15 02 19.8**	**+0.6**	
	baz=236,SNR=19							
D17K	**Noatak River**	**16.18**	**16**	P	**Pn**	**15 02 20.7**	**+1.5**	
	baz=205							
CUT	**Chulitna**	**16.23**	**43**	P	**Pn**	**15 02 20.2**	**+0.4**	
CUT	**Chulitna**	**16.23**	**43**	P	**Pn**	**15 02 20.5**	**+0.6**	
	baz=243,SNR=12							
H20K	**Anotleneega Mo**	**16.33**	**30**	P	**Pn**	**15 02 22.0**	**+1.0**	
	baz=226,SNR=20							
C16K	**Lisburne Hills**	**16.38**	**12**	Pn	**Pn**	**15 02 22.9**	**+1.4**	
C16K	**Lisburne Hills**	**16.38**	**12**	P	**Pn**	**15 02 22.6**	**+1.0**	
	baz=200							
PMR	**Palmer**	**16.39**	**47**		**Pn**	**15 02 21.4**	**-0.3**	
PMR	**Palmer**	**16.39**	**47**	P	**Pn**	**15 02 21.9**	**+0.2**	
PMR	**Palmer**	**16.39**	**47**	P	**Pn**	**15 02 22.1**	**+0.4**	
	baz=248,SNR=5.0							
PMR	**Palmer**	**16.39**	**47**	P	**Pn**	**15 02 21.4**	**-0.3**	
PMR				pmax	pmax			
	comp=Z,12nm,1.0s							
E18K	**Tukpahlearik C**	**16.39**	**19**	Pn	**Pn**	**15 02 23.1**	**+1.4**	
E18K	**Tukpahlearik C**	**16.39**	**19**	P	**Pn**	**15 02 22.4**	**+0.6**	
	baz=211							
KTH	**Kantishna Hill**	**16.52**	**39**	P	**Pn**	**15 02 24.6**	**+1.1**	
RDOG	**Red Dog Mine**	**16.53**	**15**	P	**Pn**	**15 02 24.0**	**+0.6**	
	baz=205							
F19K	**Shaleruckik Mo**	**16.53**	**24**	P	**P**	**15 02 22.0**	**-0.8**	
F19K				IAmb	IAmb	15 02 25.5		
	comp=Z,18nm,0.8s							
F19K	**Shaleruckik Mo**	**16.53**	**24**	P	**Pn**	**15 02 24.2**	**+0.8**	
	baz=218,SNR=24							
GHO	**Glory Hole Cre**	**16.55**	**46**	P	**P**	**15 02 22.6**	**-0.4**	
KNK	**Knik Glacier**	**16.62**	**48**	P	**P**	**15 02 23.8**	**0.0**	
KNK	**Knik Glacier**	**16.62**	**48**	P	**Pn**	**15 02 24.5**	**-0.1**	
	baz=249,SNR=26							
P23K	**Montague Islan**	**16.69**	**53**	P	**P**	**15 02 24.9**	**+0.3**	
	baz=255,SNR=5.6							
TRF	**Thorofare Moun**	**16.72**	**40**	P	**Pn**	**15 02 25.5**	**-0.3**	
TRF				IAmb	IAmb	15 02 30.6		
	comp=Z,48nm,1.0s							
TRF	**Thorofare Moun**	**16.72**	**40**	P	**Pn**	**15 02 25.8**	**-0.1**	
	baz=240,SNR=33							
BPAW	**Bear Paw Mtn.**	**16.79**	**37**	P	**Pn**	**15 02 27.4**	**+0.8**	
BPAW	**Bear Paw Mtn.**	**16.79**	**37**	P	**Pn**	**15 02 26.6**	**+0.1**	
	baz=237,SNR=107							
PEA0B	**Petropavlovsk-**	**16.79**	**283**	P	**P**	**15 02 25.5**	**-0.2**	
PEA0B				IAmb	IAmb	15 02 56.8		
	comp=Z,62nm,1.3s							
PEA0B	**Petropavlovsk-**	**16.79**	**283**	P	**P**	**15 02 25.5**	**-0.2**	
PEA0B				pmax	pmax			
	comp=Z,62nm,1.3s							
PETK	**Petropavlovsk-**	**16.79**	**283**	P	**P**	**15 02 25.5**	**-0.2**	
PETK	**Petropavlovsk-**	**16.79**	**283**	P	**P**	**15 02 25.5**	**-0.2**	
PETK	**Petropavlovsk-**	**16.79**	**283**	P	**Pn**	**15 02 27.8**	**+1.1**	
	comp=Z,7.8nm,0.6s,baz=81,slow=14,SNR=14							
SML	**Sawmill**	**16.82**	**46**	P	**P**	**15 02 25.3**	**-0.7**	
SML				IAmb	IAmb	15 02 28.8		
	comp=Z,35nm,1.0s							
SML	**Sawmill**	**16.82**	**46**	P	**P**	**15 02 26.1**	**0.0**	
	baz=248,SNR=11							
C17K	**DeLong Mountai**	**16.87**	**14**	P	**Pn**	**15 02 27.7**	**+0.2**	
	baz=204,SNR=7.8							
IMAR	**Indian Mountai**	**17.01**	**30**	P	**Pn**	**15 02 28.5**	**-0.6**	
I21K	**Tanana**	**17.06**	**33**	Pn	**Pn**	**15 02 30.2**	**+0.5**	
I21K				IAmb	IAmb	15 02 32.5		
	comp=Z,46nm,0.8s							
I21K	**Tanana**	**17.06**	**33**	P	**Pn**	**15 02 30.1**	**+0.4**	
	baz=232							
GLI	**Glacier Island**	**17.08**	**50**	P	**P**	**15 02 27.4**	**-1.4**	
GLI				IAmb	IAmb	15 02 30.1		
	comp=Z,39nm,0.6s							
GLI	**Glacier Island**	**17.08**	**50**	P	**P**	**15 02 28.8**	**+0.1**	
	baz=253,SNR=7.7							
Q23K	**Middleton Isla**	**17.08**	**55**	P	**P**	**15 02 29.1**	**+0.3**	
	baz=258							
M23K	**Glacier View**	**17.09**	**47**	P	**Pn**	**15 02 29.7**	**-0.4**	
	baz=249,SNR=59							
MID	**Middleton Isla**	**17.09**	**55**	P	**Pn**	**15 02 31.0**	**+0.9**	
H21K	**Melozitna Rive**	**17.09**	**31**	IAmb	IAmb	15 02 32.3		
	comp=Z,25nm,0.7s							
H21K	**Melozitna Rive**	**17.09**	**31**	P	**Pn**	**15 02 30.2**	**+0.1**	
	baz=230,SNR=24							
WAT1	**Susitna Watana**	**17.13**	**43**	P	**P**	**15 02 29.8**	**+0.4**	
	baz=245							
E19K	**Redstone River**	**17.16**	**23**	Pn	**Pn**	**15 02 31.5**	**+0.6**	
E19K	**Redstone River**	**17.16**	**23**	P	**Pn**	**15 02 30.7**	**-0.2**	
	baz=218							
F20K	**Avaraart Lake**	**17.22**	**25**	Pn	**Pn**	**15 02 31.8**	**+0.3**	
F20K				IAmb	IAmb	15 02 34.9		
	comp=Z,21nm,0.9s							
F20K	**Avaraart Lake**	**17.22**	**25**	P	**P**	**15 02 30.5**	**+0.3**	
	baz=221							
HIN	**Hinchinbrook I**	**17.23**	**52**	P	**P**	**15 02 28.8**	**-1.7**	
HIN				IAmb	IAmb	15 02 41.8		
	comp=Z,42nm,0.8s							
RND	**Reindeer**	**17.27**	**41**	P	**P**	**15 02 30.8**	**-0.1**	
RND	**Reindeer**	**17.27**	**41**	P	**P**	**15 02 30.8**	**-0.1**	
RND				pmax	pmax			
	comp=Z,146nm,0.6s							
SCM	**Sheep Creek Mo**	**17.28**	**47**	P	**P**	**15 02 30.3**	**-0.7**	
SCM				IAmb	IAmb	15 02 33.7		
	comp=Z,42nm,0.6s							
SCM	**Sheep Creek Mo**	**17.28**	**47**	P	**P**	**15 02 31.3**	**+0.3**	
	baz=250,SNR=18							
SCM	**Sheep Creek Mo**	**17.28**	**47**	P	**P**	**15 02 30.3**	**-0.7**	
SCM				pmax	pmax			
	comp=Z,42nm,0.6s							
FID	**Port Fidalgo**	**17.33**	**51**	P	**P**	**15 02 29.8**	**-1.7**	
C18K	**Utukok River**	**17.35**	**16**	P	**Pn**	**15 02 32.9**	**-0.3**	
	baz=208,SNR=16							
WAT6	**Susitna Watana**	**17.37**	**44**	P	**P**	**15 02 32.1**	**-0.1**	
	baz=247,SNR=39							
MCK	**McKinley**	**17.39**	**40**	P	**P**	**15 02 32.5**	**+0.4**	
	baz=242,SNR=44							
BWN	**Browne**	**17.40**	**38**	P	**Pn**	**15 02 33.0**	**-0.7**	
MLY	**Manley**	**17.40**	**35**	P	**P**	**15 02 32.2**	**-0.1**	
MLY	**Manley**	**17.40**	**35**	P	**Pn**	**15 02 33.2**	**-0.5**	
	baz=235,SNR=87							
G21K	**Allakaket**	**17.45**	**29**	IAmb	IAmb	15 02 36.5		
	comp=Z,25nm,0.7s							
G21K	**Allakaket**	**17.45**	**29**	P	**Pn**	**15 02 33.8**	**-0.5**	
	baz=226,SNR=22							
EYAK	**Cordova Ski Ar**	**17.62**	**52**	P	**Pn**	**15 02 36.0**	**-0.4**	
EYAK	**Cordova Ski Ar**	**17.62**	**52**	P	**P**	**15 02 34.9**	**+0.2**	
	baz=256							
H22K	**Ishtalitna Cre**	**17.70**	**32**	P	**Pn**	**15 02 36.7**	**-0.6**	
	baz=232,SNR=45							
DHY	**Denali Highway**	**17.73**	**43**	P	**P**	**15 02 35.8**	**-0.2**	
DHY	**Denali Highway**	**17.73**	**43**	P	**P**	**15 02 36.5**	**+0.5**	
	baz=246,SNR=88							
NEA2	**Nenana**	**17.76**	**37**	P	**P**	**15 02 36.7**	**+0.5**	
NEA2				IAmb	IAmb	15 02 42.0		
	comp=Z,31nm,1.0s							
NEA2	**Nenana**	**17.76**	**37**	P	**P**	**15 02 36.5**	**+0.3**	
	baz=239,SNR=21							
KLU	**Klutina**	**17.80**	**49**	P	**P**	**15 02 37.5**	**+0.7**	
	baz=252,SNR=26							
D19K	**Kuna River**	**17.80**	**20**	IAmb	IAmb	15 02 39.4		
	comp=Z,28nm,0.6s							
D19K	**Kuna River**	**17.80**	**20**	P	**Pn**	**15 02 37.8**	**-0.8**	
	baz=214							
M24K	**Tolsona, Glenn**	**17.88**	**47**	P	**P**	**15 02 36.7**	**-0.9**	
M24K	**Tolsona, Glenn**	**17.88**	**47**	P	**Pn**	**15 02 38.6**	**-0.9**	
	baz=250,SNR=16							
B18K	**Kokolik River**	**17.89**	**15**	P	**Pn**	**15 02 39.0**	**-0.5**	
	baz=206,SNR=21							
F21K	**Alatna River**	**17.95**	**27**	Pn	**Pn**	**15 02 40.0**	**-0.1**	
F21K				IAmb	IAmb	15 02 41.1		
	comp=Z,21nm,0.8s							
F21K	**Alatna River**	**17.95**	**27**	P	**Pn**	**15 02 39.6**	**-0.6**	
	baz=225							
I23K	**Minto, Yukon-K**	**17.95**	**36**	P	**Pn**	**15 02 39.4**	**-0.8**	
I23K	**Minto, Yukon-K**	**17.95**	**36**	P	**Pn**	**15 02 39.6**	**-0.5**	
	baz=237,SNR=58							
E20K	**Nigu River**	**18.04**	**22**	P	**Pn**	**15 02 40.6**	**-0.7**	
	baz=218							
C19K	**Lookout Ridge**	**18.04**	**17**	Pn	**Pn**	**15 02 40.5**	**-0.7**	
C19K	**Lookout Ridge**	**18.04**	**17**	P	**Pn**	**15 02 41.2**	**-0.1**	
	baz=210,SNR=10							
BILL	**Bilibino**	**18.10**	**336**	P	**Pn**	**15 02 40.5**	**-1.3**	
BILL	**Bilibino**	**18.10**	**336**	*e*P	**Pn**	**15 02 41.2**	**-0.7**	
BILL				pmax	pmax			
	comp=Z,28nm,2.5s							
RAGM	**Ragged Mountai**	**18.11**	**53**	P	**P**	**15 02 40.1**	**+0.1**	
RAGM				IAmb	IAmb	15 02 43.1		
	comp=Z,32nm,0.6s							
KAIM	**Kayak Island**	**18.14**	**54**	P	**P**	**15 02 40.4**	**0.0**	
KAIM				IAmb	IAmb	15 03 08.0		
	comp=Z,58nm,1.1s							
KAIM	**Kayak Island**	**18.14**	**54**	P	**Pn**	**15 02 41.5**	**-1.0**	
	baz=259							
MDM	**Murphy Dome**	**18.26**	**37**	P	**P**	**15 02 41.2**	**-0.4**	
MDM				IAmb	IAmb	15 02 46.4		
	comp=Z,48nm,1.0s							
CCB	**Clear Creek Bu**	**18.26**	**38**	P	**P**	**15 02 40.6**	**-1.0**	
BMRM	**Bremner River**	**18.27**	**51**	P	**Pn**	**15 02 43.1**	**-1.0**	
	baz=256,SNR=14							
D20K	**Etivluk River**	**18.30**	**21**	P	**Pn**	**15 02 43.1**	**-1.2**	
	baz=216,SNR=24							
G22K	**Bettles**	**18.31**	**29**	P	**Pn**	**15 02 43.7**	**-0.7**	
	baz=229,SNR=38							
COLA	**College**	**18.35**	**37**	P	**P**	**15 02 42.1**	**-0.5**	
COLA	**College**	**18.35**	**37**	P	**Pn**	**15 02 44.5**	**-0.4**	
COLA	**College**	**18.35**	**37**	P	**Pn**	**15 02 43.7**	**-1.2**	
	baz=240							
COLA	**College**	**18.35**	**37**	P	**P**	**15 02 42.1**	**-0.5**	
COLA				pmax	pmax			
	comp=Z,56nm,0.5s							
HARP	**HAARP**	**18.43**	**46**	P	**P**	**15 02 44.1**	**+0.6**	
	baz=251,SNR=60							
N25K	**Chitina, Valde**	**18.44**	**49**	P	**P**	**15 02 42.5**	**-1.3**	
N25K	**Chitina, Valde**	**18.44**	**49**	P	**P**	**15 02 44.3**	**+0.5**	
	baz=254,SNR=24							
HDA	**Harding Lake**	**18.47**	**39**	P	**P**	**15 02 43.9**	**-0.1**	
HDA	**Harding Lake**	**18.47**	**39**	P	**P**	**15 02 44.4**	**+0.5**	
	baz=243							
HDA				P	**P**	**15 02 44.4**	**+0.5**	
	baz=243							
PAX	**Paxson**	**18.49**	**44**	P	**P**	**15 02 44.6**	**+0.4**	
	baz=249,SNR=60							
F22K	**John River**	**18.51**	**27**	P	**P**	**15 02 45.2**	**+0.9**	
	baz=227							
BERG	**Berg Lake**	**18.58**	**53**	P	**P**	**15 02 44.3**	**-0.8**	
BERG				IAmb	IAmb	15 02 48.9		
	comp=Z,24nm,0.5s							
POKR	**Poker Plat Res**	**18.63**	**37**	P	**P**	**15 02 45.2**	**-0.4**	
POKR	**Poker Plat Res**	**18.63**	**37**	P	**P**	**15 02 45.8**	**+0.2**	
	baz=240,SNR=27							
G23K	**Bananza Creek**	**18.63**	**31**	P	**P**	**15 02 45.6**	**-0.1**	
G23K				IAmb	IAmb	15 02 48.5		
	comp=Z,37nm,0.9s							
G23K	**Bananza Creek**	**18.63**	**31**	P	**Pn**	**15 02 46.8**	**-1.4**	
	baz=232,SNR=41							
IL31		**18.66**	**38**	P	**P**	**15 02 44.9**	**-1.0**	
ILAR	**Eielson Array**	**18.66**	**38**	P	**P**	**15 02 44.2**	**-1.8**	
ILAR	**Eielson Array**	**18.66**	**38**	P	**P**	**15 02 44.5**	**-1.6**	
	comp=Z,22nm,0.5s,baz=243,slow=9.7,SNR=75							
ILAR				S	**S**	**15 06 09.6**	**+1.1**	
	comp=Z,2.2nm,0.9s,baz=217,slow=13,SNR=5.2							
ILAR				ScP	**ScP**	**15 10 21.8**	**-1.4**	
	comp=Z,0.4nm,0.6s,baz=262,slow=2.7,SNR=6.1							
K24K	**Donnelly Dome**	**18.68**	**42**	P	**P**	**15 02 46.4**	**+0.1**	
	baz=246,SNR=113							
E21K	**Killik River**	**18.71**	**24**	P	**P**	**15 02 46.0**	**-0.5**	
E21K				IAmb	IAmb	15 02 48.4		
	comp=Z,32nm,0.7s							
E21K	**Killik River**	**18.71**	**24**	P	**P**	**15 02 47.3**	**+0.9**	
	baz=222							
GLB	**Gilahina Butte**	**18.76**	**50**	P	**P**	**15 02 45.4**	**-1.8**	
GLB				IAmb	IAmb	15 02 51.3		
	comp=Z,35nm,1.0s							
A19K	**Wainwright**	**18.76**	**14**	P	**P**	**15 02 47.9**	**+0.9**	
	baz=206,SNR=22							
H24K	**Noodor Dome**	**18.84**	**35**	P	**P**	**15 02 47.0**	**-0.9**	
H24K	**Noodor Dome**	**18.84**	**35**	P	**P**	**15 02 49.2**	**+1.2**	
	baz=238,SNR=93							
VRDI	**Verde Repeater**	**18.88**	**50**	P	**P**	**15 02 47.8**	**-0.8**	
VRDI				IAmb	IAmb	15 03 07.2		
	comp=Z,19nm,0.8s							
COLD	**Coldfoot**	**18.90**	**30**	P	**P**	**15 02 49.1**	**+0.6**	
	baz=231,SNR=54							
CRQM	**Cirque**	**18.93**	**52**	P	**P**	**15 02 48.3**	**-0.8**	
CRQE	**Cirque**	**18.95**	**52**	P	**P**	**15 02 49.1**	**-0.2**	
	baz=258,SNR=10							
SNH	**Sunshine Point**	**18.96**	**54**	P	**P**	**15 02 49.9**	**+0.5**	
SNH				IAmb	IAmb	15 02 55.9		
	comp=Z,33nm,0.9s							
RIDG	**Independent Ri**	**19.03**	**42**	P	**P**	**15 02 50.2**	**+0.1**	
RIDG	**Independent Ri**	**19.03**	**42**	P	**P**	**15 02 50.2**	**+0.1**	
	baz=248,SNR=41							
E22K	**Anaktuvuk Pass**	**19.04**	**26**	P	**P**	**15 02 49.5**	**-0.6**	
E22K				IAmb	IAmb	15 02 52.3		
	comp=Z,22nm,0.9s							
E22K	**Anaktuvuk Pass**	**19.04**	**26**	P	**P**	**15 02 50.7**	**+0.6**	
	baz=226,SNR=27							
C21K	**Knifeblade Rid**	**19.06**	**22**	P	**P**	**15 02 51.1**	**+0.8**	
	baz=219							
TGL	**Tana Glacier**	**19.07**	**52**	P	**P**	**15 02 50.2**	**-0.4**	
MCARA	**McCarthy VSAT**	**19.12**	**50**	P	**P**	**15 02 48.7**	**-2.3**	
MCARA	**McCarthy VSAT**	**19.12**	**50**	P	**P**	**15 02 50.6**	**-0.3**	
	baz=256,SNR=12							
J25K	**Salcha River,**	**19.18**	**40**	P	**P**	**15 02 50.1**	**-1.4**	
J25K	**Salcha River,**	**19.18**	**40**	P	**P**	**15 02 50.2**	**-1.4**	
	baz=244,SNR=78							
MENT	**Mentasta**	**19.23**	**45**	P	**P**	**15 02 50.5**	**-1.7**	
MENT				IAmb	IAmb	15 03 16.0		
	comp=Z,30nm,0.5s							
B20K	**Meade River**	**19.26**	**18**	P	**P**	**15 02 51.9**	**-0.5**	
B20K				IAmb	IAmb	15 02 54.1		
	comp=Z,30nm,0.8s							
B20K	**Meade River**	**19.26**	**18**	P	**P**	**15 02 52.5**	**+0.2**	
	baz=213							
D22K	**Ayikyak River**	**19.35**	**24**	IAmb	IAmb	15 02 55.7		
	comp=Z,45nm,0.8s							
D22K	**Ayikyak River**	**19.35**	**24**	P	**P**	**15 02 54.3**	**+0.9**	
	baz=223							
M26K	**Nabesna, AK**	**19.39**	**47**	P	**P**	**15 02 53.2**	**-0.7**	
M26K				IAmb	IAmb	15 02 59.5		
	comp=Z,26nm,0.8s							
M26K	**Nabesna, AK**	**19.39**	**47**	P	**P**	**15 02 54.1**	**+0.2**	
	baz=254,SNR=35							
L26K	**Log Cabin Wild**	**19.42**	**45**	P	**P**	**15 02 53.4**	**-0.8**	
L26K	**Log Cabin Wild**	**19.42**	**45**	P	**P**	**15 02 54.5**	**+0.3**	
	baz=252,SNR=50							
G24K	**Hadweenzic Riv**	**19.45**	**33**	IAmb	IAmb	15 02 56.9		
	comp=Z,45nm,1.0s							
G24K	**Hadweenzic Riv**	**19.45**	**33**	P	**P**	**15 02 55.1**	**+0.6**	
	baz=236,SNR=26							
B21K	**Ikpikpuk River**	**19.46**	**21**	P	**P**	**15 02 55.3**	**+0.7**	
	baz=218,SNR=63							
SCRK	**Sand Creek**	**19.48**	**42**	P	**P**	**15 02 54.9**	**-0.1**	
SCRK	**Sand Creek**	**19.48**	**42**	P	**P**	**15 02 55.0**	**+0.1**	
	baz=248,SNR=152							
PRP	**Porcupine Dome**	**19.52**	**37**	P	**P**	**15 02 54.6**	**-0.8**	
PRP				IAmb	IAmb	15 03 19.2		
	comp=Z,19nm,0.7s							
PRP	**Porcupine Dome**	**19.52**	**37**	P	**P**	**15 02 55.3**	**-0.1**	
	baz=242,SNR=9.3							
GRNC	**Granite Creek**	**19.59**	**52**	P	**P**	**15 02 55.8**	**-0.5**	
GRNC				IAmb	IAmb	15 03 05.5		
	comp=Z,16nm,0.5s							
E23K	**Chandalar**	**19.60**	**28**	P	**P**	**15 02 56.7**	**+0.5**	
	baz=230,SNR=14							
BARN	**Barnard Glacie**	**19.69**	**51**	P	**P**	**15 02 57.1**	**-0.3**	
BARN				IAmb	IAmb	15 03 11.2		
	comp=Z,12nm,0.4s							
F24K	**Squaw Lake**	**19.79**	**31**	P	**P**	**15 02 57.3**	**-0.8**	
F24K	**Squaw Lake**	**19.79**	**31**	P	**P**	**15 02 59.1**	**+1.0**	
	baz=234,SNR=57							
CTG	**Chitna Glacier**	**19.83**	**52**	P	**P**	**15 02 58.8**	**0.0**	
	baz=260							
CTGM	**Chitina Glacie**	**19.83**	**52**	P	**P**	**15 02 57.8**	**-1.0**	
CTGM				IAmb	IAmb	15 03 06.3		
	comp=Z,16nm,0.8s							
J26L	**Joseph Creek**	**19.84**	**41**	P	**P**	**15 02 58.1**	**-0.7**	
J26L	**Joseph Creek**	**19.84**	**41**	P	**P**	**15 02 58.9**	**+0.1**	
	baz=247,SNR=158							
M27K	**Edge Creek, AK**	**19.88**	**48**	IAmb	IAmb	15 03 06.4		
	comp=Z,29nm,0.7s							
M27K	**Edge Creek, AK**	**19.88**	**48**	P	**P**	**15 02 59.4**	**+0.1**	
	baz=255,SNR=23							
D23K	**Nanushuk River**	**19.92**	**25**	P	**P**	**15 02 59.9**	**+0.4**	
	baz=226							
E24K	**Your Creek**	**19.94**	**29**	P	**P**	**15 02 59.6**	**-0.2**	
E24K				IAmb	IAmb	15 03 02.5		
	comp=Z,28nm,0.6s							
E24K	**Your Creek**	**19.94**	**29**	P	**P**	**15 03 01.0**	**+1.2**	
	baz=231							
G25K	**Bearman Lake**	**19.94**	**34**	P	**P**	**15 03 00.7**	**+1.0**	
	baz=238							
LOGN	**Logan Glacier**	**19.97**	**52**	P	**P**	**15 02 59.6**	**-0.6**	
TOLK	**Toolik Lake Re**	**20.00**	**27**	P	**P**	**15 03 01.1**	**+0.7**	
TOLK				IAmb	IAmb	15 03 03.0		
	comp=Z,27nm,0.7s							
TOLK	**Toolik Lake Re**	**20.00**	**27**	P	**P**	**15 03 01.1**	**+0.7**	
	baz=228,SNR=40							
L27K	**Beaver Creek,**	**20.09**	**46**	P	**P**	**15 03 01.3**	**-0.1**	
L27K	**Beaver Creek,**	**20.09**	**46**	P	**P**	**15 03 02.0**	**+0.6**	
	baz=253							
BCAR	**Beaver Creek A**	**20.11**	**46**	P	**P**	**15 03 01.3**	**-0.3**	
FYU	**Fort Yukon**	**20.14**	**35**	P	**P**	**15 03 01.4**	**-0.4**	
FYU				IAmb	IAmb	15 03 42.8		
	comp=Z,25nm,1.0s							
PCA	**Pinnacle**	**20.23**	**55**	P	**P**	**15 03 02.4**	**-0.6**	
PCA				IAmb	IAmb	15 03 19.2		
	comp=Z,40nm,1.2s							
PINM	**Pinnacle**	**20.23**	**55**	P	**P**	**15 03 02.4**	**-0.6**	
	baz=263							
SEY	**Seymchan**	**20.28**	**314**	*e*P	**P**	**15 03 05.0**	**+1.7**	
SEY				pmax	pmax			
	comp=Z,21nm,1.7s							
SEY	**Seymchan**	**20.28**	**314**	P	**P**	**15 03 03.6**	**+0.3**	
	comp=Z,5.5nm,0.6s,baz=107,slow=9.6,SNR=27							
SEY				ScP	**ScP**	**15 10 25.1**	**-1.8**	
	comp=Z,2.9nm,0.9s,baz=90,slow=6.5,SNR=7.4							
	comp=Z,5.5nm,0.6s							
B22K	**Teshekpuk Lake**	**20.28**	**21**	P	**P**	**15 03 03.4**	**+0.2**	
B22K				IAmb	IAmb	15 03 07.3		
	comp=Z,19nm,0.8s							
B22K	**Teshekpuk Lake**	**20.28**	**21**	P	**P**	**15 03 03.5**	**+0.2**	
	baz=219,SNR=15							
K27K	**Chicken**	**20.28**	**43**	P	**P**	**15 03 03.9**	**+0.4**	
K27K	**Chicken**	**20.28**	**43**	P	**P**	**15 03 03.6**	**+0.2**	
	baz=250							
I26K	**Coal Creek Min**	**20.32**	**39**	P	**P**	**15 03 02.6**	**-1.2**	
I26K				IAmb	IAmb	15 03 07.4		
	comp=Z,24nm,0.6s							
I26K	**Coal Creek Min**	**20.32**	**39**	P	**P**	**15 03 03.4**	**-0.4**	
	baz=246							
BVCY	**Beaver Creek**	**20.35**	**48**	P	**P**	**15 03 04.9**	**+0.7**	
	baz=256,SNR=27							
YUK3	**Moose Creek**	**20.40**	**50**	P	**P**	**15 03 04.2**	**-0.7**	
	baz=258,SNR=33							
A21K	**Barrow**	**20.46**	**16**	P	**P**	**15 03 05.3**	**+0.1**	
	baz=212,SNR=9.1							
A22K	**Sinclair Lake**	**20.50**	**18**	P	**P**	**15 03 04.7**	**-0.9**	
	baz=215,SNR=20							
BCPM	**Bancas Point**	**20.53**	**55**	P	**P**	**15 03 06.4**	**+0.3**	
BCPM				IAmb	IAmb	15 03 23.5		
	comp=Z,25nm,0.9s							
F25K	**Christian Rive**	**20.54**	**32**	P	**P**	**15 03 06.2**	**+0.1**	
	baz=237,SNR=50							
D24K	**Happy Valley**	**20.54**	**26**	P	**P**	**15 03 04.6**	**-1.5**	
D24K				IAmb	IAmb	15 03 09.5		
	comp=Z,39nm,0.8s							
D24K	**Happy Valley**	**20.54**	**26**	P	**P**	**15 03 05.9**	**-0.2**	
	baz=229							
C23K	**Itkillik River**	**20.55**	**24**	P	**P**	**15 03 06.1**	**0.0**	
	baz=224,SNR=65							
PNL	**Peninsula**	**20.62**	**56**	P	**P**	**15 03 07.6**	**+0.6**	
PNL	**Peninsula**	**20.62**	**56**	P	**P**	**15 03 06.6**	**-0.4**	
	baz=265							
YUK8	**Steele Glacier**	**20.64**	**51**	P	**P**	**15 03 06.7**	**-0.8**	
	baz=260,SNR=6.6							
BMAR	**Burnt Mountain**	**20.80**	**33**	P	**P**	**15 03 09.8**	**+0.9**	
G26K	**Porcupine Rive**	**20.83**	**34**	P	**P**	**15 03 09.5**	**+0.4**	
	baz=241							
E25K	**Arctic Village**	**20.86**	**31

N31M **Braeburn, Yuko** 22.57 51 P P 15 03 26.8 +0.1
baz=264
SKAG **Skagway** 22.68 57 P P 15 03 26.9 -0.8
baz=269
J30M **Hart River** 22.84 43 P P 15 03 29.0 -0.2
J30M **Hart River** 22.84 43 P P 15 03 29.3 0.0
baz=256,SNR=62
G29M **Pine Creek** 22.87 37 P P 15 03 29.1 -0.2
G29M **Pine Creek** 22.87 37 P P 15 03 29.2 -0.2
baz=249,SNR=43
D27M **Malcolm River** 22.88 30 P P 15 03 30.1 +0.6
D27M IAmb IAmb 15 03 31.9
comp=Z,24nm,0.7s
D27M **Malcolm River** 22.88 30 P P 15 03 29.9 +0.4
baz=240
I30M **Mount Dempster** 22.98 42 P P 15 03 30.0 -0.5
I30M **Mount Dempster** 22.98 42 P P 15 03 30.1 -0.5
baz=255,SNR=64
E28M **Babbage River** 23.03 32 P P 15 03 31.5 +0.7
E28M **Babbage River** 23.03 32 P P 15 03 31.4 +0.6
baz=243,SNR=52
EPYK **Eagle Plains** 23.18 39 P P 15 03 31.6 -0.5
EPYK IAmb IAmb 15 03 34.1
comp=Z,26nm,0.8s
EPYK **Eagle Plains** 23.18 39 P P 15 03 31.7 -0.5
baz=252,SNR=25
M31M **Drury Creek, Y** 23.30 50 P P 15 03 33.7 +0.4
M31M **Drury Creek, Y** 23.30 50 P P 15 03 32.9 -0.4
baz=264
E29M **Blow River** 23.48 34 P P 15 03 35.4 +0.6
E29M PcP **PcP** 15 07 14.7 -0.1
E29M **Blow River** 23.48 34 P P 15 03 35.5 +0.6
baz=246,SNR=52
P32M **Atlin** 23.50 56 P P 15 03 34.8 -0.4
baz=270
G30M **tAoh Zraii Nji** 23.56 38 P P 15 03 35.0 -0.7
G30M IAmb IAmb 15 03 36.9
comp=Z,16nm,1.1s
G30M **tAoh Zraii Nji** 23.56 38 P P 15 03 35.6 -0.1
baz=251
D28M **Stokes Point** 23.62 31 P P 15 03 36.9 +0.8
baz=243,SNR=11
FARO **Faro, Yukon** 23.78 50 P P 15 03 37.9 +0.1
baz=265
N32M **Quiet Lake** 23.84 53 P P 15 03 38.5 +0.2
baz=268
F30M **Barrier River** 23.93 36 P P 15 03 39.1 +0.2
baz=250
P33M **Teslin, Yukon** 23.95 55 P P 15 03 39.4 +0.1
baz=270
Q32M **Nakina River** 24.27 58 P P 15 03 42.2 -0.1
baz=273
G31M **Satah River** 24.28 38 P P 15 03 40.9 -1.1
G31M PcP **PcP** 15 07 16.0 -0.5
G31M **Satah River** 24.28 38 P P 15 03 42.9 +0.8
baz=253,SNR=9.2
WRAK **Wrangell Islan** 24.49 64 P P 15 03 44.1 0.0
baz=279
F31M **Tsiigehtchic** 24.62 37 P P 15 03 45.3 +0.1
F31M IAmb IAmb 15 03 47.8
comp=Z,12nm,0.7s
F31M **Tsiigehtchic** 24.62 37 P P 15 03 45.6 +0.4
baz=253,SNR=9.0
R33M **Jennings River** 24.91 57 P P 15 03 48.6 +0.5
baz=273
S34M **Telegraph Cree** 24.95 60 P P 15 03 48.5 +0.3
S34M **Telegraph Cree** 24.95 60 P P 15 03 48.8 +0.5
baz=276
INK **Inuvik** 24.97 35 P P 15 03 48.4 +0.1
INK IAmb IAmb 15 03 49.3
comp=Z,11nm,0.5s
INK **Inuvik** 24.97 35 P P 15 03 48.4 +0.1
baz=251,SNR=16
INK **Inuvik** 24.97 35 P P 15 03 48.4 +0.1
INK pmax pmax
comp=Z,11nm,0.5s
V35K **Ketchikan** 25.09 66 P P 15 03 49.8 +0.2
baz=282
DLBC **Dease Lake** 25.48 59 P P 15 03 54.1 +1.0
baz=276
T35M **Bob Quinn** 25.55 62 P P 15 03 55.0 +1.2
baz=279
TGTN **Hyland Airport** 26.16 52 P P 15 04 00.4 +1.1
baz=271
KOTAN **Kotaneelee Air** 28.33 54 P P 15 04 18.9 +0.5
baz=277
WRGLY **Wrigley** 28.36 48 P P 15 04 19.1 +0.4
baz=272
C36M **Paulatuk** 28.55 35 P P 15 04 19.9 -0.3
C36M IAmb IAmb 15 04 21.8
comp=Z,16nm,1.2s
C36M **Paulatuk** 28.55 35 P P 15 04 20.3 +0.1
baz=260,SNR=6.5
A36M **Sachs Harbour** 28.76 29 P P 15 04 22.8 +0.6
A36M PcP **PcP** 15 07 27.0 +0.1
A36M **Sachs Harbour** 28.76 29 P P 15 04 23.1 +1.0
baz=254,SNR=27
JKA **Kamikawa-asahi** 29.38 271 P P 15 04 27.0 -0.9
ASAJ **Asahikawa** 29.38 271 P P 15 04 27.0 -0.9
ASAJ pmax pmax
comp=Z,106nm,1.5s
OZB **Mount Ozzard** 30.72 77 P P 15 04 40.5 +0.8
HILA **High Level** 32.16 56 P P 15 04 52.7 +0.5
YKA **Yellowknife Ar** 32.47 48 P P 15 04 54.1 -0.7
comp=Z,3.2nm,0.7s,baz=283,slow=7.6,SNR=40
YKA PcP **PcP** 15 07 37.4 +0.5
comp=Z,0.3nm,0.7s,baz=285,slow=2.8,SNR=4.2
YKA ScP **ScP** 15 11 01.1 -1.8
comp=Z,0.4nm,0.5s,baz=288,slow=3.5,SNR=6.8
comp=Z,3.2nm,0.7s
RADR **Rader Ridge** 32.91 80 P P 15 04 59.4 +0.5
KLR **Kul'dur** 33.43 286 *eP* P 15 05 02.2 -1.1
KLR pmax pmax
comp=Z,12nm,1.8s
HEBO **Mount Hebo** 33.55 82 P P 15 05 05.3 +0.9
LON **Longmire** 33.94 78 P P 15 05 09.9 +2.1
LON IAmb IAmb 15 05 11.2
comp=Z,10nm,0.7s
LON **Longmire** 33.94 78 P P 15 05 09.9 +2.1
LON pmax pmax
comp=Z,10.0nm,0.7s
F04A **Amboy** 33.98 80 P P 15 05 09.2 +1.1
F04A IAmb IAmb 15 05 11.0
comp=Z,19nm,0.6s
COR **Corvallis** 34.15 83 P P 15 05 11.8 +2.3
LTY **Liberty** 34.37 77 P P 15 05 10.4 -1.1
LTY IAmb IAmb 15 05 13.5
comp=Z,7.3nm,0.5s
H04D **Lebanon** 34.52 82 P P 15 05 13.9 +1.1
H04D IAmb IAmb 15 05 16.3
comp=Z,15nm,0.7s
B08A **Colville Reser** 34.63 74 P P 15 05 12.7 -1.0
B08A IAmb IAmb 15 05 16.2
comp=Z,18nm,0.7s
H04A **Detroit Lake** 34.77 82 P P 15 05 15.5 +0.5
H04A IAmb IAmb 15 05 18.1
comp=Z,22nm,0.6s
KBO **Bosley Butte** 34.90 87 P P 15 05 17.5 +1.4
KBO IAmb IAmb 15 05 19.8
comp=Z,28nm,1.1s
K02D **Willamette Mer** 34.96 86 P P 15 05 17.5 +0.8
I04A **Tendick Farm,** 35.12 83 P P 15 05 19.7 +1.8
I04A IAmb IAmb 15 05 21.2
comp=Z,20nm,0.7s
KSXB **Camp Six Broad** 35.33 87 P P 15 05 21.0 +1.2
KSXB IAmb IAmb 15 05 23.7
comp=Z,15nm,0.9s
G06A **Carlson Farm,** 35.42 80 P P 15 05 21.9 +1.4
HAWA **Hanford** 35.48 77 P P 15 05 21.7 +0.8
HAWA IAmb IAmb 15 05 23.6
comp=Z,21nm,0.6s
HEH **HeiHe** 35.49 290 *eP* P 15 05 19.0 -1.9
F07A **Phinny Hill Vi** 35.50 78 P P 15 05 22.6 +1.6
F07A IAmb IAmb 15 05 24.0
comp=Z,14nm,0.7s
D08A **Wollman Farm,** 35.51 76 P P 15 05 21.4 +0.3
D08A IAmb IAmb 15 05 23.4
comp=Z,15nm,1.0s
C09A **Chrisman Ranch** 35.52 75 P P 15 05 21.7 +0.4
C09A IAmb IAmb 15 05 23.4
comp=Z,17nm,0.7s
KRPM **Rodgers** 35.63 88 P P 15 05 23.3 +1.0
KRPM IAmb IAmb 15 05 26.0
comp=Z,21nm,0.9s
USRK **Ussuriysk Ar.** 35.79 278 P P 15 05 21.8 -1.7
comp=Z,2.3nm,0.9s,baz=52,slow=10,SNR=6.4
comp=Z,2.3nm,0.9s
H11N2 **WAKE ISLAND Hy** 35.81 211 T T 15 42 13.7
baz=18,slow=76,SNR=64
H11N3 **WAKE ISLAND Hy** 35.82 211 T T 15 42 43.2
baz=18,slow=76,SNR=50
H11N1 **WAKE ISLAND Hy** 35.83 211 T T 15 42 16.5
baz=18,slow=76,SNR=48
EDM **Edmonton** 35.90 64 P P 15 05 23.7 -0.8
EDM IAmb IAmb 15 05 26.5
comp=Z,14nm,0.4s
EDM **Edmonton** 35.90 64 P P 15 05 23.7 -0.8
EDM pmax pmax
comp=Z,14nm,0.4s
NEW **Newport** 35.98 73 P P 15 05 26.2 +1.1
NEW **Newport** 35.98 73 P P 15 05 25.9 +0.8
baz=299,SNR=20
NEW **Newport** 35.98 73 P P 15 05 26.2 +1.1
NEW pmax pmax
comp=Z,33nm,0.7s
PINE **Pine Mountain** 36.01 82 P P 15 05 26.9 +1.2
KMPM **Mount Pierce** 36.01 89 P P 15 05 27.8 +2.2
KMPM IAmb IAmb 15 05 29.9
comp=Z,28nm,1.0s
L04D **Klamath Falls** 36.06 85 P P 15 05 27.8 +1.7
L04D IAmb IAmb 15 05 29.7
comp=Z,19nm,0.8s
E09A **Wood Farm, Sta** 36.24 76 P P 15 05 27.5 +0.2
E09A IAmb IAmb 15 05 29.7
comp=Z,14nm,1.0s
MJAR **Matsushiro Arr** 36.60 263 P P 15 05 31.2 +0.7
comp=Z,6.0nm,0.6s,baz=32,slow=6.2,SNR=17
comp=Z,6.0nm,0.6s
MAJO **Matsushiro** 36.60 263 P P 15 05 30.8 +0.3
MAJO IAmb IAmb 15 05 32.0
comp=Z,41nm,1.2s
MAJO **Matsushiro** 36.60 263 P P 15 05 30.8 +0.3
MAJO pmax pmax
comp=Z,41nm,1.2s
MAJO **Matsushiro** 36.60 263 P P 15 05 31.2 +0.7
MJB9 **Matsu-Tunnel** 36.60 263 P P 15 05 32.1 +1.6
MJB9 IAmb IAmb 15 05 33.0
comp=Z,38nm,1.2s
K05A **Summer Lake** 36.63 84 P P 15 05 32.6 +1.7
K05A IAmb IAmb 15 05 34.8
comp=Z,23nm,0.9s
I07A **Izee** 36.72 81 P P 15 05 32.7 +1.2
I07A IAmb IAmb 15 05 34.5
comp=Z,13nm,0.8s
MDJ **Mudanjiang** 37.01 281 P P 15 05 32.5 -1.3
MDJ pP pP 15 06 10.3 -1.4
MDJ sP sP 15 06 30.8 -1.6
MDJ PP **PP** 15 07 01.5 -0.5
MDJ PcP **PcP** 15 07 48.5 -2.0
MDJ S **S** 15 11 06.3 +1.1
MDJ ScP **ScP** 15 11 19.8 +0.2
MDJ sS sS 15 12 15.0 +2.0
MDJ SS **SS** 15 13 56.5 +1.4
MDJ ScS **ScS** 15 15 27.5 +0.1
MDJ pmax pmax
comp=Z,11nm,1.7s
MDJ pmax pmax
comp=Z,230nm,5.2s
H11S1 **WAKE ISLAND Hy** 37.02 211 T T 15 44 08.0
baz=17,slow=76,SNR=47
H11S2 **WAKE ISLAND Hy** 37.04 211 T T 15 43 48.5
baz=17,slow=76,SNR=30
H11S3 **WAKE ISLAND Hy** 37.04 211 T T 15 43 45.9
baz=17,slow=76,SNR=22
BMO **Blue Mountains** 37.62 78 P P 15 05 40.0 +0.9
BMO **Blue Mountains** 37.62 78 P P 15 05 40.0 +0.9
BMO pmax pmax
comp=Z,5.0nm,0.7s
WVOR **Wild Horse Val** 38.17 82 P P 15 05 44.6 +0.8
WVOR IAmb IAmb 15 05 46.8
comp=Z,14nm,0.8s
WVOR **Wild Horse Val** 38.17 82 P P 15 05 44.6 +0.8
WVOR pmax pmax
comp=Z,14nm,0.8s
PLID **Pearl Lake** 38.27 77 P P 15 05 45.1 +0.4
MSO **Missoula** 38.56 74 P P 15 05 47.5 +0.5
baz=302
PLTX **Planet X, Gerl** 38.67 85 P P 15 05 49.1 +1.1
CHMT **Chamberlain Mo** 38.92 73 P P 15 05 49.5 -0.5
OVMT **Ovando** 38.99 73 P P 15 05 50.5 0.0
BPMT **Black Pine Rid** 39.05 74 P P 15 05 51.7 +0.4
PAHR **Pah Rah Range** 39.33 86 P P 15 05 54.8 +1.3
PAHR IAmb IAmb 15 05 56.6
comp=Z,21nm,0.8s
EMB **Emerald Bay** 39.34 88 P P 15 05 55.3 +1.6
EMB IAmb IAmb 15 05 59.5
comp=Z,15nm,0.8s
ELMT **Elliston** 39.57 73 P P 15 05 55.9 +0.5
HLID **Hailey** 40.06 78 P P 15 06 00.8 +1.3
HLID **Hailey** 40.06 78 P P 15 06 00.3 +0.8
baz=305,SNR=14
MCMT **McKenzie Canyo** 40.28 76 P P 15 06 02.2 +0.8
EGMT **Eagleton** 40.36 70 P P 15 06 02.2 +0.4
baz=302
KVN **Kaiserville** 40.52 86 P P 15 06 04.9 +1.6
KVN **Kaiserville** 40.52 86 P P 15 06 04.9 +1.6
KVN pmax pmax
comp=Z,13nm,1.1s
BOZ **Bozeman (W)** 40.58 74 P P 15 06 04.5 +0.8
BOZ IAmb IAmb 15 06 05.3
comp=Z,20nm,0.7s
BOZ **Bozeman (W)** 40.58 74 P P 15 06 04.6 +0.9
baz=303,SNR=33
BOZ **Bozeman (W)** 40.58 74 P P 15 06 04.5 +0.9
BOZ pmax pmax
comp=Z,20nm,0.7s
LHV **Little Huntoon** 40.77 88 P P 15 06 07.3 +2.2
LHV IAmb IAmb 15 06 09.1
comp=Z,17nm,1.2s
NVAR **Mina Array Bea** 40.78 87 P P 15 06 06.8 +1.2
NVAR **Mina Array Bea** 40.78 87 P P 15 06 07.8 +2.3
comp=Z,11nm,0.7s,baz=300,slow=7.4,SNR=89
NVAR ScP **ScP** 15 11 36.1 +1.6
comp=Z,0.8nm,0.7s,baz=305,slow=4.1,SNR=7.5
comp=Z,11nm,0.7s
NV11 **Mina Array Sit** 40.87 87 P P 15 06 08.1 +1.9
ELK **Elko** 41.22 82 P P 15 06 09.3 +0.2
ELK **Elko** 41.22 82 P P 15 06 09.3 +0.2
ELK pmax pmax
comp=Z,8.0nm,0.7s
YHH **Holmes Hill** 41.48 74 P P 15 06 12.2 +1.0
GCMT **Greycliff** 41.61 72 P P 15 06 11.5 -0.6
TIN **Tinemaha, Big** 41.70 89 P P 15 06 15.3 +2.4
baz=310
SMMC **Simmler** 41.76 92 P P 15 06 15.5 +2.1
baz=312
H17A **Grant Village** 41.87 75 P P 15 06 16.2 +1.9
baz=305,SNR=13
VES **Vestal, Richgr** 41.97 91 P P 15 06 16.2 +1.3
baz=311,SNR=5.9
FLWY **Flagg Ranch** 41.97 75 P P 15 06 16.7 +1.6
FLWY IAmb IAmb 15 06 18.1
comp=Z,16nm,0.8s
PKM **Mcpherson Peak** 42.16 92 P P 15 06 18.3 +1.6
baz=312
TPAW **Teton Pass** 42.17 76 P P 15 06 17.7 +0.9
CWC **Cottonwood Cre** 42.19 89 P P 15 06 19.0 +2.1
baz=311
RLMT **Red Lodge** 42.22 73 P P 15 06 18.3 +1.2
RLMT IAmb IAmb 15 06 19.8
comp=Z,17nm,0.8s
RLMT **Red Lodge** 42.22 73 P P 15 06 18.4 +1.3
baz=304,SNR=18
GRAC **Grapevine Rang** 42.27 88 P P 15 06 19.7 +2.3
baz=310
KSRS **Korea Array** 42.28 273 P P 15 06 17.9 +0.5
comp=Z,1.2nm,0.7s,baz=54,slow=7.7,SNR=6.8
comp=Z,1.2nm,0.7s
ISA **Isabella, Lake** 42.46 91 P P 15 06 20.7 +1.7
baz=312,SNR=8.7
R11B **Troy Canyon, C** 42.49 85 P P 15 06 21.1 +1.8
R11B IAmb IAmb 15 06 21.9
comp=Z,12nm,0.7s
R11B **Troy Canyon, C** 42.49 85 P P 15 06 21.1 +1.8
baz=309,SNR=38
Q12A **Willow Creek R** 42.52 84 P P 15 06 21.1 +1.6
ARVC **Arvin** 42.60 91 P P 15 06 21.7 +1.7
baz=312
MPMC **Manual Prospec** 42.80 89 P P 15 06 23.7 +1.8
baz=311,SNR=11
SPR3 **Spring Creek 3** 42.84 84 P P 15 06 24.7 +2.4
WCT **Wildcat Mounta** 42.85 88 P P 15 06 23.5 +1.3
SCZ2 **Santa Cruz Isl** 42.87 93 P P 15 06 24.4 +2.2
baz=313
FURC **Furnace Creek,** 42.92 88 P P 15 06 24.5 +2.0
baz=311,SNR=8.8
TPNV **Topopah Spring** 42.98 87 P P 15 06 24.4 +1.2
TPNV IAmb IAmb 15 06 26.3
comp=Z,30nm,0.7s
TPNV **Topopah Spring** 42.98 87 P P 15 06 25.2 +2.0
baz=310,SNR=46
TPNV **Topopah Spring** 42.98 87 P P 15 06 24.4 +1.2
TPNV pmax pmax
comp=Z,30nm,0.7s
OSI **Osito Audit: C** 43.01 92 P P 15 06 25.5 +2.1
baz=312
DUG **Dugway, Tooele** 43.02 81 P P 15 06 23.5 0.0
DUG IAmb IAmb 15 06 26.2
comp=Z,16nm,1.0s
DUG **Dugway, Tooele** 43.02 81 P P 15 06 25.2 +1.6
baz=308,SNR=17
DUG **Dugway, Tooele** 43.02 81 P P 15 06 23.5 0.0
DUG pmax pmax
comp=Z,17nm,1.0s
LRMC **Laurel Mtn Rad** 43.07 90 P P 15 06 25.1 +1.2
baz=312,SNR=6.4
LAO **LASA Array** 43.10 69 P P 15 06 24.8 +0.8
baz=304,SNR=6.0
FCC **Fort Churchill** 43.20 49 P P 15 06 23.7 -0.8
FCC **Fort Churchill** 43.20 49 P P 15 06 23.7 -0.8
FCC pmax pmax
comp=Z,4.0nm,1.2s
EDW2 **Edwards Air Fo** 43.27 91 P P 15 06 26.9 +1.4
baz=312,SNR=7.1
JNU **Nakatsue** 43.35 266 P P 15 06 27.0 +0.9
BW06 **Boulder Array** 43.41 76 P P 15 06 27.8 +1.1
BW06 IAmb IAmb 15 06 28.5
comp=Z,22nm,0.7s
BW06 **Boulder Array** 43.41 76 P P 15 06 27.8 +1.1
baz=306,SNR=34
PD31 **Pinedale Array** 43.42 76 P P 15 06 27.9 +1.1
PD31 IAmb IAmb 15 06 28.5
comp=Z,20nm,0.8s
PDAR **Pinedale Array** 43.42 76 P P 15 06 27.8 +1.0
comp=Z,21nm,0.6s,baz=306,slow=4.1,SNR=114
PDAR ScP **ScP** 15 11 45.7 +0.7
comp=Z,0.5nm,0.8s,baz=259,slow=1.5,SNR=4.2
PRN **Pahroc Range** 43.42 86 P P 15 06 28.8 +2.1
PRN IAmb IAmb 15 06 29.8
comp=Z,23nm,0.8s
SNCC **San Nicolas Is** 43.45 94 P P 15 06 28.4 +1.6
baz=314
DECC **Green Verdugo** 43.49 92 P P 15 06 29.3 +2.1
baz=313
SHOC **Shoshone, Teco** 43.65 89 P P 15 06 30.1 +1.7
baz=311
GSC **Goldstone, Bar** 43.72 90 P P 15 06 31.2 +2.1
GSC IAmb IAmb 15 06 32.1
comp=Z,30nm,1.0s
GSC **Goldstone, Bar** 43.72 90 P P 15 06 31.3 +2.2
baz=312,SNR=25
GSC **Goldstone, Bar** 43.72 90 P P 15 06 31.2 +2.1
GSC pmax pmax
comp=Z,30nm,1.0s
RRX **Edison Barstow** 43.89 90 P P 15 06 31.9 +1.6
baz=312
BFSC **Mount Baldy Ra** 43.91 91 P P 15 06 32.4 +1.7
baz=313,SNR=12
CIS **Catalina Islan** 44.02 93 P P 15 06 33.0 +1.6
baz=313
TUQ **Turquoise Moun** 44.17 89 P P 15 06 34.4 +1.7
baz=312
HEC **Hector,Ludlow** 44.32 90 P P 15 06 35.8 +2.0
baz=312
BBRC **Big Bear Solar** 44.34 91 P P 15 06 35.9 +1.7
baz=313
ELS **Elsinore Mount** 44.45 92 P P 15 06 35.4 +0.5
TMUT **Trail Mountain** 44.55 81 P P 15 06 36.9 +1.0
TMUT IAmb IAmb 15 06 38.5
comp=Z,17nm,0.7s
MURC **Murrieta** 44.63 92 P P 15 06 38.1 +1.9
baz=313
RDMU **Red Mountain** 44.74 79 P P 15 06 37.6 +0.3
RDMU IAmb IAmb 15 06 39.6
comp=Z,18nm,0.8s
NRIK **Noril'sk** 44.75 330 P P 15 06 36.9 +0.2
comp=Z,1.8nm,0.3s,baz=72,slow=9.5,SNR=3.6
comp=Z,1.8nm,0.3s
GMRC **Granite Mounta** 44.77 89 P P 15 06 39.4 +2.0
baz=312,SNR=17
KNB **Kanab** 45.02 85 P P 15 06 40.9 +1.4
KNB **Kanab** 45.02 85 P P 15 06 40.9 +1.4
KNB pmax pmax
comp=Z,11nm,1.0s
PKCU **Pink Cliffs** 45.06 84 P P 15 06 40.8 +0.9
PFO **Pinyon Flats O** 45.07 91 P P 15 06 41.6 +1.7
baz=313,SNR=5.2
PFO **Pinyon Flats O** 45.07 91 P P 15 06 41.5 +1.7
TPFO **Pinon Flats** 45.07 91 P P 15 06 41.9 +2.0
baz=313,SNR=5.7
BELC **Belle Mtn. Jos** 45.09 90 P P 15 06 41.5 +1.6
baz=313,SNR=5.7
109C **Camp Elliot, M** 45.17 92 P P 15 06 41.7 +1.3
baz=314
K22A **Casper** 45.28 74 P P 15 06 41.3 -0.2
K22A IAmb IAmb 15 06 42.6
comp=Z,14nm,0.7s
K22A **Casper** 45.28 74 P P 15 06 41.8 +0.4
baz=307,SNR=7.7
NEE2 **Needles Airpor** 45.41 88 P P 15 06 44.0 +1.6
baz=312
IRM **Iron Mountain** 45.50 89 P P 15 06 45.1 +2.0
baz=313,SNR=14
MONP2 **Monument Peak** 45.58 92 P P 15 06 45.6 +1.6
baz=314
BC3 **Big Chuckawall** 45.65 90 P P 15 06 45.9 +1.5
baz=313,SNR=5.5
U15A **North Rim** 45.73 85 P P 15 06 45.9 +0.7
U15A IAmb IAmb 15 06 48.1
comp=Z,24nm,0.6s
O20A **White River Ci** 45.80 78 P P 15 06 46.4 +0.7
O20A IAmb IAmb 15 06 47.0
comp=Z,21nm,0.6s
O20A **White River Ci** 45.80 78 P P 15 06 46.7 +1.0
baz=309,SNR=19
RSSD **Black Hills** 45.84 71 P P 15 06 46.1 +0.2
RSSD **Black Hills** 45.84 71 P P 15 06 46.1 +0.2
baz=307
RSSD **Black Hills** 45.84 71 P P 15 06 46.1 +0.2
RSSD pmax pmax
comp=Z,8.0nm,0.6s
RSSD **Black Hills** 45.84 71 P P 15 06 45.8 -0.1
RSSD pP **pP** 15 07 26.8 +0.9
SWSC **Sam W. Stewart** 45.92 91 P P 15 06 47.2 +0.8
baz=314
IKP **In-Ko-Pah, Jac** 45.94 92 P P 15 06 47.8 +1.2
baz=314
PDMCI **Parker Dam,Lak** 46.02 89 P P 15 06 48.9 +1.8
baz=313,SNR=7.0
YUH **Yuha Desert** 46.05 92 P P 15 06 48.3 +0.9
PV23 **Carpenter Ridg** 46.41 80 P P 15 06 51.0 +0.6
GLA **Glamis** 46.45 90 P P 15 06 51.9 +1.3
baz=313
N23A **Red Feather La** 46.70 76 P P 15 06 53.5 +0.9
baz=309
ULM **Lac du Bonnet** 46.80 60 P P 15 06 52.1 -0.9
comp=Z,1.1nm,0.4s,baz=305,slow=6.9,SNR=5.6
comp=Z,1.1nm,0.4s
PV01 **Paradox Valley** 46.88 80 P P 15 06 55.2 +1.1
WUAZ **Wupatki** 46.89 85 P P 15 06 53.8 -0.3
WUAZ IAmb IAmb 15 06 56.9
comp=Z,20nm,0.8s
WUAZ **Wupatki** 46.89 85 P P 15 06 56.1 +2.1
baz=312,SNR=18
MVCO **Mesa Verde** 47.52 81 P P 15 06 59.5 +0.4
MVCO **Mesa Verde** 47.52 81 P P 15 07 00.2 +1.2
baz=311,SNR=7.1
ISCO **Idaho Springs** 47.58 77 P P 15 07 00.6 +1.0
ISCO **Idaho Springs** 47.58 77 P P 15 07 00.4 +0.8
baz=310
ISCO **Idaho Springs** 47.58 77 P P 15 07 00.6 +1.0
ISCO pmax pmax
comp=Z,4.0nm,0.7s
ULN **Ulaanbaatar** 48.12 298 *eP* P 15 07 03.6 +0.2
ULN pmax pmax
comp=Z,3.0nm,0.9s
W18A **Petrified Fore** 48.15 84 P P 15 07 05.9 +2.0
baz=312,SNR=8.2

S22A	**4UR Ranch, Cre**	**48.18**	**80**	P	**P**	**15 07 05.8**	**+1.7**
	baz=311							
Q24A	**Divide**	**48.39**	**77**	P	**P**	**15 07 07.0**	**+1.2**
	baz=310							
X18A	**Snowflake**	**48.42**	**85**	P	**P**	**15 07 07.4**	**+1.6**
X18A				IAmb	IAmb	15 07 08.4		
	comp=Z,13nm,0.6s							
214A	**Organ Pipe Nat**	**48.43**	**90**	P	**P**	**15 07 05.8**	**0.0**
214A	**Organ Pipe Nat**	**48.43**	**90**	P	**P**	**15 07 07.6**	**+1.8**
	baz=314,SNR=9.1							
SONM	**Songino Array**	**48.49**	**298**	P	**P**	**15 07 06.8**	**+0.6**
SONM	**Songino Array**	**48.49**	**298**	P	**P**	**15 07 06.8**	**+0.6**
SONM				pmax	pmax			
	comp=Z,2.0nm,1.2s							
SONM	**Songino Array**	**48.49**	**298**	P	**P**	**15 07 06.4**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=53,slow=6.3,SNR=11							
SONM				ScP	**ScP**	**15 12 04.3**	**-1.7**
	comp=Z,1.4nm,0.8s,baz=55,slow=5.6,SNR=6.9							
	comp=Z,1.5nm,0.7s							
SUSD	**Miller**	**48.55**	**68**	P	**P**	**15 07 06.4**	**-0.2**
	baz=308							
OGNE	**Ogallala**	**48.97**	**73**	P	**P**	**15 07 10.9**	**+1.1**
	baz=310							
SDCO	**Great Sand Dun**	**48.97**	**79**	P	**P**	**15 07 11.1**	**+0.9**
SDCO	**Great Sand Dun**	**48.97**	**79**	P	**P**	**15 07 11.9**	**+1.7**
	baz=311,SNR=9.1							
SPITS	**Spitsbergen Ar**	**49.38**	**357**	P	**P**	**15 07 12.8**	**+0.4**
SPITS				pmax	pmax			
	comp=Z,54nm,1.3s							
SPITS	**Spitsbergen Ar**	**49.38**	**357**	P	**P**	**15 07 11.9**	**-0.4**
	comp=Z,15nm,0.9s,baz=51,slow=5.5,SNR=8.5							
	comp=Z,15nm,0.9s							
SPB2	**Spitsbergen Ar**	**49.38**	**357**	P	**P**	**15 07 13.0**	**+0.6**
SPB2				IAmb	IAmb	15 07 40.9		
	comp=Z,54nm,1.2s							
TUC	**Tucson**	**49.42**	**88**	P	**P**	**15 07 14.6**	**+1.2**
TUC	**Tucson**	**49.42**	**88**	P	**P**	**15 07 15.2**	**+1.8**
	baz=314							
TUC	**Tucson**	**49.42**	**88**	P	**P**	**15 07 14.6**	**+1.2**
TUC				pmax	pmax			
	comp=Z,12nm,0.9s							
TUC	**Tucson**	**49.42**	**88**	P	**P**	**15 07 15.2**	**+1.8**
KSCO	**Kaye Shedlock'**	**49.86**	**76**	P	**P**	**15 07 18.2**	**+1.5**
	baz=311							
HHC	**Hu-ho-hao-te**	**49.92**	**288**	*e*P	**P**	**15 07 18.0**	**+0.9**
HHC				pmax	pmax			
	comp=Z,23nm,0.7s							
HHC				pmax	pmax			
	comp=Z,220nm,4.8s							
T25A	**Trinidad**	**50.02**	**79**	P	**P**	**15 07 19.7**	**+1.6**
	baz=312,SNR=14							
ANMO	**Albuquerque**	**50.26**	**82**	P	**P**	**15 07 18.0**	**-1.8**
ANMO	**Albuquerque**	**50.26**	**82**	P	**P**	**15 07 20.3**	**+0.5**
	baz=313							
ANMO	**Albuquerque**	**50.26**	**82**	*e*P	**P**	**15 07 21.5**	**+1.7**
ANMO				pmax	pmax			
	comp=Z,20nm,3.8s							
ECSD	**EROS Data Cent**	**50.31**	**67**	P	**P**	**15 07 18.8**	**-1.1**
	baz=309							
BGNE	**Belgrade**	**50.92**	**70**	P	**P**	**15 07 24.6**	**+0.1**
	baz=310							
BTO	**Baotou**	**50.97**	**288**	*e*P	**P**	**15 07 24.8**	**-0.1**
BTO				pP	**pwP**	**15 08 07.3**	**-2.7**
BTO				sP	**sP**	**15 08 28.8**	**+3.7**
BTO				PP	**PP**	**15 09 23.8**	**+0.9**
BTO				pmax	pmax			
	comp=Z,29nm,0.5s							
BTO				pmax	pmax			
	comp=Z,210nm,8.0s							
121A	**Cookes Peak, D**	**51.10**	**85**	P	**P**	**15 07 27.3**	**+1.2**
	baz=314,SNR=7.2							
NJ2	**Nanjing**	**51.42**	**274**	*e*P	**P**	**15 07 29.0**	**+0.7**
NJ2				pP	**pP**	**15 08 07.0**	**-1.5**
NJ2				sP	**sP**	**15 08 28.8**	**+0.2**
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.5s							
NJ2				pmax	pmax			
	comp=Z,230nm,3.8s							
RTBA	**Rita Blanca**	**51.49**	**78**	P	**P**	**15 07 28.6**	**-0.3**
RTBA				IAmb	IAmb	15 07 30.5		
	comp=Z,11nm,0.8s							
CBKS	**Cedar Bluff**	**51.69**	**74**	P	**P**	**15 07 30.2**	**0.0**
CBKS	**Cedar Bluff**	**51.69**	**74**	P	**P**	**15 07 31.1**	**+0.8**
	baz=311,SNR=11							
CBKS	**Cedar Bluff**	**51.69**	**74**	P	**P**	**15 07 30.2**	**0.0**
CBKS				pmax	pmax			
	comp=Z,54nm,0.7s							
N35A	**Tabor**	**52.72**	**69**	P	**P**	**15 07 37.2**	**-0.5**
MNTX	**Cornudas Mount**	**53.14**	**84**	P	**P**	**15 07 42.7**	**+1.8**
	baz=315,SNR=18							
MSTX	**Muleshoe**	**53.15**	**80**	P	**P**	**15 07 42.4**	**+1.3**
	baz=314							
AMTX	**Amarillo**	**53.18**	**79**	P	**P**	**15 07 41.9**	**+0.7**
AMTX				IAmb	IAmb	15 07 43.3		
	comp=Z,14nm,1.2s							
AMTX	**Amarillo**	**53.18**	**79**	P	**P**	**15 07 41.8**	**+0.6**
	baz=313							
KSU1	**Kansas State U**	**53.33**	**72**	P	**P**	**15 07 41.6**	**-0.6**
	baz=312							
E43A	**Lone Tree Farm**	**53.85**	**59**	P	**P**	**15 07 45.0**	**-0.9**
E43A				IAmb	IAmb	15 08 11.0		
	comp=Z,47nm,1.4s							
425A	**Indio Mountain**	**54.02**	**85**	P	**P**	**15 07 48.1**	**+0.6**
JFWS	**Jewell Farm**	**54.38**	**64**	P	**P**	**15 07 48.4**	**-1.4**
	baz=312							
P38A	**Dawn**	**54.74**	**69**	P	**P**	**15 07 51.5**	**-1.0**
P38A				IAmb	IAmb	15 07 52.3		
	comp=Z,22nm,0.9s							
T35A	**Sooner Cattle**	**54.85**	**73**	P	**P**	**15 07 52.9**	**-0.4**
T35A				IAmb	IAmb	15 07 54.4		
	comp=Z,22nm,1.1s							
MNHN	**Monahans**	**54.98**	**83**	P	**P**	**15 07 54.7**	**+0.4**
MNHN				IAmb	IAmb	15 07 55.9		
	comp=Z,16nm,0.7s							
WMOK	**Wichita Mounta**	**55.01**	**77**	P	**P**	**15 07 55.0**	**+0.6**
WMOK				IAmb	IAmb	15 07 56.0		
	comp=Z,6.5nm,0.7s							
WMOK	**Wichita Mounta**	**55.01**	**77**	P	**P**	**15 07 53.0**	**-1.4**
	baz=314							
WMOK	**Wichita Mounta**	**55.01**	**77**	P	**P**	**15 07 55.0**	**+0.6**
WMOK				pmax	pmax			
	comp=Z,7.0nm,0.7s							
E46A	**Sault Ste Mari**	**55.25**	**57**	P	**P**	**15 07 53.4**	**-2.5**
E46A				IAmb	IAmb	15 08 08.8		
	comp=Z,36nm,1.4s							
SGCY	**Sterling City**	**55.57**	**81**	IAmb	IAmb	15 07 60.0		
	comp=Z,20nm,0.8s							
P40A	**Paris**	**55.65**	**68**	P	**P**	**15 07 58.2**	**-0.7**
TX31	**Lajitas Ar. Si**	**55.86**	**85**	IAmb	IAmb	15 08 02.7		
	comp=Z,10nm,1.1s							
TXAR	**Lajitas Array**	**55.86**	**85**	P	**P**	**15 08 01.5**	**+0.8**
TXAR	**Lajitas Array**	**55.86**	**85**	P	**P**	**15 08 01.7**	**+1.1**
	comp=Z,6.0nm,0.7s,baz=301,slow=4.8,SNR=76							
TXAR				pP	**pP**	**15 08 41.4**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=290,slow=10,SNR=1.7							
TXAR				PcP	**PcP**	**15 08 57.3**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=294,slow=2.6,SNR=7.9							
TXAR				ScP	**ScP**	**15 12 39.2**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=297,slow=2.7,SNR=10							
	comp=Z,6.0nm,0.7s							
ABTX	**Abilene, Hawle**	**55.96**	**79**	IAmb	IAmb	15 08 03.1		
	comp=Z,27nm,1.2s							
ABTX	**Abilene, Hawle**	**55.96**	**79**	P	**P**	**15 08 02.0**	**+0.8**
	baz=315							
TUL3	**Leonard**	**55.97**	**74**	P	**P**	**15 08 00.6**	**-0.6**
	baz=314							
GLMI	**Grayling**	**56.12**	**59**	P	**P**	**15 08 02.8**	**+0.6**
	baz=313							
L44A	**Lake County Fo**	**56.16**	**63**	P	**P**	**15 08 00.5**	**-2.0**
	baz=313							
S39A	**Bolivar**	**56.18**	**71**	IAmb	IAmb	15 08 01.5		
	comp=Z,5.7nm,0.6s							
RLO	**Rose Lookout**	**56.24**	**73**	P	**P**	**15 08 02.3**	**-0.9**
RLO				IAmb	IAmb	15 08 03.4		
	comp=Z,24nm,1.2s							
OZNA	**Ozona**	**56.27**	**82**	IAmb	IAmb	15 08 04.8		
	comp=Z,8.4nm,0.7s							
HDIL	**Hopedale**	**56.50**	**66**	P	**P**	**15 08 03.9**	**-0.9**
	baz=313							
TPUB	**Ta-pu**	**56.66**	**265**	P	**P**	**15 08 05.6**	**-0.6**
HHAR	**Hobbs**	**56.79**	**72**	P	**P**	**15 08 05.0**	**-2.0**
CCM	**Cathedral Cave**	**57.12**	**69**	P	**P**	**15 08 07.4**	**-1.9**
CCM				IAmb	IAmb	15 08 08.7		
	comp=Z,7.5nm,0.7s							
CCM	**Cathedral Cave**	**57.12**	**69**	P	**P**	**15 08 08.2**	**-1.0**
	baz=314							
CCM	**Cathedral Cave**	**57.12**	**69**	P	**P**	**15 08 07.4**	**-1.9**
CCM				pmax	pmax			
	comp=Z,7.0nm,0.7s							
CCM	**Cathedral Cave**	**57.12**	**69**	P	**P**	**15 08 07.8**	**-1.5**
CCM				PcP	**PcP**	**15 09 01.2**	**-0.6**
MGMO	**Mountain Grove**	**57.16**	**70**	P	**P**	**15 08 07.3**	**-2.3**
MGMO				IAmb	IAmb	15 08 08.8		
	comp=Z,12nm,0.7s							
ARCES	**ARCESS Array B**	**57.36**	**352**	P	**P**	**15 08 09.2**	**-1.3**
ARCES				IAmb	IAmb	15 08 18.9		
	comp=Z,20nm,1.3s							
ARCES	**ARCESS Array B**	**57.36**	**352**	P	**P**	**15 08 09.8**	**-0.7**
	comp=Z,2.7nm,0.7s,baz=30,slow=7.5,SNR=1.7							
	comp=Z,2.7nm,0.7s							
JCT	**Junction City**	**57.38**	**81**	P	**P**	**15 08 11.4**	**+0.1**
	baz=316							
SCHQ	**Schefferville**	**57.40**	**41**	P	**P**	**15 08 11.4**	**+0.4**
	comp=Z,1.5nm,0.4s,baz=308,slow=12,SNR=1.4							
	comp=Z,1.5nm,0.4s							
GTA	**Gaotai**	**57.59**	**294**	P	**P**	**15 08 12.3**	**-0.4**
GTA				pP	pwP	15 08 58.3	-0.4	
GTA				pmax	pmax			
	comp=Z,5.0nm,0.5s							
LZH	**Lanzhou**	**57.60**	**288**	*e*P	**P**	**15 08 13.0**	**+0.1**
LZH				sP	sP	15 09 14.8	+1.0	
LZH				pmax	pmax			
	comp=Z,12nm,1.2s							
FVM	**French Village**	**57.63**	**69**	P	**P**	**15 08 12.0**	**-0.9**
FVM	**French Village**	**57.63**	**69**	P	**P**	**15 08 12.0**	**-0.9**
FVM				pmax	pmax			
	comp=Z,15nm,0.6s							
WHTX	**Lake Whitney,**	**57.72**	**78**	P	**P**	**15 08 13.9**	**+0.4**
	baz=315							
SFIN	**Lafayette**	**57.84**	**64**	P	**P**	**15 08 13.5**	**-0.7**
	baz=314							
FCAR	**Ozark Folk Cen**	**58.12**	**71**	P	**P**	**15 08 15.1**	**-1.1**
WHAR	**Wooly Hollow**	**58.44**	**72**	P	**P**	**15 08 17.6**	**-0.9**
WHAR				IAmb	IAmb	15 08 19.1		
	comp=Z,10nm,0.6s							
LCAR	**Lake Charles**	**58.55**	**71**	P	**P**	**15 08 17.9**	**-1.4**
LCAR				IAmb	IAmb	15 08 18.5		
	comp=Z,20nm,1.2s							
X40A	**Basin Creek Fa**	**58.69**	**73**	P	**P**	**15 08 18.9**	**-1.3**
X40A				IAmb	IAmb	15 08 20.9		
	comp=Z,7.1nm,0.7s							
O48B	**Farmland**	**58.99**	**63**	P	**P**	**15 08 21.5**	**-0.7**
	baz=315							
P49A	**Miami Univ. Ec**	**59.73**	**64**	P	**P**	**15 08 26.3**	**-1.1**
	baz=315							
WCI	**Wyandotte Cave**	**59.79**	**66**	P	**P**	**15 08 27.1**	**-0.6**
	baz=315							
KURK	**Kurchatov**	**60.11**	**315**	P	**P**	**15 08 29.1**	**-0.6**
KURK	**Kurchatov**	**60.11**	**315**	*de*P	**P**	**15 08 29.3**	**-0.4**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
HKT	**Hockley**	**60.15**	**79**	*e*P	**P**	**15 08 31.2**	**+1.0**
T47A	**Sharon Grove**	**60.21**	**67**	P	**P**	**15 08 29.6**	**-1.0**
KURBB	**Kurchatov Arra**	**60.22**	**315**	P	**P**	**15 08 30.2**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=42,slow=6.7,SNR=15							
KURBB				pP	**pP**	**15 09 10.9**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=45,slow=6.7,SNR=1.6							
	comp=Z,2.8nm,0.6s							
WVT	**Waverly**	**60.41**	**68**	P	**P**	**15 08 31.7**	**-0.3**
WVT				IAmb	IAmb	15 08 32.6		
	comp=Z,5.8nm,0.7s							
WVT	**Waverly**	**60.41**	**68**	P	**P**	**15 08 32.1**	**+0.1**
	baz=316							
WVT	**Waverly**	**60.41**	**68**	P	**P**	**15 08 31.7**	**-0.3**
WVT				pmax	pmax			
	comp=Z,6.0nm,0.7s							
WVT	**Waverly**	**60.41**	**68**	P	**P**	**15 08 31.4**	**-0.6**
ERPA	**Erie**	**60.43**	**59**	P	**P**	**15 08 32.1**	**+0.1**
	baz=316							
M53A	**WI Miller and**	**60.55**	**59**	P	**P**	**15 08 32.6**	**-0.3**
	baz=316							
OXF	**Oxford**	**60.66**	**71**	P	**P**	**15 08 33.4**	**-0.3**
OXF	**Oxford**	**60.66**	**71**	P	**P**	**15 08 33.7**	**0.0**
	baz=316,SNR=7.4							
OXF	**Oxford**	**60.66**	**71**	P	**P**	**15 08 33.4**	**-0.3**
OXF				pmax	pmax			
	comp=Z,73nm,0.5s							
PLAL	**Pickwick Lake**	**61.09**	**69**	P	**P**	**15 08 35.8**	**-0.8**
PLAL				IAmb	IAmb	15 08 36.8		
	comp=Z,12nm,0.6s							
MK31	**Makanchi Array**	**61.37**	**310**	P	**P**	**15 08 36.5**	**-1.8**
MK31	**Makanchi Array**	**61.37**	**310**	*ce*P	**P**	**15 08 37.4**	**-0.9**
MKAR	**Makanchi Array**	**61.37**	**310**	P	**P**	**15 08 37.5**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=45,slow=6.7,SNR=18							
MKAR				pP	**PcP**	**15 09 18.9**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=34,slow=3.6,SNR=1.9							
	comp=Z,0.6nm,0.4s							
MAKZ	**Makanchi**	**61.50**	**311**	P	**P**	**15 08 38.5**	**-0.7**
L56A	**Greenwood**	**61.67**	**57**	P	**P**	**15 08 40.2**	**-0.2**
BVAR	**Borovoye Array**	**61.69**	**322**	P	**P**	**15 08 40.5**	**+0.2**
	comp=Z,6.0nm,0.5s,baz=52,slow=6.6,SNR=40							
BVAR				pP	**pP**	**15 09 22.5**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=27,slow=4.8,SNR=1.8							
	comp=Z,6.0nm,0.5s							
BRVK	**Borovoye**	**61.70**	**322**	P	**P**	**15 08 39.2**	**-1.2**
BRVK	**Borovoye**	**61.70**	**322**	*e*P	**P**	**15 08 41.1**	**+0.7**
BRVK				pmax	pmax			
	comp=Z,11nm,3.4s							
Z47A	**Carrollton**	**62.38**	**71**	P	**P**	**15 08 44.0**	**-1.2**
BINY	**Binghamton**	**62.42**	**56**	P	**P**	**15 08 45.0**	**-0.4**
	baz=317							
TZTN	**Tazewell**	**62.52**	**65**	P	**P**	**15 08 45.7**	**-0.4**
	baz=317							
FPAL	**Fort Paine**	**62.81**	**68**	P	**P**	**15 08 46.9**	**-1.2**
ARU	**Arti**	**62.98**	**330**	*c*	*i*P	**P**	**15 08 48.1**	**-0.7**
ARU					*PP	**pP**	**15 09 29.1**	**-1.5**
ARU							15 11 05.4	
ARU				S	**S**	**15 17 04.1**	**+0.5**
ARU				SS	**SS**	**15 21 10.9**	**-0.5**
ARU				pmax	pmax			
	comp=Z,14nm,2.1s							
LRAL	**Lakeview Retre**	**63.11**	**70**	P	**P**	**15 08 48.3**	**-1.7**
LRAL				IAmb	IAmb	15 08 51.5		
	comp=Z,9.4nm,0.8s							
LRAL	**Lakeview Retre**	**63.11**	**70**	P	**P**	**15 08 48.9**	**-1.1**
	baz=317							
BRAL	**Brewton**	**64.45**	**72**	P	**P**	**15 08 59.2**	**+0.4**
	baz=318							
KMSC	**Kings Mountain**	**64.77**	**65**	P	**P**	**15 09 00.7**	**-0.1**
	baz=318							
GOGA	**Godfrey**	**64.85**	**68**	P	**P**	**15 09 00.2**	**-1.2**
GOGA				IAmb	IAmb	15 09 01.8		
	comp=Z,8.0nm,0.7s							
GOGA	**Godfrey**	**64.85**	**68**	P	**P**	**15 09 01.0**	**-0.4**
	baz=318							
GOGA	**Godfrey**	**64.85**	**68**	P	**P**	**15 09 00.2**	**-1.2**
GOGA				pmax	pmax			
	comp=Z,8.0nm,0.7s							
HODGE	**Hodges**	**64.92**	**66**	P	**P**	**15 09 00.9**	**-0.9**
FIA1	**FINESS Array S**	**65.19**	**349**	P	**P**	**15 09 02.6**	**-0.4**
FINES	**FINESS Array B**	**65.19**	**349**	P	**P**	**15 09 02.5**	**-0.6**
	comp=Z,3.5nm,0.8s,baz=349,slow=9.8,SNR=7.4							
	comp=Z,3.5nm,0.8s							
JSC	**Jenkinsville**	**65.44**	**65**	P	**P**	**15 09 04.3**	**-0.8**
JSC				IAmb	IAmb	15 09 06.0		
	comp=Z,13nm,0.6s							
JSC	**Jenkinsville**	**65.44**	**65**	P	**P**	**15 09 04.4**	**-0.8**
JSC				pmax	pmax			
	comp=Z,13nm,0.6s							
W57A	**Gilead**	**65.50**	**64**	P	**P**	**15 09 05.3**	**-0.2**
PZH	**PanZhiHua**	**65.75**	**282**	P	**P**	**15 09 07.5**	**+0.1**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.9s							
PZH				pmax	pmax			
	comp=Z,180nm,4.8s							
NC303	**NORSAR Array S**	**66.49**	**357**	P	**P**	**15 09 11.4**	**0.0**
NC303				IAmb	IAmb	15 09 19.9		
	comp=Z,19nm,1.4s							
NB2	**NORSAR Subarra**	**66.68**	**357**	P	**P**	**15 09 12.7**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=4.8,slow=6.9							
NB2				pP	**pwP**	**15 09 59.4**	**-0.5**
	comp=Z,11nm,0.7s,baz=3.6,slow=6.5							
NOA	**NORSAR Array B**	**66.68**	**357**	P	**P**	**15 09 12.8**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=3.6,slow=7.3,SNR=5.3							
	comp=Z,0.5nm,0.5s							
NHSC	**New Hope**	**66.92**	**65**	P	**P**	**15 09 15.2**	**+0.6**
	baz=319							
HFS	**Hagfors**	**67.49**	**356**	P	**P**	**15 09 16.9**	**-0.8**
	comp=Z,2.3nm,0.4s,baz=4.1,slow=2.1,SNR=20							
	comp=Z,2.3nm,0.4s							
AAK	**Ala-Archa**	**68.12**	**312**	P	**P**	**15 09 22.2**	**0.0**
AAK	**Ala-Archa**	**68.12**	**312**	*de*P	**P**	**15 09 22.4**	**+0.2**
AAK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
AAK	**Ala-Archa**	**68.12**	**312**	P	**P**	**15 09 22.7**	**+0.5**
ABKAR	**Akbulak array**	**68.57**	**325**	P	**P**	**15 09 23.6**	**-1.0**
KKAR	**Karatay Array**	**69.52**	**315**	P	**P**	**15 09 29.8**	**-0.8**
KKAR	**Karatay Array**	**69.52**	**315**	P	**P**	**15 09 29.8**	**-0.8**
LSA	**Lhasa**	**69.53**	**292**	P	**P**	**15 09 31.4**	**0.0**
LSA				IAmb	IAmb	15 09 33.2		
	comp=Z,11nm,0.5s							
LSA	**Lhasa**	**69.53**	**292**	P	**P**	**15 09 31.4**	**0.0**
LSA				pmax	pmax			
	comp=Z,11nm,0.5s							
LSA	**Lhasa**	**69.53**	**292**	P	**P**	**15 09 32.5**	**+1.1**
ARSB	**Arslanbob**	**69.85**	**312**	P	**P**	**15 09 33.1**	**+0.3**
ARSB	**Arslanbob**	**69.85**	**312**	P	**P**	**15 09 33.1**	**+0.3**
ARSB				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KSH	**Kashi**	**69.90**	**309**	P	**P**	**15 09 37.0**	**+3.9**
KSH				pmax	pmax			
	comp=Z,8.0nm,0.5s							
CRAI	**Chiangrai**	**71.30**	**279**	P	**P**	**15 09 41.4**	**-0.3**
CRAI				IAmb	IAmb	15 09 42.9		
	comp=Z,7.4nm,0.7s							
UBPT	**Khong Chiam**	**71.99**	**272**	P	**P**	**15 09 45.9**	**0.0**
UBPT				IAmb	IAmb	15 09 59.4		
	comp=Z,21nm,1.3s							
EKA	**Eskdalemuir Ar**	**72.25**	**5**	P	**P**	**15 09 46.4**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=352,slow=5.1,SNR=3.6							
	comp=Z,0.7nm,0.5s							
TAPN	**Taplejung**	**73.27**	**293**	*e*P	**P**	**15 09 53.6**	**0.0**
	comp=Z,14nm,0.6s							
CM31	**Chiang Mai Arr**	**73.52**	**279**	P	**P**	**15 09 54.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**73.52**	**279**	P	**P**	**15 09 54.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**73.52**	**279**	P	**P**	**15 09 55.3**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=24,slow=6.9,SNR=23							
	comp=Z,2.5nm,0.7s							
GUN	**Gumba**	**73.85**	**295**	*e*P	**P**	**15 09 57.0**	**-0.1**
	comp=Z,14nm,0.5s							
JIRN	**Jiri**	**73.88**	**294**	*e*P	**P**	**15 09 57.4**	**+0.1**
RAMN	**Ramite**	**74.20**	**294**	*e*P	**P**	**15 09 59.1**	**+0.1**
PKI	**Pulchoki**	**74.38**	**295**	*e*P	**P**	**15 09 59.7**	**-0.4**
GKN	**Gorkha**	**74.47**	**296**	*e*P	**P**	**15 10 00.0**	**-0.4**
	comp=Z,11nm,0.4s							
DMN	**Daman**	**74.52**	**295**	*e*P	**P**	**15 10 00.1**	**-0.7**
DANN	**Dangsing**	**74.68**	**297**	*e*P	**P**	**15 10 01.6**	**-0.2**
	comp=Z,27nm,0.6s							
AKASG	**Malin Array Be**	**75.20**	**345**	*i* P	**P**	**15 10 03.0**	**-1.0**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**75.20**	**345**	P	**P**	**15 10 03.1**	**-0.9**
	comp=Z,1.5nm,0.4s,baz=17,slow=5.8,SNR=7.6							
AKASG				pP	**pP**	**15 10 49.2**	**+1.9**
	comp=Z,1.2nm,0.6s,baz=19,slow=5.2,SNR=2.6							
	comp=Z,1.5nm,0.4s							
AKBB	**Malin Array Si**	**75.20**	**345**	P	**P**	**15 10 03.1**	**-0.9**
AKBB	**Malin Array Si**	**75.20**	**345**	P	**P**	**15 10 03.1**	**-0.9**
AKBB				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KIEV	**Kiev**	**75.21**	**345**	P	**P**	**15 10 03.0**	**-1.0**
KIEV	**Kiev**	**75.21**	**345**	P	**P**	**15 10 03.1**	**-1.0**
KIEV				pmax	pmax			
	comp=Z,10.0nm,1.5s							
PYUN	**Piuthan**	**75.29**	**297**	*e*P	**P**	**15 10 04.9**	**-0.3**
	comp=Z,11nm,0.5s							
DPC	**Dobruska-Polom**	**77.08**	**353**	*e*P	**P**	**15 10 14.3**	**-0.4**
DPC	**Dobruska-Polom**	**77.08**	**353**	*e*P	**P**	**15 10 14.3**	**-0.4**
KHC	**Kasperske Hory**	**78.47**	**355**	*e*P	**P**	**15 10 22.8**	**+0.4**
KHC	**Kasperske Hory**	**78.47**	**355**	*e*P	**P**	**15 10 22.8**	**+0.4**
GERES	**GERESS Array B**	**78.75**	**355**	P	**P**	**15 10 23.5**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=359,slow=6.9,SNR=4.8							
	comp=Z,0.6nm,0.6s							
BUR08	**Bucovina Ar. S**	**78.79**	**347**	P	**P**	**15 10 22.7**	**-1.5**
BURAR	**Bucovina Array**	**78.81**	**347**	P	**P**	**15 10 23.6**	**-0.8**
CTAO	**Charters Tower**	**79.98**	**217**	P	**P**	**15 10 31.6**	**+0.9**
CTAO				IAmb	IAmb	15 10 32.9		
	comp=Z,12nm,1.1s							
CTAO	**Charters Tower**	**79.98**	**217**	P	**P**	**15 10 31.6**	**+0.9**
CTAO				pmax	pmax			
	comp=Z,12nm,1.2s							
MTN	**Manton Dam**	**80.10**	**234**	P	**P**	**15 10 32.0**	**+0.5**
MTN				IAmb	IAmb	15 10 33.0		
	comp=Z,8.7nm,0.7s							
WB0	**Warramunga Arr**	**84.56**	**227**	P	**P**	**15 10 54.8**	**+0.2**
WR0	**Warramunga Arr**	**84.67**	**227**	P	**P**	**15 10 55.0**	**0.0**
WRAB	**Tennant Creek**	**84.73**	**227**	P	**P**	**15 10 55.3**	**-0.1**
WRAB	**Tennant Creek**	**84.73**	**227**	P	**P**	**15 10 55.3**	**-0.1**
WRAB				pmax	pmax			
	comp=Z,6.0nm,1.1s							
WRA	**Warramunga Arr**	**84.74**	**227**	P	**P**	**15 10 54.9**	**-0.5**
WRA	**Warramunga Arr**	**84.74**	**227**	P	**P**	**15 10 55.7**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=33,

ASHO	**Ashiyiah**	**2.03**	**219**	P	**Pb**	**15 02 15.7**	**-0.1**
ASHO	**Ashiyiah**	**2.03**	**219**	P	**Pg**	**15 02 17.3**	**+0.3**
	SNR=25						
ASHO				S	**Sg**	**15 02 44.0**	**+0.6**
ASHO	**Ashiyiah**	**2.03**	**219**	Pn	**Pg**	**15 02 17.8**	**+0.8**
NAZ	**Nazwa, Dubai**	**2.07**	**232**	P	**Pb**	**15 02 16.2**	**-0.1**
NAZ	**Nazwa, Dubai**	**2.07**	**232**	Pn	**Pb**	**15 02 16.7**	**+0.4**
FAQ	**Al Faqa, Dubai**	**2.28**	**228**	P	**Pb**	**15 02 19.9**	**0.0**
SOHO	**SOHO**	**2.30**	**201**	P	**Pb**	**15 02 18.5**	**-1.8**
SOHO				S	**Sb**	**15 02 48.1**	**-1.0**
ASUD	**Al Ashush, Dub**	**2.53**	**230**	P	**Pb**	**15 02 23.6**	**-0.6**
	SNR=16						
ASUD	**Al Ashush, Dub**	**2.53**	**230**	Pn	**Pb**	**15 02 23.7**	**-0.6**
ALNE	**Al Ain**	**2.70**	**215**	P	**Pb**	**15 02 25.9**	**-1.2**
ALNE				S	**Sb**	**15 02 59.0**	**-1.8**
ALNE	**Al Ain**	**2.70**	**215**	Pn	**Pg**	**15 02 28.5**	**-1.4**
BIDO	**Bidbid**	**2.82**	**167**	P	**Pb**	**15 02 26.3**	**-2.8**
BIDO				S	**Sb**	**15 03 02.8**	**-1.4**
KBAM	**BAM**	**2.97**	**17**	Pn	**Pn**	**15 02 27.7**	**+1.4**
ARQ	**Araqi**	**3.06**	**196**	P	**Pb**	**15 02 31.4**	**-1.8**
	SNR=7.1						
ARQ				S	**Sb**	**15 03 08.7**	**-2.3**
WSAR	**Wadi Sarin**	**3.22**	**160**	P	**Pn**	**15 02 32.1**	**+2.5**
NGRK	**Negar Kerman**	**3.40**	**349**	Pn	**Pn**	**15 02 33.4**	**+0.8**
BSY	**Bisya**	**3.54**	**184**	P	**Pb**	**15 02 37.8**	**-3.5**
CHMN	**Cheshme madani**	**3.56**	**1**	Pn	**Pn**	**15 02 35.7**	**+1.0**
WBK	**Wadi Bani Khal**	**3.91**	**159**	P	**Pn**	**15 02 41.9**	**+2.7**
SHMA	**Al-Shehemyia**	**5.85**	**267**	P	**Pn**	**15 03 07.4**	**+1.6**
	SNR=7.7						

*TEH **28** 15:12:58.8,34˚.56N×45˚.77E,h14km±25km,ML2.5*
*ISN **28** 15:13:00.9±1.9,34˚.51N×45˚.79E, h25km, ML2.5*
ISC 28 15:12:59.3±1.5,**34˚.6N**±0˚.1×**45˚.78E**±0˚.06,**h9**km±12km,**n8, s**1°**02**/10,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.17**	**252**	Pg		**Pg**	**15 13 02.9**	**0.0**
IDHR	**Dehrash**	**0.52**	**74**	Pg		**Pg**	**15 13 09.4**	**-0.1**
IGHG	**Ghaleghazi**	**0.69**	**109**	Pg		**Pg**	**15 13 12.1**	**-0.6**
IGHG				Sg		**Sg**	**15 13 23.1**	**+1.3**
ILIN	**Lien**	**1.04**	**69**	Pg		**Pg**	**15 13 18.9**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.08**	**105**	Pg		**Pb**	**15 13 19.1**	**-1.2**
IBDR	**Badra**	**1.45**	**175**	*e*Pg		**Pn**	**15 13 25.0**	**-0.7**
	baz=355							
IBDR				*e*Sg		**Sn**	**15 13 46.0**	**+1.2**
IKOM	**Komasi**	**1.48**	**104**	Pg		**Pn**	**15 13 26.6**	**+0.3**
HSAM	**Samen**	**2.36**	**98**	Pn		**Pn**	**15 13 39.3**	**+0.8**

IDC 28 15:27:11.5±3.6,**49˚.33S**×**115˚.47E,h0**km**,mb3.6/2, mbtmp3.6/2,MS3.4/7,Error ellipse: s-maj=201.9km s-min=70.8km az=121.0,Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**14.46**	**356**	T		T	15 46 04.0	
	baz=179,slow=74,SNR=22							
H01W1	**Cape Leeuwin H**	**14.46**	**356**	T		T	15 46 04.1	
	baz=179,slow=74,SNR=33							
H01W3	**Cape Leeuwin H**	**14.47**	**356**	T		T	15 46 04.8	
	baz=179,slow=74,SNR=25							
NWAO	**Narrogin (SRO)**	**16.45**	**5**	LR		LR	15 36 03.0	
	comp=Z,85nm,20.8s,baz=350,slow=32							
ASAR	**Alice Springs**	**29.43**	**36**	P		P	15 33 16.9	0.0
	0.4nm,0.8s,baz=207,slow=8.9,SNR=5.7 0.4nm,0.8s							
WRA	**Warramunga Arr**	**32.99**	**34**	P		P	15 33 48.0	-0.1
	0.8nm,0.7s,baz=203,slow=8.8,SNR=5.1 0.8nm,0.7s							
VNDA	**Vanda**	**33.24**	**163**	LR		LR	15 46 09.2	
	comp=Z,49nm,19.1s,baz=285,slow=34							
CTA	**Charters Tower**	**38.14**	**51**	LR		LR	15 49 58.5	
	comp=Z,29nm,18.2s,baz=258,slow=36							
QSPA	**South Pole Qui**	**40.79**	**180**	LR		LR	15 50 45.2	
	comp=Z,54nm,18.6s,baz=303,slow=35							
KAPI	**Kappang**	**44.31**	**6**	LR		LR	15 54 27.6	
	comp=Z,95nm,18.1s,baz=196,slow=37							
H08S2	**Diego Garcia H**	**54.95**	**304**	T		T	16 35 30.5	
	baz=150							
H08S1	**Diego Carcia H**	**54.95**	**304**	T		T	16 35 28.3	
	baz=150							
H08S3	**Diego Garcia H**	**54.97**	**304**	T		T	16 35 27.6	
	baz=150,SNR=5.0							
LBTB	**Lobatse**	**71.38**	**253**	LR		LR	16 05 29.1	
	comp=Z,35nm,18.5s,baz=136,slow=32							
JHJ	**Hachijo jima 2**	**84.89**	**20**	LR		LR	16 15 46.3	
	comp=Z,34nm,20.9s,baz=170,slow=34							
YKA	**Yellowknife Ar**	**149.86**	**45**	PKPbc		PKPbc	15 47 01.8	-0.4
	0.4nm,0.8s,baz=286,slow=2.1,SNR=5.1							

*KRSC **28** 15:38:07.6±1.1,56˚.24N×163˚.53E,h16km±8km,Ml4.0*
*IDC **28** 15:38:13.7±4.2,56˚.19N×163˚.17E,h56km±41km,mb2.9/7, mbtmp3.2/8,ML2.1/1, Error ellipse: s-maj=29.2km s-min=23.1km az=141.0*
ISC 28 15:38:07.7±1.4,**56˚.39N**±0˚.04×**163˚.46E**±0˚.04,**h11**km±9km, **n37,** σ1°**34**/46,**mb3.4/7,Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.40**	**243**	*e*P		**Pg**	**15 38 15.4**	**-0.2**
KBG	**Krutoberegovo**	**0.44**	**252**	*e*P		**Pb**	**15 38 16.5**	**-1.0**
KBG				*e*S		**Sg**	**15 38 22.2**	**+0.1**
SMKR	**Semkarok**	**1.12**	**281**	*e*P		**Pn**	**15 38 29.9**	**+0.5**
SMKR				*e*S		**Sn**	**15 38 45.3**	**+0.5**
SRKR	**Sorokina**	**1.30**	**283**	*e*P		**Pg**	**15 38 33.1**	**+0.5**
SRKR				*e*S		**Sg**	**15 38 50.4**	**+1.0**
ZLN	**Zelenaya**	**1.53**	**257**	*e*P		**Pb**	**15 38 35.8**	**-0.3**
KLY	**Klyuchi**	**1.56**	**268**	*e*P		**Pn**	**15 38 34.3**	**-1.1**
KLY				*e*S		**Sn**	**15 38 53.2**	**-2.4**
BZP	**Bezymyannyi-Pe**	**1.70**	**255**	*e*P		**Pb**	**15 38 38.1**	**-1.0**
BZP				*e*S		**Sb**	**15 38 59.6**	**-1.0**
BZWR	**Bezymyannyi-We**	**1.71**	**257**	*e*P		**Pb**	**15 38 38.6**	**-0.6**
BZWR				*e*S		**Sb**	**15 39 00.5**	**-0.3**
BZMR	**Bezymyannaya**	**1.72**	**256**	*e*P		**Pb**	**15 38 38.7**	**-0.7**
BZMR				*e*S		**Sb**	**15 39 00.7**	**-0.4**
KIRR	**Kirishev**	**1.80**	**257**	*e*P		**Pb**	**15 38 39.8**	**-0.9**
KIRR				*e*S		**Sb**	**15 39 02.1**	**-1.2**
BKI	**Bering**	**1.85**	**129**	*e*P		**Pn**	**15 38 39.0**	**-0.3**
BKI				*e*S		**Sn**	**15 39 01.4**	**-1.3**
KPT	**Kopyto**	**1.86**	**258**	*e*P		**Pb**	**15 38 41.0**	**-0.8**
KPT				*e*S		**Sb**	**15 39 04.4**	**-0.6**
KMNR	**Kamenistaya**	**1.92**	**252**	*e*P		**Pb**	**15 38 41.4**	**-1.3**
KMNR				*e*S		**Sb**	**15 39 06.0**	**-0.6**
KOZ	**Kozyrevsk**	**2.03**	**262**	*e*P		**Pb**	**15 38 43.7**	**-0.9**
KOZ				*e*S		**Sb**	**15 39 09.5**	**-0.3**
SRDR	**Sredinnyy**	**2.08**	**270**	*e*P		**Pb**	**15 38 44.7**	**-0.8**
SRDR				*e*S		**Sb**	**15 39 10.2**	**-1.2**
TUMR	**Tumrok**	**2.17**	**241**	*e*P		**Pn**	**15 38 44.6**	**+0.7**
ESO	**Esso**	**2.70**	**262**	*e*P		**Pb**	**15 38 54.4**	**-1.6**
ESO				*e*S		**Sb**	**15 39 27.5**	**-1.7**
OSSR	**Ossora**	**2.88**	**356**	*e*P		**Pb**	**15 38 57.3**	**-1.6**
OSSR				*e*S		**Sb**	**15 39 31.7**	**-2.4**
TIGL	**Tigil**	**2.95**	**300**	*e*P		**Pb**	**15 39 00.5**	**+0.1**
AVH	**Avacha**	**4.15**	**223**	*e*P		**Pn**	**15 39 13.5**	**+2.4**
PET	**Petropavlovsk**	**4.38**	**222**	*e*P		**Pn**	**15 39 14.7**	**+0.7**
PET				*e*S		**Sn**	**15 40 04.7**	**-0.3**
PETK	**Petropavlovsk-**	**4.68**	**228**	P		**Pn**	**15 39 18.6**	**+0.3**
	0.5nm,0.3s,baz=59,slow=16,SNR=1.7 2.2nm,0.6s							
ASAK	**Asacha**	**5.16**	**221**	*e*P		**Pn**	**15 39 26.1**	**+1.2**
KMSK	**Kamenskaya**	**6.25**	**12**	*e*P		Pn	15 39 45.4	+5.7
TIXI	**Tiksi**	**21.04**	**330**	P		**P**	**15 42 55.0**	**+3.8**
	0.1nm,0.5s,baz=107,slow=6.3,SNR=7.8 0.1nm,0.5s							
ILAR	**Eielson Array**	**25.15**	**50**	P		**P**	**15 43 34.0**	**+1.5**
	0.4nm,0.8s,baz=264,slow=8.4,SNR=2.5 0.4nm,0.8s							
MJAR	**Matsushiro Arr**	**26.13**	**231**	P		**P**	**15 43 39.0**	**-2.6**
	0.8nm,0.7s,baz=22,slow=14,SNR=1.5 0.8nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**36.70**	**175**	T		T	16 23 58.7	
	baz=357,slow=76,SNR=1567							
H11N3	**WAKE ISLAND Hy**	**36.71**	**175**	T		T	16 23 59.7	
	baz=357,slow=76,SNR=1351							
H11N1	**WAKE ISLAND Hy**	**36.71**	**175**	T		T	16 23 59.7	
	baz=357,slow=76,SNR=1618							
H11S1	**WAKE ISLAND Hy**	**37.90**	**175**	T		T	16 25 30.1	
	baz=354							
H11S3	**WAKE ISLAND Hy**	**37.91**	**175**	T		T	16 25 28.3	
	baz=354							
H11S2	**WAKE ISLAND Hy**	**37.92**	**175**	T		T	16 25 33.3	
	baz=354							
KURBB	**Kurchatov Arra**	**47.78**	**301**	P		**P**	**15 46 44.3**	**-0.2**
	0.3nm,0.4s,baz=57,slow=8.0,SNR=2.0 0.3nm,0.4s							
MKAR	**Makanchi Array**	**48.51**	**295**	P		**P**	**15 46 49.2**	**-1.1**
	0.4nm,0.7s,baz=58,slow=7.1,SNR=7.5 0.4nm,0.7s							
TXAR	**Lajitas Array**	**67.62**	**71**	P		**P**	**15 49 06.6**	**+2.1**
	0.1nm,0.6s,baz=278,slow=6.3,SNR=1.8 0.1nm,0.6s							
ASAR	**Alice Springs**	**83.58**	**207**	P		**P**	**15 50 35.2**	**-0.4**
	0.2nm,0.8s,baz=16,slow=5.0,SNR=4.4 0.2nm,0.8s							

*IDC **28** 15:48:13.9±2.6,14˚.95N×146˚.06E,h103km±24km, mb3.6/11,mbtmp4.0/11,Error ellipse: s-maj=26.4km s-min=19.4km az=88.0*
*NEIC **28** 15:48:15.0±1.5,14˚.97N±0˚.07×145˚.9E±0˚.1,h104km±5km, mb4.3/22,Error ellipse: s-maj=17.6km s-min=9.6km az=105.0*
ISC 28 15:48:14.1±0.6,**14˚.98N**±0˚.08×**145˚.9E**±0˚.1,**h100**km,**n46, s**0°**80**/42,**mb4.2/23,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**1.72**	**217**			**Pn**	**15 48 43.5**	**+0.3**
GUMO				Sn		**Sn**	**15 49 04.8**	**-0.4**
GUMO	**Guam**	**1.72**	**217**	P		**Pn**	**15 48 43.7**	**+0.6**
	304nm,0.3s,baz=3.7,slow=3.9,SNR=72							
GUMO				S		**Sn**	**15 49 04.6**	**-0.6**
	978nm,0.3s,baz=170,slow=23,SNR=35							
PATS	**Pohnpei**	**14.60**	**122**	Pn		**Pn**	**15 51 35.8**	**-0.1**
H11S3	**WAKE ISLAND Hy**	**20.19**	**77**	T		T	16 14 08.1	
	baz=263,slow=75,SNR=22							
H11S1	**WAKE ISLAND Hy**	**20.20**	**77**	T		T	16 13 52.3	
	baz=263,slow=75,SNR=15							
H11S2	**WAKE ISLAND Hy**	**20.20**	**77**	T		T	16 14 02.8	
	baz=263,slow=75,SNR=17							
H11N1	**WAKE ISLAND Hy**	**20.55**	**74**	T		T	16 13 51.7	
	baz=263,slow=75,SNR=20							
H11N2	**WAKE ISLAND Hy**	**20.56**	**74**	T		T	16 13 52.5	
	baz=263,slow=75,SNR=13							
H11N3	**WAKE ISLAND Hy**	**20.57**	**74**	T		T	16 13 53.2	
	baz=263,slow=75,SNR=14							
JNU	**Nakatsue**	**22.64**	**326**	P		**P**	**15 53 06.7**	**-0.2**
JNU				IAmb		IAmb	15 53 08.6	
	comp=Z,29nm,1.5s							
KSRS	**Korea Array**	**27.50**	**328**	P		**P**	**15 53 50.5**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=142,slow=9.1,SNR=10 comp=Z,1.7nm,0.6s							
WR0	**Warramunga Arr**	**36.48**	**198**	P		**P**	**15 55 09.0**	**-0.8**
WR0				IAmb		IAmb	15 55 42.5	
	comp=Z,5.5nm,1.2s							
WRAB	**Tennant Creek**	**36.51**	**198**	P		**P**	**15 55 10.1**	**+0.1**
WRAB				IAmb		IAmb	15 55 38.7	
	comp=Z,6.7nm,1.4s							
WRA	**Warramunga Arr**	**36.53**	**199**	P		**P**	**15 55 09.4**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=18,slow=8.9,SNR=2.6 comp=Z,0.3nm,0.6s							
AS31	**Alice Springs**	**40.17**	**197**	P		**P**	**15 55 41.7**	**+1.0**
ASAR	**Alice Springs**	**40.17**	**197**	P		**P**	**15 55 42.2**	**+1.5**
ASAR	**Alice Springs**	**40.17**	**197**	P		**P**	**15 55 39.8**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=11,slow=13,SNR=5.3 comp=Z,0.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**45.03**	**281**	P		**P**	**15 56 21.2**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=81,slow=6.0,SNR=14 comp=Z,1.9nm,0.8s							
ULN	**Ulaanbaatar**	**45.85**	**324**	P		**P**	**15 56 26.8**	**+0.4**
ULN				IAmb		IAmb	15 56 28.4	
	comp=Z,6.1nm,1.5s							
SONM	**Songino Array**	**46.21**	**324**	P		**P**	**15 56 28.7**	**-0.5**
SONM	**Songino Array**	**46.21**	**324**	P		**P**	**15 56 29.8**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=132,slow=6.7,SNR=6.1 comp=Z,1.4nm,0.8s							
ZALV	**Zalesovo Beam**	**61.10**	**324**	P		**P**	**15 58 17.6**	**0.0**
	comp=Z,0.5nm,0.4s,baz=81,slow=9.2,SNR=3.8 comp=Z,0.5nm,0.4s							
MK31	**Makanchi Array**	**61.21**	**315**	P		**P**	**15 58 19.2**	**+0.6**
MK31				IAmb		IAmb	15 58 19.8	
	comp=Z,2.5nm,1.1s							
MKAR	**Makanchi Array**	**61.21**	**315**	P		**P**	**15 58 19.1**	**+0.6**
	comp=Z,11nm,0.3s,baz=90,slow=9.0,SNR=8.8							
MAKZ	**Makanchi**	**61.43**	**315**	P		**P**	**15 58 20.5**	**+0.5**
H17K	**Granite Mounta**	**61.74**	**23**	P		**P**	**15 58 22.6**	**+0.8**
SVW2	**Sparrevohn**	**61.97**	**28**	P		**P**	**15 58 22.2**	**-1.2**
H18K	**Honhosa River**	**62.43**	**23**	P		**P**	**15 58 26.7**	**+0.3**
CNPM	**China Poot**	**63.52**	**30**	P		**P**	**15 58 33.8**	**+0.1**
J20K	**Nowinta River**	**63.70**	**25**	P		**P**	**15 58 35.7**	**+1.0**
J20K				IAmb		IAmb	15 58 39.1	
	comp=Z,4.5nm,1.4s							
KURK	**Kurchatov**	**64.19**	**319**	P		**P**	**15 58 38.1**	**-0.1**
KURK				IAmb		IAmb	15 58 39.1	
	comp=Z,4.1nm,0.9s							
KURBB	**Kurchatov Arra**	**64.24**	**319**	P		**P**	**15 58 38.5**	**+0.1**
	comp=Z,3.8nm,0.6s,baz=99,slow=6.8,SNR=33 comp=Z,3.8nm,0.6s							
IMAR	**Indian Mountai**	**64.52**	**23**	P		**P**	**15 58 40.9**	**+0.8**
MLY	**Manley**	**65.38**	**25**	P		**P**	**15 58 46.3**	**+0.6**
MLY				IAmb		IAmb	15 58 51.0	
	comp=Z,4.9nm,1.4s							
B22K	**Teshekpuk Lake**	**66.30**	**19**	P		**P**	**15 58 52.1**	**+0.7**
B22K				IAmb		IAmb	15 59 19.9	
	comp=Z,4.6nm,1.3s							
ILAR	**Eielson Array**	**66.88**	**25**	P		**P**	**15 58 54.5**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=252,slow=5.8,SNR=37 comp=Z,0.8nm,0.4s							
J25K	**Salcha River,**	**67.48**	**26**	P		**P**	**15 58 58.9**	**-0.2**
BMAR	**Burnt Mountain**	**68.43**	**23**	P		**P**	**15 59 06.2**	**+1.2**
BVAR	**Borovoye Array**	**69.48**	**321**	P		**P**	**15 59 11.9**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=101,slow=7.0,SNR=12 comp=Z,1.8nm,0.5s							
I28M	**Miner Creek**	**69.90**	**25**	P		**P**	**15 59 14.5**	**+0.4**
L29M	**L29M**	**70.40**	**28**	P		**P**	**15 59 18.2**	**+1.0**
L29M				IAmb		IAmb	15 59 43.3	
	comp=Z,5.8nm,1.4s							
P32M	**Atlin**	**72.33**	**32**	P		**P**	**15 59 30.1**	**+1.1**
P32M				IAmb		IAmb	15 59 36.7	
	comp=Z,7.8nm,1.2s							
ABKAR	**Akbulak array**	**76.20**	**318**	P		**P**	**15 59 50.9**	**-0.6**
ABKAR	**Akbulak array**	**76.20**	**318**	P		**P**	**15 59 50.9**	**-0.6**
ABKAR				IAmb		IAmb	15 59 54.4	
	comp=Z,1.7nm,1.1s							
YKA	**Yellowknife Ar**	**81.16**	**28**	P		**P**	**16 00 18.7**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=289,slow=5.7,SNR=7.2 comp=Z,0.6nm,0.7s							
FINES	**FINESS Array B**	**90.33**	**335**	P		**P**	**16 01 01.5**	**-2.2**
	comp=Z,0.7nm,0.4s,baz=95,slow=6.5,SNR=6.7 comp=Z,0.7nm,0.4s							

*CATAC **28** 15:52:53.9±0.5,9˚.56N×84˚.83W,h15km±4km,ML3.7*
*UCR **28** 15:52:54.8±1.0,9˚.53N×84˚.87W,h22km±1km,MW3.8*
ISC 28 15:52:54.3±1.0,**9˚.51N**±0˚.04×**84˚.84W**±0˚.02,**h19**km±2km, **n95,** σ0°**45**/123,**4C-10D,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JACO	**JACO, Garabito**	**0.24**	**50**	*e*P		**Pb**	**15 53 00.1**	**+0.3**
JACO				*e*S		**Sg**	**15 53 04.6**	**+0.9**
JACO	**JACO, Garabito**	**0.24**	**50**	*i* P		**Pb**	**15 52 59.7**	**-0.1**
JACO				*i* S		**Sb**	**15 53 03.7**	**+0.4**
JACO				IAML			15 53 04.8	
	comp=Z,15μm,1.0s							
CBL1	**Cabuya**	**0.26**	**288**	*e*P		**Pb**	**15 53 00.4**	**+0.2**
CBL1				*e*S		**Sg**	**15 53 05.4**	**+1.1**
ARZA	**Esparza**	**0.51**	**20**	*e*P		**Pg**	**15 53 05.3**	**+0.6**
TRB2	**Turrubares**	**0.56**	**44**	*e*P		**Pb**	**15 53 05.2**	**-0.3**
SVQ2	**Quepos**	**0.67**	**96**	*e*P		**Pg**	**15 53 08.1**	**+0.4**
SRA1	**San Ramn**	**0.68**	**32**	*e*P		**Pb**	**15 53 07.2**	**-0.4**
RAMO	**San Ramon**	**0.68**	**33**	*e*P		**Pg**	**15 53 08.4**	**+0.5**
POPE	**POPE, Guanacas**	**0.69**	**323**	*e*P		**Pb**	**15 53 07.2**	**-0.5**
POPE	**POPE, Guanacas**	**0.69**	**323**	*i* S		**Sb**	**15 53 17.1**	**+0.2**
ACOS	**Acosta**	**0.73**	**67**	*e*P		**Pb**	**15 53 08.1**	**-0.4**
LLNJ	**Naranjito**	**0.73**	**93**	*e*P		**Pg**	**15 53 08.9**	**+0.2**
LLNJ				*e*P		**Pg**	**15 53 09.0**	**+0.2**
INDI	**Punta indio, G**	**0.74**	**299**	*e*P		**Pb**	**15 53 08.2**	**-0.5**
INDI	**Punta indio, G**	**0.74**	**299**	*i* P		**Pb**	**15 53 08.6**	**0.0**
INDI				*i* S		**Sb**	**15 53 18.5**	**+0.1**
INDI				IAML			15 53 21.6	
	comp=Z,2μm,1.0s							
TCS1	**Tacares**	**0.75**	**45**	*e*P		**Pb**	**15 53 09.1**	**+0.1**
TCS1	**Tacares**	**0.75**	**45**	*i* P		**Pb**	**15 53 09.0**	**+0.1**
TCS1				IAML			15 53 27.0	
	comp=Z,19μm,1.0s							
CMARA	**Lajas Hojancha**	**0.77**	**312**	*e*P		**Pb**	**15 53 08.6**	**-0.5**
SANTA	**Santa Ana**	**0.77**	**57**	*e*P		**Pb**	**15 53 09.0**	**-0.3**
JUNT	**Juntas**	**0.78**	**352**	*e*P		**Pb**	**15 53 08.5**	**-0.7**
JTS	**Las Juntas de**	**0.79**	**352**	*e*P		**Pb**	**15 53 08.6**	**-0.8**
BELE	**Belen**	**0.80**	**54**	*e*P		**Pg**	**15 53 10.3**	**+0.4**
ABE2	**San Pablo**	**0.80**	**76**	*e*P		**Pb**	**15 53 09.6**	**-0.2**
LCR2	**La Lucha 2**	**0.86**	**74**	*e*P		**Pb**	**15 53 10.2**	**-0.6**
AMPA	**Desamparados**	**0.86**	**63**	*e*P		**Pb**	**15 53 10.8**	**0.0**
NICO	**Nicoya**	**0.86**	**316**	*e*P		**Pb**	**15 53 10.5**	**-0.2**
LUJA	**Lujan**	**0.87**	**61**	*e*P		**Pg**	**15 53 11.6**	**+0.3**
HDC	**Heredia**	**0.87**	**56**	*e*P		**Pb**	**15 53 10.8**	**-0.1**
HDC3	**Heredia 3**	**0.87**	**56**	*e*P		**Pb**	**15 53 10.9**	**-0.1**
HDC3	**Heredia 3**	**0.87**	**56**	*i* P		**Pb**	**15 53 10.6**	**-0.4**
HDC3				IAML			15 53 16.5	
	comp=Z,2μm,1.0s							
HDC3				*i* S		**Sb**	**15 53 21.1**	**-1.2**
TBLN	**Tablon, Guarco**	**0.89**	**69**	*i* P		**Pb**	**15 53 10.7**	**-0.6**
TBLN				*i* S		**Sb**	**15 53 22.8**	**-0.1**
TBLN				IAML			15 53 25.5	
	comp=Z,4μm,1.0s							
CPMI	**Catarata Coope**	**0.89**	**31**	*e*P		**Pb**	**15 53 11.1**	**-0.3**
CPMI	**Catarata Coope**	**0.89**	**31**	*i* P		**Pb**	**15 53 11.1**	**-0.3**
CPMI				*i* S		**Sb**	**15 53 21.8**	**-1.2**
CPMI				IAML			15 53 29.0	
	comp=Z,2μm,1.0s							
SOCE	**Pocosol**	**0.90**	**14**	*e*P		**Pb**	**15 53 11.1**	**-0.3**
SOCE	**Pocosol**	**0.90**	**14**	*i* P		**Pb**	**15 53 11.0**	**-0.3**
SOCE				IAML			15 53 12.0	
	comp=Z,5μm,1.0s							
SOCE				*i* S		**Sb**	**15 53 22.8**	**-0.2**
VPS6	**Volcano Poas**	**0.91**	**42**	*e*P		**Pb**	**15 53 11.6**	**-0.1**
CASO	**Castillo**	**0.93**	**7**	*e*P		**Pb**	**15 53 11.5**	**-0.3**
JUD3	**Juan Diaz 3**	**0.95**	**314**	*e*P		**Pb**	**15 53 11.8**	**-0.5**
CORON	**Coronado**	**0.95**	**61**	*e*P		**Pb**	**15 53 12.3**	**+0.1**
ARE1	**Arenal 1**	**0.95**	**7**	*e*P		**Pb**	**15 53 12.2**	**-0.1**
SGBR	**La Fortuna**	**0.97**	**5**	*e*P		**Pb**	**15 53 12.3**	**-0.3**
FORC	**Fortuna**	**0.97**	**10**	*i*P		**Pb**	**15 53 12.4**	**-0.2**
VACR	**Volcan Arenal**	**0.97**	**10**	*e*P		**Pb**	**15 53 12.4**	**-0.2**
VACR	**Volcan Arenal**	**0.97**	**10**	*i* P		**Pb**	**15 53 12.4**	**-0.2**
VACR				IAML			15 53 13.3	
	comp=Z,2μm,1.0s							
PLVR	**Palo Verde**	**0.97**	**329**	*e*P		**Pb**	**15 53 12.1**	**-0.7**
CEDE	**Laguna Cedeo**	**0.98**	**8**	*e*P		**Pb**	**15 53 12.7**	**-0.1**
TABAC	**Tabacon**	**0.99**	**4**	*e*P		**Pb**	**15 53 12.9**	**0.0**
TABAC				*e*S		**Sn**	**15 53 27.8**	**+1.0**
RIMA	**Rio Macho**	**1.00**	**75**	*i* P		**Pb**	**15 53 12.5**	**-0.7**
RIMA				*i* S		**Sb**	**15 53 24.3**	**-1.8**
RIMA				IAML			15 53 27.7	
	comp=Z,830nm,1.0s							
REPA	**Paraso**	**1.01**	**72**	*e*P		**Pg**	**15 53 14.3**	**+0.3**
SAJU	**San Juanillo,**	**1.02**	**303**	*e*P		Pg	15 53 19.6	+5.5
ORTG	**Ortega, Santa**	**1.04**	**324**	*e*P		**Pb**	**15 53 13.2**	**-0.7**
ORTG	**Ortega, Santa**	**1.04**	**324**	*i* P		**Pb**	**15 53 13.2**	**-0.7**
ORTG				*i* S		**Sb**	**15 53 26.3**	**-0.9**
ORTG				IAML			15 53 36.3	
	comp=Z,780nm,1.0s							
COTE	**Lago Cote**	**1.06**	**356**	*i*P		**Pb**	**15 53 13.6**	**-0.6**
COTE				*e*S		**Sn**	**15 53 28.3**	**-0.3**
CDM	**Cerro de Muert**	**1.07**	**87**	*e*P		**Pb**	**15 53 14.5**	**+0.1**

KLST	Kelardasht - M	5.00	22	Pn		Pn	15 55 13.4	+1.8
IFIR	Firoozkooh	5.01	41	Pn		Pn	15 55 12.9	+1.1
MZPU	Pul - Mazandar	5.11	27	Pn		Pn	15 55 15.5	+2.6
IPRN	Peran	5.26	34	Pn		Pn	15 55 17.6	+2.6
TNSJ	Nastanj	6.93	71	Pn		Pn	15 55 40.3	+2.4
GRMI	Germi	6.94	354	Pn		Pn	15 55 39.8	+1.8
NGRK	Negar Kerman	7.23	106	Pn		Pn	15 55 43.3	+1.0
TKDS	Koohdasht(Taba	7.26	74	Pn		Pn	15 55 44.8	+2.3
GEYT	Alibeck	9.77	49	Pn		Pn	15 56 17.9	+1.1
	0.2nm,0.3s,baz=251,slow=9.0,SNR=2.1							
GEYT				LR		LR	16 00 29.7	
	comp=Z,162nm,18.5s,baz=348,slow=40 3.3nm,1.0s							
MMAI	Mount Meron Ar	11.33	279	Lg		Lg	15 59 54.5	
	0.6nm,0.3s,baz=109,slow=40,SNR=1.2							
MMAI				LR		LR	16 01 01.2	
	comp=Z,40nm,19.2s,baz=51,slow=38							
EIL	Elat	12.07	263	Lg		Lg	16 00 20.6	
	0.3nm,0.3s,baz=104,slow=20,SNR=2.6							
BRTR	Keskin Array B	14.53	307	Pn		Pn	15 57 25.3	+3.4
	0.1nm,0.3s,baz=138,slow=13,SNR=4.7							
AKTO	Aktyubinsk	19.77	18	P		P	15 58 25.6	-0.6
	0.2nm,0.3s,baz=239,slow=5.9,SNR=2.1 0.9nm,0.5s							
BELG	Belogornoye	20.51	358	P		P	15 58 33.3	-1.0
	10nm,0.8s,baz=258,slow=2.6,SNR=3.7 10nm,0.8s							
AAK	Ala-Archa	23.05	55	LR		LR	16 09 28.3	
	comp=Z,90nm,18.7s,baz=248,slow=40							
AKASG	Malin Array Be	23.71	328	P		P	15 59 06.4	-1.8
	0.3nm,0.4s,baz=131,slow=9.4,SNR=1.2 0.3nm,0.4s							
BVAR	Borovoye Array	26.29	30	P		P	15 59 31.2	-0.5
	1.7nm,0.6s,baz=224,slow=7.8,SNR=8.7 1.7nm,0.6s							
KURBB	Kurchatov Arra	28.89	41	P		P	15 59 54.5	-0.5
	0.4nm,0.4s,baz=243,slow=9.2,SNR=3.3 0.4nm,0.4s							
MKAR	Makanchi Array	29.64	50	P		P	16 00 01.6	-0.2
	5.0nm,0.3s,baz=237,slow=10,SNR=10							
FINES	FINESS Array B	33.05	340	P		P	16 00 29.4	-2.1
	5.9nm,1.1s,baz=143,slow=9.7,SNR=5.3 5.9nm,1.1s							
ZALV	Zalesovo Beam	33.85	39	P		P	16 00 38.6	-0.1
	0.4nm,0.3s,baz=243,slow=9.5,SNR=4.3 0.4nm,0.3s							
HFS	Hagfors	36.52	331	P		P	16 00 59.9	-1.7
	2.1nm,0.7s,baz=126,slow=10.0,SNR=5.7 2.1nm,0.7s							
NOA	NORSAR Array B	38.04	331	P		P	16 01 10.8	-3.7
	0.6nm,0.8s,baz=111,slow=13,SNR=3.2 0.6nm,0.8s							
TORD	Torodi Ar. Bea	46.89	258	P		P	16 02 25.3	-1.7
	1.7nm,0.9s,baz=53,slow=9.7,SNR=6.4 1.7nm,0.9s							
SPITS	Spitsbergen Ar	48.50	352	P		P	16 02 37.8	-1.0
	19nm,1.0s,baz=148,slow=9.5,SNR=6.9 19nm,1.0s							
LBTB	Lobatse	60.75	204	LR		LR	16 33 47.4	
	comp=Z,45nm,19.2s,baz=66,slow=39							

IDC 28 16:03:12.7±6.7, 22°.85S×176°.68W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=288.0km s-min=39.7km az=147.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	45.22	259	P	P	16 11 31.5	-0.5
	0.1nm,0.3s,baz=96,slow=7.4,SNR=9.8 0.1nm,0.3s						
WRA	Warramunga Arr	45.54	264	P	P	16 11 34.9	+0.4
	0.4nm,0.3s,baz=102,slow=8.6,SNR=13 0.4nm,0.3s						
ILAR	Eielson Array	90.33	12	P	P	16 16 15.7	+0.6
	0.3nm,0.9s,baz=203,slow=6.6,SNR=2.2 0.3nm,0.9s						
AKASG	Malin Array Be	145.66	330	PKPbc	PKPdf	16 22 51.1	-1.7
	0.2nm,0.3s,baz=70,slow=3.0,SNR=1.5						

IDC 28 16:06:12.5±1.8, 48°.21S×107°.85E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=53.7km s-min=48.6km az=110.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	14.10	22	T	T	16 23 43.6	
	baz=197,slow=74,SNR=18						
H01W1	Cape Leeuwin H	14.11	22	T	T	16 23 44.4	
	baz=197,slow=74,SNR=33						
H01W3	Cape Leeuwin H	14.11	22	T	T	16 23 44.8	
	baz=197,slow=74,SNR=26						
ASAR	Alice Springs	32.04	49	P	P	16 12 40.9	+0.1
	0.5nm,0.7s,baz=210,slow=8.0,SNR=8.0 0.5nm,0.7s						
WRA	Warramunga Arr	35.38	46	P	P	16 13 09.8	-0.1
	0.4nm,0.8s,baz=210,slow=10,SNR=2.7 0.4nm,0.8s						
CMAR	Chiang Mai Arr	66.83	351	P	P	16 17 06.0	+0.1
	0.6nm,0.6s,baz=181,slow=5.4,SNR=6.4 0.6nm,0.6s						
NVAR	Mina Array Bea	145.49	89	PKPbc	PKPdf	16 25 51.1	-1.2
	0.9nm,0.8s,baz=190,slow=3.7,SNR=5.0						
TXAR	Lajitas Array	149.34	116	PKPbc	PKPbc	16 26 03.2	0.0
	0.4nm,0.8s,baz=188,slow=4.3,SNR=3.8						
YKA	Yellowknife Ar	152.56	43	PKPbc	PKPbc	16 26 09.1	-0.4
	0.4nm,0.7s,baz=289,slow=2.4,SNR=4.8						

*UPA **28** 16:14:32.1±0.6, 8°.44N×82°.85W, h17km±2km, MW3.2*
*CATAC **28** 16:14:32.8±0.5, 8°.54N×82°.98W, h8km±3km, ML2.7*

ISC 28 16:14:30.8±1.0, 8°.46N±0°.05×82°.90W±0°.03, h27km±8km, n17, σ0°.45/30, 3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCOL	Caracol de Cor	0.09	234	*i* S	Sb	16 14 39.3	+0.2
CDITO	Canoas	0.12	13	⇓*i*P	Pn	16 14 36.5	-0.4
CDITO	Canoas	0.12	13	*i* P	Pn	16 14 36.4	-0.5
CDITO				*i* S	Sb	16 14 38.8	-0.6
CDITO				IAML		16 14 43.9	
	comp=Z,4μm,1.0s						
PTPM	Petroterminale	0.26	175	*e*P	Pb	16 14 37.0	-0.4
PTPM				*e*S	Sb	16 14 41.9	0.0
MLIR3	Monte Lirio, C	0.34	13	*e*P	Pn	16 14 40.4	+0.3
BRU2	Volcan	0.39	32	*i* P	Pn	16 14 41.0	+0.2
BRU2				*e*S	Sn	16 14 47.4	0.0
BRU2	Volcan	0.39	32	*i* P	Pn	16 14 40.8	0.0
BRU2				*i* S	Sb	16 14 46.4	+1.0
BRU2				IAML		16 14 49.4	
	comp=Z,820nm,1.0s						
PIRO	Carate, Puerto	0.44	263	*i* P	Pb	16 14 40.6	+0.5
PIRO				*i* S	Sb	16 14 46.7	+0.3
PIRO				IAML		16 14 51.0	
	comp=Z,2μm,1.0s						
DVD	David	0.45	93	*e*P	Pn	16 14 40.9	-0.5
DVD				*e*S	Sb	16 14 46.8	+0.1
BCO2	Palmira	0.45	55	⇓*i*P	Pn	16 14 41.6	0.0
BCO2				*e*S	Sn	16 14 48.1	-0.7
BC3P	Paso Ancho	0.45	39	*e*P	Pb	16 14 41.9	+0.1
PEDE3	Pedregal, Chir	0.48	99	*e*P	Pb	16 14 41.1	+0.4
PEDE3				*e*S	Sb	16 14 48.0	+0.4
CHGR2	Aguacate	0.89	57	⇓*i*P	Pn	16 14 47.9	+0.4
CHGR2				*e*S	Sn	16 14 59.5	0.0
SRBA	San Rafael, Bu	0.89	329	*i* P	Pn	16 14 48.2	+0.5
SRBA				*i* S	Sb	16 14 59.8	+0.4
SRBA				IAML		16 15 03.0	
	comp=Z,310nm,1.0s						
CDM	Cerro de Muert	1.38	322	*i* P	Pb	16 14 56.0	-0.3
CDM				*i* S	Sb	16 15 13.7	0.0
CDM				IAML		16 15 20.9	
	comp=Z,130nm,1.0s						
RIMA	Rio Macho	1.61	324	*i* P	Pb	16 14 59.2	-0.8
RIMA				*i* S	Sb	16 15 20.4	+0.4
RIMA				IAML		16 15 29.8	
	comp=Z,92nm,1.0s						
LCR2	La Lucha 2	1.68	319	*i* P	Pb	16 15 01.2	0.0
LCR2				*i* S	Sb	16 15 21.6	-0.4
LCR2				IAML		16 15 29.2	
	comp=Z,82nm,1.0s						

*IDC **28** 16:23:46.4±0.7, 29°.16N×141°.44E, h0km, mb3.7/14, mbtmp3.8/17, ML3.0/3, MS2.6/4, Error ellipse: s-maj=25.9km s-min=14.3km az=77.0*

ISC 28 16:23:53.1±0.6, 29°.12N±0°.08×141°.4E±0°.2, h56km, n27, σ2°.36/23, mb3.6/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	2.12	162	Pn	Pn	16 24 23.6	-2.6
	22nm,0.3s,baz=340,slow=18,SNR=8.9						
JCJ				Sn	Sn	16 24 46.9	-4.5
	78nm,0.3s,baz=112,slow=23,SNR=12 77nm,0.4s						
JHJ	Hachijo jima 2	4.23	341	Pn	Pn	16 24 53.6	-1.4
	2.7nm,0.3s,baz=313,slow=18,SNR=0.9						
JHJ				Sn	Sn	16 25 35.5	-7.7
	8.0nm,0.3s,baz=233,slow=22,SNR=2.5 89nm,0.8s						
MJAR	Matsushiro Arr	7.88	341	Pn	Pn	16 25 42.6	-2.5
	baz=160,slow=12,SNR=2.2						
MJAR				Sn	Sn	16 27 13.0	+0.1
	baz=141,slow=5.4,SNR=1.2 1.4nm,0.9s						
JOW	Kunigami	11.85	262	LR	LR	16 31 01.2	
	comp=Z,29nm,18.2s,baz=200,slow=37						
KSRS	Korea Array	14.02	310	LR	LR	16 31 52.4	
	comp=Z,17nm,18.4s,baz=110,slow=35						
ASAJ	Asahikawa	15.00	3	LR	LR	16 33 55.8	
	comp=Z,18nm,18.4s,baz=116,slow=41						
KLR	Kul'dur	21.41	342	P	P	16 28 36.6	+0.5
	1.6nm,0.6s,baz=153,slow=18,SNR=5.0 1.6nm,0.6s						
H11N2	WAKE ISLAND Hy	24.95	106	T	T	16 54 52.0	
	baz=297,slow=75,SNR=14						
H11N1	WAKE ISLAND Hy	24.96	106	T	T	16 55 11.5	
	baz=297,slow=75,SNR=15						
H11N3	WAKE ISLAND Hy	24.97	106	T	T	16 54 53.3	
	baz=297,slow=75,SNR=16						
H11S3	WAKE ISLAND Hy	25.36	109	T	T	16 55 47.6	
	baz=304						
H11S1	WAKE ISLAND Hy	25.36	109	T	T	16 55 55.4	
	baz=304						
H11S2	WAKE ISLAND Hy	25.38	109	T	T	16 55 51.1	
	baz=304						
CMAR	Chiang Mai Arr	40.11	264	LR	LR	16 48 23.9	
	comp=Z,9.4nm,18.7s,baz=170,slow=37						
ZALV	Zalesovo Beam	47.54	318	P	P	16 32 22.3	-0.4
	0.3nm,0.3s,baz=108,slow=9.3,SNR=2.2						
ZALV				PcP	PcP	16 33 53.1	+1.2
	0.9nm,0.5s,baz=111,slow=3.7,SNR=4.9 0.3nm,0.3s						
MKAR	Makanchi Array	48.69	308	P	P	16 32 31.9	+0.1
	0.4nm,0.8s,baz=95,slow=10,SNR=1.3 0.4nm,0.8s						
WRA	Warramunga Arr	49.25	189	P	P	16 32 37.5	+1.3
	0.8nm,0.6s,baz=6.5,slow=7.9,SNR=19						
WRA				PcP	PcP	16 34 01.1	+2.6
	0.3nm,0.5s,baz=3.3,slow=3.8,SNR=4.7 0.8nm,0.6s						
KURBB	Kurchatov Arra	51.17	313	P	P	16 32 50.8	+0.4
	0.2nm,0.3s,baz=91,slow=8.9,SNR=1.9 0.2nm,0.3s						
ASAR	Alice Springs	52.98	189	P	P	16 33 05.0	+0.9
	0.3nm,0.8s,baz=16,slow=10,SNR=9.6 0.3nm,0.8s						
BVAR	Borovoye Array	56.12	317	P	P	16 33 27.2	+0.7
	1.3nm,0.6s,baz=91,slow=7.0,SNR=11						
BVAR				PcP	PcP	16 34 24.7	+0.7
	0.8nm,0.7s,baz=70,slow=5.1,SNR=3.6 1.3nm,0.6s						
ILAR	Eielson Array	56.27	29	P	P	16 33 28.3	+0.8
	0.7nm,1.1s,baz=254,slow=6.5,SNR=4.2 0.7nm,1.1s						
BELG	Belogornoye	69.70	319	P	P	16 34 57.1	+0.4
	2.6nm,0.6s,baz=114,slow=18,SNR=2.0 2.6nm,0.6s						
YKA	Yellowknife Ar	70.69	29	P	P	16 35 03.6	+1.0
	0.3nm,0.7s,baz=293,slow=5.9,SNR=6.1 0.3nm,0.7s						
FINES	FINESS Array B	75.85	333	P	P	16 35 34.1	+1.0
	0.9nm,0.5s,baz=64,slow=6.3,SNR=8.4 0.9nm,0.5s						
NVAR	Mina Array Bea	79.79	52	P	P	16 35 57.1	+1.4
	0.5nm,0.6s,baz=289,slow=5.6,SNR=5.5 0.5nm,0.6s						
PDAR	Pinedale Array	83.24	45	P	P	16 36 13.5	-0.5
	0.2nm,0.6s,baz=343,slow=2.8,SNR=3.0 0.2nm,0.6s						
BRTR	Keskin Array B	84.15	312	P	P	16 36 19.2	+0.7
	1.4nm,0.7s,baz=85,slow=2.7,SNR=9.5 1.4nm,0.7s						

GUC 28 16:39:10.2±0.5, 24°.20S×67°.37W, h216km±7km, ML3.5, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.12	318	*e*P	Pn	16 39 51.2	-0.4
LVC				*i* S	S	16 40 22.4	-1.2
LVC				IAML		16 40 24.3	
	179nm,0.2s						
PB15	IPOC Station P	2.16	297	⇑*i*P	Pn	16 39 52.1	+0.2
PB15				*i* S	S	16 40 23.4	-0.6
GO02	Mina Guanaco	2.24	244	⇑*i*P	Pn	16 39 52.6	-0.1
GO02				*i* S	S	16 40 25.6	+0.1
GO02				IAML		16 40 26.6	
	comp=N,186nm,0.2s						
PB06	IPOC Station P	2.51	306	⇑*i*P	Pn	16 39 55.7	+0.3
PB06				*i* S	S	16 40 29.8	-0.6
PB06				IAML		16 40 32.8	
	comp=N,122nm,0.1s						
PB14	IPOC Station P	2.80	261	*e*P	Pn	16 39 59.0	+0.3
PB14				*i* S	S	16 40 36.3	-0.2
PB05	IPOC Station P	2.92	297	⇑*i*P	Pn	16 40 00.2	+0.2
PB05				*i* S	S	16 40 37.8	-0.9
PB05				IAML		16 40 42.6	
	comp=N,50nm,0.3s						
PB09	IPOC Station P	2.95	324	*e*P	Pn	16 40 00.7	+0.4
PB09				*e*S	S	16 40 39.0	-0.2
PB09				IAML		16 40 41.5	
	comp=N,51nm,0.5s						
PB04	IPOC Station P	3.16	305	⇑*i*P	Pn	16 40 03.2	+0.4
PB04				*e*S	S	16 40 42.8	-0.8
PB07	IPOC Station P	3.38	316	*i* P	Pn	16 40 05.4	0.0
PB07				*i* S	S	16 40 46.7	-1.7
AC01	Pan de Azucar	3.51	236	*i* P	Pn	16 40 05.9	-0.8
AC01				*e*S	S	16 40 49.0	-1.9
PB02	IPOC Station P	3.69	320	*i* P	Pn	16 40 08.5	-0.5
PB02				*i* S	S	16 40 52.9	-2.1
PB01	IPOC Station P	3.70	328	*e*P	Pn	16 40 08.3	-0.8
PB01				*i* S	S	16 40 52.4	-2.7
PATCX	Punta Patache	4.23	322	*e*P	Pn	16 40 15.4	-0.2
PATCX				*e*S	S	16 41 04.5	-2.4
GO03	Copiap	4.25	217	*e*P	Pn	16 40 14.4	-1.4
GO03				*e*S	S	16 41 05.0	-2.3
PB08	IPOC Station P	4.36	337	*e*P	Pn	16 40 17.4	-0.1
PB08				*e*S	S	16 41 08.3	-1.9
TA01	Diego Aracena	4.45	324	*e*P	Pn	16 40 18.0	-0.2
TA01				*e*S	S	16 41 09.7	-1.9
GO01	Chusmiza	4.81	339	*e*P	Pn	16 40 23.9	+0.7
GO01				*e*S	S	16 41 19.7	-0.9
PB11	IPOC Station P	4.90	334	*e*P	Pn	16 40 22.4	-1.6
PB11				*e*S	S	16 41 18.4	-3.6
AC04	Llanos de Chal	5.20	219	*e*P	Pn	16 40 25.8	-1.7
AC04				*e*S	S	16 41 25.9	-2.6
AC05	El Transito	5.30	209	*e*S	S	16 41 28.5	-2.6

*VIE **28** 16:47:39.0±0.7, 49°.56N×19°.14E, h0km, mb2.4/2, ml2.1/4, Error ellipse: s-maj=6.4km s-min=3.2km az=139.0 48 km NE of Zilina Suspected Mining induced.*
*IPEC **28** 16:47:41.8±0.2, 50°.24N×18°.79E, h1km, ML2.3/4, Error ellipse: s-maj=2.2km s-min=1.1km az=166.0*

PRU 28 16:47:42.9, 50°.27N×18°.71E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.56	220	*e*PG	Pg	16 47 53.8	+0.1
OJC	Ojcow	0.70	94	*e*Pg	Pg	16 47 54.5	-1.8
OJC				*e*Sg	Sg	16 48 04.4	-1.0
MORC	Moravsky Berou	0.90	237	*e*Pg	Pg	16 47 59.7	-0.4
	baz=60						
MORC				*e*Sg	Sg	16 48 11.1	-0.7
	53nm,0.6s,baz=60						
MAUC	Maruska	1.07	213	*e*PG	Pg	16 48 03.1	-0.3
MAUC				*e*SG	Sg	16 48 17.8	+0.5
LANS	Liptovska Anna	1.22	156	*e*PG	Pg	16 48 04.8	-1.5
LANS				*e*SG	Sg	16 48 20.6	-1.6
LANS				*e*LG	Lg	16 48 22.5	
KRLC	Kraliky	1.25	262	*e*PG	Pg	16 48 05.8	-1.1
KRLC				*e*SG	Sg	16 48 22.7	-0.5
	comp=Z,19nm,0.3s						
NIE	Niedzica	1.34	129	*e*Pg	Pg	16 48 06.5	-2.0
NIE				*e*Sg	Sg	16 48 25.0	-0.8
DPC	Dobruska-Polom	1.53	274	*e*PG	Pn	16 48 11.1	-0.5
DPC				*e*SG	Sn	16 48 32.3	+0.1
	comp=Z,19nm,0.5s						
JAVC	Velka Javorina	1.57	206	*e*PN	Pn	16 48 10.7	-1.3
JAVC	Velka Javorina	1.57	206	*e*Pn	Pn	16 48 10.6	-1.4
	baz=27						
OSTC	Ostas	1.62	281	*e*PG	Pn	16 48 12.3	-0.5
OSTC				*e*SG	Sb	16 48 34.7	0.0
KSP	Ksiaz	1.65	291	*e*Pg	Pg	16 48 14.5	+0.1
KSP				*e*Sg	Sg	16 48 36.5	+0.8
VRAC	Vranov	1.68	236	*e*Pn	Pn	16 48 12.6	-0.9
	baz=56						
VRAC				*e*Sg	Sn	16 48 35.2	-0.5
	21nm,0.4s,baz=56						
CHVC	Chvalec	1.73	282	*e*PG	Pn	16 48 14.5	+0.3
UPC	Upice	1.74	279	*e*SG	Sg	16 48 38.7	-0.2
VYHS	Vyhne	1.78	177	*e*PN	Pn	16 48 12.9	-2.0
VYHS				*e*SN	Sn	16 48 35.1	-3.1
STHS	Stebnicka Huta	1.85	117	*e*PN	Pn	16 48 14.8	-1.1
KRUC	Moravsky	1.93	232	*e*PN	Pn	16 48 16.1	-0.9
KRUC				*e*SG	Sb	16 48 42.9	-0.6
KRUC	Moravsky	1.93	232	*e*Pn	Pn	16 48 16.0	-1.0
	baz=52						
KRUC				*e*Sg	Sb	16 48 42.8	-0.7
	14nm,0.6s,baz=52						
KECS	Kecovo	2.13	146	*e*SN	Sn	16 48 42.5	-4.4
KECS				*e*LG	Lg	16 48 50.5	
CRVS	Cervenica-Dubn	2.25	126	*e*PG	Pn	16 48 22.8	+1.4
CRVS				*e*SG	Sb	16 48 53.0	+0.1
GOPC	GO Pecny, Ondr	2.55	263	*e*SG	Sb	16 49 02.3	+0.8
KOLS	Kolonicke sedl	2.68	119	*e*PG	Pb	16 48 30.9	-0.8
KOLS				*e*SN	Sn	16 48 58.3	-2.1
KOLS				*e*LG	Lg	16 49 11.3	
PRU	Pruhonice	2.70	266	*e*SG	Sb	16 49 06.8	+1.2
CONA	Conrad Observa	3.00	220	*i* Pn	Pn	16 48 24.8	-7.0
	0.4nm,0.3s						
CONA				Sg	Sn	16 49 07.2	-1.2
	2.1nm,0.3s						
ZVC	Zvikov	3.04	256	*e*PG	Pb	16 48 38.3	+0.5
ZVC				*e*SG	Sg	16 49 18.2	-2.3
BRG	Berggiesshubel	3.10	283	Pg	Pg	16 48 42.6	+0.3
BRG				Sg	Sg	16 49 22.3	-0.1
BRG				Amp		16 49 31.2	
	comp=Z,4.4nm,0.4s						
KHC	Kasperske Hory	3.52	253	*e*PN	Pn	16 48 37.8	-1.1
KHC				*e*PG	Pb	16 48 45.3	-0.8
KHC				*e*SG	Sg	16 49 33.1	-2.9
	comp=Z,9.1nm,0.5s						
ARSA	Arzberg	3.68	216	*e*Sg	Sn	16 49 28.9	+3.7
	comp=Z,1.9nm,0.7s						
CLL	Collm	3.77	288	*e*Sg	Sg	16 49 45.0	+1.1
LESA	Schwarzleotal	4.90	237	*e*Pn	Pn	16 48 52.9	-4.9
	comp=Z,0.5nm,0.3s						
LESA				*e*Sg	Sg	16 50 19.3	-0.8
	comp=Z,1.6nm,0.3s						
WTTA	Wattenberg	5.56	240	*e*Pn	Pn	16 49 01.0	-6.0
	comp=Z,1.4nm,0.4s						
WTTA				*e*Sg	Sg	16 50 40.0	-1.4
	comp=Z,1.8nm,0.3s						

*IDC **28** 16:50:26.5±2.0, 39°.67N×143°.29E, h0km, mb3.5/4, mbtmp3.5/5, ML2.6/1, Error ellipse: s-maj=47.9km s-min=28.8km az=71.0*
*JMA **28** 16:50:34.5±0.1, 39°.4N±0°.2×142°.4E±0°.7, h34km, MV3.5/40, E OFF IWATE PREF.*

ISC 28 16:50:32.7±2.1, 39°.42N±0°.04×142°.6E±0°.1, h26km±12km, n21, σ0°.98/25, mb3.6/4, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	0.59	286	*i* P	Pn	16 50 45.0	-0.4
MIYJ				S	Sb	16 50 52.2	-0.2
JTH	Tanohata	0.74	315	*i* P	Pb	16 50 47.4	+0.4
JTH				*e*S	Sb	16 50 56.5	-0.3
OFUJ	Ofunato	0.76	244	⇓*i*P	Pb	16 50 47.6	+0.3
OFUJ				⇓S	Sb	16 50 56.9	-0.4
JOM	Ohasama	0.97	274	*i* P	Pn	16 50 50.9	+0.1
JOM				*e*S	Sn	16 51 02.4	-1.3
JKMT	Kesennumamotoy	1.03	234	*i* P	Pb	16 50 51.6	-0.3
JKMT				S	Sn	16 51 03.7	-1.3
JKZ	Kuzumaki	1.10	302	*i* P	Pb	16 50 53.0	-0.1
JKZ				*e*S	Sn	16 51 06.1	-0.8
JMK	Ichinoseki	1.13	246	*i* P	Pb	16 50 53.3	-0.3
JMK				S	Sn	16 51 06.8	-0.7
JANG	Nango	1.24	321	*i* P	Pb	16 50 55.1	-0.5
JANG				*e*S	Sn	16 51 10.3	-0.1
JIO	Ouri	1.34	225	⇓P	Pb	16 50 56.2	-1.0
JIO				⇓S	Sn	16 51 11.6	-1.1
JRG	Rokugo	1.48	270	*e*P	Pb	16 50 59.0	-0.6
JRG				*e*S	Sn	16 51 17.8	+1.6
MJAR	Matsushiro Arr	4.47	231	Pn	Pn	16 51 42.7	+3.9
	0.2nm,0.3s,baz=41,slow=10,SNR=28						
MJAR				Sn	Sb	16 52 47.0	+3.0
	baz=231,slow=22,SNR=1.4 10nm,1.0s						
H11N2	WAKE ISLAND Hy	28.71	126	T	T	17 27 04.6	
	baz=318,slow=75,SNR=55						
H11N1	WAKE ISLAND Hy	28.72	126	T	T	17 27 04.2	
	baz=318,slow=75,SNR=50						
H11N3	WAKE ISLAND Hy	28.73	126	T	T	17 27 06.0	
	baz=318,slow=75,SNR=46						
H11S1	WAKE ISLAND Hy	29.51	128	T	T	17 28 05.2	
	baz=320,slow=76,SNR=8.5						
H11S3	WAKE ISLAND Hy	29.51	128	T	T	17 28 04.5	
	baz=320,slow=76,SNR=5.9						
H11S2	WAKE ISLAND Hy	29.53	128	T	T	17 28 06.2	
	baz=320,slow=76,SNR=5.0						
MKAR	Makanchi Array	43.65	300	P	P	16 58 35.6	+0.5
	0.1nm,0.3s,baz=89,slow=10.0,SNR=1.9 0.1nm,0.3s						
KURBB	Kurchatov Arra	45.28	306	P	P	16 58 48.0	+0.1
	0.7nm,0.6s,baz=83,slow=8.7,SNR=4.6 0.7nm,0.6s						
WRA	Warramunga Arr	59.54	189	P	P	17 00 34.0	+0.1
	0.6nm,0.8s,baz=3.5,slow=6.9,SNR=7.3 0.6nm,0.8s						
ASAR	Alice Springs	63.27	189	P	P	17 00 59.3	+0.2
	0.3nm,0.9s,baz=12,slow=9.7,SN

ellipse: s-maj=8.9km s-min=7.0km az=221.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.20; $M_{\theta\theta}$3.35; $M_{\phi\phi}$-3.15; $M_{r\theta}$-0.48; $M_{\theta\phi}$0.19; $M_{\phi r}$1.30; Fault plane solution: $M_0$3.54000×10^{17} NP1: ϕ_s225.15000°,δ69.89000°,λ-170.13000°. NP2: ϕ_s131.73000°,δ80.74000°,λ-20.39000°. Principal axes: T 3.4112, Plg7.0000°, Azm180.0000°; N 0.2439, Plg68.0000°, Azm288.0000°; P -3.6551, Plg21.0000°, Azm87.0000°;

NEIC ***28*** *17:20:19.3,4.09N×127.01E,h30km,Moment Tensor Solution. Duration: 3s4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.96; $M_{\theta\theta}$4.67; $M_{\phi\phi}$-3.71; $M_{r\theta}$-0.89; $M_{\theta\phi}$0.33; $M_{\phi r}$1.70; Fault plane solution: $M_0$4.69000×10^{17} NP1: ϕ_s129.88000°,δ78.23000°,λ-25.21000°. NP2: ϕ_s225.36000°,δ65.36000°,λ-167.03000°. Principal axes: T 4.8098, Plg9.0000°, Azm180.0000°; N -0.2348, Plg62.0000°, Azm286.0000°; P -4.5750, Plg26.0000°, Azm85.0000°;*

NEIC ***28*** *17:20:19.3,4.09N×126.81E,h30km*

DJA ***28*** *17:20:22.9±0.2,4.1°N±1°×12.7°E±°,h39km±2km, M5.6/102, mb5.8/102, mB6.0/87, MLv6.1/18, Mw5.7/23, Mw(mB)5.6/87, MwMwp5.4/52, Mwp5.6/52*

IPGP ***28*** *17:20:22.0,3.98N×126.87E,h45km, Mw5.8, Fault plane solution: NP1:ϕ_s142.00000°,δ85.00000°,λ-27.00000°. NP2:ϕ_s235.00000°,δ63.00000°,λ-174.00000°.*

GCMT ***28*** *17:20:23.4±0.1,4.10N±0.01×126.83E±0.01,h32km, MW5.8/153, Moment Tensor Solution. s140,c246; s153,c315; Duration: 1s8 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.63±.05; $M_{\theta\theta}$5.01±.05; $M_{\phi\phi}$-4.38±.05; $M_{r\theta}$-0.37±.08; $M_{\theta\phi}$0.57±.04; $M_{\phi r}$2.52±.09; Best double couple: $M_0$5.37100×10^{17} NP1:ϕ_s128.00000°,δ73.00000°, λ-21.00000°. NP2:ϕ_s225.00000°,δ70.00000°, λ-162.00000°. Principal axes: T 5.0540, Plg3.0000°, Azm177.0000°; N 0.6360, Plg63.0000°, Azm272.0000°; P -5.6890, Plg27.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 17:20:20.2±0.3,4.04N±0.02×126.81E±0.03,h32km±1km, h31km:pP-P,n1365,σ1s77/1259,mb5.5/290,MS5.2/228, 64C-40D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.32**	**255**	P	**Pb**	**17 20 43.8**	**-0.7**
SGSI				S	**Sn**	**17 20 58.9**	**-0.2**
DAV	**Davao City (W)**	**3.25**	**338**	Pn	**Pn**	**17 21 08.3**	**-0.8**
DAV	**Davao City (W)**	**3.25**	**338**	P	**Pb**	**17 21 13.4**	**-3.9**
DAV	**Davao City (W)**	**3.25**	**338**	Pn	**Pb**	**17 21 13.4**	**-3.9**
	80nm,0.3s,baz=176,slow=6.7,SNR=22						
DAV				Sn	**Sn**	**17 21 49.4**	**+2.7**
	730nm,0.3s,baz=246,slow=18,SNR=7.7						
TNTI	**Ternate**	**3.29**	**170**	Pn	**Pn**	**17 21 10.0**	**+0.4**
TNTI	**Ternate**	**3.29**	**170**	P	**Pn**	**17 21 12.0**	**+2.4**
TNTI	**Ternate**	**3.29**	**170**	P	**Pn**	**17 21 10.6**	**+1.0**
TNTI				S	**Sn**	**17 21 47.2**	**-0.5**
KMSI	**Cibinong**	**4.45**	**219**	P	**Pn**	**17 21 28.0**	**+2.4**
KMSI				S	**Sn**	**17 22 19.8**	**+3.5**
LBMI	**Labuha**	**4.70**	**171**	P	**Pn**	**17 21 30.7**	**+1.7**
LBMI				S	**Sn**	**17 22 23.9**	**+1.5**
GTOI	**Gorontalo**	**5.08**	**228**	P	**Pn**	**17 21 36.8**	**+2.6**
	993nm,0.7s,10μm15μm5.5nm						
GTOI				S	**Sn**	**17 22 33.5**	**+1.7**
	993nm,0.7s,10μm15μm5.5nm						
MRSI	**Marisa**	**6.01**	**234**	P	**Pn**	**17 21 49.9**	**+2.9**
	3μm,0.8s,29μm26μm26nm						
MRSI				S	**Sn**	**17 22 55.1**	**+0.3**
	3μm,0.8s,29μm26μm26nm						
SANI	**Sanana**	**6.10**	**188**	P	**Pn**	**17 21 50.7**	**+2.4**
SANI	**Sanana**	**6.10**	**188**	P	**Pn**	**17 21 47.1**	**-1.2**
	966nm,0.9s,16μm27μm6.4nm						
SANI				S	**Sn**	**17 22 51.5**	**-5.6**
	966nm,0.9s,16μm27μm6.4nm						
LUWI	**Luwuk**	**6.46**	**219**		**Pn**	**17 21 55.9**	**+2.7**
LUWI	**Luwuk**	**6.46**	**219**	P	**Pn**	17 21 58.6	+5.4
LUWI	**Luwuk**	**6.46**	**219**	P	**Pn**	**17 21 55.6**	**+2.4**
	6μm,0.9s,66μm19μm30nm						
LUWI				S	**Sn**	**17 23 10.0**	**+4.1**
	6μm,0.9s,66μm19μm30nm						
SWI	**Sorong**	**6.60**	**137**	P	**Pn**	**17 21 56.1**	**+1.0**
	1μm,1.2s,12μm14μm4.0nm						
SWI				S	**Sn**	**17 23 05.3**	**-4.0**
	1μm,1.2s,12μm14μm4.0nm						
TOLI2	**Tolitoli**	**6.68**	**244**	Pn	**Pn**	**17 21 57.1**	**+0.8**
TOLI2	**Tolitoli**	**6.68**	**244**	P	**Pn**	**17 21 58.7**	**+2.4**
NLAI	**Namlea**	**7.23**	**178**	P	**Pn**	**17 22 04.0**	**+0.2**
	307nm,0.4s,10μm4.3nm						
MPSI	**Mapaga**	**7.82**	**242**	P	**Pn**	**17 22 14.7**	**+2.8**
	590nm,0.8s,6μm29μm3.9nm						
MYLDM	**Lahad Datu**	**8.36**	**278**	Pn	**Pn**	**17 22 21.0**	**+1.7**
I39PW	**PALAU INFRASON**	**8.45**	**65**	I	I	18 13 40.0	
	baz=246,slow=309,SNR=2.1						
FAKI	**Fak Fak**	**8.79**	**142**		**Pn**	**17 22 27.1**	**+1.8**
FAKI	**Fak Fak**	**8.79**	**142**	P	**Pn**	**17 22 27.4**	**+2.1**
FAKI	**Fak Fak**	**8.79**	**142**	P	**Pn**	**17 22 28.4**	**+3.1**
	521nm,0.8s,6μm11μm1.9nm						
BNDI	**Bandanaira**	**9.05**	**160**	P	Pn	17 22 35.6	+6.8
BNDI	**Bandanaira**	**9.05**	**160**	P	**Pn**	**17 22 30.3**	**+1.5**
	2μm,1.9s,37μm18μm						
TTSI	**Tana Toraja**	**9.91**	**225**	P	**Pn**	**17 22 43.9**	**+3.3**
	1μm,1.2s,12μm10μm						
KMPI	**Kaimana, Papua**	**10.30**	**138**	P	**Pn**	**17 22 46.7**	**+0.8**
	435nm,0.8s,4μm8μm						
BBSI	**Bau Bau**	**10.36**	**204**	P	**Pn**	**17 22 49.9**	**+3.1**
	386nm,1.2s,5μm4μm						
SPSI	**Sidrap Palu**	**10.61**	**222**	P	**Pn**	**17 22 52.0**	**+1.8**
	531nm,0.9s,5μm11μm						
KKM	**Kota Kinabalu**	**10.74**	**281**	Pn	**Pn**	**17 22 55.2**	**+3.2**
KKM	**Kota Kinabalu**	**10.74**	**281**	P	Pn	17 22 58.1	+6.1
BKB	**Balikpapan**	**11.21**	**242**	Pn	**Pn**	**17 22 58.5**	**0.0**
BKB	**Balikpapan**	**11.21**	**242**	P	**Pn**	**17 23 00.1**	**+1.6**
BKB	**Balikpapan**	**11.21**	**242**	P	**Pn**	**17 23 01.0**	**+2.5**
	766nm,0.8s,7μm20μm						
KAPI	**Kappang**	**11.42**	**218**	Pn	**Pn**	**17 23 02.3**	**+1.0**
KAPI	**Kappang**	**11.42**	**218**	P	**Pn**	**17 23 02.3**	**+1.0**
KAPI	**Kappang**	**11.42**	**218**	Pn	**Pn**	**17 23 01.2**	**-0.1**
	3.8nm,0.3s,baz=25,slow=11,SNR=11						
KAPI				Sn	**Sn**	**17 25 11.3**	**+3.4**
	1.5nm,0.3s,baz=204,slow=22,SNR=0.8						
KAPI				LR	LR	17 28 00.6	
	comp=Z,8μm,19.9s,baz=49,slow=41						
BKSI	**Bulukumba**	**11.45**	**216**	P	**Pn**	**17 23 01.4**	**-0.2**
	223nm,1.1s,2μm5μm						
TGY	**Tagaytay City**	**11.56**	**330**	P	**Pn**	**17 23 02.0**	**-1.2**
TGY	**Tagaytay City**	**11.56**	**330**	Pn	**Pn**	**17 23 02.0**	**-1.2**
	13nm,0.3s,baz=149,slow=12,SNR=1.1						
TGY				LR	LR	17 27 58.4	
	comp=Z,12μm,21.7s,baz=156,slow=40						
	97nm,0.3s						
SAUI	**Saumlaki**	**12.75**	**159**	Pn	**Pn**	**17 23 19.7**	**+0.1**
SAUI	**Saumlaki**	**12.75**	**159**	P	**Pn**	**17 23 22.7**	**+3.2**
SAUI	**Saumlaki**	**12.75**	**159**	P	**Pn**	**17 23 18.7**	**-0.8**
	1μm,1.1s,12μm12μm						
MTKI	**Muara Teweh, K**	**12.89**	**248**	P	**Pn**	**17 23 24.1**	**+2.7**
	629nm,1.1s,7μm12μm						
MMRI	**Maumere**	**13.39**	**200**	Pn	**Pn**	**17 23 26.3**	**-1.9**
MMRI	**Maumere**	**13.39**	**200**	P	**Pn**	**17 23 31.0**	**+2.8**
MMRI	**Maumere**	**13.39**	**200**	P	**Pn**	**17 23 26.1**	**-2.1**
	697nm,0.6s,9μm6μm						
EDFI	**Ende, Flores**	**13.69**	**202**	P	**Pn**	**17 23 31.5**	**-0.9**
	450nm,0.8s,5μm7μm						
SOEI	**Soe**	**13.93**	**190**	Pn	**Pn**	**17 23 37.9**	**+2.1**
SOEI	**Soe**	**13.93**	**190**	P	**P**	**17 23 40.4**	**-3.1**
SOEI	**Soe**	**13.93**	**190**	P	**Pn**	**17 23 37.5**	**+1.8**
	863nm,1.4s,13μm11μm						
BBKI	**Banjar Baru**	**14.09**	**238**	P	**Pn**	**17 23 40.9**	**+3.1**
	645nm,1.4s,15μm9μm						
SBUM	**Sibu**	**14.65**	**264**	P	**P**	**17 23 48.5**	**-2.7**
SZP	**Santa**	**14.80**	**336**	P	**P**	**17 23 54.8**	**+1.8**
GENI	**Genyem**	**14.89**	**116**	P	**P**	**17 23 54.1**	**+0.1**
GENI	**Genyem**	**14.89**	**116**	P	**Pn**	**17 23 50.6**	**+2.0**
	2μm,1.1s,17μm12μm						
GENI				pP	P	17 24 10.9	+17
	2μm,1.1s,17μm12μm						
JAY	**Jayapura**	**15.34**	**115**	P	**Pn**	**17 23 55.4**	**+0.8**
	353nm,0.9s,4μm9μm						
BASI	**Baing, Sumba**	**15.46**	**204**	P	**Pn**	**17 23 56.1**	**-0.1**
	2μm,1.2s,19μm						
BASI				pP	sP	17 24 17.8	+5.3
	2μm,1.2s,19μm						
PLAI	**Plampang**	**15.63**	**215**	P	**Pn**	**17 23 59.8**	**+1.4**
PLAI	**Plampang**	**15.63**	**215**	P	**Pn**	**17 23 58.0**	**-0.4**
	1μm,0.9s,11μm7μm						
PLAI				pP	**sP**	**17 24 11.5**	**-3.0**
	1μm,0.9s,11μm7μm						
STKI	**Sintang**	**15.82**	**256**	P	**P**	**17 24 05.4**	**+1.1**
	313nm,1.1s,8μm						
TWSI	**Taliwang, Sumb**	**16.09**	**218**	P	**Pn**	**17 24 05.9**	**+1.6**
	690nm,0.9s,6μm7μm						
KSM	**Kuching**	**16.67**	**262**	P	**P**	**17 24 13.5**	**-0.3**
KSM	**Kuching**	**16.67**	**262**	P	**P**	**17 24 15.6**	**+1.8**
SRBI	**Singaraja**	**16.70**	**224**	P	**P**	**17 24 13.7**	**-0.3**
	481nm,1.1s,6μm9μm						
SRBI				pP	**sP**	**17 24 24.0**	**-2.4**
	481nm,1.1s,6μm9μm						
KMMI	**Kalianget**	**16.90**	**229**	P	**P**	**17 24 20.1**	**+3.8**
KMMI				pP	**sP**	**17 24 26.9**	**-1.8**
TABU	**Tabubil**	**17.11**	**123**	P	**P**	**17 24 20.4**	**+1.7**
DNP	**Denpasar**	**17.12**	**222**	P	**Pn**	**17 24 17.4**	**+0.1**
	1μm,1.5s,16μm						
DNP				pP	**sP**	**17 24 27.7**	**-3.5**
	1μm,1.5s,16μm						
ABJI	**Asem Bagus**	**17.19**	**227**	P	**Pn**	**17 24 16.8**	**-1.4**
	292nm,1.0s,4μm9μm						
ABJI				pP	**sP**	**17 24 28.3**	**-3.6**
	292nm,1.0s,4μm9μm						
BWJI	**Bawean**	**17.21**	**235**	P	**P**	**17 24 20.4**	**+0.7**
	570nm,1.1s,9μm						
MTN	**Manton Dam**	**17.31**	**166**	P	**Pn**	**17 24 17.0**	**-2.7**
	baz=17,SNR=220						
MTN	**Manton Dam**	**17.31**	**166**	Pn	**Pn**	**17 24 16.3**	**-3.4**
MTN				IAmb	IAmb	17 24 21.5	
	comp=Z,640nm,1.2s						
KDU	**Kakadu**	**17.54**	**161**	P	**Pn**	**17 24 19.3**	**-3.3**
	baz=18,SNR=92						
BLJI	**Banyuglugur**	**17.63**	**228**	P	**P**	**17 24 25.5**	**+1.1**
	comp=Z,472nm,0.7s						
JAGI	**Jajag, Banyuwa**	**17.71**	**225**	P	**Pn**	**17 24 24.4**	**-0.2**
JAGI	**Jajag, Banyuwa**	**17.71**	**225**	P	**P**	**17 24 27.6**	**+2.3**
JAGI	**Jajag, Banyuwa**	**17.71**	**225**	P	**P**	**17 24 28.0**	**+2.7**
	comp=Z,323nm,1.2s,comp=Z,6μmcomp=Z,8μm						
MMPI	**Merauke**	**18.38**	**133**	P	**P**	**17 24 32.6**	**0.0**
	comp=Z,793nm,0.6s,comp=Z,20μm						
NGJI	**Ngawi**	**19.05**	**234**	P	**Pn**	**17 24 42.7**	**+1.8**
	comp=Z,615nm,1.0s						
TWG	**Pinlang**	**19.48**	**344**	P	**P**	**17 24 41.2**	**-3.5**
KNRA	**Kununurra**	**19.68**	**174**	P	**P**	**17 24 46.2**	**-0.7**
	baz=20,SNR=109						
KNRA	**Kununurra**	**19.68**	**174**	P	**P**	**17 24 46.1**	**-0.9**
KNRA	**Kununurra**	**19.68**	**174**	P	**P**	**17 24 47.2**	**+0.3**
SMRI	**Semarang**	**19.70**	**236**	P	**P**	**17 24 45.2**	**-2.0**
SMRI				IAmb	IAmb	17 24 58.9	
	comp=Z,410nm,0.9s						
SMRI	**Semarang**	**19.70**	**236**	P	**P**	**17 24 47.4**	**+0.2**
SMRI	**Semarang**	**19.70**	**236**	P	**Pn**	**17 24 50.5**	**+1.7**
	comp=Z,483nm,0.8s,comp=Z,6μmcomp=Z,9μm						
DLV	**T Lat**	**19.76**	**294**	P	**P**	**17 24 47.6**	**-0.4**
DLV				IAmb	IAmb	17 24 53.7	
	comp=Z,303nm,1.1s						
DLV	**T Lat**	**19.76**	**294**	P	**Pn**	**17 24 50.0**	**+0.4**
YULB	**Yu-li**	**19.96**	**345**	P	**P**	**17 24 47.6**	**-2.4**
TPUB	**Ta-pu**	**20.06**	**343**	P	**P**	**17 24 49.1**	**-1.9**
TPUB				IAmb	IAmb	17 24 56.5	
	comp=Z,286nm,0.8s						
TPUB				IAMs_20	IAMs_20	17 33 51.6	
	comp=Z,9μm,21.0s						
UGM	**Wanagama**	**20.12**	**234**	P	**P**	**17 24 50.4**	**-1.4**
UGM				IAmb	IAmb	17 25 07.5	
	comp=Z,575nm,1.6s						
UGM	**Wanagama**	**20.12**	**234**	P	Pn	17 24 54.6	+0.9
UGM	**Wanagama**	**20.12**	**234**	P	Pn	17 24 54.3	+0.6
	comp=Z,250nm,0.9s,comp=Z,7μmcomp=Z,9μm						
GUMO	**Guam**	**20.20**	**61**	P	**P**	**17 24 51.1**	**-1.5**
GUMO				IAmb	IAmb	17 25 01.3	
	comp=Z,424nm,1.3s						
GUMO	**Guam**	**20.20**	**61**	IAMs_20	IAMs_20	17 30 47.9	
	comp=Z,9μm,21.0s						
GUMO	**Guam**	**20.20**	**61**	P	**P**	**17 24 51.1**	**-1.5**
GUMO				pmax	pmax		
	comp=Z,424nm,1.3s						
GUMO				MLR	MLR		
	comp=Z,8μm,21.0s						
GUMO	**Guam**	**20.20**	**61**	P	**P**	**17 24 52.0**	**-0.6**
	comp=Z,39nm,0.5s,baz=240,slow=20,SNR=1.8						
GUMO				LR	LR	17 32 07.8	
	comp=Z,776nm,19.9s,baz=229,slow=35						
	comp=Z,39nm,0.5s						
YOGI	**Yogyakarta**	**20.25**	**234**	P	Pn	17 24 55.4	+0.2
	comp=Z,482nm,0.7s,comp=Z,4μm						
SSLB	**Suanglung**	**20.43**	**344**	P	**P**	**17 24 53.0**	**-2.1**
SSLB				IAmb	IAmb	17 25 09.1	
	comp=Z,160nm,0.7s						
YOJ	**Yonaguni jima**	**20.63**	**350**	P	**P**	**17 24 55.6**	**-1.6**
YOJ				IAmb	IAmb	17 25 10.3	
	comp=Z,220nm,1.0s						
YOJ	**Yonaguni jima**	**20.63**	**350**	P	Pn	17 25 01.5	+1.9
YOJ	**Yonaguni jima**	**20.63**	**350**	P	**P**	**17 24 55.6**	**-1.6**
YOJ				pmax	pmax		
	comp=Z,220nm,1.0s						
YOJ				MLR	MLR		
	comp=Z,7μm,20.0s						
NACB	**Ninganchiao**	**20.64**	**346**	P	**P**	**17 24 56.0**	**-1.3**
NACB	**Ninganchiao**	**20.64**	**346**	P	Pn	17 24 59.0	-0.7
KPJI	**Karang Pucung**	**21.11**	**238**	P	**P**	**17 25 02.3**	**-0.2**
	comp=Z,413nm,0.8s,comp=Z,4μm						
MANU	**Manus Island**	**21.42**	**106**	P	**P**	**17 25 01.2**	**-4.6**
MANU				IAmb	IAmb	17 25 20.8	
	comp=Z,294nm,1.4s						
MANU	**Manus Island**	**21.42**	**106**	P	**P**	**17 25 10.8**	**+5.0**
TATO	**Taipei**	**21.44**	**347**	P	**P**	**17 25 04.7**	**-1.2**
TATO				IAmb	IAmb	17 25 20.2	
	comp=Z,378nm,1.6s						
PPBI	**Pangkal Pinang**	**21.55**	**254**	P	**P**	**17 25 11.9**	**+4.6**
	comp=Z,164nm,0.9s,comp=Z,8μm						
CMJI	**Cimerak**	**21.76**	**237**	P	**P**	**17 25 09.9**	**+0.5**
	comp=Z,351nm,0.9s,comp=Z,4μmcomp=Z,7μm						
KNMB	**Chin-men Tao**	**21.87**	**339**	P	**P**	**17 25 10.3**	**-0.2**
KNMB				IAmb	IAmb	17 25 26.4	
	comp=Z,211nm,0.9s						
HKPS	**Hong Kong Po S**	**21.90**	**327**	IAMs_20	IAMs_20	17 34 43.4	
	comp=Z,7μm,20.0s						
HKPS	**Hong Kong Po S**	**21.90**	**327**	P	**P**	**17 25 12.6**	**+1.8**
LEM	**Lembang**	**21.98**	**241**	P	**P**	**17 25 11.6**	**-0.5**
	comp=Z,90nm,0.9s,baz=75,slow=7.8,SNR=18						
LEM				S	**S**	**17 29 15.8**	**+2.4**
	comp=Z,12nm,0.4s,baz=36,slow=19,SNR=1.6						
LEM				LR	LR	17 35 25.9	
	comp=Z,4μm,18.9s,baz=52,slow=42						
	comp=Z,90nm,0.9s						
FITZ	**Fitzroy Crossi**	**22.02**	**183**	P	**P**	**17 25 10.1**	**-2.1**
	baz=22,SNR=176						
FITZ	**Fitzroy Crossi**	**22.02**	**183**	P	**P**	**17 25 11.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**22.02**	**183**	P	**P**	**17 25 11.0**	**-1.2**
JMZ	**Minamidaito 2**	**22.07**	**11**	P	**P**	**17 25 12.5**	**-0.2**
JMZ				IAmb	IAmb	17 25 27.2	
	comp=Z,227nm,1.0s						
QZH	**Quanzhou**	**22.24**	**340**	↑P	**P**	**17 25 14.0**	**-0.5**
QZH				pP	**sP**	**17 25 27.0**	**0.0**
QZH				S	**S**	**17 29 13.3**	**-4.2**
QZH				sS	Sn	17 29 29.0	-1.1
QZH				pmax	pmax		
	comp=Z,180nm,1.2s						
QZH				pmax	pmax		
	comp=Z,2μm,8.6s						
QZH				LR	LR		
	comp=Z,8μm,22.4s						
QZH				LR	LR		
	comp=Z,5μm,19.9s						
QZH				LR	LR		
	comp=Z,12μm,23.0s						
BBJI	**Bungbulang**	**22.27**	**239**	P	**P**	**17 25 16.3**	**+1.3**
QIZ	**Qiongzhong**	**22.28**	**313**	P	**P**	**17 25 13.8**	**-1.3**
QIZ	**Qiongzhong**	**22.28**	**313**	P	**P**	**17 25 16.9**	**+1.9**
QIZ	**Qiongzhong**	**22.28**	**313**	P	**P**	**17 25 16.5**	**+1.5**
QIZ				PP	**PnPn**	**17 25 44.8**	**+6.5**
QIZ				S	**S**	**17 29 20.0**	**+1.4**
QIZ				pmax	pmax		
	comp=Z,67nm,1.3s						
QIZ				LR	LR		
	comp=Z,7μm,14.3s						
QIZ				LR	LR		
	comp=Z,3μm,13.5s						
QIZ				LR	LR		
	comp=Z,6μm,15.1s						
CBJI	**Citeko**	**22.47**	**243**	P	**P**	**17 25 17.6**	**+0.5**
	comp=Z,510nm,1.2s,comp=Z,6μmcomp=Z,7μm						
TPRI	**Tanjung Pinang**	**22.47**	**263**	P	**P**	**17 25 21.0**	**+3.9**
	comp=Z,146nm,0.7s,comp=Z,2μmcomp=Z,8μm						
DBJI	**Dramaga**	**22.62**	**242**	P	**P**	**17 25 19.3**	**+0.6**
	comp=Z,187nm,0.9s,comp=Z,4μmcomp=Z,7μm						
CNJI	**Cibinong**	**22.64**	**240**	P	**P**	**17 25 21.8**	**+2.9**
	comp=Z,140nm,0.9s,comp=Z,3μmcomp=Z,3μm						
DSRI	**Dabo**	**22.66**	**259**	P	**P**	**17 25 23.5**	**+4.4**
	comp=Z,150nm,1.8s,comp=Z,3μmcomp=Z,8μm						
JOW	**Kunigami**	**22.71**	**3**	P	**P**	**17 25 19.4**	**-0.1**
JOW				IAmb	IAmb	17 25 42.8	
	comp=Z,135nm,0.8s						
JOW	**Kunigami**	**22.71**	**3**	P	**P**	**17 25 23.2**	**+3.7**
JOW	**Kunigami**	**22.71**	**3**	LR	LR	17 36 37.9	
	comp=Z,3μm,18.8s,baz=183,slow=43						
SBJI	**Serang**	**22.98**	**244**	P	**P**	**17 25 24.2**	**+1.8**
	comp=Z,397nm,1.1s,comp=Z,6μm						
GZH	**Guangzhou**	**22.98**	**327**	P	**P**	**17 25 24.3**	**+2.0**
GZH				S	**S**	**17 29 38.5**	**+7.7**
GZH				pmax	pmax		
	comp=Z,24nm,0.9s						
GZH				LR	LR		
	comp=Z,3μm,10.4s						
GZH				LR	LR		
	comp=Z,4μm,9.0s						
MYKOM	**Kota Tinggi**	**23.03**	**265**	P	**P**	**17 25 24.6**	**+1.6**
MYKOM				IAmb	IAmb	17 25 40.5	
	comp=Z,172nm,1.0s						
PMBI	**Palembang**	**23.08**	**253**	P	**P**	**17 25 27.3**	**+3.8**
PMBI	**Palembang**	**23.08**	**253**	P	**P**	**17 25 27.1**	**+3.6**
	comp=Z,683nm,1.0s,comp=Z,7μm						
CGJI	**Cibinong**	**23.58**	**243**	P	**P**	**17 25 27.3**	**-1.1**
	comp=Z,266nm,0.9s,comp=Z,3μm						
KLI	**Kotabumi**	**23.64**	**248**	P	P	17 25 36.4	+7.4
UBPT	**Khong Chiam**	**23.79**	**299**	P	**P**	**17 25 28.8**	**-1.5**
UBPT				IAmb	IAmb	17 25 41.0	
	comp=Z,246nm,1.0s						
UBPT	**Khong Chiam**	**23.79**	**299**	P	**P**	**17 25 32.4**	**+2.1**
JMBI	**JAMBI**	**23.82**	**257**	P	P	17 25 39.0	+8.3
KASI	**Kota Agung**	**24.22**	**247**	P	**P**	**17 25 37.4**	**+3.0**
	comp=Z,261nm,1.2s,comp=Z,3μmcomp=Z,7μm						
PMG	**Port Moresby**	**24.29**	**123**	P	**P**	**17 25 32.5**	**-2.5**
PMG				IAmb	IAmb	17 25 54.9	
	comp=Z,176nm,1.4s						
PMG	**Port Moresby**	**24.29**	**123**	P	**P**	**17 25 37.8**	**+2.8**
PMG	**Port Moresby**	**24.29**	**123**	P	**P**	**17 25 37.7**	**+2.8**
PMG	**Port Moresby**	**24.29**	**123**	⇓eP	**P**	**17 25 33.1**	**-1.9**
PMG				pmax	pmax		
	comp=Z,13nm,0.9s						
PMG				MLR	MLR		
	comp=Z,4μm,18.0s						
PMG	**Port Moresby**	**24.29**	**123**	P	**P**	**17 25 32.8**	**-2.2**
	comp=Z,14nm,0.9s,baz=358,slow=11,SNR=3.8						
PMG				LR	LR	17 36 07.0	
	comp=Z,4μm,19.5s,baz=286,slow=39						
	comp=Z,14nm,0.9s						
LWLI	**Liwa**	**24.44**	**249**	P	**P**	**17 25 40.5**	**+4.0**
	comp=Z,499nm,0.8s,comp=Z,4μmcomp=Z,6μm						
WB0	**Warramunga Arr**	**24.80**	**163**	P	**P**	**17 25 38.7**	**-1.0**
KAVG	**Kavieng**	**24.87**	**105**	P	**P**	**17 25 43.7**	**+3.4**
WRAB	**Tennant Creek**	**24.95**	**163**	P	**P**	**17 25 39.7**	**-1.3**
WRAB	**Tennant Creek**	**24.95**	**163**	P	**P**	**17 25 39.7**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,493nm,0.8s						
WRA	**Warramunga Arr**	**24.95**	**163**	P	**P**	**17 25 40.1**	**-1.0**
WRA	**Warramunga Arr**	**24.95**	**163**	P	**P**	**17 25 39.5**	**-1.6**
	comp=Z,191nm,0.9s,baz=343,slow=10.0,SNR=350						
WRA				S	**S**	**17 30 03.6**	**+0.8**
	comp=Z,5.9nm,0.6s,baz=338,slow=16,SNR=2.4						
WB2	**Warramunga Arr**	**24.96**	**163**	P	**P**	**17 25 39.8**	**-1.2**
WR0	**Warramunga Arr**	**25.03**	**163**	P	**P**	**17 25 40.5**	**-1.2**
XMI	**Christmas Isla**	**25.48**	**235**	P	**P**	**17 25 49.5**	**+3.6**
XMIS	**Christmas Isla**	**25.53**	**235**	P	**P**	**17 25 46.9**	**+0.6**
MBWA	**Marble Bar**	**25.98**	**195**	P	**P**	**17 25 50.4**	**+0.1**
MBWA				IAmb	IAmb	17 26 00.0	
	comp=Z,192nm,0.8s						
MBWA	**Marble Bar**	**25.98**	**195**	P	**P**	**17 25 50.8**	**+0.5**
BKNI	**Bangkinang**	**26.00**	**262**	P	**P**	**17 25 51.5**	**+0.8**
BKNI	**Bangkinang**	**26.00**	**262**	P	**P**	**17 25 56.9**	**+6.2**
KRJI	**Kerinci**	**26.05**	**257**	P	P	17 26 02.7	+12
KULM	**Kulim**	**26.10**	**274**	P	**P**	**17 25 50.4**	**-1.1**
KULM				IAmb	IAmb	17 26 11.1	
	comp=Z,321nm,1.5s						
SKLT	**Songkhla**	**26.24**	**278**	P	**P**	**17 25 55.9**	**+3.1**
PSA00	**Pilbara Seismi**	**26.35**	**195**	P	**P**	**17 25 53.5**	**-0.2**
PSA00	**Pilbara Seismi**	**26.35**	**195**	P

JNU Nakatsue 29.18 7 P P 17 26 19.5 +0.6
JNU Nakatsue 29.18 7 LR LR 17 39 03.4
comp=Z,2μm,21.2s,baz=180,slow=39
GIRL Giralia 29.23 204 P P 17 26 21.6 +2.3
baz=29,SNR=7.5
GIRL Giralia 29.23 204 P P 17 26 20.4 +1.0
GSI Gunungsitoli 29.32 265 P P 17 26 18.4 -1.9
GSI IAmb IAmb 17 26 37.5
comp=Z,109nm,0.8s
GSI Gunungsitoli 29.32 265 P P 17 26 22.2 +1.8
GSI Gunungsitoli 29.32 265 P P 17 26 20.6 +0.2
comp=Z,162nm,0.9s,comp=Z,2μm
GYA Guiyang 29.48 321 ⇓P P 17 26 25.8 +4.1
GYA S S 17 31 14.5 +0.1
GYA pmax pmax
comp=Z,26nm,1.4s
GYA pmax pmax
comp=Z,290nm,5.7s
GYA LR LR
comp=Z,2μm,26.8s
GYA LR LR
comp=Z,3μm,22.1s
GYA LR LR
comp=Z,6μm,21.1s
JMN Monobe 30.27 12 P P 17 26 27.8 -0.7
JMN IAmb IAmb 17 27 33.9
comp=Z,100nm,1.1s
JMN IAMs_20 IAMs_20 17 38 49.9
comp=Z,4μm,20.0s
JMN Monobe 30.27 12 P P 17 26 32.5 +4.0
MLSI Meulaboh, Aceh 30.32 272 P P 17 26 35.2 +6.0
CRAI Chiangrai 30.36 304 P P 17 26 29.8 +0.3
CTA Charters Tower 30.66 142 P P 17 26 33.7 +1.6
CTA Charters Tower 30.66 142 P P 17 26 31.8 -0.3
comp=Z,11nm,1.0s,baz=324,slow=10,SNR=12
CTA S S 17 31 31.9 -0.8
comp=Z,9.3nm,0.9s,baz=25,slow=22,SNR=1.7
CTA ScP ScP 17 33 15.1 +4.6
comp=Z,19nm,0.9s,baz=292,slow=5.4,SNR=4.1
CTA LR LR 17 40 12.5
comp=Z,2μm,20.4s,baz=316,slow=39
comp=Z,11nm,1.0s
CTAO Charters Tower 30.66 142 P P 17 26 33.4 +1.3
CTAO Charters Tower 30.66 142 P P 17 26 33.8 +1.6
CTAO Charters Tower 30.66 142 P P 17 26 33.4 +1.3
CTAO pmax pmax
comp=Z,42nm,1.0s
CTAO MLR MLR
comp=Z,3μm,22.0s
CMAR Chiang Mai Arr 30.78 300 P P 17 26 33.6 +0.3
CMAR Chiang Mai Arr 30.78 300 P P 17 26 32.5 -0.8
comp=Z,19nm,1.0s,baz=118,slow=7.0,SNR=38
CMAR PcP PcP 17 29 28.6 -1.8
comp=Z,2.5nm,0.8s,baz=137,slow=3.1,SNR=1.6
CMAR ScP ScP 17 33 11.8 +0.8
comp=Z,2.4nm,0.8s,baz=127,slow=2.3,SNR=4.9
comp=Z,19nm,1.0s
ENH Enshi 30.80 330 IAmb IAmb 17 26 52.8
comp=Z,101nm,0.9s
ENH IAMs_20 IAMs_20 17 39 27.3
comp=Z,10μm,22.0s
ENH Enshi 30.80 330 P P 17 26 32.8 -0.5
CHTO Chiang Mai 30.93 301 P P 17 26 33.6 -0.9
CHTO IAmb IAmb 17 26 53.3
comp=Z,88nm,1.1s
CHTO Chiang Mai 30.93 301 P P 17 26 33.9 -0.7
CHTO Chiang Mai 30.93 301 P P 17 26 33.6 -0.9
CHTO pmax pmax
comp=Z,88nm,1.2s
CHTO MLR MLR
comp=Z,3μm,19.0s
KMI Kunming 31.22 315 ⇓P P 17 26 37.3 0.0
KMI PP PnPn 17 27 42.8 +3.0
KMI S S 17 31 37.3 -4.6
KMI ScP ScP 17 33 12.8 +0.2
KMI pmax pmax
comp=Z,23nm,1.2s
KMI pmax pmax
comp=Z,250nm,4.3s
KMI LR LR
comp=Z,2μm,27.7s
KMI LR LR
comp=Z,2μm,28.2s
KMI LR LR
comp=Z,4μm,20.0s
JHJ Hachijo jima 2 31.37 21 LR LR 17 38 18.8
comp=Z,4μm,20.4s,baz=270,slow=34
MEEK Meekatharra 31.51 194 P P 17 26 38.6 -0.9
baz=32,SNR=82
MEEK Meekatharra 31.51 194 P P 17 26 39.6 +0.1
TJN Taejon 32.19 1 P P 17 26 45.7 +0.4
TJN Taejon 32.19 1⇑eP P 17 26 45.8 +0.4
PZH PanZhiHua 32.78 315 P P 17 26 49.5 -1.3
PZH S S 17 32 07.0 +1.0
PZH ScS ScS 17 37 15.3 -2.5
PZH pmax pmax
comp=Z,40nm,1.0s
PZH pmax pmax
comp=Z,240nm,6.1s
PZH LR LR
comp=Z,3μm,23.5s
PZH LR LR
comp=Z,2μm,21.2s
PZH LR LR
comp=Z,3μm,21.4s
OOD Oodnadatta 32.78 165 P P 17 26 50.1 -0.6
LYN LuoYang 33.15 338 ⇑P P 17 26 53.3 -0.5
LYN sP sP 17 27 07.0 +0.2
LYN S S 17 32 12.0 +0.6
LYN sS sS 17 32 31.5 +5.0
LYN pmax pmax
comp=Z,80nm,1.0s
LYN pmax pmax
comp=Z,350nm,4.5s
LYN LR LR
comp=Z,3μm,22.3s
LYN LR LR
comp=Z,8μm,23.7s
LYN LR LR
comp=Z,9μm,26.8s
TIA Tai'an 33.24 346 ⇓P P 17 26 54.8 +0.2
TIA S S 17 32 10.5 -2.2
TIA SS SnSn 17 34 20.3 +6.0
TIA pmax pmax
comp=Z,21nm,0.7s
TIA pmax pmax
comp=Z,220nm,5.1s
TIA LR LR
comp=Z,1μm,23.5s
TIA LR LR
comp=Z,1μm,23.3s
TIA LR LR
comp=Z,3μm,24.5s
KSRS Korea Array 33.27 2 P P 17 26 54.4 -0.5
comp=Z,8.5nm,0.5s,baz=179,slow=9.8,SNR=29
KSRS PcP PcP 17 29 36.2 -0.5
comp=Z,8.4nm,0.7s,baz=188,slow=2.4,SNR=8.0
KSRS ScP ScP 17 33 19.6 +0.6
comp=Z,3.4nm,1.0s,baz=190,slow=3.8,SNR=4.7
KSRS LR LR 17 43 00.1
comp=Z,2μm,18.6s,baz=190,slow=41
comp=Z,8.5nm,0.5s
INCN Inchon 33.29 360 IAMs_20 IAMs_20 17 40 35.7
comp=Z,4μm,22.0s
INCN Inchon 33.29 360 P P 17 26 58.8 +3.8
KS19 Wonju Array Si 33.32 2 P P 17 26 55.0 -0.2
KS19 IAmb IAmb 17 27 25.9
comp=Z,187nm,1.8s
HJU Haeju 33.86 358 P P 17 27 00.0 +0.1
HJU S S 17 32 25.0 +2.8
HJU AmB
comp=Z,330nm,2.6s
MAJO Matsushiro 34.01 17 P P 17 27 00.8 -0.6
MAJO Matsushiro 34.01 17 P P 17 27 04.3 +3.0
MAJO Matsushiro 34.01 17⇑eP P 17 27 00.7 -0.6
MAJO pmax pmax
comp=Z,24nm,1.0s
MJAR Matsushiro Arr 34.01 17 P P 17 26 59.1 -2.2
comp=Z,11nm,0.8s,baz=183,slow=9.7,SNR=6.1
MJAR PcP PcP 17 29 37.6 -1.3
comp=Z,6.7nm,0.9s,baz=204,slow=2.8,SNR=2.8
MJAR LR LR 17 40 44.0
comp=Z,3μm,21.1s,baz=208,slow=36
comp=Z,11nm,0.8s
XAN Xi'an 34.18 333 ⇑P P 17 27 01.3 -1.5
XAN pP sP 17 27 17.5 +1.7
XAN S S 17 32 19.0 -8.4
XAN SS SnSn 17 34 36.8 -0.4
XAN pmax pmax
comp=Z,160nm,1.2s
XAN pmax pmax
comp=Z,430nm,3.7s
XAN LR LR
comp=Z,6μm,19.2s
XAN LR LR
comp=Z,7μm,16.0s
XAN LR LR
comp=Z,12μm,19.1s
TNCH TengChong 34.28 310 ⇑P P 17 27 05.5 +1.5
TNCH pP sP 17 27 14.0 -3.0
TNCH sP pP 17 27 18.5 +5.3
TNCH PP PnPn 17 28 17.3 -1.5
TNCH S S 17 32 32.0 +2.6
TNCH sS sS 17 32 41.0 -3.4
TNCH pmax pmax
comp=Z,12nm,1.6s
TNCH pmax pmax
comp=Z,69nm,2.7s
TNCH LR LR
comp=Z,1μm,17.0s
TNCH LR LR
comp=Z,1μm,14.3s
TNCH LR LR
comp=Z,3μm,20.6s
INKA Innaminka 34.34 158 P P 17 27 04.7 +0.5
CD2 Chengdu 34.44 323 P P 17 27 04.3 -0.9
CD2 PP PP 17 28 26.8 +3.2
CD2 S S 17 32 27.5 -4.1
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,360nm,4.2s
CD2 LR LR
comp=Z,4μm,19.3s
CD2 LR LR
comp=Z,5μm,16.6s
CD2 LR LR
comp=Z,6μm,18.2s
MORW Morawa 34.50 197 P P 17 27 04.7 -0.9
baz=35,SNR=28
MORW Morawa 34.50 197 P P 17 27 04.8 -0.9
MORW IAmb IAmb 17 27 14.2
comp=Z,89nm,0.9s
MORW Morawa 34.50 197 P P 17 27 06.5 +0.9
FORT Forrest 34.64 178 P P 17 27 05.8 -1.0
baz=35,SNR=52
FORT Forrest 34.64 178 P P 17 27 05.8 -1.0
FORT Forrest 34.64 178 P P 17 27 06.6 -0.2
MND Mandalay 34.71 304 P P 17 27 06.5 -1.0
QLP Quilpie 34.80 152 P P 17 27 07.4 -0.8
baz=35,SNR=7.4
QLP Quilpie 34.80 152 P P 17 27 08.7 +0.5
MULG Mulgathing 34.82 169 P P 17 27 08.9 +0.5
PYAG Pyongyang 34.87 359 P P 17 27 10.0 +1.3
PYAG S S 17 32 40.3 +2.6
PYAG AmB
comp=Z,341nm,2.3s
PYAG AMS AMS
comp=Z,3μm,18.6s
HNS HongShan 35.01 343 ⇑P P 17 27 10.0 +0.1
HNS S S 17 32 37.0 -2.9
HNS pmax pmax
comp=Z,67nm,1.2s
HNS LR LR
comp=Z,2μm,22.6s
HNS LR LR
comp=Z,4μm,22.8s
HNS LR LR
comp=Z,4μm,22.9s
DL2 Dalian 35.03 353⇑iP P 17 27 11.3 +1.3
DL2 S S 17 32 41.8 +1.6
DL2 pmax pmax
comp=Z,160nm,1.0s
DL2 pmax pmax
comp=Z,520nm,8.6s
DL2 LR LR
comp=Z,2μm,16.1s
DL2 LR LR
comp=Z,3μm,19.0s
DL2 LR LR
comp=Z,5μm,24.7s
KMBL Kambalda 35.52 187 P P 17 27 13.5 -0.9
baz=36,SNR=28
KMBL Kambalda 35.52 187 P P 17 27 14.2 -0.2
HNR Honiara 35.63 112 IAMs_20 IAMs_20 17 40 53.5
comp=Z,3μm,21.0s
HNR Honiara 35.63 112 LR LR 17 40 53.2
comp=Z,34μm,21.2s,baz=290,slow=35
BLDU Ballidu 35.78 195 P P 17 27 15.7 -1.0
baz=36,SNR=33
BLDU Ballidu 35.78 195 P P 17 27 16.6 0.0
SUJ Sinuiju 35.96 357 P P 17 27 18.9 +0.8
SUJ S S 17 32 56.0 +1.4
SUJ AmB
comp=Z,602nm,2.7s
SUJ AMS AMS
comp=Z,3μm,17.9s
LCRK Leigh Creek 35.98 163 P P 17 27 18.9 +0.5
TIY Taiyuan 36.01 340 P P 17 27 30.8 +12
TIY PP PP 17 28 42.8 +2.0
TIY S S 17 32 47.3 -8.2
TIY pmax pmax
comp=Z,54nm,0.6s
TIY LR LR
comp=N,2μm,17.9s
TIY LR LR
comp=E,2μm,24.0s
TIY LR LR
comp=Z,2μm,19.9s
JMM Marumori 36.02 19 P P 17 27 21.2 +2.6
KLBR Kellerberrin 36.47 193 P P 17 27 21.6 -0.8
baz=37,SNR=45
BJI Beijing 37.11 346 P P 17 27 28.3 +0.5
BJI pP sP 17 27 40.0 -0.8
BJI sP pP 17 27 45.0 +7.9
BJI PP PnPn 17 28 56.5 +3.2
BJI S S 17 33 09.3 -2.7
BJI pmax pmax
comp=Z,51nm,1.5s
BJI pmax pmax
comp=Z,170nm,5.3s
BJI LR LR
comp=Z,810nm,19.9s
BJI LR LR
comp=Z,2μm,23.4s
BJI LR LR
comp=Z,1μm,22.6s
MUN Mundaring 37.21 195 P P 17 27 27.9 -0.9
baz=37,SNR=49
MUN Mundaring 37.21 195 P P 17 27 29.0 +0.2
SAIH SAIHA 37.52 302 eP P 17 27 30.0 -1.8
SAIH IAmb IAmb 17 27 47.5
comp=Z,108nm,0.6s
EIDS Eidsvold 37.55 142 P P 17 27 31.4 -0.3
baz=38,SNR=50
EIDS Eidsvold 37.55 142 P P 17 27 31.2 -0.6
EIDS IAmb IAmb 17 27 35.4
comp=Z,150nm,0.9s
EIDS IAMs_20 IAMs_20 17 44 11.5
comp=Z,3μm,19.0s
EIDS Eidsvold 37.55 142 P P 17 27 32.0 +0.2
BBOO Buckleboo 37.68 167 P P 17 27 31.9 -0.8
baz=38,SNR=305
BBOO Buckleboo 37.68 167 P P 17 27 32.0 -0.8
BBOO Buckleboo 37.68 167 P P 17 27 32.9 +0.1
SNY Shenyang 37.74 356 ⇑P P 17 27 32.8 -0.3
SNY S S 17 33 15.3 -6.2
SNY pmax pmax
comp=Z,30nm,1.3s
SNY pmax pmax
comp=Z,200nm,3.6s
SNY LR LR
comp=Z,1μm,23.5s
SNY LR LR
comp=Z,3μm,24.5s
SNY LR LR
comp=Z,4μm,23.7s
IMP Imphal 37.76 306 eP P 17 27 31.6 -2.1
IMP IAmb IAmb 17 27 57.9
comp=Z,50nm,0.9s
NWAO Narrogin (SRO) 37.87 193 P P 17 27 34.0 -0.3
baz=38,SNR=34
NWAO P P 17 27 34.0 -0.3
baz=38,SNR=34
NWAO Narrogin (SRO) 37.87 193 P P 17 27 33.9 -0.4
NWAO Narrogin (SRO) 37.87 193 IAmb IAmb 17 27 35.6
comp=Z,815nm,1.3s
NWAO Narrogin (SRO) 37.87 193 P P 17 27 34.9 +0.6
NWAO Narrogin (SRO) 37.87 193 P P 17 27 33.9 -0.4
NWAO pmax pmax
comp=Z,250nm,1.3s
NWAO Narrogin (SRO) 37.87 193 LR LR 17 44 11.4
comp=Z,420nm,20.4s,baz=20,slow=38
MOKO MOKOCHONG 38.03 309 eP P 17 27 36.0 0.0
MOKO IAmb IAmb 17 27 55.8
comp=Z,44nm,0.6s
KOHI KOHIMA 38.05 308 eP P 17 27 33.9 -2.4
KOHI IAmb IAmb 17 27 59.5
comp=Z,85nm,0.9s
LZH Lanzhou 38.28 329 ⇑P P 17 27 37.8 -0.2
LZH pP sP 17 27 52.5 +1.5
LZH sS sS 17 33 52.3 +7.6
LZH SS SnSn 17 36 10.0 -6.6
LZH pmax pmax
comp=Z,130nm,1.4s
LZH LR LR
comp=Z,9μm,15.8s
LZH LR LR
comp=Z,7μm,15.8s
LZH LR LR
comp=Z,8μm,16.8s
STKA Stephens Creek 38.39 160 P P 17 27 38.6 -0.1
baz=38,SNR=75
STKA Stephens Creek 38.39 160 P P 17 27 38.4 -0.4
STKA Stephens Creek 38.39 160 P P 17 27 39.0 +0.2
STKA Stephens Creek 38.39 160c iP P 17 27 37.7 -1.1
STKA Stephens Creek 38.39 160 P P 17 27 38.6 -0.1
comp=Z,140nm,0.9s,baz=334,slow=8.8,SNR=141
STKA S S 17 33 29.2 -2.4
comp=Z,21nm,1.1s,baz=68,slow=23,SNR=6.0
STKA LR LR 17 45 42.7
comp=Z,1μm,19.4s,baz=332,slow=40
comp=Z,140nm,0.9s
JTM Tenmabayashi 38.77 17 P P 17 27 42.3 +0.4
JTM IAmb IAmb 17 27 58.8
comp=Z,97nm,1.0s
AULRC Lightning Ridg 38.99 150 P P 17 27 43.9 +0.1
HTT Hallett 38.99 164 P P 17 27 43.6 -0.2
baz=39,SNR=60
HTT Hallett 38.99 164 P P 17 27 44.6 +0.8
ITAN ITANAGAR 39.06 309 eP P 17 27 44.2 -0.3
ITAN IAmb IAmb 17 28 01.4
comp=Z,399nm,0.2s
HHC Hu-ho-hao-te 39.13 342 eP P 17 27 45.3 +0.3
HHC pmax pmax
comp=Z,60nm,0.8s
HHC pmax pmax
comp=Z,620nm,4.7s
HHC LR LR
comp=Z,4μm,15.3s
HHC LR LR
comp=Z,3μm,16.8s
HHC LR LR
comp=Z,4μm,17.6s
ZIRO ZIRO 39.15 310 eP P 17 27 44.5 -1.0
ZIRO IAmb IAmb 17 28 03.3
comp=Z,69nm,0.6s
BTO Baotou 39.42 340 eP P 17 27 49.8 +2.3
BTO pP sP 17 27 59.5 -1.0
BTO sP pP 17 28 03.8 +7.0
BTO PP PnPn 17 29 26.0 +4.7
BTO S S 17 33 51.3 +4.0
BTO sS sS 17 34 08.8 +6.2
BTO pmax pmax
comp=Z,32nm,1.2s
BTO pmax pmax
comp=Z,520nm,7.7s
BTO LR LR
comp=Z,5μm,28.0s
BTO LR LR
comp=Z,10μm,25.9s
BTO LR LR
comp=Z,7μm,27.3s
TEZP TEZPUR 39.52 308 eP P 17 27 47.5 -0.9
TEZP IAmb IAmb 17 27 56.8
comp=Z,23nm,0.5s
RKGY Rocky Gully 39.54 193 P P 17 27 49.7 +1.4
baz=40,SNR=14
CN2 Changchun 39.62 358 eP P 17 27 50.0 +1.1
CN2 esP sP 17 28 02.0 0.0
CN2 eS S 17 33 51.3 +1.4
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,400nm,5.0s
CN2 LR LR
comp=Z,2μm,22.0s
CN2 LR LR
comp=Z,2μm,22.0s
CN2 LR LR
comp=Z,2μm,21.0s
CMSA Cobar Meteorol 39.69 154 P P 17 27 49.9 +0.2
baz=40,SNR=34
CMSA Cobar Meteorol 39.69 154 P P 17 27 49.5 -0.2
AUALB St Joseph's Co 39.72 191 P P 17 27 51.4 +1.5
SHL Shillong 39.76 306 P P 17 27 49.4 -1.2
SHL Shillong 39.76 306 P P 17 27 49.4 -1.2
SHL pmax pmax
comp=Z,168nm,0.7s
SHL MLR MLR
comp=Z,2μm,19.0s
SHL Shillong 39.76 306 eP P 17 27 48.8 -1.8
SHL IAmb IAmb 17 28 02.6
comp=Z,128nm,0.8s
USA0B Ussuriysk Arra 40.26 6⇓eP P 17 27 55.8 +1.6
USRK Ussuriysk Ar. 40.26 6 P P 17 27 53.8 -0.4
comp=Z,4.9nm,0.7s,baz=188,slow=8.7,SNR=12
USRK PcP PcP 17 29 57.1 -0.6
comp=Z,4.9nm,0.6s,baz=192,slow=5.3,SNR=1.1
USRK LR LR 17 44 29.2
comp=Z,1μm,21.8s,baz=187,slow=36
comp=Z,4.9nm,0.7s
MDJ Mudanjiang 40.49 3 IAmb IAmb 17 28 15.0
comp=Z,113nm,1.1s
MDJ Mudanjiang 40.49 3 P P 17 27 57.6 +1.4
MDJ Mudanjiang 40.49 3 P P 17 27 57.5 +1.4
MDJ pP sP 17 28 11.0 +1.7
MDJ PcP PcP 17 29 59.5 +1.1
MDJ ScP ScP 17 33 43.5 -2.2
MDJ PcS PcS 17 33 51.8 +2.9
MDJ S S 17 34 04.3 +1.4
MDJ ScS ScS 17 37 58.5 -1.2
MDJ pmax pmax
comp=Z,24nm,1.3s
MDJ pmax pmax
comp=Z,240nm,3.5s
MDJ LR LR
comp=Z,3μm,17.8s
MDJ LR LR
comp=Z,2μm,16.4s
MDJ LR LR
comp=Z,5μm,16.0s
ERM Erimo 40.54 19 IAMs_20 IAMs_20 17 44 28.9
comp=Z,3μm,20.0s
XLT XiLinHaoTe 40.81 348 eP P 17 27 59.5 +0.6
XLT pP sP 17 28 09.0 -3.0
XLT S S 17 34 01.8 -6.2
XLT sS sS 17 34 24.5 +1.0
XLT ScS ScS 17 37 59.5 -2.4
XLT pmax pmax
comp=Z,100nm,1.2s
XLT pmax pmax
comp=Z,280nm,3.6s
XLT LR LR
comp=Z,2μm,19.1s
XLT LR LR
comp=Z,2μm,22.1s
BNX BinXian 41.54 1 ⇑P P 17 28 05.3 +0.6
BNX pP sP 17 28 14.3 -3.6
BNX sP pP 17 28 18.0 +3.9
BNX PP PP 17 29 41.5 +0.4
BNX S S 17 34 21.3 +2.8
BNX sS sS 17 34 35.5 +1.5
BNX pmax pmax
comp=Z,28nm,0.7s
BNX pmax pmax
comp=Z,540nm,6.0s

BNX LR LR
comp=Z,4μm,23.9s
BNX LR LR
comp=Z,2μm,23.3s
BNX LR LR
comp=Z,5μm,22.8s
AUDCS Dubbo College 41.60 152 P **P** **17 28 05.9 +0.4**
ARMA Armidale 41.68 147 P **P** **17 28 06.7 +0.5**
baz=42,SNR=55
ARMA Armidale 41.68 147 P **P** **17 28 06.5 +0.3**
ARMA IAmb IAmb 17 28 10.8
comp=Z,114nm,0.8s
ARMA Armidale 41.68 147 P **P** **17 28 07.2 +0.9**
AUPHS Peel High Scho 41.82 148 P **P** **17 28 08.3 +1.0**
ASAJ Asahikawa 42.28 17 P **P** **17 28 11.6 +0.8**
ASAJ pmax pmax
comp=Z,228nm,1.6s
ASAJ Asahikawa 42.28 17 LR LR 17 45 34.6
comp=Z,3μm,21.4s,baz=213,slow=36
JKA Kamikawa-asahi 42.28 17 P **P** **17 28 11.6 +0.8**
JKA IAmb IAmb 17 28 47.0
comp=Z,228nm,1.6s
LSA Lhasa 42.30 311 P **P** **17 28 11.1 -0.6**
LSA Lhasa 42.30 311 P **P** **17 28 11.4 -0.3**
LSA Lhasa 42.30 311 P **P** **17 28 11.1 -0.6**
LSA pmax pmax
comp=Z,49nm,0.7s
LSA MLR MLR
comp=Z,2μm,21.0s
GTA Gaotai 42.87 329 P **P** **17 28 15.3 -0.6**
GTA pP sP 17 28 30.0 +1.0
GTA pmax pmax
comp=Z,19nm,1.0s
GTA pmax pmax
comp=Z,240nm,6.0s
GTA LR LR
comp=Z,4μm,19.5s
GTA LR LR
comp=Z,3μm,20.7s
GTA LR LR
comp=Z,5μm,23.9s
ARPS Mount Arapiles 42.95 162 P **P** **17 28 16.6 +0.2**
baz=43,SNR=88
GTK Tadong 43.17 306 *e*P **P** **17 28 17.9 -0.6**
GTK IAmb IAmb 17 28 35.1
comp=Z,84nm,1.1s
YNG Young 43.23 154 P **P** **17 28 18.8 +0.1**
AUMAG Moama Anglican 43.32 159 P **P** **17 28 21.0 +1.7**
GOMU GeErMu 43.49 321 P **P** **17 28 21.0 -0.3**
GOMU sP pP 17 28 28.5 -2.1
GOMU PP **PP** **17 30 02.8 0.0**
GOMU pmax pmax
comp=Z,23nm,1.3s
GOMU LR LR
comp=Z,2μm,19.7s
GOMU LR LR
comp=Z,2μm,19.6s
GOMU LR LR
comp=Z,4μm,19.7s
MGCD Mangrove Creek 43.61 150 P **P** **17 28 21.8 +0.1**
baz=44,SNR=4.9
TAPN Taplejung 43.90 306 *e*P **P** **17 28 22.7 -1.9**
comp=Z,115nm,0.8s
ODAN Odare 43.95 305 *e*P **P** **17 28 23.3 -1.7**
comp=Z,190nm,0.6s
ODAN Odare 43.95 305 *e*P **P** **17 28 23.5 -1.5**
BOK Bokaro 44.07 300 *e*P **P** **17 28 24.0 -1.7**
BOK IAmb IAmb 17 28 38.2
comp=Z,19nm,0.8s
RIV Riverview 44.13 150 P **P** **17 28 26.0 +0.1**
baz=44,SNR=4.1
RIV Riverview 44.13 150 P **P** **17 28 27.2 +1.3**
KOUNC Koumac, New Ca 44.16 125 P **P** **17 28 25.9 -0.4**
KOUNC Koumac, New Ca 44.16 125 P **P** **17 28 28.5 +2.2**
AUHPC Hawkesdale P12 44.34 162 P **P** **17 28 30.4 +2.9**
CAN Canberra 44.35 154 P **P** **17 28 28.7 +1.0**
CAN IAmb_20 IAmb_20 17 47 29.8
comp=Z,2μm,21.0s
CAN Canberra 44.35 154 P **P** **17 28 28.9 +1.2**
CAN Canberra 44.35 154 P **P** **17 28 28.7 +1.0**
CAN pmax pmax
comp=Z,167nm,0.8s
CAN MLR MLR
comp=Z,2μm,21.0s
CNB Canberra Magne 44.51 153 P **P** **17 28 30.1 +1.0**
baz=44,SNR=21
CNB Canberra Magne 44.51 153 P **P** **17 28 30.2 +1.2**
RAMN Ramite 44.64 305 *e*P **P** **17 28 29.6 -0.8**
comp=Z,72nm,0.5s
TOO Toolangi 44.90 159 P **P** **17 28 33.1 +1.1**
baz=45,SNR=19
TOO Toolangi 44.90 159 P **P** **17 28 32.8 +0.8**
TOO IAmb IAmb 17 28 44.8
comp=Z,175nm,1.4s
TOO Toolangi 44.90 159 P **P** **17 28 33.5 +1.5**
TOO Toolangi 44.90 159 P **P** **17 28 32.8 +0.8**
TOO pmax pmax
comp=Z,175nm,1.5s
YSS Yuzh-Sakhalins 44.93 15 P **P** **17 28 32.0 -0.1**
YSS IAMs_20 IAMs_20 17 44 44.1
comp=Z,3μm,22.0s
YSS Yuzh-Sakhalins 44.93 15 P **P** **17 28 35.8 +3.7**
YSS Yuzh-Sakhalins 44.93 15 *e*P **P** **17 28 33.4 +1.3**
YSS *e*S **S** **17 35 09.7 +1.6**
YSS *e*SS **ScS** **17 38 25.0 -2.1**
YSS *e*SSS SSS 17 39 21.0
YSS pmax pmax
comp=Z,80nm,1.0s
YSS smax smax
comp=N,700nm,11.4s
AUUHS Ulladulla High 45.05 152 P **P** **17 28 35.6 +2.4**
AUSMG Snowy Mountain 45.11 155 P **P** **17 28 35.1 +1.3**
KLR Kul'dur 45.23 5⇑ *e*P **P** **17 28 31.9 -2.5**
KLR pmax pmax
comp=Z,5.0nm,0.6s
KLR MLR MLR
comp=Z,2μm,19.0s
KLR Kul'dur 45.23 5 LR LR 17 49 32.0
comp=Z,1μm,19.3s,baz=195,slow=39
JIRN Jiri 45.26 306 *e*P **P** **17 28 33.9 -1.6**
comp=Z,156nm,0.7s
HIA Hailar 45.47 354 IAmb IAmb 17 28 56.2
comp=Z,121nm,1.2s
HIA Hailar 45.47 354 IAMs_20 IAMs_20 17 47 04.2
comp=Z,3μm,22.0s
HIA Hailar 45.47 354 P **P** **17 28 37.7 +1.3**
GUN Gumba 45.61 306 *e*P **P** **17 28 36.5 -1.8**
comp=Z,194nm,0.7s
PKI Pulchoki 45.85 305 *e*P **P** **17 28 37.9 -2.3**
comp=Z,44nm,0.6s
MILA Mila 45.88 155 P **P** **17 28 41.8 +1.9**
baz=46,SNR=6.0
MILA Mila 45.88 155 P **P** **17 28 40.8 +0.9**
PALK Pallekele 45.98 276 P **P** **17 28 39.7 -1.3**
comp=Z,9.9nm,0.9s,baz=90,slow=5.1,SNR=2.4
PALK PcP **PcP** **17 30 17.4 -0.1**
comp=Z,7.2nm,0.7s,baz=165,slow=4.0,SNR=1.6
PALK LR LR 17 49 30.0
comp=Z,800nm,21.8s,baz=203,slow=38
comp=Z,9.9nm,0.9s
KKN Kakani 46.05 305 *e*P **P** **17 28 39.7 -1.9**
HEH HeiHe 46.06 1 *e*P **P** **17 28 40.3 -0.7**
HEH pP **pP** **17 28 49.5 -0.9**
HEH sP **sP** **17 28 53.0 -1.2**
HEH S **S** **17 35 23.5 -0.8**
HEH sS **sS** **17 35 38.0 -1.9**
HEH pmax pmax
comp=Z,23nm,0.9s
HEH pmax pmax
comp=Z,370nm,5.7s
HEH LR LR
comp=Z,3μm,22.8s
HEH LR LR
comp=Z,2μm,24.9s
HEH LR LR
comp=Z,6μm,24.8s
DMN Daman 46.12 305 *e*P **P** **17 28 40.6 -1.6**
NOUC Port Laguerre 46.55 126 P **P** **17 28 48.4 +3.1**
DZM Mont Dzumac 46.65 126 *e*P **P** **17 28 46.8 +0.6**
comp=Z,307nm,1.2s
DZM *e*S **S** **17 35 31.1 -2.7**
comp=Z,1μm,29.2s
DZM *e*LR LR 17 41 49.3
comp=Z,3μm,26.9s
DZM Mont Dzumac 46.65 126 P **P** **17 28 46.3 +0.1**
DZM Mont Dzumac 46.65 126 P **P** **17 28 48.8 +2.6**

DZM Mont Dzumac 46.65 126 LR LR 17 45 19.9
comp=Z,935nm,21.8s,baz=308,slow=32
GKN Gorkha 46.65 305 *e*P **P** **17 28 44.5 -1.8**
comp=Z,58nm,0.6s
LIFNC LIFOU 46.70 123 P **P** **17 28 50.2 +3.7**
UGL Uglegorsk 46.73 14 *e*P P 17 28 58.9 +13
UGL pmax pmax
comp=Z,240nm,1.1s
ONTNC Ouen Toro 46.77 126 P **P** **17 28 49.6 +2.6**
ULN Ulaanbaatar 46.85 342 P **P** **17 28 47.3 -0.2**
ULN IAmb IAmb 17 29 07.6
comp=Z,75nm,0.9s
ULN Ulaanbaatar 46.85 342 IAMs_20 IAMs_20 17 49 29.6
comp=Z,3μm,21.0s
ULN Ulaanbaatar 46.85 342 *ce*P **P** **17 28 47.0 -0.5**
ULN pmax pmax
comp=Z,16nm,0.8s
ULN MLR MLR
comp=Z,3μm,21.0s
YATNC Mamie plateau, 47.01 125 P **P** **17 28 51.1 +2.2**
SONM Songino Array 47.03 341 P **P** **17 28 48.9 0.0**
SONM IAmb IAmb 17 29 08.8
comp=Z,50nm,1.2s
SONM Songino Array 47.03 341 P **P** **17 28 48.4 -0.5**
comp=Z,7.5nm,0.7s,baz=161,slow=8.5,SNR=37
SONM PcP **PcP** **17 30 20.4 -0.3**
comp=Z,8.4nm,0.7s,baz=175,slow=2.5,SNR=1.5
SONM ScP **ScP** **17 34 15.7 +3.2**
comp=Z,1.1nm,0.8s,baz=174,slow=4.1,SNR=1.5
SONM LR LR 17 49 56.2
comp=Z,2μm,20.1s,baz=154,slow=38
SONM PKPPKP **P'P'df** **18 00 15.1 +6.6**
comp=Z,1.1nm,1.1s,baz=262,slow=4.5,SNR=3.6
comp=Z,7.5nm,0.7s
OUENC Ouen Island, N 47.14 126 IAmb IAmb 17 29 00.7
comp=Z,78nm,1.1s
OUENC Ouen Island, N 47.14 126 P **P** **17 28 54.5 +4.6**
GRNR Gornyy 47.27 8‖ *i*P **P** **17 28 50.2 -0.3**
GRNR pmax pmax
comp=E,3.0nm,1.2s
GRNR pmax pmax
comp=Z,2.0nm,1.0s
GRNR MLR MLR
comp=E,560nm,17.0s
GRNR MLR MLR
comp=N,790nm,19.0s
GRNR MLR MLR
comp=Z,1μm,20.0s
KOLN Koldanda 47.41 305 *e*P **P** **17 28 50.5 -1.8**
comp=Z,234nm,0.7s
DANN Dangsing 47.50 305 *e*P **P** **17 28 51.2 -1.8**
comp=Z,288nm,0.6s
PINNC Pines Island, 47.72 126 P **P** **17 28 57.0 +2.6**
PYUN Piuthan 48.04 305 *e*P **P** **17 28 55.7 -1.4**
comp=Z,102nm,0.5s
TYV Tymovskoe 48.53 13 *e*P **P** **17 29 02.4 +2.2**
TYV *e*S **S** **17 36 04.4 +4.9**
TYV pmax pmax
comp=Z,19nm,0.9s
TYV pmax pmax
comp=Z,300nm,3.1s
TYV smax smax
comp=N,300nm,6.4s
TYV smax smax
comp=E,1μm,6.4s
AULHS Lilydale High 48.78 160 P **P** **17 29 03.5 +1.2**
CIT Chita 49.08 349 *e*P **P** **17 29 06.2 +1.7**
CIT *e* 17 36 15.0
CIT pmax pmax
comp=Z,150nm,1.7s
HYB Hyderabad 49.08 290 *e*P **P** **17 29 06.5 +1.4**
HYB *es*P **sP** **17 29 14.8 -3.6**
HYB *e*S **S** **17 36 08.6 +0.2**
KOD Kodaikanal 49.30 280 *e*P **P** **17 29 05.6 -1.5**
ZEA Zeya 49.55 0 *e*P **P** **17 29 08.8 +0.8**
ZEA *e*S **S** **17 36 17.1 +3.4**
ZEA pmax pmax
comp=E,10.0nm,1.1s
ZEA pmax pmax
comp=N,30nm,0.7s
ZEA pmax pmax
comp=Z,50nm,0.8s
ZEA smax smax
comp=E,400nm,16.1s
MOO Moorlands 49.82 160 P **P** **17 29 11.1 +0.8**
baz=50,SNR=4.7
MOO Moorlands 49.82 160 P **P** **17 29 13.9 +3.6**
ZAK Zakamensk 50.26 341 *e*P **P** **17 29 13.1 -0.5**
ZAK pmax pmax
comp=Z,18nm,1.2s
TAU Tasmania Unive 50.28 160 P **P** **17 29 15.5 +1.8**
LGTI Lohaghat 50.77 305 *e*P **P** **17 29 15.7 -1.9**
AKL Akola 51.13 293 *e*P **P** **17 29 19.7 -0.9**
NFK Norfolk Island 51.38 133 P **P** **17 29 21.0 -1.3**
baz=51,SNR=5.6
NFK Norfolk Island 51.38 133 P **P** **17 29 26.3 +4.0**
IRK Irkutsk 51.56 342 *e*P **P** **17 29 23.3 +0.1**
IRK pmax pmax
comp=Z,153nm,2.3s
MOY Mondy 52.12 340 *e*P **P** **17 29 28.1 +0.5**
MOY pmax pmax
comp=Z,96nm,2.3s
WMQ Urumqi 52.52 325 *e*P **P** **17 29 30.5 -0.1**
WMQ ScP **ScP** **17 34 33.5 -2.5**
WMQ pmax pmax
comp=Z,46nm,1.3s
WMQ LR LR
comp=Z,7μm,19.1s
WMQ LR LR
comp=Z,3μm,18.1s
WMQ LR LR
comp=Z,3μm,23.9s
KAD Karad 53.19 289 *e*P **P** **17 29 34.5 -1.5**
KUDL Kundal 53.47 302 *e*P **P** **17 29 35.6 -2.2**
POO Poona 53.68 290 *e*P **P** **17 29 37.8 -1.8**
POO IAmb IAmb 17 29 50.8
comp=Z,46nm,0.8s
FUNA Funafuti 53.71 104 P **P** **17 29 42.8 +3.0**
SMLA Simla 53.85 306 *e*P **P** **17 29 38.6 -1.8**
SMLA IAmb IAmb 17 29 55.5
comp=Z,186nm,1.2s
YSA Yasawairara 54.22 114 P **P** **17 29 45.0 +1.6**
BOD Bodaibo 54.57 352 *e*P **P** **17 29 46.3 +1.0**
BOD pmax pmax
comp=Z,126nm,1.5s
DHRM DHARAMSHALA 54.92 307 *e*P **P** **17 29 47.3 -1.3**
DHRM IAmb IAmb 17 29 59.7
comp=Z,137nm,0.8s
PEA0B Petropavlovsk- 55.12 22‖ *e*P **P** **17 29 48.9 -0.5**
PETK Petropavlovsk- 55.12 22 P **P** **17 29 47.2 -2.2**
PETK Petropavlovsk- 55.12 22 P **P** **17 29 47.2 -2.2**
PETK Petropavlovsk- 55.12 22 P **P** **17 29 48.8 -0.5**
comp=Z,8.8nm,0.7s,baz=185,slow=5.3,SNR=15
PETK LR LR 17 58 45.1
comp=Z,257nm,18.2s,baz=210,slow=42
comp=Z,8.8nm,0.7s
PET Petropavlovsk 55.42 23 *e*P **P** **17 29 52.8 +1.3**
PET *e*S **S** **17 37 36.9 +2.9**
PET pmax pmax
comp=Z,94nm,1.2s
PET MLR MLR
comp=Z,3μm,18.0s
PET MLR MLR
comp=Z,4μm,17.0s
DGTI Dogotuki 56.09 113 P **P** **17 29 59.4 +2.5**
JMU Jammu 56.19 307 *e*P **P** **17 29 57.5 +0.1**
ZSN Zaisan 56.29 327 *e*P **P** **17 29 57.1 -0.9**
baz=327
ZSN Zaisan 56.29 327 *e*P **P** **17 29 57.0 -0.9**
DGZ Jazzator, Alta 56.37 330 *ce*P **P** **17 29 58.0 -0.6**
DGZ pmax pmax
comp=Z,11nm,1.2s
DGZ MLR MLR
comp=Z,6μm,21.0s
TAVE Taveuni 56.53 113 P **P** **17 30 02.3 +2.2**
SHLS Shalkode 57.16 320 *e*P **P** **17 30 01.9 -2.5**
comp=Z,41nm,1.4s,baz=320
SHLS Shalkode 57.16 320 *e*P **P** **17 30 01.8 -2.5**
SHLS pmax pmax
comp=Z,41nm,1.4s
PDGK Podgornoye 57.23 320 P **P** **17 30 02.8 -2.0**
MK31 Makanchi Array 57.35 325 IAmb IAmb 17 30 29.6
comp=Z,117nm,1.3s
MK31 Makanchi Array 57.35 325 *i* P **P** **17 30 04.1 -1.4**
MK31 pmax pmax
comp=Z,96nm,1.0s

MKAR Makanchi Array 57.35 325 P **P** **17 30 04.1 -1.3**
MKAR Makanchi Array 57.35 325 P **P** **17 30 04.4 -1.1**
comp=Z,10.0nm,0.5s,baz=118,slow=8.2,SNR=131
MKAR ScP **ScP** **17 34 58.6 +1.5**
comp=Z,2.5nm,0.7s,baz=94,slow=6.9,SNR=3.3
MKAR LR LR 17 57 28.1
comp=Z,1μm,20.2s,baz=118,slow=39
MKAR PKPPKP **P'P'df** **17 59 54.0 -0.5**
comp=Z,0.5nm,0.8s,baz=270,slow=3.6,SNR=4.4
MKAR P4KPbc 18 07 21.2
comp=Z,0.4nm,0.6s,baz=108,slow=6.5,SNR=5.1
comp=Z,10.0nm,0.5s
UZB Uzynbulak 57.44 320 *e*P **P** **17 30 05.8 -0.5**
comp=Z,29nm,1.6s,baz=320
UZB Uzynbulak 57.44 320 *e*P **P** **17 30 05.8 -0.5**
UZB pmax pmax
comp=Z,29nm,1.6s
MAKZ Makanchi 57.53 325 P **P** **17 30 05.3 -1.5**
MAKZ Makanchi 57.53 325⇑ P **P** **17 30 06.0 -0.8**
SATY Saty 57.79 320 *e*P **P** **17 30 08.1 -0.7**
comp=Z,27nm,1.3s,baz=320
SATY *e*S **S** **17 38 03.9 -2.2**
baz=320
SATY Saty 57.79 320 *e*P **P** **17 30 08.0 -0.7**
SATY *e*S **S** **17 38 03.9 -2.2**
SATY pmax pmax
comp=Z,27nm,1.3s
NIL Nilore 57.80 308 P **P** **17 30 07.5 -1.4**
NIL Nilore 57.80 308 P **P** **17 30 07.5 -1.4**
NIL pmax pmax
comp=Z,141nm,1.2s
KPKS Kokpek 57.81 320 *e*P **P** **17 30 07.9 -0.9**
comp=Z,33nm,1.7s,baz=320
KPKS Kokpek 57.81 320 *e*P **P** **17 30 07.9 -0.9**
KPKS pmax pmax
comp=Z,33nm,1.7s
ZHN Zhinishke 57.82 320 *e*P **P** **17 30 08.0 -1.0**
baz=320
ZHN Zhinishke 57.82 320 *e*P **P** **17 30 08.0 -1.0**
KSH Kashi 57.88 315 P **P** **17 30 10.3 +0.8**
KSH pmax pmax
comp=Z,19nm,1.6s
KSH LR LR
comp=Z,2μm,22.1s
KSH LR LR
comp=Z,1μm,23.9s
KSH LR LR
comp=Z,3μm,23.6s
YAK Yakutsk 57.90 2 P **P** **17 30 08.4 -0.5**
YAK Yakutsk 57.90 2 IAMs_20 IAMs_20 17 53 36.9
comp=Z,2μm,21.0s
YAK Yakutsk 57.90 2 *e*P **P** **17 30 08.1 -0.9**
YAK *e* 17 30 54.6
YAK *e* 17 32 26.5
YAK *e*S **S** **17 38 03.7 -2.9**
YAK *e**SS **sS** **17 38 26.4 +3.9**
YAK *e* 17 39 52.1
YAK pmax pmax
comp=Z,69nm,0.9s
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,276nm,3.2s
YAK pmax pmax
comp=N,98nm,2.0s
YAK pmax pmax
comp=E,183nm,2.5s
YAK smax smax
comp=E,39nm,1.3s
YAK smax smax
comp=N,581nm,4.3s
YAK Yakutsk 57.90 2 LR LR 17 56 55.0
comp=N,36nm,19.6s,baz=175,slow=38
MA2 Magadan 58.39 14 LR LR 17 54 32.1
comp=N,805nm,21.9s,baz=216,slow=35
NRN Naryn 58.66 317 IAMs_20 IAMs_20 17 59 30.9
comp=Z,2μm,21.0s
MDOK Medeo 58.72 319 *e*P **P** **17 30 14.6 -0.8**
baz=319
MDOK *e*S **S** **17 38 15.4 -2.9**
baz=319
MDOK LR LR 17 56 28.9
baz=319
MDOK Medeo 58.72 319 *e*P **P** **17 30 14.5 -0.8**
MDOK *e*S **S** **17 38 15.4 -2.9**
TDK Taldyqorghan 58.72 322 *e*P **P** **17 30 14.7 -0.5**
comp=Z,31nm,1.3s,baz=322
TDK LR LR 17 56 10.4
comp=Z,2μm,19.7s,baz=322
TDK Taldyqorghan 58.72 322 *e*P **P** **17 30 14.6 -0.5**
TDK pmax pmax
comp=Z,31nm,1.3s
TDK MLR MLR
comp=Z,2μm,20.0s
TNSS Tian-Shan 58.73 319 *e*P **P** **17 30 15.2 -0.5**
baz=319
TNSS Tian-Shan 58.73 319 *e*P **P** **17 30 15.1 -0.6**
OUZ Omahuta 58.73 136 IAMs_20 IAMs_20 17 54 21.4
comp=Z,2μm,22.0s
AAA Alma-Ata 58.83 319 *e*P **P** **17 30 16.0 +0.1**
comp=Z,20nm,0.9s,baz=319
AAA LR LR 17 56 26.2
comp=Z,2μm,14.6s,baz=319
AAA Alma-Ata 58.83 319 *e*P **P** **17 30 16.0 +0.1**
AAA pmax pmax
comp=Z,20nm,0.9s
AAA MLR MLR
comp=Z,2μm,15.0s
CHKK Chushkaly 59.08 320 *e*P **P** **17 30 16.5 -1.1**
baz=320
CHKK Chushkaly 59.08 320 *e*P **P** **17 30 16.5 -1.1**
KZA Kyzart 59.44 317 P **P** **17 30 21.0 +0.4**
SNR=15
KUU Kurty 59.51 320 *e*P **P** **17 30 19.8 -0.8**
comp=Z,60nm,1.2s,baz=320
KUU *e*S **S** **17 38 25.8 -2.5**
baz=320
KUU LR LR 17 56 42.9
comp=Z,2μm,20.4s,baz=320
KUU Kurty 59.51 320 *e*P **P** **17 30 19.8 -0.8**
KUU *e*S **S** **17 38 25.8 -2.5**
KUU pmax pmax
comp=Z,60nm,1.2s
KUU MLR MLR
comp=Z,2μm,20.0s
TKM2 Tokmak 2 59.57 318 P **P** **17 30 20.5 -0.7**
SNR=11
KBK Karagaybulak 59.89 318 P **P** **17 30 23.5 +0.1**
SNR=10
ARLS Aral 59.98 317 P **P** **17 30 24.4 +0.4**
UCH Uchtor 60.00 317 P **P** **17 30 25.6 +1.1**
SNR=18
CHMS Chumysh 60.16 318 P **P** **17 30 24.9 -0.2**
SNR=7.7
AAK Ala-Archa 60.18 318 P **P** **17 30 25.0 -0.4**
SNR=7.5
AAK Ala-Archa 60.18 318 P **P** **17 30 25.4 0.0**
AAK Ala-Archa 60.18 318 IAMs_20 IAMs_20 17 53 20.4
comp=Z,2μm,20.0s
AAK Ala-Archa 60.18 318 P **P** **17 30 25.5 0.0**
AAK Ala-Archa 60.18 318 *de*P **P** **17 30 25.3 -0.1**
AAK pmax pmax
comp=Z,24nm,0.8s
AAK MLR MLR
comp=Z,3μm,24.0s
AAK Ala-Archa 60.18 318 P **P** **17 30 24.3 -1.1**
comp=Z,2.3nm,0.5s,baz=88,slow=6.5,SNR=11
AAK LR LR 17 59 47.9
comp=Z,1μm,21.3s,baz=98,slow=39
comp=Z,2.3nm,0.5s
ZAA0 Zalesovo Array 60.35 333 P **P** **17 30 24.6 -1.5**
ZAA0 IAmb IAmb 17 30 35.2
comp=Z,54nm,0.9s
ZALV Zalesovo Beam 60.35 333 P **P** **17 30 24.5 -1.6**
ZALV Zalesovo Beam 60.35 333 *i* P **P** **17 30 25.1 -1.0**
ZALV pmax pmax
comp=Z,9.0nm,0.5s
ZALV Zalesovo Beam 60.35 333 P **P** **17 30 23.9 -2.3**
comp=Z,3.8nm,0.3s,baz=116,slow=6.8,SNR=38
ZALV S **S** **17 38 42.3 +3.7**
comp=Z,1.6nm,0.8s,baz=53,slow=5.6,SNR=2.3
ZALV LR LR 17 58 19.0
comp=Z,2μm,20.9s,baz=129,slow=38
ZALV PKPPKP **P'P'df** **17 59 48.0 -1.5**
comp=Z,0.5nm,0.6s,baz=333,slow=1.7,SNR=3.8

ZALV PKP2bc 18 00 01.7
comp=Z,2.4nm,0.9s,baz=278,slow=4.0,SNR=7.3
comp=Z,3.8nm,0.3s
SGDS Sogindy 60.43 319 *e*P **P 17 30 25.8 -1.2**
baz=319
SGDS Sogindy 60.43 319 *e*P **P 17 30 25.8 -1.2**
USP Ospenovka 60.44 318 P **P 17 30 26.6 -0.4**
SNR=18
AML Almayashu 60.52 317 P **P 17 30 28.8 +0.8**
SNR=13
OHH Osh 60.53 315 P **P 17 30 27.9 +0.2**
EKS2 Erkin-Say 60.67 317 P **P 17 30 28.9 +0.1**
SNR=12
JCZ Jackson Bay 60.92 147 P **P 17 30 32.8 +2.5**
QRZ Quartz Range 61.12 142 P **P 17 30 31.5 -0.1**
QRZ IAMs_20 IAMs_20 17 59 24.6
comp=Z,2µm,19.0s
QRZ Quartz Range 61.12 142 P **P 17 30 34.1 +2.5**
DSZ Denniston Nort 61.22 143 P **P 17 30 33.1 +0.9**
TOZ Tahuroa Road 61.35 137 IAMs_20 IAMs_20 17 56 31.7
comp=Z,1µm,20.0s
KBL Kabul 61.40 307 P **P 17 30 33.0 -0.9**
KBL IAmb IAmb 17 30 43.3
comp=Z,40nm,0.8s
KBL IAMs_20 IAMs_20 18 01 18.4
comp=Z,1µm,20.0s
KBL Kabul 61.40 307 P **P 17 30 33.0 -0.9**
KBL pmax pmax
comp=Z,40nm,0.8s
KBL MLR MLR
comp=Z,1µm,20.0s
MLZ Mavora Lakes 61.41 148 P **P 17 30 33.5 +0.1**
MLZ IAmb IAmb 17 30 42.3
comp=Z,34nm,0.9s
BTLS Baital 61.49 320 *e*P **P 17 30 32.9 -1.2**
baz=320
BTLS Baital 61.49 320 *e*P **P 17 30 32.8 -1.2**
KURBB Kurchatov Arra 61.52 327 P **P 17 30 32.6 -1.5**
KURBB Kurchatov Arra 61.52 327 P **P 17 30 33.2 -0.9**
KURBB S **S 17 38 54.3 +0.7**
comp=Z,26nm,0.8s,baz=127,slow=6.1,SNR=146
KURBB PKP2bc 17 59 55.4
comp=Z,0.2nm,0.5s,baz=121,slow=15,SNR=1.6
KURBB LR LR 18 00 34.0
comp=Z,2.8nm,0.2s,baz=286,slow=4.1,SNR=5.8
KURK Kurchatov 61.52 327 P **P 17 30 33.4 -0.7**
comp=Z,659nm,19.6s,baz=140,slow=39
KURK Kurchatov 61.52 327*c i*P **P 17 30 33.2 -0.9**
KURK pmax pmax
comp=Z,26nm,0.8s
KURK MLR MLR
comp=Z,119nm,0.7s
KURK MLR MLR
comp=Z,2µm,22.0s
ARK Arkit 61.58 316 P **P 17 30 34.9 0.0**
MRNZ Matariki Terra 61.59 142 P **P 17 30 36.5 +1.7**
WHZ Wether Hill Ro 61.66 149 P **P 17 30 34.5 -0.7**
WHZ IAmb IAmb 17 30 43.8
comp=Z,53nm,1.0s
SEY Seymchan 61.72 13⇓*e*P **P 17 30 36.0 +0.8**
SEY pmax pmax
comp=Z,19nm,1.3s
SEY Seymchan 61.72 13 LR LR 17 55 53.6
comp=Z,677nm,21.2s,baz=204,slow=35
BTK Batken 61.76 314 IAMs_20 IAMs_20 18 01 48.8
comp=Z,2µm,22.0s
NNZ Nelson 61.87 142 IAMs_20 IAMs_20 17 59 04.5
comp=Z,2µm,20.0s
THZ Tophouse 61.90 142 P **P 17 30 35.1 -1.7**
RPZ Rata Peaks 61.97 145 IAMs_20 IAMs_20 17 56 58.0
comp=Z,1µm,19.0s
RPZ Rata Peaks 61.97 145 LR LR 17 57 00.5
comp=Z,918nm,19.9s,baz=306,slow=36
RPZ Rata Peaks 61.97 145 P **P 17 30 40.1 +2.9**
LTZ Lake Taylor 62.11 144 IAMs_20 IAMs_20 17 54 09.8
comp=Z,1µm,22.0s
SHEM Shemya Is, Ala 62.16 30 LR LR 17 53 24.9
comp=Z,1µm,21.8s,baz=296,slow=32
ARCZ Arundel 62.18 145 P **P 17 30 41.1 +2.4**
OXZ Oxford 62.30 144 IAmb IAmb 17 30 50.8
comp=Z,46nm,0.6s
TUWZ Tuamarina 62.34 142 P **P 17 30 41.9 +2.1**
DZA Taraz 62.42 317 *e*P **P 17 30 39.6 -0.8**
baz=317
DZA Taraz 62.42 317 *e*P **P 17 30 39.6 -0.8**
RAO Raoul Island 62.45 126 LR LR 17 55 08.7
comp=Z,454nm,21.6s,baz=296,slow=34
ODZ Otahua Downs 62.56 146 IAmb IAmb 17 30 59.4
comp=Z,65nm,1.3s
KHZ Kahutara 62.66 143 P **P 17 30 41.8 -0.1**
GVZ Greta Valley S 62.67 143 P **P 17 30 41.0 -1.0**
GVZ IAMs_20 IAMs_20 17 54 40.7
comp=Z,2µm,21.0s
GVZ Greta Valley S 62.67 143 P **P 17 30 42.2 +0.2**
URZ Urewera 62.71 137 LR LR 17 59 54.3
comp=Z,1µm,18.0s,baz=42,slow=38
BKZ Black Stump Fm 62.76 138 IAmb IAmb 17 30 54.2
comp=Z,68nm,0.8s
BKZ Black Stump Fm 62.76 138 P **P 17 30 46.6 +3.9**
MQZ McQueen's Vall 62.89 144 IAmb IAmb 17 30 58.5
comp=Z,58nm,1.0s
MQZ IAMs_20 IAMs_20 17 58 09.3
comp=Z,1µm,21.0s
MQZ McQueen's Vall 62.89 144 P **P 17 30 44.8 +1.4**
MRZ Mangatainoka R 62.95 140 IAmb IAmb 17 30 52.4
comp=Z,92nm,1.2s
HOWZ Holdsworth Sta 63.04 140 P **P 17 30 43.4 -1.1**
KK31 Karatay Array 63.06 317 IAmb IAmb 17 31 05.5
comp=Z,29nm,0.8s
KK31 Karatay Array 63.06 317 *i*P **P 17 30 44.2 -0.4**
KKAR Karatay Array 63.06 317 P **P 17 30 45.3 +0.7**
KKAR Karatay Array 63.06 317 IAmb IAmb 17 31 05.5
comp=Z,29nm,0.8s
KKAR Karatay Array 63.06 317 P **P 17 30 45.3 +0.7**
CHM Chimkent 63.41 316 *e*P **P 17 30 46.1 -0.9**
baz=316
CHM LR LR 17 59 20.5
comp=Z,1µm,19.6s,baz=316
CHM Chimkent 63.41 316 *e*P **P 17 30 46.0 -0.9**
CHM MLR MLR
comp=Z,1µm,20.0s
AFI Afiamalu 63.47 108 P **P 17 30 46.8 -1.0**
AFI Afiamalu 63.47 108 P **P 17 30 49.3 +1.5**
AFI Afiamalu 63.47 108 P **P 17 30 46.8 -1.0**
AFI pmax pmax
comp=Z,165nm,1.1s
OTUK Ortayu 63.93 323 P **P 17 30 49.4 -0.9**
BRZS Berezniki 64.48 325 *e*P **P 17 30 52.8 -1.1**
baz=325
BRZS Berezniki 64.48 325 *e*P **P 17 30 52.8 -1.1**
NIUE Niue 66.32 113 P **P 17 31 04.1 -2.1**
baz=66,SNR=4.7
NIUE Niue 66.32 113 P **P 17 31 05.6 -0.7**
NIUE Niue 66.32 113 P **P 17 31 08.2 +1.9**
HRA Herat 66.82 306 IAmb IAmb 17 31 46.1
comp=Z,46nm,1.3s
BVA0 Borovoye Array 67.11 327 *i*P **P 17 31 09.7 -1.0**
BVAR Borovoye Array 67.11 327 P **P 17 31 09.9 -0.8**
comp=Z,17nm,0.8s,baz=116,slow=6.8,SNR=63
BVAR S **S 17 40 01.0 -1.7**
comp=Z,0.2nm,0.4s,baz=124,slow=4.2,SNR=2.0
BVAR LR LR 18 02 30.4
comp=Z,919nm,20.6s,baz=114,slow=38
comp=Z,17nm,0.8s
BRVK Borovoye 67.18 327 P **P 17 31 10.2 -1.0**
BRVK Borovoye 67.18 327 IAMs_20 IAMs_20 18 03 48.0
comp=Z,1µm,22.0s
BRVK Borovoye 67.18 327 *i*P **P 17 31 10.1 -1.0**
BRVK pmax pmax
comp=Z,109nm,1.0s
BRVK MLR MLR
comp=Z,2µm,22.0s
TIXI Tiksi 67.54 1 P **P 17 31 11.6 -1.4**
TIXI IAmb IAmb 17 31 24.0
comp=Z,43nm,0.6s
TIXI Tiksi 67.54 1 IAMs_20 IAMs_20 18 04 46.2
comp=Z,2µm,21.0s
TIXI Tiksi 67.54 1⇓P **P 17 31 12.3 -0.7**
TIXI Tiksi 67.54 1 LR LR 18 01 49.6
comp=Z,62nm,21.9s,baz=202,slow=37
WSAR Wadi Sarin 68.37 293 P **P 17 31 17.9 -1.4**
comp=Z,4.2nm,0.7s,baz=181,slow=1.3,SNR=2.3
WSAR LR LR 18 01 30.2
comp=Z,557nm,22.0s,baz=106,slow=36
comp=Z,4.2nm,0.7s
BILL Bilibino 69.24 15 P **P 17 31 22.4 -1.4**
BILL IAMs_20 IAMs_20 18 02 03.2
comp=Z,1µm,22.0s
BILL Bilibino 69.24 15⇓P **P 17 31 24.7 +0.9**
NRIK Noril'sk 70.15 346 P **P 17 31 29.5 +0.1**
NRIK Noril'sk 70.15 346*ce*P **P 17 31 29.1 -0.3**
NRIK pmax pmax
comp=Z,41nm,0.9s
NRIK MLR MLR
comp=Z,3µm,24.0s
NRIK Noril'sk 70.15 346 P **P 17 31 29.1 -0.3**
comp=Z,22nm,0.7s,baz=123,slow=6.7,SNR=30
NRIK S **S 17 40 35.6 -2.6**
comp=Z,0.8nm,0.4s,baz=193,slow=14,SNR=20
NRIK LR LR 18 04 40.7
comp=Z,2µm,21.0s,baz=149,slow=38
comp=Z,22nm,0.7s
SOHO SOHO 70.36 294 P **P 17 31 31.1 -0.5**
UOSS Minazif 70.72 295 P **P 17 31 35.1 +1.3**
GEYT Alibeck 70.76 309 IAmb IAmb 17 31 59.1
comp=Z,42nm,0.9s
GEYT Alibeck 70.76 309 P **P 17 31 33.3 -0.5**
comp=Z,14nm,1.0s,baz=117,slow=8.7,SNR=21
GEYT LR LR 18 08 00.5
comp=Z,883nm,19.2s,baz=90,slow=40
comp=Z,14nm,1.0s
GYA0B ALIBECK ARRAY 70.76 309 IAmb IAmb 17 32 00.0
comp=Z,34nm,0.8s
GYA0B IAMs_20 IAMs_20 18 07 22.8
comp=Z,1µm,22.0s
HATD Hatta, Dubai 70.78 295 P **P 17 31 34.5 +0.3**
ASHO Ashiyiah 70.84 295 P **P 17 31 35.0 +0.5**
ALNE Al Ain 71.07 294 P **P 17 31 35.4 -0.5**
CASY Casey 71.13 187 P **P 17 31 35.7 +0.4**
CASY IAmb IAmb 17 31 57.1
comp=Z,70nm,0.8s
ASUD Al Ashush, Dub 71.49 294 P **P 17 31 37.8 -0.6**
NIKH Nikolski High 71.52 35 P **P 17 31 38.1 +0.1**
baz=251
MSEY Mahe Island 71.78 264 IAMs_20 IAMs_20 18 01 08.5
comp=Z,1µm,20.0s
AB31 Akbulak array 71.96 321 *i*P **P 17 31 38.9 -1.8**
ABKAR Akbulak array 71.96 321 IAmb IAmb 17 31 56.1
comp=Z,36nm,0.8s
UNV Unalaska Valle 73.13 35 P **P 17 31 51.8 +4.2**
UNV Unalaska Valle 73.13 35 P **P 17 31 47.3 -0.2**
baz=253,SNR=7.2
AKTO Aktyubinsk 73.47 322 P **P 17 31 48.5 -1.2**
AKTO Aktyubinsk 73.47 322 P **P 17 31 49.0 -0.7**
comp=Z,13nm,0.6s,baz=98,slow=9.3,SNR=29
AKTO S **SKiKP 17 41 22.5 +4.2**
comp=Z,2.7nm,1.1s,baz=180,slow=10,SNR=3.5
AKTO LR LR 18 08 52.6
comp=Z,1µm,18.3s,baz=101,slow=40
comp=Z,13nm,0.6s
AKUT Akutan 73.62 34 P **P 17 31 53.8 +3.3**
SVE Sverdlovsk 73.74 328⇑*e*P **P 17 31 51.0 -0.1**
SVE *e*S **SKiKP 17 41 19.2 +0.7**
SVE pmax pmax
comp=Z,80nm,1.1s
SVE MLR MLR
comp=Z,2µm,22.0s
GAMB Gambell 74.09 24 P **P 17 31 52.8 -0.2**
baz=246
ARU Arti 74.72 328 P **P 17 31 55.2 -1.6**
ARU IAmb IAmb 17 32 10.2
comp=Z,40nm,0.7s
ARU Arti 74.72 328*d i*P **P 17 31 56.2 -0.6**
ARU *PP **PcP 17 32 11.2 +0.3**
ARU S **S 17 41 29.7 -1.2**
ARU SS **SS 17 46 19.1 +0.3**
ARU pmax pmax
comp=Z,28nm,1.1s
ARU MLR MLR
comp=Z,1µm,22.0s
ARU Arti 74.72 328 P **P 17 31 55.9 -0.9**
comp=Z,11nm,0.4s,baz=86,slow=4.1,SNR=22
ARU LR LR 18 06 03.2
comp=Z,1µm,21.7s,baz=98,slow=37
comp=Z,11nm,0.4s
FALS False Pass 75.14 34 P **P 17 32 02.3 +3.0**
FALS False Pass 75.14 34 P **P 17 31 59.3 0.0**
baz=256
M11K Mekoryuk 75.27 28 P **P 17 31 59.4 -0.5**
baz=252
RAR Rarotonga 76.09 113 LR LR 18 02 17.4
comp=Z,233nm,21.3s,baz=311,slow=33
TNA Tin City 76.28 23 P **P 17 32 06.2 +0.6**
baz=249
M13K Dall Lake 76.63 29 P **P 17 32 08.7 +1.0**
baz=254
F14K Arctic Creek 76.87 23 P **P 17 32 09.7 +0.7**
baz=250
SDPT Sand Point 76.90 34 P **P 17 32 09.5 +0.2**
SDPT Sand Point 76.90 34 P **P 17 32 09.4 +0.2**
baz=258
ANM Nome 76.96 24 P **P 17 32 09.8 +0.3**
baz=252
J14K Nanvaranak Lak 77.18 26 P **P 17 32 11.2 +0.5**
baz=254
L14K Kuka Creek 77.19 28 IAmb IAmb 17 32 46.1
comp=Z,66nm,1.0s
L14K Kuka Creek 77.19 28 P **P 17 32 11.2 +0.4**
baz=255
HATHI Halema'uma'u T 77.30 71 IAMs_20 IAMs_20 18 12 45.8
comp=Z,2µm,19.0s
N14K Kuskokwak Cree 77.31 29 P **P 17 32 11.5 +0.1**
baz=256
O14K Tigyukauivet M 77.35 30 IAmb IAmb 17 32 47.1
comp=Z,50nm,1.0s
O14K Tigyukauivet M 77.35 30 P **P 17 32 11.7 -0.1**
baz=256
M14K Bethel 77.38 28 IAmb IAmb 17 32 25.7
comp=Z,50nm,0.8s
M14K Bethel 77.38 28 P **P 17 32 12.3 +0.4**
baz=256,SNR=13
S14K Fog Glacier 77.60 33 P **P 17 32 13.0 -0.3**
baz=258
F15K North Star Dit 77.61 23 P **P 17 32 13.4 +0.3**
baz=252
G15K Niukluk 77.63 24 P **P 17 32 14.2 +1.0**
baz=253
L15K Ungalak Mounta 77.83 28 P **P 17 32 14.4 0.0**
baz=256,SNR=9.2
K15K Wolf Creek Mou 77.97 27 IAmb IAmb 17 32 26.9
comp=Z,53nm,1.0s
K15K Wolf Creek Mou 77.97 27 P **P 17 32 15.6 +0.4**
baz=256
M15K Kasigluk River 77.97 29 P **P 17 32 15.6 +0.4**
baz=257
O15K Ungalikthiuk R 78.06 30 P **P 17 32 16.0 +0.3**
baz=258
N15K Kwethluk River 78.14 29 IAmb IAmb 17 32 47.1
comp=Z,58nm,1.1s
N15K Kwethluk River 78.14 29 P **P 17 32 16.6 +0.4**
baz=257
C16K Lisburne Hills 78.17 21 IAmb IAmb 17 32 39.4
comp=Z,77nm,1.6s
C16K Lisburne Hills 78.17 21 P **P 17 32 16.9 +0.7**
baz=251
CHGN Chignik 78.23 33 P **P 17 32 17.1 +0.4**
baz=260
H16K Elim 78.27 25 P **P 17 32 17.4 +0.6**
baz=254,SNR=7.9
G16K Koyuk River 78.43 24 P **P 17 32 17.7 +0.1**
baz=254
J16K Anvik River 78.62 26 IAmb IAmb 17 32 52.6
comp=Z,43nm,1.0s
J16K Anvik River 78.62 26 P **P 17 32 19.6 +0.9**
baz=256
I17K Unalakleet 78.73 25 IAmb IAmb 17 32 39.5
comp=Z,61nm,1.0s
I17K Unalakleet 78.73 25 P **P 17 32 19.5 +0.2**
baz=256,SNR=13
L16K Owhat River 78.77 28 IAmb IAmb 17 32 54.7
comp=Z,66nm,1.1s
L16K Owhat River 78.77 28 P **P 17 32 20.0 +0.4**
baz=258,SNR=16
D17K Noatak River 78.80 21 P **P 17 32 20.3 +0.7**
baz=253
N16K Nishlik Lake 78.85 29 P **P 17 32 20.4 +0.3**
baz=258
M16K Timber Creek 78.87 29 IAmb IAmb 17 32 33.6
comp=Z,38nm,0.8s
M16K Timber Creek 78.87 29 P **P 17 32 21.0 +0.8**
baz=258
R16K Pilot Point 78.91 32 P **P 17 32 20.0 -0.4**
baz=260
P16K Nushagak River 78.95 31 P **P 17 32 20.7 +0.1**
baz=259
RDOG Red Dog Mine 78.97 21 IAMs_20 IAMs_20 18 07 33.8
comp=Z,989nm,22.0s
RDOG Red Dog Mine 78.97 21 P **P 17 32 20.7 +0.1**
baz=253,SNR=7.2
C17K DeLong Mountai 79.00 21 P **P 17 32 20.6 -0.2**
baz=253
O16K Kokwok River B 79.01 30 IAmb IAmb 17 32 27.0
comp=Z,59nm,1.2s
O16K Kokwok River B 79.01 30 P **P 17 32 21.2 +0.3**
baz=259
E17K Hotham Inlet 79.10 22 P **P 17 32 21.5 +0.2**
baz=254,SNR=15
G17K Kiwalik Mounta 79.14 24 P **P 17 32 21.5 -0.1**
baz=256
F17K Baldwin Pennin 79.15 23 P **P 17 32 22.0 +0.4**
baz=255
H17K Granite Mounta 79.31 25 P **P 17 32 22.3 -0.3**
baz=256
L17K Donlin 79.41 27 P **P 17 32 23.3 +0.2**
baz=258
MAK Makhachkala 79.43 313 *e*P **P 17 32 23.2 -0.4**
MAK *e* 17 35 25.5
MAK *e*PPP PPP 17 37 11.9
MAK *e*S **S 17 42 21.6 -1.1**
MAK *e*SS **SS 17 47 35.2 +4.7**
MAK pmax pmax
comp=Z,55nm,0.6s
MAK MLR MLR
comp=Z,1µm,19.0s
K17K Iditarod 79.52 27 IAmb IAmb 17 32 35.6
comp=Z,86nm,1.0s
K17K Iditarod 79.52 27 P **P 17 32 24.1 +0.4**
baz=258
O17K Koliganek Bris 79.54 30 P **P 17 32 24.2 +0.4**
baz=260
R17K Ugashik Creek 79.55 32 IAmb IAmb 17 32 59.8
comp=Z,69nm,1.1s
R17K Ugashik Creek 79.55 32 P **P 17 32 24.3 +0.3**
baz=261
N17K Nushagak Hills 79.63 29 P **P 17 32 24.5 +0.2**
baz=260
E18K Tukpahlearik C 79.64 22 IAmb IAmb 17 32 33.5
comp=Z,41nm,0.8s
E18K Tukpahlearik C 79.64 22 P **P 17 32 24.5 +0.3**
baz=255
M17K Holitna River 79.67 28 P **P 17 32 24.9 +0.4**
baz=259
CHIR Chirikof Islan 79.69 34 P **P 17 32 24.9 +0.2**
baz=262
B18K Kokolik River 79.73 20 P **P 17 32 24.5 -0.2**
baz=254
C18K Utukok River 79.75 21 P **P 17 32 25.0 +0.1**
baz=255
P17K Kvichak River 79.77 31 P **P 17 32 24.9 -0.2**
baz=261
Q17K Contact Creek 79.91 32 P **P 17 32 25.3 -0.7**
baz=261
H18K Honhosa River 80.00 24 P **P 17 32 26.4 +0.2**
baz=258
KIRV Kirov 80.00 329*ce*P **P 17 32 24.7 -1.6**
KIRV Kirov 80.00 329 P **P 17 32 25.1 -1.2**
comp=Z,43nm,0.7s,baz=95,slow=2.0,SNR=13
KIRV S **S 17 42 35.1 +7.0**
comp=Z,9.5nm,0.4s,baz=90,slow=4.0,SNR=1.5
KIRV LR LR 18 12 10.7
comp=Z,1µm,19.3s,baz=99,slow=39
comp=Z,43nm,0.7s
G18K Tagagawik 80.04 24 P **P 17 32 26.6 +0.2**
baz=258
L18K Granite Mounta 80.16 28 IAmb IAmb 17 32 38.5
comp=Z,45nm,1.1s
L18K Granite Mounta 80.16 28 P **P 17 32 27.6 +0.4**
baz=260
A19K Wainwright 80.21 19 P **P 17 32 28.2 +0.9**
baz=254
BELG Belogornoye 80.21 322*de*P **P 17 32 27.2 -0.4**
BELG pmax pmax
comp=Z,15nm,1.2s
BELG MLR MLR
comp=Z,120nm,22.0s
BELG Belogornoye 80.21 322 P **P 17 32 26.9 -0.8**
comp=Z,68nm,1.1s,baz=345,slow=6.5,SNR=17
BELG S **SKSac 17 42 39.3 -3.7**
comp=Z,6.0nm,0.8s,baz=101,slow=19,SNR=6.0
BELG LR LR 18 10 33.7
comp=Z,692nm,20.9s,baz=88,slow=38
comp=Z,68nm,1.1s
N18K Kilae Creek 80.28 29 P **P 17 32 28.1 +0.2**
baz=261
J18K Innoko River 80.37 26 P **P 17 32 28.7 +0.4**
baz=260
P18K Big Mountain, 80.42 30 P **P 17 32 28.6 -0.1**
baz=262
Q18K Katmai Hardscr 80.42 31 P **P 17 32 28.7 -0.1**
baz=262
C19K Lookout Ridge 80.43 20 IAmb IAmb 17 32 49.5
comp=Z,50nm,0.8s
C19K Lookout Ridge 80.43 20 P **P 17 32 29.0 +0.4**
baz=256
M18K Stony River 80.44 28 P **P 17 32 29.2 +0.5**
baz=261
O18K Koktuh Hills 80.49 30 IAmb IAmb 17 32 46.6
comp=Z,86nm,1.1s
O18K Koktuh Hills 80.49 30 P **P 17 32 29.0 0.0**
baz=262
SVW2 Sparrevohn 80.50 29 P **P 17 32 31.9 +2.9**
GCSA Galena City Sc 80.54 25 P **P 17 32 28.7 -0.4**
baz=259
R18K Karluk 80.57 32 P **P 17 32 29.4 0.0**
baz=263
F19K Shaleruckik Mo 80.59 23 P **P 17 32 29.8 +0.5**
baz=258
SII Sitkinak Islan 80.59 33 P **P 17 32 30.1 +0.4**
baz=263
TTA Tatalina 80.59 27 P **P 17 32 30.7 +1.1**
TTA Tatalina 80.59 27 P **P 17 32 29.8 +0.2**
baz=260
G19K Purcell Mounta 80.72 24 IAmb IAmb 17 32 49.8
comp=Z,58nm,0.9s
G19K Purcell Mounta 80.72 24 P **P 17 32 30.5 +0.4**
baz=259
D19K Kuna River 80.81 21 IAmb IAmb 17 32 49.9
comp=Z,44nm,0.8s
D19K Kuna River 80.81 21 P **P 17 32 30.4 -0.2**
baz=258
H19K Roundabout Mou 80.86 24 IAmb IAmb 17 32 42.7
comp=Z,81nm,0.9s
H19K Roundabout Mou 80.86 24 P **P 17 32 31.0 +0.2**
baz=260
E19K Redstone River 80.92 22 P **P 17 32 31.5 +0.3**
baz=259
J19K Poorman 80.94 26 IAmb IAmb 17 33 04.3
comp=Z,138nm,1.6s
J19K Poorman 80.94 26 P **P 17 32 31.6 +0.2**
baz=261
O19K Port Alsworth 80.98 30 IAmb IAmb 17 32 42.3
comp=Z,64nm,1.4s
O19K Port Alsworth 80.98 30 P **P 17 32 31.2 -0.4**
baz=262
N19K Bonanza Creek 80.99 29 IAmb IAmb 17 32 47.6
comp=Z,55nm,0.9s
N19K Bonanza Creek 80.99 29 P **P 17 32 32.0 +0.2**
baz=262
L19K White Mountain 81.01 28 IAmb IAmb 17 33 06.2
comp=Z,83nm,1.1s
L19K White Mountain 81.01 28 P **P 17 32 31.8 0.0**
baz=262
OHAK Old Harbor 81.15 33 IAmb IAmb 17 32 34.3
comp=Z,129nm,1.6s
OHAK Old Harbor 81.15 33 P **P 17 32 33.9 +1.3**
OHAK Old Harbor 81.15 33 P **P 17 32 31.7 -0.9**
baz=264
Q19K Cape Douglas, 81.16 31 IAMs_20 IAMs_20 18 03 43.1
comp=Z,2µm,21.0s
Q19K Cape Douglas, 81.16 31 P **P 17 32 31.5 -1.1**
baz=263
GNI Garni 81.34 310 IAMs_20 IAMs_20 18 13 48.0
comp=Z,913nm,22.0s
GNI Garni 81.34 310 P **P 17 32 33.9 -0.4**
GNI Garni 81.34 310⇑*e*P **P 17 32 35.4 +1.2**
GNI pmax pmax
comp=Z,59nm,4.5s
GNI Garni 81.34 310 LR LR 18 15 19.5
comp=Z,488nm,20.5s,baz=78,slow=41
D20K Etivluk River 81.39 21 P **P 17 32 33.3 -0.4**
baz=259
F20K Avaraart Lake 81.42 23 P **P 17 32 33.6 -0.1**

baz=260
P19K Oil Pt 81.46 30 P P 17 32 34.0 -0.2
baz=263
B20K Meade River 81.46 20 IAmb IAmb 17 32 59.9
comp=Z,42nm,0.9s
B20K Meade River 81.46 20 P P 17 32 34.0 0.0
baz=258
E20K Nigu River 81.46 22 P P 17 32 34.4 +0.3
baz=259,SNR=33
ABPO Ambohimpanom 81.48 250 P P 17 32 33.8 -1.5
ABPO IAmb IAmb 17 32 53.9
comp=Z,34nm,0.8s
ABPO Ambohimpanom 81.48 250 P P 17 32 33.8 -1.5
ABPO pmax pmax
comp=Z,34nm,0.8s
H20K Anotleneega Mo 81.50 24 P P 17 32 34.8 +0.5
baz=261
L20K Farewell, AK 81.50 27 P P 17 32 33.8 -0.6
baz=262
K20K Telida 81.53 27 IAmb IAmb 17 32 46.5
comp=Z,43nm,0.9s
K20K Telida 81.53 27 P P 17 32 34.6 +0.1
baz=262
I20K Naaghedeneel 81.56 25 P P 17 32 34.2 -0.3
baz=262
KDAK Kodiak Island 81.59 32 P P 17 32 34.6 -0.2
KDAK IAmb IAmb 17 32 45.0
comp=Z,47nm,0.8s
KDAK Kodiak Island 81.59 32 IAMs_20 IAMs_20 18 07 18.5
comp=Z,2µm,21.0s
KDAK Kodiak Island 81.59 32 P P 17 32 34.3 -0.5
baz=264
KDAK Kodiak Island 81.59 32⇓ *e*P P 17 32 34.9 0.0
KDAK pmax pmax
comp=Z,58nm,1.3s
KDAK Kodiak Island 81.59 32 LR LR 18 04 02.3
comp=Z,777nm,21.2s,baz=270,slow=32
J20K Nowinta River 81.61 26 IAmb IAmb 17 33 09.6
comp=Z,106nm,1.4s
J20K Nowinta River 81.61 26 P P 17 32 34.8 0.0
baz=262
M20K Styx River 81.77 28 IAmb IAmb 17 32 46.7
comp=Z,52nm,0.8s
M20K Styx River 81.77 28 P P 17 32 35.9 0.0
baz=263
Q20K Shuyak Island 81.78 31 P P 17 32 35.0 -0.9
baz=264
SYI Shuyak Island 81.78 31 IAMs_20 IAMs_20 18 03 40.3
comp=Z,2µm,22.0s
O20K Slope Mountain 81.81 30 P P 17 32 35.1 -1.1
baz=264
A21K Barrow 81.91 18 P P 17 32 36.2 0.0
baz=259,SNR=10
ZEI Tsey 82.06 312 *e*P P 17 32 36.4 -1.6
ZEI pmax pmax
comp=Z,51nm,1.4s
C21K Knifeblade Rid 82.12 21 P P 17 32 37.8 +0.3
baz=261
N20K Mount Spurr 82.13 29 P P 17 32 37.3 -0.5
baz=264,SNR=11
G21K Allakaket 82.20 23 IAmb IAmb 17 32 58.6
comp=Z,38nm,0.8s
G21K Allakaket 82.20 23 P P 17 32 38.0 0.0
baz=262
VOI Vohitsoka 82.26 247 P P 17 32 37.2 -2.1
VOI IAmb IAmb 17 32 57.1
comp=Z,38nm,0.7s
VOI IAMs_20 IAMs_20 18 03 13.5
comp=Z,2µm,21.0s
VOI Vohitsoka 82.26 247 P P 17 32 40.9 +1.6
B21K Ikpikpuk River 82.26 20 P P 17 32 38.0 -0.1
baz=261
HOM Homer 82.26 30 P P 17 32 38.3 -0.1
baz=265
PRGR Permogore 82.27 332 *e*P P 17 32 37.9 -0.5
PRGR *e*S S 17 42 48.7 -2.9
PRGR pmax pmax
comp=Z,62nm,0.8s
E21K Killik River 82.30 21 IAmb IAmb 17 33 02.4
comp=Z,42nm,0.8s
E21K Killik River 82.30 21 P P 17 32 38.4 -0.1
baz=262
F21K Alatna River 82.31 23 P P 17 32 38.7 +0.2
baz=262,SNR=6.6
PPLA Purkeypile 82.32 27 P P 17 32 38.6 -0.2
baz=264,SNR=9.5
A22K Sinclair Lake 82.37 19 P P 17 32 38.9 +0.2
baz=260
CHUM Lake Minchumin 82.37 26 P P 17 32 39.3 +0.5
baz=264,SNR=24
H21K Melozitna Rive 82.38 24 IAmb IAmb 17 33 12.8
comp=Z,69nm,1.2s
H21K Melozitna Rive 82.38 24 P P 17 32 38.9 0.0
baz=263
ONI Oni 82.39 312 IAmb IAmb 17 33 12.5
comp=Z,78nm,1.5s
CAST Castle Rocks 82.43 27 IAmb IAmb 17 32 49.9
comp=Z,54nm,0.8s
CAST Castle Rocks 82.43 27 P P 17 32 39.5 +0.3
baz=264,SNR=45
CNPM China Poot 82.46 31 IAmb IAmb 17 32 48.9
comp=Z,45nm,0.8s
CNPM IAMs_20 IAMs_20 18 04 11.3
comp=Z,2µm,21.0s
SKT Skwentna 82.53 28 IAmb IAmb 17 32 50.0
comp=Z,73nm,1.1s
SKT Skwentna 82.53 28 P P 17 32 38.9 -0.9
baz=265,SNR=16
CAPN Captain Cook N 82.60 29 P P 17 32 39.7 -0.4
baz=265
BRLK Bradley Lake 82.65 30 IAmb IAmb 17 32 52.9
comp=Z,58nm,1.0s
I21K Tanana 82.66 25 P P 17 32 40.0 -0.4
baz=264
BRSE Bradley Lake S 82.72 30 P P 17 32 39.9 -0.9
baz=266
GOF Gofitskoye 82.75 315 *ce*P P 17 32 42.7 +1.4
B22K Teshekpuk Lake 82.78 20 IAmb IAmb 17 33 05.7
comp=Z,55nm,0.9s
B22K Teshekpuk Lake 82.78 20 P P 17 32 41.4 +0.6
baz=262
KBZ Khabaz 82.82 313⇑ *e*P P 17 32 42.7 +1.1
KBZ pmax pmax
comp=Z,7.0nm,0.8s
KBZ MLR MLR
comp=Z,1µm,21.0s
KBZ Khabaz 82.82 313 P P 17 32 41.1 -0.5
comp=Z,2.5nm,0.7s,baz=52,slow=5.9,SNR=6.3
KBZ LR LR 18 15 48.1
comp=Z,1µm,19.9s,baz=74,slow=40
comp=Z,2.5nm,0.7s
D22K Ayikyak River 82.83 21 P P 17 32 41.1 -0.1
baz=263,SNR=15
F22K John River 82.85 23 P P 17 32 41.9 +0.5
baz=263
SUA Susitna One 82.86 29 P P 17 32 40.4 -1.2
baz=265,SNR=26
KTH Kantishna Hill 82.96 27 IAmb IAmb 17 33 00.4
comp=Z,75nm,1.1s
KTH IAMs_20 IAMs_20 18 01 24.4
comp=Z,1µm,22.0s
KVAR Kislovodsk Arr 82.97 314 LR LR 18 12 47.6
comp=Z,1µm,21.7s,baz=268,slow=38
BPAW Bear Paw Mtn. 82.98 26 P P 17 32 42.5 +0.4
baz=265,SNR=32
KIV Kislovodsk 82.98 314 ⇓P P 17 32 50.8 +8.2
KIV Kislovodsk 82.98 314 P P 17 32 41.1 -1.5
KIV IAMs_20 IAMs_20 18 13 45.0
comp=Z,2µm,22.0s
KIV Kislovodsk 82.98 314 P P 17 32 47.1 +4.5
KIV Kislovodsk 82.98 314 *e*P P 17 32 41.9 -0.7
KIV *e*S S 17 42 57.6 -2.3
KIV pmax pmax
comp=Z,11nm,0.9s
KIV MLR MLR
comp=Z,1µm,19.0s
H22K Ishtalitna Cre 82.99 24 P P 17 32 42.7 +0.6
baz=264
G22K Bettles 83.04 23 P P 17 32 42.2 -0.1
baz=264
E22K Anaktuvuk Pass 83.06 22 IAmb IAmb 17 33 26.8
comp=Z,53nm,0.9s
E22K Anaktuvuk Pass 83.06 22 P P 17 32 42.3 -0.2
baz=264,SNR=24
CUT Chulitna 83.16 28 P P 17 32 42.6 -0.3
baz=266,SNR=8.8
MLY Manley 83.17 25 IAmb IAmb 17 33 17.2
comp=Z,92nm,1.2s
MLY Manley 83.17 25 P P 17 32 42.7 -0.4
baz=265,SNR=44
M22K Willow 83.18 28 P P 17 32 42.3 -0.8
baz=266,SNR=9.4
TRF Thorofare Moun 83.23 27 IAmb IAmb 17 32 59.9
comp=Z,69nm,1.0s
TRF Thorofare Moun 83.23 27 P P 17 32 43.1 -0.5
baz=266,SNR=22
O22K Cooper Landing 83.28 30 P P 17 32 43.4 -0.3
baz=266,SNR=7.4
ATD Arta Tunnel 83.29 281 LR LR 18 08 38.0
comp=Z,10.0nm,20.9s,baz=77,slow=35
RC01 Rabbit Creek A 83.32 29 IAmb IAmb 17 32 57.8
comp=Z,47nm,0.8s
RC01 Rabbit Creek A 83.32 29 P P 17 32 43.5 -0.3
baz=266,SNR=14
SEW Seward 83.40 30 P P 17 32 43.7 -0.5
baz=267
GURO Guroymak-BITLI 83.42 308 IAmb IAmb 17 33 01.1
comp=Z,46nm,1.0s
D23K Nanushuk River 83.56 21 P P 17 32 45.2 +0.2
baz=264
COLD Coldfoot 83.58 23 P P 17 32 44.9 -0.2
baz=265,SNR=38
G23K Bananza Creek 83.61 23 IAmb IAmb 17 33 09.5
comp=Z,69nm,1.1s
G23K Bananza Creek 83.61 23 P P 17 32 44.7 -0.6
baz=265
PMR Palmer 83.64 29 IAmb IAmb 17 32 56.0
comp=Z,64nm,1.0s
PMR Palmer 83.64 29 P P 17 32 46.9 +1.4
PMR Palmer 83.64 29 P P 17 32 44.8 -0.6
baz=267,SNR=12
C23K Itkillik River 83.67 20 P P 17 32 45.4 -0.1
baz=264
VNDA Vanda 83.72 173 P P 17 32 45.4 -0.2
VNDA IAmb IAmb 17 33 07.9
comp=Z,40nm,0.9s
VNDA Vanda 83.72 173 P P 17 32 44.7 -0.9
comp=Z,16nm,1.1s,baz=314,slow=6.3,SNR=29
VNDA LR LR 18 09 07.0
comp=Z,351nm,21.5s,baz=340,slow=35
comp=Z,16nm,1.1s
BCA Borcka 83.74 311 ⇓P P 17 32 47.7 +1.2
GHO Glory Hole Cre 83.75 28 IAmb IAmb 17 33 13.9
comp=Z,63nm,1.0s
I23K Minto, Yukon-K 83.76 25 P P 17 32 46.3 +0.3
baz=266,SNR=37
VRH Novokhopyorsk 83.79 321 *e*P P 17 32 47.3 +0.8
VRH pmax pmax
comp=Z,80nm,0.7s
NEA2 Nenana 83.85 26 IAmb IAmb 17 33 05.1
comp=Z,63nm,1.0s
NEA2 Nenana 83.85 26 P P 17 32 46.4 -0.1
baz=266,SNR=21
MCK McKinley 83.86 26 P P 17 32 45.9 -0.7
baz=267,SNR=27
E23K Chandalar 83.87 22 P P 17 32 46.2 -0.5
baz=266
RND Reindeer 83.87 27 P P 17 32 45.9 -0.9
RND IAmb IAmb 17 33 03.2
comp=Z,54nm,1.0s
RND Reindeer 83.87 27 P P 17 32 45.9 -0.9
RND pmax pmax
comp=Z,54nm,1.0s
TOLK Toolik Lake Re 83.93 21 P P 17 32 47.5 +0.5
TOLK Toolik Lake Re 83.93 21 P P 17 32 46.8 -0.1
baz=266,SNR=26
KNK Knik Glacier 83.95 29 P P 17 32 46.5 -0.6
baz=267,SNR=13
WAT1 Susitna Watana 83.98 27 P P 17 32 46.4 -0.8
baz=267
SML Sawmill 84.03 28 P P 17 32 47.3 -0.3
SML Sawmill 84.03 28 P P 17 32 47.3 -0.3
baz=267,SNR=22
MAW Mawson 84.07 200 P P 17 32 48.3 +0.9
baz=84,SNR=7.4
MAW Mawson 84.07 200 P P 17 32 48.0 +0.5
MAW Mawson 84.07 200 P P 17 32 46.5 -1.0
comp=Z,13nm,1.0s,baz=73,slow=7.3,SNR=8.3
MAW LR LR 18 06 50.5
comp=Z,374nm,21.9s,baz=70,slow=33
comp=Z,13nm,1.0s
MDM Murphy Dome 84.23 25 P P 17 32 48.2 -0.2
MDM IAmb IAmb 17 33 27.5
comp=Z,30nm,1.0s
D24K Happy Valley 84.24 21 IAMs_20 IAMs_20 18 16 22.4
comp=Z,718nm,19.0s
D24K Happy Valley 84.24 21 P P 17 32 48.7 +0.3
baz=266
E24K Your Creek 84.30 22 IAmb IAmb 17 33 25.1
comp=Z,44nm,1.1s
E24K Your Creek 84.30 22 P P 17 32 48.9 +0.1
baz=267
M23K Glacier View 84.32 28 P P 17 32 48.6 -0.4
baz=268,SNR=14
C24K Franklin Bluff 84.32 20 P P 17 32 48.9 +0.1
baz=266
WAT6 Susitna Watana 84.34 28 P P 17 32 48.9 -0.3
baz=268,SNR=30
COLA College 84.39 25 P P 17 32 49.6 +0.4
COLA IAmb IAmb 17 33 05.1
comp=Z,32nm,1.1s
COLA College 84.39 25 P P 17 32 51.1 +1.9
COLA College 84.39 25 P P 17 32 48.7 -0.5
baz=268
COLA College 84.39 25 ⇑P P 17 32 51.2 +2.0
CCB Clear Creek Bu 84.40 26 IAmb IAmb 17 33 23.7
comp=Z,80nm,1.5s
H24K Noodor Dome 84.42 24 IAmb IAmb 17 33 16.4
comp=Z,43nm,0.9s
H24K Noodor Dome 84.42 24 P P 17 32 49.7 +0.2
baz=267
P23K Montague Islan 84.42 30 P P 17 32 49.1 -0.4
baz=268
F24K Squaw Lake 84.50 23 IAmb IAmb 17 33 13.8
comp=Z,63nm,1.0s
F24K Squaw Lake 84.50 23 P P 17 32 49.5 -0.3
baz=267
SCM Sheep Creek Mo 84.51 28 P P 17 32 50.2 +0.2
baz=268,SNR=13
DHY Denali Highway 84.53 27 IAmb IAmb 17 33 09.1
comp=Z,31nm,1.0s
DHY Denali Highway 84.53 27 P P 17 32 50.2 0.0
baz=268,SNR=12
POKR Poker Plat Res 84.57 25 IAmb IAmb 17 33 08.3
comp=Z,24nm,0.9s
POKR Poker Plat Res 84.57 25 P P 17 32 49.9 -0.3
baz=268
GLI Glacier Island 84.59 29 P P 17 32 50.6 +0.2
baz=269
G24K Hadweenzic Riv 84.62 23 IAmb IAmb 17 33 14.3
comp=Z,55nm,0.9s
G24K Hadweenzic Riv 84.62 23 P P 17 32 50.4 0.0
baz=268
SBA Scott Base 84.63 172 IAMs_20 IAMs_20 18 11 41.2
comp=Z,676nm,19.0s
HDA Harding Lake 84.76 26 IAmb IAmb 17 33 00.6
comp=Z,26nm,0.8s
HDA Harding Lake 84.76 26 P P 17 32 51.5 +0.4
baz=268
HDA P P 17 32 51.5 +0.4
baz=268
ILAR Eielson Array 84.80 25 P P 17 32 50.0 -1.3
comp=Z,2.6nm,0.5s,baz=264,slow=4.5,SNR=22
ILAR PKPPKP **P'P'df** 17 59 12.1 +5.1
comp=Z,1.1nm,1.3s,baz=84,slow=1.6,SNR=4.5
ILAR LR LR 18 08 39.6
comp=Z,306nm,21.2s,baz=238,slow=34
comp=Z,2.6nm,0.5s
Q23K Middleton Isla 84.94 31 P P 17 32 52.0 -0.1
baz=269
M24K Tolsona, Glenn 85.06 28 P P 17 32 53.4 +0.6
baz=269,SNR=15
D25K Kavik River 85.12 21 IAmb IAmb 17 33 16.4
comp=Z,40nm,0.9s
D25K IAMs_20 IAMs_20 18 10 36.5
comp=Z,1µm,22.0s
D25K Kavik River 85.12 21 P P 17 32 53.9 +1.0
baz=268
SOC Sochi 85.13 313 *e*P P 17 32 50.5 -2.9
SOC *e*PPP PPP 17 38 00.7
SOC *e*S **SKSac** 17 43 09.9 -6.2
SOC *e*SS **SS** 17 48 53.6 -1.6
SOC *e*SSS SSS 17 52 21.1
PPT Papeete 85.14 108 LR LR 18 08 49.1
comp=Z,302nm,19.2s,baz=268,slow=34
PPT2 Papeete2 85.14 108 *e*P P 17 32 37.3 -17
comp=Z,165nm,26.5s
PPT2 Papeete2 85.14 108 *e*PP PP 17 35 57.8 -14
comp=Z,131nm,28.0s
PPT2 *e*S **SKSac** 17 43 16.7 -0.5
comp=Z,354nm,24.2s
PPT2 *e*SS **SS** 17 48 54.6 -2.1
comp=Z,676nm,30.0s
PPT2 *e*LQ LQ 17 56 05.0
comp=Z,5µm,39.8s
PPT2 *e*LR LR 17 59 32.4
comp=Z,987nm,27.5s
PPT2 *e*LR LR 17 59 55.5
comp=Z,1µm,26.5s
KTUT Trabzon 85.14 311 ⇓P P 17 33 00.1 +6.6
G25K Bearman Lake 85.17 23 P P 17 32 53.9 +0.8
baz=269
KLU Klutina 85.17 29 IAmb IAmb 17 33 10.7
comp=Z,33nm,0.9s
KLU Klutina 85.17 29 P P 17 32 53.6 +0.2
baz=270,SNR=12
KLMR Klimovskoe 85.18 331 *e*P P 17 32 51.0 -2.3
KLMR *e*P P 17 32 51.0 -2.3
KLMR *e*P P 17 32 51.0 -2.3
KLMR AMP 17 33 01.5
comp=Z,189nm,1.4s
KLMR S **SKSac** 17 43 10.5 -5.1
KLMR S **SKSac** 17 43 10.5 -5.1
KLMR LQ LQ 18 04 10.1
KLMR LQ LQ 18 04 10.1
KLMR LR LR 18 07 53.4
KLMR AMP 18 12 59.9
comp=Z,3µm,24.7s
KLMR Klimovskoe 85.18 331 *e*P P 17 32 50.9 -2.3
KLMR S **SKSac** 17 43 10.5 -5.1
KLMR pmax pmax
comp=Z,189nm,1.4s
KLMR MLR MLR
comp=Z,3µm,25.0s
EYAK Cordova Ski Ar 85.25 30 P P 17 32 56.6 +3.0
EYAK Cordova Ski Ar 85.25 30 P P 17 32 53.3 -0.4
baz=270
K24K Donnelly Dome 85.26 26 P P 17 32 53.4 -0.3
baz=270
VORD Divnogorie 85.32 321 *e*P P 17 32 52.6 -1.6
VORD pmax pmax
comp=Z,100nm,1.2s
TIAR Tiarei 85.35 108 *e*P P 17 32 56.1 +1.0
comp=Z,3.6nm,1.1s
F25K Christian Rive 85.36 23 P P 17 32 54.9 +0.7
baz=269
VORR Voronezh 85.37 321 *e*P P 17 32 53.3 -1.1
VORR pmax pmax
comp=Z,150nm,0.8s
PRP Porcupine Dome 85.38 25 P P 17 32 54.9 +0.4
baz=270
E25K Arctic Village 85.39 22 IAmb IAmb 17 33 19.0
comp=Z,67nm,1.1s
E25K Arctic Village 85.39 22 P P 17 32 53.8 -0.5
baz=269,SNR=35
PAX Paxson 85.39 27 P P 17 32 54.9 +0.4
baz=270,SNR=14
VSR Storozhevoye 85.40 321 *e*P P 17 32 51.8 -2.8
VSR pmax pmax
comp=Z,70nm,1.4s
J25K Salcha River, 85.44 26 P P 17 32 54.5 -0.2
baz=270
FYU Fort Yukon 85.51 24 IAmb IAmb 17 33 20.1
comp=Z,64nm,1.2s
LPSR Galich'ya Gora 85.53 322 *e*P P 17 32 53.0 -2.2
LPSR pmax pmax
comp=Z,120nm,1.0s
HARP HAARP 85.54 28 P P 17 32 54.8 -0.3
baz=270
C26K Camden Bay 85.64 20 P P 17 32 56.4 +1.0
baz=270
RIDG Independent Ri 85.67 26 IAmb IAmb 17 33 10.7
comp=Z,35nm,0.9s
RIDG IAMs_20 IAMs_20 18 07 39.2
comp=Z,951nm,21.0s
RIDG Independent Ri 85.67 26 P P 17 32 56.0 +0.2
baz=270
N25K Chitina, Valde 85.81 29 IAmb IAmb 17 33 15.6
comp=Z,37nm,0.8s
N25K Chitina, Valde 85.81 29 P P 17 32 57.3 +0.7
baz=271,SNR=11
BMRM Bremner River 85.81 29 P P 17 32 57.2 +0.6
baz=271,SNR=11
TBI Tubuai 85.84 114 *e*P P 17 32 45.5 -12
comp=Z,447nm,26.5s
TBI Tubuai 85.84 114 *e*PP PP 17 36 09.7 -7.6
comp=Z,327nm,27.5s
TBI *e*S **S** 17 43 26.9 -2.0
comp=Z,2µm,27.0s
TBI *e*SS **SS** 17 49 04.0 -2.7
comp=Z,3µm,32.0s
TBI *e*LQ LQ 17 56 04.9
comp=Z,9µm,39.5s
TBI *e*LR LR 18 00 07.0
comp=Z,9µm,28.2s
TBI *e*LR LR 18 00 10.2
comp=Z,3µm,30.0s
KAIM Kayak Island 85.92 30 P P 17 32 56.1 -0.9
baz=271
F26K Sheenjek River 85.93 22 P P 17 32 57.8 +0.8
baz=271
SCRK Sand Creek 86.05 26 IAMs_20 IAMs_20 18 07 50.1
comp=Z,836nm,22.0s
SCRK Sand Creek 86.05 26 P P 17 32 57.3 -0.4
baz=271,SNR=11
G26K Porcupine Rive 86.08 23 P P 17 32 58.2 +0.5
baz=271
GLB Gilahina Butte 86.19 29 IAmb IAmb 17 33 10.0
comp=Z,53nm,1.0s
MENT Mentasta 86.19 27 IAMs_20 IAMs_20 18 08 21.0
comp=Z,1µm,20.0s
J26L Joseph Creek 86.23 26 P P 17 32 58.3 -0.3
baz=271
MOS Moscow 86.23 325 *e*P P 17 32 57.6 -1.0
MOS *e*S **SKSac** 17 43 20.4 -2.1
MOS *e* 17 44 57.1
MOS pmax pmax
comp=Z,72nm,0.6s
ARPR Arapgir-MALATY 86.29 309 IAmb IAmb 17 33 19.6
comp=Z,51nm,1.1s
ARPR IAMs_20 IAMs_20 18 18 02.0
comp=Z,1µm,22.0s
L26K Log Cabin Wild 86.36 27 IAMs_20 IAMs_20 18 11 02.4
comp=Z,899nm,20.0s
L26K Log Cabin Wild 86.36 27 P P 17 32 59.4 +0.2
baz=272
VRDI Verde Repeater 86.37 29 IAmb IAmb 17 33 10.5
comp=Z,27nm,0.8s
I26K Coal Creek Min 86.38 25 IAMs_20 IAMs_20 18 11 36.6
comp=Z,801nm,22.0s
I26K Coal Creek Min 86.38 25 P P 17 32 59.5 +0.3
baz=272
PMOR Pomariorio Ree 86.50 105 *e*P P 17 33 02.0 +1.3
comp=Z,51nm,1.1s
CRQM Cirque 86.53 29 IAmb IAmb 17 33 12.0
comp=Z,57nm,1.0s
M26K Nabesna, AK 86.54 28 IAMs_20 IAMs_20 18 07 19.6
comp=Z,1µm,22.0s
M26K Nabesna, AK 86.54 28 P P 17 33 00.2 +0.1
baz=272
CRQE Cirque 86.56 29 P P 17 33 00.1 -0.2
baz=272,SNR=6.2
MCARA McCarthy VSAT 86.57 29 IAmb IAmb 17 33 26.8
comp=Z,35nm,0.9s
MCARA McCarthy VSAT 86.57 29 P P 17 33 00.1 -0.1
baz=272,SNR=5.2
TGL Tana Glacier 86.69 29 IAmb IAmb 17 33 34.9
comp=Z,74nm,1.2s
TGL IAMs_20 IAMs_20 18 05 28.1
comp=Z,1µm,22.0s
ANN Anapa 86.74 315 *e*P P 17 33 00.4 -0.9
ANN pmax pmax
comp=Z,57nm,0.8s
OBN Obninsk 86.86 325 ⇑P P 17 33 03.5 +1.8
OBN Obninsk 86.86 325 P P 17 33 00.6 -1.1
OBN Obninsk 86.86 325 IAMs_20 IAMs_20 18 16 12.9
comp=Z,1µm,21.0s
OBN Obninsk 86.86 325⇑ *e*P P 17 33 00.9 -0.8
OBN *e*S **SKSac** 17 43 28.8 +2.5
OBN *e*SS **SS** 17 49 22.0 +2.2
OBN pmax pmax
comp=Z,140nm,1.7s
OBN MLR MLR

comp=Z,1µm,22.0s
OBN Obninsk 86.86 325 P P 17 33 00.2 -1.5
comp=Z,24nm,0.8s,baz=68,slow=4.4,SNR=16
OBN LR LR 18 14 30.5
comp=Z,405nm,20.9s,baz=76,slow=38
comp=Z,24nm,0.8s
E27K Coleen River 86.88 22 IAmb IAmb 17 33 20.0
comp=Z,25nm,0.9s
E27K Coleen River 86.88 22 P P 17 33 01.7 +0.1
baz=273
K27K Chicken 86.89 26 P P 17 33 02.1 +0.4
baz=273
G27K Doyon Strip 86.93 23 P P 17 33 01.7 -0.2
baz=273
I27K Kandik River 87.01 25 P P 17 33 02.1 -0.2
baz=273
H27K Steamboat Moun 87.01 24 P P 17 33 02.2 -0.1
baz=273
D27M Malcolm River 87.05 21 P P 17 33 02.8 +0.3
baz=274
L27K Beaver Creek, 87.05 27 P P 17 33 02.8 +0.2
baz=273
M27K Edge Creek, AK 87.07 28 P P 17 33 02.6 -0.2
baz=273
GRNC Granite Creek 87.22 29 IAmb IAmb 17 33 38.0
comp=Z,87nm,1.4s
GRNC IAMs_20 IAMs_20 18 09 35.4
comp=Z,1µm,20.0s
BARN Barnard Glacie 87.24 29 IAmb IAmb 17 33 28.5
comp=Z,32nm,1.1s
CTG Chitna Glacier 87.40 29 P P 17 33 04.5 +0.1
baz=274
CTGM Chitina Glacie 87.41 29 IAmb IAmb 17 33 18.9
comp=Z,30nm,0.8s
CTGM IAMs_20 IAMs_20 18 07 42.0
comp=Z,1µm,21.0s
BVCY Beaver Creek 87.54 28 P P 17 33 05.2 +0.3
baz=274
F28M Old Crow 87.57 23 IAmb IAmb 17 33 30.0
comp=Z,25nm,0.9s
F28M Old Crow 87.57 23 P P 17 33 05.4 +0.4
baz=275
LOGN Logan Glacier 87.58 29 IAmb IAmb 17 33 40.9
comp=Z,103nm,1.8s
LOGN IAMs_20 IAMs_20 18 06 46.0
comp=Z,1µm,21.0s
APA Apatity 87.60 337 ⇓ *i* P P 17 33 13.6 +8.6
APA pmax pmax
comp=Z,20nm,0.9s
APA MLR MLR
comp=Z,3µm,20.0s
E28M Babbage River 87.61 22 IAmb IAmb 17 33 30.4
comp=Z,56nm,1.5s
E28M Babbage River 87.61 22 P P 17 33 04.5 -0.6
baz=275
I28M Miner Creek 87.72 25 IAmb IAmb 17 33 23.5
comp=Z,25nm,0.9s
I28M Miner Creek 87.72 25 P P 17 33 04.8 -1.0
baz=275
YUK3 Moose Creek 87.77 28 P P 17 33 06.1 -0.2
baz=274
D28M Stokes Point 87.83 21 P P 17 33 06.4 +0.3
baz=276
PINM Pinnacle 88.00 30 P P 17 33 07.6 +0.4
baz=275
DAWY Dawson 88.07 26 P P 17 33 07.1 -0.3
baz=275
YUK8 Steele Glacier 88.14 29 P P 17 33 08.0 -0.1
baz=275
E29M Blow River 88.23 22 P P 17 33 08.7 +0.7
baz=276
H29M Whitestone 88.29 24 IAmb IAmb 17 33 42.8
comp=Z,24nm,1.1s
H29M Whitestone 88.29 24 P P 17 33 08.9 +0.5
baz=276
G29M Pine Creek 88.35 23 IAmb IAmb 17 33 35.0
comp=Z,49nm,1.2s
G29M Pine Creek 88.35 23 P P 17 33 09.0 +0.3
baz=276
I29M Ogilvie Camp, 88.40 25 P P 17 33 09.3 +0.3
baz=276
PNL Peninsula 88.47 30 P P 17 33 09.8 +0.4
baz=275
M29M Somme Creek 88.65 28 P P 17 33 09.8 -0.5
baz=276
YUK4 Talbot Arm 88.67 29 P P 17 33 09.7 -0.9
baz=276
L29M L29M 88.73 27 IAmb IAmb 17 33 45.7
comp=Z,78nm,1.7s
L29M L29M 88.73 27 P P 17 33 11.1 +0.5
baz=276
O29M Mount Kennedy 88.82 30 P P 17 33 11.3 +0.1
baz=276
YUK6 Outpost Mounta 88.85 29 P P 17 33 11.2 -0.2
baz=276
K29M Barlow Dome 88.91 26 IAmb IAmb 17 33 36.3
comp=Z,48nm,1.9s
K29M Barlow Dome 88.91 26 P P 17 33 11.3 -0.2
baz=277
KIBK Kibwezi 88.93 268 IAMs_20 IAMs_20 18 08 25.6
comp=Z,683nm,22.0s
EPYK Eagle Plains 88.93 24 IAmb IAmb 17 33 37.4
comp=Z,26nm,1.1s
EPYK Eagle Plains 88.93 24 P P 17 33 11.0 -0.5
baz=278
MMAI Mount Meron Ar 89.00 303 P P 17 33 12.8 +0.2
comp=Z,2.5nm,0.6s,baz=64,slow=6.6,SNR=6.8
comp=Z,2.5nm,0.6s
G30M tAoh Zrail Nji 89.05 23 P P 17 33 11.8 -0.2
baz=278
SIM Simferopol' 89.08 315 *e*P **P 17 33 15.0 +2.4**
SIM pmax pmax
comp=Z,53nm,0.9s
F30M Barrier River 89.12 22 P P 17 33 12.4 +0.1
baz=278
I30M Mount Dempster 89.23 25 IAMs_20 IAMs_20 18 13 49.4
comp=Z,923nm,20.0s
I30M Mount Dempster 89.23 25 P P 17 33 12.6 -0.4
baz=278
HYT Haines Junctio 89.28 29 P P 17 33 13.1 -0.2
baz=277
P29M Windy Craggy 89.31 30 P P 17 33 12.2 -1.1
baz=277
J30M Hart River 89.33 25 P P 17 33 12.9 -0.6
baz=278
M30M Minto, Yukon 89.40 27 P P 17 33 13.9 +0.1
baz=278
N30M Aishikik Lake 89.41 29 P P 17 33 13.9 +0.1
baz=277
KMBO Kilima Mbogo 89.63 269 P P 17 33 13.8 -2.3
KMBO Kilima Mbogo 89.63 269 IAMs_20 IAMs_20 18 09 14.2
comp=Z,823nm,22.0s
KMBO Kilima Mbogo 89.63 269 *i* P **P 17 33 14.5 -1.6**
KMBO pmax pmax
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 89.63 269 P P 17 33 12.6 -3.5
comp=Z,5.7nm,1.0s,baz=47,slow=6.9,SNR=9.5
KMBO LR LR 18 10 33.2
comp=Z,616nm,21.9s,baz=96,slow=34
EIL Elat 89.64 300 P P 17 33 15.6 +0.1
comp=Z,8.3nm,0.9s,baz=72,slow=4.7,SNR=5.5
EIL LR LR 18 18 29.7
comp=Z,431nm,21.2s,baz=67,slow=39
comp=Z,8.3nm,0.9s
P30M Million Dollar 89.64 30 P P 17 33 14.4 -0.5
baz=277
G31M Satah River 89.81 23 IAmb IAmb 17 33 41.2
comp=Z,30nm,1.1s
G31M Satah River 89.81 23 P P 17 33 15.5 +0.1
baz=280
INK Inuvik 89.85 22 P P 17 33 14.9 -0.7
baz=280
INK Inuvik 89.85 22 LR LR 18 14 31.1
comp=Z,542nm,21.3s,baz=318,slow=36
BR131 Keskin Array S 89.88 310 *e*P **P 17 33 14.7 -1.9**
BRTR Keskin Array B 89.88 310 *i* P **P 17 33 14.8 -1.9**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 89.88 310 P P 17 33 14.8 -1.8
comp=Z,4.3nm,0.8s,baz=133,slow=4.6,SNR=21
BRTR LR LR 18 19 26.5
comp=Z,580nm,21.5s,baz=68,slow=40
comp=Z,4.3nm,0.8s
F31M Tsiigehtchic 89.92 22 IAmb IAmb 17 33 41.5
comp=Z,62nm,1.4s
F31M Tsiigehtchic 89.92 22 P P 17 33 15.2 -0.7
baz=280
O30N Mendenhall 89.98 29 P P 17 33 16.4 -0.1
baz=278
N31M Braeburn, Yuko 90.02 28 P P 17 33 16.8 +0.1
baz=278
ARCES ARCESS Array B 90.19 340 IAmb IAmb 17 33 30.9
comp=Z,38nm,0.9s
ARCES ARCESS Array B 90.19 340 P P 17 33 15.9 -1.4
comp=Z,5.1nm,0.7s,baz=65,slow=6.8,SNR=18
ARCES LR LR 18 18 52.1
comp=Z,948nm,21.9s,baz=86,slow=39
comp=Z,5.1nm,0.7s
SPITS Spitsbergen Ar 90.19 349 P P 17 33 16.2 -0.9
comp=Z,14nm,0.9s,baz=20,slow=8.0,SNR=3.1
SPITS LR LR 18 19 16.9
comp=Z,771nm,19.4s,baz=30,slow=39
comp=Z,14nm,0.9s
SKAG Skagway 90.55 30 P P 17 33 18.4 -0.6
baz=279
M31M Drury Creek, Y 90.56 28 P P 17 33 18.8 -0.3
baz=280
WHY Whitehorse 90.58 29 P P 17 33 19.0 -0.3
baz=279
FARO Faro, Yukon 91.04 27 IAmb IAmb 17 33 46.1
comp=Z,29nm,0.9s
FARO Faro, Yukon 91.04 27 P P 17 33 20.8 -0.6
baz=281
S32K Killisnoo 91.26 32 P P 17 33 22.1 -0.2
baz=280
P32M Atlin 91.34 30 P P 17 33 22.5 -0.3
baz=280
FINES FINESS Array B 91.60 332 P 17 33 23.0 -0.9
FINES FINESS Array B 91.60 332 P P 17 33 22.7 -1.2
comp=Z,3.6nm,0.6s,baz=98,slow=3.9,SNR=15
FINES LR LR 18 18 09.0
comp=Z,2µm,20.9s,baz=73,slow=38
comp=Z,3.6nm,0.6s
P33M Teslin, Yukon 91.67 29 P P 17 33 24.1 -0.3
baz=281
A36M Sachs Harbour 91.67 17 P P 17 33 23.7 -0.4
baz=288
AKASG Malin Array Be 91.70 321 P P 17 33 22.6 -2.0
comp=Z,10nm,0.9s,baz=69,slow=4.5,SNR=14
AKASG LR LR 18 20 06.9
comp=Z,606nm,18.3s,baz=57,slow=39
comp=Z,10nm,0.9s
AKBB Malin Array Si 91.70 321 IAmb IAmb 17 33 35.3
comp=Z,19nm,0.9s
AKBB IAMs_20 IAMs_20 18 19 46.4
comp=Z,1µm,19.0s
AKBB Malin Array Si 91.70 321 ⇑ *e*P **P 17 33 22.3 -2.3**
KIEV Kiev 91.71 321 ⇑P **P 17 33 28.7 +4.0**
KIEV Kiev 91.71 321 P P 17 33 21.9 -2.8
KIEV IAmb IAmb 17 33 35.3
comp=Z,18nm,0.9s
KIEV Kiev 91.71 321 IAMs_20 IAMs_20 18 19 48.1
comp=Z,1µm,19.0s
KIEV Kiev 91.71 321 ⇑P **P 17 33 28.7 +4.0**
VSU Vasula 91.84 329 *e*P **P 17 33 24.5 -0.5**
VSU Vasula 91.84 329 ⇓ *e*P **P 17 33 24.3 -0.8**
VSU pmax pmax
comp=Z,34nm,0.8s
VSU MLR MLR
comp=Z,1µm,22.0s
MNK Minsk 91.92 325 *i* P **P 17 33 25.2 -0.3**
comp=E,6.0nm,0.9s
MNK *i* P **P 17 33 25.2 -0.3**
comp=N,6.0nm,0.9s
MNK *i* P **P 17 33 25.2 -0.3**
comp=Z,17nm,0.9s,baz=80
MNK *i* pP **sP 17 33 42.2 +3.2**
MNK *i* sP pP 17 33 49.1 +13
MNK *i* PP PP 17 36 26.8 -38
MNK *i* S **SKSac 17 43 54.1 -2.1**
MNK *i* sS **S 17 44 24.5 -0.4**
MNK *i* PS **PnS 17 45 44.6 +5.2**
MNK *i* SS **SS 17 50 33.7 +0.4**
MNK *i* SSS SSS 17 53 12.6
MNK *i* LQ LQ 18 06 27.9
MNK *i* LR LR 18 11 59.8
MNK *i* LRM MLR 18 15 19.1
comp=N,828nm,19.5s
MNK *i* LRM MLR 18 15 36.7
comp=Z,1µm,19.5s
MNK *i* LRM MLR 18 15 43.8
comp=E,344nm,19.5s
MNK Minsk 91.92 325 *i* P **P 17 33 25.2 -0.3**
MNK *i* S **SKSac 17 43 54.1 -2.1**
MNK *i* *SS **S 17 44 24.4 -0.4**
MNK *i* PS **PnS 17 45 44.6 +5.2**
MNK *i* SS **SS 17 50 33.6 +0.4**
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK pmax pmax
comp=Z,17nm,0.9s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK MLR MLR
comp=N,828nm,20.0s
MNK MLR MLR
comp=Z,1µm,20.0s
MNK MLR MLR
comp=E,344nm,20.0s
Q32M Nakina River 92.19 31 P P 17 33 26.3 -0.7
baz=282
U33K Whale Pass 92.28 33 P P 17 33 27.2 0.0
baz=281
CRAG Craig 92.40 34 P P 17 33 27.0 -0.7
baz=281
NACGM Haroch 92.47 325 *e*P **P 17 33 31.3 +3.2**
comp=Z,43nm,1.0s,baz=80
ISP Isparta 92.51 308 IAMs_20 IAMs_20 18 20 05.8
comp=Z,643nm,22.0s
WRAK Wrangell Islan 92.65 33 P P 17 33 28.4 -0.4
baz=281
SORM Soroca 92.66 318 ⇓P **P 17 33 29.7 +0.6**
SORM Soroca 92.66 318 ⇓P **P 17 33 29.7 +0.6**
MEF Metsahovi 92.66 331 *e*P **P 17 33 29.7 +0.9**
R33M Jennings River 92.75 30 P P 17 33 28.1 -1.4
baz=283
C36M Paulatuk 92.90 20 IAmb IAmb 17 33 56.4
comp=Z,20nm,1.1s
C36M Paulatuk 92.90 20 P P 17 33 29.2 -0.5
baz=289
S34M Telegraph Cree 92.99 32 P P 17 33 29.6 -0.8
baz=282
H02S1 DAWSON INLET T 93.19 36 T T 19 17 44.1
SNR=9.0
VLDR Vladesti 93.20 316 ⇓P **P 17 33 32.5 +0.9**
CFR Carcaliu 93.26 316 ⇑P **P 17 33 34.6 +2.6**
CFR Carcaliu 93.26 316 ⇑P **P 17 33 34.6 +2.6**
MTSE Matsula 93.29 329 *e*P **P 17 33 32.8 +1.0**
DLBC Dease Lake 93.44 31 P P 17 33 31.5 -1.1
baz=283
DLBC Dease Lake 93.44 31 LR LR 18 10 46.7
comp=Z,2µm,22.0s,baz=286,slow=32
TGTN Hyland Airport 93.54 28 P P 17 33 32.6 -0.4
baz=285
TAOE Nuku Hiva Isla 93.62 99 *e*P P 17 33 46.2 +12
comp=Z,141nm,26.5s
TAOE Nuku Hiva Isla 93.62 99 *e*S **S 17 44 36.3 -5.5**
comp=Z,573nm,28.6s
TAOE Nuku Hiva Isla 93.62 99 *e*LR LR 18 03 30.0
comp=Z,2µm,22.4s
TAOE Nuku Hiva Isla 93.62 99 *e*T T 19 17 17.6
comp=Z,48nm,0.2s
T35M Bob Quinn 93.66 32 P P 17 33 33.6 0.0
baz=283
PANC Panciu 93.83 316 ⇑P **P 17 33 34.7 +0.1**
PABE Paberze 93.93 326 *e*P **P 17 33 35.6 +0.9**
QSPA South Pole Qui 93.94 180 P P 17 33 34.5 -0.3
QSPA South Pole Qui 93.94 180 IAMs_20 IAMs_20 18 18 58.6
comp=Z,966nm,22.0s
QSPA South Pole Qui 93.94 180 P P 17 33 35.2 +0.5
comp=Z,14nm,1.0s,baz=316,slow=1.5,SNR=13
QSPA S **SKSac 17 44 06.2 -0.9**
comp=Z,0.7nm,0.8s,baz=22,slow=22,SNR=8.1
QSPA LR LR 18 17 42.1
comp=Z,431nm,19.6s,baz=354,slow=37
comp=Z,14nm,1.0s
TESR Tescani 94.07 317 ⇑P **P 17 33 34.2 -1.5**
VRI Vrincioaia 94.13 316 ⇑P **P 17 33 35.4 -0.6**
VRI Vrincioaia 94.13 316 ⇑P **P 17 33 35.4 -0.6**
PLOR Plostina 94.18 316 ⇑P **P 17 33 40.5 +4.2**
PLOR Plostina 94.18 316 ⇑P **P 17 33 40.5 +4.2**
BISRR Bisoca 94.19 316 ⇑P **P 17 33 38.8 +2.4**
NEHR Nehoiu 94.50 316 ⇑P **P 17 33 38.1 +0.4**
TURR Turia 94.58 317 ⇓P **P 17 33 38.0 -0.1**
SUW Suwalki 94.72 325 *e*P **P 17 33 38.1 -0.3**
OZUR 94.73 317 ⇓P **P 17 33 39.7 +0.9**
MLR Muntele Rosu 94.73 316 ⇓P **P 17 33 37.8 -1.1**
MLR Muntele Rosu 94.73 316 IAmb IAmb 17 34 03.3
comp=Z,35nm,1.1s
MLR Muntele Rosu 94.73 316 ⇓P **P 17 33 37.8 -1.1**
MLR Muntele Rosu 94.73 316 P P 17 33 37.2 -1.7
comp=Z,7.4nm,0.9s,baz=104,slow=4.2,SNR=6.3
MLR LR LR 18 22 29.0
comp=Z,1µm,21.0s,baz=61,slow=39
comp=Z,7.4nm,0.9s
BURAR Bucovina Array 94.82 318 ⇓P **P 17 33 38.4 -0.8**
BURAR Bucovina Array 94.82 318 IAmb IAmb 17 34 04.0
comp=Z,20nm,0.8s
BURAR Bucovina Array 94.82 318 ⇓P **P 17 33 38.4 -0.8**
BUR08 Bucovina Ar. S 94.83 318 IAmb IAmb 17 33 50.9
comp=Z,18nm,0.9s
LVV L'vov 95.14 321 *e*P P 17 33 50.5 +10
LVV MLR MLR
comp=E,600nm,20.0s
LVV MLR MLR
comp=Z,600nm,20.0s
VOIR 95.36 316 ⇑P **P 17 33 45.8 +4.1**
VOIR 95.36 316 ⇑P **P 17 33 45.8 +4.1**
COPA Copaceanca 95.50 315 ⇓P **P 17 33 45.5 +3.3**
HUMR Humele 95.59 315 ⇑P **P 17 33 44.9 +2.2**
ARR Arges 95.66 316 ⇓P **P 17 33 42.7 -0.4**
BMR Baia Mare 95.95 319 ⇓P **P 17 33 44.7 +0.5**
BMR Baia Mare 95.95 319 ⇓P **P 17 33 44.7 +0.5**
BBB Bella Bella 96.01 37 LR LR 18 10 59.2
comp=Z,332nm,21.6s,baz=272,slow=32
KWP Kalwaria Pacla 96.02 321 IAmb IAmb 17 33 50.1
comp=Z,28nm,1.1s
CJR Cluj-Napoca 96.09 318 ⇑P **P 17 33 47.6 +2.6**
CJR Cluj-Napoca 96.09 318 ⇑P **P 17 33 47.6 +2.6**
MBAR Mbarara 96.09 270 IAMs_20 IAMs_20 18 13 17.4
comp=Z,1µm,22.0s
CBBR Cluj-Babes-Bol 96.11 318 ⇑P **P 17 33 46.3 +1.3**
MARR Marisel-Cluj 96.42 318 ⇓P **P 17 33 45.5 -1.0**
KOLS Kolonicke sedl 96.46 320 *e*PDIFF **P 17 33 48.0 +1.4**
KOLS Kolonicke sedl 96.46 320 *e*P **P 17 33 48.0 +1.4**
DEV Deva 96.74 317 ⇓P **P 17 33 47.2 -0.7**
DEV Deva 96.74 317 ⇓P **P 17 33 47.2 -0.7**
GZR Gura Zlata 96.94 316 ⇑P **P 17 33 48.7 -0.2**
GZR Gura Zlata 96.94 316 ⇑P **P 17 33 48.7 -0.2**
DAG Danmarks Havn 96.96 352 *e*P P 17 33 34.1 -14
DAG Danmarks Havn 96.96 352 *i* P P 17 33 34.0 -14
CRVS Cervenica-Dubn 96.99 320 *e*PDIFF **P 17 33 48.7 -0.2**
CRVS Cervenica-Dubn 96.99 320 *e*P **P 17 33 48.7 -0.2**
STHS Stebnicka Huta 97.00 321 *e*PDIFF **P 17 33 49.4 +0.4**
STHS Stebnicka Huta 97.00 321 *e*P **P 17 33 49.4 +0.4**
DJES Djerdap 97.28 316 ⇑P Pdif 17 33 50.7 +0.3
HERR Herculane 97.30 316 ⇑P Pdif 17 33 53.0 +2.5
SURR Surduc 97.30 317 ⇑P Pdif 17 33 51.7 +1.3
BLKB Belogradchik 97.40 315 ⇑P **P 17 33 50.7 -0.2**
RES Resolute Bay 97.50 10 LR LR 18 20 06.1
comp=Z,284nm,21.1s,baz=345,slow=37
HFS Hagfors 97.78 332 P P 17 33 51.2 -1.0
comp=Z,1.3nm,0.5s,baz=90,slow=3.6,SNR=13
HFS LR LR 18 21 51.0
comp=Z,2µm,21.1s,baz=62,slow=38
comp=Z,1.3nm,0.5s
MDVR Moldovita 97.81 316 ⇓P **P 17 33 52.2 -0.6**
ELIB Princess Elisa 97.98 198 *d*P Pdif 17 33 56.8 +3.7
comp=Z,17nm,1.2s
LANS Liptovska Anna 98.19 321 *e*P Pdif 17 33 54.9 +0.5
LANS Liptovska Anna 98.19 321 *e*PDIFF Pdif 17 33 54.9 +0.5
PSZ Piszkesteto 98.25 319 ⇑P Pdif 17 33 56.3 +1.6
PSZ Piszkesteto 98.25 319 IAmb IAmb 17 34 09.0
comp=Z,17nm,1.2s
PSZ IAMs_20 IAMs_20 18 23 11.7
comp=Z,904nm,20.0s
PSZ Piszkesteto 98.25 319 ⇑P Pdif 17 33 56.3 +1.5
NB2 NORSAR Subarra 98.55 334 P P 17 33 55.2 -0.5
comp=Z,11nm,0.9s,baz=69,slow=4.4
NB2 NORSAR Subarra 98.55 334 P P 17 33 55.2 -0.5
baz=69,slow=4.4
NOA NORSAR Array B 98.55 334 P P 17 33 53.5 -2.2
comp=Z,1.9nm,0.8s,baz=212,slow=23,SNR=5.8
NOA LR LR 18 25 05.0
comp=Z,865nm,19.1s,baz=60,slow=40
comp=Z,1.9nm,0.8s
VYHS Vyhne 98.77 320 *e*P **P 17 33 56.2 -0.8**
VYHS Vyhne 98.77 320 *e*PDIFF **P 17 33 56.2 -0.8**
FRGS Fruska Gora 99.03 317 ⇑P Pdif 17 34 00.0 +1.8
MAUC Maruska 99.16 321 *e*PDIFF **Pdif 17 33 58.1 -0.6**
YKA Yellowknife Ar 99.19 24 P Pdif 17 33 57.7 -0.8
comp=Z,0.5nm,0.6s,baz=296,slow=4.7,SNR=7.4
YKA PP **PP 17 38 04.3 +3.4**
comp=Z,0.6nm,0.7s,baz=298,slow=7.4,SNR=3.8
comp=Z,0.5nm,0.6s
MORC Moravsky Berou 99.21 322 ⇓P **Pdif 17 34 01.6 +2.6**
MORC Moravsky Berou 99.21 322 *e*PDIFF **Pdif 17 34 01.4 +2.4**
MORC Moravsky Berou 99.21 322 ⇓P **Pdif 17 34 01.6 +2.6**
LSZ Lusaka 99.36 255 Pdif 17 33 59.3 -1.1
LSZ IAmb IAmb 17 34 07.4
comp=Z,13nm,0.9s
LSZ IAMs_20 IAMs_20 18 14 39.8
comp=Z,764nm,21.0s
LSZ Lusaka 99.36 255 P **Pdif 17 33 59.3 -1.1**
LSZ pmax pmax
comp=Z,13nm,0.9s
LSZ MLR MLR
comp=Z,800nm,21.0s
LSZ Lusaka 99.36 255 LR LR 18 15 13.2
comp=Z,741nm,21.8s,baz=102,slow=33
JAVC Velka Javorina 99.41 321 *e*PDIFF **Pdif 17 34 00.0 +0.1**
KBN Korca 99.45 312 IAMs_20 IAMs_20 18 21 53.2
comp=Z,1µm,19.0s
MORH Mrgy, Hungar 99.53 318 ⇓P **Pdif 17 33 59.9 -0.4**
KRLC Kraliky 99.59 322 *e*PDIFF **Pdif 17 34 03.6 +3.0**
KRLC AMS AMS 18 21 10.0
comp=Z,800nm,21.0s
KRLC Kraliky 99.59 322 *e*P **Pdif 17 34 03.6 +3.0**
KRLC MLR MLR
comp=Z,800nm,21.0s
OSTC Ostas 99.78 323 AMS AMS 18 25 10.0
comp=Z,1µm,22.1s
DPC Dobruska-Polom 99.78 322 *e*PDIFF **Pdif 17 34 00.9 -0.6**
DPC AMS AMS 18 19 30.0
comp=Z,800nm,20.4s
DPC Dobruska-Polom 99.78 322 *e*P **Pdif 17 34 00.9 -0.6**
DPC MLR MLR
comp=Z,800nm,20.4s
CHVC Chvalec 99.87 323 *e*PDIFF **Pdif 17 34 06.6 +4.7**
CHVC Chvalec 99.87 323 *e*P **Pdif 17 34 06.6 +4.7**
UPC Upice 99.92 323 AMS AMS 18 25 20.0
comp=Z,1µm,20.2s
VRAC Vranov 99.94 321 ⇑P **Pdif 17 34 05.0 +2.8**
VRAC Vranov 99.94 321 *e*PDIFF **Pdif 17 34 03.1 +0.9**
VRAC Vranov 99.94 321 ⇑P **Pdif 17 34 05.0 +2.8**
VRAC Vranov 99.94 321 LR LR 18 22 59.1
comp=Z,737nm,19.7s,baz=67,slow=38
KRUC Moravsky 100.14 321 *e*PDIFF **Pdif 17 34 03.9 +0.8**
GOPC GO Pecny, Ondr 100.86 322 AMS AMS 18 19 00.0
comp=Z,1µm,22.6s
PRU Pruhonice 100.98 323 AMS AMS 18 19 50.0
comp=Z,1µm,23.5s
PRA Prague 101.02 323 AMS AMS 18 19 00.0
comp=Z,1µm,22.7s
BRG Berggiesshubel 101.04 324 P Pdif 17 34 28.1 +21
BRG Amp 17 34 32.8
comp=Z,6.3nm,0.8s
BRG Berggiesshubel 101.04 324 *i* P **Pdif 17 34 07.2 +0.2**
BRG pmax pmax
comp=Z,25nm,1.4s
BRG pmax pmax
comp=Z,6.0nm,0.8s
BRG MLR MLR
comp=E,430nm,23.3s
BRG MLR MLR
comp=Z,1µm,20.8s
BRG MLR MLR
comp=N,909nm,20.1s
BRG Berggiesshubel 101.04 324 ⇓ *e*Pif **Pdif 17 34 07.2 +0.2**
BRG Berggiesshubel 101.04 324 Amp 17 34 14.8
comp=Z,25nm,1.4s
ARSA Arzberg 101.27 320 *i* Pdiff **Pdif 17 34 08.3 +0.1**
comp=Z,4.9nm,1.0s
ZVC Zvikov 101.39 322 *e*PDIFF **Pdif 17 34 07.2 -1.4**
CLL Collm 101.44 324 *e*Pdif **Pdif 17 34 11.0 +2.3**
CLL *es*Pdif **sPdif 17 34 20.0 -2.3**
CLL *e*SKSac **SKSac 17 44 48.0 +2.1**
CLL *es*Sdif **sS 17 46 06.0 +2.2**
CLL *e*SP **SP 17 47 18.0 +0.2**

CLL	Collm	101.44	324	*e*P		Pdif	17 34 10.0	+1.3	
CKRC	Cesky Krumlov	101.52	321	*e*PDIFF		Pdif	17 34 08.5	-0.7	
CKRC				AMS		AMS	18 29 20.0		
	comp=Z,1μm,20.2s								
CKRC	Cesky Krumlov	101.52	321	*e*P		Pdif	17 34 08.5	-0.7	
CKRC				MLR		MLR			
	comp=Z,1μm,20.2s								
KHC	Kasperske Hory	101.87	322	*e*PDIFF		Pdif	17 34 14.0	+3.2	
KHC	Kasperske Hory	101.87	322	*e*P		Pdif	17 34 14.0	+3.2	
MOA	Molln	101.88	321	*e*Pdiff		Pdif	17 34 13.1	+2.2	
	comp=Z,16nm,1.7s								
GERES	GERESS Array B	101.89	322	P		Pdif	17 34 09.1	-1.9	
	comp=Z,0.4nm,0.5s,baz=328,slow=6.9,SNR=4.2								
OBKA	Obir	102.14	319	*i* Pdiff		Pdif	17 34 11.5	-0.6	
	comp=Z,18nm,1.5s								
BIOA	Bad Ischl, Aus	102.33	321	*e*Pdiff		Pdif	17 34 12.7	-0.2	
	comp=Z,8.0nm,1.2s								
SUMG	Summit	102.94	355	*i* P		PP	17 38 25.0	-4.3	
ABTA	Abfaltersbach	103.38	320	*e*Pdiff		Pdif	17 34 18.6	+0.9	
	comp=Z,6.8nm,1.2s								
WTTA	Wattenberg	103.75	321	*e*Pdiff		Pdif	17 34 21.5	+2.1	
	comp=Z,16nm,1.5s								
WATA	Walderalm	103.77	321	*e*Pdiff		Pdif	17 34 16.5	-2.9	
	comp=Z,9.5nm,1.3s								
SQTA	Sankt Quirin	104.04	321	*e*Pdiff		Pdif	17 34 22.1	+1.5	
	comp=Z,9.6nm,1.4s								
MOTA	Moosalm	104.06	321	*e*Pdiff		Pdif	17 34 24.7	+3.9	
	comp=Z,11nm,1.2s								
RETA	Reutte	104.22	321	*e*Pdiff		Pdif	17 34 21.0	-0.3	
	comp=Z,7.7nm,1.5s								
NRCA	Norcia	104.33	316	IAMs_20		IAMs_20	18 31 17.9		
	comp=Z,1μm,20.0s								
FETA	Feichten	104.42	321	*e*Pdiff		Pdif	17 34 22.9	+0.5	
	comp=Z,8.3nm,1.6s								
CMB	Columbia Colle	105.22	49	IAMs_20		IAMs_20	18 19 20.2		
	comp=Z,894nm,21.0s								
SNAA	Sanae	105.53	195	IAMs_20		IAMs_20	18 28 07.6		
	comp=Z,644nm,19.0s								
BELA	Belgrano 2	105.56	184	IAMs_20		IAMs_20	18 25 54.6		
	comp=Z,689nm,21.0s								
PLID	Pearl Lake	105.88	41	IAMs_20		IAMs_20	18 12 04.9		
	comp=Z,1μm,20.0s								
OMMB	Old Mammoth Mi	106.39	49	IAMs_20		IAMs_20	18 09 47.2		
	comp=Z,1μm,20.0s								
LHV	Little Huntoon	106.56	48	IAMs_20		IAMs_20	18 12 05.6		
	comp=Z,903nm,20.0s								
NVAR	Mina Array Bea	106.65	48	Pdiff		Pdif	17 34 33.4	+0.8	
	comp=Z,0.9nm,0.8s,baz=269,slow=7.1,SNR=4.8								
NVAR				PKiKP		PKiKP	17 38 42.7	-0.3	
	comp=Z,0.6nm,0.8s,baz=258,slow=2.6,SNR=2.7								
NVAR				PKKPbc		PKKPbc	17 50 04.0	+0.8	
	comp=Z,0.9nm,0.8s,baz=147,slow=3.4,SNR=3.7								
SNCC	San Nicolas Is	107.30	54	P		PKiKP	17 38 42.6	-1.5	
	baz=287								
CWC	Cottonwood Cre	107.46	50	P		PKiKP	17 38 43.2	-1.4	
	baz=289								
CIS	Catalina Islan	108.14	53	P		PKiKP	17 38 44.6	-1.2	
	baz=288								
SCI2	San Clemente I	108.17	54	P		PKiKP	17 38 44.3	-1.5	
	baz=288								
BOZ	Bozeman (W)	108.47	39	P		PKiKP	17 38 44.8	-1.4	
	baz=296								
BFSC	Mount Baldy Ra	108.49	52	P		PKiKP	17 38 45.4	-1.1	
	baz=288								
R11B	Troy Canyon, C	108.68	47	P		PKiKP	17 38 45.9	-0.9	
	baz=291								
GSC	Goldstone, Bar	108.81	51	P		PKiKP	17 38 45.8	-1.2	
	baz=289								
TUQ	Turquoise Moun	109.44	50	P		PKiKP	17 38 47.3	-0.9	
	baz=290								
TSUM	Tsumeb	109.47	251	IAMs_20		IAMs_20	18 19 18.5		
	comp=Z,953nm,22.0s								
PFO	Pinyon Flats O	109.63	52	P		PKiKP	17 38 47.9	-0.7	
	baz=289								
TPFO	Pinon Flats	109.64	52	P		PKiKP	17 38 47.8	-0.9	
	baz=289								
H17A	Grant Village	109.68	40	P		PKiKP	17 38 48.5	-0.1	
	baz=297								
BELC	Belle Mtn. Jos	109.87	52	P		PKiKP	17 38 48.1	-1.0	
	baz=290								
GMRC	Granite Mounta	109.87	51	P		PKiKP	17 38 48.0	-1.1	
	baz=290								
MONP2	Monument Peak	109.89	53	P		PKiKP	17 38 48.4	-0.9	
	baz=289								
DUG	Dugway, Tooele	109.97	45	P		PKiKP	17 38 49.0	-0.2	
	baz=294								
V12A	Nelson	110.16	50	IAMs_20		IAMs_20	18 20 45.2		
	comp=Z,823nm,20.0s								
SWSC	Sam W. Stewart	110.37	53	P		PKiKP	17 38 48.4	-1.5	
	baz=289								
BC3	Big Chuckawall	110.41	52	P		PKiKP	17 38 48.8	-1.3	
	baz=290								
PDAR	Pinedale Array	111.08	41	PKiKP		PKiKP	17 38 50.4	-0.9	
	comp=Z,0.7nm,0.8s,baz=67,slow=0.5,SNR=3.7								
PDAR				PKKPbc		PKKPab	17 49 56.5	-2.5	
	comp=Z,1.6nm,0.8s,baz=101,slow=4.8,SNR=4.3								
GUVIX	Guadalupe Vict	111.16	53	IAMs_20		IAMs_20	18 25 10.9		
	comp=Z,723nm,18.0s								
LAO	LASA Array	111.24	36	P		PKiKP	17 38 51.0	-0.2	
	baz=301								
DGMT	Dagmar	111.44	34	P		PKiKP	17 38 51.3	-0.2	
	baz=304								
SFX	San Felipe	111.75	54	IAMs_20		IAMs_20	18 14 35.9		
	comp=Z,836nm,22.0s								
PIX	Pinacate	112.70	53	IAMs_20		IAMs_20	18 14 41.8		
	comp=Z,570nm,22.0s								
WUAZ	Wupatki	112.87	49	P		PKiKP	17 38 54.5	-0.3	
	baz=293								
214A	Organ Pipe Nat	113.08	53	P		PKiKP	17 38 55.0	-0.1	
	baz=291								
K22A	Casper	113.10	40	P		PKiKP	17 38 55.1	+0.1	
	baz=300								
O20A	White River Ci	113.16	43	P		PKiKP	17 38 55.0	-0.3	
	baz=297								
RSSD	Black Hills	113.90	38	P		PKiKP	17 38 57.0	+0.4	
	baz=302								
RSSD	Black Hills	113.90	38	P		PKiKP	17 38 57.4	+0.8	
	baz=302								
W18A	Petrified Fore	114.26	49	P		PKPdf	17 38 57.6	+0.1	
	baz=294								
MVCO	Mesa Verde	114.28	46	P		PKPdf	17 38 57.8	+0.2	
	baz=296								
MDND	Maddock	114.31	32	P		PKPdf	17 38 57.7	+0.8	
	baz=308								
N23A	Red Feather La	114.34	41	P		PKPdf	17 38 57.4	-0.2	
	baz=300								
TUC	Tucson	114.55	52	P		PKPdf	17 38 57.8	-0.2	
	baz=292								
ULM	Lac du Bonnet	114.66	29	PKP		PKiKP	17 38 55.7	-1.8	
	comp=Z,1.7nm,0.7s,baz=315,slow=1.4,SNR=2.1								
ULM				PKKPab		PKKPab	17 49 41.0	-1.7	
	comp=Z,0.9nm,0.4s,baz=135,slow=5.7,SNR=2.0								
ISCO	Idaho Springs	115.09	42	P		PKPdf	17 38 59.5	+0.4	
	baz=299								
S22A	4UR Ranch, Cre	115.23	45	P		PKiKP	17 38 59.7	+0.2	
	baz=298								
Q24A	Divide	115.82	43	P		PKiKP	17 38 60.0	-0.6	
	baz=299								
AGMN	Agassiz Nation	115.96	30	P		PKiKP	17 38 60.0	-0.1	
	baz=311								
SDCO	Great Sand Dun	116.16	44	P		PKPdf	17 39 00.5	-0.7	
	baz=299								
ANMO	Albuquerque	116.76	48	P		PKPdf	17 39 01.7	-0.6	
	baz=297								
ANMO	Albuquerque	116.76	48	P		PKiKP	17 39 04.5	+2.2	
	baz=297								
121A	Cookes Peak, D	116.80	50	P		PKPdf	17 39 01.9	-0.6	
	baz=294								
Y22A	Socorro	116.83	49	P		PKPdf	17 39 04.3	+1.9	
	baz=296								
T25A	Trinidad	117.21	44	P		PKPdf	17 39 03.3	+0.2	
	baz=299								
ESDC	Sonseca Array	117.28	319	PKP		PKPdf	17 39 00.3	-2.7	
	comp=Z,0.3nm,0.3s,baz=92,slow=3.9,SNR=2.3								
ECSD	EROS Data Cent	118.49	35	PKPdf		PKPdf	17 39 04.7	-0.4	
ECSD	EROS Data Cent	118.49	35	P		PKPdf	17 39 04.7	-0.4	
	baz=309								
ECSD	EROS Data Cent	118.49	35	P		PKiKP	17 39 05.6	+0.4	
	baz=309								
F36A	Milaca	118.78	31	P		PKiKP	17 39 06.1	+0.4	
	baz=313								
MNTX	Cornudas Mount	119.00	50	P		PKPdf	17 39 06.4	-0.1	
	baz=296								
MNTX	Cornudas Mount	119.00	50	P		PKiKP	17 39 07.8	+1.3	
	baz=296								
BGNE	Belgrade	119.01	37	P		PKPdf	17 39 05.7	-0.5	
	baz=306								
CBKS	Cedar Bluff	119.50	41	P		PKPdf	17 39 07.1	-0.2	
	baz=304								
SPMN	Marine on St.	119.58	31	P		PKiKP	17 39 07.6	+0.4	
	baz=313								
MSTX	Muleshoe	119.91	47	P		PKiKP	17 39 08.6	+0.2	
	baz=299								
I37B	Waseca	120.08	33	P		PKiKP	17 39 09.2	+0.9	
	baz=312								
AMTX	Amarillo	120.25	45	P		PKPdf	17 39 08.6	-0.3	
	baz=300								
SCHQ	Schefferville	120.25	9	PKP		PKiKP	17 39 08.5	+0.3	
	comp=Z,6.9nm,0.8s,baz=28,slow=5.6,SNR=3.3								
KSU1	Kansas State U	121.33	39	P		PKiKP	17 39 11.2	+0.3	
	baz=307								
KSU1	Kansas State U	121.33	39	P		PKiKP	17 39 11.6	+0.8	
	baz=307								
TX31	Lajitas Ar. Si	121.35	52	P		PKiKP	17 39 12.1	+0.7	
	baz=296								
TXAR	Lajitas Array	121.35	52	PKP		PKPdf	17 39 11.4	+0.3	
	comp=Z,1.5nm,0.7s,baz=231,slow=0.9,SNR=16								
TXAR				PKKPbc		PKKPab	17 49 15.8	+2.3	
	comp=Z,0.2nm,0.5s,baz=148,slow=5.2,SNR=4.2								
JFWS	Jewell Farm	122.51	32	P		PKPdf	17 39 12.3	-0.6	
	baz=315								
ABTX	Abilene, Hawle	122.85	47	P		PKPdf	17 39 13.3	-0.6	
	baz=301								
P38A	Dawn	122.88	37	P		PKiKP	17 39 14.2	+0.3	
	baz=310								
TORD	Torodi Ar. Bea	122.89	288	PKPdf		PKPdf	17 39 12.9	-1.5	
TORD	Torodi Ar. Bea	122.89	288	PKP		PKPdf	17 39 13.2	-1.1	
	comp=Z,5.0nm,0.7s,baz=34,slow=2.7,SNR=9.1								
TORD				PKKPbc		PKKPbc	17 49 06.2	-0.2	
	comp=Z,0.8nm,0.7s,baz=299,slow=4.0,SNR=4.7								
TUL3	Leonard	123.73	41	P		PKPdf	17 39 15.1	-0.3	
	baz=306								
JCT	Junction City	123.80	49	P		PKPdf	17 39 14.6	-1.2	
	baz=299								
JCT	Junction City	123.80	49	P		PKiKP	17 39 16.9	+0.9	
	baz=299								
P40A	Paris	123.81	36	P		PKiKP	17 39 16.1	+0.4	
	baz=311								
S39A	Bolivar	124.23	38	PKPdf		PKPdf	17 39 15.4	-1.0	
S39A	Bolivar	124.23	38	P		PKPdf	17 39 16.1	-0.2	
	baz=309								
L44A	Lake County Fo	124.24	31	P		PKPdf	17 39 16.4	+0.2	
	baz=317								
R40A	Maddies Statio	124.49	37	P		PKPdf	17 39 16.5	-0.3	
	baz=310								
HDIL	Hopedale	124.67	33	P		PKPdf	17 39 16.7	-0.4	
	baz=314								
WHTX	Lake Whitney,	124.76	46	P		PKPdf	17 39 16.9	-0.6	
	baz=302								
833A	Chaparral WMA,	125.15	51	P		PKPdf	17 39 18.5	+0.1	
	baz=298								
P43A	Skaggs, Pawnee	125.18	34	P		PKiKP	17 39 19.2	+0.8	
	baz=314								
CCM	Cathedral Cave	125.25	37	PKPdf		PKPdf	17 39 18.1	-0.2	
CCM	Cathedral Cave	125.25	37	P		PKPdf	17 39 18.3	0.0	
	baz=311								
CCM	Cathedral Cave	125.25	37	P		PKPdf	17 39 18.6	+0.3	
	baz=311								
CCM	Cathedral Cave	125.25	37	PKiKP		PKPdf	17 39 18.1	-0.2	
435B	Jarrell	125.30	48	P		PKPdf	17 39 18.2	-0.4	
	baz=301								
FVM	French Village	125.78	36	P		PKiKP	17 39 20.1	+0.4	
	baz=312								
LCAR	Lake Charles	126.60	38	PKPdf		PKPdf	17 39 19.3	-1.6	
LCAR	Lake Charles	126.60	38	P		PKPdf	17 39 21.2	+0.3	
	baz=310								
O48B	Farmland	127.06	31	P		PKPdf	17 39 21.5	-0.2	
	baz=319								
P49A	Miami Univ. Ec	127.83	31	P		PKPdf	17 39 22.7	-0.5	
	baz=319								
LONY	Lake Ozonia	127.91	19	P		PKPdf	17 39 23.6	+0.4	
	baz=333								
WCI	Wyandotte Cave	127.95	33	P		PKPdf	17 39 23.0	-0.5	
	baz=316								
ERPA	Erie	128.01	25	P		PKPdf	17 39 23.0	-0.4	
	baz=325								
ACSO	Alum Creek Sta	128.16	29	P		PKPdf	17 39 23.2	-0.6	
	baz=321								
M53A	WI Miller and	128.26	26	P		PKPdf	17 39 23.6	-0.3	
	baz=324								
WVT	Waverly	128.57	36	P		PKPdf	17 39 24.2	-0.4	
	baz=314								
OXF	Oxford	128.69	39	P		PKPdf	17 39 24.7	-0.2	
	baz=311								
PKME	Peaks-Kenny Pk	128.85	15	P		PKPdf	17 39 25.1	+0.2	
	baz=339								
O53A	New Philadelph	128.98	28	P		PKPdf	17 39 25.1	-0.2	
	baz=323								
P52A	Corning	129.03	29	P		PKPdf	17 39 26.0	+0.6	
	baz=322								
LBNH	Lisbon	129.08	17	P		PKPdf	17 39 25.5	+0.1	
	baz=336								
BINY	Binghamton	129.53	22	P		PKPdf	17 39 26.0	-0.3	
	baz=330								
MCWV	Mont Chateau	130.08	27	P		PKPdf	17 39 27.1	-0.4	
	baz=324								
L61B	Northampton	130.47	19	P		PKPdf	17 39 27.4	-0.7	
	baz=334								
KIC	Kosan Boka	130.53	282	⇑ *i*P		PKiKP	17 39 35.1	+5.2	
	comp=Z,2nm,0.6s								
DBIC	Dimbokro	130.59	282	PKP		PKPdf	17 39 27.2	-1.9	
	comp=Z,1.8nm,0.8s,baz=138,slow=4.2,SNR=2.3								
DBIC				SKPbc		SKPbc	17 42 49.1	-1.5	
	comp=Z,14nm,1.0s,baz=76,slow=3.2,SNR=6.2								
TZTN	Tazewell	130.67	32	P		PKPdf	17 39 27.4	-1.3	
	baz=318								
TIC	Toumodi	130.75	282	⇑ *i*P		PKiKP	17 39 34.6	+4.3	
	comp=Z,2.1nm,0.2s								
HRV	Adam Dziewonsk	130.77	18	P		PKPdf	17 39 27.8	-0.9	
	baz=336								
LIC	Lamto	130.84	282	⇑ *i*P		PKiKP	17 39 31.5	+1.0	
	comp=Z,12nm,0.6s								
LRAL	Lakeview Retre	131.17	38	P		PKPdf	17 39 28.9	-0.8	
	baz=313								
TKL	Tuckaleechee C	131.21	33	SKPbc		SKPab	17 42 55.3	+2.6	
	comp=Z,9.4nm,1.2s,baz=203,slow=7.7,SNR=2.3								
PAL	Palisades	131.34	21	P		PKPdf	17 39 28.8	-0.9	
	baz=332								
BLA	Blacksburg	131.76	29	P		PKPdf	17 39 30.3	-0.4	
	baz=322								
KMSC	Kings Mountain	132.91	32	P		PKPdf	17 39 32.0	-0.9	
	baz=320								
GOGA	Godfrey	133.02	35	P		PKPdf	17 39 31.9	-1.2	
	baz=317								
TIGA	Tifton	134.36	37	P		PKPdf	17 39 35.0	-0.8	
	baz=315								
NHSC	New Hope	135.08	33	P		PKPdf	17 39 36.8	-0.2	
	baz=320								
TEIG	Tepich	137.95	54	IAMs_20		IAMs_20	18 28 51.7		
	comp=Z,694nm,22.0s								
LL01	San Ignacio de	138.15	159	IAMs_20		IAMs_20	18 52 57.2		
	comp=Z,497nm,21.0s								
PLCA	Paso Flores	140.26	159	PKP		PKPdf	17 39 43.5	-2.9	
	comp=Z,2.4nm,0.9s,baz=195,slow=12,SNR=2.3								
SOR	Soroa	140.52	46	IAMs_20		IAMs_20	18 51 50.0		
	comp=Z,625nm,21.0s								
TGUH	Tegucigalpa,Un	141.72	61	IAMs_20		IAMs_20	18 33 37.7		
	comp=Z,458nm,20.0s								
ML02	Panimavida	144.22	154	IAMs_20		IAMs_20	18 49 51.5		
	comp=Z,354nm,21.0s								
ACON	Acoyapa	144.45	63	IAMs_20		IAMs_20	18 59 07.3		
	comp=Z,465nm,20.0s								
TRQA	Tornquist	145.20	168			PKPbc	17 39 54.6	-0.2	
TRQA	Tornquist	145.20	168	PKIKP		PKPbc	17 39 54.6	-0.2	
JTS	Las Juntas de	145.32	66	IAMs_20		IAMs_20	18 32 58.8		
	comp=Z,476nm,22.0s								
ARE1	Aral 1	145.46	65	IAMs_20		IAMs_20	18 59 54.5		
	comp=Z,532nm,20.0s								
MT01	Popeta	145.89	153	IAMs_20		IAMs_20	18 36 51.8		
	comp=Z,504nm,21.0s								
BO04	La Punta	146.07	154	IAMs_20		IAMs_20	18 36 43.6		
	comp=Z,517nm,22.0s								
HDC	Heredia	146.19	65	IAMs_20		IAMs_20	18 42 43.8		
	comp=Z,469nm,21.0s								
LMEL	Las Melosas	146.37	154	IAMs_20		IAMs_20	18 36 54.4		
	comp=Z,550nm,22.0s								
VA03	San Esteban	147.13	152	IAMs_20		IAMs_20	18 41 02.6		
	comp=Z,286nm,20.0s								
AAGR	Agrelo	147.62	155	*e*P		PKPbc	17 40 03.6	+1.4	
GTBY	Guantanamo Bay	147.89	41			PKiKP	17 40 04.9	-0.2	
ASAL	Salagasta	148.04	155	*e*P		PKPbc	17 40 02.9	-0.5	
AUSP	Uspallata	148.11	153	*e*P		PKPbc	17 40 04.3	+0.5	
CO02	Combarbal	148.20	150			PKPdf	17 40 00.7	+0.1	
RTLS	Leoncito	148.51	153	*e*P		PKPbc	17 40 04.7	-0.2	
CO03	El Pedregal	148.65	150			PKPbc	17 40 04.2	-0.8	
ZON	Zonda	149.00	154	IAMs_20		IAMs_20	18 39 38.0		
	comp=Z,444nm,21.0s								
ACCO	Cerro Coronel	149.64	152	*e*P		PKPbc	17 40 07.4	-0.5	
AROD	Rodeo	149.80	151	*e*P		PKPdf	17 40 05.2	+1.8	
ACHE	Chepes	150.19	156	*e*P		PKPbc	17 40 09.5	+0.6	
AVFE	Valle Fertil	150.30	155	*e*P		PKPdf	17 40 05.0	+1.1	
TCA	Tanti	150.80	160	*e*P		PKPdf	17 40 06.1	+1.4	
AGUA	GUANDACOL	150.83	152	*e*P		PKPbc	17 40 08.0	-2.4	
ACLC	CERRO LA CRUZ	151.58	154	*e*P		PKPdf	17 40 06.6	+0.6	
VCA	Vinchina	151.59	151	*i* P		PKPbc	17 40 12.9	+0.6	
UPD2	Meteti	152.27	63	*e*P		PKiKP	17 40 14.9	+0.6	
PLTB	Pedras Altas	152.42	179			PKPdf	17 40 05.5	-1.6	
PLTB	Pedras Altas	152.42	179	*e*P		PKPdf	17 40 07.6	+0.5	
ARNL	Arenillas	153.18	90	IAMs_20		IAMs_20	18 34 26.5		
	comp=Z,691nm,22.0s								
MCRA	Macar, Loja	153.31	92	*e*P		PKPbc	17 40 16.5	+0.1	
COHC	Cochancay	153.94	87			PKPdf	17 40 11.5	+1.8	
COHC	Cochancay	153.94	87	*e*P		PKPab	17 40 36.4	+5.4	
SJCC	San Jacinto, C	154.09	58	*e*P		PKPdf	17 40 11.6	+1.6	
CHSH	Refugio Sur-Vo	154.23	85	IAMs_20		IAMs_20	18 38 23.3		
	comp=Z,606nm,21.0s								
ITQB	Itaqui	154.30	173	IAMs_20		IAMs_20	18 47 01.3		
	comp=Z,461nm,21.0s								
OTAV	Otavalo	154.41	81	IAMs_20		IAMs_20	18 34 24.8		
	comp=Z,565nm,22.0s								
OTAV	Otavalo	154.41	81	*e*P		PKPbc	17 40 19.2	-0.2	
SJG	San Juan	154.55	30	IAMs_20		IAMs_20	18 47 39.9		
	comp=Z,557nm,20.0s								
UREC	San Jos de Ur	154.82	62	*e*P		PKPdf	17 40 10.6	-0.4	
FSA	Cafayete	154.86	152	*e*P		PKPdf	17 40 13.3	+2.4	
TULM	Tulcn-Chalpat	154.97	80	IAMs_20		IAMs_20	18 39 13.7		
	comp=Z,617nm,21.0s								
BBAC	Balboa, Cauca	155.22	76	*e*P		PKPdf	17 40 20.0	+8.2	
GCUF	Volcan Galeras	155.31	78	*e*P		PKPdf	17 40 22.6	+10	
JAMC	Jamundi, Valle	155.46	73	*e*P		PKPdf	17 40 22.6	+11	
YOTC	Yotoco, Valle	155.53	71	*e*P		PKPdf	17 40 17.9	+5.8	
ZARC	Zaragoza, Cauc	155.54	62	*e*P		PKPdf	17 40 12.7	+0.8	
POPC	Popayan, Colom	155.64	75	*e*P		PKPdf	17 40 18.0	+5.6	
LL6C	La Loma 6 Bece	155.76	56	*e*P		PKPdf	17 40 21.5	+9.3	
GUY2C	Guyana, Caldas	156.02	68	*e*P		PKPdf	17 40 21.7	+8.6	
LVC	Limon Verde	156.07	142	PKP		PKPdf	17 40 09.6	-3.2	
	comp=Z,1.0nm,0.3s,baz=13,slow=5.5,SNR=1.4								
ROSC	El Rosal	157.13	68	PKP		PKPdf	17 40 12.6	-1.9	
	comp=Z,10nm,0.5s,baz=302,slow=9.6,SNR=4.3								
BARC	Barichara	157.42	62	*e*P		PKPab	17 40 47.9	+1.8	
CPUP	Villa Florida	157.48	170	IAMs_20		IAMs_20	18 50 44.5		
	comp=Z,442nm,20.0s								
CPUP	Villa Florida	157.48	170	PKP		PKPdf	17 40 14.2	+0.1	
	comp=Z,2.9nm,0.9s,baz=158,slow=1.4,SNR=4.3								
PAMC	Pamplona, Colo	157.49	60	*e*P		PKPab	17 40 48.1	+1.3	
PB08	IPOC Station P	157.68	137	IAMs_20		IAMs_20	18 53 60.0		
	comp=Z,461nm,22.0s								
VILC	Villavicencio,	157.98	69	*e*P		PKPab	17 40 49.3	+0.8	
AP01	Chacalluta	157.99	132	IAMs_20		IAMs_20	18 45 05.8		
	comp=Z,495nm,19.0s								
SDV	Santo Domingo	158.39	54	IAMs_20		IAMs_20	19 05 34.6		
	comp=Z,518nm,20.0s								
SDV	Santo Domingo	158.39	54	*e*P		PKPdf	17 40 15.6	-0.2	
PB16	IPOC Station P	158.63	133	IAMs_20		IAMs_20	18 43 09.6		
	comp=Z,436nm,22.0s								
PB18	Visviri	159.12	131	IAMs_20		IAMs_20	19 05 47.7		
	comp=Z,606nm,21.0s								
SPB	Sao Paulo	159.78	195	IAMs_20		IAMs_20	19 02 11.8		
	comp=Z,471nm,21.0s								
BAUV	El Baul	160.37	49	PKPdf		PKPdf	17 40 16.2	-1.6	
AQDB	Aquidauana	163.48	172	*e*P		PKPdf	17 40 21.3	+0.5	
SIV	San Ignacio	165.82	147	PKP		PKPdf	17 40 23.0	-0.1	
	comp=Z,8.1nm,1.2s,baz=217,slow=1.7,SNR=15								
SIV				PKPab		PKPab	17 41 20.8	-1.5	
	comp=Z,5.2nm,1.1s,baz=230,slow=8.9,SNR

MTN	**Manton Dam**	**6.47 171**	P	**Pn**	**18 07 38.7**	**+0.3**
KDU	**Kakadu**	**6.66 160**	P	**Pn**	**18 07 40.5**	**-0.3**
EDFI	**Ende, Flores**	**8.66 254**	P	**Pn**	**18 08 07.1**	**-0.7**
	13nm,1.1s					
PLAI	**Plampang**	**12.46 258**	P	**Pn**	**18 08 59.9**	**+2.1**
WRA	**Warramunga Arr**	**14.06 163**	Pn	**Pn**	**18 09 15.3**	**-3.1**
	0.1nm,0.3s,baz=347,slow=12,SNR=4.0					
WRA			Sn	Sn	18 11 44.1	-10
	0.7nm,0.3s,baz=341,slow=21,SNR=8.9					
	0.6nm,0.7s					
QIS	**Mount Isa**	**16.81 148**	P	**Pn**	**18 09 52.7**	**+0.4**
ASAR	**Alice Springs**	**17.54 168**	P	**P**	**18 10 00.6**	**+0.6**
	0.3nm,0.3s,baz=346,slow=10,SNR=22					
ASAR			S	S	18 13 05.2	-10
	0.1nm,0.6s,baz=348,slow=27,SNR=1.8					
	1.1nm,0.7s					
WRKA	**Warakurna**	**18.60 185**	P	**P**	**18 10 12.2**	**+0.6**
OOD	**Oodnadatta**	**21.92 167**	P	**P**	**18 10 46.5**	**-0.6**
MULG	**Mulgathing**	**24.04 172**	P	**P**	**18 11 07.8**	**+0.9**
MKAR	**Makanchi Array**	**67.80 327**	P	**P**	**18 16 47.7**	**+0.2**
	0.4nm,0.5s,baz=118,slow=7.8,SNR=8.2					
	0.4nm,0.5s					

TAP 28 18:06:05.3,23°59N×120°72E,h20km±1km,ML1.1,1D,A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN5	**Tsauling**	**0.04**	**282**	P	Pg	18 06 09.0	+0.1
	baz=281						
CHN5				*i* S	Sg	18 06 11.3	0.0
	baz=281						
ALS	**Alishan**	**0.11**	**136**	⫴ *i* P	Pg	18 06 10.1	+0.4
	baz=133						
ALS				*i* S	Sg	18 06 13.4	+0.9
	baz=133						
WHYT	**Xinyi Township**	**0.16**	**48**	*i* P	Pg	18 06 10.3	+0.4
	baz=48						
WHYT				S	Sg	18 06 13.6	+0.5
	baz=48						
WGK	**Gukeng**	**0.18**	**303**	*i* P	Pg	18 06 10.6	+0.5
	baz=304						
WGK				*i* S	Sg	18 06 14.7	+1.3
	baz=304						
WCKO	**Fanlu**	**0.18**	**216**	P	Pg	18 06 10.7	+0.5
	baz=215						
WCKO				S	Sg	18 06 14.5	+1.0
	baz=215						
WDLH	**Douliu**	**0.20**	**301**	*eP*	Pg	18 06 10.5	+0.2
	baz=300						
WDLH				*eS*	Sg	18 06 14.1	+0.2
	baz=300						
WJS	**Zhushan**	**0.23**	**1**	*eS*	Sg	18 06 15.6	+0.8
	baz=1.0						
CHN4	**Tsaushan**	**0.26**	**207**	*eP*	Pg	18 06 12.6	+1.2
	baz=206						
CHN4				*eS*	Sg	18 06 17.4	+1.8
	baz=206						
SSLB	**Suanglung**	**0.29**	**47**	S	Sg	18 06 16.8	+0.5
	baz=46						
WNT	**Mingjian**	**0.29**	**353**	*eS*	Sg	18 06 17.6	+1.3
	baz=354						
TPUB	**Ta-pu**	**0.30**	**197**	P	Pb	18 06 12.2	+0.2
	baz=196						
TPUB				*eS*	Sg	18 06 17.8	+1.3
	baz=196						
SMLT	**Sun Moon Lake**	**0.34**	**29**	*eP*	Pb	18 06 13.3	+0.6
	baz=30						
SMLT				*eS*	Sb	18 06 19.0	+1.3
	baz=30						
TYC	**Yuchr**	**0.34**	**21**	*eP*	Pn	18 06 14.0	-1.1
	baz=23						
TYC				*eS*	Sb	18 06 19.1	+1.4
	baz=23						
TWK	**Hsinying**	**0.39**	**214**	P	Pb	18 06 13.9	+0.4
	baz=212						
TWK				S	Sb	18 06 19.5	+0.3
	baz=212						
VWDT	**VWDT**	**0.42**	**67**	*eP*	Pb	18 06 15.0	+0.9
	baz=66						
VWDT				*eS*	Sb	18 06 21.4	+1.4
	baz=66						
STYH	**Taoyuan**	**0.42**	**173**	*eP*	Pg	18 06 13.9	0.0
	baz=172						
STYH				*eS*	Sb	18 06 20.4	+0.4
	baz=172						
WCS	**Beigang Elemen**	**0.50**	**20**	*eP*	Pg	18 06 16.1	+0.7
	baz=20						
WCS				*eS*	Sb	18 06 23.1	+0.9
	baz=20						
WUSB	**Renai**	**0.54**	**42**	*eP*	Pg	18 06 16.6	+0.3
	baz=41						
WUSB				*eS*	Sb	18 06 23.5	0.0
	baz=41						
YULB	**Yu-li**	**0.56**	**110**	*eP*	Pg	18 06 16.8	+0.2
	baz=110						
YULB				S	Sg	18 06 25.2	+1.0
	baz=110						

*IDC **28** 18:30:04.8±2.0,6°.05S×130°.59E,h0km,mb3.7/2, mbtmp3.6/4,ML3.7/2, Error ellipse: s-maj=162.5km s-min=26.4km az=68.0*
*DJA **28** 18:30:21.4±0.4,7°.5±3°×13°0E±°,h214km±13km,M4.0/8, mB4.6/2,mb3.7/8,MLv4.2/8,Mw(mB)3.8/2*
ISC 28 18:30:21.9±0.9,6°.77S±0°.09×129°.5E±0°.1,h150km,n11, σ1§57/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.15**	**124**	P	**Pn**	**18 31 00.6**	**+1.8**
FAKI	**Fak Fak**	**4.70**	**36**	P	**Pn**	**18 31 31.1**	**-0.4**
KMPI	**Kaimana, Papua**	**5.20**	**54**	P	**Pn**	**18 31 39.1**	**+1.1**
	66nm,0.8s,2µm0.5nm						
SOEI	**Soe**	**5.97**	**240**	P	**Pn**	**18 31 49.5**	**+1.0**
	19nm,1.5s,0.1nm						
SWI	**Sorong**	**6.12**	**17**	P	**Pn**	**18 31 49.7**	**-0.7**
	6.5nm,0.8s,0.1nm						
EDFI	**Ende, Flores**	**7.99**	**255**	P	**Pn**	**18 32 16.8**	**+1.4**
	12nm,1.4s						
PLAI	**Plampang**	**11.80**	**259**	P	**Pn**	**18 33 04.8**	**-0.9**
WRA	**Warramunga Arr**	**13.91**	**161**	Pn	**Pn**	**18 33 29.8**	**-2.9**
	0.4nm,0.3s,baz=348,slow=13,SNR=19						
WRA				Sn	Sn	18 35 55.6	-11
	0.9nm,0.3s,baz=338,slow=22,SNR=8.9						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**17.32**	**166**	P	**P**	**18 34 14.9**	**+1.1**
	0.2nm,0.3s,baz=342,slow=8.9,SNR=44						
ASAR				S	S	18 37 17.1	-10
	0.8nm,0.6s,baz=319,slow=17,SNR=8.8						
	1.7nm,0.7s						
STKA	**Stephens Creek**	**27.41**	**157**	P	**P**	**18 35 53.9**	**+0.3**
	1.1nm,0.6s,baz=336,slow=9.6,SNR=4.0						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**67.77**	**327**	P	**P**	**18 41 04.5**	**+0.9**
	0.2nm,0.4s,baz=118,slow=8.1,SNR=5.8						
	0.2nm,0.4s						

*IDC **28** 18:32:58.6±0.8, 16°.25S×178°.26E,h0km,mb3.9/10, mbtmp3.8/10,MS3.9/28,Error ellipse: s-maj=39.1km s-min=19.7km az=143.0*
*GCMT **28** 18:33:05.1±0.3, 16°.03S±0°.02×178°.28E±0°.01,h20km±1km, MW5.0/88,Moment Tensor Solution. s27,c33; s88,c123; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.33±.22; Mθθ=1.56±.18; Mϕϕ2.89±.17; Mrθ0.70±.31; Mrϕ3.13±.12; Mθϕ-0.37±.28; Best double couple: Ms3.98600×10¹⁶ NP1:ϕs344.00000°,δ76.00000°,λ-165.00000°. NP2: ϕs250.00000°,δ76.00000°,λ-15.00000°. Principal axes: T 4.5050, Plg0.0000°, Azm117.0000°; N -1.0390, Plg70.0000°, Azm27.0000°; P -3.4670, Plg20.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **28** 18:33:08.1±2.2, 16°.9S±0°.1×177°.8E±0°.2,h35km±1km, mb4.6/13 Error ellipse: s-maj=34.0km s-min=11.1km az=309.0*
ISC 28 18:33:01.7±0.6,16°.3S±0°.1×178°.03E±0°.10,h21km,n57, σ1§65/24,mb4.2/16,MS4.0/29,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUENC	**Ouen Island, N**	**12.17**	**238**	Pn	**Pn**	**18 35 51.9**	**-2.1**
DZM	**Mont Dzumac**	**12.35**	**241**	*e*LR	LR	18 39 07.9	
	comp=Z,819nm,25.9s						
DZM	**Mont Dzumac**	**12.35**	**241**	Pn	**Pn**	**18 35 55.6**	**-0.8**
DZM	**Mont Dzumac**	**12.35**	**241**	LR	LR	18 39 40.0	
	comp=Z,468nm,20.5s,baz=64,slow=32						
RAO	**Raoul Island**	**13.40**	**165**	LR	LR	18 40 42.5	
	comp=Z,861nm,18.8s,baz=306,slow=35						
KOUNC	**Koumac, New Ca**	**13.70**	**250**		**Pn**	**18 36 15.2**	**+0.4**
TOZ	**Tahuroa Road**	**21.45**	**185**	P	**P**	**18 37 47.2**	**-1.3**
RAR	**Rarotonga**	**21.57**	**106**	LR	LR	18 44 11.2	
	comp=Z,353nm,21.9s,baz=296,slow=32						
URZ	**Urewera**	**21.87**	**182**	LR	LR	18 44 42.2	
	comp=Z,348nm,20.9s,baz=94,slow=32						
RPZ	**Rata Peaks**	**27.94**	**191**	LR	LR	18 49 51.1	
	comp=Z,294nm,18.0s,baz=0.5,slow=36						
MLZ	**Mavora Lakes**	**30.13**	**194**	P	**P**	**18 39 10.2**	**+0.1**
CTA	**Charters Tower**	**30.39**	**258**	LR	LR	18 48 18.4	
	comp=Z,152nm,21.7s,baz=82,slow=30						
PMG	**Port Moresby**	**30.84**	**279**	LR	LR	18 50 16.9	
	comp=Z,248nm,19.7s,baz=58,slow=33						
PPT2	**Papeete2**	**30.99**	**97**	*e*S	**S**	**18 44 20.3**	**-1.6**
	131nm,24.2s						
PPT2				*e*LR	LR	18 46 55.5	
	comp=Z,1µm,29.8s						
PPT2				*e*LR	LR	18 47 06.0	
	comp=Z,597nm,33.0s						
PPT	**Papeete**	**30.99**	**97**	LR	LR	18 48 49.7	
	comp=Z,124nm,21.7s,baz=270,slow=31						
TBI	**Tubuai**	**31.32**	**108**	*e*S	**S**	**18 44 31.0**	**+4.2**
	591nm,24.0s						
TBI				*e*LR	LR	18 47 12.7	
	comp=Z,6µm,30.5s						
STKA	**Stephens Creek**	**36.48**	**238**	P	**P**	**18 40 02.9**	**-2.7**
STKA	**Stephens Creek**	**36.48**	**238**	P	**P**	**18 40 08.5**	**+3.0**
	8.9nm,0.9s,baz=60,slow=7.2,SNR=17						
STKA				LR	LR	18 53 16.1	
	comp=Z,211nm,21.2s,baz=54,slow=33						
	8.9nm,0.9s						
TAOE	**Nuku Hiva Isla**	**41.42**	**85**	*e*LR	LR	18 52 13.1	
	comp=Z,480nm,26.2s						
WB2	**Warramunga Arr**	**41.58**	**258**	P	**P**	**18 40 48.0**	**-0.4**
WB2				IAmb	IAmb	18 40 50.5	
	comp=Z,9.5nm,1.1s						
WRA	**Warramunga Arr**	**41.59**	**258**	P	**P**	**18 40 50.1**	**+1.6**
WRA	**Warramunga Arr**	**41.59**	**258**	P	**P**	**18 40 49.8**	**+1.3**
	comp=Z,1.2nm,0.9s,baz=95,slow=8.9,SNR=4.7						
	comp=Z,1.2nm,0.9s						
AS31	**Alice Springs**	**41.97**	**253**	P	**P**	**18 40 52.8**	**+1.2**
ASAR	**Alice Springs**	**41.98**	**253**	P	**P**	**18 40 51.9**	**+0.3**
ASAR	**Alice Springs**	**41.98**	**253**	P	**P**	**18 40 52.8**	**+1.2**
	comp=Z,3.6nm,0.9s,baz=82,slow=8.9,SNR=19						
	comp=Z,3.6nm,0.9s						
GUMO	**Guam**	**44.24**	**310**	LR	LR	18 58 30.7	
	comp=Z,83nm,18.9s,baz=294,slow=34						
JCJ	**Chichijima**	**55.43**	**321**	LR	LR	19 01 28.2	
	comp=Z,165nm,21.5s,baz=132,slow=31						
DAV	**Davao City (W)**	**56.86**	**290**	LR	LR	19 03 43.0	
	comp=Z,162nm,21.4s,baz=126,slow=32						
VNDA	**Vanda**	**61.76**	**184**	IAmb	IAmb	18 43 50.6	
	comp=Z,6.5nm,1.5s						
VNDA	**Vanda**	**61.76**	**184**	LR	LR	19 07 02.1	
	comp=Z,88nm,18.7s,baz=4.5,slow=33						
MJAR	**Matsushiro Arr**	**64.64**	**325**	LR	LR	19 06 05.5	
	comp=Z,92nm,20.9s,baz=151,slow=31						
JNU	**Nakatsue**	**66.66**	**318**	LR	LR	19 09 22.0	
	comp=Z,74nm,20.3s,baz=101,slow=33						
RPN	**Rapa Nui**	**67.54**	**113**	LR	LR	19 06 08.7	
	comp=Z,111nm,21.6s,baz=334,slow=30						
ASAJ	**Asahikawa**	**68.30**	**333**	LR	LR	19 07 26.4	
	comp=Z,167nm,21.9s,baz=165,slow=30						
KSRS	**Korea Array**	**71.28**	**320**	LR	LR	19 09 33.7	
	comp=Z,81nm,21.4s,baz=105,slow=31						
USRK	**Ussuriysk Ar.**	**73.42**	**327**	LR	LR	19 10 55.3	
	comp=Z,49nm,21.2s,baz=96,slow=31						
QSPA	**South Pole Qui**	**73.72**	**180**	P	**P**	**18 44 34.3**	**+0.3**
QSPA				IAmb	IAmb	18 44 35.7	
	comp=Z,8.9nm,1.2s						
QSPA	**South Pole Qui**	**73.72**	**180**	P	**P**	**18 44 34.7**	**+0.7**
	comp=Z,4.4nm,0.9s,baz=358,slow=2.8,SNR=9.5						
	comp=Z,4.4nm,0.9s						
KLR	**Kul'dur**	**77.05**	**331**	LR	LR	19 13 57.4	
	comp=Z,68nm,19.2s,baz=128,slow=32						
MA2	**Magadan**	**78.81**	**346**	LR	LR	19 19 52.1	
	comp=Z,32nm,18.1s,baz=100,slow=36						
NVAR	**Mina Array Bea**	**80.70**	**46**	P	**P**	**18 45 12.7**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=222,slow=9.3,SNR=3.7						
	comp=Z,0.4nm,0.7s						
J05D	**Fort Rock, OR**	**81.26**	**40**	P	P	18 45 23.4	+6.9
J05D				IAmb	IAmb	18 45 23.8	
	comp=Z,7.7nm,0.9s						
PINE	**Pine Mountain**	**81.71**	**40**	P	P	18 45 25.4	+6.6
PINE				IAmb	IAmb	18 45 26.2	
	comp=Z,8.1nm,1.0s						
BBB	**Bella Bella**	**82.61**	**30**	LR	LR	19 13 17.2	
	comp=Z,137nm,21.3s,baz=184,slow=29						
LOGN	**Logan Glacier**	**83.58**	**19**	P	P	18 45 36.0	+7.8
ELK	**Elko**	**83.88**	**45**	LR	LR	19 16 02.5	
	comp=Z,117nm,20.6s,baz=106,slow=31						
F10A	**Beach Ranch, E**	**85.09**	**39**	P	P	18 45 41.5	+5.4
F10A				IAmb	IAmb	18 45 43.4	
	comp=Z,4.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**85.14**	**291**	P	**P**	**18 45 38.0**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=106,slow=3.2,SNR=4.8						
CMAR				LR	LR	19 21 00.0	
	comp=Z,26nm,20.9s,baz=105,slow=34						
	comp=Z,0.8nm,0.9s						
ILAR	**Eielson Array**	**85.16**	**14**	P	**P**	**18 45 35.5**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=236,slow=6.3,SNR=8.8						
ILAR				LR	LR	19 15 16.8	
	comp=Z,103nm,20.4s,baz=110,slow=30						
	comp=Z,1.1nm,0.9s						
HLID	**Hailey**	**85.72**	**42**	P	P	18 45 45.7	+6.2
HLID				IAmb	IAmb	18 45 48.3	
	comp=Z,2.1nm,0.8s						
TXAR	**Lajitas Array**	**88.06**	**59**	P	**P**	**18 45 49.3**	**-1.8**
	comp=Z,0.2nm,0.6s,baz=267,slow=3.6,SNR=1.4						
	comp=Z,0.2nm,0.6s						
PDAR	**Pinedale Array**	**88.58**	**45**	P	**P**	**18 45 53.2**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=238,slow=1.7,SNR=1.4						
	comp=Z,0.1nm,0.5s						
SONM	**Songino Array**	**90.14**	**320**	LR	LR	19 24 32.1	
	comp=Z,44nm,18.6s,baz=81,slow=34						
YKA	**Yellowknife Ar**	**94.34**	**25**	P	**P**	**18 46 20.1**	**+0.7**
	comp=Z,0.1nm,0.6s,baz=258,slow=4.9,SNR=3.1						
	comp=Z,0.1nm,0.6s						
PALK	**Pallekele**	**99.01**	**275**	LR	LR	19 31 15.6	
	comp=Z,62nm,20.2s,baz=129,slow=35						
ULM	**Lac du Bonnet**	**99.91**	**41**	LR	LR	19 25 08.4	
	comp=Z,140nm,18.9s,baz=96,slow=31						
GERES	**GERESS Array B**	**145.12**	**342**	PKPbc	**PKPdf**	**18 52 37.4**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=48,slow=1.5,SNR=4.2						

*IDC **28** 18:40:09.9±1.9,4°.12N×126°.85E,h0km,mb3.4/4, mbtmp3.4/4,Error ellipse: s-maj=155.8km s-min=24.1km az=66.0*
*DJA **28** 18:40:14.8±0.5,4°N±3°×12°7E±°,h10km,M3.7/7,mb4.0/1, MLv3.5/7*
ISC 28 18:40:15.0±1.4,4°.0N±0°.1×126°.9E±0°.1,h36km,n8,σ0§59/9, mb3.4/4,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.42**	**256**	P	**Pn**	**18 40 38.3**	**0.0**
SGSI				S	**Sn**	**18 40 55.5**	**-0.3**
TNTI	**Ternate**	**3.28**	**172**	P	**Pn**	**18 41 03.4**	**-0.5**
LBMI	**Labuha**	**4.69**	**173**	P	**Pn**	**18 41 23.1**	**-0.1**
GTOI	**Gorontalo**	**5.16**	**229**	P	**Pn**	**18 41 29.7**	**0.0**
WRA	**Warramunga Arr**	**24.93**	**163**	P	**P**	**18 45 36.1**	**+1.2**
	0.8nm,0.7s,baz=343,slow=11,SNR=10						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**28.37**	**166**	P	**P**	**18 46 06.2**	**+0.2**
	0.6nm,1.0s,baz=338,slow=8.3,SNR=2.9						
	0.6nm,1.0s						
MKAR	**Makanchi Array**	**57.40**	**325**	P	**P**	**18 50 00.1**	**+0.2**
	0.2nm,0.7s,baz=121,slow=8.0,SNR=1.9						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**61.57**	**327**	P	**P**	**18 50 28.0**	**-0.6**
	0.1nm,0.3s,baz=130,slow=7.1,SNR=1.3						
	0.1nm,0.3s						

*BJI **28** 18:52:46.5, 18°.88N×146°.05E,h231km, mb4.2/37, mB5.0/22*
*DJA **28** 18:52:48.9±0.7,19°N±3°×14°6E±°,h206km±6km,M5.0/54, mB5.4/19,mb5.1/54,MLv5.4/2,Mw(mB)4.8/19*
*IDC **28** 18:52:48.8±0.3, 19°.05N×145°.46E,h213km±2km, mb4.1/37, mbtmp4.6/40,Error ellipse: s-maj=9.1km s-min=6.5km az=76.0*
*NEIC **28** 18:52:48.6±1.7,19°.01N±0°.05×145°.51E±0°.08, h204km±4km,mb4.6/284,Error ellipse: s-maj=11.1km s-min=6.9km az=99.0*
*GCMT **28** 18:52:52.6±0.4, 19°.07N±0°.02×145°.62E±0°.03, h229km±3km,MW5.1/95,Moment Tensor Solution. s22,c24; s95,c122; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=4.09±.24; Mθθ-0.18±.24; Mϕϕ-3.90±.24; Mrθ-3.28±.18; Mϕϕ2.38±.21; Mθr0.50±.20; Best double couple: Ms5.70200×10¹⁶ NP1:ϕs307.00000°,δ63.00000°, λ59.00000°. NP2:ϕs179.00000°,δ40.00000°,λ135.00000°. Principal axes: T 5.9220, Plg60.0000°, Azm171.0000°; N -0.4310, Plg27.0000°, Azm322.0000°; P -5.4820, Plg13.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 28 18:52:48.4±0.3,19°.05N±0°.04×145°.56E±0°.05,h210km±2km, h210km:pP-P,n757,σ1§26/756,mb4.6/211,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.47**	**187**	Pn	**Pn**	**18 54 09.7**	**+0.6**
GUMO	**Guam**	**5.47**	**187**	P	**Pn**	**18 54 10.5**	**+1.4**
GUMO	**Guam**	**5.47**	**187**	P	**Pn**	**18 54 11.3**	**+2.2**
	104nm,0.3s,baz=14,slow=5.0,SNR=18						
GUMO				S	**S**	**18 55 10.7**	**-2.0**
	124nm,0.4s,baz=356,slow=19,SNR=1.8						
JCJ	**Chichijima**	**8.59**	**339**	Pn	**Pn**	**18 54 48.8**	**-0.4**
JCJ	**Chichijima**	**8.59**	**339**	P	**Pn**	**18 54 44.7**	**-4.4**
	273nm,0.4s,baz=101,slow=18,SNR=24						
JCJ				S	S	18 56 16.4	-10
	401nm,0.5s,baz=197,slow=19,SNR=8.5						
JMZ	**Minamidaito 2**	**14.86**	**300**	Pn	**Pn**	**18 56 06.3**	**-2.2**
JHJ	**Hachijo jima 2**	**14.93**	**341**	P	**P**	**18 56 11.0**	**+1.2**
	96nm,0.5s,baz=218,slow=19,SNR=2.1						
JHJ				S	**S**	**18 58 50.8**	**-3.9**
	366nm,1.0s,baz=91,slow=16,SNR=3.0						
PATS	**Pohnpei**	**17.36**	**133**	P	**P**	**18 56 36.4**	**-0.3**
JOW	**Kunigami**	**17.69**	**299**	Pn	**Pn**	**18 56 42.0**	**-0.3**
JOW	**Kunigami**	**17.69**	**299**	P	**Pn**	**18 56 44.4**	**+2.1**
JOW	**Kunigami**	**17.69**	**299**	P	**Pn**	**18 56 42.8**	**+0.5**
	33nm,0.5s,baz=145,slow=11,SNR=17						
JMN	**Monobe**	**17.95**	**327**	P	**P**	**18 56 44.0**	**+1.0**
JMN	**Monobe**	**17.95**	**327**	P	**Pn**	**18 56 46.6**	**+1.3**
MJAR	**Matsushiro Arr**	**18.58**	**341**	P	**P**	**18 56 51.0**	**+1.1**
	5.3nm,0.4s,baz=124,slow=15,SNR=32						
MJAR				S	**S**	**19 00 06.0**	**-4.5**
	3.8nm,0.8s,baz=136,slow=15,SNR=4.1						
MAJO	**Matsushiro**	**18.58**	**341**	P	**P**	**18 56 50.2**	**+0.4**
MAJO	**Matsushiro**	**18.58**	**341**	P	**Pn**	**18 56 53.2**	**+0.5**
MJB9	**Matsu-Tunnel**	**18.59**	**341**	P	**P**	**18 56 50.1**	**+0.2**
JMM	**Marumori**	**19.20**	**348**	P	**P**	**18 56 57.4**	**+1.0**
JMM	**Marumori**	**19.20**	**348**	P	**Pn**	**18 56 59.9**	**0.0**
JNU	**Nakatsue**	**19.21**	**320**	P	**P**	**18 56 57.8**	**+1.2**
JNU				IAmb	IAmb	18 57 36.9	
	comp=Z,35nm,1.1s						
JNU	**Nakatsue**	**19.21**	**320**	P	**P**	**18 56 58.1**	**+1.5**
	comp=Z,12nm,0.8s,baz=82,slow=7.1,SNR=1.5						
H11S3	**WAKE ISLAND Hy**	**20.02**	**88**	T	T	19 18 36.0	
	baz=275,slow=75,SNR=8.2						
H11S1	**WAKE ISLAND Hy**	**20.03**	**88**	T	T	19 18 35.7	
	baz=275,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy**	**20.03**	**88**	T	T	19 18 38.1	
	baz=275,slow=75,SNR=9.9						
H11N1	**WAKE ISLAND Hy**	**20.14**	**85**	P	**P**	**18 57 08.3**	**+1.9**
	baz=254,slow=13,SNR=5.9						
H11N1				T	T	19 18 51.4	
	baz=273,slow=74						
H11N2	**WAKE ISLAND Hy**	**20.14**	**85**	P	**P**	**18 57 08.8**	**+2.3**
	baz=254,slow=13,SNR=3.5						
H11N2				T	T	19 18 47.9	
	baz=273						
H11N3	**WAKE ISLAND Hy**	**20.16**	**85**	P	**P**	**18 57 08.9**	**+2.2**
	baz=254,slow=13,SNR=8.3						
H11N3				T	T	19 18 47.9	
	baz=273,slow=74						
MANU	**Manus Island**	**21.04**	**175**	P	**P**	**18 57 15.8**	**-0.5**
MANU	**Manus Island**	**21.04**	**175**	P	**P**	**18 57 16.7**	**+0.4**
JAY	**Jayapura**	**21.96**	**193**	P	**P**	**18 57 23.9**	**-1.6**
	comp=Z,136nm,1.4s,comp=Z,2µm						
SMPI	**Sarmi**	**21.97**	**199**	P	**P**	**18 57 26.1**	**+0.5**
JTM	**Tenmabayashi**	**22.00**	**351**	P	**P**	**18 57 27.2**	**+1.5**
JTM	**Tenmabayashi**	**22.00**	**351**	P	**P**	**18 57 28.7**	**+3.1**
GENI	**Genyem**	**22.15**	**194**	P	**P**	**18 57 29.0**	**+1.7**
GENI	**Genyem**	**22.15**	**194**	P	**P**	**18 57 28.7**	**+1.4**
	comp=Z,219nm,1.5s,comp=Z,3µm						
NACB	**Ninganchiao**	**22.84**	**287**	P	**P**	**18 57 33.1**	**-0.4**
NACB	**Ninganchiao**	**22.84**	**287**	P	**P**	**18 57 35.6**	**+2.1**
YULB	**Yu-li**	**23.01**	**285**	P	**P**	**18 57 36.1**	**+1.0**
YULB				IAmb	IAmb	18 57 40.8	
	comp=Z,17nm,0.6s						
YULB	**Yu-li**	**23.01**	**285**	P	**P**	**18 57 39.1**	**+4.0**
SSLB	**Suanglung**	**23.37**	**286**	P	**P**	**18 57 38.2**	**-0.1**
SSLB	**Suanglung**	**23.37**	**286**	P	**P**	**18 57 40.2**	**+1.8**
TPUB	**Ta-pu**	**23.61**	**285**	P	**P**	**18 57 42.9**	**+2.3**
KSRS	**Korea Array**	**23.95**	**324**	P	**P**	**18 57 44.2**	**+0.7**
	comp=Z,4.0nm,0.5s,baz=149,slow=8.7,SNR=19						
KSRS				pP	**pwP**	**18 58 24.9**	**-1.3**
	comp=Z,18nm,0.9s,baz=146,slow=8.5,SNR=4.2						
	comp=Z,4.0nm,0.5s						
KSAR	**Wonju Array Be**	**23.97**	**324**	P	**P**	**18 57 44.1**	**+0.5**
KS19	**Wonju Array Si**	**24.02**	**324**	P	**P**	**18 57 43.9**	**-0.2**
KS19				IAmb	IAmb	18 58 27.8	
	comp=Z,33nm,1.1s						
SWI	**Sorong**	**24.27**	**217**	P	**P**	**18 57 47.5**	**+1.0**
	comp=Z,59nm,1.2s,comp=Z,755nm						
JKA	**Kamikawa-asahi**	**25.11**	**355**	P	**P**	**18 57 55.7**	**+1.8**
ASAJ	**Asahikawa**	**25.11**	**355**	P	**P**	**18 57 55.6**	**+1.8**
	comp=Z,4.1nm,0.4s,baz=245,slow=14,SNR=8.5						
	com

KLR Kul'dur 32.09 343 P **P** **18 58 56.4 +0.8**
comp=Z,7.6nm,0.3s,baz=158,slow=11,SNR=61
KLR pP **pwP** **18 59 39.1 +1.1**
comp=Z,13nm,0.7s,baz=164,slow=8.0,SNR=3.5
KLR PcP **PcP** **19 01 38.5 -1.2**
comp=Z,1.7nm,0.5s,baz=195,slow=3.9,SNR=1.6
comp=Z,7.6nm,0.3s
TTSI Tana Toraja 33.51 232 P **P** **18 59 09.5 +1.1**
comp=Z,114nm,0.9s,comp=Z,957nm
KDU Kakadu 34.07 203 P **P** **18 59 13.9 +0.8**
SPSI Sidrap Palu 34.17 231 P **P** **18 59 14.5 +0.5**
comp=Z,94nm,0.8s,comp=Z,811nm
HEH HeiHe 34.33 339 *e*P **P** **18 59 16.3 +1.4**
HEH pmax pmax
comp=Z,12nm,1.0s
HEH pmax pmax
comp=Z,210nm,4.7s
MTN Manton Dam 34.74 205 P **P** **18 59 19.0 +0.2**
MTN Manton Dam 34.74 205 P **P** **18 59 19.2 +0.4**
BKSI Bulukumba 34.85 228 P **P** **18 59 20.6 +0.8**
comp=Z,36nm,0.6s
XLT XiLinHaoTe 34.97 322 *e*P **P** **18 59 23.5 +2.9**
XLT pP pwP 19 00 10.0 +2.7
XLT pmax pmax
comp=Z,7.0nm,1.4s
XLT pmax pmax
comp=Z,120nm,7.2s
PETK Petropavlovsk- 35.27 13 P **P** **18 59 23.6 +0.6**
comp=Z,2.2nm,0.7s,baz=138,slow=4.9,SNR=6.1
PETK pP **pwP** **19 00 08.4 -0.6**
comp=Z,6.0nm,0.7s,baz=180,slow=6.7,SNR=3.6
comp=Z,2.2nm,0.7s
SOEI Soe 35.50 218 P **P** **18 59 24.1 -1.3**
SOEI Soe 35.50 218 P **P** **18 59 25.3 -0.2**
SOEI Soe 35.50 218 P **P** **18 59 27.7 +2.2**
comp=Z,63nm,0.7s
MTKI Muara Teweh, K 36.07 240 P **P** **18 59 32.3 +2.0**
comp=Z,42nm,0.6s,comp=Z,4µm
HHC Hu-ho-hao-te 36.26 314 *e*P **P** **18 59 33.0 +1.3**
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,490nm,5.4s
EDFI Ende, Flores 36.29 223 P **P** **18 59 31.5 -0.7**
comp=Z,25nm,0.9s
DLV T Lat 36.36 264 P **P** **18 59 33.9 +1.0**
DLV IAmb IAmb 18 59 35.6
comp=Z,19nm,0.8s
SBUM Sibu 36.55 247 P **P** **18 59 35.0 +0.7**
BTO Baotou 37.21 313 *e*P **P** **18 59 41.3 +1.6**
BTO pP **pwP** **19 00 28.0 +0.7**
BTO sP sP 19 00 53.0 +7.2
BTO PP **PnPn** **19 01 16.0 +3.5**
BTO pmax pmax
comp=Z,10.0nm,1.2s
BTO pmax pmax
comp=Z,450nm,5.5s
KNRA Kununurra 38.27 207 P **P** **18 59 49.6 +1.0**
KNRA Kununurra 38.27 207 P **P** **18 59 50.9 +2.3**
STKI Sintang 38.39 244 P **P** **18 59 50.3 +0.5**
comp=Z,32nm,1.1s
UBPT Khong Chiam 38.43 271 P **P** **18 59 51.9 +1.8**
KSM Kuching 38.69 247 P **P** **18 59 52.7 +0.4**
KSM IAmb IAmb 18 59 53.2
comp=Z,18nm,0.6s
CTAO Charters Tower 38.91 179 P **P** **18 59 53.1 -0.8**
CTAO IAmb IAmb 18 59 54.5
comp=Z,13nm,0.7s
CTAO Charters Tower 38.91 179 P **P** **18 59 53.7 -0.2**
PLAI Plampang 38.96 227 P **P** **18 59 55.7 +1.3**
PLAI Plampang 38.96 227 P **P** **18 59 55.1 +0.7**
comp=Z,65nm,0.5s,comp=Z,1µm
TWSI Taliwang, Sumb 39.52 228 P **P** **18 59 59.0 -0.1**
comp=Z,111nm,1.0s,comp=Z,1µm
QIS Mount Isa 39.80 189 P **P** **19 00 01.8 +0.5**
WB0 Warramunga Arr 40.10 196 P **P** **19 00 04.2 +0.4**
WR0 Warramunga Arr 40.25 196 P **P** **19 00 05.4 +0.4**
WRAB Tennant Creek 40.27 196 P **P** **19 00 05.1 -0.1**
WRAB PcP **PcP** **19 02 04.1 -0.6**
WB2 Warramunga Arr 40.28 196 P **P** **19 00 05.8 +0.5**
WB2 PcP **PcP** **19 02 04.5 -0.2**
WRA Warramunga Arr 40.28 196 P **P** **19 00 05.4 +0.1**
WRA IAmb IAmb 19 00 07.0
comp=Z,44nm,1.4s
WRA Warramunga Arr 40.28 196 P **P** **19 00 05.8 +0.5**
comp=Z,74nm,0.6s,baz=12,slow=8.7,SNR=136
WRA PcP **PcP** **19 02 04.3 -0.4**
comp=Z,13nm,0.6s,baz=15,slow=3.4,SNR=8.0
LZH Lanzhou 40.34 304 *e*P **P** **19 00 08.0 +2.2**
LZH sP sP 19 01 18.0 +6.0
LZH pmax pmax
comp=Z,8.0nm,1.3s
PZH PanZhiHua 40.92 289 P **P** **19 00 12.3 +1.7**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,170nm,5.7s
BLJI Banyuglugur 41.25 233 P **P** **19 00 15.0 +1.7**
comp=Z,79nm,1.1s
JAGI Jajag, Banyuwa 41.31 231 P **P** **19 00 11.4 -2.4**
JAGI Jajag, Banyuwa 41.31 231 P **P** **19 00 13.5 -0.3**
FITZ Fitzroy Crossi 41.78 209 P **P** **19 00 17.7 +0.2**
FITZ IAmb IAmb 19 00 20.2
comp=Z,24nm,0.8s
CRAI Chiangrai 42.47 279 P **P** **19 00 23.8 +0.6**
SONM Songino Array 42.78 321 P **P** **19 00 25.8 +0.4**
SONM Songino Array 42.78 321 P **P** **19 00 25.4 0.0**
comp=Z,1.6nm,0.4s,baz=134,slow=10,SNR=18
SONM pP **pwP** **19 01 11.2 -2.7**
comp=Z,4.9nm,0.9s,baz=127,slow=9.9,SNR=3.9
comp=Z,1.6nm,0.4s
KOUNC Koumac, New Ca 43.43 154 P **P** **19 00 31.3 +0.6**
KOUNC Koumac, New Ca 43.43 154 P **P** **19 00 31.8 +1.1**
UGM Wanagama 43.71 235 P **P** **19 00 32.9 -0.2**
UGM Wanagama 43.71 235 P **P** **19 00 35.8 +2.7**
AS31 Alice Springs 43.95 195 P **P** **19 00 35.1 +0.2**
ASAR Alice Springs 43.95 195 P **P** **19 00 35.1 +0.2**
comp=Z,21nm,0.5s,baz=12,slow=7.3,SNR=437
ASAR PcP **PcP** **19 02 16.8 -0.1**
comp=Z,5.8nm,0.5s,baz=22,slow=4.8,SNR=7.1
comp=Z,21nm,0.5s
CM31 Chiang Mai Arr 44.04 277 P **P** **19 00 35.2 -0.6**
CMAR Chiang Mai Arr 44.04 277 P **P** **19 00 35.6 -0.1**
CMAR Chiang Mai Arr 44.04 277 P **P** **19 00 36.6 +0.9**
comp=Z,4.6nm,0.9s,baz=68,slow=6.6,SNR=29
CMAR pP **pP** **19 01 21.3 +1.8**
comp=Z,0.4nm,0.4s,baz=90,slow=5.8,SNR=1.0
comp=Z,4.6nm,0.9s
GTA Gaotai 44.23 307 P P 19 00 47.3 +10
GTA pP pwP 19 01 27.5 +1.1
GTA sP sP 19 01 55.5 +12
GTA pmax pmax
comp=Z,2.0nm,2.0s
MYKOM Kota Tinggi 44.28 252 P **P** **19 00 38.0 +0.4**
YAK Yakutsk 44.35 349 P **P** **19 00 36.8 -0.6**
YAK Yakutsk 44.35 349 P **P** **19 00 37.6 +0.1**
comp=Z,0.8nm,0.4s,baz=85,slow=1.6,SNR=14
YAK pP **pP** **19 01 22.0 +0.1**
comp=Z,1.9nm,0.8s,baz=162,slow=9.6,SNR=3.0
EIDS Eidsvold 44.48 173 P **P** **19 00 36.4 -2.5**
KPJI Karang Pucung 44.61 237 P **P** **19 00 40.8 +0.6**
comp=Z,61nm,1.3s
LIFNC LIFOU 44.92 151 P **P** **19 00 39.4 -3.1**
LIFNC LIFOU 44.92 151 P **P** **19 00 43.3 +0.8**
QLP Quilpie 45.38 182 P **P** **19 00 47.6 +1.6**
NOUC Port Laguerre 45.66 153 P **P** **19 00 49.1 +0.8**
DZM Mont Dzumac 45.69 152 P **P** **19 00 48.1 -0.6**
DZM Mont Dzumac 45.69 152 P **P** **19 00 50.1 +1.4**
KULM Kulim 45.83 259 P **P** **19 00 51.3 +1.5**
KULM IAmb IAmb 19 00 52.9
comp=Z,33nm,1.0s
YATNC Mamie plateau, 45.88 152 P **P** **19 00 50.7 +0.7**
ONTNC Ouen Toro 45.90 153 P **P** **19 00 48.4 -1.8**
OUENC Ouen Island, N 46.17 152 P **P** **19 00 52.6 +0.3**
OUENC Ouen Island, N 46.17 152 P **P** **19 00 53.3 +1.0**
PINNC Pines Island, 46.61 152 P **P** **19 00 54.8 -0.8**
CGJI Cibinong 46.83 241 P **P** **19 00 56.0 -1.6**
comp=Z,94nm,1.1s
WRKA Warakurna 46.94 202 P **P** **19 00 59.0 +0.8**
KASI Kota Agung 47.24 243 P **P** **19 01 00.8 0.0**
comp=Z,62nm,0.6s
MBWA Marble Bar 47.29 214 P **P** **19 01 00.8 -0.2**
MBWA Marble Bar 47.29 214 P **P** **19 01 02.1 +1.1**
OOD Oodnadatta 47.54 192 P **P** **19 01 04.4 +1.6**
GOMU GeErMu 47.55 302 P **P** **19 01 05.3 +1.9**
GOMU pmax pmax
comp=Z,2.0nm,0.7s
PSA00 Pilbara Seismi 47.57 213 P **P** **19 01 03.5 +0.3**
PSA00 Pilbara Seismi 47.57 213 P **P** **19 01 03.8 +0.6**
PSA00 IAmb IAmb 19 01 06.2
comp=Z,40nm,0.9s
PSA00 Pilbara Seismi 47.57 213 P **P** **19 01 03.6 +0.4**
RPSI Rantau Prapat 48.40 256 P **P** **19 01 10.3 +0.7**
RPSI IAmb IAmb 19 01 12.0
comp=Z,16nm,1.0s
ARMA Armidale 49.53 173 P **P** **19 01 16.1 -1.9**
ARMA IAmb IAmb 19 01 19.2
comp=Z,11nm,0.8s
ARMA Armidale 49.53 173 P **P** **19 01 18.4 +0.3**
LCRK Leigh Creek 49.72 188 P **P** **19 01 20.0 +0.7**
SHL Shillong 49.81 288 P **P** **19 01 19.7 -0.8**
GSI Gunungsitoli 50.18 255 P **P** **19 01 22.9 -0.3**
GSI Gunungsitoli 50.18 255 P **P** **19 01 24.6 +1.4**
GSI Gunungsitoli 50.18 255 P **P** **19 01 24.1 +0.9**
comp=Z,77nm,0.9s
MULG Mulgathing 50.28 193 P **P** **19 01 24.1 +0.5**
CMSA Cobar Meteorol 50.30 180 P **P** **19 01 23.1 -0.6**
UNV Unalaska Valle 50.44 35 P **P** **19 01 25.1 +0.6**
BILL Billbino 50.70 10 P **P** **19 01 27.4 +1.2**
STKA Stephens Creek 50.78 184 P **P** **19 01 26.1 -1.2**
STKA Stephens Creek 50.78 184 P **P** **19 01 26.9 -0.4**
STKA Stephens Creek 50.78 184 P **P** **19 01 26.6 -0.7**
comp=Z,8.5nm,0.5s,baz=20,slow=7.3,SNR=47
comp=Z,8.5nm,0.5s
AKUT Akutan 50.95 35 P **P** **19 01 28.1 -0.2**
GIRL Giralia 51.52 218 P **P** **19 01 31.7 -1.2**
GIRL Giralia 51.52 218 P **P** **19 01 33.6 +0.7**
FORT Forrest 52.32 199 P **P** **19 01 37.9 -0.8**
FORT Forrest 52.32 199 P **P** **19 01 39.0 +0.3**
BBOO Buckleboo 52.36 190 P **P** **19 01 38.4 -0.6**
BBOO IAmb IAmb 19 01 39.1
comp=Z,17nm,0.8s
BBOO Buckleboo 52.36 190 P **P** **19 01 38.3 -0.6**
MEEK Meekatharra 52.41 211 P **P** **19 01 39.9 +0.4**
HTT Hallett 52.57 187 P **P** **19 01 40.8 +0.2**
YNG Young 53.12 177 P **P** **19 01 43.7 -0.8**
GAMB Gambell 53.18 22 P **P** **19 01 45.5 +1.0**
baz=233
TAPN Taplejung 53.41 290 *e*P **P** **19 01 47.2 -0.1**
TIXI Tiksi 53.50 354 P **P** **19 01 47.0 +0.2**
ODAN Odare 53.73 290 *e*P **P** **19 01 49.3 -0.2**
WMQ Urumqi 53.98 311 *e*P **P** **19 01 52.8 +2.0**
WMQ pP pwP 19 02 41.3 +0.1
WMQ pmax pmax
comp=Z,16nm,1.1s
CAN Canberra 54.17 177 P **P** **19 01 50.2 -1.9**
CAN IAmb IAmb 19 01 52.7
comp=Z,14nm,0.8s
CNB Canberra Magne 54.19 176 P **P** **19 01 51.8 -0.5**
SDPT Sand Point 54.26 35 P **P** **19 01 52.5 +0.1**
SDPT Sand Point 54.26 35 P **P** **19 01 52.8 +0.3**
SDPT Sand Point 54.26 35 P **P** **19 01 53.2 +0.7**
baz=250
RAMN Ramite 54.43 290 *e*P **P** **19 01 55.2 +0.6**
comp=Z,7.7nm,0.5s
JIRN Jiri 54.73 291 *e*P **P** **19 01 57.6 +0.7**
comp=Z,24nm,0.7s
M13K Dall Lake 54.79 28 P **P** **19 01 56.8 +0.5**
baz=244
GUN Gumba 54.99 291 *e*P **P** **19 01 58.9 +0.2**
KMBL Kambalda 55.04 205 P **P** **19 01 59.2 +0.7**
O14K Tigyukauivet M 55.28 30 P **P** **19 02 01.2 +1.5**
O14K Tigyukauivet M 55.28 30 P **P** **19 02 00.6 +0.9**
baz=247
N14K Kuskokwak Cree 55.34 29 P **P** **19 02 01.6 +1.4**
baz=246
PKI Pulchoki 55.43 291 *e*P **P** **19 02 02.0 +0.1**
comp=Z,9.7nm,0.5s
M14K Bethel 55.56 28 P **P** **19 02 03.4 +1.7**
M14K Bethel 55.56 28 P **P** **19 02 03.3 +1.7**
baz=246
CHGN Chignik 55.67 34 P **P** **19 02 04.0 +1.5**
CHGN Chignik 55.67 34 P **P** **19 02 03.3 +0.8**
baz=252
MORW Morawa 55.68 211 P **P** **19 02 02.6 -0.5**
MORW Morawa 55.68 211 P **P** **19 02 03.7 +0.6**
J14K Nanvaranak Lak 55.76 26 P **P** **19 02 03.3 +0.2**
baz=243
O15K Ungalikthiuk R 55.93 30 P **P** **19 02 05.3 +0.8**
baz=249
F14K Arctic Creek 56.05 22 P **P** **19 02 05.5 +0.3**
baz=238
GKN Gorkha 56.08 291 *e*P **P** **19 02 06.3 +0.1**
N15K Kwethluk River 56.18 29 P **P** **19 02 07.9 +1.8**
N15K IAmb IAmb 19 02 29.9
comp=Z,12nm,0.9s
N15K Kwethluk River 56.18 29 P **P** **19 02 07.2 +1.1**
baz=248
TOO Toolangi 56.32 180 P **P** **19 02 06.7 -0.7**
TOO IAmb IAmb 19 02 08.6
comp=Z,17nm,1.0s
TOO Toolangi 56.32 180 P **P** **19 02 07.9 +0.5**
K15K Wolf Creek Mou 56.40 27 P **P** **19 02 08.7 +1.1**
baz=245
G15K Niukluk 56.64 23 P **P** **19 02 10.3 +1.0**
baz=241
BLDU Ballidu 56.64 210 P **P** **19 02 10.0 +0.2**
P16K Nushagak River 56.77 31 P **P** **19 02 10.7 +0.4**
baz=250
F15K North Star Dit 56.77 22 P **P** **19 02 10.7 +0.4**
F15K IAmb IAmb 19 02 13.1
comp=Z,14nm,1.1s
F15K North Star Dit 56.77 22 P **P** **19 02 11.9 +1.6**
baz=240
DANN Dangsing 56.82 292 *e*P **P** **19 02 11.8 +0.2**
comp=Z,40nm,0.6s
N16K Nishlik Lake 56.90 29 P **P** **19 02 12.5 +1.3**
baz=249
O16K Kokwok River B 56.91 30 P **P** **19 02 12.8 +1.5**
O16K IAmb IAmb 19 02 25.1
comp=Z,19nm,1.4s
O16K Kokwok River B 56.91 30 P **P** **19 02 12.3 +1.1**
baz=250
M16K Timber Creek 57.02 29 P **P** **19 02 13.1 +1.1**
M16K IAmb IAmb 19 02 18.1
comp=Z,24nm,1.4s
M16K Timber Creek 57.02 29 P **P** **19 02 13.7 +1.7**
baz=248
CHIR Chirikof Islan 57.03 35 P **P** **19 02 13.2 +1.0**
baz=255
L16K Owhat River 57.05 28 P **P** **19 02 14.2 +1.9**
L16K Owhat River 57.05 28 P **P** **19 02 13.4 +1.1**
baz=247
R17K Ugashik Creek 57.13 33 P **P** **19 02 12.8 -0.1**
R17K Ugashik Creek 57.13 33 P **P** **19 02 14.3 +1.4**
baz=253
H16K Elim 57.15 24 P **P** **19 02 15.0 +2.2**
baz=243
J16K Anvik River 57.20 26 P **P** **19 02 15.0 +1.7**
J16K IAmb IAmb 19 02 19.8
comp=Z,14nm,1.3s
J16K Anvik River 57.20 26 P **P** **19 02 14.6 +1.3**
baz=245
Q16K King Salmon 57.31 32 P **P** **19 02 13.9 -0.2**
baz=252
I17K Unalakleet 57.42 25 P **P** **19 02 15.8 +1.0**
I17K Unalakleet 57.42 25 P **P** **19 02 16.6 +1.8**
baz=245
O17K Koliganek Bris 57.45 30 P **P** **19 02 16.1 +1.1**
baz=251
PYUN Piuthan 57.52 292 *e*P **P** **19 02 16.4 0.0**
comp=Z,27nm,1.2s
Q17K Contact Creek 57.57 32 P **P** **19 02 16.0 -0.1**
baz=253
P17K Kvichak River 57.58 31 P **P** **19 02 15.4 -0.6**
baz=252
N17K Nushagak Hills 57.65 29 P **P** **19 02 18.7 +2.2**
N17K IAmb IAmb 19 02 26.5
comp=Z,14nm,1.4s
N17K Nushagak Hills 57.65 29 P **P** **19 02 17.0 +0.5**
baz=250
ZAA0 Zalesovo Array 57.65 322 P **P** **19 02 16.6 0.0**
ZALV Zalesovo Beam 57.65 322 P **P** **19 02 16.6 0.0**
ZALV Zalesovo Beam 57.65 322 P **P** **19 02 15.9 -0.7**
comp=Z,1.6nm,0.4s,baz=113,slow=7.9,SNR=11
ZALV pP **pP** **19 03 03.7 +0.9**
comp=Z,5.3nm,0.6s,baz=100,slow=7.5,SNR=3.2
comp=Z,1.6nm,0.4s
L17K Donlin 57.72 27 P **P** **19 02 17.8 +0.9**
baz=248
M17K Holitna River 57.84 28 P **P** **19 02 19.4 +1.6**
M17K IAmb IAmb 19 02 40.5
comp=Z,15nm,1.2s
M17K Holitna River 57.84 28 P **P** **19 02 18.9 +1.1**
baz=250
C16K Lisburne Hills 57.88 19 P **P** **19 02 19.1 +1.2**
C16K Lisburne Hills 57.88 19 P **P** **19 02 19.3 +1.4**
baz=238
K17K Iditarod 57.94 27 P **P** **19 02 20.4 +1.9**
K17K IAmb IAmb 19 02 42.4
comp=Z,14nm,1.1s
K17K Iditarod 57.94 27 P **P** **19 02 19.0 +0.6**
baz=248
SII Sitkinak Islan 57.99 35 P **P** **19 02 21.2 +2.2**
SII Sitkinak Islan 57.99 35 P **P** **19 02 19.9 +0.9**
SII Sitkinak Islan 57.99 35 P **P** **19 02 18.2 -0.7**
baz=256
MUN Mundaring 58.02 209 P **P** **19 02 20.0 +0.6**
R18K Karluk 58.11 33 P **P** **19 02 19.2 -0.5**
baz=255
MK31 Makanchi Array 58.12 314 P **P** **19 02 19.8 -0.3**
MKAR Makanchi Array 58.12 314 P **P** **19 02 19.2 -0.8**
MKAR Makanchi Array 58.12 314 P **P** **19 02 20.2 +0.2**
comp=Z,1.6nm,0.5s,baz=92,slow=8.6,SNR=21
MKAR pP **PcP** **19 03 07.7 -1.6**
comp=Z,6.2nm,0.8s,baz=87,slow=6.0,SNR=4.5
comp=Z,1.6nm,0.5s
Q18K Katmai Hardscr 58.12 32 P **P** **19 02 18.9 -1.0**
baz=254
G17K Kiwalik Mounta 58.13 23 P **P** **19 02 20.3 +0.6**
baz=244
H17K Granite Mounta 58.17 24 P **P** **19 02 20.9 +0.8**
H17K IAmb IAmb 19 02 45.0
comp=Z,8.7nm,1.1s
H17K Granite Mounta 58.17 24 P **P** **19 02 20.5 +0.4**
baz=245
P18K Big Mountain, 58.23 31 P **P** **19 02 20.9 +0.4**
baz=253
N18K Kilae Creek 58.31 30 P **P** **19 02 23.2 +2.1**
N18K Kilae Creek 58.31 30 P **P** **19 02 21.6 +0.5**
baz=252
MAKZ Makanchi 58.34 314 P **P** **19 02 21.4 -0.1**
MAKZ IAmb IAmb 19 02 28.5
comp=Z,4.9nm,0.5s
F17K Baldwin Pennin 58.34 22 P **P** **19 02 22.9 +1.8**
F17K IAmb IAmb 19 02 42.1
comp=Z,6.6nm,0.8s
F17K Baldwin Pennin 58.34 22 P **P** **19 02 21.9 +0.8**
baz=243
NWAO Narrogin (SRO) 58.35 208 P **P** **19 02 21.3 -0.4**
NWAO Narrogin (SRO) 58.35 208 P **P** **19 02 21.1 -0.5**
NWAO IAmb IAmb 19 02 23.6
comp=Z,52nm,0.8s
NWAO Narrogin (SRO) 58.35 208 P **P** **19 02 21.4 -0.3**
NWAO Narrogin (SRO) 58.35 208 P **P** **19 02 22.5 +0.8**
O18K Koktuh Hills 58.38 31 P **P** **19 02 23.4 +1.8**
O18K IAmb IAmb 19 02 35.1
comp=Z,15nm,1.1s
O18K Koktuh Hills 58.38 31 P **P** **19 02 22.3 +0.7**
baz=253
E17K Hotham Inlet 58.44 21 P **P** **19 02 23.6 +1.8**
baz=242
L18K Granite Mounta 58.46 28 P **P** **19 02 23.0 +0.9**
L18K Granite Mounta 58.46 28 P **P** **19 02 23.9 +1.9**
baz=250
RDOG Red Dog Mine 58.54 20 P **P** **19 02 24.4 +1.9**
baz=240
SVW2 Sparrevohn 58.59 29 P **P** **19 02 24.3 +1.3**
M18K Stony River 58.60 29 P **P** **19 02 24.7 +1.6**
baz=251
OHAK Old Harbor 58.63 34 P **P** **19 02 24.8 +1.5**
OHAK Old Harbor 58.63 34 P **P** **19 02 26.8 +3.5**
OHAK Old Harbor 58.63 34 P **P** **19 02 24.8 +1.5**
baz=256
C17K DeLong Mountai 58.67 20 P **P** **19 02 25.0 +1.5**
baz=240
H18K Honhosa River 58.86 24 P **P** **19 02 25.9 +1.1**
H18K IAmb IAmb 19 02 44.9
comp=Z,11nm,1.0s
H18K Honhosa River 58.86 24 P **P** **19 02 26.6 +1.9**
baz=246
Q19K Cape Douglas, 58.88 32 P **P** **19 02 25.8 +0.7**
J18K Innoko River 58.89 26 P **P** **19 02 26.8 +1.8**
J18K Innoko River 58.89 26 P **P** **19 02 27.0 +2.0**
baz=249
O19K Port Alsworth 58.90 30 P **P** **19 02 26.5 +1.4**
baz=253
TTA Tatalina 59.00 27 P **P** **19 02 27.2 +1.4**
TTA Tatalina 59.00 27 P **P** **19 02 26.6 +0.8**
baz=250
N19K Bonanza Creek 59.01 30 P **P** **19 02 27.7 +1.8**
N19K IAmb IAmb 19 02 46.4
comp=Z,13nm,1.1s
N19K Bonanza Creek 59.01 30 P **P** **19 02 27.1 +1.1**
baz=253
E18K Tukpahlearik C 59.01 21 P **P** **19 02 27.2 +1.4**
E18K Tukpahlearik C 59.01 21 P **P** **19 02 26.2 +0.4**
baz=243
G18K Tagagawik 59.05 23 P **P** **19 02 27.2 +1.1**
G18K Tagagawik 59.05 23 P **P** **19 02 27.8 +1.7**
baz=246
KDAK Kodiak Island 59.14 33 P **P** **19 02 25.8 -0.9**
KDAK Kodiak Island 59.14 33 P **P** **19 02 27.1 +0.4**
baz=256
KDAK Kodiak Island 59.14 33 P **P** **19 02 28.2 +1.4**
comp=Z,4.1nm,0.5s,baz=202,slow=2.9,SNR=8.2
comp=Z,4.1nm,0.5s
L19K White Mountain 59.26 28 P **P** **19 02 28.9 +1.3**
L19K White Mountain 59.26 28 P **P** **19 02 27.8 +0.2**
baz=252
P19K Oil Pt 59.28 31 P **P** **19 02 27.7 -0.1**
baz=255
C18K Utukok River 59.39 20 P **P** **19 02 29.8 +1.4**
C18K Utukok River 59.39 20 P **P** **19 02 30.1 +1.7**
baz=242
ILSW Iliamna Southw 59.41 31 P **P** **19 02 29.0 +0.2**
ILSW IAmb IAmb 19 02 49.1
comp=Z,9.7nm,1.2s
Q20K Shuyak Island 59.43 32 P **P** **19 02 29.2 +0.4**
baz=256
SYI Shuyak Island 59.44 32 P **P** **19 02 29.8 +1.0**
J19K Poorman 59.53 26 P **P** **19 02 30.1 +0.8**
J19K IAmb IAmb 19 02 42.3
comp=Z,10nm,1.3s
J19K Poorman 59.53 26 P **P** **19 02 30.3 +0.9**
baz=250
B18K Kokolik River 59.54 19 P **P** **19 02 31.4 +2.0**
baz=241
G19K Purcell Mounta 59.74 23 P **P** **19 02 32.2 +1.5**
G19K Purcell Mounta 59.74 23 P **P** **19 02 32.0 +1.2**
baz=247
H19K Roundabout Mou 59.75 24 P **P** **19 02 32.6 +1.8**
H19K Roundabout Mou 59.75 24 P **P** **19 02 31.7 +0.9**
baz=248
F19K Shaleruckik Mo 59.76 22 P **P** **19 02 31.0 +0.1**
F19K Shaleruckik Mo 59.76 22 P **P** **19 02 31.9 +1.0**
baz=246
L20K Farewell, AK 59.78 28 P **P** **19 02 31.7 +0.6**
baz=252
M20K Styx River 59.94 29 P **P** **19 02 33.8 +1.4**
M20K Styx River 59.94 29 P **P** **19 02 32.8 +0.5**
baz=254
K20K Telida 59.97 27 P **P** **19 02 34.1 +1.7**
K20K IAmb IAmb 19 02 39.1
comp=Z,18nm,1.5s
K20K Telida 59.97 27 P **P** **19 02 33.0 +0.6**
baz=252
C19K Lookout Ridge 60.12 20 P **P** **19 02 34.5 +1.2**
C19K IAmb IAmb 19 02 56.7
comp=Z,7.8nm,0.7s
C19K Lookout Ridge 60.12 20 P **P** **19 02 33.9 +0.6**
baz=243
A19K Wainwright 60.18 18 P **P** **19 02 34.5 +0.8**
baz=241
N20K Mount Spurr 60.18 30 P **P** **19 02 34.1 +0.1**
baz=255
J20K Nowinta River 60.20 26 P **P** **19 02 35.9 +2.0**
J20K IAmb IAmb 19 02 41.3
comp=Z,18nm,1.4s
J20K Nowinta River 60.20 26 P **P** **19 02 34.7 +0.8**
baz=251
E19K Redstone River 60.20 22 P **P** **19 02 35.8 +1.9**
E19K IAmb IAmb 19 03 19.2
comp=Z,10.0nm,1.1s
E19K Redstone River 60.20 22 P **P** **19 02 34.7 +0.8**
baz=246

CNPM **China Poot** 60.23 32 P **P** 19 02 34.5 +0.2
CNPM IAmb IAmb 19 02 36.6
comp=Z,15nm,0.9s
I20K **Naaghedeneel** 60.27 25 P **P** 19 02 34.2 -0.2
baz=251
D19K **Kuna River** 60.33 21 P **P** 19 02 36.3 +1.5
D19K IAmb IAmb 19 03 19.4
comp=Z,13nm,1.1s
D19K **Kuna River** 60.33 21 P **P** 19 02 35.5 +0.7
baz=245
H20K **Anotleneega Mo** 60.34 24 P **P** 19 02 35.5 +0.6
baz=250
BRLK **Bradley Lake** 60.46 31 P **P** 19 02 35.8 0.0
BRLK IAmb IAmb 19 02 53.2
comp=Z,15nm,1.0s
F20K **Avaraart Lake** 60.59 23 P **P** 19 02 37.7 +1.2
F20K **Avaraart Lake** 60.59 23 P **P** 19 02 36.8 +0.3
baz=248
PPLA **Purkeypile** 60.65 28 P **P** 19 02 37.4 +0.2
baz=254
SKT **Skwentna** 60.70 29 P **P** 19 02 36.9 -0.4
SKT **Skwentna** 60.70 29 P **P** 19 02 38.4 +1.1
baz=255,SNR=5.7
CAST **Castle Rocks** 60.84 27 P **P** 19 02 39.7 +1.4
CAST IAmb IAmb 19 02 41.6
comp=Z,9.5nm,0.6s
CAST **Castle Rocks** 60.84 27 P **P** 19 02 39.1 +0.8
baz=254,SNR=11
CHUM **Lake Minchumin** 60.88 27 P **P** 19 02 39.5 +1.0
baz=253,SNR=7.3
E20K **Nigu River** 60.89 21 P **P** 19 02 39.6 +1.1
baz=247
KURK **Kurchatov** 60.92 318 P **P** 19 02 38.1 -0.9
D20K **Etivluk River** 60.92 21 P **P** 19 02 40.1 +1.4
baz=246
SUA **Susitna One** 60.93 30 P **P** 19 02 39.9 +0.9
baz=256
IMAR **Indian Mountai** 60.95 24 P **P** 19 02 40.7 +1.8
KURBB **Kurchatov Arra** 60.97 318 P **P** 19 02 39.1 -0.2
comp=Z,3.5nm,0.4s,baz=96,slow=7.2,SNR=34
KURBB pP **pP** 19 03 26.8 +0.6
comp=Z,15nm,0.8s,baz=98,slow=6.8,SNR=5.2
comp=Z,3.5nm,0.4s
H21K **Melozitna Rive** 61.21 25 P **P** 19 02 42.1 +1.3
H21K **Melozitna Rive** 61.21 25 P **P** 19 02 42.0 +1.3
baz=252
G21K **Allakaket** 61.22 24 P **P** 19 02 40.9 +0.1
G21K **Allakaket** 61.22 24 P **P** 19 02 41.2 +0.4
baz=251
NRIK **Noril'sk** 61.23 340 P **P** 19 02 40.6 -0.2
NRIK IAmb IAmb 19 02 42.6
comp=Z,9.0nm,0.8s
NRIK **Noril'sk** 61.23 340 P **P** 19 02 40.8 0.0
comp=Z,4.9nm,0.3s,baz=99,slow=7.9,SNR=15
NRIK pP **pwP** 19 03 29.1 -2.0
comp=Z,11nm,0.9s,baz=110,slow=8.0,SNR=4.4
comp=Z,4.9nm,0.3s
SEW **Seward** 61.24 31 P **P** 19 02 41.4 +0.4
baz=258
B20K **Meade River** 61.28 19 P **P** 19 02 42.5 +1.4
B20K IAmb IAmb 19 02 44.9
comp=Z,9.0nm,0.7s
B20K **Meade River** 61.28 19 P **P** 19 02 42.6 +1.4
baz=245
M22K **Willow** 61.29 29 P **P** 19 02 42.0 +0.7
baz=256
RC01 **Rabbit Creek A** 61.32 30 P **P** 19 02 42.2 +0.7
RC01 IAmb IAmb 19 03 23.4
comp=Z,20nm,1.2s
RC01 **Rabbit Creek A** 61.32 30 P **P** 19 02 41.2 -0.3
baz=257
KTH **Kantishna Hill** 61.38 27 P **P** 19 02 42.9 +0.9
KTH IAmb IAmb 19 02 55.4
comp=Z,12nm,1.1s
I21K **Tanana** 61.40 25 P **P** 19 02 42.1 +0.1
baz=253,SNR=9.7
F21K **Alatna River** 61.47 23 P **P** 19 02 43.8 +1.3
F21K IAmb IAmb 19 03 06.8
comp=Z,11nm,1.4s
F21K **Alatna River** 61.47 23 P **P** 19 02 42.4 -0.1
baz=250
BPAW **Bear Paw Mtn.** 61.50 27 P **P** 19 02 43.9 +1.1
BPAW IAmb IAmb 19 02 46.6
comp=Z,9.7nm,0.8s
BPAW **Bear Paw Mtn.** 61.50 27 P **P** 19 02 42.7 0.0
baz=254,SNR=12
TRF **Thorofare Moun** 61.63 27 P **P** 19 02 44.3 +0.5
TRF IAmb IAmb 19 02 47.5
comp=Z,15nm,1.1s
TRF **Thorofare Moun** 61.63 27 P **P** 19 02 43.8 0.0
baz=255,SNR=5.6
TAU **Tasmania Unive** 61.67 179 P **P** 19 02 42.0 -2.0
C21K **Knifeblade Rid** 61.71 21 P **P** 19 02 44.1 +0.1
baz=248
PMR **Palmer** 61.71 30 P **P** 19 02 44.0 -0.1
baz=257
E21K **Killik River** 61.72 21 P **P** 19 02 44.5 +0.3
E21K IAmb IAmb 19 03 25.2
comp=Z,10nm,0.9s
E21K **Killik River** 61.72 21 P **P** 19 02 43.7 -0.4
baz=249
H22K **Ishtalitna Cre** 61.85 25 P **P** 19 02 45.9 +0.9
baz=253
GHO **Glory Hole Cre** 61.85 29 P **P** 19 02 46.0 +0.9
GHO IAmb IAmb 19 02 48.0
comp=Z,8.7nm,1.0s
MLY **Manley** 61.86 26 P **P** 19 02 46.1 +0.9
MLY IAmb IAmb 19 02 47.5
comp=Z,12nm,1.2s
MLY **Manley** 61.86 26 P **P** 19 02 45.6 +0.5
baz=254,SNR=8.1
B21K **Ikpikpuk River** 61.94 20 P **P** 19 02 46.6 +1.1
B21K IAmb IAmb 19 03 25.8
comp=Z,8.7nm,1.0s
B21K **Ikpikpuk River** 61.94 20 P **P** 19 02 47.0 +1.5
baz=248
KNK **Knik Glacier** 61.99 30 P **P** 19 02 47.0 +0.9
KNK IAmb IAmb 19 03 26.2
comp=Z,13nm,0.9s
KNK **Knik Glacier** 61.99 30 P **P** 19 02 44.9 -1.1
baz=258
A21K **Barrow** 62.00 18 P **P** 19 02 45.7 -0.2
baz=245
F22K **John River** 62.04 23 P **P** 19 02 47.6 +1.4
baz=251
G22K **Bettles** 62.10 23 P **P** 19 02 46.5 -0.2
baz=252
SML **Sawmill** 62.13 29 P **P** 19 02 47.9 +0.9
SML IAmb IAmb 19 03 26.6
comp=Z,14nm,0.8s
SML **Sawmill** 62.13 29 P **P** 19 02 47.0 0.0
baz=258,SNR=7.3
RND **Reindeer** 62.24 28 P **P** 19 02 48.4 +0.6
RND IAmb IAmb 19 03 26.3
comp=Z,6.7nm,0.8s
WAT1 **Susitna Watana** 62.25 28 P **P** 19 02 47.8 +0.1
baz=257
MCK **McKinley** 62.28 27 P **P** 19 02 48.7 +0.8
baz=256
D22K **Ayikyak River** 62.31 21 P **P** 19 02 49.5 +1.5
D22K **Ayikyak River** 62.31 21 P **P** 19 02 47.9 -0.2
baz=250
A22K **Sinclair Lake** 62.36 19 P **P** 19 02 48.5 +0.2
baz=247
E22K **Anaktuvuk Pass** 62.37 22 P **P** 19 02 49.9 +1.4
E22K IAmb IAmb 19 02 51.2
comp=Z,7.3nm,1.1s
E22K **Anaktuvuk Pass** 62.37 22 P **P** 19 02 48.7 +0.2
baz=252,SNR=5.5
M23K **Glacier View** 62.41 30 P **P** 19 02 49.1 +0.3
baz=259
NEA2 **Nenana** 62.43 26 P **P** 19 02 49.8 +0.9
NEA2 IAmb IAmb 19 02 52.0
comp=Z,4.8nm,0.6s
NEA2 **Nenana** 62.43 26 P **P** 19 02 49.9 +0.9
baz=256,SNR=7.7
I23K **Minto, Yukon-K** 62.45 26 P **P** 19 02 49.9 +0.9
I23K IAmb IAmb 19 02 51.6
comp=Z,8.1nm,0.5s
I23K **Minto, Yukon-K** 62.45 26 P **P** 19 02 49.6 +0.7
baz=255,SNR=10.0
GLI **Glacier Island** 62.53 31 P **P** 19 02 50.3 +0.7
baz=260
WAT6 **Susitna Watana** 62.56 29 P **P** 19 02 49.7 -0.2
baz=258,SNR=6.7
B22K **Teshekpuk Lake** 62.59 19 P **P** 19 02 51.2 +1.4
B22K IAmb IAmb 19 02 56.3
comp=Z,18nm,1.4s
B22K **Teshekpuk Lake** 62.59 19 P **P** 19 02 50.7 +1.0
baz=249
SCM **Sheep Creek Mo** 62.60 29 P **P** 19 02 51.3 +1.1
SCM IAmb IAmb 19 03 03.3
comp=Z,15nm,0.8s
SCM **Sheep Creek Mo** 62.60 29 P **P** 19 02 50.6 +0.4
baz=259
G23K **Bananza Creek** 62.60 24 P **P** 19 02 50.8 +0.8
baz=254
COLD **Coldfoot** 62.68 23 P **P** 19 02 51.7 +1.2
baz=254
HIN **Hinchinbrook I** 62.74 31 P **P** 19 02 52.2 +1.2
FID **Port Fidalgo** 62.81 31 P **P** 19 02 52.5 +1.1
FID IAmb IAmb 19 03 26.7
comp=Z,23nm,1.2s
DHY **Denali Highway** 62.83 28 P **P** 19 02 52.2 +0.5
DHY IAmb IAmb 19 03 29.7
comp=Z,5.2nm,0.7s
DHY **Denali Highway** 62.83 28 P **P** 19 02 52.6 +0.9
baz=258
MDM **Murphy Dome** 62.87 26 P **P** 19 02 52.2 +0.4
MDM IAmb IAmb 19 02 55.1
comp=Z,6.7nm,0.5s
CCB **Clear Creek Bu** 62.98 26 P **P** 19 02 52.8 +0.3
CCB IAmb IAmb 19 03 28.9
comp=Z,7.3nm,0.6s
D23K **Nanushuk River** 63.03 21 P **P** 19 02 54.2 +1.4
baz=252
EYAK **Cordova Ski Ar** 63.13 31 P **P** 19 02 54.5 +1.0
baz=261
E23K **Chandalar** 63.13 22 P **P** 19 02 55.0 +1.4
baz=254
M24K **Tolsona, Glenn** 63.19 29 P **P** 19 02 53.6 -0.4
M24K IAmb IAmb 19 03 31.3
comp=Z,10nm,0.7s
M24K **Tolsona, Glenn** 63.19 29 P **P** 19 02 54.8 +0.8
baz=260
KLU **Klutina** 63.20 30 P **P** 19 02 55.1 +1.0
KLU IAmb IAmb 19 03 07.4
comp=Z,9.3nm,1.1s
KLU **Klutina** 63.20 30 P **P** 19 02 55.1 +1.0
baz=260
H24K **Noodor Dome** 63.22 25 P **P** 19 02 55.4 +1.2
H24K IAmb IAmb 19 03 31.5
comp=Z,6.3nm,1.0s
H24K **Noodor Dome** 63.22 25 P **P** 19 02 54.9 +0.8
baz=256
POKR **Poker Plat Res** 63.24 26 P **P** 19 02 55.2 +1.0
baz=257
HDA **Harding Lake** 63.29 27 P **P** 19 02 54.3 -0.3
HDA IAmb IAmb 19 02 57.0
comp=Z,7.7nm,0.8s
HDA **Harding Lake** 63.29 27 P **P** 19 02 55.0 +0.5
baz=258
HDA P **P** 19 02 55.0 +0.5
baz=258
TOLK **Toolik Lake Re** 63.32 22 P **P** 19 02 56.4 +1.7
TOLK IAmb IAmb 19 02 57.0
comp=Z,7.3nm,0.5s
TOLK **Toolik Lake Re** 63.32 22 P **P** 19 02 55.8 +1.1
baz=253,SNR=9.4
C23K **Itkillik River** 63.32 20 P **P** 19 02 56.1 +1.5
C23K IAmb IAmb 19 02 57.3
comp=Z,20nm,1.2s
C23K **Itkillik River** 63.32 20 P **P** 19 02 56.6 +2.0
baz=252,SNR=8.2
IL31 **63.39 26** P **P** 19 02 54.8 -0.3
IL31 IAmb IAmb 19 02 55.9
comp=Z,7.0nm,1.1s
ILAR **Eielson Array** 63.39 26 P **P** 19 02 54.8 -0.4
ILAR **Eielson Array** 63.39 26 P **P** 19 02 55.0 -0.2
comp=Z,2.2nm,0.4s,baz=254,slow=6.0,SNR=31
ILAR pP **pP** 19 03 42.8 +0.4
comp=Z,3.8nm,0.8s,baz=261,slow=5.2,SNR=4.0
comp=Z,2.2nm,0.4s
AAK **Ala-Archa** 63.54 309 P **P** 19 02 56.9 0.0
E24K **Your Creek** 63.55 23 P **P** 19 02 57.8 +1.5
E24K IAmb IAmb 19 03 19.3
comp=Z,12nm,1.4s
G24K **Hadweenzic Riv** 63.58 24 P **P** 19 02 57.7 +1.3
G24K IAmb IAmb 19 03 33.3
comp=Z,8.4nm,1.2s
G24K **Hadweenzic Riv** 63.58 24 P **P** 19 02 58.4 +2.0
baz=256
F24K **Squaw Lake** 63.62 23 P **P** 19 02 59.0 +2.2
baz=256
PAX **Paxson** 63.66 28 P **P** 19 02 58.3 +1.2
baz=260,SNR=8.7
K24K **Donnelly Dome** 63.67 27 P **P** 19 02 57.4 +0.3
baz=259
HARP **HAARP** 63.71 29 P **P** 19 02 59.3 +2.0
baz=261
D24K **Happy Valley** 63.72 21 P **P** 19 02 58.8 +1.5
D24K **Happy Valley** 63.72 21 P **P** 19 02 59.3 +2.0
baz=254
BMRM **Bremner River** 63.75 31 P **P** 19 02 59.4 +1.7
baz=262
N25K **Chitina, Valde** 63.84 30 P **P** 19 02 59.7 +1.4
N25K IAmb IAmb 19 03 34.2
comp=Z,5.7nm,0.9s
N25K **Chitina, Valde** 63.84 30 P **P** 19 03 00.1 +1.7
baz=262
C24K **Franklin Bluff** 63.92 21 P **P** 19 03 00.2 +1.7
baz=254
J25K **Salcha River,** 64.00 27 P **P** 19 02 58.9 -0.3
J25K **Salcha River,** 64.00 27 P **P** 19 02 59.2 0.0
baz=259
RIDG **Independent Ri** 64.07 28 P **P** 19 03 00.1 +0.4
RIDG IAmb IAmb 19 03 02.5
comp=Z,8.0nm,0.8s
RIDG **Independent Ri** 64.07 28 P **P** 19 03 00.8 +1.1
baz=260
PRP **Porcupine Dome** 64.10 26 P **P** 19 02 58.5 -1.5
PRP **Porcupine Dome** 64.10 26 P **P** 19 03 00.6 +0.6
baz=259
BERG **Berg Lake** 64.11 31 P **P** 19 03 01.6 +1.6
BERG IAmb IAmb 19 03 25.8
comp=Z,23nm,1.2s
G25K **Bearman Lake** 64.13 24 P **P** 19 03 01.1 +1.2
baz=258
GLB **Gilahina Butte** 64.20 30 P **P** 19 02 59.8 -0.8
GLB IAmb IAmb 19 03 07.8
comp=Z,7.9nm,1.1s
URZ **Urewera** 64.25 153 P **P** 19 03 00.4 -0.7
URZ **Urewera** 64.25 153 P **P** 19 03 00.4 -0.7
comp=Z,7.6nm,0.4s,baz=267,slow=1.8,SNR=11
comp=Z,7.6nm,0.4s
VRDI **Verde Repeater** 64.34 30 P **P** 19 03 02.4 +0.7
VRDI IAmb IAmb 19 03 14.6
comp=Z,7.9nm,1.1s
FYU **Fort Yukon** 64.43 24 P **P** 19 03 03.1 +1.2
FYU IAmb IAmb 19 03 36.5
comp=Z,7.3nm,0.6s
CRQM **Cirque** 64.43 31 P **P** 19 03 03.4 +1.1
CRQM IAmb IAmb 19 03 15.9
comp=Z,9.4nm,0.8s
CRQE **Cirque** 64.46 31 P **P** 19 03 03.5 +1.2
baz=263
TRVZ **Turoa** 64.47 155 P P 19 03 17.8 +15
F25K **Christian Rive** 64.48 23 P **P** 19 03 04.0 +1.7
baz=258
SCRK **Sand Creek** 64.48 27 P **P** 19 03 02.7 +0.3
SCRK IAmb IAmb 19 03 06.5
comp=Z,10.0nm,1.2s
SCRK **Sand Creek** 64.48 27 P **P** 19 03 03.3 +0.9
baz=261,SNR=6.9
RTZ **Ruatahuna** 64.49 153 P **P** 19 03 01.1 -1.7
MCARA **McCarthy VSAT** 64.56 30 P **P** 19 03 04.4 +1.5
MCARA IAmb IAmb 19 03 25.3
comp=Z,15nm,1.3s
MCARA **McCarthy VSAT** 64.56 30 P **P** 19 03 04.7 +1.8
baz=263
D25K **Kavik River** 64.61 21 P **P** 19 03 04.4 +1.3
D25K IAmb IAmb 19 03 05.3
comp=Z,6.3nm,0.7s
D25K **Kavik River** 64.61 21 P **P** 19 03 04.7 +1.6
baz=256
E25K **Arctic Village** 64.62 23 P **P** 19 03 04.8 +1.6
E25K **Arctic Village** 64.62 23 P **P** 19 03 05.1 +1.9
baz=258
L26K **Log Cabin Wild** 64.63 29 P **P** 19 03 04.4 +1.1
L26K **Log Cabin Wild** 64.63 29 P **P** 19 03 04.9 +1.6
baz=262
QRZ **Quartz Range** 64.63 158 P **P** 19 03 05.1 +1.6
QRZ **Quartz Range** 64.63 158 P **P** 19 03 03.7 +0.2
M26K **Nabesna, AK** 64.70 29 P **P** 19 03 04.2 +0.3
M26K IAmb IAmb 19 03 38.2
comp=Z,9.2nm,1.4s
M26K **Nabesna, AK** 64.70 29 P **P** 19 03 05.2 +1.3
baz=263
ARSB **Arslanbob** 64.73 307 P **P** 19 03 04.7 +0.2
BKZ **Black Stump Fm** 64.75 154 P **P** 19 03 03.8 -0.6
J26L **Joseph Creek** 64.75 27 P **P** 19 03 04.7 +0.6
J26L IAmb IAmb 19 03 38.0
comp=Z,17nm,1.2s
J26L **Joseph Creek** 64.75 27 P **P** 19 03 05.4 +1.2
baz=261
BMAR **Burnt Mountain** 64.85 24 P **P** 19 03 06.2 +1.5
TKNZ **Takaka Hill** 64.97 157 P **P** 19 03 05.0 -0.7
TKNZ **Takaka Hill** 64.97 157 P **P** 19 03 05.1 -0.7
I26K **Coal Creek Min** 65.04 26 P **P** 19 03 07.1 +1.2
baz=261
F26K **Sheenjek River** 65.06 23 P **P** 19 03 07.8 +1.7
baz=259
G26K **Porcupine Rive** 65.06 24 P **P** 19 03 08.2 +2.3
baz=260
GRNC **Granite Creek** 65.11 31 P **P** 19 03 08.0 +1.3
GRNC IAmb IAmb 19 03 09.4
comp=Z,9.3nm,1.0s
M27K **Edge Creek, AK** 65.22 29 P **P** 19 03 08.7 +1.4
baz=264
MRNZ **Matariki Terra** 65.22 158 P **P** 19 03 06.8 -0.5
NIL **Nilore** 65.24 299 P **P** 19 03 08.0 +0.2
NIL IAmb IAmb 19 03 09.3
comp=Z,18nm,1.1s
C26K **Camden Bay** 65.24 21 P **P** 19 03 09.4 +2.4
baz=257
NNZ **Nelson** 65.28 157 P **P** 19 03 07.0 -0.7
NNZ **Nelson** 65.28 157 P **P** 19 03 07.4 -0.3
L27K **Beaver Creek,** 65.32 29 P **P** 19 03 08.4 +0.6
L27K **Beaver Creek,** 65.32 29 P **P** 19 03 09.3 +1.6
baz=263
K27K **Chicken** 65.32 28 P **P** 19 03 07.6 -0.1
K27K **Chicken** 65.32 28 P **P** 19 03 08.2 +0.4
baz=263
CTG **Chitna Glacier** 65.33 31 P **P** 19 03 09.4 +1.4
baz=265
CTGM **Chitina Glacie** 65.33 31 P **P** 19 03 09.2 +1.1
CTGM IAmb IAmb 19 03 10.6
comp=Z,5.5nm,0.7s
BCAR **Beaver Creek A** 65.34 29 P **P** 19 03 08.7 +0.8
WPHZ **Waipukurau** 65.48 154 P P 19 03 16.8 +7.8
KIW **Kapiti Island** 65.55 156 P **P** 19 03 09.2 -0.3
THZ **Tophouse** 65.59 158 P **P** 19 03 09.7 -0.1
THZ **Tophouse** 65.59 158 P **P** 19 03 09.0 -0.7
OGWZ **Otaki Gorge** 65.62 156 P **P** 19 03 08.6 -1.3
MRZ **Mangatainoka R** 65.64 155 P **P** 19 03 09.7 -0.3
TUWZ **Tuamarina** 65.68 157 P **P** 19 03 08.7 -1.5
TUWZ **Tuamarina** 65.68 157 P **P** 19 03 09.5 -0.7
BVCY **Beaver Creek** 65.69 29 P **P** 19 03 11.3 +1.1
baz=265
I27K **Kandik River** 65.72 26 P **P** 19 03 11.3 +0.9
baz=262
PINM **Pinnacle** 65.80 32 P **P** 19 03 11.7 +0.7
baz=266
YUK3 **Moose Creek** 65.82 30 P **P** 19 03 12.5 +1.3
baz=265
CAW **Cannon Point** 65.83 156 P **P** 19 03 11.1 -0.1
H27K **Steamboat Moun** 65.84 25 P **P** 19 03 12.9 +1.9
baz=262,SNR=8.8
SNZO **South Korori** 65.86 156 P **P** 19 03 11.3 -0.1
G27K **Doyon Strip** 65.87 24 P **P** 19 03 12.3 +1.1
G27K **Doyon Strip** 65.87 24 P **P** 19 03 12.7 +1.5
baz=262
BFZ **Birch Farm** 65.93 155 P **P** 19 03 12.5 +0.7
BFZ **Birch Farm** 65.93 155 P **P** 19 03 11.9 +0.1
CMWZ **Cape Campbell** 66.06 157 P **P** 19 03 12.8 +0.2
E27K **Coleen River** 66.09 23 P **P** 19 03 13.8 +1.1
E27K **Coleen River** 66.09 23 P **P** 19 03 13.9 +1.3
baz=261
BVAR **Borovoye Array** 66.12 320 P **P** 19 03 12.6 -0.4
comp=Z,8.8nm,0.5s,baz=95,slow=7.3,SNR=71
BVAR pP **pP** 19 04 01.5 +0.9
comp=Z,18nm,0.8s,baz=90,slow=7.6,SNR=5.8
comp=Z,8.8nm,0.5s
YUK8 **Steele Glacier** 66.12 31 P **P** 19 03 14.6 +1.4
baz=266
BRVK **Borovoye** 66.18 320 P **P** 19 03 12.9 -0.5
PNL **Peninsula** 66.21 32 P **P** 19 03 15.3 +1.8
baz=267
LTZ **Lake Taylor** 66.27 159 P **P** 19 03 13.0 -1.0
PLWZ **Palliser** 66.29 156 P **P** 19 03 13.3 -0.9
TRWZ **Traveller** 66.31 156 P **P** 19 03 15.1 +0.8
KHZ **Kahutara** 66.39 158 P **P** 19 03 16.9 +2.2
KHZ **Kahutara** 66.39 158 P **P** 19 03 13.1 -1.6
I28M **Miner Creek** 66.40 26 P **P** 19 03 15.8 +1.1
baz=264
D27M **Malcolm River** 66.48 22 P **P** 19 03 17.1 +1.9
baz=262
DAWY **Dawson** 66.50 28 P **P** 19 03 16.6 +1.3
baz=265
O29M **Mount Kennedy** 66.65 32 P **P** 19 03 18.0 +1.6
O29M IAmb IAmb 19 03 19.6
comp=Z,9.0nm,1.0s
O29M **Mount Kennedy** 66.65 32 P **P** 19 03 18.2 +1.8
baz=268
YUK4 **Talbot Arm** 66.66 31 P **P** 19 03 19.3 +2.8
baz=267,SNR=5.9
F28M **Old Crow** 66.66 24 P **P** 19 03 16.9 +0.7
F28M **Old Crow** 66.66 24 P **P** 19 03 18.1 +1.9
baz=263,SNR=5.0
GVZ **Greta Valley S** 66.70 158 P **P** 19 03 16.1 -0.6
RPZ **Rata Peaks** 66.70 160 P **P** 19 03 14.2 -2.5
RPZ IAmb IAmb 19 03 16.5
comp=Z,23nm,1.0s
RPZ **Rata Peaks** 66.70 160 P **P** 19 03 16.0 -0.7
YUK6 **Outpost Mounta** 66.78 31 P **P** 19 03 19.0 +1.7
baz=268
M29M **Somme Creek** 66.81 29 P **P** 19 03 18.7 +1.4
M29M **Somme Creek** 66.81 29 P **P** 19 03 19.2 +1.9
baz=267
RAR **Rarotonga** 66.82 124 P **P** 19 03 18.8 +0.9
comp=Z,11nm,0.8s,baz=209,slow=10,SNR=2.2
comp=Z,11nm,0.8s
E28M **Babbage River** 66.91 23 P **P** 19 03 20.0 +2.2
baz=263
L29M **L29M** 67.00 29 IAmb IAmb 19 03 21.1
comp=Z,8.3nm,0.6s
L29M **L29M** 67.00 29 P **P** 19 03 20.8 +2.3
baz=267,SNR=11
P29M **Windy Craggy** 67.05 32 P **P** 19 03 20.5 +1.7
baz=269
I29M **Ogilvie Camp,** 67.07 26 P **P** 19 03 20.0 +1.2
baz=266
H29M **Whitestone** 67.11 25 P **P** 19 03 20.3 +1.2
baz=265
HYT **Haines Junctio** 67.19 31 IAmb IAmb 19 03 22.9
comp=Z,10.0nm,1.0s
HYT **Haines Junctio** 67.19 31 P **P** 19 03 21.9 +2.0
baz=268
D28M **Stokes Point** 67.28 22 P **P** 19 03 21.8 +1.9
baz=264
G29M **Pine Creek** 67.31 25 P **P** 19 03 21.5 +1.2
baz=265
K29M **Barlow Dome** 67.31 28 P **P** 19 03 22.8 +2.3
baz=267
N30M **Aishikik Lake** 67.42 30 P **P** 19 03 23.0 +1.9
baz=268
P30M **Million Dollar** 67.45 32 P **P** 19 03 23.2 +1.9
baz=269
E29M **Blow River** 67.49 23 P **P** 19 03 23.1 +1.8
baz=265
M30M **Minto, Yukon** 67.59 29 P **P** 19 03 23.9 +1.7
baz=268
ODZ **Otahua Downs** 67.76 161 P **P** 19 03 23.5 +0.2
EPYK **Eagle Plains** 67.79 25 P **P** 19 03 25.2 +1.9
baz=267
J30M **Hart River** 67.86 27 P **P** 19 03 25.2 +1.2
baz=268
I30M **Mount Dempster** 67.87 26 P **P** 19 03 25.5 +1.5
baz=268
O30N **Mendenhall** 67.89 31 P **P** 19 03 25.6 +1.6
baz=270
G30M **tAoh Zraii Nji** 68.02 25 IAmb IAmb 19 03 50.7
comp=Z,6.1nm,0.8s
G30M **tAoh Zraii Nji** 68.02 25 P **P** 19 03 26.2 +1.4
baz=267
N31M **Braeburn, Yuko** 68.04 30 P **P** 19 03 26.5 +1.5
baz=270
F30M **Barrier River** 68.22 24 P **P** 19 03 27.9 +1.9
baz=267

SIT	**Sitka** baz=272	**68.33**	**35**	P	**P**	**19 03 28.2**	**+1.5**
WHY	**Whitehorse** baz=271	**68.48**	**31**	P	**P**	**19 03 29.0**	**+1.1**
KBL	**Kabul**	**68.58**	**300**	P	**P**	**19 03 27.3**	**-1.7**
KBL	comp=Z,6.0nm,0.7s			IAmb	IAmb	19 03 29.8	
M31M	**Drury Creek, Y** baz=270	**68.70**	**30**	P	**P**	**19 03 30.3**	**+1.3**
G31M	**Satah River** comp=Z,18nm,1.1s	**68.79**	**25**	IAmb	IAmb	19 03 31.3	
G31M	**Satah River** baz=269,SNR=11	**68.79**	**25**	P	**P**	**19 03 30.7**	**+1.3**
F31M	**Tsiigehtchic** comp=Z,22nm,1.5s	**69.00**	**24**	IAmb	IAmb	19 03 32.3	
F31M	**Tsiigehtchic** baz=269	**69.00**	**24**	P	**P**	**19 03 31.5**	**+0.8**
P32M	**Atlin** baz=272	**69.09**	**33**	P	**P**	**19 03 32.2**	**+0.7**
INK	**Inuvik** baz=269,SNR=5.1	**69.10**	**23**	P	**P**	**19 03 32.2**	**+0.9**
INK	**Inuvik** comp=Z,1.9nm,0.3s,baz=280,slow=5.0,SNR=23	**69.10**	**23**	P	**P**	**19 03 32.0**	**+0.7**
INK	comp=Z,4.5nm,0.8s,baz=273,slow=5.8,SNR=4.1 comp=Z,1.9nm,0.3s			pP	**pP**	**19 04 20.5**	**+1.0**
FARO	**Faro, Yukon** baz=271	**69.19**	**30**	P	**P**	**19 03 33.1**	**+1.0**
P33M	**Teslin, Yukon** baz=273	**69.52**	**32**	P	**P**	**19 03 35.5**	**+1.4**
U33K	**Whale Pass** baz=274	**69.59**	**36**	P	**P**	**19 03 35.7**	**+1.2**
R33M	**Jennings River** baz=274	**70.50**	**33**	P	**P**	**19 03 41.7**	**+1.5**
S34M	**Telegraph Cree** baz=275	**70.54**	**34**	P	**P**	**19 03 41.9**	**+1.6**
DLBC	**Dease Lake** baz=276	**71.07**	**34**	P	**P**	**19 03 45.4**	**+1.8**
DLBC	**Dease Lake** comp=Z,6.5nm,0.9s,baz=278,slow=6.4,SNR=6.7	**71.07**	**34**	P	**P**	**19 03 44.5**	**+0.9**
DLBC	comp=Z,6.7nm,0.9s,baz=282,slow=7.7,SNR=5.3 comp=Z,6.5nm,0.9s			pP	**pwP**	**19 04 34.4**	**-1.9**
T35M	**Bob Quinn** baz=276	**71.10**	**35**	P	**P**	**19 03 45.3**	**+1.6**
TGTN	**Hyland Airport** baz=276,SNR=5.5	**71.64**	**30**	P	**P**	**19 03 48.1**	**+1.2**
A36M	**Sachs Harbour** comp=Z,11nm,0.9s	**71.79**	**19**	IAmb	IAmb	19 03 50.0	
A36M	**Sachs Harbour** baz=275	**71.79**	**19**	P	**P**	**19 03 48.9**	**+1.4**
C36M	**Paulatuk** comp=Z,13nm,1.1s	**72.47**	**22**	IAmb	IAmb	19 03 53.1	
C36M	**Paulatuk** baz=277,SNR=7.5	**72.47**	**22**	P	**P**	**19 03 52.3**	**+0.7**
ARU	**Arti**	**72.70**	**324**	P	**P**	**19 03 52.1**	**-1.1**
ABKAR	**Akbulak array** comp=Z,5.3nm,0.6s	**72.99**	**317**	IAmb	IAmb	19 03 55.6	
WRGLY	**Wrigley** baz=280	**73.62**	**28**	P	**P**	**19 04 00.0**	**+1.5**
GEYT	**Alibeck** comp=Z,6.0nm,1.1s,baz=96,slow=2.9,SNR=9.4	**76.58**	**306**	P	**P**	**19 04 15.5**	**-0.4**
GEYT	comp=Z,7.9nm,0.9s,baz=94,slow=1.9,SNR=5.2 comp=Z,6.0nm,1.1s			pP	**pP**	**19 05 05.8**	**+0.8**
EUNU	**Eureka** comp=Z,11nm,0.9s	**77.39**	**8**	IAmb	IAmb	19 04 21.3	
YKA	**Yellowknife Ar** comp=Z,5.0nm,0.8s,baz=289,slow=5.7,SNR=38	**77.74**	**28**	P	**P**	**19 04 22.4**	**+0.6**
YKA	comp=Z,3.9nm,0.7s,baz=289,slow=5.7,SNR=8.0 comp=Z,5.0nm,0.8s			pP	**pwP**	**19 05 12.8**	**-2.0**
KMPM	**Mount Pierce** comp=Z,16nm,1.0s	**78.14**	**51**	IAmb	IAmb	19 04 27.8	
H04A	**Detroit Lake** comp=Z,14nm,0.9s	**78.42**	**47**	IAmb	IAmb	19 04 28.3	
SPITS	**Spitsbergen Ar** comp=Z,2.1nm,0.4s,baz=116,slow=5.7,SNR=20 comp=Z,2.1nm,0.4s	**78.80**	**351**	P	**P**	**19 04 27.6**	**+0.2**
YBH	**Yreka Blue Hor** comp=Z,12nm,1.0s	**78.83**	**50**	IAmb	IAmb	19 04 31.2	
YBH	**Yreka Blue Hor** comp=Z,7.6nm,0.8s,baz=279,slow=2.5,SNR=19 comp=Z,7.6nm,0.8s	**78.83**	**50**	P	**P**	**19 04 29.7**	**+1.4**
L04D	**Klamath Falls** comp=Z,13nm,0.8s	**78.99**	**49**	IAmb	IAmb	19 04 31.6	
RES	**Resolute Bay** comp=Z,2.6nm,0.3s,baz=293,slow=3.0,SNR=15	**79.11**	**14**	P	**P**	**19 04 29.7**	**+0.6**
RES	comp=Z,7.1nm,0.8s,baz=324,slow=6.8,SNR=7.3 comp=Z,2.6nm,0.3s			pP	**pwP**	**19 05 20.1**	**-1.8**
MXC	**Moxie City**	**79.18**	**44**	P	**P**	**19 04 31.2**	**+1.2**
MXC	comp=Z,21nm,1.2s			IAmb	IAmb	19 04 32.6	
E07A	**Sunnyside** comp=Z,18nm,0.9s	**79.48**	**44**	IAmb	IAmb	19 04 34.2	
HAWA	**Hanford** comp=Z,17nm,1.1s	**79.74**	**44**	IAmb	IAmb	19 04 35.4	
D08A	**Wollman Farm,** comp=Z,15nm,1.0s	**79.95**	**44**	IAmb	IAmb	19 04 36.9	
C09A	**Chrisman Ranch** comp=Z,9.1nm,0.6s	**80.15**	**43**	IAmb	IAmb	19 04 36.9	
ORV	**Oroville**	**80.31**	**52**	P	**P**	**19 04 36.2**	**-0.1**
ORV	comp=Z,12nm,1.0s			IAmb	IAmb	19 04 38.3	
E09A	**Wood Farm, Sta** comp=Z,15nm,0.8s	**80.62**	**44**	IAmb	IAmb	19 04 40.0	
NEW	**Newport** comp=Z,15nm,1.0s	**80.74**	**42**	IAmb	IAmb	19 04 40.4	
NEW	**Newport** baz=288,SNR=7.9	**80.74**	**42**	P	**P**	**19 04 39.6**	**+1.2**
NEW	**Newport** comp=Z,12nm,0.8s,baz=292,slow=3.3,SNR=13	**80.74**	**42**	P	**P**	**19 04 39.5**	**+1.2**
NEW	comp=Z,5.7nm,0.8s,baz=323,slow=4.2,SNR=3.5 comp=Z,12nm,0.8s			pP	**pwP**	**19 05 30.6**	**-1.6**
AFDM	**Forest Hills D** comp=Z,10nm,1.0s	**80.88**	**52**	IAmb	IAmb	19 04 41.5	
KLMR	**Klimovskoe**	**81.08**	**332**	*e*P	**P**	**19 04 37.8**	**-2.1**
KLMR	comp=Z,16nm,1.1s			AMP		19 04 39.9	
EDM	**Edmonton** comp=Z,19nm,1.1s	**81.38**	**37**	IAmb	IAmb	19 04 43.6	
CMB	**Columbia Colle** comp=Z,14nm,0.9s	**81.59**	**53**	IAmb	IAmb	19 04 45.3	
UOSS	**Minazif**	**81.62**	**293**	P	**P**	**19 04 43.9**	**+0.5**
UOSS	comp=Z,12nm,1.1s			IAmb	IAmb	19 04 47.1	
BMO	**Blue Mountains** comp=Z,11nm,1.0s	**81.69**	**46**	IAmb	IAmb	19 04 45.6	
ARCES	**ARCESS Array B** comp=Z,3.2nm,0.5s,baz=70,slow=6.9,SNR=20	**82.12**	**342**	P	**P**	**19 04 45.0**	**-0.2**
ARCES	comp=Z,3.8nm,0.6s,baz=67,slow=6.7,SNR=2.2 comp=Z,3.2nm,0.5s			pP	**pwP**	**19 05 36.8**	**-1.6**
RYN	**Ryan** comp=Z,20nm,1.0s	**82.80**	**52**	IAmb	IAmb	19 04 51.9	
KVN	**Kaiserville** comp=Z,17nm,1.0s	**82.98**	**51**	IAmb	IAmb	19 04 52.6	
PKM	**Mcpherson Peak** baz=288	**82.99**	**56**	P	**P**	**19 04 51.7**	**+1.0**
NVAR	**Mina Array Bea** comp=Z,20nm,0.8s,baz=263,slow=6.2,SNR=131	**83.03**	**52**	P	**P**	**19 04 52.2**	**+1.4**
NVAR	comp=Z,5.3nm,0.8s,baz=267,slow=5.8,SNR=3.8			pP	**pwP**	**19 05 43.0**	**-2.0**
NV11	**Mina Array Sit** comp=Z,14nm,0.8s	**83.14**	**52**	IAmb	IAmb	19 04 53.5	
MFID	**Camas Ranch** comp=Z,12nm,0.8s	**83.17**	**47**	IAmb	IAmb	19 04 53.5	
BMN	**Battle Mountai** comp=Z,12nm,1.2s	**83.17**	**50**	IAmb	IAmb	19 04 53.7	
TIN	**Tinemaha, Big** baz=289	**83.52**	**53**	P	**P**	**19 04 55.3**	**+2.1**
ISA	**Isabella, Lake** baz=289	**83.79**	**55**	P	**P**	**19 04 55.5**	**+1.0**
CWC	**Cottonwood Cre** baz=289	**83.84**	**54**	P	**P**	**19 04 55.9**	**+1.1**
HLID	**Hailey** baz=291,SNR=8.8	**84.08**	**46**	P	**P**	**19 04 57.4**	**+1.4**
GRAC	**Grapevine Rang** baz=289,SNR=7.7	**84.20**	**53**	P	**P**	**19 04 57.5**	**+1.0**
EDW2	**Edwards Air Fo** baz=289	**84.41**	**55**	P	**P**	**19 04 58.6**	**+0.9**
MPMC	**Manual Prospec** baz=289,SNR=16	**84.41**	**54**	P	**P**	**19 04 59.0**	**+1.2**
LRMC	**Laurel Mtn Rad** baz=289,SNR=10	**84.46**	**55**	P	**P**	**19 04 59.1**	**+1.2**
ELK	**Elko** comp=Z,13nm,0.9s	**84.49**	**49**	IAmb	IAmb	19 05 00.4	
CIS	**Catalina Islan** baz=289	**84.57**	**57**	P	**P**	**19 04 58.5**	**+0.1**
FURC	**Furnace Creek,** baz=290	**84.75**	**53**	P	**P**	**19 05 00.8**	**+1.6**
BFSC	**Mount Baldy Ra** baz=290	**84.89**	**56**	P	**P**	**19 05 01.1**	**+1.0**
GWY	**Greenwater Val** comp=Z,12nm,0.9s	**85.00**	**54**	IAmb	IAmb	19 05 02.6	
TPNV	**Topopah Spring** comp=Z,15nm,0.8s	**85.06**	**53**	IAmb	IAmb	19 05 03.0	
TPNV	**Topopah Spring** baz=290,SNR=27	**85.06**	**53**	P	**P**	**19 05 02.1**	**+1.2**
R11B	**Troy Canyon, C** baz=290,SNR=9.1	**85.07**	**51**	P	**P**	**19 05 02.2**	**+1.2**
GSC	**Goldstone, Bar** comp=Z,12nm,1.1s	**85.19**	**54**	IAmb	IAmb	19 05 03.7	
GSC	**Goldstone, Bar** baz=290,SNR=7.3	**85.19**	**54**	P	**P**	**19 05 02.7**	**+1.1**
BOZ	**Bozeman (W)** baz=292,SNR=11	**85.19**	**43**	P	**P**	**19 05 02.6**	**+1.2**
EGMT	**Eagleton** baz=293	**85.44**	**41**	P	**P**	**19 05 03.5**	**+1.0**
HEC	**Hector,Ludlow** baz=290	**85.72**	**55**	P	**P**	**19 05 05.4**	**+1.3**
SPR3	**Spring Creek 3** comp=Z,8.6nm,1.0s	**85.76**	**50**	IAmb	IAmb	19 05 07.0	
KBZ	**Khabaz** comp=Z,1.3nm,0.7s,baz=78,slow=9.3,SNR=5.0	**85.80**	**315**	P	**P**	**19 05 04.2**	**-0.1**
KBZ	comp=Z,4.2nm,0.9s,baz=342,slow=2.2,SNR=6.0 comp=Z,1.3nm,0.7s			pP	**pP**	**19 05 56.0**	**+1.7**
TUQ	**Turquoise Moun** baz=290,SNR=8.6	**85.82**	**54**	P	**P**	**19 05 05.8**	**+1.1**
PFO	**Pinyon Flats O**	**86.04**	**56**	P	**P**	**19 05 06.3**	**+0.5**
PFO	comp=Z,6.1nm,0.9s			IAmb	IAmb	19 05 07.0	
PFO	**Pinyon Flats O** baz=290	**86.04**	**56**	P	**P**	**19 05 06.8**	**+1.0**
TPFO	**Pinon Flats** baz=290	**86.04**	**56**	P	**P**	**19 05 06.6**	**+0.7**
PMD	**Palm Desert** comp=Z,8.1nm,1.1s	**86.09**	**56**	IAmb	IAmb	19 05 07.6	
GMRC	**Granite Mounta** baz=291,SNR=10	**86.25**	**55**	P	**P**	**19 05 07.8**	**+1.0**
BELC	**Bell Mtn. Jos** baz=290,SNR=7.8	**86.26**	**55**	P	**P**	**19 05 07.8**	**+0.9**
IMW	**Indian Meadow** comp=Z,8.0nm,0.9s	**86.30**	**45**	IAmb	IAmb	19 05 09.5	
MONP2	**Monument Peak** baz=290	**86.31**	**57**	P	**P**	**19 05 08.2**	**+1.0**
H17A	**Grant Village** baz=293	**86.35**	**44**	P	**P**	**19 05 09.5**	**+2.2**
FLWY	**Flagg Ranch** comp=Z,10nm,0.7s	**86.39**	**45**	IAmb	IAmb	19 05 09.8	
DUG	**Dugway, Tooele** comp=Z,9.4nm,0.7s	**86.42**	**49**	IAmb	IAmb	19 05 09.1	
DUG	**Dugway, Tooele** baz=292,SNR=13	**86.42**	**49**	P	**P**	**19 05 08.7**	**+1.2**
FINES	**FINESS Array B** comp=Z,5.5nm,0.3s,baz=68,slow=4.6,SNR=68	**86.51**	**335**	P	**P**	**19 05 05.4**	**-1.9**
FINES	comp=Z,7.6nm,0.7s,baz=73,slow=6.6,SNR=4.7 comp=Z,5.5nm,0.3s			pP	**pP**	**19 05 57.5**	**0.0**
V12A	**Nelson** comp=Z,16nm,0.9s	**86.54**	**53**	IAmb	IAmb	19 05 10.5	
IKP	**In-Ko-Pah, Jac** baz=290	**86.64**	**57**	P	**P**	**19 05 09.2**	**+0.4**
HWUT	**Hardware Ranch** comp=Z,11nm,0.9s	**86.76**	**47**	IAmb	IAmb	19 05 11.1	
BC3	**Big Chuckawall** baz=291,SNR=7.3	**86.81**	**56**	P	**P**	**19 05 10.7**	**+1.2**
FFC	**Flin Flon** comp=Z,16nm,0.9s	**86.87**	**32**	P	**P**	**19 05 09.3**	**+0.1**
FFC				IAmb	IAmb	19 05 11.0	
IRM	**Iron Mountain** baz=291,SNR=7.2	**86.87**	**55**	P	**P**	**19 05 11.1**	**+1.4**
RLMT	**Red Lodge** baz=294	**86.91**	**43**	P	**P**	**19 05 12.2**	**+2.2**
NLU	**North Lily Min** comp=Z,6.8nm,0.9s	**87.03**	**49**	IAmb	IAmb	19 05 12.6	
NEE2	**Beedles Airpor** baz=291	**87.06**	**54**	P	**P**	**19 05 13.0**	**+2.4**
PDMCI	**Parker Dam,Lak** baz=291,SNR=8.4	**87.59**	**55**	P	**P**	**19 05 14.8**	**+1.7**
BW06	**Boulder Array** baz=294	**87.67**	**45**	P	**P**	**19 05 14.1**	**+0.5**
PDAR	**Pinedale Array** comp=Z,1.1nm,0.3s,baz=205,slow=1.2,SNR=38	**87.67**	**45**	P	**P**	**19 05 13.8**	**+0.2**
PDAR	comp=Z,1.0nm,0.6s,baz=279,slow=3.0,SNR=2.9 comp=Z,1.1nm,0.3s			pP	**pwP**	**19 06 05.8**	**-2.4**
LAO	**LASA Array** comp=Z,9.8nm,0.9s	**88.18**	**41**	IAmb	IAmb	19 05 18.4	
LAO	**LASA Array** baz=296	**88.18**	**41**	P	**P**	**19 05 16.8**	**+1.1**
U15A	**North Rim** comp=Z,10.0nm,1.0s	**88.21**	**52**	IAmb	IAmb	19 05 18.8	
113A	**Mohawk Valley,** comp=Z,4.2nm,0.7s	**88.44**	**56**	IAmb	IAmb	19 05 18.7	
SRU	**San Rafael Swe** comp=Z,5.5nm,0.6s	**88.46**	**49**	IAmb	IAmb	19 05 19.0	
WUAZ	**Wupatki** baz=293,SNR=13	**89.25**	**53**	P	**P**	**19 05 23.1**	**+2.0**
214A	**Organ Pipe Nat** baz=292,SNR=5.1	**89.50**	**56**	P	**P**	**19 05 23.8**	**+1.6**
MNK	**Minsk** comp=E,8.0nm,1.0s	**89.58**	**329**	*i* P	**P**	**19 05 21.6**	**-0.4**
MNK	comp=N,15nm,1.0s			*i* P	**P**	**19 05 21.6**	**-0.4**
MNK	comp=Z,13nm,0.9s,baz=57			*i* P	**P**	**19 05 21.6**	**-0.4**
MNK				*i* pP	**pwP**	**19 06 15.4**	**-1.2**
MNK				*i* sP	**sP**	**19 06 38.7**	**+4.5**
MNK				*i* PP	**PP**	**19 08 56.3**	**+0.2**
MNK				*i* PPP	PPP	19 10 54.4	
MNK				*i* S	**SKSac**	**19 15 30.0**	**-2.2**
MNK				*i* sS	pS	19 17 09.3	+10
MNK				*i* SS	SS	19 21 36.3	-19
MNK				*i* SSS	SSS	19 25 39.7	
O20A	**White River Ci** baz=295	**89.66**	**47**	P	**P**	**19 05 24.4**	**+1.5**
K22A	**Casper** baz=296	**89.75**	**45**	P	**P**	**19 05 25.1**	**+1.8**
W18A	**Petrified Fore** baz=294	**90.63**	**52**	P	**P**	**19 05 29.2**	**+1.6**
MVCO	**Mesa Verde** baz=295	**90.69**	**50**	P	**P**	**19 05 28.4**	**+0.5**
RSSD	**Black Hills** comp=Z,4.1nm,0.6s	**90.71**	**42**	P	**P**	**19 05 27.6**	**-0.2**
RSSD				IAmb	IAmb	19 05 28.9	
RSSD	**Black Hills** baz=298	**90.71**	**42**	P	**P**	**19 05 28.6**	**+0.8**
N23A	**Red Feather La** baz=296,SNR=5.3	**90.91**	**46**	P	**P**	**19 05 30.1**	**+1.2**
AKASG	**Malin Array Be** comp=Z,0.6nm,0.4s,baz=49,slow=4.6,SNR=4.3 comp=Z,0.6nm,0.4s	**90.94**	**325**	P	**P**	**19 05 26.4**	**-2.0**
TUC	**Tucson** baz=293	**90.95**	**55**	P	**P**	**19 05 30.0**	**+1.1**
ISCO	**Idaho Springs** baz=296	**91.62**	**47**	P	**P**	**19 05 33.3**	**+1.1**
S22A	**4UR Ranch, Cre** baz=296,SNR=5.2	**91.67**	**49**	P	**P**	**19 05 34.0**	**+1.5**
HFS	**Hagfors** comp=Z,1.3nm,0.3s,baz=67,slow=3.9,SNR=18	**92.01**	**338**	P	**P**	**19 05 31.2**	**-1.9**
HFS	comp=Z,1.6nm,0.7s,baz=133,slow=6.5,SNR=1.6 comp=Z,1.3nm,0.3s			pP	**pwP**	**19 06 25.2**	**-1.7**
NOA	**NORSAR Array B** comp=Z,0.6nm,0.6s,baz=55,slow=6.5,SNR=4.0 comp=Z,0.6nm,0.6s	**92.19**	**340**	P	**P**	**19 05 32.3**	**-1.8**
Q24A	**Divide** baz=297	**92.32**	**47**	P	**P**	**19 05 36.7**	**+1.2**
ULM	**Lac du Bonnet** comp=Z,4.4nm,0.9s,baz=338,slow=5.6,SNR=6.0	**92.39**	**34**	P	**P**	**19 05 34.7**	**-0.4**
ULM	comp=Z,3.2nm,0.9s,baz=317,slow=7.4,SNR=3.1 comp=Z,4.4nm,0.9s			pP	**pP**	**19 06 26.8**	**+0.9**
SDCO	**Great Sand Dun** baz=296	**92.61**	**49**	P	**P**	**19 05 37.8**	**+0.9**
ANMO	**Albuquerque** baz=296	**93.15**	**51**	P	**P**	**19 05 40.6**	**+1.3**
121A	**Cookes Peak, D** baz=295	**93.17**	**54**	P	**P**	**19 05 40.0**	**+0.7**
AGMN	**Agassiz Nation** baz=304	**93.48**	**36**	P	**P**	**19 05 41.5**	**+1.3**
T25A	**Trinidad** baz=297	**93.66**	**49**	P	**P**	**19 05 42.2**	**+0.6**
BRTR	**Keskin Array B** comp=Z,1.3nm,0.7s,baz=74,slow=2.3,SNR=8.3	**93.77**	**314**	P	**P**	**19 05 39.8**	**-2.1**
BRTR	comp=Z,1.8nm,1.0s,baz=73,slow=4.3,SNR=3.9 comp=Z,1.3nm,0.7s			pP	**pP**	**19 06 33.7**	**+1.2**
MNTX	**Cornudas Mount** baz=296,SNR=5.1	**95.37**	**54**	P	**P**	**19 05 50.6**	**+1.4**
ECSD	**EROS Data Cent** baz=303	**95.54**	**40**	P	**P**	**19 05 49.5**	**-0.2**
VNDA	**Vanda** comp=Z,1.4nm,1.0s,baz=37,slow=6.8,SNR=3.3 comp=Z,1.4nm,1.0s	**96.85**	**176**	P	**P**	**19 05 54.4**	**-0.4**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.4s,baz=331,slow=3.4,SNR=1.3 comp=Z,0.2nm,0.4s	**97.75**	**55**	P	Pdif	19 06 00.6	+0.4
LSZ	**Lusaka**	**120.31**	**263**	PKPdf	**PKPdf**	**19 11 14.5**	**-1.1**
BELA	**Belgrano 2**	**121.14**	**180**	PKPdf	**PKPdf**	**19 11 13.3**	**-2.0**
SNAA	**Sanae** comp=Z,2.9nm,0.6s,baz=228,slow=6.7,SNR=9.7	**124.24**	**192**	PKP	**PKPdf**	**19 11 20.0**	**-1.5**
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.4s,baz=67,slow=1.1,SNR=8.1	**132.13**	**309**	PKP	**PKPdf**	**19 11 37.5**	**-0.6**
TORD	comp=Z,0.8nm,0.5s,baz=36,slow=3.9,SNR=5.5			SKPbc	**SKPbc**	**19 14 40.7**	**-4.0**
SDV	**Santo Domingo**	**134.79**	**55**	PKPdf	**PKPdf**	**19 11 42.6**	**-0.8**
SDV	**Santo Domingo** comp=Z,2.9nm,0.4s,baz=280,slow=2.9,SNR=5.2	**134.79**	**55**	PKP	**PKPdf**	**19 11 42.3**	**-1.0**
DBIC	**Dimbokro** comp=Z,3.0nm,0.8s,baz=43,slow=3.8,SNR=4.8	**141.22**	**308**	PKhKP	PKPpre	19 11 48.5	
DBIC	comp=Z,5.3nm,0.9s,baz=78,slow=3.3,SNR=5.7			SKPbc	**SKPbc**	**19 15 08.1**	**-3.9**
PLCA	**Paso Flores** comp=Z,2.8nm,0.7s,baz=229,slow=2.9,SNR=3.4	**142.34**	**133**	PKhKP	PKPpre	19 11 51.5	
GO05	**Huala**	**143.27**	**123**	PKPdf	PKPbc	19 11 55.1	-0.6
MT09	**Talagante**	**144.34**	**122**	PKPdf	**PKPab**	**19 11 58.5**	**-0.2**
LCO	**Las Campanas**	**145.55**	**114**		**PKPbc**	**19 12 03.0**	**0.0**
AUSP	**Uspallata**	**146.03**	**120**	*i* P	**PKPab**	**19 12 05.1**	**-0.2**
PB12	**IPOC Station P**	**146.07**	**95**	PKPdf	**PKPdf**	**19 12 02.6**	**-0.7**
RTLS	**Leoncito**	**146.21**	**119**	*e*P	**PKPbc**	**19 12 05.0**	**0.0**
AAGR	**Agrelo**	**146.27**	**121**	*i* P	**PKPbc**	**19 12 05.3**	**+0.5**
ASAL	**Salagasta**	**146.39**	**121**	*e*P	**PKPbc**	**19 12 05.4**	**+0.2**
AROD	**Rodeo**	**146.41**	**116**	*e*P	**PKPbc**	**19 12 04.9**	**-0.7**
AROD				*e*S		19 13 00.0	
BOAV	**Boa Vista**	**146.66**	**53**	PKPab	**PKPbc**	**19 12 06.2**	**-0.1**
ACCO	**Cerro Coronel**	**146.67**	**117**	*i* P	**PKPbc**	**19 12 06.5**	**+0.2**
PB15	**IPOC Station P**	**147.12**	**103**	*i* P	**PKPbc**	**19 12 08.2**	**+0.7**
AGUA	**GUANDACOL**	**147.38**	**115**	*i* P	**PKPbc**	**19 12 08.6**	**+0.6**
LVC	**Limon Verde**	**147.64**	**102**	*e*P	**PKPbc**	**19 12 10.1**	**+0.9**
LVC	**Limon Verde** comp=Z,36nm,0.7s,baz=273,slow=2.7,SNR=16	**147.64**	**102**	PKPbc	**PKPbc**	**19 12 09.7**	**+0.5**
VCA	**Vinchina**	**147.76**	**114**	*i* P	**PKPbc**	**19 12 09.7**	**+0.6**
AVFE	**Valle Fertil**	**148.01**	**118**	*i* P	**PKPbc**	**19 12 09.3**	**-0.3**
ACHE	**Chepes**	**148.55**	**119**	*i* P	**PKPbc**	**19 12 10.8**	**-0.3**
ACLC	**CERRO LA CRUZ**	**148.71**	**115**	*i* P	**PKPbc**	**19 12 11.2**	**-0.3**
TRQA	**Tornquist**	**149.46**	**134**		**PKPbc**	**19 12 12.2**	**-0.7**
MACA	**Manacapuru-AM**	**149.87**	**62**		**PKPbc**	**19 12 14.6**	**-0.1**
CYA	**Choya**	**149.89**	**114**	*i* P	**PKPbc**	**19 12 14.4**	**+0.1**
FSA	**Cafayete**	**150.10**	**109**	*i* P	**PKPbc**	**19 12 15.4**	**+0.4**
SAML	**Samuel**	**150.41**	**74**	PKPdf	**PKPdf**	**19 12 10.0**	**-0.4**
SAML				PKPbc	**PKPbc**	**19 12 15.2**	**-0.7**
AHML	**Horco Molle**	**150.58**	**111**	*i* P	**PKPbc**	**19 12 16.1**	**+0.1**
SLA	**San Lorenzo**	**150.67**	**107**	*i* P	**PKPbc**	**19 12 16.4**	**-0.1**
YJA	**Yavi**	**150.78**	**102**	*i* P	**PKiKP**	**19 12 17.9**	**+0.2**
AZAP	**Zapla**	**151.11**	**106**	*i* P	**PKPbc**	**19 12 17.4**	**-0.2**
SIV	**San Ignacio** comp=Z,1.2nm,0.6s,baz=262,slow=4.9,SNR=5.8	**154.44**	**87**	PKP	**PKPdf**	**19 12 15.1**	**-1.2**
SIV	comp=Z,0.9nm,0.5s,baz=202,slow=3.1,SNR=4.4			PKPbc	**PKPbc**	**19 12 24.4**	**-0.4**
SIV	comp=Z,1.7nm,0.6s,baz=15,slow=1.5,SNR=5.7			PKPab	**PKPab**	**19 12 40.0**	**0.0**
CPUP	**Villa Florida**	**157.70**	**113**	PKPab	**PKPab**	**19 12 54.0**	**+0.2**
CPUP	**Villa Florida** comp=Z,7.4nm,0.8s,baz=275,slow=5.1,SNR=15	**157.70**	**113**	PKPab	**PKPab**	**19 12 54.2**	**+0.5**

*SNET **28** 19:11:53.7±1.0, 13°.77N×92°.17W, h30km±36km, ML4.3*
*MEX **28** 19:11:53.1±0.8, 13°.74N×92°.08W, h94km±35km, MD4.0*
*CATAC **28** 19:11:57.4±0.8, 13°.94N×91°.98W, h30km±7km, ML4.2*
*GCG **28** 19:12:02.4±0.3, 14°.29N×91°.71W, h54km±40km, MD4.2*
*IDC **28** 19:12:14.1±3.1, 14°.95N×91°.35W, h154km±26km, mb3.3/5, mbtmp3.8/7, Error ellipse: s-maj=43.3km s-min=22.4km az=47.0.*

ISC 28 19:11:55.2±1.7, **13°.83N**±0°.06×**92°.05W**±0°.04, **h26**km±11km, **n58**, σ1°.67/86, **mb3.9**/5, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.67**	**45**	*e*P	**Pn**	**19 12 10.7**	**+1.7**
RTAL	**Retalhuleu**	**0.77**	**26**	*e*P	**Pb**	**19 12 10.3**	**+0.2**
RTAL				*e*S	**Sn**	**19 12 22.4**	**+1.0**
RTAL	**Retalhuleu**	**0.77**	**26**	*e*P	**Pb**	**19 12 10.2**	**+0.2**
RTAL				*e*S	**Sn**	**19 12 24.3**	**+3.0**
RTAL	**Retalhuleu**	**0.77**	**26**	*i* P	**Pn**	**19 12 10.8**	**+0.3**
RTAL				*i* S	**Sn**	**19 12 20.6**	**-0.7**
RTAL	comp=Z,6μm,1.0s			IAML		19 12 23.9	
STG3	**Santiaguito 3,**	**0.99**	**28**	*e*P	**Pn**	**19 12 13.8**	**+0.1**
SMCA	**Catarina**	**1.02**	**359**	*i* P	**Pn**	**19 12 13.2**	**-0.7**
SMCA				*i* S	**Sn**	**19 12 26.1**	**-1.4**
SMCA	comp=Z,3μm,1.0s			IAML		19 12 44.5	
THIG		**1.09**	**349**	*e*P	**Pn**	**19 12 13.9**	**-1.0**
THIG				*e*S	**Sb**	**19 12 29.8**	**+0.5**
SMSP	**San Marcos**	**1.17**	**13**	*e*P	**Pn**	**19 12 15.8**	**-0.4**
SMSP				*i* S	**Sb**	**19 12 32.8**	**+1.0**
SMSP	**San Marcos**	**1.17**	**13**	*i* P	**Pn**	**19 12 16.0**	**-0.2**
SMSP				*i* S	**Sn**	**19 12 30.2**	**-1.3**
SMSP	comp=Z,13μm,1.0s			IAML		19 12 40.8	
SOKI	**Kika Raxquin**	**1.17**	**32**	*i* P	**Pn**	**19 12 16.6**	**+0.3**
SOKI				*i* S	**Sn**	**19 12 30.2**	**-1.5**
SOKI	comp=Z,2μm,1.0s			IAML		19 12 40.8	
CHUJ	**Union Juarez**	**1.26**	**357**	*e*P	**Pn**	**19 12 15.6**	**-1.8**
CHUJ				*e*S	**Sb**	**19 12 34.1**	**-0.3**
PATR	**El Naranjo**	**1.29**	**352**	*e*P	**Pn**	**19 12 16.0**	**-1.8**
PATR				*e*S	**Sb**	**19 12 34.6**	**-0.7**
FUG	**Fuego 3**	**1.32**	**62**	*e*P	**Pn**	**19 12 18.8**	**+0.6**
PAVE	**Pavencul**	**1.36**	**355**	*e*P	**Pn**	**19 12 17.2**	**-1.6**
PAVE				*e*S	**Sb**	**19 12 36.5**	**-0.8**
CHTG	**Tecpan**	**1.39**	**48**	*i* P	**Pn**	**19 12 19.5**	**+0.3**
CHTG				*i* S	**Sb**	**19 12 38.8**	**+0.7**
CHTG	comp=Z,6μm

CEVE					IAML			19 13 11.9	
	comp=Z,2µm,1.0s								
SBLS	**San Blas**	**2.36**	**89**	*eP*		**Pn**		**19 12 33.1**	**+0.6**
CCIG	**Comitan**	**2.44**	**358**	*eP*		**Pn**		**19 12 35.8**	**+2.2**
CCIG				*eS*		**Sn**		19 13 03.1	+0.3
PMON	**Piamonte**	**2.66**	**92**	*eP*		**Pn**		**19 12 36.5**	**0.0**
MTO3	**Montecristo**	**2.67**	**77**	*eP*		**Pn**		**19 12 36.9**	**+0.1**
BOQS	**Boqueron**	**2.69**	**92**	*eP*		**Pn**		**19 12 37.2**	**+0.1**
BOQS				*eS*		**Sn**		19 13 11.7	+2.6
SJTE	**Alcalda de S**	**2.97**	**94**	*i P*		**Pn**		**19 12 40.9**	**+0.2**
SJTE				*i S*		**Sn**		19 13 12.1	-3.5
SJTE					IAML			19 13 36.2	
	comp=Z,340nm,1.0s								
CARR	**Arriaga**	**3.00**	**323**	*eP*		**Pn**		**19 12 41.9**	**+0.7**
CARR				*eS*		**Sn**		19 13 17.3	+0.9
COEG	**Centro de Oper**	**3.09**	**93**	*eP*		**Pn**		**19 12 43.3**	**+0.9**
TGIG		**3.11**	**341**	*eP*		**Pn**		**19 12 43.5**	**+0.8**
TGIG				*eS*		**Sn**		19 13 13.1	-6.0
PQSS	**Presa 15 de Se**	**3.40**	**93**	*eP*		**Pn**		**19 12 46.7**	**+0.1**
NILT	**Santiago Nilte**	**3.68**	**318**	*eS*		**Sn**		19 13 30.5	-2.6
UXUV	**UXUV**	**4.01**	**330**	*eS*		**Sn**		**19 13 42.5**	**+1.2**
CNCH	**Conchagua**	**4.14**	**97**	*eP*		**Pn**		19 12 56.4	-0.5
CMIG	**Matias Romero**	**4.24**	**320**	S		**Sn**		**19 13 52.8**	**+5.9**
	comp=Z,64nm,0.4s,baz=90,slow=4.0,SNR=6.0								
CMIG	**Matias Romero**	**4.24**	**320**	*i* S		**Sn**		**19 13 48.6**	**+1.6**
NEU	**Arroyo Zacate**	**5.29**	**317**	*eP*		Pn		19 13 05.9	-6.7
NEUV				*eS*		**Sn**		**19 14 12.0**	**-0.7**
TOIG	**Toxpalan**	**6.42**	**312**	*eS*		Sn		19 14 30.2	-11
TEIG	**Tepich**	**7.32**	**29**	P		**Pn**		**19 13 41.0**	**+0.6**
	comp=Z,269nm,0.3s,baz=13,slow=1.7,SNR=32								
TEIG				S		Sn		19 14 41.9	-21
	comp=Z,46nm,0.3s,baz=267,slow=23,SNR=0.7								
JTS	**Las Juntas de**	**7.78**	**116**	P		Pb		19 14 04.8	-4.6
	comp=Z,15nm,0.7s,baz=283,slow=6.1,SNR=6.2								
JTS				S		Sn		19 15 24.0	+10
	comp=Z,2.8nm,0.4s,baz=311,slow=22,SNR=1.4								
TXAR	**Lajitas Array**	**18.81**	**327**	P		**Pn**		**19 16 15.2**	**+1.5**
	comp=Z,3.4nm,1.1s,baz=153,slow=9.8,SNR=14								
PDAR	**Pinedale Array**	**32.56**	**336**	P		**P**		**19 18 25.9**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=152,slow=6.6,SNR=2.0								
	comp=Z,0.2nm,0.5s								
NVAR	**Mina Array Bea**	**33.77**	**321**	P		**P**		**19 18 37.5**	**+2.3**
	comp=Z,1.2nm,0.8s,baz=142,slow=8.6,SNR=8.1								
NVAR				PcP		**PcP**		**19 21 14.6**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=157,slow=2.5,SNR=2.4								
	comp=Z,1.2nm,0.8s								
YKA	**Yellowknife Ar**	**51.18**	**347**	P		**P**		**19 20 54.2**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=146,slow=7.8,SNR=6.1								
YKA				PcP		**PcP**		**19 22 10.9**	**-0.2**
	comp=Z,0.6nm,1.0s,baz=153,slow=3.4,SNR=4.9								
	comp=Z,0.3nm,0.6s								
ILAR	**Eielson Array**	**62.98**	**337**	P		**P**		**19 22 19.5**	**0.0**
	comp=Z,1.9nm,1.1s,baz=105,slow=3.9,SNR=10								
	comp=Z,1.9nm,1.1s								
EKA	**Eskdalemuir Ar**	**78.13**	**36**	P		**P**		**19 23 48.4**	**-3.7**
	comp=Z,1.1nm,0.6s,baz=276,slow=5.7,SNR=4.9								
	comp=Z,1.1nm,0.6s								
MKAR	**Makanchi Array**	**119.45**	**4**	PKhKP		PKPpre		19 30 39.3	
	comp=Z,0.3nm,0.8s,baz=309,slow=2.8,SNR=4.7								
WRA	**Warramunga Arr**	**135.30**	**256**	PKP		**PKiKP**		**19 31 18.3**	**+3.2**
	comp=Z,0.3nm,0.7s,baz=86,slow=1.8,SNR=2.4								
CMAR	**Chiang Mai Arr**	**146.14**	**341**	PKPbc		**PKPdf**		**19 31 34.0**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=340,slow=4.2,SNR=22								

*ISN **28** 19:24:23.8±0.6, 32.92N×46.36E, h12km±2km, ML3.2*
*TEH **28** 19:24:23.2, 32.92N×46.32E, h12km±47km, ML3.3*
ISC 28 19:24:24.3±0.9, 32.94N±0.04×46.33E±0.04, h13km, n22, σ0.82/26, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
IBDR	**Badra**	**0.38**	**296**	*ePg*		**Pg**	**19 24 31.8**	**-0.1**
IBDR				*eSg*		**Sb**	**19 24 38.2**	**-0.4**
ILBA	**Ilam Banvizeh**	**0.69**	**351**	Pg		**Pg**	**19 24 36.8**	**-1.0**
RAFI	**Al-Rafai**	**1.23**	**189**	*ePg*		**Pg**	**19 24 47.5**	**-0.5**
RAFI				*eSg*		**Sg**	**19 25 04.0**	**0.0**
RAFI				AML	AML		19 25 10.2	
	comp=E,533nm,0.6s							
RAFI				AML	AML		19 25 10.5	
	comp=N,450nm,0.7s							
IKFM	**Kafar-mosalman**	**1.40**	**65**	Pg		**Pb**	**19 24 49.9**	**-0.4**
IGHG	**Ghaleghazi**	**1.40**	**8**	Pg		**Pb**	**19 24 50.4**	**0.0**
KCHF	**Cheshme Sefid,**	**1.45**	**24**	Pg		**Pb**	19 24 51.3	0.0
IKOM	**Komasi**	**1.57**	**38**	Pg		**Pb**	**19 24 53.3**	**-0.1**
IKOM				Sg		**Sg**	**19 25 15.8**	**+0.8**
BHD	**Baghdad**	**1.67**	**282**	*ePn*		**Pb**	**19 24 55.0**	**+0.1**
BHD				*eSn*		**Sg**	**19 25 18.0**	**-0.1**
BHD				AML	AML		19 25 26.9	
	comp=E,272nm,0.3s							
IDHR	**Dehrash**	**1.75**	**1**	Pg		**Pb**	**19 24 56.2**	**-0.3**
IBZA	**Bozab**	**1.98**	**39**	Pn		**Pb**	**19 24 59.3**	**-1.2**
ILIN	**Lien**	**2.04**	**15**	Pn		**Pb**	**19 24 59.7**	**-1.7**
HSAM	**Samen**	**2.28**	**56**	Pn		**Pn**	**19 25 03.1**	**+1.1**
IALM	**Almabolaq**	**2.45**	**38**	Pn		**Pn**	**19 25 05.5**	**+1.3**
AMIS	**Naft Sefid**	**2.81**	**116**	Pn		**Pn**	**19 25 09.9**	**+0.9**
HAGD	**Aghdareh**	**2.99**	**50**	Pn		**Pn**	**19 25 12.6**	**+0.9**
JHBN	**Jahan bin**	**3.73**	**100**	Pn		**Pn**	**19 25 22.6**	**+0.8**
IRAZ	**Razeghan**	**3.86**	**50**	Pn		**Pn**	**19 25 24.8**	**+1.2**
ZNGN	**Zangian**	**3.91**	**101**	Pn		**Pn**	**19 25 25.1**	**+0.8**
QAMS	**Qamsar**	**4.31**	**78**	Pn		**Pn**	**19 25 30.8**	**+1.0**
KLNJ	**Kolanjah**	**4.87**	**112**	Pn		**Pn**	**19 25 37.9**	**0.0**
KRSH	**Karshahi**	**4.96**	**77**	Pn		**Pn**	**19 25 39.3**	**+0.6**
DSBU	**Dashti - Bushe**	**6.23**	**136**	Pn		**Pn**	**19 25 56.9**	**+0.8**

*NOU **28** 19:24:38.2, 42.92S×173.18E, h23km, MLv4.1/14, South Island, New Zealand*
*WEL **28** 19:24:38.1±0.3, 43.3S×17.3E±, h14km±3km, M3.6/23, ML3.9/24, MLv3.6/23, Error ellipse: s-maj=0.0km s-min=0.0km az=130.4, confirmed*
*WEL **28** 19:24:38.5, 42.76S×172.93E, h8km, ML3.6, Mw3.6, Moment Tensor Solution. s5 Moment tensor: Mrr29.46; Mθθ-4.38; Mϕϕ-25.08; Mrθ2.42; Mθϕ11.22; Mϕr10.59; Fault plane solution: NP1:ϕs35.00000°, δ38.00000°, λ108.00000°. NP2:ϕs192.00000°, δ54.00000°, λ76.00000°. Principal axes: T -31.2700, Plg76.0000°, Azm57.0000°; N -0.7400, Plg11.0000°, Azm200.0000°; P 32.0200, Plg8.0000°, Azm292.0000°; SOUTH ISLAND*
ISC 28 19:24:37.7±1.4, 42.77S±0.03×172.96E±0.03, h13km±11km, n101, σ0.95/111, South Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
GVZ	**Greta Valley S**	**0.21**	**164**	P		**Pb**	**19 24 44.4**	**+0.9**
GVZ				S		**Sb**	**19 24 49.2**	**+1.9**
AMCZ	**Amberley**	**0.47**	**208**	P		**Pb**	**19 24 48.9**	**+1.1**
LTZ	**Lake Taylor**	**0.51**	**268**	P		**Pg**	**19 24 47.8**	**+0.2**
LTZ				S		**Sb**	**19 24 54.9**	**-0.9**
KHZ	**Kahutara**	**0.55**	**51**	P		**Pb**	**19 24 50.3**	**+1.0**
KHZ	**Kahutara**	**0.55**	**51**	P		**Pb**	**19 24 49.6**	**+0.3**
KHZ				S		**Sb**	**19 24 58.0**	**+0.8**
OXZ	**Oxford**	**0.88**	**230**	P		**Pn**	**19 24 55.5**	**-0.3**
OXZ				S		**Sn**	**19 25 08.0**	**-0.4**
MQZ	**McQueen's Vall**	**0.97**	**193**	P		**Pb**	**19 24 56.1**	**-0.2**
THZ	**Tophouse**	**1.00**	**358**	P		**Pb**	**19 24 56.3**	**-0.7**
THZ				S		**Sb**	**19 25 09.2**	**-0.9**
AKCZ	**Akaroa Harbour**	**1.11**	**182**	P		**Pb**	**19 24 58.6**	**-0.2**
INZ	**Inchbonnie**	**1.11**	**272**	P		**Pb**	**19 24 58.7**	**-0.1**
RACZ	**Rakaia**	**1.13**	**212**	P		**Pb**	**19 24 58.9**	**-0.2**
BSWZ	**Blackbirch Sta**	**1.25**	**33**	P		**Pb**	**19 25 01.7**	**+0.5**
MHCZ	**Mount Hutt**	**1.27**	**233**	P		**Pn**	**19 25 00.7**	**-0.6**
DSZ	**Denniston Nort**	**1.33**	**320**	P		**Pb**	**19 25 02.4**	**-0.2**
DSZ				S		**Sg**	**19 25 19.9**	**-0.6**
MRNZ	**Matariki Terra**	**1.37**	**354**	P		**Pn**	**19 25 02.6**	**0.0**
CMWZ	**Cape Campbell**	**1.38**	**43**	P		**Pb**	**19 25 03.7**	**+0.4**
WACZ	**Wakanui South**	**1.43**	**214**	P		**Pn**	**19 25 03.1**	**-0.3**
TUWZ	**Tuamarina**	**1.52**	**29**	P		**Pn**	**19 25 05.2**	**+0.6**
NNZ	**Nelson**	**1.58**	**12**	P		**Pb**	**19 25 06.3**	**-0.4**
WVZ	**Waitaha Valley**	**1.66**	**259**	P		**Pn**	**19 25 06.6**	**+0.1**
RPZ	**Rata Peaks**	**1.68**	**235**	P		**Pn**	**19 25 06.4**	**-0.5**
RPZ	**Rata Peaks**	**1.68**	**235**	P		**Pn**	**19 25 06.5**	**-0.4**
RPZ				S		**Sn**	**19 25 27.6**	**-0.8**
TKNZ	**Takaka Hill**	**1.73**	**0**	P		**Pn**	**19 25 08.2**	**+0.6**
ARCZ	**Arundel**	**1.75**	**227**	P		**Pn**	**19 25 07.4**	**-0.5**
ARCZ				S		**Sn**	**19 25 29.4**	**-0.7**
TCW	**Tory Channel**	**1.84**	**33**	P		**Pn**	**19 25 09.2**	**+0.2**
SNZO	**South Karori**	**1.95**	**42**	P		**Pn**	**19 25 10.7**	**+0.2**
QRZ	**Quartz Range**	**1.96**	**351**	P		**Pb**	**19 25 12.1**	**-1.2**
QRZ	**Quartz Range**	**1.96**	**351**	P		**Pn**	**19 25 11.0**	**+0.3**
BHW	**Baring Head**	**1.97**	**47**	P		**Pn**	**19 25 10.5**	**-0.3**
WEL	**Wellington**	**2.00**	**43**	P		**Pn**	**19 25 11.3**	**0.0**
WEL				S		**Sn**	**19 25 36.1**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**2.00**	**253**	P		**Pn**	**19 25 11.9**	**+0.7**
GCSZ				S		**Sn**	**19 25 36.9**	**+0.6**
PLWZ	**Palliser**	**2.08**	**56**	P		**Pn**	**19 25 11.8**	**-0.6**
DUWZ	**D'Urville Isla**	**2.09**	**21**	P		**Pn**	**19 25 13.0**	**+0.5**
TMZ	**Timaru**	**2.15**	**221**	P		**Pn**	**19 25 13.0**	**-0.3**
CAW	**Cannon Point**	**2.29**	**44**	P		**Pn**	**19 25 14.8**	**-0.4**
PAWZ	**Paruwai Farm**	**2.30**	**54**	P		**Pn**	**19 25 14.4**	**-1.0**
KIW	**Kapiti Island**	**2.40**	**38**	P		**Pn**	**19 25 16.7**	**0.0**
FOZ	**Fox Glacier**	**2.42**	**250**	P		**Pn**	**19 25 17.5**	**+0.5**
TRWZ	**Traveller**	**2.45**	**57**	P		**Pn**	**19 25 16.7**	**-0.7**
MTW	**Mount Morrison**	**2.49**	**51**	P		**Pn**	**19 25 16.9**	**-1.0**
OGWZ	**Otaki Gorge**	**2.56**	**41**	P		**Pn**	**19 25 18.5**	**-0.3**
LBZ	**Lake Benmore**	**2.58**	**230**	P		**Pn**	**19 25 19.0**	**-0.3**
HOWZ	**Holdsworth Sta**	**2.67**	**47**	P		**Pn**	**19 25 19.5**	**-1.0**
ODZ	**Otahua Downs**	**2.83**	**215**	P		**Pn**	**19 25 22.2**	**-0.4**
ODZ	**Otahua Downs**	**2.83**	**215**	P		**Pn**	**19 25 22.0**	**-0.5**
MRZ	**Mangatainoka R**	**2.88**	**44**	P		**Pn**	**19 25 22.4**	**-0.9**
PRWZ	**Pori Road**	**3.16**	**47**	P		**Pn**	**19 25 25.9**	**-1.2**
POWZ	**Post Office Ro**	**3.17**	**43**	P		**Pn**	**19 25 26.5**	**-0.9**
BFZ	**Birch Farm**	**3.23**	**51**	P		**Pn**	**19 25 26.8**	**-1.3**
BFZ	**Birch Farm**	**3.23**	**51**	P		**Pn**	**19 25 26.5**	**-1.6**
JCZ	**Jackson Bay**	**3.31**	**245**	P		**Pn**	**19 25 29.2**	**-0.1**
JCZ	**Jackson Bay**	**3.31**	**245**	P		**Pn**	**19 25 28.8**	**-0.5**
WAZ	**Wanganui**	**3.38**	**28**	P		**Pn**	**19 25 31.7**	**+1.6**
DVHZ	**Dannevirke**	**3.45**	**45**	P		**Pn**	**19 25 29.4**	**-1.7**
WKZ	**Wanaka**	**3.52**	**233**	P		**Pn**	**19 25 31.2**	**-1.0**
TSZ	**Takapari Road**	**3.52**	**41**	P		**Pn**	**19 25 30.4**	**-1.8**
HHSZ	**Highcliff Road**	**3.55**	**208**	P		**Pn**	**19 25 32.0**	**-0.6**
KHEZ	**Kahui Hut**	**3.56**	**13**	P		**Pn**	**19 25 35.2**	**+2.5**
KHEZ	**Kahui Hut**	**3.56**	**13**	P		**Pn**	**19 25 35.4**	**+2.6**
NBEZ	**Newall Road No**	**3.56**	**11**	P		**Pn**	**19 25 34.5**	**+1.8**
EAZ	**Earnscleugh**	**3.61**	**226**	P		**Pn**	**19 25 33.4**	**+0.1**
PKE	**Pukeiti**	**3.65**	**13**	P		**Pn**	**19 25 36.0**	**+2.0**
VRZ	**Vera Road**	**3.88**	**21**	P		**Pn**	**19 25 38.8**	**+1.6**
PKVZ	**Pokaka**	**3.92**	**28**	P		**Pn**	**19 25 38.6**	**+1.0**
MOVZ	**Moawhango**	**3.96**	**33**	P		**Pn**	**19 25 38.2**	**-0.1**
WNVZ	**Wahianoa**	**3.97**	**31**	P		**Pn**	**19 25 38.9**	**+0.4**
TUZ	**Tuapeka**	**3.98**	**216**	P		**Pn**	**19 25 38.0**	**-0.4**
WHVZ	**Whangaehu Hut**	**4.01**	**31**	P		**Pn**	**19 25 39.5**	**+0.4**
MAVZ	**Matarangi**	**4.01**	**30**	P		**Pn**	**19 25 39.8**	**+0.6**
FWVZ	**Far West T-bar**	**4.02**	**30**	P		**Pn**	**19 25 39.7**	**+0.5**
BHHZ	**Black Hill Sta**	**4.03**	**37**	P		**Pn**	**19 25 38.8**	**-0.4**
KRHZ	**Kereru**	**4.04**	**41**	P		**Pn**	**19 25 37.6**	**-1.8**
TUVZ	**Tukino**	**4.05**	**31**	P		**Pn**	**19 25 40.1**	**+0.6**
COVZ	**Chateau Observ**	**4.06**	**30**	P		**Pn**	**19 25 40.3**	**+0.6**
SNVZ	**South Ngauruho**	**4.11**	**30**	P		**Pn**	**19 25 40.8**	**+0.4**
OTVZ	**Oturere**	**4.14**	**31**	P		**Pn**	**19 25 41.2**	**+0.4**
TWVZ	**Taurewa**	**4.14**	**28**	P		**Pn**	**19 25 41.2**	**+0.4**
WTVZ	**West Tongariro**	**4.16**	**30**	P		**Pn**	**19 25 41.2**	**+0.2**
KRVZ	**Karewarewa**	**4.19**	**30**	P		**Pn**	**19 25 41.9**	**+0.4**
MLZ	**Mavora Lakes**	**4.35**	**232**	P		**Pn**	**19 25 43.5**	**-0.1**
BKZ	**Black Stump Fm**	**4.48**	**38**	P		**Pn**	**19 25 45.3**	**-0.1**
BKZ	**Black Stump Fm**	**4.48**	**38**	P		**Pn**	**19 25 45.7**	**+0.2**
HIZ	**Hauiti**	**4.49**	**19**	P		**Pn**	**19 25 46.4**	**+1.0**
HIZ	**Hauiti**	**4.49**	**19**	P		**Pn**	**19 25 46.4**	**+1.0**
SYZ	**Scrubby Hill**	**4.65**	**215**	P		**Pn**	**19 25 47.6**	**0.0**
SYZ	**Scrubby Hill**	**4.65**	**215**	P		**Pn**	**19 25 47.8**	**+0.2**
TLZ	**Tolley Road**	**4.85**	**25**	P		**Pn**	**19 25 50.7**	**+0.3**
APZ	**The Paps**	**5.39**	**219**	P		**Pn**	**19 25 57.0**	**-0.8**
TOZ	**Tahuroa Road**	**5.39**	**22**	P		**Pn**	**19 25 58.1**	**+0.2**
URZ	**Urewera**	**5.50**	**36**	P		**Pn**	**19 25 57.0**	**-2.4**
URZ	**Urewera**	**5.50**	**36**	P		**Pn**	**19 25 57.6**	**-1.8**
AWAZ	**Awhitu Peninsu**	**5.84**	**13**	P		**Pn**	**19 26 03.7**	**-0.3**
MKAZ	**Moumakai**	**5.90**	**17**	P		**Pn**	**19 26 05.2**	**+0.4**
TWGZ	**Tauwhareparae**	**5.97**	**42**	P		**Pn**	**19 26 05.6**	**-0.3**
ETAZ	**East Tamaki Re**	**6.00**	**15**	P		**Pn**	**19 26 07.1**	**+0.9**
WIAZ	**Waiheke Island**	**6.20**	**16**	P		**Pn**	**19 26 09.7**	**+0.8**
HAZ	**Te Kaha**	**6.22**	**38**	P		**Pn**	**19 26 06.8**	**-2.4**
KUZ	**Kuaotunu**	**6.38**	**20**	P		**Pn**	**19 26 11.2**	**-0.2**
KUZ	**Kuaotunu**	**6.38**	**20**	P		**Pn**	**19 26 11.4**	**0.0**
OUZ	**Omahuta**	**7.55**	**4**	P		**Pn**	**19 26 29.7**	**+2.2**
OUZ	**Omahuta**	**7.55**	**4**	P		**Pn**	**19 26 29.6**	**+2.2**

*TRN **28** 19:28:09.2, 11.11N×61.96W, h117km, MD3.1*
*FUNV **28** 19:28:09.1, 11.06N×62.10W, h105km, MW3.5*
ISC 28 19:28:06.6±2.1, 11.08N±0.07×62.18W±0.08, h125km±18km, n10, σ19.45/18, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
TRN	**Trinidad (W)**	**0.87**	**120**	*eP*		**Pn**	**19 28 28.8**	**+0.9**
TRN				*eS*		**Sn**	**19 28 42.3**	**-1.7**
CRUV	**Carupano**	**1.12**	**249**	*eP*		**Pn**	**19 28 31.1**	**+0.9**
CRUV				*eS*		**Sn**	**19 28 47.4**	**-0.7**
GRGR	**Grenville**	**1.16**	**26**	*eP*		**Pn**	**19 28 31.4**	**+0.7**
GRGR				*eS*		**Sn**	**19 28 48.7**	**-0.3**
GRHS	**Sauteurs**	**1.25**	**25**	*eP*		**Pn**	**19 28 32.2**	**+0.6**
GRHS				*eS*		**Sn**	**19 28 50.0**	**-0.6**
GRSS	**Sisters**	**1.33**	**24**	*eP*		**Pn**	**19 28 34.3**	**+1.9**
GRSS				*eS*		**Sn**	**19 28 50.4**	**-1.6**
GCMP	**Grenada, Carri**	**1.58**	**28**	*eP*		**Pn**	**19 28 35.8**	**+0.5**
GCMP				*eS*		**Sn**	**19 28 56.2**	**-0.8**
PCRV	**Puerto La Cruz**	**2.58**	**250**	*eP*		**Pn**	**19 28 49.6**	**+1.9**
PCRV				*eS*		**Sn**	**19 29 19.0**	**-0.2**
PRGV	**PARIAGUAN**	**3.35**	**227**	*eP*		**Pn**	**19 28 59.4**	**+1.7**
PRGV				*eS*		**Sn**	**19 29 36.3**	**-0.9**
CACV	**CAICARA DEL OR**	**5.55**	**231**	*eP*		Pn	19 29 22.4	-4.6
CACV				*eS*		Sn	19 30 17.8	-12
BAUV	**El Baul**	**6.16**	**250**	*eP*		**Pn**	**19 29 35.3**	**+0.1**
BAUV				*eS*		**Sn**	**19 30 41.4**	**-3.0**

*IDC **28** 19:29:23.1±1.8, 33.55N×46.33E, h0km, mb3.7/5, mbtmp3.7/8, ML3.5/2, Error ellipse: s-maj=38.2km s-min=18.1km az=167.0*
*TEH **28** 19:29:26.6, 33.84N×46.58E, h8km±31km, ML3.3*
*ISN **28** 19:29:27.3±0.5, 33.83N×46.61E, h19km±3km, ML3.3*
ISC 28 19:29:26.9±1.1, 33.82N±0.03×46.59E±0.03, h8km±9km, n41, σ19.49/44, mb3.5/5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ILBA	**Ilam Banvizeh**	**0.38**	**239**	Pg		**Pg**	**19 29 34.0**	**-0.4**
ILBA				Sg		**Pg**	**19 29 40.0**	**+0.7**
IGHG	**Ghaleghazi**	**0.51**	**358**	Pg		**Pg**	**19 29 36.5**	**-0.3**
KCHF	**Cheshme Sefid,**	**0.59**	**39**	Pg		**Pg**	**19 29 37.8**	**-0.5**
IKOM	**Komasi**	**0.84**	**65**	Pg		**Pg**	**19 29 43.3**	**+0.2**
IDHR	**Dehrash**	**0.89**	**349**	Pg		**Pg**	**19 29 43.4**	**-0.8**
IDHR				Sg		**Sg**	**19 29 56.2**	**+0.4**
IBDR	**Badra**	**0.90**	**218**	*ePg*		**Pg**	**19 29 44.5**	**+0.3**
IBDR				*eSg*		**Sg**	**19 29 56.5**	**+0.6**
IBDR				AML	AML		19 30 05.7	
	comp=N,585nm,0.3s							
IBDR				AML	AML		19 30 05.9	
	comp=E,820nm,0.3s							
KGS1	**Ghasr-e-Shirin**	**1.08**	**310**	Pg		**Pg**	**19 29 47.6**	**-0.1**
KGS1				Sg		**Sg**	**19 30 02.6**	**+1.0**
IKFM	**Kafar-mosalman**	**1.09**	**105**	Pg		**Pb**	**19 29 48.1**	**+0.1**
ILIN	**Lien**	**1.14**	**16**	Pg		**Pg**	**19 29 48.8**	**0.0**
IBZA	**Bozab**	**1.24**	**58**	Pg		**Pb**	**19 29 50.9**	**+0.2**
IALM	**Almabolaq**	**1.67**	**51**	Pg		**Pb**	**19 29 58.5**	**+0.5**
HSAM	**Samen**	**1.71**	**76**	Pg		**Pg**	**19 29 59.9**	**+0.1**
BHD	**Baghdad**	**1.93**	**254**	*ePn*		**Pn**	**19 30 01.0**	**+1.0**
BHD				*eSn*		**Sn**	**19 30 26.0**	**+1.6**
BHD				AML	AML		19 30 37.7	
	comp=E,768nm,0.5s							
RAFI	**Al-Rafai**	**2.13**	**191**	*ePn*		**Pn**	**19 30 04.0**	**+1.2**
RAFI				*eSn*		**Sn**	**19 30 31.0**	**+1.6**
HAGD	**Aghdareh**	**2.33**	**64**	Pn		**Pb**	**19 30 08.3**	**-1.1**
SDS1	**Sardasht. Az.**	**2.49**	**339**	Pn		**Pn**	**19 30 09.9**	**+1.9**
MAHB	**Mahabad**	**3.03**	**346**	Pn		**Pn**	**19 30 17.0**	**+1.7**
AMIS	**Naft Sefid**	**3.13**	**133**	Pn		**Pn**	**19 30 18.2**	**+1.6**
IHSH	**Hashtrud**	**3.52**	**9**	Pn		**Pn**	**19 30 23.9**	**+1.6**
JHBN	**Jahan bin**	**3.77**	**114**	Pn		**Pn**	**19 30 27.8**	**+2.1**
IPIR	**Pirpir**	**3.78**	**106**	Pn		**Pn**	**19 30 27.5**	**+1.8**
IQOM	**Qom**	**3.84**	**73**	Pn		**Pn**	**19 30 28.3**	**+1.6**
JIR1	**Jirandeh**	**3.90**	**41**	Pn		**Pn**	**19 30 29.0**	**+1.7**
ZNGN	**Zangian**	**3.96**	**114**	Pn		**Pn**	**19 30 29.8**	**+1.5**
QAMS	**Qamsar**	**4.00**	**90**	Pn		**Pn**	**19 30 30.8**	**+2.0**
IKLH	**Kolahrood**	**4.19**	**95**	Pn		**Pn**	**19 30 33.9**	**+2.5**
IVRN	**Varamin**	**4.41**	**73**	Pn		**Pn**	**19 30 35.9**	**+1.7**
IHRS	**Heris**	**4.50**	**5**	Pn		**Pn**	**19 30 37.2**	**+1.6**
ISHB	**Shabestar**	**4.52**	**350**	Pn		**Pn**	**19 30 37.9**	**+2.0**
KLST	**Kelardasht - M**	**4.54**	**52**	Pn		**Pn**	**19 30 38.5**	**+2.2**
KRSH	**Karshahi**	**4.61**	**87**	Pn		**Pn**	**19 30 38.8**	**+1.7**
KLNJ	**Kolanjah**	**5.07**	**122**	Pn		**Pn**	**19 30 45.0**	**+1.4**
GNI	**Garni**	**6.49**	**347**	Lg		Lg	19 32 55.9	
	comp=E,0.2nm,0.3s,baz=161,slow=22,SNR=1.4							
MMAI	**Mount Meron Ar**	**9.39**	**268**	Pn		Pn	19 31 36.7	-5.9
	comp=E,0.1nm,0.3s,baz=242,slow=19,SNR=0.9							
MMAI				Lg		Lg	19 34 14.2	
	comp=E,0.3nm,0.3s,baz=135,slow=57,SNR=1.1							
EIL	**Elat**	**10.74**	**250**	Pn		Pn	19 31 54.2	-6.8
	comp=E,0.2nm,0.3s,baz=309,slow=13,SNR=1.2							
EIL				Lg		Lg	19 34 55.4	
	comp=E,0.2nm,0.3s,baz=195,slow=4.2,SNR=1.8							
	comp=E,1.3nm,0.4s							
WSAR	**Wadi Sarin**	**14.92**	**132**	Pn		**Pn**	**19 32 54.6**	**-3.6**
	comp=E,0.3nm,0.3s,baz=326,slow=10,SNR=4.3							
	comp=E,3.8nm,0.8s							
AKASG	**Malin Array Be**	**21.12**	**328**	P		**P**	**19 34 10.7**	**-1.2**
	comp=E,1.1nm,0.6s,baz=140,slow=11,SNR=7.4							
	comp=E,1.1nm,0.6s							
BVAR	**Borovoye Array**	**25.63**	**34**	P		**P**	**19 34 57.1**	**+0.4**
	comp=E,0.6nm,0.6s,baz=218,slow=9.4,SNR=4.0							
	comp=E,0.6nm,0.6s							
MKAR	**Makanchi Array**	**29.88**	**54**	P		**P**	**19 35 36.0**	**+1.0**
	comp=E,0.4nm,0.6s,baz=251,slow=8.6,SNR=4.5							
	comp=E,0.4nm,0.6s							
ZALV	**Zalesovo Beam**	**33.55**	**41**	P		**P**	**19 36 07.0**	**0.0**
	comp=E,0.8nm,0.5s,baz=266,slow=10,SNR=5.5						

WTFS					IAmb_Lg			20 12 17.5		
	comp=Z,74nm,0.8s									
Z35A	**Perchaven, San**	**2.22**	**186**			**Pn**		**20 11 50.6**	**+2.0**	
Z35A	**Perchaven, San**	**2.22**	**186**	P		**Pb**		**20 11 51.0**	**-0.9**	
	baz=5.1,SNR=25									
Z35A				S		**Sn**		**20 12 18.6**	**+2.6**	
	baz=5.1									
U38A	**Gravette**	**2.27**	**66**			**Pg**		**20 11 54.3**	**-1.0**	
U38A				IAmb_Lg				20 12 34.8		
	comp=Z,256nm,0.7s									
U38A	**Gravette**	**2.27**	**66**	P		**Pg**		**20 11 54.5**	**-0.7**	
	baz=245,SNR=112									
FW06	**Azle**	**2.61**	**191**	IAmb_Lg				20 12 33.9		
	comp=Z,242nm,0.9s									
SMWD	**Samnorwood**	**2.72**	**262**	IAmb_Lg				20 12 44.4		
	comp=Z,512nm,1.3s									
Z38A	**Mt. Pleasant**	**2.80**	**144**	IAmb_Lg				20 12 45.1		
	comp=Z,367nm,1.1s									
Z38A	**Mt. Pleasant**	**2.80**	**144**	P		**Pb**		**20 11 59.2**	**-2.6**	
	baz=323									
TREL	**Terrell**	**2.90**	**165**	IAmb_Lg				20 12 47.8		
	comp=Z,241nm,0.9s									
FW07	**Weatherford**	**2.91**	**194**	IAmb_Lg				20 12 42.2		
	comp=Z,186nm,0.9s									
PLPT	**Palo Pinto**	**2.95**	**203**	IAmb_Lg				20 12 50.6		
	comp=Z,116nm,0.8s									
FW16	**Waxahatchie**	**3.05**	**179**	IAmb_Lg				20 12 51.9		
	comp=Z,277nm,0.8s									
FW14	**Alvarado**	**3.14**	**184**	IAmb_Lg				20 12 48.9		
	comp=Z,80nm,0.7s									
R32A	**Long Quarter,**	**3.20**	**334**	IAmb_Lg				20 13 02.9		
	comp=Z,154nm,0.8s									
R32A	**Long Quarter,**	**3.20**	**334**	S		**Sb**		**20 12 45.9**	**-1.8**	
	baz=155									
FW13	**Cleburne**	**3.21**	**187**	IAmb_Lg				20 12 55.6		
	comp=Z,95nm,0.9s									
APMT	**Aspermont**	**3.42**	**231**	IAmb_Lg				20 13 04.4		
	comp=Z,81nm,1.1s									
U40A	**Yellville**	**3.43**	**75**	P		**Pb**		**20 12 09.7**	**-2.8**	
	baz=256,SNR=28									
U40A				P		**Pb**		**20 12 09.7**	**-2.8**	
	baz=256,SNR=28									
X40A	**Basin Creek Fa**	**3.54**	**106**	IAmb_Lg				20 13 09.9		
	comp=Z,209nm,0.8s									
KSU1	**Kansas State U**	**3.56**	**4**	IAmb_Lg				20 13 16.2		
	comp=Z,319nm,0.8s									
KSU1	**Kansas State U**	**3.56**	**4**	P		**Pb**		**20 12 12.4**	**-2.4**	
	baz=185									
WHTX	**Lake Whitney,**	**3.57**	**187**	P		**Pn**		**20 12 08.9**	**+1.9**	
	baz=5.9									
WHTX				S		**Sn**		**20 12 49.9**	**+0.6**	
	baz=5.9									
WHTX	**Lake Whitney,**	**3.57**	**187**	P		**Pn**		**20 12 09.0**	**+1.9**	
	baz=5.9,SNR=11									
WHTX				S		**Sn**		**20 12 49.5**	**+0.2**	
	baz=5.9									
S39A	**Bolivar**	**3.63**	**53**	IAmb_Lg				20 13 16.7		
	comp=Z,134nm,0.8s									
S39A	**Bolivar**	**3.63**	**53**	P		**Pb**		**20 12 13.0**	**-2.9**	
	baz=234,SNR=45									
237A	**Washetta, Mont**	**3.66**	**165**	IAmb_Lg				20 13 12.3		
	comp=Z,156nm,0.9s									
237A	**Washetta, Mont**	**3.66**	**165**	S		**Sn**		**20 12 53.4**	**+1.9**	
	baz=344									
ABTX	**Abilene, Hawle**	**3.67**	**218**	P		**Pn**		**20 12 10.1**	**+1.6**	
	baz=37									
ABTX	**Abilene, Hawle**	**3.67**	**218**	P		**Pn**		**20 12 10.4**	**+1.9**	
	baz=37									
DKNS	**Dickens**	**3.77**	**241**	IAmb_Lg				20 13 20.6		
	comp=Z,154nm,0.8s									
WHAR	**Wooly Hollow**	**3.82**	**92**	IAmb_Lg				20 13 22.3		
	comp=Z,180nm,0.8s									
AMTX	**Amarillo**	**3.92**	**262**	IAmb_Lg				20 13 21.1		
	comp=Z,224nm,0.7s									
AMTX	**Amarillo**	**3.92**	**262**	P		**Pn**		**20 12 14.3**	**+2.2**	
	baz=81									
AMTX				S		**Sn**		**20 13 00.4**	**+2.2**	
	baz=81									
AMTX	**Amarillo**	**3.92**	**262**	P		**Pn**		**20 12 15.3**	**+3.2**	
	baz=81,SNR=19									
AMTX				S		**Sn**		**20 13 01.1**	**+2.9**	
	baz=81									
FCAR	**Ozark Folk Cen**	**3.95**	**84**	IAmb_Lg				20 13 23.2		
	comp=Z,315nm,0.8s									
CBKS	**Cedar Bluff**	**3.95**	**327**	IAmb_Lg				20 13 28.4		
	comp=Z,140nm,0.7s									
CBKS	**Cedar Bluff**	**3.95**	**327**	P		**Pb**		**20 12 16.7**	**-4.8**	
	baz=147									
CBKS				S		**Sb**		**20 13 05.5**	**-3.7**	
	baz=147									
CBKS	**Cedar Bluff**	**3.95**	**327**	P		**Pb**		**20 12 16.6**	**-4.8**	
	baz=147,SNR=12									
MGMO	**Mountain Grove**	**4.11**	**66**	IAmb_Lg				20 13 26.2		
	comp=Z,219nm,0.8s									
Z41A	**Richland Creek**	**4.12**	**122**	IAmb_Lg				20 13 34.9		
	comp=Z,160nm,0.9s									
SN01	**Snyder 1**	**4.21**	**232**	IAmb_Lg				20 13 34.8		
	comp=Z,103nm,0.9s									
POST	**Post**	**4.50**	**238**	IAmb_Lg				20 13 34.9		
	comp=Z,81nm,0.8s									
CCAR	**Cane Creek**	**4.57**	**109**	IAmb_Lg				20 13 50.2		
	comp=Z,228nm,1.0s									
BRDY	**Brady**	**4.58**	**202**	IAmb_Lg				20 13 35.4		
	comp=Z,206nm,0.8s									
R40A	**Maddies Statio**	**4.65**	**52**	IAmb_Lg				20 13 53.5		
	comp=Z,217nm,1.2s									
LCAR	**Lake Charles**	**4.75**	**82**	IAmb_Lg				20 13 50.1		
	comp=Z,137nm,0.7s									
435B	**Jarrell**	**4.78**	**187**	P		**Pn**		**20 12 25.3**	**+1.6**	
	baz=5.6									
435B				S		**Sn**		**20 13 19.6**	**+0.5**	
	baz=5.6									
P38A	**Dawn**	**4.90**	**33**	IAmb_Lg				20 13 54.1		
	comp=Z,107nm,0.8s									
HNVL	**Huntsville, TX**	**4.93**	**165**	IAmb_Lg				20 13 58.7		
	comp=Z,64nm,0.8s									
SGCY	**Sterling City**	**5.01**	**225**	IAmb_Lg				20 13 55.7		
	comp=Z,131nm,0.9s									
MSTX	**Muleshoe**	**5.04**	**254**	P		**Pn**		**20 12 29.4**	**+2.0**	
	baz=71									
MSTX				S		**Sn**		**20 13 26.6**	**+0.9**	
	baz=71									
MSTX	**Muleshoe**	**5.04**	**254**	P		**Pn**		**20 12 29.5**	**+2.0**	
	baz=71,SNR=29									
CCM	**Cathedral Cave**	**5.22**	**60**	IAmb_Lg				20 14 02.1		
	comp=Z,119nm,0.7s									
CCM	**Cathedral Cave**	**5.22**	**60**	P		Pb		20 12 34.8	-8.3	
	baz=242									
143A	**Socs Landing,**	**5.41**	**120**	IAmb_Lg				20 14 18.9		
	comp=Z,98nm,0.9s									
PBMO	**Poplar Bluff**	**5.42**	**75**	IAmb_Lg				20 14 14.8		
	comp=Z,212nm,0.8s									
P40A	**Paris**	**5.57**	**43**	IAmb_Lg				20 14 27.4		
	comp=Z,158nm,0.8s									
JCT	**Junction City**	**5.58**	**206**	IAmb_Lg				20 14 19.0		
	comp=Z,175nm,0.7s									
JCT	**Junction City**	**5.58**	**206**	P		**Pn**		**20 12 36.2**	**+1.3**	
	baz=24									
JCT				S		**Sn**		**20 13 40.8**	**+1.6**	
	baz=24									
KSCO	**Kaye Shedlock'**	**5.70**	**309**	IAmb_Lg				20 14 19.1		
	comp=Z,94nm,0.7s									
FVM	**French Village**	**5.78**	**63**	IAmb_Lg				20 14 21.6		
	comp=Z,138nm,0.8s									
OZNA	**Ozona**	**5.78**	**218**	IAmb_Lg				20 14 24.7		
	comp=Z,64nm,1.0s									
SLM	**Saint Louis**	**6.20**	**58**	IAmb_Lg				20 14 37.9		
	comp=Z,151nm,0.8s									
T25A	**Trinidad**	**6.22**	**287**	P		**Pn**		**20 12 46.1**	**+2.3**	
	baz=104									
T25A				S		**Sn**		**20 13 58.1**	**+3.0**	
	baz=104									
OXF	**Oxford**	**6.28**	**97**	IAmb_Lg				20 14 35.9		
	comp=Z,144nm,0.9s									
HNDO	**Hondo**	**6.31**	**199**	IAmb_Lg				20 14 35.4		
	comp=Z,298nm,1.1s									
Y45A	**Yeager Farm, C**	**6.33**	**103**	IAmb_Lg				20 14 43.4		
	comp=Z,100nm,0.7s									
MNHN	**Monahans**	**6.41**	**231**	IAmb_Lg				20 14 36.1		
	comp=Z,75nm,0.7s									
EF01	**Eagle Ford 01**	**6.51**	**191**	IAmb_Lg				20 14 43.9		
	comp=Z,183nm,0.8s									
S44A	**Carbondale**	**6.55**	**69**	IAmb_Lg				20 14 54.2		
	comp=Z,154nm,0.7s									
OGNE	**Ogallala**	**6.71**	**325**	IAmb_Lg				20 15 00.4		
	comp=Z,142nm,0.8s									
DRIO	**Del Rio**	**6.84**	**208**	IAmb_Lg				20 14 49.3		
	comp=Z,100nm,0.9s									
SAND	**Sanderson**	**7.07**	**219**	IAmb_Lg				20 14 58.1		
	comp=Z,60nm,0.7s									
PECS	**Pecos**	**7.12**	**236**	IAmb_Lg				20 14 58.0		
	comp=Z,38nm,0.7s									
PLAL	**Pickwick Lake**	**7.29**	**92**	IAmb_Lg				20 15 15.6		
	comp=Z,79nm,1.0s									
WVT	**Waverly**	**7.44**	**83**	IAmb_Lg				20 15 21.7		
	comp=Z,61nm,0.8s									
833A	**Chaparral WMA,**	**7.49**	**197**	IAmb_Lg				20 15 17.7		
	comp=Z,110nm,1.1s									
ALPN	**Alpine**	**7.62**	**229**	IAmb_Lg				20 15 24.8		
	comp=Z,56nm,1.0s									
Z47A	**Carrollton**	**7.71**	**105**	IAmb_Lg				20 15 41.5		
	comp=Z,87nm,1.2s									
ANMO	**Albuquerque**	**7.80**	**268**	Pn		**Pn**		**20 13 05.5**	**+0.1**	
	comp=Z,0.4nm,0.3s,baz=63,slow=2.3,SNR=2.7									
ANMO				Pg		Pg		20 13 33.8	-7.2	
	comp=Z,0.5nm,0.3s,baz=178,slow=16,SNR=5.8									
ANMO				Lg		Lg		20 15 15.8		
	comp=Z,4.6nm,0.3s,baz=14,slow=7.4,SNR=8.2									
	comp=Z,0.5nm,0.3s									
USIN	**University of**	**7.84**	**69**	IAmb_Lg				20 15 37.2		
	comp=Z,128nm,0.8s									
L40A	**Anamosa**	**7.90**	**33**	IAmb_Lg				20 15 35.1		
	comp=Z,80nm,0.8s									
MNTX	**Cornudas Mount**	**8.00**	**244**	P		**Pn**		**20 13 09.9**	**+1.9**	
	baz=60,SNR=5.7									
ISCO	**Idaho Springs**	**8.07**	**304**	P		**Pn**		**20 13 12.5**	**+3.3**	
	baz=120,SNR=6.4									
T47A	**Sharon Grove**	**8.09**	**77**	IAmb_Lg				20 15 39.2		
	comp=Z,134nm,0.8s									
O44A	**Mansfield**	**8.14**	**53**	IAmb_Lg				20 15 50.3		
	comp=Z,105nm,0.8s									
ECSD	**EROS Data Cent**	**8.19**	**2**	IAmb_Lg				20 15 55.5		
	comp=Z,72nm,1.2s									
X48A	**Hartselle**	**8.21**	**95**	IAmb_Lg				20 15 38.9		
	comp=Z,57nm,0.9s									
Y22D	**IRIS PASSCAL I**	**8.32**	**263**	IAmb_Lg				20 15 49.8		
	comp=Z,114nm,0.8s									
TXAR	**Lajitas Array**	**8.39**	**224**	Pn		**Pn**		**20 13 13.1**	**-0.4**	
	comp=Z,0.6nm,0.3s,baz=43,slow=14,SNR=32									
TXAR				Pg		**Pb**		**20 13 39.3**	**+2.1**	
	comp=Z,1.2nm,0.3s,baz=52,slow=14,SNR=4.8									
TXAR				Lg		Lg		20 15 34.3		
	comp=Z,2.3nm,0.3s,baz=50,slow=30,SNR=3.1									
	comp=Z,2.1nm,0.5s									
L42A	**Oliver, Polo**	**8.60**	**39**	IAmb_Lg				20 15 52.2		
	comp=Z,83nm,0.8s									
N23A	**Red Feather La**	**8.86**	**310**	IAmb_Lg				20 16 03.4		
	comp=Z,87nm,0.9s									
I37A	**Lemond, Waseca**	**8.89**	**17**	IAmb_Lg				20 16 19.4		
	comp=Z,89nm,0.9s									
JFWS	**Jewell Farm**	**9.01**	**33**	IAmb_Lg				20 16 23.8		
	comp=Z,92nm,0.9s									
SUSD	**Miller**	**9.02**	**351**	IAmb_Lg				20 16 03.8		
	comp=Z,88nm,0.9s									
M44A	**Midewin, Midew**	**9.10**	**47**	IAmb_Lg				20 16 16.4		
	comp=Z,108nm,1.1s									
SFIN	**Lafayette**	**9.16**	**55**	IAmb_Lg				20 16 10.2		
	comp=Z,75nm,0.7s									
HQIL	**Hanson Quary C**	**9.47**	**46**	IAmb_Lg				20 16 27.0		
	comp=Z,104nm,1.1s									
I40A	**Norwalk**	**9.66**	**28**	IAmb_Lg				20 16 25.8		
	comp=Z,53nm,0.8s									
TKL	**Tuckaleechee C**	**10.74**	**86**	Pn		**Pn**		**20 13 44.7**	**-0.8**	
	comp=Z,0.2nm,0.3s,baz=205,slow=3.9,SNR=2.0									
TKL				Lg		Lg		20 16 40.1		
	comp=Z,1.0nm,0.3s,baz=206,slow=15,SNR=3.9									
	comp=Z,4.2nm,1.0s									
PDAR	**Pinedale Array**	**12.15**	**310**	Pn		**Pn**		**20 14 06.2**	**+1.3**	
	comp=Z,0.3nm,0.3s,baz=124,slow=14,SNR=12									
PDAR				Pg				20 14 57.2		
	comp=Z,0.2nm,0.3s,baz=118,slow=12,SNR=1.7									
PDAR				Lg		Lg		20 17 26.7		
	comp=Z,0.2nm,0.3s,baz=96,slow=18,SNR=1.6									
	comp=Z,0.7nm,0.4s									
ULM	**Lac du Bonnet**	**14.72**	**3**	Pn		Pn		20 14 32.2	-7.7	
	comp=Z,2.4nm,1.0s,baz=342,slow=16,SNR=1.8									
ULM				Sn		Sn		20 17 09.8	-13	
	comp=Z,0.3nm,0.3s,baz=286,slow=3.0,SNR=1.3									
ULM				Lg		Lg		20 18 41.3		
	comp=Z,0.2nm,0.3s,baz=169,slow=21,SNR=1.5									
SADO	**Sadowa**	**16.42**	**50**	Pn		**Pn**		**20 14 58.0**	**-4.1**	
	comp=Z,0.2nm,0.3s,baz=228,slow=15,SNR=1.7									
SADO				Sn		Sn		20 17 46.1	-18	
	comp=Z,0.2nm,0.3s,baz=315,slow=5.5,SNR=3.5									
SADO				Lg		Lg		20 19 34.8		
	comp=Z,0.2nm,0.3s,baz=189,slow=22,SNR=1.6									
	comp=Z,1.4nm,0.4s									

BJI ***28*** *20:23:31.1,21.˝91N×94.˝25E,h92km,mb4.9/68,mB5.1/42*
MOS ***28*** *20:23:32.9±0.9,22.˝06N×94.˝46E,h93km,mb5.2/49,Error ellipse: s-maj=8.4km s-min=3.4km az=123.0*
NDI ***28*** *20:23:32.5±3.7,21.˝88N×94.˝30E,h96km±24km,mb5.4, ML4.8,mb5.0(NEIC)*
NEIC ***28*** *20:23:34.5,22.˝06N×94.˝40E,h70km*
NEIC ***28*** *20:23:34.4±1.6,22.˝06N±0.˝07×94.˝40E±0.˝06,h85km±4km, mb5.0/234,Mww5.0/18,Error ellipse: s-maj=10.5km s-min=6.9km az=210.0*
NEIC ***28*** *20:23:34.5,22.˝06N×94.˝40E,h70km,Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10¹⁶Nm; Mrr0.15; Mθθ-2.33; Mϕϕ2.19; Mrθ-1.04; Mrϕ-0.68; Mθϕ-2.20; Fault plane solution: M₀3.37000×10¹⁶ NP1: ϕs216.19000°,δ86.93000°,λ45.13000°. NP2: ϕs123.11000°,δ44.95000°,λ175.66000°. Principal axes: T 3.5929, Plg33.0000°, Azm90.0000°; N -0.4404, Plg45.0000°, Azm219.0000°; P -3.1525, Plg28.0000°, Azm340.0000°;*
GCMT ***28*** *20:23:35.3±0.2,21.˝97N±0.˝01×94.˝41E±0.˝01,h84km±3km, MW5.0/110,Moment Tensor Solution. s42,c47; s110,c173; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.12±.14; Mθθ-3.89±.11; Mϕϕ2.77±.12; Mrθ-0.60±.08; Mθϕ0.22±.13; Mϕr-2.69±.07; Best double couple: M₀4.37700×10¹⁶ NP1:ϕs232.00000°,δ71.00000°, λ33.00000°. NP2:ϕs130.00000°,δ59.00000°,λ157.00000°. Principal axes: T 4.7910, Plg37.0000°, Azm94.0000°; N -0.8290, Plg52.0000°, Azm259.0000°; P -3.9620, Plg7.0000°, Azm359.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***28*** *20:23:35.3±0.8,22.˝08N×94.˝50E,h99km±6km,mb4.5/36, mbtmp4.9/38,MS3.8/54 Error ellipse: s-maj=10.6km s-min=6.6km az=47.0*
ISC 28 20:23:34.1±0.3,22.˝04N±0.˝03×94.˝31E±0.˝03,h89km±1km, h90km:pP-P,n1050,σ1s40/1089,mb5.0/262,48C-59D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
SAIH	**SAIHA**	**1.31**	**290**	*eP*		**Pn**	**20 23 57.5**		**0.0**
SAIH				*eS*		**Sn**	**20 24 13.5**		**-1.7**
SAIH				IAML			20 24 16.1		
	comp=N,38μm,0.4s								
MND	**Mandalay**	**1.67**	**90**			**Pn**	**20 24 01.4**		**-0.6**
MND	**Mandalay**	**1.67**	**90**	P		**Pn**	**20 24 01.7**		**-0.3**
IMP	**Imphal**	**2.80**	**353**	*eP*		**Pn**	**20 24 18.9**		**+1.8**
IMP				IAML			20 25 02.5		
	comp=N,1μm,0.7s								
IMP				IAML			20 25 05.1		
	comp=E,953nm,0.8s								
SILR	**SILCHAR**	**3.06**	**333**	*eP*		**Pn**	**20 24 22.6**		**+2.1**
AGT	**Agartala**	**3.37**	**304**	*eP*		**Pn**	**20 24 25.3**		**+0.7**
AGT				*eS*		**Sn**	**20 25 02.6**		**-0.9**
AGT				IAML			20 25 05.4		
	comp=E,7μm,0.5s								
KOHI	**KOHIMA**	**3.67**	**357**	*eP*		**Pn**	**20 24 30.5**		**+1.6**
KOHI				*eS*		**Sn**	**20 25 10.1**		**-1.1**
KOHI				IAML			20 25 21.8		
	comp=N,2μm,0.7s								
KOHI				IAML			20 25 21.9		
	comp=E,2μm,0.7s								
SHL	**Shillong**	**4.16**	**328**	Pn		**Pn**	**20 24 35.0**		**-0.5**
SHL	**Shillong**	**4.16**	**328**	P		**Pn**	**20 24 35.0**		**-0.5**
SHL	**Shillong**	**4.16**	**328**	*eP*		**Pn**	**20 24 35.3**		**-0.1**
SHL				IAML			20 25 24.0		
	comp=N,3μm,0.5s								
MOKO	**MOKOCHONG**	**4.27**	**2**	*eP*		**Pn**	**20 24 38.5**		**+1.6**
MOKO				⇑*eS*		**Sn**	**20 25 24.1**		**-1.5**
MOKO				IAML			20 25 30.6		
	comp=N,2μm,0.6s								
MOKO				IAML			20 25 31.6		
	comp=E,2μm,0.6s								
JORH	**JORHAT**	**4.69**	**359**	*eP*		**Pn**	**20 24 43.8**		**+1.4**
JORH				*eS*		**Sn**	**20 25 37.5**		**+1.9**
JORH				IAML			20 25 54.6		
	comp=N,2μm,0.8s								
TEZP	**TEZPUR**	**4.77**	**343**	*eP*		**Pn**	**20 24 43.1**		**-0.4**
TEZP				*eS*		**Sn**	**20 25 33.2**		**-4.3**
TNCH	**TengChong**	**4.88**	**52**	P		**Pn**	**20 24 47.5**		**+2.3**
TNCH				S		**Sn**	**20 25 43.3**		**+2.8**
TNCH				smax		smax			
	comp=N,780nm,1.6s								
TNCH				smax		smax			
	comp=N,620nm,1.6s								
ITAN	**ITANAGAR**	**5.12**	**354**	*eP*		**Pn**	**20 24 48.6**		**+0.3**
ITAN				*eS*		**Sn**	**20 25 41.6**		**-4.5**
ITAN				IAML			20 25 53.2		
	comp=E,2μm,0.5s								
ITAN				IAML			20 25 53.5		
	comp=N,2μm,0.3s								
CHTO	**Chiang Mai**	**5.40**	**126**	Pn		**Pn**	**20 24 51.4**		**-0.7**
CHTO	**Chiang Mai**	**5.40**	**126**	P		**Pn**	**20 24 52.1**		**0.0**
CHTO	**Chiang Mai**	**5.40**	**126**	P		**Pn**	**20 24 51.4**		**-0.7**
ZIRO	**ZIRO**	**5.48**	**356**	*eP*		**Pn**	**20 24 53.8**		**+0.4**
ZIRO				*eS*		**Sn**	**20 25 51.2**		**-4.0**
DHUB	**DHUBRI**	**5.60**	**316**	*eS*		**Sn**	**20 25 56.0**		**-1.8**
CM31	**Chiang Mai Arr**	**5.62**	**128**			**Pn**	**20 24 54.8**		**-0.3**
CM31	**Chiang Mai Arr**	**5.62**	**128**	P		**Pn**	**20 24 55.6**		**+0.4**
CMAR	**Chiang Mai Arr**	**5.62**	**128**	Pn		**Pn**	**20 24 54.8**		**-0.4**
CMAR	**Chiang Mai Arr**	**5.62**	**128**	*i* P		**Pn**	**20 24 55.0**		**-0.2**
CMAR				pmax		pmax			
	comp=Z,116nm,0.6s								
CMAR	**Chiang Mai Arr**	**5.62**	**128**	P		**Pn**	**20 24 55.0**		**-0.2**
	comp=Z,112nm,0.7s,baz=303,slow=14,SNR=898								
CMAR				S		**Sn**	**20 25 56.6**		**-1.7**
	comp=Z,90nm,0.7s,baz=314,slow=18,SNR=4.6								
CMAR				LR		LR	20 27 22.7		
	comp=Z,1μm,21.4s,baz=305,slow=41								
CMAR				ScP		**ScP**	**20 35 18.6**		**0.0**
	comp=Z,1.3nm,1.0s,baz=314,slow=3.5,SNR=4.6								
CRAI	**Chiangrai**	**5.94**	**107**	Pn		**Pn**	**20 24 58.9**		**-0.6**
SLGI	**Shiliguri**	**7.10**	**312**	*eP*		**Pn**	**20 25 14.5**		**-0.8**
SLGI				IAML			20 26 32.8		
	comp=N,7μm,0.4s								
SLGI				IAML			20 26 34.5		
	comp=E,11μm,0.4s								
GTK	**Tadong**	**7.39**	**317**	*eP*		**Pn**	**20 25 18.8**		**-0.6**
GTK				*eS*		**Sn**	**20 26 36.0**		**-5.8**
ODAN	**Odare**	**7.93**	**309**	*eP*		**Pn**	**20 25 25.5**		**-1.3**
BOK	**Bokaro**	**7.96**	**284**	IAML			20 26 56.9		
	comp=N,3μm,0.4s								
TAPN	**Taplejung**	**8.00**	**313**	*eP*		**Pn**	**20 25 26.5**		**-1.4**
PZH	**PanZhiHua**	**8.11**	**55**	P		**Pn**	**20 25 33.3**		**+4.2**
PZH				S		**Sn**	**20 27 05.8**		**+6.6**
PZH				ScP		**ScP**	**20 35 20.0**		**-0.8**
PZH				ScS		**ScS**	**20 38 51.3**		**-3.6**
PZH				pmax		pmax			
	comp=N,170nm,1.3s								
PZH				pmax		pmax			
	comp=N,360nm,3.9s								
PZH				LR		LR			
	comp=N,840nm,6.4s								
PZH				LR		LR			
	comp=N,1μm,7.7s								
PZH				LR		LR			
	comp=N,1μm,12.9s								
LSA	**Lhasa**	**8.15**	**340**	Pn		**Pn**	**20 25 30.1**		**+0.1**
LSA	**Lhasa**	**8.15**	**340**	P		**Pn**	**20 25 30.4**		**+0.4**
LSA	**Lhasa**	**8.15**	**340**	P		**Pn**	**20 25 30.1**		**+0.1**
KMI	**Kunming**	**8.32**	**67**	⇑P		**Pn**	**20 25 36.5**		**+4.4**
KMI				S		**Sn**	**20 27 09.5**		**+5.0**
KMI				smax		smax			
	comp=N,86nm,1.5s								
KMI				smax		smax			
	comp=N,79nm,1.6s								
KMI				LR		LR			
	comp=N,2μm,5.8s								
KMI				LR		LR			
	comp=N,1μm,6.9s								
KMI				LR		LR			
	comp=N,1μm,11.9s								
RAMN	**Ramite**	**8.56**	**306**	*eP*		**Pn**	**20 25 34.2**		**-1.2**
	comp=N,401nm,0.3s								
DGPR	**DIGLIPUR**	**8.91**	**189**	IAML			20 27 20.1		
	comp=N,280nm,0.4s								
DGPR				IAML			20 27 22.1		
	comp=E,381nm,0.4s								
SLVN	**Son La**	**8.95**	**93**	Pn		**Pn**	**20 25 41.0**		**+0.4**
NONG	**Nongkai**	**9.19**	**114**	P		**Pn**	**20 25 45.2**		**+1.3**
JIRN	**Jiri**	**9.26**	**309**	*eP*		**Pn**	**20 25 43.6**		**-1.5**
	comp=E,373nm,0.3s								
GUN	**Gumba**	**9.63**	**309**	*eP*		**Pn**	**20 25 48.5**		**-1

comp=E,480nm,9.8s
GULI LR LR
comp=Z,690nm,10.3s
HYB Hyderabad 15.53 256 *e*P **P 20 27 12.6 +2.0**
HYB *e*pP **pP 20 27 28.8 +0.8**
HYB *e*S **S 20 30 13.0 +3.3**
ENH Enshi 15.89 56 **Pn 20 27 11.5 -1.0**
ENH Enshi 15.89 56 P **Pn 20 27 12.3 -0.3**
AKL Akola 16.17 268 *e*P **Pn 20 27 14.3 -1.7**
AKL IAmb IAmb 20 27 20.7
comp=Z,52nm,0.4s
AKL IAML 20 30 06.9
comp=E,134nm,0.6s
LZH Lanzhou 16.28 29 *e*P **Pn 20 27 16.8 -0.7**
LZH pP pP 20 27 35.5 -0.5
LZH sP sP 20 27 50.5 +3.1
LZH S **Sn 20 30 16.5 -1.2**
LZH sS sS 20 30 41.3 -12
LZH ScP **ScP 20 35 32.5 -0.3**
LZH ScS **ScS 20 39 11.5 -0.5**
LZH pmax pmax
comp=E,44nm,1.3s
LZH LR LR
comp=E,630nm,8.2s
LZH LR LR
comp=E,540nm,9.3s
LZH LR LR
comp=E,440nm,10.3s
DDI Dehra Dun 16.75 303 *e*S Sn 20 30 14.4 -15
DDI IAML 20 30 22.6
comp=E,526nm,0.5s
NDI New Delhi 16.80 297 *e*P **P 20 27 25.8 +1.2**
NDI *e*S Sn 20 30 12.7 -18
DLV T Lat 16.85 124 P **Pn 20 27 24.2 -0.5**
LHMI Lhok Sumawe 16.90 171 P **Pn 20 27 24.4 -0.7**
LHMI Lhok Sumawe 16.90 171 P **Pn 20 27 25.6 +0.5**
LHMI Lhok Sumawe 16.90 171 P **P 20 27 26.8 +1.1**
comp=E,100nm,0.7s,comp=E,3µm
KUDL Kundal 17.25 294 *e*P **Pn 20 27 29.3 +0.1**
XAN Xi'an 17.56 44 ⇓P **P 20 27 32.0 -1.0**
XAN S **Sn 20 30 47.0 -1.6**
XAN pmax pmax
comp=E,47nm,0.7s
XAN pmax pmax
comp=E,120nm,3.6s
XAN LR LR
comp=E,730nm,8.0s
XAN LR LR
comp=E,620nm,11.7s
XAN LR LR
comp=E,940nm,13.7s
KULM Kulim 17.74 159 P **P 20 27 34.4 -0.5**
MLSI Meulaboh, Aceh 17.78 173 P **P 20 27 35.8 +0.4**
comp=E,113nm,1.0s
CNSH ChangSha 17.93 66 ⇑P **P 20 27 36.8 -0.2**
CNSH S **Sn 20 30 56.8 -0.6**
CNSH LR LR
comp=E,510nm,5.9s
CNSH LR LR
comp=E,800nm,9.0s
CNSH LR LR
comp=E,680nm,10.2s
GTA Gaotai 17.95 14 P **P 20 27 36.3 -0.9**
GTA pP pP 20 27 53.3 -1.2
GTA S **Sn 20 30 56.0 -1.8**
GTA sS sS 20 31 13.3 -14
GTA PcP **PcP 20 32 10.0 +1.2**
GTA ScP **ScP 20 35 35.5 -0.6**
GTA ScS **ScS 20 39 15.0 -1.7**
GTA LR LR
comp=E,260nm,10.8s
GTA LR LR
comp=E,170nm,11.2s
GTA LR LR
comp=E,280nm,15.5s
AJM Ajmer 18.47 288 *e*P **P 20 27 43.2 +0.2**
AJM IAmb IAmb 20 27 47.1
comp=Z,60nm,0.8s
AJM *e*S S 20 30 51.3 -18
BHK Bhakra 18.50 304 *e*P **Pn 20 27 45.1 +0.7**
BHK IAmb IAmb 20 27 47.6
comp=Z,243nm,0.7s
BHK *e*S S 20 30 56.4 -13
SALM Salem 18.54 239 *e*P **Pn 20 27 46.2 +1.2**
DHRM DHARAMSHALA 18.96 306 IAmb IAmb 20 27 57.5
comp=Z,348nm,0.4s
PSI Prapat 19.64 166 P **P 20 27 55.9 0.0**
PALK Pallekele 19.69 224 P **Pn 20 27 58.1 -0.6**
comp=Z,14nm,0.6s,baz=143,slow=8.4,SNR=7.4
PALK S **S 20 31 24.0 -10**
comp=Z,18nm,0.4s,baz=44,slow=23,SNR=9.7
PALK LR LR 20 36 53.0
comp=Z,308nm,19.3s,baz=148,slow=40
RPSI Rantau Prapat 19.74 166 P **P 20 27 55.9 -1.0**
WHN Wuhan 19.84 61 ⇑P **P 20 27 58.3 +0.5**
WHN sP **sP 20 28 25.8 -0.7**
WHN S **S 20 31 33.8 -2.7**
WHN pmax pmax
comp=Z,40nm,0.6s
WHN LR LR
comp=Z,920nm,6.7s
WHN LR LR
comp=Z,340nm,7.5s
WHN LR LR
comp=Z,720nm,5.5s
LYN LuoYang 20.23 48 ⇑P **P 20 28 02.0 -0.1**
LYN S **S 20 31 39.5 -4.7**
LYN sS sS 20 32 10.8 -2.5
LYN ScP **ScP 20 35 40.3 -0.9**
LYN pmax pmax
comp=Z,42nm,0.7s
LYN pmax pmax
comp=Z,300nm,5.8s
GSI Gunungsitoli 20.85 171 P **P 20 28 07.5 -1.3**
GSI Gunungsitoli 20.85 171 P **P 20 28 07.6 -1.3**
GSI Gunungsitoli 20.85 171 P **P 20 28 08.3 -0.5**
comp=Z,82nm,0.7s
NIL Nilore 21.88 306 P **P 20 28 19.6 -0.1**
NIL Nilore 21.88 306 P **P 20 28 20.4 +0.6**
NIL Nilore 21.88 306 P **P 20 28 19.6 -0.1**
MYKOM Kota Tinggi 22.16 154 P **P 20 28 22.1 -0.7**
PBSI Pulau Batu 22.29 169 P **P 20 28 25.5 +1.3**
comp=Z,108nm,1.2s
WMQ Urumqi 22.41 347 *e*P **P 20 28 25.8 +0.5**
WMQ pP pP 20 28 46.0 +2.8
WMQ sP sP 20 28 51.3 -3.1
WMQ pmax pmax
comp=Z,180nm,1.3s
QZH Quanzhou 22.45 78 ⇑*i*P **P 20 28 25.8 0.0**
QZH SS **SnSn 20 33 12.3 +9.1**
QZH pmax pmax
comp=Z,490nm,3.7s
QZH LR LR
comp=Z,710nm,10.1s
BTO Baotou 22.80 32 *e*P **P 20 28 28.8 -0.6**
BTO pP **pP 20 28 49.5 +2.1**
BTO sP **sP 20 29 01.5 +2.9**
BTO S **S 20 32 30.3 -1.5**
BTO sS **sS 20 33 02.8 -1.6**
BTO SS **SnSn 20 33 19.8 +7.8**
BTO pmax pmax
comp=Z,25nm,0.7s
BTO pmax pmax
comp=Z,300nm,3.9s
BTO LR LR
comp=Z,620nm,19.4s
BTO LR LR
comp=Z,620nm,11.6s
BTO LR LR
comp=Z,1µm,17.9s
TPRI Tanjung Pinang 23.23 153 P **P 20 28 34.2 +0.6**
comp=Z,92nm,1.2s
HNS HongShan 23.34 44 ⇑P **P 20 28 34.5 0.0**
HNS S **S 20 32 39.8 -0.5**
HNS pmax pmax
comp=Z,16nm,0.8s
HNS LR LR
comp=Z,650nm,18.0s
HNS LR LR
comp=Z,340nm,18.6s
KSH Kashi 23.41 322 P **P 20 28 36.0 +0.6**
KSH S **S 20 32 41.5 -0.3**
KSH ScS **ScS 20 39 36.0 +0.2**
KSH pmax pmax
comp=Z,140nm,1.0s
PDSI Padang 23.58 164 P **P 20 28 36.3 -0.6**
comp=Z,46nm,0.5s,comp=Z,886nm
HHC Hu-ho-hao-te 23.76 34 *e*P **P 20 28 38.5 +0.1**
HHC S **S 20 32 44.5 -2.8**
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,180nm,5.4s
HHC LR LR
comp=Z,710nm,12.7s
HHC LR LR
comp=Z,560nm,12.1s
HHC LR LR
comp=Z,590nm,12.0s
NJ2 Nanjing 23.98 60 ⇓P **P 20 28 40.0 -0.3**
NJ2 pP **pP 20 28 58.8 -1.1**
NJ2 sP **sP 20 29 09.0 -1.9**
NJ2 sS **sS 20 33 24.0 -1.7**
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 pmax pmax
comp=Z,150nm,3.8s
NJ2 LR LR
comp=Z,340nm,5.7s
NJ2 LR LR
comp=Z,460nm,7.6s
NJ2 LR LR
comp=Z,470nm,8.5s
TIA Tai'an 24.35 50 ⇓P **P 20 28 42.5 -1.1**
TIA S **S 20 33 01.0 +4.4**
TIA pmax pmax
comp=Z,23nm,1.2s
TIA LR LR
comp=Z,350nm,14.7s
TIA LR LR
comp=Z,410nm,17.2s
SHLS Shalkode 24.43 333 ⇓*i*P **P 20 28 44.8 +0.3**
comp=Z,35nm,1.0s,baz=333
SHLS *e*S **S 20 32 58.2 +0.1**
baz=333
SHLS Shalkode 24.43 333*d i*P **P 20 28 44.7 +0.3**
SHLS *e*S **S 20 32 58.1 +0.1**
SHLS pmax pmax
comp=Z,35nm,1.0s
DSRI Dabo 24.52 155 P **P 20 28 47.4 +2.1**
comp=Z,78nm,1.0s
UZB Uzynbulak 24.60 332 ⇓*i*P **P 20 28 47.8 +1.8**
comp=Z,50nm,0.8s,baz=332
UZB *e*S **S 20 33 03.6 +2.7**
baz=332
UZB Uzynbulak 24.60 332*d i*P **P 20 28 47.8 +1.8**
UZB *e*S **S 20 33 03.6 +2.7**
UZB pmax pmax
comp=Z,50nm,0.8s
SATY Saty 24.80 331 ⇓*i*P **P 20 28 49.9 +2.0**
comp=Z,60nm,0.5s,baz=331
SATY *e*S **S 20 33 06.5 +2.4**
baz=331
SATY Saty 24.80 331*d i*P **P 20 28 49.8 +2.0**
SATY *e*S **S 20 33 06.4 +2.4**
SATY pmax pmax
comp=Z,60nm,0.5s
ZHN Zhinishke 24.88 332 ⇓*i*P **P 20 28 50.5 +1.9**
comp=Z,22nm,0.5s,baz=331
ZHN Zhinishke 24.88 332*d i*P **P 20 28 50.4 +1.9**
ZHN pmax pmax
comp=Z,22nm,0.5s
YULB Yu-li 24.92 82 P **P 20 28 49.5 +0.6**
YULB IAmb IAmb 20 28 52.4
comp=Z,46nm,1.2s
KRJI Kerinci 24.98 163 P **P 20 28 51.3 +1.7**
comp=Z,122nm,0.7s
KPKS Kokpek 25.01 332 ⇓*i*P **P 20 28 51.3 +1.6**
comp=Z,71nm,0.8s,baz=332
KPKS *e*S **S 20 33 10.2 +3.0**
baz=332
KPKS Kokpek 25.01 332*d i*P **P 20 28 51.3 +1.6**
KPKS *e*S **S 20 33 10.2 +3.0**
KPKS pmax pmax
comp=Z,71nm,0.8s
ULHL Ulahol 25.20 327 P **P 20 28 53.8 +2.2**
SNR=16
KBL Kabul 25.42 305 P **P 20 28 54.6 +0.9**
KBL Kabul 25.42 305 P **P 20 28 54.9 +1.2**
SNR=114
KBL Kabul 25.42 305 P **P 20 28 54.6 +0.9**
KBL pmax pmax
comp=Z,162nm,1.0s
TNSS Tian-Shan 25.45 329 ⇓*i*P **P 20 28 55.9 +1.8**
baz=329
TNSS Tian-Shan 25.45 329 ⇓*i*P **P 20 28 55.9 +1.8**
MDOK Medeo 25.50 330 *i* P **P 20 28 56.5 +2.2**
baz=330
MDOK *e*S **S 20 33 18.3 +3.1**
baz=330
MDOK Medeo 25.50 330 *i* P **P 20 28 56.4 +2.2**
MDOK *e*S **S 20 33 18.3 +3.1**
KZA Kyzart 25.59 326 P **P 20 28 57.1 +1.8**
SNR=12
AAA Alma-Ata 25.60 330 *e*P **P 20 28 57.4 +2.3**
comp=Z,73nm,0.6s,baz=329
AAA Alma-Ata 25.60 330 *e*P **P 20 28 57.3 +2.3**
AAA pmax pmax
comp=Z,73nm,0.6s
KSM Kuching 25.69 141 P **P 20 28 55.9 -0.1**
KSM Kuching 25.69 141 P **P 20 28 56.7 +0.7**
BJI Beijing 25.83 41 P **P 20 28 56.8 -0.2**
BJI sP **sP 20 29 23.5 -4.2**
BJI PcP **PcP 20 32 24.5 +0.3**
BJI S **S 20 33 19.0 -1.0**
BJI pmax pmax
comp=Z,15nm,0.6s
TKM2 Tokmak 2 26.02 328 P **P 20 29 00.8 +1.8**
SNR=31
CHKK Chushkaly 26.07 331 *e*P **P 20 29 00.3 +1.1**
baz=330
CHKK Chushkaly 26.07 331 *e*P **P 20 29 00.2 +1.1**
UCH Uchtor 26.08 325 P **P 20 29 01.9 +2.0**
SNR=24
SBUM Sibu 26.11 136 P **P 20 28 59.9 +0.1**
KBK Karagaybulak 26.16 326 P **P 20 29 02.6 +2.4**
SNR=38
TDK Taldyqorghan 26.37 334 *e*P **P 20 29 02.8 +0.8**
comp=Z,32nm,1.2s,baz=334
TDK Taldyqorghan 26.37 334 *e*P **P 20 29 02.7 +0.8**
TDK pmax pmax
comp=Z,32nm,1.2s
AAK Ala-Archa 26.38 326 P **P 20 29 04.2 +2.0**
SNR=55
AAK Ala-Archa 26.38 326 P **P 20 29 04.1 +1.9**
AAK IAmb IAmb 20 29 05.7
comp=Z,78nm,1.0s
AAK Ala-Archa 26.38 326 P **P 20 29 04.2 +2.0**
AAK Ala-Archa 26.38 326*d i*P **P 20 29 04.2 +2.0**
AAK pmax pmax
comp=Z,75nm,1.1s
AAK Ala-Archa 26.38 326 P **P 20 29 04.5 +2.3**
comp=Z,39nm,0.7s,baz=150,slow=5.7,SNR=107
AAK ScP **ScP 20 35 58.1 +0.5**
comp=Z,6.6nm,0.9s,baz=225,slow=3.9,SNR=6.0
AAK LR LR 20 41 41.3
comp=Z,195nm,19.6s,baz=106,slow=41
comp=Z,39nm,0.7s
KUU Kurty 26.39 330 ⇓*i*P **P 20 29 03.1 +1.0**
comp=Z,47nm,0.8s,baz=330
KUU Kurty 26.39 330*d i*P **P 20 29 03.1 +1.0**
KUU pmax pmax
comp=Z,47nm,0.8s
FRU1 Bishkek 26.43 326 IAmb IAmb 20 29 05.9
comp=Z,54nm,0.9s
AML Almayashu 26.46 324 P **P 20 29 05.2 +2.1**
SNR=73
ZSN Zaisan 26.48 346 ⇓*i*P **P 20 29 04.4 +1.5**
comp=Z,34nm,1.2s,baz=345
ZSN Zaisan 26.48 346*d i*P **P 20 29 04.3 +1.5**
ZSN pmax pmax
comp=Z,34nm,1.2s
TGY Tagaytay City 26.48 103 LR LR 20 40 33.8
comp=Z,95nm,18.3s,baz=120,slow=39
CHMS Chumysh 26.51 327 P **P 20 29 04.6 +1.5**
SNR=16
MK31 Makanchi Array 26.55 341 IAmb IAmb 20 29 05.8
comp=Z,35nm,0.9s
MK31 Makanchi Array 26.55 341*d i*P **P 20 29 04.3 +0.8**
MKAR Makanchi Array 26.55 341 *i* P **P 20 29 04.5 +1.0**
MKAR pmax pmax
comp=Z,16nm,0.4s
MKAR Makanchi Array 26.55 341 P **P 20 29 04.5 +1.0**
comp=Z,20nm,0.5s,baz=165,slow=7.5,SNR=265
MKAR PcP **PcP 20 32 26.3 +0.4**
comp=Z,2.5nm,0.5s,baz=188,slow=2.0,SNR=1.7
MKAR ScP **ScP 20 35 57.8 -0.1**
comp=Z,19nm,1.0s,baz=141,slow=4.1,SNR=30
MKAR PKiKP **PKiKP 20 40 03.2 -1.1**
comp=Z,0.4nm,0.7s,baz=244,slow=1.8,SNR=4.8
MKAR LR LR 20 41 19.8
comp=Z,224nm,18.3s,baz=169,slow=40
comp=Z,20nm,0.5s
MAKZ Makanchi 26.66 341 P **P 20 29 05.1 +0.6**
MAKZ IAmb IAmb 20 29 06.6
comp=Z,76nm,1.6s
MAKZ Makanchi 26.66 341 P **P 20 29 05.7 +1.2**
PPBI Pangkal Pinang 26.68 153 P **P 20 29 06.4 +1.5**
comp=Z,45nm,1.1s,comp=Z,3µm
EKS2 Erkin-Say 26.78 325 P **P 20 29 07.8 +2.1**
SNR=56
USP Ospenovka 26.83 327 P **P 20 29 07.6 +1.6**
SNR=31
BTK Batken 26.85 317 IAmb IAmb 20 29 14.2
comp=Z,56nm,0.8s
SGDS Sogindy 26.89 327 ⇓*i*P **P 20 29 08.1 +1.4**
baz=327
SGDS Sogindy 26.89 327*d i*P **P 20 29 08.1 +1.4**
STKI Sintang 27.51 140 P **P 20 29 13.5 +1.1**
comp=Z,16nm,1.3s,comp=Z,66µm
SONM Songino Array 27.51 18 P **P 20 29 11.9 -0.3**
comp=Z,1.4nm,0.4s,baz=199,slow=9.9,SNR=22
SONM PcP **PcP 20 32 28.7 +0.4**
comp=Z,1.8nm,0.3s,baz=200,slow=3.0,SNR=14
SONM ScP **ScP 20 35 59.9 -1.0**
comp=Z,4.5nm,0.9s,baz=202,slow=3.6,SNR=14
SONM PKiKP **PKiKP 20 40 04.2 -0.8**
comp=Z,0.4nm,0.4s,baz=196,slow=2.9,SNR=4.9
SONM LR LR 20 42 48.4
comp=Z,160nm,21.4s,baz=186,slow=42
comp=Z,1.4nm,0.4s
DGZ Jazzator, Alta 28.14 351*d i*P **P 20 29 19.0 +1.2**
DGZ pmax pmax
comp=Z,17nm,0.8s
DZA Taraz 28.27 323 *e*P **P 20 29 20.1 +1.2**
baz=322
DZA Taraz 28.27 323 *e*P **P 20 29 20.1 +1.2**
XLT XiLinHaoTe 28.28 34 *e*P **P 20 29 18.8 -0.3**
XLT pP pP 20 29 40.0 +0.5
XLT sP sP 20 29 51.0 +1.1
XLT PP **PnPn 20 30 13.0 +0.6**
XLT S **S 20 33 56.0 -2.9**
XLT ScP **SS 20 36 01.0 -0.7**
XLT ScS **ScS 20 39 50.5 -5.7**
XLT pmax pmax
comp=Z,7.0nm,0.8s
XLT pmax pmax
comp=Z,170nm,7.2s
BTLS Baital 28.34 329 ⇓*i*P **P 20 29 20.6 +1.1**
baz=329
BTLS Baital 28.34 329*d i*P **P 20 29 20.5 +1.1**
CHM Chimkent 28.92 320 *e*P **P 20 29 26.2 +1.5**
baz=320
CHM Chimkent 28.92 320 *e*P **P 20 29 26.1 +1.5**
ZAK Zakamensk 29.16 12 *e*P **P 20 29 26.9 +0.1**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
SEM Semipalatinsk 30.40 342 *e*P **P 20 29 38.0 +0.1**
baz=342
SEM Semipalatinsk 30.40 342 *e*P **P 20 29 37.9 +0.1**
MTKI Muara Teweh, K 30.41 136 P **P 20 29 46.9 +8.8**
NGCH Negor - Chabah 30.52 283 P **P 20 29 40.3 +1.4**
HRA Herat 30.69 301 P **P 20 29 41.4 +0.7**
KURBB Kurchatov Arra 31.10 340 P **P 20 29 44.6 +0.8**
comp=Z,16nm,0.3s,baz=153,slow=8.4,SNR=157
KURBB PcP **PcP 20 32 37.5 +0.4**
comp=Z,5.1nm,0.6s,baz=165,slow=2.6,SNR=11
KURBB S **S 20 34 42.4 -0.3**
comp=Z,1.0nm,0.4s,baz=149,slow=17,SNR=5.6
KURBB ScP **ScP 20 36 12.7 +0.7**
comp=Z,24nm,0.8s,baz=156,slow=2.7,SNR=49
comp=Z,16nm,0.3s
KURK Kurchatov 31.15 341 P **P 20 29 44.6 +0.4**
KURK IAmb IAmb 20 29 46.1
comp=Z,34nm,0.6s
KURK Kurchatov 31.15 341*d i*P **P 20 29 45.0 +0.7**
KURK pmax pmax
comp=Z,40nm,0.8s
KURK Kurchatov 31.15 341 P **P 20 29 44.9 +0.7**
KURK pP **pP 20 30 06.2 +1.4**
KURK ScP **ScP 20 36 12.0 -0.3**
JOW Kunigami 31.23 74 LR LR 20 42 12.6
comp=Z,200nm,21.1s,baz=26,slow=36
LEM Lembang 31.51 154 LR LR 20 42 58.3
comp=Z,218nm,19.2s,baz=350,slow=37
JLN Jalan Bani Buh 32.30 277 P **P 20 29 57.2 +2.5**
BBKI Banjar Baru 32.33 139 P **P 20 29 56.6 +1.6**
comp=Z,32nm,1.0s,comp=Z,3µm
KPJI Karang Pucung 32.52 152 P **P 20 29 57.2 +0.7**
comp=Z,156nm,0.5s
WBK Wadi Bani Khal 32.65 278 P **P 20 30 00.5 +2.7**
ZALV Zalesovo Beam 32.67 350 P **P 20 29 58.3 +0.8**
comp=Z,97nm,0.3s,baz=168,slow=8.5,SNR=644
ZALV PcP **PcP 20 32 41.1 -0.2**
comp=Z,2.6nm,0.3s,baz=165,slow=4.3,SNR=3.1
ZALV S **S 20 35 08.2 +1.2**
comp=Z,12nm,0.9s,baz=170,slow=12,SNR=12
ZALV ScP **ScP 20 36 15.7 -1.6**
comp=Z,2.2nm,0.3s,baz=173,slow=4.0,SNR=9.3
ZALV PKiKP **PKiKP 20 40 09.8 +1.8**
comp=Z,2.6nm,0.9s,baz=160,slow=4.6,SNR=6.4
ZALV LR LR 20 45 04.7
comp=Z,192nm,21.0s,baz=164,slow=40
BRZS Berezniki 32.69 334 ⇓*i*P **P 20 29 59.1 +1.4**
baz=334
BRZS Berezniki 32.69 334*d i*P **P 20 29 59.1 +1.4**
KSRS Korea Array 32.77 54 P **P 20 29 56.0 -2.6**
comp=Z,1.5nm,0.7s,baz=257,slow=9.9,SNR=6.9
KSRS ScP **ScP 20 36 15.4 -2.6**
comp=Z,3.8nm,1.0s,baz=242,slow=3.3,SNR=7.8
KSRS LR LR 20 44 31.3
comp=Z,106nm,19.3s,baz=265,slow=39
comp=Z,1.5nm,0.7s
WSAR Wadi Sarin 32.91 279 P **P 20 30 02.3 +2.3**
WSAR Wadi Sarin 32.91 279 P **P 20 30 02.4 +2.3**
comp=Z,7.1nm,0.7s,baz=135,slow=10.0,SNR=4.4
WSAR LR LR 20 45 47.3
comp=Z,229nm,18.6s,baz=88,slow=40
comp=Z,7.1nm,0.7s
SMRI Semarang 32.95 150 P **P 20 30 03.7 +3.4**
comp=Z,150nm,0.8s
TOLI2 Tolitoli 33.11 125 IAmb IAmb 20 30 03.3
comp=Z,28nm,1.2s
TOLI2 Tolitoli 33.11 125 P **P 20 30 02.9 +1.1**
BIDO Bidbid 33.34 280 P **P 20 30 05.6 +1.8**
SMDO Samad 33.45 279 P **P 20 30 06.4 +1.5**
JMDO Jabal Madar 33.48 278 P **P 20 30 06.4 +1.4**
DAV Davao City (W) 33.62 112 LR LR 20 44 25.5
comp=Z,103nm,19.8s,baz=308,slow=37
CN2 Changchun 33.66 42 *e*P **P 20 30 04.5 -1.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
MHTO MHTO 33.78 275 P **P 20 30 07.9 +0.4**
JNU Nakatsue 34.08 63 LR LR 20 44 03.0
comp=Z,189nm,20.2s,baz=264,slow=36
HOQ Hoqain 34.09 280 P **P 20 30 11.8 +1.5**
BSY Bisya 34.27 278 P **P 20 30 14.2 +2.3**
DQM DQM 34.35 273 P **P 20 30 14.5 +2.0**
MRSI Marisa 34.40 125 P **P 20 30 14.9 +1.9**
comp=Z,37nm,0.8s
KMMI Kalianget 34.74 144 P **P 20 30 18.0 +2.2**
comp=Z,124nm,0.6s
SOHO SOHO 34.75 281 P **P 20 30 16.7 +0.7**
SOHO SOHO 34.75 281 P **P 20 30 17.1 +1.2**
ARQ Araqi 34.83 280 P **P 20 30 18.7 +2.0**
GEYT Alibeck 34.87 305 P **P 20 30 19.0 +2.1**
comp=Z,33nm,1.1s,baz=121,slow=7.6,SNR=56
GEYT PcP **PcP 20 32 49.0 +0.9**
comp=Z,4.4nm,0.6s,baz=147,slow=2.9,SNR=4.4
GEYT ScP **ScP 20 36 25.4 -0.1**
comp=Z,36nm,0.8s,baz=163,slow=2.5,SNR=50
GEYT LR LR 20 48 02.6
comp=Z,164nm,18.2s,baz=127,slow=42
comp=Z,33nm,1.1s
UOSS Minazif 35.00 282 P **P 20 30 19.3 +1.2**
UOSS IAmb IAmb 20 30 24.2
comp=Z,17nm,1.2s

UOSS **Minazif** 35.00 282 P **P** **20 30 19.5 +1.4**
UOSS **Minazif** 35.00 282 P **P** **20 30 19.7 +1.6**
SHME **Shamm** 35.01 284 P **P** **20 30 20.1 +2.0**
SHME **Shamm** 35.01 284 P **P** **20 30 20.1 +2.0**
MASF **Masafi** 35.02 283 P **P** **20 30 20.8 +2.5**
MSFE **Esma-Masafi** 35.02 283 P **P** **20 30 20.6 +2.3**
HATD **Hatta, Dubai** 35.07 282 P **P** **20 30 20.8 +2.1**
HATD **Hatta, Dubai** 35.07 282 P **P** **20 30 20.8 +2.1**
ASHO **Ashiyiah** 35.15 282 P **P** **20 30 21.7 +2.3**
ASHO **Ashiyiah** 35.15 282 P **P** **20 30 21.7 +2.3**
TTSI **Tana Toraja** 35.26 132 P **P** **20 30 22.6 +2.2**
comp=Z,11nm,0.9s
ALNE **Al Ain** 35.47 281 P **P** **20 30 23.4 +1.2**
FAQ **Al Faqa, Dubai** 35.56 282 P **P** **20 30 21.6 -1.3**
BNX **BinXian** 35.84 41 ⇓P **P** **20 30 23.8 -1.2**
BNX pmax pmax
comp=Z,15nm,0.6s
BNX pmax pmax
comp=Z,220nm,5.1s
BVAR **Borovoye Array** 35.95 335 P **P** **20 30 26.4 +0.6**
comp=Z,8.6nm,0.3s,baz=133,slow=9.2,SNR=90
BVAR PcP **PcP** **20 32 51.0 +0.1**
comp=Z,2.9nm,0.5s,baz=164,slow=4.3,SNR=3.0
BVAR S **S** **20 35 58.8 +1.2**
comp=Z,4.6nm,1.0s,baz=143,slow=13,SNR=4.6
BVAR ScP **ScP** **20 36 28.6 -0.4**
comp=Z,2.6nm,0.7s,baz=149,slow=3.5,SNR=4.9
BVAR LR LR 20 47 41.9
comp=Z,255nm,20.9s,baz=138,slow=40
comp=Z,8.6nm,0.3s
BRVK **Borovoye** 36.01 335 P **P** **20 30 26.6 +0.2**
BRVK IAmb IAmb 20 30 28.2
comp=Z,60nm,1.6s
BRVK **Borovoye** 36.01 335 P **P** **20 30 26.9 +0.6**
BRVK **Borovoye** 36.01 335 *de*P **P** **20 30 26.8 +0.4**
BRVK pmax pmax
comp=Z,40nm,1.7s
BRVK **Borovoye** 36.01 335 P **P** **20 30 27.0 +0.6**
BRVK pP **pP** **20 30 48.6 +1.4**
BRVK sP **sP** **20 30 59.4 +1.8**
KAPI **Kappang** 36.65 134 LR LR 20 48 11.0
comp=Z,51nm,19.6s,baz=304,slow=40
MDJ **Mudanjiang** 36.67 44 P **P** **20 30 33.0 +0.8**
MDJ pP pP 20 30 52.3 -0.7
MDJ sP sP 20 31 02.5 -0.9
MDJ PP **PP** **20 31 56.0 -1.3**
MDJ PcP **PcP** **20 32 50.8 -2.4**
MDJ S **S** **20 36 14.8 +5.9**
MDJ ScP **ScP** **20 36 29.5 -2.4**
MDJ PcS **PcS** **20 36 39.8 -1.3**
MDJ sS sS 20 36 48.3 +3.3
MDJ ScS **ScS** **20 40 39.8 +1.0**
MDJ pmax pmax
comp=Z,7.0nm,1.4s
MDJ pmax pmax
comp=Z,350nm,4.1s
DMTO **DMTO** 37.20 271 P **P** **20 30 39.2 +2.2**
RBK **Rabkut** 37.94 270 P **P** **20 30 45.5 +2.3**
SNR=5.6
JRN **Qarnain Island** 38.04 283 P **P** **20 30 44.1 +0.2**
USRK **Ussuriysk Ar.** 38.06 45 P **P** **20 30 42.5 -1.4**
comp=Z,4.1nm,0.7s,baz=257,slow=6.9,SNR=8.3
USRK ScP **ScP** **20 36 34.1 -3.1**
comp=Z,2.4nm,0.7s,baz=256,slow=5.3,SNR=5.8
USRK LR LR 20 48 51.4
comp=Z,173nm,19.3s,baz=242,slow=40
comp=Z,4.1nm,0.7s
WHFO **Wadi Hawf** 38.24 271 P **P** **20 30 46.7 +0.9**
SNR=16
HEH **HeiHe** 38.28 34 *e*P **P** **20 30 44.8 -0.8**
HEH pmax pmax
comp=Z,17nm,0.7s
HEH pmax pmax
comp=Z,150nm,5.7s
ABKAR **Akbulak array** 38.41 323 P **P** **20 30 48.0 +1.3**
ABTO **Aybut** 38.81 271 P **P** **20 30 52.4 +1.8**
TRNA **Turayna** 39.53 283 P **P** **20 30 57.1 +0.6**
SNR=8.3
SHMA **Al-Shehemyia** 39.67 284 P **P** **20 30 58.5 +0.9**
SMRA **Abu-Samra** 39.89 283 P **P** **20 31 00.6 +1.2**
SAKB **Bahrain** 40.05 285 P **P** **20 31 01.8 +1.2**
AKTO **Aktyubinsk** 40.09 324 LR LR 20 50 48.3
comp=Z,242nm,21.9s,baz=134,slow=41
KLR **Kul'dur** 40.13 38 ⇓*e*P **P** **20 30 59.8 -1.2**
KLR pmax pmax
comp=Z,16nm,2.5s
KLR **Kul'dur** 40.13 38 LR LR 20 49 01.2
comp=Z,78nm,21.4s,baz=232,slow=38
MAJO **Matsushiro** 40.57 59 P **P** **20 31 03.5 -1.4**
MAJO IAmb IAmb 20 31 04.3
comp=Z,15nm,0.7s
MAJO **Matsushiro** 40.57 59 P **P** **20 31 03.5 -1.4**
MAJO pmax pmax
comp=Z,15nm,0.7s
MAJO **Matsushiro** 40.57 59 P **P** **20 31 03.9 -1.0**
MAJO sP **sP** **20 31 37.2 +0.9**
MAJO ScP **ScP** **20 36 44.7 -2.3**
MJAR **Matsushiro Arr** 40.57 59 P **P** **20 31 04.0 -0.9**
comp=Z,4.3nm,0.6s,baz=272,slow=10,SNR=12
MJAR PcP **PcP** **20 33 05.1 -0.5**
comp=Z,0.9nm,0.4s,baz=216,slow=2.7,SNR=5.2
MJAR ScP **ScP** **20 36 44.5 -2.6**
comp=Z,4.7nm,0.9s,baz=260,slow=3.0,SNR=7.6
MJAR LR LR 20 50 21.1
comp=Z,201nm,18.1s,baz=263,slow=40
comp=Z,4.3nm,0.6s
LKRN **Lenkeran, Azer** 42.20 304 P **P** **20 31 18.7 +0.5**
SVE **Sverdlovsk** 42.60 333 *ce*P **P** **20 31 22.6 +1.4**
SVE *e*S **S** **20 37 37.8 +0.6**
SVE pmax pmax
comp=Z,111nm,1.2s
SWI **Sorong** 42.62 117 P **P** **20 31 22.2 +0.4**
comp=Z,24nm,1.0s
SOEI **Soe** 43.15 134 P **P** **20 31 24.0 -2.2**
SOEI **Soe** 43.15 134 P **P** **20 31 27.2 +1.0**
SOEI **Soe** 43.15 134 P P 20 31 32.1 +5.9
ARU **Arti** 43.24 332 P **P** **20 31 26.7 +0.4**
ARU **Arti** 43.24 332 *d* iP **P** **20 31 26.9 +0.6**
ARU *PP **pP** **20 31 48.1 +0.5**
ARU 20 33 07.7
ARU PPP PPP 20 33 44.8
ARU S **S** **20 37 50.2 +3.6**
ARU pmax pmax
comp=Z,102nm,1.6s
ARU **Arti** 43.24 332 LR LR 20 52 51.0
comp=Z,98nm,19.3s,baz=135,slow=41
ARU **Arti** 43.24 332 P **P** **20 31 27.0 +0.6**
ARU pP **pP** **20 31 48.8 +1.1**
ARU PcP **PcP** **20 33 13.8 -0.1**
ARU ScP **ScP** **20 36 56.6 -0.6**
JCJ **Chichijima** 43.63 73 LR LR 20 49 49.1
comp=Z,60nm,21.1s,baz=280,slow=36
SEKA **Sheki** 43.84 307 P **P** **20 31 31.4 -0.1**
MNGR **Mingechevir, A** 43.85 306 P **P** **20 31 32.0 +0.6**
GANJ **Ganja** 44.40 306 P **P** **20 31 36.3 +0.4**
NAX **Nakhchivan** 44.80 304 P **P** **20 31 39.6 +0.4**
GNI **Garni** 45.51 305 P **P** **20 31 45.9 +1.0**
GNI IAmb IAmb 20 31 48.5
comp=Z,32nm,1.1s
GNI **Garni** 45.51 305 P **P** **20 31 46.5 +1.7**
GNI **Garni** 45.51 305 P **P** **20 31 45.1 +0.2**
GNI **Garni** 45.51 305 *de*P **P** **20 31 47.0 +2.1**
GNI pmax pmax
comp=Z,45nm,1.7s
GNI **Garni** 45.51 305 P **P** **20 31 47.0 +2.1**
comp=Z,14nm,1.0s,baz=271,slow=0.2,SNR=8.9
GNI LR LR 20 55 28.3
comp=Z,72nm,19.4s,baz=95,slow=42
comp=Z,14nm,1.0s
GNI **Garni** 45.51 305 P **P** **20 31 47.4 +2.5**
GNI PP **PP** **20 33 34.7 +1.7**
YSS **Yuzh-Sakhalins** 46.10 45 *e*P **P** **20 31 48.5 -0.7**
YSS pmax pmax
comp=Z,30nm,1.2s
ZEI **Tsey** 46.55 309 *e*P **P** **20 31 52.3 -0.8**
ZEI pmax pmax
comp=Z,164nm,1.3s
AKDM **Akdamar-Van** 46.66 302 *e*P **P** **20 31 57.0 +3.0**
YAK **Yakutsk** 46.71 22 P **P** **20 31 52.1 -1.6**
YAK IAmb IAmb 20 32 04.3
comp=Z,14nm,0.6s
YAK **Yakutsk** 46.71 22 P **P** **20 31 52.2 -1.5**
YAK **Yakutsk** 46.71 22 LR LR 20 54 46.0
comp=Z,6.7nm,18.6s,baz=262,slow=40

AGRB **Hanur-Agry** 46.78 304 *e*P **P** **20 31 57.5 +2.6**
BELG **Belogornoye** 46.78 322 *d* iP **P** **20 31 54.6 +0.2**
BELG pmax pmax
comp=Z,12nm,0.9s
BELG **Belogornoye** 46.78 322 LR LR 20 54 38.4
comp=Z,108nm,19.9s,baz=212,slow=40
KARS **Kars** 46.83 306 P **P** **20 31 56.8 +1.6**
KARS **Kars** 46.83 306 P **P** **20 31 56.8 +1.6**
KARS pmax pmax
comp=Z,225nm,0.8s
ONI **Oni** 46.84 308 IAmb IAmb 20 32 02.3
comp=Z,29nm,0.7s
SENK **Senkaya-Erzuru** 47.38 305 *e*P **P** **20 32 02.1 +2.6**
GURO **Guroymak-BITLI** 47.42 303 P **P** **20 32 01.7 +1.9**
GURO IAmb IAmb 20 32 03.4
comp=Z,36nm,0.9s
KBZ **Khabaz** 47.44 310 *ce*P **P** **20 32 01.3 +1.7**
KBZ pmax pmax
comp=Z,21nm,0.9s
KBZ **Khabaz** 47.44 310 P **P** **20 32 01.4 +1.8**
comp=Z,13nm,0.8s,baz=140,slow=8.1,SNR=30
KBZ ScP **ScP** **20 37 14.7 -0.1**
comp=Z,4.8nm,0.9s,baz=159,slow=4.1,SNR=5.5
KBZ LR LR 20 55 48.6
comp=Z,79nm,20.9s,baz=95,slow=41
comp=Z,13nm,0.8s
NRIK **Noril'sk** 47.49 357 P **P** **20 31 59.9 +0.2**
NRIK IAmb IAmb 20 32 01.3
comp=Z,31nm,0.9s
NRIK **Noril'sk** 47.49 357 *de*P **P** **20 32 00.2 +0.5**
NRIK pmax pmax
comp=Z,33nm,0.9s
NRIK **Noril'sk** 47.49 357 P **P** **20 32 00.3 +0.7**
comp=Z,18nm,0.4s,baz=152,slow=5.6,SNR=32
NRIK ScP **ScP** **20 37 13.9 -0.7**
comp=Z,12nm,1.0s,baz=170,slow=4.4,SNR=7.2
NRIK LR LR 20 55 11.9
comp=Z,85nm,18.4s,baz=173,slow=40
comp=Z,18nm,0.4s
GOF **Gofitskoye** 47.58 311 *ce*P **P** **20 32 02.2 +1.4**
KIV **Kislovodsk** 47.62 310 P **P** **20 32 02.2 +1.0**
KIV **Kislovodsk** 47.62 310 P **P** **20 32 02.6 +1.4**
KIV **Kislovodsk** 47.62 310 *e*P **P** **20 32 02.8 +1.5**
KIV *e*S **S** **20 38 53.0 +2.7**
KIV pmax pmax
comp=Z,104nm,1.1s
KIV MLR MLR
comp=Z,59nm,16.0s
KIV **Kislovodsk** 47.62 310 P **P** **20 32 02.8 +1.5**
VRTB **Varto-Mus** 47.92 303 *e*P **P** **20 32 06.0 +2.3**
BCA **Borcka** 48.03 306 ⇑P **P** **20 32 06.8 +2.4**
KIRV **Kirov** 48.55 330 *de*P **P** **20 32 08.5 +0.6**
KIRV **Kirov** 48.55 330 LR LR 20 56 52.8
comp=Z,61nm,20.8s,baz=122,slow=41
MAZI **Mazidag** 48.60 301 *e*P **P** **20 32 10.8 +1.9**
PTK **Pertek** 49.51 303 *e*P **P** **20 32 18.3 +2.4**
MBWA **Marble Bar** 49.58 148 P **P** **20 32 16.1 -0.2**
MBWA **Marble Bar** 49.58 148 P **P** **20 32 17.7 +1.4**
MBWA **Marble Bar** 49.58 148 P **P** **20 32 16.4 0.0**
MBWA pP **pP** **20 32 39.3 +1.1**
MBWA PcP **PcP** **20 33 36.2 -0.6**
SOC **Sochi** 49.70 309 *e*P **P** **20 32 15.9 -1.1**
SOC *e*PP **pP** **20 32 37.7 -1.3**
SOC *e*SP **sP** **20 32 47.8 -1.4**
SOC *e* 20 34 07.9
SOC *e*PPP PPP 20 35 08.4
SOC *e*S **S** **20 39 18.5 -0.6**
SOC *e*SS **SS** **20 42 54.2 +1.8**
SOC *e*SSS SSS 20 44 26.8
SOC pmax pmax
comp=Z,61nm,0.7s
VRH **Novokhopyorsk** 49.87 319 *e*P **P** **20 32 18.7 +0.5**
VRH pmax pmax
comp=Z,105nm,0.7s
URFA **Urfa** 49.90 301 *e*P **P** **20 32 20.7 +2.0**
PSA00 **Pilbara Seismi** 49.99 148 P **P** **20 32 19.0 -0.4**
PSA00 **Pilbara Seismi** 49.99 148 IAmb IAmb 20 32 21.0
comp=Z,56nm,1.2s
PSA00 **Pilbara Seismi** 49.99 148 P **P** **20 32 19.6 +0.2**
KNRA **Kununurra** 50.44 135 P **P** **20 32 22.8 -0.1**
KDU **Kakadu** 50.91 129 P **P** **20 32 25.2 -1.2**
GENI **Genyem** 51.04 113 P **P** **20 32 28.2 +0.7**
GENI **Genyem** 51.04 113 P **P** **20 32 28.5 +1.0**
comp=Z,101nm,1.0s
RSDY **Resadiye-TOKAT** 51.18 305 *e*P **P** **20 32 30.0 +1.7**
VORD **Divnogorie** 51.29 318 *e*P **P** **20 32 28.5 -0.4**
VORD *e*S **S** **20 39 39.0 -2.0**
VORD pmax pmax
comp=Z,40nm,0.8s
VORD smax smax
comp=E,80nm,0.9s
VSR **Storozhevoye** 51.43 319 *e*P **P** **20 32 28.5 -1.4**
VSR *e*S **S** **20 39 39.0 -3.9**
VSR pmax pmax
comp=Z,20nm,0.5s
VSR smax smax
comp=N,60nm,1.0s
ANN **Anapa** 51.47 310 *e*P **P** **20 32 32.2 +1.9**
ANN pmax pmax
comp=Z,49nm,1.3s
VORR **Voronezh** 51.51 319 *e*P **P** **20 32 30.7 +0.2**
VORR pmax pmax
comp=Z,131nm,0.7s
PRGR **Permogore** 51.67 333 ⇓*i*P **P** **20 32 31.6 +0.1**
PRGR *e* 20 32 55.0
PRGR *e*S **S** **20 39 44.4 -1.4**
PRGR pmax pmax
comp=Z,73nm,0.6s
TOKT **Tokat** 51.77 305 *e*P **P** **20 32 34.7 +1.9**
SARI **SarD1z-Kayseri** 51.82 302 *e*P **P** **20 32 35.2 +1.9**
LPSR **Galich'ya Gora** 51.90 320 *e*P **P** **20 32 33.0 -0.4**
LPSR *e*S **S** **20 39 43.3 -6.0**
LPSR pmax pmax
comp=Z,100nm,0.6s
LPSR smax smax
comp=E,30nm,1.2s
KVT **Kavak** 52.19 306 *e*P **P** **20 32 37.9 +2.1**
MMAI **Mount Meron Ar** 52.78 295 P **P** **20 32 42.7 +2.4**
comp=E,10nm,0.8s,baz=81,slow=10,SNR=20
MMAI ScP **ScP** **20 37 39.1 +0.9**
comp=E,11nm,1.1s,baz=106,slow=3.0,SNR=8.6
MMAI LR LR 20 59 17.6
comp=E,104nm,21.6s,baz=59,slow=40
comp=E,10nm,0.8s
DIKM **Dikmen** 52.81 306 ⇑P **P** **20 32 42.3 +2.0**
CMRD **Camardi-Nigde** 52.94 301 *e*P **P** **20 32 43.7 +2.2**
TIXI **Tiksi** 53.43 13 P **P** **20 32 42.2 -2.2**
TIXI IAmb IAmb 20 32 45.7
comp=Z,15nm,0.5s
TIXI **Tiksi** 53.43 13 ⇑*e*P **P** **20 32 42.6 -1.7**
TIXI pmax pmax
comp=Z,24nm,1.3s
TIXI **Tiksi** 53.43 13 P **P** **20 32 43.2 -1.2**
TIXI pP **pP** **20 33 05.2 -1.2**
TIXI sP **sP** **20 33 15.2 -1.3**
TIXI ScP **ScP** **20 37 37.3 -2.8**
MOS **Moscow** 53.43 324 *e*P **P** **20 32 44.1 -0.5**
MOS *e*S **S** **20 40 06.1 -3.9**
MOS pmax pmax
comp=Z,62nm,0.8s
MOS MLR MLR
comp=Z,400nm,19.0s
EIL **Elat** 53.47 291 P **P** **20 32 46.9 +1.5**
comp=Z,23nm,0.8s,baz=30,slow=2.6,SNR=28
EIL ScP **ScP** **20 37 42.4 +1.3**
comp=Z,4.4nm,0.8s,baz=20,slow=3.5,SNR=4.3
EIL LR LR 20 58 07.7
comp=Z,101nm,19.5s,baz=69,slow=39
comp=Z,23nm,0.8s
MEEK **Meekatharra** 53.80 153 P **P** **20 32 48.1 +0.4**
SIM **Simferopol'** 53.84 310 *e*P **P** **20 32 48.2 +0.4**
SIM *e*S **S** **20 40 16.3 +0.4**
SIM pmax pmax
comp=Z,52nm,1.2s
OBN **Obninsk** 53.86 323 ⇓P **P** **20 32 48.4 +0.7**
OBN **Obninsk** 53.86 323 P **P** **20 32 48.0 +0.3**
OBN **Obninsk** 53.86 323 *de*P **P** **20 32 48.0 +0.3**
OBN *e* 20 34 52.1
OBN *i* S **S** **20 40 13.7 -2.1**
OBN pmax pmax
comp=Z,92nm,1.7s
OBN MLR MLR
comp=Z,127nm,22.0s
OBN **Obninsk** 53.86 323 P **P** **20 32 48.4 +0.7**

OBN pP **pP** **20 33 10.8 +1.0**
BR131 **Keskin Array S** 53.99 304 IAmb IAmb 20 32 51.1
comp=Z,19nm,1.1s
BR131 **Keskin Array S** 53.99 304 *de*P **P** **20 32 49.9 +0.7**
BRTR **Keskin Array B** 53.99 304 P **P** **20 32 50.4 +1.2**
comp=Z,9.8nm,0.9s,baz=100,slow=6.4,SNR=46
BRTR PcP **PcP** **20 33 53.5 +0.1**
comp=Z,1.3nm,0.6s,baz=111,slow=3.3,SNR=1.1
BRTR ScP **ScP** **20 37 42.8 -0.6**
comp=Z,8.8nm,1.0s,baz=122,slow=4.5,SNR=21
BRTR S **S** **20 40 20.9 +2.5**
comp=Z,0.5nm,0.5s,baz=91,slow=12,SNR=5.1
BRTR LR LR 21 00 36.1
comp=Z,78nm,21.1s,baz=100,slow=41
comp=Z,9.8nm,0.9s
KLMR **Klimovskoe** 54.05 330 ⇓*i*P **P** **20 32 49.5 +0.5**
KLMR ⇓*i*P **P** **20 32 49.5 +0.5**
KLMR *e*P **P** **20 32 49.5 +0.5**
KLMR AMP 20 32 50.3
comp=Z,60nm,1.3s
KLMR *e*pP **pP** **20 33 07.8 -3.3**
KLMR *e*S **S** **20 40 15.6 -2.6**
KLMR *e*S **S** **20 40 15.6 -2.6**
KLMR **Klimovskoe** 54.05 330 *d* iP **P** **20 32 49.5 +0.5**
KLMR *e**PP **pP** **20 33 07.8 -3.3**
KLMR *e*S **S** **20 40 15.6 -2.6**
KLMR pmax pmax
comp=Z,60nm,1.3s
CSS **Mathiatis** 54.38 298 IAmb IAmb 20 32 58.4
comp=Z,21nm,0.7s
MA2 **Magadan** 54.41 31 LR LR 20 59 03.7
comp=Z,114nm,19.5s,baz=116,slow=39
MA2 **Magadan** 54.41 31 P **P** **20 32 50.4 -1.3**
MA2 ScP **ScP** **20 37 41.8 -2.9**
AFSR **Afar-Bala (An** 54.43 303 *e*P **P** **20 32 53.1 +0.8**
ANTO **Ankara** 54.64 304 ⇑P **P** **20 32 54.9 +1.1**
ANTO **Ankara** 54.64 304 P **P** **20 32 55.0 +1.1**
ANTO **Ankara** 54.64 304 P **P** **20 32 55.0 +1.1**
ANTO pmax pmax
comp=Z,35nm,0.8s
ANTO **Ankara** 54.64 304 P **P** **20 32 55.1 +1.3**
MORW **Morawa** 54.95 157 P **P** **20 32 56.0 0.0**
KIZT **Kizilcal** 55.37 303 *e*P **P** **20 32 59.9 +0.8**
SEYD **Seydisehir-KON** 55.45 301 *e*P **P** **20 33 01.6 +1.8**
MDUB **Mudurnu** 55.86 305 *e*P **P** **20 33 04.3 +1.7**
SEY **Seymchan** 56.21 28 ⇓*e*P **P** **20 33 03.2 -1.3**
SEY pmax pmax
comp=Z,31nm,2.0s
SEY **Seymchan** 56.21 28 LR LR 20 59 20.5
comp=Z,94nm,20.2s,baz=262,slow=38
ISP **Isparta** 56.48 302 ⇓*e*P **P** **20 33 07.2 +0.2**
ISP pmax pmax
comp=Z,19nm,0.7s
BLDU **Ballidu** 56.60 157 P **P** **20 33 07.5 -0.2**
PURM **Purcari** 56.89 312 ⇓P **P** **20 33 10.7 +1.0**
ELL **Elmali** 57.03 300 *e*P **P** **20 33 12.1 +1.1**
WRA **Warramunga Arr** 57.19 134 P **P** **20 33 11.7 -0.4**
comp=Z,14nm,0.7s,baz=320,slow=7.5,SNR=240
WRA ScP **ScP** **20 37 54.2 -3.3**
comp=Z,2.5nm,0.9s,baz=324,slow=3.9,SNR=5.4
WRA PKP2bc 21 03 14.7
comp=Z,0.7nm,0.7s,baz=148,slow=2.0,SNR=9.2
comp=Z,14nm,0.7s
WRAB **Tennant Creek** 57.19 134 P **P** **20 33 11.6 -0.5**
WRAB **Tennant Creek** 57.19 134 P **P** **20 33 11.6 -0.5**
WRAB pmax pmax
comp=Z,57nm,1.4s
WRKA **Warakurna** 57.26 143 P **P** **20 33 13.1 +0.6**
KLYT **Kilyos** 57.47 306 *e*P **P** **20 33 15.1 +1.2**
CAME **Cameli-Denizli** 57.50 301 *e*P **P** **20 33 14.6 +0.2**
AKASG **Malin Array Be** 57.56 317 P **P** **20 33 14.3 0.0**
comp=Z,12nm,0.3s,baz=82,slow=6.4,SNR=163
AKASG PP **PP** **20 35 24.1 +1.4**
comp=Z,2.6nm,0.9s,baz=101,slow=8.7,SNR=4.8
AKASG ScP **ScP** **20 37 57.1 -1.5**
comp=Z,1.7nm,0.7s,baz=82,slow=4.2,SNR=7.0
AKASG S **S** **20 41 02.6 -2.6**
comp=Z,6.6nm,0.8s,baz=86,slow=12,SNR=27
AKASG LR LR 20 59 23.2
comp=Z,151nm,20.4s,baz=54,slow=37
comp=Z,12nm,0.3s
AKBB **Malin Array Si** 57.56 317 *de*P **P** **20 33 14.2 -0.1**
KIEV **Kiev** 57.57 317 ⇓P **P** **20 33 16.4 +2.0**
KIEV **Kiev** 57.57 317 P **P** **20 33 13.7 -0.7**
KIEV **Kiev** 57.57 317 P **P** **20 33 16.0 +1.6**
KIEV **Kiev** 57.57 317 P **P** **20 33 16.3 +2.0**
KIEV **Kiev** 57.57 317 P **P** **20 33 15.9 +1.6**
KIEV pP **pP** **20 33 38.0 +1.2**
TLCR **Turuncu** 57.60 310 ⇑P **P** **20 33 15.4 +0.7**
TLCR **Turuncu** 57.60 310 P **P** **20 33 15.4 +0.7**
MUN **Mundaring** 57.65 158 P **P** **20 33 15.6 +0.5**
SORM **Soroca** 57.99 314 ⇑P **P** **20 33 17.8 +0.4**
SORM **Soroca** 57.99 314 P **P** **20 33 17.7 +0.4**
CFR **Carcaliu** 58.08 310 ⇑P **P** **20 33 18.6 +0.6**
CFR **Carcaliu** 58.08 310 P **P** **20 33 18.6 +0.6**
VLDR **Vladesti** 58.12 311 ⇑P **P** **20 33 19.8 +1.5**
ICOR **Ion Corvin** 58.32 309 ⇑P **P** **20 33 20.4 +0.7**
TURN **Turunc** 58.36 300 *e*P **P** **20 33 21.6 +1.5**
BALB **Balikesir** 58.44 304 *e*P **P** **20 33 22.1 +1.5**
LVZ **Lovozero** 58.49 337 P **P** **20 33 20.7 +0.1**
LVZ **Lovozero** 58.49 337 *ce*P **P** **20 33 20.9 +0.3**
LVZ pmax pmax
comp=Z,53nm,1.3s
LVZ **Lovozero** 58.49 337 P **P** **20 33 20.9 +0.3**
LVZ PP **PP** **20 35 31.5 +0.8**
GHRR 58.59 311 ⇑P **P** **20 33 23.1 +1.5**
MNK **Minsk** 58.71 321 *i* P **P** **20 33 23.0 +0.8**
comp=E,11nm,0.8s
MNK *i* P **P** **20 33 23.0 +0.8**
comp=N,9.0nm,0.8s
MNK *i* P **P** **20 33 23.0 +0.8**
comp=Z,58nm,0.8s,baz=96
MNK *i* pP **pP** **20 33 41.2 -3.5**
MNK *i* sP **sP** **20 33 50.5 -4.1**
MNK *i* PP **PP** **20 35 33.6 +0.8**
MNK *i* PPP PPP 20 36 53.9
MNK *i* S **S** **20 41 23.2 +3.2**
MNK *i* sS **sS** **20 41 57.0 -1.6**
MNK *i* SS SS 20 46 51.3 +97
MNK **Minsk** 58.71 321 *d* iP **P** **20 33 23.0 +0.8**
PANC **Panciu** 58.77 311 ⇑P **P** **20 33 25.0 +2.1**
ODBI **Odobesti** 58.84 311 ⇑P **P** **20 33 25.1 +1.8**
NWAO **Narrogin (SRO)** 58.88 158 P **P** **20 33 23.0 -0.6**
NWAO **Narrogin (SRO)** 58.88 158 IAmb IAmb 20 33 24.9
comp=Z,289nm,1.4s
NWAO **Narrogin (SRO)** 58.88 158 P **P** **20 33 23.6 0.0**
NWAO **Narrogin (SRO)** 58.88 158 P **P** **20 33 23.9 +0.3**
NWAO **Narrogin (SRO)** 58.88 158 P **P** **20 33 23.0 -0.6**
NWAO pmax pmax
comp=Z,88nm,1.4s
NWAO **Narrogin (SRO)** 58.88 158 LR LR 21 01 53.6
comp=Z,48nm,18.5s,baz=226,slow=39
NWAO **Narrogin (SRO)** 58.88 158 P **P** **20 33 23.3 -0.3**
NWAO pP **pP** **20 33 47.2 +1.2**
VRI **Vrincioaia** 59.07 311 ⇑P **P** **20 33 26.2 +1.2**
VRI **Vrincioaia** 59.07 311 *e*P **P** **20 33 26.5 +1.6**
VRI **Vrincioaia** 59.07 311 P **P** **20 33 26.8 +1.9**
TESR **Tescani** 59.12 312 ⇑P **P** **20 33 26.4 +1.1**
PLOR **Plostina** 59.12 311 ⇑P **P** **20 33 26.8 +1.5**
PLOR **Plostina** 59.12 311 P **P** **20 33 27.1 +1.8**
RAZG **Razgrad** 59.27 308 ⇑P **P** **20 33 27.0 +0.6**
KMBL **Kambalda** 59.31 153 P **P** **20 33 26.9 +0.2**
NEHR **Nehoiu** 59.38 311 ⇑P **P** **20 33 29.1 +2.0**
NACGM **Naroch** 59.38 322 ⇓*i*P **P** **20 33 27.7 +0.8**
comp=Z,106nm,0.8s,baz=95
COVR **Voineasa-Covas** 59.43 311 ⇑P **P** **20 33 29.0 +1.5**
AS31 **Alice Springs** 59.56 137 IAmb IAmb 20 34 15.3
comp=Z,5.0nm,0.5s
ASAR **Alice Springs** 59.56 137 P **P** **20 33 28.6 0.0**
comp=Z,8.6nm,0.4s,baz=322,slow=7.2,SNR=212
ASAR PcP **PcP** **20 34 14.9 -0.1**
comp=Z,6.6nm,0.4s,baz=321,slow=4.4,SNR=11
ASAR ScP **ScP** **20 38 04.7 -3.2**
comp=Z,1.9nm,0.8s,baz=323,slow=5.0,SNR=6.3
ASAR PKP2bc 21 03 04.3
comp=Z,0.4nm,0.8s,baz=154,slow=3.4,SNR=4.4
comp=Z,8.6nm,0.4s
TURR **Turia** 59.56 311 ⇑P **P** **20 33 30.1 +1.7**
MLR **Muntele Rosu** 59.62 311 ⇑P **P** **20 33 30.8 +1.9**
MLR **Muntele Rosu** 59.62 311 *e*P **P** **20 33 30.3 +1.4**
MLR **Muntele Rosu** 59.62 311 P **P** **20 33 30.5 +1.6**
MLR **Muntele Rosu** 59.62 311 LR LR 21 03 43.8
comp=Z,74nm,20.1s,baz=72,slow=40
OZUR 59.72 311 ⇑P **P** **20 33 30.8 +1.4**

IZAR Zarasai 59.76 323 eP P 20 33 30.2 +0.7
VSU Vasula 59.78 326 eP P 20 33 29.9 +0.4
VSU Vasula 59.78 326d iP P 20 33 29.5 0.0
VSU pmax pmax
comp=Z,103nm,2.5s
BOSR Bodos 59.81 311 ⇑P P 20 33 31.6 +1.5
ISAL Salakas 59.81 322 eP P 20 33 30.7 +0.9
LODK Lodwar 60.01 261 P P 20 33 32.9 +0.9
LODK IAmb IAmb 20 33 34.6
comp=Z,12nm,0.9s
LODK Lodwar 60.01 261 P P 20 33 33.9 +2.0
BURAR Bucovina Array 60.09 313 ⇑P P 20 33 33.2 +1.2
BURAR Bucovina Array 60.09 313 P P 20 33 33.0 +1.0
BUR08 Bucovina Ar. S 60.10 313 P P 20 33 32.6 +0.5
BUR08 IAmb IAmb 20 33 33.8
comp=Z,16nm,0.7s
COPA Copaceanca 60.18 309 ⇑P P 20 33 33.8 +1.2
KMBO Kilima Mbogo 60.19 255 P P 20 33 34.1 +0.7
KMBO Kilima Mbogo 60.19 255⇑ eP P 20 33 33.4 0.0
KMBO Kilima Mbogo 60.19 255 P P 20 33 33.2 -0.2
comp=Z,3.7nm,0.6s,baz=55,slow=10,SNR=10.0
KMBO LR LR 21 01 39.0
comp=Z,47nm,18.9s,baz=94,slow=38
comp=Z,3.7nm,0.6s
KMBO Kilima Mbogo 60.19 255 P P 20 33 34.8 +1.4
VOIR 60.25 311 ⇑P P 20 33 33.8 +0.6
VOIR 60.25 311 P P 20 33 33.7 +0.6
KAVG Kavieng 60.33 107 P P 20 33 34.9 +0.9
FINES FINESS Array B 60.50 329 P P 20 33 34.6 +0.2
comp=Z,18nm,0.5s,baz=93,slow=5.5,SNR=152
FINES LR LR 21 03 18.2
comp=Z,150nm,21.7s,baz=92,slow=39
comp=Z,18nm,0.5s
PMG Port Moresby 60.50 115 P P 20 33 35.2 +0.1
PMG Port Moresby 60.50 115 P P 20 33 36.5 +1.3
PMG Port Moresby 60.50 115 P P 20 33 36.3 +1.1
PMG Port Moresby 60.50 115 ceP P 20 33 35.3 +0.1
PMG pmax pmax
comp=Z,26nm,1.3s
PMG Port Moresby 60.50 115 P P 20 33 35.5 +0.3
ARR Arges 60.55 311 ⇑P P 20 33 36.2 +1.0
PLVB Pleven 60.65 308 ⇑P P 20 33 37.0 +1.2
ARCR ARCALIA 60.69 313 ⇑P P 20 33 37.4 +1.4
LVV L'vov 60.86 316 eP P 20 33 37.3 +0.2
LVV e*PP pP 20 34 01.6 +2.0
LVV ePPP PPP 20 37 18.7
LVV eS S 20 41 49.6 +1.7
LVV ePS PnS 20 42 11.2 -3.5
LVV pmax pmax
comp=Z,60nm,1.2s
PABE Paberze 61.03 322 P P 20 33 38.5 +0.4
PABE Paberze 61.03 322 eP P 20 33 39.0 +0.9
VSVD Vaisvydziai 61.08 323 eP P 20 33 39.2 +0.8
MEF Metsahovi 61.17 328 eP P 20 33 39.6 +0.7
CJR Cluj-Napoca 61.22 312 ⇓P P 20 33 40.8 +1.1
CJR Cluj-Napoca 61.22 312 P P 20 33 41.5 +1.9
QIS Mount Isa 61.22 131 P P 20 33 40.1 +0.2
BMR Baia Mare 61.25 313 ⇑P P 20 33 41.3 +1.5
BMR Baia Mare 61.25 313 P P 20 33 41.2 +1.5
MTSE Matsula 61.33 326 eP P 20 33 40.9 +0.8
SUW Suwalki 61.43 321 P P 20 33 40.5 -0.3
SUW Suwalki 61.43 321 eP P 20 33 41.1 +0.2
SUW Suwalki 61.43 321 P P 20 33 40.5 -0.3
SUW pmax pmax
comp=Z,78nm,0.8s
MARR Marisel-Cluj 61.55 312 ⇑P P 20 33 43.4 +1.5
KEV Kevo 61.69 339 P P 20 33 43.4 +1.1
FORT Forrest 61.70 147 P P 20 33 43.3 +0.3
KWP Kalwaria Pacla 61.72 316 P P 20 33 43.5 +0.6
KWP Kalwaria Pacla 61.72 316 P P 20 33 43.5 +0.6
KWP pmax pmax
comp=Z,80nm,0.7s
DEV Deva 61.74 311 ⇑P P 20 33 44.8 +1.7
DEV Deva 61.74 311 P P 20 33 44.8 +1.7
GZR Gura Zlata 61.85 311 ⇑P P 20 33 44.8 +0.8
GZR Gura Zlata 61.85 311 P P 20 33 44.7 +0.8
KOLS Kolonicke sedl 62.02 315 eP P 20 33 45.8 +0.8
KOLS Kolonicke sedl 62.02 315 eP P 20 33 45.8 +0.8
KOLS pmax pmax
comp=Z,8.0nm,0.8s
BLKB Belogradchik 62.05 309 ⇑P P 20 33 46.4 +1.1
RODP Rodopos 62.11 300 eP P 20 33 47.5 +1.7
HERR Herculane 62.14 310 ⇓P P 20 33 46.6 +0.8
ARA0 ARCESS Array S 62.15 338 eP P 20 33 45.8 +0.3
ARCES ARCESS Array B 62.15 338 P P 20 33 46.0 +0.6
comp=Z,6.1nm,0.4s,baz=109,slow=8.1,SNR=139
comp=Z,6.1nm,0.4s
PBUR Paburge 62.20 323 eP P 20 33 46.6 +0.6
RAF Rauma 62.53 328 eP P 20 33 48.3 +0.2
CRVS Cervenica-Dubn 62.56 315 eP P 20 33 50.3 +1.7
CRVS Cervenica-Dubn 62.56 315 eP P 20 33 50.3 +1.7
CRVS pmax pmax
comp=Z,45nm,1.2s
STHS Stebnicka Huta 62.68 315 eP P 20 33 49.4 0.0
STHS Stebnicka Huta 62.68 315 eP P 20 33 49.4 0.0
STHS pmax pmax
comp=Z,9.0nm,0.8s
KTK1 Kautokeino 62.85 337 eP P 20 33 50.1 0.0
HAMF Hammerfest 62.98 339 eP P 20 33 51.6 +0.7
BILL Bilibino 63.02 24 P P 20 33 49.7 -1.6
BILL IAmb IAmb 20 33 51.0
comp=Z,9.8nm,0.7s
BILL Bilibino 63.02 24 eP P 20 33 50.1 -1.1
BILL pmax pmax
comp=Z,16nm,2.5s
BILL Bilibino 63.02 24 P P 20 33 50.1 -1.1
BILL PcP PcP 20 34 27.7 -0.6
FNA Florina 63.29 306 IAmb IAmb 20 33 54.7
comp=Z,10nm,0.9s
OJC Ojcow 63.58 316 P P 20 33 55.4 +0.1
OJC IAmb IAmb 20 33 57.1
comp=Z,15nm,0.8s
OJC Ojcow 63.58 316 P P 20 33 55.4 +0.1
OJC pmax pmax
comp=Z,15nm,0.8s
OOD Oodnadatta 63.65 139 P P 20 33 56.5 +0.5
PSZ Piszkesteto 63.66 314 IAmb IAmb 20 33 57.6
comp=Z,12nm,0.9s
LANS Liptovska Anna 63.86 315 eP P 20 33 58.5 +1.3
LANS Liptovska Anna 63.86 315 eP P 20 33 58.5 +1.3
LANS pmax pmax
comp=Z,4.0nm,0.7s
JETT Jettan, Norway 63.92 338 eP P 20 33 57.9 +0.7
DIVS Divibare 63.94 309 IAmb IAmb 20 33 59.3
comp=Z,22nm,1.2s
VYHS Vyhne 64.32 314 eP P 20 34 00.9 +0.7
VYHS Vyhne 64.32 314 eP P 20 34 00.9 +0.7
VYHS pmax pmax
comp=Z,10.0nm,0.8s
TRO Tromso 64.44 338 eP P 20 34 00.4 -0.2
MULG Mulgathing 64.53 142 P P 20 34 02.4 +0.7
UPP Uppsala 64.54 327 eP P 20 34 01.5 +0.2
OKC Ostrava-Krasne 64.67 316 eP P 20 34 03.3 +0.9
OKC Ostrava-Krasne 64.67 316 eP P 20 34 03.3 +0.9
SRO Srobarova 64.73 314 eP P 20 34 04.3 +1.5
SRO Srobarova 64.73 314 eP P 20 34 04.3 +1.5
SRO pmax pmax
comp=Z,19nm,1.0s
MAUC Maruska 64.91 315 eP P 20 34 05.4 +1.4
VIKU Vikbolandet 65.04 326 eP P 20 34 05.5 +0.9
JAVC Velka Javorina 65.06 315 eP P 20 34 06.4 +1.4
MORC Moravsky Berou 65.06 316 IAmb IAmb 20 34 06.8
comp=Z,15nm,0.8s
MORC Moravsky Berou 65.06 316 eP P 20 34 05.7 +0.7
MODS Modra-Piesok 65.37 314 eP P 20 34 07.8 +0.8
MODS Modra-Piesok 65.37 314 eP P 20 34 07.8 +0.8
MODS pmax pmax
comp=Z,21nm,1.0s
ZST Bratislava 65.50 314 eP P 20 34 08.2 +0.4
ZST Bratislava 65.50 314 eP P 20 34 08.2 +0.4
KRLC Kraliky 65.52 316 eP P 20 34 08.9 +0.9
KRLC Kraliky 65.52 316 eP P 20 34 08.9 +0.9
BLEU Blekinge 65.62 323 iP P 20 34 07.4 -1.0
FAUS Fauske 65.65 335 eP P 20 34 08.3 0.0
VRAC Vranov 65.72 315 eP P 20 34 10.2 +1.0
VRAC Vranov 65.72 315 LR LR 21 07 16.2
comp=Z,108nm,20.5s,baz=64,slow=40
CTA Charters Tower 65.78 126 P P 20 34 10.1 +0.1
comp=Z,3.3nm,0.4s,baz=341,slow=4.8,SNR=11
comp=Z,3.3nm,0.4s
CTAO Charters Tower 65.78 126 P P 20 34 09.7 -0.3
DPC Dobruska-Polom 65.79 317 eP P 20 34 10.7 +1.0
DPC Dobruska-Polom 65.79 317 eP P 20 34 10.7 +1.0

OSTC Ostas 65.84 317 eP P 20 34 11.2 +1.2
OSTC Ostas 65.84 317 eP P 20 34 11.2 +1.2
MBAR Mbarara 65.86 259 P P 20 34 11.8 +0.9
MBAR IAmb IAmb 20 34 34.7
comp=Z,34nm,1.6s
MBAR Mbarara 65.86 259 P P 20 34 12.6 +1.8
MBAR Mbarara 65.86 259 diP P 20 34 12.1 +1.2
MBAR pmax pmax
comp=Z,9.0nm,1.1s
MBAR Mbarara 65.86 259 P P 20 34 12.2 +1.3
MBAR pP pP 20 34 35.7 +1.9
MBAR sP sP 20 34 45.4 +1.7
KRUC Moravsky 65.88 315 eP P 20 34 11.0 +0.8
UPC Upice 65.97 317 eP P 20 34 11.9 +1.1
UPC Upice 65.97 317 eP P 20 34 11.9 +1.1
MOR8 Moi Rana 65.97 334 eP P 20 34 09.6 -1.0
RONA Rosalia, Austr 66.10 314 eP P 20 34 12.0 +0.3
comp=Z,13nm,1.3s
SPITS Spitsbergen Ar 66.11 347 P P 20 34 11.4 +0.1
comp=Z,4.8nm,0.6s,baz=114,slow=10,SNR=16
SPITS LR LR 21 08 00.8
comp=Z,73nm,19.2s,baz=90,slow=40
comp=Z,4.8nm,0.6s
BSD Bornholm Skovb 66.21 322 iP P 20 34 11.4 -0.8
BSD IAmb IAmb 20 34 14.2
comp=Z,35nm,1.2s
KOGS Kog 66.29 312 iP P 20 34 13.9 +1.0
LOF Lofoten 66.32 336 eP P 20 34 12.0 -0.7
CONA Conrad Observa 66.36 314 iP P 20 34 14.2 +0.8
comp=Z,15nm,0.9s
HFS Hagfors 66.51 327 P P 20 34 14.1 +0.1
comp=Z,28nm,0.6s,baz=107,slow=5.1,SNR=122
HFS PcP PcP 20 34 40.5 -2.4
comp=Z,10nm,0.6s,baz=108,slow=8.0,SNR=4.0
comp=Z,28nm,0.6s
ARSA Arzberg 66.67 313 iP P 20 34 15.9 +0.5
comp=Z,7.8nm,0.7s
DEL Delary 66.68 323 eP P 20 34 15.2 0.0
DEL Delary 66.68 323 iP P 20 34 14.6 -0.6
GOPC GO Pecny, Ondr 66.82 316 eP P 20 34 17.3 +1.0
GOPC GO Pecny, Ondr 66.82 316 eP P 20 34 17.3 +1.0
PVCC Panska Ves 66.88 317 eP P 20 34 17.8 +1.2
PVCC Panska Ves 66.88 317 eP P 20 34 17.8 +1.2
CRES Cresnjev 66.92 312 iP P 20 34 18.1 +1.2
PRU Pruhonice 66.97 316 eP P 20 34 18.2 +1.0
PRU Pruhonice 66.97 316 eP P 20 34 18.2 +1.0
LUNU Lund 67.00 323 iP P 20 34 16.8 -0.4
NSS Namsos 67.06 332 eP P 20 34 17.5 0.0
SOKA Soboth 67.09 313 iP P 20 34 18.8 +0.8
comp=Z,12nm,0.8s
LCRK Leigh Creek 67.09 139 P P 20 34 19.2 +1.1
BORU Boraas 67.18 325 iP P 20 34 17.7 -0.6
RICC Richard 67.18 317 eP P 20 34 19.9 +1.4
BJUU Bjuv 67.19 323 iP P 20 34 18.4 0.0
BRG Berggiesshubel 67.24 317 iP P 20 34 19.8 +0.9
BRG Amp 20 34 20.6
comp=Z,18nm,0.7s
BRG Berggiesshubel 67.24 317 P P 20 34 27.4 +8.6
BRG Amp 20 34 28.2
comp=Z,6.1nm,0.6s
BRG pP pP 20 34 41.8 +0.1
BRG Amp 20 34 44.0
comp=Z,5.9nm,0.6s
BRG PP PP 20 36 50.3 +2.5
BRG Amp 20 36 51.5
comp=Z,5.6nm,1.1s
BRG Berggiesshubel 67.24 317 iP P 20 34 19.7 +0.9
BRG 20 34 41.8
BRG 20 36 50.2
BRG pmax pmax
comp=Z,18nm,0.7s
BRG pmax pmax
comp=Z,6.0nm,0.6s
BRG pmax pmax
comp=Z,6.0nm,0.6s
BRG pmax pmax
comp=Z,6.0nm,1.1s
ZVC Zvikov 67.26 316 eP P 20 34 19.8 +0.7
FABU Falkenberg 67.27 324 iP P 20 34 18.4 -0.5
CKRC Cesky Krumlov 67.27 315 eP P 20 34 20.2 +1.1
CKRC Cesky Krumlov 67.27 315 eP P 20 34 20.2 +1.1
GBRS Gornja Briga 67.41 312 iP P 20 34 21.3 +1.2
NC405 NORSAR Array S 67.41 329 IAmb IAmb 20 34 20.6
comp=Z,23nm,0.8s
MOA Molln 67.44 314 iP P 20 34 20.6 +0.4
comp=Z,16nm,0.6s,SNR=6.1
OBKA Obir 67.44 313 iP P 20 34 20.8 +0.5
comp=Z,12nm,0.8s
NC602 NORSAR Array S 67.53 328 IAmb IAmb 20 34 21.5
comp=Z,27nm,1.1s
BBOO Buckleboo 67.56 143 P P 20 34 20.7 -0.3
BBOO IAmb IAmb 20 34 22.5
comp=Z,41nm,1.0s
BBOO Buckleboo 67.56 143 P P 20 34 21.2 +0.2
COP Copenhagen 67.56 323 iP P 20 34 24.6 +3.9
COP IAmb IAmb 20 34 26.6
comp=Z,53nm,0.8s
NC303 NORSAR Array S 67.57 329 IAmb IAmb 20 34 21.6
comp=Z,18nm,0.7s
HSKC Hora Svate Kat 67.59 317 eP P 20 34 22.1 +1.0
NB2 NORSAR Subarra 67.66 329 P P 20 34 21.3 -0.1
comp=Z,6.5nm,0.6s,baz=85,slow=6.5
NB2 NORSAR Subarra 67.66 329 P P 20 34 21.3 -0.1
baz=85,slow=6.5
NOA NORSAR Array B 67.66 329 P P 20 34 21.1 -0.3
comp=Z,9.2nm,0.6s,baz=85,slow=6.2,SNR=44
NOA LR LR 21 07 01.1
comp=Z,94nm,20.4s,baz=100,slow=38
comp=Z,9.2nm,0.6s
ONAU Onsala 67.66 325 iP P 20 34 20.8 -0.5
GEC2 GERESS Array S 67.67 315 IAmb IAmb 20 34 23.3
comp=Z,26nm,0.8s
GERES GERESS Array B 67.67 315 P P 20 34 22.5 +0.8
comp=Z,20nm,0.6s,baz=75,slow=6.1,SNR=96
GERES LR LR 21 06 29.0
comp=Z,84nm,18.3s,baz=88,slow=38
comp=Z,20nm,0.6s
KHC Kasperske Hory 67.70 316 eP P 20 34 22.5 +0.6
KHC Kasperske Hory 67.70 316 ceP P 20 34 22.9 +1.0
KHC pmax pmax
comp=Z,25nm,1.3s
CLL Collm 67.77 318 IAmb IAmb 20 34 23.5
comp=Z,14nm,1.1s
CLL Collm 67.77 318 iP P 20 34 22.4 +0.2
comp=Z,15nm,1.2s
CLL L L 21 02 00.0
comp=Z,100nm,21.7s
NC204 NORSAR Array S 67.86 329 IAmb IAmb 20 34 23.4
comp=Z,23nm,0.6s
STRU Stroemstad 67.87 326 iP P 20 34 22.1 -0.5
BIOA Bad Ischl, Aus 67.88 314 iP P 20 34 23.2 +0.2
comp=Z,8.4nm,0.6s
OSL Oslo 68.01 327 eP P 20 34 23.6 +0.1
MYKA Terra Mystica 68.04 313 eP P 20 34 24.7 +0.6
comp=Z,9.1nm,0.9s
PRED Cave del Predi 68.12 313 IAmb IAmb 20 34 25.6
comp=Z,12nm,0.8s
NKC Novy Kostel 68.27 317 eP P 20 34 26.4 +1.0
NKC Novy Kostel 68.27 317 eP P 20 34 26.4 +1.0
QLP Quilpie 68.35 133 P P 20 34 27.3 +1.2
LESA Schwarzleotal 68.56 314 iP P 20 34 27.5 +0.2
comp=Z,20nm,0.5s
DOMB Dombas 68.58 330 eP P 20 34 27.0 -0.1
KONO Kongsberg 68.61 327 eP P 20 34 26.6 -0.6
STAL STALIGIAL 68.74 313 IAmb IAmb 20 34 29.0
comp=Z,26nm,0.7s
ABTA Abfaltersbach 68.79 313 iP P 20 34 28.5 -0.3
comp=Z,12nm,0.9s
FDMO Fiordimonte 69.06 309 IAmb IAmb 20 34 32.0
comp=Z,29nm,0.7s
SKAR Skarslia 69.11 328 eP P 20 34 31.0 +0.5
MUD Monsted U'grnd 69.27 324 iP P 20 34 32.1 +0.7
WTTA Wattenberg 69.29 314 eP P 20 34 31.6 -0.3
comp=Z,17nm,0.6s
WATA Walderalm 69.31 314 iP P 20 34 31.7 -0.4
comp=Z,16nm,0.8s
CTI Castel Tesino 69.50 312 IAmb IAmb 20 34 34.1
comp=Z,10nm,0.7s
SQTA Sankt Quirin 69.58 314 iP P 20 34 33.5 -0.2
comp=Z,15nm,0.5s,SNR=5.3
MOTA Moosalm 69.63 314 iP P 20 34 34.0 0.0
comp=Z,24nm,0.8s,SNR=7.5
HTT Hallett 69.65 141 P P 20 34 34.9 +0.8
RETA Reutte 69.83 314 iP P 20 34 35.3 +0.1
comp=Z,21nm,0.6s,SNR=6.8

FETA Feichten 69.94 314 iP P 20 34 35.9 0.0
comp=Z,11nm,0.7s
STKA Stephens Creek 70.16 138 P P 20 34 37.4 +0.2
STKA Stephens Creek 70.16 138 deP P 20 34 37.6 +0.4
STKA Stephens Creek 70.16 138 P P 20 34 37.1 -0.1
comp=Z,21nm,0.9s,baz=324,slow=7.1,SNR=31
comp=Z,21nm,0.9s
FUORN Ofenpass-Fuorn 70.33 313 IAmb IAmb 20 34 40.6
comp=Z,8.6nm,0.6s
SALO Salr 70.36 312 IAmb IAmb 20 34 40.2
comp=Z,33nm,0.8s
DAVA Damuels 70.46 314 iP P 20 34 39.3 +0.2
comp=Z,23nm,0.8s
STU Stuttgart 70.61 316 IAmb IAmb 20 34 41.5
comp=Z,20nm,0.8s
TUE Stuetta 70.98 313 IAmb IAmb 20 34 50.0
comp=Z,12nm,0.8s
BFO Black Forest 71.27 315 P P 20 34 44.0 +0.2
BFO sP sP 20 35 17.7 +1.0
HNR Honiara 71.52 109 LR LR 21 05 10.7
comp=Z,274nm,21.1s,baz=178,slow=35
WLF Walferdange 72.37 317 IAmb IAmb 20 34 53.3
comp=Z,45nm,1.0s
EIDS Eidsvold 72.48 127 IAmb IAmb 20 34 52.7
comp=Z,22nm,1.2s
EIDS Eidsvold 72.48 127 P P 20 34 52.6 +1.3
CMSA Cobar Meteorol 72.52 136 P P 20 34 52.0 +0.6
BMRD Maredsous 73.09 318 dP P 20 34 55.0 +0.5
comp=Z,7.5nm,0.9s
BMRD dPcP PcP 20 35 10.7 -0.2
BNI Bardonecchia 73.13 312 IAmb IAmb 20 36 00.0
comp=Z,54nm,1.8s
C16K Lisburne Hills 73.49 22 P P 20 34 56.3 -0.3
baz=288
KEST Kesra 73.56 302 P P 20 34 58.5 +0.8
comp=Z,12nm,0.9s,baz=278,slow=2.9,SNR=5.6
comp=Z,12nm,0.9s
C17K DeLong Mountai 74.19 22 P P 20 35 00.4 -0.3
baz=290
A19K Wainwright 74.28 20 P P 20 35 01.2 +0.1
baz=291
B18K Kokolik River 74.34 21 P P 20 35 01.5 -0.1
baz=291
RDOG Red Dog Mine 74.42 22 P P 20 35 01.9 -0.2
baz=290
SSB Saint Sauveur 74.53 313 IAmb IAmb 20 35 04.0
comp=Z,14nm,0.7s
F15K North Star Dit 74.57 25 P P 20 35 02.8 -0.2
baz=289
LSZ Lusaka 74.65 246 P P 20 35 04.7 +0.4
LSZ IAmb IAmb 20 35 28.6
comp=Z,14nm,0.6s
LSZ Lusaka 74.65 246 P P 20 35 04.7 +0.4
LSZ pmax pmax
comp=Z,15nm,0.6s
LSZ Lusaka 74.65 246 LR LR 21 07 01.9
comp=Z,66nm,20.4s,baz=71,slow=35
C18K Utukok River 74.81 22 P P 20 35 04.1 -0.2
baz=291
AUDCS Dubbo College 74.89 135 P P 20 35 07.0 +1.7
E17K Hotham Inlet 75.16 23 P P 20 35 06.1 -0.2
baz=291
C19K Lookout Ridge 75.17 21 IAmb IAmb 20 35 07.1
comp=Z,10nm,0.6s
C19K Lookout Ridge 75.17 21 P P 20 35 07.0 +0.6
baz=293
A21K Barrow 75.20 18 P P 20 35 06.5 +0.1
baz=295
CLF Chambon-Foret 75.28 316 IAmb IAmb 20 35 08.9
comp=Z,49nm,1.2s
E18K Tukpahlearik C 75.47 23 P P 20 35 08.0 -0.2
baz=292
G16K Koyuk River 75.57 25 P P 20 35 08.9 +0.2
baz=291
B20K Meade River 75.59 20 IAmb IAmb 20 35 33.4
comp=Z,30nm,1.9s
B20K Meade River 75.59 20 P P 20 35 08.9 +0.1
baz=295
F17K Baldwin Pennin 75.61 24 IAmb IAmb 20 35 09.6
comp=Z,12nm,0.7s
F17K Baldwin Pennin 75.61 24 P P 20 35 08.6 -0.3
baz=292
H16K Elim 75.89 26 P P 20 35 10.0 -0.6
baz=292
D19K Kuna River 75.91 21 P P 20 35 10.9 +0.2
baz=294
G17K Kiwalik Mounta 76.19 24 P P 20 35 11.9 -0.3
baz=293
EKA Eskdalemuir Ar 76.28 324 P P 20 35 13.3 +0.4
comp=Z,5.3nm,0.5s,baz=74,slow=5.4,SNR=48
comp=Z,5.3nm,0.5s
D20K Etivluk River 76.32 21 P P 20 35 12.7 -0.2
baz=296
TOO Toolangi 76.37 140 P P 20 35 14.7 +1.0
B21K Ikpikpuk River 76.56 20 IAmb IAmb 20 35 14.9
comp=Z,8.1nm,0.6s
B21K Ikpikpuk River 76.56 20 P P 20 35 14.1 -0.1
baz=297
B22K Teshekpuk Lake 76.58 19 IAmb IAmb 20 35 14.9
comp=Z,15nm,0.6s
B22K Teshekpuk Lake 76.58 19 P P 20 35 14.1 -0.2
baz=298
E19K Redstone River 76.65 22 P P 20 35 14.6 -0.2
baz=295
E20K Nigu River 76.66 21 P P 20 35 14.7 -0.3
baz=296
H17K Granite Mounta 76.70 25 IAmb IAmb 20 35 15.9
comp=Z,18nm,1.2s
H17K Granite Mounta 76.70 25 P P 20 35 15.2 +0.1
baz=293
C21K Knifeblade Rid 76.71 20 P P 20 35 15.1 -0.1
baz=297
F19K Shaleruckik Mo 76.72 23 P P 20 35 15.0 -0.2
baz=295
G18K Tagagawik 76.79 24 P P 20 35 15.2 -0.5
baz=294
I17K Unalakleet 76.80 26 P P 20 35 15.3 -0.4
I17K IAmb IAmb 20 35 25.0
comp=Z,58nm,1.9s
I17K Unalakleet 76.80 26 P P 20 35 15.4 -0.4
baz=293
L14K Kuka Creek 76.93 29 P P 20 35 16.4 0.0
baz=292
CAN Canberra 77.06 137 IAmb IAmb 20 35 19.4
comp=Z,30nm,1.0s
CAN Canberra 77.06 137 P P 20 35 18.5 +0.9
K15K Wolf Creek Mou 77.07 28 P P 20 35 17.0 -0.3
baz=293
J16K Anvik River 77.08 27 P P 20 35 17.4 +0.1
baz=293
H18K Honhosa River 77.21 24 P P 20 35 17.4 -0.6
baz=295
G19K Purcell Mounta 77.27 23 P P 20 35 17.8 -0.5
baz=296
CNB Canberra Magne 77.29 137 P P 20 35 19.5 +0.6
E21K Killik River 77.31 21 IAmb IAmb 20 35 19.1
comp=Z,10nm,0.8s
E21K Killik River 77.31 21 P P 20 35 18.2 -0.4
baz=298
L15K Ungalak Mounta 77.33 28 P P 20 35 18.4 -0.3
baz=293
F20K Avaraart Lake 77.36 22 P P 20 35 18.3 -0.4
baz=297
M14K Bethel 77.48 29 P P 20 35 19.9 +0.4
baz=293
D22K Ayikyak River 77.51 20 P P 20 35 19.8 +0.2
baz=299,SNR=7.8
C23K Itkillik River 77.67 19 IAmb IAmb 20 35 48.1
comp=Z,17nm,0.8s
C23K Itkillik River 77.67 19 P P 20 35 20.9 +0.4
baz=301
UNV Unalaska Valle 77.72 37 P P 20 35 20.6 -0.4
baz=290
H19K Roundabout Mou 77.77 24 P P 20 35 20.9 -0.2
baz=296
N14K Kuskokwak Cree 77.93 30 P P 20 35 21.3 -0.8
baz=293
GCSA Galena City Sc 77.96 25 P P 20 35 22.4 +0.2
baz=296
F21K Alatna River 78.05 22 P P 20 35 22.4 -0.2
baz=299,SNR=11
M15K Kasigluk River 78.08 29 P P 20 35 22.1 -0.8
baz=294
D23K Nanushuk River 78.10 20 P P 20 35 23.2 +0.4
baz=301
E22K Anaktuvuk Pass 78.16 20 IAmb IAmb 20 35 24.3
comp=Z,30nm,1.7s
E22K Anaktuvuk Pass 78.16 20 P P 20 35 23.2 -0.1

baz=300,SNR=5.2
L16K **Owhat River** 78.20 28 P P 20 35 23.4 -0.1
baz=294
K17K **Iditarod** 78.27 27 IAmb IAmb 20 35 24.8
comp=Z,14nm,0.9s
K17K **Iditarod** 78.27 27 P P 20 35 24.3 +0.4
baz=295
C24K **Franklin Bluff** 78.30 18 P P 20 35 23.8 -0.1
baz=302
F22K **John River** 78.35 21 P P 20 35 24.1 -0.3
baz=300
H20K **Anotleneega Mo** 78.37 23 P P 20 35 24.2 -0.3
baz=298
G21K **Allakaket** 78.38 22 IAmb IAmb 20 35 24.9
comp=Z,32nm,1.6s
G21K **Allakaket** 78.38 22 P P 20 35 24.5 0.0
baz=299
L17K **Donlin** 78.52 27 P P 20 35 25.2 -0.1
baz=295
N15K **Kwethluk River** 78.56 29 P P 20 35 25.7 +0.1
baz=294
D24K **Happy Valley** 78.57 19 P P 20 35 25.3 -0.2
baz=302
J18K **Innoko River** 78.59 26 P P 20 35 25.5 -0.2
baz=296,SNR=6.3
TOLK **Toolik Lake Re** 78.61 20 P P 20 35 25.9 +0.2
baz=302,SNR=8.4
NEEM **North Greenlan** 78.64 353 *i* P P 20 35 26.4 +0.3
NEEM IAmb IAmb 20 35 28.0
comp=Z,22nm,0.7s
M16K **Timber Creek** 78.71 28 P P 20 35 26.1 -0.2
baz=295
J19K **Poorman** 78.79 25 P P 20 35 26.6 -0.2
baz=297
I20K **Naaghedeneel** 78.85 24 P P 20 35 27.1 +0.1
baz=298
G22K **Bettles** 78.87 22 P P 20 35 26.6 -0.6
baz=300
E23K **Chandalar** 78.91 20 P P 20 35 27.4 0.0
baz=302
N16K **Nishlik Lake** 79.03 29 P P 20 35 28.1 -0.1
baz=295
H21K **Melozitna Rive** 79.05 23 IAmb IAmb 20 35 29.2
comp=Z,12nm,0.9s
H21K **Melozitna Rive** 79.05 23 P P 20 35 28.6 +0.4
baz=299
O15K **Ungalikthiuk R** 79.10 30 P P 20 35 28.4 -0.2
baz=295
TTA **Tatalina** 79.12 26 P P 20 35 28.4 -0.3
baz=297
COLD **Coldfoot** 79.15 21 P P 20 35 28.7 0.0
baz=301
L18K **Granite Mounta** 79.16 27 P P 20 35 28.3 -0.6
baz=297
D25K **Kavik River** 79.20 18 IAmb IAmb 20 35 30.2
comp=Z,45nm,1.6s
D25K **Kavik River** 79.20 18 P P 20 35 28.9 0.0
baz=304
M17K **Holitna River** 79.21 28 P P 20 35 29.2 +0.1
baz=296
E24K **Your Creek** 79.26 20 IAmb IAmb 20 35 55.2
comp=Z,11nm,0.8s
E24K **Your Creek** 79.26 20 P P 20 35 29.3 0.0
baz=303
J20K **Nowinta River** 79.27 24 IAmb IAmb 20 36 27.8
comp=Z,31nm,1.8s
J20K **Nowinta River** 79.27 24 P P 20 35 29.5 +0.2
baz=298
C26K **Camden Bay** 79.28 18 P P 20 35 30.0 +0.7
baz=306
H22K **Ishtalitna Cre** 79.44 22 P P 20 35 30.6 +0.3
baz=301,SNR=8.8
G23K **Bananza Creek** 79.48 21 P P 20 35 30.6 0.0
baz=302
I21K **Tanana** 79.59 23 P P 20 35 31.0 0.0
baz=300
K20K **Telida** 79.70 25 IAmb IAmb 20 36 13.4
comp=Z,40nm,1.8s
K20K **Telida** 79.70 25 P P 20 35 31.5 -0.2
baz=299
N17K **Nushagak Hills** 79.71 28 IAmb IAmb 20 35 33.6
comp=Z,19nm,1.4s
N17K **Nushagak Hills** 79.71 28 P P 20 35 31.7 -0.1
baz=297
O16K **Kokwok River B** 79.72 30 P P 20 35 31.2 -0.7
baz=296
F24K **Squaw Lake** 79.75 20 P P 20 35 32.0 0.0
baz=303
M18K **Stony River** 79.86 27 P P 20 35 32.5 -0.1
baz=298
L19K **White Mountain** 79.94 26 P P 20 35 32.6 -0.5
baz=298
P16K **Nushagak River** 80.01 30 P P 20 35 33.2 -0.2
baz=296
O17K **Koliganek Bris** 80.09 29 P P 20 35 33.5 -0.4
baz=297
MLY **Manley** 80.12 23 IAmb IAmb 20 35 34.9
comp=Z,14nm,1.0s
MLY **Manley** 80.12 23 P P 20 35 34.0 -0.1
baz=301,SNR=15
CHUM **Lake Minchumin** 80.12 24 P P 20 35 34.0 0.0
baz=300
E25K **Arctic Village** 80.14 19 IAmb IAmb 20 35 35.4
comp=Z,44nm,1.8s
E25K **Arctic Village** 80.14 19 P P 20 35 34.3 +0.3
baz=305
L20K **Farewell, AK** 80.20 26 P P 20 35 34.3 -0.2
baz=299
N18K **Kilae Creek** 80.21 28 P P 20 35 34.4 -0.2
baz=296
G24K **Hadweenzic Riv** 80.34 21 P P 20 35 35.6 +0.5
baz=304
F25K **Christian Rive** 80.42 20 P P 20 35 35.7 +0.1
baz=305
CAST **Castle Rocks** 80.44 25 P P 20 35 35.9 +0.2
baz=300,SNR=7.5
SUMG **Summit** 80.45 347 P P 20 35 35.9 -0.2
SUMG IAmb IAmb 20 37 22.2
comp=Z,25nm,1.6s
SUMG **Summit** 80.45 347 P P 20 35 35.9 -0.2
SUMG pmax pmax
comp=Z,25nm,1.6s
SUMG **Summit** 80.45 347 *i* P P 20 35 35.0 -1.1
SUMG IAmb IAmb 20 35 39.5
comp=Z,8.6nm,0.5s
S14K **Fog Glacier** 80.45 33 P P 20 35 36.1 +0.1
baz=295
BPAW **Bear Paw Mtn.** 80.51 24 P P 20 35 35.9 -0.3
baz=301,SNR=6.3
BORG **Borgarnes** 80.52 337 LR LR 21 12 27.4
comp=Z,67nm,21.8s,baz=60,slow=36
I23K **Minto, Yukon-K** 80.55 23 IAmb IAmb 20 36 03.0
comp=Z,26nm,1.6s
I23K **Minto, Yukon-K** 80.55 23 P P 20 35 35.6 -0.6
baz=302,SNR=5.2
P17K **Kvichak River** 80.65 30 P P 20 35 36.6 -0.3
baz=297
PPLA **Purkeypile** 80.67 25 P P 20 35 37.2 0.0
baz=300
H24K **Noodor Dome** 80.69 22 P P 20 35 36.8 -0.3
baz=304
G25K **Bearman Lake** 80.75 20 P P 20 35 37.6 +0.3
baz=305
N19K **Bonanza Creek** 80.76 28 P P 20 35 36.9 -0.6
baz=299
D27M **Malcolm River** 80.79 17 IAmb IAmb 20 35 39.9
comp=Z,22nm,1.6s
D27M **Malcolm River** 80.79 17 P P 20 35 37.7 +0.1
baz=309
Q16K **King Salmon** 80.79 30 P P 20 35 36.8 -0.8
baz=297
M20K **Styx River** 80.80 26 P P 20 35 37.4 -0.4
baz=300
F26K **Sheenjek River** 80.82 19 P P 20 35 37.9 +0.1
baz=307
O18K **Koktuh Hills** 80.90 29 P P 20 35 38.3 0.0
baz=298
NEA2 **Nenana** 80.96 23 P P 20 35 38.2 -0.2
baz=303
TAU **Tasmania Unive** 80.96 144 P P 20 35 39.3 +0.7
TAU **Tasmania Unive** 80.96 144 P P 20 35 39.7 +1.1
TAU **Tasmania Unive** 80.96 144 P P 20 35 39.3 +0.7
TAU pmax pmax
comp=Z,145nm,1.8s
MDM **Murphy Dome** 81.06 22 IAmb IAmb 20 35 39.7
comp=Z,20nm,0.9s
TRF **Thorofare Moun** 81.12 24 P P 20 35 39.3 -0.2
baz=302
O19K **Port Alsworth** 81.13 28 IAmb IAmb 20 35 41.6
comp=Z,18nm,1.1s
O19K **Port Alsworth** 81.13 28 P P 20 35 39.0 -0.4
baz=299
FYU **Fort Yukon** 81.15 20 IAmb IAmb 20 35 59.4
comp=Z,34nm,1.6s
POKR **Poker Plat Res** 81.25 22 IAmb IAmb 20 35 40.7
comp=Z,19nm,1.1s
POKR **Poker Plat Res** 81.25 22 P P 20 35 40.1 +0.1
baz=304,SNR=6.6
E27K **Coleen River** 81.28 18 P P 20 35 40.4 +0.3
baz=309
D28M **Stokes Point** 81.33 17 P P 20 35 40.3 0.0
baz=311
Q17K **Contact Creek** 81.34 30 P P 20 35 40.1 -0.7
baz=298
G26K **Porcupine Rive** 81.39 20 P P 20 35 41.4 +0.8
baz=307
R17K **Ugashik Creek** 81.40 31 P P 20 35 41.5 +0.6
baz=298
SKT **Skwentna** 81.40 26 IAmb IAmb 20 35 42.1
comp=Z,50nm,1.8s
SKT **Skwentna** 81.40 26 P P 20 35 39.9 -1.0
baz=301,SNR=6.1
LBTB **Lobatse** 81.45 239 P P 20 35 42.6 +0.8
LBTB **Lobatse** 81.45 239 P P 20 35 42.6 +0.8
LBTB pmax pmax
comp=Z,11nm,1.0s
LBTB **Lobatse** 81.45 239 LR LR 21 12 38.3
comp=Z,51nm,18.1s,baz=45,slow=36
MCK **McKinley** 81.48 24 P P 20 35 41.0 -0.3
baz=303,SNR=5.1
N20K **Mount Spurr** 81.53 27 P P 20 35 41.3 -0.3
baz=301
Q18K **Katmai Hardscr** 81.57 30 P P 20 35 41.3 -0.6
baz=299
E28M **Babbage River** 81.60 17 IAmb IAmb 20 35 43.2
comp=Z,41nm,1.8s
E28M **Babbage River** 81.60 17 P P 20 35 42.2 +0.4
baz=311
ILAR **Eielson Array** 81.64 22 P P 20 35 40.3 -1.7
comp=Z,2.1nm,0.6s,baz=302,slow=5.2,SNR=29
comp=Z,2.1nm,0.6s
PRP **Porcupine Dome** 81.67 21 P P 20 35 42.2 -0.2
PRP IAmb IAmb 20 35 43.4
comp=Z,17nm,1.1s
PRP **Porcupine Dome** 81.67 21 P P 20 35 42.5 +0.1
baz=306,SNR=11
CUT **Chulitna** 81.68 25 P P 20 35 42.4 +0.1
baz=302
HDA **Harding Lake** 81.82 23 P P 20 35 41.9 -1.1
baz=305
HDA P P 20 35 41.9 -1.1
baz=305
SUA **Susitna One** 81.99 26 P P 20 35 43.8 -0.3
baz=302
M22K **Willow** 82.09 26 P P 20 35 43.9 -0.6
baz=302
WAT1 **Susitna Watana** 82.12 24 P P 20 35 43.8 -0.9
baz=304
G27K **Doyon Strip** 82.13 19 P P 20 35 44.2 -0.5
baz=309
F28M **Old Crow** 82.15 18 P P 20 35 44.7 0.0
baz=310,SNR=6.8
E29M **Blow River** 82.19 17 IAmb IAmb 20 35 46.2
comp=Z,24nm,1.6s
E29M **Blow River** 82.19 17 P P 20 35 45.1 +0.2
baz=312
J25K **Salcha River,** 82.26 22 P P 20 35 44.0 -1.4
baz=306
ESDC **Sonseca Array** 82.29 310 P P 20 35 46.6 +0.6
comp=Z,2.2nm,0.7s,baz=50,slow=4.0,SNR=12
ESDC LR LR 21 20 44.2
comp=Z,20nm,19.4s,baz=62,slow=42
comp=Z,2.2nm,0.7s
A36M **Sachs Harbour** 82.42 12 IAmb IAmb 20 35 47.0
comp=Z,34nm,1.0s
A36M **Sachs Harbour** 82.42 12 P P 20 35 46.1 +0.1
baz=323,SNR=27
DHY **Denali Highway** 82.43 24 P P 20 35 45.9 -0.5
baz=304
H27K **Steamboat Moun** 82.54 20 P P 20 35 46.8 -0.1
baz=309
WAT6 **Susitna Watana** 82.57 24 P P 20 35 47.0 -0.1
baz=304
K24K **Donnelly Dome** 82.59 23 P P 20 35 46.0 -1.1
baz=306,SNR=15
I26K **Coal Creek Min** 82.59 21 P P 20 35 46.8 -0.2
baz=308
RC01 **Rabbit Creek A** 82.61 26 IAmb IAmb 20 38 17.8
comp=Z,17nm,1.0s
RC01 **Rabbit Creek A** 82.61 26 P P 20 35 46.1 -1.1
baz=303
SML **Sawmill** 82.77 25 IAmb IAmb 20 35 53.8
comp=Z,12nm,0.8s
SML **Sawmill** 82.77 25 P P 20 35 47.8 -0.3
baz=304
BRLK **Bradley Lake** 82.83 28 IAmb IAmb 20 36 18.5
comp=Z,72nm,1.7s
DZM **Mont Dzumac** 82.83 117 *e*LR LR 21 00 46.5
comp=Z,170nm,27.2s
BRSE **Bradley Lake S** 82.91 28 P P 20 35 48.4 -0.4
baz=302
I27K **Kandik River** 82.91 20 P P 20 35 48.8 0.0
baz=309,SNR=11
O22K **Cooper Landing** 82.94 27 P P 20 35 48.7 -0.2
baz=303
KNK **Knik Glacier** 82.94 26 P P 20 35 48.5 -0.5
baz=304
J26L **Joseph Creek** 82.95 22 IAmb IAmb 20 35 49.5
comp=Z,14nm,0.9s
J26L **Joseph Creek** 82.95 22 P P 20 35 48.6 -0.4
baz=308,SNR=11
RIDG **Independent Ri** 82.97 23 P P 20 35 48.4 -0.7
baz=307
SII **Sitkinak Islan** 82.97 31 P P 20 35 49.3 +0.2
baz=300
M23K **Glacier View** 83.02 25 P P 20 35 48.9 -0.4
baz=304
OHAK **Old Harbor** 83.07 30 P P 20 35 48.8 -0.8
baz=300
KDAK **Kodiak Island** 83.11 30 P P 20 35 48.7 -1.1
baz=301
SCRK **Sand Creek** 83.13 22 IAmb IAmb 20 35 51.3
comp=Z,50nm,1.8s
SCRK **Sand Creek** 83.13 22 P P 20 35 49.5 -0.4
baz=307,SNR=13
SCM **Sheep Creek Mo** 83.15 25 P P 20 35 50.4 +0.3
baz=305
G29M **Pine Creek** 83.16 18 IAmb IAmb 20 36 20.5
comp=Z,38nm,1.7s
G29M **Pine Creek** 83.16 18 P P 20 35 49.8 -0.1
baz=312
PAX **Paxson** 83.20 23 P P 20 35 50.5 +0.2
baz=306
SEW **Seward** 83.26 27 P P 20 35 49.8 -0.7
baz=303
ICESG **Greenland Ices** 83.29 345 *i* P P 20 35 50.4 -0.6
ICESG IAmb IAmb 20 35 52.9
comp=Z,12nm,0.8s
F30M **Barrier River** 83.31 17 P P 20 35 50.6 -0.1
baz=314
RES **Resolute Bay** 83.33 2 IAmb IAmb 20 35 52.1
comp=Z,34nm,0.9s
RES **Resolute Bay** 83.33 2 LR LR 21 14 52.2
comp=Z,50nm,19.8s,baz=36,slow=37
UPNV **Upernavik** 83.36 351 *i* P P 20 35 50.4 -0.4
UPNV IAmb IAmb 20 35 51.9
comp=Z,13nm,0.6s
INK **Inuvik** 83.41 16 IAmb IAmb 20 35 52.5
comp=Z,38nm,1.4s
INK **Inuvik** 83.41 16 P P 20 35 50.9 -0.3
baz=316,SNR=15
M24K **Tolsona, Glenn** 83.44 24 IAmb IAmb 20 36 03.1
comp=Z,60nm,1.6s
M24K **Tolsona, Glenn** 83.44 24 P P 20 35 51.6 +0.1
baz=306
BOSA **Boshof** 83.46 236 P P 20 35 52.9 +0.7
comp=Z,1.9nm,0.4s,baz=63,slow=3.5,SNR=11
BOSA LR LR 21 09 47.2
comp=Z,50nm,20.7s,baz=22,slow=33
comp=Z,1.9nm,0.4s
H29M **Whitestone** 83.52 19 IAmb IAmb 20 35 53.1
comp=Z,49nm,1.7s
H29M **Whitestone** 83.52 19 P P 20 35 51.1 -0.7
baz=312
I28M **Miner Creek** 83.55 20 IAmb IAmb 20 35 53.6
comp=Z,31nm,1.6s
I28M **Miner Creek** 83.55 20 P P 20 35 52.0 0.0
baz=311
EGAK **Eagle** 83.59 21 P P 20 35 52.4 +0.2
baz=310
G30M **tAoh Zraii Nji** 83.62 18 IAmb IAmb 20 35 52.6
comp=Z,28nm,1.1s
G30M **tAoh Zraii Nji** 83.62 18 P P 20 35 52.3 -0.1
baz=314
HARP **HAARP** 83.65 24 P P 20 35 52.7 +0.1
baz=306
K27K **Chicken** 83.75 22 IAmb IAmb 20 35 54.6
comp=Z,23nm,1.2s
K27K **Chicken** 83.75 22 P P 20 35 53.3 +0.3
baz=309
KLU **Klutina** 83.90 25 IAmb IAmb 20 35 54.8
comp=Z,21nm,1.2s
KLU **Klutina** 83.90 25 P P 20 35 54.0 +0.1
baz=306,SNR=8.0
EPYK **Eagle Plains** 83.91 18 IAmb IAmb 20 35 53.9
comp=Z,20nm,1.1s
EPYK **Eagle Plains** 83.91 18 P P 20 35 53.2 -0.6
baz=314,SNR=6.5
F31M **Tsiigehtchic** 83.98 17 IAmb IAmb 20 35 55.3
comp=Z,17nm,1.1s
F31M **Tsiigehtchic** 83.98 17 P P 20 35 53.6 -0.4
baz=316,SNR=7.6
I29M **Ogilvie Camp,** 84.12 20 P P 20 35 54.4 -0.5
baz=312
G31M **Satah River** 84.21 17 P P 20 35 54.8 -0.5
baz=316,SNR=8.7
N25K **Chitina, Valde** 84.34 24 P P 20 35 56.5 +0.4
baz=307,SNR=15
M26K **Nabesna, AK** 84.45 23 IAmb IAmb 20 35 58.9
comp=Z,22nm,1.2s
M26K **Nabesna, AK** 84.45 23 P P 20 35 57.2 +0.5
baz=308,SNR=10
L27K **Beaver Creek,** 84.45 22 P P 20 35 57.4 +0.8
baz=309
EYAK **Cordova Ski Ar** 84.52 25 P P 20 35 57.5 +0.6
baz=306
DAWY **Dawson** 84.64 21 P P 20 35 57.3 -0.2
baz=311,SNR=12
PCBR **Castelo Branco** 84.72 311 *e*P P 20 35 59.9 +1.5
comp=Z,40nm,1.4s
BMRM **Bremner River** 84.72 25 P P 20 35 57.8 -0.3
baz=307,SNR=12
GLB **Gilahina Butte** 84.74 24 IAmb IAmb 20 35 59.3
comp=Z,20nm,1.3s
C36M **Paulatuk** 84.80 13 P P 20 35 57.4 -0.8
baz=325,SNR=20
I30M **Mount Dempster** 84.80 19 P P 20 35 57.9 -0.6
baz=314,SNR=9.8
PMRV **Marv??o** 84.83 310 *e*P P 20 35 59.7 +0.7
comp=Z,24nm,1.7s
M27K **Edge Creek, AK** 84.88 23 IAmb IAmb 20 36 00.5
comp=Z,19nm,1.1s
M27K **Edge Creek, AK** 84.88 23 P P 20 35 59.1 +0.2
baz=309
VRDI **Verde Repeater** 85.01 24 IAmb IAmb 20 36 13.6
comp=Z,25nm,1.6s
MCARA **McCarthy VSAT** 85.07 24 P P 20 36 00.2 +0.5
baz=308,SNR=7.3
PBAR **Barrancos** 85.09 309 *e*P P 20 36 01.2 +0.9
comp=Z,19nm,0.7s
BVCY **Beaver Creek** 85.21 23 P P 20 36 00.8 +0.3
baz=310,SNR=6.0
J30M **Hart River** 85.27 20 P P 20 36 00.6 -0.2
baz=314
K29M **Barlow Dome** 85.40 20 P P 20 36 01.2 -0.2
baz=313
MDT **Midelt** 85.41 303 LR LR 21 22 16.5
comp=Z,53nm,18.4s,baz=52,slow=41
BERG **Berg Lake** 85.43 25 IAmb IAmb 20 36 45.6
comp=Z,54nm,1.6s
KAIM **Kayak Island** 85.43 26 P P 20 36 01.3 -0.2
baz=307
CRQE **Cirque** 85.44 25 P P 20 36 01.2 -0.5
baz=308
TSUM **Tsumeb** 85.45 247 LR LR 21 14 02.9
comp=Z,57nm,20.5s,baz=78,slow=35
TGL **Tana Glacier** 85.54 24 IAmb IAmb 20 36 03.4
comp=Z,36nm,1.2s
PMTG **Montargil** 85.56 310 *e*P P 20 36 03.8 +1.2
comp=Z,45nm,2.0s
EVO **Evora** 85.64 310 *e*P P 20 36 03.7 +0.7
comp=Z,22nm,1.9s
L29M **L29M** 85.70 21 P P 20 36 03.0 +0.2
baz=312
PBEJ **Beja** 85.74 309 *e*P P 20 36 04.5 +1.0
comp=Z,27nm,1.8s
BGLC **Bering Glacier** 85.76 25 P P 20 36 03.1 0.0
baz=308
YUK3 **Moose Creek** 85.77 23 P P 20 36 03.5 +0.1
baz=310
BARN **Barnard Glacie** 85.79 24 IAmb IAmb 20 36 06.2
comp=Z,9.6nm,0.6s
GRNC **Granite Creek** 85.97 24 IAmb IAmb 20 36 05.9
comp=Z,20nm,1.2s
CTG **Chitna Glacier** 85.97 24 P P 20 36 04.9 +0.5
baz=310,SNR=6.3
CTGM **Chitina Glacie** 85.97 24 IAmb IAmb 20 36 05.9
comp=Z,19nm,1.2s
PCVE **Castro Verde** 86.03 309 *e*P P 20 36 05.9 +0.9
comp=Z,37nm,1.7s
M29M **Somme Creek** 86.03 22 P P 20 36 04.8 +0.2
baz=312
MESJ **Messejana** 86.07 309 *e*P P 20 36 06.1 +0.9
comp=Z,87nm,1.6s
MESJ **Messejana** 86.07 309 *e*P P 20 36 06.0 +0.9
MESJ IAmb IAmb 20 36 08.2
comp=Z,8.1nm,0.9s
PNCL **Nicolau / Gran** 86.18 310 *e*P P 20 36 06.9 +1.2
comp=Z,39nm,1.6s
YUK8 **Steele Glacier** 86.35 23 P P 20 36 06.2 -0.1
baz=311
M30M **Minto, Yukon** 86.51 21 P P 20 36 07.5 +0.6
baz=314
YUK4 **Talbot Arm** 86.71 23 P P 20 36 08.0 -0.1
baz=312
PINM **Pinnacle** 86.95 24 P P 20 36 09.5 +0.4
baz=311
YUK6 **Outpost Mounta** 87.08 23 P P 20 36 09.8 -0.1
baz=312
N30M **Aishikik Lake** 87.18 22 IAmb IAmb 20 36 11.7
comp=Z,9.3nm,1.1s
N30M **Aishikik Lake** 87.18 22 P P 20 36 10.5 +0.3
baz=313
O29M **Mount Kennedy** 87.44 23 P P 20 36 11.6 +0.1
baz=312
HYT **Haines Junctio** 87.47 23 P P 20 36 12.0 +0.4
baz=313
TOA0 **Torodi Ar. Sit** 87.53 283 P P 20 36 13.6 +0.9
TORD **Torodi Ar. Bea** 87.53 283 P P 20 36 13.6 +0.9
comp=Z,3.8nm,0.8s,baz=57,slow=5.3,SNR=20
TORD PP PP 20 39 40.0 +1.4
comp=Z,2.0nm,1.0s,baz=54,slow=9.5,SNR=4.7
TORD PKKPbc **PKKPbc** 20 54 01.3 +1.0
comp=Z,0.3nm,0.4s,baz=322,slow=1.8,SNR=5.5
TORD LR LR 21 19 04.8
comp=Z,54nm,19.2s,baz=114,slow=38
comp=Z,3.8nm,0.8s
PNL **Peninsula** 87.55 24 P P 20 36 12.3 +0.4
baz=312
M31M **Drury Creek, Y** 87.57 21 IAmb IAmb 20 36 12.9
comp=Z,36nm,1.9s
M31M **Drury Creek, Y** 87.57 21 P P 20 36 12.0 +0.1
baz=316
N31M **Braeburn, Yuko** 87.61 22 IAmb IAmb 20 36 13.6
comp=Z,26nm,1.2s
N31M **Braeburn, Yuko** 87.61 22 P P 20 36 12.6 +0.4
baz=315,SNR=7.2
FARO **Faro, Yukon** 87.89 20 IAmb IAmb 20 37 39.1
comp=Z,24nm,1.8s
FARO **Faro, Yukon** 87.89 20 P P 20 36 13.7 +0.1
baz=317
O30N **Mendenhall** 88.01 22 IAmb IAmb 20 36 15.7
comp=Z,15nm,1.1s
O30N **Mendenhall** 88.01 22 P P 20 36 14.7 +0.6
baz=314
P30M **Million Dollar** 88.15 23 P P 20 36 15.1 +0.3
baz=314
P29M **Windy Craggy** 88.20 24 P P 20 36 15.2 +0.1
baz=313
MMPY **Sheldon Lake,** 88.25 19 IAmb IAmb 20 36 17.6
comp=Z,33nm,1.6s
MMPY **Sheldon Lake,** 88.25 19 P P 20 36 15.8 +0.6
baz=318,SNR=7.2
WHY **Whitehorse** 88.51 22 IAmb IAmb 20 38 18.6

comp=Z,35nm,1.9s
WHY **Whitehorse** 88.51 22 P P 20 36 17.0 +0.5
baz=315
SUR **Sutherland** 88.62 234 LR LR 21 09 49.2
comp=Z,85nm,21.6s,baz=22,slow=31
N32M **Quiet Lake** 88.76 21 P P 20 36 18.3 +0.7
baz=317
SKAG **Skagway** 89.20 23 P P 20 36 20.2 +0.5
baz=315
P33M **Teslin, Yukon** 89.54 21 P P 20 36 21.4 0.0
baz=317
P32M **Atlin** 89.69 22 P P 20 36 22.5 +0.5
baz=316
S31K **Pelican** 89.92 24 P P 20 36 24.1 +1.1
baz=314
WRGLY **Wrigley** 89.97 16 P P 20 36 23.5 +0.3
baz=325
TGTN **Hyland Airport** 90.00 19 P P 20 36 23.4 0.0
baz=321
Q32M **Nakina River** 90.65 22 P P 20 36 26.9 +0.2
baz=318
R33M **Jennings River** 90.78 21 IAmb IAmb 20 36 28.9
comp=Z,10nm,1.1s
R33M **Jennings River** 90.78 21 P P 20 36 27.8 +0.6
baz=319
S32K **Kitkiset** 90.90 24 P P 20 36 28.3 +0.7
baz=316
S34M **Telegraph Cree** 91.84 22 P P 20 36 32.1 +0.2
baz=319
YKA **Yellowknife Ar** 92.68 13 P P 20 36 35.2 -0.5
comp=Z,3.4nm,0.9s,baz=326,slow=4.4,SNR=33
YKA PKKP **PKKPdf** 20 53 46.0 +0.7
comp=Z,0.3nm,0.7s,baz=169,slow=1.8,SNR=3.9
comp=Z,3.4nm,0.9s
T35M **Bob Quinn** 92.85 23 P P 20 36 36.6 -0.2
baz=319
FRB **Frobisher Bay** 93.45 352 LR LR 21 21 57.7
comp=Z,99nm,21.0s,baz=8.5,slow=38
DBIC **Dimbokro** 95.96 280 P P 20 36 51.9 +0.1
comp=Z,1.9nm,0.7s,baz=338,slow=14,SNR=2.1
DBIC LR LR 21 24 07.9
comp=Z,50nm,18.7s,baz=8.0,slow=38
comp=Z,1.9nm,0.7s
LAO **LASA Array** 109.12 15 P PKiKP 20 41 53.7 0.0
baz=340
HLID **Hailey** 109.59 22 P PKiKP 20 41 54.4 -0.3
baz=332
RLMT **Red Lodge** 109.79 18 P PKiKP 20 41 55.0 -0.1
baz=337
EYMN **Ely** 110.15 4 P PKiKP 20 41 55.5 0.0
baz=354
BW06 **Boulder Array** 111.87 19 P PKiKP 20 41 58.8 -0.3
baz=336
PDAR **Pinedale Array** 111.87 19 PKiKP PKiKP 20 41 58.1 -1.0
comp=Z,0.9nm,0.6s,baz=124,slow=2.2,SNR=8.9
PDAR SKP 20 45 25.0
comp=Z,0.5nm,0.7s,baz=90,slow=3.0,SNR=3.5
RSSD **Black Hills** 112.05 14 P PKiKP 20 41 58.8 -0.6
baz=342
NVAR **Mina Array Bea** 112.51 27 PKiKP PKiKP 20 42 01.1 +0.6
comp=Z,0.8nm,0.5s,baz=320,slow=2.2,SNR=10
R11B **Troy Canyon, C** 113.70 25 P PKiKP 20 42 02.1 -0.6
baz=330
ECSD **EROS Data Cent** 113.79 9 P PKiKP 20 42 02.5 0.0
baz=349
VES **Vestal, Richgr** 114.33 29 P PKiKP 20 42 03.1 -0.6
baz=326
TPNV **Topopah Spring** 114.63 27 P PKiKP 20 42 03.7 -0.8
baz=329
O20A **White River Ci** 114.67 19 P PKiKP 20 42 03.9 -0.7
baz=337
MPMC **Manual Prospec** 114.86 28 P PKiKP 20 42 04.2 -0.8
baz=327
LRMC **Laurel Mtn Rad** 115.26 29 P PKiKP 20 42 05.1 -0.6
baz=327
BINY **Binghamton** 115.46 352 P PKPdf 20 42 06.0 +0.2
baz=9.9
M53A **WI Miller and** 116.68 356 P PKPdf 20 42 07.9 -0.2
baz=5.1
BELC **Belle Mtn. Jos** 117.25 28 P PKPdf 20 42 09.4 -0.2
baz=328
S22A **4UR Ranch, Cre** 117.30 19 P PKPdf 20 42 09.0 -0.8
baz=338
IRM **Iron Mountain** 117.48 27 P PKPdf 20 42 10.0 0.0
baz=329
HDIL **Hopedale** 117.64 3 P PKPdf 20 42 09.2 -0.8
baz=356
SDCO **Great Sand Dun** 117.68 18 P PKPdf 20 42 09.3 -1.3
baz=339
BC3 **Big Chuckawall** 117.78 28 P PKPdf 20 42 10.1 -0.5
baz=329
WUAZ **Wupatki** 117.80 24 P PKPdf 20 42 10.1 -0.6
baz=333
O53A **New Philadelph** 117.90 356 P PKPdf 20 42 10.0 -0.5
baz=4.6
MONP2 **Monument Peak** 117.99 29 P PKPdf 20 42 10.4 -0.8
baz=328
ACSO **Alum Creek Sta** 118.00 358 P PKiKP 20 42 10.9 +0.2
baz=2.8
O48B **Farmland** 118.03 360 P PKPdf 20 42 10.3 -0.5
baz=0.5
KSU1 **Kansas State U** 118.33 10 P PKPdf 20 42 10.9 -0.5
baz=348
IKP **In-Ko-Pah, Jac** 118.34 29 P PKPdf 20 42 11.3 -0.4
baz=328
MCWV **Mont Chateau** 118.39 355 P PKPdf 20 42 11.1 -0.4
baz=6.0
T25A **Trinidad** 118.55 17 P PKPdf 20 42 11.4 -0.8
baz=340
P52A **Corning** 118.56 357 P PKPdf 20 42 11.1 -0.7
baz=3.7
P49A **Miami Univ. Ec** 118.75 359 P PKPdf 20 42 11.7 -0.5
baz=0.9
W18A **Petrified Fore** 118.75 22 P PKPdf 20 42 11.3 -1.2
baz=334
P48A **Milroy** 118.83 360 PKPdf 20 42 10.8 -1.5
BELA **Belgrano 2** 119.20 191 PKPdf PKPdf 20 42 11.0 -0.8
CBN **Corbin Frederi** 119.57 352 P PKPdf 20 42 13.3 -0.5
baz=8.8
ANMO **Albuquerque** 120.00 20 PKPdf 20 42 14.5 -0.5
ANMO **Albuquerque** 120.00 20 P PKPdf 20 42 14.5 -0.5
baz=338
ANMO **Albuquerque** 120.00 20 PKIKP PKPdf 20 42 14.5 -0.5
CCM **Cathedral Cave** 120.00 5 P PKPdf 20 42 14.3 -0.3
baz=354
WCI **Wyandotte Cave** 120.05 1 P PKPdf 20 42 13.6 -1.1
baz=359
PPT2 **Papeete2** 120.10 98 eLR LR 21 19 02.8
comp=Z,62nm,28.5s
PPT2 eLR LR 21 19 20.0
comp=Z,117nm,30.0s
214A **Organ Pipe Nat** 120.36 27 P PKPdf 20 42 14.9 -0.6
baz=331
BLA **Blacksburg** 120.86 355 P PKPdf 20 42 15.7 -0.6
baz=5.6
TUC **Tucson** 120.87 25 P PKiKP 20 42 16.7 0.0
baz=333
AMTX **Amarillo** 121.39 15 P PKPdf 20 42 17.5 0.0
baz=343
TUL3 **Leonard** 121.58 10 P PKPdf 20 42 17.6 -0.1
baz=349
TBI **Tubuai** 121.59 105 eLR LR 21 19 43.9
comp=Z,519nm,37.5s
TZTN **Tazewell** 121.70 358 P PKPdf 20 42 18.0 0.0
baz=2.2
121A **Cookes Peak, D** 121.77 22 P PKPdf 20 42 18.3 -0.2
baz=336
MSTX **Muleshoe** 121.98 17 P PKPdf 20 42 18.2 -0.5
baz=341
WVT **Waverly** 122.12 2 PKPdf 20 42 17.4 -1.4
WVT **Waverly** 122.12 2 P PKPdf 20 42 18.0 -0.7
baz=358
WVT **Waverly** 122.12 2 PKIKP PKPdf 20 42 17.4 -1.4
MNTX **Cornudas Mount** 123.34 20 P PKiKP 20 42 21.5 0.0
baz=338
OXF **Oxford** 123.66 4 P PKPdf 20 42 21.4 -0.3
baz=356
ABTX **Abilene, Hawle** 124.04 14 P PKPdf 20 42 22.3 -0.2
baz=344
GOGA **Godfrey** 124.82 358 P PKPdf 20 42 24.2 +0.2
baz=2.4
WHTX **Lake Whitney,** 125.11 12 P PKPdf 20 42 24.5 -0.1
baz=347
LRAL **Lakeview Retre** 125.22 1 P PKPdf 20 42 24.6 -0.2
baz=358
NATX **Nacogdoches** 125.82 9 P PKiKP 20 42 26.3 0.0
baz=350
JCT **Junction City** 126.05 15 P PKPdf 20 42 26.7 +0.1
baz=344
TXAR **Lajitas Array** 126.07 19 PKP PKiKP 20 42 27.1 0.0
comp=Z,1.9nm,0.5s,baz=48,slow=1.2,SNR=30
TXAR SKP 20 45 52.2
comp=Z,0.6nm,0.7s,baz=284,slow=0.5,SNR=3.6
435B **Jarrell** 126.26 13 P PKPdf 20 42 26.8 0.0
baz=346
TIGA **Tifton** 126.79 358 P PKPdf 20 42 27.4 -0.4
baz=2.3
BRAL **Brewton** 127.08 1 P PKPdf 20 42 28.5 +0.1
baz=358
833A **Chaparral WMA,** 128.22 15 P PKPdf 20 42 30.2 -0.4
baz=344
BDFB **Brasilia** 143.85 273 PKP PKPdf 20 43 00.6 +0.7
comp=Z,2.9nm,0.4s,baz=164,slow=2.7,SNR=6.6
BAUV **El Baul** 144.68 329 PKPdf PKPab 20 42 59.8 -0.3
BOAV **Boa Vista** 145.44 311 eP PKPab 20 43 03.1 +0.1
SDV **Santo Domingo** 145.91 333 eP PKPbc 20 43 04.1 -0.3
PAMC **Pamplona, Colo** 148.15 335 eP PKPbc 20 43 10.2 -0.9
UREC **San Jos de Ur** 148.77 340 eP PKPbc 20 43 11.7 -0.4
ZARC **Zaragoza, Cauc** 148.79 339 eP PKPdf 20 43 10.0 +1.8
BARC **Barichara** 149.02 335 eP PKPbc 20 43 12.2 -0.8
PTBC **PUERTO BERRIO** 149.54 338 eP PKPbc 20 43 13.9 -0.2
DBBC **Dabeiba** 149.67 341 eP PKiKP 20 43 15.4 -0.1
SPBC **San Pablo de B** 150.22 336 eP PKiKP 20 43 16.3 -0.3
ROSC **El Rosal** 151.06 336 eP PKiKP 20 43 19.9 +1.2
ROSC **El Rosal** 151.06 336 PKPbc PKiKP 20 43 19.6 +0.9
comp=Z,66nm,0.7s,baz=119,slow=7.7,SNR=22
GUY2C **Guyana, Caldas** 151.08 338 eP PKPbc 20 43 18.4 +0.1
PLMC **San Jos del P** 151.69 340 eP PKiKP 20 43 19.6 0.0
ORTC **Ortega, Tolima** 152.26 337 eP PKPbc 20 43 19.6 -0.9
YOTC **Yotoco, Valle** 152.57 339 eP PKPbc 20 43 20.8 -0.5
JAMC **Jamundi, Valle** 153.40 340 eP PKPbc 20 43 23.2 0.0
CPUP **Villa Florida** 153.81 255 PKPbc 20 43 22.4 -1.0
CPUP **Villa Florida** 153.81 255 PKIKP PKPbc 20 43 22.4 -1.0
CPUP **Villa Florida** 153.81 255 PKPbc PKPbc 20 43 22.8 -0.7
comp=Z,5.5nm,0.6s,baz=80,slow=2.2,SNR=16
GARC **Garzon, Huila** 153.95 336 eP PKPbc 20 43 23.9 -0.5
POPC **Popayan, Colom** 154.03 339 eP PKPbc 20 43 24.3 -0.3

IDC 20 20:44:45.0±2.2, 3°.87N×127°.37E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=156.3km s-min=27.6km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.64**	**164**	P	P	20 50 07.4	0.0
	1.4nm,0.7s,baz=344,slow=10,SNR=14						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**28.10**	**167**	P	P	20 50 38.8	+0.1
	0.3nm,0.6s,baz=348,slow=6.9,SNR=5.2						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**57.81**	**325**	P	P	20 54 38.1	-0.1
	0.1nm,0.4s,baz=117,slow=7.9,SNR=4.3						
	0.1nm,0.4s						

*IDC **28** 20:47:43.1±1.1, 3°.15S×148°.60E, h0km, mb3.9/12, mbtmp3.9/13, ML1.3/1, MS3.1/2, Error ellipse: s-maj=40.2km s-min=16.4km az=102.0*

ISC 28 20:47:46.1±0.9, 3°.12S±0°.09×148°.6E±0°.3, h18km, n24, σ0s99/16, mb3.9/12, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.41**	**193**	Pn	**Pn**	**20 49 20.1**	**+0.4**
	0.4nm,0.3s,baz=212,slow=17,SNR=1.7						
PMG				Sn	**Sn**	**20 50 34.0**	**+1.6**
	0.4nm,0.3s,baz=22,slow=19,SNR=1.4						
	4.1nm,0.6s						
CTA	**Charters Tower**	**17.02**	**187**	LR	LR	20 58 14.6	
	comp=Z,120nm,19.6s,baz=296,slow=37						
WRA	**Warramunga Arr**	**21.74**	**219**	P	**P**	**20 52 36.3**	**-0.6**
	3.4nm,0.6s,baz=44,slow=9.8,SNR=35						
	3.4nm,0.6s						
ASAR	**Alice Springs**	**24.87**	**214**	P	**P**	**20 53 08.0**	**0.0**
	3.1nm,0.7s,baz=36,slow=7.3,SNR=43						
	3.1nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**27.92**	**39**	T	T	21 22 57.0	
	baz=222,slow=76,SNR=735						
H11S2	**WAKE ISLAND Hy**	**27.92**	**39**	T	T	21 23 00.7	
	baz=222,slow=76,SNR=476						
H11S1	**WAKE ISLAND Hy**	**27.93**	**39**	T	T	21 23 01.3	
	baz=222,slow=76,SNR=456						
H11N1	**WAKE ISLAND Hy**	**28.96**	**38**	T	T	21 24 19.6	
	baz=220,slow=76,SNR=101						
H11N3	**WAKE ISLAND Hy**	**28.97**	**38**	T	T	21 24 20.5	
	baz=220,slow=76,SNR=140						
H11N2	**WAKE ISLAND Hy**	**28.98**	**38**	T	T	21 24 18.5	
	baz=220,slow=76,SNR=245						
STKA	**Stephens Creek**	**29.35**	**192**	P	**P**	**20 53 46.4**	**-1.7**
	0.5nm,0.6s,baz=6.9,slow=12,SNR=3.0						
	0.5nm,0.6s						
JCJ	**Chichijima**	**30.66**	**349**	LR	LR	21 05 20.6	
	comp=Z,15nm,18.7s,baz=279,slow=34						
CMAR	**Chiang Mai Arr**	**53.36**	**296**	P	**P**	**20 57 05.3**	**+0.3**
	0.9nm,0.8s,baz=120,slow=6.4,SNR=5.8						
	0.9nm,0.8s						
PETK	**Petropavlovsk-**	**56.54**	**7**	P	**P**	**20 57 28.4**	**+1.0**
	2.8nm,0.8s,baz=264,slow=7.4,SNR=1.5						
	2.8nm,0.8s						
SONM	**Songino Array**	**62.70**	**329**	P	**P**	**20 58 10.6**	**+0.5**
	1.5nm,0.8s,baz=144,slow=5.8,SNR=8.0						
	1.5nm,0.8s						
MKAR	**Makanchi Array**	**76.31**	**320**	P	**P**	**20 59 34.2**	**+0.1**
	0.8nm,0.8s,baz=104,slow=6.3,SNR=6.8						
	0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**77.44**	**327**	P	**P**	**20 59 39.9**	**-0.4**
	1.1nm,0.9s,baz=106,slow=5.3,SNR=5.0						
	1.1nm,0.9s						
KURBB	**Kurchatov Arra**	**79.90**	**323**	P	**P**	**20 59 53.8**	**-0.1**
	0.7nm,0.6s,baz=99,slow=5.9,SNR=4.5						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**82.23**	**23**	P	**P**	**21 00 06.7**	**+0.6**
	0.4nm,0.8s,baz=246,slow=5.9,SNR=5.1						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**85.39**	**324**	P	**P**	**21 00 21.7**	**-0.7**
	0.4nm,0.6s,baz=131,slow=5.9,SNR=2.5						
	0.4nm,0.6s						
H02S1	**DAWSON INLET T**	**85.87**	**36**	T	T	22 35 31.1	
	SNR=13						
YKA	**Yellowknife Ar**	**95.91**	**28**	P	**P**	**21 01 11.2**	**-0.4**
	0.4nm,0.7s,baz=273,slow=4.9,SNR=5.9						
	0.4nm,0.7s						
SPITS	**Spitsbergen Ar**	**101.02**	**351**	P	**Pdif**	**21 01 32.3**	**-2.0**
	15nm,1.0s,baz=335,slow=5.5,SNR=5.3						
TORD	**Torodi Ar. Bea**	**145.78**	**289**	PKPbc	**PKPab**	**21 07 25.1**	**-0.6**
	1.2nm,1.0s,baz=30,slow=5.0,SNR=5.6						

*KRNET **28** 20:48:44.8±0.1, 39°.25N×71°.55E, h12km, mb3.2*
*SOME **28** 20:48:49.0, 39°.50N×71°.57E, h10km*
*NNC **28** 20:48:51.9±3.7, 39°.59N×71°.67E, h0km, mb4.0, mpv3.5, Error ellipse: s-maj=31.3km s-min=21.4km az=159.0*

ISC 28 20:48:46.6±1.5, 39°.51N±0°.06×71°.58E±0°.05, h16km±9km, n21, σ1s79/33, 21C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.17**	**100**	↑*e*P	**Pb**	**20 48 50.8**	**-0.8**
	baz=41						
DRK				↑*e*S	**Sg**	**20 48 55.5**	**+1.2**
	baz=41						
BTK	**Batken**	**0.80**	**313**	↑*i*P	**Pn**	**20 49 03.7**	**+0.4**
	baz=25						
BTK				↑*i*S	**Sn**	**20 49 17.2**	**+2.3**
	baz=25						
SFK	**Sufi-Kurgan**	**1.56**	**71**	↑*e*P	**Pg**	**20 49 16.5**	**-0.2**
	baz=63						
SFK				↑*i*S	**Sg**	**20 49 39.5**	**+2.4**
	baz=63						
TRKS	**Terek-Say**	**2.04**	**351**	↑*e*P	**Pg**	**20 49 25.1**	**-0.7**
	baz=53						
TRKS				↑*i*S	**Sg**	**20 49 54.4**	**+2.1**
	baz=53						
ARSB	**Arslanbob**	**2.10**	**30**	↑*e*P	**Pg**	**20 49 26.3**	**-0.6**
	baz=27						
ARSB				↑*e*S	**Sg**	**20 49 57.2**	**+2.9**
	baz=27						
ARK	**Arkit**	**2.30**	**7**	↑*i*P	**Pg**	**20 49 29.8**	**-0.9**
	baz=7.0						
ARK				↑*i*S	**Sg**	**20 50 02.6**	**+2.0**
	baz=7.0						
AML	**Almayashu**	**3.07**	**31**	↑*e*P	**Pb**	**20 49 40.4**	**-0.6**
	baz=29						
AML				↑*i*S	**Sb**	**20 50 20.8**	**+2.4**
	baz=29						
ARLS	**Aral**	**3.14**	**41**	↑*e*P	**Pb**	**20 49 40.7**	**-1.4**
	baz=38						
ARLS				↑*i*S	**Sb**	**20 50 21.4**	**+1.2**
	baz=38						
DZA	**Taraz**	**3.38**	**357**	*e*Pg	**Pg**	**20 49 51.2**	**-0.1**
	24nm,0.1s						
DZA				*e*Lg	Lg	20 50 36.0	
	41nm,0.2s						
MRKS	**Merke**	**3.46**	**21**	*e*Pg	**Pg**	**20 49 51.8**	**-1.1**
	3.9nm,0.4s						
MRKS				*e*Lg	Lg	20 50 36.9	
	8.9nm,0.2s						
MRKS	**Merke**	**3.46**	**21**	Pg	**Pg**	**20 49 51.8**	**-1.1**
	3.9nm,0.4s						
MRKS				Lg	Lg	20 50 36.9	
	9.0nm,0.6s						
UCH	**Uchtor**	**3.51**	**38**	↓*e*P	**Pb**	**20 49 46.2**	**-2.3**
	baz=36						
UCH				↓*i*S	**Sb**	**20 50 30.8**	**-0.3**
	baz=36						
KK31	**Karatay Array**	**3.68**	**348**	Pn	**Pb**	**20 49 49.4**	**-1.7**
	2.8nm,0.3s,baz=174,slow=13,SNR=56						
KK31				↑Lg	Lg	20 50 49.0	
	5.7nm,0.5s,baz=168,slow=28,SNR=4.7						
KKAR	**Karatay Array**	**3.68**	**348**	↓*i*P	**Pb**	**20 49 48.6**	**-2.5**
	baz=49						
KKAR				↓*i*S	**Sb**	**20 50 35.1**	**-0.4**
	baz=49						
KZA	**Kyzart**	**3.79**	**46**	↑*e*P	**Pb**	**20 49 49.8**	**-3.4**
	baz=44						
KZA				↑*i*S	**Sb**	**20 50 37.0**	**-2.0**
	baz=44						
AAK	**Ala-Archa**	**3.82**	**34**	↑*i*P	**Pb**	**20 49 50.5**	**-3.2**
	baz=32						
AAK				↑*i*S	**Sb**	**20 50 38.4**	**-1.4**
	baz=32						
CHMS	**Chumysh**	**4.22**	**33**	Pg	**Pn**	**20 49 51.1**	**+0.8**
	31nm,0.2s						
CHMS				Lg	Lg	20 50 36.1	
	88nm,0.6s						
DGS	**Degeres**	**4.88**	**39**	*e*Pg	**Pg**	**20 50 18.2**	**-1.8**
	1.7nm,0.3s						
DGS				*e*Lg	Lg	20 51 22.4	
	3.1nm,0.3s						
DGS	**Degeres**	**4.88**	**39**	Pg	**Pg**	**20 50 20.6**	**+0.6**
	2.6nm,0.5s						
DGS				Lg	Lg	20 51 26.9	
	7.5nm,0.7s						
KRBS	**Karabastau**	**5.19**	**35**	*e*Pg	**Pg**	**20 50 24.9**	**-1.0**
	1.8nm,0.2s						
KRBS				*e*Lg	Lg	20 51 34.1	
	3.1nm,0.3s						
KRBS	**Karabastau**	**5.19**	**35**	Pg	**Pg**	**20 50 24.9**	**-1.0**
	1.8nm,0.5s						
KRBS				Lg	Lg	20 51 34.1	
	3.2nm,0.9s						

*JMA **28** 20:49:55.6±0.2, 24°.N±2°.×122°.4E±0°.6, h99km±1km, MV2.0/12, NW OFF ISHIGAKIJIMA IS*
*TAP **28** 20:49:55.3, 24°.69N×122°.43E, h103km, ML2.8, C*

ISC 28 20:49:56.1±1.4, 24°.64N±0°.04×122°.46E±0°.02, h95km±7km, n85, σ0s93/161, 14C-21D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.31**	**223**	P	**Pn**	**20 50 10.4**	**+0.4**
	baz=222						
EOS2				S	**Sn**	**20 50 22.4**	**+2.1**
	baz=222						
EOS3	**EOS3**	**0.38**	**200**	↓P	**Pn**	**20 50 11.0**	**+0.6**
	baz=210						
EOS3				*e*S	**Sn**	**20 50 23.4**	**+2.5**
	baz=210						
JYNG	**Yonagunijimaku**	**0.48**	**113**	P	**Pn**	**20 50 11.2**	**0.0**
JYNG				S	**Sn**	**20 50 22.7**	**+0.3**
YOJ	**Yonaguni jima**	**0.53**	**110**	P	**Pn**	**20 50 11.7**	**+0.1**
YOJ				*e*S	**Sn**	**20 50 23.2**	**+0.1**
YOJ	**Yonaguni jima**	**0.53**	**110**	↑P	**Pn**	**20 50 11.9**	**+0.4**
	baz=120						
YOJ				*e*S	**Sn**	**20 50 23.4**	**+0.3**
	baz=120						
EOS4	**EOS4**	**0.54**	**194**	P	**Pn**	**20 50 11.4**	**+0.2**
	baz=199						
EOS4				S	**Sn**	**20 50 23.1**	**+0.6**
	baz=199						
TWC	**Suao**	**0.56**	**267**	P	**Pn**	**20 50 11.3**	**-0.5**
	baz=261						
TWC				S	**Sn**	**20 50 22.4**	**-1.1**
	baz=261						
ESAO	**Su ao**	**0.57**	**263**	P	**Pn**	**20 50 11.2**	**-0.7**
	baz=255						
ESAO				*i* S	**Sn**	**20 50 23.3**	**-0.3**
	baz=255						
EWUT	**Wuta**	**0.65**	**253**	P	**Pn**	**20 50 12.3**	**-0.3**
	baz=245						
EWUT				S	**Sn**	**20 50 25.4**	**+0.4**
	baz=245						
ILA	**Ilan**	**0.66**	**281**	P	**Pn**	**20 50 12.4**	**-0.3**
	baz=277						
ILA				*i* S	**Sn**	**20 50 25.2**	**+0.2**
	baz=277						
TIPB	**Shuangxi**	**0.67**	**300**	↑*i*P	**Pn**	**20 50 12.5**	**-0.3**
	baz=292						
TIPB				*i* S	**Sn**	**20 50 24.6**	**-0.6**
	baz=292						
NDS	**Dongshan**	**0.68**	**269**	*i* P	**Pn**	**20 50 13.0**	**+0.2**
	baz=265						
NDS				*i* S	**Sn**	**20 50 25.1**	**-0.2**
	baz=265						
ENA	**Nanau**	**0.69**	**252**	↓P	**Pn**	**20 50 12.9**	**0.0**
	baz=245						
ENA				S	**Sn**	**20 50 26.1**	**+0.5**
	baz=245						
SXI1	**Grass Mountain**	**0.70**	**310**	P	**Pn**	**20 50 13.1**	**-0.1**
	baz=308						
SXI1				S	**Sn**	**20 50 26.8**	**+1.0**
	baz=308						
TWE	**Neicheng**	**0.73**	**276**	↑*i*P	**Pn**	**20 50 13.3**	**0.0**
	baz=272						
TWE				*e*S	**Sn**	**20 50 25.6**	**-0.6**
	baz=272						
EAHA	**Aohua**	**0.73**	**245**	↓P	**Pn**	**20 50 13.1**	**-0.2**
	baz=233						
EAHA				S	**Sn**	**20 50 26.5**	**+0.3**
	baz=233						
NWF	**Wu-fen Shan**	**0.75**	**305**	P	**Pn**	**20 50 13.8**	**+0.1**
	baz=297						
NWF				S	**Sn**	**20 50 26.2**	**-0.5**
	baz=297						
WFSB	**Wu-fen Shan**	**0.75**	**305**	P	**Pn**	**20 50 13.6**	**+0.1**
	baz=297						
WFSB				*e*S	**Sn**	**20 50 25.3**	**-1.3**
	baz=297						
FUSB	**Fushanzhiwuyua**	**0.80**	**279**	↑*i*P	**Pn**	**20 50 13.9**	**-0.2**
	baz=280						
FUSB				*e*S	**Sn**	**20 50 27.0**	**-0.7**
	baz=280						
ENTT	**Nioudou**	**0.81**	**270**	↑P	**Pn**	**20 50 14.6**	**+0.4**
	baz=273						
LATG	**Datong**	**0.86**	**263**	↓*i*P	**Pn**	**20 50 14.9**	**+0.1**
	baz=254						
LATG				S	**Sn**	**20 50 29.5**	**+0.8**
	baz=254						
NDT	**Datong Townshi**	**0.86**	**268**	↑P	**Pn**	**20 50 14.8**	**+0.1**
	baz=264						
NDT				*i* S	**Sn**	**20 50 29.2**	**+0.6**
	baz=264						
TWA	**Mucha**	**0.87**	**293**	P	**Pn**	**20 50 14.4**	**-0.3**
	baz=283						
TWA				*i* S	**Sn**	**20 50 27.8**	**-0.9**
	baz=283						
NWLT	**Wulai**	**0.88**	**279**	↓P	**Pn**	**20 50 14.8**	**-0.1**
	baz=282						
NWLT				*e*S	**Sn**	**20 50 28.9**	**-0.1**
	baz=282						
ETL	**Fush Village**	**0.90**	**238**	*i* P	**Pn**	**20 50 15.0**	**-0.2**
	baz=234						
ETL				*e*S	**Sn**	**20 50 28.8**	**-0.6**
	baz=234						
NHDH	**Xindian Distri**	**0.91**	**291**	P	**Pn**	**20 50 14.4**	**-0.7**
	baz=282						
NHDH				*i* S	**Sn**	**20 50 28.4**	**-1.0**
	baz=282						
NACB	**Ninganchiao**	**0.92**	**240**	↑P	**Pn**	**20 50 14.8**	**-0.5**
	baz=231						
NACB				S	**Sn**	**20 50 28.8**	**-0.9**

	baz=231									
YM01	**YM01**	**0.95**	**302**	⇑	P		**Pn**	**20 50 15.4**	**-0.3**	
	baz=292									
YM01					S		**Sn**	**20 50 29.7**	**-0.6**	
	baz=292									
YM08	**YM08**	**0.96**	**305**		P		**Pn**	**20 50 14.7**	**-1.1**	
YM08					S		**Sn**	**20 50 28.9**	**-1.6**	
	baz=295									
TWD	**Chiawan**	**0.97**	**235**	⇓	P		**Pn**	**20 50 15.8**	**0.0**	
	baz=228									
TWD					S		**Sn**	**20 50 30.3**	**-0.2**	
	baz=228									
ETLH	**Xiulin Townshi**	**0.99**	**244**	⇓	*e*P		**Pn**	**20 50 15.6**	**-0.6**	
	baz=236									
ETLH					*e*S		**Sn**	**20 50 30.5**	**-0.7**	
	baz=236									
NSK	**Sanguang**	**1.00**	**272**	⇑	P		**Pn**	**20 50 16.3**	**0.0**	
	baz=276									
NSK					*i* S		**Sn**	**20 50 31.2**	**-0.2**	
	baz=276									
NNSB	**Datong**	**1.01**	**258**		P		**Pn**	**20 50 16.3**	**0.0**	
	baz=250									
NNSB					S		**Sn**	**20 50 31.1**	**-0.4**	
	baz=250									
NNS	**Nan Shan**	**1.01**	**259**	⇓	P		**Pn**	**20 50 16.3**	**-0.1**	
	baz=251									
NNS					S		**Sn**	**20 50 31.8**	**+0.1**	
	baz=251									
TWS1	**Kuangyinshan**	**1.05**	**296**		*e*P		**Pn**	**20 50 15.6**	**-1.1**	
	baz=294									
TWS1					S		**Sn**	**20 50 31.9**	**-0.3**	
	baz=294									
NTST	**Danshui**	**1.06**	**300**		P		**Pn**	**20 50 16.4**	**-0.4**	
	baz=298									
NTST					S		**Sn**	**20 50 31.9**	**-0.4**	
	baz=298									
ETM	**Tongmen**	**1.11**	**233**		P		**Pn**	**20 50 16.9**	**-0.6**	
	baz=230									
ETM					*e*S		**Sn**	**20 50 32.4**	**-1.1**	
	baz=230									
LXIB	**Xiulin Townshi**	**1.14**	**237**		P		**Pn**	**20 50 17.1**	**-0.8**	
	baz=234									
LXIB					*e*S		**Sn**	**20 50 33.2**	**-1.1**	
	baz=234									
SHUL	**Shoufeng**	**1.18**	**224**	⇓	P		**Pn**	**20 50 17.6**	**-0.6**	
	baz=214									
SHUL					*i* S		**Sn**	**20 50 34.8**	**-0.1**	
	baz=214									
IRIF	**Iriomote-Funau**	**1.20**	**105**		P		**Pn**	**20 50 18.1**	**-0.2**	
IRIF					*e*S		**Sn**	**20 50 34.9**	**-0.3**	
WHF	**Hehuan Shan**	**1.20**	**246**	⇑	*i*P		**Pn**	**20 50 18.7**	**-0.2**	
	baz=242									
WHF					S		**Sn**	**20 50 35.9**	**-0.1**	
	baz=242									
NFF	**Wufeng Townshi**	**1.22**	**270**		P		**Pn**	**20 50 18.6**	**-0.2**	
	baz=272									
NFF					S		**Sn**	**20 50 35.6**	**-0.3**	
	baz=272									
TWT	**Tachien**	**1.23**	**252**	⇑	*i*P		**Pn**	**20 50 19.6**	**+0.5**	
	baz=242									
TWT					*i* S		**Sn**	**20 50 36.7**	**+0.4**	
	baz=242									
ESL	**Shilin**	**1.25**	**229**	⇓	P		**Pn**	**20 50 18.1**	**-0.9**	
	baz=234									
ESL					*e*S		**Sn**	**20 50 34.8**	**-1.5**	
	baz=234									
TDCB	**Techi**	**1.25**	**252**	⇓	P		**Pn**	**20 50 19.6**	**+0.4**	
	baz=243									
TDCB					*i* S		**Sn**	**20 50 36.3**	**-0.3**	
	baz=243									
CHGB	**Renai**	**1.31**	**244**	⇓	*i*P		**Pn**	**20 50 20.0**	**0.0**	
	baz=236									
CHGB					S		**Sn**	**20 50 37.9**	**-0.1**	
	baz=236									
LIOB	**Emei**	**1.32**	**270**	⇓	P		**Pn**	**20 50 19.9**	**0.0**	
	baz=268									
LIOB					*e*S		**Sn**	**20 50 38.0**	**+0.2**	
	baz=268									
NSTT	**Nanjuang**	**1.33**	**270**		*e*P		**Pn**	**20 50 20.8**	**+0.8**	
	baz=267									
NSTT					S		**Sn**	**20 50 38.0**	**-0.1**	
	baz=267									
WARBT	**Fenglin Townsh**	**1.35**	**227**	⇓	*e*P		**Pn**	**20 50 19.0**	**-1.3**	
	baz=231									
WARBT					*e*S		**Sn**	**20 50 36.5**	**-1.9**	
	baz=231									
EGFH	**Guangfu**	**1.35**	**224**	⇓	P		**Pn**	**20 50 19.4**	**-0.9**	
	baz=216									
EGFH					*e*S		**Sn**	**20 50 37.0**	**-1.6**	
	baz=216									
OWD	**Renai**	**1.36**	**240**		*i* P		**Pn**	**20 50 20.3**	**-0.2**	
	baz=233									
OWD					S		**Sn**	**20 50 38.0**	**-0.9**	
	baz=233									
WUSB	**Renai**	**1.39**	**242**	⇓	P		**Pn**	**20 50 20.8**	**-0.1**	
	baz=235									
WUSB					S		**Sn**	**20 50 38.9**	**-0.6**	
	baz=235									
WHP	**Taichung City**	**1.43**	**256**	⇓	P		**Pn**	**20 50 22.7**	**+1.3**	
	baz=253									
WHP					*i* S		**Sn**	**20 50 41.1**	**+0.7**	
	baz=253									
JKRS	**Kuro-shima**	**1.47**	**106**		P		**Pn**	**20 50 22.0**	**+0.3**	
JKRS					S		**Sn**	**20 50 41.2**	**+0.2**	
HGSD	**Ruisui**	**1.49**	**220**		P		**Pn**	**20 50 21.4**	**-0.5**	
	baz=212									
HGSD					S		**Sn**	**20 50 41.4**	**-0.1**	
	baz=212									
VWDT	**VWDT**	**1.50**	**234**		P		**Pn**	**20 50 21.8**	**-0.3**	
	baz=227									
VWDT					S		**Sn**	**20 50 41.0**	**-0.7**	
	baz=227									
WCS	**Beigang Elemen**	**1.53**	**248**	⇓	P		**Pn**	**20 50 23.1**	**+0.6**	
	baz=241									
WCS					*e*S		**Sn**	**20 50 43.3**	**+0.8**	
	baz=241									
EHY	**Hungye**	**1.54**	**223**		P		**Pn**	**20 50 21.5**	**-1.1**	
	baz=220									
EHY					*e*S		**Sn**	**20 50 39.8**	**-2.9**	
	baz=220									
JIJ	**Ishigaki jima**	**1.56**	**100**		P		**Pn**	**20 50 22.6**	**-0.2**	
JIJ					*e*S		**Sn**	**20 50 42.4**	**-0.6**	
TWQ1	**Liyutan**	**1.57**	**260**		*e*P		**Pn**	**20 50 23.9**	**+1.0**	
	baz=257									
TWQ1					S		**Sn**	**20 50 43.0**	**-0.3**	
	baz=257									
SMLT	**Sun Moon Lake**	**1.61**	**242**		P		**Pn**	**20 50 24.8**	**+1.1**	
	baz=234									
SMLT					*e*S		**Sn**	**20 50 46.3**	**+1.8**	
	baz=234									
SSLB	**Suanglung**	**1.62**	**239**	⇓	P		**Pn**	**20 50 24.0**	**+0.4**	
	baz=232									
SSLB					*e*S		**Sn**	**20 50 45.5**	**+1.0**	
	baz=232									
YULB	**Yu-li**	**1.64**	**221**		P		**Pn**	**20 50 22.7**	**-1.2**	
	baz=218									
YULB					S		**Sn**	**20 50 42.8**	**-2.2**	
	baz=218									
TYC	**Yuchr**	**1.64**	**244**	⇑	P		**Pn**	**20 50 24.7**	**+0.9**	
	baz=245									
TYC					S		**Sn**	**20 50 46.0**	**+1.1**	
	baz=245									
EYUL	**Yuli**	**1.66**	**219**		P		**Pn**	**20 50 23.8**	**-0.3**	
	baz=224									
EYUL					*e*S		**Sn**	**20 50 45.7**	**+0.3**	
	baz=224									
TWF1	**Yuli**	**1.67**	**220**		P		**Pn**	**20 50 23.0**	**-1.3**	
	baz=224									
JISG	**Ishigakijimahi**	**1.68**	**92**		P		**Pn**	**20 50 24.2**	**-0.2**	
JISG					S		**Sn**	**20 50 45.9**	**0.0**	
WDJ	**Dajia District**	**1.69**	**260**		*e*S		**Sn**	**20 50 45.9**	**-0.1**	
	baz=258									
CHKH	**Chenggong**	**1.74**	**214**		*e*S		**Sn**	**20 50 44.7**	**-2.6**	
	baz=212									
WHYT	**Xinyi Township**	**1.75**	**238**	⇓	P		**Pn**	**20 50 26.2**	**+0.9**	
	baz=230									
WHYT					*i* S		**Sn**	**20 50 48.7**	**+1.2**	
	baz=230									
WJS	**Zhushan**	**1.78**	**243**		S		**Sn**	**20 50 50.4**	**+2.2**	
	baz=250									
FULB	**Fuli**	**1.79**	**217**	⇑	P		**Pn**	**20 50 25.3**	**-0.6**	
	baz=209									
FULB					*e*S		**Sn**	**20 50 47.8**	**-0.7**	
	baz=209									
EHD	**Haiduan**	**1.88**	**218**		P		**Pn**	**20 50 26.0**	**-1.0**	
	baz=223									
EHD					*e*S		**Sn**	**20 50 48.0**	**-2.5**	
	baz=223									
ALS	**Alishan**	**1.89**	**234**		P		**Pn**	**20 50 28.4**	**+1.1**	
	baz=225									
ALS					*e*S		**Sn**	**20 50 53.1**	**+2.0**	
	baz=225									
CHN5	**Tsauling**	**1.93**	**238**	⇑	P		**Pn**	**20 50 28.6**	**+0.9**	
	baz=245									
CHN5					S		**Sn**	**20 50 53.2**	**+1.4**	
	baz=245									
ELDTW	**Lidau**	**1.96**	**223**	⇓	P		**Pn**	**20 50 27.8**	**-0.4**	
	baz=218									
ELDTW					*e*S		**Sn**	**20 50 50.8**	**-1.7**	
	baz=218									
WDLH	**Douliu**	**2.00**	**242**		*e*P		**Pn**	**20 50 28.5**	**+0.1**	
	baz=250									
WDLH					S		**Sn**	**20 50 54.7**	**+1.6**	
	baz=250									
JTJ	**Tarama**	**2.04**	**90**		P		**Pn**	**20 50 29.3**	**+0.3**	
JTJ					*e*S		**Sn**	**20 50 54.3**	**+0.2**	
WCKO	**Fanlu**	**2.08**	**235**		P		**Pn**	**20 50 30.6**	**+1.0**	
	baz=233									
WCKO					S		**Sn**	**20 50 56.8**	**+1.7**	
	baz=233									
LONT	**Longtian**	**2.12**	**215**		S		**Sn**	**20 50 54.7**	**-1.2**	
	baz=214									
STYH	**Taoyuan**	**2.13**	**227**		P		**Pn**	**20 50 31.0**	**+0.8**	
	baz=219									
STYH					S		**Sn**	**20 50 57.1**	**+0.9**	
	baz=219									
CHN4	**Tsaushan**	**2.14**	**233**		P		**Pn**	**20 50 30.8**	**+0.5**	
	baz=231									
CHN4					S		**Sn**	**20 50 58.4**	**+1.9**	
	baz=231									
TPUB	**Ta-pu**	**2.14**	**232**		*e*S		**Sn**	**20 50 58.9**	**+2.2**	
	baz=230									
WTP	**Ta-pu**	**2.19**	**231**		*e*S		**Sn**	**20 50 59.7**	**+2.0**	
	baz=229									
TWGBT	**Beinan**	**2.21**	**215**		*e*S		**Sn**	**20 50 57.9**	**-0.4**	
	baz=213									

***IDC 28** 21:03:53.6±4.3,1°24N×98°52E,h0km,mb3.8/6, mbtmp3.8/6,Error ellipse: s-maj=228.1km s-min=19.8km az=54.0,Northern Sumatera*

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
WRA	**Warramunga Arr**	**40.94**	**123**	P		P	21 11 38.2		-0.2
	1.3nm,0.5s,baz=300,slow=9.3,SNR=24								
	1.3nm,0.5s								
ASAR	**Alice Springs**	**42.38**	**128**	P		P	21 11 50.1		0.0
	0.3nm,0.6s,baz=302,slow=7.9,SNR=5.4								
	0.3nm,0.6s								
MKAR	**Makanchi Array**	**47.54**	**345**	P		P	21 12 31.8		+1.0
	0.3nm,0.3s,baz=156,slow=8.2,SNR=13								
	0.3nm,0.3s								
KURBB	**Kurchatov Arra**	**52.05**	**344**	P		P	21 13 05.7		+0.7
	0.4nm,0.3s,baz=166,slow=8.2,SNR=1.8								
	0.4nm,0.3s								
ZALV	**Zalesovo Beam**	**53.74**	**350**	P		P	21 13 16.4		-1.1
	0.9nm,0.5s,baz=178,slow=6.9,SNR=6.4								
	0.9nm,0.5s								
BVAR	**Borovoye Array**	**56.66**	**340**	P		P	21 13 37.6		-1.0
	0.5nm,0.5s,baz=139,slow=8.2,SNR=5.2								
	0.5nm,0.5s								

*IDC **28** 21:13:23.8±4.1,36°30N×70°31E,h197km±27km,mb3.5/6, mbtmp3.9/12,Error ellipse: s-maj=55.5km s-min=20.4km az=152.0*

ISC 28 21:13:25.5±0.8,36°53N±0°08×70°30E±0°08,h204km,n29, σ1§31/31,mb3.7/5,2C,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
AML	**Almayashu**	**6.18**	**24**	P		**Pn**	**21 14 56.0**		**+0.6**
	SNR=38								
UCH	**Uchtor**	**6.56**	**29**	P		**Pn**	**21 15 01.0**		**+0.7**
	SNR=13								
KK31	**Karatay Array**	**6.57**	**1**	Pn		**Pn**	**21 15 00.6**		**+0.5**
	1.5nm,0.2s,baz=188,slow=12,SNR=90								
KK31				⇑Sn		**S**	**21 16 10.8**		**-4.1**
	1.7nm,0.3s,baz=190,slow=27,SNR=5.0								
KK31				⇑Lg		Lg	21 16 37.0		
	3.2nm,0.5s								
EKS2	**Erkin-Say**	**6.68**	**23**	P		**Pn**	**21 15 02.9**		**+1.2**
	SNR=11								
AAK	**Ala-Archa**	**6.90**	**27**	P		**Pn**	**21 15 06.5**		**+1.9**
	SNR=5.1								
AAK	**Ala-Archa**	**6.90**	**27**	P		**Pn**	**21 15 05.1**		**+0.6**
	2.8nm,0.3s,baz=193,slow=5.6,SNR=24								
AAK				S		**S**	**21 16 20.6**		**-2.5**
	8.3nm,0.3s,baz=334,slow=21,SNR=20								
TKM2	**Tokmak 2**	**7.57**	**31**	P		**Pn**	**21 15 14.1**		**+0.9**
	SNR=5.9								
GEYT	**Alibeck**	**9.82**	**282**	P		**Pn**	**21 15 41.6**		**-0.7**
	0.6nm,0.3s,baz=100,slow=14,SNR=4.3								
MKAR	**Makanchi Array**	**13.60**	**37**	P		**Pn**	**21 16 31.0**		**+0.8**
	0.6nm,0.4s,baz=199,slow=8.5,SNR=18								
PYUN	**Piuthan**	**13.62**	**125**	*e*P		**Pn**	**21 16 28.9**		**-1.9**
	3.4nm,0.4s								
DANN	**Dangsing**	**13.98**	**122**	*e*P		**Pn**	**21 16 35.2**		**-0.1**
	5.7nm,0.3s								
KOLN	**Koldanda**	**14.24**	**124**	*e*P		**Pn**	**21 16 37.0**		**-1.5**
GKN	**Gorkha**	**14.80**	**121**	*e*P		**P**	**21 16 45.9**		**-0.2**
	15nm,0.3s								
KURBB	**Kurchatov Arra**	**15.28**	**20**	P		**Pn**	**21 16 50.2**		**-0.5**
	0.7nm,0.3s,baz=213,slow=9.0,SNR=1.5								
DMN	**Daman**	**15.37**	**121**	*e*P		**P**	**21 16 52.7**		**+0.2**
	11nm,0.5s								
PKI	**Pulchoki**	**15.60**	**121**	*e*P		**Pn**	**21 16 55.5**		**+0.3**
	21nm,0.5s								
GUN	**Gumba**	**15.72**	**119**	*e*P		**Pn**	**21 16 57.3**		**+0.6**
	11nm,0.4s								
JIRN	**Jiri**	**16.09**	**119**	*e*P		**Pn**	**21 17 00.6**		**-0.5**
	31nm,0.5s								
AKTO	**Aktyubinsk**	**16.48**	**331**	P		**Pn**	**21 17 06.5**		**+1.4**
	1.5nm,0.3s,baz=149,slow=8.2,SNR=9.8								
BVAR	**Borovoye Array**	**16.49**	**0**	P		**Pn**	**21 17 06.7**		**+1.5**
	0.7nm,0.3s,baz=165,slow=8.1,SNR=17								
RAMN	**Ramite**	**16.82**	**120**	*e*P		**Pn**	**21 17 09.0**		**-0.6**
	15nm,0.6s								
TAPN	**Taplejung**	**17.36**	**117**	*e*P		**Pn**	**21 17 15.6**		**-0.5**
	6.8nm,0.5s								
ODAN	**Odare**	**17.43**	**119**	*e*P		**Pn**	**21 17 16.4**		**-0.4**
ZALV	**Zalesovo Beam**	**20.12**	**26**	P		**P**	**21 17 44.9**		**+1.2**
	2.5nm,0.3s,baz=215,slow=10,SNR=24								
	2.5nm,0.3s								
NRIK	**Noril'sk**	**34.20**	**11**	P		**P**	**21 19 52.2**		**+1.0**
	2.0nm,0.4s,baz=212,slow=6.5,SNR=4.5								
	2.0nm,0.4s								
FINES	**FINESS Array B**	**37.14**	**326**	P		**P**	**21 20 15.4**		**-0.8**
	2.8nm,0.9s,baz=116,slow=8.7,SNR=5.8								
	2.8nm,0.9s								
ARCES	**ARCESS Array B**	**40.90**	**338**	P		**P**	**21 20 48.0**		**+0.7**
	2.2nm,0.8s,baz=106,slow=6.7,SNR=7.7								
	2.2nm,0.8s								
HFS	**Hagfors**	**42.69**	**322**	P		**P**	**21 21 02.6**		**+0.7**
	2.5nm,0.9s,baz=106,slow=11,SNR=5.5								
	2.5nm,0.9s								
TORD	**Torodi Ar. Bea**	**65.16**	**268**	P		**P**	**21 23 44.2**		**-0.8**
	0.2nm,0.4s,baz=46,slow=6.5,SNR=2.3								
	0.2nm,0.4s								

*MOS **28** 21:14:49.7±0.9,41°.63N×143°.65E,h24km,mb5.3/117, MS4.5/16,Error ellipse: s-maj=4.9km s-min=3.4km az=104.0*

*NEIC **28** 21:14:50,41°.58N×143°.91E,h22km*

*NEIC **28** 21:14:50,41°.68N×143°.37E,h22km,Moment Tensor Solution. Duration: 1§4 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.64; $M_{\theta\theta}$2.18; $M_{\phi\phi}$0.47; $M_{r\theta}$0.80; $M_{\theta\phi}$-0.38; $M_{\phi r}$0.86; Fault plane solution: $M_0$2.67000×10^{16} NP1: ϕ_s264.19000°,δ54.60000°,λ-109.57000°. NP2: ϕ_s115.72000°,δ39.83000°,λ-64.77000°. Principal axes: T 2.3383, Plg8.0000°, Azm8.0000°; N 0.6730, Plg16.0000°, Azm276.0000°; P -3.0113, Plg72.0000°, Azm123.0000°;*

*BJI **28** 21:14:51.1,41°.72N×143°.56E,h33km,mb4.7/74,mB5.1/42, Ms4.5/65,Ms7 4.4/64*

*NEIC **28** 21:14:52.8,41°.65N×143°.76E,h29km*

*NEIC **28** 21:14:53.0±1.5,41°.65N±0°.05×143°.77E±0°.09,h30km±4km, mb5.2/566,Mwr4.9/14,Mww4.9/9,Error ellipse: s-maj=10.3km s-min=7.6km az=111.0,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-2.09; $M_{\theta\theta}$2.24; $M_{\phi\phi}$-0.15; $M_{r\theta}$0.37; $M_{\theta\phi}$0.25; $M_{\phi r}$1.11; Fault plane solution: $M_0$2.48000×10^{16} NP1:ϕ_s241.52000°, δ55.96000°,λ-118.19000°. NP2:ϕ_s105.27000°, δ43.08000°,λ-55.03000°. Principal axes: T 2.3213, Plg7.0000°, Azm351.0000°; N 0.2831, Plg23.0000°, Azm258.0000°; P -2.6044, Plg66.0000°, Azm97.0000°;*

*JMA **28** 21:14:54.0±0.2,41°.7N±1°.0×143°.7E±0°.7,h41km±2km, MD4.8/39,MW4.9/39,SE OFF ERIMOMISAKI*

JMA Felt II J1 at SE OFF ERIMOMISAKI .

*GCMT **28** 21:14:53.0±0.2,41°.73N±0°.02×143°.54E±0°.03,h29km, MW5.0/99,Moment Tensor Solution. s51,c67; s99,c133; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.88±.17; $M_{\theta\theta}$3.19±.10; $M_{\phi\phi}$0.68±.11; $M_{r\theta}$1.59±.14; $M_{\theta\phi}$-1.10±.07; $M_{\phi r}$2.23±.17; Best double couple: $M_0$4.45400×10^{16} NP1:ϕ_s264.00000°,δ57.00000°,λ-120.00000°. NP2: ϕ_s131.00000°,δ44.00000°,λ-52.00000°. Principal axes: T 3.6940, Plg7.0000°, Azm15.0000°; N 1.5170, Plg25.0000°, Azm282.0000°; P -5.2130, Plg64.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NIED **28** 21:14:54.0,41°.73N×143°.67E,h41km,MW5.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.81; $M_{\theta\theta}$2.48; $M_{\phi\phi}$0.33; $M_{r\theta}$1.35; $M_{\theta\phi}$-1.31; $M_{\phi r}$1.24; Fault plane solution: $M_0$3.46000×10^{16} NP1: ϕ_s270.00000°,δ57.00000°,λ-121.00000°. NP2: ϕ_s138.00000°,δ44.00000°,λ-51.00000°.*

*IDC **28** 21:14:54.3±1.3,41°.62N×143°.59E,h45km±10km,mb4.6/33, mbtmp4.8/41,ML4.0/7,MS4.3/48 Error ellipse: s-maj=10.8km s-min=8.5km az=90.0*

ISC 28 21:14:52.9±0.2,41°.69N±0°.03×143°.65E±0°.03,h35km±2km, h36km:pP-P,n1578,σ1§28/1583,mb5.2/424,MS4.5/75, 44C-56D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
ERM	**Erimo**	**0.50**	**312**			**Pn**	**21 15 04.2**		**+0.8**
ERM	**Erimo**	**0.50**	**312**	P		**Pn**	**21 15 04.9**		**+1.4**
ERM	**Erimo**	**0.50**	**312**	*c iP*		**Pn**	**21 15 04.2**		**+0.8**
JEM	**Erimo**	**0.50**	**312**	P		**Pn**	**21 15 04.8**		**+1.3**
JEM	**Erimo**	**0.50**	**312**	*e*P		**Pn**	**21 15 04.1**		**+0.6**
JEM				*e*S		**Sn**	**21 15 12.1**		**+1.3**
JEM	**Erimo**	**0.50**	**312**	A		A	21 15 04.1		
	comp=E,114nm,2.4s,comp=N,116nm,1.4s								
JTHR	**Tokachihiroo**	**0.66**	**336**	*e*P		**Pn**	**21 15 06.6**		**+0.8**
JTHR	**Tokachihiroo**	**0.66**	**336**	A		A	21 15 06.6		
	comp=E,88nm,1.6s,comp=N,101nm,2.4s								
JNBK	**Urakawa-nobuka**	**0.90**	**312**	*e*P		**Pn**	**21 15 10.3**		**+1.3**
JNBK	**Urakawa-nobuka**	**0.90**	**312**	A		A	21 15 10.3		
	comp=E,135nm,1.9s,comp=N,90nm,1.6s								
JCH	**Churui**	**0.95**	**347**	*i* P		**Pn**	**21 15 10.5**		**+0.7**
JCH	**Churui**	**0.95**	**347**	A		A	21 15 10.5		
	comp=E,72nm,3.2s,comp=N,48nm,2.8s								
JSHD	**Hidakashinhida**	**1.14**	**310**	*e*P		**Pn**	**21 15 14.0**		**+1.6**
JSHD	**Hidakashinhida**	**1.14**	**310**	A		A	21 15 14.0		
	comp=E,59nm,2.2s,comp=N,66nm,1.8s								
JOB	**Onbets**	**1.22**	**6**	*i* P		**Pn**	**21 15 14.6**		**+1.2**
JOB	**Onbets**	**1.22**	**6**	A		A	21 15 14.6		
	comp=E,84nm,0.9s,comp=N,77nm,1.2s								
JBT2	**Biratori 2**	**1.45**	**319**	P		**Pn**	**21 15 18.0**		**+1.4**
JBT2	**Biratori 2**	**1.45**	**319**	A		A	21 15 18.0		
	comp=E,22nm,2.5s,comp=N,18nm,2.5s								
JAK	**Akkeshi**	**1.52**	**30**	*i* P		**Pn**	**21 15 18.2**		**+0.7**
JAK				*e*S		**Sn**	**21 15 36.9**		**+0.8**
JAK	**Akkeshi**	**1.52**	**30**	A		A	21 15 18.2		
	comp=E,43nm,2.3s,comp=N,33nm,1.3s								
JIAM	**Iburiatsuma**	**1.59**	**307**	*e*P		**Pn**	**21 15 21.4**		**+2.8**
JIAM	**Iburiatsuma**	**1.59**	**307**	A		A	21 15 21.4		
	comp=E,77nm,1.2s,comp=N,125nm,1.6s								
JAR	**Ashorobuto**	**1.61**	**3**	*i* P		**Pn**	**21 15 19.5**		**+0.7**
JAR				*e*S		**Sn**	**21 15 39.4**		**+1.0**
JAR	**Ashorobuto**	**1.61**	**3**	A		A	21 15 19.5		
	comp=E,37nm,2.4s,comp=N,51nm,1.6s								
JFR	**Furan**	**1.67**	**332**	*i* P		**Pn**	**21 15 20.5**		**+0.8**
JFR	**Furan**	**1.67**	**332**	A		A	21 15 20.5		
	comp=E,14nm,1.3s,comp=N,11nm,1.0s								
JKHN	**Kushirohamanak**	**1.79**	**38**	A		A	21 15 22.7		
	comp=E,48nm,2.3s,comp=N,43nm,1.9s								
JAHD	**Aomorihigashid**	**1.79**	**257**	A		A	21 15 23.7		
	comp=E,44nm,0.7s,comp=N,46nm,0.6s								
JARK	**Aomorirokkasho**	**1.85**	**249**	A		A	21 15 24.7		
	comp=E,24nm,0.8s,comp=N,16nm,0.6s								
JKB	**Kayabe**	**1.97**	**277**	A		A	21 15 26.1		
	comp=E,13nm,2.2s,comp=N,12nm,1.0s								
JOT	**Ohata**	**1.98**	**262**	A		A	21 15 26.4		
	comp=E,16nm,1.0s,comp=N,14nm,0.7s								
JEW	**Eniwo**	**2.00**	**306**	A		A	21 15 26.2		
	comp=E,43nm,1.5s,comp=N,50nm,3.6s								
JNK	**Nakash**	**2.06**	**22**	A		A	21 15 26.5		
	comp=E,16nm,1.0s,comp=N,17nm,6.0s								
JANG	**Nango**	**2.08**	**232**	A		A	21 15 28.1		
	comp=E,11nm,1.4s,comp=N,8.0nm,4.1s								
JKEN	**Kujiedanarisaw**	**2.09**	**226**	A		A	21 15 28.2		
	comp=E,14nm,4.4s,comp=N,14nm,2.0s								
JNB	**Noboribetsu**	**2.10**	**293**	A		A	21 15 27.8		
	comp=E,7.0nm,1.5s,comp=N,7.0nm,1.1s								
JAB	**Ashibetsu**	**2.10**	**330**	A		A	21 15 27.4		
	comp=E,15nm,3.8s,comp=N,15nm,2.1s								
JTM	**Tenmabayashi**	**2.15**	**246**	Pn		**Pn**	**21 15 26.6**		**+0.5**
**JTM

YUK smax smax
comp=E,15μm,0.4s
YUK smax smax
comp=N,8μm,0.3s
YUK MLR MLR
comp=Z,4μm,12.0s
YUK MLR MLR
comp=N,4μm,11.0s
YUK MLR MLR
comp=E,3μm,8.0s
JSK Shakotan 2.88 306 A A 21 15 38.7
comp=E,7.0nm,1.5s,comp=N,7.0nm,2.2s
JHST Hiyamasetana 2.91 286 A A 21 15 39.3
comp=E,8.0nm,1.5s,comp=N,8.0nm,9.2s
JIW Iwasaki 2.96 250 A A 21 15 40.5
comp=E,10.0nm,1.9s,comp=N,10.0nm,3.2s
JNTW Noshirotokiwa 3.00 243 A A 21 15 41.1
comp=E,42nm,2.9s,comp=N,38nm,4.5s
JSS Shosan 3.02 335 A A 21 15 40.4
comp=E,11nm,3.5s,comp=N,8.0nm,2.0s
SHO Shikotan 3.20 46⇑*i*P **Pn 21 15 40.5 -0.1**
SHO *i* S **Sn 21 16 14.8 -2.7**
SHO pmax pmax
comp=Z,1μm,0.5s
SHO pmax pmax
comp=E,680nm,0.4s
SHO smax smax
comp=E,5μm,0.4s
SHO smax smax
comp=N,2μm,0.3s
JRG Rokugo 3.24 226 A A 21 15 44.7
comp=E,12nm,1.1s,comp=N,13nm,2.2s
JMK Ichinoseki 3.31 215 A A 21 15 45.6
comp=E,6.0nm,1.3s,comp=N,5.0nm,2.8s
JSE Soyaes 3.36 347 A A 21 15 45.2
comp=E,6.0nm,6.0s,comp=N,5.0nm,4.8s
JYW Yuwa 3.39 232 A A 21 15 46.7
comp=E,18nm,3.7s,comp=N,22nm,2.4s
JOFO Osakifurukawao 3.73 215 A A 21 15 51.6
comp=E,35nm,5.4s,comp=N,30nm,2.4s
JYK Kaneyama 3.74 223 A A 21 15 51.7
comp=E,5.0nm,3.4s,comp=N,5.0nm,4.1s
JOU Okura 4.03 216 A A 21 15 55.8
comp=E,7.0nm,1.8s,comp=N,7.0nm,2.1s
JYA Atsumi 4.32 226 A A 21 15 59.8
comp=E,7.0nm,1.3s,comp=N,6.0nm,6.8s
JMM Marumori 4.41 211 Pn **Pn 21 15 55.8 -1.4**
JMM Marumori 4.41 211 P **Pn 21 15 56.4 -0.8**
JYS Shirataka 4.42 220 A A 21 16 01.3
comp=E,8.0nm,3.0s,comp=N,8.0nm,2.3s
JYAR Yonezawaarcadi 4.64 217 A A 21 16 04.3
comp=E,7.0nm,3.5s,comp=N,8.0nm,1.2s
KUR Kuril'sk 4.69 39*c i*P **Pn 21 16 02.9 +1.8**
KUR *i* S **Sn 21 16 53.6 -0.6**
KUR pmax pmax
comp=Z,2μm,0.6s
KUR pmax pmax
comp=N,443nm,0.4s
KUR pmax pmax
comp=E,548nm,0.6s
KUR smax smax
comp=N,1μm,0.5s
KUR smax smax
comp=E,2μm,0.5s
JFK Kawauchi 4.82 207 A A 21 16 06.9
comp=E,3.0nm,2.6s,comp=N,3.0nm,4.0s
YSS Yuzh-Sakhalins 5.31 353 Pn **Pn 21 16 09.3 -0.3**
YSS Yuzh-Sakhalins 5.31 353 P **Pn 21 16 13.0 +3.4**
YSS Yuzh-Sakhalins 5.31 353 *e*P **Pn 21 16 10.3 +0.7**
YSS *e*S **Sn 21 17 08.6 -0.8**
YSS pmax pmax
comp=Z,120nm,0.7s
YSS smax smax
comp=N,160nm,0.8s
YSS smax smax
comp=E,150nm,0.6s
YSS MLR MLR
comp=Z,4μm,20.0s
YSS MLR MLR
comp=N,3μm,19.0s
TEY Ternei 6.13 305 *e*P **Pn 21 16 22.0 +1.1**
MJB9 Matsu-Tunnel 6.65 221 **Pn 21 16 28.8 +0.6**
MAJO Matsushiro 6.66 221 **Pn 21 16 27.8 -0.4**
MAJO Matsushiro 6.66 221 P **Pn 21 16 29.1 +0.9**
MAJO Matsushiro 6.66 221*de*P **Pn 21 16 28.8 +0.6**
MAJO pmax pmax
comp=Z,86nm,0.8s
MJAR Matsushiro Arr 6.66 221 P **Pn 21 16 28.3 +0.1**
comp=Z,2.0nm,0.3s,baz=35,slow=12,SNR=119
MJAR S **Sn 21 17 46.7 +4.0**
comp=Z,7.5nm,0.5s,baz=316,slow=56,SNR=1.0
MJAR LR LR 21 19 33.1
comp=Z,4μm,20.4s,baz=24,slow=42
comp=Z,24nm,0.4s
UGL Uglegorsk 7.48 352 *e*P **Pn 21 16 41.0 +1.7**
UGL S **Sn 21 18 03.0 +0.2**
UGL pmax pmax
comp=Z,233nm,0.9s
UGL smax smax
comp=N,87nm,0.5s
UGL smax smax
comp=E,103nm,0.6s
JSG Sagara 8.22 213 **Pn 21 16 49.0 -0.6**
USA0B Ussuriysk Arra 8.92 290 Pn **Pn 21 17 01.2 +2.1**
USA0B Ussuriysk Arra 8.92 290⇓*e*P **Pn 21 17 01.7 +2.6**
USRK Ussuriysk Ar. 8.92 290 Pn **Pn 21 17 01.0 +1.9**
USRK Ussuriysk Ar. 8.92 290 P **Pn 21 17 01.4 +2.2**
comp=E,1.2nm,0.3s,baz=85,slow=14,SNR=18
USRK LR LR 21 20 53.6
comp=E,2μm,18.2s,baz=107,slow=40
comp=E,6.3nm,0.5s
JHJ Hachijo jima 2 9.09 201 P **Pn 21 16 59.7 -1.8**
comp=E,243nm,0.4s,baz=56,slow=11,SNR=13
JHJ S Sn 21 18 31.8 -11
comp=E,114nm,0.3s,baz=41,slow=20,SNR=2.2
TYV Tymovskoe 9.21 356 *e*P **Pn 21 17 05.1 +2.1**
TYV *e*S **Sn 21 18 51.2 +5.9**
TYV pmax pmax
comp=Z,52nm,0.8s
TYV pmax pmax
comp=Z,600nm,4.0s
TYV smax smax
comp=N,19nm,1.8s
TYV smax smax
comp=E,29nm,1.8s
TYV smax smax
comp=N,700nm,5.4s
TYV smax smax
comp=E,700nm,5.4s
TYV MLR MLR
comp=N,3μm,17.0s
TYV MLR MLR
comp=Z,4μm,19.0s
PSTR Posyet 9.59 280⇑*e*P **Pn 21 17 10.1 +1.7**
GRNR Gornyy 10.37 334⇓*i*P **Pn 21 17 21.7 +2.7**
GRNR *e*S **Sn 21 19 21.5 +7.6**
GRNR pmax pmax
comp=N,10.0nm,0.7s
GRNR pmax pmax
comp=E,10.0nm,0.7s
GRNR pmax pmax
comp=Z,20nm,0.7s
GRNR smax smax
comp=N,1.0nm,0.5s
GRNR MLR MLR
comp=E,680nm,18.0s
GRNR MLR MLR
comp=N,420nm,20.0s
GRNR MLR MLR
comp=Z,810nm,14.0s
MDJ Mudanjiang 10.68 291 Pn **Pn 21 17 24.6 +1.2**
MDJ Mudanjiang 10.68 291 P **Pn 21 17 22.5 -0.8**
MDJ pP 21 17 29.5
MDJ sP 21 17 35.8
MDJ S **Sn 21 19 19.0 -2.6**
MDJ SS **SnSn 21 19 32.5 -0.7**
MDJ PcP **PcP 21 23 24.5 +0.5**
MDJ ScP **ScP 21 26 55.0 +1.4**
MDJ PcS **PcS 21 26 59.0 +1.5**
MDJ ScS **ScS 21 30 30.5 +2.0**
MDJ pmax pmax
comp=Z,5.0nm,1.1s
MDJ pmax pmax
comp=Z,210nm,3.5s
MDJ LR LR
comp=Z,900nm,17.7s
MDJ LR LR
comp=Z,2μm,17.9s
MDJ LR LR
comp=Z,2μm,20.6s
JMN Monobe 11.09 227 Pn **Pn 21 17 28.9 0.0**
JMN Monobe 11.09 227 P **Pn 21 17 28.7 -0.2**
KLR Kul'dur 11.25 316*de*P **Pn 21 17 32.8 +1.7**
KLR pmax pmax
comp=Z,54nm,1.3s
KLR Kul'dur 11.25 316 P **Pn 21 17 34.0 +3.0**
comp=Z,0.6nm,0.3s,baz=126,slow=13,SNR=69
KLR LR LR 21 22 21.8
comp=Z,2μm,18.6s,baz=130,slow=40
comp=Z,32nm,0.9s
OKH Okha 11.88 358*de*P **Pn 21 17 42.6 +3.0**
OKH *e*S **Sn 21 19 49.7 -1.1**
OKH smax smax
comp=N,400nm,19.6s
OKH MLR MLR
comp=N,1μm,15.0s
OKH MLR MLR
comp=Z,2μm,15.0s
OKH MLR MLR
comp=E,2μm,13.0s
BNX BinXian 12.43 294⇓P **Pn 21 17 46.5 -0.7**
BNX pmax pmax
comp=E,31nm,0.8s
SKR Severo-Kuril's 12.46 40*e*P **Pn 21 17 46.8 -0.7**
SKR *e*S **Sn 21 20 01.4 -3.5**
SKR pmax pmax
comp=Z,1μm,4.7s
SKR MLR MLR
comp=Z,3μm,18.0s
KSRS Korea Array 12.85 256 P **Pn 21 17 54.9 +1.9**
comp=Z,0.3nm,0.3s,baz=68,slow=13,SNR=19
KSRS S **Sn 21 20 18.7 +4.1**
comp=Z,18nm,0.9s,baz=67,slow=24,SNR=9.6
KSRS LR LR 21 22 27.1
comp=Z,2μm,21.5s,baz=65,slow=35
comp=Z,12nm,1.0s
KS19 Wonju Array Si 12.87 256 Pn **Pn 21 17 53.6 +0.3**
KSAR Wonju Array Be 12.88 256 **Pn 21 17 53.5 +0.1**
KSAR Wonju Array Be 12.88 256 P **Pn 21 17 53.5 +0.1**
JNU Nakatsue 13.26 234 Pn **Pn 21 17 57.3 -1.4**
JNU Nakatsue 13.26 234 P **Pn 21 17 58.7 0.0**
JNU Nakatsue 13.26 234 P **Pn 21 17 58.2 -0.4**
comp=Z,1.5nm,0.3s,baz=111,slow=2.3,SNR=14
JNU LR LR 21 23 09.7
comp=Z,1μm,21.3s,baz=47,slow=38
comp=Z,5.0nm,0.4s
CN2 Changchun 13.55 285⇑P **Pn 21 18 03.0 +0.5**
CN2 *es*P P 21 18 14.0 +2.9
CN2 *e*S **Sn 21 20 32.8 +1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,2μm,17.0s
CN2 LR LR
comp=Z,2μm,18.0s
TJN Taejon 13.72 253 **Pn 21 18 04.9 +0.1**
TJN Taejon 13.72 253*de*P **Pn 21 18 06.6 +1.7**
HEH HeiHe 14.15 313 *e*P **Pn 21 18 10.8 +0.1**
HEH pmax pmax
comp=Z,18nm,0.7s
HEH pmax pmax
comp=Z,260nm,5.0s
HEH LR LR
comp=Z,760nm,17.6s
HEH LR LR
comp=Z,1μm,17.4s
HEH LR LR
comp=Z,2μm,18.1s
JCJ Chichijima 14.61 185 Pn Pn 21 18 11.9 -5.1
JCJ Chichijima 14.61 185 P Pn 21 18 08.1 -8.9
comp=Z,35nm,0.3s,baz=278,slow=22,SNR=6.5
JCJ S Sn 21 20 38.9 -19
comp=Z,54nm,0.4s,baz=26,slow=20,SNR=4.2
JCJ LR LR 21 25 08.5
comp=Z,224nm,20.9s,baz=354,slow=42
PEA0B Petropavlovsk- 14.83 35⇓*e*P **Pn 21 18 20.1 +0.2**
PETK Petropavlovsk- 14.83 35 Pn **Pn 21 18 16.4 -3.5**
PETK Petropavlovsk- 14.83 35 P **Pn 21 18 16.4 -3.5**
PETK Petropavlovsk- 14.83 35 P **Pn 21 18 17.6 -2.3**
comp=Z,11nm,0.6s,baz=101,slow=26,SNR=22
PETK LR LR 21 23 41.2
comp=Z,602nm,20.7s,baz=228,slow=35
PET Petropavlovsk 15.19 37 *e*P **Pn 21 18 23.7 -0.9**
PET pmax pmax
comp=Z,97nm,1.9s
PET pmax pmax
comp=Z,45nm,0.8s
PET MLR MLR
comp=Z,5μm,17.0s
PET MLR MLR
comp=Z,4μm,17.0s
ZEA Zeya 16.30 323 *e*P **Pn 21 18 37.9 -0.9**
ZEA pmax pmax
comp=N,50nm,0.8s
ZEA pmax pmax
comp=E,40nm,0.8s
ZEA pmax pmax
comp=Z,80nm,0.8s
ZEA MLR MLR
comp=N,400nm,16.0s
ZEA MLR MLR
comp=E,500nm,14.0s
ZEA MLR MLR
comp=Z,600nm,17.0s
DL2 Dalian 17.03 268⇓*i*P **Pn 21 18 48.0 -0.1**
DL2 S **Sn 21 21 57.3 +1.1**
DL2 pmax pmax
comp=Z,83nm,1.0s
DL2 pmax pmax
comp=Z,210nm,3.6s
DL2 LR LR
comp=Z,410nm,18.4s
DL2 LR LR
comp=Z,460nm,24.0s
DL2 LR LR
comp=Z,630nm,23.5s
HIA Hailar 18.35 303 P **P 21 19 02.2 -2.1**
HIA Hailar 18.35 303 P **P 21 19 02.2 -2.1**
HIA pmax pmax
comp=Z,21nm,0.6s
MA2 Magadan 18.45 11 P **P 21 19 03.8 -1.5**
MA2 Magadan 18.45 11*ce*P **P 21 19 03.6 -1.6**
MA2 pmax pmax
comp=Z,136nm,2.5s
MA2 Magadan 18.45 11 P **P 21 19 02.7 -2.5**
comp=Z,30nm,0.6s,baz=203,slow=10,SNR=5.3
MA2 LR LR 21 26 01.3
comp=Z,768nm,20.8s,baz=139,slow=36
JOW Kunigami 19.48 225 P **P 21 19 16.2 -0.5**
JOW Kunigami 19.48 225 P **P 21 19 14.9 -1.8**
comp=Z,0.7nm,0.3s,baz=83,slow=11,SNR=4.1
JOW LR LR 21 27 24.4
comp=Z,1μm,21.2s,baz=53,slow=39
comp=Z,19nm,0.8s
XLT XiLinHaoTe 20.32 286 *e*P **P 21 19 23.0 -2.9**
XLT pP Pn 21 19 30.8 +2.7
XLT S S 21 22 59.5 -12
XLT sS Sn 21 23 16.3 +0.4
XLT SS **SnSn 21 23 34.0 +3.6**
XLT pmax pmax
comp=Z,18nm,0.5s
XLT pmax pmax
comp=Z,230nm,5.2s
XLT LR LR
comp=Z,750nm,16.2s
XLT LR LR
comp=Z,960nm,16.7s
BJI Beijing 20.82 275 P **P 21 19 29.0 -2.2**
BJI sP **pP 21 19 42.3 +1.8**
BJI S **S 21 23 14.5 -6.9**
BJI pmax pmax
comp=Z,9.0nm,0.8s
BJI LR LR
comp=Z,320nm,15.4s
BJI LR LR
comp=Z,340nm,21.0s
BJI LR LR
comp=Z,460nm,17.8s
TIA Tai'an 21.30 264⇑P **P 21 19 34.0 -2.5**
TIA S **S 21 23 21.0 -10**
TIA pmax pmax
comp=Z,9.0nm,1.4s
TIA LR LR
comp=Z,210nm,14.7s
TIA LR LR
comp=Z,330nm,19.0s
TIA LR LR
comp=Z,450nm,25.5s
SEY Seymchan 21.90 11 P **P 21 19 40.5 -2.0**
comp=Z,113nm,0.8s,baz=188,slow=8.8,SNR=179
SEY LR LR 21 28 12.3
comp=Z,721nm,20.6s,baz=206,slow=36
NJ2 Nanjing 21.98 252 *e*P **P 21 19 44.0 +0.3**
NJ2 pP **pP 21 19 51.8 -1.3**
NJ2 S **S 21 23 47.5 +3.1**
NJ2 pmax pmax
comp=Z,20nm,0.7s
NJ2 pmax pmax
comp=Z,140nm,4.3s
NJ2 LR LR
comp=Z,550nm,15.2s
NJ2 LR LR
comp=Z,1μm,16.6s
NJ2 LR LR
comp=Z,1μm,18.0s
YAK Yakutsk 22.03 342 P **P 21 19 40.0 -4.0**
YAK Yakutsk 22.03 342 *e*P **P 21 19 39.8 -4.2**
YAK *e**PP **P 21 19 43.4 -0.6**
YAK *e*S **S 21 23 37.3 -7.5**
YAK *e**SS **S 21 23 42.4 -2.4**
YAK *e*SSS SSS 21 24 21.5
YAK pmax pmax
comp=Z,113nm,1.0s
YAK pmax pmax
comp=N,29nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.8s
YAK pmax pmax
comp=Z,56nm,0.9s
YAK pmax pmax
comp=E,24nm,0.9s
YAK pmax pmax
comp=N,70nm,1.2s
YAK smax smax
comp=N,393nm,1.9s
YAK smax smax
comp=E,125nm,1.4s
YAK MLR MLR
comp=Z,971nm,20.0s
YAK MLR MLR
comp=N,331nm,15.0s
YAK MLR MLR
comp=E,200nm,18.0s
YAK Yakutsk 22.03 342 P **P 21 19 40.3 -3.7**
comp=E,5.7nm,0.6s,baz=348,slow=0.7,SNR=39
YAK S **S 21 23 34.2 -11**
comp=E,1.0nm,0.8s,baz=165,slow=22,SNR=10.0
YAK LR LR 21 29 00.1
comp=E,48nm,20.1s,baz=126,slow=38
HNS HongShan 22.68 269⇓P **P 21 19 48.3 -2.8**
HNS S **S 21 23 57.0 +0.1**
HNS pmax pmax
comp=E,15nm,1.0s
HNS LR LR
comp=E,420nm,14.4s
HNS LR LR
comp=E,280nm,13.1s
HNS LR LR
comp=E,700nm,21.0s
CIT Chita 22.88 307 *e*P **P 21 19 50.8 -2.4**
CIT *e* 21 20 05.0
CIT *e* 21 20 23.4
CIT *e* 21 23 56.0
CIT pmax pmax
comp=Z,64nm,1.1s
HHC Hu-ho-hao-te 24.07 279 *e*P **P 21 20 05.0 +0.1**
HHC S **S 21 24 20.8 +0.8**
HHC pmax pmax
comp=Z,49nm,0.6s
HHC pmax pmax
comp=Z,350nm,5.1s
HHC LR LR
comp=Z,710nm,11.5s
HHC LR LR
comp=Z,1μm,13.0s
HHC LR LR
comp=Z,2μm,12.7s
BOD Bodaibo 24.76 321 *e*P **P 21 20 08.3 -2.6**
BOD pmax pmax
comp=Z,39nm,0.8s
BTO Baotou 25.26 279 *e*P **P 21 20 16.0 +0.2**
BTO pP **pP 21 20 25.3 -0.5**
BTO sP **sP 21 20 29.5 -0.6**
BTO PP **PnPn 21 20 54.5 +3.6**
BTO S **S 21 24 39.8 +0.6**
BTO sS **sS 21 24 52.5 -1.8**
BTO SS **SnSn 21 25 38.8 +7.3**
BTO pmax pmax
comp=Z,21nm,0.8s
BTO pmax pmax
comp=Z,170nm,3.7s
BTO LR LR
comp=Z,990nm,18.7s
BTO LR LR
comp=Z,2μm,21.5s
BTO LR LR
comp=Z,2μm,22.7s
NACB Ninganchiao 25.34 233 P **P 21 20 17.3 +0.9**
LYN LuoYang 25.45 264⇑P **P 21 20 18.0 +0.6**
LYN S **S 21 24 41.3 -0.7**
LYN pmax pmax
comp=Z,30nm,0.8s
LYN pmax pmax
comp=Z,240nm,4.5s
LYN LR LR
comp=Z,530nm,14.1s
LYN LR LR
comp=Z,440nm,12.7s
LYN LR LR
comp=Z,970nm,19.2s
SSLB Suanglung 26.01 234 P **P 21 20 25.0 +2.4**
WHN Wuhan 26.03 254⇑P **P 21 20 22.8 +0.1**
WHN pP **pP 21 20 32.5 -0.2**
WHN S **S 21 24 43.0 -8.2**
WHN pmax pmax
comp=Z,42nm,0.7s
WHN LR LR
comp=Z,850nm,14.6s
WHN LR LR
comp=Z,2μm,19.3s
WHN LR LR
comp=Z,2μm,22.2s
ULN Ulaanbaatar 26.52 296 P **P 21 20 25.9 -1.3**
ULN Ulaanbaatar 26.52 296 P **P 21 20 26.2 -1.0**
ULN Ulaanbaatar 26.52 296*ce*P **P 21 20 27.1 -0.1**
ULN pmax pmax
comp=Z,18nm,1.0s
SONM Songino Array 26.97 296 P **P 21 20 30.5 -0.7**
SONM Songino Array 26.97 296 P **P 21 20 31.4 +0.2**
comp=Z,9.7nm,0.6s,baz=84,slow=7.6,SNR=52
SONM LR LR 21 32 20.9
comp=Z,1μm,19.1s,baz=96,slow=39
comp=Z,9.7nm,0.6s
XAN Xi'an 28.32 266⇑P **P 21 20 43.0 -0.3**
XAN pP pP 21 20 50.3 -3.1
XAN pmax pmax
comp=Z,12nm,0.9s
XAN pmax pmax
comp=Z,190nm,5.5s
XAN LR LR
comp=Z,560nm,12.4s
XAN LR LR
comp=Z,530nm,15.1s
XAN LR LR
comp=Z,620nm,13.7s
ZAK Zakamensk 29.04 301 *e*P **P 21 20 50.2 +0.6**
ZAK pmax pmax
comp=Z,17nm,1.0s
BILL Bilibino 29.08 17 P **P 21 20 48.0 -1.6**
BILL Bilibino 29.08 17 P **P 21 20 48.5 -1.1**
H11N2 WAKE ISLAND Hy 29.46 131 T T 21 51 56.3
baz=324,slow=75,SNR=3109
H11N1 WAKE ISLAND Hy 29.48 131 T T 21 51 56.3
baz=324,slow=75,SNR=2944

H11N3 **WAKE ISLAND Hy** 29.48 131 T T 21 51 56.3
baz=324,slow=75,SNR=3560
ENH **Enshi** 29.72 259 P **P** 21 20 55.2 -0.5
H11S1 **WAKE ISLAND Hy** 30.34 133 T T 21 52 59.2
baz=328,slow=76
H11S3 **WAKE ISLAND Hy** 30.34 133 T T 21 52 58.0
baz=328,slow=76
H11S2 **WAKE ISLAND Hy** 30.35 133 T T 21 53 08.8
baz=328,slow=76
MOY **Mondy** 30.52 304 *e*P **P** 21 21 03.8 +1.1
MOY pmax pmax
comp=Z,42nm,1.9s
TIXI **Tiksi** 30.93 351 P **P** 21 21 02.9 -3.0
TIXI **Tiksi** 30.93 351 P **P** 21 21 02.9 -3.0
TIXI pmax pmax
comp=Z,8.0nm,0.7s
TIXI **Tiksi** 30.93 351 LR LR 21 35 10.7
comp=Z,52nm,19.2s,baz=168,slow=39
TIXI **Tiksi** 30.93 351 P **P** 21 21 03.1 -2.8
LZH **Lanzhou** 31.29 273 *e*P **P** 21 21 10.3 +0.6
LZH pP pP 21 21 20.0 +0.2
LZH sP sP 21 21 24.0 0.0
LZH PcP **PcP** 21 24 04.8 +1.5
LZH pmax pmax
comp=Z,13nm,1.2s
LZH LR LR
comp=Z,310nm,14.4s
LZH LR LR
comp=Z,520nm,14.4s
LZH LR LR
comp=Z,620nm,15.1s
GTA **Gaotai** 33.12 281 ⇑P **P** 21 21 26.5 +0.8
GTA pP pP 21 21 36.3 +0.4
GTA sP sP 21 21 40.8 +0.7
GTA PcP **PcP** 21 24 09.8 +1.6
GTA PcS **PcS** 21 27 55.3 +1.5
GTA ScS ScS 21 31 49.8 -0.4
GTA pmax pmax
comp=Z,12nm,1.1s
GTA LR LR
comp=Z,430nm,15.9s
GTA LR LR
comp=Z,630nm,18.7s
GTA LR LR
comp=Z,1µm,20.7s
NIKH **Nikolski High** 33.52 54 P **P** 21 21 30.6 +1.8
baz=270
CD2 **Chengdu** 33.64 264 P **P** 21 21 29.8 -0.4
CD2 pP pP 21 21 39.5 -0.7
CD2 sP sP 21 21 44.3 -0.1
CD2 S **S** 21 26 51.0 +0.4
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 pmax pmax
comp=Z,130nm,4.6s
CD2 LR LR
comp=Z,260nm,12.6s
CD2 LR LR
comp=Z,370nm,13.3s
CD2 LR LR
comp=Z,460nm,12.1s
GYA **Guiyang** 33.91 255 ⇓P **P** 21 21 32.5 -0.1
GYA pP pP 21 21 43.0 +0.3
GYA S **S** 21 26 53.3 -1.7
GYA pmax pmax
comp=Z,25nm,0.9s
GYA pmax pmax
comp=Z,190nm,4.6s
GYA LR LR
comp=Z,550nm,18.7s
GYA LR LR
comp=Z,540nm,18.4s
GYA LR LR
comp=Z,840nm,20.5s
M11K **Mekoryuk** 35.56 41 P **P** 21 21 47.8 +1.4
baz=261
TNA **Tin City** 35.97 32 P **P** 21 21 51.6 +1.8
baz=252
QIZ **Qiongzhong** 36.54 242 P **P** 21 21 57.0 +1.8
QIZ S **S** 21 27 36.5 +1.3
QIZ LR LR
comp=Z,690nm,16.8s
QIZ LR LR
comp=Z,640nm,16.0s
QIZ LR LR
comp=Z,520nm,21.0s
F14K **Arctic Creek** 36.59 32 P **P** 21 21 56.5 +1.4
baz=254
ANM **Nome** 36.75 34 P **P** 21 21 58.0 +1.5
ANM IAmb IAmb 21 21 59.1
comp=Z,27nm,0.9s
ANM **Nome** 36.75 34 P **P** 21 21 57.6 +1.1
baz=256,SNR=5.4
ANM **Nome** 36.75 34 P **P** 21 21 58.0 +1.5
ANM pmax pmax
comp=Z,27nm,0.9s
M13K **Dall Lake** 36.97 41 P **P** 21 21 58.4 0.0
M13K **Dall Lake** 36.97 41 P **P** 21 21 59.2 +0.8
baz=264
J14K **Nanvaranak Lak** 37.19 37 P **P** 21 22 00.1 -0.1
J14K **Nanvaranak Lak** 37.19 37 P **P** 21 22 01.3 +1.1
baz=261
F15K **North Star Dit** 37.32 32 P **P** 21 22 00.8 -0.5
F15K **North Star Dit** 37.32 32 P **P** 21 22 02.7 +1.3
baz=256
L14K **Kuka Creek** 37.40 40 P **P** 21 22 01.8 -0.2
L14K IAmb IAmb 21 22 08.5
comp=Z,41nm,0.9s
L14K **Kuka Creek** 37.40 40 P **P** 21 22 03.1 +1.1
baz=263,SNR=14
G15K **Niukluk** 37.40 34 P **P** 21 22 03.5 +1.4
baz=257
KMI **Kunming** 37.55 257 ⇑P **P** 21 22 04.5 +0.5
KMI pP pP 21 22 13.0 -1.2
KMI pmax pmax
comp=Z,21nm,0.9s
KMI LR LR
comp=Z,430nm,16.9s
KMI LR LR
comp=Z,470nm,22.4s
KMI LR LR
comp=Z,670nm,21.4s
M14K **Bethel** 37.69 41 P **P** 21 22 05.3 +0.9
M14K IAmb IAmb 21 22 18.2
comp=Z,54nm,0.9s
M14K **Bethel** 37.69 41 P **P** 21 22 06.3 +1.8
baz=265,SNR=15
N14K **Kuskokwak Cree** 37.76 42 P **P** 21 22 06.0 +1.0
baz=266
C16K **Lisburne Hills** 37.78 28 P **P** 21 22 04.6 -0.5
C16K IAmb IAmb 21 22 06.6
comp=Z,35nm,0.8s
C16K **Lisburne Hills** 37.78 28 P **P** 21 22 05.2 +0.1
baz=252,SNR=13
O14K **Tigyukauivet M** 37.94 43 P **P** 21 22 06.8 +0.2
O14K IAmb IAmb 21 22 12.4
comp=Z,43nm,1.1s
O14K **Tigyukauivet M** 37.94 43 P **P** 21 22 07.7 +1.2
baz=267
GOMU **GeErMu** 37.97 278 P **P** 21 22 07.5 -0.1
GOMU S **S** 21 27 50.8 -6.7
GOMU pmax pmax
comp=Z,17nm,0.8s
GOMU LR LR
comp=Z,270nm,14.6s
GOMU LR LR
comp=Z,390nm,14.7s
L15K **Ungalak Mounta** 38.01 39 P **P** 21 22 08.6 +1.4
baz=264,SNR=7.8
DAV **Davao City (W)** 38.03 210 LR LR 21 36 08.8
comp=Z,177nm,20.5s,baz=49,slow=34
K15K **Wolf Creek Mou** 38.05 38 P **P** 21 22 07.8 +0.3
K15K **Wolf Creek Mou** 38.05 38 P **P** 21 22 09.1 +1.5
baz=263
H16K **Elim** 38.09 34 P **P** 21 22 09.6 +1.8
baz=260,SNR=21
G16K **Koyuk River** 38.18 33 P **P** 21 22 08.9 +0.3
G16K IAmb IAmb 21 22 25.8
comp=Z,36nm,1.2s
G16K **Koyuk River** 38.18 33 P **P** 21 22 10.0 +1.4
baz=258,SNR=5.6
M15K **Kasigluk River** 38.31 41 P **P** 21 22 11.6 +1.9
baz=266
N15K **Kwethluk River** 38.57 42 P **P** 21 22 13.7 +1.7
N15K **Kwethluk River** 38.57 42 P **P** 21 22 13.9 +1.9
baz=267,SNR=30

RDOG **Red Dog Mine** 38.59 29 P **P** 21 22 11.4 -0.5
RDOG **Red Dog Mine** 38.59 29 P **P** 21 22 13.1 +1.1
baz=255
J16K **Anvik River** 38.59 37 P **P** 21 22 11.7 -0.4
J16K **Anvik River** 38.59 37 P **P** 21 22 13.8 +1.7
baz=263
C17K **DeLong Mountai** 38.60 28 P **P** 21 22 12.6 +0.5
baz=254,SNR=20
I17K **Unalakleet** 38.63 36 P **P** 21 22 13.2 +0.9
I17K IAmb IAmb 21 22 15.2
comp=Z,38nm,0.7s
I17K **Unalakleet** 38.63 36 P **P** 21 22 13.6 +1.3
baz=262,SNR=21
O15K **Ungalikthiuk R** 38.67 43 P **P** 21 22 13.0 +0.2
baz=269
E17K **Hotham Inlet** 38.75 31 P **P** 21 22 14.0 +0.7
baz=257,SNR=15
F17K **Baldwin Pennin** 38.84 32 P **P** 21 22 14.1 +0.1
F17K **Baldwin Pennin** 38.84 32 P **P** 21 22 14.5 +0.4
baz=258
G17K **Kiwalik Mounta** 38.90 33 P **P** 21 22 15.5 +0.8
baz=260,SNR=20
L16K **Owhat River** 38.96 39 P **P** 21 22 15.4 +0.2
L16K IAmb IAmb 21 22 31.1
comp=Z,33nm,0.9s
L16K **Owhat River** 38.96 39 P **P** 21 22 15.9 +0.7
baz=266,SNR=12
SLVN **Son La** 39.06 251 P **P** 21 22 16.2 -0.3
H17K **Granite Mounta** 39.12 34 P **P** 21 22 17.2 +0.7
H17K IAmb IAmb 21 22 34.3
comp=Z,35nm,0.8s
H17K **Granite Mounta** 39.12 34 P **P** 21 22 17.4 +0.9
baz=261,SNR=21
M16K **Timber Creek** 39.17 40 P **P** 21 22 17.8 +0.9
M16K IAmb IAmb 21 22 24.1
comp=Z,26nm,0.8s
M16K **Timber Creek** 39.17 40 P **P** 21 22 18.4 +1.5
baz=267,SNR=11
N16K **Nishlik Lake** 39.24 41 P **P** 21 22 18.8 +1.2
baz=268
DGZ **Jazzator, Alta** 39.26 301 *d*iP **P** 21 22 19.2 +1.2
DGZ pmax pmax
comp=Z,19nm,0.9s
E18K **Tukpahlearik C** 39.29 30 P **P** 21 22 18.1 +0.2
E18K **Tukpahlearik C** 39.29 30 P **P** 21 22 18.7 +0.8
baz=258
B18K **Kokolik River** 39.33 27 P **P** 21 22 18.9 +0.8
baz=254,SNR=31
C18K **Utukok River** 39.35 28 P **P** 21 22 17.3 -1.2
C18K IAmb IAmb 21 22 20.2
comp=Z,33nm,0.8s
C18K **Utukok River** 39.35 28 P **P** 21 22 18.5 0.0
baz=256,SNR=20
F18K **Selawik** 39.49 32 P **P** 21 22 19.9 +0.4
baz=260
L17K **Donlin** 39.55 39 P **P** 21 22 21.2 +1.1
baz=266,SNR=14
O16K **Kokwok River B** 39.56 43 P **P** 21 22 20.1 -0.1
O16K **Kokwok River B** 39.56 43 P **P** 21 22 21.0 +0.8
baz=270
K17K **Iditarod** 39.58 38 P **P** 21 22 20.7 +0.3
K17K IAmb IAmb 21 22 34.5
comp=Z,43nm,0.9s
K17K **Iditarod** 39.58 38 P **P** 21 22 21.5 +1.2
baz=266,SNR=12
P16K **Nushagak River** 39.62 44 P **P** 21 22 21.1 +0.4
baz=270
G18K **Tagagawik** 39.78 33 P **P** 21 22 22.1 +0.1
G18K IAmb IAmb 21 22 39.1
comp=Z,47nm,1.1s
G18K **Tagagawik** 39.78 33 P **P** 21 22 22.1 +0.1
baz=262,SNR=21
H18K **Honhosa River** 39.80 34 P **P** 21 22 21.3 -0.8
H18K IAmb IAmb 21 22 39.8
comp=Z,52nm,0.9s
H18K **Honhosa River** 39.80 34 P **P** 21 22 22.7 +0.5
baz=263,SNR=25
A19K **Wainwright** 39.80 26 P **P** 21 22 22.7 +0.7
baz=254,SNR=29
NRIK **Noril'sk** 39.85 333 P **P** 21 22 20.6 -1.9
NRIK **Noril'sk** 39.85 333 P **P** 21 22 21.2 -1.3
comp=Z,6.3nm,0.4s,baz=106,slow=12,SNR=15
NRIK PcP **PcP** 21 24 28.8 +1.1
comp=Z,4.2nm,0.8s,baz=108,slow=5.5,SNR=3.6
NRIK LR LR 21 40 12.6
comp=Z,863nm,20.1s,baz=102,slow=38
comp=Z,6.3nm,0.4s
M17K **Holitna River** 39.92 40 P **P** 21 22 23.3 +0.1
M17K IAmb IAmb 21 22 37.2
comp=Z,56nm,0.9s
M17K **Holitna River** 39.92 40 P **P** 21 22 24.5 +1.3
baz=268,SNR=16
N17K **Nushagak Hills** 40.03 41 P **P** 21 22 23.8 -0.2
N17K **Nushagak Hills** 40.03 41 P **P** 21 22 25.2 +1.1
baz=269
C19K **Lookout Ridge** 40.03 28 P **P** 21 22 24.1 +0.1
C19K IAmb IAmb 21 22 26.8
comp=Z,40nm,1.1s
C19K **Lookout Ridge** 40.03 28 P **P** 21 22 25.2 +1.1
baz=257
O17K **Koliganek Bris** 40.07 42 P **P** 21 22 26.0 +1.6
baz=270,SNR=9.2
ZAA0 **Zalesovo Array** 40.22 308 P **P** 21 22 25.4 -0.4
ZAA0 IAmb IAmb 21 22 40.0
comp=Z,34nm,0.8s
ZALV **Zalesovo Beam** 40.22 308 *i*P **P** 21 22 25.8 0.0
ZALV pmax pmax
comp=Z,25nm,0.6s
ZALV **Zalesovo Beam** 40.22 308 P **P** 21 22 25.9 +0.1
comp=Z,25nm,0.7s,baz=86,slow=8.2,SNR=81
ZALV PcP **PcP** 21 24 30.1 +0.9
comp=Z,12nm,0.9s,baz=93,slow=3.3,SNR=6.1
comp=Z,25nm,0.7s
F19K **Shaleruckik Mo** 40.27 31 P **P** 21 22 26.4 +0.4
F19K IAmb IAmb 21 22 42.6
comp=Z,48nm,1.5s
F19K **Shaleruckik Mo** 40.27 31 P **P** 21 22 26.8 +0.8
baz=261,SNR=16
L18K **Granite Mounta** 40.30 39 P **P** 21 22 27.6 +1.2
L18K **Granite Mounta** 40.30 39 P **P** 21 22 27.6 +1.2
baz=268,SNR=13
Q16K **King Salmon** 40.32 44 P **P** 21 22 28.4 +1.9
baz=272
J18K **Innoko River** 40.35 37 P **P** 21 22 25.3 -1.5
J18K **Innoko River** 40.35 37 P **P** 21 22 28.1 +1.4
baz=266
GCSA **Galena City Sc** 40.38 35 P **P** 21 22 27.7 +0.8
baz=265
P17K **Kvichak River** 40.42 43 P **P** 21 22 27.8 +0.5
baz=272
D19K **Kuna River** 40.42 29 P **P** 21 22 27.3 0.0
D19K IAmb IAmb 21 22 45.8
comp=Z,46nm,1.0s
D19K **Kuna River** 40.42 29 P **P** 21 22 27.6 +0.3
baz=259,SNR=24
G19K **Purcell Mounta** 40.45 33 P **P** 21 22 28.0 +0.5
G19K **Purcell Mounta** 40.45 33 P **P** 21 22 27.8 +0.3
baz=263,SNR=7.5
WMQ **Urumqi** 40.48 292 *e*P **P** 21 22 28.8 +0.7
WMQ pP pP 21 22 39.8 +1.4
WMQ sP sP 21 22 44.0 +1.3
WMQ PcP **PcP** 21 24 31.8 +1.5
WMQ pmax pmax
comp=Z,29nm,0.9s
WMQ LR LR
comp=Z,510nm,12.5s
WMQ LR LR
comp=Z,990nm,18.5s
WMQ LR LR
comp=Z,670nm,19.7s
R17K **Ugashik Creek** 40.52 46 P **P** 21 22 29.0 +0.9
R17K IAmb IAmb 21 22 53.3
comp=Z,36nm,1.1s
R17K **Ugashik Creek** 40.52 46 P **P** 21 22 28.1 0.0
baz=273
E19K **Redstone River** 40.57 31 P **P** 21 22 27.8 -0.7
E19K IAmb IAmb 21 22 31.5
comp=Z,47nm,1.1s
E19K **Redstone River** 40.57 31 P **P** 21 22 29.7 +1.1
baz=261
H19K **Roundabout Mou** 40.64 34 P **P** 21 22 30.0 +1.0
H19K **Roundabout Mou** 40.64 34 P **P** 21 22 30.2 +1.1
baz=264
TTA **Tatalina** 40.65 38 P **P** 21 22 29.6 +0.3
TTA **Tatalina** 40.65 38 P **P** 21 22 30.2 +0.9
baz=268,SNR=11
TTA **Tatalina** 40.65 38 P **P** 21 22 29.6 +0.3
TTA pmax pmax
comp=Z,28nm,1.3s
N18K **Kilae Creek** 40.67 41 P **P** 21 22 29.4 +0.1
N18K IAmb IAmb 21 22 43.7
comp=Z,32nm,0.9s
N18K **Kilae Creek** 40.67 41 P **P** 21 22 29.9 +0.5
baz=270
M18K **Stony River** 40.70 40 P **P** 21 22 30.8 +1.2
baz=269
TNCH **TengChong** 40.70 260 ⇓P **P** 21 22 30.8 +0.5
TNCH pP pP 21 22 40.5 0.0
TNCH sP sP 21 22 43.0 -1.7
TNCH PP **PP** 21 24 03.0 -1.4
TNCH S **S** 21 28 29.8 -8.6
TNCH sS sS 21 28 52.0 -2.4
TNCH SS **SS** 21 31 29.3 -10
TNCH pmax pmax
comp=Z,22nm,0.8s
TNCH pmax pmax
comp=Z,100nm,4.2s
TNCH LR LR
comp=Z,180nm,16.1s
TNCH LR LR
comp=Z,210nm,16.3s
TNCH LR LR
comp=Z,360nm,19.4s
Q17K **Contact Creek** 40.74 45 P **P** 21 22 30.9 +0.8
baz=273
SVW2 **Sparrevohn** 40.81 40 P **P** 21 22 31.3 +0.7
J19K **Poorman** 40.87 36 P **P** 21 22 30.9 -0.1
J19K IAmb IAmb 21 22 44.4
comp=Z,46nm,0.9s
J19K **Poorman** 40.87 36 P **P** 21 22 31.7 +0.7
baz=267,SNR=30
D20K **Etivluk River** 41.01 29 P **P** 21 22 32.8 +0.7
baz=260
O18K **Koktuh Hills** 41.02 42 P **P** 21 22 31.6 -0.8
O18K **Koktuh Hills** 41.02 42 P **P** 21 22 33.4 +1.0
baz=272
P18K **Big Mountain,** 41.03 43 P **P** 21 22 32.9 +0.5
P18K **Big Mountain,** 41.03 43 P **P** 21 22 34.1 +1.7
baz=272,SNR=5.1
B20K **Meade River** 41.05 27 P **P** 21 22 31.7 -0.7
B20K **Meade River** 41.05 27 P **P** 21 22 33.2 +0.8
baz=258
E20K **Nigu River** 41.09 29 P **P** 21 22 33.4 +0.5
baz=261,SNR=25
CHIR **Chirikof Islan** 41.09 49 P **P** 21 22 33.5 +0.6
baz=276
F20K **Avaraart Lake** 41.10 31 P **P** 21 22 32.9 +0.1
F20K **Avaraart Lake** 41.10 31 P **P** 21 22 34.2 +1.4
baz=263
L19K **White Mountain** 41.16 39 P **P** 21 22 33.8 +0.3
L19K **White Mountain** 41.16 39 P **P** 21 22 34.7 +1.2
baz=269
Q18K **Katmai Hardscr** 41.18 44 P **P** 21 22 34.7 +0.9
baz=273
H20K **Anotleneega Mo** 41.29 34 P **P** 21 22 35.4 +0.9
baz=266
N19K **Bonanza Creek** 41.35 41 P **P** 21 22 35.6 +0.4
N19K **Bonanza Creek** 41.35 41 P **P** 21 22 35.9 +0.7
baz=271
ZSN **Zaisan** 41.41 299 ⇓*i*P **P** 21 22 36.4 +0.7
comp=Z,19nm,1.0s,baz=299
ZSN *e*S **S** 21 28 50.4 +2.3
baz=299
ZSN **Zaisan** 41.41 299 *d*iP **P** 21 22 36.3 +0.7
ZSN *e*S **S** 21 28 50.3 +2.2
ZSN pmax pmax
comp=Z,19nm,1.0s
I20K **Naaghedeneel** 41.41 35 P **P** 21 22 36.0 +0.6
I20K IAmb IAmb 21 23 12.6
comp=Z,44nm,0.9s
I20K **Naaghedeneel** 41.41 35 P **P** 21 22 36.6 +1.2
baz=267,SNR=6.3
O19K **Port Alsworth** 41.45 42 P **P** 21 22 35.8 0.0
O19K **Port Alsworth** 41.45 42 P **P** 21 22 36.8 +1.0
baz=272
A21K **Barrow** 41.51 25 P **P** 21 22 36.1 0.0
baz=257,SNR=16
J20K **Nowinta River** 41.53 36 P **P** 21 22 36.7 +0.3
J20K IAmb IAmb 21 22 39.6
comp=Z,44nm,0.8s
J20K **Nowinta River** 41.53 36 P **P** 21 22 37.7 +1.2
baz=268,SNR=24
K20K **Telida** 41.54 37 P **P** 21 22 37.4 +0.8
K20K **Telida** 41.54 37 P **P** 21 22 36.9 +0.4
baz=269
R18K **Karluk** 41.56 46 P **P** 21 22 37.3 +0.6
baz=275
L20K **Farewell, AK** 41.62 38 P **P** 21 22 37.4 +0.1
baz=270
C21K **Knifeblade Rid** 41.73 28 P **P** 21 22 38.1 +0.1
baz=262,SNR=27
IMAR **Indian Mountai** 41.79 33 P **P** 21 22 38.7 +0.2
SII **Sitkinak Islan** 41.81 47 P **P** 21 22 38.7 -0.1
baz=276
B21K **Ikpikpuk River** 41.86 28 P **P** 21 22 39.0 +0.1
B21K IAmb IAmb 21 22 55.6
comp=Z,41nm,0.8s
B21K **Ikpikpuk River** 41.86 28 P **P** 21 22 39.1 +0.1
baz=261,SNR=44
Q19K **Cape Douglas,** 41.87 44 P **P** 21 22 39.5 +0.2
baz=274
G21K **Allakaket** 41.92 32 P **P** 21 22 39.5 -0.1
G21K **Allakaket** 41.92 32 P **P** 21 22 39.6 0.0
baz=266,SNR=30
E21K **Killik River** 41.93 29 P **P** 21 22 39.4 -0.2
E21K **Killik River** 41.93 29 P **P** 21 22 40.0 +0.4
baz=263
A22K **Sinclair Lake** 41.97 25 P **P** 21 22 39.0 -0.8
baz=259
M20K **Styx River** 41.98 39 P **P** 21 22 40.9 +0.6
M20K **Styx River** 41.98 39 P **P** 21 22 40.8 +0.6
baz=271
F21K **Alatna River** 41.99 31 P **P** 21 22 40.4 +0.2
F21K **Alatna River** 41.99 31 P **P** 21 22 40.1 -0.1
baz=265
P19K **Oil Pt** 42.03 43 P **P** 21 22 41.1 +0.5
baz=274
ILSW **Iliamna Southw** 42.06 42 P **P** 21 22 39.9 -1.0
H21K **Melozitna Rive** 42.16 34 P **P** 21 22 42.2 +0.6
H21K IAmb IAmb 21 22 44.5
comp=Z,37nm,1.1s
H21K **Melozitna Rive** 42.16 34 P **P** 21 22 41.9 +0.3
baz=267,SNR=29
RSO **Redoubt South** 42.22 41 P **P** 21 22 43.0 +0.6
OHAK **Old Harbor** 42.22 46 P **P** 21 22 43.4 +1.3
OHAK **Old Harbor** 42.22 46 P **P** 21 22 42.3 +0.2
baz=276
CRAI **Chiangrai** 42.28 253 P **P** 21 22 43.6 +0.5
CRAI IAmb IAmb 21 22 59.2
comp=Z,36nm,0.9s
O20K **Slope Mountain** 42.31 42 P **P** 21 22 43.3 +0.4
baz=274
CHUM **Lake Minchumin** 42.33 36 P **P** 21 22 43.7 +0.8
baz=270,SNR=7.4
B22K **Teshekpuk Lake** 42.37 27 P **P** 21 22 42.5 -0.7
B22K **Teshekpuk Lake** 42.37 27 P **P** 21 22 43.5 +0.4
baz=262
PPLA **Purkeypile** 42.40 38 P **P** 21 22 44.3 +0.7
baz=271,SNR=5.6
CAST **Castle Rocks** 42.43 37 P **P** 21 22 44.7 +0.8
CAST **Castle Rocks** 42.43 37 P **P** 21 22 44.9 +1.0
baz=270,SNR=12
D22K **Ayikyak River** 42.44 29 P **P** 21 22 44.0 +0.1
D22K **Ayikyak River** 42.44 29 P **P** 21 22 44.1 +0.3
baz=264,SNR=17
N20K **Mount Spurr** 42.45 40 P **P** 21 22 45.2 +1.2
baz=273,SNR=19
I21K **Tanana** 42.49 34 P **P** 21 22 45.1 +0.9
I21K IAmb IAmb 21 22 46.9
comp=Z,42nm,1.2s
I21K **Tanana** 42.49 34 P **P** 21 22 45.0 +0.8
baz=269
F22K **John River** 42.51 31 P **P** 21 22 45.2 +0.8
baz=266
KDAK **Kodiak Island** 42.54 45 P **P** 21 22 44.2 -0.4
KDAK IAmb IAmb 21 22 57.9
comp=Z,71nm,1.1s
KDAK **Kodiak Island** 42.54 45 P **P** 21 22 45.1 +0.4
baz=276
KDAK **Kodiak Island** 42.54 45 ⇑*e*P **P** 21 22 44.9 +0.2
KDAK pmax pmax
comp=Z,87nm,1.5s
KDAK **Kodiak Island** 42.54 45 P **P** 21 22 45.6 +0.9

KDAK pP **pP** 21 22 56.4 +1.4
Q20K Shuyak Island 42.55 44 P **P** 21 22 45.7 +0.9
baz=276
SYI Shuyak Island 42.55 44 P **P** 21 22 44.8 0.0
SYI IAmb IAmb 21 22 57.4
comp=Z,56nm,0.9s
E22K Anaktuvuk Pass 42.70 30 P **P** 21 22 46.3 +0.4
E22K IAmb IAmb 21 22 50.1
comp=Z,35nm,0.7s
E22K Anaktuvuk Pass 42.70 30 P **P** 21 22 46.8 +0.8
baz=266,SNR=58
MYLDM Lahad Datu 42.72 219 P **P** 21 22 46.9 +0.3
MYLDM IAmb IAmb 21 23 27.9
comp=Z,64nm,1.4s
SKT Skwentna 42.73 39 P **P** 21 22 46.9 +0.6
SKT Skwentna 42.73 39 P **P** 21 22 47.4 +1.1
baz=273
G22K Bettles 42.74 32 P **P** 21 22 47.1 +0.8
baz=267
H22K Ishtalitna Cre 42.76 33 P **P** 21 22 47.6 +1.2
baz=268
BPAW Bear Paw Mtn. 42.91 36 P **P** 21 22 48.3 +0.5
BPAW Bear Paw Mtn. 42.91 36 P **P** 21 22 48.9 +1.2
baz=271
KTH Kantishna Hill 42.95 37 P **P** 21 22 48.7 +0.6
KTH IAmb IAmb 21 23 01.9
comp=Z,66nm,0.9s
MLY Manley 43.01 35 P **P** 21 22 48.9 +0.4
MLY IAmb IAmb 21 23 02.2
comp=Z,29nm,0.8s
MLY Manley 43.01 35 P **P** 21 22 49.7 +1.1
baz=270,SNR=32
CNPM China Poot 43.05 43 P **P** 21 22 49.3 +0.3
CNPM IAmb IAmb 21 22 56.8
comp=Z,34nm,1.0s
SUA Susitna One 43.13 40 P **P** 21 22 50.3 +0.6
SUA IAmb IAmb 21 23 04.2
comp=Z,35nm,1.0s
SUA Susitna One 43.13 40 P **P** 21 22 50.7 +1.0
baz=274,SNR=12
D23K Nanushuk River 43.17 29 P **P** 21 22 50.3 +0.6
baz=266
BRLK Bradley Lake 43.21 42 P **P** 21 22 50.1 0.0
BRLK IAmb IAmb 21 22 57.0
comp=Z,33nm,1.0s
TRF Thorofare Moun 43.24 37 P **P** 21 22 51.0 +0.5
TRF Thorofare Moun 43.24 37 P **P** 21 22 51.1 +0.5
baz=272,SNR=6.1
COLD Coldfoot 43.26 31 P **P** 21 22 51.7 +1.2
baz=268,SNR=23
C23K Itkillik River 43.27 27 P **P** 21 22 50.5 +0.1
C23K IAmb IAmb 21 22 54.4
comp=Z,23nm,0.6s
C23K Itkillik River 43.27 27 P **P** 21 22 51.3 +0.9
baz=265
MK31 Makanchi Array 43.28 298 P **P** 21 22 50.2 -0.7
MK31 IAmb IAmb 21 23 03.3
comp=Z,32nm,0.8s
MK31 Makanchi Array 43.28 298*d* *i*P **P** 21 22 50.9 0.0
MKAR Makanchi Array 43.28 298 P **P** 21 22 51.0 +0.1
MKAR Makanchi Array 43.28 298 *i* P **P** 21 22 51.0 +0.1
MKAR pmax pmax
comp=Z,12nm,0.6s
MKAR Makanchi Array 43.28 298 P **P** 21 22 51.0 +0.1
comp=Z,12nm,0.6s,baz=83,slow=9.6,SNR=130
MKAR PcP **PcP** 21 24 40.1 +0.7
comp=Z,20nm,1.2s,baz=70,slow=4.7,SNR=2.8
MKAR LR LR 21 41 42.9
comp=Z,253nm,20.5s,baz=116,slow=37
comp=Z,12nm,0.6s
BRSE Bradley Lake S 43.28 42 P **P** 21 22 51.7 +0.9
baz=276
CUT Chulitna 43.30 38 P **P** 21 22 50.4 -0.4
CUT IAmb IAmb 21 23 04.0
comp=Z,44nm,0.8s
CUT Chulitna 43.30 38 P **P** 21 22 51.7 +0.9
baz=273
TNTI Ternate 43.30 204 P **P** 21 22 50.0 -1.3
TNTI Ternate 43.30 204 P P 21 23 06.0 +15
G23K Bananza Creek 43.32 32 P **P** 21 22 50.7 -0.3
G23K Bananza Creek 43.32 32 P **P** 21 22 51.6 +0.6
baz=269,SNR=25
MAKZ Makanchi 43.48 299 P **P** 21 22 51.9 -0.7
MAKZ IAmb IAmb 21 23 05.6
comp=Z,68nm,1.1s
MAKZ Makanchi 43.48 299 P **P** 21 22 51.9 -0.7
MAKZ pmax pmax
comp=Z,68nm,1.2s
MAKZ Makanchi 43.48 299 ⇓P **P** 21 22 52.8 +0.2
MAKZ pP **pP** 21 23 03.7 +0.8
E23K Chandalar 43.52 30 P **P** 21 22 53.6 +1.0
baz=268,SNR=37
TOLK Toolik Lake Re 43.56 29 P **P** 21 22 53.0 +0.1
TOLK Toolik Lake Re 43.56 29 P **P** 21 22 53.8 +0.9
baz=267,SNR=15
BWN Browne 43.58 36 P **P** 21 22 54.1 +1.0
I23K Minto, Yukon-K 43.59 34 P **P** 21 22 53.5 +0.4
I23K Minto, Yukon-K 43.59 34 P **P** 21 22 54.0 +0.9
baz=271,SNR=18
SEM Semipalatinsk 43.64 304 *e*P **P** 21 22 53.5 -0.5
baz=304
SEM Semipalatinsk 43.64 304 *e*P **P** 21 22 53.5 -0.5
RC01 Rabbit Creek A 43.65 40 P **P** 21 22 53.4 -0.3
RC01 IAmb IAmb 21 23 06.5
comp=Z,37nm,0.8s
RC01 Rabbit Creek A 43.65 40 P **P** 21 22 54.8 +1.1
baz=275,SNR=12
LSA Lhasa 43.67 272 P **P** 21 22 55.8 +1.0
LSA Lhasa 43.67 272 P **P** 21 22 54.9 +0.1
LSA Lhasa 43.67 272 P **P** 21 22 55.8 +1.0
LSA pmax pmax
comp=Z,10.0nm,0.8s
LSA Lhasa 43.67 272 P **P** 21 22 56.6 +1.8
LSA pP **sP** 21 23 07.9 -1.5
O22K Cooper Landing 43.72 41 P **P** 21 22 54.5 +0.3
O22K Cooper Landing 43.72 41 P **P** 21 22 55.0 +0.8
baz=276
NEA2 Nenana 43.73 35 P **P** 21 22 55.4 +1.1
NEA2 Nenana 43.73 35 P **P** 21 22 55.5 +1.2
baz=272,SNR=35
MCK McKinley 43.83 36 P **P** 21 22 55.7 +0.5
baz=273,SNR=15
D24K Happy Valley 43.85 29 P **P** 21 22 55.2 0.0
D24K Happy Valley 43.85 29 P **P** 21 22 55.8 +0.6
baz=267
RND Reindeer 43.89 37 P **P** 21 22 55.8 +0.1
RND Reindeer 43.89 37 P **P** 21 22 55.8 +0.1
RND pmax pmax
comp=Z,36nm,0.9s
SEW Seward 43.89 42 P **P** 21 22 56.5 +0.9
baz=276
PMR Palmer 43.90 39 P **P** 21 22 55.2 -0.4
PMR IAmb IAmb 21 23 09.2
comp=Z,29nm,1.0s
PMR Palmer 43.90 39 P **P** 21 22 56.5 +0.9
baz=275
PMR Palmer 43.90 39 P **P** 21 22 55.2 -0.4
PMR pmax pmax
comp=Z,29nm,1.0s
C24K Franklin Bluff 43.92 28 P **P** 21 22 56.5 +0.8
baz=267
E24K Your Creek 43.94 30 P **P** 21 22 56.5 +0.5
E24K IAmb IAmb 21 23 16.0
comp=Z,31nm,1.0s
E24K Your Creek 43.94 30 P **P** 21 22 56.9 +1.0
baz=269
GHO Glory Hole Cre 43.98 39 P **P** 21 22 57.2 +0.8
GHO IAmb IAmb 21 23 09.4
comp=Z,56nm,1.0s
WAT1 Susitna Watana 44.06 38 P **P** 21 22 57.4 +0.4
baz=274
MDM Murphy Dome 44.08 35 P **P** 21 22 58.0 +0.9
MDM IAmb IAmb 21 23 12.6
comp=Z,37nm,0.8s
F24K Squaw Lake 44.16 31 P **P** 21 22 57.5 -0.3
F24K IAmb IAmb 21 23 02.5
comp=Z,24nm,0.7s
F24K Squaw Lake 44.16 31 P **P** 21 22 58.6 +0.8
baz=270
H24K Noodor Dome 44.20 33 P **P** 21 22 59.3 +1.2
H24K IAmb IAmb 21 23 11.5
comp=Z,41nm,0.9s
H24K Noodor Dome 44.20 33 P **P** 21 22 58.8 +0.8
baz=272,SNR=38
CHTO Chiang Mai 44.23 253 P **P** 21 22 59.0 +0.2
CHTO Chiang Mai 44.23 253 P **P** 21 22 59.8 +1.0
CHTO Chiang Mai 44.23 253 P **P** 21 22 56.0 -2.7
CHTO Chiang Mai 44.23 253 P **P** 21 22 59.0 +0.2
CHTO pmax pmax
comp=Z,12nm,0.8s
CHTO Chiang Mai 44.23 253 P **P** 21 22 59.2 +0.4
CHTO sP **sP** 21 23 13.9 +1.0
KNK Knik Glacier 44.23 40 P **P** 21 22 59.0 +0.6
KNK IAmb IAmb 21 23 12.2
comp=Z,30nm,0.8s
KNK Knik Glacier 44.23 40 P **P** 21 22 59.8 +1.4
baz=276
COLA College 44.24 35 P **P** 21 22 59.1 +0.8
COLA College 44.24 35 P **P** 21 23 00.8 +2.5
COLA College 44.24 35 P **P** 21 22 59.6 +1.3
baz=273
COLA College 44.24 35 P **P** 21 23 00.4 +2.0
COLA College 44.24 35 P **P** 21 23 00.0 +1.7
COLA pP **sP** 21 23 10.9 -1.6
SML Sawmill 44.26 39 P **P** 21 22 59.3 +0.7
SML Sawmill 44.26 39 P **P** 21 22 59.3 +0.7
baz=276,SNR=15
CCB Clear Creek Bu 44.28 35 P **P** 21 22 58.6 0.0
G24K Hadweenzic Riv 44.33 32 P **P** 21 22 59.8 +0.7
G24K IAmb IAmb 21 23 17.1
comp=Z,36nm,1.1s
G24K Hadweenzic Riv 44.33 32 P **P** 21 23 00.3 +1.2
baz=271
POKR Poker Plat Res 44.41 34 P **P** 21 23 01.1 +1.4
POKR Poker Plat Res 44.41 34 P **P** 21 23 01.0 +1.3
baz=273,SNR=29
WAT6 Susitna Watana 44.46 38 P **P** 21 23 01.6 +1.3
baz=275
CM31 Chiang Mai Arr 44.46 252 P **P** 21 23 00.6 -0.1
CMAR Chiang Mai Arr 44.46 252 P **P** 21 23 01.2 +0.5
CMAR Chiang Mai Arr 44.46 252 P **P** 21 23 01.4 +0.8
comp=Z,3.2nm,0.7s,baz=48,slow=6.6,SNR=27
CMAR LR LR 21 42 35.5
comp=Z,280nm,19.9s,baz=55,slow=37
comp=Z,3.2nm,0.7s
KAVG Kavieng 44.54 170 P **P** 21 23 00.7 -0.5
M23K Glacier View 44.54 39 P **P** 21 23 01.7 +0.8
baz=276
KURK Kurchatov 44.57 305 P **P** 21 23 00.9 -0.2
KURK IAmb IAmb 21 23 04.9
comp=Z,35nm,0.7s
KURK Kurchatov 44.57 305 P **P** 21 23 01.4 +0.3
KURK Kurchatov 44.57 305*d* *i*P **P** 21 23 01.0 -0.2
KURK pmax pmax
comp=Z,30nm,0.6s
KURK Kurchatov 44.57 305 P **P** 21 23 01.3 +0.1
KURK sP **sP** 21 23 16.2 +0.5
DHY Denali Highway 44.58 37 P **P** 21 23 01.8 +0.5
DHY IAmb IAmb 21 23 14.2
comp=Z,42nm,0.9s
DHY Denali Highway 44.58 37 P **P** 21 23 02.4 +1.1
baz=275,SNR=18
KURBB Kurchatov Arra 44.65 305 P **P** 21 23 01.9 +0.1
comp=Z,32nm,0.6s,baz=75,slow=8.7,SNR=72
KURBB PcP **PcP** 21 24 44.6 +0.7
comp=Z,6.8nm,0.9s,baz=73,slow=2.9,SNR=5.3
KURBB S **S** 21 29 32.1 -3.3
comp=Z,0.4nm,0.8s,baz=72,slow=15,SNR=2.3
KURBB LR LR 21 42 56.4
comp=Z,453nm,18.8s,baz=175,slow=38
comp=Z,32nm,0.6s
HDA Harding Lake 44.66 35 P **P** 21 23 01.9 +0.1
HDA IAmb IAmb 21 23 14.3
comp=Z,44nm,1.1s
HDA Harding Lake 44.66 35 P **P** 21 23 03.2 +1.5
baz=274,SNR=14
HDA P **P** 21 23 03.2 +1.5
baz=274,SNR=14
IL31 44.66 35 P **P** 21 23 02.2 +0.5
IL31 IAmb IAmb 21 23 15.2
comp=Z,56nm,1.2s
ILAR Eielson Array 44.66 35 P **P** 21 23 01.8 +0.1
ILAR Eielson Array 44.66 35 P **P** 21 23 02.7 +1.0
comp=Z,18nm,0.8s,baz=258,slow=5.5,SNR=95
ILAR LR LR 21 42 46.8
comp=Z,216nm,20.8s,baz=266,slow=37
comp=Z,18nm,0.8s
IL03 Eielson Array 44.68 35 P **P** 21 23 02.2 +0.3
SCM Sheep Creek Mo 44.73 39 P **P** 21 23 03.4 +1.0
SCM IAmb IAmb 21 23 16.1
comp=Z,40nm,1.0s
SCM Sheep Creek Mo 44.73 39 P **P** 21 23 03.6 +1.2
baz=276,SNR=12
SCM Sheep Creek Mo 44.73 39 P **P** 21 23 03.4 +1.0
SCM pmax pmax
comp=Z,40nm,1.0s
D25K Kavik River 44.73 28 P **P** 21 23 02.1 -0.2
D25K IAmb IAmb 21 23 06.1
comp=Z,32nm,0.7s
D25K Kavik River 44.73 28 P **P** 21 23 03.2 +1.0
baz=270
GTOI Gorontalo 44.91 210 P **P** 21 23 04.3 +0.1
comp=Z,24nm,0.9s
P23K Montague Islan 44.92 42 P **P** 21 23 04.7 +0.8
baz=278
GLI Glacier Island 44.95 40 P **P** 21 23 04.6 +0.5
GLI IAmb IAmb 21 23 11.6
comp=Z,23nm,0.6s
GLI Glacier Island 44.95 40 P **P** 21 23 04.6 +0.5
baz=277
F25K Christian Rive 45.02 31 P **P** 21 23 05.9 +1.2
baz=272
E25K Arctic Village 45.03 30 P **P** 21 23 05.4 +0.7
E25K Arctic Village 45.03 30 P **P** 21 23 05.5 +0.8
baz=272,SNR=17
PRP Porcupine Dome 45.19 34 P **P** 21 23 06.9 +0.8
PRP Porcupine Dome 45.19 34 P **P** 21 23 07.0 +1.0
baz=274,SNR=36
K24K Donnelly Dome 45.23 36 P **P** 21 23 07.4 +1.1
baz=276,SNR=5.8
FYU Fort Yukon 45.23 32 P **P** 21 23 07.1 +0.9
M24K Tolsona, Glenn 45.23 39 P **P** 21 23 06.2 -0.2
M24K Tolsona, Glenn 45.23 39 P **P** 21 23 07.9 +1.5
baz=277
C26K Camden Bay 45.24 27 P **P** 21 23 07.3 +1.1
baz=270
FID Port Fidalgo 45.27 40 P **P** 21 23 05.4 -1.2
FID IAmb IAmb 21 23 19.2
comp=Z,32nm,1.1s
J25K Salcha River, 45.33 35 P **P** 21 23 06.9 -0.2
J25K Salcha River, 45.33 35 P **P** 21 23 07.9 +0.8
baz=275
SHL Shillong 45.33 266 P **P** 21 23 04.5 -3.3
TOLI2 Tolitoli 45.35 213 P **P** 21 23 06.3 -1.4
TOLI2 Tolitoli 45.35 213 P **P** 21 23 08.2 +0.5
KLU Klutina 45.43 39 P **P** 21 23 09.0 +1.0
KLU Klutina 45.43 39 P **P** 21 23 09.2 +1.2
baz=278,SNR=11
BMAR Burnt Mountain 45.44 31 P **P** 21 23 09.4 +1.4
PAX Paxson 45.45 37 P **P** 21 23 09.5 +1.3
baz=277
MRSI Marisa 45.47 211 P **P** 21 23 09.4 +0.8
comp=Z,117nm,1.1s,comp=Z,1µm
F26K Shenjek River 45.59 31 P **P** 21 23 10.3 +1.1
baz=273,SNR=38
RIDG Independent Ri 45.64 36 P **P** 21 23 09.0 -0.6
RIDG IAmb IAmb 21 23 34.5
comp=Z,24nm,0.8s
RIDG Independent Ri 45.64 36 P **P** 21 23 10.8 +1.2
baz=276
EYAK Cordova Ski Ar 45.66 41 P **P** 21 23 10.7 +1.1
baz=279
HARP HARP 45.67 38 P **P** 21 23 10.7 +0.9
baz=278,SNR=18
G26K Porcupine Rive 45.78 32 P **P** 21 23 11.9 +1.3
baz=274,SNR=36
SCRK Sand Creek 45.99 36 P **P** 21 23 12.4 0.0
SCRK Sand Creek 45.99 36 P **P** 21 23 13.5 +1.0
baz=277,SNR=21
N25K Chitina, Valde 46.05 39 P **P** 21 23 13.7 +0.9
N25K IAmb IAmb 21 23 34.8
comp=Z,80nm,1.9s
N25K Chitina, Valde 46.05 39 P **P** 21 23 14.1 +1.3
baz=279
J26L Joseph Creek 46.11 35 P **P** 21 23 13.6 +0.2
J26L IAmb IAmb 21 23 26.7
comp=Z,15nm,0.8s
J26L Joseph Creek 46.11 35 P **P** 21 23 15.1 +1.8
baz=277
BMRM Bremner River 46.14 40 P **P** 21 23 15.3 +1.8
baz=279
I26K Coal Creek Min 46.19 34 P **P** 21 23 13.9 +0.1
baz=276
I26K Coal Creek Min 46.19 34 P **P** 21 23 14.8 +1.0
baz=276
MENT Mentasta 46.25 37 P **P** 21 23 15.4 +1.0
MENT IAmb IAmb 21 23 33.6
comp=Z,26nm,0.8s
SHLS Shalkode 46.35 294 ⇓*i*P **P** 21 23 13.3 -2.3
comp=Z,12nm,0.8s,baz=294
SHLS Shalkode 46.35 294*d* *i*P **P** 21 23 13.2 -2.3
SHLS pmax pmax
comp=Z,12nm,0.8s
SANI Sanana 46.39 205 P **P** 21 23 15.1 -0.8
comp=Z,44nm,1.1s
L26K Log Cabin Wild 46.41 37 P **P** 21 23 16.6 +1.0
L26K Log Cabin Wild 46.41 37 P **P** 21 23 17.2 +1.6
baz=278,SNR=13
TDK Taldyqorghan 46.41 297 *e*P **P** 21 23 16.4 +0.4
comp=Z,18nm,0.5s,baz=297
TDK Taldyqorghan 46.41 297 *e*P **P** 21 23 16.3 +0.4
TDK pmax pmax
comp=Z,18nm,0.5s
KAIM Kayak Island 46.42 41 P **P** 21 23 17.0 +1.4
baz=280
MPSI Mapaga 46.42 214 P P 21 23 30.7 +15
GLB Gilahina Butte 46.44 39 P **P** 21 23 16.1 +0.1
GLB IAmb IAmb 21 23 33.3
comp=Z,19nm,0.8s
E27K Coleen River 46.52 30 P **P** 21 23 17.0 +0.6
E27K Coleen River 46.52 30 P **P** 21 23 17.9 +1.5
baz=275
G27K Doyon Strip 46.63 32 P **P** 21 23 18.6 +1.3
G27K Doyon Strip 46.63 32 P **P** 21 23 19.5 +2.2
baz=276,SNR=17
VRDI Verde Repeater 46.65 39 P **P** 21 23 18.1 +0.4
VRDI IAmb IAmb 21 23 31.4
comp=Z,25nm,0.8s
D27M Malcolm River 46.65 28 P **P** 21 23 18.1 +0.6
D27M Malcolm River 46.65 28 P **P** 21 23 18.9 +1.5
baz=275
UZB Uzynbulak 46.66 295 *e*P **P** 21 23 17.9 -0.2
baz=295
UZB Uzynbulak 46.66 295 *e*P **P** 21 23 17.8 -0.2
M26K Nabesna, AK 46.66 38 P **P** 21 23 18.4 +0.8
M26K Nabesna, AK 46.66 38 P **P** 21 23 18.9 +1.2
baz=279
BERG Berg Lake 46.68 41 P **P** 21 23 18.5 +0.8
H27K Steamboat Moun 46.75 32 P **P** 21 23 19.9 +1.6
baz=277,SNR=24
KPKS Kokpek 46.77 295 *e*P **P** 21 23 18.9 0.0
comp=Z,9.8nm,0.7s,baz=295
KPKS Kokpek 46.77 295 *e*P **P** 21 23 18.8 0.0
KPKS pmax pmax
comp=Z,10.0nm,0.7s
I27K Kandik River 46.79 33 P **P** 21 23 20.3 +1.7
baz=277
K27K Chicken 46.82 36 P **P** 21 23 19.9 +1.1
K27K Chicken 46.82 36 P **P** 21 23 20.3 +1.5
baz=278
MCARA McCarthy VSAT 46.83 39 P **P** 21 23 19.5 +0.7
MCARA IAmb IAmb 21 23 47.7
comp=Z,37nm,0.9s
MCARA McCarthy VSAT 46.83 39 P **P** 21 23 20.9 +2.1
baz=280,SNR=13
CRQM Cirque 46.89 40 P **P** 21 23 20.2 +0.6
CRQE Cirque 46.91 40 P **P** 21 23 21.2 +1.6
baz=281,SNR=14
TGL Tana Glacier 47.04 40 P **P** 21 23 21.3 +0.7
TGL IAmb IAmb 21 23 42.1
comp=Z,40nm,1.0s
ZHN Zhinishke 47.05 295 *e*P **P** 21 23 21.1 +0.1
baz=295
ZHN Zhinishke 47.05 295 *e*P **P** 21 23 21.1 +0.1
L27K Beaver Creek, 47.09 37 P **P** 21 23 21.8 +0.8
L27K Beaver Creek, 47.09 37 P **P** 21 23 23.2 +2.3
baz=280
EGAK Eagle 47.10 34 P **P** 21 23 20.5 -0.4
EGAK IAmb IAmb 21 23 33.8
comp=Z,27nm,0.8s
EGAK Eagle 47.10 34 P **P** 21 23 22.9 +1.9
baz=279
BCAR Beaver Creek A 47.10 37 P **P** 21 23 22.2 +1.1
SATY Saty 47.11 295 *e*P **P** 21 23 21.5 0.0
baz=295
SATY Saty 47.11 295 *e*P **P** 21 23 21.5 0.0
M27K Edge Creek, AK 47.19 38 P **P** 21 23 22.8 +1.0
M27K Edge Creek, AK 47.19 38 P **P** 21 23 23.4 +1.6
baz=280,SNR=27
F28M Old Crow 47.23 30 P **P** 21 23 22.5 +0.6
F28M IAmb IAmb 21 23 40.8
comp=Z,38nm,1.2s
F28M Old Crow 47.23 30 P **P** 21 23 23.8 +1.8
baz=277,SNR=21
E28M Babbage River 47.23 29 P **P** 21 23 22.7 +0.8
E28M IAmb IAmb 21 23 26.3
comp=Z,13nm,0.7s
E28M Babbage River 47.23 29 P **P** 21 23 23.5 +1.6
baz=276
WUS Wushi 47.26 292 P **P** 21 23 23.3 +0.6
WUS pP **pP** 21 23 34.7 +1.6
D28M Stokes Point 47.43 28 P **P** 21 23 24.8 +1.4
baz=276
TAPN Taplejung 47.48 271 *e*P **P** 21 23 24.8 +0.1
comp=Z,36nm,0.8s
I28M Miner Creek 47.51 33 P **P** 21 23 25.0 +0.7
I28M Miner Creek 47.51 33 P **P** 21 23 25.7 +1.4
baz=279
BARN Barnard Glacie 47.54 39 P **P** 21 23 26.3 +1.7
BARN IAmb IAmb 21 23 42.9
comp=Z,26nm,0.8s
GRNC Granite Creek 47.56 40 P **P** 21 23 25.9 +1.0
BVCY Beaver Creek 47.64 38 P **P** 21 23 27.5 +2.2
baz=281,SNR=8.0
CTG Chitna Glacier 47.71 40 P **P** 21 23 27.2 +1.3
baz=282,SNR=11
CTGM Chitina Glacie 47.71 40 P **P** 21 23 26.8 +0.8
CHKK Chushkaly 47.77 296 *e*P **P** 21 23 26.4 -0.2
baz=296
CHKK Chushkaly 47.77 296 *e*P **P** 21 23 26.3 -0.2
E29M Blow River 47.86 29 P **P** 21 23 27.8 +1.0
E29M IAmb IAmb 21 23 33.3
comp=Z,47nm,1.4s
E29M Blow River 47.86 29 P **P** 21 23 28.4 +1.6
baz=278,SNR=43
LOGN Logan Glacier 47.90 40 P **P** 21 23 28.2 +0.8
LOGN IAmb IAmb 21 23 36.4
comp=Z,18nm,0.7s
YUK3 Moose Creek 47.95 38 P **P** 21 23 28.9 +1.0
baz=282,SNR=10
DAWY Dawson 47.98 35 P **P** 21 23 29.6 +1.8
baz=281
ODAN Odare 47.98 271 *e*P **P** 21 23 29.0 +0.4
comp=Z,71nm,1.7s
MDOK Medeo 47.99 295 *i* P **P** 21 23 28.8 +0.4
baz=295
MDOK Medeo 47.99 295 *i* P **P** 21 23 28.8 +0.4
H29M Whitestone 48.02 32 P **P** 21 23 29.4 +1.3
baz=280
TARG Taragay, Kyrgy 48.03 293 IAmb IAmb 21 23 43.6
comp=Z,17nm,0.6s
G29M Pine Creek 48.04 31 P **P** 21 23 29.7 +1.4
baz=279,SNR=34
AAA Alma-Ata 48.07 295 *e*P **P** 21 23 29.4 +0.5
comp=Z,19nm,0.6s,baz=296
AAA Alma-Ata 48.07 295 *e*P **P** 21 23 29.3 +0.5
AAA pmax pmax
comp=Z,19nm,0.6s
TNSS Tian-Shan 48.11 295 *e*P **P** 21 23 30.1 +0.5
baz=295
TNSS Tian-Shan 48.11 295 *e*P **P** 21 23 30.1 +0.5
SBUM Sibu 48.19 224 P **P** 21 23 30.3 +0.3
I29M Ogilvie Camp, 48.20 33 P **P** 21 23 31.1 +1.7
baz=280,SNR=28
KUU Kurty 48.20 297 ⇓*i*P **P** 21 23 29.3 -0.5
comp=Z,22nm,0.7s,baz=297
KUU Kurty 48.20 297*d* *i*P **P** 21 23 29.3 -0.5
KUU pmax pmax
comp=Z,22nm,0.7s
YUK8 Steele Glacier 48.39 39 P **P** 21 23 32.6 +1.4
baz=283
BRZS Berezniki 48.42 305 *i* P **P** 21 23 31.2 -0.2
comp=Z,7.5nm,0.6s,baz=305
BRZS Berezniki 48.42 305 *i* P **P** 21 23 31.2 -0.2
BRZS pmax pmax
comp=Z,7.0nm,0.6s
PINM Pinnacle 48.43 41 P **P** 21 23 33.0 +1.6
baz=284
JIRN Jiri 48.45 272 *e*P **P** 21 23 32.4 +0.1

RAMN **Ramite** 48.52 271 *e*P P 21 23 32.9 +0.1
comp=Z,65nm,0.8s
GUN **Gumba** 48.55 273 *e*P P 21 23 33.5 +0.4
comp=Z,86nm,0.7s
EPYK **Eagle Plains** 48.65 32 P P 21 23 34.0 +1.0
baz=281,SNR=34
G30M **tAoh Zraii Nji** 48.72 31 P P 21 23 34.5 +0.9
baz=281
M29M **Somme Creek** 48.73 37 P P 21 23 35.4 +1.7
baz=283
L29M **L29M** 48.73 36 P P 21 23 35.3 +1.6
baz=283,SNR=15
F30M **Barrier River** 48.77 30 P P 21 23 35.6 +1.8
baz=281
BVAR **Borovoye Array** 48.83 310 P P 21 23 34.9 +0.4
BVAR PcP PcP 21 24 58.5 -0.2
comp=Z,21nm,0.4s,baz=78,slow=9.0,SNR=90
BVAR S S 21 30 34.2 -1.0
comp=Z,8.2nm,0.8s,baz=81,slow=3.6,SNR=4.0
BVAR LR LR 21 45 56.8
comp=Z,1.3nm,0.8s,baz=61,slow=12,SNR=4.2
comp=Z,603nm,19.3s,baz=74,slow=38
comp=Z,21nm,0.4s
K29M **Barlow Dome** 48.83 35 P P 21 23 36.5 +2.0
baz=282,SNR=19
BRVK **Borovoye** 48.88 310 P P 21 23 35.3 +0.5
BRVK **Borovoye** 48.88 310 P P 21 23 35.7 +0.9
BRVK **Borovoye** 48.88 310 *de*P P 21 23 35.3 +0.5
BRVK pmax pmax
comp=Z,53nm,1.3s
BRVK **Borovoye** 48.88 310 P P 21 23 35.4 +0.5
YUK4 **Talbot Arm** 48.90 39 P P 21 23 37.4 +2.3
baz=284,SNR=6.1
PNL **Peninsula** 48.95 41 P P 21 23 37.0 +1.7
PNL **Peninsula** 48.95 41 P P 21 23 37.2 +1.8
baz=284
I30M **Mount Dempster** 49.02 33 P P 21 23 37.8 +1.9
baz=282
KKN **Kakani** 49.06 273 *e*P P 21 23 37.0 +0.1
comp=Z,73nm,1.0s
TKM2 **Tokmak 2** 49.07 296 P P 21 23 37.6 +0.9
SNR=13
PKI **Pulchoki** 49.08 273 *e*P P 21 23 37.1 -0.1
YUK6 **Outpost Mounta** 49.13 39 P P 21 23 38.7 +1.7
baz=284
J30M **Hart River** 49.18 34 P P 21 23 38.2 +1.0
J30M IAmb IAmb 21 23 51.1
comp=Z,23nm,0.8s
J30M **Hart River** 49.18 34 P P 21 23 38.7 +1.6
baz=283,SNR=10
O29M **Mount Kennedy** 49.19 40 P P 21 23 36.7 -0.6
O29M **Mount Kennedy** 49.19 40 P P 21 23 39.4 +2.1
baz=285
BTLS **Baital** 49.28 299⇓ *i*P P 21 23 38.1 0.0
baz=299
BTLS **Baital** 49.28 299 *d i*P P 21 23 38.1 0.0
DMN **Daman** 49.29 273 *e*P P 21 23 38.7 +0.1
comp=Z,48nm,0.9s
GKN **Gorkha** 49.43 274 *e*P P 21 23 39.6 0.0
M30M **Minto, Yukon** 49.45 37 P P 21 23 40.3 +1.2
M30M IAmb IAmb 21 23 53.6
comp=Z,24nm,0.8s
M30M **Minto, Yukon** 49.45 37 P P 21 23 40.7 +1.5
baz=284,SNR=13
INK **Inuvik** 49.47 29 P P 21 23 39.4 +0.3
INK **Inuvik** 49.47 29 P P 21 23 40.4 +1.3
baz=282,SNR=32
INK **Inuvik** 49.47 29 P P 21 23 39.4 +0.3
INK pmax pmax
comp=Z,32nm,0.8s
INK **Inuvik** 49.47 29 LR LR 21 46 32.4
comp=Z,372nm,19.0s,baz=346,slow=38
G31M **Satah River** 49.49 31 P P 21 23 40.0 +0.7
G31M **Satah River** 49.49 31 P P 21 23 40.7 +1.4
baz=282,SNR=38
SGDS **Sogindy** 49.51 297 *e*P P 21 23 40.1 +0.2
baz=297
SGDS **Sogindy** 49.51 297 *e*P P 21 23 40.1 +0.2
HYT **Haines Junctio** 49.56 39 P P 21 23 42.2 +2.0
HYT **Haines Junctio** 49.56 39 P P 21 23 42.3 +2.2
baz=285,SNR=43
F31M **Tsiigehtchic** 49.58 30 P P 21 23 39.6 -0.4
F31M **Tsiigehtchic** 49.58 30 P P 21 23 41.2 +1.3
baz=282,SNR=22
MAYO **Mayo, Yukon** 49.59 35 P P 21 23 41.8 +1.6
baz=284
N30M **Aishikik Lake** 49.59 38 P P 21 23 41.2 +0.9
N30M **Aishikik Lake** 49.59 38 P P 21 23 41.4 +1.1
baz=285
KBK **Karagaybulak** 49.61 296 P P 21 23 41.5 +0.6
SNR=19
USP **Ospenovka** 49.67 296 P P 21 23 41.9 +0.8
SNR=6.9
FRU1 **Bishkek** 49.76 296 P P 21 23 42.7 +0.8
FRU1 IAmb IAmb 21 23 54.6
comp=Z,17nm,0.8s
FRU1 **Bishkek** 49.76 296 P P 21 23 42.7 +0.8
FRU1 pmax pmax
comp=Z,17nm,0.8s
P29M **Windy Craggy** 49.77 41 P P 21 23 42.5 +0.9
P29M **Windy Craggy** 49.77 41 P P 21 23 43.2 +1.6
baz=286,SNR=23
DANN **Dangsing** 49.90 275 *e*P P 21 23 43.9 +0.6
comp=Z,275nm,0.9s
AAK **Ala-Archa** 49.92 296 P P 21 23 43.0 -0.2
AAK **Ala-Archa** 49.92 296 P P 21 23 42.8 -0.4
AAK **Ala-Archa** 49.92 296 P P 21 23 42.2 -1.0
AAK **Ala-Archa** 49.92 296 *de*P P 21 23 43.3 +0.1
AAK pmax pmax
comp=Z,10.0nm,1.7s
AAK **Ala-Archa** 49.92 296 P P 21 23 43.5 +0.3
comp=Z,3.0nm,0.6s,baz=132,slow=6.1,SNR=9.7
AAK LR LR 21 47 05.7
comp=Z,512nm,18.9s,baz=78,slow=39
comp=Z,3.0nm,0.6s
AAK **Ala-Archa** 49.92 296 P P 21 23 43.2 +0.1
P30M **Million Dollar** 50.01 40 P P 21 23 45.4 +1.9
baz=286,SNR=6.8
KSM **Kuching** 50.03 226 P P 21 23 44.8 +0.8
KSM IAmb IAmb 21 23 46.7
comp=Z,34nm,1.2s
N31M **Braeburn, Yuko** 50.19 38 P P 21 23 45.6 +0.8
N31M **Braeburn, Yuko** 50.19 38 P P 21 23 46.6 +1.8
baz=286,SNR=12
KSH **Kashi** 50.21 291 P P 21 23 49.8 +4.4
KSH pP sP 21 24 00.5 +0.4
KSH sP pP 21 24 06.0 +10
KSH pmax pmax
comp=Z,6.0nm,0.8s
KSH LR LR
comp=Z,600nm,14.7s
KSH LR LR
comp=Z,430nm,13.1s
KSH LR LR
comp=Z,950nm,16.5s
O30N **Mendenhall** 50.25 39 P P 21 23 46.6 +1.3
O30N IAmb IAmb 21 23 59.5
comp=Z,20nm,1.0s
O30N **Mendenhall** 50.25 39 P P 21 23 46.8 +1.6
baz=286
KOLN **Koldanda** 50.33 274 *e*P P 21 23 46.8 +0.3
comp=Z,106nm,1.0s
EKS2 **Erkin-Say** 50.40 296 P P 21 23 47.0 +0.2
SNR=5.5
PYUN **Piuthan** 50.61 275 *e*P P 21 23 48.8 +0.2
comp=Z,159nm,0.9s
M31M **Drury Creek, Y** 50.63 37 P P 21 23 48.7 +0.7
M31M IAmb IAmb 21 24 02.2
comp=Z,20nm,0.9s
M31M **Drury Creek, Y** 50.63 37 P P 21 23 49.6 +1.5
baz=286,SNR=9.6
AML **Almayashu** 50.67 295 P P 21 23 50.4 +1.2
SNR=7.8
WHY **Whitehorse** 50.85 39 P P 21 23 50.8 +1.0
WHY **Whitehorse** 50.85 39 P P 21 23 50.9 +1.0
baz=287,SNR=8.4
PMG **Port Moresby** 50.94 176 P P 21 23 50.2 -0.6
PMG IAmb IAmb 21 23 55.6
comp=Z,27nm,1.2s
PMG **Port Moresby** 50.94 176 P P 21 23 50.2 -0.6
PMG pmax pmax
comp=Z,27nm,1.3s
PMG **Port Moresby** 50.94 176 LR LR 21 42 50.3
comp=Z,111nm,21.5s,baz=328,slow=33
SKAG **Skagway** 51.00 40 P P 21 23 52.2 +1.4
baz=288
S31K **Pelican** 51.02 42 P P 21 23 52.0 +1.1
baz=288
FARO **Faro, Yukon** 51.09 37 P P 21 23 52.5 +1.0
FARO IAmb IAmb 21 24 05.5
comp=Z,20nm,0.9s
FARO **Faro, Yukon** 51.09 37 P P 21 23 52.6 +1.0
baz=287,SNR=11
A36M **Sachs Harbour** 51.30 23 P P 21 23 53.8 +0.9
A36M IAmb IAmb 21 23 59.2
comp=Z,18nm,0.8s
A36M **Sachs Harbour** 51.30 23 P P 21 23 53.9 +0.9
baz=286,SNR=21
ARSB **Arslanbob** 51.50 295 P P 21 23 55.6 +0.6
ARSB **Arslanbob** 51.50 295 P P 21 23 55.6 +0.6
ARSB pmax pmax
comp=Z,12nm,0.6s
P32M **Atlin** 51.74 40 P P 21 23 57.1 +0.7
P32M **Atlin** 51.74 40 P P 21 23 57.6 +1.2
baz=289
SIT **Sitka** 51.77 43 P P 21 23 58.3 +1.6
baz=290
R32K **Eaglecrest** 51.77 42 P P 21 23 58.0 +1.4
baz=289
MMPY **Sheldon Lake,** 51.89 36 P P 21 23 57.7 +0.2
MMPY **Sheldon Lake,** 51.89 36 P P 21 23 58.8 +1.2
baz=288
DZA **Taraz** 51.94 297 *e*P P 21 23 58.3 0.0
comp=Z,8.8nm,0.5s,baz=297
DZA **Taraz** 51.94 297 *e*P P 21 23 58.2 0.0
DZA pmax pmax
comp=Z,9.0nm,0.5s
P33M **Teslin, Yukon** 51.96 39 P P 21 23 58.5 +0.4
P33M IAmb IAmb 21 24 12.7
comp=Z,26nm,0.9s
P33M **Teslin, Yukon** 51.96 39 P P 21 23 59.7 +1.5
baz=289,SNR=16
S32K **Killisnoo** 52.02 43 P P 21 24 00.2 +1.8
baz=290
KK31 **Karatay Array** 52.40 298 P P 21 24 01.4 -0.2
KK31 IAmb IAmb 21 24 13.4
comp=Z,20nm,0.7s
KK31 **Karatay Array** 52.40 298 P P 21 24 01.4 -0.2
KK31 pmax pmax
comp=Z,20nm,0.7s
KKAR **Karatay Array** 52.40 298 P P 21 24 01.5 0.0
KKAR **Karatay Array** 52.40 298 P P 21 24 01.6 0.0
KKAR IAmb IAmb 21 24 13.4
comp=Z,20nm,0.7s
KKAR **Karatay Array** 52.40 298 P P 21 24 01.5 0.0
KKAR pmax pmax
comp=Z,20nm,0.7s
C36M **Paulatuk** 52.49 27 P P 21 24 02.2 +0.4
C36M IAmb IAmb 21 24 03.5
comp=Z,22nm,0.8s
C36M **Paulatuk** 52.49 27 P P 21 24 02.7 +0.9
baz=289,SNR=12
Q32M **Nakina River** 52.65 40 P P 21 24 03.9 +0.6
baz=290
KULM **Kulim** 52.69 239 P P 21 24 03.7 -0.3
KULM IAmb IAmb 21 24 06.0
comp=Z,22nm,1.0s
SVE **Sverdlovsk** 52.88 317 *ce*P P 21 24 05.7 +0.8
SVE *e*S S 21 31 31.5 +0.4
SVE pmax pmax
comp=Z,57nm,0.9s
SVE MLR MLR
comp=Z,643nm,21.0s
HNR **Honiara** 53.02 160 LR LR 21 44 30.2
comp=Z,2µm,22.0s,baz=326,slow=34
R33M **Jennings River** 53.12 40 P P 21 24 08.3 +1.6
R33M **Jennings River** 53.12 40 P P 21 24 07.7 +0.9
baz=291
U33K **Whale Pass** 53.25 44 P P 21 24 08.7 +1.2
baz=292
CHM **Chimkent** 53.34 297 *e*P P 21 24 08.0 -0.5
comp=Z,13nm,0.6s,baz=297
CHM **Chimkent** 53.34 297 *e*P P 21 24 08.0 -0.5
CHM pmax pmax
comp=Z,13nm,0.6s
CRAG **Craig** 53.49 45 P P 21 24 10.8 +1.5
baz=292
BTK **Batken** 53.53 294 P P 21 24 09.7 -0.3
BTK **Batken** 53.53 294 P P 21 24 09.7 -0.3
BTK pmax pmax
comp=Z,9.0nm,0.9s
S34M **Telegraph Cree** 53.59 41 P P 21 24 10.3 +0.3
S34M **Telegraph Cree** 53.59 41 P P 21 24 11.4 +1.4
baz=292
WTLY **Watson Lake, Y** 53.88 38 P P 21 24 12.4 +0.2
WTLY **Watson Lake, Y** 53.88 38 P P 21 24 13.2 +1.0
baz=292
DLBC **Dease Lake** 53.93 40 P P 21 24 13.3 +0.7
DLBC IAmb IAmb 21 24 32.0
comp=Z,51nm,1.6s
DLBC **Dease Lake** 53.93 40 P P 21 24 13.5 +0.8
baz=292
DLBC **Dease Lake** 53.93 40 P P 21 24 13.6 +0.9
comp=Z,3.7nm,0.6s,baz=257,slow=6.0,SNR=6.0
comp=Z,3.7nm,0.6s
ARU **Arti** 54.09 317 P P 21 24 13.4 -0.4
ARU **Arti** 54.09 317 *c i*P P 21 24 13.9 +0.2
ARU 21 25 15.8
ARU 21 26 16.9
ARU PPP PPP 21 27 26.8
ARU S S 21 31 51.6 +4.1
ARU SS SKiKP 21 35 25.0 +2.5
ARU pmax pmax
comp=Z,61nm,1.2s
ARU MLR MLR
comp=Z,559nm,17.0s
ARU **Arti** 54.09 317 LR LR 21 49 54.2
comp=Z,494nm,19.4s,baz=64,slow=39
ARU **Arti** 54.09 317 P P 21 24 13.9 +0.2
ARU pP pP 21 24 25.6 +1.2
ARU sP sP 21 24 30.0 +1.5
SOEI **Soe** 54.20 204 P P 21 24 13.7 -1.4
T35M **Bob Quinn** 54.38 42 P P 21 24 17.3 +1.4
baz=293
NIL **Nilore** 54.90 286 P P 21 24 20.5 +0.5
NIL IAmb IAmb 21 24 22.9
comp=Z,43nm,1.1s
NIL **Nilore** 54.90 286 P P 21 24 20.5 +0.5
NIL pmax pmax
comp=Z,43nm,1.1s
U35K **Hyder** 54.93 43 P P 21 24 21.2 +1.4
baz=294
ALE **Alert** 55.36 4 P P 21 24 22.9 +0.2
ALE sP sP 21 24 38.8 +1.6
SIMJ **Simiganj** 55.43 294 P P 21 24 23.6 -0.3
SIMJ pP pP 21 24 35.0 +0.5
MTN **Manton Dam** 55.47 195 P P 21 24 23.0 -1.1
MTN IAmb IAmb 21 24 24.8
comp=Z,30nm,0.9s
MTN **Manton Dam** 55.47 195 P P 21 24 24.0 -0.1
PSI **Prapat** 55.69 238 P P 21 24 25.6 -0.4
PSI pmax pmax
comp=Z,13nm,0.9s
RPSI **Rantau Prapat** 55.77 238 P P 21 24 25.6 -0.8
HOPEN **Hopen** 55.96 346 *e*P P 21 24 26.9 -0.1
KOTAN **Kotaneelee Air** 56.04 37 P P 21 24 28.7 +0.9
baz=296
MLSI **Meulaboh, Aceh** 56.22 242 P P 21 24 31.0 +1.4
comp=Z,28nm,0.7s
BKNI **Bangkinang** 56.29 234 P P 21 24 31.0 +0.9
BKNI **Bangkinang** 56.29 234 P P 21 24 31.9 +1.8
comp=Z,115nm,1.0s
SPA0 **Spitsbergen Ar** 56.31 349 *e*P P 21 24 28.8 -0.7
SPITS **Spitsbergen Ar** 56.31 349 P P 21 24 29.2 -0.3
comp=Z,5.0nm,0.5s,baz=66,slow=8.4,SNR=10
SPITS LR LR 21 51 41.4
comp=Z,387nm,19.0s,baz=12,slow=39
comp=Z,5.0nm,0.5s
ABKAR **Akbulak array** 56.34 309 P P 21 24 30.1 +0.1
ABKAR IAmb IAmb 21 24 31.4
comp=Z,16nm,0.7s
ABKAR **Akbulak array** 56.34 309 P P 21 24 29.8 -0.2
AKTO **Aktyubinsk** 56.92 310 P P 21 24 34.6 +0.4
comp=Z,14nm,0.8s,baz=67,slow=9.6,SNR=21
AKTO LR LR 21 51 04.5
comp=Z,467nm,19.7s,baz=46,slow=38
comp=Z,14nm,0.8s
KBL **Kabul** 57.45 289 P P 21 24 37.6 -0.9
KBL IAmb IAmb 21 24 50.1
comp=Z,19nm,0.9s
KBL **Kabul** 57.45 289 P P 21 24 38.4 -0.1
SNR=7.8
KBL **Kabul** 57.45 289 P P 21 24 37.6 -0.9
KBL pmax pmax
comp=Z,19nm,1.0s
KIRV **Kirov** 57.63 322 *ce*P P 21 24 39.0 0.0
KIRV **Kirov** 57.63 322 LR LR 21 53 10.6
comp=Z,350nm,18.3s,baz=50,slow=40
RES **Resolute Bay** 57.66 16 P P 21 24 38.6 -0.5
RES **Resolute Bay** 57.66 16 P P 21 24 38.6 -0.5
RES pmax pmax
comp=Z,42nm,0.7s
RES **Resolute Bay** 57.66 16 LR LR 21 52 41.0
comp=Z,287nm,18.3s,baz=266,slow=39
GSI **Gunungsitoli** 57.70 238 P P 21 24 39.8 -0.3
GSI IAmb IAmb 21 25 06.1
comp=Z,27nm,1.0s
LVZ **Lovozero** 58.60 335⇑ *e*P P 21 24 45.9 +0.1
LVZ pmax pmax
comp=Z,20nm,0.9s
LVZ **Lovozero** 58.60 335 P P 21 24 46.1 +0.3
KNRA **Kununurra** 58.71 197 P P 21 24 46.1 -0.9
KNRA **Kununurra** 58.71 197 P P 21 24 47.6 +0.6
VADS **Vadso** 58.86 339 *e*P P 21 24 47.3 -0.2
YKA **Yellowknife Ar** 58.93 32 P P 21 24 49.1 +1.0
comp=Z,3.9nm,0.9s,baz=300,slow=6.6,SNR=26
comp=Z,3.9nm,0.9s
APA **Apatity** 59.18 335⇓ *i*P P 21 24 48.6 -1.1
APA pmax pmax
comp=Z,11nm,0.7s
APA MLR MLR
comp=Z,600nm,15.0s
KEV **Kevo** 59.72 339 P P 21 24 53.6 +0.2
KEV **Kevo** 59.72 339 P P 21 24 53.6 +0.2
KEV pmax pmax
comp=Z,48nm,0.8s
KEV **Kevo** 59.72 339 P P 21 24 53.5 +0.1
KEV pP pP 21 25 04.8 +0.7
HILA **High Level** 59.96 37 P P 21 24 55.4 +0.1
HAMF **Hammerfest** 60.01 341 *e*P P 21 24 54.3 -1.1
TULEG **Thule** 60.26 8 P P 21 24 56.7 -0.3
ARA0 **ARCESS Array S** 60.27 339 *e*P P 21 24 57.3 +0.1
ARCES **ARCESS Array B** 60.27 339 P P 21 24 57.4 +0.2
comp=Z,17nm,0.9s,baz=43,slow=8.0,SNR=32
comp=Z,17nm,0.9s
KLMR **Klimovskoe** 60.78 327 *e*P P 21 24 58.5 -2.3
KLMR AMP 21 25 13.0
comp=Z,55nm,1.3s
KLMR LQ LQ 21 46 57.9
KLMR LQ LQ 21 46 57.9
KLMR LR LR 21 50 48.3
KLMR LRM MLR 21 53 38.8
KLMR AMP 21 53 49.1
comp=Z,679nm,18.3s
KLMR **Klimovskoe** 60.78 327 *e*P P 21 24 58.4 -2.3
KLMR pmax pmax
comp=Z,55nm,1.3s
KLMR MLR MLR
comp=Z,679nm,18.0s
NEEM **North Greenlan** 60.79 4 *i*P P 21 25 00.2 -0.8
NEEM IAmb IAmb 21 25 03.2
comp=Z,48nm,0.7s
KTK1 **Kautokeino** 61.22 339 *e*P P 21 25 03.0 -0.7
DAG **Danmarks Havn** 61.29 355 *i*P P 21 25 03.0 -1.0
JETT **Jettan, Norway** 61.57 340 *e*P P 21 25 07.0 +0.9
BELG **Belogornoye** 61.62 316 *d i*P P 21 25 06.8 +0.2
BELG pmax pmax
comp=Z,6.0nm,0.9s
BELG **Belogornoye** 61.62 316 LR LR 21 54 58.1
comp=Z,812nm,18.4s,baz=71,slow=39
WB0 **Warramunga Arr** 61.74 190 P P 21 25 06.5 -1.2
TRO **Tromso** 61.88 341 *e*P P 21 25 07.4 -0.7
WRAB **Tennant Creek** 61.91 190 P P 21 25 07.3 -1.5
WRAB IAmb IAmb 21 25 09.0
comp=Z,25nm,1.0s
WRAB **Tennant Creek** 61.91 190 P P 21 25 07.3 -1.5
WRAB pmax pmax
comp=Z,25nm,1.0s
WR0 **Warramunga Arr** 61.91 190 P P 21 25 07.5 -1.4
WR0 IAmb IAmb 21 25 09.5
comp=Z,24nm,1.1s
WB2 **Warramunga Arr** 61.92 190 P P 21 25 07.7 -1.2
WB2 IAmb IAmb 21 25 22.4
comp=Z,22nm,0.9s
WRA **Warramunga Arr** 61.92 190 P P 21 25 07.1 -1.8
WRA **Warramunga Arr** 61.92 190 P P 21 25 07.9 -1.0
comp=Z,21nm,1.0s,baz=7.0,slow=6.7,SNR=98
comp=Z,21nm,1.0s
BRLDA **Berland Lookou** 62.17 41 P P 21 25 10.6 +0.1
HRA **Herat** 62.29 293 P P 21 25 11.6 -0.2
HRA IAmb IAmb 21 25 24.3
comp=Z,10nm,0.7s
GEYT **Alibeck** 63.15 298 P P 21 25 17.2 0.0
GEYT IAmb IAmb 21 25 31.8
comp=Z,16nm,0.8s
GEYT **Alibeck** 63.15 298 P P 21 25 17.3 +0.1
comp=Z,12nm,1.0s,baz=64,slow=6.8,SNR=20
GEYT LR LR 21 55 09.7
comp=Z,765nm,19.1s,baz=70,slow=38
comp=Z,12nm,1.0s
GYA0B **ALIBECK ARRAY** 63.15 298 P P 21 25 16.9 -0.3
GYA0B IAmb IAmb 21 25 36.5
comp=Z,21nm,0.9s
LON **Longmire** 63.88 50 IAmb IAmb 21 25 48.6
comp=Z,29nm,1.8s
F04A **Amboy** 63.98 51 P P 21 25 23.1 +0.6
F04A IAmb IAmb 21 25 48.3
comp=Z,16nm,0.8s
STEI **Steigen** 64.05 341 *e*P P 21 25 22.6 +0.1
LTY **Liberty** 64.24 49 P P 21 25 25.1 +0.9
LTY IAmb IAmb 21 25 43.1
comp=Z,31nm,1.6s
LOF **Lofoten** 64.31 341 *e*P P 21 25 23.6 -0.6
B08A **Colville Reser** 64.36 47 P P 21 25 26.1 +1.1
FAUS **Fauske** 64.46 340 *e*P P 21 25 24.9 -0.3
KEBM **Edson Butte** 64.54 54 P P 21 25 26.1 -0.2
MOS **Moscow** 64.57 323 *e*P P 21 25 26.3 +0.2
MOS *e* 21 26 00.4
MOS *e* 21 27 45.0
MOS *e*S S 21 34 04.6 +1.8
MOS pmax pmax
comp=Z,35nm,0.7s
EDM **Edmonton** 64.65 40 P P 21 25 27.4 +0.6
EDM IAmb IAmb 21 25 39.7
comp=Z,27nm,1.3s
EDM **Edmonton** 64.65 40 P P 21 25 27.4 +0.6
EDM pmax pmax
comp=Z,27nm,1.3s
HOOD **Mount Hood Mea** 64.77 51 P P 21 25 28.9 +1.0
HOOD IAmb IAmb 21 25 34.4
comp=Z,34nm,1.1s
KOUNC **Koumac, New Ca** 64.81 159 P P 21 25 26.1 -1.9
H04A **Detroit Lake** 64.81 52 P P 21 25 28.8 +0.8
H04A IAmb IAmb 21 25 30.7
comp=Z,29nm,1.2s
MXC **Moxie City** 64.84 49 P P 21 25 28.4 +0.3
MXC IAmb IAmb 21 25 31.0
comp=Z,22nm,1.1s
UPNV **Upernavik** 65.00 6 *i*P P 21 25 28.2 -0.4
UPNV IAmb IAmb 21 25 36.1
comp=Z,13nm,0.7s
K02D **Willamette Mer** 65.05 54 P P 21 25 29.7 +0.1
K02D IAmb IAmb 21 25 32.7
comp=Z,23nm,1.2s
PALK **Pallekele** 65.09 257 P P 21 25 29.8 -0.4
PALK P P 21 25 30.5 +0.3
PALK **Pallekele** 65.09 257⇑ *e*P P 21 25 30.2 0.0
PALK pmax pmax
comp=Z,31nm,1.0s
PALK **Pallekele** 65.09 257 LR LR 21 55 36.0
comp=Z,155nm,20.0s,baz=156,slow=38
E07A **Sunnyside** 65.10 49 P P 21 25 29.3 -0.5
E07A IAmb IAmb 21 25 32.7
comp=Z,29nm,1.3s
I04A **Tendick Farm,** 65.18 53 P P 21 25 29.7 -0.7
I04A IAmb IAmb 21 25 33.2
comp=Z,19nm,1.1s
C09A **Chrisman Ranch** 65.27 47 P P 21 25 31.5 +0.7
C09A IAmb IAmb 21 25 32.8
comp=Z,18nm,1.0s
VRH **Novokhopyorsk** 65.32 317 *e*P P 21 25 30.6 -0.5
VRH pmax pmax
comp=Z,50nm,1.1s
D08A **Wollman Farm,** 65.33 48 P P 21 25 32.1 +0.8
D08A IAmb IAmb 21 25 33.9
comp=Z,27nm,1.3s
HAWA **Hanford** 65.37 49 P P 21 25 31.9 +0.3

HAWA IAmb IAmb 21 25 34.3
comp=Z,21nm,1.2s
KSXB Camp Six Broad 65.41 55 P **P** **21 25 32.5 +0.5**
KSXB IAmb IAmb 21 25 35.2
comp=Z,18nm,1.2s
OBN Obninsk 65.43 323 ⇑P **P** **21 25 31.2 -0.5**
OBN Obninsk 65.43 323 P **P** **21 25 30.2 -1.5**
OBN Obninsk 65.43 323 *ce*P **P** **21 25 31.4 -0.3**
OBN *i* 21 25 43.4
OBN *e* 21 27 55.5
OBN *e*S **S** **21 34 14.3 +1.0**
OBN pmax pmax
comp=Z,53nm,1.7s
OBN MLR MLR
comp=Z,308nm,18.0s
OBN Obninsk 65.43 323 P **P** **21 25 31.7 0.0**
OBN pP **pP** **21 25 43.3 +0.8**
L02F Cave Junction 65.43 55 P **P** **21 25 32.5 +0.5**
L02F IAmb IAmb 21 25 35.0
comp=Z,22nm,1.3s
F07A Phinny Hill Vi 65.44 50 P **P** **21 25 32.3 +0.3**
F07A IAmb IAmb 21 25 34.8
comp=Z,18nm,1.0s
FIA1 FINESS Array S 65.51 332 P **P** **21 25 31.6 -0.6**
FINES FINESS Array B 65.52 332 P **P** **21 25 32.1 -0.1**
FINES FINESS Array B 65.52 332 P **P** **21 25 32.3 +0.1**
comp=Z,26nm,0.5s,baz=54,slow=7.0,SNR=427
comp=Z,26nm,0.5s
HUMO Hull Mountain 65.53 54 P **P** **21 25 33.8 +1.1**
HUMO IAmb IAmb 21 25 35.8
comp=Z,34nm,1.8s
E08A Dider Farm, El 65.58 49 P **P** **21 25 34.0 +1.1**
E08A IAmb IAmb 21 25 35.5
comp=Z,35nm,1.4s
MOR8 Moi Rana 65.61 340 *e*P **P** **21 25 31.2 -1.5**
NEW Newport 65.62 46 P **P** **21 25 33.4 +0.2**
NEW Newport 65.62 46 P **P** **21 25 34.6 +1.4**
baz=306
NEW Newport 65.62 46 P **P** **21 25 33.4 +0.2**
NEW Newport 65.62 46 LR LR 21 52 21.9
comp=Z,83nm,21.7s,baz=300,slow=34
AS31 Alice Springs 65.64 190 P **P** **21 25 32.3 -1.1**
ASAR Alice Springs 65.65 190 P **P** **21 25 32.5 -0.9**
ASAR Alice Springs 65.65 190 P **P** **21 25 33.1 -0.3**
comp=Z,9.8nm,0.9s,baz=11,slow=6.1,SNR=75
comp=Z,9.8nm,0.9s
KONS Konsvik 65.69 340 *e*P **P** **21 25 37.1 +3.9**
LPSR Galich'ya Gora 65.86 320 *e*P **P** **21 25 32.4 -2.2**
LPSR pmax pmax
comp=Z,30nm,0.9s
SUMG Summit 66.03 1 P **P** **21 25 36.6 +0.8**
SUMG Summit 66.03 1 P **P** **21 25 36.6 +0.8**
SUMG pmax pmax
comp=Z,44nm,0.9s
SUMG Summit 66.03 1 *i*P **P** **21 25 36.0 +0.2**
SUMG IAmb IAmb 21 25 38.1
comp=Z,29nm,0.8s
KHMM Horse Mountain 66.05 56 P **P** **21 25 36.6 +0.4**
KHMM IAmb IAmb 21 25 39.5
comp=Z,30nm,1.2s
PINE Pine Mountain 66.06 52 P **P** **21 25 37.0 +0.8**
PINE IAmb IAmb 21 25 39.5
comp=Z,29nm,1.1s
KMPM Mount Pierce 66.07 57 P **P** **21 25 36.6 +0.4**
KMPM IAmb IAmb 21 25 39.5
comp=Z,23nm,1.0s
E09A Wood Farm, Sta 66.08 48 P **P** **21 25 37.4 +1.3**
E09A IAmb IAmb 21 25 38.8
comp=Z,31nm,1.1s
L04D Klamath Falls 66.15 54 P **P** **21 25 36.5 -0.3**
J05D Fort Rock, OR 66.18 53 P **P** **21 25 37.5 +0.5**
J05D IAmb IAmb 21 25 40.2
comp=Z,19nm,1.1s
YBH Yreka Blue Hor 66.18 55 P **P** **21 25 37.2 +0.2**
YBH IAmb IAmb 21 25 40.2
comp=Z,28nm,1.4s
YBH Yreka Blue Hor 66.18 55 P **P** **21 25 37.2 +0.2**
YBH pmax pmax
comp=Z,28nm,1.4s
VORR Voronezh 66.29 319 *e*P **P** **21 25 37.4 +0.1**
VORR pmax pmax
comp=Z,52nm,0.5s
G08A Pilot Rock 66.34 50 P **P** **21 25 38.4 +0.5**
MBWA Marble Bar 66.34 204 P P 21 25 44.7 +6.8
VSR Storozhevoye 66.59 318 *e*P **P** **21 25 37.8 -1.5**
VSR pmax pmax
comp=Z,20nm,0.9s
VORD Divnogorie 66.68 318 *e*P **P** **21 25 38.2 -1.6**
VORD pmax pmax
comp=Z,10.0nm,1.0s
PSA00 Pilbara Seismi 66.69 204 P **P** **21 25 39.4 -0.7**
PSA00 IAmb IAmb 21 27 18.2
comp=Z,20nm,0.9s
K05A Summer Lake 66.70 53 P **P** **21 25 41.6 +1.2**
KCPM Cahto Peak 66.83 57 P **P** **21 25 42.4 +1.2**
KCPM IAmb IAmb 21 25 44.0
comp=Z,14nm,0.9s
DZM Mont Dzumac 66.86 157 *e*P P 21 25 51.0 +10
comp=Z,55nm,23.9s
DZM Mont Dzumac 66.86 157 *e*LR LR 21 45 29.5
comp=Z,337nm,22.4s
F10A Beach Ranch, E 66.92 48 P **P** **21 25 42.6 +1.0**
MEF Metsahovi 66.96 332 *e*P **P** **21 25 42.0 +0.6**
MAK Makhachkala 66.98 308 *e*P **P** **21 25 42.1 +0.2**
MAK *e* 21 28 08.6
MAK *e*PPP PPP 21 29 43.2
MAK *e*S **S** **21 34 34.1 +1.4**
MAK *e*SS **SS** **21 38 51.3 +0.4**
MAK pmax pmax
comp=Z,351nm,1.5s
MAK MLR MLR
comp=Z,212nm,15.0s
RAF Rauma 67.29 333 *e*P **P** **21 25 44.0 +0.5**
VSU Vasula 67.33 329 *e*P **P** **21 25 44.4 +0.6**
VSU Vasula 67.33 329 *de*P **P** **21 25 44.1 +0.3**
VSU pmax pmax
comp=Z,50nm,1.0s
UMMG Uummannaq 67.37 6 *i*P **P** **21 25 41.4 -2.5**
UMMG IAmb IAmb 21 25 59.6
comp=Z,16nm,0.7s
NSS Namsos 67.54 340 *e*P **P** **21 25 45.5 +0.4**
BMO Blue Mountains 67.54 49 P **P** **21 25 45.6 0.0**
BMO Blue Mountains 67.54 49 P **P** **21 25 45.6 0.0**
BMO pmax pmax
comp=Z,11nm,1.2s
SCO Scoresbysund 67.66 355 P **P** **21 25 46.6 +0.9**
SCO IAmb IAmb 21 25 47.8
comp=Z,26nm,1.4s
SCO Scoresbysund 67.66 355 P **P** **21 25 46.6 +0.9**
SCO pmax pmax
comp=Z,26nm,1.4s
SCO Scoresbysund 67.66 355 *i*P **P** **21 25 45.9 +0.2**
SCO IAmb IAmb 21 25 50.4
comp=Z,3.8nm,0.5s
J08A Circle Bar Ran 67.76 51 P **P** **21 25 47.6 +0.6**
J08A IAmb IAmb 21 25 49.9
comp=Z,20nm,1.2s
GDXM Geysers 67.83 57 P **P** **21 25 48.0 +0.5**
GDXM IAmb IAmb 21 25 50.6
comp=Z,20nm,1.3s
WRKA Warakurna 67.89 195 P **P** **21 25 47.9 +0.2**
PLID Pearl Lake 68.14 49 P **P** **21 25 48.9 -0.6**
PLID IAmb IAmb 21 25 51.7
comp=Z,31nm,1.4s
ORV Oroville 68.20 56 P **P** **21 25 49.7 0.0**
ORV Oroville 68.20 56 P **P** **21 25 49.7 0.0**
ORV pmax pmax
comp=Z,11nm,1.1s
MSO Missoula 68.21 46 P **P** **21 25 50.3 +0.6**
WVOR Wild Horse Val 68.22 52 P **P** **21 25 50.3 +0.4**
WVOR IAmb IAmb 21 25 52.6
comp=Z,22nm,1.3s
WVOR Wild Horse Val 68.22 52 P **P** **21 25 50.3 +0.4**
WVOR pmax pmax
comp=Z,22nm,1.3s
MTSE Matsula 68.24 331 *e*P **P** **21 25 50.9 +1.4**
GOF Gofitskoye 68.31 311 *ce*P **P** **21 25 51.0 +0.8**
FFC Flin Flon 68.87 35 P **P** **21 25 54.4 +0.8**
FFC IAmb IAmb 21 25 55.7
comp=Z,29nm,1.3s
FFC Flin Flon 68.87 35 P **P** **21 25 54.4 +0.8**
FFC pmax pmax
comp=Z,29nm,1.3s
FFC Flin Flon 68.87 35 P **P** **21 25 54.8 +1.2**
FFC sP **sP** **21 26 11.5 +3.3**
FFC PcP **PcP** **21 26 18.8 +0.9**
ILULI Ilulissat 68.88 6 *i*P **P** **21 25 53.0 -0.3**
ILULI IAmb IAmb 21 26 07.3
comp=Z,14nm,0.7s
AFDM Forest Hills D 68.89 56 P **P** **21 25 54.3 +0.3**
FCC Fort Churchill 69.08 28 P **P** **21 25 55.3 +0.6**
FCC Fort Churchill 69.08 28 P **P** **21 25 55.3 +0.6**
FCC pmax pmax
comp=Z,34nm,0.3s
KIV Kislovodsk 69.19 311 ⇓P **P** **21 25 57.7 +1.9**
KIV Kislovodsk 69.19 311 P **P** **21 25 56.4 +0.5**
KIV Kislovodsk 69.19 311 *i*P **P** **21 25 57.5 +1.7**
SNR=6.2
KIV Kislovodsk 69.19 311 P **P** **21 25 57.8 +1.9**
KIV Kislovodsk 69.19 311 *e*P **P** **21 25 56.6 +0.8**
KIV *e*S **S** **21 34 58.3 -0.9**
KIV pmax pmax
comp=Z,47nm,1.0s
KIV pmax pmax
comp=Z,79nm,4.6s
KIV MLR MLR
comp=Z,230nm,17.0s
KIV Kislovodsk 69.19 311 P **P** **21 25 57.8 +2.0**
KBZ Khabaz 69.20 310 *de*P **P** **21 25 56.6 +0.8**
KBZ pmax pmax
comp=Z,23nm,0.9s
KBZ Khabaz 69.20 310 P **P** **21 25 57.1 +1.3**
comp=Z,16nm,0.9s,baz=62,slow=4.3,SNR=35
KBZ LR LR 22 01 34.6
comp=Z,248nm,19.0s,baz=36,slow=40
comp=Z,16nm,0.9s
ZEI Tsey 69.20 309 *e*P **P** **21 25 55.2 -0.9**
ZEI pmax pmax
comp=Z,21nm,1.0s
MFID Camas Ranch 69.26 50 P **P** **21 25 57.1 +0.8**
MPK Martis Peak 69.27 56 P **P** **21 25 56.8 +0.1**
EMB Emerald Bay 69.42 56 P **P** **21 25 58.7 +1.1**
EMB IAmb IAmb 21 26 00.1
comp=Z,44nm,1.4s
IZAR Zarasai 69.42 328 ⇑*e*P **P** **21 25 58.0 +1.1**
PAHR Pah Rah Range 69.42 55 P **P** **21 25 58.3 +0.9**
PAHR IAmb IAmb 21 25 60.0
comp=Z,30nm,1.2s
ICESG Greenland Ices 69.52 1 *i*P **P** **21 25 57.8 +0.1**
ICESG IAmb IAmb 21 26 00.8
comp=Z,22nm,0.9s
OOD Oodnadatta 69.52 188 P **P** **21 25 58.8 +1.1**
UPP Uppsala 69.53 334 *e*P **P** **21 25 57.8 +0.3**
ONI Oni 69.59 309 P **P** **21 25 59.6 +1.3**
ONI IAmb IAmb 21 26 00.9
comp=Z,20nm,1.0s
ONI Oni 69.59 309 P **P** **21 25 59.6 +1.3**
ONI pmax pmax
comp=Z,20nm,1.0s
ISAL Salakas 69.59 327 *e*P **P** **21 25 59.2 +1.2**
MNK Minsk 69.62 326 *i*P **P** **21 25 58.9 +0.7**
comp=E,5.0nm,0.8s
MNK *i*P **P** **21 25 58.9 +0.7**
comp=N,13nm,0.8s
MNK *i*P **P** **21 25 58.9 +0.7**
comp=Z,30nm,0.8s,baz=46
MNK *i*PcP **PcP** **21 26 21.4 +0.3**
MNK *i*PP **PP** **21 28 33.0 +1.3**
MNK *i*PPP PPP 21 30 14.7
MNK *i*S **S** **21 35 05.9 +2.2**
MNK *i*SS SS 21 40 16.3 +45
MNK *i*LQ LQ 21 51 46.6
MNK *i*LR LR 21 57 05.0
MNK *i*LRM MLR 21 59 05.2
comp=Z,370nm,18.0s
MNK *i*LRM MLR 21 59 54.9
comp=N,606nm,18.0s
MNK *i*LRM MLR 21 59 58.0
comp=E,193nm,18.0s
MNK Minsk 69.62 326 *i*P **P** **21 25 58.9 +0.7**
MNK *i* 21 26 21.3
MNK *i* 21 28 33.0
MNK *i*PPP PPP 21 30 14.7
MNK *i*S **S** **21 35 05.9 +2.2**
MNK pmax pmax
comp=E,5.0nm,0.8s
MNK pmax pmax
comp=Z,30nm,0.8s
MNK pmax pmax
comp=N,13nm,0.8s
MNK MLR MLR
comp=Z,370nm,18.0s
MNK MLR MLR
comp=N,606nm,18.0s
MNK MLR MLR
comp=E,193nm,18.0s
PNTR Pine Nut 69.66 56 P **P** **21 25 59.2 +0.2**
PNTR IAmb IAmb 21 26 01.9
comp=Z,32nm,1.3s
EGMT Eagleton 69.67 43 P **P** **21 25 59.4 +0.7**
EGMT IAmb IAmb 21 26 18.2
comp=Z,20nm,0.9s
EGMT Eagleton 69.67 43 P **P** **21 25 59.2 +0.4**
baz=310
NACGM Naroch 69.80 327 *e*P **P** **21 25 60.0 +0.7**
comp=E,2μm,0.6s
CMB Columbia Colle 69.81 57 P **P** **21 25 59.8 +0.1**
CMB IAmb IAmb 21 26 02.2
comp=Z,30nm,1.6s
CMB Columbia Colle 69.81 57 P **P** **21 25 59.8 +0.1**
CMB pmax pmax
comp=Z,30nm,1.6s
YERR Yerington 69.94 55 P **P** **21 26 01.9 +1.2**
YERR IAmb IAmb 21 26 03.5
comp=Z,39nm,1.2s
HLID Hailey 69.98 49 P **P** **21 26 01.2 +0.4**
HLID Hailey 69.98 49 P **P** **21 26 01.6 +0.8**
baz=309,SNR=7.6
WAKR Walker 70.12 56 P **P** **21 26 02.8 +1.0**
WAKR IAmb IAmb 21 26 04.8
comp=Z,27nm,1.5s
VSVD Vaisvydziai 70.17 329 *e*P **P** **21 26 02.4 +0.9**
BOZ Bozeman (W) 70.23 46 P **P** **21 26 02.2 -0.1**
BOZ IAmb IAmb 21 26 04.8
comp=Z,43nm,1.4s
BOZ Bozeman (W) 70.23 46 P **P** **21 26 02.6 +0.2**
baz=310,SNR=17
BOZ Bozeman (W) 70.23 46 P **P** **21 26 02.2 -0.1**
BOZ pmax pmax
comp=Z,43nm,1.4s
BMN Battle Mountai 70.28 53 P **P** **21 26 03.1 +0.3**
BMN IAmb IAmb 21 26 05.7
comp=Z,26nm,1.1s
BMN Battle Mountai 70.28 53 P **P** **21 26 03.1 +0.3**
BMN pmax pmax
comp=Z,26nm,1.1s
AKH Akhalkalaki 70.29 308 P **P** **21 26 03.9 +1.1**
AKH IAmb IAmb 21 26 04.9
comp=Z,25nm,0.7s
AKH Akhalkalaki 70.29 308 P **P** **21 26 03.9 +1.1**
AKH pmax pmax
comp=Z,25nm,0.7s
GNI Garni 70.33 306 P **P** **21 26 03.7 +0.7**
GNI IAmb IAmb 21 26 43.8
comp=Z,24nm,1.1s
GNI Garni 70.33 306 P **P** **21 26 05.0 +1.9**
GNI Garni 70.33 306 P **P** **21 26 03.7 +0.7**
GNI pmax pmax
comp=Z,24nm,1.1s
GNI Garni 70.33 306 LR LR 22 00 06.2
comp=Z,148nm,18.7s,baz=34,slow=39
GNI Garni 70.33 306 P **P** **21 26 04.8 +1.7**
DOMB Dombas 70.33 339 *e*P **P** **21 26 02.5 0.0**
NC405 NORSAR Array S 70.36 337 P **P** **21 26 02.3 -0.4**
NC405 IAmb IAmb 21 26 15.3
comp=Z,30nm,1.0s
NC303 NORSAR Array S 70.37 338 P **P** **21 26 02.8 +0.1**
NC303 IAmb IAmb 21 26 07.5
comp=Z,34nm,1.1s
SOEG Soedalen 70.37 358 *i*P **P** **21 26 02.8 +0.2**
SOEG IAmb IAmb 21 26 03.9
comp=Z,11nm,0.5s
NC204 NORSAR Array S 70.50 338 P **P** **21 26 03.8 +0.2**
PABE Paberze 70.50 328 P **P** **21 26 03.7 +0.1**
PABE Paberze 70.50 328 *e*P **P** **21 26 04.7 +1.1**
NB201 NORSAR Array S 70.53 338 P **P** **21 26 03.6 -0.1**
HFS Hagfors 70.56 336 P **P** **21 26 04.0 +0.1**
HFS Hagfors 70.56 336 P **P** **21 26 04.0 +0.1**
comp=Z,15nm,0.5s,baz=54,slow=6.3,SNR=105
comp=Z,15nm,0.5s
NB2 NORSAR Subarra 70.56 338 P **P** **21 26 03.9 0.0**
comp=Z,398nm,5.0s,baz=36,slow=6.2
NB2 NORSAR Subarra 70.56 338 P **P** **21 26 03.9 0.0**
baz=36,slow=6.2
NOA NORSAR Array B 70.56 338 P **P** **21 26 04.2 +0.2**
comp=Z,11nm,0.8s,baz=35,slow=6.2,SNR=32
comp=Z,11nm,0.8s
KVN Kaiserville 70.61 55 P **P** **21 26 05.5 +0.7**
KVN IAmb IAmb 21 26 07.5
comp=Z,33nm,1.0s
KVN Kaiserville 70.61 55 P **P** **21 26 05.5 +0.7**
KVN pmax pmax
comp=Z,33nm,1.0s
RYN Ryan 70.61 55 P **P** **21 26 05.0 +0.3**
RYN IAmb IAmb 21 26 07.5
comp=Z,18nm,1.1s
NBO00 NORSAR Array S 70.69 338 P **P** **21 26 04.5 -0.2**
NBO00 IAmb IAmb 21 26 09.4
comp=Z,30nm,1.0s
NC602 NORSAR Array S 70.72 337 *e*P **P** **21 26 04.3 -0.5**
AKN Aaknes 70.76 340 *e*P **P** **21 26 06.4 +1.3**
LHV Little Huntoon 70.85 56 P **P** **21 26 07.1 +1.1**
NVAR Mina Array Bea 70.86 55 P **P** **21 26 06.9 +0.5**
NVAR Mina Array Bea 70.86 55 P **P** **21 26 08.0 +1.6**
comp=Z,9.8nm,0.9s,baz=292,slow=6.2,SNR=55
NVAR LR LR 21 51 44.2
comp=Z,68nm,21.2s,baz=332,slow=31
comp=Z,9.8nm,0.9s
MDPB Devils Postpil 70.88 56 P **P** **21 26 06.2 -0.3**
MDPB IAmb IAmb 21 26 09.2
comp=Z,46nm,2.0s
VIKU Vikbolandet 70.89 334 *e*P **P** **21 26 06.5 +0.7**
OMMB Old Mammoth Mi 70.94 56 P **P** **21 26 07.8 +0.8**
YHL Hebgen Lake 70.95 47 P **P** **21 26 07.2 +0.3**
YHL IAmb IAmb 21 26 09.6
comp=Z,22nm,1.2s
NV11 Mina Array Sit 70.95 55 P **P** **21 26 07.6 +0.8**
NV11 IAmb IAmb 21 26 14.7
comp=Z,26nm,1.4s
KARS Kars 71.03 308 P **P** **21 26 08.4 +1.1**
KARS Kars 71.03 308 P **P** **21 26 08.4 +1.1**
KARS pmax pmax
comp=Z,61nm,0.9s
SOC Sochi 71.09 312 *e*P **P** **21 26 05.0 -2.4**
SOC *e* 21 28 43.9
SOC *e*PPP PPP 21 30 27.3
SOC *e*S **S** **21 35 19.6 -1.7**
SOC *e*SS **SS** **21 39 57.0 +2.8**
SOC MLR MLR
comp=Z,415nm,20.0s
SFJD Kangerlussuaq 71.10 6 LR LR 21 58 57.3
comp=Z,191nm,18.5s,baz=0.5,slow=37
YHH Holmes Hill 71.17 46 P **P** **21 26 09.8 +1.5**
YMR Madison River 71.19 47 P **P** **21 26 09.3 +1.0**
YMR IAmb IAmb 21 26 37.1
comp=Z,16nm,1.1s
ELK Elko 71.27 52 P **P** **21 26 09.7 +0.9**
ELK Elko 71.27 52 P **P** **21 26 09.7 +0.9**
ELK pmax pmax
comp=Z,7.0nm,1.0s
Q09A Carvers 71.30 54 P **P** **21 26 09.4 +0.4**
Q09A IAmb IAmb 21 26 11.6
comp=Z,32nm,0.9s
YNR Norris Junctio 71.31 46 P **P** **21 26 10.8 +1.8**
YNR IAmb IAmb 21 26 12.4
comp=Z,24nm,1.3s
WSAR Wadi Sarin 71.36 285 P **P** **21 26 10.5 +1.1**
WSAR Wadi Sarin 71.36 285 LR LR 22 03 30.5
comp=Z,83nm,18.6s,baz=54,slow=41
YFT Old Faithful 71.40 47 P **P** **21 26 11.0 +1.4**
YFT IAmb IAmb 21 26 16.7
comp=Z,16nm,1.0s
SHME Shamm 71.42 289 P **P** **21 26 10.1 +0.4**
JLN Jalan Bani Buh 71.46 283 P **P** **21 26 11.0 +1.1**
WBK Wadi Bani Khal 71.50 284 P **P** **21 26 11.6 +1.4**
BIDO Bidbid 71.55 285 P **P** **21 26 11.7 +1.2**
SNR=5.2
ANN Anapa 71.56 314 *e*P **P** **21 26 09.7 -0.5**
ANN pmax pmax
comp=Z,51nm,1.0s
H17A Grant Village 71.58 47 P **P** **21 26 12.3 +1.6**
H17A IAmb IAmb 21 26 15.0
comp=Z,27nm,1.1s
H17A Grant Village 71.58 47 P **P** **21 26 11.7 +1.0**
baz=311,SNR=6.7
SKAR Skarsfja 71.67 339 *e*P **P** **21 26 11.6 +0.9**
AKASG Malin Array Be 71.68 322 P **P** **21 26 10.5 -0.3**
AKASG IAmb IAmb 21 26 11.9
comp=Z,33nm,0.9s
AKASG Malin Array Be 71.68 322 *i*P **P** **21 26 10.8 0.0**
AKASG pmax pmax
comp=Z,10.0nm,0.4s
AKASG Malin Array Be 71.68 322 P **P** **21 26 10.9 +0.1**
comp=Z,9.5nm,0.4s,baz=43,slow=6.0,SNR=79
AKASG LR LR 22 00 43.5
comp=Z,321nm,18.4s,baz=34,slow=38
comp=Z,9.5nm,0.4s
AKBB Malin Array Si 71.68 322 P **P** **21 26 10.4 -0.4**
AKBB Malin Array Si 71.68 322 P **P** **21 26 10.4 -0.4**
AKBB pmax pmax
comp=Z,32nm,0.8s
KIEV Kiev 71.69 322 ⇑P **P** **21 26 11.8 +0.9**
KIEV Kiev 71.69 322 P **P** **21 26 10.6 -0.3**
KIEV IAmb IAmb 21 26 11.9
comp=Z,28nm,0.8s
KIEV Kiev 71.69 322 *i*P **P** **21 26 12.3 +1.5**
SNR=17
KIEV Kiev 71.69 322 P **P** **21 26 11.8 +0.9**
KIEV Kiev 71.69 322 P **P** **21 26 12.6 +1.8**
KIEV pP **sP** **21 26 24.2 -1.6**
IMW Indian Meadow 71.70 47 P **P** **21 26 12.7 +1.2**
IMW IAmb IAmb 21 26 14.8
comp=Z,19nm,1.1s
FLWY Flagg Ranch 71.72 47 P **P** **21 26 11.2 -0.2**
SMMC Simmler 71.73 59 P **P** **21 26 12.7 +1.2**
baz=308
TPH Tonopah 71.75 55 P **P** **21 26 11.8 +0.1**
TPH Tonopah 71.75 55 P **P** **21 26 11.8 +0.1**
TPH pmax pmax
comp=Z,102nm,1.0s
TIN Tinemaha, Big 71.76 56 P **P** **21 26 13.5 +1.8**
baz=309
RLMT Red Lodge 71.81 45 P **P** **21 26 12.6 +0.6**
RLMT IAmb IAmb 21 26 15.6
comp=Z,53nm,1.8s
RLMT Red Lodge 71.81 45 P **P** **21 26 13.3 +1.3**
baz=311
MASF Masafi 71.82 288 P **P** **21 26 12.7 +0.5**
HYA Hoyanger 71.82 340 *e*P **P** **21 26 11.2 -0.2**
MSFE Esma-Masafi 71.83 288 P **P** **21 26 12.6 +0.4**
MZP Montezuma Peak 71.89 56 P **P** **21 26 13.7 +1.1**
SMDO Samad 71.89 285 P **P** **21 26 13.9 +1.3**
SUW Suwalki 71.90 328 P **P** **21 26 12.5 +0.4**
SUW IAmb IAmb 21 26 31.7
comp=Z,28nm,0.9s
SUW Suwalki 71.90 328 P **P** **21 26 12.5 +0.4**
SUW pmax pmax
comp=Z,28nm,0.9s
DY2G Dye2 71.90 4 *i*P **P** **21 26 11.9 -0.2**
DY2G IAmb IAmb 21 26 13.9
comp=Z,18nm,0.8s
MOOW Moose Ponds 71.91 47 P **P** **21 26 13.0 +0.4**
MOOW IAmb IAmb 21 26 15.8
comp=Z,20nm,1.1s
LCRK Leigh Creek 71.95 185 P **P** **21 26 13.7 +1.2**
TPAW Teton Pass 71.96 48 P **P** **21 26 13.6 +0.6**
TPAW IAmb IAmb 21 26 16.3
comp=Z,28nm,1.2s
VES Vestal, Richgr 71.98 58 P **P** **21 26 14.1 +1.2**
baz=309
UOSS Minazif 72.05 288 P **P** **21 26 14.9 +1.4**
UOSS IAmb IAmb 21 26 28.4
comp=Z,22nm,0.8s
UOSS Minazif 72.05 288 *i*P **P** **21 26 15.7 +2.2**
SNR=14
UOSS Minazif 72.05 288 P **P** **21 26 14.1 +0.6**
LOHW Long Hollow 72.07 47 P **P** **21 26 13.8 +0.2**
SNOW Snow King Moun 72.09 47 P **P** **21 26 14.7 +0.9**
HOQ Hoqain 72.10 286 P **P** **21 26 14.4 +0.6**
SNR=5.6
REDW Red Top Meadow 72.10 48 P **P** **21 26 13.7 -0.1**
PKM Mcpherson Peak 72.11 59 P **P** **21 26 14.9 +0.9**
baz=309
DGMT Dagmar 72.15 40 P **P** **21 26 14.5 +0.8**

DGMT IAmb IAmb 21 26 27.4
comp=Z,20nm,0.8s
DGMT Dagmar 72.15 40 P **P 21 26 14.1 +0.4**
baz=313
HATD Hatta, Dubai 72.18 288 *i* P **P 21 26 14.7 +0.4**
SNR=15
HATD Hatta, Dubai 72.18 288 P **P 21 26 15.2 +0.9**
SNR=7.2
GMN Gold Mountain 72.21 56 P **P 21 26 15.1 +0.5**
CWC Cottonwood Cre 72.24 57 P **P 21 26 16.0 +1.3**
baz=309
JMDO Jabal Madar 72.27 284 P **P 21 26 15.1 +0.2**
SOHO SOHO 72.32 287 *i* P **P 21 26 15.6 +0.6**
SNR=11
SOHO SOHO 72.32 287 P **P 21 26 14.9 -0.1**
ASHO Ashiyiah 72.32 287 *i* P **P 21 26 15.7 +0.5**
SNR=13
ASHO Ashiyiah 72.32 287 P **P 21 26 15.8 +0.7**
SNR=5.7
BCW Bitter Crk WRg 72.33 59 P **P 21 26 14.8 -0.4**
BCW IAmb IAmb 21 26 18.1
comp=Z,27nm,1.2s
GRAC Grapevine Rang 72.34 56 P **P 21 26 15.8 +0.7**
GRAC IAmb IAmb 21 26 21.7
comp=Z,53nm,1.4s
GRAC Grapevine Rang 72.34 56 P **P 21 26 16.5 +1.4**
baz=309
AHID Auburn Hatcher 72.35 48 P **P 21 26 15.9 +0.7**
LAO LASA Array 72.35 43 P **P 21 26 16.0 +1.0**
LAO IAmb IAmb 21 26 34.3
comp=Z,76nm,1.9s
LAO LASA Array 72.35 43 P **P 21 26 16.3 +1.2**
baz=312,SNR=5.8
NAZ Nazwa, Dubai 72.41 288 P **P 21 26 16.5 +0.8**
BGU Big Grassy Mou 72.44 51 P **P 21 26 16.6 +0.8**
SBC Santa Barbara 72.45 59 P **P 21 26 17.5 +1.8**
baz=309
ISA Isabella, Lake 72.48 58 P **P 21 26 16.2 +0.2**
ISA Isabella, Lake 72.48 58 P **P 21 26 16.6 +0.6**
baz=309
ISA Isabella, Lake 72.48 58 P **P 21 26 16.2 +0.2**
ISA pmax pmax
comp=Z,8.0nm,1.2s
SPUT South Promonto 72.53 50 P **P 21 26 17.2 +0.8**
SPUT IAmb IAmb 21 26 19.2
comp=Z,26nm,1.3s
R11B Troy Canyon, C 72.58 54 P **P 21 26 17.1 +0.4**
R11B IAmb IAmb 21 26 19.2
comp=Z,20nm,1.1s
R11B Troy Canyon, C 72.58 54 P **P 21 26 18.0 +1.3**
baz=310,SNR=26
Q12A Willow Creek R 72.59 53 P **P 21 26 17.8 +1.1**
Q12A IAmb IAmb 21 26 19.5
comp=Z,20nm,0.9s
FAQ Al Faqa, Dubai 72.61 288 *i* P **P 21 26 16.7 -0.1**
SNR=7.6
FAQ Al Faqa, Dubai 72.61 288 P **P 21 26 17.2 +0.3**
ASK Askoy 72.66 340 *eP* **P 21 26 18.7 +2.3**
BSY Bisya 72.69 285 P **P 21 26 18.4 +1.0**
BER Bergen 72.71 340 *eP* **P 21 26 17.8 +1.0**
ARQ Araqi 72.82 286 P **P 21 26 19.0 +0.9**
HWUT Hardware Ranch 72.84 49 P **P 21 26 19.0 +0.8**
HWUT IAmb IAmb 21 26 21.1
comp=Z,26nm,1.2s
MPMC Manual Prospec 72.85 57 P **P 21 26 19.5 +1.1**
baz=309,SNR=13
ASUD Al Ashush, Dub 72.87 288 P **P 21 26 19.0 +0.6**
SPR3 Spring Creek 3 72.92 53 P **P 21 26 20.1 +1.2**
SPR3 IAmb IAmb 21 26 22.1
comp=Z,66nm,1.8s
ALNE Al Ain 72.92 287 *i* P **P 21 26 19.4 +0.7**
SNR=7.6
ALNE Al Ain 72.92 287 P **P 21 26 19.3 +0.7**
S11A Rachel 72.93 55 P **P 21 26 19.6 +0.9**
S11A IAmb IAmb 21 26 25.4
comp=Z,39nm,1.2s
WCT Wildcat Mounta 72.93 56 P **P 21 26 19.4 +0.8**
GURO Guroymak-BITLI 72.97 307 P **P 21 26 20.3 +1.4**
GURO IAmb IAmb 21 26 33.8
comp=Z,18nm,0.8s
OSI Osito Audit: C 72.98 59 P **P 21 26 20.3 +1.3**
baz=309
FURC Furnace Creek, 72.99 56 P **P 21 26 20.3 +1.4**
baz=309
DUG Dugway, Tooele 73.04 51 P **P 21 26 19.9 +0.5**
DUG IAmb IAmb 21 26 22.2
comp=Z,26nm,1.1s
DUG Dugway, Tooele 73.04 51 P **P 21 26 21.0 +1.6**
baz=310,SNR=20
DUG Dugway, Tooele 73.04 51 P **P 21 26 19.9 +0.5**
DUG pmax pmax
comp=Z,26nm,1.1s
TPNV Topopah Spring 73.06 56 P **P 21 26 20.4 +0.9**
TPNV IAmb IAmb 21 26 22.1
comp=Z,25nm,1.1s
TPNV Topopah Spring 73.06 56 P **P 21 26 21.0 +1.5**
baz=310,SNR=19
TPNV Topopah Spring 73.06 56 P **P 21 26 20.4 +0.9**
TPNV pmax pmax
comp=Z,25nm,1.1s
CCAC Calif City Air 73.09 58 P **P 21 26 19.8 +0.2**
CCAC IAmb IAmb 21 26 21.8
comp=Z,14nm,0.8s
LRMC Laurel Mtn Rad 73.10 57 P **P 21 26 21.1 +1.4**
baz=309,SNR=5.1
AJN Ajban 73.16 288 P **P 21 26 20.4 +0.4**
BW06 Boulder Array 73.20 47 P **P 21 26 20.9 +0.5**
BW06 Boulder Array 73.20 47 P **P 21 26 21.4 +1.1**
baz=312,SNR=12
PD31 Pinedale Array 73.21 47 P **P 21 26 20.2 -0.1**
PDAR Pinedale Array 73.21 47 P **P 21 26 20.7 +0.3**
PDAR Pinedale Array 73.21 47 P **P 21 26 21.2 +0.8**
comp=Z,3.7nm,0.6s,baz=270,slow=1.0,SNR=44
comp=Z,3.7nm,0.6s
SIM Simferopol' 73.22 316 *eP* **P 21 26 20.2 +0.1**
SIM pmax pmax
comp=Z,22nm,0.8s
SIM MLR MLR
comp=Z,307nm,20.0s
STKA Stephens Creek 73.22 182 P **P 21 26 19.7 -0.3**
STKA Stephens Creek 73.22 182 *c i* P **P 21 26 20.3 +0.3**
STKA Stephens Creek 73.22 182 P **P 21 26 20.0 -0.1**
comp=Z,9.5nm,0.9s,baz=342,slow=7.7,SNR=18
comp=Z,9.5nm,0.9s
MHTO MHTO 73.23 283 P **P 21 26 21.6 +1.1**
SNR=8.6
BLS5 Blasjo 73.23 339 *eP* **P 21 26 20.8 +0.9**
BORG Borgarnes 73.25 353 LR LR 21 57 03.2
comp=Z,72nm,21.6s,baz=30,slow=34
TCUT Toone Canyon 73.25 50 P **P 21 26 21.3 +0.6**
TCUT IAmb IAmb 21 26 23.6
comp=Z,26nm,1.2s
EDW2 Edwards Air Fo 73.28 58 P **P 21 26 21.9 +1.2**
baz=309,SNR=8.9
GWY Greenwater Val 73.28 56 P **P 21 26 21.4 +0.5**
GWY IAmb IAmb 21 26 23.3
comp=Z,71nm,1.8s
SNCC San Nicolas Is 73.32 60 P **P 21 26 22.7 +1.8**
baz=309
CTU Camp Tracy 73.33 50 P **P 21 26 22.4 +1.3**
DEL Delary 73.43 334 *eP* **P 21 26 21.4 +0.3**
DEL Delary 73.43 334 *i* P **P 21 26 21.0 -0.1**
PRN Pahroc Range 73.50 55 P **P 21 26 23.2 +1.1**
FORT Forrest 73.53 194 P **P 21 26 21.9 0.0**
FORT IAmb IAmb 21 26 23.2
comp=Z,33nm,0.9s
NLU North Lily Min 73.63 51 P **P 21 26 24.1 +1.2**
SHOC Shoshone, Teco 73.71 56 P **P 21 26 24.8 +1.6**
baz=310
GSC Goldstone, Bar 73.76 57 P **P 21 26 24.2 +0.6**
GSC IAmb IAmb 21 26 25.9
comp=Z,34nm,1.9s
GSC Goldstone, Bar 73.76 57 P **P 21 26 25.1 +1.6**
baz=310,SNR=5.2
GSC Goldstone, Bar 73.76 57 P **P 21 26 24.2 +0.6**
GSC pmax pmax
comp=Z,34nm,1.9s
NUUK Nuuk 73.78 7 *i* P **P 21 26 23.3 +0.3**
NUUK IAmb IAmb 21 26 25.1
comp=Z,20nm,0.7s
FMP Fort Macarthur 73.83 59 P **P 21 26 25.6 +1.8**
baz=310
MPU Maple Canyon 73.84 51 P **P 21 26 24.9 +0.8**
MPU IAmb IAmb 21 26 26.8
comp=Z,19nm,1.0s
SORM Soroca 73.89 321 ⇓P **P 21 26 23.9 0.0**
SORM Soroca 73.89 321 P **P 21 26 23.9 0.0**
BFSC Mount Baldy Ra 73.90 58 P **P 21 26 25.8 +1.4**
baz=310
RRX Edison Barstow 73.91 58 P **P 21 26 26.0 +1.6**
baz=310
CIS Catalina Islan 73.94 60 P **P 21 26 26.2 +1.6**
baz=310
BSUT Blindstream Ca 74.00 50 P **P 21 26 25.6 +0.3**
SHPR Sheep Range 74.02 55 P **P 21 26 25.4 +0.3**
SCI2 San Clemente I 74.13 60 P **P 21 26 27.4 +1.8**
baz=310
BSD Bornholm Skovb 74.16 332 *eP* **P 21 26 26.5 +1.1**
BSD Bornholm Skovb 74.16 332 *i* P **P 21 26 28.6 +3.3**
BSD IAmb IAmb 21 26 29.7
comp=Z,19nm,0.7s
TUQ Turquoise Moun 74.23 57 P **P 21 26 27.8 +1.4**
baz=310,SNR=14
HEC Hector,Ludlow 74.36 57 P **P 21 26 28.5 +1.4**
baz=310,SNR=11
ELS Elsinore Mount 74.42 59 P **P 21 26 27.3 -0.2**
ELS IAmb IAmb 21 26 29.7
comp=Z,30nm,1.6s
BBOO Buckleboo 74.46 187 P **P 21 26 27.2 -0.1**
BBOO IAmb IAmb 21 26 28.6
comp=Z,20nm,1.0s
MVU Marysvale 74.50 52 P **P 21 26 28.9 +0.8**
MSU Marysvale 74.51 52 P **P 21 26 29.3 +1.2**
MSU Marysvale 74.51 52 P **P 21 26 29.3 +1.2**
MILM Milestii Mici 74.53 320 ⇑P **P 21 26 27.9 +0.1**
MILM Milestii Mici 74.53 320 P **P 21 26 27.8 +0.1**
COP Copenhagen 74.54 334 *i* P **P 21 26 31.4 +3.8**
COP IAmb IAmb 21 26 48.9
comp=Z,61nm,0.8s
TMUT Trail Mountain 74.56 51 P **P 21 26 29.3 +0.8**
MURC Murrieta 74.60 59 P **P 21 26 29.7 +1.3**
baz=310
LVV L'vov 74.64 324 *eP* **P 21 26 29.3 +1.0**
LVV pmax pmax
comp=Z,60nm,1.2s
LVV MLR MLR
comp=E,200nm,15.0s
LVV MLR MLR
comp=N,200nm,14.0s
LVV MLR MLR
comp=Z,300nm,14.0s
RDMU Red Mountain 74.66 49 P **P 21 26 29.4 +0.5**
RDMU IAmb IAmb 21 26 31.6
comp=Z,40nm,1.0s
ULM Lac du Bonnet 74.68 35 P **P 21 26 29.0 +0.4**
ULM Lac du Bonnet 74.68 35 P **P 21 26 29.0 +0.4**
comp=Z,3.5nm,0.8s,baz=313,slow=7.8,SNR=5.1
comp=Z,3.5nm,0.8s
V12A Nelson 74.71 56 P **P 21 26 30.5 +1.4**
V12A IAmb IAmb 21 26 32.0
comp=Z,29nm,1.4s
P17A Butcher Ranch, 74.72 51 P **P 21 26 30.5 +1.3**
P17A IAmb IAmb 21 26 31.9
comp=Z,30nm,1.1s
MDND Maddock 74.77 39 P **P 21 26 30.3 +1.2**
MDND IAmb IAmb 21 26 32.0
comp=Z,46nm,1.2s
MDND Maddock 74.77 39 P **P 21 26 30.4 +1.2**
baz=316
ARPR Arapgir-MALATY 74.80 309 P **P 21 26 30.7 +1.1**
ARPR IAmb IAmb 21 26 32.6
comp=Z,49nm,1.3s
GMRC Granite Mounta 74.81 57 P **P 21 26 31.1 +1.4**
baz=310,SNR=7.0
MTPU Mount Pierson 74.82 52 P **P 21 26 31.8 +1.8**
Q16A Castle Valley 74.84 51 P **P 21 26 29.6 -0.3**
Q16A IAmb IAmb 21 26 32.8
comp=Z,28nm,1.3s
LCMT Little Creek M 74.86 54 P **P 21 26 31.1 +1.1**
LCMT IAmb IAmb 21 26 32.9
comp=Z,20nm,1.1s
K22A Casper 74.94 46 P **P 21 26 31.0 +0.6**
K22A IAmb IAmb 21 26 32.6
comp=Z,40nm,1.4s
K22A Casper 74.94 46 P **P 21 26 31.7 +1.3**
baz=313,SNR=5.6
PFO Pinyon Flats O 75.06 58 P **P 21 26 32.0 +0.8**
PFO Pinyon Flats O 75.06 58 P **P 21 26 32.6 +1.4**
baz=310,SNR=5.2
PFO Pinyon Flats O 75.06 58 P **P 21 26 32.0 +0.8**
PFO pmax pmax
comp=Z,9.0nm,1.1s
TPFO Pinon Flats 75.07 58 P **P 21 26 32.1 +0.9**
baz=310,SNR=5.1
SRU San Rafael Swe 75.08 51 P **P 21 26 31.8 +0.5**
SRU IAmb IAmb 21 26 33.8
comp=Z,24nm,1.0s
SRU San Rafael Swe 75.08 51 P **P 21 26 31.8 +0.5**
SRU pmax pmax
comp=Z,24nm,1.0s
PMD Palm Desert 75.09 58 P **P 21 26 31.3 +0.1**
BELC Belle Mtn. Jos 75.11 58 P **P 21 26 32.3 +0.8**
baz=310,SNR=5.3
KNB Kanab 75.11 54 P **P 21 26 32.4 +0.9**
KNB IAmb IAmb 21 26 34.7
comp=Z,27nm,1.2s
KNB Kanab 75.11 54 P **P 21 26 32.4 +0.9**
KNB pmax pmax
comp=Z,27nm,1.2s
PKCU Pink Cliffs 75.14 53 P **P 21 26 31.6 -0.2**
PKCU IAmb IAmb 21 27 01.4
comp=Z,32nm,1.6s
E28A Huff 75.17 40 P **P 21 26 31.8 +0.3**
E28A IAmb IAmb 21 27 03.6
comp=Z,20nm,0.5s
SHMA Al-Shehemyia 75.18 291 P **P 21 26 31.6 -0.2**
MZR Muzera 75.21 288 P **P 21 26 32.2 +0.1**
RSSD Black Hills 75.23 44 P **P 21 26 31.6 -0.5**
RSSD Black Hills 75.23 44 P **P 21 26 33.1 +0.9**
baz=314
RSSD Black Hills 75.23 44 P **P 21 26 31.6 -0.5**
RSSD pmax pmax
comp=Z,17nm,1.1s
KWP Kalwaria Pacla 75.35 325 P **P 21 26 32.6 +0.1**
KWP Kalwaria Pacla 75.35 325 P **P 21 26 32.6 +0.1**
KWP pmax pmax
comp=Z,36nm,0.8s
NEE2 Needles Airpor 75.48 56 P **P 21 26 34.7 +1.3**
baz=311
IRM Iron Mountain 75.54 57 P **P 21 26 35.1 +1.3**
baz=311,SNR=6.3
MONP2 Monument Peak 75.55 59 P **P 21 26 34.7 +0.6**
baz=310
BC3 Big Chuckawall 75.67 58 P **P 21 26 35.8 +1.1**
baz=311,SNR=6.1
O20A White River Ci 75.70 49 P **P 21 26 35.7 +0.8**
O20A IAmb IAmb 21 26 49.7
comp=Z,32nm,1.4s
O20A White River Ci 75.70 49 P **P 21 26 35.8 +0.8**
baz=313
BUR08 Bucovina Ar. S 75.71 322 P **P 21 26 35.0 +0.3**
BUR08 IAmb IAmb 21 26 37.0
comp=Z,19nm,1.1s
W13A Hualapai Mount 75.72 56 P **P 21 26 35.7 +0.6**
TRNA Turayna 75.72 290 P **P 21 26 34.7 -0.2**
BURAR Bucovina Array 75.73 322 ⇑P **P 21 26 35.8 +1.0**
BURAR Bucovina Array 75.73 322 P **P 21 26 35.0 +0.3**
BURAR IAmb IAmb 21 26 36.9
comp=Z,17nm,0.9s
BURAR Bucovina Array 75.73 322 P **P 21 26 35.7 +1.0**
U15A North Rim 75.82 54 P **P 21 26 36.3 +0.6**
U15A IAmb IAmb 21 26 38.8
comp=Z,35nm,1.3s
TESR Tescani 75.86 321 ⇑P **P 21 26 35.8 +0.4**
IKP In-Ko-Pah, Jac 75.91 59 P **P 21 26 37.0 +1.0**
baz=311
SWSC Sam W. Stewart 75.92 58 P **P 21 26 37.3 +1.3**
baz=311
RMX La Rumorosa 75.96 59 P **P 21 26 37.4 +1.0**
RMX IAmb IAmb 21 26 39.1
comp=Z,34nm,1.8s
YUH Yuha Desert 76.03 59 P **P 21 26 36.9 +0.3**
KOLS Kolonicke sedl 76.06 325 *eP* **P 21 26 37.7 +1.2**
KOLS Kolonicke sedl 76.06 325 *eP* **P 21 26 37.7 +1.2**
KOLS pmax pmax
comp=Z,14nm,1.0s
PDMCI Parker Dam,Lak 76.08 56 P **P 21 26 38.4 +1.5**
baz=311
CFR Carcaliu 76.10 319 ⇓P **P 21 26 37.5 +0.7**
CFR Carcaliu 76.10 319 P **P 21 26 37.5 +0.7**
OJC Ojcow 76.13 327 P **P 21 26 37.6 +0.7**
OJC IAmb IAmb 21 26 50.9
comp=Z,39nm,1.0s
OJC Ojcow 76.13 327 P **P 21 26 37.6 +0.7**
OJC pmax pmax
comp=Z,39nm,1.0s
STHS Stebnicka Huta 76.14 325 *eP* **P 21 26 37.7 +0.7**
STHS Stebnicka Huta 76.14 325 *eP* **P 21 26 37.7 +0.7**
STHS pmax pmax
comp=Z,12nm,1.0s
AGMN Agassiz Nation 76.14 36 P **P 21 26 36.8 -0.2**
AGMN IAmb IAmb 21 26 52.5
comp=Z,31nm,1.6s
AGMN Agassiz Nation 76.14 36 P **P 21 26 37.5 +0.5**
baz=318
BLYC Blythe 76.20 57 P **P 21 26 38.3 +0.7**
BLYC IAmb IAmb 21 26 40.2
comp=Z,31nm,1.5s
PLOR Plostina 76.34 320 ⇑P **P 21 26 38.8 +0.5**
PLOR Plostina 76.34 320 P **P 21 26 38.7 +0.5**
BNN Bunyan 76.40 310 P **P 21 26 37.8 -1.0**
BNN IAmb IAmb 21 26 53.2
comp=Z,31nm,0.8s
ESJX Sierra Juarez 76.43 59 P **P 21 26 39.8 +0.6**
CRVS Cervenica-Dubn 76.44 325 *eP* **P 21 26 39.9 +1.2**
CRVS Cervenica-Dubn 76.44 325 *eP* **P 21 26 39.9 +1.2**
CRVS pmax pmax
comp=Z,26nm,1.4s
PHWY Pilot Hill 76.44 46 P **P 21 26 38.2 -1.0**
PHWY IAmb IAmb 21 26 42.9
comp=Z,40nm,1.9s
N23A Red Feather La 76.46 47 P **P 21 26 39.4 +0.1**
N23A IAmb IAmb 21 26 42.0
comp=Z,33nm,1.2s
N23A Red Feather La 76.46 47 P **P 21 26 40.7 +1.5**
baz=314
TURR Turia 76.50 321 ⇑P **P 21 26 40.4 +1.3**
ARCR ARCALIA 76.51 322 ⇑P **P 21 26 40.0 +0.9**
COVR Voineasa-Covas 76.56 320 ⇑P **P 21 26 40.0 +0.6**
OZUR 76.57 321 ⇑P **P 21 26 41.4 +1.9**
MLR Muntele Rosu 76.94 320 P **P 21 26 42.2 +0.5**
MLR Muntele Rosu 76.94 320 P **P 21 26 42.2 +0.5**
MLR pmax pmax
comp=Z,19nm,1.2s
MLR Muntele Rosu 76.94 320 LR LR 22 04 45.4
comp=Z,244nm,20.1s,baz=42,slow=39
WUAZ Wupatki 76.98 54 P **P 21 26 43.0 +0.9**
WUAZ IAmb IAmb 21 26 45.1
comp=Z,22nm,1.1s
WUAZ Wupatki 76.98 54 P **P 21 26 44.0 +1.9**
baz=312,SNR=11
Y14A Wickenburg 77.03 56 P **P 21 26 43.3 +1.0**
B35A Bob, Littlefor 77.03 35 P **P 21 26 42.1 +0.1**
B35A IAmb IAmb 21 26 43.2
comp=Z,49nm,1.6s
BR131 Keskin Array S 77.05 312 P **P 21 26 42.6 +0.1**
BR131 Keskin Array S 77.05 312 *d i* P **P 21 26 42.9 +0.5**
BRTR Keskin Array B 77.05 312 *i* P **P 21 26 43.0 +0.5**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 77.05 312 P **P 21 26 43.1 +0.6**
comp=Z,2.5nm,0.7s,baz=93,slow=3.8,SNR=15
BRTR PP **PP 21 29 36.4 +0.7**
comp=Z,3.0nm,1.1s,baz=76,slow=6.5,SNR=4.7
BRTR LR LR 22 08 08.6
comp=Z,194nm,18.8s,baz=35,slow=42
comp=Z,2.5nm,0.7s
SMCO Snowmass 77.07 49 P **P 21 26 43.1 +0.2**
SMCO IAmb IAmb 21 26 45.4
comp=Z,23nm,1.4s
LANS Liptovska Anna 77.09 326 *eP* **P 21 26 44.2 +1.8**
LANS Liptovska Anna 77.09 326 *eP* **P 21 26 44.2 +1.8**
LANS pmax pmax
comp=Z,8.0nm,1.1s
OSTC Ostas 77.30 329 *eP* **P 21 26 44.8 +1.3**
OSTC Ostas 77.30 329 *eP* **P 21 26 44.8 +1.3**
113A Mohawk Valley, 77.32 57 P **P 21 26 44.3 +0.4**
CHVC Chvalec 77.34 329 *eP* **P 21 26 44.5 +0.8**
CHVC Chvalec 77.34 329 *eP* **P 21 26 44.5 +0.8**
MORC Moravsky Berou 77.39 328 ⇑P **P 21 26 45.4 +1.4**
MORC Moravsky Berou 77.39 328 P **P 21 26 44.3 +0.2**
MORC IAmb IAmb 21 26 46.2
comp=Z,21nm,1.1s
MORC Moravsky Berou 77.39 328 *eP* **P 21 26 44.9 +0.8**
MORC Moravsky Berou 77.39 328 P **P 21 26 45.4 +1.4**
ISCO Idaho Springs 77.40 48 P **P 21 26 45.3 +0.7**
ISCO IAmb IAmb 21 26 47.3
comp=Z,22nm,1.4s
ISCO Idaho Springs 77.40 48 P **P 21 26 46.0 +1.4**
baz=314,SNR=5.5
ISCO Idaho Springs 77.40 48 P **P 21 26 45.3 +0.7**
ISCO pmax pmax
comp=Z,22nm,1.4s
VOIR 77.41 321 ⇑P **P 21 26 45.5 +1.2**
VOIR 77.41 321 P **P 21 26 45.4 +1.2**
UPC Upice 77.42 329 *eP* **P 21 26 45.0 +0.9**
UPC Upice 77.42 329 *eP* **P 21 26 45.0 +0.9**
ANTO Ankara 77.42 313 P **P 21 26 45.3 +0.8**
ANTO IAmb IAmb 21 26 57.9
comp=Z,15nm,0.8s
ANTO Ankara 77.42 313 P **P 21 26 45.4 +0.9**
ANTO Ankara 77.42 313 P **P 21 26 45.3 +0.8**
ANTO pmax pmax
comp=Z,15nm,0.8s
DPC Dobruska-Polom 77.42 329 *eP* **P 21 26 45.4 +1.2**
DPC *ex* x 21 26 51.4
DPC Dobruska-Polom 77.42 329 *eP* **P 21 26 45.4 +1.2**
DPC *e* 21 26 51.4
BR231 Keskin MP Arra 77.45 313 P **P 21 26 45.8 +1.1**
BR231 IAmb IAmb 21 26 58.9
comp=Z,16nm,0.8s
KRLC Kraliky 77.46 328 *eP* **P 21 26 46.2 +1.8**
KRLC Kraliky 77.46 328 *eP* **P 21 26 46.2 +1.8**
MVCO Mesa Verde 77.54 51 P **P 21 26 45.5 +0.1**
MVCO Mesa Verde 77.54 51 P **P 21 26 46.6 +1.2**
baz=313,SNR=5.5
SUSD Miller 77.56 41 P **P 21 26 45.2 +0.1**
SUSD Miller 77.56 41 P **P 21 26 46.4 +1.3**
baz=317
BRIGG Briggsdale 77.56 46 P **P 21 26 46.2 +0.9**
BRIGG IAmb IAmb 21 26 48.0
comp=Z,38nm,1.2s
MAUC Maruska 77.60 327 *eP* **P 21 26 46.6 +1.4**
ARR Arges 77.66 321 ⇑P **P 21 26 47.2 +1.5**
X16A Lo Mia Camp, P 77.67 55 P **P 21 26 46.6 +0.5**
F33A 5 Mile Ranch, 77.79 38 P **P 21 26 46.0 -0.3**
F33A IAmb IAmb 21 26 55.8
comp=Z,79nm,2.0s
PSZ Piszkesteto 77.86 325 P **P 21 26 47.3 +0.6**
PSZ Piszkesteto 77.86 325 P **P 21 26 47.3 +0.6**
PSZ pmax pmax
comp=Z,17nm,1.1s
VYHS Vyhne 77.86 326 *eP* **P 21 26 48.0 +1.3**
VYHS Vyhne 77.86 326 *eP* **P 21 26 48.0 +1.3**
VYHS pmax pmax
comp=Z,14nm,1.3s
MDUB Mudurnu 77.87 314 P **P 21 26 46.9 -0.1**
CLL Collm 77.91 331 P **P 21 26 46.3 -0.5**
CLL IAmb IAmb 21 27 00.3
comp=Z,24nm,0.9s
CLL Collm 77.91 331 *i* P **P 21 26 47.2 +0.4**
comp=Z,19nm,1.0s
CLL *i* x x 21 26 53.1
comp=Z,15nm,0.8s
CLL *i* pP **pP 21 26 58.5 +0.7**
comp=Z,38nm,1.2s
CLL AMS AMS 22 03 00.0
comp=Z,300nm,21.9s
CLL Collm 77.91 331 P **P 21 26 46.3 -0.5**
CLL pmax pmax
comp=Z,25nm,0.9s
BRG Berggiesshubel 77.91 330 *eP* **P 21 26 48.0 +1.1**
BRG Amp 21 26 48.8
comp=Z,13nm,1.3s
BRG Berggiesshubel 77.91 330 P P 21 26 59.2 +12
BRG Amp 21 27 00.2
comp=Z,7.8nm,1.0s
BRG Amp 22 04 02.0
comp=N,0.4nm,19.8s
BRG Amp 22 04 05.0
comp=Z,0.7nm,19.2s
BRG Amp 22 04 30.0
comp=E,0.2nm,17.9s
BRG Berggiesshubel 77.91 330 *eP* **P 21 26 48.0 +1.1**
BRG 21 26 59.1

BRG pmax pmax
comp=Z,13nm,1.3s
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG MLR MLR
comp=N,398nm,19.8s
BRG MLR MLR
comp=Z,705nm,19.2s
BRG MLR MLR
comp=E,190nm,17.9s
PVCC Panska Ves 77.96 330 *e*P **P 21 26 48.2 +1.1**
PVCC Panska Ves 77.96 330 *e*P **P 21 26 48.2 +1.1**
JAVC Velka Javorina 78.06 327 *e*P **P 21 26 49.8 +2.0**
RICC Richard 78.12 330 *e*P **P 21 26 49.9 +1.9**
NWAO Narrogin (SRO) 78.13 202 P **P 21 26 48.5 +0.4**
NWAO Narrogin (SRO) 78.13 202 P **P 21 26 48.3 +0.2**
NWAO IAmb IAmb 21 26 50.3
comp=Z,220nm,1.4s
NWAO Narrogin (SRO) 78.13 202 P **P 21 26 48.5 +0.4**
NWAO pmax pmax
comp=Z,66nm,1.4s
S22A 4UR Ranch, Cre 78.14 50 P **P 21 26 48.3 -0.4**
S22A 4UR Ranch, Cre 78.14 50 P **P 21 26 50.6 +1.8**
baz=314
VRAC Vranov 78.14 328 ⇓P **P 21 26 48.9 +0.7**
VRAC Vranov 78.14 328 *e*P **P 21 26 49.0 +0.7**
VRAC Vranov 78.14 328 P **P 21 26 48.9 +0.7**
VRAC Vranov 78.14 328 LR LR 22 05 03.5
comp=Z,344nm,18.0s,baz=38,slow=38
RBK Rabkut 78.17 283 P **P 21 26 48.8 -0.1**
WHFO Wadi Hawf 78.22 283 P **P 21 26 48.1 -1.1**
W18A Petrified Fore 78.23 53 P **P 21 26 49.6 +0.4**
W18A Petrified Fore 78.23 53 P **P 21 26 51.0 +1.8**
baz=313
COPA Copaceanca 78.29 320 ⇑P **P 21 26 49.7 +0.6**
PIX Pinacate 78.32 58 P **P 21 26 50.3 +0.9**
HSKC Hora Svate Kat 78.32 330 *e*P **P 21 26 49.9 +0.7**
PRU Pruhonice 78.40 329 *e*P **P 21 26 50.5 +0.9**
PRU Pruhonice 78.40 329 *e*P **P 21 26 50.5 +0.9**
KRUC Moravsky 78.42 328 *e*P **P 21 26 50.7 +1.0**
214A Organ Pipe Nat 78.47 58 P **P 21 26 50.8 +0.5**
214A Organ Pipe Nat 78.47 58 P **P 21 26 51.8 +1.5**
baz=312
GZR Gura Zlata 78.50 322 ⇑P **P 21 26 50.9 +0.6**
GZR Gura Zlata 78.50 322 P **P 21 26 50.9 +0.6**
X18A Snowflake 78.50 54 P **P 21 26 51.2 +0.5**
K30B Basset 78.52 42 P **P 21 26 51.0 +0.5**
OGNE Ogallala 78.53 45 P **P 21 26 51.0 +0.4**
OGNE Ogallala 78.53 45 P **P 21 26 51.8 +1.2**
baz=316
SURR Surduc 78.53 322 ⇑P **P 21 26 51.5 +1.1**
MODS Modra-Piesok 78.60 327 *e*P **P 21 26 51.5 +0.7**
MODS Modra-Piesok 78.60 327 *e*P **P 21 26 51.5 +0.7**
MODS pmax pmax
comp=Z,34nm,1.4s
SRO Srobarova 78.61 326 *e*P **P 21 26 52.1 +1.3**
SRO Srobarova 78.61 326 *e*P **P 21 26 52.1 +1.3**
SRO pmax pmax
comp=Z,14nm,0.9s
BZS Buzias 78.87 323 ⇑P **P 21 26 53.0 +0.7**
BZS Buzias 78.87 323 P **P 21 26 52.9 +0.7**
SDCO Great Sand Dun 78.90 49 P **P 21 26 53.4 +0.5**
SDCO Great Sand Dun 78.90 49 P **P 21 26 54.4 +1.4**
baz=314,SNR=5.2
ABTO Aybut 78.93 283 P **P 21 26 53.2 +0.1**
F36A Milaca 79.03 37 P **P 21 26 52.8 -0.4**
F36A IAmb IAmb 21 26 54.1
comp=Z,58nm,1.9s
HERR Herculane 79.06 322 ⇓P **P 21 26 53.8 +0.5**
ECSD EROS Data Cent 79.21 40 P **P 21 26 54.5 +0.2**
ECSD IAmb IAmb 21 27 08.7
comp=Z,19nm,0.9s
ECSD EROS Data Cent 79.21 40 P **P 21 26 55.1 +0.9**
baz=319,SNR=11
EKA Eskdalemuir Ar 79.31 341 P **P 21 26 54.9 +0.5**
comp=Z,5.4nm,0.6s,baz=25,slow=5.2,SNR=21
comp=Z,5.4nm,0.6s
E38A The Farm, Brul 79.32 35 P **P 21 26 54.8 +0.1**
CKRC Cesky Krumlov 79.43 329 *e*P **P 21 26 56.0 +0.7**
CKRC *ex* x 21 27 02.5
CKRC Cesky Krumlov 79.43 329 *e*P **P 21 26 56.0 +0.7**
CKRC *e* 21 27 02.5
KHC Kasperske Hory 79.47 329 P **P 21 26 56.2 +0.7**
KHC IAmb IAmb 21 27 09.7
comp=Z,13nm,0.7s
KHC Kasperske Hory 79.47 329 *e*P **P 21 26 56.3 +0.8**
KHC *ep*P **pP 21 27 08.0 +1.5**
KHC Kasperske Hory 79.47 329 *e*P **P 21 26 56.3 +0.8**
KHC *e* 21 27 08.0
TUC Tucson 79.50 56 P **P 21 26 57.0 +1.0**
TUC Tucson 79.50 56 P **P 21 26 57.4 +1.3**
baz=313
TUC Tucson 79.50 56 P **P 21 26 57.0 +1.0**
TUC pmax pmax
comp=Z,16nm,1.5s
CONA Conrad Observa 79.53 327 *i* P **P 21 26 57.4 +1.5**
comp=Z,20nm,1.4s,SNR=5.5
RONA Rosalia, Austr 79.54 327 *i* P **P 21 26 57.9 +2.0**
comp=Z,22nm,1.3s
KSCO Kaye Shedlock' 79.59 46 P **P 21 26 56.2 -0.3**
KSCO Kaye Shedlock' 79.59 46 P **P 21 26 57.7 +1.2**
baz=316
GEC2 GERESS Array S 79.65 329 P **P 21 26 56.9 +0.3**
GERES GERESS Array B 79.65 329 P **P 21 26 56.7 +0.1**
GERES GERESS Array B 79.65 329 P **P 21 26 57.2 +0.6**
comp=Z,1.1nm,0.4s,baz=46,slow=6.1,SNR=14
GERES LR LR 22 06 07.6
comp=Z,299nm,18.4s,baz=50,slow=39
comp=Z,1.1nm,0.4s
SPMN Marine on St. 79.85 37 **P 21 26 57.5 -0.1**
SPMN IAmb IAmb 21 26 59.0
comp=Z,60nm,1.6s
SPMN Marine on St. 79.85 37 P **P 21 26 58.4 +0.8**
baz=321
GRA1 Grafenberg Arr 79.89 331 P **P 21 26 58.6 +0.8**
GRF Grafenberg Arr 79.89 331 P **P 21 26 58.6 +0.8**
GRF pmax pmax
comp=Z,71nm,1.4s
GRFO Grafenberg 79.89 331 P **P 21 26 59.1 +1.3**
GRFO Grafenberg 79.89 331 P **P 21 26 59.1 +1.3**
GRFO pmax pmax
comp=Z,64nm,1.4s
T25A Trinidad 79.94 49 P **P 21 26 58.8 +0.3**
T25A IAmb IAmb 21 27 01.0
comp=Z,28nm,1.2s
T25A Trinidad 79.94 49 P **P 21 26 59.8 +1.3**
baz=315
FRGS Fruska Gora 80.03 323 ⇑P **P 21 26 59.3 +0.6**
BGNE Belgrade 80.19 42 P **P 21 26 59.8 +0.2**
BGNE Belgrade 80.19 42 P **P 21 27 00.4 +0.8**
baz=318
ARSA Arzberg 80.22 327 *i* P **P 21 27 01.0 +1.4**
comp=Z,7.9nm,1.1s
MOA Molln 80.24 328 *e*P **P 21 27 00.9 +1.3**
comp=Z,6.4nm,1.6s
ANMO Albuquerque 80.30 52 P **P 21 27 00.8 +0.3**
ANMO Albuquerque 80.30 52 P **P 21 27 02.0 +1.5**
baz=314
ANMO Albuquerque 80.30 52 P **P 21 27 00.8 +0.3**
ANMO pmax pmax
comp=Z,14nm,1.3s
RDO Rodhopi 80.34 317 P **P 21 27 01.4 +1.1**
DUN6 Lazy B Ranch 80.38 55 P **P 21 27 00.8 0.0**
SCHQ Schefferville 80.39 17 P **P 21 27 01.1 +0.7**
comp=Z,6.1nm,0.6s,baz=326,slow=7.3,SNR=3.2
SCHQ LR LR 22 05 18.0
comp=Z,181nm,19.1s,baz=290,slow=38
comp=Z,6.1nm,0.6s
I37A Lemond, Waseca 80.51 38 P **P 21 27 01.5 +0.3**
CSS Mathiatis 80.54 309 P **P 21 27 01.9 +0.3**
CSS IAmb IAmb 21 27 18.2
comp=Z,18nm,0.9s
BIOA Bad Ischl, Aus 80.61 328 *i* P **P 21 27 03.9 +2.2**
comp=Z,20nm,1.4s
L34A Svendsen Farm, 80.66 41 P **P 21 27 01.8 -0.2**
L34A IAmb IAmb 21 27 03.3
comp=Z,39nm,0.9s
MMAI Mount Meron Ar 80.67 306 P **P 21 27 03.8 +1.5**
comp=Z,8.7nm,0.7s,baz=35,slow=4.6,SNR=19
MMAI LR LR 22 06 26.8
comp=Z,257nm,21.4s,baz=2.0,slow=38
comp=Z,8.7nm,0.7s
SOKA Soboth 80.88 327 *i* P **P 21 27 04.2 +1.0**
comp=Z,37nm,1.5s,SNR=7.0
BTNL Ternell 80.89 334 *d*P **P 21 27 04.1 +0.9**
BTNL *dx* x 21 27 15.5
MEM Membach 80.91 334 *d*P **P 21 27 04.2 +1.0**
MEM *dx* x 21 27 14.6
319A Douglas 81.07 56 P **P 21 27 05.3 +0.7**
BSTI Sart Tilman 81.08 334 *d*P **P 21 27 04.8 +0.8**
BHOU Houvegnez 81.13 334 *d*P **P 21 27 04.9 +0.5**
121A Cookes Peak, D 81.19 54 P **P 21 27 06.2 +1.0**
121A Cookes Peak, D 81.19 54 P **P 21 27 06.7 +1.4**
baz=314
LESA Schwarzleotal 81.21 329 *i* P **P 21 27 06.0 +1.0**
comp=Z,14nm,0.8s
OBKA Obir 81.21 327 *i* P **P 21 27 05.5 +0.5**
comp=Z,12nm,1.0s
KBA Koelnbreinsper 81.23 328 *i* P **P 21 27 05.6 +0.4**
comp=Z,13nm,0.7s
ELL Elmali 81.23 312 P **P 21 27 05.7 +0.4**
ELL Elmali 81.23 312 P **P 21 27 05.7 +0.4**
ELL pmax pmax
comp=Z,68nm,1.1s
CBKS Cedar Bluff 81.29 45 P **P 21 27 04.0 -1.5**
CBKS IAmb IAmb 21 27 06.7
comp=Z,22nm,0.9s
CBKS Cedar Bluff 81.29 45 P **P 21 27 06.4 +0.9**
baz=317
CBKS Cedar Bluff 81.29 45 P **P 21 27 04.0 -1.5**
CBKS pmax pmax
comp=Z,22nm,1.0s
BCLA Clavier 81.30 335 *d*P **P 21 27 04.7 -0.6**
STU Stuttgart 81.39 331 P **P 21 27 06.5 +0.7**
STU IAmb IAmb 21 27 19.7
comp=Z,19nm,0.9s
STU Stuttgart 81.39 331 P **P 21 27 06.5 +0.7**
STU pmax pmax
comp=Z,19nm,0.9s
BGES Gesves 81.40 335 *d*P **P 21 27 05.0 -0.8**
BGES *dx* x 21 27 17.9
MYKA Terra Mystica 81.48 328 *e*P **P 21 27 06.9 +0.5**
comp=Z,8.1nm,0.9s
RCHB Rochefort 81.55 334 *d*P **P 21 27 07.3 +0.7**
RCHB *dx* x 21 27 19.0
BMRD Maredsous 81.58 335 *d*P **P 21 27 06.0 -0.7**
BMRD *dx* x 21 27 19.0
HSIG 81.63 59 P **P 21 27 07.3 -0.1**
WATA Walderalm 81.70 329 *i* P **P 21 27 08.5 +0.8**
comp=Z,26nm,1.4s,SNR=5.6
WTTA Wattenberg 81.74 329 *i* P **P 21 27 08.9 +1.0**
comp=Z,18nm,1.1s
ABTA Abfaltersbach 81.83 328 *i* P **P 21 27 08.4 +0.2**
comp=Z,14nm,1.2s
N35A Tabor 81.85 41 P **P 21 27 08.9 +0.5**
MOTA Moosalm 81.88 330 *i* P **P 21 27 09.5 +0.9**
comp=Z,38nm,1.4s,SNR=6.5
RETA Reutte 81.89 330 *i* P **P 21 27 09.7 +1.2**
comp=Z,19nm,1.0s,SNR=5.4
SQTA Sankt Quirin 81.94 329 *i* P **P 21 27 09.5 +0.6**
comp=Z,16nm,1.1s
BFO Black Forest 82.07 332 P **P 21 27 10.8 +1.4**
BFO Black Forest 82.07 332 P **P 21 27 10.8 +1.4**
BFO pmax pmax
comp=Z,19nm,1.2s
STAL STALIGIAL 82.15 328 P **P 21 27 10.3 +0.4**
STAL IAmb IAmb 21 27 22.3
comp=Z,32nm,1.3s
SCIA State Center 82.22 39 P **P 21 27 10.7 +0.4**
SCIA IAmb IAmb 21 27 12.2
comp=Z,37nm,1.0s
SCIA State Center 82.22 39 P **P 21 27 11.3 +1.0**
baz=321
FETA Feichten 82.29 330 *i* P **P 21 27 11.3 +0.5**
comp=Z,22nm,1.1s
DAVA Damuels 82.38 330 *i* P **P 21 27 11.9 +0.6**
comp=Z,17nm,0.9s
KSU1 Kansas State U 82.70 43 P **P 21 27 12.7 -0.2**
KSU1 IAmb IAmb 21 27 17.2
comp=Z,15nm,0.6s
KSU1 Kansas State U 82.70 43 P **P 21 27 13.3 +0.4**
baz=319
CTI Castel Tesino 82.74 329 P **P 21 27 12.7 -0.4**
CTI Castel Tesino 82.74 329 P **P 21 27 12.7 -0.4**
CTI pmax pmax
comp=Z,9.0nm,0.8s
FUORN Ofenpass-Fuorn 82.80 330 P **P 21 27 13.6 0.0**
FUORN IAmb IAmb 21 27 28.1
comp=Z,15nm,0.8s
JFWS Jewell Farm 82.80 37 P **P 21 27 14.6 +1.3**
baz=322
DAVOX Davos/Dischmat 82.81 330 LR LR 22 07 20.0
comp=Z,314nm,21.0s,baz=79,slow=38
L40A Anamosa 83.03 38 P **P 21 27 13.8 -0.7**
L40A IAmb IAmb 21 27 15.7
comp=Z,27nm,1.0s
KBN Korca 83.09 320 P **P 21 27 15.3 +0.3**
KBN Korca 83.09 320 P **P 21 27 15.3 +0.3**
KBN pmax pmax
comp=Z,71nm,1.4s
AMTX Amarillo 83.09 49 P **P 21 27 15.3 +0.2**
AMTX Amarillo 83.09 49 P **P 21 27 16.1 +1.0**
baz=317
MSTX Muleshoe 83.13 50 P **P 21 27 16.1 +0.7**
MSTX IAmb IAmb 21 27 17.3
comp=Z,47nm,1.8s
MSTX Muleshoe 83.13 50 P **P 21 27 16.6 +1.2**
baz=316
MNTX Cornudas Mount 83.22 53 P **P 21 27 16.0 +0.3**
MNTX Cornudas Mount 83.22 53 P **P 21 27 17.4 +1.6**
baz=315,SNR=9.1
TUE Stuetta 83.27 330 P **P 21 27 16.3 +0.4**
OK035 E0210 Rd and N 83.39 46 P **P 21 27 16.7 +0.2**
OK035 IAmb IAmb 21 27 18.3
comp=Z,31nm,1.1s
KAN10 Anthony SW Sta 83.41 45 P **P 21 27 17.4 +0.8**
KAN10 IAmb IAmb 21 27 18.2
comp=Z,33nm,1.4s
KAN06 Argonia West S 83.44 45 P **P 21 27 15.8 -0.9**
KAN06 IAmb IAmb 21 27 18.4
comp=Z,30nm,1.3s
GDL2 Guadalupe Moun 83.47 52 P **P 21 27 17.2 +0.1**
U32A Winter Ranch, 83.48 46 P **P 21 27 17.4 +0.5**
U32A IAmb IAmb 21 27 19.1
comp=Z,43nm,1.6s
VLDQ Val d'Or 83.48 26 P **P 21 27 16.0 -0.7**
VLDQ IAmb IAmb 21 27 29.5
comp=Z,23nm,0.8s
ELIS Ellis County 83.48 47 P **P 21 27 17.1 +0.1**
KAN05 Bluff City Nor 83.54 45 P **P 21 27 16.5 -0.7**
KAN05 IAmb IAmb 21 27 19.1
comp=Z,24nm,1.0s
OK038 West end E0370 83.54 46 **P 21 27 17.8 +0.5**
OK038 IAmb IAmb 21 27 19.5
comp=Z,22nm,1.0s
KAN01 Argonia South 83.56 45 P **P 21 27 17.6 +0.2**
OK032 Salt Plains WL 83.58 45 **P 21 27 18.0 +0.5**
OK032 IAmb IAmb 21 27 19.6
comp=Z,35nm,1.3s
KAN14 Manchester OK 83.60 45 P **P 21 27 17.9 +0.4**
KAN14 IAmb IAmb 21 27 19.3
comp=Z,30nm,1.3s
KAN17 Caldwell West 83.64 45 **P 21 27 18.4 +0.7**
CLN7 Carlsbad 7 83.65 52 P **P 21 27 18.7 +0.7**
KAN09 Caldwell North 83.65 45 P **P 21 27 18.2 +0.4**
CLNB Carlsbad 83.71 52 P **P 21 27 18.6 +0.2**
SMWD Samnorwood 83.74 48 P **P 21 27 19.1 +0.7**
SMWD IAmb IAmb 21 27 20.8
comp=Z,69nm,1.6s
CROK Carrier 83.93 45 **P 21 27 19.3 0.0**
425A Indio Mountain 84.11 54 P **P 21 27 21.2 +0.8**
425A IAmb IAmb 21 27 23.8
comp=Z,50nm,1.8s
BLOK Blackwell 84.15 45 **P 21 27 20.7 +0.4**
BLOK IAmb IAmb 21 27 22.3
comp=Z,32nm,1.2s
TOZ Tahuroa Road 84.22 155 P **P 21 27 20.6 +0.4**
TOZ IAmb IAmb 21 27 23.1
comp=Z,20nm,0.9s
N41A Harden Midland 84.27 38 P **P 21 27 21.7 +0.8**
PECS Pecos 84.36 53 P **P 21 27 22.4 +0.7**
PECS IAmb IAmb 21 27 23.9
comp=Z,18nm,1.1s
T35A Sooner Cattle 84.40 44 P **P 21 27 21.7 0.0**
DKNS Dickens 84.41 49 P **P 21 27 22.3 +0.5**
DKNS IAmb IAmb 21 27 24.6
comp=Z,9.4nm,0.8s
ZCCA Zocca 84.42 328 P **P 21 27 23.7 +2.1**
L44A Lake County Fo 84.42 36 P **P 21 27 21.8 +0.2**
baz=324
POST Post 84.52 50 P **P 21 27 23.0 +0.6**
POST IAmb IAmb 21 27 24.5
comp=Z,25nm,0.9s
PMOR Pomariorio Ree 84.53 115 *e*T T 23 00 39.2
comp=Z,35nm,0.2s
OK051 E0350 and S346 84.54 45 P **P 21 27 22.9 +0.5**
OK051 IAmb IAmb 21 27 24.2
comp=Z,29nm,1.3s
OK048 Pawnee Station 84.55 45 **P 21 27 22.6 +0.2**
P40A Paris 84.63 40 P **P 21 27 23.5 +0.8**
MURB Monte Urbino 84.69 326 P **P 21 27 24.0 +1.0**
OK029 Liberty Lake 84.74 46 P **P 21 27 24.7 +1.3**
NRCA Norcia 84.80 326 P **P 21 27 23.9 +0.3**
WMOK Wichita Mounta 84.81 47 **P 21 27 24.2 +0.4**
WMOK IAmb IAmb 21 27 25.9
comp=Z,33nm,1.5s
WMOK Wichita Mounta 84.81 47 P **P 21 27 24.8 +1.0**
baz=318,SNR=6.0
WMOK Wichita Mounta 84.81 47 P **P 21 27 24.2 +0.4**
WMOK pmax pmax
comp=Z,33nm,1.5s
OK033 Mehan 84.83 45 **P 21 27 23.1 -0.7**
QUOK Quay 84.86 45 P **P 21 27 24.3 +0.4**
OK052 Battle Ridge R 84.94 45 **P 21 27 23.8 -0.6**
M44A Midewin, Midew 85.00 36 P **P 21 27 23.4 -1.1**
SN01 Snyder 1 85.02 50 P **P 21 27 25.2 +0.3**
SN01 IAmb IAmb 21 27 26.8
comp=Z,15nm,1.1s
MNHN Monahans 85.04 52 P **P 21 27 25.6 +0.6**
MNHN IAmb IAmb 21 27 26.6
comp=Z,9.4nm,1.0s
HDIL Hopedale 85.11 38 P **P 21 27 25.5 +0.4**
baz=323
APMT Aspermont 85.11 49 P **P 21 27 25.6 +0.2**
APMT IAmb IAmb 21 27 27.2
comp=Z,42nm,1.4s
ALPN Alpine 85.21 53 P **P 21 27 25.2 -0.8**
ALPN IAmb IAmb 21 27 28.0
comp=Z,54nm,1.9s
DEOK Depew 85.22 45 **P 21 27 25.3 -0.4**
DEOK IAmb IAmb 21 27 49.6
comp=Z,19nm,1.0s
PPT2 Papeete2 85.25 118 *e*LR LR 21 54 34.3
comp=Z,291nm,26.8s
PPT2 Papeete2 85.25 118 *e*T T 23 01 39.1
comp=Z,14nm,0.3s
TIAR Tiarei 85.38 118 *e*T T 23 01 41.5
comp=Z,2.2nm,0.2s
S39A Bolivar 85.44 42 P **P 21 27 26.3 -0.5**
S39A IAmb IAmb 21 27 29.4
comp=Z,12nm,1.0s
R40A Maddies Statio 85.49 41 P **P 21 27 26.9 -0.2**
TUL3 Leonard 85.54 45 **P 21 27 27.3 -0.1**
TUL3 Leonard 85.54 45 P **P 21 27 28.0 +0.7**
baz=320
W35A Tecumseh 85.54 46 P **P 21 27 27.2 -0.1**
SGCY Sterling City 85.58 51 P **P 21 27 28.0 +0.3**
SGCY IAmb IAmb 21 27 29.6
comp=Z,30nm,0.9s
TAOE Nuku Hiva Isla 85.68 106 *e*LR LR 21 54 28.8
comp=Z,880nm,25.2s
WTFS Witchita Falls 85.71 48 **P 21 27 27.9 -0.3**
WTFS IAmb IAmb 21 27 30.0
comp=Z,10nm,0.8s
RLO Rose Lookout 85.75 44 **P 21 27 27.6 -0.7**
RLO IAmb IAmb 21 27 30.1
comp=Z,27nm,1.3s
SADO Sadowa 85.78 29 LR LR 22 07 35.4
comp=Z,128nm,20.1s,baz=26,slow=37
U38A Gravette 85.86 43 P **P 21 27 27.3 -1.7**
U38A IAmb IAmb 21 27 30.5
comp=Z,18nm,1.1s
ABTX Abilene, Hawle 85.90 49 P **P 21 27 28.4 -0.9**
ABTX Abilene, Hawle 85.90 49 P **P 21 27 29.9 +0.6**
baz=318
TX31 Lajitas Ar. Si 85.94 54 P **P 21 27 29.0 -0.6**
TX31 IAmb IAmb 21 27 31.7
comp=Z,18nm,0.8s
TXAR Lajitas Array 85.94 54 P **P 21 27 29.7 +0.1**
TXAR Lajitas Array 85.94 54 P **P 21 27 30.6 +1.1**
comp=Z,5.6nm,0.7s,baz=296,slow=3.5,SNR=72
comp=Z,5.6nm,0.7s
AAM Ann Arbor 86.13 33 P **P 21 27 30.7 +0.5**
baz=326
CCM Cathedral Cave 86.17 40 P **P 21 27 30.5 +0.1**
CCM IAmb IAmb 21 27 32.1
comp=Z,24nm,1.1s
CCM Cathedral Cave 86.17 40 P **P 21 27 30.9 +0.4**
baz=322
CCM Cathedral Cave 86.17 40 P **P 21 27 30.5 +0.1**
CCM pmax pmax
comp=Z,24nm,1.2s
SFIN Lafayette 86.24 36 P **P 21 27 31.3 +0.5**
baz=324
MGMO Mountain Grove 86.38 42 P **P 21 27 30.8 -0.7**
SAND Sanderson 86.42 52 P **P 21 27 30.6 -1.3**
SAND IAmb IAmb 21 27 34.6
comp=Z,22nm,1.4s
HPIG 86.42 57 P **P 21 27 31.8 -0.3**
HPIG IAmb IAmb 21 27 34.3
comp=Z,16nm,1.0s
MEH Mehetia 86.45 118 *e*T T 23 03 03.3
comp=Z,20nm,0.3s
FVM French Village 86.63 40 P **P 21 27 32.8 +0.1**
FVM IAmb IAmb 21 27 34.5
comp=Z,19nm,1.2s
FVM French Village 86.63 40 P **P 21 27 32.8 +0.1**
FVM pmax pmax
comp=Z,19nm,1.3s
P46A Rosedale 86.81 37 P **P 21 27 33.1 -0.4**
MRZ Mangatainoka R 86.93 156 P **P 21 27 33.7 0.0**
O48B Farmland 87.19 35 P **P 21 27 36.0 +0.6**
baz=326
BRDY Brady 87.26 50 P **P 21 27 35.8 -0.1**
BRDY IAmb IAmb 21 27 38.0
comp=Z,55nm,1.7s
JCT Junction City 87.40 51 P **P 21 27 37.4 +0.8**
JCT Junction City 87.40 51 P **P 21 27 37.9 +1.3**
baz=318
JCT Junction City 87.40 51 P **P 21 27 37.4 +0.8**
JCT pmax pmax
comp=Z,48nm,1.7s
S44A Carbondale 87.42 39 P **P 21 27 37.1 +0.6**
SIUC Southern Illin 87.42 39 P **P 21 27 35.6 -0.9**
FCAR Ozark Folk Cen 87.44 42 P **P 21 27 35.5 -1.2**
PBMO Poplar Bluff 87.58 41 P **P 21 27 37.5 +0.1**
PBMO IAmb IAmb 21 27 39.2
comp=Z,25nm,1.1s
WHTX Lake Whitney, 87.60 48 P **P 21 27 38.2 +0.7**
baz=319
DRIO Del Rio 87.70 52 P **P 21 27 38.5 +0.5**
DRIO IAmb IAmb 21 27 40.7
comp=Z,17nm,1.2s
ERPA Erie 87.74 31 P **P 21 27 38.4 +0.4**
baz=329
LCAR Lake Charles 87.78 41 P **P 21 27 38.1 -0.2**
WHAR Wooly Hollow 87.83 43 P **P 21 27 38.3 -0.2**
P49A Miami Univ. Ec 87.98 35 P **P 21 27 39.7 +0.5**
baz=326
M53A WI Miller and 88.05 32 P **P 21 27 40.1 +0.6**
baz=328
ACSO Alum Creek Sta 88.14 34 P **P 21 27 39.9 0.0**
ACSO Alum Creek Sta 88.14 34 P **P 21 27 40.5 +0.6**
baz=327
X40A Basin Creek Fa 88.17 44 P **P 21 27 40.3 +0.1**
WCI Wyandotte Cave 88.36 37 P **P 21 27 41.6 +0.6**
baz=325
O53A New Philadelph 88.85 33 P **P 21 27 42.9 -0.3**
O53A New Philadelph 88.85 33 P **P 21 27 43.8 +0.5**
baz=328
P52A Corning 88.99 34 P **P 21 27 44.3 +0.4**
baz=328
Q51A Peebles 88.99 35 P **P 21 27 44.2 +0.2**
BINY Binghamton 89.15 28 P **P 21 27 45.0 +0.3**
baz=331
833A Chaparral WMA, 89.23 52 P **P 21 27 45.7 +0.4**
baz=318
O54A Avella 89.24 32 P **P 21 27 45.6 +0.4**
WVT Waverly 89.35 39 P **P 21 27 46.1 +0.4**
baz=324
TBI Tubuai 89.48 122 *e*T T 23 06 54.5
comp=Z,24nm,0.3s
M57A Sunshine Farm, 89.49 29 P **P 21 27 46.8 +0.5**
OXF Oxford 89.89 41 P **P 21 27 49.1 +0.9**
baz=323

MCWV	**Mont Chateau** baz=329	89.90	32	P		P		21 27 48.8	+0.6
U49A	**Red Boiling Sp**	90.00	38	P		P		21 27 48.4	-0.3
U49A	comp=Z,11nm,0.9s			IAmb		IAmb		21 27 50.4	
L61B	**Northampton** baz=334	90.06	26	P		P		21 27 49.7	+0.8
ATD	**Arta Tunnel**	90.35	286	P		P		21 27 50.9	+0.1
ATD	comp=Z,21nm,1.1s			IAmb		IAmb		21 27 53.4	
HRV	**Adam Dziewonsk** baz=334	90.37	25	P		P		21 27 50.9	+0.6
PAL	**Palisades** baz=333	90.93	27	P		P		21 27 54.1	+1.2
GOGA	**Godfrey** baz=327	93.62	38	P		P		21 28 05.9	+0.3
BRAL	**Brewton** baz=324	93.75	42	P		P		21 28 06.7	+0.5
ESDC	**Sonseca Array** comp=Z,1.0nm,0.7s,baz=18,slow=4.3,SNR=3.0	93.83	336	P		P		21 28 06.9	+0.4
ESDC	comp=Z,220nm,18.8s,baz=21,slow=40			LR		LR		22 16 48.6	
KMBO	comp=Z,1.0nm,0.7s **Kilima Mbogo**	102.97	280	P		Pdif		21 28 46.8	-1.4
TORD	comp=Z,0.9nm,0.6s,baz=34,slow=9.4,SNR=4.3 **Torodi Ar. Bea**	115.14	318	PKP		PKiKP		21 33 30.2	-0.6
VNDA	comp=Z,0.4nm,0.5s,baz=19,slow=1.9,SNR=6.2 **Vanda**	119.47	176	PKP		PKPdf		21 33 36.9	-0.3
DBIC	comp=Z,1.9nm,1.0s,baz=310,slow=4.6,SNR=3.7 **Dimbokro**	123.92	321	PKP		PKPdf		21 33 47.2	-0.5
QSPA	comp=Z,1.3nm,0.6s,baz=316,slow=5.5,SNR=3.4 **South Pole Qui**	131.42	180	PKP		PKPdf		21 34 00.1	-0.3
CZSB	comp=Z,3.8nm,0.7s,baz=300,slow=1.5,SNR=11 **Cruzeiro do Su**	133.34	54	*e*P		PKiKP		21 34 07.3	+0.5
ELIB	**Princess Elisa**	138.36	204	*d*PKP		PKiKP		21 34 15.2	-0.2
ELIB				*d*PP		PP		21 37 03.4	-0.5
TROLL	**Troll, Antarti** comp=Z,423nm,0.7s	144.19	199	⇓P		PKPab		21 34 21.6	0.0
VILB	**Vilhena**	144.63	43	*e*P		PKiKP		21 34 28.6	-1.3
PDRB	**Porto dos Gac**	145.13	37	*e*P		PKPdf		21 34 27.5	+0.5
H03N2	**Juan Fernandez** baz=300,slow=77,SNR=183	145.54	90	T		T		00 17 24.5	
H03N3	**Juan Fernandez** baz=300,slow=77,SNR=187	145.55	90	T		T		00 17 25.5	
H03N1	**Juan Fernandez** baz=300,slow=77,SNR=213	145.56	90	T		T		00 17 25.8	
SNAA	**Sanae**	145.70	198	PKPdf		PKPdf		21 34 25.8	-0.5
SNAA	**Sanae** comp=Z,418nm,1.1s	145.70	198	⇓P		PKPdf		21 34 26.3	0.0
SNAA	**Sanae**	145.70	198	PKP2		PKPdf		21 34 25.8	-0.5
SNAA	**Sanae** comp=Z,28nm,1.1s,baz=221,slow=7.3,SNR=13	145.70	198	PKPbc		PKPdf		21 34 26.5	+0.2
VNA2	**Neumayer--Watz** comp=Z,18nm,0.7s,baz=129,slow=3.0	147.27	197	⇓P		PKPbc		21 34 31.1	-0.2
PTLB	**Pontes e Lacer**	147.28	44	PKPdf		PKPdf		21 34 30.8	+0.3
PTLB	**Pontes e Lacer**	147.28	44	*e*P		PKPbc		21 34 32.4	-0.5
VNA3	**Neumayer Olymp** comp=Z,11nm,0.7s	147.50	196	⇓P		PKPbc		21 34 31.5	-0.4
SNDB	**Serra Nova Dou**	147.64	28	*e*P		PKPbc		21 34 32.8	-1.2
VNA1	**Neumayer--Stat** comp=Z,28nm,1.1s	147.66	197	⇓P		PKPbc		21 34 32.2	-0.1
GO02	**Mina Guanaco**	147.98	70	PKPdf		PKPdf		21 34 32.5	+0.6
BBRB	**Robore, Bolivi**	149.25	48	*e*P		PKPbc		21 34 37.8	-0.3
SALV	**Santo Antonio**	149.36	39	*e*P		PKPbc		21 34 37.0	-1.4
AROD	**Rodeo**	150.99	77	*i* P		PKiKP		21 34 43.6	+0.7
FSA	**Cafayete**	151.09	67	*i* P		PKiKP		21 34 43.4	+0.3
VCA	**Vinchina**	151.11	74	*i* P		PKiKP		21 34 43.5	+0.5
VCA				*i* P		PKiKP		21 34 43.6	+0.5
VCA				*i* P		pPKPdf		21 34 44.2	-3.9
VCA				*i* P		pPKPdf		21 34 44.2	-3.9
AGUA	**GUANDACOL**	151.33	75	*i* P		PKiKP		21 34 44.0	+0.6
ACCO	**Cerro Coronel**	151.51	78	*e*P		PKiKP		21 34 43.9	-0.1
BO01	**Tunca**	151.83	86			PKPbc		21 34 43.6	-0.1
MT03	**Universidad Ad**	151.86	84	PKPbc		PKPbc		21 34 44.1	+0.1
GDU01	**Guandu, BA**	152.00	7	*e*P		PKPdf		21 34 39.6	+1.5
BDFB	**Brasilia** comp=Z,5.1nm,0.7s,baz=33,slow=2.6,SNR=8.5	152.16	25	PKPbc		PKPbc		21 34 45.2	+0.2
BDFB	comp=Z,7.3nm,0.9s,baz=13,slow=5.0,SNR=6.7			PKPab		pPKPbc		21 34 55.7	-0.8
CYA	**Choya**	152.66	71	*i* P		PKiKP		21 34 46.3	+0.3
BDQN	**Bodoquena, MS**	152.68	45	*e*P		PKPdf		21 34 40.6	+1.6
AVFE	**Valle Fertil**	152.72	76	*i* P		PKiKP		21 34 46.1	0.0
AQDB	**Aquidauana**	153.25	44	PKPbc		PKPbc		21 34 47.1	-0.2
PLCA	**Paso Flores** comp=Z,5.2nm,0.9s,baz=126,slow=0.2,SNR=4.9	154.34	99	PKPbc		PKPbc		21 34 49.1	0.0
PLCA	comp=Z,5.2nm,0.9s,baz=241,slow=7.3,SNR=4.2			PKPab		pPKPbc		21 35 01.8	+1.2
CPUP	**Villa Florida** comp=Z,1.3nm,0.7s,baz=216,slow=5.9,SNR=2.9	156.91	55	PKP		PKPdf		21 34 43.9	-0.7
CPUP	comp=Z,1.2nm,0.6s,baz=312,slow=5.9,SNR=3.4			PKPab		PKPab		21 35 14.6	-0.1

NEIC ***28*** *21:20:36.7±1.1, 60°.43N±0°.03×150°.78W±0°.07, h76km±5km, Error ellipse: s-maj=5.4km s-min=3.8km az=124.0*

AEIC 28 21:20:37.8±1.1, 60°.45N±0°.03×150°.84W±0°.06, h66km±5km, ML2.4, ML2.5/84(NEIC), Error ellipse: s-maj=4.8km s-min=3.9km az=120.0, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	0.31	78		Pn	21 20 48.2	-0.5
SLKM					Sn	21 20 56.2	-0.4
CAPN	**Captain Cook N**	0.36	334		Pn	21 20 49.1	+0.2
CAPN				Sn	Sn	21 20 59.5	+2.4
O22K	**Cooper Landing**	0.55	86		Pn	21 20 50.2	-0.6
O22K					Sn	21 20 59.6	-0.6
BRLK	**Bradley Lake**	0.68	182		Pn	21 20 52.1	-0.2
BRLK	**Bradley Lake**	0.68	182		Sn	21 21 03.1	+0.3
BRSE	**Bradley Lake S**	0.71	176		Pn	21 20 52.0	-0.5
BRSE					Sn	21 21 03.6	+0.3
FIS	**Fire Island**	0.76	23		Pn	21 20 53.1	0.0
FIS				Sn	Sn	21 21 05.3	+0.9
FIS				IAML		21 21 07.0	
	comp=N,141nm,0.5s						
FIS				IAML		21 21 07.0	
	comp=E,152nm,0.6s						
SEW	**Seward**	0.77	116		Pn	21 20 52.5	-0.7
RDT	**Redoubt**	0.79	280		Pn	21 20 52.8	-0.7
RC01	**Rabbit Creek A**	0.84	39		Pn	21 20 53.5	-0.6
RC01	**Rabbit Creek A**	0.84	39	Sn	Sn	21 21 05.3	-0.8
RC01				IAML		21 21 06.2	
	comp=E,150nm,0.2s						
RC01				IAML		21 21 07.5	
	comp=N,105nm,0.3s						
HOM	**Homer**	0.89	208		Pn	21 20 54.0	-0.6
DFR	**Drift River**	0.93	280		Pn	21 20 54.5	-0.7
CNPM	**China Poot**	0.94	192		Pn	21 20 55.0	-0.4
CNPM					Sn	21 21 08.2	-0.2
CNPM	**China Poot**	0.94	192	IAML		21 21 09.4	
	comp=N,148nm,0.4s						
CNPM				IAML		21 21 09.4	
	comp=E,154nm,0.5s						
RSO	**Redoubt South**	0.95	272		Pn	21 20 55.1	-0.6
O20K	**Slope Mountain**	0.96	249		Pn	21 20 55.3	-0.4
RDJH	**Redoubt Jeurge**	0.98	279		Sn	21 21 09.4	-0.1
SPCR	**Spurr Chakacha**	1.01	319		Pn	21 20 55.5	-0.9
SUA	**Susitna One**	1.02	2		Pn	21 20 55.6	-0.8
SUA				IAML		21 21 10.5	
	comp=N,149nm,0.8s						
SUA				IAML		21 21 10.6	
	comp=E,148nm,0.7s						
SPCG	**Spurr Capps Gl**	1.03	326		Sn	21 21 10.2	-0.2
NCT	**North Crescent**	1.04	277		Pn	21 20 56.0	-0.7
SPCP	**Crater Peak Br**	1.05	323		Pn	21 20 56.4	-0.4
SPCP					Sn	21 21 10.7	-0.2
ILS	**Iliamna Low So**	1.22	247		Pn	21 20 58.6	-0.4
ILSW	**Iliamna Southw**	1.24	249		Sn	21 21 15.5	+0.2
SPNN	**North Nagishla**	1.30	316		Pn	21 21 00.0	-0.1
SPNN					Sn	21 21 16.8	0.0
M22K	**Willow**	1.36	15		Sn	21 21 17.5	-0.3
PMR	**Palmer**	1.42	35		Sn	21 21 17.5	-1.8
P19K	**Oil Pt**	1.44	238		Pn	21 21 01.9	0.0
P19K	**Oil Pt**	1.44	238	IAML		21 21 21.6	
	comp=N,48nm,0.5s						
P19K				IAML		21 21 22.0	
	comp=E,78nm,0.6s						
KNK	**Knik Glacier**	1.51	49		Pn	21 21 01.9	-0.9
KNK				IAML		21 21 22.4	
	comp=E,65nm,0.4s						
KNK				IAML		21 21 23.0	
	comp=N,43nm,0.6s						
KNK	**Knik Glacier**	1.51	49		Sn	21 21 20.6	-1.1
SKT	**Skwentna**	1.58	348		Pn	21 21 03.7	0.0
SKT	comp=N,37nm,0.5s			IAML		21 21 23.7	
SKT				IAML		21 21 24.0	
	comp=E,38nm,0.5s						
GHO	**Glory Hole Cre**	1.62	34		Pn	21 21 03.6	-0.8
GHO				IAML		21 21 24.5	
	comp=E,43nm,0.6s						
GHO				IAML		21 21 24.8	
	comp=N,43nm,0.3s						
AUL	**Augustine Lava**	1.69	232		Pn	21 21 05.0	-0.1
AUL					Sn	21 21 27.1	+1.3
AUCH	**Augustine Cone**	1.71	232		Pn	21 21 05.4	0.0
P23K	**Montague Islan**	1.77	103		Pn	21 21 05.1	-1.1
M20K	**Styx River**	1.82	323		Pn	21 21 06.9	-0.1
SML	**Sawmill**	1.83	41		Pn	21 21 06.1	-0.9
N19K	**Bonanza Creek**	1.84	283		Pn	21 21 06.2	-1.0
N19K					Sn	21 21 28.0	-1.5
N19K	**Bonanza Creek** comp=E,34nm,0.3s	1.84	283	IAML		21 21 29.1	
SYI	**Shuyak Island**	2.00	204		Pn	21 21 09.3	-0.1
SYI	**Shuyak Island** comp=E,30nm,0.7s	2.00	204	IAML		21 21 34.5	
SYI				IAML		21 21 35.0	
	comp=N,37nm,1.4s						
M23K	**Glacier View**	2.03	47		Pn	21 21 08.7	-1.0
M23K					Sn	21 21 32.5	-1.5
Q19K	**Cape Douglas,**	2.08	224		Pn	21 21 10.3	-0.2
FID	**Port Fidalgo**	2.17	80		Sn	21 21 33.4	-4.1
SCM	**Sheep Creek Mo**	2.20	49		Pn	21 21 11.2	-0.9
SCM	**Sheep Creek Mo** comp=N,17nm,1.1s	2.20	49	IAML		21 21 39.9	
SCM				IAML		21 21 41.6	
	comp=E,17nm,1.4s						
O18K	**Koktuh Hills**	2.27	257		Pn	21 21 11.7	-1.3
SVW2	**Sparrevohn**	2.42	288		Pn	21 21 13.5	-1.5
P18K	**Big Mountain,**	2.45	246		Pn	21 21 14.6	-0.9
P18K					Sn	21 21 43.1	-1.2
P18K	**Big Mountain,** comp=E,13nm,1.1s	2.45	246	IAML		21 22 46.3	
N18K	**Kilae Creek**	2.51	278		Pn	21 21 15.0	-1.2
N18K	**Kilae Creek** comp=N,12nm,1.2s	2.51	278	IAML		21 22 39.0	
N18K				IAML		21 22 42.4	
	comp=E,4.6nm,0.6s						
L20K	**Farewell, AK**	2.51	326		Pn	21 21 15.9	-0.4
WAT7	**Susitna Watana**	2.58	21		Pn	21 21 17.3	0.0
L19K	**White Mountain**	2.61	314		Pn	21 21 17.3	-0.3
WAT6	**Susitna Watana**	2.61	33		Pn	21 21 17.2	-0.4
WAT6					Sn	21 21 46.3	-2.0
KLU	**Klutina**	2.62	64		Pn	21 21 16.4	-1.4
M18K	**Stony River**	2.65	295		Pn	21 21 17.0	-1.1
KAHC	**Katmai Hardscr**	2.79	232		Pn	21 21 19.3	-0.8
M24K	**Tolsona, Glenn**	2.80	51		Pn	21 21 20.0	-0.3
M24K	comp=E,13nm,1.2s			IAML		21 22 01.2	
KDAK	**Kodiak Island**	2.82	199		Pn	21 21 19.1	-1.3
KDAK	comp=E,22nm,1.4s			IAML		21 21 51.8	
KDAK				IAML		21 21 57.4	
	comp=E,15nm,1.4s						
TRF	**Thorofare Moun**	3.03	5	Pn	Pn	21 21 23.8	+0.4
TRF	comp=N,11nm,1.1s			IAML		21 23 15.7	
TRF				IAML		21 23 16.5	
	comp=E,12nm,1.0s						
DHY	**Denali Highway**	3.11	30		Pn	21 21 24.6	+0.1
DHY	**Denali Highway** comp=E,19nm,0.8s	3.11	30	IAML		21 23 15.8	
DHY	comp=N,23nm,1.0s			IAML		21 23 27.9	
RND	**Reindeer**	3.12	17		Pn	21 21 24.9	+0.3
RND	**Reindeer** comp=E,12nm,0.8s	3.12	17	IAML		21 23 08.5	
KTH	**Kantishna Hill**	3.12	359		Pn	21 21 24.9	+0.3
KTH	**Kantishna Hill** comp=N,19nm,0.9s	3.12	359	IAML		21 23 03.7	
N17K	**Nushagak Hills**	3.15	274		Pn	21 21 23.8	-1.1
N17K	**Nushagak Hills** comp=E,11nm,0.9s	3.15	274	IAML		21 22 31.3	
N17K				IAML		21 22 47.4	
	comp=N,6.2nm,1.1s						
O17K	**Koliganek Bris**	3.21	261		Pn	21 21 24.8	-0.9
N25K	**Chitina, Valde**	3.25	66		Pn	21 21 25.1	-1.3
N25K	**Chitina, Valde** comp=E,11nm,0.7s	3.25	66	IAML		21 22 04.2	
K20K	**Telida**	3.30	334	Pn	Pn	21 21 26.5	-0.5
K20K	comp=N,6.9nm,1.4s			IAML		21 22 57.6	
L18K	**Granite Mounta**	3.33	305		Pn	21 21 26.8	-0.7
L18K	**Granite Mounta** comp=E,11nm,1.1s	3.33	305	IAML		21 22 33.1	
L18K	comp=N,9.3nm,0.6s			IAML		21 22 34.7	
M17K	**Holitna River**	3.36	289		Pn	21 21 27.0	-0.8
M17K	**Holitna River** comp=E,20nm,1.1s	3.36	289	IAML		21 22 31.5	
M17K				IAML		21 22 46.2	
	comp=N,23nm,1.2s						
CNTC	**Contact Creek**	3.39	232		Pn	21 21 27.8	-0.5
OHAK	**Old Harbor**	3.48	203	Pn	Pn	21 21 27.1	-2.2
OHAK	comp=N,13nm,1.5s			IAML		21 22 04.4	
TTA	**Tatalina**	3.51	318		Pn	21 21 29.2	-0.7
TTA	comp=N,5.8nm,0.8s			IAML		21 23 04.6	
TTA	comp=E,5.8nm,0.8s			IAML		21 23 04.8	
WASW	**Wrangell South**	3.55	62		Pn	21 21 29.8	-0.8
BPAW	**Bear Paw Mtn.**	3.67	359		Pn	21 21 31.7	-0.4
BPAW	**Bear Paw Mtn.** comp=E,6.6nm,1.3s	3.67	359	IAML		21 23 08.7	
BPAW	comp=N,7.8nm,1.1s			IAML		21 23 28.7	
R17K	**Ugashik Creek**	4.02	228	Pn	Pn	21 21 37.3	+0.5
J19K	**Poorman**	4.21	330		Pn	21 21 38.8	-0.6
J19K	**Poorman** comp=E,15nm,1.0s	4.21	330	IAML		21 22 33.4	
J19K	comp=N,10nm,0.8s			IAML		21 22 50.6	
K17K	**Iditarod**	4.23	306		Pn	21 21 38.8	-0.9
K17K	**Iditarod** comp=N,9.3nm,1.0s	4.23	306	IAML		21 22 48.5	

IDC ***28*** *21:38:51.9±2.4, 13°.83N×91°.84W, h0km, mb3.8/5, mbtmp3.8/8, ML3.8/3, MS3.8/3, Error ellipse: s-maj=47.5km s-min=35.0km az=5.0*

MEX ***28*** *21:38:57.1±0.9, 13°.76N×92°.48W, h16km±65km, MD3.9*

CATAC ***28*** *21:39:00.9±0.9, 14°.17N×92°.22W, h26km±5km, ML3.9*

GCG ***28*** *21:39:04.6±0.3, 14°.34N×91°.84W, h63km±56km, MD3.9*

ISC 28 21:38:55.7±0.9, 13°.85N±0°.06×92°.23W±0°.04, h20km±4km, n37, σ1°53/60, mb3.8/5, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	0.79	55	*e*P	Pn	21 39 14.7	+3.1
RTAL	**Retalhuleu**	0.85	37	*e*P	Pn	21 39 13.7	+1.3
RTAL				*i* S	Sn	21 39 25.7	+1.4
RTAL	**Retalhuleu**	0.85	37	*i* P	Pn	21 39 13.6	+1.1
RTAL				*i* S	Sn	21 39 24.2	-0.1
RTAL	comp=Z,5μm,1.0s			IAML		21 39 27.5	
SMCA	**Catarina**	1.01	8	*i* P	Pb	21 39 14.5	-0.1
SMCA				*i* S	Sb	21 39 24.5	-3.0
SMCA	comp=Z,1μm,1.0s			IAML		21 39 41.4	
THIG		1.05	358	*e*P	Pn	21 39 14.5	-0.8
THIG				*i* S	Sb	21 39 29.6	+1.0
STG3	**Santiaguito 3,**	1.07	36	*e*P	Pb	21 39 17.0	+1.4
SMSP	**San Marcos**	1.20	21	*e*P	Pb	21 39 17.9	0.0
SMSP				*i* S	Sb	21 39 33.4	+0.3
SMSP	**San Marcos**	1.20	21	*i* P	Pb	21 39 18.5	+0.6
SMSP	comp=Z,6μm,1.0s			IAML		21 39 19.7	
SMSP				*i* S	Sb	21 39 30.9	-2.2
CHUJ	**Union Juarez**	1.24	5	*e*P	Pn	21 39 17.8	-0.4
CHUJ				*e*S	Sb	21 39 35.2	+0.9
SOKI	**Kika Raxquin**	1.25	39	*i* P	Pb	21 39 19.5	+0.6
SOKI				*i* S	Sn	21 39 34.0	-0.9
SOKI	comp=Z,830nm,1.0s			IAML		21 39 41.9	
PATR	**El Naranjo**	1.26	360	*i* P	Pn	21 39 17.9	-0.5
PATR				*i* S	Sn	21 39 33.9	-0.9
PAVE	**Pavencul**	1.34	2	*e*P	Pn	21 39 19.2	-0.3
PAVE				*e*S	Sn	21 39 37.2	+0.5
FUG	**Fuego 3**	1.47	66	*e*P	Pb	21 39 23.0	+0.6
HUEH	**Huehuetenango**	1.62	25	*e*P	Pb	21 39 25.4	+0.3
HUEH				*e*S	Sb	21 39 48.6	+3.4
HUEH	**Huehuetenango**	1.62	25	*i* P	Pb	21 39 24.9	-0.2
HUEH	comp=Z,5μm,1.0s			IAML		21 39 26.0	
HUEH				*i* S	Sn	21 39 41.1	-2.6
PCG	**Pacaya**	1.66	71	*e*P	Pb	21 39 26.2	+0.5
QUIS	**Sacapulas**	1.81	37	*i* P	Pb	21 39 27.4	-0.8
QUIS	comp=Z,2μm,1.0s			IAML		21 39 31.1	
QUIS				*i* S	Sn	21 39 46.7	-1.5
NBG	**Las Nubes**	1.96	68	*e*P	Pb	21 39 31.7	+0.7
GUNB	**GUNB**	1.97	68	*i* P	Pb	21 39 31.2	+0.2
GUNB				*i* S	Sb	21 39 54.8	-0.5
GUNB	comp=Z,1μm,1.0s			IAML		21 40 05.2	
PCIG		2.08	333	*e*P	Pn	21 39 27.6	-1.8
PCIG				*e*S	Sn	21 39 53.1	-1.6
CCIG	**Comitan**	2.42	2	*i* P	Pb	21 39 38.2	-0.5
CCIG				*e*S	Sn	21 40 05.7	+2.3
PMON	**Piamonte**	2.83	92	*i* P	Pb	21 39 44.8	-0.9
PMON				*i* S	Sb	21 40 18.5	-1.4
PMON	comp=Z,410nm,1.0s			IAML		21 40 34.1	
TGIG		3.04	344	*e*P	Pn	21 39 43.6	+0.9
TGIG				*e*S	Sn	21 40 19.4	+0.9
NILT	**Santiago Nilte**	3.55	320	*i* P	Pn	21 39 51.5	+1.8
NILT				*e*S	Sn	21 40 28.6	-2.5
UXUV	**UXUV**	3.92	332	*e*P	Pn	21 39 55.6	+0.9
UXUV				*e*S	Sn	21 40 41.1	+1.0
CMIG	**Matias Romero** comp=Z,2.3nm,0.3s,baz=156,slow=11,SNR=16	4.12	322	Pn	Pn	21 39 57.7	+0.2
CMIG	comp=Z,5.1nm,0.3s,baz=23,slow=19,SNR=3.7			Sn	Sn	21 40 47.2	+2.1
CMIG	comp=Z,5.1nm,0.4s **Matias Romero**	4.12	322	*e*P	Pn	21 39 57.7	+0.2
CMIG				*e*S	Sn	21 40 41.3	-3.8
NEUV	**Arroyo Zacate**	5.16	319	*e*P	Pn	21 40 11.7	-0.1
NEUV				*e*S	Sn	21 41 11.7	+0.9
TEIG	**Tepich** comp=Z,4.9nm,0.3s,baz=241,slow=19,SNR=1.5	7.38	30	Pn	Pn	21 40 39.5	-2.9
TEIG	baz=127,slow=20			Sn	Sn	21 42 03.9	-1.6
TEIG				LR	LR	21 44 00.9	
	comp=Z,2μm,20.7s,baz=347,slow=43						
	comp=Z,21nm,0.5s						
TXAR	**Lajitas Array** baz=145,slow=13,SNR=8.5	18.70	327	P	Pn	21 43 15.1	+1.6
TKL	comp=Z,0.8nm,0.8s **Tuckaleechee C**	23.01	18	LR	LR	21 53 34.8	
PDAR	comp=Z,103nm,18.1s,baz=292,slow=38 **Pinedale Array**	32.47	336	P	P	21 45 24.7	-0.3
PDAR	comp=Z,0.4nm,0.9s,baz=148,slow=8.6,SNR=2.6			LR	LR	22 01 35.4	
NVAR	comp=Z,123nm,18.8s,baz=348,slow=42 **Mina Array Bea**	33.65	321	P	P	21 45 37.9	+2.5
YKA	comp=Z,0.8nm,0.6s,baz=130,slow=7.9,SNR=9.8 comp=Z,0.8nm,0.6s **Yellowknife Ar**	51.12	347	P	P	21 47 57.0	+0.3
ILAR	comp=Z,1.5nm,0.7s,baz=152,slow=7.3,SNR=20 comp=Z,1.5nm,0.7s **Eielson Array**	62.89	337	P	P	21 49 20.6	+0.4
EKA	comp=Z,0.6nm,0.8s,baz=130,slow=4.5,SNR=10 comp=Z,0.6nm,0.8s **Eskdalemuir Ar**	78.22	36	P	P	21 50 51.3	-2.4
CMAR	comp=Z,1.1nm,0.6s,baz=267,slow=4.8,SNR=3.9 comp=Z,1.1nm,0.6s **Chiang Mai Arr**	146.06	341	PKPbc	PKPbc	21 58 34.8	-0.2
	comp=Z,2.4nm,0.7s,baz=335,slow=3.4,SNR=14						

IDC ***28*** *21:40:52.3±0.6, 56°.61S×142°.30W, h0km, mb4.5/10, mbtmp4.5/10, MS4.8/39, Error ellipse: s-maj=28.0km s-min=17.7km az=5.0*

NEIC ***28*** *21:40:54.4, 56°.57S×142°.21W, h20km*

NEIC ***28*** *21:40:54.4, 56°.67S×142°.57W, h20km, Moment Tensor Solution. Duration: 2s7 Moment tensor: Scale 10^17Nm; Mrr-0.36; Mθθ2.01; Mφφ-1.65; Mrθ-0.51; Mrφ0.88; Mθφ0.52; Fault plane solution: M0 2.17000×10^17 NP1: φs120.40000°, δ82.08000°, λ-20.73000°. NP2: φs213.39000°, δ69.48000°, λ-171.53000°. Principal axes: T 2.2662, Plg9.0000°, Azm168.0000°; N -0.1852, Plg68.0000°, Azm280.0000°; P -2.0810, Plg20.0000°, Azm75.0000°;*

NEIC ***28*** *21:40:54.4±1.9, 56°.6S±0°.2×142°.2W±0°.2, h10km±1km, mb5.1/59, Ms_20 5.2/100, Mww5.5/16 Error ellipse: s-maj=27.0km s-min=17.5km az=1.0*

GCMT ***28*** *21:40:58.4±0.1, 56°.71S±0°.01×142°.35W±0°.01, h22km, MW5.5/149, Moment Tensor Solution. s122, c206; s149, c283; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr-0.27±.03; Mθθ2.18±.04; Mφφ-1.91±.03; Mrθ0.32±.06; Mθφ1.53±.03; Mrφ0.11±.06; Best double couple: M0 2.57300×10^17 NP1: φs26.00000°, δ85.00000°, λ175.00000°. NP2: φs117.00000°, δ85.00000°, λ5.00000°. Principal axes: T 2.7270, Plg6.0000°, Azm342.0000°; N -0.3090, Plg84.0000°, Azm162.0000°; P -2.4190, Plg0.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 21:40:54.6±0.3, 56°.65S±0°.09×142°.23W±0°.07, h10km, n210, σ1°45/122, mb5.0/42, MS5.0/87, 5C-1D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	28.24	202	LR	LR	21 54 39.4	
	comp=Z,2μm,21.6s,baz=77,slow=29						
MQZ	**McQueen's Vall**	31.06	275	IAMs_20	IAMs_20	21 55 23.0	
	comp=Z,3μm,21.0s						
BFZ	**Birch Farm**	31.15	283	IAMs_20	IAMs_20	21 56 14.3	
	comp=Z,4μm,21.0s						
ODZ	**Otahua Downs**	31.31	271	IAMs_20	IAMs_20	21 56 21.8	
	comp=Z,4μm,20.0s						
GVZ	**Greta Valley S**	31.34	277	IAMs_20	IAMs_20	21 55 58.3	
	comp=Z,3μm,22.0s						
KHZ	**Kahutara**	31.43	278	IAMs_20	IAMs_20	21 56 26.7	
	comp=Z,4μm,19.0s						
MRZ

PMSA	**Palmer Station**	**36.71**	**135**	LR	LR	21 59 17.8			
	comp=Z,2µm,19.6s,baz=294,slow=30								
RAO	**Raoul Island**	**37.13**	**302**	LR	LR	21 59 13.7			
	comp=Z,744nm,20.1s,baz=171,slow=30								
BELA	**Belgrano 2**	**38.79**	**161**	P	**P**	**21 48 19.8**	**+1.1**		
BELA				IAmb	IAmb	21 48 25.8			
	comp=Z,24nm,0.9s								
PPT2	**Papeete2**	**39.38**	**349**	*e*P	P	21 48 18.1	-6.2		
	comp=Z,173nm,29.0s								
PPT2				*e*S	**S**	**21 54 26.6**	**+0.9**		
	comp=Z,498nm,23.8s								
PPT2				*e*LR	LR	21 58 45.7			
	comp=Z,6µm,25.8s								
PPT2				*e*LR	LR	21 58 52.9			
	comp=Z,5µm,28.2s								
PPT	**Papeete**	**39.41**	**349**	LR	LR	22 00 07.7			
	comp=Z,1µm,18.8s,baz=201,slow=29								
LL02	**Futaleuf**	**45.24**	**104**	P	**P**	**21 49 12.9**	**+1.1**		
TAU	**Tasmania Unive**	**45.47**	**256**	IAMs_20	IAMs_20	22 03 10.7			
	comp=Z,2µm,22.0s								
CASY	**Casey**	**45.88**	**213**	IAMs_20	IAMs_20	22 05 21.0			
	comp=Z,2µm,21.0s								
PLCA	**Paso Flores**	**47.64**	**102**	P	**P**	**21 49 31.5**	**+0.7**		
PLCA	**Paso Flores**	**47.64**	**102**	P	**P**	**21 49 29.6**	**-1.1**		
	comp=Z,4.1nm,1.0s,baz=231,slow=6.5,SNR=3.3								
PLCA				LR	LR	22 04 55.6			
	comp=Z,988nm,18.6s,baz=226,slow=30								
	comp=Z,4.1nm,1.0s								
TAOE	**Nuku Hiva Isla**	**47.70**	**3**	*e*LR	LR	22 02 46.5			
	comp=Z,4µm,28.0s								
H03S2	**Juan Fernandez**	**48.04**	**90**	T	T	22 41 39.4			
	baz=220,slow=74,SNR=179								
H03S1	**Juan Fernandez**	**48.05**	**90**	T	T	22 41 40.7			
	baz=220,slow=74,SNR=227								
H03S3	**Juan Fernandez**	**48.06**	**90**	T	T	22 41 31.2			
	baz=220,slow=74,SNR=176								
VNA3	**Neumayer Olymp**	**48.09**	**161**	⇑P	**P**	**21 49 35.6**	**+1.8**		
	comp=Z,18nm,0.8s								
H03N3	**Juan Fernandez**	**48.33**	**89**	T	T	22 42 01.3			
	baz=224,slow=72,SNR=459								
H03N2	**Juan Fernandez**	**48.34**	**89**	T	T	22 41 40.1			
	baz=224,slow=72,SNR=518								
H03N1	**Juan Fernandez**	**48.35**	**89**	T	T	22 41 48.6			
	baz=224,slow=72,SNR=420								
VNA2	**Neumayer--Watz**	**48.76**	**162**	⇑P	**P**	**21 49 40.6**	**+1.7**		
	comp=Z,20nm,0.8s,baz=207,slow=7.0								
VNA1	**Neumayer--Stat**	**48.84**	**161**	⇑P	**P**	**21 49 41.7**	**+2.2**		
	comp=Z,21nm,0.9s								
SNAA	**Sanae**	**48.84**	**164**	P	**P**	**21 49 39.2**	**-0.4**		
SNAA				IAmb	IAmb	21 49 44.8			
	comp=Z,10.0nm,0.8s								
SNAA	**Sanae**	**48.84**	**164**	⇑P	**P**	**21 49 40.0**	**+0.4**		
	comp=Z,258nm,1.0s								
SNAA	**Sanae**	**48.84**	**164**	P	**P**	**21 49 39.4**	**-0.2**		
	comp=Z,8.1nm,0.7s,baz=224,slow=7.5,SNR=8.7								
SNAA				LR	LR	22 09 04.5			
	comp=Z,644nm,20.1s,baz=182,slow=35								
	comp=Z,8.1nm,0.7s								
TROLL	**Troll, Antarti**	**49.30**	**166**	⇑P	**P**	**21 49 45.7**	**+2.5**		
	comp=Z,352nm,0.7s								
DZM	**Mont Dzumac**	**50.83**	**291**	*e*S	**S**	**21 57 10.0**	**-1.3**		
	comp=Z,242nm,29.1s								
DZM				*e*LR	LR	22 04 40.9			
	comp=Z,1µm,24.3s								
DZM	**Mont Dzumac**	**50.83**	**291**	LR	LR	22 08 17.8			
	comp=Z,1µm,18.4s,baz=105,slow=32								
ELIB	**Princess Elisa**	**51.30**	**174**	*d*P	**P**	**21 49 59.6**	**+1.3**		
	comp=Z,12nm,1.0s								
BO02	**Sierra Bellavi**	**51.82**	**97**	P	**P**	**21 50 02.6**	**-0.1**		
MT01	**Popeta**	**52.26**	**96**	P	**P**	**21 50 08.0**	**+2.2**		
MT01				IAmb	IAmb	21 50 10.9			
	comp=Z,24nm,1.1s								
MT09	**Talagante**	**52.47**	**96**	P	**P**	**21 50 08.8**	**+1.3**		
MT09				IAmb	IAmb	21 50 10.8			
	comp=Z,21nm,1.1s								
LMEL	**Las Melosas**	**52.84**	**97**	P	**P**	**21 50 10.3**	**-0.1**		
LMEL				IAmb	IAmb	21 50 15.2			
	comp=Z,18nm,1.1s								
MT03	**Universidad Ad**	**52.94**	**96**	P	**P**	**21 50 11.1**	**+0.1**		
MT03				IAmb	IAmb	21 50 12.7			
	comp=Z,36nm,1.2s								
KOUNC	**Koumac, New Ca**	**53.21**	**290**	IAMs_20	IAMs_20	22 08 05.1			
	comp=Z,1µm,20.0s								
VA03	**San Esteban**	**53.47**	**95**	P	**P**	**21 50 15.4**	**+0.5**		
VA03				IAmb	IAmb	21 50 21.2			
	comp=Z,31nm,1.1s								
TRQA	**Tornquist**	**54.16**	**106**	P	**P**	**21 50 19.6**	**-0.1**		
TRQA				IAmb	IAmb	21 50 24.7			
	comp=Z,20nm,1.1s								
MAW	**Mawson**	**54.67**	**191**	LR	LR	22 10 43.3			
	comp=Z,1µm,21.6s,baz=158,slow=33								
CO03	**El Pedregal**	**54.86**	**94**	P	**P**	**21 50 24.6**	**-0.4**		
CO03				IAmb	IAmb	21 50 26.8			
	comp=Z,42nm,1.8s								
ZON	**Zonda**	**55.42**	**96**	P	**P**	**21 50 28.3**	**-0.7**		
CFA	**Coronel Fontan**	**55.62**	**96**	LR	LR	22 08 47.5			
	comp=Z,526nm,18.8s,baz=222,slow=30								
EIDS	**Eidsvold**	**56.43**	**274**	P	**P**	**21 50 36.7**	**+0.4**		
EIDS				IAmb	IAmb	21 50 53.8			
	comp=Z,37nm,1.8s								
STKA	**Stephens Creek**	**56.61**	**262**	P	**P**	**21 50 37.5**	**+0.1**		
STKA	**Stephens Creek**	**56.61**	**262**	P	**P**	**21 50 36.4**	**-1.1**		
	comp=Z,4.0nm,0.9s,baz=148,slow=4.7,SNR=7.6								
STKA				LR	LR	22 10 00.1			
	comp=Z,1µm,21.9s,baz=132,slow=31								
	comp=Z,4.0nm,0.9s								
AC05	**El Transito**	**56.63**	**93**	P	**P**	**21 50 37.3**	**-0.5**		
AC05				IAmb	IAmb	21 50 49.3			
	comp=Z,14nm,1.0s								
LVC	**Limon Verde**	**62.28**	**89**	P	**P**	**21 51 17.3**	**+0.1**		
LVC				IAmb	IAmb	21 51 22.1			
	comp=Z,16nm,1.1s								
LVC	**Limon Verde**	**62.28**	**89**	LR	LR	22 12 06.9			
	comp=Z,316nm,20.1s,baz=227,slow=30								
PB01	**IPOC Station P**	**63.22**	**88**	P	**P**	**21 51 22.9**	**-0.2**		
PB01				IAmb	IAmb	21 51 24.6			
	comp=Z,36nm,1.9s								
CTA	**Charters Tower**	**63.31**	**274**	LR	LR	22 15 25.5			
	comp=Z,943nm,19.3s,baz=129,slow=33								
CTAO	**Charters Tower**	**63.31**	**274**	P	**P**	**21 51 23.7**	**+0.1**		
CTAO				IAmb	IAmb	21 51 43.6			
	comp=Z,11nm,1.1s								
CTAO	**Charters Tower**	**63.31**	**274**	IAMs_20	IAMs_20	22 15 22.9			
	comp=Z,1µm,20.0s								
PLTB	**Pedras Altas**	**63.39**	**108**	P	**P**	**21 51 23.5**	**-0.5**		
PLTB				IAmb	IAmb	21 51 29.9			
	comp=Z,16nm,1.2s								
ITQB	**Itaqui**	**63.42**	**104**	P	**P**	**21 51 22.9**	**-1.3**		
TA02	**Huaiquique**	**63.48**	**87**	P	**P**	**21 51 24.8**	**+0.1**		
PB11	**IPOC Station P**	**64.15**	**87**	P	**P**	**21 51 29.0**	**-0.4**		
PB11				IAmb	IAmb	21 51 35.0			
	comp=Z,9.4nm,0.9s								
GO01	**Chusmiza**	**64.48**	**87**	P	**P**	**21 51 31.5**	**-0.4**		
GO01				IAmb	IAmb	21 52 12.6			
	comp=Z,14nm,1.4s								
FORT	**Forrest**	**64.73**	**252**	P	**P**	**21 51 34.1**	**+1.3**		
HNR	**Honiara**	**64.79**	**293**	LR	LR	22 15 17.8			
	comp=Z,5µm,19.3s,baz=142,slow=32								
PB16	**IPOC Station P**	**65.39**	**86**	P	**P**	**21 51 36.9**	**-1.0**		
PB16				IAmb	IAmb	21 51 50.7			
	comp=Z,12nm,1.2s								
CPUP	**Villa Florida**	**65.68**	**101**	P	**P**	**21 51 38.1**	**-0.9**		
CPUP				IAmb	IAmb	21 51 42.8			
	comp=Z,9.4nm,1.1s								
CPUP	**Villa Florida**	**65.68**	**101**	P	**P**	**21 51 36.9**	**-2.1**		
	comp=Z,2.9nm,0.8s,baz=207,slow=4.5,SNR=3.6								
CPUP				LR	LR	22 16 04.8			
	comp=Z,996nm,18.9s,baz=218,slow=32								
	comp=Z,2.9nm,0.8s								
PB18	**Visviri**	**66.01**	**86**	P	**P**	**21 51 41.4**	**-0.5**		
NNA	**Nana**	**66.60**	**76**	P	**P**	**21 51 44.1**	**-1.0**		
NNA	**Nana**	**66.60**	**76**	LR	LR	22 14 00.7			
	comp=Z,942nm,20.4s,baz=217,slow=30								
AS31	**Alice Springs**	**67.24**	**261**	P	**P**	**21 51 47.7**	**-1.4**		
ASAR	**Alice Springs**	**67.24**	**261**	P	**P**	**21 51 47.5**	**-1.7**		
ASAR	**Alice Springs**	**67.24**	**261**	P	**P**	**21 51 47.6**	**-1.5**		
	comp=Z,10.0nm,0.9s,baz=139,slow=6.2,SNR=39								
	comp=Z,10.0nm,0.9s								
ITAB	**Concordia**	**67.75**	**106**	P	**P**	**21 51 52.4**	**+0.2**		
LPAZ	**La Paz**	**67.81**	**86**	P	**P**	**21 51 52.6**	**-0.9**		
H01W1	**Cape Leeuwin H**	**68.42**	**239**	T	T	23 07 13.2			
	baz=143,slow=76,SNR=283								
H01W2	**Cape Leeuwin H**	**68.42**	**239**	T	T	23 07 17.6			
	baz=143,slow=76,SNR=354								
H01W3	**Cape Leeuwin H**	**68.44**	**239**	T	T	23 07 13.2			
	baz=143,slow=76,SNR=356								
NWAO	**Narrogin (SRO)**	**68.53**	**243**	LR	LR	22 15 03.3			
	comp=Z,628nm,19.6s,baz=116,slow=30								
ATAH	**Atahualpa**	**69.85**	**72**	LR	LR	22 15 45.7			
	comp=Z,724nm,20.6s,baz=221,slow=30								
WR0	**Warramunga Arr**	**69.87**	**264**	P	**P**	**21 52 04.3**	**-1.3**		
WR0				IAmb	IAmb	21 52 10.1			
	comp=Z,31nm,1.4s								
WB2	**Warramunga Arr**	**69.99**	**264**	P	**P**	**21 52 04.6**	**-1.7**		
WB2				IAmb	IAmb	21 52 09.9			
	comp=Z,20nm,1.2s								
WRA	**Warramunga Arr**	**70.00**	**264**	P	**P**	**21 52 05.7**	**-0.7**		
WRA	**Warramunga Arr**	**70.00**	**264**	P	**P**	**21 52 04.9**	**-1.5**		
	comp=Z,7.3nm,0.8s,baz=147,slow=5.5,SNR=26								
	comp=Z,7.3nm,0.8s								
WB0	**Warramunga Arr**	**70.11**	**264**	P	**P**	**21 52 06.2**	**-0.8**		
WB0				IAmb	IAmb	21 52 10.6			
	comp=Z,14nm,1.1s								
AQDB	**Aquidauana**	**71.26**	**99**	P	**P**	**21 52 14.1**	**+0.1**		
AQDB				IAmb	IAmb	21 52 31.2			
	comp=Z,28nm,1.9s								
MCRA	**Macar, Loja**	**71.38**	**69**	P	**P**	**21 52 13.5**	**-1.3**		
PMG	**Port Moresby**	**71.56**	**281**	IAMs_20	IAMs_20	22 18 05.6			
	comp=Z,800nm,20.0s								
PMG	**Port Moresby**	**71.56**	**281**	LR	LR	22 19 37.7			
	comp=Z,818nm,19.8s,baz=156,slow=32								
SIV	**San Ignacio**	**71.95**	**92**	LR	LR	22 18 37.5			
	comp=Z,176nm,20.4s,baz=234,slow=32								
CZSB	**Cruzeiro do Su**	**72.37**	**77**	P	**P**	**21 52 19.6**	**-1.1**		
BOSC	**San Juan Bosco**	**73.17**	**69**	P	**P**	**21 52 23.4**	**-2.3**		
SPB	**Sao Paulo**	**73.18**	**107**	IAMs_20	IAMs_20	22 18 20.0			
	comp=Z,998nm,21.0s								
COHC	**Cochancay**	**73.36**	**68**	P	**P**	**21 52 25.5**	**-1.1**		
PTLB	**Pontes e Lacer**	**73.46**	**93**	P	**P**	**21 52 25.8**	**-1.4**		
ETMB	**Extrema**	**74.17**	**84**	P	**P**	**21 52 29.9**	**-1.5**		
CHSH	**Refugio Sur-Vo**	**74.39**	**68**	P	**P**	**21 52 31.7**	**-1.6**		
CHSH				IAmb	IAmb	21 52 38.3			
	comp=Z,15nm,0.8s								
VILB	**Vilhena**	**74.91**	**91**	P	**P**	**21 52 34.7**	**-1.0**		
VILB				IAmb	IAmb	21 52 39.6			
	comp=Z,29nm,1.0s								
SLOR	**San Lorenzo -**	**75.23**	**68**	P	**P**	**21 52 36.8**	**-1.2**		
SLOR				IAmb	IAmb	21 52 43.8			
	comp=Z,17nm,1.1s								
PULU	**Pululahua**	**75.87**	**68**	P	**P**	**21 52 40.4**	**-1.2**		
OTAV	**Otavalo**	**76.08**	**68**	P	**P**	**21 52 42.2**	**-0.7**		
OTAV				IAmb	IAmb	21 52 51.9			
	comp=Z,29nm,1.6s								
OTAV	**Otavalo**	**76.08**	**68**	*e*P	**P**	**21 52 43.6**	**+0.7**		
SAML	**Samuel**	**76.56**	**86**	P	**P**	**21 52 43.9**	**-1.2**		
SAML				IAmb	IAmb	21 52 49.1			
	comp=Z,13nm,1.1s								
SAML	**Samuel**	**76.56**	**86**	*e*P	**P**	**21 52 44.3**	**-0.7**		
TULM	**Tulcn-Chalpat**	**76.83**	**68**	P	**P**	**21 52 46.9**	**-0.2**		
TULM				IAmb	IAmb	21 52 52.8			
	comp=Z,18nm,1.0s								
MTN	**Manton Dam**	**77.54**	**266**	P	**P**	**21 52 48.6**	**-2.0**		
POPC	**Popayan, Colom**	**78.95**	**68**	*e*P	**P**	**21 52 59.9**	**+1.2**		
BDFB	**Brasilia**	**79.38**	**102**	P	**P**	**21 52 59.1**	**-1.9**		
BDFB	**Brasilia**	**79.38**	**102**	P	**P**	**21 52 58.7**	**-2.3**		
BDFB	comp=Z,2.2nm,0.8s,baz=168,slow=9.3,SNR=2.4			LR	LR	22 24 29.5			
	comp=Z,1µm,20.0s,baz=210,slow=33								
	comp=Z,2.2nm,0.8s								
JACO	**JACO, Garabito**	**81.20**	**57**	P	**P**	**21 53 10.5**	**+0.1**		
SAUI	**Saumlaki**	**81.45**	**269**	IAMs_20	IAMs_20	22 28 56.7			
	comp=Z,1µm,19.0s								
JTS	**Las Juntas de**	**81.61**	**57**	LR	LR	22 19 50.9			
	comp=Z,148nm,20.9s,baz=192,slow=29								
HDC	**Heredia**	**81.75**	**58**	IAMs_20	IAMs_20	22 20 14.9			
	comp=Z,956nm,21.0s								
GUY2C	**Guyana, Caldas**	**81.91**	**68**	*e*P	**P**	**21 53 19.0**	**+4.2**		
ROSC	**El Rosal**	**82.12**	**69**	P	**P**	**21 53 14.9**	**-0.9**		
ROSC	**El Rosal**	**82.12**	**69**	P	**P**	**21 53 14.2**	**-1.6**		
	comp=Z,4.8nm,0.3s,baz=223,slow=16,SNR=1.6								
ROSC				LR	LR	22 22 48.4			
	comp=Z,582nm,21.6s,baz=231,slow=31								
	comp=Z,4.8nm,0.3s								
COVE	**Coope Vega, Sa**	**82.24**	**57**	P	**P**	**21 53 15.8**	**-0.1**		
MACA	**Manacapuru-AM**	**82.72**	**85**	P	**P**	**21 53 17.5**	**-1.1**		
CMIG	**Matias Romero**	**83.43**	**45**	LR	LR	22 22 11.8			
	comp=Z,126nm,19.3s,baz=206,slow=30								
SOEI	**Soe**	**83.85**	**262**	IAMs_20	IAMs_20	22 28 41.4			
	comp=Z,1µm,20.0s								
UREC	**San Jos de Ur**	**83.98**	**66**	*e*P	**P**	**21 53 27.3**	**+2.3**		
LPIG	**La Paz**	**84.84**	**29**	LR	LR	22 20 51.5			
	comp=Z,355nm,21.4s,baz=206,slow=28								
FAKI	**Fak Fak**	**85.11**	**272**	IAMs_20	IAMs_20	22 29 35.7			
	comp=Z,883nm,20.0s								
MMRI	**Maumere**	**85.89**	**261**	IAMs_20	IAMs_20	22 27 59.3			
	comp=Z,754nm,22.0s								
BOAV	**Boa Vista**	**87.42**	**82**	P	**P**	**21 53 39.6**	**-2.6**		
BOAV				IAmb	IAmb	21 53 46.6			
	comp=Z,15nm,1.0s								
BOAV	**Boa Vista**	**87.42**	**82**	*e*P	P	21 53 38.1	-4.0		
SDV	**Santo Domingo**	**87.46**	**70**	LR	LR	22 26 38.9			
	comp=Z,379nm,20.6s,baz=196,slow=31								
BAUV	**El Baul**	**88.86**	**72**	P	**P**	**21 53 48.7**	**-0.2**		
TEIG	**Tepich**	**88.93**	**49**	LR	LR	22 26 05.0			
	comp=Z,2µm,20.3s,baz=1.5,slow=30								
SUR	**Sutherland**	**90.16**	**166**	LR	LR	22 32 07.1			
	comp=Z,255nm,18.2s,baz=178,slow=34								
KAPI	**Kappang**	**90.25**	**261**	IAMs_20	IAMs_20	22 31 06.9			
	comp=Z,1µm,20.0s								
KAPI	**Kappang**	**90.25**	**261**	LR	LR	22 31 38.4			
	comp=Z,953nm,20.5s,baz=154,slow=34								
TXAR	**Laijas Array**	**91.67**	**33**	P	**P**	**21 54 02.0**	**+0.3**		
	comp=Z,0.6nm,0.9s,baz=173,slow=8.2,SNR=2.4								
TXAR				LR	LR	22 26 25.4			
	comp=Z,77nm,18.7s,baz=204,slow=30								
	comp=Z,0.6nm,0.9s								
PCRV	**Puerto La Cruz**	**91.69**	**74**	LR	LR	22 30 47.2			
	comp=Z,902nm,18.1s,slow=33								
MDP	**Montagnes des**	**94.00**	**87**	LR	LR	22 31 05.1			
	comp=Z,303nm,21.0s,baz=188,slow=32								
RCBR	**Riachuelo**	**94.04**	**107**	IAMs_20	IAMs_20	22 33 27.6			
	comp=Z,734nm,20.0s								
RCBR	**Riachuelo**	**94.04**	**107**	LR	LR	22 33 19.2			
	comp=Z,545nm,19.9s,baz=213,slow=33								
BOSA	**Boshof**	**94.41**	**169**	LR	LR	22 33 39.5			
	comp=Z,668nm,19.0s,baz=191,slow=34								
LEM	**Lembang**	**95.19**	**249**	LR	LR	22 33 39.3			
	comp=Z,187nm,18.9s,baz=160,slow=33								
DAV	**Davao City (W)**	**97.06**	**272**	LR	LR	22 35 44.9			
	comp=Z,204nm,20.7s,baz=132,slow=34								
SJG	**San Juan**	**97.54**	**69**	LR	LR	22 34 45.8			
	comp=Z,157nm,18.2s,baz=241,slow=33								
LBTB	**Lobatse**	**98.01**	**169**	LR	LR	22 35 55.4			
	comp=Z,573nm,19.1s,baz=179,slow=34								
WMOK	**Wichita Mounta**	**98.20**	**35**	IAMs_20	IAMs_20	22 28 47.3			
	comp=Z,979nm,20.0s								
WIN	**Windhoek**	**99.19**	**161**	IAMs_20	IAMs_20	22 34 34.9			
	comp=Z,997nm,21.0s								
MOD	**Modoc Plateau**	**99.91**	**16**	IAMs_20	IAMs_20	22 48 20.4			
	comp=Z,520nm,19.0s								
SMCO	**Snowmass**	**100.02**	**27**	IAMs_20	IAMs_20	22 37 06.2			
	comp=Z,1µm,21.0s								
TSUM	**Tsumeb**	**102.56**	**160**	IAMs_20	IAMs_20	22 34 14.3			
	comp=Z,1µm,21.0s								
H10N3	**ASCENSION HYDR**	**102.82**	**127**	T	T	23 50 24.1			
	baz=206,slow=75,SNR=29								
H10N1	**ASCENSION HYDR**	**102.83**	**127**	T	T	23 50 38.0			
	baz=206,slow=75,SNR=41								
H10N2	**ASCENSION HYDR**	**102.84**	**127**	T	T	23 50 46.9			
	baz=206,slow=75,SNR=26								
R17K	**Ugashik Creek**	**114.50**	**352**	IAMs_20	IAMs_20	22 38 27.4			
	comp=Z,780nm,21.0s								
N18K	**Kilae Creek**	**117.48**	**352**	IAMs_20	IAMs_20	22 42 08.1			
	comp=Z,888nm,19.0s								
KNK	**Knik Glacier**	**117.82**	**357**	IAMs_20	IAMs_20	22 38 53.1			
	comp=Z,896nm,20.0s								
K17K	**Idirod**	**119.69**	**352**	IAMs_20	IAMs_20	22 45 59.4			
	comp=Z,718nm,20.0s								
J19K	**Poorman**	**120.75**	**353**	IAMs_20	IAMs_20	22 43 14.6			
	comp=Z,852nm,20.0s								
EGAK	**Eagle**	**121.10**	**1**	IAMs_20	IAMs_20	22 43 03.8			
	comp=Z,654nm,19.0s								
IL31		**121.15**	**358**		**PKPdf**	**21 59 44.3**	**-1.6**		
ILAR	**Eielson Array**	**121.15**	**358**	PKPdf	**PKPdf**	**21 59 45.1**	**-0.8**		
ILAR	**Eielson Array**	**121.15**	**358**	PKP	**PKPdf**	**21 59 45.8**	**-0.2**		
	comp=Z,2.2nm,0.8s,baz=228,slow=1.7,SNR=12								
MLY	**Manley**	**121.53**	**356**	IAMs_20	IAMs_20	22 45 54.0			
	comp=Z,679nm,19.0s								
H19K	**Roundabout Mou**	**122.33**	**353**	IAMs_20	IAMs_20	22 42 23.3			
	comp=Z,686nm,19.0s								
KMBO	**Kilima Mbogo**	**122.41**	**179**	IAMs_20	IAMs_20	22 47 02.3			
	comp=Z,546nm,21.0s								
MBAR	**Mbarara**	**122.65**	**172**	IAMs_20	IAMs_20	22 50 39.6			
	comp=Z,786nm,19.0s								
EPYK	**Eagle Plains**	**122.77**	**3**		**PKPdf**	**21 59 47.3**	**-1.8**		
F15K	**North Star Dit**	**123.21**	**349**	IAMs_20	IAMs_20	22 41 16.6			
	comp=Z,647nm,21.0s								
G30M	**tAoh Zraii Nji**	**123.39**	**3**	PKPdf	**PKPdf**	**21 59 50.1**	**-0.2**		
F31M	**Tsiigehtchic**	**123.94**	**4**	PKPdf	**PKPdf**	**21 59 51.3**	**+0.1**		
F28M	**Old Crow**	**123.96**	**1**	PKPdf	**PKPdf**	**21 59 50.5**	**-0.8**		
E27K	**Coleen River**	**124.53**	**0**		**PKPdf**	**21 59 51.9**	**-0.6**		
E29M	**Blow River**	**124.77**	**2**	PKPdf	**PKPdf**	**21 59 52.7**	**-0.1**		
E28M	**Babbage River**	**124.96**	**1**		**PKPdf**	**21 59 52.5**	**-0.8**		
LODK	**Lodwar**	**126.89**	**177**	IAMs_20	IAMs_20	22 50 13.1			
	comp=Z,645nm,22.0s								
TORD	**Torodi Ar. Bea**	**128.56**	**133**	PKP	**PKPdf**	**22 00 02.8**	**+1.0**		
	comp=Z,1.1nm,1.0s,baz=256,slow=1.4,SNR=4.4								
BILL	**Bilibino**	**130.02**	**337**	IAMs_20	IAMs_20	22 43 09.5			
	comp=Z,597nm,22.0s								
FURI	**Furi**	**132.36**	**181**	IAMs_20	IAMs_20	22 54 46.0			
	comp=Z,615nm,21.0s								
ATD	**Arta Tunnel**	**134.81**	**187**	IAMs_20	IAMs_20	22 55 16.1			
	comp=Z,477nm,20.0s								
TIXI	**Tiksi**	**141.94**	**329**		PKPpre	22 00 20.6			
NEEM	**North Greenlan**	**144.67**	**22**	*e*P	**PKPdf**	**22 00 32.6**	**+2.7**		
ICESG	**Greenland Ices**	**145.21**	**38**	*e*P	**PKPbc**	**22 00 29.8**	**-1.0**		
SUMG	**Summit**	**146.56**	**32**	*i* P	**PKiKP**	**22 00 39.5**	**+1.6**		
NIL	**Nilore**	**146.61**	**242**		**PKPdf**	**22 00 34.5**	**+0.2**		
ESDC	**Sonseca Array**	**148.02**	**104**		**PKPdf**	**22 00 35.0**	**-1.5**		
ESDC					**sPKPdf**	**22 00 41.4**	**+1.9**		
ESDC	**Sonseca Array**	**148.02**	**104**	PKPbc	**PKPdf**	**22 00 39.9**	**+3.5**		
	comp=Z,10nm,1.0s,baz=242,slow=2.5,SNR=17								
KBL	**Kabul**	**149.34**	**237**	PKPdf	**PKPdf**	**22 00 36.6**	**-2.4**		
KBL					**pPKPdf**	**22 00 42.9**	**+1.7**		
MK31	**Makanchi Array**	**151.20**	**269**	PKPdf	**PKPdf**	**22 00 39.1**	**-2.2**		
MK31					**pPKPdf**	**22 00 45.2**	**+1.7**		
MKAR	**Makanchi Array**	**151.20**	**269**	PKPdf	**PKPdf**	**22 00 38.6**	**-2.7**		
MKAR					**sPKPdf**	**22 00 45.9**	**+1.6**		
MKAR	**Makanchi Array**	**151.20**	**269**	PKPbc	**PKPbc**	**22 00 46.3**	**-0.9**		
	comp=Z,2.8nm,0.6s,baz=89,slow=2.9,SNR=28								
MAKZ	**Makanchi**	**151.38**	**269**	PKPdf	**PKPdf**	**22 00 39.2**	**-2.3**		
MAKZ					**sPKPdf**	**22 00 46.1**	**+1.5**		
ZALV	**Zalesovo Beam**	**153.49**	**284**	PKPbc	**PKPbc**	**22 00 50.1**	**-1.9**		
	comp=Z,0.7nm,0.6s,baz=96,slow=2.9,SNR=1.9								
KKAR	**Karatay Array**	**155.21**	**251**	PKPdf	**PKPdf**	**22 00 46.4**	**-0.8**		
KKAR				PKPab	**PKPab**	**22 01 11.3**	**-0.9**		
CSS	**Mathiatis**	**158.10**	**170**	IAMs_20	IAMs_20	23 07 43.9			
	comp=Z,354nm,21.0s								
BVAR	**Borovoye Array**	**160.97**	**273**	PKPab	**PKPab

BPAW	**Bear Paw Mtn.**	**81.08**	**21**	P	**P**	**21 54 48.2**	**-0.3**
E19K	**Redstone River**	**81.22**	**17**	P	**P**	**21 54 50.7**	**+1.6**
E19K				IAmb	IAmb	21 54 52.0	
	comp=Z,4.6nm,1.1s						
IMAR	**Indian Mountai**	**81.30**	**19**	P	**P**	**21 54 50.5**	**+0.9**
H21K	**Melozitna Rive**	**81.40**	**19**	P	**P**	**21 54 51.4**	**+1.2**
RND	**Reindeer**	**81.45**	**22**	P	**P**	**21 54 49.4**	**-1.2**
RND				IAmb	IAmb	21 54 56.5	
	comp=Z,2.0nm,1.1s						
D19K	**Kuna River**	**81.69**	**16**	P	**P**	**21 54 52.7**	**+1.1**
D19K				IAmb	IAmb	21 54 55.3	
	comp=Z,2.5nm,1.1s						
MLY	**Manley**	**81.72**	**20**	P	**P**	**21 54 52.5**	**+0.7**
C19K	**Lookout Ridge**	**81.73**	**15**	P	**P**	**21 54 52.6**	**+0.7**
C19K				IAmb	IAmb	21 54 53.8	
	comp=Z,1.8nm,0.8s						
F21K	**Alatna River**	**82.17**	**18**	P	**P**	**21 54 55.0**	**+0.9**
E21K	**Killik River**	**82.80**	**17**	P	**P**	**21 54 57.8**	**+0.4**
ILAR	**Eielson Array**	**82.93**	**21**	P	**P**	**21 54 57.7**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=246,slow=5.4,SNR=11						
	comp=Z,0.3nm,0.4s						
B20K	**Meade River**	**82.98**	**15**	P	**P**	**21 54 59.5**	**+1.3**
B20K				IAmb	IAmb	21 55 18.9	
	comp=Z,2.2nm,1.1s						
H24K	**Noodor Dome**	**83.16**	**20**	P	**P**	**21 55 00.4**	**+1.0**
E22K	**Anaktuvuk Pass**	**83.24**	**17**	P	**P**	**21 55 00.7**	**+1.0**
E22K				IAmb	IAmb	21 55 10.3	
	comp=Z,2.6nm,1.1s						
B21K	**Ikpikpuk River**	**83.38**	**16**	P	**P**	**21 55 01.3**	**+1.0**
J25K	**Salcha River,**	**83.40**	**22**	P	**P**	**21 55 01.2**	**+0.5**
J25K				IAmb	IAmb	21 55 13.5	
	comp=Z,1.7nm,1.1s						
D22K	**Ayikyak River**	**83.44**	**17**	P	**P**	**21 55 02.4**	**+1.7**
D22K				IAmb	IAmb	21 55 13.4	
	comp=Z,1.8nm,1.1s						
BCPM	**Bancas Point**	**83.56**	**27**	P	**P**	**21 55 01.7**	**+0.2**
MK31	**Makanchi Array**	**83.63**	**319**	P	**P**	**21 55 02.0**	**-0.2**
MKAR	**Makanchi Array**	**83.63**	**319**	P	**P**	**21 55 01.9**	**-0.3**
MKAR	**Makanchi Array**	**83.63**	**319**	P	**P**	**21 55 01.4**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=92,slow=5.5,SNR=3.0						
	comp=Z,0.2nm,0.7s						
M27K	**Edge Creek, AK**	**83.66**	**25**	P	**P**	**21 55 03.5**	**+1.4**
J26L	**Joseph Creek**	**84.02**	**22**	P	**P**	**21 55 04.8**	**+0.9**
F24K	**Squaw Lake**	**84.09**	**19**	P	**P**	**21 55 05.7**	**+1.6**
F24K				IAmb	IAmb	21 55 14.5	
	comp=Z,1.7nm,1.1s						
B22K	**Teshekpuk Lake**	**84.16**	**15**	P	**P**	**21 55 05.5**	**+1.2**
B22K				IAmb	IAmb	21 55 16.0	
	comp=Z,2.5nm,1.1s						
SIT	**Sitka**	**84.49**	**31**	P	**P**	**21 55 06.1**	**-0.1**
I26K	**Coal Creek Min**	**84.56**	**22**	P	**P**	**21 55 06.9**	**+0.4**
C23K	**Itkillik River**	**84.61**	**16**	P	**P**	**21 55 08.1**	**+1.6**
C23K				IAmb	IAmb	21 55 09.9	
	comp=Z,2.5nm,1.1s						
BMAR	**Burnt Mountain**	**85.12**	**20**	P	**P**	**21 55 11.0**	**+1.7**
D25K	**Kavik River**	**85.55**	**18**	P	**P**	**21 55 12.8**	**+1.4**
G27K	**Doyon Strip**	**85.82**	**21**	P	**P**	**21 55 14.1**	**+1.4**
I28M	**Miner Creek**	**85.83**	**22**	P	**P**	**21 55 13.9**	**+1.0**
K29M	**Barlow Dome**	**86.09**	**24**	P	**P**	**21 55 16.0**	**+1.7**
K29M				IAmb	IAmb	21 55 29.8	
	comp=Z,2.0nm,1.1s						
E27K	**Coleen River**	**86.48**	**19**	P	**P**	**21 55 17.4**	**+1.4**
E27K				IAmb	IAmb	21 55 19.0	
	comp=Z,1.0nm,0.6s						
I30M	**Mount Dempster**	**87.09**	**23**	P	**P**	**21 55 20.2**	**+1.1**
D27M	**Malcolm River**	**87.18**	**19**	P	**P**	**21 55 20.9**	**+1.5**
E28M	**Babbage River**	**87.35**	**19**	P	**P**	**21 55 22.0**	**+1.8**
E28M				IAmb	IAmb	21 55 22.3	
	comp=Z,1.2nm,0.7s						
EPYK	**Eagle Plains**	**87.41**	**22**	P	**P**	**21 55 22.0**	**+1.5**
E29M	**Blow River**	**87.81**	**20**	P	**P**	**21 55 23.8**	**+1.5**
G31M	**Satah River**	**88.52**	**22**	P	**P**	**21 55 27.0**	**+1.4**
INK	**Inuvik**	**89.28**	**21**	P	**P**	**21 55 29.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**153.55**	**286**	PKPbc	**PKPbc**	**22 02 30.6**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=60,slow=2.9,SNR=1.6						

IDC 28 21:51:31.9±1.9, 23°.26S×174°.40W, h0km, mb3.9/2, mbtmp4.1/3, ML3.5/1, Error ellipse: s-maj=138.8km s-min=35.6km az=167.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.70**	**84**	Pn	Pn	21 54 46.0	-1.5
	2.2nm,0.3s,baz=265,slow=7.9,SNR=3.5						
RAR				Sn	Sn	21 57 05.7	-15
	0.5nm,0.3s,baz=326,slow=20,SNR=1.6						
	7.9nm,0.4s						
ASAR	**Alice Springs**	**47.20**	**259**	P	P	22 00 07.0	+0.2
	1.3nm,0.8s,baz=96,slow=8.1,SNR=9.5						
	1.3nm,0.8s						
WRA	**Warramunga Arr**	**47.58**	**264**	P	P	22 00 08.7	-1.1
	1.1nm,0.7s,baz=99,slow=8.1,SNR=6.5						
WRA				PcP	PcP	22 01 39.5	-0.3
	0.4nm,0.8s,baz=94,slow=4.0,SNR=2.2						
	1.1nm,0.7s						
AKASG	**Malin Array Be**	**147.02**	**332**	PKPbc	PKPbc	22 11 16.5	+0.1
	1.3nm,0.6s,baz=38,slow=4.1,SNR=7.4						

IDC 28 22:09:43.2±3.5, 3°.81S×135°.99E, h0km, mb3.5/1, mbtmp3.6/3, ML3.6/2, Error ellipse: s-maj=150.2km s-min=34.6km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.12**	**186**	Pn	Pn	22 13 30.4	-1.0
	0.2nm,0.3s,baz=4.8,slow=13,SNR=11						
WRA				Sn	Sn	22 16 16.4	-15
	0.1nm,0.3s,baz=2.6,slow=23,SNR=4.5						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**19.85**	**186**	Pn	Pn	22 14 18.4	+0.9
	0.5nm,0.3s,baz=9.9,slow=11,SNR=30						
ASAR				Sn	S	22 17 47.0	-14
	baz=8.0,slow=27,SNR=3.0						
	4.5nm,0.8s						
MKAR	**Makanchi Array**	**69.02**	**324**	P	P	22 20 50.8	0.0
	0.2nm,0.4s,baz=115,slow=7.9,SNR=7.5						
	0.2nm,0.4s						

IDC 28 22:10:27.0±6.0, 20°.70N×143°.77E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=176.5km s-min=42.2km az=4.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**21.70**	**92**	T	T	22 37 42.8	
	baz=279,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**21.71**	**92**	T	T	22 37 40.7	
	baz=279,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**21.72**	**92**	T	T	22 37 44.1	
	baz=279,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**21.72**	**89**	T	T	22 37 42.2	
	baz=275,slow=75,SNR=32						
H11N2	**WAKE ISLAND Hy**	**21.72**	**88**	T	T	22 37 36.6	
	baz=275,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**21.74**	**89**	T	T	22 37 37.4	
	baz=275,slow=75,SNR=20						
KURBB	**Kurchatov Arra**	**58.62**	**317**	P	P	22 20 26.1	+0.3
	0.2nm,0.6s,baz=93,slow=7.4,SNR=2.0						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**62.68**	**27**	P	P	22 20 53.1	-0.1
	0.4nm,0.9s,baz=249,slow=5.6,SNR=4.6						
	0.4nm,0.9s						
BVAR	**Borovoye Array**	**63.78**	**320**	P	P	22 21 00.5	-0.3
	0.4nm,0.5s,baz=108,slow=7.9,SNR=3.1						
	0.4nm,0.5s						
YKA	**Yellowknife Ar**	**77.08**	**28**	P	P	22 22 22.1	+0.1
	0.3nm,0.6s,baz=292,slow=5.8,SNR=4.3						
	0.3nm,0.6s						
NVAR	**Mina Array Bea**	**83.33**	**52**	P	P	22 22 56.5	+0.1
	0.4nm,0.6s,baz=275,slow=4.6,SNR=4.8						
	0.4nm,0.6s						

NEIC ***28*** *22:46:51.5±1.3, 18°.86N±0°.09×145°.30E±0°.08, h348km±10km, mb4.1/51, Error ellipse: s-maj=14.0km s-min=9.8km az=141.0*

IDC ***28*** *22:46:56.9±8.3, 18°.82N×145°.37E, h421km±96km, mb3.3/10, mbtmp4.0/10, Error ellipse: s-maj=29.5km s-min=22.0km az=72.0*

ISC 28 22:46:50.8±0.7, 18°.87N±0°.09×145°.3E±0°.2, h350km, n65, σ1♀03/66, mb4.1/37, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.27**	**185**	Pn	**Pn**	**22 48 13.9**	**+0.4**
JCJ	**Chichijima**	**8.69**	**341**	Pn	**Pn**	**22 48 54.0**	**+0.9**
JHJ2	**Mitsune**	**15.02**	**342**	P	**P**	**22 50 04.0**	**-1.6**
PATS	**Pohnpei**	**17.39**	**132**	P	**P**	**22 50 31.6**	**+0.2**
JMN	**Monobe**	**18.00**	**328**	P	**P**	**22 50 37.6**	**-0.2**
JSU	**Suzuyama**	**18.41**	**316**	P	**P**	**22 50 42.8**	**+0.7**
JWT	**Wachi**	**18.57**	**334**	P	**P**	**22 50 42.7**	**-1.0**
WB0	**Warramunga Arr**	**39.87**	**196**	P	**P**	**22 53 51.6**	**-0.4**
WB2	**Warramunga Arr**	**40.05**	**196**	P	**P**	**22 53 53.2**	**-0.3**
WB2				IAmb	IAmb	22 54 05.2	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**40.05**	**196**	P	**P**	**22 53 53.4**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=14,slow=8.6,SNR=6.0						
	comp=Z,0.4nm,0.6s						
SONM	**Songino Array**	**42.80**	**321**	P	**P**	**22 54 16.5**	**+1.1**
SONM	**Songino Array**	**42.80**	**321**	P	**P**	**22 54 16.0**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=130,slow=6.6,SNR=4.5						
	comp=Z,0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**57.68**	**322**	P	**P**	**22 56 04.9**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=100,slow=6.2,SNR=4.4						
	comp=Z,0.6nm,0.3s						
MK31	**Makanchi Array**	**58.10**	**314**	P	**P**	**22 56 09.2**	**+0.5**
MKAR	**Makanchi Array**	**58.10**	**314**	P	**P**	**22 56 08.2**	**-0.5**
MKAR	**Makanchi Array**	**58.10**	**314**	P	**P**	**22 56 08.6**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=88,slow=7.9,SNR=17						
MKAR				PcP	**PcP**	**22 56 55.8**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=120,slow=2.5,SNR=1.5						
	comp=Z,0.9nm,0.5s						
MAKZ	**Makanchi**	**58.32**	**314**	P	**P**	**22 56 10.8**	**+0.6**
O18K	**Koktuh Hills**	**58.64**	**31**	P	**P**	**22 56 13.8**	**+1.7**
O18K				IAmb	IAmb	22 56 55.6	
	comp=Z,8.8nm,1.1s						
Q19K	**Cape Douglas,**	**59.15**	**32**	P	**P**	**22 56 15.3**	**-0.3**
N19K	**Bonanza Creek**	**59.27**	**30**	P	**P**	**22 56 18.3**	**+1.8**
N19K				IAmb	IAmb	22 56 50.4	
	comp=Z,12nm,1.3s						
KDAK	**Kodiak Island**	**59.40**	**33**	P	**P**	**22 56 18.7**	**+1.4**
CNPM	**China Poot**	**60.49**	**32**	P	**P**	**22 56 25.3**	**+0.6**
BRLK	**Bradley Lake**	**60.72**	**31**	P	**P**	**22 56 26.3**	**+0.1**
KURK	**Kurchatov**	**60.92**	**318**	P	**P**	**22 56 27.9**	**+0.3**
SKT	**Skwentna**	**60.95**	**29**	P	**P**	**22 56 28.1**	**+0.4**
SKT				IAmb	IAmb	22 56 58.2	
	comp=Z,12nm,1.5s						
KURBB	**Kurchatov Arra**	**60.97**	**318**	P	**P**	**22 56 28.2**	**+0.3**
	comp=Z,2.9nm,0.4s,baz=92,slow=7.4,SNR=63						
	comp=Z,2.9nm,0.4s						
TARG	**Taragay, Kyrgy**	**61.05**	**308**	P	**P**	**22 56 28.7**	**-0.5**
CAST	**Castle Rocks**	**61.10**	**27**	P	**P**	**22 56 29.9**	**+1.2**
CAST				IAmb	IAmb	22 56 47.2	
	comp=Z,6.9nm,1.2s						
SUA	**Susitna One**	**61.19**	**29**	P	**P**	**22 56 30.2**	**+0.8**
SUA				IAmb	IAmb	22 56 39.6	
	comp=Z,13nm,1.5s						
NRIK	**Noril'sk**	**61.34**	**340**	P	**P**	**22 56 30.4**	**+0.4**
NRIK	**Noril'sk**	**61.34**	**340**	P	**P**	**22 56 29.8**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=88,slow=7.0,SNR=3.9						
	comp=Z,1.2nm,0.5s						
B20K	**Meade River**	**61.52**	**19**	P	**P**	**22 56 32.9**	**+1.6**
RC01	**Rabbit Creek A**	**61.58**	**30**	P	**P**	**22 56 32.4**	**+0.6**
RC01				IAmb	IAmb	22 56 33.1	
	comp=Z,4.4nm,0.9s						
CUT	**Chulitna**	**61.63**	**29**	P	**P**	**22 56 31.8**	**-0.4**
KTH	**Kantishna Hill**	**61.64**	**27**	P	**P**	**22 56 33.0**	**+0.8**
KTH				IAmb	IAmb	22 56 53.0	
	comp=Z,8.3nm,1.1s						
BPAW	**Bear Paw Mtn.**	**61.75**	**27**	P	**P**	**22 56 34.2**	**+1.3**
BPAW				IAmb	IAmb	22 57 10.3	
	comp=Z,6.1nm,1.4s						
TRF	**Thorofare Moun**	**61.88**	**27**	P	**P**	**22 56 34.5**	**+0.5**
TRF				IAmb	IAmb	22 56 40.8	
	comp=Z,12nm,1.5s						
GHO	**Glory Hole Cre**	**62.11**	**29**	P	**P**	**22 56 36.2**	**+0.8**
GHO				IAmb	IAmb	22 56 44.5	
	comp=Z,16nm,1.5s						
MLY	**Manley**	**62.11**	**26**	P	**P**	**22 56 36.8**	**+1.4**
MLY				IAmb	IAmb	22 56 41.1	
	comp=Z,4.8nm,1.3s						
SML	**Sawmill**	**62.39**	**29**	P	**P**	**22 56 37.6**	**+0.4**
SML				IAmb	IAmb	22 56 44.8	
	comp=Z,10nm,1.4s						
I23K	**Minto, Yukon-K**	**62.70**	**26**	P	**P**	**22 56 40.7**	**+1.5**
I23K				IAmb	IAmb	22 57 22.6	
	comp=Z,7.9nm,1.4s						
SCM	**Sheep Creek Mo**	**62.86**	**29**	P	**P**	**22 56 41.6**	**+1.3**
SCM				IAmb	IAmb	22 56 44.9	
	comp=Z,3.9nm,0.9s						
FID	**Port Fidalgo**	**63.07**	**31**	P	**P**	**22 56 42.9**	**+1.2**
DHY	**Denali Highway**	**63.08**	**28**	P	**P**	**22 56 42.8**	**+0.9**
MDM	**Murphy Dome**	**63.12**	**26**	P	**P**	**22 56 43.7**	**+1.8**
MDM				IAmb	IAmb	22 56 52.9	
	comp=Z,6.1nm,1.3s						
KLU	**Klutina**	**63.46**	**30**	P	**P**	**22 56 45.6**	**+1.4**
KLU				IAmb	IAmb	22 56 48.9	
	comp=Z,6.8nm,1.4s						
H24K	**Noodor Dome**	**63.47**	**25**	P	**P**	**22 56 45.4**	**+1.2**
H24K				IAmb	IAmb	22 57 18.9	
	comp=Z,4.6nm,1.2s						
C23K	**Itkillik River**	**63.56**	**20**	P	**P**	**22 56 46.5**	**+1.9**
C23K				IAmb	IAmb	22 56 49.6	
	comp=Z,6.5nm,1.1s						
ILAR	**Eielson Array**	**63.64**	**26**	P	**P**	**22 56 45.4**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=248,slow=6.0,SNR=7.4						
	comp=Z,0.5nm,0.5s						
N25K	**Chitina, Valde**	**64.10**	**30**	P	**P**	**22 56 49.5**	**+1.1**
N25K				IAmb	IAmb	22 56 58.9	
	comp=Z,6.9nm,1.4s						
VRDI	**Verde Repeater**	**64.60**	**30**	P	**P**	**22 56 52.7**	**+1.0**
VRDI				IAmb	IAmb	22 57 13.2	
	comp=Z,11nm,1.4s						
D25K	**Kavik River**	**64.85**	**21**	P	**P**	**22 56 54.0**	**+1.0**
D25K				IAmb	IAmb	22 56 54.2	
	comp=Z,3.2nm,0.9s						
J26L	**Joseph Creek**	**65.00**	**27**	P	**P**	**22 56 55.1**	**+0.9**
J26L				IAmb	IAmb	22 57 31.9	
	comp=Z,6.0nm,1.5s						
GRNC	**Granite Creek**	**65.37**	**31**	P	**P**	**22 56 58.1**	**+1.4**
M27K	**Edge Creek, AK**	**65.47**	**29**	P	**P**	**22 56 57.8**	**+0.6**
L27K	**Beaver Creek,**	**65.57**	**29**	P	**P**	**22 56 59.0**	**+1.2**
BCAR	**Beaver Creek A**	**65.59**	**29**	P	**P**	**22 56 59.0**	**+1.1**
BVAR	**Borovoye Array**	**66.13**	**320**	P	**P**	**22 57 01.2**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=99,slow=7.8,SNR=27						
	comp=Z,2.3nm,0.3s						
BRVK	**Borovoye**	**66.19**	**320**	P	**P**	**22 57 02.0**	**+0.3**
BRVK				IAmb	IAmb	22 57 03.0	
	comp=Z,2.4nm,0.7s						
M29M	**Somme Creek**	**67.07**	**29**	P	**P**	**22 57 09.1**	**+1.9**
M29M				IAmb	IAmb	22 57 10.6	
	comp=Z,9.5nm,1.5s						
L29M	**L29M**	**67.25**	**29**	P	**P**	**22 57 10.4**	**+2.1**
L29M				IAmb	IAmb	22 57 31.4	
	comp=Z,8.1nm,1.4s						
G31M	**Satah River**	**69.04**	**25**	P	**P**	**22 57 19.6**	**+0.5**
ABKAR	**Akbulak array**	**72.99**	**317**	P	**P**	**22 57 42.4**	**-0.6**
ABKAR				IAmb	IAmb	22 58 23.2	
	comp=Z,3.5nm,1.3s						
YKA	**Yellowknife Ar**	**78.00**	**28**	P	**P**	**22 58 09.7**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=288,slow=5.3,SNR=2.3						
	comp=Z,0.2nm,0.4s						
FINES	**FINESS Array B**	**86.59**	**335**	P	**P**	**22 58 53.2**	**-1.8**
	comp=Z,5.7nm,1.1s,baz=44,slow=6.1,SNR=12						
	comp=Z,5.7nm,1.1s						

IDC ***28*** *22:48:00.7±3.7, 35°.10N×140°.15E, h0km, mb3.4/2, mbtmp3.3/3, ML2.1/1, Error ellipse: s-maj=112.5km s-min=26.4km az=60.0*

JMA ***28*** *22:48:00.1±0.3, 35°.7N±0°.5×14°.1E±°, h10km±1km, MV3.5/20, NEAR CHOSHI CITY*

JMA Felt II J1 at NEAR CHOSHI CITY

ISC 28 22:47:57.8±2.7, 35°.75N±0°.05×140°.93E±0°.08, h4km±18km, n18, σ1♀08/17, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.39**	**303**	P	**Pb**	**22 48 07.6**	**+0.3**
JIHU				S	**Sb**	**22 48 13.5**	**-0.1**
JSMT	**Sammumatsuo**	**0.41**	**255**	P	**Pb**	**22 48 07.3**	**-0.2**
JHYU	**Hitachinakayam**	**0.65**	**335**	P	**Pn**	**22 48 12.5**	**-1.3**
JHYU				S	**Sb**	**22 48 20.9**	**-0.2**
JCN	**Nagara**	**0.68**	**241**	P	**Pn**	**22 48 12.9**	**-1.3**
JYT	**Yasato**	**0.77**	**309**	P	**Pb**	**22 48 13.4**	**-0.2**
JYT				S	**Sg**	**22 48 22.7**	**+0.3**

BSO4	**Boso 4**	**0.90**	**213**	P	**Pn**	**22 48 16.7**	**-0.4**
JHO	**Hitachi**	**0.91**	**341**	P	**Pb**	**22 48 16.0**	**-0.1**
JHO				S	**Sb**	**22 48 28.8**	**+0.3**
BSO3	**Boso 3**	**1.01**	**200**	*i* P	**Pn**	**22 48 18.4**	**+0.1**
BSO1	**Boso 1**	**1.09**	**178**	P	**Pn**	**22 48 18.9**	**-0.5**
MJAR	**Matsushiro Arr**	**2.34**	**291**	Pn	**Pn**	**22 48 36.4**	**-0.7**
	0.7nm,0.3s,baz=130,slow=11,SNR=25						
MJAR				Sn	**Sn**	**22 49 06.1**	**-0.1**
	0.6nm,0.3s,baz=156,slow=16,SNR=6.1						
	2.2nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**27.86**	**118**	T	T	23 22 39.8	
	baz=311,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy**	**27.86**	**118**	T	T	23 22 48.6	
	baz=311,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**27.88**	**118**	T	T	23 22 41.1	
	baz=311,slow=75,SNR=34						
SONM	**Songino Array**	**28.20**	**306**	P	**P**	**22 53 54.3**	**+2.8**
	0.4nm,0.8s,baz=97,slow=11,SNR=1.7						
	0.4nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**28.52**	**120**	T	T	23 23 39.3	
	baz=312,slow=75,SNR=91						
H11S3	**WAKE ISLAND Hy**	**28.52**	**120**	T	T	23 23 32.0	
	baz=312,slow=75,SNR=86						
H11S2	**WAKE ISLAND Hy**	**28.54**	**120**	T	T	23 23 37.5	
	baz=312,slow=75,SNR=52						
WRA	**Warramunga Arr**	**55.74**	**188**	P	**P**	**22 57 33.9**	**-1.7**
	0.5nm,0.9s,baz=2.9,slow=7.6,SNR=1.4						
	0.5nm,0.9s						

IDC ***28*** *22:50:53.1±2.3, 67°.45N×173°.81W, h0km, mb3.6/6, mbtmp3.5/7, ML3.2/1, Error ellipse: s-maj=78.0km s-min=19.3km az=15.0*

ISC 28 22:50:54.7±2.1, 67°.6N±0°.5×173°.0W±0°.2, h10km, n7, σ2♀50/8, mb3.8/6, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**10.87**	**93**	Pn	**Pn**	**22 53 29.4**	**-0.8**
	0.2nm,0.3s,baz=292,slow=14,SNR=8.6						
ILAR				Sn	**Sn**	**22 55 29.7**	**-2.0**
	0.1nm,0.3s,baz=306,slow=25,SNR=1.4						
	0.3nm,0.4s						
YKA	**Yellowknife Ar**	**24.31**	**74**	P	**P**	**22 56 16.6**	**+4.7**
	0.1nm,0.5s,baz=308,slow=10,SNR=1.8						
	0.1nm,0.5s						
ZALV	**Zalesovo Beam**	**45.82**	**306**	P	**P**	**22 59 16.4**	**+0.2**
	0.7nm,0.6s,baz=36,slow=7.6,SNR=1.7						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**50.63**	**309**	P	**P**	**22 59 51.9**	**-1.5**
	1.3nm,0.6s,baz=30,slow=7.6,SNR=7.2						
	1.3nm,0.6s						
BVAR	**Borovoye Array**	**50.80**	**316**	P	**P**	**22 59 53.2**	**-1.4**
	0.8nm,0.7s,baz=39,slow=9.3,SNR=4.2						
	0.8nm,0.7s						
TXAR	**Lajitas Array**	**55.35**	**97**	P	**P**	**23 00 28.8**	**+0.2**
	0.2nm,0.7s,baz=311,slow=5.8,SNR=2.6						
	0.2nm,0.7s						
EKA	**Eskdalemuir Ar**	**57.17**	**7**	P	**P**	**23 00 40.8**	**-0.3**
	1.9nm,0.8s,baz=356,slow=5.8,SNR=5.0						
	1.9nm,0.8s						

IDC ***28*** *23:01:53.1±0.3, 10°.70N×84°.77W, h138km±4km, mb3.9/18, mbtmp4.4/25, Error ellipse: s-maj=17.9km s-min=9.5km az=54.0*

UCR ***28*** *23:01:53.5±1.0, 10°.67N×84°.83W, h145km±3km, MW4.9, MB4.8(NEIC)*

NEIC ***28*** *23:01:54.5±1.5, 10°.62N±0°.06×84°.81W±0°.06, h139km±5km, mb4.8/128, Error ellipse: s-maj=9.4km s-min=7.1km az=222.0*

CATAC ***28*** *23:01:56.0±0.2, 10°.64N×84°.86W, h105km±2km, MB5.8, mb5.3, ML4.7*

UPA ***28*** *23:01:56.8±0.6, 10°.58N×84°.59W, h7km±93km, MW4.8*

SNET ***28*** *23:01:59.4±1.6, 10°.75N×85°.18W, h22km±592km, ML4.7*

ISC 28 23:01:53.9±0.4, 10°.64N±0°.03×84°.81W±0°.03, h144km±3km, n539, σ1♀34/611, mb4.8/91, 12C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COTE	**Lago Cote**	**0.12**	**240**	*eP*	**Pn**	**23 02 13.7**	**+0.3**
COTE				*i* S	**Sn**	**23 02 29.4**	**+1.2**
TABAC	**Tabacon**	**0.14**	**162**	*i* P	**Pn**	**23 02 14.0**	**+0.5**
PACM	**Arenal**	**0.16**	**164**	*i* P	**Pn**	**23 02 15.2**	**+1.8**
SGBR	**La Fortuna**	**0.17**	**162**	*i* P	**Pn**	**23 02 13.9**	**+0.5**
CEDE	**Laguna Cedeo**	**0.18**	**144**	⇑*i* P	**Pn**	**23 02 14.0**	**+0.5**
PTEN	**Parque Tenorio**	**0.19**	**295**	*i* P	**Pn**	**23 02 14.0**	**+0.6**
ARE1	**Arenal 1**	**0.20**	**152**		**Pn**	**23 02 14.0**	**+0.6**
VACR	**Volcan Arenal**	**0.21**	**141**	*i* P	**Pn**	**23 02 13.7**	**+0.2**
VACR				IAML		23 02 14.4	
	comp=Z,41μm,1.0s						
VACR				*i* S	**Sn**	**23 02 24.1**	**-4.2**
CASO	**Castillo**	**0.21**	**159**	*i* P	**Pn**	**23 02 13.9**	**+0.4**
ACAL	**Aguas Claras**	**0.22**	**270**	⇑*i* P	**Pn**	**23 02 14.0**	**+0.5**
ACAL				*i* S	**Sn**	**23 02 30.1**	**+1.6**
FORC	**Fortuna**	**0.22**	**140**	*i* P	**Pn**	**23 02 13.9

ORTG Ortega, Santa 0.69 247 Pn 23 02 15.8 +0.1
ORTG Sn **Sn 23 02 32.3 0.0**
ORTG Ortega, Santa 0.69 247 *eP* **Pn 23 02 15.9 +0.2**
ORTG Ortega, Santa 0.69 247 *i* P **Pn 23 02 14.8 -1.0**
ORTG IAML 23 02 16.4
comp=Z,14µm,1.0s
ORTG *i* S **Sn 23 02 28.8 -3.6**
POPE POPE, Guanacas 0.72 218 *i* P **Pn 23 02 15.6 -0.3**
POPE IAML 23 02 17.3
comp=Z,20µm,1.0s
POPE *i* S **Sn 23 02 28.9 -3.7**
HZTE Horizontes, Gu 0.77 276 Pn **Pn 23 02 16.3 +0.1**
HZTE Horizontes, Gu 0.77 276 *eP* **Pn 23 02 16.4 +0.2**
HZTE Horizontes, Gu 0.77 276 *i* P **Pn 23 02 16.3 +0.1**
HZTE *i* S **Sn 23 02 30.0 -3.2**
HZTE IAML 23 02 43.4
comp=Z,9µm,1.0s
TCS1 Tacares 0.78 139 *i* P **Pn 23 02 16.5 +0.1**
TCS1 IAML 23 02 38.9
comp=Z,79µm,1.0s
SARA Sarapiqu 0.80 103 *eP* **Pn 23 02 16.4 -0.1**
DUNO Dulce Nombre, 0.87 231 Pn 23 02 16.5 -0.5
DUNO Dulce Nombre, 0.87 231 *eP* **Pn 23 02 16.5 -0.5**
DUNO Dulce Nombre, 0.87 231 *i* P **Pn 23 02 16.2 -0.8**
RIFO Rio Frio, Sara 0.93 110 *i* P **Pn 23 02 17.1 -0.4**
RIFO *i* S **Sn 23 02 32.4 -3.0**
RIFO IAML 23 02 36.6
comp=Z,9µm,1.0s
HDC Heredia 0.93 132 Pn 23 02 17.3 -0.4
HDC Heredia 0.93 132 *eP* **Pn 23 02 17.8 +0.1**
SANTA Santa Ana 0.93 138 *eP* **Pn 23 02 17.6 -0.1**
HDC3 Heredia 3 0.93 132 *i* P **Pn 23 02 17.7 0.0**
HDC3 *i* S **Sn 23 02 32.3 -3.5**
HDC3 IAML 23 02 40.9
comp=Z,11µm,1.0s
JACO JACO, Garabito 0.98 171 Pn 23 02 17.6 -0.3
JACO JACO, Garabito 0.98 171 *eP* **Pn 23 02 17.6 -0.3**
JACO JACO, Garabito 0.98 171 *i* P **Pn 23 02 17.5 -0.4**
JACO *i* S **Sn 23 02 31.9 -4.3**
JACO IAML 23 02 37.9
comp=Z,15µm,1.0s
SJS3 Mercedes San J 1.02 133 *eP* **Pn 23 02 18.9 +0.5**
INDI Punta indio, G 1.02 222 *eP* **Pn 23 02 17.8 -0.5**
INDI Punta indio, G 1.02 222 *i* P **Pn 23 02 17.9 -0.4**
INDI *i* S **Sn 23 02 32.3 -4.5**
INDI IAML 23 02 43.0
comp=Z,9µm,1.0s
CORON Coronado 1.03 129 *eP* **Pn 23 02 20.9 +2.3**
AMPA Desamparados 1.04 135 *eP* **Pn 23 02 18.7 +0.1**
SAJU San Juanillo, 1.05 238 *i* P Pn 23 02 13.9 -4.6
TRT2 Tortugero 1.06 94 *i* P **Pn 23 02 18.4 -0.2**
TRT2 *i* S **Sn 23 02 34.6 -2.8**
TRT2 IAML 23 02 46.0
comp=Z,8µm,1.0s
CBL1 Cabuya 1.08 195 *eP* **Pn 23 02 18.0 -0.7**
OCM Ochomogo 1.11 131 *i* P **Pn 23 02 18.7 -0.6**
OCM *i* S **Sn 23 02 36.4 -2.3**
OCM IAML 23 02 44.4
comp=Z,8µm,1.0s
VICA Volcano Irazu 1.15 124 *eP* **Pn 23 02 19.9 -0.1**
ABE2 San Pablo 1.19 141 *eP* **Pn 23 02 20.3 +0.2**
LCR2 La Lucha 2 1.19 138 Pn 23 02 20.1 +0.1
LCR2 La Lucha 2 1.19 138 *eP* **Pn 23 02 20.2 +0.1**
LCR2 La Lucha 2 1.19 138 *i* P **Pn 23 02 20.0 -0.1**
LCR2 *i* S **Sn 23 02 36.6 -3.4**
LCR2 IAML 23 02 42.3
comp=Z,17µm,1.0s
REPA Paraso 1.23 131 *eP* **Pn 23 02 21.7 +1.3**
RIMA Rio Macho 1.27 133 Pn 23 02 20.9 +0.1
RIMA Rio Macho 1.27 133 *eP* **Pn 23 02 20.9 +0.1**
RIMA Rio Macho 1.27 133 *i* P **Pn 23 02 21.0 +0.1**
RIMA *i* S **Sn 23 02 40.5 -0.9**
RIMA IAML 23 02 43.5
comp=Z,10µm,1.0s
RVSTA Santa Teresita 1.32 120 *eP* **Pn 23 02 21.5 +0.3**
LLNJ Naranjito 1.35 149 *eP* **Pn 23 02 22.2 +0.8**
LCOCO El Coco 1.35 114 *eP* **Pn 23 02 21.7 +0.3**
SVQ2 Quepos 1.35 152 *eP* **Pn 23 02 22.2 +0.8**
SVQ2 *eS* **Sn 23 02 43.1 +0.6**
ACON Acoyapa 1.37 345 Pn 23 02 21.9 +0.3
CDM Cerro de Muert 1.49 136 *i* P **Pn 23 02 23.8 +0.4**
CDM *i* S **Sn 23 02 44.1 -1.7**
CDM IAML 23 02 49.0
comp=Z,8µm,1.0s
BUS1 Rivas 1.50 136 *eP* **Pn 23 02 23.8 +0.3**
ESPN Las Esperanzas 1.63 18 Pn 23 02 24.7 +0.4
ESPN Las Esperanzas 1.63 18 *i* P **Pn 23 02 24.6 +0.2**
ESPN *i* S **Sn 23 02 44.9 -2.9**
ESPN IAML 23 02 48.5
comp=Z,2µm,1.0s
BLUN Bluefields 1.70 37 *i* P **Pn 23 02 25.2 0.0**
BLUN IAML 23 02 25.7
comp=Z,3µm,1.0s
BLUN *i* S **Sn 23 02 46.7 -2.5**
OCHAL Ojochal 1.91 143 *i* P **Pn 23 02 29.2 +1.6**
OCHAL *i* S **Sn 23 02 52.7 -0.8**
OCHAL IAML 23 02 58.9
comp=Z,87nm,1.0s
WILN Americas 2 2.03 318 *i* P **Pn 23 02 29.5 +0.5**
WILN IAML 23 02 30.1
comp=Z,1µm,1.0s
WILN *i* S **Sn 23 02 54.3 -1.6**
UNAN Cigeo UNAN 2.05 316 *i* P **Pn 23 02 29.6 +0.4**
UNAN *i* S **Sn 23 02 55.4 -1.0**
UNAN IAML 23 03 08.9
comp=Z,10µm,1.0s
DRK0 Durika 2.06 131 Pn 23 02 29.7 +0.2
TISN Laguna Tiscapa 2.07 316 *i* P **Pn 23 02 29.9 +0.4**
TISN IAML 23 02 30.6
comp=Z,140nm,1.0s
EDBA Buenos Aires 2.11 134⇈ *eP* **Pn 23 02 30.1 +0.1**
EDBA *eS* **Sn 23 02 55.8 -1.8**
EDPN Palmar Norte 2.13 141 *eP* **Pn 23 02 31.3 +1.0**
BRIBI Bribri 2.18 117 *eP* **Pn 23 02 32.9 +2.2**
EDP2 Potrero Grande 2.28 135⇈ *eP* **Pn 23 02 32.9 +0.9**
POTG Potrero Grande 2.29 133 *i* P **Pn 23 02 32.9 +0.7**
POTG IAML 23 02 33.9
comp=Z,8µm,1.0s
POTG *i* S **Sn 23 03 01.0 -0.7**
RGM0 Gandoca 2.41 115 Pn 23 02 33.6 +0.1
MOM2 El Cardon 2.43 318 *i* P **Pn 23 02 34.5 +0.7**
MOM2 IAML 23 02 35.0
comp=Z,1µm,1.0s
MOM2 *i* S **Sn 23 03 02.1 -2.5**
MOMN Momotombo 2.44 316 *i* P **Pn 23 02 34.3 +0.3**
MOMN *i* S **Sn 23 03 03.5 -1.5**
MOMN IAML 23 03 09.9
comp=Z,52nm,1.0s
LEVN Ruinas Leon Vi 2.49 315 *i* P **Pn 23 02 35.6 +1.0**
LEVN *i* S **Sn 23 03 06.2 +0.2**
LEVN IAML 23 03 14.1
comp=Z,1µm,1.0s
MATN Matagalpa 2.53 335 Pn 23 02 36.0 +0.8
JIME Puerto Jimenez 2.55 145 *eP* **Pn 23 02 38.0 +2.7**
EDAD Golfito 2.55 140⇈ *eP* **Pn 23 02 35.3 -0.1**
CNI2 El Empalme, Bo 2.60 117 *eP* **Pn 23 02 35.9 -0.1**
CNGN Cerro Negro 2.62 315 Pn 23 02 36.9 +0.7
CNGN Cerro Negro 2.62 315⇊ *eP* **Pn 23 02 36.9 +0.7**
CNGN *eS* **Sn 23 03 10.3 +1.4**
PIRO Carate, Puerto 2.65 147 *i* P **Pn 23 02 37.8 +1.2**
PIRO *i* S **Sn 23 03 08.7 -0.9**
PIRO IAML 23 03 17.6
comp=Z,6µm,1.0s
BRU2 Volcan 2.78 131 Pn 23 02 38.9 +0.5
BRU2 Volcan 2.78 131 *eP* **Pn 23 02 39.0 +0.7**
BRU2 *eS* **Sn 23 03 11.1 -1.6**
BRU2 Volcan 2.78 131 *i* P **Pn 23 02 38.9 +0.5**
BRU2 *i* S **Sn 23 03 12.0 -0.7**
BRU2 IAML 23 03 18.1
comp=Z,3µm,1.0s
CDITO Canoas 2.80 137 Pn 23 02 38.5 0.0
CDITO Canoas 2.80 137 *eP* **Pn 23 02 38.9 +0.4**
CDITO Canoas 2.80 137 *i* P **Pn 23 02 38.3 -0.2**
CDITO IAML 23 02 39.2
comp=Z,1µm,1.0s
CDITO *i* S **Sn 23 03 12.3 -0.7**
BC3P Paso Ancho 2.83 130 *eP* **Pn 23 02 39.6 +0.6**
LIMN Finca el Limon 2.85 328 *i* P **Pn 23 02 39.9 +0.7**
LIMN IAML 23 02 40.6
comp=Z,840nm,1.0s
LIMN *i* S **Sn 23 03 14.9 +0.7**
LPPC Paso Canoas 2.85 137 *eP* **Pn 23 02 39.4 +0.2**

BCO2 Palmira 2.95 130 *eP* **Pn 23 02 41.3 +0.8**
BCO2 *eS* **Sn 23 03 13.5 -3.0**
CRIN San Cristobal 3.00 313 Pn 23 02 41.6 +0.5
CRIN San Cristobal 3.00 313 *eP* **Pn 23 02 41.9 +0.8**
CRIN *eS* **Sn 23 03 19.7 +2.1**
PTPM Petroterminale 3.08 142 *eP* **Pn 23 02 43.4 +1.4**
PTPM *eS* **Sn 23 03 20.5 +1.2**
CHGR2 Aguacate 3.12 122 *eP* **Pn 23 02 43.1 +0.5**
CHGR2 *eS* **Sn 23 03 20.4 +0.2**
LIMO3 Limones 3.17 142 *eP* **Pn 23 02 44.4 +1.2**
DVD David 3.19 133 *eP* **Pn 23 02 44.1 +0.6**
DVD *eS* **Sn 23 03 20.8 -1.1**
PEDE3 Pedregal, Chir 3.25 133 *eP* **Pn 23 02 45.0 +0.8**
AMPH Amapala 3.83 314 *i* P **Pn 23 02 51.8 0.0**
AMPH *i* S **Sn 23 03 35.9 -0.8**
YUSH Yuscaran 3.85 329 *i* P **Pn 23 02 53.7 +1.6**
CNCH Conchagua 3.95 312 *i* P **Pn 23 02 54.3 +0.8**
CNCH *i* S **Sn 23 03 41.4 +1.6**
CNCH IAML 23 03 47.3
comp=Z,1µm,1.0s
TGUH Tegucigalpa,Un 4.17 325 Pn **Pn 23 02 57.5 +1.3**
TGUH Tegucigalpa,Un 4.17 325 *eP* **Pn 23 02 57.9 +1.6**
TGUH Tegucigalpa,Un 4.17 325 *i* P **Pn 23 02 57.9 +1.6**
TGUH IAML 23 03 07.9
comp=Z,450nm,1.0s
PACA Pacayal 4.44 310 *i* P **Pn 23 03 01.8 +1.9**
PACA *i* S **Sn 23 03 50.0 -1.3**
PACA IAML 23 03 54.4
comp=Z,4µm,1.0s
ALJI Alcalda de J 4.55 306 *i* P **Pn 23 03 01.7 +0.5**
ALJI IAML 23 03 02.7
comp=Z,2µm,1.0s
ALJI *i* S **Sn 23 03 52.8 -0.8**
COMHN El Horno 4.64 325 *i* P **Pn 23 03 03.7 +1.1**
PQSS Presa 15 de Se 4.72 309 *eP* **Pn 23 03 04.8 +1.4**
PQSS Presa 15 de Se 4.72 309 *i* P **Pn 23 03 04.8 +1.4**
PQSS IAML 23 03 07.0
comp=Z,220nm,1.0s
PQSS *i* S **Sn 23 03 56.7 -0.9**
TECO Alcaldia de Te 4.83 307 *i* P **Pn 23 03 05.5 +0.5**
TECO IAML 23 03 07.4
comp=Z,530nm,1.0s
TECO *i* S **Sn 23 03 59.9 -0.6**
SCLA Alcaldia de Sa 4.89 309 *eP* **Pn 23 03 07.2 +1.4**
SCLA IAML 23 03 11.6
comp=Z,101nm,0.3s
SCLA *eS* **Sn 23 04 02.8 +0.8**
SCLA Alcaldia de Sa 4.89 309 *i* P **Pn 23 03 07.2 +1.4**
SCLA *i* S **Sn 23 04 03.1 +1.2**
SCLA IAML 23 04 12.9
comp=Z,290nm,1.0s
UESV Universidad de 4.90 308 *i* P **Pn 23 03 07.5 +1.6**
UESV *i* S **Sn 23 04 02.8 +0.8**
UESV IAML 23 04 10.9
comp=Z,730nm,1.0s
COEG Centro de Oper 4.96 307 *i* P **Pn 23 03 08.4 +1.6**
COEG IAML 23 03 10.4
comp=Z,300nm,1.0s
COEG *i* S **Sn 23 04 02.8 -0.8**
SJTE Alcalda de S 5.06 306 *eP* **Pn 23 03 09.7 +1.6**
SJTE IAML 23 03 10.9
comp=Z,432nm,0.3s
SJTE *eS* **Sn 23 04 04.0 -1.9**
SJTE Alcalda de S 5.06 306 *i* P **Pn 23 03 09.4 +1.3**
SJTE IVmB_BB 23 03 10.4
comp=Z,10µm,1.0s
SJTE IAML 23 03 10.5
comp=Z,990nm,1.0s
SJTE *i* S **Sn 23 04 04.5 -1.4**
PAVA Las Pavas 5.06 308 *eP* **Pn 23 03 10.0 +1.8**
PAVA Las Pavas 5.06 308 *i* P **Pn 23 03 09.3 +1.2**
PAVA IAML 23 03 11.4
comp=Z,770nm,1.0s
PAVA IVmB_BB 23 03 14.4
comp=Z,9µm,1.0s
PAVA *i* S **Sn 23 04 07.8 +1.8**
CACAO El Cacao, Vera 5.09 130 *eP* **Pn 23 03 09.2 +0.8**
CACAO El Cacao, Vera 5.09 130 *eP* **Pn 23 03 09.5 +1.1**
BCIP Isla Barro Col 5.11 106 Pn **Pn 23 03 09.1 +0.4**
LOMA Loma Larga 5.21 305 *eP* **Pn 23 03 11.8 +1.7**
LOMA IAML 23 03 13.0
comp=Z,2µm,0.2s
LOMA Loma Larga 5.21 305 *i* P **Pn 23 03 11.0 +0.9**
LOMA IAML 23 03 13.3
comp=Z,2µm,1.0s
LOMA IVmB_BB 23 03 13.3
comp=Z,19µm,1.0s
LOMA *i* S **Sn 23 04 09.4 -0.1**
LALI Alcalda de L 5.24 303 *eP* **Pn 23 03 11.8 +1.3**
LALI *eS* **Sn 23 04 06.8 -3.3**
LALI Alcalda de L 5.24 303 *i* P **Pn 23 03 10.4 0.0**
LALI IVmB_BB 23 03 12.0
comp=Z,3µm,1.0s
LALI IAML 23 03 12.1
comp=Z,270nm,1.0s
LALI IAmb IAmb 23 03 12.4
comp=Z,180nm,0.7s
LALI *i* S **Sn 23 04 09.0 -1.1**
SNET Serv Nac Est T 5.28 306 Pn 23 03 12.6 +1.7
MAGS Ministerio de 5.32 305 *i* P **Pn 23 03 13.3 +1.7**
MAGS IAML 23 03 13.9
comp=Z,2µm,1.0s
MAGS IVmB_BB 23 03 23.3
comp=Z,38µm,1.0s
MAGS *i* S **Sn 23 04 12.2 0.0**
PMON Piamonte 5.36 305 *i* P **Pn 23 03 12.6 +0.5**
PMON IAML 23 03 14.9
comp=Z,2µm,1.0s
PMON IVmB_BB 23 03 14.9
comp=Z,16µm,1.0s
PMON IAmb IAmb 23 03 15.0
comp=Z,1µm,0.6s
PMON *i* S **Sn 23 04 12.9 -0.2**
JAYA Jayaque - finc 5.44 304 *eP* **Pn 23 03 14.8 +1.6**
JAYA IAML 23 03 16.1
comp=Z,1µm,0.3s
JAYA *eS* **Sn 23 04 12.5 -2.6**
JAYA Jayaque - finc 5.44 304 *i* P **Pn 23 03 13.8 +0.6**
JAYA IAML 23 03 15.6
comp=Z,3µm,1.0s
JAYA IVmB_BB 23 03 15.7
comp=Z,30µm,1.0s
JAYA *i* S **Sn 23 04 14.6 -0.4**
SARH Santa Rosa de 5.64 317 *i* P **Pn 23 03 18.1 +2.4**
UNIC Universidad Ca 5.70 306 *i* P **Pn 23 03 17.6 +1.0**
UNIC IAML 23 03 18.8
comp=Z,350nm,1.0s
MTO3 Montecristo 5.81 311 Pn 23 03 19.6 +1.5
MTO3 Montecristo 5.81 311 *i* P **Pn 23 03 19.6 +1.5**
MTO3 IAML 23 03 21.0
comp=Z,220nm,1.0s
MTO3 IVmB_BB 23 03 21.0
comp=Z,2µm,1.0s
MTO3 IAmb IAmb 23 03 21.1
comp=Z,170nm,0.7s
MTO3 *i* S **Sn 23 04 25.8 +1.8**
NUBE Las Nubes 5.84 304 *eP* **Pn 23 03 20.3 +1.7**
NUBE Las Nubes 5.84 304 *i* P **Pn 23 03 19.3 +0.8**
NUBE IAmb IAmb 23 03 21.3
comp=Z,250nm,0.6s
NUBE IVmB_BB 23 04 11.0
comp=Z,8µm,1.0s
NUBE *i* S **Sn 23 04 24.0 -0.7**
NUBE IAML 23 04 30.4
comp=Z,430nm,1.0s
ESQI Esquipulas 5.89 312 Pn 23 03 20.9 +1.6
UPD2 Meteti 7.02 107 *eP* Pn 23 03 30.2 -4.0
HUEH Huehuetenango 8.01 306 Pn **Pn 23 03 48.3 +0.7**
CCIG Comitan 9.07 309 Pn 23 04 02.9 +1.1
DBBC Dabeiba 9.23 112 *eP* **Pn 23 04 05.9 +2.0**
UREC San Jos de Ur 9.60 107 *eP* **Pn 23 04 09.3 +0.5**
TEIG Tepich 10.10 341 Pn **Pn 23 04 18.8 +3.4**
TEIG Tepich 10.10 341 P **Pn 23 04 14.5 -0.9**
comp=Z,107nm,0.9s,baz=290,slow=16,SNR=4.8
YOTC Yotoco, Valle 10.68 128 *eP* **Pn 23 04 24.4 +1.1**
GUY2C Guyana, Caldas 10.79 119 *eP* **Pn 23 04 27.5 +2.5**
JAMC Jamundi, Valle 10.93 132 *eP* **Pn 23 04 27.9 +1.3**
BBAC Balboa, Cauca 11.39 138 *eP* **Pn 23 04 34.5 +1.8**
POPC Popayan, Colom 11.40 134 *eP* **Pn 23 04 34.8 +2.0**
ORTC Ortega, Tolima 11.60 124 *eP* **Pn 23 04 36.5 +1.2**
CMIG Matias Romero 11.69 304 P **Pn 23 04 36.5 +0.2**
comp=Z,22nm,0.4s,baz=140,slow=9.7,SNR=80
CMIG S **Sn 23 06 41.5 -4.1**

comp=Z,1.5nm,0.4s,baz=136,slow=14,SNR=1.2
ROSC El Rosal 11.88 118 P **Pn 23 04 39.3 +0.1**
comp=Z,3.4nm,0.3s,baz=342,slow=11,SNR=6.8
GCUF Volcan Galeras 11.93 141 *eP* **Pn 23 04 43.0 +3.0**
TULM Tulcn-Chalpat 12.08 144 Pn **Pn 23 04 44.4 +2.5**
TULM Tulcn-Chalpat 12.08 144 *eP* **Pn 23 04 45.6 +3.7**
OTAV Otavalo 12.11 148 Pn **Pn 23 04 43.2 +0.9**
OTAV Otavalo 12.11 148 *eP* **Pn 23 04 44.8 +2.5**
BARC Barichara 12.18 108 *eP* P 23 04 54.8 +5.3
IMBA Imbabura, San 12.21 147 Pn **Pn 23 04 46.4 +2.7**
PULU Pululahua 12.27 149 Pn **Pn 23 04 46.6 +2.3**
PAMC Pamplona, Colo 12.40 104 *eP* **P 23 04 55.6 +3.3**
SLOR San Lorenzo - 12.92 151 P **Pn 23 04 57.4 +4.6**
PIAT Ana Tenorio 13.27 150 *eP* **P 23 05 06.3 +4.6**
CHSH Refugio Sur-Vo 13.42 154 P **Pn 23 05 02.4 +3.0**
TAMC Tame, Arauca 13.53 107 *eP* **P 23 05 07.2 +2.8**
SDV Santo Domingo 14.08 96 P **Pn 23 05 09.2 +1.8**
SDV Santo Domingo 14.08 96 P **Pn 23 05 07.5 +0.1**
comp=Z,3.1nm,0.5s,baz=285,slow=7.2,SNR=4.2
COHC Cochancay 14.14 157 P **Pn 23 05 09.7 +1.8**
COHC Cochancay 14.14 157 *eP* **Pn 23 05 11.0 +3.1**
ARNL Arenillas 14.86 161 Pn 23 05 18.2 +1.2
TLIG Tlapa 15.01 299 P 23 05 20.6 -0.2
TLIG IAmb IAmb 23 05 22.9
comp=Z,21nm,0.5s
BOSC San Juan Bosco 15.07 155 P **Pn 23 05 22.4 +2.7**
MCRA Macar, Loja 15.67 162 P **Pn 23 05 29.1 +2.0**
MCRA Macar, Loja 15.67 162 *eP* **P 23 05 30.9 +2.8**
BAUV El Baul 16.61 94 P **P 23 05 38.5 0.0**
DWPF Disney Wildern 17.67 10 P **Pn 23 05 53.4 +2.2**
baz=191
ATAH Atahualpa 18.77 160 P **P 23 06 04.4 +1.9**
comp=Z,4.2nm,0.7s,baz=2.4,slow=8.8,SNR=2.9
SJG San Juan 19.54 66 P **P 23 06 10.6 +0.3**
SJG IAmb IAmb 23 06 16.3
comp=Z,35nm,0.8s
SJG San Juan 19.54 66 P **P 23 06 11.2 +0.8**
comp=Z,36nm,0.7s,baz=248,slow=10,SNR=5.3
PCRV Puerto La Cruz 19.85 89 P **P 23 06 15.3 +1.4**
comp=Z,14nm,0.6s,baz=265,slow=4.2,SNR=11
451A Vernon 19.90 358 P **Pn 23 06 16.3 -1.0**
BRAL Brewton 20.54 355 P Pn 23 06 24.6 -0.3
baz=174
TIGA Tifton 20.73 3 P Pn 23 06 26.4 -0.7
baz=183
352A Blakely 20.74 360 P **P 23 06 25.1 +1.9**
352A IAmb IAmb 23 06 28.6
comp=Z,64nm,0.9s
ZAIG Zacatecas 20.82 308 P Pn 23 06 27.7 -1.0
152A Waverly Hall 21.93 0 P **P 23 06 37.4 +1.6**
154A Montrose 21.93 4 P **P 23 06 37.5 +1.7**
VBMS Vicksburg 22.12 347 P **P 23 06 39.3 +1.6**
baz=165
146A Union 22.24 351 P **P 23 06 40.5 +1.5**
146A IAmb IAmb 23 06 41.8
comp=Z,53nm,0.8s
833A Chaparral WMA, 22.29 324 P **P 23 06 39.5 +0.1**
833A Chaparral WMA, 22.29 324 P **P 23 06 40.8 +1.3**
baz=139
LRAL Lakeview Retre 22.38 355 P **P 23 06 41.2 +0.9**
LRAL IAmb IAmb 23 06 43.1
comp=Z,51nm,0.8s
LRAL Lakeview Retre 22.38 355 P **P 23 06 42.3 +2.0**
baz=174,SNR=26
Z51A Franklin 22.58 359 P **P 23 06 43.8 +1.6**
Z51A IAmb IAmb 23 06 45.7
comp=Z,25nm,0.8s
Z47A Carrollton 22.66 353 P **P 23 06 43.8 +0.9**
Z47A IAmb IAmb 23 06 46.1
comp=Z,37nm,0.7s
GOGA Godfrey 22.70 3 P **P 23 06 44.9 +1.6**
GOGA Godfrey 22.70 3 P **P 23 06 45.1 +1.8**
baz=183,SNR=15
NHSC New Hope 22.77 10 P **P 23 06 46.1 +2.2**
baz=192
143A Socs Landing, 22.79 346 P **P 23 06 44.8 +0.7**
NATX Nacogdoches 22.91 338 P **P 23 06 46.5 +1.1**
NATX Nacogdoches 22.91 338 P **P 23 06 47.1 +1.8**
baz=154
GDHS Morne Mazeau, 23.09 73 P **P 23 06 47.2 -0.1**
Y52A Lilburn 23.13 2 P **P 23 06 48.4 +1.1**
Y52A IAmb IAmb 23 06 51.3
comp=Z,39nm,0.8s
435B Jarrell 23.30 331 P **P 23 06 49.5 +0.6**
435B IAmb IAmb 23 06 51.8
comp=Z,32nm,0.7s
435B Jarrell 23.30 331 P **P 23 06 50.2 +1.2**
baz=147
Y45A Yeager Farm, C 23.52 350 P **P 23 06 51.4 +0.5**
Y45A IAmb IAmb 23 06 54.9
comp=Z,48nm,1.1s
HODGE Hodges 23.60 5 P **P 23 06 51.9 +0.3**
Z41A Richland Creek 23.68 343 P **P 23 06 52.1 -0.3**
Z41A IAmb IAmb 23 06 53.8
comp=Z,31nm,1.0s
JSC Jenkinsville 23.76 7 P **P 23 06 54.3 +1.2**
JSC IAmb IAmb 23 06 55.3
comp=Z,24nm,0.7s
X48A Hartselle 23.79 355 P **P 23 06 54.2 +0.8**
X48A IAmb IAmb 23 06 56.6
comp=Z,16nm,0.8s
FPAL Fort Paine 23.81 358 P **P 23 06 54.1 +0.6**
DRIO Del Rio 23.82 324 P **P 23 06 54.1 +0.4**
DRIO IAmb IAmb 23 07 26.6
comp=Z,16nm,1.1s
X51A Calhoun 23.82 360 P **P 23 06 54.1 +0.5**
X51A IAmb IAmb 23 06 55.8
comp=Z,35nm,1.1s
CCAR Cane Creek 24.04 346 P **P 23 06 56.5 +1.0**
OXF Oxford 24.14 351 P **P 23 06 56.7 +0.2**
OXF Oxford 24.14 351 P **P 23 06 57.4 +1.0**
baz=169,SNR=5.4
JCT Junction City 24.17 327 P **P 23 06 57.6 +0.7**
JCT Junction City 24.17 327 P **P 23 06 57.7 +0.7**
baz=142
WLAR White Oak Lake 24.18 343 P **P 23 06 57.5 +0.7**
WLAR IAmb IAmb 23 06 59.6
comp=Z,36nm,1.3s
BIRD Birdtown, Kers 24.23 9 P **P 23 06 58.2 +0.9**
BIRD IAmb IAmb 23 07 00.5
comp=Z,21nm,0.8s
PAULI Pauline 24.23 6 P **P 23 06 58.6 +1.2**
PAULI IAmb IAmb 23 06 59.7
comp=Z,27nm,1.0s
BG3 Lake Jocassee 24.31 4 P **P 23 06 59.3 +1.2**
BG3 IAmb IAmb 23 07 00.6
comp=Z,38nm,0.8s
W52A Murphy 24.36 2 P **P 23 06 59.3 +0.7**
W52A IAmb IAmb 23 07 01.4
comp=Z,38nm,0.8s
BRDY Brady 24.40 329 P **P 23 06 59.6 +0.6**
BRDY IAmb IAmb 23 07 33.5
comp=Z,8.7nm,1.2s
PLAL Pickwick Lake 24.42 354 P **P 23 06 59.2 +0.1**
W50A Signal Mountai 24.46 359 P **P 23 07 01.0 +1.5**
W50A IAmb IAmb 23 07 04.2
comp=Z,32nm,0.9s
SWET Sewanee 24.49 358 P **P 23 06 59.2 -0.5**
SWET IAmb IAmb 23 07 01.4
comp=Z,23nm,1.0s
KMSC Kings Mountain 24.60 7 P **P 23 07 01.5 +0.8**
KMSC Kings Mountain 24.60 7 P **P 23 07 02.5 +1.7**
baz=188,SNR=5.0
CPCT Cooper Cave 24.70 1 P **P 23 07 02.4 +0.8**
CPCT IAmb IAmb 23 07 06.4
comp=Z,32nm,0.9s
TKL Tuckaleechee C 24.93 2 P **P 23 07 04.2 +0.5**
comp=Z,3.6nm,0.5s,baz=174,slow=12,SNR=9.0
comp=Z,3.6nm,0.5s
V53A Saluda 24.99 4 P **P 23 07 05.5 +1.2**
V48A Smith Brothers 25.06 356 P **P 23 07 04.6 -0.3**
W59A Clinton 25.10 12 P **P 23 07 07.2 +2.0**
WHAR Wooly Hollow 25.47 346 P **P 23 07 08.9 +0.3**
WVT Waverly 25.53 354 P **P 23 07 09.1 0.0**
WVT Waverly 25.53 354 P **P 23 07 10.2 +1.1**
baz=173
V58A Windy Hill, Pi 25.57 11 P **P 23 07 10.1 +0.6**
V58A IAmb IAmb 23 07 11.3
comp=Z,35nm,1.0s
TXAR Lajitas Array 25.62 319 P **P 23 07 10.3 +0.2**
comp=Z,0.6nm,0.8s,baz=143,slow=9.4,SNR=6.3
TXAR pP **pP 23 07 40.5 +0.1**
comp=Z,1.1nm,0.8s,baz=142,slow=9.5,SNR=6.3
comp=Z,0.6nm,0.8s
U49A Red Boiling Sp 25.78 358 P **P 23 07 12.3 +0.9**

TZTN Tazewell 25.82 2 P P 23 07 13.3 +1.6
baz=183
U56A King 25.91 8 P P 23 07 13.2 +0.6
U56A IAmb IAmb 23 07 31.6
comp=Z,25nm,1.3s
LCAR Lake Charles 25.97 348 P P 23 07 12.6 -0.4
LCAR IAmb IAmb 23 07 14.3
comp=Z,24nm,0.9s
FCAR Ozark Folk Cen 26.00 346 P P 23 07 13.4 0.0
T50A Nancy 26.27 360 P P 23 07 16.6 +0.8
PARMO Parma 26.30 351 P P 23 07 16.3 +0.3
T47A Sharon Grove 26.32 356 P P 23 07 16.5 +0.3
T47A IAmb IAmb 23 07 17.4
comp=Z,13nm,0.8s
T45A Paducah 26.50 353 P P 23 07 17.3 -0.5
PBMO Poplar Bluff 26.52 350 P P 23 07 18.2 +0.2
BLA Blacksburg 26.75 8 P P 23 07 21.8 +1.6
baz=190
CGM3 Cape Girardeau 26.90 351 P P 23 07 21.3 -0.1
CGM3 IAmb IAmb 23 07 23.1
comp=Z,30nm,1.2s
S51A Beattyville 26.91 2 P P 23 07 22.3 +0.8
S51A IAmb IAmb 23 07 23.3
comp=Z,20nm,0.8s
TUL3 Leonard 27.06 340 P P 23 07 23.6 +0.7
baz=156
S54A Dingess, Beckl 27.23 6 P P 23 07 25.6 +1.2
S54A IAmb IAmb 23 07 28.0
comp=Z,36nm,1.4s
S44A Carbondale 27.24 352 P P 23 07 24.6 +0.2
S44A IAmb IAmb 23 07 25.6
comp=Z,18nm,0.9s
MGMO Mountain Grove 27.25 347 P P 23 07 24.8 +0.3
SIUC Southern Illin 27.25 352 P P 23 07 24.6 0.0
SIUC IAmb IAmb 23 07 25.8
comp=Z,18nm,1.1s
USIN University of 27.33 355 P P 23 07 24.8 -0.4
USIN IAmb IAmb 23 07 26.2
comp=Z,25nm,1.0s
ETMB Extrema 27.48 137 P P 23 07 27.0 +0.2
WCI Wyandotte Cave 27.51 357 P P 23 07 27.8 +0.9
WCI IAmb IAmb 23 07 28.6
comp=Z,16nm,0.8s
WCI Wyandotte Cave 27.51 357 P P 23 07 27.7 +0.9
baz=177
R50A Paris 27.53 1 P P 23 07 27.4 +0.4
R49A Shelbyville 27.54 359 P P 23 07 26.9 -0.2
R49A IAmb IAmb 23 07 28.4
comp=Z,22nm,0.7s
MACA Manacapuru-AM 27.65 118 P P 23 07 29.3 +0.9
MACA IAmb IAmb 23 07 32.4
comp=Z,13nm,0.6s
R53A Hurricane 27.70 5 P P 23 07 28.6 0.0
R53A IAmb IAmb 23 07 30.2
comp=Z,31nm,0.9s
CCM Cathedral Cave 27.91 349 P P 23 07 30.2 -0.2
CCM IAmb IAmb 23 07 31.4
comp=Z,41nm,1.4s
CCM Cathedral Cave 27.91 349 P P 23 07 30.7 +0.3
baz=166
OLIL Olney 28.13 355 P P 23 07 32.3 -0.1
OLIL IAmb IAmb 23 07 33.6
comp=Z,24nm,0.8s
CBN Corbin Frederi 28.25 12 P P 23 07 34.5 +1.1
baz=196
Q52A Bidwell 28.30 4 P P 23 07 34.2 +0.4
Q51A Peebles 28.30 2 P P 23 07 34.4 +0.5
Q44A Meyer Farm, Va 28.40 353 P P 23 07 33.9 -0.8
Q44A IAmb IAmb 23 07 35.3
comp=Z,13nm,0.8s
Q54A Coxs Mills 28.45 7 P P 23 07 35.3 +0.1
Q54A IAmb IAmb 23 07 36.8
comp=Z,25nm,1.1s
BLO Bloomington 28.46 357 P P 23 07 35.2 -0.1
BLO IAmb IAmb 23 07 36.2
comp=Z,16nm,0.7s
ELIS Ellis County 28.57 335 P P 23 07 37.6 +1.2
ELIS IAmb IAmb 23 07 44.1
comp=Z,39nm,1.6s
P48A Milroy 28.71 359 P P 23 07 37.1 -0.4
P48A IAmb IAmb 23 07 38.2
comp=Z,19nm,0.8s
Q56A Snyder Ridge, 28.73 9 P P 23 07 39.1 +1.4
Q56A IAmb IAmb 23 07 40.5
comp=Z,24nm,1.1s
P51A Williamsport 28.77 3 P P 23 07 37.8 -0.2
P51A IAmb IAmb 23 07 39.5
comp=Z,16nm,0.7s
P49A Miami Univ. Ec 28.78 0 P P 23 07 38.4 +0.3
baz=180
P53A Whipple 28.89 5 P P 23 07 40.0 +0.8
P46A Rosedale 28.94 356 P P 23 07 39.5 -0.1
P46A IAmb IAmb 23 07 40.3
comp=Z,20nm,0.8s
P52A Corning 28.98 4 P P 23 07 39.9 +0.1
P52A Corning 28.98 4 P P 23 07 41.2 +1.3
baz=185
P43A Skaggs, Pawnee 29.19 353 P P 23 07 42.8 +1.0
P43A IAmb IAmb 23 07 43.2
comp=Z,36nm,1.6s
MCWV Mont Chateau 29.24 8 P P 23 07 42.9 +0.8
baz=190
O49A Covington 29.44 1 P P 23 07 42.1 -1.8
O52A Adamsville 29.48 5 P P 23 07 43.9 -0.4
O52A IAmb IAmb 23 07 46.0
comp=Z,20nm,0.8s
O48B Farmland 29.50 359 P P 23 07 44.1 -0.4
O48B IAmb IAmb 23 07 44.9
comp=Z,20nm,0.7s
O48B Farmland 29.50 359 P P 23 07 44.6 +0.1
baz=179,SNR=5.6
ACSO Alum Creek Sta 29.52 3 P P 23 07 44.9 +0.2
ACSO Alum Creek Sta 29.52 3 P P 23 07 45.3 +0.7
baz=184,SNR=7.4
O53A New Philadelph 29.67 6 P P 23 07 46.3 +0.4
O53A New Philadelph 29.67 6 P P 23 07 46.7 +0.8
baz=187
O54A Avella 29.69 7 P P 23 07 47.3 +1.1
O54A IAmb IAmb 23 08 08.5
comp=Z,38nm,1.6s
SFIN Lafayette 29.69 356 P P 23 07 45.6 -0.5
SFIN Lafayette 29.69 356 P P 23 07 46.1 0.0
baz=176,SNR=6.7
HDIL Hopedale 30.06 353 P P 23 07 49.2 -0.2
HDIL IAmb IAmb 23 07 50.1
comp=Z,27nm,0.8s
HDIL Hopedale 30.06 353 P P 23 07 49.4 0.0
baz=171
N47A Urbana 30.13 359 P P 23 07 49.8 -0.2
N47A IAmb IAmb 23 07 51.0
comp=Z,16nm,1.1s
N49A Columbus Grove 30.17 1 P P 23 07 50.3 -0.1
KSU1 Kansas State U 30.24 342 P P 23 07 50.9 -0.1
baz=157
M53A WI Miller and 30.90 6 P P 23 07 57.8 +1.0
baz=188
CBKS Cedar Bluff 31.07 337 P P 23 07 58.2 -0.2
baz=151
ALLY Alegheny Colle 31.16 7 P P 23 07 59.7 +0.5
M55A Ridgway 31.17 9 P P 23 07 59.4 +0.2
M55A IAmb IAmb 23 08 01.0
comp=Z,18nm,0.7s
ANMO Albuquerque 31.22 324 P P 23 08 00.1 +0.1
baz=136
ANMO Albuquerque 31.22 324 P P 23 08 00.6 +0.6
comp=Z,1.1nm,0.6s,baz=220,slow=8.6,SNR=3.8
comp=Z,1.1nm,0.6s
ANMO Albuquerque 31.22 324 P P 23 08 02.1 +2.1
ANMO pP pP 23 08 33.1 +2.3
M57A Sunshine Farm, 31.32 11 P P 23 08 02.1 +1.6
M57A IAmb IAmb 23 08 10.1
comp=Z,38nm,1.4s
L42A Oliver, Polo 31.54 353 P P 23 08 01.9 -0.5
AAM Ann Arbor 31.56 2 P P 23 08 03.5 +0.9
baz=182
N35A Tabor 31.59 344 P P 23 08 03.0 +0.2
N35A IAmb IAmb 23 08 04.0
comp=Z,19nm,0.7s
ERPA Erie 31.64 7 P P 23 08 04.0 +0.6
baz=189
SCIA State Center 32.01 348 P P 23 08 06.6 +0.1
baz=164
BINY Binghamton 32.38 12 P P 23 08 10.6 +0.8
baz=196
JFWS Jewell Farm 32.51 353 P P 23 08 10.0 -0.8

JFWS Jewell Farm 32.51 353 P P 23 08 10.5 -0.3
baz=170
L59A Walton 32.58 14 P P 23 08 11.1 -0.5
UCCT U. Connecticut 32.95 17 P P 23 08 16.6 +1.9
J56A Wolcott 33.25 11 P P 23 08 16.5 -0.8
I45A Fountain 33.30 358 P P 23 08 19.3 +1.5
TRY Troy 33.42 15 P P 23 08 19.1 +0.3
TRY IAmb IAmb 23 08 47.0
comp=Z,40nm,1.4s
214A Organ Pipe Nat 33.45 314 P P 23 08 14.7 -4.6
214A IAmb IAmb 23 08 16.8
comp=Z,15nm,0.8s
I40A Norwalk 33.51 352 P P 23 08 18.3 -1.3
GLMI Grayling 34.07 0 P P 23 08 24.4 0.0
baz=180
J61A Chester 34.29 16 P P 23 08 27.3 +1.0
SADO Sadowa 34.36 7 P P 23 08 26.2 -0.7
SADO IAmb IAmb 23 08 27.4
comp=Z,16nm,0.6s
SADO Sadowa 34.36 7 P P 23 08 26.7 -0.2
comp=Z,14nm,0.6s,baz=201,slow=8.1,SNR=22
comp=Z,14nm,0.6s
ECSD EROS Data Cent 34.53 345 P P 23 08 27.9 -0.5
ECSD EROS Data Cent 34.53 345 P P 23 08 27.6 -0.8
baz=159
LONY Lake Ozonia 34.99 13 P P 23 08 32.2 -0.2
baz=198
SPMN Marine on St. 35.14 350 P P 23 08 32.0 -1.7
SPMN IAmb IAmb 23 08 33.0
comp=Z,15nm,0.8s
SPMN Marine on St. 35.14 350 P P 23 08 32.7 -0.9
baz=166
PV23 Carpenter Ridg 35.16 326 P P 23 08 32.9 -1.3
LBNH Lisbon 35.29 16 P P 23 08 36.3 +1.4
baz=202
F36A Milaca 35.89 350 P P 23 08 39.0 -0.9
F36A IAmb IAmb 23 08 39.6
comp=Z,13nm,0.9s
IRM Iron Mountain 36.29 315 P P 23 08 44.2 +0.6
baz=123
F33A 5 Mile Ranch, 36.43 346 P P 23 08 43.5 -1.1
F33A IAmb IAmb 23 08 45.2
comp=Z,10nm,0.6s
KNB Kanab 36.43 321 P P 23 08 45.7 +0.7
MONP2 Monument Peak 36.54 312 P P 23 08 46.3 +0.3
baz=120
BELC Belle Mtn. Jos 36.80 314 P P 23 08 48.1 0.0
baz=122
PMD Palm Desert 36.89 313 P P 23 08 49.3 +0.6
TPFO Pinon Flats 36.92 313 P P 23 08 49.6 +0.5
baz=121
PFO Pinyon Flats O 36.93 313 P P 23 08 49.5 +0.3
baz=121
GMRC Granite Mounta 36.98 315 P P 23 08 49.9 +0.3
baz=123
HEC Hector,Ludlow 37.48 315 P P 23 08 54.4 +0.7
baz=122
TUQ Turquoise Moun 37.52 316 P P 23 08 54.8 +0.6
baz=124
GSC Goldstone, Bar 38.05 315 P P 23 09 00.9 +2.3
baz=122
EDW2 Edwards Air Fo 38.67 314 P P 23 09 05.4 +1.7
baz=121
LRMC Laurel Mtn Rad 38.76 315 P P 23 09 05.3 +0.8
baz=122
MPMC Manual Prospec 38.93 316 P P 23 09 07.2 +1.3
baz=122
MDND Maddock 39.13 344 P P 23 09 08.0 +0.8
MDND IAmb IAmb 23 09 08.7
comp=Z,29nm,0.9s
MDND Maddock 39.13 344 P P 23 09 08.2 +1.0
baz=157
CWC Cottonwood Cre 39.53 316 P P 23 09 13.0 +2.0
baz=122
RLMT Red Lodge 40.27 333 P P 23 09 16.7 -0.2
baz=141
H17A Grant Village 40.31 331 P P 23 09 17.1 -0.3
baz=139
ULM Lac du Bonnet 40.54 349 P P 23 09 17.2 -1.6
comp=Z,9.2nm,0.8s,baz=168,slow=9.0,SNR=8.5
comp=Z,9.2nm,0.8s
NVAR Mina Array Bea 40.77 318 P P 23 09 22.3 +1.2
comp=Z,1.8nm,0.7s,baz=136,slow=7.0,SNR=7.1
NVAR pP pP 23 09 52.7 -0.4
comp=Z,1.2nm,0.7s,baz=122,slow=6.8,SNR=3.6
comp=Z,1.8nm,0.7s
DGMT Dagmar 41.06 340 P P 23 09 24.0 +0.8
baz=150
HLID Hailey 41.65 327 P P 23 09 29.0 +0.8
baz=133
BOZ Bozeman (W) 41.71 332 P P 23 09 29.3 +0.6
baz=138
BDFB Brasilia 44.83 125 P P 23 09 54.9 +0.9
BDFB Brasilia 44.83 125 P P 23 09 55.6 +1.6
comp=Z,6.9nm,0.7s,baz=302,slow=11,SNR=12
comp=Z,6.9nm,0.7s
SCHQ Schefferville 46.33 14 P P 23 10 03.4 -1.7
comp=Z,9.7nm,0.6s,baz=207,slow=6.1,SNR=17
comp=Z,9.7nm,0.6s
FCC Fort Churchill 48.54 354 P P 23 10 21.0 -1.1
RCBR Riachuelo 51.37 106 P P 23 10 45.5 +1.2
PLCA Paso Flores 52.78 166 P P 23 10 55.3 +1.0
comp=Z,2.3nm,0.7s,baz=308,slow=6.8,SNR=3.7
comp=Z,2.3nm,0.7s
PLCA Paso Flores 52.78 166 P P 23 10 54.9 +0.6
YKA Yellowknife Ar 56.05 344 P P 23 11 16.2 -1.2
comp=Z,1.0nm,0.8s,baz=138,slow=7.1,SNR=15
YKA pP pP 23 11 50.2 -0.9
comp=Z,1.1nm,0.7s,baz=134,slow=7.4,SNR=5.5
comp=Z,1.0nm,0.8s
NUUK Nuuk 58.29 16 *i* P P 23 11 31.2 -2.0
NUUK IAmb IAmb 23 11 34.2
comp=Z,11nm,0.8s
CRAG Craig 58.46 330 P P 23 11 35.1 +0.6
baz=121
DLBC Dease Lake 58.65 334 P P 23 11 36.7 +0.8
baz=125
U33K Whale Pass 58.79 331 P P 23 11 37.6 +0.8
baz=121
S34M Telegraph Cree 58.84 333 P P 23 11 37.4 +0.3
baz=124
WRGLY Wrigley 59.26 341 P P 23 11 40.6 +0.7
baz=134
TGTN Hyland Airport 59.81 338 P P 23 11 44.0 +0.2
baz=129
SFJD Kangerlussuaq 60.78 15 *i* P P 23 11 48.1 -2.1
SFJD IAmb IAmb 23 11 48.9
comp=Z,12nm,0.6s
SFJD Kangerlussuaq 60.78 15 P P 23 11 48.2 -1.9
P32M Atlin 60.88 334 P P 23 11 52.3 +1.2
baz=122
SKAG Skagway 61.52 333 P P 23 11 57.1 +1.8
baz=120
DY2G Dye2 61.54 17 *i* P P 23 11 52.6 -3.0
DY2G IAmb IAmb 23 11 54.3
comp=Z,15nm,0.5s
FARO Faro, Yukon 62.17 337 P P 23 11 58.3 -1.4
baz=124
O30N Mendenhall 62.51 334 P P 23 12 00.7 -1.4
baz=120
ISOG Isortoq, Green 63.14 20 *i* P P 23 12 02.9 -3.0
ISOG IAmb IAmb 23 12 04.6
comp=Z,29nm,0.9s
HYT Haines Junctio 63.14 334 P P 23 12 05.7 -0.6
baz=119
I30M Mount Dempster 64.92 339 P P 23 12 17.3 -0.6
baz=122
G31M Satah River 65.14 341 P P 23 12 18.5 -0.5
baz=125
ICESG Greenland Ices 65.17 16 *i* P P 23 12 16.7 -2.9
ICESG IAmb IAmb 23 12 18.0
comp=Z,29nm,0.5s
F31M Tsiigehtchic 65.27 341 P P 23 12 19.3 -0.5
baz=125
BVCY Beaver Creek 65.30 335 P P 23 12 19.3 -0.9
baz=116
EPYK Eagle Plains 65.65 340 P P 23 12 22.0 -0.4
baz=122
INK Inuvik 65.71 342 P P 23 12 21.9 -0.7
baz=126
G30M tAoh Zraii Nji 65.81 340 P P 23 12 23.3 -0.1
baz=123
A36M Sachs Harbour 65.98 347 P P 23 12 23.1 -1.3
baz=136,SNR=6.2
L27K Beaver Creek, 65.98 335 P P 23 12 23.2 -1.3
baz=116
F30M Barrier River 66.01 341 P P 23 12 24.3 -0.4

baz=123
H29M Whitestone 66.15 339 P P 23 12 24.9 -0.7
baz=120
G29M Pine Creek 66.38 340 P P 23 12 26.6 -0.4
baz=121
L26K Log Cabin Wild 66.60 335 P P 23 12 28.4 -0.1
baz=114
Q23K Middleton Isla 66.61 331 P P 23 12 28.4 -0.1
baz=110
EYAK Cordova Ski Ar 66.71 332 P P 23 12 27.7 -1.4
baz=111
I27K Kandik River 67.02 338 P P 23 12 30.3 -0.9
baz=117
E29M Blow River 67.11 341 P P 23 12 30.5 -1.0
baz=122
KLU Klutina 67.12 333 P P 23 12 30.3 -1.6
baz=111
SCRK Sand Creek 67.25 336 P P 23 12 31.0 -1.7
baz=114
H27K Steamboat Moun 67.28 338 P P 23 12 31.5 -1.3
baz=117
J26L Joseph Creek 67.29 336 P P 23 12 31.5 -1.4
baz=114
P23K Montague Islan 67.30 331 P P 23 12 31.6 -1.3
baz=109
F28M Old Crow 67.35 340 P P 23 12 32.3 -0.9
baz=119
GLI Glacier Island 67.44 332 P P 23 12 32.4 -1.4
baz=110
M24K Tolsona, Glenn 67.46 333 P P 23 12 32.0 -1.9
baz=111
I26K Coal Creek Min 67.47 337 P P 23 12 32.8 -1.1
baz=115
RIDG Independent Ri 67.50 335 P P 23 12 33.7 -0.5
baz=113
G27K Doyon Strip 67.58 339 P P 23 12 33.4 -1.3
baz=117
SUMG Summit 67.71 14 *i* P P 23 12 34.0 -1.8
SUMG IAmb IAmb 23 12 36.7
comp=Z,16nm,1.0s
E28M Babbage River 67.73 341 P P 23 12 33.7 -1.8
baz=120
D28M Stokes Point 67.85 342 P P 23 12 35.4 -0.8
baz=121
SCM Sheep Creek Mo 67.87 333 P P 23 12 35.2 -1.4
baz=110
K24K Donnelly Dome 67.91 335 P P 23 12 35.7 -1.1
baz=112
J25K Salcha River, 68.05 336 P P 23 12 37.3 -0.3
baz=113
WAT6 Susitna Watana 68.31 334 P P 23 12 38.2 -1.1
baz=110
PRP Porcupine Dome 68.46 337 P P 23 12 39.0 -1.2
baz=113
D27M Malcolm River 68.50 341 P P 23 12 39.4 -1.0
baz=119
O22K Cooper Landing 68.55 331 P P 23 12 39.1 -1.6
baz=107
ILAR Eielson Array 68.72 336 P P 23 12 40.5 -1.2
comp=Z,0.8nm,0.9s,baz=111,slow=5.0,SNR=7.0
comp=Z,0.8nm,0.9s
NEEM North Greenlan 69.04 7 *i* P P 23 12 41.8 -2.0
NEEM IAmb IAmb 23 12 44.9
comp=Z,12nm,0.9s
MCK McKinley 69.20 335 P P 23 12 44.1 -0.7
baz=109
SUA Susitna One 69.31 332 P P 23 12 44.3 -1.2
baz=106
F25K Christian Rive 69.33 339 P P 23 12 44.4 -1.1
baz=114
Q20K Shuyak Island 69.36 329 P P 23 12 44.7 -1.0
baz=104
H24K Noodor Dome 69.49 337 P P 23 12 45.3 -1.2
baz=111
E25K Arctic Village 69.51 340 P P 23 12 45.7 -0.9
baz=114
G24K Hadweenzic Riv 69.65 338 P P 23 12 46.6 -0.8
baz=111
SKT Skwentna 69.81 332 P P 23 12 48.3 -0.2
baz=106
I23K Minto, Yukon-K 69.83 336 P P 23 12 48.4 -0.1
baz=109
N20K Mount Spurr 69.92 332 P P 23 12 48.3 -0.9
baz=105
P19K Oil Pt 70.03 330 P P 23 12 48.7 -1.2
baz=104
C26K Camden Bay 70.04 341 P P 23 12 50.0 +0.3
baz=115
BPAW Bear Paw Mtn. 70.18 335 P P 23 12 49.7 -1.0
baz=107
D25K Kavik River 70.26 341 P P 23 12 50.8 -0.4
baz=113
MLY Manley 70.35 336 P P 23 12 51.3 -0.5
baz=108
E24K Your Creek 70.51 339 P P 23 12 53.0 +0.3
baz=111
G23K Bananza Creek 70.60 337 P P 23 12 53.2 0.0
baz=109
SCO Scoresbysund 71.13 18 *i* P P 23 12 54.4 -1.9
SCO IAmb IAmb 23 12 55.5
comp=Z,3.9nm,0.5s
H21K Melozitna Rive 71.36 336 P P 23 12 57.5 -0.4
baz=106
D23K Nanushuk River 71.57 340 P P 23 12 59.0 -0.1
baz=109
F22K John River 71.65 338 P P 23 12 59.8 +0.2
baz=107
E22K Anaktuvuk Pass 71.71 339 P P 23 12 59.0 -0.9
baz=108
C23K Itkillik River 71.84 341 P P 23 13 00.5 0.0
baz=109
G21K Allakaket 71.87 337 P P 23 13 01.1 +0.2
baz=106
F21K Alatna River 72.05 338 P P 23 13 02.0 +0.1
baz=106
TTA Tatalina 72.06 333 P P 23 12 59.9 -2.2
baz=102
CHGN Chignik 72.13 326 P P 23 12 59.6 -2.8
baz=98
D22K Ayikyak River 72.23 339 P P 23 13 02.9 -0.1
baz=107
GCSA Galena City Sc 72.81 335 P P 23 13 04.4 -2.0
baz=102
F20K Avaraart Lake 72.86 337 P P 23 13 04.5 -2.1
baz=104
B22K Teshekpuk Lake 72.91 341 P P 23 13 06.3 -0.6
baz=107
B21K Ikpikpuk River 73.10 340 P P 23 13 06.8 -1.2
baz=105
SDPT Sand Point 73.17 325 P P 23 13 06.8 -1.9
baz=96
E20K Nigu River 73.31 338 P P 23 13 08.9 -0.6
baz=104
L16K Owhat River 73.44 331 P P 23 13 08.2 -2.0
baz=98
E19K Redstone River 73.52 337 P P 23 13 08.6 -2.0
baz=102
D20K Etivluk River 73.57 339 P P 23 13 09.4 -1.5
baz=103
A22K Sinclair Lake 73.59 341 P P 23 13 09.2 -1.7
baz=105
O14K Tigyukauivet M 74.00 329 P P 23 13 11.7 -1.7
baz=96
B20K Meade River 74.06 340 P P 23 13 12.4 -1.2
baz=103
D19K Kuna River 74.06 338 P P 23 13 12.6 -1.1
baz=102
A21K Barrow 74.19 341 P P 23 13 12.5 -1.8
baz=104
I17K Unalakleet 74.30 334 P P 23 13 14.7 -0.4
baz=98
DAG Danmarks Havn 74.34 13 *i* P P 23 13 12.7 -2.4
DAG IAmb IAmb 23 13 13.7
comp=Z,2.9nm,0.6s
C19K Lookout Ridge 74.71 339 P P 23 13 17.6 +0.1
baz=100
E17K Hotham Inlet 75.21 337 P P 23 13 19.9 -0.4
baz=98
A19K Wainwright 75.41 340 P P 23 13 22.5 +1.1
baz=99
B18K Kokolik River 75.53 339 P P 23 13 22.8 +0.7
baz=98
RDOG Red Dog Mine 75.75 338 P P 23 13 22.5 -0.9
baz=97
C17K DeLong Mountai 75.90 338 P P 23 13 24.0 -0.3
baz=97
ESDC Sonseca Array 76.28 52 P P 23 13 26.3 -0.7
comp=Z,4.2nm,0.8s,baz=280,slow=6.0,SNR=22

	comp=Z,4.2nm,0.8s							
EKA	**Eskdalemuir Ar**	**76.58**	**36**	P	**P**	**23 13 26.4**	**-1.9**	
	comp=Z,4.0nm,0.9s,baz=259,slow=5.8,SNR=4.9							
	comp=Z,4.0nm,0.9s							
UNV	**Unalaska Valle**	**76.59**	**323**	P	**P**	**23 13 28.0**	**-0.4**	
	baz=90							
C16K	**Lisburne Hills**	**76.68**	**338**	P	**P**	**23 13 28.1**	**-0.5**	
	baz=95							
NIKH	**Nikolski High**	**78.01**	**322**	P	**P**	**23 13 35.4**	**-0.9**	
	baz=88							
DBIC	**Dimbokro**	**78.96**	**85**	P	**P**	**23 13 42.0**	**-0.3**	
DBIC	**Dimbokro**	**78.96**	**85**	P	**P**	**23 13 41.2**	**-1.1**	
	comp=Z,6.0nm,0.9s,baz=239,slow=6.2,SNR=7.8							
	comp=Z,6.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**84.27**	**78**	P	**P**	**23 14 08.7**	**-1.6**	
	comp=Z,0.8nm,0.8s,baz=285,slow=5.2,SNR=5.4							
	comp=Z,0.8nm,0.8s							
HFS	**Hagfors**	**85.07**	**30**	P	**P**	**23 14 11.5**	**-1.8**	
	comp=Z,3.9nm,1.1s,baz=242,slow=3.1,SNR=5.5							
	comp=Z,3.9nm,1.1s							
DAVA	**Damuels**	**85.44**	**43**	*i* P	**P**	**23 14 15.0**	**-0.6**	
	comp=Z,8.1nm,0.8s							
RETA	**Reutte**	**85.99**	**43**	*e*P	**P**	**23 14 17.8**	**-0.4**	
	comp=Z,6.9nm,1.2s							
FETA	**Feichten**	**86.06**	**43**	*e*P	**P**	**23 14 18.3**	**-0.4**	
	comp=Z,7.3nm,1.1s							
MOTA	**Moosalm**	**86.24**	**43**	*i* P	**P**	**23 14 18.7**	**-0.9**	
	comp=Z,4.8nm,1.0s							
SQTA	**Sankt Quirin**	**86.34**	**43**	*e*P	**P**	**23 14 19.3**	**-0.7**	
	comp=Z,9.4nm,1.3s							
ARCES	**ARCESS Array B**	**87.04**	**19**	P	**P**	**23 14 20.6**	**-2.3**	
	comp=Z,3.8nm,1.1s,baz=284,slow=4.9,SNR=7.5							
	comp=Z,3.8nm,1.1s							
ABTA	**Abfaltersbach**	**87.31**	**43**	*e*P	**P**	**23 14 24.6**	**-0.1**	
	comp=Z,6.9nm,0.9s							
FINES	**FINESS Array B**	**90.44**	**27**	P	**P**	**23 14 37.7**	**-1.1**	
	comp=Z,2.4nm,1.0s,baz=276,slow=3.9,SNR=3.5							
	comp=Z,2.4nm,1.0s							
MDJ	**Mudanjiang**	**116.80**	**333**	P	**PKPdf**	**23 20 21.5**	**0.0**	
MDJ				pmax	pmax			
	comp=Z,11nm,1.5s							
MDJ				pmax	pmax			
	comp=Z,200nm,4.8s							
HHC	**Hu-ho-hao-te**	**126.58**	**345**	*e*P	**PKPdf**	**23 20 38.5**	**-2.1**	
BTO	**Baotou**	**127.20**	**346**	*e*PKP	**PKPdf**	**23 20 37.5**	**-4.2**	
BTO				PP	**PP**	**23 22 41.0**	**-0.2**	
BTO				pmax	pmax			
	comp=Z,15nm,0.9s							
BTO				pmax	pmax			
	comp=Z,300nm,6.9s							
NJ2	**Nanjing**	**131.89**	**333**	*e*P	**PKiKP**	**23 20 54.0**	**+2.2**	
NJ2				pmax	pmax			
	comp=Z,12nm,0.5s							
STKA	**Stephens Creek**	**132.30**	**236**	PKP	**PKPdf**	**23 20 51.7**	**+0.2**	
	comp=Z,1.4nm,0.7s,baz=191,slow=1.8,SNR=4.0							
ASAR	**Alice Springs**	**140.94**	**246**	PKhKP	PKPpre	23 21 02.1		
	comp=Z,0.6nm,0.4s,baz=107,slow=3.2,SNR=8.9							
WRA	**Warramunga Arr**	**141.20**	**251**	PKhKP	PKPpre	23 21 02.9		
	comp=Z,0.9nm,0.5s,baz=92,slow=3.2,SNR=24							
PZH	**PanZhiHua**	**142.54**	**350**	PKP	**PKPdf**	**23 21 11.3**	**+0.6**	

*PNSN **28** 23:08:31.9, 46.˚70N×121.˚06W, h1km, MD2.7, Fault plane solution: NP1:φs 145.00000°, δ85.00000°, λ-170.00000°.*
*NEIC **28** 23:08:31.5±1.7, 46.˚67N±0.˚02×121.˚07W±0.˚02, h4km±7km, Error ellipse: s-maj=2.8km s-min=1.6km az=188.0*
SEA 28 23:08:32.0±2.2, 46.˚71N±0.˚02×121.˚06W±0.˚02, h-0km, ML2.9/62, ML2.9/86(NEIC), Error ellipse: s-maj=2.8km s-min=1.6km az=187.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAC	**Naches**	**0.16**	**80**		Pg	23 08 35.5	+0.4
SR41	**SR410 Landslid**	**0.38**	**299**		Pg	23 08 39.2	0.0
SR41					Sg	23 08 44.6	+0.6
EBG	**Ellensburg**	**0.40**	**59**		Pg	23 08 40.1	+0.5
FMW	**Mount Fremont**	**0.48**	**299**		Pg	23 08 41.2	0.0
RCS	**Mount Rainier-**	**0.49**	**290**		Pg	23 08 41.4	0.0
LON	**Longmire**	**0.52**	**275**		Pg	23 08 41.2	-0.7
LON					Sg	23 08 48.2	-0.4
LON	**Longmire**	**0.52**	**275**		Pg	23 08 41.4	-0.5
MXC	**Moxie City**	**0.54**	**103**	Pg	Pg	23 08 42.3	-0.1
MXC				IAML		23 08 50.4	
	comp=E,881nm,0.2s						
MXC	**Moxie City**	**0.54**	**103**		Sg	23 08 50.0	+0.6
REMR	**Mount Rainier-**	**0.55**	**282**		Pg	23 08 42.2	-0.3
TBM	**Table Mountain**	**0.56**	**34**		Pg	23 08 43.0	+0.2
LTY	**Liberty**	**0.61**	**26**		Pg	23 08 43.4	-0.3
LTY				IAML		23 08 52.4	
	comp=N,474nm,0.4s						
RVC	**Mount Rainier-**	**0.67**	**291**		Pg	23 08 44.5	-0.3
D05A	**Enumclaw**	**0.80**	**308**		Pg	23 08 47.1	-0.2
D05A				IAML		23 08 58.6	
	comp=E,473nm,0.2s						
BVW	**Beverly**	**0.82**	**82**		Pg	23 08 47.2	-0.4
E07A	**Sunnyside**	**0.84**	**100**		Pg	23 08 47.3	-0.8
E07A				IAML		23 09 02.3	
	comp=N,316nm,0.5s						
E07A				IAML		23 09 02.8	
	comp=E,279nm,0.6s						
MDW	**Midway**	**0.90**	**95**		Pg	23 08 48.4	-0.8
CDFW	**Cedar Flats**	**0.90**	**230**		Pg	23 08 48.5	-0.7
BOLM	**Sugar Bowl**	**0.91**	**238**		Pg	23 08 49.3	-0.2
GBB	**Gable Butte**	**0.99**	**95**		Pg	23 08 50.1	-0.8
BLTW	**Bickleton**	**1.00**	**142**		Pg	23 08 49.9	-1.3
HAWA	**Hanford**	**1.10**	**106**	Pg	Pg	23 08 51.6	-1.5
HAWA				IAML		23 09 08.0	
	comp=E,252nm,0.3s						
HAWA				IAML		23 09 10.8	
	comp=E,172nm,0.2s						
GBL	**Gable Mountain**	**1.11**	**95**		Pg	23 08 52.1	-1.1
F07A	**Phinny Hill Vi**	**1.13**	**136**		Pg	23 08 52.2	-1.4
F04A	**Amboy**	**1.22**	**231**		Pg	23 08 54.1	-1.2
PAT2	**Paterson 2**	**1.22**	**132**		Pg	23 08 53.9	-1.4
WTV	**Waterville**	**1.25**	**37**		Pg	23 08 54.5	-1.4
E08A	**Dider Farm, El**	**1.40**	**98**		Pn	23 08 56.4	-2.3
E08A				IAML		23 09 15.9	
	comp=E,241nm,0.3s						
GPW	**Glacier Peak**	**1.42**	**358**		Pg	23 08 57.7	-1.4
HOOD	**Mount Hood Mea**	**1.44**	**197**		Pn	23 08 57.9	-1.6
G05A	**Wamic**	**1.47**	**187**		Pn	23 08 58.3	-1.6
GNW	**Green Mountain**	**1.48**	**306**	Pn	Pn	23 08 58.2	-1.7
GNW				IAML		23 09 18.6	
	comp=E,151nm,0.5s						
GNW				IAML		23 09 18.7	
	comp=N,140nm,0.6s						
F04D	**Rainier, OR**	**1.49**	**246**		Pn	23 08 58.5	-1.5
G06A	**Carlson Farm,**	**1.50**	**168**	Pn	Pn	23 08 57.9	-2.3
G06A				IAML		23 09 21.4	
	comp=N,100nm,0.4s						
D08A	**Wollman Farm,**	**1.51**	**76**	Pn	Pn	23 08 58.1	-2.2
BMW	**Boistfort Moun**	**1.51**	**262**		Pn	23 08 58.4	-2.0
DHW2	**Dyer Hill 2**	**1.55**	**34**		Pn	23 08 59.4	-1.6
VTHM	**Trough**	**1.56**	**167**		Pn	23 08 59.3	-1.8
VBEM	**Beaver Butte**	**1.69**	**193**		Pn	23 09 02.0	-0.9
E03A	**Lebam**	**1.73**	**266**	Pn	Pn	23 09 01.9	-1.4
RPW	**Rockport**	**1.77**	**350**		Pn	23 09 03.5	-0.5
B019	**Raymond**	**1.79**	**269**		Pn	23 09 03.7	-0.3
B06A	**Marblemount**	**1.84**	**351**		Pn	23 09 04.3	-0.5
B06A				IAML		23 09 38.2	
	comp=N,130nm,0.4s						
WISH	**Wishkah**	**1.90**	**283**	Pn	Pn	23 09 05.2	-0.5
WISH				IAML		23 09 16.8	
	comp=E,80nm,3.1s						
WISH				IAML		23 09 54.3	
	comp=N,78nm,3.1s						
RADR	**Rader Ridge**	**1.91**	**262**	Pn	Pn	23 09 05.1	-0.7
RADR				IAML		23 09 14.6	
	comp=E,69nm,3.0s						
RADR				IAML		23 09 46.3	
	comp=N,72nm,1.6s						
E09A	**Wood Farm, Sta**	**2.02**	**94**	Pn	Pn	23 09 05.3	-2.0
B08A	**Colville Reser**	**2.03**	**35**	Pn	Pn	23 09 05.1	-2.4
B08A				IAML		23 09 35.6	
	comp=N,106nm,0.5s						
G08A	**Pilot Rock**	**2.04**	**133**	Pn	Pn	23 09 06.2	-1.4
G08A				IAML		23 09 33.3	
	comp=N,124nm,0.4s						
G08A				IAML		23 09 33.8	
	comp=E,122nm,0.4s						
NLWA	**Neilton Lookou**	**2.04**	**291**	Pn	Pn	23 09 07.4	-0.2
NLWA				IAML		23 09 35.7	
	comp=E,80nm,0.5s						
LNOR	**Lincton Mounta**	**2.10**	**112**		Pn	23 09 07.1	-1.4
B04A	**Port Angeles**	**2.14**	**310**		Pn	23 09 08.5	-0.5
B04A				IAML		23 09 39.0	
	comp=N,63nm,0.5s						
G03D	**McMinnville, O**	**2.14**	**227**	Pn	Pn	23 09 08.7	-0.3
G03D				IAML		23 09 40.8	
	comp=E,89nm,1.1s						
G03D				IAML		23 09 42.1	
	comp=N,83nm,0.5s						
MBW	**Mount Baker**	**2.16**	**345**		Pn	23 09 10.4	+1.1
H04A	**Detroit Lake**	**2.17**	**202**		Pn	23 09 07.9	-1.5
C09A	**Chrisman Ranch**	**2.19**	**59**	Pn	Pn	23 09 08.0	-1.7
MCW	**Mount Constitu**	**2.31**	**329**		Pn	23 09 12.2	+0.8
I05D	**Terrebonne, OR**	**2.38**	**185**		Pn	23 09 11.3	-1.0
I05D				IAML		23 09 49.0	
	comp=E,47nm,0.5s						
I05D				IAML		23 09 49.1	
	comp=N,79nm,0.5s						
H04D	**Lebanon**	**2.48**	**209**	Pn	Pn	23 09 13.6	0.0
H04D				IAML		23 09 49.6	
	comp=N,36nm,0.4s						
H04D				IAML		23 09 56.5	
	comp=E,50nm,1.5s						
PGC	**Sidney**	**2.53**	**321**	Pn	Pn	23 09 14.9	+0.7
PGC				IAML		23 09 49.8	
	comp=N,44nm,0.5s						
COR	**Corvallis**	**2.64**	**217**	Pn	Pn	23 09 17.1	+1.3
COR				IAML		23 10 01.2	
	comp=N,40nm,2.6s						
COR				IAML		23 10 02.9	
	comp=N,43nm,1.6s						
C03A	**Quillayute Air**	**2.69**	**299**	Pn	Pn	23 09 17.4	+0.9
F10A	**Beach Ranch, E**	**2.75**	**104**		Pn	23 09 15.7	-1.8
F10A				IAML		23 10 02.2	
	comp=E,58nm,0.3s						
I07A	**Izee**	**2.84**	**157**		Pn	23 09 17.0	-1.7
BUCK	**Buck Mountain**	**2.85**	**209**	Pn	Pn	23 09 18.9	+0.1
BUCK				IAML		23 10 20.1	
	comp=N,33nm,2.8s						
BUCK				IAML		23 10 27.2	
	comp=E,44nm,3.5s						
PINE	**Pine Mountain**	**2.91**	**178**	Pn	Pn	23 09 18.4	-1.4
PINE				IAML		23 10 01.1	
	comp=N,34nm,4.7s						
PINE				IAML		23 10 14.1	
	comp=E,38nm,1.8s						
CLRS	**Cowichan Lake**	**2.96**	**317**	Pn	Pn	23 09 19.4	-0.8
I04A	**Tendick Farm,**	**3.06**	**199**		Pn	23 09 20.8	-0.9
NEW	**Newport**	**3.09**	**58**	Pn	Pn	23 09 20.0	-2.1
NEW				IAML		23 10 11.4	
	comp=E,26nm,0.4s						
NEW				IAML		23 10 15.8	
	comp=E,44nm,0.7s						
BMO	**Blue Mountains**	**3.21**	**124**		Pn	23 09 21.7	-2.1
I03D	**Drain, OR**	**3.42**	**209**	Pg	Pb	23 09 33.0	-0.3
J05D	**Fort Rock, OR**	**3.42**	**182**	Pg	Pb	23 09 33.8	+0.2
PLID	**Pearl Lake**	**3.88**	**113**	Pn	Pn	23 09 31.7	-1.4
PLID				IAML		23 10 33.9	
	comp=E,12nm,4.3s						
DBO	**Dodson Butte**	**3.91**	**204**	Pn	Pn	23 09 34.0	+0.6
DBO				IAML		23 10 22.2	
	comp=E,23nm,4.9s						
DBO				IAML		23 11 29.4	
	comp=N,19nm,3.7s						
K05A	**Summer Lake**	**3.98**	**178**	Pn	Pn	23 09 34.5	0.0
HUMO	**Hull Mountain**	**4.32**	**199**	Pn	Pn	23 09 38.9	0.0
HUMO				IAML		23 10 29.6	
	comp=N,7.9nm,3.8s						
HUMO				IAML		23 11 32.6	
	comp=E,8.5nm,4.8s						
K02D	**Willamette Mer**	**4.42**	**206**	Pn	Pn	23 09 41.7	+1.4
WVOR	**Wild Horse Val**	**4.61**	**157**	Pn	Pn	23 09 40.2	-2.7
WVOR				IAML		23 11 10.3	
	comp=E,7.7nm,3.1s						
WVOR				IAML		23 11 44.2	
	comp=E,11nm,3.0s						
MSO	**Missoula**	**4.89**	**86**	Pn	Pn	23 09 44.5	-2.4
BPMT	**Black Pine Rid**	**5.26**	**90**	Pn	Pn	23 09 50.3	-1.7
BOZ	**Bozeman (W)**	**6.64**	**96**	Pn	Pn	23 10 09.4	-1.6

*IDC **28** 23:23:02.7±1.3, 8.˚82S×158.˚17E, h0km, mb3.7/5, mbtmp3.7/5, MS3.1/2, Error ellipse: s-maj=37.2km s-min=20.5km az=175.0*
ISC 28 23:23:06.3±1.1, 8.˚9S±0.˚2×158.˚19E±0.˚09, h23km, n8, σ0.˚68/7, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.82**	**108**	Pn	**Pn**	**23 23 36.6**	**+0.4**
	911nm,0.3s,baz=331,slow=10,SNR=15						
HNR				Sn	**Sb**	**23 24 01.3**	**0.0**
	2μm,0.3s,baz=134,slow=21,SNR=5.7						
HNR				LR	LR	23 24 08.8	
	comp=Z,674nm,21.6s,baz=339,slow=36						
CTA	**Charters Tower**	**16.05**	**225**	LR	LR	23 32 28.2	
	comp=Z,55nm,18.3s,baz=263,slow=35						
WRA	**Warramunga Arr**	**25.55**	**242**	P	**P**	**23 28 34.0**	**+0.3**
	1.2nm,0.8s,baz=69,slow=10,SNR=9.4						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**27.50**	**235**	P	**P**	**23 28 50.9**	**-0.4**
	0.5nm,0.9s,baz=73,slow=9.3,SNR=4.3						
	0.5nm,0.9s						
STKA	**Stephens Creek**	**27.60**	**212**	P	**P**	**23 28 51.8**	**-0.2**
	1.3nm,0.6s,baz=27,slow=4.5,SNR=3.9						
	1.3nm,0.6s						
URZ	**Urewera**	**33.87**	**153**	LR	LR	23 41 05.1	
	comp=Z,32nm,19.7s,baz=302,slow=32						
MKAR	**Makanchi Array**	**86.90**	**318**	P	**P**	**23 35 50.1**	**+0.7**
	0.2nm,0.6s,baz=104,slow=4.0,SNR=1.8						
	0.2nm,0.6s						
NVAR	**Mina Array Bea**	**90.40**	**51**	P	**P**	**23 36 05.5**	**-0.9**
	0.5nm,0.7s,baz=247,slow=6.6,SNR=3.9						
	0.5nm,0.7s						

*IDC **28** 23:24:58.2±1.3, 40.˚20N×77.˚72E, h0km, mb3.4/5, mbtmp3.3/10, ML2.7/5, MS3.7/1, Error ellipse: s-maj=22.3km s-min=21.9km az=112.0*
*KRNET **28** 23:25:02.8±0.1, 40.˚59N×77.˚58E, mb3.8*
*SOME **28** 23:25:04.0, 40.˚70N×77.˚53E, h5km*
*NNC **28** 23:25:07.6±1.4, 40.˚79N×77.˚59E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=9.9km s-min=8.1km az=0.0*
ISC 28 23:25:07.2±1.1, 40.˚68N±0.˚05×77.˚62E±0.˚04, h21km, n88, σ1§41/102, mb3.5/5, 32C-17D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.72**	**228**	P	**Pb**	**23 25 39.5**	**+1.4**
KSH				S	Sb	23 26 09.8	+11
KSH				pmax	pmax		
	comp=Z,110nm,0.6s						
KSH				smax	smax		
	comp=N,350nm,0.9s						
KSH				smax	smax		
	comp=E,330nm,0.5s						
ULHL	**Ulahol**	**1.88**	**327**	P	**Pb**	**23 25 41.5**	**+0.6**
	SNR=11						
ULHL	**Ulahol**	**1.88**	**327**	↑*e*P	**Pn**	**23 25 38.7**	**+0.4**
	baz=29						
ULHL				↑*e*S	**Sb**	**23 26 04.7**	**+0.6**
	baz=29						
PRZ	**Przheval'sk**	**1.90**	**18**	↑*e*P	**Pn**	**23 25 39.9**	**+1.4**
	baz=18						
PRZ				↑*e*S	**Sb**	**23 26 06.7**	**+2.2**
	baz=18						
ANVS	**Anan'yevo**	**2.10**	**1**	↓*e*P	**Pn**	**23 25 42.6**	**+1.2**
	baz=2.0						
ANVS				↓*e*S	**Sb**	**23 26 11.4**	**+0.9**
	baz=2.0						
KZA	**Kyzart**	**2.27**	**309**	P	**Pn**	**23 25 45.2**	**+1.3**
	SNR=44						
KZA	**Kyzart**	**2.27**	**309**	↑*e*P	**Pn**	**23 25 44.1**	**+0.3**
	baz=11						
KZA				↑*e*S	**Sn**	**23 26 14.2**	**+2.8**
	baz=11						
TNSS	**Tian-Shan**	**2.41**	**348**	*e*Pg	**Pb**	**23 25 49.2**	**-0.9**
	comp=E,59nm,0.3s						
TNSS				*e*Lg	Lg	23 26 21.6	
	comp=E,322nm,0.4s						
TNSS	**Tian-Shan**	**2.41**	**348**	Pg	**Pb**	**23 25 49.2**	**-0.9**
	comp=E,59nm,0.3s						
TNSS				Lg	Lg	23 26 21.6	
	comp=E,322nm,0.7s						
SATY	**Saty**	**2.45**	**14**	*e*Pg	**Pb**	**23 25 49.7**	**-1.0**
	comp=E,101nm,0.5s						
SATY				*e*Lg	Lg	23 26 22.8	
	comp=E,242nm,0.7s						
SATY	**Saty**	**2.45**	**14**	Pg	**Pb**	**23 25 49.7**	**-1.0**
	comp=E,101nm,0.5s						
SATY				Lg	Lg	23 26 22.8	
	comp=E,242nm,0.7s						
IZV	**Izvestkoviy**	**2.47**	**343**	*e*Pg	**Pb**	**23 25 50.5**	**-0.5**
	comp=E,25nm,0.1s						
IZV				*e*Lg	Lg	23 26 23.9	
	comp=E,259nm,0.5s						
IZV	**Izvestkoviy**	**2.47**	**343**	Pg	**Pb**	**23 25 50.5**	**-0.5**
	comp=E,25nm,0.1s						
IZV				Lg	Lg	23 26 23.9	
	comp=E,259nm,0.5s						
MDOK	**Medeo**	**2.52**	**350**	*e*Pg	**Pb**	**23 25 50.9**	**-1.0**
	comp=E,66nm,0.5s						
MDOK				*e*Lg	Lg	23 26 24.6	
	comp=E,946nm,0.7s						
MDOK	**Medeo**	**2.52**	**350**	↑Pn	**Pb**	**23 25 50.6**	**-1.2**
	comp=E,56nm,0.4s						
MDOK				Pg	**Pb**	**23 25 50.9**	**-1.0**
	comp=E,66nm,0.5s						
MDOK				Lg	Lg	23 26 24.6	
	comp=E,946nm,0.7s						
MDOK				↑Lg	Lg	23 26 25.5	
	comp=E,724nm,0.5s						
ZHN	**Zhinishke**	**2.56**	**13**	*e*Pg	**Pb**	**23 25 51.8**	**-0.7**
	comp=E,35nm,0.4s						
ZHN				*e*Lg	Lg	23 26 26.6	
	comp=E,142nm,0.5s						
ZHN	**Zhinishke**	**2.56**	**13**	Pg	**Pb**	**23 25 51.8**	**-0.7**
	comp=E,35nm,0.4s						
ZHN				Lg	Lg	23 26 26.6	
	comp=E,142nm,0.5s						
KOTS	**Kotyrbulak**	**2.58**	**352**	*e*Pg	**Pb**	**23 25 52.5**	**-0.4**
	comp=E,60nm,0.3s						
KOTS				*e*Lg	Lg	23 26 27.3	
	comp=E,608nm,0.5s						
KOTS	**Kotyrbulak**	**2.58**	**352**	Pg	**Pb**	**23 25 52.5**	**-0.4**
	comp=E,60nm,0.3s						
KOTS				Lg	Lg	23 26 27.3	
	comp=E,608nm,0.5s						
AAA	**Alma-Ata**	**2.58**	**348**	*e*Pg	**Pb**	**23 25 53.0**	**+0.1**
	comp=E,82nm,0.4s						
AAA				*e*Lg	Lg	23 26 28.0	
	comp=E,40nm,0.4s						
AAA	**Alma-Ata**	**2.58**	**348**	Pg	**Pb**	**23 25 53.0**	**+0.1**
	comp=E,82nm,0.4s						
AAA				Lg	Lg	23 26 28.0	
	comp=E,40nm,0.4s						
KNDC	**Almaty**	**2.58**	**349**	↑Pn	**Pb**	**23 25 52.8**	**-0.1**
	comp=E,124nm,0.5s						
KNDC				↓Lg	Lg	23 26 27.7	
	comp=E,1μm,0.6s						
MTBS	**Maitube**	**2.61**	**340**	*e*Pg	**Pb**	**23 25 52.3**	**-1.0**
	comp=E,30nm,0.4s						
MTBS				*e*Lg	Lg	23 26 27.3	
	comp=E,92nm,0.4s						
MTBS	**Maitube**	**2.61**	**340**	Pg	**Pb**	**23 25 52.3**	**-1.0**
	comp=E,30nm,0.4s						
MTBS				Lg	Lg	23 26 27.3	
	comp=E,92nm,0.4s						
KST	**Kastek**	**2.67**	**333**	*e*Pg	**Pb**	**23 25 53.3**	**-1.1**
	comp=E,9.8nm,0.4s						
KST				*e*Lg	Lg	23 26 28.9	
	comp=E,139nm,0.8s						
KST	**Kastek**	**2.67**	**333**	Pg	**Pb**	**23 25 53.3**	**-1.1**
	comp=E,9.8nm,0.4s						
KST				Lg	Lg	23 26 28.9	
	comp=E,139nm,0.8s						
UZB	**Uzynbulak**	**2.68**	**23**	*e*Pg	**Pb**	**23 25 53.6**	**-1.0**
	comp=E,49nm,0.7s						
UZB				*e*Lg	Lg	23 26 29.9	
	comp=E,126nm,0.5s						
UZB	**Uzynbulak**	**2.68**	**23**	Pg	**Pb**	**23 25 53.6**	**-1.0**
	comp=E,49nm,0.7s						
UZB				Lg	Lg	23 26 29.9	
	comp=E,126nm,0.5s						
TKM2	**Tokmak 2**	**2.70**	**327**	P	**Pb**	**23 25 54.5**	**-0.6**
	SNR=13						
TKM2	**Tokmak 2**	**2.70**	**327**	↑*i*P	**Pn**	**23 25 50.2**	**+0.5**
	baz=28						
TKM2				↑*i*S	**Sn**	**23 26 25.0**	**+3.1**
	baz=28						
ARLS	**Aral**	**2.75**	**296**	↑*e*P	**Pn**	**23 25 50.2**	**-0.1**
	baz=98						
ARLS				↑*e*S	**Sn**	**23 26 25.0**	**+2.0**
	baz=98						
UCH	**Uchtor**	**2.80**	**305**	P	**Pn**	**23 25 50.7**	**-0.5**
	SNR=28						
UCH	**Uchtor**	**2.80**	**305**	↓*e*P	**Pn**	**23 25 51.4**	**+0.2**
	baz=6.0						
UCH				↓*i*S	**Sn**	**23 26 27.0**	**+2.4**
	baz=6.0						
KBK	**Karagaybulak**	**2.81**	**316**	P	**Pn**	**23 25 55.5**	**-1.4**
	SNR=15						
KBK	**Karagaybulak**	**2.81**	**316**	↓*i*P	**Pn**	**23 25 51.6**	**+0.5**
	baz=17						
KBK				↓*i*S	**Sn**	**23 26 27.4**	**+2.9**
	baz=17						
SHLS	**Shalkode**	**2.83**	**28**	*e*Pg	**Pb**	**23 25 59.4**	**+2.3**
	comp=E,84nm,0.5s						
SHLS				*e*Lg	Lg	23 26 39.3	
	comp=E,288nm,0.7s						
SHLS	**Shalkode**	**2.83**	**28**	Pg	**Pb**	**23 25 59.4**	**+2.3**
	comp=E,84nm,0.5s						
SHLS				Lg	Lg	23 26 39.3	
	comp=E,288nm,0.7s						
KURS	**Kuram**	**2.84**	**8**	*e*Pg	**Pb**	**23 25 56.4**	**-0.8**
	comp=E,50nm,0.8s						
KURS				*e*Lg	Lg	23 26 34.4	
	comp=E,114nm,0.9s						
KURS	**Kuram**	**2.84**	**8**	Pg	**Pb**	**23 25 56.4**	**-0.8**
	comp=E,50nm,0.8s						
KURS				Lg	Lg	23 26 34.4	
	comp=E,114nm,0.9s						
KPKS	**Kokpek**	**2.90**	**16**	*e*Pg	**Pb**	**23 25 57.5**	**-0.7**
	comp=E,85nm,0.3s						
KPKS				*e*Lg	Lg	23 26 35.9	
	comp=E,250nm,0.5s						
KPKS	**Kokpek**	**2.90**	**16**	Pg	**Pb**	**23 25 57.5**	**-0.7**
	comp=E,85nm,0.3s						
KPKS				Lg	Lg	23 26 35.8	
	comp=E,250nm,0.5s						
DGS	**Degeres**	**2.91**	**332**	*e*Pg	**Pb**	**23 25 57.5**	**-1.0**
	comp=E,28nm,0.5s						
DGS				*e*Lg	Lg	23 26 35.9	
	comp=E,103nm,0.6s						

CHMS				⇓*e*S		**Sn**	**23 26 35.5**	**+2.7**
	baz=20								
CHKK	**Chushkaly**	**3.21**	**352**	*e*Pg		**Pb**	**23 26 03.2**	**-0.3**
	comp=E,54nm,0.4s								
CHKK				*e*Lg		Lg	23 26 45.6		
	comp=E,174nm,0.7s								
CHKK	**Chushkaly**	**3.21**	**352**	Pg		**Pb**	**23 26 03.2**	**-0.3**
	comp=E,54nm,0.4s								
CHKK				Lg		Lg	23 26 45.6		
	comp=E,174nm,0.7s								
SFK	**Sufi-Kurgan**	**3.22**	**259**	⇑*i*P		**Pn**	**23 25 56.2**	**-0.5**
	baz=61								
SFK				⇑*i*S		**Sn**	**23 26 35.2**	**+0.7**
	baz=61								
AML	**Almayashu**	**3.29**	**297**	⇓*e*P		**Pn**	**23 25 58.1**	**+0.2**
	baz=99								
AML				⇓*i*S		**Sn**	**23 26 38.5**	**+1.9**
	baz=99								
KUU	**Kurty**	**3.35**	**344**	*e*Pg		**Pb**	**23 26 05.0**	**-0.9**
	comp=E,27nm,0.5s								
KUU				*e*Lg		Lg	23 26 48.7		
	comp=E,158nm,0.7s								
KUU	**Kurty**	**3.35**	**344**	Pg		**Pb**	**23 26 05.0**	**-0.9**
	comp=E,27nm,0.5s								
KUU				Lg		Lg	23 26 48.7		
	comp=E,158nm,0.7s								
USP	**Ospenovka**	**3.48**	**319**	P		**Pb**	**23 26 08.1**	**0.0**
	SNR=9.0								
USP	**Ospenovka**	**3.48**	**319**	⇑*e*P		**Pn**	**23 26 00.8**	**+0.6**
	baz=20								
USP				⇑*e*S		**Sn**	**23 26 43.3**	**+2.6**
	baz=20								
EKS2	**Erkin-Say**	**3.50**	**306**	P		**Pb**	**23 26 11.5**	**+3.0**
	SNR=8.0								
EKS2	**Erkin-Say**	**3.50**	**306**	⇓*e*P		**Pn**	**23 26 00.8**	**+0.3**
	baz=7.0								
EKS2				⇓*e*S		**Sn**	**23 26 43.3**	**+2.0**
	baz=7.0								
ARXS	**Arharly**	**3.54**	**2**	*e*Pg		**Pb**	**23 26 09.2**	**+0.1**
	comp=E,29nm,0.6s								
ARXS				*e*Lg		Lg	23 26 56.5		
	comp=E,48nm,0.6s								
ARXS	**Arharly**	**3.54**	**2**	Pg		**Pb**	**23 26 09.2**	**+0.1**
	comp=E,29nm,0.6s								
ARXS				Lg		Lg	23 26 56.5		
	comp=E,48nm,0.6s								
ARSB	**Arslanbob**	**3.57**	**282**	⇑*e*P		**Pn**	**23 26 01.4**	**-0.1**
	baz=83								
ARSB				⇑*e*S		**Sn**	**23 26 44.1**	**+1.0**
	baz=83								
OHH	**Osh**	**3.69**	**269**	⇑*e*P		**Pn**	**23 26 02.5**	**-0.5**
	baz=71								
OHH				⇑*e*S		**Sn**	**23 26 45.9**	**0.0**
	baz=71								
KNOS	**Konyrlen**	**3.85**	**17**	Pg		**Pb**	**23 26 15.8**	**+1.2**
	comp=E,30nm,0.7s								
KNOS				Lg		Lg	23 27 07.1		
	comp=E,46nm,0.6s								
MRKS	**Merke**	**3.88**	**304**	*e*Pg		**Pb**	**23 26 14.3**	**-0.7**
	comp=E,8.9nm,0.6s								
MRKS				*e*Lg		Lg	23 27 05.2		
	comp=E,43nm,0.8s								
MRKS	**Merke**	**3.88**	**304**	Pg		**Pb**	**23 26 14.3**	**-0.7**
	comp=E,8.9nm,0.6s								
MRKS				Lg		Lg	23 27 05.2		
	comp=E,43nm,0.8s								
DJR	**Jarkent**	**3.99**	**23**	*e*Pg		**Pb**	**23 26 17.2**	**+0.4**
	comp=E,13nm,0.3s								
DJR				*e*Lg		Lg	23 27 10.3		
	comp=E,70nm,0.5s								
DJR	**Jarkent**	**3.99**	**23**	Pg		**Pb**	**23 26 17.2**	**+0.4**
	comp=E,13nm,0.3s								
DJR				Lg		Lg	23 27 10.3		
	comp=E,70nm,0.5s								
TRKS	**Terek-Say**	**4.97**	**282**	⇑*e*P		**Pn**	**23 26 20.4**	**-0.4**
	baz=82								
TRKS				⇑*e*S		**Sn**	**23 27 17.0**	**-0.7**
	baz=82								
BTLS	**Baital**	**5.09**	**330**	*e*Pg		**Pb**	**23 26 36.6**	**+1.0**
	comp=E,1.5nm,0.2s								
BTLS				*e*Lg		Lg	23 27 43.3		
	comp=E,22nm,0.7s								
BTLS	**Baital**	**5.09**	**330**	Pg		**Pb**	**23 26 36.6**	**+1.0**
	comp=E,1.5nm,0.2s								
BTLS				Lg		Lg	23 27 43.3		
	comp=E,22nm,0.7s								
KK31	**Karatay Array**	**5.83**	**297**	⇑Pg		Pb	23 26 54.4	+6.2	
	comp=E,2.7nm,0.6s,baz=112,slow=16,SNR=6.1								
KK31				Lg		Lg	23 28 12.2		
	comp=E,4.8nm,0.5s,baz=110,slow=27,SNR=5.3								
MAKZ	**Makanchi**	**6.89**	**26**	⇓Pg		Pb	23 27 13.6	+7.4	
	comp=E,5.2nm,1.1s								
MAKZ				⇑Lg		Lg	23 28 45.7		
	comp=E,4.8nm,0.7s								
MK31	**Makanchi Array**	**6.99**	**27**	⇑Pn		**Pn**	**23 26 47.8**	**-0.5**
	comp=E,0.5nm,0.3s,baz=76,slow=82,SNR=22								
MK31				⇑Pg		Pb	23 27 15.3	+7.5	
	comp=E,2.1nm,0.6s,baz=205,slow=15,SNR=4.1								
MK31				⇓Lg		Lg	23 28 48.3		
	comp=E,15nm,0.9s,baz=209,slow=30,SNR=4.5								
MKAR	**Makanchi Array**	**6.99**	**27**	Pn		**Pn**	**23 26 47.6**	**-0.7**
	comp=E,0.2nm,0.3s,baz=202,slow=15,SNR=13								
MKAR				Sn		**Sn**	**23 28 05.5**	**-1.6**
	comp=E,0.5nm,0.3s,baz=212,slow=26,SNR=4.3								
MKAR				Lg		Lg	23 28 40.0		
	comp=E,0.9nm,0.3s,baz=208,slow=29,SNR=5.2								
	comp=E,0.2nm,0.3s								
KURBB	**Kurchatov Arra**	**9.97**	**3**	Pn		**Pn**	**23 27 29.0**	**-0.1**
	baz=190,slow=12,SNR=2.2								
KURBB				Lg		Lg	23 30 19.0		
	comp=E,0.1nm,0.3s,baz=188,slow=29,SNR=6.5								
	comp=E,0.2nm,0.4s								
BVAR	**Borovoye Array**	**13.29**	**341**	Pn		**Pn**	**23 28 13.8**	**-0.8**
	baz=144,slow=12,SNR=2.1								
BVAR				Lg		Lg	23 31 59.2		
	baz=148,slow=25,SNR=4.1								
	comp=E,0.2nm,0.3s								
ZALV	**Zalesovo Beam**	**14.13**	**18**	Pn		**Pn**	**23 28 25.5**	**-0.5**
	comp=E,0.1nm,0.3s,baz=217,slow=11,SNR=1.5								
	comp=E,0.8nm,0.5s								
SONM	**Songino Array**	**21.73**	**61**	P		**P**	**23 29 51.7**	**-5.4**	
	comp=E,0.5nm,0.7s,baz=270,slow=10,SNR=2.0								
	comp=E,0.5nm,0.7s								
BRTR	**Keskin Array B**	**33.35**	**283**	P		P	23 31 38.9	-5.0	
	comp=E,0.2nm,0.3s,baz=99,slow=8.9,SNR=1.1								
	comp=E,0.2nm,0.3s								
KAPI	**Kappang**	**59.63**	**129**	LR		LR	00 03 12.0		
	comp=E,62nm,18.8s,baz=284,slow=39								
TORD	**Torodi Ar. Bea**	**70.92**	**271**	P		P	23 36 17.6	-5.6	
	comp=E,0.2nm,0.5s,baz=44,slow=6.4,SNR=2.0								
	comp=E,0.2nm,0.5s								
YKA	**Yellowknife Ar**	**76.70**	**6**	P		P	23 36 51.8	-4.5	
	comp=E,0.2nm,0.5s,baz=4.0,slow=5.4,SNR=4.3								
	comp=E,0.2nm,0.5s								
WRA	**Warramunga Arr**	**80.07**	**127**	P		P	23 37 09.6	-5.8	
	comp=E,0.8nm,1.0s,baz=310,slow=4.5,SNR=4.7								
	comp=E,0.8nm,1.0s								

*IDC **28** 23:47:39.5±2.7, 25°56′N×122°45′E, h247km±26km, mb3.1/11, mbtmp3.7/12, Error ellipse: s-maj=30.4km s-min=19.0km az=39.0*
*JMA **28** 23:47:42.9±0.3, 25°N±3′×122°3′E±1°.0, h249km±3km, MV4.1/17, TAIWAN REGION*
ISC 28 23:47:40.5±0.8, 25°.6N±0°.1×122°.8E±0°.09, h257km±10km, n24, σ1s36/35, mb3.4/11, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**1.22**	**155**	P	**Pn**	**23 48 18.2**	**+0.5**
JYNG				S	**S**	**23 48 45.7**	**-1.2**
YOJ	**Yonaguni jima**	**1.24**	**152**	P	**Pn**	**23 48 18.4**	**+0.6**
YOJ				*e*S	**S**	**23 48 46.5**	**-0.6**
IRIF	**Iriomote-Funau**	**1.73**	**135**	P	**Pn**	**23 48 22.2**	**+0.9**
IRIF				S	**S**	**23 48 52.0**	**-1.6**
HATJ	**Hateruma jima**	**1.98**	**139**	P	**Pn**	**23 48 24.9**	**+1.4**
HATJ				S	**S**	**23 48 56.2**	**-1.1**
JKRS	**Kuro-shima**	**1.98**	**131**	P	**Pn**	**23 48 24.9**	**+1.4**
JKRS				S	**S**	**23 48 56.4**	**-1.0**
JIJ	**Ishigaki jima**	**2.00**	**126**	P	**Pn**	**23 48 24.5**	**+1.0**
JIJ				S	**S**	**23 48 55.5**	**-2.1**
JISG	**Ishigakijimahi**	**2.00**	**119**	P	**Pn**	**23 48 24.7**	**+1.1**
JISG				S	**S**	**23 48 56.5**	**-1.2**
JTJ	**Tarama**	**2.30**	**113**	P	**Pn**	**23 48 28.2**	**+1.9**
JTJ				S	**S**	**23 49 01.9**	**-0.6**
JIKM	**Ikemajima**	**2.67**	**103**	S	**S**	**23 49 09.1**	**-0.1**
JMJ2	**Miyako jima3**	**2.79**	**106**	P	**Pn**	**23 48 33.4**	**+2.2**
JMJ2				*e*S	**S**	**23 49 10.8**	**-0.6**
JOGS	**Gusukube**	**2.85**	**106**	*e*S	**S**	**23 49 12.2**	**-0.4**
JKE	**Kume jima 2**	**4.04**	**78**	P	**Pn**	**23 48 46.3**	**+1.3**
JKE				S	**S**	**23 49 38.3**	**+1.9**
JOW	**Kunigami**	**5.44**	**75**	P	**Pn**	**23 49 01.8**	**-0.1**
	4.6nm,0.3s,baz=132,slow=30,SNR=14						
JOW				S	**S**	**23 50 02.5**	**-4.5**
	7.2nm,0.6s,baz=108,slow=26,SNR=2.2						
SONM	**Songino Array**	**25.56**	**335**	P	**P**	**23 52 46.8**	**+0.7**
	1.5nm,0.7s,baz=150,slow=9.9,SNR=9.1						
	1.5nm,0.7s						
MKAR	**Makanchi Array**	**38.13**	**314**	P	**P**	**23 54 35.6**	**+0.5**
	0.4nm,0.4s,baz=100,slow=10.0,SNR=14						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**39.70**	**326**	P	**P**	**23 54 46.9**	**-1.0**
	1.0nm,0.5s,baz=109,slow=7.5,SNR=4.9						
	1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**41.78**	**319**	P	**P**	**23 55 04.2**	**-0.6**
	0.4nm,0.6s,baz=115,slow=9.1,SNR=4.0						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**46.70**	**164**	P	**P**	**23 55 43.6**	**-0.5**
	0.2nm,0.6s,baz=348,slow=8.4,SNR=2.0						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**47.31**	**320**	P	**P**	**23 55 48.6**	**+0.2**
	0.6nm,0.6s,baz=115,slow=10,SNR=3.0						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**67.49**	**28**	P	**P**	**23 58 08.4**	**-0.2**
	0.3nm,0.7s,baz=279,slow=6.9,SNR=2.7						
	0.3nm,0.7s						
FINES	**FINESS Array B**	**70.81**	**330**	P	**P**	**23 58 29.5**	**+0.5**
	0.9nm,0.4s,baz=54,slow=5.4,SNR=15						
	0.9nm,0.4s						
HFS	**Hagfors**	**76.90**	**331**	P	**P**	**23 59 03.7**	**-0.5**
	2.1nm,0.9s,baz=90,slow=8.9,SNR=4.8						
	2.1nm,0.9s						
NOA	**NORSAR Array B**	**77.52**	**332**	P	**P**	**23 59 07.3**	**-0.4**
	0.7nm,0.7s,baz=54,slow=5.9,SNR=2.3						
	0.7nm,0.7s						
YKA	**Yellowknife Ar**	**81.28**	**23**	P	**P**	**23 59 28.6**	**+0.8**
	0.4nm,0.6s,baz=312,slow=5.3,SNR=5.8						
	0.4nm,0.6s						

*IDC **29** 00:04:48.0±1.4, 17°.82S×168°.63E, h0km, mb3.9/6, mbtmp3.9/7, ML4.3/1, Error ellipse: s-maj=43.4km s-min=25.2km az=139.0*
*NOU **29** 00:05:01.5, 18°.75S×168°.99E, h94km, MLv4.5/12, Vanuatu Islands*
ISC 29 00:04:58.6±1.0, 18°.74S±0°.07×169°.1E±0°.1, h100km, n18, σ2s31/18, mb3.7/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.32**	**320**	P	**Pn**	**00 05 26.2**	**+3.6**
LIFNC	**LIFOU**	**2.66**	**220**	P	**Pn**	**00 05 41.0**	**+1.2**
MARNC	**Mare, Loyalty**	**2.90**	**200**	P	**Pn**	**00 05 44.7**	**+1.7**
YATNC	**Mamie plateau,**	**3.89**	**211**	P	**Pn**	**00 05 57.0**	**+0.8**
DZM	**Mont Dzumac**	**4.13**	**216**	P	**Pn**	**00 06 01.8**	**+2.2**
DZM	**Mont Dzumac**	**4.13**	**216**	Pn	**Pn**	**00 06 01.8**	**+2.2**
	12nm,0.3s,baz=95,slow=12,SNR=129						
DZM				Sn	**Sn**	**00 06 47.5**	**+0.5**
	33nm,0.3s,baz=136,slow=22,SNR=24						
	48nm,0.4s						
PINNC	**Pines Island,**	**4.14**	**201**	P	**Pn**	**00 06 03.1**	**+3.4**
OUENC	**Ouen Island, N**	**4.22**	**209**	P	**Pn**	**00 06 03.7**	**+3.0**
NOUC	**Port Laguerre**	**4.24**	**217**	P	**Pn**	**00 06 03.8**	**+2.9**
ONTNC	**Ouen Toro**	**4.32**	**214**	P	**Pn**	**00 06 04.7**	**+2.7**
KOUNC	**Koumac, New Ca**	**4.86**	**247**	P	**Pn**	**00 06 11.2**	**+1.8**
HNR	**Honiara**	**12.80**	**315**	Pn	Pn	00 07 39.5	-17
	528nm,0.3s,baz=90,slow=5.9,SNR=5.7						
WRA	**Warramunga Arr**	**32.77**	**262**	P	**P**	**00 11 19.9**	**-2.4**
	0.3nm,0.8s,baz=96,slow=8.5,SNR=1.7						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**33.10**	**255**	P	**P**	**00 11 23.9**	**-1.3**
	1.2nm,0.5s,baz=84,slow=8.7,SNR=27						
	1.2nm,0.5s						
SONM	**Songino Array**	**86.73**	**323**	P	**P**	**00 17 30.1**	**-1.4**
	0.7nm,0.7s,baz=145,slow=6.6,SNR=5.4						
	0.7nm,0.7s						
NVAR	**Mina Array Bea**	**88.59**	**49**	P	**P**	**00 17 41.7**	**+1.0**
	0.5nm,0.7s,baz=215,slow=7.2,SNR=4.2						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**89.80**	**17**	P	**P**	**00 17 43.9**	**-1.6**
	0.4nm,0.7s,baz=234,slow=5.5,SNR=5.5						
	0.4nm,0.7s						
YKA	**Yellowknife Ar**	**100.30**	**27**	P	**Pdif**	**00 18 33.5**	**+0.2**
	0.3nm,0.8s,baz=254,slow=4.9,SNR=3.6						
	0.3nm,0.8s						

*NEIC **29** 00:06:02.7±1.5, 36°.69N±0°.07×69°.59E±0°.05, h276km±5km, mb4.1/22, Error ellipse: s-maj=9.6km s-min=6.0km az=192.0*
*IDC **29** 00:06:02.0±2.2, 36°.53N×69°.63E, h278km±22km, mb3.4/17, mbtmp4.1/23, Error ellipse: s-maj=15.8km s-min=11.0km az=14.0*
ISC 29 00:06:03.0±0.5, 36°.64N±0°.05×69°.78E±0°.06, h300km, n94, σ2s47/106, mb3.9/27, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**2.07**	**347**		**Pn**	**00 06 47.6**	**-2.8**
CHGR				Sn	**S**	**00 07 21.9**	**-6.3**
SIMJ	**Simiganj**	**2.11**	**343**	Pn	**Pn**	**00 06 48.0**	**-2.8**
SIMJ				Sn	**S**	**00 07 22.4**	**-6.3**
KBL	**Kabul**	**2.18**	**196**	Pn	**Pn**	**00 06 49.7**	**-1.9**
KBL				Sn	**S**	**00 07 25.1**	**-5.2**
BTK	**Batken**	**3.51**	**13**	Pn	**Pn**	**00 07 03.1**	**-0.9**
NIL	**Nilore**	**4.12**	**135**		**Pn**	**00 07 11.3**	**+0.6**
ARSB	**Arslanbob**	**5.30**	**27**		**Pn**	**00 07 22.5**	**-1.6**
AML	**Almayashu**	**6.27**	**28**	P	**Pn**	**00 07 35.0**	**-0.9**
	SNR=36						
KK31	**Karatay Array**	**6.48**	**5**		**Pn**	**00 07 36.5**	**-1.5**
KKAR	**Karatay Array**	**6.48**	**5**		**Pn**	**00 07 36.6**	**-1.4**
KKAR	**Karatay Array**	**6.48**	**5**		**Pn**	**00 07 36.3**	**-1.8**
HRA	**Herat**	**6.54**	**252**		**Pn**	**00 07 37.7**	**-1.4**
UCH	**Uchtor**	**6.68**	**32**	P	**Pn**	**00 07 41.3**	**+0.4**
	SNR=7.4						
EKS2	**Erkin-Say**	**6.76**	**26**	P	**Pn**	**00 07 41.1**	**-0.4**
	SNR=33						
KZA	**Kyzart**	**6.89**	**36**	P	**Pn**	**00 07 44.1**	**+0.7**
	SNR=15						
DHRM	**DHARAMSHALA**	**6.94**	**127**	*e*P	**Pn**	**00 07 40.9**	**-3.1**
DHRM				*e*S	**S**	**00 09 02.4**	**-3.1**
DHRM				IAML		00 09 06.3	
	comp=N,298nm,0.4s						
DHRM				IAML		00 09 08.6	
	comp=E,476nm,0.6s						
AAK	**Ala-Archa**	**7.01**	**30**	P	**Pn**	**00 07 44.5**	**-0.1**
	SNR=10.0						
AAK	**Ala-Archa**	**7.01**	**30**	P	**Pn**	**00 07 44.6**	**+0.1**
	comp=E,13nm,0.4s,baz=209,slow=8.7,SNR=31						
AAK				S	**S**	**00 08 59.3**	**-7.3**
	comp=E,4.6nm,0.5s,baz=192,slow=15,SNR=3.7						
FRU1	**Bishkek**	**7.21**	**30**		**Pn**	**00 07 46.9**	**0.0**
KBK	**Karagaybulak**	**7.21**	**32**	P	**Pn**	**00 07 47.4**	**+0.3**
	SNR=14						
CHMS	**Chumysh**	**7.42**	**30**	P	**Pn**	**00 07 48.9**	**-0.5**
	SNR=13						
ULHL	**Ulahol**	**7.51**	**40**	P	**Pn**	**00 07 51.0**	**+0.3**
	SNR=6.5						
USP	**Ospenovka**	**7.55**	**27**	P	**Pn**	**00 07 50.2**	**-0.8**
	SNR=11						
BHK	**Bhakra**	**7.58**	**131**	*e*P	**Pn**	**00 07 51.9**	**+0.3**
BHK				IAmb	IAmb	00 07 52.6	
	comp=Z,41nm,0.7s						
BHK				*e*S	**S**	**00 09 11.3**	**-8.2**
TKM2	**Tokmak 2**	**7.71**	**34**	P	**Pn**	**00 07 52.5**	**-0.6**
	SNR=7.0						
SMLA	**Simla**	**8.24**	**130**	*e*P	**Pn**	**00 08 00.1**	**+0.5**
SMLA				*e*S	**S**	**00 09 30.0**	**-4.3**
SMLA				IAML		00 09 34.5	
	comp=N,125nm,0.3s						
SMLA				IAML		00 09 35.2	
	comp=E,134nm,0.5s						
PRZ	**Przheval'sk**	**8.85**	**46**	Pn	**P**	**00 08 10.1**	**-2.0**
GEYT	**Alibeck**	**9.38**	**281**	Pn	**Pn**	**00 08 11.1**	**-2.5**
GEYT	**Alibeck**	**9.38**	**281**	P	**Pn**	**00 08 11.0**	**-2.6**
	comp=E,1.6nm,0.4s,baz=114,slow=13,SNR=7.5						
GYA0B	**ALIBECK ARRAY**	**9.38**	**281**	Pn	**Pn**	**00 08 10.8**	**-2.8**
KHET	**Khetri**	**9.94**	**147**	*e*P	**Pn**	**00 08 20.1**	**-0.5**
KHET				*e*S	**S**	**00 10 10.9**	**-1.9**
NDI	**New Delhi**	**10.11**	**140**	*e*P	**Pn**	**00 08 21.1**	**-1.5**
NDI				*e*S	**S**	**00 10 11.8**	**-4.7**
KUDL	**Kundal**	**10.19**	**144**	*e*P	**Pn**	**00 08 22.1**	**-1.5**
KUDL				*e*S	**S**	**00 10 13.5**	**-4.8**
PTH	**Pithoragarh**	**11.25**	**126**	*e*P	**Pn**	**00 08 36.3**	**-0.4**
PTH				*e*S	**S**	**00 10 36.7**	**-5.9**
LGTI	**Lohaghat**	**11.33**	**126**	*e*P	**Pn**	**00 08 37.0**	**-0.4**
MAKZ	**Makanchi**	**13.63**	**38**	P	**Pn**	**00 09 05.4**	**+0.4**
MK31	**Makanchi Array**	**13.78**	**39**	P	**Pn**	**00 09 07.4**	**+0.6**
MKAR	**Makanchi Array**	**13.78**	**39**	P	**Pn**	**00 09 07.2**	**+0.4**
MKAR	**Makanchi Array**	**13.78**	**39**	P	**Pn**	**00 09 07.8**	**+0.9**
	comp=E,2.7nm,0.6s,baz=230,slow=9.9,SNR=15						
PYUN	**Piuthan**	**14.03**	**124**	*e*P	**Pn**	**00 09 11.1**	**+0.8**
DANN	**Dangsing**	**14.40**	**121**	*e*P	**Pn**	**00 09 16.8**	**+2.1**
	comp=E,12nm,0.4s						
ABKAR	**Akbulak array**	**14.50**	**333**	P	**Pn**	**00 09 13.6**	**-1.8**
ABKAR	**Akbulak array**	**14.50**	**333**	P	**Pn**	**00 09 13.5**	**-1.8**
GKN	**Gorkha**	**15.22**	**120**	*e*P	**Pn**	**00 09 25.5**	**+1.3**
	comp=E,18nm,0.4s						
KURBB	**Kurchatov Arra**	**15.33**	**22**	P	**Pn**	**00 09 25.1**	**0.0**
	comp=E,26nm,0.6s,baz=211,slow=12,SNR=146						
KURK	**Kurchatov**	**15.44**	**22**	P	**Pn**	**00 09 25.8**	**-0.6**
PKI	**Pulchoki**	**16.02**	**120**	*e*P	**Pn**	**00 09 36.1**	**+2.3**
	comp=E,7.2nm,0.4s						
GUN	**Gumba**	**16.15**	**118**	*e*P	**Pn**	**00 09 37.5**	**+2.2**
	comp=E,18nm,0.4s						
AKTO	**Aktyubinsk**	**16.18**	**332**	P	**Pn**	**00 09 33.6**	**-1.4**
	comp=E,20nm,0.7s,baz=153,slow=8.8,SNR=38						
AKTO				S	**S**	**00 12 25.4**	**-1.6**
	comp=E,1.3nm,0.5s,baz=52,slow=19,SNR=6.2						
BVAR	**Borovoye Array**	**16.39**	**1**	P	**Pn**	**00 09 36.5**	**-1.0**
	comp=E,24nm,0.5s,baz=166,slow=11,SNR=64						
BRVK	**Borovoye**	**16.42**	**1**		**Pn**	**00 09 36.6**	**-1.2**
JIRN	**Jiri**	**16.52**	**118**	*e*P	**Pn**	**00 09 42.2**	**+2.6**
	comp=E,34nm,0.5s						
JIRN				*e*S	S	00 12 47.2	+12
RAMN	**Ramite**	**17.24**	**119**	*e*P	**Pn**	**00 09 49.6**	**+1.7**
	comp=E,11nm,0.4s						
TAPN	**Taplejung**	**17.79**	**116**	*e*P	**Pn**	**00 09 55.3**	**+0.9**
	comp=E,6.8nm,0.4s						
ZALV	**Zalesovo Beam**	**20.21**	**26**	P	**P**	**00 10 15.9**	**+0.1**
ZALV	**Zalesovo Beam**	**20.21**	**26**	P	**P**	**00 10 16.8**	**+1.0**
	comp=E,2.8nm,0.4s,baz=216,slow=10,SNR=13						
	comp=E,2.8nm,0.4s						
ARU	**Arti**	**21.19**	**343**	P	**P**	**00 10 26.9**	**+1.5**
	comp=E,1.8nm,0.4s,baz=128,slow=12,SNR=5.3						
	comp=E,1.8nm,0.4s						
BRTR	**Keskin Array B**	**28.45**	**287**	P	**P**	**00 11 32.5**	**+1.5**
	comp=E,0.5nm,0.5s,baz=104,slow=10,SNR=4.6						
	comp=E,0.5nm,0.5s						
SONM	**Songino Array**	**29.07**	**56**	P	**P**	**00 11 40.0**	**+3.7**
	comp=E,0.4nm,0.6s,baz=266,slow=9.5,SNR=2.6						
	comp=E,0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**31.39**	**117**	P	**P**	**00 11 59.1**	**+2.3**
	comp=E,0.6nm,0.4s,baz=290,slow=7.6,SNR=7.1						
	comp=E,0.6nm,0.4s						
AKASG	**Malin Array Be**	**32.09**	**309**	P	**P**	**00 12 02.9**	**+0.5**
	comp=E,0.2nm,0.3s,baz=82,slow=6.8,SNR=6.3						
	comp=E,0.2nm,0.3s						
FINES	**FINESS Array B**	**36.82**	**326**	P	**P**	**00 12 43.4**	**+0.8**
	comp=E,1.5nm,0.7s,baz=104,slow=8.0,SNR=4.8						
	comp=E,1.5nm,0.7s						
ARCES	**ARCESS Array B**	**40.64**	**338**	P	**P**	**00 13 15.5**	**+1.5**
	comp=E,1.8nm,0.6s,baz=112,slow=8.1,SNR=9.9						
	comp=E,1.8nm,0.6s						
HFS	**Hagfors**	**42.35**	**322**	P	**P**	**00 13 28.9**	**+1.0**
	comp=E,1.4nm,0.5s,baz=108,slow=9.5,SNR=7.9						
	comp=E,1.4nm,0.5s						
NB2	**NORSAR Subarra**	**43.68**	**323**	P	**P**	**00 13 39.0**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=97,slow=8.6						
NOA	**NORSAR Array B**	**43.68**	**323**	P	**P**	**00 13 39.3**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=102,slow=7.1,SNR=4.0						
	comp=Z,0.4nm,0.5s						
TOA0	**Torodi Ar. Sit**	**64.74**	**268**	P	**P**	**00 16 10.0**	**0.0**
TOA0				IAmb	IAmb	00 16 10.8	
	comp=Z,4.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**64.74**	**268**	P	**P**	**00 16 10.2**	**+0.1**
	comp=Z,3.8nm,0.5s,baz=48,slow=6.0,SNR=73						
	comp=Z,3.8nm,0.5s						
DBIC	**Dimbokro**	**73.72**	**266**	P	**P**	**00 17 04.9**	**0.0**
	comp=Z,2.5nm,0.6s,baz=47,slow=8.0,SNR=6.8						
	comp=Z,2.5nm,0.6s						
CAST	**Castle Rocks**	**74.86**	**18**	P	**P**	**00 17 13.3**	**+2.6**
CAST				IAmb	IAmb	00 17 14.9	
	comp=Z,3.9nm,0.9s						
IL31		**74.91**	**15**	P	**P**	**00 17

BRU2					*e*S		**Sn**	**00 11 08.4 -0.3**
BRU2	**Volcan**	**1.42**	**344**		*i* P		**Pg**	**00 10 52.0 +0.1**
BRU2					*i* S		**Sn**	**00 11 08.3 -0.4**
BRU2					IAML			00 11 17.5
	comp=Z,500nm,1.0s							
BC3P	**Paso Ancho**	**1.42**	**348**		*e*P		**Pg**	**00 10 51.7 -0.2**
CACAO	**El Cacao, Vera**	**1.43**	**93**		*e*P		**Pn**	**00 10 51.2 +0.9**
MLIR3	**Monte Lirio, C**	**1.46**	**339**		*e*P		**Pg**	**00 10 52.2 -0.5**
CHGR2	**Aguacate**	**1.51**	**6**		*e*P		**Pn**	**00 10 52.0 +0.6**
CHGR2					*e*S		**Sn**	**00 11 10.0 -1.0**
POTG	**Potrero Grande**	**1.81**	**334**		*i* P		**Pb**	**00 10 57.4 -0.2**
POTG					*i* S		**Sn**	**00 11 19.2 +0.9**
POTG					IAML			00 11 25.7
	comp=Z,310nm,1.0s							
CHIT3	**Chitre**	**1.94**	**74**		*e*P		**Pn**	**00 10 58.4 +1.1**
CHIT3					*e*S		**Sn**	**00 11 20.9 -0.7**
OCHAL	**Ojochal**	**2.13**	**322**		*i* P		**Pn**	**00 11 00.6 +0.8**
OCHAL					IAML			00 11 03.5
	comp=Z,2.9nm,1.0s							
OCHAL					*i* S		**Sn**	**00 11 25.1 -1.0**
CDM	**Cerro de Muert**	**2.56**	**326**		*i* P		**Pn**	**00 11 07.3 +1.1**
CDM					*i* S		**Sn**	**00 11 36.3 -1.2**
CDM					IAML			00 11 43.4
	comp=Z,50nm,1.0s							
RIMA	**Rio Macho**	**2.79**	**327**		*i* P		**Pn**	**00 11 11.1 +1.9**
RIMA					*i* S		**Sn**	**00 11 43.1 +0.3**
RIMA					IAML			00 11 45.4
	comp=Z,37nm,1.0s							
LCR2	**La Lucha 2**	**2.85**	**324**		*i* P		**Pn**	**00 11 11.9 +1.9**
LCR2					IAML			00 11 30.7
	comp=Z,49nm,1.0s							
LCR2					*i* S		**Sn**	**00 11 44.1 -0.2**

CATAC ***29*** *00:39:38.5±0.4, 13°.31N×90°.25W, h30km±4km, ML4.2*
SNET ***29*** *00:39:38.3±1.0, 13°.33N×90°.28W, h30km, ML4.1*
GCG ***29*** *00:39:40.2±0.6, 13°.39N×90°.47W, h23km±3km, MD3.9*
ISC 29 00:39:38.5±1.5,**13°.30N**±0°.06×**90°.24W**±0°.04,**h32**km±11km,
n61,σ0°**71**/104,**1C-1D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.75**	**37**	*e*P	**Pn**	**00 39 53.1**	**+0.1**
NUBE	**Las Nubes**	**0.75**	**37**	*i* P	**Pb**	**00 39 53.2**	**-0.1**
NUBE				*i* S	**Sb**	**00 40 03.7**	**+0.3**
NUBE				IAML		00 40 05.6	
	comp=Z,5μm,1.0s						
CEVE	**Cerro Verde**	**0.80**	**49**	*e*P	**Pb**	**00 39 54.2**	**0.0**
CEVE	**Cerro Verde**	**0.80**	**49**	*i* P	**Pn**	**00 39 53.6**	**-0.2**
CEVE				*i* S	**Sb**	**00 40 05.0**	**+0.2**
CEVE				IAML		00 40 07.7	
	comp=Z,18μm,1.0s						
SBLS	**San Blas**	**0.81**	**48**	*i* P	**Pb**	**00 39 54.2**	**-0.1**
LOAL	**Lomas de Alarc**	**0.83**	**33**	*i* P	**Pb**	**00 39 54.3**	**-0.3**
LOAL				*i* S	**Sb**	**00 40 06.1**	**+0.6**
LOAL				IAML		00 40 07.1	
	comp=Z,19μm,1.0s						
RTR	**El Retiro**	**0.83**	**44**	*i* P	**Pb**	**00 39 54.6**	**-0.1**
SNJE	**San Jose**	**0.84**	**48**	*e*P	**Pb**	**00 39 54.6**	**-0.3**
SNJE				*i* P	**Pb**	**00 39 54.6**	**-0.3**
JAYA	**Jayaque - finc**	**0.85**	**65**	*e*P	**Pn**	**00 39 54.5**	**+0.1**
JAYA	**Jayaque - finc**	**0.85**	**65**	*i* P	**Pn**	**00 39 54.7**	**+0.3**
JAYA				*i* S	**Sn**	**00 40 05.0**	**-0.8**
JAYA				IAML		00 40 07.6	
	comp=Z,19μm,1.0s						
SLOZ	**Alcaldia de Sa**	**0.85**	**32**	*e*P	**Pb**	**00 39 54.6**	**-0.3**
LALI	**Alcalda de L**	**0.92**	**78**	*e*P	**Pn**	**00 39 55.2**	**0.0**
LALI	**Alcalda de L**	**0.92**	**78**	*i* P	**Pn**	**00 39 55.3**	**+0.2**
LALI				*i* S	**Sn**	**00 40 06.9**	**-0.3**
LALI				IAML		00 40 11.8	
	comp=Z,640nm,1.0s						
UNIC	**Universidad Ca**	**0.96**	**45**	*i* P	**Pn**	**00 39 56.0**	**+0.2**
UNIC				IAML		00 39 56.6	
	comp=Z,5μm,1.0s						
UNIC				*i* S	**Sb**	**00 40 08.4**	**-0.7**
CEDA	**San Andres**	**0.97**	**59**	*e*P	**Pn**	**00 39 56.2**	**+0.4**
CEDA				*e*S	**Sb**	**00 40 10.1**	**+0.8**
CEDA	**San Andres**	**0.97**	**59**	*i* P	**Pb**	**00 39 56.7**	**-0.1**
CEDA				*i* S	**Sb**	**00 40 10.2**	**+0.9**
CEDA				IAML		00 40 12.3	
	comp=Z,24μm,1.0s						
PMON	**Piamonte**	**0.99**	**65**	*i* P	**Pb**	**00 39 57.1**	**-0.2**
PMON				*i* S	**Sb**	**00 40 10.2**	**0.0**
PMON				IAML		00 40 15.1	
	comp=Z,9μm,1.0s						
MAGS	**Ministerio de**	**1.01**	**67**	*i* P	**Pb**	**00 39 58.0**	**+0.5**
MAGS				*i* S	**Sb**	**00 40 10.8**	**+0.2**
MAGS				IAML		00 40 14.9	
	comp=Z,3μm,1.0s						
ITCA	**Escuela Especi**	**1.01**	**68**	*i* P	**Pb**	**00 39 57.5**	**-0.1**
ITCA				IAML		00 39 58.0	
	comp=Z,7μm,1.0s						
BOQS	**Boqueron**	**1.03**	**65**	*i* P	**Pn**	**00 39 57.6**	**+0.6**
SNET	**Serv Nac Est T**	**1.06**	**68**	*i* P	**Pb**	**00 39 58.0**	**-0.4**
SNET				IAML		00 39 58.5	
	comp=Z,13μm,1.0s						
SNET				*i* S	**Sb**	**00 40 11.5**	**-0.5**
SEMO	**Seminario San**	**1.07**	**68**	*i* P	**Pn**	**00 39 58.1**	**+0.8**
SEMO				IAML		00 40 14.5	
	comp=Z,12μm,1.0s						
PANCS	**Alcalda de**	**1.08**	**73**	*i* P	**Pn**	**00 39 57.6**	**+0.1**
PANCS				IAML		00 39 59.2	
	comp=Z,9μm,1.0s						
PANCS				*i* S	**Sn**	**00 40 11.8**	**+0.4**
QUEZ	**Alcaldia de Qu**	**1.08**	**60**	*i* P	**Pn**	**00 39 58.0**	**+0.5**
QUEZ				*i* S	**Sb**	**00 40 12.8**	**+0.1**
QUEZ				IAML		00 40 14.4	
	comp=Z,11μm,1.0s						
LOMA	**Loma Larga**	**1.10**	**72**	*e*P	**Pn**	**00 39 57.8**	**+0.1**
LOMA	**Loma Larga**	**1.10**	**72**	*i* P	**Pb**	**00 39 58.8**	**-0.3**
LOMA				*i* S	**Sb**	**00 40 13.4**	**+0.2**
LOMA				IAML		00 40 16.7	
	comp=Z,4μm,1.0s						
IGN	**Direccin Gen**	**1.12**	**68**	*i* P	**Pb**	**00 39 59.4**	**-0.1**
IGN				*i* S	**Sb**	**00 40 13.9**	**+0.1**
IGN				IAML		00 40 16.3	
	comp=Z,11μm,1.0s						
UDBS	**Universidad Do**	**1.14**	**68**	*i* P	**Pb**	**00 39 59.2**	**-0.5**
UDBS				*i* S	**Sb**	**00 40 14.4**	**+0.2**
UDBS				IAML		00 40 17.6	
	comp=Z,4μm,1.0s						
PCG	**Pacaya**	**1.14**	**342**	*e*P	**Pn**	**00 39 59.0**	**+0.4**
PCG				*e*S	**Sb**	**00 40 16.5**	**+1.9**
JUAM	**Asuncion Mita**	**1.16**	**27**	*i* P	**Pn**	**00 39 58.4**	**-0.1**
JUAM				IAML		00 39 59.0	
	comp=Z,4μm,1.0s						
JUAM				*i* S	**Sb**	**00 40 14.0**	**-0.7**
LFRS	**El Faro**	**1.19**	**74**	*e*P	**Pn**	**00 39 59.1**	**+0.1**
SJTE	**Alcalda de S**	**1.24**	**75**	*e*P	**Pn**	**00 40 00.1**	**+0.3**
SJTE	**Alcalda de S**	**1.24**	**75**	*i* P	**Pn**	**00 40 00.0**	**+0.3**
SJTE				IAML		00 40 00.9	
	comp=Z,2μm,1.0s						
SJTE				*i* S	**Sn**	**00 40 16.4**	**+1.0**
FUG	**Fuego 3**	**1.28**	**333**	ǁ *e*P	**Pn**	**00 40 00.4**	**+0.1**
FUG				*e*S	**Sn**	**00 40 16.7**	**+0.2**
NBG	**Las Nubes**	**1.29**	**356**	ǁ *e*P	**Pb**	**00 40 02.4**	**0.0**
NBG				*e*S	**Sb**	**00 40 19.4**	**+0.8**
PAVA	**Las Pavas**	**1.34**	**72**	*e*P	**Pn**	**00 40 02.0**	**+1.0**
PAVA	**Las Pavas**	**1.34**	**72**	*i* P	**Pn**	**00 40 01.3**	**+0.3**
PAVA				IAML		00 40 02.6	
	comp=Z,3μm,1.0s						
PAVA				*i* S	**Sn**	**00 40 18.1**	**+0.3**
COEG	**Centro de Oper**	**1.36**	**76**	*e*P	**Pn**	**00 40 01.8**	**+0.4**
COEG				*e*S	**Sn**	**00 40 19.3**	**+0.8**
COEG	**Centro de Oper**	**1.36**	**76**	*i* P	**Pn**	**00 40 01.3**	**-0.1**
COEG				IAML		00 40 04.0	
	comp=Z,2μm,1.0s						
COEG				*i* S	**Sn**	**00 40 19.2**	**+0.8**
MTO3	**Montecristo**	**1.39**	**38**	*i* P	**Pn**	**00 40 02.2**	**+0.3**
MTO3	**Montecristo**	**1.39**	**38**	*i* P	**Pn**	**00 40 01.4**	**-0.5**
MTO3				IAML		00 40 02.4	
	comp=Z,2μm,1.0s						
MTO3				*i* S	**Sb**	**00 40 20.5**	**-1.1**
TECO	**Alcaldia de Te**	**1.44**	**80**	*e*P	**Pn**	**00 40 02.6**	**+0.2**
TECO				*e*S	**Sn**	**00 40 21.1**	**+0.8**
TECO	**Alcaldia de Te**	**1.44**	**80**	IAML		00 40 03.3	
	comp=Z,770nm,1.0s						
TECO				*i* P	**Pn**	**00 40 03.4**	**+1.0**
TECO				*i* S	**Sn**	**00 40 20.6**	**+0.3**
UESV	**Universidad de**	**1.46**	**76**	*i* P	**Pn**	**00 40 03.0**	**+0.4**
UESV				*i* S	**Sb**	**00 40 22.1**	**-1.2**
UESV				IAML		00 40 26.2	
	comp=Z,1μm,1.0s						
LLGN	**La Laguna**	**1.53**	**56**	*i* P	**Pn**	**00 40 03.5**	**-0.1**
LLGN				*i* S	**Sn**	**00 40 23.5**	**+1.0**
LLGN				IAML		00 40 27.2	
	comp=Z,890nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.53**	**75**	*i* P	**Pn**	**00 40 04.2**	**+0.6**
SCLA				*e*S	**Sb**	**00 40 24.2**	**-1.2**
SCLA	**Alcaldia de Sa**	**1.53**	**75**	*i* P	**Pn**	**00 40 03.7**	**+0.1**
SCLA				*i* S	**Sb**	**00 40 24.1**	**-1.2**
SCLA				IAML		00 40 31.0	
	comp=Z,600nm,1.0s						
ESQI	**Esquipulas**	**1.53**	**35**	*i* P	**Pn**	**00 40 02.5**	**-1.2**
ESQI				*i* S	**Sn**	**00 40 22.3**	**-0.2**
ESQI				IAML		00 40 28.5	
	comp=Z,2μm,1.0s						
SULM	**Suchitepequez,**	**1.63**	**308**	*e*P	**Pn**	**00 40 06.0**	**+1.1**
SULM				*e*S	**Sn**	**00 40 22.4**	**-2.3**
PQSS	**Presa 15 de Se**	**1.67**	**79**	*i* P	**Pn**	**00 40 05.2**	**-0.3**
PQSS				IAML		00 40 06.8	
	comp=Z,1μm,1.0s						
PQSS				*i* S	**Sn**	**00 40 26.3**	**+0.5**
TECA	**Tecapa**	**1.71**	**83**	*e*P	**Pn**	**00 40 06.5**	**+0.3**
PACA	**Pacayal**	**1.88**	**85**	*e*P	**Pn**	**00 40 10.1**	**+1.6**
PACA	**Pacayal**	**1.88**	**85**	*i* P	**Pn**	**00 40 09.3**	**+0.8**
PACA				*i* S	**Sn**	**00 40 31.6**	**+0.5**
PACA				IAML		00 40 36.7	
	comp=Z,4μm,1.0s						
STG3	**Santiaguito 3,**	**1.91**	**318**	*e*P	**Pn**	**00 40 09.3**	**+0.3**
STG3				*e*S	**Sn**	**00 40 31.4**	**-0.5**
SARH	**Santa Rosa de**	**2.06**	**44**	*i* P	**Pn**	**00 40 09.9**	**-1.0**
SARH				*i* S	**Sn**	**00 40 34.8**	**-0.7**
CNCH	**Conchagua**	**2.35**	**90**	*e*P	**Pn**	**00 40 15.3**	**+0.4**
CNCH	**Conchagua**	**2.35**	**90**	*i* P	**Pn**	**00 40 14.3**	**-0.6**
CNCH				*i* S	**Sn**	**00 40 44.4**	**+1.7**
CNCH				IAML		00 40 48.9	
	comp=Z,2μm,1.0s						
AMPH	**Amapala**	**2.52**	**90**	*i* P	**Pn**	**00 40 17.2**	**0.0**
AMPH				*i* S	**Sn**	**00 40 48.2**	**+1.5**
NISHN	**Nisperales Com**	**3.36**	**43**	*i* P	**Pn**	**00 40 28.4**	**-0.4**
NISHN				*i* S	**Sn**	**00 41 08.6**	**+0.9**
YUSH	**Yuscaran**	**3.37**	**78**	*i* P	**Pn**	**00 40 29.5**	**+0.5**
YUSH				*i* S	**Sn**	**00 41 08.6**	**+0.6**
MOMN	**Momotombo**	**3.72**	**103**	*i* P	**Pn**	**00 40 32.3**	**-1.5**
MOMN				*i* S	**Sn**	**00 41 15.1**	**-1.4**
MOMN				IAML		00 41 18.9	
	comp=Z,8.5nm,1.0s						

CNRM ***29*** *00:40:02.6, 35°.52N×3°.66W, h30km, ml2.8*
MDD ***29*** *00:40:03.7±0.6, 35°.43N×3°.65W, h2km±4km, mb_Lg2.7/20, Error ellipse: s-maj=3.6km s-min=2.4km az=161.0*
SFS ***29*** *00:40:04.1, 35°.44N×3°.64W, h17km, ML2.9/12, ML2.9/11, MLv2.9/12*
IGIL ***29*** *00:40:04.3, 35°.43N×3°.65W, h2km, ML1.7*
INMG ***29*** *00:40:04.6±1.6, 35°.46N×3°.61W, h14km, ML2.2, Error ellipse: s-maj=3.1km s-min=2.5km az=84.0*
ISC 29 00:40:03.2±1.1,**35°.45N**±0°.02×**3°.67W**±0°.02,**h16**km±9km,
n70,σ1°**46**/117,**Strait of Glatoria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.32**	**224**	P	**Pb**	**00 40 11.6**	**+1.0**
PALE				S	**Sb**	**00 40 16.8**	**+1.2**
GOG	**Mont Gurugu**	**0.59**	**113**	P	**Pg**	**00 40 15.0**	**0.0**
GOG				S	**Sg**	**00 40 23.5**	**+0.6**
EMEL	**Melilla**	**0.60**	**105**	P	**Pg**	**00 40 15.1**	**+0.1**
EMEL				S	**Sg**	**00 40 22.6**	**-0.4**
EALB	**Alboran**	**0.71**	**46**	P	**Pb**	**00 40 17.9**	**+0.8**
EALB				S	**Sg**	**00 40 25.7**	**-0.7**
EALB				*i* Vmb_Lg		00 40 32.3	
AKLM	**AKL**	**0.95**	**190**	P	**Pn**	**00 40 21.8**	**-0.2**
AKLM				S	**Sb**	**00 40 33.0**	**-0.8**
CHAS	**Isla Isabel II**	**1.04**	**105**	Sg	**Sb**	**00 40 34.0**	**-2.4**
TAF	**Taforalt**	**1.21**	**121**	P	**Pn**	**00 40 24.6**	**-0.9**
TAF				S	**Sb**	**00 40 39.9**	**-1.2**
ELGU	**Los Guajares,**	**1.41**	**1**	P	**Pn**	**00 40 28.3**	**0.0**
ELGU				S	**Sn**	**00 40 45.1**	**-1.6**
ELGU				*i* Vmb_Lg		00 40 50.2	
ELGU	**Los Guajares,**	**1.41**	**1**	Pn	**Pn**	**00 40 28.0**	**-0.4**
ELGU				Sn	**Sn**	**00 40 45.1**	**-1.6**
SMIR	**Smir Dam**	**1.42**	**280**	P	**Pn**	**00 40 27.2**	**-1.1**
SMIR				S	**Sn**	**00 40 44.4**	**-2.2**
EMIJ	**Mijas**	**1.43**	**321**	P	**Pn**	**00 40 27.8**	**-0.6**
EMIJ				S	**Sn**	**00 40 47.1**	**+0.2**
EMIJ				*i* Vmb_Lg		00 40 51.2	
EMIJ	**Mijas**	**1.43**	**321**	Pn	**Pn**	**00 40 27.9**	**-0.6**
EMAL	**Malaga-Limoner**	**1.45**	**335**	Pn	**Pn**	**00 40 28.8**	**+0.1**
EMAL				Sn	**Sn**	**00 40 45.7**	**-1.6**
CEU	**Ceuta**	**1.46**	**288**	Sn	**Sn**	**00 40 44.1**	**-3.5**
CEU				Pn	**Pn**	**00 40 26.7**	**-2.2**
ECEU	**Ceuta**	**1.46**	**288**	P	**Pn**	**00 40 28.3**	**-0.6**
ECEU				S	**Sn**	**00 40 46.3**	**-1.5**
ECEU				*i* Vmb_Lg		00 40 48.0	
ECEU	**Ceuta**	**1.46**	**288**	Sn	**Sn**	**00 40 46.0**	**-1.7**
EBER	**Berja**	**1.57**	**23**	P	**Pn**	**00 40 30.5**	**-0.2**
EBER				S	**Sn**	**00 40 51.1**	**+0.4**
EBER				*i* Vmb_Lg		00 40 55.9	
EBER	**Berja**	**1.57**	**23**	Pn	**Pn**	**00 40 30.2**	**-0.4**
EGOR	**Sierra Gorda,**	**1.69**	**348**	P	**Pg**	**00 40 35.2**	**-0.5**
EGOR				S	**Sn**	**00 40 54.0**	**+0.4**
EGOR				*i* Vmb_Lg		00 41 02.6	
EGOR	**Sierra Gorda,**	**1.69**	**348**	Pn	**Pb**	**00 40 33.7**	**-0.3**
EQUE	**Quentar**	**1.76**	**6**	P	**Pb**	**00 40 34.5**	**-0.7**
EQUE				S	**Sn**	**00 40 54.7**	**-0.5**
EQUE				*i* Vmb_Lg		00 40 58.3	
EQTA	**Presa de Quent**	**1.76**	**6**	Pn	**Pn**	**00 40 33.9**	**+0.8**
EJIF	**Jimena Fronter**	**1.77**	**305**	P	Pn	00 40 25.9	-7.3
EJIF				S	**Sb**	**00 40 57.1**	**-0.1**
ENIJ	**Nijar**	**1.92**	**37**	P	**Pn**	**00 40 34.4**	**-0.9**
ENIJ				S	**Sn**	**00 41 00.7**	**+1.6**
ENIJ				*i* Vmb_Lg		00 41 10.8	
ENIJ	**Nijar**	**1.92**	**37**	Pn	**Pn**	**00 40 34.1**	**-1.1**
LCRM	**LCR**	**2.02**	**210**	P	**Pn**	**00 40 37.9**	**+1.2**
LCRM				S	**Sb**	**00 41 04.4**	**-0.2**
ESPR	**Espera**	**2.27**	**309**	P	**Pn**	**00 40 40.3**	**+0.3**
ESPR				S	**Sb**	**00 41 11.2**	**-0.3**
IFR	**Ifrane**	**2.28**	**212**	Pn	**Pn**	**00 40 40.8**	**+0.5**
IFR				Sn	**Sn**	**00 41 08.1**	**0.0**
EQES	**Quesada**	**2.39**	**11**	P	**Pb**	**00 40 44.5**	**-1.5**
EQES				S	**Sn**	**00 41 13.3**	**+2.4**
EQES				*i* Vmb_Lg		00 41 15.5	
MD31	**MD31**	**2.73**	**200**	P	**Pn**	**00 40 45.9**	**-0.6**
MD31				S	**Sn**	**00 41 18.4**	**-0.8**
MDT	**Midelt**	**2.75**	**197**	P	**Pn**	**00 40 46.0**	**-0.7**
MDT				S	**Sn**	**00 41 18.5**	**-1.0**
EADA	**Adamuz**	**2.81**	**345**	P	**Pn**	**00 40 49.8**	**+2.4**
EADA				S	**Sn**	**00 41 21.8**	**+0.9**
EADA				*i* Vmb_Lg		00 41 29.1	
EADA	**Adamuz**	**2.81**	**345**	Pn	**Pn**	**00 40 49.3**	**+1.9**
EZAR	**Zarzadilla de**	**2.89**	**33**	S	**Sn**	**00 41 24.8**	**+1.6**
EZAR				*i* Vmb_Lg		00 41 26.4	
ECAB	**El Cabril**	**2.97**	**332**	P	**Pn**	**00 40 51.9**	**+2.2**
ECAB				S	**Sn**	**00 41 26.1**	**+1.1**
ECAB	**El Cabril**	**2.97**	**332**	Pn	**Pn**	**00 40 51.1**	**+1.4**
EMUR	**La Murta**	**3.08**	**39**	S	**Sn**	**00 41 26.0**	**-1.8**
EMUR				*i* Vmb_Lg		00 41 33.5	
ZHG	**ZHG**	**3.17**	**232**	P	**Pn**	**00 40 53.7**	**+1.2**
ZHG				S	**Sn**	**00 41 32.4**	**+2.4**
ETRV	**Los Montesinos**	**3.46**	**41**	S	**Sn**	**00 41 37.8**	**+0.7**
ETOB	**Tobarra**	**3.61**	**27**	P	**Pn**	**00 41 00.6**	**+2.1**
ETOB				*i* Vmb_Lg		00 41 42.2	
ETOB				S	**Sn**	**00 41 42.2**	**+1.4**
EGRO	**El Granado**	**3.71**	**305**	P	**Pn**	**00 41 00.8**	**+1.0**
EGRO				S	**Sn**	**00 41 42.6**	**-0.6**
EGRO				*i* Vmb_Lg		00 41 50.6	
EGRO	**El Granado**	**3.71**	**305**	Pn	**Pn**	**00 41 00.6**	**+0.8**
PVAQ	**Vaqueiros**	**3.80**	**302**	*e*Pn	**Pn**	**00 41 03.5**	**+2.4**
PVAQ				*e*Sn	**Sn**	**00 41 44.0**	**-1.5**
PBAR	**Barrancos**	**3.83**	**316**	*e*Pn	**Pn**	**00 41 02.6**	**+1.1**
PBAR				*e*Sn	**Sn**	**00 41 45.7**	**-0.6**
PBAR				A	A	00 41 54.5	
	1.8nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.88**	**299**	*e*Pn	**Pn**	**00 41 03.5**	**+1.3**
PBDV				*e*Sn	**Sn**	**00 41 47.4**	**0.0**
PBDV				A	A	00 42 03.5	
	3.1nm,0.7s						
PAB	**San Pablo**	**4.12**	**353**	P	**Pn**	**00 41 07.9**	**+2.4**
PAB				S	**Sn**	**00 41 53.4**	**-0.1**
PAB				*i* Vmb_Lg		00 42 05.7	
PCVE	**Castro Verde**	**4.14**	**303**	*e*Pn	**Pn**	**00 41 07.5**	**+1.8**
PCVE				*e*Sn	**Sn**	**00 41 53.3**	**-0.5**
PCVE				A	A	00 41 58.5	
	2.4nm,0.8s						
ESDC	**Sonseca Array**	**4.22**	**357**	P	**Pn**	**00 41 09.3**	**+2.4**
ESDC				S	**Sn**	**00 41 55.5**	**-0.3**
ESDC				*i* Vmb_Lg		00 42 14.1	
EBAD	**Badajoz**	**4.25**	**322**	P	**Pn**	**00 41 08.2**	**+1.0**
EBAD				S	**Sn**	**00 41 56.0**	**-0.4**
EBAD	**Badajoz**	**4.25**	**322**	Sn	**Sn**	**00 41 55.2**	**-1.2**
EBAD				Pn	**Pn**	**00 41 08.0**	**+0.8**
MESJ	**Messejana**	**4.37**	**304**	*e*Pn	**Pn**	**00 41 10.9**	**+2.0**
MESJ				*e*Sn	**Sn**	**00 41 58.7**	**-0.7**
MESJ				A	A	00 42 04.1	
	3.1nm,0.8s						
MESJ	**Messejana**	**4.37**	**304**	*e*P	**Pn**	**00 41 10.1**	**+1.2**
MESJ				*e*S	**Sn**	**00 41 57.9**	**-1.5**
MESJ				IAML		00 42 03.8	
	comp=N,1.5nm,0.2s						
MORF	**Marmelete**	**4.43**	**296**	*e*Sn	**Sn**	**00 42 01.8**	**+0.8**
PFVI	**Vila Bisbo**	**4.49**	**293**	*e*Sn	**Sn**	**00 42 02.1**	**-0.4**
PTEO	**Sao Teotonio**	**4.58**	**299**	*e*Pn	**Pn**	**00 41 15.5**	**+3.7**
PTEO				*e*Sn	**Sn**	**00 42 04.8**	**+0.2**
PESTR	**Estremoz**	**4.63**	**319**	*e*Pn	**Pn**	**00 41 14.2**	**+1.7**
PESTR				*e*Sn	**Sn**	**00 42 05.2**	**-0.7**
PESTR				A	A	00 42 34.7	
	comp=N,1.8nm,0.7s						
PESTR	**Estremoz**	**4.63**	**319**	P	**Pn**	**00 41 09.3**	**-3.2**
PESTR				S	**Sn**	**00 42 02.3**	**-3.6**
EVO	**Evora**	**4.64**	**313**	*e*Pn	**Pn**	**00 41 14.4**	**+1.8**
EVO				*e*Sn	**Sn**	**00 42 05.4**	**-0.8**
ECHE	**Chera**	**4.65**	**27**	P	**Pn**	**00 41 14.6**	**+1.7**
PNCL	**Nicolau / Gran**	**4.72**	**306**	*e*Pn	**Pn**	**00 41 14.7**	**+1.0**
PNCL				*e*Sn	**Sn**	**00 42 07.1**	**-1.0**
PNCL				A	A	00 42 09.2	
	comp=N,4.8nm,0.9s						
PNCL	**Nicolau / Gran**	**4.72**	**306**	Pn	**Pn**	**00 41 14.5**	**+0.8**
PMRV	**Marv??o**	**4.95**	**324**	*e*Pn	**Pn**	**00 41 18.9**	**+2.0**
PMRV				*e*Sn	**Sn**	**00 42 12.0**	**-1.9**
PMRV				A	A	00 42 33.9	
	comp=N,2.4nm,0.7s						
EPLA	**Plasencia**	**4.99**	**338**	P	**Pn**	**00 41 20.1**	**+2.7**
EPLA				S	**Sn**	**00 42 15.7**	**+1.0**
EPLA				*i* Vmb_Lg		00 42 31.2	
PMTG	**Montargil**	**5.12**	**316**	*e*Pn	**Pn**	**00 41 20.7**	**+1.5**
PMTG				*e*Sn	**Sn**	**00 42 17.7**	**-0.3**
PMTG				A	A	00 42 22.7	
	comp=N,3.8nm,0.7s						
OUZM	**OUZ**	**5.22**	**211**	P	**Pn**	**00 41 22.7**	**+2.0**
PACT	**Alcochete**	**5.29**	**310**	*e*Pn	**Pn**	**00 41 23.8**	**+2.3**
PCBR	**Castelo Branco**	**5.32**	**327**	*e*Pn	**Pn**	**00 41 24.1**	**+2.1**
PSBE	**So Bento**	**5.75**	**316**	*e*Pn	**Pn**	**00 41 29.9**	**+2.0**
PSBE				*e*Sn	**Sn**	**00 42 33.5**	**0.0**
PVIS	**Viseu**	**6.22**	**329**	*e*Sn	**Sn**	**00 42 43.6**	**-1.6**
MVO	**Moncorvo**	**6.29**	**336**	*e*Pn	**Pn**	**00 41 37.7**	**+2.4**

IDC ***29*** *01:05:07.9±0.4, 29°.34S×178°.76W, h198km±5km, mb3.8/9, mbtmp4.3/9, Error ellipse: s-maj=18.1km s-min=16.8km az=90.0*
ISC 29 01:05:08.2±0.5,**29°.5S**±0°.1×**178°.8W**±0°.1,**h204**km,**n35,**
σ0°**82**/38,**mb4.1/9,3C, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.76**	**72**	P	**Pn**	**01 05 37.2**	**+0.2**
	1μm,0.3s,baz=92,slow=9.2,SNR=16						
RAO				S	**S**	**01 05 57.8**	**-1.4**
	1μm,0.3s,baz=90,slow=22,SNR=8.0						
URZ	**Urewera**	**9.40**	**200**	P	**Pn**	**01 07 17.7**	**-1.9**
	19nm,1.0s,baz=117,slow=7.2,SNR=3.4						
URZ				S	S	01 08 58.7	-6.4
	12nm,0.3s,baz=305,slow=21,SNR=12						
STKA	**Stephens Creek**	**34.06**	**256**	P	**P**	**01 11 34.1**	**+0.8**
	0.7nm,0.4s,baz=90,slow=11,SNR=2.8						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**42.52**	**266**	P	**P**	**01 12 43.5**	**-0.3**
	1.0nm,0.6s,baz=98,slow=8.0,SNR=16

comp=N,15nm,0.5s
OZAP *i* AML AML 01 33 33.0

comp=E,36nm,0.6s
IMRD Marand 0.71 83 Pg **Pg 01 33 17.8 +0.5**
IMRD Sg **Sb 01 33 29.1 +0.2**
MAKU Maku 0.72 353 Pg **Pg 01 33 17.3 -0.2**
ISHB Shabestar 0.73 118 Pg **Pg 01 33 17.5 -0.2**
CLDR Caldiran 0.85 307 P **Pg 01 33 19.7 -0.3**
CLDR S **Sg 01 33 31.3 +0.2**
CLDR *i* AML AML 01 33 33.0

comp=N,72nm,0.5s
CLDR *i* AML AML 01 33 34.0

comp=E,106nm,0.5s
YOVA Hakkari_Yksek 1.12 201 P **Pb 01 33 25.4 -0.3**
YOVA S **Sn 01 33 42.6 +0.4**
YOVA *i* AML AML 01 33 49.0

comp=N,15nm,1.0s
YOVA *i* AML AML 01 33 50.0

comp=E,21nm,0.8s
ITBZ Tabriz 1.13 110 Pg **Pg 01 33 24.3 -1.1**
IAZR Azarshahr 1.33 135 Pg **Pg 01 33 29.9 +0.7**
IGDI IGDIR 1.35 336 P **Pb 01 33 29.5 -0.1**
IGDI S **Sn 01 33 48.1 +0.4**
IGDI *i* AML AML 01 33 58.0

comp=E,11nm,0.9s
IGDI *i* AML AML 01 34 06.0

comp=N,9.3nm,1.0s
KOTA Agri, Merkez-K 1.70 314 P **Pg 01 33 36.5 +0.3**
KOTA S **Sb 01 33 57.5 +0.2**
KOTA *i* AML AML 01 34 07.0

comp=N,4.3nm,0.7s
KOTA *i* AML AML 01 34 08.0

comp=E,3.6nm,0.4s
DORK Agr/Tutak/Do 1.74 296 P **Pg 01 33 36.7 -0.2**
DORK S **Sn 01 33 57.2 -0.3**
DORK *i* AML AML 01 34 04.0

comp=E,6.8nm,0.8s
DORK *i* AML AML 01 34 06.0

comp=N,5.3nm,0.6s
IHRS Heris 1.79 99 Pn **Pb 01 33 36.9 -0.2**

IDC 29 01:34:26.8±2.2, 6°68S×128°88E, h0km, mb3.2/1, mbtmp3.1/3, ML3.2/2, Error ellipse: s-maj=150.5km s-min=32.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.21**	**159**	Pn	Pn	01 37 49.5	+0.1
	0.1nm,0.3s,baz=341,slow=14,SNR=7.6						
WRA				Sn	Sn	01 40 14.2	-14
	0.2nm,0.3s,baz=332,slow=22,SNR=7.6						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**17.56**	**165**	P	Pn	01 38 33.2	0.0
	0.1nm,0.3s,baz=340,slow=10,SNR=1.7						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**67.36**	**327**	P	P	01 45 23.9	0.0
	0.1nm,0.4s,baz=119,slow=8.3,SNR=4.6						
	0.1nm,0.4s						

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*NEIC **29** 01:40:51.3±0.5, 19°.21N±0°.02×155°.46W±0°.02, h41km±3km, Error ellipse: s-maj=3.4km s-min=2.8km az=145.0*

HVO 29 01:40:52.8±0.6, 19°.20N±0°.03×155°.47W±0°.03, h36km±4km, ML2.6/32, ML3.1/54(NEIC), Error ellipse: s-maj=5.0km s-min=3.6km az=169.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.08**	**61**		Pn	01 40 58.4	-0.5
HPO	**Honuapo**	**0.13**	**216**		Pn	01 40 58.4	-3.5
KHU	**Kahuku**	**0.14**	**290**		Pn	01 40 58.7	-3.2
AIN	**Ainahou**	**0.17**	**5**		Pn	01 40 59.1	-2.3
HLP	**Hilina Pali**	**0.18**	**58**		Pn	01 40 59.0	-2.2
HLP				IAML		01 41 04.9	
	comp=E,2μm,0.2s						
HLP				IAML		01 41 06.9	
	comp=N,2μm,0.2s						
SDHHI	**Sand Hill**	**0.26**	**41**		Pn	01 40 59.4	-1.4
WRMHI	**West Rim**	**0.26**	**38**		Pn	01 40 59.4	-1.4
WRMHI	**West Rim**	**0.26**	**38**		Sn	01 41 04.7	-2.7
RIM	**Rim**	**0.27**	**44**		Pn	01 40 59.5	-1.4
RIM				IAML		01 41 07.6	
	comp=N,2μm,0.4s						
KKO	**Keanakako`i**	**0.28**	**44**		Pn	01 40 59.6	-1.3
KKO				IAML		01 41 07.4	
	comp=N,1μm,0.5s						
NPH	**North Pit**	**0.28**	**40**		Pn	01 40 59.5	-1.4
UWE	**Uwekahuna**	**0.28**	**37**		Pn	01 40 59.6	-1.3
UWE				IAML		01 41 05.0	
	comp=E,2μm,0.4s						
UWE				IAML		01 41 07.1	
	comp=N,2μm,0.4s						
UWE	**Uwekahuna**	**0.28**	**37**		Sn	01 41 04.9	-2.5
OBL	**Observatory Le**	**0.28**	**39**		Pn	01 40 59.6	-1.3
OBL				IAML		01 41 05.3	
	comp=E,2μm,0.5s						
OBL				IAML		01 41 05.6	
	comp=N,2μm,0.2s						
UWB	**Uwekahuna B**	**0.29**	**39**		Pn	01 40 59.5	-1.4
BYL	**Byron's Ledge**	**0.29**	**43**		Pn	01 40 59.6	-1.3
BYL	**Byron's Ledge**	**0.29**	**43**		Sn	01 41 04.9	-2.5
BYL	**Byron's Ledge**	**0.29**	**43**	IAML		01 41 04.9	
	comp=E,1μm,0.6s						
BYL				IAML		01 41 08.9	
	comp=N,857nm,0.4s						
PUH	**Pauahi**	**0.30**	**54**		Pn	01 40 59.7	-1.2
PUH	**Pauahi**	**0.30**	**54**		Sn	01 41 04.7	-2.7
PUH	**Pauahi**	**0.30**	**54**	IAML		01 41 04.8	
	comp=E,1μm,0.2s						
PUH				IAML		01 41 05.1	
	comp=N,1μm,0.3s						
SBLHI	**Steaming Bluff**	**0.30**	**40**		Pn	01 40 59.6	-1.4
SBLHI				IAML		01 41 04.9	
	comp=N,2μm,0.2s						
SBLHI				IAML		01 41 04.9	
	comp=E,2μm,0.2s						
SBLHI	**Steaming Bluff**	**0.30**	**40**		Sn	01 41 04.7	-2.7
HATHI	**Halema'uma'u T**	**0.30**	**42**		Pn	01 40 59.7	-1.3
HATHI	**Halema'uma'u T**	**0.30**	**42**		Sn	01 41 04.9	-2.5
HATHI	**Halema'uma'u T**	**0.30**	**42**	IAML		01 41 05.1	
	comp=E,1μm,0.2s						
HATHI				IAML		01 41 05.2	
	comp=N,1μm,0.6s						
MLH	**Mauna Loa**	**0.31**	**15**		Pn	01 41 00.1	-1.0
MLH				IAML		01 41 05.7	
	comp=E,1μm,0.3s						
MLH				IAML		01 41 05.9	
	comp=N,1μm,0.1s						
MWH	**Moku'aweowe**	**0.31**	**338**		Pn	01 41 00.1	-1.4
MWH				IAML		01 41 05.9	
	comp=E,1μm,0.6s						
RSD	**Rainshed**	**0.32**	**35**		Pn	01 40 59.9	-1.3
KNHH	**Kane Nui o Ham**	**0.34**	**58**		Pn	01 41 00.1	-1.1
MLOA	**Mauna Loa Obse**	**0.35**	**344**		Pn	01 41 00.6	-1.2
MLOA				IAML		01 41 06.2	
	comp=E,2μm,0.2s						
MLOA	**Mauna Loa Obse**	**0.35**	**344**		Sn	01 41 06.1	-2.4
ALEP	**Alea Permanent**	**0.38**	**335**		Pn	01 41 00.7	-1.4
STCH	**Steam Cracks**	**0.38**	**60**		Pn	01 41 00.5	-1.2
STCH	**Steam Cracks**	**0.38**	**60**	IAML		01 41 06.4	
	comp=E,2μm,0.2s						
STCH				IAML		01 41 06.5	
	comp=N,1μm,0.1s						
NPOC	**North of Pu'u**	**0.39**	**60**	IAML		01 41 06.8	
	comp=E,2μm,0.2s						
NPOC	**North of Pu'u**	**0.39**	**60**		Pn	01 41 00.7	-1.2
NPOC					Sn	01 41 06.4	-2.1
JCUZ	**Jacuzzi**	**0.40**	**62**	IAML		01 41 06.8	
	comp=E,1μm,0.3s						
JCUZ				IAML		01 41 07.0	
	comp=N,1μm,0.5s						
JCUZ	**Jacuzzi**	**0.40**	**62**		Pn	01 41 00.5	-1.4
JCUZ					Sn	01 41 06.8	-1.8
HMH	**Humu'ula Sheep**	**0.40**	**359**		Pn	01 41 01.5	-0.8
HMH				IAML		01 41 08.4	
	comp=E,1μm,0.2s						
HMH	**Humu'ula Sheep**	**0.40**	**359**		Sn	01 41 08.0	-1.1
JOKA	**Jonika Flow**	**0.50**	**62**		Pn	01 41 01.9	-1.6
JOKA					Sn	01 41 08.6	-2.3
CPH	**Captain Cook**	**0.51**	**305**		Pn	01 41 02.0	-1.6
KHLU	**Kahalu`u**	**0.56**	**315**		Pn	01 41 02.8	-1.6
KHLU				IAML		01 41 10.0	
	comp=N,1μm,0.1s						
KHLU				IAML		01 41 10.1	
	comp=E,995nm,0.3s						
POHA	**Pohakuloa**	**0.56**	**354**		Pn	01 41 02.9	-1.6
POHA				IAML		01 41 14.6	
	comp=E,934nm,0.2s						
POHA				IAML		01 41 16.3	
	comp=E,962nm,0.3s						
POHA	**Pohakuloa**	**0.56**	**354**		Sn	01 41 10.4	-2.3
HUH	**Hualalai**	**0.59**	**325**		Pn	01 41 03.7	-1.4
HUH				IAML		01 41 23.3	
	comp=E,1μm,0.4s						
HUH	**Hualalai**	**0.59**	**325**		Sn	01 41 12.2	-1.3
HPAH	**Hawaii Prepara**	**0.85**	**346**		Pn	01 41 06.6	-1.8

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*IDC **29** 01:44:14.7±0.9, 56°.26S×142°.84W, h0km, mb4.0/4, mbtmp4.0/4, MS3.7/24, Error ellipse: s-maj=41.9km s-min=27.7km az=16.0*

ISC 29 01:44:16.3±1.0, 56°.3S±0°.3×142°.9W±0°.2, h11km, n52, σ0s.51/10, mb4.3/4, MS3.8/27, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**28.47**	**202**	LR	LR	01 58 36.0	
	comp=Z,85nm,18.8s,baz=73,slow=30						
RPZ	**Rata Peaks**	**31.56**	**274**	LR	LR	02 01 00.9	
	comp=Z,136nm,18.2s,baz=70,slow=32						
TBI	**Tubuai**	**33.23**	**349**	eLR	LR	01 59 30.5	
	comp=Z,2μm,27.5s						
TBI	**Tubuai**	**33.23**	**349**	*e*T	T	02 25 53.7	
	9.1nm,0.2s						
QSPA	**South Pole Qui**	**33.90**	**180**	P	**P**	**01 50 58.7**	**-0.2**
	4.8nm,1.0s,baz=66,slow=5.8,SNR=8.2						
QSPA				LR	LR	02 02 57.2	
	comp=Z,147nm,18.1s,baz=70,slow=33						
	4.8nm,1.0s						
RAR	**Rarotonga**	**37.19**	**333**	LR	LR	02 02 07.0	
	comp=Z,147nm,21.3s,baz=168,slow=29						
PMSA	**Palmer Station**	**37.24**	**136**	LR	LR	02 01 42.9	
	comp=Z,171nm,20.5s,baz=303,slow=28						
RPN	**Rapa Nui**	**37.72**	**54**	LR	LR	02 03 19.5	
	comp=Z,22nm,20.4s,baz=330,slow=30						
MEH	**Mehetia**	**38.52**	**352**	*e*T	T	02 32 36.3	
	26nm,0.2s						
PAE	**Paea**	**38.86**	**350**	*e*T	T	02 33 05.8	
	1.9nm,0.2s						
PPT2	**Papeete2**	**38.93**	**350**	*e*LR	LR	02 02 05.8	
	comp=Z,342nm,25.5s						
PPT2				*e*LR	LR	02 02 11.8	
	comp=Z,318nm,28.8s						
PPT2	**Papeete2**	**38.93**	**350**	*e*T	T	02 33 07.5	
	1.9nm,0.2s						
TIAR	**Tiarei**	**38.94**	**350**	*e*T	T	02 33 05.6	
	0.5nm,0.2s						
PPT	**Papeete**	**38.95**	**350**	LR	LR	02 03 56.3	
	comp=Z,163nm,20.6s,baz=182,slow=30						
VAH	**Vaihoa**	**41.10**	**353**	*e*T	T	02 35 48.6	
	19nm,0.1s						
TAOE	**Nuku Hiva Isla**	**47.33**	**4**	*e*LR	LR	02 05 44.9	
	comp=Z,230nm,27.7s						
PLCA	**Paso Flores**	**48.07**	**103**	P	**P**	**01 52 56.1**	**+0.5**
	3.8nm,1.1s,baz=233,slow=10,SNR=3.1						
PLCA				LR	LR	02 08 15.3	
	comp=Z,50nm,18.2s,baz=219,slow=30						
	3.8nm,1.1s						
H03S2	**Juan Fernandez**	**48.39**	**90**	T	T	02 44 47.2	
	baz=220,slow=74,SNR=24						
H03S1	**Juan Fernandez**	**48.40**	**90**	T	T	02 44 47.8	
	baz=220,slow=74,SNR=22						
H03S3	**Juan Fernandez**	**48.41**	**90**	T	T	02 44 47.8	
	baz=220,slow=74,SNR=28						
H03N3	**Juan Fernandez**	**48.68**	**90**	T	T	02 45 01.2	
	baz=223,slow=72,SNR=49						
H03N2	**Juan Fernandez**	**48.68**	**90**	T	T	02 45 00.1	
	baz=223,slow=72,SNR=43						
H03N1	**Juan Fernandez**	**48.69**	**90**	T	T	02 45 00.2	
	baz=223,slow=72,SNR=42						
MAW	**Mawson**	**54.98**	**192**	LR	LR	02 15 32.3	
	comp=Z,80nm,18.2s,baz=161,slow=34						
CFA	**Coronel Fontan**	**56.01**	**97**	LR	LR	02 12 07.4	
	comp=Z,41nm,18.1s,baz=314,slow=30						
LVC	**Limon Verde**	**62.63**	**90**	LR	LR	02 15 58.3	
	comp=Z,17nm,18.3s,baz=240,slow=30						
CTA	**Charters Tower**	**62.93**	**274**	LR	LR	02 17 57.6	
	comp=Z,49nm,18.6s,baz=85,slow=32						
CPUP	**Villa Florida**	**66.10**	**102**	LR	LR	02 19 23.0	
	comp=Z,48nm,18.4s,baz=216,slow=32						
NNA	**Nana**	**66.85**	**76**	LR	LR	02 17 19.1	
	comp=Z,73nm,18.8s,baz=226,slow=30						
ASAR	**Alice Springs**	**66.95**	**262**	P	**P**	**01 55 09.4**	**+0.6**
	1.3nm,0.8s,baz=135,slow=6.1,SNR=10						
	1.3nm,0.8s						
H01W1	**Cape Leeuwin H**	**68.32**	**240**	T	T	03 10 41.7	
	baz=143,slow=76,SNR=57						
H01W2	**Cape Leeuwin H**	**68.32**	**240**	T	T	03 10 37.3	
	baz=143,slow=76,SNR=65						
H01W3	**Cape Leeuwin H**	**68.34**	**240**	T	T	03 10 36.9	
	baz=143,slow=76,SNR=53						
WRA	**Warramunga Arr**	**69.69**	**264**	P	**P**	**01 55 26.1**	**+0.1**
	0.7nm,0.9s,baz=147,slow=5.6,SNR=5.2						
	0.7nm,0.9s						
ATAH	**Atahualpa**	**70.06**	**72**	LR	LR	02 18 36.9	
	comp=Z,43nm,19.5s,baz=211,slow=29						
SIV	**San Ignacio**	**72.31**	**92**	LR	LR	02 23 33.2	
	comp=Z,211nm,18.9s,baz=269,slow=33						
LPIG	**La Paz**	**84.67**	**30**	LR	LR	02 26 14.1	
	comp=Z,37nm,19.1s,baz=352,slow=30						
SUR	**Sutherland**	**90.62**	**166**	LR	LR	02 35 26.0	
	comp=Z,38nm,18.0s,baz=162,slow=34						
PCRV	**Puerto La Cruz**	**91.92**	**75**	LR	LR	02 33 10.9	
	comp=Z,78nm,18.8s,slow=32						
BOSA	**Boshof**	**94.86**	**170**	LR	LR	02 37 48.5	
	comp=Z,42nm,18.0s,baz=192,slow=34						
ANMO	**Albuquerque**	**95.98**	**29**	LR	LR	02 33 05.8	
	comp=Z,24nm,20.8s,baz=137,slow=30						
NVAR	**Mina Array Bea**	**96.60**	**19**	LR	LR	02 30 56.5	
	comp=Z,39nm,19.9s,baz=128,slow=29						
LBTB	**Lobatse**	**98.46**	**169**	LR	LR	02 39 36.5	
	comp=Z,48nm,18.2s,baz=163,slow=34						
ELK	**Elko**	**99.43**	**21**	LR	LR	02 33 23.2	
	comp=Z,57nm,19.2s,baz=217,slow=30						
H10N3	**ASCENSION HYDR**	**103.34**	**127**	T	T	03 53 43.1	
	baz=206,slow=74,SNR=4.8						
H10N1	**ASCENSION HYDR**	**103.34**	**127**	T	T	03 53 47.8	
	baz=206,slow=74,SNR=5.2						
H10N2	**ASCENSION HYDR**	**103.35**	**127**	T	T	03 53 47.9	
	baz=206,slow=74,SNR=5.4						
ILAR	**Eielson Array**	**120.74**	**358**	PKP	**PKPdf**	**02 03 06.5**	**-0.3**
	0.8nm,0.9s,baz=216,slow=1.8,SNR=7.2						
ESDC	**Sonseca Array**	**148.45**	**104**	PKPbc	**PKPbc**	**02 04 01.5**	**-0.7**
	0.8nm,0.9s,baz=253,slow=2.5,SNR=3.4						
MKAR	**Makanchi Array**	**150.85**	**270**	PKPbc	**PKPbc**	**02 04 07.6**	**-0.3**
	1.8nm,0.8s,baz=107,slow=4.2,SNR=14						
ZALV	**Zalesovo Beam**	**153.05**	**285**	PKPbc	**PKiKP**	**02 04 12.8**	**0.0**
	0.3nm,0.3s,baz=130,slow=4.3,SNR=1.7						
ZALV				PKPab	**PKPab**	**02 04 23.8**	**-0.4**
	1.5nm,0.7s,baz=144,slow=5.3,SNR=5.8						
BVAR	**Borovoye Array**	**160.60**	**274**	PKPab	**PKPab**	**02 04 57.3**	**+0.5**
	2.0nm,0.9s,baz=144,slow=5.3,SNR=5.9						

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*IDC **29** 01:44:46.5±1.1, 4°.11N×145°.90E, h0km, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=45.2km s-min=18.6km az=90.0*

ISC 29 01:44:51.8±1.1, 4°.1N±0°.1×145°.9E±0°.3, h35km, n10, σ0s.36/11, mb3.9/9, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.43**	**205**	P	**P**	**01 50 25.3**	**-0.3**
	4.6nm,0.6s,baz=29,slow=10,SNR=55						
WRA				PcP	**PcP**	**01 53 51.4**	**+0.8**
	0.4nm,0.9s,baz=15,slow=2.6,SNR=2.5						
	4.6nm,0.6s						
ASAR	**Alice Springs**	**29.95**	**202**	P	**P**	**01 50 56.9**	**0.0**
	0.8nm,0.8s,baz=34,slow=7.5,SNR=9.5						
	0.8nm,0.8s						
STKA	**Stephens Creek**	**35.99**	**186**	P	**P**	**01 51 49.4**	**-0.2**
	1.1nm,0.6s,baz=5.9,slow=11,SNR=3.4						
	1.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**48.03**	**291**	P	**P**	**01 53 28.1**	**+0.1**
	0.7nm,0.3s,baz=103,slow=5.2,SNR=4.0						
	0.7nm,0.3s						
SONM	**Songino Array**	**55.18**	**329**	P	**P**	**01 54 21.4**	**+0.1**
	0.9nm,0.7s,baz=147,slow=6.6,SNR=5.7						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**69.13**	**319**	P	**P**	**01 55 54.7**	**0.0**
	0.6nm,0.7s,baz=94,slow=7.3,SNR=6.9						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**72.59**	**322**	P	**P**	**01 56 15.1**	**-0.4**
	0.9nm,0.9s,baz=110,slow=5.4,SNR=5.5						
	0.9nm,0.9s						
ILAR	**Eielson Array**	**76.75**	**24**	P	**P**	**01 56 39.3**	**-0.1**
	0.8nm,0.8s,baz=250,slow=5.9,SNR=5.7						
	0.8nm,0.8s						
BVAR	**Borovoye Array**	**78.03**	**323**	P	**P**	**01 56 46.6**	**-0.2**
	1.2nm,0.6s,baz=127,slow=9.4,SNR=5.7						
	1.2nm,0.8s						
DBIC	**Dimbokro**	**148.89**	**290**	PKPbc	**PKPbc**	**02 04 37.2**	**+0.2**
	2.5nm,0.5s,baz=345,slow=1.4,SNR=5.6						

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*NOU **29** 01:55:03.2, 36°.32S×179°.29W, h121km, MLv4.5/9, East of North Island, N.Z.*
*WEL **29** 01:55:07.6±1.1, 36°.S±7°×18°.0W±1°.0, h12km, M4.3/14, ML4.5/16, MLv4.3/14, Error ellipse: s-maj=0.0km s-min=0.0km az=111.6, confirmed*
*NEIC **29** 01:55:07.8±1.8, 36°.1S±0°.1×179°.8E±0°.2, h10km±2km, mb4.3/8, Error ellipse: s-maj=26.5km s-min=18.6km az=332.0*
*IDC **29** 01:55:17.9±4.5, 36°.93S×179°.57E, h97km±33km, mb4.1/4, mbtmp4.4/6, MS3.3/3, Error ellipse: s-maj=40.4km s-min=29.9km az=63.0*

ISC 29 01:55:04.4±3.8, 36°.35S±0°.07×179°.83W±0°.09, h4km±22km, n69, σ1s.73/66, mb4.3/8, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.92**	**231**	Pn	**Pb**	**01 55 40.0**	**0.0**
MXZ	**Matakaoa Point**	**1.92**	**231**	P	**Pn**	**01 55 39.7**	**+1.9**
MXZ	**Matakaoa Point**	**1.92**	**231**	P	**Pb**	**01 55 39.9**	**0.0**
MXZ				S	**Sn**	**01 56 03.2**	**+0.7**
PKGZ	**Pakihiroa**	**2.27**	**227**	P	**Pn**	**01 55 45.1**	**+2.4**
PKGZ				S	**Sb**	**01 56 13.9**	**-0.5**
PUZ	**Puketiti**	**2.30**	**221**	P	**Pn**	**01 55 45.5**	**+2.4**
PUZ				S	**Sn**	**01 56 13.8**	**+2.0**
HAZ	**Te Kaha**	**2.37**	**233**	P	**Pn**	**01 55 46.1**	**+2.1**
HAZ				S	**Sb**	**01 56 17.3**	**+0.1**
TWGZ	**Tauwhareparae**	**2.52**	**223**	P	**Pn**	**01 55 48.6**	**+2.4**
TWGZ				S	**Sb**	**01 56 20.3**	**-1.4**
RUGZ	**Raukumara Rang**	**2.56**	**230**	P	**Pn**	**01 55 49.6**	**+2.8**
RUGZ				S	**Sb**	**01 56 21.8**	**-1.1**
TKGZ	**Te Karaka**	**2.79**	**221**	P	**Pn**	**01 55 51.7**	**+2.0**
TKGZ				S	**Sn**	**01 56 25.3**	**+1.5**
MWZ	**Matawai**	**2.89**	**226**	P	**Pn**	**01 55 53.1**	**+1.9**
MWZ				S	**Sn**	**01 56 27.6**	**+1.1**
WHRZ	**Whale Island**	**2.96**	**239**	P	**Pn**	**01 55 55.3**	**+3.0**
RIGZ	**Rimuhau**	**3.03**	**219**	P	**Pn**	**01 55 54.8**	**+1.6**
RAGZ	**Rawiri**	**3.06**	**225**	P	**Pn**	**01 55 56.3**	**+2.6**
URZ	**Urewera**	**3.10**	**231**	P	**Pn**	**01 55 56.2**	**+2.2**
URZ	**Urewera**	**3.10**	**231**	P	**Pn**	**01 55 56.2**	**+2.2**
	132nm,0.3s,baz=336,slow=3.9,SNR=218						
URZ				S	**Sn**	**01 56 31.5**	**+0.1**
	388nm,0.6s,baz=282,slow=21,SNR=9.4						
URZ	**Urewera**	**3.10**	**231**	P	**Pn**	**01 55 56.0**	**+2.0**
PRGZ	**Paritu Road**	**3.14**	**215**	P	**Pn**	**01 55 56.7**	**+2.0**
MARZ	**Manawahe**	**3.23**	**239**	P	**Pn**	**01 55 57.8**	**+1.9**
OPRZ	**Ohinepanea**	**3.25**	**242**	P	**Pn**	**01 55 57.8**	**+1.7**
MHGZ	**Mahia Peninsul**	**3.32**	**212**	P	**Pn**	**01 55 59.1**	**+1.9**
RTZ	**Ruatahuna**	**3.40**	**227**		**Pn**	**01 56 00.3**	**+2.1**
KUZ	**Kuaotunu**	**3.61**	**262**	P	**Pn**	**01 56 02.3**	**+1.2**
KUZ	**Kuaotunu**	**3.61**	**262**	P	**Pn**	**01 56 02.2**	**+1.2**
GRZ	**Great Barrier**	**3.81**	**270**	P	**Pn**	**01 56 06.0**	**+2.2**
TOZ	**Tahuroa Road**	**3.98**	**248**		**Pn**	**01 56 06.7**	**+0.5**
BKZ	**Black Stump Fm**	**4.05**	**225**		**Pn**	**01 56 08.6**	**+1.5**
BKZ	**Black Stump Fm**	**4.05**	**225**	P	**Pn**	**01 56 08.5**	**+1.3**
WCZ	**Waipu Caves**	**4.74**	**273**	P	**Pn**	**01 56 18.4**	**+1.8**
HIZ	**Hauiti**	**4.75**	**241**		**Pn**	**01 56 18.0**	**+1.2**
HIZ	**Hauiti**	**4.75**	**241**	P	**Pn**	**01 56 19.3**	**+2.6**
BFZ	**Birch Farm**	**5.31**	**214**	P	**Pn**	**01 56 23.7**	**-0.7**
OUZ	**Omahuta**	**5.46**	**280**	P	**Pn**	**01 56 28.4**	**+1.8**
OUZ	**Omahuta**	**5.46**	**280**	P	**Pn**	**01 56 28.2**	**+1.7**
SNZO	**South Karori**	**6.54**	**219**	P	**Pn**	**01 56 41.3**	**+0.1**
TKNZ	**Takaka Hill**	**7.32**	**228**	Pn	**Pn**	**01 56 54.5**	**+2.5**
QRZ	**Quartz Range**	**7.47**	**231**	P	**Pn**	**01 56 52.7**	**-1.4**
RPZ	**Rata Peaks**	**10.14**	**221**	Pn	**Pn**	**01 57 30.6**	**-0.1**
RPZ	**Rata Peaks**	**10.14**	**221**	P	**Pn**	**01 57 28.8**	**-1.9**
	3.5nm,0.3s,baz=58,slow=2.9,SNR=9.2						
RPZ				S	Sn	01 59 13.3	-12
	6.2nm,0.4s,baz=282,slow=22,SNR=11						
DZM	**Mont Dzumac**	**18.57**	**316**	LR	LR	02 05 26.2	
	comp=Z,299nm,18.4s,baz=113,slow=33						
STKA	**Stephens Creek**	**32.10**	**267**	P	**P**	**02 01 31.6**	**-1.1**
	1.6nm,0.9s,baz=50,slow=7.9,SNR=3.0						
	1.6nm,0.9s						
BBOO	**Buckleboo**	**36.26**	**262**	P	**P**	**02 02 08.3**	**-0.5**
AS31	**Alice Springs**	**41.65**	**274**	P	**P**	**02 02 51.8**	**-2.2**
ASAR	**Alice Springs**	**41.65**	**274**	P	**P**	**02 02 53.0**	**-1.0**
ASAR	**Alice Springs**	**41.65**	**274**	P	**P**	**02 02 53.5**	**-0.5**
	5.4nm,0.8s,baz=117,slow=7.6,SNR=38						
	5.4nm,0.8s						
WR0	**Warramunga Arr**	**43.01**	**280**	P	**P**	**02 03 04.0**	**-1.1**
WR0				IAmb	IAmb	02 03 05.2	
	comp=Z,9.5nm,1.1s						
WRA	**Warramunga Arr**	**43.18**	**280**	P	**P**	**02 03 04.8**	**-1.7**
WRA	**Warramunga Arr**	**43.18**	**280**	P	**P**	**02 03 05.6**	**-0.9**
	comp=Z,2.7nm,0.5s,baz=120,slow=7.8,SNR=48						
	comp=Z,2.7nm,0.5s						
WB0	**Warramunga Arr**	**43.23**	**280**		**P**	**02 03 05.7**	**-1.2**
WB0				IAmb	IAmb	02 03 07.5	
	comp=Z,3.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**51.12**	**276**	P	**P**	**02 04 08.2**	**-0.2**
FITZ				IAmb	IAmb	02 04 19.5	
	comp=Z,4.3nm,1.5s						
PSA00	**Pilbara Seismi**	**54.01**	**268**	P	**P**	**02 04 27.8**	**-2.0**
RPN	**Rapa Nui**	**59.47**	**103**	LR	LR	02 28 21.8	
	comp=Z,5.0nm,18.0s,baz=342,slow=33						
BELA	**Belgrano 2**	**64.11**	**172**	P	**P**	**02 05 42.9**	**+3.8**
BELA				IAmb	IAmb	02 05 57.5	

JMIC				*e*S		**Sn**	**01 59 04.8**	**-2.4**
JMIC	**Jan Mayen**	**1.45**	**251**	Pg		**Pn**	**01 58 49.0**	**+0.8**
	comp=Z,5.0nm,0.3s,baz=161,slow=9.5,SNR=2.1							
JMIC				Lg		Lg	01 59 05.7	
	comp=Z,6.5nm,0.3s,baz=156,slow=15,SNR=2.3							
JMI	**Jan Mayen**	**1.54**	**250**	*e*P		**Pn**	**01 58 49.6**	**+0.1**
JMI				*e*S		**Sn**	**01 59 07.9**	**-1.5**
JMI				IAML			01 59 21.6	
	comp=Z,41nm,0.5s							
DAG	**Danmarks Havn**	**6.57**	**330**	*e*P		**Pn**	**01 59 57.9**	**-0.6**
DAG				*e*S		Sn	02 01 01.7	-12
DAG	**Danmarks Havn**	**6.57**	**330**	*e*		Pn	01 59 53.1	-5.4
	baz=132,slow=18							
DAG				*i* P		**Pn**	**01 59 57.0**	**-1.5**
DAG				*e*P		**Pn**	**01 59 57.7**	**-0.8**
DAG				*e*S		Sn	02 00 59.5	-14
DAG				IAML			02 01 10.5	
	comp=Z,4.6nm,0.4s							
LOF	**Lofoten**	**7.03**	**110**	*e*P		**Pn**	**02 00 03.0**	**-1.7**
STEI	**Steigen**	**7.66**	**108**	*e*P		**Pn**	**02 00 12.0**	**-1.5**
HSPB	**Hornsund (broa**	**7.68**	**35**	*e*P		**Pn**	**02 00 12.8**	**-0.8**
TRO	**Tromso**	**7.95**	**92**	*e*P		Pn	02 00 14.8	-2.6
KONS	**Konsvik**	**8.00**	**120**	*e*P		**Pn**	**02 00 16.5**	**-1.6**
FAUS	**Fauske**	**8.01**	**111**	*e*P		**Pn**	**02 00 17.2**	**-1.1**
JETT	**Jettan, Norway**	**8.46**	**91**	*e*P		**Pn**	**02 00 25.2**	**+0.8**
KBS	**Kingsbay**	**8.49**	**22**	*e*P		**Pn**	**02 00 24.3**	**-0.5**
KBS	**Kingsbay**	**8.49**	**22**	*e*P		**Pn**	**02 00 23.9**	**-1.0**
SPA0	**Spitsbergen Ar**	**8.55**	**29**	*e*P		**Pn**	**02 00 25.2**	**-0.4**
SPA0				IAML			02 02 22.6	
	comp=Z,6.1nm,0.8s							
SPITS	**Spitsbergen Ar**	**8.55**	**29**	Pn		**Pn**	**02 00 26.2**	**+0.5**
	comp=Z,11nm,0.8s,baz=222,slow=15,SNR=36							
SPITS				Sn		**Sn**	**02 01 58.4**	**-3.6**
	baz=14,slow=15							
KIF	**Kilpisjarvi**	**8.83**	**94**	*e*P		**Pn**	**02 00 28.3**	**-1.1**
SALU	**Saltoluokta**	**8.99**	**106**	*e*P		**Pn**	**02 00 30.4**	**-1.3**
ARCES	**ARCESS Array B**	**10.09**	**87**	Pn		**Pn**	**02 00 45.2**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=17,slow=5.1,SNR=2.2							
ARCES				LR		LR	02 03 59.3	
	comp=Z,130nm,21.8s,baz=312,slow=33							
SUMG	**Summit**	**10.50**	**292**	*e*P		**Pn**	**02 00 55.1**	**+2.5**
NOA	**NORSAR Array B**	**12.16**	**142**	Pn		**Pn**	**02 01 15.2**	**+0.1**
	baz=324,slow=13,SNR=1.8							
NOA				LR		LR	02 06 10.8	
	comp=Z,171nm,18.0s,baz=335,slow=39							
	comp=Z,0.7nm,0.9s							
HFS	**Hagfors**	**13.49**	**138**	Pn		**Pn**	**02 01 32.7**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=340,slow=12,SNR=6.1							
HFS				LR		LR	02 06 22.7	
	comp=Z,231nm,20.9s,baz=332,slow=36							
	comp=Z,3.1nm,1.0s							
FINES	**FINESS Array B**	**15.54**	**115**	Pn		**Pn**	**02 01 59.8**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=317,slow=11,SNR=2.4							
FINES				LR		LR	02 07 20.2	
	comp=Z,161nm,19.7s,baz=54,slow=35							
	comp=Z,5.5nm,1.1s							
EKA	**Eskdalemuir Ar**	**16.23**	**178**	Pn		**Pn**	**02 02 09.4**	**-0.4**
	baz=358,slow=12							
	comp=Z,1.6nm,0.8s							
BRG	**Berggiesshubel**	**22.29**	**148**	*e*P		P	02 03 28.0	+9.0
BRG				Amp			02 03 28.7	
	comp=Z,3.2nm,0.8s							
BRG	**Berggiesshubel**	**22.29**	**148**	P		P	02 03 32.3	+13
BRG				Amp			02 03 33.1	
	comp=Z,2.9nm,0.8s							
OBN	**Obninsk**	**23.89**	**112**	LR		LR	02 12 21.9	
	comp=Z,195nm,20.4s,baz=338,slow=35							
RES	**Resolute Bay**	**24.12**	**319**	LR		LR	02 12 40.3	
	comp=Z,185nm,18.5s,baz=21,slow=36							
GERES	**GERESS Array B**	**24.21**	**150**	LR		LR	02 11 21.2	
	comp=Z,84nm,21.7s,baz=305,slow=32							
VRAC	**Vranov**	**24.26**	**145**	LR		LR	02 11 38.3	
	comp=Z,81nm,20.4s,baz=344,slow=33							
FRB	**Frobisher Bay**	**24.42**	**284**	LR		LR	02 12 25.3	
	comp=Z,125nm,19.1s,baz=134,slow=34							
KIRV	**Kirov**	**25.02**	**93**	LR		LR	02 12 50.6	
	comp=Z,72nm,18.2s,baz=332,slow=35							
DAVOX	**Davos/Dischmat**	**25.69**	**157**	LR		LR	02 12 50.4	
	comp=Z,51nm,21.9s,baz=330,slow=34							
AKASG	**Malin Array Be**	**25.76**	**126**	P		**P**	**02 03 54.1**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=337,slow=8.8,SNR=2.3							
AKASG				LR		LR	02 12 40.7	
	comp=Z,73nm,18.5s,baz=227,slow=33							
	comp=Z,1.3nm,0.7s							
BELG	**Belogornoye**	**29.60**	**102**	LR		LR	02 15 43.2	
	comp=Z,114nm,18.9s,baz=172,slow=35							
ARU	**Arti**	**29.68**	**87**	LR		LR	02 15 57.9	
	comp=Z,49nm,18.5s,baz=313,slow=36							
MLR	**Muntele Rosu**	**29.82**	**135**	LR		LR	02 16 11.0	
	comp=Z,163nm,20.1s,baz=323,slow=36							
SCHQ	**Scheefferville**	**30.88**	**271**	LR		LR	02 15 34.7	
	comp=Z,109nm,19.5s,baz=116,slow=34							
KBZ	**Khabaz**	**35.91**	**115**	LR		LR	02 20 38.5	
	comp=Z,49nm,18.4s,baz=22,slow=37							
INK	**Inuvik**	**36.42**	**331**	LR		LR	02 20 20.9	
	comp=Z,40nm,18.2s,baz=3.0,slow=36							
YKA	**Yellowknife Ar**	**38.01**	**315**	P		**P**	**02 05 41.6**	**+2.1**
	comp=Z,0.3nm,0.8s,baz=26,slow=8.7,SNR=2.7							
YKA				LR		LR	02 20 37.6	
	comp=Z,60nm,19.6s,baz=351,slow=35							
	comp=Z,0.3nm,0.8s							
GNI	**Garni**	**39.74**	**115**	LR		LR	02 23 10.0	
	comp=Z,31nm,18.3s,baz=323,slow=38							
ILAR	**Eielson Array**	**41.62**	**337**	P		**P**	**02 06 11.6**	**+2.0**
	comp=Z,0.5nm,1.1s,baz=14,slow=6.8,SNR=2.3							
ILAR				LR		LR	02 25 42.3	
	comp=Z,35nm,18.0s,baz=36,slow=39							
	comp=Z,0.5nm,1.1s							
SADO	**Sadowa**	**43.56**	**274**	LR		LR	02 25 44.4	
	comp=Z,87nm,19.3s,baz=28,slow=38							
NEW	**Newport**	**51.51**	**308**	LR		LR	02 31 09.2	
	comp=Z,43nm,21.0s,baz=48,slow=38							
TORD	**Torodi Ar. Bea**	**58.43**	**173**	P		**P**	**02 08 18.7**	**+1.1**
	comp=Z,1.0nm,0.9s,baz=0.3,slow=8.3,SNR=4.7							
	comp=Z,1.0nm,0.9s							
TXAR	**Lajitas Array**	**65.38**	**289**	LR		LR	02 38 09.2	
	comp=Z,47nm,20.9s,baz=14,slow=36							
JNU	**Nakatsue**	**71.02**	**39**	LR		LR	02 44 08.8	
	comp=Z,48nm,19.7s,baz=88,slow=39							

*NNC **29** 02:58:40.9±5.5, 41°.72N×83°.33E, h0km, mb3.4, mpv2.9, Error ellipse: s-maj=43.3km s-min=22.7km az=149.0*
*SOME **29** 02:58:41.0, 41°.47N×83°.28E, h15km*
ISC 29 02:58:39.6±3.5, 41°.5N±0°.2×83°.4E±0°.1, h10km, n19, σ2s56/25, 6C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SHLS	**Shalkode**	**3.32**	**301**	*e*Pg		**Pb**	**02 59 36.5**	**-2.1**
	42nm,0.2s							
SHLS				*e*Lg		Lg	03 00 15.6	
	101nm,0.5s							
PDGK	**Podgornoye**	**3.39**	**303**	Pn		**Pn**	**02 59 32.9**	**+0.3**
PDGK				Pg		**Pb**	**02 59 42.2**	**+2.4**
PDGK				Sn		**Sn**	**03 00 14.9**	**+2.0**
UZB	**Uzynbulak**	**3.61**	**298**	*e*Pg		**Pb**	**02 59 46.9**	**+3.4**
	12nm,0.3s							
UZB				*e*Lg		Lg	03 00 33.4	
	54nm,0.3s							
DJR	**Jarkent**	**3.84**	**318**	*e*Pg		**Pg**	**02 59 52.0**	**-1.1**
	9.9nm,0.4s							
DJR				*e*Lg		Lg	03 00 42.3	
	18nm,0.4s							
KPKS	**Kokpek**	**3.97**	**301**	*e*Pg		**Pb**	**02 59 53.6**	**+3.9**
	17nm,0.3s							
KPKS				*e*Lg		Lg	03 00 45.1	
	76nm,0.3s							
SATY	**Saty**	**3.99**	**294**	*e*P		**Pg**	**02 59 54.0**	**-1.9**
	19nm,0.3s							
KURS	**Kuram**	**4.31**	**299**	*e*Pg		**Pg**	**02 59 59.9**	**-2.3**
	21nm,0.5s							
KURS				*e*Lg		Lg	03 00 55.8	
	29nm,0.5s							
KOTS	**Kotyrbulak**	**4.94**	**292**	*e*Pg		**Pb**	**03 00 10.9**	**+4.7**
	14nm,0.3s							
KOTS				*e*Lg		Lg	03 01 14.4	
	60nm,0.4s							
MDOK	**Medeo**	**4.96**	**291**	*e*Pg		**Pg**	**03 00 11.6**	**-3.0**
	4.6nm,0.3s							
MDOK				*e*Lg		Lg	03 01 15.9	
	19nm,0.3s							
TNSS	**Tian-Shan**	**5.00**	**290**	*e*Pg		**Pg**	**03 00 13.1**	**-2.2**
	5.6nm,0.3s							
TNSS				*e*Lg		Lg	03 01 18.7	
	8.9nm,0.5s							
TDK	**Taldyqorghan**	**5.02**	**315**	*e*Pg		**Pg**	**03 00 13.5**	**-2.2**
	46nm,0.2s							
TDK				*e*Lg		Lg	03 01 19.2	
	30nm,0.3s							
CHKK	**Chushkaly**	**5.25**	**298**	*e*Pg		**Pg**	**03 00 17.5**	**-2.5**
	2.7nm,0.1s							
CHKK				*e*Lg		Lg	03 01 26.4	
	18nm,0.3s							
MK31	**Makanchi Array**	**5.32**	**352**	⇑Pn		**Pn**	**02 59 57.8**	**-1.2**
	0.5nm,0.6s,baz=178,slow=12,SNR=5.4							
MK31				⇑Pg		**Pb**	**03 00 15.3**	**+2.7**
	2.5nm,0.8s,baz=172,slow=15,SNR=5.2							
MK31				⇑Sn		**Sn**	**03 01 00.0**	**-0.4**
	2.3nm,0.5s,baz=178,slow=27,SNR=5.0							
MAKZ	**Makanchi**	**5.37**	**350**	⇑Pn		**Pn**	**02 59 58.4**	**-1.4**
	0.6nm,0.5s							
MAKZ				⇑Pg		**Pb**	**03 00 16.0**	**+2.5**
	3.3nm,1.1s							
MAKZ				⇑Sn		**Sn**	**03 01 00.8**	**-0.9**
	6.0nm,0.7s							
MTBS	**Maitube**	**5.39**	**290**	*e*Pg		**Pg**	**03 00 20.1**	**-2.6**
	3.4nm,0.2s							
MTBS				*e*Lg		Lg	03 01 30.6	
	14nm,0.4s							
KTBS	**Karatobe**	**5.39**	**296**	*e*Pg		**Pg**	**03 00 20.6**	**-2.2**
	5.9nm,0.2s							
KTBS				*e*Lg		Lg	03 01 31.3	
	25nm,0.3s							
KST	**Kastek**	**5.70**	**288**	*e*Pg		**Pg**	**03 00 26.2**	**-2.4**
	5.8nm,0.6s							
KST				*e*Lg		Lg	03 01 41.0	
	24nm,0.4s							
DGS	**Degeres**	**5.88**	**289**	*e*Pg		**Pg**	**03 00 29.3**	**-2.9**
	4.8nm,0.3s							
DGS				*e*Lg		Lg	03 01 46.3	
	18nm,0.3s							
ZSN	**Zaisan**	**6.01**	**10**	*e*Pg		**Pg**	**03 00 33.4**	**-1.3**
	2.8nm,0.2s							
ZSN				*e*Lg		Lg	03 01 53.1	
	25nm,0.4s							

*IDC **29** 03:04:52.3±15.0, 17°.50S×178°.93W, h635km±150km, mb3.4/3, mbtmp4.5/3, Error ellipse: s-maj=129.8km s-min=84.0km az=103.0*
ISC 29 03:04:53.3±3.3, 17°.3S±0°.7×179°.0W±0°.7, h650km, n6, σ0s44/8, mb3.8/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**38.42**	**240**	P		**P**	**03 11 22.0**	**-0.3**
	1.9nm,0.6s,baz=60,slow=8.0,SNR=7.8							
	1.9nm,0.6s							
WRA	**Warramunga Arr**	**44.17**	**259**	P		**P**	**03 12 07.7**	**+0.2**
	2.1nm,0.5s,baz=93,slow=7.0,SNR=65							
WRA				PcP		**PcP**	**03 13 37.6**	**+0.2**
	0.3nm,0.6s,baz=106,slow=2.6,SNR=3.1							
	2.1nm,0.5s							
ASAR	**Alice Springs**	**44.40**	**254**	P		**P**	**03 12 09.6**	**+0.3**
	16nm,0.6s,baz=88,slow=8.3,SNR=283							
ASAR				PcP		**PcP**	**03 13 38.2**	**0.0**
	0.3nm,0.5s,baz=102,slow=3.6,SNR=3.7							
	16nm,0.6s							
BRTR	**Keskin Array B**	**143.94**	**315**	PKP		**PKPab**	**03 23 17.1**	**+0.2**
	0.6nm,0.6s,baz=121,slow=4.2,SNR=4.1							
MMAI	**Mount Meron Ar**	**145.32**	**303**	PKPbc		**PKPab**	**03 23 21.7**	**-0.8**
	1.0nm,0.5s,baz=85,slow=4.9,SNR=4.5							
GERES	**GERESS Array B**	**146.87**	**345**	PKPbc		**PKPbc**	**03 23 24.8**	**+0.2**
	0.5nm,0.4s,baz=15,slow=4.1,SNR=1.6							

IDC 29 03:26:51.5±2.4, 6°.80S×129°.19E, h0km, mb3.2/1, mbtmp3.2/3, ML3.4/2, Error ellipse: s-maj=146.4km s-min=33.1km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.99**	**160**	Pn		Pn	03 30 11.3	+0.1
	0.2nm,0.3s,baz=342,slow=13,SNR=13							
WRA				Sn		Sn	03 32 35.0	-12
	0.4nm,0.3s,baz=330,slow=23,SNR=10.0							
	0.3nm,0.6s							
ASAR	**Alice Springs**	**17.38**	**165**	P		Pn	03 30 55.5	-0.1
	0.1nm,0.3s,baz=337,slow=9.7,SNR=18							
ASAR				S		Sn	03 33 52.8	-17
	0.3nm,0.8s,baz=346,slow=26,SNR=2.2							
	0.7nm,0.6s							
MKAR	**Makanchi Array**	**67.62**	**327**	P		P	03 37 50.3	0.0
	0.1nm,0.4s,baz=126,slow=7.8,SNR=2.0							
	0.1nm,0.4s							

*IDC **29** 03:41:32.9±0.9, 3°.97S×152°.36E, h0km, mb4.0/15, mbtmp4.0/16, ML3.9/1, MS4.1/10, Error ellipse: s-maj=32.8km s-min=16.4km az=99.0*
*GCMT **29** 03:41:41.1±0.2, 3°.68S±0°.01×151°.98E±0°.01, h16km±1km, MW5.0/112, Moment Tensor Solution. s44,c48; s112,c173; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.72±.11; Mθθ 3.80±.11; Mφφ -3.09±.09; Mrθ 0.14±.28; Mθφ 2.09±.09; Mφr-0.18±.30; Best double couple: M=4.03800×10^16^ NP1=φs299.00000°, δ88.00000°, λ-4.00000°. NP2=φs29.00000°, δ86.00000°, λ-178.00000°. Principal axes: T 4.3860, Plg1.0000°, Azm344.0000°; N -0.7020, Plg86.0000°, Azm87.0000°; P -3.6900, Plg4.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **29** 03:41:42.5±4.5, 4°S±10°×15°3E±1°.5, h29km±30km, M4.8/11, mB5.8/3, mb4.7/11, Mw(mB)5.3/3*
*NEIC **29** 03:41:42.8±1.5, 3°.63S±0°.09×151°.6E±0°.1, h48km±8km, mb4.6/50, Error ellipse: s-maj=18.3km s-min=12.3km az=113.0*
ISC 29 03:41:41.1±0.5, 3°.65S±0°.05×151°.85E±0°.09, h35km, n123, σ1s83/109, mb4.6/52, MS4.3/19, 2C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I40PG	**Keravat**	**0.67**	**166**	Pn		Pn	03 41 45.7	-8.4
	baz=30,slow=75							
KAVG	**Kavieng**	**1.49**	**315**	P		**Pn**	**03 42 04.0**	**-1.4**
MANU	**Manus Island**	**4.76**	**289**	P		**Pn**	**03 42 53.3**	**+2.9**
PMG	**Port Moresby**	**7.38**	**219**	Pn		**Pn**	**03 43 25.7**	**-0.8**
PMG	**Port Moresby**	**7.38**	**219**	P		**Pn**	**03 43 28.8**	**+2.4**
PMG	**Port Moresby**	**7.38**	**219**	P		**Pn**	**03 43 29.2**	**+2.8**
PMG	**Port Moresby**	**7.38**	**219**	Pn		**Pn**	**03 43 28.0**	**+1.6**
	1.6nm,0.3s,baz=27,slow=14,SNR=6.3							
PATS	**Pohnpei**	**12.25**	**32**	Pn		**Pn**	**03 44 35.5**	**+2.3**
CTA	**Charters Tower**	**17.23**	**198**	P		**Pn**	**03 45 34.8**	**-4.4**
	0.2nm,0.3s,baz=84,slow=8.3,SNR=1.7							
CTA				LR		LR	03 52 17.4	
	comp=Z,1μm,19.1s,baz=20,slow=38							
	0.7nm,0.3s							
CTAO	**Charters Tower**	**17.23**	**198**			**Pn**	**03 45 39.6**	**+0.5**
CTAO	**Charters Tower**	**17.23**	**198**	P		**P**	**03 45 42.4**	**+2.0**
GUMO	**Guam**	**18.48**	**338**	LR		LR	03 53 33.0	
	comp=Z,561nm,19.0s,baz=142,slow=38							
QIS	**Mount Isa**	**20.61**	**214**	P		**P**	**03 46 18.9**	**+1.4**
KOUNC	**Koumac, New Ca**	**20.71**	**145**	P		Pn	03 46 21.6	+0.5
SWI	**Sorong**	**20.76**	**277**	P		Pn	03 46 28.6	+6.9
	44nm,1.2s							
KDU	**Kakadu**	**21.16**	**244**	P		**P**	**03 46 27.2**	**+3.7**
EIDS	**Eidsvold**	**21.61**	**182**	P		**P**	**03 46 27.7**	**-0.5**
EIDS				IAmb		IAmb	03 46 34.0	
	comp=Z,22nm,1.1s							
EIDS	**Eidsvold**	**21.61**	**182**	P		**P**	**03 46 27.9**	**-0.3**
DZM	**Mont Dzumac**	**23.15**	**144**	*e*P		**P**	**03 46 41.7**	**-2.9**
	comp=Z,58nm,0.9s							
DZM				*e*LR		LR	03 52 48.5	
	comp=Z,3μm,26.6s							
DZM	**Mont Dzumac**	**23.15**	**144**	P		**P**	**03 46 43.3**	**-1.3**
WB0	**Warramunga Arr**	**23.39**	**225**	P		**P**	**03 46 43.5**	**-3.4**
WB0				IAmb		IAmb	03 46 59.6	
	comp=Z,23nm,1.4s							
WRAB	**Tennant Creek**	**23.52**	**225**	P		**P**	**03 46 45.7**	**-2.5**
WRA	**Warramunga Arr**	**23.54**	**225**	P		**P**	**03 46 45.6**	**-2.8**
WRA	**Warramunga Arr**	**23.54**	**225**	P		**P**	**03 46 45.6**	**-2.8**
	comp=Z,3.9nm,0.8s,baz=49,slow=9.5,SNR=23							
	comp=Z,3.9nm,0.8s							
QLP	**Quilpie**	**23.94**	**197**	P		**P**	**03 46 53.4**	**+1.2**
NLAI	**Namlea**	**24.71**	**270**	P		P	03 47 09.1	+10
	comp=Z,8.6nm,0.5s							
INKA	**Innaminka**	**26.20**	**203**	P		**P**	**03 47 16.3**	**+3.7**
AS31	**Alice Springs**	**26.39**	**219**	P		**P**	**03 47 14.2**	**-0.3**
ASAR	**Alice Springs**	**26.39**	**219**	P		**P**	**03 47 13.8**	**-0.8**
ASAR	**Alice Springs**	**26.39**	**219**	P		**P**	**03 47 12.5**	**-2.1**
	comp=Z,2.3nm,0.8s,baz=51,slow=9.2,SNR=18							
	comp=Z,2.3nm,0.8s							
ARMA	**Armidale**	**26.63**	**180**	P		**P**	**03 47 15.1**	**-1.5**
ARMA				IAmb		IAmb	03 47 21.6	
	comp=Z,20nm,1.1s							
ARMA	**Armidale**	**26.63**	**180**	P		**P**	**03 47 19.0**	**+2.4**
CMSA	**Cobar Meteorol**	**28.34**	**191**	P		**P**	**03 47 33.5**	**+1.6**
LCRK	**Leigh Creek**	**29.61**	**204**	P		**P**	**03 47 45.9**	**+2.8**
STKA	**Stephens Creek**	**29.69**	**198**	P		**P**	**03 47 44.5**	**+0.6**
STKA	**Stephens Creek**	**29.69**	**198**	P		**P**	**03 47 39.8**	**-4.0**
	comp=Z,1.3nm,0.9s,baz=22,slow=12,SNR=1.7							
	comp=Z,1.3nm,0.9s							
EDFI	**Ende, Flores**	**30.40**	**259**	P		P	03 47 57.4	+6.9
	comp=Z,14nm,1.3s,comp=Z,1μm							
WRKA	**Warakurna**	**31.08**	**225**	P		**P**	**03 47 59.3**	**+3.0**
HTT	**Hallett**	**32.00**	**201**	P		**P**	**03 48 06.7**	**+2.5**
KAPI	**Kappang**	**32.04**	**266**	LR		LR	04 02 49.9	
	comp=Z,197nm,19.6s,baz=80,slow=39							
TGY	**Tagaytay City**	**35.37**	**301**	LR		LR	04 02 13.2	
	comp=Z,314nm,21.3s,baz=108,slow=34							
JOW	**Kunigami**	**37.91**	**324**	LR		LR	04 01 15.9	
	comp=Z,446nm,21.6s,baz=134,slow=31							
JHJ	**Hachijo jima 2**	**38.31**	**344**	LR		LR	04 03 50.3	
	comp=Z,404nm,19.1s,baz=28,slow=34							
SBUM	**Sibu**	**40.07**	**278**	P		**P**	**03 49 10.9**	**-2.7**
JNU	**Nakatsue**	**41.61**	**333**	P		**P**	**03 49 24.6**	**-1.4**
JNU	**Nakatsue**	**41.61**	**333**	LR		LR	04 03 57.5	
	comp=Z,251nm,20.9s,baz=158,slow=32							
RTZ	**Ruatahuna**	**41.66**	**150**	P		**P**	**03 49 27.2**	**+0.8**
THZ	**Tophouse**	**42.38**	**156**	P		**P**	**03 49 31.5**	**-0.7**
TCW	**Tory Channel**	**42.48**	**155**	P		**P**	**03 49 33.5**	**+0.5**
KSRS	**Korea Array**	**46.55**	**334**	P		**P**	**03 50 06.8**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=129,slow=9.9,SNR=5.2							
KSRS				LR		LR	04 08 00.9	
	comp=Z,220nm,21.1s,baz=145,slow=34							
	comp=Z,1.2nm,0.8s							
KSAR	**Wonju Array Be**	**46.56**	**334**	P		**P**	**03 50 04.0**	**-1.6**
QIZ	**Qiongzhong**	**47.08**	**300**	P		**P**	**03 50 08.8**	**-1.1**
QIZ				S		**S**	**03 56 57.5**	**-2.4**
QIZ				LR		LR		
	comp=N,340nm,12.7s							
QIZ				LR		LR		
	comp=E,400nm,19.6s							
QIZ				LR		LR		
	comp=Z,530nm,21.0s							
NJ2	**Nanjing**	**47.36**	**321**	*e*P		**P**	**03 50 12.3**	**+0.4**
NJ2				pP		**sP**	**03 50 27.8**	**+2.2**
NJ2				sP		pwP	03 50 34.5	+10
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.6s							
NJ2				pmax		pmax		
	comp=Z,300nm,4.5s							
NJ2				LR		LR		
	comp=N,350nm,17.1s							
NJ2				LR		LR		
	comp=E,290nm,14.2s							
NJ2				LR		LR		
	comp=Z,540nm,16.6s							
USRK	**Ussuriysk Ar.**	**50.86**	**342**	LR		LR	04 10 57.4	
	comp=Z,124nm,19.6s,baz=157,slow=34							
HNS	**HongShan**	**53.47**	**323**	⇑P		**P**	**03 50 58.8**	**+0.8**
HNS				pmax		pmax		
	comp=Z,8.0nm,1.4s							
BNX	**BinXian**	**53.76**	**339**	⇑P		**P**	**03 50 59.3**	**-0.7**
BNX				pmax		pmax		
	comp=Z,8.0nm,1.2s							
BNX				AMB		AMB		
	comp=Z,290nm,4.3s							
KLR	**Kul'dur**	**55.48**	**344**	P		**P**	**03 51 13.9**	**+1.5**
	comp=Z,1.3nm,0.8s,baz=187,slow=8.1,SNR=2.9							
	comp=Z,1.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**56.54**	**295**	P		**P**	**03 51 19.1**	**-1.4**
CMAR	**Chiang Mai Arr**	**56.54**	**295**	P		**P**	**03 51 22.5**	**+2.0**
	comp=Z,1.3nm,0.3s,baz=121,slow=5.7,SNR=5.8							
CMAR				LR		LR	04 16 17.3	
	comp=Z,83nm,18.4s,baz=135,slow=36							
	comp=Z,1.3nm,0.3s							
PZH	**PanZhiHua**	**56.94**	**305**	P		**P**	**03 51 24.8**	**+1.4**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,120nm,6.5s							
XLT	**XiLinHaoTe**	**57.20**	**330**	*e*P		**P**	**03 51 29.0**	**+4.1**
XLT				pP		sP	03 51 41.3	+2.5
XLT				sP		pwP	03 51 50.3	+13
XLT				PcP		**PcP**	**03 52 25.5**	**+6.3**
XLT				pmax		pmax		
	comp=Z,15nm,1.0s							
XLT				pmax		pmax		
	comp=Z,270nm,6.6s							
HHC	**Hu-ho-hao-te**	**57.57**	**324**	*e*P		**P**	**03 51 30.5**	**+2.9**
HHC				pmax		pmax		
	comp=Z,25nm,0.6s							
HHC				pmax		pmax		
	comp=Z,160nm,4.5s							
HHC				LR		LR		
	comp=N,360nm,16.8s							
HHC				LR		LR		
	comp=E,550nm,16

F19K				IAmb	IAmb	03 53 55.9		
	comp=Z,6.3nm,0.8s							
MK31	**Makanchi Array**	**78.84**	**319**	P	**P**	**03 53 40.5**	**-0.3**	
MKAR	**Makanchi Array**	**78.84**	**319**	P	**P**	**03 53 39.7**	**-1.1**	
MKAR	**Makanchi Array**	**78.84**	**319**	P	**P**	**03 53 40.9**	**+0.1**	
	comp=Z,0.3nm,0.4s,baz=101,slow=7.5,SNR=7.8							
	comp=Z,0.3nm,0.4s							
MAKZ	**Makanchi**	**79.05**	**319**	P	**P**	**03 53 40.8**	**-1.0**	
E19K	**Redstone River**	**79.38**	**18**	P	**P**	**03 53 43.1**	**-0.1**	
F20K	**Avaraart Lake**	**79.60**	**18**	P	**P**	**03 53 44.2**	**-0.1**	
F20K				IAmb	IAmb	03 53 58.4		
	comp=Z,10nm,1.2s							
IMAR	**Indian Mountai**	**79.62**	**20**	P	**P**	**03 53 45.5**	**+0.9**	
ZALV	**Zalesovo Beam**	**79.68**	**326**	P	**P**	**03 53 44.0**	**-1.1**	
ZALV	**Zalesovo Beam**	**79.68**	**326**	P	**P**	**03 53 45.4**	**+0.3**	
	comp=Z,1.2nm,0.7s,baz=119,slow=5.4,SNR=5.1							
	comp=Z,1.2nm,0.7s							
C19K	**Lookout Ridge**	**79.75**	**16**	P	**P**	**03 53 45.7**	**+0.5**	
C19K				IAmb	IAmb	03 53 53.2		
	comp=Z,8.7nm,1.1s							
D19K	**Kuna River**	**79.77**	**17**	P	**P**	**03 53 44.4**	**-0.9**	
D19K				IAmb	IAmb	03 53 52.4		
	comp=Z,7.8nm,1.1s							
I21K	**Tanana**	**79.79**	**21**	P	**P**	**03 53 46.3**	**+0.9**	
RND	**Reindeer**	**80.04**	**23**	P	**P**	**03 53 46.1**	**-0.9**	
RND				IAmb	IAmb	03 54 05.4		
	comp=Z,12nm,1.1s							
E21K	**Killik River**	**80.96**	**18**	P	**P**	**03 53 52.0**	**+0.3**	
E21K				IAmb	IAmb	03 54 03.0		
	comp=Z,6.2nm,0.9s							
B20K	**Meade River**	**80.98**	**16**	P	**P**	**03 53 50.9**	**-0.8**	
G23K	**Bananza Creek**	**81.28**	**20**	P	**P**	**03 53 53.6**	**+0.1**	
G23K				IAmb	IAmb	03 54 07.5		
	comp=Z,8.8nm,1.2s							
E22K	**Anaktuvuk Pass**	**81.45**	**18**	P	**P**	**03 53 55.5**	**+1.2**	
ILAR	**Eielson Array**	**81.46**	**22**	P	**P**	**03 53 53.3**	**-1.1**	
ILAR	**Eielson Array**	**81.46**	**22**	P	**P**	**03 53 52.5**	**-2.0**	
	comp=Z,2.1nm,0.7s,baz=250,slow=5.1,SNR=18							
	comp=Z,2.1nm,0.7s							
D22K	**Ayikyak River**	**81.60**	**18**	P	**P**	**03 53 54.2**	**-0.8**	
D22K				IAmb	IAmb	03 54 09.7		
	comp=Z,10nm,1.2s							
J25K	**Salcha River,**	**81.97**	**23**	P	**P**	**03 53 55.6**	**-1.6**	
G24K	**Hadweenzic Riv**	**82.16**	**20**	P	**P**	**03 53 58.5**	**+0.4**	
G24K				IAmb	IAmb	03 54 11.3		
	comp=Z,8.3nm,1.3s							
KURK	**Kurchatov**	**82.28**	**322**	P	**P**	**03 53 57.2**	**-1.8**	
KURK				IAmb	IAmb	03 54 16.5		
	comp=Z,8.4nm,1.4s							
KURBB	**Kurchatov Arra**	**82.32**	**322**	P	**P**	**03 53 59.9**	**+0.7**	
	comp=Z,0.4nm,0.6s,baz=113,slow=4.3,SNR=3.7							
	comp=Z,0.4nm,0.6s							
F24K	**Squaw Lake**	**82.41**	**20**	P	**P**	**03 54 00.3**	**+0.9**	
F24K				IAmb	IAmb	03 54 11.3		
	comp=Z,8.0nm,1.1s							
C23K	**Itkillik River**	**82.73**	**17**	P	**P**	**03 54 01.9**	**+0.9**	
BCAR	**Beaver Creek A**	**82.77**	**25**	P	**P**	**03 54 02.0**	**+0.7**	
D25K	**Kavik River**	**83.77**	**18**	P	**P**	**03 54 05.9**	**-0.5**	
D25K				IAmb	IAmb	03 54 16.9		
	comp=Z,4.7nm,1.0s							
NRIK	**Noril'sk**	**84.58**	**341**	P	**P**	**03 54 10.2**	**-0.2**	
	comp=Z,3.4nm,0.5s,baz=113,slow=5.8,SNR=5.3							
	comp=Z,3.4nm,0.5s							
E27K	**Coleen River**	**84.85**	**20**	P	**P**	**03 54 13.1**	**+1.2**	
E27K				IAmb	IAmb	03 54 23.6		
	comp=Z,7.0nm,1.1s							
F28M	**Old Crow**	**85.23**	**21**	P	**P**	**03 54 14.2**	**+0.4**	
F28M				IAmb	IAmb	03 54 25.2		
	comp=Z,6.1nm,1.1s							
D27M	**Malcolm River**	**85.47**	**19**	P	**P**	**03 54 15.8**	**+0.8**	
D27M				IAmb	IAmb	03 54 25.1		
	comp=Z,4.2nm,0.8s							
E28M	**Babbage River**	**85.71**	**20**	P	**P**	**03 54 16.6**	**+0.5**	
E28M				IAmb	IAmb	03 54 27.3		
	comp=Z,5.8nm,1.0s							
QSPA	**South Pole Qui**	**86.30**	**180**	P	**P**	**03 54 19.4**	**0.0**	
G31M	**Satah River**	**87.07**	**22**	P	**P**	**03 54 22.5**	**-0.3**	
INK	**Inuvik**	**87.72**	**21**		**P**	**03 54 25.6**	**-0.3**	
INK				IAmb	IAmb	03 54 36.0		
	comp=Z,5.4nm,1.0s							
BVAR	**Borovoye Array**	**87.76**	**323**	P	**P**	**03 54 24.9**	**-1.6**	
	comp=Z,0.9nm,0.5s,baz=98,slow=5.2,SNR=8.5							
	comp=Z,0.9nm,0.5s							
ABKAR	**Akbulak array**	**93.99**	**319**	P	**P**	**03 54 53.0**	**-2.5**	
YKA	**Yellowknife Ar**	**94.85**	**28**	P	**P**	**03 54 56.7**	**-2.5**	
	comp=Z,0.1nm,0.6s,baz=263,slow=4.9,SNR=1.3							
	comp=Z,0.1nm,0.6s							
TORD	**Torodi Ar. Bea**	**149.04**	**290**	PKPbc	**PKPbc**	**04 01 26.4**	**-0.3**	
	comp=Z,0.3nm,0.7s,baz=81,slow=2.8,SNR=2.3							
BDFB	**Brasilia**	**152.54**	**135**	PKPbc	**PKPdf**	**04 01 31.1**	**+3.0**	
	comp=Z,0.9nm,0.5s,baz=284,slow=4.2,SNR=2.4							

*IDC **29** 03:42:59.2±1.2,3.°94S×152.°32E, h0km, mb4.2/11, mbtmp4.2/12, ML1.9/1, MS3.9/2, Error ellipse: s-maj=46.0km s-min=21.3km az=109.0*

ISC 29 03:43:04.7±1.0, 4.°0S±0.°2×152.°3E±0.°3, h35km, n16, σ0s57/14, mb4.0/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I40PG	**Keravat**	**0.39**	**221**	Pn	**Pn**	**03 43 12.6**	**-1.2**
	baz=56,slow=109						
PMG	**Port Moresby**	**7.39**	**223**	Pn	**Pn**	**03 44 50.8**	**+0.8**
	1.1nm,0.3s,baz=127,slow=20,SNR=1.0						
	15nm,0.7s						
WRA	**Warramunga Arr**	**23.59**	**226**	P	**P**	**03 48 12.5**	**0.0**
	9.5nm,0.9s,baz=51,slow=9.8,SNR=5.1						
	9.5nm,0.9s						
ASAR	**Alice Springs**	**26.39**	**221**	P	**P**	**03 48 38.5**	**+0.4**
	2.3nm,1.0s,baz=51,slow=7.9,SNR=0.9						
	2.3nm,1.0s						
ASAJ	**Asahikawa**	**48.68**	**351**	LR	LR	04 08 27.1	
	comp=Z,151nm,21.9s,baz=172,slow=31						
SONM	**Songino Array**	**65.37**	**328**	P	**P**	**03 53 43.9**	**+0.2**
	1.7nm,0.8s,baz=145,slow=6.0,SNR=3.9						
	1.7nm,0.8s						
PALK	**Pallekele**	**72.29**	**279**	LR	LR	04 27 35.3	
	comp=Z,89nm,20.4s,baz=214,slow=37						
VNDA	**Vanda**	**73.64**	**178**	P	**P**	**03 54 34.5**	**+0.4**
	0.7nm,1.0s,baz=280,slow=6.1,SNR=1.1						
	0.7nm,1.0s						
MKAR	**Makanchi Array**	**79.38**	**319**	P	**P**	**03 55 07.2**	**+0.1**
	1.0nm,0.9s,baz=82,slow=5.3,SNR=2.2						
	1.0nm,0.9s						
ZALV	**Zalesovo Beam**	**80.20**	**326**	P	**P**	**03 55 11.1**	**-0.3**
	0.9nm,0.5s,baz=128,slow=9.3,SNR=2.0						
	0.9nm,0.5s						
ILAR	**Eielson Array**	**81.62**	**22**	P	**P**	**03 55 18.6**	**-0.2**
	3.7nm,0.7s,baz=252,slow=5.2,SNR=3.8						
	3.7nm,0.7s						
KURBB	**Kurchatov Arra**	**82.85**	**322**	P	**P**	**03 55 25.6**	**+0.2**
	0.2nm,0.4s,baz=117,slow=5.3,SNR=1.6						
	0.2nm,0.4s						
NRIK	**Noril'sk**	**85.04**	**341**	P	**P**	**03 55 36.7**	**+0.4**
	5.9nm,0.9s,baz=102,slow=6.9,SNR=4.4						
	5.9nm,0.9s						
BVAR	**Borovoye Array**	**88.29**	**323**	P	**P**	**03 55 51.8**	**-0.7**
	3.5nm,0.8s,baz=101,slow=4.8,SNR=5.4						
	3.5nm,0.8s						
YKA	**Yellowknife Ar**	**94.97**	**28**	P	**P**	**03 56 23.2**	**0.0**
	0.3nm,0.7s,baz=270,slow=4.9,SNR=2.4						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.55**	**289**	PKPbc	**PKPbc**	**04 02 51.0**	**-0.4**
	0.7nm,0.9s,baz=101,slow=1.4,SNR=1.3						

*IDC **29** 04:04:46.9±1.8,3.°84S×152.°15E, h0km, mb3.8/4, mbtmp3.8/5, ML1.2/1, MS3.5/8, Error ellipse: s-maj=81.4km s-min=23.2km az=121.0*

ISC 29 04:04:51.1±2.1, 4.°1S±0.°4×152.°5E±0.°6, h35km, n15, σ0s76/6, mb3.7/4, MS3.5/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.48**	**225**	Pn	**Pn**	**04 06 37.9**	**+0.1**
	0.2nm,0.3s,baz=234,slow=19,SNR=1.4						
	3.0nm,0.3s						
HNR	**Honiara**	**9.14**	**126**	LR	LR	04 11 03.3	
	comp=Z,4μm,18.4s,baz=292,slow=40						
CTA	**Charters Tower**	**17.04**	**200**	LR	LR	04 15 30.7	
	comp=Z,110nm,18.4s,baz=48,slow=38						
DZM	**Mont Dzumac**	**22.45**	**144**	LR	LR	04 16 07.1	
	comp=Z,98nm,20.7s,baz=4.5,slow=30						
WRA	**Warramunga Arr**	**23.69**	**227**	P	**P**	**04 09 59.0**	**-0.9**
	4.7nm,0.9s,baz=49,slow=9.9,SNR=15						
	4.7nm,0.9s						

ASAR	**Alice Springs**	**26.47**	**221**	P	**P**	**04 10 26.0**	**+0.7**	
	0.6nm,0.7s,baz=51,slow=9.9,SNR=10							
	0.6nm,0.7s							
STKA	**Stephens Creek**	**29.49**	**199**	LR	LR	04 22 40.5		
	comp=Z,79nm,19.4s,baz=15,slow=36							
JCJ	**Chichijima**	**32.54**	**343**	LR	LR	04 22 27.6		
	comp=Z,95nm,21.7s,baz=166,slow=33							
JNU	**Nakatsue**	**42.27**	**333**	LR	LR	04 28 07.8		
	comp=Z,47nm,18.8s,baz=150,slow=33							
MJAR	**Matsushiro Arr**	**42.54**	**343**	LR	LR	04 27 00.3		
	comp=Z,85nm,21.9s,baz=156,slow=32							
RPZ	**Rata Peaks**	**42.77**	**160**	LR	LR	04 28 31.9		
	comp=Z,120nm,18.2s,baz=310,slow=33							
MKAR	**Makanchi Array**	**79.56**	**319**	P	**P**	**04 16 54.9**	**+0.3**	
	0.5nm,0.9s,baz=113,slow=5.9,SNR=4.5							
	0.5nm,0.9s							
ILAR	**Eielson Array**	**81.61**	**22**	P	**P**	**04 17 05.2**	**+0.1**	
	1.2nm,0.9s,baz=240,slow=5.1,SNR=10							
	1.2nm,0.9s							
YBH	**Yreka Blue Hor**	**88.82**	**48**	LR	LR	04 49 48.4		
	comp=Z,34nm,20.4s,baz=110,slow=30							
TORD	**Torodi Ar. Bea**	**149.76**	**289**	PKPbc	**PKiKP**	**04 24 38.9**	**-0.6**	
	0.2nm,0.7s,baz=94,slow=3.0,SNR=1.5							

*SJA **29** 04:07:19.1±0.9, 20.°18S×66.°64W, h280km±14km, ML3.1, MW3.5*
*SCB **29** 04:07:22.4±1.4, 20.°30S×66.°76W, h252km±10km, ML3.4/6, MW2.5, Error ellipse: s-maj=4.9km s-min=3.9km az=2.0*

ISC 29 04:07:22.3±1.3, 20.°30S±0.°05×66.°76W±0.°06, h250km, n40, σ0s92/49, 4D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.41**	**132**	Pg	**Pn**	**04 08 01.0**	**+0.5**
MOCB				Sg	**S**	**04 08 30.3**	**-0.2**
MOCB				IAML		04 08 32.9	
	18nm,0.4s						
SOEO	**Opoqueri**	**2.03**	**328**	Pg	**Pn**	**04 08 06.9**	**+1.2**
YJA	**Yavi**	**2.19**	**148**	*i* P	**Pn**	**04 08 07.3**	**+0.2**
YJA				IAML		04 08 43.9	
	comp=Z,4.3nm,0.5s						
PB08	**IPOC Station P**	**2.26**	**274**	Pg	**Pn**	**04 08 08.9**	**+1.3**
PB08	**IPOC Station P**	**2.26**	**274**	*i* P	**Pn**	**04 08 08.4**	**+0.7**
PB08				IAML		04 08 48.9	
	comp=Z,8.5nm,0.1s						
SOET	**ToroToro**	**2.35**	**22**	Pg	**Pn**	**04 08 08.4**	**-0.2**
GO01	**Chusmiza**	**2.38**	**285**	Pg	**Pn**	**04 08 10.1**	**+1.2**
GO01	**Chusmiza**	**2.38**	**285**	*i* P	**Pn**	**04 08 09.4**	**+0.4**
PB01	**IPOC Station P**	**2.66**	**253**	Pg	**Pn**	**04 08 12.2**	**+0.9**
PB01				Sg	**S**	**04 08 49.8**	**-0.2**
PB01				IAML		04 08 51.9	
	comp=Z,68nm,0.2s						
PB01	**IPOC Station P**	**2.66**	**253**	*i* P	**Pn**	**04 08 11.5**	**+0.2**
PB01				IAML		04 08 50.8	
	comp=Z,43nm,0.3s						
PB09	**IPOC Station P**	**2.76**	**237**	Pg	**Pn**	**04 08 13.6**	**+1.2**
PB09	**IPOC Station P**	**2.76**	**237**	*i* P	**Pn**	**04 08 13.8**	**+1.4**
PB09				⇓*e*S	**S**	**04 08 53.0**	**+1.0**
PB09				IAML		04 08 55.8	
	comp=Z,23nm,0.6s						
PB11	**IPOC Station P**	**2.78**	**281**	Pg	**Pn**	**04 08 13.2**	**+0.5**
PB11	**IPOC Station P**	**2.78**	**281**	*i* P	**Pn**	**04 08 12.6**	**-0.1**
PB11				IAML		04 09 02.6	
	comp=Z,9.9nm,0.6s						
HMBC	**Humberstone**	**2.94**	**270**	Pg	**Pn**	**04 08 14.4**	**+0.1**
HMBC				Sg	**S**	**04 08 54.1**	**-1.3**
HMBC				IAML		04 08 57.8	
	comp=Z,44nm,0.2s						
LVC	**Limon Verde**	**3.05**	**221**	*i* P	**Pn**	**04 08 16.7**	**+1.0**
LVC				IAML		04 09 04.4	
	comp=Z,10nm,0.2s						
PB02	**IPOC Station P**	**3.11**	**250**	Pg	**Pn**	**04 08 17.0**	**+0.9**
PB02				Sg	**S**	**04 08 57.2**	**-1.4**
PB02				IAML		04 08 57.8	
	comp=Z,127nm,0.3s						
PB02	**IPOC Station P**	**3.11**	**250**	*i* P	**Pn**	**04 08 16.4**	**+0.3**
PB02				⇓*e*S	**S**	**04 08 57.2**	**-1.4**
PB02				IAML		04 08 58.9	
	comp=Z,210nm,0.3s						
TA02	**Huaiquique**	**3.17**	**270**	Pg	**Pn**	**04 08 17.0**	**+0.3**
TA02	**Huaiquique**	**3.17**	**270**	⇓*e*S	**S**	**04 08 58.8**	**-0.9**
TA02				IAML		04 09 00.5	
	comp=Z,74nm,0.1s						
TA01	**Diego Aracena**	**3.22**	**265**	Pg	**Pn**	**04 08 17.4**	**+0.2**
TA01	**Diego Aracena**	**3.22**	**265**	*i* P	**Pn**	**04 08 16.7**	**-0.6**
TA01				IAML		04 09 01.2	
	comp=Z,16nm,0.5s						
PATCX	**Punta Patache**	**3.23**	**260**	*i* P	**Pn**	**04 08 17.4**	**+0.1**
PATCX				IAML		04 09 02.3	
	comp=Z,41nm,0.3s						
PB07	**IPOC Station P**	**3.25**	**244**	Pg	**Pn**	**04 08 18.6**	**+0.9**
PB07	**IPOC Station P**	**3.25**	**244**	*i* P	**Pn**	**04 08 16.5**	**-1.3**
PB07				IAML		04 09 02.8	
	comp=Z,50nm,0.1s						
PB16	**IPOC Station P**	**3.25**	**307**	Pg	**Pn**	**04 08 19.7**	**+1.5**
PB16	**IPOC Station P**	**3.25**	**307**	*i* P	**Pn**	**04 08 19.4**	**+1.2**
PB16				IAML		04 09 12.5	
	comp=Z,4.1nm,4.4s						
PB06	**IPOC Station P**	**3.55**	**227**	Pg	**Pn**	**04 08 22.1**	**+1.0**
PB06				Sg	**S**	**04 09 06.9**	**-0.7**
PB06				IAML		04 09 08.0	
	comp=Z,51nm,0.2s						
PB06	**IPOC Station P**	**3.55**	**227**	*i* P	**Pn**	**04 08 21.6**	**+0.6**
PB06				IAML		04 09 12.3	
	comp=Z,40nm,0.3s						
SOEJ	**Jacaque**	**3.58**	**337**	Pg	**Pn**	**04 08 22.8**	**+0.9**
BBOE	**La Paz, Chanca**	**3.66**	**341**	Pg	**Pn**	**04 08 24.2**	**+1.3**
PB04	**IPOC Station P**	**3.75**	**237**	Pg	**Pn**	**04 08 24.2**	**+0.8**
PB04	**IPOC Station P**	**3.75**	**237**	*i* P	**Pn**	**04 08 24.0**	**+0.6**
PB04				IAML		04 09 16.6	
	comp=Z,36nm,0.2s						
PB12	**IPOC Station P**	**3.77**	**296**	*i* P	**Pn**	**04 08 22.4**	**-1.1**
PB12				IAML		04 09 13.7	
	comp=Z,9.9nm,0.2s						
PB15	**IPOC Station P**	**3.84**	**221**	Pg	**Pn**	**04 08 26.1**	**+1.7**
PB15				Sg	**S**	**04 09 12.9**	**-0.8**
PB15				IAML		04 09 18.2	
	comp=Z,337nm,0.3s						
PB15	**IPOC Station P**	**3.84**	**221**	*i* P	**Pn**	**04 08 25.9**	**+1.5**
PB15				⇓*e*S	**S**	**04 09 13.7**	**0.0**
PB15				IAML		04 09 17.8	
	comp=Z,185nm,0.2s						
PB05	**IPOC Station P**	**4.09**	**231**	Pg	**Pn**	**04 08 27.5**	**+0.2**
PB05	**IPOC Station P**	**4.09**	**231**	*i* P	**Pn**	**04 08 27.6**	**+0.3**
PB05				IAML		04 09 20.9	
	comp=Z,16nm,0.4s						
LPAZ	**La Paz**	**4.20**	**342**	Pg	**Pn**	**04 08 29.2**	**0.0**
AZAP	**Zapla**	**4.20**	**158**	*i* P	**Pn**	**04 08 28.3**	**-0.5**
AZAP				IAML		04 09 25.2	
	comp=Z,6.7nm,0.7s						

*AUST **29** 04:32:31.0±2.7, 23.°77S×148.°83E, h0km, Error ellipse: s-maj=37.8km s-min=20.9km az=9.0, Mining explosion.*
*IDC **29** 04:32:37.9±8.8, 23.°16S×148.°72E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=98.5km s-min=65.5km az=2.0*

ISC 29 04:32:34.3±1.2, 23.°7S±0.°2×148.°97E±0.°09, h0km, n6, σ1s34/5, Queensland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUNRC	**North Rockhamp**	**1.46**	**78**	P	**Pn**	**04 33 00.9**	**-1.1**
	baz=1.6						
AUNRC				S	**Sn**	**04 33 23.3**	**+1.5**
	baz=1.6						
EIDS	**Eidsvold**	**2.56**	**132**	P	Pn	04 33 14.4	-2.8
	baz=2.6						
STKA	**Stephens Creek**	**10.47**	**217**	Sn	**Sn**	**04 37 04.0**	**+0.2**
	0.1nm,0.3s,baz=166,slow=24,SNR=3.1						
STKA				Lg	Lg	04 38 10.2	
	0.1nm,0.3s,baz=162,slow=24,SNR=3.1						
ASAR	**Alice Springs**	**13.81**	**267**	Pn	**Pn**	**04 35 51.5**	**-0.1**
	baz=89,slow=14,SNR=1.6						
ASAR				Lg	Lg	04 39 50.5	
	0.1nm,0.3s,baz=92,slow=30,SNR=4.6						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**14.09**	**282**	Pn	**Pn**	**04 35 55.6**	**+0.3**
	baz=103,slow=12,SNR=2.1						
WRA				Lg	Lg	04 39 54.1	
	0.1nm,0.3s,baz=105,slow=29,SNR=4.4						
	0.3nm,0.9s						
I07AU	**WARRAMUNGA INF**	**14.10**	**282**	I	I	05 57 40.0	
	baz=108,slow=303,SNR=2.1						

*IDC **29** 04:44:59.5±0.8, 36.°22N×97.°70W, h0km, mb3.5/2, mbtmp3.7/9, ML3.6/7, MS3.3/6, Error ellipse: s-maj=10.7km s-min=9.2km az=152.0*
*NEIC **29** 04:44:59.9±0.4, 36.°151N±0.°010×97.°68W±0.°01, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.7km az=223.0, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr=1.40; Mθθ=6.32; Mφφ=4.92; Mrθ=0.34; Mθφ=2.85; Mφr=1.74; Fault plane solution: M0=6.66000×10^14^ NP1: φs=213.22000°, δ=80.43000°, λ=-162.76000°. NP2: φs=120.27000°, δ=73.00000°, λ=-10.02000°. Principal axes: T 7.0649, Plg5.0000°, Azm346.0000°; N -0.9097, Plg70.0000°, Azm241.0000°; P -6.1551, Plg19.0000°, Azm78.0000°;*
*ANF **29** 04:44:59.1±0.2, 36.°16N×97.°64W, h5km, ML5.1/11 Error ellipse: s-maj=2.6km s-min=2.5km az=157.0*
*NEIC **29** 04:44:59.9, 36.°15N×97.°68W, h5km*
*TUL **29** 04:45:00±0.6, 36.°154N±0.°010×97.°67W±0.°01, h6km±3km, ML4.0, mb_Lg4.1/153(NEIC), ML4.2/60(NEIC), Mwr3.8/29(NEIC), Error ellipse: s-maj=1.4km s-min=1.3km az=190.0*

ISC 29 04:45:00.1±0.9, 36.°16N±0.°02×97.°67W±0.°02, h11km±7km, n249, σ0s98/235, MS3.4/4, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	**0.43**	**323**	Pg	**Pg**	**04 45 08.7**	**+0.2**
CROK				Sg	**Sg**	**04 45 14.7**	**+0.6**
CROK				IAML		04 45 19.3	
	comp=E,25μm,0.3s						
CROK				IAML		04 45 19.3	
	comp=N,22μm,0.4s						
ADOK	**Arcadia Dam**	**0.56**	**155**		**Pg**	**04 45 10.8**	**-0.2**
ADOK				Sg	**Sg**	**04 45 18.7**	**+0.3**
OK033	**Mehan**	**0.60**	**101**	Pg	**Pg**	**04 45 11.8**	**+0.1**
OK033				IAmb_Lg		04 45 19.2	
	comp=Z,2μm,0.8s						
OK033				Sg	**Sg**	**04 45 19.9**	**+0.3**
OK033				IAML		04 45 22.8	
	comp=Z,15μm,0.6s						
OK048	**Pawnee Station**	**0.64**	**66**		**Pg**	**04 45 12.6**	**+0.1**
OK048				Sg	**Sg**	**04 45 20.9**	**+0.1**
BLOK	**Blackwell**	**0.70**	**31**		**Pg**	**04 45 13.8**	**+0.2**
BLOK				Sg	**Sb**	**04 45 23.6**	**-0.4**
BLOK				IAML		04 45 26.5	
	comp=N,14μm,0.2s						
GC02	**Grant County #**	**0.71**	**347**		**Pg**	**04 45 13.8**	**0.0**
GC02				Sg	**Sg**	**04 45 23.1**	**+0.1**
OK052	**Battle Ridge R**	**0.72**	**103**	Pg	**Pg**	**04 45 14.0**	**0.0**
OK052				Sg	**Sg**	**04 45 23.7**	**+0.3**
OK052				IAML		04 45 26.4	
	comp=N,13μm,0.5s						
OK051	**E0350 and S346**	**0.75**	**63**		**Pg**	**04 45 14.7**	**0.0**
OK051				Sg	**Sg**	**04 45 24.7**	**+0.3**
OK051				IAML		04 45 30.6	
	comp=N,7μm,0.2s						
OK051				IAML		04 45 32.2	
	comp=N,9μm,0.2s						
QUOK	**Quay**	**0.78**	**89**		**Pg**	**04 45 15.0**	**0.0**
QUOK				IAML		04 45 37.8	
	comp=E,8μm,0.2s						
OK032	**Salt Plains WL**	**0.78**	**326**		**Pg**	**04 45 14.9**	**-0.1**
OK032				Sg	**Sg**	**04 45 25.3**	**+0.1**
OK032				IAML		04 45 28.1	
	comp=E,15μm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.78**	**166**	Pg	**Pg**	**04 45 14.8**	**-0.2**
OKCSW				Sg	**Sg**	**04 45 25.2**	**0.0**
OKCSW				IAmb_Lg		04 45 25.8	
	comp=Z,2μm,0.9s						
OKCSW				IAML		04 45 30.5	
	comp=E,12μm,0.4s						
OKCSW				IAML		04 45 30.6	
	comp=N,8μm,0.4s						
KAN14	**Manchester OK**	**0.83**	**343**	IAML		04 45 29.7	
	comp=E,9μm,0.3s						
KAN14				IAML		04 45 32.3	
	comp=N,7μm,0.2s						
KAN13	**South Haven SW**	**0.86**	**10**		**Pg**	**04 45 16.7**	**0.0**
KAN13				Sg	**Sb**	**04 45 28.5**	**-0.2**
KAN13				IAML		04 45 34.8	
	comp=N,12μm,0.3s						
KAN17	**Caldwell West**	**0.89**	**355**	Pg	**Pg**	**04 45 17.0**	**-0.1**
KAN17				IAML		04 45 35.3	
	comp=N,10μm,0.3s						
KAN17				IAML		04 45 38.8	
	comp=E,8μm,0.2s						
OK038	**West end E0370**	**0.92**	**290**		**Pg**	**04 45 17.4**	**-0.5**
OK038				Sg	**Sg**	**04 45 29.8**	**-0.1**
FNO	**Franklin**	**0.93**	**166**	Pg	**Pg**	**04 45 17.4**	**-0.5**
FNO				IAmb_Lg		04 45 28.8	
	comp=Z,1μm,1.0s						
FNO				Sg	**Sg**	**04 45 30.1**	**0.0**
KAN05	**Bluff City Nor**	**0.96**	**350**		**Pg**	**04 45 18.4**	**-0.2**
KAN05				IAML		04 45 35.3	
	comp=E,11μm,0.3s						
KAN05				IAML		04 45 36.9	
	comp=N,7μm,0.2s						
KAN09	**Caldwell North**	**0.97**	**2**		**Pg**	**04 45 18.7**	**-0.1**
DEOK	**Depew**	**1.00**	**108**	IAML		04 45 35.2	
	comp=N,7μm,0.7s						
DEOK				IAML		04 45 38.1	
	comp=E,5μm,0.3s						
OK035	**E0210 Rd and N**	**1.00**	**303**		**Pg**	**

comp=Z,198nm,0.8s
U38A Gravette 2.67 83 Pn **Pn** **04 45 43.8 +0.8**
U38A Gravette 2.67 83 P **Pn** **04 45 44.0 +1.0**
baz=265,SNR=185
Z35A Perchaven, San 2.84 173 **Pn** **04 45 46.6 +1.2**
Z35A Perchaven, San 2.84 173 P **Pn** **04 45 46.6 +1.2**
baz=353,SNR=184
Z35A S **Sn** **04 46 22.8 +3.1**
baz=353
HHAR Hobbs 3.02 87 Pn **Pn** **04 45 48.4 +0.6**
HHAR Hobbs 3.02 87 P **Pn** **04 45 48.6 +0.8**
baz=269
KSU1 Kansas State U 3.05 16 **Pn** **04 45 49.5 +1.2**
KSU1 IAmb_Lg 04 46 39.5
comp=Z,473nm,0.9s
KSU1 Kansas State U 3.05 16 P **Pn** **04 45 49.5 +1.2**
baz=196,SNR=27
KSU1 Sb **Sb** **04 46 34.2 +2.5**
baz=196
KSU1 Kansas State U 3.05 16 P **Pn** **04 45 49.6 +1.2**
baz=196,SNR=28
CBKS Cedar Bluff 3.12 329 **Pn** **04 45 50.6 +1.3**
CBKS IAmb_Lg 04 46 42.8
comp=Z,383nm,0.7s
CBKS Cedar Bluff 3.12 329 P **Pn** **04 45 50.3 +1.0**
baz=148,SNR=19
CBKS Sb **Sb** **04 46 36.8 +3.1**
baz=148
CBKS Cedar Bluff 3.12 329 P **Pn** **04 45 50.5 +1.3**
baz=148
FW03 Perrin-Whitt E 3.13 186 IAmb_Lg 04 46 40.7
comp=Z,257nm,0.9s
FW06 Azle 3.18 178 IAmb_Lg 04 46 42.4
comp=Z,174nm,0.8s
PLPT Palo Pinto 3.38 189 Pn **Pn** **04 45 53.6 +0.7**
PLPT IAmb_Lg 04 46 54.4
comp=Z,282nm,0.7s
FW07 Weatherford 3.45 182 IAmb_Lg 04 46 59.0
comp=Z,274nm,0.7s
APMT Aspermont 3.48 216 IAmb_Lg 04 46 56.5
comp=Z,183nm,0.7s
AMTX Amarillo 3.51 250 Pn **Pn** **04 45 55.8 +1.1**
AMTX IAmb_Lg 04 46 56.6
comp=Z,452nm,0.9s
AMTX Amarillo 3.51 250 P **Pn** **04 45 55.4 +0.7**
baz=68
AMTX Amarillo 3.51 250 P **Pn** **04 45 56.0 +1.2**
baz=68
Z38A Mt. Pleasant 3.64 142 Pn **Pn** **04 45 57.0 +0.7**
Z38A IAmb_Lg 04 47 03.5
comp=Z,637nm,0.7s
Z38A Mt. Pleasant 3.64 142 P **Pn** **04 45 57.3 +0.9**
baz=323,SNR=12
Z38A S **Sn** **04 46 40.7 +1.3**
baz=323
TREL Terrell 3.66 159 IAmb_Lg 04 46 59.2
comp=Z,287nm,0.8s
FW16 Waxahatchie 3.73 170 Pn **Pn** **04 45 58.1 +0.6**
FW16 IAmb_Lg 04 47 07.6
comp=Z,359nm,0.7s
FW14 Alvarado 3.77 174 IAmb_Lg 04 47 03.4
comp=Z,271nm,0.8s
S39A Bolivar 3.80 65 IAmb_Lg 04 47 02.8
comp=Z,537nm,0.9s
S39A Bolivar 3.80 65 P **Pn** **04 45 59.7 +1.1**
baz=248,SNR=126
FW13 Cleburne 3.81 177 IAmb_Lg 04 47 08.5
comp=Z,140nm,0.8s
ABTX Abilene, Hawle 3.89 205 Pn **Pn** **04 46 00.1 +0.3**
ABTX IAmb_Lg 04 47 04.5
comp=Z,520nm,1.1s
ABTX Abilene, Hawle 3.89 205 P **Pn** **04 45 59.7 -0.2**
baz=24
ABTX Abilene, Hawle 3.89 205 P **Pn** **04 46 00.1 +0.3**
baz=24,SNR=20
U40A Yellville 3.90 86 P **Pn** **04 45 60.0 +0.1**
baz=268,SNR=42
U40A P **Pn** **04 45 60.0 +0.1**
baz=268,SNR=42
WHTX Lake Whitney, 4.16 178 P **Pn** **04 46 04.1 +0.6**
baz=358,SNR=9.3
WHTX Sb **Sb** **04 47 07.6 +3.9**
baz=358
WHTX Lake Whitney, 4.16 178 P **Pn** **04 46 04.2 +0.6**
baz=358,SNR=54
SN01 Snyder 1 4.23 220 IAmb_Lg 04 47 16.9
comp=Z,617nm,0.8s
X40A Basin Creek Fa 4.29 112 IAmb_Lg 04 47 19.0
comp=Z,637nm,0.7s
X40A Basin Creek Fa 4.29 112 P **Pn** **04 46 06.6 +1.3**
baz=294,SNR=13
X40A P **Pn** **04 46 06.6 +1.3**
baz=294,SNR=13
POST Post 4.42 227 Pn **Pn** **04 46 07.9 +0.8**
POST IAmb_Lg 04 47 23.5
comp=Z,405nm,0.9s
237A Washetta, Mont 4.43 159 IAmb_Lg 04 47 18.7
comp=Z,227nm,0.8s
237A Washetta, Mont 4.43 159 P **Pn** **04 46 07.3 +0.2**
baz=340,SNR=26
MGMO Mountain Grove 4.45 76 IAmb_Lg 04 47 21.1
comp=Z,558nm,0.8s
WHAR Wooly Hollow 4.46 100 IAmb_Lg 04 47 33.1
comp=Z,383nm,0.8s
WLAR White Oak Lake 4.48 122 Pn **Pn** **04 46 08.8 +0.9**
WLAR IAmb_Lg 04 47 34.1
comp=Z,456nm,0.8s
FCAR Ozark Folk Cen 4.50 92 IAmb_Lg 04 47 24.9
comp=Z,324nm,0.8s
UALR University of 4.56 106 Pn **Pn** **04 46 10.2 +1.1**
UALR IAmb_Lg 04 47 32.5
comp=Z,555nm,0.8s
N33A J Bar K, Exete 4.57 2 Pn **Pn** **04 46 09.9 +0.6**
N33A IAmb_Lg 04 47 35.3
comp=Z,348nm,0.8s
MSTX Muleshoe 4.72 244 Pn **Pn** **04 46 11.9 +0.5**
MSTX Muleshoe 4.72 244 P **Pn** **04 46 11.6 +0.2**
baz=61,SNR=10
MSTX Muleshoe 4.72 244 P **Pn** **04 46 11.8 +0.5**
baz=61,SNR=15
P38A Dawn 4.76 42 Pn **Pn** **04 46 13.2 +1.5**
P38A IAmb_Lg 04 47 37.0
comp=Z,359nm,0.7s
P38A Dawn 4.76 42 P **Pn** **04 46 12.8 +1.0**
baz=225,SNR=19
R40A Maddies Statio 4.80 62 IAmb_Lg 04 47 29.7
comp=Z,456nm,0.8s
R40A Maddies Statio 4.80 62 P **Pn** **04 46 13.1 +0.7**
baz=245,SNR=100
KSCO Kaye Shedlock' 4.86 307 IAmb_Lg 04 47 42.3
comp=Z,227nm,0.8s
N35A Tabor 4.95 18 P **Pn** **04 46 15.2 +0.7**
baz=199,SNR=6.3
BRDY Brady 4.99 193 IAmb_Lg 04 47 41.0
comp=Z,221nm,0.8s
NATX Nacogdoches 5.05 150 **Pn** **04 46 16.1 +0.3**
NATX IAmb_Lg 04 47 54.1
comp=Z,223nm,0.8s
NATX Nacogdoches 5.05 150 P **Pn** **04 46 15.6 -0.2**
baz=331
NATX S **Sn** **04 47 13.4 -0.7**
baz=331
SGCY Sterling City 5.12 215 Pn **Pn** **04 46 16.7 -0.1**
SGCY IAmb_Lg 04 47 52.7
comp=Z,619nm,0.9s
BGNE Belgrade 5.25 356 Pn **Pn** **04 46 18.7 +0.1**
BGNE IAmb_Lg 04 47 59.6
comp=Z,421nm,0.8s
BGNE Belgrade 5.25 356 P **Pn** **04 46 18.8 +0.1**
baz=176,SNR=14
BGNE S **Sn** **04 47 18.1 -1.0**
baz=176
BGNE Belgrade 5.25 356 P **Pn** **04 46 18.7 +0.1**
baz=176,SNR=37
LCAR Lake Charles 5.27 89 IAmb_Lg 04 47 51.1
comp=Z,276nm,0.9s
LCAR Lake Charles 5.27 89 P **Pn** **04 46 18.9 +0.1**
baz=273
435B Jarrell 5.37 179 IAmb_Lg 04 47 54.1
comp=Z,480nm,0.9s
435B Jarrell 5.37 179 P **Pn** **04 46 20.2 +0.1**
baz=359
435B Jarrell 5.37 179 P **Pn** **04 46 20.4 +0.3**
baz=359,SNR=11
CCM Cathedral Cave 5.47 68 Pn **Pn** **04 46 22.0 +0.5**
CCM IAmb_Lg 04 47 58.8
comp=Z,350nm,0.7s
CCM Cathedral Cave 5.47 68 P **Pn** **04 46 21.5 0.0**
baz=252
CCM S **Sn** **04 47 23.5 -1.0**
baz=252
CCM Cathedral Cave 5.47 68 P **Pn** **04 46 21.8 +0.3**
baz=252,SNR=31
T25A Trinidad 5.51 282 Pn **Pn** **04 46 22.8 +0.6**
T25A IAmb_Lg 04 47 58.1
comp=Z,372nm,0.9s
T25A Trinidad 5.51 282 P **Pn** **04 46 22.5 +0.2**
baz=98
T25A S **Sn** **04 47 24.6 -1.2**
baz=98
P40A Paris 5.57 51 P **Pn** **04 46 23.6 +0.6**
baz=234,SNR=13
HNVL Huntsville, TX 5.70 161 Pn **Pn** **04 46 25.6 +0.9**
HNVL IAmb_Lg 04 48 00.6
comp=Z,108nm,1.0s
OGNE Ogallala 5.88 326 IAmb_Lg 04 48 13.0
comp=Z,491nm,0.7s
OGNE Ogallala 5.88 326 P **Pn** **04 46 27.9 +0.8**
baz=143,SNR=8.7
OGNE S **Sn** **04 47 34.6 +0.1**
baz=143
OGNE Ogallala 5.88 326 P **Pn** **04 46 28.6 +1.5**
baz=143,SNR=8.7
L34A Svendsen Farm, 5.88 9 Pn **Pn** **04 46 28.7 +1.5**
JCT Junction City 5.94 198 P **Pn** **04 46 27.7 -0.3**
baz=17
JCT Junction City 5.94 198 P **Pn** **04 46 27.8 -0.3**
baz=17,SNR=11
OZNA Ozona 5.97 210 IAmb_Lg 04 48 16.6
comp=Z,289nm,0.9s
CPRX Cap Rock 5.99 240 Pn **Pn** **04 46 30.0 +1.2**
FVM French Village 6.07 70 IAmb_Lg 04 48 19.2
comp=Z,283nm,0.8s
FVM French Village 6.07 70 P **Pn** **04 46 29.8 0.0**
baz=255,SNR=36
143A Socs Landing, 6.22 122 Pn **Pn** **04 46 32.9 +1.1**
143A IAmb_Lg 04 48 31.1
comp=Z,294nm,0.8s
CLN7 Carlsbad 7 6.31 235 Pn **Pn** **04 46 33.8 +0.6**
PEBM Pemiscott Bayo 6.32 88 Pn **Pn** **04 46 34.6 +1.4**
MET Memphis--Engin 6.38 97 IAmb_Lg 04 48 36.8
comp=Z,280nm,0.8s
SLM Saint Louis 6.41 65 **Pn** **04 46 34.8 +0.3**
SLM IAmb_Lg 04 48 21.6
comp=Z,263nm,0.7s
MNHN Monahans 6.41 223 IAmb_Lg 04 48 22.5
comp=Z,202nm,0.8s
PVMO Portageville 6.44 85 IAmb_Lg 04 48 30.4
comp=Z,401nm,0.9s
SDCO Great Sand Dun 6.47 286 P **Pn** **04 46 35.4 -0.1**
baz=102,SNR=12
CGM3 Cape Girardeau 6.53 78 Pn **Pn** **04 46 37.3 +1.2**
CGM3 IAmb_Lg 04 48 26.4
comp=Z,286nm,1.0s
Q24A Divide 6.57 297 S **Sn** **04 47 51.4 -0.6**
baz=113
K30B Basset 6.68 348 IAmb_Lg 04 48 38.9
comp=Z,218nm,0.8s
K30B Basset 6.68 348 P **Pn** **04 46 38.1 0.0**
baz=166,SNR=33
SCIA State Center 6.70 30 **Pn** **04 46 39.3 +0.9**
SCIA State Center 6.70 30 P **Pn** **04 46 38.3 -0.1**
baz=212
SCIA S **Sn** **04 47 54.2 -0.6**
baz=212
HALT Halls 6.75 90 IAmb_Lg 04 48 46.5
comp=Z,316nm,0.9s
HNDO Hondo 6.75 192 IAmb_Lg 04 48 36.9
comp=Z,506nm,1.1s
GLAT Glass 6.78 87 Pn **Pn** **04 46 40.7 +1.2**
HICK Hickman 6.82 84 Pn **Pn** **04 46 40.6 +0.6**
BRIGG Briggsdale 6.84 312 Pn **Pn** **04 46 41.6 +1.1**
BRIGG IAmb_Lg 04 48 49.4
comp=Z,281nm,0.8s
S44A Carbondale 6.91 75 **Pn** **04 46 41.5 +0.2**
S44A IAmb_Lg 04 48 38.8
comp=Z,403nm,0.7s
S44A Carbondale 6.91 75 P **Pn** **04 46 41.3 +0.1**
baz=260,SNR=17
SIUC Southern Illin 6.94 75 **Pn** **04 46 41.7 0.0**
OXF Oxford 6.95 101 Pn **Pn** **04 46 41.2 -0.6**
OXF Oxford 6.95 101 P **Pn** **04 46 40.6 -1.2**
baz=286,SNR=8.0
OXF S **Sn** **04 48 00.5 -0.3**
baz=286
OXF Oxford 6.95 101 P **Pn** **04 46 40.9 -0.9**
baz=286
PECS Pecos 7.03 229 Pn **Pn** **04 46 43.5 +0.4**
PECS IAmb_Lg 04 48 50.9
comp=Z,176nm,0.9s
EF01 Eagle Ford 01 7.04 185 IAmb_Lg 04 48 49.2
comp=Z,169nm,0.7s
Y45A Yeager Farm, C 7.05 107 Pn **Pn** **04 46 43.8 +0.7**
Y45A IAmb_Lg 04 48 48.5
comp=Z,209nm,0.7s
Y45A Yeager Farm, C 7.05 107 P **Pn** **04 46 43.9 +0.7**
baz=291
VBMS Vicksburg 7.11 122 IAmb_Lg 04 49 04.9
comp=Z,154nm,0.9s
VBMS Vicksburg 7.11 122 S **Sn** **04 48 03.7 -1.2**
baz=306
DRIO Del Rio 7.16 201 Pn **Pn** **04 46 46.0 +1.2**
SAND Sanderson 7.23 212 IAmb_Lg 04 48 58.7
comp=Z,324nm,1.0s
ISCO Idaho Springs 7.25 302 **Pn** **04 46 46.8 +0.6**
ISCO IAmb_Lg 04 48 52.3
comp=Z,204nm,1.1s
ISCO Idaho Springs 7.25 302 P **Pn** **04 46 46.0 -0.2**
baz=118
ISCO Idaho Springs 7.25 302 P **Pn** **04 46 46.7 +0.4**
baz=118,SNR=8.9
ANMO Albuquerque 7.27 263 Pn **Pn** **04 46 47.6 +1.2**
comp=Z,0.1nm,0.3s,baz=180,slow=16,SNR=5.7
ANMO Pg **Pb** **04 47 06.9 +0.6**
comp=Z,0.6nm,0.3s,baz=178,slow=15,SNR=6.4
ANMO Lg Lg 04 48 49.6
comp=Z,5.8nm,0.3s,baz=233,slow=22,SNR=6.2
ANMO LR LR 04 49 19.2
comp=Z,103nm,21.7s,baz=196,slow=36
comp=Z,0.7nm,0.4s
735A Kenedy 7.29 181 IAmb_Lg 04 49 10.9
comp=Z,222nm,0.8s
T45B Paducah 7.31 81 P **Pn** **04 46 47.4 +0.7**
baz=266
P43A Skaggs, Pawnee 7.32 59 P **Pn** **04 46 47.3 +0.4**
baz=244,SNR=15
Q44A Meyer Farm, Va 7.40 66 **Pn** **04 46 48.8 +0.8**
Q44A Meyer Farm, Va 7.40 66 P **Pn** **04 46 48.6 +0.6**
baz=251
ECSD EROS Data Cent 7.61 6 Pn **Pn** **04 46 50.4 -0.5**
ECSD EROS Data Cent 7.61 6 P **Pn** **04 46 49.9 -1.0**
baz=186,SNR=17
ECSD EROS Data Cent 7.61 6 P **Pn** **04 46 49.9 -1.0**
baz=186,SNR=59
ALPN Alpine 7.63 223 IAmb_Lg 04 49 22.1
comp=Z,132nm,0.8s
MNTX Cornudas Mount 7.80 237 P **Pn** **04 46 53.2 -0.4**
baz=53,SNR=8.0
MNTX S **Sn** **04 48 20.2 -1.8**
baz=53
MNTX Cornudas Mount 7.80 237 P **Pn** **04 46 53.8 +0.2**
baz=53,SNR=8.6
Y22D IRIS PASSCAL I 7.86 257 IAmb_Lg 04 49 32.4
comp=Z,224nm,0.7s
HDIL Hopedale 7.91 54 Pn **Pn** **04 46 55.1 +0.2**
HDIL Hopedale 7.91 54 P **Pn** **04 46 54.7 -0.3**
baz=239,SNR=10
HDIL S **Sn** **04 48 22.7 -1.7**
baz=239
HDIL Hopedale 7.91 54 P **Pn** **04 46 55.0 +0.1**
baz=239
146A Union 7.94 114 IAmb_Lg 04 49 19.3
comp=Z,143nm,0.8s
833A Chaparral WMA, 7.95 191 IAmb_Lg 04 49 21.5
comp=Z,245nm,1.0s
833A Chaparral WMA, 7.95 191 P **Pn** **04 46 55.3 -0.3**
baz=10
WVT Waverly 7.96 87 S **Sn** **04 48 24.4 -1.3**
baz=273
PHWY Pilot Hill 7.96 312 Pn **Pn** **04 46 57.0 +0.9**
PHWY IAmb_Lg 04 49 21.6
comp=Z,166nm,0.7s
N23A Red Feather La 8.02 309 P **Pn** **04 46 56.2 -0.7**
baz=124
OLIL Olney 8.03 69 IAmb_Lg 04 49 23.0
comp=Z,293nm,1.0s
425A Indio Mountain 8.13 231 Pn **Pn** **04 46 59.1 +0.9**
USIN University of 8.20 74 Pn **Pn** **04 47 00.1 +1.2**
O44A Mansfield 8.27 58 IAmb_Lg 04 49 37.7
comp=Z,290nm,0.8s
O44A Mansfield 8.27 58 P **Pn** **04 47 00.2 +0.2**
baz=244
SUSD Miller 8.33 354 IAmb_Lg 04 49 30.7
comp=Z,144nm,0.8s
SUSD Miller 8.33 354 P **Pn** **04 47 00.5 -0.3**
baz=173
SUSD Miller 8.33 354 P **Pn** **04 47 00.5 -0.3**
baz=173,SNR=5.8
TX31 Lajitas Ar. Si 8.48 218 P **Pn** **04 47 03.4 +0.5**
baz=35,SNR=13
TXAR Lajitas Array 8.48 218 Pn **Pn** **04 47 02.1 -0.8**
comp=Z,0.5nm,0.3s,baz=46,slow=12,SNR=28
TXAR Pg **Pb** **04 47 24.7 -2.2**
comp=Z,1.3nm,0.3s,baz=51,slow=13,SNR=6.5
TXAR Lg Lg 04 49 24.1
comp=Z,8.1nm,0.3s,baz=38,slow=19,SNR=5.5
TXAR LR LR 04 50 03.9
comp=Z,106nm,20.2s,baz=275,slow=36
comp=Z,0.9nm,0.4s
I37A Lemond, Waseca 8.50 21 IAmb_Lg 04 49 35.7
comp=Z,245nm,0.9s
L42A Oliver, Polo 8.53 44 P **Pn** **04 47 03.9 +0.4**
baz=229,SNR=11
T47A Sharon Grove 8.54 81 P **Pn** **04 47 04.0 +0.3**
baz=268
JFWS Jewell Farm 8.85 38 Pn **Pn** **04 47 08.7 +0.9**
JFWS Jewell Farm 8.85 38 P **Pn** **04 47 07.4 -0.5**
baz=223
JFWS Jewell Farm 8.85 38 P **Pn** **04 47 07.6 -0.3**
baz=223,SNR=14
121A Cookes Peak, D 9.12 250 P **Pn** **04 47 11.1 -0.7**
baz=64
M44A Midewin, Midew 9.15 52 Pn **Pn** **04 47 13.0 +1.1**
M44A IAmb_Lg 04 50 02.4
comp=Z,193nm,0.8s
RWWY Rawlins 9.26 309 IAmb_Lg 04 50 00.5
comp=Z,110nm,0.9s
WCI Wyandotte Cave 9.31 74 **Pn** **04 47 15.1 +0.9**
WCI Wyandotte Cave 9.31 74 P **Pn** **04 47 13.5 -0.7**
baz=261
WCI Wyandotte Cave 9.31 74 P **Pn** **04 47 15.1 +0.9**
baz=261,SNR=9.5
SFIN Lafayette 9.32 60 P **Pn** **04 47 14.2 -0.1**
baz=246
RSSD Black Hills 9.32 330 Pn **Pn** **04 47 14.7 +0.1**
RSSD IAmb_Lg 04 50 11.0
comp=Z,101nm,0.9s
RSSD Black Hills 9.32 330 P **Pn** **04 47 14.4 -0.2**
baz=146
RSSD Black Hills 9.32 330 P **Pn** **04 47 15.3 +0.7**
baz=146,SNR=11
LRAL Lakeview Retre 9.33 106 P **Pn** **04 47 13.7 -0.8**
baz=292
I40A Norwalk 9.42 33 IAmb_Lg 04 50 00.4
comp=Z,154nm,0.9s
K22A Casper 9.43 316 P **Pn** **04 47 16.1 +0.1**
baz=131
HQIL Hanson Quary C 9.49 51 IAmb_Lg 04 50 02.6
comp=Z,232nm,0.9s
SPMN Marine on St. 9.78 21 IAmb_Lg 04 50 17.3
comp=Z,121nm,0.8s
SPMN Marine on St. 9.78 21 P **Pn** **04 47 19.7 -0.9**
baz=204
F36A Milaca 10.18 17 Pn **Pn** **04 47 26.4 +0.3**
P48A Milroy 10.23 68 Pn **Pn** **04 47 27.9 +1.1**
E28A Huff 10.65 349 **Pn** **04 47 32.5 0.0**
O48B Farmland 10.66 64 P **Pn** **04 47 31.4 -1.3**
baz=251
G40A Rib Lake 10.71 30 Pn **Pn** **04 47 34.2 +0.8**
P49A Miami Univ. Ec 10.78 68 P **Pn** **04 47 33.2 -1.2**
baz=256
V51A Loudon 10.80 88 **Pn** **04 47 34.9 +0.2**
TKL Tuckaleechee C 11.28 88 Pn **Pn** **04 47 40.8 -0.5**
comp=Z,0.4nm,0.3s,baz=282,slow=19,SNR=5.1
TKL Sn **Sn** **04 49 46.7 -0.6**
comp=Z,0.9nm,0.3s,baz=219,slow=14,SNR=1.5
TKL Lg Lg 04 50 48.3
comp=Z,2.9nm,0.3s,baz=252,slow=9.4,SNR=5.1
comp=Z,1.9nm,0.6s
PD31 Pinedale Array 11.31 309 **Pn** **04 47 42.1 +0.3**
PDAR Pinedale Array 11.31 309 Pn **Pn** **04 47 42.5 +0.7**
comp=Z,0.3nm,0.3s,baz=124,slow=14,SNR=7.9
PDAR Pg 04 48 23.5
comp=Z,0.5nm,0.3s,baz=120,slow=16,SNR=4.5
PDAR Lg Lg 04 50 50.1
comp=Z,0.9nm,0.3s,baz=105,slow=35,SNR=3.2
comp=Z,0.6nm,0.5s
E38A The Farm, Brul 11.39 22 **Pn** **04 47 42.9 +0.1**
Q51A Peebles 11.72 72 **Pn** **04 47 47.0 -0.2**
SSFO Shawnee State 11.78 73 Pn **Pn** **04 47 47.0 -1.1**
L48A N Adams 11.79 57 Pn **Pn** **04 47 46.9 -1.3**
F42A Maple Grove Fa 11.98 34 Pn **Pn** **04 47 50.2 -0.6**
ACSO Alum Creek Sta 12.24 66 Pn **Pn** **04 47 52.6 -1.9**
ACSO Alum Creek Sta 12.24 66 P **Pn** **04 47 52.5 -1.9**
baz=255,SNR=6.8
B35A Bob, Littlefor 12.53 12 Pn **Pn** **04 47 56.1 -2.2**
Q52A Bidwell 12.54 73 **Pn** **04 47 57.2 -1.2**
R53A Hurricane 12.71 76 Pn **Pn** **04 47 58.6 -2.2**
P52A Corning 12.75 70 P **Pn** **04 47 59.2 -2.1**
baz=259
N51A Ashland 12.88 64 **Pn** **04 48 02.2 -0.8**
GLMI Grayling 13.16 45 P **Pn** **04 48 04.4 -2.5**
baz=233
DGMT Dagmar 13.21 341 P **Pn** **04 48 05.1 -2.5**
baz=156,SNR=9.1
O53A New Philadelph 13.57 68 P **Pn** **04 48 09.8 -2.6**
baz=258
BLA Blacksburg 13.88 81 P **Pn** **04 48 14.6 -2.2**
baz=271
ULM Lac du Bonnet 14.14 5 Pn **Pn** **04 48 14.9 -5.3**
comp=Z,0.6nm,0.3s,baz=186,slow=12,SNR=6.7
ULM Sn Sn 04 50 44.8 -12
comp=Z,0.6nm,0.3s,baz=99,slow=19,SNR=3.0
ULM Lg Lg 04 52 15.7
comp=Z,1.2nm,0.3s,baz=73,slow=21,SNR=2.0
comp=Z,1.8nm,0.4s
SADO Sadowa 16.49 53 Pn **Pn** **04 48 48.6 -2.6**
comp=Z,0.3nm,0.3s,baz=255,slow=13,SNR=4.5
SADO Lg Lg 04 53 27.6
comp=Z,0.9nm,0.3s,baz=196,slow=11,SNR=3.6
comp=Z,6.2nm,1.0s
TEIG Tepich 17.89 150 P **P** **04 49 11.1 +1.6**
comp=Z,26nm,0.3s,baz=291,slow=8.6,SNR=7.6
NEW Newport 18.75 316 Lg Lg 04 54 38.3
comp=Z,0.1nm,0.3s,baz=219,slow=18,SNR=1.8
CMIG Matias Romero 19.16 172 P **Pn** **04 49 25.8 +1.4**
comp=Z,0.3nm,0.3s,baz=348,slow=6.7,SNR=5.3
comp=Z,2.9nm,0.8s
JTS Las Juntas de 28.22 153 LR LR 05 03 18.9
comp=Z,45nm,19.3s,baz=344,slow=39
YKA Yellowknife Ar 28.39 343 P **P** **04 50 54.8 +0.7**
comp=Z,0.2nm,0.6s,baz=148,slow=10,SNR=2.1
YKA Lg Lg 04 59 58.3
baz=154,slow=35,SNR=4.7
YKA LR LR 05 02 27.6
comp=Z,96nm,21.1s,baz=326,slow=37
comp=Z,0.2nm,0.6s
INK Inuvik 37.89 339 LR LR 05 08 05.5
comp=Z,79nm,20.4s,baz=185,slow=37
ILAR Eielson Array 40.77 330 P **P** **04 52 42.1 +1.1**
comp=Z,0.9nm,0.8s,baz=110,slow=7.5,SNR=9.0
ILAR LR LR 05 11 46.3
comp=Z,84nm,18.8s,baz=74,slow=40
comp=Z,0.9nm,0.8s

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*NEIC **29** 04:45:38.8±2.5, 40.˚18N±0.˚02×124.˚77W±0.˚04, h10km±2km, Error ellipse: s-maj=5.2km s-min=3.4km az=84.0*
*ANF **29** 04:45:40.3±2.5, 40.˚26N×124.˚85W, h20km, ML3.7/1, Error ellipse: s-maj=32.2km s-min=8.4km az=96.0*
*NCEDC **29** 04:45:42.6±2.0, 40.˚29N±0.˚03×124.˚51W±0.˚06, h19km±4km, Mwr3.8/3, ML3.2/78(NEIC), Error ellipse: s-maj=6.8km s-min=4.1km az=84.0*
*NEIC **29** 04:45:42.5, 40.˚30N×124.˚52W, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.92; $M_{\theta\theta}$-1.63; $M_{\phi\phi}$0.71; $M_{r\theta}$0.60; $M_{\theta\phi}$-6.44; $M_{\phi r}$-0.47; Fault plane solution: M_o6.64000×10^{14} NP1:ϕ_s94.85000°, δ85.18000°, λ173.45000°. NP2:ϕ_s185.40000°, δ83.47000°, λ4.85000°. Principal axes: T 6.1948, Plg8.0000°,*

Azm50.0000°; N 0.8174, Plg82.0000°, Azm239.0000°; P -7.0123, Plg1.0000°, Azm140.0000°;
*NEIC **29** 04:45:42.5, 40.30N×124.52W, h19km*

ISC 29 04:45:39.3±1.5, 40.26N±0.04×124.74W±0.08, h10km, n140, σ1§13/140, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCTM	**Capetown**	**0.38**	**54**		**Pb**	**04 45 48.6**	**+0.5**
KCTM					**Sg**	**04 45 53.7**	**+1.8**
FER	**Ferndale**	**0.49**	**49**		**Pb**	**04 45 50.5**	**+0.5**
FER					**Sg**	**04 45 57.4**	**+2.1**
KMPM	**Mount Pierce**	**0.50**	**71**		**Pg**	**04 45 49.9**	**+0.8**
KMPM					**Sg**	**04 45 55.4**	**-0.3**
KMPM	**Mount Pierce**	**0.50**	**71**	IAML		04 45 56.1	
	comp=N,30µm,0.7s						
KMPM				IAML		04 45 58.3	
	comp=E,20µm,0.6s						
KCRM	**Chalk Rock**	**0.72**	**76**		**Pg**	**04 45 53.5**	**+0.2**
JCC	**Jacoby Creek,**	**0.78**	**44**	Pg	**Pg**	**04 45 54.0**	**-0.4**
JCC				IAML		04 46 03.1	
	comp=N,930nm,0.9s						
JCC				IAML		04 46 14.6	
	comp=E,1µm,1.1s						
KMRM	**Mail Ridge**	**0.79**	**92**		**Pb**	**04 45 54.8**	**-0.4**
KMRM					**Sg**	**04 46 05.1**	**+0.2**
KHMM	**Horse Mountain**	**0.99**	**51**		**Pg**	**04 45 57.3**	**-1.0**
KHMM	**Horse Mountain**	**0.99**	**51**	IAML		04 46 22.7	
	comp=E,1µm,0.9s						
KRPM	**Rodgers**	**1.05**	**31**		**Pb**	**04 45 58.4**	**-1.3**
KRPM	**Rodgers**	**1.05**	**31**	IAML		04 46 10.7	
	comp=N,980nm,0.8s						
KCPM	**Cahto Peak**	**1.06**	**122**		**Pb**	**04 45 58.9**	**-0.8**
KIPM	**Iron Peak**	**1.07**	**114**		**Pg**	**04 45 58.8**	**-1.0**
KHBM	**Hayfork Bally**	**1.23**	**70**		**Pn**	**04 46 00.5**	**-2.2**
KBNM	**Bluenose Ridge**	**1.24**	**106**		**Pn**	**04 46 01.4**	**-1.4**
GTC	**Three Chop Rid**	**1.25**	**133**		**Pn**	**04 46 01.8**	**-1.1**
DCMP	**DeCamp, Califo**	**1.34**	**126**		**Pn**	**04 46 02.7**	**-1.4**
KRMB	**Red Mountain**	**1.42**	**26**		**Pn**	**04 46 03.6**	**-1.6**
KRMB	**Red Mountain**	**1.42**	**26**	IAML		04 46 19.6	
	comp=N,638nm,0.3s						
KOMM	**Orleans Mounta**	**1.42**	**43**		**Pn**	**04 46 03.4**	**-1.8**
LBPM	**Beegum Peak**	**1.42**	**87**		**Pn**	**04 46 03.5**	**-1.8**
O02D	**Mt. Diablo Mer**	**1.50**	**92**		**Pn**	**04 46 04.9**	**-1.4**
GWRM	**Wonder Ranch**	**1.53**	**133**		**Pn**	**04 46 05.6**	**-1.1**
GHMM	**Hull Mountain**	**1.59**	**118**		**Pn**	**04 46 06.0**	**-1.6**
LGPM	**Granite Peak**	**1.60**	**65**		**Pn**	**04 46 06.2**	**-2.0**
GVV	**Valley View**	**1.66**	**106**		**Pn**	**04 46 06.9**	**-1.7**
GGUM	**Gualala**	**1.70**	**145**		**Pn**	**04 46 08.2**	**-0.8**
KSXB	**Camp Six Broad**	**1.70**	**22**		**Pn**	**04 46 07.8**	**-1.4**
KSXB	**Camp Six Broad**	**1.70**	**22**	IAML		04 46 27.7	
	comp=N,539nm,0.5s						
N02D	**Trinity Center**	**1.71**	**64**		**Pn**	**04 46 07.3**	**-1.9**
LBKM	**Bonanza King**	**1.78**	**62**		**Pn**	**04 46 08.4**	**-1.9**
GHLM	**Highland Sprin**	**1.80**	**132**		**Pn**	**04 46 09.4**	**-1.1**
HOPS	**Hopland Field**	**1.80**	**134**	Pn	**Pn**	**04 46 09.4**	**-1.1**
M02C	**Callahan**	**1.83**	**51**		**Pn**	**04 46 09.1**	**-1.8**
GTSM	**Trough Springs**	**1.90**	**119**		**Pn**	**04 46 10.6**	**-1.3**
GCK	**Clark Valley**	**1.91**	**111**		**Pn**	**04 46 11.4**	**-0.6**
KBO	**Bosley Butte**	**1.99**	**11**		**Pn**	**04 46 12.3**	**-0.9**
LTCM	**Tuscan Springs**	**2.00**	**91**		**Pn**	**04 46 11.9**	**-1.3**
GHCM	**House Creek**	**2.04**	**144**		**Pn**	**04 46 13.2**	**-0.5**
GBMM	**Baldy Mountain**	**2.06**	**122**		**Pn**	**04 46 13.3**	**-0.8**
L02F	**Cave Junction**	**2.06**	**25**		**Pn**	**04 46 13.0**	**-1.0**
L02F				IAML		04 46 38.4	
	comp=E,319nm,0.4s						
GRTM	**Round Top Moun**	**2.07**	**129**		**Pn**	**04 46 13.8**	**-0.4**
GDXM	**Geysers**	**2.09**	**133**		**Pn**	**04 46 13.6**	**-0.9**
GGPM	**Geyser Peak**	**2.09**	**135**		**Pn**	**04 46 13.6**	**-0.9**
LAMM	**Antelope Mount**	**2.10**	**49**		**Pn**	**04 46 13.2**	**-1.5**
LCSM	**College of the**	**2.13**	**56**		**Pn**	**04 46 13.9**	**-1.1**
LSHM	**Sage Hen Hill**	**2.13**	**75**		**Pn**	**04 46 13.5**	**-1.4**
YBH	**Yreka Blue Hor**	**2.13**	**46**		**Pn**	**04 46 13.6**	**-1.5**
YBH	**Yreka Blue Hor**	**2.13**	**46**	Pn	**Pn**	**04 46 13.5**	**-1.5**
YBH	**Yreka Blue Hor**	**2.13**	**46**	IAML		04 46 39.9	
	comp=E,133nm,0.5s						
LGBM	**Gray Butte**	**2.22**	**60**		**Pn**	**04 46 15.7**	**-0.7**
M03C	**McCloud**	**2.23**	**62**		**Pn**	**04 46 15.5**	**-1.0**
MNRC	**McLaughlin Min**	**2.25**	**127**		**Pn**	**04 46 16.5**	**-0.1**
O03E	**Paynes Creek**	**2.25**	**88**		**Pn**	**04 46 14.8**	**-1.9**
LDBM	**Digger Butte**	**2.27**	**85**		**Pn**	**04 46 15.0**	**-1.9**
NMTM	**Middletown**	**2.29**	**128**		**Pn**	**04 46 16.8**	**-0.3**
NHSM	**Mount Saint He**	**2.29**	**133**		**Pn**	**04 46 16.5**	**-0.8**
LHEM	**Herd Peak**	**2.35**	**54**		**Pn**	**04 46 17.5**	**-0.8**
B040	**Montague**	**2.36**	**47**		**Pn**	**04 46 17.1**	**-1.0**
OSUM	**Sutter Buttes**	**2.43**	**113**		**Pn**	**04 46 17.2**	**-1.9**
LMEM	**Manzanita Entr**	**2.44**	**82**		**Pn**	**04 46 18.4**	**-1.0**
NTYM	**Taylor**	**2.46**	**138**		**Pn**	**04 46 18.8**	**-0.8**
OGOM	**Van Goodin Ran**	**2.48**	**103**		**Pn**	**04 46 17.4**	**-2.3**
SUTB	**Sutter Butte**	**2.50**	**113**		**Pn**	**04 46 17.8**	**-2.2**
NBPM	**Berryessa Peak**	**2.53**	**128**		**Pn**	**04 46 20.5**	**+0.1**
MCCM	**Marconi Confer**	**2.56**	**145**		**Pn**	**04 46 20.0**	**-0.7**
HATC	**Hat Creek Radi**	**2.56**	**76**		**Pn**	**04 46 20.1**	**-0.8**
K02D	**Willamette Mer**	**2.57**	**18**	Pn	**Pn**	**04 46 20.9**	**-0.1**
K02D				IAML		04 46 49.4	
	comp=N,160nm,0.5s						
LGMM	**Garner Mountai**	**2.58**	**58**		**Pn**	**04 46 20.5**	**-0.8**
OSTM	**Stimpson Lane**	**2.58**	**109**		**Pn**	**04 46 19.1**	**-2.0**
ORV	**Oroville**	**2.59**	**105**		**Pn**	**04 46 19.8**	**-1.4**
ORV	**Oroville**	**2.59**	**105**		**Pn**	**04 46 20.0**	**-1.3**
ORV				IAML		04 46 49.1	
	comp=E,41nm,0.8s						
ORV				IAML		04 46 51.7	
	comp=N,38nm,0.6s						
OBHM	**Bloomer Hill**	**2.59**	**102**		**Pn**	**04 46 20.1**	**-1.3**
CVS	**Carmenet Viney**	**2.60**	**136**		**Pn**	**04 46 20.4**	**-1.0**
PAM	**Palermo**	**2.61**	**107**		**Pn**	**04 46 20.1**	**-1.4**
NBRB	**Beebe Ranch Br**	**2.62**	**139**		**Pn**	**04 46 20.5**	**-1.1**
NPRM	**Point Reyes**	**2.62**	**149**		**Pn**	**04 46 21.2**	**-0.5**
OWYM	**Wyandotte**	**2.63**	**107**		**Pn**	**04 46 19.9**	**-1.9**
OHCM	**Honcut**	**2.67**	**109**		**Pn**	**04 46 20.2**	**-2.2**
M04C	**Macdoel**	**2.67**	**54**		**Pn**	**04 46 21.6**	**-0.9**
NOLM	**Olema**	**2.68**	**145**		**Pn**	**04 46 21.9**	**-0.6**
L04D	**Klamath Falls**	**2.69**	**42**		**Pn**	**04 46 23.0**	**+0.3**
L04D				IAML		04 46 54.7	
	comp=N,129nm,1.1s						
L04D				IAML		04 46 58.1	
	comp=E,140nm,1.0s						
HUMO	**Hull Mountain**	**2.71**	**29**		**Pn**	**04 46 21.8**	**-1.1**
HUMO	**Hull Mountain**	**2.71**	**29**		**Pn**	**04 46 22.0**	**-0.9**
HUMO				IAML		04 46 54.9	
	comp=N,73nm,0.4s						
HUMO				IAML		04 46 55.2	
	comp=E,80nm,0.5s						
KPK	**Kanaka Peak**	**2.73**	**103**		**Pn**	**04 46 21.8**	**-1.4**
FARB	**Farallon Islan**	**2.89**	**151**		**Pn**	**04 46 25.1**	**-0.3**
VAK	**Adit at Lawren**	**3.07**	**140**		**Pn**	**04 46 27.6**	**-0.2**
AFDM	**Forest Hills D**	**3.19**	**113**	Pn	**Pn**	**04 46 28.8**	**-0.7**
K04D	**Chiloquin, OR**	**3.26**	**43**		**Pn**	**04 46 30.2**	**-0.4**
JCHM	**Cahill Ridge**	**3.30**	**145**		**Pn**	**04 46 30.3**	**-0.7**
CNIC	**Niles Canyon**	**3.42**	**140**		**Pn**	**04 46 32.7**	**0.0**
JSFB	**Stanford Teles**	**3.48**	**144**		**Pn**	**04 46 33.1**	**-0.4**
JFP	**Foothills Park**	**3.51**	**145**		**Pn**	**04 46 33.2**	**-0.7**
JPSM		**3.58**	**148**		**Pn**	**04 46 34.9**	**0.0**
MPK	**Martis Peak**	**3.75**	**103**		**Pn**	**04 46 37.2**	**-0.3**
MPK				IAML		04 47 27.6	
	comp=E,83nm,0.8s						
K05A	**Summer Lake**	**3.80**	**48**	Pn	**Pn**	**04 46 37.5**	**-0.6**
K05A				IAML		04 47 21.4	
	comp=N,51nm,5.0s						
K05A				IAML		04 47 30.6	
	comp=E,39nm,4.7s						
EMB	**Emerald Bay**	**3.80**	**108**		**Pn**	**04 46 37.9**	**-0.3**
EMB				IAML		04 47 27.5	
	comp=N,51nm,0.9s						
EMB				IAML		04 47 31.6	
	comp=E,34nm,1.0s						
ARN	**Arnold Ranch**	**3.83**	**138**		**Pn**	**04 46 38.6**	**+0.2**
I04A	**Tendick Farm,**	**3.94**	**25**		**Pn**	**04 46 40.8**	**+0.9**
I04A				IAML		04 47 23.9	
	comp=E,36nm,0.8s						
I04A				IAML		04 47 25.7	
	comp=N,51nm,0.5s						
J05D	**Fort Rock, OR**	**4.00**	**40**	Pn	**Pn**	**04 46 41.1**	**+0.2**
J05D				IAML		04 47 48.0	
	comp=N,41nm,4.5s						
J05D				IAML		04 47 49.6	
	comp=E,38nm,4.0s						
CMB	**Columbia Colle**	**4.05**	**122**	Pn	**Pn**	**04 46 40.1**	**-1.3**
HCOM	**Corn Cob Canyo**	**4.12**	**144**		**Pn**	**04 46 42.0**	**-0.2**
PNTR	**Pine Nut**	**4.13**	**105**	Pn	**Pn**	**04 46 42.8**	**+0.1**
PNTR				IAML		04 48 02.6	
	comp=E,60nm,1.2s						
PNTR				IAML		04 48 09.7	
	comp=N,61nm,1.7s						
PAHR	**Pah Rah Range**	**4.15**	**96**		**Pn**	**04 46 41.8**	**-1.1**
PAHR				IAML		04 48 05.2	
	comp=E,20nm,1.2s						
SAO	**San Andreas Ge**	**4.34**	**142**	Pn	**Pn**	**04 46 43.9**	**-1.4**
YERR	**Yerington**	**4.43**	**105**		**Pn**	**04 46 46.6**	**-0.2**
YERR				IAML		04 48 02.5	
	comp=E,25nm,1.3s						
YERR				IAML		04 48 18.8	
	comp=N,21nm,2.4s						
WAKR	**Walker**	**4.47**	**111**		**Pn**	**04 46 47.4**	**+0.1**
WAKR				IAML		04 48 21.4	
	comp=E,18nm,4.9s						
BJOM	**Mount Johnson**	**4.51**	**142**		**Pn**	**04 46 48.1**	**+0.4**
BPRM	**Ponciano Ridge**	**4.51**	**147**		**Pn**	**04 46 47.1**	**-0.6**
PINE	**Pine Mountain**	**4.53**	**37**	Pn	**Pn**	**04 46 48.7**	**+0.6**
PINE				IAML		04 47 21.8	
	comp=N,28nm,3.2s						
PINE				IAML		04 49 50.9	
	comp=E,40nm,4.0s						
BJCM	**Johnson Can.**	**4.54**	**144**		**Pn**	**04 46 47.1**	**-1.0**
BEMM	**Emmet**	**4.59**	**140**		**Pn**	**04 46 46.3**	**-2.5**
HAST	**Hastings Reser**	**4.60**	**146**		**Pn**	**04 46 48.1**	**-0.9**
BPOM	**Post Ranch**	**4.65**	**149**		**Pn**	**04 46 49.8**	**+0.1**
BBGB	**Big Mountain B**	**4.68**	**140**	Pn	**Pn**	**04 46 50.0**	**-0.1**
BBGB				IAML		04 48 02.9	
	comp=N,36nm,3.6s						
BBGB				IAML		04 48 16.6	
	comp=E,30nm,3.4s						
RYN	**Ryan**	**5.08**	**107**	Pn	**Pn**	**04 46 55.6**	**0.0**
RYN				IAML		04 47 37.1	
	comp=E,9.7nm,3.7s						
WVOR	**Wild Horse Val**	**5.08**	**63**		**Pn**	**04 46 53.9**	**-1.7**
WVOR				IAML		04 48 20.7	
	comp=E,10nm,4.8s						
WVOR				IAML		04 49 10.8	
	comp=E,13nm,3.1s						
LHV	**Little Huntoon**	**5.24**	**110**		**Pn**	**04 46 57.8**	**+0.2**
LHV				IAML		04 48 25.4	
	comp=E,22nm,3.9s						
LHV				IAML		04 48 53.7	
	comp=N,18nm,1.8s						
KVN	**Kaiserville**	**5.26**	**101**	Pn	**Pn**	**04 46 57.6**	**-0.6**
KVN				IAML		04 48 50.9	
	comp=N,10.0nm,3.7s						
MLAC	**Mammoth, Mammo**	**5.30**	**118**	P	**Pn**	**04 46 58.4**	**-0.3**
	baz=303						
NVAR	**Mina Array Bea**	**5.31**	**108**	Pn	**Pn**	**04 46 59.0**	**+0.1**
J08A	**Circle Bar Ran**	**5.62**	**54**	Pn	**Pn**	**04 47 02.2**	**-0.8**
VOG	**Valley Oaks Go**	**5.76**	**131**	P	**Pn**	**04 47 04.2**	**-0.7**
	baz=316						
VES	**Vestal, Richgr**	**6.27**	**133**	P	**Pn**	**04 47 12.4**	**+0.6**
	baz=318,SNR=10						
VES				S	**Sn**	**04 48 24.0**	**+0.5**
	baz=318						
CWC	**Cottonwood Cre**	**6.47**	**124**	P	**Pn**	**04 47 16.4**	**+1.6**
	baz=309						
PKM	**Mcpherson Peak**	**6.63**	**142**	P	**Pn**	**04 47 17.5**	**+0.5**
	baz=327						
ISA	**Isabella, Lake**	**6.75**	**131**	P	**Pn**	**04 47 20.4**	**+1.9**
	baz=316,SNR=18						
ARVC	**Arvin**	**6.94**	**136**	P	**Pn**	**04 47 22.4**	**+1.4**
	baz=321,SNR=12						
ARVC				S	**Sn**	**04 48 40.2**	**+0.2**
	baz=321						
BMO	**Blue Mountains**	**7.16**	**48**	Pn	**Pn**	**04 47 25.5**	**+1.4**
LRMC	**Laurel Mtn Rad**	**7.34**	**128**	P	**Pn**	**04 47 27.7**	**+1.0**
	baz=314,SNR=6.1						
EDW2	**Edwards Air Fo**	**7.58**	**133**	P	**Pn**	**04 47 31.0**	**+1.1**
	baz=316,SNR=7.0						
GSC	**Goldstone, Bar**	**7.99**	**126**	P	**Pn**	**04 47 37.2**	**+1.6**
	baz=312						
BFSC	**Mount Baldy Ra**	**8.24**	**135**	P	**Pn**	**04 47 40.5**	**+1.4**
	baz=320,SNR=6.2						
HLID	**Hailey**	**8.38**	**63**	P	**Pn**	**04 47 41.4**	**+0.5**
	baz=250						
BELC	**Belle Mtn. Jos**	**9.36**	**129**	P	**Pn**	**04 47 55.4**	**+1.0**
	baz=315						
PFO	**Pinyon Flats O**	**9.37**	**132**	P	**Pn**	**04 47 55.0**	**+0.4**
	baz=318						
TPFO	**Pinon Flats**	**9.38**	**132**	P	**Pn**	**04 47 55.0**	**+0.4**
	baz=318						
BC3	**Big Chuckawall**	**9.93**	**129**	P	**Pn**	**04 48 02.5**	**+0.4**
	baz=315						
MONP2	**Monument Peak**	**9.93**	**135**	P	**Pn**	**04 48 03.0**	**+0.7**
	baz=321						
GLA	**Glamis**	**10.72**	**129**	P	**Pn**	**04 48 13.6**	**+0.7**
	baz=316						

CATAC 29 04:46:58.4±14.0, 14.30N×85.57W, h0km, ML4.0, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSHP	**Masachapa**	**2.63**	**201**	*i* P	Pg	04 47 48.7	-0.1
IZABA	**Izabal, Puerto**	**3.24**	**296**	*i* P	Pn	04 47 50.0	-0.6
IZABA				IAML		04 49 56.3	
	comp=Z,2.1nm,1.0s						
UNIC	**Universidad Ca**	**3.87**	**266**	*i* P	Pn	04 47 55.3	-4.0
UNIC				IAML		04 48 51.4	
	comp=Z,170nm,1.0s						
NUBE	**Las Nubes**	**4.10**	**265**	*i* P	Pn	04 48 02.9	+0.3
NUBE				IAML		04 48 02.9	
	comp=Z,3µm,1.0s						
RIFO	**Rio Frio, Sara**	**4.27**	**158**	*i* P	Pn	04 48 03.9	-0.8
PETF	**Flores**	**4.89**	**303**	*i* P	Pn	04 48 13.4	+0.1
PETF				IAML		04 48 33.4	
	comp=Z,150nm,1.0s						
PIRO	**Carate, Puerto**	**6.25**	**159**	*i* P	Pn	04 48 27.7	-4.3

*MOS **29** 05:07:02.2±1.0, 44.68N×147.63E, h143km, mb4.1/15, Error ellipse: s-maj=9.6km s-min=7.7km az=101.8*
*SKHL **29** 05:07:02.4±0.6, 44.40N×147.80E, h141km±5km, mb5.2/3, msh6.0/3*
*IDC **29** 05:07:05.0±2.4, 44.71N×147.49E, h150km±21km, mb3.6/22, mbtmp4.1/25, Error ellipse: s-maj=16.1km s-min=14.2km az=137.0*
*NEIC **29** 05:07:04.4±0.9, 44.8N±0.1×147.5E±0.1, h133km±7km, mb4.5/33, Error ellipse: s-maj=17.0km s-min=12.1km az=151.0*
*JMA **29** 05:07:04.0±0.4, 44°N±2'×14°8E±', h136km, MV4.5/34, SE OFF ETOROFU*
JMA Felt I J1 at SE OFF ETOROFU .

ISC 29 05:07:02.8±0.6, 44.51N±0.04×147.65E±0.05, h141km±5km, n280, σ1§48/299, mb4.2/50, 8C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.74**	**12**	*i* P	**Pn**	**05 07 24.8**	**+0.3**
KUR				AMB	AMB	05 07 25.2	
	740nm,0.4s						
KUR				*i* S	**Sn**	**05 07 40.7**	**-0.4**
KUR				A	A	05 07 42.8	
	1µm,0.4s						
KUR				A	A	05 07 42.8	
	520nm,0.4s						
KUR	**Kuril'sk**	**0.74**	**12**	*d* iPN	**Pn**	**05 07 24.8**	**+0.3**
KUR				*i* S	**Sn**	**05 07 40.7**	**-0.4**
KUR				pmax	pmax		
	comp=Z,736nm,0.4s						
KUR				pmax	pmax		
	comp=N,150nm,0.2s						
KUR				pmax	pmax		
	comp=E,190nm,0.3s						
KUR				smax	smax		
	comp=N,1µm,0.4s						
KUR				smax	smax		
	comp=E,518nm,0.7s						
SHO	**Shikotan**	**0.87**	**223**	*i* P	**Pn**	**05 07 25.8**	**+0.2**
SHO				AMB	AMB	05 07 26.2	
	comp=E,2µm,0.3s						
SHO				*i* S	**Sn**	**05 07 42.0**	**-0.9**
SHO				A	A	05 07 42.6	
	comp=E,11µm,0.5s						
SHO				A	A	05 07 42.6	
	comp=E,6µm,0.5s						
SHO	**Shikotan**	**0.87**	**223**	*i* iPN	**Pn**	**05 07 25.7**	**+0.2**
SHO				*i* S	**Sn**	**05 07 41.8**	**-1.1**
SHO				pmax	pmax		
	comp=Z,2µm,0.3s						
SHO				pmax	pmax		
	comp=N,564nm,0.2s						
SHO				pmax	pmax		
	comp=E,459nm,0.2s						
SHO				smax	smax		
	comp=N,9µm,0.3s						
SHO				smax	smax		
	comp=E,11µm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.37**	**250**	*e*P	**Pn**	**05 07 31.0**	**+0.8**
YUK				AMB	AMB	05 07 35.4	
	comp=E,470nm,0.3s						
YUK				*i* S	**Sn**	**05 07 51.3**	**+0.1**
YUK				A	A	05 07 55.8	
	comp=E,6µm,0.5s						
YUK				A	A	05 07 55.8	
	comp=E,2µm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.37**	**250**	*e*PN	**Pn**	**05 07 31.0**	**+0.8**
YUK				*i* S	**Sn**	**05 07 51.3**	**+0.1**
YUK				pmax	pmax		
	comp=Z,419nm,0.2s						
YUK				pmax	pmax		
	comp=N,143nm,0.1s						
YUK				pmax	pmax		
	comp=E,118nm,0.1s						
YUK				smax	smax		
	comp=N,6µm,0.4s						
YUK				smax	smax		
	comp=E,3µm,0.1s						
RUSJ	**Misakicho**	**1.77**	**258**	*e*PN	**Pn**	**05 07 35.6**	**+0.9**
RUSJ				*i* S	**Sn**	**05 08 04.0**	**+4.9**
NEM2	**Nemuro 2**	**1.79**	**231**	*e*P	**Pn**	**05 07 34.7**	**-0.2**
NEM2				*e*S	**Sn**	**05 07 57.9**	**-1.6**
NMR	**Nemuro--Hokkai**	**1.80**	**231**	*i* P	**Pn**	**05 07 34.9**	**-0.1**
NMR				*i* S	**Sn**	**05 07 58.1**	**-1.5**
NMR	**Nemuro--Hokkai**	**1.80**	**231**	ǁ *i* PN	**Pn**	**05 07 34.9**	**-0.1**
NMR				*i* S	**Sn**	**05 07 57.8**	**-1.8**
JRA	**Rausu**	**1.91**	**253**	P	**Pn**	**05 07 37.2**	**+1.0**
JRA				*e*S	**Sn**	**05 08 02.3**	**+0.5**
JNSB	**Nemuroshibetsu**	**2.04**	**250**	P	**Pn**	**05 07 39.2**	**+1.3**
JNSB				*e*S	**Sn**	**05 08 05.9**	**+1.2**
JKHN	**Kushirohamanak**	**2.30**	**233**	P	**Pn**	**05 07 41.3**	**+0.3**
JKHN				*e*S	**Sn**	**05 08 09.3**	**-1.0**
JNK	**Nakash**	**2.31**	**247**	P	**Pn**	**05 07 42.1**	**+1.1**
JNK				*e*S	**Sn**	**05 08 11.0**	**+0.5**
AKK	**Akkeshi**	**2.52**	**235**	*e*P	**Pn**	**05 07 43.5**	**-0.2**
AKK				*e*S	**Sn**	**05 08 13.9**	**-1.3**
JAK	**Akkeshi**	**2.62**	**236**	*e*P	**Pn**	**05 07 45.1**	**+0.2**
JAK				*e*S	**Sn**	**05 08 16.3**	**-1.1**
JTKR	**Abashiri--Toko**	**2.75**	**260**	P	**Pn**	**05 07 47.6**	**+1.1**
JTKR				*e*S	**Sn**	**05 08 21.4**	**+1.2**
JAR	**Ashorobuto**	**3.06**	**248**	*e*P	**Pn**	**05 07 51.9**	**+1.4**
JAR				*e*S	**Sn**	**05 08 28.5**	**+1.2**
JKK2	**Kamakawa 2**	**3.58**	**261**	*e*P	**Pn**	**05 07 59.0**	**+1.7**
JSE	**Soyaes**	**3.64**	**279**	*e*P	**Pn**	**05 07 59.2**	**+1.2**
JKA	**Kamikawa-asahi**	**3.65**	**266**		**Pn**	**05 07 59.0**	**+0.9**
JKA	**Kamikawa-asahi**	**3.65**	**266**	*e*P	**Pn**	**05 07 59.9**	**+1.8**
JCH	**Churui**	**3.65**	**240**	*e*P	**Pn**	**05 07 58.7**	**+0.5**
JCH				*e*S	**Sn**	**05 08 38.5**	**-2.5**
ASAJ	**Asahikawa**	**3.65**	**266**	P	**Pn**	**05 07 59.9**	**+1.8**
	comp=E,27nm,0.3s,baz=188,slow=30,SNR=36						
ERM	**Erimo**	**4.12**	**234**	Pn	**Pn**	**05 08 06.6**	**+2.2**
ERM	**Erimo**	**4.12**	**234**	ǁ *e*PN	**Pn**	**05 08 05.9**	**+1.5**
JWK2	**Keihoku**	**4.17**	**283**	*e*P	**Pn**	**05 08 07.4**	**+2.5**
JNBK	**Urakawa-nobuka**	**4.21**	**240**	*e*P	**Pn**	**05 08 05.1**	**-0.4**
JNBK				*e*S	**Sn**	**05 08 48.5**	**-5.7**
YSS	**Yuzh-Sakhalins**	**4.21**	**307**	Pn	**Pn**	**05 08 03.2**	**-2.2**
YSS	**Yuzh-Sakhalins**	**4.21**	**307**	*e*P	**Pn**	**05 08 06.0**	**+0.5**
YSS				AMB	AMB	05 08 10.4	
	comp=E,30nm,0.8s						
YSS				*e*S	**Sn**	**05 08 54.2**	**0.0**
YSS				A	A	05 08 56.0	
	comp=E,20nm,0.7s						
YSS				A	A	05 08 56.0	
	comp=E,30nm,0.7s						
YSS	**Yuzh-Sakhalins**	**4.21**	**307**	*e*PN	**Pn**	**05 08 06.0**	**+0.5**
YSS				*e*S	**Sn**	**05 08 54.2**	**0.0**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				smax	smax		
	comp=N,20nm,0.8s						
YSS				smax	smax		
	comp=E,30nm,0.6s						
JRBN	**Rebuntou**	**4.76**	**283**	*e*P	**Pn**	**05 08 14.6**	**+1.8**
JEW	**Eniwo**	**4.80**	**252**	*e*P	**Pn**	**05 08 15.1**	**+1.8**
JOT	**Ohata**	**5.77**	**239**	*e*P	**Pn**	**05 08 25.4**	**-0.8**
JTM	**Tenmabayashi**	**6.12**	**235**	Pn	**Pn**	**05 08 30.2**	**-0.6**
JANG	**Nango**	**6.14**	**230**	*e*P	**Pn**	**05 08 29.6**	**-1.6**
JANG				*e*S	Sn	05 09 34.2	-6.1
PEA0B	**Petropavlovsk-**	**10.85**	**34**	Pn	**Pn**	**05 09 32.9**	**-1.1**
PEA0B	**Petropavlovsk-**	**10.85**	**34**	PN	**Pn**	**05 09 32.9**	**-1.1**
PETK	**Petropavlovsk-**	**10.85**	**34**	Pn	**Pn**	**05 09 31.8**	**-2.2**
PETK	**Petropavlovsk-**	**10.85**	**34**	PN	**Pn**	**05 09 31.8**	**-2.2**
USA0B	**Ussuriysk Arra**	**11.22**	**274**	ǁ *e*PN	**Pn**	**05 09 38.9**	**-0.1**
USRK	**Ussuriysk Ar.**	**11.22**	**274**	Pn	**Pn**	**05 09 38.7**	**-0.3**
USRK	**Ussuriysk Ar.**	**11.22**	**274**	P	**Pn**	**05 09 39.3**	**+0.3**
	comp=E,6.3nm,0.7s,baz=85,slow=12,SNR=7.2						
**S

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=256,SNR=5.3						
F17K	**Baldwin Pennin**	**34.88**	**33**	P	**P**	**05 13 41.5**	**+1.4**
	baz=257						
L16K	**Owhat River**	**34.91**	**42**	P	**P**	**05 13 41.2**	**+0.7**
L16K				IAmb	IAmb	05 13 52.1	
	comp=Z,7.7nm,1.2s						
G17K	**Kiwalik Mounta**	**34.92**	**35**	P	**P**	**05 13 42.3**	**+1.8**
	baz=259						
N16K	**Nishlik Lake**	**35.18**	**44**	P	**P**	**05 13 45.1**	**+2.3**
	baz=268						
E18K	**Tukpahlearik C**	**35.36**	**32**	P	**P**	**05 13 45.2**	**+1.0**
	baz=257						
C18K	**Utukok River**	**35.47**	**29**	P	**P**	**05 13 45.3**	**+0.1**
C18K				IAmb	IAmb	05 13 46.2	
	comp=Z,7.2nm,0.8s						
C18K	**Utukok River**	**35.47**	**29**	P	**P**	**05 13 45.4**	**+0.1**
	baz=254						
B18K	**Kokolik River**	**35.47**	**28**	P	**P**	**05 13 45.9**	**+0.8**
	baz=253						
L17K	**Donlin**	**35.50**	**41**	P	**P**	**05 13 47.6**	**+2.1**
	baz=266						
G18K	**Tagagawik**	**35.81**	**34**	P	**P**	**05 13 49.7**	**+1.6**
	baz=261						
H18K	**Honhosa River**	**35.81**	**36**	P	**P**	**05 13 49.0**	**+0.9**
H18K				IAmb	IAmb	05 13 54.3	
	comp=Z,5.0nm,1.1s						
H18K	**Honhosa River**	**35.81**	**36**	P	**P**	**05 13 49.7**	**+1.6**
	baz=262						
A19K	**Wainwright**	**35.97**	**27**	P	**P**	**05 13 49.5**	**+0.2**
	baz=252						
C19K	**Lookout Ridge**	**36.15**	**29**	P	**P**	**05 13 51.6**	**+0.6**
	baz=255						
L18K	**Granite Mounta**	**36.26**	**41**	P	**P**	**05 13 54.1**	**+2.1**
	baz=268						
F19K	**Shaleruckik Mo**	**36.32**	**33**	P	**P**	**05 13 53.3**	**+0.9**
F19K				IAmb	IAmb	05 13 55.6	
	comp=Z,10nm,1.4s						
F19K	**Shaleruckik Mo**	**36.32**	**33**	P	**P**	**05 13 53.6**	**+1.2**
	baz=260						
J18K	**Innoko River**	**36.33**	**39**	P	**P**	**05 13 54.1**	**+1.5**
	baz=266						
G19K	**Purcell Mounta**	**36.48**	**34**	P	**P**	**05 13 55.0**	**+1.2**
	baz=262						
D19K	**Kuna River**	**36.52**	**30**	P	**P**	**05 13 54.7**	**+0.5**
	baz=258						
N18K	**Kilae Creek**	**36.61**	**43**	P	**P**	**05 13 57.3**	**+2.4**
	baz=270						
E19K	**Redstone River**	**36.64**	**32**	P	**P**	**05 13 56.4**	**+1.2**
	baz=260						
M18K	**Stony River**	**36.65**	**42**	P	**P**	**05 13 57.4**	**+2.2**
	baz=269						
H19K	**Roundabout Mou**	**36.66**	**35**	P	**P**	**05 13 56.8**	**+1.6**
	baz=263						
J19K	**Poorman**	**36.86**	**38**	P	**P**	**05 13 57.7**	**+0.7**
J19K	**Poorman**	**36.86**	**38**	P	**P**	**05 13 58.2**	**+1.2**
	baz=266						
P18K	**Big Mountain,**	**36.96**	**46**	P	**P**	**05 14 02.5**	**+4.5**
	baz=273						
D20K	**Etivluk River**	**37.11**	**30**	P	**P**	**05 13 59.8**	**+0.7**
	baz=259						
F20K	**Avaraart Lake**	**37.15**	**33**	P	**P**	**05 14 00.4**	**+1.0**
	baz=262						
E20K	**Nigu River**	**37.17**	**31**	P	**P**	**05 14 00.7**	**+1.0**
	baz=260						
B20K	**Meade River**	**37.20**	**28**	P	**P**	**05 13 60.0**	**+0.2**
B20K	**Meade River**	**37.20**	**28**	P	**P**	**05 14 00.2**	**+0.4**
	baz=257,SNR=12						
H20K	**Anotleneega Mo**	**37.30**	**35**	P	**P**	**05 14 02.1**	**+1.4**
	baz=265						
J20K	**Nowinta River**	**37.52**	**38**	P	**P**	**05 14 03.6**	**+1.1**
J20K	**Nowinta River**	**37.52**	**38**	P	**P**	**05 14 04.4**	**+1.9**
	baz=267						
A21K	**Barrow**	**37.70**	**26**	P	**P**	**05 14 04.0**	**0.0**
	baz=256						
C21K	**Knifeblade Rid**	**37.84**	**29**	P	**P**	**05 14 06.3**	**+1.1**
	baz=260,SNR=7.7						
M20K	**Styx River**	**37.93**	**41**	P	**P**	**05 14 08.6**	**+2.4**
	baz=271						
G21K	**Allakaket**	**37.96**	**34**	P	**P**	**05 14 07.7**	**+1.4**
	baz=265						
B21K	**Ikpikpuk River**	**37.98**	**29**	P	**P**	**05 14 06.7**	**+0.3**
B21K	**Ikpikpuk River**	**37.98**	**29**	P	**P**	**05 14 07.2**	**+0.8**
	baz=260,SNR=14						
E21K	**Killik River**	**38.02**	**31**	P	**P**	**05 14 07.4**	**+0.7**
E21K				IAmb	IAmb	05 14 08.3	
	comp=Z,5.4nm,0.6s						
E21K	**Killik River**	**38.02**	**31**	P	**P**	**05 14 07.4**	**+0.7**
	baz=262						
F21K	**Alatna River**	**38.04**	**33**	P	**P**	**05 14 07.8**	**+0.8**
	baz=264						
A22K	**Sinclair Lake**	**38.15**	**27**	P	**P**	**05 14 08.0**	**+0.3**
	baz=258						
H21K	**Melozitna Rive**	**38.17**	**35**	P	**P**	**05 14 09.5**	**+1.4**
	baz=267						
CHUM	**Lake Minchumin**	**38.31**	**38**	P	**P**	**05 14 10.1**	**+0.9**
	baz=269						
N20K	**Mount Spurr**	**38.39**	**43**	P	**P**	**05 14 13.0**	**+3.0**
	baz=273						
CAST	**Castle Rocks**	**38.41**	**39**	P	**P**	**05 14 12.2**	**+2.2**
	baz=270						
I21K	**Tanana**	**38.49**	**36**	P	**P**	**05 14 12.4**	**+1.7**
	baz=268						
B22K	**Teshekpuk Lake**	**38.52**	**28**	P	**P**	**05 14 11.3**	**+0.5**
	baz=260						
D22K	**Ayikyak River**	**38.55**	**30**	P	**P**	**05 14 12.3**	**+1.2**
	baz=263						
F22K	**John River**	**38.57**	**32**	P	**P**	**05 14 13.0**	**+1.6**
	baz=265,SNR=9.4						
E22K	**Anaktuvuk Pass**	**38.77**	**31**	P	**P**	**05 14 14.4**	**+1.3**
	baz=264,SNR=17						
H22K	**Ishtalitna Cre**	**38.78**	**35**	P	**P**	**05 14 14.7**	**+1.6**
	baz=268						
G22K	**Bettles**	**38.79**	**33**	P	**P**	**05 14 14.3**	**+1.2**
	baz=266						
BPAW	**Bear Paw Mtn.**	**38.90**	**38**	P	**P**	**05 14 14.7**	**+0.6**
	baz=270						
MLY	**Manley**	**39.01**	**36**	P	**P**	**05 14 16.2**	**+1.1**
MLY	**Manley**	**39.01**	**36**	P	**P**	**05 14 17.0**	**+1.9**
	baz=269						
SUA	**Susitna One**	**39.08**	**42**	P	**P**	**05 14 18.7**	**+2.9**
	baz=274						
TRF	**Thorofare Moun**	**39.22**	**39**	P	**P**	**05 14 19.2**	**+2.2**
	baz=272						
BRSE	**Bradley Lake S**	**39.22**	**45**	P	**P**	**05 14 21.0**	**+4.1**
	baz=276						
D23K	**Nanushuk River**	**39.27**	**30**	P	**P**	**05 14 18.2**	**+1.0**
	baz=265						
COLD	**Coldfoot**	**39.32**	**33**	P	**P**	**05 14 18.7**	**+1.2**
	baz=267						
G23K	**Bananza Creek**	**39.36**	**34**	P	**P**	**05 14 19.3**	**+1.4**
	baz=268						
C23K	**Itkillik River**	**39.40**	**29**	P	**P**	**05 14 18.5**	**+0.4**
C23K				IAmb	IAmb	05 14 19.5	
	comp=Z,15nm,1.1s						
C23K	**Itkillik River**	**39.40**	**29**	P	**P**	**05 14 19.0**	**+0.9**
	baz=264						
E23K	**Chandalar**	**39.59**	**32**	P	**P**	**05 14 21.6**	**+1.7**
	baz=267						
I23K	**Minto, Yukon-K**	**39.60**	**36**	P	**P**	**05 14 21.5**	**+1.7**
	baz=270						
TOLK	**Toolik Lake Re**	**39.65**	**31**	P	**P**	**05 14 21.0**	**+0.7**
TOLK				IAmb	IAmb	05 14 21.7	
	comp=Z,6.5nm,0.6s						
TOLK	**Toolik Lake Re**	**39.65**	**31**	P	**P**	**05 14 21.5**	**+1.2**
	baz=266,SNR=7.2						
NEA2	**Nenana**	**39.73**	**37**	P	**P**	**05 14 21.9**	**+1.0**
NEA2				IAmb	IAmb	05 14 29.3	
	comp=Z,11nm,1.4s						
NEA2	**Nenana**	**39.73**	**37**	P	**P**	**05 14 22.5**	**+1.6**
	baz=271						
MCK	**McKinley**	**39.81**	**38**	P	**P**	**05 14 23.3**	**+1.6**
	baz=273						
D24K	**Happy Valley**	**39.96**	**30**	P	**P**	**05 14 24.0**	**+1.2**
	baz=266						
E24K	**Your Creek**	**40.02**	**32**	P	**P**	**05 14 24.4**	**+1.0**
E24K	**Your Creek**	**40.02**	**32**	P	**P**	**05 14 24.8**	**+1.5**
	baz=268						
WAT1	**Susitna Watana**	**40.03**	**40**	P	**P**	**05 14 24.1**	**+0.6**
	baz=274						
C24K	**Franklin Bluff**	**40.05**	**29**	P	**P**	**05 14 24.1**	**+0.6**
	baz=266,SNR=12						
KNK	**Knik Glacier**	**40.18**	**42**	P	**P**	**05 14 26.2**	**+1.4**
	baz=276						
SML	**Sawmill**	**40.21**	**41**	P	**P**	**05 14 26.4**	**+1.4**
	baz=275						
H24K	**Noodor Dome**	**40.21**	**35**	P	**P**	**05 14 26.9**	**+1.9**
	baz=271						
F24K	**Squaw Lake**	**40.22**	**33**	P	**P**	**05 14 26.3**	**+1.3**
	baz=269						
DGZ	**Jazzator, Alta**	**40.35**	**299**	⇑*e*P	**P**	**05 14 27.4**	**+0.9**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
G24K	**Hadweenzic Riv**	**40.37**	**34**	P	**P**	**05 14 28.3**	**+2.0**
	baz=270,SNR=6.5						
POKR	**Poker Plat Res**	**40.41**	**36**	P	**P**	**05 14 28.2**	**+1.6**
POKR	**Poker Plat Res**	**40.41**	**36**	P	**P**	**05 14 28.3**	**+1.7**
	baz=272						
WAT6	**Susitna Watana**	**40.42**	**40**	P	**P**	**05 14 27.8**	**+0.9**
	baz=275						
M23K	**Glacier View**	**40.50**	**41**	P	**P**	**05 14 28.0**	**+0.6**
	baz=276						
DHY	**Denali Highway**	**40.55**	**39**	P	**P**	**05 14 28.9**	**+1.0**
	baz=275						
ILAR	**Eielson Array**	**40.66**	**37**	P	**P**	**05 14 29.7**	**+1.0**
ILAR	**Eielson Array**	**40.66**	**37**	*e*P	**P**	**05 14 29.9**	**+1.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ILAR	**Eielson Array**	**40.66**	**37**	P	**P**	**05 14 29.4**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=264,slow=6.0,SNR=33						
	comp=Z,1.4nm,0.6s						
ZALV	**Zalesovo Beam**	**40.83**	**306**	*i* P	**P**	**05 14 32.7**	**+2.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**40.83**	**306**	P	**P**	**05 14 29.3**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=87,slow=7.6,SNR=3.6						
	comp=Z,0.9nm,0.6s						
D25K	**Kavik River**	**40.84**	**30**	P	**P**	**05 14 30.8**	**+0.7**
	baz=268						
G25K	**Bearman Lake**	**40.92**	**34**	P	**P**	**05 14 32.1**	**+1.4**
	baz=272						
F25K	**Christian Rive**	**41.09**	**32**	P	**P**	**05 14 33.8**	**+1.6**
	baz=271						
E25K	**Arctic Village**	**41.11**	**32**	P	**P**	**05 14 33.8**	**+1.5**
	baz=270,SNR=5.9						
M24K	**Tolsona, Glenn**	**41.19**	**41**	P	**P**	**05 14 35.2**	**+2.1**
	baz=277						
PRP	**Porcupine Dome**	**41.20**	**36**	P	**P**	**05 14 34.2**	**+1.0**
	baz=274						
FYU	**Fort Yukon**	**41.27**	**34**	P	**P**	**05 14 35.2**	**+1.7**
FYU				IAmb	IAmb	05 14 38.6	
	comp=Z,7.8nm,0.6s						
J25K	**Salcha River,**	**41.32**	**37**	P	**P**	**05 14 36.1**	**+2.0**
	baz=275						
C26K	**Camden Bay**	**41.37**	**29**	P	**P**	**05 14 35.7**	**+1.3**
	baz=269						
HARP	**HAARP**	**41.63**	**40**	P	**P**	**05 14 38.6**	**+1.9**
	baz=277						
F26K	**Sheenjek River**	**41.66**	**32**	P	**P**	**05 14 38.7**	**+1.9**
	baz=272						
G26K	**Porcupine Rive**	**41.83**	**33**	P	**P**	**05 14 40.1**	**+2.0**
	baz=273						
SCRK	**Sand Creek**	**41.98**	**38**	P	**P**	**05 14 40.3**	**+0.7**
	baz=277						
I26K	**Coal Creek Min**	**42.20**	**36**	P	**P**	**05 14 43.0**	**+1.8**
	baz=276						
L26K	**Log Cabin Wild**	**42.38**	**39**	P	**P**	**05 14 45.3**	**+2.6**
	baz=278						
E27K	**Coleen River**	**42.59**	**31**	P	**P**	**05 14 45.9**	**+1.5**
	baz=274						
M26K	**Nabesna, AK**	**42.63**	**40**	P	**P**	**05 14 47.2**	**+2.4**
	baz=279						
G27K	**Doyon Strip**	**42.67**	**33**	P	**P**	**05 14 46.8**	**+1.8**
	baz=275						
D27M	**Malcolm River**	**42.76**	**30**	P	**P**	**05 14 46.6**	**+0.8**
	baz=273						
H27K	**Steamboat Moun**	**42.78**	**34**	P	**P**	**05 14 48.1**	**+2.2**
	baz=276						
K27K	**Chicken**	**42.81**	**38**	P	**P**	**05 14 47.9**	**+1.8**
	baz=278						
I27K	**Kandik River**	**42.81**	**35**	P	**P**	**05 14 48.0**	**+1.8**
	baz=277						
CRQE	**Cirque**	**42.86**	**42**	P	**P**	**05 14 49.0**	**+2.3**
	baz=281						
L27K	**Beaver Creek,**	**43.06**	**39**	P	**P**	**05 14 50.5**	**+2.4**
	baz=279						
M27K	**Edge Creek, AK**	**43.15**	**40**	P	**P**	**05 14 51.5**	**+2.5**
	baz=280						
F28M	**Old Crow**	**43.29**	**32**	P	**P**	**05 14 51.8**	**+1.8**
	baz=276						
E28M	**Babbage River**	**43.32**	**31**	P	**P**	**05 14 51.0**	**+0.8**
E28M				IAmb	IAmb	05 14 52.2	
	comp=Z,4.8nm,0.6s						
E28M	**Babbage River**	**43.32**	**31**	P	**P**	**05 14 51.7**	**+1.5**
	baz=275,SNR=9.2						
I28M	**Miner Creek**	**43.52**	**35**	P	**P**	**05 14 53.8**	**+1.9**
	baz=278						
D28M	**Stokes Point**	**43.55**	**30**	P	**P**	**05 14 52.9**	**+1.0**
	baz=275						
E29M	**Blow River**	**43.95**	**31**	P	**P**	**05 14 56.9**	**+1.7**
	baz=277,SNR=8.6						
DAWY	**Dawson**	**43.97**	**37**	P	**P**	**05 14 57.8**	**+2.3**
	baz=280						
H29M	**Whitestone**	**44.05**	**34**	P	**P**	**05 14 58.2**	**+2.1**
	baz=279						
G29M	**Pine Creek**	**44.09**	**33**	P	**P**	**05 14 58.6**	**+2.2**
	baz=278						
YUK8	**Steele Glacier**	**44.34**	**41**	P	**P**	**05 15 00.5**	**+1.8**
	baz=283						
MK31	**Makanchi Array**	**44.56**	**297**	*c i*P	**P**	**05 15 00.8**	**+0.4**
MKAR	**Makanchi Array**	**44.56**	**297**	P	**P**	**05 15 01.0**	**+0.6**
	comp=Z,4.5nm,0.6s,baz=78,slow=8.5,SNR=49						
	comp=Z,4.5nm,0.6s						
EPYK	**Eagle Plains**	**44.69**	**34**	P	**P**	**05 15 02.9**	**+1.8**
	baz=280						
M29M	**Somme Creek**	**44.70**	**39**	P	**P**	**05 15 03.3**	**+2.0**
	baz=283						
L29M	**L29M**	**44.71**	**38**	P	**P**	**05 15 03.2**	**+1.9**
	baz=282						
MAKZ	**Makanchi**	**44.75**	**297**		**P**	**05 15 02.6**	**+0.7**
MAKZ				IAmb	IAmb	05 15 03.3	
	comp=Z,5.8nm,0.8s						
MAKZ	**Makanchi**	**44.75**	**297**	P	**P**	**05 15 02.6**	**+0.7**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
G30M	**tAoh Zraii Nji**	**44.78**	**33**	P	**P**	**05 15 03.4**	**+1.6**
	baz=280,SNR=5.9						
K29M	**Barlow Dome**	**44.82**	**37**	P	**P**	**05 15 04.4**	**+2.1**
	baz=282						
F30M	**Barrier River**	**44.84**	**32**	P	**P**	**05 15 04.4**	**+2.1**
	baz=280						
I30M	**Mount Dempster**	**45.03**	**35**	P	**P**	**05 15 05.7**	**+1.7**
	baz=282						
J30M	**Hart River**	**45.18**	**36**	P	**P**	**05 15 06.9**	**+1.7**
	baz=282						
KURK	**Kurchatov**	**45.41**	**304**	P	**P**	**05 15 06.5**	**-0.4**
KURK				IAmb	IAmb	05 15 07.8	
	comp=Z,4.1nm,0.5s						
KURK	**Kurchatov**	**45.41**	**304**	*e*P	**P**	**05 15 07.1**	**+0.1**
KURK	**Kurchatov**	**45.41**	**304**	*de*P	**P**	**05 15 07.1**	**+0.1**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KURBB	**Kurchatov Arra**	**45.49**	**303**	P	**P**	**05 15 07.0**	**-0.6**
	comp=Z,2.2nm,0.5s,baz=71,slow=8.8,SNR=18						
	comp=Z,2.2nm,0.5s						
HYT	**Haines Junctio**	**45.52**	**42**	P	**P**	**05 15 10.6**	**+2.7**
	baz=285						
G31M	**Satah River**	**45.55**	**33**	P	**P**	**05 15 09.3**	**+1.6**
	baz=282,SNR=6.1						
INK	**Inuvik**	**45.56**	**31**	P	**P**	**05 15 09.0**	**+1.1**
	baz=281,SNR=14						
F31M	**Tsiigehtchic**	**45.65**	**32**	P	**P**	**05 15 09.9**	**+1.4**
	baz=282,SNR=5.1						
P29M	**Windy Craggy**	**45.72**	**43**	P	**P**	**05 15 12.3**	**+3.0**
	baz=286						
M31M	**Drury Creek, Y**	**46.60**	**39**	P	**P**	**05 15 18.5**	**+2.4**
	baz=286						
A36M	**Sachs Harbour**	**47.53**	**25**	P	**P**	**05 15 24.0**	**+0.9**
	baz=285,SNR=6.7						
C36M	**Paulatuk**	**48.64**	**28**	P	**P**	**05 15 32.4**	**+0.8**
C36M	**Paulatuk**	**48.64**	**28**	P	**P**	**05 15 32.6**	**+0.9**
	baz=288,SNR=8.5						
BVAR	**Borovoye Array**	**49.30**	**309**	P	**P**	**05 15 36.6**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=66,slow=8.9,SNR=5.8						
	comp=Z,0.5nm,0.3s						
BOOM	**Boomskoye usch**	**50.49**	**294**	P	**P**	**05 15 47.6**	**+1.2**
BOOM				IAmb	IAmb	05 15 48.3	
	comp=Z,3.5nm,0.6s						
BOOM	**Boomskoye usch**	**50.49**	**294**	P	**P**	**05 15 47.6**	**+1.2**
BOOM				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARSB	**Arslanbob**	**52.98**	**295**	P	**P**	**05 16 06.0**	**+1.1**
ARSB	**Arslanbob**	**52.98**	**295**	P	**P**	**05 16 06.0**	**+1.1**
ARSB				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KK31	**Karatay Array**	**53.68**	**298**	P	**P**	**05 16 10.0**	**+0.3**
KK31				IAmb	IAmb	05 16 10.8	
	comp=Z,1.9nm,0.5s						
KK31	**Karatay Array**	**53.68**	**298**	P	**P**	**05 16 10.0**	**+0.3**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KKAR	**Karatay Array**	**53.68**	**298**	P	**P**	**05 16 10.6**	**+0.8**
KKAR	**Karatay Array**	**53.68**	**298**	P	**P**	**05 16 10.6**	**+0.8**
ARU	**Arti**	**54.04**	**317**	*e*P	**P**	**05 16 11.5**	**-0.7**
ARU	**Arti**	**54.04**	**317**	*c i*P	**P**	**05 16 11.4**	**-0.7**
ARU				S	**S**	**05 23 35.4**	**-1.6**
ARU				SS	**SS**	**05 27 17.9**	**-1.8**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SPITS	**Spitsbergen Ar**	**54.11**	**349**	P	**P**	**05 16 11.2**	**-1.1**
	comp=Z,4.6nm,0.7s,baz=55,slow=13,SNR=1.2						
	comp=Z,4.6nm,0.7s						
YKA	**Yellowknife Ar**	**54.97**	**34**	P	**P**	**05 16 19.8**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=259,slow=5.9,SNR=8.1						
	comp=Z,0.7nm,0.6s						
ABKAR	**Akbulak array**	**56.87**	**309**	P	**P**	**05 16 32.4**	**-0.1**
KEV	**Kevo**	**58.13**	**339**	P	**P**	**05 16 39.4**	**-1.5**
KEV	**Kevo**	**58.13**	**339**	P	**P**	**05 16 39.4**	**-1.5**
KEV				pmax	pmax		
	comp=Z,46nm,1.3s						
ARCES	**ARCESS Array B**	**58.66**	**340**	*e*P	**P**	**05 16 44.0**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES	**ARCESS Array B**	**58.66**	**340**	P	**P**	**05 16 43.6**	**-1.0**
	comp=Z,5.9nm,0.8s,baz=41,slow=8.2,SNR=8.8						
	comp=Z,5.9nm,0.8s						
SUMG	**Summit**	**63.14**	**2**	P	**P**	**05 17 15.2**	**-0.1**
SUMG	**Summit**	**63.14**	**2**	P	**P**	**05 17 15.2**	**-0.1**
SUMG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FIA1	**FINESS Array S**	**64.36**	**333**	P	**P**	**05 17 22.2**	**-0.8**
FINES	**FINESS Array B**	**64.36**	**333**	P	**P**	**05 17 21.9**	**-1.1**
FINES	**FINESS Array B**	**64.36**	**333**	P	**P**	**05 17 22.1**	**-0.8**
	comp=Z,1.8nm,0.4s,baz=41,slow=6.9,SNR=25						
	comp=Z,1.8nm,0.4s						
WRA	**Warramunga Arr**	**65.28**	**194**	*e*P	**P**	**05 17 31.1**	**+1.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**65.28**	**194**	P	**P**	**05 17 30.9**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=9.2,slow=6.7,SNR=5.5						
	comp=Z,0.7nm,0.6s						
NC405	**NORSAR Array S**	**68.83**	**339**	P	**P**	**05 17 51.2**	**-0.1**
ASAR	**Alice Springs**	**69.00**	**193**	P	**P**	**05 17 55.0**	**+2.2**
ASAR	**Alice Springs**	**69.00**	**193**	P	**P**	**05 17 55.0**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=12,slow=6.1,SNR=5.9						
	comp=Z,0.4nm,0.7s						
NB2	**NORSAR Subarra**	**69.02**	**339**	P	**P**	**05 17 52.3**	**-0.3**
	comp=Z,3.3nm,0.6s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.02**	**339**	*e*P	**P**	**05 17 52.4**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**69.02**	**339**	P	**P**	**05 17 52.4**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=33,slow=6.6,SNR=26						
	comp=Z,1.7nm,0.6s						
HFS	**Hagfors**	**69.13**	**337**	P	**P**	**05 17 53.0**	**-0.2**
	comp=Z,3.1nm,0.4s,baz=35,slow=5.4,SNR=38						
	comp=Z,3.1nm,0.4s						
PDAR	**Pinedale Array**	**69.14**	**50**	P	**P**	**05 17 54.4**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=331,slow=7.2,SNR=2.2						
	comp=Z,0.3nm,0.6s						
AKASG	**Malin Array Be**	**71.18**	**324**	*ce*P	**P**	**05 18 05.5**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**71.18**	**324**	P	**P**	**05 18 05.6**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=37,slow=6.2,SNR=8.0						
	comp=Z,0.8nm,0.3s						
BUR08	**Bucovina Ar. S**	**75.22**	**324**	P	**P**	**05 18 30.4**	**+0.6**
BUR08				IAmb	IAmb	05 18 32.1	
	comp=Z,14nm,1.4s						
BURAR	**Bucovina Array**	**75.24**	**324**	P	**P**	**05 18 30.4**	**+0.5**
KOLS	**Kolonicke sedl**	**75.40**	**326**	*e*P	**P**	**05 18 30.3**	**-0.4**
KOLS	**Kolonicke sedl**	**75.40**	**326**	*e*P	**P**	**05 18 30.3**	**-0.4**
STHS	**Stebnicka Huta**	**75.42**	**327**	*e*P	**P**	**05 18 32.0**	**+1.2**
STHS	**Stebnicka Huta**	**75.42**	**327**	*e*P	**P**	**05 18 32.0**	**+1.2**
SCHQ	**Schefferville**	**76.78**	**20**	P	**P**	**05 18 39.0**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=319,slow=11,SNR=1.1						
	comp=Z,1.2nm,0.4s						
BRTR	**Keskin Array B**	**77.28**	**314**	P	**P**	**05 18 41.6**	**0.0**
	comp=Z,0.4nm,0.8s,baz=79,slow=7.5,SNR=2.7						
	comp=Z,0.4nm,0.8s						
EKA	**Eskdalemuir Ar**	**77.50**	**343**	P	**P**	**05 18 42.5**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=13,slow=4.9,SNR=4.6						
	comp=Z,0.7nm,0.5s						
GERES	**GERESS Array B**	**78.67**	**331**	P	**P**	**05 18 49.4**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=33,slow=6.4,SNR=5.9						
	comp=Z,0.8nm,0.4s						
ARSA	**Arzberg**	**79.37**	**329**	*e*P	**P**	**05 18 54.6**	**+1.9**
	comp=Z,0.5nm,0.2s						
SOKA	**Soboth**	**80.03**	**329**	*i* P	**P**	**05 18 57.2**	**+0.7**
	comp=Z,0.6nm,0.3s						
LESA	**Schwarzleotal**	**80.24**	**331**	*e*P	**P**	**05 18 56.2**	**-1.4**
OBKA	**Obir**	**80.35**	**329**	*e*P	**P**	**05 18 58.6**	**+0.4**
	comp=Z,2.1nm,0.5s						
WATA	**Walderalm**	**80.70**	**331**	*i* P	**P**	**05 19 00.6**	**+0.5**
	comp=Z,2.5nm,0.5s						
WTTA	**Wattenberg**	**80.74**	**331**	*e*P	**P**	**05 19 01.1**	**+0.8**
	comp=Z,2.1nm,0.4s						
MOTA	**Moosalm**	**80.85**	**332**	*i* P	**P**	**05 19 01.1**	**+0.3**
	comp=Z,0.8nm,0.3s						
TXAR	**Lajitas Array**	**81.93**	**57**	P	**P**	**05 19 08.4**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=303,slow=3.1,SNR=6.6						
	comp=Z,0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**114.81**	**323**	PKP	**PKiKP**	**05 25 26.9**	**0.0**
	comp=Z,0.1nm,0.4s,baz=39,slow=1.3,SNR=1.9						

CNRM ***29*** *05:17:25.2, 37.°59N×4.°39W, h0km, ml3.5*
MDD ***29*** *05:17:26.8±0.1, 37.°63N×4.°26W, h12km, mb_Lg3.8/52, Error ellipse: s-maj=1.2km s-min=0.9km az=159.0*
LDG ***29*** *05:17:26.3±0.1, 37.°63N×4.°27W, h12km, Ml3.4/12, Error ellipse: s-maj=2.4km s-min=2.1km az=135.0*
IGIL ***29*** *05:17:26.7, 37.°64N×4.°26W, h12km, ML3.3*
SFS ***29*** *05:17:27.1, 37.°64N×4.°23W, h21km, ML3.8/22, ML3.8/19, MLv3.7/22*
INMG ***29*** *05:17:27.1±1.8, 37.°62N×4.°26W, h18km±2km, ML3.3, Error ellipse: s-maj=2.0km s-min=1.6km az=25.0*
ISC 29 05:17:25.4±0.6**, 37.°65N**±0.°01**×4.°26W**±0.°01**, h11km, n150, σ2.s38**/325**, 4C, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGOR	**Sierra Gorda,**	**0.55**	**168**	⇑Pg	**Pg**	**05 17 36.5**	**+0.3**
EGOR				Sg	**Sg**	**05 17 43.7**	**+0.2**
EGOR	**Sierra Gorda,**	**0.55**	**168**	Sg	**Sg**	**05 17 44.0**	**+0.4**
EGOR				Pg	**Pg**	**05 17 36.5**	**+0.3**
EADA	**Adamuz**	**0.57**	**334**	Pg	**Pg**	**05 17 38.2**	**+1.6**
EADA				Sg	**Sg**	**05 17 46.3**	**+2.1**
EADA				*i* Vmb_Lg		05 17 46.7	
EQTA	**Presa de Quent**	**0.79**	**124**	Sg	**Sg**	**05 17 51.2**	**+0.3**
EQTA				Pg	**Pg**	**05 17 40.9**	**+0.3**
EQTA				Pn	**Pb**	**05 17 42.3**	**+1.1**
EQUE	**Quentar**	**0.79**	**124**	Pg	**Pg**	**05 17 41.1**	**+0.4**
EQUE				Sg	**Sg**	**05 17 51.1**	**+0.1**
EQUE				*i* Vmb_Lg		05 17 55.6	
EMAL	**Malaga-Limoner**	**0.90**	**189**	Sg	**Sg**	**05 17 54.8**	**+0.4**
EMAL				Pg	**Pg**	**05 17 42.9**	**+0.1**
ELGU	**Los Guajares,**	**0.93**	**147**	Pg	**Pg**	**05 17 43.1**	**-0.3**
ELGU				Sg	**Sg**	**05 17 56.4**	**+0.9**
ELGU				*i* Vmb_Lg		05 17 59.5	
ELGU	**Los Guajares,**	**0.93**	**147**	Sg	**Sg**	**05 17 56.3**	**+0.8**
ELGU				Pg	**Pg**	**05 17 42.9**	**-0.4**
EQES	**Quesada**	**0.95**	**81**	Pg	**Pg**	**05 17 44.0**	**+0.3**
EQES				Sg	**Sg**	**05 17 57.6**	**+1.5**
EQES				*i* Vmb_Lg		05 17 59.3	
ECAB	**El Cabril**	**1.01**	**295**	Pg	**Pg**	**05 17 45.5**	**+0.6**
ECAB				Sg	**Sg**	**05 17 59.2**	**+1.1**
ECAB				*i* Vmb_Lg		05 18 01.2	
ECAB	**El Cabril**	**1.01**	**295**	Sn	**Sg**	**05 17 59.4**	**+1.3**
ECAB				Pn	**Pg**	**05 17 45.4**	**+0.6**
EMIJ	**Mijas**	**1.16**	**201**	Pg	**Pb**	**05 17 46.9**	**-0.7**
EMIJ				Sg	**Sg**	**05 18 03.6**	**+0.8**
EMIJ				*i* Vmb_Lg		05 18 06.2	
EMIJ	**Mijas**	**1.16**	**201**	Pn	**Pb**	**05 17 46.8**	**-0.7**
EBER	**Berja**	**1.32**	**124**	Pg	**Pn**	**05 17 51.0**	**+1.0**
EBER				Sg	**Sb**	**05 18 08.4**	**+0.9**
EBER				*i* Vmb_Lg		05 18 11.8	
EBER	**Berja**	**1.32**	**124**	Pn	**Pn**	**05 17 50.7**	**+0.6**
ESPR	**Espera**	**1.50**	**239**	Pg	**Pn**	**05 17 53.0**	**+0.8**
ESPR				Sg	**Sn**	**05 18 12.5**	**+0.7**
ESPR				*i* Vmb_Lg		05 18 21.0	
ESPR	**Espera**	**1.50**	**239**	Pn	**Pn**	**05 17 53.0**	**+0.8**

ESPR				Sn	**Sn**	**05 18 11.9**	**+0.1**
EJIF	**Jimena Fronter**	**1.54**	**219**	Pg	**Pn**	**05 17 53.8**	**+0.9**
EJIF				Sg	**Sb**	**05 18 14.4**	**+0.9**
ENIJ	**Nijar**	**1.77**	**112**	Pn	**Pn**	**05 17 56.2**	**+0.2**
ENIJ				Sn	**Sn**	**05 18 18.6**	**+0.1**
ENIJ				*i* Vmb_Lg		05 18 24.2	
ENIJ	**Nijar**	**1.77**	**112**	Pn	**Pn**	**05 17 56.4**	**+0.5**
PAB	**San Pablo**	**1.89**	**358**	P	**Pn**	**05 17 59.0**	**+1.2**
PAB	**San Pablo**	**1.89**	**358**	P	**Pn**	**05 17 59.0**	**+1.2**
PAB	**San Pablo**	**1.89**	**358**	Pn	**Pn**	**05 17 57.9**	**+0.1**
PAB				Pg	**Pb**	**05 17 59.6**	**-0.5**
PAB				Sg	**Sn**	**05 18 24.4**	**+2.8**
PAB				*i* Vmb_Lg		05 18 27.2	
CEU	**Ceuta**	**1.97**	**207**	Pn	**Pn**	**05 17 59.1**	**+0.5**
CEU				Pg	**Pb**	**05 18 01.4**	**+0.2**
ECEU	**Ceuta**	**1.97**	**208**	Pg	**Pn**	**05 18 00.3**	**+1.6**
EALB	**Alboran**	**1.97**	**150**	Sn	**Sn**	**05 18 23.5**	**+0.1**
EALB	**Alboran**	**1.97**	**150**	Sn	**Sn**	**05 18 20.7**	**-2.7**
ELOR	**Lorca, Murcia**	**1.99**	**90**	Pn	**Pn**	**05 17 59.7**	**+0.6**
ELOR				Sn	**Sn**	**05 18 23.3**	**-0.7**
ELOR				Sg	**Sb**	**05 18 28.8**	**+2.3**
ELOR				*i* Vmb_Lg		05 18 33.7	
ESDC	**Sonseca Array**	**2.03**	**6**	Pn	**Pn**	**05 18 00.6**	**+0.9**
ESDC				Pg	**Pb**	**05 18 03.6**	**+1.3**
ESDC				Sn	**Sn**	**05 18 24.8**	**-0.2**
ESDC				Sg	**Sb**	**05 18 28.8**	**+1.1**
ESDC				*i* Vmb_Lg		05 18 33.2	
TLOR	**Lorca, Murcia**	**2.04**	**89**	Sn	**Sn**	**05 18 25.3**	**+0.2**
TLOR				Sg	**Sg**	**05 18 31.8**	**+0.9**
EZAR	**Zarzadilla de**	**2.04**	**83**	Pn	**Pn**	**05 18 00.2**	**+0.3**
EZAR				Sn	**Sn**	**05 18 25.8**	**+0.4**
EZAR				Sg	**Sb**	**05 18 29.2**	**+1.2**
EZAR				*i* Vmb_Lg		05 18 37.3	
SMIR	**Smir Dam**	**2.16**	**205**	P	**Pn**	**05 18 02.0**	**+0.6**
SMIR	**Smir Dam**	**2.16**	**205**	P	**Pn**	**05 18 01.7**	**+0.3**
SMIR				S	**Sn**	**05 18 25.8**	**-2.4**
SMIR	**Smir Dam**	**2.16**	**205**	P	**Pn**	**05 18 02.0**	**+0.6**
PBAR	**Barrancos**	**2.26**	**284**	*e*Pn	**Pn**	**05 18 02.5**	**-0.3**
PBAR				*e*Sg	**Sb**	**05 18 37.3**	**+3.0**
PBAR				A	A	05 18 44.9	
	150nm,0.3s						
PBAR	**Barrancos**	**2.26**	**284**	Pn	**Pn**	**05 18 02.5**	**-0.3**
ETOB	**Tobarra**	**2.35**	**64**	Pn	**Pn**	**05 18 03.6**	**-0.4**
ETOB				Sn	**Sn**	**05 18 31.0**	**-2.0**
ETOB				Sg	**Sb**	**05 18 39.6**	**+2.6**
ETOB				*i* Vmb_Lg		05 18 46.6	
ETOB	**Tobarra**	**2.35**	**64**	Pn	**Pn**	**05 18 03.7**	**-0.4**
ETOB				Sn	**Sn**	**05 18 31.5**	**-1.5**
ETOB				Sg	**Sb**	**05 18 38.4**	**+1.5**
EMUR	**La Murta**	**2.40**	**85**	Pn	**Pn**	**05 18 04.4**	**-0.2**
EMUR				Sn	**Sn**	**05 18 33.1**	**-0.9**
EMUR				Sg	**Sb**	**05 18 41.4**	**+3.2**
EMUR				*i* Vmb_Lg		05 18 48.4	
EMUR	**La Murta**	**2.40**	**85**	Pn	**Pn**	**05 18 04.4**	**-0.2**
EMUR				Sn	**Sn**	**05 18 33.0**	**-1.1**
EMUR				Sg	**Sb**	**05 18 40.9**	**+2.7**
EBAD	**Badajoz**	**2.44**	**298**	Pn	**Pn**	**05 18 04.9**	**-0.2**
EBAD				Sn	**Sn**	**05 18 33.9**	**-1.0**
EBAD				Sg	**Sb**	**05 18 42.5**	**+3.3**
EBAD				*i* Vmb_Lg		05 18 47.1	
EBAD	**Badajoz**	**2.44**	**298**	Pn	**Pn**	**05 18 05.0**	**-0.2**
EBAD				Sn	**Sn**	**05 18 33.3**	**-1.7**
EBAD				Sg	**Sb**	**05 18 42.0**	**+2.7**
PALE	**Palemas**	**2.44**	**174**	P	**Pn**	**05 18 05.6**	**+0.3**
PALE				S	**Sn**	**05 18 33.0**	**-2.2**
EGRO	**El Granado**	**2.57**	**268**	Pn	**Pn**	**05 18 06.4**	**-0.5**
EGRO				Sn	**Sn**	**05 18 35.4**	**-2.7**
EGRO				Sg	**Sb**	**05 18 45.3**	**+2.3**
EGRO				*i* Vmb_Lg		05 18 50.9	
EGRO	**El Granado**	**2.57**	**268**	Pn	**Pn**	**05 18 06.5**	**-0.5**
EGRO				Sn	**Sn**	**05 18 35.3**	**-2.8**
CART	**Cartagena**	**2.58**	**90**	P	**Pn**	**05 18 06.3**	**-0.8**
CART				S	**Sn**	**05 18 38.6**	**+0.1**
CART	**Cartagena**	**2.58**	**90**	Sn	**Sn**	**05 18 35.8**	**-2.7**
CART				Pn	**Pn**	**05 18 05.9**	**-1.3**
CART				Pg	**Pb**	**05 18 11.1**	**-0.6**
GOG	**Mont Gurugu**	**2.63**	**157**	P	**Pn**	**05 18 08.6**	**+0.7**
PVAQ	**Vaqueiros**	**2.76**	**266**	*e*Pn	**Pn**	**05 18 09.2**	**-0.4**
PVAQ	**Vaqueiros**	**2.76**	**266**	*e*Pg	**Pg**	**05 18 18.8**	**+0.4**
PVAQ				*e*Sn	**Sn**	**05 18 40.7**	**-2.3**
PVAQ				*e*Sg	**Sb**	**05 18 52.5**	**+3.8**
PVAQ	**Vaqueiros**	**2.76**	**266**	P	**Pn**	**05 18 09.2**	**-0.4**
PVAQ	**Vaqueiros**	**2.76**	**266**	P	**Pn**	**05 18 41.6**	**-1.4**
PVAQ				S	**Sn**	**05 18 41.6**	**-1.4**
PVAQ	**Vaqueiros**	**2.76**	**266**	P	**Pn**	**05 18 09.2**	**-0.4**
PVAQ	**Vaqueiros**	**2.76**	**266**	Pn	**Pn**	**05 18 09.2**	**-0.4**
UCM	**Universidad Co**	**2.77**	**16**	Sn	**Sn**	**05 18 40.1**	**-3.1**
UCM				Pn	**Pn**	**05 18 09.8**	**+0.1**
UCM				Pg	**Pb**	**05 18 14.7**	**-0.2**
UCM				Sg	**Sb**	**05 18 51.6**	**+2.8**
ETRV	**Los Montesinos**	**2.79**	**81**	Pn	**Pn**	**05 18 09.8**	**-0.2**
ETRV				Sg	**Sb**	**05 18 53.3**	**+3.8**
ETRV				*i* Vmb_Lg		05 19 00.2	
EPLA	**Plasencia**	**2.80**	**330**	Pn	**Pn**	**05 18 10.2**	**0.0**
EPLA				Sg	**Sg**	**05 18 54.5**	**-0.8**
EPLA				*i* Vmb_Lg		05 18 58.9	
PBEJ	**Beja**	**2.88**	**279**	*e*Pn	**Pn**	**05 18 10.9**	**-0.4**
PBEJ				*e*Sn	**Sn**	**05 18 43.7**	**-2.3**
PBEJ				*e*Sg	**Sb**	**05 18 55.5**	**+3.4**
PBEJ				A	A	05 18 59.4	
	52nm,0.5s						
PESTR	**Estremoz**	**2.89**	**296**	*e*Pn	**Pn**	**05 18 11.1**	**-0.4**
PESTR	**Estremoz**	**2.89**	**296**	*e*Pg	**Pb**	**05 18 19.6**	**+2.6**
PESTR				*e*Sn	**Sn**	**05 18 43.6**	**-2.6**
PESTR				*e*Sg	**Sg**	**05 18 56.9**	**-1.4**
PESTR				A	A	05 19 03.6	
	111nm,0.4s						
PESTR	**Estremoz**	**2.89**	**296**	P	**Pn**	**05 18 11.0**	**-0.4**
PESTR	**Estremoz**	**2.89**	**296**	P	**Pn**	**05 18 11.0**	**-0.4**
PESTR				S	**Sn**	**05 18 45.4**	**-0.8**
PESTR	**Estremoz**	**2.89**	**296**	P	**Pn**	**05 18 11.0**	**-0.4**
PESTR	**Estremoz**	**2.89**	**296**	Pn	**Pn**	**05 18 11.1**	**-0.4**
PESTR				Pg	**Pb**	**05 18 17.2**	**+0.2**
PESTR				Sn	**Sn**	**05 18 43.2**	**-3.0**
PESTR				Sg	**Sg**	**05 18 56.8**	**-1.4**
EVIV	**Cofrentes, Val**	**2.94**	**56**	Pn	**Pn**	**05 18 11.7**	**-0.5**
EVIV				Pg	**Pb**	**05 18 20.8**	**+2.9**
EVIV				Sg	**Sb**	**05 18 57.7**	**+3.8**
EVIV				*i* Vmb_Lg		05 19 00.9	
PBDV	**Barranco-do-Ve**	**2.95**	**263**	*e*Pn	**Pn**	**05 18 12.0**	**-0.3**
PBDV				*e*Sn	**Sn**	**05 18 45.5**	**-2.2**
PBDV				*e*Sg	**Sg**	**05 18 59.7**	**-0.6**
PBDV				A	A	05 19 10.5	
	73nm,0.7s						
GUD	**Guadarrama**	**2.99**	**1**	Pn	**Pn**	**05 18 14.1**	**+1.2**
GUD				Pg	**Pb**	**05 18 22.0**	**+3.3**
GUD				Sn	**Sn**	**05 18 49.2**	**+0.4**
GUD				Sg	**Sb**	**05 18 58.3**	**+3.0**
PCVE	**Castro Verde**	**3.00**	**271**	*e*Pn	**Pn**	**05 18 12.4**	**-0.5**
PCVE	**Castro Verde**	**3.00**	**271**	*e*Pg	**Pg**	**05 18 22.5**	**-0.5**
PCVE				*e*Sn	**Sn**	**05 18 47.9**	**-1.0**
PCVE				*e*Sg	**Sb**	**05 18 59.6**	**+4.0**
PCVE				A	A	05 19 06.9	
	64nm,0.6s						
PCVE	**Castro Verde**	**3.00**	**271**	Pn	**Pn**	**05 18 12.4**	**-0.5**
PMRV	**Marv??o**	**3.03**	**307**	*e*Pn	**Pn**	**05 18 13.1**	**-0.2**
PMRV				*e*Sg	**Sb**	**05 19 00.5**	**+4.1**
PMRV				A	A	05 19 06.9	
	112nm,0.5s						
EVO	**Evora**	**3.09**	**288**	*e*Pn	**Pn**	**05 18 13.9**	**-0.3**
EVO				*e*Sn	**Sn**	**05 18 50.0**	**-1.1**
EVO				*e*Sg	**Sg**	**05 19 02.8**	**-1.9**
EVO				A	A	05 19 07.5	
	84nm,0.2s						
EVO	**Evora**	**3.09**	**288**	Pn	**Pn**	**05 18 13.8**	**-0.4**
EVO				Sn	**Sn**	**05 18 48.9**	**-2.2**
EVO				Sg	**Sb**	**05 19 02.6**	**+4.5**
AFON	**Font Roja**	**3.10**	**70**	Pn	**Pn**	**05 18 13.9**	**-0.4**
AFON				Sn	**Sn**	**05 18 50.8**	**-0.6**
AFON				Sg	**Sb**	**05 19 01.4**	**+3.0**
AFON				*i* Vmb_Lg		05 19 14.6	
MESJ	**Messejana**	**3.15**	**275**	*e*Pn	**Pn**	**05 18 14.6**	**-0.4**
MESJ				*e*Sn	**Sn**	**05 18 48.7**	**-3.8**
MESJ				*e*Sg	**Sg**	**05 19 04.4**	**-2.1**
MESJ				A	A	05 19 08.8	
	47nm,0.3s						
MESJ	**Messejana**	**3.15**	**275**	*e*P	**Pn**	**05 18 14.5**	**-0.4**
MESJ				*e*S	**Sn**	**05 18 49.0**	**-3.5**
MESJ				*e*Sg	**Sb**	**05 19 04.3**	**+4.5**
MESJ				IAML		05 19 10.0	
	comp=N,46nm,0.3s						
AKLM	**AKL**	**3.15**	**174**	P	**Pn**	**05 18 14.2**	**-0.9**
AKLM				S	**Sn**	**05 18 47.4**	**-5.3**
TAF	**Taforalt**	**3.20**	**152**	P	**Pn**	**05 18 16.2**	**+0.5**
TAF				S	**Sn**	**05 18 53.3**	**-0.6**
ECHE	**Chera**	**3.22**	**52**	Pn	**Pn**	**05 18 15.5**	**-0.5**
ECHE				Sn	**Sn**	**05 18 52.6**	**-1.7**
ECHE				Sg	**Sb**	**05 19 05.1**	**+3.1**
ECHE				*i* Vmb_Lg		05 19 13.8	
ECHE	**Chera**	**3.22**	**52**	Pn	**Pn**	**05 18 15.6**	**-0.4**
ECHE				Sn	**Sn**	**05 18 50.4**	**-4.0**
PCBR	**Castelo Branco**	**3.33**	**312**	*e*Pn	**Pn**	**05 18 18.7**	**+1.2**
PCBR				*e*Sn	**Sn**	**05 18 55.1**	**-2.1**
PCBR				*e*Sg	**Sg**	**05 19 11.3**	**-1.2**
PCBR				A	A	05 19 18.4	
	comp=N,58nm,0.4s						
EBEN2	**Beniarda presa**	**3.36**	**71**	Pn	**Pn**	**05 18 17.4**	**-0.6**
EBEN2				Sn	**Sn**	**05 18 56.8**	**-1.0**
EBEN2				*i* Vmb_Lg		05 19 15.4	
PNCL	**Nicolau / Gran**	**3.41**	**279**	*e*Pn	**Pn**	**05 18 18.2**	**-0.3**
PNCL				*e*Sn	**Sn**	**05 18 57.8**	**-1.2**
PNCL				*e*Sg	**Sg**	**05 19 12.5**	**-2.5**
PNCL				A	A	05 19 21.5	
	comp=N,38nm,0.6s						
PNCL	**Nicolau / Gran**	**3.41**	**279**	Pn	**Pn**	**05 18 18.2**	**-0.3**
PMTG	**Montargil**	**3.43**	**296**	*e*Pn	**Pn**	**05 18 19.1**	**+0.4**
PMTG				*e*Sn	**Sn**	**05 18 57.9**	**-1.4**
PMTG				*e*Sg	**Sg**	**05 19 15.0**	**-0.4**
PMTG				A	A	05 19 20.6	
	comp=N,78nm,0.4s						
MORF	**Marmelete**	**3.52**	**266**	*e*Pn	**Pn**	**05 18 19.4**	**-0.6**
MORF				*e*Sn	**Sn**	**05 18 59.6**	**-2.0**
MORF				*e*Sg	**Sg**	**05 19 17.3**	**-1.0**
MORF				A	A	05 19 20.5	
	comp=N,52nm,0.9s						
MORF	**Marmelete**	**3.52**	**266**	*e*P	**Pn**	**05 18 19.4**	**-0.6**
MORF				*e*S	**Sn**	**05 18 57.9**	**-3.7**
MORF				IAML		05 19 22.7	
	comp=N,147nm,0.4s						
PTEO	**Sao Teotonio**	**3.55**	**270**	*e*Pn	**Pn**	**05 18 20.6**	**+0.2**
PTEO				*e*Sn	**Sn**	**05 19 00.9**	**-1.5**
PTEO				*e*Sg	**Sg**	**05 19 19.3**	**-0.1**
PTEO				A	A	05 19 27.9	
	comp=N,83nm,0.5s						
ETOR	**Torete**	**3.59**	**28**	Pn	**Pn**	**05 18 21.2**	**+0.1**
ETOR				Sn	**Sn**	**05 19 01.8**	**-1.9**
ETOR				Sg	**Sg**	**05 19 19.0**	**-1.9**
ETOR				*i* Vmb_Lg		05 19 26.4	
EJUZ	**Juzbado, Salam**	**3.66**	**340**	Pn	**Pn**	**05 18 21.8**	**-0.2**
EJUZ				Sn	**Sn**	**05 19 02.3**	**-2.8**
EJUZ				Sg	**Sb**	**05 19 19.8**	**+5.4**
PFVI	**Vila Bisbo**	**3.68**	**263**	*e*Pn	**Pn**	**05 18 21.6**	**-0.6**
PFVI				*e*Sn	**Sn**	**05 19 03.3**	**-2.2**
PFVI				*e*Sg	**Sg**	**05 19 21.4**	**-2.1**
PFVI				A	A	05 19 36.3	
	comp=N,37nm,0.4s						
PFVI	**Vila Bisbo**	**3.68**	**263**	P	**Pn**	**05 18 21.6**	**-0.6**
PFVI	**Vila Bisbo**	**3.68**	**263**	P	**Pn**	**05 18 21.6**	**-0.6**
PFVI	**Vila Bisbo**	**3.68**	**263**	P	**Pn**	**05 18 21.6**	**-0.6**
PFVI	**Vila Bisbo**	**3.68**	**263**	Pn	**Pn**	**05 18 21.6**	**-0.6**
MTE	**Manteigas**	**3.75**	**318**	*e*Pn	**Pn**	**05 18 24.1**	**+0.8**
MTE				*e*Sg	**Sb**	**05 19 22.9**	**+5.7**
MTE				A	A	05 19 28.9	
	comp=N,69nm,0.4s						
PACT	**Alcochete**	**3.77**	**289**	*e*Pn	**Pn**	**05 18 23.7**	**+0.2**
PACT				*e*Sn	**Sn**	**05 19 05.8**	**-2.1**
PACT				*e*Sg	**Sg**	**05 19 27.3**	**+0.7**
PACT				A	A	05 19 36.4	
	comp=N,84nm,0.7s						
EMOS	**Mosqueruela**	**4.00**	**46**	Pn	**Pn**	**05 18 27.0**	**+0.2**
EMOS				Pg	**Pb**	**05 18 35.5**	**-0.6**
EMOS				Sn	**Sn**	**05 19 13.0**	**-0.9**
EMOS				Sg	**Sb**	**05 19 30.4**	**+5.9**
PSBE	**So Bento**	**4.01**	**299**	*e*Pn	**Pn**	**05 18 26.6**	**-0.3**
PSBE				*e*Sn	**Sn**	**05 19 12.0**	**-1.9**
PSBE				*e*Sg	**Sg**	**05 19 32.2**	**-2.1**
PSBE				A	A	05 19 48.0	
	comp=N,55nm,0.7s						
PCAS	**Casmilo, Conde**	**4.09**	**307**	*e*Pn	**Pn**	**05 18 28.5**	**+0.6**
PCAS				*e*Sn	**Sn**	**05 19 13.9**	**-1.8**
PCAS				*e*Sg	**Sg**	**05 19 35.5**	**-1.2**
PCAS				A	A	05 19 45.4	
	comp=N,63nm,0.5s						
MVO	**Moncorvo**	**4.11**	**329**	*e*Pn	**Pn**	**05 18 28.5**	**+0.2**
MVO				*e*Sn	**Sn**	**05 19 14.0**	**-2.4**
MVO				*e*Sg	**Sg**	**05 19 35.6**	**-1.9**
MVO				A	A	05 19 42.5	
	comp=N,53nm,0.5s						
COI	**Coimbra**	**4.12**	**309**	*e*Pn	**Pn**	**05 18 29.6**	**+1.3**
COI				*e*Sn	**Sn**	**05 19 14.9**	**-1.7**
COI				*e*Sg	**Sg**	**05 19 37.3**	**-0.6**
COI				A	A	05 19 42.2	
	comp=N,72nm,0.6s						
PMAFR	**Mafra**	**4.16**	**290**	*e*Pn	**Pn**	**05 18 29.1**	**+0.2**
PMAFR				*e*Sn	**Sn**	**05 19 15.4**	**-2.1**
PMAFR				*e*Sg	**Sg**	**05 19 39.7**	**+0.6**
PMAFR				A	A	05 19 44.4	
	comp=N,74nm,0.7s						
PVIS	**Viseu**	**4.17**	**318**	*e*Pn	**Pn**	**05 18 29.5**	**+0.5**
PVIS				*e*Sn	**Sn**	**05 19 14.6**	**-3.1**
PVIS				*e*Sg	**Sg**	**05 19 37.6**	**-1.6**
PVIS				A	A	05 19 52.5	
	comp=N,26nm,0.3s						
IFR	**Ifrane**	**4.19**	**190**	Pn	**Pn**	**05 18 29.0**	**-0.4**
IFR				Sn	**Sn**	**05 19 14.1**	**-4.3**
ECOL	**Islas Columbre**	**4.46**	**58**	Pn	**Pn**	**05 18 31.8**	**-1.2**
ECOL				Sn	**Sn**	**05 19 20.1**	**-4.8**
ECOL				Sg	**Sb**	**05 19 44.3**	**+6.7**
PVRL	**Vila Real**	**4.50**	**325**	*e*Pn	**Pn**	**05 18 33.8**	**+0.2**
PVRL				*e*Sn	**Sn**	**05 19 23.4**	**-2.5**
PVRL				*e*Sg	**Sg**	**05 19 48.5**	**-1.4**
PVRL				A	A	05 20 01.3	
	comp=N,27nm,0.5s						
PBRG	**Braganca**	**4.57**	**336**	*e*Pn	**Pn**	**05 18 34.8**	**+0.3**
PBRG				*e*Sn	**Sn**	**05 19 24.6**	**-3.0**
PBRG				*e*Sg	**Sg**	**05 19 51.0**	**-1.1**
PBRG				A	A	05 19 59.5	
	comp=N,25nm,0.6s						
EIBI	**Ibiza**	**4.61**	**71**	Pn	**Pn**	**05 18 33.4**	**-1.6**
EIBI				Sn	**Sn**	**05 19 25.4**	**-3.2**
EIBI				*i* Vmb_Lg		05 19 47.8	
EIBI	**Ibiza**	**4.61**	**71**	Pn	**Pn**	**05 18 33.7**	**-1.3**
EIBI				Sn	**Sn**	**05 19 22.6**	**-5.9**
POLO	**Lamas de Olo**	**4.62**	**325**	*e*Pn	**Pn**	**05 18 35.3**	**+0.1**
POLO				*e*Sn	**Sn**	**05 19 25.0**	**-3.8**
POLO				*e*Sg	**Sg**	**05 19 52.4**	**-1.2**
POLO				A	A	05 20 05.6	
	comp=N,11nm,0.7s						
ZHG	**ZHG**	**4.63**	**206**	P	**Pn**	**05 18 37.0**	**+1.7**
ZHG	**ZHG**	**4.63**	**206**	P	**Pn**	**05 18 35.4**	**+0.1**
ZHG	**ZHG**	**4.63**	**206**	P	**Pn**	**05 18 37.0**	**+1.7**
ECAL	**Calabor**	**4.69**	**337**	Sn	**Sn**	**05 19 28.2**	**-2.5**
ECAL				Sg	**Sg**	**05 19 53.9**	**-2.1**
ECAL				*i* Vmb_Lg		05 20 03.5	
MD31	**MD31**	**4.79**	**185**	P	**Pn**	**05 18 37.9**	**+0.2**
MDT	**Midelt**	**4.84**	**184**	P	**Pn**	**05 18 39.1**	**+0.9**
MDT	**Midelt**	**4.84**	**184**	P	**Pn**	**05 18 38.9**	**+0.7**
PTO	**Porto**	**4.84**	**317**	*e*Pn	**Pn**	**05 18 38.8**	**+0.6**
PTO				*e*Sn	**Sn**	**05 19 30.6**	**-3.7**
PTO				*e*Sg	**Sg**	**05 20 01.8**	**+0.9**
PTO				A	A	05 20 08.1	
	comp=N,36nm,0.5s						
ERTA	**Horta de San J**	**4.85**	**46**	Pn	**Pn**	**05 18 39.3**	**+0.9**
ERTA				Sn	**Sn**	**05 19 33.4**	**-1.2**
ERTA				Sg	**Sb**	**05 19 56.8**	**+8.0**
ERTA				*i* Vmb_Lg		05 20 06.2	
PCAB	**Cabril**	**4.99**	**326**	*e*Pn	**Pn**	**05 18 40.6**	**+0.3**
PCAB				*e*Sn	**Sn**	**05 19 35.6**	**-2.3**
PCAB				*e*Sg	**Sg**	**05 20 04.7**	**-0.8**
ESAC	**San Caprasio**	**5.00**	**35**	Pn	**Pn**	**05 18 41.3**	**+0.8**
ESAC				Sg	**Sb**	**05 20 01.1**	**+7.9**
ESAC				*i* Vmb_Lg		05 22 31.9	
AVE	**Averroes**	**5.05**	**212**	Pn	**Pn**	**05 18 40.2**	**-0.9**
AVE				Sn	**Sn**	**05 19 34.8**	**-4.7**
ELOB	**Lobios**	**5.13**	**326**	Pn	**Pn**	**05 18 42.1**	**-0.1**
ELOB				Sn	**Sn**	**05 19 36.3**	**-5.1**
ELOB				Sg	**Sg**	**05 20 06.2**	**-3.9**
ELOB				*i* Vmb_Lg		05 20 18.2	
PGAV	**Gavieira, Arco**	**5.30**	**326**	*e*Pn	**Pn**	**05 18 43.4**	**-1.2**
PGAV				*e*Sn	**Sn**	**05 19 40.4**	**-5.3**
PGAV				*e*Sg	**Sg**	**05 20 12.6**	**-3.0**
PGAV				A	A	05 20 22.8	
	comp=N,32nm,0.5s						
EARA	**Aranguren**	**5.51**	**21**	Pn	**Pn**	**05 18 48.7**	**+1.4**
EARA				Sn	**Sn**	**05 19 47.9**	**-2.8**
EARA				Sg	**Sg**	**05 20 18.8**	**-3.4**
EARA				*i* Vmb_Lg		05 20 26.7	
EPOB	**Poblet**	**5.54**	**46**	Pn	**Pn**	**05 18 48.4**	**+0.6**
EPOB				Sn	**Sn**	**05 19 49.5**	**-2.0**
EPOB				Sg	**Sg**	**05 20 18.2**	**-5.0**
EPOB				*i* Vmb_Lg		05 20 37.5	
ELAN	**Lanestosa**	**5.61**	**6**	Pn	**Pn**	**05 18 49.7**	**+1.0**
ELAN				Sn	**Sn**	**05 19 50.5**	**-2.7**
ELAN				Sg	**Sg**	**05 20 21.6**	**-3.8**
ELAN				*i* Vmb_Lg		05 20 36.0	
EARI	**Arriondas**	**5.69**	**353**	Pn	**Pn**	**05 18 51.1**	**+1.3**
EARI				Sn	**Sn**	**05 19 49.7**	**-5.5**
EARI				Sg	Sb	05 20 22.0	+9.1
EARI				*i* Vmb_Lg		05 20 37.2	
EORO	**Oroz-Betelu**	**5.70**	**22**	Sn	**Sn**	**05 19 53.5**	**-1.9**
EORO				Sg	**Sb**	**05 20 21.8**	**+8.6**
EORO				*i* Vmb_Lg		05 20 41.2	
ETOS	**Mallorca**	**5.92**	**67**	Pn	**Pn**	**05 18 54.0**	**+0.9**
ETOS				Sn	**Sn**	**05 19 55.5**	**-5.3**
EAGO	**Agolada(Pontev**	**5.92**	**332**	Pn	**Pn**	**05 18 53.2**	**+0.1**
EAGO				Sn	**Sn**	**05 19 57.4**	**-3.5**
EAGO				Sg	**Sg**	**05 20 33.0**	**-2.4**
EAGO				*i* Vmb_Lg		05 20 41.6	
SJPF	**Ste Jean**	**5.92**	**22**	*e*Pn	**Pn**	**05 18 53.3**	**+0.2**
SJPF				*e*Sn	**Sn**	**05 19 55.5**	**-5.5**
	comp=N,6.8nm,0.2s						
SJPF				*e*Sg	**Sg**	**05 20 32.0**	**-3.6**
	comp=N,11nm,0.4s						
EALK	**Alkurruntz**	**5.94**	**20**	Pn	**Pn**	**05 18 54.7**	**+1.3**
EALK				Sn	**Sn**	**05 19 58.7**	**-2.8**
EALK				*i* Vmb_Lg		05 20 48.0	
ETSF	**Etsaut**	**5.95**	**27**	*e*Pn	**Pn**	**05 18 54.3**	**+0.8**
ETSF				*e*Sn	**Sn**	**05 19 56.4**	**-5.4**
	comp=N,5.6nm,0.2s						
ETSF				*e*Sg	**Sg**	**05 20 32.9**	**-3.6**
	comp=N,14nm,0.6s						
SRHM	**Skhour des Reh**	**5.97**	**211**	P	**Pn**	**05 18 57.4**	**+3.6**
ECHI	**Chisagues Biel**	**6.06**	**33**	Pn	**Pn**	**05 18 55.3**	**+0.3**
ECHI				Sn	**Sn**	**05 20 01.6**	**-2.7**
EPON	**Pontenova**	**6.08**	**340**	Pn	**Pn**	**05 18 56.7**	**+1.4**
EPON				Sn	**Sn**	**05 20 00.3**	**-4.5**
EPON				Sg	**Sb**	**05 20 31.4**	**+7.3**
EPON				*i* Vmb_Lg		05 20 40.4	
EPF	**Esparros**	**6.42**	**32**	*e*Pn	**Pn**	**05 19 00.5**	**+0.6**
EPF	**Esparros**	**6.42**	**32**	*e*Pg	Pg	05 19 24.9	-3.3
EPF				*e*Sn	**Sn**	**05 20 07.9**	**-5.2**
	comp=N,7.9nm,0.3s						
EPF				*e*Sg	**Sg**	**05 20 47.2**	**-4.1**
	comp=N,6.6nm,0.3s						
OUZM	**OUZ**	**7.04**	**198**	P	**Pn**	**05 19 08.4**	**-0.2**
TIO	**Tiouine**	**7.15**	**201**	Pn	**Pn**	**05 19 09.4**	**-0.7**
TIO				Sn	**Sn**	**05 20 24.4**	**-7.1**
MTLF	**Montolieu**	**7.52**	**39**	*e*Pn	**Pn**	**05 19 13.2**	**-1.8**
MTLF	**Montolieu**	**7.52**	**39**	*e*Pg	Pg	05 19 45.7	-3.7
MTLF				*e*Sn	**Sn**	**05 20 33.8**	**-6.5**
MTLF				*e*Sg	**Sg**	**05 21 23.2**	**-3.5**
	comp=N,3.5nm,0.4s						
ZGR	**Zagora**	**7.60**	**189**	P	**Pn**	**05 19 15.0**	**-1.2**
LFF	**La Frestale**	**8.19**	**26**	*e*Pn	**Pn**	**05 19 22.4**	**-1.8**
LFF				*e*Sn	**Sn**	**05 20 50.4**	**-6.3**
	comp=N,4.4nm,0.3s						
CAF	**Calviac**	**8.68**	**31**	*e*Pn	**Pn**	**05 19 29.2**	**-1.7**
CAF				*e*Sn	**Sn**	**05 21 02.1**	**-6.7**
	comp=N,0.6nm,0.2s						
RJF	**Les Rejaudoux**	**8.79**	**28**	*e*Pn	**Pn**	**05 19 31.0**	**-1.3**
RJF	

EMAL					Pn		Pn	05 48 10.3 +0.7
EGOR	**Sierra Gorda,**	**0.66**	**28**		Pn		Pn	05 48 14.5 +1.2
EGOR					Sn		Sn	05 48 25.1 +0.8
ELGU	**Los Guajares,**	**0.78**	**64**		P		Pn	05 48 15.0 +0.5
ELGU					⇑*i*Vmb_V			05 48 18.4
	378nm,SNR=1.6							
ELGU					S		Sn	05 48 25.1 -1.4
ELGU	**Los Guajares,**	**0.78**	**64**		Sn		Sn	05 48 26.1 -0.4
ELGU					Pn		Pn	05 48 15.0 +0.5
CEU	**Ceuta**	**0.95**	**228**		Pn		Pn	05 48 16.8 +0.5
EQTA	**Presa de Quent**	**1.08**	**51**		Sn		Sn	05 48 33.4 +0.4
SMIR	**Smir Dam**	**1.11**	**220**		P		Pn	05 48 18.7 +0.3
SMIR					S		Sn	05 48 30.7 -2.6
ESPR	**Espera**	**1.14**	**288**		P		Pn	05 48 21.1 +2.4
ESPR					⇑*i*Vmb_V			05 48 21.7
	217nm,SNR=2.2							
ESPR					S		Sn	05 48 34.9 +0.8
ESPR	**Espera**	**1.14**	**288**		Pn		Pn	05 48 21.0 +2.2
EBER	**Berja**	**1.35**	**74**		P		Pn	05 48 22.7 +1.1
EBER					⇑*i*Vmb_V			05 48 23.2
	61nm,SNR=1.0							
EBER					S		Sn	05 48 39.5 +0.5
EBER	**Berja**	**1.35**	**74**		Pn		Pn	05 48 21.9 +0.4
EBER					Sn		Sn	05 48 39.5 +0.5
EADA	**Adamuz**	**1.64**	**358**		P		Pn	05 48 26.3 +1.1
EADA					⇑*i*Vmb_V			05 48 30.2
	270nm,SNR=3.2							
EADA					S		Sn	05 48 44.6 -1.0
EADA	**Adamuz**	**1.64**	**358**		Sn		Sn	05 48 44.3 -1.3
EADA					Pn		Pn	05 48 26.3 +1.1
ECAB	**El Cabril**	**1.71**	**335**		P		Pn	05 48 26.9 +0.8
ECAB					⇑*i*Vmb_V			05 48 29.5
	121nm,SNR=1.7							
ECAB					S		Sn	05 48 45.7 -1.6
ECAB	**El Cabril**	**1.71**	**335**		Sn		Sn	05 48 45.6 -1.6
ECAB					Pn		Pn	05 48 27.0 +0.8
EQES	**Quesada**	**1.71**	**42**		P		Pn	05 48 27.5 +1.2
EQES					⇑*i*Vmb_V			05 48 28.6
	217nm,SNR=1.4							
EQES					S		Sn	05 48 47.4 0.0
AKLM	**AKL**	**2.08**	**165**		P		Pn	05 48 33.5 +2.2
AKLM					S		Sn	05 48 58.4 +2.1
EGRO	**El Granado**	**2.59**	**294**		P		Pn	05 48 39.7 +1.8
EGRO					⇑*i*Vmb_V			05 48 42.7
	120nm,SNR=1.2							
EGRO					S		Sn	05 49 07.5 -0.8
PBAR	**Barrancos**	**2.60**	**310**		*e*P		Pn	05 48 39.4 +1.2
PBAR					*e*S		Sn	05 49 07.3 -1.5
PBAR					A		A	05 49 10.8
	2.0nm,0.1s							
PBAR	**Barrancos**	**2.60**	**310**		Pn		Pn	05 48 39.2 +1.1
PVAQ	**Vaqueiros**	**2.72**	**290**		*e*P		Pn	05 48 41.1 +1.4
PVAQ					*e*S		Sn	05 49 10.1 -1.5
PBDV	**Barranco-do-Ve**	**2.84**	**286**		*e*P		Pn	05 48 43.4 +2.0
PBDV					*e*S		Sn	05 49 13.7 -0.9
PBDV					A		A	05 49 32.2
	2.7nm,0.6s							
EBAD	**Badajoz**	**2.98**	**319**		P		Pn	05 48 44.5 +1.2
EBAD					⇑*i*Vmb_V			05 48 45.8
	189nm,SNR=1.7							
EBAD					S		Sn	05 49 16.4 -1.6
EBAD	**Badajoz**	**2.98**	**319**		Pn		Pn	05 48 44.2 +0.9
EBAD					Sn		Sn	05 49 16.2 -1.8
PAB	**San Pablo**	**3.01**	**2**		P		Pn	05 48 44.9 +1.1
PAB					⇑*i*Vmb_V			05 48 46.0
	218nm,SNR=2.6							
PAB					S		Sn	05 49 16.1 -2.8
PCVE	**Castro Verde**	**3.04**	**292**		*e*P		Pn	05 48 45.5 +1.5
PCVE					*e*S		Sn	05 49 18.4 -0.8
ETOB	**Tobarra**	**3.15**	**47**		P		Pn	05 48 46.7 +1.0
ETOB					⇑*i*Vmb_V			05 48 48.5
	240nm,SNR=1.0							
ETOB					S		Sn	05 49 19.7 -2.5
ETOB	**Tobarra**	**3.15**	**47**		Pn		Pn	05 48 46.7 +1.0
ESDC	**Sonseca Array**	**3.17**	**8**		P		Pn	05 48 47.4 +1.5
ESDC					⇑*i*Vmb_V			05 48 49.8
	74nm,SNR=1.0							
ESDC					S		Sn	05 49 21.2 -1.3
MESJ	**Messejana**	**3.25**	**295**		*e*P		Pn	05 48 48.8 +2.0
MESJ					*e*S		Sn	05 49 22.8 -1.5
PESTR	**Estremoz**	**3.38**	**315**		*e*P		Pn	05 48 50.6 +1.9
PESTR					*e*S		Sn	05 49 26.0 -1.7
PESTR					A		A	05 49 26.2
	1.1nm,0.3s							
PESTR	**Estremoz**	**3.38**	**315**		P		Pn	05 48 49.6 +0.8
PESTR					S		Sn	05 49 25.2 -2.5
MORF	**Marmelete**	**3.42**	**284**		*e*P		Pn	05 48 51.5 +2.3
MORF					*e*S		Sn	05 49 30.0 +1.4
PFVI	**Vila Bisbo**	**3.52**	**281**		*e*P		Pn	05 48 52.5 +1.9
PFVI					*e*S		Sn	05 49 29.0 -2.1
PFVI					A		A	05 49 32.7
	7.3nm,0.6s							
PTEO	**Sao Teotonio**	**3.53**	**288**		*e*S		Sn	05 49 31.4 +0.2
ZHG	**ZHG**	**3.54**	**210**		P		Pn	05 48 50.1 -0.9
ZHG					S		Sn	05 49 27.4 -4.4
PNCL	**Nicolau / Gran**	**3.58**	**297**		*e*P		Pn	05 48 53.5 +2.1
PNCL					*e*S		Sn	05 49 31.7 -0.7
PNCL					A		A	05 49 40.1
	2.8nm,0.6s							
MD31	**MD31**	**3.66**	**183**		P		Pn	05 48 53.9 +1.3
MD31					S		Sn	05 49 32.8 -1.9
PMRV	**Marv??o**	**3.69**	**323**		*e*P		Pn	05 48 54.6 +1.7
PMRV					*e*S		Sn	05 49 33.0 -2.1
PMRV					A		A	05 49 47.6
	1.6nm,0.6s							
MDT	**Midelt**	**3.71**	**181**		P		Pn	05 48 55.3 +2.0
MDT					S		Sn	05 49 34.7 -1.1
EPLA	**Plasencia**	**3.74**	**341**		P		Pn	05 48 55.2 +1.5
EPLA					⇑*i*Vmb_V			05 48 58.6
	164nm,SNR=1.4							
EPLA					S		Sn	05 49 35.4 -1.1
PMTG	**Montargil**	**3.89**	**312**		*e*P		Pn	05 48 57.2 +1.6
PMTG					*e*S		Sn	05 49 38.1 -1.9
PMTG					A		A	05 49 40.7
	3.5nm,0.7s							
PCBR	**Castelo Branco**	**4.05**	**326**		*e*S		Sn	05 49 41.3 -2.7
ECHE	**Chera**	**4.14**	**41**		P		Pn	05 48 59.6 +0.6
ECHE					⇑*i*Vmb_V			05 49 01.1
	219nm,SNR=1.0							
ECHE					S		Sn	05 49 42.6 -3.5
PSBE	**So Bento**	**4.51**	**313**		*e*P		Pn	05 49 06.1 +2.0
PSBE					*e*S		Sn	05 49 55.1 -0.3
ETOR	**Torete**	**4.69**	**23**		P		Pn	05 49 07.5 +0.9
ETOR					⇑*i*Vmb_V			05 49 10.5
	152nm,SNR=1.3							
ETOR					S		Sn	05 49 57.6 -2.2
PCAS	**Casmilo, Conde**	**4.72**	**319**		*e*P		Pn	05 49 09.6 +2.7
PCAS					*e*S		Sn	05 49 57.6 -2.7
PVIS	**Viseu**	**4.95**	**329**		*e*P		Pn	05 49 12.3 +2.1
PVIS					*e*S		Sn	05 50 04.2 -1.9
PVIS					A		A	05 50 12.0
	1.9nm,0.8s							
MVO	**Moncorvo**	**5.03**	**338**		*e*P		Pn	05 49 13.3 +2.1
MVO					*e*S		Sn	05 50 05.8 -2.2
MVO					A		A	05 50 13.9
	2.5nm,0.5s							
PVRL	**Vila Real**	**5.36**	**333**		*e*P		Pn	05 49 17.7 +2.0
PVRL					*e*S		Sn	05 50 13.9 -2.2
PVRL					A		A	05 50 17.1
	2.3nm,0.2s							
POLO	**Lamas de Olo**	**5.47**	**333**		*e*P		Pn	05 49 19.1 +1.8
PBRG	**Braganca**	**5.55**	**342**		*e*P		Pn	05 49 20.5 +2.2

NAO ***29*** *05:57:34.1±0.9, 71°.45N×4°.26W, ML4.2*
IDC ***29*** *05:57:35.9±0.8, 71°.44N×3°.93W, h0km, mb3.6/12, mbtmp3.7/18, ML3.5/6, MS3.8/69, Error ellipse: s-maj=16.4km s-min=14.5km az=28.0*
GCMT ***29*** *05:57:37.0±0.3, 71°.61N±0°.04×3°.6W±0°.1, h12km, MW4.7/82, Moment Tensor Solution. s10,c11; s82,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.08±.05; $M_{\theta\theta}$0.52±.06; $M_{\phi\phi}$0.56±.05; $M_{r\theta}$0.53±.26; $M_{\theta\phi}$0.71±.05; $M_{\phi r}$-0.70±.23; Best double couple: $M_0$1.43600×10^{16} NP1:ϕ_s250.00000°, δ49.00000°, λ-47.00000°. Principal axes: T 1.2610, Plg4.0000°, Azm132.0000°; N 0.3540, Plg31.0000°, Azm39.0000°; P -1.6110, Plg59.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

BER ***29*** *05:57:38.4±3.1, 71°.47N×4°.29W, h10km, mb(Pn)4.0, ML4.2(NAO), Confirmed Earthquake*
DNK ***29*** *05:57:41.9±1.6, 71°.93N×5°.19W, h10km±33km, ML2.5*
ISC 29 05:57:36.3±0.5, 71°.51N±0°.05×3°.99W±0°.04, h12km, n134, σ25:51/94, mb3.4/12, MS3.8/65, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JNE	**Jan Mayen East**	**1.48**	**252**	*e*P	**Pn**	**05 58 03.0**	**+0.2**
JNE				*e*S	**Sn**	**05 58 19.0**	**-3.0**
JNE				IAML		05 58 21.7	
	comp=Z,49nm,0.6s						
JMIC	**Jan Mayen**	**1.55**	**252**	Pn	**Pn**	**05 58 02.0**	**-1.7**
JMIC				Lg	Lg	05 58 19.9	
JMIC	**Jan Mayen**	**1.55**	**252**	*e*P	**Pn**	**05 58 03.7**	**0.0**
JMIC				*e*S	**Sn**	**05 58 19.6**	**-4.0**
JMIC				IAML		05 58 34.2	
	comp=Z,59nm,0.5s						
JMIC	**Jan Mayen**	**1.55**	**252**	Pg	**Pn**	**05 58 04.0**	**+0.3**
	comp=Z,7.0nm,0.3s,baz=110,slow=1.3,SNR=4.5						
JMIC				Lg	Lg	05 58 19.9	
	comp=Z,11nm,0.3s,baz=169,slow=18.5,SNR=6.9						
JMIC				LR	LR	05 58 30.6	
	comp=Z,636nm,19.9s,baz=67,slow=35						
JMI	**Jan Mayen**	**1.64**	**252**	Pn	**Pn**	**05 58 03.2**	**-1.7**
JMI				Lg	Lg	05 58 22.2	
JMI	**Jan Mayen**	**1.64**	**252**	*e*P	**Pn**	**05 58 03.5**	**-1.4**
JMI				*e*S	**Sn**	**05 58 22.0**	**-3.9**
JMI				IAML		05 58 28.7	
	comp=Z,79nm,0.6s						
SCO	**Scoresbysund**	**5.95**	**269**	*i* P	**Pn**	**05 59 03.4**	**-0.7**
SCO				*e*S	**Sn**	**06 00 05.8**	**-6.2**
SCO	**Scoresbysund**	**5.95**	**269**	*i* P	**Pn**	**05 59 03.4**	**-0.7**
SCO				*e*S	**Sn**	**06 00 05.8**	**-6.2**
DAG	**Danmarks Havn**	**6.62**	**330**	*e*P	**Pn**	**05 59 11.4**	**-1.8**
DAG				*e*S	Sn	06 00 15.3	-13
DAG	**Danmarks Havn**	**6.62**	**330**	*e*	Pn	05 59 08.6	-4.6
	baz=134,slow=16						
DAG				*i* P	**Pn**	**05 59 11.3**	**-1.8**
DAG				*e*S	Sn	06 00 15.5	-13
DAG				IAML		06 00 24.8	
	comp=Z,16nm,0.4s						
LOF	**Lofoten**	**6.93**	**111**	Pn	**Pn**	**05 59 17.5**	**0.0**
LOF	**Lofoten**	**6.93**	**111**	*e*P	**Pn**	**05 59 17.8**	**+0.2**
LOF				*e*S	**Sn**	**06 00 32.6**	**-3.6**
LOF				IAML		06 00 45.0	
	comp=Z,10nm,0.4s						
STEI	**Steigen**	**7.56**	**109**	*e*P	**Pn**	**05 59 25.9**	**-0.3**
STEI				IAML		06 00 53.2	
	comp=Z,4.9nm,0.6s						
HSPB	**Hornsund (broa**	**7.61**	**35**	Pn	**Pn**	**05 59 27.5**	**+0.8**
HSPB	**Hornsund (broa**	**7.61**	**35**	*e*P	**Pn**	**05 59 27.2**	**+0.4**
HSPB				IAML		06 01 03.6	
	comp=Z,3.8nm,0.6s						
TRO	**Tromso**	**7.85**	**93**	Pn	**Pn**	**05 59 28.6**	**-1.4**
TRO	**Tromso**	**7.85**	**93**	*e*P	**Pn**	**05 59 29.1**	**-1.0**
TRO				*e*S	**Sn**	**06 00 51.5**	**-7.0**
TRO				IAML		06 00 55.6	
	comp=Z,4.1nm,0.8s						
KONS	**Konsvik**	**7.91**	**121**	*e*P	**Pn**	**05 59 30.8**	**-0.2**
KONS				*e*S	**Sn**	**06 00 52.9**	**-7.4**
KONS				IAML		06 00 57.9	
	comp=Z,6.6nm,0.4s						
FAUS	**Fauske**	**7.92**	**112**	*e*P	**Pn**	**05 59 30.7**	**-0.3**
FAUS				*e*S	**Sn**	**06 00 53.0**	**-7.4**
FAUS				IAML		06 01 07.1	
	comp=Z,5.9nm,0.5s						
STOK	**Stokkvaagen**	**8.01**	**122**	*e*P	**Pn**	**05 59 31.8**	**-0.5**
STOK				*e*S	**Sn**	**06 00 55.2**	**-7.4**
STOK				IAML		06 01 12.7	
	comp=Z,10.0nm,0.7s						
BRBA	**Barentsburg A**	**8.08**	**28**	Pn	**Pn**	**05 59 33.8**	**+0.5**
BRBA	**Barentsburg A**	**8.08**	**28**	*e*P	**Pn**	**05 59 33.8**	**+0.5**
BRBB	**Barentsburg B**	**8.11**	**27**	Pn	**Pn**	**05 59 33.6**	**+0.1**
BRBB	**Barentsburg B**	**8.11**	**27**	*e*P	**Pn**	**05 59 33.7**	**+0.1**
JETT	**Jettan, Norway**	**8.35**	**92**	Pn	**Pn**	**05 59 36.3**	**-0.7**
JETT	**Jettan, Norway**	**8.35**	**92**	Pn	**Pn**	**05 59 36.3**	**-0.7**
JETT				*e*P	**Pn**	**05 59 36.5**	**-0.5**
JETT				IAML		06 01 09.4	
	comp=Z,7.6nm,0.3s						
KBS	**Kingsbay**	**8.44**	**21**	Pn	**Pn**	**05 59 39.0**	**+0.8**
KBS	**Kingsbay**	**8.44**	**21**	*e*P	**Pn**	**05 59 38.3**	**+0.1**
KBS				*e*S	**Sn**	**06 01 06.0**	**-7.2**
KBS				IAML		06 01 16.6	
	comp=Z,5.0nm,0.7s						
KBS	**Kingsbay**	**8.44**	**21**	*i* P	**Pn**	**05 59 38.5**	**+0.3**
SPA0	**Spitsbergen Ar**	**8.49**	**29**	Pn	**Pn**	**05 59 40.1**	**+1.3**
	baz=216,slow=16						
SPA0	**Spitsbergen Ar**	**8.49**	**29**	Pn	**Pn**	**05 59 40.1**	**+1.3**
	baz=216,slow=16						
SPITS	**Spitsbergen Ar**	**8.49**	**29**	Pn	**Pn**	**05 59 40.2**	**+1.3**
	baz=214,slow=15						
	comp=Z,34nm,0.7s						
MOR8	**Moi Rana**	**8.52**	**120**	*e*P	**Pn**	**05 59 40.6**	**+1.3**
NSS	**Namsos**	**9.18**	**132**	*e*P	**Pn**	**05 59 48.5**	**+0.2**
NSS				*e*S	**Sn**	**06 01 23.4**	**-7.8**
HOPEN	**Hopen**	**9.34**	**45**	Pn	**Pn**	**05 59 51.8**	**+1.4**
HOPEN	**Hopen**	**9.34**	**45**	*e*P	**Pn**	**05 59 52.0**	**+1.6**
ARA0	**ARCESS Array S**	**9.98**	**87**	Pn	**Pn**	**05 59 58.9**	**-0.4**
	baz=288,slow=12						
ARA0	**ARCESS Array S**	**9.98**	**87**	Pn	**Pn**	**05 59 58.9**	**-0.4**
	baz=288,slow=12						
ARCES	**ARCESS Array B**	**9.98**	**87**	Pn	**Pn**	**05 59 59.1**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=294,slow=12,SNR=34						
ARCES				LR	LR	06 03 13.7	
	comp=Z,488nm,21.4s,baz=290,slow=34						
	comp=Z,1.5nm,0.3s						
MOL	**Molde**	**10.02**	**148**	*e*P	**Pn**	**06 00 00.7**	**+0.9**
AKN	**Aaknes**	**10.29**	**150**	Pn	**Pn**	**06 00 03.5**	**-0.2**
AKN				Sn	Sn	06 01 49.0	-10
AKN	**Aaknes**	**10.29**	**150**	Pn	**Pn**	**06 00 03.5**	**-0.2**
AKN				Sn	Sn	06 01 49.0	-10
KEV	**Kevo**	**10.37**	**85**	Pn	**Pn**	**06 00 04.3**	**-0.3**
KEV	**Kevo**	**10.37**	**85**	Pn	**Pn**	**06 00 04.3**	**-0.3**
SUMG	**Summit**	**10.60**	**292**	*e*P	**Pn**	**06 00 09.7**	**+1.7**
SUMG	**Summit**	**10.60**	**292**	*e*P	**Pn**	**06 00 09.7**	**+1.7**
DOMB	**Dombas**	**10.77**	**145**	*e*P	**Pn**	**06 00 10.2**	**0.0**
NOD	**Norderasen**	**10.79**	**129**	*e*P	**Pn**	**06 00 11.7**	**+1.3**
VADS	**Vadso**	**10.97**	**81**	*e*P	**Pn**	**06 00 14.5**	**+1.7**
SKAR	**Skarslia**	**11.92**	**150**	*e*P	**Pn**	**06 00 26.1**	**+0.3**
NB2	**NORSAR Subarra**	**12.10**	**142**	Pn	**Pn**	**06 00 29.4**	**+1.0**
	baz=329,slow=14						
NB2	**NORSAR Subarra**	**12.10**	**142**	Pn	**Pn**	**06 00 29.4**	**+1.0**
	baz=329,slow=14						
NOA	**NORSAR Array B**	**12.10**	**142**	Pn	**Pn**	**06 00 28.4**	**+0.1**
	baz=330,slow=12,SNR=3.3						
NOA				Sn	**Sn**	**06 02 41.0**	**-2.1**
	baz=327,slow=22,SNR=3.2						
NOA				LR	LR	06 05 06.3	
	comp=Z,719nm,20.3s,baz=335,slow=37						
	comp=Z,0.6nm,0.7s						
NRA0	**NORESS Array S**	**12.45**	**142**	Pn	**Pn**	**06 00 33.0**	**0.0**
	baz=339,slow=12						
NRA0	**NORESS Array S**	**12.45**	**142**	Pn	**Pn**	**06 00 33.0**	**0.0**
	baz=339,slow=12						
APA0	**Apatity Array**	**13.33**	**89**	Pn	**Pn**	**06 00 44.7**	**-0.3**
	baz=280,slow=14						
APA0	**Apatity Array**	**13.33**	**89**	Pn	**Pn**	**06 00 44.7**	**-0.3**
	baz=280,slow=14						
HFS	**Hagfors**	**13.43**	**139**	Pn	**Pn**	**06 00 47.1**	**+0.6**
	baz=333,slow=11						
HFS	**Hagfors**	**13.43**	**139**	Pn	**Pn**	**06 00 47.1**	**+0.6**
	baz=333,slow=11						
HFS	**Hagfors**	**13.43**	**139**	Pn	**Pn**	**06 00 46.4**	**0.0**
	comp=Z,0.7nm,0.3s,baz=342,slow=9.3,SNR=27						
HFS				LR	LR	06 05 37.3	
	comp=Z,901nm,21.8s,baz=312,slow=36						
	comp=Z,3.8nm,0.6s						
FIA0	**FINESS Array S**	**15.46**	**115**	P	**Pn**	**06 01 13.0**	**-0.8**
	baz=337,slow=11						
FIA0	**FINESS Array S**	**15.46**	**115**	P	**Pn**	**06 01 13.0**	**-0.8**
	baz=337,slow=11						
FINES	**FINESS Array B**	**15.46**	**115**	Pn	**Pn**	**06 01 13.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=320,slow=12,SNR=8.8						
FINES				LR	LR	06 06 34.6	
	comp=Z,752nm,18.8s,baz=351,slow=35						
	comp=Z,1.6nm,0.7s						
EKA	**Eskdalemuir Ar**	**16.24**	**178**	P	**Pn**	**06 01 24.9**	**+0.9**
EKA	**Eskdalemuir Ar**	**16.24**	**178**	P	**Pn**	**06 01 24.9**	**+0.9**
EKA	**Eskdalemuir Ar**	**16.24**	**178**	Pn	**Pn**	**06 01 24.5**	**+0.6**
	baz=358,slow=12						
	comp=Z,0.3nm,0.4s						
BRG	**Berggiesshubel**	**22.24**	**149**	*e*P	**P**	**06 02 38.8**	**+6.2**
BRG				Amp		06 02 43.1	
	comp=Z,3.0nm,0.8s						
BRG				Amp		06 09 39.0	
	comp=Z,0.4nm,20.9s						
OBN	**Obninsk**	**23.80**	**112**	LR	LR	06 11 35.5	
	comp=Z,490nm,18.8s,baz=10,slow=35						
GERES	**GERESS Array B**	**24.17**	**151**	P	**P**	**06 02 52.8**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=356,slow=7.9,SNR=1.6						
GERES				LR	LR	06 12 12.8	
	comp=Z,190nm,19.5s,baz=332,slow=36						
	comp=Z,0.5nm,0.6s						
RES	**Resolute Bay**	**24.18**	**320**	LR	LR	06 11 55.6	
	comp=Z,426nm,20.6s,baz=22,slow=36						
VRAC	**Vranov**	**24.21**	**146**	LR	LR	06 12 47.6	
	comp=Z,219nm,18.0s,baz=340,slow=38						
FRB	**Frobisher Bay**	**24.52**	**285**	LR	LR	06 11 37.4	
	comp=Z,370nm,21.9s,baz=34,slow=34						
KIRV	**Kirov**	**24.91**	**93**	LR	LR	06 12 13.1	
	comp=Z,253nm,18.1s,baz=319,slow=35						
VYHS	**Vyhne**	**25.41**	**143**	*e*	P	06 03 12.2	+8.9
DAVOX	**Davos/Dischmat**	**25.66**	**158**	LR	LR	06 12 02.0	
	comp=Z,105nm,20.5s,baz=350,slow=34						
AKASG	**Malin Array Be**	**25.69**	**127**	P	**P**	**06 03 06.5**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=335,slow=9.1,SNR=3.2						
AKASG				LR	LR	06 12 55.4	
	comp=Z,438nm,19.1s,baz=28,slow=36						
	comp=Z,0.6nm,0.5s						
NRIK	**Noril'sk**	**28.00**	**49**	LR	LR	06 18 20.9	
	comp=Z,62nm,18.7s,baz=17,slow=44						
BELG	**Belogornoye**	**29.50**	**103**	P	**P**	**06 03 41.5**	**+1.6**
	comp=Z,2.1nm,0.5s,baz=79,slow=16,SNR=1.8						
BELG				LR	LR	06 14 57.1	
	comp=Z,451nm,18.4s,baz=341,slow=35						
	comp=Z,2.1nm,0.5s						
ARU	**Arti**	**29.57**	**87**	LR	LR	06 15 21.6	
	comp=Z,195nm,18.1s,baz=317,slow=36						
MLR	**Muntele Rosu**	**29.76**	**135**	LR	LR	06 16 10.4	
	comp=Z,579nm,19.4s,baz=327,slow=38						
SCHQ	**Schefferville**	**30.99**	**271**	LR	LR	06 14 51.5	
	comp=Z,240nm,20.3s,baz=62,slow=33						
ESDC	**Sonseca Array**	**31.91**	**180**	P	**P**	**06 04 02.2**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=0.0,slow=9.0,SNR=4.7						
ESDC				LR	LR	06 15 16.3	
	comp=Z,125nm,20.4s,baz=351,slow=33						
	comp=Z,0.7nm,0.7s						
AKTO	**Aktyubinsk**	**34.48**	**94**	LR	LR	06 18 15.9	
	comp=Z,246nm,18.1s,baz=36,slow=36						
VAE	**Valguarnera**	**35.40**	**154**	LR	LR	06 18 56.7	
	comp=Z,119nm,19.6s,baz=327,slow=36						
KBZ	**Khabaz**	**35.82**	**115**	LR	LR	06 19 04.7	
	comp=Z,134nm,18.0s,baz=346,slow=36						
BVAR	**Borovoye Array**	**36.18**	**80**	P	**P**	**06 04 39.7**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=324,slow=7.1,SNR=1.9						
BVAR				LR	LR	06 19 01.9	
	comp=Z,82nm,19.6s,baz=329,slow=36						
	comp=Z,0.4nm,0.4s						
INK	**Inuvik**	**36.46**	**331**	LR	LR	06 20 43.2	
	comp=Z,182nm,18.5s,baz=22,slow=38						
KEST	**Kesra**	**36.52**	**162**	LR	LR	06 19 44.6	
	comp=Z,150nm,20.0s,baz=250,slow=36						
BRTR	**Keskin Array B**	**37.04**	**129**	P	**P**	**06 04 47.1**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=326,slow=7.0,SNR=1.7						
BRTR				LR	LR	06 21 55.8	
	comp=Z,189nm,18.5s,baz=342,slow=40						
	comp=Z,0.3nm,0.5s						
YKA	**Yellowknife Ar**	**38.07**	**315**	P	**P**	**06 04 55.6**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=32,slow=8.2,SNR=3.6						
YKA				LR	LR	06 20 09.0	
	comp=Z,182nm,18.6s,baz=49,slow=36						
	comp=Z,0.5nm,0.8s						
MDT	**Midelt**	**38.75**	**181**	LR	LR	06 19 40.4	
	comp=Z,52nm,22.0s,baz=3.0,slow=34						
GNI	**Garni**	**39.65**	**115**	LR	LR	06 22 05.7	
	comp=Z,155nm,19.4s,baz=328,slow=37						
ZALV	**Zalesovo Beam**	**39.80**	**67**	LR	LR	06 24 17.0	
	comp=Z,55nm,21.9s,baz=276,slow=40						
KURBB	**Kurchatov Arra**	**40.80**	**75**	P	**P**	**06 05 18.4**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=332,slow=6.3,SNR=3.2						
KURBB				LR	LR	06 23 01.3	
	comp=Z,97nm,20.4s,baz=162,slow=37						
	comp=Z,0.2nm,0.4s						
ILAR	**Eielson Array**	**41.65**	**337**	P	**P**	**06 05 25.5**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=14,slow=6.2,SNR=5.2						
ILAR				LR	LR	06 24 34.5	
	comp=Z,119nm,19.3s,baz=51,slow=39						
	comp=Z,0.4nm,0.8s						
SADO	**Sadowa**	**43.66**	**274**	LR	LR	06 22 27.2	
	comp=Z,174nm,18.3s,baz=62,slow=34						
MMAI	**Mount Meron Ar**	**43.85**	**130**	LR	LR	06 26 59.2	
	comp=Z,74nm,18.2s,baz=276,slow=40						
ULM	**L

ASAR	**Alice Springs**	**126.54**	**50**	PKP	**PKiKP**	**06 16 39.7**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=355,slow=3.4,SNR=5.6						

OTT 29 06:05:21.1±0.2, 47°53N×51°17W, h18km, MN3.6/2, 118km east from St. John''s, NI Eastern Background Seismic Zone., North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRLN	**Deer Lake**	**4.56**	**295**	PN	Pn	06 06 28.6	-0.6
DRLN				SN	Sn	06 07 19.0	-2.7
DRLN				LG	Lg	06 07 44.5	
DRLN				Trac		06 07 47.0	
	comp=Z,376nm,1.9s						
CHEG	**Cheticamp, Nov**	**6.52**	**267**	PN	Pn	06 06 55.1	-1.1
CHEG				SN	Sn	06 08 05.0	-5.0
CHEG				Trac		06 08 14.5	
	comp=Z,53nm,0.7s						
GBN	**Guysborough**	**7.45**	**257**	PN	Pn	06 07 08.1	-0.8
GBN				SN	Sn	06 08 27.4	-5.5
GBN				Trac		06 08 31.1	
	comp=Z,88nm,1.0s						
BJBQ	**Baie Johan-Bee**	**8.15**	**294**	PN	Pn	06 07 17.2	-1.2
BJBQ				SN	Sn	06 08 43.8	-6.2
BJBQ				Trac		06 09 04.5	
	comp=Z,568nm,2.6s						

*IDC **29** 06:09:03.5±1.4, 26°75N×140°93E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=84.3km s-min=31.0km az=97.0*
*JMA **29** 06:09:17.3±0.2, 26°6N±0°7×14°3E±°, h94km, MV3.8/7, NEAR CHICHIJIMA ISLAND*
ISC 29 06:09:15.8±1.2, 26°5N±0°1×141°4E±0°1, h100km, n7, σ1§13/9, mb3.7/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**0.73**	**82**	P		**Pn**	**06 09 34.2**	**+0.6**
JHH2				S		**Sn**	**06 09 46.9**	**0.0**
CBIJ	**Chichi jima**	**0.92**	**53**	*e*P		**Pn**	**06 09 35.8**	**+0.4**
CBIJ				*e*S		**Sn**	**06 09 49.9**	**-0.3**
BSO3	**Boso 3**	**8.27**	**355**	*e*P		**Pn**	**06 11 12.5**	**-0.2**
BSO4	**Boso 4**	**8.47**	**354**	*e*P		**Pn**	**06 11 17.6**	**+2.0**
WRA	**Warramunga Arr**	**46.70**	**189**	P		**P**	**06 17 35.4**	**+0.6**
	0.6nm,0.5s,baz=10,slow=8.6,SNR=8.2						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**58.55**	**28**	P		**P**	**06 19 01.5**	**-0.1**
	0.4nm,0.8s,baz=267,slow=5.3,SNR=3.0						
	0.4nm,0.8s						
FINES	**FINESS Array B**	**78.12**	**334**	P		**P**	**06 21 02.0**	**-1.6**
	2.4nm,0.9s,baz=71,slow=6.7,SNR=5.5						
	2.4nm,0.9s						

*SJA **29** 06:15:05.5±0.9, 23°35S×66°78W, h231km±6km, ML3.5, MW3.4*
*GUC **29** 06:15:07.7±0.5, 23°37S×67°07W, h245km±4km, ML3.7*
ISC 29 06:15:03.9±1.7, 23°38S±0°04×66°81W±0°05, h243km±12km, n39, σ1§86/68, 6C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**1.33**	**288**	*i* P		**Pn**	**06 15 42.3**	**+1.6**
AF01				*e*S		**S**	**06 16 09.2**	**-0.2**
YJA	**Yavi**	**1.69**	**45**	*i* P		**Pn**	**06 15 44.2**	**+0.5**
YJA				*e*S		**S**	**06 16 14.0**	**-0.7**
SLA	**San Lorenzo**	**1.79**	**139**	*i* P		**Pn**	**06 15 45.6**	**+1.5**
SLA				*e*S		**S**	**06 16 14.7**	**-1.1**
AZAP	**Zapla**	**1.81**	**118**	*i* P		**Pn**	**06 15 44.6**	**+0.3**
AZAP				*e*S		**S**	**06 16 15.0**	**-1.1**
LVC	**Limon Verde**	**2.08**	**291**	*i* P		**Pn**	**06 15 48.5**	**+1.5**
LVC				*e*S		**S**	**06 16 19.5**	**-1.3**
LVC	**Limon Verde**	**2.08**	**291**	*i* P		**Pn**	**06 15 48.5**	**+1.5**
LVC				*e*S		**S**	**06 16 19.1**	**-1.6**
LVC				IAML			06 16 20.8	
	comp=Z,218nm,0.3s						
PB15	**IPOC Station P**	**2.45**	**273**	*i* P		**Pn**	**06 15 52.1**	**+1.7**
PB15	**IPOC Station P**	**2.45**	**273**	*e*P		**Pn**	**06 15 52.2**	**+1.8**
PB15				*e*S		**S**	**06 16 25.8**	**-1.1**
PB06	**IPOC Station P**	**2.63**	**284**	*i* P		**Pn**	**06 15 54.1**	**+1.9**
PB06				*e*S		**S**	**06 16 28.9**	**-1.3**
PB06				IAML			06 16 32.4	
	comp=Z,119nm,0.1s						
PB06	**IPOC Station P**	**2.63**	**284⇑**	*e*P		**Pn**	**06 15 54.0**	**+1.9**
PB06				*e*S		**S**	**06 16 28.6**	**-1.6**
PB06				IAML			06 16 30.7	
	comp=N,242nm,0.1s						
PB09	**IPOC Station P**	**2.74**	**305**	*i* P		**Pn**	**06 15 55.3**	**+1.9**
PB09				*e*S		**S**	**06 16 30.9**	**-1.5**
PB09				IAML			06 16 36.4	
	comp=Z,58nm,0.2s						
PB09	**IPOC Station P**	**2.74**	**305⇑**	*i* P		**Pn**	**06 15 55.6**	**+2.2**
PB09				*e*S		**S**	**06 16 31.5**	**-0.9**
PB09				IAML			06 16 34.3	
	comp=N,65nm,0.2s						
GO02	**Mina Guanaco**	**3.10**	**234**	*i* P		**Pn**	**06 15 59.3**	**+2.0**
GO02	**Mina Guanaco**	**3.10**	**234⇑**	*i* P		**Pn**	**06 15 59.5**	**+2.1**
GO02				*e*S		**S**	**06 16 39.2**	**-0.3**
GO02				IAML			06 16 40.6	
	comp=N,206nm,0.1s						
PB05	**IPOC Station P**	**3.17**	**279**	*i* P		**Pn**	**06 15 59.7**	**+1.8**
PB05				*e*S		**S**	**06 16 39.1**	**-1.4**
PB05	**IPOC Station P**	**3.17**	**279⇑**	*i* P		**Pn**	**06 15 59.6**	**+1.7**
PB05				*e*S		**S**	**06 16 38.5**	**-2.1**
PB05				IAML			06 16 42.8	
	comp=E,56nm,0.1s						
PB04	**IPOC Station P**	**3.25**	**288**	*i* P		**Pn**	**06 16 00.7**	**+1.8**
PB04				IAML			06 16 44.2	
	comp=Z,139nm,0.2s						
PB04	**IPOC Station P**	**3.25**	**288⇑**	*i* P		**Pn**	**06 16 00.8**	**+1.8**
PB04				*e*S		**S**	**06 16 40.6**	**-1.7**
PB07	**IPOC Station P**	**3.29**	**299**	*i* P		**Pn**	**06 16 01.0**	**+1.7**
PB07				IAML			06 16 45.9	
	comp=Z,72nm,0.2s						
PB07	**IPOC Station P**	**3.29**	**299⇑**	*i* P		**Pn**	**06 16 01.1**	**+1.7**
PB07				*e*S		**S**	**06 16 40.9**	**-2.1**
PB01	**IPOC Station P**	**3.40**	**313**	*i* P		**Pn**	**06 16 02.1**	**+1.6**
PB01				IAML			06 16 46.8	
	comp=Z,63nm,0.2s						
PB01	**IPOC Station P**	**3.40**	**313**	*e*P		**Pn**	**06 16 02.3**	**+1.8**
PB01				*e*S		**S**	**06 16 44.1**	**-1.2**
PB14	**IPOC Station P**	**3.51**	**249**	*i* P		**Pn**	**06 16 03.5**	**+1.5**
PB14				IAML			06 16 48.9	
	comp=Z,45nm,0.2s						
PB14	**IPOC Station P**	**3.51**	**249**	*e*P		**Pn**	**06 16 04.0**	**+2.0**
PB14				*e*S		**S**	**06 16 46.5**	**-1.5**
PB02	**IPOC Station P**	**3.52**	**305**	*i* P		**Pn**	**06 16 03.1**	**+1.2**
PB02				IAML			06 16 47.5	
	comp=Z,109nm,0.3s						
PB02	**IPOC Station P**	**3.52**	**305**	*e*P		**Pn**	**06 16 03.5**	**+1.6**
PB02				*e*S		**S**	**06 16 45.0**	**-2.7**
PB08	**IPOC Station P**	**3.89**	**325**	*e*P		**Pn**	**06 16 09.4**	**+2.9**
PB08				*e*S		**S**	**06 16 55.8**	**-0.3**
PATCX	**Punta Patache**	**4.01**	**309**	*i* P		**Pn**	**06 16 09.1**	**+1.4**
PATCX				IAML			06 17 02.1	
	comp=Z,30nm,0.3s						
TA01	**Diego Aracena**	**4.20**	**311**	*e*P		**Pn**	**06 16 11.5**	**+1.8**
TA01				*e*S		**S**	**06 16 59.0**	**-3.0**
HMBC	**Humberstone**	**4.21**	**317**	*i* P		**Pn**	**06 16 11.1**	**+1.0**
HMBC				IAML			06 17 09.1	
	comp=Z,49nm,1.4s						
HMBC	**Humberstone**	**4.21**	**317**	*e*P		**Pn**	**06 16 11.6**	**+1.6**
HMBC				*e*S		**S**	**06 16 59.1**	**-3.3**
GO01	**Chusmiza**	**4.31**	**329**	*e*P		**Pn**	**06 16 14.7**	**+3.1**
GO01				*e*S		**S**	**06 17 05.3**	**+0.1**
AC01	**Pan de Azucar**	**4.41**	**231**	*e*P		**Pn**	**06 16 13.6**	**+1.4**
AC01				*e*S		**S**	**06 17 04.1**	**-2.5**
PB11	**IPOC Station P**	**4.47**	**323**	*i* P		**Pn**	**06 16 14.7**	**+1.4**
PB11				IAML			06 17 10.8	
	comp=Z,21nm,0.2s						
PB11	**IPOC Station P**	**4.47**	**323**	*e*P		**Pn**	**06 16 14.8**	**+1.6**
PB11				*e*S		**S**	**06 17 05.5**	**-2.7**
AC06	**Mina Casimiro**	**5.10**	**218**	*e*P		**Pn**	**06 16 22.0**	**+1.4**
AC06				*e*S		**S**	**06 17 20.4**	**-1.4**
GO03	**Copiap**	**5.21**	**216**	*e*P		**Pn**	**06 16 23.4**	**+1.3**
GO03				*e*S		**S**	**06 17 22.6**	**-1.8**
PB12	**IPOC Station P**	**5.77**	**325**	*e*P		**Pn**	**06 16 30.8**	**+1.6**
PB12				*e*S		**S**	**06 17 32.3**	**-4.9**
AC04	**Llanos de Chal**	**6.15**	**218**	*e*P		**Pn**	**06 16 34.8**	**+1.0**
AC04				*e*S		**S**	**06 17 43.3**	**-2.3**

IDC 29 06:24:12.1±48.0, 18°02S×176°46W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=894.5km s-min=176.9km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.21**	**242**	P		**P**	06 31 50.5	-0.1
	1.2nm,0.8s,baz=76,slow=8.3,SNR=3.0						
	1.2nm,0.8s						
WRA	**Warramunga Arr**	**46.44**	**259**	P		**P**	06 32 40.6	-0.5
	0.3nm,0.5s,baz=96,slow=7.3,SNR=12						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**46.55**	**254**	P		**P**	06 32 42.0	+0.1
	2.7nm,0.5s,baz=88,slow=8.5,SNR=78						
	2.7nm,0.5s						

*JMA **29** 06:29:54.2±0.4, 44°N±2°×14°8E±°, h0km, MV4.4/23, SE OFF ETOROFU*
*SKHL **29** 06:29:55.5±0.4, 44°40N×148°20E, h40km±4km, mb4.6/3*
ISC 29 06:29:51.8±3.1, 44°28N±0°10×148°3E±0°2, h5km±15km, n15, σ1§30/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.00**	**342**	*i* P		**Pg**	**06 30 11.0**	**0.0**
KUR				AMB	AMB	06 30 11.6	
	490nm,0.3s						
KUR				*i* S		**Sg**	**06 30 22.8**	**-1.2**
KUR				A	A	06 30 23.6	
	510nm,0.3s						
KUR				A	A	06 30 23.6	
	1µm,0.3s						
SHO	**Shikotan**	**1.13**	**249**	*e*P		**Pn**	**06 30 14.3**	**0.0**
SHO				AMB	AMB	06 30 14.6	
	210nm,0.4s						
SHO				*e*S		**Sg**	**06 30 28.1**	**-0.1**
SHO				A	A	06 30 35.0	
	630nm,0.3s						
SHO				A	A	06 30 35.0	
	400nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.77**	**263**	*e*P		**Pn**	**06 30 23.3**	**+0.3**
YUK				AMB	AMB	06 30 25.0	
	240nm,0.3s						
YUK				*e*S		**Sn**	**06 30 43.8**	**-2.0**
YUK				A	A	06 30 53.9	
	490nm,0.3s						
YUK				A	A	06 30 53.9	
	560nm,0.3s						
NEM2	**Nemuro 2**	**2.06**	**245**	*e*P		**Pn**	**06 30 27.1**	**+0.1**
NEM2				*e*S		**Sn**	**06 30 50.7**	**-2.3**
NMR	**Nemuro--Hokkai**	**2.07**	**245**	*i* P		**Pn**	**06 30 27.1**	**0.0**
NMR				*e*S		**Sn**	**06 30 51.1**	**-2.1**
JRA	**Rausu**	**2.31**	**263**	*e*P		**Pn**	**06 30 32.0**	**+1.6**
JRA				*e*S		**Sn**	**06 30 59.9**	**+0.7**
JNSB	**Nemuroshibetsu**	**2.43**	**259**	*e*P		**Pn**	**06 30 33.5**	**+1.4**
JNSB				*e*S		**Sn**	**06 31 02.7**	**+0.6**
JKHN	**Kushirohamanak**	**2.57**	**243**	*e*P		**Pn**	**06 30 34.6**	**+0.6**
JKHN				*e*S		**Sn**	**06 31 04.6**	**-1.0**
JNK	**Nakash**	**2.67**	**256**	*e*P		**Pn**	**06 30 36.6**	**+1.1**
JNK				*e*S		**Sn**	**06 31 07.3**	**-0.9**
AKK	**Akkeshi**	**2.81**	**244**	*e*P		**Pn**	**06 30 37.6**	**+0.3**
JAK	**Akkeshi**	**2.91**	**245**	*e*P		**Pn**	**06 30 39.3**	**+0.6**
JAR	**Ashorobuto**	**3.42**	**255**	*e*P		**Pn**	**06 30 47.5**	**+1.8**
JAR				*e*S		**Sn**	**06 31 27.3**	**+0.7**
JOB	**Onbets**	**3.52**	**249**	*e*P		**Pn**	**06 30 48.8**	**+1.7**
JNBK	**Urakawa-nobuka**	**4.51**	**246**	*e*P		**Pn**	**06 31 02.5**	**+1.7**
JOT	**Ohata**	**6.06**	**244**	*e*P		**Pn**	**06 31 23.1**	**+1.1**

*IDC **29** 06:39:30.0±1.6, 3°91S×152°39E, h0km, mb4.0/9, mbtmp4.0/10, ML1.4/1, MS3.4/14, Error ellipse: s-maj=58.4km s-min=20.9km az=116.0*
ISC 29 06:39:35.2±1.8, 3°9S±0°2×152°4E±0°4, h35km, n25, σ0§92/11, mb3.9/9, MS3.3/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.54**	**224**	Pn		**Pn**	**06 41 23.2**	**+0.6**
	0.4nm,0.3s,baz=9.9,slow=12,SNR=2.0						
PMG				LR		LR	06 44 38.6	
	comp=Z,180nm,18.2s,baz=178,slow=41						
	8.8nm,0.7s						
HNR	**Honiara**	**9.25**	**127**	LR		LR	06 45 47.5	
	comp=Z,5µm,18.8s,baz=300,slow=41						
CTA	**Charters Tower**	**17.14**	**200**	LR		LR	06 49 21.5	
	comp=Z,77nm,21.8s,baz=45,slow=34						
GUMO	**Guam**	**18.96**	**337**	LR		LR	06 51 28.9	
	comp=Z,57nm,18.6s,baz=113,slow=38						
DZM	**Mont Dzumac**	**22.58**	**144**	LR		LR	06 52 34.1	
	comp=Z,66nm,21.5s,baz=171,slow=35						
WRA	**Warramunga Arr**	**23.75**	**226**	P		**P**	**06 44 42.5**	**-2.0**
	4.0nm,0.9s,baz=50,slow=10.0,SNR=21						
	4.0nm,0.9s						
ASAR	**Alice Springs**	**26.54**	**221**	P		**P**	**06 45 10.1**	**+0.1**
	1.7nm,0.8s,baz=51,slow=9.2,SNR=16						
	1.7nm,0.8s						
JCJ	**Chichijima**	**32.40**	**343**	LR		LR	06 57 44.5	
	comp=Z,50nm,21.4s,baz=95,slow=34						
KAPI	**Kappang**	**32.59**	**267**	LR		LR	07 00 33.1	
	comp=Z,20nm,18.8s,baz=84,slow=39						
JNU	**Nakatsue**	**42.13**	**333**	LR		LR	07 02 13.9	
	comp=Z,33nm,19.3s,baz=162,slow=32						
MJAR	**Matsushiro Arr**	**42.41**	**343**	LR		LR	07 02 08.0	
	comp=Z,83nm,19.4s,baz=162,slow=32						
RPZ	**Rata Peaks**	**42.90**	**160**	LR		LR	07 03 27.2	
	comp=Z,102nm,21.8s,baz=316,slow=34						
KSRS	**Korea Array**	**47.07**	**333**	LR		LR	07 06 08.2	
	comp=Z,19nm,20.2s,baz=135,slow=34						
KLR	**Kul'dur**	**55.92**	**344**	LR		LR	07 10 01.1	
	comp=Z,37nm,21.5s,baz=168,slow=33						
PETK	**Petropavlovsk-**	**57.01**	**4**	LR		LR	07 08 45.4	
	comp=Z,27nm,20.9s,baz=124,slow=31						
CMAR	**Chiang Mai Arr**	**57.18**	**295**	P		**P**	**06 49 19.9**	**+0.8**
	0.4nm,0.3s,baz=112,slow=4.8,SNR=1.9						
	0.4nm,0.3s						
SONM	**Songino Array**	**65.40**	**328**	P		**P**	**06 50 13.4**	**-1.0**
	0.5nm,0.4s,baz=149,slow=6.7,SNR=2.4						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**79.44**	**319**	P		**P**	**06 51 38.6**	**+0.5**
	0.7nm,0.9s,baz=92,slow=4.8,SNR=3.6						
	0.7nm,0.9s						
ZALV	**Zalesovo Beam**	**80.23**	**326**	P		**P**	**06 51 41.7**	**-0.5**
	0.7nm,0.6s,baz=116,slow=6.7,SNR=1.8						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**81.51**	**22**	P		**P**	**06 51 49.1**	**+0.4**
	1.1nm,1.0s,baz=246,slow=4.2,SNR=15						
	1.1nm,1.0s						
NRIK	**Noril'sk**	**85.03**	**341**	P		**P**	**06 52 06.9**	**+0.1**
	2.0nm,0.8s,baz=150,slow=8.7,SNR=2.6						
	2.0nm,0.8s						
BVAR	**Borovoye Array**	**88.33**	**323**	P		**P**	**06 52 23.1**	**-0.2**
	1.4nm,0.6s,baz=101,slow=7.7,SNR=6.7						
	1.4nm,0.6s						
ARU	**Arti**	**95.40**	**326**	LR		LR	07 39 20.1	
	comp=Z,47nm,18.1s,baz=46,slow=38						
LPIG	**La Paz**	**98.22**	**66**	LR		LR	07 27 22.5	
	comp=Z,43nm,21.7s,baz=300,slow=29						
TORD	**Torodi Ar. Bea**	**149.68**	**289**	PKPbc		**PKiKP**	**06 59 23.3**	**0.0**
	0.5nm,1.0s,baz=62,slow=4.6,SNR=2.4						

*IDC **29** 06:50:32.2±6.0, 4°08S×152°27E, h78km±53km, mb3.4/6, mbtmp3.8/7, ML1.7/1, MS3.3/10, Error ellipse: s-maj=68.0km s-min=30.4km az=117.0*
ISC 29 06:50:27.7±2.0, 3°9S±0°3×152°4E±0°5, h35km, n16, σ1§68/8, mb3.6/6, MS3.3/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.58**	**223**	P		**Pn**	**06 52 17.5**	**+1.8**
	0.7nm,0.3s,baz=23,slow=13,SNR=1.3						
PMG				LR		LR	06 55 09.3	
	comp=Z,178nm,21.4s,baz=330,slow=38						
	3.9nm,0.3s						
CTA	**Charters Tower**	**17.20**	**200**	LR		LR	07 00 56.0	
	comp=Z,109nm,18.1s,baz=76,slow=37						
GUMO	**Guam**	**18.90**	**337**	LR		LR	07 02 13.0	
	comp=Z,39nm,18.2s,baz=124,slow=37						
DZM	**Mont Dzumac**	**22.63**	**144**	LR		LR	07 02 50.3	
	comp=Z,58nm,21.1s,baz=32,slow=33						
WRA	**Warramunga Arr**	**23.79**	**226**	P		**P**	**06 55 34.5**	**-2.9**
	1.3nm,0.9s,baz=49,slow=9.8,SNR=7.9						
	1.3nm,0.9s						
ASAR	**Alice Springs**	**26.59**	**221**	P		**P**	**06 56 01.5**	**-1.4**
	0.5nm,0.5s,baz=53,slow=8.6,SNR=6.5						
ASAR				LR		LR	07 06 01.5	
	comp=Z,55nm,19.1s,baz=43,slow=35						
	0.5nm,0.5s						
STKA	**Stephens Creek**	**29.66**	**199**	LR		LR	07 08 50.4	
	comp=Z,61nm,18.1s,baz=24,slow=37						
JNU	**Nakatsue**	**42.07**	**333**	LR		LR	07 15 44.6	
	comp=Z,30nm,18.4s,baz=160,slow=36						
MJAR	**Matsushiro Arr**	**42.34**	**343**	LR		LR	07 14 18.0	
	comp=Z,47nm,18.4s,baz=156,slow=34						
RPZ	**Rata Peaks**	**42.97**	**160**	LR		LR	07 14 28.6	
	comp=Z,60nm,20.2s,baz=330,slow=34						
NWAO	**Narrogin (SRO)**	**43.77**	**224**	LR		LR	07 18 09.6	
	comp=Z,39nm,20.7s,baz=192,slow=38						
SONM	**Songino Array**	**65.34**	**328**	P		**P**	**07 01 06.6**	**0.0**
	0.4nm,0.6s,baz=150,slow=6.0,SNR=1.9						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**79.38**	**319**	P		**P**	**07 02 30.6**	**+0.3**
	0.4nm,0.8s,baz=103,slow=5.2,SNR=3.7						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**81.45**	**22**	P		**P**	**07 02 41.6**	**+0.7**
	1.5nm,0.9s,baz=243,slow=5.3,SNR=14						
	1.5nm,0.9s						
BVAR	**Borovoye Array**	**88.28**	**323**	P		**P**	**07 03 15.1**	**-0.4**
	1.1nm,0.8s,baz=90,slow=2.9,SNR=3.5						
	1.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.65**	**289**	PKPbc		**PKPbc**	**07 10 14.5**	**-0.3**
	0.3nm,0.6s,baz=42,slow=6.6,SNR=2.6						

IDC 29 06:53:59.0±12.0, 6°51S×130°06E, h0km, mb3.9/1, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=173.0km s-min=127.8km az=136.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.99**	**163**	Pn		Pn	06 57 18.6	0.0
	0.2nm,0.3s,baz=346,slow=13,SNR=17						
WRA				Sn		Sn	06 59 40.4	-14
	0.4nm,0.3s,baz=334,slow=22,SNR=8.7						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**17.46**	**168**	P		Pn	06 58 04.2	+0.1
	0.1nm,0.3s,baz=347,slow=13,SNR=6.6						
ASAR				S		Sn	07 01 04.8	-14
	0.3nm,0.8s,baz=346,slow=22,SNR=1.4						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**27.45**	**158**	P		P	06 59 46.6	-0.1
	0.8nm,0.5s,baz=346,slow=8.3,SNR=3.1						
	0.8nm,0.5s						

IDC 29 07:13:56.7±1.4, 29°93N×67°63E, h0km, mb3.4/4, mbtmp3.5/5, ML2.9/1, MS3.1/3, Error ellipse: s-maj=44.6km s-min=26.3km az=136.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**10.45**	**232**	Pn		Pn	07 16 29.2	+1.4
	0.1nm,0.3s,baz=115,slow=7.8,SNR=1.1						
	2.5nm,0.8s						
AAK	**Ala-Archa**	**13.83**	**22**	LR		LR	07 23 50.5	
	comp=Z,45nm,18.0s,baz=228,slow=43						
MKAR	**Makanchi Array**	**20.33**	**30**	P		P	07 18 34.0	-0.3
	0.3nm,0.5s,baz=222,slow=9.5,SNR=2.2						
MKAR				LR		LR	07 27 03.3	
	comp=Z,34nm,18.6s,baz=141,slow=39						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**22.23**	**19**	P		P	07 18 55.4	+0.6
	0.4nm,0.5s,baz=209,slow=9.1,SNR=5.8						
	0.4nm,0.5s						
LEM	**Lembang**	**53.00**	**127**	LR		LR	07 48 23.1	
	comp=Z,42nm,18.3s,baz=214,slow=39						
TORD	**Torodi Ar. Bea**	**62.80**	**270**	P		P	07 24 24.1	-0.4
	0.9nm,0.7s,baz=51,slow=6.9,SNR=6.6						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**82.99**	**122**	P		P	07 26 24.0	0.0
	0.5nm,0.3s,baz=306,slow=6.4,SNR=4.1						
	0.5nm,0.9s						

IDC 29 07:16:56.8±1.8, 2°85S×150°97E, h0km, mb3.4/3, mbtmp3.5/4, ML2.1/1, MS3.1/4, Error ellipse: s-maj=159.0km s-min=25.5km az=122.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.53**	**210**	Pn		Pn	07 18 49.3	+1.4
	1.6nm,0.3s,baz=1.2,slow=12,SNR=2.6						
	4.6nm,0.5s						
GUMO	**Guam**	**17.42**	**340**	LR		LR	07 27 36.5	
	comp=Z,33nm,20.6s,baz=82,slow=37						
CTA	**Charters Tower**	**17.74**	**195**	LR		LR	07 26 55.1	
	comp=Z,38nm,19.7s,baz=90,slow=34						
WRA	**Warramunga Arr**	**23.50**	**222**	P		P	07 22 07.2	-1.3
	1.0nm,0.9s,baz=48,slow=9.5,SNR=4.8						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**26.47**	**217**	P		P	07 22 36.5	+0.6
	0.3nm,0.7s,baz=50,slow=9.3,SNR=8.0						
	0.3nm,0.7s						
MJAR	**Matsushiro Arr**	**40.96**	**344**	LR		LR	07 38 41.8	
	comp=Z,48nm,20.6s,baz=142,slow=32						
RPZ	**Rata Peaks**	**44.42**	**159**	LR		LR	07 41 09.4	
	comp=Z,53nm,18.9s,baz=342,slow=33						
ILAR	**Eielson Array**	**81.06**	**23**	P		P	07 29 13.5	0.0
	0.3nm,0.7s,baz=247,slow=5.9,SNR=8.0						
	0.3nm,0.7s						

IDC 29 07:31:06.7±3.6, 53°67N×90°96E, h0km, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=29.5km s-min=24.7km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**3.65**	**277**	Pn		Pn	07 32 05.8	+1.3
	0.7nm,0.3s,baz=96,sl

MKAR	**Makanchi Array**	**67.51**	**327**	P		P	08 07 33.0	0.0
	0.3nm,0.3s,baz=122,slow=7.4,SNR=5.8 0.3nm,0.3s							

IDC 29 08:01:42.0±2.0,5.97S×130.86E,h0km,mb3.7/2, mbtmp3.8/4,ML3.9/2,Error ellipse: s-maj=139.5km s-min=27.4km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.30**	**167**	Pn	Pn	08 05 06.9	+1.0
	0.5nm,0.3s,baz=348,slow=13,SNR=9.2						
WRA				Sn	Sn	08 07 33.3	-12
	0.6nm,0.3s,baz=334,slow=23,SNR=7.3 0.8nm,0.3s						
ASAR	**Alice Springs**	**17.84**	**171**	P	P	08 05 53.6	+1.0
	0.6nm,0.3s,baz=350,slow=11,SNR=26						
ASAR				S	Sn	08 09 00.1	-11
	0.4nm,0.6s,baz=1.2,slow=30,SNR=5.6 1.7nm,0.4s						
STKA	**Stephens Creek**	**27.66**	**160**	P	P	08 07 30.4	-1.3
	0.5nm,0.5s,baz=359,slow=9.4,SNR=3.6 0.5nm,0.5s						
MKAR	**Makanchi Array**	**67.84**	**326**	P	P	08 12 42.4	+0.2
	0.3nm,0.5s,baz=129,slow=7.1,SNR=4.4 0.3nm,0.5s						

IDC 29 08:08:52.3±3.0,53.75N×87.12E,h0km,mbtmp2.5/2, ML2.2/2,Error ellipse: s-maj=28.8km s-min=17.5km az=69.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**279**	I	I	08 18 48.3	
	0.1nm,2.4s,baz=97,slow=319,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.38**	**279**	Pg	Pg	08 09 16.6	-2.1
	0.5nm,0.3s,baz=101,slow=17,SNR=5.0						
ZALV				Lg	Lg	08 09 36.7	
	0.7nm,0.3s,baz=100,slow=32,SNR=5.1						
KURBB	**Kurchatov Arra**	**6.14**	**243**	Pn	Pn	08 10 24.8	+0.7
	baz=54,slow=14,SNR=2.3 0.4nm,0.6s						
MKAR	**Makanchi Array**	**7.62**	**206**	Pn	Pn	08 10 46.2	+1.7
	0.1nm,0.3s,baz=23,slow=16,SNR=1.8 0.2nm,0.6s						

*IDC **29** 08:11:40.5±2.2,9.37S×74.79W,h117km±21km,mb3.5/10, mbtmp3.9/14,MS2.7/1,Error ellipse: s-maj=30.1km s-min=13.6km az=50.0*
*NEIC **29** 08:11:41.3±2.2,9.44S±0.07×74.90W±0.06,h114km±8km, mb4.4/15,Error ellipse: s-maj=10.5km s-min=7.7km az=142.0*
ISC 29 08:11:39.4±0.5,9.44S±0.05×74.96W±0.06,h100km,n80, σ1§76/80,mb3.8/15,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CZSB	**Cruzeiro do Su**	**2.81**	**53**	Pn	**Pn**	**08 12 26.8**	**+4.3**
CZSB	**Cruzeiro do Su**	**2.81**	**53**	*eP*	**Pn**	**08 12 27.0**	**+4.5**
NNA	**Nana**	**3.13**	**216**	Pn	**Pn**	**08 12 29.8**	**+2.8**
NNA	**Nana**	**3.13**	**216**	*eP*	**Pn**	**08 12 30.2**	**+3.2**
NNA	**Nana**	**3.13**	**216**	P	**Pn**	**08 12 30.1**	**+3.2**
	19nm,0.3s,baz=30,slow=8.0,SNR=19						
NNA				S	**Sn**	**08 13 05.9**	**+2.2**
	140nm,0.5s,baz=7.6,slow=15,SNR=12						
ATAH	**Atahualpa**	**4.10**	**304**	P	**Pn**	**08 12 43.5**	**+3.3**
	80nm,0.5s,baz=98,slow=1.1,SNR=141						
ATAH				S	**Sn**	**08 13 25.9**	**-1.5**
	56nm,0.6s,baz=65,slow=13,SNR=4.6						
MCRA	**Macar, Loja**	**7.07**	**315**		**Pn**	**08 13 19.5**	**-0.7**
MCRA	**Macar, Loja**	**7.07**	**315**	*eP*	**Pn**	**08 13 19.5**	**-0.7**
BOSC	**San Juan Bosco**	**7.17**	**330**		**Pn**	**08 13 21.3**	**-0.4**
TBTG	**Tabatinga, AM**	**7.24**	**44**		**Pn**	**08 13 24.4**	**+1.8**
ARNL	**Arenillas**	**7.74**	**319**		**Pn**	**08 13 29.2**	**-0.3**
COHC	**Cochancay**	**8.14**	**328**	Pn	**Pn**	**08 13 36.0**	**+1.3**
COHC	**Cochancay**	**8.14**	**328**	*eP*	**Pn**	**08 13 35.9**	**+1.1**
ETMB	**Extrema**	**8.64**	**93**	Pn	**Pn**	**08 13 41.1**	**-0.4**
CHSH	**Refugio Sur-Vo**	**8.80**	**334**		**Pn**	**08 13 46.8**	**+2.5**
SLOR	**San Lorenzo -**	**9.34**	**338**		**Pn**	**08 13 53.6**	**+2.0**
SALI	**Salinas**	**9.37**	**320**	Pn	**Pn**	**08 13 53.4**	**+1.8**
LPAZ	**La Paz**	**9.52**	**136**	Pn	**Pn**	**08 13 54.9**	**+0.8**
PTLC	**Puerto Leguiza**	**9.55**	**1**	*eP*	Pn	08 13 50.0	-4.1
PB18	**Visviri**	**9.70**	**147**		**Pn**	**08 13 58.5**	**+2.0**
PPLP	**Puerto Lpez**	**9.74**	**323**	*eP*	**Pn**	**08 13 58.4**	**+1.7**
PB12	**IPOC Station P**	**10.17**	**154**	Pn	**Pn**	**08 14 02.4**	**-0.1**
OTAV	**Otavalo**	**10.22**	**340**	Pn	**Pn**	**08 14 06.7**	**+3.2**
OTAV	**Otavalo**	**10.22**	**340**	*eP*	**Pn**	**08 14 05.3**	**+1.7**
PB16	**IPOC Station P**	**10.30**	**150**		**Pn**	**08 14 05.7**	**+0.9**
PAC1	**Pacto, Paraso**	**10.37**	**338**	*eP*	Pn	08 14 01.5	-3.8
TULM	**Tulcn-Chalpat**	**10.47**	**344**	Pn	**Pn**	**08 14 08.9**	**+1.9**
TULM	**Tulcn-Chalpat**	**10.47**	**344**	*eP*	**Pn**	**08 14 10.2**	**+3.2**
GCUF	**Volcan Galeras**	**10.86**	**347**	*eP*	**Pn**	**08 14 14.9**	**+2.7**
FLOC	**Florencia**	**10.97**	**356**	*eP*	**Pn**	**08 14 14.5**	**+1.1**
CRUC	**La Cruz**	**11.11**	**350**	*eP*	**Pn**	**08 14 17.7**	**+2.1**
GARC	**Garzon, Huila**	**11.56**	**357**	*eP*	**Pn**	**08 14 22.6**	**+1.0**
GO01	**Chusmiza**	**11.60**	**152**	Pn	**Pn**	**08 14 22.7**	**+0.5**
BBAC	**Balboa, Cauca**	**11.61**	**349**	*eP*	**Pn**	**08 14 24.5**	**+2.3**
SAML	**Samuel**	**11.64**	**89**	Pn	**Pn**	**08 14 21.4**	**-0.9**
SAML	**Samuel**	**11.64**	**89**	*eP*	**Pn**	**08 14 20.1**	**-2.3**
POPC	**Popayan, Colom**	**12.02**	**352**	*eP*	**Pn**	**08 14 29.6**	**+1.9**
JAMC	**Jamundi, Valle**	**12.69**	**352**	*eP*	**Pn**	**08 14 39.6**	**+3.2**
ORTC	**Ortega, Tolima**	**13.26**	**359**	*eP*	**Pn**	**08 14 46.7**	**+2.8**
VILC	**Villavicencio,**	**13.52**	**5**	*eP*	**Pn**	**08 14 48.8**	**+1.4**
LVC	**Limon Verde**	**14.32**	**157**	Pn	**Pn**	**08 14 58.3**	**+0.4**
LVC	**Limon Verde**	**14.32**	**157**	P	**Pn**	**08 14 58.2**	**+0.3**
	1.8nm,0.7s,baz=68,slow=21,SNR=1.6						
LVC				LR	LR	08 20 56.2	
	comp=Z,27nm,18.7s,baz=267,slow=39						
VILB	**Vilhena**	**14.90**	**105**	Pn	**Pn**	**08 15 05.1**	**+0.2**
SIV	**San Ignacio**	**15.03**	**117**	P	**Pn**	**08 15 05.4**	**-1.2**
	12nm,0.7s,baz=288,slow=13,SNR=38						
CBOC	**Ciudad Bolivar**	**15.24**	**356**	*eP*	**P**	**08 15 13.7**	**+1.7**
MACA	**Manacapuru-AM**	**15.50**	**67**	Pn	**Pn**	**08 15 11.6**	**-0.9**
MACA				IAmb	IAmb	08 15 43.3	
	comp=Z,17nm,0.5s						
PTBC	**PUERTO BERRIO,**	**15.88**	**2**	*eP*	**Pn**	**08 15 17.4**	**+0.1**
PTLB	**Pontes e Lacer**	**16.56**	**113**	P	**Pn**	**08 15 25.2**	**-0.5**
PTLB				IAmb	IAmb	08 15 29.2	
	comp=Z,9.6nm,0.7s						
PAMC	**Pamplona, Colo**	**16.82**	**8**	*eP*	**P**	**08 15 33.0**	**+3.1**
ZARC	**Zaragoza, Cauc**	**16.82**	**0**	*eP*	**P**	**08 15 31.3**	**+1.9**
AC06	**Mina Casimiro**	**18.35**	**167**	P	**P**	**08 15 45.5**	**-0.6**
BOAV	**Boa Vista**	**18.58**	**51**	P	**P**	**08 15 49.4**	**+0.7**
BOAV	**Boa Vista**	**18.58**	**51**	*eP*	**P**	**08 15 50.3**	**+1.5**
BAUV	**El Baul**	**19.52**	**21**	P	**P**	**08 15 59.0**	**0.0**
BAUV				IAmb	IAmb	08 16 01.3	
	comp=Z,24nm,1.1s						
AC05	**El Transito**	**19.79**	**168**	P	**P**	**08 16 03.1**	**+1.2**
AC05				IAmb	IAmb	08 16 06.6	
	comp=Z,17nm,1.5s						
CPUP	**Villa Florida**	**23.69**	**137**	P	**P**	**08 16 41.3**	**-0.8**
CPUP	**Villa Florida**	**23.69**	**137**	P	**P**	**08 16 41.1**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=331,slow=7.1,SNR=6.7 comp=Z,1.0nm,0.4s						
BDFB	**Brasilia**	**27.00**	**106**	P	**P**	**08 17 11.3**	**-1.0**
	comp=Z,2.3nm,0.6s,baz=256,slow=10,SNR=4.9 comp=Z,2.3nm,0.6s						
ITAB	**Concordia**	**27.89**	**132**	P	**P**	**08 17 21.4**	**+1.4**
ITAB				IAmb	IAmb	08 17 23.9	
	comp=Z,7.5nm,0.8s						
HNDO	**Hondo**	**45.28**	**330**	P	**P**	**08 19 48.5**	**+1.3**
HNDO				IAmb	IAmb	08 19 49.3	
	comp=Z,8.3nm,0.8s						
TX31	**Lajitas Ar. Si**	**47.45**	**325**	P	**P**	**08 20 04.7**	**+0.4**
TXAR	**Lajitas Array**	**47.45**	**325**	P	**P**	**08 20 04.7**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=153,slow=8.6,SNR=23						
TXAR				PcP	**PcP**	**08 21 33.0**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=161,slow=6.5,SNR=5.1 comp=Z,0.7nm,0.5s						
PLPT	**Palo Pinto**	**47.55**	**333**	P	**P**	**08 20 05.2**	**+0.2**
PLPT				IAmb	IAmb	08 20 06.9	
	comp=Z,5.7nm,0.6s						
ABTX	**Abilene, Hawle**	**48.00**	**332**	P	**P**	**08 20 08.6**	**+0.2**
ABTX				IAmb	IAmb	08 20 10.0	
	comp=Z,5.6nm,0.8s						
SMWD	**Samnorwood**	**50.34**	**333**	P	**P**	**08 20 26.7**	**+0.4**
SMWD				IAmb	IAmb	08 20 27.4	
	comp=Z,14nm,0.8s						
PDAR	**Pinedale Array**	**60.80**	**331**	P	**P**	**08 21 40.8**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=123,slow=8.5,SNR=5.9 comp=Z,0.5nm,0.5s						
ULM	**Lac du Bonnet**	**62.18**	**345**	P	**P**	**08 21 48.4**	**-1.6**
	comp=Z,3.0nm,0.5s,baz=156,slow=6.0,SNR=7.4 comp=Z,3.0nm,0.5s						
NVAR	**Mina Array Bea**	**62.44**	**323**	P	**P**	**08 21 52.2**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=139,slow=7.2,SNR=5.2 comp=Z,0.4nm,0.6s						
YKA	**Yellowknife Ar**	**77.97**	**342**	P	**P**	**08 23 24.7**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=141,slow=5.8,SNR=7.8 comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**79.34**	**75**	P	**P**	**08 23 32.9**	**-1.9**
	comp=Z,0.4nm,0.8s,baz=282,slow=4.8,SNR=2.0 comp=Z,0.4nm,0.8s						
QSPA	**South Pole Qui**	**80.68**	**180**	P	**P**	**08 23 40.8**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=222,slow=1.3,SNR=6.4 comp=Z,0.7nm,0.5s						
E29M	**Blow River**	**89.14**	**341**	P	**P**	**08 24 22.9**	**-0.3**
F28M	**Old Crow**	**89.44**	**340**	P	**P**	**08 24 24.0**	**-0.6**
F28M				IAmb	IAmb	08 24 24.8	
	comp=Z,2.8nm,1.1s						
ILAR	**Eielson Array**	**90.92**	**336**	P	**P**	**08 24 29.9**	**-1.7**
	comp=Z,0.2nm,0.8s,baz=115,slow=2.8,SNR=4.6 comp=Z,0.2nm,0.8s						
ZALV	**Zalesovo Beam**	**132.74**	**16**	PKP	**PKPdf**	**08 30 41.4**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=272,slow=3.9,SNR=3.9						
KURBB	**Kurchatov Arra**	**133.47**	**23**	PKP	**PKPdf**	**08 30 43.4**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=44,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**136.65**	**220**	PKP	**PKPdf**	**08 30 49.7**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=116,slow=2.0,SNR=12						
WRA	**Warramunga Arr**	**138.95**	**225**	PKP	**PKPdf**	**08 30 54.0**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=132,slow=1.9,SNR=7.0						
SONM	**Songino Array**	**141.72**	**359**	PKhKP	PKPpre	08 30 53.8	
	comp=Z,0.3nm,0.5s,baz=334,slow=3.1,SNR=4.0						
KSRS	**Korea Array**	**145.29**	**327**	PKPbc	**PKPbc**	**08 31 04.5**	**-1.2**
	comp=Z,1.9nm,0.7s,baz=59,slow=4.4,SNR=5.1						

IDC 29 08:17:45.9±5.8,28.55S×178.51W,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=191.7km s-min=90.8km az=155.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.51**	**254**	P	P	08 24 35.4	-0.5
	0.7nm,0.7s,baz=86,slow=15,SNR=1.5 0.7nm,0.7s						
ASAR	**Alice Springs**	**42.79**	**265**	P	P	08 25 45.7	0.0
	0.3nm,0.7s,baz=105,slow=7.5,SNR=5.9 0.3nm,0.7s						
WRA	**Warramunga Arr**	**43.61**	**270**	P	P	08 25 52.3	0.0
	0.5nm,0.5s,baz=110,slow=7.9,SNR=7.0 0.5nm,0.5s						
FINES	**FINESS Array B**	**143.26**	**340**	PKP	PKPdf	08 37 20.9	-0.6
	8.2nm,1.2s,baz=53,slow=5.4,SNR=5.6						

*IDC **29** 08:22:10.6±1.0,25.61N×125.34E,h0km,mb3.4/6, mbtmp3.4/6,MS3.3/3,Error ellipse: s-maj=45.6km s-min=23.2km az=75.0*
*JMA **29** 08:22:11.9±0.2,25.7N±0.7×12.5E±.,h21km±3km,MV3.4/9, NW OFF MIYAKOJIMA ISLAND*
ISC 29 08:22:11.8±3.8,25.60N±0.07×125.28E±0.09,h8km±24km, n17,σ0§35/22,mb3.5/6,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**0.68**	**183**	P	**Pb**	**08 22 25.8**	**-0.1**
JIKM				S	**Sb**	**08 22 36.0**	**+0.6**
JIRB	**Irabujima**	**0.78**	**187**	P	**Pb**	**08 22 27.7**	**+0.1**
JIRB				S	**Sb**	**08 22 38.5**	**+0.1**
JOGS	**Gusukube**	**0.85**	**172**	P	**Pb**	**08 22 28.6**	**-0.2**
JOGS				S	**Sb**	**08 22 40.4**	**+0.1**
JMJ2	**Miyako jima3**	**0.86**	**177**	P	**Pb**	**08 22 28.9**	**-0.1**
JMJ2				S	**Sb**	**08 22 40.9**	**+0.2**
JTJ	**Tarama**	**1.09**	**209**	*eP*	**Pb**	**08 22 33.0**	**0.0**
JTJ				S	**Sb**	**08 22 47.9**	**+0.5**
JISG	**Ishigakijimahi**	**1.34**	**221**	P	**Pn**	**08 22 36.8**	**-0.1**
JISG				S	**Sn**	**08 22 54.7**	**-0.2**
JIJ	**Ishigaki jima**	**1.61**	**220**	*eP*	**Pn**	**08 22 40.0**	**-0.6**
JIJ				S	**Sn**	**08 23 01.1**	**-0.5**
JKRS	**Kuro-shima**	**1.79**	**221**	P	**Pn**	**08 22 43.2**	**+0.2**
JKRS				*eS*	**Sn**	**08 23 06.1**	**+0.2**
KSRS	**Korea Array**	**12.03**	**10**	LR	LR	08 30 01.5	
	comp=Z,60nm,20.4s,baz=190,slow=38						
KLR	**Kul'dur**	**24.12**		10 LR	LR	08 37 12.9	
	comp=Z,45nm,18.3s,baz=244,slow=37						
MKAR	**Makanchi Array**	**40.00**	**313**	P	**P**	**08 29 47.2**	**+0.1**
	0.5nm,0.8s,baz=98,slow=8.9,SNR=3.2 0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**43.50**	**318**	P	**P**	**08 30 15.6**	**-0.1**
	0.1nm,0.4s,baz=110,slow=8.5,SNR=1.9 0.1nm,0.4s						
WRA	**Warramunga Arr**	**46.12**	**168**	P	**P**	**08 30 36.6**	**-0.2**
	0.5nm,0.8s,baz=351,slow=7.7 0.5nm,0.8s						
ASAR	**Alice Springs**	**49.69**	**170**	P	**P**	**08 31 04.4**	**0.0**
	0.6nm,0.9s,baz=357,slow=7.5,SNR=3.2 0.6nm,0.9s						
KIRV	**Kirov**	**61.21**	**325**	LR	LR	09 00 55.4	
	comp=Z,60nm,19.4s,baz=341,slow=38						
ILAR	**Eielson Array**	**66.24**	**28**	P	**P**	**08 33 00.8**	**+0.7**
	0.2nm,0.6s,baz=270,slow=8.1,SNR=1.7 0.2nm,0.6s						
YKA	**Yellowknife Ar**	**80.19**	**24**	P	**P**	**08 34 22.1**	**-0.4**
	0.5nm,0.7s,baz=301,slow=5.5,SNR=7.5 0.5nm,0.7s						

*FUNV **29** 08:33:06.2,9.26N×70.71W,h5km,MW3.0*
ISC 29 08:33:04.7±1.4,9.29N±0.04×70.70W±0.03,h8km±12km, n19,σ1§39/33,1D,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDV	**Santo Domingo**	**0.41**	**171**	*iP*	**Pb**	**08 33 13.3**	**-0.9**
SDV				*eS*	**Sb**	**08 33 19.4**	**-1.3**
SOCV	**Socops**	**1.01**	**189**	*eP*	**Pb**	**08 33 24.1**	**-0.4**
SOCV				*eS*	**Sb**	**08 33 37.3**	**-0.6**
CURV	**Curarigua**	**1.02**	**45**	*eP*	**Pb**	**08 33 24.9**	**+0.2**
CURV				*eS*	**Sg**	**08 33 38.4**	**+0.7**
SANV	**Sanarito**	**1.17**	**80**	*eP*	**Pn**	**08 33 28.1**	**+0.7**
SANV				*eS*	**Sn**	**08 33 44.1**	**+0.6**
SIQV	**Siquisique**	**1.61**	**33**	*eP*	**Pb**	**08 33 35.2**	**+0.5**
SIQV				*eS*	**Sg**	**08 33 57.0**	**+0.5**
TEPV	**Terepaima**	**1.63**	**66**	*eP*	**Pg**	**08 33 36.2**	**+0.2**
TEPV				*eS*	**Sg**	**08 33 57.3**	**+0.1**
MCQV	**Machiques**	**1.96**	**293**	*eP*	**Pn**	**08 33 39.3**	**+1.1**
MCQV				*eS*	**Sn**	**08 34 04.6**	**+1.5**
CAPV	**Capacho**	**2.13**	**229**	*eP*	**Pn**	**08 33 41.8**	**+0.9**
CAPV				*eS*	**Sn**	**08 34 08.4**	**+0.8**
LL6C	**La Loma 6 Bece**	**2.58**	**280**	*eP*	**Pn**	**08 33 46.1**	**-0.7**
BAUV	**El Baul**	**2.65**	**97**	*eP*	**Pn**	**08 33 49.1**	**+1.4**
BAUV				*eS*	**Sn**	**08 34 20.8**	**+0.9**
CRJC	**Cerrejon, Guaj**	**2.75**	**309**	*eP*	**Pn**	**08 33 47.7**	**-1.5**
CRJC				*eS*	**Sn**	**08 34 19.9**	**-2.8**
PAMC	**Pamplona, Colo**	**2.77**	**226**	*eP*	**Pn**	**08 33 51.1**	**+1.3**
OCAC	**Ocana**	**2.79**	**248**	*eP*	**Pb**	**08 33 55.0**	**0.0**
OCAC				*eS*	**Sn**	**08 34 26.4**	**+2.6**
TAMC	**Tame, Arauca**	**3.04**	**201**	*eP*	**Pn**	**08 33 55.3**	**+2.2**
BENV	**Beln**	**3.13**	**77**	*eP*	**Pn**	**08 33 56.2**	**+1.8**
BENV				*eS*	**Sn**	**08 34 32.6**	**+0.7**
TACV	**Tcata**	**3.72**	**77**	*eP*	**Pn**	**08 34 03.4**	**+0.9**
TACV				*eS*	**Sn**	**08 34 46.0**	**-0.4**
CACV	**CAICARA DEL OR**	**4.46**	**112**	*eP*	**Pb**	**08 34 20.2**	**-3.0**
CACV				*eS*	**Sb**	**08 35 15.2**	**-2.0**
SJCC	**San Jacinto, C**	**4.46**	**278**	*eP*	**Pn**	**08 34 13.5**	**+0.8**
ZARC	**Zaragoza, Cauc**	**4.49**	**247**	*eP*	**Pn**	**08 34 12.1**	**-0.9**

*FUNV **29** 08:36:30.7,10.68N×62.25W,h24km,MW3.8*
*TRN **29** 08:36:31.9,10.79N×62.15W,h91km,MD3.1*
ISC 29 08:36:29.0±1.4,10.66N±0.05×62.31W±0.04,h91km±15km, n11,σ1§84/21,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.89**	**90**	*eP*	**Pn**	**08 36 49.2**	**+1.7**
TRN				*eS*	**Sn**	**08 37 01.7**	**+0.2**
CRUV	**Carupano**	**0.91**	**271**	*eP*	**Pn**	**08 36 48.1**	**+0.3**
CRUV				*eS*	**Sn**	**08 37 00.2**	**-1.7**
GRGR	**Grenville**	**1.60**	**24**	*eP*	**Pn**	**08 36 56.5**	**+0.3**
GRGR				*eS*	**Sn**	**08 37 15.6**	**-1.1**
GRHS	**Sauteurs**	**1.69**	**23**	*eP*	**Pn**	**08 36 58.8**	**+1.6**
GRHS				*eS*	**Sn**	**08 37 16.5**	**-2.2**
GCMP	**Grenada, Carri**	**2.01**	**25**	*eP*	**Pn**	**08 37 01.7**	**+0.2**
GCMP				*eS*	**Sn**	**08 37 24.6**	**-1.6**
PCRV	**Puerto La Cruz**	**2.34**	**258**	*eP*	**Pn**	**08 37 07.4**	**+1.6**
PCRV				*eS*	**Sn**	**08 37 34.3**	**+0.4**
TACV	**Tcata**	**4.67**	**264**	*eP*	**Pn**	**08 37 39.6**	**+2.4**
TACV				*eS*	**Sn**	**08 38 30.0**	**-0.3**
LUEV	**Luepa**	**4.86**	**170**	*eP*	**Pn**	**08 37 41.8**	**+1.9**
LUEV				*eS*	**Sn**	**08 38 32.4**	**-2.6**
CACV	**CAICARA DEL OR**	**5.18**	**234**	*eP*	**Pn**	**08 37 41.3**	**-2.9**
CACV				*eS*	Sn	08 38 33.1	-10
BENV	**Beln**	**5.25**	**263**	*eP*	**Pn**	**08 37 47.2**	**+2.0**
BENV				*eS*	**Sn**	**08 38 43.1**	**-1.4**
BAUV	**El Baul**	**5.90**	**254**	*eP*	**Pn**	**08 37 56.1**	**+2.2**
BAUV				*eS*	**Sn**	**08 38 58.7**	**-1.5**

*IDC **29** 08:40:23.9±1.0,3.47S×151.98E,h0km,mb4.0/10, mbtmp4.0/11,ML1.8/1,MS3.3/20,Error ellipse: s-maj=37.4km s-min=19.3km az=101.0*
*NEIC **29** 08:40:26.8±2.7,3.75S±0.09×152.1E±0.1,h10km±1km, mb4.6/31,Error ellipse: s-maj=19.4km s-min=15.2km az=81.0*
ISC 29 08:40:26.1±0.5,3.70S±0.06×152.08E±0.08,h10km,n77, σ1§58/60,mb4.5/28,MS3.4/19,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BULU	**Kimbe**	**2.53**	**224**	P	**Pg**	**08 41 16.0**	**+1.4**
MANU	**Manus Island**	**4.98**	**289**		**Pn**	**08 41 43.3**	**+2.2**
MANU	**Manus Island**	**4.98**	**289**	P	**Pb**	**08 41 52.7**	**-0.8**
PMG	**Port Moresby**	**7.48**	**221**	Pn	**Pn**	**08 42 15.7**	**+0.3**
PMG	**Port Moresby**	**7.48**	**221**	P	Pn	08 42 21.5	+6.1
PMG	**Port Moresby**	**7.48**	**221**	P	Pn	08 42 20.7	+5.3
PMG	**Port Moresby**	**7.48**	**221**	Pn	**Pn**	**08 42 16.0**	**+0.6**
	0.8nm,0.3s,baz=240,slow=8.9,SNR=2.0 14nm,0.7s						
HNR	**Honiara**	**9.67**	**126**	LR	LR	08 46 39.6	
	comp=Z,4µm,18.6s,baz=290,slow=38						
CTA	**Charters Tower**	**17.25**	**199**	LR	LR	08 50 49.1	
	comp=Z,93nm,19.4s,baz=62,slow=36						
QIS	**Mount Isa**	**20.69**	**215**	P	**P**	**08 45 06.8**	**+0.2**
SAUI	**Saumlaki**	**21.10**	**257**	P	**P**	**08 45 11.1**	**+0.1**
KDU	**Kakadu**	**21.34**	**244**	P	**P**	**08 45 14.5**	**+0.9**
EIDS	**Eidsvold**	**21.56**	**182**	P	**P**	**08 45 15.5**	**-0.5**
DZM	**Mont Dzumac**	**22.97**	**144**	P	**P**	**08 45 30.2**	**-0.9**
DZM				IAmb	IAmb	08 45 37.4	
	comp=Z,30nm,1.1s						
DZM	**Mont Dzumac**	**22.97**	**144**	P	**P**	**08 45 36.0**	**+4.9**
WB0	**Warramunga Arr**	**23.51**	**226**	P	**P**	**08 45 36.0**	**-0.4**
WB2	**Warramunga Arr**	**23.65**	**226**	P	**P**	**08 45 36.4**	**-1.5**
WB2				IAmb	IAmb	08 45 39.5	
	comp=Z,9.1nm,0.8s						
WRA	**Warramunga Arr**	**23.66**	**226**	P	**P**	**08 45 35.0**	**-3.0**
	comp=Z,8.8nm,0.9s,baz=49,slow=10.0,SNR=34						
WRA				PcP	**PcP**	**08 49 20.4**	**-2.3**
	comp=Z,0.8nm,1.0s,baz=32,slow=1.9,SNR=2.6						
QLP	**Quilpie**	**23.96**	**198**	P	**P**	**08 45 40.5**	**-0.2**
AS31	**Alice Springs**	**26.50**	**220**	P	**P**	**08 46 03.7**	**-0.2**
ASAR	**Alice Springs**	**26.50**	**220**	P	**P**	**08 46 03.7**	**-0.2**
ASAR	**Alice Springs**	**26.50**	**220**	P	**P**	**08 46 04.3**	**+0.4**
	comp=Z,5.2nm,0.7s,baz=51,slow=9.0,SNR=34						
ASAR				PcP	**PcP**	**08 49 28.4**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=41,slow=3.0,SNR=3.6						
ASAR				LR	LR	08 56 27.8	
	comp=Z,80nm,19.0s,baz=34,slow=36 comp=Z,5.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**29.57**	**239**	P	**P**	**08 46 32.8**	**+1.3**
STKA	**Stephens Creek**	**29.71**	**198**	P	**P**	**08 46 32.1**	**-0.4**
STKA	**Stephens Creek**	**29.71**	**198**	P	**P**	**08 46 32.5**	**0.0**
	comp=Z,1.1nm,0.8s,baz=30,slow=12,SNR=5.2						
STKA				LR	LR	08 58 05.5	
	comp=Z,95nm,21.8s,baz=21,slow=36 comp=Z,1.1nm,0.8s						
CAN	**Canberra**	**31.59**	**185**	P	**P**	**08 46 47.8**	**-1.3**
JCJ	**Chichijima**	**32.07**	**343**	LR	LR	08 58 38.1	
	comp=Z,56nm,21.3s,baz=296,slow=34						
KAPI	**Kappang**	**32.26**

BMAR	**Burnt Mountain**	**83.47**	**20**	P	**P**	**08 52 54.2**	**+0.4**
E29M	**Blow River**	**86.18**	**20**	P	**P**	**08 53 08.5**	**+1.2**
E29M				IAmb	IAmb	08 53 17.2	
	comp=Z,5.0nm,1.4s						
QSPA	**South Pole Qui**	**86.25**	**180**	P	**P**	**08 53 06.6**	**-1.3**
QSPA				IAmb	IAmb	08 53 18.2	
	comp=Z,5.3nm,0.8s						
MAW	**Mawson**	**86.30**	**203**	LR	LR	09 29 05.3	
	comp=Z,26nm,18.6s,baz=90,slow=34						
G31M	**Satah River**	**87.03**	**22**	P	**P**	**08 53 10.9**	**-0.5**
G31M				IAmb	IAmb	08 53 15.8	
	comp=Z,4.5nm,0.8s						
BVAR	**Borovoye Array**	**87.94**	**323**	P	**P**	**08 53 12.7**	**-3.5**
	comp=Z,0.9nm,0.8s,baz=96,slow=5.8,SNR=1.8						
	comp=Z,0.9nm,0.8s						
A36M	**Sachs Harbour**	**91.22**	**18**	P	**P**	**08 53 30.5**	**-0.6**
A36M				IAmb	IAmb	08 53 35.2	
	comp=Z,4.0nm,0.9s						
YKA	**Yellowknife Ar**	**94.80**	**28**	P	**P**	**08 53 46.7**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=268,slow=5.2,SNR=2.2						
	comp=Z,0.2nm,0.7s						
ARU	**Arti**	**95.01**	**326**	LR	LR	09 36 52.6	
	comp=Z,18nm,20.5s,baz=42,slow=36						
TORD	**Torodi Ar. Bea**	**149.27**	**290**	PKPbc	**PKPbc**	**09 00 14.9**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=41,slow=4.1,SNR=2.4						

*IDC **29** 08:47:59.6±0.9, 6°.65S×130°.98E, h0km, mb3.8/7, mbtmp3.8/9, ML3.9/2, Error ellipse: s-maj=91.5km s-min=18.1km az=71.0*

ISC 29 08:48:07.1±0.7, 6°.89S±0°.07×130°.8E±0°.1, h50km, n20, σ1§57/20, mb3.8/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.21**	**21**	P	**Pn**	**08 49 11.4**	**+2.5**
KDU	**Kakadu**	**6.01**	**164**	P	**Pn**	**08 49 34.8**	**+1.3**
SOEI	**Soe**	**7.02**	**246**	P	**Pn**	**08 49 48.9**	**+1.4**
KNRA	**Kununurra**	**8.95**	**192**	P	**Pn**	**08 50 14.3**	**+0.4**
PLAI	**Plampang**	**13.00**	**261**	P	**Pn**	**08 51 10.3**	**+1.0**
WRA	**Warramunga Arr**	**13.44**	**165**	Pn	**Pn**	**08 51 12.1**	**-3.2**
	0.5nm,0.3s,baz=341,slow=14,SNR=20						
WRA				Sn	Sn	08 53 32.1	-11
	2.1nm,0.3s,baz=341,slow=21,SNR=11						
	0.5nm,0.3s						
QIS	**Mount Isa**	**16.07**	**149**	P	**Pn**	**08 51 49.7**	**-0.2**
ASAR	**Alice Springs**	**16.96**	**170**	P	**Pn**	**08 51 59.9**	**-1.2**
	0.6nm,0.3s,baz=10,slow=12,SNR=27						
ASAR				S	Sn	08 54 57.0	-12
	1.4nm,0.8s,baz=350,slow=22,SNR=7.5						
	3.2nm,0.6s						
PSA00	**Pilbara Seismi**	**18.01**	**215**	P	**P**	**08 52 14.5**	**+0.6**
WRKA	**Warakurna**	**18.20**	**187**	P	**P**	**08 52 16.7**	**+0.6**
OOD	**Oodnadatta**	**21.32**	**168**	P	**P**	**08 52 51.5**	**+1.7**
MULG	**Mulgathing**	**23.48**	**173**	P	**P**	**08 53 13.5**	**+1.1**
LCRK	**Leigh Creek**	**24.46**	**164**	P	**P**	**08 53 23.0**	**+1.5**
STKA	**Stephens Creek**	**26.85**	**159**	P	**P**	**08 53 44.2**	**+1.1**
	0.9nm,0.3s,baz=343,slow=8.0,SNR=7.7						
	0.9nm,0.3s						
SONM	**Songino Array**	**58.57**	**341**	P	**P**	**08 57 57.4**	**-1.5**
	0.3nm,0.4s,baz=145,slow=5.3,SNR=1.7						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**68.54**	**326**	P	**P**	**08 59 04.1**	**-0.4**
	0.8nm,0.4s,baz=116,slow=7.8,SNR=11						
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**71.81**	**333**	P	**P**	**08 59 23.0**	**-1.3**
	0.7nm,0.5s,baz=104,slow=6.1,SNR=3.8						
	0.7nm,0.5s						
VNDA	**Vanda**	**72.47**	**173**	P	**P**	**08 59 28.8**	**+0.8**
	0.3nm,0.4s,baz=320,slow=7.9,SNR=7.2						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**72.81**	**328**	P	**P**	**08 59 29.1**	**-1.2**
	0.4nm,0.6s,baz=129,slow=4.9,SNR=5.0						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**92.92**	**25**	P	**P**	**09 01 12.4**	**-2.2**
	0.2nm,0.6s,baz=258,slow=4.5,SNR=1.6						
	0.2nm,0.6s						

*SOME **29** 09:05:26.4, 41°.83N×78°.28E, h0km*
*NNC **29** 09:05:27.6±0.8, 41°.82N×78°.29E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=5.1km s-min=2.3km az=164.0, Suspected Mining explosion.*

ISC 29 09:05:23.7±4.9, 41°.7N±0°.2×78°.4E±0°.1, h0km, n17, σ0§54/20, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNSS	**Tian-Shan**	**1.74**	**322**	*e*P	**Pb**	**09 05 56.7**	**0.0**
	3.4nm,0.1s						
TNSS				*e*S	**Sn**	**09 06 18.6**	**0.0**
	1.0nm,0.1s						
TNSS	**Tian-Shan**	**1.74**	**322**	S	**Sn**	**09 06 18.6**	**0.0**
	2.6nm,0.2s						
KPKS	**Kokpek**	**1.80**	**6**	*e*P	**Pb**	**09 05 57.3**	**-0.3**
	4.8nm,0.2s						
KPKS				*e*S	**Sn**	**09 06 19.6**	**0.0**
	2.4nm,0.2s						
KOTS	**Kotyrbulak**	**1.83**	**329**	*e*P	**Pb**	**09 05 58.0**	**-0.2**
	2.8nm,0.1s						
KOTS				*e*S	**Sn**	**09 06 20.7**	**+0.2**
	6.2nm,0.2s						
PDGK	**Podgornoye**	**1.83**	**26**	S	**Sg**	**09 06 23.1**	**+0.5**
	0.9nm,0.1s						
MTBS	**Maitube**	**2.06**	**315**	*e*P	**Pb**	**09 06 02.2**	**+0.1**
	3.7nm,0.1s						
MTBS				*e*S	**Sb**	**09 06 28.0**	**-0.3**
	3.3nm,0.1s						
MTBS	**Maitube**	**2.06**	**315**	Pg	**Pb**	**09 06 02.2**	**+0.1**
	3.7nm,0.1s						
MTBS				Lg	Lg	09 06 28.0	
	3.3nm,0.1s						
KST	**Kastek**	**2.27**	**308**	*e*Pg	**Pb**	**09 06 05.8**	**+0.2**
	1.9nm,0.1s						
KST				*e*Lg	Lg	09 06 34.2	
	5.2nm,0.4s						
KST	**Kastek**	**2.27**	**308**	Pg	**Pb**	**09 06 05.8**	**+0.2**
	1.9nm,0.1s						
KST				Lg	Lg	09 06 34.2	
	5.2nm,0.4s						
KTBS	**Karatobe**	**2.40**	**329**	*e*Pg	**Pb**	**09 06 08.6**	**+0.8**
	2.6nm,0.1s						
KTBS				*e*Lg	Lg	09 06 38.9	
	7.8nm,0.1s						
KTBS	**Karatobe**	**2.40**	**329**	Pg	**Pb**	**09 06 08.6**	**+0.8**
	2.6nm,0.2s						
KTBS				Lg	Lg	09 06 38.9	
	7.8nm,0.1s						
CHKK	**Chushkaly**	**2.41**	**335**	*e*Pg	**Pb**	**09 06 08.7**	**+0.7**
	6.8nm,0.2s						
CHKK				*e*Lg	Lg	09 06 39.0	
	5.3nm,0.1s						
DGS	**Degeres**	**2.50**	**310**	*e*Pg	**Pb**	**09 06 10.4**	**+0.9**
	3.7nm,0.2s						
DGS				*e*Lg	Lg	09 06 42.1	
	3.1nm,0.2s						
DGS	**Degeres**	**2.50**	**310**	Pg	**Pb**	**09 06 10.4**	**+0.9**
	3.7nm,0.2s						
DGS				Lg	Lg	09 06 42.1	
	3.1nm,0.2s						
ARXS	**Arharly**	**2.57**	**351**	*e*Pg	**Pb**	**09 06 11.5**	**+0.8**
	4.0nm,0.2s						
ARXS				*e*Lg	Lg	09 06 44.0	
	5.0nm,0.2s						
KUU	**Kurty**	**2.69**	**326**	*e*Pg	**Pg**	**09 06 14.4**	**-0.8**
	1.1nm,0.1s						
KUU				*e*Lg	Lg	09 06 48.8	
	3.8nm,0.2s						
KNOS	**Konyrlen**	**2.74**	**12**	Lg	Lg	09 06 51.1	
	2.2nm,0.4s						

IDC 29 09:08:50.6±9.8, 12°.26S×163°.78E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=296.6km s-min=57.0km az=125.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**29.26**	**251**	P	P	09 14 54.7	0.0
	0.2nm,0.7s,baz=82,slow=8.5,SNR=1.8						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**30.53**	**244**	P	P	09 15 06.0	0.0
	0.4nm,0.8s,baz=68,slow=9.4,SNR=4.1						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**93.09**	**317**	P	P	09 22 06.5	0.0
	0.4nm,0.7s,baz=104,slow=6.1,SNR=4.7						
	0.4nm,0.7s						

*TEH **29** 09:17:51.9, 27°.26N×53°.89E, h8km±54km, ML3.4*
*IDC **29** 09:17:52.2±2.4, 27°.36N×54°.12E, h0km, mb3.6/4, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=48.9km s-min=25.7km az=50.0*
*OMAN **29** 09:17:54.8±0.1, 27°.07N×53°.86E, h10km, mb5.1/2, ml3.3/15, Error ellipse: s-maj=1.3km s-min=0.8km az=3.0*
*DSN **29** 09:17:55.4±1.2, 27°.12N×53°.82E, h10km, ML3.1/8, Error ellipse: s-maj=32.0km s-min=11.2km az=48.0*

ISC 29 09:17:54.3±0.8, 27°.29N±0°.05×53°.88E±0°.04, h23km, n67, σ1§41/84, mb3.8/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAR1	**LAR**	**0.58**	**49**	Pg	**Pb**	**09 18 03.9**	**-2.1**
LMD1	**Lamerd**	**0.64**	**275**	Pg	Pb	09 18 05.1	-1.6
LMD1				Sg	**Sb**	**09 18 14.1**	**-1.2**
JHRM	**Jahrom**	**1.24**	**348**	Pg	**Pn**	**09 18 16.7**	**+0.3**
QIR1	**Qir**	**1.40**	**328**	Pg	**Pn**	**09 18 19.0**	**+0.6**
ESRB	**Sir Abu**	**2.08**	**171**	Pn	**Pn**	**09 18 28.5**	**+0.7**
SHME	**Shamm**	**2.37**	**121**	P	**Pn**	**09 18 31.6**	**-0.2**
IBND	**Bandar-abas**	**2.37**	**85**	Pn	**Pn**	**09 18 33.0**	**+1.2**
JRN	**Qarnain Island**	**2.51**	**202**	Pn	**Pn**	**09 18 35.5**	**+1.8**
DSBU	**Dashti - Bushe**	**2.55**	**295**	Pn	**Pn**	**09 18 35.9**	**+1.6**
BANOM	**Banah**	**2.56**	**121**	P	**Pn**	**09 18 34.6**	**+0.2**
BANOM	**Banah**	**2.56**	**121**	Pn	**Pn**	**09 18 34.7**	**+0.2**
NAZ	**Nazwa, Dubai**	**2.79**	**145**	*e*P	**Pn**	**09 18 39.0**	**+1.3**
	SNR=9.8						
NAZ	**Nazwa, Dubai**	**2.79**	**145**	P	**Pn**	**09 18 39.1**	**+1.5**
	SNR=9.9						
NAZ	**Nazwa, Dubai**	**2.79**	**145**	Pn	**Pn**	**09 18 38.8**	**+1.2**
MASF	**Masafi**	**2.80**	**132**	P	**Pn**	**09 18 38.7**	**+1.0**
MSFE	**Esma-Masafi**	**2.81**	**133**	Pn	**Pn**	**09 18 38.7**	**+0.9**
AJN	**Ajban**	**2.89**	**160**	P	**Pn**	**09 18 40.6**	**+1.6**
	SNR=6.4						
AJN				S	**Sn**	**09 19 15.1**	**+2.1**
MDH	**Madha**	**2.94**	**132**	*e*P	**Pn**	**09 18 42.0**	**+2.3**
	SNR=5.3						
MDH	**Madha**	**2.94**	**132**	P	**Pn**	**09 18 40.5**	**+0.9**
	SNR=6.0						
MDH	**Madha**	**2.94**	**132**	Pn	**Pn**	**09 18 39.9**	**+0.3**
ASUD	**Al Ashush, Dub**	**2.95**	**153**	*e*P	**Pn**	**09 18 41.7**	**+1.9**
	SNR=52						
ASUD	**Al Ashush, Dub**	**2.95**	**153**	P	**Pn**	**09 18 41.8**	**+1.9**
	SNR=52						
FAQ	**Al Faqa, Dubai**	**2.96**	**148**	P	**Pn**	**09 18 41.2**	**+1.2**
FAQ	**Al Faqa, Dubai**	**2.96**	**148**	P	**Pn**	**09 18 41.4**	**+1.4**
FAQ				S	**Sn**	**09 19 17.2**	**+2.3**
SHMA	**Al-Shehemyia**	**2.97**	**242**	P	**Pn**	**09 18 41.4**	**+1.4**
UOSS	**Minazif**	**3.13**	**138**	*i* P	**Pn**	**09 18 44.9**	**+2.6**
	SNR=14						
HATD	**Hatta, Dubai**	**3.18**	**140**	P	**Pn**	**09 18 43.9**	**+0.9**
HATD	**Hatta, Dubai**	**3.18**	**140**	P	**Pn**	**09 18 43.9**	**+0.9**
HATD				S	**Sn**	**09 19 21.9**	**+1.7**
ASHO	**Ashiyiah**	**3.25**	**142**	*i* P	**Pn**	**09 18 44.7**	**+0.7**
	SNR=17						
ASHO				S	**Sn**	**09 19 24.0**	**+2.1**
ASHO	**Ashiyiah**	**3.25**	**142**	P	**Pn**	**09 18 45.0**	**+1.0**
	SNR=19						
ASHO				S	**Sn**	**09 19 24.3**	**+2.3**
NGRK	**Negar Kerman**	**3.44**	**46**	Pn	**Pn**	**09 18 48.5**	**+1.6**
ALNE	**Al Ain**	**3.63**	**152**	*i* P	**Pn**	**09 18 50.3**	**+1.1**
	SNR=62						
ALNE	**Al Ain**	**3.63**	**152**	P	**Pn**	**09 18 50.5**	**+1.3**
	SNR=62						
ALNE				S	**Sn**	**09 19 32.6**	**+1.2**
SMRA	**Abu-Samra**	**3.73**	**228**	P	**Pn**	**09 18 52.6**	**+2.1**
KHGB	**Koh Gabri**	**3.83**	**36**	Pn	**Pn**	**09 18 53.1**	**+1.0**
JASK	**Jask - Hormozg**	**3.84**	**111**	P	**Pn**	**09 18 53.4**	**+1.4**
JASK				S	**Sn**	**09 19 37.9**	**+1.4**
SOHO	**SOHO**	**3.95**	**142**	*i* P	**Pn**	**09 18 53.5**	**0.0**
	SNR=18						
SOHO	**SOHO**	**3.95**	**142**	P	**Pn**	**09 18 53.8**	**+0.3**
SOHO				S	**Sn**	**09 19 41.5**	**+2.4**
CHMN	**Cheshme madani**	**4.12**	**51**	Pn	**Pn**	**09 18 58.4**	**+2.3**
KLNJ	**Kolanjah**	**4.21**	**332**	Pn	**Pn**	**09 18 58.5**	**+1.1**
KBAM	**BAM**	**4.44**	**64**	Pn	**Pn**	**09 19 01.9**	**+1.6**
ARQ	**Araqi**	**4.60**	**148**	P	**Pn**	**09 19 03.1**	**+0.6**
	SNR=16						
ARQ				S	**Sn**	**09 19 55.9**	**+0.5**
ISAD	**Sadrabad**	**4.61**	**358**	Pn	**Pn**	**09 19 05.0**	**+2.1**
IRAM	**Ramesheh**	**4.69**	**344**	Pn	**Pn**	**09 19 05.5**	**+1.6**
BIDO	**Bidbid**	**5.37**	**133**	P	**Pn**	**09 19 13.3**	**+0.2**
BIDO				S	**Sn**	**09 20 12.4**	**-1.8**
BSY	**Bisya**	**5.43**	**146**	P	**Pn**	**09 19 14.7**	**+0.7**
	SNR=7.4						
BSY				S	**Sn**	**09 20 14.5**	**-1.3**
SMDO	**Samad**	**5.66**	**137**	P	**Pn**	**09 19 17.3**	**+0.2**
	SNR=8.0						
SMDO				S	**Sn**	**09 20 22.4**	**+1.0**
IZEF	**Zefreh**	**5.75**	**347**	Pn	**Pn**	**09 19 18.4**	**0.0**
ANAR	**Anarak**	**5.88**	**359**	Pn	**Pn**	**09 19 21.0**	**+0.8**
WSAR	**Wadi Sarin**	**5.90**	**132**	P	**Pn**	**09 19 20.2**	**-0.1**
	SNR=27						
WSAR				S	**Sn**	**09 20 26.4**	**-0.8**
WSAR	**Wadi Sarin**	**5.90**	**132**	Pn	**Pn**	**09 19 20.0**	**-0.3**
	1.5nm,0.3s,baz=319,slow=8.5,SNR=30						
WSAR				Sn	**Sn**	**09 20 25.7**	**-1.5**
	1.3nm,0.3s,baz=278,slow=7.1,SNR=4.0						
	4.1nm,0.3s						
JMDO	**Jabal Madar**	**6.22**	**141**	P	**Pn**	**09 19 24.5**	**-0.2**
	SNR=9.2						
IKLH	**Kolahrood**	**6.33**	**342**	Pn	**Pn**	**09 19 27.0**	**+0.5**
WBK	**Wadi Bani Khal**	**6.56**	**134**	P	**Pn**	**09 19 29.2**	**-0.3**
	SNR=15						
WBK				S	**Sn**	**09 20 43.6**	**0.0**
QAMS	**Qamsar**	**6.78**	**342**	Pn	**Pn**	**09 19 34.2**	**+1.7**
KRSH	**Karshahi**	**6.83**	**348**	Pn	**Pn**	**09 19 33.7**	**+0.5**
JLN	**Jalan Bani Buh**	**7.17**	**134**	P	**Pn**	**09 19 37.0**	**-0.8**
MHTO	**MHTO**	**7.30**	**148**	P	**Pn**	**09 19 39.5**	**-0.1**
	SNR=6.3						
MHTO				S	**Sn**	**09 20 58.3**	**-3.4**
WHFO	**Wadi Hawf**	**9.32**	**181**	P	**Pn**	**09 20 05.7**	**-1.7**
	SNR=7.4						
WHFO				S	**Sn**	**09 21 48.9**	**-2.7**
SHAO	**Shalim**	**9.36**	**170**	P	**Pn**	**09 20 06.8**	**-1.1**
DMTO	**DMTO**	**9.58**	**174**	P	**Pn**	**09 20 10.1**	**-0.7**
DMTO				S	Sn	09 21 48.9	-8.9
RBK	**Rabkut**	**9.74**	**178**	P	**Pn**	**09 20 12.1**	**-1.0**
ABTO	**Aybut**	**9.90**	**183**	P	**Pn**	**09 20 13.8**	**-1.5**
BRTR	**Keskin Array B**	**20.89**	**312**	P	**P**	**09 22 37.4**	**+2.3**
	0.6nm,0.7s,baz=132,slow=12,SNR=4.8						
	0.6nm,0.7s						
AKTO	**Aktyubinsk**	**23.33**	**7**	P	**P**	**09 23 00.9**	**+0.2**
	1.9nm,0.6s,baz=178,slow=9.7,SNR=5.2						
	1.9nm,0.6s						
MKAR	**Makanchi Array**	**29.64**	**41**	P	**P**	**09 23 57.9**	**-0.1**
	0.7nm,0.6s,baz=231,slow=9.7,SNR=7.8						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**35.01**	**32**	P	**P**	**09 24 44.4**	**-0.5**
	0.9nm,0.5s,baz=236,slow=8.0,SNR=4.4						
	0.9nm,0.5s						

*IDC **29** 09:25:22.7±4.7, 4°.03S×103°.31E, h0km, mb3.9/3, mbtmp4.0/4, ML4.2/1, Error ellipse: s-maj=213.8km s-min=68.0km az=30.0*
*NEIC **29** 09:25:55.0±1.0, 5°.5S±0°.1×104°.98E±0°.09, h135km±9km, mb4.1/14, Error ellipse: s-maj=20.3km s-min=3.6km az=220.0*

ISC 29 09:25:55.7±0.7, 5°.40S±0°.10×104°.98E±0°.09, h150km, n27, σ1§06/25, mb4.1/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**2.27**	**297**	Pn	**Pn**	**09 26 33.1**	**-0.9**
MNAI				Sn	**Sn**	**09 27 01.9**	**-1.6**
LEM	**Lembang**	**2.98**	**118**		**Pn**	**09 26 41.9**	**-1.1**
LEM	**Lembang**	**2.98**	**118**	Pn	**Pn**	**09 26 41.9**	**-1.1**
	8.8nm,0.3s,baz=330,slow=20,SNR=7.2						
LEM				Sn	Sn	09 27 39.1	+20
	8.3nm,0.3s,baz=353,slow=16,SNR=1.8						
	38nm,0.6s						
KSM	**Kuching**	**8.66**	**38**	Pn	**Pn**	**09 27 56.3**	**-1.6**
JAGI	**Jajag, Banyuwa**	**9.60**	**109**	Pn	**Pn**	**09 28 08.7**	**-1.8**
GSI	**Gunungsitoli**	**9.96**	**312**	Pn	**Pn**	**09 28 14.2**	**-1.0**
IPM	**Ipoh**	**10.58**	**338**	Pn	**Pn**	**09 28 23.1**	**-0.5**
SLVN	**Son La**	**26.59**	**358**	P	**P**	**09 31 20.4**	**+0.2**
SLVN				IAmb	IAmb	09 31 48.5	
	comp=Z,3.0nm,0.7s						
MTN	**Manton Dam**	**26.84**	**108**	P	**P**	**09 31 22.2**	**-0.2**
MTN				IAmb	IAmb	09 31 47.9	
	comp=Z,6.7nm,1.1s						
FAKI	**Fak Fak**	**27.30**	**86**	P	**P**	**09 31 26.5**	**-0.1**
WB0	**Warramunga Arr**	**31.98**	**119**	P	**P**	**09 32 08.4**	**+0.6**
WRA	**Warramunga Arr**	**32.00**	**119**	P	**P**	**09 32 09.8**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=298,slow=9.2,SNR=29						
	comp=Z,0.4nm,0.3s						
WB2	**Warramunga Arr**	**32.01**	**119**	P	**P**	**09 32 07.3**	**-0.8**
WB2				IAmb	IAmb	09 32 09.0	
	comp=Z,5.7nm,1.1s						
WR0	**Warramunga Arr**	**32.18**	**119**	P	**P**	**09 32 09.5**	**-0.1**
WR0				IAmb	IAmb	09 32 34.8	
	comp=Z,2.3nm,1.1s						
ASAR	**Alice Springs**	**33.24**	**126**	P	**P**	**09 32 20.6**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=296,slow=7.5,SNR=17						
	comp=Z,0.5nm,0.3s						
ENH	**Enshi**	**35.73**	**7**	P	**P**	**09 32 41.8**	**+1.7**
LSA	**Lhasa**	**37.34**	**340**	P	**P**	**09 32 54.9**	**+0.6**
LSA				IAmb	IAmb	09 33 20.9	
	comp=Z,3.3nm,0.7s						
BBOO	**Buckleboo**	**39.77**	**137**	P	**P**	**09 33 13.6**	**-0.5**
BBOO				IAmb	IAmb	09 33 24.8	
	comp=Z,7.5nm,1.1s						
STKA	**Stephens Creek**	**43.19**	**132**	P	**P**	**09 33 41.8**	**-0.1**
STKA	**Stephens Creek**	**43.19**	**132**	P	**P**	**09 33 41.8**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=309,slow=6.5,SNR=2.8						
	comp=Z,1.1nm,0.5s						
MK31	**Makanchi Array**	**55.73**	**341**	P	**P**	**09 35 17.0**	**+0.3**
HIA	**Hailar**	**55.95**	**12**	P	**P**	**09 35 19.0**	**+0.8**
UOSS	**Minazif**	**56.20**	**305**	P	**P**	**09 35 20.5**	**+0.1**
UOSS				IAmb	IAmb	09 35 30.3	
	comp=Z,4.8nm,1.1s						
H04N2	**CROZET ISLANDS**	**61.19**	**219**	T	T	10 42 04.3	
	baz=65,slow=75,SNR=6.0						
H04N1	**CROZET ISLANDS**	**61.20**	**219**	T	T	10 42 04.9	
	baz=65,slow=75,SNR=4.7						
H04N3	**CROZET ISLANDS**	**61.20**	**219**	T	T	10 42 04.3	
	baz=65,slow=75,SNR=4.5						
VNDA	**Vanda**	**77.90**	**169**	P	**P**	**09 37 36.8**	**+0.4**

NOU 29 09:26:55.0, 19°.28S×169°.48E, h92km, MLv3.9/6, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.97**	**321**	P	Pn	09 27 28.3	+1.4
MARNC	**Mare, Loyalty**	**2.58**	**212**	P	Pn	09 27 35.7	+0.8
LIFNC	**LIFOU**	**2.58**	**234**	P	Pn	09 27 35.2	+0.3
DZM	**Mont Dzumac**	**3.97**	**225**	P	Pn	09 27 52.8	-1.0

BUC 29 09:29:21.5±0.2, 46°.12N×22°.89E, h4km±2km, ml1.4/6, 11C-9D, Error ellipse: s-maj=1.9km s-min=1.7km az=136.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARR	**Marisel-Cluj**	**0.57**	**16**	↑P	Pg	09 29 32.7	+0.2
MARR				↑S	Sg	09 29 40.1	+0.1
SURR	**Surduc**	**0.65**	**236**	↑P	Pg	09 29 33.6	-0.3
SURR				↑S	Sg	09 29 42.6	+0.3
GZR	**Gura Zlata**	**0.73**	**186**	↑P	Pg	09 29 35.9	+0.4
GZR				↑S	Sb	09 29 46.4	-1.0
SIRR	**Siria**	**0.87**	**280**	↓P	Pb	09 29 38.7	-0.4
SIRR				↓S	Sb	09 29 50.5	-0.6
LOT	**Lotru**	**0.91**	**137**	↑P	Pb	09 29 39.6	-0.4
LOT				↓S	Sb	09 29 52.3	-0.3
BZS	**Buzias**	**1.02**	**241**	↑P	Pg	09 29 39.9	-1.2
BZS				↓S	Sg	09 29 54.6	+0.3
HERR	**Herculane**	**1.29**	**195**	↓P	Pg	09 29 46.1	0.0
HERR				↓S	Sb	09 30 03.2	+0.1
ARR	**Arges**	**1.44**	**121**	↑P	Pn	09 29 47.9	-0.5
ARR				↑S	Sn	09 30 08.5	+0.7
MDVR	**Moldovita**	**1.58**	**212**	↓P	Pb	09 29 51.0	-0.2
MDVR				↓S	Sg	09 30 12.3	+0.2
VOIR		**1.66**	**114**	↓P	Pb	09 29 52.3	-0.4
VOIR				↓S	Sb	09 30 13.8	-0.2

*IPEC **29** 09:30:50.5±0.4, 51°.55N×16°.22E, h0km±1km, ML2.5/4, Error ellipse: s-maj=2.6km s-min=1.2km az=31.0*
*DNK **29** 09:30:52.5±1.1, 51°.73N×15°.77E, h0km, ML2.2, Suspected explosion*
*VIE **29** 09:30:53.7±2.0, 51°.29N×15°.98E, h0km, mb2.6/6, ml2.8/6, Error ellipse: s-maj=12.3km s-min=9.3km az=3.0 75 km WNW of Wroclaw Suspected Mining induced.*
*PRU **29** 09:30:54.1, 51°.40N×16°.10E, h0km*
*UPP **29** 09:30:55.8±3.0, 51°.88N×15°.67E, h0km, ML2.0*

ISC 29 09:30:49.0±0.8, 51°.62N±0°.02×16°.16E±0°.03, h0km, n49, σ1§77/92, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.78**	**174**	*e*Pg	**Pg**	**09 31 04.3**	**+0.4**
KSP				*e*Sg	**Sg**	**09 31 13.2**	**-0.9**
CHVC	**Chvalec**	**1.04**	**184**	*e*PG	**Pg**	**09 31 09.1**	**+0.3**
CHVC				*e*SG	**Sg**	**09 31 21.2**	**-1.0**
OSTC	**Ostas**	**1.07**	**178**	*e*PG	**Pg**	**09 31 09.8**	**+0.4**
OSTC				*e*SG	**Sg**	**09 31 22.2**	**-1.0**
	comp=Z,94nm,0.2s						
UPC	**Upice**	**1.12**	**185**	*e*PG	**Pg**	**09 31 10.5**	**+0.1**

VYHS				*e*SG	**Sg**	09 32 40.7	-3.1
BSD	**Bornholm Skovb**	**3.58**	**349**	*i* P	**Pn**	09 31 47.0	+1.4
BSD				*i* S	**Sn**	09 32 26.6	-1.9
BSD				IAML		09 32 31.0	
	comp=Z,1.5nm,0.1s						
CONA	**Conrad Observa**	**3.70**	**183**	*i* Pn	**Pn**	09 31 48.7	+1.3
	comp=Z,1.1nm,0.2s						
CONA				*e*Sg	**Sg**	09 32 44.6	-3.2
	comp=Z,14nm,0.5s						
RONA	**Rosalia, Austr**	**3.93**	**179**	*e*Pn	**Pn**	09 31 48.1	-2.4
	comp=Z,1.6nm,0.4s						
RONA				*e*Sg	**Sg**	09 32 54.4	-0.7
	comp=Z,8.3nm,0.3s						
BIOA	**Bad Ischl, Aus**	**4.26**	**204**	*e*Pn	**Pn**	09 31 56.5	+1.4
	comp=Z,3.2nm,0.3s						
BIOA				*e*Sg	**Sb**	09 33 00.7	+4.0
	comp=Z,7.8nm,0.4s						
LUNU	**Lund**	**4.33**	**339**	P	**Pn**	09 31 57.8	+1.8
LUNU	**Lund**	**4.33**	**339**	*i* P	**Pn**	09 31 57.4	+1.5
LUNU				P	**Pn**	09 31 57.8	+1.8
LUNU				*i* S	**Sn**	09 32 46.1	-1.0
ARSA	**Arzberg**	**4.39**	**186**	*i* Pn	**Pn**	09 31 59.8	+2.8
	comp=Z,0.9nm,0.2s						
ARSA				*e*Sg	**Sg**	09 33 07.1	-3.0
	comp=Z,15nm,0.7s						
BLEU	**Blekinge**	**4.70**	**358**	P	**Pn**	09 32 03.4	+2.4
BLEU				S	**Sn**	09 32 55.7	-0.4
BLEU	**Blekinge**	**4.70**	**358**	P	**Pn**	09 32 03.4	+2.4
BLEU				*i* P	**Pn**	09 32 03.6	+2.5
BLEU				*i* S	**Sn**	09 32 55.3	-0.8
BLEU				S	**Sn**	09 32 55.7	-0.4
LESA	**Schwarzleotal**	**4.77**	**210**	*e*Pn	**Pn**	09 32 02.4	+0.2
	comp=Z,0.3nm,0.1s						
LESA				*e*Sg	**Sg**	09 33 18.8	-3.3
	comp=Z,9.3nm,0.5s						
BJUU	**Bjuv**	**4.83**	**339**	P	**Pn**	09 32 04.3	+1.4
BJUU				S	**Sn**	09 32 55.9	-3.5
BJUU	**Bjuv**	**4.83**	**339**	P	**Pn**	09 32 04.3	+1.4
BJUU				*i* P	**Pn**	09 32 04.4	+1.5
BJUU				S	**Sn**	09 32 55.9	-3.5
BJUU				*i* S	**Sn**	09 32 56.4	-3.0
DEL	**Delary**	**5.04**	**345**	P	**Pn**	09 32 07.6	+1.8
DEL	**Delary**	**5.04**	**345**	*i* P	**Pn**	09 32 07.0	+1.2
DEL				P	**Pn**	09 32 07.6	+1.8
DEL				*i* S	**Sn**	09 33 02.2	-2.4
WTTA	**Wattenberg**	**5.26**	**216**	*i* Pn	**Pn**	09 32 10.4	+1.4
	comp=Z,0.6nm,0.2s						
WTTA				*e*Sg	**Sg**	09 33 35.1	-2.9
	comp=Z,1.1nm,0.2s						
VXJU	**Vaexsjoe**	**5.36**	**353**	P	**Pn**	09 32 12.7	+2.5
VXJU	**Vaexsjoe**	**5.36**	**353**	P	**Pn**	09 32 12.7	+2.5
SSRD	**Sdr. Stenderup**	**5.48**	**317**	*i* P	**Pn**	09 32 12.4	+0.6
SSRD				*i* S	**Sn**	09 33 11.0	-4.5
SSRD				IAML		09 33 18.9	
	comp=Z,2.9nm,0.2s						
OSKU	**Oskarshamn**	**5.59**	**360**	P	**Pn**	09 32 15.6	+2.3
OSKU	**Oskarshamn**	**5.59**	**360**	P	**Pn**	09 32 15.6	+2.3
VIKU	**Vikbolandet**	**6.90**	**2**	*e*P	**Pg**	09 32 57.2	-4.0

GCG **29** *09:42:06.8±0.6, 12°.00N×93°.64W,h157km±63km,MD4.9*
CATAC **29** *09:42:38.9±0.8, 13°.71N×92°.07W,h2km±6km,ML5.1*
MEX **29** *09:42:39.9±0.6, 13°.65N×92°.22W,h15km,MD5.2*
GCMT **29** *09:42:40.9±0.1, 13°.80N±0°.01×92°.34W±0°.01,h17km, MW5.3/129, Moment Tensor Solution. s116,c188; s129,c221; Duration: 1s2 Moment tensor: Scale 10¹⁷ Nm; Mrr0.94±.02; Mθθ-0.67±.01; Mφφ-0.27±.01; Mrθ0.68±.04; Mθφ0.36±.01; Mφr-0.72±.04; Best double couple: M₀1.34600×10¹⁷ NP1:φs132.00000°,δ69.00000°, λ98.00000°. NP2:φs292.00000°,δ22.00000°,λ71.00000°. Principal axes: T 1.3950, Plg65.0000°, Azm55.0000°; N -0.0990, Plg7.0000°, Azm309.0000°; P -1.2960, Plg24.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC **29** *09:42:40.9±2.8, 13°.84N±0°.04×92°.05W±0°.04,h22km±4km, mb5.1/527,Ms_20 5.0/116,Mww5.3/12,Md5.0/122(MEX) Error ellipse: s-maj=6.4km s-min=5.9km az=68.0*
NEIC **29** *09:42:43.5, 13°.87N×91°.91W,h22km*
IDC **29** *09:42:43.4±3.6, 14°.00N×91°.52W,h51km±31km,mb4.3/22, mbtmp4.6/24,ML3.9/2,MS4.7/55,Error ellipse: s-maj=22.6km s-min=12.1km az=49.0*
MOS **29** *09:42:43.0±1.2, 13°.92N×91°.79W,h59km,mb5.2/21, MS4.7/7,Error ellipse: s-maj=10.6km s-min=5.7km az=116.0*
NEIC **29** *09:42:43.5, 13°.57N×92°.22W,h22km,Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10¹⁷Nm; Mrr0.75; Mθθ-0.47; Mφφ-0.29; Mrθ1.03; Mθφ0.12; Mφr-0.26; Fault plane solution: M₀1.24000×10¹⁷ NP1: φs105.82000°,δ74.55000°,λ87.19000°. NP2: φs296.27000°,δ15.70000°,λ100.07000°. Principal axes: T 1.3569, Plg60.0000°, Azm12.0000°; N -0.2378, Plg3.0000°, Azm107.0000°; P -1.1191, Plg29.0000°, Azm198.0000°;*
SNET **29** *09:42:56.0±1.9, 13°.96N×90°.81W,h10km,ML4.6*
ISC 29 09:42:39.4±1.0,**13°.70N**±0°.03×**92°.09W**±0°.03,**h24**km±7km, **n1246**,σ1°**86**/1092,**mb5.0**/265,**MS4.9**/125,**10C-9D,Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.79**	**40**	⇓*i*P		**Pn**	**09 42 56.0**	**+1.0**
SULM				*e*S		Sn	09 43 34.1	+28
RTAL	**Retalhuleu**	**0.90**	**25**	Pg		**Pb**	**09 42 55.7**	**-0.8**
RTAL				Sn		**Sb**	**09 43 07.9**	**-0.2**
RTAL	**Retalhuleu**	**0.90**	**25**	*e*P		**Pb**	**09 42 56.0**	**-0.5**
RTAL				*i* S		**Sb**	**09 43 07.8**	**-0.2**
RTAL	**Retalhuleu**	**0.90**	**25**	*i* P		**Pb**	**09 42 56.1**	**-0.4**
RTAL				*i* S		**Sn**	**09 43 08.3**	**-0.7**
RTAL				IAML			09 43 10.4	
	comp=Z,44μm,1.0s							
STG3	**Santiaguito 3,**	**1.12**	**26**	⇓*e*P		**Pn**	**09 42 58.9**	**-0.9**
STG3				*e*S		Sn	09 43 42.7	+28
SMCA	**Catarina**	**1.15**	**0**	*i* P		**Pb**	**09 43 00.4**	**-0.3**
SMCA				*i* S		**Sb**	**09 43 15.4**	**+0.2**
SMCA				IAML			09 43 35.4	
	comp=Z,18μm,1.0s							
THIG		**1.21**	**352**			**Pn**	**09 42 59.3**	**-1.7**
THIG						**Sn**	**09 43 14.0**	**-2.6**
THIG		**1.21**	**352**	*i* P		**Pn**	**09 42 59.3**	**-1.7**
THIG				*i* S		**Sn**	**09 43 14.0**	**-2.6**
SOKI	**Kika Raxquin**	**1.29**	**31**	*i* P		**Pb**	**09 43 02.9**	**-0.5**
SOKI				*i* S		**Sb**	**09 43 20.7**	**+1.0**
SOKI				IAML			09 43 37.3	
	comp=Z,17μm,1.0s							
SMSP	**San Marcos**	**1.30**	**13**	*i* P		**Pn**	**09 43 01.1**	**-1.3**
SMSP				*e*S		**Sn**	**09 43 16.9**	**-2.3**
SMSP	**San Marcos**	**1.30**	**13**	*i* S		**Sb**	**09 43 19.3**	**-0.5**
CHUJ	**Union Juarez**	**1.39**	**359**	*e*P		**Pn**	**09 43 01.4**	**-2.1**
CHUJ				*i* S		**Sn**	**09 43 18.9**	**-2.3**
PATR	**El Naranjo**	**1.42**	**354**	*e*P		**Pn**	**09 43 01.9**	**-2.1**
PATR				*i* S		**Sn**	**09 43 17.1**	**-4.8**
FUG	**Fuego 3**	**1.42**	**58**	⇑*e*P		**Pn**	**09 43 04.0**	**+0.1**
PAVE	**Pavencul**	**1.49**	**357**	*i* P		**Pn**	**09 43 03.0**	**-1.9**
PAVE				*i* S		**Sn**	**09 43 22.3**	**-1.4**
CHTG	**Tecpan**	**1.50**	**45**	*i* P		**Pb**	**09 43 06.3**	**-0.5**
CHTG				*i* S		**Sb**	**09 43 26.3**	**+0.8**
CHTG				IAML			09 43 44.9	
	comp=Z,27μm,1.0s							
PCG	**Pacaya**	**1.59**	**64**	*e*P		**Pn**	**09 43 06.7**	**+0.4**
PCG				*e*S		Sb	09 43 53.1	+25
HUEH	**Huehuetenango**	**1.70**	**19**	Pn		**Pn**	**09 43 07.8**	**-0.1**
HUEH	**Huehuetenango**	**1.70**	**19**	*e*P		**Pn**	**09 43 07.5**	**-0.3**
HUEH				*e*S		**Sb**	**09 43 30.4**	**-1.0**
HUEH	**Huehuetenango**	**1.70**	**19**	*i* P		**Pb**	**09 43 09.0**	**-1.3**
HUEH				IAML			09 43 47.3	
	comp=Z,19μm,1.0s							
GCG4	**OSOP**	**1.75**	**59**	*i* P		**Pb**	**09 43 09.7**	**-1.2**
GCG4				*i* S		**Sb**	**09 43 32.7**	**+0.2**
GCG4				IAML			09 43 46.0	
	comp=Z,18μm,1.0s							
NBG	**Las Nubes**	**1.90**	**62**	*e*P		**Pb**	**09 43 12.4**	**-1.3**
NBG				*e*S		**Sb**	**09 43 45.0**	**+7.9**
GUNB	**GUNB**	**1.91**	**62**	*i* P		**Pn**	**09 43 12.0**	**+1.2**
GUNB				*i* S		**Sb**	**09 43 36.9**	**-0.4**
GUNB				IAML			09 43 45.8	
	comp=Z,9μm,1.0s							
NUBE	**Las Nubes**	**2.25**	**85**	*e*P		**Pn**	**09 43 14.9**	**-0.4**
NUBE	**Las Nubes**	**2.25**	**85**	*i* P		**Pn**	**09 43 16.6**	**+1.3**
NUBE				IAML			09 44 00.1	
	comp=Z,6μm,1.0s							
LOAL	**Lomas de Alarc**	**2.26**	**82**	*i* S		**Sb**	**09 43 45.9**	**-1.2**
SLOZ	**Alcaldia de Sa**	**2.26**	**81**	*e*P		**Pn**	**09 43 15.1**	**-0.3**
PCIG		**2.27**	**331**			**Pn**	**09 43 13.4**	**-2.1**
PCIG						**Sn**	**09 43 40.2**	**-2.6**
PCIG		**2.27**	**331**	⇑*i*P		**Pn**	**09 43 13.4**	**-2.1**
PCIG				*e*S		**Sn**	**09 43 40.2**	**-2.6**
RTR	**El Retiro**	**2.38**	**85**	*e*P		**Pn**	**09 43 18.1**	**+1.0**
CEVE	**Cerro Verde**	**2.39**	**87**	*e*P		**Pn**	**09 43 17.8**	**+0.4**
CEVE	**Cerro Verde**	**2.39**	**87**	*i* P		**Pn**	**09 43 19.4**	**+2.0**
CEVE				IAML			09 43 56.5	
	comp=Z,8μm,1.0s							
JUAM	**Asuncion Mita**	**2.39**	**74**	*i* P		**Pn**	**09 43 17.8**	**+0.6**
JUAM				IAML			09 44 09.7	
	comp=Z,5μm,1.0s							
AVCB	**Coban**	**2.40**	**43**	*i* P		**Pb**	**09 43 20.0**	**-2.0**
AVCB				IAML			09 43 36.6	
	comp=Z,14μm,1.0s							
SBLS	**San Blas**	**2.40**	**86**	*e*P		**Pn**	**09 43 17.9**	**+0.5**
SNJE	**San Jose**	**2.41**	**86**	*e*P		**Pn**	**09 43 18.2**	**+0.5**
UNIC	**Universidad Ca**	**2.48**	**83**	*i* P		**Pn**	**09 43 19.4**	**+1.0**
UNIC				IAML			09 44 06.5	
	comp=Z,2μm,1.0s							
JAYA	**Jayaque - finc**	**2.56**	**91**	*e*P		**Pn**	**09 43 19.6**	**0.0**
JAYA	**Jayaque - finc**	**2.56**	**91**	*i* P		**Pn**	**09 43 20.3**	**+0.7**
JAYA				IAML			09 43 57.5	
	comp=Z,10μm,1.0s							
CCIG	**Comitan**	**2.57**	**359**			**Pn**	**09 43 21.1**	**+1.4**
CCIG	**Comitan**	**2.57**	**359**	*e*P		**Pn**	**09 43 21.6**	**+1.9**
CCIG				*e*S		**Sb**	**09 43 53.2**	**-2.9**
CEDA	**San Andres**	**2.62**	**87**	*e*P		**Pn**	**09 43 21.5**	**+1.3**
PMON	**Piamonte**	**2.69**	**89**	*i* P		**Pn**	**09 43 22.9**	**+1.5**
PMON				IAML			09 44 03.0	
	comp=Z,7μm,1.0s							
LALI	**Alcalda de L**	**2.70**	**94**	*e*P		**Pn**	**09 43 21.6**	**+0.3**
LALI	**Alcalda de L**	**2.70**	**94**	*i* P		**Pn**	**09 43 22.5**	**+1.2**
LALI				IAML			09 44 19.7	
	comp=Z,1μm,1.0s							
MAGS	**Ministerio de**	**2.72**	**90**	*i* P		**Pn**	**09 43 23.6**	**+1.8**
MAGS				*i* S		**Sn**	**09 43 57.0**	**+3.0**
MAGS				IAML			09 44 08.7	
	comp=Z,4μm,1.0s							
BOQS	**Boqueron**	**2.73**	**89**	*e*P		**Pn**	**09 43 22.2**	**+0.3**
ITCA	**Escuela Especi**	**2.73**	**90**	*i* P		**Pn**	**09 43 24.0**	**+2.1**
ITCA				IAML			09 44 17.0	
	comp=Z,16μm,1.0s							
MTO3	**Montecristo**	**2.73**	**75**	Pn		**Pn**	**09 43 22.0**	**-0.1**
MTO3	**Montecristo**	**2.73**	**75**	*e*P		**Pn**	**09 43 22.0**	**-0.1**
MTO3	**Montecristo**	**2.73**	**75**	*i* P		**Pn**	**09 43 22.6**	**+0.6**
MTO3				IAML			09 44 08.9	
	comp=Z,3μm,1.0s							
QUEZ	**Alcaldia de Qu**	**2.74**	**87**	*i* P		**Pn**	**09 43 23.7**	**+1.8**
QUEZ				IAML			09 44 19.8	
	comp=Z,17μm,1.0s							
SNET	**Serv Nac Est T**	**2.77**	**90**	Pn		**Pn**	**09 43 22.4**	**-0.1**
SNET	**Serv Nac Est T**	**2.77**	**90**	*i* P		**Pn**	**09 43 24.3**	**+1.8**
SNET				IAML			09 44 13.8	
	comp=Z,8μm,1.0s							
SEMO	**Seminario San**	**2.78**	**90**	*i* P		**Pn**	**09 43 24.2**	**+1.6**
SEMO				IAML			09 44 10.1	
	comp=Z,9μm,1.0s							
ESQI	**Esquipulas**	**2.79**	**72**	Pn		**Pn**	**09 43 23.1**	**+0.3**
ESQI	**Esquipulas**	**2.79**	**72**	*i* P		**Pn**	**09 43 24.4**	**+1.6**
ESQI				IAML			09 44 22.9	
	comp=Z,9μm,1.0s							
PANCS	**Alcalda de**	**2.83**	**91**	*i* P		**Pn**	**09 43 25.1**	**+1.9**
PANCS				IAML			09 44 17.2	
	comp=Z,6μm,1.0s							
IGN	**Direccin Gen**	**2.83**	**89**	*i* P		**Pn**	**09 43 25.1**	**+1.8**
IGN				*i* S		**Sn**	**09 43 59.4**	**+2.7**
IGN				IAML			09 44 20.6	
	comp=Z,16μm,1.0s							
LOMA	**Loma Larga**	**2.83**	**91**	*i* P		**Pn**	**09 43 25.1**	**+1.8**
LOMA				IAML			09 44 06.3	
	comp=Z,5μm,1.0s							
LFRS	**El Faro**	**2.94**	**91**	*e*P		**Pn**	**09 43 25.3**	**+0.5**
SJTE	**Alcalda de S**	**2.99**	**91**	*e*P		**Pn**	**09 43 26.6**	**+1.1**
SJTE	**Alcalda de S**	**2.99**	**91**	*i* P		**Pn**	**09 43 27.1**	**+1.6**
SJTE				IAML			09 44 15.2	
	comp=Z,3μm,1.0s							
PAVA	**Las Pavas**	**3.06**	**89**	*e*P		**Pn**	**09 43 27.7**	**+1.3**
PAVA	**Las Pavas**	**3.06**	**89**	*i* P		**Pn**	**09 43 28.2**	**+1.8**
PAVA				IAML			09 43 41.8	
	comp=Z,5μm,1.0s							
LLGN	**La Laguna**	**3.08**	**81**	*i* P		**Pn**	**09 43 27.6**	**+0.8**
LLGN				IAML			09 44 24.0	
	comp=Z,2μm,1.0s							
CARR	**Arriaga**	**3.09**	**325**	*e*P		**Pn**	**09 43 27.0**	**+0.3**
CARR				*e*S		**Sn**	**09 44 03.4**	**+0.5**
COEG	**Centro de Oper**	**3.12**	**91**	*e*P		**Pn**	**09 43 28.1**	**+0.9**
COEG	**Centro de Oper**	**3.12**	**91**	*i* P		**Pn**	**09 43 28.8**	**+1.6**
COEG				IAML			09 44 18.1	
	comp=Z,2μm,1.0s							
UESV	**Universidad de**	**3.21**	**91**	*i* P		**Pn**	**09 43 30.0**	**+1.6**
UESV				IAML			09 44 26.9	
	comp=Z,3μm,1.0s							
TECO	**Alcaldia de Te**	**3.22**	**93**	*i* P		**Pn**	**09 43 30.3**	**+1.8**
TECO				IAML			09 44 23.1	
	comp=Z,1μm,1.0s							
TGIG		**3.22**	**342**			**Pn**	**09 43 28.1**	**-0.5**
TGIG						**Sn**	**09 44 03.0**	**-3.3**
TGIG		**3.22**	**342**	*i* P		**Pn**	**09 43 28.1**	**-0.5**
TGIG				*e*S		**Sn**	**09 44 03.0**	**-3.3**
SCLA	**Alcaldia de Sa**	**3.26**	**90**	*e*P		**Pn**	**09 43 29.5**	**+0.3**
SCLA	**Alcaldia de Sa**	**3.26**	**90**	*i* P		**Pn**	**09 43 30.0**	**+0.8**
SCLA				IAML			09 44 36.3	
	comp=Z,1μm,1.0s							
SARH	**Santa Rosa de**	**3.40**	**71**	*i* P		**Pn**	**09 43 32.3**	**+1.3**
ALJI	**Alcalda de J**	**3.44**	**96**	*e*P		**Pn**	**09 43 32.0**	**+0.4**
ALJI	**Alcalda de J**	**3.44**	**96**	*i* P		**Pn**	**09 43 33.9**	**+2.4**
ALJI				IAML			09 43 43.5	
	comp=Z,1μm,1.0s							
PACA	**Pacayal**	**3.67**	**93**	*e*P		**Pn**	**09 43 37.7**	**+2.9**
PACA	**Pacayal**	**3.67**	**93**	*i* P		**Pn**	**09 43 36.6**	**+1.8**
PACA				IAML			09 44 27.2	
	comp=Z,12μm,1.0s							
NILT	**Santiago Nilte**	**3.75**	**320**	*i* P		**Pn**	**09 43 35.4**	**-0.4**
NILT				*e*S		**Sn**	**09 44 16.0**	**-3.4**
PETF	**Flores**	**3.85**	**34**	Pn		**Pn**	**09 43 38.5**	**+1.3**
PETF	**Flores**	**3.85**	**34**	*e*P		**Pn**	**09 43 38.0**	**+0.8**
PETF				*e*S		**Sn**	**09 44 15.7**	**-6.1**
PETF	**Flores**	**3.85**	**34**	*i* P		**Pn**	**09 43 38.7**	**+1.5**
PETF				IAML			09 45 12.8	
	comp=Z,2μm,1.0s							
UXUV	**UXUV**	**4.11**	**331**	⇑*i*P		**Pn**	**09 43 41.7**	**+0.9**
UXUV				*e*S		**Sn**	**09 44 28.6**	**+0.5**
CNCH	**Conchagua**	**4.16**	**95**	*e*P		**Pn**	**09 43 42.3**	**+0.8**
CNCH	**Conchagua**	**4.16**	**95**	*i* P		**Pn**	**09 43 43.3**	**+1.8**
CNCH				IAML			09 44 43.7	
	comp=Z,3μm,1.0s							
CMIG	**Matias Romero**	**4.32**	**322**	P		**Pn**	**09 43 43.1**	**-0.6**
	comp=Z,89nm,0.5s,baz=157,slow=14,SNR=52							
CMIG					S	**Sn**	**09 44 32.9**	**-0.4**
	comp=Z,286nm,0.4s,baz=129,slow=16,SNR=5.8							
CMIG	**Matias Romero**	**4.32**	**322**	*e*P		**Pn**	**09 43 43.0**	**-0.7**
CMIG				*e*S		**Sn**	**09 44 32.8**	**-0.4**
HUIG	**Huatulco**	**4.40**	**298**			**Pn**	**09 43 43.9**	**-0.9**
HUIG						Sn	09 44 26.1	-9.3
HUIG	**Huatulco**	**4.40**	**298**	*e*P		**Pn**	**09 43 43.9**	**-0.9**
HUIG				*e*S		Sn	09 44 26.1	-9.3
TGUH	**Tegucigalpa,Un**	**4.69**	**85**	Pn		**Pn**	**09 43 49.3**	**+0.5**
TGUH	**Tegucigalpa,Un**	**4.69**	**85**	*e*P		**Pn**	**09 43 48.3**	**-0.5**
TUIG	**Tuzandepetl**	**4.86**	**333**	*e*P		**Pn**	**09 43 49.9**	**-1.2**
TUIG				*e*S		**Sn**	**09 44 46.3**	**-0.4**
CRIN	**San Cristobal**	**5.00**	**101**	Pn		**Pn**	**09 43 54.8**	**+1.6**
CRIN	**San Cristobal**	**5.00**	**101**	*e*P		**Pn**	**09 43 51.2**	**-2.0**
SCIG	**Sabancuy**	**5.31**	**9**	*e*P		**Pn**	**09 43 57.5**	**+0.3**
SCIG				*e*S		**Sn**	**09 44 59.0**	**+1.3**
NEUV	**Arroyo Zacate**	**5.36**	**319**	*e*P		**Pn**	**09 43 59.7**	**+1.8**
NEUV				*e*S		**Sn**	**09 44 55.8**	**-3.2**
CNGN	**Cerro Negro**	**5.38**	**102**			**Pn**	**09 43 58.9**	**+0.6**
CNGN	**Cerro Negro**	**5.38**	**102**	*e*P		**Pn**	**09 43 58.0**	**-0.4**
PEIG	**Puerto Escondi**	**5.40**	**296**			**Pn**	**09 43 57.4**	**-1.2**
PEIG						**Sn**	**09 44 51.3**	**-8.8**
PEIG	**Puerto Escondi**	**5.40**	**296**	*e*P		**Pn**	**09 43 57.4**	**-1.2**
PEIG				*e*S		**Sn**	**09 44 51.3**	**-8.8**
OXIG	**Oaxaca**	**5.60**	**307**			**Pn**	**09 44 03.2**	**+1.7**
OXIG						**Sn**	**09 45 00.4**	**-4.8**
VHO	**Vista Hermosa**	**5.60**	**307**	*e*P		**Pn**	**09 44 03.2**	**+1.7**
VHO				*e*S		**Sn**	**09 45 00.4**	**-4.8**
PMUV	**Sontecomapan**	**5.63**	**329**	*e*P		**Pn**	**09 43 59.3**	**-2.5**
PMUV				*e*S		**Sn**	**09 44 59.4**	**-6.4**
YOIG	**Yosondua**	**6.13**	**301**			**Pn**	**09 44 10.9**	**+2.1**
YOIG						**Sn**	**09 45 18.4**	**-0.1**
YOIG	**Yosondua**	**6.13**	**301**	*e*P		**Pn**	**09 44 10.9**	**+2.1**
YOIG				*e*S		**Sn**	**09 45 18.4**	**-0.1**
PNIG	**Pinotepa**	**6.42**	**295**			**Pn**	**09 44 12.3**	**-0.3**
PNIG						**Sn**	**09 45 18.8**	**-6.4**
PNIG	**Pinotepa**	**6.42**	**295**	*e*P		**Pn**	**09 44 12.3**	**-0.3**
PNIG				*e*S		**Sn**	**09 45 18.8**	**-6.4**
TOIG	**Toxpalan**	**6.48**	**313**			**Pn**	**09 44 15.1**	**+1.5**
TOIG						**Sn**	**09 45 24.5**	**-2.4**
TOIG	**Toxpalan**	**6.48**	**313**	*e*P		**Pn**	**09 44 15.1**	**+1.5**
TOIG				*e*S		**Sn**	**09 45 24.5**	**-2.4**
TXIG	**Tlaxiaco**	**6.52**	**304**			**Pn**	**09 44 16.3**	**+2.1**
TXIG						**Sn**	**09 45 25.0**	**-3.0**
TXIG	**Tlaxiaco**	**6.52**	**304**	*e*P		**Pn**	**09 44 16.3**	**+2.1**
TXIG				*e*S		**Sn**	**09 45 25.0**	**-3.0**
HLIG	**Huajuapan de L**	**6.87**	**307**			**Pn**	**09 44 21.5**	**+2.6**
HLIG						**Sn**	**09 45 36.9**	**+0.4**
HLIG	**Huajuapan de L**	**6.87**	**307**	*e*P		**Pn**	**09 44 21.5**	**+2.6**
HLIG				*e*S		**Sn**	**09 45 36.9**	**+0.4**
TPIG	**Tehuac#an**	**6.91**	**313**			**Pn**	**09 44 22.9**	**+3.5**
TPIG						**Sn**	**09 45 41.5**	**+4.1**
TPIG	**Tehuac#an**	**6.91**	**313**	*e*P		**Pn**	**09 44 22.9**	**+3.5**
TPIG				*e*S		**Sn**	**09 45 41.5**	**+4.1**
ACON	**Acoyapa**	**6.96**	**104**			**Pn**	**09 44 20.4**	**+0.5**
ACON	**Acoyapa**	**6.96**	**104**	*e*P		**Pn**	**09 44 19.0**	**-1.0**
HZTE	**Horizontes, Gu**	**7.00**	**114**	Pn		**Pn**	**09 44 23.0**	**+2.4**
FTIG	**Fresnillo de T**	**7.17**	**306**			**Pn**	**09 44 25.4**	**+2.5**
FTIG						**Sn**	**09 45 46.0**	**+2.3**
FTIG	**Fresnillo de T**	**7.17**	**306**	*e*P		**Pn**	**09 44 25.4**	**+2.5**
FTIG				*e*S		**Sn**	**09 45 46.0**	**+2.3**
JAUV	**Jalcomulco**	**7.22**	**322**	*e*P		**Pn**	**09 44 20.8**	**-2.9**
JAUV				*e*S		**Sn**	**09 45 41.8**	**-3.2**
MGIG	**Malinaltepec**	**7.22**	**300**			**Pn**	**09 44 25.6**	**+1.8**
MGIG						**Sn**	**09 45 45.6**	**+0.4**
MGIG	**Malinaltepec**	**7.22**	**300**	*e*P		**Pn**	**09 44 25.6**	**+1.8**
MGIG				*e*S		**Sn**	**09 45 45.6**	**+0.4**
ORTG	**Ortega, Santa**	**7.28**	**116**			**Pn**	**09 44 27.1**	**+2.6**
LVIG	**Laguna Verde**	**7.29**	**326**	*e*P		Pn	09 44 19.7	-4.7
LVIG				*e*S		**Sn**	**09 45 39.0**	**-7.4**
TLIG	**Tlapa**	**7.33**	**302**	Pn		**Pn**	**09 44 27.3**	**+2.2**
TLIG	**Tlapa**	**7.33**	**302**	*e*P		**Pn**	**09 44 27.1**	**+1.9**
TLIG				*e*P		**Pn**	**09 44 27.3**	**+2.2**
TLIG				*e*S		**Sn**	**09 45 46.2**	**-1.5**
TLIG				*e*S		**Sn**	**09 45 49.0**	**+1.3**
DUNO	**Dulce Nombre,**	**7.39**	**118**	Pn		**Pn**	**09 44 26.6**	**+0.8**
CRIG	**Cruz Grande**	**7.44**	**295**			**Pn**	**09 44 26.2**	**-0.3**
CRIG						**Sn**	**09 45 42.8**	**-7.5**
CRIG	**Cruz Grande**	**7.44**	**295**	*e*P		**Pn**	**09 44 26.2**	**-0.3**
CRIG				*e*S		**Sn**	**09 45 42.8**	**-7.5**
TEIG	**Tepich**	**7.44**	**29**	Pn		**Pn**	**09 44 27.6**	**+1.0**
TEIG	**Tepich**	**7.44**	**29**	*e*P		**Pn**	**09 44 27.0**	**+0.4**
TEIG	**Tepich**	**7.44**	**29**	P		**Pn**	**09 44 26.9**	**+0.4**
	comp=Z,2μm,0.4s,baz=251,slow=0.3,SNR=482							
MYIG	**Mrida**	**7.56**	**17**	*e*P		**Pn**	**09 44 27.5**	**-0.6**
MYIG				*e*S		Sn	09 46 03.7	+11
ESPN	**Las Esperanzas**	**7.74**	**100**	Pn		**Pn**	**09 44 32.0**	**+1.4**
JTS	**Las Juntas de**	**7.

ZAIG Zacatecas 13.43 314 Pn 09 45 52.0 +3.2
ZAIG Zacatecas 13.43 314 eP Pn 09 45 51.3 +2.4
CJM Chamela 13.69 297 eP Pn 09 45 54.0 +1.8
PAYG Puerto Ayora 14.39 173 Pn Pn 09 46 05.5 +3.7
PAYG Puerto Ayora 14.39 173 eP Pn 09 46 03.0 +1.2
MTDJ Mount Denham 14.70 70 eP Pn 09 46 08.1 +2.0
735A Kenedy 15.99 341 Pn Pn 09 46 23.4 +0.5
735A IAmb IAmb 09 46 30.9
comp=Z,122nm,1.4s
833A Chaparral WMA, 16.06 336 Pn 09 46 24.0 +0.2
833A Chaparral WMA, 16.06 336 P Pn 09 46 24.7 +0.9
baz=153,SNR=11
833A Chaparral WMA, 16.06 336 P Pn 09 46 24.6 +0.7
baz=153,SNR=11
SOLC Bahia Solano 16.24 116 eP P 09 46 30.5 +1.4
EF01 Eagle Ford 01 16.43 340 Pn 09 46 28.6 +0.1
EF01 IAmb IAmb 09 46 32.6
comp=Z,75nm,1.3s
HKT Hockley 16.54 349 Pn 09 46 29.9 +0.1
HKT Hockley 16.54 349 P P 09 46 31.5 -0.7
baz=166
HKT Hockley 16.54 349 i P Pn 09 46 30.1 +0.3
DBBC Dabeiba 16.96 111 eP P 09 46 37.3 +0.1
SJCC San Jacinto, C 16.97 101 eP Pn 09 46 33.1 -2.4
HNVL Huntsville, TX 17.26 350 P 09 46 39.7 -0.6
HNVL IAmb IAmb 09 46 43.7
comp=Z,204nm,1.3s
DWPF Disney Wildern 17.43 33 P Pn 09 46 40.3 -0.8
baz=216
DRIO Del Rio 17.53 335 P 09 46 43.2 -0.1
DRIO IAmb IAmb 09 46 46.7
comp=Z,68nm,1.3s
CBOC Ciudad Bolivar 17.64 115 eP Pn 09 46 42.3 -1.6
435B Jarrell 17.74 344 Pn 09 46 45.2 +0.3
435B Jarrell 17.74 344 P P 09 46 47.3 +1.7
baz=161
346A Big Creek Wild 17.77 7 Pn 09 46 44.6 -0.6
PLMC San Jos del P 17.86 118 eP Pn 09 46 40.3 -6.3
BRAL Brewton 17.99 14 Pn 09 46 47.1 -0.9
BRAL IAmb IAmb 09 46 54.1
comp=Z,192nm,1.2s
BRAL Brewton 17.99 14 P P 09 46 48.4 0.0
baz=195
ZARC Zaragoza, Cauc 18.02 108 eP Pn 09 46 48.4 0.0
NATX Nacogdoches 18.13 353 P P 09 46 50.0 +0.2
NATX IAmb IAmb 09 46 52.4
comp=Z,167nm,1.4s
NATX Nacogdoches 18.13 353 P Pn 09 46 49.4 -0.2
baz=171,SNR=6.4
NATX Nacogdoches 18.13 353 P P 09 46 51.3 +1.4
baz=171,SNR=6.4
JCT Junction City 18.15 338 P 09 46 50.9 +0.7
JCT Junction City 18.15 338 P P 09 46 51.4 +1.2
baz=154
JCT Junction City 18.15 338 P P 09 46 52.9 +2.7
baz=154
JCT Junction City 18.15 338 P P 09 46 50.9 +0.7
JCT pmax pmax
comp=Z,19nm,0.9s
YOTC Yotoco, Valle 18.29 120 eP P 09 46 47.0 -4.9
HPIG 18.30 318 P P 09 46 53.3 +1.4
JAMC Jamundi, Valle 18.45 123 eP Pn 09 46 54.5 +0.6
VBMS Vicksburg 18.49 4 P P 09 46 53.5 -0.3
VBMS IAmb IAmb 09 46 57.0
comp=Z,260nm,1.6s
VBMS Vicksburg 18.49 4 P Pn 09 46 55.0 +0.9
baz=184
GUY2C Guyana, Caldas 18.51 115 eP Pn 09 46 55.7 +0.8
237A Washetta, Mont 18.53 350 P P 09 46 53.6 -0.7
237A IAmb IAmb 09 46 59.1
comp=Z,108nm,1.2s
237A Washetta, Mont 18.53 350 P Pn 09 46 56.5 +1.9
baz=168,SNR=8.6
BRDY Brady 18.62 341 P Pn 09 46 55.9 +0.2
BRDY IAmb IAmb 09 46 59.1
comp=Z,96nm,1.9s
SAND Sanderson 18.65 332 IAmb IAmb 09 47 02.2
comp=Z,58nm,1.1s
BBAC Balboa, Cauca 18.71 127 eP P 09 46 47.2 -9.4
PTBC PUERTO BERRIO, 18.75 111 eP P 09 46 43.6 -13
POPC Popayan, Colom 18.84 125 eP P 09 46 49.5 -8.6
WHTX Lake Whitney, 18.86 346 P Pn 09 46 58.7 +0.1
baz=163,SNR=8.3
WHTX Lake Whitney, 18.86 346 P Pn 09 46 59.6 +1.1
baz=163,SNR=8.3
352A Blakely 18.88 19 P P 09 46 57.2 -0.8
352A IAmb IAmb 09 47 06.0
comp=Z,80nm,1.0s
352A Blakely 18.88 19 P Pn 09 46 59.2 +0.4
baz=201
TX31 Lajitas Ar. Si 18.90 327 IAmb IAmb 09 47 04.2
comp=Z,85nm,1.1s
TX31 Lajitas Ar. Si 18.90 327 P Pn 09 47 00.5 +1.3
baz=142,SNR=95
TXAR Lajitas Array 18.90 327 P Pn 09 47 00.3 +1.1
TXAR Lajitas Array 18.90 327 P Pn 09 47 00.3 +1.1
TXAR Lajitas Array 18.90 327 P Pn 09 47 00.7 +1.5
comp=Z,0.4nm,0.3s,baz=155,slow=8.1,SNR=122
TXAR LR LR 09 55 25.4
comp=Z,686nm,18.3s,baz=129,slow=40
comp=Z,51nm,1.0s
143A Socs Landing, 18.93 2 P P 09 46 58.1 -0.5
baz=181
CRJC Cerrejon, Guaj 18.95 96 eP P 09 46 53.7 -5.4
250A Grady 18.96 15 IAmb IAmb 09 47 03.6
comp=Z,193nm,1.9s
250A Grady 18.96 15 P Pn 09 46 59.9 +0.2
baz=197
CMBC Cumbal 18.97 131 eP Pn 09 47 03.9 +3.4
OTAV Otavalo 19.01 134 P Pn 09 47 02.9 +2.0
OTAV Otavalo 19.01 134 eP P 09 46 58.8 -1.4
OTAV Otavalo 19.01 134 P Pn 09 47 02.9 +2.0
OTAV pmax pmax
comp=Z,19nm,1.2s
146A Union 19.05 8 IAmb IAmb 09 47 06.2
comp=Z,227nm,1.6s
OZNA Ozona 19.05 336 IAmb IAmb 09 47 07.3
comp=Z,156nm,1.9s
GCUF Volcan Galeras 19.14 129 eP Pn 09 47 03.0 +0.4
TULM Tulcn-Chalpat 19.15 131 eP Pn 09 47 05.5 +2.8
IMBA Imbabura, San 19.16 133 IAmb IAmb 09 47 12.2
comp=Z,234nm,1.6s
FW14 Alvarado 19.19 347 IAmb IAmb 09 47 05.2
comp=Z,57nm,0.9s
FW13 Cleburne 19.20 346 IAmb IAmb 09 47 11.8
comp=Z,28nm,1.0s
OCAC Ocana 19.20 104 eP P 09 47 00.8 -1.2
FW16 Waxahatchie 19.21 348 IAmb IAmb 09 47 06.7
comp=Z,162nm,1.5s
CRUC La Cruz 19.22 128 eP Pn 09 47 08.9 +5.5
ORTC Ortega, Tolima 19.26 119 eP P 09 46 58.8 -3.7
TREL Terrell 19.29 350 IAmb IAmb 09 47 10.0
comp=Z,117nm,1.1s
TIGA Tifton 19.30 22 IAmb IAmb 09 47 11.4
comp=Z,97nm,0.9s
TIGA Tifton 19.30 22 P P 09 47 02.9 +0.1
baz=205,SNR=6.7
TIGA Tifton 19.30 22 P Pn 09 47 03.3 -0.6
baz=205,SNR=6.7
SPBC San Pablo de B 19.46 113 eP P 09 47 02.2 -2.6
Z41A Richland Creek 19.48 358 P P 09 47 04.5 -0.1
Z41A IAmb IAmb 09 47 10.7
comp=Z,160nm,1.3s
SLBS Sierra La Lagu 19.60 303 P Pn 09 47 09.2 +1.7
ROSC El Rosal 19.60 115 Pn 09 47 09.4 +1.4
ROSC El Rosal 19.60 115 eP P 09 47 07.3 +0.7
ROSC El Rosal 19.60 115 P Pn 09 47 09.4 +1.4
ROSC pmax pmax
comp=Z,398nm,1.6s
ROSC El Rosal 19.60 115 P P 09 47 05.2 -1.4
comp=Z,1.8nm,0.3s,baz=324,slow=13,SNR=20
comp=Z,5.0nm,0.4s
Z38A Mt. Pleasant 19.65 353 P Pn 09 47 07.3 -0.7
Z38A Mt. Pleasant 19.65 353 P Pn 09 47 07.9 -0.1
baz=171,SNR=9.1
ALPN Alpine 19.72 329 P Pn 09 47 09.4 +0.3
ALPN IAmb IAmb 09 47 18.0
comp=Z,30nm,0.9s
Z47A Carrollton 19.75 10 P Pn 09 47 08.6 -0.7
Z47A IAmb IAmb 09 47 10.6
comp=Z,93nm,0.8s
Z47A Carrollton 19.75 10 P P 09 47 08.2 +0.6
baz=191,SNR=21
LRAL Lakeview Retre 19.80 13 P P 09 47 06.6 -1.6
LRAL Lakeview Retre 19.80 13 P Pn 09 47 09.1 -0.7
baz=194,SNR=13
LRAL Lakeview Retre 19.80 13 P P 09 47 08.6 +0.5
baz=194,SNR=13
FW06 Azle 19.82 346 IAmb IAmb 09 47 14.4
comp=Z,190nm,1.8s
PLPT Palo Pinto 19.86 344 IAmb IAmb 09 47 13.3
comp=Z,37nm,0.8s
BARC Barichara 19.89 109 eP Pn 09 47 11.4 +0.1
WLAR White Oak Lake 19.92 357 IAmb IAmb 09 47 14.8
comp=Z,150nm,1.1s
SGCY Sterling City 19.93 337 IAmb IAmb 09 47 18.9
comp=Z,44nm,0.7s
CVER Cruz Verde, Cu 19.97 115 eP Pn 09 47 13.8 +1.3
CHSH Refugio Sur-Vo 19.99 138 IAmb IAmb 09 47 27.3
comp=Z,68nm,1.0s
GARC Garzon, Huila 20.00 123 eP P 09 47 09.6 -1.2
152A Waverly Hall 20.05 18 P P 09 47 11.1 +0.2
baz=201,SNR=5.7
ABTX Abilene, Hawle 20.06 341 P Pn 09 47 12.2 -0.8
ABTX Abilene, Hawle 20.06 341 P P 09 47 11.5 +0.4
baz=158,SNR=38
ABTX Abilene, Hawle 20.06 341 P Pn 09 47 12.9 -0.1
baz=158,SNR=38
PAMC Pamplona, Colo 20.07 106 eP P 09 47 12.1 +0.3
LPIG La Paz 20.08 304 P Pn 09 47 16.1 +2.9
comp=Z,16nm,0.9s,baz=209,slow=13,SNR=4.2
LPIG LR LR 09 55 11.5
comp=Z,2µm,18.5s,baz=116,slow=37
comp=Z,16nm,0.9s
Z35A Perchaven, San 20.10 347 IAmb IAmb 09 47 20.3
comp=Z,57nm,0.8s
Z35A Perchaven, San 20.10 347 P P 09 47 12.2 +0.8
baz=165
CCAR Cane Creek 20.13 1 P P 09 47 11.7 -0.1
CCAR IAmb IAmb 09 47 19.1
comp=Z,173nm,1.2s
CCAR Cane Creek 20.13 1 P P 09 47 12.4 +0.6
baz=180
Y45A Yeager Farm, C 20.21 6 P P 09 47 12.8 +0.2
baz=186,SNR=15
FLOC Florencia 20.23 125 eP P 09 47 13.2 +0.2
COHC Cochancay 20.49 141 eP P 09 47 17.4 +1.6
VILC Villavicencio, 20.50 116 eP Pn 09 47 19.1 +0.8
154A Montrose 20.54 22 P P 09 47 15.5 -0.7
baz=205,SNR=12
SDDR Presa de Saban 20.63 72 eP P 09 47 16.8 -0.6
PECS Pecos 20.65 330 IAmb IAmb 09 47 21.0
comp=Z,92nm,1.2s
LOOK Love County 20.73 348 IAmb IAmb 09 47 21.4
comp=Z,65nm,1.0s
WTFS Witchita Falls 20.80 345 IAmb IAmb 09 47 27.0
comp=Z,32nm,0.9s
OXF Oxford 20.86 6 IAmb IAmb 09 47 32.6
comp=Z,83nm,1.0s
OXF Oxford 20.86 6 P P 09 47 19.2 -0.5
baz=187,SNR=9.6
OXF Oxford 20.86 6 P P 09 47 19.5 -0.2
baz=187,SNR=9.6
UALR University of 20.98 359 P P 09 47 21.1 +0.1
POST Post 21.10 338 P P 09 47 22.7 +0.3
POST IAmb IAmb 09 47 24.7
comp=Z,115nm,1.0s
GOGA Godfrey 21.13 20 IAMs_20 IAMs_20 09 56 24.7
comp=Z,5µm,19.0s
GOGA Godfrey 21.13 20 P P 09 47 22.1 -0.5
baz=203,SNR=9.1
GOGA Godfrey 21.13 20 P P 09 47 22.4 -0.2
baz=203,SNR=9.1
X48A Hartselle 21.16 12 IAmb IAmb 09 47 31.9
comp=Z,56nm,0.9s
X48A Hartselle 21.16 12 P P 09 47 23.7 +0.8
baz=193,SNR=22
TAMC Tame, Arauca 21.23 108 eP P 09 47 23.9 0.0
Y52A Lilburn 21.36 19 IAmb IAmb 09 47 32.4
comp=Z,76nm,1.3s
Y52A Lilburn 21.36 19 P P 09 47 25.2 +0.2
baz=201,SNR=8.1
Y52A P P 09 47 25.2 +0.2
baz=201,SNR=8.1
WHAR Wooly Hollow 21.50 360 IAmb IAmb 09 47 46.8
comp=Z,80nm,1.6s
FPAL Fort Paine 21.56 15 IAmb IAmb 09 47 35.1
comp=Z,97nm,1.2s
SDV Santo Domingo 21.57 101 P P 09 47 26.3 -1.4
SDV Santo Domingo 21.57 101 eP P 09 47 24.3 -3.4
SDV Santo Domingo 21.57 101 P P 09 47 25.0 -2.7
comp=Z,18nm,0.7s,baz=291,slow=7.2,SNR=15
comp=Z,18nm,0.7s
MCRA Macar, Loja 21.62 145 eP P 09 47 29.2 +1.2
MNTX Cornudas Mount 21.67 328 P P 09 47 29.5 +1.0
baz=142,SNR=96
MNTX Cornudas Mount 21.67 328 P P 09 47 29.2 +0.7
baz=142,SNR=96
HAW Hawthorne Fire 21.77 24 P P 09 47 29.0 -0.5
baz=208
X51A Calhoun 21.78 16 P P 09 47 31.9 +2.3
baz=199,SNR=5.7
X51A P P 09 47 31.9 +2.3
baz=199,SNR=5.7
W35A Tecumseh 21.79 349 IAmb IAmb 09 47 43.8
comp=Z,68nm,0.9s
WMOK Wichita Mounta 21.80 345 P P 09 47 29.5 -0.4
WMOK IAmb IAmb 09 47 35.6
comp=Z,55nm,1.1s
WMOK Wichita Mounta 21.80 345 P P 09 47 29.8 0.0
baz=162
WMOK Wichita Mounta 21.80 345 P P 09 47 29.5 -0.4
WMOK pmax pmax
comp=Z,55nm,1.1s
PTGC Puerto Gaitan, 21.83 114 eP P 09 47 30.1 -0.2
FNO Franklin 21.99 348 P P 09 47 31.6 -0.3
FNO IAmb IAmb 09 47 40.8
comp=Z,63nm,0.8s
FCAR Ozark Folk Cen 22.09 360 P P 09 47 31.8 -1.2
SWET Sewanee 22.13 13 P P 09 47 33.1 -0.3
SWET IAmb IAmb 09 47 35.8
comp=Z,34nm,0.7s
NHSC New Hope 22.16 27 IAMs_20 IAMs_20 09 56 22.9
comp=Z,5µm,21.0s
NHSC New Hope 22.16 27 P P 09 47 32.9 -0.7
baz=212
W50A Signal Mountai 22.26 15 P P 09 47 34.7 -0.1
baz=197
LCAR Lake Charles 22.29 2 P P 09 47 32.9 -2.1
LCAR Lake Charles 22.29 2 P P 09 47 33.3 -1.8
baz=182
HODGE Hodges 22.30 22 P P 09 47 33.7 -1.5
baz=205,SNR=8.2
TUL3 Leonard 22.37 352 P P 09 47 35.1 -0.7
TUL3 IAmb IAmb 09 47 53.6
comp=Z,40nm,0.8s
TUL3 Leonard 22.37 352 P P 09 47 35.6 -0.3
baz=170
MSTX Muleshoe 22.39 336 P P 09 47 34.8 -1.5
MSTX IAmb IAmb 09 47 40.4
comp=Z,68nm,0.9s
MSTX Muleshoe 22.39 336 P P 09 47 35.8 -0.5
baz=151,SNR=41
MSTX Muleshoe 22.39 336 P P 09 47 35.4 -0.9
baz=151,SNR=41
DEOK Depew 22.40 351 P P 09 47 36.8 +0.6
V48A Smith Brothers 22.45 11 IAmb IAmb 09 47 47.3
comp=Z,43nm,0.8s
V48A Smith Brothers 22.45 11 P P 09 47 35.3 -1.5
baz=193,SNR=14
RLO Rose Lookout 22.52 354 P P 09 47 36.4 -1.2
RLO IAmb IAmb 09 47 55.6
comp=Z,20nm,0.8s
W52A Murphy 22.54 18 P P 09 47 35.6 -2.2
HHAR Hobbs 22.55 356 P P 09 47 36.6 -1.2
SMWD Samnorwood 22.55 342 P P 09 47 37.0 -0.9
SMWD IAmb IAmb 09 47 41.2
comp=Z,179nm,0.8s
OK052 Battle Ridge R 22.60 350 P P 09 47 36.7 -1.6
GLAT Glass 22.61 6 P P 09 47 37.5 -1.0
WVT Waverly 22.66 9 P P 09 47 37.2 -1.8
WVT Waverly 22.66 9 P P 09 47 37.6 -1.3
baz=190
WVT Waverly 22.66 9 P P 09 47 36.9 -2.0
baz=190,SNR=14
WVT Waverly 22.66 9 P P 09 47 37.2 -1.8
WVT pmax pmax
comp=Z,23nm,0.8s
U38A Gravette 22.74 355 P P 09 47 38.2 -1.6
baz=174,SNR=8.6
CASEE Lake Jocassee 22.76 20 P P 09 47 38.9 -1.1
baz=203,SNR=7.4
QUOK Quay 22.76 350 P P 09 47 38.7 -1.4
QUOK IAmb IAmb 09 47 42.1
comp=Z,83nm,1.5s
AMTX Amarillo 22.80 339 P P 09 47 40.0 -0.7
AMTX Amarillo 22.80 339 P P 09 47 39.9 -0.8
baz=155
AMTX Amarillo 22.80 339 P P 09 47 39.9 -0.8
baz=155,SNR=58
Y57A Sumter 22.84 26 IAmb IAmb 09 47 52.3
comp=Z,40nm,0.9s
CLTN Cedars of Leba 22.89 12 P P 09 47 41.2 -0.2
CLTN IAmb IAmb 09 48 01.9
comp=Z,39nm,1.0s
HICK Hickman 22.89 6 P P 09 47 40.0 -1.4
PARMO Parma 22.96 5 P P 09 47 40.7 -1.5
PAULI Pauline 22.99 22 P P 09 47 42.2 -0.3
PAULI IAmb IAmb 09 48 00.5
comp=Z,60nm,1.3s
PBMO Poplar Bluff 23.03 3 P P 09 47 41.2 -1.7
baz=184,SNR=12
OK048 Pawnee Station 23.04 350 IAmb IAmb 09 47 52.4
comp=Z,37nm,0.8s
V51A Loudon 23.08 16 IAmb IAmb 09 47 52.8
comp=Z,45nm,1.0s
OK051 E0350 and S346 23.11 350 P P 09 47 41.9 -1.7
OK051 IAmb IAmb 09 47 53.1
comp=Z,37nm,0.8s
TKL Tuckaleechee C 23.11 17 IAmb IAmb 09 48 04.6
comp=Z,98nm,1.4s
TKL Tuckaleechee C 23.11 17 LR LR 09 57 51.0
comp=Z,4µm,19.7s,baz=202,slow=40
HSIG 23.21 314 IAmb IAmb 09 48 03.1
comp=Z,96nm,1.7s
ELIS Ellis County 23.22 345 P P 09 47 43.5 -1.4
ELIS IAmb IAmb 09 47 49.8
comp=Z,70nm,1.1s
T42A Van Buren 23.25 2 P P 09 47 42.5 -2.5
baz=182
V52A Sevierville 23.33 18 P P 09 47 43.6 -2.4
V52A IAmb IAmb 09 47 56.1
comp=Z,126nm,1.6s
V52A Sevierville 23.33 18 P P 09 47 43.6 -2.4
baz=201,SNR=7.1
U49A Red Boiling Sp 23.41 13 IAmb IAmb 09 47 56.5
comp=Z,35nm,0.8s
U49A Red Boiling Sp 23.41 13 P P 09 47 45.2 -1.4
baz=195,SNR=14
V53A Saluda 23.41 19 P P 09 47 45.7 -1.1
baz=203,SNR=7.8
V53A P P 09 47 45.7 -1.1
baz=203,SNR=7.8
BLOK Blackwell 23.42 350 IAmb IAmb 09 48 11.0
comp=Z,108nm,1.6s
U32A Winter Ranch, 23.42 346 IAmb IAmb 09 47 46.9
comp=Z,50nm,1.2s
KMSC Kings Mountain 23.45 23 P P 09 47 45.8 -1.3
baz=207,SNR=7.4
KMSC Kings Mountain 23.45 23 P P 09 47 46.7 -0.4
baz=207,SNR=7.4
OK038 West end E0370 23.45 346 P P 09 47 46.7 -0.4
T35A Sooner Cattle 23.46 351 IAmb IAmb 09 48 11.9
comp=Z,132nm,1.9s
T35B Sooner Cattle 23.46 351 P P 09 47 45.5 -1.6
baz=169
CGM3 Cape Girardeau 23.60 5 P P 09 47 47.0 -1.5
121A Cookes Peak, D 23.61 325 IAmb IAmb 09 48 06.5
comp=Z,68nm,1.0s
121A Cookes Peak, D 23.61 325 P P 09 47 50.6 +1.7
baz=138,SNR=40
121A Cookes Peak, D 23.61 325 P P 09 47 50.8 +2.0
baz=138,SNR=40
T47A Sharon Grove 23.61 10 P P 09 47 47.0 -1.7
T47A Sharon Grove 23.61 10 P P 09 47 46.2 -2.5
baz=192,SNR=26
319A Douglas 23.64 321 IAmb IAmb 09 47 53.0
comp=Z,117nm,1.3s
OK032 Salt Plains WL 23.65 348 P P 09 47 47.3 -1.8
OK032 IAmb IAmb 09 47 49.8
comp=Z,40nm,1.1s
KAN09 Caldwell North 23.86 349 IAmb IAmb 09 48 18.7
comp=Z,66nm,1.4s
KAN05 Bluff City Nor 23.88 349 P P 09 47 49.2 -2.0
KAN05 IAmb IAmb 09 47 51.9
comp=Z,49nm,1.1s
KAN01 Argonia South 23.90 349 P P 09 47 50.8 -0.7
S39A Bolivar 23.92 358 P P 09 47 49.7 -1.9
S39A Bolivar 23.92 358 P P 09 47 49.4 -2.2
baz=176,SNR=12
W57A Gilead 23.99 25 P P 09 47 51.1 -1.1
W57A Gilead 23.99 25 P P 09 47 51.6 -0.6
baz=210
W57A P P 09 47 51.6 -0.6
baz=210
TZTN Tazewell 24.00 17 P P 09 47 50.4 -1.9
TZTN IAmb IAmb 09 48 06.1
comp=Z,142nm,1.8s
TZTN Tazewell 24.00 17 P P 09 47 50.9 -1.5
baz=200
KAN08 Anthony NE Sta 24.01 348 IAmb IAmb 09 48 20.5
comp=Z,150nm,1.9s
S44A Carbondale 24.03 6 P P 09 47 50.2 -2.4
baz=186,SNR=45
BAUV El Baul 24.04 99 IAmb IAmb 09 47 53.9
comp=Z,57nm,0.8s
KAN12 Harper NE Stat 24.09 348 IAmb IAmb 09 48 21.8
comp=Z,37nm,1.0s
T50A Nancy 24.11 14 IAmb IAmb 09 47 54.0
comp=Z,30nm,0.8s
T50A Nancy 24.11 14 P P 09 47 51.7 -1.6
baz=197
T50A P P 09 47 51.7 -1.6
baz=197
V55A Taylorsville 24.13 22 IAmb IAmb 09 48 04.2
comp=Z,39nm,0.9s
V55A Taylorsville 24.13 22 P P 09 47 52.0 -1.5
baz=206,SNR=5.6
V55A P P 09 47 52.0 -1.5
baz=206,SNR=5.6
FVM French Village 24.23 3 P P 09 47 52.4 -2.1
baz=183
Y22A Socorro 24.26 329 P P 09 47 57.1 +2.1
baz=142,SNR=49
CCM Cathedral Cave 24.27 2 P P 09 47 53.6 -1.2
CCM IAmb IAmb 09 47 56.0
comp=Z,45nm,1.1s
CCM Cathedral Cave 24.27 2 P P 09 47 54.3 -0.5
baz=181
CCM Cathedral Cave 24.27 2 P P 09 47 53.6 -1.2
baz=181,SNR=13
CCM Cathedral Cave 24.27 2 P P 09 47 53.6 -1.2
CCM pmax pmax
comp=Z,45nm,1.1s
Y22D IRIS PASSCAL I 24.34 329 P P 09 47 57.7 +1.9
Y22D IRIS PASSCAL I 24.34 329 P P 09 47 57.3 +1.6
baz=142,SNR=9.3
Y22D IRIS PASSCAL I 24.34 329 P P 09 48 00.0 +4.3
baz=142,SNR=9.3
USIN University of 24.48 8 P P 09 47 55.7 -1.1
USIN IAmb IAmb 09 48 07.4
comp=Z,47nm,0.8s
R40A Maddies Statio 24.49 360 P P 09 47 55.8 -1.0
R40A IAmb IAmb 09 48 23.3
comp=Z,56nm,1.6s
U54A Nelsons Funny 24.52 20 P P 09 47 55.5 -1.7
U54A IAmb IAmb 09 47 58.0
comp=Z,56nm,1.1s
U54A Nelsons Funny 24.52 20 P P 09 47 55.9 -1.3
baz=204,SNR=8.7
U54A P P 09 47 55.9 -1.3
baz=204,SNR=8.7
ATAH Atahualpa 24.76 146 LR LR 09 55 53.2
comp=Z,1µm,19.4s,baz=331,slow=32
ANMO Albuquerque 24.82 331 P P 09 48 01.1 +1.0
ANMO Albuquerque 24.82 331 P P 09 48 01.2 +1.0
baz=144
ANMO Albuquerque 24.82 331 P P 09 48 01.1 +1.0
baz=144,SNR=35
ANMO Albuquerque 24.82 331 ceP P 09 48 01.3 +1.2
ANMO pmax pmax
comp=Z,33nm,1.2s
U56A King 24.88 23 IAmb IAmb 09 48 01.6
comp=Z,66nm,1.2s
SLM Saint Louis 24.89 3 IAmb IAmb 09 48 01.5
comp=Z,34nm,0.7s
V58A Windy Hill, Pi 24.90 26 IAmb IAmb 09 48 11.4
comp=Z,30nm,0.8s
WCI Wyandotte Cave 24.96 11 P P 09 47 59.2 -1.9

WCI	**Wyandotte Cave**	**24.96**	**11**	P	**P**	**09 47 58.7**	**-2.4**		
	baz=193								
WCI	**Wyandotte Cave**	**24.96**	**11**	P	**P**	**09 47 59.0**	**-2.1**		
	baz=193,SNR=19								
WCI	**Wyandotte Cave**	**24.96**	**11**	P	**P**	**09 47 59.2**	**-1.9**		
WCI				pmax	pmax				
	comp=Z,96nm,1.2s								
CNNC	**Cliffs of the**	**24.98**	**28**	IAmb	IAmb	09 48 14.3			
	comp=Z,24nm,0.6s								
CNNC				IAMs_20	IAMs_20	09 58 17.6			
	comp=Z,4µm,19.0s								
CNNC	**Cliffs of the**	**24.98**	**28**	P	**P**	**09 47 59.0**	**-2.3**		
	baz=214								
CNNC	**Cliffs of the**	**24.98**	**28**	P	**P**	**09 48 00.4**	**-0.8**		
	baz=214								
S51A	**Beattyville**	**25.01**	**16**	P	**P**	**09 48 00.2**	**-1.4**		
S51A				IAmb	IAmb	09 48 31.7			
	comp=Z,34nm,0.9s								
OLIL	**Olney**	**25.18**	**7**	P	**P**	**09 48 02.2**	**-0.8**		
OLIL	**Olney**	**25.18**	**7**	P	**P**	**09 48 01.8**	**-1.3**		
	baz=189,SNR=12								
TUC	**Tucson**	**25.21**	**320**	P	**P**	**09 48 05.7**	**+2.2**		
TUC	**Tucson**	**25.21**	**320**	IAMs_20	IAMs_20	09 59 48.6			
	comp=Z,5µm,18.0s								
TUC	**Tucson**	**25.21**	**320**	P	**P**	**09 48 03.4**	**-0.1**		
	baz=132								
TUC	**Tucson**	**25.21**	**320**	P	**P**	**09 48 05.7**	**+2.2**		
TUC				pmax	pmax				
	comp=Z,19nm,1.1s								
TUC				MLR	MLR				
	comp=Z,5µm,18.0s								
Q44A	**Meyer Farm, Va**	**25.25**	**6**	IAmb	IAmb	09 48 04.3			
	comp=Z,47nm,0.9s								
Q44A	**Meyer Farm, Va**	**25.25**	**6**	P	**P**	**09 48 02.4**	**-1.3**		
	baz=186,SNR=9.9								
R49A	**Shelbyville**	**25.25**	**13**	IAmb	IAmb	09 48 18.2			
	comp=Z,49nm,1.1s								
SJG	**San Juan**	**25.31**	**77**	LR	LR	09 57 55.3			
	comp=Z,1µm,22.0s,baz=275,slow=37								
R32A	**Long Quarter,**	**25.32**	**348**	IAmb	IAmb	09 48 21.1			
	comp=Z,36nm,1.1s								
R50A	**Paris**	**25.43**	**14**	P	**P**	**09 48 03.8**	**-1.6**		
R50A	**Paris**	**25.43**	**14**	P	**P**	**09 48 04.6**	**-0.7**		
	baz=197								
R50A				P	**P**	**09 48 04.6**	**-0.7**		
	baz=197								
KSU1	**Kansas State U**	**25.61**	**352**	P	**P**	**09 48 05.9**	**-1.2**		
KSU1				IAmb	IAmb	09 48 09.5			
	comp=Z,22nm,0.7s								
KSU1	**Kansas State U**	**25.61**	**352**	P	**P**	**09 48 05.8**	**-1.2**		
	baz=169								
BLA	**Blacksburg**	**25.63**	**22**	IAMs_20	IAMs_20	09 58 44.7			
	comp=Z,4µm,20.0s								
BLA	**Blacksburg**	**25.63**	**22**	P	**P**	**09 48 05.3**	**-1.9**		
	baz=207								
P40A	**Paris**	**25.73**	**0**	IAmb	IAmb	09 48 40.9			
	comp=Z,80nm,1.9s								
T25A	**Trinidad**	**25.81**	**337**	IAmb	IAmb	09 48 15.2			
	comp=Z,36nm,0.8s								
T25A	**Trinidad**	**25.81**	**337**	P	**P**	**09 48 09.3**	**+0.2**		
	baz=151,SNR=22								
BLO	**Bloomington**	**25.84**	**10**	IAmb	IAmb	09 48 23.2			
	comp=Z,125nm,1.8s								
T57A	**Hurt**	**25.88**	**24**	P	**P**	**09 48 09.7**	**+0.3**		
	baz=209								
T57A				P	**P**	**09 48 09.7**	**+0.3**		
	baz=209								
CBKS	**Cedar Bluff**	**25.91**	**346**	IAmb	IAmb	09 48 40.0			
	comp=Z,90nm,1.6s								
CBKS	**Cedar Bluff**	**25.91**	**346**	P	**P**	**09 48 09.9**	**+0.1**		
	baz=162								
R53A	**Hurricane**	**26.13**	**18**	IAmb	IAmb	09 48 11.3			
	comp=Z,40nm,1.2s								
R53A	**Hurricane**	**26.13**	**18**	P	**P**	**09 48 10.7**	**-1.0**		
	baz=202								
R53A				P	**P**	**09 48 10.7**	**-1.0**		
	baz=202								
P46A	**Rosedale**	**26.17**	**9**	P	**P**	**09 48 10.2**	**-1.8**		
P46A				IAmb	IAmb	09 48 11.9			
	comp=Z,40nm,0.8s								
P46A	**Rosedale**	**26.17**	**9**	P	**P**	**09 48 10.3**	**-1.8**		
	baz=190,SNR=12								
214A	**Organ Pipe Nat**	**26.28**	**317**	P	**P**	**09 48 15.3**	**+2.1**		
	baz=129,SNR=6.4								
P48A	**Milroy**	**26.32**	**12**	P	**P**	**09 48 11.0**	**-2.4**		
	baz=194,SNR=7.0								
P48A				P	**P**	**09 48 11.0**	**-2.4**		
	baz=194,SNR=7.0								
Q51A	**Peebles**	**26.38**	**15**	IAmb	IAmb	09 48 47.2			
	comp=Z,62nm,1.1s								
Q51A	**Peebles**	**26.38**	**15**	P	**P**	**09 48 12.3**	**-1.7**		
	baz=199,SNR=13								
Q51A				P	**P**	**09 48 12.3**	**-1.7**		
	baz=199,SNR=13								
P49A	**Miami Univ. Ec**	**26.54**	**13**	IAMs_20	IAMs_20	10 00 32.9			
	comp=Z,4µm,19.0s								
P49A	**Miami Univ. Ec**	**26.54**	**13**	P	**P**	**09 48 14.0**	**-1.3**		
	baz=196								
O44A	**Mansfield**	**26.54**	**6**	IAmb	IAmb	09 48 44.9			
	comp=Z,115nm,1.9s								
T59A	**Double "B" Far**	**26.57**	**27**	IAmb	IAmb	09 48 26.1			
	comp=Z,22nm,0.8s								
T59A	**Double "B" Far**	**26.57**	**27**	P	**P**	**09 48 13.7**	**-1.9**		
	baz=213								
T59A				P	**P**	**09 48 13.7**	**-1.9**		
	baz=213								
W18A	**Petrified Fore**	**26.62**	**326**	P	**P**	**09 48 18.0**	**+1.6**		
	baz=138								
Q52A	**Bidwell**	**26.62**	**17**	IAmb	IAmb	09 48 41.1			
	comp=Z,40nm,1.1s								
R55A	**Marlinton**	**26.69**	**21**	IAmb	IAmb	09 48 16.7			
	comp=Z,46nm,1.2s								
R55A	**Marlinton**	**26.69**	**21**	P	**P**	**09 48 16.2**	**-0.7**		
	baz=206								
R55A				P	**P**	**09 48 16.2**	**-0.7**		
	baz=206								
SDCO	**Great Sand Dun**	**26.76**	**336**	P	**P**	**09 48 18.9**	**+1.2**		
	baz=150,SNR=14								
SDCO	**Great Sand Dun**	**26.76**	**336**	P	**P**	**09 48 19.6**	**+1.9**		
	baz=150,SNR=14								
HDIL	**Hopedale**	**26.86**	**5**	P	**P**	**09 48 17.1**	**-1.2**		
HDIL				IAmb	IAmb	09 48 39.2			
	comp=Z,60nm,1.2s								
HDIL	**Hopedale**	**26.86**	**5**	P	**P**	**09 48 17.5**	**-0.8**		
	baz=186								
HDIL	**Hopedale**	**26.86**	**5**	P	**P**	**09 48 17.1**	**-1.2**		
	baz=186								
KSCO	**Kaye Shedlock'**	**26.88**	**342**	P	**P**	**09 48 19.6**	**+0.9**		
KSCO				IAmb	IAmb	09 48 22.1			
	comp=Z,30nm,0.9s								
KSCO	**Kaye Shedlock'**	**26.88**	**342**	P	**P**	**09 48 17.6**	**-1.0**		
	baz=156								
P51A	**Williamsport**	**26.89**	**16**	IAmb	IAmb	09 48 52.2			
	comp=Z,49nm,1.1s								
P51A	**Williamsport**	**26.89**	**16**	P	**P**	**09 48 17.0**	**-1.5**		
	baz=199,SNR=5.8								
P51A				P	**P**	**09 48 17.0**	**-1.5**		
	baz=199,SNR=5.8								
SFIN	**Lafayette**	**26.93**	**8**	P	**P**	**09 48 16.5**	**-2.4**		
SFIN	**Lafayette**	**26.93**	**8**	P	**P**	**09 48 17.4**	**-1.5**		
	baz=190								
T60A	**Surry**	**27.07**	**28**	P	**P**	**09 48 18.1**	**-2.1**		
Q54A	**Coxs Mills**	**27.08**	**20**	IAmb	IAmb	09 48 20.0			
	comp=Z,37nm,1.1s								
Q54A	**Coxs Mills**	**27.08**	**20**	P	**P**	**09 48 19.5**	**-0.7**		
	baz=204,SNR=8.1								
Q54A				P	**P**	**09 48 19.5**	**-0.7**		
	baz=204,SNR=8.1								
O48B	**Farmland**	**27.15**	**12**	IAMs_20	IAMs_20	10 00 43.9			
	comp=Z,4µm,19.0s								
O48B	**Farmland**	**27.15**	**12**	P	**P**	**09 48 18.7**	**-2.1**		
	baz=194								
O48B	**Farmland**	**27.15**	**12**	P	**P**	**09 48 20.9**	**0.0**		
	baz=194								
R58B	**Mineral**	**27.27**	**25**	P	**P**	**09 48 21.9**	**-0.1**		
	baz=211								
R58B				P	**P**	**09 48 21.9**	**-0.1**		
	baz=211								
P52A	**Corning**	**27.28**	**17**	IAMs_20	IAMs_20	10 00 01.4			
	comp=Z,3µm,20.0s								
P52A	**Corning**	**27.28**	**17**	P	**P**	**09 48 19.4**	**-2.6**		
	baz=201								
S22A	**4UR Ranch, Cre**	**27.31**	**334**	P	**P**	**09 48 22.1**	**-0.6**		
	baz=147,SNR=26								
P53A	**Whipple**	**27.36**	**18**	IAmb	IAmb	09 48 22.6			
	comp=Z,56nm,1.4s								
P53A	**Whipple**	**27.36**	**18**	P	**P**	**09 48 22.1**	**-0.6**		
	baz=203,SNR=5.4								
P53A				P	**P**	**09 48 22.1**	**-0.6**		
	baz=203,SNR=5.4								
113A	**Mohawk Valley,**	**27.41**	**317**	P	**P**	**09 48 24.2**	**+0.9**		
ACSO	**Alum Creek Sta**	**27.61**	**15**	IAmb	IAmb	09 48 50.5			
	comp=Z,116nm,1.9s								
ACSO				IAMs_20	IAMs_20	10 01 00.2			
	comp=Z,4µm,18.0s								
ACSO	**Alum Creek Sta**	**27.61**	**15**	P	**P**	**09 48 23.2**	**-1.8**		
	baz=199								
MVCO	**Mesa Verde**	**27.62**	**331**	P	**P**	**09 48 26.8**	**+1.3**		
MVCO	**Mesa Verde**	**27.62**	**331**	P	**P**	**09 48 26.2**	**+0.8**		
	baz=143,SNR=52								
CBN	**Corbin Frederi**	**27.68**	**26**	P	**P**	**09 48 25.5**	**-0.2**		
CBN				IAmb	IAmb	09 48 26.4			
	comp=Z,54nm,1.1s								
CBN				IAMs_20	IAMs_20	09 59 52.1			
	comp=Z,4µm,20.0s								
CBN	**Corbin Frederi**	**27.68**	**26**	P	**P**	**09 48 24.3**	**-1.4**		
	baz=212								
Y14A	**Wickenburg**	**27.68**	**320**	P	**P**	**09 48 27.8**	**+2.0**		
Q24A	**Divide**	**27.69**	**338**	P	**P**	**09 48 27.5**	**+1.4**		
Q24A	**Divide**	**27.69**	**338**	P	**P**	**09 48 26.3**	**+0.2**		
	baz=151								
O52A	**Adamsville**	**27.81**	**17**	P	**P**	**09 48 25.8**	**-1.0**		
O52A				IAmb	IAmb	09 48 26.2			
	comp=Z,45nm,1.2s								
O52A	**Adamsville**	**27.81**	**17**	P	**P**	**09 48 25.3**	**-1.5**		
	baz=201,SNR=5.1								
O52A				P	**P**	**09 48 25.3**	**-1.5**		
	baz=201,SNR=5.1								
WUAZ	**Wupatki**	**27.81**	**325**	P	**P**	**09 48 29.2**	**+2.1**		
WUAZ				IAmb	IAmb	09 48 30.7			
	comp=Z,29nm,1.1s								
WUAZ				IAMs_20	IAMs_20	10 01 08.2			
	comp=Z,3µm,19.0s								
WUAZ	**Wupatki**	**27.81**	**325**	P	**P**	**09 48 27.6**	**+0.5**		
	baz=136,SNR=20								
MCWV	**Mont Chateau**	**28.01**	**20**	IAMs_20	IAMs_20	10 00 20.9			
	comp=Z,3µm,20.0s								
MCWV	**Mont Chateau**	**28.01**	**20**	P	**P**	**09 48 27.9**	**-0.7**		
	baz=206								
SABA	**Saba**	**28.03**	**78**	IAMs_20	IAMs_20	09 58 56.4			
	comp=Z,3µm,20.0s								
O53A	**New Philadelph**	**28.12**	**18**	IAMs_20	IAMs_20	10 00 25.6			
	comp=Z,4µm,20.0s								
O53A	**New Philadelph**	**28.12**	**18**	P	**P**	**09 48 28.6**	**-1.0**		
	baz=202								
SCIA	**State Center**	**28.12**	**358**	P	**P**	**09 48 29.3**	**-0.2**		
	baz=177								
O54A	**Avella**	**28.31**	**19**	IAmb	IAmb	09 48 31.4			
	comp=Z,90nm,1.6s								
ESJX	**Sierra Juarez**	**28.45**	**314**	P	**P**	**09 48 35.2**	**+2.4**		
OGNE	**Ogallala**	**28.50**	**344**	P	**P**	**09 48 34.3**	**+1.2**		
OGNE				IAmb	IAmb	09 49 29.4			
	comp=Z,29nm,1.1s								
OGNE	**Ogallala**	**28.50**	**344**	P	**P**	**09 48 34.0**	**+1.0**		
	baz=159								
P57A	**Homestead Farm**	**28.52**	**23**	IAmb	IAmb	09 48 33.4			
	comp=Z,40nm,1.2s								
P57A	**Homestead Farm**	**28.52**	**23**	P	**P**	**09 48 31.4**	**-1.7**		
	baz=209,SNR=7.1								
P57A				P	**P**	**09 48 31.4**	**-1.7**		
	baz=209,SNR=7.1								
ISCO	**Idaho Springs**	**28.59**	**338**	P	**P**	**09 48 35.4**	**+1.2**		
	baz=151								
L44A	**Lake County Fo**	**28.61**	**6**	P	**P**	**09 48 33.1**	**-0.7**		
	baz=188								
PDMCI	**Parker Dam,Lak**	**28.63**	**320**	P	**P**	**09 48 35.4**	**+1.2**		
	baz=130,SNR=6.3								
CZSB	**Cruzeiro do Su**	**28.70**	**137**	IAmb	IAmb	09 48 42.8			
	comp=Z,81nm,1.5s								
CZSB	**Cruzeiro do Su**	**28.70**	**137**	*e*P	**P**	**09 48 32.5**	**-2.4**		
N53A	**Lisbon**	**28.74**	**18**	IAmb	IAmb	09 49 24.8			
	comp=Z,57nm,1.3s								
YUH	**Yuha Desert**	**28.79**	**315**	IAmb	IAmb	09 48 39.7			
	comp=Z,57nm,1.9s								
SWSC	**Sam W. Stewart**	**28.88**	**316**	P	**P**	**09 48 37.0**	**+0.6**		
	baz=126,SNR=5.4								
L48A	**N Adams**	**28.91**	**12**	IAmb	IAmb	09 48 45.3			
	comp=Z,30nm,0.8s								
SDMD	**Soldier's Deli**	**28.92**	**25**	P	**P**	**09 48 35.4**	**-1.4**		
IKP	**In-Ko-Pah, Jac**	**28.92**	**315**	P	**P**	**09 48 38.3**	**+1.4**		
	baz=125,SNR=6.3								
PABK	**Blue Knob Stat**	**29.00**	**22**	P	**P**	**09 48 36.6**	**-0.7**		
	baz=208								
BC3	**Big Chuckawall**	**29.07**	**317**	P	**P**	**09 48 39.5**	**+1.2**		
	baz=127,SNR=20								
CBX	**Cerro Bola**	**29.12**	**314**	IAmb	IAmb	09 48 42.7			
	comp=Z,43nm,1.3s								
JFWS	**Jewell Farm**	**29.15**	**3**	P	**P**	**09 48 39.7**	**+1.0**		
	baz=183								
IRM	**Iron Mountain**	**29.18**	**318**	P	**P**	**09 48 40.5**	**+1.4**		
	baz=128,SNR=11								
NEE2	**Needles Airpor**	**29.23**	**320**	P	**P**	**09 48 39.7**	**+0.1**		
	baz=130								
MONP2	**Mumment Peak**	**29.28**	**315**	P	**P**	**09 48 41.4**	**+1.2**		
	baz=125								
M53A	**WI Miller and**	**29.37**	**18**	IAMs_20	IAMs_20	10 01 14.8			
	comp=Z,3µm,19.0s								
M53A	**WI Miller and**	**29.37**	**18**	P	**P**	**09 48 39.0**	**-1.6**		
	baz=203								
AAM	**Ann Arbor**	**29.42**	**13**	P	**P**	**09 48 40.2**	**-0.8**		
	baz=196								
CBE	**Ff, Capester**	**29.54**	**82**	IAMs_20	IAMs_20	10 00 56.4			
	comp=Z,3µm,18.0s								
K30B	**Basset**	**29.59**	**349**	IAmb	IAmb	09 48 45.0			
	comp=Z,26nm,1.1s								
BELC	**Belle Mtn. Jos**	**29.64**	**317**	P	**P**	**09 48 45.3**	**+1.9**		
	baz=127,SNR=7.4								
ABD	**La Joyeuse, An**	**29.66**	**81**	IAMs_20	IAMs_20	10 01 43.7			
	comp=Z,3µm,18.0s								
NNA	**Nana**	**29.66**	**149**	*i* P	**P**	**09 48 44.7**	**+1.2**		
NNA				pmax	pmax				
	comp=Z,42nm,1.5s								
NNA	**Nana**	**29.66**	**149**	LR	LR	09 58 22.7			
	comp=Z,1µm,20.5s,baz=326,slow=32								
N23A	**Red Feather La**	**29.68**	**338**	P	**P**	**09 48 44.0**	**+0.2**		
	baz=152								
KNB	**Kanab**	**29.70**	**325**	IAmb	IAmb	09 49 08.1			
	comp=Z,35nm,1.2s								
TPFO	**Pinon Flats**	**29.71**	**316**	P	**P**	**09 48 45.1**	**+1.2**		
	baz=126								
PFO	**Pinyon Flats O**	**29.72**	**316**	P	**P**	**09 48 46.5**	**+2.5**		
PFO	**Pinyon Flats O**	**29.72**	**316**	P	**P**	**09 48 45.0**	**+1.0**		
	baz=126								
PFO	**Pinyon Flats O**	**29.72**	**316**	*e*P	**P**	**09 48 46.8**	**+2.8**		
PKCU	**Pink Cliffs**	**29.73**	**326**	IAmb	IAmb	09 48 48.6			
	comp=Z,48nm,1.4s								
109C	**Camp Elliot, M**	**29.75**	**314**	P	**P**	**09 48 46.1**	**+1.9**		
	baz=124								
MAGL	**Barre de l'ile**	**29.85**	**82**	IAMs_20	IAMs_20	10 01 24.8			
	comp=Z,3µm,18.0s								
GMRC	**Granite Mounta**	**29.90**	**319**	P	**P**	**09 48 47.6**	**+1.9**		
	baz=128,SNR=6.7								
O20A	**White River Ci**	**29.91**	**335**	P	**P**	**09 48 47.7**	**+2.0**		
	baz=147,SNR=7.7								
FDF	**Fort de France**	**29.99**	**84**	IAMs_20	IAMs_20	10 01 28.9			
	comp=Z,2µm,18.0s								
V12A	**Nelson**	**30.00**	**321**	IAmb	IAmb	09 48 50.1			
	comp=Z,31nm,1.1s								
GDSD	**La Dsirade Is**	**30.06**	**81**	IAMs_20	IAMs_20	10 01 29.3			
	comp=Z,3µm,19.0s								
BIM	**Bigot**	**30.08**	**85**	IAMs_20	IAMs_20	10 01 32.2			
	comp=Z,3µm,19.0s								
SRU	**San Rafael Swe**	**30.10**	**331**	IAmb	IAmb	09 48 50.6			
	comp=Z,42nm,1.4s								
MTPU	**Mount Pierson**	**30.11**	**327**	IAmb	IAmb	09 49 10.1			
	comp=Z,31nm,1.2s								
ECSD	**EROS Data Cent**	**30.18**	**353**	IAmb	IAmb	09 49 21.6			
	comp=Z,41nm,1.8s								
ECSD	**EROS Data Cent**	**30.18**	**353**	P	**P**	**09 48 48.2**	**+0.4**		
	baz=171								
ERPA	**Erie**	**30.20**	**18**	IAMs_20	IAMs_20	10 01 48.6			
	comp=Z,3µm,19.0s								
ERPA	**Erie**	**30.20**	**18**	P	**P**	**09 48 47.3**	**-0.6**		
	baz=204								
MURC	**Murrieta**	**30.21**	**315**	P	**P**	**09 48 50.6**	**+2.3**		
	baz=124								
SZCU	**Shurtz Canyon**	**30.27**	**326**	IAmb	IAmb	09 48 52.9			
	comp=Z,36nm,1.1s								
MPOM	**Morne Pois Mar**	**30.29**	**85**	IAMs_20	IAMs_20	10 01 47.6			
	comp=Z,3µm,18.0s								
HEC	**Hector,Ludlow**	**30.37**	**318**	P	**P**	**09 48 51.7**	**+2.0**		
	baz=127								
BBRC	**Big Bear Solar**	**30.41**	**317**	P	**P**	**09 48 52.2**	**+1.9**		
	baz=126								
M57A	**Sunshine Farm,**	**30.46**	**23**	IAmb	IAmb	09 48 54.0			
	comp=Z,26nm,0.9s								
M57A	**Sunshine Farm,**	**30.46**	**23**	P	**P**	**09 48 49.6**	**-0.7**		
	baz=209								
M57A				P	**P**	**09 48 49.6**	**-0.7**		
	baz=209								
TUQ	**Turquoise Moun**	**30.48**	**319**	P	**P**	**09 48 52.3**	**+1.6**		
	baz=129,SNR=6.7								
LUPA	**Lehigh Univers**	**30.53**	**26**	IAmb	IAmb	09 48 51.8			
	comp=Z,22nm,0.7s								
TMUT	**Trail Mountain**	**30.57**	**330**	IAmb	IAmb	09 48 56.7			
	comp=Z,23nm,1.0s								
TCRU	**Three Creeks R**	**30.67**	**328**	IAmb	IAmb	09 49 12.6			
	comp=Z,18nm,0.7s								
SCI2	**San Clemente I**	**30.81**	**313**	P	**P**	**09 48 55.6**	**+2.0**		
	baz=122								
RRX	**Edison Barstow**	**30.83**	**317**	P	**P**	**09 48 55.6**	**+1.9**		
	baz=127								
RDMU	**Red Mountain**	**30.84**	**333**	P	**P**	**09 48 55.2**	**+1.3**		
RDMU				IAmb	IAmb	09 48 56.6			
	comp=Z,27nm,1.3s								
BFSC	**Mount Baldy Ra**	**30.89**	**316**	P	**P**	**09 48 56.3**	**+1.8**		
	baz=125								
CIS	**Catalina Islan**	**30.95**	**314**	P	**P**	**09 48 57.0**	**+2.2**		
	baz=123								
GSC	**Goldstone, Bar**	**30.96**	**318**	P	**P**	**09 48 57.0**	**+2.1**		
	baz=127								
SHOC	**Shoshone, Teco**	**31.00**	**320**	P	**P**	**09 48 56.6**	**+1.4**		
	baz=129								
L56A	**Greenwood**	**31.01**	**21**	P	**P**	**09 48 53.9**	**-1.3**		
L56A				IAmb	IAmb	09 49 48.5			
	comp=Z,62nm,1.5s								
FMP	**Fort Macarthur**	**31.03**	**314**	P	**P**	**09 48 57.5**	**+2.0**		
	baz=123								
SUSD	**Miller**	**31.20**	**350**	P	**P**	**09 48 57.1**	**+0.3**		
	baz=167								
PRN	**Pahroc Range**	**31.25**	**323**	P	**P**	**09 48 57.7**	**+0.2**		
ODNJ	**Ogdensburg**	**31.26**	**26**	P	**P**	**09 48 56.4**	**-0.9**		
ODNJ				IAmb	IAmb	09 48 57.4			
	comp=Z,27nm,1.2s								
MPU	**Maple Canyon**	**31.34**	**330**	P	**P**	**09 48 59.6**	**+1.3**		
MPU				IAmb	IAmb	09 49 01.6			
	comp=Z,27nm,1.1s								
BSUT	**Blindstream Ca**	**31.34**	**332**	P	**P**	**09 48 58.6**	**+0.1**		
DECC	**Green Verdugo**	**31.36**	**315**	P	**P**	**09 49 00.3**	**+1.8**		
	baz=124								
SPMN	**Marine on St.**	**31.43**	**359**	P	**P**	**09 48 57.9**	**-0.8**		
SPMN	**Marine on St.**	**31.43**	**359**	P	**P**	**09 48 58.6**	**-0.1**		
	baz=178								
K22A	**Casper**	**31.43**	**339**	P	**P**	**09 48 59.5**	**+0.4**		
	baz=152								
EDW2	**Edwards Air Fo**	**31.49**	**317**	P	**P**	**09 49 00.2**	**+0.6**		
	baz=125								
PAL	**Palisades**	**31.50**	**27**	P	**P**	**09 48 58.0**	**-1.4**		
	baz=215								
NLU	**North Lily Min**	**31.50**	**330**	IAmb	IAmb	09 49 03.4			
	comp=Z,31nm,1.4s								
LRMC	**Laurel Mtn Rad**	**31.64**	**318**	P	**P**	**09 49 02.1**	**+1.1**		
	baz=126,SNR=6.9								
BINY	**Binghamton**	**31.64**	**23**	IAMs_20	IAMs_20	10 02 05.8			
	comp=Z,3µm,19.0s								
BINY	**Binghamton**	**31.64**	**23**	P	**P**	**09 49 00.1**	**-0.7**		
	baz=211,SNR=6.8								
BINY	**Binghamton**	**31.64**	**23**	P	**P**	**09 48 58.5**	**-2.3**		
	baz=211,SNR=6.8								
SNCC	**San Nicolas Is**	**31.65**	**313**	P	**P**	**09 49 01.9**	**+1.0**		
	baz=121								
TPNV	**Topopah Spring**	**31.65**	**321**	IAmb	IAmb	09 49 10.4			
	comp=Z,25nm,1.4s								
TPNV				IAMs_20	IAMs_20	10 03 30.1			
	comp=Z,3µm,18.0s								
TPNV	**Topopah Spring**	**31.65**	**321**	P	**P**	**09 49 02.6**	**+1.5**		
	baz=130,SNR=8.7								
GLMI	**Grayling**	**31.67**	**10**	P	**P**	**09 48 59.7**	**-1.2**		
	baz=194								
FURC	**Furnace Creek,**	**31.72**	**320**	P	**P**	**09 49 03.8**	**+2.3**		
	baz=129,SNR=8.1								
S11A	**Rachel**	**31.81**	**323**	IAmb	IAmb	09 49 06.9			
	comp=Z,47nm,1.2s								
OSI	**Osito Audit: C**	**31.83**	**315**	P	**P**	**09 49 04.3**	**+1.7**		
	baz=124								
MPMC	**Manual Prospec**	**31.86**	**319**	P	**P**	**09 49 04.7**	**+1.7**		
	baz=127,SNR=14								
WSPT	**Westport, CT**	**31.88**	**27**	IAMs_20	IAMs_20	10 02 27.4			
	comp=Z,3µm,20.0s								
K57A	**Scipio Center**	**31.90**	**22**	IAmb	IAmb	09 49 02.6			
	comp=Z,31nm,0.9s								
CTU	**Camp Tracy**	**31.92**	**331**	IAmb	IAmb	09 49 06.7			
	comp=Z,36nm,1.2s								
SPR3	**Spring Creek 3**	**31.95**	**326**	P	**P**	**09 49 05.1**	**+1.1**		
SPR3				IAmb	IAmb	09 49 07.2			
	comp=Z,28nm,1.1s								
RSSD	**Black Hills**	**32.00**	**344**	P	**P**	**09 49 04.6**	**+0.5**		
RSSD	**Black Hills**	**32.00**	**344**	P	**P**	**09 49

baz=123
BOAV Boa Vista 33.16 107 IAmb IAmb 09 49 16.0
comp=Z,19nm,0.8s
BOAV Boa Vista 33.16 107 *e*P **P** **09 49 10.9 -3.4**
L61B Northampton 33.20 27 IAMs_20 IAMs_20 10 03 45.3
comp=Z,2µm,18.0s
L61B Northampton 33.20 27 P **P** **09 49 14.5 +0.1**
baz=216
QUA2 Belchertown 33.21 27 IAmb IAmb 09 49 14.5
comp=Z,23nm,0.7s
QUA2 IAMs_20 IAMs_20 10 02 35.5
comp=Z,2µm,21.0s
VOG Valley Oaks Go 33.25 318 P **P** **09 49 16.6 +1.7**
baz=125
AHID Auburn Hatcher 33.29 334 IAmb IAmb 09 49 27.2
comp=Z,23nm,0.9s
Q09A Carvers 33.45 323 IAmb IAmb 09 49 43.9
comp=Z,36nm,1.0s
E28A Huff 33.56 349 P **P** **09 49 16.8 -0.7**
baz=164,SNR=7.0
REDW Red Top Meadow 33.68 335 P **P** **09 49 19.2 +0.3**
ELK Elko 33.70 327 IAmb IAmb 09 49 24.6
comp=Z,37nm,1.6s
ELK Elko 33.70 327 LR LR 10 04 30.2
comp=Z,1µm,19.7s,baz=147,slow=39
HRV Adam Dziewonsk 33.75 28 P **P** **09 49 17.8 -1.3**
HRV Adam Dziewonsk 33.75 28 IAMs_20 IAMs_20 10 03 25.7
comp=Z,2µm,19.0s
HRV Adam Dziewonsk 33.75 28 P **P** **09 49 18.3 -0.8**
baz=218
HRV Adam Dziewonsk 33.75 28 P **P** **09 49 17.8 -1.3**
HRV pmax pmax
comp=Z,37nm,1.0s
HRV MLR MLR
comp=Z,2µm,19.0s
NV11 Mina Array Sit 33.76 322 IAmb IAmb 09 49 23.8
comp=Z,38nm,1.1s
LOHW Long Hollow 33.78 335 IAmb IAmb 09 49 22.2
comp=Z,20nm,1.1s
BCX Boston College 33.79 28 P **P** **09 49 18.5 -1.0**
NCB Newcomb 33.82 23 IAmb IAmb 09 49 19.2
comp=Z,20nm,0.8s
MDPB Devils Postpil 33.83 320 IAmb IAmb 09 49 24.2
comp=Z,18nm,1.2s
NVAR Mina Array Bea 33.85 321 P **P** **09 49 22.6 +2.3**
comp=Z,13nm,0.9s,baz=138,slow=7.8,SNR=77
NVAR PcP **PcP** **09 52 00.1 +1.0**
comp=Z,3.4nm,0.8s,baz=146,slow=3.5,SNR=4.9
NVAR LR LR 10 04 49.8
comp=Z,2µm,18.1s,baz=132,slow=39
comp=Z,13nm,0.9s
LHV Little Huntoon 33.86 321 P **P** **09 49 22.7 +2.6**
LHV IAmb IAmb 09 49 46.9
comp=Z,25nm,1.1s
RYN Ryan 34.11 322 IAmb IAmb 09 49 26.7
comp=Z,24nm,1.3s
KVN Kaiserville 34.13 323 IAmb IAmb 09 49 26.6
comp=Z,25nm,1.1s
IMW Indian Meadow 34.16 335 P **P** **09 49 22.5 -0.6**
LONY Lake Ozonia 34.24 22 P **P** **09 49 22.2 -1.1**
LONY IAmb IAmb 09 49 23.0
comp=Z,28nm,0.8s
LONY Lake Ozonia 34.24 22 P **P** **09 49 22.3 -1.1**
baz=211,SNR=8.9
WBO Williamsburg 34.32 21 IAmb IAmb 09 49 23.4
comp=Z,26nm,0.9s
HNH Hanover 34.39 26 IAMs_20 IAMs_20 10 03 55.6
comp=Z,3µm,20.0s
H17A Grant Village 34.43 336 P **P** **09 49 26.3 +1.0**
baz=147
UNH University of 34.52 28 P **P** **09 49 25.1 -0.8**
baz=218
BMN Battle Mountai 34.55 325 IAmb IAmb 09 49 30.1
comp=Z,33nm,1.2s
RLMT Red Lodge 34.55 338 IAmb IAmb 09 49 39.9
comp=Z,20nm,1.4s
RLMT Red Lodge 34.55 338 P **P** **09 49 27.6 +1.2**
baz=149
WAKR Walker 34.59 321 IAmb IAmb 09 49 31.0
comp=Z,22nm,1.4s
MDND Maddock 34.62 351 P **P** **09 49 26.2 -0.4**
baz=167
MDND Maddock 34.62 351 P **P** **09 49 26.2 -0.4**
baz=167
ETMB Extrema 34.71 131 IAmb IAmb 09 49 39.3
comp=Z,22nm,0.9s
YERR Yerington 34.77 321 IAmb IAmb 09 49 32.3
comp=Z,32nm,1.3s
YMR Madison River 34.81 336 IAmb IAmb 09 49 37.5
comp=Z,29nm,1.3s
I62A Tamworth 34.93 27 IAmb IAmb 09 49 29.4
comp=Z,34nm,1.0s
LAO LASA Array 34.97 343 P **P** **09 49 30.8 +1.1**
baz=155
LBNH Lisbon 34.98 26 IAMs_20 IAMs_20 10 04 14.1
comp=Z,3µm,21.0s
LBNH Lisbon 34.98 26 P **P** **09 49 29.1 -0.7**
baz=215
PNTR Pine Nut 35.05 321 IAmb IAmb 09 50 04.0
comp=Z,21nm,1.0s
EMB Emerald Bay 35.29 321 IAmb IAmb 09 49 37.1
comp=Z,40nm,1.2s
PAHR Pah Rah Range 35.31 322 IAmb IAmb 09 49 36.8
comp=Z,22nm,1.2s
MNTQ Montreal, Queb 35.35 23 IAmb IAmb 09 49 32.5
comp=Z,27nm,0.9s
HLID Hailey 35.40 332 IAmb IAmb 09 49 36.8
comp=Z,34nm,1.1s
HLID Hailey 35.40 332 P **P** **09 49 34.8 +1.1**
baz=140,SNR=47
I63A Otisfield 35.40 27 P **P** **09 49 33.0 -0.4**
baz=218
I63A P **P** **09 49 33.0 -0.4**
baz=218
MPK Martis Peak 35.44 321 IAmb IAmb 09 49 38.4
comp=Z,28nm,1.1s
BOZ Bozeman (W) 35.84 336 P **P** **09 49 38.0 +0.6**
baz=146
MFID Camas Ranch 35.96 330 IAMs_20 IAMs_20 10 06 24.4
comp=Z,2µm,19.0s
DGMT Dagmar 36.09 346 IAmb IAmb 09 49 57.8
comp=Z,13nm,0.6s
DGMT Dagmar 36.09 346 P **P** **09 49 39.5 +0.2**
baz=159
DGMT Dagmar 36.09 346 P **P** **09 49 39.7 +0.3**
baz=159
G62A West of Eustis 36.35 26 IAmb IAmb 09 49 41.5
comp=Z,38nm,0.9s
G62A West of Eustis 36.35 26 P **P** **09 49 40.3 -1.3**
baz=217
G62A P **P** **09 49 40.3 -1.3**
baz=217
SAML Samuel 36.46 127 P **P** **09 49 41.9 -1.0**
SAML IAmb IAmb 09 49 51.2
comp=Z,40nm,1.5s
SAML Samuel 36.46 127 *e*P **P** **09 49 41.1 -1.7**
SAML Samuel 36.46 127 P **P** **09 49 41.9 -1.0**
SAML pmax pmax
comp=Z,40nm,1.5s
SAML MLR MLR
comp=Z,1µm,18.0s
ORV Oroville 36.51 320 P **P** **09 49 44.8 +1.8**
ORV Oroville 36.51 320 P **P** **09 49 44.8 +1.8**
ORV pmax pmax
comp=Z,21nm,1.4s
ORV MLR MLR
comp=Z,1µm,19.0s
ULM Lac du Bonnet 36.58 356 P **P** **09 49 42.5 -0.9**
comp=Z,2.8nm,0.6s,baz=174,slow=7.7,SNR=6.2
ULM PcP **PcP** **09 52 05.5 -1.0**
comp=Z,5.2nm,0.8s,baz=193,slow=7.1,SNR=4.1
ULM LR LR 10 09 12.9
comp=Z,854nm,18.3s,baz=182,slow=44
comp=Z,2.8nm,0.6s
WVOR Wild Horse Val 36.69 326 P **P** **09 49 44.5 -0.2**
WVOR IAmb IAmb 09 50 03.4
comp=Z,22nm,0.9s
WVOR IAMs_20 IAMs_20 10 07 13.2
comp=Z,2µm,18.0s
WVOR Wild Horse Val 36.69 326 P **P** **09 49 44.5 -0.2**
WVOR pmax pmax
comp=Z,22nm,0.9s
WVOR MLR MLR
comp=Z,2µm,18.0s
PKME Peaks-Kenny Pk 36.93 27 P **P** **09 49 45.6 -0.8**
PKME Peaks-Kenny Pk 36.93 27 P **P** **09 49 45.6 -0.8**
baz=218,SNR=6.5
EGMT Eagleton 37.24 340 IAmb IAmb 09 50 02.7
comp=Z,36nm,1.4s
EGMT Eagleton 37.24 340 P **P** **09 49 49.8 +0.6**
baz=150
PLID Pearl Lake 37.30 332 P **P** **09 49 49.7 -0.2**
PLID IAmb IAmb 09 49 52.4
comp=Z,47nm,1.2s
F63A Nahmakanta, Br 37.35 27 IAmb IAmb 09 49 49.5
comp=Z,25nm,0.9s
G65A Princeton 37.66 29 P **P** **09 49 50.5 -2.2**
baz=221,SNR=10
G65A P **P** **09 49 50.5 -2.2**
baz=221,SNR=10
BMO Blue Mountains 37.74 330 IAmb IAmb 09 49 55.5
comp=Z,50nm,1.6s
BMO IAMs_20 IAMs_20 10 07 38.5
comp=Z,2µm,18.0s
MSO Missoula 37.77 335 P **P** **09 49 54.7 +0.9**
MSO IAmb IAmb 09 49 55.9
comp=Z,29nm,1.2s
MSO Missoula 37.77 335 P **P** **09 49 54.9 +1.1**
baz=143,SNR=14
F64A Sherman 37.81 27 IAmb IAmb 09 49 53.6
comp=Z,40nm,0.9s
F64A Sherman 37.81 27 P **P** **09 49 51.6 -2.3**
baz=219,SNR=6.2
F64A P **P** **09 49 51.6 -2.3**
baz=219,SNR=6.2
KCPM Cahto Peak 37.89 319 P **P** **09 49 55.2 +0.3**
E62A Clayton Lake 37.89 26 P **P** **09 49 53.5 -1.2**
E62A Clayton Lake 37.89 26 P **P** **09 49 53.2 -1.5**
baz=217
E62A P **P** **09 49 53.2 -1.5**
baz=217
LPAZ La Paz 38.06 141 P **P** **09 49 56.6 -0.4**
LPAZ La Paz 38.06 141 P **P** **09 49 56.6 -0.4**
E63A Oxbow 38.21 27 P **P** **09 49 56.2 -1.1**
baz=219,SNR=7.2
E63A P **P** **09 49 56.2 -1.1**
baz=219,SNR=7.2
KMRM Mail Ridge 38.27 320 IAmb IAmb 09 50 17.6
comp=Z,29nm,1.0s
LMQ La Malbaie 38.31 24 IAmb IAmb 09 49 57.1
comp=Z,29nm,1.1s
D62A Allapoint, All 38.46 25 P **P** **09 49 57.0 -2.4**
baz=217,SNR=12
D62A P **P** **09 49 57.0 -2.4**
baz=217,SNR=12
F10A Beach Ranch, E 38.53 332 IAmb IAmb 09 50 09.0
comp=Z,47nm,0.9s
YBH Yreka Blue Hor 38.55 322 LR LR 10 05 31.7
comp=Z,2µm,21.1s,baz=146,slow=35
PQI Presque Isle 38.58 27 IAmb IAmb 09 50 00.0
comp=Z,31nm,0.8s
L04D Klamath Falls 38.61 323 IAmb IAmb 09 50 03.6
comp=Z,60nm,1.4s
KMPM Mount Pierce 38.64 320 IAmb IAmb 09 50 24.4
comp=Z,26nm,1.1s
JCC Jacoby Creek, 38.81 320 IAmb IAmb 09 50 21.2
comp=Z,66nm,1.4s
PB16 IPOC Station P 38.84 144 P **P** **09 50 04.2 +0.6**
PINE Pine Mountain 38.85 326 P **P** **09 50 03.2 +0.1**
G08A Pilot Rock 38.86 329 P **P** **09 50 02.7 -0.2**
KRPM Rodgers 39.01 321 P **P** **09 50 05.6 +1.4**
KRPM IAmb IAmb 09 50 10.7
comp=Z,53nm,1.2s
LMN Caledonia Moun 39.46 30 IAmb IAmb 09 50 07.3
comp=Z,52nm,1.1s
I04A Tendick Farm, 39.66 325 IAmb IAmb 09 50 11.9
comp=Z,37nm,1.2s
MDP Montagnes des 39.79 99 LR LR 10 07 31.1
comp=Z,1µm,21.3s,baz=300,slow=38
PB11 IPOC Station P 39.91 146 IAmb IAmb 09 50 24.3
comp=Z,78nm,1.7s
H04A Detroit Lake 40.12 326 IAmb IAmb 09 50 15.9
comp=Z,39nm,1.0s
D08A Wollman Farm, 40.12 331 IAmb IAmb 09 50 15.7
comp=Z,61nm,1.6s
E07A Sunnyside 40.20 330 IAmb IAmb 09 50 18.3
comp=Z,56nm,1.7s
NEW Newport 40.23 334 IAMs_20 IAMs_20 10 09 08.2
comp=Z,2µm,20.0s
NEW Newport 40.23 334 P **P** **09 50 14.7 +0.5**
baz=140,SNR=7.9
NEW Newport 40.23 334 LR LR 10 09 18.8
comp=Z,2µm,19.4s,baz=140,slow=40
TA01 Diego Aracena 40.29 147 IAmb IAmb 09 50 22.7
comp=Z,28nm,1.1s
C09A Chrisman Ranch 40.38 333 IAmb IAmb 09 50 17.9
comp=Z,45nm,1.2s
MXC Moxie City 40.43 330 IAmb IAmb 09 50 25.9
comp=Z,30nm,1.3s
PATCX Punta Patache 40.51 147 IAmb IAmb 09 50 23.9
comp=Z,43nm,1.4s
PB01 IPOC Station P 41.05 147 IAmb IAmb 09 50 28.4
comp=Z,47nm,2.0s
LTY Liberty 41.09 330 IAmb IAmb 09 50 37.7
comp=Z,71nm,1.8s
VILB Vilhena 41.23 129 IAmb IAmb 09 50 34.7
comp=Z,65nm,1.4s
D05A Enumclaw 41.69 329 IAmb IAmb 09 50 34.4
comp=Z,34nm,1.1s
PB09 IPOC Station P 41.80 147 IAmb IAmb 09 50 35.0
comp=Z,49nm,1.5s
B06A Marblemount 42.37 331 IAmb IAmb 09 50 40.0
comp=Z,26nm,0.9s
SIV San Ignacio 42.55 133 LR LR 10 07 18.8
comp=Z,827nm,18.7s,baz=316,slow=35
LVC Limon Verde 42.64 148 LR LR 10 07 43.2
comp=Z,818nm,18.6s,baz=326,slow=35
NLWA Neilton Lookou 42.78 328 IAMs_20 IAMs_20 10 08 05.0
comp=Z,1µm,18.0s
EDM Edmonton 42.89 341 IAmb IAmb 09 50 39.9
comp=Z,26nm,1.0s
PB14 IPOC Station P 43.58 151 P **P** **09 50 43.0 +0.9**
PTLB Pontes e Lacer 43.60 130 P **P** **09 50 41.9 -0.1**
RPN Rapa Nui 43.90 202 LR LR 10 04 26.1
comp=Z,873nm,19.1s,baz=9.0,slow=29
GO02 Mina Guanaco 44.42 150 P **P** **09 50 49.6 +0.7**
FCC Fort Churchill 45.00 359 P **P** **09 50 52.1 -0.6**
FCC Fort Churchill 45.00 359 P **P** **09 50 52.1 -0.6**
FCC pmax pmax
comp=Z,11nm,1.1s
SCHQ Schefferville 45.53 20 P **P** **09 50 54.8 -2.3**
SCHQ Schefferville 45.53 20 P **P** **09 50 53.7 -3.3**
comp=Z,36nm,1.0s,baz=224,slow=5.3,SNR=15
SCHQ PcP **PcP** **09 52 35.2 -0.2**
comp=Z,8.6nm,0.7s,baz=262,slow=5.4,SNR=4.0
SCHQ LR LR 10 10 58.4
comp=Z,4µm,20.4s,baz=212,slow=38
comp=Z,36nm,1.0s
AC05 El Transito 47.25 154 IAmb IAmb 09 51 19.1
comp=Z,15nm,1.1s
CO03 El Pedregal 48.83 155 IAmb IAmb 09 51 29.6
comp=Z,26nm,1.1s
CO02 Combarbal 49.03 156 IAmb IAmb 09 51 32.6
comp=Z,29nm,1.1s
AQDB Aquidauana 49.33 133 IAmb IAmb 09 51 27.4
comp=Z,10nm,0.7s
ZON Zonda 50.28 154 IAmb IAmb 09 51 41.2
comp=Z,38nm,1.5s
CFA Coronel Fontan 50.52 153 LR LR 10 08 44.6
comp=Z,684nm,21.1s,baz=336,slow=31
VA03 San Esteban 50.58 156 P **P** **09 51 38.1 +1.7**
VA03 IAmb IAmb 09 51 44.4
comp=Z,26nm,1.1s
YKA Yellowknife Ar 51.30 347 P **P** **09 51 40.3 -1.0**
comp=Z,6.8nm,0.8s,baz=149,slow=7.3,SNR=76
YKA PcP **PcP** **09 52 56.5 +0.5**
comp=Z,4.4nm,0.8s,baz=150,slow=3.5,SNR=8.1
comp=Z,6.8nm,0.8s
V35K Ketchikan 51.57 332 P **P** **09 51 44.0 +0.5**
baz=128
BO04 La Junta 51.65 157 IAmb IAmb 09 51 53.4
comp=Z,30nm,1.3s
LMEL Las Melosas 51.67 157 IAmb IAmb 09 51 57.8
comp=Z,28nm,1.1s
BO01 Tunca 51.83 158 IAmb IAmb 09 51 52.9
comp=Z,51nm,1.4s
FLDN Fort Liard 51.84 341 P **P** **09 51 45.8 +0.4**
baz=140
KOTAN Kotanelee Air 51.94 340 P **P** **09 51 47.1 +0.8**
baz=139,SNR=5.7
T35M Bob Quinn 52.03 335 IAmb IAmb 09 52 01.1
comp=Z,44nm,1.2s
T35M Bob Quinn 52.03 335 P **P** **09 51 47.1 +0.2**
baz=130
CPUP Villa Florida 52.21 140 P **P** **09 51 48.7 +0.1**
CPUP Villa Florida 52.21 140 P **P** **09 51 48.7 +0.1**
CPUP pmax pmax
comp=Z,9.0nm,1.1s
CPUP Villa Florida 52.21 140 P **P** **09 51 47.0 -1.6**
comp=Z,3.0nm,0.7s,baz=319,slow=8.0,SNR=9.2
CPUP LR LR 10 15 28.5
comp=Z,843nm,18.4s,baz=336,slow=38
comp=Z,3.0nm,0.7s
CRAG Craig 52.34 332 P **P** **09 51 49.9 +0.6**
baz=126
BDFB Brasilia 52.43 122 P **P** **09 51 50.6 0.0**
BDFB IAmb IAmb 09 52 14.9
comp=Z,26nm,1.5s
BDFB Brasilia 52.43 122 P **P** **09 51 50.6 0.0**
BDFB pmax pmax
comp=Z,26nm,1.5s
BDFB Brasilia 52.43 122 P **P** **09 51 49.4 -1.2**
comp=Z,3.5nm,0.7s,baz=324,slow=3.3,SNR=5.7
BDFB LR LR 10 14 46.3
comp=Z,804nm,19.6s,baz=316,slow=37
comp=Z,3.5nm,0.7s
FRB Frobisher Bay 52.62 13 LR LR 10 15 51.8
comp=Z,3µm,18.5s,baz=206,slow=38
TAOE Nuku Hiva Isla 52.71 248 *e*S S 09 59 09.6 -10
comp=Z,563nm,24.9s
TAOE *e*LR LR 10 07 08.6
comp=Z,663nm,24.1s
TAOE Nuku Hiva Isla 52.71 248 *e*T T 10 48 30.8
comp=Z,37nm,0.5s
DLBC Dease Lake 52.89 336 P **P** **09 51 54.1 +0.7**
DLBC Dease Lake 52.89 336 P **P** **09 51 54.6 +1.2**
baz=131,SNR=21
DLBC Dease Lake 52.89 336 LR LR 10 18 02.4
comp=Z,874nm,18.0s,baz=128,slow=40
S34M Telegraph Cree 52.99 335 P **P** **09 51 56.2 +2.2**
S34M IAmb IAmb 09 52 07.9
comp=Z,20nm,1.1s
S34M Telegraph Cree 52.99 335 P **P** **09 51 55.3 +1.2**
baz=130,SNR=5.0
T33K Petersburg 53.08 333 P **P** **09 51 56.3 +1.6**
baz=127
WTLY Watson Lake, Y 53.56 338 P **P** **09 52 00.2 +1.9**
R33M Jennings River 53.89 337 P **P** **09 52 02.3 +1.5**
baz=131,SNR=9.7
Q32M Nakina River 54.12 336 P **P** **09 52 03.6 +1.1**
baz=129
WRGLY Wrigley 54.15 343 P **P** **09 52 03.7 +1.3**
WRGLY IAmb IAmb 09 52 04.2
comp=Z,27nm,1.0s
WRGLY Wrigley 54.15 343 P **P** **09 52 02.9 +0.4**
baz=141
TGTN Hyland Airport 54.38 340 P **P** **09 52 04.9 +0.7**
baz=135,SNR=14
ITQB Itaqui 55.04 142 P **P** **09 52 09.0 -0.3**
P32M Atlin 55.10 336 IAmb IAmb 09 52 22.6
comp=Z,34nm,1.3s
P32M Atlin 55.10 336 P **P** **09 52 10.4 +1.0**
baz=128
P33M Teslin, Yukon 55.13 337 IAmb IAmb 09 52 12.7
comp=Z,37nm,1.4s
P33M Teslin, Yukon 55.13 337 P **P** **09 52 11.0 +1.3**
baz=129,SNR=5.9
S31K Pelican 55.19 333 P **P** **09 52 11.2 +1.2**
S31K Pelican 55.19 333 P **P** **09 52 11.5 +1.5**
baz=124
N32M Quiet Lake 55.84 337 P **P** **09 52 15.9 +1.2**
baz=129
ITAB Concordia 56.20 137 P **P** **09 52 17.3 -0.5**
ITAB IAmb IAmb 09 52 18.1
comp=Z,20nm,0.8s
WHY Whitehorse 56.22 336 P **P** **09 52 18.8 +1.2**
WHY IAmb IAmb 09 52 30.2
comp=Z,14nm,1.1s
WHY Whitehorse 56.22 336 P **P** **09 52 19.0 +1.4**
baz=127
FARO Faro, Yukon 56.62 338 P **P** **09 52 20.2 -0.1**
FARO IAmb IAmb 09 52 32.9
comp=Z,19nm,1.1s
FARO Faro, Yukon 56.62 338 P **P** **09 52 21.3 +0.9**
baz=130,SNR=9.6
P30M Million Dollar 56.73 335 P **P** **09 52 22.1 +0.9**
baz=125
O30N Mendenhall 56.76 336 P **P** **09 52 21.5 +0.1**
baz=126,SNR=8.4
P29M Windy Craggy 56.78 334 P **P** **09 52 22.4 +1.0**
baz=124
M31M Drury Creek, Y 56.98 338 P **P** **09 52 24.4 +1.6**
M31M IAmb IAmb 09 52 35.8
comp=Z,24nm,1.2s
M31M Drury Creek, Y 56.98 338 P **P** **09 52 23.7 +0.8**
baz=128,SNR=11
N31M Braeburn, Yuko 57.06 337 IAMs_20 IAMs_20 10 21 28.3
comp=Z,1µm,18.0s
N31M Braeburn, Yuko 57.06 337 P **P** **09 52 24.5 +1.0**
baz=127,SNR=5.2
HYT Haines Junctio 57.36 336 P **P** **09 52 26.6 +0.9**
baz=124,SNR=6.4
O29M Mount Kennedy 57.50 335 P **P** **09 52 26.7 0.0**
baz=123
PNL Peninsula 57.51 334 P **P** **09 52 27.8 +1.2**
baz=122
N30M Aishikik Lake 57.56 336 P **P** **09 52 27.9 +0.9**
baz=125,SNR=13
PLCA Paso Flores 57.72 161 P **P** **09 52 29.7 +1.4**
PLCA IAmb IAmb 09 52 35.7
comp=Z,37nm,1.4s
PLCA Paso Flores 57.72 161 P **P** **09 52 29.7 +1.4**
PLCA pmax pmax
comp=Z,37nm,1.5s
PLCA Paso Flores 57.72 161 P **P** **09 52 29.3 +0.9**
comp=Z,3.0nm,0.9s,baz=338,slow=11,SNR=3.8
PLCA LR LR 10 12 30.0
comp=Z,849nm,18.1s,baz=356,slow=31
comp=Z,3.0nm,0.9s
YUK6 Outpost Mounta 57.77 335 P **P** **09 52 29.5 +0.8**
baz=124,SNR=5.7
PINM Pinnacle 58.10 334 P **P** **09 52 31.1 +0.3**
baz=121
M30M Minto, Yukon 58.10 337 P **P** **09 52 31.2 +0.5**
M30M IAmb IAmb 09 52 43.4
comp=Z,21nm,1.1s
M30M Minto, Yukon 58.10 337 P **P** **09 52 31.3 +0.5**
baz=126,SNR=13
YUK4 Talbot Arm 58.11 336 P **P** **09 52 32.4 +1.4**
baz=124,SNR=7.4
PLTB Pedras Altas 58.35 141 P **P** **09 52 33.2 +0.4**
PLTB IAmb IAmb 09 52 38.1
comp=Z,23nm,1.3s
MAYO Mayo, Yukon 58.39 339 P **P** **09 52 33.9 +1.1**
baz=128,SNR=6.0
YUK8 Steele Glacier 58.53 335 P **P** **09 52 35.1 +1.1**
baz=122,SNR=5.4
M29M Somme Creek 58.66 337 P **P** **09 52 35.6 +0.9**
baz=124,SNR=32
TRQA Tornquist 58.72 152 P **P** **09 52 36.4 +1.1**
TRQA IAmb IAmb 09 52 41.2
comp=Z,37nm,1.6s
TRQA IAMs_20 IAMs_20 10 13 47.9
comp=Z,926nm,20.0s
TRQA Tornquist 58.72 152 P **P** **09 52 36.4 +1.1**
TRQA pmax pmax
comp=Z,37nm,1.6s
LOGN Logan Glacier 58.80 334 P **P** **09 52 36.0 +0.3**
L29M L29M 58.91 338 IAMs_20 IAMs_20 10 22 15.1
comp=Z,1µm,18.0s
L29M L29M 58.91 338 P **P** **09 52 37.2 +0.8**
baz=125
CTG Chitna Glacier 59.01 334 P **P** **09 52 38.2 +1.0**
baz=120
RCBR Riachuelo 59.04 105 LR LR 10 20 10.9
comp=Z,686nm,19.8s,baz=302,slow=38
GRNC Granite Creek 59.06 334 IAMs_20 IAMs_20 10 21 21.4
comp=Z,1µm,19.0s
YUK3 Moose Creek 59.07 336 P **P** **09 52 38.4 +0.7**
baz=122,SNR=6.1
K29M Barlow Dome 59.12 338 P **P** **09 52 38.1 +0.2**
baz=126
J30M Hart River 59.15 339 IAmb IAmb 09 52 40.4
comp=Z,20nm,1.4s
J30M Hart River 59.15 339 P **P** **09 52 38.1 -0.1**
baz=128
C36M Paulatuk 59.17 347 P **P** **09 52 37.8 -0.2**
baz=143
BARN Barnard Glacie 59.19 334 IAmb IAmb 09 52 52.1
comp=Z,27nm,1.3s
I30M Mount Dempster 59.56 340 P **P** **09 52 41.1 +0.2**
baz=128,SNR=22
BVCY Beaver Creek 59.57 336 P **P** **09 52 41.4 +0.4**
baz=122

CRQE	Cirque	59.65	334	P	P	09 52 42.4	+0.8	
	baz=119							
SFJD	Kangerlussuaq	59.82	18	LR	LR	10 19 17.8		
	comp=Z,2µm,20.6s,baz=225,slow=37							
KAIM	Kayak Island	59.84	333	P	P	09 52 43.7	+0.9	
	baz=117							
DAWY	Dawson	59.92	338	P	P	09 52 44.4	+1.1	
DAWY				IAmb	IAmb	09 52 44.8		
	comp=Z,16nm,1.3s							
DAWY	Dawson	59.92	338	P	P	09 52 43.6	+0.3	
	baz=124							
MCARA	McCarthy VSAT	59.92	334	P	P	09 52 43.9	+0.5	
	baz=119							
M27K	Edge Creek, AK	59.95	336	IAMs_20	IAMs_20	10 21 14.6		
	comp=Z,1µm,19.0s							
M27K	Edge Creek, AK	59.95	336	P	P	09 52 44.4	+0.7	
	baz=121							
G31M	Satah River	59.99	342	P	P	09 52 43.2	-0.4	
G31M	Satah River	59.99	342	P	P	09 52 43.4	-0.2	
	baz=131,SNR=14							
VRDI	Verde Repeater	60.03	334	P	P	09 52 44.6	+0.2	
F31M	Tsiigehtchic	60.18	343	P	P	09 52 45.2	+0.3	
F31M	Tsiigehtchic	60.18	343	P	P	09 52 44.5	-0.5	
	baz=132,SNR=22							
BCAR	Beaver Creek A	60.28	336	P	P	09 52 46.9	+1.0	
GLB	Gilahina Butte	60.28	334	P	P	09 52 46.4	+0.5	
L27K	Beaver Creek,	60.29	336	IAmb	IAmb	09 52 59.3		
	comp=Z,15nm,0.8s							
L27K				IAMs_20	IAMs_20	10 21 51.6		
	comp=Z,1µm,20.0s							
L27K	Beaver Creek,	60.29	336	P	P	09 52 46.7	+0.7	
	baz=121,SNR=14							
I29M	Ogilvie Camp,	60.29	340	P	P	09 52 45.4	-0.5	
I29M	Ogilvie Camp,	60.29	340	P	P	09 52 45.9	0.0	
	baz=126,SNR=17							
EPYK	Eagle Plains	60.38	341	P	P	09 52 47.2	+0.7	
EPYK				IAmb	IAmb	09 52 48.2		
	comp=Z,25nm,1.1s							
EPYK	Eagle Plains	60.38	341	P	P	09 52 46.5	0.0	
	baz=128,SNR=7.9							
BMRM	Bremner River	60.40	334	P	P	09 52 47.1	+0.4	
	baz=117							
M26K	Nabesna, AK	60.42	335	P	P	09 52 47.5	+0.7	
	baz=120							
G30M	tAoh Zraii Nji	60.61	342	P	P	09 52 47.9	-0.1	
	baz=129							
N25K	Chitina, Valde	60.70	334	P	P	09 52 49.3	+0.6	
	baz=118,SNR=9.9							
INK	Inuvik	60.70	344	P	P	09 52 48.8	+0.3	
INK	Inuvik	60.70	344	P	P	09 52 48.6	+0.1	
	baz=132,SNR=29							
INK	Inuvik	60.70	344	P	P	09 52 48.8	+0.3	
INK				pmax	pmax			
	comp=Z,36nm,1.1s							
INK	Inuvik	60.70	344	LR	LR	10 23 20.4		
	comp=Z,768nm,20.3s,baz=174,slow=40							
EYAK	Cordova Ski Ar	60.71	333	P	P	09 52 49.1	+0.4	
	baz=116							
H29M	Whitestone	60.82	340	P	P	09 52 49.8	+0.4	
	baz=126							
DY2G	Dye2	60.83	19	*i* P	P	09 52 42.8	-7.0	
DY2G				IAmb	IAmb	09 52 54.1		
	comp=Z,9.1nm,1.8s							
L26K	Log Cabin Wild	60.87	336	IAmb	IAmb	09 53 02.7		
	comp=Z,27nm,1.2s							
L26K	Log Cabin Wild	60.87	336	P	P	09 52 50.6	+0.8	
	baz=120,SNR=8.5							
F30M	Barrier River	60.88	342	P	P	09 52 49.7	-0.1	
	baz=130							
K27K	Chicken	60.89	337	P	P	09 52 50.3	+0.3	
	baz=121							
I28M	Miner Creek	60.90	339	IAmb	IAmb	09 53 10.0		
	comp=Z,15nm,1.2s							
I28M	Miner Creek	60.90	339	P	P	09 52 50.0	-0.1	
	baz=124							
EGAK	Eagle	60.96	338	P	P	09 52 50.1	-0.2	
	baz=123,SNR=12							
RES	Resolute Bay	61.00	359	IAmb	IAmb	09 52 51.4		
	comp=Z,6.7nm,0.7s							
RES	Resolute Bay	61.00	359	LR	LR	10 22 35.0		
	comp=Z,1µm,19.0s,baz=178,slow=39							
FID	Port Fidalgo	61.12	333	P	P	09 52 52.7	+1.1	
G29M	Pine Creek	61.13	341	P	P	09 52 51.8	+0.2	
	baz=127,SNR=21							
ILULI	Ilulissat	61.20	15	*i* P	P	09 52 38.8	-13	
ILULI				IAmb	IAmb	09 52 39.0		
	comp=Z,12nm,1.0s							
KLU	Klutina	61.21	334	P	P	09 52 52.9	+0.7	
	baz=116,SNR=9.2							
P23K	Montague Islan	61.22	332	P	P	09 52 52.7	+0.5	
	baz=114							
HARP	HAARP	61.30	335	P	P	09 52 53.2	+0.4	
	baz=117							
A36M	Sachs Harbour	61.52	349	IAmb	IAmb	09 53 37.9		
	comp=Z,16nm,0.8s							
A36M	Sachs Harbour	61.52	349	P	P	09 52 52.9	-1.2	
	baz=142,SNR=14							
I27K	Kandik River	61.57	339	P	P	09 52 55.2	+0.7	
	baz=122							
M24K	Tolsona, Glenn	61.59	334	P	P	09 52 55.7	+0.9	
	baz=116							
SCRK	Sand Creek	61.59	337	P	P	09 52 55.6	+0.7	
	baz=119,SNR=13							
PAX	Paxson	61.69	335	P	P	09 52 55.7	+0.2	
	baz=117,SNR=12							
J26L	Joseph Creek	61.70	337	P	P	09 52 55.9	+0.4	
	baz=120,SNR=32							
RIDG	Independent Ri	61.81	336	P	P	09 52 56.6	+0.4	
	baz=118							
H27K	Steamboat Moun	61.88	340	P	P	09 52 56.6	0.0	
	baz=123							
I26K	Coal Creek Min	61.96	338	P	P	09 52 57.2	+0.1	
	baz=121							
SCM	Sheep Creek Mo	61.96	334	P	P	09 52 57.1	-0.2	
	baz=115							
E29M	Blow River	61.99	342	P	P	09 52 57.2	-0.1	
	baz=128							
M23K	Glacier View	62.12	334	P	P	09 52 58.3	+0.1	
	baz=114							
F28M	Old Crow	62.13	341	P	P	09 52 58.5	+0.2	
	baz=125,SNR=93							
K24K	Donnelly Dome	62.20	336	P	P	09 52 59.0	+0.1	
	baz=117,SNR=7.7							
SEW	Seward	62.21	332	P	P	09 52 58.9	+0.1	
	baz=112							
KNK	Knik Glacier	62.28	333	IAmb	IAmb	09 53 09.6		
	comp=Z,24nm,1.0s							
KNK	Knik Glacier	62.28	333	P	P	09 52 59.5	+0.2	
	baz=114							
SML	Sawmill	62.38	334	P	P	09 53 00.2	+0.1	
	baz=114,SNR=5.7							
J25K	Salcha River,	62.43	337	P	P	09 53 00.7	+0.3	
	baz=118							
WAT6	Susitna Watana	62.45	334	P	P	09 53 00.9	+0.2	
	baz=115,SNR=19							
O22K	Cooper Landing	62.48	332	P	P	09 53 01.0	+0.4	
	baz=112							
DHY	Denali Highway	62.52	335	IAmb	IAmb	09 53 43.6		
	comp=Z,13nm,1.3s							
DHY	Denali Highway	62.52	335	P	P	09 53 02.1	+1.0	
	baz=116							
E28M	Babbage River	62.61	342	P	P	09 53 01.7	+0.3	
	baz=126							
PMR	Palmer	62.64	333	P	P	09 53 02.1	+0.4	
	baz=113,SNR=7.9							
BRSE	Bradley Lake S	62.68	331	P	P	09 53 01.8	-0.2	
	baz=111							
RC01	Rabbit Creek A	62.72	332	P	P	09 53 01.9	-0.3	
	baz=112,SNR=8.4							
D28M	Stokes Point	62.81	343	P	P	09 53 02.3	-0.4	
	baz=127							
WAT1	Susitna Watana	62.90	335	P	P	09 53 03.4	-0.1	
	baz=114							
PRP	Porcupine Dome	62.92	338	P	P	09 53 03.4	-0.4	
	baz=118,SNR=13							
KDAK	Kodiak Island	62.93	328	*i* P	P	09 53 05.3	+1.6	
KDAK				pmax	pmax			
	comp=Z,17nm,1.0s							
KDAK	Kodiak Island	62.93	328	LR	LR	10 20 55.4		
	comp=Z,481nm,19.3s,baz=135,slow=36							
HDA	Harding Lake	62.94	336	P	P	09 53 03.6	-0.1	
	baz=116,SNR=13							
HDA				P	P	09 53 03.6	-0.1	
	baz=116,SNR=13							
E27K	Coleen River	62.99	341	P	P	09 53 04.3	+0.3	
	baz=124							
G26K	Porcupine Rive	63.03	340	P	P	09 53 04.2	-0.1	
	baz=121							
ILAR	Eielson Array	63.08	337	P	P	09 53 04.8	+0.2	
	comp=Z,22nm,1.1s,baz=130,slow=3.4,SNR=91							
ILAR				LR	LR	10 23 17.1		
	comp=Z,609nm,18.6s,baz=125,slow=39							
	comp=Z,22nm,1.1s							
Q20K	Shuyak Island	63.09	329	P	P	09 53 04.5	-0.3	
	baz=108							
OHAK	Old Harbor	63.12	328	P	P	09 53 05.4	+0.4	
	baz=107							
CAPN	Captain Cook N	63.24	332	P	P	09 53 06.2	+0.5	
	baz=111							
SUA	Susitna One	63.31	333	P	P	09 53 06.7	+0.4	
	baz=111							
CCB	Clear Creek Bu	63.38	337	IAMs_20	IAMs_20	10 24 34.2		
	comp=Z,820nm,19.0s							
SII	Sitkinak Islan	63.40	327	P	P	09 53 07.2	+0.4	
	baz=106							
D27M	Malcolm River	63.40	343	IAMs_20	IAMs_20	10 24 45.4		
	comp=Z,882nm,20.0s							
D27M	Malcolm River	63.40	343	P	P	09 53 07.2	+0.5	
	baz=125							
MCK	McKinley	63.43	335	P	P	09 53 07.8	+0.8	
	baz=114							
POKR	Poker Plat Res	63.45	337	P	P	09 53 07.0	-0.1	
	baz=116,SNR=9.6							
CUT	Chitina	63.46	334	P	P	09 53 07.7	+0.6	
	baz=112							
COLA	College	63.50	337	P	P	09 53 07.9	+0.6	
COLA	College	63.50	337	P	P	09 53 07.4	+0.1	
	baz=116							
COLA	College	63.50	337	P	P	09 53 07.9	+0.6	
COLA				pmax	pmax			
	comp=Z,33nm,1.4s							
F26K	Sheenjek River	63.54	340	P	P	09 53 07.6	0.0	
	baz=121,SNR=26							
O20K	Slope Mountain	63.69	331	P	P	09 53 08.9	+0.1	
	baz=109							
G25K	Bearman Lake	63.73	339	P	P	09 53 08.9	+0.1	
	baz=118							
Q19K	Cape Douglas,	63.81	329	P	P	09 53 09.5	-0.2	
	baz=108							
R18K	Karluk	63.82	328	P	P	09 53 10.5	+0.9	
	baz=106							
BWN	Browne	63.83	336	P	P	09 53 10.0	+0.5	
P19K	Oil Pt	63.84	330	P	P	09 53 09.8	+0.1	
	baz=108							
NEA2	Nenana	63.85	336	P	P	09 53 09.6	-0.1	
	baz=114,SNR=10.0							
SKT	Skwentna	63.85	333	P	P	09 53 09.7	-0.1	
	baz=111,SNR=14							
TRF	Thorofare Moun	63.87	335	P	P	09 53 09.6	-0.5	
	baz=113,SNR=14							
N20K	Mount Spurr	63.87	332	P	P	09 53 10.4	+0.3	
	baz=110,SNR=9.1							
H24K	Moodor Dome	63.94	338	P	P	09 53 10.6	+0.3	
	baz=116							
F25K	Christian Rive	63.98	340	P	P	09 53 11.1	+0.5	
	baz=119							
KTH	Kantishna Hill	64.17	335	IAmb	IAmb	09 53 26.1		
	comp=Z,24nm,1.0s							
G24K	Hadweenzic Riv	64.18	339	P	P	09 53 12.4	+0.6	
	baz=117							
I23K	Minto, Yukon-K	64.19	337	IAMs_20	IAMs_20	10 25 08.7		
	comp=Z,830nm,18.0s							
I23K	Minto, Yukon-K	64.19	337	P	P	09 53 11.9	0.0	
	baz=114,SNR=23							
E25K	Arctic Village	64.22	340	P	P	09 53 12.3	+0.2	
	baz=120,SNR=23							
ICESG	Greenland Ices	64.38	18	*i* P	P	09 53 09.4	-4.1	
ICESG				IAmb	IAmb	09 53 12.4		
	comp=Z,21nm,0.7s							
Q18K	Katmai Hardscr	64.41	329	P	P	09 53 13.7	+0.1	
	baz=106,SNR=5.8							
BPAW	Bear Paw Mtn.	64.41	335	P	P	09 53 13.3	-0.1	
	baz=112,SNR=8.9							
PPLA	Purkeypile	64.46	334	P	P	09 53 13.9	0.0	
	baz=111							
M20K	Styx River	64.52	333	P	P	09 53 14.2	-0.1	
	baz=109							
O19K	Port Alsworth	64.53	331	IAmb	IAmb	09 53 24.0		
	comp=Z,21nm,1.1s							
O19K	Port Alsworth	64.53	331	P	P	09 53 14.4	+0.2	
	baz=107,SNR=5.5							
CAST	Castle Rocks	64.61	334	P	P	09 53 14.4	-0.3	
	baz=111,SNR=9.9							
MLY	Manley	64.68	336	P	P	09 53 15.3	+0.1	
	baz=113,SNR=30							
PPT	Papeete	64.68	243	LR	LR	10 15 11.2		
	comp=Z,586nm,18.1s,baz=64,slow=30							
PPT2	Papeete2	64.69	243	*e*P	P	09 53 26.1	+10	
	comp=Z,40nm,24.8s							
PPT2				*e*S	S	10 01 46.2	-9.1	
	comp=Z,291nm,25.0s							
PPT2	Papeete2	64.69	243	*e*LR	LR	10 12 45.1		
	comp=Z,591nm,22.0s							
PPT2				*e*LR	LR	10 12 52.2		
	comp=Z,422nm,23.5s							
F24K	Squaw Lake	64.70	339	IAmb	IAmb	09 53 18.0		
	comp=Z,22nm,1.1s							
F24K	Squaw Lake	64.70	339	P	P	09 53 15.8	+0.5	
	baz=117,SNR=11							
P18K	Big Mountain,	64.73	330	P	P	09 53 15.8	+0.2	
	baz=106							
Q17K	Contact Creek	64.75	328	P	P	09 53 15.8	0.0	
	baz=105,SNR=8.0							
N19K	Bonanza Creek	64.80	331	P	P	09 53 16.4	+0.3	
	baz=108							
R17K	Ugashik Creek	64.84	328	P	P	09 53 16.7	+0.4	
	baz=104							
O18K	Koktuh Hills	64.85	330	P	P	09 53 16.6	+0.2	
	baz=106							
CHUM	Lake Minchumin	64.87	335	P	P	09 53 16.3	-0.1	
	baz=111							
C26K	Camden Bay	64.93	342	P	P	09 53 17.9	+1.2	
	baz=121,SNR=24							
L20K	Farewell, AK	65.05	333	P	P	09 53 18.1	+0.5	
	baz=109							
D25K	Kavik River	65.07	341	P	P	09 53 18.2	+0.5	
	baz=119,SNR=69							
G23K	Bananza Creek	65.10	338	IAmb	IAmb	09 53 30.5		
	comp=Z,21nm,1.0s							
G23K	Bananza Creek	65.10	338	P	P	09 53 18.4	+0.5	
	baz=114							
E24K	Your Creek	65.16	340	P	P	09 53 18.9	+0.6	
	baz=117							
I21K	Tanana	65.22	336	P	P	09 53 19.1	+0.5	
	baz=112							
Q16K	King Salmon	65.25	329	P	P	09 53 19.5	+0.6	
	baz=105							
H22K	Ishtalitna Cre	65.27	337	P	P	09 53 19.3	+0.3	
	baz=113							
P17K	Kvichak River	65.27	329	P	P	09 53 19.4	+0.4	
	baz=105							
COLD	Coldfoot	65.38	339	P	P	09 53 20.1	+0.4	
	baz=114,SNR=27							
L19K	White Mountain	65.39	333	IAmb	IAmb	09 53 29.4		
	comp=Z,14nm,1.1s							
L19K	White Mountain	65.39	333	P	P	09 53 20.1	+0.2	
	baz=108							
N18K	Kilae Creek	65.42	331	P	P	09 53 20.1	0.0	
	baz=106							
K20K	Telida	65.42	334	P	P	09 53 20.2	+0.1	
	baz=109							
E23K	Chandalar	65.53	340	P	P	09 53 20.9	+0.2	
	baz=116							
CHGN	Chignik	65.61	326	P	P	09 53 22.0	+0.7	
CHGN	Chignik	65.61	326	P	P	09 53 21.5	+0.2	
	baz=102							
M18K	Stony River	65.62	332	P	P	09 53 21.3	+0.1	
	baz=107,SNR=13							
H21K	Melozitna Rive	65.72	337	P	P	09 53 22.0	+0.1	
	baz=111							
G22K	Bettles	65.72	338	P	P	09 53 22.1	+0.2	
	baz=113							
J20K	Nowinta River	65.73	335	P	P	09 53 21.4	-0.5	
	baz=109							
O17K	Koliganek Bris	65.75	330	P	P	09 53 22.7	+0.6	
	baz=105,SNR=8.7							
D24K	Happy Valley	65.76	341	P	P	09 53 22.1	+0.1	
	baz=117							
TOLK	Toolik Lake Re	65.77	340	P	P	09 53 22.6	+0.4	
	baz=116,SNR=24							
C24K	Franklin Bluff	65.98	341	P	P	09 53 23.5	+0.1	
	baz=117							
N17K	Nushagak Hills	65.99	331	IAmb	IAmb	09 53 27.3		
	comp=Z,24nm,1.1s							
N17K	Nushagak Hills	65.99	331	P	P	09 53 23.8	+0.1	
	baz=105							
P16K	Nushagak River	66.01	329	P	P	09 53 23.9	+0.1	
	baz=104							
I20K	Naaghedeneel	66.08	335	P	P	09 53 24.1	-0.1	
	baz=109							
TTA	Tatalina	66.13	333	IAmb	IAmb	09 53 33.8		
	comp=Z,20nm,1.1s							
TTA	Tatalina	66.13	333	P	P	09 53 25.0	+0.4	
	baz=107,SNR=13							
F22K	John River	66.19	339	P	P	09 53 25.9	+1.0	
	baz=113							
O16K	Kokwok River B	66.19	329	P	P	09 53 25.5	+0.5	
	baz=104							
L18K	Granite Mounta	66.22	332	P	P	09 53 25.3	+0.1	
	baz=106							
D23K	Nanushuk River	66.28	340	P	P	09 53 25.9	+0.5	
	baz=115							
J19K	Poorman	66.28	334	P	P	09 53 25.9	+0.3	
	baz=108							
G21K	Allakaket	66.30	337	IAmb	IAmb	09 53 38.6		
	comp=Z,20nm,0.9s							
G21K	Allakaket	66.30	337	P	P	09 53 25.9	+0.3	
	baz=111,SNR=16							
E22K	Anaktuvuk Pass	66.31	339	P	P	09 53 26.3	+0.6	
	baz=113							
M17K	Holitna River	66.34	331	P	P	09 53 26.2	+0.3	
	baz=105							
EUNU	Eureka	66.43	1	P	P	09 53 24.9	-1.4	
H20K	Anotleneega Mo	66.47	336	P	P	09 53 27.0	+0.3	
	baz=109							
SUMG	Summit	66.54	15	P	P	09 53 25.2	-2.3	
SUMG				IAmb	IAmb	09 55 17.5		
	comp=Z,16nm,1.5s							
SUMG	Summit	66.54	15	P	P	09 53 25.2	-2.3	
SUMG				pmax	pmax			
	comp=Z,16nm,1.5s							
SUMG	Summit	66.54	15	*i* P	P	09 53 22.9	-4.7	
SUMG				IAmb	IAmb	09 53 26.7		
	comp=Z,4.4nm,1.5s							
F21K	Alatna River	66.55	338	P	P	09 53 28.2	+0.9	
F21K	Alatna River	66.55	338	P	P	09 53 27.6	+0.4	
	baz=111							
J18K	Innoko River	66.59	334	P	P	09 53 27.7	+0.2	
	baz=107							
C23K	Itkillik River	66.63	341	P	P	09 53 28.2	+0.6	
	baz=115							
N16K	Nishlik Lake	66.73	330	P	P	09 53 29.1	+0.6	
	baz=103,SNR=9.7							
D22K	Ayikyak River	66.90	340	P	P	09 53 30.0	+0.6	
	baz=113							
L17K	Donlin	66.92	332	P	P	09 53 29.4	-0.2	
	baz=105							
M16K	Timber Creek	66.96	331	P	P	09 53 30.1	+0.2	
	baz=104							
O15K	Ungalikthiuk R	66.96	329	P	P	09 53 29.8	-0.2	
	baz=102							
GCSA	Galena City Sc	67.04	335	P	P	09 53 30.3	0.0	
	baz=107							
NEEM	North Greenlan	67.04	9	*i* P	P	09 53 27.2	-3.4	
NEEM				IAML		09 53 40.1		
	comp=Z,8.0nm,0.7s							
NEEM				IAmb	IAmb	09 53 40.1		
	comp=Z,8.0nm,0.7s							
K17K	Iditarod	67.08	333	P	P	09 53 30.5	-0.1	
	baz=105							
H19K	Roundabout Mou	67.10	336	P	P	09 53 30.7	0.0	
	baz=108,SNR=12							
TBI	Tubuai	67.12	237	*e*P	P	09 53 46.8	+15	
	comp=Z,340nm,36.0s							
TBI				*e*S	S	10 02 19.8	-4.8	
	comp=Z,1µm,24.2s							
TBI	Tubuai	67.12	237	*e*LR	LR	10 14 07.1		
	comp=Z,2µm,22.2s							
TBI	Tubuai	67.12	237	*e*T	T	11 06 39.5		
	comp=Z,2.6nm,0.3s							
N15K	Kwethluk River	67.31	330	P	P	09 53 32.3	+0.1	
	baz=102							
F20K	Avaraart Lake	67.31	338	P	P	09 53 32.2	+0.2	
	baz=109							
L16K	Owhat River	67.36	332	P	P	09 53 33.1	+0.7	
	baz=103,SNR=5.9							
G19K	Purcell Mounta	67.54	336	P	P	09 53 33.9	+0.4	
	baz=107							
C21K	Knifeblade Rid	67.71	340	P	P	09 53 35.5	+1.0	
	baz=111,SNR=15							
B22K	Teshekpuk Lake	67.71	341	P	P	09 53 35.2	+0.7	
	baz=113							
H18K	Honhosa River	67.76	335	P	P	09 53 35.9	+1.0	
	baz=106							
B21K	Ikpikpuk River	67.82	340	P	P	09 53 35.8	+0.6	
	baz=111							
E20K	Nigu River	67.88	339	P	P	09 53 36.2	+0.5	
	baz=109							
E19K	Redstone River	68.00	338	IAMs_20	IAMs_20	10 26 36.2		
	comp=Z,774nm,21.0s							
E19K	Redstone River	68.00	338	P	P	09 53 37.5	+1.2	
	baz=108							
F19K	Shaleruckik Mo	68.01	337	IAMs_20	IAMs_20	10 28 58.6		
	comp=Z,841nm,18.0s							
F19K	Shaleruckik Mo	68.01	337	P	P	09 53 37.0	+0.6	
	baz=107							
N14K	Kuskokwak Cree	68.04	329	P	P	09 53 37.3	+0.6	
	baz=100							
G18K	Tagagawik	68.08	336	P	P	09 53 37.7	+0.8	
	baz=106							
FALS	False Pass	68.17	324	P	P	09 53 38.6	+1.0	
	baz=97							
D20K	Etivluk River	68.18	339	P	P	09 53 38.5	+1.0	
	baz=109							
J16K	Anvik River	68.23	333	P	P	09 53 38.7	+0.8	
	baz=103,SNR=9.6							
L15K	Ungalak Mounta	68.29	331	P	P	09 53 38.3	0.0	
	baz=101							
M14K	Bethel	68.33	330	P	P	09 53 38.7	+0.2	
	baz=101,SNR=8.2							
H17K	Granite Mounta	68.34	335	IAmb	IAmb	09 53 48.9		
	comp=Z,28nm,1.5s							
H17K	Granite Mounta	68.34	335	P	P	09 53 39.1	+0.6	
	baz=104							
I17K	Unalakleet	68.41	334	IAmb	IAmb	09 53 42.4		
	comp=Z,18nm,1.2s							
I17K	Unalakleet	68.41	334	P	P	09 53 40.1	+1.1	
	baz=103							
K15K	Wolf Creek Mou	68.44	332	P	P	09 53 40.4	+1.2	
	baz=102							
D19K	Kuna River	68.63	339	IAmb	IAmb	09 53 44.4		
	comp=Z,20nm,1.0s							
D19K	Kuna River	68.63	339	P	P	09 53 40.8	+0.4	
	baz=107							
G17K	Kiwalik Mounta	68.78	335	P	P	09 53 42.0	+0.7	
	baz=104							
B20K	Meade River	68.78	340	P	P	09 53 41.8	+0.6	
	baz=109							
L14K	Kuka Creek	68.79	331	P	P	09 53 41.8	+0.5	
	baz=100							
M13K	Dall Lake	68.95	330	P	P	09 53 42.7	+0.4	
	baz=99							
A21K	Barrow	69.06	342	P	P	09 53 42.9	+0.1	
	baz=110,SNR=13							
E18K	Tukpahlearik C	69.23	337	P	P	09 53 44.2	+0.1	
	baz=104							
H16K	Elim	69.24	334	P	P	09 53 44.3	+0.2	
	baz=102,SNR=5.8							
F17K	Baldwin Pennin	69.24	336	P	P	09 53 43.8	-0.3	
	baz=104							
C19K	Lookout Ridge	69.32	339	P	P	09 53 45.0	+0.4	
	baz=106							
J14K	Nanvaranak Lak	69.44	332	P	P	09 53 46.4	+1.0	
	baz=100							
G16K	Koyuk River	69.44	335	P	P	09 53 45.8	+0.4	
	baz=102							
BORG	Borgarnes	69.51	26	LR	LR	10 24 14.7		
	comp=Z,727nm,18.0s,baz=240,slow=36							
E17K	Hotham Inlet	69.61	337	P	P	09 53 46.7

RDOG **Red Dog Mine** 70.24 338 P P 09 53 50.3 +0.1
baz=102,SNR=5.4
C17K **DeLong Mountai** 70.43 338 P P 09 53 51.5 +0.1
baz=102
F15K **North Star Dit** 70.44 335 P P 09 53 51.9 +0.3
baz=100
ANM **Nome** 70.55 334 P P 09 53 53.2 +1.0
baz=99
SCO **Scoresbysund** 70.57 20 *i* P P 09 53 47.6 -4.6
SCO IAmb IAmb 09 53 51.6
comp=Z,315nm,0.4s
F14K **Arctic Creek** 71.09 335 P P 09 53 56.5 +1.0
baz=98
C16K **Lisburne Hills** 71.18 338 P P 09 53 57.2 +1.2
baz=100
NIKH **Nikolski High** 71.22 322 P P 09 53 57.4 +0.9
baz=92
TNA **Tin City** 71.76 335 P P 09 53 59.9 +0.4
baz=97
DAG **Danmarks Havn** 72.97 13 *i* P P 09 54 03.0 -3.5
DAG IAmb IAmb 09 54 05.7
comp=Z,9.3nm,0.8s
RAR **Rarotonga** 74.95 243 LR LR 10 18 53.0
comp=Z,212nm,18.6s,baz=360,slow=29
JMIC **Jan Mayen** 75.05 20 LR LR 10 27 46.2
comp=Z,1μm,20.2s,baz=252,slow=36
EKA **Eskdalemuir Ar** 78.25 36 P P 09 54 33.8 -3.4
comp=Z,14nm,0.7s,baz=274,slow=6.0,SNR=32
comp=Z,14nm,0.7s
ESDC **Sonseca Array** 79.97 52 P P 09 54 43.3 -3.7
comp=Z,4.7nm,1.0s,baz=285,slow=5.8,SNR=15
ESDC LR LR 10 27 53.1
comp=Z,292nm,18.3s,baz=290,slow=34
comp=Z,4.7nm,1.0s
SPITS **Spitsbergen Ar** 80.39 11 P P 09 54 46.3 -2.2
comp=Z,18nm,1.1s,baz=249,slow=1.4,SNR=9.8
SPITS LR LR 10 31 53.0
comp=Z,1μm,20.6s,baz=238,slow=37
comp=Z,18nm,1.1s
MDT **Midelt** 80.62 59 LR LR 10 25 48.7
comp=Z,270nm,19.2s,baz=300,slow=32
PMSA **Palmer Station** 81.08 168 LR LR 10 24 22.8
comp=Z,306nm,18.0s,baz=298,slow=31
BILL **Bilibino** 81.70 338 P P 09 54 55.5 -0.2
BILL **Bilibino** 81.70 338 *i* P P 09 54 56.4 +0.8
BMRD **Maredsous** 83.90 40 *d*P P 09 55 06.9 -0.5
BGES **Gesves** 84.08 40 *d*P P 09 55 05.6 -2.7
comp=Z,8.1nm,1.1s
BCLA **Clavier** 84.21 40 *d*P P 09 55 06.9 -2.0
comp=Z,17nm,0.9s
RCHB **Rochefort** 84.22 40 *d*P P 09 55 08.4 -0.6
BSTI **Sart Tilman** 84.33 39 *d*P P 09 55 07.9 -1.6
NB2 **NORSAR Subarra** 84.45 28 P P 09 55 09.3 -0.7
comp=Z,50nm,2.5s,baz=289,slow=5.6
NB2 **NORSAR Subarra** 84.45 28 P P 09 55 09.3 -0.7
baz=289,slow=5.6
NOA **NORSAR Array B** 84.45 28 P P 09 55 07.8 -2.2
comp=Z,2.3nm,0.8s,baz=289,slow=5.3,SNR=7.8
NOA LR LR 10 30 55.6
comp=Z,445nm,21.8s,baz=275,slow=34
comp=Z,2.3nm,0.8s
MEM **Membach** 84.59 39 *d*P P 09 55 10.1 -0.8
WLF **Walferdange** 84.93 40 *d*P P 09 55 11.3 -1.3
TIC **Toumodi** 85.61 84⇑*e*PKP1 P 09 55 17.5 +0.8
comp=Z,2.3nm,0.2s
LIC **Lamto** 85.70 85⇑*i*PKP1 P 09 55 16.5 -0.7
comp=Z,5.7nm,0.3s
DBIC **Dimbokro** 85.77 84 P P 09 55 15.7 -1.8
comp=Z,2.4nm,0.8s,baz=241,slow=2.3,SNR=3.5
DBIC LR LR 10 28 45.7
comp=Z,332nm,21.4s,baz=264,slow=32
comp=Z,2.4nm,0.8s
HFS **Hagfors** 85.90 29 P P 09 55 15.0 -2.2
comp=Z,5.5nm,0.7s,baz=274,slow=3.9,SNR=7.3
HFS LR LR 10 31 39.1
comp=Z,503nm,21.8s,baz=276,slow=34
comp=Z,5.5nm,0.7s
KIC **Kosan Boka** 85.95 84⇑*e*PKP1 P 09 55 16.7 -1.7
comp=Z,12nm,0.8s
ARCES **ARCESS Array B** 86.44 18 P P 09 55 16.9 -2.9
comp=Z,1.5nm,0.5s,baz=324,slow=1.6,SNR=8.1
ARCES LR LR 10 33 07.7
comp=Z,974nm,21.8s,baz=304,slow=35
comp=Z,1.5nm,0.5s
TUE **Stuetta** 87.88 43 P P 09 55 27.0 -0.4
DAVOX **Davos/Dischmat** 88.14 42 P P 09 55 25.9 -2.7
comp=Z,3.5nm,0.9s,baz=215,slow=12,SNR=3.4
DAVOX LR LR 10 29 46.4
comp=Z,358nm,20.7s,baz=260,slow=32
comp=Z,3.5nm,0.9s
FUORN **Ofenpass-Fuorn** 88.44 42 P P 09 55 30.1 -0.1
FETA **Feichten** 88.61 42 *e*P P 09 55 28.5 -2.4
comp=Z,1.6nm,0.6s
SEY **Seymchan** 88.99 336*ce*P P 09 55 32.6 +0.6
SEY pmax pmax
comp=Z,20nm,1.7s
KHC **Kasperske Hory** 89.71 39 *i* P P 09 55 34.6 -1.2
KHC pmax pmax
comp=Z,17nm,1.6s
GERES **GERESS Array B** 89.88 39 LR LR 10 33 12.2
comp=Z,356nm,19.8s,baz=283,slow=34
TORD **Torodi Ar. Bea** 90.53 76 P P 09 55 37.4 -2.8
comp=Z,0.6nm,0.7s,baz=290,slow=4.0,SNR=4.0
TORD LR LR 10 33 21.6
comp=Z,209nm,20.8s,baz=282,slow=34
comp=Z,0.6nm,0.7s
TIXI **Tiksi** 90.53 348 P P 09 55 38.7 -0.3
TIXI **Tiksi** 90.53 348 IAMs_20 IAMs_20 10 39 48.2
comp=Z,616nm,20.0s
TIXI **Tiksi** 90.53 348*ce*P P 09 55 37.9 -1.2
TIXI pmax pmax
comp=Z,46nm,1.3s
TIXI **Tiksi** 90.53 348 P P 09 55 38.3 -0.8
comp=Z,0.7nm,0.7s,baz=50,slow=5.8,SNR=20
TIXI LR LR 10 40 11.9
comp=Z,20nm,21.4s,baz=42,slow=38
comp=Z,0.7nm,0.7s
FINES **FINESS Array B** 90.80 25 P P 09 55 39.1 -1.4
comp=Z,5.0nm,1.0s,baz=243,slow=1.3,SNR=5.0
FINES LR LR 10 36 38.5
comp=Z,352nm,20.2s,baz=265,slow=36
comp=Z,5.0nm,1.0s
KEST **Kesra** 91.14 53 LR LR 10 31 59.6
comp=Z,157nm,20.0s,baz=256,slow=33
MA2 **Magadan** 91.32 333 LR LR 10 42 07.9
comp=Z,156nm,18.0s,baz=60,slow=39
VRAC **Vranov** 91.48 38 LR LR 10 33 27.7
comp=Z,311nm,21.6s,baz=290,slow=34
TAM **Tamanrasset** 91.61 66 IAMs_20 IAMs_20 10 36 22.9
comp=Z,366nm,18.0s
RAO **Raoul Island** 93.02 241 LR LR 10 27 34.4
comp=Z,140nm,20.8s,baz=96,slow=29
VAE **Valguarnera** 94.41 50 LR LR 10 33 54.4
comp=Z,392nm,19.4s,baz=330,slow=33
NACGM **Naroch** 94.52 30 *e*P P 09 55 56.0 -1.9
comp=Z,5.0nm,0.4s,baz=301
MNK **Minsk** 95.28 30 *i* P P 09 56 09.2 +7.9
MNK *i* P P 09 56 09.2 +7.9
MNK *i* P P 09 56 09.2 +7.9
comp=Z,14nm,0.8s,baz=302
MNK *i* PP **PP** **09 59 54.6 +3.6**
MNK *i* PPP PPP 10 01 50.0
MNK *i* SKS 10 05 50.4
MNK *i* S **SKSac** **10 06 41.0 +5.2**
MNK *i* sS **SKKSac** **10 07 04.8 +6.0**
MNK *i* PS **PS** **10 08 43.9 +8.5**
MNK *i* SS **SS** **10 13 47.9 +6.3**
MNK *i* SSS SSS 10 17 32.2
MNK *i* LQ LQ 10 32 55.6
MNK *i* LR LR 10 37 02.5
MNK *i* LRM MLR 10 39 48.1
comp=Z,239nm,18.9s
MNK *i* LRM MLR 10 39 53.5
comp=E,142nm,19.1s
MNK *i* LRM MLR 10 39 54.4
comp=N,384nm,17.9s
MNK **Minsk** 95.28 30 *i* P P 09 56 09.2 +7.9
MNK *i* 09 59 54.6
MNK *i* PPP PPP 10 01 49.9
MNK *i* *SS S 10 07 04.7 -11
MNK *i* SP **SP** **10 08 36.3 +4.4**
MNK *i* SS **SS** **10 13 47.8 +6.3**
MNK pmax pmax
comp=Z,14nm,0.8s
MNK MLR MLR
comp=Z,239nm,19.0s
MNK MLR MLR
comp=E,142nm,19.0s
MNK MLR MLR
comp=N,384nm,18.0s
NRIK **Noril'sk** 97.17 0 LR LR 10 44 25.8
comp=N,1μm,18.6s,baz=9.5,slow=38
YAK **Yakutsk** 97.71 342 *i* P Pdif 09 56 13.8 +1.6
YAK pmax pmax
comp=Z,6.0nm,0.8s
YAK **Yakutsk** 97.71 342 LR LR 10 46 31.2
comp=Z,16nm,19.9s,baz=60,slow=39
AKASG **Malin Array Be** 98.02 33 LR LR 10 43 41.8
comp=Z,294nm,18.1s,baz=297,slow=38
MLR **Muntele Rosu** 98.86 39 LR LR 10 39 42.3
comp=Z,256nm,20.7s,baz=315,slow=35
URZ **Urewera** 98.97 233 LR LR 10 30 39.9
comp=Z,175nm,21.2s,baz=124,slow=29
OBN **Obninsk** 98.98 27 LR LR 10 41 59.2
comp=Z,479nm,19.9s,baz=347,slow=36
KIS **Kishinev** 99.79 37 *e*P **Pdif** **09 56 22.0 +0.2**
KIS *e*L L 10 40 15.0
KIS LRM MLR 10 41 03.0
comp=Z,200nm,22.5s
KIS **Kishinev** 99.79 37 *e*P **Pdif** **09 56 22.0 +0.2**
KIS MLR MLR
comp=Z,200nm,22.5s
QSPA **South Pole Qui** 103.65 180 IAMs_20 IAMs_20 10 34 57.3
comp=Z,516nm,20.0s
DZM **Mont Dzumac** 105.50 251 *e*SS SS 10 15 51.3 -16
comp=Z,99nm,24.5s
DZM **Mont Dzumac** 105.50 251 *e*LR LR 10 31 53.1
comp=Z,273nm,25.6s
ANTO **Ankara** 106.11 41 IAMs_20 IAMs_20 10 47 05.6
comp=Z,474nm,22.0s
KURK **Kurchatov** 115.35 7 PKIKP **PKiKP** **10 01 18.9 -0.2**
KURBB **Kurchatov Arra** 115.43 7 PKP **PKiKP** **10 01 18.9 -0.4**
comp=Z,1.8nm,0.7s,baz=350,slow=2.0,SNR=14
SONM **Songino Array** 116.56 346 PKP **PKPdf** **10 01 22.3 +0.5**
comp=Z,1.0nm,0.7s,baz=338,slow=3.1,SNR=7.0
DGZ **Jazzator, Alta** 116.88 0 *i* PKIKP **PKPdf** **10 01 21.5 -0.9**
MK31 **Makanchi Array** 119.57 4 *i* PKIKP **PKPdf** **10 01 27.2 -0.3**
MKAR **Makanchi Array** 119.57 4 PKP **PKPdf** **10 01 27.8 +0.3**
comp=Z,1.1nm,0.7s,baz=22,slow=2.2,SNR=9.4
BOSA **Boshof** 120.30 115 PKP **PKPdf** **10 01 29.6 +0.1**
comp=Z,3.6nm,0.9s,baz=274,slow=5.5,SNR=5.3
HHC **Hu-ho-hao-te** 121.47 339 *e*PKP **PKiKP** **10 01 32.3 +0.8**
HHC LR LR
comp=Z,420nm,17.6s
HHC LR LR
comp=Z,410nm,18.5s
HHC LR LR
comp=Z,510nm,17.0s
GEYT **Alibeck** 121.53 27 PKP **PKPdf** **10 01 31.3 -0.2**
comp=Z,0.8nm,0.4s,baz=192,slow=14,SNR=3.8
AAK **Ala-Archa** 122.60 12*c* *i* PKIKP **PKPdf** **10 01 33.3 -0.3**
AAK pmax pmax
comp=Z,8.0nm,2.5s
AAK **Ala-Archa** 122.60 12 PKP **PKiKP** **10 01 34.3 +0.5**
comp=Z,0.6nm,0.3s,baz=24,slow=9.8,SNR=4.0
WMQ **Urumqi** 122.76 0 *e*PKP **PKiKP** **10 01 35.5 +1.6**
WMQ LR LR
comp=Z,620nm,16.7s
WMQ LR LR
comp=Z,370nm,23.3s
WMQ LR LR
comp=Z,580nm,21.7s
NJ2 **Nanjing** 125.70 327 *e*PKP **PKPdf** **10 01 39.5 -0.1**
GTA **Gaotai** 126.01 349 PKP **PKPdf** **10 01 40.5 +0.3**
GTA LR LR
comp=Z,250nm,17.9s
GTA LR LR
comp=Z,290nm,18.7s
GTA LR LR
comp=Z,370nm,19.9s
FURI **Furi** 126.22 68 IAMs_20 IAMs_20 11 02 15.2
comp=Z,291nm,18.0s
STKA **Stephens Creek** 127.84 240 PKP **PKPdf** **10 01 43.3 -0.3**
comp=Z,3.1nm,0.7s,baz=128,slow=2.7,SNR=7.7
KIBK **Kibwezi** 129.45 82 IAMs_20 IAMs_20 10 57 48.6
comp=Z,264nm,20.0s
CD2 **Chengdu** 133.10 341 PKP **PKPdf** **10 01 51.8 -2.0**
WRA **Warramunga Arr** 135.24 255 PKP **PKPdf** **10 01 57.6 -0.3**
comp=Z,1.3nm,0.7s,baz=89,slow=2.4,SNR=16
ASAR **Alice Springs** 135.49 250 PKP **PKPdf** **10 01 57.9 -0.5**
comp=Z,1.0nm,0.7s,baz=86,slow=2.3,SNR=11
LSA **Lhasa** 136.74 356 IAMs_20 IAMs_20 11 06 57.7
comp=Z,318nm,22.0s
PZH **PanZhiHua** 137.84 341 PKP **PKiKP** **10 02 04.3 -0.5**
PZH PP **PP** **10 04 50.8 +2.3**
PZH AMB AMB
comp=Z,230nm,7.5s
PZH LR LR
comp=Z,300nm,19.0s
PZH LR LR
comp=Z,210nm,17.8s
PZH LR LR
comp=Z,430nm,18.0s
QIZ **Qiongzhong** 140.96 326 PKP **PKPdf** **10 02 07.0 -1.5**
QIZ PP **PP** **10 05 08.8 +0.7**
QIZ SS SS 10 23 30.0 -3.8
QIZ LR LR
comp=Z,440nm,19.3s
QIZ LR LR
comp=Z,420nm,16.0s
QIZ LR LR
comp=Z,380nm,20.2s
CRAI **Chiangrai** 144.13 340 PKPdf PKPbc 10 02 13.0 +0.9
CMAR **Chiang Mai Arr** 146.25 341 PKPbc **PKPbc** **10 02 19.1 +0.3**
comp=Z,38nm,0.9s,baz=341,slow=3.5,SNR=85
HYB **Hyderabad** 147.73 17 *e*PKPdf **PKPdf** **10 02 20.2 -0.2**
HYB *e*PKPbc **PKPbc** **10 02 22.6 -0.6**
PSA00 **Pilbara Seismi** 148.63 251 **PKPbc** **10 02 25.9 +0.5**

*MEX **29** 09:49:21.2±1.2, 16°.50N×95°.22W, h71km±27km, MD4.2*
*NEIC **29** 09:49:22.8±2.6, 16°.38N±0°.06×95°.31W±0°.04, h57km±12km, mb4.0/24, Md4.2/48(MEX), Error ellipse: s-maj=9.4km s-min=5.7km az=179.0*
ISC 29 09:49:17.9±1.2, 16°.54N±0°.03×95°.26W±0°.02, h3km±9km, n67, σ1§31/103, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	0.61	87	*i* P		**Pg**		**09 49 29.9**	**+0.2**
NILT				*e*S		**Sg**		**09 49 38.3**	**+0.6**
CMIG	**Matias Romero**	0.66	33	*i* P		**Pg**		**09 49 30.8**	**+0.4**
CMIG				*i* S		**Sg**		**09 49 39.9**	**+0.9**
HUIG	**Huatulco**	1.12	227			**Pg**		**09 49 38.8**	**-0.5**
HUIG						**Sg**		**09 49 54.1**	**+0.3**
HUIG	**Huatulco**	1.12	227	*e*P		**Pg**		**09 49 38.8**	**-0.5**
HUIG				*e*S		**Sg**		**09 49 54.1**	**+0.3**
NEUV	**Arroyo Zacate**	1.28	336	*i* P		**Pg**		**09 49 42.1**	**-0.3**
NEUV				*e*S		**Sg**		**09 49 59.0**	**0.0**
UXUV	**UXUV**	1.32	54	*e*P		**Pn**		**09 49 42.4**	**-0.8**
UXUV				*e*S		**Sg**		**09 50 00.5**	**+0.2**
CARR	**Arriaga**	1.32	102	*i* P		**Pg**		**09 49 42.5**	**-0.8**
CARR				*i* S		**Sg**		**09 50 00.1**	**-0.3**
OXLC	**Oaxaca**	1.48	291	*i* P		**Pn**		**09 49 45.2**	**-0.4**
OXLC				*e*S		**Sb**		**09 50 05.3**	**-0.2**
OXIG	**Oaxaca**	1.51	291			**Pn**		**09 49 46.2**	**+0.3**
OXIG						**Sb**		**09 50 07.1**	**+0.8**
VHO	**Vista Hermosa**	1.51	291	*e*P		**Pn**		**09 49 46.2**	**+0.3**
VHO				*e*S		**Sn**		**09 50 06.1**	**-0.2**
PEIG	**Puerto Escondi**	1.89	254			**Pn**		**09 49 51.1**	**0.0**
PEIG						**Sn**		**09 50 16.5**	**+1.0**
PEIG	**Puerto Escondi**	1.89	254	*e*P		**Pn**		**09 49 50.7**	**-0.4**
PEIG				*i* S		**Sn**		**09 50 16.5**	**+1.0**
PMUV	**Sontecomapan**	2.00	4	*e*P		**Pn**		**09 49 51.9**	**-0.7**
TGIG		2.06	83			**Pb**		**09 49 55.4**	**-0.6**
TGIG						**Sb**		**09 50 22.6**	**+0.6**
TGIG		2.06	83	*e*P		**Pb**		**09 49 55.4**	**-0.6**
TGIG				*i* S		**Sb**		**09 50 22.6**	**+0.6**
TGBT	**Tuxtla Gutierr**	2.09	83	*e*S		**Sb**		**09 50 23.2**	**+0.3**
PCIG		2.13	113			**Pn**		**09 49 54.1**	**-0.1**
PCIG						**Sn**		**09 50 21.7**	**+0.5**
PCIG		2.13	113	*e*P		**Pn**		**09 49 53.3**	**-1.0**
PCIG				*e*S		**Sn**		**09 50 21.7**	**+0.5**
YOIG	**Yosondua**	2.21	279			**Pb**		**09 49 58.2**	**-0.5**
YOIG						**Sb**		**09 50 28.1**	**+1.5**
YOIG	**Yosondua**	2.21	279	*e*P		**Pb**		**09 49 58.2**	**-0.5**
YOIG				*i* S		**Sb**		**09 50 28.1**	**+1.5**
TOIG	**Toxpalan**	2.32	312	*e*P		**Pb**		**09 50 00.0**	**-0.4**
TOIG				*e*S		**Sb**		**09 50 29.9**	**+0.4**
TXIG	**Tlaxiaco**	2.51	287			**Pb**		**09 50 03.6**	**-0.1**
TXIG						**Sb**		**09 50 35.6**	**+0.6**
TPIG	**Tehuac#an**	2.75	313			**Pn**		**09 50 05.3**	**+2.3**
TPIG						**Sb**		**09 50 42.1**	**+0.2**
TPIG	**Tehuac#an**	2.75	313	*e*P		**Pn**		**09 50 05.3**	**+2.3**
TPIG				*e*S		**Sb**		**09 50 42.1**	**+0.2**
HLIG	**Huajuapan de L**	2.75	298			**Pn**		**09 50 05.2**	**+2.1**
HLIG						**Sb**		**09 50 41.8**	**-0.3**
HLIG	**Huajuapan de L**	2.75	298	*e*P		**Pn**		**09 50 05.2**	**+2.1**
HLIG				*e*S		**Sb**		**09 50 41.8**	**-0.3**
PNIG	**Pinotepa**	2.76	267			**Pn**		**09 50 03.1**	**+0.1**
PNIG						**Sn**		**09 50 34.3**	**-2.5**
PNIG	**Pinotepa**	2.76	267	*e*P		**Pn**		**09 50 03.1**	**+0.1**
PNIG				*e*S		**Sn**		**09 50 34.3**	**-2.5**
CCIG	**Comitan**	3.01	94	Pn		**Pb**		**09 50 10.1**	**-2.1**
CCIG	**Comitan**	3.01	94	*e*P		**Pb**		**09 50 10.9**	**-1.2**
CCIG				*e*S		**Sn**		**09 50 41.4**	**-1.8**
FTIG	**Fresnillo de T**	3.07	297			**Pb**		**09 50 11.1**	**-2.1**
FTIG						**Sb**		**09 50 52.4**	**+1.3**
FTIG	**Fresnillo de T**	3.07	297	*e*P		**Pb**		**09 50 11.1**	**-2.1**
FTIG				*e*S		**Sb**		**09 50 52.4**	**+1.3**
JAUV	**Jalcomulco**	3.17	333	*e*P		**Pn**		**09 50 08.3**	**-0.4**
JAUV				*e*S		**Sn**		**09 50 47.1**	**-0.1**
PATR	**El Naranjo**	3.23	115	*e*P		**Pn**		**09 50 10.9**	**+1.1**
PATR				*e*S		**Sn**		**09 50 50.4**	**+1.5**
PAVE	**Pavencul**	3.25	114	*e*P		**Pn**		**09 50 11.4**	**+1.4**
PAVE				*e*S		**Sn**		**09 50 51.4**	**+2.1**
TLIG	**Tlapa**	3.33	288	Pn		**Pn**		**09 50 13.3**	**+2.4**
TLIG	**Tlapa**	3.33	288	*e*P		**Pn**		**09 50 13.8**	**+2.9**
TLIG				*e*S		**Sb**		**09 50 59.0**	**+0.5**
CHUJ	**Union Juarez**	3.35	115	*e*P		**Pn**		**09 50 12.4**	**+1.0**
CHUJ				*e*S		**Sn**		**09 50 52.6**	**+0.7**
CRIG	**Cruz Grande**	3.72	274	*e*P		**Pn**		**09 50 19.3**	**+3.1**
CRIG				*e*S		**Sn**		**09 51 04.7**	**+4.2**
HUEH	**Huehuetenango**	3.81	108			**Pn**		**09 50 20.0**	**+2.3**
RTAL	**Retalhuleu**	3.98	120	Pn		**Pn**		**09 50 22.1**	**+2.4**
PETF	**Flores**	5.18	85	Pn		**Pn**		**09 50 36.5**	**+0.2**
TEIG	**Tepich**	7.58	60	Pn		**Pn**		**09 51 10.0**	**+0.8**
WHTX	**Lake Whitney,**	15.51	353	Pn		**Pn**		**09 52 58.0**	**+0.4**
WHTX				IAmb	IAmb			09 53 04.0	
comp=Z,9.9nm,1.0s									
346A	**Big Creek Wild**	15.70	19	Pn		**Pn**		**09 53 01.1**	**+1.1**
346A				IAmb	IAmb			09 53 28.3	
comp=Z,13nm,0.8s									
ALPN	**Alpine**	15.76	332	Pn		**Pn**		**09 53 00.6**	**-0.5**
ALPN				IAmb	IAmb			09 53 09.5	
comp=Z,4.5nm,0.7s									
VBMS	**Vicksburg**	16.19	15	Pn		**Pn**		**09 53 08.5**	**+2.1**
SGCY	**Sterling City**	16.21	342	Pn		**Pn**		**09 53 07.3**	**+0.6**
SGCY				IAmb	IAmb			09 53 23.2	
comp=Z,4.6nm,0.8s									
MNHN	**Monahans**	16.24	336	Pn		**Pn**		**09 53 07.5**	**+0.4**
MNHN				IAmb	IAmb			09 53 14.5	
comp=Z,6.1nm,0.6s									
FW06	**Azle**	16.50	353			**P**		**09 53 13.4**	**+0.4**
FW06				IAmb	IAmb			09 53 16.2	
comp=Z,5.0nm,0.6s									
ABTX	**Abilene, Hawle**	16.50	347			**P**		**09 53 14.2**	**+1.0**
FW03	**Perrin-Whitt E**	16.63	352	Pn		**Pn**		**09 53 13.2**	**+1.3**
FW03				IAmb	IAmb			09 53 16.8	
comp=Z,6.2nm,0.7s									
Z38A	**Mt. Pleasant**	16.65	1	Pn		**Pn**		**09 53 12.3**	**0.0**
SN01	**Snyder 1**	17.03	344	P		**Pn**		**09 53 18.6**	**+1.4**
SN01				IAmb	IAmb			09 53 21.9	
comp=Z,8.4nm,0.7s									
OK052	**Battle Ridge R**	19.43	356	P		**P**		**09 53 45.5**	**+0.1**
OK052				IAmb	IAmb			09 54 22.0	
comp=Z,15nm,1.3s									
FCAR	**Ozark Folk Cen**	19.48	8	P		**Pn**		**09 53 47.2**	**+0.1**
FCAR				IAmb	IAmb			09 53 50.6	
comp=Z,7.2nm,1.3s									
OK048	**Pawnee Station**	19.86	356	P		**P**		**09 53 51.4**	**+1.4**
OK048				IAmb	IAmb			09 53 53.0	
comp=Z,12nm,1.1s									
OK051	**E0350 and S346**	19.94	356	P		**P**		**09 53 50.5**	**-0.4**
OK051				IAmb	IAmb			09 53 56.5	
comp=Z,13nm,1.2s									
T35A	**Sooner Cattle**	20.33	357	P		**P**		**09 53 55.3**	**+0.1**
T35A				IAmb	IAmb			09 53 59.9	
comp=Z,7.9nm,0.9s									
WVT	**Waverly**	20.60	17	P		**P**		**09 53 58.5**	**+0.3**
W50A	**Signal Mountai**	20.60	24	P		**P**		**09 53 58.9**	**+0.7**
PBMO	**Poplar Bluff**	20.61	11	P		**P**		**09 53 58.5**	**+0.3**
PBMO				IAmb	IAmb			09 54 00.2	
comp=Z,19nm,1.4s									
PHWY	**Pilot Hill**	26.20	342	P		**P**		**09 54 53.7**	**-0.4**
TCRU	**Three Creeks R**	26.66	329	P		**P**		**09 54 54.7**	**-3.5**
F10A	**Beach Ranch, E**	34.60	333	P		**P**		**09 56 05.2**	**-3.0**
G31M	**Satah River**	56.37	343	P		**P**		**09 58 59.6**	**-0.4**

*NEIC **29** 09:53:35.1±1.6, 19°.05N±0°.08×65°.24W±0°.09, h35km±2km, ML2.7/16, Md3.4/7(RSPR), Error ellipse: s-maj=14.7km s-min=12.7km az=81.0*
*RSPR **29** 09:53:35.2, 19°.14N×65°.24W, h36km±16km, MD3.4/7*
ISC 29 09:53:26.8±1.9, 19°.2N±0°.1×65°.13W±0°.04, h7km±12km, n33, σ1§07/42, 3C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	1.29	225	Pn		**Pn**		**09 53 53.0**	**+1.7**
GCPR				IAML				09 54 09.8	
comp=N,132nm,0.8s									
SJG	**San Juan**	1.48	221⇑	*e*P		**Pg**		**09 53 55.9**	**+0.8**
SJG	**San Juan**	1.48	221	*e*S		**Sb**		**09 54 12.9**	**-0.7**
IGPR	**InterUniversit**	1.57	216⇓	*e*P		**Pg**		**09 53 57.6**	**+0.7**
IGPR	**InterUniversit**	1.57	216	*e*S		**Sn**		**09 54 14.8**	**-0.8**
IGPR	**InterUniversit**	1.57	216			**Pg**		**09 53 57.6**	**+0.7**
IGPR						**Sn**		**09 54 14.8**	**-0.8**
AOPR	**Arecibo Observ**	1.77	240⇓	*e*P		**Pg**		**09 54 00.2**	**-0.7**
AOPR	**Arecibo Observ**	1.77	240	*e*S		**Sn**		**09 54 20.0**	**-0.8**
AOPR	**Arecibo Observ**	1.77	240			**Pg**		**09 53 60.0**	**-0.8**
AOPR						**Sn**		**09 54 20.1**	**-0.7**
AOPR	**Arecibo Observ**	1.77	240	*e*P		**Pg**		**09 54 00.0**	**-0.8**
AOPR				*e*S		**Sn**		**09 54 19.1**	**-1.6**
CELP	**Cerrillos**	1.80	230	Pn		**Pg**		**09 54 00.8**	**-0.4**
CELP				IAML				09 54 27.8	
comp=N,82nm,0.3s									
OBIP	**Obispado Ponce**	1.84	230⇓	*e*P		**Pg**		**09 54 01.4**	**-0.6**
OBIP	**Obispado Ponce**	1.84	230	*e*S		**Sn**		**09 54 21.4**	**-0.8**
OBIP	**Obispado Ponce**	1.84	230			**Pg**		**09 54 01.4**	**-0.6**
OBIP						**Sn**		**09 54 21.0**	**-1.2**
OBIP				IAML				09 54 24.4	
comp=E,121nm,0.4s									
OBIP				IAML				09 54 26.7	
comp=N,84nm,0.3s									
AGPR	**Aguadilla, PR**	2.03	248⇓	*e*P		**Pb**		**09 54 04.1**	**+0.2**
AGPR	**Aguadilla, PR**	2.03	248	*e*S		**Sn**		**09 54 26.5**	**-0.4**
AGPR	**Aguadilla, PR**	2.03	248			**Pg**		**09 54 04.4**	**-1.2**
AGPR						**Sn**		**09 54 27.6**	**+0.7**
AGPR				IAML				09 54 37.4	
comp=E,98nm,1.6s									
AGPR				IAML				09 55 01.8	
comp=N,100nm,2.1s									
GBPR	**Guanica, Bosqu**	2.08	233⇓	*e*P		**Pb**		**09 54 05.2**	**+0.4**
GBPR	**Guanica, Bosqu**	2.08	233			**Pb**		**09 54 05.2**	**+0.4**
LSP	**Las Mesas**	2.13	241⇓	*e*P		**Pb**		**09 54 05.2**	**-0.6**
LSP	**Las Mesas**	2.13	241	*e*S		**Sn**		**09 54 29.6**	**0.0**
LSP	**Las Mesas**	2.13	241			**Pb**		**09 54 05.2**	**-0.6**
LSP						**Sn**		**09 54 29.6**	**0.0**
PRSN	**Puerto Rico Se**	2.16	242	Pn		**Pb**		**09 54 06.0**	**-0.2**
MLPR	**Magueyes Islan**	2.21	236⇑	*e*P		**Pb**		**09 54 06.7**	**-0.4**
MLPR	**Magueyes Islan**	2.21	236	*e*S		**Sn**		**09 54 30.8**	**-0.7**
MLPR	**Magueyes Islan**	2.21	236			**Pb**		**09 54 06.2**	**-0.9**
MLPR						**Sn**		**09 54 29.4**	**-2.1**
CRPR	**Cabo Rojo, PR**	2.24	237⇑	*e*P		**Pb**		**09 54 07.1**	**-0.5**
CRPR	**Cabo Rojo, PR**	2.24	237	*e*S		**Sn**		**09 54 31.9**	**-0.3**
CRPR	**Cabo Rojo, PR**	2.24	237			**Pn**		**09 54 05.3**	**+1.0**
CRPR						**Sn**		**09 54 32.5**	**+0.2**
CRPR				IAML				09 54 34.3	
comp=E,48nm,2.4s									
CRPR				IAML				09 54 36.3	
comp=N,43nm,1.4s									
MBFL	**Flemmings, Mon**	3.72	131	*e*P		**Pb**		**09 54 32.3**	**-0.5**
MLYT

*THE **29** 09:54:50.1,38°98N×26°29E,h6km,ML2.3/6,Error ellipse: s-maj=0.7km s-min=0.3km az=59.0*

ISC 29 09:54:49.9±1.1,38°96N±0°04×26°28E±0°03,h12km±8km, n22,σ0§41/32,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.28**	**359**	P	**Pg**	**09 54 55.4**	**-0.3**
PRK				S	**Sg**	**09 54 59.6**	**-0.1**
	845nm,0.3s						
SIGR	**SIGRI**	**0.41**	**307**	Pg	**Pg**	**09 54 58.3**	**+0.2**
SIGR				Sg	**Sb**	**09 55 04.6**	**-0.8**
SIGR	**SIGRI**	**0.41**	**307**	P	**Pg**	**09 54 58.1**	**0.0**
SIGR				S	**Sg**	**09 55 04.1**	**+0.4**
	510nm,0.5s						
FOCM	**Foa**	**0.43**	**125**	Pg	**Pg**	**09 54 58.1**	**-0.3**
FOCM				Sg	**Sg**	**09 55 04.6**	**+0.5**
DKL	**Dikili**	**0.50**	**77**	Pg	**Pg**	**09 54 59.7**	**0.0**
DKL				Sg	**Sb**	**09 55 07.1**	**-0.7**
RFT7	**Candarli**	**0.50**	**90**	Pg	**Pg**	**09 54 59.6**	**-0.1**
RFT7				Sg	**Sb**	**09 55 06.9**	**-0.9**
EZN	**Ezine**	**0.86**	**2**	Pg	**Pb**	**09 55 06.8**	**0.0**
EZN	**Ezine**	**0.86**	**2**	P	**Pg**	**09 55 06.1**	**-0.5**
EZN				S	**Sb**	**09 55 18.6**	**+0.3**
	238nm,0.3s						
COMU	**Canakkale**	**1.15**	**7**	Pn	**Pn**	**09 55 11.9**	**+0.2**
CANM	**Can-anakkale**	**1.21**	**29**	Pn	**Pb**	**09 55 12.6**	**0.0**
GADA	**Gvkgeada**	**1.26**	**347**	Pn	**Pn**	**09 55 13.3**	**0.0**
LIA	**Limnos Island**	**1.26**	**318**	P	**Pn**	**09 55 12.9**	**-0.4**
LIA				S	**Sn**	**09 55 30.7**	**+0.5**
	192nm,0.7s						
SMG	**Samos**	**1.33**	**161**	P	**Pn**	**09 55 14.2**	**0.0**
SMG				S	**Sg**	**09 55 33.1**	**+0.5**
	225nm,0.2s						
BALB	**Balikesir**	**1.41**	**61**	Pn	**Pn**	**09 55 15.2**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.44**	**6**	Pn	**Pn**	**09 55 15.9**	**+0.1**
LPK	**Lapseki**	**1.46**	**15**	Pn	**Pn**	**09 55 16.4**	**+0.4**
GONE	**Gonen-Balikesi**	**1.53**	**45**	Pn	**Pn**	**09 55 17.5**	**+0.4**
SMTH	**Samothraki Isl**	**1.61**	**339**	P	**Pn**	**09 55 17.9**	**-0.3**
SMTH				S	**Sn**	**09 55 39.2**	**+0.3**
KRBG	**Karabiga-Canak**	**1.63**	**28**	Pn	**Pn**	**09 55 18.7**	**+0.3**
ERIK	**Erikli-Kesan**	**1.72**	**6**	Pn	**Pn**	**09 55 19.9**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.86**	**22**	Pn	**Pn**	**09 55 22.2**	**+0.6**
ALN	**Alexandroupoli**	**1.94**	**355**	Pn	**Pn**	**09 55 22.7**	**0.0**

*IDC **29** 09:56:38.1±1.0,14°02N×145°06E,h0km,mb3.7/6, mbtmp3.7/6,Error ellipse: s-maj=43.5km s-min=21.6km az=103.0*

ISC 29 09:56:53.1±1.1,13°9N±0°2×145°0E±0°3,h125km,n9, σ1§10/6,mb3.5/6,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**21.74**	**72**	T	T	10 24 49.9	
	baz=258,slow=75,SNR=7.7						
H11N2	**WAKE ISLAND Hy**	**21.75**	**72**	T	T	10 24 51.2	
	baz=258,slow=75,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**21.76**	**72**	T	T	10 24 51.7	
	baz=258,slow=75,SNR=10						
WRA	**Warramunga Arr**	**35.22**	**198**	P	**P**	**10 03 34.9**	**-0.7**
	0.9nm,0.5s,baz=18,slow=9.3,SNR=10						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**38.87**	**196**	P	**P**	**10 04 06.8**	**+0.3**
	0.3nm,0.5s,baz=16,slow=6.9,SNR=9.5						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**61.35**	**316**	P	**P**	**10 06 56.1**	**+0.3**
	0.3nm,0.5s,baz=91,slow=8.8,SNR=2.1						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**64.47**	**320**	P	**P**	**10 07 16.5**	**+0.2**
	0.8nm,0.8s,baz=105,slow=6.9,SNR=2.9						
	0.8nm,0.8s						
ILAR	**Eielson Array**	**68.25**	**25**	P	**P**	**10 07 38.8**	**-1.3**
	0.2nm,0.4s,baz=252,slow=5.8,SNR=12						
	0.2nm,0.4s						
NVAR	**Mina Array Bea**	**86.64**	**51**	P	**P**	**10 09 24.4**	**+1.1**
	0.4nm,0.6s,baz=261,slow=6.7,SNR=6.1						
	0.4nm,0.6s						

*IDC **29** 10:20:10.9±1.6,10°17S×74°98W,h118km±18km,mb3.8/11, mbtmp4.2/15,Error ellipse: s-maj=19.4km s-min=10.7km az=57.0*

*VAO **29** 10:20:11.9±1.0,10°05S×74°79W,h108km±7km,mb4.5*

*NEIC **29** 10:20:11.8±1.8,10°22S±0°07×74°91W±0°07,h123km±8km, mb4.4/94,Error ellipse: s-maj=11.3km s-min=8.4km az=126.0*

ISC 29 10:20:09.4±0.4,10°17S±0°04×74°91W±0°05,h100km, n187,σ1§25/189,mb4.4/49,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.62**	**226**	Pn	**Pn**	**10 20 53.0**	**+2.9**
NNA				Sn	**Sn**	**10 21 24.7**	**+3.3**
NNA	**Nana**	**2.62**	**226**	P	**Pn**	**10 20 53.1**	**+2.9**
	281nm,0.7s,baz=33,slow=9.2,SNR=148						
NNA				S	**Sn**	**10 21 23.3**	**+1.9**
	249nm,0.3s,baz=215,slow=10,SNR=15						
CZSB	**Cruzeiro do Su**	**3.26**	**42**		**Pn**	**10 21 02.3**	**+3.7**
CZSB				Sn	**Sn**	**10 21 40.7**	**+4.0**
CZSB	**Cruzeiro do Su**	**3.26**	**42**	eP	**Pn**	**10 21 02.3**	**+3.7**
CZSB	**Cruzeiro do Su**	**3.26**	**42**	eP	**Pn**	**10 20 60.0**	**+1.3**
ATAH	**Atahualpa**	**4.58**	**311**	P	**Pn**	**10 21 18.6**	**+1.8**
	67nm,0.8s,baz=71,slow=2.4,SNR=65						
ATAH				S	**Sn**	**10 22 09.1**	**-0.1**
	79nm,0.6s,baz=86,slow=23,SNR=4.1						
MCRA	**Macar, Loja**	**7.63**	**319**		Pn	10 21 55.2	-2.8
MCRA	**Macar, Loja**	**7.63**	**319**	eP	**Pn**	**10 21 56.2**	**-1.8**
TBTG	**Tabatinga, AM**	**7.74**	**40**		**Pn**	**10 22 00.8**	**+1.3**
TBTG	**Tabatinga, AM**	**7.74**	**40**	eP	**Pn**	**10 22 01.3**	**+1.8**
BOSC	**San Juan Bosco**	**7.83**	**333**		Pn	10 21 57.4	-3.4
ARNL	**Arenillas**	**8.34**	**322**		**Pn**	**10 22 05.9**	**-1.6**
ETMB	**Extrema**	**8.57**	**88**	Pn	**Pn**	**10 22 11.9**	**+1.2**
ETMB	**Extrema**	**8.57**	**88**	eP	**Pn**	**10 22 12.0**	**+1.3**
COHC	**Cochancay**	**8.79**	**330**		**Pn**	**10 22 13.4**	**-0.3**
COHC	**Cochancay**	**8.79**	**330**	eP	**Pn**	**10 22 13.1**	**-0.6**
LPAZ	**La Paz**	**8.97**	**133**	Pn	**Pn**	**10 22 15.5**	**-1.2**
PB18	**Visviri**	**9.06**	**145**	Pn	**Pn**	**10 22 16.9**	**-0.9**
CHSH	**Refugio Sur-Vo**	**9.48**	**335**		**Pn**	**10 22 25.0**	**+1.4**
PB12	**IPOC Station P**	**9.49**	**153**	Pn	**Pn**	**10 22 23.0**	**-0.3**
PB16	**IPOC Station P**	**9.65**	**148**	Pn	**Pn**	**10 22 24.1**	**-1.8**
PIAT	**Ana Tenorio**	**9.71**	**340**	eP	**Pn**	**10 22 25.5**	**-1.0**
SLOR	**San Lorenzo -**	**10.04**	**339**		**Pn**	**10 22 31.0**	**-0.1**
PTLC	**Puerto Leguiza**	**10.28**	**1**	eP	Pn	10 22 27.6	-6.3
PPLP	**Puerto Lpez**	**10.37**	**325**	eP	**Pn**	**10 22 35.1**	**-0.1**
PULU	**Pululahua**	**10.74**	**340**	Pn	**Pn**	**10 22 42.0**	**+1.4**
BONI	**La Bonita**	**10.87**	**346**	eP	**Pn**	**10 22 40.9**	**-1.4**
IMBA	**Imbabura, San**	**10.88**	**342**	Pn	**Pn**	**10 22 44.4**	**+1.8**
OTAV	**Otavalo**	**10.93**	**341**	Pn	**Pn**	**10 22 43.6**	**+0.4**
OTAV	**Otavalo**	**10.93**	**341**	eP	**Pn**	**10 22 43.9**	**+0.7**
OTAV	**Otavalo**	**10.93**	**341**	eP	**Pn**	**10 22 43.3**	**+0.1**
GO01	**Chusmiza**	**10.93**	**150**		**Pn**	**10 22 41.8**	**-1.4**
PAC1	**Pacto, Paraso**	**11.07**	**339**	eP	**Pn**	**10 22 46.1**	**+1.3**
TULM	**Tulcn-Chalpat**	**11.19**	**345**		**Pn**	**10 22 47.5**	**+0.8**
TULM	**Tulcn-Chalpat**	**11.19**	**345**	eP	**Pn**	**10 22 46.2**	**-0.5**
CMBC	**Cumbal**	**11.42**	**345**	eP	**Pn**	**10 22 51.0**	**+1.2**
GCUF	**Volcan Galeras**	**11.58**	**348**	eP	**Pn**	**10 22 51.9**	**-0.2**
SAML	**Samuel**	**11.63**	**85**	Pn	**Pn**	**10 22 52.3**	**+0.1**
SAML	**Samuel**	**11.63**	**85**	eP	**Pn**	**10 22 52.2**	**+0.1**
CRUC	**La Cruz**	**11.84**	**350**	eP	**Pn**	**10 22 55.2**	**-0.1**
PB01	**IPOC Station P**	**12.00**	**155**	Pn	**Pn**	**10 22 55.0**	**-2.2**
GARC	**Garzon, Huila**	**12.29**	**357**	eP	**Pn**	**10 23 01.1**	**-0.2**
BBAC	**Balboa, Cauca**	**12.34**	**349**	eP	**Pn**	**10 23 03.6**	**+1.8**
PB09	**IPOC Station P**	**12.77**	**155**	Pn	**Pn**	**10 23 06.2**	**-1.3**
JAMC	**Jamundi, Valle**	**13.41**	**352**	eP	**Pn**	**10 23 17.7**	**+1.7**
LVC	**Limon Verde**	**13.64**	**156**	Pn	**Pn**	**10 23 18.1**	**-0.9**
ORTC	**Ortega, Tolima**	**13.99**	**359**	eP	**Pn**	**10 23 24.1**	**+0.8**
YOTC	**Yotoco, Valle**	**14.14**	**354**	eP	Pn	10 23 22.9	-2.4
VILC	**Villavicencio,**	**14.24**	**5**	eP	**Pn**	**10 23 28.3**	**+1.6**
SIV	**San Ignacio**	**14.66**	**115**	P	**Pn**	**10 23 33.3**	**+1.3**
	6.4nm,0.6s,baz=297,slow=12,SNR=24						
SIV				S	**Sn**	**10 26 11.5**	**-2.2**
	7.0nm,0.8s,baz=215,slow=16,SNR=3.8						
VILB	**Vilhena**	**14.67**	**102**	Pn	**Pn**	**10 23 32.4**	**+0.3**
VILB	**Vilhena**	**14.67**	**102**	eP	**Pn**	**10 23 33.4**	**+1.3**
GUY2C	**Guyana, Caldas**	**15.30**	**358**	eP	**Pn**	**10 23 41.8**	**+1.3**
BBSD	**Serra de San D**	**15.54**	**118**	eP	**Pn**	**10 23 44.7**	**+1.7**
GO02	**Mina Guanaco**	**15.74**	**162**	Pn	**Pn**	**10 23 44.8**	**-1.0**
MACA	**Manacapuru-AM**	**15.74**	**65**	Pn	**Pn**	**10 23 45.1**	**-0.5**
MACA	**Manacapuru-AM**	**15.74**	**65**	eP	**Pn**	**10 23 44.6**	**-1.0**
CBOC	**Ciudad Bolivar**	**15.97**	**356**	eP	**Pn**	**10 23 51.6**	**+3.1**
PTLB	**Pontes e Lacer**	**16.25**	**110**	Pn	**Pn**	**10 23 50.7**	**-1.1**
PTLB				IAmb	IAmb	10 23 57.3	
	comp=Z,17nm,0.7s						
PTLB	**Pontes e Lacer**	**16.25**	**110**	eP	**Pn**	**10 23 53.5**	**+1.7**
PTBC	**PUERTO BERRIO,**	**16.61**	**2**	eP	**Pn**	**10 23 57.9**	**+1.5**
BBRB	**Robore, Bolivi**	**16.70**	**121**	eP	**Pn**	**10 23 57.4**	**-0.1**
ZARC	**Zaragoza, Cauc**	**17.55**	**0**	eP	**P**	**10 24 06.8**	**-0.7**
PDRB	**Porto dos Gac**	**17.91**	**96**	eP	**P**	**10 24 12.1**	**+0.6**
BOAV	**Boa Vista**	**19.00**	**50**	P	**P**	**10 24 23.0**	**-0.4**
BOAV	**Boa Vista**	**19.00**	**50**	eP	**P**	**10 24 23.7**	**+0.3**
LCO	**Las Campanas**	**19.15**	**169**	P	**P**	**10 24 24.4**	**-0.8**
SDV	**Santo Domingo**	**19.41**	**13**	P	**P**	**10 24 26.4**	**-1.5**
SDV	**Santo Domingo**	**19.41**	**13**	eP	**P**	**10 24 28.9**	**+0.9**
SDV	**Santo Domingo**	**19.41**	**13**	P	**P**	**10 24 28.8**	**+0.9**
	comp=Z,4.1nm,0.4s,baz=215,slow=8.9,SNR=6.6						
SDV				S	**S**	**10 27 56.8**	**-5.6**
	comp=Z,1.9nm,0.3s,baz=67,slow=22,SNR=2.1						
SALV	**Santo Antonio**	**19.56**	**109**	eP	**P**	**10 24 31.1**	**+1.7**
NPGB	**Novo Progresso**	**19.58**	**82**	eP	**P**	**10 24 29.1**	**-0.6**
ITTB	**Itaituba**	**19.87**	**75**	eP	**P**	**10 24 33.1**	**+0.3**
SJCC	**San Jacinto, C**	**19.94**	**359**	eP	**P**	**10 24 34.6**	**+1.0**
CO05	**La Serena**	**19.94**	**171**	P	**P**	**10 24 33.1**	**-0.4**
CO05				IAmb	IAmb	10 25 00.8	
	comp=Z,28nm,0.8s						
BAUV	**El Baul**	**20.18**	**20**	P	**P**	**10 24 37.2**	**+1.0**
CDITO	**Canoas**	**20.24**	**337**	P	**P**	**10 24 35.8**	**-1.0**
CDITO				IAmb	IAmb	10 24 57.7	
	comp=Z,31nm,1.2s						
BDQN	**Bodoquena, MS**	**20.25**	**122**	eP	**P**	**10 24 37.7**	**+0.8**
BRU2	**Volcan**	**20.37**	**337**	P	**P**	**10 24 39.6**	**+1.3**
PP1B	**Ponte de Pedra**	**20.79**	**113**	eP	**P**	**10 24 44.0**	**+1.3**
CO03	**El Pedregal**	**20.93**	**170**	P	**P**	**10 24 44.8**	**+0.6**
DRK0	**Durika**	**21.02**	**336**	P	**P**	**10 24 47.1**	**+1.8**
AQDB	**Aquidauana**	**21.14**	**121**	eP	**P**	**10 24 48.9**	**+2.4**
RVDE	**Rio Verde (Bra**	**21.22**	**117**	eP	**P**	**10 24 48.6**	**+1.3**
LCR2	**La Lucha 2**	**21.76**	**335**	P	**P**	**10 24 54.4**	**+1.1**
LCR2				IAmb	IAmb	10 24 55.8	
	comp=Z,16nm,1.1s						
MALB	**Monte Alegre**	**22.11**	**69**	eP	**P**	**10 24 57.3**	**+0.5**
SOCE	**Pocosol**	**22.59**	**334**	P	**P**	**10 25 02.5**	**+0.7**
SOCE				IAmb	IAmb	10 25 05.7	
	comp=Z,46nm,1.2s						
JTS	**Las Juntas de**	**22.65**	**334**	P	**P**	**10 25 04.2**	**+1.8**
JTS				IAmb	IAmb	10 25 07.8	
	comp=Z,23nm,1.5s						
VA03	**San Esteban**	**22.84**	**171**	P	**P**	**10 25 02.8**	**-1.4**
VA03				IAmb	IAmb	10 25 11.6	
	comp=Z,16nm,1.1s						
RPRD	**Ribas do Rio P**	**22.85**	**119**	eP	**P**	**10 25 06.9**	**+2.6**
ORTG	**Ortega, Santa**	**22.94**	**332**	P	**P**	**10 25 05.8**	**+0.4**
ORTG				IAmb	IAmb	10 25 08.7	
	comp=Z,25nm,1.5s						
CPUP	**Villa Florida**	**23.12**	**136**	P	**P**	**10 25 07.9**	**+1.0**
CPUP	**Villa Florida**	**23.12**	**136**	P	**P**	**10 25 07.3**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=332,slow=9.8,SNR=5.2						
	comp=Z,1.1nm,0.4s						
SNDB	**Serra Nova Dou**	**23.24**	**97**	eP	**P**	**10 25 08.5**	**+0.3**
MCPB	**Macapa, AP**	**24.73**	**68**	eP	**P**	**10 25 22.1**	**+0.4**
ITRB	**Iturama**	**25.51**	**115**	eP	**P**	**10 25 29.5**	**+0.8**
BDFB	**Brasilia**	**26.76**	**105**	P	**P**	**10 25 39.6**	**-0.6**
BDFB				IAmb	IAmb	10 25 41.4	
	comp=Z,6.7nm,0.8s						
BDFB	**Brasilia**	**26.76**	**105**	P	**P**	**10 25 40.3**	**+0.2**
	comp=Z,3.0nm,0.6s,baz=273,slow=11,SNR=7.3						
	comp=Z,5.0nm,0.6s						
IPMB	**Ipameri, GO**	**27.01**	**110**	eP	**P**	**10 25 44.4**	**+2.1**
SDBA	**SAO DESIDERIO**	**29.50**	**97**	eP	**P**	**10 26 05.3**	**+0.8**
JANB	**Januaria**	**30.23**	**102**	eP	**P**	**10 26 11.2**	**+0.2**
TEIG	**Tepich**	**32.95**	**336**	P	**P**	**10 26 34.2**	**-0.4**
	comp=Z,87nm,0.9s,baz=232,slow=7.8,SNR=2.9						
CMIG	**Matias Romero**	**33.52**	**324**	P	**P**	**10 26 40.0**	**+0.3**
	comp=Z,3.9nm,0.9s,baz=176,slow=4.1,SNR=4.5						
	comp=Z,3.9nm,0.9s						
SOR	**Sorsa**	**33.71**	**346**	P	**P**	**10 26 43.2**	**+2.0**
RIB01	**Linhares ES**	**34.53**	**109**	eP	**P**	**10 26 48.9**	**+0.4**
NAN01	**Guarapari, ES**	**34.55**	**107**	eP	**P**	**10 26 50.2**	**+1.5**
GDU01	**Guandu, BA**	**34.73**	**99**	eP	**P**	**10 26 50.9**	**+0.7**
CMC01	**Camacan, BA**	**34.87**	**102**	eP	**P**	**10 26 52.2**	**+0.9**
GO08	**Villa O'Higgin**	**38.22**	**177**	P	**P**	**10 27 17.7**	**-1.7**
HNDO	**Hondo**	**45.93**	**330**	P	**P**	**10 28 23.4**	**+1.0**
HNDO				IAmb	IAmb	10 28 23.8	
	comp=Z,27nm,0.6s						
TXAR	**Lajitas Array**	**48.08**	**326**	P	**P**	**10 28 39.2**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=146,slow=8.7,SNR=20						
	comp=Z,1.2nm,0.6s						
TX31	**Lajitas Ar. Si**	**48.08**	**326**	P	**P**	**10 28 39.3**	**+0.1**
TX31				IAmb	IAmb	10 28 39.6	
	comp=Z,4.5nm,0.8s						
PLPT	**Palo Pinto**	**48.23**	**333**	P	**P**	**10 28 39.7**	**-0.4**
PLPT				IAmb	IAmb	10 29 01.7	
	comp=Z,10nm,0.6s						
ABTX	**Abilene, Hawle**	**48.67**	**332**	P	**P**	**10 28 43.7**	**+0.1**
MNHN	**Monahans**	**49.16**	**328**	P	**P**	**10 28 47.5**	**+0.1**
MNHN				IAmb	IAmb	10 28 49.2	
	comp=Z,3.8nm,0.7s						
POST	**Post**	**49.91**	**331**	P	**P**	**10 28 53.0**	**0.0**
POST				IAmb	IAmb	10 28 53.6	
	comp=Z,12nm,0.8s						
425A	**Indio Mountain**	**49.92**	**326**	P	**P**	**10 28 53.5**	**+0.2**
425A				IAmb	IAmb	10 28 53.5	
	comp=Z,3.0nm,0.9s						
Q44A	**Meyer Farm, Va**	**50.56**	**346**		**P**	**10 28 56.7**	**-1.0**
S39A	**Bolivar**	**50.64**	**341**	P	**P**	**10 28 57.3**	**-1.1**
P43A	**Skaggs, Pawnee**	**51.38**	**346**	P	**P**	**10 29 02.8**	**-1.1**
T25A	**Trinidad**	**54.60**	**331**	P	**P**	**10 29 28.0**	**+0.1**
T25A				IAmb	IAmb	10 29 29.3	
	comp=Z,7.8nm,0.8s						
214A	**Organ Pipe Nat**	**55.40**	**321**	P	**P**	**10 29 33.1**	**-0.4**
214A				IAmb	IAmb	10 29 35.4	
	comp=Z,10nm,1.5s						
SDCO	**Great Sand Dun**	**55.61**	**331**	P	**P**	**10 29 35.5**	**+0.2**
SDCO				IAmb	IAmb	10 29 36.0	
	comp=Z,5.4nm,0.8s						
X16A	**Lo Mia Camp, P**	**56.27**	**324**	P	**P**	**10 29 39.1**	**-0.8**
MVCO	**Mesa Verde**	**56.70**	**328**	P	**P**	**10 29 42.1**	**-0.8**
MVCO				IAmb	IAmb	10 29 43.4	
	comp=Z,3.5nm,1.1s						
WUAZ	**Wupatki**	**57.02**	**325**	P	**P**	**10 29 44.7**	**-0.4**
WUAZ				IAmb	IAmb	10 29 46.5	
	comp=Z,5.1nm,0.9s						
PFO	**Pinyon Flats O**	**58.79**	**320**	P	**P**	**10 29 56.5**	**-1.0**
PFO				IAmb	IAmb	10 29 59.3	
	comp=Z,3.2nm,1.2s						
KNB	**Kanab**	**58.90**	**325**	P	**P**	**10 29 59.1**	**+0.8**
KNB				IAmb	IAmb	10 29 59.7	
	comp=Z,3.3nm,0.7s						
LCMT	**Little Creek M**	**59.14**	**325**	P	**P**	**10 29 59.1**	**-0.8**
SRU	**San Rafael Swe**	**59.18**	**328**	P	**P**	**10 29 59.1**	**-1.1**
SRU				IAmb	IAmb	10 30 00.6	
	comp=Z,3.6nm,0.9s						
Q16A	**Castle Valley**	**59.37**	**328**	P	**P**	**10 30 00.8**	**-0.7**
Q16A				IAmb	IAmb	10 30 06.9	
	comp=Z,4.9nm,1.3s						
ELS	**Elsinore Mount**	**59.44**	**319**	P	**P**	**10 30 01.8**	**-0.1**
SZCU	**Shurtz Canyon**	**59.46**	**325**	P	**P**	**10 30 01.3**	**-0.9**
SZCU				IAmb	IAmb	10 30 19.3	
	comp=Z,4.0nm,1.3s						
P17A	**Butcher Ranch,**	**59.56**	**328**	P	**P**	**10 30 02.5**	**-0.2**
P17A				IAmb	IAmb	10 30 03.3	
	comp=Z,4.2nm,0.8s						
MVU	**Marysvale**	**59.63**	**327**	P	**P**	**10 30 02.6**	**-0.8**
TMUT	**Trail Mountain**	**59.67**	**328**	P	**P**	**10 30 03.1**	**-0.5**
RDMU	**Red Mountain**	**59.79**	**330**	P	**P**	**10 30 02.9**	**-1.5**
TCRU	**Three Creeks R**	**59.83**	**326**	P	**P**	**10 30 03.3**	**-1.4**
TCRU				IAmb	IAmb	10 30 05.8	
	comp=Z,4.4nm,0.9s						
SHPR	**Sheep Range**	**59.90**	**323**	P	**P**	**10 30 04.2**	**-1.0**
BSUT	**Blindstream Ca**	**60.36**	**329**	P	**P**	**10 30 08.0**	**-0.5**
BSUT				IAmb	IAmb	10 30 09.7	
	comp=Z,4.8nm,0.8s						
MPU	**Maple Canyon**	**60.42**	**328**	P	**P**	**10 30 08.5**	**-0.1**
PRN	**Pahroc Range**	**60.45**	**324**	P	**P**	**10 30 09.0**	**+0.2**
CCAC	**Calif City Air**	**60.77**	**320**	P	**P**	**10 30 10.5**	**-0.5**
TPNV	**Topopah Spring**	**60.85**	**323**	P	**P**	**10 30 12.1**	**+0.5**
WCT	**Wildcat Mounta**	**60.97**	**322**	P	**P**	**10 30 12.7**	**+0.4**
CTU	**Camp Tracy**	**60.98**	**329**	P	**P**	**10 30 12.3**	**-0.1**
CTU				IAmb	IAmb	10 30 12.9	
	comp=Z,1.7nm,0.6s						
E28A	**Huff**	**61.02**	**340**	P	**P**	**10 30 11.8**	**-0.6**
TCUT	**Toone Canyon**	**61.12**	**329**	P	**P**	**10 30 13.4**	**0.0**
SPR3	**Spring Creek 3**	**61.14**	**326**	P	**P**	**10 30 13.2**	**-0.6**
SPR3				IAmb	IAmb	10 30 14.3	
	comp=Z,2.2nm,0.7s						
DUG	**Dugway, Tooele**	**61.17**	**328**	P	**P**	**10 30 13.6**	**-0.1**
DUG				IAmb	IAmb	10 30 14.8	
	comp=Z,5.8nm,0.8s						
ISA	**Isabella, Lake**	**61.38**	**320**	P	**P**	**10 30 15.1**	**0.0**
R11B	**Troy Canyon, C**	**61.40**	**324**	P	**P**	**10 30 14.6**	**-0.7**
PD31	**Pinedale Array**	**61.47**	**332**	P	**P**	**10 30 14.8**	**-0.9**
PD31				IAmb	IAmb	10 30 16.3	
	comp=Z,3.1nm,1.1s						
PDAR	**Pinedale Array**	**61.47**	**332**	P	**P**	**10 30 14.6**	**-1.1**
PDAR	**Pinedale Array**	**61.47**	**332**	P	**P**	**10 30 14.8**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=123,slow=9.6,SNR=8.5						
	comp=Z,1.1nm,0.8s						
HWUT	**Hardware Ranch**	**61.56**	**329**	P	**P**	**10 30 15.9**	**-0.4**
GMN	**Gold Mountain**	**61.69**	**322**	P	**P**	**10 30 17.5**	**+0.2**
MDND	**Maddock**	**61.78**	**341**	P	**P**	**10 30 17.9**	**+0.4**
SPUT	**South Promonto**	**61.79**	**329**	P	**P**	**10 30 17.6**	**-0.2**
SPUT				IAmb	IAmb	10 30 18.4	
	comp=Z,5.7nm,1.3s						
BGU	**Big Grassy Mou**	**61.81**	**328**	P	**P**	**10 30 17.7**	**-0.3**
MZP	**Montezuma Peak**	**62.02**	**323**	P	**P**	**10 30 19.7**	**+0.1**
AHID	**Auburn Hatcher**	**62.20**	**331**	P	**P**	**10 30 20.0**	**-0.6**
AHID				IAmb	IAmb	10 30 20.6	
	comp=Z,3.6nm,0.7s						
ULM	**Lac du Bonnet**	**62.89**	**345**	P	**P**	**10 30 23.4**	**-1.3**
	comp=Z,4.1nm,0.7s,baz=146,slow=7.7,SNR=5.6						
	comp=Z,4.1nm,0.7s						
OMMB	**Old Mammoth Mi**	**62.94**	**322**	P	**P**	**10 30 26.1**	**+0.3**
OMMB				IAmb	IAmb	10 30 26.8	
	comp=Z,2.5nm,0.8s						
MDPB	**Devils Postpil**	**63.00**	**322**	P	**P**	**10 30 26.2**	**0.0**
NVAR	**Mina Array Bea**	**63.05**	**323**	P	**P**	**10 30 26.8**	**+0.4**
NVAR	**Mina Array Bea**	**63.05**	**323**	P	**P**	**10 30 25.5**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=138,slow=6.4,SNR=7.0						
	comp=Z,0.7nm,0.8s						
LHV	**Little Huntoon**	**63.05**	**322**	P	**P**	**10 30 26.3**	**+0.2**
YHL	**Hebgen Lake**	**63.82**	**332**	P	**P**	**10 30 31.9**	**+0.5**
YHL				IAmb	IAmb	10 30 32.9	
	comp=Z,5.9nm,0.9s						
HLID	**Hailey**	**64.43**	**329**	P	**P**	**10 30 35.5**	**+0.2**
HLID				IAmb	IAmb	10 30 36.2	
	comp=Z,3.8nm,1.1s						
PAHR	**Pah Rah Range**	**64.52**	**323**	P	**P**	**10 30 35.6**	**-0.3**
PAHR				IAmb	IAmb	10 30 36.8	
	comp=Z,3.4nm,1.0s						
MFID	**Camas Ranch**	**65.05**	**328**	P	**P**	**10 30 39.7**	**+0.5**
MFID				IAmb	IAmb	10 30 40.3	
	comp=Z,8.1nm,0.8s						
ORV	**Oroville**	**65.69**	**322**	P	**P**	**10 30 44.2**	**+0.9**
ORV				IAmb	IAmb	10 30 44.3	
	comp=Z,3.8nm,0.9s						
I07A	**Izee**	**67.44**	**327**	P	**P**	**10 30 55.0**	**+0.5**
I07A				IAmb	IAmb	10 30 55.7	
	comp=Z,5.0nm,0.7s						
F10A	**Beach Ranch, E**	**67.55**	**329**	P	**P**	**10 30 55.4**	**+0.3**
F10A				IAmb	IAmb	10 30 56.7	
	comp=Z,5.2nm,1.1s						
**E

comp=Z,0.4nm,0.6s,baz=135,slow=9.0,SNR=4.9
comp=Z,0.4nm,0.6s
YKA Yellowknife Ar 51.13 347 P **P 10 37 49.6 -1.7**
comp=Z,0.3nm,0.8s,baz=153,slow=7.4,SNR=6.1
comp=Z,0.3nm,0.8s
CMAR Chiang Mai Arr 146.08 341 PKPbc **PKPbc 10 48 29.6 -0.3**
comp=Z,1.1nm,0.7s,baz=333,slow=3.7,SNR=7.4

*NEIC **29** 10:30:35.8±1.4,35°.27S±0°.06×71°.4W±0°.1,h112km±4km, mb4.4/4, Error ellipse: s-maj=12.6km s-min=7.2km az=114.0*
*SJA **29** 10:30:35.6±0.8,35°.24S×71°.22W,h101km±4km,ML3.9, MW3.8*
*IDC **29** 10:30:37.6±2.6,35°.26S×71°.00W,h102km±21km,mb3.4/3, mbtmp3.8/5,Error ellipse: s-maj=40.8km s-min=18.0km az=106.0*
*GUC **29** 10:30:37.4±0.6,35°.20S×71°.23W,h92km±2km,ML4.1*

ISC 29 10:30:36.2±0.7,35°.24S±0°.04×71°.28W±0°.05,h99km±6km, n96,σ0s97/129,mb3.8/3,6C-4D,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ML02	**Panimavida**	**0.54**	**192**	Pn	**Pn**	**10 30 52.9**	**+0.7**
ML02				Sn	**Sn**	**10 31 05.1**	**+1.0**
ML02	**Panimavida**	**0.54**	**192**	↑*i*P	**Pn**	**10 30 52.9**	**+0.7**
ML02				*e*S	**Sn**	**10 31 05.0**	**+1.0**
ML02				IAML		10 31 06.0	
	comp=E,18μm,0.2s						
GO05	**Huala**	**0.58**	**293**	Pn	**Pn**	**10 30 53.5**	**+1.0**
GO05				Sn	**Sn**	**10 31 05.8**	**+1.1**
GO05	**Huala**	**0.58**	**293**	*e*P	**Pn**	**10 30 53.5**	**+1.0**
GO05				*e*S	**Sn**	**10 31 06.2**	**+1.5**
GO05	**Huala**	**0.58**	**293**	↑*i*P	**Pn**	**10 30 53.5**	**+1.0**
GO05				*e*S	**Sn**	**10 31 05.5**	**+0.7**
GO05				IAML		10 31 06.2	
	comp=N,10μm,0.4s						
BO02	**Sierra Bellavi**	**0.60**	**43**	Pn	**Pn**	**10 30 53.2**	**+0.4**
BO02	**Sierra Bellavi**	**0.60**	**43**	*e*P	**Pn**	**10 30 52.6**	**-0.2**
BO02				*e*S	**Sn**	**10 31 06.1**	**+0.9**
BO02				IAML		10 31 07.1	
	comp=Z,8μm,0.1s						
BO02	**Sierra Bellavi**	**0.60**	**43**	↑*i*P	**Pn**	**10 30 52.9**	**+0.1**
BO02				*e*S	**Sn**	**10 31 05.0**	**-0.2**
BO02				IAML		10 31 06.8	
	comp=E,17μm,0.3s						
BO01	**Tunca**	**0.86**	**11**	Pn	**Pn**	**10 30 55.5**	**+0.5**
BO01	**Tunca**	**0.86**	**11**	*e*P	**Pn**	**10 30 54.9**	**-0.2**
BO01				*e*S	**Sn**	**10 31 09.2**	**0.0**
BO01				IAML		10 31 09.8	
	comp=Z,6μm,0.3s						
BO01	**Tunca**	**0.86**	**11**	↓*i*P	**Pn**	**10 30 55.6**	**+0.5**
BO01				*e*S	**Sn**	**10 31 09.1**	**-0.2**
BO03	**Pichilemu**	**0.93**	**323**	↑*i*P	**Pn**	**10 30 57.1**	**+1.4**
BO03				*e*S	**Sn**	**10 31 11.4**	**+1.0**
BO03				IAML		10 31 14.0	
	comp=N,5μm,0.4s						
BO04	**La Punta**	**1.36**	**24**	Pn	**Pn**	**10 31 01.6**	**+0.7**
BO04	**La Punta**	**1.36**	**24**	*i*P	**Pn**	**10 31 01.4**	**+0.5**
BO04				*e*S	**Sn**	**10 31 19.5**	**+0.1**
BO04				IAML		10 31 22.3	
	comp=N,3μm,0.2s						
MT01	**Popeta**	**1.37**	**1**	Pn	**Pn**	**10 31 01.4**	**+0.6**
MT01	**Popeta**	**1.37**	**1**	*e*S	**Sn**	**10 31 19.7**	**+0.2**
MT01				IAML		10 31 20.9	
	comp=Z,2μm,0.1s						
MT01	**Popeta**	**1.37**	**1**	*i*P	**Pn**	**10 31 01.3**	**+0.5**
MT01				*e*S	**Sn**	**10 31 19.6**	**+0.2**
MT01				IAML		10 31 21.6	
	comp=E,4μm,0.2s						
MT09	**Talagante**	**1.48**	**10**	Pn	**Pn**	**10 31 02.9**	**+0.6**
MT09	**Talagante**	**1.48**	**10**	*i*P	**Pn**	**10 31 02.8**	**+0.6**
MT09				IAML		10 31 23.1	
	comp=N,5μm,0.2s						
VA05	**Santo Domingo**	**1.60**	**350**	Pn	**Pn**	**10 31 04.4**	**+0.8**
VA05	**Santo Domingo**	**1.60**	**350**	*i*P	**Pn**	**10 31 04.3**	**+0.7**
VA05				*e*S	**Sn**	**10 31 25.0**	**+0.5**
VA05				IAML		10 31 31.7	
	comp=E,4μm,0.3s						
MT12	**Pirque**	**1.62**	**22**	*i*P	**Pn**	**10 31 04.3**	**+0.4**
MT12				*e*S	**Sn**	**10 31 25.4**	**+0.4**
MT12				IAML		10 31 27.6	
	comp=N,4μm,0.4s						
LMEL	**Las Melosas**	**1.65**	**33**	Pn	**Pn**	**10 31 05.8**	**+1.3**
LMEL	**Las Melosas**	**1.65**	**33**	*i*P	**Pn**	**10 31 05.3**	**+0.9**
LMEL				*e*S	**Sn**	**10 31 26.9**	**+1.1**
LMEL				IAML		10 31 28.7	
	comp=E,3μm,0.6s						
MT13	**San Alfonso**	**1.70**	**29**		**Pn**	**10 31 06.4**	**+1.3**
MT13	**San Alfonso**	**1.70**	**29**	*i*P	**Pn**	**10 31 05.9**	**+0.9**
MT13				*e*S	**Sn**	**10 31 27.6**	**+0.6**
MT13				IAML		10 31 30.3	
	comp=E,2μm,0.2s						
MT15	**Las Vizcachas**	**1.76**	**22**	↑*i*P	**Pn**	**10 31 06.5**	**+0.8**
MT15				*e*S	**Sn**	**10 31 28.5**	**+0.4**
MT15				IAML		10 31 32.2	
	comp=N,3μm,0.7s						
MT03	**Universidad Ad**	**1.85**	**20**		**Pn**	**10 31 07.8**	**+0.8**
MT03	**Universidad Ad**	**1.85**	**20**	*e*P	**Pn**	**10 31 07.1**	**+0.1**
MT03				*e*S	**Sn**	**10 31 31.4**	**+1.0**
MT03				IAML		10 31 34.9	
	comp=Z,1μm,0.2s						
MT03	**Universidad Ad**	**1.85**	**20**	*e*P	**Pn**	**10 31 07.4**	**+0.5**
MT03				*e*S	**Sn**	**10 31 31.0**	**+0.6**
MT03				IAML		10 31 32.4	
	comp=E,3μm,0.3s						
MT05	**Renca**	**1.90**	**14**		**Pn**	**10 31 08.2**	**+0.7**
MT05	**Renca**	**1.90**	**14**	*e*P	**Pn**	**10 31 08.3**	**+0.8**
MT05				*e*S	**Sn**	**10 31 32.3**	**+1.1**
MT05				IAML		10 31 34.0	
	comp=Z,901nm,0.1s						
MT05	**Renca**	**1.90**	**14**	*i*P	**Pn**	**10 31 08.2**	**+0.7**
MT05				*e*S	**Sn**	**10 31 31.9**	**+0.6**
MT05				IAML		10 31 34.6	
	comp=E,4μm,0.3s						
MT16	**CCHEN**	**1.91**	**19**		**Pn**	**10 31 08.4**	**+0.7**
MT16	**CCHEN**	**1.91**	**19**	*i*P	**Pn**	**10 31 08.1**	**+0.4**
MT16				*e*S	**Sn**	**10 31 31.8**	**+0.2**
MT14	**Cerro Cal¡n**	**1.94**	**19**	*i*P	**Pn**	**10 31 08.7**	**+0.7**
MT14				*e*S	**Sn**	**10 31 32.5**	**+0.2**
MT14				IAML		10 31 34.5	
	comp=E,3μm,0.4s						
MT02	**Curacav**	**1.98**	**4**		**Pn**	**10 31 09.3**	**+0.8**
MT02	**Curacav**	**1.98**	**4**	*i*P	**Pn**	**10 31 09.2**	**+0.7**
MT10	**Hacienda Santa**	**2.06**	**18**	↓*i*P	**Pn**	**10 31 10.4**	**+0.8**
MT10				*e*S	**Sn**	**10 31 35.5**	**+0.4**
MT10				IAML		10 31 39.6	
	comp=E,2μm,0.6s						
MT04	**Ro Olivares**	**2.06**	**28**	↑*i*P	**Pn**	**10 31 10.8**	**+1.0**
FCH	**Farellones**	**2.08**	**24**	↓*i*P	**Pn**	**10 31 10.8**	**+0.8**
PEL	**Peldehue**	**2.15**	**14**		**Pn**	**10 31 11.7**	**+0.9**
PEL	**Peldehue**	**2.15**	**14**	*e*P	**Pn**	**10 31 11.2**	**+0.9**
PEL				*e*S	**Sn**	**10 31 37.9**	**+0.8**
PEL	**Peldehue**	**2.15**	**14**	*i*P	**Pn**	**10 31 11.6**	**+0.9**
PEL				*e*S	**Sn**	**10 31 37.2**	**+0.2**
PEL				IAML		10 31 38.5	
	comp=N,1μm,0.4s						
BI05	**Punta Hualpn**	**2.16**	**225**		**Pn**	**10 31 11.2**	**+0.4**
VA01	**Torpederas**	**2.23**	**352**		**Pn**	**10 31 12.7**	**+0.9**
VA01	**Torpederas**	**2.23**	**352**	*e*P	**Pn**	**10 31 12.7**	**+0.9**
VA01				*e*S	**Sn**	**10 31 39.9**	**+1.0**
VA01				IAML		10 31 46.2	
	comp=Z,300nm,0.3s						
VA01	**Torpederas**	**2.23**	**352**	*i*P	**Pn**	**10 31 12.4**	**+0.7**
ROC1	**El Roble**	**2.27**	**6**	Pn	**Pn**	**10 31 13.1**	**+0.6**
ROC1	**El Roble**	**2.27**	**6**	*e*S	**Sn**	**10 31 47.7**	**+0.5**
ROCH	**El Roble**	**2.27**	**6**	↓*i*P	**Pn**	**10 31 13.2**	**+0.7**
ROCH				*i*P	**Pn**	**10 31 13.3**	**+0.8**
ROCH				IAML		10 31 42.9	
	comp=N,1μm,0.3s						
RFA	**San Rafael**	**2.36**	**79**	*e*P	Pn	10 30 55.8	-18
RFA				IAML		10 31 13.8	
	comp=Z,254nm,0.3s						
VA03	**San Esteban**	**2.54**	**14**		**Pn**	**10 31 16.6**	**+0.7**
VA03	**San Esteban**	**2.54**	**14**	*e*P	**Pn**	**10 31 16.6**	**+0.7**
VA03				*e*S	**Sn**	**10 31 48.1**	**+1.7**
VA03				IAML		10 31 49.6	
	comp=Z,527nm,0.2s						
VA03	**San Esteban**	**2.54**	**14**	*i*P	**Pn**	**10 31 16.5**	**+0.6**
VA06	**Catapilco**	**2.67**	**360**	Pn	**Pn**	**10 31 18.2**	**+0.6**
AAGR	**Agrelo**	**2.96**	**44**	*e*P	**Pn**	**10 31 23.1**	**+1.6**
ARCO	**CERRO ARCO**	**3.09**	**40**	*e*P	**Pn**	**10 31 25.9**	**+2.7**
ASAL	**Salagasta**	**3.33**	**38**	*e*P	**Pn**	**10 31 28.9**	**+2.4**
RTLS	**Leoncito**	**3.81**	**26**	*e*P	**Pn**	**10 31 35.1**	**+2.0**
RTLS				IAML		10 32 24.7	
	comp=Z,206nm,1.0s						
LC02	**Puerto Saavedr**	**3.92**	**205**	Pn	**Pn**	**10 31 33.4**	**-0.9**
CO02	**Combarbal**	**4.03**	**3**		**Pn**	**10 31 35.9**	**0.0**
CO02	**Combarbal**	**4.03**	**3**	*e*P	**Pn**	**10 31 35.5**	**-0.5**
CO02				IAML		10 32 24.0	
	comp=Z,180nm,0.1s						
ZON	**Zonda**	**4.28**	**31**		**Pn**	**10 31 40.1**	**+0.9**
GO06	**Curarrehue**	**4.34**	**182**	Pn	**Pn**	**10 31 40.6**	**+0.5**
CO03	**El Pedregal**	**4.42**	**7**		**Pn**	**10 31 41.4**	**+0.3**
CO03	**El Pedregal**	**4.42**	**7**	*e*P	**Pn**	**10 31 41.7**	**+0.6**
CO03				*e*S	**Sn**	**10 32 30.6**	**-0.8**
CO03				IAML		10 32 34.5	
	comp=Z,96nm,0.6s						
CFA	**Coronel Fontan**	**4.43**	**36**	*e*P	**Pn**	**10 31 41.6**	**+0.4**
CFA				*e*S	**Sn**	**10 32 31.5**	**-0.2**
CFA	**Coronel Fontan**	**4.43**	**36**	P	**Pn**	**10 31 41.4**	**+0.2**
	comp=Z,9.2nm,0.3s,baz=200,slow=13,SNR=72						
CFA				S	**Sn**	**10 32 30.6**	**-1.0**
	comp=Z,30nm,0.4s,baz=114,slow=22,SNR=8.5						
CO06	**Fray Jorge**	**4.56**	**356**	Pn	**Pn**	**10 31 42.8**	**-0.2**
DOCA	**Reserva Natura**	**4.66**	**24**	*e*P	**Pn**	**10 31 44.8**	**+0.2**
DOCA				*e*S	**Sn**	**10 32 38.0**	**+0.2**
ACCO	**Cerro Coronel**	**5.00**	**23**	*e*P	**Pn**	**10 31 49.5**	**+0.3**
ACCO				IAML		10 32 54.1	
	comp=Z,41nm,0.3s						
LR05	**Currie**	**5.02**	**186**	Pn	**Pn**	**10 31 46.9**	**-2.2**
GO04	**Tololo Observa**	**5.07**	**5**		**Pn**	**10 31 49.3**	**-0.7**
GO04	**Tololo Observa**	**5.07**	**5**	*e*P	**Pn**	**10 31 50.6**	**+0.6**
AROD	**Rodeo**	**5.28**	**17**	*e*P	**Pn**	**10 31 54.0**	**+1.0**
AROD				*e*S	**Sn**	**10 32 53.8**	**+1.0**
CO05	**La Serena**	**5.30**	**0**		**Pn**	**10 31 53.1**	**0.0**
PLCA	**Paso Flores**	**5.52**	**174**	Pn	**Pn**	**10 31 54.8**	**-1.2**
PLCA	**Paso Flores**	**5.52**	**174**	P	**Pn**	**10 31 56.9**	**+0.9**
	comp=Z,5.0nm,0.4s,baz=334,slow=12,SNR=33						
LCO	**Las Campanas**	**6.23**	**5**	Pn	**Pn**	**10 32 04.5**	**-1.4**
VA04	**Juan Fernndez**	**6.43**	**282**	Pn	**Pn**	**10 32 05.7**	**-2.7**
AC05	**El Transito**	**6.44**	**8**		**Pn**	**10 32 08.0**	**-0.6**
AC04	**Llanos de Chal**	**7.01**	**2**		**Pn**	**10 32 15.2**	**-1.1**
GO03	**Copiap**	**7.67**	**7**	Pn	**Pn**	**10 32 24.1**	**-1.2**
AC06	**Mina Casimiro**	**7.90**	**6**	Pn	**Pn**	**10 32 27.0**	**-1.3**
TRQA	**Tornquist**	**7.99**	**113**	Pn	**Pn**	**10 32 29.1**	**-0.4**
PB02	**IPOC Station P**	**13.92**	**5**	Pn	**Pn**	**10 33 47.2**	**-2.1**
PB01	**IPOC Station P**	**14.23**	**7**	Pn	**Pn**	**10 33 51.6**	**-1.6**
GO09	**Cerro Castillo**	**16.04**	**182**		**Pn**	**10 34 14.3**	**-1.6**
GO09				IAmb	IAmb	10 34 16.6	
	comp=Z,63nm,1.4s						
PB16	**IPOC Station P**	**16.91**	**6**		**Pn**	**10 34 24.9**	**-2.5**
ITAB	**Concordia**	**18.20**	**69**	P	**P**	**10 34 41.0**	**-0.3**
ITAB				IAmb	IAmb	10 34 42.0	
	comp=Z,7.4nm,0.6s						
AQDB	**Aquidauana**	**20.11**	**47**	P	**P**	**10 35 02.5**	**+0.3**
TXAR	**Lajitas Array**	**71.12**	**330**	P	**P**	**10 41 46.3**	**+2.3**
	comp=Z,0.1nm,0.6s,baz=154,slow=8.6,SNR=1.6						
	comp=Z,0.1nm,0.6s						
BOSA	**Boshof**	**78.95**	**117**	P	**P**	**10 42 29.3**	**0.0**
	comp=Z,1.1nm,0.7s,baz=180,slow=5.1,SNR=3.9						
	comp=Z,1.1nm,0.7s						
TORD	**Toradi Ar. Bea**	**84.05**	**69**	P	**P**	**10 42 56.0**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=217,slow=3.6,SNR=7.4						
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**119.97**	**208**	PKP	**PKiKP**	**10 49 16.2**	**+0.5**
	comp=Z,0.4nm,1.1s,baz=121,slow=3.8,SNR=1.9						

NNC 29 10:56:11.4±1.3,51°.06N×73°.77E,h0km,mb4.0,mpv3.8, 2C-2D,Error ellipse: s-maj=22.2km s-min=5.6km az=25.0,Suspected Mining explosion.,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BVA0	**Borovoye Array**	**2.87**	**315**	↑Pn	Pn	10 56 57.8	-0.5
	8.8nm,1.6s,baz=128,slow=16,SNR=5.5						
BVA0				↑Sn	Sn	10 57 33.8	+0.2
	16nm,0.8s,baz=130,slow=26,SNR=10						
BRVK	**Borovoye**	**2.94**	**314**	↓Pn	Pn	10 56 59.0	-0.3
	6.6nm,1.1s						
BRVK				↓Sn	Sn	10 57 37.6	+2.3
	75nm,1.1s						
KURBB	**Kurchatov Arra**	**3.05**	**96**	Pn	Pn	10 57 00.9	0.0
	4.7nm,0.3s,baz=274,slow=13						
KURBB				Sn	Sn	10 57 39.0	+1.0
	55nm,0.9s,baz=279,slow=25						
KURK	**Kurchatov**	**3.09**	**94**	Pn	Pn	10 57 00.5	-0.8
	7.5nm,0.9s						
KURK				Sn	Sn	10 57 40.8	+1.8
	91nm,1.0s						
BTLS	**Baital**	**6.03**	**178**	Lg	Lg	10 59 01.8	
	18nm,0.6s						
TDK	**Taldyqorghan**	**6.81**	**151**	Pg	Pn	10 58 00.6	+8.1
	50nm,0.2s						
TDK				Lg	Lg	10 59 26.1	
	77nm,0.6s						
ARXS	**Arharly**	**7.38**	**157**	Pg	Pb	10 58 10.6	-10
	1.9nm,0.4s						
ARXS				Lg	Lg	10 59 43.4	
	13nm,0.5s						
KUU	**Kurty**	**7.38**	**165**	Pg	Pb	10 58 11.0	-9.2
	3.3nm,0.9s						
KUU				Lg	Lg	10 59 44.0	
	11nm,0.6s						
CHKK	**Chushkaly**	**7.53**	**162**	Pg	Pb	10 58 13.9	-8.9
	3.1nm,0.1s						
KTBS	**Karatobe**	**7.61**	**164**	Pg	Pb	10 58 15.5	-8.7
	1.1nm,0.5s						
KNOS	**Konyrlen**	**7.63**	**149**	Pg	Pb	10 58 15.6	-9.0
	1.2nm,0.5s						
DJR	**Jarkent**	**7.86**	**147**	Pg	Pb	10 58 19.8	-8.6
	2.7nm,0.6s						
DGS	**Degeres**	**7.94**	**169**	Pg	Pb	10 58 21.7	-8.1
	1.4nm,0.3s						
MTBS	**Maitube**	**8.14**	**166**	Pg	Pb	10 58 25.7	-7.5
	1.2nm,0.1s						
KURS	**Kuram**	**8.14**	**157**	Pg	Pb	10 58 25.3	-7.9
	13nm,1.0s						
KOTS	**Kotyrbulak**	**8.15**	**163**	Pg	Pb	10 58 25.4	-8.0
	2.2nm,0.2s						
KST	**Kastek**	**8.16**	**169**	Pg	Pb	10 58 26.2	-7.4
	1.2nm,0.2s						
MDOK	**Medeo**	**8.21**	**163**	Pg	Pb	10 58 26.7	-7.8
	2.9nm,0.6s						
KPKS	**Kokpek**	**8.30**	**154**	Pg	Pb	10 58 28.3	-7.6
	1.8nm,0.4s						
TNSS	**Tian-Shan**	**8.31**	**164**	Pg	Pb	10 58 28.5	-7.8
	1.3nm,0.3s						
SATY	**Saty**	**8.60**	**157**	Pg	Pn	10 58 33.7	+16
	3.1nm,0.5s						
PDGK	**Podgornoye**	**8.66**	**151**	Pg	Pn	10 58 34.4	+17
	1.0nm,0.5s						
UZB	**Uzynbulak**	**8.69**	**154**	Pg	Pn	10 58 35.5	+17
	4.5nm,0.3s						
SHLS	**Shalkode**	**8.80**	**152**	Pg	Pn	10 58 39.9	+20
	7.0nm,0.2s						

*HEL **29** 11:07:53.8±0.2,67°.80N×20°.14E,h0km,ML1.5,Explosion*
*BER **29** 11:07:53.4±1.2,67°.66N×20°.16E,h0km,ML2.0,Suspected explosion*
*UPP **29** 11:07:53.8±0.0,67°.82N×20°.21E,h0km,ML2.5,Confirmed Induced event*

ISC 29 11:07:53.1±0.8,67°.75N±0°.02×20°.29E±0°.03,h0km,n30, σ1s01/49,Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.20**	**5**	P	**Pg**	**11 07 56.8**	**-0.2**
KUA				S	**Sg**	**11 07 58.8**	**-0.9**
RATU	**Laukkuluspa**	**0.28**	**286**	P	**Pg**	**11 07 58.5**	**+0.2**
DUNU	**Dundret**	**0.64**	**170**	P	**Pb**	**11 08 07.2**	**0.0**
DUNU				S	**Sb**	**11 08 16.9**	**+0.2**
LANU	**Lannavaara**	**0.71**	**64**	P	**Pg**	**11 08 07.2**	**+0.5**
LANU	**Lannavaara**	**0.71**	**64**	PG	**Pg**	**11 08 07.1**	**+0.4**
LANU				SG	**Sg**	**11 08 16.7**	**+0.9**
MASU	**Masugnsbyn**	**0.72**	**114**	P	**Pb**	**11 08 08.4**	**0.0**
SALU	**Saltoluokta**	**0.78**	**242**	P	**Pg**	**11 08 08.6**	**+0.6**
KIF	**Kilpisjarvi**	**1.27**	**8**	*e*P	**Pg**	**11 08 17.2**	**-0.2**
KIF	**Kilpisjarvi**	**1.27**	**8**	PN	**Pg**	**11 08 17.3**	**-0.2**
KIF				MSG		11 08 32.4	
	comp=Z,5.5nm,0.2s						
KIF				SB	**Sg**	**11 08 33.4**	**-0.5**
PAJU	**Pajala**	**1.31**	**123**	P	**Pn**	**11 08 19.0**	**+0.3**
PAJU	**Pajala**	**1.31**	**123**	PG	**Pn**	**11 08 18.9**	**+0.3**
	baz=307						
PAJU				SG	**Sn**	**11 08 37.4**	**+0.5**
ERTU	**Ertsjaerv**	**1.41**	**147**	P	**Pb**	**11 08 21.0**	**+0.7**
ERTU	**Ertsjaerv**	**1.41**	**147**	PG	**Pb**	**11 08 20.6**	**+0.4**
ERTU				SN	**Sn**	**11 08 41.6**	**+2.3**
HEF	**Hetta**	**1.43**	**61**	*e*P	**Pg**	**11 08 20.2**	**-0.2**
HEF				*e*S	**Sb**	**11 08 38.9**	**-0.3**
HEF	**Hetta**	**1.43**	**61**	PG	**Pn**	**11 08 20.0**	**-0.2**
	baz=249						
HEF				MSG		11 08 37.6	
	comp=Z,3.2nm,0.2s						
HEF				SN	**Sn**	**11 08 39.2**	**-0.5**
KLF	**Kolari**	**1.51**	**108**	PG	**Pg**	**11 08 22.1**	**+0.2**
KLF				MSG		11 08 41.0	
	comp=Z,3.5nm,0.2s						
KLF				SN	**Sn**	**11 08 43.6**	**+2.0**
HARU	**Harads**	**1.62**	**170**	P	**Pg**	**11 08 24.6**	**+0.5**
KTK1	**Kautokeino**	**1.67**	**39**	*e*P	**Pn**	**11 08 23.8**	**+0.2**
KTK1				*e*S	**Sb**	**11 08 45.8**	**-0.5**
KTK1				IAML		11 08 48.4	
	comp=Z,9.8nm,0.3s						
KTK1	**Kautokeino**	**1.67**	**39**	PG	**Pn**	**11 08 23.9**	**+0.3**
KTK1				SN	**Sg**	**11 08 46.6**	**-0.1**
JETT	**Jettan, Norway**	**1.81**	**1**	*e*P	**Pn**	**11 08 25.6**	**+0.1**
JETT				*e*S	**Sn**	**11 08 49.0**	**-0.2**
JETT				IAML		11 08 54.9	
	comp=E,68nm,0.4s						
TRO	**Tromso**	**1.96**	**346**	PG	**Pn**	**11 08 27.9**	**+0.5**
TRO				SG	**Sn**	**11 08 53.4**	**+0.8**
KALU	**Kalix**	**2.25**	**146**	PB	**Pb**	**11 08 34.1**	**-0.5**
	baz=328						
KALU				SG	**Sg**	**11 09 04.9**	**-0.5**
TOF	**Tornio**	**2.31**	**135**	PB	**Pb**	**11 08 35.3**	**-0.3**
TOF				MSG		11 09 04.5	
	comp=Z,1.2nm,0.2s						
TOF				SG	**Sg**	**11 09 07.0**	**-0.2**
SGF	**Sodankyl**	**2.41**	**95**	PG	**Pb**	**11 08 36.7**	**-0.5**
SGF				SG	**Sg**	**11 09 09.2**	**-1.2**
RNF	**Rovaniemi**	**2.51**	**115**	PB	**Pb**	**11 08 38.3**	**-0.6**
RNF				SG	**Sg**	**11 09 12.7**	**-0.8**
BURU	**Burvik**	**3.21**	**172**	PB	**Pb**	**11 08 48.1**	**-2.8**
BURU				SB	**Sb**	**11 09 29.5**	**-1.0**
VRF	**Varrio**	**3.54**	**86**	SG	**Sb**	**11 09 42.1**	**+2.0**
OLKF	**Oulanka, Finla**	**3.85**	**108**	PG	**Pg**	**11 09 04.6**	**-2.1**
MSF	**Maaselka**	**3.92**	**114**	PG	**Pg**	**11 09 06.4**	**-1.7**
KU6	**Riekki**	**4.16**	**110**	PG	**Pb**	**11 09 09.6**	**+2.6**
KU6				SG	**Sg**	**11 10 05.4**	**-1.2**

*BGR **29** 11:29:30.8,7°.43N×92°.91E,h10km,mb5.2,Ms4.3*
*IDC **29** 11:29:34.2±0.4,8°.44N×92°.52E,h0km,mb4.9/41, mbtmp4.9/42,ML5.0/1,MS4.3/66,Error ellipse: s-maj=12.2km s-min=10.2km az=57.0*
*MOS **29** 11:29:34.6±1.0,8°.37N×92°.48E,h16km,mb5.4/79, MS4.3/7,Error ellipse: s-maj=6.5km s-min=3.3km az=115.3*
*BJI **29** 11:29:37.0,8°.38N×92°.53E,h31km,mb4.8/68,mB5.2/40, Ms4.6/59,Ms7 4.4/56*
*NEIC **29** 11:29:37.6±1.6,8°.44N±0°.06×92°.42E±0°.07,h17km±3km, mb5.4/200,Ms_20 4.7/26,Mww5.1/13,Error ellipse: s-maj=10.6km s-min=8.7km az=61.0*
*NEIC **29** 11:29:38.6,8°.26N×92°.21E,h24km,Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.00; $M_{\theta\theta}$-0.08; $M_{\phi\phi}$5.08; $M_{r\theta}$1.14; $M_{\theta\phi}$-2.14; $M_{\phi r}$-0.15; Fault plane solution: M_o5.57000×10^{16} NP1: ϕ_s327.60000°,δ49.21000°,λ-107.31000°. NP2: ϕ_s173.11000°,δ43.71000°,λ-70.97000°. Principal axes: T 5.8750, Plg3.0000°, Azm70.0000°; N -0.6173, Plg13.0000°, Azm339.0000°; P -5.2577, Plg77.0000°, Azm172.0000°;*
*NEIC **29** 11:29:38.6,8°.46N×92°.42E,h24km*
*DJA **29** 11:29:39.9±0.3,8°.N±2°×9°.2E±°,h40km±4km,M5.5/39, mb5.5/39,mB5.9/23,MLv5.7/5,Mw(mB)5.4/23, MwMwp5.0/4,Mwp5.3/4*
*KLM **29** 11:29:40,8°.19N×92°.37E,h33km,mb5.4*
*GCMT **29** 11:29:40.6±0.2,8°.48N±0°.01×92°.46E±0°.01,h20km, MW5.1/102,Moment Tensor Solution. s52,c74; s102,c153; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.47±.16; $M_{\theta\theta}$-1.24±.10; $M_{\phi\phi}$4.71±.11; $M_{r\theta}$2.27±.24; $M_{\theta\phi}$-1.51±.08; $M_{\phi r}$-0.36±.17; Best double couple: M_o5.03900×10^{16} NP1:ϕ_s318.00000°,δ59.00000°, λ-128.00000°. NP2:ϕ_s195.00000°,δ48.00000°, λ-44.00000°. Principal axes: T 5.1690, Plg6.0000°, Azm75.0000°; N -0.2580, Plg32.0000°, Azm341.0000°; P -4.9100, Plg57.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NDI **29** 11:29:41.9±3.2,8°.74N×92°.35E,h20km,mb5.4, mb5.4(NEIC)*

ISC 29 11:29:38.6±0.3,8°.42N±0°.03×92°.49E±0°.03,h29km±1km, h29km:pP-P,n1194,σ1s25/1184,mb5.3/280,MS4.4/109, 45C-65D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**3.23**	**4**	Pn	**Pn**	**11 30

VJD eS Sn 11 35 15.7 -16
NONG Nongkai 14.12 46 P **Pn** **11 32 58.6 +1.9**
UBPT Khong Chiam 14.41 61 Pn **Pn** **11 33 03.2 +2.4**
UBPT Khong Chiam 14.41 61 P **Pn** **11 33 03.1 +2.3**
SALM Salem 14.43 284 eP **Pn** **11 33 02.0 +1.0**
SALM eP P 11 33 02.2 -5.4
SALM IAmb IAmb 11 33 04.9
comp=Z,169nm,0.7s
KOD Kodaikanal 14.93 278 eP **Pn** **11 33 07.6 -0.5**
KOD eP P 11 33 07.8 -5.7
KOD IAmb IAmb 11 33 10.7
comp=Z,121nm,0.9s
KOD IAmb IAmb 11 33 10.8
comp=Z,136nm,0.4s
DSRI Dabo 14.94 126 P **P** **11 33 14.2 +1.0**
comp=Z,69nm,0.7s
TRD Trivandrum 15.36 271 eP **Pn** **11 33 13.6 +0.1**
TRD eP **P** **11 33 13.9 -4.0**
TRD IAmb IAmb 11 33 16.9
comp=Z,55nm,0.6s
HYB Hyderabad 16.25 305 eP **P** **11 33 27.3 -0.5**
HYB eS **S** **11 36 37.0 +0.2**
HYB Hyderabad 16.25 305 eP **Pn** **11 33 25.8 +0.7**
HYB IAmb IAmb 11 33 39.0
comp=Z,58nm,0.9s
IMP Imphal 16.38 5 eP **Pn** **11 33 24.8 -1.8**
IMP eP **P** **11 33 29.2 0.0**
IMP IAmb IAmb 11 33 39.6
comp=Z,138nm,0.7s
IMP IAmb IAmb 11 33 39.6
comp=Z,142nm,0.6s
MNAI Manna 16.43 140 Pn **Pn** **11 33 27.0 -0.3**
MNAI IAmb IAmb 11 33 36.1
comp=Z,818nm,1.8s
BOK Bokaro 16.55 338 eP **P** **11 33 30.1 -1.0**
BOK eP **Pn** **11 33 30.2 +1.5**
BOK IAmb IAmb 11 33 43.6
comp=Z,274nm,0.9s
BOK IAmb IAmb 11 33 43.7
comp=Z,296nm,0.8s
SLVN Son La 16.91 39 Pn **Pn** **11 33 32.1 -1.3**
SHL Shillong 17.06 358 Pn **Pn** **11 33 33.5 -1.8**
SHL Shillong 17.06 358 P **Pn** **11 33 33.5 -1.8**
SHL pmax pmax
comp=Z,77nm,0.9s
SHL Shillong 17.06 358 eP **Pn** **11 33 33.0 -2.3**
SHL eP **P** **11 33 33.9 -3.0**
SHL IAmb IAmb 11 33 46.8
comp=Z,60nm,0.8s
SHL IAmb IAmb 11 33 51.0
comp=Z,62nm,0.8s
PPBI Pangkal Pinang 17.19 127 P **P** **11 33 40.5 +2.3**
KOHI KOHIMA 17.28 5 eP **Pn** **11 33 35.8 -2.1**
KOHI eP **Pn** **11 33 35.9 -2.1**
KOHI IAmb IAmb 11 33 48.9
comp=Z,551nm,0.6s
KOHI IAmb IAmb 11 33 49.0
comp=Z,545nm,0.7s
TNCH TengChong 17.49 18 P **Pn** **11 33 39.5 -1.2**
TNCH pP pP 11 33 46.0 -3.1
TNCH sP sP 11 33 50.5 -2.1
TNCH S **Sn** **11 36 52.3 -2.5**
TNCH sS S 11 37 00.5 -1.8
TNCH SS **SnSn** **11 37 18.0 +9.3**
TNCH pmax pmax
comp=Z,67nm,1.4s
TNCH pmax pmax
comp=Z,220nm,2.9s
TNCH LR LR
comp=Z,500nm,18.9s
TNCH LR LR
comp=Z,860nm,17.4s
TNCH LR LR
comp=Z,1μm,23.9s
LWLI Liwa 17.64 139 P **P** **11 33 43.8 +0.5**
comp=Z,365nm,0.7s,comp=Z,7μm
DHUB DHUBRI 17.67 353 IAmb IAmb 11 34 03.3
comp=Z,252nm,0.6s
MOKO MOKOCHONG 17.91 6 eP **Pn** **11 33 43.6 -2.2**
MOKO IAmb IAmb 11 33 57.1
comp=Z,1μm,1.6s
MNGI Mangalore 17.93 286 eP **P** **11 33 47.3 +1.0**
MNGI eP **Pn** **11 33 48.6 +2.6**
MNGI IAmb IAmb 11 33 51.1
comp=Z,73nm,0.7s
MNGI IAmb IAmb 11 33 51.2
comp=Z,104nm,1.0s
KASI Kota Agung 18.31 139 P **Pn** **11 33 50.8 +0.2**
comp=Z,120nm,0.6s,comp=Z,1μm
ITAN ITANAGAR 18.66 3 eP **P** **11 33 53.0 -1.4**
ITAN IAmb IAmb 11 34 05.6
comp=Z,308nm,0.7s
ITAN IAmb IAmb 11 34 05.7
comp=Z,329nm,0.6s
GTK Tadong 19.16 349 eP **Pn** **11 34 01.8 +0.9**
GTK eP **Pn** **11 34 01.8 +0.9**
GTK IAmb IAmb 11 34 13.7
comp=Z,141nm,0.8s
GTK IAmb IAmb 11 34 13.8
comp=Z,147nm,0.8s
RAMN Ramite 19.26 344 eP **Pn** **11 34 03.8 +1.5**
comp=Z,51nm,0.5s
KMI Kunming 19.28 29 ⇓P **Pn** **11 34 03.8 +1.3**
KMI sP sP 11 34 12.3 -0.1
KMI S **S** **11 37 38.3 +0.1**
KMI pmax pmax
comp=Z,60nm,1.3s
KMI LR LR
comp=Z,1μm,17.5s
KMI LR LR
comp=Z,810nm,21.7s
KMI LR LR
comp=Z,1μm,19.0s
AKL Akola 19.30 311 eP **Pn** **11 34 03.2 +0.7**
AKL eP **Pn** **11 34 03.3 +0.7**
AKL IAmb IAmb 11 34 16.0
comp=Z,97nm,0.9s
AKL IAmb IAmb 11 34 16.2
comp=Z,89nm,0.6s
TAPN Taplejung 19.37 347 eP **Pn** **11 34 05.1 +1.5**
QIZ Qiongzhong 19.87 56 P **Pn** **11 34 09.3 0.0**
QIZ S **S** **11 37 49.3 -0.6**
QIZ sS **sS** **11 38 01.8 0.0**
QIZ pmax pmax
comp=Z,72nm,1.5s
QIZ LR LR
comp=Z,1μm,10.1s
QIZ LR LR
comp=Z,1μm,15.1s
QIZ LR LR
comp=Z,1μm,16.8s
CGJI Cibinong 19.91 138 P **P** **11 34 05.3 -2.7**
comp=Z,100nm,0.6s,comp=Z,1μm
PZH PanZhiHua 20.02 25 P **P** **11 34 10.3 +1.0**
PZH pP **sP** **11 34 18.5 -1.9**
PZH S Sn 11 37 54.8 -0.9
PZH pmax pmax
comp=Z,90nm,1.5s
PZH pmax pmax
comp=Z,350nm,3.7s
PZH LR LR
comp=Z,780nm,17.6s
PZH LR LR
comp=Z,560nm,17.7s
PZH LR LR
comp=Z,1μm,19.8s
JIRN Jiri 20.05 344 eP Pn 11 34 11.9 +0.2
comp=Z,60nm,0.4s
PKI Pulchoki 20.19 342 eP Pn 11 34 12.8 -0.7
comp=Z,23nm,0.4s
DMN Daman 20.32 341 eP Pn 11 34 14.3 -0.6
comp=Z,20nm,0.5s
GUN Gumba 20.37 343 eP Pn 11 34 14.9 -0.6
comp=Z,81nm,0.7s
SBUM Sibu 20.51 106 P Pn 11 34 16.0 -0.9
DBJI Dramaga 20.58 136 P **P** **11 34 12.4 -3.0**
STKI Sintang 20.66 113 P **P** **11 34 17.2 +0.9**
GKN Gorkha 20.84 340 eP Pn 11 34 19.8 -1.1
comp=Z,137nm,0.7s
KOLN Koldanda 21.00 338 eP **P** **11 34 21.6 +1.5**
LSA Lhasa 21.21 357 *i* P **P** **11 34 25.4 +2.8**
SNR=11
LEM Lembang 21.37 135 P **P** **11 34 24.5 +0.4**
LEM Lembang 21.37 135 P **P** **11 34 24.2 +0.1**
comp=Z,46nm,0.9s,baz=332,slow=22,SNR=5.6

LEM S **S** **11 38 12.2 -8.1**
comp=Z,17nm,0.6s,baz=70,slow=11,SNR=3.9
LEM LR LR 11 43 55.2
comp=Z,827nm,18.8s,baz=302,slow=40
comp=Z,46nm,0.9s
DANN Dangsing 21.47 339 eP **P** **11 34 26.6 +1.4**
comp=Z,165nm,0.8s
PYUN Piuthan 21.53 337 eP **P** **11 34 27.1 +1.3**
comp=Z,139nm,1.0s
BBJI Bungbulang 21.85 136 P **P** **11 34 28.7 -0.4**
GYA Guiyang 22.43 35 ⇓P **P** **11 34 35.8 +0.5**
GYA S **S** **11 38 37.8 -2.4**
GYA pmax pmax
comp=Z,36nm,1.1s
GYA pmax pmax
comp=Z,270nm,5.2s
GYA LR LR
comp=Z,770nm,21.6s
GYA LR LR
comp=Z,360nm,12.7s
GYA LR LR
comp=Z,1μm,21.3s
KPJI Karang Pucung 22.66 133 P P 11 34 49.2 +11
XMI Christmas Isla 22.89 145 P **P** **11 34 41.4 +1.2**
XMIS Christmas Isla 22.89 145 P **P** **11 34 39.8 -0.4**
XMIS IAmb IAmb 11 35 03.0
comp=Z,126nm,1.0s
XMIS Christmas Isla 22.89 145 P **P** **11 34 41.0 +0.8**
SMRI Semarang 23.59 130 P **P** **11 34 47.5 +0.4**
SMRI Semarang 23.59 130 P **P** **11 34 48.2 +1.1**
SMRI Semarang 23.59 130 P **P** **11 34 48.1 +0.9**
comp=Z,197nm,0.7s
GULI GuiLin 23.91 43 P P 11 34 58.8 +8.7
YOGI Yogyakarta 23.98 132 P **P** **11 34 52.9 +2.0**
comp=Z,132nm,1.5s
SPMM Sapulut 24.10 97 P **P** **11 34 54.0 +2.0**
MTKI Muara Teweh, K 24.19 112 P **P** **11 34 54.1 +1.2**
NGJI Ngawi 24.57 129 P P 11 35 05.0 +8.8
CD2 Chengdu 24.73 24 P **P** **11 34 58.5 +0.9**
CD2 S **S** **11 39 19.0 +1.0**
CD2 pmax pmax
comp=Z,70nm,0.6s
CD2 LR LR
comp=Z,700nm,11.9s
CD2 LR LR
comp=Z,660nm,8.0s
CD2 LR LR
comp=Z,790nm,10.6s
HKPS Hong Kong Po S 24.97 54 IAMs_20 IAMs_20 11 45 51.1
comp=Z,2μm,18.0s
BBKI Banjar Baru 25.22 117 P **P** **11 35 03.2 +1.0**
comp=Z,87nm,0.7s,comp=Z,7μm
H08S3 Diego Garcia H 25.53 232 T T 12 01 22.3
baz=52,slow=76
H08S2 Diego Garcia H 25.53 232 T T 12 01 24.6
baz=52,slow=76,SNR=616
H08S1 Diego Carcia H 25.55 232 T T 12 01 23.4
baz=52,slow=76,SNR=348
KMMI Kalianget 26.36 125 P **P** **11 35 13.2 +0.8**
comp=Z,94nm,0.7s
BLJI Banyuglugur 26.46 127 P **P** **11 35 13.3 -0.1**
comp=Z,105nm,0.7s
ENH Enshi 26.94 34 P **P** **11 35 17.4 -0.3**
ABJI Asem Bagus 27.00 126 P **P** **11 35 18.2 -0.1**
comp=Z,129nm,0.8s
JAGI Jajag, Banyuwa 27.34 127 P **P** **11 35 20.3 -1.1**
JAGI IAmb IAmb 11 35 42.2
comp=Z,110nm,1.7s
GOMU GeErMu 27.73 4 P **P** **11 35 25.0 -0.1**
GOMU S **S** **11 39 56.0 -10**
GOMU pmax pmax
comp=Z,4.0nm,0.7s
GOMU LR LR
comp=Z,390nm,14.1s
GOMU LR LR
comp=Z,200nm,14.0s
GOMU LR LR
comp=Z,470nm,14.2s
TGY Tagaytay City 28.45 76 LR LR 11 47 35.0
comp=Z,700nm,18.4s,baz=131,slow=38
MPSI Mapaga 28.46 105 P **P** **11 35 32.7 +1.3**
comp=Z,61nm,0.7s,comp=Z,634nm
TOLI2 Tolitoli 29.09 103 P **P** **11 35 37.3 +0.3**
TOLI2 Tolitoli 29.09 103 P **P** **11 35 38.3 +1.3**
LZH Lanzhou 29.43 19 ⇓P **P** **11 35 40.5 +0.6**
LZH pP pP 11 35 49.0 +1.0
LZH S **S** **11 40 38.0 +5.6**
LZH pmax pmax
comp=Z,29nm,1.2s
LZH LR LR
comp=Z,1μm,14.8s
LZH LR LR
comp=Z,640nm,14.4s
LZH LR LR
comp=Z,2μm,15.8s
XAN Xi'an 29.65 28 ⇑P **P** **11 35 40.5 -1.3**
XAN pP pP 11 35 49.0 -0.9
XAN S **S** **11 40 39.5 +3.8**
XAN pmax pmax
comp=Z,30nm,0.7s
XAN pmax pmax
comp=Z,280nm,6.6s
XAN LR LR
comp=Z,740nm,17.9s
XAN LR LR
comp=Z,1μm,19.2s
XAN LR LR
comp=Z,2μm,20.6s
WHN Wuhan 30.04 40 P P 11 35 51.8 +6.6
WHN sP sP 11 36 01.5 +4.8
WHN S **S** **11 40 47.0 +5.3**
WHN pmax pmax
comp=Z,46nm,1.1s
WHN LR LR
comp=N,560nm,12.9s
WHN LR LR
comp=E,550nm,14.6s
WHN LR LR
comp=Z,1μm,17.5s
SSLB Suanglung 31.23 57 IAMs_20 IAMs_20 11 48 36.2
comp=Z,1μm,20.0s
YULB Yu-li 31.36 58 P **P** **11 35 57.4 +0.4**
YULB IAmb IAmb 11 36 09.7
comp=Z,149nm,1.7s
YULB IAMs_20 IAMs_20 11 50 50.6
comp=Z,2μm,18.0s
YULB Yu-li 31.36 58 P **P** **11 35 57.9 +0.9**
GTOI Gorontalo 31.37 103 P **P** **11 35 57.2 0.0**
comp=Z,61nm,0.7s,comp=Z,530nm
GTA Gaotai 31.55 11 ⇓P **P** **11 36 00.3 +1.7**
GTA pP sP 11 36 08.5 -1.6
GTA PcP **PcP** **11 38 52.0 +1.1**
GTA S **S** **11 41 04.5 -1.0**
GTA pmax pmax
comp=Z,12nm,0.7s
GTA pmax pmax
comp=Z,190nm,6.8s
GTA LR LR
comp=Z,380nm,14.7s
GTA LR LR
comp=Z,220nm,15.5s
GTA LR LR
comp=Z,350nm,17.1s
LUWI Luwuk 31.61 106 P **P** **11 35 58.9 -0.4**
LUWI Luwuk 31.61 106 P **P** **11 36 00.4 +1.1**
LUWI Luwuk 31.61 106 P **P** **11 36 00.3 +1.0**
comp=Z,280nm,0.7s,comp=Z,2μm
LYN LuoYang 31.83 32 ⇓P **P** **11 36 01.5 +0.5**
LYN pP pP 11 36 09.5 +0.4
LYN PcP **PcP** **11 38 52.5 +0.9**
LYN S **S** **11 41 16.3 +6.5**
LYN sS sS 11 41 30.0 +6.7
LYN pmax pmax
comp=Z,33nm,0.8s
LYN pmax pmax
comp=Z,340nm,5.2s
LYN LR LR
comp=Z,810nm,16.8s
LYN LR LR
comp=Z,1μm,17.7s
LYN LR LR
comp=Z,2μm,17.8s
NACB Ninganchiao 31.93 57 P **P** **11 36 03.3 +1.4**
NACB IAmb IAmb 11 36 14.4
comp=Z,26nm,0.9s
DAV Davao City (W) 32.81 90 LR LR 11 51 27.0
comp=Z,356nm,18.1s,baz=318,slow=40
BASI Baing, Sumba 33.54 123 P **P** **11 36 14.7 -1.4**
comp=Z,265nm,1.6s
EDFI Ende, Flores 33.72 120 P **P** **11 36 13.4 -4.5**
comp=Z,28nm,0.7s
KBL Kabul 33.76 324 P **P** **11 36 17.0 -1.1**
KBL Kabul 33.76 324 P **P** **11 36 17.0 -1.1**
KBL pmax pmax
comp=Z,14nm,0.7s
NJ2 Nanjing 33.95 42 eP **P** **11 36 20.5 +1.0**
NJ2 pP **pP** **11 36 26.5 -1.2**
NJ2 sP **sP** **11 36 29.3 -1.8**
NJ2 pmax pmax
comp=Z,17nm,0.5s
NJ2 pmax pmax
comp=Z,230nm,4.0s
NJ2 LR LR
comp=Z,460nm,15.2s
NJ2 LR LR
comp=Z,440nm,16.1s
NJ2 LR LR
comp=Z,820nm,16.1s
KSH Kashi 34.32 337 P **P** **11 36 22.5 -0.3**
KSH pP pP 11 36 31.0 0.0
KSH sP sP 11 36 35.3 +0.9
KSH PP **PP** **11 37 40.0 -0.9**
KSH PcP **PcP** **11 38 59.3 +0.7**
KSH pmax pmax
comp=Z,45nm,0.8s
KSH LR LR
comp=Z,500nm,16.8s
KSH LR LR
comp=Z,470nm,17.7s
KSH LR LR
comp=Z,700nm,17.9s
SANI Sanana 34.98 106 P **P** **11 36 29.8 +1.1**
SANI Sanana 34.98 106 P **P** **11 36 27.8 -0.9**
comp=Z,27nm,0.8s
HNS HongShan 35.18 32 ⇑P **P** **11 36 30.8 +0.7**
HNS S **S** **11 42 00.0 -1.5**
HNS pmax pmax
comp=Z,49nm,0.8s
HNS LR LR
comp=Z,610nm,17.1s
HNS LR LR
comp=Z,600nm,18.0s
WMQ Urumqi 35.51 354 eP **P** **11 36 34.5 +1.5**
WMQ sP sP 11 36 46.0 +1.5
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ LR LR
comp=Z,370nm,18.7s
WMQ LR LR
comp=Z,320nm,21.7s
TIA Tai'an 35.62 35 ⇓P **P** **11 36 34.5 +0.5**
TIA pmax pmax
comp=Z,13nm,0.9s
TIA LR LR
comp=Z,250nm,18.6s
TIA LR LR
comp=Z,230nm,19.1s
TIA LR LR
comp=Z,320nm,21.1s
WSAR Wadi Sarin 35.63 298 LR LR 11 51 16.3
comp=Z,416nm,18.5s,baz=136,slow=36
BTO Baotou 35.65 23 eP **P** **11 36 34.5 +0.2**
BTO pP **sP** **11 36 44.3 -1.6**
BTO sP **pP** **11 36 48.0 +5.5**
BTO PP **PP** **11 37 56.0 +0.5**
BTO S **S** **11 42 08.8 -0.2**
BTO sS **sS** **11 42 25.5 +2.8**
BTO SS **SnSn** **11 44 31.5 0.0**
BTO pmax pmax
comp=Z,39nm,0.7s
BTO pmax pmax
comp=Z,430nm,5.1s
BTO LR LR
comp=Z,990nm,19.8s
BTO LR LR
comp=Z,730nm,18.0s
BTO LR LR
comp=Z,930nm,21.6s
LBMI Labuha 36.03 103 P **P** **11 36 38.2 +0.4**
comp=Z,101nm,1.0s,comp=Z,2μm
PRZ Przheval'sk 36.13 342 P **P** **11 36 40.9 +2.5**
PRZ Przheval'sk 36.13 342 P **P** **11 36 40.9 +2.5**
PRZ pmax pmax
comp=Z,223nm,0.9s
NLAI Namlea 36.41 107 P **P** **11 36 41.8 +0.9**
comp=Z,28nm,0.7s,comp=Z,3μm
SOEI Soe 36.43 119 P **P** **11 36 40.0 -1.2**
SOEI IAmb IAmb 11 36 58.2
comp=Z,35nm,0.7s
SOEI Soe 36.43 119 P **P** **11 36 41.6 +0.3**
SHLS Shalkode 36.44 344 eP **P** **11 36 41.6 +0.6**
baz=344
SHLS *i* pP **sP** **11 36 50.7 -1.9**
baz=344
SHLS Shalkode 36.44 344 eP **P** **11 36 41.5 +0.6**
SHLS *i* *PP **sP** **11 36 50.7 -1.9**
HHC Hu-ho-hao-te 36.48 25 eP P 11 36 48.0 +6.7
HHC pmax pmax
comp=Z,88nm,0.8s
HHC pmax pmax
comp=Z,300nm,4.7s
HHC LR LR
comp=N,850nm,17.6s
HHC LR LR
comp=E,500nm,19.1s
HHC LR LR
comp=Z,1μm,19.1s
UZB Uzynbulak 36.55 343 ⇓*i*P **P** **11 36 43.5 +1.4**
comp=Z,21nm,1.2s,baz=343
UZB *i* pP **sP** **11 36 52.5 -1.1**
baz=343
UZB Uzynbulak 36.55 343*d**i*P **P** **11 36 43.4 +1.4**
UZB *i* *PP **sP** **11 36 52.5 -1.1**
UZB pmax pmax
comp=Z,21nm,1.2s
PDGK Podgornoye 36.59 344 P **P** **11 36 39.9 -2.4**
ULHL Ulahol 36.61 340 P **P** **11 36 43.6 +1.1**
SNR=18
SATY Saty 36.65 343 ⇓*i*P **P** **11 36 44.3 +1.4**
comp=Z,19nm,0.9s,baz=343
SATY *i* pP **sP** **11 36 53.4 -1.0**
baz=343
SATY Saty 36.65 343*d**i*P **P** **11 36 44.2 +1.4**
SATY *i* *PP **sP** **11 36 53.3 -1.0**
SATY pmax pmax
comp=Z,19nm,0.9s
ZHN Zhinishke 36.74 343 eP **P** **11 36 44.7 +1.1**
baz=343
ZHN Zhinishke 36.74 343 eP **P** **11 36 44.7 +1.1**
KZA Kyzart 36.82 338 P **P** **11 36 45.5 +0.9**
SNR=24
KPKS Kokpek 36.94 343 eP **P** **11 36 46.4 +1.1**
comp=Z,21nm,1.1s,baz=343
KPKS *i* pP **sP** **11 36 55.5 -1.4**
baz=343
KPKS *e*S **S** **11 42 29.4 +0.7**
baz=343
KPKS Kokpek 36.94 343 eP **P** **11 36 46.3 +1.1**
KPKS *i* *PP **sP** **11 36 55.4 -1.4**
KPKS *e*S **S** **11 42 29.4 +0.7**
KPKS pmax pmax
comp=Z,21nm,1.1s
BTK Batken 36.97 332 P **P** **11 36 47.0 +1.5**
BTK Batken 36.97 332 P **P** **11 36 47.0 +1.5**
BTK pmax pmax
comp=Z,166nm,0.9s
ARSB Arslanbob 37.05 335 P **P** **11 36 47.7 +1.4**
ARSB IAmb IAmb 11 36 59.2
comp=Z,59nm,0.8s
ARSB Arslanbob 37.05 335 P **P** **11 36 47.7 +1.4**
ARSB pmax pmax
comp=Z,59nm,0.8s
TNSS Tian-Shan 37.08 341 ⇓*i*P **P** **11 36 48.0 +1.1**
baz=341
TNSS Tian-Shan 37.08 341 ⇓*i*P **P** **11 36 47.9 +1.1**
MDOK Medeo 37.16 341 *i* P **P** **11 36 48.9 +1.7**
baz=341
MDOK Medeo 37.16 341 P **P** **11 36 48.4 +1.2**
UCH Uchtor 37.22 338 P **P** **11 36 49.6 +1.6**
SNR=44
AAA Alma-Ata 37.25 341 eP **P** **11 36 49.1 +1.3**
baz=341

AAA Alma-Ata 37.25 341 *e*P **P** **11 36 49.0 +1.3**
KBK Karagaybulak 37.43 339 P **P** **11 36 51.4 +1.9**
SNR=56
TKM2 Tokmak 2 37.43 339 P **P** **11 36 50.8 +1.3**
SNR=28
TKM2 Tokmak 2 37.43 339 *i* P **P** **11 36 49.7 +0.2**
TKM2 pmax pmax
comp=Z,54nm,0.8s
AML Almayashu 37.45 337 P **P** **11 36 51.7 +1.8**
SNR=26
AML Almayashu 37.45 337 *i* P **P** **11 36 51.2 +1.3**
AML pmax pmax
comp=Z,24nm,0.6s
GIRL Giralia 37.51 146 P **P** **11 36 51.7 +1.6**
baz=38,SNR=4.0
AAK Ala-Archa 37.58 338 P **P** **11 36 52.5 +1.8**
SNR=16
AAK Ala-Archa 37.58 338 P **P** **11 36 52.0 +1.2**
AAK Ala-Archa 37.58 338 *i* P **P** **11 36 52.6 +1.8**
SNR=17
AAK Ala-Archa 37.58 338 *ce*P **P** **11 36 52.4 +1.7**
AAK pmax pmax
comp=Z,64nm,1.0s
AAK Ala-Archa 37.58 338 LR LR 11 55 43.2
comp=Z,560nm,18.0s,baz=154,slow=42
FRU1 Bishkek 37.68 338 P **P** **11 36 53.5 +2.0**
FRU1 IAmb IAmb 11 37 04.5
comp=Z,70nm,0.8s
FRU1 Bishkek 37.68 338 P **P** **11 36 53.5 +2.0**
FRU1 pmax pmax
comp=Z,70nm,0.8s
SOHO SOHO 37.74 299 *i* P **P** **11 36 54.6 +2.4**
SNR=8.5
CHMS Chumysh 37.80 339 P **P** **11 36 54.0 +1.6**
SNR=16
CHKK Chushkaly 37.80 342 *e*P **P** **11 36 52.4 -0.1**
baz=342
CHKK Chushkaly 37.80 342 *e*P **P** **11 36 52.3 -0.1**
EKS2 Erkin-Say 37.87 337 P **P** **11 36 55.1 +2.0**
SNR=36
ARXS Arharly 37.88 343 *e*P **P** **11 36 53.9 +0.8**
BJI Beijing 37.93 30 P **P** **11 36 54.8 +1.3**
BJI S **S** **11 42 44.3 +0.8**
BJI pmax pmax
comp=Z,10.0nm,0.7s
BJI LR LR
comp=Z,150nm,20.2s
BJI LR LR
comp=Z,260nm,20.8s
BJI LR LR
comp=Z,270nm,19.3s
HRA Herat 37.95 317 P **P** **11 36 53.7 -0.3**
KUU Kurty 38.05 341 ⇓*i* P **P** **11 36 54.9 +0.4**
comp=Z,48nm,0.9s,baz=341
KUU Kurty 38.05 341 *d i* P **P** **11 36 54.9 +0.4**
KUU pmax pmax
comp=Z,48nm,0.9s
USP Ospenovka 38.12 339 P **P** **11 36 56.4 +1.2**
SNR=61
SGDS Sogindy 38.24 339 ⇓*i* P **P** **11 36 57.2 +1.0**
baz=339
SGDS Sogindy 38.24 339 *d i* P **P** **11 36 57.1 +1.0**
UOSS Minazif 38.28 300 P **P** **11 36 56.7 -0.1**
UOSS Minazif 38.28 300 *i* P **P** **11 37 01.1 +4.4**
SNR=5.9
HATD Hatta, Dubai 38.30 300 *i* P **P** **11 36 59.6 +2.7**
SNR=6.4
ALNE Al Ain 38.39 298 *i* P **P** **11 37 00.4 +2.7**
SNR=8.6
TDK Taldyqorghan 38.44 344 ⇓*i* P **P** **11 36 58.1 +0.4**
baz=344
TDK Taldyqorghan 38.44 344 *d i* P **P** **11 36 58.1 +0.4**
JOW Kunígami 38.52 57 LR LR 11 55 28.0
comp=Z,607nm,19.3s,baz=224,slow=40
ASUD Al Ashush, Dub 38.93 299 *i* P **P** **11 37 05.6 +3.4**
SNR=8.4
DZA Taraz 39.04 335 *e*P **P** **11 37 03.6 +0.7**
comp=Z,17nm,0.5s,baz=335
DZA Taraz 39.04 335 *e*P **P** **11 37 03.6 +0.7**
DZA pmax pmax
comp=Z,17nm,0.5s
AJN Ajban 39.21 299 P **P** **11 37 07.1 +2.6**
MK31 Makanchi Array 39.22 349 P **P** **11 37 04.0 -0.3**
MK31 Makanchi Array 39.22 349 *i* P **P** **11 37 03.7 -0.6**
MK31 pmax pmax
comp=Z,66nm,1.0s
MKAR Makanchi Array 39.22 349 P **P** **11 37 04.4 0.0**
comp=Z,8.7nm,0.6s,baz=167,slow=8.3,SNR=88
MKAR PcP **PcP** **11 39 13.7 +0.6**
comp=Z,4.8nm,0.7s,baz=202,slow=4.8,SNR=2.6
MKAR LR LR 11 55 33.3
comp=Z,506nm,21.9s,baz=178,slow=40
comp=Z,8.7nm,0.6s
MAKZ Makanchi 39.30 349 P **P** **11 37 04.5 -0.4**
MAKZ Makanchi 39.30 349 P **P** **11 37 04.8 -0.1**
CHM Chimkent 39.33 333 *e*P **P** **11 37 06.6 +1.3**
baz=333
CHM Chimkent 39.33 333 *e*P **P** **11 37 06.5 +1.3**
ZSN Zaisan 39.43 352 *e*P **P** **11 37 06.8 +0.7**
baz=352
ZSN Zaisan 39.43 352 *e*P **P** **11 37 06.7 +0.7**
KK31 Karatay Array 39.56 335 P **P** **11 37 08.1 +0.9**
KK31 IAmb IAmb 11 37 19.5
comp=Z,91nm,0.8s
KK31 Karatay Array 39.56 335 *i* P **P** **11 37 07.7 +0.5**
KKAR Karatay Array 39.56 335 P **P** **11 37 07.9 +0.7**
KKAR Karatay Array 39.56 335 P **P** **11 37 08.1 +0.9**
KKAR IAmb IAmb 11 37 19.5
comp=Z,90nm,0.8s
KKAR Karatay Array 39.56 335 P **P** **11 37 07.9 +0.7**
MBWA Marble Bar 39.75 138 P **P** **11 37 08.6 -0.4**
MBWA IAmb IAmb 11 37 11.6
comp=Z,95nm,1.7s
MBWA Marble Bar 39.75 138 P **P** **11 37 09.4 +0.4**
BTLS Baital 39.83 340 ⇓*i* P **P** **11 37 10.2 +0.8**
baz=340
BTLS Baital 39.83 340 *d i* P **P** **11 37 10.1 +0.8**
PSA00 Pilbara Seismi 40.12 138 P **P** **11 37 11.5 -0.5**
PSA00 Pilbara Seismi 40.12 138 P **P** **11 37 12.3 +0.3**
XLT XiLinHaoTe 40.90 26 *e*P **P** **11 37 18.8 +0.5**
XLT pP pP 11 37 27.8 +1.2
XLT sP sP 11 37 34.8 +4.8
XLT sS sS 11 43 42.3 +0.3
XLT SS **SS** **11 46 24.8 -5.5**
XLT pmax pmax
comp=Z,19nm,0.9s
XLT pmax pmax
comp=Z,200nm,5.9s
XLT LR LR
comp=Z,530nm,14.5s
XLT LR LR
comp=Z,520nm,15.3s
SONM Songino Array 41.02 14 P **P** **11 37 20.3 +1.0**
SONM Songino Array 41.02 14 P **P** **11 37 19.7 +0.3**
comp=Z,3.4nm,0.6s,baz=195,slow=8.0,SNR=28
SONM PcP **PcP** **11 39 19.7 +0.7**
comp=Z,5.9nm,0.7s,baz=200,slow=4.3,SNR=7.9
SONM LR LR 11 56 49.9
comp=Z,822nm,21.2s,baz=189,slow=40
comp=Z,3.4nm,0.6s
ULN Ulaanbaatar 41.21 15 P **P** **11 37 20.7 -0.2**
ULN Ulaanbaatar 41.21 15 IAMs_20 IAMs_20 11 56 43.4
comp=Z,881nm,20.0s
ULN Ulaanbaatar 41.21 15 *i* P **P** **11 37 20.0 -0.9**
ULN pmax pmax
comp=Z,15nm,0.8s
FAKI Fak Fak 41.22 104 P **P** **11 37 21.2 -0.1**
DGZ Jazzator, Alta 41.37 355 *i* P **P** **11 37 22.7 +0.5**
DGZ pmax pmax
comp=Z,13nm,0.8s
FITZ Fitzroy Crossi 42.02 129 P **P** **11 37 26.3 -1.4**
baz=42,SNR=15
FITZ Fitzroy Crossi 42.02 129 P **P** **11 37 26.7 -1.0**
TJN Taejon 42.19 43 P **P** **11 37 30.3 +1.3**
TJN Taejon 42.19 43 P **P** **11 37 29.4 +0.5**
TJN Taejon 42.19 43 *i* P **P** **11 37 28.2 -0.7**
INCN Inchon 42.31 42 IAMs_20 IAMs_20 11 56 44.6
comp=Z,640nm,19.0s
INCN Inchon 42.31 42 P **P** **11 37 30.9 +0.9**
JTU Tsushima 42.67 47 P **P** **11 37 33.9 +1.0**
GEYT Alibeck 42.71 319 P **P** **11 37 35.1 +1.9**
GEYT IAmb IAmb 11 37 50.5
comp=Z,65nm,1.0s
GEYT Alibeck 42.71 319 P **P** **11 37 34.9 +1.7**
comp=Z,25nm,0.8s,baz=144,slow=10,SNR=46
GEYT PcP **PcP** **11 39 25.2 +0.5**
comp=Z,11nm,0.9s,baz=90,slow=1.4,SNR=2.3
GEYT LR LR 11 58 21.8
comp=Z,491nm,19.7s,baz=142,slow=40
comp=Z,25nm,0.8s
GYA0 ALIBECK ARRAY 42.71 319 P **P** **11 37 34.5 +1.3**
GYA0B ALIBECK ARRAY 42.71 319 P **P** **11 37 34.8 +1.5**
GYA0B IAmb IAmb 11 37 50.5
comp=Z,56nm,0.9s
ZAK Zakamensk 42.78 10 *e*P **P** **11 37 34.7 +1.0**
ZAK *e* 11 39 17.6
ZAK pmax pmax
comp=Z,21nm,1.4s
ZAK pmax pmax
comp=Z,5.0nm,1.8s
SEM Semipalatinsk 43.08 349 *e*P **P** **11 37 35.8 -0.4**
baz=349
SEM Semipalatinsk 43.08 349 *e*P **P** **11 37 35.8 -0.4**
MEEK Meekatharra 43.09 145 P **P** **11 37 36.5 0.0**
baz=43,SNR=14
MEEK Meekatharra 43.09 145 P **P** **11 37 37.6 +1.2**
KSAR Wonju Array Be 43.12 42 P **P** **11 37 37.0 +0.5**
KSAR Wonju Array Be 43.12 42 P **P** **11 37 37.0 +0.5**
JNU Nakatsue 43.13 50 P **P** **11 37 36.7 0.0**
JNU Nakatsue 43.13 50 P **P** **11 37 37.4 +0.7**
JNU Nakatsue 43.13 50 P **P** **11 37 37.0 +0.4**
comp=Z,7.2nm,0.9s,baz=157,slow=12,SNR=2.6
JNU LR LR 11 57 04.3
comp=Z,419nm,20.0s,baz=242,slow=38
comp=Z,7.2nm,0.9s
SNY Shenyang 43.13 34 ⇑P P 11 37 45.5 +9.1
SNY S S 11 44 35.0 +34
SNY sS SS 11 47 03.5 -11
SNY pmax pmax
comp=Z,29nm,1.4s
SNY pmax pmax
comp=Z,190nm,5.7s
SNY LR LR
comp=N,450nm,20.2s
SNY LR LR
comp=E,350nm,18.8s
SNY LR LR
comp=Z,360nm,13.2s
KS19 Wonju Array Si 43.14 42 P **P** **11 37 37.5 +0.9**
KSRS Korea Array 43.15 42 P **P** **11 37 37.1 +0.4**
comp=Z,3.2nm,0.7s,baz=239,slow=8.8,SNR=14
KSRS LR LR 11 56 18.2
comp=Z,342nm,20.5s,baz=245,slow=37
comp=Z,3.2nm,0.7s
KNRA Kununurra 43.17 124 P **P** **11 37 35.3 -1.9**
baz=43,SNR=3.7
KNRA Kununurra 43.17 124 P **P** **11 37 35.5 -1.7**
KURBB Kurchatov Arra 43.64 347 P **P** **11 37 38.4 -2.0**
KURBB Kurchatov Arra 43.64 347 P **P** **11 37 40.8 +0.4**
comp=Z,15nm,1.0s,baz=170,slow=7.3,SNR=112
KURBB PcP **PcP** **11 39 27.9 +0.5**
comp=Z,7.4nm,0.7s,baz=163,slow=2.6,SNR=7.8
KURBB LR LR 11 57 56.8
comp=Z,485nm,21.4s,baz=148,slow=39
comp=Z,15nm,1.0s
MORW Morawa 43.64 150 P **P** **11 37 42.2 +1.4**
baz=44,SNR=7.0
MORW Morawa 43.64 150 P **P** **11 37 42.2 +1.4**
MOY Mondy 43.68 8 *e*P **P** **11 37 42.1 +1.2**
MOY pmax pmax
comp=Z,33nm,2.0s
KURK Kurchatov 43.71 347 P **P** **11 37 41.3 +0.4**
KURK IAmb IAmb 11 37 53.0
comp=Z,65nm,1.1s
KURK Kurchatov 43.71 347 *ce*P **P** **11 37 41.1 +0.1**
KURK pmax pmax
comp=Z,28nm,1.0s
MTN Manton Dam 43.82 118 P **P** **11 37 40.6 -1.8**
baz=44,SNR=8.3
MTN Manton Dam 43.82 118 P **P** **11 37 40.4 -2.0**
BRZS Berezniki 44.60 342 ⇓*i* P **P** **11 37 48.9 +0.7**
baz=342
BRZS Berezniki 44.60 342 *d i* P **P** **11 37 48.9 +0.7**
KDU Kakadu 44.92 117 P **P** **11 37 49.9 -1.3**
baz=45,SNR=6.8
KDU Kakadu 44.92 117 P **P** **11 37 50.1 -1.1**
BLDU Ballidu 45.24 150 P **P** **11 37 54.3 +0.8**
baz=45,SNR=10.0
CN2 Changchun 45.46 34 *e*P **P** **11 37 54.3 -0.8**
CN2 *e*S **S** **11 44 34.0 -0.9**
CN2 SS **ScS** **11 47 48.0 -1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,300nm,12.0s
CN2 LR LR
comp=Z,500nm,12.0s
CN2 LR LR
comp=Z,400nm,14.4s
JMN Monobe 45.66 50 P **P** **11 37 58.2 +1.3**
ZAA0 Zalesovo Array 45.82 354 P **P** **11 37 57.8 0.0**
ZAA0 IAmb IAmb 11 38 09.3
comp=Z,33nm,0.8s
ZALV Zalesovo Beam 45.82 354 P **P** **11 37 57.8 0.0**
comp=Z,8.5nm,0.7s,baz=178,slow=7.9,SNR=35
ZALV PcP **PcP** **11 39 34.2 -0.7**
comp=Z,6.0nm,0.7s,baz=168,slow=2.7,SNR=2.5
ZALV LR LR 12 00 34.9
comp=Z,358nm,21.5s,baz=170,slow=41
comp=Z,8.5nm,0.7s
MUN Mundaring 46.12 152 P **P** **11 38 01.6 +1.2**
baz=46,SNR=18
MUN Mundaring 46.12 152 P **P** **11 38 01.2 +0.7**
RER Riviere de l'E 46.54 230 P **P** **11 38 02.5 -1.5**
KLBR Kellerberrin 46.55 150 P **P** **11 38 04.8 +0.9**
baz=47,SNR=4.9
HIA Hailar 46.68 24 P **P** **11 38 05.1 +0.4**
NWAO Narrogin (SRO) 47.39 151 P **P** **11 38 11.2 +0.8**
baz=48,SNR=8.7
NWAO P **P** **11 38 11.2 +0.8**
baz=48,SNR=8.7
NWAO Narrogin (SRO) 47.39 151 P **P** **11 38 10.7 +0.3**
NWAO IAmb IAmb 11 38 33.4
comp=Z,30nm,0.8s
NWAO Narrogin (SRO) 47.39 151 P **P** **11 38 10.5 +0.1**
NWAO IAmb IAmb 11 38 33.4
comp=Z,102nm,0.8s
NWAO Narrogin (SRO) 47.39 151 P **P** **11 38 10.9 +0.5**
NWAO Narrogin (SRO) 47.39 151 P **P** **11 38 10.7 +0.3**
NWAO Narrogin (SRO) 47.39 151 P **P** **11 38 10.7 +0.3**
NWAO pmax pmax
comp=Z,30nm,0.8s
NWAO Narrogin (SRO) 47.39 151 LR LR 11 57 09.7
comp=Z,294nm,19.5s,baz=320,slow=35
H01W3 Cape Leeuwin H 47.69 156 T T 12 29 30.2
baz=331,slow=76,SNR=8.6
H01W2 Cape Leeuwin H 47.70 156 T T 12 29 30.8
baz=331,slow=76,SNR=11
H01W1 Cape Leeuwin H 47.70 156 T T 12 29 31.0
baz=331,slow=76,SNR=8.6
BNX BinXian 47.78 33 ⇓P P **11 38 13.3 0.0**
BNX pmax pmax
comp=Z,7.0nm,0.9s
BNX pmax pmax
comp=Z,350nm,5.4s
BVA0 Borovoye Array 47.96 342 *i* P **P** **11 38 13.6 -1.0**
BVAR Borovoye Array 47.96 342 P **P** **11 38 14.4 -0.1**
comp=Z,14nm,0.7s,baz=141,slow=7.6,SNR=62
BVAR PcP **PcP** **11 39 42.1 -0.5**
comp=Z,6.3nm,0.8s,baz=113,slow=3.7,SNR=2.6
BVAR LR LR 12 00 08.5
comp=Z,423nm,21.5s,baz=155,slow=38
comp=Z,14nm,0.7s
BRVK Borovoye 48.02 342 P **P** **11 38 14.5 -0.5**
BRVK IAmb IAmb 11 38 26.5
comp=Z,34nm,0.9s
BRVK Borovoye 48.02 342 *ce*P **P** **11 38 14.5 -0.5**
BRVK pmax pmax
comp=Z,26nm,1.3s
WRKA Warakurna 48.19 135 P **P** **11 38 16.1 -0.7**
baz=48,SNR=12
WRKA Warakurna 48.19 135 P **P** **11 38 16.4 -0.4**
MDJ Mudanjiang 48.29 35 P P 11 38 26.5 +9.2
MDJ sP sP 11 38 36.3 +7.4
MDJ PP **PP** **11 40 12.3 +2.4**
MDJ ScP ScP 11 43 58.0 +21
MDJ S S 11 45 05.5 -10
MDJ sS pS 11 45 16.3 -9.1
MDJ ScS ScS 11 48 21.0 +13
KMBL Kambalda 48.55 146 P **P** **11 38 20.3 +0.9**
baz=49,SNR=9.9
KMBL Kambalda 48.55 146 P **P** **11 38 20.1 +0.7**
ATD Arta Tunnel 48.94 278 LR LR 11 56 53.1
comp=Z,12nm,19.1s,baz=66,slow=34
AB31 Akbulak array 48.98 332 *i* P **P** **11 38 21.8 -0.7**
ABKAR Akbulak array 48.98 332 P **P** **11 38 23.4 +0.9**
ABKAR IAmb IAmb 11 38 34.9
comp=Z,48nm,0.8s
USA0B Ussuriysk Arra 49.45 37 P **P** **11 38 26.2 +0.1**
USA0B Ussuriysk Arra 49.45 37 *i* P **P** **11 38 25.6 -0.5**
USRK Ussuriysk Ar. 49.45 37 P **P** **11 38 26.1 0.0**
comp=Z,4.3nm,0.8s,baz=232,slow=8.7,SNR=7.5
comp=Z,4.3nm,0.8s
WRA Warramunga Arr 49.91 125 P **P** **11 38 28.8 -1.3**
comp=Z,20nm,0.8s,baz=302,slow=8.7,SNR=236
WRA PcP **PcP** **11 39 50.6 +0.4**
comp=Z,12nm,0.7s,baz=312,slow=3.1,SNR=8.1
WRA S **S** **11 45 32.1 -6.6**
comp=Z,3.3nm,1.0s,baz=297,slow=15,SNR=7.2
WRA P4KPbc 12 16 06.1
comp=Z,0.2nm,0.8s,baz=313,slow=3.5,SNR=1.9
comp=Z,20nm,0.8s
WRAB Tennant Creek 49.91 125 P **P** **11 38 27.8 -2.3**
WRAB IAmb IAmb 11 38 29.9
comp=Z,40nm,1.0s
WRAB Tennant Creek 49.91 125 P **P** **11 38 27.8 -2.3**
WRAB pmax pmax
comp=Z,40nm,1.0s
MAJO Matsushiro 50.02 49 P **P** **11 38 31.6 +0.9**
MAJO IAmb IAmb 11 39 10.8
comp=Z,44nm,1.4s
MAJO Matsushiro 50.02 49 P **P** **11 38 31.6 +0.9**
MAJO pmax pmax
comp=Z,44nm,1.4s
MJAR Matsushiro Arr 50.02 49 P **P** **11 38 31.0 +0.3**
comp=Z,4.4nm,0.7s,baz=238,slow=6.3,SNR=8.9
MJAR PcP **PcP** **11 39 51.0 +0.6**
comp=Z,12nm,0.8s,baz=239,slow=3.2,SNR=12
MJAR LR LR 12 02 37.4
comp=Z,309nm,18.4s,baz=245,slow=40
comp=Z,4.4nm,0.7s
JCJ Chichijima 50.48 62 LR LR 12 01 54.1
comp=Z,116nm,18.2s,baz=278,slow=38
AKTO Aktyubinsk 50.70 332 P **P** **11 38 35.3 -0.2**
AKTO Aktyubinsk 50.70 332 LR LR 12 03 20.0
comp=Z,247nm,19.4s,baz=112,slow=40
HEH HeiHe 50.78 28 *e*P **P** **11 38 36.3 +0.2**
HEH pmax pmax
comp=Z,8.0nm,1.0s
HEH pmax pmax
comp=Z,230nm,6.0s
HEH LR LR
comp=Z,550nm,15.4s
HEH LR LR
comp=Z,390nm,15.5s
HEH LR LR
comp=Z,670nm,18.3s
AS31 Alice Springs 51.52 129 P **P** **11 38 41.0 -1.2**
ASAR Alice Springs 51.52 129 P **P** **11 38 40.9 -1.3**
ASAR Alice Springs 51.52 129 P **P** **11 38 41.0 -1.1**
comp=Z,18nm,0.7s,baz=301,slow=7.1,SNR=364
ASAR PcP **PcP** **11 39 56.8 +0.6**
comp=Z,15nm,0.6s,baz=305,slow=3.8,SNR=15
ASAR S **S** **11 45 53.6 -7.5**
comp=Z,1.4nm,0.8s,baz=294,slow=14,SNR=9.1
ASAR LR LR 12 04 14.1
comp=Z,174nm,18.3s,baz=301,slow=40
ASAR P4KPbc 12 16 12.9
comp=Z,0.4nm,0.5s,baz=304,slow=4.6,SNR=15
comp=Z,18nm,0.7s
GUMO Guam 51.60 79 LR LR 12 00 18.2
comp=Z,231nm,19.6s,baz=242,slow=36
FORT Forrest 51.79 140 P **P** **11 38 44.6 +0.7**
baz=52,SNR=15
FORT Forrest 51.79 140 P **P** **11 38 44.9 +1.0**
FORT Forrest 51.79 140 P **P** **11 38 45.6 +1.6**
BOD Bodaibo 52.02 14 *e*P **P** **11 38 45.9 +0.7**
BOD pmax pmax
comp=Z,40nm,1.6s
MAK Makhachkala 52.23 319 *e*P **P** **11 38 45.9 -1.2**
MAK *e* 11 40 41.4
MAK *e*PPP PPP 11 41 45.5
MAK *e*S **S** **11 46 08.3 -1.9**
MAK *e*SS **SS** **11 49 50.9 +2.9**
MAK *e*SSS SSS 11 51 31.6
MAK pmax pmax
comp=Z,254nm,1.5s
MAK MLR MLR
comp=Z,223nm,19.0s
KLR Kul'dur 52.27 32 *i* P **P** **11 38 47.1 -0.2**
KLR pmax pmax
comp=Z,9.0nm,0.9s
KLR Kul'dur 52.27 32 LR LR 12 04 33.0
comp=Z,294nm,18.0s,baz=232,slow=40
JMM Marumori 52.43 48 P **P** **11 38 49.2 +0.6**
JMM IAmb IAmb 11 38 58.9
comp=Z,36nm,0.9s
JMM Marumori 52.43 48 P **P** **11 38 49.5 +0.8**
GNI Garni 52.89 315 P **P** **11 38 53.0 +0.8**
GNI IAmb IAmb 11 39 05.8
comp=Z,70nm,1.3s
GNI Garni 52.89 315 *ce*P **P** **11 38 52.5 +0.2**
GNI pmax pmax
comp=Z,43nm,1.3s
GNI Garni 52.89 315 LR LR 12 04 00.5
comp=Z,168nm,20.8s,baz=112,slow=39
ZEA Zeya 53.14 25 *e*P P 11 39 01.6 +8.0
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA MLR MLR
comp=E,400nm,18.0s
ZEA MLR MLR
comp=N,400nm,20.0s
ZEA MLR MLR
comp=Z,400nm,17.0s
FURI Furi 53.16 275 IAMs_20 IAMs_20 12 00 39.5
comp=Z,384nm,18.0s
VOI Vohitsoka 54.00 235 P **P** **11 38 59.7 -0.9**
VOI Vohitsoka 54.00 235 P **P** **11 39 03.5 +2.9**
GURO Guroymak-BITLI 54.26 312 P **P** **11 39 03.0 +0.7**
AKH Akhalkalaki 54.26 316 P **P** **11 39 01.9 -0.4**
AKH IAmb IAmb 11 39 04.5
comp=Z,58nm,1.1s
AKH Akhalkalaki 54.26 316 P **P** **11 39 01.9 -0.4**
AKH pmax pmax
comp=Z,58nm,1.1s
SVE Sverdlovsk 54.30 339 *ce*P **P** **11 39 02.8 +0.7**
SVE pmax pmax
comp=Z,148nm,1.0s
ZEI Tsey 54.53 317 *e*P **P** **11 39 04.0 -0.3**
ZEI pmax pmax
comp=Z,14nm,1.0s
QIS Mount Isa 54.54 123 P **P** **11 39 03.4 -1.0**
baz=55,SNR=19
QIS Mount Isa 54.54 123 P **P** **11 39 03.6 -0.8**
ONI Oni 54.76 317 P **P** **11 39 05.7 -0.1**
ONI Oni 54.76 317 P **P** **11 39 05.7 -0.1**
ONI pmax pmax
comp=Z,16nm,1.3s
ARU Arti 54.76 338 P **P** **11 39 05.6 +0.1**
ARU Arti 54.76 338 *d i* P **P** **11 39 05.1 -0.3**
ARU **11 40 06.8**
ARU **11 41 10.7**
ARU S **S** **11 46 44.8 +0.7**
ARU SS **SS** **11 50 23.2 -4.3**
ARU pmax pmax
comp=Z,64nm,0.9s
ARU Arti 54.76 338 LR LR 12 05 37.4
comp=Z,421nm,18.4s,baz=141,slow=40
OOD Oodnadatta 55.15 132 P **P** **11 39 07.9 -0.8**
KIBK Kibwezi 55.32 261 P **P** **11 39 10.9 +0.6**
MULG Mulgathing 55.44 136 P **P** **11 39 09.6 -1.1**
KBZ Khabaz 55.59 318 *ce*P **P** **11 39 11.7 +0.1**
KBZ pmax pmax
comp=Z,25nm,1.2s
KBZ Khabaz 55.59 318 P **P** **11 39 11.7 +0.1**
comp=Z,14nm,1.0s,baz=106,slow=5.8,SNR=17
KBZ PcP **PcP** **11 40 11.6 +0.4**
comp=Z,10nm,0.8s,baz=124,slow=3.3,SNR=5.2
KBZ LR LR 12 04 46.3
comp=Z,126nm,21.9s,baz=126,slow=38
comp=Z,14nm,1.0s
GRNR Gornyy 55.61 32 ⇑*i* P **P** **11 39 11.1 -0.6**
GRNR pmax pmax
comp=Z,8.0nm,1.1s
GRNR MLR MLR

comp=E,550nm,19.0s
GRNR MLR MLR
comp=N,370nm,17.0s
GRNR MLR MLR
comp=Z,360nm,19.0s
KIV Kislovodsk 55.82 318 ⇑P **P 11 39 13.8 +0.4**
KIV Kislovodsk 55.82 318 P **P 11 39 13.6 +0.1**
KIV IAmb IAmb 11 39 14.8
comp=Z,36nm,0.7s
KIV Kislovodsk 55.82 318 P **P 11 39 13.9 +0.4**
KIV Kislovodsk 55.82 318*d i* P **P 11 39 13.6 +0.1**
KIV *PP **pP** 11 39 21.0 -1.0
KIV 11 40 13.0
KIV 11 41 19.0
KIV S **S 11 47 02.0 +3.0**
KIV pmax pmax
comp=Z,41nm,1.0s
KIV MLR MLR
comp=Z,120nm,20.0s
KMBO Kilima Mbogo 55.86 263 P **P 11 39 13.6 -0.9**
KMBO Kilima Mbogo 55.86 263 IAMs_20 IAMs_20 12 01 00.5
comp=Z,577nm,19.0s
KMBO Kilima Mbogo 55.86 263 *i* P **P 11 39 16.4 +2.0**
SNR=7.0
KMBO Kilima Mbogo 55.86 263 *i* P **P 11 39 15.8 +1.4**
KMBO pmax pmax
comp=Z,9.0nm,0.6s
KMBO Kilima Mbogo 55.86 263 P **P 11 39 14.5 +0.1**
comp=Z,9.1nm,0.6s,baz=58,slow=11,SNR=20
KMBO LR LR 12 01 37.1
comp=Z,512nm,18.3s,baz=90,slow=34
comp=Z,9.1nm,0.6s
GOF Gofitskoye 56.05 320*ce* P **P 11 39 14.8 -0.1**
ASAJ Asahikawa 56.09 42 P **P 11 39 16.0 +0.8**
ASAJ pmax pmax
comp=Z,33nm,0.8s
ASAJ Asahikawa 56.09 42 P **P 11 39 15.8 +0.6**
comp=Z,9.5nm,0.7s,baz=268,slow=3.1,SNR=6.6
ASAJ LR LR 12 04 44.3
comp=Z,207nm,18.3s,baz=271,slow=38
comp=Z,9.5nm,0.7s
JKA Kamikawa-asahi 56.09 42 P **P 11 39 15.9 +0.7**
JKA IAmb IAmb 11 39 36.3
comp=Z,33nm,0.8s
LODK Lodwar 57.00 269 P **P 11 39 20.4 -1.9**
LODK IAMs_20 IAMs_20 12 03 24.4
comp=Z,365nm,19.0s
BELG Belogornoye 57.00 329 *i* P **P 11 39 20.9 -0.6**
BELG pmax pmax
comp=Z,14nm,0.9s
BELG Belogornoye 57.00 329 LR LR 12 07 48.0
comp=Z,164nm,18.2s,baz=150,slow=40
ARPR Arapgir-MALATY 57.16 311 P **P 11 39 23.1 0.0**
PMG Port Moresby 57.25 107 P **P 11 39 23.3 -0.7**
PMG IAmb IAmb 11 39 24.8
comp=Z,32nm,0.8s
PMG Port Moresby 57.25 107 P **P 11 39 25.4 +1.5**
PMG Port Moresby 57.25 107 P **P 11 39 25.5 +1.5**
PMG Port Moresby 57.25 107*ce* P **P 11 39 23.5 -0.5**
PMG pmax pmax
comp=Z,25nm,1.0s
YSS Yuzh-Sakhalins 57.37 39 P **P 11 39 25.0 +0.7**
YSS IAmb IAmb 11 39 39.9
comp=Z,30nm,0.6s
YSS Yuzh-Sakhalins 57.37 39 P **P 11 39 25.5 +1.2**
YSS Yuzh-Sakhalins 57.37 39 *eP* **P 11 39 24.8 +0.5**
YSS *e*PP **sP 11 39 34.8 -1.2**
YSS *eS* **S 11 47 17.7 -1.4**
YSS pmax pmax
comp=Z,20nm,0.9s
GAZ Gaziantep 57.48 309 P **P 11 39 24.7 -0.7**
GAZ IAmb IAmb 11 39 37.9
comp=Z,51nm,1.4s
MTSU Mount Surprise 57.56 118 P **P 11 39 25.9 -0.1**
baz=58,SNR=6.3
SOC Sochi 57.66 317 *eP* **P 11 39 24.0 -2.4**
SOC *e* 11 41 31.8
SOC *eS* **S 11 47 21.8 -1.3**
SOC *eSS* **SS 11 51 11.3 -2.4**
SOC MLR MLR
comp=Z,122nm,16.0s
EIL Elat 57.74 300 LR LR 12 05 54.0
comp=Z,328nm,19.3s,baz=80,slow=38
MMAI Mount Meron Ar 57.96 304 P **P 11 39 29.5 +0.7**
comp=Z,4.1nm,0.7s,baz=110,slow=8.9,SNR=8.4
MMAI LR LR 12 07 51.1
comp=Z,107nm,19.6s,baz=71,slow=40
comp=Z,4.1nm,0.7s
BBOO Buckleboo 58.32 137 P **P 11 39 30.6 -0.5**
baz=58,SNR=13
BBOO Buckleboo 58.32 137 P **P 11 39 30.7 -0.4**
BBOO IAmb IAmb 11 40 23.4
comp=Z,25nm,0.9s
BBOO Buckleboo 58.32 137 P **P 11 39 30.8 -0.4**
LCRK Leigh Creek 58.46 133 P **P 11 39 33.0 +0.8**
INKA Innaminka 58.90 129 P **P 11 39 35.8 +0.5**
BNN Bunyan 58.96 310 P **P 11 39 34.9 -0.9**
BNN IAmb IAmb 11 39 36.6
comp=Z,44nm,1.1s
TYV Tymovskoe 59.06 35 *eP* P 11 39 46.1 +10
TYV pmax pmax
comp=Z,20nm,1.3s
TYV pmax pmax
comp=Z,400nm,3.9s
VRH Novokhopyorsk 59.55 326 *eP* **P 11 39 37.6 -1.8**
VRH *e**SP **pP 11 39 47.9 -0.1**
VRH pmax pmax
comp=Z,47nm,1.6s
ANN Anapa 59.63 317 *eP* P 11 39 47.4 +7.3
ANN pmax pmax
comp=Z,22nm,0.6s
KIRV Kirov 59.84 336*ce* P **P 11 39 41.2 0.0**
KIRV Kirov 59.84 336 LR LR 12 07 22.3
comp=Z,346nm,20.6s,baz=137,slow=38
CTA Charters Tower 60.00 119 P **P 11 39 42.8 -0.2**
CTA Charters Tower 60.00 119 LR LR 12 07 06.9
comp=Z,270nm,20.7s,baz=280,slow=38
CTAO Charters Tower 60.00 119 P **P 11 39 43.0 0.0**
CTAO Charters Tower 60.00 119 P **P 11 39 43.6 +0.6**
CTAO Charters Tower 60.00 119 P **P 11 39 43.0 0.0**
CTAO pmax pmax
comp=Z,16nm,1.0s
YAK Yakutsk 60.01 19 P **P 11 39 42.6 +0.3**
YAK Yakutsk 60.01 19 *eP* **P 11 39 41.5 -0.8**
YAK *e**PP **pP 11 39 50.9 -0.1**
YAK *e* 11 40 27.1
YAK *eS* **S 11 47 52.7 -0.2**
YAK *e**SS **sS 11 48 09.2 +2.1**
YAK *e* 11 49 33.2
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK pmax pmax
comp=Z,284nm,4.6s
YAK pmax pmax
comp=E,217nm,4.8s
YAK smax smax
comp=E,298nm,4.8s
YAK smax smax
comp=N,118nm,4.2s
YAK MLR MLR
comp=Z,556nm,20.0s
YAK MLR MLR
comp=E,400nm,20.0s
YAK MLR MLR
comp=N,323nm,21.0s
YAK Yakutsk 60.01 19 P **P 11 39 42.9 +0.6**
comp=N,0.4nm,0.5s,baz=26,slow=1.7,SNR=1.7
YAK LR LR 12 08 19.9
comp=N,27nm,19.7s,baz=272,slow=39
HTT Hallett 60.63 136 P **P 11 39 47.2 +0.1**
baz=61,SNR=7.7
HTT Hallett 60.63 136 P **P 11 39 47.8 +0.7**
VORD Divnogorie 60.83 325 *eP* **P 11 39 46.0 -2.1**
VORD pmax pmax
comp=Z,30nm,0.8s
BR131 Keskin Array S 60.84 311 P **P 11 39 47.5 -1.1**
BR131 IAmb IAmb 11 39 48.8
comp=Z,20nm,0.8s
BR131 Keskin Array S 60.84 311 *i* P **P 11 39 47.5 -1.1**
BRTR Keskin Array B 60.84 311 P **P 11 39 47.5 -1.1**
BRTR Keskin Array B 60.84 311 P **P 11 39 47.8 -0.9**

comp=Z,13nm,0.8s,baz=120,slow=7.3,SNR=61
comp=Z,13nm,0.8s
NRIK Noril'sk 60.94 358 P **P 11 39 48.8 +0.2**
NRIK Noril'sk 60.94 358*ce* P **P 11 39 48.3 -0.3**
NRIK pmax pmax
comp=Z,22nm,2.0s
NRIK Noril'sk 60.94 358 P **P 11 39 48.5 -0.1**
comp=Z,4.7nm,0.5s,baz=157,slow=6.7,SNR=8.7
NRIK LR LR 12 09 46.9
comp=Z,353nm,21.6s,baz=190,slow=40
comp=Z,4.7nm,0.5s
VSR Storozhevoye 61.00 325 *eP* **P 11 39 46.6 -2.7**
VSR pmax pmax
comp=Z,10.0nm,0.7s
QLP Quilpie 61.06 127 P **P 11 39 50.5 +0.3**
baz=61,SNR=19
QLP Quilpie 61.06 127 P **P 11 39 51.3 +1.1**
VORR Voronezh 61.17 325 *eP* **P 11 39 48.8 -1.7**
VORR pmax pmax
comp=Z,20nm,0.9s
ANTO Ankara 61.51 311 P **P 11 39 52.6 -0.5**
ANTO Ankara 61.51 311 P **P 11 39 52.6 -0.5**
ANTO pmax pmax
comp=Z,78nm,0.7s
STKA Stephens Creek 61.67 133 P **P 11 39 54.0 -0.1**
baz=62,SNR=16
STKA Stephens Creek 61.67 133 P **P 11 39 54.0 -0.1**
STKA Stephens Creek 61.67 133 P **P 11 39 54.6 +0.5**
STKA Stephens Creek 61.67 133 *i* P **P 11 39 53.7 -0.4**
STKA Stephens Creek 61.67 133 P **P 11 39 54.0 -0.1**
comp=Z,25nm,0.9s,baz=311,slow=5.9,SNR=40
comp=Z,25nm,0.9s
LPSR Galich'ya Gora 61.73 326 *eP* **P 11 39 52.3 -1.9**
LPSR pmax pmax
comp=Z,40nm,0.8s
SIM Simferopol' 61.91 317 *eP* **P 11 39 55.0 -0.6**
SIM pmax pmax
comp=Z,88nm,1.1s
MBAR Mbarara 62.18 265 P **P 11 39 58.4 +0.3**
MBAR IAmb IAmb 11 40 01.3
comp=Z,48nm,1.6s
MBAR Mbarara 62.18 265 *i* P **P 11 39 57.9 -0.2**
MBAR pmax pmax
comp=Z,27nm,1.5s
ISP Isparta 62.80 308 P **P 11 40 00.4 -1.5**
ISP Isparta 62.80 308 *i* P **P 11 40 01.6 -0.3**
ISP pmax pmax
comp=Z,20nm,0.9s
MDUB Mudurnu 62.83 311 P **P 11 40 00.9 -1.1**
ELL Elmali 63.09 307 P **P 11 40 02.9 -0.9**
ELL Elmali 63.09 307 P **P 11 40 02.9 -0.9**
ELL pmax pmax
comp=Z,164nm,1.0s
PRGR Permogore 63.20 337 *eP* **P 11 40 02.8 -1.1**
PRGR pmax pmax
comp=Z,80nm,0.8s
MOS Moscow 63.77 329 *eP* **P 11 40 06.0 -1.7**
MOS *e* 11 42 27.7
MOS pmax pmax
comp=Z,40nm,0.7s
OBN Obninsk 64.05 328 P **P 11 40 08.6 -1.0**
OBN Obninsk 64.05 328*d i* P **P 11 40 09.0 -0.6**
OBN *e*PP **pP 11 40 18.0 -0.3**
OBN *e* 11 40 40.3
OBN 11 42 32.0
OBN *e* 11 49 14.1
OBN *eSS SS 11 52 49.9 -3.3
OBN pmax pmax
comp=Z,62nm,1.7s
OBN MLR MLR
comp=Z,229nm,18.0s
ARPS Mount Arapiles 64.48 138 P **P 11 40 13.1 +0.3**
baz=65,SNR=11
CMSA Cobar Meteorol 64.51 131 P **P 11 40 13.5 +0.5**
baz=65,SNR=54
CMSA Cobar Meteorol 64.51 131 P **P 11 40 14.0 +0.9**
KLMR Klimovskoe 65.26 335 *eP* **P 11 40 14.8 -2.6**
KLMR AMP 11 40 18.1
comp=Z,62nm,1.4s
KLMR *ep**P **pP 11 40 24.2 -1.9**
KLMR *e**PP **PP 11 42 36.8 -4.3**
KLMR Klimovskoe 65.26 335 *eP* **P 11 40 14.7 -2.6**
KLMR *e**PP **pP 11 40 24.2 -1.9**
KLMR *e* 11 42 36.7
KLMR pmax pmax
comp=Z,62nm,1.4s
AULRC Lightning Ridg 65.30 128 P **P 11 40 19.5 +1.3**
H04N2 CROZET ISLANDS 65.36 210 T T 12 51 23.3
baz=45,slow=75,SNR=8211
H04N1 CROZET ISLANDS 65.37 210 T T 12 51 24.6
baz=45,slow=75,SNR=6528
H04N3 CROZET ISLANDS 65.38 210 T T 12 51 24.0
baz=45,slow=75,SNR=6062
H04S1 CROZET ISLANDS 65.79 209 T T 12 51 54.2
baz=45,slow=75,SNR=41
H04S3 CROZET ISLANDS 65.80 209 T T 12 51 56.0
baz=45,slow=75,SNR=92
H04S2 CROZET ISLANDS 65.81 209 T T 12 51 56.6
baz=45,slow=75,SNR=48
MILM Milestii Mici 66.01 318 *eP* **P 11 40 21.0 -1.5**
comp=Z,75µm,0.6s
MILM Milestii Mici 66.01 318 ⇑P **P 11 40 22.0 -0.5**
MILM Milestii Mici 66.01 318 *eP* **P 11 40 21.0 -1.5**
MILM pmax pmax
comp=Z,75nm,0.6s
CFR Carcaliu 66.06 316 ⇑P **P 11 40 22.7 -0.2**
CFR Carcaliu 66.06 316 P **P 11 40 22.7 -0.2**
AUMAG Moama Anglican 66.10 136 P **P 11 40 24.0 +0.8**
HARR Harsova 66.10 315 ⇑P **P 11 40 23.1 0.0**
HARR Harsova 66.10 315 P **P 11 40 23.1 0.0**
EIDS Eidsvold 66.14 122 P **P 11 40 24.1 +0.3**
baz=66,SNR=5.4
EIDS Eidsvold 66.14 122 P **P 11 40 23.9 +0.2**
EIDS IAmb IAmb 11 40 39.9
comp=Z,34nm,1.4s
EIDS Eidsvold 66.14 122 P **P 11 40 24.4 +0.7**
VLDR Vladesti 66.25 316 ⇓P **P 11 40 24.3 +0.2**
SCTR Scanteiesti 66.27 316 ⇓P **P 11 40 24.2 0.0**
SORM Soroca 66.60 319 ⇓P **P 11 40 25.7 -0.6**
SORM Soroca 66.60 319 P **P 11 40 26.0 -0.3**
AKASG Malin Array Be 66.72 322 P **P 11 40 25.7 -1.3**
AKASG IAmb IAmb 11 40 26.7
comp=Z,38nm,1.9s
AKASG Malin Array Be 66.72 322 *i* P **P 11 40 25.6 -1.4**
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG Malin Array Be 66.72 322 P **P 11 40 25.6 -1.4**
comp=Z,3.1nm,0.5s,baz=90,slow=5.0,SNR=30
AKASG LR LR 12 14 16.1
comp=Z,185nm,18.3s,baz=104,slow=40
comp=Z,3.1nm,0.5s
KIEV Kiev 66.72 322 ⇓P **P 11 40 27.5 +0.4**
KIEV Kiev 66.72 322 P **P 11 40 25.7 -1.3**
KIEV Kiev 66.72 322 P **P 11 40 27.4 +0.4**
KIEV Kiev 66.72 322 P **P 11 40 27.4 +0.4**
GHRR 66.76 317 ⇓P **P 11 40 27.8 +0.5**
RAZG Razgrad 66.88 314 ⇓P **P 11 40 28.0 -0.2**
PANC Panciu 66.89 316 ⇑P **P 11 40 29.1 +0.9**
TIXI Tiksi 67.03 12 P **P 11 40 28.2 -0.3**
TIXI Tiksi 67.03 12*ce* P **P 11 40 28.0 -0.5**
TIXI pmax pmax
comp=Z,67nm,1.0s
TIXI Tiksi 67.03 12 P **P 11 40 28.0 -0.5**
comp=Z,2.0nm,0.6s,baz=229,slow=4.2,SNR=36
TIXI LR LR 12 12 40.7
comp=Z,11nm,18.2s,baz=228,slow=39
comp=Z,2.0nm,0.6s
AUDCS Dubbo College 67.05 130 P **P 11 40 30.0 +0.6**
MA2 Magadan 67.05 28 P **P 11 40 27.9 -1.0**
comp=Z,8.1nm,0.9s,baz=207,slow=11,SNR=2.0
MA2 LR LR 12 13 28.9
comp=Z,156nm,18.0s,baz=242,slow=39
comp=Z,8.1nm,0.9s
BISRR Bisoca 67.13 316 ⇑P **P 11 40 30.8 +1.0**
ISR Istrita 67.16 315 ⇑P **P 11 40 31.0 +1.0**
ISR Istrita 67.16 315 P **P 11 40 31.0 +1.0**
RDO Rodhopi 67.18 311 P **P 11 40 29.6 -0.5**
RDO IAmb IAmb 11 40 30.8
comp=Z,38nm,1.2s
VRI Vrincioaia 67.18 316 ⇓P **P 11 40 30.7 +0.6**
VRI Vrincioaia 67.18 316 ^P **P 11 40 30.6 +0.6**
ELND Elena 67.22 313 ⇑P **P 11 40 30.1 -0.3**
PLOR Plostina 67.23 316 ⇓P **P 11 40 30.8 +0.5**
PLOR Plostina 67.23 316 P **P 11 40 30.9 +0.5**
TESR Tescani 67.37 317 ⇓P **P 11 40 31.2 0.0**

TOO Toolangi 67.37 137 P **P 11 40 32.6 +1.2**
baz=68,SNR=13
TOO Toolangi 67.37 137 P **P 11 40 32.6 +1.2**
TOO IAmb IAmb 11 40 33.5
comp=Z,20nm,0.7s
TOO Toolangi 67.37 137 P **P 11 40 32.8 +1.4**
TOO Toolangi 67.37 137 P **P 11 40 32.6 +1.2**
TOO pmax pmax
comp=Z,20nm,0.7s
NEHR Nehoiu 67.39 316 ⇑P **P 11 40 32.1 +0.7**
COVR Voineasa-Covas 67.53 316 ⇑P **P 11 40 32.4 +0.1**
MLR Muntele Rosu 67.64 316 ⇓P **P 11 40 33.3 +0.2**
MLR Muntele Rosu 67.64 316 P **P 11 40 33.4 +0.2**
MLR Muntele Rosu 67.64 316 P **P 11 40 33.5 +0.4**
MLR Muntele Rosu 67.64 316 LR LR 12 17 15.9
comp=Z,191nm,18.2s,baz=76,slow=42
TURR Turia 67.70 316 ⇓P **P 11 40 33.7 +0.3**
LSZ Lusaka 67.91 250 P **P 11 40 33.8 -1.5**
LSZ IAmb IAmb 11 40 37.3
comp=Z,22nm,0.7s
LSZ IAMs_20 IAMs_20 12 07 47.2
comp=Z,507nm,18.0s
LSZ Lusaka 67.91 250 P **P 11 40 33.8 -1.5**
LSZ pmax pmax
comp=Z,22nm,0.7s
LSZ Lusaka 67.91 250 LR LR 12 07 23.8
comp=Z,218nm,18.0s,baz=98,slow=33
DOPR Dopca 68.11 316 ⇑P **P 11 40 35.8 -0.2**
HUMR Humele 68.14 315 ⇑P **P 11 40 36.1 0.0**
MTUR Matau 68.20 315 ⇑P **P 11 40 36.5 -0.2**
MTUR Matau 68.20 315 P **P 11 40 36.4 -0.2**
PLVB Pleven 68.20 313 ⇑P **P 11 40 36.5 -0.1**
VOIR 68.25 316 ⇑P **P 11 40 36.7 -0.3**
VOIR 68.25 316 P **P 11 40 36.8 -0.1**
PETK Petropavlovsk- 68.52 36 P **P 11 40 37.6 -0.7**
comp=Z,8.7nm,1.1s,baz=212,slow=5.1,SNR=1.1
PETK LR LR 12 13 32.0
comp=Z,160nm,18.5s,baz=235,slow=38
comp=Z,8.7nm,1.1s
ARR Arges 68.53 315 ⇑P **P 11 40 38.8 +0.1**
BURAR Bucovina Array 68.55 318 ⇑P **P 11 40 39.0 +0.2**
BURAR Bucovina Array 68.55 318 P **P 11 40 38.9 +0.1**
BURAR IAmb IAmb 11 40 39.7
comp=Z,17nm,0.7s
BURAR Bucovina Array 68.55 318 P **P 11 40 38.9 +0.1**
MNK Minsk 68.56 326 *i* P **P 11 40 37.9 -0.6**
comp=E,14nm,1.1s
MNK *i* P **P 11 40 37.9 -0.6**
MNK *i* P **P 11 40 37.9 -0.6**
comp=Z,75nm,1.3s,baz=106
MNK *i* PcP **PcP 11 41 02.1 -1.3**
MNK *i* PP **PP 11 43 06.9 -3.0**
MNK *i* PPP PPP 11 44 45.6
MNK *i* S **S 11 49 38.7 -0.2**
MNK *i* SS **SS 11 54 03.4 +0.2**
MNK *i* SSS SSS 11 57 09.3
MNK *i* LQ LQ 12 05 29.3
MNK *i* LR LR 12 09 02.0
MNK *i* LRM MLR 12 13 43.9
comp=Z,178nm,23.4s
MNK *i* LRM MLR 12 14 01.1
comp=E,175nm,21.5s
MNK *i* LRM MLR 12 14 07.1
comp=N,498nm,22.6s
MNK Minsk 68.56 326*c i* P **P 11 40 37.9 -0.6**
BUR08 Bucovina Ar. S 68.56 318 P **P 11 40 38.7 -0.2**
ARMA Armidale 68.59 127 P **P 11 40 41.0 +1.8**
baz=69,SNR=10
ARMA Armidale 68.59 127 IAmb IAmb 11 40 41.7
comp=Z,26nm,1.0s
ARMA Armidale 68.59 127 P **P 11 40 40.7 +1.4**
POGA Pongola 68.71 236 P **P 11 40 41.2 +1.3**
CAN Canberra 68.73 133 P **P 11 40 40.6 +0.6**
CAN IAmb IAmb 11 40 41.5
comp=Z,20nm,0.7s
CAN Canberra 68.73 133 P **P 11 40 40.6 +0.6**
CAN Canberra 68.73 133 P **P 11 40 40.6 +0.6**
CAN pmax pmax
comp=Z,20nm,0.7s
CNB Canberra Magne 68.99 133 P **P 11 40 42.0 +0.3**
baz=69,SNR=8.0
ARCR ARCALIA 69.02 317 ⇑P **P 11 40 42.1 +0.5**
SEY Seymchan 69.12 25 P **P 11 40 41.3 -0.6**
comp=Z,0.7nm,0.2s,baz=8.5,slow=20,SNR=1.9
SEY LR LR 12 13 26.5
comp=Z,301nm,21.2s,baz=255,slow=38
comp=Z,0.7nm,0.2s
NACGM Naroch 69.28 326 *eP* **P 11 40 42.8 -0.2**
comp=Z,95nm,1.1s,baz=105
CJR Cluj-Napoca 69.47 317 ⇑P **P 11 40 44.8 +0.3**
CJR Cluj-Napoca 69.47 317 P **P 11 40 44.7 +0.3**
HNR Honiara 69.48 103 P **P 11 40 45.1 +0.1**
HNR Honiara 69.48 103 P **P 11 40 45.4 +0.4**
HNR Honiara 69.48 103 P **P 11 40 45.1 +0.1**
HNR pmax pmax
comp=Z,97nm,1.2s
HNR Honiara 69.48 103 LR LR 12 15 31.3
comp=Z,1µm,18.7s,baz=256,slow=40
BLKB Belogradchik 69.64 313 ⇓P **P 11 40 45.6 +0.1**
LVV L'vov 69.75 320 *eP* **P 11 40 45.3 -0.7**
STIP Stip 69.75 311 *i* P **P 11 40 44.4 -1.8**
MARR Marisel-Cluj 69.79 317 ⇓P **P 11 40 46.9 +0.4**
GZR Gura Zlata 69.82 315 ⇓P **P 11 40 46.4 -0.3**
GZR Gura Zlata 69.82 315 P **P 11 40 46.3 -0.3**
DJES Djerdap 69.90 314 ⇓P **P 11 40 46.9 -0.1**
DJES Djerdap 69.90 314 P **P 11 40 47.3 +0.2**
HERR Herculane 70.00 315 ⇓P **P 11 40 47.8 +0.1**
FNA Florina 70.25 310 P **P 11 40 48.1 -1.3**
FNA Florina 70.25 310 P **P 11 40 48.1 -1.3**
FNA pmax pmax
comp=Z,6.0nm,0.7s
VSU Vasula 70.29 329 *eP* **P 11 40 49.0 -0.1**
VSU Vasula 70.29 329*ce* P **P 11 40 47.1 -2.0**
VSU pmax pmax
comp=Z,31nm,1.3s
SURR Surduc 70.33 316 ⇓P **P 11 40 50.0 +0.4**
SKO Skopje 70.34 312 *i* P **P 11 40 48.8 -1.0**
BOVS Bovan 70.34 313 ⇓P **P 11 40 49.1 -0.6**
MDVR Moldovita 70.48 314 ⇓P **P 11 40 50.6 -0.1**
KWP Kalwaria Pacla 70.56 320 *eP* **P 11 40 50.9 -0.1**
KWP Kalwaria Pacla 70.56 320 P **P 11 40 50.8 -0.2**
KWP Kalwaria Pacla 70.56 320 P **P 11 40 50.8 -0.2**
KWP pmax pmax
comp=Z,67nm,1.2s
BZS Buzias 70.66 315 ⇑P **P 11 40 51.3 -0.4**
BZS Buzias 70.66 315 P **P 11 40 51.3 -0.4**
KOLS Kolonicke sedl 70.72 319 *eP* **P 11 40 52.4 +0.4**
KOLS Kolonicke sedl 70.72 319 *eP* **P 11 40 52.4 +0.4**
KOLS pmax pmax
comp=Z,20nm,0.8s
OHR Ohrid 70.72 311 *i* P **P 11 40 51.5 -0.7**
APA Apatity 70.77 340 ⇓P **P 11 40 50.7 -1.2**
APA *i* 11 41 15.0
APA pmax pmax
comp=Z,7.0nm,0.6s
APA MLR MLR
comp=Z,900nm,24.0s
PABE Paberze 70.99 326 P **P 11 40 52.8 -0.7**
PABE Paberze 70.99 326 *eP* **P 11 40 53.1 -0.3**
MOO Moorlands 71.01 140 P **P 11 40 55.1 +1.3**
baz=71,SNR=3.6
SUW Suwalki 71.11 324 *eP* **P 11 40 53.2 -1.0**
SUW *ep**P **pP 11 41 02.4 -0.5**
SUW Suwalki 71.11 324 P **P 11 40 53.2 -1.0**
SUW Suwalki 71.11 324 *eP* **P 11 40 54.0 -0.3**
SUW Suwalki 71.11 324 P **P 11 40 53.2 -1.0**
SUW pmax pmax
comp=Z,95nm,0.9s
VSVD Vaisvydziai 71.12 326 *eP* **P 11 40 54.5 +0.3**
CRVS Cervenica-Dubn 71.25 319 *eP* **P 11 40 55.5 +0.3**
CRVS Cervenica-Dubn 71.25 319 *eP* **P 11 40 55.5 +0.3**
CRVS pmax pmax
comp=Z,50nm,1.1s
STHS Stebnicka Huta 71.47 319 *eP* **P 11 40 55.9 -0.6**
STHS Stebnicka Huta 71.47 319 *eP* **P 11 40 55.9 -0.6**
STHS pmax pmax
comp=Z,13nm,0.9s
FIA1 FINESS Array S 71.47 332 P **P 11 40 55.9 -0.3**
FINES FINESS Array B 71.47 332 P **P 11 40 56.1 -0.2**
FINES FINESS Array B 71.47 332 P **P 11 40 55.8 -0.5**
comp=Z,28nm,0.7s,baz=90,slow=6.4,SNR=54
FINES LR LR 12 15 00.9
comp=Z,165nm,21.0s,baz=114,slow=38
comp=Z,28nm,0.7s

SJES	Sjenica	71.55	313	⇓iP	P	11 40 57.0	-0.3
DIVS	Divibare	71.62	314	P	P	11 40 57.1	-0.6
DIVS	Divibare	71.62	314	⇓iP	P	11 40 57.1	-0.6
KECS	Kecovo	71.82	318	eP	P	11 40 58.9	+0.2
KECS	Kecovo	71.82	318	eP	P	11 40 58.9	+0.2
KECS				pmax	pmax		
	comp=Z,25nm,0.8s						
MTSE	Matsula	71.83	329	eP	P	11 40 58.3	-0.2
FRGS	Fruska Gora	71.87	315	⇓iP	P	11 40 58.0	-1.0
MEF	Metsahovi	71.92	331	eP	P	11 40 59.1	+0.1
PDG	Podgorica	72.00	312	⇓P	P	11 40 59.1	-0.7
PDG	Podgorica	72.00	312	P	P	11 41 00.0	+0.2
PDG	Podgorica	72.00	312	eP	P	11 40 58.8	-1.0
TEKS	Tekeris	72.00	314	eP	P	11 40 58.6	-1.3
BBLS	Lazići	72.02	313	eP	P	11 40 59.4	-0.7
RUDO	Rudo	72.02	313	eP	P	11 40 59.1	-0.9
DRME	Dracevica, Mon	72.03	312	⇓iP	P	11 40 57.9	-2.1
NIE	Niedzica	72.08	319	eP	P	11 41 00.5	+0.3
NIE				epP	pP	11 41 09.9	+1.0
BEL	Belsk	72.13	322	eP	P	11 40 59.9	-0.5
PSZ	Piszkesteto	72.14	318	⇑P	P	11 41 00.9	+0.2
PSZ	Piszkesteto	72.14	318	P	P	11 41 00.4	-0.3
PSZ				IAmb	IAmb	11 41 01.4	
	comp=Z,17nm,0.8s						
PSZ	Piszkesteto	72.14	318	P	P	11 41 00.9	+0.2
PBUR	Paburge	72.23	326	eP	P	11 41 01.0	+0.1
HAPS	Han Pijesak,Bl	72.37	314	⇑iP	P	11 41 01.7	-0.5
SCTE	Santa Cesarea	72.41	309	P	P	11 41 02.1	-0.2
OJC	Ojcow	72.51	320	eP	P	11 41 02.6	-0.2
OJC				epP	pP	11 41 12.1	+0.6
OJC	Ojcow	72.51	320	P	P	11 41 02.9	+0.1
OJC				IAmb	IAmb	11 41 03.6	
	comp=Z,43nm,0.9s						
OJC	Ojcow	72.51	320	P	P	11 41 02.9	+0.1
OJC				pmax	pmax		
	comp=Z,43nm,0.9s						
HCY	Herceg Novi	72.56	312	⇑iP	P	11 41 02.4	-0.8
BRY	Bratogost	72.56	312	eP	P	11 41 02.0	-1.4
LANS	Liptovska Anna	72.58	319	eP	P	11 41 03.7	+0.5
LANS	Liptovska Anna	72.58	319	eP	P	11 41 03.7	+0.5
LANS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TREB	Trebinje	72.69	312	⇑iP	P	11 41 02.9	-1.1
MORH	Mrgy, Hungar	72.79	316	⇓P	P	11 41 04.0	-0.5
VYHS	Vyhne	72.91	318	eP	P	11 41 05.0	-0.2
VYHS	Vyhne	72.91	318	eP	P	11 41 05.0	-0.2
VYHS				pmax	pmax		
	comp=Z,16nm,0.8s						
LBTB	Lobatse	73.07	241	P	P	11 41 06.7	0.0
LBTB				IAmb	IAmb	11 41 09.2	
	comp=Z,32nm,0.8s						
LBTB	Lobatse	73.07	241	P	P	11 41 06.7	0.0
LBTB				pmax	pmax		
	comp=Z,31nm,0.9s						
LBTB	Lobatse	73.07	241	LR	LR	12 08 25.9	
	comp=Z,158nm,20.9s,baz=76,slow=32						
VADS	Vadso	73.16	341	eP	P	11 41 05.8	-0.5
STON	Ston	73.18	312	⇑iP	P	11 41 04.7	-2.1
SRO	Srobarova	73.19	317	eP	P	11 41 06.3	-0.5
SRO	Srobarova	73.19	317	eP	P	11 41 06.3	-0.5
SRO				pmax	pmax		
	comp=Z,40nm,1.1s						
RAF	Rauma	73.38	331	eP	P	11 41 07.7	+0.1
OKC	Ostrava-Krasne	73.52	319	eP	P	11 41 08.8	+0.1
OKC	Ostrava-Krasne	73.52	319	eP	P	11 41 08.8	+0.1
TIP	Timpagrande	73.68	308	P	P	11 41 10.1	+0.1
TIP				IAmb	IAmb	11 41 11.2	
	comp=Z,21nm,0.8s						
BLY	Banja Luka	73.69	314	⇓iP	P	11 41 09.2	-0.6
JAVC	Velka Javorina	73.72	318	eP	P	11 41 10.7	+0.7
MGRS	Mrkonjic Grad	73.73	314	eP	P	11 41 09.6	-0.5
MORC	Moravsky Berou	73.90	319	⇓P	P	11 41 10.8	-0.2
MORC	Moravsky Berou	73.90	319	IAmb	IAmb	11 41 12.3	
	comp=Z,33nm,1.1s						
MORC	Moravsky Berou	73.90	319	eP	P	11 41 11.1	+0.1
MORC	Moravsky Berou	73.90	319	P	P	11 41 10.8	-0.2
A051A	Mrakovica	73.90	314	⇑iP	P	11 41 08.2	-3.0
MODS	Modra-Piesok	73.93	318	eP	P	11 41 11.5	+0.3
MODS	Modra-Piesok	73.93	318	eP	P	11 41 11.5	+0.3
MODS				pmax	pmax		
	comp=Z,34nm,0.8s						
ZST	Bratislava	74.03	318	eP	P	11 41 12.1	+0.3
ZST	Bratislava	74.03	318	eP	P	11 41 12.1	+0.3
ZST				pmax	pmax		
	comp=Z,111nm,0.9s						
A050A	Klekovaca	74.13	314	eP	P	11 40 59.9	-13
ARA0	ARCESS Array S	74.20	340	eP	P	11 41 10.6	-1.7
ARCES	ARCESS Array B	74.20	340	P	P	11 41 12.0	-0.3
	comp=Z,9.1nm,0.7s,baz=85,slow=5.7,SNR=27						
ARCES				LR	LR	12 16 09.8	
	comp=Z,375nm,21.5s,baz=112,slow=38						
	comp=Z,9.1nm,0.7s						
KRLC	Kraliky	74.42	320	eP	P	11 41 14.6	+0.5
KRLC	Kraliky	74.42	320	eP	P	11 41 14.6	+0.5
KOGS	Kog	74.47	316	iP	P	11 41 14.2	-0.2
KOGS				i		11 41 24.9	
VRAC	Vranov	74.47	319	eP	P	11 41 13.8	-0.5
VRAC	Vranov	74.47	319	LR	LR	12 18 39.8	
	comp=Z,99nm,20.4s,baz=100,slow=40						
BOSA	Boshof	74.49	237	P	P	11 41 15.9	+1.0
BOSA				IAmb	IAmb	11 41 17.3	
	comp=Z,31nm,0.9s						
BOSA	Boshof	74.49	237	P	P	11 41 16.0	+1.0
BOSA				pmax	pmax		
	comp=Z,31nm,1.0s						
BOSA	Boshof	74.49	237	P	P	11 41 16.2	+1.3
	comp=Z,26nm,0.9s,baz=78,slow=5.8,SNR=35						
BOSA				LR	LR	12 08 39.7	
	comp=Z,238nm,21.4s,baz=26,slow=32						
	comp=Z,26nm,0.9s						
RONA	Rosalia, Austr	74.53	317	iP	P	11 41 14.3	-0.4
	comp=Z,15nm,1.0s						
KRUC	Moravsky	74.58	319	eP	P	11 41 14.7	-0.2
DPC	Dobruska-Polom	74.74	320	eP	P	11 41 16.4	+0.5
DPC				ex	x	11 41 27.3	
DPC	Dobruska-Polom	74.74	320	eP	P	11 41 16.4	+0.5
DPC				e		11 41 27.3	
KSP	Ksiaz	74.80	320	eP	P	11 41 16.6	+0.4
KSP				epP	pP	11 41 26.2	+1.3
KTK1	Kautokeino	74.81	340	eP	P	11 41 14.9	-1.0
OSTC	Ostas	74.83	320	eP	P	11 41 16.9	+0.5
OSTC	Ostas	74.83	320	eP	P	11 41 16.9	+0.5
CONA	Conrad Observa	74.84	317	iP	P	11 41 16.4	-0.2
	comp=Z,13nm,0.9s						
CHVC	Chvalec	74.93	320	eP	P	11 41 17.2	+0.2
CHVC	Chvalec	74.93	320	eP	P	11 41 17.2	+0.2
UPC	Upice	74.95	320	eP	P	11 41 17.5	+0.4
UPC	Upice	74.95	320	eP	P	11 41 17.5	+0.4
ARSA	Arzberg	75.02	317	iP	P	11 41 17.7	+0.1
	comp=Z,20nm,1.0s,SNR=9.0						
BOJS	Bojanci	75.10	315	iP	P	11 41 17.8	-0.3
UPP	Uppsala	75.17	330	eP	P	11 41 18.3	+0.2
SOKA	Soboth	75.32	316	iP	P	11 41 19.6	+0.2
	comp=Z,41nm,1.3s,SNR=9.4						
VIKU	Vikbolandet	75.45	328	eP	P	11 41 20.0	+0.3
LJU	Ljubljana	75.64	315	iP	P	11 41 21.2	+0.1
OBKA	Obir	75.64	316	eP	P	11 41 21.2	-0.1
	comp=Z,21nm,0.9s						
OBKA	Obir	75.64	316	⇓iP	P	11 41 20.8	-0.5
BLEU	Blekinge	75.65	326	iP	P	11 41 19.6	-1.3
CASY	Casey	75.67	173	P	P	11 41 21.6	+0.9
CASY				IAmb	IAmb	11 41 22.9	
	comp=Z,48nm,1.2s						
GOPC	GO Pecny, Ondr	75.69	319	eP	P	11 41 21.9	+0.6
GOPC	GO Pecny, Ondr	75.69	319	eP	P	11 41 21.9	+0.6
PRU	Pruhonice	75.85	319	eP	P	11 41 22.7	+0.5
PRU	Pruhonice	75.85	319	eP	P	11 41 22.7	+0.5
PVCC	Panska Ves	75.87	320	eP	P	11 41 23.0	+0.7
PVCC	Panska Ves	75.87	320	eP	P	11 41 23.0	+0.7
MOA	Molln	75.91	317	iP	P	11 41 22.7	0.0
	comp=Z,21nm,1.1s,SNR=5.9						
PRA	Prague	75.93	319	eP	P	11 41 23.3	+0.6
PRA	Prague	75.93	319	eP	P	11 41 23.3	+0.6
JETT	Jettan, Norway	75.93	340	eP	P	11 41 21.8	-0.6
CKRC	Cesky Krumlov	75.93	318	eP	P	11 41 22.9	+0.1
CKRC	Cesky Krumlov	75.93	318	eP	P	11 41 22.9	+0.1
ZVC	Zvikov	76.04	319	eP	P	11 41 23.6	+0.2
ZVC				ex	x	11 41 33.1	
RICC	Richard	76.17	320	eP	P	11 41 24.5	+0.5
BILL	Bilibino	76.19	22	iP	P	11 41 24.1	+0.3
BILL				pmax	pmax		
	comp=Z,22nm,1.8s						
MYKA	Terra Mystica	76.28	316	iP	P	11 41 24.5	-0.3
	comp=Z,15nm,0.9s						
BRG	Berggiesshubel	76.29	320	iP	P	11 41 24.9	+0.2
BRG				Amp		11 41 26.1	
	comp=Z,19nm,0.9s						
BRG	Berggiesshubel	76.29	320	P	P	11 41 36.1	+11
BRG				Amp		11 41 36.9	
	comp=Z,14nm,1.0s						
BRG	Berggiesshubel	76.29	320	iP	P	11 41 24.9	+0.2
BRG						11 41 36.0	
BRG				pmax	pmax		
	comp=Z,19nm,0.9s						
BRG				pmax	pmax		
	comp=Z,14nm,1.0s						
BRG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BRG				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BRG	Berggiesshubel	76.29	320	eP	P	11 41 25.0	+0.2
	comp=Z,19nm,0.9s,baz=92,slow=5.5						
PRED	Cave del Predi	76.32	316	P	P	11 41 24.9	-0.1
PRED				IAmb	IAmb	11 41 25.9	
	comp=Z,36nm,0.9s						
BIOA	Bad Ischl, Aus	76.32	317	iP	P	11 41 24.7	-0.3
	comp=Z,9.1nm,0.7s,SNR=6.5						
GEC2	GERESS Array S	76.33	318	P	P	11 41 25.1	0.0
GEC2				IAmb	IAmb	11 41 26.3	
	comp=Z,38nm,0.9s						
GEC2	GERESS Array S	76.33	318	eP	P	11 41 25.3	+0.2
	comp=Z,39nm,0.9s,baz=92,slow=5.5						
GERES	GERESS Array B	76.33	318	P	P	11 41 25.3	+0.2
	comp=Z,26nm,0.8s,baz=86,slow=5.5,SNR=68						
GERES				LR	LR	12 20 32.7	
	comp=Z,89nm,18.3s,baz=82,slow=40						
	comp=Z,26nm,0.8s						
KHC	Kasperske Hory	76.43	318	P	P	11 41 25.4	-0.2
KHC	Kasperske Hory	76.43	318	eP	P	11 41 25.6	0.0
KHC				epP	pP	11 41 33.9	-0.5
KHC	Kasperske Hory	76.43	318	ceP	P	11 41 25.4	-0.2
KHC				pmax	pmax		
	comp=Z,58nm,1.3s						
TRO	Tromso	76.45	340	eP	P	11 41 24.0	-1.2
RUE	Ruedersdorf	76.49	322	eP	P	11 41 26.3	+0.5
RUE	Ruedersdorf	76.49	322	eP	P	11 41 26.1	+0.3
	comp=Z,60nm,0.7s,baz=92,slow=5.5						
KBA	Koelnbreinsper	76.50	316	iP	P	11 41 25.9	-0.3
	comp=Z,10nm,0.7s						
NRCA	Norcia	76.54	312	P	P	11 41 25.2	-1.3
NRCA				IAmb	IAmb	11 41 46.6	
	comp=Z,74nm,1.6s						
HSKC	Hora Svate Kat	76.60	320	eP	P	11 41 26.9	+0.4
FBE	Freiberg	76.67	320	eP	P	11 41 27.5	+0.7
	comp=Z,34nm,0.8s,baz=92,slow=5.5						
DEL	Delary	76.74	326	eP	P	11 41 27.1	-0.1
DEL	Delary	76.74	326	iP	P	11 41 25.0	-2.2
WET	Wettzell	76.89	318	eP	P	11 41 28.4	+0.3
	comp=Z,25nm,1.0s,baz=92,slow=5.5						
CLL	Collm	76.91	321	⇓iP	P	11 41 27.9	-0.3
	comp=Z,17nm,1.1s						
CLL				esP	pP	11 41 37.0	+0.1
	comp=Z,39nm,1.7s						
CLL				i pPcP		11 41 44.6	
	comp=Z,19nm,1.3s						
CLL				i x	x	11 42 04.4	
	comp=Z,45nm,2.0s						
CLL				LV		12 18 00.0	
	comp=Z,200nm,18.8s						
CLL	Collm	76.91	321	⇓iP	P	11 41 27.9	-0.3
CLL				pmax	pmax		
	comp=Z,17nm,1.1s						
CLL	Collm	76.91	321	eP	P	11 41 27.9	-0.3
	comp=Z,12nm,0.9s,baz=92,slow=5.5						
LUNU	Lund	76.91	325	iP	P	11 41 26.1	-2.0
LESA	Schwarzleotal	76.96	317	iP	P	11 41 28.0	-0.7
	comp=Z,24nm,0.6s						
ABTA	Abfaltersbach	77.06	316	iP	P	11 41 28.6	-0.7
	comp=Z,16nm,0.8s						
HFS	Hagfors	77.17	330	P	P	11 41 29.0	-0.4
	comp=Z,22nm,0.7s,baz=101,slow=7.7,SNR=65						
	comp=Z,22nm,0.7s						
BJUU	Bjuv	77.18	326	iP	P	11 41 28.2	-1.4
TANN	Tannenbergstha	77.21	320	eP	P	11 41 30.0	0.0
	comp=Z,20nm,1.3s,baz=92,slow=5.5						
NKC	Novy Kostel	77.21	320	eP	P	11 41 30.4	+0.4
NKC	Novy Kostel	77.21	320	eP	P	11 41 30.4	+0.4
WERN	Wernitzgruen	77.26	320	eP	P	11 41 30.5	+0.2
	comp=Z,12nm,0.9s,baz=92,slow=5.5						
GUNZ	Gunzen	77.29	320	eP	P	11 41 30.6	+0.2
	comp=Z,27nm,1.1s,baz=92,slow=5.5						
WERD	Werda	77.31	320	eP	P	11 41 30.7	+0.2
	comp=Z,13nm,0.7s,baz=92,slow=5.5						
ROTZ	Rotzenmuhle	77.35	319	eP	P	11 41 31.3	+0.5
	comp=Z,7.5nm,1.0s,baz=92,slow=5.5						
FAUS	Fauske	77.36	337	eP	P	11 41 29.6	-0.8
MANZ	Manzenberg	77.42	319	eP	P	11 41 31.8	+0.7
	comp=Z,13nm,1.3s,baz=92,slow=5.5						
BORU	Boraas	77.43	327	iP	P	11 41 28.5	-2.5
STEI	Steigen	77.46	338	eP	P	11 41 30.8	-0.1
MOR8	Moi Rana	77.52	336	eP	P	11 41 29.8	-1.5
TEOL	Teolo	77.62	315	IAmb	IAmb	11 41 34.4	
	comp=Z,21nm,0.8s						
CTI	Castel Tesino	77.64	315	IAmb	IAmb	11 41 33.6	
	comp=Z,42nm,1.0s						
WTTA	Wattenberg	77.67	317	iP	P	11 41 32.2	-0.6
	comp=Z,38nm,0.7s,SNR=11						
WATA	Walderalm	77.71	317	iP	P	11 41 32.0	-1.0
	comp=Z,18nm,0.6s,SNR=12						
MOX	Moxa	77.76	320	eP	P	11 41 33.1	+0.1
	comp=Z,14nm,0.8s,baz=92,slow=5.5						
MOX				eL	L	12 22 03.0	
	comp=Z,137nm,20.2s						
ONAU	Onsala	77.88	327	iP	P	11 41 31.7	-1.8
SQTA	Sankt Quirin	77.96	316	iP	P	11 41 33.8	-0.6
	comp=Z,41nm,0.7s,SNR=12						
GRA1	Grafenberg Arr	77.99	319	IAmb	IAmb	11 41 35.9	
	comp=Z,36nm,0.9s						
GRF	Grafenberg Arr	77.99	319	eP	P	11 41 35.0	+0.7
	comp=Z,39nm,1.0s,baz=92,slow=5.5						
GRF				eL	L	12 18 14.9	
	comp=Z,133nm,20.6s						
GRFO	Grafenberg	77.99	319	P	P	11 41 33.7	-0.6
GRFO				IAmb	IAmb	11 41 35.9	
	comp=Z,39nm,1.0s						
GRFO	Grafenberg	77.99	319	P	P	11 41 33.7	-0.6
GRFO				pmax	pmax		
	comp=Z,39nm,1.0s						
MOTA	Moosalm	78.03	317	iP	P	11 41 34.0	-0.8
	comp=Z,38nm,0.8s,SNR=12						
ZCCA	Zocca	78.11	314	P	P	11 41 35.9	+0.7
LOF	Lofoten	78.12	338	eP	P	11 41 33.6	-1.0
NC405	NORSAR Array S	78.22	331	P	P	11 41 34.9	-0.4
NC405				IAmb	IAmb	11 41 35.8	
	comp=Z,27nm,0.7s						
RETA	Reutte	78.26	317	iP	P	11 41 35.7	-0.3
	comp=Z,49nm,0.8s,SNR=14						
SHEM	Shemya Is, Ala	78.27	38	LR	LR	12 19 27.6	
	comp=Z,76nm,18.1s,baz=294,slow=38						
NC602	NORSAR Array S	78.28	330	P	P	11 41 35.0	-0.7
NC602				IAmb	IAmb	11 41 35.8	
	comp=Z,27nm,0.8s						
NC602	NORSAR Array S	78.28	330	eP	P	11 41 34.4	-1.2
FETA	Feichten	78.28	316	eP	P	11 41 35.9	-0.3
	comp=Z,32nm,0.9s,SNR=10						
STRU	Stroemstad	78.36	329	iP	P	11 41 33.9	-2.2
NSS	Namsos	78.37	334	eP	P	11 41 34.8	-1.2
NC303	NORSAR Array S	78.39	331	P	P	11 41 35.8	-0.5
NC303				IAmb	IAmb	11 41 36.6	
	comp=Z,54nm,1.4s						
NB201	NORSAR Array S	78.42	331	P	P	11 41 36.0	-0.5
SALO	Salr	78.42	315	P	P	11 41 37.2	+0.4
SALO				IAmb	IAmb	11 41 38.6	
	comp=Z,56nm,0.9s						
NB2	NORSAR Subarra	78.46	331	P	P	11 41 35.6	-1.1
	comp=Z,17nm,0.7s,baz=95,slow=5.6						
NB2	NORSAR Subarra	78.46	331	P	P	11 41 35.6	-1.1
	baz=95,slow=5.6						
NOA	NORSAR Array B	78.46	331	P	P	11 41 35.8	-0.9
	comp=Z,11nm,0.8s,baz=94,slow=5.7,SNR=41						
NOA				LR	LR	12 19 27.3	
	comp=Z,134nm,21.4s,baz=100,slow=38						
	comp=Z,11nm,0.8s						
DZM	Mont Dzumac	78.50	115	eLR	LR	12 06 08.3	
	comp=Z,283nm,24.8s						
DZM	Mont Dzumac	78.50	115	LR	LR	12 18 13.1	
	comp=Z,148nm,21.1s,baz=228,slow=37						
CLZ	Clausthal	78.56	321	eP	P	11 41 37.7	+0.2
	comp=Z,23nm,0.8s,baz=92,slow=5.5						
FUORN	Ofenpass-Fuorn	78.60	316	P	P	11 41 38.3	+0.2
NAO01	NORSAR Array S	78.61	330	P	P	11 41 37.0	-0.5
NAO01				IAmb	IAmb	11 41 37.3	
	comp=Z,18nm,0.8s						
OSL	Oslo	78.64	329	eP	P	11 41 36.4	-1.2
BSEG	Bad Segeberg	78.64	323	eP	P	11 41 38.2	+0.5
	comp=Z,54nm,1.1s,baz=92,slow=5.5						
NBO00	NORSAR Array S	78.67	331	P	P	11 41 37.1	-0.8
NBO00				IAmb	IAmb	11 42 16.2	
	comp=Z,82nm,1.8s						
NC204	NORSAR Array S	78.69	331	P	P	11 41 37.8	-0.2
NC204				IAmb	IAmb	11 41 38.5	
	comp=Z,28nm,1.1s						
TSUM	Tsumeb	78.70	249	P	P	11 41 37.9	-1.1
TSUM	Tsumeb	78.70	249	LR	LR	12 13 51.0	
	comp=Z,359nm,18.0s,baz=148,slow=34						
UBR	Ueberruh	78.71	317	eP	P	11 41 38.0	-0.4
	comp=Z,35nm,0.7s,baz=92,slow=5.5						
NRDL	Niedersach Rie	78.74	322	eP	P	11 41 38.6	+0.4
	comp=Z,13nm,0.9s,baz=92,slow=5.5						
MAW	Mawson	78.74	191	P	P	11 41 38.7	+0.8
	comp=Z,16nm,0.6s,baz=25,slow=4.6,SNR=37						
MAW				LR	LR	12 10 34.8	
	comp=Z,148nm,19.0s,baz=32,slow=31						
	comp=Z,16nm,0.6s						
DAVA	Damuels	78.86	317	iP	P	11 41 39.4	0.0
	comp=Z,47nm,0.7s						
DAVOX	Davos/Dischmat	78.86	316	LR	LR	12 24 08.6	
	comp=Z,70nm,18.2s,baz=76,slow=42						
SPB1	Spitsbergen Ar	78.97	348	P	P	11 41 38.0	-1.2
SPITS	Spitsbergen Ar	78.97	348	P	P	11 41 39.5	+0.2
	comp=Z,7.5nm,0.6s,baz=94,slow=11,SNR=14						
SPITS				LR	LR	12 21 48.9	
	comp=Z,242nm,20.3s,baz=85,slow=40						
	comp=Z,7.5nm,0.6s						
KONO	Kongsberg	79.19	329	eP	P	11 41 39.9	-0.8
KONO	Kongsberg	79.19	329	ceP	P	11 41 39.4	-1.3
KONO				pmax	pmax		
	comp=Z,47nm,2.5s						
RETH	Rethem/Aller,	79.20	322	eP	P	11 41 40.8	0.0
	comp=Z,18nm,1.1s,baz=92,slow=5.5						
TUE	Stuetta	79.24	316	P	P	11 41 41.1	-0.4
TUE				IAmb	IAmb	11 41 55.8	
	comp=Z,27nm,0.8s						
SUR	Sutherland	79.30	235	P	P	11 41 44.4	+2.3
SUR				IAmb	IAmb	11 41 44.9	
	comp=Z,47nm,1.0s						
SUR	Sutherland	79.30	235	LR	LR	12 13 53.2	
	comp=Z,154nm,18.4s,baz=73,slow=34						
STU	Stuttgart	79.31	318	P	P	11 41 41.1	-0.5
STU	Stuttgart	79.31	318	P	P	11 41 41.1	-0.5
STU				pmax	pmax		
	comp=Z,17nm,0.8s						
MUD	Monsted U'grnd	79.34	326	iP	P	11 41 40.0	-1.6
DOMB	Dombas	79.53	332	eP	P	11 41 39.6	-3.0
KEST	Kesra	79.59	305	P	P	11 41 43.8	+0.3
KEST				IAmb	IAmb	11 41 45.3	
	comp=Z,26nm,0.8s						
KEST	Kesra	79.59	305	P	P	11 41 44.1	+0.6
	comp=Z,18nm,0.6s,baz=301,slow=0.6,SNR=11						
	comp=Z,18nm,0.6s						
TNS	Taunus Mts	79.78	320	eP	P	11 41 44.4	+0.2
	comp=Z,14nm,0.7s,baz=92,slow=5.5						
SKAR	Skarslia	79.87	330	eP	P	11 41 44.2	-0.2
BFO	Black Forest	79.89	318	P	P	11 41 44.7	-0.1
BFO	Black Forest	79.89	318	P	P	11 41 44.7	-0.1
BFO				pmax	pmax		
	comp=Z,18nm,1.0s						
BFO	Black Forest	79.89	318	eP	P	11 41 44.5	-0.3
	comp=Z,18nm,1.0s,baz=92,slow=5.5						
WIN	Windhoek	79.91	245	P	P	11 41 44.9	-0.7
WIN				IAmb	IAmb	11 41 48.8	
	comp=Z,21nm,0.7s						
WIN	Windhoek	79.91	245	P	P	11 41 44.9	-0.7
WIN				pmax	pmax		
	comp=Z,21nm,0.7s						
MOL	Molde	80.25	332	eP	P	11 41 46.8	+0.4
AKN	Aaknes	80.51	332	eP	P	11 41 47.5	-0.3
SENIN	Lac Senin/Sane	80.66	316	P	P	11 41 49.4	+0.2
BLS5	Blasjo	80.79	329	eP	P	11 41 49.0	-0.4
BNI	Bardonecchia	81.15	314	P	P	11 41 51.2	-0.6
BNI				IAmb	IAmb	11 41 55.4	
	comp=Z,54nm,1.1s						
BNI	Bardonecchia	81.15	314	P	P	11 41 51.2	-0.6
BNI				pmax	pmax		
	comp=Z,54nm,1.2s						
BTNL	Ternell	81.25	320	dP	P	11 41 52.1	+0.1
WLF	Walferdange	81.28	319	dP	P	11 41 52.4	+0.3
RCHB	Rochefort	81.85	320	dP	P	11 41 55.3	+0.1
BGES	Gesves	81.93	320	dP	P	11 41 55.5	0.0
BMRD	Maredsous	82.14	320	dP	P	11 41 56.5	-0.1
DOU	Dourbes	82.26	319	dP	P	11 41 57.5	+0.2
SSB	Saint Sauveur	82.64	315	P	P	11 41 59.2	-0.3
SSB				IAmb	IAmb	11 42 00.5	
	comp=Z,20nm,0.9s						
SSB	Saint Sauveur	82.64	315	P	P	11 41 59.2	-0.3
SSB				pmax	pmax		
	comp=Z,20nm,0.9s						
CLF	Chambon-Foret	83.96	318	P	P	11 42 06.3	+0.1
WHZ	Wether Hill Ro	86.02	137	P	P	11 42 17.4	+1.0
WHZ				IAmb	IAmb	11 42 35.1	
	comp=Z,40nm,1.4s						
EKA	Eskdalemuir Ar	86.35	325	P	P	11 42 18.0	+0.1
	comp=Z,14nm,0.7s,baz=97,slow=5.4,SNR=42						
	comp=Z,14nm,0.7s						
TNA	Tin City	86.35	24	P	P	11 42 17.7	0.0
	baz=282						
DAG	Danmarks Havn	86.60	348	iP	P	11 42 17.0	-1.8
C16K	Lisburne Hills	86.71	21	P	P	11 42 20.1	+0.6
	baz=284						
C17K	DeLong Mountai	87.43	21	P	P	11 42 23.7	+0.7
	baz=286						
RPZ	Rata Peaks	87.59	135	P	P	11 42 24.8	+0.6
RPZ	Rata Peaks	87.59	135	LR	LR	12 22 50.6	
	comp=Z,169nm,19.6s,baz=276,slow=36						
INZ	Inchbonnie	87.63	134	P	P	11 42 24.4	+0.1
INZ				IAmb	IAmb	11 42 24.9	
	comp=Z,32nm,1.0s						
A19K	Wainwright	87.63	19	P	P	11 42 25.2	+1.3
	baz=288						
ANM	Nome	87.63	25	IAmb	IAmb	11 42 25.9	
	comp=Z,17nm,0.8s						
ANM	Nome	87.63	25	P	P	11 42 24.7	+0.6
	baz=285						
F15K	North Star Dit	87.63	24	P	P	11 42 24.6	+0.6
	baz=285						
B18K	Kokolik River	87.65	20	P	P	11 42 25.3	+1.3
	baz=288						
RDOG	Red Dog Mine	87.65	21	P	P	11 42 24.6	+0.6
	baz=287						
CART	Cartagena	87.68	307	IAMs_20	IAMs_20	12 22 47.4	
	comp=Z,665nm,21.0s						
G15K	Niukluk	88.07	24	P	P	11 42 26.3	+0.2
	baz=286						
C18K	Utukok River	88.08	21	P	P	11 42 26.9	+0.7
	baz=288						
OXZ	Oxford	88.19	134	IAmb	IAmb	11 42 28.1	
	comp=Z,28nm,0.8s						
M11K	Mekoryuk	88.29	29	P	P	11 42 26.8	-0.4
	baz=284						
E17K	Hotham Inlet	88.33	22	P	P	11 42 28.5	+1.2
	baz=288,SNR=12						
THZ	Tophouse	88.47	132	IAmb	IAmb	11 42 45.0	
	comp=Z,24nm,0.8s						
C19K	Lookout Ridge	88.48	20	P	P	11 42 29.3	+1.2
	baz=290						
A21K	Barrow	88.62	18	P	P	11 42 29.1	+0.5
	baz=292,SNR=25						
G16K	Koyuk River	88.64	24	P	P	11 42 29.8	+1.0
	baz=287						
E18K	Tukpahlearik C	88.68	22	P	P	11 42 30.3	+1.4
	baz=289						
F17K	Baldwin Pennin	88.75	23	P	P	11 42 30.4	+1.1
	baz=288						
TORD	Torodi Ar. Bea	88.88	283	P	P	11 42 32.0	+1.0
	comp=Z,8.6nm,0.9s,baz=72,slow=5.7,SNR=55						
TORD				LR	LR	12 21 45.0	
	comp=Z,149nm,19.4s,baz=87,slow=35						
	comp=Z,8.6nm,0.9s						
J14K	Nanvaranak Lak	88.90	27	P	P	11 42 30.5	+0.5
	baz=286						
H16K	Elim	88.91	25	P	P	11 42 30.7	+0.7
	baz=287						
B20K	Meade River	88.96	19	P	P	11 42 31.2	+1.1
	baz=292,SNR=32						
D19K	Kuna River	89.20	20	P	P	11 42 32.1	+0.7

	baz=291								
A22K	**Sinclair Lake**	89.24	18	P		P	11 42 32.4	+0.9	
	baz=294								
G17K	**Kiwalik Mounta**	89.28	24	P		P	11 42 32.9	+1.1	
	baz=289								
ESBB	**Sonseca Array**	89.62	310	IAmb		IAmb	11 42 35.5		
	comp=Z,18nm,1.2s								
ESDC	**Sonseca Array**	89.62	310	P		P	11 42 34.0	-0.1	
ESDC	**Sonseca Array**	89.62	310	P		P	11 42 34.3	+0.3	
	comp=Z,9.5nm,0.9s,baz=60,slow=4.4,SNR=39								
ESDC				LR		LR	12 27 01.7		
	comp=Z,82nm,18.2s,baz=72,slow=38								
	comp=Z,9.5nm,0.9s								
D20K	**Etivluk River**	89.63	20	P		P	11 42 34.4	+1.0	
	baz=292								
M13K	**Dall Lake**	89.65	29	P		P	11 42 34.6	+1.0	
	baz=286								
L14K	**Kuka Creek**	89.69	28	P		P	11 42 34.7	+0.9	
	baz=287								
H17K	**Granite Mounta**	89.76	24	P		P	11 42 35.4	+1.3	
	baz=290								
I17K	**Unalakleet**	89.78	25	P		P	11 42 35.5	+1.3	
I17K				IAmb		IAmb	11 42 36.5		
	comp=Z,22nm,1.2s								
I17K	**Unalakleet**	89.78	25	P		P	11 42 35.2	+1.0	
	baz=289								
E19K	**Redstone River**	89.89	21	P		P	11 42 35.6	+1.0	
	baz=292								
B21K	**Ikpikpuk River**	89.92	19	P		P	11 42 35.7	+1.1	
	baz=294								
F19K	**Shaleruckik Mo**	89.92	22	P		P	11 42 35.2	+0.5	
	baz=292								
G18K	**Tagagawik**	89.93	23	P		P	11 42 35.7	+0.8	
G18K				IAmb		IAmb	11 42 47.1		
	comp=Z,17nm,1.1s								
G18K	**Tagagawik**	89.93	23	P		P	11 42 35.4	+0.6	
	baz=291,SNR=7.8								
K15K	**Wolf Creek Mou**	89.93	27	P		P	11 42 36.0	+1.1	
	baz=288								
E20K	**Nigu River**	89.95	20	P		P	11 42 35.6	+0.7	
	baz=293								
B22K	**Teshekpuk Lake**	89.99	18	P		P	11 42 35.8	+0.8	
	baz=296,SNR=12								
J16K	**Anvik River**	90.02	26	P		P	11 42 36.7	+1.4	
	baz=289								
C21K	**Knifeblade Rid**	90.06	19	P		P	11 42 36.4	+1.0	
	baz=294								
L15K	**Ungalak Mounta**	90.14	27	P		P	11 42 36.8	+1.0	
	baz=288								
M14K	**Bethel**	90.20	28	P		P	11 42 37.0	+0.9	
	baz=288								
H18K	**Honhosa River**	90.30	24	P		P	11 42 37.6	+1.0	
	baz=291								
G19K	**Purcell Mounta**	90.43	22	P		P	11 42 38.4	+1.2	
	baz=292								
F20K	**Avaraart Lake**	90.59	21	P		P	11 42 38.6	+0.8	
	baz=293								
N14K	**Kuskokwak Cree**	90.59	29	P		P	11 42 38.7	+0.7	
	baz=288								
E21K	**Killik River**	90.62	20	P		P	11 42 39.1	+1.1	
	baz=295								
M15K	**Kasigluk River**	90.82	28	P		P	11 42 39.9	+0.8	
	baz=289								
D22K	**Ayikyak River**	90.86	19	P		P	11 42 40.0	+0.9	
	baz=296								
H19K	**Roundabout Mou**	90.91	23	P		P	11 42 40.8	+1.4	
	baz=293								
URZ	**Urewera**	90.96	128	LR		LR	12 23 54.6		
	comp=Z,238nm,20.9s,baz=334,slow=36								
L16K	**Owhat River**	91.03	27	P		P	11 42 41.0	+0.9	
	baz=290								
GCSA	**Galena City Sc**	91.04	24	P		P	11 42 41.2	+1.2	
	baz=292								
C23K	**Itkillik River**	91.08	18	P		P	11 42 41.0	+1.0	
	baz=298,SNR=10								
K17K	**Iditarod**	91.20	26	P		P	11 42 42.1	+1.3	
	baz=291								
PBRG	**Braganca**	91.26	312	*e*P		P	11 42 41.8	+0.2	
	comp=Z,30nm,1.7s								
N15K	**Kwethluk River**	91.27	28	P		P	11 42 41.9	+0.8	
	baz=289								
F21K	**Alatna River**	91.31	21	IAmb		IAmb	11 42 42.9		
	comp=Z,17nm,1.1s								
F21K	**Alatna River**	91.31	21	P		P	11 42 41.8	+0.5	
	baz=295,SNR=9.9								
L17K	**Donlin**	91.41	26	P		P	11 42 42.7	+0.9	
	baz=291								
D23K	**Nanushuk River**	91.47	19	P		P	11 42 42.9	+1.0	
	baz=298,SNR=11								
E22K	**Anaktuvuk Pass**	91.48	20	P		P	11 42 42.7	+0.6	
	baz=297								
M16K	**Timber Creek**	91.50	28	P		P	11 42 43.1	+0.9	
	baz=290								
H20K	**Anotleneega Mo**	91.53	23	P		P	11 42 43.5	+1.2	
	baz=294								
J18K	**Innoko River**	91.59	25	P		P	11 42 43.4	+0.8	
	baz=292								
G21K	**Allakaket**	91.61	21	P		P	11 42 43.3	+0.7	
	baz=295								
MVO	**Moncorvo**	91.61	312	*e*P		P	11 42 44.1	+0.8	
	comp=Z,22nm,1.5s								
ELIB	**Princess Elisa**	91.62	197	*d*P		P	11 42 45.3	+2.7	
	comp=Z,31nm,0.8s								
ELIB				*dx*		x	11 42 58.8		
F22K	**John River**	91.64	20	P		P	11 42 43.7	+0.9	
	baz=297								
C24K	**Franklin Bluff**	91.72	18	P		P	11 42 43.8	+0.8	
	baz=300								
O15K	**Ungalikthiuk R**	91.72	29	P		P	11 42 43.7	+0.4	
	baz=290								
IMAR	**Indian Mountai**	91.75	22	P		P	11 42 43.9	+0.6	
N16K	**Nishlik Lake**	91.78	28	P		P	11 42 44.6	+1.0	
	baz=290								
J19K	**Poorman**	91.84	24	P		P	11 42 45.2	+1.5	
	baz=293								
NEEM	**North Greenlan**	91.84	353	*i* P		P	11 42 42.7	-1.2	
D24K	**Happy Valley**	91.96	18	P		P	11 42 45.1	+0.9	
	baz=300								
I20K	**Naaghedeneel**	91.97	23	P		P	11 42 46.0	+1.8	
	baz=294								
TOLK	**Toolik Lake Re**	91.98	19	P		P	11 42 45.2	+0.8	
TOLK				IAmb		IAmb	11 42 57.1		
	comp=Z,14nm,0.8s								
TOLK	**Toolik Lake Re**	91.98	19	P		P	11 42 45.2	+0.8	
	baz=299,SNR=9.9								
M17K	**Holitna River**	92.06	27	P		P	11 42 46.2	+1.4	
	baz=292								
L18K	**Granite Mounta**	92.08	26	P		P	11 42 46.1	+1.2	
	baz=292								
TTA	**Tatalina**	92.10	25	P		P	11 42 46.2	+1.2	
TTA	**Tatalina**	92.10	25	P		P	11 42 46.1	+1.0	
	baz=293								
TTA	**Tatalina**	92.10	25	P		P	11 42 46.2	+1.2	
TTA				pmax		pmax			
	comp=Z,78nm,1.9s								
G22K	**Bettles**	92.14	21	P		P	11 42 45.7	+0.6	
	baz=297								
MTE	**Manteigas**	92.16	311	*e*P		P	11 42 46.9	+1.1	
	comp=Z,41nm,2.0s								
PCBR	**Castelo Branco**	92.24	311	*e*P		P	11 42 46.9	+0.8	
	comp=Z,18nm,1.4s								
H21K	**Melozitna Rive**	92.24	22	P		P	11 42 46.7	+1.1	
	baz=296								
E23K	**Chandalar**	92.25	19	P		P	11 42 46.5	+0.8	
	baz=299								
PMRV	**Marv??o**	92.26	310	*e*P		P	11 42 47.5	+1.2	
	comp=Z,19nm,1.5s								
PBAR	**Barrancos**	92.27	309	*e*P		P	11 42 47.3	+1.0	
	comp=Z,28nm,1.7s								
J20K	**Nowinta River**	92.36	24	P		P	11 42 47.6	+1.5	
	baz=295								
O16K	**Kokwok River B**	92.41	29	P		P	11 42 47.1	+0.7	
	baz=291								
COLD	**Coldfoot**	92.45	20	P		P	11 42 46.9	+0.4	
COLD	**Coldfoot**	92.45	20	P		P	11 42 47.4	+0.9	
	baz=298,SNR=5.9								
N17K	**Nushagak Hills**	92.50	28	P		P	11 42 48.0	+1.1	
	baz=292								
PESTR	**Estremoz**	92.54	310	*e*P		P	11 42 48.1	+0.6	
	comp=Z,17nm,1.5s								
E24K	**Your Creek**	92.61	19	P		P	11 42 48.1	+0.8	
	baz=300								
D25K	**Kavik River**	92.62	18	P		P	11 42 47.9	+0.5	
	baz=302								
H22K	**Ishtalitna Cre**	92.66	22	P		P	11 42 48.8	+1.2	
	baz=297								
P16K	**Nushagak River**	92.66	29	P		P	11 42 48.1	+0.5	
	baz=291								
C26K	**Camden Bay**	92.73	17	P		P	11 42 49.0	+1.3	
	baz=304								
K20K	**Telida**	92.73	24	P		P	11 42 49.3	+1.4	
	baz=295								
M18K	**Stony River**	92.74	27	P		P	11 42 49.3	+1.3	
	baz=293,SNR=8.1								
G23K	**Bananza Creek**	92.76	21	P		P	11 42 48.9	+0.9	
	baz=299								
I21K	**Tanana**	92.76	22	P		P	11 42 49.2	+1.3	
	baz=297								
O17K	**Koliganek Bris**	92.82	28	P		P	11 42 49.2	+0.9	
	baz=292,SNR=6.6								
L19K	**White Mountain**	92.89	26	P		P	11 42 50.0	+1.4	
	baz=294								
PBEJ	**Beja**	92.94	309	*e*P		P	11 42 50.5	+1.1	
	comp=Z,20nm,2.5s								
SVW2	**Sparrevohn**	93.00	27	P		P	11 42 50.0	+0.8	
N18K	**Kilae Creek**	93.03	27	P		P	11 42 50.5	+1.1	
	baz=293								
F24K	**Squaw Lake**	93.09	20	P		P	11 42 50.6	+1.1	
	baz=301,SNR=6.8								
PBDV	**Barranco-do-Ve**	93.16	308	*e*P		P	11 42 51.9	+1.4	
	comp=Z,49nm,1.9s								
L20K	**Farewell, AK**	93.18	25	P		P	11 42 51.4	+1.4	
	baz=295,SNR=12								
CHUM	**Lake Minchumin**	93.21	24	P		P	11 42 51.3	+1.2	
	baz=296,SNR=11								
SUMG	**Summit**	93.25	347			P	11 42 51.4	+0.8	
SUMG	**Summit**	93.25	347	P		P	11 42 51.4	+0.8	
SUMG				pmax		pmax			
	comp=Z,38nm,1.3s								
SUMG	**Summit**	93.25	347	*i* P		P	11 42 51.0	+0.4	
MESJ	**Messejana**	93.25	309	*e*P		P	11 42 52.7	+1.9	
	comp=Z,27nm,1.9s								
MLY	**Manley**	93.30	22	P		P	11 42 51.1	+0.5	
MLY	**Manley**	93.30	22	P		P	11 42 51.1	+0.5	
	baz=298,SNR=7.1								
P17K	**Kwhak River**	93.35	29	P		P	11 42 51.7	+0.9	
	baz=292,SNR=11								
CHGN	**Chignik**	93.42	32	P		P	11 42 51.1	-0.1	
	baz=291								
PNCL	**Nicolau / Gran**	93.43	309	*e*P		P	11 42 51.4	-0.2	
	comp=Z,33nm,1.7s								
Q16K	**King Salmon**	93.44	29	P		P	11 42 51.8	+0.6	
	baz=292								
CAST	**Castle Rocks**	93.51	24	P		P	11 42 52.2	+0.7	
CAST				IAmb		IAmb	11 43 04.3		
	comp=Z,22nm,1.0s								
CAST	**Castle Rocks**	93.51	24	P		P	11 42 52.4	+0.9	
	baz=297,SNR=9.9								
E25K	**Arctic Village**	93.52	19	P		P	11 42 52.2	+0.8	
E25K				IAmb		IAmb	11 42 53.3		
	comp=Z,9.9nm,1.1s								
E25K	**Arctic Village**	93.52	19	P		P	11 42 52.1	+0.6	
	baz=303,SNR=6.4								
N19K	**Bonanza Creek**	93.61	27	P		P	11 42 53.2	+1.1	
	baz=294								
BPAW	**Bear Paw Mtn.**	93.63	23	IAmb		IAmb	11 42 53.8		
	comp=Z,13nm,0.8s								
BPAW	**Bear Paw Mtn.**	93.63	23	P		P	11 42 52.8	+0.8	
	baz=298,SNR=9.9								
G24K	**Hadweenzic Riv**	93.64	20	P		P	11 42 53.1	+1.0	
	baz=301								
O18K	**Koktuh Hills**	93.67	28	P		P	11 42 53.3	+1.0	
	baz=294,SNR=11								
PPLA	**Purkeypile**	93.70	25	P		P	11 42 54.8	+2.2	
	baz=296								
M20K	**Styx River**	93.75	26	P		P	11 42 53.7	+1.0	
	baz=296,SNR=8.2								
I23K	**Minto, Yukon-K**	93.75	22	P		P	11 42 53.4	+0.9	
	baz=299,SNR=5.2								
F25K	**Christian Rive**	93.78	19	P		P	11 42 54.2	+1.4	
	baz=303								
VNDA	**Vanda**	93.79	168	P		P	11 42 52.6	+0.3	
	comp=Z,3.3nm,0.7s,baz=282,slow=6.2,SNR=18								
VNDA				LR		LR	12 22 47.2		
	comp=Z,165nm,18.2s,baz=306,slow=34								
	comp=Z,3.3nm,0.7s								
P18K	**Big Mountain,**	93.84	28	P		P	11 42 53.1	-0.1	
	baz=294								
O19K	**Port Alsworth**	93.94	27	P		P	11 42 54.3	+0.8	
	baz=294,SNR=15								
H24K	**Noodor Dome**	93.95	21	P		P	11 42 54.3	+0.8	
	baz=301								
R17K	**Ugashik Creek**	93.97	30	P		P	11 42 53.7	0.0	
	baz=292								
Q17K	**Contact Creek**	93.97	30	P		P	11 42 53.2	-0.6	
	baz=293,SNR=8.2								
G25K	**Bearman Lake**	94.08	20	P		P	11 42 54.9	+1.0	
	baz=302								
NEA2	**Nenana**	94.13	22	P		P	11 42 55.1	+0.7	
	baz=299,SNR=5.3								
F26K	**Sheenjek River**	94.20	19	P		P	11 42 55.5	+0.9	
	baz=304								
BMAR	**Burnt Mountain**	94.21	19	P		P	11 42 55.3	+0.6	
TRF	**Thorofare Moun**	94.21	24	IAmb		IAmb	11 44 52.0		
	comp=Z,26nm,1.6s								
TRF	**Thorofare Moun**	94.21	24	P		P	11 42 55.3	+0.4	
	baz=298								
Q18K	**Katmai Hardscr**	94.24	29	P		P	11 42 54.3	-0.8	
	baz=294,SNR=5.7								
D27M	**Malcolm River**	94.25	17	P		P	11 42 55.7	+0.8	
	baz=307								
MDM	**Murphy Dome**	94.26	22	IAmb		IAmb	11 43 07.1		
	comp=Z,21nm,1.4s								
SKT	**Skwentna**	94.39	25	IAmb		IAmb	11 42 56.6		
	comp=Z,21nm,1.1s								
SKT	**Skwentna**	94.39	25	P		P	11 42 55.5	-0.1	
	baz=297,SNR=7.9								
N20K	**Mount Spurr**	94.45	26	P		P	11 42 56.3	+0.4	
	baz=296								
MCK	**McKinley**	94.61	23	P		P	11 42 56.7	+0.2	
	baz=299,SNR=6.2								
P19K	**Oil Pt**	94.66	28	P		P	11 42 56.9	0.0	
	baz=295								
E27K	**Coleen River**	94.70	18	P		P	11 42 57.4	+0.5	
	baz=307								
G26K	**Porcupine Rive**	94.74	19	P		P	11 42 57.8	+0.8	
	baz=304								
O20K	**Slope Mountain**	94.75	27	P		P	11 42 57.4	+0.1	
	baz=296								
Q19K	**Cape Douglas,**	94.78	28	P		P	11 42 57.0	-0.5	
	baz=295								
D28M	**Stokes Point**	94.82	16	P		P	11 42 58.3	+1.0	
	baz=309								
ILAR	**Eielson Array**	94.85	22	P		P	11 42 56.5	-1.1	
	comp=Z,3.1nm,0.8s,baz=303,slow=4.3,SNR=43								
ILAR				PP		PP	11 46 45.6	-0.5	
	comp=Z,0.6nm,0.9s,baz=313,slow=7.1,SNR=4.1								
ILAR				PKKPbc		PKKPdf	11 59 53.9	-1.4	
	comp=Z,0.7nm,0.6s,baz=137,slow=8.0,SNR=13								
ILAR				LR		LR	12 31 41.3		
	comp=Z,127nm,19.5s,baz=270,slow=39								
	comp=Z,3.1nm,0.8s								
PRP	**Porcupine Dome**	94.94	21	IAmb		IAmb	11 42 59.8		
	comp=Z,9.6nm,0.8s								
PRP	**Porcupine Dome**	94.94	21	P		P	11 42 59.2	+1.0	
	baz=303,SNR=8.7								
R18K	**Karluk**	94.95	30	P		P	11 42 57.7	-0.5	
	baz=294								
SUA	**Susitna One**	94.95	25	IAmb		IAmb	11 43 22.5		
	comp=Z,17nm,0.8s								
SUA	**Susitna One**	94.95	25	P		P	11 42 59.0	+0.7	
	baz=298,SNR=9.6								
HDA	**Harding Lake**	95.02	22	P		P	11 42 57.8	-0.6	
	baz=301								
HDA				P		P	11 42 57.8	-0.6	
	baz=301								
E28M	**Babbage River**	95.05	17	P		P	11 42 59.2	+0.7	
	baz=309								
WAT1	**Susitna Watana**	95.20	24	P		P	11 42 59.3	0.0	
	baz=300								
J25K	**Salcha River,**	95.49	22	P		P	11 43 00.4	-0.3	
	baz=303								
SII	**Sitkinak Islan**	95.50	31	P		P	11 43 01.1	+0.3	
	baz=294								
Q20K	**Shuyak Island**	95.50	28	P		P	11 43 01.0	+0.4	
	baz=296								
G27K	**Doyon Strip**	95.51	19	P		P	11 43 00.9	+0.2	
	baz=306								
DHY	**Denali Highway**	95.55	23	P		P	11 43 01.3	+0.3	
	baz=301								
RC01	**Rabbit Creek A**	95.56	26	IAmb		IAmb	11 43 02.7		
	comp=Z,20nm,1.1s								
RC01	**Rabbit Creek A**	95.56	26	P		P	11 43 01.4	+0.5	
	baz=298,SNR=6.4								
F28M	**Old Crow**	95.57	18	IAmb		IAmb	11 43 16.8		
	comp=Z,9.2nm,0.8s								
F28M	**Old Crow**	95.57	18	P		P	11 43 01.7	+0.8	
	baz=308,SNR=11								
PMR	**Palmer**	95.58	25	IAmb		IAmb	11 43 12.3		
	comp=Z,14nm,1.2s								
PMR	**Palmer**	95.58	25	P		P	11 43 01.1	+0.2	
	baz=299								
WAT6	**Susitna Watana**	95.65	24	P		P	11 43 01.5	-0.1	
	baz=300								
E29M	**Blow River**	95.66	17	P		P	11 43 01.8	+0.6	
	baz=310								
OHAK	**Old Harbor**	95.67	30	P		P	11 43 01.7	+0.3	
	baz=295								
BRLK	**Bradley Lake**	95.68	27	P		P	11 43 01.8	+0.2	
BRSE	**Bradley Lake S**	95.75	27	P		P	11 43 01.8	0.0	
	baz=298								
KDAK	**Kodiak Island**	95.77	29	P		P	11 43 02.4	+0.5	
KDAK	**Kodiak Island**	95.77	29	P		P	11 43 02.5	+0.5	
	baz=296								
KDAK	**Kodiak Island**	95.77	29	P		P	11 43 02.4	+0.5	
KDAK				pmax		pmax			
	comp=Z,46nm,1.5s								
K24K	**Donnelly Dome**	95.78	22	P		P	11 43 02.2	+0.3	
	baz=302								
SML	**Sawmill**	95.80	25	P		P	11 43 02.4	+0.3	
SML				IAmb		IAmb	11 43 28.3		
	comp=Z,14nm,0.9s								
SML	**Sawmill**	95.80	25	P		P	11 43 02.6	+0.5	
	baz=300								
O22K	**Cooper Landing**	95.86	26	P		P	11 43 02.3	0.0	
	baz=298								
I26K	**Coal Creek Min**	95.89	20	P		P	11 43 02.2	-0.1	
	baz=305								
H27K	**Steamboat Moun**	95.89	19	P		P	11 43 02.9	+0.5	
	baz=306								
KNK	**Knik Glacier**	95.94	25	P		P	11 43 03.4	+0.7	
KNK				IAmb		IAmb	11 43 26.0		
	comp=Z,42nm,1.8s								
KNK	**Knik Glacier**	95.94	25	P		P	11 43 03.2	+0.5	
	baz=300								
A36M	**Sachs Harbour**	96.04	11	P		P	11 43 03.3	+0.5	
A36M	**Sachs Harbour**	96.04	11	P		P	11 43 03.4	+0.5	
	baz=323,SNR=40								
M23K	**Glacier View**	96.06	24	P		P	11 43 03.6	+0.4	
	baz=300								
SEW	**Seward**	96.16	26	P		P	11 43 04.0	+0.4	
	baz=299								
RIDG	**Independent Ri**	96.16	22	P		P	11 43 03.8	+0.1	
	baz=303								
SCM	**Sheep Creek Mo**	96.20	24	P		P	11 43 04.4	+0.5	
	baz=301								
J26L	**Joseph Creek**	96.20	21	P		P	11 43 04.4	+0.5	
	baz=304								
I27K	**Kandik River**	96.24	20	P		P	11 43 04.4	+0.4	
	baz=306,SNR=5.5								
DBIC	**Dimbokro**	96.25	278	IAmb		IAmb	11 43 06.9		
	comp=Z,12nm,0.8s								
DBIC	**Dimbokro**	96.25	278	P		P	11 43 06.3	+1.3	
	comp=Z,10nm,0.8s,baz=81,slow=5.6,SNR=16								
DBIC				LR		LR	12 26 27.0		
	comp=Z,166nm,18.1s,baz=41,slow=35								
	comp=Z,10nm,0.8s								
PAX	**Paxson**	96.34	23	P		P	11 43 04.8	+0.2	
	baz=303								
SCRK	**Sand Creek**	96.34	22	IAmb		IAmb	11 43 05.7		
	comp=Z,7.0nm,0.8s								
SCRK	**Sand Creek**	96.34	22	P		P	11 43 04.9	+0.3	
	baz=304,SNR=7.9								
M24K	**Tolsona, Glenn**	96.53	24	P		P	11 43 05.5	+0.2	
	baz=302								
G29M	**Pine Creek**	96.57	18	P		P	11 43 05.8	+0.3	
	baz=310								
F30M	**Barrier River**	96.77	17	P		P	11 43 06.9	+0.6	
	baz=312								
HARP	**HAARP**	96.77	23	P		P	11 43 06.8	+0.3	
	baz=303								
GLI	**Glacier Island**	96.79	25	P		P	11 43 06.6	+0.1	
	baz=301								
EGAK	**Eagle**	96.89	20	P		P	11 43 07.2	+0.3	
	baz=307								
I28M	**Miner Creek**	96.89	19	P		P	11 43 07.2	+0.2	
	baz=308								
H29M	**Whitestone**	96.91	18	P		P	11 43 07.3	+0.3	
	baz=310								
INK	**Inuvik**	96.92	16	IAmb		IAmb	11 43 18.9		
	comp=Z,20nm,1.2s								
INK	**Inuvik**	96.92	16	P		P	11 43 07.2	+0.3	
	baz=314,SNR=9.2								
INK	**Inuvik**	96.92	16	LR		LR	12 33 50.1		
	comp=Z,56nm,18.8s,baz=67,slow=40								
RES	**Resolute Bay**	96.92	2	IAmb		IAmb	11 43 08.4		
	comp=Z,9.2nm,0.8s								
RES	**Resolute Bay**	96.92	2	LR		LR	12 30 52.8		
	comp=Z,183nm,20.7s,baz=1.0,slow=38								
KLU	**Klutina**	96.95	24	P		P	11 43 07.4	+0.1	
	baz=302								
K27K	**Chicken**	97.01	21	P		Pdif	11 43 07.8	+0.3	
	baz=306								
MENT	**Mentasta**	97.03	23	IAmb		IAmb	11 43 09.5		
	comp=Z,7.2nm,0.8s								
G30M	**tAoh Zraii Nji**	97.07	17	P		P	11 43 07.7	0.0	
	baz=312								
P23K	**Montague Islan**	97.11	26	P		Pdif	11 43 08.4	+0.4	
	baz=300								
L26K	**Log Cabin Wild**	97.12	22	P		Pdif	11 43 08.2	+0.2	
	baz=304								
EPYK	**Eagle Plains**	97.32	18	IAmb		IAmb	11 43 09.7		
	comp=Z,10nm,0.9s								
EPYK	**Eagle Plains**	97.32	18	P		P	11 43 08.8	-0.1	
	baz=311								
N25K	**Chitina, Valde**	97.42	24	P		P	11 43 09.2	-0.3	
	baz=303								
F31M	**Tsiigehtchic**	97.46	16	P		Pdif	11 43 09.5	0.0	
	baz=314,SNR=5.5								
I29M	**Ogilvie Camp,**	97.48	19	P		Pdif	11 43 09.8	+0.2	
	baz=310								
EYAK	**Cordova Ski Ar**	97.52	25	P		Pdif	11 43 10.2	+0.3	
	baz=302								
M26K	**Nabesna, AK**	97.61	23	P		Pdif	11 43 10.6	+0.3	
	baz=305								
L27K	**Beaver Creek,**	97.66	22	P		Pdif	11 43 10.8	+0.3	
	baz=306								
G31M	**Satah River**	97.67	17	P		P	11 43 09.8	-0.5	
G31M	**Satah River**	97.67	17	P		Pdif	11 43 10.6	+0.3	

M31M	**Drury Creek, Y**	**100.87**	**20**	P		**Pdif**	**11 43 24.9**	**+0.1**
	baz=313								
FARO	**Faro, Yukon**	**101.21**	**20**	P		**Pdif**	**11 43 26.4**	**+0.1**
	baz=314								
O30N	**Mendenhall**	**101.22**	**22**	P		**Pdif**	**11 43 26.6**	**+0.2**
	baz=311								
R32K	**Eaglecrest**	**103.47**	**23**	IAMs_20		IAMs_20	12 30 11.9		
	comp=Z,336nm,18.0s								
YKA	**Yellowknife Ar**	**106.27**	**13**	Pdiff		**Pdif**	**11 43 49.7**	**+0.9**
	comp=Z,0.3nm,0.9s,baz=326,slow=4.3,SNR=4.0								
YKA				PP		**PP**	**11 48 12.6**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=334,slow=8.1,SNR=5.2								
YKA				PKKPbc		**PKKPbc**	**11 59 20.6**	**-2.9**
	comp=Z,0.6nm,0.7s,baz=159,slow=2.7,SNR=9.8								
YKA				PKKP		**PKKPdf**	**11 59 35.9**	**+1.5**
	comp=Z,1.5nm,1.0s,baz=148,slow=4.0,SNR=9.8								
SCHQ	**Schefferville**	**114.64**	**347**	PKKPbc		PKKPbc	11 58 52.5	-3.7	
	comp=Z,3.8nm,0.5s,baz=230,slow=6.2,SNR=2.2								
NEW	**Newport**	**117.81**	**22**	P		**PKiKP**	**11 48 23.0**	**+0.5**
	baz=327								
TBI	**Tubuai**	**119.01**	**112**	*e*LR		LR	12 24 55.5		
	comp=Z,583nm,24.0s								
PPT2	**Papeete2**	**119.06**	**105**	*e*LR		LR	12 24 50.9		
	comp=Z,62nm,22.5s								
MSO	**Missoula**	**120.17**	**21**	P		**PKiKP**	**11 48 27.4**	**+0.1**
	baz=330								
EGMT	**Eagleton**	**120.46**	**17**	P		**PKiKP**	**11 48 27.9**	**+0.2**
	baz=334								
ULM	**Lac du Bonnet**	**121.12**	**6**	PKP		**PKPdf**	**11 48 27.6**	**-1.1**
	comp=Z,2.1nm,0.5s,baz=35,slow=4.3,SNR=5.2								
ULM				PKKPbc		**PKKPbc**	**11 58 29.9**	**-2.9**
	comp=Z,4.3nm,0.9s,baz=164,slow=5.5,SNR=6.7								
DGMT	**Dagmar**	**121.48**	**13**	P		**PKiKP**	**11 48 29.7**	**0.0**
	baz=341								
BOZ	**Bozeman (W)**	**122.03**	**20**	P		**PKiKP**	**11 48 31.1**	**+0.1**
	baz=332								
LAO	**LASA Array**	**122.66**	**15**	P		**PKiKP**	**11 48 32.3**	**+0.3**
	baz=338								
HLID	**Hailey**	**122.79**	**23**	PKPdf		**PKiKP**	**11 48 32.7**	**+0.1**
HLID	**Hailey**	**122.79**	**23**	P		**PKiKP**	**11 48 32.8**	**+0.2**
	baz=328								
MDND	**Maddock**	**122.97**	**10**	P		**PKiKP**	**11 48 32.6**	**0.0**
	baz=346								
RLMT	**Red Lodge**	**123.22**	**18**	P		**PKiKP**	**11 48 33.6**	**+0.2**
	baz=334								
H17A	**Grant Village**	**123.45**	**20**	P		**PKPdf**	**11 48 33.7**	**0.0**
	baz=332								
EYMN	**Ely**	**123.77**	**3**	P		**PKPdf**	**11 48 34.0**	**+0.1**
	baz=355								
PKME	**Peaks-Kenny Pk**	**124.11**	**345**	P		**PKPdf**	**11 48 34.7**	**+0.1**
	baz=22								
BW06	**Boulder Array**	**125.23**	**20**	P		**PKPdf**	**11 48 37.0**	**-0.2**
	baz=333								
PDAR	**Pinedale Array**	**125.23**	**20**	PKP		**PKPdf**	**11 48 37.1**	**-0.1**
	comp=Z,3.2nm,0.7s,baz=105,slow=0.5,SNR=35								
PDAR				PKKPbc		**PKKPab**	**11 58 14.9**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=120,slow=5.3,SNR=4.5								
NVAR	**Mina Array Bea**	**125.27**	**30**	PKP		**PKiKP**	**11 48 38.6**	**+0.9**
	comp=Z,6.4nm,0.7s,baz=296,slow=1.7,SNR=51								
NVAR				PKKPbc		**PKKPab**	**11 58 16.1**	**0.0**
	comp=Z,0.3nm,0.5s,baz=157,slow=3.4,SNR=3.9								
RSSD	**Black Hills**	**125.61**	**15**	P		**PKPdf**	**11 48 38.0**	**+0.2**
	baz=340								
LBNH	**Lisbon**	**125.72**	**346**	P		**PKiKP**	**11 48 38.0**	**-0.2**
	baz=19								
LONY	**Lake Ozonia**	**125.93**	**349**	P		**PKPdf**	**11 48 38.2**	**+0.1**
	baz=16								
DUG	**Dugway, Tooele**	**126.27**	**24**	P		**PKiKP**	**11 48 40.0**	**+0.4**
	baz=329								
K22A	**Casper**	**126.29**	**17**	P		**PKPdf**	**11 48 38.9**	**-0.2**
	baz=337								
SUSD	**Miller**	**126.38**	**10**	P		**PKiKP**	**11 48 39.6**	**+0.1**
	baz=346								
R11B	**Troy Canyon, C**	**126.62**	**27**	P		**PKiKP**	**11 48 40.9**	**+0.5**
	baz=325,SNR=15								
CWC	**Cottonwood Cre**	**126.94**	**31**	P		**PKiKP**	**11 48 41.3**	**+0.3**
	baz=321								
PKM	**Mcpherson Peak**	**127.20**	**33**	P		**PKiKP**	**11 48 41.6**	**0.0**
	baz=319								
ISA	**Isabella, Lake**	**127.33**	**32**	P		**PKiKP**	**11 48 41.6**	**-0.1**
	baz=320								
TPNV	**Topopah Spring**	**127.44**	**29**	P		**PKiKP**	**11 48 41.9**	**-0.1**
	baz=323								
ECSD	**EROS Data Cent**	**127.44**	**8**	P		**PKPdf**	**11 48 41.1**	**+0.1**
	baz=349								
FURC	**Furnace Creek,**	**127.52**	**30**	P		**PKiKP**	**11 48 42.4**	**+0.5**
	baz=322								
MPMC	**Manual Prospec**	**127.53**	**31**	P		**PKiKP**	**11 48 43.0**	**+0.8**
	baz=322,SNR=9.4								
L61B	**Northampton**	**127.59**	**346**	P		**PKiKP**	**11 48 41.9**	**-0.1**
	baz=19								
LRMC	**Laurel Mtn Rad**	**127.88**	**31**	P		**PKiKP**	**11 48 43.5**	**+0.7**
	baz=321,SNR=6.3								
TAOE	**Nuku Hiva Isla**	**128.00**	**95**	*e*LR		LR	12 29 03.5		
	comp=Z,235nm,28.4s								
O20A	**White River Ci**	**128.03**	**20**	P		**PKiKP**	**11 48 43.1**	**-0.1**
	baz=334,SNR=6.1								
EDW2	**Edwards Air Fo**	**128.18**	**32**	P		**PKiKP**	**11 48 43.6**	**+0.2**
	baz=320								
SHOC	**Shoshone, Teco**	**128.26**	**30**	P		**PKiKP**	**11 48 43.7**	**+0.3**
	baz=323								
GSC	**Goldstone, Bar**	**128.47**	**31**	P		**PKiKP**	**11 48 44.5**	**+0.5**
	baz=322,SNR=6.9								
BINY	**Binghamton**	**128.54**	**349**	P		**PKiKP**	**11 48 43.9**	**0.0**
	baz=15								
TUQ	**Turquoise Moun**	**128.80**	**30**	P		**PKiKP**	**11 48 45.3**	**+0.6**
	baz=323								
BFSC	**Mount Baldy Ra**	**128.85**	**32**	P		**PKiKP**	**11 48 45.2**	**+0.3**
	baz=321								
JFWS	**Jewell Farm**	**128.85**	**3**	P		**PKPdf**	**11 48 43.6**	**-0.2**
	baz=357								
HEC	**Hector,Ludlow**	**129.08**	**31**	P		**PKiKP**	**11 48 45.6**	**+0.3**
	baz=322								
CIS	**Catalina Islan**	**129.08**	**34**	P		**PKiKP**	**11 48 45.5**	**+0.3**
	baz=319								
ISCO	**Idaho Springs**	**129.18**	**18**	P		**PKPdf**	**11 48 45.1**	**+0.3**
	baz=337								
BBRC	**Big Bear Solar**	**129.22**	**32**	P		**PKPdf**	**11 48 45.1**	**+0.1**
	baz=321								
GMRC	**Granite Mounta**	**129.45**	**30**	P		**PKiKP**	**11 48 46.1**	**0.0**
	baz=323								
BGNE	**Belgrade**	**129.46**	**10**	P		**PKiKP**	**11 48 45.5**	**-0.2**
	baz=346								
MURC	**Murrieta**	**129.59**	**32**	P		**PKiKP**	**11 48 46.6**	**+0.4**
	baz=321								
BELC	**Belle Mtn. Jos**	**129.90**	**31**	P		**PKiKP**	**11 48 47.0**	**0.0**
	baz=322								
PFO	**Pinyon Flats O**	**129.97**	**32**	P		**PKiKP**	**11 48 47.2**	**+0.1**
	baz=322								
TPFO	**Pinon Flats**	**129.97**	**32**	P		**PKiKP**	**11 48 47.3**	**+0.1**
	baz=322								
Q24A	**Divide**	**130.09**	**18**	P		**PKPdf**	**11 48 46.6**	**0.0**
	baz=337								
IRM	**Iron Mountain**	**130.21**	**30**	P		**PKiKP**	**11 48 47.8**	**+0.3**
	baz=323								
BC3	**Big Chuckawall**	**130.45**	**31**	P		**PKiKP**	**11 48 48.1**	**0.0**
	baz=323								
MVCO	**Mesa Verde**	**130.53**	**22**	P		**PKiKP**	**11 48 48.3**	**0.0**
	baz=332								
MONP2	**Monument Peak**	**130.55**	**32**	P		**PKiKP**	**11 48 48.5**	**+0.1**
	baz=321								
PDMCI	**Parker Dam,Lak**	**130.58**	**29**	P		**PKiKP**	**11 48 48.1**	**0.0**
	baz=324								
S22A	**4UR Ranch, Cre**	**130.65**	**20**	P		**PKPdf**	**11 48 47.8**	**+0.1**
	baz=335								
KSCO	**Kaye Shedlock'**	**130.76**	**16**	P		**PKiKP**	**11 48 48.4**	**-0.2**
	baz=340								
SWSC	**Sam W. Stewart**	**130.83**	**32**	P		**PKiKP**	**11 48 48.7**	**0.0**
	baz=322								
WUAZ	**Wupatki**	**130.84**	**26**	P		**PKiKP**	**11 48 48.6**	**-0.2**
	baz=328								
IKP	**In-Ko-Pah, Jac**	**130.90**	**32**	P		**PKiKP**	**11 48 48.7**	**-0.3**
	baz=321								
SDCO	**Great Sand Dun**	**131.09**	**19**	P		**PKiKP**	**11 48 49.0**	**-0.4**
	baz=336								
O53A	**New Philadelph**	**131.23**	**354**	P		**PKiKP**	**11 48 49.3**	**0.0**
	baz=8.3								
ACSO	**Alum Creek Sta**	**131.41**	**355**	P		**PKiKP**	**11 48 49.8**	**+0.1**
	baz=6.0								
CBKS	**Cedar Bluff**	**131.65**	**13**	P		**PKiKP**	**11 48 50.0**	**-0.2**
	baz=344								
KSU1	**Kansas State U**	**131.97**	**10**	P		**PKiKP**	**11 48 50.4**	**-0.5**
	baz=348								
T25A	**Trinidad**	**131.99**	**18**	P		**PKiKP**	**11 48 50.8**	**-0.4**
	baz=337								
214A	**Organ Pipe Nat**	**133.14**	**30**	P		**PKiKP**	**11 48 53.0**	**-0.4**
	baz=325								
ANMO	**Albuquerque**	**133.30**	**21**	P		**PKiKP**	**11 48 53.5**	**-0.4**
	baz=334								
TUC	**Tucson**	**133.81**	**28**	P		**PKiKP**	**11 48 54.7**	**-0.1**
	baz=327								
121A	**Cookes Peak, D**	**134.92**	**24**	P		**PKiKP**	**11 48 56.6**	**-0.6**
	baz=331								
TZTN	**Tazewell**	**135.12**	**355**	P		**PKiKP**	**11 48 56.9**	**-0.4**
	baz=5.6								
TUL3	**Leonard**	**135.22**	**10**	IAMs_20		IAMs_20	12 59 08.5		
	comp=Z,146nm,19.0s								
TUL3	**Leonard**	**135.22**	**10**	P		**PKiKP**	**11 48 57.1**	**-0.4**
	baz=348								
MSTX	**Muleshoe**	**135.43**	**18**	P		**PKPdf**	**11 48 57.3**	**+0.7**
	baz=338								
WVT	**Waverly**	**135.69**	**0**	P		**PKPdf**	**11 48 57.6**	**+0.8**
	baz=360								
WMOK	**Wichita Mounta**	**135.77**	**13**	IAMs_20		IAMs_20	12 33 16.4		
	comp=Z,431nm,22.0s								
MNTX	**Cornudas Mount**	**136.60**	**22**	P		**PKiKP**	**11 48 59.9**	**-0.5**
	baz=334								
ABTX	**Abilene, Hawle**	**137.58**	**15**	P		**PKiKP**	**11 49 01.9**	**-0.5**
	baz=342								
GOGA	**Godfrey**	**138.22**	**355**	P		**PKiKP**	**11 49 03.3**	**-0.4**
	baz=6.1								
LRAL	**Lakeview Retre**	**138.78**	**359**	P		**PKiKP**	**11 49 04.0**	**-0.8**
	baz=0.8								
TXAR	**Lajitas Array**	**139.37**	**22**	PKhKP		PKPpre	11 48 55.0		
	comp=Z,0.3nm,0.5s,baz=231,slow=1.5,SNR=13								
TXAR				PKP		**PKPdf**	**11 49 02.1**	**-1.9**
	comp=Z,1.3nm,0.5s,baz=34,slow=0.5,SNR=11								
TXAR				PP		**PP**	**11 51 54.8**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=330,slow=5.2,SNR=3.3								
TXAR				SKPbc		**SKiKP**	**11 52 41.1**	**+0.4**
	comp=Z,1.8nm,1.0s,baz=282,slow=1.2,SNR=4.1								
JCT	**Junction City**	**139.56**	**16**	P		**PKiKP**	**11 49 05.9**	**-0.6**
	baz=341								
BDFB	**Brasilia**	**140.76**	**256**	PKP		**PKPdf**	**11 49 06.3**	**-0.5**
	comp=Z,8.4nm,0.7s,baz=106,slow=3.0,SNR=11								
PLCA	**Paso Flores**	**144.46**	**202**	PKIKP		**PKPdf**	**11 49 12.0**	**-0.7**
PLCA	**Paso Flores**	**144.46**	**202**	PKP		**PKPdf**	**11 49 12.0**	**-0.7**
	comp=Z,10nm,0.8s,baz=181,slow=3.2,SNR=14								
CPUP	**Villa Florida**	**146.27**	**234**	PKPbc		**PKPbc**	**11 49 17.0**	**-0.2**
	comp=Z,17nm,0.6s,baz=126,slow=2.2,SNR=36								
ACHE	**Chepes**	**150.17**	**218**	*i* P		**PKiKP**	**11 49 28.1**	**-0.3**
CFA	**Coronel Fontan**	**150.78**	**215**	*e*P		**PKiKP**	**11 49 29.2**	**-0.3**
AVFE	**Valle Fertil**	**151.00**	**218**	*e*P		**PKPdf**	**11 49 25.3**	**+1.5**
ZON	**Zonda**	**151.07**	**215**	*e*P		**PKPdf**	**11 49 25.5**	**+2.7**
ACLC	**CERRO LA CRUZ**	**151.55**	**220**	*i* P		**PKiKP**	**11 49 31.8**	**+0.4**
DOCA	**Reserva Natura**	**151.74**	**215**	*e*P		**PKiKP**	**11 49 32.4**	**+0.4**
ACCO	**Cerro Coronel**	**152.00**	**216**	*i* P		**PKiKP**	**11 49 32.6**	**+0.1**
ACDV	**Cuesta del Vie**	**152.34**	**216**	*i* P		**PKiKP**	**11 49 33.6**	**+0.6**
AGUA	**GUANDACOL**	**152.47**	**218**	*i* P		**PKPbc**	**11 49 32.6**	**-0.3**
AROD	**Rodeo**	**152.55**	**216**	*e*P		**PKPdf**	**11 49 28.4**	**+2.0**
FSA	**Cafayete**	**153.01**	**227**	*e*P		**PKPdf**	**11 49 28.2**	**+1.2**
AZAP	**Zapla**	**153.40**	**231**	*e*P		**PKPdf**	**11 49 28.6**	**+0.9**
LCO	**Las Campanas**	**154.12**	**215**	*e*P		**PKPdf**	**11 49 29.6**	**+0.9**

WEL ***29*** *12:05:38.9±0.3,43°S±2°×17°2E±°, h5km±3km, M3.6/21, ML3.7/21, MLv3.6/21, Error ellipse: s-maj=0.0km s-min=0.0km az=131.2, confirmed*
NOU ***29*** *12:05:38.3, 42°.74S×172°.09E, h0km, MLv3.8/10, South Island, New Zealand*
ISC 29 12:05:39.2±0.9,**42°.74S**±0°.03×**172°.12E**±0°.03,**h10**km±7km, **n95**,σ1°**58**/100, **South Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
LTZ	**Lake Taylor**	**0.12**	**111**	P		**Pg**	**12 05 42.5**	**+0.2**	
LTZ				S		**Sg**	**12 05 44.9**	**+0.5**	
INZ	**Inchbonnie**	**0.49**	**271**	P		**Pg**	**12 05 48.6**	**-0.2**	
INZ				S		**Sg**	**12 05 54.8**	**-0.6**	
AMCZ	**Amberley**	**0.59**	**138**	P		**Pb**	**12 05 52.1**	**+0.5**	
OXZ	**Oxford**	**0.59**	**185**	P		**Pb**	**12 05 51.9**	**+0.3**	
OXZ				S		**Sb**	**12 06 00.9**	**+0.8**	
GVZ	**Greta Valley S**	**0.71**	**109**	P		**Pb**	**12 05 54.0**	**+0.3**	
MHCZ	**Mount Hutt**	**0.89**	**207**	P		**Pb**	**12 05 57.1**	**+0.4**	
RACZ	**Rakaia**	**0.99**	**179**	P		**Pb**	**12 05 58.4**	**0.0**	
RACZ				S		**Sn**	**12 06 13.5**	**+0.4**	
DSZ	**Denniston Nort**	**1.02**	**347**	P		**Pg**	**12 05 57.6**	**-1.2**	
MQZ	**McQueen's Vall**	**1.04**	**158**	P		**Pg**	**12 05 58.9**	**-0.4**	
MQZ				S		**Sb**	**12 06 14.3**	**+1.2**	
WVZ	**Waitaha Valley**	**1.07**	**251**	P		**Pb**	**12 05 58.9**	**-0.8**	
KHZ	**Kahutara**	**1.10**	**73**	P		**Pg**	**12 06 00.6**	**+0.3**	
KHZ	**Kahutara**	**1.10**	**73**	P		**Pg**	**12 05 59.8**	**-0.6**	
THZ	**Tophouse**	**1.14**	**31**	P		**Pg**	**12 05 58.8**	**-2.2**	
WACZ	**Wakanui South**	**1.22**	**189**	P		**Pg**	**12 06 01.7**	**-0.9**	
RPZ	**Rata Peaks**	**1.25**	**218**	P		**Pg**	**12 06 02.3**	**-0.9**	
RPZ	**Rata Peaks**	**1.25**	**218**	P		**Pg**	**12 06 02.2**	**-0.9**	
AKCZ	**Akaroa Harbour**	**1.27**	**153**	P		**Pg**	**12 06 02.4**	**-1.2**	
AKCZ				S		**Sg**	**12 06 19.4**	**-0.9**	
ARCZ	**Arundel**	**1.39**	**209**	P		**Pn**	**12 06 03.8**	**-0.8**	
MRNZ	**Matariki Terra**	**1.42**	**20**	P		**Pn**	**12 06 04.6**	**-0.5**	
GCSZ	**Gaunt Creek Bo**	**1.43**	**246**	P		**Pn**	**12 06 05.3**	**+0.1**	
GCSZ				S		**Sn**	**12 06 25.3**	**+1.3**	
BSWZ	**Blackbirch Sta**	**1.66**	**53**	P		**Pn**	**12 06 08.4**	**+0.1**	
NNZ	**Nelson**	**1.79**	**32**	P		**Pn**	**12 06 10.1**	**+0.1**	
TKNZ	**Takaka Hill**	**1.82**	**21**	P		**Pn**	**12 06 09.9**	**-0.6**	
TMZ	**Timaru**	**1.83**	**206**	P		**Pn**	**12 06 10.1**	**-0.6**	
CMWZ	**Cape Campbell**	**1.84**	**59**	P		**Pb**	**12 06 13.3**	**+0.3**	
FOZ	**Fox Glacier**	**1.86**	**244**	P		**Pn**	**12 06 11.1**	**0.0**	
TUWZ	**Tuamarina**	**1.89**	**47**	P		**Pn**	**12 06 12.1**	**+0.7**	
QRZ	**Quartz Range**	**1.94**	**9**	P		**Pn**	**12 06 11.5**	**-0.6**	
QRZ	**Quartz Range**	**1.94**	**9**	P		**Pn**	**12 06 11.2**	**-0.9**	
LBZ	**Lake Benmore**	**2.16**	**220**	P		**Pn**	**12 06 14.9**	**-0.4**	
TCW	**Tory Channel**	**2.22**	**47**	P		**Pn**	**12 06 15.9**	**-0.1**	
DUWZ	**D'Urville Isla**	**2.36**	**36**	P		**Pn**	**12 06 18.7**	**+0.7**	
SNZO	**South Karori**	**2.40**	**54**	P		**Pn**	**12 06 17.9**	**-0.6**	
BHW	**Baring Head**	**2.44**	**58**	P		**Pn**	**12 06 19.9**	**+0.8**	
ODZ	**Otahua Downs**	**2.54**	**204**	P		**Pn**	**12 06 19.9**	**-0.5**	
ODZ	**Otahua Downs**	**2.54**	**204**	P		**Pn**	**12 06 19.6**	**-0.8**	
PLWZ	**Palliser**	**2.61**	**64**	P		**Pn**	**12 06 19.8**	**-1.6**	
CAW	**Cannon Point**	**2.74**	**54**	P		**Pn**	**12 06 22.2**	**-0.9**	
JCZ	**Jackson Bay**	**2.77**	**240**	P		**Pn**	**12 06 24.1**	**+0.4**	
JCZ	**Jackson Bay**	**2.77**	**240**	P		**Pn**	**12 06 23.9**	**+0.2**	
KIW	**Kapiti Island**	**2.81**	**49**	P		**Pn**	**12 06 23.7**	**-0.4**	
MTW	**Mount Morrison**	**2.98**	**59**	P		**Pn**	**12 06 24.7**	**-1.7**	
OGWZ	**Otaki Gorge**	**2.98**	**51**	P		**Pn**	**12 06 25.6**	**-0.9**	
WKZ	**Wanaka**	**3.06**	**226**	P		**Pn**	**12 06 26.8**	**-0.9**	
HOWZ	**Holdsworth Sta**	**3.14**	**55**	P		**Pn**	**12 06 27.0**	**-1.6**	
MRZ	**Mangatainoka R**	**3.32**	**52**	P		**Pn**	**12 06 29.5**	**-1.7**	
NMEZ	**Namu Road**	**3.58**	**22**	P		**Pn**	**12 06 35.8**	**+1.1**	
POWZ	**Post Office Ro**	**3.61**	**51**	P		**Pb**	**12 06 41.5**	**-1.5**	
WAZ	**Wanganui**	**3.68**	**37**	P		**Pn**	**12 06 38.4**	**+2.2**	
LREZ	**Lake Rotokare**	**3.70**	**29**	P		**Pn**	**12 06 38.8**	**+2.4**	
NBEZ	**Newall Road No**	**3.71**	**22**	P		**Pn**	**12 06 37.4**	**+0.9**	
BFZ	**Birch Farm**	**3.71**	**58**	P		**Pn**	**12 06 36.4**	**-0.2**	
BFZ	**Birch Farm**	**3.71**	**58**	P		**Pn**	**12 06 35.6**	**-0.9**	
KHEZ	**Kahui Hut**	**3.73**	**23**	P		**Pn**	**12 06 38.4**	**+1.6**	
KHEZ	**Kahui Hut**	**3.73**	**23**	P		**Pn**	**12 06 37.6**	**+0.7**	
PREZ	**Palmer Road**	**3.73**	**25**	P		**Pn**	**12 06 37.8**	**+1.0**	
NEZ	**North Egmont**	**3.77**	**24**	P		**Pn**	**12 06 40.0**	**+2.5**	
PKE	**Pukeiti**	**3.81**	**22**	P		**Pn**	**12 06 38.3**	**+0.4**	
MLZ	**Mavora Lakes**	**3.90**	**226**	P		**Pn**	**12 06 38.0**	**-1.1**	
MHEZ	**Mangahewa**	**4.02**	**25**	P		**Pn**	**12 06 44.4**	**+3.6**	
VRZ	**Vera Road**	**4.13**	**30**	P		**Pn**	**12 06 43.9**	**+1.6**	
MTVZ	**Mangateitei**	**4.20**	**38**	P		**Pn**	**12 06 47.5**	**+4.2**	
PKVZ	**Pokaka**	**4.22**	**36**	P		**Pn**	**12 06 46.2**	**+2.6**	
WNVZ	**Wahianoa**	**4.31**	**39**	P		**Pn**	**12 06 45.0**	**+0.1**	
MOVZ	**Moawhango**	**4.32**	**41**	P		**Pn**	**12 06 46.2**	**+1.3**	
SYZ	**Scrubby Hill**	**4.35**	**208**	P		**Pn**	**12 06 44.4**	**-0.9**	
SYZ	**Scrubby Hill**	**4.35**	**208**	P		**Pn**	**12 06 44.5**	**-0.8**	
TUVZ	**Tukino**	**4.38**	**39**	P		**Pn**	**12 06 47.6**	**+1.7**	
COVZ	**Chateau Observ**	**4.38**	**37**	P		**Pn**	**12 06 47.5**	**+1.6**	
BHHZ	**Black Hill Sta**	**4.41**	**44**	P		**Pn**	**12 06 47.6**	**+1.4**	
NGZ	**Ngauruhoe**	**4.43**	**38**	P		**Pn**	**12 06 49.1**	**+2.6**	
SNVZ	**South Ngauruho**	**4.44**	**38**	P		**Pn**	**12 06 48.4**	**+1.7**	
TWVZ	**Taurewa**	**4.44**	**36**	P		**Pn**	**12 06 49.5**	**+2.8**	
OTVZ	**Oturere**	**4.47**	**38**	P		**Pn**	**12 06 47.1**	**0.0**	
NNVZ	**North Ngauruho**	**4.47**	**38**	P		**Pn**	**12 06 48.1**	**+1.0**	
WTVZ	**West Tongariro**	**4.47**	**37**	P		**Pn**	**12 06 50.4**	**+3.3**	
ETVZ	**East Tongariro**	**4.51**	**38**	P		**Pn**	**12 06 50.2**	**+2.6**	
KRVZ	**Karewarewa**	**4.51**	**37**	P		**Pn**	**12 06 52.4**	**+4.7**	
TMVZ	**Te Maari**	**4.53**	**38**	P		**Pn**	**12 06 48.4**	**+0.6**	
NTVZ	**North Tongarir**	**4.53**	**38**	P		**Pn**	**12 06 51.4**	**+3.5**	
KATZ	**Kakaramea**	**4.64**	**37**	P		**Pn**	**12 06 54.0**	**+4.7**	
KWHZ	**Kaweka Forest**	**4.64**	**46**	P		**Pn**	**12 06 53.9**	**+4.5**	
HIZ	**Hauiti**	**4.71**	**27**	P		**Pn**	**12 06 50.5**	**+0.3**	
HIZ	**Hauiti**	**4.71**	**27**	P		**Pn**	**12 06 50.3**	**+0.1**	
APZ	**The Paps**	**5.04**	**214**	P		**Pn**	**12 06 52.8**	**-2.0**	
TLZ	**Tolley Road**	**5.12**	**32**	P		**Pn**	**12 06 56.2**	**+0.3**	
MTHZ	**Maungataniwha**	**5.28**	**44**	P		Pn	12 07 04.1	+5.9	
TOZ	**Tahuroa Road**	**5.63**	**29**	P		**Pn**	**12 07 02.4**	**-0.5**	
KMRZ	**Kaimai**	**5.69**	**32**	P		Pn	12 07 09.4	+5.6	
AWAZ	**Awhitu Peninsu**	**5.99**	**20**	P		**Pn**	**12 07 10.7**	**+2.9**	
MKAZ	**Moumakai**	**6.09**	**24**	P		**Pn**	**12 07 09.3**	**0.0**	
ETAZ	**East Tamaki Re**	**6.17**	**21**	P		**Pn**	**12 07 10.6**	**+0.3**	
WIAZ	**Waiheke Island**	**6.38**	**22**	P		**Pn**	**12 07 13.1**	**-0.1**	
KUZ	**Kuaotunu**	**6.60**	**26**	P		**Pn**	**12 07 16.4**	**+0.2**	
OUZ	**Omahuta**	**7.59**	**9**	P		**Pn**	**12 07 29.9**	**0.0**	

NEIC ***29*** *12:16:25.9±1.1, 18°.4S±0°.2×177°.9W±0°.1, h546km±12km, mb4.1/32, Error ellipse: s-maj=24.0km s-min=18.6km az=148.0*
IDC ***29*** *12:16:28.9±2.8, 18°.64S×177°.81W, h597km±37km, mb3.4/7, mbtmp4.4/8, Error ellipse: s-maj=27.6km s-min=18.9km az=146.0*
ISC 29 12:16:25.5±0.7,**18°.4S**±0°.1×**177°.85W**±0°.1,**h550**km,**n66**, σ1°**09**/66, **mb4.1**/20, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
AFI	**Afiamalu**	**7.37**	**53**	P		**P**	**12 18 17.4**	**+0.1**	
NIUE	**Niue**	**7.54**	**96**	P		**P**	**12 18 18.3**	**-0.4**	
FUNA	**Funafuti**	**10.26**	**343**	P		**P**	**12 18 44.4**	**-1.9**	
MARNC	**Mare, Loyalty**	**13.61**	**255**	P		**P**	**12 19 20.6**	**-0.1**	
LIFNC	**LIFOU**	**14.24**	**258**	P		**P**	**12 19 26.9**	**-0.3**	
PINNC	**Pines Island,**	**14.38**	**251**	P		**P**	**12 19 29.3**	**+0.6**	
PINNC	**Pines Island,**	**14.38**	**251**	P		**P**	**12 19 29.7**	**+1.1**	
OUENC	**Ouen Island, N**	**14.88**	**252**	P		**P**	**12 19 33.8**	**0.0**	
DZM	**Mont Dzumac**	**15.17**	**254**	P		**P**	**12 19 37.2**	**+0.3**	
DZM				IAmb		IAmb	12 19 38.9		
	comp=Z,9.5nm,0.9s								
DZM	**Mont Dzumac**	**15.17**	**254**	P		**P**	**12 19 40.6**	**+3.7**	
DZM	**Mont Dzumac**	**15.17**	**254**	P		**P**	**12 19 37.7**	**+0.8**	
	comp=Z,4.2nm,0.4s,baz=120,slow=14

	72nm,0.3s								
KAVA	**Kavala**	**1.60**	**202**		P		**Pg**	**12 24 41.2**	**-0.2**
KAVA					S		**Sg**	**12 25 02.9**	**+0.8**
	95nm,0.3s								
COPA	**Copaceanca**	**1.65**	**357**	⇑	S		**Sn**	**12 25 01.7**	**-0.1**
VLAD	**Vladila**	**1.66**	**336**	⇑	S		**Sn**	**12 25 03.0**	**+1.1**
ALN	**Alexandroupoli**	**1.67**	**161**		P		**Pg**	**12 24 43.4**	**+0.7**
ALN					S		**Sg**	**12 25 05.3**	**+0.9**
	42nm,0.8s								
KOKK	**Kokkinochori,**	**1.94**	**211**		P		**Pb**	**12 24 45.1**	**-1.2**
KOKK					S		**Sg**	**12 25 13.1**	**+0.3**
	22nm,0.5s								
ZAPS	**Zavoj**	**2.13**	**293**		*e*Pn		**Pn**	**12 24 47.7**	**+0.9**
ZAPS					*e*Sn		**Sn**	**12 25 14.3**	**+0.7**
BLKB	**Belogradchik**	**2.25**	**301**	⇑	P		**Pn**	**12 24 50.4**	**+1.9**
BLKB				⇑	S		**Sn**	**12 25 18.8**	**+2.3**
PRVS	**Prvonek**	**2.40**	**272**		*e*Pn		**Pn**	**12 24 51.3**	**+0.8**
PRVS					*e*Sn		**Sn**	**12 25 19.6**	**-0.7**
STIP	**Stip**	**2.46**	**252**		*i* Pn		**Pn**	**12 24 48.4**	**-3.0**
STIP					*i* Sn		**Sn**	**12 25 20.6**	**-1.1**
BARS	**Barje**	**2.61**	**279**		*e*Pn		**Pn**	**12 24 53.7**	**+0.3**
BARS					*e*Sn		**Sn**	**12 25 25.9**	**+0.5**
ZAGS	**Zajecar**	**2.62**	**302**		*e*Pn		**Pn**	**12 24 53.2**	**-0.3**
ZAGS					*e*Sn		**Sn**	**12 25 27.6**	**+1.9**
BOVS	**Bovan**	**2.89**	**295**	⇓	P		**Pn**	**12 24 59.1**	**+1.8**
BOVS	**Bovan**	**2.89**	**295**		*e*Pn		**Pn**	**12 24 56.5**	**-0.7**
BOVS					*e*Sn		**Sn**	**12 25 34.0**	**+1.7**
ARR	**Arges**	**2.93**	**350**	⇓	P		**Pn**	**12 24 58.9**	**+1.1**
SELS	**Selova**	**3.18**	**285**		*e*Pn		**Pn**	**12 25 01.3**	**+0.1**
SELS					*e*Sn		**Sn**	**12 25 39.8**	**+0.4**
GRUS	**Gruza**	**3.65**	**294**		*e*Pn		**Pn**	**12 25 06.6**	**-1.1**
GRUS					*e*Sn		**Sn**	**12 25 51.2**	**+0.2**
BZS	**Buzias**	**4.12**	**321**		*e*Pn		**Pn**	**12 25 14.8**	**+0.7**
BZS					*e*Sn		**Sn**	**12 26 04.3**	**+1.7**

*IDC **29** 12:40:44.2±0.8,39˚.14N×71˚.94E,h0km,mb4.0/19, mbtmp4.1/27,ML3.4/8,MS3.0/10,Error ellipse: s-maj=15.9km s-min=10.9km az=158.0*
*NNC **29** 12:40:44.5±2.7,39˚.06N×71˚.37E,h9km±15km,mb4.6, mpv4.3,Error ellipse: s-maj=23.3km s-min=14.2km az=17.0*
*SOME **29** 12:40:45.9,39˚.33N×72˚.32E,h35km*
*KRNET **29** 12:40:45.9±0.1,39˚.38N×71˚.70E,h19km,mb4.3*
*MOS **29** 12:40:47.9±1.4,39˚.27N×71˚.62E,h33km,mb4.6/11,Error ellipse: s-maj=7.0km s-min=3.8km az=72.0*
*NEIC **29** 12:40:50.4±1.9,39˚.35N±0˚.06×71˚.60E±0˚.08,h39km±5km, mb4.4/61,Error ellipse: s-maj=9.2km s-min=7.8km az=123.0*

ISC 29 12:40:46.7±0.7,**39˚.32N**±0˚.03×**71˚.70E**±0˚.03,**h16**km±4km, **n254,**σ**2°13**/294,**mb4.4**/59,**MS2.9**/6,**39C-20D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DRK	**Karamyk**	**0.18**	**25**	⇑*e*P		**Pg**	**12 40 48.5**	**-2.9**
	baz=38							
DRK				⇑*e*S		**Sg**	**12 40 51.1**	**-3.4**
	baz=38							
BTK	**Batken**	**1.00**	**318**	⇓*e*P		**Pb**	**12 41 04.3**	**-1.6**
	baz=15							
BTK				⇓*e*S		**Sb**	**12 41 17.7**	**-1.2**
	baz=15							
BTK	**Batken**	**1.00**	**318**		Pn	**Pb**	**12 41 04.3**	**-1.6**
BTK	**Batken**	**1.00**	**318**		PG	**Pb**	**12 41 04.3**	**-1.6**
OHH	**Osh**	**1.47**	**34**	⇑*e*P		**Pn**	**12 41 12.4**	**-0.3**
	baz=36							
OHH				⇑*e*S		**Sn**	**12 41 31.8**	**+0.2**
	baz=36							
OHH	**Osh**	**1.47**	**34**	*e*P*		**Pn**	**12 41 12.4**	**-0.3**
OHH				*e*S		**Sn**	**12 41 31.8**	**+0.2**
SFK	**Sufi-Kurgan**	**1.56**	**63**	⇑*e*P		**Pn**	**12 41 14.2**	**+0.2**
	baz=65							
SFK				⇑*e*S		**Sb**	**12 41 35.0**	**+0.1**
	baz=65							
SIMJ	**Simiganj**	**2.20**	**253**		Pn	**Pb**	**12 41 25.1**	**-1.2**
ARSB	**Arslanbob**	**2.23**	**26**	⇑*e*P		**Pn**	**12 41 25.0**	**+1.7**
	baz=26							
ARSB				⇑*e*S		**Sb**	**12 41 53.8**	**-0.5**
	baz=26							
ARSB	**Arslanbob**	**2.23**	**26**		Pn	**Pn**	**12 41 24.6**	**+1.4**
ARSB	**Arslanbob**	**2.23**	**26**		PN	**Pn**	**12 41 24.6**	**+1.4**
TRKS	**Terek-Say**	**2.25**	**349**	⇑*e*P		**Pn**	**12 41 24.2**	**+0.7**
	baz=49							
TRKS				⇑*e*S		**Sn**	**12 41 52.7**	**+1.6**
	baz=49							
TRKS	**Terek-Say**	**2.25**	**349**	*e*PN		**Pn**	**12 41 24.6**	**+1.1**
TRKS				*e*S		**Sn**	**12 41 52.8**	**+1.6**
ARK	**Arkit**	**2.49**	**5**	⇓*e*P		**Pn**	**12 41 28.5**	**+1.8**
	baz=5.0							
ARK				⇓*e*S		**Sn**	**12 41 59.2**	**+2.4**
	baz=5.0							
ARK	**Arkit**	**2.49**	**5**	*e*PN		**Pn**	**12 41 28.8**	**+2.1**
ARK				*e*S		**Sb**	**12 42 00.1**	**-1.5**
AML	**Almayashu**	**3.19**	**28**	P		**Pn**	**12 41 39.5**	**+2.7**
	SNR=185							
AML	**Almayashu**	**3.19**	**28**	⇑*e*P		**Pn**	**12 41 38.9**	**+2.2**
	baz=28							
AML				⇑*e*S		**Sn**	**12 42 17.5**	**+2.8**
	baz=28							
AML	**Almayashu**	**3.19**	**28**	*e*PN		**Pn**	**12 41 38.9**	**+2.2**
AML	**Almayashu**	**3.19**	**28**	⇓P		**Pn**	**12 41 39.8**	**+3.1**
	4.0nm,0.5s							
ARLS	**Aral**	**3.23**	**37**	⇓*e*P		**Pn**	**12 41 39.1**	**+2.1**
	baz=38							
ARLS				⇓*i*S		**Sn**	**12 42 17.9**	**+2.6**
	baz=38							
ARLS	**Aral**	**3.23**	**37**	*e*PN		**Pn**	**12 41 39.3**	**+2.3**
ARLS				*i* S		**Sn**	**12 42 18.3**	**+3.0**
KSH	**Kashi**	**3.32**	**85**	P		**Pn**	**12 41 36.8**	**-1.3**
KSH				sP		Pb	12 41 41.5	-3.8
KSH				S		**Sn**	**12 42 19.8**	**+2.5**
KSH				pmax		pmax		
	comp=Z,22nm,0.7s							
KSH				smax		smax		
	comp=N,380nm,1.0s							
KSH				smax		smax		
	comp=E,320nm,0.9s							
CHM	**Chimkent**	**3.39**	**333**	*e*Pg		**Pb**	**12 41 48.7**	**+2.1**
	comp=E,116nm,0.1s							
CHM				*e*Lg		Lg	12 42 34.0	
	comp=E,917nm,0.3s							
DZA	**Taraz**	**3.58**	**356**	*e*Pg		**Pb**	**12 41 48.5**	**-1.3**
	comp=E,178nm,0.1s							
DZA				*e*Lg		Lg	12 42 33.5	
	comp=E,644nm,0.2s							
UCH	**Uchtor**	**3.61**	**35**	P		**Pn**	**12 41 46.2**	**+3.7**
	SNR=42							
UCH	**Uchtor**	**3.61**	**35**	⇑*e*P		**Pn**	**12 41 44.7**	**+2.3**
	baz=36							
UCH				⇑*e*S		**Sn**	**12 42 27.6**	**+2.6**
	baz=36							
UCH	**Uchtor**	**3.61**	**35**	*e*PN		**Pn**	**12 41 44.7**	**+2.3**
UCH				*e*S		**Sn**	**12 42 27.6**	**+2.6**
MRKS	**Merke**	**3.61**	**18**	*e*Pg		**Pn**	**12 41 46.0**	**+3.8**
	comp=E,68nm,0.6s							
MRKS				*e*Lg		Lg	12 42 28.8	
	comp=E,161nm,0.4s							
EKS2	**Erkin-Say**	**3.69**	**25**	P		**Pn**	**12 41 46.5**	**+3.2**
	SNR=51							
EKS2	**Erkin-Say**	**3.69**	**25**	⇓*e*P		**Pn**	**12 41 45.6**	**+2.3**
	baz=25							
EKS2				⇓*e*S		**Sn**	**12 42 29.1**	**+2.5**
	baz=25							
EKS2	**Erkin-Say**	**3.69**	**25**	*e*PN		**Pn**	**12 41 45.6**	**+2.3**
EKS2				*e*S		**Sn**	**12 42 29.1**	**+2.5**
KZA	**Kyzart**	**3.86**	**43**	P		**Pn**	**12 41 49.3**	**+3.4**
	SNR=111							
KZA	**Kyzart**	**3.86**	**43**	⇑*e*P		**Pn**	**12 41 48.3**	**+2.5**
	baz=44							
KZA				⇑*e*S		**Sn**	**12 42 33.7**	**+2.6**
	baz=44							
KZA	**Kyzart**	**3.86**	**43**	*e*PN		**Pn**	**12 41 48.3**	**+2.5**
KZA				*e*S		**Sn**	**12 42 33.7**	**+2.6**
KK31	**Karatay Array**	**3.89**	**347**			**Pn**	**12 41 48.1**	**+2.2**
KK31	**Karatay Array**	**3.89**	**347**		PN	**Pn**	**12 41 48.1**	**+2.2**
KK31	**Karatay Array**	**3.89**	**347**	⇓	Pn	**Pn**	**12 41 47.7**	**+1.8**
	comp=E,37nm,0.5s,baz=172,slow=12,SNR=349							
KK31				⇑	Pg	**Pg**	**12 41 59.4**	**-1.8**
	comp=E,37nm,0.5s							
KK31				⇑	Sn	**Sn**	**12 42 36.8**	**+5.5**
	comp=E,20nm,0.5s,baz=174,slow=25,SNR=8.1							
KK31				⇓	Lg	Lg	12 42 52.7	
	comp=E,650nm,0.9s							

KKAR	**Karatay Array**	**3.89**	**347**	⇓*e*P			**Pn**	**12 41 48.3**	**+2.4**
	baz=47								
KKAR				⇓*e*S			**Sn**	**12 42 33.7**	**+2.5**
	baz=47								
KKAR	**Karatay Array**	**3.89**	**347**				**Pn**	**12 41 48.3**	**+2.4**
KKAR	**Karatay Array**	**3.89**	**347**	*e*PN			**Pn**	**12 41 48.3**	**+2.4**
NRN	**Naryn**	**3.91**	**56**	Pn			**Pn**	**12 41 48.7**	**+2.3**
NRN	**Naryn**	**3.91**	**56**	PN			**Pn**	**12 41 48.7**	**+2.3**
AAK	**Ala-Archa**	**3.93**	**32**	P			**Pn**	**12 41 50.1**	**+3.4**
	SNR=88								
AAK	**Ala-Archa**	**3.93**	**32**	⇑*e*P			**Pn**	**12 41 49.1**	**+2.4**
	baz=32								
AAK				⇑*e*S			**Sn**	**12 42 35.1**	**+2.5**
	baz=32								
AAK	**Ala-Archa**	**3.93**	**32**	Pn			**Pn**	**12 41 49.4**	**+2.7**
AAK	**Ala-Archa**	**3.93**	**32**	Pn			**Pn**	**12 41 50.0**	**+3.4**
	comp=E,20nm,0.3s,baz=191,slow=6.2,SNR=54								
AAK				Lg			Lg	12 42 39.6	
	comp=E,5.2nm,0.3s,baz=228,slow=14,SNR=4.5								
AAK				LR			LR	12 43 01.9	
	comp=E,25nm,21.7s,baz=205,slow=34								
	comp=E,46nm,0.4s								
FRU1	**Bishkek**	**4.13**	**31**	⇑*e*P			**Pn**	**12 41 51.5**	**+2.2**
	baz=32								
FRU1				⇑*e*S			**Sn**	**12 42 39.6**	**+2.2**
	baz=32								
FRU1	**Bishkek**	**4.13**	**31**	*e*PN			**Pn**	**12 41 51.9**	**+2.6**
FRU1				*e*S			**Sn**	**12 42 40.1**	**+2.7**
KBK	**Karagaybulak**	**4.14**	**35**	P			**Pn**	**12 41 53.4**	**+3.8**
	SNR=57								
KBK	**Karagaybulak**	**4.14**	**35**	⇑*e*P			**Pn**	**12 41 51.9**	**+2.3**
	baz=36								
KBK				⇑*e*S			**Sn**	**12 42 40.1**	**+2.3**
	baz=36								
KBK	**Karagaybulak**	**4.14**	**35**	*e*PN			**Pn**	**12 41 51.9**	**+2.3**
CHMS	**Chumysh**	**4.34**	**31**	P			**Pn**	**12 41 56.0**	**+3.9**
	SNR=73								
CHMS	**Chumysh**	**4.34**	**31**	⇓*e*P			**Pn**	**12 41 54.5**	**+2.4**
	baz=31								
CHMS				⇓*e*S			**Sn**	**12 42 44.6**	**+2.2**
	baz=31								
CHMS	**Chumysh**	**4.34**	**31**	*e*PN			**Pn**	**12 41 54.5**	**+2.4**
CHMS	**Chumysh**	**4.34**	**31**	⇑P			**Pn**	**12 41 55.8**	**+3.7**
	comp=E,74nm,0.6s								
CHMS				⇓S			**Sb**	**12 42 49.4**	**-5.4**
	comp=E,113nm,0.8s								
USP	**Ospenovka**	**4.47**	**27**	P			**Pn**	**12 41 57.3**	**+3.3**
	SNR=40								
USP	**Ospenovka**	**4.47**	**27**	⇑*e*P			**Pn**	**12 41 56.5**	**+2.5**
	baz=28								
USP				⇑*e*S			**Sn**	**12 42 47.8**	**+2.1**
	baz=28								
USP	**Ospenovka**	**4.47**	**27**	*e*PN			**Pn**	**12 41 56.5**	**+2.5**
BOOM	**Boomskoye usch**	**4.51**	**44**	⇑*e*P			**Pn**	**12 41 57.3**	**+2.7**
	baz=45								
BOOM				⇑*e*S			**Sn**	**12 42 49.3**	**+2.4**
	baz=45								
BOOM	**Boomskoye usch**	**4.51**	**44**	Pn			**Pn**	**12 41 57.7**	**+3.1**
BOOM	**Boomskoye usch**	**4.51**	**44**	PN			**Pn**	**12 41 57.7**	**+3.1**
ULHL	**Ulahol**	**4.52**	**48**	P			**Pn**	**12 41 57.9**	**+3.1**
	SNR=22								
ULHL	**Ulahol**	**4.52**	**48**	⇑*e*P			**Pn**	**12 41 57.5**	**+2.7**
	baz=49								
ULHL				⇑*e*S			**Sn**	**12 42 49.6**	**+2.4**
	baz=49								
ULHL	**Ulahol**	**4.52**	**48**	*e*PN			**Pn**	**12 41 57.5**	**+2.7**
ULHL				*e*S			**Sn**	**12 42 49.6**	**+2.4**
TKM2	**Tokmak 2**	**4.65**	**38**	P			**Pn**	**12 41 59.9**	**+3.4**
	SNR=11								
TKM2	**Tokmak 2**	**4.65**	**38**	⇑*e*P			**Pn**	**12 41 59.1**	**+2.6**
	baz=38								
TKM2				⇑*e*S			**Sn**	**12 42 52.5**	**+2.2**
	baz=38								
TKM2	**Tokmak 2**	**4.65**	**38**	*e*PN			**Pn**	**12 41 59.1**	**+2.6**
TKM2	**Tokmak 2**	**4.65**	**38**	⇑P			**Pn**	**12 41 59.7**	**+3.2**
	comp=E,17nm,0.5s								
TKM2				⇓S			**Sb**	**12 42 59.5**	**-4.4**
	comp=E,52nm,0.6s								
KST	**Kastek**	**4.92**	**39**	*e*Pg			Pb	12 42 07.1	-5.5
	comp=E,22nm,0.3s								
KST				*e*Lg			Lg	12 43 05.4	
	comp=E,37nm,0.7s								
DGS	**Degeres**	**4.98**	**37**	*e*Pg			**Pb**	**12 42 09.2**	**-4.4**
	comp=E,51nm,0.3s								
DGS				*e*Lg			Lg	12 43 08.8	
	comp=E,72nm,0.4s								
MTBS	**Maitube**	**5.22**	**42**	*e*Pg			Pb	12 42 12.5	-5.1
	comp=E,24nm,0.4s								
MTBS				*e*Lg			Lg	12 43 14.9	
	comp=E,48nm,0.4s								
KBL	**Kabul**	**5.22**	**205**		Pn		**Pn**	**12 42 05.8**	**+1.4**
KBL	**Kabul**	**5.22**	**205**		PN		**Pn**	**12 42 05.8**	**+1.4**
TARG	**Taragay, Kyrgy**	**5.24**	**61**		Pn		**Pn**	**12 42 07.5**	**+2.7**
TARG	**Taragay, Kyrgy**	**5.24**	**61**		PN		**Pn**	**12 42 07.5**	**+2.7**
TNSS	**Tian-Shan**	**5.43**	**45**	*e*Pg			**Pb**	**12 42 20.7**	**-0.8**
	comp=E,12nm,0.6s								
TNSS				*e*Lg			Lg	12 43 28.9	
	comp=E,10nm,0.8s								
TNSS	**Tian-Shan**	**5.43**	**45**	Pg			**Pb**	**12 42 20.7**	**-0.8**
	comp=E,12nm,0.6s								
TNSS				Lg			Lg	12 43 28.9	
	comp=E,10nm,0.8s								
MDOK	**Medeo**	**5.57**	**45**	*e*Pg			**Pb**	**12 42 23.3**	**-0.4**
	comp=E,19nm,0.4s								
MDOK				*e*Lg			Lg	12 43 33.2	
	comp=E,38nm,0.8s								
MDOK	**Medeo**	**5.57**	**45**	Pg			**Pb**	**12 42 23.3**	**-0.4**
	comp=E,19nm,0.4s								
MDOK				Lg			Lg	12 43 33.2	
	comp=E,38nm,0.8s								
KOTS	**Kotyrbulak**	**5.65**	**44**	*e*Pg			**Pb**	**12 42 24.5**	**-0.6**
	comp=E,24nm,0.3s								
KOTS				*e*Lg			Lg	12 43 35.3	
	comp=E,86nm,0.4s								
KOTS	**Kotyrbulak**	**5.65**	**44**	Pg			**Pb**	**12 42 24.5**	**-0.6**
	comp=E,24nm,0.3s								
KOTS				Lg			Lg	12 43 35.3	
	comp=E,86nm,0.4s								
ANVS	**Anan'yevo**	**5.69**	**51**	⇑*e*P			**Pn**	**12 42 13.1**	**+2.3**
	baz=51								
ANVS				⇑*e*S			**Sn**	**12 43 17.3**	**+1.5**
	baz=51								
ANVS	**Anan'yevo**	**5.69**	**51**	*e*PN			**Pn**	**12 42 13.6**	**+2.8**
KUU	**Kurty**	**5.74**	**36**	*e*Pg			**Pb**	**12 42 27.8**	**+1.2**
	comp=E,26nm,0.5s								
KUU				*e*Lg			Lg	12 43 40.8	
	comp=E,69nm,0.6s								
KUU	**Kurty**	**5.74**	**36**	Pg			**Pb**	**12 42 27.8**	**+1.2**
	comp=E,26nm,0.5s								
KUU				Lg			Lg	12 43 40.8	
	comp=E,69nm,0.6s								
KTBS	**Karatobe**	**5.77**	**39**	*e*Pg			**Pb**	**12 42 27.4**	**+0.4**
	comp=E,16nm,0.4s								
KTBS				*e*Lg			Lg	12 43 40.1	
	comp=E,81nm,0.5s								
KTBS	**Karatobe**	**5.77**	**39**	Pg			**Pb**	**12 42 27.4**	**+0.4**
	comp=E,16nm,0.4s								
KTBS				Lg			Lg	12 43 40.1	
	comp=E,81nm,0.5s								
NIL	**Nilore**	**5.79**	**167**		Pn		**Pn**	**12 42 16.2**	**+4.1**
NIL	**Nilore**	**5.79**	**167**		PN		**Pn**	**12 42 16.2**	**+4.1**
BTLS	**Baital**	**5.98**	**16**	*e*Pg			**Pb**	**12 42 35.2**	**+4.6**
	comp=E,111nm,0.3s								
BTLS				*e*Lg			Lg	12 43 53.5	
	comp=E,31nm,0.5s								
PRZ	**Przheval'sk**	**5.98**	**56**	Pn			**Pn**	**12 42 17.9**	**+3.1**
PRZ	**Przheval'sk**	**5.98**	**56**	PN			**Pn**	**12 42 17.9**	**+3.1**
CHKK	**Chushkaly**	**6.02**	**39**	*e*Pg			**Pb**	**12 42 32.4**	**+1.1**
	comp=E,7.9nm,0.4s								
CHKK				*e*Lg			Lg	12 43 49.1	
	comp=E,29nm,0.4s								
CHKK	**Chushkaly**	**6.02**	**39**	Pg			**Pb**	**12 42 32.4**	**+1.1**
	comp=E,7.9nm,0.4s								
CHKK				Lg			Lg	12 43 49.1	
	comp=E,29nm,0.4s								
SATY	**Saty**	**6.29**	**51**	*e*Pg			**Pb**	**12 42 35.8**	**-0.1**
	comp=E,14nm,0.3s								
SATY				*e*Lg			Lg	12 43 54.6	
	comp=E,60nm,0.6s								
SATY	**Saty**	**6.29**	**51**	Pg			**Pb**	**12 42 35.8**	**-0.1**
	comp=E,14nm,0.3s								
SATY				Lg			Lg	12 43 54.6	
	comp=E,60nm,0.6s								
KURS	**Kuram**	**6.40**	**47**	*e*Pg			**Pb**	**12 42 38.0**	**+0.2**
	comp=E,11nm,0.6s								
KURS				*e*Lg			Lg	12 43 58.2	
	comp=E,33nm,0.9s								

KURS	**Kuram**	**6.40**	**47**	Pg			**Pb**	**12 42 38.0**	**+0.2**
	comp=E,11nm,0.6s								
KURS				Lg			Lg	12 43 58.2	
	comp=E,33nm,0.9s								
KPKS	**Kokpek**	**6.69**	**49**	*e*Pg			**Pb**	**12 42 42.6**	**-0.1**
	comp=E,8.6nm,0.6s								
KPKS				*e*Lg			Lg	12 44 06.0	
	comp=E,30nm,0.5s								
KPKS	**Kokpek**	**6.69**	**49**	Pg			**Pb**	**12 42 42.6**	**-0.1**
	comp=E,8.6nm,0.6s								
KPKS				Lg			Lg	12 44 06.0	
	comp=E,30nm,0.5s								
ARXS	**Arharly**	**6.70**	**41**	*e*Pg			**Pb**	**12 42 44.9**	**+2.0**
	comp=E,14nm,0.3s								
ARXS				*e*Lg			Lg	12 44 09.9	
	comp=E,26nm,0.4s								
ARXS	**Arharly**	**6.70**	**41**	Pg			**Pb**	**12 42 44.9**	**+2.0**
	comp=E,14nm,0.3s								
ARXS				Lg			Lg	12 44 09.9	
	comp=E,26nm,0.4s								
UZB	**Uzynbulak**	**6.71**	**53**	*e*Pg			**Pb**	**12 42 43.2**	**0.0**
	comp=E,7.5nm,0.3s								
UZB				*e*Lg			Lg	12 44 07.0	
	comp=E,20nm,0.6s								
UZB	**Uzynbulak**	**6.71**	**53**	Pg			**Pb**	**12 42 43.2**	**0.0**
	comp=E,7.5nm,0.3s								
UZB				Lg			Lg	12 44 07.0	
	comp=E,20nm,0.6s								
PDGK	**Podgornoye**	**7.10**	**53**	Pg			**Pb**	**12 42 50.5**	**+0.8**
	comp=E,4.3nm,0.4s								
PDGK				Lg			Lg	12 44 19.5	
	comp=E,9.2nm,0.7s								
KNOS	**Konyrlen**	**7.52**	**46**	Pg			**Pb**	**12 42 59.0**	**+2.2**
	comp=E,11nm,0.6s								
KNOS				Lg			Lg	12 44 34.0	
	comp=E,17nm,0.4s								
DHRM	**DHARAMSHALA**	**7.98**	**151**	*e*P			**Pn**	**12 42 46.6**	**+4.3**
DHRM				*ex*			x	12 44 14.6	
DHRM				IAML				12 44 29.3	
	comp=E,89nm,0.6s								
HRA	**Herat**	**9.03**	**240**		Pn		**Pn**	**12 42 56.7**	**0.0**
SMLA	**Simla**	**9.31**	**150**	*e*P			**Pn**	**12 43 04.1**	**+3.7**
SMLA				*e*S			**Sn**	**12 44 42.2**	**-2.6**
KLP	**Kalpa**	**9.42**	**143**	*e*P			**Pn**	**12 43 03.6**	**+1.4**
KLP				*e*S			**Sn**	**12 44 45.1**	**-2.9**
MAKZ	**Makanchi**	**10.60**	**42**				**Pn**	**12 43 19.2**	**+1.3**
MAKZ	**Makanchi**	**10.60**	**42**	P			**Pn**	**12 43 19.3**	**+1.3**
GEYT	**Alibeck**	**10.72**	**267**				**Pn**	**12 43 19.3**	**-0.3**
GEYT	**Alibeck**	**10.72**	**267**	Pn			**Pn**	**12 43 20.1**	**+0.4**
	comp=E,0.9nm,0.3s,baz=89,slow=11,SNR=7.9								
GEYT				Sn			**Sn**	**12 45 18.2**	**-1.1**
	comp=E,0.6nm,0.3s,baz=281,slow=32,SNR=2.1								
GEYT				Lg			Lg	12 46 30.2	
	baz=137,slow=20								
GEYT				LR			LR	12 48 20.4	
	comp=E,90nm,21.5s,baz=96,slow=42								
	comp=E,3.0nm,0.5s								
GYA0	**ALIBECK ARRAY**	**10.72**	**267**	*e*P			**Pn**	**12 43 18.9**	**-0.8**
GYA0B	**ALIBECK ARRAY**	**10.72**	**267**	Pn			**Pn**	**12 43 19.3**	**-0.3**
MK31	**Makanchi Array**	**10.76**	**43**	Pn			**Pn**	**12 43 22.1**	**+2.0**
MK31	**Makanchi Array**	**10.76**	**43**	*i* P			**Pn**	**12 43 21.5**	**+1.4**
MKAR	**Makanchi Array**	**10.76**	**43**	Pn			**Pn**	**12 43 22.2**	**+2.1**
MKAR	**Makanchi Array**	**10.76**	**43**	P			**Pn**	**12 43 22.2**	**+2.1**
MKAR	**Makanchi Array**	**10.76**	**43**	Pn			**Pn**	**12 43 22.5**	**+2.4**
	comp=E,0.2nm,0.3s,baz=230,slow=14,SNR=17								
MKAR				Lg			Lg	12 46 14.8	
	comp=E,0.1nm,0.3s,baz=246,slow=30,SNR=2.0								
	comp=E,2.7nm,0.8s								
KURBB	**Kurchatov Arra**	**12.29**	**21**	Pn			**Pn**	**12 43 39.6**	**-1.4**
	comp=E,0.1nm,0.3s,baz=215,slow=13,SNR=9.1								
KURBB				Lg			Lg	12 47 07.5	
	baz=208,slow=28,SNR=4.3								
	comp=E,2.6nm,0.9s								
KURK	**Kurchatov**	**12.40**	**21**	Pn			**Pn**	**12 43 42.3**	**-0.2**
KURK	**Kurchatov**	**12.40**	**21**	*i* P			**Pn**	**12 43 42.5**	**0.0**
AB31	**Akbulak array**	**13.01**	**324**	⇓P			**Pn**	**12 43 49.9**	**-0.9**
	comp=E,1.8nm,0.4s,baz=134,slow=12,SNR=8.9								
AB31				⇓S			**Sn**	**12 46 10.0**	**-5.2**
	comp=E,5.4nm,0.5s,baz=130,slow=24,SNR=9.7								
ABKAR	**Akbulak array**	**13.01**	**324**	Pn	

comp=Z,46nm,19.0s,baz=72,slow=43
comp=Z,2.4nm,0.7s
KIV **Kislovodsk** 22.12 292 P **P** 12 45 38.9 -2.6
KIV IAmb IAmb 12 46 04.5
comp=Z,16nm,1.0s
KIV **Kislovodsk** 22.12 292 *i* P **P** 12 45 43.2 +1.7
KIV *SP **sP** 12 45 54.0 +4.8
KIV *e* 12 46 02.6
KIV *i* PPP PPP 12 46 15.7
KIV SS **SnSn** 12 50 14.0 +2.8
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV MLR MLR
comp=Z,32nm,15.0s
KIRV Kirov 24.00 331 *i* P **P** 12 46 03.4 +3.0
KIRV Kirov 24.00 331 P **P** 12 46 04.2 +3.8
comp=Z,5.9nm,0.5s,baz=300,slow=22,SNR=1.9
comp=Z,5.9nm,0.5s
SONM Songino Array 26.36 60 P **P** 12 46 22.6 +0.4
SONM Songino Array 26.36 60 *e*P **P** 12 46 23.5 +1.3
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 26.36 60 P **P** 12 46 22.3 +0.1
comp=Z,0.4nm,0.5s,baz=276,slow=8.4,SNR=4.3
comp=Z,0.4nm,0.5s
ULN Ulaanbaatar 26.80 60 P **P** 12 46 26.5 +0.2
ULN Ulaanbaatar 26.80 60 *i* P **P** 12 46 25.4 -0.8
ULN pmax pmax
comp=Z,2.0nm,0.9s
BR131 Keskin Array S 29.22 283 P **P** 12 46 46.2 -1.7
BR131 Keskin Array S 29.22 283 *i* P **P** 12 46 49.5 +1.6
BRTR Keskin Array B 29.22 283 P **P** 12 46 46.9 -1.0
BRTR Keskin Array B 29.22 283 P **P** 12 46 46.9 -1.0
BRTR Keskin Array B 29.22 283 P **P** 12 46 51.0 +3.1
comp=Z,1.3nm,0.8s,baz=108,slow=6.6,SNR=7.6
comp=Z,1.3nm,0.8s
NRIK Noril'sk 31.26 11 *i* P **P** 12 47 07.8 +2.4
NRIK Noril'sk 31.26 11 P **P** 12 47 07.2 +1.8
comp=Z,1.1nm,0.3s,baz=163,slow=4.0,SNR=4.3
comp=Z,1.1nm,0.3s
CMAR Chiang Mai Arr 31.43 124 LR LR 13 01 21.2
comp=Z,22nm,20.0s,baz=305,slow=40
BOD Bodaibo 32.85 42 *e*P **P** 12 47 19.7 +0.2
BOD pmax pmax
comp=Z,7.0nm,1.0s
XLT XiLinHaoTe 33.19 67 *e*P **P** 12 47 18.5 -4.3
XLT pP pP 12 47 24.3 -4.2
XLT sP sP 12 47 29.0 -1.8
XLT PP **PnPn** 12 48 29.8 -2.9
XLT pmax pmax
comp=Z,5.0nm,0.9s
XLT pmax pmax
comp=Z,150nm,5.2s
FINES FINESS Array B 35.50 324 P **P** 12 47 44.0 +1.6
FINES FINESS Array B 35.50 324 P **P** 12 47 44.0 +1.6
comp=Z,1.8nm,0.6s,baz=116,slow=13,SNR=8.0
FINES LR LR 13 03 18.5
comp=Z,113nm,21.0s,baz=254,slow=38
comp=Z,1.8nm,0.6s
ARCES ARCESS Array B 38.78 336 P **P** 12 48 11.5 +1.3
comp=Z,1.9nm,0.8s,baz=105,slow=10,SNR=6.3
comp=Z,1.9nm,0.8s
HFS Hagfors 41.23 320 P **P** 12 48 33.7 +3.0
comp=Z,1.7nm,0.4s,baz=100,slow=12,SNR=12
comp=Z,1.7nm,0.4s
RGN Rugen 41.42 311 P **P** 12 48 31.4 -0.8
GEC2 GERESS Array S 41.81 303 P **P** 12 48 33.0 -2.7
GERES GERESS Array B 41.81 303 P **P** 12 48 34.3 -1.4
GERES GERESS Array B 41.81 303 P **P** 12 48 34.3 -1.4
GERES GERESS Array B 41.81 303 P **P** 12 48 38.9 +3.3
comp=Z,1.1nm,0.6s,baz=83,slow=8.4,SNR=3.6
comp=Z,1.1nm,0.6s
CUC Castrocucco 42.42 289 P **P** 12 48 36.9 -3.7
NC303 NORSAR Array S 42.43 321 P **P** 12 48 38.4 -2.1
NB2 NORSAR Subarra 42.50 321 P **P** 12 48 43.7 +2.7
comp=Z,1.6nm,0.7s,baz=91,slow=8.6
NOA NORSAR Array B 42.50 321 P **P** 12 48 43.9 +2.8
comp=Z,1.5nm,0.8s,baz=92,slow=7.9,SNR=3.8
NOA LR LR 13 07 29.1
comp=Z,37nm,22.0s,baz=255,slow=38
comp=Z,1.5nm,0.8s
NC204 NORSAR Array S 42.73 322 P **P** 12 48 41.5 -1.4
TIXI Tiksi 42.96 23 P **P** 12 48 45.0 +0.4
TIXI Tiksi 42.96 23 *ce*P **P** 12 48 44.4 -0.2
TIXI pmax pmax
comp=Z,4.0nm,0.8s
AQU L'Aquila 43.47 294 P **P** 12 48 48.2 -0.9
AQU L'Aquila 43.47 294 P **P** 12 48 48.2 -0.9
AQU pmax pmax
comp=Z,21nm,0.9s
MSEY Mahe Island 46.27 203 P **P** 12 49 11.9 +0.3
MSEY Mahe Island 46.27 203 P **P** 12 49 11.9 +0.3
MSEY pmax pmax
comp=Z,40nm,1.2s
WLF Walferdange 46.50 305 P **P** 12 49 11.0 -2.1
WLF Walferdange 46.50 305 P **P** 12 49 11.0 -2.1
WLF pmax pmax
comp=Z,16nm,1.2s
SENIN Lac Senin/Sane 46.58 301 P **P** 12 49 12.4 -1.6
EKA Eskdalemuir Ar 50.68 315 P **P** 12 49 46.4 +1.2
comp=Z,1.1nm,0.5s,baz=73,slow=9.7,SNR=3.6
comp=Z,1.1nm,0.5s
ESDC Sonseca Array 56.66 296 P **P** 12 50 31.1 +1.7
comp=Z,1.3nm,0.9s,baz=53,slow=7.1,SNR=5.8
comp=Z,1.3nm,0.9s
B20K Meade River 65.35 17 P **P** 12 51 29.5 +1.7
B20K IAmb IAmb 12 51 56.4
comp=Z,3.9nm,1.2s
C18K Utukok River 65.43 19 P **P** 12 51 29.3 +0.9
C18K IAmb IAmb 12 51 54.4
comp=Z,6.3nm,1.5s
C19K Lookout Ridge 65.48 18 P **P** 12 51 30.0 +1.3
C19K IAmb IAmb 12 51 36.6
comp=Z,4.4nm,1.2s
B22K Teshekpuk Lake 65.89 15 P **P** 12 51 32.8 +1.6
B22K IAmb IAmb 12 51 35.3
comp=Z,4.6nm,1.1s
B21K Ikpikpuk River 66.21 16 P **P** 12 51 33.3 +0.1
B21K IAmb IAmb 12 51 37.3
comp=Z,2.6nm,0.9s
D19K Kuna River 66.29 18 P **P** 12 51 34.8 +0.9
D19K IAmb IAmb 12 51 37.9
comp=Z,3.6nm,0.9s
TOA0 Torodi Ar. Sit 66.36 268 P **P** 12 51 34.3 -0.8
TORD Torodi Ar. Bea 66.36 268 P **P** 12 51 35.5 +0.4
TORD Torodi Ar. Bea 66.36 268 P **P** 12 51 34.8 -0.2
comp=Z,1.5nm,0.6s,baz=44,slow=6.2,SNR=13
comp=Z,1.5nm,0.6s
E18K Tukpahlearik C 66.49 19 P **P** 12 51 36.0 +0.9
E18K IAmb IAmb 12 51 52.5
comp=Z,5.5nm,1.2s
F15K North Star Dit 66.63 22 P **P** 12 51 36.1 0.0
C23K Itkillik River 66.86 15 P **P** 12 51 38.8 +1.4
F17K Baldwin Pennin 67.05 20 P **P** 12 51 39.8 +1.2
D22K Ayikyak River 67.22 16 P **P** 12 51 40.0 +0.2
D22K IAmb IAmb 12 51 42.9
comp=Z,3.2nm,1.1s
ANM Nome 67.23 23 P **P** 12 51 39.8 -0.1
ANM Nome 67.23 23 P **P** 12 51 39.8 -0.1
ANM pmax pmax
comp=Z,14nm,1.2s
E21K Killik River 67.29 17 P **P** 12 51 40.1 -0.2
E21K IAmb IAmb 12 52 07.2
comp=Z,4.6nm,1.4s
E19K Redstone River 67.31 18 P **P** 12 51 41.0 +0.7
TOLK Toolik Lake Re 68.06 15 P **P** 12 51 46.1 +1.0
TOLK IAmb IAmb 12 52 09.6
comp=Z,6.7nm,1.3s
A36M Sachs Harbour 68.35 6 P **P** 12 51 47.6 +0.8
A36M IAmb IAmb 12 51 51.0
comp=Z,3.3nm,0.8s
G19K Purcell Mounta 68.37 19 P **P** 12 51 47.7 +0.6
G19K IAmb IAmb 12 52 16.0
comp=Z,9.1nm,1.5s
F21K Alatna River 68.39 17 P **P** 12 51 47.7 +0.5
H17K Granite Mounta 68.55 21 P **P** 12 51 49.0 +0.8
H17K IAmb IAmb 12 51 53.2
comp=Z,4.8nm,1.1s
E24K Your Creek 68.76 15 P **P** 12 51 50.1 +0.6
E24K IAmb IAmb 12 51 52.4
comp=Z,6.7nm,1.4s
H18K Honhosa River 68.80 20 P **P** 12 51 50.7 +0.9
H18K IAmb IAmb 12 52 17.0
comp=Z,7.2nm,1.4s
G21K Allakaket 68.95 18 P **P** 12 51 52.7 +2.0
G21K IAmb IAmb 12 51 55.2
comp=Z,4.4nm,1.2s
IMAR Indian Mountai 69.33 18 P **P** 12 51 53.4 +0.4
J16K Anvik River 69.60 22 P **P** 12 51 54.6 -0.1
J16K IAmb IAmb 12 52 01.7
comp=Z,7.8nm,1.1s
E27K Coleen River 69.94 13 P **P** 12 51 57.5 +0.7
E27K IAmb IAmb 12 52 13.1
comp=Z,4.5nm,1.4s
BMAR Burnt Mountain 70.08 14 P **P** 12 51 56.6 -1.1
E29M Blow River 70.35 11 P **P** 12 51 58.6 -0.6
J20K Nowinta River 70.69 19 P **P** 12 51 01.4 0.0
J20K IAmb IAmb 12 52 05.2
comp=Z,5.6nm,1.1s
K17K Iditarod 70.71 22 P **P** 12 52 02.9 +1.4
C36M Paulatuk 71.02 6 P **P** 12 52 03.4 +0.1
C36M IAmb IAmb 12 52 09.1
comp=Z,2.7nm,0.6s
INK Inuvik 71.04 10 P **P** 12 52 04.3 +0.9
INK IAmb IAmb 12 52 18.5
comp=Z,4.2nm,1.3s
INK Inuvik 71.04 10 P **P** 12 52 04.3 +0.9
INK pmax pmax
comp=Z,4.0nm,1.3s
G27K Doyon Strip 71.16 13 P **P** 12 52 05.4 +1.1
G27K IAmb IAmb 12 52 11.8
comp=Z,4.1nm,1.4s
K20K Telida 71.38 20 P **P** 12 52 05.1 -0.5
K20K IAmb IAmb 12 52 11.4
comp=Z,3.5nm,1.1s
L18K Granite Mounta 71.57 22 P **P** 12 52 07.1 +0.4
L18K IAmb IAmb 12 52 32.5
comp=Z,6.1nm,1.5s
ILAR Eielson Array 71.92 16 P **P** 12 52 08.9 +0.1
ILAR Eielson Array 71.92 16 P **P** 12 52 08.4 -0.4
comp=Z,1.2nm,0.9s,baz=324,slow=4.8,SNR=11
comp=Z,1.2nm,0.9s
H29M Whitestone 72.27 12 P **P** 12 52 12.3 +1.4
I28M Miner Creek 72.70 13 P **P** 12 52 13.8 +0.2
I28M IAmb IAmb 12 52 17.1
comp=Z,5.3nm,1.4s
SKT Skwentna 73.18 20 P **P** 12 52 16.8 +0.4
YKA Yellowknife Ar 78.41 3 P **P** 12 52 45.3 -0.9
YKA Yellowknife Ar 78.41 3 P **P** 12 52 45.3 -0.9
YKA Yellowknife Ar 78.41 3 P **P** 12 52 46.5 +0.3
comp=Z,1.4nm,0.9s,baz=348,slow=5.6,SNR=13
comp=Z,1.4nm,0.9s
DLBC Dease Lake 80.93 11 P **P** 12 53 02.2 +2.1
DLBC IAmb IAmb 12 53 27.4
comp=Z,6.7nm,1.4s
WRA Warramunga Arr 83.03 123 P **P** 12 53 10.6 -1.0
comp=Z,0.5nm,0.6s,baz=324,slow=4.9,SNR=9.0
comp=Z,0.5nm,0.6s
WRAB Tennant Creek 83.03 123 P **P** 12 53 10.8 -0.7
WRAB Tennant Creek 83.03 123 P **P** 12 53 10.8 -0.7
WRAB pmax pmax
comp=Z,3.0nm,1.0s
WB2 Warramunga Arr 83.03 123 P **P** 12 53 12.0 +0.5
WB2 IAmb IAmb 12 53 29.6
comp=Z,3.7nm,1.1s
WR0 Warramunga Arr 83.17 123 P **P** 12 53 13.8 +1.6
WR0 IAmb IAmb 12 53 39.1
comp=Z,8.3nm,1.4s
ASAR Alice Springs 85.42 126 P **P** 12 53 22.9 -0.8
comp=Z,0.8nm,1.0s,baz=308,slow=4.6,SNR=4.2
comp=Z,0.8nm,1.0s

ROM 29 12:59:27.1±0.1,**42°54'N**±0'.004×**13°44'E**±0'.005,
h8km,**ML0.6**/4,**1D**,**Error ellipse: s-maj=0.5km**
s-min=0.1km az=36.0,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.05**	**140**	P	Pg	12 59 29.1	0.0
MC2				S	Sg	12 59 30.6	+0.1
FEMA	**Monte Fema**	**0.07**	**277**	P	Pg	12 59 29.5	+0.3
FDMO	**Fiordimonte**	**0.09**	**333**	P	Pg	12 59 29.7	+0.3
FDMO				S	Sg	12 59 31.6	+0.5
FDMO				AML	AML		
	comp=N,36μm,1.5s						
FDMO				AML	AML		
	comp=E,28μm,0.3s						
NRCA	**Norcia**	**0.12**	**190**	P	Pg	12 59 30.5	+0.6
CSP1	**Cessapalombo**	**0.14**	**18**	P	Pg	12 59 30.8	+0.6
MMO1	**Montemonaco**	**0.14**	**112**	⇓P	Pg	12 59 30.6	+0.4
MMO1				S	Sg	12 59 33.1	+0.8
CESI	**CESI - Serrava**	**0.18**	**286**	P	Pg	12 59 31.3	+0.4
CESI				S	Sg	12 59 34.4	+0.9
CESI				AML	AML		
	comp=E,56μm,3.1s						
CESI				AML	AML		
	comp=N,38μm,1.3s						

AFAD ***29*** *13:00:26.8±0.0,38°.91N×26°.29E,h7km±3km,ML2.1*
ISK ***29*** *13:00:26.9,38°.89N×26°.38E,h19km,ML2.3/16*
ISC 29 13:00:27.4±1.1,**38°92N**±0°.03×**26°33E**±0°.05,**h11**km±10km,
n22,**σ0°55/30**,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARB	**zmir-Karabur**	**0.26**	**165**	P	**Pg**	**13 00 32.7**	**0.0**
KARB				*i* AML	AML	13 00 36.0	
	comp=E,339nm,0.3s						
KARB				S	**Sg**	**13 00 36.4**	**+0.1**
KARB				*i* AML	AML	13 00 37.0	
	comp=N,206nm,0.1s						
RFT7	**Candarli**	**0.47**	**85**	Pg	**Pg**	**13 00 36.2**	**-0.3**
RFT7				Sg	**Sg**	**13 00 42.8**	**+0.2**
SIGR	**SIGRI**	**0.47**	**309**	Pg	**Pb**	**13 00 37.6**	**-0.1**
DKL	**Dikili**	**0.48**	**71**	Pg	**Pg**	**13 00 36.9**	**+0.2**
DKL				Sg	**Sg**	**13 00 43.4**	**+0.4**
AYVA	**Ayvalik**	**0.48**	**36**	P	**Pg**	**13 00 36.7**	**-0.1**
AYVA				S	**Sg**	**13 00 43.8**	**+0.5**
AYVA				*i* AML	AML	13 00 45.0	
	comp=N,85nm,0.4s						
AYVA				*i* AML	AML	13 00 49.0	
	comp=E,41nm,0.1s						
GPNR	**Gulpinar-Canak**	**0.56**	**344**	Pg	**Pb**	**13 00 39.3**	**+0.1**
ZEYE	**Izmir, Urla-Ze**	**0.69**	**168**	P	**Pg**	**13 00 40.3**	**-0.4**
ZEYE				S	**Sb**	**13 00 52.1**	**+1.1**
ZEYE				*i* AML	AML	13 00 54.0	
	comp=N,225nm,0.4s						
ZEYE				*i* AML	AML	13 00 54.0	
	comp=E,409nm,0.2s						
BUHA	**Balikesir, Bur**	**0.82**	**45**	P	**Pg**	**13 00 42.6**	**-0.7**
BUHA				S	**Sb**	**13 00 56.2**	**+1.3**
BUHA				*i* AML	AML	13 00 57.0	
	comp=N,54nm,0.4s						
BUHA				*i* AML	AML	13 00 58.0	
	comp=E,98nm,0.5s						
BAYC	**CANAKKALE_Bayr**	**0.84**	**12**	P	**Pg**	**13 00 43.6**	**0.0**
BAYC				S	**Sb**	**13 00 55.7**	**+0.3**
BAYC				*i* AML	AML	13 00 58.0	
	comp=N,67nm,0.3s						
BAYC				*i* AML	AML	13 00 58.0	
	comp=E,60nm,0.2s						
EZN	**Ezine**	**0.91**	**360**	Pg	**Pn**	**13 00 45.8**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.18**	**67**	P	**Pb**	**13 00 49.4**	**-0.4**
STEP				S	**Sn**	**13 01 06.1**	**+0.2**
STEP				*i* AML	AML	13 01 09.0	
	comp=E,76nm,0.4s						
STEP				*i* AML	AML	13 01 10.0	
	comp=N,63nm,0.4s						
COMU	**Canakkale**	**1.19**	**5**	Pn	**Pb**	**13 00 49.6**	**-0.3**
CANM	**Can-anakkale**	**1.23**	**27**	Pn	**Pn**	**13 00 49.6**	**-1.0**
GADA	**Gvkgeada**	**1.31**	**346**	Pn	**Pn**	**13 00 51.4**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.48**	**4**	Pn	**Pn**	**13 00 53.5**	**-0.6**
LPK	**Lapseki**	**1.49**	**13**	Pn	**Pn**	**13 00 53.6**	**-0.6**
KRBG	**Karabiga-Canak**	**1.65**	**27**	Pn	**Pn**	**13 00 55.7**	**-0.7**
ERIK	**Erikli-Kesan**	**1.76**	**5**	Pn	**Pn**	**13 00 58.2**	**+0.4**
ENEZ	**Enez**	**1.82**	**356**	Pn	**Pn**	**13 00 57.8**	**-0.9**
RKY	**Sarkoy-Tekirda**	**1.89**	**20**	Pn	**Pn**	**13 00 59.4**	**-0.2**
ALN	**Alexandroupoli**	**1.99**	**354**	Pn	**Pn**	**13 01 00.9**	**-0.1**
UKOP	**Uzunkopru-Edir**	**2.22**	**6**	Pn	**Pn**	**13 01 04.1**	**-0.1**

BEO ***29*** *13:00:40.6±0.3,43°.26N×17°.73E,h0km±1km,ML3.6/18*
PDG ***29*** *13:00:40.5±0.4,43°.21N×17°.84E,h5km±1km,MD3.7/9,*
ML3.6/12,Error ellipse: s-maj=0.7km s-min=0.7km az=0.0
BGR ***29*** *13:00:40.4±0.6,43°.14N×18°.20E,h10km,ML4.1/6,Error*
ellipse: s-maj=15.6km s-min=10.0km az=62.0
NEIC ***29*** *13:00:40.6±2.3,43°.23N±0°.03×17°.97E±0°.07,h10km±2km,*
mb4.0/4,Error ellipse: s-maj=8.8km s-min=5.3km
az=281.0
RHSSO ***29*** *13:00:41.2±0.2,43°.20N×17°.82E,h5km±1km,ML3.7/23*
PRU ***29*** *13:00:42.7,43°.25N×17°.94E,h1km,M4.0*
LDG ***29*** *13:00:42.1±0.1,43°.21N×17°.78E,h2km,Ml4.0/21,Error*
ellipse: s-maj=9999.9km s-min=9999.9km az=99.0
VIE ***29*** *13:00:42.3±0.4,43°.17N×17°.91E,h15km,mb3.6/21,*
ml3.5/10,ms4.0/10,Error ellipse: s-maj=9.8km
s-min=2.7km az=35.0 84 km SSW of Sarajevo
NAO ***29*** *13:00:47.0,43°.21N×17°.78E,h0km,mb3.7*
IDC ***29*** *13:00:48.6±2.2,43°.41N×17°.62E,h74km±20km,mb3.4/9,*
mbtmp3.7/18,MS3.1/2,Error ellipse: s-maj=17.5km
s-min=14.5km az=10.0
ISC 29 13:00:40.6±0.9,**43°17N**±0°.02×**17°79E**±0°.01,**h13**km±6km,
n252,**σ2s15/379**,**mb3.9/9**,**27C-19D**,**Northwestern Balkan**
Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEVS	**Nevesinje**	**0.26**	**60**	*e*Pg	**Pg**	**13 00 45.7**	**-0.4**
NEVS				*e*Sg	**Sg**	**13 00 49.1**	**-0.7**
STON	**Ston**	**0.30**	**193**	*e*Pg	**Pg**	**13 00 47.2**	**+0.4**
STON				*e*Sg	**Sb**	**13 00 52.9**	**+0.1**
STON	**Ston**	**0.30**	**193**	⇓*i*Pg	**Pg**	**13 00 47.0**	**+0.2**
STON				*e*Sg	**Sg**	**13 00 52.5**	**+1.5**
DBRK	**Dubrovnik**	**0.56**	**152**	*e*Pg	**Pg**	**13 00 51.5**	**-0.1**
DBRK				Sg	**Sb**	**13 01 00.9**	**+0.6**
MAKA	**Makarska**	**0.58**	**282**	*e*Pg	**Pg**	**13 00 51.2**	**-0.6**
MAKA				Sg	**Sg**	**13 00 59.8**	**+0.3**
KLINJ	**Klinje**	**0.58**	**90**	*e*Pg	**Pg**	**13 00 51.0**	**-1.0**
KLINJ				*e*Sg	**Sg**	**13 00 59.6**	**-0.1**
RICI	**Ricice**	**0.58**	**304**	*e*Pg	**Pg**	**13 00 50.9**	**-1.1**
RICI				Sg	**Sg**	**13 00 59.4**	**-0.2**
BRY	**Bratogost**	**0.61**	**116**	⇑*i*Pg	**Pg**	**13 00 51.6**	**-0.9**
BRY				*e*Sg	**Sg**	**13 01 01.0**	**+0.4**
BRY	**Bratogost**	**0.61**	**116**	⇓*i*Pg	**Pg**	**13 00 51.6**	**-0.9**
BRY				*i* Sg	**Sg**	**13 01 00.6**	**0.0**
TREB	**Trebinje**	**0.61**	**138**	*e*Pg	**Pg**	**13 00 52.1**	**-0.4**
TREB				*e*Sg	**Sb**	**13 01 02.4**	**+0.8**
TREB	**Trebinje**	**0.61**	**138**	⇑*i*Pg	**Pg**	**13 00 51.9**	**-0.6**
TREB				*e*Sg	**Sb**	**13 01 02.0**	**+0.4**
LSTV	**Lastovo**	**0.77**	**239**	*i* Pg	**Pg**	**13 00 54.7**	**-0.9**
LSTV				Sg	**Sb**	**13 01 06.9**	**+0.6**
HCY	**Herceg Novi**	**0.89**	**144**	⇓*i*Pg	**Pg**	**13 00 57.0**	**-0.8**
HCY				*e*Sg	**Sg**	**13 01 09.7**	**+0.4**
HCY	**Herceg Novi**	**0.89**	**144**	⇓*i*Pg	**Pg**	**13 00 56.9**	**-0.8**
HCY				*i* Sg	**Sn**	**13 01 11.4**	**-0.2**
NKME	**Niksic**	**0.94**	**115**	⇑*i*Pg	**Pg**	**13 00 57.7**	**-1.1**
NKME				*i* Sg	**Sb**	**13 01 12.3**	**+1.0**
CEME	**Cevo**	**1.03**	**127**	⇑*i*Pg	**Pb**	**13 00 59.3**	**-1.1**
CEME				*i* Sg	**Sn**	**13 01 15.7**	**+0.4**
PLE	**Pljevlja**	**1.18**	**82**	⇓*i*Pg	**Pb**	**13 01 01.5**	**-1.4**
PLE				*i* Sg	**Sn**	**13 01 18.9**	**0.0**
BUM	**Brajici-Budva**	**1.19**	**137**	⇑*i*Pg	**Pb**	**13 01 03.0**	**0.0**
BUM				*i* Sg	**Sn**	**13 01 21.1**	**+2.0**
RUDO	**Rudo**	**1.23**	**68**	⇓*i*Pg	**Pn**	**13 01 02.2**	**-1.4**
RUDO				*e*Sg	**Sb**	**13 01 19.3**	**-0.4**
HAPS	**Han Pijesak,Bl**	**1.25**	**42**	*e*Pg	**Pn**	**13 01 03.3**	**-0.6**
HAPS				*e*Sg	**Sg**	**13 01 20.4**	**-0.4**
HAPS	**Han Pijesak,Bl**	**1.25**	**42**	⇓*i*Pg	**Pn**	**13 01 03.0**	**-0.9**
HAPS				*e*Sg	**Sb**	**13 01 19.5**	**-0.6**
KOME	**Kolasin**	**1.30**	**104**	⇑*i*Pg	**Pn**	**13 01 04.1**	**-0.5**
KOME				*i* Sg	**Sg**	**13 01 23.9**	**+1.3**
PDG	**Podgorica**	**1.30**	**124**	⇑S	**Sg**	**13 01 26.0**	**+3.3**
PDG	**Podgorica**	**1.30**	**124**		**Pn**	**13 01 03.5**	**-1.1**
PDG	**Podgorica**	**1.30**	**124**	*e*Pg	**Pn**	**13 01 04.3**	**-0.3**
PDG				*e*Sg	**Sg**	**13 01 26.4**	**+3.8**
PDG	**Podgorica**	**1.30**	**124**	*e*Pg	**Pn**	**13 01 04.6**	**0.0**
PDG				*e*Sg	**Sg**	**13 01 22.8**	**+0.2**
PDG	**Podgorica**	**1.30**	**124**	⇑*i*Pg	**Pn**	**13 01 04.5**	**0.0**
PDG				*i* Sg	**Sg**	**13 01 24.9**	**+2.3**
KIJV	**Kijevo**	**1.31**	**310**	*i* Pn	**Pn**	**13 01 04.0**	**-0.6**
KIJV				Sg	**Sg**	**13 01 24.4**	**+1.6**
MGRS	**Mrkonjic Grad**	**1.35**	**338**	⇓*i*Pg	**Pn**	**13 01 04.8**	**-0.4**
MGRS				*e*Sg	**Sg**	**13 01 23.8**	**-0.3**
BBLS	**Lazići**	**1.36**	**59**	*e*Pg	**Pn**	**13 01 05.5**	**0.0**
BBLS				*e*Sg	**Sn**	**13 01 23.4**	**-0.1**
BBLS	**Lazići**	**1.36**	**59**	⇓*i*Pg	**Pn**	**13 01 05.2**	**-0.3**
BBLS				*e*Sg	**Sn**	**13 01 23.4**	**-0.1**
DRME	**Dracevica, Mon**	**1.42**	**133**	⇓*i*Pg	**Pb**	**13 01 07.1**	**+0.1**
DRME				*e*Sg	**Sg**	**13 01 26.8**	**+0.5**
DRME	**Dracevica, Mon**	**1.42**	**133**	⇑*i*Pg	**Pb**	**13 01 06.9**	**-0.1**
DRME				*i* Sg	**Sg**	**13 01 29.0**	**+2.7**
IVA	**Berane**	**1.57**	**100**	⇑*i*Pg	**Pn**	**13 01 08.8**	**+0.5**
IVA				*i* Sg	**Sg**	**13 01 32.3**	**+1.2**
DOB	**Doboj**	**1.58**	**8**	*e*Pn	**Pn**	**13 01 09.1**	**+0.8**
DOB				*e*Sn	**Sb**	**13 01 29.8**	**+0.2**
SJES	**Sjenica**	**1.60**	**86**	*e*Pg	**Pb**	**13 01 10.4**	**+0.3**
SJES				*e*Sg	**Sg**	**13 01 33.1**	**+1.1**
SJES	**Sjenica**	**1.60**	**86**	*e*Pn	**Pb**	**13 01 10.0**	**-0.1**
SJES				*e*Sn	**Sg**	**13 01 31.0**	**-1.0**
A050A	**Klekovaca**	**1.60**	**326**	⇑*i*Pn	**Pn**	**13 01 09.3**	**+0.6**
A050A				*e*Sn	**Sg**	**13 01 31.4**	**-0.7**
ULC	**Ulcinj**	**1.61**	**138**	⇑*i*Pn	**Pb**	**13 01 10.1**	**-0.2**
ULC				*i* Sn	**Sg**	**13 01 35.4**	**+2.9**
ZIRJ	**Zirje**	**1.64**	**288**	*e*Pn	**Pn**	**13 01 10.2**	**+1.0**
ZIRJ				Sn	**Sb**	**13 01 32.5**	**+1.2**
BLY	**Banja Luka**	**1.64**	**345**	*e*Pg	**Pb**	**13 01 10.3**	**-0.3**
BLY				*e*Sg	**Sb**	**13 01 31.7**	**+0.4**
BLY	**Banja Luka**	**1.64**	**345**	⇑*i*Pn	**Pb**	**13 01 10.3**	**-0.4**
BLY				*e*Sn	**Sb**	**13 01 31.4**	**+0.1**
MORI	**Morici**	**1.67**	**295**	*i* Pn	**Pn**	**13 01 10.4**	**+0.9**
MORI				Sn	**Sb**	**13 01 33.5**	**+1.4**
PVY	**Plav**	**1.69**	**109**	⇑*i*Pn	**Pb**	**13 01 11.5**	**-0.2**
PVY				*i* Sn	**Sg**	**13 01 36.0**	**+1.0**
IVAS	**Ivanjica**	**1.77**	**76**	*e*Pn	**Pn**	**13 01 12.0**	**+1.0**
IVAS				*e*Sn	**Sg**	**13 01 36.6**	**-0.9**
DIVS	**Divibare**	**1.85**	**59**		**Pn**	**13 01 11.2**	**-0.9**
DIVS	**Divibare**	**1.85**	**59**	*e*Pn	**Pn**	**13 01 12.6**	**+0.5**
DIVS				*e*Sn	**Sb**	**13 01 38.1**	**+0.7**
DIVS	**Divibare**	**1.85**	**59**	*e*Pn	**Pn**	**13 01 12.8**	**+0.7**
DIVS				*e*Sn	**Sn**	**13 01 36.2**	**+0.8**
TEKS	**Tekeris**	**1.87**	**42**	*e*Pg	**Pn**	**13 01 12.2**	**-0.1**
TEKS				*e*Sg	**Sb**	**13 01 38.4**	**+0.5**
TEKS	**Tekeris**	**1.87**	**42**	*e*Pn	**Pn**	**13 01 12.3**	**-0.1**
TEKS				*e*Sn	**Sn**	**13 01 36.4**	**+0.6**
BLJ	**Bijeljina**	**1.93**	**33**	*e*Pn	**Pn**	**13 01 13.9**	**+0.7**
BLJ				*e*Sn	**Sn**	**13 01 37.3**	**-0.1**
A051A	**Mrakovica**	**1.95**	**341**	⇑*i*Pn	**Pn**	**13 01 15.0**	**+1.5**
A051A				*e*Sn	**Sn**	**13 01 38.8**	**+0.8**
PRIJ	**Prijedor**	**1.97**	**337**	*e*Pn	**Pn**	**13 01 14.5**	**+0.8**
PRIJ				*e*Sn	**Sb**	**13 01 39.9**	**-0.8**
UDBI	**Udbina**	**2.00**	**314**	*i* Pn	**Pb**	**13 01 17.5**	**+0.6**
UDBI				Sn	**Sg**	**13 01 45.0**	**+0.1**
SGRT	**San Giovanni R**	**2.07**	**228**	Pn	**Pb**	**13 01 17.6**	**-0.5**
DUGI	**Dugi Otok**	**2.15**	**293**	*i* Pn	**Pb**	**13 01 18.3**	**-1.1**
DUGI				Sn	**Sb**	**13 01 46.9**	**+0.8**
TRUS	**Trudelj**	**2.17**	**60**	*e*Pn	**Pn**	**13 01 17.2**	**+0.7**
GRUS	**Gruza**	**2.24**	**70**	*e*Pn	**Pn**	**13 01 18.8**	**+1.3**
A251A	**Rujevac**	**2.25**	**331**	*e*Pn	**Pb**	**13 01 20.8**	**-0.3**
VIRC	**Vir**	**2.28**	**300**	Sn	**Sb**	**13 01 51.5**	**+1.7**
PLIT

BARS Barje 2.97 95 *e*Pn **Pn** 13 01 30.3 +2.8
BARS *e*Sn **Sn** 13 02 06.0 +2.9
PTJ Puntijarka 3.03 335 *e*Pn **Pn** 13 01 31.1 +2.7
OHR Ohrid 3.04 132 *e*Pn **Pb** 13 01 32.6 -2.0
OHR *e*Sn **Sb** 13 02 10.3 -1.3
OHR Ohrid 3.04 132 *i* Pn **Pb** 13 01 32.9 -1.6
OHR *i* Sn **Sb** 13 02 11.1 -0.5
INTR Introdacqua 3.10 249 Pn **Pn** 13 01 31.4 +2.2
MORH Mrgy, Hungar 3.11 11 ⇑P **Pn** 13 01 29.6 +0.3
MORH Mrgy, Hungar 3.11 11 *e*Pn **Pn** 13 01 30.7 +1.4
MORH *e*Sn **Sn** 13 02 07.0 +0.7
SCTE Santa Cesarea 3.13 170 Pn **Pn** 13 01 29.7 0.0
RIY Rijeka 3.21 313 *i* Pn **Pb** 13 01 35.0 -2.4
SMRN Sveta Marina 3.22 307 *e*Pn **Pn** 13 01 33.7 +2.8
PRVS Prvonek 3.22 100 *e*Pn **Pn** 13 01 34.4 +3.5
PRVS *e*Sn **Sn** 13 02 12.6 +3.4
LOBO Lobor 3.23 338 *i* Pn **Pn** 13 01 33.4 +2.4
MDVR Moldovita 3.26 59 ⇑P **Pn** 13 01 31.8 +0.4
GUMA Gualdo di Mace 3.27 270 Pn **Pn** 13 01 33.3 +1.7
CAMP Campotosto 3.28 260 Pn **Pn** 13 01 34.1 +2.2
AQU L'Aquila 3.33 257 Pn **Pn** 13 01 34.4 +1.9
BEHE Becsehely 3.38 348 *e*Pn **Pn** 13 01 34.6 +1.5
BEHE *e*Sn **Sn** 13 02 14.5 +1.4
FDMO Fiordimonte 3.45 269 Pn **Pn** 13 01 35.3 +1.3
NRCA Norcia 3.45 266 Pn **Pn** 13 01 35.8 +1.7
CUC Castrocucco 3.50 206 Pn **Pn** 13 01 36.8 +2.0
ZAPS Zavoj 3.54 87 *e*Sn **Pn** 13 01 37.2 +1.9
ZAPS Zavoj 3.54 87 *e*Pn **Sn** 13 02 18.9 +1.8
STIP Stip 3.57 113 *i* Pn **Pb** 13 01 41.2 -2.5
FNA Florina 3.58 131 Pn **Pn** 13 01 36.2 +0.3
BLKB Belogradchik 3.59 81 ⇑S **Sn** 13 02 20.4 +2.1
BZS Buzias 3.67 47 ⇓S **Sn** 13 02 21.3 +0.9
BZS Buzias 3.67 47 *e*Pn **Pn** 13 01 36.9 -0.2
BZS *e*Sn **Sn** 13 02 21.2 +0.9
BZS Buzias 3.67 47 ⇑P **Pn** 13 01 37.0 -0.1
HERR Herculane 3.75 61 ⇓P **Pn** 13 01 39.3 +1.1
KEK Kerkira 3.77 156 Pn **Pn** 13 01 40.5 +2.0
MURB Monte Urbino 3.85 273 Pn **Pn** 13 01 42.0 +2.4
CESX Cesi 3.87 263 Pn **Pn** 13 01 41.6 +1.7
VAY Valandovo 4.00 116 *i* Pn **Pn** 13 01 43.7 +2.2
VAY *i* Sn **Sb** 13 02 34.7 -4.5
SOKA Soboth 4.02 332 *i* Pn **Pn** 13 01 44.1 +2.1
comp=Z,39nm,0.3s,SNR=22
SOKA *i* Sn **Sn** 13 02 30.8 +1.8
comp=Z,41nm,0.6s
SURR Surduc 4.04 49 ⇑S **Sn** 13 02 30.3 +1.1
SURR Surduc 4.04 49 ⇑P **Pn** 13 01 41.9 -0.2
OBKA Obir 4.06 326 *i* Pn **Pn** 13 01 44.6 +2.1
comp=Z,5.2nm,0.3s
OBKA *e*Sn **Sn** 13 02 31.9 +2.0
comp=Z,48nm,0.5s
OBKA Obir 4.06 326 ⇓ *i* Pn **Pn** 13 01 44.2 +1.7
OBKA *e*Sn **Sn** 13 02 30.1 +0.1
OBKA Obir 4.06 326 *e*Pn **Pn** 13 01 44.8 +2.3
TIP Timpagrande 4.06 191 ⇓P **Pn** 13 01 45.5 +2.9
TIP Timpagrande 4.06 191 Pn **Pn** 13 01 44.5 +2.0
SABO M.te Sabotino 4.11 315 Pn **Pn** 13 01 44.6 +1.5
SIRR Siria 4.15 40 ⇓S **Sn** 13 02 31.9 -0.2
SIRR Siria 4.15 40 ⇑P **Pn** 13 01 43.4 -0.2
GZR Gura Zlata 4.21 56 ⇓P **Pn** 13 01 45.1 +0.5
ARSA Arzberg 4.39 339 *i* Pn **Pn** 13 01 48.5 +1.6
comp=Z,34nm,0.3s,SNR=31
ARSA *i* Sn **Sn** 13 02 38.0 +0.1
comp=Z,23nm,0.5s
ARSA Arzberg 4.39 339 *e*Pn **Pn** 13 01 48.4 +1.4
ARSA *e*Sn **Sn** 13 02 37.8 -0.1
ARSA Arzberg 4.39 339 *e*Pn **Pn** 13 01 48.4 +1.4
ARSA *e*Sn **Sn** 13 02 38.0 +0.1
PRED Cave del Predi 4.45 319 Pn **Pn** 13 01 49.8 +2.0
MYKA Terra Mystica 4.55 321 *i* Pn **Pn** 13 01 51.7 +2.5
comp=Z,7.6nm,0.3s,SNR=11
MYKA *i* Sn **Sn** 13 02 45.9 +3.9
comp=Z,24nm,0.4s
RONA Rosalia, Austr 4.65 347 *i* Pn **Pn** 13 01 53.0 +2.4
comp=Z,6.9nm,0.3s,SNR=8.4
RONA *i* Sn **Sn** 13 02 45.3 +0.7
comp=Z,31nm,0.6s
SRO Srobarova 4.66 4 *e*PN **Pn** 13 01 54.1 +3.4
STAL STALIGIAL 4.76 312 Pn **Pn** 13 01 52.9 +0.8
OSSC Osservatorio P 4.79 276 Pn **Pn** 13 01 53.3 +0.9
CLID Cludinico 4.80 315 Pn **Pn** 13 01 55.5 +2.9
TEOL Teolo 4.91 299 Pn **Pn** 13 01 55.0 +0.8
CONA Conrad Observa 4.95 345 *i* Pn **Pn** 13 01 57.0 +2.2
comp=Z,4.2nm,0.3s,SNR=14
CONA *i* Sn **Sn** 13 02 52.2 +0.3
comp=Z,44nm,0.5s
PSZ Piszkesteto 4.97 17 ⇓P **Pn** 13 01 55.2 +0.2
PSZ Piszkesteto 4.97 17 Pn **Pn** 13 01 54.9 -0.2
KBA Koelnbreinsper 5.02 323 *i* Pn **Pn** 13 01 58.6 +2.8
comp=Z,19nm,0.6s
KBA *i* Sn **Sn** 13 02 56.8 +3.1
comp=Z,11nm,0.3s
KBA Koelnbreinsper 5.02 323 *e*Pn **Pn** 13 01 58.6 +2.8
KBA *e*Sn **Sn** 13 02 56.5 +2.8
ZST Bratislava 5.05 355 *e*PN **Pn** 13 01 57.5 +1.5
ZST *e*PG **Pb** 13 02 13.1 +4.3
ZST *e*SN **Sn** 13 02 52.8 -1.5
ZCCA Zocca 5.08 286 Pn **Pn** 13 02 00.6 +4.1
CASP Castiglione de 5.10 268 Pn **Pn** 13 01 57.5 +0.8
CEL Celeste 5.11 197 Pn **Pn** 13 01 58.4 +1.4
MARR Marisel-Cluj 5.16 45 ⇑P **Pn** 13 01 57.2 -0.4
ABTA Abfaltersbach 5.18 316 *i* Pn **Pn** 13 01 59.7 +1.8
comp=Z,12nm,0.4s,SNR=24
ABTA *i* Sn **Sn** 13 03 02.1 +4.5
comp=Z,18nm,0.5s
MODS Modra-Piesok 5.22 356 *e*PN **Pn** 13 01 59.8 +1.4
MODS *e*SN **Sn** 13 02 58.7 +0.3
CTI Castel Tesino 5.25 305 Pn **Pn** 13 01 59.8 +0.9
MOA Molln 5.30 333 *i* Pn **Pn** 13 02 02.8 +3.4
comp=Z,7.6nm,0.3s
MOA *i* Sn **Sn** 13 03 02.5 +2.1
comp=Z,55nm,0.7s
MOA Molln 5.30 333 *e*Pn **Pn** 13 02 02.3 +2.9
MOA *e*Sn **Sn** 13 03 02.5 +2.1
VYHS Vyhne 5.38 7 *e*PN **Pn** 13 02 02.4 +1.9
VYHS *e*SN **Sn** 13 03 03.7 +1.4
BIOA Bad Ischl, Aus 5.38 329 *i* Pn **Pn** 13 02 03.5 +2.9
comp=Z,10nm,0.3s,SNR=18
BIOA *e*Sn **Sn** 13 03 06.0 +3.5
comp=Z,23nm,0.4s
LESA Schwarzleotal 5.58 321 *i* Pn **Pn** 13 02 06.1 +2.7
comp=Z,28nm,0.3s
LESA *i* Sn **Sn** 13 03 11.3 +3.9
comp=Z,14nm,0.5s
PRMA PARMA 5.63 289 Pn **Pn** 13 02 05.7 +1.7
KECS Kecovo 5.64 19 *e*PN **Pn** 13 02 07.2 +3.1
KECS *e*PG **Pg** 13 02 27.9 -0.6
KECS *e*SN **Sn** 13 03 07.4 -1.3
VOIR 5.68 64 ⇑P **Pn** 13 02 04.9 +0.1
JAVC Velka Javorina 5.69 359 *e*PN **Pn** 13 02 04.3 +0.6
SALO Salr 5.75 298 Pn **Pn** 13 02 06.0 +0.3
WTTA Wattenberg 5.97 315 *i* Pn **Pn** 13 02 11.2 +2.3
comp=Z,15nm,0.4s,SNR=22
WTTA *i* Sn **Sn** 13 03 22.0 +4.8
comp=Z,15nm,0.4s
WTTA Wattenberg 5.97 315 *e*Pn **Pn** 13 02 11.2 +2.3
WTTA *e*Sn **Sn** 13 03 22.0 +4.8
KRUC Moravsky 5.97 351 *e*PN **Pn** 13 02 11.1 +2.4
KRUC *e*SN **Sn** 13 03 15.7 -1.3
WATA Walderalm 6.05 316 *i* Pn **Pn** 13 02 12.5 +2.6
comp=Z,7.4nm,0.3s,SNR=24
WATA *i* Sn **Sn** 13 03 23.1 +4.0
comp=Z,4.5nm,0.3s
MSSA Maissana 6.10 284 Pn **Pn** 13 02 12.0 +1.5
CKRC Cesky Krumlov 6.15 338 *e*PN **Pn** 13 02 14.0 +2.8
CKRC *e*SN **Sn** 13 03 20.8 -0.6
SQTA Sankt Quirin 6.17 313 *i* Pn **Pn** 13 02 14.5 +3.0
comp=Z,4.7nm,0.2s,SNR=11
SQTA *i* Sn **Sn** 13 03 27.4 +5.4
comp=Z,18nm,0.4s
VRAC Vranov 6.20 353 *e*PN **Pn** 13 02 14.3 +2.5
VRAC Vranov 6.20 353 P **Pn** 13 02 13.6 +1.8
comp=Z,1.7nm,0.4s,baz=172,slow=12,SNR=4.2
VRAC S **Sn** 13 03 20.5 -2.0
comp=Z,3.4nm,0.4s,baz=117,slow=19,SNR=2.0
CRVS Cervenica-Dubn 6.28 23 *e*PG **Pg** 13 02 41.4 +0.7
MLR Muntele Rosu 6.29 66 P Pn 13 02 21.0 +7.8
comp=Z,2.0nm,0.5s,baz=310,slow=12,SNR=3.5
MLR LR LR 13 05 13.5
comp=Z,122nm,21.0s,baz=257,slow=42
MOTA Moosalm 6.30 314 *i* Pn **Pn** 13 02 16.0 +2.7
comp=Z,12nm,0.3s,SNR=28
MOTA *e*Sn **Sn** 13 03 29.8 +4.5
comp=Z,16nm,0.5s
FETA Feichten 6.31 310 *i* Pn **Pn** 13 02 15.5 +2.0
comp=Z,9.0nm,0.4s,SNR=11
FETA *i* Sn **Sn** 13 03 32.0 +6.5
comp=Z,16nm,0.7s
GEC2 GERESS Array S 6.35 335 Pn **Pn** 13 02 16.3 +2.3
GEC2 GERESS Array S 6.35 335 *e*Pn **Pn** 13 02 16.6 +2.6
GEC2 *e*Sn **Sn** 13 03 26.6 +0.1
GERES GERESS Array B 6.35 335 P **Pn** 13 02 16.4 +2.4
comp=Z,6.6nm,0.4s,baz=158,slow=14,SNR=38
GERES S **Sn** 13 03 23.7 -2.8
comp=Z,10nm,0.6s,baz=155,slow=16,SNR=3.4
FUORN Ofenpass-Fuorn 6.36 305 Pn **Pn** 13 02 16.2 +1.9
PGF Pioggiola 6.49 268 *e*Pn **Pn** 13 02 17.4 +1.4
PGF *e*Sn **Sn** 13 03 26.5 -3.4
comp=Z,16nm,0.6s
ALN Alexandroupoli 6.55 107 Pn **Pn** 13 02 20.6 +3.9
KOLS Kolonicke sedl 6.55 27 *e*PG **Pg** 13 02 48.2 +2.2
RETA Reutte 6.57 314 *e*Pn **Pn** 13 02 19.9 +2.9
comp=Z,4.8nm,0.2s
RETA *i* Sn **Sn** 13 03 36.7 +4.9
comp=Z,10nm,0.3s
MORC Moravsky Berou 6.61 359 Pn **Pn** 13 02 18.7 +1.1
MORC Moravsky Berou 6.61 359 *e*PN **Pn** 13 02 20.0 +2.5
KHC Kasperske Hory 6.64 335 *e*PN **Pn** 13 02 20.3 +2.4
KHC *e*SN **Sn** 13 03 33.8 +0.3
DAVOX Davos/Dischmat 6.67 305 P **Pn** 13 02 20.2 +1.7
comp=Z,6.0nm,0.3s,baz=129,slow=16,SNR=19
DAVOX S **Sn** 13 03 33.0 -1.5
comp=Z,9.5nm,0.7s,baz=296,slow=22,SNR=1.3
ZVC Zvikov 6.75 340 *e*PN **Pn** 13 02 21.9 +2.5
ZVC *e*SN **Sn** 13 03 34.8 -1.3
TUE Stuetta 6.85 302 Pn **Pn** 13 02 23.1 +2.1
BURAR Bucovina Array 6.86 47 Pn **Pn** 13 02 22.6 +1.6
WET Wettzell 6.88 332 *e*Pn **Pn** 13 02 23.9 +2.7
WET *e*Sn **Sn** 13 03 39.9 +0.6
DAVA Damuels 6.94 309 *e*Pn **Pn** 13 02 25.4 +3.3
comp=Z,4.5nm,0.4s
DAVA *i* Sn **Sn** 13 03 46.4 +5.4
comp=Z,17nm,0.5s
DAVA Damuels 6.94 309 *e*Pn **Pn** 13 02 26.2 +4.0
UBR Ueberruh 7.04 313 *e*Pn **Pn** 13 02 25.3 +1.9
UBR *e*Sn **Sn** 13 03 48.9 +5.5
PLONS Plons/SG 7.10 306 *e*Pn **Pn** 13 02 27.4 +3.1
PLONS *e*Sn **Sn** 13 03 47.6 +2.6
VSL Villasalto 7.32 243 Pn **Pn** 13 02 30.1 +2.9
SBF Sospel 7.56 279 *e*Pn **Pn** 13 02 30.1 -0.5
SBF *e*Sn **Sn** 13 03 52.0 -4.2
comp=Z,36nm,0.6s
WILA Wila 7.57 307 *e*Pn **Pn** 13 02 32.8 +2.1
WALHA Wallhausen, DE 7.62 310 *e*Pn **Pn** 13 02 33.7 +2.3
ROTZ Rotzenmuhle 7.64 332 *e*Pn **Pn** 13 02 33.6 +2.0
ROTZ *e*Sn **Sn** 13 03 57.9 -0.2
GRA1 Grafenberg Arr 7.95 327 Pn **Pn** 13 02 35.4 -0.4
GRF Grafenberg Arr 7.95 327 *e*Pn **Pn** 13 02 35.9 +0.1
GRFO Grafenberg 7.95 327 Pn **Pn** 13 02 35.5 -0.2
NKC Novy Kostel 7.96 334 *e*PN **Pn** 13 02 38.0 +2.0
SLE Schleitheim 7.99 308 *e*Pn **Pn** 13 02 38.8 +2.4
METMA Mettma DE 8.10 307 *e*Pn **Pn** 13 02 39.4 +1.4
MBDB Montbardon 8.11 285 *e*Pn **Pn** 13 02 37.7 -0.4
MBDF *e*Sn **Sn** 13 04 05.2 -4.5
comp=Z,21nm,0.8s
SENIN Lac Senin/Sane 8.12 297 Pn **Pn** 13 02 39.8 +1.4
BRG Berggiesshubel 8.14 343 Pn **Pn** 13 02 43.0 +4.5
BRG Amp 13 02 50.7
comp=Z,3.1nm,0.8s
BRG r 13 04 33.0
BRG Amp 13 04 34.2
comp=Z,6.7nm,0.7s
STU Stuttgart 8.20 316 Pn **Pn** 13 02 42.1 +2.9
BNI Bardonecchia 8.22 287 Pn **Pn** 13 02 39.3 -0.3
BENLE Lenzkirch (DE) 8.22 308 *e*Pn **Pn** 13 02 40.8 +0.8
LMR La Mourre 8.24 275 *e*Pn **Pn** 13 02 40.4 +0.6
LMR *e*Sn **Sn** 13 04 09.2 -3.6
comp=Z,9.9nm,0.6s
LPG La Plagne 8.25 290 *e*Pn **Pn** 13 02 39.9 -0.3
LPG *e*Sn **Sn** 13 04 08.8 -4.7
comp=Z,50nm,0.9s
LPL La Plagne 8.27 290 *e*Pn **Pn** 13 02 41.8 +1.4
LPL *e*Sn **Sn** 13 04 09.1 -4.7
comp=Z,36nm,0.6s
BFO Black Forest 8.39 311 Pn **Pn** 13 02 42.3 +0.4
BFO Black Forest 8.39 311 *e*Pn **Pn** 13 02 42.6 +0.7
BFO *e*Sn **Sn** 13 04 17.0 +0.5
MOX Moxa 8.59 333 *e*Pn **Pn** 13 02 46.4 +1.8
MOX *e*Sn **Sn** 13 04 19.8 -1.5
ORIF Oris-en-Rattie 8.76 286 *e*Pn **Pn** 13 02 47.6 +0.6
ORIF *e*Sn **Sn** 13 04 20.7 -5.0
comp=Z,28nm,0.8s
MILB Miltenberg 8.87 322 *e*Pn **Pn** 13 02 50.9 +2.5
SMRF Simiane la Rot 8.91 279 *e*Pn **Pn** 13 02 49.5 +0.5
SMRF *e*Sn **Sn** 13 04 24.2 -5.1
comp=Z,7.0nm,0.7s
HINF Hinteralfeld 8.98 305 *e*Pn **Pn** 13 02 50.3 +0.3
HINF *e*Sn **Sn** 13 04 25.9 -5.0
comp=Z,13nm,0.5s
ECH Echery 8.99 308 *e*Pn **Pn** 13 02 51.1 +1.0
ECH *e*Sn **Sn** 13 04 29.3 -2.0
CABF La Chapelle 8.99 297 *e*Pn **Pn** 13 02 50.2 0.0
CABF *e*Sn **Sn** 13 04 26.2 -5.2
comp=Z,22nm,0.7s
HAU Haudompre 9.37 305 *e*Pn **Pn** 13 02 54.9 -0.4
HAU *e*Sn **Sn** 13 04 35.1 -5.4
comp=Z,28nm,0.7s
TNS Taunus Mts 9.53 321 *e*Pn **Pn** 13 02 59.4 +1.8
VIVF Saint-Julien-l 9.60 285 *e*Pn **Pn** 13 02 58.1 -0.5
VIVF *e*Sn **Sn** 13 04 40.9 -5.4
comp=Z,3.9nm,0.5s
SSB Saint Sauveur 9.75 287 Pn **Pn** 13 02 59.7 -0.8
LASF Ste Croix 10.15 280 *e*Pn **Pn** 13 03 05.7 -0.3
SMF Signal de Mont 10.49 294 *e*Pn **Pn** 13 03 10.1 -0.5
SMF *e*Sn **Sn** 13 05 02.0 -6.0
comp=Z,13nm,0.5s
LOR Lormes 10.65 297 *e*Pn **Pn** 13 03 12.4 -0.4
baz=108
LOR *e*Sn **Sn** 13 05 05.9 -6.0
comp=Z,11nm,0.5s
SSF Saint Saulge 10.82 296 *e*Pn **Pn** 13 03 14.9 -0.3
SSF *e*Sn **Sn** 13 05 09.8 -6.3
comp=Z,9.0nm,0.7s
AVF Avril sur Loir 10.85 294 *e*Pn **Pn** 13 03 14.9 -0.7
AVF *e*Sn **Sn** 13 05 10.7 -6.1
comp=Z,7.6nm,0.7s
BGF Bois d'Agland 11.14 293 *e*Pn **Pn** 13 03 19.1 -0.4
BGF *e*Sn **Sn** 13 05 17.5 -6.3
comp=Z,13nm,0.6s
MTLF Montolieu 11.36 276 *e*Pn **Pn** 13 03 21.8 -0.8
CAF Calviac 11.46 284 *e*Pn **Pn** 13 03 22.8 -1.1
TCF Toulx Ste Croi 11.52 291 *e*Sn **Sn** 13 05 26.5 -6.7
comp=Z,2.4nm,0.3s
BRTR Keskin Array B 12.38 101 P Pn 13 03 42.7 +6.1
comp=Z,0.8nm,0.8s,baz=302,slow=5.7,SNR=3.8
ARPR Arapgir-MALATY 16.00 98 Pn **Pn** 13 04 20.8 -4.6
HFS Hagfors 17.17 353 P **P** 13 04 42.0 +0.3
comp=Z,2.4nm,0.8s,baz=167,slow=16,SNR=2.5
EKA Eskdalemuir Ar 18.22 319 P **P** 13 04 53.9 +0.7
comp=Z,0.9nm,0.7s,baz=115,slow=9.7,SNR=1.2
NB2 NORSAR Subarra 18.33 350 P **P** 13 04 56.2 +1.7
comp=Z,3.7nm,0.8s,baz=165,slow=11
NOA NORSAR Array B 18.33 350 P **P** 13 04 55.6 +1.1
comp=Z,0.7nm,0.8s,baz=164,slow=9.2,SNR=1.6
NBO00 NORSAR Array S 18.38 349 P **Pn** 13 04 53.9 -1.1
NC303 NORSAR Array S 18.49 350 P **Pn** 13 04 56.3 +0.1
NC303 IAmb IAmb 13 05 23.4
comp=Z,16nm,1.3s
FINES FINESS Array B 18.96 12 P **P** 13 04 59.2 -2.1
FINES FINESS Array B 18.96 12 P **Pn** 13 05 02.8 +0.8
comp=Z,3.0nm,0.9s,baz=206,slow=9.0,SNR=5.8
MDT Midelt 20.40 247 P Pn 13 05 20.1 +0.7
comp=Z,2.0nm,0.8s,baz=50,slow=10,SNR=2.7
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 26.73 6 P **P** 13 06 17.2 -2.3
comp=Z,2.8nm,1.0s,baz=193,slow=11,SNR=1.7
comp=Z,2.8nm,1.0s
AKTO Aktyubinsk 28.20 61 LR LR 13 18 12.7
comp=Z,52nm,19.9s,baz=209,slow=37
TORD Torodi Ar. Bea 32.98 210 P **P** 13 07 17.7 +2.4
comp=Z,0.2nm,0.6s,baz=25,slow=11,SNR=2.3
comp=Z,0.2nm,0.6s
BRVK Borovoye 35.67 55 P **P** 13 07 39.2 +0.9
BRVK IAmb IAmb 13 07 40.9
comp=Z,2.4nm,1.0s
BVAR Borovoye Array 35.73 55 P **P** 13 07 40.1 +1.3
comp=Z,1.0nm,0.8s,baz=258,slow=7.4,SNR=7.1
comp=Z,1.0nm,0.8s
ZALV Zalesovo Beam 44.06 52 P **P** 13 08 48.3 +0.4
comp=Z,0.4nm,0.3s,baz=298,slow=7.8,SNR=1.7
comp=Z,0.4nm,0.3s
SONM Songino Array 58.95 52 P **P** 13 10 40.6 +0.9
comp=Z,0.4nm,0.7s,baz=292,slow=7.6,SNR=2.7
comp=Z,0.4nm,0.7s
ULM Lac du Bonnet 70.48 321 P **P** 13 11 51.7 -3.0
comp=Z,0.9nm,0.5s,baz=168,slow=23,SNR=1.9
comp=Z,0.9nm,0.5s
CMAR Chiang Mai Arr 71.25 82 P **P** 13 11 59.4 -0.4
comp=Z,0.7nm,0.7s,baz=304,slow=8.1,SNR=6.9
comp=Z,0.7nm,0.7s
TXAR Lajitas Array 90.07 312 P **P** 13 13 41.2 +0.8
comp=Z,0.6nm,0.8s,baz=58,slow=4.7,SNR=5.6
comp=Z,0.6nm,0.8s

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*ISN **29** 13:07:33.5±0.8,34°.98N×45°.69E,h21km±999km,ML3.1*
*TEH **29** 13:07:35.6,34°.73N×45°.74E,h5km,ML3.1*
ISC 29 13:07:37.9±1.1,34°.73N±0°.04×45°.65E±0°.05,h18km,n20,
σ1s57/23,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.23**	**192**	Pg		**Pg**	**13 07 41.1**	**-2.2**
IGHG	**Ghaleghazi**	**0.86**	**118**	Pg		**Pb**	**13 07 52.3**	**-2.2**
ILIN	**Lien**	**1.10**	**80**	Pg		**Pb**	**13 07 56.6**	**-1.9**
ILBA	**Ilam Banvizeh**	**1.20**	**157**	Pg		**Pn**	**13 07 59.4**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.24**	**111**	Pg		**Pn**	**13 07 59.8**	**-0.6**
SDS1	**Sardasht. Az.**	**1.42**	**355**	Pg		**Pn**	**13 08 02.6**	**-0.3**
IKOM	**Komasi**	**1.64**	**109**	Pg		**Pn**	**13 08 05.4**	**-0.5**
IBDR	**Badra**	**1.64**	**172**	*e*Pn		**Pn**	**13 08 06.5**	**+0.7**
IBDR				*e*Sn		**Sb**	**13 08 30.0**	**+2.2**
IBDR				AML		AML	13 08 40.9	
	comp=N,209nm,0.8s							
IBDR				AML		AML	13 08 41.3	
	comp=E,224nm,0.5s							
BHD	**Baghdad**	**1.80**	**216**	*e*Pn		**Pn**	**13 08 08.0**	**0.0**
BHD				*e*Sn		**Sb**	**13 08 34.0**	**+1.5**
IBZA	**Bozab**	**1.84**	**98**	Pg		**Pn**	**13 08 10.1**	**+1.2**
MAHB	**Mahabad**	**2.03**	**1**	Pn		**Pn**	**13 08 12.9**	**+1.6**
IALM	**Almabolaq**	**2.08**	**86**	Pn		**Pn**	**13 08 13.3**	**+1.2**
IKFM	**Kafar-mosalman**	**2.19**	**123**	Pn		**Pn**	**13 08 14.5**	**+1.2**
HSAM	**Samen**	**2.50**	**101**	Pn		**Pn**	**13 08 18.6**	**+0.8**
HAGD	**Aghdareh**	**2.88**	**87**	Pn		**Pn**	**13 08 23.9**	**+0.9**
IHSH	**Hashtrud**	**2.88**	**27**	Pn		**Pn**	**13 08 24.7**	**+1.5**
RAFI	**Al-Rafai**	**3.03**	**172**	*e*Pn		**Pn**	**13 08 26.0**	**+1.1**
RAFI				*e*Sn		**Sn**	**13 09 04.0**	**+3.3**
QSDN	**Sirdan**	**3.37**	**57**	Pn		**Pn**	**13 08 31.0**	**+1.1**
JHBN	**Jahan bin**	**4.88**	**119**	Pn		**Pn**	**13 08 52.2**	**+1.5**
ISFB	**Sefidab**	**5.45**	**92**	Pn		**Pn**	**13 08 59.3**	**+1.0**

IDC 29 13:17:27.9±5.2,19°.08S×175°.07W,h0km,mb4.1/3,
mbtmp4.1/3,Error ellipse: s-maj=177.6km
s-min=102.4km az=159.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STKA	**Stephens Creek**	**40.89**	**243**	P		P	13 25 12.1	+0.1
	1.3nm,0.7s,baz=110,slow=11,SNR=3.1 1.3nm,0.7s							
ASAR	**Alice Springs**	**47.54**	**255**	P		P	13 26 05.3	-0.2
	2.6nm,0.5s,baz=97,slow=7.5,SNR=68							
ASAR				PcP		PcP	13 27 35.4	-0.3
	0.3nm,0.6s,baz=97,slow=4.0,SNR=4.1 2.6nm,0.5s							
WRA	**Warramunga Arr**	**47.55**	**260**	P		P	13 26 05.4	-0.2
	0.8nm,0.3s,baz=97,slow=7.3,SNR=84 0.8nm,0.3s							

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*IDC **29** 13:40:01.4±12.0,56°.14S×27°.29W,h124km±108km,*
mb3.6/4,mbtmp4.0/5,ML4.6/1,Error ellipse: s-maj=66.0km
s-min=35.4km az=107.0
ISC 29 13:39:59.8±1.1,56°.1S±0°.1×27°.4W±0°.4,h112km,n11,
σ0s56/11,mb3.9/4,3C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VNA2	**Neumayer--Watz**	**17.18**	**158**	⇑P		**Pn**	**13 43 52.8**	**+0.3**
	comp=Z,2.0nm,0.4s,baz=320,slow=13							
SNAA	**Sanae**	**18.73**	**156**	⇑P		**P**	**13 44 09.3**	**-0.1**
	comp=Z,121nm,0.5s							
SNAA	**Sanae**	**18.73**	**156**	P		**P**	**13 44 08.9**	**-0.5**
	comp=Z,1.8nm,0.3s,baz=300,slow=10,SNR=44 comp=Z,6.1nm,0.5s							
TROLL	**Troll, Antarti**	**20.24**	**153**	⇑P		**P**	**13 44 25.9**	**0.0**
	comp=Z,75nm,0.4s							
QSPA	**South Pole Qui**	**34.13**	**180**	P		**P**	**13 46 33.9**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=222,slow=4.1,SNR=3.6 comp=Z,1.0nm,0.3s							
VNDA	**Vanda**	**46.50**	**183**	P		**P**	**13 48 15.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=198,slow=6.1,SNR=5.4 comp=Z,0.7nm,0.6s							
TORD	**Torodi Ar. Bea**	**73.18**	**30**	P		**P**	**13 51 18.7**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=199,slow=6.3,SNR=2.7 comp=Z,0.2nm,0.3s							
ASAR	**Alice Springs**	**98.96**	**163**	P		**P**	**13 53 26.7**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=186,slow=4.3,SNR=4.6 comp=Z,0.4nm,0.7s							
INK	**Inuvik**	**145.77**	**321**	PKPbc		**PKPdf**	**13 59 23.8**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=127,slow=5.1,SNR=3.4							
ILAR	**Eielson Array**	**150.06**	**312**	PKPbc		**PKPbc**	**13 59 35.0**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=81,slow=0.4,SNR=12							
SONM	**Songino Array**	**150.87**	**87**	PKPbc		**PKPbc**	**13 59 38.0**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=219,slow=3.7,SNR=7.4							

IDC 29 13:44:32.7±1.9,2°.28N×125°.31E,h0km,mb3.3/3,
mbtmp3.4/3,Error ellipse: s-maj=175.5km
s-min=24.8km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**23.80**	**159**	P		P	13 49 47.6	+0.2
	0.5nm,0.4s,baz=337,slow=10,SNR=14 0.5nm,0.4s							
ASAR	**Alice Springs**	**27.11**	**163**	P		P	13 50 17.5	-0.1
	0.1nm,0.4s,baz=342,slow=7.8,SNR=11 0.1nm,0.4s							
MKAR	**Makanchi Array**	**57.95**	**326**	P		P	13 54 26.9	-0.2
	0.1nm,0.3s,baz=123,slow=7.6,SNR=6.4 0.1nm,0.3s							

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*UPA **29** 13:49:29.3±0.4,9°.88N×82°.62W,h26km±3km,MW3.7*
*CATAC **29** 13:49:31.3±0.8,9°.77N×82°.71W,h5km±8km,ML3.0*
ISC 29 13:49:26.3±2.2,10°.0N±0°.1×82°.53W±0°.08,h20km±6km,n15,
σ0s71/26,1C,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CNI2	**El Empalme, Bo**	**0.56**	**174**	*e*P		**Pn**	**13 49 38.9**	**-0.3**
CNI2				*e*S		**Sb**	**13 49 46.0**	**+1.1**
POTG	**Potrero Grande**	**1.09**	**212**	*i* P		**Pn**	**13 49 46.5**	**-0.1**
POTG				IAML			13 49 46.7	
	comp=Z,2μm,1.0s							
POTG				*i* S		**Sb**	**13 49 59.8**	**-0.6**
CTCR	**Cotoan**	**1

RIMA				IAML		13 50 09.4	
	comp=Z,180nm,1.0s						
OCHAL	**Ojochal**	**1.41**	**232**	*i* P	**Pb**	**13 49 52.4**	**+0.4**
OCHAL				IAML		13 49 53.1	
	comp=Z,5.2nm,1.0s						
OCHAL				*i* S	**Sn**	**13 50 10.5**	**+1.6**
CDITO	**Canoas**	**1.44**	**194**	*i* P	**Pg**	**13 49 54.2**	**+0.1**
CDITO				IAML		13 50 54.5	
	comp=Z,300nm,1.0s						
LCR2	**La Lucha 2**	**1.47**	**261**	*i* P	**Pg**	**13 49 54.0**	**-0.8**
LCR2				*i* S	**Sn**	**13 50 11.5**	**+0.7**
JACO	**JACO, Garabito**	**2.12**	**262**	*i* P	**Pb**	**13 50 04.4**	**+0.2**
JACO				IAML		13 50 53.4	
	comp=Z,40nm,1.0s						

*IDC **29** 13:50:36.5±1.3,34°.41N×45°.47E,h0km,mb3.6/6, mbtmp3.6/8,ML3.6/2,MS2.9/2,Error ellipse: s-maj=32.7km s-min=19.1km az=173.0*
*ISN **29** 13:50:39.4±1.0,34°.81N×45°.72E,h16km±999km,ML3.4*
*TEH **29** 13:50:40.2,34°.76N×45°.68E,h8km±30km,ML3.6*

ISC 29 13:50:41.4±1.0,**34°.68N**±0°.03×**45°.59E**±0°.04,**h27**km±9km, **n48,σ2§36/50,mb3.6/5,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.17**	**181**	Pg	**Pb**	**13 50 46.1**	**-0.8**
IDHR	**Dehrash**	**0.66**	**88**	Pg	**Pb**	**13 50 52.4**	**-2.0**
IGHG	**Ghaleghazi**	**0.88**	**113**	Pg	**Pb**	**13 50 57.5**	**-0.7**
ILIN	**Lien**	**1.15**	**78**	Pg	**Pn**	**13 51 01.9**	**-0.1**
ILBA	**Ilam Banvizeh**	**1.17**	**154**	Pg	**Pb**	**13 51 04.8**	**+1.8**
KCHF	**Cheshme Sefid,**	**1.26**	**108**	Pg	**Pb**	**13 51 04.5**	**-0.2**
SDS1	**Sardasht. Az.**	**1.47**	**357**	Pg	**Pb**	**13 51 08.1**	**-0.1**
IBDR	**Badra**	**1.59**	**170**	*e*Pn	**Pb**	**13 51 09.5**	**-0.5**
IBDR				*e*Sn	**Sb**	**13 51 33.0**	**+3.3**
IBDR				AML	AML	13 51 45.2	
	comp=E,446nm,0.6s						
IBDR				AML	AML	13 51 46.1	
	comp=N,474nm,0.7s						
IKOM	**Komasi**	**1.66**	**107**	Pg	**Pb**	**13 51 11.8**	**+0.4**
BHD	**Baghdad**	**1.73**	**216**	*e*Pn	**Pb**	**13 51 13.0**	**+0.6**
BHD				*e*Sn	**Sb**	**13 51 37.0**	**+3.3**
IBZA	**Bozab**	**1.88**	**96**	Pn	**Pb**	**13 51 15.2**	**0.0**
MAHB	**Mahabad**	**2.09**	**3**	Pn	**Pb**	**13 51 17.0**	**-1.6**
IALM	**Almabolaq**	**2.13**	**84**	Pn	**Pb**	**13 51 18.6**	**-0.8**
IKFM	**Kafar-mosalman**	**2.20**	**121**	Pn	**Pb**	**13 51 19.8**	**-0.5**
HSAM	**Samen**	**2.53**	**100**	Pn	**Pb**	**13 51 24.2**	**-2.1**
HAGD	**Aghdareh**	**2.93**	**86**	Pn	**Pn**	**13 51 29.5**	**+3.2**
IHSH	**Hashtrud**	**2.95**	**27**	Pn	**Pn**	**13 51 29.6**	**+2.8**
RAFI	**Al-Rafai**	**2.98**	**171**	*e*Pn	**Pb**	**13 51 30.0**	**-3.7**
RAFI				*e*Sn	**Sb**	**13 52 06.0**	**-3.7**
IAZR	**Azarshahr**	**3.01**	**6**	Pn	**Pn**	**13 51 29.9**	**+2.4**
QSDN	**Sirdan**	**3.44**	**57**	Pn	**Pn**	**13 51 36.0**	**+2.6**
ISRB	**Sarab**	**3.56**	**28**	Pn	**Pn**	**13 51 37.5**	**+2.5**
IRAZ	**Razeghan**	**3.63**	**77**	Pn	**Pn**	**13 51 38.5**	**+2.4**
IHRS	**Heris**	**3.82**	**17**	Pn	**Pn**	**13 51 40.5**	**+1.9**
AMIS	**Naft Sefid**	**4.32**	**133**	Pn	**Pn**	**13 51 48.1**	**+2.9**
IQOM	**Qom**	**4.51**	**86**	Pn	**Pn**	**13 51 50.6**	**+2.4**
GRMI	**Germi**	**4.52**	**23**	Pn	**Pn**	**13 51 50.6**	**+2.4**
KLST	**Kelardasht - M**	**4.82**	**66**	Pn	**Pn**	**13 51 55.3**	**+2.9**
IPIR	**Pirpir**	**4.85**	**113**	Pn	**Pn**	**13 51 54.8**	**+2.0**
JHBN	**Jahan bin**	**4.89**	**118**	Pn	**Pn**	**13 51 56.0**	**+2.5**
QAMS	**Qamsar**	**4.90**	**99**	Pn	**Pn**	**13 51 55.8**	**+2.3**
IVRN	**Varamin**	**5.06**	**85**	Pn	**Pn**	**13 51 58.1**	**+2.6**
ZNGN	**Zangian**	**5.09**	**119**	Pn	**Pn**	**13 51 58.8**	**+2.6**
IKLH	**Kolahrood**	**5.16**	**104**	Pn	**Pn**	**13 51 59.8**	**+2.8**
KRSH	**Karshahi**	**5.46**	**96**	Pn	**Pn**	**13 52 03.9**	**+2.8**
ISFB	**Sefidab**	**5.50**	**92**	Pn	**Pn**	**13 52 04.0**	**+2.5**
IZEF	**Zefreh**	**5.88**	**106**	Pn	**Pn**	**13 52 09.7**	**+2.7**
IFIR	**Firoozkooh**	**5.95**	**79**	Pn	**Pn**	**13 52 10.6**	**+2.7**
KLNJ	**Kolanjah**	**6.24**	**124**	Pn	**Pn**	**13 52 14.7**	**+2.8**
IRAM	**Ramesheh**	**6.37**	**115**	Pn	**Pn**	**13 52 16.3**	**+2.6**
MMAI	**Mount Meron Ar**	**8.63**	**262**	Pn	**Pn**	**13 52 42.8**	**-1.8**
	comp=N,0.6nm,0.3s,baz=90,slow=16,SNR=1.2						
MMAI				Pg		13 53 25.0	
	comp=N,0.5nm,0.3s,baz=77,slow=19,SNR=1.4						
MMAI				Lg	Lg	13 55 07.9	
	baz=19,slow=34 comp=N,0.4nm,0.3s						
EIL	**Elat**	**10.30**	**244**	LR	LR	13 58 00.9	
	comp=N,38nm,19.7s,baz=64,slow=44						
WSAR	**Wadi Sarin**	**16.11**	**132**	Pn	**Pn**	**13 54 22.5**	**-3.5**
	comp=N,0.2nm,0.3s,baz=342,slow=9.6,SNR=1.2 comp=N,3.2nm,0.8s						
AKASG	**Malin Array Be**	**19.96**	**328**	P	**P**	**13 55 11.5**	**+0.3**
	comp=N,0.1nm,0.3s,baz=131,slow=9.9,SNR=2.4 comp=N,0.1nm,0.3s						
BVAR	**Borovoye Array**	**25.41**	**36**	P	**P**	**13 56 09.0**	**+2.6**
	comp=N,0.7nm,0.6s,baz=226,slow=8.0,SNR=5.1 comp=N,0.7nm,0.6s						
MKAR	**Makanchi Array**	**30.06**	**55**	P	**P**	**13 56 50.6**	**+2.4**
	comp=N,0.7nm,0.7s,baz=255,slow=7.3,SNR=8.2						
MKAR				LR	LR	14 09 33.2	
	comp=N,43nm,18.1s,baz=34,slow=38 comp=N,0.7nm,0.7s						
HFS	**Hagfors**	**32.80**	**331**	P	**P**	**13 57 11.2**	**-0.9**
	comp=N,3.0nm,0.8s,baz=142,slow=7.3,SNR=4.3 comp=N,3.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**45.05**	**253**	P	**P**	**13 58 52.9**	**-2.1**
	comp=N,0.7nm,0.9s,baz=55,slow=6.6,SNR=1.6 comp=N,0.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**49.82**	**95**	P	**P**	**13 59 30.8**	**-1.4**
	comp=N,0.2nm,0.4s,baz=294,slow=7.9,SNR=1.4 comp=N,0.2nm,0.4s						

*IDC **29** 14:03:31.8±4.0,36°.13N×71°.30E,h43km±34km,mb3.5/4, mbtmp3.7/9,ML3.4/5,Error ellipse: s-maj=42.4km s-min=27.8km az=17.0*
*NNC **29** 14:03:42.2±8.5,37°.28N×70°.13E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=74.5km s-min=51.4km az=154.0*

ISC 29 14:03:32.8±1.4,**36°.3N**±0°.1×**71°.20E**±0°.09,**h50**km,**n21, σ2§30/24,mb3.8/4,4C,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.11**	**18**	P	**Pn**	**14 05 03.0**	**+2.1**
	SNR=28						
AML	**Almayashu**	**6.11**	**18**	⇑P	**Pn**	**14 05 05.7**	**+4.8**
	0.2nm,0.2s						
AML				⇑S	**Sn**	**14 06 11.6**	**+1.9**
	1.3nm,0.6s						
EKS2	**Erkin-Say**	**6.63**	**17**	P	**Pn**	**14 05 10.3**	**+2.5**
	SNR=11						
KK31	**Karatay Array**	**6.79**	**356**	P	**Pn**	**14 05 10.6**	**+0.8**
	2.3nm,0.5s,baz=192,slow=16,SNR=28						
KK31				⇑S	Sn	14 06 19.5	-6.3
	4.2nm,0.6s,baz=186,slow=22						
AAK	**Ala-Archa**	**6.80**	**21**	P	**Pn**	**14 05 12.4**	**+2.3**
	SNR=12						
AAK	**Ala-Archa**	**6.80**	**21**	P	**Pn**	**14 05 12.1**	**+2.0**
	2.3nm,0.3s,baz=183,slow=6.1,SNR=37						
AAK				S	**Sn**	**14 06 22.3**	**-3.9**
	1.5nm,0.5s,baz=341,slow=18,SNR=1.3 5.8nm,0.4s						
CHMS	**Chumysh**	**7.20**	**21**	P	**Pn**	**14 05 17.6**	**+2.1**
	SNR=5.5						
TKM2	**Tokmak 2**	**7.41**	**26**	P	**Pn**	**14 05 20.7**	**+2.2**
	SNR=5.3						
GEYT	**Ailbeck**	**10.56**	**283**	P	**Pn**	**14 06 03.2**	**+1.7**
	0.9nm,0.3s,baz=112,slow=11,SNR=8.4						
GEYT				S	**Sn**	**14 07 55.3**	**-3.2**
	2.9nm,0.4s,baz=42,slow=18,SNR=8.9 2.0nm,0.4s						
MKAR	**Makanchi Array**	**13.34**	**35**	P	**Pn**	**14 06 38.7**	**-0.7**
	baz=208,slow=15,SNR=2.8 0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**15.24**	**18**	P	**Pn**	**14 07 05.2**	**+0.6**
	baz=204,slow=11,SNR=2.1 0.2nm,0.6s						
AB31	**Akbulak array**	**15.31**	**331**	P	**Pn**	**14 07 03.7**	**-1.8**
	0.1nm,0.2s,baz=138,slow=12,SNR=22						
BVAR	**Borovoye Array**	**16.70**	**358**	P	**Pn**	**14 07 21.6**	**-1.6**
	0.3nm,0.4s,baz=158,slow=14,SNR=4.1						
AKTO	**Aktyubinsk**	**17.01**	**330**	P	**Pn**	**14 07 27.1**	**+0.1**
	0.5nm,0.3s,baz=139,slow=13,SNR=6.8 1.2nm,0.3s						
AKTO	**Aktyubinsk**	**17.01**	**330**	⇑P	**Pn**	**14 07 26.2**	**-0.8**
	1.4nm,0.7s						
ZALV	**Zalesovo Beam**	**20.01**	**24**	P	**P**	**14 07 57.9**	**-3.2**
	0.5nm,0.3s,baz=224,slow=12,SNR=2.5						
FINES	**FINESS Array B**	**37.71**	**326**	P	**P**	**14 10 43.9**	**+0.7**
	0.8nm,0.5s,baz=127,slow=8.8,SNR=4.6 0.8nm,0.5s						

HFS	**Hagfors**	**43.30**	**322**	P	**P**	**14 11 31.0**	**+1.6**
	2.2nm,0.5s,baz=98,slow=10,SNR=12 2.2nm,0.5s						
NB2	**NORSAR Subarra**	**44.61**	**323**	P	**P**	**14 11 41.7**	**+1.8**
	comp=Z,0.6nm,0.4s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.61**	**323**	P	**P**	**14 11 41.2**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=107,slow=7.1,SNR=6.8 comp=Z,0.5nm,0.4s						
WRA	**Warramunga Arr**	**81.77**	**122**	P	**P**	**14 15 45.5**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=328,slow=4.9,SNR=1.7 comp=Z,0.2nm,0.7s						

IDC 29 14:07:51.4±20.0,**38°.30S×94°.31W,h0km,mb3.7/3, mbtmp3.7/3,MS3.4/15,Error ellipse: s-maj=688.2km s-min=117.3km az=127.0,West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**13.22**	**75**	T	T	14 24 15.1	
	baz=246,slow=74,SNR=119						
H03S1	**Juan Fernandez**	**13.23**	**75**	T	T	14 24 20.9	
	baz=246,slow=74,SNR=139						
H03S3	**Juan Fernandez**	**13.23**	**75**	T	T	14 24 18.5	
	baz=246,slow=74,SNR=185						
H03N2	**Juan Fernandez**	**13.38**	**73**	T	T	14 24 30.7	
	baz=251,slow=72,SNR=85						
H03N3	**Juan Fernandez**	**13.38**	**73**	T	T	14 24 32.1	
	baz=251,slow=72,SNR=85						
H03N1	**Juan Fernandez**	**13.39**	**73**	T	T	14 24 27.9	
	baz=251,slow=72,SNR=117						
RPN	**Rapa Nui**	**16.83**	**307**	LR	LR	14 16 19.5	
	comp=Z,180nm,19.7s,baz=199,slow=30						
PLCA	**Paso Flores**	**18.48**	**105**	LR	LR	14 17 27.6	
	comp=Z,146nm,19.4s,baz=290,slow=31						
LVC	**Limon Verde**	**26.79**	**62**	LR	LR	14 21 20.3	
	comp=Z,100nm,20.1s,baz=225,slow=30						
NNA	**Nana**	**30.49**	**35**	LR	LR	14 23 03.7	
	comp=Z,54nm,18.4s,baz=208,slow=30						
CPUP	**Villa Florida**	**33.24**	**80**	LR	LR	14 25 48.9	
	comp=Z,56nm,19.0s,baz=236,slow=32						
ATAH	**Atahualpa**	**34.21**	**29**	LR	LR	14 25 27.4	
	comp=Z,47nm,18.5s,baz=329,slow=31						
SIV	**San Ignacio**	**36.69**	**62**	LR	LR	14 28 25.0	
	comp=Z,34nm,21.6s,baz=267,slow=34						
BDFB	**Brasilia**	**46.44**	**74**	LR	LR	14 34 19.2	
	comp=Z,65nm,19.8s,baz=315,slow=34						
SDV	**Santo Domingo**	**51.88**	**30**	LR	LR	14 37 02.1	
	comp=Z,54nm,19.5s,baz=322,slow=34						
PPT	**Papeete**	**52.21**	**277**	LR	LR	14 33 28.9	
	comp=Z,45nm,18.1s,baz=86,slow=30						
MDP	**Montagnes des**	**57.93**	**51**	LR	LR	14 39 55.8	
	comp=Z,22nm,20.9s,baz=258,slow=33						
RPZ	**Rata Peaks**	**67.73**	**231**	LR	LR	14 42 24.8	
	comp=Z,19nm,21.2s,baz=49,slow=31						
TXAR	**Lajitas Array**	**67.85**	**351**	P	P	14 18 50.8	-0.6
	0.9nm,0.9s,baz=168,slow=7.4,SNR=5.8 0.9nm,0.9s						
NVAR	**Mina Array Bea**	**79.48**	**341**	P	P	14 20 00.7	+1.0
	0.4nm,0.7s,baz=168,slow=4.6,SNR=3.9 0.4nm,0.7s						
PDAR	**Pinedale Array**	**81.87**	**349**	P	P	14 20 12.6	+0.1
	0.5nm,0.7s,baz=155,slow=6.7,SNR=4.7 0.5nm,0.7s						
DZM	**Mont Dzumac**	**83.49**	**247**	LR	LR	14 48 37.0	
	comp=Z,26nm,19.9s,baz=58,slow=29						
DBIC	**Dimbokro**	**93.66**	**84**	LR	LR	14 58 28.3	
	comp=Z,18nm,18.0s,baz=344,slow=32						
CTA	**Charters Tower**	**98.78**	**236**	LR	LR	15 02 47.9	
	comp=Z,33nm,18.6s,baz=301,slow=33						
SONM	**Songino Array**	**162.17**	**309**	PKPab	PKPab	14 28 40.5	-0.8
	0.3nm,0.6s,baz=27,slow=6.6,SNR=3.9						

IDC 29 14:17:11.6±48.0,**17°.89S×175°.34W,h0km,mb3.9/3, mbtmp3.9/3,Error ellipse: s-maj=913.1km s-min=167.7km az=80.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.21**	**242**	P	P	14 24 58.7	+0.4
	0.7nm,0.4s,baz=76,slow=11,SNR=4.4 0.7nm,0.4s						
WRA	**Warramunga Arr**	**47.51**	**259**	P	P	14 25 48.7	-0.2
	0.6nm,0.3s,baz=98,slow=7.3,SNR=42 0.6nm,0.3s						
ASAR	**Alice Springs**	**47.61**	**254**	P	P	14 25 49.3	-0.4
	0.9nm,0.4s,baz=86,slow=8.2,SNR=30 0.9nm,0.4s						

IDC 29 14:35:38.2±2.5,**7°.58S×128°.12E,h0km,mb3.6/1, mbtmp3.2/3,ML3.0/2,MS3.9/2,Error ellipse: s-maj=296.3km s-min=32.6km az=65.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.69**	**154**	Pn	Pn	14 38 53.8	0.0
	0.1nm,0.3s,baz=333,slow=13,SNR=13						
WRA				Sn	Sn	14 41 13.7	-13
	0.3nm,0.3s,baz=343,slow=24,SNR=10 0.3nm,0.6s						
ASAR	**Alice Springs**	**16.93**	**162**	Pn	Pn	14 39 36.8	0.0
	baz=342,slow=9.0,SNR=1.6						
ASAR				Sn	Sn	14 42 37.3	-8.5
	0.1nm,0.3s,baz=342,slow=24,SNR=2.0 0.2nm,0.8s						
HNR	**Honiara**	**31.52**	**96**	LR	LR	14 56 21.7	
	comp=Z,394nm,20.1s,baz=169,slow=39						
MKAR	**Makanchi Array**	**67.70**	**328**	P	P	14 46 37.5	0.0
	0.3nm,0.5s,baz=136,slow=7.4,SNR=5.9 0.3nm,0.5s						
LSZ	**Lusaka**	**97.51**	**254**	LR	LR	15 31 56.7	
	comp=Z,28nm,18.6s,baz=299,slow=35						

IDC 29 14:37:02.9±1.7,**7°.77S×118°.72E,h0km,mb3.6/3, mbtmp3.6/5,ML3.5/2,Error ellipse: s-maj=63.4km s-min=22.6km az=63.0,Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.92**	**21**	Pn	Pn	14 37 50.7	0.0
	1.8nm,0.3s,baz=187,slow=4.9,SNR=3.9						
KAPI				Sn	Sn	14 38 22.9	-3.6
	9.2nm,0.3s,baz=173,slow=23,SNR=10 16nm,0.2s						
WRA	**Warramunga Arr**	**19.38**	**130**	P	P	14 41 29.7	-0.8
	0.3nm,0.3s,baz=305,slow=12,SNR=5.6 0.3nm,0.3s						
ASAR	**Alice Springs**	**21.49**	**139**	P	P	14 41 54.9	+1.3
	0.9nm,0.5s,baz=315,slow=8.9,SNR=20 0.9nm,0.5s						
STKA	**Stephens Creek**	**32.08**	**141**	P	P	14 43 31.0	-0.8
	1.7nm,1.0s,baz=324,slow=14,SNR=1.6 1.7nm,1.0s						
MKAR	**Makanchi Array**	**63.24**	**333**	P	P	14 47 33.2	0.0
	0.4nm,0.5s,baz=152,slow=6.5,SNR=5.9 0.4nm,0.5s						

*SJA **29** 14:52:43.9±0.7,23°.95S×66°.81W,h222km±6km,ML3.8, MW3.7*

ISC 29 14:52:42.9±1.9,**23°.93S**±0°.05×**66°.86W**±0°.05, **h231**km±15km,**n37,σ1§80/62,5C,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.47**	**123**	*e*P	**Pn**	**14 53 20.2**	**+0.9**
AZAP	**Zapla**	**1.67**	**100**	*e*P	**Pn**	**14 53 21.4**	**+0.3**
YJA	**Yavi**	**2.15**	**36**	*e*P	**Pn**	**14 53 26.9**	**+1.2**
YJA				*e*S	**S**	**14 53 58.3**	**-0.9**
LVC	**Limon Verde**	**2.30**	**305**	*e*P	**Pn**	**14 53 28.6**	**+1.5**
LVC				*e*S	**S**	**14 54 01.6**	**0.0**
LVC	**Limon Verde**	**2.30**	**305**	⇑*i*P	**Pn**	**14 53 28.6**	**+1.5**
LVC				*e*S	**S**	**14 53 59.9**	**-1.7**
LVC				IAML		14 54 03.9	
	632nm,0.4s						
PB15	**IPOC Station P**	**2.50**	**286**	*e*P	**Pn**	**14 53 30.7**	**+1.7**
PB15	**IPOC Station P**	**2.50**	**286**	⇑*i*P	**Pn**	**14 53 30.7**	**+1.7**
PB15				*e*S	**S**	**14 54 03.6**	**-1.5**
PB15				IAML		14 54 08.7	
	comp=N,2μm,0.2s						
ALOL	**LOMAS DE OLMED**	**2.64**	**88**	*e*P	**Pn**	**14 53 30.9**	**+0.6**
GO02	**Mina Guanaco**	**2.77**	**243**	*e*P	**Pn**	**14 53 33.7**	**+1.7**
GO02				*e*S	**S**	**14 54 10.4**	**0.0**
GO02	**Mina Guanaco**	**2.77**	**243**	⇑*i*P	**Pn**	**14 53 33.8**	**+1.8**
GO02				*e*S	**S**	**14 54 10.1**	**-0.3**
GO02				IAML		14 54 13.4	
	comp=N,583nm,0.2s						
PB06	**IPOC Station P**	**2.77**	**296**	*e*P	**Pn**	**14 53 33.4**	**+1.5**
PB06				*e*S	**S**	**14 54 09.4**	**-0.8**
PB06				IAML		14 54 10.4	
	comp=Z,271nm,0.3s						
PB09	**IPOC Station P**	**3.05**	**314**	*e*P	**Pn**	**14 53 37.2**	**+2.1**
PB09				*e*S	**S**	**14 54 16.0**	**0.0**
PB09				IAML		14 54 18.0	
	comp=Z,232nm,0.4s						
PB09	**IPOC Station P**	**3.05**	**314**	⇑*i*P	**Pn**	**14 53 37.1**	**+2.1**
PB09				*e*S	**S**	**14 54 15.5**	**-0.4**
AHML	**Horco Molle**	**3.16**	**154**	*e*P	Pn	14 53 45.1	+9.1
PB05	**IPOC Station P**	**3.25**	**289**	*e*P	**Pn**	**14 53 38.5**	**+1.4**
PB05				IAML		14 54 23.2	
	comp=Z,86nm,0.4s						
PB05	**IPOC Station P**	**3.25**	**289**	*e*P	**Pn**	**14 53 38.7**	**+1.5**
PB05				*e*S	**S**	**14 54 17.4**	**-2.4**
PB05				IAML		14 54 20.6	
	comp=N,188nm,0.2s						
PB14	**IPOC Station P**	**3.30**	**257**	*e*P	**Pn**	**14 53 39.5**	**+1.5**
PB14				*e*S	**S**	**14 54 20.0**	**-1.2**
PB14				IAML		14 54 22.8	
	comp=Z,120nm,0.4s						
PB04	**IPOC Station P**	**3.42**	**297**	*e*P	**Pn**	**14 53 40.8**	**+1.6**
PB04				*e*S	**S**	**14 54 21.9**	**-1.5**
PB04				IAML		14 54 26.5	
	comp=Z,199nm,0.2s						
PB04	**IPOC Station P**	**3.42**	**297**	⇑*e*P	**Pn**	**14 53 40.7**	**+1.5**
PB04				*e*S	**S**	**14 54 21.2**	**-2.2**
PB04				IAML		14 54 26.8	
	comp=N,307nm,0.2s						
PB07	**IPOC Station P**	**3.55**	**308**	*e*P	**Pn**	**14 53 41.6**	**+0.9**
PB07				IAML		14 54 30.5	
	comp=Z,177nm,0.3s						
PB07	**IPOC Station P**	**3.55**	**308**	*i*P	**Pn**	**14 53 42.2**	**+1.5**
PB07				*i*S	**S**	**14 54 23.6**	**-2.6**
PB07				IAML		14 54 25.5	
	comp=E,440nm,0.3s						
PB01	**IPOC Station P**	**3.76**	**319**	*e*P	**Pn**	**14 53 44.1**	**+1.0**
PB01				IAML		14 54 37.3	
	comp=Z,91nm,0.4s						
PB01	**IPOC Station P**	**3.76**	**319**	*i*P	**Pn**	**14 53 44.7**	**+1.5**
PB01				*e*S	**S**	**14 54 28.5**	**-2.1**
PB01				IAML		14 54 32.7	
	comp=N,191nm,0.2s						
PB02	**IPOC Station P**	**3.82**	**312**	*e*P	**Pn**	**14 53 45.1**	**+1.3**
PB02				IAML		14 54 35.3	
	comp=Z,282nm,0.3s						
PB02	**IPOC Station P**	**3.82**	**312**	*e*P	**Pn**	**14 53 45.2**	**+1.4**
PB02				*e*S	**S**	**14 54 29.1**	**-2.8**
PB02				IAML		14 54 30.9	
	comp=E,388nm,0.2s						
AC01	**Pan de Azucar**	**4.04**	**236**	*e*P	**Pn**	**14 53 47.4**	**+1.1**
AC01				*e*S	**S**	**14 54 34.4**	**-2.1**
AC01				IAML		14 54 36.5	
	comp=Z,55nm,0.4s						
PB08	**IPOC Station P**	**4.33**	**330**	*e*P	**Pn**	**14 53 52.4**	**+2.1**
PB08				*e*S	**S**	**14 54 43.1**	**-0.3**
PB08				IAML		14 54 45.9	
	comp=Z,39nm,0.2s						
PB08	**IPOC Station P**	**4.33**	**330**	*e*P	**Pn**	**14 53 53.4**	**+3.2**
PB08				*e*S	**S**	**14 54 42.4**	**-1.1**
PB08				IAML		14 54 45.9	
	comp=E,92nm,0.5s						
PATCX	**Punta Patache**	**4.34**	**315**	*e*P	**Pn**	**14 53 50.7**	**+0.6**
TA01	**Diego Aracena**	**4.55**	**317**	*e*P	**Pn**	**14 53 53.8**	**+1.2**
TA01				*e*S	**S**	**14 54 44.0**	**-3.6**
TA01	**Diego Aracena**	**4.55**	**317**	*e*P	**Pn**	**14 53 54.0**	**+1.5**
TA01				*e*S	**S**	**14 54 45.0**	**-2.6**
TA01				IAML		14 54 47.5	
	comp=N,114nm,0.5s						
HMBC	**Humberstone**	**4.59**	**322**	*e*P	**Pn**	**14 53 53.6**	**+0.4**
HMBC				*e*S	**S**	**14 54 46.3**	**-2.6**
HMBC	**Humberstone**	**4.59**	**322**	*e*P	**Pn**	**14 53 54.7**	**+1.5**
HMBC				*e*S	**S**	**14 54 44.7**	**-4.2**
GO03	**Copiap**	**4.75**	**219**	*e*P	**Pn**	**14 53 55.9**	**+1.0**
GO01	**Chusmiza**	**4.76**	**333**	*e*P	**Pn**	**14 53 58.3**	**+2.6**
GO01				*e*S	**S**	**14 54 53.3**	**0.0**
GO01	**Chusmiza**	**4.76**	**333**	*e*P	**Pn**	**14 53 58.9**	**+3.2**
GO01				*e*S	**S**	**14 54 52.9**	**-0.4**
GO01				IAML		14 54 54.6	
	comp=N,113nm,0.3s						
PB11	**IPOC Station P**	**4.89**	**327**	*e*P	**Pn**	**14 53 57.8**	**+0.8**
PB11				*e*S	**S**	**14 54 53.2**	**-2.5**
PB11				IAML		14 54 58.0	
	comp=Z,61nm,0.3s						

*MOS **29** 14:59:51.7±1.0,36°.60N×71°.26E,h221km,mb4.4/32,Error ellipse: s-maj=5.0km s-min=3.3km az=85.7*
*BJI **29** 14:59:52.8,36°.75N×71°.27E,h223km,mb4.6/54,mB4.9/24*
*IDC **29** 14:59:53.6±0.5,36°.51N×71°.25E,h228km±3km,mb3.9/36, mbtmp4.6/40,Error ellipse: s-maj=9.0km s-min=6.8km az=1.0*
*NEIC **29** 14:59:53.3±1.8,36°.66N±0°.06×71°.16E±0°.09,h221km±6km, mb4.5/102,Error ellipse: s-maj=10.2km s-min=8.9km az=78.0*
*NNC **29** 14:59:57.8±2.0,37°.12N×71°.10E,h232km±26km,mb4.0, mpv5.5,Error ellipse: s-maj=20.4km s-min=12.6km az=14.0*

ISC 29 14:59:52.5±0.3,**36°.55N**±0°.03×**71°.24E**±0°.03,**h219**km±2km, **h219**km:**pP-P,n509,σ1§69/588,mb4.4/127,39C-16D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.69**	**222**	Pn	**Pn**	**15 00 40.8**	**+0.8**

MRKS **Merke** 6.37 13 Pg Pn 15 01 24.5 -0.3
comp=N,532nm,0.2s
MRKS Lg Lg 15 02 31.2
comp=N,1µm,0.3s
EKS2 **Erkin-Say** 6.41 17 P Pn 15 01 25.0 -0.3
SNR=437
KK31 **Karatay Array** 6.57 355 Pn 15 01 26.4 -0.9
KK31 **Karatay Array** 6.57 355 PN Pn 15 01 26.4 -0.9
KK31 **Karatay Array** 6.57 355 ⇑P Pn 15 01 25.8 -1.4
comp=N,17nm,0.2s,baz=178,slow=12,SNR=483
KK31 ⇓S S 15 02 34.9 -7.8
comp=N,109nm,0.3s,baz=185,slow=21,SNR=12
KKAR **Karatay Array** 6.57 355 Pn 15 01 26.3 -0.9
KKAR **Karatay Array** 6.57 355 Pn 15 01 26.4 -0.9
KKAR **Karatay Array** 6.57 355 PN Pn 15 01 26.4 -0.9
AAK **Ala-Archa** 6.58 21 P Pn 15 01 27.4 -0.1
SNR=468
AAK **Ala-Archa** 6.58 21 Pn Pn 15 01 27.3 -0.1
AAK **Ala-Archa** 6.58 21 P Pn 15 01 27.5 -0.1
AAK S S 15 02 40.9 -2.1
AAK **Ala-Archa** 6.58 21 *ce*PN Pn 15 01 27.2 -0.3
AAK pmax pmax
comp=Z,486nm,1.7s
AAK **Ala-Archa** 6.58 21 P Pn 15 01 27.4 -0.1
comp=Z,218nm,0.3s,baz=181,slow=6.6,SNR=1269
AAK S S 15 02 40.1 -2.9
comp=Z,113nm,0.6s,baz=234,slow=16,SNR=5.6
BHK **Bhakra** 6.68 139 *e*P Pn 15 01 29.4 +0.5
BHK *e*S S 15 02 42.8 -2.7
BHK IAML 15 02 46.4
comp=N,671nm,0.2s
BHK IAML 15 02 47.7
comp=E,543nm,0.3s
KBK **Karagaybulak** 6.73 24 P Pn 15 01 29.8 +0.2
SNR=263
FRU1 **Bishkek** 6.77 22 Pn Pn 15 01 30.4 +0.5
FRU1 **Bishkek** 6.77 22 PN Pn 15 01 30.4 +0.5
ULHL **Ulahol** 6.88 33 P Pn 15 01 30.6 -0.8
SNR=407
BOOM **Boomskoye usch** 6.95 30 Pn Pn 15 01 32.2 -0.1
BOOM **Boomskoye usch** 6.95 30 PN Pn 15 01 32.2 -0.1
CHMS **Chumysh** 6.98 22 P Pn 15 01 31.6 -1.0
SNR=198
CHMS **Chumysh** 6.98 22 ⇑P Pn 15 01 32.0 -0.6
comp=E,39nm,0.5s
CHMS ⇑S S 15 02 48.1 -4.2
comp=E,402nm,1.8s
USP **Ospenovka** 7.16 19 P Pn 15 01 33.8 -1.0
SNR=79
TKM2 **Tokmak 2** 7.19 26 P Pn 15 01 35.3 -0.1
SNR=841
TKM2 **Tokmak 2** 7.19 26 *i* PN Pn 15 01 34.9 -0.5
TKM2 pmax pmax
comp=Z,371nm,0.5s
TKM2 **Tokmak 2** 7.19 26 ⇑P Pn 15 01 35.0 -0.5
comp=Z,371nm,0.5s
TKM2 ⇓S S 15 02 53.7 -3.8
comp=Z,452nm,1.1s
TARG **Taragay, Kyrgy** 7.26 43 Pn Pn 15 01 35.4 -1.1
TARG **Taragay, Kyrgy** 7.26 43 PN Pn 15 01 35.4 -1.1
SMLA **Simla** 7.32 136 *e*P Pn 15 01 37.4 +0.5
SMLA *e*S S 15 02 56.5 -3.8
SMLA IAML 15 03 00.0
comp=N,723nm,0.5s
SMLA IAML 15 03 01.1
comp=E,879nm,0.2s
SGDS **Sogindy** 7.37 20 ⇑ *i*P Pn 15 01 36.3 -1.2
comp=E,16nm,0.4s,baz=19
SGDS **Sogindy** 7.37 20 *c i*PN Pn 15 01 36.3 -1.2
SGDS pmax pmax
comp=Z,16nm,0.4s
KST **Kastek** 7.43 28 Pg Pn 15 01 38.4 0.0
comp=Z,392nm,0.2s
KST Lg Lg 15 02 56.4
comp=Z,136nm,0.6s
HRA **Herat** 7.65 256 Pn 15 01 41.4 -0.1
KLP **Kalpa** 7.67 129 *e*P Pn 15 01 42.6 +0.7
KLP *e*S S 15 03 03.4 -5.7
MTBS **Maitube** 7.68 30 Pg Pn 15 01 41.9 +0.2
comp=Z,165nm,0.2s
MTBS Lg Lg 15 03 02.4
comp=Z,91nm,0.5s
TNSS **Tian-Shan** 7.82 32 ⇑ *i*P Pn 15 01 43.4 -0.4
baz=32
TNSS *e*S S 15 03 11.1 -1.5
baz=32
TNSS **Tian-Shan** 7.82 32 ⇑ *i*PN Pn 15 01 43.3 -0.4
TNSS *e*S S 15 03 11.1 -1.5
AAA **Alma-Ata** 7.95 31 *e*P Pn 15 01 45.7 +0.6
baz=31
AAA **Alma-Ata** 7.95 31 *e*PN Pn 15 01 45.6 +0.6
MDOK **Medeo** 7.97 32 *i* P Pn 15 01 45.2 -0.3
baz=32
MDOK *e*S S 15 03 14.9 -0.8
baz=32
MDOK **Medeo** 7.97 32 *i* PN Pn 15 01 45.1 -0.3
MDOK *e*S S 15 03 14.9 -0.8
MDOK **Medeo** 7.97 32 ⇓P Pn 15 01 45.0 -0.4
comp=Z,65nm,0.4s
KNDC **Almaty** 7.98 32 PN Pn 15 01 45.6 +0.2
KNDC **Almaty** 7.98 32 ⇑P Pn 15 01 45.6 +0.2
comp=Z,265nm,0.4s
PRZ **Przheval'sk** 8.10 41 Pn Pn 15 01 45.8 -1.3
PRZ **Przheval'sk** 8.10 41 PN Pn 15 01 45.8 -1.3
KUU **Kurty** 8.30 26 ⇑ *i*P Pn 15 01 47.9 -1.7
baz=26
KUU **Kurty** 8.30 26 *c i*PN Pn 15 01 47.8 -1.7
CHKK **Chushkaly** 8.51 29 *i* P Pn 15 01 51.0 -1.3
baz=29
CHKK **Chushkaly** 8.51 29 *i* PN Pn 15 01 50.9 -1.3
SATY **Saty** 8.52 38 ⇑ *i*P Pn 15 01 51.4 -1.1
baz=38
SATY **Saty** 8.52 38 *c i*PN Pn 15 01 51.4 -1.1
ZHN **Zhinishke** 8.61 38 *e*P Pn 15 01 52.8 -0.9
baz=38
ZHN **Zhinishke** 8.61 38 *e*PN Pn 15 01 52.7 -0.9
BTLS **Baital** 8.74 13 ⇑ *i*P Pn 15 01 54.2 -1.0
baz=13
BTLS **Baital** 8.74 13 *c i*PN Pn 15 01 54.2 -1.0
UZB **Uzynbulak** 8.89 40 *i* P Pn 15 01 56.2 -1.1
comp=Z,8.4nm,0.4s,baz=40
UZB **Uzynbulak** 8.89 40 *i* PN Pn 15 01 56.2 -1.1
UZB pmax pmax
comp=Z,8.0nm,0.4s
KPKS **Kokpek** 8.96 37 ⇑ *i*P Pn 15 01 57.2 -0.9
comp=Z,11nm,0.4s,baz=37
KPKS **Kokpek** 8.96 37 *c i*PN Pn 15 01 57.2 -0.9
KPKS pmax pmax
comp=Z,11nm,0.4s
SHLS **Shalkode** 9.13 41 ⇑ *i*P Pn 15 02 02.2 +1.9
comp=Z,20nm,0.7s,baz=42
SHLS **Shalkode** 9.13 41 *c i*P Pn 15 02 02.2 +1.9
SHLS pmax pmax
comp=Z,20nm,0.7s
JOSI **Joshimath** 9.16 128 *e*P Pn 15 02 01.8 +0.9
JOSI *e*S S 15 03 37.4 -6.6
PDGK **Podgornoye** 9.27 41 P Pn 15 02 00.4 -1.7
PDGK S S 15 03 38.2 -8.1
PDGK **Podgornoye** 9.27 41 ⇑P Pn 15 02 03.3 +1.3
comp=Z,60nm,1.0s
PDGK S S 15 03 37.4 -8.8
NDI **New Delhi** 9.32 146 *e*P Pn 15 02 02.9 +0.1
NDI *e*S S 15 03 40.0 -7.7
NDI IAML 15 03 44.4
comp=N,102nm,0.4s
NDI IAML 15 03 46.6
comp=E,120nm,0.4s
KUDL **Kundal** 9.48 151 *e*P Pn 15 02 04.1 -0.7
KUDL *e*S S 15 03 44.5 -6.9
JASL **Jaisalmer** 9.60 182 *e*P Pn 15 02 06.6 +0.1
JASL *e*S S 15 03 49.4 -5.0
SONA **Sohna** 9.63 148 *e*P Pn 15 02 06.9 0.0
SONA *e*S S 15 03 47.9 -7.1
UGON **Onchagaon** 9.96 144 *e*P Pn 15 02 10.9 -0.1
UGON *e*S S 15 03 57.3 -5.5
TDK **Taldyqorghan** 10.03 31 *e*P Pn 15 02 10.5 -1.4
baz=30
TDK **Taldyqorghan** 10.03 31 *e*P Pn 15 02 10.4 -1.4
PTH **Pithoragarh** 10.26 130 *e*P Pn 15 02 14.0 -1.1
PTH *e*S S 15 04 03.8 -6.5
LGTI **Lohaghat** 10.35 131 *e*P Pn 15 02 15.2 -0.8
LGTI *e*S S 15 04 04.2 -7.9
LGTI IAML 15 04 09.3
comp=E,88nm,0.5s
AJM **Ajmer** 10.45 163 *e*P Pn 15 02 17.4 +0.1
AJM IAML 15 04 22.0
comp=N,52nm,0.5s
GEYT **Alibeck** 10.56 281 P Pn 15 02 16.6 -1.9
comp=N,8.7nm,0.3s,baz=127,slow=14,SNR=32
GEYT S S 15 04 10.5 -6.4
comp=N,29nm,0.5s,baz=70,slow=43,SNR=2.7
GYA0 **ALIBECK ARRAY** 10.56 281 P Pn 15 02 16.6 -2.0
GYA0B **ALIBECK ARRAY** 10.56 281 Pn Pn 15 02 16.6 -2.0
MAKZ **Makanchi** 13.00 35 Pn Pn 15 02 48.3 -1.0
MAKZ **Makanchi** 13.00 35 P Pn 15 02 48.3 -1.0
MAKZ **Makanchi** 13.00 35 ⇑P Pn 15 02 48.0 -1.3
comp=N,31nm,0.5s
PYUN **Piuthan** 13.02 127 *e*P Pn 15 02 49.1 -0.7
comp=N,210nm,0.5s
PYUN *e*S S 15 05 06.4 -7.6
MK31 **Makanchi Array** 13.13 35 Pn Pn 15 02 49.6 -1.3
MK31 **Makanchi Array** 13.13 35 *ce*P Pn 15 02 49.6 -1.3
MK31 **Makanchi Array** 13.13 35 P Pn 15 02 49.5 -1.4
comp=N,6.2nm,0.5s,baz=213,slow=10,SNR=215
MKAR **Makanchi Array** 13.13 35 P Pn 15 02 49.7 -1.2
comp=N,5.2nm,0.4s,baz=211,slow=13,SNR=102
MKAR S S 15 05 16.8 +0.6
comp=N,1.1nm,0.4s,baz=303,slow=23,SNR=3.0
DANN **Dangsing** 13.35 124 *e*P Pn 15 02 53.7 -0.4
comp=N,97nm,0.4s
BRZS **Berezniki** 13.46 4 *e*P Pn 15 02 53.3 -1.7
baz=3.8
BRZS **Berezniki** 13.46 4 *e*P Pn 15 02 53.3 -1.7
KOLN **Koldanda** 13.63 126 *e*P Pn 15 02 57.2 -0.2
KOLN **Koldanda** 13.63 126 *e*P Pn 15 02 57.3 -0.2
NGCH **Negor - Chabah** 14.12 221 P Pn 15 03 05.6 +1.1
GKN **Gorkha** 14.17 123 *e*P Pn 15 03 03.7 -0.3
comp=N,354nm,0.5s
WMQ **Urumqi** 14.51 55 *e*P Pn 15 03 08.0 +0.1
WMQ S S 15 05 45.5 -2.8
WMQ pmax pmax
comp=N,24nm,0.9s
DMN **Daman** 14.74 123 *e*P Pn 15 03 11.2 +0.1
comp=N,199nm,0.4s
KKN **Kakani** 14.74 122 *e*P Pn 15 03 10.6 -0.4
comp=N,376nm,0.5s
KKN **Kakani** 14.74 122 *e*P Pn 15 03 11.0 0.0
ZSN **Zaisan** 14.85 39 *e*P Pn 15 03 11.3 -0.7
baz=38
ZSN **Zaisan** 14.85 39 *e*P Pn 15 03 11.2 -0.7
PKI **Pulchoki** 14.97 123 *e*P Pn 15 03 13.9 0.0
comp=N,294nm,0.4s
KURBB **Kurchatov Arra** 15.01 18 P Pn 15 03 11.9 -1.9
comp=N,4.7nm,0.3s,baz=205,slow=11,SNR=28
KURBB sP sP 15 04 10.9
comp=N,1.6nm,0.3s,baz=210,slow=12,SNR=2.4
KURBB S S 15 05 58.9 -0.8
comp=N,1.3nm,0.3s,baz=194,slow=27,SNR=4.1
GUN **Gumba** 15.07 121 *e*P Pn 15 03 15.2 0.0
comp=N,294nm,0.4s
KURK **Kurchatov** 15.12 18 Pn 15 03 13.3 -1.8
KURK IAmb IAmb 15 03 41.3
comp=Z,16nm,1.1s
KURK **Kurchatov** 15.12 18 *ce*P Pn 15 03 13.2 -2.0
KURK pmax pmax
comp=Z,29nm,1.7s
AB31 **Akbulak array** 15.13 331 P Pn 15 03 13.8 -1.5
AB31 *i* S S 15 06 01.5 -1.1
AB31 **Akbulak array** 15.13 331 ⇓P Pn 15 03 13.9 -1.5
comp=Z,7.4nm,0.4s,baz=138,slow=12,SNR=651
ABKAR **Akbulak array** 15.13 331 Pn 15 03 13.9 -1.5
ABKAR **Akbulak array** 15.13 331 Pn 15 03 14.1 -1.3
ABKAR IAmb IAmb 15 03 18.9
comp=Z,24nm,0.9s
SEM **Semipalatinsk** 15.30 22 *e*P P 15 03 16.0 -1.5
baz=22
SEM **Semipalatinsk** 15.30 22 *e*P P 15 03 16.0 -1.5
JIRN **Jiri** 15.44 121 *e*P Pn 15 03 20.1 +0.4
comp=Z,283nm,0.4s
JASK **Jask - Hormozg** 15.62 231 P Pn 15 03 21.8 +0.4
RAMN **Ramite** 16.18 122 *e*P Pn 15 03 29.0 +0.6
comp=Z,144nm,0.4s
BVA0 **Borovoye Array** 16.48 358 P Pn 15 03 32.1 +0.7
comp=Z,0.7nm,0.5s,baz=163,slow=13,SNR=88
BVAR **Borovoye Array** 16.48 358 P Pn 15 03 32.1 +0.7
comp=Z,7.8nm,0.4s,baz=158,slow=11,SNR=62
BVAR sP sP 15 04 30.0 -4.5
comp=Z,12nm,0.7s,baz=182,slow=14,SNR=3.1
BVAR S S 15 06 26.9 -4.6
comp=Z,3.0nm,0.7s,baz=179,slow=25,SNR=2.1
BRVK **Borovoye** 16.52 358 Pn Pn 15 03 32.7 +0.8
BRVK IAmb IAmb 15 03 35.3
comp=Z,12nm,0.7s
BRVK **Borovoye** 16.52 358 P Pn 15 03 32.5 +0.6
BRVK S S 15 06 32.6 +0.4
BRVK **Borovoye** 16.52 358 *ce*P P 15 03 31.3 +0.6
BRVK pmax pmax
comp=Z,11nm,0.6s
BRVK **Borovoye** 16.52 358 P Pn 15 03 32.5 +0.6
AKL **Akola** 16.58 161 *e*S S 15 06 32.5 -1.5
BANOM **Banah** 16.58 234 P Pn 15 03 33.4 +0.4
SHME **Shamm** 16.60 235 P Pn 15 03 33.1 0.0
SHME **Shamm** 16.60 235 P Pn 15 03 33.2 0.0
TAPN **Taplejung** 16.70 119 *e*P Pn 15 03 35.2 +0.6
comp=Z,142nm,0.4s
ODAN **Odare** 16.78 121 *e*P Pn 15 03 36.0 +0.5
ODAN **Odare** 16.78 121 *e*P Pn 15 03 36.4 +0.9
AKTO **Aktyubinsk** 16.83 330 P Pn 15 03 35.0 -0.7
AKTO **Aktyubinsk** 16.83 330 P Pn 15 03 35.0 -0.7
comp=Z,21nm,0.3s,baz=146,slow=6.5,SNR=75
AKTO S S 15 06 34.5 -4.0
comp=Z,2.6nm,0.5s,baz=304,slow=19,SNR=1.4
AKTO **Aktyubinsk** 16.83 330 ⇓P P 15 03 34.3 +0.1
comp=Z,9.1nm,0.4s
MASF **Masafi** 17.05 233 P Pn 15 03 38.9 +0.3
SNR=8.5
MSFE **Esma-Masafi** 17.06 233 *i* P Pn 15 03 38.2 -0.4
SNR=11
WSAR **Wadi Sarin** 17.17 223 P Pn 15 03 40.5 +0.6
WSAR **Wadi Sarin** 17.17 223 P Pn 15 03 39.8 -0.1
comp=Z,15nm,0.5s,baz=75,slow=5.8,SNR=42
UMQ **Umm Al-Quwin** 17.27 235 P Pn 15 03 41.7 +0.6
HATD **Hatta, Dubai** 17.45 232 *i* P P 15 03 41.9 +0.7
SNR=16
HATD **Hatta, Dubai** 17.45 232 P Pn 15 03 42.3 -0.9
SNR=9.6
ASHO **Ashiyiah** 17.60 232 *i* P P 15 03 43.7 +0.8
SNR=22
ASHO **Ashiyiah** 17.60 232 P Pn 15 03 44.0 -1.0
SNR=17
DGZ **Jazzator, Alta** 17.62 37 *d i*P P 15 03 43.8 +0.8
SMDO **Samad** 17.64 224 P Pn 15 03 45.1 -0.3
NAZ **Nazwa, Dubai** 17.64 234 P P 15 03 44.1 +0.9
SNR=6.4
JLN **Jalan Bani Buh** 17.65 219 P Pn 15 03 45.8 +0.3
SOHO **SOHO** 17.70 230 P P 15 03 44.0 +0.1
SOHO **SOHO** 17.70 230 P P 15 03 43.2 -0.7
FAQ **Al Faqa, Dubai** 17.86 233 P P 15 03 45.8 +0.2
FAQ **Al Faqa, Dubai** 17.86 233 P P 15 03 46.0 +0.5
LKRN **Lenkeran, Azer** 17.92 284 P P 15 03 45.6 -0.5
LSA **Lhasa** 18.00 107 Pn 15 03 50.3 +0.2
LSA **Lhasa** 18.00 107 P Pn 15 03 51.0 +0.9
LSA **Lhasa** 18.00 107 P Pn 15 03 50.3 +0.2
LSA pmax pmax
comp=Z,44nm,0.7s
ASUD **Al Ashush, Dub** 18.11 233 *i* P P 15 03 48.9 +0.6
SNR=24
ASUD **Al Ashush, Dub** 18.11 233 P P 15 03 49.5 +1.2
JMDO **Jabal Madar** 18.16 222 P Pn 15 03 50.9 -0.6
ALNE **Al Ain** 18.25 231 *i* P P 15 03 50.2 +0.4
SNR=18
ALNE **Al Ain** 18.25 231 P P 15 03 50.5 +0.7
SNR=6.6
ARQ **Araqi** 18.30 228 P P 15 03 51.9 +1.4
BSY **Bisya** 18.36 225 P Pn 15 03 53.2 -0.8
AJN **Ajban** 18.38 234 P P 15 03 51.3 +0.1
AJN **Ajban** 18.38 234 P P 15 03 51.8 +0.6
GOMU **GeErMu** 18.98 84 P P 15 04 00.5 +2.5
GOMU pP Pn 15 04 04.3 +2.9
GOMU pmax pmax
comp=Z,16nm,0.7s
SEKA **Sheki** 19.27 291 P P 15 03 59.3 -1.4
MAK **Makhachkala** 19.31 297 *e*P P 15 03 59.6 -1.4
MAK *e*S S 15 07 27.2 -0.4
MAK pmax pmax
comp=Z,35nm,0.3s
MHTO **MHTO** 19.36 220 P Pn 15 04 03.9 -1.7
SNR=6.3
ZAA0 **Zalesovo Array** 19.79 24 P P 15 04 06.0 -0.1
ZAA0 IAmb IAmb 15 04 47.5
comp=Z,29nm,1.2s
ZALV **Zalesovo Beam** 19.79 24 P P 15 04 05.7 -0.3
ZALV **Zalesovo Beam** 19.79 24 P P 15 04 05.9 -0.1
comp=Z,12nm,0.4s,baz=225,slow=10,SNR=25
ZALV sP sP 15 05 12.0 +0.4
comp=Z,9.8nm,0.7s,baz=227,slow=10.0,SNR=1.7
ZALV S S 15 07 32.4 -4.3
comp=Z,2.8nm,0.7s,baz=211,slow=22,SNR=2.6
SHMA **Al-Shehemyia** 20.32 244 P P 15 04 12.1 0.0
DQM **DQM** 20.46 220 P P 15 04 15.6 +2.0
SAKB **Bahrain** 20.56 245 P P 15 04 14.6 0.0
SHL **Shillong** 20.75 116 P P 15 04 17.8 +0.9
SHL **Shillong** 20.75 116 P P 15 04 17.6 +0.8
SNR=54
SHL **Shillong** 20.75 116 P P 15 04 17.8 +0.9
SHL pmax pmax
comp=Z,168nm,1.1s
TRNA **Turayna** 20.83 241 P P 15 04 17.1 -0.3
GNI **Garni** 21.07 288 P P 15 04 19.5 -0.5
GNI **Garni** 21.07 288 P P 15 04 21.7 +1.7
GNI **Garni** 21.07 288 *ce*P P 15 04 22.2 +2.2
GNI pmax pmax
comp=Z,45nm,1.3s
GNI **Garni** 21.07 288 P P 15 04 20.9 +0.9
comp=Z,11nm,0.5s,baz=136,slow=9.1,SNR=6.5
comp=Z,11nm,0.5s
SMRA **Abu-Samra** 21.10 242 P P 15 04 20.5 +0.3
ARU **Arti** 21.65 341 P P 15 04 26.1 +0.6
ARU IAmb IAmb 15 04 28.2
comp=Z,9.8nm,0.8s
ARU **Arti** 21.65 341 *c i*P P 15 04 26.0 +0.6
ARU S S 15 08 13.1 +3.4
ARU pmax pmax
comp=Z,20nm,1.3s
ARU **Arti** 21.65 341 P P 15 04 25.9 +0.5
comp=Z,3.8nm,0.3s,baz=148,slow=6.7,SNR=8.9
ARU sP sP 15 05 32.1 +1.5
comp=Z,5.2nm,0.4s,baz=158,slow=8.5,SNR=2.7
comp=Z,3.8nm,0.3s
ZEI **Tsey** 21.89 295 *e*P P 15 04 28.8 +0.5
ZEI pmax pmax
comp=Z,15nm,1.4s
ONI **Oni** 22.20 294 P P 15 04 31.5 +0.5
ONI **Oni** 22.20 294 P P 15 04 31.5 +0.5
ONI pmax pmax
comp=Z,65nm,1.4s
NCK **Nalchik** 22.22 297 *i* P P 15 04 31.6 +0.6
NCK pmax pmax
comp=Z,20nm,1.0s
GTA **Gaotai** 22.66 74 P P 15 04 37.3 +2.0
GTA sP sP 15 05 46.5 +3.5
GTA ScS ScS 15 15 18.8 -3.9
GTA pmax pmax
comp=Z,16nm,0.9s
KBZ **Khabaz** 22.75 297 *ce*P P 15 04 35.9 +0.1
KBZ pmax pmax
comp=Z,9.0nm,1.0s
KBZ **Khabaz** 22.75 297 P P 15 04 36.6 +0.8
comp=Z,5.3nm,1.0s,baz=303,slow=3.5,SNR=8.6
comp=Z,5.3nm,1.0s
GOF **Gofitskoye** 22.89 301 *ce*P P 15 04 39.7 +2.6
KIV **Kislovodsk** 22.94 298 *d i*P P 15 04 38.9 +1.3
KIV *e**PP pP 15 05 14.1 -2.6
KIV S S 15 08 30.0 -1.0
KIV pmax pmax
comp=Z,5.0nm,0.8s
BELG **Belogornoye** 22.97 321 P P 15 04 38.7 +1.0
comp=Z,121nm,1.0s,baz=30,slow=0.7,SNR=23
BELG pP pP 15 05 18.5 +1.5
comp=Z,71nm,0.9s,baz=126,slow=5.0,SNR=4.0
comp=Z,121nm,1.0s
SHAO **Shalim** 23.04 221 *i* P P 15 04 40.7 +2.1
SNR=11
SHAO **Shalim** 23.04 221 P P 15 04 40.8 +2.1
DMTO **DMTO** 23.65 222 P P 15 04 45.6 +1.4
WHFO **Wadi Hawf** 24.13 224 P P 15 04 49.2 +0.5
RBK **Rabkut** 24.23 223 P P 15 04 50.2 +0.7
ABTO **Aybut** 24.85 224 P P 15 04 56.0 +0.8
SOC **Sochi** 25.02 296 *e*P P 15 04 54.7 -1.7
SOC *e**PP pP 15 05 37.3 -1.7
SOC *e**SP sP 15 06 04.3 -1.3
SOC *e*S S 15 09 02.0 -1.9
MND **Mandalay** 25.98 117 P P 15 05 06.3 +1.0
TNCH **TengChong** 26.00 109 P P 15 05 08.0 +2.3
TNCH PP PnPn 15 05 59.0 +0.8
TNCH S S 15 09 21.3 +1.2
TNCH pmax pmax
comp=Z,29nm,1.3s
TNCH LR LR
comp=Z,150nm,4.9s
TNCH LR LR
comp=Z,150nm,5.3s
TNCH LR LR
comp=Z,110nm,8.5s
LZH **Lanzhou** 26.21 81 *e*P P 15 05 09.0 +1.6
LZH pP pP 15 05 52.0 -0.2
LZH pmax pmax
comp=Z,11nm,1.2s
KIRV **Kirov** 26.28 334 *ce*P P 15 05 08.0 +0.5
ZAK **Zakamensk** 26.81 49 *e*P P 15 05 13.7 +1.2
ZAK pmax pmax
comp=Z,5.0nm,1.1s
PZH **PanZhiHua** 27.76 102 P P 15 05 22.8 +1.6
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,160nm,4.5s
SONM **Songino Array** 28.14 55 P P 15 05 25.9 +1.5
comp=Z,3.9nm,0.8s,baz=264,slow=8.7,SNR=23
SONM pP pP 15 06 11.6 +2.1
comp=Z,3.7nm,0.9s,baz=258,slow=10,SNR=4.2
comp=Z,3.9nm,0.8s
ULN **Ulaanbaatar** 28.59 55 P P 15 05 27.1 -1.2
ULN **Ulaanbaatar** 28.59 55 *ce*P P 15 05 28.1 -0.2
ULN pmax pmax
comp=Z,12nm,1.7s
MMAI **Mount Meron Ar** 29.54 274 P P 15 05 38.0 +1.2
comp=Z,1.1nm,0.5s,baz=53,slow=5.7,SNR=7.8
comp=Z,1.1nm,0.5s
BR131 **Keskin Array S** 29.61 288 P P 15 05 36.4 -1.1
BR131 IAmb IAmb 15 05 40.1
comp=Z,12nm,1.3s
BR131 **Keskin Array S** 29.61 288 P P 15 05 38.2 +0.8
BR131 **Keskin Array S** 29.61 288 *e*P P 15 05 37.4 0.0
BRTR **Keskin Array B** 29.61 288 P P 15 05 36.5 -0.9
BRTR **Keskin Array B** 29.61 288 P P 15 05 38.1 +0.8
comp=Z,2.9nm,0.6s,baz=96,slow=8.2,SNR=13
BRTR pP pP 15 06 23.8 +2.2
comp=Z,1.9nm,0.8s,baz=111,slow=8.5,SNR=3.3
comp=Z,2.9nm,0.6s
MOS **Moscow** 29.74 321 *e*P P 15 05 38.1 -0.1
MOS *e* 15 06 22.4
MOS pmax pmax
comp=Z,33nm,0.9s
PRGR **Permogore** 29.81 335 *e*P P 15 05 38.6 -0.1
PRGR pmax pmax
comp=Z,14nm,0.6s
OBN **Obninsk** 30.03 319 *c i*P P 15 05 41.2 +0.5
OBN *i **PP pP 15 06 24.6 -0.6
OBN S S 15 10 30.0 +7.8
OBN pmax pmax
comp=Z,39nm,1.7s
OBN **Obninsk** 30.03 319 P P 15 05 41.3 +0.5
comp=Z,17nm,0.3s,baz=240,slow=2.7,SNR=4.6
comp=Z,17nm,0.3s
CHTO **Chiang Mai** 30.07 119 P P 15 05 42.0 +0.4
CHTO IAmb IAmb 15 05 44.5
comp=Z,7.1nm,0.5s
CHTO **Chiang Mai** 30.07 119 P P 15 05 43.9 +2.3
CHTO **Chiang Mai** 30.07 119 P P 15 05 42.4 +0.8
CHTO **Chiang Mai** 30.07 119 P P 15 05 42.0 +0.4
CHTO pmax pmax
comp=Z,7.0nm,0.5s
CRAI **Chiangrai** 30.19 115 P P 15 05 44.1 +1.5
CM31 **Chiang Mai Arr** 30.31 119 P P 15 05 44.5 +0.9
CM31 IAmb IAmb 15 05 47.1
comp=Z,9.5nm,0.8s
CM31 **Chiang Mai Arr** 30.31 119 P P 15 05 45.1 +1.5
CMAR **Chiang Mai Arr** 30.31 119 P P 15 05 44.0 +0.4
CMAR **Chiang Mai Arr** 30.31 119 *i* P P 15 05 44.9 +1.3
CMAR pmax pmax
comp=Z,5.0nm,0.7s
CMAR **Chiang Mai Arr** 30.31 119 P P 15 05 44.9 +1.3
comp=Z,8.6nm,1.0s,baz=303,slow=7.9,SNR=41
CMAR PcP PcP 15 08 38.4 +0.1

comp=Z,0.8nm,0.7s,baz=309,slow=5.7,SNR=2.4
CMAR ScP **ScP** **15 11 56.5 -3.2**
comp=Z,0.9nm,0.9s,baz=304,slow=3.7,SNR=5.5
comp=Z,8.6nm,1.0s
BTO **Baotou** **30.41 70** *e*P **P** **15 05 45.0 +0.5**
BTO pP **pP** **15 06 30.3 +0.1**
BTO PP **PnPn** **15 06 54.0 +0.3**
BTO sP **sP** **15 06 55.8 -0.3**
BTO pmax pmax
comp=Z,31nm,1.0s
BTO pmax pmax
comp=Z,350nm,6.9s
XAN **Xi'an** **30.73 83** ⇓P **P** **15 05 48.5 +1.3**
XAN pmax pmax
comp=Z,8.0nm,0.6s
EIL **Elat** **31.03 268** P **P** **15 05 50.6 +0.8**
comp=Z,10nm,1.1s,baz=66,slow=5.5,SNR=10
comp=Z,10nm,1.1s
KLMR **Klimovskoe** **31.53 331** *e*P **P** **15 05 53.2 -0.7**
KLMR AMP 15 05 55.4
comp=Z,31nm,1.5s
KLMR *e*pP **pP** **15 06 38.0 -0.6**
KLMR **Klimovskoe** **31.53 331** *e*P **P** **15 05 53.2 -0.7**
KLMR *e**PP **pP** **15 06 37.9 -0.6**
KLMR pmax pmax
comp=Z,31nm,1.5s
HHC **Hu-ho-hao-te** **31.56 70** *e*P **P** **15 05 55.0 +0.5**
HHC pmax pmax
comp=Z,23nm,0.7s
HHC pmax pmax
comp=Z,360nm,5.1s
GYA **Guiyang** **31.68 98** ⇑P **P** **15 05 57.5 +1.8**
GYA pmax pmax
comp=Z,24nm,1.2s
ENH **Enshi** **32.38 90** P **P** **15 06 02.4 +0.7**
ELL **Elmali** **32.98 283** P **P** **15 06 07.1 +0.2**
ELL **Elmali** **32.98 283** P **P** **15 06 07.1 +0.2**
ELL pmax pmax
comp=Z,127nm,0.4s
AK05 **Malin Array Si** **33.07 309** P **P** **15 06 07.3 0.0**
AK05 IAmb IAmb 15 06 10.0
comp=Z,18nm,1.1s
AKASG **Malin Array Be** **33.07 309** P **P** **15 06 07.8 +0.5**
AKASG **Malin Array Be** **33.07 309** *i* P **P** **15 06 07.9 +0.5**
AKASG pmax pmax
comp=Z,5.0nm,0.3s
AKASG **Malin Array Be** **33.07 309** P **P** **15 06 07.8 +0.5**
comp=Z,1.7nm,0.3s,baz=82,slow=7.6,SNR=28
AKASG pP **pP** **15 06 52.9 +0.9**
comp=Z,1.5nm,0.6s,baz=91,slow=7.0,SNR=1.9
AKASG sP **sP** **15 07 18.8 +1.6**
comp=Z,0.8nm,0.4s,baz=96,slow=11,SNR=2.0
comp=Z,1.7nm,0.3s
AKBB **Malin Array Si** **33.07 309** P **P** **15 06 07.4 +0.1**
AKBB IAmb IAmb 15 06 09.1
comp=Z,7.8nm,0.4s
AKBB **Malin Array Si** **33.07 309** *ce*P **P** **15 06 07.1 -0.2**
AKBB pmax pmax
comp=Z,20nm,1.5s
KIEV **Kiev** **33.08 309** P **P** **15 06 08.1 +0.6**
KIEV **Kiev** **33.08 309** P **P** **15 06 07.4 0.0**
KIEV IAmb IAmb 15 06 09.1
comp=Z,6.9nm,0.4s
KIEV **Kiev** **33.08 309** *i* P **P** **15 06 09.3 +1.9**
SNR=6.9
KIEV **Kiev** **33.08 309** P **P** **15 06 08.0 +0.6**
SORM **Soroca** **33.34 304** ⇑P **P** **15 06 10.2 +0.5**
SORM **Soroca** **33.34 304** P **P** **15 06 10.2 +0.5**
LYN **LuoYang** **33.42 81** ⇓P **P** **15 06 13.0 +2.4**
LYN S **S** **15 11 22.5 +7.1**
LYN pmax pmax
comp=Z,32nm,0.9s
LYN pmax pmax
comp=Z,270nm,7.0s
NONG **Nongkai** **33.58 115** P **P** **15 06 13.7 +1.5**
NRIK **Noril'sk** **34.04 10** P **P** **15 06 16.0 +0.6**
NRIK **Noril'sk** **34.04 10** P **P** **15 06 16.3 +0.8**
comp=Z,6.7nm,0.5s,baz=194,slow=5.4,SNR=14
NRIK pP **pP** **15 07 03.0 +1.6**
comp=Z,9.9nm,1.1s,baz=205,slow=5.6,SNR=1.7
comp=Z,6.7nm,0.5s
PLOR **Plostina** **34.43 300** ⇓P **P** **15 06 21.2 +2.0**
PLOR **Plostina** **34.43 300** P **P** **15 06 21.1 +2.0**
TESR **Tescani** **34.43 301** ⇓P **P** **15 06 19.4 +0.2**
XLT **XiLinHaoTe** **34.66 64** *e*P **P** **15 06 23.0 +1.7**
XLT pP pP 15 07 10.8 +3.5
XLT sP sP 15 07 36.8 +3.8
XLT PP **PnPn** **15 07 49.5 +3.9**
XLT pmax pmax
comp=Z,6.0nm,0.7s
XLT pmax pmax
comp=Z,220nm,6.4s
MLR **Muntele Rosu** **34.93 299** ⇓P **P** **15 06 25.9 +2.3**
MLR **Muntele Rosu** **34.93 299** P **P** **15 06 22.2 -1.3**
MLR IAmb IAmb 15 06 27.4
comp=Z,21nm,1.1s
MLR **Muntele Rosu** **34.93 299** P **P** **15 06 25.9 +2.3**
MLR **Muntele Rosu** **34.93 299** P **P** **15 06 25.3 +1.8**
comp=Z,13nm,1.0s,baz=71,slow=4.7,SNR=9.4
MLR pP **pP** **15 07 11.5 +3.0**
comp=Z,12nm,1.2s,baz=76,slow=11,SNR=3.1
comp=Z,13nm,1.0s
BOD **Bodaibo** **35.19 39** *e*P **P** **15 06 21.4 -4.0**
BOD pmax pmax
comp=Z,8.0nm,1.3s
NACGM **Naroch** **35.31 316** *e*P **P** **15 06 26.8 +0.2**
comp=E,1μm,1.0s
BURAR **Bucovina Array** **35.42 303** ⇑P **P** **15 06 28.8 +1.1**
BURAR **Bucovina Array** **35.42 303** P **P** **15 06 28.7 +0.9**
BURAR **Bucovina Array** **35.42 303** P **P** **15 06 28.8 +1.1**
BUR08 **Bucovina Ar. S** **35.43 303** P **P** **15 06 28.7 +0.8**
VOIR **35.56 299** ⇓P **P** **15 06 30.4 +1.4**
VOIR **35.56 299** P **P** **15 06 30.3 +1.4**
WHN **Wuhan** **36.19 87** ⇓P **P** **15 06 36.0 +1.7**
WHN pmax pmax
comp=E,24nm,0.9s
VSU **Vasula** **36.27 321** *e*P **P** **15 06 34.7 +0.1**
TIA **Tai'an** **36.67 76** P **P** **15 06 35.5 -2.8**
TIA pmax pmax
comp=E,10.0nm,1.7s
MARR **Marisel-Cluj** **36.86 301** ⇓P **P** **15 06 41.6 +1.7**
PABE **Paberze** **37.02 316** *e*P **P** **15 06 41.2 +0.3**
UBPT **Khong Chiam** **37.08 116** P **P** **15 06 42.0 +0.1**
UBPT IAmb IAmb 15 06 42.8
comp=Z,17nm,1.0s
UBPT **Khong Chiam** **37.08 116** P **P** **15 06 42.5 +0.6**
KWP **Kalwaria Pacla** **37.14 306** P **P** **15 06 42.8 +0.7**
KWP IAmb IAmb 15 06 46.9
comp=Z,8.4nm,1.0s
KWP **Kalwaria Pacla** **37.14 306** P **P** **15 06 42.8 +0.7**
KWP pmax pmax
comp=Z,8.0nm,1.0s
KOLS **Kolonicke sedl** **37.41 305** *e*P **P** **15 06 46.7 +2.3**
KOLS **Kolonicke sedl** **37.41 305** *e*P **P** **15 06 46.7 +2.3**
FINES **FINESS Array B** **37.55 326** P **P** **15 06 45.7 +0.3**
FINES **FINESS Array B** **37.55 326** P **P** **15 06 45.8 +0.4**
comp=Z,7.4nm,0.4s,baz=121,slow=9.5,SNR=145
comp=Z,7.4nm,0.4s
MTSE **Matsula** **37.81 321** *e*P **P** **15 06 48.1 +0.6**
MEF **Metsahovi** **37.93 324** *e*P **P** **15 06 49.0 +0.5**
BZS **Buzias** **37.96 300** P **P** **15 06 49.6 +0.6**
BZS **Buzias** **37.96 300** P **P** **15 06 49.6 +0.6**
STHS **Stebnicka Huta** **38.09 306** *e*P **P** **15 06 49.6 -0.5**
STHS **Stebnicka Huta** **38.09 306** *e*P **P** **15 06 49.6 -0.5**
PBUR **Paburge** **38.24 317** *e*P **P** **15 06 51.1 -0.1**
SLIT **Slitere, Latvi** **38.34 319** *e*P **P** **15 06 51.4 -0.6**
NIE **Niedzica** **38.70 306** *e*P **P** **15 06 57.5 +2.3**
OJC **Ojcow** **39.03 307** *e*P **P** **15 06 58.6 +0.8**
OJC **Ojcow** **39.03 307** P **P** **15 06 58.0 +0.1**
OJC IAmb IAmb 15 07 00.2
comp=Z,17nm,1.3s
OJC **Ojcow** **39.03 307** P **P** **15 06 58.0 +0.1**
OJC pmax pmax
comp=Z,17nm,1.3s
DIVS **Divibare** **39.26 297** P **P** **15 06 57.1 -2.8**
NJ2 **Nanjing** **39.27 82** *e*P **P** **15 07 00.3 +0.2**
NJ2 pP **pP** **15 07 46.5 -0.7**
NJ2 sP **sP** **15 08 11.5 -1.2**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
NJ2 pmax pmax
comp=Z,100nm,5.4s
RAF **Rauma** **39.41 324** *e*P **P** **15 07 00.5 -0.2**
VYHS **Vyhne** **39.69 304** *e*P **P** **15 07 05.3 +2.0**
VYHS **Vyhne** **39.69 304** *e*P **P** **15 07 05.3 +2.0**
VADS **Vadso** **40.34 339** *e*P **P** **15 07 09.1 +0.8**
JAVC **Velka Javorina** **40.45 305** *e*P **P** **15 07 12.2 +2.6**
MORC **Moravsky Berou** **40.49 306** P **P** **15 07 11.4 +1.4**
MORC **Moravsky Berou** **40.49 306** P **P** **15 07 10.6 +0.7**
MORC **Moravsky Berou** **40.49 306** *e*P **P** **15 07 11.3 +1.4**
MORC **Moravsky Berou** **40.49 306** P **P** **15 07 11.3 +1.4**
MODS **Modra-Piesok** **40.73 304** *e*P **P** **15 07 13.3 +1.4**
MODS **Modra-Piesok** **40.73 304** *e*P **P** **15 07 13.3 +1.4**
KEV **Kevo** **40.83 338** P **P** **15 07 12.7 +0.4**
KEV **Kevo** **40.83 338** P **P** **15 07 12.7 +0.4**
KEV pmax pmax
comp=Z,38nm,1.2s
KRLC **Kraliky** **40.97 307** *e*P **P** **15 07 15.5 +1.6**
KRLC **Kraliky** **40.97 307** *e*P **P** **15 07 15.5 +1.6**
VRAC **Vranov** **41.13 306** *e*P **P** **15 07 16.1 +1.0**
VRAC **Vranov** **41.13 306** P **P** **15 07 16.1 +1.0**
comp=Z,1.9nm,0.5s,baz=83,slow=10,SNR=4.4
VRAC pP **pP** **15 08 03.7 +2.4**
comp=Z,5.7nm,1.1s,baz=110,slow=9.4,SNR=3.3
comp=Z,1.9nm,0.5s
UPP **Uppsala** **41.15 322** *e*P **P** **15 07 15.6 +0.5**
ARA0 **ARCESS Array S** **41.17 338** *e*P **P** **15 07 15.5 +0.3**
ARCES **ARCESS Array B** **41.17 338** P **P** **15 07 15.9 +0.7**
ARCES IAmb IAmb 15 07 16.8
comp=Z,26nm,1.1s
ARCES **ARCESS Array B** **41.17 338** P **P** **15 07 15.9 +0.7**
ARCES pmax pmax
comp=Z,26nm,1.1s
ARCES **ARCESS Array B** **41.17 338** P **P** **15 07 15.9 +0.7**
comp=Z,3.7nm,0.3s,baz=117,slow=8.6,SNR=84
comp=Z,3.7nm,0.3s
DPC **Dobruska-Polom** **41.26 307** *e*P **P** **15 07 16.7 +0.5**
DPC **Dobruska-Polom** **41.26 307** *e*P **P** **15 07 16.7 +0.5**
KRUC **Moravsky** **41.27 305** *e*P **P** **15 07 17.4 +1.1**
CHVC **Chvalec** **41.42 308** *e*P **P** **15 07 19.1 +1.6**
CHVC **Chvalec** **41.42 308** *e*P **P** **15 07 19.1 +1.6**
VIKU **Vikbolandet** **41.42 320** *e*P **P** **15 07 17.8 +0.6**
RONA **Rosalia, Austr** **41.44 303** *e*P **P** **15 07 18.6 +0.9**
comp=Z,5.5nm,0.8s
KTK1 **Kautokeino** **41.65 336** *e*P **P** **15 07 19.1 +0.1**
CONA **Conrad Observa** **41.71 304** *e*P **P** **15 07 21.2 +1.3**
SNR=5.1
CONA *i* P **P** **15 07 21.4 +1.5**
comp=Z,14nm,1.1s
ZEA **Zeya** **41.89 48** *e*P **P** **15 07 22.9 +1.7**
HEH **HeiHe** **42.06 53** *e*P **P** **15 07 23.8 +1.2**
HEH pP **pP** **15 08 13.0 +2.9**
HEH pmax pmax
comp=Z,32nm,0.9s
HEH pmax pmax
comp=Z,350nm,5.1s
BSD **Bornholm Skovb** **42.11 315** *e*P **P** **15 07 23.4 +0.5**
HAMF **Hammerfest** **42.25 339** *e*P **P** **15 07 24.7 +0.9**
SOKA **Soboth** **42.41 302** *i* P **P** **15 07 26.9 +1.3**
comp=Z,5.9nm,0.6s,SNR=9.5
TIP **Timpagrande** **42.55 291** P **P** **15 07 26.6 -0.2**
TIP IAmb IAmb 15 08 00.5
comp=Z,35nm,1.4s
CKRC **Cesky Krumlov** **42.66 305** *e*P **P** **15 07 29.0 +1.5**
CKRC **Cesky Krumlov** **42.66 305** *e*P **P** **15 07 29.0 +1.5**
ZVC **Zvikov** **42.69 306** *e*P **P** **15 07 28.8 +1.1**
GSI **Gunungsitoli** **42.70 139** P **P** **15 07 29.9 +1.8**
GSI **Gunungsitoli** **42.70 139** P **P** **15 07 30.2 +2.1**
GSI **Gunungsitoli** **42.70 139** P **P** **15 07 29.7 +1.6**
comp=Z,78nm,1.1s,comp=Z,4μm
SGRT **San Giovanni R** **42.72 295** P **P** **15 07 27.8 -0.4**
BRG **Berggiesshubel** **42.75 308** *i* P **P** **15 07 30.0 +1.8**
BRG Amp 15 07 30.3
comp=Z,5.5nm,0.7s
BRG **Berggiesshubel** **42.75 308** *i* P **P** **15 07 29.9 +1.8**
BRG 15 08 16.7
BRG pmax pmax
comp=Z,6.0nm,0.7s
BRG pmax pmax
comp=Z,6.0nm,1.0s
DEL **Delary** **42.76 316** *e*P **P** **15 07 28.9 +0.8**
OBKA **Obir** **42.76 302** *e*P **P** **15 07 27.6 -0.8**
comp=Z,0.6nm,0.4s
JETT **Jettan, Norway** **42.79 336** *e*P **P** **15 07 29.0 +0.8**
GERES **GERESS Array B** **43.06 305** P **P** **15 07 31.8 +1.0**
comp=Z,0.8nm,0.4s,baz=72,slow=8.4,SNR=6.8
comp=Z,0.8nm,0.4s
KHC **Kasperske Hory** **43.11 306** *e*P **P** **15 07 32.2 +1.1**
KHC **Kasperske Hory** **43.11 306** *ce*P **P** **15 07 31.2 +0.1**
KHC pmax pmax
comp=Z,18nm,2.5s
HFS **Hagfors** **43.15 322** P **P** **15 07 31.4 +0.2**
comp=Z,7.1nm,0.3s,baz=104,slow=9.6,SNR=54
HFS sP **sP** **15 08 44.4 +1.2**
comp=Z,4.5nm,0.4s,baz=103,slow=9.9,SNR=2.7
comp=Z,7.1nm,0.3s
BIOA **Bad Ischl, Aus** **43.23 304** *i* P **P** **15 07 33.0 +0.9**
comp=Z,4.1nm,0.4s
CLL **Collm** **43.31 309** *e*pP pP 15 08 21.0 +1.6
PRED **Cave del Predi** **43.44 302** P **P** **15 07 33.8 -0.1**
YAK **Yakutsk** **43.81 35** *e*P **P** **15 07 36.2 -0.2**
YAK *e**PP **pP** **15 08 26.2 +2.0**
YAK *e* 15 09 17.6
YAK *e* 15 09 23.3
YAK *e*S **S** **15 13 49.7 -0.3**
YAK *e**SS **sS** **15 15 12.5 -1.7**
YAK *e* 15 17 09.8
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=Z,116nm,3.3s
YAK smax smax
comp=N,418nm,5.8s
YAK smax smax
comp=E,153nm,5.6s
FAUS **Fauske** **43.85 332** *e*P **P** **15 07 37.0 +0.4**
MOR8 **Moi Rana** **43.87 331** *e*P **P** **15 07 36.3 -0.6**
LESA **Schwarzleotal** **43.91 303** *i* P **P** **15 07 38.3 +0.7**
comp=E,7.0nm,0.4s
STEI **Steigen** **44.02 333** *e*P **P** **15 07 38.3 +0.3**
ABTA **Abfaltersbach** **44.12 302** *e*P **P** **15 07 39.9 +0.7**
comp=E,1.3nm,0.5s
NC405 **NORSAR Array S** **44.22 323** P **P** **15 07 39.8 +0.1**
NC405 IAmb IAmb 15 07 41.2
comp=Z,14nm,0.8s
NC602 **NORSAR Array S** **44.27 323** P **P** **15 07 39.7 -0.4**
NC602 IAmb IAmb 15 08 07.9
comp=Z,24nm,1.5s
NC602 **NORSAR Array S** **44.27 323** *e*P **P** **15 07 39.6 -0.5**
SSLB **Suanglung** **44.37 92** P **P** **15 07 42.3 +0.9**
SSLB IAmb IAmb 15 08 24.8
comp=Z,25nm,1.2s
NB201 **NORSAR Array S** **44.42 323** P **P** **15 07 41.4 +0.1**
NB201 IAmb IAmb 15 08 03.0
comp=Z,36nm,1.4s
NB2 **NORSAR Subarra** **44.46 323** P **P** **15 07 41.1 -0.5**
comp=Z,2.8nm,0.3s,baz=96,slow=8.6
NB2 **NORSAR Subarra** **44.46 323** P **P** **15 07 41.1 -0.5**
baz=96,slow=8.6
NOA **NORSAR Array B** **44.46 323** P **P** **15 07 41.4 -0.3**
comp=Z,2.7nm,0.3s,baz=102,slow=7.1,SNR=51
NOA pP **pP** **15 08 30.1 +1.1**
comp=Z,0.4nm,0.5s,baz=103,slow=7.3,SNR=1.2
NOA sP **sP** **15 08 55.0 +1.0**
comp=Z,2.3nm,0.7s,baz=95,slow=8.0,SNR=2.9
comp=Z,2.7nm,0.3s
KONS **Konsvik** **44.46 331** *e*P **P** **15 07 41.6 +0.1**
STOK **Stokkvaagen** **44.47 331** *e*P **P** **15 07 41.5 0.0**
NAO01 **NORSAR Array S** **44.60 323** P **P** **15 07 42.1 -0.6**
NAO01 IAmb IAmb 15 07 43.5
comp=Z,14nm,1.0s
WTTA **Wattenberg** **44.63 303** *i* P **P** **15 07 44.2 +0.8**
comp=Z,9.2nm,0.8s
WATA **Walderalm** **44.66 303** *i* P **P** **15 07 44.6 +1.0**
comp=Z,2.9nm,0.5s
NBO00 **NORSAR Array S** **44.67 323** P **P** **15 07 42.9 -0.4**
NBO00 IAmb IAmb 15 07 44.0
comp=Z,8.6nm,0.7s
KSRS **Korea Array** **44.68 71** P **P** **15 07 44.2 +0.6**
comp=Z,2.0nm,0.7s,baz=285,slow=7.1,SNR=8.2
KSRS pP **pP** **15 08 33.2 +1.4**
comp=Z,2.5nm,1.1s,baz=282,slow=5.8,SNR=3.0
comp=Z,2.0nm,0.7s
LOF **Lofoten** **44.69 333** *e* **P** **15 07 43.5 +0.3**
RAFF **Raffo Rosso** **44.90 289** P **P** **15 07 44.8 -0.6**
SQTA **Sankt Quirin** **44.93 303** *e*P **P** **15 07 45.5 -0.2**
comp=Z,3.6nm,0.6s
KLR **Kul'dur** **44.95 54** *i* P **P** **15 07 45.6 -0.1**
KLR pmax pmax
comp=Z,29nm,3.5s
MOTA **Moosalm** **44.98 303** *i* P **P** **15 07 45.8 -0.2**
comp=Z,6.0nm,1.0s
KONO **Kongsberg** **45.17 321** *e*P **P** **15 07 46.8 -0.4**
FETA **Feichten** **45.23 303** *e*P **P** **15 07 48.3 -0.2**
comp=Z,9.2nm,1.4s
TIXI **Tiksi** **45.65 22** P **P** **15 07 51.0 +0.2**
TIXI IAmb IAmb 15 07 51.7
comp=Z,11nm,0.8s
TIXI **Tiksi** **45.65 22** *ce*P **P** **15 07 50.3 -0.5**
TIXI pmax pmax
comp=Z,6.0nm,0.6s
FUORN **Ofenpass-Fuorn** **45.66 303** P **P** **15 07 51.0 -0.6**
SALO **Salr** **45.67 301** P **P** **15 07 51.2 -0.2**
SALO IAmb IAmb 15 07 53.1
comp=Z,22nm,1.1s
DAVA **Damuels** **45.81 304** *e*P **P** **15 07 53.0 +0.4**
comp=Z,9.5nm,0.5s
SKAR **Skarslia** **45.86 322** *e*P **P** **15 07 53.1 +0.4**
DAVOX **Davos/Dischmat** **45.90 303** P **P** **15 07 53.2 -0.2**
comp=Z,2.6nm,0.3s,baz=115,slow=7.3,SNR=8.4
comp=Z,2.6nm,0.3s
USRK **Ussuriysk Ar.** **45.97 61** P **P** **15 07 54.0 +0.3**
USRK **Ussuriysk Ar.** **45.97 61** P **P** **15 07 54.0 +0.3**
comp=Z,1.2nm,0.5s,baz=290,slow=7.5,SNR=8.4
comp=Z,1.2nm,0.5s
PDSI **Padang** **46.11 137** P **P** **15 07 55.0 -0.1**
TUE **Stuetta** **46.31 303** P **P** **15 07 55.6 -1.0**
MSSA **Maissana** **46.64 300** P **P** **15 07 58.7 -0.3**
MSSA IAmb IAmb 15 08 00.5
comp=Z,30nm,1.2s
LODK **Lodwar** **46.65 234** P **P** **15 08 00.1 +0.7**
LODK **Lodwar** **46.65 234** P **P** **15 08 01.2 +1.8**
ODD1 **Odda** **46.68 321** *e*P **P** **15 08 00.6 +1.6**
SPA0 **Spitsbergen Ar** **47.49 347** *e*P **P** **15 08 06.3 +1.3**
SPITS **Spitsbergen Ar** **47.49 347** P **P** **15 08 06.4 +1.4**
comp=Z,7.0nm,0.7s,baz=110,slow=9.8,SNR=12
comp=Z,7.0nm,0.7s
SENIN **Lac Senin/Sane** **47.72 303** P **P** **15 08 07.3 -0.2**
BNI **Bardonecchia** **48.44 301** P **P** **15 08 10.6 -2.3**
BNI **Bardonecchia** **48.44 301** P **P** **15 08 10.6 -2.3**
BNI pmax pmax
comp=Z,10.0nm,1.2s
JOW **Kunigami** **48.87 84** P **P** **15 08 15.7 -0.5**
JOW **Kunigami** **48.87 84** P **P** **15 08 16.9 +0.7**
KMBO **Kilima Mbogo** **49.01 228** P **P** **15 08 19.2 +1.5**
KMBO **Kilima Mbogo** **49.01 228** P **P** **15 08 17.8 +0.1**
comp=Z,2.4nm,0.5s,baz=44,slow=12,SNR=5.6
comp=Z,2.4nm,0.5s
KEST **Kesra** **49.20 289** P **P** **15 08 19.5 +0.7**
comp=Z,4.6nm,0.4s,baz=1.1,slow=2.3,SNR=14
comp=Z,4.6nm,0.4s
KIBK **Kibwezi** **49.52 226** P **P** **15 08 22.1 +0.8**
SSB **Saint Sauveur** **49.85 302** P **P** **15 08 23.5 +0.1**
SSB IAmb IAmb 15 08 27.2
comp=Z,14nm,1.3s
SSB **Saint Sauveur** **49.85 302** P **P** **15 08 23.5 +0.1**
SSB pmax pmax
comp=Z,15nm,1.3s
EKA **Eskdalemuir Ar** **52.39 316** P **P** **15 08 42.3 +0.3**
comp=Z,0.6nm,0.3s,baz=83,slow=7.0,SNR=13
comp=Z,0.6nm,0.3s
MBAR **Mbarara** **52.70 235** P **P** **15 08 45.8 +0.8**
MBAR **Mbarara** **52.70 235** *i* P **P** **15 08 44.5 -0.6**
MBAR pmax pmax
comp=Z,6.0nm,0.6s
ERM **Erimo** **54.43 61** P **P** **15 08 59.7 +2.6**
ESDC **Sonseca Array** **57.61 298** P **P** **15 09 18.1 -1.6**
ESDC **Sonseca Array** **57.61 298** P **P** **15 09 19.7 0.0**
comp=Z,5.1nm,0.9s,baz=61,slow=7.5,SNR=21
ESDC pP **PcP** **15 10 10.4 +0.1**
comp=Z,3.0nm,1.0s,baz=61,slow=7.0,SNR=5.5
comp=Z,5.1nm,0.9s
MPSI **Mapaga** **57.63 117** P **P** **15 09 20.2 +0.1**
comp=Z,21nm,1.1s
TOLI2 **Tolitoli** **57.73 116** P **P** **15 09 21.0 +0.2**
TOLI2 IAmb IAmb 15 09 24.6
comp=Z,12nm,1.3s
TOLI2 **Tolitoli** **57.73 116** P **P** **15 09 21.6 +0.8**
BILL **Bilibino** **58.48 26** P **P** **15 09 25.7 +0.5**
MRSI **Marisa** **59.01 115** P **P** **15 09 30.8 +1.2**
comp=Z,40nm,1.1s
VOI **Vohitsoka** **62.56 206** P **P** **15 09 53.5 0.0**
VOI IAmb IAmb 15 10 15.1
comp=Z,12nm,1.1s
SANI **Sanana** **63.68 114** P **P** **15 10 00.8 0.0**
TOA0 **Torodi Ar. Sit** **65.92 269** P **P** **15 10 13.5 -1.8**
TOA0 IAmb IAmb 15 10 14.6
comp=Z,9.0nm,0.7s
TOA0 **Torodi Ar. Sit** **65.92 269** P **P** **15 10 13.6 -1.7**
TORD **Torodi Ar. Bea** **65.92 269** P **P** **15 10 13.5 -1.8**
comp=Z,7.3nm,0.4s,baz=50,slow=6.5,SNR=102
comp=Z,7.3nm,0.4s
C16K **Lisburne Hills** **67.34 20** P **P** **15 10 23.0 -0.4**
C16K IAmb IAmb 15 10 39.7
comp=Z,11nm,1.4s
C19K **Lookout Ridge** **68.22 17** P **P** **15 10 29.7 +0.7**
C19K IAmb IAmb 15 10 31.7
comp=Z,19nm,1.4s
RES **Resolute Bay** **68.66 356** P **P** **15 10 31.6 +0.1**
RES **Resolute Bay** **68.66 356** P **P** **15 10 31.7 +0.1**
RES pmax pmax
comp=Z,5.0nm,1.4s
B21K **Ikpikpuk River** **68.96 16** P **P** **15 10 33.9 +0.4**
B21K IAmb IAmb 15 10 35.0
comp=Z,12nm,1.3s
D19K **Kuna River** **69.03 17** P **P** **15 10 34.0 -0.1**
D19K IAmb IAmb 15 10 35.2
comp=Z,7.4nm,0.6s
E18K **Tukpahlearik C** **69.21 19** P **P** **15 10 35.1 0.0**
E18K IAmb IAmb 15 10 36.3
comp=Z,14nm,1.3s
F17K **Baldwin Pennin** **69.76 20** P **P** **15 10 38.9 +0.4**
D22K **Ayikyak River** **69.97 16** P **P** **15 10 40.3 +0.5**
D22K IAmb IAmb 15 10 41.1
comp=Z,9.9nm,1.4s
F19K **Shaleruckik Mo** **70.39 18** P **P** **15 10 41.4 -0.9**
E22K **Anaktuvuk Pass** **70.77 16** P **P** **15 10 44.3 -0.3**
TOLK **Toolik Lake Re** **70.82 15** P **P** **15 10 45.4 +0.5**
TOLK IAmb IAmb 15 10 45.9
comp=Z,7.3nm,0.5s
G19K **Purcell Mounta** **71.10 19** P **P** **15 10 46.3 -0.3**
A36M **Sachs Harbour** **71.14 5** P **P** **15 10 47.1 +0.5**
A36M IAmb IAmb 15 10 48.1
comp=Z,8.0nm,0.8s
E25K **Arctic Village** **72.06 14** P **P** **15 10 51.9 -0.3**
E25K IAmb IAmb 15 11 25.0
comp=Z,9.1nm,1.5s
IMAR **Indian Mountai** **72.06 18** P **P** **15 10 52.1 -0.2**
E28M **Babbage River** **72.68 11** P **P** **15 10 56.6 +0.7**
BMAR **Burnt Mountain** **72.84 14** P **P** **15 10 57.9 +1.0**
E29M **Blow River** **73.13 11** P **P** **15 10 59.0 +0.5**
MBWA **Marble Bar** **73.42 133** P **P** **15 11 01.2 +0.4**
MLY **Manley** **73.57 17** P **P** **15 11 00.7 -0.5**
PSA00 **Pilbara Seismi** **73.81 133** P **P** **15 11 02.7 -0.4**
C36M **Paulatuk** **73.81 6** P **P** **15 11 01.7 -0.8**
L16K **Owhat River** **73.83 23** P **P** **15 11 03.0 +0.3**
L16K IAmb IAmb 15 11 12.7
comp=Z,8.2nm,1.3s
MDM **Murphy Dome** **74.22 16** P **P** **15 11 03.5 -1.5**
MDM IAmb IAmb 15 11 06.2
comp=Z,7.6nm,1.2s
CAST **Castle Rocks** **74.57 19** P **P** **15 11 06.6 -0.4**
CAST IAmb IAmb 15 11 08.4
comp=Z,11nm,1.0s
ILAR **Eielson Array** **74.67 16** P **P** **15 11 06.9 -0.7**
comp=Z,1.1nm,0.7s,baz=301,slow=4.6,SNR=18
ILAR pP **pP** **15 12 02.8 +2.6**
comp=Z,1.1nm,1.0s,baz=318,slow=4.7,SNR=3.6
comp=Z,1.1nm,0.7s
MTN **Manton Dam** **74.75 119** P **P** **15 11 08.1 -0.5**
MTN IAmb IAmb 15 11 32.6
comp=Z,14nm,1.4s
KTH **Kantishna Hill** **74.75 18** P **P** **15 11 07.5 -0.6**
KTH IAmb IAmb 15 11 08.6
comp=Z,11nm,1.2s
FITZ **Fitzroy Crossi** **74.76 127** P **P** **15 11 07.8 -0.8**
DBIC **Dimbokro** **74.90 267** P **P** **15 11 08.4 -1.2**
comp=Z,2.7nm,0.4s,baz=38,slow=7.5,SNR=7.4
comp=Z,2.7nm,0.4s
G31M **Satah River** **75.02 10** P **P** **15 11 08.5 -1.0**
G31M IAmb IAmb 15 11 10.4
comp=Z,18nm,1.4s

KNRA	**Kununurra**	**75.09**	**123**	P	**P**	**15 11 10.2**	**-0.4**
RND	**Reindeer**	**75.39**	**17**	P	**P**	**15 11 10.5**	**-1.2**
RND				IAmb	IAmb	15 11 12.1	
	comp=Z,12nm,1.4s						
RND	**Reindeer**	**75.39**	**17**	P	**P**	**15 11 10.5**	**-1.2**
RND				pmax	pmax		
	comp=Z,12nm,1.4s						
SCRK	**Sand Creek**	**76.00**	**15**	P	**P**	**15 11 14.9**	**-0.3**
GHO	**Glory Hole Cre**	**76.76**	**18**	P	**P**	**15 11 19.2**	**-0.3**
SML	**Sawmill**	**76.88**	**18**	P	**P**	**15 11 19.6**	**-0.5**
SML				IAmb	IAmb	15 11 26.3	
	comp=Z,17nm,1.4s						
SCM	**Sheep Creek Mo**	**77.10**	**18**	P	**P**	**15 11 20.8**	**-0.6**
SCM				IAmb	IAmb	15 11 33.2	
	comp=Z,16nm,1.4s						
SCM	**Sheep Creek Mo**	**77.10**	**18**	P	**P**	**15 11 20.8**	**-0.6**
SCM				pmax	pmax		
	comp=Z,16nm,1.4s						
M24K	**Tolsona, Glenn**	**77.14**	**17**	P	**P**	**15 11 22.3**	**+0.7**
BOSA	**Boshof**	**77.91**	**220**	P	**P**	**15 11 26.1**	**-0.2**
BOSA				IAmb	IAmb	15 11 43.8	
	comp=Z,11nm,1.2s						
BOSA	**Boshof**	**77.91**	**220**	P	**P**	**15 11 26.1**	**-0.2**
BOSA				pmax	pmax		
	comp=Z,11nm,1.3s						
BOSA	**Boshof**	**77.91**	**220**	P	**P**	**15 11 25.9**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=42,slow=4.8,SNR=7.1						
	comp=Z,0.9nm,0.4s						
CTGM	**Chitina Glacie**	**79.25**	**16**	P	**P**	**15 11 33.8**	**+0.5**
CTGM				IAmb	IAmb	15 12 13.6	
	comp=Z,11nm,1.4s						
YKA	**Yellowknife Ar**	**81.18**	**3**	P	**P**	**15 11 43.4**	**0.0**
YKA	**Yellowknife Ar**	**81.18**	**3**	P	**P**	**15 11 43.4**	**0.0**
YKA	**Yellowknife Ar**	**81.18**	**3**	P	**P**	**15 11 43.2**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=252,slow=5.3,SNR=48						
YKA				pP	**pP**	**15 12 39.4**	**+2.2**
	comp=Z,0.8nm,0.7s,baz=347,slow=5.2,SNR=4.2						
	comp=Z,1.1nm,0.7s						
WRA	**Warramunga Arr**	**81.85**	**122**	P	**P**	**15 11 46.6**	**-0.9**
	comp=Z,4.2nm,0.6s,baz=324,slow=4.9,SNR=140						
	comp=Z,4.2nm,0.6s						
WRAB	**Tennant Creek**	**81.85**	**122**	P	**P**	**15 11 46.4**	**-1.1**
WRAB				IAmb	IAmb	15 11 47.1	
	comp=Z,7.2nm,0.7s						
WRAB	**Tennant Creek**	**81.85**	**122**	P	**P**	**15 11 46.4**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.7s						
AS31	**Alice Springs**	**84.12**	**125**	P	**P**	**15 11 58.3**	**-0.8**
ASAR	**Alice Springs**	**84.12**	**125**	P	**P**	**15 11 58.1**	**-0.9**
ASAR	**Alice Springs**	**84.12**	**125**	P	**P**	**15 11 58.2**	**-0.8**
	comp=Z,6.3nm,0.7s,baz=313,slow=4.6,SNR=182						
	comp=Z,6.3nm,0.7s						
FORT	**Forrest**	**85.56**	**134**		**P**	**15 12 05.6**	**-0.4**
CTAO	**Charters Tower**	**90.38**	**115**	P	**P**	**15 12 28.4**	**-0.8**
CTAO				IAmb	IAmb	15 12 59.7	
	comp=Z,13nm,1.4s						
CTAO	**Charters Tower**	**90.38**	**115**	P	**P**	**15 12 28.4**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,13nm,1.4s						
ULM	**Lac du Bonnet**	**92.83**	**352**	P	**P**	**15 12 39.1**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=38,slow=5.2,SNR=3.1						
	comp=Z,1.8nm,0.8s						
STKA	**Stephens Creek**	**94.66**	**126**	P	**P**	**15 12 47.5**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=329,slow=7.4,SNR=3.8						
	comp=Z,0.8nm,0.5s						

AFAD 29 15:04:11.2±0.0, 38°96N×26°26E, h7km±2km, ML1.4, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARB	**zmir-Karabur**	**0.32**	**158**	P	Pg	15 04 17.7	+0.3
KARB				S	Sb	15 04 23.4	-1.1
KARB				*i* AML	AML	15 04 25.0	
	comp=N,62nm,0.7s						
KARB				*i* AML	AML	15 04 25.0	
	comp=E,56nm,0.3s						
AYVA	**Ayvalik**	**0.48**	**44**	P	Pg	15 04 20.5	-0.1
AYVA				S	Sg	15 04 28.0	+1.1
AYVA				*i* AML	AML	15 04 30.0	
	comp=N,19nm,0.3s						
AYVA				*i* AML	AML	15 04 32.0	
	comp=E,21nm,0.2s						
BAYC	**CANAKKALE_Bayr**	**0.81**	**16**	P	Pg	15 04 27.0	+0.2
BAYC				S	Sb	15 04 38.8	0.0
BAYC				*i* AML	AML	15 04 39.0	
	comp=E,16nm,0.5s						
BAYC				*i* AML	AML	15 04 44.0	
	comp=N,8.7nm,0.2s						
BUHA	**Balikesir, Bur**	**0.83**	**49**	P	Pg	15 04 26.8	-0.4
BUHA				S	Sn	15 04 41.0	-1.0
BUHA				*i* AML	AML	15 04 41.0	
	comp=N,22nm,0.4s						

*IDC **29** 15:26:59.9±3.1, 17°.96N×81°.63W, h0km, mb3.2/3, mbtmp3.2/3, ML4.9/1, MS3.2/2, Error ellipse: s-maj=67.7km s-min=54.8km az=6.0*
*JSN **29** 15:27:07.7±1.1, 18°.93N×81°.33W, h15km, MD4.4*
ISC 29 15:27:03.1±2.0, 18°.3N±0°.4×81°.5W±0°.1, h10km, n10, σ1s72/9, mb3.4/3, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTDJ	**Mount Denham**	**3.78**	**90**	*i* S	**Sn**	**15 28 44.2**	**-1.9**
STH	**Stony Hill**	**4.48**	**92**	*i* P	**Pn**	**15 28 12.2**	**+1.2**
STH				*i* S	**Sn**	**15 29 02.2**	**-1.0**
HOJ	**Hope**	**4.54**	**93**	*i* P	**Pn**	**15 28 13.6**	**+1.8**
GWJ	**Greenwich**	**4.55**	**92**	*i* P	**Pn**	**15 28 14.3**	**+2.1**
TEIG	**Tepich**	**6.68**	**288**	Pn	Pn	15 28 37.4	-3.9
	26nm,0.3s,baz=249,slow=4.6,SNR=16						
TEIG				Sn	Sn	15 29 45.0	-12
	5.2nm,0.3s,baz=317,slow=22,SNR=1.0						
TEIG				LR	LR	15 30 58.4	
	comp=Z,653nm,21.5s,baz=355,slow=36						
CMIG	**Matias Romero**	**12.80**	**267**	LR	LR	15 35 05.5	
	comp=Z,33nm,18.4s,baz=50,slow=38						
TXAR	**Lajitas Array**	**23.03**	**303**	P	**P**	**15 32 09.2**	**+0.6**
	0.4nm,0.8s,baz=114,slow=9.0,SNR=4.1						
	0.4nm,0.8s						
YKA	**Yellowknife Ar**	**49.79**	**341**	P	**P**	**15 35 55.8**	**+0.1**
	0.3nm,0.7s,baz=132,slow=6.8,SNR=2.5						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**63.18**	**334**	P	**P**	**15 37 30.6**	**-0.4**
	0.5nm,0.8s,baz=116,slow=4.2,SNR=7.3						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**146.12**	**261**	PKPbc	**PKPdf**	**15 46 41.6**	**-1.8**
	0.4nm,0.9s,baz=88,slow=3.7,SNR=2.4						

IDC 29 15:47:26.0±2.1, 3°.17S×151°.52E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=156.0km s-min=30.8km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.64**	**224**	P	P	15 52 39.5	+0.3
	0.5nm,0.6s,baz=49,slow=9.9,SNR=8.3						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**26.56**	**218**	P	P	15 53 06.0	+0.1
	0.5nm,0.7s,baz=49,slow=8.6,SNR=11						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**81.14**	**22**	P	P	15 59 42.8	-0.3
	0.4nm,1.0s,baz=226,slow=4.8,SNR=2.1						
	0.4nm,1.0s						

*AFAD **29** 16:10:50.8±0.0, 37°.10N×28°.62E, h7km±3km, ML2.4*
*THE **29** 16:10:51.6, 37°.06N×28°.62E, h3km±2km, ML2.5/2, Error ellipse: s-maj=2.5km s-min=1.1km az=59.0*
*ISK **29** 16:10:51.0, 37°.10N×28°.63E, h8km, ML2.8/17*
*ATH **29** 16:10:54.7, 37°.25N×28°.69E, h27km±10km, ML2.5/1, Error ellipse: s-maj=11.2km s-min=2.3km az=67.0*
ISC 29 16:10:51.8±0.9, 37°.13N±0°.02×28°.63E±0°.02, h9km±8km, n41, σ0s97/63, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MULA	**Mugla, Merkez-**	**0.28**	**297**	P	**Pg**	**16 10 57.5**	**+0.1**
MULA				S	**Sg**	**16 11 02.5**	**+1.4**
MULA				*i* AML	AML	16 11 06.0	
	comp=N,464nm,0.5s						
MULA				*i* AML	AML	16 11 06.0	
	comp=E,755nm,0.3s						
YER	**Yerkesik**	**0.28**	**271**	Pg	**Pg**	**16 10 57.1**	**-0.3**
YER					Sg	**16 11 02.1**	**+1.0**
YER	**Yerkesik**	**0.28**	**271**	P	**Pg**	**16 10 57.1**	**-0.3**
YER				S	**Sg**	**16 11 02.2**	**+1.1**
DALY	**Dalyan (Mula)**	**0.31**	**177**	Pg	**Pg**	**16 10 56.9**	**-1.1**
DALY				Sg	**Sg**	**16 11 01.8**	**-0.3**
TAVA	**DENIZLI_Tavas**	**0.41**	**34**	P	**Pg**	**16 10 59.1**	**-0.6**
TAVA				S	**Sg**	**16 11 06.3**	**+1.2**
TAVA				*i* AML	AML	16 11 07.0	
	comp=E,458nm,0.3s						
TAVA				*i* AML	AML	16 11 10.0	
	comp=N,403nm,0.5s						
TURN	**Turunc**	**0.47**	**221**	Pg	**Pg**	**16 10 59.6**	**-1.3**
TURN	**Turunc**	**0.47**	**221**	P	**Pg**	**16 10 59.6**	**-1.3**
TURN				*i* AML	AML	16 11 12.0	
	comp=N,265nm,0.8s						
TURN				*i* AML	AML	16 11 12.0	
	comp=E,293nm,0.6s						
CAEL	**Denizli, Camel**	**0.55**	**90**	P	**Pg**	**16 11 01.9**	**-0.6**
CAEL				S	**Sb**	**16 11 12.6**	**+0.9**
CAEL				*i* AML	AML	16 11 16.0	
	comp=N,401nm,0.8s						
CAEL				*i* AML	AML	16 11 17.0	
	comp=E,557nm,0.9s						
CAME	**Cameli-Denizli**	**0.57**	**109**	Pg	**Pg**	**16 11 02.0**	**-0.8**
CAME				Sg	**Sb**	**16 11 11.2**	**-1.0**
DNIZ	**Denizli-Tavas-**	**0.59**	**33**	P	**Pg**	**16 11 02.5**	**-0.8**
DNIZ				S	**Sg**	**16 11 11.4**	**+0.3**
FETY	**Fethiye**	**0.61**	**143**	Pg	**Pg**	**16 11 03.4**	**-0.2**
APMY	**Acipayam-Deniz**	**0.64**	**57**	Pg	**Pg**	**16 11 03.6**	**-0.5**
APMY				Sg	**Sg**	**16 11 13.5**	**+1.1**
MLSB	**Milas**	**0.70**	**284**	Pg	**Pg**	**16 11 05.3**	**0.0**
ESEN	**Aydn-Nazilli**	**0.70**	**342**	P	**Pg**	**16 11 05.1**	**-0.3**
ESEN				S	**Sg**	**16 11 15.1**	**+0.5**
ESEN				*i* AML	AML	16 11 17.0	
	comp=N,172nm,0.3s						
ESEN				*i* AML	AML	16 11 18.0	
	comp=E,186nm,0.3s						
RFTAA	**Mazikoy-Bodrum**	**0.72**	**260**	Pg	**Pg**	**16 11 05.0**	**-0.7**
GOLH	**Golhisar**	**0.75**	**81**	P	**Pg**	**16 11 05.1**	**-1.2**
GOLH				*i* AML	AML	16 11 22.0	
	comp=N,234nm,1.1s						
GOLH				*i* AML	AML	16 11 24.0	
	comp=E,210nm,0.5s						
KNIK	**Mula-Seydike**	**0.81**	**110**	P	**Pg**	**16 11 06.2**	**-1.1**
KNIK				S	**Sb**	**16 11 18.8**	**-0.3**
KNIK				*i* AML	AML	16 11 25.0	
	comp=E,89nm,0.6s						
KNIK				*i* AML	AML	16 11 27.0	
	comp=N,84nm,0.7s						
DATC	**Datca-Mugla**	**0.86**	**245**	Pg	**Pb**	**16 11 08.8**	**0.0**
DAT	**Datca**	**0.93**	**245**	Pg	**Pg**	**16 11 09.3**	**-0.4**
DAT	**Datca**	**0.93**	**245**	P	**Pg**	**16 11 08.7**	**-1.0**
INCE	**Denizli-Bozkur**	**0.95**	**52**	P	**Pg**	**16 11 09.5**	**-0.6**
INCE				S	**Sn**	**16 11 24.8**	**-0.3**
INCE				*i* AML	AML	16 11 28.0	
	comp=E,201nm,0.5s						
INCE				*i* AML	AML	16 11 31.0	
	comp=N,119nm,0.8s						
ARG	**Arkhangelos**	**1.00**	**204**	Pg	**Pg**	**16 11 09.6**	**-1.3**
ARG	**Arkhangelos**	**1.00**	**204**	P	**Pg**	**16 11 09.6**	**-1.3**
ARG				S	**Sb**	**16 11 23.6**	**-0.8**
	220nm,0.8s						
ARG	**Arkhangelos**	**1.00**	**204**	P	**Pn**	**16 11 14.9**	**+3.0**
ARG				S	**Sn**	**16 11 27.7**	**+1.6**
ARG				AML	AML	16 11 30.4	
	comp=E,493µm,0.4s						
ARG				AML	AML	16 11 31.8	
	comp=N,372µm,0.5s						
BODT	**Bodrum**	**1.06**	**267**	Pg	**Pg**	**16 11 11.9**	**-0.2**
BODT	**Bodrum**	**1.06**	**267**	P	**Pg**	**16 11 11.8**	**-0.3**
BODT				S	**Sn**	**16 11 26.9**	**-0.7**
YKAV	**Yalikavak-Bodr**	**1.08**	**270**	Pn	**Pg**	**16 11 11.8**	**-0.7**
KIRA	**zmir-Kiraz**	**1.08**	**350**	P	**Pg**	**16 11 12.0**	**-0.5**
KIRA				S	**Sn**	**16 11 29.2**	**+0.9**
KIRA				*i* AML	AML	16 11 35.0	
	comp=N,87nm,0.5s						
KIRA				*i* AML	AML	16 11 35.0	
	comp=N,124nm,0.8s						
ELL	**Elmali**	**1.09**	**110**	Pn	**Pg**	**16 11 12.1**	**-0.7**
RFTB	**Kemer-Bodrum**	**1.10**	**262**	Pn	**Pg**	**16 11 12.6**	**-0.3**
IZMR	**zmir-demi**	**1.14**	**332**	P	**Pb**	**16 11 13.0**	**-0.7**
IZMR				S	**Sg**	**16 11 28.5**	**0.0**
IZMR				*i* AML	AML	16 11 36.0	
	comp=N,147nm,0.5s						
IZMR				*i* AML	AML	16 11 36.0	
	comp=N,90nm,0.6s						
KSL	**Kastellorizon**	**1.24**	**142**	P	**Pg**	**16 11 16.7**	**+1.1**
GCAM	**G?zelcaml?**	**1.25**	**298**	Pn	**Pn**	**16 11 15.4**	**+0.1**
BRDR	**BURDUR-Merkez**	**1.27**	**63**	P	**Pn**	**16 11 15.6**	**-0.1**
BRDR				S	**Sn**	**16 11 35.6**	**+2.6**
BRDR				*i* AML	AML	16 11 38.0	
	comp=N,72nm,0.4s						
BRDR				*i* AML	AML	16 11 39.0	
	comp=N,124nm,1.0s						
KULA	**Kula-Manisa**	**1.38**	**1**	P	**Pn**	**16 11 17.1**	**-0.2**
PASA	**Karahalli, USA**	**1.39**	**29**	P	**Pn**	**16 11 16.8**	**-0.7**
PASA				S	**Sg**	**16 11 38.8**	**+2.1**
SMG	**Samos**	**1.54**	**293**	P	**Pn**	**16 11 19.2**	**-0.1**
SMG				S	**Sn**	**16 11 39.1**	**-0.4**
	comp=N,152nm,0.4s						
SMG	**Samos**	**1.54**	**293**	P	**Pn**	**16 11 19.3**	**-0.1**
SMG				S	**Sn**	**16 11 38.5**	**-1.0**
ISP	**Isparta**	**1.66**	**65**	P	**Pn**	**16 11 20.0**	**-1.0**
KARP	**Karpathos**	**1.98**	**217**	Pn	**Pn**	**16 11 25.5**	**+0.1**
KARP	**Karpathos**	**1.98**	**217**	P	**Pb**	**16 11 27.3**	**-0.5**
KARP				S	**Sb**	**16 11 52.1**	**-0.5**

*IDC **29** 16:19:13.6±0.6, 26°.67N×96°.17E, h71km±4km, mb4.0/31, mbtmp4.3/32, MS3.2/11, Error ellipse: s-maj=12.8km s-min=9.1km az=51.0*
*BJI **29** 16:19:13.7, 26°.90N×96°.10E, h75km, mb4.7/52, mB4.8/23, Ms3.8/7, Ms7 3.5/8*
*NDI **29** 16:19:14.8±2.9, 26°.83N×95°.86E, h109km±24km, ML4.4, mb4.7(NEIC)*
*NEIC **29** 16:19:14.3±1.9, 26°.69N±0°.07×96°.12E±0°.08, h77km±7km, mb4.7/83, Error ellipse: s-maj=11.5km s-min=8.7km az=47.0*
ISC 29 16:19:13.5±0.4, 26°.72N±0°.04×96°.06E±0°.03, h72km±3km, h72km:pP-P, n282, σ1s52/311, mb4.6/97, 11C-18D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOKO	**MOKOCHONG**	**1.44**	**254**	*e*P	**Pn**	**16 19 39.6**	**+1.7**
MOKO				*e*S	**Sn**	**16 19 58.4**	**+2.3**
MOKO				IAML		16 20 01.6	
	comp=E,6µm,0.4s						
JORH	**JORHAT**	**1.62**	**271**	*e*P	**Pn**	**16 19 37.9**	**-2.2**
JORH				*e*S	**Sn**	**16 20 00.9**	**+0.7**
JORH				IAML		16 20 10.7	
	comp=E,6µm,0.4s						
KOHI	**KOHIMA**	**2.01**	**241**	*e*P	**Pn**	**16 19 46.9**	**+1.4**
KOHI				*e*S	**Sn**	**16 20 10.7**	**+0.8**
KOHI				IAML		16 20 21.1	
	comp=N,3µm,0.5s						
ZIRO	**ZIRO**	**2.13**	**293**	*e*P	**Pn**	**16 19 47.5**	**+0.4**
ZIRO				*e*S	**Sn**	**16 20 10.2**	**-2.5**
ZIRO				IAML		16 20 13.3	
	comp=E,42µm,0.5s						
ZIRO				IAML		16 20 13.7	
	comp=N,36µm,0.3s						
ITAN	**ITANAGAR**	**2.13**	**282**	*e*P	**Pn**	**16 19 47.6**	**+0.7**
ITAN				*e*S	**Sn**	**16 20 07.4**	**-5.1**
ITAN				IAML		16 20 13.5	
	comp=N,7µm,0.3s						
IMP	**Imphal**	**2.67**	**226**	*e*P	**Pn**	**16 19 55.9**	**+1.5**
IMP				*e*S	**Sn**	**16 20 26.2**	**+0.5**
IMP				IAML		16 20 32.2	
	comp=E,438nm,0.5s						
IMP				IAML		16 20 34.2	
	comp=N,558nm,0.7s						
TNCH	**TengChong**	**2.78**	**127**	P	**Pn**	**16 19 56.8**	**+0.9**
TNCH				S	**Sn**	**16 20 30.5**	**+2.0**
TNCH				smax	smax		
	comp=N,890nm,1.2s						
TNCH				smax	smax		
	comp=N,1µm,0.8s						
TNCH				LR	LR		
	comp=N,560nm,5.3s						
TEZP	**TEZPUR**	**2.92**	**269**	*e*P	**Pn**	**16 19 57.6**	**0.0**
TEZP				IAML		16 20 32.7	
	comp=N,3µm,0.1s						
SILR	**SILCHAR**	**3.51**	**237**	*e*P	**Pn**	**16 20 07.1**	**+1.4**
SILR				IAML		16 20 55.7	
	comp=E,2µm,0.8s						
SILR				IAML		16 20 55.8	
	comp=N,2µm,0.3s						
SHL	**Shillong**	**3.92**	**254**	Pn	**Pn**	**16 20 11.1**	**-0.4**
SHL	**Shillong**	**3.92**	**254**	*e*P	**Pn**	**16 20 11.2**	**-0.3**
SHL				*e*S	**Sn**	**16 20 53.0**	**-3.4**
SHL				IAML		16 20 56.7	
	comp=N,997nm,0.2s						
MND	**Mandalay**	**4.68**	**179**	Pn	**Pn**	**16 20 21.7**	**+0.1**
MND	**Mandalay**	**4.68**	**179**	P	**Pn**	**16 20 22.7**	**+1.1**
SAIH	**SAIHA**	**5.05**	**214**	*e*P	**Pn**	**16 20 28.1**	**+1.2**
SAIH				*e*S	**Sn**	**16 21 20.7**	**-3.3**
SAIH				IAML		16 21 33.4	
	comp=N,310nm,0.4s						
PZH	**PanZhiHua**	**5.09**	**91**	P	**Pn**	**16 20 29.0**	**+1.6**
PZH				smax	smax		
	comp=N,70nm,1.1s						
PZH				smax	smax		
	comp=N,80nm,1.3s						
PZH				LR	LR		
	comp=N,360nm,5.4s						
PZH				LR	LR		
	comp=N,270nm,5.7s						
PZH				LR	LR		
	comp=N,200nm,5.7s						
LSA	**Lhasa**	**5.25**	**306**	Pn	**Pn**	**16 20 31.3**	**+1.4**
DHUB	**DHUBRI**	**5.48**	**264**	IAML		16 21 42.6	
	comp=N,344nm,0.3s						
KMI	**Kunming**	**6.22**	**103**	⇑P	**Pn**	**16 20 45.3**	**+2.4**
KMI				S	**Sn**	**16 21 53.3**	**+0.6**
KMI				smax	smax		
	comp=N,44nm,1.2s						
KMI				smax	smax		
	comp=N,39nm,1.5s						
KMI				LR	LR		
	comp=N,280nm,6.1s						
KMI				LR	LR		
	comp=N,160nm,7.2s						
GTK	**Tadong**	**6.68**	**277**	*e*P	**Pn**	**16 20 48.3**	**-0.8**
GTK				*e*S	**Sn**	**16 21 55.4**	**-8.5**
GTK				IAML		16 22 01.3	
	comp=E,330nm,0.4s						
GTK				IAML		16 22 02.2	
	comp=N,349nm,0.3s						
TAPN	**Taplejung**	**7.47**	**277**	*e*P	**Pn**	**16 20 59.2**	**-0.9**
	comp=N,154nm,0.3s						
CRAI	**Chiangrai**	**7.57**	**148**	Pn	**Pn**	**16 21 01.5**	**+0.3**
ODAN	**Odare**	**7.75**	**273**	*e*P	**Pn**	**16 21 02.7**	**-1.6**
ODAN	**Odare**	**7.75**	**273**	*e*P	**Pn**	**16 21 02.7**	**-1.1**
ODAN	**Odare**	**7.75**	**273**	*e*P	**Pn**	**16 21 02.9**	**-0.9**
CHTO	**Chiang Mai**	**8.30**	**161**	Pn	**Pn**	**16 21 12.3**	**+1.1**
CHTO	**Chiang Mai**	**8.30**	**161**	P	**Pn**	**16 21 12.8**	**+1.6**
RAMN	**Ramite**	**8.45**	**274**	*e*P	**Pn**	**16 21 12.8**	**-0.7**
	comp=N,227nm,0.5s						
CM31	**Chiang Mai Arr**	**8.64**	**161**		**Pn**	**16 21 17.7**	**+1.9**
CMAR	**Chiang Mai Arr**	**8.64**	**161**		**Pn**	**16 21 17.6**	**+1.8**
CMAR	**Chiang Mai Arr**	**8.64**	**161**	P	**Pn**	**16 21 16.8**	**+0.9**
	comp=N,41nm,1.0s,baz=336,slow=12,SNR=176						
CMAR				S	**Sn**	**16 22 53.6**	**+1.9**
	comp=N,3.7nm,0.7s,baz=344,slow=22,SNR=4.9						
JIRN	**Jiri**	**8.84**	**278**	*e*P	**Pn**	**16 21 17.6**	**-1.2**
	comp=N,97nm,0.3s						
SLVN	**Son La**	**8.95**	**125**	Pn	**Pn**	**16 21 19.7**	**-0.4**
GUN	**Gumba**	**9.13**	**280**	*e*P	**Pn**	**16 21 21.3**	**-1.5**
	comp=N,89nm,0.3s						
GYA	**Guiyang**	**9.50**	**89**	⇑P	**Pn**	**16 21 30.3**	**+2.7**
GYA				pmax	pmax		
	comp=N,26nm,0.9s						
GOMU	**GeErMu**	**9.51**	**354**	P	**Pn**	**16 21 27.3**	**-0.7**
GOMU				pP		16 21 30.5	
GOMU				S	**Sn**	**16 23 09.3**	**-4.2**
GOMU				pmax	pmax		
	comp=N,11nm,0.6s						
GOMU				LR	LR		
	comp=N,240nm,5.6s						
GOMU				LR	LR		
	comp=N,290nm,5.6s						
GOMU				LR	LR		
	comp=N,230nm,5.7s						
PKI	**Pulchoki**	**9.53**	**278**	*e*P	**Pn**	**16 21 26.5**	**-1.7**
	comp=N,226nm,0.5s						
KKN	**Kakani**	**9.65**	**279**	*e*P	**Pn**	**16 21 28.5**	**-1.3**
KKN	**Kakani**	**9.65**	**279**	*e*P	**Pn**	**16 21 28.7**	**-1.1**
DMN	**Daman**	**9.80**	**278**	*e*P	**Pn**	**16 21 30.5**	**-1.3**
	comp=N,72nm,0.5s						
GKN	**Gorkha**	**10.24**	**280**	*e*P	**Pn**	**16 21 36.1**	**-1.6**
	comp=N,156nm,0.5s						
DANN	**Dangsing**	**11.04**	**281**	*e*P	**Pn**	**16 21 45.7**	**-3.1**
	comp=N,85nm,0.3s						
KOLN	**Koldanda**	**11.14**	**278**	*e*P	**Pn**	**16 21 47.0**	**-3.0**
KOLN	**Koldanda**	**11.14**	**278**	*e*P	**Pn**	**16 21 47.1**	**-3.0**
LZH	**Lanzhou**	**11.46**	**34**	*e*P	**Pn**	**16 21 54.0**	**-0.4**
LZH				sP		16 22 15.0	
LZH				pmax	pmax		
	comp=N,64nm,1.2s						
PYUN	**Piuthan**	**11.70**	**280**	*e*P	**Pn**	**16 21 54.6**	**-3.1**
	comp=N,80nm,0.4s						
GTA	**Gaotai**	**13.04**	**13**	*e*P	**Pn**	**16 22 12.8**	**-3.1**
GTA				pP	P	16 22 25.0	+1.4
GTA				pmax	pmax		
	comp=N,3.0nm,1.2s						
XAN	**Xi'an**	**13.28**	**54**	⇑P	**Pn**	**16 22 17.5**	**-1.5**
XAN				pmax	pmax		
	comp=N,12nm,1.0s						
UBPT	**Khong Chiam**	**14.37**	**141**		**P**	**16 22 36.3**	**-2.0**
UBPT	**Khong Chiam**	**14.37**	**141**	P	**P**	**16 22 35.9**	**-2.4**
LYN	**LuoYang**	**16.12**	**57**	⇑P	**P**	**16 22 58.8**	**+1.1**
LYN				pmax	pmax		
	comp=N,19nm,0.7s						
WHN	**Wuhan**	**16.50**	**72**	⇑P	**Pn**	**16 23 00.8**	**+0.3**
BTO	**Baotou**	**18.05**	**36**	*e*P	**P**	**16 23 18.3**	**-0.7**
BTO				pP	**pP**	**16 23 31.5**	**-2.5**
BTO				PP	**PnPn**	**16 23 35.5**	**+2.7**
BTO				sP	**sP**	**16 23 42.0**	**-1.3**
BTO				pmax	pmax		
	comp=N,39nm,0.8s						
BTO				pmax	pmax		
	comp=N,130nm,6.5s						
WMQ	**Urumqi**	**18.36**	**340**	*e*P	**Pn**	**16 23 25.0**	**+1.8**
WMQ				sP	sP	16 23 50.3	+4.1
WMQ				pmax	pmax		
	comp=N,57nm,0.7s						
HYB	**Hyderabad**	**18.66**	**244**	*e*P	**Pn**	**16 23 33.0**	**+6.1**
HYB				*e*S	**Sn**	**16 26 57.5**	**+2.2**

ZSN	**Zaisan**	**22.50**	**340**	*e*P		**P**		**16 24 08.5**	**+1.5**
	baz=340								
MDOK	**Medeo**	**22.55**	**322**	*i* P		**P**		**16 24 09.8**	**+2.0**
	baz=322								
SONM	**Songino Array**	**22.59**	**18**	P		**P**		**16 24 08.0**	**-0.1**
SONM	**Songino Array**	**22.59**	**18**	P		**P**		**16 24 08.1**	**-0.1**
	comp=Z,4.9nm,0.7s,baz=205,slow=8.8,SNR=43								
SONM				ScP		**ScP**		**16 31 28.7**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=188,slow=9.0,SNR=4.5								
SONM				LR		LR		16 34 29.9	
	comp=Z,66nm,18.7s,baz=348,slow=40								
	comp=Z,4.9nm,0.7s								
AAA	**Alma-Ata**	**22.65**	**321**	*e*P		**P**		**16 24 10.5**	**+1.7**
	comp=Z,16nm,0.8s,baz=322								
ULN	**Ulaanbaatar**	**22.81**	**19**	P		**P**		**16 24 10.4**	**0.0**
MK31	**Makanchi Array**	**22.81**	**335**	P		**P**		**16 24 10.1**	**-0.3**
MKAR	**Makanchi Array**	**22.81**	**335**	P		**P**		**16 24 10.3**	**0.0**
MKAR	**Makanchi Array**	**22.81**	**335**	P		**P**		**16 24 10.7**	**+0.3**
	comp=Z,3.7nm,0.4s,baz=144,slow=11,SNR=56								
MKAR				ScP		**ScP**		**16 31 29.9**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=101,slow=6.3,SNR=13								
MKAR				LR		LR		16 34 49.2	
	comp=Z,49nm,19.6s,baz=146,slow=41								
	comp=Z,3.7nm,0.4s								
MAKZ	**Makanchi**	**22.94**	**335**	P		**P**		**16 24 11.3**	**-0.4**
CHKK	**Chushkaly**	**23.03**	**323**	*e*P		**P**		**16 24 13.1**	**+0.5**
	baz=323								
TDK	**Taldyqorghan**	**23.10**	**327**	*e*P		**P**		**16 24 13.7**	**+0.4**
	baz=327								
TKM2	**Tokmak 2**	**23.22**	**319**	P		**P**		**16 24 17.8**	**+3.1**
	SNR=12								
KUU	**Kurty**	**23.41**	**322**	*e*P		**P**		**16 24 17.3**	**+1.1**
	comp=Z,15nm,1.1s,baz=322								
KBK	**Karagaybulak**	**23.45**	**318**	P		**P**		**16 24 18.8**	**+2.1**
	SNR=7.3								
XLT	**XiLinHaoTe**	**23.58**	**38**	*e*P		**P**		**16 24 18.0**	**+0.2**
XLT				pP		sP		16 24 39.0	-3.9
XLT				PP		**PnPn**		**16 24 56.3**	**+8.0**
XLT				pmax		pmax			
	comp=Z,16nm,0.6s								
XLT				pmax		pmax			
	comp=Z,190nm,5.4s								
AAK	**Ala-Archa**	**23.71**	**318**	P		**P**		**16 24 21.2**	**+2.1**
	SNR=7.5								
AAK	**Ala-Archa**	**23.71**	**318**	P		**P**		**16 24 19.6**	**+0.6**
AAK	**Ala-Archa**	**23.71**	**318**	P		**P**		**16 24 20.0**	**+1.0**
	comp=Z,2.4nm,0.6s,baz=137,slow=9.5,SNR=11								
AAK				ScP		**ScP**		**16 31 33.3**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=116,slow=5.3,SNR=4.3								
AAK				LR		LR		16 34 13.2	
	comp=Z,29nm,20.1s,baz=91,slow=38								
	comp=Z,2.4nm,0.6s								
AML	**Almayashu**	**23.92**	**316**	P		**P**		**16 24 23.7**	**+2.5**
	SNR=8.1								
USP	**Ospenovka**	**24.07**	**319**	P		**P**		**16 24 25.1**	**+3.0**
	SNR=8.0								
SGDS	**Sogindy**	**24.11**	**319**	*e*P		**P**		**16 24 23.9**	**+1.4**
	baz=320								
EKS2	**Erkin-Say**	**24.16**	**317**	P		**P**		**16 24 25.7**	**+2.6**
	SNR=11								
PALK	**Pallekele**	**24.23**	**220**	LR		LR		16 35 06.5	
	comp=Z,29nm,21.0s,baz=131,slow=39								
KBL	**Kabul**	**24.47**	**295**	P		**P**		**16 24 27.4**	**+1.3**
KBL				IAmb		IAmb		16 24 29.5	
	comp=Z,22nm,0.8s								
BTK	**Batken**	**24.82**	**309**	IAmb		IAmb		16 24 32.5	
	comp=Z,21nm,0.8s								
GSI	**Gunungsitoli**	**25.31**	**176**	P		**P**		**16 24 33.5**	**0.0**
GSI				IAmb		IAmb		16 25 02.2	
	comp=Z,18nm,1.1s								
GSI	**Gunungsitoli**	**25.31**	**176**	P		**P**		**16 24 32.0**	**-1.5**
	comp=Z,24nm,1.1s								
BTLS	**Baital**	**25.41**	**322**	*e*P		**P**		**16 24 35.9**	**+1.6**
	baz=322								
SIMJ	**Simiganj**	**25.60**	**304**	P		**P**		**16 24 36.5**	**+0.3**
SEM	**Semipalatinsk**	**26.58**	**337**	*e*P		**P**		**16 24 45.5**	**+0.5**
	baz=337								
KURBB	**Kurchatov Arra**	**27.38**	**335**	P		**P**		**16 24 53.0**	**+1.2**
	comp=Z,5.8nm,0.6s,baz=146,slow=10,SNR=34								
KURBB				pP		**pP**		**16 25 11.4**	**+2.3**
	comp=Z,9.2nm,0.8s,baz=150,slow=10,SNR=10								
KURBB				ScP		**ScP**		**16 31 42.8**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=149,slow=2.3,SNR=8.3								
	comp=Z,5.8nm,0.6s								
KURK	**Kurchatov**	**27.42**	**336**	P		**P**		**16 24 53.7**	**+1.5**
KURK				IAmb		IAmb		16 24 59.4	
	comp=Z,14nm,0.7s								
ZAA0	**Zalesovo Array**	**28.45**	**346**	P		**P**		**16 25 00.3**	**-1.0**
ZALV	**Zalesovo Beam**	**28.45**	**346**	P		**P**		**16 25 01.6**	**+0.2**
ZALV	**Zalesovo Beam**	**28.45**	**346**	P		**P**		**16 25 02.8**	**+1.4**
	comp=Z,2.4nm,0.5s,baz=166,slow=10.0,SNR=13								
ZALV				ScP		**ScP**		**16 31 44.8**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=141,slow=4.8,SNR=3.9								
ZALV				LR		LR		16 37 19.6	
	comp=Z,43nm,19.2s,baz=57,slow=38								
	comp=Z,2.4nm,0.5s								
JOW	**Kunigami**	**28.72**	**82**	P		**P**		**16 25 03.8**	**-0.4**
KSRS	**Korea Array**	**28.92**	**60**	P		**P**		**16 25 05.7**	**0.0**
	comp=Z,1.1nm,0.8s,baz=246,slow=9.3,SNR=4.7								
KSRS				LR		LR		16 36 29.0	
	comp=Z,36nm,21.8s,baz=235,slow=36								
	comp=Z,1.1nm,0.8s								
JNU	**Nakatsue**	**30.75**	**70**	P		**P**		**16 25 21.4**	**-0.6**
JNU				IAmb		IAmb		16 25 31.1	
	comp=Z,20nm,1.2s								
JNU	**Nakatsue**	**30.75**	**70**	P		**P**		**16 25 21.9**	**-0.2**
JNU	**Nakatsue**	**30.75**	**70**	LR		LR		16 37 56.8	
	comp=Z,79nm,18.4s,baz=264,slow=37								
MDJ	**Mudanjiang**	**32.28**	**48**	P		**P**		**16 25 36.8**	**+1.5**
MDJ				sP		sP		16 26 05.0	+3.9
MDJ				ScS		ScS		16 35 57.0	-1.5
MDJ				pmax		pmax			
	comp=Z,9.0nm,1.4s								
MDJ				pmax		pmax			
	comp=Z,280nm,5.0s								
BVAR	**Borovoye Array**	**32.51**	**331**	P		**P**		**16 25 39.0**	**+1.7**
	comp=Z,13nm,0.7s,baz=136,slow=11,SNR=39								
BVAR				PcP		**PcP**		**16 28 23.4**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=148,slow=3.5,SNR=6.4								
BVAR				ScP		**ScP**		**16 31 59.8**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=123,slow=5.2,SNR=5.2								
	comp=Z,13nm,0.7s								
BRVK	**Borovoye**	**32.58**	**331**	P		**P**		**16 25 39.4**	**+1.6**
BRVK				IAmb		IAmb		16 25 40.6	
	comp=Z,14nm,0.7s								
HEH	**HeiHe**	**33.57**	**37**	*e*P		**P**		**16 25 48.0**	**+1.5**
HEH				pmax		pmax			
	comp=Z,30nm,0.9s								
HEH				pmax		pmax			
	comp=Z,330nm,6.0s								
USA0B	**Ussuriysk Arra**	**33.74**	**49**	P		**P**		**16 25 48.8**	**+0.8**
USA0B				IAmb		IAmb		16 26 12.9	
	comp=Z,14nm,1.4s								
USRK	**Ussuriysk Ar.**	**33.74**	**49**	P		**P**		**16 25 47.4**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=246,slow=9.6,SNR=6.8								
	comp=Z,2.5nm,0.7s								
GEYT	**Alibeck**	**33.75**	**299**	P		**P**		**16 25 49.4**	**+1.1**
GEYT				IAmb		IAmb		16 25 51.4	
	comp=Z,5.0nm,0.8s								
GEYT	**Alibeck**	**33.75**	**299**	P		**P**		**16 25 50.1**	**+1.8**
	comp=Z,4.3nm,0.7s,baz=107,slow=14,SNR=10								
GEYT				ScP		**ScP**		**16 32 05.8**	**+1.0**
	comp=Z,3.3nm,0.6s,baz=258,slow=4.4,SNR=7.6								
	comp=Z,4.3nm,0.7s								
TOLI2	**Tolitoli**	**34.82**	**133**	P		**P**		**16 25 58.0**	**+0.4**
TOLI2				IAmb		IAmb		16 25 58.5	
	comp=Z,8.6nm,0.7s								
TOLI2	**Tolitoli**	**34.82**	**133**	P		**P**		**16 25 58.1**	**+0.4**
LEM	**Lembang**	**35.17**	**160**	LR		LR		16 43 24.1	
	comp=Z,108nm,19.6s,baz=32,slow=41								
KLR	**Kul'dur**	**35.52**	**41**	P		**P**		**16 26 03.5**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=287,slow=19,SNR=2.5								
	comp=Z,1.0nm,0.7s								
ABKAR	**Akbulak array**	**35.78**	**319**	P		**P**		**16 26 06.5**	**+0.9**
ABKAR				IAmb		IAmb		16 26 08.3	
	comp=Z,12nm,1.0s								
ABKAR	**Akbulak array**	**35.78**	**319**	P		**P**		**16 26 07.1**	**+1.4**
MJB9	**Matsu-Tunnel**	**36.95**	**64**	P		**P**		**16 26 14.8**	**-1.0**
MJB9				IAmb		IAmb		16 26 39.2	
	comp=Z,15nm,1.1s								
MAJO	**Matsushiro**	**36.95**	**64**	P		**P**		**16 26 14.4**	**-1.4**
MAJO				IAmb		IAmb		16 26 38.2	
	comp=Z,16nm,1.1s								
MAJO	**Matsushiro**	**36.95**	**64**	P		**P**		**16 26 15.7**	**-0.1**
MJAR	**Matsushiro Arr**	**36.95**	**64**	P		**P**		**16 26 15.6**	**-0.2**
	comp=Z,4.3nm,0.5s,baz=274,slow=9.2,SNR=16								
	comp=Z,4.3nm,0.5s								

TTSI	**Tana Toraja**	**37.45**	**139**	P		**P**		**16 26 20.1**	**0.0**
	comp=Z,16nm,0.9s								
LUWI	**Luwuk**	**37.74**	**133**	P		**P**		**16 26 22.0**	**-0.6**
SPSI	**Sidrap Palu**	**38.16**	**140**	P		**P**		**16 26 26.0**	**-0.1**
	comp=Z,22nm,0.9s								
KAPI	**Kappang**	**39.00**	**140**	LR		LR		16 43 33.7	
	comp=Z,24nm,20.0s,baz=342,slow=38								
JMM	**Marumori**	**39.09**	**62**	P		**P**		**16 26 34.9**	**+1.2**
ARU	**Arti**	**40.00**	**328**	P		**P**		**16 26 42.6**	**+1.6**
ARU				IAmb		IAmb		16 26 43.1	
	comp=Z,6.6nm,0.6s								
JKA	**Kamikawa-asahi**	**41.12**	**53**	P		**P**		**16 26 49.4**	**-1.0**
JKA				IAmb		IAmb		16 26 52.3	
	comp=Z,30nm,1.3s								
PLAI	**Plampang**	**41.14**	**146**	P		**P**		**16 26 52.3**	**+1.4**
ERM	**Erimo**	**41.24**	**56**	P		**P**		**16 26 51.9**	**+0.5**
NLAI	**Namlea**	**42.26**	**130**	P		**P**		**16 27 00.0**	**-0.1**
	comp=Z,22nm,0.6s,comp=Z,6µm								
NRIK	**Noril'sk**	**42.95**	**356**	P		**P**		**16 27 05.6**	**+0.8**
NRIK				IAmb		IAmb		16 27 07.1	
	comp=Z,16nm,1.4s								
NRIK	**Noril'sk**	**42.95**	**356**	P		**P**		**16 27 05.7**	**+0.8**
	comp=Z,3.7nm,0.3s,baz=155,slow=5.8,SNR=12								
	comp=Z,3.7nm,0.3s								
MMRI	**Maumere**	**43.36**	**141**	P		**P**		**16 27 07.5**	**-1.4**
MMRI	**Maumere**	**43.36**	**141**	P		**P**		**16 27 08.8**	**-0.1**
SWI	**Sorong**	**43.60**	**123**	P		**P**		**16 27 08.1**	**-2.8**
	comp=Z,32nm,0.9s								
BELG	**Belogornoye**	**44.19**	**319**	P		**P**		**16 27 16.5**	**+1.4**
	comp=Z,7.8nm,0.7s,baz=108,slow=20,SNR=8.2								
	comp=Z,7.8nm,0.7s								
GNI	**Garni**	**44.30**	**301**	LR		LR		16 48 02.6	
	comp=Z,42nm,19.5s,baz=46,slow=39								
SOEI	**Soe**	**45.44**	**139**	P		**P**		**16 27 24.3**	**-1.3**
SOEI	**Soe**	**45.44**	**139**	P		**P**		**16 27 25.8**	**+0.2**
SOEI	**Soe**	**45.44**	**139**	P		**P**		**16 27 24.0**	**-1.6**
FAKI	**Fak Fak**	**45.70**	**125**	P		**P**		**16 27 26.5**	**-1.2**
FAKI	**Fak Fak**	**45.70**	**125**	P		**P**		**16 27 26.9**	**-0.8**
TIXI	**Tiksi**	**48.53**	**13**	P		**P**		**16 27 50.0**	**+1.1**
MA2	**Magadan**	**49.62**	**33**	P		**P**		**16 27 55.6**	**-1.8**
KLMR	**Klimovskoe**	**50.85**	**328**	*e*P		**P**		**16 28 06.7**	**0.0**
KLMR				AMP				16 28 21.9	
	comp=Z,31nm,1.7s								
KLMR				*e*pP		**pP**		**16 28 25.2**	**+0.1**
MTN	**Manton Dam**	**52.03**	**135**	P		**P**		**16 28 13.6**	**-2.4**
MTN				IAmb		IAmb		16 28 15.2	
	comp=Z,6.6nm,0.8s								
MTN	**Manton Dam**	**52.03**	**135**	P		**P**		**16 28 15.6**	**-0.5**
MMAI	**Mount Meron Ar**	**52.36**	**292**	P		**P**		**16 28 20.0**	**+1.5**
	comp=Z,2.2nm,0.8s,baz=55,slow=14,SNR=4.8								
	comp=Z,2.2nm,0.8s								
KNRA	**Kununurra**	**52.77**	**139**	P		**P**		**16 28 19.7**	**-1.8**
KNRA	**Kununurra**	**52.77**	**139**	P		**P**		**16 28 21.0**	**-0.5**
KDU	**Kakadu**	**52.78**	**133**	P		**P**		**16 28 20.7**	**-0.9**
MBWA	**Marble Bar**	**52.83**	**152**	P		**P**		**16 28 21.4**	**-0.5**
MBWA	**Marble Bar**	**52.83**	**152**	P		**P**		**16 28 21.7**	**-0.1**
BR131	**Keskin Array S**	**52.84**	**301**	P		**P**		**16 28 22.8**	**+0.8**
BRTR	**Keskin Array B**	**52.84**	**301**	P		**P**		**16 28 21.8**	**-0.2**
BRTR	**Keskin Array B**	**52.84**	**301**	P		**P**		**16 28 22.9**	**+0.8**
	comp=Z,1.7nm,0.5s,baz=108,slow=7.6,SNR=17								
BRTR				pP		**pP**		**16 28 40.5**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=113,slow=9.5,SNR=3.3								
	comp=Z,1.7nm,0.5s								
FITZ	**Fitzroy Crossi**	**53.00**	**144**	P		**P**		**16 28 21.0**	**-2.1**
FITZ				IAmb		IAmb		16 28 23.5	
	comp=Z,5.2nm,0.8s								
PSA00	**Pilbara Seismi**	**53.25**	**152**	P		**P**		**16 28 24.4**	**-0.5**
PSA00	**Pilbara Seismi**	**53.25**	**152**	P		**P**		**16 28 24.6**	**-0.3**
EIL	**Elat**	**53.39**	**288**	P		**P**		**16 28 27.1**	**+1.0**
	comp=Z,2.8nm,0.7s,baz=51,slow=6.5,SNR=5.2								
EIL				pP		**pP**		**16 28 45.0**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=328,slow=8.8,SNR=3.2								
	comp=Z,2.8nm,0.7s								
AKASG	**Malin Array Be**	**55.33**	**315**	P		**P**		**16 28 39.9**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=78,slow=6.5,SNR=9.8								
AKASG				pP		**pP**		**16 28 58.2**	**-0.3**
	comp=Z,4.6nm,0.6s,baz=76,slow=7.4,SNR=7.6								
AKASG				LR		LR		16 55 33.9	
	comp=Z,60nm,20.6s,baz=208,slow=39								
	comp=Z,1.5nm,0.6s								
AKBB	**Malin Array Si**	**55.33**	**315**	P		**P**		**16 28 39.3**	**-0.5**
AKBB				IAmb		IAmb		16 28 58.8	
	comp=Z,8.7nm,0.8s								
KIEV	**Kiev**	**55.34**	**315**	⇓P		**P**		**16 28 41.8**	**+2.0**
KIEV	**Kiev**	**55.34**	**315**	P		**P**		**16 28 39.3**	**-0.5**
KIEV				IAmb		IAmb		16 28 58.9	
	comp=Z,7.8nm,0.8s								
ELL	**Elmali**	**56.16**	**298**	P		**P**		**16 28 45.1**	**-1.1**
VLDR	**Vladesti**	**56.34**	**309**	⇓P		**P**		**16 28 48.8**	**+1.7**
TATR	**Tatarca**	**56.39**	**309**	⇑P		**P**		**16 28 49.1**	**+1.7**
HARR	**Harsova**	**56.56**	**308**	⇓P		**P**		**16 28 50.1**	**+1.5**
ICOR	**Ion Corvin**	**56.71**	**307**	⇑P		**P**		**16 28 51.6**	**+1.8**
TESR	**Tescani**	**57.27**	**310**	⇓P		**P**		**16 28 54.9**	**+1.2**
VRI	**Vrincioaia**	**57.28**	**309**	⇓P		**P**		**16 28 56.0**	**+2.3**
MEEK	**Meekatharra**	**57.32**	**156**	P		**P**		**16 28 54.7**	**+0.6**
PLOR	**Plostina**	**57.34**	**309**	⇑P		**P**		**16 28 56.4**	**+2.2**
FIA1	**FINESS Array S**	**57.37**	**328**	P		**P**		**16 28 53.5**	**-0.5**
FINES	**FINESS Array B**	**57.37**	**328**	P		**P**		**16 28 53.6**	**-0.5**
FINES	**FINESS Array B**	**57.37**	**328**	P		**P**		**16 28 54.8**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=90,slow=8.7,SNR=18								
	comp=Z,1.5nm,0.5s								
ISR	**Istrita**	**57.49**	**308**	⇑P		**P**		**16 28 57.5**	**+2.2**
COVR	**Voineasa-Covas**	**57.65**	**309**	⇓P		**P**		**16 28 58.1**	**+1.7**
TURR	**Turia**	**57.76**	**309**	⇑P		**P**		**16 28 58.7**	**+1.6**
MLR	**Muntele Rosu**	**57.87**	**309**	⇓P		**P**		**16 29 00.4**	**+2.3**
MLR	**Muntele Rosu**	**57.87**	**309**	P		**P**		**16 28 56.9**	**-1.2**
MLR	**Muntele Rosu**	**57.87**	**309**	P		**P**		**16 28 59.9**	**+1.9**
	comp=Z,9.9nm,0.7s,baz=117,slow=6.8,SNR=11								
	comp=Z,9.9nm,0.7s								
OZUR		**57.91**	**309**	⇓P		**P**		**16 28 60.0**	**+1.8**
BILL	**Bilibino**	**58.12**	**25**	P		**P**		**16 28 58.2**	**-1.0**
BILL				IAmb		IAmb		16 29 25.8	
	comp=Z,9.4nm,1.4s								
BURAR	**Bucovina Array**	**58.14**	**311**	⇓P		**P**		**16 29 01.3**	**+1.5**
DOPR	**Dopca**	**58.20**	**309**	⇓P		**P**		**16 29 01.7**	**+1.4**
ARCES	**ARCESS Array B**	**58.45**	**337**	P		**P**		**16 29 02.5**	**+1.0**
	comp=Z,3.3nm,0.9s,baz=67,slow=9.3,SNR=7.1								
	comp=Z,3.3nm,0.9s								
VOIR		**58.50**	**309**	⇑P		**P**		**16 29 03.8**	**+1.4**
WB0	**Warramunga Arr**	**59.30**	**137**	P		**P**		**16 29 07.0**	**-1.1**
LOT	**Lotru**	**59.40**	**309**	⇓P		**P**		**16 29 10.3**	**+1.6**
WRA	**Warramunga Arr**	**59.41**	**137**	P		**P**		**16 29 08.3**	**-0.5**
	comp=Z,29nm,0.5s,baz=325,slow=7.5,SNR=623								
WRAB	**Tennant Creek**	**59.41**	**137**	P		**P**		**16 29 08.0**	**-0.8**
WB2	**Warramunga Arr**	**59.41**	**137**	P		**P**		**16 29 07.9**	**-1.0**
WR0	**Warramunga Arr**	**59.54**	**137**	P		**P**		**16 29 08.7**	**-1.1**
KWP	**Kalwaria Pacla**	**59.58**	**314**	P		**P**		**16 29 09.8**	**+0.1**
WRKA	**Warakurna**	**60.12**	**146**	P		**P**		**16 29 14.2**	**+0.5**
BLDU	**Ballidu**	**60.33**	**160**	P		**P**		**16 29 14.6**	**-0.3**
HERR	**Herculane**	**60.43**	**308**	⇓P		**P**		**16 29 17.0**	**+1.4**
MUN	**Mundaring**	**61.45**	**161**	P		**P**		**16 29 21.9**	**-0.6**
AS31	**Alice Springs**	**62.02**	**140**	P		**P**		**16 29 26.2**	**-0.4**
ASAR	**Alice Springs**	**62.02**	**140**	P		**P**		**16 29 25.6**	**-1.0**
ASAR	**Alice Springs**	**62.02**	**140**	P		**P**		**16 29 26.1**	**-0.4**
	comp=Z,17nm,0.6s,baz=323,slow=6.7,SNR=552								
	comp=Z,17nm,0.6s								
VYHS	**Vyhne**	**62.26**	**313**	*e*P		**P**		**16 29 29.0**	**+1.1**
NWAO	**Narrogin (SRO)**	**62.64**	**160**	P		**P**		**16 29 29.5**	**-0.9**
NWAO	**Narrogin (SRO)**	**62.64**	**160**	P		**P**		**16 29 30.1**	**-0.3**
QIS	**Mount Isa**	**63.16**	**134**	P		**P**		**16 29 33.8**	**-0.4**
MODS	**Modra-Piesok**	**63.30**	**313**	*e*P		**P**		**16 29 34.9**	**+0.1**
HFS	**Hagfors**	**63.48**	**326**	P		**P**		**16 29 36.4**	**+0.7**
	comp=Z,2.8nm,0.6s,baz=90,slow=7.7,SNR=9.5								
	comp=Z,2.8nm,0.6s								
VRAC	**Vranov**	**63.57**	**314**	⇓P		**P**		**16 29 37.9**	**+1.3**
CONA	**Conrad Observa**	**64.32**	**313**	*i* P		**P**		**16 29 42.8**	**+1.2**
	comp=Z,5.0nm,1.0s								
NB2	**NORSAR Subarra**	**64.55**	**328**	P		**P**		**16 29 43.1**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=82,slow=6.5								
NOA	**NORSAR Array B**	**64.55**	**328**	P		**P**		**16 29 42.7**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=81,slow=6.5,SNR=6.6								
NOA				pP		**pP**		**16 30 01.1**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=81,slow=6.4,SNR=3.6								
	comp=Z,1.5nm,0.6s								
ARSA	**Arzberg**	**64.69**	**312**	*e*P		**P**		**16 29 44.9**	**+0.9**
	comp=Z,5.2nm,1.4s								
NC204	**NORSAR Array S**	**64.73**	**328**	P		**P**		**16 29 43.0**	**-0.9**
NC204				IAmb		IAmb		16 30 08.5	
	comp=Z,28nm,1.5s								
FORT	**Forrest**	**64.84**	**150**	P		**P**		**16 29 43.9**	**-1.0**
FORT	**Forrest**	**64.84**	**150**	P		**P**		**16 29 45.6**	**+0.7**
SOKA	**Soboth**	**65.14**	**311**	*e*P		**P**		**16 29 47.8**	**+0.8**
	comp=Z,2.9nm,0.5s,SNR=4.6								
MOA	**Molln**	**65.39**	**313**	*i* P		**P**		**16 29 49.5**	**+1.0**
	comp=Z,4.7nm,0.6s,SNR=4.4								

GERES	**GERESS Array B**	**65.53**	**314**	P		**P**		**16 29 50.2**	**+0.8**
GERES	**GERESS Array B**	**65.53**	**314**	P		**P**		**16 29 50.6**	**+1.2**
	comp=Z,2.2nm,0.7s,baz=62,slow=6.5,SNR=8.9								
GERES				pP		**pP**		**16 30 08.7**	**0.0**
	comp=Z,1.2nm,0.6s,baz=69,slow=7.3,SNR=2.7								
	comp=Z,2.2nm,0.7s								
KBA	**Koelnbreinsper**	**66.18**	**312**	*i* P		**P**		**16 29 54.1**	**+0.4**
	comp=Z,3.1nm,0.5s								
OOD	**Oodnadatta**	**66.24**	**142**	P		**P**		**16 29 54.2**	**+0.2**
LESA	**Schwarzleotal**	**66.53**	**313**	*i* P		**P**		**16 29 56.5**	**+0.6**
	comp=Z,5.8nm,0.5s								
STAL	**STALIGIAL**	**66.80**	**311**	P		**P**		**16 29 57.2**	**-0.4**
STAL				IAmb		IAmb		16 30 16.3	
	comp=Z,8.9nm,1.1s								
ABTA	**Abfaltersbach**	**66.81**	**312**	*i* P		**P**		**16 29 57.4**	**-0.3**
	comp=Z,4.3nm,1.0s								
WTTA	**Wattenberg**	**67.26**	**313**	*i* P		**P**		**16 30 00.6**	**0.0**
	comp=Z,3.7nm,0.6s,SNR=4.3								
WATA	**Walderalm**	**67.28**	**313**	*e*P		**P**		**16 29 59.4**	**-1.3**
	comp=Z,6.6nm,1.1s								
CTAO	**Charters Tower**	**67.32**	**129**	P		**P**		**16 29 59.6**	**-1.5**
CTAO				IAmb		IAmb		16 30 02.3	
	comp=Z,8.5nm,0.9s								
CTAO	**Charters Tower**	**67.32**	**129**	P		**P**		**16 30 01.6**	**+0.5**
MULG	**Mulgathing**	**67.33**	**145**	P		**P**		**16 30 01.0**	**0.0**
FDMO	**Fiordimonte**	**67.40**	**308**	P		**P**		**16 30 00.3**	**-1.1**
FDMO				IAmb		IAmb		16 30 16.9	
	comp=Z,25nm,1.4s								
NRCA	**Norcia**	**67.44**	**308**	P		**P**		**16 30 00.5**	**-1.2**
NRCA				IAmb		IAmb		16 30 25.3	
	comp=Z,16nm,1.3s								
SQTA	**Sankt Quirin**	**67.55**	**313**	*i* P		**P**		**16 30 02.5**	**+0.1**
	comp=Z,4.1nm,0.7s								
MOTA	**Moosalm**	**67.58**	**313**	*i* P		**P**		**16 30 03.0**	**+0.3**
	comp=Z,6.3nm,1.0s,SNR=5.3								
RETA	**Reutte**	**67.77**	**313**	*i* P		**P**		**16 30 04.4**	**+0.7**
	comp=Z,6.8nm,0.6s,SNR=5.9								
VOI	**Vohitsoka**	**67.90**	**229**	P		**P**		**16 30 04.0**	**-0.9**
VOI				IAmb		IAmb		16 30 22.6	
	comp=Z,11nm,1.1s								

BHD AML AML 16 30 50.2
comp=E,3μm,0.6s
IKOM Komasi 1.72 106 Pg **Pb** **16 30 20.0 +1.9**
IBZA Bozab 1.94 95 Pn **Pb** **16 30 23.0 +0.9**
MAHB Mahabad 2.11 4 Pn **Pb** **16 30 24.2 -0.6**
IALM Almabolaq 2.19 84 Pn **Pb** **16 30 26.6 +0.3**
HSAM Samen 2.59 99 Pn **Pn** **16 30 31.6 +3.0**
HAGD Aghdareh 2.99 86 Pn **Pn** **16 30 37.3 +3.2**
IHSH Hashtrud 3.00 28 Pn **Pn** **16 30 37.1 +2.8**
IAZR Azarshahr 3.04 7 Pn **Pn** **16 30 37.1 +2.3**
QSDN Sirdan 3.50 57 Pn **Pn** **16 30 44.3 +3.2**
ITBZ Tabriz 3.60 8 Pn **Pn** **16 30 44.6 +2.2**
ISRB Sarab 3.60 28 Pn **Pn** **16 30 44.9 +2.4**
IRAZ Razeghan 3.69 77 Pn **Pn** **16 30 46.9 +3.1**
IHRS Heris 3.85 18 Pn **Pn** **16 30 48.5 +2.5**
JIR1 Jirandeh 4.04 58 Pn **Pn** **16 30 51.4 +2.9**
IMRD Marand 4.05 2 Pn **Pn** **16 30 51.1 +2.5**
ORD Ordubad 4.28 5 P **Pb** **16 31 04.8 +3.0**
ORD S **Sg** **16 32 02.5 -1.3**
AMIS Naft Sefid 4.35 132 Pn **Pn** **16 30 54.8 +2.2**
NAX Nakhchivan 4.51 360 P **Pg** **16 31 09.7 -3.0**
NAX S **Sg** **16 32 11.5 +0.4**
GRMI Germi 4.56 24 Pn **Pn** **16 30 58.2 +2.6**
IQOM Qom 4.57 86 Pn **Pn** **16 30 58.7 +2.7**
LRK Lerik 4.58 29 P **Pn** **16 30 59.0 +3.1**
SNR=12
LRK S **Sn** **16 31 51.7 +2.5**
ASTR Astara 4.70 33 P **Pn** **16 30 58.6 +1.2**
SNR=9.6
ASTR S **Sn** **16 31 51.2 -0.8**
SBZ Shahbuz 4.73 0 P **Pb** **16 31 12.4 +2.9**
SNR=6.2
SBZ S **Sg** **16 32 16.4 -1.9**
MAKU Maku 4.73 352 Pn **Pn** **16 31 00.3 +2.3**
YRD Yardimli 4.78 26 P **Pn** **16 31 02.4 +3.8**
SNR=7.8
YRD S **Sn** **16 31 58.3 +4.1**
LKRN Lenkeran, Azer 4.82 32 P **Pn** **16 31 00.4 +1.5**
SNR=5.8
LKRN S **Sn** **16 31 54.7 -0.2**
KLST Kelardasht - M 4.88 66 Pn **Pn** **16 31 04.2 +4.0**
JHBN Jahan bin 4.94 118 Pn **Pn** **16 31 02.7 +1.8**
QAMS Qamsar 4.96 99 Pn **Pn** **16 31 04.5 +3.3**
IVRN Varamin 5.12 84 Pn **Pn** **16 31 06.8 +3.6**
GLBA Clilabad 5.12 26 P **Pn** **16 31 07.0 +3.9**
SNR=6.4
GLBA S **Sn** **16 32 07.3 +5.0**
IKLH Kolahrood 5.21 103 Pn **Pn** **16 31 08.3 +3.7**
MZPU Pul - Mazandar 5.24 68 Pn **Pn** **16 31 08.8 +3.8**
IDMV Damavand 5.42 78 Pn **Pn** **16 31 10.9 +3.4**
GNI Garni 5.51 354 P **Pg** **16 31 32.6 +0.5**
GNI Garni 5.51 354 P **Pg** **16 31 33.0 +0.9**
GNI S **Sg** **16 32 49.7 +6.2**
GNI Garni 5.51 354 Pn **Pn** **16 31 13.3 +4.6**
comp=E,1.4nm,0.3s,baz=75,slow=14,SNR=1.9
GNI Lg Lg 16 32 48.3
comp=E,0.9nm,0.3s,baz=20,slow=23,SNR=1.4
comp=E,4.4nm,0.3s
KRSH Karshahi 5.52 95 Pn **Pn** **16 31 12.4 +3.5**
IBRJ Brojen 5.54 118 Pn **Pn** **16 31 12.5 +3.3**
ISFB Sefidab 5.56 91 Pn **Pn** **16 31 11.6 +2.3**
IZEF Zefreh 5.94 105 Pn **Pn** **16 31 17.9 +3.2**
IFIR Firoozkooh 6.01 79 Pn **Pn** **16 31 19.3 +3.7**
IRAM Ramesheh 6.41 114 Pn **Pn** **16 31 23.6 +2.4**
ANAR Anarak 6.98 100 Pn **Pn** **16 31 31.7 +2.9**
DSBU Dashti - Bushe 7.96 140 Pn **Pn** **16 31 44.4 +2.2**
NATI Neve Ativ 8.25 263 Pn **Pn** **16 31 54.7 +8.6**
KSHT Keshet 8.25 261 Pn **Pn** **16 31 55.4 +9.2**
GEM Giv'at Ha'Em 8.32 263 Pn **Pn** **16 31 55.3 +8.2**
SHMJ Saham 8.35 259 P Pg **16 32 33.9 +7.6**
MMA0B Mount Meron ar 8.57 262 Pn **Pn** **16 31 58.7 +8.0**
MMC7 Mount Meron ar 8.58 262 Pn **Pn** **16 32 00.0 +9.2**
QRNJ Al-Qirein 8.62 257 P **Pg** **16 32 33.5 +2.0**
HMDT Nahal Hemdat 8.69 257 P **Pg** **16 32 37.5 +4.8**
UJAP Al Uja 8.84 255 P Pg **16 32 41.9 +6.3**
OFRI `Ofer 9.02 260 Pn **Pn** **16 32 04.5 +7.8**
TPRV Parvadeh(Tabas 9.43 97 Pn **Pn** **16 32 05.2 +2.8**
HRFI Mount Harif 9.99 245 Pn **Pn** **16 32 18.9 +8.8**
SMRA Abu-Samra 10.90 154 P **Pn** **16 32 22.2 -0.3**
SMRA S **Sn** **16 34 09.2 -15**
TRNA Turayna 11.06 152 P **Pn** **16 32 24.8 +0.2**
SNR=6.1
TRNA S Sn 16 34 12.0 -16
SHME Shamm 12.55 130 P **Pn** **16 32 44.3 -0.8**
SHME S Sn 16 34 56.7 -8.3
SHME Shamm 12.55 130 P **Pn** **16 32 45.1 0.0**
SHME S **Sn** **16 34 58.7 -6.3**
AJN Ajban 12.99 138 P **Pn** **16 32 52.1 +1.0**
NAZ Nazwa, Dubai 13.04 135 P **Pn** **16 32 52.0 +0.2**
MASF Masafi 13.05 132 P **Pn** **16 32 51.8 -0.2**
SNR=12
MASF S **Sn** **16 35 10.5 -6.8**
MSFE Esma-Masafi 13.06 132 P **Pn** **16 32 50.9 -1.3**
ASUD Al Ashush, Dub 13.13 137 P **Pn** **16 32 53.1 0.0**
ASUD Al Ashush, Dub 13.13 137 P **Pn** **16 32 53.5 +0.5**
SNR=7.6
ASUD S Sn 16 35 11.5 -7.7
FAQ Al Faqa, Dubai 13.19 136 P **Pn** **16 32 53.5 -0.4**
FAQ Al Faqa, Dubai 13.19 136 P **Pn** **16 32 53.9 +0.1**
FAQ S **Sn** **16 35 15.0 -5.7**
HATD Hatta, Dubai 13.45 134 P **Pn** **16 32 56.5 -0.8**
HATD Hatta, Dubai 13.45 134 P **Pn** **16 32 56.9 -0.4**
SNR=7.4
HATD S Sn 16 35 18.1 -8.8
ASHO Ashiyiah 13.51 135 P **Pn** **16 32 57.3 -0.9**
ASHO P P 16 32 57.6 -10
ASHO S Sn 16 35 20.7 -7.8
ASHO Ashiyiah 13.51 135 P **Pn** **16 32 59.0 +0.8**
SNR=22
ASHO S Sn 16 35 20.4 -8.1
ALNE Al Ain 13.82 137 P **Pn** **16 33 02.3 -0.1**
ALNE S Sn 16 35 28.6 -7.4
SOHO SOHO 14.21 135 P **Pn** **16 33 06.7 -1.0**
SOHO SOHO 14.21 135 P **Pn** **16 33 07.3 -0.4**
SOHO S Sn 16 35 36.4 -9.0
ARQ Araqi 14.82 137 P **Pn** **16 33 15.1 -1.0**
SNR=6.8
ARQ S Sn 16 35 49.6 -11
BIDO Bidbid 15.62 132 P **Pn** **16 33 25.2 -1.5**
BIDO P **P** **16 33 26.5 -4.5**
BIDO S Sn 16 36 09.5 -10
BSY Bisya 15.67 136 P **Pn** **16 33 25.9 -1.4**
BSY P **Pn** **16 33 25.9 -1.4**
BSY S Sn 16 36 11.2 -10
BSY S Sn 16 36 11.2 -10
SMDO Samad 15.92 133 P **Pn** **16 33 29.3 -1.4**
SMDO S Sn 16 36 15.5 -12
WSAR Wadi Sarin 16.14 131 P **Pn** **16 33 31.3 -2.1**
SNR=7.5
WSAR S Sn 16 36 20.7 -12
WSAR Wadi Sarin 16.14 131 Pn **Pn** **16 33 29.6 -3.9**
comp=E,1.0nm,0.3s,baz=321,slow=11,SNR=14
comp=E,4.6nm,0.5s
JMDO Jabal Madar 16.48 135 P **Pn** **16 33 36.2 -1.6**
JMDO S Sn 16 36 28.7 -12
WBK Wadi Bani Khal 16.82 132 P **Pn** **16 33 40.9 -1.1**
JLN Jalan Bani Buh 17.43 132 P **Pn** **16 33 48.9 -0.9**
MHTO MHTO 17.49 138 P **Pn** **16 33 48.4 -2.0**
MHTO P **Pn** **16 33 48.4 -2.0**
MHTO S Sn 16 36 56.1 -9.2
MHTO S Sn 16 36 56.1 -9.2
DQM DQM 18.12 141 P **Pn** **16 33 54.4 -3.9**
DQM S Sn 16 37 08.8 -12
AKTO Aktyubinsk 18.22 26 P **P** **16 34 00.0 +0.6**
comp=E,0.1nm,0.3s,baz=213,slow=12,SNR=2.9
comp=E,1.0nm,0.8s
WHFO Wadi Hawf 18.23 154 P **Pn** **16 33 57.5 -2.1**
WHFO S Sn 16 37 07.5 -16
ABTO Aybut 18.58 156 P **P** **16 34 01.6 -2.1**
ABTO S Sn 16 37 14.1 -18
RBK Rabkut 18.77 153 P **P** **16 34 03.2 -2.6**
RBK S Sn 16 37 23.1 -13
DMTO DMTO 18.86 151 P **P** **16 34 04.2 -2.5**
SNR=12
DMTO S Sn 16 37 24.4 -14
AKASG Malin Array Be 19.94 328 P **P** **16 34 12.6 -5.8**
comp=E,0.3nm,0.5s,baz=140,slow=9.8,SNR=1.4
AAK Ala-Archa 23.91 62 P **P** **16 35 02.5 +1.9**
comp=E,0.3nm,0.3s,baz=269,slow=8.8,SNR=1.8
comp=E,0.3nm,0.3s
BVAR Borovoye Array 25.46 36 P **P** **16 35 15.0 +0.6**
comp=E,1.8nm,0.7s,baz=238,slow=7.3,SNR=11
comp=E,1.8nm,0.7s
KURBB Kurchatov Arra 28.75 46 P **P** **16 35 45.3 +1.3**
comp=E,0.9nm,0.7s,baz=251,slow=9.2,SNR=5.2
comp=E,0.9nm,0.7s
FINES FINESS Array B 29.54 341 P **P** **16 35 48.9 -1.9**
comp=E,1.7nm,0.8s,baz=141,slow=12,SNR=4.2
comp=E,1.7nm,0.8s
MKAR Makanchi Array 30.12 55 P **P** **16 35 58.0 +1.8**
comp=E,2.5nm,0.6s,baz=254,slow=7.3,SNR=24
comp=E,2.5nm,0.6s
HFS Hagfors 32.79 331 P P 16 36 15.4 -4.1
comp=E,3.5nm,0.5s,baz=143,slow=11,SNR=5.0
comp=E,3.5nm,0.5s
DANN Dangsing 33.06 90 *eP* **P** **16 36 23.7 +1.1**
comp=E,11nm,0.9s
ZALV Zalesovo Beam 33.52 43 P **P** **16 36 25.9 0.0**
comp=E,0.8nm,0.6s,baz=232,slow=7.1,SNR=4.1
ZALV LR LR 16 51 03.8
comp=E,44nm,18.9s,baz=44,slow=38
comp=E,0.8nm,0.6s
GKN Gorkha 33.91 90 *eP* **P** **16 36 30.8 +1.0**
comp=E,7.6nm,0.5s
NOA NORSAR Array B 34.31 331 P P 16 36 27.7 -5.2
comp=E,0.7nm,0.7s,baz=122,slow=8.4,SNR=3.6
comp=E,0.7nm,0.7s
PKI Pulchoki 34.70 91 *eP* **P** **16 36 37.5 +0.6**
comp=E,5.7nm,0.7s
GUN Gumba 34.97 90 *eP* **P** **16 36 40.0 +0.8**
comp=E,15nm,0.8s
JIRN Jiri 35.31 90 *eP* **P** **16 36 43.2 +0.9**
comp=E,11nm,0.7s
RAMN Ramite 35.92 91 *eP* **P** **16 36 48.7 +1.4**
comp=E,12nm,0.7s
ARCES ARCESS Array B 36.64 348 P **P** **16 36 50.1 -2.6**
comp=E,4.0nm,1.0s,baz=154,slow=11,SNR=4.5
comp=E,4.0nm,1.0s
TAPN Taplejung 36.68 90 *eP* **P** **16 36 55.9 +2.0**
comp=E,11nm,0.8s
EKA Eskdalemuir Ar 39.14 317 P P 16 37 08.8 -5.1
comp=E,1.7nm,0.8s,baz=101,slow=9.5,SNR=1.8
comp=E,1.7nm,0.8s
TORD Torodi Ar. Bea 44.98 253 P P 16 37 50.8 -11
comp=E,0.2nm,0.5s,baz=71,slow=5.2,SNR=2.1
comp=E,0.2nm,0.5s
SPITS Spitsbergen Ar 45.38 352 P **P** **16 38 01.6 -2.9**
comp=E,3.9nm,0.8s,baz=166,slow=8.5,SNR=7.8
comp=E,3.9nm,0.8s
SONM Songino Array 46.48 54 P **P** **16 38 13.5 -0.2**
comp=E,0.2nm,0.6s,baz=276,slow=4.2,SNR=1.6
comp=E,0.2nm,0.6s
CMAR Chiang Mai Arr 49.88 95 P **P** **16 38 39.4 -0.8**
comp=E,1.3nm,0.8s,baz=295,slow=8.4,SNR=9.3
comp=E,1.3nm,0.8s
XLT XiLinHaoTe 53.88 58 *eP* **P** **16 39 13.5 +3.6**
XLT pP sP 16 39 18.5 +4.1
XLT sP pP 16 39 22.5 +9.3
XLT pmax pmax
comp=Z,5.0nm,0.9s
XLT pmax pmax
comp=Z,100nm,5.4s
USRK Ussuriysk Ar. 64.54 53 P **P** **16 40 22.7 -0.9**
comp=E,1.3nm,0.8s,baz=307,slow=6.0,SNR=2.4
comp=E,1.3nm,0.8s
KSRS Korea Array 64.56 61 P **P** **16 40 23.4 -0.4**
comp=E,2.1nm,0.7s,baz=289,slow=6.8,SNR=13
comp=E,2.1nm,0.7s
ILAR Eielson Array 80.42 5 P **P** **16 41 57.3 -0.5**
comp=E,0.6nm,0.8s,baz=334,slow=5.0,SNR=6.3
comp=E,0.6nm,0.8s
YKA Yellowknife Ar 81.87 351 P **P** **16 42 04.2 -1.4**
comp=E,0.5nm,0.7s,baz=14,slow=5.4,SNR=7.8
comp=E,0.5nm,0.7s

IDC 29 16:38:37.3±2.1, 3.80S×152.00E, h0km, mb3.6/3, mbtmp3.6/3, MS3.1/8, Error ellipse: s-maj=176.1km s-min=27.8km az=126.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.36**	**221**	LR	LR	16 43 23.7	
	comp=Z,137nm,21.4s,baz=63,slow=39						
GUMO	**Guam**	**18.67**	**338**	LR	LR	16 48 28.9	
	comp=Z,64nm,20.6s,baz=144,slow=32						
DZM	**Mont Dzumac**	**22.94**	**144**	LR	LR	16 52 13.8	
	comp=Z,67nm,19.2s,baz=230,slow=36						
WRA	**Warramunga Arr**	**23.54**	**226**	P	P	16 43 49.6	+0.1
	1.8nm,1.0s,baz=51,slow=9.9,SNR=8.4						
	1.8nm,1.0s						
ASAR	**Alice Springs**	**26.37**	**220**	P	P	16 44 15.7	+0.1
	0.7nm,0.9s,baz=53,slow=8.7,SNR=9.2						
	0.7nm,0.9s						
MJAR	**Matsushiro Arr**	**42.15**	**343**	LR	LR	17 03 22.3	
	comp=Z,13nm,19.6s,baz=148,slow=35						
RPZ	**Rata Peaks**	**43.18**	**160**	LR	LR	17 03 02.5	
	comp=Z,48nm,21.0s,baz=332,slow=34						
KSRS	**Korea Array**	**46.75**	**334**	LR	LR	17 04 18.5	
	comp=Z,10nm,21.5s,baz=140,slow=33						
KLR	**Kul'dur**	**55.67**	**344**	LR	LR	17 09 56.8	
	comp=Z,19nm,21.8s,baz=98,slow=34						
ILAR	**Eielson Array**	**81.54**	**22**	P	P	16 50 56.4	-0.2
	0.5nm,0.7s,baz=237,slow=5.5,SNR=7.1						
ILAR				LR	LR	17 22 28.7	
	comp=Z,30nm,21.9s,baz=352,slow=32						
	0.5nm,0.7s						

ROM 29 16:48:00.4±0.1, 42.827N±0.004×13.115E±0.005, h11km, ML0.9/5, 1C-2D, Error ellipse: s-maj=0.5km s-min=0.3km az=121.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.01**	**356**	↓P	Pg	16 48 02.7	+0.2
NRCA				S	Sg	16 48 03.9	-0.1
NRCA				AML	AML		
	comp=E,142μm,1.4s						
NRCA				AML	AML		
	comp=N,296μm,0.1s						
NRCA				AML	AML		
	comp=E,142μm,0.6s						
NRCA				AML	AML		
	comp=N,269μm,0.1s						
T1214	**Arquata del Tr**	**0.10**	**134**	P	Pg	16 48 03.7	+0.4
T1214				S	Sg	16 48 05.7	+0.4
MC2	**Monte Cornacci**	**0.10**	**33**	P	Pg	16 48 03.8	+0.4
MC2				S	Sg	16 48 06.1	+0.5
FEMA	**Monte Fema**	**0.14**	**341**	P	Pg	16 48 04.3	+0.4
MMO1	**Montemonaco**	**0.17**	**65**	↑P	Pg	16 48 04.8	+0.5
MMO1				S	Sg	16 48 07.7	+0.7
FDMO	**Fiordimonte**	**0.21**	**354**	↓P	Pg	16 48 05.4	+0.5
FDMO				S	Sg	16 48 08.9	+0.9
FDMO				AML	AML		
	comp=N,31μm,0.9s						
FDMO				AML	AML		
	comp=E,26μm,0.2s						
GAVE	**Gavelli**	**0.21**	**230**	P	Pg	16 48 05.4	+0.5
GAVE				S	Sg	16 48 09.1	+1.1
CESI	**CESI - Serrava**	**0.24**	**319**	P	Pg	16 48 05.9	+0.5
CSP1	**Cessapalombo**	**0.27**	**14**	P	Pg	16 48 06.6	+0.5
CSP1				S	Sb	16 48 11.0	-1.1

*DNK **29** 16:49:01.5±1.4, 51.32N×16.23E, h17km±58km, ML1.9*
*IDC **29** 16:49:04.8±0.8, 51.49N×15.76E, h0km, mbtmp3.2/7, ML2.8/7, Error ellipse: s-maj=15.8km s-min=8.5km az=95.0*
*VIE **29** 16:49:04.8±0.8, 51.44N×16.00E, h0km, mb2.9/11, ml2.6/16, Error ellipse: s-maj=5.6km s-min=4.1km az=28.0*
80 km WNW of Wroclaw Suspected Mining induced.
*IPEC **29** 16:49:04.0±0.2, 51.52N×16.20E, h0km, ML2.5/4, Error ellipse: s-maj=2.0km s-min=1.1km az=36.0*
*PRU **29** 16:49:06.9, 51.40N×16.08E, h0km*

ISC 29 16:49:02.8±0.7, 51.55N±0.03×16.13E±0.02, h0km, n62, σ1.28/113, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.72**	**172**	*e*Pg	**Pg**	**16 49 17.4**	**+0.8**
KSP				*e*Sg	**Sg**	**16 49 25.8**	**0.0**
CHVC	**Chvalec**	**0.97**	**183**	*e*PG	**Pb**	**16 49 22.2**	**-0.2**
CHVC				*e*SG	**Sg**	**16 49 33.7**	**-0.1**
OSTC	**Ostas**	**1.00**	**177**	*e*PG	**Pb**	**16 49 22.7**	**-0.3**
OSTC				*e*SG	**Sg**	**16 49 34.2**	**-0.6**
	comp=Z,54nm,0.3s						
UPC	**Upice**	**1.05**	**184**	*e*PG	**Pb**	**16 49 23.5**	**-0.3**
UPC				*e*SG	**Sg**	**16 49 36.2**	**-0.2**
	comp=Z,105nm,0.5s						
DPC	**Dobruska-Polom**	**1.21**	**174**	*e*PG	**Pg**	**16 49 26.2**	**+0.2**
DPC				*e*SG	**Sg**	**16 49 40.5**	**-1.1**
	comp=Z,54nm,0.6s						
PVCC	**Panska Ves**	**1.42**	**224**	*e*PG	**Pb**	**16 49 30.6**	**+0.4**
PVCC				*e*SG	**Sg**	**16 49 48.3**	**-0.2**
	comp=Z,187nm,0.3s						
BRG	**Berggiesshubel**	**1.54**	**245**	Pn	**Pn**	**16 49 31.8**	**+0.3**
BRG				Pg	**Pg**	**16 49 33.0**	**+0.8**
BRG				Sg	**Sg**	**16 49 53.1**	**+1.1**
BRG				Amp		16 49 53.8	
	comp=Z,67nm,0.3s						
KRLC	**Kraliky**	**1.54**	**164**	*e*PG	**Pn**	**16 49 31.8**	**+0.3**
KRLC				*e*SG	**Sg**	**16 49 50.7**	**-1.4**
RICC	**Richard**	**1.63**	**233**	*e*PG	**Pb**	**16 49 33.8**	**0.0**
RICC				*e*SG	**Sb**	**16 49 55.1**	**+0.2**
	comp=Z,66nm,0.5s						
PRA	**Prague**	**1.83**	**217**	*e*PN	**Pn**	**16 49 36.0**	**+0.5**
GOPC	**GO Pecny, Ondr**	**1.85**	**208**	*e*PN	**Pn**	**16 49 35.9**	**+0.1**
GOPC				*e*PG	**Pb**	**16 49 37.0**	**-0.5**
PRU	**Pruhonice**	**1.86**	**213**	*e*PN	**Pn**	**16 49 36.1**	**+0.2**
PRU				*e*PG	**Pb**	**16 49 37.9**	**+0.2**
PRU				*e*SG	**Sb**	**16 50 01.2**	**-0.3**
	comp=Z,32nm,0.6s						
HSKC	**Hora Svate Kat**	**1.95**	**242**	*e*PG	**Pb**	**16 49 39.6**	**+0.4**
HSKC				*e*SG	**Sb**	**16 50 04.5**	**+0.5**
CLL	**Collm**	**1.97**	**264**	*i* Pn	**Pn**	**16 49 38.1**	**+0.7**
CLL				*i* Pg	**Pg**	**16 49 41.6**	**+1.0**
CLL				*i* x	x	16 49 45.6	
CLL				*i* Sg	**Sg**	**16 50 08.6**	**+2.4**
	comp=Z,32nm,0.3s						
MORC	**Moravsky Berou**	**1.99**	**153**	*e*Pn	**Pn**	**16 49 38.1**	**+0.3**
	baz=334						
MORC				*e*Sg	**Sb**	**16 50 04.6**	**-0.7**
	comp=Z,35nm,0.5s,baz=334						
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*PG	**Pb**	**16 49 43.1**	**+0.7**
OKC				*e*SG	**Sb**	**16 50 10.2**	**+0.6**
	comp=Z,54nm,0.7s						
VRAC	**Vranov**	**2.27**	**172**	Pn	**Pn**	**16 49 42.4**	**+0.9**
	comp=Z,2.2nm,0.3s,baz=333,slow=15,SNR=10.0						
VRAC				Lg	Lg	16 50 14.5	
	comp=Z,3.7nm,0.3s,baz=73,slow=23,SNR=10						
	comp=Z,6.2nm,0.4s						
VRAC	**Vranov**	**2.27**	**172**	*e*Pn	**Pn**	**16 49 42.1**	**+0.6**
	baz=354						
VRAC				*e*Sg	**Sb**	**16 50 13.6**	**+0.5**
	comp=Z,19nm,0.5s,baz=354						
ZVC	**Zvikov**	**2.45**	**211**	*e*PN	**Pn**	**16 49 44.4**	**+0.4**
KRUC	**Moravsky**	**2.50**	**176**	*e*PN	**Pn**	**16 49 45.3**	**+0.6**
KRUC				*e*SG	**Sb**	**16 50 21.0**	**+1.1**
KRUC	**Moravsky**	**2.50**	**176**	*e*Pn	**Pn**	**16 49 45.2**	**+0.6**
	baz=357						
KRUC				*e*Sg	**Sb**	**16 50 20.9**	**+1.1**
	comp=Z,22nm,0.6s,baz=357						
OJC	**Ojcow**	**2.68**	**118**	*e*Pg	**Pg**	**16 49 56.0**	**+1.9**
OJC				*e*Sg	**Sg**	**16 50 31.1**	**+2.3**
NKC	**Novy Kostel**	**2.68**	**242**	*e*PN	**Pn**	**16 49 48.4**	**+1.2**
NKC				*e*PG	**Pg**	**16 49 54.5**	**+0.4**
NKC				*e*SG	**Sg**	**16 50 28.5**	**-0.3**
	comp=Z,68nm,0.9s						
JAVC	**Velka Javorina**	**2.87**	**159**	*e*PN	**Pn**	**16 49 50.3**	**+0.4**
JAVC	**Velka Javorina**	**2.87**	**159**	*e*Pn	**Pn**	**16 49 50.2**	**+0.4**
	baz=341						
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PN	**Pn**	**16 49 51.5**	**+0.9**
KHC				*e*PG	**Pb**	**16 49 56.9**	**+1.1**
KHC				*e*SN	**Sn**	**16 50 25.2**	**-1.2**
KHC				*e*SG	**Sg**	**16 50 35.2**	**-1.5**
	comp=Z,12nm,0.5s						
CKRC	**Cesky Krumlov**	**2.98**	**204**	*e*PN	**Pn**	**16 49 52.6**	**+1.3**
CKRC				*e*PG	**Pb**	**16 49 57.6**	**+0.9**
CKRC				*e*SG	**Sb**	**16 50 35.2**	**+1.7**
GERES	**GERESS Array B**	**3.13**	**211**	Pn	**Pn**	**16 49 54.1**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=23,slow=13,SNR=22						
GERES				Lg	Lg	16 50 37.4	
	comp=Z,4.0nm,0.3s,baz=25,slow=26,SNR=2.1						
	comp=Z,2.2nm,0.4s						
LANS	**Liptovska Anna**	**3.22**	**137**	*e*PG	**Pg**	**16 50 03.6**	**-0.8**
LANS				*e*SG	**Sg**	**16 50 45.2**	**-0.9**
MODS	**Modra-Piesok**	**3.27**	**166**	*e*PG	**Pg**	**16 50 04.4**	**-1.0**
MODS				*e*SG	**Sg**	**16 50 45.8**	**-1.9**
NIE	**Niedzica**	**3.41**	**127**	*e*Pg	**Pg**	**16 50 08.2**	**0.0**
NIE				*e*Sg	**Sg**	**16 50 52.0**	**-0.3**
VYHS	**Vyhne**	**3.52**	**149**	*e*PN	**Pn**	**16 49 59.3**	**+0.5**
VYHS				*e*PG	**Pg**	**16 50 09.2**	**-1.1**
VYHS				*e*SG	**Sg**	**16 50 59.3**	**+3.4**
CONA	**Conrad Observa**	**3.63**	**183**	*i* Pn	**Pn**	**16 50 01.7**	**+1.3**
	comp=Z,2.8nm,0.4s,SNR=6.0						
CONA				*i* Sn	**Sn**	**16 50 43.8**	**-0.2**
	comp=Z,8.9nm,0.4s						
BSD	**Bornholm Skovb**	**3.64**	**349**	*i* P	**Pn**	**16 50 00.0**	**-0.3**
BSD				*i* S	**Sn**	**16 50 43.9**	**-0.1**
BSD				IAML		16 51 04.5	
	comp=Z,1.2nm,0.3s						
RONA	**Rosalia, Austr**	**3.86**	**178**	*i* Pn	**Pn**	**16 50 03.7**	**+0.3**
	comp=Z,2.0nm,0.5s						
RONA				*e*Sn	**Sn**	**16 50 49.3**	**-0.1**
	comp=Z,5.3nm,0.3s						
MOA	**Molln**	**3.90**	**199**	*e*Pn	**Pn**	**16 50 05.0**	**+1.0**
	comp=Z,1.7nm,0.2s,SNR=7.0						
MOA				*e*Sn	**Sn**	**16 50 51.6**	**+1.2**
	comp=Z,4.9nm,0.3s						
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*SG	**Sg**	**16 51 12.2**	**+4.1**
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*PN	**Pn**	**16 50 04.2**	**+0.2**
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*PG	**Pg**	**16 50 17.9**	**+0.4**
BIOA	**Bad Ischl, Aus**	**4.19**	**204**	*i* Pn	**Pn**	**16 50 08.2**	**+0.3**
	comp=Z,1.8nm,0.3s						
BIOA				*e*Sn	**Sn**	**16 50 59.2**	**+1.6**
	comp=Z,9.8nm,0.5s						
ARSA	**Arzberg**	**4.32**	**186**	*i* Pn	**Pn**	**16 50 09.7**	**-0.1**
	comp=Z,1.8nm,0.3s						
ARSA				*i* Sn	**Sn**	**16 51 01.5**	**+0.6**
	comp=Z,11nm,0.5s						
LUNU	**Lund**	**4.39**	**340**	*i* P	**Pn**	**16 50 11.0**	**+0.4**
LUNU				*i* S	**Sn**	**16 51 02.8**	**+0.4**
LESA	**Schwarzleotal**	**4.71**	**210**	*e*Pn	**Pn**	**16 50 15.3**	**+0.3**
	comp=Z,0.6nm,0.2s						
LESA				*e*Sn	**Sn**	**16 51 09.3**	**-1.0**
	comp=Z,2.9nm,0.5s						
BLEU	**Blekinge**	**4.76**	**358**	*i* P	**Pn**	**16 50 17.0**	**+1.2**
BLEU				*i* S	**Sn**	**16 51 11.0**	**-0.6**
KBA	**Koelnbreinsper**	**4.83**	**203**	*i* Pn	**Pn**	**16 50 18.3**	**+1.4**
	comp=Z,1.6nm,0.5s						
KBA				Sg	**Sg**	**16 51 41.6**	**+3.5**
	comp=Z,5.0nm,0.5s						
SOKA	**Soboth**	**4.93**	**189**	*e*Pn	**Pn**	**16 50 20.4**	**+2.3**
	comp=Z,0.6nm,0.3s						
SOKA				*i* Sn	**Sb**	**16 51 27.0**	**-2.9**
	comp=Z,2.5nm,0.6s						
DEL	**Delary**	**5.11**	**346**	*i* P	**Pn**	**16 50 21.0**	**+0.6**
DEL				*i* S	**Sn**	**16 51 18.1**	**-2.0**
OBKA	**Obir**	**5.15**	**192**	*e*Sn	**Sb**	**16 51 38.4**	**+2.2**
	comp=Z,1.5nm,0.3s						
WATA	**Walderalm**	**5.16**	**217**	*e*Pn	**Pn**	**16 50 22.5**	**+1.1**
	comp=Z,0.4nm,0.2s						
MYKA	**Terra Mystica**	**5.19**	**199**	*e*Sn	**Sb**	**16 51 37.6**	**+0.3**
	comp=Z,2.1nm,0.4s						
WTTA	**Wattenberg**	**5.20**	**216**	*i* Pn	**Pn**	**16 50 21.7**	**-0.3**
	comp=Z,0.7nm,0.2s						
WTTA				*e*Sn	**Sn**	**16 51 23.2**	**+0.5**
	comp=Z,2.6nm,0.5s						
MOTA	**Moosalm**	**5.34**	**220**	*e*Pn	**Pn**	**16 50 23.1**	**-0.8**
	comp=Z,0.3nm,0.1s						
MOTA				*e*Sn	**Sn**	**16 51 23.8**	**-2.3**

comp=Z,0.4nm,0.7s
FINES FINESS Array B 11.32 25 Pn **Pn** 16 51 45.7 +0.1
comp=Z,0.2nm,0.3s,baz=209,slow=11,SNR=7.7
comp=Z,3.1nm,0.9s
EKA Eskdalemuir Ar 12.10 296 Pn **Pn** 16 51 54.0 -2.2
baz=96,slow=14
comp=Z,0.3nm,0.4s
ARCES ARCESS Array B 18.58 10 P **P** 16 53 19.2 -1.8
comp=Z,0.6nm,0.5s,baz=191,slow=13,SNR=4.0

IDC 29 16:51:16.3±1.6, 0.15N×146.34E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=135.5km s-min=28.1km az=117.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.17**	**210**	P	P	16 56 25.0	+0.3
	1.0nm,0.8s,baz=32,slow=11,SNR=8.9						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**26.57**	**206**	P	P	16 56 56.8	+0.4
	0.9nm,1.2s,baz=34,slow=7.3,SNR=4.1						
	0.9nm,1.2s						
ILAR	**Eielson Array**	**80.14**	**24**	P	P	17 03 27.6	-0.4
	0.3nm,0.7s,baz=232,slow=4.4,SNR=4.6						
	0.3nm,0.7s						

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*NEIC **29** 17:18:46.9±1.3, 16.46S±0.10×176.71W±0.1, h340km±6km, mb4.5/144, Error ellipse: s-maj=14.1km s-min=13.8km az=149.0*
*NOU **29** 17:18:48.8, 16.41S×175.90W, h372km, mb4.8/67, Tonga Islands*
*IDC **29** 17:18:50.9±2.1, 16.24S×176.32W, h381km±21km, mb3.8/10, mbtmp4.5/12, Error ellipse: s-maj=19.2km s-min=10.0km az=149.0*
ISC 29 17:18:48.6±0.3, 16.37S±0.07×176.09W±0.06, h364km, n280, σ1§07/263, mb4.5/82, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVE	**Taveuni**	**3.68**	**264**	P	**Pn**	**17 19 58.3**	**+3.0**
DGTI	**Dogotuki**	**4.01**	**270**	P	**Pn**	**17 20 01.1**	**+2.5**
AFI	**Afiamalu**	**4.83**	**60**		**Pn**	**17 20 05.2**	**-2.0**
AFI	**Afiamalu**	**4.83**	**60**	P	**Pn**	**17 20 06.0**	**-1.2**
YSA	**Yasawairara**	**6.08**	**266**	P	**Pn**	**17 20 22.8**	**+1.9**
NIUE	**Niue**	**6.46**	**116**	Pn	**Pn**	**17 20 21.5**	**-3.7**
FUNA	**Funafuti**	**9.05**	**329**	Pn	**Pn**	**17 20 54.4**	**-1.1**
MARNC	**Mare, Loyalty**	**15.86**	**249**	P	**P**	**17 22 11.2**	**-0.8**
MARNC	**Mare, Loyalty**	**15.86**	**249**	P	**P**	**17 22 12.4**	**+0.4**
RAR	**Rarotonga**	**16.18**	**110**	P	**P**	**17 22 17.5**	**+2.1**
	12nm,0.7s,baz=274,slow=5.7,SNR=6.9						
LIFNC	**LIFOU**	**16.40**	**252**	P	**P**	**17 22 17.0**	**-0.8**
LIFNC	**LIFOU**	**16.40**	**252**	P	**P**	**17 22 17.3**	**-0.5**
PINNC	**Pines Island,**	**16.71**	**246**	P	**P**	**17 22 21.0**	**-0.1**
PINNC	**Pines Island,**	**16.71**	**246**	P	**P**	**17 22 22.3**	**+1.1**
YATNC	**Mamie plateau,**	**17.04**	**248**	P	**Pn**	**17 22 27.0**	**-1.3**
OUENC	**Ouen Island, N**	**17.18**	**247**	P	**P**	**17 22 25.8**	**-0.4**
OUENC	**Ouen Island, N**	**17.18**	**247**	P	**P**	**17 22 27.0**	**+0.8**
DZM	**Mont Dzumac**	**17.44**	**248**	*e*P	**P**	**17 22 26.2**	**-2.9**
	98nm,1.2s						
DZM	**Mont Dzumac**	**17.44**	**248**	P	**P**	**17 22 28.5**	**-0.6**
DZM				IAmb	IAmb	17 22 31.9	
	comp=Z,27nm,0.7s						
DZM	**Mont Dzumac**	**17.44**	**248**	P	**P**	**17 22 30.2**	**+1.1**
DZM	**Mont Dzumac**	**17.44**	**248**	P	**P**	**17 22 27.9**	**-1.1**
	comp=Z,24nm,0.6s,baz=69,slow=18,SNR=22						
ONTNC	**Ouen Toro**	**17.50**	**248**	P	**P**	**17 22 28.5**	**-1.1**
ONTNC	**Ouen Toro**	**17.50**	**248**	P	**Pn**	**17 22 32.2**	**-1.5**
NOUC	**Port Laguerre**	**17.57**	**248**	P	**P**	**17 22 31.4**	**+1.0**
KOUNC	**Koumac, New Ca**	**19.07**	**254**		**P**	**17 22 45.5**	**-0.8**
KOUNC				IAmb	IAmb	17 22 54.1	
	comp=Z,26nm,0.7s						
KOUNC	**Koumac, New Ca**	**19.07**	**254**	P	**P**	**17 22 47.0**	**+0.7**
NFK	**Norfolk Island**	**19.37**	**227**	P	**P**	**17 22 50.3**	**+1.0**
OUZ	**Omahuta**	**20.92**	**204**	P	**P**	**17 23 04.5**	**+0.6**
KUZ	**Kuaotunu**	**21.56**	**198**	P	**P**	**17 23 10.3**	**+0.6**
MXZ	**Matakaoa Point**	**21.68**	**192**	P	**P**	**17 23 09.6**	**-1.2**
MXZ	**Matakaoa Point**	**21.68**	**192**	P	**P**	**17 23 11.4**	**+0.6**
MXZ	**Matakaoa Point**	**21.68**	**192**	P	**P**	**17 23 11.7**	**+0.9**
HAZ	**Te Kaha**	**21.98**	**193**	P	**P**	**17 23 13.5**	**0.0**
PKGZ	**Pakihiroa**	**22.05**	**192**	P	**P**	**17 23 15.2**	**+1.0**
RUGZ	**Raukumara Rang**	**22.20**	**193**	P	**P**	**17 23 15.4**	**-0.3**
TWGZ	**Tauwhareparae**	**22.34**	**192**	P	**P**	**17 23 17.1**	**+0.2**
TOZ	**Tahuroa Road**	**22.54**	**198**		**P**	**17 23 19.1**	**+0.6**
TOZ				IAmb	IAmb	17 23 20.3	
	comp=Z,21nm,0.8s						
TOZ	**Tahuroa Road**	**22.54**	**198**	P	**P**	**17 23 19.6**	**+1.0**
MWZ	**Matawai**	**22.59**	**193**	P	**P**	**17 23 17.1**	**-2.0**
CNGZ	**Carnagh Statio**	**22.60**	**192**	P	**P**	**17 23 20.2**	**+1.1**
URZ	**Urewera**	**22.61**	**194**	P	**P**	**17 23 18.5**	**-0.8**
URZ	**Urewera**	**22.61**	**194**	P	**P**	**17 23 18.3**	**-1.0**
RIGZ	**Rimuhau**	**22.90**	**192**	P	**P**	**17 23 22.3**	**+0.4**
RTZ	**Ruatahuna**	**22.98**	**194**	P	**P**	**17 23 21.0**	**-1.7**
RTZ				IAmb	IAmb	17 23 22.3	
	comp=Z,28nm,1.3s						
TLZ	**Tolley Road**	**23.09**	**197**	P	**P**	**17 23 25.1**	**+1.5**
BKZ	**Black Stump Fm**	**23.62**	**195**	P	**P**	**17 23 26.8**	**-1.7**
BKZ				IAmb	IAmb	17 23 43.0	
	comp=Z,45nm,1.5s						
HNR	**Honiara**	**24.34**	**284**	P	**P**	**17 23 37.1**	**+1.9**
BFZ	**Birch Farm**	**25.12**	**194**	P	**P**	**17 23 39.9**	**-2.0**
BFZ	**Birch Farm**	**25.12**	**194**	P	**P**	**17 23 41.3**	**-0.6**
MRZ	**Mangatainoka R**	**25.26**	**195**	P	**P**	**17 23 41.1**	**-2.0**
MRZ				IAmb	IAmb	17 23 43.3	
	comp=Z,25nm,1.2s						
PPT2	**Papeete2**	**25.38**	**97**	*es*S	sS	17 29 31.2	-9.1
	comp=Z,100nm,31.8s						
TBI	**Tubuai**	**25.96**	**110**	*es*S	sS	17 29 43.8	-7.9
	comp=Z,443nm,29.2s						
SNZO	**South Karori**	**26.10**	**196**	P	**P**	**17 23 49.1**	**-1.3**
SNZO	**South Karori**	**26.10**	**196**	P	**P**	**17 23 49.7**	**-0.8**
TCW	**Tory Channel**	**26.12**	**197**	P	**P**	**17 23 48.7**	**-2.0**
BHW	**Baring Head**	**26.14**	**196**	P	**P**	**17 23 48.0**	**-3.0**
BHW				IAmb	IAmb	17 23 49.9	
	comp=Z,33nm,1.2s						
QRZ	**Quartz Range**	**26.29**	**200**	P	**P**	**17 23 52.2**	**0.0**
THZ	**Tophouse**	**27.02**	**198**	P	**P**	**17 23 57.5**	**-1.3**
THZ				IAmb	IAmb	17 23 58.8	
	comp=Z,16nm,0.6s						
LHI	**Lord Howe Isla**	**27.17**	**232**	P	**P**	**17 23 59.1**	**-1.1**
KHZ	**Kahutara**	**27.44**	**197**	P	**P**	**17 24 01.2**	**-1.2**
LTZ	**Lake Taylor**	**28.15**	**198**	P	**P**	**17 24 06.5**	**-2.2**
LTZ				IAmb	IAmb	17 24 10.2	
	comp=Z,21nm,1.0s						
INZ	**Inchbonnie**	**28.35**	**200**	P	**P**	**17 24 08.4**	**-2.0**
INZ				IAmb	IAmb	17 24 11.6	
	comp=Z,17nm,0.6s						
OXZ	**Oxford**	**28.71**	**198**	P	**P**	**17 24 11.8**	**-1.8**
OXZ				IAmb	IAmb	17 24 14.5	
	comp=Z,16nm,0.6s						
FOZ	**Fox Glacier**	**29.61**	**201**	P	**P**	**17 24 19.4**	**-2.0**
FOZ				IAmb	IAmb	17 24 23.0	
	comp=Z,22nm,0.8s						
JCZ	**Jackson Bay**	**30.45**	**202**	P	**P**	**17 24 28.7**	**-0.2**
MLZ	**Mavora Lakes**	**31.81**	**201**	P	**P**	**17 24 39.8**	**-0.9**
MLZ				IAmb	IAmb	17 24 43.2	
	comp=Z,20nm,0.5s						
EIDS	**Eidsvold**	**31.89**	**248**	P	**P**	**17 24 40.6**	**-1.0**
EIDS				IAmb	IAmb	17 24 42.1	
	comp=Z,8.8nm,0.5s						
EIDS	**Eidsvold**	**31.89**	**248**	P	**P**	**17 24 41.9**	**+0.3**
DCZ	**Deep Cove**	**32.24**	**202**	P	**P**	**17 24 43.7**	**-0.5**
DCZ				IAmb	IAmb	17 24 45.2	
	comp=Z,30nm,0.8s						
WHZ	**Wether Hill Ro**	**32.32**	**201**	P	**P**	**17 24 44.0**	**-1.1**
SYZ	**Scrubby Hill**	**32.50**	**199**	P	**P**	**17 24 46.2**	**-0.3**
ARMA	**Armidale**	**32.63**	**239**	P	**P**	**17 24 48.2**	**+0.1**
ARMA	**Armidale**	**32.63**	**239**	P	**P**	**17 24 48.5**	**+0.4**
PYZ	**Puysegur Point**	**33.01**	**202**	P	**P**	**17 24 51.5**	**+0.6**
KAVG	**Kavieng**	**35.33**	**289**	P	**P**	**17 25 12.8**	**+1.7**
CTAO	**Charters Tower**	**35.91**	**258**	P	**P**	**17 25 14.7**	**-1.3**
CTAO	**Charters Tower**	**35.91**	**258**	P	**P**	**17 25 16.1**	**+0.1**
CNB	**Canberra Magne**	**36.12**	**232**	P	**P**	**17 25 18.4**	**+0.8**
CAN	**Canberra**	**36.40**	**232**	P	**P**	**17 25 19.7**	**-0.2**
CAN	**Canberra**	**36.40**	**232**	P	**P**	**17 25 20.3**	**+0.4**
PMG	**Port Moresby**	**36.44**	**276**	P	**P**	**17 25 21.2**	**+0.8**
PMG				IAmb	IAmb	17 25 23.2	
	comp=Z,28nm,0.9s						
PMG	**Port Moresby**	**36.44**	**276**	P	**P**	**17 25 21.3**	**+0.8**
CMSA	**Cobar Meteorol**	**37.84**	**239**	P	**P**	**17 25 31.8**	**-0.1**
QLP	**Quilpie**	**38.16**	**248**	P	**P**	**17 25 35.1**	**+0.5**
TOO	**Toolangi**	**39.86**	**230**	P	**P**	**17 25 48.6**	**+0.1**
TOO	**Toolangi**	**39.86**	**230**	P	**P**	**17 25 49.1**	**+0.7**
TAU	**Tasmania Unive**	**40.86**	**222**	P	**P**	**17 25 55.9**	**-0.6**
STKA	**Stephens Creek**	**41.31**	**240**	P	**P**	**17 26 00.5**	**+0.3**
STKA	**Stephens Creek**	**41.31**	**240**	P	**P**	**17 26 00.6**	**+0.3**
STKA	**Stephens Creek**	**41.31**	**240**	P	**P**	**17 26 00.1**	**-0.2**
	comp=Z,17nm,0.5s,baz=86,slow=9.8,SNR=58						
	comp=Z,17nm,0.5s						
INKA	**Innaminka**	**41.38**	**247**	P	**P**	**17 26 01.8**	**+0.9**
QIS	**Mount Isa**	**42.14**	**257**	P	**P**	**17 26 07.1**	**0.0**
HTT	**Hallett**	**43.84**	**239**	P	**P**	**17 26 21.2**	**+0.8**
LCRK	**Leigh Creek**	**43.92**	**243**	P	**P**	**17 26 21.2**	**+0.2**
OOD	**Oodnadatta**	**45.85**	**247**	P	**P**	**17 26 37.2**	**+1.1**
BBOO	**Buckleboo**	**46.09**	**240**	P	**P**	**17 26 37.7**	**-0.2**
BBOO				IAmb	IAmb	17 26 38.1	
	comp=Z,23nm,0.5s						
BBOO	**Buckleboo**	**46.09**	**240**	P	**P**	**17 26 38.0**	**+0.1**
WR0	**Warramunga Arr**	**46.92**	**258**	P	**P**	**17 26 43.5**	**-0.9**
WRAB	**Tennant Creek**	**47.10**	**258**	P	**P**	**17 26 45.0**	**-0.8**
WRAB				IAmb	IAmb	17 26 46.0	
	comp=Z,17nm,0.8s						
WRA	**Warramunga Arr**	**47.11**	**258**	P	**P**	**17 26 45.1**	**-0.8**
	comp=Z,12nm,0.6s,baz=90,slow=7.2,SNR=319						
WRA				S	**S**	**17 33 06.2**	**-4.1**
	comp=Z,0.5nm,0.8s,baz=92,slow=13,SNR=3.1						
	comp=Z,12nm,0.6s						
AS31	**Alice Springs**	**47.35**	**253**	P	**P**	**17 26 47.5**	**-0.3**
AS31				IAmb	IAmb	17 26 48.1	
	comp=Z,27nm,0.7s						
ASAR	**Alice Springs**	**47.35**	**253**	P	**P**	**17 26 47.4**	**-0.4**
	comp=Z,79nm,0.5s,baz=88,slow=7.8,SNR=3734						
ASAR				S	**S**	**17 33 10.7**	**-3.0**
	comp=Z,1.2nm,0.9s,baz=78,slow=15,SNR=6.8						
MULG	**Mulgathing**	**47.47**	**244**	P	**P**	**17 26 48.3**	**-0.2**
KDU	**Kakadu**	**49.83**	**267**	P	**P**	**17 27 06.9**	**+0.5**
MTN	**Manton Dam**	**51.08**	**267**	P	**P**	**17 27 15.6**	**-0.2**
MTN				IAmb	IAmb	17 27 16.3	
	comp=Z,32nm,0.8s						
MTN	**Manton Dam**	**51.08**	**267**	P	**P**	**17 27 15.9**	**+0.2**
WRKA	**Warakurna**	**52.43**	**251**	P	**P**	**17 27 25.6**	**0.0**
FAKI	**Fak Fak**	**52.49**	**279**	P	**P**	**17 27 26.2**	**+0.1**
FAKI				IAmb	IAmb	17 27 58.4	
	comp=Z,32nm,1.2s						
FAKI	**Fak Fak**	**52.49**	**279**	P	**P**	**17 27 27.0**	**+0.9**
FORT	**Forrest**	**52.67**	**244**	P	**P**	**17 27 26.3**	**-0.9**
FORT	**Forrest**	**52.67**	**244**	P	**P**	**17 27 27.2**	**+0.1**
KNRA	**Kununurra**	**52.87**	**263**	P	**P**	**17 27 28.4**	**-0.3**
KNRA	**Kununurra**	**52.87**	**263**	P	**P**	**17 27 29.8**	**+1.0**
SWI	**Sorong**	**54.09**	**281**	P	**P**	**17 27 38.5**	**+0.9**
	comp=Z,54nm,0.8s						
FITZ	**Fitzroy Crossi**	**55.48**	**259**	P	**P**	**17 27 47.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**55.48**	**259**	P	**P**	**17 27 48.0**	**+0.6**
KMBL	**Kambalda**	**57.98**	**243**	P	**P**	**17 28 04.1**	**-0.5**
SOEI	**Soe**	**58.31**	**269**	P	**P**	**17 28 08.3**	**+1.1**
SOEI	**Soe**	**58.31**	**269**	P	**P**	**17 28 09.1**	**+1.9**
SOEI	**Soe**	**58.31**	**269**	P	**P**	**17 28 07.3**	**0.0**
	comp=Z,111nm,0.6s						
SOEI	**Soe**	**58.31**	**269**	P	**P**	**17 28 07.2**	**0.0**
PSA00	**Pilbara Seismi**	**60.45**	**254**	P	**P**	**17 28 21.4**	**-0.2**
PSA00	**Pilbara Seismi**	**60.45**	**254**	P	**P**	**17 28 21.4**	**-0.2**
PSA00				IAmb	IAmb	17 28 22.2	
	comp=Z,23nm,0.7s						
PSA00	**Pilbara Seismi**	**60.45**	**254**	P	**P**	**17 28 21.4**	**-0.2**
MMRI	**Maumere**	**60.52**	**269**	P	**P**	**17 28 22.0**	**-0.1**
MMRI	**Maumere**	**60.52**	**269**	P	**P**	**17 28 17.4**	**-4.7**
MBWA	**Marble Bar**	**60.61**	**255**	P	**P**	**17 28 22.4**	**-0.2**
MBWA	**Marble Bar**	**60.61**	**255**	P	**P**	**17 28 23.3**	**+0.7**
EDFI	**Ende, Flores**	**61.01**	**269**	P	**P**	**17 28 24.7**	**-0.8**
MEEK	**Meekatharra**	**61.05**	**248**	P	**P**	**17 28 25.3**	**-0.2**
NWAO	**Narrogin (SRO)**	**61.89**	**241**	P	**P**	**17 28 30.6**	**-0.3**
NWAO	**Narrogin (SRO)**	**61.89**	**241**	P	**P**	**17 28 30.9**	**0.0**
SBA	**Scott Base**	**62.09**	**184**	P	**P**	**17 28 33.4**	**+2.0**
VNDA	**Vanda**	**62.17**	**185**		**P**	**17 28 33.4**	**+1.5**
VNDA	**Vanda**	**62.17**	**185**	P	**P**	**17 28 33.8**	**+1.9**
	comp=Z,1.6nm,0.8s,baz=21,slow=9.1,SNR=8.9						
	comp=Z,1.6nm,0.8s						
BLDU	**Ballidu**	**62.45**	**244**	P	**P**	**17 28 34.4**	**-0.2**
MUN	**Mundaring**	**62.80**	**242**	P	**P**	**17 28 37.0**	**+0.1**
MORW	**Morawa**	**63.13**	**245**	P	**P**	**17 28 38.6**	**-0.5**
MORW				IAmb	IAmb	17 28 39.6	
	comp=Z,13nm,0.8s						
MORW	**Morawa**	**63.13**	**245**	P	**P**	**17 28 39.1**	**0.0**
PLAI	**Plampang**	**64.75**	**268**	P	**P**	**17 28 50.1**	**+0.3**
PLAI	**Plampang**	**64.75**	**268**	P	**P**	**17 28 48.3**	**-1.5**
GIRL	**Giralia**	**65.47**	**252**	P	**P**	**17 28 55.1**	**+0.9**
GIRL	**Giralia**	**65.47**	**252**	P	**P**	**17 28 54.5**	**+0.3**
TWSI	**Taliwang, Sumb**	**65.63**	**268**	P	**P**	**17 28 54.8**	**-0.6**
CASY	**Casey**	**68.45**	**205**	P	**P**	**17 29 12.4**	**+0.4**
CASY				IAmb	IAmb	17 29 13.6	
	comp=Z,13nm,1.2s						
UGM	**Wanagama**	**71.93**	**267**	P	**P**	**17 29 32.8**	**-1.1**
UGM	**Wanagama**	**71.93**	**267**	P	**P**	**17 29 34.1**	**+0.2**
PEA0B	**Petropavlovsk-**	**72.79**	**344**	P	**P**	**17 29 39.2**	**+1.1**
PETK	**Petropavlovsk-**	**72.79**	**344**	P	**P**	**17 29 38.0**	**-0.1**
	comp=Z,4.6nm,0.9s,baz=128,slow=9.3,SNR=3.1						
	comp=Z,4.6nm,0.9s						
SSLB	**Suanglung**	**73.29**	**302**	P	**P**	**17 29 40.6**	**-1.0**
QSPA	**South Pole Qui**	**73.68**	**180**	P	**P**	**17 29 44.3**	**+1.0**
QSPA				IAmb	IAmb	17 29 45.5	
	comp=Z,9.1nm,1.0s						
QSPA	**South Pole Qui**	**73.68**	**180**	P	**P**	**17 29 44.5**	**+1.2**
	comp=Z,5.3nm,0.8s,baz=14,slow=1.4,SNR=14						
	comp=Z,5.3nm,0.8s						
KMPM	**Mount Pierce**	**74.30**	**39**	P	**P**	**17 29 48.2**	**+1.1**
KMPM				IAmb	IAmb	17 29 49.5	
	comp=Z,10nm,0.8s						
KMRM	**Mail Ridge**	**74.42**	**39**	P	**P**	**17 29 49.4**	**+1.6**
VTX	**Valle De La Tr**	**74.84**	**50**	P	**P**	**17 29 51.0**	**+0.6**
VTX				IAmb	IAmb	17 29 52.6	
	comp=Z,9.7nm,1.3s						
KRMB	**Red Mountain**	**75.11**	**38**	P	**P**	**17 29 53.1**	**+1.4**
KSXB	**Camp Six Broad**	**75.31**	**38**	P	**P**	**17 29 54.4**	**+1.5**
YUH	**Yuha Desert**	**75.37**	**49**	P	**P**	**17 29 54.3**	**+1.0**
OHAK	**Old Harbor**	**75.74**	**13**	P	**P**	**17 29 54.3**	**-0.4**
MDPB	**Devils Postpil**	**75.83**	**43**	P	**P**	**17 29 56.9**	**+0.8**
SLBS	**Sierra La Lagu**	**75.87**	**60**	P	**P**	**17 29 57.4**	**+1.0**
SLBS				IAmb	IAmb	17 30 10.0	
	comp=Z,9.1nm,1.2s						
OMMB	**Old Mammoth Mi**	**75.88**	**43**	P	**P**	**17 29 56.9**	**+0.5**
YBH	**Yreka Blue Hor**	**75.94**	**38**	P	**P**	**17 29 57.4**	**+1.0**
YBH				IAmb	IAmb	17 29 58.7	
	comp=Z,7.7nm,0.9s						
WAKR	**Walker**	**76.09**	**42**	P	**P**	**17 29 58.4**	**+1.0**
GSC	**Goldstone, Bar**	**76.12**	**46**	P	**P**	**17 29 57.9**	**+0.3**
MPK	**Martis Peak**	**76.16**	**42**	P	**P**	**17 29 58.3**	**+0.4**
MPK				IAmb	IAmb	17 30 00.3	
	comp=Z,16nm,1.3s						
PNTR	**Pine Nut**	**76.31**	**42**	P	**P**	**17 29 58.9**	**+0.1**
PNTR				IAmb	IAmb	17 30 00.6	
	comp=Z,5.0nm,0.7s						
HUMO	**Hull Mountain**	**76.33**	**37**	P	**P**	**17 29 59.7**	**+1.2**
KDAK	**Kodiak Island**	**76.40**	**13**	P	**P**	**17 29 58.6**	**+0.2**
KDAK				IAmb	IAmb	17 30 04.8	
	comp=Z,19nm,1.1s						
L04D	**Klamath Falls**	**76.48**	**38**	P	**P**	**17 30 00.2**	**+0.7**
L04D				IAmb	IAmb	17 30 01.6	
	comp=Z,6.2nm,0.8s						
YERR	**Yerington**	**76.49**	**42**	P	**P**	**17 30 00.1**	**+0.4**
LHV	**Little Huntoon**	**76.56**	**43**	P	**P**	**17 30 00.7**	**+0.9**
GWY	**Greenwater Val**	**76.67**	**46**	P	**P**	**17 30 01.0**	**+0.3**
NVAR	**Mina Array Bea**	**76.79**	**43**	P	**P**	**17 30 02.0**	**+0.6**
NVAR	**Mina Array Bea**	**76.79**	**43**	P	**P**	**17 30 02.2**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=227,slow=9.4,SNR=17						
	comp=Z,1.9nm,0.7s						
GMN	**Gold Mountain**	**76.87**	**44**	P	**P**	**17 30 02.3**	**+0.4**
NV11	**Mina Array Sit**	**76.89**	**43**	P	**P**	**17 30 02.0**	**+0.2**
KVN	**Kaiserville**	**77.26**	**43**	P	**P**	**17 30 04.3**	**+0.4**
N15K	**Kwethluk River**	**77.36**	**8**	P	**P**	**17 30 03.1**	**-0.6**
TPNV	**Topopah Spring**	**77.36**	**45**	P	**P**	**17 30 04.8**	**+0.3**
PINE	**Pine Mountain**	**78.22**	**37**	P	**P**	**17 30 09.9**	**+0.8**
PINE				IAmb	IAmb	17 30 11.3	
	comp=Z,9.9nm,0.8s						
M16K	**Timber Creek**	**78.34**	**8**	P	**P**	**17 30 10.2**	**+1.1**
M16K				IAmb	IAmb	17 30 15.8	
	comp=Z,18nm,1.4s						
BMN	**Battle Mountai**	**78.58**	**42**	P	**P**	**17 30 11.6**	**+0.5**
BMN				IAmb	IAmb	17 30 12.8	
	comp=Z,4.5nm,0.7s						
NJ2	**Nanjing**	**78.70**	**308**	*e*P	**P**	**17 30 14.3**	**+2.6**
NJ2				pP	**pP**	**17 31 31.8**	**-1.9**
NJ2				sP	**sP**	**17 32 08.8**	**-3.2**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,150nm,4.0s						
WVOR	**Wild Horse Val**	**78.81**	**40**	P	**P**	**17 30 12.6**	**+0.4**
M17K	**Holitna River**	**78.92**	**9**	P	**P**	**17 30 13.2**	**+1.1**
I07A	**Izee**	**79.23**	**38**	P	**P**	**17 30 15.2**	**+0.8**
I07A				IAmb	IAmb	17 30 15.9	
	comp=Z,4.9nm,0.9s						
L18K	**Granite Mounta**	**79.81**	**9**		**P**	**17 30 17.4**	**+0.5**
L18K				IAmb	IAmb	17 30 19.4	
	comp=Z,5.4nm,0.9s						
U15A	**North Rim**	**79.85**	**47**	P	**P**	**17 30 19.4**	**+1.3**
ELK	**Elko**	**80.03**	**42**	P	**P**	**17 30 19.7**	**+0.8**
K17K	**Iditarod**	**80.06**	**8**	P	**P**	**17 30 19.1**	**+0.8**
G08A	**Pilot Rock**	**80.25**	**37**	P	**P**	**17 30 20.4**	**+0.6**
G08A				IAmb	IAmb	17 30 21.5	
	comp=Z,4.7nm,0.9s						
J16K	**Anvik River**	**80.31**	**7**	P	**P**	**17 30 20.8**	**+1.3**
J16K				IAmb	IAmb	17 30 21.6	
	comp=Z,8.6nm,0.8s						
DUN6	**Lazy B Ranch**	**80.40**	**52**	P	**P**	**17 30 21.8**	**+0.9**
TTA	**Tatalina**	**80.59**	**9**	P	**P**	**17 30 21.4**	**+0.2**
BMO	**Blue Mountains**	**80.97**	**38**	P	**P**	**17 30 23.8**	**+0.2**
J18K	**Innoko River**	**80.99**	**9**	P	**P**	**17 30 23.5**	**+0.4**
K20K	**Telida**	**81.30**	**10**	P	**P**	**17 30 25.1**	**+0.3**
K20K				IAmb	IAmb	17 30 25.9	
	comp=Z,3.8nm,0.8s						
F10A	**Beach Ranch, E**	**81.63**	**37**	P	**P**	**17 30 27.0**	**0.0**
F10A				IAmb	IAmb	17 30 28.2	
	comp=Z,6.0nm,0.8s						
GLB	**Gilahina Butte**	**81.70**	**15**	P	**P**	**17 30 27.0**	**0.0**
GLB				IAmb	IAmb	17 30 31.1	
	comp=Z,8.9nm,1.2s						
PLID	**Pearl Lake**	**81.87**	**38**	P	**P**	**17 30 28.5**	**+0.1**
TMUT	**Trail Mountain**	**81.98**	**45**	IAmb	IAmb	17 30 31.6	
	comp=Z,7.5nm,0.8s						
HLID	**Hailey**	**82.02**	**40**	P	**P**	**17 30 29.6**	**+0.4**
TRF	**Thorofare Moun**	**82.06**	**11**	P	**P**	**17 30 28.2**	**-0.6**
TRF				IAmb	IAmb	17 30 29.4	
	comp=Z,6.0nm,0.8s						
SRU	**San Rafael Swe**	**82.36**	**46**	IAmb	IAmb	17 30 32.8	
	comp=Z,5.8nm,0.9s						
M26K	**Nabesna, AK**	**82.72**	**15**	IAmb	IAmb	17 30 33.3	
	comp=Z,5.8nm,1.0s						
425A	**Indio Mountain**	**82.82**	**55**	P	**P**	**17 30 35.1**	**+1.5**
425A				IAmb	IAmb	17 30 36.1	
	comp=Z,6.6nm,0.7s						
BSUT	**Blindstream Ca**	**82.87**	**44**	IAmb	IAmb	17 30 35.7	
	comp=Z,4.0nm,0.8s						
G18K	**Tagagawik**	**83.06**	**7**	P	**P**	**17 30 33.7**	**0.0**
TX31	**Lajitas Ar. Si**	**83.30**	**57**	P	**P**	**17 30 36.5**	**+0.6**
TXAR	**Lajitas Array**	**83.30**	**57**	P	**P**	**17 30 37.6**	**+1.7**
	comp=Z,2.8nm,0.9s,baz=222,slow=5.0,SNR=25						
	comp=Z,2.8nm,0.9s						
I21K	**Tanana**	**83.34**	**10**	P	**P**	**17 30 34.9**	**-0.3**
I21K				IAmb	IAmb	17 30 36.6	
	comp=Z,6.2nm,1.1s						
BELA	**Belgrano 2**	**83.40**	**172**	P	**P**	**17 30 36.1**	**+0.6**
BELA				IAmb	IAmb	17 30 36.9	
	comp=Z,8.5nm,0.9s						
G19K	**Purcell Mounta**	**83.49**	**8**	P	**P**	**17 30 36.4**	**+0.4**
G19K				IAmb	IAmb	17 30 37.3	
	comp=Z,4.9nm,0.8s						
HDA	**Harding Lake**	**83.58**	**12**	IAmb	IAmb	17 30 37.3	
	comp=Z,8.2nm,0.9s						
CCB	**Clear Creek Bu**	**83

	comp=Z,1.0nm,0.3s							
LESA	**Schwarzleotal**	**148.19**	**349**	*i* PKP	**PKPbc**	**17**	**37**	**52.5 +0.2**
	comp=Z,1.6nm,0.3s							
KBA	**Koelnbreinsper**	**148.39**	**348**	*i* PKP	**PKPbc**	**17**	**37**	**52.5 -0.4**
	comp=Z,2.6nm,0.5s							
RETA	**Reutte**	**148.46**	**351**	*i* PKP	**PKPbc**	**17**	**37**	**52.9 0.0**
	comp=Z,0.7nm,0.3s							
WATA	**Walderalm**	**148.47**	**350**	*i* PKP	**PKPbc**	**17**	**37**	**53.2 +0.1**
	comp=Z,2.1nm,0.4s							
WTTA	**Wattenberg**	**148.53**	**350**	*i* PKP	**PKPbc**	**17**	**37**	**53.4 +0.2**
	comp=Z,4.3nm,0.4s							
MOTA	**Moosalm**	**148.54**	**351**	*i* PKiKP	**PKiKP**	**17**	**37**	**55.1 +0.6**
	comp=Z,1.7nm,0.5s							
SQTA	**Sankt Quirin**	**148.65**	**350**	*i* PKP	**PKPbc**	**17**	**37**	**53.6 +0.2**
	comp=Z,2.0nm,0.5s							
MYKA	**Terra Mystica**	**148.76**	**347**	*e*PKP	**PKPbc**	**17**	**37**	**53.1 -0.6**
	comp=Z,2.9nm,0.5s							
ABTA	**Abfaltersbach**	**148.88**	**349**	*i* PKP	**PKPbc**	**17**	**37**	**53.5 -0.4**
	comp=Z,3.0nm,0.6s							
FETA	**Feichten**	**148.91**	**351**	*i* PKP	**PKiKP**	**17**	**37**	**55.2 -0.1**
	comp=Z,0.4nm,0.4s							
FUORN	**Ofenpass-Fuorn**	**149.38**	**351**		**PKPbc**	**17**	**37**	**55.5 +0.1**
FNA	**Florina**	**151.35**	**332**		**PKPbc**	**17**	**37**	**59.0 -1.0**
TORD	**Torodi Ar. Bea**	**176.15**	**146**	PKP	**PKPdf**	**17**	**38**	**15.2 -1.3**
	comp=Z,0.6nm,0.8s,baz=235,slow=4.3,SNR=4.2							

TEH ***29*** *17:24:17.8, 35.˚78N×60.˚43E, h6km±62km, ML3.4*
IDC ***29*** *17:24:18.8±2.1, 35.˚83N×60.˚47E, h0km, mb3.7/4, mbtmp3.6/8, ML3.0/4, Error ellipse: s-maj=39.2km s-min=17.3km az=28.0*

ISC 29 17:24:19.1±1.2, 35.79N±0.03×60.41E±0.06, h7km±8km, n28,σ1ş35/29, mb3.5/4, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JRKH	**Jarkhoshk**	**0.12**	**335**	Pg	**Pg**		**17 24 22.0**	**+0.2**
JRKH				Sg	**Sg**		**17 24 24.5**	**+0.8**
TBJM	**Torbat-e-JAM**	**0.53**	**187**	Pg	**Pg**		**17 24 29.1**	**-0.2**
IMYA	**Miami**	**0.60**	**335**	Pg	**Pb**		**17 24 32.3**	**+0.1**
IMOG	**Moghan**	**0.93**	**290**	Pg	**Pg**		**17 24 36.3**	**-0.6**
TBHD	**Torbat heydari**	**1.03**	**249**	Pg	**Pb**		**17 24 39.2**	**-0.2**
IKRD	**Kardeh**	**1.22**	**324**	Pg	**Pg**		**17 24 41.6**	**-0.9**
IAKL	**Akhelmad**	**1.56**	**302**	Pg	**Pn**		**17 24 46.7**	**-0.9**
SHRT	**Shahrakht**	**2.15**	**183**	Pn	**Pn**		**17 24 56.4**	**+1.0**
IEMG	**Emamgholi**	**2.15**	**319**	Pn	**Pb**		**17 24 57.1**	**-1.5**
SBZV	**Sabzevar**	**2.35**	**285**	Pn	**Pb**		**17 25 00.6**	**-1.3**
AFRZ	**Afriz**	**2.63**	**206**	Pn	**Pb**		**17 25 04.4**	**-2.2**
GEYT	**Alibeck**	**2.82**	**320**	Pn	**Pn**		**17 25 06.8**	**+2.2**
	3.7nm,0.3s,baz=125,slow=18,SNR=32							
GEYT				Lg	Lg		17 25 48.9	
	6.4nm,0.3s,baz=147,slow=17,SNR=2.6							
	8.8nm,0.3s							
IDAH	**Dahanechah**	**3.08**	**189**	Pn	**Pn**		**17 25 10.1**	**+1.6**
BAGH	**Bagheran - Bir**	**3.17**	**199**	Pn	**Pn**		**17 25 10.5**	**+0.8**
ITEG	**Tejag**	**3.20**	**206**	Pn	**Pn**		**17 25 12.0**	**+1.9**
TKDS	**Koohdasht(Taba**	**3.48**	**232**	Pn	**Pn**		**17 25 15.2**	**+1.4**
IKOO	**Kooshah**	**3.56**	**200**	Pn	**Pn**		**17 25 16.7**	**+1.6**
TNSJ	**Nastanj**	**3.62**	**241**	Pn	**Pn**		**17 25 17.3**	**+1.5**
MRVT	**Maraveh tapeh**	**3.94**	**299**	Pn	**Pn**		**17 25 22.0**	**+1.9**
BSRN	**Basiran**	**3.97**	**196**	Pn	**Pn**		**17 25 21.8**	**+1.3**
TPRV	**Parvadeh(Tabas**	**4.14**	**229**	Pn	**Pn**		**17 25 25.0**	**+2.2**
AAK	**Ala-Archa**	**12.87**	**54**	Pn	**Pn**		**17 27 21.5**	**-1.2**
	0.3nm,0.3s,baz=260,slow=4.5,SNR=5.8							
	0.7nm,0.3s							
BVAR	**Borovoye Array**	**18.61**	**19**	P	**Pn**		**17 28 37.1**	**-0.1**
	baz=205,slow=9.7,SNR=2.8							
	0.6nm,0.5s							
KURBB	**Kurchatov Arra**	**19.77**	**36**	P	**P**		**17 28 49.3**	**-0.4**
	baz=226,slow=10,SNR=1.9							
	0.1nm,0.3s							
ZALV	**Zalesovo Beam**	**24.87**	**36**	P	**P**		**17 29 41.0**	**-1.2**
	1.0nm,0.5s,baz=234,slow=7.7,SNR=5.3							
	1.0nm,0.5s							
AKASG	**Malin Array Be**	**26.92**	**313**	P	**P**		**17 30 00.7**	**-0.1**
	0.3nm,0.5s,baz=99,slow=7.8,SNR=4.6							
	0.3nm,0.5s							
FINES	**FINESS Array B**	**33.57**	**331**	P	**P**		**17 31 00.1**	**+0.6**
	4.8nm,1.1s,baz=125,slow=11,SNR=2.2							
	4.8nm,1.1s							
CMAR	**Chiang Mai Arr**	**38.10**	**107**	P	**P**		**17 31 39.9**	**+1.0**
	0.3nm,0.6s,baz=301,slow=8.6,SNR=4.1							
	0.3nm,0.6s							

SJA ***29*** *17:57:55.5±0.6, 20.˚14S×70.˚91W, h26km±3km, ML3.5, MW3.7*
GUC ***29*** *17:57:58.3±0.8, 20.˚15S×70.˚87W, h35km±2km, ML3.4*

ISC 29 17:57:57.4±1.4, 20.14S±0.03×70.83W±0.06, h27km±14km, n34,σ1ş08/52, 1C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.67**	**101**	*e*P		**Pn**	**17 58 10.5**	**-0.6**
TA02					IAML		17 58 23.3	
	comp=Z,1μm,0.3s							
TA02	**Huaiquique**	**0.67**	**101**	*e*P		**Pn**	**17 58 10.6**	**-0.6**
TA02				*i* S		**Sb**	**17 58 20.2**	**+0.7**
TA02					IAML		17 58 23.5	
	comp=N,6μm,0.2s							
TA01	**Diego Aracena**	**0.74**	**125**	*e*P		**Pn**	**17 58 11.7**	**-0.4**
TA01					IAML		17 58 24.4	
	comp=Z,986nm,0.3s							
TA01	**Diego Aracena**	**0.74**	**125**	↓*i*P		**Pn**	**17 58 11.7**	**-0.4**
TA01				*e*S		**Sb**	**17 58 22.3**	**+0.7**
TA01					IAML		17 58 23.7	
	comp=N,5μm,0.2s							
HMBC	**Humberstone**	**0.90**	**99**	*e*P		**Pn**	**17 58 14.2**	**-0.1**
HMBC	**Humberstone**	**0.90**	**99**	↓*i*P		**Pn**	**17 58 14.3**	**-0.1**
HMBC				*e*S		**Sn**	**17 58 26.5**	**-0.1**
HMBC					IAML		17 58 36.6	
	comp=E,1μm,0.3s							
PATCX	**Punta Patache**	**0.93**	**137**	*e*P		**Pn**	**17 58 14.7**	**-0.1**
PATCX	**Punta Patache**	**0.93**	**137**	↓*i*P		**Pn**	**17 58 14.7**	**-0.1**
PATCX				*e*S		**Sb**	**17 58 27.6**	**+0.6**
PATCX					IAML		17 58 32.6	
	comp=E,1μm,0.9s							
PX03	**IPOC Station P**	**1.16**	**103**	*e*P		**Pn**	**17 58 17.9**	**0.0**
PX03				*e*S		**Sn**	**17 58 33.9**	**+0.9**
PX03					IAML		17 58 36.5	
	comp=Z,3μm,0.5s							
PB11	**IPOC Station P**	**1.17**	**71**	*e*P		**Pn**	**17 58 18.6**	**+0.4**
PB11					IAML		17 58 39.9	
	comp=Z,508nm,0.2s							
PB11	**IPOC Station P**	**1.17**	**71**	*i* P		**Pn**	**17 58 18.6**	**+0.4**
PB11				*e*S		**Sb**	**17 58 34.3**	**+0.5**
PB11					IAML		17 58 39.6	
	comp=N,1μm,0.4s							
PB02	**IPOC Station P**	**1.47**	**143**	*e*P		**Pb**	**17 58 23.0**	**-1.1**
PB02				*e*S		**Sb**	**17 58 43.6**	**+1.2**
PB02					IAML		17 58 48.7	
	comp=Z,2μm,0.3s							
PB02	**IPOC Station P**	**1.47**	**143**	↑*i*P		**Pn**	**17 58 22.8**	**+0.6**
PB02				*e*S		**Sb**	**17 58 41.8**	**-0.6**
PB01	**IPOC Station P**	**1.55**	**126**	*e*P		**Pn**	**17 58 24.4**	**+1.0**
PB01					IAML		17 58 49.9	
	comp=Z,591nm,0.4s							
PB01	**IPOC Station P**	**1.55**	**126**	*i* P		**Pn**	**17 58 24.3**	**+1.0**
PB01				*i* S		**Sn**	**17 58 43.8**	**+1.1**
PB01					IAML		17 58 51.0	
	comp=E,932nm,0.2s							
PB08	**IPOC Station P**	**1.58**	**90**	*e*P		**Pn**	**17 58 25.1**	**+1.1**
PB08					IAML		17 58 50.0	
	comp=Z,287nm,0.6s							
PB08	**IPOC Station P**	**1.58**	**90**	*i* P		**Pb**	**17 58 25.3**	**-0.9**
PB08				*e*S		**Sb**	**17 58 46.1**	**+0.3**
PB12	**IPOC Station P**	**1.59**	**18**	*e*P		**Pn**	**17 58 24.5**	**+0.6**
PB12				*e*S		**Sb**	**17 58 46.9**	**+1.1**
PB12	**IPOC Station P**	**1.59**	**18**	*e*P		**Pn**	**17 58 24.4**	**+0.5**
PB12				*e*S		**Sb**	**17 58 45.2**	**-0.7**
PB12					IAML		17 58 53.0	
	comp=N,428nm,0.4s							
GO01	**Chusmiza**	**1.61**	**73**	*e*P		**Pb**	**17 58 25.9**	**-0.9**
GO01	**Chusmiza**	**1.61**	**73**	*e*P		**Pb**	**17 58 25.8**	**-0.9**
GO01				*e*S		**Sb**	**17 58 47.7**	**+0.8**
GO01					IAML		17 58 49.4	
	comp=N,2μm,0.2s							
PB07	**IPOC Station P**	**1.81**	**151**	*e*P		**Pn**	**17 58 27.5**	**+0.5**
PB07				*e*S		**Sb**	**17 58 55.3**	**+3.0**
PB07					IAML		17 58 58.4	
	comp=Z,398nm,0.6s							
PB07	**IPOC Station P**	**1.81**	**151**	*e*P		**Pn**	**17 58 27.5**	**+0.5**
PB07				*e*S		**Sb**	**17 58 53.2**	**+0.8**
PB07					IAML		17 59 05.7	
	comp=E,493nm,0.4s							
PB16	**IPOC Station P**	**2.19**	**35**	*e*P		**Pn**	**17 58 34.0**	**+1.5**
PB16					IAML		17 59 09.6	
	comp=Z,220nm,0.4s							
PB16	**IPOC Station P**	**2.19**	**35**	*e*P		**Pb**	**17 58 35.4**	**-1.3**
PB16				*e*S		**Sb**	**17 59 04.3**	**+0.8**
PB16					IAML		17 59 11.4	
	comp=E,316nm,0.4s							
PB09	**IPOC Station P**	**2.22**	**138**	*e*P		**Pb**	**17 58 34.7**	**-2.3**
PB09					IAML		17 59 11.0	
	comp=Z,504nm,0.3s							
PB04	**IPOC Station P**	**2.28**	**164**	*e*P		Pn	17 58 18.3	-15
PB04					IAML		17 59 20.3	
	comp=Z,271nm,0.5s							
PB04	**IPOC Station P**	**2.28**	**164**	*e*P		**Pb**	**17 58 39.2**	**+1.3**
PB04				*e*S		**Sn**	**17 58 59.2**	**-1.5**
PB04					IAML		17 59 22.1	
	comp=E,277nm,0.6s							
PB05	**IPOC Station P**	**2.76**	**168**	*e*P		**Pn**	**17 58 39.6**	**-0.4**
PB05					IAML		17 59 34.9	
	comp=Z,83nm,0.5s							
PB05	**IPOC Station P**	**2.76**	**168**	*e*P		**Pn**	**17 58 39.5**	**-0.6**
PB05				*e*S		**Sn**	**17 59 10.2**	**-2.5**
PB05					IAML		17 59 33.3	
	comp=E,131nm,0.5s							
PB06	**IPOC Station P**	**2.81**	**156**	*e*P		**Pn**	**17 58 41.2**	**+0.4**
PB06					IAML		17 59 29.3	
	comp=Z,144nm,0.7s							
PB06	**IPOC Station P**	**2.81**	**156**	*e*P		**Pn**	**17 58 40.9**	**+0.1**
PB06				*e*S		**Sn**	**17 59 12.9**	**-1.0**
PB06					IAML		17 59 27.9	
	comp=E,202nm,0.3s							
LVC	**Limon Verde**	**3.04**	**144**	*e*P		**Pn**	**17 58 45.6**	**+1.5**
LVC					IAML		17 59 36.0	
	comp=Z,164nm,0.5s							
PB15	**IPOC Station P**	**3.31**	**158**	*e*P		**Pn**	**17 58 49.9**	**+2.2**
PB15					IAML		17 59 52.7	
	comp=Z,205nm,0.4s							

NEIC ***29*** *18:05:52.1±2.3, 19.˚06N±0.˚06×64.˚69W±0.˚07, h35km±2km, ML2.8/20, Md3.7/3(RSPR), Error ellipse: s-maj=14.1km s-min=3.9km az=312.0*
RSPR ***29*** *18:05:52.2, 19.˚25N×64.˚66W, h25km±17km, MD3.7/3*

ISC 29 18:05:47.4±2.7, 19.˚0N±0.˚2×64.˚69W±0.˚04, h9km±13km, n23,σ1ş44/29, 1C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.47**	**244**	Pn		**Pg**	**18 06 16.7**	**+1.0**
SJG	**San Juan**	**1.62**	**239**			**Pg**	**18 06 18.8**	**+0.2**
SJG					Sn	**Sb**	**18 06 39.9**	**+1.8**
SJG					IAML		18 06 43.5	
	80nm,0.3s							
SJG					IAML		18 06 43.5	
	63nm,0.2s							
SJG	**San Juan**	**1.62**	**239**	*e*P		**Pg**	**18 06 19.0**	**+0.5**
SJG				*e*S		**Sb**	**18 06 40.2**	**+2.1**
CELP	**Cerrillos**	**2.00**	**244**	Pn		**Pb**	**18 06 24.3**	**+0.4**
CELP				Sn		**Sn**	**18 06 44.4**	**-2.2**
OBIP	**Obispado Ponce**	**2.03**	**244**	Pn		**Pb**	**18 06 24.6**	**-1.0**
OBIP					IAML		18 06 48.9	
	comp=E,37nm,0.5s							
AOPR	**Arecibo Observ**	**2.05**	**253**	↓*e*P		**Pb**	**18 06 24.7**	**-0.1**
AOPR	**Arecibo Observ**	**2.05**	**253**	*e*S		**Sg**	**18 06 51.8**	**-1.5**
AOPR	**Arecibo Observ**	**2.05**	**253**			**Pb**	**18 06 24.2**	**-0.6**
AOPR						**Sb**	**18 06 49.0**	**-1.5**
AOPR					IAML		18 06 56.8	
	comp=N,94nm,0.4s							
AOPR					IAML		18 07 04.4	
	comp=E,112nm,0.3s							
AOPR	**Arecibo Observ**	**2.05**	**253**	*e*P		**Pb**	**18 06 24.3**	**-0.6**
AOPR				*e*S		**Sg**	**18 06 52.3**	**-1.0**
LSP	**Las Mesas**	**2.40**	**251**	↓*e*P		**Pb**	**18 06 30.2**	**-0.7**
LSP	**Las Mesas**	**2.40**	**251**			**Pb**	**18 06 30.2**	**-0.7**
MLPR	**Magueyes Islan**	**2.44**	**247**	↑*e*P		**Pb**	**18 06 30.7**	**-0.8**
MLPR	**Magueyes Islan**	**2.44**	**247**	*e*S		**Sb**	**18 07 01.1**	**-0.6**
MLPR	**Magueyes Islan**	**2.44**	**247**			**Pb**	**18 06 30.6**	**-0.8**
MLPR					IAML		18 06 53.5	
	comp=E,30nm,2.1s							
MLPR					IAML		18 07 02.2	
	comp=N,31nm,2.5s							
MLPR	**Magueyes Islan**	**2.44**	**247**			**Sb**	**18 07 01.1**	**-0.6**
CRPR	**Cabo Rojo, PR**	**2.48**	**248**	↓*e*P		**Pb**	**18 06 31.5**	**-0.7**
CRPR	**Cabo Rojo, PR**	**2.48**	**248**	*e*S		**Sb**	**18 07 01.7**	**-1.2**
CRPR	**Cabo Rojo, PR**	**2.48**	**248**			**Pb**	**18 06 31.6**	**-0.7**
CRPR						**Sb**	**18 07 01.7**	**-1.2**
CRPR	**Cabo Rojo, PR**	**2.48**	**248**		IAML		18 07 15.2	
	comp=E,29nm,1.8s							
CRPR					IAML		18 08 00.2	
	comp=N,29nm,2.1s							
ANBD	**Bethesda, Anti**	**3.37**	**124**	*e*P		**Pb**	**18 06 45.4**	**-2.0**
ANBD				*e*S		**Sb**	**18 07 26.9**	**-1.6**
GDSD	**La Dsirade Is**	**4.34**	**127**	Pn		**Pn**	**18 06 56.3**	**+2.6**
GDSD					IAML		18 08 40.2	
	comp=N,77nm,2.7s							
MAGL	**Barre de l'ile**	**4.42**	**132**	Pn		**Pn**	**18 06 57.4**	**+2.7**
SVN	**Savane Anatole**	**5.30**	**140**	Pn		**Pn**	**18 07 08.8**	**+1.8**

TEH ***29*** *18:29:31.9, 34.˚52N×45.˚71E, h10km±13km, ML3.1*
ISN ***29*** *18:29:32.0±0.9, 34.˚60N×45.˚74E, h25km±999km, ML3.4*

ISC 29 18:29:32.9±1.0, 34.50N±0.03×45.70E±0.03, h5km±9km, n31,σ0ş61/37, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.10**	**273**	Pg		**Pg**	**18 29 34.5**	**-0.4**
KGS1				Sg		**Sg**	**18 29 37.0**	**+0.7**
IDHR	**Dehrash**	**0.60**	**70**	Pg		**Pg**	**18 29 43.6**	**-0.8**
IDHR				Sg		**Sg**	**18 29 52.8**	**+0.5**
IGHG	**Ghaleghazi**	**0.74**	**103**	Pg		**Pg**	**18 29 46.6**	**-0.4**
ILBA	**Ilam Banvizeh**	**0.97**	**154**	Pg		**Pg**	**18 29 50.5**	**-0.9**
ILIN	**Lien**	**1.12**	**68**	Pg		**Pg**	**18 29 53.0**	**-1.3**
KCHF	**Cheshme Sefid,**	**1.13**	**101**	Pg		**Pg**	**18 29 53.8**	**-0.7**
KCHF				Sg		**Sb**	**18 30 10.6**	**+0.6**
IBDR	**Badra**	**1.40**	**172**	*e*Pn		**Pn**	**18 29 59.0**	**0.0**
IBDR				*e*Sn		**Sg**	**18 30 19.0**	**+1.2**
IBDR					AML	AML	18 30 22.6	
	comp=E,834nm,0.4s							
IBDR					AML	AML	18 30 26.2	
	comp=N,476nm,0.5s							
IKOM	**Komasi**	**1.53**	**102**	Pg		**Pb**	**18 30 01.4**	**-0.4**
BHD	**Baghdad**	**1.65**	**222**	*e*Pn		**Pn**	**18 30 02.0**	**-0.4**
BHD				*e*Sn		**Sb**	**18 30 25.0**	**+0.3**
BHD					AML	AML	18 30 27.8	
	comp=E,631nm,0.2s							
SDS1	**Sardasht. Az.**	**1.66**	**354**	Pg		**Pn**	**18 30 02.5**	**-0.2**
IBZA	**Bozab**	**1.78**	**90**	Pg		**Pn**	**18 30 05.0**	**+0.4**
IKFM	**Kafar-mosalman**	**2.03**	**118**	Pn		**Pn**	**18 30 08.2**	**+0.6**
IALM	**Almabolaq**	**2.06**	**79**	Pn		**Pn**	**18 30 08.9**	**+0.5**
MAHB	**Mahabad**	**2.26**	**0**	Pn		**Pn**	**18 30 11.6**	**+0.5**
HSAM	**Samen**	**2.42**	**96**	Pn		**Pn**	**18 30 13.6**	**+0.3**
RAFI	**Al-Rafai**	**2.79**	**173**	*e*Pn		**Pn**	**18 30 19.0**	**+0.9**
RAFI				*e*Sn		**Sn**	**18 30 52.0**	**-0.2**
HAGD	**Aghdareh**	**2.85**	**83**	Pn		**Pn**	**18 30 20.0**	**+0.8**
IHSH	**Hashtrud**	**3.07**	**24**	Pn		**Pn**	**18 30 22.9**	**+0.6**
QSDN	**Sirdan**	**3.47**	**54**	Pn		**Pn**	**18 30 28.4**	**+0.7**
IRAZ	**Razeghan**	**3.59**	**74**	Pn		**Pn**	**18 30 29.7**	**+0.4**
ISRB	**Sarab**	**3.68**	**25**	Pn		**Pn**	**18 30 30.6**	**0.0**
IHRS	**Heris**	**3.96**	**15**	Pn		**Pn**	**18 30 35.0**	**+0.6**
AMIS	**Naft Sefid**	**4.13**	**132**	Pn		**Pn**	**18 30 36.1**	**-0.5**
IMRD	**Marand**	**4.21**	**360**	Pn		**Pn**	**18 30 38.1**	**+0.4**
IQOM	**Qom**	**4.44**	**84**	Pn		**Pn**	**18 30 41.4**	**+0.4**
GRMI	**Germi**	**4.65**	**22**	Pn		**Pn**	**18 30 44.0**	**+0.2**
IPIR	**Pirpir**	**4.69**	**111**	Pn		**Pn**	**18 30 44.7**	**+0.1**
QAMS	**Qamsar**	**4.78**	**98**	Pn		**Pn**	**18 30 46.4**	**+0.6**
ZNGN	**Zangian**	**4.92**	**117**	Pn		**Pn**	**18 30 47.6**	**-0.2**
IKLH	**Kolahrood**	**5.03**	**102**	Pn		**Pn**	**18 30 49.9**	**+0.8**
IFIR	**Firoozkooh**	**5.89**	**77**	Pn		**Pn**	**18 31 01.2**	**+0.2**

BER ***29*** *18:47:55.9±1.3, 71.˚16N×5.˚82W, h10km, mb(Pn)4.0, Confirmed Earthquake*
DNK ***29*** *18:48:06.8±1.0, 71.˚80N×5.˚10W, h38km±104km, ML2.0*

ISC 29 18:47:52.7±1.0, 71.1N±0.1×5.61W±0.08, h10km, n16,σ1ş71/16, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**5.43**	**271**	*i* P		**Pb**	**18 49 26.5**	**-0.9**
SCO	**Scoresbysund**	**5.43**	**271**	*i* P		**Pb**	**18 49 26.5**	**-0.9**
DAG	**Danmarks Havn**	**6.75**	**334**	*e*P		**Pn**	**18 49 34.9**	**+3.3**
DAG					*e*S	Sn	18 50 38.7	-10
DAG	**Danmarks Havn**	**6.75**	**334**	*e*		**Pn**	**18 49 32.0**	**+0.4**
	baz=133,slow=16							
DAG				*i* P		**Pn**	**18 49 34.5**	**+2.9**
DAG				*i* S		Sn	18 50 39.0	-9.4
DAG					IAML		18 50 44.8	
	comp=Z,5.8nm,0.4s							
LOF	**Lofoten**	**7.30**	**105**	*e*P		**Pn**	**18 49 40.9**	**+1.8**
LOF				*e*S		Sn	18 50 57.1	-4.7
LOF					IAML		18 50 59.4	
	comp=Z,4.5nm,0.7s							
STEI	**Steigen**	**7.95**	**103**	*e*P		**Pn**	**18 49 49.7**	**+1.7**
HSPB	**Hornsund (broa**	**8.26**	**35**	*e*P		**Pn**	**18 49 50.6**	**-1.7**
TRO	**Tromso**	**8.36**	**88**	*e*P		Pn	18 49 53.0	-0.7
BORG	**Borgarnes**	**8.65**	**231**	*e*P		**Pn**	**18 49 56.9**	**-0.8**
BRBB	**Barentsburg B**	**8.73**	**28**	*e*P		**Pn**	**18 49 57.5**	**-1.2**
JETT	**Jettan, Norway**	**8.88**	**87**	*e*P		**Pn**	**18 50 00.7**	**-0.1**
JETT				*e*S		Sn	18 51 30.6	-10
JETT					IAML		18 51 38.1	
	comp=Z,3.1nm,0.6s							
KBS	**Kingsbay**	**9.04**	**22**	*e*P		**Pn**	**18 50 01.7**	**-1.3**
KBS					IAML		18 51 35.8	
	comp=Z,4.0nm,0.6s							
KBS	**Kingsbay**	**9.04**	**22**	*i* P		**Pn**	**18 50 01.8**	**-1.1**
SPA0	**Spitsbergen Ar**	**9.12**	**29**	*e*P		**Pn**	**18 50 03.5**	**-0.6**
HOPEN	**Hopen**	**10.01**	**43**	*e*P		**Pn**	**18 50 14.6**	**-1.6**
KTK1	**Kautokeino**	**10.02**	**88**	*e*P		**Pn**	**18 50 16.4**	**0.0**

MDD ***29*** *19:06:51.6±0.9, 35.˚81N×0.˚58E, h14km±6km, Mb4.0/13, M_mb3.3/13, Error ellipse: s-maj=10.7km s-min=5.1km az=137.0*
CNRM ***29*** *19:06:53.2, 36.˚08N×0.˚01E, h0km, ml2.6*

ISC 29 19:06:52.3±1.7, 35.97N±0.05×0.42E±0.07, h14km, n26,σ1ş26/44, 9C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CART	**Cartagena**	**1.98**	**325**	P		**Pn**	**19 07 25.2**	**-0.1**
CART				S		Sn	**19 07 46.7**	**-3.2**
CART	**Cartagena**	**1.98**	**325**	Sn		**Sn**	**19 07 47.5**	**-2.4**
CART				Pn		Pn	**19 07 25.0**	**-0.3**
EMUR	**La Murta**	**2.29**	**325**	Pn		**Pn**	**19 07 29.6**	**-0.1**
EMUR				↑*i*Vmb_V			19 07 36.2	
	236nm,SNR=1.3							
EMUR				Sn		**Sb**	**19 07 60.0**	**-1.8**
EMUR	**La Murta**	**2.29**	**325**	Pn		**Pn**	**19 07 29.4**	**-0.3**
ENIJ	**Nijar**	**2.34**	**296**	Pn		**Pn**	**19 07 30.6**	**+0.2**
ENIJ				Sn		**Sn**	**19 07 59.4**	**+0.5**
TLOR	**Lorca, Murcia**	**2.38**	**316**	Pn		**Pn**	**19 07 29.9**	**-1.1**
EZAR	**Zarzadilla de**	**2.55**	**319**	Pn		**Pn**	**19 07 34.0**	**+0.7**
EZAR				↑*i*Vmb_V			19 07 39.9	
	321nm,SNR=1.5							
EZAR				Sn		**Sn**	**19 08 05.4**	**+1.3**
TAF	**Taforalt**	**2.58**	**244**	P		**Pn**	**19 07 32.2**	**-1.5**
TAF				S		**Sn**	**19 08 03.4**	**-1.5**
EBEN2	**Beniarda presa**	**2.75**	**350**	Pn		**Pn**	**19 07 36.8**	**+0.9**
EBEN2				↑*i*Vmb_V			19 07 38.3	
	659nm,SNR=1.4							
EBEN2				Sn		**Sn**	**19 08 08.9**	**-0.1**
EBER	**Berja**	**2.82**	**290**	Pn		**Pn**	**19 07 37.5**	**+0.4**
EBER				↑*i*Vmb_V			19 07 40.6	
	246nm,SNR=1.5							
EBER				Sn		**Sn**	**19 08 11.8**	**+0.8**
EBER	**Berja**	**2.82**	**290**	Sn		**Sn**	**19 08 10.2**	**-0.8**
EBER				Pn		**Pn**	**19 07 37.0**	**-0.2**
JBK	**JBK**	**2.94**	**237**	P		**Pn**	**19 07 39.2**	**+0.5**
JBK				S		**Sn**	**19 08 15.5**	**+1.6**
ETOB	**Tobarra**	**3.10**	**330**	Pn		**Pn**	**19 07 42.6**	**+1.8**
ETOB				↑*i*Vmb_V			19 07 48.6	
	261nm,SNR=1.2							
ETOB				Sn		**Sn**	**19 08 19.6**	**+2.0**
ETOB	**

PMBI	**Palembang**	**3.75**	**91**	P		**Pn**	**19 15 24.9**	**-1.1**
PMBI	**Palembang**	**3.75**	**91**	P		**Pn**	**19 15 24.5**	**-1.5**
PBSI	**Pulau Batu**	**3.92**	**316**	P		**Pn**	**19 15 28.4**	**0.0**
DSRI	**Dabo**	**4.28**	**56**	P		**Pn**	**19 15 35.0**	**+1.7**
KLI	**Kotabumi**	**4.30**	**117**	P		**Pn**	**19 15 35.6**	**+2.0**
KASI	**Kota Agung**	**4.35**	**127**	P		**Pn**	**19 15 36.3**	**+2.0**
TPRI	**Tanjung Pinang**	**5.15**	**43**	P		**Pn**	**19 15 47.0**	**+1.8**
	906nm,0.8s,9µm6µm2.9nm							
PPBI	**Pangkal Pinang**	**5.16**	**82**	P		Pn	19 15 52.2	+6.8
GSI	**Gunungsitoli**	**5.40**	**320**	Pn		**Pn**	**19 15 47.4**	**-1.3**
GSI	**Gunungsitoli**	**5.40**	**320**	P		**Pn**	**19 15 48.3**	**-0.4**
GSI	**Gunungsitoli**	**5.40**	**320**	P		**Pn**	**19 15 48.0**	**-0.7**
	532nm,0.9s,5µm4.0nm							
RPSI	**Rantau Prapat**	**5.92**	**339**			**Pn**	**19 15 54.6**	**-1.2**
CGJI	**Cibinong**	**5.95**	**129**	P		**Pn**	**19 15 56.6**	**+0.3**
	150nm,1.3s,3µm1.6nm							
PSI	**Prapat**	**6.02**	**340**	P		**Pn**	**19 15 54.6**	**-2.7**
DBJI	**Dramaga**	**6.78**	**123**	P		**Pn**	**19 16 09.4**	**+1.8**
	184nm,1.3s,5µm1.3nm							
SKJI	**Sukabumi**	**6.87**	**127**	P		**Pn**	**19 16 06.8**	**-2.1**
	212nm,0.6s,4µm2.0nm							
SNSI	**Sinabang, Aceh**	**7.04**	**318**	P		**Pn**	**19 16 09.9**	**-1.3**
	153nm,0.7s,1.5nm							
CNJI	**Cibinong**	**7.51**	**126**	P		**Pn**	**19 16 17.3**	**-0.3**
	94nm,0.8s,1µm0.3nm							
LEM	**Lembang**	**7.65**	**121**	P		**Pn**	**19 16 22.9**	**+3.2**
	111nm,1.4s,2µm0.5nm							
LEM	**Lembang**	**7.65**	**121**	P		**Pn**	**19 16 20.8**	**+1.0**
	14nm,0.5s,baz=300,slow=20,SNR=2.1							
LEM				S		**Sn**	**19 17 53.9**	**+8.7**
	24nm,0.5s,baz=162,slow=18,SNR=1.2							
LEM				LR		LR	19 19 43.6	
	comp=Z,1µm,20.2s,baz=278,slow=41							
BBJI	**Bungbulang**	**8.02**	**125**	P		**Pn**	**19 16 25.1**	**+0.4**
MLSI	**Meulaboh, Aceh**	**8.47**	**327**	P		**Pn**	**19 16 30.7**	**0.0**
	202nm,0.5s,4µm							
XMI	**Christmas Isla**	**8.83**	**149**	P		**Pn**	**19 16 35.1**	**-0.7**
XMIS	**Christmas Isla**	**8.84**	**149**			Pn	19 16 29.5	-6.4
XMIS	**Christmas Isla**	**8.84**	**149**	P		**Pn**	**19 16 37.2**	**+1.3**
CMJI	**Cimerak**	**8.85**	**124**	P		**Pn**	**19 16 34.5**	**-1.5**
	105nm,0.5s							
LHMI	**Lhok Sumawe**	**9.02**	**333**	Pn		**Pn**	**19 16 37.8**	**-0.6**
LHMI	**Lhok Sumawe**	**9.02**	**333**	P		**Pn**	**19 16 39.1**	**+0.7**
LHMI	**Lhok Sumawe**	**9.02**	**333**	P		**Pn**	**19 16 37.6**	**-0.8**
	47nm,0.6s							
KPJI	**Karang Pucung**	**9.03**	**120**	P		**Pn**	**19 16 40.3**	**+1.8**
	62nm,0.6s							
SKLT	**Songkhla**	**9.99**	**358**	P		**Pn**	**19 16 52.0**	**+0.4**
COCO	**West Island**	**10.14**	**204**	Pn		**Pn**	**19 16 51.6**	**-2.0**
COCO	**West Island**	**10.14**	**204**	P		**Pn**	**19 16 51.6**	**-2.0**
SMRI	**Semarang**	**10.26**	**114**	Pn		**Pn**	**19 16 55.8**	**+0.5**
UGM	**Wanagama**	**10.70**	**118**	Pn		**Pn**	**19 17 00.5**	**-0.9**
UGM	**Wanagama**	**10.70**	**118**	P		**Pn**	**19 17 02.8**	**+1.5**
UGM	**Wanagama**	**10.70**	**118**	P		**Pn**	**19 17 01.9**	**+0.6**
	134nm,0.9s							
STKI	**Sintang**	**10.85**	**75**	P		Pn	19 17 15.2	+12
NGJI	**Ngawi**	**11.31**	**114**	P		**Pn**	**19 17 09.6**	**-0.1**
	126nm,1.2s							
SRIT	**Nakonsritamara**	**11.48**	**353**	Pn		**Pn**	**19 17 12.3**	**+0.2**
BLJI	**Banyuglugur**	**13.42**	**112**	P		**P**	**19 17 43.1**	**-3.1**
	45nm,0.8s							
BBKI	**Banjar Baru**	**13.81**	**93**	P		**P**	**19 17 47.6**	**-3.0**
	94nm,1.2s							
MTKI	**Muara Teweh, K**	**14.00**	**82**	P		**P**	**19 17 55.1**	**+2.4**
JAGI	**Jajag, Banyuwa**	**14.19**	**114**	Pn		**Pn**	**19 17 47.4**	**-1.6**
JAGI	**Jajag, Banyuwa**	**14.19**	**114**	P		**Pn**	**19 17 48.8**	**-0.1**
JAGI	**Jajag, Banyuwa**	**14.19**	**114**	P		**Pn**	**19 17 48.6**	**-0.3**
	59nm,0.7s,2µm							
SRBI	**Singaraja**	**15.04**	**111**	P		**Pn**	**19 17 57.2**	**-2.8**
	42nm,1.1s							
BKB	**Balikpapan**	**15.94**	**85**	P		**P**	**19 18 14.9**	**+0.5**
	214nm,1.0s							
DLV	**T Lat**	**16.49**	**27**			**Pn**	**19 18 16.0**	**-2.7**
TWSI	**Taliwang, Sumb**	**16.81**	**111**	P		**Pn**	**19 18 22.5**	**-0.1**
	33nm,1.0s							
SRDT	**SRDT**	**17.22**	**354**	P		**P**	**19 18 29.9**	**+1.4**
PLAI	**Plampang**	**17.68**	**110**	P		**Pn**	**19 18 32.9**	**-0.4**
PLAI	**Plampang**	**17.68**	**110**	P		**Pn**	**19 18 32.0**	**-1.3**
	68nm,0.9s							
UBPT	**Khong Chiam**	**18.57**	**14**	P		**P**	**19 18 41.4**	**-1.9**
UBPT	**Khong Chiam**	**18.57**	**14**	P		**P**	**19 18 42.8**	**-0.5**
SPSI	**Sidrap Palu**	**18.74**	**94**	P		**Pn**	**19 18 47.1**	**+0.9**
	30nm,0.7s							
TTSI	**Tana Toraja**	**18.77**	**91**	P		**Pn**	**19 18 48.2**	**+1.6**
	70nm,1.0s							
KAPI	**Kappang**	**18.80**	**97**			**P**	**19 18 46.1**	**+0.1**
KAPI				IAmb		IAmb	19 18 52.2	
	comp=Z,144nm,1.0s							
KAPI	**Kappang**	**18.80**	**97**	P		**Pn**	**19 18 47.5**	**+0.5**
	comp=Z,113nm,0.9s,baz=262,slow=12,SNR=29							
KAPI				LR		LR	19 26 59.3	
	comp=Z,562nm,18.4s,baz=266,slow=40							
MPSI	**Mapaga**	**19.14**	**81**	P		**Pn**	**19 18 52.3**	**+1.4**
	comp=Z,148nm,1.1s,comp=Z,2µm							
BKSI	**Bulukumba**	**19.20**	**98**	P		**Pn**	**19 18 52.6**	**+0.9**
	comp=Z,120nm,1.2s,comp=Z,1µm							
TOLI2	**Tolitoli**	**20.15**	**79**	P		**P**	**19 19 00.4**	**-0.3**
TOLI2				IAmb		IAmb	19 19 04.2	
	comp=Z,107nm,0.9s							
TOLI2	**Tolitoli**	**20.15**	**79**	P		Pn	19 19 03.2	+0.3
MRSI	**Marisa**	**21.17**	**81**	P		**P**	**19 19 14.2**	**+2.5**
	comp=Z,84nm,1.0s,comp=Z,1µm							
CM31	**Chiang Mai Arr**	**21.30**	**355**	P		**P**	**19 19 10.2**	**-2.8**
CMAR	**Chiang Mai Arr**	**21.30**	**355**	P		**P**	**19 19 10.4**	**-2.6**
CMAR	**Chiang Mai Arr**	**21.30**	**355**	P		**P**	**19 19 10.4**	**-2.6**
CMAR	**Chiang Mai Arr**	**21.30**	**355**	P		**P**	**19 19 10.7**	**-2.3**
	comp=Z,16nm,0.8s,baz=185,slow=9.9,SNR=94							
CMAR				PcP		**PcP**	**19 23 17.7**	**+1.6**
	comp=Z,3.0nm,0.9s,baz=205,slow=3.0,SNR=7.1							
CMAR				ScP		**ScP**	**19 26 49.9**	**+1.2**
	comp=Z,1.9nm,0.9s,baz=212,slow=3.6,SNR=8.7							
CMAR				LR		LR	19 27 58.8	
	comp=Z,416nm,18.5s,baz=175,slow=38							
EDFI	**Ende, Flores**	**21.36**	**107**	P		**P**	**19 19 12.8**	**-1.1**
	comp=Z,12nm,0.6s							
BBSI	**Bau Bau**	**21.64**	**98**	P		P	19 19 25.6	+8.8
CHTO	**Chiang Mai**	**21.65**	**355**	P		**P**	**19 19 13.9**	**-2.8**
CHTO	**Chiang Mai**	**21.65**	**355**	P		**P**	**19 19 18.0**	**+1.2**
CHTO	**Chiang Mai**	**21.65**	**355**	P		**P**	**19 19 14.0**	**-2.8**
CHTO				pmax		pmax		
	comp=Z,19nm,0.8s							
LUWI	**Luwuk**	**21.81**	**86**	P		**P**	**19 19 18.0**	**-0.6**
LUWI	**Luwuk**	**21.81**	**86**	P		**P**	**19 19 21.2**	**+2.6**
	comp=Z,138nm,1.1s,comp=Z,1µm							
MMRI	**Maumere**	**21.86**	**106**			**P**	**19 19 17.5**	**-1.6**
MMRI	**Maumere**	**21.86**	**106**	P		**P**	**19 19 18.4**	**-0.7**
GTOI	**Gorontalo**	**22.25**	**81**	P		**P**	**19 19 23.6**	**+0.3**
	comp=Z,37nm,1.1s,comp=Z,520nm							
PALK	**Pallekele**	**22.65**	**297**	LR		LR	19 26 51.3	
	comp=Z,342nm,21.6s,baz=217,slow=32							
CRAI	**Chiangrai**	**22.97**	**358**	P		**P**	**19 19 28.6**	**-2.2**
KMSI	**Cibinong**	**23.20**	**82**	P		**P**	**19 19 33.3**	**+0.1**
	comp=Z,201nm,0.9s,comp=Z,2µm							
QIZ	**Qiongzhong**	**23.43**	**21**	P		**P**	**19 19 34.4**	**-0.9**
QIZ				IAmb		IAmb	19 19 37.0	
	comp=Z,168nm,1.9s							
QIZ	**Qiongzhong**	**23.43**	**21**	P		**P**	**19 19 35.8**	**+0.5**
QIZ				PP		**PnPn**	**19 20 06.8**	**+2.8**
QIZ				pmax		pmax		
	comp=Z,35nm,1.5s							
QIZ				LR		LR		
	comp=Z,540nm,23.6s							
QIZ				LR		LR		
	comp=Z,330nm,18.5s							
QIZ				LR		LR		
	comp=Z,650nm,20.2s							
SOEI	**Soe**	**24.08**	**108**	P		**P**	**19 19 38.2**	**-3.3**
SOEI	**Soe**	**24.08**	**108**	P		**P**	**19 19 41.6**	**+0.1**
SLVN	**Son La**	**24.23**	**7**	P		**P**	**19 19 41.3**	**-1.3**
SANI	**Sanana**	**24.95**	**89**	P		**P**	**19 19 49.5**	**+0.2**
	comp=Z,28nm,1.0s							
MBWA	**Marble Bar**	**25.73**	**136**	P		**P**	**19 19 56.3**	**+0.1**
MBWA	**Marble Bar**	**25.73**	**136**	P		**P**	**19 19 57.4**	**+1.2**
PSA00	**Pilbara Seismi**	**26.08**	**137**	P		**P**	**19 19 58.9**	**-0.6**
PSA00	**Pilbara Seismi**	**26.08**	**137**	P		**P**	**19 19 58.4**	**-1.1**
PSA00				IAmb		IAmb	19 20 23.1	
	comp=Z,33nm,1.4s							
DAV	**Davao City (W)**	**26.43**	**68**	LR		LR	19 31 19.3	
	comp=Z,664nm,21.7s,baz=247,slow=38							
LBMI	**Labuha**	**26.56**	**86**	P		**P**	**19 20 03.2**	**-0.7**
	comp=Z,86nm,1.2s,comp=Z,1µm							
TNCH	**TengChong**	**27.85**	**355**	*e*P		**P**	**19 20 17.5**	**+2.0**
TNCH				pP		pP	19 20 31.0	+2.1
TNCH				S		**S**	**19 24 59.3**	**+4.1**
TNCH				sS		sS	19 25 17.5	-0.5
TNCH				pmax		pmax		
	comp=Z,15nm,0.7s							
TNCH				pmax		pmax		
	comp=Z,110nm,5.0s							
TNCH				LR		LR		
	comp=Z,470nm,13.9s							
TNCH				LR		LR		
	comp=Z,270nm,13.2s							
TNCH				LR		LR		
	comp=Z,720nm,13.3s							
KMI	**Kunming**	**27.88**	**3**	⇑P		**P**	**19 20 16.0**	**+0.2**
KMI				pmax		pmax		
	comp=Z,14nm,0.5s							
KMI				LR		LR		
	comp=Z,610nm,19.2s							
KMI				LR		LR		
	comp=Z,500nm,17.2s							
KMI				LR		LR		
	comp=Z,770nm,19.9s							
FITZ	**Fitzroy Crossi**	**28.48**	**124**	P		**P**	**19 20 21.5**	**+0.5**
	baz=29,SNR=9.5							
FITZ	**Fitzroy Crossi**	**28.48**	**124**	P		**P**	**19 20 19.6**	**-1.4**
FITZ	**Fitzroy Crossi**	**28.48**	**124**	P		**P**	**19 20 21.4**	**+0.5**
PZH	**PanZhiHua**	**29.22**	**1**	P		**P**	**19 20 26.5**	**-1.1**
PZH				S		**S**	**19 25 18.5**	**+1.9**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.8s							
PZH				pmax		pmax		
	comp=Z,130nm,4.7s							
PZH				LR		LR		
	comp=Z,350nm,17.1s							
PZH				LR		LR		
	comp=Z,310nm,16.7s							
PZH				LR		LR		
	comp=Z,450nm,20.5s							
SHL	**Shillong**	**29.63**	**343**	P		**P**	**19 20 30.0**	**-1.3**
SHL				IAmb		IAmb	19 20 31.9	
	comp=Z,35nm,0.6s							
SHL	**Shillong**	**29.63**	**343**	P		**P**	**19 20 30.0**	**-1.3**
SHL				pmax		pmax		
	comp=Z,35nm,0.6s							
GYA	**Guiyang**	**29.67**	**10**	⇓P		**P**	**19 20 31.8**	**+0.2**
GYA				sP		sP	19 20 52.3	+0.7
GYA				S		**S**	**19 25 28.8**	**+5.1**
GYA				pmax		pmax		
	comp=Z,19nm,0.9s							
GYA				pmax		pmax		
	comp=Z,180nm,8.7s							
GYA				LR		LR		
	comp=Z,490nm,20.4s							
GYA				LR		LR		
	comp=Z,450nm,16.4s							
GYA				LR		LR		
	comp=Z,690nm,23.0s							
HYB	**Hyderabad**	**29.97**	**313**	*e*P		**P**	**19 20 34.9**	**+0.6**
HYB				*es*P		**sP**	**19 20 53.6**	**-0.2**
KNRA	**Kununurra**	**30.13**	**117**	P		**P**	**19 20 35.2**	**-0.5**
	baz=30,SNR=6.6							
KNRA	**Kununurra**	**30.13**	**117**	P		**P**	**19 20 34.1**	**-1.5**
KNRA	**Kununurra**	**30.13**	**117**	P		**P**	**19 20 35.2**	**-0.5**
FAKI	**Fak Fak**	**31.19**	**91**	P		**P**	**19 20 43.7**	**-1.4**
FAKI				IAmb		IAmb	19 20 50.0	
	comp=Z,35nm,1.1s							
FAKI	**Fak Fak**	**31.19**	**91**	P		**P**	**19 20 45.4**	**+0.4**
MTN	**Manton Dam**	**31.39**	**110**	P		**P**	**19 20 45.1**	**-1.7**
KNMB	**Chin-men Tao**	**31.99**	**31**	P		**P**	**19 20 50.0**	**-2.0**
MUN	**Mundaring**	**32.28**	**155**	P		**P**	**19 20 56.0**	**+1.5**
	baz=32,SNR=3.1							
MUN	**Mundaring**	**32.28**	**155**	P		**P**	**19 20 55.8**	**+1.4**
TPUB	**Ta-pu**	**32.28**	**35**	P		**P**	**19 20 54.3**	**-0.3**
TPUB				IAmb		IAmb	19 20 56.6	
	comp=Z,79nm,1.1s							
ODAN	**Odare**	**32.36**	**337**	*e*P		**P**	**19 20 56.5**	**+1.0**
	comp=Z,326nm,0.7s							
ODAN	**Odare**	**32.36**	**337**	*e*P		**P**	**19 20 56.7**	**+1.2**
	comp=Z,262nm,0.8s							
QZH	**Quanzhou**	**32.49**	**31**	*e*P		P	19 21 02.3	+6.0
QZH				LR		LR		
	comp=Z,670nm,18.9s							
KDU	**Kakadu**	**32.61**	**109**	P		**P**	**19 20 55.9**	**-1.5**
	baz=33,SNR=4.9							
KDU	**Kakadu**	**32.61**	**109**	P		**P**	**19 20 56.2**	**-1.3**
TAPN	**Taplejung**	**32.68**	**338**	*e*P		**P**	**19 20 59.8**	**+1.5**
	comp=Z,547nm,0.9s							
YULB	**Yu-li**	**32.74**	**36**	P		**P**	**19 20 57.6**	**-0.9**
RAMN	**Ramite**	**32.76**	**336**	*e*P		**P**	**19 21 00.6**	**+1.6**
	comp=Z,110nm,0.7s							
SSLB	**Suanglung**	**32.85**	**35**	P		**P**	**19 20 58.0**	**-1.5**
SSLB				IAmb		IAmb	19 21 09.2	
	comp=Z,42nm,1.2s							
SSLB	**Suanglung**	**32.85**	**35**	P		**P**	**19 21 00.8**	**+1.3**
NACB	**Ninganchiao**	**33.52**	**36**	P		**P**	**19 21 02.8**	**-2.5**
NACB				IAmb		IAmb	19 21 26.6	
	comp=Z,90nm,1.5s							
NWAO	**Narrogin (SRO)**	**33.53**	**155**	P		**P**	**19 21 07.0**	**+1.7**
NWAO	**Narrogin (SRO)**	**33.53**	**155**	P		**P**	**19 21 07.0**	**+1.7**
NWAO				IAmb		IAmb	19 21 23.1	
	comp=Z,64nm,1.4s							
NWAO	**Narrogin (SRO)**	**33.53**	**155**	P		**P**	**19 21 07.0**	**+1.7**
NWAO				pmax		pmax		
	comp=Z,232nm,1.4s							
NWAO	**Narrogin (SRO)**	**33.53**	**155**	LR		LR	19 33 03.3	
	comp=Z,380nm,21.7s,baz=334,slow=33							
JIRN	**Jiri**	**33.56**	**336**	*e*P		**P**	**19 21 07.4**	**+1.4**
	comp=Z,174nm,0.6s							
CD2	**Chengdu**	**33.70**	**4**	P		**P**	**19 21 05.8**	**-1.1**
CD2				S		**S**	**19 26 27.8**	**+1.4**
CD2				pmax		pmax		
	comp=Z,20nm,0.4s							
CD2				LR		LR		
	comp=Z,780nm,19.1s							
CD2				LR		LR		
	comp=Z,540nm,11.8s							
CD2				LR		LR		
	comp=Z,1µm,14.7s							
LSA	**Lhasa**	**33.74**	**344**	P		**P**	**19 21 06.6**	**-1.1**
LSA				IAmb		IAmb	19 21 09.5	
	comp=Z,30nm,0.9s							
LSA	**Lhasa**	**33.74**	**344**	P		**P**	**19 21 06.6**	**-1.1**
LSA				pmax		pmax		
	comp=Z,30nm,0.9s							
LSA	**Lhasa**	**33.74**	**344**	P		**P**	**19 21 08.4**	**+0.7**
LSA				sP		**sP**	**19 21 28.1**	**+0.3**
PKI	**Pulchoki**	**33.81**	**335**	*e*P		**P**	**19 21 08.9**	**+0.7**
GUN	**Gumba**	**33.91**	**336**	*e*P		**P**	**19 21 10.4**	**+1.4**
	comp=Z,319nm,0.5s							
ENH	**Enshi**	**33.94**	**13**	P		**P**	**19 21 07.5**	**-1.5**
ENH				IAmb		IAmb	19 21 09.2	
	comp=Z,35nm,1.0s							
ENH	**Enshi**	**33.94**	**13**	P		**P**	**19 21 07.3**	**-1.6**
ENH				sP		**sP**	**19 21 26.5**	**-2.6**
DMN	**Daman**	**33.97**	**334**	*e*P		**P**	**19 21 10.6**	**+1.1**
	comp=Z,63nm,0.8s							
KKN	**Kakani**	**34.05**	**335**	*e*P		**P**	**19 21 10.8**	**+0.6**
KKN	**Kakani**	**34.05**	**335**	*e*P		**P**	**19 21 11.1**	**+0.9**
KKN	**Kakani**	**34.05**	**335**	*e*P		**P**	**19 21 11.4**	**+1.2**
H01W3	**Cape Leeuwin H**	**34.10**	**161**	T		T	19 57 36.2	
	baz=337,slow=76,SNR=19							
H01W2	**Cape Leeuwin H**	**34.11**	**161**	T		T	19 57 44.6	
	baz=337,slow=76,SNR=29							
H01W1	**Cape Leeuwin H**	**34.11**	**161**	T		T	19 57 45.1	
	baz=337,slow=76,SNR=15							
WRKA	**Warakurna**	**34.28**	**132**	P		**P**	**19 21 11.9**	**-0.2**
	baz=34,SNR=18							
WRKA	**Warakurna**	**34.28**	**132**	P		**P**	**19 21 14.2**	**+2.2**
GKN	**Gorkha**	**34.52**	**334**	*e*P		**P**	**19 21 15.2**	**+1.1**
	comp=Z,43nm,0.4s							
DANN	**Dangsing**	**35.21**	**333**	*e*P		**P**	**19 21 21.2**	**+1.0**
	comp=Z,240nm,0.5s							
PYUN	**Piuthan**	**35.35**	**332**	*e*P		**P**	**19 21 22.6**	**+1.2**
WHN	**Wuhan**	**35.59**	**20**	⇓P		**P**	**19 21 23.8**	**+0.7**
WHN				pmax		pmax		
	comp=Z,34nm,0.7s							
WB0	**Warramunga Arr**	**36.65**	**120**	P		**P**	**19 21 32.1**	**-0.3**
WB0				IAmb		IAmb	19 21 33.5	
	comp=Z,38nm,1.1s							
WRA	**Warramunga Arr**	**36.67**	**120**	P		**P**	**19 21 32.5**	**-0.1**
	comp=Z,12nm,0.3s,baz=301,slow=8.8,SNR=370							
WRA				PcP		**PcP**	**19 23 55.6**	**+0.9**
	comp=Z,3.5nm,0.8s,baz=309,slow=2.2,SNR=5.5							
WRA				S		**S**	**19 27 09.4**	**-2.9**
	comp=Z,3.6nm,0.9s,baz=292,slow=16,SNR=9.1							
	comp=Z,12nm,0.3s							
WRAB	**Tennant Creek**	**36.68**	**120**	P		**P**	**19 21 32.2**	**-0.4**
WRAB				IAmb		IAmb	19 21 34.4	
	comp=Z,24nm,0.8s							
WRAB						**S**	**19 27 09.5**	**-2.9**
WB2	**Warramunga Arr**	**36.68**	**120**	P		**P**	**19 21 32.2**	**-0.5**
WB2				IAmb		IAmb	19 21 33.3	
	comp=Z,24nm,0.9s							
WR0	**Warramunga Arr**	**36.85**	**120**	P		**P**	**19 21 34.0**	**-0.1**
WR0				IAmb		IAmb	19 21 35.5	
	comp=Z,41nm,0.9s							
XAN	**Xi'an**	**37.47**	**11**	⇑P		**P**	**19 21 38.0**	**-1.2**
XAN				pmax		pmax		
	comp=Z,130nm,0.7s							
XAN				pmax		pmax		
	comp=Z,83nm,4.2s							
XAN				LR		LR		
	comp=Z,900nm,16.5s							
XAN				LR		LR		
	comp=Z,670nm,19.2s							
XAN				LR		LR		
	comp=Z,1µm,22.7s							
XAN	**Xi'an**	**37.47**	**11**	P		**P**	**19 21 37.9**	**-1.2**
FORT	**Forrest**	**37.72**	**140**	P		**P**	**19 21 42.5**	**+1.2**
	baz=38,SNR=6.4							
FORT	**Forrest**	**37.72**	**140**	P		**P**	**19 21 43.2**	**+1.9**
FORT				IAmb		IAmb	19 21 53.1	
	comp=Z,22nm,0.8s							
FORT	**Forrest**	**37.72**	**140**	P		**P**	**19 21 42.6**	**+1.3**
AS31	**Alice Springs**	**37.91**	**126**	P		**P**	**19 21 42.9**	**-0.3**
ASAR	**Alice Springs**	**37.91**	**126**	P		**P**	**19 21 43.2**	**+0.1**
ASAR						**PcP**	**19 23 58.6**	**+0.2**
ASAR	**Alice Springs**	**37.91**	**126**	P		**P**	**19 21 44.0**	**+0.9**
	comp=Z,12nm,0.8s,baz=297,slow=7.5,SNR=75							
ASAR				PcP		**PcP**	**19 23 59.7**	**+1.3**
	comp=Z,6.2nm,0.9s,baz=314,slow=3.0,SNR=8.0							
ASAR				S		**S**	**19 27 29.2**	**-2.0**
	comp=Z,2.7nm,0.9s,baz=298,slow=17,SNR=11							
ASAR				LR		LR	19 40 42.9	
	comp=Z,119nm,18.8s,baz=304,slow=42							
	comp=Z,12nm,0.8s							
NJ2	**Nanjing**	**38.65**	**25**	*e*P		**P**	**19 21 52.0**	**+3.0**
NJ2				pP		**pP**	**19 22 03.5**	**+0.6**
NJ2				sP		**sP**	**19 22 07.0**	**-2.3**
NJ2				pmax		pmax		
	comp=Z,4.0nm,0.5s							
NJ2				pmax		pmax		
	comp=Z,130nm,6.2s							
NJ2				LR		LR		
	comp=Z,620nm,21.8s							
NJ2				LR		LR		
	comp=Z,440nm,17.1s							
NJ2				LR		LR		
	comp=Z,750nm,22.7s							
LYN	**LuoYang**	**38.76**	**15**	⇑P		**P**	**19 21 50.3**	**+0.4**
LYN				pmax		pmax		
	comp=Z,180nm,0.6s							
LYN				pmax		pmax		
	comp=Z,230nm,4.1s							
LYN				LR		LR		
	comp=Z,930nm,21.3s							
LYN				LR		LR		
	comp=Z,490nm,15.6s							
LYN				LR		LR		
	comp=Z,1µm,18.8s							
LZH	**Lanzhou**	**38.85**	**4**	⇑P		**P**	**19 21 50.8**	**-0.1**
LZH				pP		pP	19 22 05.0	+0.1
LZH				PcP		**PcP**	**19 24 03.0**	**+1.8**
LZH				ScS		ScS	19 31 55.3	-0.9
LZH				pmax		pmax		
	comp=Z,23nm,1.2s							
LZH				LR		LR		
	comp=Z,830nm,15.5s							
LZH				LR		LR		
	comp=Z,470nm,15.1s							
LZH				LR		LR		
	comp=Z,1µm,16.1s							
SSE	**Sheshan**	**38.87**	**28**	P		**P**	**19 21 52.3**	**+1.4**
SSE				S		**S**	**19 27 45.0**	**-0.2**
SSE				pmax		pmax		
	comp=Z,13nm,0.6s							
SSE				pmax		pmax		
	comp=Z,150nm,5.0s							
SSE				LR		LR		
	comp=Z,240nm,18.8s							
SSE				LR		LR		
	comp=Z,120nm,14.5s							
JOW	**Kunigami**	**39.56**	**40**	P		**P**	**19 21 57.7**	**+1.0**
	comp=Z,9.7nm,0.4s,baz=206,slow=9.2,SNR=7.8							
JOW				LR		LR	19 37 45.1	
	comp=Z,114nm,20.3s,baz=278,slow=35							
	comp=Z,9.7nm,0.4s							
OOD	**Oodnadatta**	**41.33**	**130**	P		**P**	**19 22 12.9**	**+1.5**
MULG	**Mulgathing**	**41.47**	**135**	P		**P**	**19 22 14.4**	**+1.9**
QIS	**Mount Isa**	**41.49**	**118**	P		**P**	**19 22 13.2**	**+0.3**
	baz=42,SNR=33							
QIS	**Mount Isa**	**41.49**	**118**	P		**P**	**19 22 13.7**	**+0.8**
HNS	**HongShan**	**42.04**	**16**	⇑P		**P**	**19 22 17.3**	**+0.3**
HNS				S		**S**	**19 28 36.5**	**+4.1**
HNS				pmax		pmax		
	comp=Z,20nm,1.1s							
HNS			

INKA Innaminka 45.25 127 P **P** **19 22 45.3 +2.2**
JNU Nakatsue 45.59 36 P **P** **19 22 46.2 +0.5**
JNU Nakatsue 45.59 36 P **P** **19 22 46.8 +1.1**
JNU Nakatsue 45.59 36 P **P** **19 22 46.2 +0.5**
comp=Z,29nm,0.9s,baz=173,slow=6.0,SNR=9.0
JNU LR LR 19 42 14.0
comp=Z,178nm,21.3s,baz=218,slow=36
comp=Z,29nm,0.9s
PMG Port Moresby 46.29 100 LR LR 19 46 25.3
comp=Z,67nm,19.8s,baz=276,slow=41
HTT Hallett 46.65 135 P **P** **19 22 55.8 +1.8**
baz=47,SNR=7.2
HTT Hallett 46.65 135 P **P** **19 22 55.9 +1.8**
KSAR Wonju Array Be 47.24 29 P **P** **19 22 58.1 -0.3**
KSAR Wonju Array Be 47.24 29 P **P** **19 22 58.1 -0.3**
KSRS Korea Array 47.26 29 P **P** **19 22 58.8 +0.1**
comp=Z,2.6nm,0.5s,baz=222,slow=7.8,SNR=26
comp=Z,2.6nm,0.5s
CTA Charters Tower 47.30 115 P **P** **19 23 00.4 +1.1**
CTA Charters Tower 47.30 115 LR LR 19 45 19.7
comp=Z,102nm,19.4s,baz=282,slow=39
CTAO Charters Tower 47.30 115 P **P** **19 22 58.6 -0.7**
CTAO IAmb IAmb 19 23 00.9
comp=Z,36nm,1.1s
CTAO Charters Tower 47.30 115 P **P** **19 23 00.3 +1.0**
CTAO Charters Tower 47.30 115 P **P** **19 22 58.6 -0.7**
CTAO pmax pmax
comp=Z,36nm,1.1s
CTAO Charters Tower 47.30 115 P **P** **19 22 59.5 +0.2**
QLP Quilpie 47.62 124 P **P** **19 23 02.5 +0.9**
baz=48,SNR=3.5
QLP Quilpie 47.62 124 P **P** **19 23 03.5 +1.8**
JMN Monobe 47.80 38 P **P** **19 23 03.1 +0.1**
JMN IAmb IAmb 19 23 05.9
comp=Z,47nm,1.0s
JMN Monobe 47.80 38 P **P** **19 23 04.2 +1.2**
STKA Stephens Creek 47.81 132 P **P** **19 23 04.5 +1.5**
baz=48,SNR=14
STKA Stephens Creek 47.81 132 P **P** **19 23 03.1 +0.1**
STKA Stephens Creek 47.81 132 P **P** **19 23 04.6 +1.5**
STKA Stephens Creek 47.81 132 P **P** **19 23 04.3 +1.3**
comp=Z,13nm,0.8s,baz=309,slow=8.4,SNR=18
STKA LR LR 19 46 20.3
comp=Z,70nm,18.6s,baz=304,slow=40
comp=Z,13nm,0.8s
KBL Kabul 47.84 324 P **P** **19 23 02.6 -0.9**
KBL IAmb IAmb 19 23 47.1
comp=Z,13nm,0.8s
KBL Kabul 47.84 324 P **P** **19 23 02.6 -0.9**
KBL pmax pmax
comp=Z,13nm,0.8s
WMQ Urumqi 48.01 347 *e*P **P** **19 23 05.5 +1.1**
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ pmax pmax
comp=Z,310nm,4.9s
WMQ LR LR
comp=Z,120nm,24.0s
KSH Kashi 48.06 334 P **P** **19 23 04.5 -0.5**
KSH pP pP 19 23 17.5 -1.6
KSH S **S** **19 29 58.5 -1.2**
KSH pmax pmax
comp=Z,43nm,0.8s
WUS Wushi 48.16 338 ⇑P **P** **19 23 06.7 +0.9**
WUS pP **pP** **19 23 19.4 -0.6**
XLT XiLinHaoTe 48.49 15 *e*P **P** **19 23 08.0 -0.2**
XLT pmax pmax
comp=Z,12nm,1.3s
XLT pmax pmax
comp=Z,240nm,5.8s
WSAR Wadi Sarin 48.78 304 LR LR 19 41 47.5
comp=Z,120nm,20.7s,baz=138,slow=34
TARG Taragay, Kyrgy 49.16 337 P **P** **19 23 14.1 +0.4**
TARG IAmb IAmb 19 23 34.1
comp=Z,40nm,1.2s
TARG Taragay, Kyrgy 49.16 337 P **P** **19 23 14.1 +0.4**
TARG pmax pmax
comp=Z,40nm,1.2s
PRZ Przheval'sk 49.58 338 P **P** **19 23 17.9 +1.2**
PRZ Przheval'sk 49.58 338 P **P** **19 23 17.9 +1.2**
PRZ pmax pmax
comp=Z,79nm,1.1s
JCJ Chichijima 49.63 50 LR LR 19 43 28.9
comp=Z,77nm,21.5s,baz=296,slow=35
SHLS Shalkode 49.78 339 ⇑*i*P **P** **19 23 18.3 +0.2**
comp=Z,20nm,0.6s,baz=340
SHLS Shalkode 49.78 339*c i*P **P** **19 23 18.2 +0.2**
SHLS pmax pmax
comp=Z,20nm,0.6s
PDGK Podgornoye 49.92 340 P **P** **19 23 18.6 -0.6**
UZB Uzynbulak 49.93 339 ⇑*i*P **P** **19 23 20.5 +1.2**
comp=Z,16nm,0.4s,baz=339
UZB Uzynbulak 49.93 339*c i*P **P** **19 23 20.4 +1.2**
UZB pmax pmax
comp=Z,16nm,0.4s
SATY Saty 50.07 338 ⇑*i*P **P** **19 23 21.6 +1.2**
baz=338
SATY Saty 50.07 338*c i*P **P** **19 23 21.5 +1.2**
ZHN Zhinishke 50.16 339 *e*P **P** **19 23 21.8 +0.9**
baz=338
ZHN Zhinishke 50.16 339 *e*P **P** **19 23 21.8 +0.9**
KPKS Kokpek 50.33 339 ⇑*i*P **P** **19 23 23.0 +0.8**
baz=339
KPKS Kokpek 50.33 339*c i*P **P** **19 23 23.0 +0.8**
KZA Kyzart 50.48 335 P **P** **19 23 25.1 +1.3**
SNR=28
TNSS Tian-Shan 50.60 337 *e*P **P** **19 23 25.4 +0.8**
baz=337
TNSS Tian-Shan 50.60 337 *e*P **P** **19 23 25.4 +0.8**
MDOK Medeo 50.67 337 *i* P **P** **19 23 25.8 +0.9**
baz=337
MDOK Medeo 50.67 337 *i* P **P** **19 23 25.7 +0.9**
SONM Songino Array 50.72 5 P **P** **19 23 25.4 +0.2**
SONM PcP **PcP** **19 24 41.5 -0.1**
SONM Songino Array 50.72 5 P **P** **19 23 25.9 +0.8**
comp=Z,69nm,0.9s,baz=184,slow=8.7,SNR=323
SONM PcP **PcP** **19 24 42.0 +0.3**
comp=Z,4.9nm,0.5s,baz=182,slow=5.4,SNR=6.1
SONM LR LR 19 47 31.8
comp=Z,281nm,19.5s,baz=203,slow=39
comp=Z,69nm,0.9s
AAA Alma-Ata 50.76 337 *e*P **P** **19 23 26.4 +1.0**
comp=Z,12nm,0.5s,baz=337
AAA Alma-Ata 50.76 337 *e*P **P** **19 23 26.4 +1.0**
AAA pmax pmax
comp=Z,13nm,0.5s
CMSA Cobar Meteorol 50.77 129 P **P** **19 23 27.2 +1.5**
baz=51,SNR=13
CMSA Cobar Meteorol 50.77 129 P **P** **19 23 27.6 +2.0**
SIMJ Simiganj 50.80 328 P **P** **19 23 25.1 -0.8**
SIMJ PcP **PcP** **19 24 43.5 +1.3**
SIMJ Simiganj 50.80 328 P **P** **19 23 25.1 -0.8**
SIMJ pP **pP** **19 23 38.5 -1.6**
SIMJ sP **sP** **19 23 44.6 -1.6**
ULN Ulaanbaatar 50.81 5 P **P** **19 23 26.1 +0.3**
ULN IAmb IAmb 19 23 27.7
comp=Z,39nm,0.8s
ULN PcP **PcP** **19 24 41.6 -0.4**
ULN Ulaanbaatar 50.81 5*ce*P **P** **19 23 26.4 +0.6**
ULN pmax pmax
comp=Z,52nm,1.0s
ULN Ulaanbaatar 50.81 5 P **P** **19 23 26.6 +0.8**
ULN pP **pP** **19 23 39.6 -0.5**
ARSB Arslanbob 50.87 333 P **P** **19 23 26.6 +0.2**
ARSB IAmb IAmb 19 23 28.5
comp=Z,31nm,1.0s
ARSB Arslanbob 50.87 333 P **P** **19 23 26.6 +0.2**
ARSB pmax pmax
comp=Z,31nm,1.0s
BTK Batken 50.91 330 P **P** **19 23 27.7 +1.1**
BTK Batken 50.91 330 P **P** **19 23 27.7 +1.1**
BTK pmax pmax
comp=Z,37nm,0.6s
UCH Uchtor 50.92 335 P **P** **19 23 28.3 +1.2**
SNR=25
TKM2 Tokmak 2 51.04 336 P **P** **19 23 28.7 +1.0**
SNR=66
TKM2 Tokmak 2 51.04 336 P **P** **19 23 28.3 +0.6**
KBK Karagaybulak 51.09 335 P **P** **19 23 29.6 +1.6**
SNR=22
AML Almayashu 51.20 334 P **P** **19 23 30.3 +1.2**
SNR=69
AML Almayashu 51.20 334 P **P** **19 23 29.4 +0.3**
AAK Ala-Archa 51.26 335 P **P** **19 23 30.6 +1.3**
SNR=22
AAK Ala-Archa 51.26 335 P **P** **19 23 30.4 +1.1**
AAK Ala-Archa 51.26 335*ce*P **P** **19 23 30.3 +1.0**
AAK pmax pmax
comp=Z,15nm,0.8s
AAK Ala-Archa 51.26 335 LR LR 19 48 23.4
comp=Z,164nm,21.2s,baz=151,slow=40
AAK Ala-Archa 51.26 335 ⇑P **P** **19 23 30.4 +1.1**
AAK pP **pP** **19 23 43.9 +0.4**
AAK sP **sP** **19 23 49.4 -0.2**
CHKK Chushkaly 51.28 338 *e*P **P** **19 23 29.3 0.0**
baz=338
CHKK Chushkaly 51.28 338 *e*P **P** **19 23 29.3 0.0**
FRU1 Bishkek 51.35 335 P **P** **19 23 30.3 +0.4**
FRU1 Bishkek 51.35 335 P **P** **19 23 30.3 +0.4**
FRU1 pmax pmax
comp=Z,40nm,0.8s
CN2 Changchun 51.39 23 *e*P **P** **19 23 29.0 -1.0**
CN2 *e*S **S** **19 30 42.3 -3.4**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,300nm,12.0s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,300nm,15.1s
CHMS Chumysh 51.45 335 P **P** **19 23 31.3 +0.7**
SNR=21
KUU Kurty 51.56 337 ⇑*i*P **P** **19 23 31.6 +0.1**
comp=Z,20nm,0.5s,baz=337
KUU Kurty 51.56 337*c i*P **P** **19 23 31.5 +0.1**
KUU pmax pmax
comp=Z,20nm,0.5s
EKS2 Erkin-Say 51.59 334 P **P** **19 23 33.2 +1.4**
SNR=150
TDK Taldyqorghan 51.76 340 *e*P **P** **19 23 33.3 +0.4**
comp=Z,14nm,0.8s,baz=340
TDK Taldyqorghan 51.76 340 *e*P **P** **19 23 33.2 +0.4**
TDK pmax pmax
comp=Z,14nm,0.8s
USP Ospenovka 51.78 335 P **P** **19 23 33.6 +0.6**
SNR=31
SGDS Sogindy 51.88 336 *e*P **P** **19 23 34.2 +0.4**
baz=336
SGDS Sogindy 51.88 336 *e*P **P** **19 23 34.2 +0.4**
HRA Herat 51.98 319 P **P** **19 23 34.6 -0.4**
HRA IAmb IAmb 19 23 54.6
comp=Z,41nm,1.9s
ZSN Zaisan 52.09 346 ⇑*i*P **P** **19 23 36.3 +1.1**
baz=346
ZSN Zaisan 52.09 346*c i*P **P** **19 23 36.3 +1.1**
MK31 Makanchi Array 52.15 344 P **P** **19 23 35.5 -0.2**
MK31 Makanchi Array 52.15 344*ce*P **P** **19 23 35.8 +0.1**
MKAR Makanchi Array 52.15 344 P **P** **19 23 35.4 -0.3**
MKAR Makanchi Array 52.15 344 *i* P **P** **19 23 35.9 +0.2**
MKAR pmax pmax
comp=Z,64nm,0.8s
MKAR Makanchi Array 52.15 344 P **P** **19 23 36.2 +0.5**
comp=Z,64nm,0.8s,baz=159,slow=8.5,SNR=466
comp=Z,64nm,0.8s
MAKZ Makanchi 52.25 344 P **P** **19 23 36.0 -0.4**
MAKZ IAmb IAmb 19 23 37.7
comp=Z,35nm,0.9s
MAKZ Makanchi 52.25 344 P **P** **19 23 36.0 -0.4**
MAKZ pmax pmax
comp=Z,35nm,1.0s
MAKZ Makanchi 52.25 344 ⇑P **P** **19 23 36.3 -0.1**
MAJO Matsushiro 52.32 38 P **P** **19 23 36.7 -0.5**
MAJO Matsushiro 52.32 38 P **P** **19 23 36.7 -0.5**
MAJO pmax pmax
comp=Z,16nm,0.7s
MJB9 Matsu-Tunnel 52.32 38 P **P** **19 23 37.1 0.0**
MJAR Matsushiro Arr 52.32 38 P **P** **19 23 36.8 -0.4**
comp=Z,7.1nm,0.9s,baz=210,slow=7.1,SNR=16
MJAR LR LR 19 46 17.4
comp=Z,79nm,19.9s,baz=223,slow=36
comp=Z,7.1nm,0.9s
DZA Taraz 52.86 333 *e*P **P** **19 23 41.1 +0.1**
comp=Z,17nm,0.7s,baz=333
DZA Taraz 52.86 333 *e*P **P** **19 23 41.1 +0.1**
DZA pmax pmax
comp=Z,17nm,0.7s
EIDS Eidsvold 53.03 120 P **P** **19 23 43.7 +1.1**
baz=53,SNR=9.6
EIDS Eidsvold 53.03 120 P **P** **19 23 42.1 -0.5**
EIDS IAmb IAmb 19 24 03.5
comp=Z,53nm,1.2s
ZAK Zakamensk 53.09 2 *e*P **P** **19 23 42.7 +0.1**
ZAK pmax pmax
comp=Z,16nm,1.0s
CHM Chimkent 53.23 331 *e*P **P** **19 23 44.2 +0.5**
baz=331
CHM Chimkent 53.23 331 *e*P **P** **19 23 44.2 +0.5**
KK31 Karatay Array 53.40 332 P **P** **19 23 44.5 -0.5**
KK31 Karatay Array 53.40 332 P **P** **19 23 44.5 -0.5**
KK31 pmax pmax
comp=Z,11nm,1.0s
KKAR Karatay Array 53.40 332 P **P** **19 23 44.7 -0.3**
KKAR Karatay Array 53.40 332 P **P** **19 23 44.5 -0.5**
KKAR IAmb IAmb 19 23 46.2
comp=Z,11nm,0.9s
KKAR Karatay Array 53.40 332 P **P** **19 23 44.7 -0.3**
KKAR pmax pmax
comp=Z,11nm,1.0s
BTLS Baital 53.42 336 ⇑*i*P **P** **19 23 45.0 -0.1**
baz=336
BTLS Baital 53.42 336*c i*P **P** **19 23 45.0 -0.1**
DGZ Jazzator, Alta 53.67 349*c i*P **P** **19 23 47.7 +0.7**
DGZ pmax pmax
comp=Z,121nm,0.8s
MDJ Mudanjiang 53.73 25 P **P** **19 23 46.3 -1.1**
MDJ Mudanjiang 53.73 25 P **P** **19 23 49.3 +1.9**
MDJ sP sP 19 24 09.0 +0.9
MDJ PcS **PcS** **19 28 49.3 -2.6**
MDJ ScS ScS 19 33 31.5 -0.6
MDJ pmax pmax
comp=Z,11nm,1.8s
MDJ pmax pmax
comp=Z,360nm,4.0s
MDJ LR LR
comp=Z,280nm,21.3s
MDJ LR LR
comp=Z,340nm,21.3s
MDJ LR LR
comp=Z,680nm,24.4s
BNX BinXian 53.77 23 ⇓P **P** **19 23 48.0 +0.4**
BNX pmax pmax
comp=Z,36nm,0.7s
BNX pmax pmax
comp=Z,200nm,4.6s
MOY Mondy 54.34 360 *e*P **P** **19 23 52.2 +0.4**
MOY pmax pmax
comp=Z,47nm,2.4s
USA0B Ussuriysk Arra 54.46 27 P **P** **19 23 52.1 -0.5**
USA0B Ussuriysk Arra 54.46 27 *i* P **P** **19 23 52.7 +0.1**
USRK Ussuriysk Ar. 54.46 27 P **P** **19 23 52.3 -0.3**
USRK Ussuriysk Ar. 54.46 27 P **P** **19 23 53.0 +0.3**
USRK Ussuriysk Ar. 54.46 27 P **P** **19 23 53.0 +0.3**
comp=Z,43nm,0.7s,baz=220,slow=4.3,SNR=103
USRK LR LR 19 48 35.3
comp=Z,199nm,20.2s,baz=229,slow=38
comp=Z,43nm,0.7s
JMM Marumori 54.76 38 P **P** **19 23 54.6 -0.3**
JMM IAmb IAmb 19 24 56.5
comp=Z,62nm,1.4s
CAN Canberra 54.87 132 P **P** **19 23 56.4 +0.5**
CAN IAmb IAmb 19 24 34.1
comp=Z,63nm,1.6s
CAN Canberra 54.87 132 P **P** **19 23 56.4 +0.5**
CAN pmax pmax
comp=Z,63nm,1.6s
IRK Irkutsk 54.98 2 *e*P **P** **19 23 56.7 +0.4**
IRK pmax pmax
comp=Z,60nm,3.1s
ARMA Armidale 55.06 125 P **P** **19 23 56.2 -1.2**
ARMA IAmb IAmb 19 24 20.0
comp=Z,36nm,1.4s
CIT Chita 55.72 9 *e*P **P** **19 24 01.8 +0.1**
CIT *e* 19 24 14.2
CIT *e* 19 26 06.4
CIT pmax pmax
comp=Z,99nm,3.0s
MILA Mila 55.72 134 P **P** **19 24 02.6 +0.6**
baz=56,SNR=15
VOI Vohitsoka 55.90 245 P **P** **19 24 03.1 -0.6**
VOI IAmb IAmb 19 24 48.0
comp=Z,45nm,1.6s
SEM Semipalatinsk 56.00 344 ⇑*i*P **P** **19 24 03.7 -0.2**
comp=Z,13nm,0.5s,baz=344
SEM Semipalatinsk 56.00 344*c i*P **P** **19 24 03.7 -0.2**
SEM pmax pmax
comp=Z,13nm,0.5s
KURBB Kurchatov Arra 56.68 343 P **P** **19 24 07.8 -0.6**
KURBB Kurchatov Arra 56.68 343 P **P** **19 24 08.6 +0.2**
comp=Z,8.5nm,0.6s,baz=162,slow=6.9,SNR=99
KURBB S **S** **19 31 59.0 +2.1**
comp=Z,0.4nm,0.3s,baz=162,slow=13,SNR=2.6
comp=Z,8.5nm,0.6s
KURK Kurchatov 56.73 343 P **P** **19 24 08.4 -0.4**
KURK IAmb IAmb 19 24 28.2
comp=Z,46nm,1.1s
KURK Kurchatov 56.73 343*ce*P **P** **19 24 09.0 +0.1**
KURK pmax pmax
comp=Z,66nm,1.7s
KURK Kurchatov 56.73 343 ⇑P **P** **19 24 09.0 +0.1**
JTM Tenmabayashi 56.76 36 P **P** **19 24 08.8 -0.5**
GEYT Alibeck 56.77 320 P **P** **19 24 09.0 -0.5**
GEYT IAmb IAmb 19 24 29.6
comp=Z,21nm,0.9s
GEYT Alibeck 56.77 320 P **P** **19 24 10.0 +0.5**
GEYT Alibeck 56.77 320 P **P** **19 24 10.0 +0.5**
comp=Z,9.0nm,0.8s,baz=145,slow=11,SNR=25
GEYT LR LR 19 50 51.5
comp=Z,120nm,21.0s,baz=150,slow=38
comp=Z,9.0nm,0.8s
GYA0B ALIBECK ARRAY 56.77 320 P **P** **19 24 09.5 0.0**
GYA0B IAmb IAmb 19 24 29.6
comp=Z,19nm,0.9s
HEH HeiHe 57.58 20 *e*P **P** **19 24 15.0 +0.2**
HEH PcP **PcP** **19 25 06.5 -1.1**
HEH pmax pmax
comp=Z,27nm,0.7s
HEH LR LR
comp=Z,350nm,12.5s
HEH LR LR
comp=Z,230nm,14.6s
HEH LR LR
comp=Z,570nm,14.5s
BRZS Berezniki 58.04 339 ⇑*i*P **P** **19 24 17.9 -0.2**
baz=339
BRZS Berezniki 58.04 339*c i*P **P** **19 24 17.8 -0.3**
ZAA0 Zalesovo Array 58.22 349 P **P** **19 24 19.3 +0.1**
ZALV Zalesovo Beam 58.22 349 P **P** **19 24 18.7 -0.5**
ZALV Zalesovo Beam 58.22 349 *i* P **P** **19 24 19.2 0.0**
ZALV pmax pmax
comp=Z,143nm,0.8s
ZALV Zalesovo Beam 58.22 349 P **P** **19 24 19.3 0.0**
comp=Z,142nm,0.8s,baz=163,slow=5.4,SNR=461
ZALV S **S** **19 32 15.4 -1.5**
comp=Z,1.0nm,0.6s,baz=165,slow=18,SNR=4.1
ZALV LR LR 19 50 44.2
comp=Z,165nm,21.6s,baz=131,slow=37
comp=Z,142nm,0.8s
KLR Kul'dur 58.32 23 P **P** **19 24 20.2 +0.1**
comp=Z,23nm,0.7s,baz=235,slow=5.9,SNR=78
KLR LR LR 19 51 41.7
comp=Z,436nm,18.1s,baz=228,slow=38
comp=Z,23nm,0.7s
HNR Honiara 58.88 99 LR LR 19 51 07.3
comp=Z,619nm,20.0s,baz=242,slow=37
ASAJ Asahikawa 59.76 34 P **P** **19 24 30.9 +0.7**
ASAJ pmax pmax
comp=Z,98nm,1.8s
ASAJ Asahikawa 59.76 34 P **P** **19 24 30.9 +0.7**
comp=Z,5.0nm,0.4s,baz=231,slow=8.1,SNR=6.3
ASAJ LR LR 19 51 26.6
comp=Z,64nm,18.6s,baz=250,slow=37
comp=Z,5.0nm,0.4s
JKA Kamikawa-asahi 59.77 34 P **P** **19 24 30.9 +0.7**
ZEA Zeya 60.52 18 *e*P **P** **19 24 35.6 +0.5**
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,20nm,0.7s
BVA0 Borovoye Array 61.36 339 *i* P **P** **19 24 39.6 -1.2**
BVAR Borovoye Array 61.36 339 P **P** **19 24 40.4 -0.4**
comp=Z,26nm,0.8s,baz=141,slow=8.5,SNR=95
BVAR LR LR 19 55 23.9
comp=Z,82nm,20.3s,baz=145,slow=40
comp=Z,26nm,0.8s
GRNR Gornyy 61.42 25 *e*P **P** **19 24 41.5 +0.2**
GRNR MLR MLR
comp=E,530nm,20.0s
GRNR MLR MLR
comp=N,320nm,18.0s
GRNR MLR MLR
comp=Z,360nm,20.0s
BRVK Borovoye 61.42 339 P **P** **19 24 40.1 -1.2**
BRVK IAmb IAmb 19 24 41.9
comp=Z,18nm,0.8s
BRVK Borovoye 61.42 339*ce*P **P** **19 24 40.8 -0.5**
BRVK pmax pmax
comp=Z,19nm,0.8s
BRVK Borovoye 61.42 339 P **P** **19 24 40.8 -0.5**
BRVK sP **sP** **19 24 59.6 -2.4**
YSS Yuzh-Sakhalins 61.69 31 P **P** **19 24 43.0 -0.2**
YSS Yuzh-Sakhalins 61.69 31 *e*P **P** **19 24 43.7 +0.5**
YSS *e* 19 24 56.5
YSS pmax pmax
comp=Z,40nm,0.9s
YSS Yuzh-Sakhalins 61.69 31 P **P** **19 24 43.7 +0.5**
YSS pP **pP** **19 24 57.0 -1.0**
YSS Yuzh-Sakhalins 61.69 31 *e*S **P** **19 24 43.9 +0.7**
AB31 Akbulak array 62.90 331 *i* P **P** **19 24 50.9 -0.3**
ABKAR Akbulak array 62.90 331 P **P** **19 24 51.2 0.0**
ABKAR Akbulak array 62.90 331 P **P** **19 24 51.2 0.0**
ABKAR IAmb IAmb 19 24 52.2
comp=Z,79nm,0.9s
KMBO Kilima Mbogo 63.75 270 P **P** **19 24 57.8 -0.1**
KMBO Kilima Mbogo 63.75 270 P **P** **19 24 57.8 -0.1**
KMBO pmax pmax
comp=Z,5.0nm,1.0s
KMBO Kilima Mbogo 63.75 270 LR LR 19 48 48.5
comp=Z,119nm,19.8s,baz=90,slow=32
KOUNC Koumac, New Ca 63.99 111 P **P** **19 24 58.3 -0.7**
KOUNC IAmb IAmb 19 25 16.4
comp=Z,32nm,0.9s
LODK Lodwar 65.92 275 P **P** **19 25 12.2 +0.4**
DZM Mont Dzumac 66.17 113 *e*LR LR 19 45 06.9
comp=Z,183nm,24.2s
DZM Mont Dzumac 66.17 113 P **P** **19 25 14.1 +0.8**
DZM IAmb IAmb 19 25 53.2
comp=Z,32nm,1.4s
DZM Mont Dzumac 66.17 113 LR LR 19 56 56.9
comp=Z,74nm,18.1s,baz=252,slow=38
ONTNC Ouen Toro 66.21 113 P **P** **19 25 13.8 +0.4**
MAK Makhachkala 66.29 320 *e*P **P** **19 25 13.4 -0.1**
MAK *e**PP **pP** **19 25 27.1 -1.1**
MAK *e* 19 27 39.5
MAK *e*S **S** **19 33 59.8 +0.8**
MAK *e**SS **sS** **19 34 23.0 -0.5**
MAK pmax pmax
comp=Z,80nm,1.1s
OUENC Ouen Island, N 66.58 113 P **P** **19 25 15.0 -0.8**
OUENC IAmb IAmb 19 25 18.1
comp=Z,29nm,1.2s
GNI Garni 66.86 316 P **P** **19 25 17.3 -0.2**
GNI IAmb IAmb 19 25 46.3
comp=Z,27nm,1.1s
GNI Garni 66.86 316 P **P** **19 25 17.3 -0.2**
GNI pmax pmax
comp=Z,27nm,1.1s
GNI Garni 66.86 316 LR LR 19 55 20.6
comp=Z,33nm,20.9s,baz=112,slow=37
SVE Sverdlovsk 67.88 337 *de*P **P** **19 25 23.7 +0.4**
SVE pmax pmax
comp=Z,65nm,1.0s
GURO Guroymak-BITLI 68.13 314 P **P** **19 25 25.6 +0.2**
KARS Kars 68.22 316 P **P** **19 25 27.1 +1.1**
KARS Kars 68.22 316 P **P** **19 25 27.1 +1.1**
KARS pmax pmax
comp=Z,77nm,0.9s
AKH Akhalkalaki 68.26 317 P **P** **19 25 27.0 +0.8**
AKH IAmb IAmb 19 25 47.5
comp=Z,27nm,0.9s
AKH Akhalkalaki 68.26 317 P **P** **19 25 27.0 +0.8**
AKH pmax pmax

comp=Z,27nm,0.9s
YAK Yakutsk 68.33 14 P **P** **19 25 24.7 -1.3**
YAK Yakutsk 68.33 14*c* *i*P **P** **19 25 25.2 -0.8**
YAK *e**PP **pP** **19 25 42.2 +1.3**
YAK *e* 19 25 50.4
YAK *e* 19 27 55.5
YAK *e*S **S** **19 34 22.5 -0.3**
YAK *e**SS **sS** **19 34 50.7 +2.6**
YAK *e* 19 35 19.2
YAK pmax pmax
comp=Z,98nm,0.9s
YAK pmax pmax
comp=N,21nm,1.1s
YAK pmax pmax
comp=E,21nm,1.4s
YAK pmax pmax
comp=Z,137nm,4.7s
YAK smax smax
comp=E,204nm,3.7s
YAK smax smax
comp=N,76nm,3.7s
YAK Yakutsk 68.33 14 P **P** **19 25 25.1 -0.9**
comp=N,4.6nm,0.8s,baz=280,slow=0.7,SNR=38
YAK LR LR 19 58 53.9
comp=N,23nm,18.1s,baz=246,slow=39
YAK Yakutsk 68.33 14 P **P** **19 25 25.1 -0.9**
YAK pP **pP** **19 25 38.5 -2.3**
ARU Arti 68.42 336 P **P** **19 25 25.8 -0.9**
ARU IAmb IAmb 19 25 27.6
comp=Z,41nm,1.1s
ARU Arti 68.42 336*c* *i*P **P** **19 25 26.5 -0.1**
ARU *PP **pP** **19 25 42.5 +1.0**
ARU 19 25 51.9
ARU S **S** **19 34 25.0 +1.0**
ARU SS **SS** **19 38 53.1 +4.4**
ARU pmax pmax
comp=Z,47nm,1.2s
ARU Arti 68.42 336 LR LR 19 57 58.4
comp=Z,107nm,21.6s,baz=128,slow=38
ARU Arti 68.42 336 P **P** **19 25 26.5 -0.1**
ZEI Tsey 68.57 318 *e*P **P** **19 25 28.6 +0.4**
ZEI pmax pmax
comp=Z,29nm,1.0s
ONI Oni 68.78 318 P **P** **19 25 28.6 -0.7**
ONI IAmb IAmb 19 25 59.6
comp=Z,19nm,1.0s
ONI Oni 68.78 318 P **P** **19 25 28.6 -0.7**
ONI pmax pmax
comp=Z,19nm,1.0s
NCK Nalchik 69.08 319 *i* P **P** **19 25 31.8 +0.7**
NCK pmax pmax
comp=Z,27nm,0.8s
KBZ Khabaz 69.64 319*ce*P **P** **19 25 35.5 +1.0**
KBZ pmax pmax
comp=Z,22nm,0.8s
KBZ Khabaz 69.64 319 P **P** **19 25 35.2 +0.8**
comp=Z,18nm,0.8s,baz=117,slow=5.1,SNR=56
KBZ LR LR 19 59 59.9
comp=Z,31nm,19.1s,baz=92,slow=39
comp=Z,18nm,0.8s
MAW Mawson 69.69 195 LR LR 19 49 52.2
comp=Z,195nm,21.8s,baz=32,slow=30
KIV Kislovodsk 69.87 319 ⇓P **P** **19 25 37.4 +1.4**
KIV Kislovodsk 69.87 319 P **P** **19 25 35.6 -0.5**
KIV IAmb IAmb 19 25 56.7
comp=Z,44nm,1.1s
KIV Kislovodsk 69.87 319*ce*P **P** **19 25 36.7 +0.6**
KIV *i **PP **pP** **19 25 50.3 -0.5**
KIV *i* 19 25 54.8
KIV 19 28 13.0
KIV *i* S **S** **19 34 42.6 +0.7**
KIV *i **SS **sS** **19 35 08.2 +1.6**
KIV pmax pmax
comp=Z,36nm,1.7s
KIV Kislovodsk 69.87 319 P **P** **19 25 36.8 +0.6**
KIV pP **pP** **19 25 50.6 -0.2**
KIV sP **sP** **19 25 56.0 -0.8**
MBAR Mbarara 70.28 270 P **P** **19 25 38.1 -1.2**
MBAR Mbarara 70.28 270 P **P** **19 25 38.1 -1.2**
MBAR pmax pmax
comp=Z,6.0nm,0.9s
EIL Elat 70.85 303 LR LR 19 56 46.4
comp=Z,112nm,19.1s,baz=120,slow=36
BELG Belogornoye 71.00 329 *i* P **P** **19 25 41.3 -1.3**
BELG pmax pmax
comp=Z,11nm,1.0s
ARPR Arapgir-MALATY 71.02 313 P **P** **19 25 42.8 -0.4**
ARPR IAmb IAmb 19 26 05.2
comp=Z,38nm,1.4s
GAZ Gaziantep 71.21 311 P **P** **19 25 44.7 +0.3**
GAZ IAmb IAmb 19 25 46.9
comp=Z,25nm,0.9s
MMAI Mount Meron Ar 71.38 306 P **P** **19 25 47.5 +2.1**
comp=Z,8.8nm,0.7s,baz=92,slow=7.5,SNR=32
MMAI LR LR 19 57 45.5
comp=Z,79nm,20.4s,baz=78,slow=36
comp=Z,8.8nm,0.7s
SOC Sochi 71.69 318 *e*P **P** **19 25 45.9 -1.1**
SOC *e* 19 28 21.9
SOC *e*PPP PPP 19 30 09.4
SOC *e*S **S** **19 35 01.3 -1.5**
SOC *e*SS **SS** **19 39 42.4 +2.9**
SOC pmax pmax
comp=Z,21nm,0.7s
NRIK Noril'sk 72.66 355 P **P** **19 25 51.5 -0.7**
NRIK IAmb IAmb 19 25 53.0
comp=Z,27nm,0.7s
NRIK Noril'sk 72.66 355*ce*P **P** **19 25 51.8 -0.4**
NRIK pmax pmax
comp=Z,32nm,0.8s
NRIK Noril'sk 72.66 355 P **P** **19 25 51.9 -0.3**
comp=Z,15nm,0.4s,baz=148,slow=6.6,SNR=32
NRIK LR LR 20 01 36.1
comp=Z,210nm,19.0s,baz=176,slow=39
comp=Z,15nm,0.4s
LSZ Lusaka 72.69 255 P **P** **19 25 52.5 -1.2**
LSZ Lusaka 72.69 255 P **P** **19 25 52.5 -1.2**
LSZ pmax pmax
comp=Z,10.0nm,1.2s
LSZ Lusaka 72.69 255 LR LR 19 52 18.0
comp=Z,126nm,21.5s,baz=102,slow=31
BNN Bunyan 72.77 312 P **P** **19 25 52.8 -0.9**
BNN IAmb IAmb 19 25 55.5
comp=Z,38nm,1.1s
PEA0B Petropavlovsk- 73.08 32 P **P** **19 25 54.7 -0.4**
PEA0B Petropavlovsk- 73.08 32 P **P** **19 25 54.7 -0.4**
PEA0B pmax pmax
comp=Z,129nm,1.6s
PETK Petropavlovsk- 73.08 32 P **P** **19 25 53.7 -1.4**
PETK Petropavlovsk- 73.08 32 P **P** **19 25 55.1 0.0**
comp=Z,8.2nm,0.8s,baz=277,slow=1.0,SNR=4.7
PETK LR LR 19 59 14.0
comp=Z,70nm,20.1s,baz=269,slow=37
comp=Z,8.2nm,0.8s
MA2 Magadan 73.41 24 P **P** **19 25 55.7 -1.2**
MA2 IAmb IAmb 19 25 58.6
comp=Z,31nm,0.8s
MA2 Magadan 73.41 24*ce*P **P** **19 25 56.0 -0.9**
MA2 pmax pmax
comp=Z,92nm,2.5s
MA2 Magadan 73.41 24 P **P** **19 25 57.2 +0.3**
comp=Z,29nm,0.7s,baz=252,slow=5.1,SNR=10
MA2 LR LR 20 00 23.8
comp=Z,164nm,18.2s,baz=226,slow=38
comp=Z,29nm,0.7s
PET Petropavlovsk 73.55 32 P **P** **19 25 57.0 -0.8**
CSS Mathiatis 73.56 308 P **P** **19 25 57.1 -1.3**
CSS IAmb IAmb 19 26 00.6
comp=Z,36nm,1.1s
KIRV Kirov 73.60 335*ce*P **P** **19 25 58.4 +0.4**
VRH Novokhopyorsk 73.62 326 *e*P **P** **19 25 57.8 -0.5**
VRH *e**PP **pP** **19 26 12.7 -0.4**
VRH pmax pmax
comp=Z,80nm,1.0s
ODZ Otahua Downs 73.64 136 P **P** **19 25 57.5 -1.1**
ODZ IAmb IAmb 19 26 49.5
comp=Z,91nm,1.6s
RPZ Rata Peaks 73.64 135 P **P** **19 25 57.9 -0.8**
RPZ IAmb IAmb 19 26 57.4
comp=Z,78nm,1.7s
RPZ Rata Peaks 73.64 135 LR LR 19 57 10.5
comp=Z,80nm,21.7s,baz=266,slow=35
INZ Inchbonnie 73.72 134 P **P** **19 25 58.0 -1.1**
INZ IAmb IAmb 19 26 15.1
comp=Z,17nm,0.8s

LTZ Lake Taylor 74.33 134 P **P** **19 26 02.1 -0.6**
BR131 Keskin Array S 74.67 312 P **P** **19 26 04.1 -0.8**
BR131 Keskin Array S 74.67 312 *i* P **P** **19 26 04.5 -0.4**
BRTR Keskin Array B 74.67 312 P **P** **19 26 04.7 -0.2**
BRTR Keskin Array B 74.67 312 P **P** **19 26 04.8 -0.1**
comp=Z,9.9nm,0.8s,baz=130,slow=7.2,SNR=56
BRTR LR LR 20 00 45.2
comp=Z,36nm,21.0s,baz=103,slow=37
comp=Z,9.9nm,0.8s
VORD Divnogorie 74.90 325 *e*P **P** **19 26 05.0 -0.7**
VORD *e**PP **pP** **19 26 21.4 +0.8**
VORD pmax pmax
comp=Z,30nm,1.1s
VSR Storozhevoye 75.08 325 *e*P **P** **19 26 06.0 -0.8**
VSR *e**PP **pP** **19 26 20.9 -0.8**
VSR pmax pmax
comp=Z,40nm,0.8s
KHZ Kahutara 75.18 133 P **P** **19 26 08.1 +0.5**
VORR Voronezh 75.24 325 *e*P **P** **19 26 06.9 -0.8**
VORR *e**PP **pP** **19 26 21.7 -1.1**
VORR pmax pmax
comp=Z,57nm,1.8s
ANTO Ankara 75.33 312 P **P** **19 26 07.8 -0.8**
ANTO Ankara 75.33 312 P **P** **19 26 07.8 -0.8**
ANTO pmax pmax
comp=Z,15nm,0.9s
TCW Tory Channel 75.53 132 P **P** **19 26 10.1 +0.5**
LBTB Lobatse 75.58 245 LR LR 19 55 03.1
comp=Z,140nm,18.2s,baz=86,slow=32
LPSR Galich'ya Gora 75.78 326 *e*P **P** **19 26 10.1 -0.7**
LPSR pmax pmax
comp=Z,30nm,0.8s
SIM Simferopol' 75.93 318 *e*P **P** **19 26 12.4 +0.6**
SIM S **S** **19 35 52.0 +1.4**
SIM pmax pmax
comp=Z,19nm,0.7s
SEY Seymchan 76.06 22*ce*P **P** **19 26 12.2 +0.1**
SEY pmax pmax
comp=Z,12nm,0.8s
SEY Seymchan 76.06 22 LR LR 20 02 31.8
comp=Z,197nm,18.1s,baz=234,slow=38
BOSA Boshof 76.13 241 P **P** **19 26 12.4 -1.1**
BOSA Boshof 76.13 241 P **P** **19 26 12.4 -1.1**
BOSA pmax pmax
comp=Z,13nm,1.1s
BOSA Boshof 76.13 241 LR LR 19 55 47.9
comp=Z,108nm,18.1s,baz=84,slow=32
TIXI Tiksi 76.56 9 P **P** **19 26 13.5 -1.3**
TIXI IAmb IAmb 19 26 15.0
comp=Z,60nm,1.2s
TIXI Tiksi 76.56 9*ce*P **P** **19 26 13.9 -0.9**
TIXI pmax pmax
comp=Z,47nm,1.2s
TIXI Tiksi 76.56 9 LR LR 20 03 23.5
comp=Z,20nm,20.0s,baz=270,slow=38
MDUB Mudurnu 76.67 313 P **P** **19 26 15.2 -1.1**
PRGR Permogore 76.88 336⇑ *i*P **P** **19 26 17.1 +0.3**
PRGR *e**PP **pP** **19 26 32.9 +1.1**
PRGR pmax pmax
comp=Z,60nm,0.7s
URZ Urewera 77.30 128 LR LR 20 04 09.8
comp=Z,47nm,18.4s,baz=10.0,slow=38
MOS Moscow 77.77 329 *e*P **P** **19 26 21.7 -0.2**
MOS *e* 19 26 35.4
MOS pmax pmax
comp=Z,50nm,0.8s
OBN Obninsk 78.08 328 P **P** **19 26 23.3 -0.2**
OBN Obninsk 78.08 328*c* *i*P **P** **19 26 24.1 +0.5**
OBN *e* 19 26 34.0
OBN *e**PP **pP** **19 26 38.4 -0.3**
OBN *i* 19 29 19.8
OBN *i* S **S** **19 36 12.5 -0.9**
OBN *e**SS **ScS** **19 36 41.8 +3.0**
OBN SSS SSS 19 44 32.0
OBN pmax pmax
comp=Z,84nm,1.7s
OBN MLR MLR
comp=Z,105nm,17.0s
KLMR Klimovskoe 79.06 334 *e*P **P** **19 26 26.8 -2.2**
KLMR AMP 19 26 30.7
comp=Z,63nm,1.6s
KLMR *e*pP **pP** **19 26 43.8 -0.2**
KLMR Klimovskoe 79.06 334 *e*P **P** **19 26 26.7 -2.2**
KLMR *e**PP **pP** **19 26 43.8 -0.2**
KLMR pmax pmax
comp=Z,63nm,1.6s
MILM Milestii Mici 80.05 318⇑ *i*P **P** **19 26 34.9 +0.3**
comp=Z,40nm,0.7s
MILM Milestii Mici 80.05 318⇑P **P** **19 26 35.2 +0.6**
MILM Milestii Mici 80.05 318*c* *i*P **P** **19 26 34.9 +0.3**
MILM pmax pmax
comp=Z,40nm,0.6s
CFR Carcaliu 80.06 317 ⇓P **P** **19 26 35.7 +1.0**
CFR Carcaliu 80.06 317 P **P** **19 26 35.7 +1.0**
KIS Kishinev 80.06 319⇑ *i*P **P** **19 26 34.6 -0.1**
comp=Z,20nm,0.2s
KIS Kishinev 80.06 319*c* *i*P **P** **19 26 34.6 -0.1**
KIS pmax pmax
comp=Z,20nm,0.2s
HARR Harsova 80.08 316⇑P **P** **19 26 35.6 +0.7**
HARR Harsova 80.08 316 P **P** **19 26 35.5 +0.7**
SUR Sutherland 80.20 238 LR LR 19 56 25.6
comp=Z,191nm,18.2s,baz=103,slow=31
VASR Vaslui 80.66 318 ⇓P **P** **19 26 38.9 +1.0**
SORM Soroca 80.66 320⇑P **P** **19 26 38.4 +0.5**
SORM Soroca 80.66 320 P **P** **19 26 38.3 +0.5**
LOZB Loznitsa 80.71 315⇑P **P** **19 26 39.3 +1.0**
AKASG Malin Array Be 80.80 322 P **P** **19 26 38.5 -0.1**
comp=Z,0.9nm,0.5s,baz=87,slow=4.6,SNR=17
AKASG PP **PP** **19 29 41.6 -1.7**
comp=Z,1.9nm,0.9s,baz=91,slow=6.3,SNR=3.8
AKASG LR LR 20 06 56.7
comp=Z,32nm,18.9s,baz=38,slow=39
comp=Z,0.9nm,0.5s
KIEV Kiev 80.81 322 ⇓P **P** **19 26 40.4 +1.8**
KIEV Kiev 80.81 322 P **P** **19 26 37.9 -0.7**
KIEV Kiev 80.81 322 P **P** **19 26 40.4 +1.8**
VNDA Vanda 81.11 169 P **P** **19 26 40.7 +0.9**
VNDA Vanda 81.11 169 P **P** **19 26 40.7 +0.9**
VNDA pmax pmax
comp=Z,10.0nm,1.2s
VNDA Vanda 81.11 169 LR LR 19 59 05.4
comp=Z,55nm,18.9s,baz=309,slow=33
ELND Elena 81.13 314 ⇓P **P** **19 26 41.7 +1.2**
VRI Vrincioaia 81.19 317 ⇓P **P** **19 26 42.7 +1.9**
VRI Vrincioaia 81.19 317 P **P** **19 26 42.7 +1.9**
TESR Tescani 81.39 318 ⇓P **P** **19 26 42.9 +1.1**
MLR Muntele Rosu 81.64 317 ⇑P **P** **19 26 44.5 +1.1**
MLR Muntele Rosu 81.64 317 IAmb IAmb 19 26 45.7
comp=Z,21nm,1.0s
MLR Muntele Rosu 81.64 317 P **P** **19 26 44.4 +1.1**
TURR Turia 81.71 317⇑P **P** **19 26 45.3 +1.7**
DOPR Dopca 82.12 317⇑P **P** **19 26 46.2 +0.5**
PLVB Pleven 82.12 314⇑P **P** **19 26 47.0 +1.2**
BURAR Bucovina Array 82.59 319⇑P **P** **19 26 50.0 +1.8**
BURAR Bucovina Array 82.59 319 P **P** **19 26 48.6 +0.4**
BURAR IAmb IAmb 19 26 50.9
comp=Z,14nm,0.8s
BURAR Bucovina Array 82.59 319 P **P** **19 26 50.0 +1.8**
MNK Minsk 82.62 326 *i* P **P** **19 26 49.1 +1.0**
comp=E,12nm,1.2s
MNK *i* P **P** **19 26 49.1 +1.0**
comp=N,36nm,0.8s
MNK *i* P **P** **19 26 49.1 +1.0**
comp=Z,47nm,1.1s,baz=106
MNK *i* pP **pP** **19 27 05.9 +2.5**
MNK *i* PP **PP** **19 29 58.8 +0.6**
MNK *i* PPP PPP 19 31 50.0
MNK *i* S **S** **19 37 03.4 +2.2**
MNK *i* sS **sS** **19 37 30.8 +4.2**
MNK *i* SS **SS** **19 42 25.2 +1.2**
MNK *i* SSS SSS 19 45 53.8
MNK *i* LQ LQ 19 56 56.4
MNK *i* LR LR 20 01 32.1
MNK Minsk 82.62 326 *i* P **P** **19 26 49.0 +1.0**
MNK *i **PP **pP** **19 27 05.8 +2.5**
MNK *i* 19 29 58.8
MNK *i* PPP PPP 19 31 50.0
MNK *i* S **S** **19 37 03.3 +2.2**
MNK *i* SS **SS** **19 42 25.1 +1.2**
MNK *i* SSS SSS 19 45 53.7
MNK pmax pmax
comp=Z,47nm,1.1s
MNK pmax pmax

comp=E,12nm,1.2s
MNK pmax pmax
comp=N,36nm,0.8s
TSUM Tsumeb 82.87 251 LR LR 19 59 10.5
comp=N,215nm,20.4s,baz=68,slow=32
ARCR ARCALIA 83.05 318⇑P **P** **19 26 52.3 +1.8**
NACGM Naroch 83.34 326 *e*P **P** **19 26 53.8 +2.0**
comp=Z,61nm,0.9s,baz=105
BLKB Belogradchik 83.56 314 ⇓P **P** **19 26 54.1 +0.9**
BILL Bilibino 83.62 20 P **P** **19 26 52.0 -1.0**
BILL Bilibino 83.62 20⇑ *e*P **P** **19 26 52.9 -0.1**
BILL pmax pmax
comp=Z,6.0nm,0.8s
BMR Baia Mare 83.74 318⇑P **P** **19 26 55.6 +1.5**
BMR Baia Mare 83.74 318 P **P** **19 26 55.5 +1.5**
GZR Gura Zlata 83.80 316⇑P **P** **19 26 55.4 +0.9**
GZR Gura Zlata 83.80 316 P **P** **19 26 55.4 +0.9**
DEV Deva 83.80 317 ⇓P **P** **19 26 56.5 +2.1**
DEV Deva 83.80 317 P **P** **19 26 56.5 +2.1**
MARR Marisel-Cluj 83.80 317 ⇓P **P** **19 26 56.1 +1.6**
LVZ Lovozero 83.95 340*ce*P **P** **19 26 54.4 -0.3**
LVZ pmax pmax
comp=Z,122nm,2.5s
HERR Herculane 83.96 316 ⇓P **P** **19 26 56.5 +1.3**
MESR Meseseni 84.01 318 ⇓P **P** **19 26 57.4 +2.1**
BOVS Bovan 84.25 314⇑P **P** **19 26 56.8 +0.1**
APA Apatity 84.27 339⇓ *i*P **P** **19 26 59.6 +3.4**
APA *i* 19 27 15.4
APA pmax pmax
comp=Z,11nm,0.8s
APA MLR MLR
comp=Z,700nm,16.0s
VSU Vasula 84.28 329 *e*P **P** **19 26 57.8 +1.3**
VSU Vasula 84.28 329*ce*P **P** **19 26 57.3 +0.8**
VSU pmax pmax
comp=Z,59nm,1.7s
SURR Surduc 84.32 316 ⇓P **P** **19 26 58.6 +1.6**
MDVR Moldovita 84.44 315⇑P **P** **19 26 59.4 +1.7**
KWP Kalwaria Pacla 84.63 320 *e*P **P** **19 26 59.9 +1.4**
KWP Kalwaria Pacla 84.63 320 IAmb IAmb 19 27 00.9
comp=Z,26nm,1.3s
BZS Buzias 84.64 316 ⇓P **P** **19 27 00.2 +1.6**
BZS Buzias 84.64 316 P **P** **19 27 00.2 +1.6**
KOLS Kolonicke sedl 84.78 319 *e*P **P** **19 27 01.5 +2.2**
KOLS *e* 19 27 20.8
KOLS Kolonicke sedl 84.78 319 *e*P **P** **19 27 01.5 +2.2**
KOLS pmax pmax
comp=Z,33nm,0.9s
PABE Paberze 85.05 326 *e*P **P** **19 27 01.6 +1.1**
VSVD Vaisvydziai 85.17 327 *e*P **P** **19 27 01.8 +0.8**
SUW Suwalki 85.19 325 *e*P **P** **19 27 01.4 +0.2**
SUW *e*pP **pP** **19 27 16.7 +0.3**
SUW Suwalki 85.19 325 P **P** **19 27 00.4 -0.8**
SUW Suwalki 85.19 325 *e*P **P** **19 27 02.0 +0.9**
SUW Suwalki 85.19 325 P **P** **19 27 00.4 -0.8**
SUW pmax pmax
comp=Z,74nm,0.9s
CRVS Cervenica-Dubn 85.30 319 *e*P **P** **19 27 03.7 +1.8**
CRVS Cervenica-Dubn 85.30 319 *e*P **P** **19 27 03.7 +1.8**
CRVS pmax pmax
comp=Z,79nm,2.2s
FINES FINESS Array B 85.36 332 P **P** **19 27 02.6 +0.8**
comp=Z,7.5nm,0.8s,baz=102,slow=8.0,SNR=15
FINES LR LR 20 09 40.3
comp=Z,111nm,18.9s,baz=70,slow=39
comp=Z,7.5nm,0.8s
STHS Stebnicka Huta 85.53 320 *e*P **P** **19 27 04.2 +1.2**
STHS *e* 19 27 23.4
STHS Stebnicka Huta 85.53 320 *e*P **P** **19 27 04.2 +1.2**
STHS pmax pmax
comp=Z,9.0nm,0.8s
DIVS Divibare 85.55 314 P **P** **19 27 04.1 +0.7**
DIVS IAmb IAmb 19 27 25.3
comp=Z,24nm,1.3s
MTSE Matsula 85.82 329 *e*P **P** **19 27 04.6 +0.4**
MEF Metsahovi 85.86 331 *e*P **P** **19 27 05.4 +1.0**
NIE Niedzica 86.14 320 *e*P **P** **19 27 07.7 +1.6**
PSZ Piszkesteto 86.17 318⇑P **P** **19 27 02.2 +0.9**
PSZ Piszkesteto 86.17 318 IAmb IAmb 19 27 27.3
comp=Z,9.3nm,0.9s
PSZ Piszkesteto 86.17 318 P **P** **19 27 07.2 +0.9**
PBUR Paburge 86.28 326 *e*P **P** **19 27 07.9 +1.4**
OJC Ojcow 86.58 321 *e*P **P** **19 27 08.4 +0.3**
MORH Mrgy, Hungar 86.78 316 ⇓P **P** **19 27 10.6 +1.3**
VYHS Vyhne 86.96 319 *e*P **P** **19 27 10.8 +0.7**
VYHS *e* 19 27 30.2
VYHS Vyhne 86.96 319 *e*P **P** **19 27 10.8 +0.7**
VYHS pmax pmax
comp=Z,14nm,1.5s
QSPA South Pole Qui 87.09 180 LR LR 20 01 03.9
comp=Z,120nm,20.0s,baz=317,slow=32
SRO Srobarova 87.22 318 *e*P **P** **19 27 13.4 +2.1**
SRO Srobarova 87.22 318 *e*P **P** **19 27 13.4 +2.1**
RAF Rauma 87.30 331 *e*P **P** **19 27 12.2 +0.8**
ARCES ARCESS Array B 87.64 340 P **P** **19 27 13.6 +0.6**
comp=Z,18nm,0.9s,baz=98,slow=6.2,SNR=32
ARCES LR LR 20 11 53.0
comp=Z,104nm,18.4s,baz=116,slow=39
comp=Z,18nm,0.9s
MAUC Maruska 87.73 319 *e*P **P** **19 27 15.3 +1.5**
JAVC Velka Javorina 87.77 319 *e*P **P** **19 27 15.8 +1.8**
MORC Moravsky Berou 87.96 320 P **P** **19 27 15.0 +0.1**
MORC IAmb IAmb 19 27 36.4
comp=Z,12nm,1.0s
MORC Moravsky Berou 87.96 320 P **P** **19 27 15.0 +0.1**
MORC pmax pmax
comp=Z,12nm,1.0s
MODS Modra-Piesok 87.97 318 *e*P **P** **19 27 16.2 +1.2**
MODS *e* 19 27 35.5
MODS Modra-Piesok 87.97 318 *e*P **P** **19 27 16.2 +1.2**
MODS pmax pmax
comp=Z,64nm,1.6s
KRLC Kraliky 88.48 320 *e*P **P** **19 27 19.3 +1.9**
KRLC *e*pP **pP** **19 27 34.3 +1.6**
KRLC Kraliky 88.48 320 *e*P **P** **19 27 19.3 +1.9**
KRLC *e* 19 27 34.3
VRAC Vranov 88.52 319 *e*P **P** **19 27 18.1 +0.6**
VRAC Vranov 88.52 319 LR LR 20 10 30.7
comp=Z,28nm,21.6s,baz=78,slow=38
RONA Rosalia, Austr 88.55 318 *i* P **P** **19 27 18.8 +1.0**
comp=Z,4.4nm,1.1s
KRUC Moravsky 88.63 319 *e*P **P** **19 27 19.0 +1.0**
DPC Dobruska-Polom 88.81 320 *e*P **P** **19 27 20.6 +1.7**
DPC Dobruska-Polom 88.81 320 *e*P **P** **19 27 20.6 +1.7**
CONA Conrad Observa 88.87 318 *e*P **P** **19 27 19.9 +0.6**
comp=Z,2.4nm,0.8s
KSP Ksiaz 88.88 321 *e*P **P** **19 27 20.2 +1.0**
OSTC Ostas 88.90 321 *e*P **P** **19 27 21.3 +2.0**
OSTC Ostas 88.90 321 *e*P **P** **19 27 21.3 +2.0**
CHVC Chvalec 89.00 321 *e*P **P** **19 27 21.5 +1.7**
CHVC *ex* x 19 27 40.5
CHVC Chvalec 89.00 321 *e*P **P** **19 27 21.5 +1.7**
UPC Upice 89.02 320 *e*P **P** **19 27 21.6 +1.8**
UPC Upice 89.02 320 *e*P **P** **19 27 21.6 +1.8**
ARSA Arzberg 89.03 317 *i* PcP **PcP** **19 27 21.2 -0.2**
comp=Z,7.9nm,1.0s,SNR=4.5
PERS Pernice 89.26 317 *i* P **P** **19 27 22.6 +1.5**
SOKA Soboth 89.32 317 *i* PcP **PcP** **19 27 22.9 +0.1**
comp=Z,13nm,1.0s
LJU Ljubljana 89.61 316 *e*P **P** **19 27 24.3 +1.6**
LJU *i* 19 27 43.8
OBKA Obir 89.64 316 *e*PcP **PcP** **19 27 23.9 -0.4**
comp=Z,12nm,1.4s
PRU Pruhonice 89.92 320 *e*P **P** **19 27 25.7 +1.7**
PRU Pruhonice 89.92 320 *e*P **P** **19 27 25.7 +1.7**
CKRC Cesky Krumlov 89.98 319 *e*P **P** **19 27 25.7 +1.3**
CKRC Cesky Krumlov 89.98 319 *e*P **P** **19 27 25.7 +1.3**
ZVC Zvikov 90.10 319 *e*P **P** **19 27 26.4 +1.5**
MYKA Terra Mystica 90.27 316 *e*PcP **PcP** **19 27 27.3 +0.3**
comp=Z,3.3nm,0.9s
PRED Cave del Predi 90.31 316 IAmb IAmb 19 27 47.7
comp=Z,16nm,0.9s
BIOA Bad Ischl, Aus 90.34 318 *i* P **P** **19 27 26.9 +0.8**
comp=Z,9.7nm,1.4s
BRG Berggiesshubel 90.36 321 *i* P **P** **19 27 27.8 +1.7**
BRG Amp 19 27 29.0
comp=Z,15nm,1.2s
BRG Berggiesshubel 90.36 321 *i* P **P** **19 27 27.7 +1.7**
BRG 19 27 43.2
BRG pmax pmax
comp=Z,15nm,1.2s
BRG pmax pmax
comp=Z,5.0nm,0.8s

GEC2	**GERESS Array S**	**90.38**	**319**	P	**P**	**19 27 26.8**	**+0.5**
GEC2				IAmb	IAmb	19 27 48.5	
	comp=Z,26nm,1.4s						
GERES	**GERESS Array B**	**90.38**	**319**	P	**P**	**19 27 27.6**	**+1.3**
	comp=Z,4.7nm,0.9s,baz=64,slow=4.5,SNR=4.4						
	comp=Z,4.7nm,0.9s						
KHC	**Kasperske Hory**	**90.48**	**319**	*e*P	**P**	**19 27 27.8**	**+1.1**
KHC				*es*P	**sP**	**19 27 47.3**	**-0.7**
KHC	**Kasperske Hory**	**90.48**	**319**	*i* P	**P**	**19 27 27.9**	**+1.2**
KHC				pmax	pmax		
	comp=Z,23nm,1.8s						
KBA	**Koelnbreinsper**	**90.50**	**317**	*e*PcP	**PcP**	**19 27 27.9**	**-0.3**
	comp=Z,5.3nm,1.2s						
HSKC	**Hora Svate Kat**	**90.67**	**320**	*e*P	**P**	**19 27 29.2**	**+1.6**
LESA	**Schwarzleotal**	**90.98**	**317**	*i* P	**P**	**19 27 29.6**	**+0.5**
	comp=Z,3.6nm,0.6s						
CLL	**Collm**	**90.98**	**321**	*i* P	**P**	**19 27 30.5**	**+1.5**
	comp=Z,6.0nm,1.0s						
CLL				*i* sP	**sP**	**19 27 49.2**	**-1.0**
	comp=Z,9.0nm,1.1s						
CLL	**Collm**	**90.98**	**321**	*i* P	**P**	**19 27 30.5**	**+1.5**
CLL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ABTA	**Abfaltersbach**	**91.05**	**317**	*e*P	**P**	**19 27 29.9**	**+0.4**
	comp=Z,7.8nm,1.2s						
HFS	**Hagfors**	**91.14**	**330**	P	**P**	**19 27 30.5**	**+1.1**
	comp=Z,11nm,0.8s,baz=116,slow=3.4,SNR=15						
HFS				LR	LR	20 13 22.9	
	comp=Z,143nm,18.3s,baz=48,slow=39						
	comp=Z,11nm,0.8s						
NKC	**Novy Kostel**	**91.28**	**320**	*e*P	**P**	**19 27 35.0**	**+4.6**
NKC	**Novy Kostel**	**91.28**	**320**	*e*P	**P**	**19 27 35.0**	**+4.6**
CTI	**Castel Tesino**	**91.61**	**316**	P	**P**	**19 27 32.5**	**+0.4**
CTI				IAmb	IAmb	19 27 53.6	
	comp=Z,17nm,1.0s						
CTI	**Castel Tesino**	**91.61**	**316**	P	**P**	**19 27 32.5**	**+0.4**
CTI				pmax	pmax		
	comp=Z,17nm,1.0s						
WTTA	**Wattenberg**	**91.67**	**317**	*i* PcP	**PcP**	**19 27 33.1**	**-0.3**
	comp=Z,12nm,1.0s,SNR=6.2						
SPITS	**Spitsbergen Ar**	**91.70**	**348**	P	**P**	**19 27 31.4**	**-0.4**
	comp=Z,7.1nm,0.7s,baz=114,slow=8.3,SNR=9.5						
SPITS				LR	LR	20 14 21.7	
	comp=Z,126nm,19.7s,baz=60,slow=39						
	comp=Z,7.1nm,0.7s						
WATA	**Walderalm**	**91.72**	**317**	*i* P	**P**	**19 27 33.0**	**+0.3**
	comp=Z,13nm,1.4s						
SQTA	**Sankt Quirin**	**91.97**	**317**	*e*P	**P**	**19 27 34.0**	**+0.2**
	comp=Z,4.7nm,0.6s						
MOTA	**Moosalm**	**92.04**	**317**	*i* P	**P**	**19 27 34.6**	**+0.4**
	comp=Z,7.7nm,0.9s,SNR=4.4						
RETA	**Reutte**	**92.28**	**317**	*e*PcP	**PcP**	**19 27 35.8**	**-0.1**
	comp=Z,3.7nm,0.7s,SNR=5.5						
FETA	**Feichten**	**92.28**	**317**	*i* PcP	**PcP**	**19 27 36.3**	**+0.3**
	comp=Z,4.9nm,1.0s,SNR=5.2						
NB2	**NORSAR Subarra**	**92.40**	**331**	P	**P**	**19 27 35.4**	**0.0**
	comp=Z,8.6nm,0.9s,baz=93,slow=4.8						
NB2	**NORSAR Subarra**	**92.40**	**331**	P	**P**	**19 27 35.4**	**0.0**
	baz=93,slow=4.8						
NOA	**NORSAR Array B**	**92.40**	**331**	P	**P**	**19 27 35.7**	**+0.3**
	comp=Z,4.2nm,0.8s,baz=93,slow=4.6,SNR=15						
NOA				PP	**PP**	**19 31 19.5**	**+2.8**
	comp=Z,1.6nm,0.8s,baz=91,slow=7.6,SNR=5.0						
NOA				LR	LR	20 14 13.1	
	comp=Z,82nm,18.5s,baz=260,slow=39						
	comp=Z,4.2nm,0.8s						
DAVOX	**Davos/Dischmat**	**92.86**	**317**	LR	LR	20 20 12.0	
	comp=Z,64nm,18.4s,baz=70,slow=42						
DAVA	**Damuels**	**92.87**	**317**	*i* PcP	**PcP**	**19 27 39.4**	**+0.7**
	comp=Z,12nm,1.0s						
F14K	**Arctic Creek**	**93.70**	**25**	P	**P**	**19 27 41.7**	**+0.5**
	baz=271						
C16K	**Lisburne Hills**	**94.00**	**22**	P	**P**	**19 27 42.8**	**+0.3**
	baz=272						
ANM	**Nome**	**94.13**	**26**	P	**P**	**19 27 43.0**	**-0.2**
	baz=272						
F15K	**North Star Dit**	**94.39**	**24**	P	**P**	**19 27 44.4**	**0.0**
	baz=273						
C17K	**DeLong Mountai**	**94.80**	**22**	P	**P**	**19 27 46.4**	**+0.2**
	baz=274						
B18K	**Kokolik River**	**95.21**	**21**	P	**P**	**19 27 48.5**	**+0.5**
	baz=276						
G16K	**Koyuk River**	**95.37**	**25**	IAmb	IAmb	19 27 50.7	
	comp=Z,15nm,0.8s						
G16K	**Koyuk River**	**95.37**	**25**	P	**P**	**19 27 48.8**	**0.0**
	baz=275						
A19K	**Wainwright**	**95.38**	**20**	P	**P**	**19 27 49.4**	**+0.7**
	baz=276						
E17K	**Hotham Inlet**	**95.43**	**23**	P	**P**	**19 27 50.0**	**+0.9**
	baz=276						
H16K	**Elim**	**95.48**	**25**	P	**P**	**19 27 50.2**	**+0.8**
	baz=275						
C18K	**Utukok River**	**95.50**	**21**	P	**P**	**19 27 49.4**	**-0.2**
C18K				IAmb	IAmb	19 27 50.2	
	comp=Z,7.5nm,0.7s						
C18K	**Utukok River**	**95.50**	**21**	P	**P**	**19 27 49.9**	**+0.4**
	baz=276						
F17K	**Baldwin Pennin**	**95.72**	**24**	P	**P**	**19 27 50.6**	**+0.2**
	baz=276						
C19K	**Lookout Ridge**	**96.03**	**21**	IAmb	IAmb	19 27 53.1	
	comp=Z,7.6nm,0.9s						
C19K	**Lookout Ridge**	**96.03**	**21**	P	**P**	**19 27 52.4**	**+0.6**
	baz=278						
G17K	**Kiwalik Mounta**	**96.06**	**25**	P	**P**	**19 27 52.6**	**+0.6**
	baz=276						
I17K	**Unalakleet**	**96.22**	**26**	P	**P**	**19 27 53.5**	**+0.8**
	baz=276						
J16K	**Anvik River**	**96.33**	**27**	P	**P**	**19 27 53.3**	**+0.1**
J16K	**Anvik River**	**96.33**	**27**	P	**P**	**19 27 54.0**	**+0.7**
	baz=276						
H17K	**Granite Mounta**	**96.44**	**25**	IAmb	IAmb	19 27 55.3	
	comp=Z,10nm,0.8s						
H17K	**Granite Mounta**	**96.44**	**25**	P	**P**	**19 27 54.5**	**+0.8**
	baz=277						
M15K	**Kasigluk River**	**96.56**	**29**	P	**P**	**19 27 55.1**	**+0.7**
	baz=276						
D19K	**Kuna River**	**96.65**	**21**	P	**P**	**19 27 55.0**	**+0.3**
	baz=279						
B20K	**Meade River**	**96.73**	**20**	P	**P**	**19 27 54.7**	**-0.2**
B20K				IAmb	IAmb	19 27 56.5	
	comp=Z,17nm,1.2s						
B20K	**Meade River**	**96.73**	**20**	P	**P**	**19 27 55.4**	**+0.4**
	baz=280						
G18K	**Tagagawik**	**96.83**	**24**	P	**P**	**19 27 56.0**	**+0.5**
	baz=278						
F19K	**Shaleruckik Mo**	**97.04**	**23**	P	**P**	**19 27 55.3**	**-1.1**
F19K				IAmb	IAmb	19 27 57.3	
	comp=Z,6.7nm,0.9s						
F19K	**Shaleruckik Mo**	**97.04**	**23**	P	Pdif	19 27 56.8	+0.3
	baz=279						
H18K	**Honhosa River**	**97.06**	**25**	P	Pdif	19 27 57.1	+0.4
	baz=278						
E19K	**Redstone River**	**97.15**	**22**	P	Pdif	19 27 57.2	+0.2
	baz=280						
D20K	**Etivluk River**	**97.15**	**21**	P	Pdif	19 27 57.5	+0.5
	baz=280						
A22K	**Sinclair Lake**	**97.25**	**19**	P	Pdif	19 27 57.9	+0.6
	baz=282						
E20K	**Nigu River**	**97.39**	**21**	P	**P**	**19 27 57.9**	**-0.2**
	baz=281						
G19K	**Purcell Mounta**	**97.43**	**24**	IAmb	IAmb	19 27 59.5	
	comp=Z,10nm,0.8s						
G19K	**Purcell Mounta**	**97.43**	**24**	P	**P**	**19 27 58.0**	**-0.2**
	baz=280						
K17K	**Iditarod**	**97.44**	**27**	P	Pdif	19 27 58.8	+0.4
	baz=278						
RAR	**Rarotonga**	**97.53**	**112**	LR	LR	20 09 27.1	
	comp=Z,25nm,21.7s,baz=307,slow=34						
B21K	**Ikpikpuk River**	**97.67**	**20**	IAmb	IAmb	19 28 01.2	
	comp=Z,9.2nm,0.8s						
B21K	**Ikpikpuk River**	**97.67**	**20**	P	Pdif	19 27 59.3	+0.1
	baz=282						
C21K	**Knifeblade Rid**	**97.71**	**20**	P	Pdif	19 27 59.7	+0.3
	baz=282						
H19K	**Roundabout Mou**	**97.79**	**24**	P	Pdif	19 28 00.5	+0.7
	baz=280						
F20K	**Avaraart Lake**	**97.80**	**23**	P	**P**	**19 27 59.4**	**-0.4**
F20K				IAmb	IAmb	19 28 00.6	
	comp=Z,6.7nm,0.8s						
F20K	**Avaraart Lake**	**97.80**	**23**	P	Pdif	19 28 00.3	+0.5
	baz=281						
B22K	**Teshekpuk Lake**	**97.91**	**19**	P	**P**	**19 28 00.2**	**-0.1**
	baz=284						
J18K	**Innoko River**	**98.04**	**26**	P	**P**	**19 28 00.5**	**-0.6**
J18K				IAmb	IAmb	19 29 05.4	
	comp=Z,13nm,1.4s						
J18K	**Innoko River**	**98.04**	**26**	P	**P**	**19 28 01.0**	**-0.1**
	baz=280						
E21K	**Killik River**	**98.16**	**21**	IAmb	IAmb	19 28 02.5	
	comp=Z,10.0nm,0.9s						
E21K	**Killik River**	**98.16**	**21**	P	**P**	**19 28 01.5**	**0.0**
	baz=283						
J19K	**Poorman**	**98.42**	**26**	P	Pdif	19 28 03.3	+0.6
	baz=281						
H20K	**Anotleneega Mo**	**98.44**	**24**	P	Pdif	19 28 03.4	+0.6
	baz=282						
F21K	**Alatna River**	**98.62**	**22**	P	Pdif	19 28 03.7	+0.2
	baz=283						
G21K	**Allakaket**	**98.77**	**23**	IAmb	IAmb	19 28 05.6	
	comp=Z,12nm,0.9s						
G21K	**Allakaket**	**98.77**	**23**	P	Pdif	19 28 04.9	+0.6
	baz=283						
IMAR	**Indian Mountai**	**98.79**	**24**		**P**	**19 28 04.1**	**-0.2**
C23K	**Itkillik River**	**98.97**	**19**	P	Pdif	19 28 05.5	+0.5
	baz=286						
C23K	**Itkillik River**	**98.97**	**19**	PP	Pdif	19 28 05.4	+0.4
JMIC	**Jan Mayen**	**99.01**	**342**	LR	LR	20 18 29.8	
	comp=Z,119nm,20.2s,baz=72,slow=39						
J20K	**Nowinta River**	**99.02**	**25**	P	**Pdif**	**19 28 06.0**	**+0.6**
	baz=282						
F22K	**John River**	**99.04**	**22**	P	**Pdif**	**19 28 05.6**	**+0.2**
	baz=284						
K20K	**Telida**	**99.23**	**26**	P	**Pdif**	**19 28 06.9**	**+0.5**
	baz=282						
H21K	**Melozitna Rive**	**99.25**	**24**	P	**Pdif**	**19 28 07.0**	**+0.6**
	baz=284						
G22K	**Bettles**	**99.44**	**22**	P	**Pdif**	**19 28 07.1**	**0.0**
	baz=285						
TOLK	**Toolik Lake Re**	**99.67**	**21**	P	**Pdif**	**19 28 09.1**	**+0.8**
	baz=287						
TOLK	**Toolik Lake Re**	**99.67**	**21**	PP	**Pdif**	**19 28 08.7**	**+0.5**
I21K	**Tanana**	**99.70**	**24**	P	**Pdif**	**19 28 09.4**	**+1.0**
	baz=284						
Q18K	**Katmai Hardscr**	**99.70**	**31**	P	**Pdif**	**19 28 08.6**	**-0.1**
	baz=286						
TORD	**Torodi Ar. Bea**	**99.73**	**283**	LR	LR	20 09 26.5	
	comp=Z,64nm,21.7s,baz=92,slow=33						
H22K	**Ishtalitna Cre**	**99.76**	**23**	P	**Pdif**	**19 28 09.7**	**+1.0**
	baz=285						
BPAW	**Bear Paw Mtn.**	**100.39**	**25**	P	**Pdif**	**19 28 11.5**	**0.0**
	baz=285						
TRF	**Thorofare Moun**	**100.86**	**26**	P	**Pdif**	**19 28 13.4**	**-0.4**
	baz=286						
SUA	**Susitna One**	**101.17**	**28**	P	**Pdif**	**19 28 15.0**	**-0.1**
	baz=285						
MCK	**McKinley**	**101.36**	**25**	P	**Pdif**	**19 28 16.1**	**+0.2**
	baz=287						
ILAR	**Eielson Array**	**101.89**	**24**	PP	**PP**	**19 32 26.6**	**-2.8**
	comp=Z,0.7nm,0.8s,baz=291,slow=7.8,SNR=5.7						
TBI	**Tubuai**	**106.68**	**115**	*e*LR	LR	20 03 54.6	
	comp=Z,460nm,28.8s						
PPT2	**Papeete2**	**107.55**	**109**	*e*LR	LR	20 04 12.9	
	comp=Z,79nm,24.2s						
YKA	**Yellowknife Ar**	**114.90**	**17**	PKP	**PKiKP**	**19 33 04.4**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=324,slow=2.4,SNR=4.7						
EDM	**Edmonton**	**122.38**	**24**		**PKPdf**	**19 33 18.6**	**-1.3**
EDM	**Edmonton**	**122.38**	**24**	PKIKP	**PKPdf**	**19 33 18.6**	**-1.3**
HAWA	**Hanford**	**124.14**	**33**		**PKPdf**	**19 33 23.2**	**-0.3**
FFC	**Flin Flon**	**125.02**	**16**		**PKPdf**	**19 33 24.4**	**-0.5**
FFC	**Flin Flon**	**125.02**	**16**	PKIKP	**PKPdf**	**19 33 24.4**	**-0.5**
NVAR	**Mina Array Bea**	**129.62**	**40**	PKP	**PKiKP**	**19 33 35.5**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=297,slow=1.9,SNR=9.4						
NVAR				SKPbc	SKPbc	19 36 52.1	0.0
	comp=Z,1.5nm,0.7s,baz=278,slow=4.0,SNR=11						
ELK	**Elko**	**130.11**	**36**	PKP	**PKiKP**	**19 33 36.2**	**0.0**
	comp=Z,1.4nm,0.6s,baz=297,slow=9.0,SNR=6.0						
ULM	**Lac du Bonnet**	**130.67**	**14**	PKP	**PKPdf**	**19 33 35.4**	**-0.4**
	comp=Z,2.9nm,0.6s,baz=316,slow=4.8,SNR=6.9						
R11B	**Troy Canyon, C**	**131.39**	**39**	PKPdf	**PKPdf**	**19 33 37.0**	**-0.8**
PDAR	**Pinedale Array**	**131.83**	**30**	PKP	**PKPdf**	**19 33 39.0**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=159,slow=2.7,SNR=6.7						
PDAR				SKPbc	**SKPbc**	**19 36 58.6**	**-1.4**
	comp=Z,2.6nm,1.0s,baz=328,slow=1.9,SNR=9.9						
RSSD	**Black Hills**	**133.33**	**25**		**PKPdf**	**19 33 40.1**	**-1.2**
RSSD	**Black Hills**	**133.33**	**25**	PKIKP	**PKPdf**	**19 33 40.1**	**-1.2**
425A	**Indio Mountain**	**142.93**	**39**	PKPdf	**PKPdf**	**19 33 56.0**	**-3.2**
WMOK	**Wichita Mounta**	**143.34**	**28**		PKPab	19 33 55.6	-0.1
WMOK	**Wichita Mounta**	**143.34**	**28**	PKHKP	PKPpre	19 33 55.6	
U38A	**Gravette**	**143.70**	**21**		PKPab	19 33 57.1	+0.2
U38A	**Gravette**	**143.70**	**21**	P	PKPab	19 33 57.1	+0.1
	baz=333,SNR=6.4						
Q51A	**Peebles**	**143.80**	**6**		PKPab	19 33 57.3	0.0
WCI	**Wyandotte Cave**	**144.18**	**10**		PKPbc	19 33 59.4	+0.2
WCI	**Wyandotte Cave**	**144.18**	**10**	P	PKPbc	19 33 59.5	+0.4
	baz=348						
WCI	**Wyandotte Cave**	**144.18**	**10**	PKIKP	PKPbc	19 33 59.4	+0.2
CPUP	**Villa Florida**	**144.20**	**214**	PKPdf	PKPbc	19 34 00.0	+0.5
CPUP	**Villa Florida**	**144.20**	**214**	PKIKP	PKPbc	19 34 00.0	+0.4
CPUP	**Villa Florida**	**144.20**	**214**	PKP	**PKPdf**	**19 34 01.2**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=122,slow=4.2,SNR=5.6						
BDFB	**Brasilia**	**144.27**	**238**	PKP	**PKPdf**	**19 34 02.0**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=65,slow=4.1,SNR=4.9						
R49A	**Shelbyville**	**144.30**	**8**	P	**PKPab**	**19 33 59.2**	**+0.1**
	baz=349						
R49A				P	**PKPab**	**19 33 59.2**	**+0.1**
	baz=349						
U40A	**Yellville**	**144.31**	**19**	P	**PKPab**	**19 33 59.0**	**-0.3**
	baz=336,SNR=7.5						
U40A				P	**PKPab**	**19 33 59.0**	**-0.3**
	baz=336,SNR=7.5						
R50A	**Paris**	**144.43**	**7**	PKPdf	**PKPab**	**19 33 59.0**	**-0.6**
R53A	**Hurricane**	**144.61**	**4**	P	PKPbc	19 34 00.4	-0.1
	baz=355,SNR=9.9						
R53A				P	PKPbc	19 34 00.4	-0.1
	baz=355,SNR=9.9						
PBMO	**Poplar Bluff**	**144.65**	**16**		**PKPab**	**19 33 59.7**	**-0.8**
PBMO	**Poplar Bluff**	**144.65**	**16**	P	**PKPab**	**19 34 00.1**	**-0.4**
	baz=350,SNR=5.1						
R55A	**Marlinton**	**144.75**	**2**	P	**PKPab**	**19 34 00.6**	**-0.3**
	baz=358						
R55A				P	**PKPab**	**19 34 00.6**	**-0.3**
	baz=358						
TX31	**Lajitas Ar. Si**	**144.75**	**39**	P	**PKPdf**	**19 34 02.4**	**0.0**
	baz=314						
TXAR	**Lajitas Array**	**144.75**	**39**	PKP	**PKPdf**	**19 34 02.3**	**-0.1**
	comp=Z,17nm,0.7s,baz=272,slow=1.0,SNR=134						
TXAR				SKPbc	**SKPbc**	**19 37 37.8**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=244,slow=0.9,SNR=4.1						
FCAR	**Ozark Folk Cen**	**144.97**	**19**		**PKPab**	**19 34 00.8**	**-0.9**
R58B	**Mineral**	**145.07**	**358**	P	**PKPbc**	**19 34 01.9**	**0.0**
	baz=1.9,SNR=11						
R58B				P	**PKPbc**	**19 34 01.9**	**0.0**
	baz=1.9,SNR=11						
LCAR	**Lake Charles**	**145.10**	**17**		**PKPbc**	**19 34 00.8**	**-1.3**
LCAR	**Lake Charles**	**145.10**	**17**	P	**PKPbc**	**19 34 01.8**	**-0.3**
	baz=338,SNR=23						
S51A	**Beattyville**	**145.15**	**6**	P	**PKPbc**	**19 34 01.9**	**-0.3**
	baz=352,SNR=14						
S51A				P	**PKPbc**	**19 34 01.9**	**-0.3**
	baz=352,SNR=14						
S54A	**Dingess, Beckl**	**145.18**	**3**	P	**PKPbc**	**19 34 02.1**	**-0.3**
	baz=356,SNR=6.8						
S54A				P	**PKPbc**	**19 34 02.1**	**-0.3**
	baz=356,SNR=6.8						
T47A	**Sharon Grove**	**145.24**	**11**	P	**PKPbc**	**19 34 02.4**	**-0.1**
	baz=346,SNR=8.7						
S57A	**Dark Hollow, R**	**145.28**	**360**	P	**PKPbc**	**19 34 02.7**	**0.0**
	baz=360,SNR=14						
S57A				P	**PKPbc**	**19 34 02.7**	**0.0**
	baz=360,SNR=14						
WHAR	**Wooly Hollow**	**145.46**	**19**	PKPdf	**PKPdf**	**19 34 02.7**	**-0.6**
T50A	**Nancy**	**145.60**	**8**	P	**PKPdf**	**19 34 02.6**	**-0.9**
	baz=350						
T50A				P	**PKPdf**	**19 34 02.6**	**-0.9**
	baz=350						
WVT	**Waverly**	**145.91**	**13**	P	**PKPdf**	**19 34 04.3**	**+0.3**
	baz=344,SNR=24						
U49A	**Red Boiling Sp**	**145.94**	**10**		**PKPdf**	**19 34 03.7**	**-0.3**
U49A	**Red Boiling Sp**	**145.94**	**10**	P	**PKPdf**	**19 34 03.9**	**-0.2**
	baz=348,SNR=8.0						
T57A	**Hurt**	**146.04**	**0**	P	**PKPbc**	**19 34 05.0**	**-0.1**
	baz=360,SNR=6.1						
T57A				P	**PKPbc**	**19 34 05.0**	**-0.1**
	baz=360,SNR=6.1						
T59A	**Double "B" Far**	**146.05**	**358**	PKPdf	**PKPdf**	**19 34 04.3**	**+0.1**
T59A	**Double "B" Far**	**146.05**	**358**	P	**PKPbc**	**19 34 05.0**	**0.0**
	baz=2.5,SNR=8.8						
T59A				P	**PKPbc**	**19 34 05.0**	**0.0**
	baz=2.5,SNR=8.8						
JCT	**Junction City**	**146.21**	**33**	P	**PKPbc**	**19 34 05.9**	**0.0**
	baz=320						
V48A	**Smith Brothers**	**146.50**	**12**	P	**PKPbc**	**19 34 06.0**	**-0.5**
	baz=346,SNR=8.9						
V52A	**Sevierville**	**146.92**	**7**		**PKPbc**	**19 34 07.4**	**-0.3**
TKL	**Tuckaleechee C**	**147.08**	**7**	PKPbc	**PKPdf**	**19 34 06.3**	**+0.2**
	comp=Z,11nm,0.8s,baz=149,slow=1.1,SNR=9.1						
V53A	**Saluda**	**147.18**	**6**	P	**PKPdf**	**19 34 07.1**	**+0.9**
	baz=353,SNR=8.0						
V53A				P	**PKPdf**	**19 34 07.1**	**+0.9**
	baz=353,SNR=8.0						
SWET	**Sewanee**	**147.18**	**11**		**PKPbc**	**19 34 07.6**	**-0.9**
W50A	**Signal Mountai**	**147.31**	**10**		**PKPbc**	**19 34 08.2**	**-0.7**
AQDB	**Aquidauana**	**147.44**	**224**		**PKPbc**	**19 34 08.8**	**-0.7**
W52A	**Murphy**	**147.62**	**8**	P	**PKPbc**	**19 34 09.4**	**-0.2**
	baz=351						
X48A	**Hartselle**	**147.70**	**13**	P	**PKPbc**	**19 34 09.2**	**-0.7**
	baz=345						
KMSC	**Kings Mountain**	**147.82**	**4**	P	**PKPbc**	**19 34 10.0**	**-0.1**
	baz=356						
CASEE	**Lake Jocassee**	**147.84**	**6**	P	**PKPbc**	**19 34 10.4**	**+0.1**
	baz=353						
FPAL	**Fort Paine**	**147.90**	**10**		**PKPbc**	**19 34 09.9**	**-0.5**
PAULI	**Pauline**	**148.11**	**4**	P	**PKPbc**	**19 34 10.6**	**-0.3**
	baz=355						
HNVL	**Huntsville, TX**	**148.19**	**28**		**PKPbc**	**19 34 11.7**	**+0.4**
Y49A	**Blount Mountai**	**148.41**	**12**	P	**PKPbc**	**19 34 11.5**	**-0.3**
	baz=346						
Z47A	**Carrollton**	**148.66**	**15**	P	**PKPbc**	**19 34 12.5**	**0.0**
	baz=342						
JSC	**Jenkinsville**	**148.68**	**4**	P	**PKPbc**	**19 34 12.6**	**+0.1**
	baz=356						
HKT	**Hockley**	**148.69**	**29**		**PKPbc**	**19 34 11.4**	**-1.1**
HKT	**Hockley**	**148.69**	**29**	PKP2	**PKPbc**	**19 34 11.4**	**-1.1**
Y52A	**Lilburn**	**148.81**	**8**		**PKPbc**	**19 34 12.0**	**-0.8**
LRAL	**Lakeview Retre**	**149.07**	**13**		**PKPbc**	**19 34 11.6**	**-1.9**

*KRSC **29** 19:20:45.1±1.1,50.03N×156.70E,h96km±15km,Ml5.0*
*MOS **29** 19:20:45.4±0.9,50.26N×155.91E,h125km,mb4.2/12,*
Error ellipse: s-maj=11.0km s-min=4.5km az=69.4
MOS Felt (II) at Severo-Kuril'sk.
*NEIC **29** 19:20:46.6±1.1,50.3N±0.1×156.0E±0.2,h114km±8km,*
mb4.4/75, Error ellipse: s-maj=18.6km s-min=10.8km
az=134.0
*IDC **29** 19:20:48.0±1.6,50.38N×155.86E,h129km±13km,*
mb3.6/16,mbtmp4.1/20,MS3.1/2,Error ellipse:
s-maj=17.8km s-min=9.5km az=142.0

ISC 29 19:20:45.2±0.7,50.12N±0.07×156.15E±0.06,h114km±5km,
n197,σ1$42/214,mb4.4/63,1C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.56**	**358**	*e*P	**Pn**	**19 21 03.3**	**+0.4**
SKR				*es*	**Sn**	**19 21 16.1**	**-0.1**
SKR	**Severo-Kuril's**	**0.56**	**358**	*i* PN	**Pn**	**19 21 03.4**	**+0.5**
SKR				*es*	**Sn**	**19 21 15.9**	**-0.3**
SKR				pmax	pmax		
	comp=Z,3μm,0.3s						
SKR				smax	smax		
	comp=E,18μm,0.3s						
SKR				smax	smax		
	comp=N,40μm,0.2s						
PAU	**Pauzhetka**	**1.42**	**17**	*e*P	**Pn**	**19 21 12.9**	**+1.7**
PAU				*es*	**Sn**	**19 21 32.1**	**+1.1**
PAU	**Pauzhetka**	**1.42**	**17**	PN	**Pn**	**19 21 12.9**	**+1.7**
PAU				S	**Sn**	**19 21 32.1**	**+1.1**
KDTR	**Khodutka, Kamc**	**2.09**	**35**	*e*P	**Pn**	**19 21 18.7**	**-0.7**
KDTR				*es*	**Sn**	**19 21 43.0**	**-2.6**
KDTR	**Khodutka, Kamc**	**2.09**	**35**	PN	**Pn**	**19 21 18.7**	**-0.7**
KDTR				S	**Sn**	**19 21 43.0**	**-2.6**
ASAK	**Asacha**	**2.52**	**25**	*e*P	**Pn**	**19 21 26.0**	**+0.9**
ASAK				*es*	**Sn**	**19 21 56.4**	**+0.7**
ASAK	**Asacha**	**2.52**	**25**	PN	**Pn**	**19 21 26.0**	**+0.9**
ASAK				S	**Sn**	**19 21 56.4**	**+0.7**
GRL	**Gorelyy**	**2.72**	**26**	*e*P	**Pn**	**19 21 29.2**	**+1.5**
GRL	**Gorelyy**	**2.72**	**26**	PN	**Pn**	**19 21 29.2**	**+1.5**
KRMR	**Karymshinskiy**	**2.99**	**24**	*e*P	**Pn**	**19 21 31.7**	**+0.7**
KRMR				*es*	**Sn**	**19 22 06.2**	**-0.2**
KRMR	**Karymshinskiy**	**2.99**	**24**	PN	**Pn**	**19 21 31.7**	**+0.7**
KRMR				S	**Sn**	**19 22 06.2**	**-0.2**
PEA0B	**Petropavlovsk-**	**3.15**	**17**		**Pn**	**19 21 33.8**	**+0.6**
PEA0B				Sn	**Sn**	**19 22 07.2**	**-3.0**
PEA0B	**Petropavlovsk-**	**3.15**	**17**	*i* PN	**Pn**	**19 21 34.3**	**+1.1**
PETK	**Petropavlovsk-**	**3.15**	**17**		**Pn**	**19 21 32.7**	**-0.5**
PETK	**Petropavlovsk-**	**3.15**	**17**	P	**Pn**	**19 21 33.4**	**+0.2**
	comp=N,78nm,0.5s,baz=183,slow=11,SNR=178						
PETK				S	**

comp=Z,10.0nm,1.0s
ATKA Atka Island 18.66 72 P **P** **19 24 54.4 +0.4**
BILL Bilibino 18.66 12 P P **19 24 52.6 -1.4**
BILL IAmb IAmb 19 24 55.1
comp=Z,12nm,0.6s
BILL Bilibino 18.66 12 *i* P **P** **19 24 53.5 -0.4**
BILL pmax pmax
comp=Z,10.0nm,0.6s
MJA0 Matsu Arr-Jizo 18.74 230 *e*P **Pn** **19 24 56.5 -0.3**
MJA0 pmax pmax
comp=Z,7.0nm,0.8s
MDJ Mudanjiang 18.76 263 P **P** **19 24 54.7 -0.4**
MDJ Mudanjiang 18.76 263 P **Pn** **19 24 58.8 +1.9**
MDJ pP pP 19 25 19.5 +3.9
MDJ S **Sn** **19 28 37.0 +10**
MDJ sS sS 19 29 10.8 +14
MDJ PcS **PcS** **19 32 49.5 -4.9**
MDJ Mudanjiang 18.76 263 ScS ScS 19 36 21.0 -2.8
MDJ pmax pmax
comp=Z,19nm,0.9s
MDJ pmax pmax
comp=Z,170nm,4.0s
MJB9 Matsu-Tunnel 18.76 230 P **Pn** **19 24 56.5 -0.5**
MAJO Matsushiro 18.76 230 P **P** **19 24 55.2 -0.1**
MAJO Matsushiro 18.76 230 *i* P **P** **19 24 56.0 +0.7**
MAJO pmax pmax
comp=Z,83nm,3.6s
MJAR Matsushiro Arr 18.76 230 P **Pn** **19 24 56.8 -0.2**
comp=Z,6.6nm,0.8s,baz=27,slow=10,SNR=14
YAK Yakutsk 18.82 319 P **P** **19 24 54.1 -1.5**
YAK Yakutsk 18.82 319 *i* P **P** **19 24 53.1 -2.5**
YAK pmax pmax
comp=Z,5.0nm,0.6s
KSRS Korea Array 23.82 249 P **P** **19 25 49.0 +1.4**
comp=Z,4.2nm,0.6s,baz=43,slow=9.9,SNR=24
comp=Z,4.2nm,0.6s
KS19 Wonju Array Si 23.83 249 P **P** **19 25 48.5 +0.9**
KS19 IAmb IAmb 19 26 04.8
comp=Z,17nm,1.4s
KSAR Wonju Array Be 23.86 249 P **P** **19 25 49.2 +1.3**
KSAR Wonju Array Be 23.86 249 P **P** **19 25 49.2 +1.3**
ANM Nome 24.79 40 P **P** **19 25 56.1 0.0**
ANM IAmb IAmb 19 26 11.8
comp=Z,18nm,1.3s
ANM Nome 24.79 40 P **P** **19 25 56.1 0.0**
ANM pmax pmax
comp=Z,18nm,1.3s
TIXI Tiksi 24.90 340 P **P** **19 25 55.2 -1.7**
TIXI Tiksi 24.90 340 *i* P **P** **19 25 55.4 -1.6**
TIXI pmax pmax
comp=Z,7.0nm,0.6s
J14K Nanvaranak Lak 25.13 45 P **P** **19 26 00.1 +0.9**
J14K IAmb IAmb 19 26 17.4
comp=Z,21nm,1.4s
JNU Nakatsue 25.22 237 P **P** **19 26 00.5 +0.2**
JNU Nakatsue 25.22 237 P **P** **19 26 01.9 +1.6**
comp=Z,31nm,0.8s,baz=59,slow=6.0,SNR=12
F15K North Star Dit 25.44 38 P **P** **19 26 02.7 +0.8**
O14K Tigyukauivet M 25.84 53 P **P** **19 26 08.3 +2.7**
C16K Lisburne Hills 26.13 32 P **P** **19 26 07.8 -0.3**
C16K IAmb IAmb 19 26 12.0
comp=Z,10.0nm,1.0s
G16K Koyuk River 26.26 39 P **P** **19 26 09.9 +0.6**
G16K IAmb IAmb 19 26 30.9
comp=Z,14nm,1.5s
N15K Kwethluk River 26.47 51 P **P** **19 26 13.0 +1.7**
N15K IAmb IAmb 19 26 20.1
comp=Z,19nm,1.2s
F17K Baldwin Pennin 26.98 37 P **P** **19 26 16.8 +1.0**
F17K IAmb IAmb 19 26 17.8
comp=Z,8.8nm,0.8s
M16K Timber Creek 27.07 49 P **P** **19 26 17.0 +0.3**
M16K IAmb IAmb 19 26 43.7
comp=Z,18nm,1.5s
H17K Granite Mounta 27.15 40 P **P** **19 26 17.8 +0.4**
C18K Utukok River 27.69 32 P **P** **19 26 22.3 0.0**
XLT XiLinHaoTe 27.76 273 *e*P **P** **19 26 24.5 +1.4**
XLT pP pP 19 26 51.5 +3.9
XLT sP sP 19 27 09.5 +8.8
XLT PP **PnPn** **19 27 15.0 -0.6**
XLT pmax pmax
comp=Z,14nm,0.8s
XLT pmax pmax
comp=Z,170nm,5.6s
M17K Holitna River 27.82 48 P **P** **19 26 23.9 +0.5**
G18K Tagagawik 27.87 39 P **P** **19 26 23.6 -0.2**
C19K Lookout Ridge 28.40 32 P **P** **19 26 28.7 +0.2**
TTA Tatalina 28.58 45 P **P** **19 26 30.9 +0.7**
TTA Tatalina 28.58 45 P **P** **19 26 30.9 +0.7**
TTA pmax pmax
comp=Z,2.0nm,0.6s
H19K Roundabout Mou 28.70 40 P **P** **19 26 31.7 +0.6**
D19K Kuna River 28.72 33 P **P** **19 26 31.6 +0.2**
D19K IAmb IAmb 19 26 34.6
comp=Z,12nm,1.3s
E19K Redstone River 28.77 36 P **P** **19 26 32.0 +0.2**
B20K Meade River 29.49 31 P **P** **19 26 38.5 +0.5**
B20K IAmb IAmb 19 26 40.0
comp=Z,13nm,1.1s
IMAR Indian Mountai 29.86 39 P **P** **19 26 41.6 +0.2**
B21K Ikpikpuk River 30.23 32 P **P** **19 26 45.1 +0.5**
KDAK Kodiak Island 30.47 56 P **P** **19 26 47.8 +1.0**
KDAK Kodiak Island 30.47 56 P **P** **19 26 47.8 +1.0**
KDAK pmax pmax
comp=Z,38nm,1.5s
B22K Teshekpuk Lake 30.81 31 P **P** **19 26 50.0 +0.3**
B22K IAmb IAmb 19 26 51.0
comp=Z,11nm,1.0s
E22K Anaktuvuk Pass 30.92 35 P **P** **19 26 51.3 +0.5**
E22K IAmb IAmb 19 26 51.9
comp=Z,4.7nm,0.6s
G23K Bananza Creek 31.44 38 P **P** **19 26 55.5 +0.2**
H11N2 WAKE ISLAND Hy 31.51 160 T T 20 00 56.8
baz=349,slow=74
H11N1 WAKE ISLAND Hy 31.52 160 T T 20 00 52.6
baz=349
H11N3 WAKE ISLAND Hy 31.52 160 T T 20 00 52.3
baz=349,slow=74
C23K Itkillik River 31.64 32 P **P** **19 26 57.5 +0.5**
C23K IAmb IAmb 19 26 58.1
comp=Z,6.9nm,0.8s
TOLK Toolik Lake Re 31.82 34 P **P** **19 26 59.2 +0.5**
TOLK IAmb IAmb 19 26 60.0
comp=Z,4.4nm,0.5s
D24K Happy Valley 32.16 33 P **P** **19 27 02.3 +0.8**
D24K IAmb IAmb 19 27 02.5
comp=Z,5.4nm,0.7s
SML Sawmill 32.17 47 P **P** **19 27 02.0 +0.2**
HHC Hu-ho-hao-te 32.17 271 *e*P **P** **19 27 02.8 +0.7**
HHC pmax pmax
comp=Z,41nm,0.6s
HHC pmax pmax
comp=Z,200nm,4.5s
HHC LR LR
comp=N,450nm,17.6s
HHC LR LR
comp=E,760nm,17.2s
HHC LR LR
comp=Z,650nm,16.8s
H24K Noodor Dome 32.26 40 P **P** **19 27 02.9 +0.4**
H24K IAmb IAmb 19 27 04.5
comp=Z,7.3nm,1.1s
F24K Squaw Lake 32.33 37 P **P** **19 27 03.7 +0.6**
F24K IAmb IAmb 19 27 05.8
comp=Z,5.5nm,0.7s
F24K PP **PnPn** **19 28 13.4 -0.6**
G24K Hadweenzic Riv 32.45 38 P **P** **19 27 05.2 +1.0**
H11S1 WAKE ISLAND Hy 32.65 161 T T 20 02 17.2
baz=348,slow=76
H11S3 WAKE ISLAND Hy 32.66 161 T T 20 02 17.0
baz=348,slow=76
H11S2 WAKE ISLAND Hy 32.67 161 T T 20 02 16.5
baz=348,slow=76
IL31 32.67 42 P **P** **19 27 06.2 +0.2**
ILAR Eielson Array 32.67 42 *e*P **P** **19 27 06.5 +0.4**
ILAR pmax pmax
comp=Z,2.0nm,0.6s
ILAR Eielson Array 32.67 42 P **P** **19 27 05.9 -0.2**
comp=Z,1.7nm,0.6s,baz=259,slow=6.0,SNR=34
comp=Z,1.7nm,0.6s
NJ2 Nanjing 32.96 251 *e*P **P** **19 27 09.0 +0.1**
NJ2 pP **pP** **19 27 34.3 +0.4**
NJ2 sP **sP** **19 27 47.0 0.0**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 pmax pmax
comp=Z,150nm,3.8s
D25K Kavik River 33.04 33 P **P** **19 27 09.5 +0.2**
PRP Porcupine Dome 33.23 40 P **P** **19 27 11.5 +0.4**
PRP IAmb IAmb 19 27 13.0
comp=Z,9.1nm,0.9s
E25K Arctic Village 33.25 36 P **P** **19 27 12.2 +1.1**
BTO Baotou 33.30 271 *e*P **P** **19 27 14.0 +2.1**
BTO pmax pmax
comp=Z,15nm,0.8s
BTO pmax pmax
comp=Z,270nm,9.3s
J25K Salcha River, 33.33 42 P **P** **19 27 11.3 -0.5**
FYU Fort Yukon 33.34 38 P **P** **19 27 12.9 +1.1**
BMAR Burnt Mountain 33.60 37 P **P** **19 27 15.3 +1.1**
SCRK Sand Creek 33.97 43 P **P** **19 27 17.3 -0.2**
SCRK IAmb IAmb 19 27 18.5
comp=Z,7.4nm,1.2s
D27M Malcolm River 34.96 34 P **P** **19 27 26.9 +1.0**
L27K Beaver Creek, 35.04 44 P **P** **19 27 27.4 +0.8**
EGAK Eagle 35.12 41 P **P** **19 27 27.4 +0.2**
EGAK IAmb IAmb 19 27 28.3
comp=Z,6.1nm,0.9s
F28M Old Crow 35.41 36 P **P** **19 27 30.4 +0.7**
E28M Babbage River 35.49 35 P **P** **19 27 31.1 +0.8**
I28M Miner Creek 35.56 40 P **P** **19 27 31.6 +0.5**
I28M IAmb IAmb 19 27 33.6
comp=Z,5.8nm,1.0s
E29M Blow River 36.10 35 P **P** **19 27 36.7 +1.1**
E29M IAmb IAmb 19 27 37.6
comp=Z,4.6nm,0.6s
G29M Pine Creek 36.18 38 P **P** **19 27 37.6 +1.3**
L29M L29M 36.69 44 P **P** **19 27 41.7 +1.0**
L29M IAmb IAmb 19 27 47.0
comp=Z,6.0nm,0.9s
G30M tAoh Zraii Nji 36.88 37 P **P** **19 27 42.9 +0.7**
G30M IAmb IAmb 19 27 44.0
comp=Z,3.2nm,0.7s
I30M Mount Dempster 37.07 40 P **P** **19 27 44.3 +0.3**
INK Inuvik 37.73 35 P **P** **19 27 50.0 +0.8**
INK IAmb IAmb 19 27 50.9
comp=Z,3.0nm,0.7s
INK Inuvik 37.73 35 P **P** **19 27 50.1 +0.8**
INK pmax pmax
comp=Z,3.0nm,0.7s
LZH Lanzhou 39.86 270 *e*P **P** **19 28 07.3 -0.4**
LZH pP pP 19 28 30.3 -3.0
LZH sP sP 19 28 45.5 -0.7
LZH pmax pmax
comp=Z,7.0nm,1.2s
A36M Sachs Harbour 39.93 28 P **P** **19 28 08.7 +1.1**
GTA Gaotai 40.50 277 *e*P **P** **19 28 12.5 -0.4**
GTA pmax pmax
comp=Z,2.0nm,1.1s
C36M Paulatuk 40.89 32 P **P** **19 28 16.2 +0.7**
C36M IAmb IAmb 19 28 17.4
comp=Z,12nm,1.1s
ZALV Zalesovo Beam 42.35 304 P **P** **19 28 26.2 -1.4**
comp=Z,0.6nm,0.6s,baz=64,slow=6.7,SNR=1.6
comp=Z,0.6nm,0.6s
DGZ Jazzator, Alta 42.80 297 *i* P **P** **19 28 30.5 -1.0**
DGZ pmax pmax
comp=Z,3.0nm,1.0s
EUNU Eureka 45.41 13 P **P** **19 28 52.6 +0.8**
EUNU IAmb IAmb 19 28 52.7
comp=Z,9.6nm,0.9s
RES Resolute Bay 46.99 20 P **P** **19 29 04.8 +0.7**
RES Resolute Bay 46.99 20 P **P** **19 29 04.8 +0.7**
RES pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 47.02 39 *e*P **P** **19 29 05.8 +1.2**
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 47.02 39 P **P** **19 29 05.2 +0.7**
comp=Z,2.1nm,0.9s,baz=298,slow=8.0,SNR=14
comp=Z,2.1nm,0.9s
KURK Kurchatov 47.23 302 P **P** **19 29 05.6 -0.7**
KURK Kurchatov 47.23 302 *i* P **P** **19 29 04.5 -1.8**
KURK pmax pmax
comp=Z,6.0nm,1.8s
MK31 Makanchi Array 47.23 296 P **P** **19 29 05.9 -0.6**
MK31 Makanchi Array 47.23 296 *e*P **P** **19 29 05.7 -0.8**
MKAR Makanchi Array 47.23 296 P **P** **19 29 05.9 -0.6**
MKAR Makanchi Array 47.23 296 *e*P **P** **19 29 05.7 -0.8**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 47.23 296 P **P** **19 29 05.4 -1.1**
comp=Z,0.9nm,0.5s,baz=49,slow=5.9,SNR=12
comp=Z,0.9nm,0.5s
KURBB Kurchatov Arra 47.32 302 P **P** **19 29 05.9 -1.1**
comp=Z,1.3nm,0.6s,baz=65,slow=8.1,SNR=5.1
comp=Z,1.3nm,0.6s
PZH PanZhiHua 47.51 261 P **P** **19 29 08.8 -0.2**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,6.2s
SPITS Spitsbergen Ar 49.65 350 P **P** **19 29 22.9 -1.6**
comp=Z,4.0nm,0.7s,baz=36,slow=12,SNR=1.4
comp=Z,4.0nm,0.7s
BVAR Borovoye Array 50.31 308 P **P** **19 29 28.7 -1.1**
comp=Z,0.8nm,0.6s,baz=48,slow=8.7,SNR=3.7
comp=Z,0.8nm,0.6s
MXC Moxie City 52.86 59 P **P** **19 29 49.7 +0.8**
MXC IAmb IAmb 19 29 51.2
comp=Z,9.9nm,1.5s
CRAI Chiangrai 52.91 257 P **P** **19 29 49.9 +0.3**
UBPT Khong Chiam 53.55 248 P **P** **19 29 55.8 +1.5**
CHTO Chiang Mai 54.86 257 P **P** **19 30 05.4 +1.6**
CHTO Chiang Mai 54.86 257 P **P** **19 30 05.4 +1.6**
CHTO pmax pmax
comp=Z,12nm,1.1s
CM31 Chiang Mai Arr 55.12 257 P **P** **19 30 07.5 +1.9**
CM31 IAmb IAmb 19 30 08.5
comp=Z,8.9nm,1.2s
CMAR Chiang Mai Arr 55.12 257 P **P** **19 30 07.7 +2.0**
CMAR Chiang Mai Arr 55.12 257 P **P** **19 30 07.7 +2.0**
CMAR Chiang Mai Arr 55.12 257 P **P** **19 30 06.7 +1.0**
comp=Z,3.4nm,0.7s,baz=29,slow=7.0,SNR=28
comp=Z,3.4nm,0.7s
ARCES ARCESS Array B 55.33 341 *e*P **P** **19 30 04.4 -2.1**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 55.33 341 P **P** **19 30 04.1 -2.4**
comp=Z,1.9nm,0.7s,baz=38,slow=7.6,SNR=6.1
comp=Z,1.9nm,0.7s
PLID Pearl Lake 56.14 58 P **P** **19 30 13.9 +1.0**
PLID IAmb IAmb 19 30 15.5
comp=Z,3.0nm,0.8s
KKAR Karatay Array 56.16 298 P **P** **19 30 11.9 -0.9**
KKAR Karatay Array 56.16 298 P **P** **19 30 11.9 -0.9**
SUMG Summit 57.18 5 *i* P **P** **19 30 20.0 0.0**
NVAR Mina Array Bea 59.14 66 P **P** **19 30 35.6 +1.6**
comp=Z,0.4nm,0.6s,baz=293,slow=4.8,SNR=3.7
comp=Z,0.4nm,0.6s
SIMJ Simiganj 59.92 295 P **P** **19 30 38.5 -0.8**
SIMJ IAmb IAmb 19 30 40.5
comp=Z,4.3nm,0.8s
PDAR Pinedale Array 61.17 57 P **P** **19 30 49.5 +1.7**
PDAR Pinedale Array 61.17 57 P **P** **19 30 49.6 +1.8**
comp=Z,1.3nm,0.8s,baz=344,slow=2.2,SNR=9.8
comp=Z,1.3nm,0.8s
RSSD Black Hills 63.14 53 P **P** **19 31 02.0 +1.1**
RSSD IAmb IAmb 19 31 03.1
comp=Z,3.4nm,0.8s
RSSD Black Hills 63.14 53 P **P** **19 31 02.0 +1.1**
RSSD pmax pmax
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 72.37 202 P **P** **19 31 59.6 +0.9**
comp=Z,0.5nm,0.6s,baz=18,slow=6.1,SNR=5.1
comp=Z,0.5nm,0.6s
TXAR Lajitas Array 74.12 63 P **P** **19 32 10.7 +1.6**
comp=Z,0.8nm,0.7s,baz=291,slow=4.2,SNR=11
comp=Z,0.8nm,0.7s
ASAR Alice Springs 76.06 201 P **P** **19 32 22.0 +2.0**
ASAR Alice Springs 76.06 201 P **P** **19 32 21.9 +2.0**
comp=Z,0.4nm,0.6s,baz=16,slow=5.6,SNR=7.0
comp=Z,0.4nm,0.6s
MMAI Mount Meron Ar 82.04 313 P **P** **19 32 52.3 -0.5**
comp=Z,1.0nm,0.5s,baz=42,slow=7.9,SNR=7.1
comp=Z,1.0nm,0.5s
ESDC Sonseca Array 88.89 345 LR LR 20 15 28.4
comp=Z,9.9nm,21.7s,baz=62,slow=37

MOS ***29*** *19:39:24.7±0.9, 17.90N×145.39E, h281km, mb4.6/38, Error ellipse: s-maj=11.6km s-min=6.3km az=104.5*
IDC ***29*** *19:39:25.9±1.0, 17.86N×145.50E, h285km±10km, mb4.0/32, mbtmp4.6/35, Error ellipse: s-maj=13.7km s-min=7.3km az=85.0*
NEIC ***29*** *19:39:26.3±1.6, 17.86N±0.08×145.40E±0.07, h277km±7km, mb4.6/296, Error ellipse: s-maj=11.5km s-min=8.9km az=188.0*
ISC 29 19:39:26.0±0.6, 17.84N±0.05×145.41E±0.07, h283km±5km, n654, σ1§13/602, mb4.6/206, 17C-4D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.26**	**187**	Pn	**Pn**	**19 40 34.1**	**-0.3**
GUMO				Sn	**S**	**19 41 25.6**	**-3.4**
GUMO	**Guam**	**4.26**	**187**	P	**Pn**	**19 40 34.7**	**+0.3**
GUMO	**Guam**	**4.26**	**187**	P	**Pn**	**19 40 34.1**	**-0.3**
GUMO						19 41 25.6	
GUMO	**Guam**	**4.26**	**187**	P	**Pn**	**19 40 34.1**	**-0.3**
	60nm,0.3s,baz=30,slow=8.1,SNR=16						
GUMO				S	**S**	**19 41 28.6**	**-0.4**
	273nm,0.4s,baz=352,slow=22,SNR=8.3						
JMZ	**Minamidaito 2**	**15.37**	**304**		**P**	**19 42 45.9**	**-2.3**
JOW	**Kunigami**	**18.19**	**302**	P	**Pn**	**19 43 21.4**	**-0.9**
JOW	**Kunigami**	**18.19**	**302**	P	**Pn**	**19 43 20.9**	**-1.4**
	99nm,0.5s,baz=133,slow=8.7,SNR=33						
JMN	**Monobe**	**18.90**	**329**		**P**	**19 43 26.4**	**+0.1**
JMN				IAmb	IAmb	19 43 42.9	
	comp=Z,52nm,1.4s						
MJAR	**Matsushiro Arr**	**19.69**	**343**	P	**P**	**19 43 32.6**	**-2.0**
	comp=Z,3.1nm,0.4s,baz=167,slow=10,SNR=39						
MAJO	**Matsushiro**	**19.69**	**343**	P	**P**	**19 43 32.8**	**-1.9**
MAJO				IAmb	IAmb	19 43 34.4	
	comp=Z,9.4nm,0.5s						
MAJO	**Matsushiro**	**19.69**	**343**	P	**P**	**19 43 32.8**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MJB9	**Matsu-Tunnel**	**19.69**	**343**	P	**P**	**19 43 33.9**	**-0.8**
JNU	**Nakatsue**	**20.06**	**322**	P	**P**	**19 43 38.8**	**+0.2**
JNU				IAmb	IAmb	19 43 47.6	
	comp=Z,31nm,1.3s						
JNU	**Nakatsue**	**20.06**	**322**	P	**P**	**19 43 40.5**	**+1.9**
JNU	**Nakatsue**	**20.06**	**322**	P	**P**	**19 43 38.6**	**0.0**
	comp=Z,7.6nm,0.7s,baz=102,slow=7.8,SNR=9.9						
	comp=Z,7.6nm,0.7s						
WAKE	**Wake Island**	**20.19**	**83**	P	**P**	**19 43 40.5**	**+0.4**
JMM	**Marumori**	**20.36**	**349**	P	**P**	**19 43 40.7**	**-1.0**
JMM				IAmb	IAmb	19 44 13.6	
	comp=Z,36nm,1.1s						
JMM	**Marumori**	**20.36**	**349**	P	**P**	**19 43 42.0**	**+0.4**
YOJ	**Yonaguni jima**	**21.89**	**291**	P	**P**	**19 43 56.4**	**-0.1**
YOJ	**Yonaguni jima**	**21.89**	**291**	P	**P**	**19 43 56.4**	**-0.1**
YOJ				pmax	pmax		
	comp=Z,102nm,0.9s						
JTU	**Tsushima**	**21.92**	**322**	P	**P**	**19 43 55.5**	**-1.1**
NACB	**Ninganchiao**	**23.09**	**290**	P	**P**	**19 44 06.8**	**-0.7**
NACB				IAmb	IAmb	19 44 11.3	
	comp=Z,35nm,1.2s						
NACB	**Ninganchiao**	**23.09**	**290**	P	**P**	**19 44 08.9**	**+1.5**
JTM	**Tenmabayashi**	**23.17**	**352**	P	**P**	**19 44 07.4**	**-0.6**
YULB	**Yu-li**	**23.22**	**288**	P	**P**	**19 44 08.9**	**+0.2**
YULB	**Yu-li**	**23.22**	**288**	P	**P**	**19 44 09.9**	**+1.2**
TWGT	**Beinan**	**23.34**	**286**	P	**P**	**19 44 10.8**	**+1.1**
TWG	**Pinlang**	**23.34**	**286**	P	**P**	**19 44 09.6**	**-0.2**
TATO	**Taipei**	**23.36**	**292**	P	**P**	**19 44 09.9**	**0.0**
TATO	**Taipei**	**23.36**	**292**	P	**P**	**19 44 11.5**	**+1.7**
SSLB	**Suanglung**	**23.60**	**289**	P	**P**	**19 44 12.2**	**+0.1**
SSLB	**Suanglung**	**23.60**	**289**	P	**P**	**19 44 13.3**	**+1.2**
TPUB	**Ta-pu**	**23.82**	**287**	P	**P**	**19 44 14.6**	**+0.6**
TPUB	**Ta-pu**	**23.82**	**287**	P	**P**	**19 44 15.1**	**+1.1**
ERM	**Erimo**	**24.17**	**356**	P	**P**	**19 44 18.1**	**+1.1**
ERM	**Erimo**	**24.17**	**356**	P	**P**	**19 44 18.1**	**+1.1**
ERM				pmax	pmax		
	comp=Z,114nm,1.5s						
JEM	**Erimo**	**24.18**	**356**	P	**P**	**19 44 19.0**	**+2.0**
FAKI	**Fak Fak**	**24.37**	**213**	P	**P**	**19 44 19.0**	**0.0**
FAKI				IAmb	IAmb	19 44 39.8	
	comp=Z,35nm,1.2s						
KSRS	**Korea Array**	**24.86**	**325**	P	**P**	**19 44 23.1**	**0.0**
	comp=Z,4.4nm,0.5s,baz=143,slow=9.5,SNR=26						
	comp=Z,4.4nm,0.5s						
KSAR	**Wonju Array Be**	**24.87**	**325**	P	**P**	**19 44 23.0**	**-0.3**
KSAR	**Wonju Array Be**	**24.87**	**325**	P	**P**	**19 44 23.0**	**-0.3**
KS19	**Wonju Array Si**	**24.92**	**325**	P	**P**	**19 44 24.1**	**+0.3**
KS19				IAmb	IAmb	19 44 25.5	
	comp=Z,20nm,1.1s						
KNMB	**Chin-men Tao**	**26.02**	**289**	P	**P**	**19 44 34.2**	**+0.3**
ASAJ	**Asahikawa**	**26.30**	**355**	P	**P**	**19 44 36.3**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,20nm,1.1s						
ASAJ	**Asahikawa**	**26.30**	**355**	P	**P**	**19 44 36.7**	**+0.7**
	comp=Z,8.0nm,0.6s,baz=218,slow=11,SNR=16						
	comp=Z,8.0nm,0.6s						
JKA	**Kamikawa-asahi**	**26.30**	**355**	P	**P**	**19 44 36.3**	**+0.2**
JKA				IAmb	IAmb	19 45 03.0	
	comp=Z,20nm,1.1s						
NJ2	**Nanjing**	**27.84**	**306**	*e*P	**P**	**19 44 50.3**	**+0.5**
NJ2				pP	**pwP**	**19 45 45.8**	**-2.9**
NJ2				sP	**sP**	**19 46 17.8**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,210nm,4.0s						
USA0B	**Ussuriysk Arra**	**28.61**	**340**	P	**P**	**19 44 56.4**	**-0.1**
USA0B	**Ussuriysk Arra**	**28.61**	**340**	P	**P**	**19 44 56.4**	**-0.1**
USA0B				pmax	pmax		
	comp=Z,6.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**28.61**	**340**	P	**P**	**19 44 56.8**	**+0.3**
USRK	**Ussuriysk Ar.**	**28.61**	**340**	P	**P**	**19 44 56.8**	**+0.3**
USRK	**Ussuriysk Ar.**	**28.61**	**340**	P	**P**	**19 44 56.5**	**0.0**
	comp=Z,2.1nm,0.6s,baz=152,slow=11,SNR=6.3						
	comp=Z,2.1nm,0.6s						
YSS	**Yuzh-Sakhalins**	**29.12**	**356**	*e*P	**P**	**19 44 58.9**	**-2.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
KLR	**Kul'dur**	**33.21**	**344**	*ce*P	**P**	**19 45 36.5**	**-0.1**
KLR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KLR	**Kul'dur**	**33.21**	**344**	P	**P**	**19 45 36.5**	**-0.1**
	comp=Z,9.3nm,0.6s,baz=154,slow=5.6,SNR=25						
KLR				PcP	**PcP**	**19 48 11.9**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=124,slow=0.3,SNR=6.4						
	comp=Z,9.3nm,0.6s						
MTN	**Manton Dam**	**33.59**	**206**	P	**P**	**19 45 40.3**	**0.0**
MTN	**Manton Dam**	**33.59**	**206**	P	**P**	**19 45 40.6**	**+0.4**
LYN	**LuoYang**	**33.73**	**306**	⇑P	**P**	**19 45 42.5**	**+1.2**
LYN				sS	sS	19 52 29.0	+7.0
LYN				pmax	pmax		
	comp=Z,31nm,1.0s						
ENH	**Enshi**	**34.91**	**298**	P	**P**	**19 45 52.9**	**+1.3**
ENH	**Enshi**	**34.91**	**298**	P	**P**	**19 45 53.3**	**+1.7**
HEH	**HeiHe**	**35.41**	**340**	*e*P	**P**	**19 45 55.5**	**+0.1**
HEH				PcP	**PcP**	**19 48 18.0**	**-0.4**
HEH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
XLT	**XiLinHaoTe**	**35.84**	**323**	*e*P	**P**	**19 45 54.8**	**-4.5**
XLT				pP	pP	19 46 53.8	-0.6
XLT				sP	sP	19 47 23.5	-3.0
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,310nm,6.2s						
XAN	**Xi'an**	**36.34**	**304**	⇑P	**P**	**19 46 04.5**	**+0.9**
XAN				pmax	pmax		
	comp=Z,16nm,0.6s						
PEA0B	**Petropavlovsk-**	**36.48**	**12**	P	**P**	**19 46 04.2**	**-0.2**
PEA0B	**Petropavlovsk-**	**36.48**	**12**	P	**P**	**19 46 04.3**	**-0.2**
PEA0B				pmax	pmax		
	comp=Z,64nm,1.5s						
PETK	**Petropavlovsk-**	**36.48**	**12**	P	**P**	**19 46 03.7**	**-0.8**
PETK	**Petropavlovsk-**	**36.48**	**12**	P	**P**	**19 46 03.7**	**-0.8**
PETK	**Petropavlovsk-**	**36.48**	**12**	P	**P**	**19 46 04.6**	**+0.2**
	comp=Z,4.2nm,0.8s,baz=152,slow=6.6,SNR=8.0						
	comp=Z,4.2nm,0.8s						
GYA	**Guiyang**	**36.79**	**290**	⇓P	**P**	**19 46 09.5**	**+2.0**
GYA				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC	**Hu-ho-hao-te**	**37.01**	**315**	*e*P	**P**	**19 46 09.5**	**+0.3**
HHC				pmax	pmax		
	comp=Z,41nm,0.6s						
HHC				pmax	pmax		
	comp=Z,380nm,6.2s						
KNRA	**Kununurra**	**37.13**	**207**	P	**P**	**19 46 09.2**	**-1.0**
BTO	**Baotou**	**37.95**	**314**	*e*P	**P**	**19 46 18.8**	**+1.8**

BTO pP **pwP** 19 47 17.0 -0.8
BTO sP **PP** 19 47 49.3 -1.1
BTO PP **PnPn** 19 47 55.0 -0.5
BTO pmax pmax
comp=Z,12nm,0.8s
BTO pmax pmax
comp=Z,470nm,6.7s
UBPT Khong Chiam 38.32 272 P **P** 19 46 21.6 +1.3
UBPT lAmb lAmb 19 46 35.6
comp=Z,36nm,1.5s
QIS Mount Isa 38.58 189 P **P** 19 46 23.6 +1.3
WRAB Tennant Creek 39.08 197 P **P** 19 46 26.8 +0.4
WRAB Tennant Creek 39.08 197 P **P** 19 46 26.8 +0.4
WRAB pmax pmax
comp=Z,6.0nm,0.6s
WRA Warramunga Arr 39.09 197 P **P** 19 46 26.8 +0.2
comp=Z,3.1nm,0.5s,baz=13,slow=8.5,SNR=28
WRA PcP **PcP** 19 48 30.4 +0.2
comp=Z,2.5nm,0.7s,baz=13,slow=3.4,SNR=14
WRA ScP **ScP** 19 51 48.9 -2.4
comp=Z,0.3nm,0.8s,baz=23,slow=4.8,SNR=4.5
comp=Z,3.1nm,0.5s
SLVN Son La 39.18 282 P **P** 19 46 28.9 +1.5
KMI Kunming 40.24 288 ⇑P **P** 19 46 39.0 +2.8
KMI pmax pmax
comp=Z,10.0nm,0.9s
FITZ Fitzroy Crossi 40.66 210 P **P** 19 46 39.7 +0.3
FITZ PcP **PcP** 19 48 35.8 +0.5
FITZ Fitzroy Crossi 40.66 210 P **P** 19 46 40.6 +1.2
LZH Lanzhou 40.91 305 ⇓*iP* **P** 19 46 43.5 +2.0
LZH pP pP 19 47 38.0 +0.3
LZH pmax pmax
comp=Z,41nm,1.2s
PZH PanZhiHua 41.19 290 P **P** 19 46 45.3 +1.4
PZH pmax pmax
comp=Z,30nm,0.8s
PZH pmax pmax
comp=Z,150nm,6.3s
MA2 Magadan 41.86 4 P **P** 19 46 49.5 +0.9
MA2 Magadan 41.86 4 P **P** 19 46 49.5 +0.9
MA2 pmax pmax
comp=Z,18nm,0.8s
CRAI Chiangrai 42.55 281 P **P** 19 46 55.7 +0.9
AS31 Alice Springs 42.75 196 P **P** 19 46 56.3 +0.1
ASAR Alice Springs 42.76 196 P **P** 19 46 56.7 +0.4
comp=Z,1.2nm,0.5s,baz=20,slow=8.5,SNR=26
ASAR PcP **PP** 19 48 42.0 -0.2
comp=Z,1.6nm,0.6s,baz=26,slow=4.0,SNR=9.8
ASAR ScP **ScP** 19 52 03.3 -2.4
comp=Z,0.3nm,0.7s,baz=24,slow=4.7,SNR=2.1
comp=Z,1.2nm,0.5s
ULN Ulaanbaatar 43.28 322 P **P** 19 46 59.9 -0.5
ULN Ulaanbaatar 43.28 322*ce*P **P** 19 47 00.8 +0.5
ULN pmax pmax
comp=Z,16nm,1.3s
SONM Songino Array 43.65 322 P **P** 19 47 03.8 +0.5
SONM Songino Array 43.65 322 P **P** 19 47 03.8 +0.5
SONM pmax pmax
comp=Z,9.0nm,0.7s
SONM Songino Array 43.65 322 P **P** 19 47 04.1 +0.9
comp=Z,9.0nm,0.7s,baz=138,slow=8.5,SNR=29
comp=Z,9.0nm,0.7s
CHTO Chiang Mai 44.03 279 P **P** 19 47 06.6 +0.1
CHTO Chiang Mai 44.03 279 P **P** 19 47 08.2 +1.7
CHTO Chiang Mai 44.03 279 P **P** 19 47 06.6 +0.1
CHTO pmax pmax
comp=Z,7.0nm,1.0s
CM31 Chiang Mai Arr 44.07 278 P **P** 19 47 08.6 +1.8
CMAR Chiang Mai Arr 44.07 278 P **P** 19 47 08.0 +1.2
CMAR PcP **PcP** 19 48 47.4 +0.6
CMAR Chiang Mai Arr 44.07 278*ce*P **P** 19 47 08.8 +1.9
CMAR pmax pmax
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 44.07 278 P **P** 19 47 08.8 +1.9
comp=Z,11nm,0.9s,baz=71,slow=6.6,SNR=86
CMAR PcP **PcP** 19 48 47.4 +0.6
comp=Z,1.4nm,0.8s,baz=85,slow=1.9,SNR=6.2
comp=Z,11nm,0.9s
SRDT SRDT 44.53 273 P **P** 19 47 12.3 +1.8
DZM Mont Dzumac 44.69 152 P **P** 19 47 12.2 +0.6
DZM Mont Dzumac 44.69 152 P **P** 19 47 11.8 +0.1
GTA Gaotai 44.86 308 P **P** 19 47 14.3 +1.4
GTA pP PcP 19 48 50.0 +0.6
GTA sP PP 19 49 05.5 +2.0
GTA pmax pmax
comp=Z,5.0nm,1.7s
ADK Adak 45.19 32 P **P** 19 47 17.2 +2.1
ADK Adak 45.19 32 P **P** 19 47 17.2 +2.1
ADK pmax pmax
comp=Z,135nm,1.4s
YAK Yakutsk 45.51 350 P **P** 19 47 16.9 -0.5
YAK Yakutsk 45.51 350*ce*P **P** 19 47 17.3 -0.1
YAK pmax pmax
comp=Z,62nm,0.8s
WRKA Warakurna 45.76 202 P **P** 19 47 20.7 +0.7
MBWA Marble Bar 46.21 214 P **P** 19 47 23.6 +0.2
MBWA lAmb lAmb 19 47 31.4
comp=Z,42nm,1.5s
OOD Oodnadatta 46.33 192 P **P** 19 47 25.0 +0.7
MND Mandalay 46.38 284 P **P** 19 47 26.3 +1.5
LCRK Leigh Creek 48.50 188 P **P** 19 47 41.4 +0.5
comp=Z,6.8nm,0.9s
MULG Mulgathing 49.08 193 P **P** 19 47 45.8 +0.6
STKA Stephens Creek 49.57 184 P **P** 19 47 48.8 -0.1
STKA Stephens Creek 49.57 184 P **P** 19 47 49.1 +0.2
STKA Stephens Creek 49.57 184 P **P** 19 47 48.8 -0.1
STKA pmax pmax
comp=Z,1.0nm,1.2s
STKA Stephens Creek 49.57 184 P **P** 19 47 48.4 -0.5
comp=Z,1.1nm,0.3s,baz=0.8,slow=9.5,SNR=9.0
comp=Z,1.1nm,0.3s
GSI Gunungsitoli 49.75 256 P **P** 19 47 51.1 +0.4
GSI lAmb lAmb 19 47 53.1
comp=Z,17nm,0.7s
GSI PcP **PcP** 19 49 04.1 -3.1
GSI Gunungsitoli 49.75 256 P **P** 19 47 51.8 +1.1
LSA Lhasa 50.64 294 P **P** 19 48 00.1 +2.4
LSA Lhasa 50.64 294 P **P** 19 48 00.1 +2.4
LSA pmax pmax
comp=Z,35nm,0.6s
FORT Forrest 51.14 199 P **P** 19 48 00.9 +0.4
FORT lAmb lAmb 19 48 03.4
comp=Z,18nm,0.9s
FORT Forrest 51.14 199 P **P** 19 48 01.2 +0.6
comp=Z,23nm,1.0s
UNV Unalaska Valle 51.51 34 P **P** 19 48 04.5 +1.4
UNV Unalaska Valle 51.51 34 P **P** 19 48 05.0 +1.9
baz=245
BILL Bilibino 51.91 10 P **P** 19 48 06.1 +0.3
BILL lAmb lAmb 19 48 07.4
comp=Z,23nm,1.1s
BILL Bilibino 51.91 10⇑*eP* **P** 19 48 05.5 -0.3
TAPN Taplejung 53.71 291 *eP* **P** 19 48 21.3 +1.3
comp=Z,26nm,0.5s
ODAN Odare 54.02 291 *eP* **P** 19 48 23.1 +0.9
ODAN Odare 54.02 291 *eP* **P** 19 48 23.4 +1.2
MORW Morawa 54.59 212 P **P** 19 48 25.7 0.0
MORW lAmb lAmb 19 48 40.0
comp=Z,40nm,1.5s
MORW Morawa 54.59 212 P **P** 19 48 25.7 0.0
M11K Mekoryuk 54.66 27 P **P** 19 48 27.1 +1.4
baz=241
WMQ Urumqi 54.67 311 *eP* **P** 19 48 28.5 +2.2
WMQ pmax pmax
comp=Z,26nm,0.9s
TIXI Tiksi 54.69 354 P **P** 19 48 24.5 -1.3
TIXI Tiksi 54.69 354*ce*P **P** 19 48 24.6 -1.3
TIXI pmax pmax
comp=Z,3.0nm,0.8s
RAMN Ramite 54.72 291 *eP* **P** 19 48 28.4 +1.2
comp=Z,20nm,0.4s
JIRN Jiri 55.05 292 *eP* **P** 19 48 31.0 +1.4
comp=Z,105nm,0.5s
TOO Toolangi 55.11 180 P **P** 19 48 30.4 +1.1
TOO lAmb lAmb 19 48 56.8
comp=Z,24nm,1.3s
TOO Toolangi 55.11 180 P **P** 19 48 30.4 +1.1
TOO pmax pmax
comp=Z,24nm,1.3s
GUN Gumba 55.31 292 *eP* **P** 19 48 32.9 +1.4
comp=Z,43nm,0.4s
SDPT Sand Point 55.33 34 P **P** 19 48 31.1 +0.5
SDPT Sand Point 55.33 34 P **P** 19 48 31.5 +0.8
SDPT Sand Point 55.33 34 P **P** 19 48 31.4 +0.8
baz=250

BLDU Ballidu 55.53 210 P **P** 19 48 32.6 +0.2
PKI Pulchoki 55.74 292 *eP* **P** 19 48 35.2 +0.7
comp=Z,54nm,0.5s
KKN Kakani 55.84 292 *eP* **P** 19 48 36.1 +1.0
KKN Kakani 55.84 292 *eP* **P** 19 48 36.9 +1.8
comp=Z,36nm,0.7s
KKN Kakani 55.84 292 *eP* **P** 19 48 37.3 +2.2
comp=Z,24nm,0.5s
M13K Dall Lake 55.92 28 P **P** 19 48 36.8 +2.0
M13K Dall Lake 55.92 28 P **P** 19 48 36.5 +1.7
baz=244
DMN Daman 56.01 292 *eP* **P** 19 48 37.5 +1.2
comp=Z,65nm,0.4s
S14K Fog Glacier 56.14 33 P **P** 19 48 37.6 +1.0
baz=250
O14K Tigyukauivet M 56.39 30 P **P** 19 48 39.1 +1.0
O14K lAmb lAmb 19 48 56.8
comp=Z,52nm,1.4s
O14K Tigyukauivet M 56.39 30 P **P** 19 48 38.8 +0.7
baz=246
GKN Gorkha 56.40 292 *eP* **P** 19 48 39.8 +0.9
comp=Z,40nm,0.4s
N14K Kuskokwak Cree 56.47 29 P **P** 19 48 39.5 +1.0
baz=246
L14K Kuka Creek 56.63 27 P **P** 19 48 40.9 +1.2
L14K lAmb lAmb 19 48 42.2
comp=Z,31nm,1.2s
L14K Kuka Creek 56.63 27 P **P** 19 48 40.7 +1.0
baz=244
M14K Bethel 56.69 28 P **P** 19 48 41.6 +1.4
M14K lAmb lAmb 19 48 42.6
comp=Z,32nm,0.9s
M14K Bethel 56.69 28 P **P** 19 48 41.7 +1.6
baz=245,SNR=6.2
TNA Tin City 56.71 21 P **P** 19 48 41.3 +1.1
baz=236
CHGN Chignik 56.74 34 P **P** 19 48 40.3 -0.3
CHGN Chignik 56.74 34 P **P** 19 48 41.9 +1.3
baz=251
J14K Nanvaranak Lak 56.90 25 P **P** 19 48 43.0 +1.4
J14K lAmb lAmb 19 48 44.0
comp=Z,18nm,0.9s
J14K Nanvaranak Lak 56.90 25 P **P** 19 48 42.7 +1.1
baz=242
O15K Ungalikthiuk R 57.04 30 P **P** 19 48 43.6 +0.9
baz=248
ANM Nome 57.09 23 P **P** 19 48 43.9 +1.0
ANM lAmb lAmb 19 48 45.0
comp=Z,16nm,0.7s
ANM PcP **PcP** 19 49 30.1 -4.1
ANM Nome 57.09 23 P **P** 19 48 44.3 +1.4
baz=239,SNR=5.1
DANN Dangsing 57.15 293 *eP* **P** 19 48 45.4 +1.1
comp=Z,135nm,0.7s
F14K Arctic Creek 57.22 22 P **P** 19 48 45.5 +1.7
baz=238,SNR=6.4
M15K Kasigluk River 57.23 28 P **P** 19 48 44.8 +0.8
baz=246
L15K Ungalak Mounta 57.29 27 P **P** 19 48 45.6 +1.3
baz=245
N15K Kwethluk River 57.30 29 P **P** 19 48 45.7 +1.3
N15K Kwethluk River 57.30 29 P **P** 19 48 45.9 +1.4
baz=247
KOLN Koldanda 57.33 292 *eP* **P** 19 48 46.4 +0.9
KOLN Koldanda 57.33 292 *eP* **P** 19 48 46.6 +1.1
comp=Z,53nm,0.7s
K15K Wolf Creek Mou 57.54 26 P **P** 19 48 47.3 +1.2
K15K lAmb lAmb 19 48 48.5
comp=Z,34nm,1.2s
K15K PcP **PcP** 19 49 32.3 -3.7
K15K Wolf Creek Mou 57.54 26 P **P** 19 48 47.3 +1.2
baz=244
G15K Niukluk 57.80 23 P **P** 19 48 49.0 +1.1
baz=240
PYUN Piuthan 57.84 292 *eP* **P** 19 48 49.9 +0.8
comp=Z,14nm,0.4s
P16K Nushagak River 57.87 31 P **P** 19 48 50.1 +1.7
baz=250
F15K North Star Dit 57.94 22 P **P** 19 48 49.5 +0.7
baz=239
O16K Kokwok River B 58.02 30 P **P** 19 48 50.4 +0.9
O16K lAmb lAmb 19 48 51.5
comp=Z,20nm,0.8s
O16K PcP **PcP** 19 49 34.8 -3.2
O16K Kokwok River B 58.02 30 P **P** 19 48 50.3 +0.9
baz=249
N16K Nishlik Lake 58.02 29 P **P** 19 48 50.8 +1.3
baz=248
CHIR Chirikof Islan 58.09 35 P **P** 19 48 51.5 +1.5
baz=254
M16K Timber Creek 58.14 28 P **P** 19 48 51.1 +0.8
baz=248
L16K Owhat River 58.18 27 P **P** 19 48 51.5 +1.0
baz=247
R17K Ugashik Creek 58.22 33 P **P** 19 48 51.7 +0.8
baz=252
H16K Elim 58.30 24 P **P** 19 48 52.1 +0.8
baz=242
J16K Anvik River 58.35 25 lAmb lAmb 19 48 54.1
comp=Z,14nm,0.8s
J16K Anvik River 58.35 25 P **P** 19 48 53.3 +1.7
baz=245,SNR=8.6
Q16K King Salmon 58.41 31 P **P** 19 48 52.7 +0.6
baz=251
ZAA0 Zalesovo Array 58.53 323 P **P** 19 48 52.5 -0.6
ZALV Zalesovo Beam 58.53 323 P **P** 19 48 52.3 -0.7
ZALV PcP **PcP** 19 49 38.7 -1.4
ZALV Zalesovo Beam 58.53 323 *i*P **P** 19 48 53.0 -0.1
ZALV pmax pmax
comp=Z,8.0nm,0.7s
ZALV Zalesovo Beam 58.53 323 P **P** 19 48 53.1 +0.1
comp=Z,7.8nm,0.7s,baz=101,slow=8.0,SNR=19
ZALV PcP **PcP** 19 49 39.2 -1.0
comp=Z,2.7nm,0.6s,baz=115,slow=3.2,SNR=4.9
comp=Z,7.8nm,0.7s
O17K Koliganek Bris 58.56 30 P **P** 19 48 54.5 +1.4
baz=250,SNR=11
I17K Unalakleet 58.57 25 P **P** 19 48 54.5 +1.4
I17K lAmb lAmb 19 48 55.7
comp=Z,19nm,0.8s
I17K Unalakleet 58.57 25 P **P** 19 48 54.7 +1.6
baz=244,SNR=7.1
G16K Koyuk River 58.62 23 P **P** 19 48 53.9 +0.5
G16K PcP **PcP** 19 49 39.4 -0.9
G16K Koyuk River 58.62 23 P **P** 19 48 54.1 +0.7
baz=242
Q17K Contact Creek 58.66 32 P **P** 19 48 54.6 +0.6
baz=252
N17K Nushagak Hills 58.77 29 P **P** 19 48 55.9 +1.3
N17K lAmb lAmb 19 48 57.2
comp=Z,16nm,0.8s
N17K PcP **PcP** 19 49 37.6 -3.4
N17K Nushagak Hills 58.77 29 P **P** 19 48 55.9 +1.3
baz=250
L17K Donlin 58.86 27 P **P** 19 48 56.5 +1.4
baz=248
MK31 Makanchi Array 58.86 314 P **P** 19 48 55.8 +0.3
MK31 Makanchi Array 58.86 314*ce*P **P** 19 48 56.0 +0.5
MKAR Makanchi Array 58.86 314 P **P** 19 48 56.0 +0.5
MKAR PcP **PcP** 19 49 41.3 -0.4
MKAR Makanchi Array 58.86 314 P **P** 19 48 56.0 +0.5
MKAR 19 49 41.3
MKAR Makanchi Array 58.86 314 P **P** 19 48 55.5 0.0
comp=Z,4.2nm,0.5s,baz=91,slow=7.2,SNR=35
MKAR PcP **PcP** 19 49 41.3 -0.4
comp=Z,2.0nm,0.6s,baz=87,slow=5.0,SNR=6.7
comp=Z,4.2nm,0.5s
M17K Holitna River 58.97 28 lAmb lAmb 19 48 58.6
comp=Z,17nm,0.9s
M17K Holitna River 58.97 28 P **P** 19 48 57.8 +1.9
baz=249
C16K Lisburne Hills 59.06 19 P **P** 19 48 57.0 +0.6
C16K lAmb lAmb 19 48 58.1
comp=Z,21nm,0.8s
C16K PcP **PcP** 19 49 40.6 -1.4
C16K Lisburne Hills 59.06 19 P **P** 19 48 57.2 +0.8
baz=237,SNR=8.1
SII Sitkinak Islan 59.07 34 P **P** 19 48 58.7 +2.0
SII Sitkinak Islan 59.07 34 P **P** 19 48 58.1 +1.3
baz=255,SNR=5.1
K17K Iditarod 59.08 27 P **P** 19 48 58.3 +1.6
baz=247
MAKZ Makanchi 59.08 314 P **P** 19 48 57.1 +0.1
MAKZ Makanchi 59.08 314 P **P** 19 48 57.1 +0.1
MAKZ pmax pmax
comp=Z,12nm,1.2s

R18K Karluk 59.20 33 P **P** 19 48 58.6 +1.1
baz=254
Q18K Katmai Hardscr 59.22 32 P **P** 19 48 57.7 -0.2
baz=253
G17K Kiwalik Mounta 59.30 23 P **P** 19 48 59.4 +1.3
baz=244
H17K Granite Mounta 59.33 24 P **P** 19 48 59.8 +1.4
baz=245,SNR=16
N18K Kilae Creek 59.43 29 P **P** 19 49 00.4 +1.2
N18K lAmb lAmb 19 49 01.5
comp=Z,15nm,0.9s
N18K Kilae Creek 59.43 29 P **P** 19 49 00.3 +1.2
baz=251
O18K Koktuh Hills 59.49 30 P **P** 19 49 00.8 +1.3
baz=252,SNR=6.2
F17K Baldwin Pennin 59.51 22 P **P** 19 49 00.9 +1.5
baz=242,SNR=24
L18K Granite Mounta 59.59 27 lAmb lAmb 19 49 03.3
comp=Z,15nm,1.2s
L18K Granite Mounta 59.59 27 P **P** 19 49 01.8 +1.7
baz=249,SNR=5.2
E17K Hotham Inlet 59.61 21 P **P** 19 49 01.4 +1.2
baz=242,SNR=11
SVW2 Sparrevohn 59.71 29 P **P** 19 49 02.2 +1.2
SVW2 lAmb lAmb 19 49 03.3
comp=Z,11nm,0.8s
SVW2 Sparrevohn 59.71 29 P **P** 19 49 02.6 +1.6
OHAK Old Harbor 59.71 34 P **P** 19 49 02.6 +1.6
OHAK Old Harbor 59.71 34 P **P** 19 49 02.2 +1.2
baz=255
RDOG Red Dog Mine 59.72 20 lAmb lAmb 19 49 03.0
comp=Z,19nm,0.8s
RDOG Red Dog Mine 59.72 20 P **P** 19 49 02.1 +1.2
baz=240,SNR=5.8
M18K Stony River 59.73 28 P **P** 19 49 02.4 +1.3
baz=251
C17K DeLong Mountai 59.85 19 P **P** 19 49 03.0 +1.1
baz=239
Q19K Cape Douglas, 59.98 32 P **P** 19 49 03.4 +0.4
baz=254
H18K Honhosa River 60.02 24 P **P** 19 49 03.5 +0.4
H18K PcP **PcP** 19 49 45.5 -0.4
H18K Honhosa River 60.02 24 P **P** 19 49 03.9 +0.8
baz=246,SNR=10
J18K Innoko River 60.03 26 P **P** 19 49 04.2 +1.0
baz=249
N19K Bonanza Creek 60.12 29 lAmb lAmb 19 49 06.3
comp=Z,22nm,0.8s
N19K Bonanza Creek 60.12 29 P **P** 19 49 05.1 +1.2
baz=252
TTA Tatalina 60.13 27 P **P** 19 49 04.9 +1.0
TTA Tatalina 60.13 27 P **P** 19 49 05.0 +1.0
TTA Tatalina 60.13 27 P **P** 19 49 04.8 +0.8
baz=250
TTA Tatalina 60.13 27 P **P** 19 49 04.9 +1.0
TTA pmax pmax
comp=Z,9.0nm,1.0s
G18K Tagagawik 60.21 23 lAmb lAmb 19 49 06.1
comp=Z,22nm,0.9s
G18K Tagagawik 60.21 23 P **P** 19 49 05.2 +0.8
baz=245
KDAK Kodiak Island 60.22 33 P **P** 19 49 05.4 +0.9
baz=256
P19K Oil Pt 60.38 31 P **P** 19 49 06.1 +0.5
baz=254
L19K White Mountain 60.39 28 P **P** 19 49 06.0 +0.5
L19K White Mountain 60.39 28 P **P** 19 49 06.6 +1.0
baz=251
Q20K Shuyak Island 60.53 32 P **P** 19 49 07.1 +0.6
baz=255
C18K Utukok River 60.57 20 lAmb lAmb 19 49 08.3
comp=Z,18nm,0.7s
C18K Utukok River 60.57 20 P **P** 19 49 07.4 +0.7
baz=241,SNR=14
J19K Poorman 60.67 26 P **P** 19 49 08.6 +1.1
J19K lAmb lAmb 19 49 09.5
comp=Z,15nm,0.7s
J19K Poorman 60.67 26 P **P** 19 49 08.5 +1.0
baz=249
B18K Kokolik River 60.73 19 P **P** 19 49 09.2 +1.5
baz=240,SNR=9.2
G19K Purcell Mounta 60.90 23 P **P** 19 49 09.8 +0.9
baz=247,SNR=24
H19K Roundabout Mou 60.91 24 lAmb lAmb 19 49 11.2
comp=Z,22nm,0.8s
H19K Roundabout Mou 60.91 24 P **P** 19 49 10.2 +1.3
baz=248
L20K Farewell, AK 60.91 28 P **P** 19 49 10.4 +1.3
baz=252
F19K Shaleruckik Mo 60.93 22 P **P** 19 49 10.3 +1.2
baz=246,SNR=6.4
M20K Styx River 61.07 28 lAmb lAmb 19 49 12.6
comp=Z,9.1nm,0.7s
M20K Styx River 61.07 28 P **P** 19 49 11.5 +1.3
baz=253
K20K Telida 61.11 27 lAmb lAmb 19 49 12.9
comp=Z,17nm,0.8s
K20K Telida 61.11 27 P **P** 19 49 11.8 +1.4
baz=251
HOM Homer 61.16 31 P **P** 19 49 12.3 +1.5
baz=256
N20K Mount Spurr 61.30 29 P **P** 19 49 13.3 +1.5
baz=254
C19K Lookout Ridge 61.30 20 P **P** 19 49 12.8 +1.2
C19K PcP **PcP** 19 49 47.5 -3.6
C19K Lookout Ridge 61.30 20 P **P** 19 49 12.9 +1.2
baz=243
J20K Nowinta River 61.34 26 lAmb lAmb 19 49 14.4
comp=Z,17nm,0.8s
J20K Nowinta River 61.34 26 P **P** 19 49 13.5 +1.5
baz=251,SNR=16
A19K Wainwright 61.37 18 P **P** 19 49 13.1 +1.2
baz=241
E19K Redstone River 61.38 22 lAmb lAmb 19 49 14.6
comp=Z,18nm,0.8s
E19K Redstone River 61.38 22 P **P** 19 49 13.3 +1.2
baz=246
I20K Naaghedeneel 61.42 25 P **P** 19 49 13.3 +1.0
baz=250
H20K Anotleneega Mo 61.50 24 P **P** 19 49 13.9 +0.9
baz=249
D19K Kuna River 61.51 20 P **P** 19 49 13.7 +0.8
D19K lAmb lAmb 19 49 14.8
comp=Z,16nm,0.8s
D19K Kuna River 61.51 20 P **P** 19 49 13.8 +0.8
baz=245
BRSE Bradley Lake S 61.63 31 P **P** 19 49 14.1 +0.2
baz=256
KURK Kurchatov 61.73 318 P **P** 19 49 14.8 +0.1
KURK lAmb lAmb 19 49 17.1
comp=Z,22nm,1.2s
KURK PcP **PcP** 19 49 51.6 -1.4
KURK Kurchatov 61.73 318*ce*P **P** 19 49 14.3 -0.4
KURK pmax pmax
comp=Z,19nm,1.3s
F20K Avaraart Lake 61.75 22 lAmb lAmb 19 49 16.8
comp=Z,16nm,0.7s
F20K Avaraart Lake 61.75 22 P **P** 19 49 15.3 +0.8
baz=248
KURBB Kurchatov Arra 61.77 318 P **P** 19 49 15.0 0.0
comp=Z,18nm,0.8s,baz=98,slow=6.9,SNR=77
KURBB PcP **PcP** 19 49 52.4 -0.9
comp=Z,1.5nm,0.5s,baz=97,slow=4.8,SNR=4.7
comp=Z,18nm,0.8s
PPLA Purkeypile 61.78 27 P **P** 19 49 16.0 +0.9
baz=253
SKT Skwentna 61.82 29 lAmb lAmb 19 49 15.7
comp=Z,11nm,0.6s
SKT Skwentna 61.82 29 P **P** 19 49 15.3 +0.1
baz=254,SNR=8.3
CAST Castle Rocks 61.98 27 P **P** 19 49 17.1 +0.8
CAST Castle Rocks 61.98 27 P **P** 19 49 17.3 +1.1
baz=253,SNR=26
SUA Susitna One 62.05 29 lAmb lAmb 19 49 18.5
comp=Z,11nm,0.7s
SUA Susitna One 62.05 29 P **P** 19 49 17.3 +0.5
baz=255,SNR=7.8
E20K Nigu River 62.06 21 P **P** 19 49 17.6 +0.9
baz=247
D20K Etivluk River 62.10 21 P **P** 19 49 18.0 +1.0
baz=246
IMAR Indian Mountai 62.11 24 P **P** 19 49 17.6 +0.6
IMAR PcP **PcP** 19 49 52.5 -1.8
O22K Cooper Landing 62.30 30 P **P** 19 49 18.7 +0.4
baz=257,SNR=5.8
NRIK Noril'sk 62.32 340 P **P** 19 49 17.7 -0.6
NRIK Noril'sk 62.32 340*ce*P **P** 19 49 17.5 -0.8

NRIK pmax pmax
comp=Z,12nm,1.1s
NRIK Noril'sk 62.32 340 P **P** 19 49 17.5 -0.8
comp=Z,3.4nm,0.4s,baz=109,slow=8.6,SNR=8.5
comp=Z,3.4nm,0.4s
SEW Seward 62.34 31 P **P** 19 49 19.7 +1.1
baz=257
H21K Melozitna Rive 62.37 24 IAmb IAmb 19 49 20.8
comp=Z,16nm,0.9s
H21K Melozitna Rive 62.37 24 P **P** 19 49 19.7 +1.0
baz=251
G21K Allakaket 62.38 23 P **P** 19 49 19.9 +1.1
baz=250,SNR=7.1
RC01 Rabbit Creek A 62.43 30 P **P** 19 49 19.1 -0.1
RC01 Rabbit Creek A 62.43 30 P **P** 19 49 19.6 +0.4
baz=257,SNR=10
B20K Meade River 62.47 19 P **P** 19 49 20.2 +1.0
baz=245
CUT Chulitna 62.50 28 P **P** 19 49 19.5 -0.2
baz=255
KTH Kantishna Hill 62.52 27 IAmb IAmb 19 49 22.5
comp=Z,30nm,1.3s
I21K Tanana 62.55 25 IAmb IAmb 19 49 22.1
comp=Z,17nm,0.9s
I21K Tanana 62.55 25 P **P** 19 49 21.2 +1.4
baz=252,SNR=12
F21K Alatna River 62.63 23 P **P** 19 49 21.2 +0.8
baz=250
BPAW Bear Paw Mtn. 62.64 26 P **P** 19 49 21.5 +1.0
BPAW Bear Paw Mtn. 62.64 26 P **P** 19 49 21.5 +1.0
baz=254,SNR=16
TRF Thorofare Moun 62.76 27 IAmb IAmb 19 49 22.5
comp=Z,16nm,1.0s
TRF Thorofare Moun 62.76 27 P **P** 19 49 21.7 +0.1
baz=255,SNR=8.7
PMR Palmer 62.83 29 P **P** 19 49 21.9 +0.2
baz=257,SNR=7.2
C21K Knifeblade Rid 62.88 20 P **P** 19 49 23.2 +1.1
baz=248
E21K Killik River 62.89 21 P **P** 19 49 22.8 +0.7
baz=249
GHO Glory Hole Cre 62.97 29 IAmb IAmb 19 49 23.9
comp=Z,18nm,0.8s
H22K Ishtalitna Cre 63.00 24 P **P** 19 49 24.1 +1.2
baz=253,SNR=7.5
MLY Manley 63.01 25 P **P** 19 49 23.7 +0.7
MLY Manley 63.01 25 P **P** 19 49 23.8 +0.8
baz=254,SNR=21
KNK Knik Glacier 63.10 30 P **P** 19 49 24.2 +0.5
baz=258,SNR=8.2
B21K Ikpikpuk River 63.12 20 IAmb IAmb 19 49 25.4
comp=Z,9.6nm,0.7s
B21K Ikpikpuk River 63.12 20 P **P** 19 49 24.4 +0.9
baz=248
KSH Kashi 63.15 306 P **P** 19 49 28.3 +3.8
KSH pmax pmax
comp=Z,8.0nm,0.7s
A21K Barrow 63.19 18 P **P** 19 49 24.7 +0.8
baz=245,SNR=5.6
F22K John River 63.20 22 P **P** 19 49 25.3 +1.1
baz=251
SML Sawmill 63.25 29 P **P** 19 49 25.2 +0.6
baz=258,SNR=14
P23K Montague Islan 63.33 31 P **P** 19 49 26.0 +0.9
baz=259
WAT1 Susitna Watana 63.38 28 P **P** 19 49 25.5 +0.1
baz=257
RND Reindeer 63.38 27 P **P** 19 49 25.3 -0.2
RND IAmb IAmb 19 49 26.4
comp=Z,10.0nm,0.5s
RND Reindeer 63.38 27 P **P** 19 49 25.3 -0.2
RND pmax pmax
comp=Z,10.0nm,0.5s
TKM2 Tokmak 2 63.38 310 P **P** 19 49 27.2 +1.1
SNR=10
MCK McKinley 63.42 27 P **P** 19 49 25.9 +0.3
baz=256,SNR=5.4
RTZ Ruatahuna 63.48 153 P **P** 19 49 26.2 -0.2
RTZ IAmb IAmb 19 50 10.2
comp=Z,26nm,1.2s
D22K Ayikyak River 63.49 21 P **P** 19 49 27.2 +1.1
baz=250
M23K Glacier View 63.53 29 P **P** 19 49 26.7 +0.3
baz=258,SNR=6.3
E22K Anaktuvuk Pass 63.54 22 IAmb IAmb 19 49 28.5
comp=Z,15nm,0.8s
E22K Anaktuvuk Pass 63.54 22 P **P** 19 49 27.7 +1.3
baz=251,SNR=13
A22K Sinclair Lake 63.55 18 P **P** 19 49 27.1 +0.8
baz=247
NEA2 Nenana 63.58 26 P **P** 19 49 27.2 +0.6
baz=256
I23K Minto, Yukon-K 63.60 25 P **P** 19 49 27.5 +0.8
baz=255,SNR=12
GLI Glacier Island 63.64 30 P **P** 19 49 27.7 +0.6
baz=259
KZA Kyzart 63.65 309 P **P** 19 49 29.9 +1.9
SNR=5.9
WAT6 Susitna Watana 63.69 28 P **P** 19 49 27.9 +0.3
baz=258,SNR=12
SCM Sheep Creek Mo 63.72 29 P **P** 19 49 28.0 +0.3
SCM Sheep Creek Mo 63.72 29 P **P** 19 49 28.6 +0.8
baz=258,SNR=11
SCM Sheep Creek Mo 63.72 29 P **P** 19 49 28.0 +0.3
SCM pmax pmax
comp=Z,38nm,0.9s
G23K Bananza Creek 63.77 24 IAmb IAmb 19 49 30.0
comp=Z,11nm,0.8s
G23K Bananza Creek 63.77 24 P **P** 19 49 29.2 +1.3
baz=254,SNR=13
B22K Teshekpuk Lake 63.77 19 P **P** 19 49 28.7 +1.0
baz=248,SNR=13
HIN Hinchinbrook I 63.84 31 P **P** 19 49 29.0 +0.6
COLD Coldfoot 63.85 23 P **P** 19 49 29.7 +1.3
baz=253,SNR=16
KBK Karagaybulak 63.86 309 P **P** 19 49 30.2 +1.0
SNR=5.3
DHY Denali Highway 63.96 28 IAmb IAmb 19 49 30.7
comp=Z,6.6nm,0.4s
DHY Denali Highway 63.96 28 P **P** 19 49 30.2 +0.8
baz=258,SNR=5.8
CCB Clear Creek Bu 64.12 26 IAmb IAmb 19 49 30.9
comp=Z,4.8nm,0.4s
COLA College 64.15 26 P **P** 19 49 30.6 +0.3
COLA IAmb IAmb 19 49 33.3
comp=Z,9.1nm,0.7s
COLA College 64.15 26 P **P** 19 49 31.3 +0.9
COLA College 64.15 26 P **P** 19 49 31.2 +0.9
baz=256
COLA College 64.15 26 P **P** 19 49 30.6 +0.3
COLA pmax pmax
comp=Z,9.0nm,0.7s
UCH Uchtor 64.19 309 P **P** 19 49 33.1 +1.5
SNR=7.9
AAK Ala-Archa 64.20 309 P **P** 19 49 32.1 +0.8
SNR=7.6
AAK Ala-Archa 64.20 309 P **P** 19 49 31.4 +0.1
AAK IAmb IAmb 19 49 32.4
comp=Z,4.5nm,0.4s
AAK Ala-Archa 64.20 309 *ce*P **P** 19 49 31.9 +0.6
AAK pmax pmax
comp=Z,2.0nm,0.7s
D23K Nanushuk River 64.20 21 P **P** 19 49 32.1 +1.5
baz=252
EYAK Cordova Ski Ar 64.24 31 P **P** 19 49 31.9 +1.0
EYAK Cordova Ski Ar 64.24 31 P **P** 19 49 32.0 +1.1
baz=260
E23K Chandalar 64.30 22 P **P** 19 49 32.7 +1.3
baz=253
M24K Tolsona, Glenn 64.31 29 P **P** 19 49 32.4 +0.9
baz=259
KLU Klutina 64.31 30 IAmb IAmb 19 49 33.4
comp=Z,14nm,0.8s
KLU Klutina 64.31 30 P **P** 19 49 32.5 +1.0
baz=260,SNR=9.0
H24K Noodor Dome 64.37 25 IAmb IAmb 19 49 33.2
comp=Z,6.0nm,0.7s
H24K Noodor Dome 64.37 25 P **P** 19 49 32.7 +0.9
baz=256
POKR Poker Plat Res 64.38 26 P **P** 19 49 32.3 +0.4
baz=257
HDA Harding Lake 64.43 26 IAmb IAmb 19 49 32.3
comp=Z,9.0nm,0.6s
HDA Harding Lake 64.43 26 P **P** 19 49 32.2 0.0
baz=258,SNR=7.3
HDA P **P** 19 49 32.2 0.0
baz=258,SNR=7.3
TOLK Toolik Lake Re 64.49 22 P **P** 19 49 33.2 +0.7

TOLK IAmb IAmb 19 49 34.7
comp=Z,14nm,0.8s
TOLK Toolik Lake Re 64.49 22 P **P** 19 49 33.8 +1.3
baz=253,SNR=9.2
C23K Itkillik River 64.50 20 P **P** 19 49 33.7 +1.2
baz=252,SNR=16
IL31 64.53 26 IAmb IAmb 19 49 32.8
comp=Z,21nm,1.2s
ILAR Eielson Array 64.53 26 P **P** 19 49 32.0 -0.8
comp=Z,7.4nm,0.4s,baz=249,slow=6.0,SNR=254
comp=Z,7.4nm,0.4s
E24K Your Creek 64.72 22 IAmb IAmb 19 49 36.2
comp=Z,10nm,0.7s
E24K Your Creek 64.72 22 P **P** 19 49 35.3 +1.3
baz=254
G24K Hadweenzic Riv 64.74 24 IAmb IAmb 19 49 35.8
comp=Z,8.0nm,0.7s
G24K Hadweenzic Riv 64.74 24 P **P** 19 49 34.9 +0.7
baz=256
F24K Squaw Lake 64.79 23 P **P** 19 49 35.3 +0.8
F24K IAmb IAmb 19 49 36.9
comp=Z,9.0nm,0.8s
F24K Squaw Lake 64.79 23 P **P** 19 49 35.5 +1.1
baz=255,SNR=10
PAX Paxson 64.79 28 P **P** 19 49 35.2 +0.6
baz=260,SNR=16
KAIM Kayak Island 64.80 32 P **P** 19 49 35.8 +1.2
baz=262
AML Almayashu 64.80 309 P **P** 19 49 36.8 +1.3
SNR=14
K24K Donnelly Dome 64.81 27 P **P** 19 49 35.4 +0.8
baz=259,SNR=7.0
HARP HAARP 64.83 29 P **P** 19 49 35.9 +1.1
baz=260,SNR=9.3
BMRM Bremner River 64.86 30 P **P** 19 49 36.1 +1.1
baz=261,SNR=7.9
D24K Happy Valley 64.89 21 P **P** 19 49 36.3 +1.3
baz=254
N25K Chitina, Valde 64.96 30 IAmb IAmb 19 49 37.6
comp=Z,12nm,0.9s
N25K Chitina, Valde 64.96 30 P **P** 19 49 37.0 +1.2
baz=261,SNR=9.1
C24K Franklin Bluff 65.10 21 P **P** 19 49 37.6 +1.2
baz=253,SNR=13
J25K 65.14 26 IAmb IAmb 19 49 37.3
comp=Z,7.8nm,0.5s
J25K Salcha River, 65.14 26 P **P** 19 49 36.1 -0.6
baz=259
PRP Porcupine Dome 65.25 25 P **P** 19 49 36.4 -1.2
baz=258
G25K Bearman Lake 65.29 24 P **P** 19 49 38.6 +1.0
baz=257
GLB Gilahina Butte 65.31 30 P **P** 19 49 38.4 +0.4
GLB IAmb IAmb 19 49 40.4
comp=Z,18nm,1.0s
CRQE Cirque 65.56 31 P **P** 19 49 40.6 +0.9
baz=263,SNR=7.3
MENT Mentasta 65.57 28 IAmb IAmb 19 49 42.5
comp=Z,16nm,1.3s
SCRK Sand Creek 65.62 27 P **P** 19 49 40.0 0.0
SCRK IAmb IAmb 19 49 40.7
comp=Z,6.5nm,0.7s
SCRK Sand Creek 65.62 27 P **P** 19 49 40.3 +0.4
baz=260,SNR=14
F25K Christian Rive 65.64 23 P **P** 19 49 41.2 +1.2
baz=257
NIL Nilore 65.71 299 P **P** 19 49 41.5 +0.5
NIL Nilore 65.71 299 P **P** 19 49 41.5 +0.5
NIL pmax pmax
comp=Z,22nm,0.8s
L26K Log Cabin Wild 65.75 28 IAmb IAmb 19 49 42.0
comp=Z,8.1nm,0.6s
L26K Log Cabin Wild 65.75 28 P **P** 19 49 41.7 +1.0
baz=262,SNR=5.8
D25K Kavik River 65.78 21 IAmb IAmb 19 49 42.8
comp=Z,16nm,0.8s
D25K Kavik River 65.78 21 P **P** 19 49 41.5 +0.7
baz=256
E25K Arctic Village 65.79 23 IAmb IAmb 19 49 43.3
comp=Z,19nm,1.2s
E25K Arctic Village 65.79 23 P **P** 19 49 42.2 +1.4
baz=257,SNR=12
M26K Nabesna, AK 65.82 29 P **P** 19 49 42.4 +1.2
baz=262
J26L Joseph Creek 65.89 27 P **P** 19 49 41.6 0.0
J26L PcP PcP 19 50 01.6 -8.5
J26L Joseph Creek 65.89 27 P **P** 19 49 41.9 +0.3
baz=261,SNR=17
I26K Coal Creek Min 66.19 26 P **P** 19 49 42.8 -0.6
baz=261
G26K Porcupine Rive 66.22 24 P **P** 19 49 44.4 +0.9
baz=259
F26K Sheenjek River 66.22 23 P **P** 19 49 45.3 +1.7
baz=259,SNR=23
BARN Barnard Glacie 66.29 31 IAmb IAmb 19 49 45.8
comp=Z,7.5nm,0.7s
M27K Edge Creek, AK 66.33 29 IAmb IAmb 19 49 46.4
comp=Z,15nm,1.2s
M27K Edge Creek, AK 66.33 29 P **P** 19 49 45.4 +0.9
baz=263
C26K Camden Bay 66.42 21 P **P** 19 49 46.5 +1.8
baz=257,SNR=21
CTG Chitina Glacier 66.44 31 P **P** 19 49 46.3 +1.0
baz=264,SNR=5.8
CTGM Chitina Glacie 66.44 31 P **P** 19 49 46.1 +0.9
CTGM IAmb IAmb 19 49 47.3
comp=Z,16nm,0.7s
L27K Beaver Creek, 66.44 28 IAmb IAmb 19 49 46.3
comp=Z,6.5nm,0.6s
L27K Beaver Creek, 66.44 28 P **P** 19 49 45.9 +0.8
baz=263
K27K Chicken 66.46 27 P **P** 19 49 46.0 +0.9
baz=262
BVCY Beaver Creek 66.81 29 P **P** 19 49 48.7 +1.3
baz=264
I27K Kandik River 66.87 26 P **P** 19 49 48.4 +0.7
baz=262
PINM Pinnacle 66.90 32 P **P** 19 49 49.0 +1.0
baz=266
YUK3 Moose Creek 66.94 30 P **P** 19 49 49.5 +1.0
baz=265
EGAK Eagle 66.95 27 IAmb IAmb 19 49 50.1
comp=Z,7.9nm,0.5s
EGAK Eagle 66.95 27 P **P** 19 49 49.4 +1.2
baz=263,SNR=6.4
BVAR Borovoye Array 66.96 321 P **P** 19 49 48.3 -0.2
comp=Z,11nm,0.5s,baz=95,slow=7.5,SNR=112
comp=Z,11nm,0.5s
H27K Steamboat Moun 66.99 25 P **P** 19 49 49.6 +1.1
baz=262
G27K Doyon Strip 67.03 24 P **P** 19 49 49.4 +0.8
baz=262
BRVK Borovoye 67.03 321 P **P** 19 49 48.8 -0.1
BRVK IAmb IAmb 19 49 50.4
comp=Z,10nm,0.8s
BRVK Borovoye 67.03 321 *ce*P **P** 19 49 48.7 -0.1
BRVK pmax pmax
comp=Z,10.0nm,0.7s
KK31 Karatay Array 67.11 310 IAmb IAmb 19 49 50.9
comp=Z,9.6nm,0.7s
KKAR Karatay Array 67.11 310 P **P** 19 49 49.6 +0.1
KKAR PcP **PcP** 19 50 14.7 -0.8
KKAR Karatay Array 67.11 310 IAmb IAmb 19 49 50.9
comp=Z,9.6nm,0.7s
KKAR Karatay Array 67.11 310 P **P** 19 49 49.7 +0.1
KKAR 19 50 14.7
YUK8 Steele Glacier 67.23 30 P **P** 19 49 51.8 +1.5
baz=266,SNR=7.1
E27K Coleen River 67.26 23 P **P** 19 49 50.8 +0.7
baz=261
PNL Peninsula 67.30 32 P **P** 19 49 51.9 +1.4
PNL Peninsula 67.30 32 P **P** 19 49 51.5 +1.1
baz=267
I28M Miner Creek 67.54 26 IAmb IAmb 19 49 53.5
comp=Z,6.7nm,0.7s
I28M Miner Creek 67.54 26 P **P** 19 49 52.6 +0.6
baz=264
DAWY Dawson 67.64 27 P **P** 19 49 53.6 +1.1
baz=265,SNR=6.7
D27M Malcolm River 67.65 22 IAmb IAmb 19 49 54.9
comp=Z,9.4nm,0.9s
D27M Malcolm River 67.65 22 P **P** 19 49 53.8 +1.2
baz=261
O29M Mount Kennedy 67.75 31 P **P** 19 49 54.1 +0.7
O29M IAmb IAmb 19 49 56.0
comp=Z,15nm,0.8s
O29M Mount Kennedy 67.75 31 P **P** 19 49 54.5 +1.1
baz=267

YUK4 Talbot Arm 67.77 30 P **P** 19 49 55.4 +1.8
baz=267,SNR=10
F28M Old Crow 67.83 24 IAmb IAmb 19 49 55.6
comp=Z,8.8nm,0.9s
F28M Old Crow 67.83 24 P **P** 19 49 54.6 +1.0
baz=263,SNR=10
YUK6 Outpost Mounta 67.89 31 P **P** 19 49 56.1 +1.7
baz=267
M29M Somme Creek 67.93 29 IAmb IAmb 19 49 56.7
comp=Z,13nm,0.8s
M29M Somme Creek 67.93 29 P **P** 19 49 56.1 +1.6
baz=266,SNR=10
E28M Babbage River 68.07 22 P **P** 19 49 55.9 +0.7
E28M IAmb IAmb 19 49 57.6
comp=Z,14nm,1.2s
E28M Babbage River 68.07 22 P **P** 19 49 56.7 +1.6
baz=263
L29M L29M 68.12 28 P **P** 19 49 56.9 +1.3
baz=266
P29M Windy Craggy 68.14 32 P **P** 19 49 57.3 +1.6
baz=268
H29M Whitestone 68.26 25 IAmb IAmb 19 49 57.5
comp=Z,6.6nm,0.7s
H29M Whitestone 68.26 25 P **P** 19 49 57.2 +0.9
baz=265
HYT Haines Junctio 68.30 31 P **P** 19 49 58.6 +1.8
baz=268,SNR=11
K29M Barlow Dome 68.44 28 IAmb IAmb 19 49 59.7
comp=Z,11nm,0.8s
K29M Barlow Dome 68.44 28 P **P** 19 49 58.5 +0.9
baz=266
D28M Stokes Point 68.45 22 P **P** 19 49 58.5 +1.1
baz=263
G29M Pine Creek 68.46 24 P **P** 19 49 58.4 +0.8
G29M IAmb IAmb 19 50 00.4
comp=Z,13nm,1.1s
G29M Pine Creek 68.46 24 P **P** 19 49 58.8 +1.2
baz=265,SNR=6.5
N30M Aishikik Lake 68.53 30 IAmb IAmb 19 50 00.0
comp=Z,13nm,0.7s
N30M Aishikik Lake 68.53 30 P **P** 19 49 59.6 +1.5
baz=268,SNR=8.0
P30M Million Dollar 68.55 32 P **P** 19 49 59.8 +1.6
baz=268
E29M Blow River 68.65 23 P **P** 19 49 59.8 +1.1
baz=264
M30M Minto, Yukon 68.71 29 P **P** 19 50 00.4 +1.2
baz=268
EPYK Eagle Plains 68.94 25 IAmb IAmb 19 50 01.7
comp=Z,10nm,0.6s
EPYK Eagle Plains 68.94 25 P **P** 19 50 01.3 +0.7
baz=266,SNR=7.4
O30N Mendenhall 68.99 31 P **P** 19 50 02.1 +1.1
baz=269
J30M Hart River 69.00 27 P **P** 19 50 01.5 +0.4
J30M Hart River 69.00 27 P **P** 19 50 02.1 +1.1
baz=267,SNR=7.0
I30M Mount Dempster 69.01 26 P **P** 19 50 01.6 +0.5
baz=267,SNR=6.9
KBL Kabul 69.08 301 P **P** 19 50 02.3 +0.1
KBL IAmb IAmb 19 50 03.5
comp=Z,7.7nm,0.8s
KBL Kabul 69.08 301 P **P** 19 50 02.3 +0.1
KBL pmax pmax
comp=Z,8.0nm,0.9s
N31M Braeburn, Yuko 69.15 30 IAmb IAmb 19 50 03.9
comp=Z,12nm,0.7s
N31M Braeburn, Yuko 69.15 30 P **P** 19 50 03.3 +1.4
baz=269
MAYO Mayo, Yukon 69.16 28 P **P** 19 50 03.2 +1.4
baz=268
G30M tAoh Zraii Nji 69.18 24 IAmb IAmb 19 50 04.6
comp=Z,7.4nm,0.8s
G30M tAoh Zraii Nji 69.18 24 P **P** 19 50 02.5 +0.5
baz=266,SNR=7.3
SKAG Skagway 69.36 32 P **P** 19 50 04.6 +1.4
baz=270
F30M Barrier River 69.38 24 P **P** 19 50 04.2 +1.0
baz=267
SIT Sitka 69.39 35 P **P** 19 50 04.7 +1.4
baz=271
WHY Whitehorse 69.58 31 P **P** 19 50 06.0 +1.3
baz=270
R32K Eaglecrest 69.80 34 P **P** 19 50 07.2 +1.3
baz=271
M31M Drury Creek, Y 69.82 29 IAmb IAmb 19 50 07.3
comp=Z,6.4nm,0.6s
M31M Drury Creek, Y 69.82 29 P **P** 19 50 06.7 +0.8
baz=270,SNR=6.5
G31M Satah River 69.94 24 P **P** 19 50 07.0 +0.5
baz=268,SNR=18
F31M Tsiigehtchic 70.16 24 P **P** 19 50 08.5 +0.7
baz=269
P32M Atlin 70.18 32 P **P** 19 50 09.2 +1.0
baz=272
INK Inuvik 70.26 23 P **P** 19 50 08.0 -0.5
INK Inuvik 70.26 23 P **P** 19 50 08.7 +0.2
baz=268,SNR=8.8
INK Inuvik 70.26 23 P **P** 19 50 08.0 -0.5
INK pmax pmax
comp=Z,6.0nm,0.8s
FARO Faro, Yukon 70.31 29 P **P** 19 50 09.8 +0.9
baz=271
P33M Teslin, Yukon 70.62 32 P **P** 19 50 12.2 +1.3
baz=272
U33K Whale Pass 70.64 36 P **P** 19 50 11.2 +0.3
baz=273
Q32M Nakina River 70.95 33 P **P** 19 50 13.9 +0.9
baz=273
MMPY Sheldon Lake, 71.27 29 pP 19 51 19.1 +1.0
MMPY Sheldon Lake, 71.27 29 P **P** 19 50 15.7 +1.0
baz=273
R33M Jennings River 71.59 32 P **P** 19 50 17.9 +1.1
baz=274
S34M Telegraph Cree 71.61 34 IAmb IAmb 19 50 19.1
comp=Z,9.5nm,0.7s
S34M Telegraph Cree 71.61 34 P **P** 19 50 18.2 +1.5
baz=274
DLBC Dease Lake 72.15 33 IAmb IAmb 19 50 22.0
comp=Z,11nm,0.7s
DLBC Dease Lake 72.15 33 P **P** 19 50 21.5 +1.4
baz=275,SNR=6.2
T35M Bob Quinn 72.17 35 P **P** 19 50 21.6 +1.5
baz=275
U35K Hyder 72.39 36 P **P** 19 50 22.7 +1.3
baz=276
SVE Sverdlovsk 72.42 325 *e*P **P** 19 50 22.1 +0.6
SVE pmax pmax
comp=Z,10.0nm,0.9s
WTLY Watson Lake, Y 72.63 32 P **P** 19 50 24.0 +1.3
baz=276
TGTN Hyland Airport 72.75 30 P **P** 19 50 24.7 +1.2
baz=276,SNR=8.4
A36M Sachs Harbour 72.97 19 P **P** 19 50 25.4 +0.9
baz=275
ARU Arti 73.61 325 P **P** 19 50 27.9 -0.6
ARU IAmb IAmb 19 50 29.4
comp=Z,10nm,0.7s
ARU Arti 73.61 325 *c* iP **P** 19 50 28.1 -0.4
ARU 19 50 41.5
ARU pmax pmax
comp=Z,11nm,0.7s
ARU Arti 73.61 325 P **P** 19 50 28.1 -0.4
comp=Z,8.2nm,0.5s,baz=94,slow=2.9,SNR=28
comp=Z,8.2nm,0.5s
C36M Paulatuk 73.64 22 P **P** 19 50 29.0 +0.6
baz=277
ABKAR Akbulak array 73.78 317 P **P** 19 50 29.2 -0.4
ABKAR IAmb IAmb 19 50 30.3
comp=Z,4.1nm,0.4s
WRGLY Wrigley 74.75 28 P **P** 19 50 35.9 +0.9
baz=279
AKTO Aktyubinsk 74.83 319 P **P** 19 50 34.5 -1.1
comp=Z,1.8nm,0.6s,baz=90,slow=6.0,SNR=5.3
comp=Z,1.8nm,0.6s
KOTAN Kotaneelee Air 74.98 31 P **P** 19 50 37.6 +1.3
baz=280
GEYT Alibeck 77.18 306 P **P** 19 50 48.1 -1.1
comp=Z,4.4nm,0.8s,baz=64,slow=28,SNR=9.2
comp=Z,4.4nm,0.8s
KIRV Kirov 78.04 328 *ce*P **P** 19 50 53.5 +0.2
GNW Green Mountain 78.22 44 IAmb IAmb 19 50 57.1
comp=Z,17nm,0.9s
YKA Yellowknife Ar 78.87 28 *i* P **P** 19 50 57.5 -0.3
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 78.87 28 P **P** 19 50 57.5 -0.3
comp=Z,1.5nm,0.5s,baz=287,slow=5.7,SNR=27

	comp=Z,1.5nm,0.5s						
KMPM	**Mount Pierce**	**79.00**	**51**	IAmb	IAmb	19 51 02.3	
	comp=Z,19nm,1.0s						
HUMO	**Hull Mountain**	**79.32**	**49**	P	**P**	**19 51 01.8**	**+1.0**
HUMO				IAmb	IAmb	19 51 04.4	
	comp=Z,9.3nm,0.6s						
I04A	**Tendick Farm,**	**79.41**	**47**	IAmb	IAmb	19 51 02.9	
	comp=Z,11nm,0.8s						
LTY	**Liberty**	**79.71**	**44**	IAmb	IAmb	19 51 06.3	
	comp=Z,8.6nm,1.1s						
YBH	**Yreka Blue Hor**	**79.71**	**49**	IAmb	IAmb	19 51 05.2	
	comp=Z,9.9nm,0.7s						
L04D	**Klamath Falls**	**79.88**	**49**	P	**P**	**19 51 04.7**	**+0.8**
SPITS	**Spitsbergen Ar**	**79.97**	**351**	P	**P**	**19 51 02.5**	**-1.0**
	comp=Z,4.7nm,0.7s,baz=55,slow=18,SNR=1.7						
	comp=Z,4.7nm,0.7s						
RES	**Resolute Bay**	**80.32**	**14**	P	**P**	**19 51 05.3**	**0.0**
RES	**Resolute Bay**	**80.32**	**14**	P	**P**	**19 51 05.3**	**0.0**
RES				pmax	pmax		
	comp=Z,7.0nm,1.0s						
E07A	**Sunnyside**	**80.44**	**44**	IAmb	IAmb	19 51 08.5	
	comp=Z,7.1nm,0.8s						
BELG	**Belogornoye**	**80.71**	**322**	*i* P	**P**	**19 51 08.9**	**+1.1**
BELG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BELG	**Belogornoye**	**80.71**	**322**	P	**P**	**19 51 07.3**	**-0.5**
	comp=Z,11nm,0.6s,baz=116,slow=0.5,SNR=11						
	comp=Z,11nm,0.6s						
ORV	**Oroville**	**81.17**	**51**	P	**P**	**19 51 10.5**	**-0.1**
ORV				IAmb	IAmb	19 51 12.0	
	comp=Z,11nm,1.1s						
ORV	**Oroville**	**81.17**	**51**	P	**P**	**19 51 10.5**	**-0.1**
ORV				pmax	pmax		
	comp=Z,11nm,1.1s						
NEW	**Newport**	**81.73**	**42**	P	**P**	**19 51 14.6**	**+1.3**
	baz=287						
AFDM	**Forest Hills D**	**81.73**	**52**	P	**P**	**19 51 14.2**	**+0.6**
AFDM				IAmb	IAmb	19 51 15.2	
	comp=Z,6.2nm,0.7s						
MPK	**Martis Peak**	**82.34**	**51**	IAmb	IAmb	19 51 18.9	
	comp=Z,16nm,0.9s						
EMB	**Emerald Bay**	**82.38**	**52**	IAmb	IAmb	19 51 18.9	
	comp=Z,7.2nm,0.8s						
CMB	**Columbia Colle**	**82.43**	**53**	IAmb	IAmb	19 51 18.9	
	comp=Z,9.2nm,0.8s						
WVOR	**Wild Horse Val**	**82.44**	**48**	P	**P**	**19 51 17.6**	**+0.3**
WVOR	**Wild Horse Val**	**82.44**	**48**	P	**P**	**19 51 17.6**	**+0.3**
WVOR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BMO	**Blue Mountains**	**82.64**	**45**	IAmb	IAmb	19 51 19.6	
	comp=Z,12nm,1.4s						
PAHR	**Pah Rah Range**	**82.70**	**51**	IAmb	IAmb	19 51 20.3	
	comp=Z,9.2nm,1.0s						
PNTR	**Pine Nut**	**82.72**	**51**	P	**P**	**19 51 19.4**	**+0.5**
WAKR	**Walker**	**83.01**	**52**	IAmb	IAmb	19 51 22.4	
	comp=Z,7.1nm,0.6s						
YERR	**Yerington**	**83.02**	**51**	IAmb	IAmb	19 51 22.1	
	comp=Z,11nm,0.6s						
ARCES	**ARCESS Array B**	**83.22**	**342**	P	**P**	**19 51 20.0**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=72,slow=8.0,SNR=14						
	comp=Z,1.3nm,0.5s						
RYN	**Ryan**	**83.66**	**52**	IAmb	IAmb	19 51 25.4	
	comp=Z,9.4nm,0.8s						
LHV	**Little Huntoon**	**83.78**	**52**	IAmb	IAmb	19 51 26.3	
	comp=Z,6.2nm,0.7s						
PKM	**Mcpherson Peak**	**83.79**	**55**	P	**P**	**19 51 25.8**	**+1.4**
	baz=287						
KVN	**Kaiserville**	**83.84**	**51**	IAmb	IAmb	19 51 26.2	
	comp=Z,9.7nm,0.7s						
NVAR	**Mina Array Bea**	**83.88**	**52**	P	**P**	**19 51 25.8**	**+0.9**
	comp=Z,12nm,0.7s,baz=265,slow=6.0,SNR=109						
	comp=Z,12nm,0.7s						
NV11	**Mina Array Sit**	**83.99**	**52**	P	**P**	**19 51 25.1**	**-0.2**
NV11				IAmb	IAmb	19 51 27.1	
	comp=Z,8.9nm,0.8s						
MFID	**Camas Ranch**	**84.10**	**46**	IAmb	IAmb	19 51 27.4	
	comp=Z,11nm,0.8s						
NEEM	**North Greenlan**	**84.42**	**4**	*i* P	**P**	**19 51 24.8**	**-2.0**
ISA	**Isabella, Lake**	**84.60**	**54**	P	**P**	**19 51 28.8**	**+0.5**
	baz=288						
CWC	**Cottonwood Cre**	**84.66**	**54**	P	**P**	**19 51 29.0**	**+0.3**
	baz=288						
GMN	**Gold Mountain**	**85.02**	**53**	IAmb	IAmb	19 51 32.1	
	comp=Z,6.8nm,0.7s						
HLID	**Hailey**	**85.02**	**46**	P	**P**	**19 51 30.9**	**+0.6**
	baz=290,SNR=8.6						
DAG	**Danmarks Havn**	**85.10**	**356**	*i* P	**P**	**19 51 28.0**	**-1.8**
EDW2	**Edwards Air Fo**	**85.21**	**55**	P	**P**	**19 51 32.1**	**+0.7**
	baz=288						
MPMC	**Manual Prospec**	**85.23**	**54**	P	**P**	**19 51 32.1**	**+0.5**
	baz=289,SNR=7.6						
LYMT	**Lyon Mountain**	**85.24**	**42**	P	**P**	**19 51 31.4**	**-0.1**
LRMC	**Laurel Mtn Rad**	**85.27**	**54**	P	**P**	**19 51 32.5**	**+0.8**
	baz=288,SNR=6.5						
ELK	**Elko**	**85.39**	**49**	IAmb	IAmb	19 51 34.0	
	comp=Z,6.4nm,0.8s						
FURC	**Furnace Creek,**	**85.58**	**53**	P	**P**	**19 51 33.9**	**+0.9**
	baz=289						
WCT	**Wildcat Mounta**	**85.66**	**53**	IAmb	IAmb	19 51 35.1	
	comp=Z,6.5nm,0.7s						
QSM	**Queen of Sheba**	**85.74**	**54**	IAmb	IAmb	19 52 00.4	
	comp=Z,5.8nm,0.6s						
OBN	**Obninsk**	**85.84**	**327**	ǁ *eP*	**P**	**19 51 34.4**	**+0.5**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TPNV	**Topopah Spring**	**85.89**	**53**	P	**P**	**19 51 35.1**	**+0.3**
TPNV				IAmb	IAmb	19 51 36.3	
	comp=Z,8.8nm,0.7s						
TPNV	**Topopah Spring**	**85.89**	**53**	P	**P**	**19 51 35.6**	**+0.9**
	baz=289,SNR=10						
TPNV	**Topopah Spring**	**85.89**	**53**	P	**P**	**19 51 35.1**	**+0.3**
TPNV				pmax	pmax		
	comp=Z,9.0nm,0.7s						
R11B	**Troy Canyon, C**	**85.93**	**51**	P	**P**	**19 51 35.8**	**+0.8**
	baz=290,SNR=9.0						
GSC	**Goldstone, Bar**	**86.00**	**54**	P	**P**	**19 51 36.0**	**+0.8**
	baz=289						
BOZ	**Bozeman (W)**	**86.17**	**43**	P	**P**	**19 51 36.5**	**+0.6**
	baz=292						
NCK	**Nalchik**	**86.17**	**314**	*i* P	**P**	**19 51 35.4**	**-0.4**
NCK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ZEI	**Tsey**	**86.21**	**314**	*eP*	**P**	**19 51 34.3**	**-1.9**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
Q12A	**Willow Creek R**	**86.26**	**50**	IAmb	IAmb	19 51 38.3	
	comp=Z,9.6nm,0.8s						
KBZ	**Khabaz**	**86.56**	**315**	*ce* P	**P**	**19 51 36.6**	**-1.0**
KBZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KBZ	**Khabaz**	**86.56**	**315**	P	**P**	**19 51 36.4**	**-1.2**
	comp=Z,7.0nm,0.9s,baz=119,slow=2.9,SNR=17						
	comp=Z,7.0nm,0.9s						
ONI	**Oni**	**86.59**	**314**	P	**P**	**19 51 37.8**	**-0.1**
ONI	**Oni**	**86.59**	**314**	P	**P**	**19 51 37.8**	**-0.1**
ONI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KIV	**Kislovodsk**	**86.61**	**315**	ǁ *eP*	**P**	**19 51 39.4**	**+1.4**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TUQ	**Turquoise Moun**	**86.64**	**54**	P	**P**	**19 51 39.4**	**+1.0**
	baz=290,SNR=5.3						
PRN	**Pahroc Range**	**86.64**	**52**	IAmb	IAmb	19 51 40.3	
	comp=Z,7.4nm,1.0s						
PFO	**Pinyon Flats O**	**86.83**	**56**	P	**P**	**19 51 40.3**	**+1.0**
	baz=289						
TPFO	**Pinon Flats**	**86.83**	**56**	P	**P**	**19 51 40.3**	**+1.0**
	baz=289						
GMRC	**Granite Mounta**	**87.06**	**55**	P	**P**	**19 51 41.1**	**+0.7**
	baz=290,SNR=5.1						
MONP2	**Monument Peak**	**87.09**	**57**	P	**P**	**19 51 41.5**	**+0.8**
	baz=289						
SPUT	**South Promonto**	**87.17**	**48**	P	**P**	**19 51 41.1**	**+0.2**
SPUT				IAmb	IAmb	19 51 42.5	
	comp=Z,8.2nm,1.3s						
DUG	**Dugway, Tooele**	**87.31**	**49**	IAmb	IAmb	19 51 43.1	
	comp=Z,7.0nm,0.9s						
DUG	**Dugway, Tooele**	**87.31**	**49**	P	**P**	**19 51 42.3**	**+0.8**
	baz=291,SNR=9.0						
V12A	**Nelson**	**87.37**	**53**	IAmb	IAmb	19 51 43.6	
	comp=Z,8.1nm,0.8s						
IKP	**In-Ko-Pah, Jac**	**87.42**	**57**	P	**P**	**19 51 42.9**	**+0.8**
	baz=290						
FINES	**FINESS Array B**	**87.55**	**335**	*i* P	**P**	**19 51 40.5**	**-1.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**87.55**	**335**	P	**P**	**19 51 40.0**	**-1.9**
	comp=Z,1.5nm,0.4s,baz=63,slow=4.4,SNR=30						
	comp=Z,1.5nm,0.4s						
BC3	**Big Chuckawall**	**87.60**	**56**	P	**P**	**19 51 44.0**	**+1.0**
	baz=290						
IRM	**Iron Mountain**	**87.67**	**55**	P	**P**	**19 51 44.3**	**+1.1**
	baz=290						
RLMT	**Red Ledge**	**87.89**	**43**	P	**P**	**19 51 45.0**	**+0.8**
	baz=293						
FFC	**Flin Flon**	**87.96**	**32**	P	**P**	**19 51 43.7**	**-0.3**
FFC				IAmb	IAmb	19 51 44.8	
	comp=Z,5.5nm,0.8s						
FFC	**Flin Flon**	**87.96**	**32**	P	**P**	**19 51 43.7**	**-0.3**
FFC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PDMCI	**Parker Dam,Lak**	**88.40**	**55**	P	**P**	**19 51 47.9**	**+1.4**
	baz=290						
KNB	**Kanab**	**88.45**	**52**	P	**P**	**19 51 47.8**	**+0.8**
KNB				IAmb	IAmb	19 51 49.2	
	comp=Z,9.5nm,0.9s						
KNB	**Kanab**	**88.45**	**52**	P	**P**	**19 51 47.8**	**+0.8**
KNB				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BW06	**Boulder Array**	**88.62**	**45**	P	**P**	**19 51 47.9**	**+0.2**
	baz=293						
PDAR	**Pinedale Array**	**88.62**	**45**	P	**P**	**19 51 46.8**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=154,slow=1.1,SNR=18						
	comp=Z,0.6nm,0.4s						
Q16A	**Castle Valley**	**88.96**	**49**	IAmb	IAmb	19 51 51.2	
	comp=Z,8.1nm,1.2s						
U15A	**North Rim**	**89.06**	**52**	P	**P**	**19 51 50.5**	**+0.6**
U15A				IAmb	IAmb	19 51 52.0	
	comp=Z,7.9nm,1.2s						
LAO	**LASA Array**	**89.18**	**41**	P	**P**	**19 51 50.8**	**+0.7**
	baz=295						
SRU	**San Rafael Swe**	**89.36**	**49**	IAmb	IAmb	19 51 52.3	
	comp=Z,7.1nm,0.7s						
Y14A	**Wickenburg**	**89.41**	**55**	P	**P**	**19 51 52.1**	**+0.7**
Y14A				IAmb	IAmb	19 51 53.2	
	comp=Z,9.4nm,1.1s						
DGMT	**Dagmar**	**89.63**	**39**	P	**P**	**19 51 52.5**	**+0.5**
	baz=297						
WUAZ	**Wupatki**	**90.09**	**53**	P	**P**	**19 51 55.6**	**+1.0**
	baz=292						
214A	**Organ Pipe Nat**	**90.28**	**56**	IAmb	IAmb	19 51 57.4	
	comp=Z,4.6nm,0.8s						
214A	**Organ Pipe Nat**	**90.28**	**56**	P	**P**	**19 51 56.9**	**+1.5**
	baz=291						
O20A	**White River Ci**	**90.57**	**47**	P	**P**	**19 51 57.0**	**+0.2**
	baz=294						
K22A	**Casper**	**90.71**	**45**	P	**P**	**19 51 58.0**	**+0.6**
	baz=295						
MVCO	**Mesa Verde**	**91.57**	**50**	P	**P**	**19 52 02.7**	**+1.2**
	baz=294						
TUC	**Tucson**	**91.75**	**55**	P	**P**	**19 52 03.3**	**+1.0**
	baz=292						
ISCO	**Idaho Springs**	**92.55**	**47**	P	**P**	**19 52 06.5**	**+0.4**
	baz=296						
S22A	**4UR Ranch, Cre**	**92.56**	**49**	P	**P**	**19 52 06.8**	**+0.7**
	baz=295						
HFS	**Hagfors**	**93.08**	**338**	P	**P**	**19 52 06.4**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=57,slow=5.5,SNR=8.1						
	comp=Z,1.2nm,0.5s						
NOA	**NORSAR Array B**	**93.28**	**340**	P	**P**	**19 52 07.6**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=49,slow=4.1,SNR=1.8						
	comp=Z,0.4nm,0.5s						
BR131	**Keskin Array S**	**94.51**	**314**	P	**P**	**19 52 13.2**	**-1.7**
BR131				IAmb	IAmb	19 52 15.0	
	comp=Z,3.0nm,0.7s						
BR131	**Keskin Array S**	**94.51**	**314**	P	**P**	**19 52 13.2**	**-1.7**
BRTR	**Keskin Array B**	**94.51**	**314**	*i* P	**P**	**19 52 13.8**	**-1.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	**Keskin Array B**	**94.51**	**314**	P	**P**	**19 52 13.6**	**-1.3**
	comp=Z,1.8nm,0.6s,baz=86,slow=3.1,SNR=14						
	comp=Z,1.8nm,0.6s						
MNTX	**Cornudas Mount**	**96.19**	**54**	P	**P**	**19 52 23.0**	**+0.5**
	baz=295						
MMAI	**Mount Meron Ar**	**96.24**	**307**	P	**P**	**19 52 21.1**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=72,slow=6.3,SNR=4.6						
	comp=Z,1.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**132.78**	**308**	PKP	**PKPdf**	**19 58 06.6**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=13,slow=3.4,SNR=6.5						
DBIC	**Dimboloo**	**141.86**	**307**	PKhKP	PKPpre	19 58 19.3	
	comp=Z,2.6nm,0.4s,baz=36,slow=3.0,SNR=11						

ASRS 29 19:43:43.7±0.7, 50.7°N±5.5°×9.7°E±°, h5km, MLh3.9/5, Error ellipse: s-maj=11.5km s-min=3.4km az=16.6, confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOY	**Mondy**	**3.05**	**65**	Pg	Pg	19 44 43.4	+1.3
MOY				Sg	Sg	19 45 24.7	+3.2
CERR	**Cheremushki**	**4.01**	**309**	Pg	Pg	19 45 02.9	+2.4
CERR				Sg	Sg	19 45 53.6	+1.2
DJO	**Djoy, Khakassi**	**4.07**	**307**	Pg	Pg	19 45 02.3	+0.7
DJO				Sg	Sg	19 45 56.9	+2.5
ZAK	**Zakamensk**	**4.29**	**88**	Pg	Pg	19 45 04.8	-1.1
ZAK				Sg	Sg	19 46 03.7	+2.2
MINR	**Mina**	**4.69**	**343**	Pg	Pg	19 45 17.8	+4.4
MINR				Sg	Sg	19 46 20.8	+6.8
CUR	**Chagan-Uzun**	**5.28**	**269**	Pn	Pn	19 45 09.0	+5.7
CUR				Pg	Pg	19 45 21.7	-3.1
CUR				Sg	Sg	19 46 32.4	-0.8
ULGR	**Ulagan, Altay**	**5.49**	**275**	Pn	Pb	19 45 14.2	-5.9
ULGR				Pg	Pg	19 45 30.0	+1.1
ULGR				Sg	Sg	19 46 43.7	+3.8
LUZB	**Luzhba, Kemero**	**5.72**	**307**	Sg	Sg	19 46 44.1	-3.1
AKAR	**Aktash**	**5.73**	**272**	Pn	Pn	19 45 14.8	+5.4
AKAR				Pg	Pg	19 45 30.9	-2.4
AKAR				Sg	Sg	19 46 46.6	-0.8
CHBI	**Chibit, Altay**	**5.80**	**272**	Pn	Pn	19 45 16.9	+6.5
CHBI				Sg	Sg	19 46 51.7	+1.8
TASR	**Tashtagol**	**5.89**	**296**	Sg	Sg	19 46 54.5	+1.9
DGZ	**Jazzator, Alta**	**5.93**	**266**	Pg	Pg	19 45 35.1	-2.1
DGZ				Sg	Sg	19 46 56.0	+2.0
ARTR	**Artybash**	**6.00**	**287**	Pg	Pg	19 45 38.2	-0.4
ARTR				Sg	Sg	19 46 57.5	+1.2
SHTK	**Zheleznogorsk-**	**6.16**	**344**	Pg	Pg	19 45 38.8	-2.7
SHTK				Sg	Sg	19 46 59.3	-1.9
GZLN	**Zheleznogorsk**	**6.17**	**345**	Pg	Pg	19 45 41.1	-0.7
GZLN				Sg	Sg	19 47 02.8	+1.0
ELDR	**Elanda**	**6.68**	**281**	Pg	Pg	19 45 50.0	-1.6
ELDR				Sg	Sg	19 47 20.8	+2.7

IDC 29 19:46:51.7±46.0, 14.93S×170.41W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=916.6km s-min=194.7km az=79.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**46.77**	**240**	P	P	19 55 23.1	0.0
	2.0nm,0.8s,baz=108,slow=9.6,SNR=3.9						
	2.0nm,0.8s						
WRA	**Warramunga Arr**	**52.76**	**256**	P	P	19 56 08.5	-0.4
	0.4nm,0.6s,baz=93,slow=6.8,SNR=19						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**53.00**	**251**	P	P	19 56 10.8	+0.1
	3.9nm,0.4s,baz=89,slow=8.1,SNR=102						
	3.9nm,0.4s						

TRN 29 19:55:32.6, 10.90N×62.27W, h31km, MD3.1
FUNV 29 19:55:33.6, 11.20N×62.44W, h102km, MW3.3

ISC 29 19:55:30.0±1.8, 10.87N±0.07×62.20W±0.08, h109km±17km, n11, σ2946/18, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.81**	**106**	ǁ *i* P	**Pn**	**19 55 49.7**	**+0.5**
TRN				*eS*	**Sn**	**19 56 01.0**	**-2.8**
CRUV	**Carupano**	**1.04**	**259**	ǁ *eP*	**Pn**	**19 55 53.2**	**+1.7**
CRUV				*eS*	**Sn**	**19 56 07.7**	**0.0**
GRGR	**Grenville**	**1.36**	**23**	*eP*	**Pn**	**19 55 55.9**	**+0.7**
GRGR				*eS*	**Sn**	**19 56 13.1**	**-1.0**
GRHS	**Sauteurs**	**1.45**	**22**	*eP*	**Pn**	**19 55 57.0**	**+0.9**
GRHS				*eS*	**Sn**	**19 56 14.7**	**-1.3**
GCMP	**Grenada, Carri**	**1.77**	**25**	*eP*	**Pn**	**19 56 01.0**	**+0.9**
GCMP				*eS*	**Sn**	**19 56 22.4**	**-0.7**
SVB	**Belmont**	**2.56**	**21**	*eS*	**Sn**	**19 56 42.3**	**+1.2**
PRGV	**PARIAGUAN**	**3.20**	**229**	*eP*	**Pn**	**19 56 21.9**	**+3.3**
PRGV				*eS*	**Sn**	**19 56 57.8**	**+1.6**
MERV	**Las Mercedes**	**4.35**	**249**	*eP*	**Pn**	**19 56 35.3**	**+1.3**
MERV				*eS*	**Sn**	**19 57 20.7**	**-3.0**
CACV	**CAICARA DEL OR**	**5.40**	**233**	*eP*	**Pn**	19 56 45.7	-2.5
CACV				*eS*	Sn	19 57 39.0	-10
BAUV	**El Baul**	**6.07**	**252**	*eP*	**Pn**	**19 56 57.2**	**-0.1**
BAUV				*eS*	**Sn**	**19 57 59.0**	**-6.5**
BAUV	**El Baul**	**6.07**	**252**	*eS*	**Sn**	**19 58 04.8**	**-0.6**

KRSC 29 19:58:47.5±1.1, 55.36N×166.70E, h32km±5km, Ml3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.44**	**249**	*eP*	Pn	19 58 58.1	+0.4
BKI				*eS*	Sn	19 59 04.2	-0.4
KBTR	**Krutoberegovo**	**2.35**	**293**	*eP*	Pn	19 59 25.4	+1.6
BZP	**Bezymyannyi-Pe**	**3.53**	**281**	*eP*	Pn	19 59 43.2	+2.9
TUMD	**Tumrok D**	**3.60**	**270**	*eP*	Pb	19 59 45.9	-4.6
TUMD				*eS*	Sn	20 00 27.8	+5.2
KMNR	**Kamenistaya**	**3.69**	**279**	*eP*	Pn	19 59 47.1	+4.7
TUMR	**Tumrok**	**3.74**	**271**	*eP*	Pn	19 59 48.0	+4.9
TUMR				*eS*	Sn	20 00 31.4	+5.3
SMAR	**Somma**	**5.08**	**249**	*eP*	Pn	20 00 05.8	+4.3
KRX	**Arik**	**5.12**	**250**	*eP*	Pn	20 00 06.6	+4.6
KOK	**Koryaka**	**5.15**	**250**	*eP*	Pn	20 00 07.1	+4.6
KRMR	**Karymshinskiy**	**5.64**	**247**	*eP*	Pn	20 00 14.3	+5.2
KRMR				*eS*	Sn	20 01 17.4	+4.7
ASAK	**Asacha**	**6.00**	**244**	*eP*	Pn	20 00 18.5	+4.4

IDC 29 20:06:34.0±1.6, 59.74N×149.95W, h0km, mb3.2/1, mbtmp3.5/4, ML3.4/3, MS3.6/1, Error ellipse: s-maj=50.0km s-min=10.3km az=118.0
NEIC 29 20:06:35.7±1.3, 60.12N±0.02×151.25W±0.05, h59km±6km, Error ellipse: s-maj=4.1km s-min=3.3km az=119.0
AEIC 29 20:06:36.6±1.2, 60.12N±0.03×151.25W±0.05, h53km±6km, ML3.4, ML3.5/184(NEIC), Error ellipse: s-maj=4.1km s-min=3.6km az=146.0

ISC 29 20:06:35.8±1.1, 60.10N±0.03×151.23W±0.03, h58km±9km, n346, σ0970/364, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLK	**Bradley Lake**	**0.38**	**153**		**Pn**	**20 06 46.5**	**+0.1**
BRLK					**Sn**	**20 06 54.8**	**+0.8**
BRLK	**Bradley Lake**	**0.38**	**153**	IAML		20 06 55.0	
	comp=N,9μm,0.3s						
BRLK				IAML		20 06 55.4	
	comp=E,7μm,0.5s						
BRSE	**Bradley Lake S**	**0.44**	**146**		**Pn**	**20 06 47.1**	**+0.2**
BRSE					**Sn**	**20 06 55.4**	**+0.4**
BRSE	**Bradley Lake S**	**0.44**	**146**	P	**Pn**	**20 06 47.1**	**+0.2**
	baz=326						
BRSE				S	**Sn**	**20 06 55.4**	**+0.4**
	baz=326						
HOM	**Homer**	**0.49**	**205**		**Pn**	**20 06 47.9**	**+0.5**
HOM					**Sn**	**20 06 57.2**	**+1.3**
HOM	**Homer**	**0.49**	**205**	P	**Pn**	**20 06 47.9**	**+0.5**
	baz=23						
HOM				S	**Sn**	**20 06 57.2**	**+1.3**
	baz=23						
CNPM	**China Poot**	**0.58**	**181**		**Pn**	**20 06 48.7**	**+0.2**
CNPM					**Sn**	**20 06 58.2**	**+0.5**
SLKM	**Skilak Lake**	**0.65**	**50**		**Pn**	**20 06 48.6**	**-0.6**
SLKM					**Sn**	**20 06 58.5**	**-0.6**
CAPN	**Captain Cook N**	**0.67**	**3**		**Pn**	**20 06 50.5**	**+1.1**
CAPN	**Captain Cook N**	**0.67**	**3**	P	**Pn**	**20 06 50.4**	**+1.0**
	baz=184						
O20K	**Slope Mountain**	**0.70**	**269**		**Pn**	**20 06 49.9**	**0.0**
O20K	**Slope Mountain**	**0.70**	**269**	P	**Pn**	**20 06 49.8**	**-0.1**
	baz=86						
RDT	**Redoubt**	**0.75**	**309**		**Pn**	**20 06 49.9**	**-0.8**
RED	**Redoubt Volcan**	**0.83**	**293**		**Pn**	**20 06 51.0**	**-0.6**
RED					**Sn**	**20 07 02.6**	**-0.7**
RDSO	**Redoubt South**	**0.83**	**296**		**Pn**	**20 06 51.0**	**-0.7**
RDSO					**Sn**	**20 07 02.8**	**-0.6**
O22K	**Cooper Landing**	**0.84**	**62**		**Pn**	**20 06 51.8**	**+0.2**
O22K	**Cooper Landing**	**0.84**	**62**		**Sn**	**20 07 03.9**	**+0.6**
O22K	**Cooper Landing**	**0.84**	**62**	P	**Pn**	**20 06 51.9**	**+0.2**
	baz=245						
O22K				S	**Sn**	**20 07 03.9**	**+0.6**
	baz=245						
RSO	**Redoubt South**	**0.84**	**296**		**Pn**	**20 06 51.3**	**-0.6**
DFR	**Drift River**	**0.88**	**305**		**Pn**	**20 06 51.4**	**-0.8**
SEW	**Seward**	**0.89**	**89**		**Pn**	**20 06 51.8**	**-0.4**
SEW	**Seward**	**0.89**	**89**	P	**Pn**	**20 06 51.8**	**-0.4**
	baz=272						
RDWB	**Redoubt West**	**0.89**	**296**		**Pn**	**20 06 51.7**	**-0.7**
IVE	**Iliamna Volcan**	**0.90**	**265**		**Sn**	**20 07 04.3**	**-0.6**
RDJH	**Redoubt Jeurge**	**0.93**	**303**		**Pn**	**20 06 52.2**	**-0.7**
ILS	**Iliamna Low So**	**0.94**	**262**		**Pn**	**20 06 52.6**	**-0.3**
NCT	**North Crescent**	**0.96**	**299**		**Pn**	**20 06 52.7**	**-0.7**
NCT					**Sn**	**20 07 05.5**	**-0.8**
ILSW	**Iliamna Southw**	**0.97**	**264**		**Pn**	**20 06 52.8**	**-0.6**
ILSW					**Sn**	**20 07 05.8**	**-0.6**
ILSW				IAML		20 07 10.7	
	comp=N,872nm,0.4s						
P19K	**Oil Pt**	**1.11**	**247**		**Pn**	**20 06 55.2**	**0.0**
P19K	**Oil Pt**	**1.11**	**247**		**Sn**	**20 07 10.1**	**+0.5**
P19K	**Oil Pt**	**1.11**	**247**	P	**Pn**	**20 06 55.2**	**0.0**
	baz=64						
P19K				S	**Sn**	**20 07 10.0**	**+0.5**
	baz=64						
FIS	**Fire Island**	**1.16**	**25**		**Pn**	**20 06 56.8**	**+1.0**
FIS					**Sn**	**20 07 13.2**	**+2.5**
N20K	**Mount Spurr**	**1.20**	**337**	P	**Pn**	**20 06 56.0**	**-0.4**
	baz=156						
SPCR	**Spurr Chakacha**	**1.20**	**337**		**Pn**	**20 06 56.0**	**-0.4**
SPCN	**Chakachatna No**	**1.22**	**338**		**Pn**	**20 06 56.5**	**-0.2**
RC01	**Rabbit Creek A**	**1.23**	**36**	Pn	**Pn**	**20 06 56.4**	**-0.5**
RC01				Sn	**Sn**	**20 07 13.2**	**

comp=N,380nm,0.6s
SKT Skwentna 1.89 356 P Pn 20 07 06.3 +0.5
baz=176
KNK Knik Glacier 1.89 45 Pn 20 07 05.7 0.0
KNK Knik Glacier 1.89 45 P Pn 20 07 05.7 0.0
baz=228
P23K Montague Islan 1.92 91 Pn 20 07 05.4 -0.7
P23K Montague Islan 1.92 91 P Pn 20 07 05.5 -0.6
baz=275
M20K Styx River 2.01 333 Pn 20 07 08.2 +0.8
M20K Styx River 2.01 333 P Pn 20 07 08.1 +0.6
baz=152
O18K Koktuh Hills 2.02 265 Pn Pn 20 07 07.4 0.0
O18K IAML 20 07 32.4
comp=N,270nm,0.8s
O18K IAML 20 07 32.6
comp=E,291nm,0.7s
O18K Koktuh Hills 2.02 265 P Pn 20 07 06.9 -0.6
baz=81
GHO Glory Hole Cre 2.02 33 Pn Pn 20 07 07.3 -0.2
GHO IAML 20 07 40.3
comp=E,530nm,0.5s
P18K Big Mountain, 2.15 252 Pn Pn 20 07 08.7 -0.6
P18K IAML 20 07 37.7
comp=N,224nm,0.8s
P18K Big Mountain, 2.15 252 P Pn 20 07 08.9 -0.3
baz=68
GLI Glacier Island 2.19 67 Pn 20 07 08.3 -1.4
GLI IAML 20 07 48.2
comp=N,426nm,0.8s
GLI IAML 20 07 53.0
comp=E,402nm,0.4s
GLI Glacier Island 2.19 67 P Pn 20 07 08.3 -1.4
baz=251
SML Sawmill 2.22 38 Pn Pn 20 07 09.9 -0.3
SML IAML 20 07 48.7
comp=E,438nm,0.8s
SML Sawmill 2.22 38 P Pn 20 07 10.0 -0.3
baz=221
KAHG Katmai Hook Gl 2.34 228 Pn 20 07 12.5 +0.6
CUT Chulitna 2.36 11 Pn 20 07 12.3 +0.3
CUT Chulitna 2.36 11 P Pn 20 07 12.5 +0.5
baz=192
SVW2 Sparrevohn 2.37 297 Pn Pn 20 07 11.5 -0.7
SVW2 IAML 20 07 55.7
comp=N,209nm,0.5s
SVW2 IAML 20 07 56.0
comp=E,229nm,0.7s
SVW2 Sparrevohn 2.37 297 P Pn 20 07 11.5 -0.7
HIN Hinchinbrook I 2.37 81 Pn 20 07 11.0 -1.3
HIN IAML 20 08 00.8
comp=E,224nm,0.9s
HIN IAML 20 08 04.5
comp=N,278nm,0.7s
N18K Kilae Creek 2.39 286 Pn Pn 20 07 11.6 -0.9
N18K Kilae Creek 2.39 286 P Pn 20 07 11.7 -0.7
baz=102
M23K Glacier View 2.41 44 Pn 20 07 12.5 -0.2
M23K Glacier View 2.41 44 P Pn 20 07 12.2 -0.6
baz=227
KAHC Katmai Hardscr 2.42 235 Pn 20 07 13.5 +0.5
KAHC Katmai Hardscr 2.42 235 Pn 20 07 13.3 +0.2
KAHC Katmai Hardscr 2.42 235 P Pn 20 07 13.5 +0.5
baz=51
Q18K Katmai Hardscr 2.42 235 P Pn 20 07 13.3 +0.2
baz=51
KDAK Kodiak Island 2.43 197 Pn Pn 20 07 12.3 -0.6
KDAK IAML 20 07 53.4
comp=N,221nm,0.9s
KDAK IAML 20 07 54.2
comp=N,234nm,0.6s
KDAK Kodiak Island 2.43 197 Pn Pn 20 07 12.5 -0.5
comp=N,2.9nm,0.3s,baz=37,slow=10,SNR=104
KDAK Sn Sn **20 07 41.8 +0.3**
comp=N,17nm,0.3s,baz=308,slow=18,SNR=8.0
KDAK Lg Lg 20 07 48.7
comp=N,20nm,0.3s,baz=260,slow=15,SNR=12
comp=N,14nm,0.2s
Q23K Middleton Isla 2.56 103 Pn Pn 20 07 14.9 +0.2
Q23K IAML 20 08 01.0
comp=N,206nm,1.6s
Q23K IAML 20 08 35.5
comp=E,166nm,1.3s
Q23K Middleton Isla 2.56 103 P Pn 20 07 15.2 +0.5
baz=288
MID Middleton Isla 2.56 103 Pn Pn 20 07 15.1 +0.3
MID IAML 20 08 01.0
comp=N,183nm,1.6s
MID IAML 20 08 19.3
comp=E,147nm,2.0s
MID Middleton Isla 2.56 103 P Pn 20 07 16.3 +1.5
SCM Sheep Creek Mo 2.58 46 Pn 20 07 15.0 -0.1
SCM Sheep Creek Mo 2.58 46 P Pn 20 07 15.0 -0.1
baz=230
M18K Stony River 2.65 304 Pn 20 07 15.4 -0.7
M18K Stony River 2.65 304 P Pn 20 07 15.4 -0.7
baz=120
L20K Farewell, AK 2.71 333 Pn 20 07 17.2 +0.3
L20K Farewell, AK 2.71 333 P Pn 20 07 17.0 +0.1
baz=151
L19K White Mountain 2.73 321 Pn Pn 20 07 17.2 +0.1
L19K IAML 20 08 08.9
comp=N,143nm,0.6s
L19K White Mountain 2.73 321 P Pn 20 07 17.3 +0.1
baz=138
EYAK Cordova Ski Ar 2.76 78 Pn Pn 20 07 15.9 -1.6
EYAK Cordova Ski Ar 2.76 78 P Pn 20 07 16.2 -1.3
EYAK Cordova Ski Ar 2.76 78 P Pn 20 07 15.9 -1.6
baz=263
P17K Kvichak River 2.80 253 Pn 20 07 18.4 +0.4
P17K Kvichak River 2.80 253 P Pn 20 07 18.4 +0.4
baz=68
PPLA Purkeypile 2.84 351 Pn Pn 20 07 19.0 +0.2
PPLA Purkeypile 2.84 351 P Pn 20 07 19.2 +0.4
baz=170
DIV Divide 2.88 67 Pn Pn 20 07 18.4 -0.8
ANCK Angle Creek 2.91 231 Pn 20 07 20.8 +1.1
KLU Klutina 2.95 59 Pn 20 07 20.0 -0.2
KLU IAML 20 07 59.1
comp=E,131nm,0.5s
KLU IAML 20 08 09.9
comp=N,220nm,0.4s
KLU Klutina 2.95 59 P Pn 20 07 20.0 -0.2
baz=244
WAT7 Susitna Watana 2.97 22 Pn 20 07 20.2 -0.2
O17K Koliganek Bris 2.97 266 Pn 20 07 20.0 -0.4
O17K Koliganek Bris 2.97 266 P Pn 20 07 20.0 -0.4
baz=81
N17K Nushagak Hills 3.00 281 Pn Pn 20 07 20.0 -0.8
N17K Nushagak Hills 3.00 281 P Pn 20 07 19.8 -0.9
baz=95
WAT6 Susitna Watana 3.00 33 Pn 20 07 21.1 +0.1
WAT6 Susitna Watana 3.00 33 P Pn 20 07 21.1 +0.1
baz=216
CNTC Contact Creek 3.02 234 Pn 20 07 22.2 +0.9
WAT1 Susitna Watana 3.02 24 Pn 20 07 21.8 +0.6
WAT1 Susitna Watana 3.02 24 P Pn 20 07 21.8 +0.6
baz=207
Q17K Contact Creek 3.02 234 P Pn 20 07 22.1 +0.8
baz=50
OHAK Old Harbor 3.08 201 Pn 20 07 21.0 -0.9
OHAK Old Harbor 3.08 201 P Pn 20 07 21.1 -0.8
OHAK Old Harbor 3.08 201 P Pn 20 07 21.1 -0.8
baz=19
Q16K King Salmon 3.12 245 P Pn 20 07 23.5 +1.1
baz=60
M24K Tolsona, Glenn 3.17 48 Pn Pn 20 07 23.7 +0.5
M24K Tolsona, Glenn 3.17 48 P Pn 20 07 23.7 +0.5
baz=233
RAGM Ragged Mountai 3.28 82 Pn Pn 20 07 24.0 -0.6
RAGM IAML 20 08 40.2
comp=N,173nm,0.6s
M17K Holitna River 3.32 296 Pn 20 07 24.8 -0.4
M17K IAML 20 08 03.8
comp=E,183nm,0.6s
M17K IAML 20 08 04.8
comp=N,188nm,0.7s
M17K Holitna River 3.32 296 P Pn 20 07 24.7 -0.4
baz=110
CAST Castle Rocks 3.35 353 Pn Pn 20 07 24.9 -0.8
CAST Castle Rocks 3.35 353 P Pn 20 07 26.7 +1.0
baz=173
BMRM Bremner River 3.38 72 Pn Pn 20 07 24.6 -1.5
BMRM Bremner River 3.38 72 P Pn 20 07 24.8 -1.3
baz=258
TRF Thorofare Moun 3.39 7 Pn Pn 20 07 26.5 +0.2
TRF IAML 20 08 16.3
comp=E,170nm,0.6s
TRF Thorofare Moun 3.39 7 P Pn 20 07 26.9 +0.6
baz=188
L18K Granite Mounta 3.39 311 Pn 20 07 25.7 -0.5
L18K IAML 20 08 06.1
comp=N,100nm,0.7s
L18K Granite Mounta 3.39 311 P Pn 20 07 25.8 -0.3
baz=126
KAIM Kayak Island 3.42 90 Pn Pn 20 07 25.6 -1.0
KAIM IAML 20 08 50.6
comp=E,110nm,3.0s
KAIM IAML 20 09 33.6
comp=N,106nm,2.6s
KAIM Kayak Island 3.42 90 P Pn 20 07 25.6 -1.0
baz=276
KTH Kantishna Hill 3.47 2 Pn Pn 20 07 27.2 0.0
KTH IAML 20 08 15.7
comp=E,169nm,0.8s
O16K Kokwok River B 3.50 265 Pn Pn 20 07 27.1 -0.6
O16K IAML 20 08 26.2
comp=N,79nm,0.5s
O16K Kokwok River B 3.50 265 P Pn 20 07 27.6 -0.1
baz=78
RND Reindeer 3.50 18 Pn Pn 20 07 28.5 +0.7
RND IAML 20 08 27.4
comp=E,74nm,0.9s
DHY Denali Highway 3.51 30 Pn 20 07 28.7 +0.8
DHY IAML 20 08 24.2
comp=N,114nm,0.7s
DHY IAML 20 08 26.0
comp=E,92nm,0.8s
DHY Denali Highway 3.51 30 P Pn 20 07 28.9 +1.1
baz=214
K20K Telida 3.54 339 Pn 20 07 28.3 +0.2
K20K Telida 3.54 339 P Pn 20 07 28.2 +0.1
baz=156
N25K Chitina, Valde 3.58 62 Pn Pn 20 07 28.3 -0.5
N25K IAML 20 08 27.8
comp=E,78nm,0.8s
N25K IAML 20 08 27.9
comp=N,110nm,0.6s
N25K Chitina, Valde 3.58 62 P Pn 20 07 28.3 -0.5
baz=248
P16K Nushagak River 3.60 256 Pn 20 07 29.9 +0.9
P16K Nushagak River 3.60 256 P Pn 20 07 29.9 +0.9
baz=69
R17K Ugashik Creek 3.64 230 Pn Pn 20 07 31.2 +1.6
R17K IAML 20 08 35.1
comp=N,68nm,0.8s
TTA Tatalina 3.65 323 Pn Pn 20 07 29.7 0.0
TTA Tatalina 3.65 323 P Pn 20 07 29.8 0.0
TTA Tatalina 3.65 323 P Pn 20 07 29.7 0.0
baz=139
HARP HAARP 3.73 49 Pn 20 07 31.2 +0.4
HARP HAARP 3.73 49 P Pn 20 07 31.2 +0.4
baz=235
BERG Berg Lake 3.76 82 Pn 20 07 29.6 -1.7
BERG IAML 20 08 46.4
comp=E,119nm,0.6s
BERG IAML 20 08 46.8
comp=N,100nm,0.7s
N16K Nishlik Lake 3.77 279 Pn 20 07 31.1 -0.3
N16K Nishlik Lake 3.77 279 P Pn 20 07 31.2 -0.2
baz=92
MCK McKinley 3.80 16 Pn Pn 20 07 33.1 +1.3
MCK McKinley 3.80 16 P Pn 20 07 32.6 +0.8
baz=198
GLB Gilahina Butte 3.88 67 Pn Pn 20 07 32.0 -0.9
GLB IAML 20 08 38.7
comp=E,56nm,0.9s
GLB IAML 20 08 45.1
comp=N,88nm,1.2s
SII Sitkinak Islan 3.88 205 Pn Pn 20 07 32.7 -0.2
SII IAML 20 08 45.9
comp=E,97nm,1.1s
SII Sitkinak Islan 3.88 205 P Pn 20 07 34.7 +1.8
WASW Wrangell South 3.89 59 Pn 20 07 33.2 0.0
M16K Timber Creek 3.93 287 Pn 20 07 33.3 -0.2
M16K Timber Creek 3.93 287 P Pn 20 07 33.2 -0.2
baz=100
WAZA Wrangell Mount 3.96 57 Pn 20 07 34.4 +0.1
PAX Paxson 3.98 41 Pn Pn 20 07 34.9 +0.5
PAX Paxson 3.98 41 P Pn 20 07 34.9 +0.5
baz=227
VRDI Verde Repeater 3.99 70 Pn Pn 20 07 33.3 -1.2
VRDI IAML 20 08 38.6
comp=N,51nm,0.9s
L17K Donlin 3.99 304 Pn 20 07 33.9 -0.4
L17K Donlin 3.99 304 P Pn 20 07 33.9 -0.4
baz=118
BPAW Bear Paw Mtn. 4.01 1 Pn Pn 20 07 34.7 0.0
BPAW IAML 20 08 27.4
comp=E,57nm,0.4s
BPAW Bear Paw Mtn. 4.01 1 P Pn 20 07 35.6 +0.9
baz=182
CRQM Cirque 4.06 77 Pn Pn 20 07 34.1 -1.4
CRQM IAML 20 08 46.7
comp=E,60nm,1.0s
CRQM IAML 20 08 51.5
comp=N,76nm,0.9s
BWN Browne 4.17 11 Pn 20 07 35.1 -1.6
SNH Sunshine Point 4.20 85 Pn Pn 20 07 36.5 -0.7
SNH IAML 20 08 27.1
comp=E,54nm,2.6s
SNH IAML 20 08 31.4
comp=N,68nm,2.2s
TGL Tana Glacier 4.21 77 Pn 20 07 36.0 -1.5
TGL IAML 20 08 53.5
comp=E,49nm,0.7s
TGL IAML 20 08 58.4
comp=N,52nm,1.2s
J18K Innoko River 4.26 325 Pn 20 07 37.2 -0.9
J18K Innoko River 4.26 325 P Pn 20 07 38.4 +0.3
baz=140
K17K Iditarod 4.29 311 Pn Pn 20 07 38.0 -0.5
K17K IAML 20 08 26.8
comp=N,47nm,0.6s
K17K IAML 20 08 55.6
comp=E,74nm,0.9s
K17K Iditarod 4.29 311 P Pn 20 07 38.3 -0.2
baz=124
J20K Nowinta River 4.31 343 Pn 20 07 38.1 -0.7
J20K IAML 20 08 37.3
comp=N,37nm,0.9s
J20K Nowinta River 4.31 343 P Pn 20 07 39.6 +0.9
baz=160
L16K Owhat River 4.34 295 Pn Pn 20 07 38.5 -0.6
L16K Owhat River 4.34 295 P Pn 20 07 38.7 -0.4
baz=108
BARK Barkley Ridge 4.36 82 Pn 20 07 38.4 -1.2
J19K Poorman 4.42 334 Pn Pn 20 07 40.0 -0.2
J19K Poorman 4.42 334 P Pn 20 07 40.3 0.0
baz=150
N15K Kwethluk River 4.43 275 Pn Pn 20 07 40.5 +0.1
N15K IAML 20 09 03.8
comp=E,61nm,0.6s
N15K IAML 20 09 06.4
comp=N,66nm,0.7s
N15K Kwethluk River 4.43 275 P Pn 20 07 40.5 +0.1
baz=87
PTPK Patty Peak 4.45 72 Pn 20 07 39.9 -0.9
KIAG Kiagna River 4.46 76 Pn 20 07 40.2 -0.8
O15K Ungalikthiuk R 4.46 262 Pn 20 07 41.3 +0.5
O15K Ungalikthiuk R 4.46 262 P Pn 20 07 41.3 +0.5
baz=74
K24K Donnelly Dome 4.52 32 Pn 20 07 42.6 +1.0
K24K Donnelly Dome 4.52 32 P Pn 20 07 42.6 +1.0
baz=217
MENT Mentasta 4.58 48 Pn 20 07 42.0 -0.5
MENT IAML 20 09 03.5
comp=N,71nm,0.6s
M26K Nabesna, AK 4.59 56 P Pn 20 07 42.8 +0.2
baz=244
NEA2 Nenana 4.62 12 Pn 20 07 42.5 -0.4
M15K Kasigluk River 4.73 281 Pn 20 07 43.9 -0.6
M15K Kasigluk River 4.73 281 P Pn 20 07 43.9 -0.6
baz=93
RIDG Independent Ri 4.73 37 Pn 20 07 44.1 -0.4
RIDG IAML 20 09 12.0
comp=N,66nm,1.4s
GRNC Granite Creek 4.74 78 Pn 20 07 43.7 -1.1
GRNC IAML 20 09 09.5
comp=N,33nm,0.9s
HDA Harding Lake 4.76 23 Pn 20 07 43.8 -1.1
HDA IAML 20 09 00.7
comp=E,37nm,0.8s
HDA IAML 20 09 03.4
comp=N,63nm,0.7s
L26K Log Cabin Wild 4.77 49 Pn 20 07 44.0 -1.1
L26K IAML 20 09 03.6
comp=N,33nm,0.4s
L26K IAML 20 09 12.2
comp=E,50nm,0.4s
L26K Log Cabin Wild 4.77 49 P Pn 20 07 45.6 +0.5
baz=236
BARN Barnard Glacie 4.81 74 Pn 20 07 45.2 -0.6
BARN IAML 20 09 07.9
comp=E,26nm,1.6s
BARN IAML 20 09 29.9
comp=N,29nm,1.0s
CCB Clear Creek Bu 4.83 18 Pn Pn 20 07 44.6 -1.2
CHIR Chirikof Islan 4.89 211 Pn Pn 20 07 47.4 +0.7
I20K Naaghedeneel 4.95 344 Pn 20 07 47.0 -0.3
MLY Manley 4.95 2 Pn Pn 20 07 47.8 +0.3
MLY Manley 4.95 2 P Pn 20 07 48.3 +0.8
baz=183
CTG Chitna Glacier 4.96 76 P Pn 20 07 48.2 +0.4
baz=264
CTGM Chitina Glacie 4.96 76 Pn 20 07 47.5 -0.2
COLA College 5.04 17 Pn 20 07 48.3 -0.4
COLA College 5.04 17 P Pn 20 07 49.2 +0.6
comp=N,18nm,0.5s
M27K Edge Creek, AK 5.05 59 Pn Pn 20 07 49.2 +0.2
M27K IAML 20 09 21.1
comp=N,24nm,2.1s
M27K IAML 20 09 55.1
comp=E,22nm,4.5s
M27K Edge Creek, AK 5.05 59 P Pn 20 07 49.0 0.0
baz=248
MDM Murphy Dome 5.07 15 Pn Pn 20 07 49.0 -0.1
MDM IAML 20 09 14.9
comp=E,24nm,1.2s
MDM IAML 20 09 34.1
comp=N,22nm,0.8s
IL31 5.10 21 Pn 20 07 49.8 +0.3
ILAR Eielson Array 5.10 21 Pn Pn 20 07 49.9 +0.4
comp=N,2.1nm,0.3s,baz=207,slow=14,SNR=70
ILAR Sn Sn **20 08 48.0 +1.0**
comp=N,1.9nm,0.3s,baz=213,slow=20,SNR=4.8
comp=N,4.3nm,0.4s
IL03 Eielson Array 5.11 22 Pn Pn 20 07 50.0 +0.4
I21K Tanana 5.11 356 Pn 20 07 48.8 -0.9
I21K IAML 20 09 33.7
comp=E,24nm,1.5s
I21K IAML 20 10 10.2
comp=N,22nm,4.7s
I21K Tanana 5.11 356 P Pn 20 07 50.5 +0.9
baz=176
LOGN Logan Glacier 5.11 77 Pn Pn 20 07 48.2 -1.6
LOGN IAML 20 09 24.1
comp=N,23nm,2.0s
LOGN IAML 20 09 45.6
comp=E,22nm,2.7s
I23K Minto, Yukon-K 5.14 9 Pn 20 07 50.1 +0.1
I23K IAML 20 09 28.1
comp=E,25nm,1.1s
I23K IAML 20 09 36.9
comp=N,30nm,3.3s
I23K Minto, Yukon-K 5.14 9 P Pn 20 07 50.1 +0.1
baz=191
O14K Tigyukauivet M 5.16 265 Pn Pn 20 07 50.3 -0.1
O14K IAML 20 08 47.9
comp=E,37nm,2.5s
O14K IAML 20 09 39.4
comp=N,36nm,3.5s
O14K Tigyukauivet M 5.16 265 P Pn 20 07 50.2 -0.1
baz=76
SCRK Sand Creek 5.17 38 Pn Pn 20 07 50.2 -0.3
SCRK IAML 20 09 14.4
comp=N,27nm,1.0s
SCRK IAML 20 09 29.9
comp=E,26nm,1.4s
SCRK Sand Creek 5.17 38 P Pn 20 07 50.4 -0.2
baz=225
SAMH Samovar Hills 5.22 85 Pn 20 07 51.5 +0.2
N14K Kuskokwak Cree 5.25 273 Pn 20 07 51.8 +0.3
N14K Kuskokwak Cree 5.25 273 P Pn 20 07 51.8 +0.3
baz=83
L15K Ungalak Mounta 5.25 292 Pn 20 07 51.4 -0.2
L15K Ungalak Mounta 5.25 292 P Pn 20 07 51.4 -0.2
baz=103
J25K Salcha River, 5.28 29 Pn 20 07 52.5 +0.4
J25K IAML 20 09 07.6
comp=N,24nm,0.8s
J25K IAML 20 09 11.0
comp=E,33nm,0.9s
J25K Salcha River, 5.28 29 P Pn 20 07 52.5 +0.4
baz=214
POKR Poker Plat Res 5.33 18 Pn 20 07 52.6 -0.1
POKR IAML 20 09 45.0
comp=E,18nm,2.8s
POKR Poker Plat Res 5.33 18 P Pn 20 07 53.3 +0.7
baz=201
YUK2 White River 5.34 67 Pn 20 07 52.3 -0.5
GCSA Galena City Sc 5.35 333 Pn 20 07 53.6 +0.8
GCSA Galena City Sc 5.35 333 P Pn 20 07 53.6 +0.8
baz=148
M14K Bethel 5.36 282 Pn Pn 20 07 53.0 0.0
M14K Bethel 5.36 282 P Pn 20 07 53.9 +0.9
baz=92
CHGN Chignik 5.38 228 Pn Pn 20 07 53.8 +0.5
CHGN IAML 20 10 18.3
comp=E,36nm,1.9s
CHGN IAML 20 11 18.9
comp=N,32nm,2.1s
L27K Beaver Creek, 5.38 52 Pn 20 07 53.4 0.0
L27K IAML 20 09 29.0
comp=N,17nm,2.0s
L27K Beaver Creek, 5.38 52 P Pn 20 07 53.1 -0.3
baz=241
BCAR Beaver Creek A 5.40 53 Pn 20 07 53.5 -0.2
K15K Wolf Creek Mou 5.45 298 Pn 20 07 54.1 -0.2
K15K Wolf Creek Mou 5.45 298 P Pn 20 07 54.1 -0.2
baz=109
J16K Anvik River 5.49 310 Pn 20 07 54.7 -0.1
J16K Anvik River 5.49 310 P Pn 20 07 54.4 -0.4
baz=121
PCA Pinnacle 5.49 85 Pn Pn 20 07 54.6 -0.3
PINM Pinnacle 5.49 85 P Pn 20 07 54.3 -0.7
baz=275
YUK3 Moose Creek 5.51 68 P Pn 20 07 55.0 -0.4
baz=257
H21K Melozitna Rive 5.62 353 Pn Pn 20 07 56.7 0.0
H20K Anotleneega Mo 5.66 344 Pn 20 07 57.0 -0.3
H20K Anotleneega Mo 5.66 344 P Pn 20 07 57.0 -0.3
baz=161
J26L Joseph Creek 5.68 36 Pn 20 07 57.5 0.0
J26L Joseph Creek 5.68 36 P Pn 20 07 57.4 -0.1
baz=223
YUK8 Steele Glacier 5.75 73 Pn 20 07 59.0 +0.3
YUK8 Steele Glacier 5.75 73 P Pn 20 07 59.0 +0.3
baz=263
L14K Kuka Creek 5.76 287 Pn 20 07 58.5 0.0
BCPM Bancas Point 5.81 86 Pn Pn 20 07 59.6 +0.3
I17K Unalakleet 5.86 314 Pn Pn 20 07 59.4 -0.4
I17K Unalakleet 5.86 314 P Pn 20 07 59.5 -0.3
baz=126
H19K Roundabout Mou 5.95 339 Pn 20 08 01.4 +0.3
H19K Roundabout Mou 5.95 339 P Pn 20 08 01.2 +0.1
baz=154
H24K Noodor Dome 5.96 13 Pn 20 08 01.2 -0.1
H24K Noodor Dome 5.96 13 P Pn 20 08 01.7 +0.5
baz=196
PNL Peninsula 5.97 89 Pn 20 08 00.0 -1.5
PNL Peninsula 5.97 89 P Pn 20 08 00.9 -0.6
PNL Peninsula 5.97 89 P Pn 20 08 00.0 -1.5
baz=280
IMAR Indian Mountai 6.01 350 Pn Pn 20 08 02.1 0.0
PRP Porcupine Dome 6.03 23 Pn Pn 20 08 02.8 +0.5
PRP Porcupine Dome 6.03 23 P Pn 20 08 02.7 +0.4
baz=208
H18K Honhosa River 6.04 330 Pn 20 08 03.1 +0.7
H18K Honhosa River 6.04 330 P Pn 20 08 03.3 +0.9
baz=144
M13K Dall Lake 6.04 278 Pn Pn 20 08 02.5 +0.1
M13K Dall Lake 6.04 278 P Pn 20 08 03.1 +0.7
baz=88
H17K Granite Mounta 6.30 324 Pn 20 08 06.4 +0.6
H17K Granite Mounta 6.30 324 P Pn 20 08 06.5 +0.6
baz=136
YUK4 Talbot Arm 6.30 73 P Pn 20 08 06.2 +0.1

baz=264
O29M Mount Kennedy 6.31 83 Pn 20 08 06.6 +0.3
O29M Mount Kennedy 6.31 83 P Pn 20 08 05.6 -0.7
baz=274
I26K Coal Creek Min 6.40 32 Pn 20 08 07.4 0.0
I26K Coal Creek Min 6.40 32 P Pn 20 08 07.4 0.0
baz=219
J14K Nanvaranak Lak 6.48 299 Pn Pn 20 08 07.8 -0.6
J14K Nanvaranak Lak 6.48 299 P Pn 20 08 08.3 -0.1
baz=109
YUK7 Dusty Glacier 6.52 81 Pn 20 08 09.4 +0.3
G21K Allakaket 6.52 352 Pn 20 08 09.7 +0.7
M29M Somme Creek 6.59 64 P Pn 20 08 09.5 -0.4
baz=255
EGAK Eagle 6.62 41 Pn 20 08 09.5 -0.7
G19K Purcell Mounta 6.62 339 Pn Pn 20 08 11.3 +1.0
G23K Bananza Creek 6.66 4 Pn 20 08 09.3 -1.5
G18K Tagagawik 6.72 333 Pn 20 08 12.0 +0.3
P29M Windy Craggy 6.81 88 Pn Pn 20 08 12.4 -0.6
HYT Haines Junctio 6.83 78 Pn Pn 20 08 13.1 -0.2
DAWY Dawson 6.83 49 Pn Pn 20 08 12.7 -0.6
G24K Hadweenzic Riv 6.83 13 Pn Pn 20 08 12.6 -0.7
G24K Hadweenzic Riv 6.83 13 P Pn 20 08 13.5 +0.3
baz=196
L29M L29M 6.93 59 Pn 20 08 14.7 +0.1
L29M L29M 6.93 59 P Pn 20 08 14.4 -0.3
baz=250
FYU Fort Yukon 7.02 20 Pn 20 08 16.1 +0.3
N30M Aishikik Lake 7.05 73 Pn Pn 20 08 14.7 -1.6
COLD Coldfoot 7.17 3 Pn Pn 20 08 15.6 -2.2
F21K Alatna River 7.22 353 Pn 20 08 17.9 -0.6
F19K Shaleruckik Mo 7.36 339 Pn 20 08 20.2 -0.2
G16K Koyuk River 7.36 321 Pn Pn 20 08 20.6 +0.2
M30M Minto, Yukon 7.37 64 Pn Pn 20 08 18.9 -1.7
I28M Miner Creek 7.45 39 Pn Pn 20 08 21.5 -0.2
K29M Barlow Dome 7.46 54 Pn Pn 20 08 21.1 -0.8
O30N Mendenhall 7.52 78 Pn Pn 20 08 21.2 -1.5
F24K Squaw Lake 7.59 10 Pn 20 08 23.5 -0.1
N31M Braeburn, Yuko 7.68 73 Pn Pn 20 08 24.6 -0.3
F17K Baldwin Pennin 7.79 329 Pn 20 08 26.2 -0.2
E19K Redstone River 7.84 343 Pn Pn 20 08 26.4 -0.6
BMAR Burnt Mountain 7.92 19 Pn 20 08 27.4 -0.7
ANM Nome 7.95 310 Pn Pn 20 08 28.3 -0.2
S31K Pelican 8.03 99 Pn Pn 20 08 28.5 -1.0
MAYO Mayo, Yukon 8.05 58 Pn Pn 20 08 28.4 -1.4
SKAG Skagway 8.05 88 Pn Pn 20 08 29.7 -0.1
SKAG Skagway 8.05 88 P Pn 20 08 30.1 +0.3
WHY Whitehorse 8.12 79 Pn Pn 20 08 29.7 -1.2
J30M Hart River 8.25 51 Pn 20 08 32.6 0.0
F15K North Star Dit 8.30 318 Pn Pn 20 08 33.8 +0.5
M31M Drury Creek, Y 8.41 68 Pn Pn 20 08 33.8 -1.0
E25K Arctic Village 8.42 15 Pn Pn 20 08 34.6 -0.3
I30M Mount Dempster 8.54 47 Pn Pn 20 08 34.9 -1.7
TOLK Toolik Lake Re 8.61 4 Pn Pn 20 08 37.2 -0.2
R32K Eaglecrest 8.77 95 Pn Pn 20 08 38.4 -1.3
P32M Atlin 8.83 86 Pn Pn 20 08 39.8 -0.8
D22K Ayikyak River 8.84 357 Pn Pn 20 08 40.2 -0.4
YKA Yellowknife Ar 17.60 66 P Pn 20 10 35.5 -1.1
comp=N,0.2nm,0.3s,baz=278,slow=12,SNR=16
comp=N,1.2nm,0.7s
ANMO Albuquerque 38.22 111 LR LR 20 29 02.9
comp=N,79nm,20.1s,baz=65,slow=36
SONM Songino Array 55.45 307 P P 20 16 16.9 +13
comp=N,0.2nm,0.6s,baz=56,slow=5.7,SNR=1.5
comp=N,0.2nm,0.6s

*IDC **29** 20:10:53.5±3.0, 43.70N×105.30W, h0km, mbtmp3.3/2, ML2.9/2, Error ellipse: s-maj=83.0km s-min=10.1km az=151.0*
*NEIC **29** 20:10:55.0±2.5, 43.90N±0.05×105.40W±0.05, h0km±2km, ML3.0/54, Error ellipse: s-maj=9.3km s-min=4.9km az=333.0*
ISC 29 20:10:54.5±1.0, 43°92N±0.06×105°34W±0.07, h0km, n38, σ1§15/37, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time (h m s)	Res ISC
RSSD	Black Hills	0.96	78			Pb	20 11 13.8	-0.4
K22A	Casper	1.54	215			Pg	20 11 24.7	+0.7
K22A				IAML			20 11 49.1	
	comp=E,236nm,0.9s							
K22A				IAML			20 11 50.1	
	comp=N,281nm,0.3s							
PHWY	Pilot Hill	2.62	182	Pn	Pn	Pn	20 11 39.2	+0.8
RWWY	Rawlins	2.62	212	Pn	Pn	Pn	20 11 38.1	-0.3
RWWY				IAML			20 12 28.2	
	comp=N,61nm,1.3s							
LAO	LASA Array	2.83	348	Pn	Pn	Pn	20 11 42.8	+1.7
RLMT	Red Lodge	3.05	294			Pn	20 11 45.0	+0.7
RLMT				IAML			20 12 43.6	
	comp=N,41nm,0.9s							
RLMT				IAML			20 12 44.4	
	comp=N,39nm,1.6s							
N23A	Red Feather La	3.06	189			Pn	20 11 43.9	-0.5
N23A				IAML			20 12 44.6	
	comp=N,36nm,0.9s							
N23A				IAML			20 13 23.7	
	comp=E,38nm,1.6s							
BW06	Boulder Array	3.29	251			Pn	20 11 48.1	+0.7
BW06				IAML			20 12 48.3	
	comp=E,26nm,1.3s							
PD31	Pinedale Array	3.29	251			Pn	20 11 48.3	+0.8
PDAR	Pinedale Array	3.29	251			Pn	20 11 48.8	+1.3
PDAR	Pinedale Array	3.29	251	Pn		Pn	20 11 49.3	+1.8
	comp=E,0.7nm,0.3s,baz=70,slow=16,SNR=11							
PDAR				Lg		Lg	20 12 34.2	
	comp=E,2.3nm,0.3s,baz=64,slow=26,SNR=4.0							
	comp=E,2.1nm,0.3s							
YMP	Mirror Lake Pl	3.55	285	Pn		Pn	20 11 49.7	-1.5
YMP				IAML			20 12 47.0	
	comp=N,38nm,0.8s							
YMP				IAML			20 12 50.2	
	comp=E,35nm,0.9s							
H17A	Grant Village	3.80	279	Pn		Pn	20 11 53.9	-0.6
H17A				IAML			20 13 00.6	
	comp=E,25nm,3.1s							
H17A				IAML			20 13 01.4	
	comp=N,19nm,1.3s							
LOHW	Long Hollow	3.83	267			Pn	20 11 53.1	-1.7
LOHW				IAML			20 13 21.4	
	comp=N,22nm,4.5s							
OGNE	Ogallala	3.85	139			Pn	20 11 54.7	-0.4
MOOW	Moose Ponds	3.91	269			Pn	20 11 53.4	-2.7
SNOW	Snow King Moun	3.95	265			Pn	20 11 55.2	-1.5
REDW	Red Top Meadow	4.04	264			Pn	20 11 57.5	-0.3
YHH	Holmes Hill	4.04	284	Pn		Pn	20 11 58.1	+0.2
IMW	Indian Meadow	4.04	272			Pn	20 11 56.3	-1.6
IMW				IAML			20 13 10.2	
	comp=N,20nm,1.1s							
IMW				IAML			20 13 12.1	
	comp=N,17nm,1.2s							
TPAW	Teton Pass	4.09	266			Pn	20 11 59.8	+1.2
TPAW				IAML			20 13 17.2	
	comp=N,23nm,2.3s							
TPAW				IAML			20 14 02.7	
	comp=N,17nm,4.9s							
YMR	Madison River	4.11	282	Pn		Pn	20 11 59.7	+1.0
ISCO	Idaho Springs	4.13	183	Pn		Pn	20 11 59.2	+0.1
YHL	Hebgen Lake	4.29	284			Pn	20 12 01.8	+0.5
YHL				IAML			20 13 18.2	
	comp=E,21nm,1.1s							
YHL				IAML			20 13 19.4	
	comp=N,23nm,1.7s							
K30B	Basset	4.36	105			Pn	20 12 02.5	+0.4
RDMU	Red Mountain	4.59	225	Pn		Pn	20 12 05.3	-0.1
RDMU				IAML			20 13 41.2	
	comp=N,19nm,2.4s							
RDMU				IAML			20 13 41.4	
	comp=E,20nm,1.2s							
DGMT	Dagmar	4.62	10			Pn	20 12 06.5	+0.9
BOZ	Bozeman (W)	4.78	293	Pn		Pn	20 12 07.7	-0.2
BOZ				IAML			20 13 40.5	
	comp=E,13nm,1.4s							
BOZ				IAML			20 13 53.2	
	comp=E,10nm,5.0s							
HWUT	Hardware Ranch	5.13	245			Pn	20 12 11.2	-1.6
BSUT	Blindstream Ca	5.26	232	Pn		Pn	20 12 12.5	-2.2
BSUT				IAML			20 14 10.0	
	comp=E,12nm,4.7s							
LYMT	Lyon Mountain	5.76	304	Pn		Pn	20 12 21.3	-0.2
SRU	San Rafael Swe	6.18	221	Pn		Pn	20 12 26.5	-0.7
BPMT	Black Pine Rid	6.25	297	Pn		Pn	20 12 27.4	-0.9
ECSD	EROS Data Cent	6.32	89	Pn		Pn	20 12 28.8	-0.1
DUG	Dugway, Tooele	6.69	239	Pn		Pn	20 12 35.6	+1.4
MSO	Missoula	6.72	299	Pn		Pn	20 12 34.2	-0.2
I10CA	LAC DU BONNET	8.93	42	I		I	21 08 40.0	
	baz=221,slow=326,SNR=1.3							
ULM	Lac du Bonnet	9.04	42	Pn		Pn	20 13 05.1	-1.0
	comp=E,0.4nm,0.3s,baz=222,slow=14,SNR=5.5							
ULM				Lg		Lg	20 15 33.6	
	comp=E,0.2nm,0.3s,baz=312,slow=8.7,SNR=3.9							
	comp=E,0.7nm,0.3s							

*SJA **29** 20:31:21.2±0.7, 31°.88S×68°.38W, h111km±2km, ML3.3, MW3.5*
ISC 29 20:31:22.6±1.3, 31°.89S±0°.03×68°.36W±0°.03, h105km±7km, n49, σ1§14/84, 5C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time (h m s)	Res ISC
RTCV	Cerro Valdivia	0.15	280	eP		Pn	20 31 37.3	-0.1
RTCV				IAML			20 31 49.5	
	comp=Z,170nm,1.7s							
CFA	Coronel Fontan	0.30	20	eP		Pn	20 31 33.6	-4.3
CFA				eP		Pn	20 31 37.8	-0.1
CFA				eS		Sn	20 31 49.7	+0.4
CFA				IAML			20 31 50.5	
	comp=Z,1μm,0.1s							
SJA	San Juan	0.40	335	eP		Pn	20 31 38.4	0.0
SJA				IAML			20 31 53.6	
	comp=Z,539nm,0.2s							
ZON	Zonda	0.44	322	eP		Pn	20 31 38.3	-0.3
ZON				eS		Sn	20 31 50.4	-0.1
ZON				IAML			20 31 52.2	
	comp=Z,943nm,0.3s							
RTLL	Cerro Villicun	0.57	350	eP		Pn	20 31 24.9	-15
RTLL				IAML			20 31 36.1	
	comp=Z,1μm,2.0s							
RTLS	Leoncito	0.80	276	eP		Pn	20 31 41.6	-0.1
RTLS				eS		Sn	20 31 55.9	-0.2
RTLS				IAML			20 31 57.6	
	comp=Z,2μm,0.4s							
ASAL	Salagasta	0.81	210	eP		Pn	20 31 41.5	-0.1
ASAL				eS		Sn	20 31 57.1	+1.3
ASAL				IAML			20 31 57.2	
	comp=Z,584nm,0.5s							
ARCO	CERRO ARCO	1.07	207	eP		Pn	20 31 44.4	+0.1
ARCO				eS		Sn	20 32 01.0	+0.4
ARCO				IAML			20 32 01.9	
	comp=Z,1μm,0.4s							
DOCA	Reserva Natura	1.12	326	eP		Pn	20 31 44.9	-0.3
DOCA				eS		Sn	20 32 02.2	+0.1
AAGR	Agrelo	1.26	198	eP		Pn	20 31 46.3	-0.1
AAGR				eS		Sn	20 32 05.7	+1.3
AAGR				IAML			20 32 07.0	
	comp=Z,489nm,2.0s							
ACCO	Cerro Coronel	1.43	335	eP		Pn	20 31 48.9	+0.2
ACCO				eS		Sn	20 32 10.1	+1.8
ACCO				IAML			20 32 10.4	
	comp=Z,190nm,0.3s							
AVFE	Valle Fertil	1.45	33	eP		Pn	20 31 48.6	0.0
AVFE				eS		Sn	20 32 09.0	+0.7
AVFE				IAML			20 32 10.3	
	comp=Z,185nm,0.2s							
AVIZ	Vizcacheras	1.59	185	eP		Pn	20 31 50.4	+0.1
AVIZ				eS		Sn	20 32 11.0	-0.3
ACHE	Chepes	1.62	64	eP		Pn	20 31 50.9	+0.1
AROD	Rodeo	1.96	331	eP		Pn	20 31 55.7	+0.4
AROD				eS		Sn	20 32 20.5	+0.4
VA03	San Esteban	2.05	244	eP		Pn	20 31 56.0	-0.1
VA03				eS		Sn	20 32 23.5	+1.8
VA03				IAML			20 32 26.4	
	comp=Z,185nm,0.4s							
VA03	San Esteban	2.05	244	iP		Pn	20 31 56.0	-0.1
VA03				i S		Sn	20 32 23.1	+1.4
VA03				IAML			20 32 25.0	
	comp=E,550nm,0.2s							
MT04	Ro Olivares	2.13	224	eP		Pn	20 31 57.2	0.0
MT04				i S		Sn	20 32 26.0	+2.2
MT04				IAML			20 32 26.9	
	comp=N,184nm,0.4s							
FCH	Farellones	2.17	228	iP		Pn	20 31 58.0	+0.2
FCH				i S		Sn	20 32 27.2	+2.4
FCH				IAML			20 32 35.6	
	comp=N,157nm,0.2s							
CO03	El Pedregal	2.25	297	eP		Pn	20 31 58.7	0.0
CO03				IAML			20 32 31.6	
	comp=Z,155nm,0.3s							
MT10	Hacienda Santa	2.30	232	iP		Pn	20 31 59.4	0.0
MT10				i S		Sn	20 32 28.7	+1.2
MT10				IAML			20 32 33.7	
	comp=E,604nm,0.4s							
MRA	San Martin	2.30	104	eP		Pn	20 31 59.5	+0.2
MRA				eS		Sn	20 32 27.9	+0.3
MRA				IAML			20 32 28.9	
	comp=Z,635nm,0.3s							
PEL	Peldehue	2.33	237	eP		Pn	20 31 59.1	-0.5
PEL				eS		Sn	20 32 28.9	+0.8
CO02	Combarbal	2.35	286	eP		Pn	20 31 59.5	-0.5
CO02				eS		Sn	20 32 29.4	+0.6
CO02				IAML			20 32 37.3	
	comp=Z,186nm,0.8s							
MT14	Cerro Cal¡n	2.37	230	eP		Pn	20 32 00.3	0.0
MT14				i S		Sn	20 32 30.2	+1.1
MT14				IAML			20 32 34.1	
	comp=E,357nm,0.6s							
AGUA	GUANDACOL	2.40	357	eP		Pn	20 32 01.0	+0.4
AGUA				eS		Sn	20 32 31.0	+1.2
AGUA				IAML			20 32 32.4	
	comp=Z,134nm,0.3s							
CO01	Juntas del Tor	2.42	322	eP		Pn	20 32 01.6	+0.6
CO01				IAML			20 32 34.7	
	comp=Z,30nm,0.2s							
MT03	Universidad Ad	2.42	228	eP		Pn	20 32 00.7	-0.2
MT03				eS		Sn	20 32 32.5	+2.3
MT03				IAML			20 32 40.8	
	comp=Z,131nm,0.2s							
MT13	San Alfonso	2.46	221	eP		Pn	20 32 01.6	+0.1
MT13				i S		Sn	20 32 32.3	+1.1
MT13				IAML			20 32 41.9	
	comp=N,129nm,0.3s							
MT15	Las Vizcachas	2.48	226	eP		Pn	20 32 03.4	+1.6
MT15				i S		Sn	20 32 32.6	+0.9
MT15				IAML			20 32 40.0	
	comp=E,324nm,0.2s							
ROCH	El Roble	2.49	244	iP		Pn	20 32 00.6	-1.3
ROCH				i S		Sn	20 32 30.8	-1.2
ROCH				IAML			20 32 35.2	
	comp=N,498nm,0.2s							
ROC1	El Roble	2.49	244	eP		Pn	20 32 00.8	-1.2
ROC1				eS		Sn	20 32 31.8	-0.4
LMEL	Las Melosas	2.49	218	eP		Pn	20 32 01.8	-0.1
LMEL				i S		Sn	20 32 33.7	+1.6
LMEL				IAML			20 32 50.9	
	comp=N,103nm,0.3s							
MT05	Renca	2.50	233	eP		Pn	20 32 01.9	0.0
MT05				eS		Sn	20 32 33.6	+1.4
MT05				IAML			20 32 35.2	
	comp=Z,183nm,0.3s							
MT05	Renca	2.50	233	eP		Pn	20 32 01.6	-0.4
MT05				i S		Sn	20 32 32.4	+0.3
MT05				IAML			20 32 37.4	
	comp=E,687nm,0.3s							
MT12	Pirque	2.60	224	eP		Pn	20 32 02.9	-0.4
MT12				i S		Sn	20 32 35.1	+0.6
MT12				IAML			20 32 43.6	
	comp=E,240nm,0.4s							
GO04	Tololo Observa	2.70	309	eP		Pn	20 32 04.5	-0.3
MT02	Curacav	2.71	239	eP		Pn	20 32 03.1	-1.6
MT02				eS		Sn	20 32 34.3	-2.8
MT02				IAML			20 32 37.8	
	comp=Z,68nm,0.3s							
ACLC	CERRO LA CRUZ	2.74	27	eS		Sn	20 32 38.1	+0.2
ACLC				IAML			20 32 38.5	
	comp=Z,144nm,0.2s							
RFA	San Rafael	2.88	182	eP		Pn	20 32 06.1	-0.8
MT09	Talagante	2.91	229	iP		Pn	20 32 05.9	-1.4
MT09				i S		Sn	20 32 39.8	-2.0
MT09				IAML			20 32 45.2	
	comp=N,245nm,0.3s							
MT01	Popeta	3.13	230	eP		Pn	20 32 08.1	-2.1
MT01				eS		Sn	20 32 44.6	-2.2
VCA	Vinchina	3.15	2	IAML			20 32 55.8	
	comp=Z,99nm,0.2s							
TCA	Tanti	3.26	81	eP		Pn	20 32 11.6	-0.4
TCA				IAML			20 33 16.5	
	comp=Z,42nm,0.5s							
TCA				IAML			20 33 16.5	
	comp=Z,42nm,0.5s							
BO01	Tunca	3.38	222	eP		Pn	20 32 11.9	-1.6
BO01				IAML			20 32 57.5	
	comp=E,31nm,0.8s							
AC05	El Transito	3.46	331	eP		Pn	20 32 15.3	+0.5
AC05				eP		Pn	20 32 15.3	+0.5
AC05				eP		Pn	20 32 15.3	+0.5
AC05				IAML			20 32 58.5	
	comp=Z,21nm,0.3s							
AC05				IAML			20 32 58.5	
	comp=Z,21nm,0.3s							
AC05				IAML			20 32 58.5	
	comp=Z,21nm,0.3s							
LCO	Las Campanas	3.51	324	eS		Sn	20 32 54.7	-1.7
LCO				IAML			20 32 56.2	
	comp=Z,420nm,0.3s							
BO02	Sierra Bellavi	3.53	214	eP		Pn	20 32 15.2	-0.5
BO02				eP		Pn	20 32 15.2	-0.5
BO02				IAML			20 33 05.7	
	comp=Z,42nm,0.2s							
CYA	Choya	4.09	33	eP		Pn	20 32 21.9	-1.2
CYA				IAML			20 33 10.1	
	comp=Z,40nm,0.6s							

*IDC **29** 21:15:40.9±1.1, 8°.98S×158°.95E, h0km, mb3.7/6, mbtmp3.7/6, MS3.1/1, Error ellipse: s-maj=29.2km s-min=17.4km az=10.0*
ISC 29 21:15:48.8±0.9, 9°.1S±0°.2×159°.11E±0°.10, h65km, n8, σ1§29/9, mb3.6/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time (h m s)	Res ISC
HNR	Honiara	0.87	109	Pn		Pn	21 16 03.5	-1.9
	616nm,0.3s,baz=172,slow=1.3,SNR=11							
HNR				Sn		Sn	21 16 19.4	+1.7
	2μm,0.3s,baz=192,slow=9.8,SNR=9.0							
CTA	Charters Tower	16.51	227	Pn		P	21 19 38.4	+0.4
	0.2nm,0.3s,baz=44,slow=13,SNR=3.8							
CTA				LR		LR	21 24 49.0	
	comp=E,64nm,18.0s,baz=73,slow=33							
WRA	Warramunga Arr	26.23	243	P		P	21 21 16.7	-1.2
	0.6nm,0.7s,baz=76,slow=8.9,SNR=18							
	0.6nm,0.7s							
STKA	Stephens Creek	27.86	213	P		P	21 21 32.9	+0.6
	1.5nm,0.6s,baz=42,slow=12,SNR=4.7							
	1.5nm,0.6s							
ASAR	Alice Springs	28.09	236	P		P	21 21 34.7	+0.1
	0.5nm,0.8s,baz=70,slow=8.3,SNR=4.2							
	0.5nm,0.8s							
SONM	Songino Array	73.36	326	P		P	21 27 13.4	-0.5
	0.3nm,0.4s,baz=141,slow=4.9,SNR=1.8							
	0.3nm,0.4s							
MKAR	Makanchi Array	87.71	318	P		P	21 28 30.9	+0.3
	0.4nm,0.8s,baz=89,slow=4.7,SNR=3.0							
	0.4nm,0.8s							
NVAR	Mina Array Bea	89.86	51	P		P	21 28 42.1	+1.0
	0.2nm,0.6s,baz=251,slow=5.6,SNR=2.0							
	0.2nm,0.6s							

*IDC **29** 21:16:05.2±1.1, 53°.11S×117°.93W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=108.5km s-min=29.6km az=172.0*
*NEIC **29** 21:16:05.4±2.5, 53°.1S±0°.1×118°.0W±0°.2, h10km±1km, mb5.0/45, Error ellipse: s-maj=21.4km s-min=17.4km az=156.0*
ISC 29 21:16:05.6±0.4, 53°10S±0°.10×117°90W±0°08, h10km, n66, σ1§13/51, mb5.0/24, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time (h m s)	Res ISC
MG04	Isla Riesco	27.52	108	P		P	21 21 51.2	-0.8
GO09	Cerro Castillo	27.64	105	P		P	21 21 51.7	-1.3
GO09				IAmb		IAmb	21 22 17.7	
	comp=Z,73nm,1.4s							
SMAI	San Martin Ant	28.06	142	P		P	21 21 55.2	-1.5
H03S2	Juan Fernandez	33.66	71	T		T	21 58 19.4	
	baz=221,slow=74,SNR=166							
H03S1	Juan Fernandez	33.66	71	T		T	21 58 20.7	
	baz=221,slow=74,SNR=213							
H03S3	Juan Fernandez	33.68	71	T		T	21 58 19.8	
	baz=221,slow=74,SNR=240							
H03N3	Juan Fernandez	33.94	70	T		T	21 58 37.7	
	baz=224,slow=71,SNR=736							
H03N2	Juan Fernandez	33.94	70	T		T	21 58 36.6	
	baz=224,slow=71,SNR=973							
H03N1	Juan Fernandez	33.95	70	T		T	21 58 36.6	
	baz=224,slow=71,SNR=519							
VNDA	Vanda	36.79	201	P		P	21 23 12.3	-0.5
QSPA	South Pole Qui	37.09	180	P		P	21 23 17.2	+1.4
BELA	Belgrano 2	37.38	160	P		P	21 23 17.2	-0.6
CTZ	Chatham Island	39.06	259	P		P	21 23 31.0	-1.3
CTZ				IAmb		IAmb	21 23 33.3	
	comp=Z,122nm,1.4s							
TRQA	Tornquist	40.85	92	P		P	21 23 48.4	+1.0
TRQA				IAmb		IAmb	21 23 57.0	
	comp=Z,15nm,1.4s							
ZON	Zonda	41.27	79	P		P	21 23 52.1	+1.2
AC06	Mina Casimiro	43.39	73	P		P	21 24 09.9	+1.7
GO02	Mina Guanaco	45.51	72	P		P	21 24 27.2	+1.8
MRZ	Mangatainoka R	45.53	258	P		P	21 24 26.7	+1.6
MRZ				IAmb		IAmb	21 24 53.8	
	comp=Z,16nm,1.3s							
KHZ	Kahutara	45.63	255	P		P	21 24 26.7	+0.9
KHZ				IAmb		IAmb	21 24 34.0	
	comp=Z,37nm,1.3s							
LTZ	Lake Taylor	46.14	253	P		P	21 24 29.3	-0.7
LTZ				IAmb		IAmb	21 24 51.8	
	comp=Z,21nm,1.3s							
LBZ	Lake Benmore	46.35	250	P		P	21 24 31.7	+0.2
LBZ				IAmb		IAmb	21 24 47.3	
	comp=Z,26nm,1.4s							
MCQ	Macquarie Isla	46.38	233	P		P	21 24 30.0	-1.5
THZ	Tophouse	46.40	255	P		P	21 24 30.2	-1.9
THZ				IAmb		IAmb	21 24 48.9	
	comp=Z,21nm,1.3s							
INZ	Inchbonnie	46.65	253	P		P	21 24 32.6	-1.3
INZ				IAmb		IAmb	21 24 42.4	
	comp=Z,18nm,1.3s							
PYZ	Puysegur Point	47.23	246	P		P	21 24 38.8	+0.4
SNAA	Sanae	47.47	157	P		P	21 24 40.1	+0.1
SNAA				IAmb		IAmb	21 24 46.7	
	comp=Z,19nm,1.5s							
LVC	Limon Verde	47.89	70	P		P	21 24 45.2	+1.1
LVC				IAmb		IAmb	21 24 47.6	
	comp=Z,6.2nm,1.1s							
PATCX	Punta Patache	48.61	67	P		P	21 24 48.0	-1.4
PATCX				IAmb		IAmb	21 25 07.1	
	comp=Z,11nm,1.0s							
PLTB	Pedras Altas	50.16	92	P		P	21 25 01.1	0.0
PLTB				IAmb		IAmb	21 25 19.7	
	comp=Z,14nm,1.4s							
PB16	IPOC Station P	50.97	66	P		P	21 25 07.8	-0.1
CPUP	Villa Florida	51.84	84	P		P	21 25 14.4	+0.6
	comp=Z,3.1nm,1.0s,baz=236,slow=5.6,SNR=4.7							
	comp=Z,3.1nm,1.0s							
LPAZ	La Paz	53.39	66	P		P	21 25 25.5	-0.5
PTLB	Pontes e Lacer	59.15	74	P		P	21 26 06.6	+0.2
MAW	Mawson	59.62	180	P		P	21 26 09.6	+0.7
ETMB	Extrema	59.76	64	P		P	21 26 11.3	+0.6
SAML	Samuel	62.13	66	P		P	21 26 26.6	-0.2
DZM	Mont Dzumac	64.11	267	P		P	21 26 39.2	-0.9
DZM				IAmb		IAmb	21 26 48.9	
	comp=Z,8.9nm,1.0s							
ARMA	Armidale	66.57	250	P		P	21 26 57.5	+1.6
ARMA				IAmb		IAmb	21 27 16.3	
	comp=Z,18nm,1.3s						

MTDJ	**Mount Denham**	**79.12**	**39**	P	**P**	**21 28 09.4**	**-0.8**
MLOA	**Mauna Loa Obse**	**79.34**	**324**	P	**P**	**21 28 10.9**	**-0.9**
MLOA				IAmb	IAmb	21 28 22.7	
	comp=Z,26nm,1.0s						
HUH	**Hualalai**	**79.57**	**324**	P	**P**	**21 28 12.2**	**-0.7**
GRGR	**Grenville**	**80.73**	**55**	P	**P**	**21 28 18.5**	**-0.4**
KHLH	**Kahului Airpor**	**80.90**	**324**	P	**P**	**21 28 18.8**	**-0.8**
H01W1	**Cape Leeuwin H**	**81.40**	**221**	T	T	22 58 44.8	
	baz=148						
H01W2	**Cape Leeuwin H**	**81.41**	**221**	T	T	22 58 53.1	
	baz=148						
H01W3	**Cape Leeuwin H**	**81.42**	**221**	T	T	22 58 49.3	
	baz=148						
ASAR	**Alice Springs**	**81.62**	**242**	P	**P**	**21 28 24.4**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=148,slow=5.5,SNR=6.5						
	comp=Z,1.1nm,0.8s						
SDDR	**Presa de Saban**	**82.30**	**44**	P	**P**	**21 28 25.6**	**-1.6**
SDDR				IAmb	IAmb	21 28 40.3	
	comp=Z,27nm,1.4s						
CBE	**Ft, Capester**	**84.13**	**54**	P	**P**	**21 28 34.9**	**-1.8**
WRA	**Warramunga Arr**	**84.41**	**244**	P	**P**	**21 28 39.8**	**+1.5**
	comp=Z,1.9nm,0.9s,baz=146,slow=4.6,SNR=10						
	comp=Z,1.9nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**96.15**	**293**	T	T	23 16 23.7	
	baz=143,slow=76,SNR=72						
H11S3	**WAKE ISLAND Hy**	**96.17**	**293**	T	T	23 16 20.1	
	baz=143,slow=76,SNR=60						
H11S1	**WAKE ISLAND Hy**	**96.17**	**293**	T	T	23 16 21.4	
	baz=143,slow=76,SNR=52						
H11N3	**WAKE ISLAND Hy**	**97.03**	**293**	T	T	23 17 18.6	
	baz=144,slow=76,SNR=32						
H11N1	**WAKE ISLAND Hy**	**97.03**	**293**	T	T	23 17 23.3	
	baz=144,slow=76,SNR=30						
H11N2	**WAKE ISLAND Hy**	**97.05**	**293**	T	T	23 17 24.1	
	baz=144,slow=76,SNR=20						
SONM	**Songino Array**	**151.68**	**277**	PKPbc	**PKiKP**	**21 36 01.0**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=112,slow=2.2,SNR=6.0						
BRTR	**Keskin Array B**	**156.44**	**113**	PKPab	**PKPab**	**21 36 30.4**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=231,slow=2.4,SNR=5.1						
MKAR	**Makanchi Array**	**165.58**	**252**	PKPab	**PKPab**	**21 37 08.8**	**+0.5**
	comp=Z,2.0nm,1.1s,baz=153,slow=4.7,SNR=5.9						
ZALV	**Zalesovo Beam**	**166.47**	**283**	PKPab	**PKPab**	**21 37 12.8**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=107,slow=5.0,SNR=3.7						

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*IDC **29** 21:20:50.3±0.4, 53.°06S×118.°07W, h0km, mb4.5/15, mbtmp4.5/15, MS5.3/46, Error ellipse: s-maj=15.4km s-min=10.8km az=142.0*

*MOS **29** 21:20:51.6±1.0, 53.°12S×117.°41W, h9km, mb5.3/27, MS5.3/26, Error ellipse: s-maj=18.4km s-min=11.0km az=73.8*

*NEIC **29** 21:20:53.4, 53.°08S×117.°37W, h10km*

*NEIC **29** 21:20:53.2±1.3, 53.°1S±0.°1×117.°4W±0.°2, h10km±1km, mb5.1/184, Ms_20 5.4/639, Mwb5.5/18, Mww5.7/19, Error ellipse: s-maj=19.3km s-min=15.5km az=164.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.22; Mθθ-1.57; Mφφ 1.35; Mrθ-0.31; Mθφ-1.81; Mφr-0.29; Fault plane solution: M₀2.37000×10¹⁷ NP1:φs19.29000°, δ86.69000°, λ-8.78000°. NP2:φs109.80000°, δ81.24000°, λ-176.66000°. Principal axes: T 2.2249, Plg4.0000°, Azm65.0000°; N 0.2716, Plg81.0000°, Azm179.0000°; P -2.4965, Plg9.0000°, Azm334.0000°;*

*NEIC **29** 21:20:53.4, 52.°88S×117.°37W, h22km, Moment Tensor Solution. Duration: 3s4 Moment tensor: Scale 10¹⁷Nm; Mrr-0.34; Mθθ-2.76; Mφφ3.10; Mrθ-0.66; Mθφ-2.49; Mφr0.07; Fault plane solution: M₀3.90000×10¹⁷ NP1: φs115.22000°, δ85.85000°, λ-170.29000°. NP2: φs24.51000°, δ80.32000°, λ-4.21000°. Principal axes: T 4.0342, Plg4.0000°, Azm250.0000°; N -0.2586, Plg79.0000°, Azm138.0000°; P -3.7755, Plg10.0000°, Azm340.0000°;*

*NEIC **29** 21:20:53.4, 53.°08S×117.°37W, h22km*

*BJI **29** 21:20:55.5, 53.°10S×117.°40W, h25km, mB5.7/12, Ms5.6/28, Ms7 5.4/28*

*GCMT **29** 21:20:56.2±0.1, 53.°18S±0.°01×118.°20W±0.°01, h16km, MW5.6/149, Moment Tensor Solution. s133,c240; s149,c286; Duration: 1s6 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.55±.04; Mθθ-2.00±.04; Mφφ2.55±.04; Mrθ0.32±.12; Mθφ-2.57±.04; Mφr0.22±.11; Best double couple: M₀3.46000×10¹⁷ NP1:φs200.00000°, δ85.00000°, λ-6.00000°. NP2:φs291.00000°, δ84.00000°, λ-175.00000°. Principal axes: T 3.7080, Plg1.0000°, Azm246.0000°; N -0.4970, Plg82.0000°, Azm342.0000°; P -3.2120, Plg8.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 21:20:53.0±0.2, 53.°04S±0.°05×117.°59W±0.°05, h10km, n673, σ1$68/398, mb5.1/106, MS5.4/365, 17C-5D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**26.61**	**17**	LR	LR	21 34 42.6	
	comp=Z,4μm,18.4s,baz=194,slow=31						
MG04	**Isla Riesco**	**27.36**	**108**	P	**P**	**21 26 36.3**	**-1.7**
GO09	**Cerro Castillo**	**27.47**	**105**	P	**P**	**21 26 36.5**	**-2.5**
SMAI	**San Martin Ant**	**27.99**	**142**	P	**P**	**21 26 42.3**	**-1.2**
GO08	**Villa O'Higgin**	**28.48**	**99**	IAMs_20	IAMs_20	21 35 22.2	
	comp=Z,10μm,18.0s						
AY03	**Cochrane**	**29.02**	**97**	P	**P**	**21 26 52.7**	**-0.2**
AY03				IAmb	IAmb	21 27 51.1	
	comp=Z,115nm,2.0s						
AY03				IAMs_20	IAMs_20	21 35 10.5	
	comp=Z,8μm,18.0s						
PMSA	**Palmer Station**	**29.07**	**135**	LR	LR	21 35 14.7	
	comp=Z,3μm,19.5s,baz=286,slow=30						
PTCN	**Pitcairn Islan**	**29.48**	**336**	IAMs_20	IAMs_20	21 35 14.1	
	comp=Z,9μm,21.0s						
LL07	**Hotel Espejo d**	**30.81**	**89**	IAMs_20	IAMs_20	21 35 52.0	
	comp=Z,8μm,20.0s						
LL06	**Loncomilla**	**31.07**	**88**	IAMs_20	IAMs_20	21 35 58.0	
	comp=Z,7μm,19.0s						
LL01	**San Ignacio de**	**31.71**	**89**	IAMs_20	IAMs_20	21 36 19.9	
	comp=Z,8μm,22.0s						
LR05	**Currie**	**33.24**	**86**	P	**P**	**21 27 30.0**	**-0.1**
H03S2	**Juan Fernandez**	**33.46**	**71**	T	T	22 03 07.7	
	baz=221,slow=74,SNR=701						
H03S1	**Juan Fernandez**	**33.47**	**71**	T	T	22 03 09.1	
	baz=221,slow=74,SNR=653						
H03S3	**Juan Fernandez**	**33.48**	**71**	T	T	22 03 08.2	
	baz=221,slow=74,SNR=645						
VA04	**Juan Fernndez**	**33.66**	**70**	IAMs_20	IAMs_20	21 36 56.2	
	comp=Z,7μm,22.0s						
H03N3	**Juan Fernandez**	**33.74**	**70**	T	T	22 03 23.7	
	baz=224,slow=71,SNR=1707						
H03N2	**Juan Fernandez**	**33.75**	**70**	T	T	22 03 32.7	
	baz=224,slow=71,SNR=2137						
H03N1	**Juan Fernandez**	**33.76**	**70**	T	T	22 03 22.2	
	baz=224,slow=71,SNR=1519						
PLCA	**Paso Flores**	**33.81**	**88**	P	**P**	**21 27 35.4**	**+0.2**
PLCA				IAmb	IAmb	21 27 38.3	
	comp=Z,49nm,1.8s						
PLCA	**Paso Flores**	**33.81**	**88**	P	**P**	**21 27 36.9**	**+1.7**
	comp=Z,6.5nm,1.1s,baz=218,slow=13,SNR=4.6						
PLCA				S	**S**	**21 33 05.0**	**+6.0**
	comp=Z,1.7nm,1.0s,baz=63,slow=8.6,SNR=1.8						
PLCA				LR	LR	21 38 15.1	
	comp=Z,4μm,18.5s,baz=228,slow=31						
	comp=Z,6.5nm,1.1s						
GO06	**Curarrehue**	**33.97**	**86**	P	**P**	**21 27 34.7**	**-1.9**
GO06				IAmb	IAmb	21 27 45.0	
	comp=Z,35nm,1.2s						
GO06				IAMs_20	IAMs_20	21 37 37.6	
	comp=Z,7μm,20.0s						
BI05	**Punta Hualpn**	**34.78**	**80**	IAMs_20	IAMs_20	21 37 42.3	
	comp=Z,9μm,21.0s						
ML02	**Panimavida**	**36.49**	**81**	IAMs_20	IAMs_20	21 38 34.8	
	comp=Z,8μm,22.0s						
GO05	**Huala**	**36.71**	**79**	IAMs_20	IAMs_20	21 38 49.4	
	comp=Z,6μm,18.0s						
VNDA	**Vanda**	**36.91**	**201**	P	**P**	**21 28 00.6**	**-0.8**
VNDA	**Vanda**	**36.91**	**201**	P	**P**	**21 28 00.4**	**-0.9**
	comp=Z,2.4nm,0.9s,baz=105,slow=10,SNR=7.3						
VNDA				PcP	**PcP**	**21 30 20.8**	**-1.6**
	comp=Z,0.9nm,0.9s,baz=127,slow=5.1,SNR=1.2						
VNDA				S	**S**	**21 33 44.6**	**-1.0**
	comp=Z,0.6nm,1.0s,baz=124,slow=8.3,SNR=1.5						
	comp=Z,2.4nm,0.9s						
QSPA	**South Pole Qui**	**37.16**	**180**	P	**P**	**21 28 02.5**	**-1.2**
QSPA				IAmb	IAmb	21 28 22.4	
	comp=Z,34nm,1.1s						
QSPA	**South Pole Qui**	**37.16**	**180**	P	**P**	**21 28 03.3**	**-0.4**
	comp=Z,13nm,0.9s,baz=109,slow=4.1,SNR=18						
QSPA				S	**S**	**21 33 53.9**	**+3.9**
	comp=Z,0.5nm,0.3s,baz=81,slow=9.8,SNR=1.1						
QSPA				LR	LR	21 41 14.8	
	comp=Z,5μm,20.7s,baz=99,slow=33						
	comp=Z,13nm,0.9s						
BELA	**Belgrano 2**	**37.37**	**160**	P	**P**	**21 28 04.3**	**-0.9**
BELA				IAmb	IAmb	21 28 27.9	
	comp=Z,66nm,2.0s						
BO02	**Sierra Bellavi**	**37.54**	**80**	P	**P**	**21 28 06.5**	**-0.7**
BO02				IAMs_20	IAMs_20	21 39 34.4	
	comp=Z,6μm,19.0s						
BO01	**Tunca**	**37.64**	**79**	P	**P**	**21 28 06.0**	**-2.0**
BO01				IAmb	IAmb	21 28 10.4	
	comp=Z,51nm,1.6s						
BO01				IAMs_20	IAMs_20	21 39 17.0	
	comp=Z,7μm,20.0s						
VA05	**Santo Domingo**	**37.84**	**78**	P	**P**	**21 28 08.0**	**-1.6**
VA05				IAMs_20	IAMs_20	21 39 10.3	
	comp=Z,7μm,22.0s						
MT01	**Popeta**	**37.91**	**78**	P	**P**	**21 28 09.2**	**-1.0**
MT01				IAmb	IAmb	21 28 13.2	
	comp=Z,94nm,1.8s						
MT01				IAMs_20	IAMs_20	21 39 24.2	
	comp=Z,6μm,19.0s						
MT09	**Talagante**	**38.12**	**79**	P	**P**	**21 28 11.5**	**-0.7**
MT09				IAmb	IAmb	21 28 29.4	
	comp=Z,45nm,1.4s						
MT09				IAMs_20	IAMs_20	21 39 30.9	
	comp=Z,6μm,20.0s						
BO04	**La Punta**	**38.20**	**79**	P	**P**	**21 28 12.0**	**-0.8**
BO04				IAMs_20	IAMs_20	21 39 34.9	
	comp=Z,7μm,20.0s						
TBI	**Tubuai**	**38.24**	**308**	*e*P	P	21 28 24.5	+11
	comp=Z,223nm,45.8s						
TBI				*e*S	S	21 33 55.3	-11
	comp=Z,850nm,29.0s						
TBI				*e*SS	**SnSn**	**21 36 49.0**	**-1.9**
	comp=Z,5μm,22.5s						
TBI				*e*LR	LR	21 38 34.1	
	comp=Z,26μm,26.2s						
TBI				*e*LR	LR	21 38 36.1	
	comp=Z,6μm,25.5s						
TBI	**Tubuai**	**38.24**	**308**	*e*T	T	22 08 25.8	
	comp=Z,26nm,0.3s						
VA01	**Torpederas**	**38.27**	**77**	IAMs_20	IAMs_20	21 39 20.9	
	comp=Z,7μm,22.0s						
MT02	**Curacav**	**38.40**	**78**	IAMs_20	IAMs_20	21 39 37.2	
	comp=Z,5μm,19.0s						
LMEL	**Las Melosas**	**38.54**	**79**	P	**P**	**21 28 14.7**	**-1.1**
LMEL				IAMs_20	IAMs_20	21 39 45.8	
	comp=Z,8μm,21.0s						
MT13	**San Alfonso**	**38.56**	**79**	P	**P**	**21 28 14.3**	**-1.6**
MT13				IAmb	IAmb	21 28 25.5	
	comp=Z,64nm,1.6s						
MT13				IAMs_20	IAMs_20	21 39 46.5	
	comp=Z,8μm,20.0s						
MT03	**Universidad Ad**	**38.60**	**79**	IAMs_20	IAMs_20	21 39 45.7	
	comp=Z,6μm,19.0s						
PEL	**Peldehue**	**38.75**	**78**	P	**P**	**21 28 16.2**	**-1.2**
PEL				IAmb	IAmb	21 28 31.1	
	comp=Z,60nm,1.6s						
PEL				IAMs_20	IAMs_20	21 39 49.6	
	comp=Z,5μm,19.0s						
PEL	**Peldehue**	**38.75**	**78**	P	**P**	**21 28 16.2**	**-1.2**
PEL				pmax	pmax		
	comp=Z,60nm,1.6s						
PEL				MLR	MLR		
	comp=Z,5μm,19.0s						
VA06	**Catapilco**	**38.80**	**77**	P	**P**	**21 28 15.4**	**-2.4**
VA06				IAmb	IAmb	21 28 24.5	
	comp=Z,129nm,1.9s						
VA06				IAMs_20	IAMs_20	21 39 35.9	
	comp=Z,6μm,21.0s						
VA03	**San Esteban**	**39.10**	**78**	P	**P**	**21 28 19.4**	**-1.0**
VA03				IAMs_20	IAMs_20	21 39 58.7	
	comp=Z,6μm,19.0s						
CO02	**Combarbal**	**39.96**	**76**	P	**P**	**21 28 26.9**	**-0.7**
CO02				IAmb	IAmb	21 29 04.5	
	comp=Z,90nm,1.6s						
CO02				IAMs_20	IAMs_20	21 40 07.5	
	comp=Z,7μm,21.0s						
CO06	**Fray Jorge**	**39.97**	**75**	IAMs_20	IAMs_20	21 40 04.0	
	comp=Z,7μm,20.0s						
CO03	**El Pedregal**	**40.40**	**76**	P	**P**	**21 28 29.7**	**-1.6**
CO03				IAMs_20	IAMs_20	21 40 20.4	
	comp=Z,7μm,21.0s						
TRQA	**Tornquist**	**40.66**	**91**	P	**P**	**21 28 31.9**	**-1.3**
TRQA				IAmb	IAmb	21 28 40.9	
	comp=Z,37nm,1.1s						
TRQA				IAMs_20	IAMs_20	21 42 01.7	
	comp=Z,6μm,20.0s						
TRQA	**Tornquist**	**40.66**	**91**	P	**P**	**21 28 31.9**	**-1.3**
TRQA				pmax	pmax		
	comp=Z,37nm,1.1s						
TRQA				MLR	MLR		
	comp=Z,6μm,20.0s						
CO05	**La Serena**	**40.76**	**74**	IAMs_20	IAMs_20	21 40 44.9	
	comp=Z,7μm,20.0s						
ZON	**Zonda**	**41.07**	**78**	P	**P**	**21 28 35.6**	**-1.1**
ZON				IAMs_20	IAMs_20	21 41 07.0	
	comp=Z,8μm,22.0s						
ZON	**Zonda**	**41.07**	**78**	P	**P**	**21 28 35.6**	**-1.1**
ZON				pmax	pmax		
	comp=Z,47nm,1.6s						
ZON				MLR	MLR		
	comp=Z,8μm,22.0s						
CFA	**Coronel Fontan**	**41.29**	**79**	LR	LR	21 41 36.8	
	comp=Z,7μm,21.5s,baz=221,slow=30						
CO01	**Juntas del Tor**	**41.38**	**75**	P	**P**	**21 28 37.0**	**-2.5**
CO01				IAMs_20	IAMs_20	21 40 50.4	
	comp=Z,7μm,21.0s						
LCO	**Las Campanas**	**41.75**	**74**	IAMs_20	IAMs_20	21 40 55.1	
	comp=Z,7μm,20.0s						
AC05	**El Transito**	**42.13**	**74**	P	**P**	**21 28 45.1**	**-0.4**
AC05				IAMs_20	IAMs_20	21 41 08.1	
	comp=Z,7μm,21.0s						
AC04	**Llanos de Chal**	**42.14**	**73**	IAMs_20	IAMs_20	21 41 23.5	
	comp=Z,6μm,20.0s						
MEH	**Mehetia**	**42.37**	**314**	*e*T	T	22 13 39.1	
	comp=Z,36nm,0.3s						
GO03	**Copiap**	**43.08**	**73**	IAMs_20	IAMs_20	21 41 52.5	
	comp=Z,7μm,20.0s						
AC06	**Mina Casimiro**	**43.19**	**73**	P	**P**	**21 28 53.2**	**-0.8**
AC06				IAMs_20	IAMs_20	21 41 55.4	
	comp=Z,6μm,20.0s						
PPTF	**Pamatai, Papee**	**43.28**	**313**	P	**P**	**21 28 54.7**	**-0.1**
PPT2	**Papeete2**	**43.29**	**313**	*e*P	P	21 28 59.9	+5.0
	comp=Z,78nm,27.8s						
PPT2				*e*S	S	21 35 11.8	-10
	comp=Z,605nm,26.5s						
PPT2				*e*SS	**SnSn**	**21 38 51.6**	**-1.1**
	comp=Z,6μm,25.8s						
PPT2				*e*LR	LR	21 40 54.5	
	comp=Z,11μm,25.8s						
PPT2				*e*LR	LR	21 41 01.8	
	comp=Z,7μm,24.8s						
PPT	**Papeete**	**43.31**	**313**	LR	LR	21 42 13.2	
	comp=Z,3μm,20.0s,baz=144,slow=30						
AC01	**Pan de Azucar**	**43.98**	**71**	IAMs_20	IAMs_20	21 42 15.2	
	comp=Z,6μm,21.0s						
VAH	**Vaihoa**	**44.54**	**316**	*e*T	T	22 16 21.6	
	comp=Z,27nm,0.3s						
PMOR	**Pomariorio Ree**	**44.86**	**316**	*e*T	T	22 16 44.8	
	comp=Z,12nm,0.2s						
RAR	**Rarotonga**	**45.23**	**298**	P	**P**	**21 29 11.3**	**+1.0**
RAR				IAmb	IAmb	21 29 27.6	
	comp=Z,45nm,1.4s						
RAR	**Rarotonga**	**45.23**	**298**	P	**P**	**21 29 11.3**	**+1.0**
RAR				pmax	pmax		
	comp=Z,45nm,1.4s						
RAR	**Rarotonga**	**45.23**	**298**	LR	LR	21 42 43.2	
	comp=Z,996nm,20.3s,baz=144,slow=29						
PB14	**IPOC Station P**	**45.27**	**70**	P	**P**	**21 29 10.3**	**-0.7**
PB14				IAmb	IAmb	21 29 13.9	
	comp=Z,29nm,1.1s						
PB14				IAMs_20	IAMs_20	21 42 53.4	
	comp=Z,4μm,21.0s						
GO02	**Mina Guanaco**	**45.31**	**71**	P	**P**	**21 29 10.2**	**-1.2**
GO02				IAMs_20	IAMs_20	21 42 56.6	
	comp=Z,6μm,20.0s						
BFZ	**Birch Farm**	**45.32**	**258**	P	**P**	**21 29 11.1**	**+0.2**
AMCZ	**Amberley**	**45.87**	**253**	P	**P**	**21 29 14.0**	**-1.2**
ODZ	**Otahua Downs**	**45.88**	**250**	P	**P**	**21 29 17.5**	**+2.2**
VNA3	**Neumayer Olymp**	**46.04**	**155**	⇑P	**P**	**21 29 15.9**	**-0.4**
	comp=Z,14nm,0.8s						
BSWZ	**Blackbirch Sta**	**46.07**	**255**	P	**P**	**21 29 17.9**	**+1.1**
BKZ	**Black Stump Fm**	**46.14**	**260**	P	**P**	**21 29 16.7**	**-0.7**
BKZ				IAmb	IAmb	21 30 56.9	
	comp=Z,45nm,1.5s						
RTZ	**Ruatahuna**	**46.20**	**261**	IAMs_20	IAMs_20	21 44 14.0	
	comp=Z,5μm,19.0s						
URZ	**Urewera**	**46.36**	**261**	LR	LR	21 44 29.8	
	comp=Z,5μm,19.6s,baz=225,slow=31						
RPZ	**Rata Peaks**	**46.46**	**251**	LR	LR	21 43 51.3	
	comp=Z,3μm,21.2s,baz=127,slow=30						
LBZ	**Lake Benmore**	**46.55**	**250**	P	**P**	**21 29 22.6**	**+2.1**
LBZ				IAMs_20	IAMs_20	21 43 29.5	
	comp=Z,6μm,21.0s						
MCQ	**Macquarie Isla**	**46.56**	**233**	P	**P**	**21 29 21.5**	**+1.1**
MCQ	**Macquarie Isla**	**46.56**	**233**	P	**P**	**21 29 21.5**	**+1.1**
MCQ				pmax	pmax		
	comp=Z,106nm,1.2s						
THZ	**Tophouse**	**46.60**	**255**	P	**P**	**21 29 22.5**	**+1.5**
PB05	**IPOC Station P**	**46.77**	**69**	P	**P**	**21 29 21.2**	**-1.5**
VNA1	**Neumayer--Stat**	**46.77**	**154**	⇑P	**P**	**21 29 21.9**	**0.0**
	comp=Z,17nm,1.4s						
VNA2	**Neumayer--Watz**	**46.82**	**155**	⇑P	**P**	**21 29 21.8**	**-0.5**
	comp=Z,9.7nm,0.9s,baz=236,slow=9.0						
INZ	**Inchbonnie**	**46.85**	**253**	P	**P**	**21 29 22.3**	**-0.6**
INZ				IAmb	IAmb	21 29 28.5	
	comp=Z,20nm,1.0s						
PB15	**IPOC Station P**	**46.90**	**70**	P	**P**	**21 29 22.2**	**-1.6**
PB15				IAmb	IAmb	21 29 27.3	
	comp=Z,30nm,1.2s						
MRNZ	**Matariki Terra**	**46.92**	**255**	P	**P**	**21 29 24.4**	**+1.0**
PB04	**IPOC Station P**	**47.21**	**68**	P	**P**	**21 29 24.8**	**-1.4**
PB04				IAmb	IAmb	21 29 32.4	
	comp=Z,38nm,1.4s						
PB06	**IPOC Station P**	**47.24**	**69**	P	**P**	**21 29 25.3**	**-1.0**
DSZ	**Denniston Nort**	**47.25**	**254**	P	**P**	**21 29 27.1**	**+0.9**
FOZ	**Fox Glacier**	**47.28**	**251**	P	**P**	**21 29 26.9**	**+0.7**
FOZ				IAmb	IAmb	21 29 31.3	
	comp=Z,34nm,1.2s						
FOZ				IAMs_20	IAMs_20	21 44 16.0	
	comp=Z,5μm,21.0s						
PYZ	**Puysegur Point**	**47.42**	**246**	IAMs_20	IAMs_20	21 43 47.6	
	comp=Z,5μm,21.0s						
SNAA	**Sanae**	**47.45**	**157**	P	**P**	**21 29 26.2**	**-1.2**
SNAA				IAmb	IAmb	21 29 40.7	
	comp=Z,14nm,0.9s						
SNAA				IAMs_20	IAMs_20	21 47 39.7	
	comp=Z,6μm,20.0s						
SNAA	**Sanae**	**47.45**	**157**	⇑P	**P**	**21 29 25.7**	**-1.7**
	comp=Z,115nm,0.7s						
SNAA	**Sanae**	**47.45**	**157**	P	**P**	**21 29 26.4**	**-0.9**
	comp=Z,5.5nm,0.9s,baz=238,slow=7.9,SNR=7.3						
SNAA				S	**S**	**21 36 19.9**	**-1.4**
	comp=Z,3.0nm,1.1s,baz=218,slow=13,SNR=1.9						
SNAA				LR	LR	21 48 11.8	
	comp=Z,6μm,20.7s,baz=238,slow=34						
	comp=Z,5.5nm,0.9s						
HIZ	**Hauiti**	**47.53**	**259**	P	**P**	**21 29 29.2**	**+0.9**
DCZ	**Deep Cove**	**47.59**	**247**	P	**P**	**21 29 29.9**	**+1.3**
TOZ	**Tahuroa Road**	**47.66**	**261**	IAMs_20	IAMs_20	21 45 20.6	
	comp=Z,4μm,20.0s						
LVC	**Limon Verde**	**47.69**	**70**	P	**P**	**21 29 29.6**	**-0.5**
LVC	**Limon Verde**	**47.69**	**70**	P	**P**	**21 29 29.6**	**-0.5**
LVC				pmax	pmax		
	comp=Z,33nm,1.1s						
LVC				MLR	MLR		
	comp=Z,3μm,21.0s						
LVC	**Limon Verde**	**47.69**	**70**	LR	LR	21 44 21.9	
	comp=Z,3μm,19.9s,baz=220,slow=29						
TAOE	**Nuku Hiva Isla**	**47.70**	**329**	*e*S	**S**	**21 36 18.2**	**-7.7**
	comp=Z,732nm,24.8s						
TAOE				*e*LR	LR	21 43 07.9	
	comp=Z,8μm,24.8s						
TAOE	**Nuku Hiva Isla**	**47.70**	**329**	IAMs_20	IAMs_20	21 44 03.8	
	comp=Z,5μm,19.0s						
AF01	**San Pedro de A**	**47.84**	**71**	IAMs_20	IAMs_20	21 44 28.5	
	comp=Z,4μm,21.0s						
PB07	**IPOC Station P**	**47.84**	**68**	P	**P**	**21 29 30.6**	**-0.4**
PB09	**IPOC Station P**	**48.14**	**69**	P	**P**	**21 29 34.1**	**+0.7**
PB02	**IPOC Station P**	**48.16**	**68**	P	**P**	**21 29 33.0**	**-0.4**
PATCX	**Punta Patache**	**48.41**	**67**	P	**P**	**21 29 34.3**	**-1.1**
PATCX				IAmb	IAmb	21 29 38.3	
	comp=Z,22nm,1.1s						
PATCX				IAMs_20	IAMs_20	21 44 10.9	
	comp=Z,4μm,22.0s						
TROLL	**Troll, Antarti**	**48.43**	**159**	⇑P	**P**	**21 29 34.6**	**-0.4**
	comp=Z,679nm,0.8s						
TA01	**Diego Aracena**	**48.60**	**67**	P	**P**	**21 29 36.0**	**-0.7**
TA01				IAmb	IAmb	21 29 39.6	
	comp=Z,20nm,1.1s						
TA01				IAMs_20	IAMs_20	21 44 25.9	
	comp=Z,4μm,20.0s						
PB01	**IPOC Station P**	**48.60**	**68**	P	**P**	**21 29 36.5**	**-0.4**
PB01				IAmb	IAmb	21 29 40.0	
	comp=Z,18nm,0.9s						
TA02	**Huaiquique**	**48.86**	**67**	P	**P**	**21 29 38.2**	**-0.5**
TA02				IAmb	IAmb	21 29 41.8	
	comp=Z,24nm,1.1s						
PB08	**IPOC Station P**	**49.51**	**68**	P	**P**	**21 29 43.5**	**-0.7**
PB08				IAMs_20	IAMs_20	21 44 56.0	
	comp=Z,3μm,21.0s						
PB11	**IPOC Station P**	**49.54**	**67**	P	**P**	**21 29 43.1**	**-1.0**
PB11				IAmb	IAmb	21 29 45.9	
	comp=Z,42nm,1.4s						
PB11				IAMs_20	IAMs_20	21 44 53.7	
	comp=Z,4μm,20.0s						
RAO	**Raoul Island**	**49.56**	**274**	LR	LR	21 47 40.9	
	comp=Z,1μm,18.4s,baz=136,slow=33						
ITQB	**Itaqui**	**49.63**	**87**	P	**P**	**21 29 43.9**	**-0.7**
GO01	**Chusmiza**	**49.87**	**67**	P	**P**	**21 29 46.3**	**-0.7**
GO01				IAMs_20	IAMs_20	21 45 05.5

PAYG Puerto Ayora 56.92 33 IAMs_20 IAMs_20 21 49 07.3
comp=Z,4µm,18.0s
AQDB Aquidauana 57.05 80 P **P** **21 30 38.4 -0.7**
AQDB IAmb IAmb 21 30 41.5
comp=Z,20nm,1.1s
SIV San Ignacio 57.41 72 LR LR 21 51 15.7
comp=Z,2µm,20.3s,baz=228,slow=32
MCRA Macar, Loja 57.51 46 P **P** **21 30 41.4 -1.1**
MCRA Macar, Loja 57.51 46 eP **P** **21 30 41.8 -0.7**
CZSB Cruzeiro do Su 57.96 56 P **P** **21 30 46.2 +0.6**
CZSB Cruzeiro do Su 57.96 56 eP **P** **21 30 43.8 -1.8**
ARNL Arenillas 58.20 46 IAMs_20 IAMs_20 21 49 31.1
comp=Z,3µm,21.0s
PTLB Pontes e Lacer 58.96 74 P **P** **21 30 51.8 -0.8**
PTLB IAmb IAmb 21 30 55.1
comp=Z,17nm,1.1s
PTLB IAMs_20 IAMs_20 21 52 21.9
comp=Z,3µm,20.0s
BOSC San Juan Bosco 59.24 47 P **P** **21 30 54.3 -0.4**
COHC Cochancay 59.52 46 P **P** **21 30 56.2 -0.1**
COHC Cochancay 59.52 46 eP P 21 30 50.9 -5.5
ETMB Extrema 59.57 63 P **P** **21 30 56.1 -0.6**
ETMB IAmb IAmb 21 30 59.0
comp=Z,21nm,0.9s
ETMB IAMs_20 IAMs_20 21 50 53.5
comp=Z,3µm,22.0s
MAW Mawson 59.68 180 P **P** **21 30 55.2 -1.6**
comp=Z,5.6nm,0.9s,baz=202,slow=16,SNR=2.6
MAW S **S** **21 39 07.5 +0.7**
comp=Z,3.3nm,0.8s,baz=119,slow=17,SNR=1.6
MAW LR LR 21 54 36.4
comp=Z,1µm,21.7s,baz=170,slow=34
comp=Z,5.6nm,0.9s
VILB Vilhena 60.34 71 P **P** **21 31 01.0 -1.2**
CHSH Refugio Sur-Vo 60.55 46 P **P** **21 31 04.3 +0.1**
SAML Samuel 61.94 66 P **P** **21 31 11.9 -1.0**
SAML IAmb IAmb 21 31 21.1
comp=Z,31nm,1.6s
SAML Samuel 61.94 66 IAMs_20 IAMs_20 21 52 29.2
comp=Z,2µm,20.0s
SAML Samuel 61.94 66 eP **P** **21 31 08.6 -4.4**
SAML Samuel 61.94 66 P **P** **21 31 11.9 -1.0**
SAML pmax pmax
comp=Z,31nm,1.6s
SAML MLR MLR
comp=Z,2µm,20.0s
PULU Pululahua 62.07 46 P **P** **21 31 13.8 -0.5**
OTAV Otavalo 62.28 45 P **P** **21 31 15.8 0.0**
OTAV IAmb IAmb 21 31 18.8
comp=Z,15nm,1.1s
OTAV Otavalo 62.28 45 eP **P** **21 31 12.9 -2.8**
OTAV Otavalo 62.28 45 P **P** **21 31 15.8 0.0**
OTAV pmax pmax
comp=Z,15nm,1.1s
OTAV MLR MLR
comp=Z,2µm,21.0s
CUSE Cuicocha Este 62.37 45 eP **P** **21 31 15.6 -0.7**
TBTG Tabatinga, AM 62.40 56 P **P** **21 31 15.2 -0.8**
BONI La Bonita 62.88 46 eP **P** **21 31 19.2 -0.3**
TULM Tulcn-Chalpat 63.00 46 P **P** **21 31 20.5 -0.1**
TULM IAmb IAmb 21 31 40.0
comp=Z,27nm,1.2s
GCUF Volcan Galeras 63.65 46 eP **P** **21 31 25.9 +1.0**
ONTNC Ouen Toro 64.12 267 P **P** **21 31 28.8 +1.4**
DZM Mont Dzumac 64.31 267 eP P 21 31 22.3 -6.4
comp=Z,36nm,22.1s
DZM eS **S** **21 40 06.8 +0.1**
comp=Z,914nm,24.2s
DZM Mont Dzumac 64.31 267 eLR LR 21 50 47.4
comp=Z,6µm,26.4s
DZM Mont Dzumac 64.31 267 IAMs_20 IAMs_20 21 53 32.8
comp=Z,2µm,20.0s
DZM Mont Dzumac 64.31 267 LR LR 21 54 02.6
comp=Z,2µm,19.4s,baz=153,slow=31
BBAC Balboa, Cauca 64.40 46 eP P 21 31 24.5 -5.0
CAN Canberra 64.57 245 IAMs_20 IAMs_20 21 52 22.2
comp=Z,3µm,22.0s
FLOC Florencia 64.71 48 eP **P** **21 31 30.8 -0.5**
TOO Toolangi 64.78 241 P **P** **21 31 31.4 -0.2**
TOO Toolangi 64.78 241 P **P** **21 31 31.4 -0.2**
TOO pmax pmax
comp=Z,40nm,1.2s
POPC Popayan, Colom 65.11 46 eP **P** **21 31 31.6 -2.6**
GARC Garzon, Huila 65.32 47 eP **P** **21 31 33.3 -2.2**
BDFB Brasilia 65.38 83 P **P** **21 31 34.9 -0.9**
BDFB IAmb IAmb 21 31 42.7
comp=Z,10nm,0.8s
BDFB Brasilia 65.38 83 P **P** **21 31 36.0 +0.2**
comp=Z,8.7nm,0.8s,baz=242,slow=6.8,SNR=14
BDFB S **S** **21 40 22.6 +2.6**
comp=Z,0.9nm,0.5s,baz=71,slow=14,SNR=1.4
BDFB LR LR 21 56 59.6
comp=Z,5µm,21.7s,baz=210,slow=33
comp=Z,8.7nm,0.8s
JAMC Jamundi, Valle 65.72 46 eP **P** **21 31 35.5 -2.6**
ARMA Armidale 66.77 250 P **P** **21 31 45.0 +0.4**
ARMA IAmb IAmb 21 31 48.3
comp=Z,18nm,0.9s
PRAC Prado 66.95 47 eP **P** **21 31 42.2 -3.5**
ORTC Ortega, Tolima 66.96 47 eP P 21 31 38.6 -7.2
CVER Cruz Verde, Cu 68.03 48 eP **P** **21 31 52.8 -0.3**
MACA Manacapuru-AM 68.11 64 P **P** **21 31 51.7 -1.3**
MACA IAMs_20 IAMs_20 21 56 30.8
comp=Z,2µm,20.0s
ROSC El Rosal 68.20 47 P **P** **21 31 54.7 +0.7**
ROSC IAMs_20 IAMs_20 21 56 26.3
comp=Z,3µm,20.0s
ROSC El Rosal 68.20 47 eP **P** **21 31 52.8 -1.3**
ROSC El Rosal 68.20 47 P **P** **21 31 55.7 +1.6**
comp=Z,6.8nm,0.3s,baz=270,slow=7.8,SNR=6.4
ROSC S **S** **21 40 54.8 +0.2**
comp=Z,5.3nm,0.4s,baz=332,slow=23,SNR=1.3
ROSC LR LR 21 56 55.6
comp=Z,2µm,18.1s,baz=224,slow=32
comp=Z,6.8nm,0.3s
JACO JACO, Garabito 68.48 35 P **P** **21 31 54.9 -0.3**
JACO IAMs_20 IAMs_20 21 54 16.3
comp=Z,2µm,22.0s
PTGC Puerto Gaitan, 68.62 50 eP P 21 31 51.0 -5.2
ORTG Ortega, Santa 68.86 34 P **P** **21 31 56.7 -1.0**
ORTG IAMs_20 IAMs_20 21 55 24.4
comp=Z,2µm,18.0s
JTS Las Juntas de 68.96 35 IAMs_20 IAMs_20 21 55 09.2
comp=Z,2µm,20.0s
JTS Las Juntas de 68.96 35 S **S** **21 41 07.6 +4.7**
comp=Z,1.3nm,0.4s,baz=327,slow=17,SNR=1.3
JTS LR LR 21 54 53.3
comp=Z,2µm,21.1s,baz=194,slow=30
SPBC San Pablo de B 69.03 47 eP **P** **21 31 56.3 -2.6**
HZTE Horizontes, Gu 69.14 34 IAMs_20 IAMs_20 21 55 42.9
comp=Z,2µm,18.0s
ARE1 Arenal 1 69.20 35 IAMs_20 IAMs_20 21 54 39.5
comp=Z,3µm,22.0s
DBBC Dabeiba 69.33 45 eP **P** **21 31 58.1 -2.6**
PTBC PUERTO BERRIO, 69.65 46 eP P 21 31 56.3 -6.3
BCIP Isla Barro Col 69.80 40 IAMs_20 IAMs_20 21 54 51.1
comp=Z,3µm,21.0s
UREC San Jos de Ur 70.27 45 eP **P** **21 32 06.7 +0.3**
ZARC Zaragoza, Cauc 70.33 46 eP **P** **21 32 05.7 -1.0**
ACON Acoyapa 70.45 34 IAMs_20 IAMs_20 21 56 40.7
comp=Z,2µm,18.0s
EIDS Eidsvold 70.92 253 P **P** **21 32 09.7 -0.6**
EIDS IAmb IAmb 21 32 13.5
comp=Z,27nm,1.2s
PAMC Pamplona, Colo 71.14 48 eP **P** **21 32 10.5 -1.8**
STKA Stephens Creek 71.19 242 P **P** **21 32 12.6 +0.7**
STKA Stephens Creek 71.19 242 P **P** **21 32 09.2 -2.7**
comp=Z,3.7nm,0.8s,baz=120,slow=11,SNR=6.1
STKA S **S** **21 41 34.8 +6.0**
comp=Z,1.1nm,0.4s,baz=235,slow=9.2,SNR=3.4
STKA LR LR 21 56 39.6
comp=Z,3µm,21.8s,baz=153,slow=30
comp=Z,3.7nm,0.8s
MTO3 Montecristo 71.42 29 IAMs_20 IAMs_20 21 55 47.7
comp=Z,2µm,22.0s
ESQI Esquipulas 71.58 29 IAMs_20 IAMs_20 21 55 53.9
comp=Z,2µm,21.0s
TLIG Tlapa 72.21 19 P **P** **21 32 18.2 0.0**
TLIG IAmb IAmb 21 32 37.5
comp=Z,32nm,1.6s
CMIG Matias Romero 72.55 23 S **S** **21 41 49.2 +4.9**
comp=Z,0.9nm,0.4s,baz=193,slow=16,SNR=1.2
CMIG LR LR 21 56 58.5
comp=Z,553nm,18.8s,baz=188,slow=30
BOAV Boa Vista 72.85 61 P **P** **21 32 21.3 -0.7**
BOAV IAmb IAmb 21 32 24.2
comp=Z,14nm,1.0s
BOAV IAMs_20 IAMs_20 21 59 08.6
comp=Z,2µm,20.0s
BBOO Buckleboo 73.34 238 P **P** **21 32 23.9 -0.9**
SDV Santo Domingo 73.44 49 P **P** **21 32 23.3 -2.4**
SDV IAmb IAmb 21 32 41.4
comp=Z,21nm,1.4s
SDV Santo Domingo 73.44 49 P **P** **21 32 26.2 +0.5**
comp=Z,2.9nm,0.4s,baz=225,slow=4.3,SNR=1.9
SDV S **SKiKP** **21 41 56.9 +0.5**
comp=Z,2.2nm,0.3s,baz=327,slow=24,SNR=1.4
SDV LR LR 21 59 45.5
comp=Z,2µm,21.4s,baz=196,slow=32
comp=Z,2.9nm,0.4s
MOIG Morelia 73.80 16 IAMs_20 IAMs_20 21 58 15.4
comp=Z,2µm,18.0s
BAUV El Baul 74.69 51 P **P** **21 32 30.6 -2.1**
ZAIG Zacatecas 76.61 14 P **P** **21 32 44.6 +0.8**
ZAIG IAmb IAmb 21 33 04.8
comp=Z,46nm,2.0s
LPIG La Paz 77.07 7 LR LR 21 59 31.3
comp=Z,1µm,18.6s,baz=187,slow=30
TEIG Tepich 77.26 28 LR LR 22 01 08.2
comp=Z,10µm,18.4s,baz=344,slow=31
PCRV Puerto La Cruz 77.39 54 LR LR 22 02 24.3
comp=Z,3µm,21.2s,slow=32
CTA Charters Tower 77.80 253 LR LR 22 01 51.6
comp=Z,1µm,19.7s,baz=142,slow=32
CTAO Charters Tower 77.80 253 P **P** **21 32 51.5 +1.0**
CTAO IAmb IAmb 21 32 54.1
comp=Z,16nm,1.0s
CTAO Charters Tower 77.80 253 P **P** **21 32 51.5 +1.0**
CTAO pmax pmax
comp=Z,16nm,1.0s
CTAO MLR MLR
comp=Z,2µm,20.0s
HNR Honiara 78.00 270 LR LR 21 59 36.3
comp=Z,11µm,21.8s,baz=146,slow=30
FORT Forrest 78.96 233 P **P** **21 32 56.7 -0.1**
FORT IAmb IAmb 21 33 14.5
comp=Z,26nm,1.0s
MTDJ Mount Denham 78.96 39 IAMs_20 IAMs_20 21 59 55.8
comp=Z,2µm,21.0s
MDP Montagnes des 79.38 67 LR LR 22 04 33.4
comp=Z,1µm,19.9s,baz=194,slow=33
CBCY The Bluff, Cay 79.53 36 IAMs_20 IAMs_20 22 00 17.2
comp=Z,3µm,22.0s
RCBR Riachuelo 80.37 87 LR LR 22 06 47.4
comp=Z,5µm,18.7s,baz=216,slow=34
CRZF Crozet Islands 80.50 173 IAMs_20 IAMs_20 22 04 40.7
comp=Z,2µm,20.0s
GRGR Grenville 80.54 55 IAMs_20 IAMs_20 22 05 59.9
comp=Z,2µm,18.0s
SOR Soroa 81.27 32 IAMs_20 IAMs_20 22 02 40.4
comp=Z,2µm,19.0s
H01W1 Cape Leeuwin H 81.57 221 T T 23 03 34.8
baz=150,slow=76,SNR=35
H01W2 Cape Leeuwin H 81.58 221 T T 23 03 35.0
baz=150,slow=76,SNR=33
H01W3 Cape Leeuwin H 81.59 221 T T 23 03 35.9
baz=150,slow=76,SNR=25
AS31 Alice Springs 81.81 241 P **P** **21 33 12.1 -0.2**
ASAR Alice Springs 81.81 241 P **P** **21 33 12.2 -0.1**
ASAR Alice Springs 81.81 241 P **P** **21 33 08.4 -3.9**
comp=Z,2.0nm,0.8s,baz=152,slow=3.6,SNR=24
ASAR LR LR 22 03 45.3
comp=Z,4µm,20.6s,baz=147,slow=32
comp=Z,2.0nm,0.8s
NWAO Narrogin (SRO) 82.03 224 LR LR 22 00 48.1
comp=Z,870nm,20.1s,baz=142,slow=29
CAMR Camarioca 82.05 33 IAMs_20 IAMs_20 22 02 14.1
comp=Z,3µm,21.0s
BIM Bigot 82.87 54 IAMs_20 IAMs_20 22 07 25.8
comp=Z,1µm,19.0s
TX31 Lajitas Ar. Si 82.92 12 P **P** **21 33 18.3 +0.6**
TX31 IAmb IAmb 21 33 29.4
comp=Z,20nm,1.2s
TXAR Lajitas Array 82.92 12 P **P** **21 33 17.9 +0.2**
TXAR Lajitas Array 82.92 12 P **P** **21 33 17.9 +0.2**
TXAR Lajitas Array 82.92 12 P **P** **21 33 18.1 +0.4**
comp=Z,5.7nm,1.2s,baz=203,slow=6.6,SNR=19
TXAR LR LR 22 04 29.0
comp=Z,392nm,18.6s,baz=169,slow=32
comp=Z,5.7nm,1.2s
FDF Fort de Franco 83.02 54 IAMs_20 IAMs_20 22 07 28.6
comp=Z,2µm,19.0s
SVN Savane Anatole 83.10 54 IAMs_20 IAMs_20 22 07 31.8
comp=Z,2µm,20.0s
SJG San Juan 83.59 48 LR LR 22 07 25.4
comp=Z,684nm,18.1s,baz=229,slow=33
SAND Sanderson 83.74 13 P **P** **21 33 22.7 +0.8**
SAND IAmb IAmb 21 33 32.8
comp=Z,12nm,1.3s
HNDO Hondo 83.76 16 P **P** **21 33 22.3 +0.3**
HNDO IAmb IAmb 21 33 33.8
comp=Z,11nm,1.0s
GDHS Morne Mazeau, 84.04 53 IAMs_20 IAMs_20 22 06 24.1
comp=Z,2µm,20.0s
VTX Valle De La Tr 84.09 2 P **P** **21 33 25.1 +1.4**
425A Indio Mountain 84.19 11 P **P** **21 33 25.1 +0.8**
ABD La Joyeuse, An 84.35 53 IAMs_20 IAMs_20 22 06 12.8
comp=Z,2µm,20.0s
319A Douglas 84.37 7 IAmb IAmb 21 33 36.2
comp=Z,24nm,1.4s
GDSD La Dsirade Is 84.41 54 IAMs_20 IAMs_20 22 06 26.6
comp=Z,2µm,21.0s
CCX Cicese 84.55 1 IAMs_20 IAMs_20 22 02 04.2
comp=Z,2µm,22.0s
JCT Junction City 84.60 15 P **P** **21 33 25.9 -0.3**
JCT IAmb IAmb 21 33 39.9
comp=Z,15nm,1.1s
JCT Junction City 84.60 15 P **P** **21 33 25.9 -0.3**
JCT pmax pmax
comp=Z,15nm,1.1s
JCT MLR MLR
comp=Z,1µm,21.0s
WRA Warramunga Arr 84.61 244 P **P** **21 33 23.1 -3.7**
comp=Z,3.3nm,0.8s,baz=146,slow=4.5,SNR=31
comp=Z,3.3nm,0.8s
WRAB Tennant Creek 84.61 244 P **P** **21 33 25.8 -0.9**
WRAB Tennant Creek 84.61 244 P **P** **21 33 25.8 -0.9**
WRAB pmax pmax
comp=Z,22nm,1.0s
ESJX Sierra Juarez 84.70 1 P **P** **21 33 27.0 +0.1**
ESJX IAmb IAmb 21 33 34.8
comp=Z,13nm,1.0s
ESJX IAMs_20 IAMs_20 22 02 42.0
comp=Z,1µm,19.0s
214A Organ Pipe Nat 84.74 4 P **P** **21 33 26.5 -0.4**
SMRT St. Maarten 84.95 51 IAMs_20 IAMs_20 22 07 05.9
comp=Z,2µm,19.0s
CBX Cerro Bola 85.00 1 P **P** **21 33 29.5 +1.3**
CBX IAmb IAmb 21 33 35.9
comp=Z,17nm,1.0s
MNHN Monahans 85.01 13 P **P** **21 33 28.9 +0.6**
MNHN IAmb IAmb 21 33 44.9
comp=Z,37nm,1.9s
TJX Tijuana 85.19 0 IAMs_20 IAMs_20 22 02 26.1
comp=Z,2µm,22.0s
TUC Tucson 85.20 6 P **P** **21 33 30.3 +1.1**
TUC IAmb IAmb 21 33 40.2
comp=Z,13nm,1.1s
TUC Tucson 85.20 6 P **P** **21 33 30.3 +1.1**
TUC pmax pmax
comp=Z,13nm,1.2s
TUC MLR MLR
comp=Z,1µm,21.0s
TKX Tecate 85.25 1 IAMs_20 IAMs_20 22 02 36.7
comp=Z,2µm,21.0s
RMX La Rumorosa 85.29 1 P **P** **21 33 30.4 +0.6**
RMX IAmb IAmb 21 33 40.3
comp=Z,25nm,1.5s
YUH Yuha Desert 85.34 1 P **P** **21 33 30.8 +0.9**
YUH IAmb IAmb 21 33 41.2
comp=Z,15nm,1.2s
YUH IAMs_20 IAMs_20 22 03 01.0
comp=Z,2µm,18.0s
BAR Barrett 85.36 1 P **P** **21 33 31.4 +1.4**
BAR IAMs_20 IAMs_20 22 02 28.7
comp=Z,2µm,21.0s
113A Mohawk Valley, 85.51 3 P **P** **21 33 31.3 +0.6**
113A IAmb IAmb 21 33 39.5
comp=Z,21nm,1.5s
DUN6 Lazy B Ranch 85.56 7 P **P** **21 33 31.1 +0.1**
109C Camp Elliot, M 85.57 0 IAMs_20 IAMs_20 22 02 33.1
comp=Z,2µm,20.0s
121A Cookes Peak, D 85.64 8 P **P** **21 33 32.2 +0.6**
PMG Port Moresby 85.71 260 P **P** **21 33 33.5 +1.3**
PMG Port Moresby 85.71 260 P **P** **21 33 33.6 +1.3**
PMG pmax pmax
comp=Z,33nm,1.1s
PMG MLR MLR
comp=Z,1µm,18.0s
PMG Port Moresby 85.71 260 LR LR 22 08 27.1
comp=Z,1µm,18.1s,baz=136,slow=33
SNCC San Nicolas Is 85.94 358 IAMs_20 IAMs_20 22 01 37.1
comp=Z,2µm,21.0s
PFO Pinyon Flats O 86.29 1 P **P** **21 33 35.3 +0.6**
PFO IAmb IAmb 21 33 45.5
comp=Z,13nm,1.1s
PFO Pinyon Flats O 86.29 1 IAMs_20 IAMs_20 22 03 26.3
comp=Z,2µm,20.0s
PFO Pinyon Flats O 86.29 1 P **P** **21 33 35.3 +0.6**
PFO pmax pmax
comp=Z,13nm,1.1s
PFO MLR MLR
comp=Z,2µm,20.0s
ELS Elsinore Mount 86.33 0 P **P** **21 33 35.2 +0.4**
ELS IAMs_20 IAMs_20 22 04 07.2
comp=Z,2µm,18.0s
PMD Palm Desert 86.33 1 P **P** **21 33 34.7 0.0**
PMD IAMs_20 IAMs_20 22 02 58.3
comp=Z,2µm,21.0s
Y14A Wickenburg 86.71 4 P **P** **21 33 37.2 +0.6**
PASC Pasadena Art C 86.85 360 IAMs_20 IAMs_20 22 04 03.1
comp=Z,2µm,18.0s
X16A Lo Mia Camp, P 87.26 5 P **P** **21 33 39.6 +0.1**
X18A Snowflake 87.46 6 P **P** **21 33 40.7 +0.3**
X18A IAmb IAmb 21 33 49.5
comp=Z,13nm,1.2s
SUR Sutherland 87.55 146 IAMs_20 IAMs_20 22 07 48.4
comp=Z,1µm,19.0s
SUR Sutherland 87.55 146 LR LR 22 08 05.7
comp=Z,795nm,18.3s,baz=194,slow=32
BCW Bitter Crk WRg 87.63 358 P **P** **21 33 41.5 +0.3**
BCW IAMs_20 IAMs_20 22 04 59.8
comp=Z,2µm,18.0s
W13A Hualapai Mount 87.83 3 P **P** **21 33 41.8 -0.5**
W13A IAMs_20 IAMs_20 22 05 23.9
comp=Z,1µm,19.0s
GSC Goldstone, Bar 87.98 1 P **P** **21 33 42.4 -0.4**
GSC IAmb IAmb 21 33 50.4
comp=Z,8.0nm,1.0s
GSC IAMs_20 IAMs_20 22 04 16.9
comp=Z,2µm,20.0s
GSC Goldstone, Bar 87.98 1 P **P** **21 33 42.4 -0.4**
GSC pmax pmax
comp=Z,8.0nm,1.0s
GSC MLR MLR
comp=Z,2µm,20.0s
ANMO Albuquerque 88.15 9 P **P** **21 33 43.7 -0.1**
ANMO Albuquerque 88.15 9 P **P** **21 33 43.7 -0.1**
ANMO pmax pmax
comp=Z,8.0nm,1.1s
ANMO MLR MLR
comp=Z,800nm,19.0s
ANMO Albuquerque 88.15 9 LR LR 22 07 18.5
comp=Z,681nm,18.0s,baz=272,slow=32
ISA Isabella, Lake 88.34 359 P **P** **21 33 44.8 +0.4**
ISA IAmb IAmb 21 33 52.0
comp=Z,14nm,1.4s
ISA Isabella, Lake 88.34 359 P **P** **21 33 44.8 +0.4**
ISA pmax pmax
comp=Z,14nm,1.5s
ISA MLR MLR
comp=Z,2µm,19.0s
WUAZ Wupatki 88.36 5 P **P** **21 33 44.0 -0.7**
WUAZ IAmb IAmb 21 33 55.2
comp=Z,19nm,1.6s
V12A Nelson 88.43 2 P **P** **21 33 45.1 +0.2**
V12A IAMs_20 IAMs_20 22 04 51.8
comp=Z,1µm,20.0s
GRHM Grahamstown, E 88.50 150 IAMs_20 IAMs_20 22 06 21.5
comp=Z,1µm,20.0s
QSM Queen of Sheba 88.64 1 P **P** **21 33 46.0 +0.2**
QSM IAmb IAmb 21 33 54.4
comp=Z,14nm,1.5s
QSM IAMs_20 IAMs_20 22 04 46.4
comp=Z,2µm,19.0s
GWY Greenwater Val 88.86 1 P **P** **21 33 47.5 +0.5**
GWY IAmb IAmb 21 33 55.7
comp=Z,13nm,1.3s
PMPB Monarch Peak 88.93 357 IAMs_20 IAMs_20 22 03 58.3
comp=Z,2µm,21.0s
WMOK Wichita Mounta 88.93 15 P **P** **21 33 47.5 +0.3**
WMOK IAmb IAmb 21 34 07.2
comp=Z,14nm,1.4s
WMOK Wichita Mounta 88.93 15 P **P** **21 33 47.5 +0.3**
WMOK pmax pmax
comp=Z,14nm,1.4s
SHPR Sheep Range 89.20 2 P **P** **21 33 49.3 +0.7**
U15A North Rim 89.22 4 P **P** **21 33 49.1 +0.2**
U15A IAmb IAmb 21 34 13.0
comp=Z,25nm,1.8s
BBGB Big Mountain B 89.30 357 IAMs_20 IAMs_20 22 05 05.1
comp=Z,2µm,20.0s
WCT Wildcat Mounta 89.47 1 P **P** **21 33 49.9 +0.1**
TPNV Topopah Spring 89.63 1 P **P** **21 33 51.2 +0.6**
TPNV IAMs_20 IAMs_20 22 05 11.7
comp=Z,2µm,20.0s
TPNV Topopah Spring 89.63 1 P **P** **21 33 51.2 +0.6**
TPNV pmax pmax
comp=Z,7.0nm,1.0s
TPNV MLR MLR
comp=Z,2µm,20.0s
GRAC Grapevine Rang 89.67 0 IAMs_20 IAMs_20 22 05 20.6
comp=Z,1µm,20.0s
GMN Gold Mountain 89.97 0 P **P** **21 33 53.0 +0.7**
PRN Pahroc Range 90.10 2 P **P** **21 33 52.6 -0.2**
PRN IAmb IAmb 21 34 01.0
comp=Z,17nm,1.1s
PRN IAMs_20 IAMs_20 22 06 11.0
comp=Z,2µm,19.0s
ELIS Ellis County 90.13 15 IAMs_20 IAMs_20 22 05 15.2
comp=Z,2µm,20.0s
MVCO Mesa Verde 90.23 7 P **P** **21 33 53.6 +0.1**
MVCO IAMs_20 IAMs_20 22 06 29.0
comp=Z,1µm,20.0s
OMMB Old Mammoth Mi 90.29 359 IAMs_20 IAMs_20 22 05 32.2
comp=Z,1µm,20.0s
S11A Rachel 90.33 1 IAMs_20 IAMs_20 22 05 55.0
comp=Z,2µm,20.0s
SZCU Shurtz Canyon 90.35 4 P **P** **21 33 54.5 +0.5**
SZCU IAmb IAmb 21 34 05.0
comp=Z,34nm,1.9s
T25A Trinidad 90.54 10 P **P** **21 33 53.9 -1.0**
T25A IAmb IAmb 21 34 06.4
comp=Z,14nm,1.2s
FITZ Fitzroy Crossi 90.72 238 P **P** **21 33 55.8 -0.4**
CMB Columbia Colle 90.73 358 P **P** **21 33 56.5 +0.9**
CMB IAMs_20 IAMs_20 22 06 40.0
comp=Z,2µm,18.0s
CMB Columbia Colle 90.73 358 P **P** **21 33 56.5 +0.9**
CMB pmax pmax
comp=Z,7.0nm,1.2s
CMB MLR MLR
comp=Z,2µm,18.0s
TPH Tonopah 90.74 0 P **P** **21 33 57.0 +1.2**
TPH Tonopah 90.74 0 P **P** **21 33 57.0 +1.2**
LHV Little Huntoon 90.92 359 P **P** **21 33 57.2 +0.9**
LHV IAmb IAmb 21 34 08.1
comp=Z,21nm,1.6s
LHV IAMs_20 IAMs_20 22 05 36.9
comp=Z,2µm,20.0s
MCCM Marconi Confer 90.93 356 IAMs_20 IAMs_20 22 06 52.3
comp=Z,1µm,18.0s
R11B Troy Canyon, C 91.03 2 P **P** **21 33 57.4 +0.3**
R11B IAmb IAmb 21 34 16.7
comp=Z,18nm,1.6s
R11B IAMs_20 IAMs_20 22 06 09.9
comp=Z,2µm,20.0s
NVAR Mina Array Bea 91.10 359 P **P** **21 33 57.8 +0.3**
NVAR Mina Array Bea 91.10 359 P **P** **21 33 57.6 +0.1**
comp=Z,2.6nm,1.1s,baz=187,slow=2.4,SNR=9.4
NVAR LR LR 22 07 11.7
comp=Z,2µm,18.0s,baz=169,slow=30
comp=Z,2.6nm,1.1s
NV11 Mina Array Sit 91.10 360 P **P** **21 33 58.0 +0.5**
NV11 IAmb IAmb 21 34 05.2
comp=Z,24nm,1.9s
NV11 IAMs_20 IAMs_20 22 06 04.6
comp=Z,2µm,20.0s
WAKR Walker 91.19 359 P **P** **21 33 58.2 +0.4**

WAKR IAmb IAmb 21 34 09.4
comp=Z,11nm,1.2s
MVU Marysvale 91.29 4 P **P** **21 33 58.8 +0.4**
RYN Ryan 91.30 359 P **P** **21 33 58.9 +0.5**
RYN IAmb IAmb 21 34 09.6
comp=Z,10nm,1.3s
RYN IAMs_20 IAMs_20 22 06 38.9
comp=Z,1µm,18.0s
HHAR Hobbs 91.30 19 P **P** **21 33 58.6 +0.4**
HHAR IAmb IAmb 21 34 09.4
comp=Z,15nm,1.3s
TCRU Three Creeks R 91.39 4 IAMs_20 IAMs_20 22 06 18.9
comp=Z,1µm,22.0s
Q09A Carvers 91.50 0 IAMs_20 IAMs_20 22 06 24.2
comp=Z,2µm,19.0s
GDXM Geysers 91.59 356 P **P** **21 34 00.7 +1.1**
GDXM IAmb IAmb 21 34 20.4
comp=Z,18nm,1.4s
GDXM IAMs_20 IAMs_20 22 05 37.7
comp=Z,2µm,20.0s
AFDM Forest Hills D 91.66 357 P **P** **21 33 59.6 -0.3**
AFDM IAmb IAmb 21 34 17.9
comp=Z,12nm,1.5s
AFDM IAMs_20 IAMs_20 22 06 45.5
comp=Z,1µm,18.0s
YERR Yerington 91.66 359 P **P** **21 34 00.4 +0.3**
YERR IAMs_20 IAMs_20 22 06 31.6
comp=Z,2µm,19.0s
EMB Emerald Bay 91.67 358 P **P** **21 34 01.2 +1.0**
EMB IAMs_20 IAMs_20 22 06 24.7
comp=Z,2µm,19.0s
SPR3 Spring Creek 3 91.71 3 P **P** **21 34 00.6 +0.2**
SPR3 IAmb IAmb 21 34 29.2
comp=Z,10nm,1.4s
SPR3 IAMs_20 IAMs_20 22 06 14.5
comp=Z,1µm,21.0s
KVN Kaiserville 91.72 360 P **P** **21 34 01.0 +0.7**
KVN IAmb IAmb 21 34 11.4
comp=Z,9.8nm,1.1s
KVN Kaiserville 91.72 360 P **P** **21 34 01.0 +0.7**
KVN pmax pmax
comp=Z,10.0nm,1.1s
KVN MLR MLR
comp=Z,2µm,18.0s
Q12A Willow Creek R 91.74 2 IAMs_20 IAMs_20 22 07 02.3
comp=Z,2µm,21.0s
Q16A Castle Valley 91.75 5 P **P** **21 34 01.2 +0.7**
Q16A IAmb IAmb 21 34 11.5
comp=Z,16nm,1.1s
PNTR Pine Nut 91.77 358 IAMs_20 IAMs_20 22 06 32.5
comp=Z,2µm,19.0s
HOPS Hopland Field 91.78 356 P **P** **21 34 00.3 0.0**
HOPS IAMs_20 IAMs_20 22 05 10.9
comp=Z,1µm,21.0s
SRU San Rafael Swe 91.98 5 P **P** **21 34 01.6 +0.1**
SRU IAmb IAmb 21 34 19.7
comp=Z,12nm,1.2s
SRU San Rafael Swe 91.98 5 P **P** **21 34 01.6 +0.1**
SRU pmax pmax
comp=Z,12nm,1.2s
SRU MLR MLR
comp=Z,1µm,20.0s
MPK Martis Peak 91.99 358 IAMs_20 IAMs_20 22 06 35.1
comp=Z,2µm,19.0s
TMUT Trail Mountain 92.13 5 P **P** **21 34 00.7 -1.6**
ORV Oroville 92.28 357 IAMs_20 IAMs_20 22 07 00.1
comp=Z,1µm,19.0s
SMCO Snowmass 92.30 8 IAMs_20 IAMs_20 22 08 26.0
comp=Z,1µm,19.0s
PAHR Pah Rah Range 92.39 359 P **P** **21 34 02.9 -0.5**
PAHR IAmb IAmb 21 34 14.4
comp=Z,7.9nm,1.2s
BOSA Boshof 92.48 148 IAMs_20 IAMs_20 22 08 28.1
comp=Z,1µm,20.0s
BOSA Boshof 92.48 148 LR LR 22 08 18.1
comp=Z,1µm,21.3s,baz=200,slow=31
KCPM Cahto Peak 92.50 355 IAMs_20 IAMs_20 22 07 37.9
comp=Z,1µm,19.0s
Y57A Sumter 92.54 30 IAMs_20 IAMs_20 22 10 09.0
comp=Z,2µm,18.0s
NLU North Lily Min 92.74 4 P **P** **21 34 04.4 -0.6**
NLU IAmb IAmb 21 34 16.3
comp=Z,10nm,1.0s
NLU IAMs_20 IAMs_20 22 08 02.8
comp=Z,1µm,20.0s
MPU Maple Canyon 92.82 5 IAMs_20 IAMs_20 22 07 20.9
comp=Z,2µm,21.0s
CLTN Cedars of Leba 92.83 25 IAMs_20 IAMs_20 22 09 05.0
comp=Z,1µm,21.0s
DUG Dugway, Tooele 92.95 4 P **P** **21 34 04.8 -1.1**
DUG IAmb IAmb 21 34 16.1
comp=Z,11nm,1.4s
DUG Dugway, Tooele 92.95 4 P **P** **21 34 04.8 -1.1**
DUG pmax pmax
comp=Z,11nm,1.5s
DUG MLR MLR
comp=Z,1µm,19.0s
ISCO Idaho Springs 93.05 9 IAMs_20 IAMs_20 22 09 35.7
comp=Z,1µm,19.0s
TKL Tuckaleechee C 93.10 27 LR LR 22 12 05.9
comp=Z,482nm,18.0s,baz=190,slow=33
Y60A Bolivia 93.21 32 IAMs_20 IAMs_20 22 10 04.6
comp=Z,1µm,19.0s
PLTX Planet X, Gerl 93.39 359 IAMs_20 IAMs_20 22 08 21.1
comp=Z,2µm,19.0s
ELK Elko 93.43 2 IAMs_20 IAMs_20 22 07 35.4
comp=Z,1µm,20.0s
ELK Elko 93.43 2 LR LR 22 08 16.3
comp=Z,1µm,19.2s,baz=194,slow=30
RDMU Red Mountain 93.49 6 IAMs_20 IAMs_20 22 08 19.6
comp=Z,1µm,21.0s
W57A Gilead 93.72 30 IAMs_20 IAMs_20 22 11 21.2
comp=Z,2µm,18.0s
TCUT Toone Canyon 93.93 5 IAMs_20 IAMs_20 22 09 21.3
comp=Z,2µm,18.0s
N23A Red Feather La 94.10 9 IAMs_20 IAMs_20 22 09 32.4
comp=Z,1µm,21.0s
HWUT Hardware Ranch 94.41 5 IAMs_20 IAMs_20 22 09 45.2
comp=Z,1µm,18.0s
CNNC Cliffs of the 94.45 32 IAMs_20 IAMs_20 22 10 43.4
comp=Z,2µm,20.0s
YBH Yreka Blue Hor 94.50 356 IAMs_20 IAMs_20 22 07 12.8
comp=Z,2µm,21.0s
YBH Yreka Blue Hor 94.50 356 LR LR 22 07 33.7
comp=Z,1µm,20.7s,baz=170,slow=30
PHWY Pilot Hill 94.55 9 IAMs_20 IAMs_20 22 10 06.3
comp=Z,1µm,18.0s
V58A Windy Hill, Pi 94.58 30 IAMs_20 IAMs_20 22 11 53.9
comp=Z,2µm,18.0s
WVOR Wild Horse Val 95.10 359 P **P** **21 34 16.1 +0.4**
WVOR IAmb IAmb 21 34 26.9
comp=Z,7.9nm,1.0s
WVOR Wild Horse Val 95.10 359 P **P** **21 34 16.2 +0.4**
WVOR pmax pmax
comp=Z,8.0nm,1.0s
WVOR MLR MLR
comp=Z,1µm,19.0s
U59A Littleton 95.50 31 IAMs_20 IAMs_20 22 10 55.4
comp=Z,2µm,20.0s
AHID Auburn Hatcher 95.59 5 IAMs_20 IAMs_20 22 10 24.4
comp=Z,1µm,18.0s
BW06 Boulder Array 95.68 6 IAMs_20 IAMs_20 22 09 38.7
comp=Z,1µm,20.0s
PDAR Pinedale Array 95.68 6 P **P** **21 34 18.3 -0.2**
comp=Z,0.3nm,0.8s,baz=175,slow=4.3,SNR=2.2
PDAR LR LR 22 09 51.2
comp=Z,964nm,20.8s,baz=186,slow=31
comp=Z,0.3nm,0.8s
LBTB Lobatse 95.94 147 LR LR 22 12 31.1
comp=Z,684nm,18.1s,baz=205,slow=32
J08A Circle Bar Ran 96.02 359 IAMs_20 IAMs_20 22 10 08.9
comp=Z,994nm,18.0s
MFID Camas Ranch 96.09 1 IAMs_20 IAMs_20 22 09 11.8
comp=Z,1µm,20.0s
N41A Harden Midland 96.19 20 IAMs_20 IAMs_20 22 13 00.2
comp=Z,1µm,20.0s
HLID Hailey 96.26 2 P **P** **21 34 20.8 -0.2**
HLID IAmb IAmb 21 34 38.8
comp=Z,13nm,1.6s
HLID IAMs_20 IAMs_20 22 11 23.5
comp=Z,1µm,19.0s
MOOW Moose Ponds 96.59 5 IAMs_20 IAMs_20 22 10 38.6
comp=Z,1µm,21.0s
R58B Mineral 96.96 31 IAMs_20 IAMs_20 22 11 22.9
comp=Z,2µm,21.0s
H11N3 WAKE ISLAND Hy 97.18 293 T T 23 22 03.0
baz=144,slow=76,SNR=287
H11N1 WAKE ISLAND Hy 97.18 293 T T 23 22 08.5
baz=144,slow=76,SNR=226
H11N2 WAKE ISLAND Hy 97.19 293 T T 23 22 07.8
baz=144,slow=76,SNR=162
YFT Old Faithful 97.29 5 IAMs_20 IAMs_20 22 11 10.0
comp=Z,1µm,19.0s
S61A Accomac 97.39 32 IAMs_20 IAMs_20 22 11 42.4
comp=Z,2µm,20.0s
H04A Detroit Lake 97.43 357 IAMs_20 IAMs_20 22 07 53.2
comp=Z,1µm,22.0s
BMO Blue Mountains 97.52 0 IAMs_20 IAMs_20 22 10 27.6
comp=Z,1µm,19.0s
YNM Yellowstone No 97.57 5 IAMs_20 IAMs_20 22 11 58.5
comp=Z,981nm,18.0s
YMP Mirror Lake Pl 97.61 5 IAMs_20 IAMs_20 22 12 01.6
comp=Z,2µm,19.0s
G08A Pilot Rock 97.96 359 IAMs_20 IAMs_20 22 10 57.2
comp=Z,2µm,18.0s
HOOD Mount Hood Mea 98.05 357 IAMs_20 IAMs_20 22 09 32.6
comp=Z,1µm,21.0s
TSUM Tsumeb 98.29 138 LR LR 22 11 17.9
comp=Z,536nm,21.8s,baz=178,slow=31
SDMD Soldier's Deli 98.60 31 IAMs_20 IAMs_20 22 13 27.5
comp=Z,1µm,20.0s
F10A Beach Ranch, E 98.64 0 IAMs_20 IAMs_20 22 10 02.0
comp=Z,1µm,21.0s
HAWA Hanford 99.07 359 IAMs_20 IAMs_20 22 12 22.8
comp=Z,1µm,20.0s
E09A Wood Farm, Sta 99.18 360 IAMs_20 IAMs_20 22 10 53.4
comp=Z,962nm,18.0s
FAKI Fak Fak 99.65 252 IAMs_20 IAMs_20 22 14 18.3
comp=Z,2µm,22.0s
MMRI Maumere 100.44 240 IAMs_20 IAMs_20 22 15 06.9
comp=Z,1µm,20.0s
C09A Chrisman Ranch 100.47 360 IAMs_20 IAMs_20 22 12 42.4
comp=Z,948nm,19.0s
NEW Newport 100.93 0 IAMs_20 IAMs_20 22 16 06.9
comp=Z,1µm,18.0s
TRNY Table Rock, Ra 101.01 32 IAMs_20 IAMs_20 22 13 22.0
comp=Z,2µm,22.0s
LUWI Luwuk 106.51 245 IAMs_20 IAMs_20 22 20 23.4
comp=Z,1µm,20.0s
V35K Ketchikan 108.62 352 IAMs_20 IAMs_20 22 13 40.1
comp=Z,946nm,19.0s
U35K Hyder 109.07 353 IAMs_20 IAMs_20 22 14 27.0
comp=Z,2µm,21.0s
TOLI2 Tolitoli 109.39 244 IAMs_20 IAMs_20 22 21 01.6
comp=Z,1µm,20.0s
T35M Bob Quinn 110.15 353 IAMs_20 IAMs_20 22 15 42.4
comp=Z,1µm,20.0s
SIT Sitka 110.69 350 IAMs_20 IAMs_20 22 13 42.0
comp=Z,944nm,22.0s
S34M Telegraph Cree 111.14 352 IAMs_20 IAMs_20 22 16 00.7
comp=Z,1µm,19.0s
JIS Juau Island 111.80 351 IAMs_20 IAMs_20 22 15 32.1
comp=Z,966nm,20.0s
R32K Eaglecrest 111.81 350 IAMs_20 IAMs_20 22 15 33.4
comp=Z,1µm,20.0s
R33M Jennings River 112.60 353 IAMs_20 IAMs_20 22 16 59.0
comp=Z,1µm,21.0s
P32M Atlin 113.03 351 IAMs_20 IAMs_20 22 19 48.6
comp=Z,861nm,18.0s
SKAG Skagway 113.06 350 IAMs_20 IAMs_20 22 16 07.4
comp=Z,1µm,20.0s
WTLY Watson Lake, Y 113.16 354 IAMs_20 IAMs_20 22 17 05.9
comp=Z,1µm,19.0s
WHY Whitehorse 114.19 351 IAMs_20 IAMs_20 22 16 58.4
comp=Z,1µm,21.0s
O29M Mount Kennedy 114.24 349 IAMs_20 IAMs_20 22 17 06.6
comp=Z,1µm,20.0s
N32M Quiet Lake 114.51 352 IAMs_20 IAMs_20 22 21 20.8
comp=Z,781nm,18.0s
HYT Haines Junctio 114.63 349 IAMs_20 IAMs_20 22 16 06.0
comp=Z,1µm,22.0s
LOGN Logan Glacier 115.05 348 IAMs_20 IAMs_20 22 18 09.0
comp=Z,1µm,20.0s
GRNC Granite Creek 115.06 347 IAMs_20 IAMs_20 22 17 28.3
comp=Z,1µm,20.0s
N31M Braeburn, Yuko 115.09 350 IAMs_20 IAMs_20 22 17 43.2
comp=Z,1µm,19.0s
YKA Yellowknife Ar 115.21 2 PKKPbc PKKPbc 21 50 12.0 +3.6
comp=Z,1.2nm,0.7s,baz=346,slow=3.6,SNR=4.2
TGL Tana Glacier 115.23 347 IAMs_20 IAMs_20 22 17 32.0
comp=Z,1µm,21.0s
BARN Barnard Glacie 115.36 347 IAMs_20 IAMs_20 22 18 38.3
comp=Z,1µm,20.0s
M31M Drury Creek, Y 115.66 351 IAMs_20 IAMs_20 22 21 39.3
comp=Z,1µm,18.0s
MMPY Sheldon Lake, 115.82 353 IAMs_20 IAMs_20 22 17 39.3
comp=Z,883nm,22.0s
MCARA McCarthy WSAT 115.86 347 IAMs_20 IAMs_20 22 17 52.7
comp=Z,1µm,20.0s
GLB Gilahina Butte 116.02 346 IAMs_20 IAMs_20 22 17 44.1
comp=Z,1µm,20.0s
O22K Cooper Landing 116.06 343 IAMs_20 IAMs_20 22 20 26.3
comp=Z,1µm,19.0s
M30M Minto, Yukon 116.26 350 IAMs_20 IAMs_20 22 17 49.2
comp=Z,905nm,20.0s
N25K Chitina, Valde 116.30 346 IAMs_20 IAMs_20 22 18 11.3
comp=Z,1µm,20.0s
M29M Somme Creek 116.31 349 IAMs_20 IAMs_20 22 22 24.6
comp=Z,830nm,20.0s
RC01 Rabbit Creek A 116.63 343 IAMs_20 IAMs_20 22 20 33.4
comp=Z,1µm,19.0s
M27K Edge Creek, AK 116.64 348 IAMs_20 IAMs_20 22 18 04.0
comp=Z,1µm,20.0s
KNK Knik Glacier 116.72 344 IAMs_20 IAMs_20 22 19 06.6
comp=Z,1µm,20.0s
M26K Nabesna, AK 116.83 347 IAMs_20 IAMs_20 22 18 46.0
comp=Z,1µm,20.0s
L29M L29M 116.92 350 IAMs_20 IAMs_20 22 17 36.7
comp=Z,1µm,20.0s
SCM Sheep Creek Mo 116.93 345 IAMs_20 IAMs_20 22 17 06.1
comp=Z,1µm,22.0s
PMR Palmer 117.00 344 IAMs_20 IAMs_20 22 20 27.0
comp=Z,978nm,19.0s
SML Sawmill 117.07 344 IAMs_20 IAMs_20 22 18 28.8
comp=Z,1µm,20.0s
GHO Glory Hole Cre 117.13 344 IAMs_20 IAMs_20 22 18 20.5
comp=Z,1µm,20.0s
M22K Willow 117.32 343 IAMs_20 IAMs_20 22 20 18.8
comp=Z,957nm,19.0s
MENT Mentasta 117.44 347 IAMs_20 IAMs_20 22 18 54.6
comp=Z,1µm,20.0s
L26K Log Cabin Wild 117.48 347 IAMs_20 IAMs_20 22 19 16.5
comp=Z,1µm,20.0s
N17K Nushagak Hills 117.56 339 IAMs_20 IAMs_20 22 18 48.3
comp=Z,1µm,20.0s
K29M Barlow Dome 117.58 350 IAMs_20 IAMs_20 22 19 01.7
comp=Z,1µm,20.0s
TOC5 Torodi Ar. Sit 117.87 106 IAMs_20 IAMs_20 22 30 43.7
comp=Z,991nm,19.0s
TOC4 Torodi Ar. Sit 117.88 106 IAMs_20 IAMs_20 22 30 34.9
comp=Z,865nm,20.0s
TOC6 Torodi Ar. Sit 117.88 106 IAMs_20 IAMs_20 22 30 34.9
comp=Z,866nm,19.0s
TOB4 Torodi Ar. Sit 117.88 106 IAMs_20 IAMs_20 22 30 35.0
comp=Z,829nm,19.0s
TOA3 Torodi Ar. Sit 117.89 106 IAMs_20 IAMs_20 22 30 44.2
comp=Z,838nm,19.0s
TOB5 Torodi Ar. Sit 117.89 106 IAMs_20 IAMs_20 22 30 34.3
comp=Z,884nm,19.0s
TOB3 Torodi Ar. Sit 117.89 106 IAMs_20 IAMs_20 22 30 34.3
comp=Z,816nm,19.0s
TOA0 Torodi Ar. Sit 117.89 106 IAMs_20 IAMs_20 22 30 44.4
comp=Z,782nm,19.0s
TOA2 Torodi Ar. Sit 117.90 106 IAMs_20 IAMs_20 22 30 43.5
comp=Z,889nm,19.0s
TOC7 Torodi Ar. Sit 117.90 106 IAMs_20 IAMs_20 22 30 43.5
comp=Z,872nm,19.0s
TOC3 Torodi Ar. Sit 117.90 106 IAMs_20 IAMs_20 22 30 35.5
comp=Z,837nm,19.0s
TOB1 Torodi Ar. Sit 117.91 106 IAMs_20 IAMs_20 22 30 43.6
comp=Z,930nm,19.0s
TOB2 Torodi Ar. Sit 117.91 106 IAMs_20 IAMs_20 22 30 33.7
comp=Z,818nm,19.0s
DHY Denali Highway 118.11 345 IAMs_20 IAMs_20 22 22 27.3
comp=Z,1µm,19.0s
J30M Hart River 118.17 351 IAMs_20 IAMs_20 22 20 02.7
comp=Z,848nm,19.0s
K27K Chicken 118.28 348 IAMs_20 IAMs_20 22 18 43.6
comp=Z,1µm,22.0s
BKNI Bangkinang 118.44 225 IAMs_20 IAMs_20 22 27 20.5
comp=Z,883nm,20.0s
SCRK Sand Creek 118.47 347 IAMs_20 IAMs_20 22 18 37.9
comp=Z,1µm,21.0s
RND Reindeer 118.65 345 IAMs_20 IAMs_20 22 22 16.8
comp=Z,1µm,19.0s
I30M Mount Dempster 118.81 351 IAMs_20 IAMs_20 22 20 22.2
comp=Z,816nm,20.0s
EGAK Eagle 118.89 349 IAMs_20 IAMs_20 22 20 05.6
comp=Z,1µm,21.0s
TRF Thorofare Moun 118.93 344 IAMs_20 IAMs_20 22 22 44.1
comp=Z,1µm,20.0s
CAST Castle Rocks 119.21 343 IAMs_20 IAMs_20 22 19 18.6
comp=Z,887nm,20.0s
J25K Salcha River, 119.27 347 IAMs_20 IAMs_20 22 20 40.0
comp=Z,890nm,20.0s
I28M Miner Creek 119.40 349 IAMs_20 IAMs_20 22 19 47.1
comp=Z,1µm,20.0s
BWN Browne 119.47 345 IAMs_20 IAMs_20 22 21 03.6
comp=Z,1µm,20.0s
ILAR Eielson Array 119.64 346 PKP **PKPdf** **21 39 39.6 -2.0**
comp=Z,0.7nm,0.8s,baz=194,slow=2.5,SNR=7.7
I26K Coal Creek Min 119.64 348 IAMs_20 IAMs_20 22 20 07.6
comp=Z,1µm,21.0s
BPAW Bear Paw Mtn. 119.65 344 IAMs_20 IAMs_20 22 22 30.2
comp=Z,848nm,19.0s
CCB Clear Creek Bu 119.66 346 IAMs_20 IAMs_20 22 20 18.1
comp=Z,1µm,20.0s
NEA2 Nenana 119.80 345 IAMs_20 IAMs_20 22 20 29.0
comp=Z,981nm,19.0s
MDM Murphy Dome 120.01 345 IAMs_20 IAMs_20 22 21 34.7
comp=Z,1µm,20.0s
PRP Porcupine Dome 120.15 347 IAMs_20 IAMs_20 22 20 40.2
comp=Z,1µm,20.0s
I23K Minto, Yukon-K 120.36 345 IAMs_20 IAMs_20 22 21 36.9
comp=Z,1µm,20.0s
MLY Manley 120.47 344 IAMs_20 IAMs_20 22 28 21.9
comp=Z,828nm,18.0s
I21K Tanana 120.82 344 IAMs_20 IAMs_20 22 23 16.0
comp=Z,1µm,18.0s
G27K Doyon Strip 120.90 349 IAMs_20 IAMs_20 22 20 00.9
comp=Z,955nm,22.0s
FYU Fort Yukon 121.11 347 IAMs_20 IAMs_20 22 20 42.4
comp=Z,1µm,19.0s
KIBK Kibwezi 121.15 151 IAMs_20 IAMs_20 22 27 18.7
comp=Z,875nm,21.0s
H21K Melozitna Rive 121.39 344 IAMs_20 IAMs_20 22 24 10.3
comp=Z,941nm,20.0s
F28M Old Crow 121.49 350 IAMs_20 IAMs_20 22 21 34.1
comp=Z,890nm,20.0s
G23K Bananza Creek 121.92 345 IAMs_20 IAMs_20 22 21 57.1
comp=Z,1µm,20.0s
E29M Blow River 122.05 351 IAMs_20 IAMs_20 22 22 24.0
comp=Z,773nm,19.0s
KMBO Kilima Mbogo 122.06 150 IAMs_20 IAMs_20 22 29 38.4
comp=Z,735nm,20.0s
MSEY Mahe Island 122.20 172 IAMs_20 IAMs_20 22 23 29.5
comp=Z,993nm,21.0s
E27K Coleen River 122.22 350 **PKiKP** **21 39 48.3 +1.6**
E27K IAMs_20 IAMs_20 22 21 45.0
comp=Z,909nm,20.0s
F24K Squaw Lake 122.36 347 IAMs_20 IAMs_20 22 21 45.7
comp=Z,1µm,20.0s
E28M Babbage River 122.41 351 IAMs_20 IAMs_20 22 22 23.7
comp=Z,958nm,20.0s
F21K Alatna River 122.94 344 IAMs_20 IAMs_20 22 37 57.6
comp=Z,752nm,18.0s
E24K Your Creek 122.97 347 IAMs_20 IAMs_20 22 22 16.9
comp=Z,1µm,20.0s
F20K Avaraart Lake 123.16 343 IAMs_20 IAMs_20 22 23 58.0
comp=Z,939nm,19.0s
D27M Malcolm River 123.17 350 IAMs_20 IAMs_20 22 22 55.8
comp=Z,842nm,20.0s
E19K Redstone River 123.79 343 IAMs_20 IAMs_20 22 25 59.0
comp=Z,1µm,18.0s
E21K Killik River 124.12 345 IAMs_20 IAMs_20 22 31 11.7
comp=Z,899nm,18.0s
A36M Sachs Harbour 124.84 357 IAMs_20 IAMs_20 22 25 06.2
comp=Z,1µm,20.0s
DLV T Lat 125.02 239 IAMs_20 IAMs_20 22 32 10.5
comp=Z,671nm,19.0s
B21K Ikpikpuk River 125.29 345 IAMs_20 IAMs_20 22 28 35.2
comp=Z,1µm,18.0s
LODK Lodwar 125.74 146 IAMs_20 IAMs_20 22 28 52.3
comp=Z,1µm,20.0s
B20K Meade River 126.04 344 IAMs_20 IAMs_20 22 29 08.7
comp=Z,1µm,20.0s
PETK Petropavlovsk- 127.04 311 PKP **PKPdf** **21 39 56.4 +0.2**
comp=Z,8.2nm,0.9s,baz=114,slow=6.5,SNR=4.1
ERM Erimo 127.15 293 IAMs_20 IAMs_20 22 24 44.2
comp=Z,1µm,21.0s
JEM Erimo 127.15 293 IAMs_20 IAMs_20 22 24 43.8
comp=Z,1µm,21.0s
TAM Tamanrasset 127.69 102 IAMs_20 IAMs_20 22 32 37.3
comp=Z,698nm,20.0s
QIZ Qiongzhong 130.15 246 PKP **PKPdf** **21 40 03.3 +0.1**
QIZ PP **PP** **21 42 16.0 +0.1**
QIZ SS SS 21 59 43.5 +1.7
QIZ LR LR
comp=Z,430nm,25.2s
QIZ LR LR
comp=Z,260nm,23.5s
QIZ LR LR
comp=Z,480nm,22.3s
KSRS Korea Array 132.99 278 PKP **PKPdf** **21 40 07.7 -0.2**
comp=Z,1.7nm,0.9s,baz=166,slow=0.8,SNR=4.3
ESDC Sonseca Array 133.92 79 PKP **PKiKP** **21 40 10.9 -0.1**
comp=Z,1.5nm,1.2s,baz=248,slow=1.4,SNR=3.0
CART Cartagena 134.33 83 IAMs_20 IAMs_20 22 28 35.7
comp=Z,757nm,20.0s
NJ2 Nanjing 134.78 266 *e*PKP **PKPdf** **21 40 12.0 +0.5**
CMAR Chiang Mai Arr 135.35 234 PKP **PKPdf** **21 40 13.0 0.0**
comp=Z,3.7nm,1.0s,baz=182,slow=2.1,SNR=17
CHTO Chiang Mai 135.65 234 IAMs_20 IAMs_20 22 34 13.4
comp=Z,892nm,21.0s
ATD Arta Tunnel 135.72 152 IAMs_20 IAMs_20 22 33 42.8
comp=Z,723nm,22.0s
NEEM North Greenlan 136.48 17 *i* P **PKPdf** **21 40 12.4 -1.3**
MDJ Mudanjiang 136.49 287 IAMs_20 IAMs_20 22 31 43.4
comp=Z,838nm,22.0s
MDJ Mudanjiang 136.49 287 PP PP 21 42 50.5 -6.0
MDJ Mudanjiang 136.49 287 PKP PKiKP 21 40 36.8 +21
SUMG Summit 136.53 25 *i* P **PKiKP** **21 40 18.0 +2.2**
KLR Kul'dur 137.87 294 PKP **PKPdf** **21 40 15.5 -1.1**
comp=Z,0.8nm,0.6s,baz=165,slow=1.6,SNR=3.0
CN2 Changchun 138.42 283 *e*PKP **PKPdf** **21 40 15.3 -2.6**
CN2 PP **PP** **21 43 11.5 +2.9**
CN2 SS SS 22 01 22.3 +0.5
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,400nm,16.5s
PZH PanZhiHua 140.57 243 PKP **PKiKP** **21 40 26.3 +1.2**
PZH PP **PP** **21 43 27.0 +5.2**
PZH AMB AMB
comp=Z,140nm,4.9s
PZH LR LR
comp=Z,300nm,21.0s
PZH LR LR
comp=Z,270nm,19.8s
PZH LR LR
comp=Z,410nm,19.6s
HEH HeiHe 140.81 293 PKP **PKPdf** **21 40 18.8 -3.2**
HEH LR LR
comp=Z,190nm,16.9s
HEH LR LR
comp=Z,850nm,18.8s
HEH LR LR
comp=Z,1µm,17.3s
HNS HongShan 140.91 268 ⇓P **PKiKP** **21 40 31.5 +6.2**
HNS pmax pmax
comp=Z,5.0nm,0.8s
EKA Eskdalemuir Ar 142.83 59 PKP **PKPdf** **21 40 25.1 -0.3**
comp=Z,5.0nm,0.9s,baz=256,slow=2.9,SNR=5.7
YAK Yakutsk 144.39 312 *e*PKIKP **PKPab** **21 40 24.7 -1.4**
YAK pmax pmax
comp=Z,41nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK Yakutsk 144.39 312 PKP **PKPab** **21 40 26.2 +0.1**
comp=N,1.9nm,0.8s,baz=185,slow=1.8,SNR=8.9
HIA Hailar 144.67 288 IAMs_20 IAMs_20 22 47 40.9
comp=Z,566nm,19.0s
DOU Dourbes 144.78 71 *d*PKPdf **PKPdf** **21 40 29.8 +0.8**
RCHB Rochefort 145.16 71 *d*PKP **PKiKP** **21 40 40.2 +6.6**
OSSC Osservatorio P 145.33 85 IAMs_20 IAMs_20 22 50 10.6
comp=Z,703nm,22.0s

CESX	Cesi	145.61	87		IAMs_20	IAMs_20	22 41 56.1			
	comp=Z,716nm,20.0s									
BTO	Baotou	145.77	268	*e*	PKPbc	PKPdf	21 40 28.8	-2.4		
BTO					PP	PP	21 43 56.5	+3.2		
BTO					LR	LR				
	comp=Z,620nm,17.4s									
BTO					LR	LR				
	comp=Z,850nm,20.7s									
BTO					LR	LR				
	comp=Z,1µm,21.9s									
TUE	Stuetta	145.78	79		PKPdf	PKPdf	21 40 30.6	-0.6		
GUMA	Gualdo di Mace	146.32	87		IAMs_20	IAMs_20	22 40 07.0			
	comp=Z,826nm,21.0s									
TIXI	Tiksi	146.35	328		PKPdf	PKPdf	21 40 30.2	-0.9		
TIXI	Tiksi	146.35	328		IAMs_20	IAMs_20	22 48 53.6			
	comp=Z,768nm,19.0s									
TIXI	Tiksi	146.35	328		PKIKP	PKPdf	21 40 30.2	-0.9		
TIXI					MLR	MLR				
	comp=Z,800nm,19.0s									
DAVA	Damuels	146.50	78	*i*	pPKP	PKiKP	21 40 36.5	-0.2		
	comp=Z,10nm,1.2s									
LZH	Lanzhou	146.53	256	‖	PKPbc	PKPdf	21 40 33.0	+0.3		
LZH					sPKP		21 40 46.8			
LZH					LR	LR				
	comp=Z,450nm,20.7s									
LZH					LR	LR				
	comp=Z,400nm,20.0s									
LZH					LR	LR				
	comp=Z,500nm,21.0s									
FETA	Feichten	146.88	79	*i*	PKP	PKPbc	21 40 34.2	-0.7		
	comp=Z,16nm,1.0s									
RETA	Reutte	147.12	78	*i*	pPKP	PKiKP	21 40 40.0	+2.1		
	comp=Z,15nm,1.2s									
MOTA	Moosalm	147.26	79	*i*	PKP	PKPdf	21 40 34.5	+0.9		
	comp=Z,14nm,1.0s									
SQTA	Sankt Quirin	147.26	79	*i*	pPKP	pPKPdf	21 40 36.7	+0.8		
	comp=Z,14nm,1.0s									
WATA	Walderalm	147.53	79	*i*	pPKP	PKiKP	21 40 38.2	-0.6		
	comp=Z,23nm,1.5s									
WTTA	Wattenberg	147.53	79	*i*	pPKP	PKPbc	21 40 37.5	+0.8		
	comp=Z,24nm,1.3s									
ABTA	Abfaltersbach	147.80	81	*i*	PKP	PKPbc	21 40 36.0	-1.3		
	comp=Z,22nm,1.3s									
TAPN	Taplejung	148.20	226	*e*	P	PKiKP	21 40 40.7	-0.3		
	comp=Z,89nm,1.2s									
LESA	Schwarzleotal	148.23	80	*i*	PKP	PKPbc	21 40 37.3	-1.2		
	comp=Z,18nm,1.0s									
PRED	Cave del Predi	148.28	82			PKPbc	21 40 37.8	-0.7		
RAMN	Ramite	148.32	224	*e*	P	PKPbc	21 40 40.2	+0.7		
	comp=Z,80nm,1.1s									
MYKA	Terra Mystica	148.41	82	*i*	pPKP	pPKPdf	21 40 37.9	0.0		
	comp=Z,8.6nm,0.8s									
KBA	Koelnbreinsper	148.46	81	*i*	pPKP	PKPbc	21 40 39.1	-0.1		
	comp=Z,13nm,1.4s									
LSA	Lhasa	148.61	233		IAMs_20	IAMs_20	22 53 38.0			
	comp=Z,550nm,19.0s									
OBKA	Obir	148.90	83	*e*	pPKP	pPKPdf	21 40 39.4	+0.7		
	comp=Z,24nm,1.1s									
BIOA	Bad Ischl, Aus	148.93	80	*i*	PKP	PKPbc	21 40 40.6	+0.4		
	comp=Z,16nm,1.5s									
JIRN	Jiri	149.12	224	*e*	P	PKPbc	21 40 41.2	-0.5		
	comp=Z,54nm,1.2s									
SOKA	Soboth	149.27	83	*i*	pPKP	PKPbc	21 40 40.4	-0.8		
	comp=Z,12nm,1.2s									
PKI	Pulchoki	149.37	223	*e*	P	PKPbc	21 40 40.7	-1.6		
	comp=Z,36nm,0.9s									
MOA	Molln	149.38	80	*i*	pPKP	PKPbc	21 40 41.2	0.0		
	comp=Z,21nm,1.5s									
CIT	Chita	149.41	289	*e*	PKHKP	PKPpre	21 40 39.6			
CIT					pmax	pmax				
	comp=Z,99nm,2.9s									
GUN	Gumba	149.47	224	*e*	P	PKPbc	21 40 41.2	-1.3		
	comp=Z,39nm,0.9s									
GERES	GERESS Array B	149.50	78		PKPbc	PKPbc	21 40 40.7	-0.9		
	comp=Z,5.0nm,0.8s,baz=270,slow=2.0,SNR=6.3									
DMN	Daman	149.52	222	*e*	P	PKPbc	21 40 41.3	-1.3		
	comp=Z,114nm,1.0s									
KHC	Kasperske Hory	149.55	77⇑	*e*	PKP	PKiKP	21 40 42.6	-0.1		
KHC				*ex*		x	21 40 55.4			
KHC					AMS	AMS	22 42 50.0			
	comp=Z,1µm,21.8s									
KHC	Kasperske Hory	149.55	77	*e*	PKP2	PKiKP	21 40 42.6	-0.1		
KHC					MLR	MLR				
	comp=Z,1µm,21.8s									
ARSA	Arzberg	149.84	82	*i*	pPKP	PKPbc	21 40 41.4	-1.1		
	comp=Z,8.4nm,0.8s									
CKRC	Cesky Krumlov	149.85	78⇑	*e*	PKP	PKPbc	21 40 40.7	-1.7		
CKRC	Cesky Krumlov	149.85	78	*e*	PKHKP	PKPpre	21 40 40.7			
ZVC	Zvikov	150.05	77⇑	*e*	PKP	PKPbc	21 40 42.6	-0.2		
GKN	Gorkha	150.06	222	*e*	P	PKPbc	21 40 41.8	-1.9		
	comp=Z,45nm,1.2s									
HSKC	Hora Svate Kat	150.09	75⇑	*e*	PKP	PKPab	21 40 47.5	-1.5		
CLL	Collm	150.12	73	*e*	(PKPdf)	PKPdf	21 40 40.0	+2.1		
	comp=Z,12nm,1.2s									
CLL				*e*	PKPbc	PKPbc	21 40 43.0	+0.1		
CLL				*i*	(PKPab)	sPKPbc	21 40 47.5	+1.3		
	comp=Z,26nm,1.1s									
CLL				*i*	x	x	21 40 57.2			
	comp=Z,52nm,1.4s									
CLL				*e*	SS	SS	22 03 42.0	+6.0		
CLL				*e*	SSS	SSS	22 09 00.0			
CLL					AMS	AMS	22 40 00.0			
	comp=Z,800nm,21.8s									
CLL	Collm	150.12	73	*i*	PKIKP	PKiKP	21 40 43.9	+0.1		
CLL				*i*			21 40 47.5			
CLL					pmax	pmax				
	comp=Z,12nm,1.2s									
CLL					pmax	pmax				
	comp=Z,26nm,1.1s									
CLL					MLR	MLR				
	comp=Z,800nm,21.8s									
CONA	Conrad Observa	150.36	81	*i*	pPKP	PKPbc	21 40 43.1	-0.6		
	comp=Z,9.0nm,1.1s									
PRU	Pruhonice	150.49	76⇑	*e*	PKP	PKiKP	21 40 45.8	+1.2		
PRU	Pruhonice	150.49	76	*e*	PKIKP	PKiKP	21 40 45.8	+1.2		
BRG	Berggiesshubel	150.50	74	*e*	PKP	PKPbc	21 40 43.6	-0.3		
BRG					Amp		21 40 45.4			
	comp=Z,4.3nm,0.9s									
BRG	Berggiesshubel	150.50	74		P	PKPab	21 40 49.0	-1.6		
BRG					Amp		21 40 50.8			
	comp=Z,9.6nm,1.0s									
BRG	Berggiesshubel	150.50	74		P	PKPab	21 40 54.3	+3.7		
BRG					Amp		21 40 59.8			
	comp=Z,16nm,1.1s									
BRG	Berggiesshubel	150.50	74	*e*	PKIKP	PKPbc	21 40 43.5	-0.3		
BRG							21 40 49.0			
BRG					pmax	pmax				
	comp=Z,4.0nm,0.9s									
BRG					pmax	pmax				
	comp=Z,10.0nm,1.0s									
BRG					pmax	pmax				
	comp=Z,16nm,1.2s									
RONA	Rosalia, Austr	150.52	82	*i*	pPKP	PKPbc	21 40 43.5	-0.5		
	comp=Z,4.6nm,0.9s									
DANN	Dangsing	150.72	221	*e*	P	PKPdf	21 40 42.8	+2.8		
PVCC	Panska Ves	150.73	75⇑	*e*	PKP	PKPbc	21 40 44.0	-0.4		
PVCC	Panska Ves	150.73	75	*e*	PKIKP	PKPbc	21 40 44.0	-0.4		
ARG	Arkhangelos	150.73	111		IAMs_20	IAMs_20	22 29 25.8			
	comp=Z,712nm,20.0s									
PYUN	Piuthan	150.80	220	*e*	P	PKPbc	21 40 42.9	-2.7		
	comp=Z,100nm,1.2s									
BOD	Bodaibo	150.94	300	*e*	PKIKP	PKPbc	21 40 43.3	-1.3		
BOD					pmax	pmax				
	comp=Z,43nm,1.2s									
GTA	Gaotai	151.12	257		PKPbc	PKPbc	21 40 44.3	-1.6		
GTA					pPKP	sPKPbc	21 40 49.0	-0.2		
GTA					LR	LR				
	comp=Z,380nm,19.9s									
GTA					LR	LR				
	comp=Z,290nm,17.9s									
GTA					LR	LR				
	comp=Z,400nm,19.5s									
KRUC	Moravsky	151.19	79	*e*	PKP	PKPbc	21 40 44.1	-1.4		
MODS	Modra-Piesok	151.41	81	*e*	PKP	PKPbc	21 40 45.8	-0.3		
MODS	Modra-Piesok	151.41	81	*e*	PKIKP	PKPbc	21 40 45.8	-0.3		
VRAC	Vranov	151.41	79	*e*	PKP	PKPbc	21 40 43.6	-2.5		
ULN	Ulaanbaatar	151.48	278			PKPbc	21 40 45.6	-0.9		
ULN	Ulaanbaatar	151.48	278		IAMs_20	IAMs_20	23 04 25.2			
	comp=Z,564nm,20.0s									
ULN	Ulaanbaatar	151.48	278		PKIKP	PKPbc	21 40 45.6	-0.9		
ULN					MLR	MLR				
	comp=Z,600nm,20.0s									
UPC	Upice	151.56	76⇑	*e*	PKP	PKiKP	21 40 50.7	+3.9		
UPC	Upice	151.56	76	*e*	PKIKP	PKiKP	21 40 50.7	+3.9		
CHVC	Chvalec	151.62	76⇑	*e*	PKP	PKPbc	21 40 45.4	-1.1		
CHVC	Chvalec	151.62	76	*e*	PKIKP	PKPbc	21 40 45.4	-1.1		
NB2	NORSAR Subarra	151.70	53		PKP	PKPbc	21 40 45.1	-1.3		
	comp=Z,31nm,1.4s,baz=269,slow=2.5									
NB2	NORSAR Subarra	151.70	53		PKP	PKPbc	21 40 45.1	-1.3		
	baz=269,slow=2.5									
NOA	NORSAR Array B	151.70	53		PKPbc	PKPbc	21 40 45.1	-1.3		
	comp=Z,5.0nm,0.9s,baz=272,slow=2.2,SNR=9.0									
OSTC	Ostas	151.70	76⇑	*e*	PKP	PKPbc	21 40 46.0	-0.7		
OSTC	Ostas	151.70	76	*e*	PKIKP	PKPbc	21 40 46.0	-0.7		
GOMU	GeErMu	151.77	246		PKPbc	PKPbc	21 40 46.5	-1.3		
GOMU					LR	LR				
	comp=Z,200nm,18.6s									
GOMU					LR	LR				
	comp=Z,170nm,19.1s									
GOMU					LR	LR				
	comp=Z,420nm,19.4s									
KRLC	Kraliky	151.84	77⇑	*e*	PKP	PKPbc	21 40 45.5	-1.6		
KRLC	Kraliky	151.84	77	*e*	PKIKP	PKPbc	21 40 45.5	-1.6		
KSP	Ksiaz	151.86	76	*e*	PKPbc	PKPab	21 40 52.1	-4.1		
SONM	Songino Array	151.86	277		PKPbc	PKPbc	21 40 45.9	-1.4		
	comp=Z,4.6nm,0.6s,baz=128,slow=2.0,SNR=28									
JAVC	Velka Javorina	151.86	80	*e*	PKP	PKPbc	21 40 47.1	-0.1		
MMAI	Mount Meron Ar	152.16	125		PKPbc	PKPbc	21 40 47.0	-1.4		
	comp=Z,0.2nm,0.3s,baz=191,slow=5.9,SNR=2.2									
MMAI					PKPab	PKPab	21 40 57.8	-0.3		
	comp=Z,5.2nm,0.9s,baz=196,slow=1.5,SNR=7.9									
MORC	Moravsky Berou	152.17	78	*e*	PKP	PKPbc	21 40 47.5	-0.3		
VYHS	Vyhne	152.40	82	*e*	PKP	PKPdf	21 40 44.4	+2.9		
VYHS	Vyhne	152.40	82	*e*	PKIKP	PKPdf	21 40 44.4	+2.9		
RDO	Rodhopi	152.53	101		IAMs_20	IAMs_20	22 47 51.9			
	comp=Z,583nm,19.0s									
CSS	Mathiatis	152.64	120		IAMs_20	IAMs_20	22 59 01.2			
	comp=Z,589nm,21.0s									
HFS	Hagfors	152.81	55		PKPbc	PKPbc	21 40 46.9	-1.9		
	comp=Z,2.1nm,0.7s,baz=247,slow=1.1,SNR=2.6									
BALB	Balikesir	152.95	106		IAMs_20	IAMs_20	22 48 22.8			
	comp=Z,814nm,21.0s									
ISP	Isparta	153.22	112		IAMs_20	IAMs_20	22 50 31.0			
	comp=Z,772nm,21.0s									
NIE	Niedzica	153.66	81	*e*	PKPbc	PKiKP	21 40 56.3	+5.1		
ZAK	Zakamensk	154.78	281	*e*	PKIKP	PKiKP	21 40 55.3	+1.7		
ZAK					pmax	pmax				
	comp=Z,5.0nm,1.5s									
MLR	Muntele Rosu	155.25	93		IAMs_20	IAMs_20	22 44 38.0			
	comp=Z,866nm,22.0s									
ANTO	Ankara	155.92	111		IAMs_20	IAMs_20	22 49 59.1			
	comp=Z,636nm,22.0s									
BR131	Keskin Array S	156.29	113		PKPdf	PKPdf	21 40 47.1	-0.2		
BR131					PKPab	PKPab	21 41 15.2	-0.4		
BR131	Keskin Array S	156.29	113		PKIKP	PKPdf	21 40 47.2	-0.2		
BRTR	Keskin Array B	156.29	113		PKP	PKPdf	21 40 47.1	-0.2		
	comp=Z,0.4nm,0.8s,baz=192,slow=2.8,SNR=1.9									
BRTR					PKPab	PKPab	21 41 14.7	-0.9		
	comp=Z,2.8nm,0.7s,baz=191,slow=5.5,SNR=5.0									
GAZ	Gaziantep	156.35	122		IAMs_20	IAMs_20	22 55 52.2			
	comp=Z,680nm,19.0s									
ARPR	Arapgir-MALATY	158.38	121		IAMs_20	IAMs_20	22 57 43.0			
	comp=Z,565nm,20.0s									
NACGM	Naroch	159.10	71	*e*	PKP	PKPdf	21 40 54.2	+4.1		
	comp=Z,22nm,0.8s,baz=262									
NIL	Nilore	159.12	206		IAMs_20	IAMs_20	22 47 24.1			
	comp=Z,542nm,19.0s									
AKASG	Malin Array Be	159.47	83		PKP	PKPdf	21 40 50.4	-0.3		
	comp=Z,2.0nm,0.7s,baz=275,slow=1.9,SNR=4.3									
GURO	Guroymak-BITLI	159.81	128		IAMs_20	IAMs_20	22 57 48.8			
	comp=Z,731nm,19.0s									
WMQ	Urumqi	160.94	251	*e*	PKP	PKPdf	21 40 53.3	+0.6		
WMQ					LR	LR				
	comp=Z,380nm,20.9s									
WMQ					LR	LR				
	comp=Z,470nm,20.9s									
WMQ					LR	LR				
	comp=Z,500nm,24.1s									
KBZ	Khabaz	164.08	118		PKP	PKPdf	21 40 54.6	-1.0		
	comp=Z,1.0nm,0.9s,baz=227,slow=18,SNR=1.9									
KBZ					PKPab	PKPab	21 41 48.7	-0.4		
	comp=Z,1.1nm,0.8s,baz=76,slow=4.2,SNR=1.5									
GEYT	Alibeck	164.60	167		PKPab	PKPab	21 41 53.7	+2.1		
	comp=Z,2.6nm,0.8s,baz=213,slow=10,SNR=6.2									
OBN	Obninsk	164.72	72⇑	*e*	PKIKP	PKPdf	21 41 00.6	+4.8		
OBN					pmax	pmax				
	comp=Z,16nm,1.1s									
MKAR	Makanchi Array	165.78	252		PKPab	PKPab	21 41 53.5	-3.1		
	comp=Z,2.5nm,0.9s,baz=129,slow=3.6,SNR=14									
MKAR					PP	PP	21 45 42.0	-2.4		
	comp=Z,2.5nm,0.9s,baz=133,slow=6.1,SNR=7.5									
MAK	Makhachkala	165.84	129	*e*	PKIKP	PKPdf	21 40 54.9	-2.3		
MAK				*e*			21 47 56.0			
MAK				*e*	SS	SS	22 06 21.3	-1.5		
MAK				*e*	SSS	SSS	22 12 52.0			
MAK					pmax	pmax				
	comp=Z,107nm,1.2s									
MAKZ	Makanchi	165.96	251		PKPdf	PKPdf	21 40 57.1	-0.2		
MAKZ					PKPab	PKPab	21 41 58.5	+1.0		
MAKZ	Makanchi	165.96	251		PKIKP	PKPdf	21 40 57.1	-0.2		
ZAA0	Zalesovo Array	166.64	283		PKPdf	PKPdf	21 40 60.0	+2.5		
ZALV	Zalesovo Beam	166.64	283		PKP	PKPdf	21 40 56.2	-1.3		
	comp=Z,2.3nm,1.0s,baz=111,slow=6.8,SNR=7.3									
ZALV					PKPab	PKPab	21 41 56.3	-3.9		
	comp=Z,9.7nm,1.0s,baz=68,slow=16,SNR=12									
KURK	Kurchatov	169.71	263		PKIKP	PKPdf	21 40 57.9	-1.8		
KURK							21 42 09.4			
KURBB	Kurchatov Arra	169.73	263		PKP	PKPdf	21 40 57.9	-1.7		
	comp=Z,1.1nm,0.9s,baz=332,slow=0.2,SNR=6.7									
KURBB					PKPab	PKPab	21 42 09.4	-4.7		
	comp=Z,0.3nm,0.7s,baz=109,slow=4.1,SNR=2.3									
BVAR	Borovoye Array	175.19	273		PKP	PKPdf	21 41 00.9	-1.1		
	comp=Z,1.3nm,0.9s,baz=24,slow=1.7,SNR=4.9									
BVAR					PKPab	PKPab	21 42 33.6	-4.7		
	comp=Z,0.3nm,0.6s,baz=90,slow=2.9,SNR=2.8									
BRVK	Borovoye	175.25	273		PKPdf	PKPdf	21 41 02.7	+0.7		
BRVK						pPKPab	21 42 40.5	-0.4		
BRVK	Borovoye	175.25	273		PKIKP	PKPdf	21 41 02.7	+0.7		

IDC 29 21:28:25.2±8.8, 19°.61S×173°.22W, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=374.6km s-min=43.7km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	49.09	255	P	P	P	21 37 14.0	-0.9
	0.1nm,0.3s,baz=99,slow=7.4,SNR=1.4							
	0.1nm,0.3s							
WRA	Warrannunga Arr	49.18	260	P	P	P	21 37 15.8	+0.4
	0.2nm,0.4s,baz=96,slow=8.3,SNR=20							
	0.2nm,0.4s							
ILAR	Eielson Array	86.52	11	P	P	P	21 41 09.5	-0.1
	0.5nm,0.9s,baz=186,slow=4.5,SNR=2.0							
	0.5nm,0.9s							

*IDC **29** 21:36:19.8±0.6, 53°.00S×118°.10W, h0km, mb4.1/10, mbtmp4.1/10, MS4.5/23, Error ellipse: s-maj=26.2km s-min=20.2km az=152.0*

*NEIC **29** 21:36:20.4±2.8, 53°.05S±0°.1×118°.0W±0°.2, h10km±1km, mb4.9/46, Error ellipse: s-maj=25.9km s-min=19.2km az=330.0*

*GCMT **29** 21:36:25.4±0.2, 53°.28S±0°.01×118°.09W±0°.02, h20km±1km, MW5.1/117, Moment Tensor Solution. s16,c18; s117,c167; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.55±.25; Mθθ-3.33±.19; Mφφ3.88±.21; Mrθ0.42±.37; Mθφ-4.62±.14; Mrφ1.32±.38; Best double couple: Mo6.02400×10^16^ NP1:φs199.00000°, δ88.00000°, λ-14.00000°. NP2:φs289.00000°, δ76.00000°, λ-178.00000°. Principal axes: T 6.2830, Plg8.0000°, Azm245.0000°; N -0.5190, Plg76.0000°, Azm12.0000°; P -5.7640, Plg11.0000°, Azm153.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 21:36:20.8±0.4, 52°.9S±0°.1×117°.88W±0°.0, h10km, n126, σ1§40/85, mb4.8/33, MS4.6/26, 3C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	26.57	17	LR		LR	21 49 23.7	
	comp=Z,126nm,18.5s,baz=177,slow=29							
MG04	Isla Riesco	27.56	109	P		P	21 42 06.0	-1.5
AY03	Cochrane	29.21	97	P		P	21 42 20.7	-1.6
AY03						IAmb	IAmb	21 42 34.7
	comp=Z,26nm,1.2s							
PMSA	Palmer Station	29.27	135	LR		LR	21 52 27.9	
	comp=Z,388nm,18.3s,baz=287,slow=33							
H03S2	Juan Fernandez	33.59	71	T		T	22 18 32.6	
	baz=221,slow=74,SNR=259							
H03S1	Juan Fernandez	33.60	71	T		T	22 18 34.1	
	baz=221,slow=74,SNR=336							
H03S3	Juan Fernandez	33.61	71	T		T	22 18 34.8	
	baz=221,slow=74,SNR=357							
H03N3	Juan Fernandez	33.87	71	T		T	22 18 52.8	
	baz=224,slow=71,SNR=189							
H03N2	Juan Fernandez	33.88	71	T		T	22 18 55.1	
	baz=224,slow=71,SNR=250							
H03N1	Juan Fernandez	33.89	71	T		T	22 18 51.5	
	baz=224,slow=71,SNR=146							
PLCA	Paso Flores	33.98	88	P		P	21 43 02.0	-2.5
PLCA						IAmb	IAmb	21 43 14.2
	comp=Z,15nm,1.5s							
PLCA	Paso Flores	33.98	88	LR		LR	21 53 35.2	
	comp=Z,401nm,18.8s,baz=208,slow=30							
GO06	Curarrehue	34.13	86	P		P	21 43 03.6	-2.2
GO06						IAmb	IAmb	21 43 26.5
	comp=Z,20nm,1.4s							
BI05	Punta Hualpn	34.93	81	P		P	21 43 13.0	+0.4
VNDA	Vanda	36.94	201	P		P	21 43 29.9	+0.6
VNDA	Vanda	36.94	201	P		P	21 43 29.6	+0.3
	comp=Z,1.4nm,1.1s,baz=90,slow=13,SNR=2.4							
	comp=Z,1.4nm,1.1s							
QSPA	South Pole Qui	37.25	180	P		P	21 43 31.1	-1.3
QSPA	South Pole Qui	37.25	180	P		P	21 43 33.0	+0.7
	comp=Z,4.3nm,1.1s,baz=96,slow=2.7,SNR=1.6							
QSPA				LR		LR	21 56 33.2	
	comp=Z,674nm,21.6s,baz=104,slow=33							
	comp=Z,4.3nm,1.1s							
BELA	Belgrano 2	37.52	160	P		P	21 43 34.5	+0.2
BO02	Sierra Bellavi	37.70	80	P		P	21 43 36.3	0.0
BO02						IAmb	IAmb	21 43 39.5
	comp=Z,18nm,1.2s							
BO01	Tunca	37.79	80	P		P	21 43 37.9	+0.8
BO01						IAmb	IAmb	21 43 53.3
	comp=Z,20nm,1.4s							
TBI	Tubuai	38.05	309	*e*	S	S	21 49 52.7	+21
	comp=Z,626nm,24.5s							
TBI				*e*	LR	LR	21 54 04.0	
	comp=Z,5µm,26.0s							
TBI				*e*	LR	LR	21 54 30.8	
	comp=Z,1µm,24.8s							
TBI	Tubuai	38.05	309	*e*	T	T	22 23 56.3	
	comp=Z,13nm,0.3s							
TRQA	Tornquist	40.84	92	P		P	21 44 02.7	+0.2
TRQA						IAmb	IAmb	21 44 05.4
	comp=Z,18nm,1.2s							
CFA	Coronel Fontan	41.45	79	LR		LR	21 57 04.3	
	comp=Z,1µm,21.0s,baz=210,slow=30							
MEH	Mehetia	42.18	315	*e*	T	T	22 29 11.2	
	comp=Z,13nm,0.2s							
PPT2	Papeete2	43.10	313	*e*	S	S	21 51 08.3	+21
	comp=Z,195nm,24.5s							
PPT2				*e*	SS	ScS	21 54 22.6	+0.8
	comp=Z,936nm,25.5s							
PPT2				*e*	LR	LR	21 56 25.1	
	comp=Z,2µm,25.2s							
PPT2				*e*	LR	LR	21 56 32.0	
	comp=Z,1µm,24.5s							
PPT	Papeete	43.11	313	LR		LR	21 57 43.6	
	comp=Z,710nm,20.7s,baz=156,slow=30							
VAH	Vaihoa	44.35	317	*e*	T	T	22 31 50.0	
	comp=Z,13nm,0.3s							
PMOR	Pomariorio Ree	44.67	317	*e*	T	T	22 32 17.5	
	comp=Z,5.7nm,0.2s							
URZ	Urewera	46.20	261	LR		LR	22 00 00.4	
	comp=Z,913nm,19.4s,baz=202,slow=31							
RPZ	Rata Peaks	46.32	252	LR		LR	21 59 32.1	
	comp=Z,626nm,21.0s,baz=116,slow=30							
VNA2	Neumayer--Watz	46.98	155	⇑P		P	21 44 52.4	+1.0
	baz=322,slow=3.0							
TAOE	Nuku Hiva Isla	47.53	329	*e*	LR	LR	21 58 39.0	
	comp=Z,1µm,24.7s							
SNAA	Sanae	47.61	157	⇑P		P	21 45 02.3	+6.0
SNAA	Sanae	47.61	157	P		P	21 44 56.7	+0.4
	comp=Z,2.6nm,1.0s,baz=201,slow=17,SNR=1.9							
SNAA					LR	LR	22 03 08.6	
	comp=Z,1µm,21.2s,baz=204,slow=34							
	comp=Z,2.6nm,1.0s							
LVC	Limon Verde	47.82	70	P		P	21 44 57.9	-1.0
LVC						IAmb	IAmb	21 45 02.5
	comp=Z,19nm,1.4s							
LVC	Limon Verde	47.82	70	LR		LR	21 59 39.3	
	comp=Z,515nm,22.0s,

BOAV					IAmb	IAmb	21 47 52.9		
	comp=Z,15nm,1.4s								
SDV	**Santo Domingo**	**73.51**	**49**	P	**P**	**21 47 51.2**	**-2.7**
SDV				IAmb	IAmb	21 47 55.4			
	comp=Z,11nm,1.2s								
BAUV	**El Baul**	**74.77**	**51**	P	**P**	**21 47 58.5**	**-2.5**
LPIG	**La Paz**	**77.00**	**7**	LR	LR	22 12 34.3			
	comp=Z,205nm,19.1s,baz=161,slow=28								
CTA	**Charters Tower**	**77.66**	**253**	LR	LR	22 17 20.8			
	comp=Z,162nm,19.6s,baz=125,slow=32								
H01W1	**Cape Leeuwin H**	**81.53**	**221**	T	T	23 19 04.2			
	baz=150,slow=76,SNR=18								
H01W2	**Cape Leeuwin H**	**81.53**	**221**	T	T	23 19 04.4			
	baz=150,slow=76,SNR=16								
H01W3	**Cape Leeuwin H**	**81.55**	**221**	T	T	23 19 08.2			
	baz=150,slow=76,SNR=13								
AS31	**Alice Springs**	**81.70**	**242**	P	P	21 48 35.8	-3.7		
ASAR	**Alice Springs**	**81.70**	**242**	P	**P**	**21 48 38.0**	**-1.5**		
ASAR	**Alice Springs**	**81.70**	**242**	P	**P**	**21 48 38.8**	**-0.7**		
	comp=Z,2.4nm,1.0s,baz=152,slow=6.2,SNR=13								
ASAR				LR	LR	22 18 54.5			
	comp=Z,620nm,21.7s,baz=142,slow=31								
	comp=Z,2.4nm,1.0s								
NWAO	**Narrogin (SRO)**	**81.98**	**224**	P	**P**	**21 48 38.5**	**-2.2**		
TXAR	**Lajitas Array**	**82.86**	**12**	P	**P**	**21 48 47.7**	**+2.5**		
	comp=Z,0.8nm,1.0s,baz=196,slow=8.4,SNR=4.9								
	comp=Z,0.8nm,1.0s								
425A	**Indio Mountain**	**84.13**	**11**	P	**P**	**21 48 49.9**	**-1.9**		
WRA	**Warramunga Arr**	**84.49**	**244**	P	**P**	**21 48 53.1**	**-0.8**		
	comp=Z,4.9nm,1.1s,baz=140,slow=4.3,SNR=11								
	comp=Z,4.9nm,1.1s								
WRAB	**Tennant Creek**	**84.49**	**244**	P	**P**	**21 48 53.4**	**-0.5**		
WRAB				IAmb	IAmb	21 48 55.4			
	comp=Z,15nm,1.4s								
WB0	**Warramunga Arr**	**84.60**	**244**	P	**P**	**21 48 52.1**	**-2.4**		
WB0				IAmb	IAmb	21 49 00.9			
	comp=Z,8.4nm,1.1s								
NVAR	**Mina Array Bea**	**91.00**	**360**	P	**P**	**21 49 25.2**	**+0.3**		
	comp=Z,0.1nm,0.4s,baz=180,slow=3.4,SNR=2.3								
NVAR				LR	LR	22 21 56.3			
	comp=Z,400nm,18.5s,baz=139,slow=30								
	comp=Z,0.1nm,0.4s								
YBH	**Yreka Blue Hor**	**94.39**	**356**	LR	LR	22 22 52.3			
	comp=Z,173nm,19.8s,baz=137,slow=30								
H11S2	**WAKE ISLAND Hy**	**96.11**	**293**	T	T	23 36 36.4			
	baz=143,slow=76,SNR=183								
H11S3	**WAKE ISLAND Hy**	**96.12**	**293**	T	T	23 36 36.1			
	baz=143,slow=76,SNR=98								
H11S1	**WAKE ISLAND Hy**	**96.12**	**293**	T	T	23 36 35.5			
	baz=143,slow=76,SNR=105								
H11N3	**WAKE ISLAND Hy**	**96.98**	**293**	T	T	23 37 49.2			
	baz=144,slow=76,SNR=99								
H11N1	**WAKE ISLAND Hy**	**96.99**	**293**	T	T	23 37 39.3			
	baz=144,slow=76,SNR=89								
H11N2	**WAKE ISLAND Hy**	**97.00**	**293**	T	T	23 37 50.6			
	baz=144,slow=76,SNR=63								
ILAR	**Eielson Array**	**119.50**	**346**	PKP	**PKPdf**	**21 55 09.7**	**+0.6**		
	comp=Z,0.4nm,1.0s,baz=159,slow=2.8,SNR=2.5								
FETA	**Feichten**	**147.03**	**79**	*i* PKP	**PKPdf**	**21 56 03.7**	**+2.7**		
	comp=Z,7.8nm,1.3s								
MOTA	**Moosalm**	**147.41**	**79**	*i* PKP	**PKPbc**	**21 56 05.4**	**+1.2**		
	comp=Z,4.5nm,1.2s								
SQTA	**Sankt Quirin**	**147.41**	**79**	*i* PKP	**PKPbc**	**21 56 05.8**	**+1.7**		
	comp=Z,14nm,2.1s								
WATA	**Walderalm**	**147.69**	**79**	*e*PKP	**PKPbc**	**21 56 06.6**	**+1.7**		
	comp=Z,5.5nm,1.2s								
WTTA	**Wattenberg**	**147.69**	**79**	*e*PKP	**PKPbc**	**21 56 06.1**	**+1.2**		
	comp=Z,7.4nm,1.2s								
ABTA	**Abfaltersbach**	**147.96**	**81**	*i* PKP	**PKPbc**	**21 56 06.9**	**+1.4**		
	comp=Z,7.6nm,1.2s								
TAPN	**Taplejung**	**148.14**	**227**	*e*P	**PKPdf**	**21 56 07.4**	**+3.7**		
LESA	**Schwarzleotal**	**148.38**	**80**	*e*PKP	**PKPbc**	**21 56 08.2**	**+1.6**		
	comp=Z,12nm,2.2s								
OBKA	**Obir**	**149.06**	**83**	*i* PKP	**PKPdf**	**21 56 07.3**	**+3.0**		
	comp=Z,14nm,1.7s								
JIRN	**Jiri**	**149.06**	**225**	*e*P	**PKPbc**	**21 56 09.6**	**+0.2**		
	comp=Z,8.7nm,0.8s								
BIOA	**Bad Ischl, Aus**	**149.09**	**80**	*e*PKP	**PKPbc**	**21 56 09.0**	**+0.6**		
	comp=Z,2.7nm,1.0s								
SOKA	**Soboth**	**149.43**	**83**	*e*PKP	**PKPbc**	**21 56 10.2**	**+0.9**		
	comp=Z,5.0nm,1.2s								
MOA	**Molln**	**149.53**	**80**	*e*PKP	**PKPbc**	**21 56 10.2**	**+0.7**		
	comp=Z,9.2nm,1.4s								
GERES	**GERESS Array B**	**149.65**	**78**	PKPbc	**PKPbc**	**21 56 10.3**	**+0.5**		
	comp=Z,0.6nm,0.6s,baz=216,slow=4.8,SNR=2.4								
ARSA	**Arzberg**	**150.00**	**82**	*i* PKP	**PKPbc**	**21 56 12.3**	**+1.6**		
	comp=Z,6.6nm,1.5s								
GKN	**Gorkha**	**150.01**	**223**	*e*P	**PKPbc**	**21 56 14.0**	**+2.6**		
CLL	**Collm**	**150.26**	**73**	*e*PKPbc	**PKPbc**	**21 56 13.0**	**+1.9**		
CLL				*ex*	x	21 56 21.0			
CONA	**Conrad Observa**	**150.52**	**81**	*e*PKP	**PKPbc**	**21 56 13.4**	**+1.5**		
	comp=Z,9.6nm,1.4s								
BRG	**Berggiesshubel**	**150.64**	**74**	*e*P	**PKPbc**	**21 56 11.6**	**-0.3**		
BRG				Amp		21 56 15.7			
	comp=Z,12nm,1.4s								
DANN	**Dangsing**	**150.68**	**222**	*e*P	**PKPbc**	**21 56 14.6**	**+1.4**		
	comp=Z,22nm,0.8s								
SONM	**Songino Array**	**151.67**	**278**	PKPbc	**PKPbc**	**21 56 14.6**	**-0.1**		
	comp=Z,1.8nm,0.8s,baz=119,slow=1.7,SNR=11								
NOA	**NORSAR Array B**	**151.78**	**53**	PKPbc	**PKPbc**	**21 56 14.6**	**+0.2**		
	comp=Z,0.2nm,0.5s,baz=269,slow=2.1,SNR=1.6								
BRTR	**Keskin Array B**	**156.49**	**113**	PKPab	**PKPab**	**21 56 44.4**	**+0.2**		
	comp=Z,1.1nm,1.0s,baz=188,slow=5.8,SNR=4.0								
MKAR	**Makanchi Array**	**165.62**	**253**	PKPab	**PKPab**	**21 57 23.9**	**+0.1**		
	comp=Z,1.7nm,0.9s,baz=105,slow=6.0,SNR=11								
ZALV	**Zalesovo Beam**	**166.45**	**283**	PKPab	**PKPab**	**21 57 27.3**	**+0.1**		
	comp=Z,1.8nm,0.8s,baz=100,slow=5.0,SNR=9.3								
BVAR	**Borovoye Array**	**175.01**	**274**	PKPab	**PKPab**	**21 58 04.9**	**-0.3**		
	comp=Z,1.0nm,0.9s,baz=99,slow=4.5,SNR=4.0								

*SOME **29** 22:00:14.7, 44˚.27N×82˚.60E, h10km*
*NNC **29** 22:00:17.2±1.0, 44˚.33N×82˚.44E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=9.6km s-min=3.3km az=128.0*
*IDC **29** 22:00:18.2±1.4, 44˚.63N×82˚.68E, h0km, mb3.4/1, mbtmp3.4/7, ML2.9/6, MS4.4/1, Error ellipse: s-maj=15.4km s-min=11.5km az=100.0*

ISC 29 22:00:19.2±1.0, **44˚44N**±0˚.05×**82˚73E**±0˚.07, **h10**km, **n33,** σ2§**40**/34, **3C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**2.11**	**268**	*e*Pg	**Pn**	**22 00 52.8**	**-1.8**
	32nm,0.2s						
DJR				*e*Lg	Lg	22 01 20.4	
	281nm,0.3s						
DJR	**Jarkent**	**2.11**	**268**	Pg	**Pn**	**22 00 52.8**	**-1.8**
	32nm,0.2s						
DJR				Lg	Lg	22 01 20.4	
	281nm,0.3s						
MK31	**Makanchi Array**	**2.38**	**353**	⇑Pn	**Pn**	**22 00 59.1**	**+0.8**
	1.9nm,0.3s,baz=179,slow=16,SNR=982						
MK31				⇑Pg	**Pb**	**22 01 02.7**	**+0.6**
	41nm,0.4s						
MK31				Lg	Lg	22 01 34.2	
	42nm,0.3s,baz=180,slow=29,SNR=18						
MKAR	**Makanchi Array**	**2.38**	**353**	Pn	**Pn**	**22 00 58.6**	**+0.3**
	18nm,0.3s,baz=174,slow=16,SNR=142						
MKAR				Sn	**Sn**	**22 01 28.1**	**+0.6**
	59nm,0.3s,baz=175,slow=26,SNR=34						
	25nm,0.3s						
MAKZ	**Makanchi**	**2.43**	**348**	⇑Pn	**Pn**	**22 00 59.4**	**+0.4**
	2.7nm,0.3s						
MAKZ				⇓Pg	**Pb**	**22 01 03.1**	**+0.2**
	16nm,0.6s						
MAKZ				⇓Sn	**Sn**	**22 01 30.6**	**+1.9**
	42nm,0.3s						
KNOS	**Konyrlen**	**2.54**	**269**	Pg	**Pn**	**22 00 60.0**	**-0.7**
	43nm,0.0s						
KNOS				Lg	Lg	22 01 33.0	
	347nm,0.1s						
PDGK	**Podgornoye**	**2.59**	**246**	Pg	**Pn**	**22 00 59.9**	**-1.4**
	4.6nm,0.3s						
PDGK	**Podgornoye**	**2.59**	**246**	Pn	Pn	22 00 56.1	-5.2
PDGK				Sn	**Sn**	**22 01 28.9**	**-4.0**
SHLS	**Shalkode**	**2.69**	**243**	*e*Pg	Pn	22 00 56.3	-6.4
	11nm,0.3s						
SHLS				*e*Lg	Lg	22 01 26.7	
	190nm,0.1s						
UZB	**Uzynbulak**	**2.98**	**246**	*e*Pg	**Pn**	**22 01 06.4**	**-0.2**
	3.9nm,0.2s						
UZB				*e*Lg	Lg	22 01 44.1	
	37nm,0.6s						
UZB	**Uzynbulak**	**2.98**	**246**	Pg	**Pn**	**22 01 06.4**	**-0.2**
	3.9nm,0.2s						
UZB				Lg	Lg	22 01 44.1	
	37nm,0.6s						

KPKS	**Kokpek**	**3.08**	**253**	*e*Pg	**Pn**	**22 01 08.5**	**+0.6**		
	14nm,0.1s								
KPKS				*e*Lg	Lg	22 01 47.8			
	242nm,0.3s								
KPKS	**Kokpek**	**3.08**	**253**	Pg	**Pn**	**22 01 08.5**	**+0.6**		
	14nm,0.1s								
KPKS				Lg	Lg	22 01 47.7			
	242nm,0.3s								
TDK	**Taldyqorghan**	**3.13**	**282**	*e*Pg	**Pn**	**22 01 12.3**	**+3.6**		
	31nm,0.3s								
TDK				*e*Lg	Lg	22 01 54.0			
	221nm,0.3s								
TDK	**Taldyqorghan**	**3.13**	**282**	Pg	**Pn**	**22 01 12.3**	**+3.6**		
	31nm,0.3s								
TDK				Lg	Lg	22 01 54.0			
	221nm,0.3s								
ZHN	**Zhinishke**	**3.36**	**249**	*e*Pg	**Pn**	**22 01 13.3**	**+1.5**		
	5.9nm,0.3s								
ZHN				*e*Lg	Lg	22 01 56.0			
	123nm,0.2s								
ZHN	**Zhinishke**	**3.36**	**249**	Pg	**Pn**	**22 01 13.3**	**+1.5**		
	5.9nm,0.3s								
ZHN				Lg	Lg	22 01 56.0			
	123nm,0.2s								
ZSN	**Zaisan**	**3.36**	**26**	*e*Pg	**Pb**	**22 01 18.6**	**-0.3**		
	22nm,0.5s								
ZSN				*e*Lg	Lg	22 02 05.2			
	37nm,0.7s								
SATY	**Saty**	**3.42**	**248**	*e*Pg	**Pn**	**22 01 13.6**	**+0.8**		
	2.8nm,0.2s								
SATY				*e*Lg	Lg	22 01 56.6			
	84nm,0.2s								
ARXS	**Arharly**	**3.52**	**268**	*e*Pg	**Pn**	**22 01 17.8**	**+3.7**		
	8.1nm,0.2s								
ARXS				*e*Lg	Lg	22 02 03.4			
	79nm,0.8s								
CHKK	**Chushkaly**	**4.17**	**264**	*e*Pg	Pn	22 01 29.3	+6.4		
	2.1nm,0.2s								
CHKK				*e*Lg	Lg	22 02 23.5			
	64nm,0.2s								
KOTS	**Kotyrbulak**	**4.24**	**255**	*e*Pg	Pn	22 01 29.8	+5.8		
	3.8nm,0.1s								
KOTS				*e*Lg	Lg	22 02 24.4			
	71nm,0.7s								
KTBS	**Karatobe**	**4.42**	**263**	*e*Pg	Pn	22 01 33.6	+7.3		
	3.6nm,0.4s								
KTBS				*e*Lg	Lg	22 02 30.6			
	81nm,0.8s								
KRBS	**Karabastau**	**5.14**	**264**	*e*Pg	**Pb**	**22 01 47.2**	**-2.0**		
	2.8nm,0.1s								
KRBS				*e*Lg	Lg	22 02 54.3			
	17nm,0.4s								
SEM	**Semipalatinsk**	**6.20**	**345**	*e*Pg	**Pb**	**22 02 11.8**	**+4.4**		
	1.9nm,0.1s								
SEM				*e*Lg	Lg	22 03 35.6			
	19nm,0.4s								
AAK	**Ala-Archa**	**6.25**	**256**	Pn	**Pn**	**22 01 55.7**	**+4.1**		
	0.2nm,0.3s,baz=90,slow=6.1,SNR=2.2								
AAK				Pg	**Pb**	**22 02 07.0**	**-1.2**		
	1.0nm,0.3s,baz=63,slow=5.9,SNR=4.8								
AAK				Sn	**Sn**	**22 03 07.4**	**+4.2**		
	0.8nm,0.3s,baz=349,slow=23,SNR=1.9								
	0.5nm,0.3s								
KURBB	**Kurchatov Arra**	**6.81**	**337**	Pn	**Pn**	**22 01 57.1**	**-2.0**		
	0.2nm,0.3s,baz=234,slow=13,SNR=25								
KURBB				Sn	**Sn**	**22 03 13.7**	**-2.9**		
	0.4nm,0.3s,baz=136,slow=28,SNR=8.0								
KURBB				Lg	Lg	22 03 49.5			
	0.4nm,0.3s,baz=149,slow=29,SNR=3.3								
	0.8nm,0.3s								
BRZS	**Berezniki**	**8.80**	**313**	*e*Pg	Pg	22 02 58.8	-8.8		
	0.9nm,0.2s								
BRZS				*e*Lg	Lg	22 04 53.5			
	8.8nm,0.6s								
ZALV	**Zalesovo Beam**	**9.62**	**7**	Pn	Pn	22 02 35.2	-2.4		
	0.7nm,0.3s,baz=189,slow=15,SNR=15								
ZALV				Sn	**Sn**	**22 04 21.1**	**-4.4**		
	0.8nm,0.3s,baz=191,slow=22,SNR=7.4								
ZALV				Lg	Lg	22 05 17.9			
	baz=198,slow=27								
	2.1nm,0.4s								
BVAR	**Borovoye Array**	**11.82**	**321**	Pn	**Pn**	**22 03 05.4**	**-2.4**		
	baz=128,slow=14,SNR=6.9								
BVAR				Sn	Sn	22 05 11.4	-8.3		
	baz=143,slow=29,SNR=3.1								
BVAR				Lg	Lg	22 06 29.0			
	baz=130,slow=25,SNR=3.6								
	0.5nm,0.5s								
SONM	**Songino Array**	**16.73**	**70**	Pn	**Pn**	**22 04 13.4**	**-0.4**		
	0.1nm,0.3s,baz=268,slow=8.5,SNR=4.4								
	0.7nm,0.9s								
CMAR	**Chiang Mai Arr**	**29.25**	**147**	P	**P**	**22 06 23.7**	**+2.3**		
	0.2nm,0.4s,baz=332,slow=9.2,SNR=1.5								
	0.2nm,0.4s								
MA2	**Magadan**	**42.53**	**44**	LR	LR	22 27 04.0			
	comp=Z,530nm,21.8s,baz=136,slow=38								

*IDC **29** 22:05:41.6±7.0, 32˚.94N×39˚.60W, h0km, mb3.8/5, mbtmp3.8/5, MS4.3/3, Error ellipse: s-maj=169.0km s-min=49.0km az=64.0*
*NEIC **29** 22:05:42.4±2.2, 32˚.9N±0˚.1×39˚.6W±0˚.2, h10km±2km, mb4.8/44, Error ellipse: s-maj=24.4km s-min=21.6km az=143.0*

ISC 29 22:05:42.1±0.8, **33˚0N**±0˚.2×**39˚72W**±0˚.09, **h8**km, **n56,** σ1§**05**/48, **mb4.8**/27, **MS4.3**/3, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDF	**Fort de France**	**26.62**	**232**	P	**P**	**22 11 22.0**	**+0.7**
M63A	**Gales Ferry**	**26.97**	**298**	P	**P**	**22 11 24.3**	**+0.2**
M63A				IAmb	IAmb	22 11 33.1	
	comp=Z,36nm,1.2s						
LBNH	**Lisbon**	**27.40**	**304**	P	**P**	**22 11 26.6**	**-1.3**
LBNH				IAmb	IAmb	22 11 51.0	
	comp=Z,33nm,1.4s						
L61B	**Northampton**	**27.59**	**300**	P	**P**	**22 11 29.4**	**-0.4**
L61B				IAmb	IAmb	22 11 30.1	
	comp=Z,12nm,1.2s						
J61A	**Chester**	**27.66**	**302**	P	**P**	**22 11 31.4**	**+1.1**
J61A				IAmb	IAmb	22 11 45.4	
	comp=Z,39nm,1.5s						
SJG	**San Juan**	**27.96**	**245**	P	**P**	**22 11 33.2**	**0.0**
SJG				IAmb	IAmb	22 11 53.7	
	comp=Z,25nm,1.1s						
CPNY	**Central Park**	**28.34**	**296**	P	**P**	**22 11 36.8**	**+0.4**
CPNY				IAmb	IAmb	22 11 38.1	
	comp=Z,18nm,0.8s						
MNTQ	**Montreal, Queb**	**28.86**	**306**	P	**P**	**22 11 40.9**	**-0.1**
MNTQ				IAmb	IAmb	22 12 06.7	
	comp=Z,19nm,1.3s						
LONY	**Lake Ozonia**	**29.34**	**304**	P	**P**	**22 11 45.6**	**+0.4**
LONY				IAmb	IAmb	22 11 46.3	
	comp=Z,24nm,1.4s						
MVL	**Millersville**	**30.12**	**294**	P	**P**	**22 11 51.6**	**-0.6**
O52A	**Adamsville**	**34.33**	**294**	P	**P**	**22 12 27.3**	**-1.9**
O52A				IAmb	IAmb	22 12 46.1	
	comp=Z,23nm,1.4s						
SFJD	**Kangerlussuaq**	**34.66**	**352**	P	**P**	**22 12 32.1**	**+0.4**
SFJD				IAmb	IAmb	22 12 54.2	
	comp=Z,30nm,1.3s						
I49A	**Point Hope**	**35.12**	**301**	P	**P**	**22 12 34.6**	**-1.3**
FRB	**Frobisher Bay**	**35.64**	**338**	LR	LR	22 26 45.5	
	comp=Z,1μm,21.8s,baz=188,slow=35						
R50A	**Paris**	**36.37**	**291**	P	**P**	**22 12 48.0**	**+1.3**
061Z	**Ochoppi**	**36.39**	**270**	P	**P**	**22 12 46.7**	**-0.3**
CPCT	**Cooper Cave**	**36.89**	**287**	P	**P**	**22 12 52.0**	**+0.8**
CPCT				IAmb	IAmb	22 13 07.8	
	comp=Z,11nm,1.1s						
P48A	**Milroy**	**37.12**	**293**	P	**P**	**22 12 54.8**	**+1.6**
P48A				IAmb	IAmb	22 13 19.9	
	comp=Z,21nm,1.1s						
N47A	**Urbana**	**37.24**	**296**	P	**P**	**22 12 55.4**	**+1.3**
N47A				IAmb	IAmb	22 13 15.7	
	comp=Z,28nm,1.2s						
W50A	**Signal Mountai**	**37.57**	**286**	P	**P**	**22 12 56.8**	**-0.3**
W50A				IAmb	IAmb	22 13 00.6	
	comp=Z,20nm,1.1s						
SENIN	**Lac Senin/Sane**	**38.04**	**55**	P	**P**	**22 12 58.3**	**-2.8**
SENIN				IAmb	IAmb	22 13 00.3	
	comp=Z,11nm,0.9s						
E43A	**Lone Tree Farm**	**38.21**	**305**	P	**P**	**22 13 01.2**	**-1.1**
K43A	**Burlington**	**39.13**	**299**	P	**P**	**22 13 08.7**	**-1.4**
D41A	**Chassel**	**39.33**	**306**	P	**P**	**22 13 10.8**	**-0.9**
STU	**Stuttgart**	**39.50**	**52**	P	**P**	**22 13 10.1**	**-2.9**

I42A	**Draeger Farm,**	**39.52**	**301**	P	**P**	**22 13 13.6**	**+0.3**		
I42A				IAmb	IAmb	22 13 19.9			
	comp=Z,41nm,1.5s								
SUMG	**Summit**	**39.67**	**1**	P	**P**	**22 13 15.0**	**+0.4**		
I40A	**Norwalk**	**40.75**	**301**	P	**P**	**22 13 23.8**	**+0.3**		
I40A				IAmb	IAmb	22 13 47.8			
	comp=Z,34nm,1.5s								
TEOL	**Teolo**	**41.07**	**57**	P	**P**	**22 13 26.0**	**0.0**		
GEC2	**GERESS Array S**	**42.48**	**52**	P	**P**	**22 13 38.1**	**+0.4**		
GERES	**GERESS Array B**	**42.48**	**52**	P	**P**	**22 13 38.1**	**+0.4**		
TORD	**Torodi Ar. Bea**	**42.57**	**108**	P	**P**	**22 13 38.5**	**-0.1**		
	comp=Z,0.6nm,0.7s,baz=317,slow=7.0,SNR=4.2								
	comp=Z,0.6nm,0.7s								
F36A	**Milaca**	**42.75**	**304**	P	**P**	**22 13 38.7**	**-1.1**		
MGMO	**Mountain Grove**	**42.76**	**291**	P	**P**	**22 13 41.0**	**+1.0**		
WHAR	**Wooly Hollow**	**43.16**	**288**	P	**P**	**22 13 43.2**	**0.0**		
WHAR				IAmb	IAmb	22 13 55.3			
	comp=Z,16nm,1.1s								
X40A	**Basin Creek Fa**	**43.77**	**287**	P	**P**	**22 13 47.7**	**-0.5**		
ULM	**Lac du Bonnet**	**44.28**	**310**	P	**P**	**22 13 51.5**	**-0.6**		
H10N2	**ASCENSION HYDR**	**47.15**	**145**	T	T	23 04 18.3			
	baz=330,slow=74								
H10N3	**ASCENSION HYDR**	**47.15**	**145**	T	T	23 04 27.7			
	baz=330,slow=74								
H10N1	**ASCENSION HYDR**	**47.17**	**145**	T	T	23 04 32.5			
	baz=330								
H10S3	**ASCENSION HYDR**	**48.04**	**146**	T	T	23 05 29.7			
	baz=330,slow=74,SNR=14								
H10S2	**ASCENSION HYDR**	**48.06**	**146**	T	T	23 05 32.4			
	baz=250,slow=74,SNR=3.7								
FINES	**FINESS Array B**	**50.16**	**35**	P	**P**	**22 14 38.5**	**+0.8**		
	comp=Z,1.3nm,0.8s,baz=256,slow=5.6,SNR=5.0								
	comp=Z,1.3nm,0.8s								
AKASG	**Malin Array Be**	**52.40**	**49**	P	**P**	**22 14 54.9**	**+0.2**		
	comp=Z,1.0nm,0.6s,baz=281,slow=6.6,SNR=8.1								
	comp=Z,1.0nm,0.6s								
ELK	**Elko**	**59.21**	**301**	LR	LR	22 40 10.8			
	comp=Z,195nm,20.6s,baz=105,slow=35								
MMAI	**Mount Meron Ar**	**61.64**	**67**	LR	LR	22 43 31.8			
	comp=Z,200nm,19.5s,baz=173,slow=37								
G31M	**Satah River**	**61.87**	**334**	P	**P**	**22 16 03.5**	**+2.1**		
GNW	**Green Mountain**	**62.17**	**311**	P	**P**	**22 16 04.3**	**+0.5**		
GNW				IAmb	IAmb	22 16 32.8			
	comp=Z,15nm,1.4s								
PGC	**Sidney**	**62.20**	**312**	P	**P**	**22 16 03.5**	**-0.4**		
F04A	**Amboy**	**62.45**	**309**	P	**P**	**22 16 05.0**	**-0.8**		
F04D	**Rainier, OR**	**62.79**	**309**	P	**P**	**22 16 08.7**	**+0.7**		
R33M	**Jennings River**	**62.87**	**325**	P	**P**	**22 16 09.1**	**+0.6**		
R33M				IAmb	IAmb	22 16 31.9			
	comp=Z,7.1nm,1.4s								
FARO	**Faro, Yukon**	**63.02**	**328**	P	**P**	**22 16 08.1**	**-1.2**		
FARO				IAmb	IAmb	22 16 15.1			
	comp=Z,6.9nm,1.4s								
ISA	**Isabella, Lake**	**63.39**	**297**	P	**P**	**22 16 11.7**	**-0.5**		
ISA				IAmb	IAmb	22 16 37.1			
	comp=Z,4.8nm,1.4s								
BVAR	**Borovoye Array**	**75.10**	**36**	P	**P**	**22 17 24.9**	**+0.5**		
	comp=Z,0.8nm,0.9s,baz=320,slow=4.3,SNR=3.7								
	comp=Z,0.8nm,0.9s								
KURBB	**Kurchatov Arra**	**80.55**	**35**	P	**P**	**22 17 55.7**	**+0.9**		
	comp=Z,0.2nm,0.2s,baz=311,slow=5.7,SNR=1.9								
	comp=Z,0.2nm,0.2s								

*CNRM **29** 22:05:55.5, 32˚.40N×5˚.51W, h11km, ml2.4*
*MDD **29** 22:05:59.9±1.2, 32˚.58N×5˚.62W, h5km±11km, Mb3.7/2, M_mb3.0/2, Error ellipse: s-maj=13.4km s-min=4.5km az=113.0*
*SFS **29** 22:05:59.0, 32˚.54N×5˚.46W, h22km*

ISC 29 22:05:55.6±1.3, **32˚47N**±0˚.03×**5˚50W**±0˚.03, **h15**km±10km, **n22,** σ1§**51**/42, **2C, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MD31	**MD31**	**0.73**	**57**	P	**Pb**	**22 06 10.5**	**+0.3**
MD31				S	**Sb**	**22 06 21.4**	**+1.3**
MDT	**Midelt**	**0.82**	**65**	P	**Pn**	**22 06 12.4**	**-0.4**
MDT				S	**Sn**	**22 06 24.9**	**+0.2**
IFR	**Ifrane**	**1.09**	**16**	Sg	**Sn**	**22 06 31.6**	**+0.3**
IFR				Pg	**Pn**	**22 06 17.5**	**+1.1**
ZHG	**ZHG**	**1.37**	**316**	P	**Pg**	**22 06 21.6**	**-0.3**
ZHG				S	**Sg**	**22 06 39.3**	**-0.5**
ARF	**Arif**	**1.50**	**133**	P	**Pn**	**22 06 21.3**	**-0.8**
ARF				S	**S

L59A IAmb IAmb 22 14 14.7
comp=Z,22nm,1.4s
WBO Williamsburg 29.94 305 P **P** **22 13 41.0 -1.2**
WBO IAmb IAmb 22 14 01.4
comp=Z,12nm,1.1s
MVL Millersville 30.10 295 P **P** **22 13 41.8 -1.9**
MVL IAmb IAmb 22 14 00.4
comp=Z,11nm,1.3s
M57A Sunshine Farm, 30.77 297 P **P** **22 13 51.5 +2.0**
T59A Double "B" Far 31.07 289 P **P** **22 13 49.6 -2.6**
T59A IAmb IAmb 22 14 10.6
comp=Z,14nm,1.3s
L56A Greenwood 31.16 299 P **P** **22 13 54.7 +1.7**
DELO Deloro Mine 31.50 303 P **P** **22 13 57.1 +1.2**
WVNY West Valley, N 31.95 299 P **P** **22 14 00.7 +0.7**
PAULI Pauline 34.73 285 P P 22 14 19.8 -4.5
PAULI IAmb IAmb 22 14 40.3
comp=Z,17nm,1.4s
BAUV El Baul 35.13 234 P **P** **22 14 29.6 +1.7**
HODGE Hodges 35.19 284 P **P** **22 14 28.6 +0.4**
HODGE IAmb IAmb 22 14 55.2
comp=Z,14nm,1.2s
BOAV Boa Vista 35.80 217 P **P** **22 14 33.7 +0.1**
BOAV IAmb IAmb 22 14 35.0
comp=Z,13nm,1.5s
W52A Murphy 36.41 286 P **P** **22 14 38.8 0.0**
W52A IAmb IAmb 22 15 12.6
comp=Z,23nm,1.5s
P49A Miami Univ. Ec 36.55 294 P **P** **22 14 39.7 -0.2**
J47A Sunmer 36.56 300 P **P** **22 14 39.3 -0.7**
V51A Loudon 36.64 288 P **P** **22 14 41.0 +0.3**
V51A IAmb IAmb 22 14 59.7
comp=Z,11nm,1.1s
MTDJ Mount Denham 36.69 256 **P** **22 14 40.2 -1.1**
CPCT Cooper Cave 36.83 287 P **P** **22 14 41.0 -1.4**
WLF Walferdange 37.94 50 P **P** **22 14 50.9 -0.6**
WLF IAmb IAmb 22 15 07.8
comp=Z,17nm,1.1s
SFIN Lafayette 38.32 295 P **P** **22 14 54.5 -0.4**
SFIN IAmb IAmb 22 15 20.3
comp=Z,17nm,1.2s
SENIN Lac Senin/Sane 38.34 55 P **P** **22 14 52.4 -2.8**
SENIN IAmb IAmb 22 15 34.3
comp=Z,31nm,1.3s
T47A Sharon Grove 38.68 290 P **P** **22 14 58.2 +0.3**
BFO Black Forest 39.20 52 P **P** **22 15 00.3 -1.9**
OLIL Olney 39.24 293 P **P** **22 15 01.9 -0.6**
OLIL IAmb IAmb 22 15 36.5
comp=Z,28nm,1.5s
O44A Mansfield 39.39 295 P **P** **22 15 01.9 -1.9**
O44A IAmb IAmb 22 15 30.4
comp=Z,26nm,1.4s
PLAL Pickwick Lake 39.78 287 P **P** **22 15 06.7 -0.4**
HDIL Hopedale 39.98 296 P **P** **22 15 08.6 -0.2**
HDIL IAmb IAmb 22 15 39.3
comp=Z,11nm,0.4s
SUMG Summit 39.98 1 P **P** **22 15 07.0 -1.8**
KEST Kesra 40.51 72 P **P** **22 15 10.7 -2.6**
KEST IAmb IAmb 22 15 29.5
comp=Z,26nm,1.4s
ZCCA Zocca 40.89 58 P **P** **22 15 16.1 -0.2**
ZCCA IAmb IAmb 22 15 54.0
comp=Z,30nm,1.2s
N41A Harden Midland 41.15 296 P **P** **22 15 18.5 +0.1**
N41A IAmb IAmb 22 15 28.8
comp=Z,25nm,1.1s
GNAR Gosnell 41.16 289 P **P** **22 15 18.6 +0.1**
Y45A Yeager Farm, C 41.19 286 P **P** **22 15 17.5 -1.4**
Y45A IAmb IAmb 22 15 30.9
comp=Z,29nm,1.3s
L40A Anamosa 41.31 298 P **P** **22 15 20.8 +1.1**
L40A IAmb IAmb 22 15 27.3
comp=Z,27nm,1.4s
PBMO Poplar Bluff 41.34 290 P **P** **22 15 18.8 -1.2**
CTI Castel Tesino 41.35 56 P **P** **22 15 20.6 +0.5**
MURB Monte Urbino 42.05 60 P **P** **22 15 25.4 -0.4**
STAL STALIGIAL 42.09 55 P **P** **22 15 25.1 -0.9**
P40A Paris 42.19 295 P **P** **22 15 27.1 +0.1**
ROSC El Rosal 42.40 237 LR LR 22 31 58.8
comp=Z,352nm,18.9s,baz=64,slow=34
NRCA Norcia 42.52 60 P **P** **22 15 26.8 -2.9**
NRCA IAmb IAmb 22 15 29.1
comp=Z,27nm,1.5s
TOA0 Torodi Ar. Sit 42.62 107 P **P** **22 15 30.6 -0.1**
TORD Torodi Ar. Bea 42.62 107 P **P** **22 15 31.3 +0.6**
TORD Torodi Ar. Bea 42.62 107 P **P** **22 15 32.9 +2.2**
comp=Z,1.7nm,0.9s,baz=315,slow=6.6,SNR=7.9
TORD LR LR 22 30 55.6
comp=Z,745nm,19.2s,baz=238,slow=33
comp=Z,1.7nm,0.9s
H10N2 ASCENSION HYDR 46.99 144 T T 23 06 12.1
baz=330,slow=76,SNR=79
H10N3 ASCENSION HYDR 46.99 144 T T 23 06 08.6
baz=330,slow=76,SNR=79
H10N1 ASCENSION HYDR 47.01 144 T T 23 05 56.2
baz=330,slow=76,SNR=78
JTS Las Juntas de 47.01 252 LR LR 22 36 01.7
comp=Z,230nm,18.5s,baz=20,slow=36
H10S3 ASCENSION HYDR 47.88 145 T T 23 07 31.4
baz=250,slow=74,SNR=42
H10S2 ASCENSION HYDR 47.89 145 T T 23 07 25.4
baz=330,slow=74,SNR=13
FINES FINESS Array B 50.50 35 P **P** **22 16 33.6 +1.7**
comp=Z,1.7nm,0.9s,baz=255,slow=8.4,SNR=1.7
comp=Z,1.7nm,0.9s
AKASG Malin Array Be 52.73 48 P **P** **22 16 49.3 +0.6**
comp=Z,1.8nm,0.8s,baz=270,slow=6.9,SNR=8.9
comp=Z,1.8nm,0.8s
PDAR Pinedale Array 54.59 302 P **P** **22 17 04.3 +1.4**
comp=Z,1.6nm,1.1s,baz=80,slow=10,SNR=6.2
comp=Z,1.6nm,1.1s
YKA Yellowknife Ar 54.61 327 P **P** **22 17 04.0 +1.6**
comp=Z,0.4nm,0.9s,baz=84,slow=7.5,SNR=2.8
comp=Z,0.4nm,0.9s
BRTR Keskin Array B 58.25 60 P **P** **22 17 30.8 +1.9**
comp=Z,1.0nm,0.8s,baz=272,slow=7.6,SNR=5.4
comp=Z,1.0nm,0.8s
LPIG La Paz 61.53 282 LR LR 22 43 43.4
comp=Z,64nm,18.7s,baz=56,slow=35
NVAR Mina Array Bea 62.24 300 P **P** **22 17 58.2 +1.9**
comp=Z,0.1nm,0.3s,baz=71,slow=5.8,SNR=4.3
comp=Z,0.1nm,0.3s
COR Corvallis 63.57 308 P **P** **22 18 02.2 -2.6**
D27M Malcolm River 63.63 337 P **P** **22 18 03.6 -1.3**
D27M IAmb IAmb 22 18 10.3
comp=Z,6.6nm,1.3s
P33M Teslin, Yukon 63.64 326 P **P** **22 18 03.6 -1.5**
P33M IAmb IAmb 22 18 44.3
comp=Z,6.2nm,1.4s
J30M Hart River 63.65 331 P **P** **22 18 06.5 +1.4**
Q32M Nakina River 63.81 325 P **P** **22 18 05.6 -0.8**
BVAR Borovoye Array 75.44 36 P **P** **22 19 21.4 +3.5**
comp=Z,0.7nm,0.8s,baz=322,slow=6.1,SNR=3.5
comp=Z,0.7nm,0.8s
LSZ Lusaka 80.62 115 LR LR 22 53 36.9
comp=Z,110nm,20.4s,baz=343,slow=34
KURBB Kurchatov Arra 80.90 35 P **P** **22 19 50.1 +1.9**
comp=Z,0.2nm,0.3s,baz=307,slow=5.3,SNR=4.4
comp=Z,0.2nm,0.3s
OPO Ambohidratompo 97.44 107 LR LR 23 04 54.2
comp=Z,65nm,18.2s,baz=160,slow=35

IDC 29 22:09:09.4±7.1, 31°.14S×179°.34W, h0km, mb3.9/2, mbtmp3.9/2, MS3.7/1, Error ellipse: s-maj=293.7km s-min=58.0km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.93**	**268**	P	P	22 17 01.8	-0.3
	0.3nm,0.4s,baz=103,slow=7.6,SNR=8.5						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**42.99**	**274**	P	P	22 17 10.7	0.0
	1.1nm,0.3s,baz=112,slow=8.0,SNR=41						
	1.1nm,0.3s						
QSPA	**South Pole Qui**	**58.97**	**180**	LR	LR	22 41 50.5	
	comp=Z,56nm,18.2s,baz=271,slow=33						
FINES	**FINESS Array B**	**145.43**	**339**	PKPbc	PKPbc	22 28 47.8	-0.8
	1.5nm,0.8s,baz=44,slow=4.6,SNR=5.6						

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*CATAC **29** 22:12:01.7±0.4, 12°.82N×88°.58W, h31km±4km, ML4.4*
*SNET **29** 22:12:02.0±0.9, 12°.87N×88°.60W, h50km±12km, ML4.5*
*NEIC **29** 22:12:02.6±2.0, 12°.89N±0°.03×88°.59W±0°.06, h63km±10km, mb4.5/25, Error ellipse: s-maj=9.4km s-min=1.4km*

az=67.0
*IDC **29** 22:12:05.5±2.2, 13°.00N×88°.12W, h99km±20km, mb3.8/11, mbtmp4.1/12, Error ellipse: s-maj=40.9km s-min=13.6km az=54.0*
*UCR **29** 22:12:06.2±1.5, 13°.43N×87°.40W, h0km±999km, MW4.2, MB4.5(NEIC)*

ISC 29 22:12:01.1±0.8, 12°.81N±0°.05×88°.59W±0°.03, h57km±7km, n190, σ1°.53/218, mb4.4/21, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**0.51**	**2**	*eP*	**Pn**	**22 12 12.4**	**-0.6**
ALJI				*eS*	**Sn**	**22 12 21.6**	**0.0**
ALJI	**Alcalda de J**	**0.51**	**2**	*iP*	**Pn**	**22 12 12.5**	**-0.5**
ALJI				IAML		22 12 12.7	
	comp=Z,10μm,1.0s						
ALJI				*iS*	**Sn**	**22 12 21.8**	**+0.2**
LCY	**Lacayo**	**0.67**	**25**	*eP*	**Pn**	**22 12 15.2**	**+0.2**
TECA	**Tecapa**	**0.68**	**7**	*eP*	**Pn**	**22 12 15.4**	**+0.1**
VSM	**San Miguel**	**0.69**	**27**	*eP*	**Pn**	**22 12 15.8**	**+0.5**
PACA	**Pacayal**	**0.70**	**22**	*eP*	**Pn**	**22 12 15.8**	**+0.4**
PACA				*eS*	**Sn**	**22 12 25.8**	**0.0**
PACA	**Pacayal**	**0.70**	**22**	*iP*	**Pn**	**22 12 16.1**	**+0.7**
PACA				*iS*	**Sn**	**22 12 24.9**	**-0.9**
PACA				IAML		22 12 35.2	
	comp=Z,54μm,1.0s						
TECO	**Alcaldia de Te**	**0.74**	**346**	*eP*	**Pn**	**22 12 15.9**	**+0.1**
TECO				*eS*	**Sn**	**22 12 26.4**	**-0.1**
TECO	**Alcaldia de Te**	**0.74**	**346**	*iP*	**Pn**	**22 12 16.1**	**+0.3**
TECO				IAML		22 12 16.2	
	comp=Z,9μm,1.0s						
TECO				*iS*	**Sn**	**22 12 26.6**	**+0.1**
CNRM	**Centro Naciona**	**0.78**	**32**	*iP*	**Pn**	**22 12 16.8**	**+0.6**
CNRM				*iS*	**Sn**	**22 12 29.1**	**+1.9**
CNRM				IAML		22 12 31.1	
	comp=Z,190μm,1.0s						
PQSS	**Presa 15 de Se**	**0.81**	**2**	*eP*	**Pn**	**22 12 17.0**	**+0.4**
PQSS	**Presa 15 de Se**	**0.81**	**2**	*iP*	**Pn**	**22 12 17.2**	**+0.6**
PQSS				*iS*	**Sn**	**22 12 29.1**	**+1.2**
PQSS				IAML		22 12 29.8	
	comp=Z,12μm,1.0s						
SNVI	**San Vicente**	**0.83**	**343**	*eP*	**Pn**	**22 12 17.3**	**+0.2**
UESV	**Universidad de**	**0.84**	**347**	*iP*	**Pn**	**22 12 17.4**	**+0.3**
UESV				*iS*	**Sn**	**22 12 29.4**	**+0.7**
UESV				IAML		22 12 33.4	
	comp=Z,11μm,1.0s						
COEG	**Centro de Oper**	**0.85**	**341**	*eP*	**Pn**	**22 12 17.3**	**+0.1**
COEG	**Centro de Oper**	**0.85**	**341**	*iP*	**Pn**	**22 12 17.4**	**+0.2**
COEG				*iS*	**Sn**	**22 12 29.5**	**+0.5**
COEG				IAML		22 12 33.9	
	comp=Z,6μm,1.0s						
CNCH	**Conchagua**	**0.87**	**58**	*eP*	**Pn**	**22 12 17.4**	**-0.1**
CNCH	**Conchagua**	**0.87**	**58**	*iP*	**Pn**	**22 12 17.9**	**+0.4**
CNCH				*iS*	**Sn**	**22 12 29.6**	**0.0**
CNCH				IAML		22 12 39.4	
	comp=Z,19μm,1.0s						
SJTE	**Alcalda de S**	**0.89**	**333**	*eP*	**Pn**	**22 12 17.7**	**-0.1**
SJTE	**Alcalda de S**	**0.89**	**333**	*iP*	**Pn**	**22 12 18.0**	**+0.2**
SJTE				*iS*	**Sn**	**22 12 30.3**	**+0.3**
SJTE				IAML		22 12 32.9	
	comp=Z,7μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.90**	**352**	*eP*	**Pn**	**22 12 18.5**	**+0.7**
SCLA	**Alcaldia de Sa**	**0.90**	**352**	*iP*	**Pn**	**22 12 18.7**	**+0.9**
SCLA				*iS*	**Sn**	**22 12 31.8**	**+1.8**
SCLA				IAML		22 12 42.6	
	comp=Z,5μm,1.0s						
LFRS	**El Faro**	**0.93**	**331**	*eP*	**Pn**	**22 12 18.2**	**-0.1**
LFRS				*eS*	**Sn**	**22 12 30.7**	**-0.1**
PAVA	**Las Pavas**	**0.96**	**340**	*eP*	**Pn**	**22 12 18.9**	**+0.3**
PAVA	**Las Pavas**	**0.96**	**340**	*iP*	**Pn**	**22 12 19.3**	**+0.7**
PAVA				*iS*	**Sn**	**22 12 32.6**	**+1.1**
PAVA				IAML		22 12 40.3	
	comp=Z,22μm,1.0s						
LALI	**Alcalda de L**	**0.98**	**314**	*iP*	**Pn**	**22 12 16.4**	**-2.4**
LALI				IAML		22 12 43.1	
	comp=Z,1μm,1.0s						
PANCS	**Alcalda de**	**0.98**	**324**	*iP*	**Pn**	**22 12 18.7**	**-0.2**
PANCS				*iS*	**Sn**	**22 12 31.1**	**-0.9**
PANCS				IAML		22 12 32.4	
	comp=Z,6μm,1.0s						
LOMA	**Loma Larga**	**1.00**	**326**	*eP*	**Pn**	**22 12 19.3**	**0.0**
LOMA	**Loma Larga**	**1.00**	**326**	*iP*	**Pn**	**22 12 18.9**	**-0.3**
LOMA				*iS*	**Sn**	**22 12 31.7**	**-0.9**
LOMA				IAML		22 12 35.1	
	comp=Z,7μm,1.0s						
CSGN	**Cosiguina Volc**	**1.02**	**81**	*iP*	**Pn**	**22 12 19.4**	**0.0**
CSGN				IAML		22 12 40.3	
	comp=Z,31μm,1.0s						
CAHU	**Cacacuatique**	**1.02**	**21**	*eP*	**Pn**	**22 12 20.4**	**+0.9**
AMPH	**Amapala**	**1.02**	**63**	*iP*	**Pn**	**22 12 20.0**	**+0.6**
AMPH				*iS*	**Sn**	**22 12 34.2**	**+1.3**
UDBS	**Universidad Do**	**1.05**	**329**	*iP*	**Pn**	**22 12 20.5**	**+0.7**
UDBS				IAML		22 12 35.5	
	comp=Z,7μm,1.0s						
IGN	**Direccin Gen**	**1.06**	**328**	*iP*	**Pn**	**22 12 22.9**	**+3.0**
IGN				IAML		22 12 36.9	
	comp=Z,26μm,1.0s						
LFU	**La Fuente**	**1.06**	**331**	*eP*	**Pn**	**22 12 20.2**	**+0.3**
SNET	**Serv Nac Est T**	**1.07**	**324**		**Pn**	**22 12 20.2**	**+0.1**
SNET				Sn	**Sn**	**22 12 33.5**	**-0.6**
SNET	**Serv Nac Est T**	**1.07**	**324**	*eP*	**Pn**	**22 12 20.0**	**-0.1**
SNET	**Serv Nac Est T**	**1.07**	**324**	*iP*	**Pn**	**22 12 19.9**	**-0.1**
SNET				*iS*	**Sn**	**22 12 34.0**	**-0.1**
SNET				IAML		22 12 35.7	
	comp=Z,6μm,1.0s						
ITCA	**Escuela Especi**	**1.09**	**322**	*iP*	Pn	22 12 25.6	+5.3
MAGS	**Ministerio de**	**1.10**	**322**	*iP*	Pn	22 12 27.6	+7.1
BOQS	**Boqueron**	**1.14**	**324**	*eP*	**Pn**	**22 12 21.4**	**+0.3**
PMON	**Piamonte**	**1.14**	**322**	*iP*	**Pn**	**22 12 20.9**	**-0.1**
PMON				IAML		22 12 41.7	
	comp=Z,6μm,1.0s						
JAYA	**Jayaque - finc**	**1.18**	**315**	*eP*	**Pn**	**22 12 21.6**	**-0.1**
JAYA				*eS*	**Sn**	**22 12 36.0**	**-0.9**
JAYA	**Jayaque - finc**	**1.18**	**315**	*iP*	**Pn**	**22 12 21.0**	**-0.7**
JAYA				*iS*	**Sn**	**22 12 36.5**	**-0.4**
JAYA				IAML		22 12 36.8	
	comp=Z,10μm,1.0s						
CEDA	**San Andres**	**1.26**	**322**	*iP*	**Pn**	**22 12 24.7**	**+2.2**
CEDA				IAML		22 12 48.0	
	comp=Z,8μm,1.0s						
LLGN	**La Laguna**	**1.39**	**346**	*iP*	**Pn**	**22 12 25.3**	**+1.0**
LLGN				IAML		22 12 44.8	
	comp=Z,2μm,1.0s						
CEVE	**Cerro Verde**	**1.42**	**315**	*eP*	**Pn**	**22 12 25.5**	**+0.5**
CEVE	**Cerro Verde**	**1.42**	**315**	*iP*	**Pn**	**22 12 25.5**	**+0.5**
CEVE				*iS*	**Sn**	**22 12 45.4**	**+2.6**
CEVE				IAML		22 12 55.6	
	comp=Z,4μm,1.0s						
SBLS	**San Blas**	**1.43**	**316**	*eP*	**Pn**	**22 12 25.8**	**+0.8**
RTR	**El Retiro**	**1.49**	**317**	*eP*	**Pn**	**22 12 27.0**	**+1.2**
UNIC	**Universidad Ca**	**1.49**	**321**	*iP*	**Pn**	**22 12 27.8**	**+2.1**
UNIC				IAML		22 13 09.7	
	comp=Z,910nm,1.0s						
CRIN	**San Cristobal**	**1.51**	**94**		**Pn**	**22 12 26.7**	**+0.8**
CRIN				Sn	**Sn**	**22 12 45.6**	**+1.0**
CRIN	**San Cristobal**	**1.51**	**94**	*iP*	**Pn**	**22 12 27.2**	**+1.2**
CRIN				*iS*	**Sn**	**22 12 46.3**	**+1.7**
CRIN				IAML		22 12 50.2	
	comp=Z,18μm,1.0s						
NUBE	**Las Nubes**	**1.58**	**313**	*eP*	**Pn**	**22 12 27.4**	**+0.3**
NUBE	**Las Nubes**	**1.58**	**313**	*iP*	**Pn**	**22 12 27.8**	**+0.7**
NUBE				*iS*	**Sn**	**22 12 46.9**	**+0.3**
NUBE				IAML		22 12 48.3	
	comp=Z,8μm,1.0s						
LOAL	**Lomas de Alarc**	**1.65**	**316**	*iP*	**Pn**	**22 12 31.2**	**+3.3**
LOAL				IAML		22 13 08.9	
	comp=Z,5μm,1.0s						
QUEN	**Al S del Volca**	**1.71**	**97**	*iP*	**Pn**	**22 12 28.0**	**-0.7**
QUEN				*iS*	**Sn**	**22 12 49.7**	**+0.2**
QUEN				IAML		22 12 56.4	
	comp=Z,6μm,1.0s						
HERN	**Volcan Telica**	**1.73**	**96**	*iP*	**Pn**	**22 12 29.1**	**+0.1**
HERN				*iS*	**Sn**	**22 12 50.0**	**0.0**
HERN				IAML		22 12 57.5	
	comp=Z,6μm,1.0s						
TELN	**Telica**	**1.73**	**97**	*iP*	**Pn**	**22 12 29.2**	**+0.2**
TELN				*iS*	**Sn**	**22 12 50.1**	**0.0**
POLN	**Al Sur del Vol**	**1.74**	**95**	*iP*	**Pn**	**22 12 30.2**	**+1.1**
POLN				*iS*	**Sn**	**22 12 50.0**	**-0.3**
POLN				IAML		22 12 54.9	
	comp=Z,24nm,1.0s						

MTO3	**Montecristo**	**1.75**	**335**		**Pn**	**22 12 29.9**	**+0.6**
MTO3	**Montecristo**	**1.75**	**335**	*eP*	**Pn**	**22 12 30.0**	**+0.6**
MTO3	**Montecristo**	**1.75**	**335**	*iP*	**Pn**	**22 12 30.1**	**+0.8**
MTO3				IAML		22 12 55.2	
	comp=Z,2μm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.78**	**46**		**Pn**	**22 12 30.8**	**+1.0**
ROCN	**Rota Cerro Neg**	**1.83**	**99**	*iP*	**Pn**	**22 12 29.5**	**-0.7**
ROCN				IAML		22 12 59.2	
	comp=Z,2μm,1.0s						
JUAM	**Asuncion Mita**	**1.86**	**325**	*iP*	**Pn**	**22 12 33.0**	**+2.3**
JUAM				IAML		22 13 00.0	
	comp=Z,1μm,1.0s						
CNGA	**AI SSO del Vol**	**1.87**	**99**	*iP*	**Pn**	**22 12 31.0**	**+0.1**
CNGA				IAML		22 13 09.1	
	comp=Z,4μm,1.0s						
CNGN	**Cerro Negro**	**1.87**	**99**		**Pn**	**22 12 30.7**	**-0.2**
CNGN	**Cerro Negro**	**1.87**	**99**	*iP*	**Pn**	**22 12 31.1**	**+0.2**
CNGN				IAML		22 13 02.7	
	comp=Z,4μm,1.0s						
ESQI	**Esquipulas**	**1.88**	**337**		**Pn**	**22 12 32.3**	**+1.2**
ESQI	**Esquipulas**	**1.88**	**337**	*iP*	**Pn**	**22 12 32.2**	**+1.1**
ESQI				IAML		22 13 09.6	
	comp=Z,2μm,1.0s						
COMHN	**El Horno**	**1.91**	**32**	*iP*	**Pn**	**22 12 32.1**	**+0.6**
SARH	**Santa Rosa de**	**1.96**	**355**	*iP*	**Pn**	**22 12 34.0**	**+1.9**
LEVN	**Ruinas Leon Vi**	**1.97**	**102**	*iP*	**Pn**	**22 12 32.8**	**+0.6**
LEVN				IAML		22 13 03.9	
	comp=Z,4μm,1.0s						
MOMN	**Momotombo**	**2.04**	**101**	*iP*	**Pn**	**22 12 33.1**	**-0.1**
MOMN				IAML		22 13 01.6	
	comp=Z,120nm,1.0s						
MOM3	**MOM3**	**2.05**	**98**	*iP*	**Pn**	**22 12 33.4**	**+0.2**
MOM3				IAML		22 13 03.3	
	comp=Z,130nm,1.0s						
YUSH	**Yuscaran**	**2.05**	**56**	*iP*	**Pn**	**22 12 34.3**	**+1.0**
MOM2	**El Cardon**	**2.09**	**100**	*iP*	**Pn**	**22 12 34.2**	**+0.4**
MOM2				IAML		22 13 06.6	
	comp=Z,2μm,1.0s						
LIMN	**Finca el Limon**	**2.19**	**83**	*iP*	**Pn**	**22 12 35.7**	**+0.5**
LIMN				IAML		22 13 06.6	
	comp=Z,2μm,1.0s						
BRAN	**Las Pilas**	**2.19**	**92**	*iP*	**Pn**	**22 12 35.9**	**+0.8**
BRAN				IAML		22 13 09.3	
	comp=Z,2μm,1.0s						
MSHP	**Masachapa**	**2.23**	**116**	*iP*	**Pn**	**22 12 35.7**	**-0.1**
MSHP				IAML		22 13 06.1	
	comp=Z,670nm,1.0s						
APYN	**Apoyeque**	**2.26**	**104**	*iP*	**Pn**	**22 12 36.4**	**+0.2**
APYN				IAML		22 13 08.2	
	comp=Z,3μm,1.0s						
TISN	**Laguna Tiscapa**	**2.36**	**106**	*iP*	**Pn**	**22 12 40.9**	**+3.4**
TISN				IAML		22 13 09.0	
	comp=Z,210nm,1.0s						
UNAN	**Cigeo UNAN**	**2.37**	**107**	*iP*	**Pn**	**22 12 37.7**	**0.0**
UNAN				IAML		22 13 10.3	
	comp=Z,13μm,1.0s						
CRUN	**El Crucero**	**2.39**	**110**	*iP*	**Pn**	**22 12 39.8**	**+1.9**
CRUN				IAML		22 13 20.2	
	comp=Z,8.8nm,1.0s						
WILN	**Americas 2**	**2.44**	**105**	*iP*	**Pn**	**22 12 39.5**	**+1.0**
GUNB	**GUNB**	**2.46**	**316**	*iP*	**Pn**	**22 12 40.2**	**+1.1**
GUNB				IAML		22 13 02.8	
	comp=Z,630nm,1.0s						
MASN	**Masaya**	**2.52**	**109**	*iP*	**Pn**	**22 12 40.4**	**+0.7**
MASN				IAML		22 13 16.5	
	comp=Z,740nm,1.0s						
RCPN	**Sur Rio San Ju**	**2.54**	**73**	*iP*	**Pn**	**22 12 40.4**	**+0.4**
RCPN				IAML		22 13 25.5	
	comp=Z,2.9nm,1.0s						
MATN	**Matagalpa**	**2.60**	**87**		**Pn**	**22 12 41.1**	**+0.2**
MATN	**Matagalpa**	**2.60**	**87**	*iP*	**Pn**	**22 12 41.2**	**+0.3**
MATN				IAML		22 13 16.3	
	comp=Z,460nm,1.0s						
BOAB	**BOACO BROADBAN**	**2.88**	**97**		**Pn**	**22 12 44.6**	**0.0**
JAPN	**AI SSO del Vol**	**3.12**	**114**	*iP*	**Pn**	**22 12 49.4**	**+1.5**
JAPN				IAML		22 13 36.5	
	comp=Z,780nm,1.0s						
MORN	**AI O del Volca**	**3.14**	**113**	*iP*	**Pn**	**22 12 48.9**	**+0.7**
MORN				IAML		22 13 38.2	
	comp=Z,2μm,1.0s						
CONN	**Concepcion**	**3.15**	**113**	*iP*	**Pn**	**22 12 50.8**	**+2.4**
CONN				IAML		22 13 40.4	
	comp=Z,4μm,1.0s						
OMEN	**AI SSO del Vol**	**3.17**	**114**	*iP*	**Pn**	**22 12 50.9**	**+2.3**
OMEN				IAML		22 13 30.7	
	comp=Z,1μm,1.0s						
ACON	**Acoyapa**	**3.44**	**104**		**Pn**	**22 12 52.3**	**+0.1**
ACON	**Acoyapa**	**3.44**	**104**	*iP*	**Pn**	**22 12 52.4**	**+0.1**
ACON				IAML		22 13 48.7	
	comp=Z,270nm,1.0s						
HZTE	**Horizontes, Gu**	**3.60**	**125**		**Pn**	**22 12 56.4**	**+1.9**
HZTE	**Horizontes, Gu**	**3.60**	**125**	*eP*	**Pn**	**22 12 56.4**	**+1.9**
GBS3	**Finca Las Img**	**3.67**	**123**	*eP*	**Pn**	**22 12 58.6**	**+3.1**
LAPC	**Finca la Perla**	**3.70**	**123**	*eP*	**Pn**	**22 12 58.3**	**+2.4**
GB1A	**Borinquen Arri**	**3.70**	**122**	*eP*	**Pn**	**22 12 58.3**	**+2.4**
BUEV	**Buena Vista**	**3.71**	**122**	*eP*	**Pn**	**22 12 58.0**	**+2.0**
GPS2	**Hotel Rincn d**	**3.78**	**122**	*eP*	**Pn**	**22 13 00.5**	**+3.6**
GP77	**Hacienda Santa**	**3.79**	**122**	*eP*	**Pn**	**22 13 00.1**	**+2.9**
CLARA	**Aguas Claras**	**3.91**	**121**	*eP*	**Pn**	**22 13 00.1**	**+1.4**
ORTG	**Ortega, Santa**	**3.92**	**128**		**Pn**	**22 13 01.2**	**+2.3**
ORTG	**Ortega, Santa**	**3.92**	**128**	*eP*	**Pn**	**22 13 01.0**	**+2.1**
CAMAV	**Centro de Prod**	**3.93**	**122**	*eP*	**Pn**	**22 13 01.0**	**+1.9**
HORNC	**Hornillas**	**3.94**	**122**	*eP*	**Pn**	**22 13 00.8**	**+1.6**
VMAR	**Armenia, Volca**	**3.94**	**120**	*eP*	**Pn**	**22 13 00.5**	**+1.3**
COLC	**Colonia**	**3.94**	**122**	*eP*	**Pn**	**22 13 03.2**	**+4.0**
CUI	**Cuipilapa**	**3.98**	**122**	*eP*	**Pn**	**22 13 01.8**	**+2.0**
CANAL	**Canalete**	**3.98**	**119**	*eP*	**Pn**	**22 13 00.2**	**+0.5**
CANAL				*eS*	**Sn**	**22 13 44.2**	**-1.0**
ACAL	**Aguas Claras**	**4.10**	**121**	*eP*	**Sn**	**22 13 03.4**	**+1.9**
ESPN	**Las Esperanzas**	**4.24**	**98**	Pn	**Pn**	**22 13 05.0**	**+1.9**
PETF	**Flores**	**4.26**	**343**	Pn	**Pn**	**22 13 05.3**	**+1.7**
JTS	**Las Juntas de**	**4.36**	**125**		**Pn**	**22 13 07.0**	**+2.2**
JTS	**Las Juntas de**	**4.36**	**125**	P	**Pn**	**22 13 06.5**	**+1.6**
	comp=Z,8.8nm,0.3s,baz=312,slow=11,SNR=13						
JTS				S	**Sn**	**22 13 53.5**	**-0.9**
	comp=Z,40nm,0.4s,baz=295,slow=20,SNR=4.0						
JTS	**Las Juntas de**	**4.36**	**125**	*eP*	**Pn**	**22 13 08.4**	**+3.5**
CEDE	**Laguna Cedeo**	**4.46**	**121**	*eP*	**Pn**	**22 13 06.4**	**+0.1**
ARE1	**Arenal 1**	**4.46**	**121**		**Pn**	**22 13 08.4**	**+2.2**
SOCE	**Pocosol**	**4.

MSTX				IAmb	IAmb	22 17 19.2	
	comp=Z,11nm,0.7s						
S39A	**Bolivar**	**25.13**	**351**	P	**P**	**22 17 21.7**	**+0.8**
S39A				IAmb	IAmb	22 17 25.1	
	comp=Z,13nm,0.7s						
ETMB	**Extrema**	**31.61**	**134**	P	**P**	**22 18 19.4**	**+0.6**
O20A	**White River Ci**	**32.25**	**331**	IAmb	IAmb	22 18 28.3	
	comp=Z,10.0nm,0.8s						
SAML	**Samuel**	**33.23**	**129**		**P**	**22 18 32.6**	**-0.5**
SAML				IAmb	IAmb	22 18 33.5	
	comp=Z,5.0nm,0.8s						
PDAR	**Pinedale Array**	**34.93**	**333**	P	**P**	**22 18 48.4**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=130,slow=9.9,SNR=8.0						
PDAR				PcP	**PcP**	**22 21 18.8**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=147,slow=3.9,SNR=3.1						
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**36.70**	**319**	P	**P**	**22 19 05.0**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=129,slow=7.1,SNR=7.6						
NVAR				PcP	**PcP**	**22 21 25.0**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=132,slow=4.0,SNR=11						
	comp=Z,0.8nm,0.7s						
RLMT	**Red Lodge**	**36.71**	**335**	P	**P**	**22 19 02.7**	**-0.2**
RLMT				IAmb	IAmb	22 19 04.8	
	comp=Z,4.9nm,0.8s						
ULM	**Lac du Bonnet**	**37.81**	**352**	P	**P**	**22 19 09.9**	**-2.0**
ULM				IAmb	IAmb	22 19 11.3	
	comp=Z,5.0nm,0.8s						
ULM	**Lac du Bonnet**	**37.81**	**352**	P	**P**	**22 19 10.4**	**-1.5**
	comp=Z,4.0nm,0.7s,baz=185,slow=11,SNR=8.6						
	comp=Z,4.0nm,0.7s						
DGMT	**Dagmar**	**37.84**	**343**	P	**P**	**22 19 11.2**	**-1.1**
BOZ	**Bozeman (W)**	**38.08**	**334**	P	**P**	**22 19 15.2**	**+0.7**
BOZ				IAmb	IAmb	22 19 20.2	
	comp=Z,11nm,1.5s						
LYMT	**Lyon Mountain**	**39.45**	**334**	P	**P**	**22 19 26.3**	**+0.3**
EDM	**Edmonton**	**44.87**	**339**	P	**P**	**22 20 09.7**	**-0.2**
SCHQ	**Schefferville**	**45.26**	**18**	P	**P**	**22 20 11.3**	**-1.6**
	comp=Z,2.4nm,0.6s,baz=243,slow=6.8,SNR=4.8						
	comp=Z,2.4nm,0.6s						
H03N2	**Juan Fernandez**	**46.91**	**169**	T	T	23 10 33.0	
	baz=347,slow=76,SNR=5.2						
H03N1	**Juan Fernandez**	**46.91**	**169**	T	T	23 10 34.3	
	baz=347,slow=76,SNR=6.2						
H03N3	**Juan Fernandez**	**46.92**	**169**	T	T	23 10 33.1	
	baz=347,slow=76,SNR=4.8						
BDFB	**Brasilia**	**49.10**	**124**	P	**P**	**22 20 41.6**	**-1.8**
	comp=Z,2.0nm,0.7s,baz=280,slow=6.1,SNR=1.7						
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**52.98**	**345**	P	**P**	**22 21 10.9**	**-0.7**
	comp=Z,3.0nm,0.8s,baz=141,slow=7.4,SNR=48						
YKA				PcP	**PcP**	**22 22 18.7**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=148,slow=3.5,SNR=3.2						
	comp=Z,3.0nm,0.8s						
DLBC	**Dease Lake**	**55.11**	**335**	P	**P**	**22 21 27.9**	**+0.5**
	comp=Z,4.1nm,0.7s,baz=101,slow=6.2,SNR=8.2						
	comp=Z,4.1nm,0.7s						
G31M	**Satah River**	**61.89**	**341**	P	**P**	**22 22 13.9**	**-0.4**
RES	**Resolute Bay**	**61.96**	**358**	P	**P**	**22 22 13.3**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=196,slow=8.3,SNR=5.0						
	comp=Z,1.4nm,0.8s						
INK	**Inuvik**	**62.53**	**343**	IAmb	IAmb	22 22 19.4	
	comp=Z,5.8nm,1.0s						
INK	**Inuvik**	**62.53**	**343**	P	**P**	**22 22 18.3**	**-0.3**
	comp=Z,3.4nm,0.8s,baz=121,slow=4.9,SNR=10						
	comp=Z,3.4nm,0.8s						
G29M	**Pine Creek**	**63.09**	**340**	IAmb	IAmb	22 22 25.1	
	comp=Z,4.9nm,0.8s						
E29M	**Blow River**	**63.88**	**342**	P	**P**	**22 22 27.4**	**-0.1**
E29M				IAmb	IAmb	22 22 44.7	
	comp=Z,3.6nm,1.1s						
F28M	**Old Crow**	**64.07**	**341**	P	**P**	**22 22 29.0**	**+0.1**
E28M	**Babbage River**	**64.50**	**342**	P	**P**	**22 22 31.2**	**-0.4**
E28M				IAmb	IAmb	22 22 32.2	
	comp=Z,3.3nm,0.8s						
ILAR	**Eielson Array**	**65.24**	**336**	P	**P**	**22 22 35.5**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=154,slow=4.6,SNR=15						
	comp=Z,1.1nm,0.8s						
BMAR	**Burnt Mountain**	**65.55**	**339**	P	**P**	**22 22 38.4**	**-0.2**
WRA	**Warramunga Arr**	**138.29**	**254**	PKP	**PKiKP**	**22 31 22.1**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=90,slow=2.1,SNR=7.1						
ASAR	**Alice Springs**	**138.36**	**249**	PKP	**PKPdf**	**22 31 21.1**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=101,slow=0.9,SNR=4.9						
PZH	**PanZhiHua**	**139.65**	**346**	PKP	**PKPdf**	**22 31 23.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**148.05**	**346**	PKPbc	**PKPdf**	**22 31 38.9**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=344,slow=3.7,SNR=4.7						

*SJA **29** 22:13:47.2±0.7, 30.˚44S×72.˚31W, h11^{km}±2^{km}, ML4.2, MW4.1*
*IDC **29** 22:13:50.1±0.9, 30.˚48S×72.˚00W, h0^{km}, mb4.2/5, mbtmp4.2/7, ML3.9/2, MS3.3/2, Error ellipse: s-maj=36.7km s-min=21.7km az=97.0*
*NEIC **29** 22:13:50.6±2.0, 30.˚45S±0.˚05×72.˚21W±0.˚05, h10^{km}±1^{km}, mb4.5/5, Mwr4.1/59, Error ellipse: s-maj=8.4km s-min=6.9km az=166.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.66; $M_{\theta\theta}$0.20; $M_{\phi\phi}$-1.86; $M_{r\theta}$0.10; $M_{\theta\phi}$0.32; $M_{\phi r}$-0.41; Fault plane solution: $M_0$1.85000×10^{15} NP1:ϕ_s170.06000°, δ51.70000°, λ88.37000°. NP2:ϕ_s352.69000°, δ38.33000°, λ92.06000°. Principal axes: T 1.7145, Plg83.0000°, Azm70.0000°; N 0.2460, Plg1.0000°, Azm171.0000°; P -1.9605, Plg7.0000°, Azm261.0000°;*
*NEIC **29** 22:13:50.7, 30.˚45S×72.˚21W, h10^{km}*
*GUC **29** 22:13:51.7±0.8, 30.˚50S×72.˚14W, h26^{km}±3^{km}, ML4.1*

ISC 29 22:13:49.8±1.4**, 30˚47S**±0˚02×**72˚26W**±0˚04**, h5**^{km}±8^{km}**, n104,** σ1°**89**/145**, mb4.4**/7**, 2C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.58**	**111**		**Pg**	**22 14 01.1**	**+0.3**
CO06	**Fray Jorge**	**0.58**	**111**	*i* P	**Pg**	**22 14 01.1**	**+0.3**
CO06				*i* S	**Sg**	**22 14 07.4**	**-1.0**
CO05	**La Serena**	**1.04**	**59**		**Pg**	**22 14 08.8**	**-0.9**
CO05	**La Serena**	**1.04**	**59**	*e*P	**Pg**	**22 14 08.9**	**-0.9**
CO05				IAML		22 14 24.7	
	comp=E,6μm,0.7s						
GO04	**Tololo Observa**	**1.30**	**77**		**Pn**	**22 14 13.1**	**-1.7**
GO04	**Tololo Observa**	**1.30**	**77**	*e*P	**Pn**	**22 14 12.4**	**-2.4**
GO04				*e*S	**Sb**	**22 14 25.3**	**-6.6**
GO04				*e*S	**Sn**	**22 14 31.3**	**-1.4**
GO04				IAML		22 14 42.9	
	comp=Z,9μm,0.7s						
GO04	**Tololo Observa**	**1.30**	**77**	*e*P	**Pn**	**22 14 12.8**	**-2.0**
GO04				*e*S	**Sb**	**22 14 30.0**	**-1.9**
CO02	**Combarbal**	**1.31**	**124**		**Pn**	**22 14 13.3**	**-1.6**
CO02	**Combarbal**	**1.31**	**124**	*e*P	**Pn**	**22 14 12.8**	**-2.1**
CO02				*e*S	**Sb**	**22 14 30.3**	**-1.8**
CO02				IAML		22 14 31.2	
	comp=Z,6μm,0.7s						
CO02	**Combarbal**	**1.31**	**124**	*e*P	**Pn**	**22 14 13.2**	**-1.6**
CO02				*e*S	**Sb**	**22 14 29.5**	**-2.6**
CO02				IAML		22 14 32.6	
	comp=N,11μm,0.3s						
CO03	**El Pedregal**	**1.41**	**106**		**Pn**	**22 14 14.4**	**-1.7**
CO03	**El Pedregal**	**1.41**	**106**	*e*P	**Pn**	**22 14 14.5**	**-1.7**
CO03				*e*S	**Sg**	**22 14 34.8**	**-0.1**
CO03				IAML		22 14 39.1	
	comp=Z,3μm,0.8s						
CO03	**El Pedregal**	**1.41**	**106**	*i* P	**Pn**	**22 14 14.3**	**-1.8**
CO03				*e*S	**Sb**	**22 14 32.0**	**-2.8**
CO03				IAML		22 14 37.3	
	comp=N,4μm,0.7s						
CO01	**Juntas del Tor**	**1.94**	**76**		**Pn**	**22 14 23.4**	**-0.3**
CO01	**Juntas del Tor**	**1.94**	**76**	*e*P	**Pn**	**22 14 22.9**	**-0.7**
CO01				*e*S	**Sb**	**22 14 49.5**	**-0.9**
CO01				IAML		22 14 57.4	
	comp=Z,974nm,0.8s						
CO01	**Juntas del Tor**	**1.94**	**76**	*i*P	**Pn**	**22 14 23.5**	**-0.1**
CO01				*e*S	**Sn**	**22 14 46.9**	**-1.6**
CO01				IAML		22 14 56.0	
	comp=N,1μm,0.6s						
LCO	**Las Campanas**	**1.99**	**43**		**Pn**	**22 14 23.4**	**-0.9**
LCO	**Las Campanas**	**1.99**	**43**	*e*P	**Pn**	**22 14 23.3**	**-1.0**
LCO				*e*S	**Sn**	**22 14 46.3**	**-3.5**
LCO				IAML		22 15 00.8	
	comp=Z,4μm,0.5s						
LCO	**Las Campanas**	**1.99**	**43**	*i* P	**Pn**	**22 14 23.4**	**-0.9**
LCO				*e*S	**Sb**	**22 14 50.5**	**-1.3**
VA06	**Catapilco**	**2.24**	**159**	Pn	**Pn**	**22 14 27.2**	**-0.3**
VA06	**Catapilco**	**2.24**	**159**	*e*P	**Pn**	**22 14 27.4**	**-0.1**
VA06				*e*S	**Sn**	**22 14 53.4**	**-2.3**
VA06				IAML		22 15 10.5	
	comp=E,3μm,0.3s						
AC05	**El Transito**	**2.38**	**47**		**Pn**	**22 14 29.1**	**-0.4**
AC05	**El Transito**	**2.38**	**47**	*e*P	**Pn**	**22 14 28.6**	**-0.9**
AC05				*e*S	**Sn**	**22 14 56.8**	**-2.3**
AC05				IAML		22 15 08.1	
	comp=Z,676nm,0.6s						
AC05	**El Transito**	**2.38**	**47**	*e*P	**Pn**	**22 14 30.0**	**+0.4**
AC05				*e*S	**Sn**	**22 14 55.9**	**-3.2**
AC05				IAML		22 15 11.4	
	comp=N,1μm,0.9s						
AC04	**Llanos de Chal**	**2.48**	**25**		**Pn**	**22 14 29.4**	**-1.5**
AC04	**Llanos de Chal**	**2.48**	**25**	*e*P	**Pn**	**22 14 29.6**	**-1.3**
AC04				*e*S	**Sb**	**22 15 06.3**	**+0.5**
AC04				IAML		22 15 19.1	
	comp=Z,573nm,0.8s						
AC04	**Llanos de Chal**	**2.48**	**25**	*e*P	**Pn**	**22 14 29.3**	**-1.5**
AC04				*e*S	**Sg**	**22 15 11.4**	**+1.8**
VA01	**Torpederas**	**2.60**	**169**		**Pn**	**22 14 31.9**	**-0.5**
VA01	**Torpederas**	**2.60**	**169**	*e*P	**Pb**	**22 14 38.9**	**+2.1**
ROCH	**El Roble**	**2.71**	**157**	*e*P	Pb	22 14 34.4	-4.5
ROCH				*e*P	**Pn**	**22 14 34.1**	**-0.1**
ROCH				*e*S	**Sn**	**22 15 03.5**	**-4.1**
ROCH				IAML		22 15 22.6	
	comp=E,1μm,0.5s						
ROCH				IAML		22 15 22.8	
	comp=N,1μm,0.4s						
VA03	**San Esteban**	**2.71**	**148**		**Pn**	**22 14 34.4**	**+0.3**
VA03	**San Esteban**	**2.71**	**148**	*e*P	**Pn**	**22 14 34.2**	**+0.1**
VA03				*e*S	**Sn**	**22 15 08.2**	**+0.7**
VA03				IAML		22 15 31.9	
	comp=Z,742nm,0.7s						
VA03	**San Esteban**	**2.71**	**148**	*e*P	**Pn**	**22 14 34.6**	**+0.4**
VA03				*e*S	**Sn**	**22 15 06.4**	**-1.1**
VA03				IAML		22 15 20.9	
	comp=N,2μm,0.7s						
ROC1	**El Roble**	**2.72**	**157**		**Pn**	**22 14 34.2**	**-0.1**
RTLS	**Leoncito**	**2.87**	**118**	*e*P	**Pb**	**22 14 39.7**	**-1.9**
RTLS				*e*S	**Sn**	**22 15 13.3**	**+1.8**
RTLS				IAML		22 15 28.3	
	comp=Z,2μm,0.8s						
MT02	**Curacav**	**2.94**	**161**		**Pn**	**22 14 38.1**	**+0.9**
MT02	**Curacav**	**2.94**	**161**	*e*P	**Pn**	**22 14 37.0**	**-0.2**
MT02				*e*S	**Sn**	**22 15 09.8**	**-3.1**
MT02				IAML		22 15 26.5	
	comp=Z,432nm,0.5s						
MT02	**Curacav**	**2.94**	**161**	*e*P	**Pn**	**22 14 37.1**	**-0.1**
MT02				IAML		22 15 29.1	
	comp=E,420nm,0.6s						
PEL	**Peldehue**	**2.99**	**154**		**Pn**	**22 14 38.1**	**+0.2**
PEL	**Peldehue**	**2.99**	**154**	*e*P	**Pn**	**22 14 38.0**	**+0.2**
PEL				*e*S	**Sn**	**22 15 12.9**	**-1.1**
PEL				IAML		22 15 29.7	
	comp=N,744nm,0.6s						
MT10	**Hacienda Santa**	**3.16**	**153**	*e*P	**Pn**	**22 14 40.5**	**+0.2**
MT10				*e*S	**Sn**	**22 15 17.9**	**-0.5**
MT05	**Renca**	**3.19**	**156**		**Pn**	**22 14 40.9**	**+0.2**
MT05	**Renca**	**3.19**	**156**	*e*P	**Pn**	**22 14 41.4**	**+0.8**
MT05				*e*S	**Sn**	**22 15 22.1**	**+3.0**
MT05				IAML		22 15 36.1	
	comp=Z,1μm,0.9s						
VA05	**Santo Domingo**	**3.23**	**170**		**Pn**	**22 14 40.5**	**-0.6**
VA05	**Santo Domingo**	**3.23**	**170**	*e*P	**Pn**	**22 14 40.9**	**-0.1**
VA05				*e*S	**Sn**	**22 15 15.2**	**-4.6**
VA05				IAML		22 15 39.0	
	comp=E,593nm,0.4s						
ZON	**Zonda**	**3.26**	**110**		**Pn**	**22 14 43.3**	**+1.7**
MT16	**CCHEN**	**3.30**	**154**		**Pn**	**22 14 42.8**	**+0.6**
FCH	**Farellones**	**3.31**	**150**	*e*P	**Pn**	**22 14 42.9**	**+0.4**
FCH				IAML		22 15 35.7	
	comp=E,315nm,0.7s						
MT03	**Universidad Ad**	**3.36**	**154**		**Pn**	**22 14 43.3**	**+0.2**
MT03	**Universidad Ad**	**3.36**	**154**	*e*P	**Pn**	**22 14 43.3**	**+0.2**
MT03				*e*S	**Sn**	**22 15 24.9**	**+1.4**
MT03				IAML		22 15 41.6	
	comp=Z,545nm,0.7s						
MT03	**Universidad Ad**	**3.36**	**154**⇑	*e*P	**Pn**	**22 14 43.4**	**+0.3**
MT03				*i* S	**Sn**	**22 15 21.3**	**-2.1**
GO03	**Copiap**	**3.37**	**32**		**Pn**	**22 14 42.1**	**-1.0**
GO03	**Copiap**	**3.37**	**32**	*e*P	**Pn**	**22 14 42.5**	**-0.7**
GO03				*e*S	**Sn**	**22 15 25.3**	**+1.7**
GO03				*e*S	**Sb**	**22 15 31.3**	**-0.1**
GO03				IAML		22 15 42.9	
	comp=Z,268nm,0.9s						
GO03	**Copiap**	**3.37**	**32**	*e*P	**Pn**	**22 14 42.2**	**-1.0**
GO03				*e*S	**Sn**	**22 15 23.2**	**-0.4**
GO03				IAML		22 15 43.6	
	comp=E,383nm,0.9s						
MT15	**Las Vizcachas**	**3.46**	**155**	*e*P	**Pn**	**22 14 45.1**	**+0.8**
MT15				*e*S	**Sn**	**22 15 24.2**	**-1.5**
MT09	**Talagante**	**3.47**	**162**		**Pn**	**22 14 44.9**	**+0.3**
MT01	**Popeta**	**3.49**	**166**		**Pn**	**22 14 44.6**	**-0.2**
MT01	**Popeta**	**3.49**	**166**	*e*P	Pn	22 14 39.3	-5.5
MT01				*e*P	**Pn**	**22 14 44.5**	**-0.2**
MT01				*e*S	**Sn**	**22 15 28.7**	**+2.2**
MT01				IAML		22 15 44.9	
	comp=Z,190nm,0.7s						
AC06	**Mina Casimiro**	**3.52**	**29**		**Pn**	**22 14 44.4**	**-0.8**
ASAL	**Salagasta**	**3.61**	**127**	*e*P	**Pn**	**22 14 44.8**	**-1.7**
ASAL				*e*S	**Sg**	**22 15 44.8**	**-1.0**
ASAL				IAML		22 15 60.0	
	comp=Z,311nm,1.6s						
CFA	**Coronel Fontan**	**3.63**	**109**	*e*P	**Pn**	**22 14 48.2**	**+1.5**
CFA				*e*S	**Sn**	**22 15 30.8**	**+0.7**
CFA	**Coronel Fontan**	**3.63**	**109**	Pn	**Pn**	**22 14 48.8**	**+2.0**
	comp=Z,12nm,0.3s,baz=290,slow=14,SNR=69						
CFA				Sn	**Sn**	**22 15 29.9**	**-0.2**
	comp=Z,12nm,0.3s,baz=312,slow=9.2,SNR=1.5						
CFA				LR	LR	22 16 05.2	
	comp=Z,426nm,19.9s,baz=200,slow=40						
MT13	**San Alfonso**	**3.67**	**153**		**Pn**	**22 14 48.1**	**+0.7**
BO04	**La Punta**	**3.78**	**159**		**Pn**	**22 14 49.2**	**+0.4**
LMEL	**Las Melosas**	**3.79**	**153**		**Pn**	**22 14 49.9**	**+0.9**
VCA	**Vinchina**	**3.93**	**65**	*e*P	Pn	22 14 38.9	-12
VCA				*e*P	**Pn**	**22 14 48.8**	**-2.2**
VCA				*e*S	**Sb**	**22 15 48.8**	**+1.1**
VCA				IAML		22 16 00.1	
	comp=Z,688nm,0.7s						
BO01	**Tunca**	**4.04**	**166**		**Pn**	**22 14 51.9**	**-0.3**
BO01	**Tunca**	**4.04**	**166**	*e*P	**Pn**	**22 14 52.6**	**+0.4**
BO01				*e*S	**Sn**	**22 15 39.3**	**-0.6**
BO01				IAML		22 16 05.2	
	comp=Z,138nm,1.3s						
BO02	**Sierra Bellavi**	**4.49**	**164**		**Pn**	**22 14 58.7**	**+0.1**
GO05	**Huala**	**4.54**	**177**		**Pn**	**22 14 58.3**	**-0.9**
AC01	**Pan de Azucar**	**4.55**	**19**		**Pn**	**22 14 57.3**	**-2.0**
GO02	**Mina Guanaco**	**5.79**	**25**		**Pn**	**22 15 15.0**	**-1.7**
BI05	**Punta Hualpn**	**6.31**	**187**	Pn	**Pn**	**22 15 22.1**	**-1.4**
H03N1	**Juan Fernandez**	**6.38**	**241**	Pn	**Pn**	**22 15 24.7**	**+0.5**
	baz=223,slow=72						
H03N1				Sn	**Sn**	**22 16 29.9**	**-7.4**
H03N1				T	T	22 22 32.7	
	baz=69,slow=72,SNR=178						
H03N2	**Juan Fernandez**	**6.39**	**241**	Pn	**Pn**	**22 15 24.7**	**+0.4**
	baz=223,slow=72						
H03N2				Sn	**Sn**	**22 16 30.4**	**-7.2**
H03N2				T	T	22 22 26.2	
	baz=69,slow=72,SNR=131						
H03N3	**Juan Fernandez**	**6.40**	**241**	Pn	**Pn**	**22 15 24.5**	**+0.1**
	baz=223,slow=72						
H03N3				Sn	Sn	22 16 29.7	-8.0
H03N3				T	T	22 22 31.1	
	baz=69,slow=72,SNR=169						
VA04	**Juan Fernndez**	**6.41**	**239**		**Pn**	**22 15 24.3**	**-0.5**
H03S3	**Juan Fernandez**	**6.55**	**238**	Pn	**Pn**	**22 15 26.2**	**-0.4**
H03S3				Sn	**Sn**	**22 16 36.9**	**-4.7**
H03S1	**Juan Fernandez**	**6.56**	**237**	Pn	**Pn**	**22 15 26.0**	**-0.7**
H03S1				Sn	**Sn**	**22 16 36.8**	**-4.9**
H03S2	**Juan Fernandez**	**6.57**	**238**	Pn	**Pn**	**22 15 26.2**	**-0.6**
H03S2				Sn	**Sn**	**22 16 36.9**	**-5.1**
PB15	**IPOC Station P**	**7.65**	**20**		**Pn**	**22 15 42.9**	**+0.8**
LVC	**Limon Verde**	**8.38**	**22**	Pn	**Pn**	**22 15 56.6**	**+4.3**
	comp=Z,0.6nm,0.3s,baz=211,slow=5.9,SNR=1.9						
LVC				Sn	Sn	22 17 37.6	+10
	comp=Z,0.4nm,0.3s,baz=273,slow=17,SNR=2.0						
PLCA	**Paso Flores**	**10.34**	**173**	Pn	**Pn**	**22 16 20.1**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=346,slow=13,SNR=3.5						
PLCA				LR	LR	22 20 49.8	
	comp=Z,143nm,18.1s,baz=135,slow=41						
	comp=Z,1.2nm,0.5s						
TRQA	**Tornquist**	**11.38**	**134**		**Pn**	**22 16 32.7**	**-0.3**
CPUP	**Villa Florida**	**13.77**	**76**	Pn	**Pn**	**22 17 07.5**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=225,slow=16,SNR=3.1						
CPUP				Sn	**Sn**	**22 19 41.2**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=277,slow=9.4,SNR=3.0						
LPAZ	**La Paz**	**14.61**	**16**		**Pn**	**22 17 17.7**	**-0.2**
SIV	**San Ignacio**	**17.68**	**38**	P	**P**	**22 17 57.8**	**-0.1**
	baz=214,slow=13,SNR=24						
	comp=Z,5.4nm,0.7s						
BDFB	**Brasilia**	**26.67**	**62**	P	**P**	**22 19 28.9**	**-1.1**
BDFB	**Brasilia**	**26.67**	**62**	P	**P**	**22 19 28.9**	**-1.1**
	comp=Z,5.2nm,0.7s,baz=226,slow=7.8,SNR=8.4						
	comp=Z,5.2nm,0.7s						
BOAV	**Boa Vista**	**34.55**	**21**	P	**P**	**22 20 37.0**	**-2.4**
BOAV				IAmb	IAmb	22 20 48.9	
	comp=Z,6.6nm,1.1s						
TEIG	**Tepich**	**52.70**	**341**	P	**P**	**22 23 07.3**	**+1.9**
TEIG				IAmb	IAmb	22 23 22.0	
	comp=Z,5.5nm,0.9s						
SNAA	**Sanae**	**54.93**	**159**	P	**P**	**22 23 21.5**	**+0.3**
SNAA				IAmb	IAmb	22 23 22.2	
	comp=Z,3.8nm,0.7s						
SNAA	**Sanae**	**54.93**	**159**	P	**P**	**22 23 21.5**	**+0.3**
	comp=Z,3.7nm,0.6s,baz=264,slow=11,SNR=12						
	comp=Z,3.7nm,0.6s						
QSPA	**South Pole Qui**	**59.76**	**180**	P	**P**	**22 23 56.5**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=151,slow=1.6,SNR=4.9						
	comp=Z,1.5nm,0.6s						
TXAR	**Lajitas Array**	**66.58**	**330**	P	**P**	**22 24 42.9**	**+1.9**
	comp=Z,0.7nm,0.9s,baz=116,slow=10,SNR=5.1						
	comp=Z,0.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**83.20**	**71**	P	**P**	**22 26 17.6**	**0.0**
TORD	**Torodi Ar. Bea**	**83.20**	**71**	P	**P**	**22 26 17.6**	**0.0**
	comp=Z,2.4nm,0.7s,baz=280,slow=3.6,SNR=18						
	comp=Z,2.4nm,0.7s						
H11S2	**WAKE ISLAND Hyl**	**25.55**	**272**	T	T	00 51 41.5	
	baz=116,slow=74,SNR=20						
H11S1	**WAKE ISLAND Hyl**	**25.56**	**272**	T	T	00 51 41.1	
	baz=116,slow=74,SNR=18						
H11S3	**WAKE ISLAND Hyl**	**25.57**	**272**	T	T	00 51 42.8	
	baz=116,slow=74,SNR=17						
BVAR	**Borovoye Array**	**144.75**	**39**	PKP	**PKPdf**	**22 33 27.6**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=307,slow=3.0,SNR=8.2						
KURBB	**Kurchatov Arra**	**150.34**	**39**	PKPbc	**PKiKP**	**22 33 42.7**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=300,slow=3.2,SNR=19						
ZALV	**Zalesovo Beam**	**151.28**	**29**	PKPbc	**PKiKP**	**22 33 44.9**	**+0.5**
	comp=Z,6.2nm,0.5s,baz=301,slow=3.4,SNR=32						
MKAR	**Makanchi Array**	**154.46**	**43**	PKPbc	**PKPbc**	**22 33 50.9**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=302,slow=2.4,SNR=6.4						

*IDC **29** 22:15:49.5±1.5, 8.˚31S×111.˚79E, h0^{km}, mb3.3/5, mbtmp3.4/6, ML3.7/1, Error ellipse: s-maj=79.9km s-min=21.4km az=42.0*
*DJA **29** 22:15:53.1±0.3, 9.˚5S±4.˚4×111.˚1E±.˚, h10^{km}, M4.2/15, mb4.3/5, MLv4.1/15*

ISC 29 22:15:51.1±1.1**, 9˚15S**±0˚09×**111˚20E**±0˚05**, h10^{km}**, n28,** σ1°**98**/28**, mb3.4**/5**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**1.40**	**332**	P	**Pg**	**22 16 18.2**	**+0.3**
UGM	**Wanagama**	**1.40**	**332**	P	**Pb**	**22 16 17.6**	**+0.3**
YOGI	**Yogyakarta**	**1.59**	**326**	P	**Pb**	**22 16 20.7**	**0.0**
NGJI	**Ngawi**	**1.79**	**9**	P	**Pg**	**22 16 25.5**	**+0.1**
SMRI	**Semarang**	**2.21**	**340**	P	**Pb**	**22 16 30.8**	**-0.5**
SMRI	**Semarang**	**2.21**	**340**	P	**Pn**	**22 16 30.1**	**-1.2**
BLJI	**Banyuglugur**	**2.75**	**60**	P	**Pn**	**22 16 37.4**	**+2.0**
KPJI	**Karang Pucung**	**2.88**	**309**	P	**Pn**	**22 16 39.4**	**+2.4**
JAGI	**Jajag, Banyuwa**	**3.00**	**77**	P	**Pn**	**22 16 40.6**	**+1.8**
JAGI	**Jajag, Banyuwa**	**3.00**	**77**	P	**Pn**	**22 16 40.1**	**+1.3**
CMJI	**Cimerak**	**3.04**	**296**	P	**Pn**	**22 16 39.9**	**+0.7**
ABJI	**Asem Bagus**	**3.29**	**66**	P	**Pn**	**22 16 45.4**	**+2.6**
KMMI	**Kalianget**	**3.45**	**53**	P	**Pn**	**22 16 45.9**	**+1.0**
BBJI	**Bungbulang**	**3.89**	**295**	P	**Pn**	**22 16 52.5**	**+1.5**
SRBI	**Singaraja**	**4.11**	**75**	P	**Pn**	**22 16 56.6**	**+2.5**
LEM	**Lembang**	**4.23**	**303**	Pn	**Pn**	**22

KAHC Katmai Hardscr 4.84 33 Pn Pn 22 24 33.0 +1.9
KAHG Katmai Hook Gl 4.87 36 Pn Pn 22 24 33.6 +2.1
O16K Kokwok River B 5.03 11 Pn Pn 22 24 35.7 +2.1
O16K IAML 22 26 13.8
comp=N,49nm,0.8s
O16K IAML 22 26 14.8
comp=E,62nm,0.9s
KDAK Kodiak Island 5.18 50 Pn Pn 22 24 36.5 +0.8
KDAK IAML 22 26 01.3
comp=E,53nm,0.8s
KDAK IAML 22 26 08.1
comp=E,72nm,1.0s
KDAK Kodiak Island 5.18 50 Pn Pn 22 24 36.2 +0.5
comp=E,1.2nm,0.3s,baz=238,slow=9.5,SNR=20
KDAK Sn Sn 22 25 30.3 -4.1
comp=E,1.9nm,0.3s,baz=3.6,slow=15,SNR=3.9
comp=E,3.7nm,0.4s
N14K Kuskokwak Cree 5.33 351 Pn 22 24 39.8 +2.1
O17K Koliganek Bris 5.34 16 Pn 22 24 40.1 +2.2
P18K Big Mountain, 5.39 27 Pn Pn 22 24 39.1 +0.4
N15K Kwethluk River 5.50 360 Pn 22 24 41.5 +1.5
Q19K Cape Douglas, 5.51 37 Pn Pn 22 24 42.9 +2.6
O18K Koktuh Hills 5.80 25 Pn Pn 22 24 45.0 +0.8
N16K Nishlik Lake 5.84 6 Pn 22 24 46.9 +2.1
M13K Dall Lake 6.01 344 Pn Pn 22 24 49.0 +1.9
N17K Nushagak Hills 6.05 13 Pn 22 24 49.6 +1.9
M14K Bethel 6.17 351 Pn Pn 22 24 50.2 +0.9
P19K Oil Pt 6.20 34 Pn Pn 22 24 50.6 +0.9
O19K Port Alsworth 6.32 27 Pn Pn 22 24 54.1 +2.8
M16K Timber Creek 6.38 5 Pn 22 24 54.3 +2.1
N18K Kilae Creek 6.41 19 Pn 22 24 56.5 +4.0
ILSW Iliamna Southw 6.49 32 Pn 22 24 56.4 +2.7
CNPM China Poot 6.81 41 Pn Pn 22 25 00.2 +2.1
N19K Bonanza Creek 6.82 23 Pn 22 25 00.2 +2.0
L14K Kuka Creek 6.82 349 Pn 22 24 59.4 +1.2
SVW2 Sparrevohn 6.85 18 Pn Pn 22 25 00.4 +1.8
SVW2 Sparrevohn 6.85 18 P Pn 22 25 01.8 +3.2
M17K Holitna River 6.87 10 Pn 22 25 00.8 +2.0
RSO Redoubt South 6.98 31 Pn 22 25 02.8 +2.2
L16K Owhat River 7.05 2 Pn 22 25 02.4 +1.0
BRLK Bradley Lake 7.10 41 Pn Pn 22 25 03.3 +1.2
L18K Granite Mounta 7.75 12 Pn 22 25 11.9 +0.9
L19K White Mountain 7.99 18 Pn 22 25 16.6 +2.4
O22K Cooper Landing 8.02 39 Pn Pn 22 25 17.5 +2.9
M20K Styx River 8.07 24 Pn 22 25 17.8 +2.4
K17K Iditarod 8.10 6 Pn 22 25 16.4 +0.7
J14K Nanvaranak Lak 8.29 349 Pn Pn 22 25 20.1 +1.8
SUA Susitna One 8.38 32 Pn Pn 22 25 21.1 +1.5
RC01 Rabbit Creek A 8.43 36 Pn Pn 22 25 23.0 +2.7
TTA Tatalina 8.53 12 Pn Pn 22 25 22.7 +1.1
TTA Tatalina 8.53 12 P Pn 22 25 23.2 +1.6
SKT Skwentna 8.56 28 Pn Pn 22 25 23.5 +1.5
J16K Anvik River 8.63 358 Pn 22 24 24.1 +1.2
J18K Innoko River 8.97 10 Pn Pn 22 25 29.2 +1.6
KNK Knik Glacier 9.10 38 Pn Pn 22 25 31.9 +2.4
GHO Glory Hole Cre 9.20 35 Pn Pn 22 25 32.1 +1.3
K20K Telida 9.22 17 Pn 22 25 33.5 +2.4
I17K Unalakleet 9.24 358 Pn Pn 22 25 32.1 +0.9
HIN Hinchinbrook I 9.24 46 Pn Pn 22 25 32.4 +1.0
GLI Glacier Island 9.27 43 Pn Pn 22 25 32.9 +1.1
SML Sawmill 9.42 36 Pn Pn 22 25 34.2 +0.4
FID Port Fidalgo 9.45 44 Pn Pn 22 25 34.1 -0.1
J19K Poorman 9.60 12 Pn Pn 22 25 38.3 +2.1
EYAK Cordova Ski Ar 9.64 47 P Pn 22 25 38.2 +1.4
CAST Castle Rocks 9.66 22 Pn Pn 22 25 39.5 +2.4
SCM Sheep Creek Mo 9.79 38 Pn Pn 22 25 39.4 +0.5
J20K Nowinta River 9.97 15 Pn 22 25 43.3 +1.9
KTH Kantishna Hill 10.04 24 Pn Pn 22 25 45.3 +3.0
KLU Klutina 10.10 42 Pn 22 25 43.9 +0.7
TRF Thorofare Moun 10.10 26 Pn Pn 22 25 43.8 +0.5
ANM Nome 10.27 347 Pn Pn 22 25 46.5 +1.1
H17K Granite Mounta 10.29 10 Pn 22 25 47.4 +1.8
M24K Tolsona, Glenn 10.38 39 Pn Pn 22 25 49.8 +2.9
BERG Berg Lake 10.46 50 Pn Pn 22 25 49.4 +1.5
BPAW Bear Paw Mtn. 10.49 22 Pn Pn 22 25 50.7 +2.2
H18K Honhosa River 10.53 4 Pn 22 25 50.7 +1.6
N25K Chitina, Valde 10.68 43 Pn Pn 22 25 53.6 +2.4
SNH Sunshine Point 10.76 52 Pn Pn 22 25 53.3 +1.2
G16K Koyuk River 10.80 355 Pn Pn 22 25 54.6 +2.0
CRQM Cirque 10.87 49 Pn Pn 22 25 55.6 +1.9
GLB Gilahina Butte 10.91 45 Pn 22 25 56.7 +2.4
VRDI Verde Repeater 10.95 47 Pn Pn 22 25 57.0 +2.1
TGL Tana Glacier 11.00 50 Pn Pn 22 25 57.4 +1.8
H19K Roundabout Mou 11.02 8 Pn Pn 22 25 55.8 +0.2
MCARA McCarthy VSAT 11.21 46 Pn Pn 22 26 00.9 +2.6
G18K Tagagawik 11.27 3 Pn Pn 22 26 00.9 +1.9
F15K North Star Dit 11.29 350 Pn Pn 22 26 01.5 +2.2
MLY Manley 11.36 20 Pn Pn 22 26 01.8 +1.4
GRNC Granite Creek 11.47 51 Pn Pn 22 26 03.2 +1.2
H21K Melozitna Rive 11.51 15 Pn Pn 22 26 04.9 +2.1
G19K Purcell Mounta 11.59 6 Pn Pn 22 26 04.9 +1.5
IMAR Indian Mountai 11.74 13 Pn Pn 22 26 06.9 +1.4
M26K Nabesna, AK 11.75 42 Pn Pn 22 26 02.1 -3.6
CTGM Chitina Glacie 11.76 50 Pn Pn 22 26 08.4 +2.5
F17K Baldwin Pennin 11.81 358 Pn Pn 22 26 08.4 +1.9
LOGN Logan Glacier 11.85 51 Pn Pn 22 26 10.2 +3.0
L26K Log Cabin Wild 11.98 39 Pn Pn 22 26 11.1 +2.3
ILAR Eielson Array 12.06 28 Pn Pn 22 26 10.8 +0.9
ILAR Eielson Array 12.06 28 Pn Pn 22 26 07.5 -2.3
comp=E,0.1nm,0.3s,baz=218,slow=13,SNR=5.3
ILAR Sn Sn 22 28 18.6 -4.6
baz=214,slow=14
comp=E,0.3nm,0.6s
M27K Edge Creek, AK 12.17 44 Pn Pn 22 26 12.6 +1.1
BCPM Bancas Point 12.19 56 Pn Pn 22 26 13.3 +1.6
F19K Shaleruckik Mo 12.24 4 Pn Pn 22 26 13.7 +1.4
G21K Allakaket 12.28 12 Pn Pn 22 26 13.5 +0.6
SCRK Sand Creek 12.36 35 Pn Pn 22 26 13.8 -0.3
F20K Avaraart Lake 12.58 8 Pn 22 26 20.1 +3.3
H24K Noodor Dome 12.67 23 Pn 22 26 19.5 +1.3
E18K Tukpahlearik C 12.78 359 Pn Pn 22 26 21.4 +1.6
O29M Mount Kennedy 12.80 55 Pn Pn 22 26 22.2 +2.1
E19K Redstone River 12.88 5 Pn 22 26 23.6 +2.4
F21K Alatna River 12.96 11 Pn Pn 22 26 23.5 +1.3
G23K Bananza Creek 12.99 18 Pn Pn 22 26 24.8 +2.1
PRP Porcupine Dome 13.00 28 Pn Pn 22 26 24.4 +1.5
P29M Windy Craggy 13.04 59 Pn Pn 22 26 25.5 +2.2
G24K Hadweenzic Riv 13.49 22 Pn Pn 22 26 31.9 +2.6
S31K Pelican 13.58 60 Pn Pn 22 26 30.7 +0.1
M29M Somme Creek 13.62 47 Pn 22 26 33.0 +1.8
EGAK Eagle 13.82 35 Pn Pn 22 26 35.6 +1.8
D19K Kuna River 13.89 3 Pn 22 26 38.6 +3.8
C18K Utukok River 14.02 358 Pn Pn 22 26 40.2 +3.5
DAWY Dawson 14.03 40 Pn Pn 22 26 38.7 +1.9
E22K Anaktuvuk Pass 14.03 13 Pn Pn 22 26 40.3 +3.5
L29M L29M 14.05 44 Pn Pn 22 26 38.9 +1.9
E21K Killik River 14.09 9 Pn 22 26 39.8 +2.2
F24K Squaw Lake 14.11 19 Pn Pn 22 26 39.9 +2.1
C19K Lookout Ridge 14.47 1 P P 22 26 49.4 +0.2
E24K Your Creek 14.48 17 P P 22 26 49.8 +0.4
K29M Barlow Dome 14.63 42 P 22 26 54.0 +2.9
I28M Miner Creek 14.64 35 Pn 22 26 46.0 +0.8
D22K Ayikyak River 14.64 11 Pn 22 26 47.5 +2.4
WHY Whitehorse 14.66 56 Pn Pn 22 26 46.0 +0.6
BMAR Burnt Mountain 14.74 24 Pn Pn 22 26 47.2 +0.9
TOLK Toolik Lake Re 14.82 15 Pn Pn 22 26 47.7 +0.2
G27K Doyon Strip 15.02 29 Pn Pn 22 26 50.2 0.0
B21K Ikpikpuk River 15.19 7 Pn Pn 22 26 53.6 +1.3
B21K IAmb IAmb 22 26 55.3
comp=E,3.7nm,1.1s
M31M Drury Creek, Y 15.30 50 P P 22 27 00.6 +2.2
M31M IAmb IAmb 22 27 04.5
comp=E,4.1nm,0.8s
D24K Happy Valley 15.40 15 P P 22 27 00.1 +0.6
D24K IAmb IAmb 22 27 00.4
comp=E,5.4nm,0.8s
B20K Meade River 15.43 4 P 22 26 59.8 +0.1
B20K IAmb IAmb 22 27 09.6
comp=E,4.3nm,0.8s
J30M Hart River 15.44 41 Pn 22 26 56.6 +0.8
J30M IAmb IAmb 22 27 07.3
comp=E,6.2nm,0.6s
P33M Teslin, Yukon 15.58 58 P 22 27 01.5 -0.1
H29M Whitestone 15.62 34 P P 22 27 03.5 +1.5
H29M IAmb IAmb 22 27 04.7
comp=E,7.1nm,1.0s
I30M Mount Dempster 15.74 39 P 22 27 05.9 +2.4
C23K Itkillik River 15.79 12 Pn 22 27 01.0 +0.8
C23K IAmb IAmb 22 27 04.9
comp=E,9.1nm,0.9s
D25K Kavik River 15.95 18 Pn Pn 22 27 02.7 +0.4

B22K Teshekpuk Lake 15.99 8 Pn 22 27 03.1 +0.4
B22K IAmb IAmb 22 27 04.5
comp=E,9.4nm,1.1s
F28M Old Crow 16.08 28 Pn Pn 22 27 04.9 +0.9
G29M Pine Creek 16.16 32 P P 22 27 08.8 +0.9
G29M IAmb IAmb 22 27 10.1
comp=E,9.7nm,1.1s
EPYK Eagle Plains 16.25 35 P P 22 27 10.7 +1.7
EPYK IAmb IAmb 22 27 17.3
comp=E,8.6nm,0.7s
R33M Jennings River 16.42 62 Pn Pn 22 27 08.7 +0.3
G30M tAoh Zraii Nji 16.77 33 P 22 27 15.8 +1.1
G30M IAmb IAmb 22 27 17.6
comp=E,11nm,1.1s
MMPY Sheldon Lake, 16.81 50 P P 22 27 15.7 +0.5
MMPY IAmb IAmb 22 27 22.0
comp=E,8.6nm,1.3s
E29M Blow River 17.16 28 Pn Pn 22 27 18.3 +0.8
G31M Satah River 17.37 35 P 22 27 22.3 +1.1
G31M IAmb IAmb 22 27 25.4
comp=E,10nm,1.2s
F31M Tsilgehtchic 17.83 34 P P 22 27 28.6 +2.4
F31M IAmb IAmb 22 27 30.3
comp=E,4.3nm,0.4s
INK Inuvik 18.38 32 P P 22 27 32.2 -0.1
INK Inuvik 18.38 32 P P 22 27 32.4 +0.1
comp=E,0.3nm,0.3s,baz=237,slow=8.9,SNR=6.6
comp=E,1.5nm,0.6s
C36M Paulatuk 21.88 34 P P 22 28 10.4 +0.1
C36M IAmb IAmb 22 28 26.1
comp=E,4.8nm,1.1s
A36M Sachs Harbour 22.76 27 P P 22 28 18.3 -1.4
A36M IAmb IAmb 22 28 23.7
comp=E,7.7nm,1.4s
YKA Yellowknife Ar 24.45 53 P P 22 28 36.5 +0.4
comp=E,0.6nm,0.9s,baz=266,slow=7.9,SNR=6.5
comp=E,0.6nm,0.9s
PEA0B Petropavlovsk- 24.69 284 P P 22 28 38.9 +0.5
PETK Petropavlovsk- 24.69 284 P P 22 28 37.5 -0.9
comp=E,1.9nm,0.4s,baz=79,slow=13,SNR=5.2
comp=E,1.9nm,0.4s
G03D McMinnville, 25.22 97 P P 22 28 41.6 -1.6
NVAR Mina Array Bea 32.40 103 P P 22 29 48.7 +1.2
comp=E,0.1nm,0.4s,baz=330,slow=10,SNR=1.9
comp=E,0.1nm,0.4s
TXAR Lajitas Array 47.34 99 P P 22 31 53.0 +1.6
comp=E,1.2nm,1.2s,baz=308,slow=7.8,SNR=2.9
comp=E,1.2nm,1.2s
SONM Songino Array 54.75 305 P P 22 32 46.1 -0.7
comp=E,0.8nm,0.8s,baz=39,slow=7.3,SNR=6.1
comp=E,0.8nm,0.8s
FINES FINESS Array B 64.11 357 P P 22 33 51.1 +0.1
comp=E,1.9nm,0.8s,baz=12,slow=7.1,SNR=3.3
comp=E,1.9nm,0.8s
KURK Kurchatov 64.13 323 P P 22 33 50.8 -0.5
BVAR Borovoye Array 64.83 329 P P 22 33 56.3 +0.4
comp=E,1.8nm,0.7s,baz=39,slow=6.6,SNR=10
comp=E,1.8nm,0.7s
BRVK Borovoye 64.83 329 P P 22 33 56.2 +0.3
MKAR Makanchi Array 66.03 318 P P 22 34 03.1 -0.7
MKAR Makanchi Array 66.03 318 P P 22 34 03.2 -0.6
comp=E,0.5nm,0.8s,baz=37,slow=5.0,SNR=4.2
comp=E,0.5nm,0.8s
ABKAR Akbulak array 71.13 334 P P 22 34 35.0 -0.6
KKAR Karatay Array 73.50 324 P P 22 34 49.3 -0.5
KKAR Karatay Array 73.50 324 P P 22 34 49.5 -0.3
KKAR IAmb IAmb 22 34 50.9
comp=E,2.0nm,0.9s
AKASG Malin Array Be 74.70 354 P P 22 34 56.6 0.0
comp=E,0.8nm,0.5s,baz=4.9,slow=5.3,SNR=6.1
comp=E,0.8nm,0.5s
FUORN Ofenpass-Fuorn 78.73 7 P P 22 35 19.1 -0.7
CMAR Chiang Mai Arr 81.33 290 P P 22 35 34.0 +0.1
comp=E,0.6nm,0.4s,baz=18,slow=3.8,SNR=6.2
comp=E,0.6nm,0.4s
ESDC Sonseca Array 83.79 18 P P 22 35 47.7 +1.1
comp=E,1.6nm,0.8s,baz=342,slow=5.7,SNR=9.3
comp=E,1.6nm,0.8s
BRTR Keskin Array B 85.23 349 P P 22 35 54.4 +0.4
comp=E,0.7nm,0.8s,baz=21,slow=12,SNR=4.2
comp=E,0.7nm,0.8s

*IDC **29** 22:32:01.4±2.1, 72.°63N×2.°80E, h0km, mb3.4/5, mbtmp3.4/8, ML2.7/3, Error ellipse: s-maj=37.2km s-min=24.0km az=108.0*
*DNK **29** 22:32:09.1±1.0, 73.°22N×1.°33E, h0km±34km, ML1.5*
*BER **29** 22:32:10.4±1.1, 73.°13N×1.°91E, h16km±43km, mb(Pn)3.6, ML1.5(DNK), Confirmed Earthquake*
ISC 29 22:32:02.2±0.9, **72.7N**±0.1×**2.76E**±0.09, **h10**km, **n15, σ1°48/17, mb3.4/5, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**6.47**	**26**	*eP*	**Pn**	**22 33 38.2**	**+0.8**
SPITS	**Spitsbergen Ar**	**6.47**	**26**	Pn	**Pn**	**22 33 37.0**	**-0.3**
	baz=210,slow=13						
	1.2nm,0.4s						
KBS	**Kingsbay**	**6.65**	**15**	*eP*	**Pn**	**22 33 40.8**	**+1.0**
KBS				*iP*	**Pn**	**22 33 41.5**	**+1.8**
KBS	**Kingsbay**	**6.65**	**15**	*iP*	**Pn**	**22 33 41.5**	**+1.8**
DAG	**Danmarks Havn**	**6.94**	**316**	*eP*	**Pn**	**22 33 42.0**	**-1.7**
DAG				*eS*	Sn	22 34 50.0	-13
DAG				IAML		22 34 56.9	
	comp=E,1.7nm,0.4s						
DAG	**Danmarks Havn**	**6.94**	**316**	*e*	Pn	22 33 37.7	-6.0
	baz=111,slow=18						
DAG				*iP*	**Pn**	**22 33 41.0**	**-2.7**
DAG				*eP*	**Pn**	**22 33 41.6**	**-2.1**
DAG				*eS*	Sn	22 34 50.0	-13
DAG				IAML		22 34 56.9	
	comp=E,1.7nm,0.4s						
ARCES	**ARCESS Array B**	**8.00**	**102**	Pn	**Pn**	**22 33 57.4**	**-0.9**
	comp=E,0.1nm,0.3s,baz=319,slow=12,SNR=7.8						
ARCES				Sn	Sn	22 35 18.8	-10
	baz=296,slow=19						
	comp=E,5.3nm,1.0s						
SCO	**Scoresbysund**	**8.09**	**266**	*iP*	**Pn**	**22 34 01.0**	**+1.5**
SCO	**Scoresbysund**	**8.09**	**266**	*iP*	**Pn**	**22 34 01.0**	**+1.5**
FINES	**FINESS Array B**	**14.33**	**130**	Pn	**Pn**	**22 35 24.5**	**-0.3**
	comp=E,0.1nm,0.3s,baz=338,slow=10,SNR=3.5						
	comp=E,1.2nm,0.7s						
GERES	**GERESS Array B**	**24.43**	**162**	P	**P**	**22 37 21.3**	**+0.6**
	comp=E,0.8nm,0.7s,baz=8.3,slow=8.1,SNR=3.9						
	comp=E,0.8nm,0.7s						
AKASG	**Malin Array Be**	**24.93**	**138**	P	**P**	**22 37 25.4**	**+0.3**
	comp=E,2.0nm,0.5s,baz=332,slow=9.4,SNR=1.8						
	comp=E,2.0nm,0.5s						
BVAR	**Borovoye Array**	**33.98**	**88**	P	**P**	**22 38 46.8**	**+1.3**
	comp=E,2.0nm,0.6s,baz=316,slow=8.2,SNR=2.9						
	comp=E,2.0nm,0.6s						
MKAR	**Makanchi Array**	**43.06**	**82**	P	**P**	**22 40 00.9**	**-0.8**
	comp=E,2.0nm,0.7s,baz=317,slow=7.9,SNR=1.5						
	comp=E,2.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**59.52**	**181**	P	**P**	**22 42 05.4**	**+0.1**
	comp=E,0.5nm,0.6s,baz=348,slow=7.8,SNR=3.6						
	comp=E,0.5nm,0.6s						

*ISK **29** 22:45:56.6, 41.°86N×42.°03E, h8km, ML2.5/9*
*AFAD **29** 22:45:57.8±0.0, 41.°79N×42.°00E, h7km±3km, ML1.9*
*NORS **29** 22:46:00.5, 41.°87N×42.°31E, h17km, MPVA2.7*
ISC 29 22:45:57.8±1.1, **41.°84N**±0.°02×**42.°07E**±0.°02, **h8**km±10km, **n33, σ1°05/60, Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCA	**Borcka**	**0.52**	**220**	Pg	**Pg**	**22 46 07.8**	**0.0**
BCA				Sg	**Sg**	**22 46 15.1**	**+0.5**
ABS	**Abastumani**	**0.57**	**99**	P	**Pg**	**22 46 08.7**	**-0.1**
ABS				S	**Sg**	**22 46 17.6**	**+1.4**
EPOS	**Posof**	**0.60**	**124**	P	**Pg**	**22 46 09.4**	**0.0**
EPOS				S	**Sg**	**22 46 18.4**	**+1.0**
EPOS				*i* AML	AML	22 46 19.0	
	comp=E,41nm,0.4s						
EPOS				*i* AML	AML	22 46 20.0	
	comp=N,67nm,0.9s						
HOPA	**Hopa-Artvin**	**0.65**	**226**	Pg	**Pg**	**22 46 09.6**	**-0.8**
HOPA				Sg	**Sg**	**22 46 18.7**	**-0.1**
DAGI	**Agillar**	**0.77**	**189**	P	**Pg**	**22 46 12.0**	**-0.7**
DAGI				S	**Sg**	**22 46 22.9**	**+0.2**
DAGI				*i* AML	AML	22 46 23.0	
	comp=N,68nm,0.3s						
DAGI				*i* AML	AML	22 46 23.0	
	comp=E,120nm,0.6s						
AHAN	**Ardahan-Merkez**	**0.80**	**148**	P	**Pg**	**22 46 13.4**	**+0.2**
AHAN				S	**Sb**	**22 46 25.3**	**+0.2**
AHAN				*i* AML	AML	22 46 26.0	
	comp=E,45nm,0.2s						
AHAN				*i* AML	AML	22 46 27.0	
	comp=N,48nm,0.5s						
TKB	**Tkibuli**	**0.86**	**53**	P	**Pg**	**22 46 14.3**	**0.0**
TKB				S	**Sg**	**22 46 26.1**	**+0.7**
DBAD	**Bademkaya**	**0.87**	**199**	P	**Pg**	**22 46 13.9**	**-0.7**
DBAD				S	**Sg**	**22 46 24.5**	**-1.3**
DBAD				*i* AML	AML	22 46 26.0	
	comp=N,123nm,0.6s						
DDEM	**Demirkent**	**0.98**	**194**	P	**Pg**	**22 46 15.7**	**-1.0**
DDEM				S	**Sg**	**22 46 28.6**	**-0.7**
GOLE	**Ardahan-G¶le**	**1.08**	**158**	P	**Pg**	**22 46 18.4**	**-0.2**
GOLE				S	**Sg**	**22 46 33.2**	**+0.5**
GOLE				*i* AML	AML	22 46 34.0	
	comp=N,40nm,0.4s						
GOLE				*i* AML	AML	22 46 35.0	
	comp=E,41nm,0.1s						
AKH	**Akhalkalaki**	**1.15**	**112**	Pn	**Pg**	**22 46 19.4**	**-0.6**
AKH	**Akhalkalaki**	**1.15**	**112**	P	**Pg**	**22 46 19.4**	**-0.6**
AKH				S	**Sg**	**22 46 34.9**	**-0.1**
ALIG	**Mtskhetisjvari**	**1.21**	**77**	P	**Pb**	**22 46 19.8**	**-1.2**
ALIG				S	**Sb**	**22 46 36.0**	**-0.8**
CHOM	**Cayeli-Rize**	**1.23**	**233**	Pn	**Pb**	**22 46 19.9**	**-1.5**
CHOM				Sn	**Sg**	**22 46 37.3**	**-0.1**
ONI	**Oni**	**1.27**	**54**	Pn	**Pn**	**22 46 21.3**	**-0.7**
ONI				Sn	**Sn**	**22 46 39.4**	**+0.1**
ONI	**Oni**	**1.27**	**54**	P	**Pn**	**22 46 21.6**	**-0.4**
ONI				S	**Sn**	**22 46 39.5**	**+0.2**
BGD	**Bogdanovka**	**1.29**	**116**	P	**Pn**	**22 46 21.7**	**-0.6**
BGD				S	**Sb**	**22 46 39.1**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.30**	**170**	Pn	**Pn**	**22 46 21.8**	**-0.7**
SENK				Sn	**Sg**	**22 46 40.2**	**+0.6**
BRNG	**Burnasheti**	**1.34**	**99**	P	**Pn**	**22 46 22.9**	**0.0**
BRNG				S	**Sg**	**22 46 41.7**	**+0.9**
BOZK	**Kars-Merkez-Bo**	**1.43**	**151**	P	**Pg**	**22 46 25.5**	**+0.3**
BOZK				*i* AML	AML	22 46 49.0	
	comp=N,14nm,1.1s						
BOZK				*i* AML	AML	22 46 49.0	
	comp=E,13nm,0.8s						
KARS	**Kars**	**1.44**	**148**	Pn	**Pn**	**22 46 24.2**	**-0.1**
DIGR	**Digorskoe uzhe**	**1.54**	**46**	*e*Pg	**Pb**	**22 46 26.5**	**-0.2**
DIGR				*e*Sg	**Sg**	**22 46 47.5**	**+0.2**
TRLG	**Trialeti**	**1.56**	**101**	P	**Pn**	**22 46 26.5**	**+0.6**
TRLG				S	**Sn**	**22 46 46.9**	**+0.5**
ZEI	**Tsey**	**1.66**	**55**	*e*Pg	**Pg**	**22 46 29.5**	**-0.1**
ZEI				*e*Sg	**Sb**	**22 46 50.4**	**+0.6**
DMNI	**Dmanisi**	**1.67**	**107**	P	**Pn**	**22 46 28.3**	**+0.7**
DMNI				S	**Sn**	**22 46 50.0**	**+0.7**
KRIK	**Erzurum-spir**	**1.73**	**210**	P	**Pg**	**22 46 34.9**	**+3.9**
KRIK				S	**Sg**	**22 46 58.4**	**+4.9**
KOPR	**Koprukoy-ERZUR**	**1.86**	**185**	Pn	**Pn**	**22 46 29.7**	**-0.4**
LACR	**Lac**	**1.92**	**59**	*e*Pg	**Pb**	**22 46 33.0**	**-0.2**
LACR				*e*Sg	**Sb**	**22 46 58.3**	**+0.8**
KORR	**Kora**	**1.93**	**49**	*e*Pg	**Pg**	**22 46 34.2**	**-0.6**
KORR				*e*Sg	**Sg**	**22 46 59.9**	**0.0**
LSNR	**Lesken**	**1.94**	**42**	*e*Pg	**Pg**	**22 46 34.6**	**-0.3**
LSNR				*e*Sg	**Sg**	**22 46 59.6**	**-0.3**
SHA1	**Shidzhatmaz**	**1.94**	**13**	*e*Pg	**Pg**	**22 46 35.3**	**+0.2**
SHA1				*e*Sg	**Sg**	**22 47 01.7**	**+1.4**
BAYT	**Aydıntepe-Bayb**	**2.05**	**226**	Pn	**Pn**	**22 46 32.0**	**-0.8**
CHRG	**Chargali**	**2.18**	**76**	P	**Pb**	**22 46 37.1**	**-0.6**

*IDC **29** 23:00:57.1±4.3, 52.°96S×118.°57W, h0km, mb3.8/3, mbtmp3.8/3, MS3.4/2, Error ellipse: s-maj=141.9km s-min=53.9km az=64.0*
*NEIC **29** 23:00:58.0±2.6, 52.°9S±0.°1×118.°5W±0.°2, h10km±1km, mb5.0/29, Error ellipse: s-maj=25.2km s-min=18.3km az=167.0*
ISC 29 23:00:57.5±0.5, **52.°8S**±0.°1×**118.°55W**±0.°08, **h10**km, **n47, σ1°16/33, mb4.9/18, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO10	**Punta Arenas**	**28.18**	**110**	P	**P**	**23 06 50.1**	**+0.3**
SMAI	**San Martin Ant**	**28.51**	**142**	P	**P**	**23 06 52.8**	**+0.3**
SMAI				IAmb	IAmb	23 06 59.2	
	comp=E,61nm,1.3s						
LL05	**Los Muermos**	**32.22**	**88**	P	**P**	**23 07 23.5**	**-2.1**
LL05				IAmb	IAmb	23 07 41.9	
	comp=E,52nm,1.2s						
LR05	**Currie**	**33.81**	**87**	P	**P**	**23 07 38.2**	**-1.3**
LR05				IAmb	IAmb	23 08 00.2	
	comp=E,14nm,0.8s						
H03S2	**Juan Fernandez**	**33.95**	**72**	T	T	23 43 11.5	
	baz=221,slow=74,SNR=112						
H03S1	**Juan Fernandez**	**33.96**	**72**	T	T	23 43 12.8	
	baz=221,slow=74,SNR=118						
H03S3	**Juan Fernandez**	**33.97**	**72**	T	T	23 43 11.9	
	baz=221,slow=74,SNR=112						
H03N3	**Juan Fernandez**	**34.23**	**71**	T	T	23 43 28.1	
	baz=224,slow=71,SNR=234						
H03N2	**Juan Fernandez**	**34.23**	**71**	T	T	23 43 26.8	
	baz=224,slow=71,SNR=343						
H03N1	**Juan Fernandez**	**34.24**	**71**	T	T	23 43 28.4	
	baz=224,slow=71,SNR=305						
GO05	**Huala**	**37.25**	**80**	P	**P**	**23 08 10.3**	**+1.2**
GO05				IAmb	IAmb	23 08 24.3	
	comp=E,38nm,1.5s						
QSPA	**South Pole Qui**	**37.35**	**180**	P	**P**	**23 08 10.0**	**+0.2**
	comp=E,1.3nm,1.0s,baz=90,slow=3.0,SNR=2.8						
	comp=E,1.3nm,1.0s						
ORCD	**Orcadas**	**39.15**	**132**	P	**P**	**23 08 25.3**	**+0.5**
ZON	**Zonda**	**41.61**	**79**	P	**P**	**23 08 47.7**	**+2.1**
CO01	**Juntas del Tor**	**41.90**	**76**	P	**P**	**23 08 49.4**	**+1.2**
AC04	**Llanos de Chal**	**42.64**	**74**	P	**P**	**23 08 55.5**	**+1.5**
AC04				IAmb	IAmb	23 09 15.4	
	comp=E,20nm,1.2s						
PPT	**Papeete**	**42.75**	**314**	LR	LR	23 21 32.0	
	comp=E,57nm,19.6s,baz=336,slow=29						
GVZ	**Greta Valley S**	**45.27**	**254**	P	**P**	**23 09 13.3**	**-1.7**
DSZ	**Denniston Nort**	**46.74**	**254**	P	**P**	**23 09 26.6**	**0.0**
DSZ				IAmb	IAmb	23 09 39.9	
	comp=E,23nm,1.2s						
LVC	**Limon Verde**	**48.17**	**71**	LR	LR	23 24 38.2	
	comp=E,42nm,20.9s,baz=261,slow=30						
GO01	**Chusmiza**	**50.33**	**68**	P	**P**	**23 09 55.2**	**+0.2**
CPUP	**Villa Florida**	**52.21**	**84**	P	**P**	**23 10 09.0**	**+0.6**
PAYG	**Puerto Ayora**	**57.08**	**34**	P	**P**	**23 10 42.5**	**-1.3**
MCRA	**Macar, Loja**	**57.80**	**47**	P	**P**	**23 10 48.7**	**-0.3**
SPB	**Sao Paulo**	**60.23**	**90**	P	**P**	**23 11 04.6**	**-1.2**
SPB				IAmb	IAmb	23 11 06.0	
	comp=E,36nm,1.4s						
SAML	**Samuel**	**62.39**	**67**	P	**P**	**23 11 18.7**	**-1.7**
OUENC	**Ouen Island, N**	**63.23**	**268**	P	**P**	**23 11 25.8**	**-0.1**
OUENC				IAmb	IAmb	23 11 29.2	
	comp=E,26nm,1.2s						
TOO	**Toolangi**	**64.36**	**241**	P	**P**	**23 11 33.7**	**+0.4**
TOO				IAmb	IAmb	23 11 37.7	
	comp=E,16nm,1.4s						
ARMA	**Armidale**	**66.29**	**251**	P	**P**	**23 11 44.8**	**-1.1**
ARMA				IAmb	IAmb	23 12 08.4	
	comp=E,18nm,1.4s						
DRK0	**Durika**	**68.81**	**38**	P	**P**	**23 12 02.9**	**+0.9**
HZTE	**Horizontes, Gu**	**69.31**	**35**	P	**P**	**23 12 05.5**	**+0.6**
TLIG	**Tlapa**	**72.22**	**20**	P	**P**	**23 12 23.5**	**+0.9**
TLIG				IAmb	IAmb	23 12 40.5	
	comp=E,4.7nm,0.8s						
BBOO	**Buckleboo**	**72.95**	**238**	P	**P**	**23 12 26.9**	**-0.1**
BBOO				IAmb	IAmb	23 12 44.4	
	comp=E,24nm,1.4s						
CTAO	**Charters Tower**	**77.30**	**254**	P

H11S1	**WAKE ISLAND Hy 95.71 293**	T	T	01 01 14.9	
	baz=143,slow=75,SNR=25				
H11N3	**WAKE ISLAND Hy 96.56 294**	T	T	01 02 18.2	
	baz=144,slow=75,SNR=13				
H11N1	**WAKE ISLAND Hy 96.57 294**	T	T	01 02 15.2	
	baz=144,slow=75,SNR=19				
H11N2	**WAKE ISLAND Hy 96.58 294**	T	T	01 02 18.6	
	baz=144,slow=75,SNR=11				
SONM	**Songino Array 151.25 278**	PKPbc	**PKiKP**	**23 20 51.6 +0.8**	
	comp=Z,0.3nm,0.4s,baz=95,slow=3.6,SNR=2.3				
MKAR	**Makanchi Array 165.27 254**	PKPab	**PKPab**	**23 21 59.2 +0.3**	
	comp=Z,0.7nm,0.9s,baz=103,slow=3.1,SNR=4.9				

*SOF **29** 23:09:18.7,41.82N×22.83E,h11km, MD3.2*
*SKO **29** 23:09:19.3,41.80N×22.82E,h10km, ML2.7*
*BEO **29** 23:09:20.1±0.3,41.81N±22.83E,h10km±2km, ML2.7/9*
*ATH **29** 23:09:20.8,41.74N×22.85E,h4km±2km, ML2.7/9, ML2.7/9, Error ellipse: s-maj=3.1km s-min=1.4km az=182.0*
*THE **29** 23:09:22.0,41.66N×22.86E,h8km, ML2.7/8, Error ellipse: s-maj=1.2km s-min=0.6km az=166.0*

ISC 29 23:09:19.2±1.0,**41.80N**±0.01×**22.82E**±0.02,**h6km**±9km, **n81,σ0.96/128,11C-11D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.24**	**80**	*i* Pg		**Pg**	**23 09 24.0**	**0.0**
KKB				*i* Sg		**Sg**	**23 09 27.1**	**+0.1**
KKB	**Krupnik**	**0.24**	**80**	*i* Pg		**Pg**	**23 09 23.9**	**0.0**
STIP	**Stip**	**0.48**	**257**	*i* Pg		**Pg**	**23 09 25.1**	**-3.4**
STIP				*i* Sg		**Sg**	**23 09 29.8**	**-5.1**
VAY	**Valandovo**	**0.51**	**201**	*e*Pg		**Pg**	**23 09 29.9**	**+0.8**
VAY				*e*Sg		**Sg**	**23 09 36.9**	**+1.1**
VAY	**Valandovo**	**0.51**	**201**	*i* Pg		**Pg**	**23 09 30.0**	**+0.8**
VAY				*i* Sg		**Sg**	**23 09 37.0**	**+1.3**
VAY				*e*Lg		Lg	23 09 37.9	
	comp=N,543nm,0.5s							
VAY				*e*Lg		Lg	23 09 38.0	
	comp=E,491nm,0.4s							
BOSS	**Bosilegrad**	**0.74**	**340**	*e*Pg		**Pg**	**23 09 33.8**	**+0.4**
BOSS				*e*Sg		**Sg**	**23 09 43.6**	**+0.6**
MMB	**Musomishta**	**0.74**	**110**	*i*Pg		**Pg**	**23 09 33.4**	**-0.2**
MMB				*i* Sg		**Sg**	**23 09 43.3**	**+0.1**
MMB	**Musomishta**	**0.74**	**110**	*i* P		**Pg**	**23 09 33.3**	**-0.2**
VTS	**Vitosha**	**0.87**	**21**	*e*Pg		**Pg**	**23 09 35.4**	**-0.6**
VTS				*e*Sg		**Sg**	**23 09 46.4**	**-1.0**
VTS	**Vitosha**	**0.87**	**21**	*i* P		**Pg**	**23 09 35.5**	**-0.6**
PRVS	**Prvonek**	**0.90**	**322**	*e*Pg		**Pg**	**23 09 36.5**	**+0.1**
PRVS				*e*Sg		**Sg**	**23 09 49.5**	**+1.4**
GRG	**Griva**	**0.90**	**200**	P		**Pg**	**23 09 36.5**	**0.0**
GRG				S		**Sg**	**23 09 48.5**	**+0.4**
	comp=E,350nm,0.4s							
GRG	**Griva**	**0.90**	**200**	*i* Pg		**Pg**	**23 09 36.5**	**0.0**
GRG				*i* Sg		**Sg**	**23 09 49.1**	**+0.9**
GRG	**Griva**	**0.90**	**200**	P		**Pg**	**23 09 36.5**	**0.0**
GRG				S		**Sg**	**23 09 48.4**	**+0.2**
GRG				AML		AML	23 09 49.4	
	comp=E,766μm,0.5s							
GRG				AML		AML	23 09 52.9	
	comp=N,511μm,0.4s							
NVR	**Nevrokopi**	**0.91**	**119**	P		**Pg**	**23 09 37.2**	**+0.6**
NVR				S		**Sg**	**23 09 49.3**	**+1.0**
	comp=N,658nm,0.3s							
NVR	**Nevrokopi**	**0.91**	**119**	P		**Pg**	**23 09 37.3**	**+0.6**
NVR				S		**Sg**	**23 09 48.9**	**+0.6**
NVR				AML		AML	23 09 52.9	
	comp=E,1343μm,0.2s							
NVR				AML		AML	23 09 53.1	
	comp=N,1560μm,0.2s							
SKO	**Skopje**	**1.04**	**280**	*e*Pg		**Pg**	**23 09 38.2**	**-1.0**
SKO				*e*Sg		**Sb**	**23 09 54.8**	**+1.2**
SKO	**Skopje**	**1.04**	**280**	*i* Pg		**Pg**	**23 09 39.5**	**+0.3**
SKO				*i* Sg		**Sg**	**23 09 53.9**	**+1.2**
SOH	**Sokhos**	**1.06**	**157**	P		**Pg**	**23 09 39.4**	**-0.1**
SOH				S		**Sg**	**23 09 52.8**	**-0.5**
	comp=N,835nm,0.5s							
SOH	**Sokhos**	**1.06**	**157**	*i* Pg		**Pg**	**23 09 39.5**	**-0.1**
SOH				*i* Sg		**Sg**	**23 09 53.7**	**+0.4**
SOH	**Sokhos**	**1.06**	**157**	P		**Pg**	**23 09 39.4**	**-0.1**
SOH				S		**Sg**	**23 09 53.0**	**-0.3**
SOH				AML		AML	23 09 57.2	
	comp=N,2736μm,0.5s							
SOH				AML		AML	23 09 57.5	
	comp=E,1448μm,0.5s							
THE	**Thessaloniki**	**1.17**	**174**	P		**Pb**	**23 09 41.4**	**-0.5**
THE				S		**Sb**	**23 09 56.4**	**-0.9**
	comp=E,262nm,0.3s							
THE	**Thessaloniki**	**1.17**	**174**	*i* Pg		**Pb**	**23 09 41.5**	**-0.5**
THE				*i* Sg		**Sb**	**23 09 57.0**	**-0.3**
HORT	**Hortiatis**	**1.22**	**170**	P		**Pn**	**23 09 42.2**	**-0.7**
HORT				S		**Sb**	**23 09 57.3**	**-1.5**
	comp=E,152nm,0.3s							
HORT	**Hortiatis**	**1.22**	**170**	P		**Pn**	**23 09 42.2**	**-0.7**
HORT				S		**Sb**	**23 09 57.9**	**-0.9**
HORT				AML		AML	23 10 00.6	
	comp=E,299μm,0.3s							
HORT				AML		AML	23 10 01.3	
	comp=N,293μm,0.3s							
PGB	**Panagyurishte**	**1.24**	**54**	*i* P		**Pn**	**23 09 42.1**	**-1.0**
BARS	**Barje**	**1.26**	**324**	*e*Pg		**Pn**	**23 09 43.4**	**0.0**
BARS				*e*Sg		**Sb**	**23 09 59.6**	**-0.2**
BARS	**Barje**	**1.26**	**324**	*i* Pg		**Pn**	**23 09 43.4**	**0.0**
BARS				*i* Sg		**Sb**	**23 10 00.4**	**+0.5**
KOKK	**Kokkinochori,**	**1.33**	**137**	P		**Pn**	**23 09 43.7**	**-0.6**
KOKK				S		**Sb**	**23 10 01.4**	**-0.4**
	comp=N,188nm,0.6s							
KOKK	**Kokkinochori,**	**1.33**	**137**	P		**Pn**	**23 09 43.8**	**-0.6**
KOKK				S		**Sb**	**23 10 00.8**	**-1.0**
KOKK				AML		AML	23 10 02.3	
	comp=N,1119μm,0.7s							
KOKK				AML		AML	23 10 02.8	
	comp=E,765μm,0.5s							
RZN	**Rozhen**	**1.44**	**94**	*i* P		**Pn**	**23 09 45.9**	**-0.2**
KVLA	**Kavala**	**1.46**	**126**	P		**Pn**	**23 09 46.3**	**+0.1**
KVLA				S		**Sn**	**23 10 05.3**	**-0.3**
ZAPS	**Zavoj**	**1.48**	**355**	*e*Pg		**Pn**	**23 09 46.9**	**+0.5**
ZAPS				*e*Sg		**Sg**	**23 10 07.2**	**+0.4**
PLD	**Plovdiv**	**1.48**	**76**	*e*Pg		**Pn**	**23 09 46.1**	**-0.3**
PLD				*e*Sg		**Sn**	**23 10 06.0**	**-0.1**
PLD	**Plovdiv**	**1.48**	**76**	*i* Pn		**Pn**	**23 09 46.4**	**0.0**
PLD				*i* Sn		**Sn**	**23 10 05.8**	**-0.3**
PLD	**Plovdiv**	**1.48**	**76**	*i* P		**Pn**	**23 09 46.3**	**-0.1**
FNA	**Florina**	**1.49**	**227**	*e*Pg		**Pb**	**23 09 47.6**	**+0.3**
FNA				*e*Sg		**Sb**	**23 10 07.2**	**+0.8**
FNA	**Florina**	**1.49**	**227**	*i* Pn		**Pb**	**23 09 47.9**	**+0.6**
FNA				*i* Sn		**Sg**	**23 10 07.9**	**+0.9**
FNA	**Florina**	**1.49**	**227**	P		**Pn**	**23 09 47.5**	**+0.9**
FNA				AML		AML	23 10 13.2	
	comp=N,108μm,0.4s							
FNA				AML		AML	23 10 16.7	
	comp=E,85μm,0.4s							
KAVA	**Kavala**	**1.51**	**122**	P		**Pn**	**23 09 46.9**	**+0.1**
KAVA				S		**Sn**	**23 10 06.5**	**-0.3**
	comp=E,608nm,0.2s							
KAVA	**Kavala**	**1.51**	**122**	P		**Pn**	**23 09 46.9**	**+0.1**
KAVA				S		**Sb**	**23 10 06.9**	**-0.1**
OHR	**Ohrid**	**1.67**	**246**	*e*Pg		**Pb**	**23 09 50.4**	**+0.1**
OHR				*e*Sg		**Sg**	**23 10 13.4**	**+0.7**
OHR	**Ohrid**	**1.67**	**246**	*i* Pn		**Pg**	**23 09 51.7**	**+0.5**
OHR				*i* Sn		**Sg**	**23 10 14.1**	**+1.4**
OHR				*e*Lg		Lg	23 10 18.1	
	comp=E,50nm,0.8s							
OHR				*e*Lg		Lg	23 10 18.8	
	comp=N,19nm,0.5s							
OUR	**Ouranopolis**	**1.71**	**149**	P		**Pn**	**23 09 49.4**	**-0.1**
OUR				S		**Sn**	**23 10 11.0**	**-0.7**
	comp=N,272nm,0.2s							
OUR	**Ouranopolis**	**1.71**	**149**	P		**Pn**	**23 09 49.5**	**-0.1**
OUR				AML		AML	23 10 16.4	
	comp=N,474μm,0.2s							
OUR				AML		AML	23 10 17.5	
	comp=E,595μm,0.2s							
BLKB	**Belogradchik**	**1.82**	**357**	⇓P		**Pn**	**23 09 52.2**	**+1.0**
BLKB				⇓S		**Sn**	**23 10 13.6**	**-1.1**
THAS	**Thassos island**	**1.87**	**129**	P		**Pn**	**23 09 51.7**	**0.0**
THAS	**Thassos island**	**1.87**	**129**	P		**Pn**	**23 09 51.2**	**-0.5**
THAS				AML		AML	23 10 20.2	
	comp=E,371μm,0.3s							
THAS				AML		AML	23 10 21.7	
	comp=N,300μm,0.3s							
SELS	**Selova**	**1.89**	**319**	*e*Pn		**Pn**	**23 09 51.9**	**-0.2**
KDZ	**Kurdzhali**	**1.90**	**94**	*i* P		**Pb**	**23 09 54.0**	**-0.3**
NEST	**Nestorio**	**1.92**	**225**	P		**Pn**	**23 09 53.9**	**+1.3**
BOVS	**Bovan**	**2.01**	**336**	⇑P		**Pn**	**23 09 53.7**	**0.0**
BOVS				⇑S		**Sn**	**23 10 17.2**	**-1.9**
BOVS	**Bovan**	**2.01**	**336**	*e*Pn		**Pn**	**23 09 55.0**	**+1.3**
BOVS				*e*Sn		**Sn**	**23 10 19.9**	**+0.8**
ZAGS	**Zajecar**	**2.06**	**348**	*e*Pn		**Pn**	**23 09 54.3**	**0.0**
ZAGS				*e*Sn		**Sn**	**23 10 20.1**	**-0.2**
PLVB	**Pleven**	**2.07**	**39**	⇑P		**Pb**	**23 09 58.2**	**+1.0**
PLVB				⇓S		**Sg**	**23 10 25.5**	**-0.3**
DIM	**Dimitrovgrad**	**2.08**	**82**	*i* P		**Pb**	**23 09 56.6**	**-0.7**
RDO	**Rodhopi**	**2.15**	**107**	P		**Pn**	**23 09 57.3**	**+1.7**
RDO				S		**Sb**	**23 10 26.9**	**+1.5**
RDO	**Rodhopi**	**2.15**	**107**	P		**Pn**	**23 09 55.2**	**-0.3**
RDO				AML		AML	23 10 29.3	
	comp=E,694μm,0.2s							
RDO				AML		AML	23 10 29.8	
	comp=N,602μm,0.4s							
PVL	**Pavlikeni**	**2.19**	**52**	*i* P		**Pb**	**23 09 59.8**	**+0.6**
BEY	**Berane**	**2.42**	**297**	*i* Pn		**Pn**	**23 10 00.5**	**+1.1**
ELND	**Elena**	**2.53**	**63**	⇑S		**Sg**	**23 10 39.1**	**-1.4**
SJES	**Sjenica**	**2.56**	**306**	*e*Pn		**Pn**	**23 10 01.7**	**+0.4**
GRUS	**Gruza**	**2.60**	**324**	*e*Pn		**Pn**	**23 10 01.7**	**-0.1**
IVAS	**Ivanjica**	**2.65**	**313**	*e*Pn		**Pn**	**23 10 02.4**	**-0.1**
SVIS	**Svilajnac**	**2.73**	**335**	*e*Pn		**Pn**	**23 10 05.6**	**+2.0**
TRUS	**Trudelj**	**3.00**	**325**	*e*Pn		**Pn**	**23 10 07.0**	**-0.3**
MDVR	**Moldovita**	**3.09**	**345**	⇓P		**Pn**	**23 10 08.3**	**-0.2**
MDVR				⇓S		**Sn**	**23 10 43.3**	**-2.5**
DIVS	**Divibare**	**3.09**	**319**	*e*Pn		**Pn**	**23 10 08.5**	**-0.2**
HERR	**Herculane**	**3.09**	**355**	⇑P		**Pn**	**23 10 08.2**	**-0.4**
HERR				⇑S		**Sn**	**23 10 44.9**	**-1.0**
BBLS	**Lazići**	**3.25**	**311**	*e*Pn		**Pn**	**23 10 11.5**	**+0.7**
GZR	**Gura Zlata**	**3.59**	**360**	⇑P		**Pn**	**23 10 15.7**	**+0.2**
GZR				⇑S		**Sn**	**23 10 57.8**	**-0.4**
HAPS	**Han Pijesak,Bl**	**3.64**	**310**	*e*Pn		**Pn**	**23 10 17.6**	**+1.3**
TEKS	**Tekeris**	**3.65**	**320**	*e*Pn		**Pn**	**23 10 15.8**	**-0.5**
ARR	**Arges**	**3.80**	**20**	⇓P		**Pn**	**23 10 18.9**	**+0.5**
ARR				⇑S		**Sn**	**23 11 04.1**	**+0.6**
BZS	**Buzias**	**3.91**	**348**	⇓P		**Pn**	**23 10 19.4**	**-0.4**
BZS	**Buzias**	**3.91**	**348**	*e*Pn		**Pn**	**23 10 19.3**	**-0.6**
VOIR		**3.98**	**23**	⇓P		**Pn**	**23 10 22.0**	**+1.1**
SURR	**Surduc**	**3.98**	**353**	⇓P		**Pn**	**23 10 20.6**	**-0.2**
MLR	**Muntele Rosu**	**4.33**	**31**	⇓P		**Pn**	**23 10 27.8**	**+2.1**
VRI	**Vrincioaia**	**4.95**	**34**	⇓P		**Pn**	**23 10 35.9**	**+1.8**
MORH	**Mrgy, Hungar**	**5.34**	**327**	⇑P		**Pn**	**23 10 39.3**	**-0.1**

*IDC **29** 23:21:56.5±1.4,40.52N×139.86E,h183km±19km, mb3.4/7, mbtmp3.9/9, Error ellipse: s-maj=29.0km s-min=14.3km az=92.0*
*JMA **29** 23:21:56.9±0.1,40.5N±0.3×139.7E±0.9,h181km±1km, MV3.3/38, WESTERN AOMORI PREF*

ISC 29 23:21:56.6±0.8,**40.49N**±0.05×**139.72E**±0.08,**h181**km±6km, **n25,σ0.68/31,mb3.6/7,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JIW	**Iwasaki**	**0.24**	**65**	P		**Pn**	**23 22 21.2**	**+0.5**
JIW				*e*S		**Sn**	**23 22 39.9**	**+0.5**
JNTW	**Noshirotokiwa**	**0.40**	**123**	P		**Pn**	**23 22 21.7**	**+0.5**
JHHS	**Hirosakihyakuz**	**0.51**	**71**	P		**Pn**	**23 22 22.3**	**+0.7**
JOG3	**Oga3**	**0.75**	**221**	P		**Pn**	**23 22 22.1**	**-0.7**
JOG3				*e*S		**Sn**	**23 22 41.2**	**-1.7**
JAH	**Hinai**	**0.76**	**113**	*i* P		**Pn**	**23 22 23.1**	**+0.2**
JOMM	**Oshimamatsumae**	**1.05**	**12**	P		**Pn**	**23 22 25.5**	**+0.7**
JTM	**Tenmabayashi**	**1.06**	**73**	P		**Pn**	**23 22 25.3**	**+0.4**
JRG	**Rokugo**	**1.30**	**147**	P		**Pn**	**23 22 27.2**	**+0.3**
JRG				*e*S		**Sn**	**23 22 50.5**	**+0.3**
JOT	**Ohata**	**1.34**	**48**	P		**Pn**	**23 22 27.9**	**+0.7**
JANG	**Nango**	**1.37**	**94**	P		**Pn**	**23 22 27.5**	**0.0**
JOM	**Ohasama**	**1.58**	**130**	P		**Pn**	**23 22 29.4**	**0.0**
JOSM	**Okushiri--Mats**	**1.60**	**353**	P		**Pn**	**23 22 30.1**	**+0.5**
JOSM				*e*S		**Sn**	**23 22 54.9**	**-0.4**
JYK	**Kaneyama**	**1.65**	**162**	P		**Pn**	**23 22 30.3**	**+0.1**
JYK				S		**Sn**	**23 22 56.1**	**0.0**
JMK	**Ichinoseki**	**1.92**	**143**	P		**Pn**	**23 22 32.7**	**-0.2**
JNS	**Sasagawa**	**2.69**	**187**	P		**Pn**	**23 22 41.9**	**+0.2**
JSD	**Sado**	**2.70**	**205**	*e*P		**Pn**	**23 22 42.1**	**+0.4**
MJAR	**Matsushiro Arr**	**4.12**	**197**	P		**Pn**	**23 22 59.9**	**+0.6**
	3.4nm,0.3s,baz=13,slow=13,SNR=16							
ASAJ	**Asahikawa**	**4.20**	**30**	P		**Pn**	**23 23 00.6**	**+0.4**
	31nm,0.3s,baz=239,slow=12,SNR=60							
ASAJ				S		**Sn**	**23 23 48.0**	**-2.2**
	4.9nm,0.3s,baz=292,slow=30,SNR=1.2							
ZALV	**Zalesovo Beam**	**38.66**	**309**	P		**P**	**23 29 02.5**	**+0.2**
	0.8nm,0.4s,baz=77,slow=9.4,SNR=5.4							
	0.8nm,0.4s							
MKAR	**Makanchi Array**	**41.23**	**299**	P		**P**	**23 29 23.4**	**-0.2**
	0.6nm,0.6s,baz=82,slow=10,SNR=7.9							
	0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**42.89**	**305**	P		**P**	**23 29 37.0**	**+0.1**
	1.9nm,0.4s,baz=80,slow=8.4,SNR=30							
	1.9nm,0.4s							
BVAR	**Borovoye Array**	**47.31**	**310**	P		**P**	**23 30 12.0**	**+0.3**
	0.6nm,0.5s,baz=64,slow=8.5,SNR=4.6							
	0.6nm,0.5s							
WRA	**Warramunga Arr**	**60.33**	**186**	P		**P**	**23 31 46.1**	**-0.2**
	0.4nm,0.5s,baz=4.2,slow=7.2,SNR=10							
	0.4nm,0.5s							
GEYT	**Alibeck**	**61.05**	**297**	P		**P**	**23 31 51.4**	**+0.2**
	0.6nm,0.5s,baz=64,slow=8.2,SNR=2.4							
	0.6nm,0.5s							
FINES	**FINESS Array B**	**65.15**	**331**	P		**P**	**23 32 17.7**	**0.0**
	1.7nm,0.9s,baz=40,slow=9.1,SNR=1.7							
	1.7nm,0.9s							

IDC 29 23:43:56.5±1.9,**1.54N**×**124.70E,h0**km,**mb3.6**/4, **mbtmp3.6**/4,**MS3.3**/1,**Error ellipse: s-maj=237.2km s-min=24.5km az=63.0,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LEM	**Lembang**	**18.96**	**244**	LR		LR	23 56 47.2	
	comp=Z,97nm,19.4s,baz=226,slow=41							
WRA	**Warramunga Arr**	**23.35**	**157**	P		P	23 49 07.4	+0.6
	1.5nm,0.5s,baz=336,slow=11,SNR=20							
	1.5nm,0.5s							
ASAR	**Alice Springs**	**26.61**	**161**	P		P	23 49 35.7	-1.2
	0.3nm,0.6s,baz=342,slow=14,SNR=13							
	0.3nm,0.6s							
STKA	**Stephens Creek**	**36.90**	**156**	P		P	23 51 08.1	+1.0
	0.9nm,0.3s,baz=335,slow=10.0,SNR=2.9							
	0.9nm,0.3s							
MKAR	**Makanchi Array**	**58.23**	**327**	P		P	23 53 52.6	-0.1
	0.1nm,0.3s,baz=121,slow=8.9,SNR=5.2							
	0.1nm,0.3s							

*BJI **29** 23:55:51.1,5.68S×151.11E,h98km,mb5.5/84,mB5.5/59*
*MOS **29** 23:55:53.9±0.9,5.42S×150.81E,h98km,mb5.5/47, MS5.1/5,Error ellipse: s-maj=7.0km s-min=4.8km az=98.9*
*NEIC **29** 23:55:54.8,5.38S×150.75E,h100km,Moment Tensor Solution. Duration: 2s9 Moment tensor: Scale 10^17Nm; Mrr2.63; Mθθ-0.58; Mφφ-2.06; Mrθ-3.16; Mθφ2.61; Mφr1.05; Fault plane solution: M0 4.85000×10^17 NP1: φs296.51000°,δ70.34000°,λ63.07000°. NP2: φs172.98000°,δ32.90000°,λ141.72000°. Principal axes: T 4.6154, Plg56.0000°, Azm171.0000°; N 0.4604, Plg25.0000°, Azm306.0000°; P -5.0758, Plg21.0000°, Azm47.0000°;*
*IDC **29** 23:55:54.6±0.5,5.52S×150.93E,h98km±3km, mb5.2/27, mbtmp5.6/31,MS4.6/54 Error ellipse: s-maj=12.3km s-min=7.7km az=86.0*
*NEIC **29** 23:55:54.8,5.48S×150.85E,h100km*
*NEIC **29** 23:55:55.3±1.5,5.43S±0.06×150.84E±0.06,h95km±3km, mb5.4/385,Mwb5.7/36,Mww5.7/36,Error ellipse: s-maj=10.0km s-min=8.5km az=136.0,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr1.44; Mθθ0.69; Mφφ-2.13; Mrθ-4.12; Mθφ1.91; Mφr1.25; Fault plane solution: M0 5.07000×10^17 NP1:φs188.03000°, δ29.34000°,λ161.32000°. NP2:φs294.46000°,δ80.97000°, λ61.96000°. Principal axes: T 5.2172, Plg47.0000°, Azm175.0000°; N -0.3085, Plg28.0000°, Azm299.0000°; P -4.9087, Plg30.0000°, Azm47.0000°;*
*NEIC **29** 23:55:55.2,5.48S×150.83E,h89km*
*IPGP **29** 23:55:56.0,5.48S×150.85E,h83km,Mw5.8,Fault plane solution: NP1:φs295.00000°,δ80.00000°,λ59.00000°. NP2:φs188.00000°,δ33.00000°,λ160.00000°.*

*DJA **29** 23:55:57.1±0.4,6.2S×151.1E±, h119km±4km,M5.8/81, mb5.8/81,mB6.2/55,MLv6.5/2,Mw5.7/12,Mw(mB)5.8/55, MwMwp5.4/26,Mwp5.6/26*
*GCMT **29** 23:55:57.3±0.1,5.56S×150.89E,h88km,MW5.7/160, Moment Tensor Solution. s158,c313; s160,c343; Duration: 1s8 Moment tensor: Scale 10^17Nm; Mrr1.49±.04; Mθθ0.23±.04; Mφφ-1.72±.04; Mrθ-3.97±.03; Mθφ2.35±.04; Mφr0.99±.03; Best double couple: M0 4.98800×10^17 NP1:φs290.00000°,δ80.00000°, λ60.00000°. NP2:φs183.00000°,δ31.00000°,λ160.00000°. Principal axes: T 4.9800, Plg47.0000°, Azm169.0000°; N 0.0160, Plg29.0000°, Azm296.0000°; P -4.9950, Plg29.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s, Triangular moment-rate function*

ISC 29 23:55:54.9±0.2,**5.53S**±0.03×**150.87E**±0.03,**h101**km±1km, **h102**km:**pP-P,n1508,σ1.33/1656,mb5.4**/325,**69C-37D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BULU	**Kimbe**	**0.55**	**269**	P		**Pn**	**23 56 10.7**	**-0.5**
I40PG	**Keravat**	**1.67**	**43**	P		**Pn**	**23 56 22.7**	**-0.7**
	baz=208,slow=35,SNR=0.5							
I40PG				S		Sn	23 56 57.1	+12
	baz=197,slow=72							
I40PG				I		I	00 10 50.0	
	0.1nm,0.9s,baz=235,slow=299,SNR=2.3							
KRVT	**Keravat (AS076**	**1.67**	**44**	P		**Pn**	**23 56 23.5**	**+0.1**
	baz=107,slow=20							
KAVG	**Kavieng**	**2.93**	**359**	P		**Pn**	**23 56 41.9**	**+2.2**
MANU	**Manus Island**	**4.92**	**315**	Pn		**Pn**	**23 57 07.7**	**+1.2**
MANU	**Manus Island**	**4.92**	**315**	P		**Pn**	**23 57 09.6**	**+3.1**
PMG	**Port Moresby**	**5.33**	**223**			**Pn**	**23 57 13.5**	**+1.4**
PMG	**Port Moresby**	**5.33**	**223**	P		**Pn**	**23 57 13.6**	**+1.5**
PMG	**Port Moresby**	**5.33**	**223**	P		**Pn**	**23 57 13.5**	**+1.4**
PMG	**Port Moresby**	**5.33**	**223**	*ce*P		**Pn**	**23 57 13.3**	**+1.2**
PMG	**Port Moresby**	**5.33**	**223**	P		**Pn**	**23 57 13.6**	**+1.5**
	15μm,0.7s,baz=44,slow=6.9,SNR=64							
PMG				S		**Sn**	**23 58 10.2**	**-2.0**
	10μm,0.3s,baz=359,slow=24,SNR=46							
TABU	**Tabubil**	**9.61**	**271**	P		**Pn**	**23 58 11.0**	**+0.7**
HNR	**Honiara**	**9.80**	**114**	P		**Pn**	**23 58 15.1**	**+2.2**
HNR	**Honiara**	**9.80**	**114**	P		**Pn**	**23 58 13.2**	**+0.3**
	6μm,0.8s,baz=207,slow=4.2,SNR=40							
HNR				S		**Sn**	**00 00 01.7**	**+0.5**
	7μm,0.7s,baz=228,slow=15,SNR=2.6							
HNR				LR		LR	00 01 11.4	
	comp=Z,33μm,20.6s,baz=280,slow=32							
JAY	**Jayapura**	**10.57**	**286**	P		**Pn**	**23 58 25.9**	**+2.4**
	166nm,2.1s,4μm							
GENI	**Genyem**	**11.06**	**285**	P		**Pn**	**23 58 33.0**	**+2.9**
GENI	**Genyem**	**11.06**	**285**	P		**Pn**	**23 58 30.4**	**+0.3**
	344nm,1.3s,8μm6μm							
MTSU	**Mount Surprise**	**14.07**	**207**	P		**P**	**23 59 12.2**	**-2.1**
	baz=14,SNR=83							
PATS	**Pohnpei**	**14.35**	**31**	P		**Pn**	**23 59 15.1**	**+1.7**
	baz=14,SNR=6.4							
PATS	**Pohnpei**	**14.35**	**31**			**Pn**	**23 59 13.1**	**-0.3**
PATS	**Pohnpei**	**14.35**	**31**	P		**P**	**23 59 16.8**	**-0.6**
AUAYR	**Ayr State High**	**14.37**	**193**	P		**P**	**23 59 16.1**	**-1.5**
CTA	**Charters Tower**	**15.15**	**197**	P		**P**	**23 59 25.5**	**-0.8**
CTA	**Charters Tower**	**15.15**	**197**	P		**P**	**23 59 25.3**	**-1.0**
	658nm,0.8s,baz=22,slow=12,SNR=102							
CTA				S		**Sn**	**00 02 13.7**	**+2.6**
	30nm,0.8s,baz=350,slow=18,SNR=1.6							
CTA				LR		LR	00 05 20.8	
	comp=Z,2μm,18.5s,baz=15,slow=37							
CTA				ScP		**ScP**	**00 07 49.2**	**+0.1**
	32nm,0.9s,baz=317,slow=6.5,SNR=4.4							
CTAO	**Charters Tower**	**15.15**	**197**			**Pn**	**23 59 24.5**	**+0.9**
CTAO	**Charters Tower**	**15.15**	**197**	P		**P**	**23 59 25.8**	**-0.5**
CTAO	**Charters Tower**	**15.15**	**197**	P		**Pn**	**23 59 24.5**	**+0.9**
QIS	**Mount Isa**	**18.52**	**215**	P		**Pn**	**00 00 05.2**	**+0.4**
	baz=19,SNR=219							
QIS	**Mount Isa**	**18.52**	**215**	P		**Pn**	**00 00 05.0**	**+0.2**
FAKI	**Fak Fak**	**18.75**	**277**			**P**	**00 00 04.7**	**-1.4**
FAKI	**Fak Fak**	**18.75**	**277**	P		**Pn**	**00 00 12.7**	**+5.1**
KDU	**Kakadu**	**19.50**	**247**	P		**P**	**00 00 13.6**	**-0.5**
	baz=20,SNR=227							
KDU	**Kakadu**	**19.50**	**247**	P		**P**	**00 00 15

ASAR S S 00 05 14.2 -1.4
comp=Z,27nm,1.0s,baz=49,slow=7.3,SNR=5.8
ASAR ScP ScP 00 08 10.5 +0.1
comp=Z,58nm,0.9s,baz=52,slow=3.6,SNR=16
ASAR LR LR 00 10 32.5
comp=Z,1μm,21.0s,baz=49,slow=36
ASAR PKiKP PKiKP 00 12 21.9 -1.3
comp=Z,1.0nm,0.6s,baz=11,slow=0.5,SNR=4.3
comp=Z,759nm,0.8s
ARMA Armidale 24.77 178 P P 00 01 09.3 +1.9
baz=25,SNR=254
ARMA Armidale 24.77 178 P P 00 01 08.9 +1.6
ARMA Armidale 24.77 178 P P 00 01 09.5 +2.1
SANI Sanana 25.06 277 P P 00 01 11.8 +1.7
SANI Sanana 25.06 277 P P 00 01 11.1 +1.0
comp=Z,139nm,1.1s,comp=Z,2μmcomp=Z,3μm
CMSA Cobar Meteorol 26.33 190 P P 00 01 22.2 +0.9
baz=26,SNR=340
CMSA Cobar Meteorol 26.33 190 P P 00 01 22.2 +0.9
OOD Oodnadatta 26.43 211 P P 00 01 23.2 +0.9
AUDCS Dubbo College 26.65 184 P P 00 01 25.5 +1.3
SOEI Soe 26.69 259 P P 00 01 25.7 +0.7
SOEI Soe 26.69 259 P P 00 01 26.1 +1.2
SOEI Soe 26.69 259 P P 00 01 26.6 +1.7
comp=Z,208nm,1.1s,comp=Z,5μmcomp=Z,7μm
LHI Lord Howe Isla 26.98 164 P P 00 01 28.8 +1.7
baz=27,SNR=8.2
LHI Lord Howe Isla 26.98 164 P P 00 01 28.3 +1.2
LHI Lord Howe Isla 26.98 164 P P 00 01 29.0 +1.9
LCRK Leigh Creek 27.50 204 P P 00 01 32.4 +0.5
MGCD Mangrove Creek 27.54 180 P P 00 01 34.1 +1.9
baz=28,SNR=44
STKA Stephens Creek 27.61 197 P P 00 01 33.6 +0.7
baz=28,SNR=428
STKA Stephens Creek 27.61 197 P P 00 01 33.5 +0.7
STKA IAmb IAmb 00 01 34.9
comp=Z,89nm,0.8s
STKA Stephens Creek 27.61 197 P P 00 01 33.3 +0.4
STKA Stephens Creek 27.61 197 *c* iP P 00 01 33.1 +0.2
STKA Stephens Creek 27.61 197 P P 00 01 33.5 +0.7
comp=Z,334nm,0.8s,baz=4.1,slow=9.0,SNR=386
STKA ScP ScP 00 08 22.1 +2.4
comp=Z,50nm,0.9s,baz=18,slow=6.3,SNR=9.3
STKA LR LR 00 12 08.2
comp=Z,4μm,21.8s,baz=15,slow=35
comp=Z,334nm,0.8s
FITZ Fitzroy Crossi 27.62 241 P P 00 01 33.3 +0.2
baz=28,SNR=162
FITZ Fitzroy Crossi 27.62 241 P P 00 01 33.1 0.0
FITZ IAmb IAmb 00 02 06.0
comp=Z,93nm,0.8s
RIV Riverview 28.16 179 P P 00 01 39.8 +2.1
baz=28,SNR=8.6
RIV Riverview 28.16 179 P P 00 01 39.9 +2.2
DAV Davao City (W) 28.17 296 LR LR 00 12 36.9
comp=Z,622nm,18.9s,baz=104,slow=36
FUNA Funafuti 28.27 98 P P 00 01 39.0 +0.1
FUNA IAmb IAmb 00 02 24.7
comp=Z,111nm,1.1s
FUNA Funafuti 28.27 98 P P 00 01 40.5 +1.6
LUWI Luwuk 28.39 278 P P 00 01 39.1 -0.9
NFK Norfolk Island 28.43 147 P P 00 01 41.9 +1.8
baz=29,SNR=6.6
NFK Norfolk Island 28.43 147 P P 00 01 42.0 +1.8
GTOI Gorontalo 28.48 282 P P 00 01 43.0 +2.2
comp=Z,21nm,0.7s,comp=Z,670nm
MMRI Maumere 28.57 262 P P 00 01 40.8 -0.9
MMRI Maumere 28.57 262 P P 00 01 42.7 +1.1
MMRI Maumere 28.57 262 P P 00 01 42.3 +0.7
comp=Z,236nm,0.6s,comp=Z,7μmcomp=Z,4μm
YNG Young 28.72 184 P P 00 01 44.5 +1.8
WRKA Warakurna 29.07 226 P P 00 01 46.2 +0.4
baz=29,SNR=676
WRKA Warakurna 29.07 226 P P 00 01 46.3 +0.4
EDFI Ende, Flores 29.12 262 P P 00 01 45.2 -1.4
comp=Z,95nm,0.7s,comp=Z,2μmcomp=Z,3μm
MULG Mulgathing 29.28 211 P P 00 01 48.1 +0.5
CNB Canberra Magne 29.68 182 P P 00 01 52.9 +1.7
baz=30,SNR=82
CNB Canberra Magne 29.68 182 P P 00 01 52.9 +1.7
AUUHS Ulladulla High 29.69 181 P P 00 01 53.5 +2.3
CAN Canberra 29.70 183 P P 00 01 52.6 +1.2
CAN Canberra 29.70 183 P P 00 01 53.1 +1.7
CAN Canberra 29.70 183 P P 00 01 52.6 +1.2
CAN pmax pmax
comp=Z,272nm,0.9s
HTT Hallett 29.91 200 P P 00 01 54.3 +1.0
baz=30,SNR=169
HTT Hallett 29.91 200 P P 00 01 54.1 +0.9
DGTI Dogotuki 30.25 113 P P 00 01 58.6 +2.1
BASI Baing, Sumba 30.35 259 P P 00 01 56.2 -1.2
comp=Z,459nm,1.1s,comp=Z,10μm
BBOO Buckleboo 30.46 205 P P 00 01 58.5 +0.5
baz=31,SNR=123
BBOO Buckleboo 30.46 205 P P 00 01 58.2 +0.2
BBOO Buckleboo 30.46 205 P P 00 01 58.7 +0.6
BKSI Bulukumba 30.61 269 P P 00 02 03.8 +4.2
comp=Z,38nm,1.1s,comp=Z,658nm
TAVE Taveuni 30.70 114 P P 00 02 02.6 +2.2
TOLI2 Tolitoli 30.76 281 P P 00 02 00.2 -0.8
TOLI2 IAmb IAmb 00 02 54.9
comp=Z,50nm,0.9s
AUSMG Snowy Mountain 30.82 184 P P 00 02 02.8 +1.5
AUMAG Moama Anglican 30.94 190 P P 00 02 04.9 +2.6
KAPI Kappang 30.99 269 P P 00 02 02.6 -0.4
KAPI IAmb IAmb 00 03 10.2
comp=Z,66nm,1.0s
KAPI Kappang 30.99 269 P P 00 02 02.6 -0.4
KAPI pmax pmax
comp=Z,66nm,1.0s
KAPI Kappang 30.99 269 LR LR 00 17 53.4
comp=Z,398nm,18.8s,baz=94,slow=42
MILA Mila 31.42 183 P P 00 02 08.4 +1.8
baz=32,SNR=12
MILA Mila 31.42 183 P P 00 02 08.3 +1.8
MPSI Mapaga 31.47 280 P pP 00 02 28.0 -1.9
LKBA Tubou, Lakemba 32.17 116 P P 00 02 15.0 +1.7
ARPS Mount Arapiles 32.18 194 P P 00 02 14.5 +1.4
baz=32,SNR=134
TOO Toolangi 32.27 188 P P 00 02 15.7 +1.7
baz=32,SNR=82
TOO Toolangi 32.27 188 P P 00 02 15.3 +1.3
TOO Toolangi 32.27 188 P P 00 02 15.7 +1.7
TOO Toolangi 32.27 188 P P 00 02 15.3 +1.3
TOO pmax pmax
comp=Z,526nm,1.0s
PLAI Plampang 32.99 262 P P 00 02 22.4 +1.9
PLAI Plampang 32.99 262 P P 00 02 18.1 -2.4
comp=Z,71nm,0.7s
FORT Forrest 33.02 218 P P 00 02 21.1 +0.5
baz=33,SNR=284
FORT Forrest 33.02 218 P P 00 02 21.0 +0.5
FORT Forrest 33.02 218 P P 00 02 21.6 +1.0
AUHPC Hawkesdale P12 33.35 192 P P 00 02 25.3 +2.0
JCJ Chichijima 33.50 346 P P 00 02 22.9 -1.8
JCJ Chichijima 33.50 346 LR LR 00 14 41.7
comp=Z,1μm,20.9s,baz=168,slow=34
TWSI Taliwang, Sumb 33.86 263 P P 00 02 26.6 -1.5
comp=Z,45nm,0.7s
MBWA Marble Bar 33.94 240 P P 00 02 28.9 +0.2
MBWA Marble Bar 33.94 240 P P 00 02 29.1 +0.4
MBWA Marble Bar 33.94 240 P P 00 02 28.8 +0.1
MBWA pP pP 00 02 48.8 -3.0
PSA00 Pilbara Seismi 34.01 239 P P 00 02 29.3 0.0
PSA00 Pilbara Seismi 34.01 239 P P 00 02 29.6 +0.3
TGY Tagaytay City 35.53 304 LR LR 00 16 33.6
comp=Z,570nm,21.7s,baz=126,slow=35
IGBI Denpasar 35.58 263 P P 00 02 40.5 -2.4
comp=Z,95nm,0.8s,comp=Z,3μm
AULHS Lilydale High 35.72 185 P P 00 02 46.6 +2.9
JAGI Jajag, Banyuwa 36.55 263 P P 00 02 49.6 -1.5
JAGI Jajag, Banyuwa 36.55 263 P P 00 02 51.3 +0.1
JAGI Jajag, Banyuwa 36.55 263 P P 00 02 49.1 -2.1
comp=Z,116nm,0.9s
KMMI Kalianget 36.70 266 P P 00 02 52.8 +0.3
comp=Z,58nm,1.0s
MOO Moorlands 36.91 185 P P 00 02 56.0 +2.2
baz=37,SNR=59
MOO Moorlands 36.91 185 P P 00 02 56.8 +3.0
MEEK Meekatharra 37.24 232 P P 00 02 57.3 +0.4
baz=37,SNR=368
MEEK Meekatharra 37.24 232 P P 00 02 57.5 +0.6
TAU Tasmania Unive 37.36 184 P P 00 02 59.7 +2.1
TAU Tasmania Unive 37.36 184 P P 00 03 00.1 +2.5
TAU Tasmania Unive 37.36 184 P P 00 02 59.7 +2.1
TAU pmax pmax
comp=Z,427nm,0.8s
TAU Tasmania Unive 37.36 184 ⇑P P 00 02 60.0 +2.3
TAU PcP PcP 00 05 16.1 +1.4
AUTAR Taroona High S 37.39 184 P P 00 03 00.2 +2.4
KMBL Kambalda 37.40 223 P P 00 02 58.7 +0.5
baz=38,SNR=81
KMBL Kambalda 37.40 223 P P 00 02 59.0 +0.8
RAO Raoul Island 37.77 132 LR LR 00 14 37.0
comp=Z,1μm,20.4s,baz=314,slow=30
KUZ Kuaotunu 38.51 147 P P 00 03 09.5 +2.1
JOW Kunigami 38.90 327 P P 00 03 12.3 +1.5
JOW Kunigami 38.90 327 P P 00 03 13.6 +2.8
JOW Kunigami 38.90 327 P P 00 03 12.6 +1.8
comp=Z,42nm,0.4s,baz=148,slow=12,SNR=22
JOW pP pP 00 03 34.6 +1.0
comp=Z,72nm,0.8s,baz=144,slow=10,SNR=2.6
JOW LR LR 00 15 36.5
comp=Z,1μm,22.0s,baz=136,slow=30
comp=Z,42nm,0.4s
TOZ Tahuroa Road 39.13 148 P P 00 03 15.1 +2.6
GIRL Giralia 39.23 241 P P 00 03 15.0 +1.3
baz=39,SNR=26
GIRL Giralia 39.23 241 P P 00 03 14.8 +1.1
GIRL Giralia 39.23 241 P P 00 03 15.2 +1.5
KHEZ Kahui Hut 39.59 151 P P 00 03 19.2 +2.7
JHJ Hachijo jima 2 39.85 345 LR LR 00 17 02.8
comp=Z,1μm,21.0s,baz=150,slow=32
UGM Wanagama 40.13 264 P P 00 03 22.4 +1.2
comp=Z,137nm,1.4s
QRZ Quartz Range 40.15 154 P P 00 03 23.5 +2.5
YOJ Yonaguni jima 40.31 319 P P 00 03 23.9 +1.4
YOJ Yonaguni jima 40.31 319 P P 00 03 23.9 +1.4
YOJ pmax pmax
comp=Z,343nm,1.2s
URZ Urewera 40.37 147 P P 00 03 24.6 +1.8
URZ Urewera 40.37 147 LR LR 00 17 59.1
comp=Z,1μm,20.1s,baz=38,slow=33
MORW Morawa 40.40 230 P P 00 03 23.3 0.0
baz=40,SNR=90
MORW Morawa 40.40 230 P P 00 03 23.6 +0.4
MORW Morawa 40.40 230 P P 00 03 23.9 +0.7
KLBR Kellerberrin 40.41 226 P P 00 03 23.1 -0.2
baz=40,SNR=114
NIUE Niue 40.48 113 P P 00 03 25.8 +1.8
NIUE Niue 40.48 113 P P 00 03 26.5 +2.4
MXZ Matakaoa Point 40.53 146 P P 00 03 26.8 +2.7
RTZ Ruatahuna 40.56 148 P P 00 03 25.8 +1.3
BLDU Ballidu 40.66 228 P P 00 03 25.4 0.0
baz=41,SNR=60
BLDU Ballidu 40.66 228 P P 00 03 25.4 0.0
BKZ Black Stump Fm 40.72 149 P P 00 03 27.4 +1.6
BKZ Black Stump Fm 40.72 149 P P 00 03 27.4 +1.6
YULB Yu-li 40.74 316 P P 00 03 26.5 +0.4
YULB IAmb IAmb 00 03 56.7
comp=Z,62nm,1.0s
YULB Yu-li 40.74 316 P P 00 03 28.4 +2.3
NACB Ninganchiao 41.05 317 P P 00 03 29.6 +1.0
NACB Ninganchiao 41.05 317 P P 00 03 30.7 +2.1
TPUB Ta-pu 41.15 315 P P 00 03 29.9 +0.4
TPUB Ta-pu 41.15 315 P P 00 03 31.9 +2.5
SSLB Suanglung 41.24 316 P P 00 03 30.8 +0.6
SSLB IAmb IAmb 00 03 40.3
comp=Z,57nm,0.8s
SSLB Suanglung 41.24 316 P P 00 03 32.6 +2.4
MRZ Mangatainoka R 41.41 151 P P 00 03 32.8 +1.5
JCZ Jackson Bay 41.50 160 P P 00 03 35.0 +2.9
SNZO South Karori 41.51 153 P P 00 03 33.2 +1.1
SNZO South Karori 41.51 153 P P 00 03 33.9 +1.8
SNZO South Karori 41.51 153 P P 00 03 33.4 +1.2
NWAO Narrogin (SRO) 41.52 225 P P 00 03 32.2 -0.1
baz=42,SNR=21
NWAO P P 00 03 32.2 -0.1
baz=42,SNR=21
NWAO Narrogin (SRO) 41.52 225 P P 00 03 32.4 +0.1
NWAO Narrogin (SRO) 41.52 225 P P 00 03 32.5 +0.2
NWAO Narrogin (SRO) 41.52 225 P P 00 03 32.6 +0.2
NWAO Narrogin (SRO) 41.52 225 P P 00 03 32.4 +0.1
NWAO pmax pmax
comp=Z,712nm,1.1s
NWAO Narrogin (SRO) 41.52 225 P P 00 03 31.8 -0.6
comp=Z,116nm,0.9s,baz=52,slow=7.4,SNR=37
NWAO LR LR 00 20 59.4
comp=Z,2μm,21.6s,baz=56,slow=36
comp=Z,116nm,0.9s
NWAO Narrogin (SRO) 41.52 225 P P 00 03 32.2 -0.1
NWAO pP pP 00 03 53.4 -2.6
NWAO sP sP 00 04 03.9 -3.8
TATO Taipei 41.66 318 P P 00 03 34.2 +0.6
KPJI Karang Pucung 41.70 265 P P 00 03 34.6 +0.5
comp=Z,111nm,0.8s
MUN Mundaring 41.73 227 P P 00 03 34.4 +0.2
baz=42,SNR=42
MUN Mundaring 41.73 227 P P 00 03 34.8 +0.7
JSG Sagara 41.74 344 P P 00 03 34.6 +0.5
BFZ Birch Farm 41.75 151 P P 00 03 35.7 +1.6
KHZ Kahutara 41.89 155 P P 00 03 36.5 +1.3
RPZ Rata Peaks 41.98 158 P P 00 03 37.1 +1.1
RPZ Rata Peaks 41.98 158 LR LR 00 18 48.0
comp=Z,2μm,21.9s,baz=324,slow=33
CMJI Cimerak 42.18 265 P P 00 03 37.6 -0.4
comp=Z,286nm,0.8s,comp=Z,3μm
JMN Monobe 42.23 339 P P 00 03 39.5 +1.5
JMN Monobe 42.23 339 P P 00 03 40.5 +2.4
AUALB St Joseph's Co 42.25 222 P P 00 03 39.8 +1.6
MLZ Mavora Lakes 42.44 162 P P 00 03 41.5 +1.8
RKGY Rocky Gully 42.64 223 P P 00 03 42.5 +1.0
baz=43,SNR=56
PYZ Puysegur Point 42.74 164 P P 00 03 44.1 +2.0
JNU Nakatsue 42.86 335 P P 00 03 44.4 +1.2
JNU Nakatsue 42.86 335 P P 00 03 44.7 +1.4
JNU Nakatsue 42.86 335 P P 00 03 44.3 +1.0
comp=Z,134nm,0.5s,baz=143,slow=0.7,SNR=157
JNU LR LR 00 19 34.3
comp=Z,708nm,21.2s,baz=167,slow=33
comp=Z,134nm,0.5s
BBJI Bungbulang 42.97 265 P P 00 03 45.0 +0.5
ODZ Otahua Downs 42.98 159 P P 00 03 45.6 +1.6
LEM Lembang 43.01 266 P P 00 03 44.9 0.0
comp=Z,111nm,0.8s
LEM Lembang 43.01 266 LR LR 00 25 12.3
comp=Z,471nm,21.5s,baz=112,slow=41
CNJI Cibinong 43.49 265 P P 00 03 47.9 -0.7
comp=Z,138nm,1.0s,comp=Z,2μmcomp=Z,1μm
MJAR Matsushiro Arr 43.49 345 P P 00 03 47.2 -1.1
comp=Z,14nm,0.9s,baz=160,slow=7.5,SNR=27
MJAR pP pP 00 04 10.7 -0.9
comp=Z,22nm,1.1s,baz=162,slow=8.3,SNR=6.1
MJAR ScP ScP 00 09 15.9 -1.1
comp=Z,11nm,1.1s,baz=172,slow=4.5,SNR=6.7
MJAR LR LR 00 21 39.3
comp=Z,670nm,18.4s,baz=159,slow=36
comp=Z,14nm,0.9s
MAJO Matsushiro 43.50 345 P P 00 03 47.7 -0.5
MAJO IAmb IAmb 00 04 11.4
comp=Z,147nm,1.6s
MAJO Matsushiro 43.50 345 P P 00 03 47.9 -0.4
MAJO Matsushiro 43.50 345 *i* P P 00 03 46.8 -1.5
MAJO pmax pmax
comp=Z,47nm,1.4s
MAJO Matsushiro 43.50 345 P P 00 03 48.0 -0.2
MAJO pP pP 00 04 09.9 -1.7
MAJO sP sP 00 04 20.9 -2.1
MAJO PcP PcP 00 05 35.2 +0.6
MAJO ScP ScP 00 09 16.5 -0.5
MJB9 Matsu-Tunnel 43.50 345 P P 00 03 48.5 +0.2
MJB9 IAmb IAmb 00 04 12.4
comp=Z,138nm,1.6s
QZH Quanzhou 43.62 315 ⇓*i* P P 00 03 51.8 +2.4
QZH pP pP 00 04 13.0 0.0
QZH sP sP 00 04 25.8 +1.3
QZH S S 00 10 12.0 +0.3
QZH sS sS 00 10 53.5 +0.9
QZH pmax pmax
comp=Z,190nm,0.9s
SYZ Scrubby Hill 43.80 162 P P 00 03 52.5 +1.9
JMM Marumori 44.18 349 P P 00 03 53.5 -0.2
JMM IAmb IAmb 00 04 21.3
comp=Z,53nm,1.0s
JTU Tsushima 44.69 335 P P 00 03 58.6 +0.8
JTU IAmb IAmb 00 04 02.4
comp=Z,71nm,1.3s
JTU Tsushima 44.69 335 P P 00 04 00.1 +2.3
CGJI Cibinong 44.92 266 P P 00 03 58.4 -1.6
comp=Z,66nm,0.9s,comp=Z,2μm
XMI Christmas Isla 44.97 261 P P 00 04 01.9 +1.4
XMIS Christmas Isla 45.01 261 P P 00 04 01.1 +0.3
XMIS Christmas Isla 45.01 261 P P 00 04 02.0 +1.2
DLV T Lat 45.58 293 P P 00 04 05.6 +0.2
DLV IAmb IAmb 00 04 32.0
comp=Z,73nm,0.9s
DLV T Lat 45.58 293 P P 00 04 07.0 +1.6
KASI Kota Agung 46.15 268 P P 00 04 06.7 -3.0
comp=Z,66nm,0.8s,comp=Z,1μm
SSE Sheshan 46.16 324 P P 00 04 11.8 +2.4
SSE pP pP 00 04 33.5 +0.5
SSE S S 00 10 49.8 +1.7
SSE pmax pmax
comp=Z,25nm,1.1s
SSE pmax pmax
comp=Z,210nm,3.6s
SSE LR LR
comp=Z,540nm,17.9s
JTM Tenmabayashi 46.96 350 P P 00 04 15.7 +0.1
TJN Taejon 47.14 334 P P 00 04 17.8 +0.8
TJN Taejon 47.14 334 P P 00 04 19.0 +2.0
TJN Taejon 47.14 334 *ce* P P 00 04 18.4 +1.4
QIZ Qiongzhong 47.20 302 P P 00 04 19.5 +1.7
QIZ pP pP 00 04 41.3 -0.5
QIZ S S 00 11 04.3 +0.9
QIZ sS sS 00 11 43.5 -1.3
QIZ pmax pmax
comp=Z,470nm,4.7s
QIZ LR LR
comp=Z,770nm,17.8s
QIZ LR LR
comp=Z,720nm,25.5s
QIZ LR LR
comp=Z,840nm,36.3s
CTZ Chatham Island 47.60 148 P P 00 04 23.4 +2.9
KSRS Korea Array 47.81 335 P P 00 04 23.9 +1.7
comp=Z,34nm,0.7s,baz=154,slow=8.4,SNR=114
KSRS pP pP 00 04 46.7 +0.8
comp=Z,12nm,1.1s,baz=111,slow=16,SNR=4.9
KSRS LR LR 00 24 40.3
comp=Z,342nm,18.1s,baz=140,slow=36
comp=Z,34nm,0.7s
KSAR Wonju Array Be 47.82 335 P P 00 04 23.5 +1.2
KSAR Wonju Array Be 47.82 335 P P 00 04 23.5 +1.2
ERM Erimo 47.83 352 P P 00 04 23.1 +0.8
ERM IAmb IAmb 00 04 48.9
comp=Z,113nm,1.4s
ERM Erimo 47.83 352 P P 00 04 23.1 +0.8
ERM pmax pmax
comp=Z,113nm,1.4s
KS19 Wonju Array Si 47.88 335 P P 00 04 23.9 +1.1
NJ2 Nanjing 48.23 323 ⇓*i* P P 00 04 27.8 +2.3
NJ2 pP pP 00 04 49.3 +0.1
NJ2 sP sP 00 05 03.0 +2.6
NJ2 PP PP 00 06 19.0 +0.1
NJ2 S S 00 11 21.0 +3.5
NJ2 sS sS 00 11 57.3 -1.7
NJ2 pmax pmax
comp=Z,68nm,0.6s
NJ2 pmax pmax
comp=Z,910nm,4.9s
NJ2 LR LR
comp=Z,1μm,21.8s
NJ2 LR LR
comp=Z,1μm,18.9s
NJ2 LR LR
comp=Z,1μm,21.8s
INCN Inchon 48.39 334 P P 00 04 27.8 +1.1
INCN Inchon 48.39 334 P P 00 04 29.2 +2.5
INCN Inchon 48.39 334 P P 00 04 27.8 +1.1
INCN pmax pmax
comp=Z,469nm,1.1s
INCN Inchon 48.39 334 P P 00 04 28.9 +2.2
MCQ Macquarie Isla 49.27 174 P P 00 04 34.9 +1.8
baz=50,SNR=15
MCQ Macquarie Isla 49.27 174 P P 00 04 34.4 +1.3
MCQ Macquarie Isla 49.27 174 P P 00 04 35.6 +2.5
MCQ Macquarie Isla 49.27 174 P P 00 04 34.4 +1.3
MCQ pmax pmax
comp=Z,560nm,0.9s
CNSH ChangSha 49.60 315 ⇑P P 00 04 38.5 +2.4
CNSH S S 00 11 40.8 +3.9
CNSH sS sS 00 12 21.0 +2.3
CNSH pmax pmax
comp=Z,31nm,0.9s
CNSH LR LR
comp=Z,260nm,3.6s
CNSH LR LR
comp=Z,190nm,5.2s
CNSH LR LR
comp=Z,1μm,32.9s
JKA Kamikawa-asahi 49.97 352 P P 00 04 39.9 +1.3
ASAJ Asahikawa 49.98 352 P P 00 04 39.9 +1.3
ASAJ pmax pmax
comp=Z,64nm,0.7s
ASAJ Asahikawa 49.98 352 P P 00 04 39.3 +0.6
comp=Z,69nm,0.7s,baz=201,slow=10,SNR=43
ASAJ LR LR 00 24 42.8
comp=Z,659nm,21.2s,baz=193,slow=35
comp=Z,69nm,0.7s
PYAG Pyongyang 50.07 334 P P 00 04 40.9 +1.4
PYAG S S 00 11 46.2 +3.2
PYAG AmB
comp=Z,140nm,1.6s
WHN Wuhan 50.07 318 ⇑P P 00 04 41.5 +1.9
WHN S S 00 11 44.3 +0.9
WHN sS sS 00 12 28.3 +3.1
WHN SS SS 00 15 20.0 +2.0
WHN pmax pmax
comp=Z,110nm,1.0s
WHN LR LR
comp=Z,1μm,18.8s
HHU Hamhung 50.09 337 P P 00 04 41.0 +1.5
BKNI Bangkinang 50.09 275 P P 00 04 39.4 -0.7
RAR Rarotonga 50.26 113 P P 00 04 41.8 +0.6
RAR IAmb IAmb 00 04 44.2
comp=Z,48nm,0.9s
RAR Rarotonga 50.26 113 P P 00 04 43.2 +2.0
RAR Rarotonga 50.26 113 P P 00 04 41.8 +0.6
RAR pmax pmax
comp=Z,48nm,1.0s
RAR Rarotonga 50.26 113 LR LR 00 23 49.9
comp=Z,118nm,21.9s,baz=276,slow=33
RAR Rarotonga 50.26 113 P P 00 04 43.3 +2.1
RAR pP pP 00 05 04.8 -0.7
PDSI Padang 50.52 273 P P 00 04 43.1 -0.2
comp=Z,29nm,0.7s,comp=Z,922nm
SUJ Sinuiju 51.49 334 P P 00 04 51.1 +1.1
SUJ pP pP 00 05 13.2 -0.9
SUJ S S 00 12 04.9 +2.3
SUJ AmB
comp=Z,771nm,3.7s
DL2 Dalian 51.84 331 P P 00 04 54.5 +1.8
DL2 S S 00 12 08.5 +1.0
DL2 sS sS 00 12 45.5 -3.9
DL2 pmax pmax
comp=Z,77nm,0.9s
DL2 pmax pmax
comp=Z,130nm,3.6s
XMAS Kiritimati 52.17 83 P P 00 04 57.1 +1.6
XMAS Kiritimati 52.17 83 P P 00 04 57.8 +2.2
XMAS Kiritimati 52.17 83 P P 00 04 57.2 +1.6
XMAS pP pP 00 05 18.9 -1.6
TIA Tai'an 52.18 325 P P 00 04 56.5 +1.2
TIA S S 00 12 09.5 -2.8
TIA pmax pmax
comp=Z,130nm,2.2s
TIA LR LR
comp=Z,550nm,13.3s
TIA LR LR
comp=Z,620nm,17.2s
TIA LR LR
comp=Z,600nm,17.7s
USA0B Ussuriysk Arra 52.34 343 P P 00 04 57.4 +1.1
USA0B IAmb IAmb 00 05 28.4
comp=Z,29nm,0.8s
USA0B Ussuriysk Arra 52.34 343 *i* P P 00 04 56.6 +0.3
USRK Ussuriysk Ar. 52.34 343 P P 00 04 57.4 +1.0
comp=Z,26nm,0.8s,baz=176,slow=8.7,SNR=44
USRK pP pP 00 05 20.6 +0.2
comp=Z,18nm,0.8s,baz=185,slow=8.6,SNR=5.8
USRK ScP ScP 00 09 52.8 -1.4
comp=Z,4.6nm,0.9s,baz=165,slow=7.3,SNR=3.4
USRK LR LR 00 25 31.3

comp=Z,642nm,20.3s,baz=154,slow=34
USRK PKP2ab **P'P'ab 00 36 08.9 +0.8**
comp=Z,2.2nm,0.7s,baz=341,slow=4.0,SNR=5.5
comp=Z,26nm,0.8s
RPSI Rantau Prapat 52.52 278 P **P 00 04 56.8 -1.4**
RPSI IAmb IAmb 00 05 40.7
comp=Z,21nm,0.8s
PSI Prapat 52.54 278 P **P 00 04 56.8 -1.7**
PSI pmax pmax
comp=Z,21nm,0.8s
YSS Yuzh-Sakhalins 52.74 353 P **P 00 04 59.3 +0.1**
YSS IAmb IAmb 00 05 05.7
comp=Z,38nm,0.7s
YSS Yuzh-Sakhalins 52.74 353 P **P 00 05 00.0 +0.8**
YSS Yuzh-Sakhalins 52.74 353 *e*P **P 00 04 59.5 +0.3**
YSS *e**PP **pP 00 05 25.4 +2.1**
YSS *e**SP **sP 00 05 38.9 +4.4**
YSS *e* 00 06 07.8
YSS *e*S **S 00 12 18.4 -1.1**
YSS pmax pmax
comp=Z,50nm,0.6s
YSS pmax pmax
comp=Z,500nm,3.6s
YSS smax smax
comp=E,500nm,4.9s
YSS MLR MLR
comp=Z,700nm,20.0s
YSS Yuzh-Sakhalins 52.74 353 P **P 00 04 59.8 +0.6**
SRIT Nakonsritamara 53.01 285 P **P 00 05 01.0 -0.8**
SRIT IAmb IAmb 00 06 35.9
comp=Z,47nm,1.0s
ENH Enshi 53.26 314 P **P 00 05 04.0 +0.6**
ENH Enshi 53.26 314 P **P 00 05 05.0 +1.6**
ENH Enshi 53.26 314 P **P 00 05 04.2 +0.7**
ENH PcP **PcP 00 06 10.4 +0.5**
SNY Shenyang 53.30 335 ⇓P **P 00 05 04.8 +1.4**
SNY S **S 00 12 27.0 -0.3**
SNY sS **sS 00 13 08.8 +0.4**
SNY pmax pmax
comp=Z,620nm,6.5s
SNY LR LR
comp=Z,520nm,19.2s
SNY LR LR
comp=Z,740nm,14.2s
SNY LR LR
comp=Z,1μm,20.6s
GYA Guiyang 53.32 309 ⇑P **P 00 05 06.5 +2.4**
GYA pP pP 00 05 30.3 +1.8
GYA PP **PP 00 07 06.5 +1.1**
GYA S **S 00 12 29.8 +1.4**
GYA sS sS 00 13 11.0 +1.5
GYA pmax pmax
comp=Z,50nm,1.3s
GYA pmax pmax
comp=Z,490nm,5.5s
GYA LR LR
comp=Z,300nm,15.2s
GYA LR LR
comp=Z,460nm,18.3s
GYA LR LR
comp=Z,500nm,17.9s
MDJ Mudanjiang 53.45 341 P **P 00 05 05.5 +1.0**
MDJ IAmb IAmb 00 05 36.7
comp=Z,51nm,1.1s
MDJ Mudanjiang 53.45 341 P **P 00 05 06.1 +1.5**
MDJ Mudanjiang 53.45 341 P **P 00 05 06.0 +1.5**
MDJ pP pP 00 05 26.5 -2.2
MDJ sP sP 00 05 37.5 -2.4
MDJ PcP **PcP 00 06 11.8 +1.5**
MDJ PP **PP 00 07 04.5 -1.6**
MDJ ScP **ScP 00 09 58.5 -0.5**
MDJ PcS **PcS 00 10 08.8 -0.5**
MDJ S **S 00 12 33.3 +4.0**
MDJ sS sS 00 13 08.0 -2.6
MDJ ScS **ScS 00 14 39.3 -4.8**
MDJ pmax pmax
comp=Z,36nm,0.8s
MDJ pmax pmax
comp=Z,430nm,8.2s
MDJ Mudanjiang 53.45 341 P **P 00 05 05.8 +1.3**
MDJ pP **pP 00 05 28.5 -0.2**
MDJ PcP **PcP 00 06 11.7 +1.3**
GSI Gunungsitoli 53.65 276 P **P 00 05 05.6 -1.0**
GSI Gunungsitoli 53.65 276 P **P 00 05 07.8 +1.2**
GSI Gunungsitoli 53.65 276 P **P 00 05 05.3 -1.3**
comp=Z,75nm,0.8s
COCO West Island 53.72 259 P **P 00 05 07.4 +0.4**
COCO West Island 53.72 259 P **P 00 05 07.4 +0.4**
COCO pmax pmax
comp=Z,273nm,1.0s
LYN LuoYang 53.85 321 ⇑P **P 00 05 08.5 +0.9**
LYN pP pP 00 05 28.8 -3.1
LYN S **S 00 12 30.0 -5.0**
LYN sS sS 00 13 13.0 -3.2
LYN SS **SS 00 16 18.0 +0.3**
LYN pmax pmax
comp=Z,110nm,0.9s
LYN pmax pmax
comp=Z,390nm,5.0s
LYN LR LR
comp=Z,1μm,16.3s
LYN LR LR
comp=Z,1μm,20.3s
LYN LR LR
comp=Z,2μm,20.3s
CN2 Changchun 54.20 337 P **P 00 05 11.3 +1.3**
CN2 pP pP 00 05 34.5 +0.4
CN2 S **S 00 12 36.3 -3.1**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,300nm,3.0s
HNS HongShan 54.40 325 ⇑P **P 00 05 12.5 +1.0**
HNS S **S 00 12 42.0 -0.2**
HNS pmax pmax
comp=Z,96nm,0.9s
HNS LR LR
comp=Z,820nm,19.5s
HNS LR LR
comp=Z,1μm,19.1s
HNS LR LR
comp=Z,1μm,19.2s
BNX BinXian 55.17 340 ⇑P **P 00 05 18.0 +1.1**
BNX pP **pP 00 05 41.3 +0.1**
BNX sP **sP 00 05 53.5 +1.1**
BNX PcP **PcP 00 06 13.5 -3.4**
BNX S **S 00 12 51.0 -1.3**
BNX sS **sS 00 13 37.0 +2.9**
BNX SS **SS 00 16 35.5 -2.5**
BNX pmax pmax
comp=Z,72nm,0.9s
BNX pmax pmax
comp=Z,510nm,6.1s
BNX LR LR
comp=Z,590nm,19.7s
BNX LR LR
comp=Z,410nm,20.0s
BNX LR LR
comp=Z,2μm,40.1s
MLSI Meulaboh, Aceh 55.26 279 P **P 00 05 16.6 -1.6**
comp=Z,53nm,0.9s
BJI Beijing 55.46 328 P **P 00 05 20.3 +1.2**
BJI pP **pP 00 05 43.3 -0.2**
BJI sP **sP 00 05 55.0 +0.3**
BJI PP **PP 00 07 26.5 +2.4**
BJI S **S 00 12 56.8 +0.5**
BJI sS **sS 00 13 36.5 -1.0**
BJI pmax pmax
comp=Z,13nm,2.1s
BJI pmax pmax
comp=Z,140nm,3.9s
BJI LR LR
comp=Z,350nm,21.3s
BJI LR LR
comp=Z,280nm,17.2s
BJI LR LR
comp=Z,440nm,21.2s
KMI Kunming 55.81 305 ⇓P **P 00 05 22.5 +0.3**
KMI pP pP 00 05 47.3 +0.5
KMI S **S 00 13 02.0 -0.1**
KMI sS sS 00 13 41.8 -1.9
KMI SS **SS 00 16 48.8 -0.6**
KMI pmax pmax
comp=Z,42nm,1.1s
KMI pmax pmax
comp=Z,260nm,4.5s
KMI LR LR
comp=Z,650nm,19.5s
KMI LR LR
comp=Z,450nm,18.5s
KMI LR LR
comp=Z,700nm,31.5s
CRAI Chiangrai 55.82 299 P **P 00 05 22.7 +0.5**
XAN Xi'an 55.84 318 P **P 00 05 22.7 +0.6**
XAN pP **pP 00 05 45.8 -0.7**
TIY Taiyuan 55.94 323 *e*P **P 00 05 24.0 +1.3**
TIY pP **pP 00 05 43.8 -3.4**
TIY sP **sP 00 05 58.5 +0.1**
TIY S **S 00 13 04.3 +1.3**
TIY pmax pmax
comp=Z,33nm,0.6s
TIY pmax pmax
comp=Z,300nm,3.6s
TIY LR LR
comp=Z,820nm,24.7s
TIY LR LR
comp=Z,720nm,24.9s
TIY LR LR
comp=Z,1μm,25.0s
CM31 Chiang Mai Arr 56.46 296 P **P 00 05 27.0 +0.3**
CM31 IAmb IAmb 00 05 54.3
comp=Z,39nm,1.1s
CMAR Chiang Mai Arr 56.46 296 *i*P **P 00 05 27.6 +0.9**
CMAR pmax pmax
comp=Z,13nm,1.0s
CMAR Chiang Mai Arr 56.46 296 P **P 00 05 27.3 +0.6**
comp=Z,12nm,1.0s,baz=113,slow=5.3,SNR=51
CMAR pP **pP 00 05 52.1 +0.8**
comp=Z,19nm,0.9s,baz=118,slow=3.1,SNR=9.1
CMAR LR LR 00 28 23.9
comp=Z,180nm,21.4s,baz=120,slow=34
CMAR PKPPKP 00 35 16.7
comp=Z,0.8nm,0.3s,baz=282,slow=3.7,SNR=4.4
CMAR PKP2bc **P'P'bc 00 35 35.3 -0.2**
comp=Z,12nm,0.9s,baz=281,slow=2.5,SNR=2.5
comp=Z,12nm,1.0s
CHTO Chiang Mai 56.58 297 P **P 00 05 27.9 +0.4**
CHTO IAmb IAmb 00 05 54.8
comp=Z,43nm,1.2s
CHTO Chiang Mai 56.58 297 P **P 00 05 28.3 +0.8**
CHTO Chiang Mai 56.58 297 P **P 00 05 27.9 +0.4**
CHTO pmax pmax
comp=Z,43nm,1.2s
CHTO Chiang Mai 56.58 297 P **P 00 05 28.3 +0.8**
CHTO PcP **PcP 00 06 25.9 +3.0**
TYV Tymovskoe 56.61 354 *e*P **P 00 05 27.5 +0.4**
TYV *e*S **S 00 13 12.3 +1.1**
TYV pmax pmax
comp=Z,67nm,0.7s
TYV pmax pmax
comp=Z,300nm,4.4s
TYV smax smax
comp=N,600nm,5.4s
HON Honolulu 56.78 60 P **P 00 05 29.7 +0.8**
HON Honolulu 56.78 60 P **P 00 05 29.7 +0.8**
HON pmax pmax
comp=Z,191nm,1.1s
KIP Kipapa 56.81 60 P **P 00 05 29.9 +0.8**
KIP Kipapa 56.81 60 P **P 00 05 29.9 +0.8**
KIP pmax pmax
comp=Z,662nm,2.0s
OPA Opana 56.91 60 P **P 00 05 30.7 +0.9**
OPA Opana 56.91 60 P **P 00 05 30.7 +0.9**
OPA pmax pmax
comp=Z,89nm,0.7s
KLR Kul'dur 57.02 345 *ce*P **P 00 05 31.2 +1.1**
KLR pmax pmax
comp=Z,20nm,0.7s
KLR Kul'dur 57.02 345 P **P 00 05 30.3 +0.3**
comp=Z,19nm,0.6s,baz=179,slow=5.8,SNR=54
KLR LR LR 00 28 52.4
comp=Z,370nm,19.0s,baz=158,slow=35
comp=Z,19nm,0.6s
PZH PanZhiHua 57.23 306 P **P 00 05 33.5 +1.4**
PZH pP **pP 00 05 58.8 +1.9**
PZH PP **PP 00 07 40.3 -0.1**
PZH S **S 00 13 18.5 -2.0**
PZH sS **sS 00 13 59.3 -2.8**
PZH SS **SS 00 17 14.8 +3.4**
PZH pmax pmax
comp=Z,20nm,0.7s
PZH pmax pmax
comp=Z,330nm,6.9s
PZH LR LR
comp=Z,330nm,17.7s
PZH LR LR
comp=Z,460nm,18.2s
PZH LR LR
comp=Z,530nm,16.9s
GRNR Gornyy 57.44 349 *e*P **P 00 05 30.0 -3.0**
CD2 Chengdu 57.77 312 P **P 00 05 37.0 +1.3**
CD2 pP pP 00 05 57.3 -3.2
CD2 S **S 00 13 26.5 -0.8**
CD2 sS sS 00 14 07.8 -1.0
CD2 pmax pmax
comp=Z,60nm,0.7s
CD2 LR LR
comp=Z,1μm,21.7s
CD2 LR LR
comp=Z,690nm,18.2s
KHLH Kahului Airpor 57.99 61 P **P 00 05 39.4 +2.0**
KHLU Kahalu`u 58.01 63 P **P 00 05 38.7 +1.0**
KHU Kahuku 58.14 63 P **P 00 05 39.7 +0.9**
KHU Kahuku 58.14 63 P **P 00 05 39.7 +0.9**
KHU pmax pmax
comp=Z,380nm,1.7s
HPAH Hawaii Prepara 58.33 63 P **P 00 05 40.0 +0.1**
XLT XiLinHaoTe 58.34 331 *e*P **P 00 05 41.3 +1.8**
XLT pP pP 00 06 06.8 +2.6
XLT sP sP 00 06 16.3 +1.0
XLT PcP **PcP 00 06 28.0 -1.5**
XLT S **S 00 13 34.0 -0.4**
XLT sS sS 00 14 15.0 -0.7
XLT pmax pmax
comp=Z,42nm,1.0s
XLT pmax pmax
comp=Z,560nm,5.9s
XLT LR LR
comp=Z,80nm,18.3s
XLT LR LR
comp=Z,590nm,16.6s
XLT LR LR
comp=Z,1μm,28.9s
HMH Humu'ula Sheep 58.38 63 P **P 00 05 41.3 +0.8**
POHA Pohakuloa 58.39 63 P **P 00 05 40.9 +0.4**
POHA Pohakuloa 58.39 63 P **P 00 05 41.9 +1.4**
POHA Pohakuloa 58.39 63 P **P 00 05 41.4 +1.0**
HHC Hu-ho-hao-te 58.53 326 *e*P **P 00 05 42.8 +1.8**
HHC pP pP 00 06 05.0 -0.6
HHC sP sP 00 06 19.3 +2.6
HHC S **S 00 13 40.3 +3.2**
HHC sS sS 00 14 19.5 +1.0
HHC pmax pmax
comp=Z,45nm,1.1s
HHC pmax pmax
comp=Z,460nm,4.1s
HHC LR LR
comp=Z,1μm,19.9s
HHC LR LR
comp=Z,1μm,19.1s
HHC LR LR
comp=Z,2μm,19.9s
PEA0B Petropavlovsk- 58.70 5 P **P 00 05 41.9 +0.1**
PEA0B Petropavlovsk- 58.70 5 *ce*P **P 00 05 41.8 +0.1**
PETK Petropavlovsk- 58.70 5 P **P 00 05 41.7 0.0**
PETK Petropavlovsk- 58.70 5 P **P 00 05 41.7 0.0**
PETK Petropavlovsk- 58.70 5 P **P 00 05 41.2 -0.5**
comp=Z,90nm,0.7s,baz=158,slow=5.9,SNR=64
PETK LR LR 00 26 25.4
comp=Z,874nm,20.9s,baz=189,slow=31
comp=Z,90nm,0.7s
PET Petropavlovsk 58.70 5 P **P 00 05 41.9 +0.2**
PET Petropavlovsk 58.70 5 *e*P **P 00 05 41.9 +0.2**
PET pmax pmax
comp=Z,147nm,0.7s
HEH HeiHe 59.15 343 *e*P **P 00 05 44.8 -0.1**
HEH pP **pP 00 06 07.3 -2.1**
HEH ScP **ScP 00 10 22.0 -1.9**
HEH S **S 00 13 42.8 -1.6**
HEH pmax pmax
comp=Z,91nm,0.6s
HEH pmax pmax
comp=Z,440nm,5.9s
TNCH TengChong 59.24 303 ⇑P **P 00 05 45.8 -0.5**
TNCH pP pP 00 06 10.8 -0.4
TNCH sP sP 00 06 22.8 +0.4
TNCH PP **PP 00 08 01.8 +3.5**
TNCH S **S 00 13 50.0 +3.1**
TNCH sS sS 00 14 27.0 -1.8
TNCH pmax pmax
comp=Z,290nm,4.7s
BTO Baotou 59.25 325 *e*P **P 00 05 48.8 +2.9**
BTO pP **pP 00 06 15.8 +5.2**
BTO sP **PcP 00 06 27.8 -5.4**
BTO PP **PP 00 08 03.5 +5.5**
BTO S **S 00 13 48.3 +2.0**
BTO sS **sS 00 14 31.8 +4.0**
BTO SS **SS 00 17 49.8 +7.1**
BTO pmax pmax
comp=Z,65nm,1.4s
BTO pmax pmax
comp=Z,750nm,9.1s
BTO LR LR
comp=Z,2μm,19.2s
BTO LR LR
comp=Z,2μm,20.6s
BTO LR LR
comp=Z,2μm,19.6s
PPT Papeete 59.35 107 P **P 00 05 46.5 -0.4**
comp=Z,18nm,0.6s,baz=301,slow=17,SNR=2.3
PPT LR LR 00 27 26.6
comp=Z,111nm,20.7s,baz=268,slow=32
comp=Z,18nm,0.6s
PPT2 Papeete2 59.35 107 *e*P **P 00 05 49.9 +2.9**
comp=Z,69nm,1.5s
PPT2 *e*S **S 00 13 41.4 -6.9**
comp=Z,325nm,23.8s
PPT2 *e*LQ LQ 00 20 41.2
comp=Z,5μm,42.0s
PPT2 *e*LR LR 00 23 09.6
comp=Z,411nm,24.2s
PPT2 *e*LR LR 00 23 18.5
comp=Z,340nm,25.8s
PAE Paea 59.35 107 *e*P **P 00 05 49.5 +2.6**
comp=Z,12nm,1.0s
PPTF Pamatai, Papee 59.36 107 P **P 00 05 49.8 +2.7**
PPTF Pamatai, Papee 59.36 107 P **P 00 05 50.5 +3.4**
TIAR Tiarei 59.56 107 *e*P **P 00 05 51.4 +3.0**
comp=Z,10nm,1.2s
TVO Taravao 59.67 107 *e*P **P 00 05 52.0 +2.8**
comp=Z,35nm,1.2s
TBI Tubuai 60.02 114 *e*P **P 00 05 52.7 +1.3**
comp=Z,148nm,1.2s
TBI Tubuai 60.02 114 *e*P P 00 05 56.5 +5.1
comp=Z,683nm,27.2s
TBI *e*S **S 00 13 55.3 -1.3**
comp=Z,966nm,27.0s
TBI *e*LQ LQ 00 21 17.8
comp=Z,13μm,37.0s
TBI *e*LR LR 00 23 46.5
comp=Z,7μm,34.8s
TBI *e*LR LR 00 23 47.8
comp=Z,2μm,33.8s
MND Mandalay 60.17 299 P **P 00 05 53.3 +0.9**
LZH Lanzhou 60.43 317 ⇑P **P 00 05 55.8 +1.7**
LZH pP pP 00 06 15.5 -3.6
LZH sP sP 00 06 32.8 +2.6
LZH S **S 00 13 57.3 -4.4**
LZH sS sS 00 14 42.5 -0.9
LZH SS **SS 00 17 59.5 -1.9**
LZH pmax pmax
comp=Z,130nm,1.4s
LZH pmax pmax
comp=Z,360nm,5.2s
LZH LR LR
comp=Z,650nm,17.9s
LZH LR LR
comp=Z,620nm,17.9s
LZH LR LR
comp=Z,870nm,17.2s
MEH Mehetia 60.80 107 *e*P **P 00 05 59.5 +2.6**
comp=Z,18nm,1.0s
PMOR Pomariorio Ree 60.83 104 *e*P **P 00 06 00.0 +3.0**
comp=Z,170nm,1.0s
PMOR *e*pP **pP 00 06 21.5 -0.7**
comp=Z,125nm,1.1s
HIA Hailar 60.93 337 P **P 00 05 58.2 +1.1**
HIA pP **pP 00 06 20.2 -1.7**
HIA Hailar 60.93 337 P **P 00 05 58.8 +1.7**
HIA Hailar 60.93 337 P **P 00 05 58.4 +1.3**
HIA pP **pP 00 06 21.5 -0.4**
VAH Vaihoa 61.09 104 *e*P **P 00 06 01.1 +2.3**
comp=Z,61nm,1.1s
VAH *e*pP **sP 00 06 32.8 -2.7**
comp=Z,61nm,1.1s
SHEM Shemya Is, Ala 61.29 16 LR LR 00 27 07.2
comp=Z,665nm,21.0s,baz=161,slow=31
DRV Dumont d'Urvil 61.50 185 ⇑P **P 00 06 02.4 +1.8**
DRV pP **pP 00 06 25.7 0.0**
DRV sP **sP 00 06 36.1 -0.9**
ZEA Zeya 62.30 344 *e*P **P 00 06 07.5 +1.3**
ZEA *e**PP **pP 00 06 32.8 +1.8**
ZEA *e**SP **PcP 00 06 45.0 0.0**
ZEA *e*S **S 00 14 25.0 +0.6**
ZEA *e* 00 14 44.1
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,30nm,0.8s
ZEA pmax pmax
comp=Z,400nm,7.7s
ZEA smax smax
comp=N,300nm,17.0s
IMP Imphal 63.02 301 *e*P **P 00 06 11.7 +0.1**
IMP IAmb IAmb 00 06 49.1
comp=Z,46nm,1.2s
SAIH SAIHA 63.06 299 *e*P **P 00 06 12.0 0.0**
SAIH IAmb IAmb 00 06 17.3
comp=Z,53nm,0.8s
SAIH IAML 00 06 48.6
comp=N,59nm,0.8s
MOKO MOKOCHONG 63.08 303 *e*P **P 00 06 13.1 +1.0**
MOKO IAmb IAmb 00 06 41.1
comp=Z,51nm,1.1s
KOHI KOHIMA 63.20 302 *e*P **P 00 06 11.8 -1.2**
KOHI IAML 00 06 39.0
comp=Z,43nm,0.7s
KIWB Kanaga Island 63.34 22 P **P 00 06 14.1 +1.0**
ADK Adak 63.54 22 P **P 00 06 14.3 -0.1**
ADK Adak 63.54 22 P **P 00 06 14.3 -0.1**
ADK pmax pmax
comp=Z,427nm,1.8s
ITAN ITANAGAR 64.04 304 *e*P **P 00 06 19.3 +1.1**
ITAN IAmb IAmb 00 06 48.6
comp=Z,76nm,0.8s
ZIRO ZIRO 64.07 304 *e*P **P 00 06 19.7 +1.0**
ZIRO IAmb IAmb 00 06 46.0
comp=Z,66nm,1.0s
GTA Gaotai 64.90 318 P **P 00 06 24.8 +1.0**
GTA pP pP 00 06 48.3 -0.7
GTA sP sP 00 07 00.0 -0.1
GTA S **S 00 14 58.5 +1.0**
GTA sS sS 00 15 40.0 +0.2
GTA ScS **SKSac 00 16 07.8 -1.5**
GTA pmax pmax
comp=Z,32nm,1.4s
GTA pmax pmax
comp=Z,270nm,6.8s
GTA LR LR
comp=Z,360nm,17.5s
GTA LR LR
comp=Z,440nm,16.3s
GTA LR LR
comp=Z,770nm,17.5s
MA2 Magadan 64.90 360 P **P 00 06 22.9 -0.3**
MA2 Magadan 64.90 360 P **P 00 06 23.7 +0.6**
MA2 Magadan 64.90 360 *ce*P **P 00 06 22.5 -0.6**
MA2 pmax pmax
comp=Z,57nm,0.6s
MA2 Magadan 64.90 360 LR LR 00 30 38.9
comp=Z,929nm,21.9s,baz=189,slow=32
MA2 Magadan 64.90 360 P **P 00 06 23.1 0.0**
MA2 pP **pP 00 06 46.5 -1.8**
SHL Shillong 65.03 301 P **P 00 06 24.3 -0.6**

SHL IAmb IAmb 00 06 53.1
comp=Z,61nm,0.9s
SHL Shillong 65.03 301 P **P** **00 06 24.3 -0.6**
SHL pmax pmax
comp=Z,61nm,0.9s
CIT Chita 65.55 336 *e*P **P** **00 06 29.0 +1.4**
CIT *e* 00 06 49.0
CIT *e* 00 07 01.2
CIT pmax pmax
comp=Z,271nm,1.2s
ULN Ulaanbaatar 65.61 329 P **P** **00 06 28.1 -0.1**
ULN IAmb IAmb 00 06 55.1
comp=Z,73nm,1.1s
ULN Ulaanbaatar 65.61 329*ce*P **P** **00 06 29.5 +1.3**
ULN pmax pmax
comp=Z,18nm,1.0s
ULN Ulaanbaatar 65.61 329 P **P** **00 06 29.9 +1.7**
ULN pP **pP** **00 06 54.0 +0.7**
SONM Songino Array 65.93 329 P **P** **00 06 30.7 +0.5**
SONM Songino Array 65.93 329 P **P** **00 06 31.9 +1.6**
comp=Z,24nm,0.6s,baz=150,slow=5.0,SNR=104
SONM pP **pP** **00 06 54.5 -0.9**
comp=Z,47nm,1.0s,baz=142,slow=6.1,SNR=10.0
SONM LR LR 00 34 34.7
comp=Z,931nm,21.3s,baz=122,slow=35
SONM PKPPKP P'P'df 00 34 56.3 -9.3
comp=Z,0.3nm,0.8s,baz=292,slow=0.7,SNR=4.8
comp=Z,24nm,0.6s
CASY Casey 66.77 197 P **P** **00 06 35.8 +0.7**
CASY Casey 66.77 197 P **P** **00 06 36.5 +1.4**
GOMU GeErMu 66.84 313 P **P** **00 06 37.8 +1.2**
GOMU S **S** **00 15 26.0 +4.3**
GOMU pmax pmax
comp=Z,18nm,0.8s
GOMU LR LR
comp=Z,690nm,17.9s
GOMU LR LR
comp=Z,200nm,18.7s
GOMU LR LR
comp=Z,770nm,18.4s
LSA Lhasa 67.07 305 P **P** **00 06 39.1 +0.7**
LSA pP **pP** **00 07 01.3 -2.4**
LSA IAmb IAmb 00 07 19.2
comp=Z,40nm,1.0s
NIKH Nikolski High 67.47 25 P **P** **00 06 39.0 -0.7**
baz=224
SEY Seymchan 68.28 1*ce*P **P** **00 06 44.2 -0.4**
SEY pmax pmax
comp=Z,34nm,1.0s
SEY Seymchan 68.28 1 LR LR 00 31 05.2
comp=Z,365nm,21.8s,baz=183,slow=31
GTK Tadong 68.38 302 *e*P **P** **00 06 47.5 +1.4**
GTK IAmb IAmb 00 07 15.5
comp=Z,46nm,0.8s
UNV Unalaska Valle 69.09 25 P **P** **00 06 49.1 -0.7**
baz=226
ZAK Zakamensk 69.13 330 *e*P **P** **00 06 50.9 +0.6**
ZAK pmax pmax
comp=Z,205nm,1.1s
YAK Yakutsk 69.32 350 P **P** **00 06 51.6 +0.6**
YAK IAmb IAmb 00 06 53.5
comp=Z,58nm,0.7s
YAK pP **PcP** **00 07 12.1 -1.8**
YAK Yakutsk 69.32 350 *e*P **P** **00 06 51.8 +0.8**
YAK *e* 00 07 14.0
YAK *e*S **S** **00 15 48.4 -0.9**
YAK *e**SS **SKSac** **00 16 37.0 -4.5**
YAK *e*SS **SS** **00 20 22.9 +4.6**
YAK pmax pmax
comp=Z,44nm,0.8s
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=Z,57nm,1.9s
YAK smax smax
comp=N,282nm,3.7s
YAK smax smax
comp=E,136nm,3.5s
YAK Yakutsk 69.32 350 LR LR 00 37 54.6
comp=E,8.7nm,20.0s,baz=140,slow=36
YAK Yakutsk 69.32 350 P **P** **00 06 51.6 +0.6**
BOD Bodaibo 69.80 340 *e*P **P** **00 06 54.2 +0.1**
BOD pmax pmax
comp=Z,87nm,1.6s
IRK Irkutsk 69.81 332 *e*P **P** **00 06 54.2 -0.1**
IRK *e* 00 07 18.7
IRK pmax pmax
comp=Z,2.0nm,2.0s
SPIA Saint Paul Isl 70.02 21 P **P** **00 06 55.9 +0.5**
baz=222
MOY Mondy 71.05 330 *e*P **P** **00 07 03.2 +1.2**
MOY *e* 00 07 25.2
MOY pmax pmax
comp=Z,147nm,1.7s
FALS False Pass 71.11 26 P **P** **00 07 02.2 +0.2**
baz=229
PALK Pallekele 71.15 280 P **P** **00 07 02.7 -0.6**
PALK IAmb IAmb 00 09 34.9
comp=Z,124nm,1.9s
PALK Pallekele 71.15 280 P **P** **00 07 02.7 -0.6**
PALK pmax pmax
comp=Z,124nm,2.0s
CCD Concordia, Ant 71.30 187 ⇑P **P** **00 07 05.2 +1.7**
VNDA Vanda 72.19 178 P **P** **00 07 09.8 +1.5**
VNDA Vanda 72.19 178 P **P** **00 07 09.8 +1.5**
VNDA pmax pmax
comp=Z,117nm,0.9s
VNDA Vanda 72.19 178 P **P** **00 07 09.1 +0.8**
comp=Z,90nm,0.8s,baz=333,slow=6.5,SNR=335
VNDA LR LR 00 34 20.7
comp=Z,300nm,20.9s,baz=346,slow=32
comp=Z,90nm,0.8s
SDPT Sand Point 72.72 27 P **P** **00 07 11.4 -0.3**
baz=232
SBA Scott Base 72.77 177 P **P** **00 07 14.0 +2.3**
SBA IAmb IAmb 00 07 15.2
comp=Z,103nm,1.1s
SBA Scott Base 72.77 177 P **P** **00 07 14.0 +2.3**
SBA pmax pmax
comp=Z,103nm,1.1s
AIS Amsterdam Isla 73.44 232 P **P** **00 07 17.8 +1.3**
S14K Fog Glacier 73.71 26 P **P** **00 07 17.0 -0.6**
baz=232
BILL Bilibino 74.20 6 P **P** **00 07 20.9 +0.7**
BILL Bilibino 74.20 6⇓*e*P **P** **00 07 20.5 +0.3**
BILL pmax pmax
comp=Z,44nm,1.0s
CHGN Chignik 74.22 27 P **P** **00 07 20.9 +0.4**
CHGN Chignik 74.22 27 P **P** **00 07 21.0 +0.4**
baz=233
KOD Kodaikanal 74.75 282 *e*P **P** **00 07 26.4 +1.5**
M13K Dall Lake 74.84 22 P **P** **00 07 24.2 +0.2**
M13K Dall Lake 74.84 22 P **P** **00 07 24.2 +0.2**
baz=228
O14K Tigyukauivet M 74.87 23 P **P** **00 07 24.4 +0.2**
O14K IAmb IAmb 00 07 26.9
comp=Z,42nm,0.6s
O14K Tigyukauivet M 74.87 23 P **P** **00 07 24.4 +0.2**
baz=230
HYB Hyderabad 74.92 290 *e*P **P** **00 07 25.9 +0.4**
HYB *e*pP **pP** **00 07 50.3 -1.0**
HYB *e*PP **PP** **00 10 16.3 +1.8**
HYB *e*S **S** **00 16 55.6 +0.4**
WMQ Urumqi 74.98 318 *e*P **P** **00 07 26.5 +1.2**
WMQ pP pP 00 07 50.3 -0.8
WMQ S **S** **00 16 54.0 -1.0**
WMQ pmax pmax
comp=Z,42nm,1.1s
WMQ LR LR
comp=Z,480nm,24.0s
CHIR Chirikof Islan 75.22 28 P **P** **00 07 26.6 +0.3**
CHIR Chirikof Islan 75.22 28 P **P** **00 07 26.3 0.0**
baz=236
O15K Ungalikthiuk R 75.39 24 P **P** **00 07 27.7 +0.4**
baz=231
M14K Bethel 75.58 22 P **P** **00 07 29.1 +0.9**
M14K IAmb IAmb 00 07 31.2
comp=Z,53nm,0.6s
M14K Bethel 75.58 22 P **P** **00 07 28.8 +0.5**
baz=229,SNR=9.3
L14K Kuka Creek 75.71 21 P **P** **00 07 29.8 +0.8**
L14K IAmb IAmb 00 07 49.4
comp=Z,77nm,0.9s
L14K Kuka Creek 75.71 21 P **P** **00 07 29.2 +0.2**
baz=228

R17K Ugashik Creek 75.91 26 P **P** **00 07 30.3 +0.1**
R17K IAmb IAmb 00 07 31.5
comp=Z,46nm,0.6s
R17K Ugashik Creek 75.91 26 P **P** **00 07 30.0 -0.3**
baz=235
N15K Kwethluk River 75.91 23 P **P** **00 07 30.8 +0.6**
N15K Kwethluk River 75.91 23 P **P** **00 07 31.0 +0.8**
baz=231
M15K Kasigluk River 76.02 22 P **P** **00 07 30.5 -0.3**
baz=230
LGTI Lohaghat 76.04 302 *e*P **P** **00 07 33.1 +1.5**
P16K Nushagak River 76.05 25 P **P** **00 07 30.5 -0.5**
baz=233
PTH Pithoragarh 76.09 302 *e*P **P** **00 07 32.5 +0.4**
SII Sitkinak Islan 76.30 28 P **P** **00 07 32.9 +0.5**
SII IAmb IAmb 00 07 51.9
comp=Z,78nm,1.0s
SII Sitkinak Islan 76.30 28 P **P** **00 07 32.7 +0.2**
baz=237
O16K Kokwok River B 76.35 24 P **P** **00 07 33.1 +0.4**
O16K Kokwok River B 76.35 24 P **P** **00 07 31.7 -0.9**
baz=233
J14K Nanvaranak Lak 76.36 20 P **P** **00 07 34.1 +1.5**
J14K Nanvaranak Lak 76.36 20 P **P** **00 07 33.3 +0.7**
baz=227
L15K Ungalak Mounta 76.37 21 P **P** **00 07 33.2 +0.5**
baz=229
Q16K King Salmon 76.40 25 P **P** **00 07 32.7 -0.2**
baz=234
Q17K Contact Creek 76.49 26 P **P** **00 07 32.9 -0.7**
baz=235
N16K Nishlik Lake 76.62 23 P **P** **00 07 34.4 +0.2**
baz=232
R18K Karluk 76.73 27 P **P** **00 07 32.8 -2.0**
baz=237
K15K Wolf Creek Mou 76.75 21 P **P** **00 07 35.9 +1.0**
K15K IAmb IAmb 00 07 37.0
comp=Z,60nm,0.7s
K15K Wolf Creek Mou 76.75 21 P **P** **00 07 35.5 +0.6**
baz=229
P17K Kvichak River 76.79 25 P **P** **00 07 34.2 -1.0**
baz=234
O17K Koliganek Bris 76.86 24 P **P** **00 07 35.0 -0.5**
baz=234,SNR=8.1
M16K Timber Creek 76.89 23 P **P** **00 07 36.6 +1.0**
M16K IAmb IAmb 00 07 56.0
comp=Z,62nm,0.9s
M16K Timber Creek 76.89 23 P **P** **00 07 35.6 -0.1**
baz=232,SNR=13
TNA Tin City 77.02 16 P **P** **00 07 37.1 +0.8**
baz=222
ANM Nome 77.05 18 P **P** **00 07 36.6 +0.1**
ANM IAmb IAmb 00 08 02.9
comp=Z,112nm,1.8s
ANM Nome 77.05 18 P **P** **00 07 36.8 +0.3**
baz=225,SNR=7.1
ANM Nome 77.05 18 P **P** **00 07 36.6 +0.1**
ANM pmax pmax
comp=Z,112nm,1.8s
OHAK Old Harbor 77.07 28 P **P** **00 07 37.3 +0.5**
OHAK Old Harbor 77.07 28 P **P** **00 07 39.0 +2.2**
OHAK Old Harbor 77.07 28 P **P** **00 07 36.5 -0.3**
baz=238
Q18K Katmai Hardscr 77.09 26 P **P** **00 07 35.5 -1.5**
baz=236,SNR=18
L16K Owhat River 77.12 22 P **P** **00 07 37.3 +0.3**
L16K IAmb IAmb 00 07 38.6
comp=Z,34nm,0.7s
L16K Owhat River 77.12 22 P **P** **00 07 37.2 +0.3**
baz=231,SNR=11
N17K Nushagak Hills 77.28 24 P **P** **00 07 39.1 +1.3**
N17K Nushagak Hills 77.28 24 P **P** **00 07 37.8 -0.1**
baz=234,SNR=11
F14K Arctic Creek 77.41 17 P **P** **00 07 39.0 +0.5**
baz=224
P18K Big Mountain, 77.42 25 P **P** **00 07 38.7 -0.1**
P18K Big Mountain, 77.42 25 P **P** **00 07 39.0 +0.3**
baz=236
DGZ Jazzator, Alta 77.51 323 *i*P **P** **00 07 40.0 +0.4**
DGZ pmax pmax
comp=Z,25nm,0.8s
O18K Koktuh Hills 77.69 25 P **P** **00 07 40.5 +0.3**
O18K Koktuh Hills 77.69 25 P **P** **00 07 40.2 0.0**
baz=235
KDAK Kodiak Island 77.69 27 P **P** **00 07 40.7 +0.5**
KDAK IAmb IAmb 00 08 56.2
comp=Z,53nm,1.2s
KDAK Kodiak Island 77.69 27 P **P** **00 07 39.8 -0.4**
baz=238
KDAK Kodiak Island 77.69 27 P **P** **00 07 40.7 +0.5**
KDAK pmax pmax
comp=Z,53nm,1.2s
KDAK Kodiak Island 77.69 27 LR LR 00 38 31.0
comp=Z,470nm,19.6s,baz=254,slow=33
M17K Holitna River 77.70 23 P **P** **00 07 41.2 +1.0**
M17K IAmb IAmb 00 07 42.7
comp=Z,31nm,0.7s
M17K Holitna River 77.70 23 P **P** **00 07 41.1 +0.9**
baz=233
J16K Anvik River 77.73 20 P **P** **00 07 41.3 +1.0**
J16K IAmb IAmb 00 08 07.2
comp=Z,166nm,1.8s
J16K Anvik River 77.73 20 P **P** **00 07 41.6 +1.3**
baz=230
G15K Niukluk 77.75 18 P **P** **00 07 41.1 +0.6**
baz=226
L17K Donlin 77.82 22 P **P** **00 07 42.0 +1.1**
baz=232
Q19K Cape Douglas, 77.84 26 P **P** **00 07 41.1 +0.1**
Q19K Cape Douglas, 77.84 26 P **P** **00 07 40.3 -0.7**
baz=237,SNR=7.1
N18K Kilae Creek 77.88 24 P **P** **00 07 42.4 +1.1**
N18K Kilae Creek 77.88 24 P **P** **00 07 41.9 +0.6**
baz=235,SNR=7.2
F15K North Star Dit 78.07 17 P **P** **00 07 43.0 +0.8**
F15K North Star Dit 78.07 17 P **P** **00 07 42.5 +0.3**
baz=226
H16K Elim 78.08 19 P **P** **00 07 42.5 +0.3**
baz=228
I17K Unalakleet 78.08 20 P **P** **00 07 43.8 +1.5**
I17K Unalakleet 78.08 20 P **P** **00 07 43.5 +1.3**
baz=230,SNR=16
K17K Iditarod 78.18 21 P **P** **00 07 44.3 +1.4**
K17K IAmb IAmb 00 07 45.5
comp=Z,38nm,0.8s
K17K Iditarod 78.18 21 P **P** **00 07 44.3 +1.4**
baz=232
ZSN Zaisan 78.20 321 *e*P **P** **00 07 43.6 +0.3**
baz=321
ZSN Zaisan 78.20 321 *e*P **P** **00 07 43.6 +0.3**
Q20K Shuyak Island 78.22 27 P **P** **00 07 43.3 +0.2**
baz=238
O19K Port Alsworth 78.25 25 P **P** **00 07 43.0 -0.3**
O19K Port Alsworth 78.25 25 P **P** **00 07 43.4 +0.2**
baz=236
SVW2 Sparrevohn 78.25 24 P **P** **00 07 43.6 +0.3**
SVW2 IAmb IAmb 00 07 46.7
comp=Z,38nm,0.7s
SVW2 Sparrevohn 78.25 24 P **P** **00 07 44.7 +1.4**
TIXI Tiksi 78.37 353 P **P** **00 07 43.4 -0.3**
TIXI Tiksi 78.37 353*ce*P **P** **00 07 42.1 -1.6**
TIXI pmax pmax
comp=Z,11nm,1.3s
TIXI Tiksi 78.37 353 LR LR 00 38 33.7
comp=Z,14nm,20.8s,baz=176,slow=33
M18K Stony River 78.38 23 P **P** **00 07 45.3 +1.3**
baz=235,SNR=10
P19K Oil Pt 78.41 25 P **P** **00 07 44.3 +0.1**
P19K Oil Pt 78.41 25 P **P** **00 07 43.9 -0.3**
baz=237,SNR=12
L18K Granite Mounta 78.48 22 P **P** **00 07 45.1 +0.6**
L18K IAmb IAmb 00 07 46.8
comp=Z,38nm,0.8s
L18K Granite Mounta 78.48 22 P **P** **00 07 45.3 +0.9**
baz=234
N19K Bonanza Creek 78.53 24 P **P** **00 07 45.4 +0.5**
N19K Bonanza Creek 78.53 24 P **P** **00 07 45.3 +0.3**
baz=236
G16K Koyuk River 78.55 18 P **P** **00 07 45.7 +0.9**
G16K IAmb IAmb 00 07 46.6
comp=Z,36nm,0.8s
G16K Koyuk River 78.55 18 P **P** **00 07 44.8 +0.1**
baz=228
ILSW Iliamna Southw 78.62 25 P **P** **00 07 45.3 -0.2**
ILSW IAmb IAmb 00 09 02.5
comp=Z,59nm,1.4s

O20K Slope Mountain 78.90 25 P **P** **00 07 46.4 -0.6**
baz=238
H17K Granite Mounta 79.03 19 P **P** **00 07 48.2 +0.8**
H17K IAmb IAmb 00 07 51.0
comp=Z,28nm,0.7s
H17K Granite Mounta 79.03 19 P **P** **00 07 48.0 +0.5**
baz=230
SMLA Simla 79.03 303 *e*P **P** **00 07 47.9 -0.3**
HOM Homer 79.09 26 P **P** **00 07 48.4 +0.5**
HOM Homer 79.09 26 P **P** **00 07 47.9 0.0**
baz=239
TTA Tatalina 79.15 22 P **P** **00 07 48.9 +0.6**
TTA Tatalina 79.15 22 P **P** **00 07 49.5 +1.2**
TTA Tatalina 79.15 22 P **P** **00 07 49.0 +0.7**
baz=234,SNR=18
TTA Tatalina 79.15 22 P **P** **00 07 48.9 +0.6**
TTA pmax pmax
comp=Z,18nm,0.8s
G17K Kiwalik Mounta 79.15 19 P **P** **00 07 48.6 +0.5**
baz=229
L19K White Mountain 79.16 23 P **P** **00 07 48.8 +0.5**
L19K IAmb IAmb 00 07 50.2
comp=Z,41nm,0.7s
L19K White Mountain 79.16 23 P **P** **00 07 48.9 +0.7**
baz=235,SNR=29
CNPM China Poot 79.20 26 P **P** **00 07 48.7 +0.1**
J18K Innoko River 79.21 21 P **P** **00 07 48.6 +0.1**
J18K Innoko River 79.21 21 P **P** **00 07 49.0 +0.5**
baz=233
BRLK Bradley Lake 79.48 26 P **P** **00 07 50.5 +0.4**
BRLK IAmb IAmb 00 07 51.5
comp=Z,33nm,0.7s
BRSE Bradley Lake S 79.53 26 P **P** **00 07 50.0 -0.3**
baz=240
F17K Baldwin Pennin 79.59 18 P **P** **00 07 51.5 +1.1**
F17K IAmb IAmb 00 07 52.7
comp=Z,48nm,0.8s
F17K Baldwin Pennin 79.59 18 P **P** **00 07 51.6 +1.1**
baz=229
MK31 Makanchi Array 79.61 319 P **P** **00 07 51.0 -0.1**
MK31 Makanchi Array 79.61 319*ce*P **P** **00 07 51.1 0.0**
MKAR Makanchi Array 79.61 319 *i*P **P** **00 07 51.4 +0.3**
MKAR pmax pmax
comp=Z,10.0nm,0.7s
MKAR Makanchi Array 79.61 319 P **P** **00 07 51.3 +0.2**
comp=Z,10nm,0.7s,baz=104,slow=6.9,SNR=64
MKAR pP **pP** **00 08 15.8 -1.3**
comp=Z,14nm,0.9s,baz=113,slow=6.0,SNR=5.9
MKAR S **S** **00 17 42.7 -2.3**
comp=Z,0.7nm,0.9s,baz=193,slow=5.6,SNR=1.9
MKAR PKKPbc **PKKPbc** **00 26 39.3 -1.3**
comp=Z,2.3nm,0.8s,baz=266,slow=1.8,SNR=11
MKAR PKPPKP **P'P'df** **00 34 41.0 -1.1**
comp=Z,0.9nm,0.8s,baz=270,slow=1.2,SNR=6.6
MKAR LR LR 00 42 29.5
comp=Z,415nm,20.6s,baz=126,slow=35
comp=Z,10nm,0.7s
M20K Styx River 79.66 24 P **P** **00 07 51.7 +0.6**
M20K Styx River 79.66 24 P **P** **00 07 51.4 +0.3**
baz=237
N20K Mount Spurr 79.67 24 P **P** **00 07 51.2 +0.1**
baz=238
H18K Honhosa River 79.67 19 P **P** **00 07 51.3 +0.3**
H18K Honhosa River 79.67 19 P **P** **00 07 50.7 -0.3**
baz=232
L20K Farewell, AK 79.70 23 P **P** **00 07 51.8 +0.6**
baz=236
C16K Lisburne Hills 79.70 15 P **P** **00 07 51.9 +0.8**
C16K Lisburne Hills 79.70 15 P **P** **00 07 51.7 +0.6**
baz=224
PAF Port-aux-Franc 79.74 221 P **P** **00 07 52.6 +0.9**
PAF Port-aux-Franc 79.74 221 P **P** **00 07 52.6 +0.9**
PAF pmax pmax
comp=Z,443nm,1.2s
MAKZ Makanchi 79.82 319 P **P** **00 07 52.4 +0.2**
MAKZ IAmb IAmb 00 08 19.3
comp=Z,92nm,1.5s
MAKZ Makanchi 79.82 319 P **P** **00 07 52.4 +0.2**
MAKZ pmax pmax
comp=Z,92nm,1.5s
E17K Hotham Inlet 79.84 17 P **P** **00 07 52.5 +0.7**
baz=228
J19K Poorman 79.92 21 P **P** **00 07 53.0 +0.7**
J19K Poorman 79.92 21 P **P** **00 07 52.9 +0.6**
baz=234
GCSA Galena City Sc 79.92 20 P **P** **00 07 52.4 +0.1**
baz=233,SNR=9.5
DHRM DHARAMSHALA 80.00 304 *e*P **P** **00 07 53.0 -0.7**
G18K Tagagawik 80.04 19 P **P** **00 07 53.3 +0.3**
G18K IAmb IAmb 00 07 54.7
comp=Z,37nm,0.7s
G18K Tagagawik 80.04 19 P **P** **00 07 53.1 +0.2**
baz=231
K20K Telida 80.12 22 P **P** **00 07 54.3 +0.8**
K20K IAmb IAmb 00 07 55.4
comp=Z,30nm,0.8s
K20K Telida 80.12 22 P **P** **00 07 54.1 +0.7**
baz=236
RDOG Red Dog Mine 80.20 16 P **P** **00 07 54.7 +0.9**
RDOG IAmb IAmb 00 07 55.5
comp=Z,45nm,0.7s
RDOG Red Dog Mine 80.20 16 P **P** **00 07 53.9 +0.1**
baz=227,SNR=14
SEW Seward 80.28 26 P **P** **00 07 54.1 -0.1**
baz=241,SNR=7.2
O22K Cooper Landing 80.34 26 P **P** **00 07 54.9 +0.3**
O22K Cooper Landing 80.34 26 P **P** **00 07 54.7 +0.1**
baz=240
SKT Skwentna 80.36 24 P **P** **00 07 54.4 -0.3**
SKT Skwentna 80.36 24 P **P** **00 07 54.0 -0.7**
baz=238
SHLS Shalkode 80.38 315⇑*i*P **P** **00 07 54.0 -1.4**
baz=315
SHLS Shalkode 80.38 315*c**i*P **P** **00 07 54.0 -1.4**
SUA Susitna One 80.41 25 P **P** **00 07 55.1 0.0**
SUA Susitna One 80.41 25 P **P** **00 07 54.6 -0.5**
baz=239,SNR=12
C17K DeLong Mountai 80.42 16 P **P** **00 07 55.7 +0.8**
baz=226
E18K Tukpahlearik C 80.43 17 P **P** **00 07 55.6 +0.6**
E18K Tukpahlearik C 80.43 17 P **P** **00 07 55.8 +0.8**
baz=229
H19K Roundabout Mou 80.54 20 P **P** **00 07 56.4 +0.8**
H19K IAmb IAmb 00 07 57.3
comp=Z,32nm,0.8s
H19K Roundabout Mou 80.54 20 P **P** **00 07 56.1 +0.5**
baz=233
J20K Nowinta River 80.55 21 P **P** **00 07 56.2 +0.5**
J20K IAmb IAmb 00 08 54.6
comp=Z,51nm,1.1s
J20K Nowinta River 80.55 21 P **P** **00 07 56.5 +0.8**
baz=236
PPLA Purkeypile 80.58 23 P **P** **00 07 56.2 +0.1**
baz=238
RC01 Rabbit Creek A 80.64 25 P **P** **00 07 55.8 -0.5**
RC01 IAmb IAmb 00 07 58.5
comp=Z,27nm,0.6s
RC01 Rabbit Creek A 80.64 25 P **P** **00 07 55.9 -0.3**
baz=240,SNR=14
UZB Uzynbulak 80.69 315 *e*P **P** **00 07 57.4 +0.2**
baz=315
UZB Uzynbulak 80.69 315 *e*P **P** **00 07 57.3 +0.2**
ZAA0 Zalesovo Array 80.69 327 P **P** **00 07 55.8 -0.9**
ZALV Zalesovo Beam 80.69 327 P **P** **00 07 55.6 -1.0**
ZALV Zalesovo Beam 80.69 327 P **P** **00 07 55.8 -0.9**
comp=Z,18nm,0.6s,baz=111,slow=5.4,SNR=92
ZALV S **S** **00 17 50.8 -5.2**
comp=Z,0.9nm,0.7s,baz=109,slow=8.0,SNR=3.7
ZALV PKKPbc **PKKPbc** **00 26 37.9 -0.5**
comp=Z,0.8nm,0.5s,baz=287,slow=2.6,SNR=3.9
ZALV PKPPKP **P'P'df** **00 34 36.4 -3.2**
comp=Z,0.2nm,0.3s,baz=317,slow=5.9,SNR=2.0
ZALV LR LR 00 43 12.9
comp=Z,239nm,19.9s,baz=117,slow=35
comp=Z,18nm,0.6s
G19K Purcell Mounta 80.70 19 P **P** **00 07 57.0 +0.5**
G19K IAmb IAmb 00 07 60.0
comp=Z,46nm,0.8s
G19K Purcell Mounta 80.70 19 P **P** **00 07 56.9 +0.4**
baz=233
I20K Naaghedeneel 80.79 21 P **P** **00 07 57.5 +0.6**
I20K IAmb IAmb 00 09 48.0
comp=Z,75nm,1.2s
I20K Naaghedeneel 80.79 21 P **P** **00 07 57.3 +0.4**
baz=235
M22K Willow 80.81 24 P **P** **00 07 56.8 -0.3**

M22K IAmb IAmb 00 07 59.8
comp=Z,52nm,0.9s
M22K Willow 80.81 24 P **P** **00 07 57.2 +0.1**
baz=240
CAST Castle Rocks 80.90 22 P **P** **00 07 57.2 -0.3**
CAST Castle Rocks 80.90 22 P **P** **00 07 57.3 -0.3**
baz=238,SNR=25
F19K Shaleruckik Mo 80.91 18 P **P** **00 07 57.5 0.0**
F19K IAmb IAmb 00 07 59.1
comp=Z,40nm,0.7s
F19K Shaleruckik Mo 80.91 18 P **P** **00 07 57.4 -0.1**
baz=232
PRZ Przheval'sk 80.94 314 P **P** **00 07 59.3 +0.8**
PRZ IAmb IAmb 00 08 01.0
comp=Z,81nm,1.0s
PRZ pP **pP** **00 08 24.1 -0.5**
H20K Anotleneega Mo 81.05 20 P **P** **00 07 58.7 +0.3**
baz=235,SNR=12
CHUM Lake Minchumin 81.06 22 P **P** **00 07 58.2 -0.2**
baz=238,SNR=28
C18K Utukok River 81.07 16 P **P** **00 07 58.8 +0.3**
C18K pP **pP** **00 08 22.5 -2.2**
C18K IAmb IAmb 00 08 24.5
comp=Z,69nm,1.6s
C18K Utukok River 81.07 16 P **P** **00 07 58.1 -0.3**
baz=228
CUT Chulitna 81.08 24 P **P** **00 07 57.9 -0.6**
CUT IAmb IAmb 00 08 57.5
comp=Z,46nm,1.0s
CUT Chulitna 81.08 24 P **P** **00 07 57.1 -1.5**
baz=240,SNR=8.8
SATY Saty 81.10 315⇑ *i*P **P** **00 07 59.5 +0.3**
baz=315
SATY Saty 81.10 315 *c i*P **P** **00 07 59.5 +0.3**
ZHN Zhinishke 81.11 315 *e*P **P** **00 07 59.1 -0.2**
baz=315
ZHN Zhinishke 81.11 315 *e*P **P** **00 07 59.1 -0.2**
P23K Montague Islan 81.13 27 P **P** **00 07 57.4 -1.5**
baz=243
PMR Palmer 81.14 25 P **P** **00 07 58.9 0.0**
PMR Palmer 81.14 25 P **P** **00 07 59.3 +0.4**
PMR Palmer 81.14 25 P **P** **00 07 58.6 -0.3**
baz=241,SNR=9.0
PMR Palmer 81.14 25 P **P** **00 07 58.9 0.0**
PMR pmax pmax
comp=Z,19nm,0.7s
TARG Taragay, Kyrgy 81.16 314 P **P** **00 07 59.5 -0.5**
TARG Taragay, Kyrgy 81.16 314 P **P** **00 07 59.5 -0.5**
TARG pmax pmax
comp=Z,24nm,1.0s
GHO Glory Hole Cre 81.32 25 P **P** **00 08 00.2 +0.3**
KNK Knik Glacier 81.34 25 P **P** **00 08 00.5 +0.5**
KNK IAmb IAmb 00 08 34.6
comp=Z,55nm,1.4s
KNK Knik Glacier 81.34 25 P **P** **00 07 59.7 -0.2**
baz=241,SNR=6.6
Q23K Middleton Isla 81.35 27 P **P** **00 07 59.6 -0.4**
baz=244
B18K Kokolik River 81.39 15 P **P** **00 08 00.8 +0.8**
baz=228
KTH Kantishna Hill 81.42 23 P **P** **00 07 60.0 -0.4**
E19K Redstone River 81.46 18 P **P** **00 08 01.1 +0.6**
E19K IAmb IAmb 00 08 02.6
comp=Z,67nm,0.8s
E19K Redstone River 81.46 18 P **P** **00 08 00.8 +0.4**
baz=232
SML Sawmill 81.58 25 P **P** **00 08 01.9 +0.6**
SML Sawmill 81.58 25 P **P** **00 08 01.2 0.0**
baz=242,SNR=33
TRF Thorofare Moun 81.61 23 P **P** **00 08 01.0 -0.6**
TRF Thorofare Moun 81.61 23 P **P** **00 08 00.9 -0.6**
baz=239,SNR=14
TDK Taldyqorghan 81.64 317 *e*P **P** **00 08 01.8 -0.1**
TDK comp=Z,35nm,0.7s,baz=317 *e*S **S** **00 18 05.5 -0.7**
baz=317
TDK Taldyqorghan 81.64 317 *e*P **P** **00 08 01.8 -0.1**
TDK *e*S **S** **00 18 05.5 -0.7**
TDK pmax pmax
comp=Z,35nm,0.7s
GLI Glacier Island 81.67 26 P **P** **00 08 01.8 +0.1**
GLI IAmb IAmb 00 08 03.2
comp=Z,41nm,0.6s
GLI Glacier Island 81.67 26 P **P** **00 08 01.9 +0.2**
baz=243,SNR=7.2
BPAW Bear Paw Mtn. 81.68 22 P **P** **00 08 00.9 -0.8**
BPAW Bear Paw Mtn. 81.68 22 P **P** **00 08 01.3 -0.4**
baz=239,SNR=12
F20K Avaraart Lake 81.68 19 P **P** **00 08 02.1 +0.4**
F20K Avaraart Lake 81.68 19 P **P** **00 08 02.0 +0.4**
baz=234
HIN Hinchinbrook I 81.71 26 P **P** **00 08 02.4 +0.5**
HIN IAmb IAmb 00 09 00.0
comp=Z,73nm,1.2s
IMAR Indian Mountai 81.71 20 P **P** **00 08 02.0 +0.2**
C19K Lookout Ridge 81.81 16 P **P** **00 08 02.6 +0.3**
C19K IAmb IAmb 00 08 04.1
comp=Z,54nm,0.7s
C19K Lookout Ridge 81.81 16 P **P** **00 08 03.2 +0.8**
baz=230
M23K Glacier View 81.83 25 P **P** **00 08 02.5 0.0**
baz=242,SNR=12
D19K Kuna River 81.84 17 P **P** **00 08 02.6 +0.1**
D19K IAmb IAmb 00 08 03.7
comp=Z,32nm,0.7s
D19K Kuna River 81.84 17 P **P** **00 08 02.5 0.0**
baz=231
H21K Melozitna Rive 81.85 20 P **P** **00 08 02.9 +0.3**
H21K Melozitna Rive 81.85 20 P **P** **00 08 03.5 +0.9**
baz=237
FID Port Fidalgo 81.88 26 P **P** **00 08 03.3 +0.4**
FID IAmb IAmb 00 08 05.6
comp=Z,30nm,0.7s
I21K Tanana 81.88 21 P **P** **00 08 03.5 +0.7**
I21K Tanana 81.88 21 P **P** **00 08 02.9 +0.2**
baz=238
KSH Kashi 81.95 311 P **P** **00 08 06.0 +2.2**
KSH sP sP 00 08 42.3 +1.4
KSH SKS **SKSac** **00 18 12.5 -2.7**
KSH pmax pmax
comp=Z,37nm,0.9s
KSH LR LR
comp=Z,590nm,22.5s
WAT1 Susitna Watana 81.98 24 P **P** **00 08 03.6 +0.2**
baz=241
SCM Sheep Creek Mo 82.01 25 P **P** **00 08 03.7 +0.1**
SCM IAmb IAmb 00 08 06.7
comp=Z,38nm,0.8s
SCM Sheep Creek Mo 82.01 25 P **P** **00 08 03.6 0.0**
baz=242,SNR=18
SCM Sheep Creek Mo 82.01 25 P **P** **00 08 03.7 +0.1**
SCM pmax pmax
comp=Z,38nm,0.8s
SEM Semipalatinsk 82.08 322 *e*P **P** **00 08 04.5 +0.1**
baz=322
SEM Semipalatinsk 82.08 322 *e*P **P** **00 08 04.5 +0.1**
MDOK Medeo 82.08 315 *e*P **P** **00 08 04.7 +0.1**
baz=315
MDOK *e*S **S** **00 18 11.0 -0.1**
baz=315
MDOK Medeo 82.08 315 *e*P **P** **00 08 04.6 +0.1**
MDOK *e*S **S** **00 18 11.0 -0.1**
G21K Allakaket 82.09 20 P **P** **00 08 03.8 0.0**
G21K Allakaket 82.09 20 P **P** **00 08 04.3 +0.4**
baz=236
EYAK Cordova Ski Ar 82.11 26 P **P** **00 08 04.2 +0.3**
EYAK Cordova Ski Ar 82.11 26 P **P** **00 08 03.9 -0.1**
baz=244
TNSS Tian-Shan 82.12 315 *e*P **P** **00 08 04.9 -0.2**
baz=315
TNSS Tian-Shan 82.12 315 *e*P **P** **00 08 04.8 -0.2**
A19K Wainwright 82.14 15 P **P** **00 08 04.3 +0.4**
baz=228
RND Reindeer 82.14 23 P **P** **00 08 04.1 -0.1**
RND IAmb IAmb 00 08 04.9
comp=Z,60nm,0.6s
RND Reindeer 82.14 23 P **P** **00 08 04.1 -0.1**
RND pmax pmax
comp=Z,60nm,0.6s
AAA Alma-Ata 82.19 315 *e*P **P** **00 08 05.2 +0.3**
baz=315
AAA Alma-Ata 82.19 315 *e*P **P** **00 08 05.2 +0.3**
WAT6 Susitna Watana 82.19 24 P **P** **00 08 04.4 -0.2**
baz=242,SNR=14
MLY Manley 82.25 21 P **P** **00 08 04.7 -0.1**
MLY IAmb IAmb 00 08 06.1
comp=Z,40nm,0.6s
MLY Manley 82.25 21 P **P** **00 08 04.6 -0.1**
baz=239,SNR=48
E20K Nigu River 82.26 17 P **P** **00 08 04.8 +0.1**
baz=233
MCK McKinley 82.27 23 P **P** **00 08 04.2 -0.6**
MCK IAmb IAmb 00 08 06.5
comp=Z,63nm,0.7s
MCK McKinley 82.27 23 P **P** **00 08 04.0 -0.8**
baz=241,SNR=51
MCK McKinley 82.27 23 P **P** **00 08 04.2 -0.6**
MCK pmax pmax
comp=Z,63nm,0.7s
BWN Browne 82.29 22 P **P** **00 08 05.0 +0.2**
BWN IAmb IAmb 00 09 11.6
comp=Z,54nm,0.9s
CHKK Chushkaly 82.31 315 *e*P **P** **00 08 04.9 -0.6**
baz=316
CHKK Chushkaly 82.31 315 *e*P **P** **00 08 04.8 -0.6**
DIV Divide 82.36 26 P **P** **00 08 05.4 0.0**
DIV IAmb IAmb 00 08 08.6
comp=Z,41nm,0.6s
ULHL Ulahol 82.42 314 P **P** **00 08 07.9 +1.5**
SNR=9.1
KAIM Kayak Island 82.44 27 P **P** **00 08 06.2 +0.4**
baz=245
KLU Klutina 82.45 26 P **P** **00 08 06.5 +0.6**
KLU IAmb IAmb 00 08 08.4
comp=Z,41nm,0.8s
KLU Klutina 82.45 26 P **P** **00 08 06.0 +0.1**
baz=244,SNR=25
H22K Ishtalitna Cre 82.48 21 P **P** **00 08 06.0 +0.2**
baz=238,SNR=16
F21K Alatna River 82.50 19 P **P** **00 08 06.4 +0.4**
F21K Alatna River 82.50 19 P **P** **00 08 05.9 0.0**
baz=236
RAGM Ragged Mountai 82.52 27 P **P** **00 08 07.1 +0.9**
RAGM IAmb IAmb 00 09 05.0
comp=Z,56nm,1.1s
DHY Denali Highway 82.57 24 P **P** **00 08 06.8 +0.2**
DHY Denali Highway 82.57 24 P **P** **00 08 06.1 -0.5**
baz=242,SNR=21
M24K Tolsona, Glenn 82.62 25 P **P** **00 08 07.6 +0.9**
M24K Tolsona, Glenn 82.62 25 P **P** **00 08 06.9 +0.1**
baz=243,SNR=20
NEA2 Nenana 82.65 22 P **P** **00 08 06.2 -0.6**
NEA2 IAmb IAmb 00 08 07.3
comp=Z,32nm,0.7s
NEA2 Nenana 82.65 22 P **P** **00 08 05.8 -1.0**
baz=240,SNR=15
KUU Kurty 82.77 315⇑ *i*P **P** **00 08 07.5 -0.3**
comp=Z,77nm,0.8s,baz=315
KUU *e*S **S** **00 18 16.3 -1.5**
baz=315
KUU Kurty 82.77 315 *c i*P **P** **00 08 07.5 -0.3**
KUU *e*S **S** **00 18 16.2 -1.5**
KUU pmax pmax
comp=Z,77nm,0.8s
BMRM Bremner River 82.80 26 P **P** **00 08 08.3 +0.6**
BMRM Bremner River 82.80 26 P **P** **00 08 08.6 +0.9**
baz=245,SNR=7.8
NIL Nilore 82.80 305 P **P** **00 08 07.6 -0.7**
NIL Nilore 82.80 305 P **P** **00 08 07.6 -0.7**
NIL pmax pmax
comp=Z,77nm,0.6s
I23K Minto, Yukon-K 82.81 22 P **P** **00 08 07.3 -0.2**
I23K Minto, Yukon-K 82.81 22 P **P** **00 08 07.8 +0.3**
baz=240,SNR=9.8
WRH Wood River Hil 82.96 22 P **P** **00 08 08.2 -0.1**
BERG Berg Lake 82.97 27 P **P** **00 08 09.0 +0.5**
BERG IAmb IAmb 00 08 10.2
comp=Z,43nm,0.8s
G22K Bettles 82.98 20 P **P** **00 08 09.1 +0.7**
baz=238
E21K Killik River 83.03 18 P **P** **00 08 09.0 +0.3**
E21K Killik River 83.03 18 P **P** **00 08 09.0 +0.3**
baz=235
B20K Meade River 83.05 16 P **P** **00 08 09.1 +0.4**
B20K IAmb IAmb 00 08 09.9
comp=Z,22nm,0.7s
B20K Meade River 83.05 16 P **P** **00 08 09.0 +0.4**
baz=232,SNR=20
TKM2 Tokmak 2 83.05 314 P **P** **00 08 10.0 +0.4**
SNR=58
F22K John River 83.08 19 P **P** **00 08 09.7 +0.7**
baz=237
N25K Chitina, Valde 83.08 26 P **P** **00 08 09.4 +0.2**
N25K Chitina, Valde 83.08 26 P **P** **00 08 09.3 +0.2**
baz=245,SNR=6.9
KZA Kyzart 83.10 313 P **P** **00 08 11.2 +1.1**
SNR=48
MDM Murphy Dome 83.14 22 P **P** **00 08 08.6 -0.7**
CCB Clear Creek Bu 83.15 22 P **P** **00 08 07.9 -1.4**
CCB IAmb IAmb 00 08 09.2
comp=Z,31nm,0.8s
KURK Kurchatov 83.16 322 P **P** **00 08 09.3 -0.4**
KURK IAmb IAmb 00 08 12.0
comp=Z,66nm,1.1s
KURK Kurchatov 83.16 322 *ce*P **P** **00 08 09.0 -0.7**
KURK pmax pmax
comp=Z,75nm,1.3s
HARP HAARP 83.18 25 P **P** **00 08 10.4 +0.8**
baz=244,SNR=7.3
KURBB Kurchatov Arra 83.19 322 P **P** **00 08 09.3 -0.5**
comp=Z,20nm,0.9s,baz=108,slow=4.2,SNR=59
KURBB pP **pP** **00 08 33.8 -2.3**
comp=Z,11nm,0.8s,baz=108,slow=4.5,SNR=5.9
KURBB PKKPbc **PKKPbc** **00 26 30.9 -1.6**
comp=Z,1.6nm,0.3s,baz=297,slow=3.0,SNR=2.7
KURBB PKPPKP **P'P'df** **00 34 36.2 +0.8**
comp=Z,1.4nm,0.2s,baz=290,slow=3.0,SNR=8.8
KURBB LR LR 00 45 43.7
comp=Z,436nm,21.0s,baz=148,slow=36
comp=Z,20nm,0.9s
C21K Knifeblade Rid 83.20 17 P **P** **00 08 10.4 +0.9**
baz=235
COLA College 83.24 22 P **P** **00 08 09.2 -0.5**
COLA IAmb IAmb 00 08 10.2
comp=Z,55nm,0.7s
COLA College 83.24 22 P **P** **00 08 10.4 +0.7**
COLA College 83.24 22 P **P** **00 08 09.7 -0.1**
baz=242
COLA College 83.24 22 P **P** **00 08 09.2 -0.5**
COLA pmax pmax
comp=Z,55nm,0.7s
SNH Sunshine Point 83.27 27 P **P** **00 08 11.1 +1.0**
PAX Paxson 83.30 24 P **P** **00 08 10.0 -0.3**
PAX Paxson 83.30 24 P **P** **00 08 10.5 +0.2**
baz=244,SNR=12
PAX Paxson 83.30 24 P **P** **00 08 10.0 -0.3**
PAX pmax pmax
comp=Z,11nm,0.7s
GLB Gilahina Butte 83.35 26 P **P** **00 08 10.8 +0.3**
GLB IAmb IAmb 00 08 12.3
comp=Z,26nm,0.7s
HDA Harding Lake 83.36 23 P **P** **00 08 09.9 -0.6**
HDA IAmb IAmb 00 08 12.7
comp=Z,27nm,0.6s
HDA Harding Lake 83.36 23 P **P** **00 08 09.4 -1.0**
baz=242,SNR=18
HDA P **P** **00 08 09.4 -1.0**
baz=242,SNR=18
CRQM Cirque 83.37 27 P **P** **00 08 11.6 +0.8**
CRQM IAmb IAmb 00 08 15.2
comp=Z,36nm,0.8s
G23K Bananza Creek 83.37 20 P **P** **00 08 10.8 +0.3**
G23K IAmb IAmb 00 08 12.0
comp=Z,24nm,0.7s
G23K Bananza Creek 83.37 20 P **P** **00 08 10.8 +0.3**
baz=239
CRQE Cirque 83.39 27 P **P** **00 08 10.8 0.0**
baz=246,SNR=14
VRDI Verde Repeater 83.42 26 P **P** **00 08 11.0 0.0**
KBK Karagaybulak 83.45 314 P **P** **00 08 12.4 +0.8**
SNR=22
TGL Tana Glacier 83.51 27 P **P** **00 08 11.8 +0.4**
POKR Poker Plat Res 83.51 22 P **P** **00 08 10.8 -0.4**
POKR Poker Plat Res 83.51 22 P **P** **00 08 10.2 -0.9**
baz=242,SNR=14
B21K Ikpikpuk River 83.53 17 P **P** **00 08 11.4 +0.3**
B21K Ikpikpuk River 83.53 17 P **P** **00 08 12.4 +1.3**
baz=235
E22K Anaktuvuk Pass 83.53 18 P **P** **00 08 11.1 -0.1**
E22K Anaktuvuk Pass 83.53 18 P **P** **00 08 11.2 -0.1**
baz=238
K24K Donnelly Dome 83.55 24 P **P** **00 08 11.8 +0.4**
baz=244,SNR=12
IL31 83.56 22 P **P** **00 08 10.3 -1.1**
IL31 IAmb IAmb 00 08 11.5
comp=Z,34nm,0.7s
ILAR Eielson Array 83.56 22 P **P** **00 08 10.0 -1.4**
ILAR Eielson Array 83.56 22 P **P** **00 08 10.0 -1.4**
ILAR Eielson Array 83.56 22 P **P** **00 08 09.6 -1.8**
comp=Z,32nm,0.8s,baz=249,slow=4.4,SNR=238
ILAR S **SKSac** **00 18 17.7 -6.8**
comp=Z,0.6nm,0.9s,baz=293,slow=4.5,SNR=2.2
ILAR PKKPbc **PKKPbc** **00 26 29.4 -2.9**
comp=Z,1.8nm,0.8s,baz=357,slow=1.4,SNR=20
ILAR PKPPKP **P'P'df** **00 34 32.5 -1.3**
comp=Z,1.0nm,0.9s,baz=10,slow=0.8,SNR=7.2
ILAR LR LR 00 40 55.3
comp=Z,622nm,21.7s,baz=247,slow=32
comp=Z,32nm,0.8s
IL03 Eielson Array 83.57 22 P **P** **00 08 10.5 -1.0**
COLD Coldfoot 83.58 20 P **P** **00 08 11.9 +0.5**
COLD IAmb IAmb 00 08 37.9
comp=Z,85nm,1.9s
COLD Coldfoot 83.58 20 P **P** **00 08 12.2 +0.7**
baz=239
UCH Uchtor 83.66 313 P **P** **00 08 13.6 +0.5**
SNR=41
CHMS Chumysh 83.67 314 P **P** **00 08 12.8 +0.3**
SNR=30
D22K Ayikyak River 83.67 18 P **P** **00 08 12.3 +0.4**
D22K IAmb IAmb 00 08 14.4
comp=Z,28nm,0.7s
D22K Ayikyak River 83.67 18 P **P** **00 08 12.7 +0.7**
baz=237
H24K Noodor Dome 83.69 21 P **P** **00 08 12.1 0.0**
H24K Noodor Dome 83.69 21 P **P** **00 08 12.1 0.0**
baz=241
FRU1 Bishkek 83.72 314 P **P** **00 08 13.3 +0.5**
FRU1 IAmb IAmb 00 08 14.5
comp=Z,40nm,1.0s
FRU1 Bishkek 83.72 314 P **P** **00 08 13.3 +0.5**
FRU1 pmax pmax
comp=Z,40nm,1.0s
AAK Ala-Archa 83.77 314 P **P** **00 08 13.7 +0.4**
SNR=37
AAK Ala-Archa 83.77 314 P **P** **00 08 13.6 +0.4**
AAK IAmb IAmb 00 08 14.9
comp=Z,45nm,1.1s
AAK Ala-Archa 83.77 314 *ce*P **P** **00 08 13.5 +0.3**
AAK pmax pmax
comp=Z,75nm,1.7s
AAK Ala-Archa 83.77 314 LR LR 00 45 12.1
comp=Z,286nm,21.5s,baz=111,slow=35
SGDS Sogindy 83.86 315⇑ *i*P **P** **00 08 13.6 0.0**
baz=315
SGDS Sogindy 83.86 315 *c i*P **P** **00 08 13.5 0.0**
RIDG Independent Ri 83.89 24 P **P** **00 08 13.6 +0.4**
RIDG IAmb IAmb 00 09 30.1
comp=Z,30nm,0.7s
RIDG Independent Ri 83.89 24 P **P** **00 08 13.1 -0.1**
baz=244
USP Ospenovka 83.91 314 P **P** **00 08 14.0 +0.2**
SNR=66
GRNC Granite Creek 83.98 27 P **P** **00 08 14.9 +1.0**
A21K Barrow 84.00 15 P **P** **00 08 13.2 -0.3**
baz=233
MENT Mentasta 84.01 25 P **P** **00 08 14.2 +0.4**
MENT IAmb IAmb 00 08 15.6
comp=Z,27nm,0.6s
MENT Mentasta 84.01 25 P **P** **00 08 16.2 +2.4**
J25K Salcha River, 84.07 23 P **P** **00 08 14.1 0.0**
J25K Salcha River, 84.07 23 P **P** **00 08 13.5 -0.6**
baz=244
M26K Nabesna, AK 84.09 25 P **P** **00 08 14.9 +0.7**
baz=246
BARN Barnard Glacie 84.15 27 P **P** **00 08 14.5 -0.2**
BARN IAmb IAmb 00 08 16.9
comp=Z,42nm,0.6s
MAW Mawson 84.16 203 P **P** **00 08 15.4 +1.0**
baz=84,SNR=63
MAW Mawson 84.16 203 P **P** **00 08 15.1 +0.6**
MAW IAmb IAmb 00 08 16.8
comp=Z,44nm,0.9s
MAW Mawson 84.16 203 P **P** **00 08 15.1 +0.6**
MAW pmax pmax
comp=Z,44nm,0.9s
MAW Mawson 84.16 203 P **P** **00 08 15.0 +0.6**
comp=Z,147nm,0.8s,baz=85,slow=6.0,SNR=75
MAW LR LR 00 42 59.3
comp=Z,495nm,21.9s,baz=86,slow=34
comp=Z,147nm,0.8s
E23K Chandalar 84.20 19 P **P** **00 08 15.0 +0.3**
baz=240
L26K Log Cabin Wild 84.20 25 P **P** **00 08 14.9 +0.1**
L26K IAmb IAmb 00 08 16.5
comp=Z,35nm,0.6s
L26K Log Cabin Wild 84.20 25 P **P** **00 08 15.5 +0.8**
baz=246,SNR=47
A22K Sinclair Lake 84.23 15 P **P** **00 08 14.6 -0.1**
baz=234
AML Almayashu 84.24 313 P **P** **00 08 16.6 +0.7**
SNR=144
G24K Hadweenzic Riv 84.25 21 P **P** **00 08 15.0 +0.1**
baz=242
CTG Chitna Glacier 84.26 27 P **P** **00 08 16.1 +0.8**
baz=248,SNR=19
CTGM Chitina Glacie 84.26 27 P **P** **00 08 15.2 -0.1**
CTGM IAmb IAmb 00 08 17.4
comp=Z,40nm,0.6s
B22K Teshekpuk Lake 84.28 16 P **P** **00 08 15.0 +0.1**
B22K IAmb IAmb 00 10 01.6
comp=Z,66nm,1.8s
B22K Teshekpuk Lake 84.28 16 P **P** **00 08 15.2 +0.3**
baz=236,SNR=12
EKS2 Erkin-Say 84.29 314 P **P** **00 08 16.6 +0.7**
SNR=77
D23K Nanushuk River 84.33 18 P **P** **00 08 16.0 +0.7**
baz=238
SCRK Sand Creek 84.34 24 P **P** **00 08 15.3 -0.3**
SCRK Sand Creek 84.34 24 P **P** **00 08 15.1 -0.4**
baz=245,SNR=28
LOGN Logan Glacier 84.36 27 P **P** **00 08 16.3 +0.5**
LOGN IAmb IAmb 00 08 17.8
comp=Z,21nm,0.7s
PRP Porcupine Dome 84.41 22 P **P** **00 08 14.2 -1.7**
PRP Porcupine Dome 84.41 22 P **P** **00 08 15.6 -0.3**
baz=244,SNR=5.9
PINM Pinnacle 84.44 28 P **P** **00 08 16.6 +0.6**
baz=249
QSPA South Pole Qui 84.44 180 P **P** **00 08 16.5 +0.4**
QSPA South Pole Qui 84.44 180 P **P** **00 08 16.5 +0.4**
comp=Z,168nm,0.8s,baz=346,slow=1.6,SNR=425
QSPA S **SKSac** **00 18 26.7 -3.7**
comp=Z,0.7nm,0.3s,baz=342,slow=20,SNR=9.5
QSPA LR LR 00 43 41.2
comp=Z,268nm,21.4s,baz=8.0,slow=34
comp=Z,168nm,0.8s
F24K Squaw Lake 84.50 20 P **P** **00 08 16.8 +0.6**
F24K IAmb IAmb 00 08 18.5
comp=Z,40nm,0.8s
TOLK Toolik Lake Re 84.51 18 P **P** **00 08 16.6 +0.3**
TOLK IAmb IAmb 00 08 18.2
comp=Z,26nm,0.8s
TOLK Toolik Lake Re 84.51 18 P **P** **00 08 16.5 +0.3**
baz=240
M27K Edge Creek, AK 84.56 26 P **P** **00 08 17.0 +0.3**
baz=247
E24K Your Creek 84.57 19 P **P** **00 08 16.8 +0.2**
E24K Your Creek 84.57 19 P **P** **00 08 16.8 +0.2**
baz=241
ARSB Arslanbob 84.58 312 P **P** **00 08 17.7 +0.3**
ARSB IAmb IAmb 00 08 19.7
comp=Z,50nm,1.3s
ARSB Arslanbob 84.58 312 P **P** **00 08 17.7 +0.3**
ARSB pmax pmax
comp=Z,50nm,1.3s
BTLS Baital 84.64 316⇑ *i*P **P** **00 08 17.6 +0.2**
comp=Z,59nm,1.0s,baz=316
BTLS Baital 84.64 316 *c i*P **P** **00 08 17.5 +0.2**
BTLS pmax pmax
comp=Z,59nm,1.0s
PNL Peninsula 84.69 29 P **P** **00 08 17.5 +0.3**
baz=250
J26L Joseph Creek 84.72 23 P **P** **00 08 17.6 +0.1**
J26L IAmb IAmb 00 08 21.6
comp=Z,22nm,0.6s
J26L Joseph Creek 84.72 23 P **P** **00 08 17.6 +0.1**
baz=246
G25K Bearman Lake 84.76 21 P **P** **00 08 17.7 +0.3**

baz=243
C23K Itkillik River 84.81 17 P P 00 08 17.4 -0.2
C23K IAmb IAmb 00 09 11.9
comp=Z,70nm,1.4s
C23K Itkillik River 84.81 17 P P 00 08 17.8 +0.2
baz=238,SNR=14
L27K Beaver Creek, 84.85 25 P P 00 08 17.9 -0.1
L27K Beaver Creek, 84.85 25 P P 00 08 18.5 +0.4
baz=247
BCAR Beaver Creek A 84.87 25 P P 00 08 18.7 +0.6
YUK3 Moose Creek 84.95 26 P P 00 08 19.1 +0.3
baz=249,SNR=18
FYU Fort Yukon 84.98 21 P P 00 08 18.4 -0.1
FYU IAmb IAmb 00 08 20.6
comp=Z,36nm,0.8s
D24K Happy Valley 85.00 18 IAmb IAmb 00 08 20.5
comp=Z,34nm,0.8s
D24K Happy Valley 85.00 18 P P 00 08 19.2 +0.6
baz=240
BVCY Beaver Creek 85.02 26 P P 00 08 20.0 +1.1
baz=248,SNR=21
YUK8 Steele Glacier 85.09 27 P P 00 08 20.0 +0.4
baz=249,SNR=18
K27K Chicken 85.13 24 P P 00 08 19.9 +0.5
K27K IAmb IAmb 00 09 48.2
comp=Z,46nm,1.3s
K27K Chicken 85.13 24 P P 00 08 20.3 +1.0
baz=247
I26K Coal Creek Min 85.22 23 P P 00 08 19.3 -0.5
I26K Coal Creek Min 85.22 23 P P 00 08 20.1 +0.3
baz=246
O29M Mount Kennedy 85.30 28 P P 00 08 21.0 +0.5
O29M IAmb IAmb 00 08 24.6
comp=Z,23nm,0.7s
O29M Mount Kennedy 85.30 28 P P 00 08 20.9 +0.5
baz=250
F25K Christian Rive 85.30 20 P P 00 08 20.6 +0.4
baz=243
C24K Franklin Bluff 85.32 18 P P 00 08 20.5 +0.3
baz=240
P29M Windy Craggy 85.47 29 P P 00 08 22.2 +1.0
P29M IAmb IAmb 00 09 53.4
comp=Z,47nm,1.4s
P29M Windy Craggy 85.47 29 P P 00 08 21.3 +0.1
baz=251
E25K Arctic Village 85.56 20 P P 00 08 22.0 +0.5
E25K Arctic Village 85.56 20 P P 00 08 22.2 +0.7
baz=243
BMAR Burnt Mountain 85.59 20 P P 00 08 22.3 +0.6
YUK6 Outpost Mounta 85.61 28 P P 00 08 23.1 +1.0
baz=250,SNR=9.8
YUK4 Talbot Arm 85.62 27 P P 00 08 23.0 +0.9
baz=250,SNR=32
G26K Porcupine Rive 85.67 21 P P 00 08 22.6 +0.7
baz=245
S31K Pelican 85.69 31 P P 00 08 23.2 +1.0
baz=253
EGAK Eagle 85.78 23 P P 00 08 23.0 +0.3
EGAK IAmb IAmb 00 08 26.5
comp=Z,30nm,0.7s
EGAK Eagle 85.78 23 P P 00 08 22.9 +0.3
baz=248,SNR=36
D25K Kavik River 85.85 18 P P 00 08 22.9 0.0
D25K IAmb IAmb 00 08 24.1
comp=Z,24nm,0.8s
D25K Kavik River 85.85 18 P P 00 08 22.9 0.0
baz=243,SNR=38
F26K Sheenjek River 85.86 20 P P 00 08 24.0 +1.1
baz=245
SIT Sitka 85.90 32 P P 00 08 24.2 +0.9
baz=253
I27K Kandik River 85.92 23 P P 00 08 24.2 +0.9
baz=247
BTK Batken 85.95 311 P P 00 08 23.8 -0.3
BTK IAmb IAmb 00 08 25.0
comp=Z,39nm,1.0s
BTK Batken 85.95 311 P P 00 08 23.8 -0.3
BTK pmax pmax
comp=Z,39nm,1.0s
HYT Haines Junctio 85.97 28 P P 00 08 24.6 +0.8
HYT IAmb IAmb 00 08 27.8
comp=Z,51nm,0.8s
HYT Haines Junctio 85.97 28 P P 00 08 24.4 +0.7
baz=251,SNR=42
NRIK Noril'sk 86.03 341 P P 00 08 23.3 -0.4
NRIK IAmb IAmb 00 08 59.3
comp=Z,52nm,0.9s
NRIK Noril'sk 86.03 341 *ce*P **P 00 08 22.0 -1.7**
NRIK pmax pmax
comp=Z,13nm,0.7s
NRIK Noril'sk 86.03 341 P **P 00 08 22.8 -0.9**
comp=Z,17nm,0.8s,baz=110,slow=4.1,SNR=39
NRIK S **SKSac 00 18 35.7 -4.3**
comp=Z,1.8nm,0.3s,baz=55,slow=2.1,SNR=2.0
NRIK LR LR 00 46 16.5
comp=Z,186nm,21.4s,baz=125,slow=35
comp=Z,17nm,0.8s
M29M Somme Creek 86.07 26 P P 00 08 24.8 +0.6
M29M IAmb IAmb 00 08 26.5
comp=Z,23nm,0.8s
M29M Somme Creek 86.07 26 P P 00 08 24.9 +0.7
baz=250
DZA Taraz 86.10 314 *e*P **P 00 08 24.4 -0.3**
comp=Z,37nm,0.5s,baz=314
DZA Taraz 86.10 314 *e*P **P 00 08 24.4 -0.3**
DZA pmax pmax
comp=Z,37nm,0.5s
H27K Steamboat Moun 86.20 22 P P 00 08 25.2 +0.5
baz=247
DAWY Dawson 86.24 24 P P 00 08 25.6 +0.7
DAWY IAmb IAmb 00 09 51.0
comp=Z,30nm,1.1s
DAWY Dawson 86.24 24 P P 00 08 25.9 +0.9
baz=249,SNR=24
N30M Aishikik Lake 86.36 27 P P 00 08 26.3 +0.6
N30M Aishikik Lake 86.36 27 P P 00 08 26.3 +0.6
baz=252
G27K Doyon Strip 86.38 22 P P 00 08 25.3 -0.2
KBL Kabul 86.40 305 P P 00 08 25.0 -1.6
KBL Kabul 86.40 305 P P 00 08 25.0 -1.6
KBL pmax pmax
comp=Z,17nm,0.8s
S32K Killisnoo 86.40 31 P P 00 08 26.3 +0.6
baz=254
L29M L29M 86.44 26 P P 00 08 25.9 0.0
L29M IAmb IAmb 00 08 28.5
comp=Z,35nm,0.7s
L29M L29M 86.44 26 P P 00 08 26.4 +0.5
baz=251,SNR=39
I28M Miner Creek 86.52 23 P P 00 08 26.1 -0.2
I28M Miner Creek 86.52 23 P P 00 08 26.5 +0.2
baz=249,SNR=28
C26K Camden Bay 86.58 18 P P 00 08 27.0 +0.7
baz=244,SNR=63
SKAG Skagway 86.59 29 P P 00 08 26.6 0.0
SKAG IAmb IAmb 00 09 09.2
comp=Z,63nm,1.4s
SKAG Skagway 86.59 29 P P 00 08 27.3 +0.7
baz=253
O30N Mendenhall 86.61 28 P P 00 08 27.5 +0.7
O30N IAmb IAmb 00 08 53.6
comp=Z,94nm,1.8s
O30N Mendenhall 86.61 28 P P 00 08 27.7 +0.9
baz=253,SNR=11
BRZS Berezniki 86.65 321 *i* P **P 00 08 26.5 -0.7**
baz=321
BRZS Berezniki 86.65 321 *i* P **P 00 08 26.5 -0.7**
CRAG Craig 86.65 34 P **P 00 08 27.7 +0.6**
baz=255
R32K Eaglecrest 86.66 31 P P 00 08 27.7 +0.7
baz=254
KK31 Karatay Array 86.73 314 P P 00 08 27.5 -0.3
KK31 IAmb IAmb 00 08 29.3
comp=Z,51nm,0.9s
KK31 Karatay Array 86.73 314 P P 00 08 27.5 -0.3
KK31 pmax pmax
comp=Z,51nm,0.9s
KKAR Karatay Array 86.73 314 P P 00 08 27.5 -0.3
KKAR IAmb IAmb 00 08 29.3
comp=Z,51nm,0.9s
KKAR Karatay Array 86.73 314 P P 00 08 27.5 -0.3
KKAR pmax pmax
comp=Z,51nm,0.9s
U33K Whale Pass 86.82 33 P P 00 08 28.7 +0.9
baz=255
M30M Minto, Yukon 86.85 26 P P 00 08 27.9 0.0
M30M IAmb IAmb 00 08 54.7
comp=Z,39nm,1.2s
M30M Minto, Yukon 86.85 26 P P 00 08 28.6 +0.7
baz=252,SNR=20
E27K Coleen River 86.94 20 P P 00 08 28.9 +0.7
E27K IAmb IAmb 00 08 30.1
comp=Z,35nm,0.7s
E27K Coleen River 86.94 20 P P 00 08 29.2 +0.9
K29M Barlow Dome 86.94 25 P P 00 08 29.2 +0.8
K29M Barlow Dome 86.94 25 P P 00 08 29.7 +1.3
baz=251
N31M Braeburn, Yuko 86.97 27 P P 00 08 28.9 +0.4
N31M IAmb IAmb 00 08 32.3
comp=Z,35nm,0.8s
N31M Braeburn, Yuko 86.97 27 P P 00 08 29.3 +0.8
baz=253,SNR=18
I29M Ogilvie Camp, 87.12 23 P P 00 08 29.0 -0.2
I29M IAmb IAmb 00 08 31.0
comp=Z,31nm,0.9s
I29M Ogilvie Camp, 87.12 23 P P 00 08 28.9 -0.2
baz=250,SNR=29
WHY Whitehorse 87.15 28 P P 00 08 29.4 -0.1
WHY IAmb IAmb 00 08 31.9
comp=Z,25nm,0.6s
WHY Whitehorse 87.15 28 P P 00 08 29.3 -0.1
baz=254,SNR=28
CHM Chimkent 87.25 313 *e*P **P 00 08 30.4 +0.1**
comp=Z,31nm,1.1s,baz=313
CHM Chimkent 87.25 313 *e*P **P 00 08 30.3 0.0**
CHM pmax pmax
comp=Z,31nm,1.1s
F28M Old Crow 87.33 21 P P 00 08 30.4 +0.3
F28M IAmb IAmb 00 08 31.8
comp=Z,24nm,0.8s
F28M Old Crow 87.33 21 P P 00 08 30.2 +0.1
baz=249,SNR=38
H29M Whitestone 87.39 23 P P 00 08 30.1 -0.3
H29M Whitestone 87.39 23 P P 00 08 30.7 +0.3
baz=250
P32M Atlin 87.41 30 P P 00 08 31.0 +0.2
P32M IAmb IAmb 00 08 33.2
comp=Z,22nm,0.6s
P32M Atlin 87.41 30 P P 00 08 31.6 +0.9
baz=255,SNR=13
V35K Ketchikan 87.45 34 P P 00 08 31.3 +0.4
baz=257
MAYO Mayo, Yukon 87.55 25 P P 00 08 32.2 +0.9
MAYO Mayo, Yukon 87.55 25 P P 00 08 31.9 +0.7
baz=253
D27M Malcolm River 87.56 19 P P 00 08 31.5 +0.2
D27M IAmb IAmb 00 08 33.6
comp=Z,35nm,0.7s
D27M Malcolm River 87.56 19 P P 00 08 31.7 +0.5
baz=248,SNR=74
J30M Hart River 87.66 24 P P 00 08 32.0 +0.1
J30M IAmb IAmb 00 08 34.4
comp=Z,28nm,0.7s
J30M Hart River 87.66 24 P P 00 08 32.6 +0.7
baz=252
G29M Pine Creek 87.75 22 P P 00 08 31.9 -0.3
G29M IAmb IAmb 00 08 36.3
comp=Z,26nm,0.7s
G29M Pine Creek 87.75 22 P P 00 08 32.1 0.0
baz=250
E28M Babbage River 87.80 20 P P 00 08 32.1 -0.3
E28M IAmb IAmb 00 08 35.6
comp=Z,26nm,0.7s
E28M Babbage River 87.80 20 P P 00 08 32.5 +0.1
baz=249
M31M Drury Creek, Y 87.81 27 P P 00 08 32.1 -0.4
M31M IAmb IAmb 00 08 35.6
comp=Z,18nm,0.7s
M31M Drury Creek, Y 87.81 27 P P 00 08 32.4 -0.2
baz=254,SNR=15
I30M Mount Dempster 87.85 24 P P 00 08 32.3 -0.5
I30M IAmb IAmb 00 08 36.1
comp=Z,41nm,1.4s
I30M Mount Dempster 87.85 24 P P 00 08 33.0 +0.2
baz=252
Q32M Nakina River 87.97 30 P P 00 08 33.1 -0.5
Q32M Nakina River 87.97 30 P P 00 08 34.0 +0.5
baz=256
P33M Teslin, Yukon 88.01 29 P P 00 08 33.2 -0.4
P33M Teslin, Yukon 88.01 29 P P 00 08 34.4 +0.7
baz=255,SNR=6.2
EPYK Eagle Plains 88.07 23 P P 00 08 33.9 +0.3
EPYK IAmb IAmb 00 08 35.1
comp=Z,47nm,1.1s
EPYK Eagle Plains 88.07 23 P P 00 08 34.0 +0.3
baz=252,SNR=27
N32M Quiet Lake 88.13 28 P P 00 08 34.2 +0.1
baz=255
FARO Faro, Yukon 88.28 27 P P 00 08 34.9 +0.1
FARO IAmb IAmb 00 08 36.9
comp=Z,23nm,0.9s
FARO Faro, Yukon 88.28 27 P P 00 08 35.3 +0.5
baz=255,SNR=20
E29M Blow River 88.30 21 P P 00 08 34.6 0.0
E29M IAmb IAmb 00 09 02.2
comp=Z,62nm,1.8s
E29M Blow River 88.30 21 P P 00 08 34.7 0.0
baz=251
S34M Telegraph Cree 88.31 31 P P 00 08 35.1 +0.2
S34M IAmb IAmb 00 08 38.0
comp=Z,22nm,0.8s
S34M Telegraph Cree 88.31 31 P P 00 08 34.8 -0.1
baz=257,SNR=16
D28M Stokes Point 88.33 20 P P 00 08 34.9 +0.2
baz=250
G30M tAoh Zraii Nji 88.45 22 P P 00 08 35.7 +0.3
G30M IAmb IAmb 00 09 01.5
comp=Z,92nm,1.6s
G30M tAoh Zraii Nji 88.45 22 P P 00 08 34.9 -0.6
baz=252
T35M Bob Quinn 88.57 33 P P 00 08 36.7 +0.5
T35M Bob Quinn 88.57 33 P P 00 08 36.6 +0.4
baz=258
BVAR Borovoye Array 88.67 323 P P 00 08 35.6 -1.2
comp=Z,8.5nm,0.6s,baz=105,slow=5.5,SNR=48
BVAR S **SKSac 00 18 49.8 -7.0**
comp=Z,0.4nm,0.6s,baz=175,slow=5.2,SNR=3.7
BVAR PKPPKP **P'P'df 00 34 26.1 +0.9**
comp=Z,1.2nm,1.0s,baz=325,slow=2.3,SNR=3.9
BVAR LR LR 00 50 12.1
comp=Z,248nm,19.4s,baz=90,slow=37
comp=Z,8.5nm,0.6s
R33M Jennings River 88.72 30 P P 00 08 37.5 +0.4
R33M Jennings River 88.72 30 P P 00 08 37.6 +0.5
baz=257
BRVK Borovoye 88.74 323 *ce*P **P 00 08 35.5 -1.6**
BRVK pmax pmax
comp=Z,18nm,1.3s
F30M Barrier River 88.80 22 P P 00 08 37.5 +0.4
baz=253
BBB Bella Bella 88.84 37 LR LR 00 39 54.4
comp=Z,398nm,21.6s,baz=255,slow=30
DLBC Dease Lake 88.99 31 P P 00 08 38.5 +0.2
baz=258,SNR=5.3
DLBC Dease Lake 88.99 31 LR LR 00 41 15.2
comp=Z,1µm,22.0s,baz=283,slow=31
G31M Satah River 89.17 22 P P 00 08 38.1 -0.6
G31M IAmb IAmb 00 08 40.0
comp=Z,30nm,0.8s
G31M Satah River 89.17 22 P P 00 08 38.7 0.0
baz=254,SNR=28
F31M Tsiigehtchic 89.51 22 P P 00 08 39.5 -0.8
F31M IAmb IAmb 00 09 07.1
comp=Z,74nm,1.6s
F31M Tsiigehtchic 89.51 22 P P 00 08 40.0 -0.3
baz=254,SNR=8.9
KMPM Mount Pierce 89.75 50 P P 00 08 41.8 -0.5
KMPM IAmb IAmb 00 09 28.4
comp=Z,56nm,1.6s
INK Inuvik 89.82 21 P P 00 08 41.6 -0.2
INK IAmb IAmb 00 08 44.1
comp=Z,35nm,1.2s
INK Inuvik 89.82 21 P P 00 08 41.3 -0.5
baz=255,SNR=31
INK Inuvik 89.82 21 P P 00 08 41.6 -0.2
INK pmax pmax
comp=Z,35nm,1.2s
INK Inuvik 89.82 21 LR LR 00 46 42.0
comp=Z,421nm,19.8s,baz=188,slow=34
WTLY Watson Lake, Y 89.95 30 P P 00 08 42.2 -0.4
WTLY Watson Lake, Y 89.95 30 P P 00 08 43.6 +1.0
baz=259,SNR=12
KCPM Cahto Peak 90.07 50 P P 00 08 44.1 +0.3
KHMM Horse Mountain 90.11 49 P P 00 08 43.5 -0.4
K02D Willamette Mer 90.38 47 P P 00 08 46.1 +1.0
GDXM Geysers 90.58 51 P P 00 08 46.5 +0.3
HUMO Hull Mountain 90.89 47 P P 00 08 47.5 +0.1
HUMO IAmb IAmb 00 08 49.4
comp=Z,18nm,0.6s
YBH Yreka Blue Hor 90.97 48 P P 00 08 48.0 +0.1
YBH Yreka Blue Hor 90.97 48 P P 00 08 48.0 +0.1
YBH pmax pmax
comp=Z,17nm,1.2s
YBH Yreka Blue Hor 90.97 48 LR LR 00 43 30.3
comp=Z,583nm,19.7s,baz=265,slow=31
L04D Klamath Falls 91.33 48 P P 00 08 49.9 +0.3
L04D IAmb IAmb 00 08 54.0
comp=Z,21nm,1.0s
GNW Green Mountain 91.55 43 P P 00 08 50.9 +0.7
ORV Oroville 91.66 51 P P 00 08 50.3 -0.7
ORV Oroville 91.66 51 P P 00 08 50.3 -0.7
ORV pmax pmax
comp=Z,9.0nm,1.1s
HRA Herat 91.95 304 P P 00 08 51.5 -1.3
HRA IAmb IAmb 00 08 53.2
comp=Z,22nm,0.9s
AFDM Forest Hills D 92.00 51 P P 00 08 52.9 +0.3
J05D Fort Rock, OR 92.22 47 P P 00 08 53.9 +0.2
J05D IAmb IAmb 00 09 31.7
comp=Z,34nm,1.3s
I05D Terrebonne, OR 92.24 46 P P 00 08 54.4 +0.8
KOTAN Kotaneelee Air 92.30 30 P P 00 08 54.4 +0.9
baz=263
CMB Columbia Colle 92.38 52 P P 00 08 54.4 -0.1
CMB Columbia Colle 92.38 52 P P 00 08 54.4 -0.1
CMB pmax pmax
comp=Z,9.0nm,1.1s
K05A Summer Lake 92.42 47 P P 00 08 54.8 +0.1
K05A IAmb IAmb 00 09 40.4
comp=Z,33nm,1.1s
PKM Mcpherson Peak 92.56 55 P P 00 08 56.8 +1.3
baz=265,SNR=8.2
BCW Bitter Crk WRg 92.90 55 P P 00 08 57.9 +0.9
PNTR Pine Nut 93.08 51 P P 00 08 58.2 +0.3
PNTR IAmb IAmb 00 09 53.5
comp=Z,33nm,1.3s
WAKR Walker 93.16 52 P P 00 08 58.9 +0.6
WAKR IAmb IAmb 00 09 00.7
comp=Z,58nm,1.9s
PAHR Pah Rah Range 93.30 51 P P 00 08 59.2 +0.4
PAHR IAmb IAmb 00 09 25.6
comp=Z,23nm,1.5s
A36M Sachs Harbour 93.32 18 P P 00 08 57.1 -0.8
A36M Sachs Harbour 93.32 18 P P 00 08 57.1 -0.8
baz=262
YERR Yerington 93.35 51 P P 00 08 58.9 -0.2
MDPB Devils Postpil 93.38 53 P P 00 08 59.6 +0.2
MDPB IAmb IAmb 00 09 02.4
comp=Z,21nm,1.3s
C36M Paulatuk 93.39 21 P P 00 08 57.4 -0.9
C36M IAmb IAmb 00 08 58.6
comp=Z,23nm,0.8s
C36M Paulatuk 93.39 21 P P 00 08 57.7 -0.6
baz=264
OMMB Old Mammoth Mi 93.44 53 P P 00 09 00.4 +0.7
OMMB IAmb IAmb 00 09 26.7
comp=Z,15nm,1.2s
I07A Izee 93.54 46 P P 00 09 00.1 +0.4
I07A IAmb IAmb 00 09 26.5
comp=Z,40nm,1.6s
CIS Catalina Islan 93.60 57 P P 00 09 01.3 +1.2
baz=266
ISA Isabella, Lake 93.72 55 P P 00 09 01.0 +0.3
ISA IAmb IAmb 00 09 42.0
comp=Z,16nm,1.3s
ISA Isabella, Lake 93.72 55 P P 00 09 01.6 +0.9
baz=266,SNR=5.3
ISA Isabella, Lake 93.72 55 P P 00 09 01.0 +0.3
ISA pmax pmax
comp=Z,16nm,1.3s
PNT Penticton 93.83 41 P P 00 08 58.2 -2.6
PNT pmax pmax
comp=Z,33nm,1.3s
LHV Little Huntoon 93.88 52 P P 00 09 01.8 +0.6
LHV IAmb IAmb 00 09 28.6
comp=Z,23nm,1.0s
RYN Ryan 93.89 52 P P 00 09 01.5 -0.1
RYN IAmb IAmb 00 09 28.5
comp=Z,14nm,1.1s
TIN Tinemaha, Big 94.01 53 P P 00 09 03.8 +1.7
baz=266
NVAR Mina Array Bea 94.04 52 P P 00 09 01.9 -0.4
NVAR Mina Array Bea 94.04 52 P P 00 09 02.7 +0.4
comp=Z,9.3nm,0.6s,baz=251,slow=6.6,SNR=53
comp=Z,9.3nm,0.6s
EDW2 Edwards Air Fo 94.06 55 P P 00 09 02.9 +0.7
baz=266,SNR=11
CWC Cottonwood Cre 94.09 54 P P 00 09 02.8 +0.2
baz=266
NV11 Mina Array Sit 94.16 52 P P 00 09 02.7 -0.1
NV11 IAmb IAmb 00 09 05.8
comp=Z,9.2nm,0.7s
WSAR Wadi Sarin 94.20 293 LR LR 00 54 57.0
comp=Z,73nm,18.9s,baz=116,slow=38
J08A Circle Bar Ran 94.23 47 P P 00 09 03.2 +0.2
KVN Kaiserville 94.24 51 P P 00 09 03.5 +0.3
KVN Kaiserville 94.24 51 P P 00 09 03.5 +0.3
KVN pmax pmax
comp=Z,12nm,1.3s
BFSC Mount Baldy Ra 94.29 56 P P 00 09 04.8 +1.4
baz=266
LRMC Laurel Mtn Rad 94.35 55 P P 00 09 05.2 +1.5
baz=266,SNR=15
ELS Elsinore Mount 94.44 57 P P 00 09 05.2 +1.1
ELS IAmb IAmb 00 09 45.6
comp=Z,30nm,1.9s
MPMC Manual Prospec 94.54 54 P P 00 09 05.6 +0.9
baz=267,SNR=13
C09A Chrisman Ranch 94.63 43 P P 00 09 04.0 -0.5
C09A IAmb IAmb 00 10 25.3
comp=Z,16nm,1.4s
MURC Murrieta 94.63 57 P P 00 09 06.5 +1.6
baz=266
E09A Wood Farm, Sta 94.65 44 P P 00 09 04.7 0.0
E09A IAmb IAmb 00 10 22.2
comp=Z,50nm,1.9s
GRAC Grapevine Rang 94.70 53 P P 00 09 05.9 +0.8
SVE Sverdlovsk 94.71 327 *e*P **P 00 09 04.7 +0.1**
SVE *e*S **SKSac 00 19 27.2 -3.5**
SVE pmax pmax
comp=Z,9.0nm,0.8s
MZP Montezuma Peak 94.72 53 P P 00 09 05.6 +0.1
ABKAR Akbulak array 94.75 319 P P 00 09 03.0 -1.9
ABKAR Akbulak array 94.75 319 IAmb IAmb 00 09 04.8
comp=Z,22nm,1.8s
GMN Gold Mountain 94.80 53 P P 00 09 06.2 +0.4
TPH Tonopah 94.87 52 P P 00 09 06.3 +0.2
TPH Tonopah 94.87 52 P P 00 09 06.3 +0.2
TPH pmax pmax
comp=Z,42nm,1.0s
BMN Battle Mountai 95.00 50 P P 00 09 06.6 0.0
BMN Battle Mountai 95.00 50 P P 00 09 06.6 0.0
BMN pmax pmax
comp=Z,11nm,1.3s
BAR Barrett 95.02 58 P P 00 09 06.2 -0.4
BAR IAmb IAmb 00 09 49.6
comp=Z,26nm,1.4s
QSM Queen of Sheba 95.04 54 P P 00 09 07.0 +0.4
QSM IAmb IAmb 00 09 10.3
comp=Z,10nm,0.7s
GSC Goldstone, Bar 95.05 55 P P 00 09 07.9 +1.1
baz=267
FURC Furnace Creek, 95.07 54 P P 00 09 08.4 +1.6
baz=267
GWY Greenwater Val 95.21 54 P P 00 09 08.0 +0.3
GWY IAmb IAmb 00 09 32.5
comp=Z,9.6nm,0.9s
MONP2 Monument Peak 95.24 58 P P 00 09 08.7 +0.8
baz=267,SNR=13
PFO Pinyon Flats O 95.25 57 P P 00 09 08.2 +0.3
PFO IAmb IAmb 00 09 35.2
comp=Z,20nm,1.4s
PFO Pinyon Flats O 95.25 57 P P 00 09 08.7 +0.9
baz=267,SNR=6.8
PFO Pinyon Flats O 95.25 57 P P 00 09 08.2 +0.3
PFO pmax pmax
comp=Z,20nm,1.4s
TPFO Pinon Flats 95.25 57 P P 00 09 08.9 +1.1

baz=267,SNR=8.1
F10A Beach Ranch, E 95.26 44 P P 00 09 07.4 -0.1
F10A IAmb IAmb 00 09 08.4
comp=Z,9.3nm,0.7s
WCT Wildcat Mounta 95.28 54 P P 00 09 08.3 +0.4
WCT IAmb IAmb 00 09 34.8
comp=Z,17nm,1.1s
PMD Palm Desert 95.32 57 P P 00 09 08.8 +0.8
PMD IAmb IAmb 00 09 49.7
comp=Z,37nm,1.8s
HEC Hector,Ludlow 95.41 56 P P 00 09 09.3 +0.8
baz=267
NEW Newport 95.42 42 P P 00 09 09.3 +1.2
baz=268
BRLDA Berland Lookou 95.45 36 P P 00 09 08.7 +0.5
IKP In-Ko-Pah, Jac 95.49 58 P P 00 09 09.9 +1.0
baz=267
GEYT Alibeck 95.53 307 P P 00 09 07.3 -1.6
GEYT IAmb IAmb 00 09 09.2
comp=Z,11nm,0.9s
GEYT Alibeck 95.53 307 P P 00 09 07.8 -1.1
comp=Z,8.3nm,0.9s,baz=116,slow=3.4,SNR=17
GEYT LR LR 00 55 45.0
comp=Z,217nm,19.3s,baz=113,slow=38
comp=Z,8.3nm,0.9s
GYA0B ALIBECK ARRAY 95.53 307 P P 00 09 07.9 -1.0
GYA0B IAmb IAmb 00 10 17.7
comp=Z,11nm,0.9s
TPNV Topopah Spring 95.59 54 P P 00 09 09.7 +0.3
TPNV IAmb IAmb 00 09 36.3
comp=Z,21nm,1.0s
TPNV Topopah Spring 95.59 54 P P 00 09 10.0 +0.6
baz=267,SNR=13
TPNV Topopah Spring 95.59 54 P P 00 09 09.7 +0.3
TPNV pmax pmax
comp=Z,21nm,1.0s
ESJX Sierra Juarez 95.59 58 P P 00 09 10.0 +0.5
ESJX IAmb IAmb 00 09 37.0
comp=Z,15nm,1.5s
ELIB Princess Elisa 95.63 194 *d*P **P 00 09 09.3 +0.5**
comp=Z,64nm,1.0s
ELIB *dp*P **pP 00 09 32.6 -3.2**
ELIB *ds*P **sP 00 09 42.3 -4.4**
YUH Yuha Desert 95.65 58 P P 00 09 10.1 +0.6
YUH IAmb IAmb 00 09 13.6
comp=Z,27nm,1.6s
BELC Belle Mtn. Jos 95.65 56 P P 00 09 10.4 +0.7
baz=267,SNR=11
VTX Valle De La Tr 95.70 59 P P 00 09 09.9 +0.1
SWSC Sam W. Stewart 95.76 58 P P 00 09 11.5 +1.5
baz=267
TUQ Turquoise Moun 95.78 55 P P 00 09 11.4 +1.2
baz=267,SNR=6.3
ARU Arti 95.84 326 P P 00 09 07.3 -2.5
ARU Arti 95.84 326 *d* *i*P **P 00 09 07.6 -2.2**
ARU 00 12 58.8
ARU S **SKSac 00 19 32.7 -4.0**
ARU PS **PS 00 21 57.9 +6.8**
ARU pmax pmax
comp=Z,26nm,2.7s
ARU Arti 95.84 326 LR LR 00 51 33.3
comp=Z,473nm,21.9s,baz=88,slow=35
GMRC Granite Mounta 95.97 56 P P 00 09 11.7 +0.6
baz=268,SNR=11
S11A Rachel 96.02 53 P P 00 09 12.3 +1.1
S11A IAmb IAmb 00 10 28.3
comp=Z,13nm,1.1s
AKTO Aktyubinsk 96.04 320 LR LR 00 54 35.0
comp=Z,283nm,19.0s,baz=78,slow=37
BC3 Big Chuckawall 96.09 57 P P 00 09 12.9 +1.3
baz=268,SNR=7.1
PLID Pearl Lake 96.09 45 P P 00 09 10.8 -0.7
PLID IAmb IAmb 00 09 12.2
comp=Z,29nm,1.9s
R11B Troy Canyon, C 96.17 52 P P 00 09 12.5 +0.5
R11B Troy Canyon, C 96.17 52 P P 00 09 13.4 +1.4
baz=268
RPN Rapa Nui 96.18 118 LR LR 00 44 36.8
comp=Z,102nm,21.2s,baz=289,slow=30
IRM Iron Mountain 96.36 56 P P 00 09 13.6 +0.8
baz=268,SNR=6.6
SHPR Sheep Range 96.44 54 P P 00 09 14.2 +0.9
SHPR IAmb IAmb 00 09 54.5
comp=Z,14nm,1.5s
ELK Elko 96.52 50 P P 00 09 13.9 +0.3
ELK Elko 96.52 50 P P 00 09 13.9 +0.3
ELK pmax pmax
comp=Z,11nm,1.6s
ELK Elko 96.52 50 LR LR 00 49 00.8
comp=Z,236nm,19.0s,baz=260,slow=33
PRN Pahroc Range 96.56 53 P P 00 09 14.2 +0.5
PRN IAmb IAmb 00 09 55.6
comp=Z,22nm,1.3s
BELA Belgrano 2 96.66 179 P P 00 09 13.1 -0.1
V12A Nelson 96.67 55 P P 00 09 14.4 +0.2
V12A IAmb IAmb 00 09 41.6
comp=Z,27nm,1.5s
NEE2 Needles Airpor 96.82 56 P P 00 09 15.7 +0.9
baz=268
YKA Yellowknife Ar 96.96 28 *i* P **P 00 09 14.5 -0.2**
YKA pmax pmax
comp=Z,4.0nm,0.6s
YKA Yellowknife Ar 96.96 28 P P 00 09 14.3 -0.5
comp=Z,3.3nm,0.5s,baz=270,slow=5.0,SNR=62
YKA PKKPbc **PKKPbc 00 25 55.0 -3.3**
comp=Z,2.6nm,0.8s,baz=85,slow=2.4,SNR=24
YKA LR LR 00 49 24.7
comp=Z,483nm,21.0s,baz=272,slow=33
comp=Z,3.3nm,0.5s
SPR3 Spring Creek 3 97.17 52 P P 00 09 16.3 -0.4
SPR3 IAmb IAmb 00 09 20.3
comp=Z,7.2nm,0.7s
HLID Hailey 97.19 47 P P 00 09 15.8 -0.7
HLID Hailey 97.19 47 P Pdif 00 09 17.4 +0.8
baz=269
W13A Hualapai Mount 97.44 55 P Pdif 00 09 18.6 +0.7
EDM Edmonton 97.86 37 P Pdif 00 09 19.8 +0.7
EDM Edmonton 97.86 37 P Pdif 00 09 19.8 +0.7
EDM pmax pmax
comp=Z,74nm,1.9s
LCMT Little Creek M 98.00 54 P Pdif 00 09 21.1 +0.9
LCMT IAmb IAmb 00 10 02.2
comp=Z,19nm,1.7s
KNB Kanab 98.33 54 P Pdif 00 09 21.8 0.0
KNB pP 00 09 45.8 -3.1
KNB IAmb IAmb 00 10 04.7
comp=Z,24nm,1.5s
DUG Dugway, Tooele 98.36 50 P Pdif 00 09 21.9 0.0
DUG Dugway, Tooele 98.36 50 P Pdif 00 09 22.3 +0.5
baz=270
DUG Dugway, Tooele 98.36 50 P Pdif 00 09 21.9 +0.1
DUG pmax pmax
comp=Z,13nm,1.8s
TCRU Three Creeks R 98.64 52 P Pdif 00 09 23.4 +0.2
LYMT Lyon Mountain 98.68 43 P Pdif 00 09 23.4 +0.2
U15A North Rim 98.75 54 Pdif 00 09 24.5 +0.7
U15A IAmb IAmb 00 10 06.1
comp=Z,20nm,1.6s
MTPU Mount Pierson 98.85 52 Pdif 00 09 24.6 +0.3
MTPU IAmb IAmb 00 10 03.2
comp=Z,26nm,2.0s
NVL N'lazarevskaya 99.14 193 *e*P **Pdif 00 09 23.4 -1.0**
NVL *e*S **SKSac 00 19 49.6 -3.5**
NVL pmax pmax
comp=Z,39nm,1.2s
NVL smax smax
comp=N,180nm,5.9s
BOZ Bozeman (W) 99.17 45 P Pdif 00 09 25.5 +0.2
BOZ Bozeman (W) 99.17 45 P Pdif 00 09 25.8 +0.5
baz=272
BOZ Bozeman (W) 99.17 45 P Pdif 00 09 25.5 +0.2
BOZ pmax pmax
comp=Z,2.0nm,0.7s
WUAZ Wupatki 99.50 55 P Pdif 00 09 28.1 +1.1
baz=270
MOOW Moose Ponds 99.86 47 Pdif 00 09 28.8 +0.3
TROLL Troll, Antarti 99.92 190 ⇑P **Pdif 00 09 28.7 +0.6**
comp=Z,2µm,0.8s
H17A Grant Village 99.95 46 P Pdif 00 09 29.8 +0.8
baz=272
TUC Tucson 99.98 58 P Pdif 00 09 29.5 +0.4
baz=270
BW06 Boulder Array 100.76 48 P Pdif 00 09 32.5 0.0
baz=272
PDAR Pinedale Array 100.76 48 P Pdif 00 09 31.8 -0.7
comp=Z,3.5nm,0.5s,baz=218,slow=2.0,SNR=48
PDAR PKiKP **PKiKP 00 13 58.2 +0.1**
comp=Z,0.7nm,0.7s,baz=241,slow=1.9,SNR=2.4
PDAR PKKPbc **PKKPbc 00 25 44.6 -2.6**
comp=Z,0.2nm,0.7s,baz=10,slow=5.5,SNR=4.0
W18A Petrified Fore 100.84 55 P Pdif 00 09 33.3 +0.3
baz=271
RLMT Red Lodge 100.85 45 P Pdif 00 09 33.7 +0.9
baz=273
SNAA Sanae 101.05 188 ⇑P **Pdif 00 09 32.7 -0.3**
comp=Z,263nm,1.0s
SNAA ⇑PP **PP 00 13 40.3 -1.7**
SNAA Sanae 101.05 188 P Pdif 00 09 32.8 -0.3
comp=Z,17nm,1.1s,baz=138,slow=4.6,SNR=9.7
SNAA PP **PP 00 13 40.5 -1.4**
comp=Z,14nm,1.0s,baz=110,slow=5.8,SNR=4.4
SNAA S **SKSac 00 20 01.6 -1.1**
comp=Z,2.7nm,1.0s,baz=131,slow=20,SNR=2.5
OPO Ambohidratompo 101.13 250 P Pdif 00 09 34.2 -0.4
comp=Z,4.8nm,1.0s,baz=129,slow=14,SNR=4.2
MVCO Mesa Verde 101.79 53 P Pdif 00 09 38.5 +1.3
baz=272
O20A White River Ci 101.86 50 P Pdif 00 09 38.8 +1.3
baz=273
VNA3 Neumayer Olymp 102.30 186 ⇑P **Pdif 00 09 38.6 +0.1**
comp=Z,10nm,0.8s
VNA2 Neumayer--Watz 102.33 187 ⇑P **Pdif 00 09 39.1 +0.4**
comp=Z,3.3nm,0.8s,baz=179,slow=3.0
LAO LASA Array 102.86 43 P Pdif 00 09 42.1 +0.6
baz=276
S22A 4UR Ranch, Cre 103.09 53 P Pdif 00 09 43.4 +0.3
baz=273
MAK Makhachkala 103.52 313 *i* P **Pdif 00 09 48.7 +4.2**
MAK *i* 00 14 02.3
MAK *e*PPP PPP 00 16 14.8
MAK *e* 00 20 16.5
MAK *e* 00 20 55.9
MAK *e*PS **PS 00 23 07.7 -6.1**
MAK *e*SSS SSS 00 32 35.5
MAK pmax pmax
comp=Z,51nm,0.6s
ANMO Albuquerque 103.53 56 P Pdif 00 09 45.6 +0.7
baz=273
N23A Red Feather La 103.57 49 P Pdif 00 09 46.3 +1.2
baz=275
ISCO Idaho Springs 103.90 51 P Pdif 00 09 47.5 +0.8
baz=274
SDCO Great Sand Dun 104.14 53 P Pdif 00 09 48.1 +0.3
baz=274
RSSD Black Hills 104.66 46 P Pdif 00 09 50.4 +0.5
baz=277
KLMR Klimovskoe 105.12 332 *e*Pdif **Pdif 00 09 47.4 -3.7**
KLMR AMP 00 10 05.1
comp=Z,42nm,2.1s
KLMR *e*PP **PP 00 14 08.0 -4.9**
KLMR LQ LQ 00 43 43.0
KLMR LQ LQ 00 43 43.0
KLMR LR LR 00 51 29.8
KLMR AMP 00 53 07.8
comp=Z,827nm,20.4s
KLMR Klimovskoe 105.12 332 *e*P **Pdif 00 09 47.4 -3.7**
KLMR pmax pmax
comp=Z,42nm,2.1s
APA Apatity 105.34 339 ⇓ *i*P **Pdif 00 09 52.1 +0.1**
APA pmax pmax
comp=Z,7.0nm,0.9s
APA MLR MLR
comp=Z,900nm,21.0s
TXAR Lajitas Array 106.17 61 Pdiff **Pdif 00 09 57.7 +1.0**
comp=Z,0.2nm,0.6s,baz=287,slow=3.7,SNR=2.2
TXAR PKiKP **PKiKP 00 14 08.6 +0.5**
comp=Z,0.2nm,0.6s,baz=208,slow=1.7,SNR=3.9
TXAR PKKPbc **PKKPbc 00 25 25.8 -4.6**
comp=Z,0.1nm,0.3s,baz=123,slow=3.3,SNR=3.6
TXAR PKKPab **PKKPab 00 25 45.4 -0.8**
comp=Z,3.0nm,1.0s,baz=151,slow=2.9,SNR=8.4
ZEI Tsey 106.18 313 *e*P **Pdif 00 09 54.0 -2.6**
ZEI pmax pmax
comp=Z,4.0nm,1.4s
OGNE Ogallala 106.51 49 P PKiKP 00 14 08.9 +0.5
baz=277
ARCES ARCESS Array B 106.99 343 Pdiff **Pdif 00 09 57.5 -1.8**
comp=Z,2.1nm,0.7s,baz=63,slow=6.1,SNR=5.7
ARCES PKiKP **PKiKP 00 14 07.4 -1.0**
comp=Z,3.5nm,0.6s,baz=118,slow=1.1,SNR=33
ARCES PKKPbc **PKKPbc 00 25 25.9 -3.2**
comp=Z,4.0nm,0.9s,baz=253,slow=2.6,SNR=7.5
CBKS Cedar Bluff 108.54 51 P PKiKP 00 14 12.7 +0.5
baz=278
ULM Lac du Bonnet 109.01 39 PKiKP **PKiKP 00 14 12.1 -0.5**
comp=Z,1.8nm,0.5s,baz=268,slow=2.7,SNR=6.1
JCT Junction City 109.44 60 P PKiKP 00 14 14.8 +0.6
baz=275
ECSD EROS Data Cent 110.01 45 P PKiKP 00 14 14.9 +0.1
baz=282
FINES FINESS Array B 110.91 335 Pdiff **Pdif 00 10 15.7 -1.2**
comp=Z,2.4nm,0.8s,baz=72,slow=6.2,SNR=11
FINES PKiKP **PKiKP 00 14 15.5 -0.4**
comp=Z,3.4nm,0.6s,baz=70,slow=2.4,SNR=15
FINES PKKPab **PKKPab 00 25 23.8 -0.7**
comp=Z,4.9nm,0.8s,baz=193,slow=7.8,SNR=5.1
MNK Minsk 113.19 328 *i* PKiKP **PKiKP 00 14 20.3 -0.1**
MNK *i* 00 21 14.4
MNK *i* SS SS 00 30 41.6 -6.7
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK pmax pmax
comp=E,9.0nm,1.4s
MNK pmax pmax
comp=Z,13nm,0.9s
MNK MLR MLR
comp=Z,496nm,21.0s
MNK MLR MLR
comp=N,239nm,16.0s
MNK MLR MLR
comp=E,215nm,20.0s
KMBO Kilima Mbogo 113.38 266 PKiKP **PKiKP 00 14 21.6 -0.7**
comp=E,2.4nm,0.7s,baz=74,slow=4.2,SNR=8.5
AKASG Malin Array Be 113.95 324 PKiKP **PKiKP 00 14 20.7 -1.3**
comp=E,2.8nm,0.6s,baz=62,slow=2.1,SNR=13
AKASG PP **PP 00 15 17.3 +0.3**
comp=E,0.7nm,0.5s,baz=60,slow=6.5,SNR=5.8
AKASG PKKPbc **PKKPbc 00 25 03.5 -2.4**
comp=E,0.7nm,0.5s,baz=268,slow=3.5,SNR=5.9
AKBB Malin Array Si 113.95 324 *i* PKiKP **PKiKP 00 14 20.8 -1.2**
KIEV Kiev 113.96 324 ⇓P **PKiKP 00 14 23.3 +1.3**
KIEV Kiev 113.96 324 ⇓PKiKP **PKiKP 00 14 23.3 +1.3**
MMAI Mount Meron Ar 114.30 304 PKiKP **PKiKP 00 14 24.2 +0.8**
comp=E,0.6nm,0.5s,baz=77,slow=7.3,SNR=4.3
MMAI PKKPbc **PKKPbc 00 25 05.3 +1.1**
comp=E,2.6nm,0.7s,baz=217,slow=0.4,SNR=6.4
BRTR Keskin Array B 114.34 311 PKiKP PKPdf 00 14 22.9 -0.5
comp=E,1.8nm,0.8s,baz=137,slow=1.6,SNR=9.9
BRTR PKKPbc **PKKPbc 00 25 05.2 +0.8**
comp=E,1.3nm,0.8s,baz=217,slow=3.9,SNR=7.4
CCM Cathedral Cave 115.23 50 P PKiKP 00 14 24.8 -0.1
baz=284
SORM Soroca 115.43 321 ⇑P **PKiKP 00 14 24.2 -0.7**
SORM Soroca 115.43 321 ⇑PKiKP **PKiKP 00 14 24.2 -0.7**
MILM Milestii Mici 115.58 320 ⇑P **PKiKP 00 14 25.0 -0.3**
MILM Milestii Mici 115.58 320 ⇑PKiKP **PKiKP 00 14 25.0 -0.3**
HDIL Hopedale 116.06 47 P PKPdf 00 14 26.2 -0.3
baz=286
VLDR Vladesti 116.44 319 ⇑P **PKiKP 00 14 27.6 +0.7**
SCTR Scanteiesti 116.55 319 ⇑P **PKiKP 00 14 27.6 +0.4**
HFS Hagfors 116.63 338 PKP **PKPdf 00 14 25.5 -1.4**
comp=E,3.2nm,0.6s,baz=94,slow=5.9,SNR=11
HFS PKKPbc **PKKPbc 00 24 55.6 -1.3**
comp=E,3.8nm,0.8s,baz=161,slow=11,SNR=3.6
TLBR Topalu 116.92 318 ⇓P **PKiKP 00 14 28.7 +0.7**
NB2 NORSAR Subarra 116.92 339 PKPdf **PKPdf 00 14 26.7 -0.8**
comp=Z,3.8nm,0.6s,baz=44,slow=1.8
NB2 PKKP **PKKPbc 00 24 55.1 -0.9**
comp=Z,1.4nm,0.8s,baz=212,slow=3.5
NB2 NORSAR Subarra 116.92 339 PKPdf **PKPdf 00 14 26.7 -0.8**
baz=44,slow=1.8
NOA NORSAR Array B 116.92 339 PKP **PKPdf 00 14 26.6 -0.9**
comp=Z,3.7nm,0.6s,baz=48,slow=1.9,SNR=24
NOA PKKPbc **PKKPbc 00 24 54.7 -1.3**
comp=Z,2.3nm,0.8s,baz=280,slow=9,SNR=8.4
BUR08 Bucovina Ar. S 117.58 322 PKPdf **PKiKP 00 14 30.6 +1.3**
BURAR Bucovina Array 117.58 322 ⇑P **PKiKP 00 14 30.5 +1.2**
BURAR Bucovina Array 117.58 322 ⇑PKiKP **PKiKP 00 14 30.5 +1.2**
BOSA Boshof 117.65 234 PKP **PKiKP 00 14 30.1 +0.1**
comp=Z,4.2nm,0.5s,baz=113,slow=2.3,SNR=27
BOSA PKKPbc **PKKPbc 00 24 51.5 -1.0**
comp=Z,2.3nm,0.8s,baz=341,slow=5.2,SNR=4.2
COVR Voineasa-Covas 117.66 320 ⇑P **PKiKP 00 14 30.7 +1.3**
SFIN Lafayette 117.72 47 P PKPdf 00 14 29.4 -0.2
baz=288
GLMI Grayling 117.94 42 P PKPdf 00 14 29.6 -0.3
baz=292
MLR Muntele Rosu 117.96 319 ⇓P **PKiKP 00 14 30.4 +0.3**
MLR Muntele Rosu 117.96 319 PKPdf **PKPdf 00 14 30.0 -0.1**
MLR Muntele Rosu 117.96 319 ⇓PKiKP **PKiKP 00 14 30.4 +0.3**
WVT Waverly 118.35 52 P PKPdf 00 14 30.9 -0.1
baz=285
VOIR 118.56 319 ⇑P **PKPdf 00 14 31.2 0.0**
VOIR 118.56 319 ⇑PKiKP **PKPdf 00 14 31.2 0.0**
LBTB Lobatse 118.77 238 PKPdf **PKiKP 00 14 32.8 +0.5**
LBTB Lobatse 118.77 238 PKiKP **PKiKP 00 14 32.8 +0.5**
H03S2 Juan Fernandez 118.80 133 T T 02 24 13.8
baz=238
H03S1 Juan Fernandez 118.82 134 T T 02 24 19.1
baz=238
H03S3 Juan Fernandez 118.82 133 T T 02 24 18.4
baz=238
ARR Arges 118.86 320 ⇑P **PKiKP 00 14 32.4 +0.6**
WCI Wyandotte Cave 118.95 49 PKPdf **PKiKP 00 14 32.1 0.0**
WCI Wyandotte Cave 118.95 49 P PKPdf 00 14 31.7 -0.4
baz=287
WCI Wyandotte Cave 118.95 49 PKiKP **PKiKP 00 14 32.1 0.0**
COPA Copaceanca 118.96 318 ⇑P **PKPdf 00 14 31.0 -0.8**
CJR Cluj-Napoca 118.96 321 ⇓P **PKPdf 00 14 31.3 -0.6**
CJR Cluj-Napoca 118.96 321 ⇓PKiKP **PKPdf 00 14 31.3 -0.6**
ELND Elena 118.96 317 ⇓P **PKiKP 00 14 32.7 +0.7**
HUMR Humele 118.96 319 ⇓P **PKiKP 00 14 32.0 +0.1**
CBBR Cluj-Babes-Bol 118.97 321 ⇑P **PKPdf 00 14 29.3 -2.5**
O48B Farmland 119.16 47 P PKPdf 00 14 31.7 -0.7
baz=289,SNR=7.0
AAM Ann Arbor 119.52 44 P PKPdf 00 14 32.7 -0.3
baz=292
LSZ Lusaka 119.58 249 PKPdf **PKiKP 00 14 34.8 +0.7**
LSZ Lusaka 119.58 249 PKiKP **PKiKP 00 14 34.8 +0.7**
P49A Miami Univ. Ec 119.72 47 P PKPdf 00 14 33.3 -0.2
baz=289
DEV Deva 119.75 321 ⇓P **PKiKP 00 14 33.8 +0.4**
DEV Deva 119.75 321 ⇓PKiKP **PKiKP 00 14 33.8 +0.4**
LRAL Lakeview Retre 119.78 55 P PKPdf 00 14 33.1 -0.7
baz=284
GZR Gura Zlata 120.04 320 ⇑P **PKPdf 00 14 34.0 0.0**
GZR Gura Zlata 120.04 320 ⇑PKiKP **PKPdf 00 14 34.0 0.0**
HOPE Hope Point 120.09 175 PKiKP 00 14 34.4 +0.6
HOPE Hope Point 120.09 175 PKiKP **PKiKP 00 14 34.4 +0.6**
BAIL Bailesti 120.24 319 ⇓P **PKiKP 00 14 35.5 +1.0**
SURR Surduc 120.30 321 ⇓P **PKPdf 00 14 34.3 -0.1**
PLCA Paso Flores 120.33 144 PKP **PKiKP 00 14 35.5 +0.7**
comp=Z,7.0nm,0.5s,baz=238,slow=2.4,SNR=19
SIRR Siria 120.36 321 ⇓P **PKiKP 00 14 35.2 +0.5**
HERR Herculane 120.49 320 ⇑P **PKiKP 00 14 35.3 +0.4**
PSZ Piszkesteto 120.65 324 ⇑P **PKiKP 00 14 35.4 +0.1**
PSZ Piszkesteto 120.65 324 ⇑PKiKP **PKiKP 00 14 35.4 +0.1**
BZS Buzias 120.68 321 ⇑P **PKiKP 00 14 35.5 +0.2**
BZS Buzias 120.68 321 ⇑PKiKP **PKiKP 00 14 35.5 +0.2**
BSZH Besenyszg 120.73 323 ⇓P **PKiKP 00 14 37.8 +2.5**
ACSO Alum Creek Sta 120.74 46 P PKPdf 00 14 34.2 -1.3
baz=291,SNR=6.3
BLKB Belogradchik 120.85 318 ⇑P **PKiKP 00 14 36.0 +0.3**
MDVR Moldovita 120.98 320 ⇑P **PKiKP 00 14 36.0 0.0**
MORC Moravsky Berou 121.04 327 ⇑P **PKiKP 00 14 36.5 +0.6**
MORC Moravsky Berou 121.04 327 *e*PKP **PKiKP 00 14 36.3 +0.4**
MORC *e* 00 24 40.2
MORC Moravsky Berou 121.04 327 ⇑PKiKP **PKiKP 00 14 36.5 +0.6**
BANR Banloc 121.08 321 ⇓P **PKiKP 00 14 37.1 +1.1**
MAUC Maruska 121.10 326 *e*PKPDF **PKiKP 00 14 36.8 +0.8**
KRLC Kraliky 121.29 327 *e*PKPDF **PKiKP 00 14 36.7 +0.3**
KRLC Kraliky 121.29 327 *e*PKiKP **PKiKP 00 14 36.7 +0.3**
OSTC Ostas 121.33 328 *e*PKPDF **PKiKP 00 14 36.9 +0.5**
OSTC Ostas 121.33 328 *e*PKiKP **PKiKP 00 14 36.9 +0.5**
DPC Dobruska-Polom 121.39 328 *e*PKPDF **PKiKP 00 14 36.9 +0.3**
DPC Dobruska-Polom 121.39 328 *e*PKiKP **PKiKP 00 14 36.9 +0.3**
JAVC Velka Javorina 121.45 326 *e*PKP **PKiKP 00 14 38.1 +1.3**
JAVC *e* 00 24 40.0
UPC Upice 121.46 328 *e*PKPDF **PKiKP 00 14 37.0 +0.3**
UPC AMS AMS 01 08 30.0
comp=Z,1µm,23.1s
UPC Upice 121.46 328 *e*PKiKP **PKiKP 00 14 37.0 +0.3**
UPC MLR MLR
comp=Z,1µm,23.1s
BOVS Bovan 121.48 319 ⇑P **PKPdf 00 14 36.5 -0.2**
TZTN Tazewell 121.55 50 P PKPdf 00 14 35.8 -1.3
baz=288
P52A Corning 121.56 46 P PKPdf 00 14 35.7 -1.3
baz=291
SMOL Smolenice 121.77 325 *e*PKiKP **PKiKP 00 14 37.9 +0.6**
VRAC Vranov 121.81 327 ⇓P **PKiKP 00 14 38.2 +0.8**
VRAC Vranov 121.81 327 *e*PKP **PKiKP 00 14 37.5 +0.1**
VRAC Vranov 121.81 327 ⇓PKiKP **PKiKP 00 14 38.2 +0.8**
M53A WI Miller and 121.91 44 P PKPdf 00 14 36.8 -0.8
baz=294
MODS Modra-Piesok 121.93 325 *e*PKiKP **PKiKP 00 14 38.0 +0.3**
O53A New Philadelph 121.99 45 P PKPdf 00 14 37.0 -0.8
baz=292
FRGS Fruska Gora 122.02 321 ⇑P **PKiKP 00 14 38.1 +0.2**
FRGS Fruska Gora 122.02 321 *e*P **PKPdf 00 14 37.8 0.0**
KRUC Moravsky 122.06 326 *e*PKP **PKiKP 00 14 38.1 +0.2**
ERPA Erie 122.10 43 P PKPdf 00 14 37.1 -0.9
baz=294
BSEG Bad Segeberg 122.12 334 *e*PKPdf **PKiKP 00 14 38.1 +0.3**
baz=51,slow=2.0
BSEG *e*L L 01 07 57.5
comp=Z,499nm,20.3s
PVCC Panska Ves 122.20 329 *e*PKPDF **PKiKP 00 14 38.8 +0.7**
PVCC Panska Ves 122.20 329 *e*PKiKP **PKiKP 00 14 38.8 +0.7**
MORH Mrgy, Hungar 122.23 323 ⇑P **PKiKP 00 14 38.5 +0.2**
SCHQ Schefferville 122.26 25 PKP **PKPdf 00 14 37.5 -0.4**
comp=Z,5.2nm,1.0s,baz=31,slow=4.2,SNR=5.1
BRG Berggiesshubel 122.32 329 *i* PKP **PKiKP 00 14 38.7 +0.3**
BRG Amp 00 14 39.3
comp=Z,15nm,0.9s
BRG Berggiesshubel 122.32 329 *i* PKiKP **PKiKP 00 14 38.6 +0.3**
BRG pmax pmax
comp=Z,15nm,0.9s
BRG pmax pmax
comp=Z,5.0nm,1.2s
BRG Berggiesshubel 122.32 329 *e*PKPdf **PKiKP 00 14 38.6 +0.3**
baz=51,slow=2.0
DIVS Divibare 122.39 320 *e*P **PKPdf 00 14 38.5 -0.1**
TREC Trest 122.42 327 *e*PKPDF **PKiKP 00 14 38.8 +0.2**
TREC Trest 122.42 327 *e*PKiKP **PKiKP 00 14 38.8 +0.2**
TEKS Tekeris 122.48 320 *e*P **PKPdf 00 14 38.2 -0.7**
PRU Pruhonice 122.53 328 *e*PKPDF **PKPdf 00 14 38.2 -0.4**
PRU Pruhonice 122.53 328 *e*PKiKP **PKPdf 00 14 38.2 -0.4**
CLL Collm 122.53 330 *i* PKPdf **PKiKP 00 14 38.7 0.0**
comp=Z,14nm,0.7s
CLL *e*pPP 00 16 39.0
CLL *e*PPP PPP 00 18 50.0
CLL *e*Sdif Sdif 00 24 06.0 +3.3
CLL *e*PS **PS 00 26 12.0 -0.7**
CLL *e*PPS PPS 00 27 30.0
CLL *e*sPPS 00 28 06.0
CLL *e*SS **SS 00 32 48.0 -1.2**
CLL AMS AMS 01 10 00.0
comp=Z,500nm,21.0s
CLL Collm 122.53 330 *i* PKiKP **PKiKP 00 14 38.7 0.0**
CLL pmax pmax
comp=Z,14nm,0.7s
CLL MLR MLR
comp=Z,500nm,21.0s
CLL Collm 122.53 330 *e*PKPdf **PKiKP 00 14 38.8 +0.1**
baz=51,slow=2.0
CLL *e*L L 01 10 05.9
comp=Z,459nm,21.0s
GOGA Godfrey 122.54 54 P PKPdf 00 14 38.7 -0.4
baz=287
FBE Freiberg 122.59 330 *e*PKPdf **PKiKP 00 14 39.2 +0.4**
baz=51,slow=2.0
HSKC Hora Svate Kat 122.74 329 *e*PKPDF **PKPdf 00 14 38.1 -0.9**
FLTG Flechtingen 122.75 332 *e*PKPdf **PKiKP 00 14 39.0 -0.1**
baz=51,slow=2.0
SJES Sjenica 122.78 319 *e*P **PKPdf 00 14 39.3 -0.1**
RONA Rosalia, Austr 122.85 325 *e*PKP **PKiKP 00 14 39.5 -0.1**
comp=Z,6.7nm,0.8s
RONA *i* PKKP **PKKPbc 00 24 33.6 -0.1**
comp=Z,4.5nm,1.0s
BBLS Lazići 122.87 320 *e*P **PKiKP 00 14 39.8 +0.1**
CONA Conrad Observa 122.97 325 *i* PKP **PKiKP 00 14 39.8 0.0**
comp=Z,7.4nm,0.7s
CONA *i* PKKP **PKKPab 00 24 32.3 +0.5**
comp=Z,5.0nm,0.9s
TIGA Tifton 122.97 56 P PKPdf 00 14 39.9 -0.1
baz=285

RUDO	Rudo	123.01	320	eP		PKPdf	00 14 38.8	-0.9
ZVC	Zvikov	123.04	328	ePKPDF		PKPdf	00 14 39.3	-0.3
HAPS	Han Pijesak,BI	123.06	320	eP		PKPdf	00 14 39.0	-0.9
NRDL	Niedersach Rie	123.17	332	ePKPdf		PKiKP	00 14 40.7	+0.9
	baz=51,slow=2.0							
MCWV	Mont Chateau	123.19	46	P		PKiKP	00 14 40.4	0.0
	baz=293							
CKRC	Cesky Krumlov	123.33	327	ePKPDF		PKPdf	00 14 40.3	+0.1
CKRC	Cesky Krumlov	123.33	327	ePKIKP		PKPdf	00 14 40.3	+0.1
TANN	Tannenbergstha	123.35	329	ePKPdf		PKPdf	00 14 39.8	-0.4
	baz=51,slow=2.0							
WERD	Werda	123.41	330	ePKPdf		PKiKP	00 14 40.5	0.0
	baz=51,slow=2.0							
GUNZ	Gunzen	123.45	329	ePKPdf		PKiKP	00 14 40.9	+0.3
	baz=51,slow=2.0							
PLN	Plauen	123.46	330	ePKPdf		PKiKP	00 14 40.5	-0.1
	baz=51,slow=2.0							
NKC	Novy Kostel	123.47	329	ePKPDF		PKPdf	00 14 40.5	+0.1
NKC	Novy Kostel	123.47	329	ePKIKP		PKPdf	00 14 40.5	+0.1
CLZ	Clausthal	123.47	332	ePKPdf		PKiKP	00 14 41.2	+0.5
	baz=51,slow=2.0							
WERN	Wernitzgruen	123.47	329	ePKPdf		PKiKP	00 14 41.0	+0.3
	baz=51,slow=2.0							
ARSA	Arzberg	123.53	325	*i* PKP		PKPdf	00 14 40.5	-0.2
	comp=Z,5.8nm,1.2s							
ARSA				*i* PKKP		PKKPab	00 24 29.4	+0.1
	comp=Z,4.4nm,1.0s							
KHC	Kasperske Hory	123.54	328	ePKPDF		PKiKP	00 14 41.1	+0.2
KHC				AMS		AMS	01 10 00.0	
	comp=Z,800nm,21.1s							
KHC	Kasperske Hory	123.54	328	ePKIKP		PKiKP	00 14 41.1	+0.2
KHC				MLR		MLR		
	comp=Z,800nm,21.1s							
MOX	Moxa	123.64	330	eL		L	01 10 18.8	
	comp=Z,478nm,20.1s							
GEC2	GERESS Array S	123.64	327	ePKPdf		PKiKP	00 14 41.3	+0.2
	baz=51,slow=2.0							
GEC2				eL		L	01 09 41.8	
	comp=Z,523nm,21.0s							
GERES	GERESS Array B	123.64	327	PKP		PKPdf	00 14 40.7	-0.2
	comp=Z,12nm,0.6s,baz=58,slow=1.7,SNR=70							
GERES				PKKPbc		PKKPbc	00 24 30.3	-0.4
	comp=Z,3.1nm,0.9s,baz=207,slow=1.5,SNR=11							
BLA	Blacksburg	123.69	48	P		PKiKP	00 14 41.5	0.0
	baz=291							
KMSC	Kings Mountain	123.70	51	P		PKiKP	00 14 41.8	+0.2
	baz=289							
MANZ	Manzenberg	123.80	329	ePKPdf		PKiKP	00 14 41.7	+0.3
	baz=51,slow=2.0							
BRY	Bratogost	123.88	319	eP		PKPdf	00 14 39.3	-2.3
BO02	Sierra Bellavi	123.91	139			PKiKP	00 14 42.8	+0.7
WET	Wettzell	123.91	328	ePKPdf		PKiKP	00 14 41.7	+0.1
	baz=51,slow=2.0							
WET				eL		L	01 08 18.6	
	comp=Z,375nm,21.5s							
MOA	Molln	123.91	326	*i* PKP		PKPdf	00 14 41.2	-0.1
	comp=Z,8.3nm,1.1s							
MOA				*i* PKKP		PKKPbc	00 24 28.8	-0.7
	comp=Z,8.1nm,1.1s							
SOKA	Soboth	124.13	325	*i* PKP		PKPdf	00 14 41.6	-0.2
	comp=Z,9.5nm,0.8s							
SOKA				ePKKP		PKKPbc	00 24 28.7	+0.1
BIOA	Bad Ischl, Aus	124.35	326	*i* PKP		PKiKP	00 14 42.4	-0.1
	comp=Z,8.1nm,1.0s							
BIOA				*i* PKKP		PKKPbc	00 24 27.1	-0.6
	comp=Z,2.0nm,0.7s							
A050A	Klekovaca	124.39	322	eP		PKPdf	00 14 41.9	-0.5
GRF	Grafenberg Arr	124.43	329	eL		L	01 06 21.7	
	comp=Z,387nm,21.9s							
STON	Ston	124.44	319	eP		PKPdf	00 14 41.7	-0.7
LONY	Lake Ozonia	124.45	38	P		PKiKP	00 14 42.9	+0.1
	baz=301							
OBKA	Obir	124.50	325	*i* PKP		PKPdf	00 14 41.8	-0.8
	comp=Z,5.1nm,1.1s							
OBKA	Obir	124.50	325	eP		PKPdf	00 14 41.8	-0.8
BO04	La Punta	124.50	138			PKiKP	00 14 43.4	+0.1
BOJS	Bojanci	124.63	323	*i* PKPdf		PKiKP	00 14 43.0	-0.1
J58A	Remsen	124.64	40			PKiKP	00 14 43.2	+0.1
BINY	Binghamton	124.74	41	P		PKPdf	00 14 43.0	-0.1
	baz=298							
LJU	Ljubljana	124.77	324	*i* PKPdf		PKPdf	00 14 43.1	+0.1
KBA	Koelnbreinsper	124.86	326	*i* PKP		PKiKP	00 14 44.4	+0.7
	comp=Z,14nm,1.1s							
KBA				ePKKP		PKKPab	00 24 24.9	+1.0
	comp=Z,9.7nm,1.6s							
MYKA	Terra Mystica	124.95	325	*i* PKP		PKPdf	00 14 43.0	-0.4
	comp=Z,3.8nm,0.6s							
MYKA				*i* PKKP		PKKPbc	00 24 25.3	0.0
	comp=Z,8.1nm,1.0s							
CEY	Cerknica	124.99	324	*i* PKPdf		PKPdf	00 14 43.4	-0.1
LESA	Schwarzleotal	125.03	326	*i* PKP		PKPdf	00 14 43.4	-0.1
	comp=Z,9.9nm,0.6s							
LESA				ePKKP		PKKPbc	00 24 24.7	-0.4
	comp=Z,5.3nm,0.8s							
NHSC	New Hope	125.26	53	P		PKiKP	00 14 44.9	+0.2
	baz=289							
FUR	Furstenfeldbru	125.34	328	eL		L	01 09 35.1	
	comp=Z,511nm,21.3s							
TNS	Taunus Mts	125.45	331	eL		L	01 03 35.3	
	comp=Z,445nm,21.0s							
ABTA	Abfaltersbach	125.52	326	*i* PKP		PKPdf	00 14 43.9	-0.7
	comp=Z,10nm,0.8s							
CBN	Corbin Frederi	125.54	46	P		PKiKP	00 14 45.6	+0.5
	baz=294							
WATA	Walderalm	125.69	327	*i* PKP		PKPdf	00 14 44.6	-0.3
	comp=Z,11nm,0.9s							
WTTA	Wattenberg	125.70	327	*i* PKP		PKPdf	00 14 44.9	0.0
	comp=Z,14nm,0.7s,SNR=6.2							
MOTA	Moosalm	125.94	327	ePKP		PKPdf	00 14 45.6	+0.2
	comp=Z,17nm,0.7s,SNR=9.9							
SQTA	Sankt Quirin	125.96	327	*i* PKP		PKPdf	00 14 45.6	+0.2
	comp=Z,15nm,0.7s							
RETA	Reutte	126.03	327	*i* PKP		PKPdf	00 14 45.4	-0.1
	comp=Z,5.8nm,0.8s							
STU	Stuttgart	126.04	330	ePKPdf		PKiKP	00 14 45.9	+0.1
	baz=51,slow=2.0							
EKA	Eskdalemuir Ar	126.15	342	PKP		PKPdf	00 14 45.1	-0.2
	comp=Z,5.1nm,0.6s,baz=16,slow=3.3,SNR=24							
LBNH	Lisbon	126.27	37	P		PKiKP	00 14 47.2	+0.9
	baz=303							
BTNL	Ternell	126.29	333	*d*PKPdf		PKiKP	00 14 46.2	0.0
CNNC	Cliffs of the	126.31	50	P		PKiKP	00 14 46.6	0.0
	baz=292							
MEM	Membach	126.33	333	*d*PKPdf		PKPdf	00 14 45.8	-0.1
FETA	Feichten	126.34	327	*i* PKP		PKPdf	00 14 46.2	0.0
	comp=Z,16nm,0.8s,SNR=7.3							
BHOU	Houvegnez	126.51	333	*d*PKPdf		PKiKP	00 14 47.5	+0.8
BSTI	Sart Tilman	126.54	333	*d*PKPdf		PKiKP	00 14 47.0	+0.3
DAVA	Damuels	126.63	328	*i* PKP		PKiKP	00 14 47.0	-0.2
	comp=Z,15nm,0.7s							
PAL	Palisades	126.68	42	P		PKiKP	00 14 47.7	+0.5
	baz=299							
L61B	Northampton	126.75	40	P		PKiKP	00 14 47.8	+0.5
	baz=301							
BFO	Black Forest	126.76	330	PKPdf		PKPdf	00 14 46.7	-0.1
BFO	Black Forest	126.76	330	PKIKP		PKPdf	00 14 46.7	-0.1
BFO	Black Forest	126.76	330	eL		L	01 11 38.0	
	comp=Z,508nm,20.2s							
BCLA	Clavier	126.78	333	*d*PKPdf		PKiKP	00 14 47.2	+0.1
BGES	Gesves	126.90	333	*d*PKPdf		PKiKP	00 14 46.8	-0.1
WLF	Walferdange	126.92	332	*d*PKPdf		PKiKP	00 14 48.5	+1.0
TRQA	Tornquist	126.97	148	PKPdf		PKiKP	00 14 47.9	-0.1
TRQA	Tornquist	126.97	148	PKIKP		PKiKP	00 14 47.9	-0.1
BMRD	Maredsous	127.10	333	*d*PKPdf		PKiKP	00 14 47.9	+0.1
PKME	Peaks-Kenny Pk	127.23	35	P		PKiKP	00 14 48.3	+0.1
	baz=306							
ZON	Zonda	127.27	137	PKPdf		PKiKP	00 14 49.2	+0.4
ZON	Zonda	127.27	137	PKIKP		PKiKP	00 14 49.2	+0.4
LCO	Las Campanas	127.31	133	PKPdf		PKiKP	00 14 50.2	+0.9
LCO	Las Campanas	127.31	133	PKIKP		PKiKP	00 14 50.2	+0.9
DOU	Dourbes	127.33	333	*d*PKPdf		PKiKP	00 14 48.5	+0.2
HRV	Adam Dziewonsk	127.43	39	P		PKiKP	00 14 49.4	+0.7
	baz=302							
TSUM	Tsumeb	127.86	241	PKPdf		PKiKP	00 14 50.3	-0.1
MCRA	Macar, Loja	128.30	100	PKPdf		PKiKP	00 14 51.1	-0.2
MCRA	Macar, Loja	128.30	100	eP		PKPdf	00 14 50.7	0.0
NNA	Nana	129.47	110	eP		PKiKP	00 14 53.8	+0.1
OTAV	Otavalo	130.49	94	eP		PKPdf	00 14 55.1	-0.3
OTAV	Otavalo	130.49	94	⇓PKIKP		PKiKP	00 14 58.3	+2.0
GCUF	Volcan Galeras	131.70	93	eP		PKiKP	00 14 58.8	0.0
CRUC	La Cruz	132.12	93	eP		PKiKP	00 15 09.8	+10
POPC	Popayan, Colom	132.49	92	eP		PKiKP	00 14 59.8	-0.3
PB11	IPOC Station P	132.88	123	PKPdf		PKiKP	00 15 00.7	+0.2
YOTC	Yotoco, Valle	132.93	90	eP		PKiKP	00 15 00.9	+0.1
PLMC	San Jos del P	133.05	88	eP		PKiKP	00 15 01.6	+0.6
GO01	Chusmiza	133.31	124	PKPdf		PKiKP	00 15 02.4	+0.6
CBOC	Ciudad Bolivar	133.36	87	eP		PKiKP	00 15 01.9	+0.2
KEST	Kesra	133.60	316	PKP		PKiKP	00 15 01.7	+0.2
	comp=Z,9.9nm,0.9s,baz=342,slow=4.3,SNR=5.6							
PB16	IPOC Station P	133.66	122	PKPdf		PKiKP	00 15 03.5	+0.8
BETC	Betania	133.73	92	eP		PKiKP	00 15 03.2	+0.9
UREC	San Jos de Ur	133.88	85	eP		PKPdf	00 14 55.6	-5.6
GUY2C	Guyana, Caldas	133.98	88	eP		PKiKP	00 15 02.7	-0.7
ORTC	Ortega, Tolima	134.02	90	eP		PKPdf	00 14 52.3	-9.3
PTLC	Puerto Leguiza	134.10	95	eP		PKiKP	00 15 03.0	0.0
PRAC	Prado	134.37	90	eP		PKiKP	00 15 03.0	-0.6
ZARC	Zaragoza, Cauc	134.54	85	eP		PKPdf	00 14 56.9	-5.6
CZSB	Cruzeiro do Su	134.58	106	eP		PKiKP	00 15 04.3	+0.3
PTBC	PUERTO BERRIO	134.93	86	eP		PKPdf	00 14 57.4	-5.8
ROSC	El Rosal	135.00	89	PKIKP		PKiKP	00 15 05.0	-0.3
ROSC	El Rosal	135.00	89	PKhKP		PKPpre	00 14 58.9	
	comp=Z,11nm,0.4s,baz=350,slow=18,SNR=6.5							
ROSC				PKP		PKiKP	00 15 05.0	-0.3
	comp=Z,21nm,0.6s,baz=246,slow=17,SNR=8.9							
SMRC	Santa Marta, M	135.07	80	eP		PKPdf	00 15 01.9	-1.5
SPBC	San Pablo de B	135.28	88	eP		PKPdf	00 14 58.7	-5.2
LL6C	La Loma 6 Bece	136.08	82	eP		PKPdf	00 15 03.3	-2.0
ITQB	Itaqui	136.17	145			PKPpre	00 14 55.1	
ITQB				PKPdf		PKiKP	00 15 06.2	-0.6
PLTB	Pedras Altas	136.19	149	PKPdf		PKiKP	00 15 07.5	+0.7
BARC	Barichara	136.19	86	eP		PKPdf	00 15 03.1	-2.8
PAMC	Pamplona, Colo	136.68	85	eP		PKPdf	00 15 00.4	-6.7
CPUP	Villa Florida	138.17	141	PKPdf		PKPdf	00 15 09.2	+0.3
CPUP	Villa Florida	138.17	141	PKIKP		PKPdf	00 15 09.2	+0.3
CPUP	Villa Florida	138.17	141	PKhKP		PKPpre	00 14 59.4	
	comp=Z,2.4nm,0.7s,baz=266,slow=2.4,SNR=6.0							
CPUP				PKP		PKPdf	00 15 08.0	-0.9
	comp=Z,21nm,1.1s,baz=243,slow=1.5,SNR=13							
CPUP				SKPbc		SKPbc	00 18 35.7	+1.6
	comp=Z,13nm,1.0s,baz=240,slow=2.3,SNR=9.1							
SDV	Santo Domingo	138.71	83			PKPpre	00 15 03.1	
SDV				PKPdf		PKiKP	00 15 11.9	-0.7
SDV	Santo Domingo	138.71	83	eP		PKiKP	00 15 12.1	-0.5
PBRG	Braganca	138.73	334	ePKPdf		PKPdf	00 15 07.9	-1.6
ESDC	Sonseca Array	139.12	330	PKhKP		PKPpre	00 15 00.0	
	comp=Z,1.1nm,0.9s,baz=16,slow=2.8,SNR=5.1							
ESDC				SKPbc		SKPbc	00 18 29.1	-7.3
	comp=Z,2.8nm,0.9s,baz=32,slow=5.7,SNR=6.2							
PGAV	Gavieira, Arco	139.24	336	ePKPdf		PKiKP	00 15 11.7	-1.1
MVO	Moncorvo	139.38	334	*i* LQ		LQ	00 15 02.9	
MVO	Moncorvo	139.38	334	ePKPdf		PKiKP	00 15 13.8	+0.7
POLO	Lamas de Olo	139.53	335	ePKPdf		PKiKP	00 15 12.8	-0.6
PVRL	Vila Real	139.58	335	ePKPdf		PKPdf	00 15 12.2	+1.1
ETMB	Extrema	140.03	112	PKPdf		PKPdf	00 15 12.7	+0.1
PTO	Porto	140.07	336	ePKPdf		PKiKP	00 15 14.5	+0.1
PVIS	Viseu	140.12	335	ePKPdf		PKiKP	00 15 14.4	-0.2
MTE	Manteigas	140.23	334	*i* LQ		LQ	00 15 05.6	
MTE	Manteigas	140.23	334	ePKPdf		PKPdf	00 15 13.5	+1.2
PCBR	Castelo Branco	140.66	333	*i* LQ		LQ	00 15 05.1	
PCBR	Castelo Branco	140.66	333	ePKPdf		PKPdf	00 15 13.8	+0.8
PCAS	Casmilo, Conde	140.93	335	ePKPdf		PKPdf	00 15 13.4	-0.1
PMRV	Marv??o	140.95	333	*i* LQ		LQ	00 15 05.9	
PMRV	Marv??o	140.95	333	ePKPdf		PKPdf	00 15 13.9	+0.3
BAUV	El Baul	141.27	83	PKPdf		PKPdf	00 15 16.0	+1.2
PESTR	Estremoz	141.50	333	ePKPdf		PKPdf	00 15 15.7	+1.1
PSBE	So Bento	141.50	334	ePKPdf		PKPdf	00 15 10.4	-4.2
PMTG	Montargil	141.62	333	*i* LQ		LQ	00 15 08.8	
SJG	San Juan	141.76	68	PKPdf		PKPdf	00 15 14.5	-1.0
SJG	San Juan	141.76	68	PKIKP		PKPdf	00 15 14.5	-1.0
SIV	San Ignacio	141.84	125	PKhKP		PKPpre	00 15 10.5	
	comp=Z,18nm,0.8s,baz=238,slow=3.6,SNR=80							
SIV				PP		PP	00 18 21.6	+0.6
	comp=Z,5.8nm,1.0s,baz=261,slow=5.7,SNR=4.1							
EVO	Evora	141.96	333	ePKPdf		PKPdf	00 15 11.2	-4.2
PBEJ	Beja	142.30	332	ePKPdf		PKPdf	00 15 16.8	+0.8
TAM	Tamanrasset	142.42	301	PKPdf		PKPdf	00 15 13.2	-3.6
TAM	Tamanrasset	142.42	301	PKIKP		PKPdf	00 15 13.2	-3.6
PNCL	Nicolau / Gran	142.54	333	*i* LQ		LQ	00 15 12.4	
PNCL	Nicolau / Gran	142.54	333	ePKPdf		PKPdf	00 15 17.7	+1.3
MESJ	Messejana	142.62	332	ePKPdf		PKPdf	00 15 17.3	+0.7
MESJ	Messejana	142.62	332			PKPdf	00 15 17.6	+1.0
MESJ	Messejana	142.62	332	PKIKP		PKPdf	00 15 17.6	+1.0
PCVE	Castro Verde	142.70	332	ePKPdf		PKPdf	00 15 18.1	+1.4
PTEO	Sao Teotonio	143.09	333	ePKPdf		PKPdf	00 15 18.7	+1.3
SAML	Samuel	143.13	113	PKPdf		PKPbc	00 15 15.1	-0.2
SAML	Samuel	143.13	113	eP		PKPbc	00 15 14.9	-0.4
SAML	Samuel	143.13	113	PKIKP		PKPbc	00 15 15.1	-0.2
MORF	Marmelete	143.25	332	ePKPdf		PKPdf	00 15 18.2	+0.4
AQDB	Aquidauana	143.27	135	PKPdf		PKPbc	00 15 15.3	-0.2
MDT	Midelt	144.51	323	P		PKPdf	00 15 20.2	+0.1
ARF	Arif	145.22	321	P		PKPdf	00 15 22.1	+0.6
MBFL	Flemmings, Mon	145.74	68	*e*		PKPab	00 15 24.6	+1.0
MLYT	Lee's Yard	145.77	68	*e*		PKPab	00 15 25.0	+1.2
ANBD	Bethesda, Anti	146.08	68	*e*		PKPbc	00 15 23.9	-0.2
CBE	Ff, Capester	146.48	69	*e*		PKPab	00 15 26.0	-0.5
ZGR	Zagora	147.00	321	P		PKPab	00 15 28.3	0.0
OUZM	OUZ	147.15	323	P		PKPbc	00 15 27.0	-0.1
SVN	Savane Anatole	147.18	71	*e*		PKPbc	00 15 28.2	+0.8
FDF	Fort de France	147.22	71	*e*		PKPab	00 15 28.6	-0.9
BIM	Bigot	147.34	72	*e*		PKPbc	00 15 27.9	0.0
MPOM	Morne Pois Mar	147.56	72	*e*		PKPab	00 15 31.9	+1.1
OUK	Oukaimeden	147.58	325	P		PKPab	00 15 33.0	+2.2
TRN	Trinidad (W)	147.66	79	*e*		PKPbc	00 15 28.8	0.0
SHEL	Horse Pasture	148.51	227	PKPab		PKiKP	00 15 33.2	+0.7
SHEL	Horse Pasture	148.51	227	PKP2		PKiKP	00 15 33.2	+0.7
BOAV	Boa Vista	148.53	94			pPKPdf	00 15 56.6	+1.2
BOAV	Boa Vista	148.53	94	eP		PKPdf	00 15 27.6	+0.2
TORD	Torodi Ar. Sit	148.68	286	PKPbc		PKPbc	00 15 31.6	+0.2
TORD	Torodi Ar. Bea	148.68	286	PKPdf		PKPdf	00 15 26.4	-1.1
TORD				PKPbc		PKPbc	00 15 31.7	+0.3
TORD	Torodi Ar. Bea	148.68	286	PKP		PKPdf	00 15 27.2	-0.4
	comp=Z,36nm,0.8s,baz=45,slow=2.0,SNR=48							
TORD				PKPbc		PKPbc	00 15 31.2	-0.2
	comp=Z,37nm,0.8s,baz=66,slow=3.1,SNR=106							
PMPST	Porto Santo, M	150.11	338	ePKPdf		PKPbc	00 15 34.5	+0.1
PMPS	Porto Santo	150.12	338	ePKPdf		PKPbc	00 15 33.5	-1.0
PMAR	Madeira	150.64	339	ePKPdf		PKiKP	00 15 37.3	+0.7
PMOZ	Porto Moniz, M	150.65	339	ePKPdf		PKiKP	00 15 36.4	-0.1
BDFB	Brasilia	151.86	139	PKP		PKPdf	00 15 33.3	+0.6
	comp=Z,28nm,0.9s,baz=173,slow=1.1,SNR=41							
BDFB				PKPbc		PKiKP	00 15 39.6	+0.1
	comp=Z,94nm,0.8s,baz=198,slow=3.1,SNR=66							
DBIC	Dimbokro	155.84	274	PKPdf		PKPdf	00 15 37.7	-0.5
DBIC				pPKPdf		PKPab	00 16 05.4	0.0
DBIC	Dimbokro	155.84	274	PKIKP		PKPdf	00 15 37.7	-0.5
DBIC	Dimbokro	155.84	274	PKP		PKPdf	00 15 37.5	-0.7
	comp=Z,16nm,0.9s,baz=72,slow=1.1,SNR=18							
ASCN	Ascension	160.10	228	PKPab		PKPab	00 16 25.6	+2.0

*SOME **29** 23:56:26.5, 44°.77N × 80°.53E, h25km*
*NNC **29** 23:56:27.7 ± 1.6, 44°.86N × 80°.19E, h9km ± 9km, mb2.5, mpv2.1, Error ellipse: s-maj=16.3km s-min=2.7km az=116.0*

ISC 29 23:56:26.5 ± 2.0, 44°.75N ± 0°.05 × 80°.50E ± 0°.09, h6km ± 17km, n10, σ0s75/18, 3C-3D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DJR	Jarkent	0.66	231	*e*P		Pb	23 56 39.9	-0.5
	1.7nm,0.3s							
DJR				*e*S		Sb	23 56 49.2	-0.6
	6.6nm,0.2s							
TDK	Taldyqorghan	1.51	280	*e*P		Pg	23 56 55.1	-0.3
	5.7nm,0.6s							
TDK				*e*S		Sg	23 57 15.6	+0.6
	17nm,0.6s							
PDGK	Podgornoye	1.60	207	⇑Pn		Pb	23 56 56.8	+0.3
	3.9nm,1.3s							
PDGK				⇑Sn		Sg	23 57 18.3	+0.4
	1.9nm,0.3s							
SHLS	Shalkode	1.76	206	*e*P		Pn	23 56 57.7	+0.1
	2.1nm,0.5s							
SHLS				*e*S		Sn	23 57 20.2	-0.2
	16nm,0.3s							
KPKS	Kokpek	1.83	226	*e*P		Pb	23 57 00.7	+0.2
	2.2nm,0.1s							
KPKS				*e*S		Sg	23 57 25.1	-0.3
	24nm,0.5s							
UZB	Uzynbulak	1.93	214	*e*P		Pb	23 57 01.4	-0.6
	3.0nm,0.5s							
UZB				*e*S		Sb	23 57 26.6	+0.2
	8.5nm,0.4s							
ZHN	Zhinishke	2.17	224	*e*Pg		Pb	23 57 06.4	+0.1
	5.7nm,0.2s							
ZHN				*e*Lg		Lg	23 57 35.0	
	15nm,0.1s							
SATY	Saty	2.27	223	*e*Pg		Pb	23 57 08.2	+0.3
	1.1nm,0.2s							
SATY				*e*Lg		Lg	23 57 38.1	
	18nm,0.0s							
MAKZ	Makanchi	2.30	26	⇑Pn		Pn	23 57 06.1	+1.1
	2.8nm,1.2s							
MAKZ				⇓Sn		Sb	23 57 35.9	-1.2
	0.4nm,0.3s							
MK31	Makanchi Array	2.40	31	⇓Pn		Pn	23 57 07.3	+1.1
	0.1nm,0.2s,baz=210,slow=16,SNR=5.8							
MK31				⇓Sn		Sb	23 57 38.4	-1.4
	0.2nm,0.2s,baz=218,slow=25,SNR=9.6							

JMA 30 00:03:30.6 ± 0.0, 32°.3N ± 0°.2 × 130°.8E ± 0°.2, h5km ± 1km, MV0.8/30, SOUTHERN KUMAMOTO PREF, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JZO	Okuchi	0.22	215	*i* P		Pg	00 03 34.9	+0.1
JZO				*e*S		Sg	00 03 38.0	+0.4
JIU3	Izumi3	0.24	14	*e*P		Pg	00 03 35.4	+0.1
JIU3				*e*S		Sg	00 03 38.6	+0.2
JTZ	Takazaki	0.51	145	*e*P		Pg	00 03 40.8	+0.5
JTSN	Tsuno	0.65	96	*e*S		Sg	00 03 51.7	+0.3
JTA	Tamana	0.67	344	*e*P		Pb	00 03 44.2	-0.5

*IDC **30** 00:16:32.6 ± 6.3, 37°.14N × 71°.56E, h135km ± 54km, mbtmp3.6/5, Error ellipse: s-maj=76.5km s-min=20.1km az=151.0*
*NNC **30** 00:16:36.6 ± 2.5, 37°.32N × 71°.49E, h98km ± 48km, mb3.0, mpv3.5, Error ellipse: s-maj=23.2km s-min=18.1km az=143.0*

ISC 30 00:16:30.9 ± 2.2, 37°.0N ± 0°.2 × 71°.6E ± 0°.1, h106km, n20, σ1s88/25, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AML	Almayashu	5.37	17	P		Pn	00 17 51.3	+2.3
	SNR=206							
AML	Almayashu	5.37	17	⇓P		Pn	00 17 51.3	+2.3
	1.7nm,0.3s							
AML				⇑S		Sn	00 18 48.8	-0.9
	4.0nm,0.5s							
UCH	Uchtor	5.68	22	P		Pn	00 17 55.4	+2.1
	SNR=25							
KZA	Kyzart	5.80	28	P		Pn	00 17 56.4	+1.6
	SNR=16							
EKS2	Erkin-Say	5.90	16	P		Pn	00 17 58.4	+2.6
	SNR=6.6							
AAK	Ala-Archa	6.05	21	P		Pn	00 18 00.4	+2.4
	SNR=23							
AAK	Ala-Archa	6.05	21	P		Pn	00 18 00.1	+2.1
	9.2nm,0.3s,baz=170,slow=6.8,SNR=58							
AAK				S		Sn	00 19 05.1	-0.8
	6.2nm,0.5s,baz=142,slow=23,SNR=10							
KK31	Karatay Array	6.16	352	⇑P		Pn	00 18 01.6	+2.3

	0.2nm,0.3s								
AML				⇑Sn		**Sn**	**00 23 20.4**	**+2.9**	
	2.5nm,0.6s								
ARLS	**Aral**	**4.32**	**57**	⇑*i*P		**Pn**	**00 22 34.2**	**+1.7**	
	baz=56								
ARLS				⇑*i*S		**Sn**	**00 23 25.3**	**+2.3**	
	baz=56								
EKS2	**Erkin-Say**	**4.47**	**45**	P		**Pn**	**00 22 38.1**	**+3.6**	
	SNR=9.3								
EKS2	**Erkin-Say**	**4.47**	**45**	⇓*i*P		**Pn**	**00 22 37.1**	**+2.6**	
	baz=45								
EKS2				⇓*i*S		**Sn**	**00 23 28.6**	**+2.0**	
	baz=45								
UCH	**Uchtor**	**4.63**	**54**	P		**Pn**	**00 22 38.9**	**+1.9**	
	SNR=6.3								
UCH	**Uchtor**	**4.63**	**54**	⇑*i*P		**Pn**	**00 22 39.0**	**+1.9**	
	baz=53								
UCH				⇑*i*S		**Sn**	**00 23 32.7**	**+1.5**	
	baz=53								
AAK	**Ala-Archa**	**4.86**	**49**	P		**Pn**	**00 22 41.8**	**+1.9**	
	SNR=6.0								
AAK	**Ala-Archa**	**4.86**	**49**	⇑*i*P		**Pn**	**00 22 42.1**	**+2.2**	
	baz=49								
AAK				⇑*i*S		**Sn**	**00 23 38.2**	**+1.9**	
	baz=49								
KZA	**Kyzart**	**5.03**	**58**	P		**Pn**	**00 22 44.6**	**+2.1**	
	SNR=7.0								
KZA	**Kyzart**	**5.03**	**58**	⇑*i*P		**Pn**	**00 22 44.5**	**+2.1**	
	baz=58								
KZA				⇑*i*S		**Sn**	**00 23 42.6**	**+1.7**	
	baz=58								
KBK	**Karagaybulak**	**5.14**	**51**	P		**Pn**	**00 22 46.4**	**+2.6**	
	SNR=7.2								
KBK	**Karagaybulak**	**5.14**	**51**	⇑*i*P		**Pn**	**00 22 46.3**	**+2.5**	
	baz=51								
KBK				⇑*i*S		**Sn**	**00 23 44.7**	**+1.4**	
	baz=51								
CHMS	**Chumysh**	**5.23**	**47**	⇓*i*P		**Pn**	**00 22 47.1**	**+2.2**	
	baz=47								
CHMS				⇓*i*S		**Sn**	**00 23 46.8**	**+1.5**	
	baz=47								
USP	**Ospenovka**	**5.27**	**44**	⇓*i*P		**Pn**	**00 22 47.5**	**+2.1**	
	baz=44								
USP				⇓*i*S		**Sn**	**00 23 47.4**	**+1.2**	
	baz=44								
TKM2	**Tokmak 2**	**5.68**	**52**	P		**Pn**	**00 22 49.4**	**-1.9**	
	SNR=5.4								
TKM2	**Tokmak 2**	**5.68**	**52**	⇑*i*P		**Pn**	**00 22 53.2**	**+1.9**	
	baz=52								
TKM2				⇑*i*S		**Sn**	**00 23 57.4**	**+0.7**	
	baz=52								
TKM2	**Tokmak 2**	**5.68**	**52**	⇓Pn		**Pn**	**00 22 52.9**	**+1.7**	
	1.5nm,0.5s								
TKM2				⇓Sn		**Sn**	**00 23 57.8**	**+1.1**	
	3.2nm,0.5s								
AB31	**Akbulak array**	**11.83**	**328**	⇑P		**Pn**	**00 24 13.9**	**-1.4**	
	0.5nm,0.5s,baz=135,slow=14,SNR=18								

*IDC **30** 00:57:17.0±2.1,14˚.63S×171˚.28E,h628km±24km, mb3.2/10,mbtmp4.2/11,Error ellipse: s-maj=23.3km s-min=18.4km az=145.0*

*NEIC **30** 00:57:18.6±0.7,14˚.68S±0˚.10×171˚.3E±0˚.1,h644km±12km, mb4.0/22,Error ellipse: s-maj=18.7km s-min=9.7km az=52.0*

*NOU **30** 00:57:38.9,15˚.98S×170˚.23E,h479km,MLv4.4/12, Vanuatu Islands Region*

ISC 30 00:57:18.7±0.6,14.7S±0˚.1×171˚.2E±0˚.1,h650km,n53, σ1ş18/57,mb3.9/22,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**4.16**	**223**	P	**P**	**00 58 46.9**	**-2.0**
LIFNC	**LIFOU**	**7.12**	**211**	P	**P**	**00 59 09.8**	**-2.1**
LIFNC	**LIFOU**	**7.12**	**211**	P	**P**	**00 59 09.8**	**-2.1**
MARNC	**Mare, Loyalty**	**7.38**	**203**	P	**P**	**00 59 12.2**	**-2.1**
MARNC	**Mare, Loyalty**	**7.38**	**203**	P	**P**	**00 59 12.1**	**-2.1**
YATNC	**Mamie plateau,**	**8.38**	**208**	P	**P**	**00 59 22.0**	**-1.2**
DZM	**Mont Dzumac**	**8.60**	**211**	P	**P**	**00 59 25.5**	**+0.1**
DZM	**Mont Dzumac**	**8.60**	**211**	P	**P**	**00 59 25.3**	**-0.1**
DZM	**Mont Dzumac**	**8.60**	**211**	P	**P**	**00 59 25.1**	**-0.3**
	11nm,0.4s,baz=66,slow=18,SNR=30						
PINNC	**Pines Island,**	**8.63**	**204**	P	**P**	**00 59 25.3**	**-0.2**
NOUC	**Port Laguerre**	**8.70**	**211**	P	**P**	**00 59 26.2**	**0.0**
OUENC	**Ouen Island, N**	**8.71**	**208**	P	**P**	**00 59 26.4**	**+0.1**
OUENC	**Ouen Island, N**	**8.71**	**208**	P	**P**	**00 59 26.1**	**-0.2**
KOUNC	**Koumac, New Ca**	**8.78**	**227**	P	**P**	**00 59 27.1**	**+0.1**
KOUNC	**Koumac, New Ca**	**8.78**	**227**	P	**P**	**00 59 27.1**	**+0.1**
ONTNC	**Ouen Toro**	**8.80**	**210**	P	**P**	**00 59 27.1**	**0.0**
ONTNC	**Ouen Toro**	**8.80**	**210**	P	**P**	**00 59 27.5**	**+0.4**
AFI	**Afiamalu**	**16.54**	**89**	P	**P**	**01 00 38.4**	**-0.8**
EIDS	**Eidsvold**	**21.63**	**237**	P	**P**	**01 01 25.4**	**+0.5**
EIDS				IAmb	IAmb	01 01 25.5	
	comp=Z,3.0nm,0.7s						
ARMA	**Armidale**	**23.83**	**226**	P	**P**	**01 01 45.0**	**+0.6**
ARMA				IAmb	IAmb	01 02 02.9	
	comp=Z,3.1nm,0.8s						
CTAO	**Charters Tower**	**24.37**	**254**	P	**P**	**01 01 50.0**	**+0.7**
CTAO				IAmb	IAmb	01 01 50.0	
	comp=Z,3.1nm,0.8s						
STKA	**Stephens Creek**	**31.96**	**233**	P	**P**	**01 02 55.7**	**+1.2**
STKA	**Stephens Creek**	**31.96**	**233**	P	**P**	**01 02 55.5**	**+1.0**
	comp=Z,4.4nm,0.3s,baz=61,slow=9.0,SNR=23						
	comp=Z,4.4nm,0.3s						
TOO	**Toolangi**	**32.22**	**220**	P	**P**	**01 02 57.4**	**+0.7**
TOO				IAmb	IAmb	01 03 13.3	
	comp=Z,15nm,1.1s						
WB0	**Warramunga Arr**	**35.45**	**257**	P	**P**	**01 03 23.4**	**-0.4**
WB2	**Warramunga Arr**	**35.49**	**256**	P	**P**	**01 03 23.7**	**-0.4**
WB2				IAmb	IAmb	01 03 24.7	
	comp=Z,9.4nm,0.8s						
WRA	**Warramunga Arr**	**35.51**	**256**	P	**P**	**01 03 23.6**	**-0.6**
	comp=Z,6.1nm,0.5s,baz=81,slow=5.9,SNR=135						
WRA				PcP	**PcP**	**01 05 34.8**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=98,slow=5.9,SNR=1.9						
WRA				S	**S**	**01 08 12.0**	**-4.1**
	comp=Z,0.2nm,0.5s,baz=100,slow=14,SNR=1.9						
	comp=Z,6.1nm,0.5s						
AS31	**Alice Springs**	**36.23**	**250**	P	**P**	**01 03 30.3**	**+0.2**
ASAR	**Alice Springs**	**36.23**	**250**	P	**P**	**01 03 30.5**	**+0.4**
ASAR	**Alice Springs**	**36.23**	**250**	P	**P**	**01 03 30.3**	**+0.2**
	comp=Z,10nm,0.4s,baz=75,slow=9.7,SNR=339						
ASAR				PcP	**PcP**	**01 05 37.2**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=107,slow=2.6,SNR=5.7						
ASAR				ScP	**S**	**01 08 25.8**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=84,slow=4.5,SNR=7.5						
	comp=Z,10nm,0.4s						
BBOO	**Buckleboo**	**36.63**	**234**	P	**P**	**01 03 33.8**	**+0.6**
MTN	**Manton Dam**	**38.91**	**268**	P	**P**	**01 03 52.3**	**+0.6**
VNDA	**Vanda**	**63.01**	**182**	P	**P**	**01 06 44.9**	**+1.1**
VNDA	**Vanda**	**63.01**	**182**	P	**P**	**01 06 44.0**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=357,slow=6.1,SNR=5.1						
	comp=Z,0.6nm,0.7s						
QSPA	**South Pole Qui**	**75.33**	**180**	P	**P**	**01 07 57.5**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=41,slow=2.5,SNR=6.0						
	comp=Z,1.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**78.41**	**293**	P	**P**	**01 08 16.5**	**+1.6**
	comp=Z,1.4nm,0.6s,baz=121,slow=4.3,SNR=7.8						
	comp=Z,1.4nm,0.6s						
L18K	**Granite Mounta**	**80.72**	**15**	P	**P**	**01 08 26.8**	**+0.9**
J16K	**Anvik River**	**80.76**	**13**	P	**P**	**01 08 27.7**	**+1.6**
L19K	**White Mountain**	**81.15**	**15**	P	**P**	**01 08 28.9**	**+0.8**
L19K				IAmb	IAmb	01 08 33.5	
	comp=Z,3.3nm,1.1s						
TTA	**Tatalina**	**81.49**	**15**	P	**P**	**01 08 30.1**	**+0.2**
TTA				IAmb	IAmb	01 08 48.7	
	comp=Z,3.8nm,1.2s						
SUA	**Susitna One**	**81.68**	**17**	P	**P**	**01 08 31.1**	**+0.2**
J16K	**Innoko River**	**81.78**	**14**	P	**P**	**01 08 31.9**	**+0.6**
J18K				IAmb	IAmb	01 08 32.8	
	comp=Z,5.4nm,1.0s						
H17K	**Granite Mounta**	**82.37**	**12**	P	**P**	**01 08 34.4**	**+0.2**
H17K				IAmb	IAmb	01 08 53.8	
	comp=Z,3.1nm,1.1s						
GHO	**Glory Hole Cre**	**82.46**	**18**	P	**P**	**01 08 34.5**	**-0.3**
GHO				IAmb	IAmb	01 08 37.4	
	comp=Z,5.5nm,1.1s						
CAST	**Castle Rocks**	**82.89**	**16**	P	**P**	**01 08 36.1**	**-0.7**
F17K	**Baldwin Pennin**	**83.46**	**11**	P	**P**	**01 08 39.9**	**+0.4**
F17K				IAmb	IAmb	01 08 45.6	
	comp=Z,2.5nm,1.1s						
G19K	**Purcell Mounta**	**84.00**	**12**	P	**P**	**01 08 43.0**	**+0.8**
NVAR	**Mina Array Bea**	**84.41**	**48**	P	**P**	**01 08 45.7**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=226,slow=7.4,SNR=7.1						
	comp=Z,0.8nm,0.7s						
ILAR	**Eielson Array**	**85.37**	**17**	P	**P**	**01 08 47.0**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=234,slow=4.9,SNR=10						
	comp=Z,0.5nm,0.6s						
P33M	**Teslin, Yukon**	**87.03**	**24**	P	**P**	**01 08 53.3**	**-3.6**
P33M				IAmb	IAmb	01 08 54.9	
	comp=Z,3.9nm,0.7s						
TXAR	**Lajitas Array**	**92.95**	**61**	P	**P**	**01 09 25.6**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=223,slow=6.4,SNR=2.4						
	comp=Z,0.2nm,0.6s						
YKA	**Yellowknife Ar**	**95.80**	**27**	P	**P**	**01 09 36.6**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=256,slow=5.0,SNR=2.8						
	comp=Z,0.2nm,0.7s						
ARCES	**ARCESS Array B**	**121.14**	**347**	PKP	**PKiKP**	**01 14 58.5**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=67,slow=1.9,SNR=5.2						

*DJA **30** 01:18:54.1±0.3,8˚S±4˚×11˚7E±˚,h10km,M3.9/12,mb3.8/1, mB4.8/1,MLv3.9/12,Mw(mB)4.1/1*

*IDC **30** 01:18:59.8±1.6,8.60S×118.01E,h0km,mb3.9/3, mbtmp4.1/5,ML4.3/2,Error ellipse: s-maj=39.5km s-min=15.8km az=54.0*

ISC 30 01:18:53.1±0.9,8.45S±0.06×117.01E±0.04,h10km,n23, σ2ş06/24,mb3.8/3,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.31**	**204**	P	**Pb**	**01 19 01.7**	**+0.9**
PLAI	**Plampang**	**0.84**	**116**	P	**Pn**	**01 19 11.2**	**+0.1**
PLAI	**Plampang**	**0.84**	**116**	P	**Pn**	**01 19 11.4**	**+0.3**
SRBI	**Singaraja**	**1.81**	**282**	P	**Pn**	**01 19 24.3**	**-0.1**
IGBI	**Denpasar**	**1.88**	**259**	P	**Pn**	**01 19 25.7**	**+0.4**
JAGI	**Jajag, Banyuwa**	**2.83**	**269**	P	**Pn**	**01 19 38.5**	**+0.1**
JAGI	**Jajag, Banyuwa**	**2.83**	**269**	P	**Pn**	**01 19 38.1**	**-0.3**
KMMI	**Kalianget**	**3.32**	**295**	P	**Pn**	**01 19 46.1**	**+0.9**
BLJI	**Banyuglugur**	**3.45**	**282**	P	**Pn**	**01 19 47.8**	**+0.8**
BASI	**Basing, Sumba**	**3.94**	**117**	P	**Pn**	**01 19 55.7**	**+2.1**
KAPI	**Kappang**	**4.37**	**39**	Pn	**Pn**	**01 20 00.3**	**+0.8**
	10.0nm,0.3s,baz=194,slow=5.4,SNR=32						
KAPI				Sn	**Sn**	**01 20 49.5**	**-1.1**
	19nm,0.3s,baz=223,slow=22,SNR=22						
	47nm,0.2s						
BKSI	**Bulukumba**	**4.38**	**45**	P	**Pn**	**01 20 00.5**	**+0.7**
EDFI	**Ende, Flores**	**4.64**	**94**	P	**Pn**	**01 20 05.1**	**+1.7**
MBWA	**Marble Bar**	**12.90**	**169**	P	**Pn**	**01 21 56.9**	**+0.2**
PSA00	**Pilbara Seismi**	**13.33**	**168**	P	**Pn**	**01 22 02.2**	**-0.3**
MEEK	**Meekatharra**	**18.15**	**175**	P	**Pn**	**01 23 05.8**	**+0.4**
WRKA	**Warakurna**	**19.70**	**148**	P	**P**	**01 23 23.7**	**+1.0**
WRA	**Warramunga Arr**	**20.29**	**126**	P	**P**	**01 23 29.3**	**+0.1**
	1.1nm,0.3s,baz=303,slow=12,SNR=97						
WRA				S	**S**	**01 27 08.5**	**-8.5**
	0.2nm,0.7s,baz=295,slow=23,SNR=1.2						
	5.1nm,0.6s						
ASAR	**Alice Springs**	**22.15**	**135**	P	**P**	**01 23 49.3**	**0.0**
	2.6nm,0.7s,baz=314,slow=10.0,SNR=31						
	2.6nm,0.7s						
QIS	**Mount Isa**	**24.93**	**121**	P	**P**	**01 24 18.5**	**+1.8**
OOD	**Oodnadatta**	**26.10**	**140**	P	**P**	**01 24 27.5**	**+0.2**
STKA	**Stephens Creek**	**32.64**	**139**	P	**P**	**01 25 25.4**	**+0.1**
	2.1nm,0.5s,baz=311,slow=7.8,SNR=7.6						
	2.1nm,0.5s						
MKAR	**Makanchi Array**	**63.09**	**334**	P	P	01 29 33.5	+13
	0.5nm,0.8s,baz=156,slow=6.4,SNR=5.5						
	0.5nm,0.8s						

*BJI **30** 01:24:01.6,10˚.17N×126˚.13E,h9km,mb4.3/38,mB4.9/25, Ms4.4/30,Ms7 4.3/31*

*IDC **30** 01:24:06.0±1.5,10˚.17N×126˚.29E,h45km±13km,mb4.1/27, mbtmp4.3/29,ML4.6/2,MS3.9/37,Error ellipse: s-maj=20.3km s-min=9.3km az=78.0*

*NEIC **30** 01:24:07.3±1.3,10˚.09N±0˚.08×126˚.1E±0˚.1,h39km±7km, mb4.8/104,Error ellipse: s-maj=15.3km s-min=11.0km az=84.0*

*GCMT **30** 01:24:09.3±0.4,10˚.08N±0˚.02×126˚.41E±0˚.03,h40km±1km, MW5.0/72,Moment Tensor Solution. s39,c43; s72,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.74±.27; $M_{\theta\theta}$-0.14±.16; $M_{\phi\phi}$-3.60±.16; $M_{r\theta}$-0.56±.16; $M_{\theta\phi}$0.20±.09; $M_{\phi r}$2.84±.18; Best double couple: M_o4.67800×10^{16} NP1:ϕ_s352.00000°,δ64.00000°,λ86.00000°. NP2: ϕ_s181.00000°,δ26.00000°,λ98.00000°. Principal axes: T 4.7550, Plg71.0000°, Azm253.0000°; N -0.1510, Plg4.0000°, Azm354.0000°; P -4.6010, Plg19.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **30** 01:24:34.3±1.0,8˚N±8˚×12˚6E±˚,h42km±10km,M5.0/23, mB5.3/8,mb4.8/23,MLv5.3/5,Mw(mB)4.8/8*

ISC 30 01:24:07.9±0.3,10.05N±0.04×126.23E±0.07,h54km,n206, σ1ş73/169,mb4.7/80,MS4.0/44,1C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.03**	**192**	Pn	**Pn**	**01 24 55.7**	**+2.3**
DAV				Sn	**Sn**	**01 25 28.4**	**-0.1**
DAV	**Davao City (W)**	**3.03**	**192**	P	**Pn**	**01 24 53.4**	**0.0**
	165nm,0.3s,baz=316,slow=2.8,SNR=7.2						
DAV				S	**Sn**	**01 25 30.7**	**+2.3**
	2μm,0.7s,baz=150,slow=23,SNR=9.7						
DAV				LR	LR	01 26 33.2	
	comp=Z,4μm,21.4s,baz=344,slow=47						
	438nm,0.4s						
SGSI	**Sangihe**	**6.36**	**186**	P	**Pn**	**01 25 38.2**	**-0.9**
TNTI	**Ternate**	**9.28**	**173**	Pn	**Pn**	**01 26 19.1**	**-0.1**
TNTI	**Ternate**	**9.28**	**173**	P	**Pn**	**01 26 19.7**	**+0.5**
	43nm,0.9s,2μm0.4nm						
KMSI	**Cibinong**	**9.67**	**193**	P	**Pn**	**01 26 25.4**	**+0.9**
	208nm,1.0s,1.2nm						
GTOI	**Gorontalo**	**9.88**	**199**	P	**Pn**	**01 26 27.4**	**0.0**
	50nm,0.9s,397nm						
TOLI2	**Tolitoli**	**10.40**	**212**	Pn	**Pn**	**01 26 32.1**	**-2.3**
MRSI	**Marisa**	**10.42**	**204**	P	**Pn**	**01 26 36.7**	**+2.0**
	50nm,0.6s,1μm						
LBMI	**Labuha**	**10.69**	**173**	P	**Pn**	**01 26 38.8**	**+0.4**
	70nm,1.0s						
MPSI	**Mapaga**	**11.52**	**214**	P	Pn	01 26 55.6	+5.8
	10nm,1.2s						
LUWI	**Luwuk**	**11.54**	**198**		**Pn**	**01 26 48.4**	**-1.7**
LUWI	**Luwuk**	**11.54**	**198**	P	**Pn**	**01 26 52.5**	**+2.4**
	90nm,0.9s,3μm						
SWI	**Sorong**	**11.94**	**155**	P	**Pn**	**01 26 56.8**	**+1.3**
	27nm,0.9s						
SANI	**Sanana**	**12.02**	**181**	P	**Pn**	**01 26 54.9**	**-1.7**
	57nm,0.8s						
NLAI	**Namlea**	**13.23**	**176**	P	**Pn**	**01 27 12.4**	**-0.7**
	19nm,0.8s,3μm						
FAKI	**Fak Fak**	**14.21**	**155**	Pn	**Pn**	**01 27 26.1**	**-0.3**
FAKI	**Fak Fak**	**14.21**	**155**	P	**Pn**	**01 27 27.6**	**+1.2**
	47nm,1.1s						
TTSI	**Tana Toraja**	**14.49**	**206**	P	**P**	**01 27 35.1**	**-0.3**
	61nm,0.8s,2μm						
SPSI	**Sidrap Palu**	**15.34**	**205**	P	**P**	**01 27 46.4**	**+1.6**
	41nm,1.0s,3μm						
KAPI	**Kappang**	**16.29**	**204**		**Pn**	**01 27 54.0**	**+0.7**
KAPI	**Kappang**	**16.29**	**204**	P	**Pn**	**01 27 52.8**	**-0.5**
	1.0nm,0.3s,baz=37,slow=9.2,SNR=2.5						
KAPI				LR	LR	01 34 49.5	
	comp=Z,470nm,19.4s,baz=25,slow=39						
	4.4nm,0.4s						
BKSI	**Bulukumba**	**16.43**	**202**	P	**P**	**01 27 58.6**	**+1.6**
	22nm,0.9s						
JOW	**Kunigami**	**16.81**	**6**	LR	LR	01 33 41.7	
	comp=Z,336nm,21.2s,baz=147,slow=34						
QIZ	**Qiongzhong**	**18.19**	**301**	P	**P**	**01 28 14.5**	**-1.9**
QIZ				pP	**Pn**	**01 28 19.0**	**+2.3**
QIZ				S	**Sn**	**01 31 39.8**	**+0.7**
QIZ				pmax	pmax		
	comp=Z,350nm,4.2s						
QIZ				LR	LR		
	comp=N,520nm,19.3s						
QIZ				LR	LR		
	comp=E,460nm,17.7s						
QIZ				LR	LR		
	comp=Z,650nm,21.0s						
GUMO	**Guam**	**18.58**	**77**	LR	LR	01 35 40.0	
	comp=Z,434nm,19.4s,baz=274,slow=38						
SAUI	**Saumlaki**	**18.61**	**164**	P	**Pn**	**01 28 22.5**	**+0.7**
SAUI				IAmb	IAmb	01 28 29.9	
	comp=Z,80nm,0.8s						
MMRI	**Maumere**	**18.98**	**192**	P	**Pn**	**01 28 25.5**	**-0.7**
MMRI				IAmb	IAmb	01 28 38.7	
	comp=Z,55nm,0.9s						
MMRI	**Maumere**	**18.98**	**192**	P	**Pn**	**01 28 30.5**	**+4.2**
	comp=Z,49nm,1.0s						
EDFI	**Ende, Flores**	**19.21**	**194**	P	**Pn**	**01 28 31.7**	**+2.6**
	comp=Z,23nm,0.8s,comp=Z,570nm						
SOEI	**Soe**	**19.77**	**186**	P	**Pn**	**01 28 35.0**	**-0.7**
SOEI	**Soe**	**19.77**	**186**	P	**Pn**	**01 28 39.8**	**+4.1**
	comp=Z,101nm,0.6s						
JCJ	**Chichijima**	**22.68**	**39**	LR	LR	01 36 05.4	
	comp=Z,316nm,21.4s,baz=270,slow=32						
NJ2	**Nanjing**	**22.94**	**344**	*e*P	**P**	**01 29 08.3**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
WHN	**Wuhan**	**23.20**	**333**	⇓P	**P**	**01 29 16.5**	**+6.3**
MTN	**Manton Dam**	**23.26**	**168**	P	**P**	**01 29 10.4**	**-0.4**
MTN				IAmb	IAmb	01 29 29.1	
	comp=Z,29nm,1.0s						
JNU	**Nakatsue**	**23.36**	**10**	LR	LR	01 38 21.1	
	comp=Z,106nm,20.6s,baz=176,slow=37						
LEM	**Lembang**	**24.99**	**229**	P	**P**	**01 29 29.8**	**+2.8**
	comp=Z,13nm,0.4s,baz=323,slow=20,SNR=1.7						
LEM				LR	LR	01 40 38.6	
	comp=Z,462nm,18.5s,baz=32,slow=40						
KNRA	**Kununurra**	**25.68**	**174**	P	**P**	**01 29 32.8**	**-0.3**
KNRA				IAmb	IAmb	01 29 50.6	
	comp=Z,29nm,0.8s						
JHJ	**Hachijo jima 2**	**26.14**	**27**	LR	LR	01 39 59.4	
	comp=Z,256nm,19.9s,baz=256,slow=37						
BKNI	**Bangkinang**	**26.85**	**250**	P	**P**	**01 29 43.7**	**0.0**
CRAI	**Chiangrai**	**26.89**	**295**	P	**P**	**01 29 43.5**	**-0.5**
KSAR	**Wonju Array Be**	**27.32**	**3**	P	**P**	**01 29 48.3**	**+0.7**
KSRS	**Korea Array**	**27.33**	**3**	P	**P**	**01 29 46.1**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=172,slow=9.7,SNR=2.3						
KSRS				LR	LR	01 42 07.9	
	comp=Z,119nm,19.3s,baz=175,slow=40						
	comp=Z,0.3nm,0.3s						
LYN	**LuoYang**	**27.45**	**335**	*e*P	**P**	**01 29 51.8**	**+3.0**
LYN				PcP	**PcP**	**01 33 07.8**	**+1.4**
LYN				S	**S**	**01 34 28.8**	**+3.1**
LYN				pmax	pmax		
	comp=Z,24nm,0.7s						
LYN				pmax	pmax		
	comp=Z,250nm,5.5s						
LYN				LR	LR		
	comp=Z,280nm,6.2s						
LYN				LR	LR		
	comp=Z,340nm,5.7s						
LYN				LR	LR		
	comp=Z,440nm,5.7s						
CMAR	**Chiang Mai Arr**	**27.70**	**291**	P	**P**	**01 29 49.8**	**-1.5**
CMAR	**Chiang Mai Arr**	**27.70**	**291**	P	**P**	**01 29 51.4**	**+0.1**
	comp=Z,5.0nm,1.0s,baz=102,slow=7.5,SNR=21						
CMAR				PcP	**PcP**	**01 33 06.3**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=48,slow=1.3,SNR=2.2						
CMAR				LR	LR	01 42 42.6	
	comp=Z,151nm,18.7s,baz=100,slow=40						
	comp=Z,5.0nm,1.0s						
CHTO	**Chiang Mai**	**27.79**	**291**	P	**P**	**01 29 50.6**	**-1.5**
FITZ	**Fitzroy Crossi**	**27.97**	**181**	P	**P**	**01 29 53.7**	**+0.1**
RPSI	**Rantau Prapat**	**28.08**	**257**	P	**P**	**01 29 53.4**	**-1.3**
PZH	**PanZhiHua**	**28.35**	**309**	P	**P**	**01 29 57.0**	**-0.1**
PZH				S	**S**	**01 34 41.0**	**+0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,3.9s						
PZH				LR	LR		
	comp=Z,280nm,18.6s						
PZH				LR	LR		
	comp=Z,310nm,18.2s						
PZH				LR	LR		
	comp=Z,400nm,18.6s						
PMG	**Port Moresby**	**28.41**	**132**	P	**P**	**01 29 57.5**	**-0.2**
PMG				IAmb	IAmb	01 30 02.4	
	comp=Z,23nm,0.9s						
PMG	**Port Moresby**	**28.41**	**132**	P	**P**	**01 29 57.3**	**-0.4**
	comp=Z,15nm,0.8s,baz=330,slow=8.4,SNR=5.1						
	comp=Z,15nm,0.8s						
MJAR	**Matsushiro Arr**	**28.52**	**20**	LR	LR	01 39 20.6	
	comp=Z,223nm,21.9s,baz=204,slow=32						
XAN	**Xi'an**	**28.67**	**329**	⇓P	**P**	**01 29 58.5**	**-1.3**
XAN				pP	pP	01 30 02.0	-11
XAN				pmax	pmax		
	comp=Z,12nm,0.8s						
HNS	**HongShan**	**29.15**	**341**	⇑P	**P**	**01 30 06.3**	**+2.4**
HNS				pmax	pmax		
	comp=Z,7.0nm,1.3s						
HNS				LR	LR		
	comp=Z,350nm,16.3s						
HNS				LR	LR		
	comp=Z,530nm,17.8s						
COEN	**Coen**	**29.18**	**145**	P	P	01 30 10.2	+5.8
CD2	**Chengdu**	**29.45**	**318**	*e*P	**P**	**01 30 06.3**	**-0.5**
GSI	**Gunungsitoli**	**29.78**	**255**	P	**P**	**01 30 08.9**	**-0.9**
GSI				IAmb	IAmb	01 30 18.3	
	comp=Z,34nm,1.3s						
WRA	**Warramunga Arr**	**30.85**	**165**	P	**P**	**01 30 17.7**	**-1.5**
	comp=Z,2.3nm,0.8s,baz=344,slow=8.9,SNR=12						
WRA				S	**S**	**01 35 14.1**	**-5.3**
	comp=Z,2.1nm,1.0s,baz=356,slow=15,SNR=5.9						
WRA				ScP	**ScP**	**01 36 53.2**	**-0.5**
	comp=Z,2.1nm

USRK					LR	LR	01 46 30.2	
	comp=Z,108nm,18.1s,baz=194,slow=39							
	comp=Z,0.7nm,0.5s							
CTA	**Charters Tower**	**35.85**	**147**		LR	LR	01 48 42.8	
	comp=Z,104nm,18.0s,baz=321,slow=41							
CTAO	**Charters Tower**	**35.85**	**147**		P	**P**	**01 31 03.8**	**+1.1**
CTAO					IAmb	IAmb	01 31 12.5	
	comp=Z,26nm,1.6s							
CTAO	**Charters Tower**	**35.85**	**147**		P	**P**	**01 31 03.0**	**+0.3**
SHL	**Shillong**	**36.02**	**300**		P	**P**	**01 31 03.2**	**-1.2**
SHL					IAmb	IAmb	01 31 22.4	
	comp=Z,22nm,1.2s							
ASAJ	**Asahikawa**	**36.79**	**20**		LR	LR	01 48 02.6	
	comp=Z,184nm,18.3s,baz=202,slow=39							
GTA	**Gaotai**	**37.54**	**326**	*e*P		**P**	**01 31 17.8**	**+0.7**
GTA					pP	pP	01 31 23.3	-7.5
GTA					ScP	**ScP**	**01 37 19.5**	**+2.2**
GTA					pmax	pmax		
	comp=Z,4.0nm,1.7s							
GTA					LR	LR		
	comp=Z,170nm,19.1s							
GTA					LR	LR		
	comp=Z,190nm,17.9s							
GTA					LR	LR		
	comp=Z,300nm,21.1s							
HNR	**Honiara**	**38.74**	**119**		LR	LR	01 45 20.0	
	comp=Z,2µm,22.0s,baz=312,slow=33							
KLR	**Kul'dur**	**39.33**	**6**		LR	LR	01 50 06.8	
	comp=Z,108nm,18.2s,baz=198,slow=40							
HEH	**HeiHe**	**40.09**	**1**	*e*P		**P**	**01 31 39.8**	**+1.7**
MORW	**Morawa**	**40.11**	**194**		P	**P**	**01 31 38.3**	**-0.2**
MORW					IAmb	IAmb	01 32 02.4	
	comp=Z,13nm,0.9s							
H11N1	**WAKE ISLAND Hy**	**40.36**	**71**		T	T	02 14 56.6	
	baz=265,slow=74							
H11N2	**WAKE ISLAND Hy**	**40.37**	**71**		T	T	02 14 57.1	
	baz=265,slow=74							
H11N3	**WAKE ISLAND Hy**	**40.38**	**71**		T	T	02 14 58.0	
	baz=265,slow=74							
FORT	**Forrest**	**40.63**	**178**		P	**P**	**01 31 43.0**	**+0.2**
ULN	**Ulaanbaatar**	**41.02**	**340**		P	**P**	**01 31 45.3**	**-0.7**
ULN	**Ulaanbaatar**	**41.02**	**340**		P	**P**	**01 31 46.1**	**+0.2**
ULN					ScP	**ScP**	**01 37 33.0**	**+2.5**
SONM	**Songino Array**	**41.21**	**340**		P	**P**	**01 31 47.1**	**-0.5**
SONM	**Songino Array**	**41.21**	**340**		P	**P**	**01 31 46.8**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=152,slow=9.8,SNR=13							
SONM					ScP	**ScP**	**01 37 32.1**	**+0.8**
	comp=Z,3.1nm,1.0s,baz=163,slow=3.9,SNR=11							
SONM					LR	LR	01 50 56.8	
	comp=Z,208nm,19.6s,baz=132,slow=39							
	comp=Z,1.5nm,0.5s							
NWAO	**Narrogin (SRO)**	**43.59**	**191**		P	**P**	**01 32 06.9**	**+0.1**
NWAO	**Narrogin (SRO)**	**43.59**	**191**		LR	LR	01 51 52.1	
	comp=Z,70nm,21.0s,baz=269,slow=38							
NWAO	**Narrogin (SRO)**	**43.59**	**191**		P	**P**	**01 32 07.4**	**+0.6**
BBOO	**Buckleboo**	**43.64**	**168**		P	**P**	**01 32 07.6**	**+0.4**
STKA	**Stephens Creek**	**44.21**	**161**		P	**P**	**01 32 11.8**	**0.0**
STKA	**Stephens Creek**	**44.21**	**161**		P	**P**	**01 32 12.0**	**+0.2**
	comp=Z,2.5nm,0.3s,baz=355,slow=8.3,SNR=9.2							
STKA					LR	LR	01 52 00.2	
	comp=Z,73nm,21.9s,baz=351,slow=38							
	comp=Z,2.5nm,0.3s							
PALK	**Pallekele**	**45.06**	**270**		LR	LR	01 52 15.8	
	comp=Z,185nm,18.7s,baz=177,slow=37							
WMQ	**Urumqi**	**47.37**	**322**	*e*P		**P**	**01 32 38.0**	**+1.2**
WMQ					LR	LR		
	comp=Z,210nm,12.1s							
WMQ					LR	LR		
	comp=Z,290nm,16.3s							
WMQ					LR	LR		
	comp=Z,220nm,14.9s							
PETK	**Petropavlovsk-**	**49.86**	**24**		LR	LR	01 55 38.2	
	comp=Z,175nm,18.0s,baz=219,slow=38							
DZM	**Mont Dzumac**	**50.74**	**129**	*e*LR		LR	01 47 25.9	
	comp=Z,282nm,29.6s							
DZM	**Mont Dzumac**	**50.74**	**129**		P	**P**	**01 33 04.4**	**+1.6**
DZM	**Mont Dzumac**	**50.74**	**129**		LR	LR	01 52 18.7	
	comp=Z,53nm,21.9s,baz=147,slow=33							
DZM	**Mont Dzumac**	**50.74**	**129**		P	**P**	**01 33 04.8**	**+2.0**
OUENC	**Ouen Island, N**	**51.24**	**129**		P	**P**	**01 33 08.2**	**+1.7**
YAK	**Yakutsk**	**51.95**	**2**		P	**P**	**01 33 12.0**	**+0.8**
MK31	**Makanchi Array**	**52.18**	**323**		P	**P**	**01 33 12.5**	**-0.7**
MKAR	**Makanchi Array**	**52.18**	**323**		P	**P**	**01 33 11.4**	**-1.8**
	comp=Z,5.6nm,0.9s,baz=124,slow=8.1,SNR=30							
MKAR					PcP	**PcP**	**01 34 23.7**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=154,slow=3.2,SNR=1.4							
MKAR					ScP	**ScP**	**01 38 15.9**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=123,slow=5.3,SNR=3.6							
MKAR					LR	LR	01 57 20.8	
	comp=Z,230nm,19.8s,baz=130,slow=38							
	comp=Z,5.6nm,0.9s							
MAKZ	**Makanchi**	**52.37**	**323**		P	**P**	**01 33 13.5**	**-1.2**
MAKZ	**Makanchi**	**52.37**	**323**		P	**P**	**01 33 13.4**	**-1.2**
MA2	**Magadan**	**52.76**	**15**		LR	LR	01 55 07.1	
	comp=Z,59nm,20.7s,baz=155,slow=35							
NIL	**Nilore**	**53.82**	**304**		P	**P**	**01 33 24.8**	**-0.8**
ZAA0	**Zalesovo Array**	**54.80**	**331**		P	**P**	**01 33 31.7**	**-0.5**
ZALV	**Zalesovo Beam**	**54.80**	**331**		P	**P**	**01 33 29.3**	**-2.9**
	comp=Z,1.1nm,0.4s,baz=116,slow=6.9,SNR=6.2							
	comp=Z,1.1nm,0.4s							
KURK	**Kurchatov**	**56.23**	**326**		P	**P**	**01 33 41.8**	**-0.8**
KURK					IAmb	IAmb	01 33 49.0	
	comp=Z,8.0nm,0.9s							
KURK	**Kurchatov**	**56.23**	**326**		P	**P**	**01 33 41.4**	**-1.2**
KURK					ScP	**ScP**	**01 38 34.7**	**+0.2**
KURBB	**Kurchatov Arra**	**56.23**	**325**		P	**P**	**01 33 41.3**	**-1.3**
	comp=Z,2.8nm,0.7s,baz=126,slow=6.7,SNR=29							
KURBB					LR	LR	02 00 48.5	
	comp=Z,138nm,18.3s,baz=173,slow=39							
	comp=Z,2.8nm,0.7s							
BTK	**Batken**	**57.30**	**311**		P	**P**	**01 33 50.4**	**-0.1**
BTK					IAmb	IAmb	01 34 11.6	
	comp=Z,11nm,1.3s							
KBL	**Kabul**	**57.42**	**305**		P	**P**	**01 33 50.5**	**-1.1**
KK31	**Karatay Array**	**58.38**	**315**		P	**P**	**01 33 57.0**	**-0.9**
KKAR	**Karatay Array**	**58.38**	**315**		P	**P**	**01 33 57.0**	**-0.9**
TIXI	**Tiksi**	**61.57**	**1**		P	**P**	**01 34 19.9**	**+0.7**
TIXI	**Tiksi**	**61.57**	**1**		P	**P**	**01 34 19.3**	**+0.1**
BVAR	**Borovoye Array**	**61.82**	**325**		P	**P**	**01 34 19.6**	**-1.6**
	comp=Z,2.6nm,0.8s,baz=116,slow=8.4,SNR=7.9							
	comp=Z,2.6nm,0.8s							
BRVK	**Borovoye**	**61.90**	**325**		P	**P**	**01 34 21.2**	**-0.6**
HRA	**Herat**	**62.95**	**303**		P	**P**	**01 34 28.9**	**-0.5**
BILL	**Bilibino**	**63.63**	**16**		P	**P**	**01 34 33.6**	**+0.6**
BILL					IAmb	IAmb	01 34 46.3	
	comp=Z,9.5nm,1.1s							
NRIK	**Noril'sk**	**64.22**	**346**		P	**P**	**01 34 36.7**	**-0.2**
NRIK					IAmb	IAmb	01 34 54.0	
	comp=Z,7.5nm,1.1s							
NRIK	**Noril'sk**	**64.22**	**346**		P	**P**	**01 34 35.2**	**-1.7**
	comp=Z,1.4nm,0.4s,baz=119,slow=3.4,SNR=1.5							
	comp=Z,1.4nm,0.4s							
WSAR	**Wadi Sarin**	**65.59**	**291**		LR	LR	02 07 41.4	
	comp=Z,61nm,19.4s,baz=84,slow=40							
GEYT	**Alibeck**	**66.64**	**307**		P	**P**	**01 34 53.3**	**+0.1**
GEYT	**Alibeck**	**66.64**	**307**		P	**P**	**01 34 51.5**	**-1.8**
	comp=Z,3.2nm,1.0s,baz=104,slow=12,SNR=6.4							
GEYT					LR	LR	02 08 06.0	
	comp=Z,158nm,19.6s,baz=88,slow=40							
	comp=Z,3.2nm,1.0s							
GYA0B	**ALIBECK ARRAY**	**66.64**	**307**		IAmb	IAmb	01 35 10.6	
	comp=Z,15nm,1.4s							
ABKAR	**Akbulak array**	**67.02**	**319**		P	**P**	**01 34 54.9**	**-0.4**
RPZ	**Rata Peaks**	**67.22**	**146**		LR	LR	02 04 21.3	
	comp=Z,55nm,20.6s,baz=284,slow=36							
URZ	**Urewera**	**67.53**	**139**		LR	LR	02 01 35.2	
	comp=Z,90nm,21.6s,baz=116,slow=33							
ARU	**Arti**	**69.39**	**327**		P	**P**	**01 35 08.3**	**-1.7**
H17K	**Granite Mounta**	**74.13**	**25**		P	**P**	**01 35 39.9**	**+1.6**
H17K					IAmb	IAmb	01 35 53.2	
	comp=Z,12nm,1.2s							
E18K	**Tukpahlearik C**	**74.34**	**23**		IAmb	IAmb	01 35 43.1	
	comp=Z,8.7nm,0.9s							
C19K	**Lookout Ridge**	**75.04**	**21**		IAmb	IAmb	01 35 47.1	
	comp=Z,17nm,1.1s							
D19K	**Kuna River**	**75.46**	**22**		IAmb	IAmb	01 35 53.0	
	comp=Z,13nm,1.1s							
E19K	**Redstone River**	**75.62**	**23**		IAmb	IAmb	01 35 50.6	
	comp=Z,14nm,1.1s							
B20K	**Meade River**	**76.04**	**20**		IAmb	IAmb	01 36 02.7	
	comp=Z,17nm,1.2s							
F20K	**Avaraart Lake**	**76.15**	**23**		IAmb	IAmb	01 36 02.7	
	comp=Z,12nm,1.3s							
IMAR	**Indian Mountai**	**76.82**	**24**		P	**P**	**01 35 55.4**	**+1.6**
B21K	**Ikpikpuk River**	**76.87**	**21**		IAmb	IAmb	01 36 10.8	
	comp=Z,8.4nm,0.8s							
G21K	**Allakaket**	**76.97**	**24**		IAmb	IAmb	01 36 13.3	
	comp=Z,17nm,1.4s							
E21K	**Killik River**	**76.97**	**22**		IAmb	IAmb	01 36 01.9	
	comp=Z,8.0nm,0.9s							
GNI	**Garni**	**77.11**	**309**		LR	LR	02 15 06.6	
	comp=Z,71nm,19.1s,baz=72,slow=40							
B22K	**Teshekpuk Lake**	**77.35**	**20**		IAmb	IAmb	01 36 13.3	
	comp=Z,11nm,0.9s							
CAST	**Castle Rocks**	**77.36**	**27**		IAmb	IAmb	01 36 10.4	
	comp=Z,20nm,1.6s							
D22K	**Ayikyak River**	**77.48**	**22**		IAmb	IAmb	01 36 22.1	
	comp=Z,13nm,1.3s							
I21K	**Tanana**	**77.50**	**25**		IAmb	IAmb	01 36 05.7	
	comp=Z,8.7nm,0.9s							
ONI	**Oni**	**77.97**	**311**		P	**P**	**01 36 00.7**	**-0.1**
ONI					IAmb	IAmb	01 36 17.8	
	comp=Z,11nm,1.3s							
AKH	**Akhalkalaki**	**78.00**	**310**		P	**P**	**01 36 00.1**	**-1.0**
TRF	**Thorofare Moun**	**78.17**	**27**		IAmb	IAmb	01 36 26.3	
	comp=Z,13nm,1.2s							
KBZ	**Khabaz**	**78.33**	**313**		P	**P**	**01 36 01.2**	**-1.4**
	comp=Z,2.0nm,0.9s,baz=336,slow=0.1,SNR=3.7							
	comp=Z,2.0nm,0.9s							
E24K	**Your Creek**	**78.99**	**22**		P	**P**	**01 36 06.9**	**+1.1**
G24K	**Hadweenzic Riv**	**79.38**	**24**		P	**P**	**01 36 09.2**	**+1.4**
G24K					IAmb	IAmb	01 36 15.7	
	comp=Z,10.0nm,1.1s							
ILAR	**Eielson Array**	**79.66**	**26**		P	**P**	**01 36 08.1**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=242,slow=6.5,SNR=9.2							
	comp=Z,0.9nm,0.8s							
KLMR	**Klimovskoe**	**79.70**	**330**	*e*P		**P**	**01 36 08.5**	**-1.2**
KLMR					AMP		01 36 11.3	
	comp=Z,10.0nm,1.4s							
BMAR	**Burnt Mountain**	**80.49**	**23**		P	**P**	**01 36 15.5**	**+1.6**
M26K	**Nabesna, AK**	**81.54**	**28**		IAmb	IAmb	01 36 32.9	
	comp=Z,17nm,1.4s							
E27K	**Coleen River**	**81.56**	**22**		IAmb	IAmb	01 36 31.9	
	comp=Z,18nm,1.6s							
D27M	**Malcolm River**	**81.68**	**21**		P	**P**	**01 36 22.1**	**+1.8**
K27K	**Chicken**	**81.79**	**26**		IAmb	IAmb	01 36 29.0	
	comp=Z,15nm,1.2s							
M27K	**Edge Creek, AK**	**82.06**	**28**		IAmb	IAmb	01 36 31.0	
	comp=Z,8.9nm,1.1s							
F28M	**Old Crow**	**82.27**	**23**		IAmb	IAmb	01 36 41.4	
	comp=Z,8.6nm,1.1s							
DAWY	**Dawson**	**82.96**	**26**		IAmb	IAmb	01 36 39.3	
	comp=Z,13nm,1.4s							
L29M	**L29M**	**83.67**	**27**		P	**P**	**01 36 33.3**	**+2.6**
K29M	**Barlow Dome**	**83.81**	**26**		IAmb	IAmb	01 36 49.9	
	comp=Z,13nm,1.2s							
SPITS	**Spitsbergen Ar**	**84.22**	**349**		P	**P**	**01 36 31.5**	**-1.7**
	comp=Z,5.9nm,0.9s,baz=96,slow=7.9,SNR=6.5							
	comp=Z,5.9nm,0.9s							
HYT	**Haines Junctio**	**84.35**	**29**		IAmb	IAmb	01 36 38.1	
	comp=Z,8.6nm,0.9s							
M30M	**Minto, Yukon**	**84.36**	**28**		IAmb	IAmb	01 36 37.8	
	comp=Z,9.7nm,1.1s							
ARCES	**ARCESS Array B**	**84.39**	**340**		P	**P**	**01 36 32.9**	**-1.3**
	comp=Z,0.9nm,0.4s,baz=66,slow=3.9,SNR=13							
	comp=Z,0.9nm,0.4s							
INK	**Inuvik**	**84.50**	**22**		IAmb	IAmb	01 36 41.6	
	comp=Z,14nm,1.3s							
INK	**Inuvik**	**84.50**	**22**		LR	LR	02 17 54.4	
	comp=Z,95nm,20.3s,baz=337,slow=38							
G31M	**Satah River**	**84.54**	**23**		IAmb	IAmb	01 36 37.6	
	comp=Z,15nm,1.3s							
MMAI	**Mount Meron Ar**	**85.29**	**303**		P	**P**	**01 36 39.2**	**-0.4**
	comp=Z,4.4nm,0.9s,baz=93,slow=2.9,SNR=5.2							
MMAI					LR	LR	02 18 37.3	
	comp=Z,65nm,18.2s,baz=66,slow=38							
	comp=Z,4.4nm,0.9s							
M31M	**Drury Creek, Y**	**85.53**	**28**		IAmb	IAmb	01 36 52.9	
	comp=Z,5.4nm,1.0s							
BR131	**Keskin Array S**	**85.64**	**309**		P	**P**	**01 36 40.7**	**-0.5**
BR131					IAmb	IAmb	01 36 44.1	
	comp=Z,9.7nm,1.6s							
BRTR	**Keskin Array B**	**85.64**	**309**		P	**P**	**01 36 39.8**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=116,slow=4.5,SNR=9.4							
BRTR					LR	LR	02 19 40.7	
	comp=Z,72nm,19.1s,baz=88,slow=39							
	comp=Z,1.8nm,0.9s							
FINES	**FINESS Array B**	**86.07**	**332**		P	**P**	**01 36 41.3**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=76,slow=4.6,SNR=36							
	comp=Z,1.5nm,0.5s							
AKASG	**Malin Array Be**	**86.71**	**321**		P	**P**	**01 36 45.7**	**-0.3**
AKASG					IAmb	IAmb	01 36 52.4	
	comp=Z,9.9nm,1.3s							
AKASG	**Malin Array Be**	**86.71**	**321**		P	**P**	**01 36 44.0**	**-2.0**
	comp=Z,1.7nm,0.8s,baz=61,slow=4.9,SNR=7.4							
	comp=Z,1.7nm,0.8s							
KIEV	**Kiev**	**86.72**	**321**		P	**P**	**01 36 46.2**	**+0.1**
KIEV					IAmb	IAmb	01 36 49.5	
	comp=Z,12nm,1.2s							
PPT2	**Papeete2**	**87.54**	**108**	*e*S		**S**	**01 47 23.4**	**-5.2**
	comp=Z,89nm,26.0s							
PPT2	**Papeete2**	**87.54**	**108**	*e*LR		LR	02 04 35.9	
	comp=Z,160nm,22.5s							
PPT2				*e*LR		LR	02 04 37.7	
	comp=Z,142nm,28.5s							
TBI	**Tubuai**	**88.77**	**114**	*e*LR		LR	02 04 49.8	
	comp=Z,998nm,24.0s							
KMBO	**Kilima Mbogo**	**89.19**	**269**		P	**P**	**01 36 58.6**	**-0.4**
KMBO					IAmb	IAmb	01 37 13.4	
	comp=Z,6.7nm,1.4s							
KMBO	**Kilima Mbogo**	**89.19**	**269**		P	**P**	**01 36 57.9**	**-1.0**
	comp=Z,2.2nm,1.0s,baz=48,slow=8.1,SNR=5.2							
KMBO					LR	LR	02 19 27.8	
	comp=Z,105nm,18.0s,baz=96,slow=37							
	comp=Z,2.2nm,1.0s							
VNDA	**Vanda**	**89.72**	**173**		P	**P**	**01 37 01.1**	**+1.4**
VNDA					IAmb	IAmb	01 37 16.9	
	comp=Z,5.4nm,1.0s							
VNDA	**Vanda**	**89.72**	**173**		P	**P**	**01 36 59.2**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=327,slow=5.9,SNR=7.6							
VNDA					LR	LR	02 16 32.3	
	comp=Z,49nm,21.2s,baz=237,slow=35							
	comp=Z,1.2nm,0.9s							
BUR08	**Bucovina Ar. S**	**89.98**	**318**		P	**P**	**01 37 01.4**	**-0.4**
BUR08					IAmb	IAmb	01 37 10.2	
	comp=Z,5.1nm,1.1s							
DAG	**Danmarks Havn**	**90.97**	**352**	*i* P		**P**	**01 37 04.0**	**-1.6**
HFS	**Hagfors**	**92.23**	**332**	P		**P**	**01 37 10.2**	**-1.6**
	comp=Z,0.8nm,0.4s,baz=74,slow=5.1,SNR=5.9							
	comp=Z,0.8nm,0.4s							
NEEM	**North Greenlan**	**92.64**	**359**	*i* P		**P**	**01 37 14.6**	**+0.8**
NOA	**NORSAR Array B**	**92.94**	**334**	LR		LR	02 23 08.4	
	comp=Z,70nm,18.3s,baz=235,slow=38							
VYHS	**Vyhne**	**93.81**	**320**	*e*P		**P**	**01 37 21.8**	**+2.4**
YKA	**Yellowknife Ar**	**93.98**	**24**	P		**P**	**01 37 19.6**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=300,slow=4.9,SNR=18							
	comp=Z,1.4nm,0.9s							
TAOE	**Nuku Hiva Isla**	**95.05**	**98**	*e*LR		LR	02 08 22.2	
	comp=Z,234nm,25.2s							
ZVC	**Zvikov**	**96.31**	**322**	*e*P		**P**	**01 37 30.8**	**0.0**
CKRC	**Cesky Krumlov**	**96.48**	**322**	*e*P		**P**	**01 37 33.4**	**+1.8**
GERES	**GERESS Array B**	**96.84**	**322**	P		**P**	**01 37 33.4**	**+0.1**
GERES	**GERESS Array B**	**96.84**	**322**	P		**P**	**01 37 32.5**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=15,slow=5.5,SNR=3.9							
GERES					LR	LR	02 26 50.7	
	comp=Z,32nm,18.9s,baz=94,slow=39							
	comp=Z,1.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**120.31**	**292**	PKP		**PKPdf**	**01 42 53.0**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=39,slow=2.4,SNR=7.7							
PLCA	**Paso Flores**	**146.02**	**157**	PKPbc		**PKPdf**	**01 43 40.8**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=188,slow=15,SNR=1.5							

*IDC **30** 01:36:00.5±0.5, 59.48S×25.84W, h0km, mb4.3/10, mbtmp4.3/10, ML5.6/1, MS3.6/4, Error ellipse: s-maj=24.0km s-min=17.9km az=72.0*
*NEIC **30** 01:36:06.1±1.6, 59.51S±0.09×25.9W±0.1, h35km±5km, mb4.9/44, Error ellipse: s-maj=12.6km s-min=9.5km az=164.0*

ISC 30 01:36:05.6±0.4, 59.52S±0.07×25.84W±0.08, h35km, n111, σ0.93/97, mb4.7/26, 7C-3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.84**	**307**		Pn	**Pn**	**01 37 55.3**	**-1.7**
ORCD	**Orcadas**	**9.51**	**254**			**Pn**	**01 38 18.9**	**-0.9**
VNA1	**Neumayer--Stat**	**13.32**	**154**	⇓S		Sn	01 41 28.3	-10
	comp=Z,9.1nm,0.7s							
VNA1	**Neumayer--Stat**	**13.32**	**154**	⇑P		**Pn**	**01 39 10.7**	**-1.2**
	comp=Z,192nm,0.6s							
VNA3	**Neumayer Olymp**	**13.49**	**157**	⇑S		Sn	01 41 31.5	-11
	comp=Z,3.9nm,0.3s							
VNA3	**Neumayer Olymp**	**13.49**	**157**	⇑P		**Pn**	**01 39 12.3**	**-1.9**
	comp=Z,106nm,0.4s							
VNA2	**Neumayer--Watz**	**13.72**	**154**	⇑P		**Pn**	**01 39 15.5**	**-1.9**
	comp=Z,62nm,0.6s,baz=319,slow=15							
VNA2				⇓S		Sn	01 41 35.5	-13
	comp=Z,0.9nm,0.2s,baz=172,slow=11							
SNAA	**Sanae**	**15.30**	**152**			**Pn**	**01 39 36.9**	**-1.7**
SNAA	**Sanae**	**15.30**	**152**	⇑P		**Pn**	**01 39 37.0**	**-1.7**
	comp=Z,3µm,0.6s							
SNAA				⇓S		Sn	01 42 13.7	-13
	comp=Z,126nm,0.6s							
SNAA	**Sanae**	**15.30**	**152**	Pn		**Pn**	**01 39 37.0**	**-1.7**
	comp=Z,22nm,0.3s,baz=310,slow=14,SNR=461							
SNAA					Sn	Sn	01 42 12.4	-14
	comp=Z,0.2nm,0.3s,baz=312,slow=19,SNR=1.6							
SNAA					LR	LR	01 44 29.9	
	comp=Z,141nm,20.3s,baz=1.0,slow=33							
TROLL	**Troll, Antarti**	**16.85**	**149**	⇑P		**Pn**	**01 39 58.7**	**+0.3**
	comp=Z,2µm,0.5s							
TROLL				⇑S		Sn	01 42 51.2	-13
	comp=Z,146nm,0.4s							
PMSA	**Palmer Station**	**18.39**	**237**	LR		LR	01 46 46.3	
	comp=Z,241nm,18.3s,baz=100,slow=35							
BELA	**Belgrano 2**	**18.68**	**186**			**P**	**01 40 19.4**	**-0.9**
EFI	**East Falkland**	**19.66**	**279**	P		**P**	**01 40 31.8**	**+0.6**
EFI						IAmb	IAmb	01 40 37.9
	comp=Z,56nm,0.9s							
SMAI	**San Martin Ant**	**19.75**	**227**	Pn		**Pn**	**01 40 34.0**	**+0.3**
SMAI						IAmb	IAmb	01 40 52.5
	comp=Z,165nm,1.8s							
QSPA	**South Pole Qui**	**30.73**	**180**	P		**P**	**01 42 17.5**	**+0.4**
QSPA	**South Pole Qui**	**30.73**	**180**	P		**P**	**01 42 18.7**	**+1.7**
	comp=Z,3.2nm,0.6s,baz=232,slow=2.1,SNR=12							
QSPA					LR	LR	01 54 20.2	
	comp=Z,103nm,18.8s,baz=202,slow=36							
	comp=Z,3.2nm,0.6s							
QSPA	**South Pole Qui**	**30.73**	**180**	P		**P**	**01 42 19.3**	**+2.2**
TRQA	**Tornquist**	**31.45**	**297**	P		**P**	**01 42 24.4**	**+0.9**
TRQA						IAmb	IAmb	01 42 25.6
	comp=Z,10.0nm,0.8s							
PLCA	**Paso Flores**	**33.44**	**284**	P		**P**	**01 42 41.2**	**+0.3**
PLCA						IAmb	IAmb	01 42 43.8
	comp=Z,22nm,1.5s							
PLCA	**Paso Flores**	**33.44**	**284**	P		**P**	**01 42 41.1**	**+0.2**
	comp=Z,4.1nm,0.8s,baz=150,slow=10,SNR=7.7							
	comp=Z,4.1nm,0.8s							
PLCA	**Paso Flores**	**33.44**	**284**	P		**P**	**01 42 41.1**	**+0.2**
PLCA				pP		**pP**	**01 42 50.9**	**+0.6**
PLCA				sP		**sP**	**01 42 54.9**	**+0.7**
ITQB	**Itaqui**	**36.40**	**311**	P		**P**	**01 43 05.6**	**-0.8**
BI05	**Punta Hualpn**	**37.82**	**286**	P		**P**	**01 43 19.2**	**+0.8**
BO02	**Sierra Bellavi**	**38.22**	**290**	P		**P**	**01 43 21.7**	**-0.3**
BO02						IAmb	IAmb	01 43 30.1
	comp=Z,8.9nm,0.8s							
GO05	**Huala**	**38.60**	**289**	P		**P**	**01 43 24.9**	**-0.1**
BO01	**Tunca**	**38.69**	**290**	P		**P**	**01 43 25.2**	**-0.6**
BO01						IAmb	IAmb	01 43 30.1
	comp=Z,12nm,0.9s							
BO04	**La Punta**	**38.79**	**291**	P		**P**	**01 43 26.3**	**-0.4**
BO04						IAmb	IAmb	01 43 30.8
	comp=Z,23nm,1.2s							
MT09	**Talagante**	**39.15**	**291**	P		**P**	**01 43 30.4**	**+0.6**
MT09						IAmb	IAmb	01 43 34.0
	comp=Z,49nm,1.3s							
MT01	**Popeta**	**39.20**	**290**	P		**P**	**01 43 30.0**	**-0.1**
MT01						IAmb	IAmb	01 43 33.0
	comp=Z,17nm,0.9s							
MT16	**CCHEN**	**39.21**	**292**	P		**P**	**01 43 30.8**	**+0.6**
PEL	**Peldehue**	**39.52**	**292**	P		**P**	**01 43 33.1**	**+0.3**
PEL						IAmb	IAmb	01 43 36.6
	comp=Z,24nm,0.7s							
PEL	**Peldehue**	**39.52**	**292**	P		**P**	**01 43 34.2**	**+1.4**
**CF

comp=Z,0.3nm,0.4s,baz=125,slow=5.7,SNR=7.1
CMAR Chiang Mai Arr 123.15 111 PKPdf **PKPdf** 01 54 58.0 -0.2
CMAR Chiang Mai Arr 123.15 111 PKP **PKPdf** 01 54 57.5 -0.7
comp=Z,1.1nm,0.7s,baz=225,slow=3.9,SNR=6.0
ULM Lac du Bonnet 123.22 314 PKP **PKPdf** 01 54 56.0 -1.3
comp=Z,1.3nm,0.7s,baz=181,slow=3.5,SNR=4.3
HFS Hagfors 123.23 22 PKP **PKPdf** 01 54 56.2 -0.8
comp=Z,3.5nm,1.0s,baz=176,slow=5.8,SNR=2.1
NVAR Mina Array Bea 123.35 290 PKP **PKiKP** 01 54 59.3 +0.8
comp=Z,0.4nm,0.5s,baz=108,slow=2.9,SNR=6.4
NOA NORSAR Array B 123.61 21 PKP **PKPdf** 01 54 56.9 -0.8
comp=Z,0.5nm,0.7s,baz=204,slow=2.3,SNR=1.8
FINES FINESS Array B 127.11 28 PKP **PKPdf** 01 55 03.5 -0.9
comp=Z,1.8nm,0.8s,baz=159,slow=5.9,SNR=9.1
ABKAR Akbulak array 128.71 57 PKPdf **PKPdf** 01 55 07.8 0.0
PZH PanZhiHua 131.34 109 PKP **PKiKP** 01 55 16.3 +1.6
ARCES ARCESS Array B 133.89 22 PKP **PKPdf** 01 55 17.0 -0.1
comp=Z,3.5nm,0.8s,baz=232,slow=1.1,SNR=7.1
BVAR Borovoye Array 135.97 60 PKP **PKPdf** 01 55 21.7 +0.2
comp=Z,1.2nm,0.5s,baz=242,slow=0.9,SNR=10.0
CD2 Chengdu 135.97 108 PKP **PKPdf** 01 55 23.0 +0.7
MKAR Makanchi Array 137.23 74 PKP **PKPdf** 01 55 23.4 -0.6
comp=Z,0.6nm,0.7s,baz=258,slow=1.7,SNR=5.3
KURBB Kurchatov Arra 138.05 67 PKhKP PKPpre 01 55 15.4
KURBB PKP **PKPdf** 01 55 25.2 -0.2
comp=Z,0.6nm,0.7s,baz=228,slow=2.4,SNR=7.4
YKA Yellowknife Ar 139.19 315 PKPdf **PKPdf** 01 55 27.5 +0.5
YKA Yellowknife Ar 139.19 315 PKP **PKPdf** 01 55 27.1 0.0
comp=Z,2.3nm,0.7s,baz=133,slow=2.0,SNR=34
ZAA0 Zalesovo Array 143.15 67 PKPdf **PKPdf** 01 55 33.6 -0.8
ZALV Zalesovo Beam 143.15 67 PKhKP PKPpre 01 55 28.6
comp=Z,1.2nm,0.5s,baz=233,slow=4.3,SNR=5.3
EUNU Eureka 143.48 345 PKPdf **PKPdf** 01 55 34.8 +0.3
NJ2 Nanjing 143.87 124 *eP* **PKiKP** 01 55 39.0 -0.9
NJ2 pmax pmax
comp=Z,9.0nm,0.7s
P32M Atlin 145.11 302 PKPbc **PKPbc** 01 55 36.6 -0.8
N31M Braeburn, Yuko 146.95 304 PKPbc **PKPab** 01 55 44.3 -0.1
HHC Hu-ho-hao-te 147.68 106 *eP* **PKPdf** 01 55 40.5 -2.4
M30M Minto, Yukon 147.88 306 PKPbc **PKPbc** 01 55 45.1 -0.3
M29M Somme Creek 148.52 305 PKPbc **PKPbc** 01 55 47.7 +0.5
F31M Tsiigehtchic 148.66 315 PKPbc **PKPbc** 01 55 46.7 -0.6
INK Inuvik 148.89 317 PKPbc **PKPbc** 01 55 46.6 -1.2
EPYK Eagle Plains 149.38 312 PKPbc **PKPbc** 01 55 47.8 -1.3
H29M Whitestone 149.95 312 PKPbc **PKPbc** 01 55 50.3 -0.2
SONM Songino Array 150.06 91 PKPbc **PKiKP** 01 55 52.3 0.0
comp=Z,3.3nm,0.6s,baz=223,slow=2.5,SNR=26
ILAR Eielson Array 152.87 306 PKPbc **PKPbc** 01 55 57.2 -0.1
comp=Z,0.8nm,0.4s,baz=146,slow=2.6,SNR=27

IDC 30 01:57:40.8±1.9, 8°.95N×126°.24E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=61.0km s-min=26.2km az=83.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res ISC
DAV	**Davao City (W)**	**1.98**	**199**	Pn			Pn	01 58 15.0	-0.6
	56nm,0.3s,baz=347,slow=5.1,SNR=4.2								
DAV				Sn			Sb	01 58 43.0	0.0
	46nm,0.3s,baz=287,slow=23,SNR=2.2								
WRA	**Warramunga Arr**	**29.80**	**165**	P			P	02 03 50.0	+0.4
	0.4nm,0.9s,baz=348,slow=9.5,SNR=1.7								
	0.4nm,0.9s								
ASAR	**Alice Springs**	**33.27**	**167**	P			P	02 04 19.8	-0.3
	0.3nm,0.7s,baz=341,slow=7.1,SNR=2.4								
	0.3nm,0.7s								
MKAR	**Makanchi Array**	**53.06**	**323**	P			P	02 06 59.8	-0.1
	0.1nm,0.7s,baz=111,slow=7.9,SNR=2.1								
	0.1nm,0.7s								

*IDC **30** 01:59:36.2±3.5, 12°.96N×142°.22E, h148km±36km, mb3.4/4, mbtmp3.8/5, Error ellipse: s-maj=42.9km s-min=27.7km az=89.0*

ISC 30 01:59:36.2±1.1, 12°.9N±0°.2×142°.3E±0°.1, h150km, n5, σ1§04/6, mb3.7/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res ISC
GUMO	**Guam**	**2.63**	**76**	P			**Pn**	**02 00 17.9**	**-1.1**
	22nm,0.4s,baz=352,slow=19,SNR=1.3								
GUMO				S			**Sn**	**02 00 53.2**	**+1.3**
	66nm,0.8s,baz=338,slow=19,SNR=1.9								
STKA	**Stephens Creek**	**44.56**	**181**	P			**P**	**02 07 33.5**	**+0.2**
	4.4nm,1.0s,baz=350,slow=11,SNR=3.4								
	4.4nm,1.0s								
MKAR	**Makanchi Array**	**60.20**	**317**	P			**P**	**02 09 28.9**	**+0.5**
	0.3nm,0.5s,baz=99,slow=8.2,SNR=4.3								
	0.3nm,0.5s								
BVAR	**Borovoye Array**	**68.86**	**322**	P			**P**	**02 10 24.2**	**-0.3**
	1.0nm,0.4s,baz=102,slow=7.8,SNR=7.3								
	1.0nm,0.4s								
ILAR	**Eielson Array**	**70.25**	**25**	P			**P**	**02 10 32.8**	**0.0**
	0.3nm,0.6s,baz=264,slow=5.3,SNR=5.6								
	0.3nm,0.6s								

*UPA **30** 02:08:56.6±0.7, 5°.56N×82°.61W, h43km±153km, MW4.2*
*IDC **30** 02:08:57.5±3.0, 6°.00N×82°.66W, h0km, mb3.4/4, mbtmp3.7/7, ML2.4/2, MS3.6/3, Error ellipse: s-maj=80.5km s-min=26.2km az=26.0*
*UCR **30** 02:08:58.6±1.8, 5°.78N×82°.53W, h35km±270km, MW4.1*
*CATAC **30** 02:08:59.3±0.6, 5°.95N×82°.74W, h10km, MB5.1, mb5.0, ML4.6*

ISC 30 02:08:58.2±0.9, 5°.84N±0°.07×82°.56W±0°.05, h10km, n172, σ1§68/192, mb3.5/4, 1C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res ISC
CACAO	**El Cacao, Vera**	**2.25**	**48**	*eP*			**Pn**	**02 09 33.8**	**-1.7**
CACAO				*eS*			**Sn**	**02 10 01.6**	**-1.8**
CACAO	**El Cacao, Vera**	**2.25**	**48**	*eP*			**Pn**	**02 09 33.9**	**-1.7**
CACAO				*eS*			**Sn**	**02 10 01.1**	**-2.3**
GMAL	**Guarumal, Vera**	**2.32**	**34**	*eP*			**Pn**	**02 09 35.4**	**-1.0**
GMAL				*eS*			**Sn**	**02 10 04.7**	**-0.4**
PTPM	**Petroterminale**	**2.37**	**352**	*eP*			**Pn**	**02 09 35.1**	**-2.1**
PTPM				*eS*			**Sn**	**02 10 05.6**	**-0.7**
DVD	**David**	**2.58**	**2**	*eP*			**Pn**	**02 09 39.0**	**-1.1**
DVD				*eS*			**Sn**	**02 10 10.7**	**-0.8**
PIRO	**Carate, Puerto**	**2.66**	**343**	*eP*			**Pn**	**02 09 38.7**	**-2.4**
PIRO	**Carate, Puerto**	**2.66**	**343**	*iP*			**Pn**	**02 09 40.6**	**-0.6**
PIRO				*iS*			**Sn**	**02 10 10.9**	**-2.6**
PIRO					IAML			02 10 18.3	
	comp=Z,760nm,1.0s								
LPPC	**Paso Canoas**	**2.69**	**354**	*iP*			**Pn**	**02 09 40.2**	**-1.4**
LPPC				*eS*			**Sn**	**02 10 12.8**	**-1.4**
CDITO	**Canoas**	**2.73**	**353**	*eP*			**Pn**	**02 09 41.0**	**-1.2**
CDITO	**Canoas**	**2.73**	**353**	*eP*			**Pn**	**02 09 40.5**	**-1.6**
CDITO	**Canoas**	**2.73**	**353**	*iP*			**Pn**	**02 09 40.1**	**-2.1**
CDITO				*iS*			**Sn**	**02 10 14.0**	**-1.3**
CDITO					IAML			02 10 17.3	
	comp=Z,630nm,1.0s								
EDAD	**Golfito**	**2.86**	**348**	*eP*			**Pn**	**02 09 41.6**	**-2.3**
BCO2	**Palmira**	**2.86**	**1**	*eP*			**Pn**	**02 09 43.0**	**-1.1**
BCO2				*eS*			**Sn**	**02 10 18.6**	**-0.1**
LNBQ3	**Los Naranjos,**	**2.93**	**2**	*eP*			**Pn**	**02 09 43.9**	**-1.2**
BRU2	**Volcan**	**2.94**	**357**	*eP*			**Pn**	**02 09 44.0**	**-1.1**
BRU2				*eS*			**Sn**	**02 10 20.3**	**-0.2**
BRU2	**Volcan**	**2.94**	**357**	*eP*			**Pn**	**02 09 44.0**	**-1.1**
BRU2	**Volcan**	**2.94**	**357**	*iP*			**Pn**	**02 09 44.0**	**-1.1**
BRU2				*iS*			**Sn**	**02 10 19.7**	**-0.9**
BRU2					IAML			02 10 30.1	
	comp=Z,780nm,1.0s								
CHIT3	**Chitre**	**2.99**	**45**	*eP*			**Pn**	**02 09 44.0**	**-1.7**
CTCR	**Cotoan**	**3.04**	**356**	*eP*			**Pn**	**02 09 45.5**	**-1.1**
CTCR	**Cotoan**	**3.04**	**356**	*iP*			**Pn**	**02 09 46.1**	**-0.5**
EDP2	**Potrero Grande**	**3.21**	**349**	*eP*			**Pn**	**02 09 47.8**	**-1.0**
EDPN	**Palmar Norte**	**3.23**	**344**	*eP*			**Pn**	**02 09 47.6**	**-1.4**
EDBA	**Buenos Aires**	**3.38**	**348**	*eP*			**Pn**	**02 09 50.3**	**-0.8**
OCHAL	**Ojochal**	**3.41**	**342**	*iP*			**Pn**	**02 09 49.7**	**-1.8**
OCHAL				*iS*			**Sn**	**02 10 31.2**	**-0.8**
OCHAL					IAML			02 10 33.2	
	comp=Z,18nm,1.0s								
DRK0	**Durika**	**3.47**	**349**	*eP*			**Pn**	**02 09 51.3**	**-1.1**
CNI2	**El Empalme, Bo**	**3.56**	**1**	*eP*			**Pn**	**02 09 52.5**	**-1.1**
CNI2				*eS*			**Sn**	**02 10 34.8**	**-1.0**
BUS1	**Rivas**	**3.87**	**342**	*eP*			**Pn**	**02 09 57.0**	**-1.3**
CDM	**Cerro de Muert**	**3.88**	**342**	*eP*			**Pn**	**02 09 57.1**	**-1.2**
CDM	**Cerro de Muert**	**3.88**	**342**	*iP*			**Pn**	**02 09 57.1**	**-1.2**
CDM				*iS*			**Sn**	**02 10 42.5**	**-1.7**
CDM					IAML			02 10 45.7	
	comp=Z,630nm,1.0s								
RIMA	**Rio Macho**	**4.11**	**342**	*eP*			**Pn**	**02 10 00.3**	**-1.0**
RIMA	**Rio Macho**	**4.11**	**342**	*iP*			**Pn**	**02 09 59.9**	**-1.4**
RIMA				*iS*			**Sn**	**02 10 46.3**	**-3.3**
RIMA					IAML			02 10 53.8	
	comp=Z,330nm,1.0s								
ABE2	**San Pablo**	**4.12**	**339**	*eP*			**Pn**	**02 10 00.6**	**-0.8**
LCR2	**La Lucha 2**	**4.13**	**340**	*eP*			**Pn**	**02 10 00.5**	**-1.1**
LCR2	**La Lucha 2**	**4.13**	**340**	*iP*			**Pn**	**02 10 00.3**	**-1.3**
LCR2				*iS*			**Sn**	**02 10 48.9**	**-1.2**
LCR2					IAML			02 10 51.7	
	comp=Z,370nm,1.0s								
REPA	**Paraso**	**4.17**	**342**	*eP*			**Pn**	**02 10 02.8**	**+0.7**
VINA	**Juan Vinas**	**4.20**	**344**	*eP*			**Pn**	**02 10 02.4**	**0.0**
VERB	**Verbena**	**4.23**	**345**	*eP*			**Pn**	**02 10 02.7**	**-0.2**
PCAYA	**Pacayas**	**4.24**	**343**	*eP*			**Pn**	**02 10 04.1**	**+1.0**
ACOS	**Acosta**	**4.24**	**338**	*eP*			**Pn**	**02 10 01.6**	**-1.5**
RVSTA	**Santa Teresita**	**4.25**	**345**	*eP*			**Pn**	**02 10 02.3**	**-0.8**
OCM	**Ochomogo**	**4.26**	**341**	*eP*			**Pn**	**02 10 02.5**	**-0.8**
OCM	**Ochomogo**	**4.26**	**341**	*iP*			**Pn**	**02 10 02.3**	**-1.1**
OCM				*iS*			**Sn**	**02 10 52.2**	**-1.1**
OCM					IAML			02 10 55.4	
	comp=Z,440nm,1.0s								
BCIP	**Isla Barro Col**	**4.26**	**39**	*eP*			**Pn**	**02 10 01.7**	**-1.5**
BCIP	**Isla Barro Col**	**4.26**	**39**	*eP*			**Pn**	**02 10 03.6**	**+0.4**
RAFA	**San Farael, Vo**	**4.28**	**343**	*eP*			**Pn**	**02 10 03.3**	**-0.4**
RAFA	**San Farael, Vo**	**4.28**	**343**	*iP*			**Pn**	**02 10 04.4**	**+0.7**
VTCV	**VTCV, Calle Va**	**4.28**	**344**	*eP*			**Pn**	**02 10 03.1**	**-0.5**
ICR3	**Volcano Irazu**	**4.30**	**343**	*eP*			**Pn**	**02 10 03.8**	**-0.3**
CVTV	**Tajo**	**4.30**	**344**	*eP*			**Pn**	**02 10 03.5**	**-0.5**
HAYA	**Volcan Irazu**	**4.30**	**343**	*iP*			**Pn**	**02 10 03.5**	**-0.7**
HAYA					IAML			02 10 59.2	
	comp=Z,890nm,1.0s								
HAYA	**Volcan Irazu**	**4.30**	**343**	*iP*			**Sn**	**02 10 56.8**	**+2.1**
HAYA					IAML			02 10 59.2	
	comp=Z,890nm,1.0s								
CVTQ	**Turrialba Volc**	**4.31**	**344**	*eP*			**Pn**	**02 10 04.2**	**+0.1**
VTLA	**Turrialba Volc**	**4.31**	**344**	*eP*			**Pn**	**02 10 03.7**	**-0.4**
VICA	**Volcano Irazu**	**4.31**	**343**	*eP*			**Pn**	**02 10 03.8**	**-0.5**
CVTR	**Volcan Turrial**	**4.32**	**344**	*eP*			**Pn**	**02 10 03.7**	**-0.7**
UPA	**Univ. de Panam**	**4.33**	**44**	*eP*			**Pn**	**02 10 05.8**	**+1.7**
JACO	**JACO, Garabito**	**4.33**	**331**	*eP*			**Pn**	**02 10 01.9**	**-2.3**
JACO	**JACO, Garabito**	**4.33**	**331**	*iP*			**Pn**	**02 10 01.9**	**-2.3**
JACO				*iS*			**Sn**	**02 10 51.7**	**-3.0**
JACO					IAML			02 10 55.2	
	comp=Z,300nm,1.0s								
JACO	**JACO, Garabito**	**4.33**	**331**	*iP*			**Sn**	**02 10 54.7**	**0.0**
JACO					IAML			02 10 55.2	
	comp=Z,300nm,1.0s								
LCOCO	**El Coco**	**4.33**	**347**	*eP*			**Pn**	**02 10 05.0**	**+0.9**
VTLO	**VTLO**	**4.33**	**345**	*eP*			**Pn**	**02 10 04.0**	**-0.4**
CORON	**Coronado**	**4.35**	**341**	*eP*			**Pn**	**02 10 04.4**	**-0.2**
SANTA	**Santa Ana**	**4.37**	**338**	*eP*			**Pn**	**02 10 03.9**	**-0.9**
CVIMO	**Finca Echandi**	**4.38**	**342**	*eP*			**Pn**	**02 10 04.6**	**-0.3**
HDC	**Heredia**	**4.41**	**340**	*eP*			**Pn**	**02 10 05.0**	**-0.4**
HDC3	**Heredia 3**	**4.41**	**340**	*eP*			**Pn**	**02 10 04.7**	**-0.7**
HDC3	**Heredia 3**	**4.41**	**340**	*iP*			**Pn**	**02 10 04.6**	**-0.8**
HDC3					IAML			02 10 06.1	
	comp=Z,860nm,1.0s								
HDC3	**Heredia 3**	**4.41**	**340**	*iP*			**Sn**	**02 10 59.3**	**+2.4**
HDC3					IAML			02 10 59.6	
	comp=Z,680nm,1.0s								
BELE	**Belen**	**4.41**	**339**	*eP*			**Pn**	**02 10 03.5**	**-1.9**
CBL1	**Cabuya**	**4.49**	**326**	*eP*			**Pn**	**02 10 04.5**	**-1.8**
TCS1	**Tacares**	**4.52**	**338**	*iP*			**Pn**	**02 10 10.8**	**+4.0**
POA5	**Crater Von Fra**	**4.64**	**339**	*eP*			**Pn**	**02 10 05.6**	**-3.1**
RIFO	**Rio Frio, Sara**	**4.65**	**343**	*eP*			**Pn**	**02 10 08.8**	**+0.3**
RIFO	**Rio Frio, Sara**	**4.65**	**343**	*iP*			**Pn**	**02 10 07.7**	**-0.8**
RIFO					IAML			02 10 09.3	
	comp=Z,360nm,1.0s								
RIFO				*iS*			**Sn**	**02 10 59.4**	**-3.2**
CPMI	**Catarata Coope**	**4.77**	**338**	*eP*			**Pn**	**02 10 10.3**	**0.0**
CPMI	**Catarata Coope**	**4.77**	**338**	*iP*			**Pn**	**02 10 09.3**	**-1.1**
CPMI					IAML			02 10 12.5	
	comp=Z,150nm,1.0s								
TRT2	**Tortugero**	**4.83**	**346**	*iP*			**Pn**	**02 10 11.1**	**+0.1**
TRT2					IAML			02 10 12.6	
	comp=Z,220nm,1.0s								
TRT2				*iS*			**Sn**	**02 11 05.7**	**-1.3**
PTAC	**Punta Ardita,**	**4.89**	**74**	*eP*			**Pn**	**02 10 12.8**	**+0.9**
INDI	**Punta indio, G**	**4.95**	**324**	*eP*			**Pn**	**02 10 10.5**	**-2.2**
INDI	**Punta indio, G**	**4.95**	**324**	*iP*			**Pn**	**02 10 10.2**	**-2.5**
INDI					IAML			02 11 08.8	
	comp=Z,190nm,1.0s								
SOCE	**Pocosol**	**4.95**	**336**	*eP*			**Pn**	**02 10 12.8**	**0.0**
SOCE	**Pocosol**	**4.95**	**336**	*iP*			**Pn**	**02 10 12.0**	**-0.7**
SOCE					IAML			02 11 17.9	
	comp=Z,330nm,1.0s								
MONTE	**Monteverde**	**4.96**	**333**	*eP*			**Pn**	**02 10 11.8**	**-1.2**
POPE	**POPE, Guanacas**	**4.98**	**328**	*eP*			**Pn**	**02 10 11.0**	**-2.0**
POPE	**POPE, Guanacas**	**4.98**	**328**	*iP*			**Pn**	**02 10 11.0**	**-2.0**
POPE					IAML			02 10 13.5	
	comp=Z,270nm,1.0s								
POPE				*iS*			**Sn**	**02 11 07.8**	**-2.9**
JTS	**Las Juntas de**	**5.02**	**332**	*eP*			**Pn**	**02 10 12.2**	**-1.4**
JTS	**Las Juntas de**	**5.02**	**332**	Pn			**Pn**	**02 10 11.9**	**-1.7**
	comp=Z,36nm,0.3s,baz=79,slow=11,SNR=108								
JTS					Sn		**Sn**	**02 11 08.6**	**-3.2**
	comp=Z,29nm,0.3s,baz=252,slow=23,SNR=19								
JTS	**Las Juntas de**	**5.02**	**332**	*eP*			**Pn**	**02 10 12.2**	**-1.4**
CMARA	**Lajas Hojancha**	**5.03**	**326**	*eP*			**Pn**	**02 10 12.1**	**-1.7**
VACR	**Volcan Arenal**	**5.06**	**336**	*eP*			**Pn**	**02 10 14.1**	**-0.1**
VACR	**Volcan Arenal**	**5.06**	**336**	*iP*			**Pn**	**02 10 13.4**	**-0.8**
VACR					IAML			02 11 20.8	
	comp=Z,350nm,1.0s								
ARE1	**Arenal 1**	**5.06**	**335**	*eP*			**Pn**	**02 10 14.0**	**-0.3**
CEDE	**Laguna Cedeo**	**5.08**	**335**	*eP*			**Pn**	**02 10 14.6**	**+0.1**
DUNO	**Dulce Nombre,**	**5.12**	**326**	*eP*			**Pn**	**02 10 12.4**	**-2.6**
DUNO	**Dulce Nombre,**	**5.12**	**326**	*iP*			**Pn**	**02 10 11.4**	**-3.6**
TABAC	**Tabacon**	**5.12**	**335**	*eP*			**Pn**	**02 10 14.8**	**-0.3**
COVE	**Coope Vega, Sa**	**5.18**	**339**	*eP*			**Pn**	**02 10 15.9**	**+0.1**
JUD3	**Juan Diaz 3**	**5.21**	**326**	*eP*			**Pn**	**02 10 14.3**	**-2.0**
COTE	**Lago Cote**	**5.25**	**334**	*eP*			**Pn**	**02 10 17.9**	**+1.0**
PLVR	**Palo Verde**	**5.26**	**328**	*eP*			**Pn**	**02 10 15.4**	**-1.8**
ORTG	**Ortega, Santa**	**5.33**	**328**	*iP*			**Pn**	**02 10 16.5**	**-1.5**
ORTG					IAmb	IAmb		02 10 18.0	
	comp=Z,75nm,0.8s								
ORTG					IAML			02 11 20.1	
	comp=Z,130nm,1.0s								
ACAL	**Aguas Claras**	**5.36**	**333**	*eP*			**Pn**	**02 10 17.4**	**-1.0**
MOTZ	**Rio Naranjo**	**5.42**	**333**	*eP*			**Pn**	**02 10 20.0**	**+0.8**
CUI	**Cuipilapa**	**5.44**	**332**	*eP*			**Pn**	**02 10 18.5**	**-0.9**
COLC	**Colonia**	**5.46**	**332**	*eP*			**Pn**	**02 10 19.8**	**0.0**
HORNC	**Hornillas**	**5.49**	**332**	*eP*			**Pn**	**02 10 19.8**	**-0.4**
MESS	**Mesas**	**5.52**	**332**	*eP*			**Pn**	**02 10 20.3**	**-0.4**
CANAL	**Canalete**	**5.54**	**334**	*eP*			**Pn**	**02 10 19.7**	**-1.1**
VMAR	**Armenia, Volca**	**5.55**	**333**	*eP*			**Pn**	**02 10 20.1**	**-0.9**
VMAR	**Armenia, Volca**	**5.55**	**333**	*iP*			**Pn**	**02 10 22.3**	**+1.3**
VMAR					IVmB_BB			02 10 27.9	
	comp=Z,2μm,1.0s								
VMAR					IAmb	IAmb		02 10 28.3	
	comp=Z,130nm,0.7s								
VMAR					IAML			02 11 33.1	
	comp=Z,390nm,1.0s								
CLARA	**Aguas Claras**	**5.55**	**332**	*eP*			**Pn**	**02 10 21.4**	**+0.4**
GP77	**Hacienda Santa**	**5.60**	**331**	*eP*			**Pn**	**02 10 22.5**	**+0.7**
GPS2	**Hotel Rincn d**	**5.61**	**331**	*eP*			**Pn**	**02 10 22.5**	**+0.7**
GPS3	**Bodega del ICE**	**5.62**	**331**	*eP*			**Pn**	**02 10 22.6**	**+0.7**
GPS1	**Guardaparques**	**5.63**	**331**	*eP*			**Pn**	**02 10 22.7**	**+0.6**
VRLE	**La Escondida,**	**5.65**	**331**	*iP*			**Pn**	**02 10 21.3**	**-1.0**
VRLE					IAmb	IAmb		02 10 23.3	
	comp=Z,71nm,0.5s								
VRLE					IAML			02 10 23.7	
	comp=Z,190nm,1.0s								
VRLE					IVmB_BB			02 10 23.7	
	comp=Z,3μm,1.0s								
VRLE				*iS*			**Sn**	**02 11 26.9**	**-0.5**
LAPC	**Finca la Perla**	**5.66**	**330**	*eP*			**Pn**	**02 10 22.0**	**-0.5**
BUEV	**Buena Vista**	**5.67**	**330**	*eP*			**Pn**	**02 10 22.8**	**0.0**
GBS3	**Finca Las Img**	**5.69**	**330**	*eP*			**Pn**	**02 10 22.5**	**-0.3**
GB1A	**Borinquen Arri**	**5.69**	**331**	*eP*			**Pn**	**02 10 23.8**	**+0.8**
HZTE	**Horizontes, Gu**	**5.70**	**328**	*eP*			**Pn**	**02 10 22.6**	**-0.4**
HZTE	**Horizontes, Gu**	**5.70**	**328**	*iP*			**Pn**	**02 10 22.2**	**-0.8**
HZTE					IAML			02 10 25.7	
	comp=Z,290nm,1.0s								
HZTE					IAmb	IAmb		02 10 27.0	
	comp=Z,160nm,0.6s								
APAC	**Apartado, Choc**	**6.28**	**71**	*eP*			**Pn**	**02 10 31.9**	**+0.9**
PLMC	**San Jos del P**	**6.32**	**98**	*eP*			**Pn**	**02 10 31.8**	**+0.3**
DBBC	**Dabeiba**	**6.42**	**79**	*eP*			**Pn**	**02 10 36.0**	**+3.1**
DBBC				*eS*			**Sn**	**02 11 43.8**	**-2.5**
JAMC	**Jamundi, Valle**	**6.42**	**114**	*eP*			**Pn**	**02 10 31.7**	**-1.4**
YOTC	**Yotoco, Valle**	**6.46**	**106**	*eP*			**Pn**	**02 10 33.2**	**-0.3**
BBAC	**Balboa, Cauca**	**6.52**	**125**	*eP*			**Pn**	**02 10 33.1**	**-1.3**
ACON	**Acoyapa**	**6.61**	**337**	*eP*			**Pn**	**02 10 34.5**	**-1.0**
ACON	**Acoyapa**	**6.61**	**337**	*iP*			**Pn**	**02 10 36.6**	**+1.1**
POPC	**Popayan, Colom**	**6.72**	**119**	*eP*			**Pn**	**02 10 35.7**	**-1.6**
TULM	**Tulcn-Chalpat**	**6.97**	**137**	*eP*			**Pn**	**02 10 39.7**	**-1.2**
CRUC	**La Cruz**	**7.02**	**127**	*eP*			**Pn**	**02 10 41.6**	**+0.2**
GUY2C	**Guyana, Caldas**	**7.18**	**95**	*eP*			**Pn**	**02 10 46.2**	**+2.4**
UREC	**San Jos de Ur**	**7.23**	**74**	*eP*			**Pn**	**02 10 46.7**	**+2.7**
BOAB	**BOACO BROADBAN**	**7.25**	**335**	*iP*			**Pn**	**02 10 45.7**	**+1.4**
BOAB	**BOACO BROADBAN**	**7.25**	**335**	*iP*			**Pn**	**02 10 44.4**	**+0.1**
COPN	**Copaltepe**	**7.45**	**328**	*iP*			**Pn**	**02 10 48.6**	**+1.5**
ORTC	**Ortega, Tolima**	**7.53**	**104**	*eP*			**Pn**	**02 10 49.6**	**+1.4**
ROCN	**Rota Cerro Neg**	**7.82**	**328**	*iP*			**Pn**	**02 10 55.9**	**+3.8**
ROCN	**Rota Cerro Neg**	**7.82**	**328**	*iP*			**Pn**	**02 10 55.9**	**+3.8**
ZARC	**Zaragoza, Cauc**	**7.82**	**77**	*eP*			**Pn**	**02 10 54.8**	**+2.7**
GARC	**Garzon, Huila**	**7.93**	**117**	*eP*			**Pn**	**02 10 55.2**	**+1.4**
PRAC	**Prado**	**7.93**	**105**	*eP*			**Pn**	**02 10 54.5**	**+0.8**
PIAT	**Ana Tenorio**	**8.03**	**148**	*eP*			**Pn**	**02 10 52.8**	**-2.6**
PTBC	**PUERTO BERRIO,**	**8.08**	**85**	*eP*			**Pn**	**02 10 58.6**	**+2.8**
LIMN	**Finca el Limon**	**8.10**	**333**	*iP*			**Pn**	**02 10 57.8**	**+1.8**
LIMN	**Finca el Limon**	**8.10**	**333**	*iP*			**Pn**	**02 10 56.4**	**+0.4**
ROSC	**El Rosal**	**8.26**	**97**	Pn			**Pn**	**02 11 01.5**	**+2.9**
	comp=Z,0.8nm,0.3s,baz=311,slow=19,SNR=2.2								
	comp=Z,3.4nm,0.4s								
SJCC	**San Jacinto, C**	**8.35**	**61**	*eP*			**Pn**	**02 11 02.5**	**+3.1**
RCPN	**Sur Rio San Ju**	**8.39**	**336**	*iP*			Pn	02 11 07.2	+7.1
RCPN	**Sur Rio San Ju**	**8.39**	**336**	*iP*			**Pn**	**02 11 02.2**	**+2.1**
CSGN	**Cosiguina Volc**	**8.64**	**326**	*iP*			**Pn**	**02 11 05.9**	**+2.5**
CSGN	**Cosiguina Volc**	**8.64**	**326**	*iP*			**Pn**	**02 11 05.2**	**+1.8**
VILC	**Villavicencio,**	**9.00**	**101**	*eP*			**Pn**	**02 11 11.5**	**+3.1**
CNCH	**Conchagua**	**9.04**	**325**	*iP*			Pn	02 11 14.0	+5.1
CNCH	**Conchagua**	**9.04**	**325**	*iP*			**Pn**	**02 11 10.5**	**+1.6**
CNCH				

*TRN **30** 03:14:18.4, 17°.21N×62°.10W, h104km, MD4.7*
TRN Felt in Antigua MMI IV.
*IDC **30** 03:14:19.8±1.4, 17°.19N×62°.17W, h101km±9km, mb3.4/4, mbtmp4.0/8, MS2.3/1, Error ellipse: s-maj=22.4km s-min=18.6km az=177.0*
*NEIC **30** 03:14:19.1±0.6, 17°.27N±0°.08×62°.07W±0°.08, h111km±8km, mb4.2/9, Error ellipse: s-maj=15.5km s-min=4.4km az=225.0*

ISC 30 03:14:19.2±0.7, 17°.21N±0°.05×62°.15W±0°.06, h107km±5km, n95, σ0°92/110, mb4.1/8, 4C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANBD	**Bethesda, Anti**	**0.40**	**113**	*eP*	**Pn**	**03 14 35.4**	**+0.3**
ANBD				*eS*	**Sn**	**03 14 47.0**	**-0.1**
MBFL	**Flemmings, Mon**	**0.46**	**187**	*eP*	**Pn**	**03 14 35.6**	**0.0**
MBFL				*eS*	**Sn**	**03 14 46.7**	**-1.0**
MLYT	**Lee's Yard**	**0.49**	**185**	*eP*	**Pn**	**03 14 36.8**	**+1.1**
MLYT				*eS*	**Sn**	**03 14 48.6**	**+0.5**
ABD	**La Joyeuse, An**	**0.97**	**139**		**Pn**	**03 14 39.9**	**+0.1**
ABD				Sn	**Sn**	**03 14 54.8**	**-0.5**
ABD	**La Joyeuse, An**	**0.97**	**139**	*eP*	**Pn**	**03 14 40.1**	**+0.2**
ABD				*eS*	**Sn**	**03 14 55.0**	**-0.4**
GDHS	**Morne Mazeau,**	**1.00**	**158**		**Pn**	**03 14 40.2**	**-0.1**
GDHS				Sn	**Sn**	**03 14 55.8**	**-0.4**
SABA	**Saba**	**1.12**	**292**		**Pn**	**03 14 42.2**	**+0.7**
SABA	**Saba**	**1.12**	**292**	*eP*	**Pn**	**03 14 42.4**	**+0.9**
SMRT	**St. Maarten**	**1.22**	**314**		**Pn**	**03 14 43.1**	**+0.5**
SMRT				Sn	**Sn**	**03 14 59.4**	**-0.8**
SMRT	**St. Maarten**	**1.22**	**314**	*eP*	**Pn**	**03 14 43.1**	**+0.5**
CBE	**Ff, Capester**	**1.25**	**155**		**Pn**	**03 14 43.5**	**+0.5**
CBE				Sn	**Sn**	**03 15 01.4**	**+0.5**
CBE	**Ff, Capester**	**1.25**	**155**	*eP*	**Pn**	**03 14 43.5**	**+0.5**
CBE				*eS*	**Sn**	**03 15 01.5**	**+0.7**
GDSD	**La Dsirade Is**	**1.37**	**130**		**Pn**	**03 14 44.7**	**-0.2**
TDBA	**Terre de Bas,**	**1.44**	**160**	*eP*	**Pn**	**03 14 45.6**	**+0.4**
MAGL	**Barre d'ile**	**1.50**	**146**		**Pn**	**03 14 46.5**	**+0.6**
MAGL	**Barre d'ile**	**1.50**	**146**	*eP*	**Pn**	**03 14 46.6**	**+0.6**
SVN	**Savane Anatole**	**2.54**	**158**		**Pn**	**03 14 59.3**	**+0.2**
SVN	**Savane Anatole**	**2.54**	**158**	*iP*	**Pn**	**03 14 59.1**	**0.0**
SVN				*eS*	**Sn**	**03 15 28.7**	**-1.0**
PCM	**Pelee Case Pet**	**2.55**	**159**	*eP*	**Pn**	**03 14 59.6**	**+0.4**
CXM	**Morne La Croix**	**2.56**	**158**	*eP*	**Pn**	**03 15 00.4**	**+0.8**
BAMF	**Morne Balai**	**2.57**	**158**	*eP*	**Pn**	**03 14 59.8**	**+0.2**
GBMF	**Grand Be**	**2.58**	**158**	*eP*	**Pn**	**03 15 00.0**	**+0.3**
PML	**Morne Lenard**	**2.59**	**159**	*eP*	**Pn**	**03 15 00.3**	**+0.5**
FDF	**Fort de France**	**2.64**	**159**		**Pn**	**03 15 00.7**	**+0.2**
FDF	**Fort de France**	**2.64**	**159**	*iP*	**Pn**	**03 15 00.5**	**-0.1**
FDF				*eS*	**Sn**	**03 15 33.0**	**+0.8**
ILAM	**Ilet Lapin Mar**	**2.71**	**153**		**Pn**	**03 15 01.1**	**-0.2**
ILAM	**Ilet Lapin Mar**	**2.71**	**153**	*eP*	**Pn**	**03 15 01.0**	**-0.4**
ILAM				*eS*	**Sn**	**03 15 32.1**	**-1.7**
ZAM	**Aeronautique**	**2.83**	**157**	*eP*	**Pn**	**03 15 02.9**	**-0.1**
LPMF	**Morne Lapointe**	**2.86**	**156**	*eP*	**Pn**	**03 15 03.0**	**-0.3**
BIM	**Bigot**	**2.87**	**159**		**Pn**	**03 15 03.8**	**+0.2**
BIM	**Bigot**	**2.87**	**159**	*iP*	**Pn**	**03 15 03.7**	**+0.2**
BIM				*eS*	**Sn**	**03 15 37.1**	**-0.5**
MVM	**Montagne Vaucl**	**2.90**	**155**	*eP*	**Pn**	**03 15 03.9**	**0.0**
MPOM	**Morne Pois Mar**	**3.02**	**155**		**Pn**	**03 15 05.2**	**-0.2**
MPOM	**Morne Pois Mar**	**3.02**	**155**	*eP*	**Pn**	**03 15 05.3**	**-0.1**
MPOM				*eS*	**Sn**	**03 15 39.8**	**-1.1**
SLBI	**Saint Lucia, B**	**3.36**	**160**	*iP*	**Pn**	**03 15 09.9**	**-0.1**
SLBI				*eS*	**Sn**	**03 15 47.7**	**-1.6**
SLCP	**Castries, St.**	**3.37**	**160**	*eS*	**Sn**	**03 15 48.8**	**-0.6**
SLB	**Belfond**	**3.53**	**162**	*eP*	**Pn**	**03 15 13.1**	**+0.8**
SLB				*eS*	**Sn**	**03 15 53.3**	**0.0**
SJG	**San Juan**	**3.92**	**284**	*eP*	**Pn**	**03 15 17.8**	**+0.4**
SJG	**San Juan**	**3.92**	**284**	P	**Pn**	**03 15 18.3**	**+0.9**
	27nm,0.3s,baz=160,slow=23,SNR=13						
SJG				S	**Sn**	**03 16 03.1**	**+0.6**
	97nm,0.4s,baz=289,slow=23,SNR=16						
SJG				LR	LR	03 17 00.8	
	comp=Z,41nm,19.6s,baz=110,slow=41						
SVB	**Belmont**	**4.01**	**167**	*eP*	**Pn**	**03 15 19.2**	**+0.5**
SVOC	**Richmond Hill,**	**4.13**	**167**	*eP*	**Pn**	**03 15 20.2**	**-0.1**
AOPR	**Arecibo Observ**	**4.53**	**285**	*eP*	**Pn**	**03 15 26.5**	**+0.8**
AOPR	**Arecibo Observ**	**4.53**	**285**	*eS*	**Sn**	**03 16 17.8**	**+0.4**
GCMP	**Grenada, Carri**	**4.75**	**171**	*eP*	**Pn**	**03 15 28.7**	**+0.1**
BBGH	**Gun Hill**	**4.75**	**148**	*eP*	**Pn**	**03 15 29.2**	**+0.4**
BBGH	**Gun Hill**	**4.75**	**148**	*eS*	**Sn**	**03 16 21.4**	**-1.4**
GRGR	**Grenville**	**5.07**	**174**	Pn	**Pn**	**03 15 33.4**	**+0.3**
GRGR	**Grenville**	**5.07**	**174**	*eP*	**Pn**	**03 15 33.2**	**+0.1**
TRN	**Trinidad (W)**	**6.56**	**174**	*eP*	**Pn**	**03 15 53.3**	**0.0**
PCRV	**Puerto La Cruz**	**7.40**	**199**	P	**Pn**	**03 16 05.3**	**+0.7**
	7.0nm,0.9s,baz=23,slow=16,SNR=1.1						
SDDR	**Presa de Saban**	**8.87**	**283**		**Pn**	**03 16 24.9**	**+0.3**
SDDR	**Presa de Saban**	**8.87**	**283**	*eP*	**Pn**	**03 16 24.3**	**-0.3**
SDDR	**Presa de Saban**	**8.87**	**283**	*eP*	**Pn**	**03 16 24.5**	**-0.1**
SDDR	**Presa de Saban**	**8.87**	**283**	*eS*	**Sn**	**03 17 58.5**	**-4.3**
BAUV	**El Baul**	**10.02**	**216**	*eP*	**Pn**	**03 16 40.6**	**+0.4**
SDV	**Santo Domingo**	**11.69**	**226**		**Pn**	**03 17 03.4**	**+0.5**
SDV	**Santo Domingo**	**11.69**	**226**	*eP*	**Pn**	**03 17 04.0**	**+1.1**
SDV	**Santo Domingo**	**11.69**	**226**	P	**Pn**	**03 17 02.0**	**-0.9**
	5.9nm,0.7s,baz=43,slow=18,SNR=5.7						
OCAC	**Ocana**	**14.02**	**230**	*eP*	**Pn**	**03 17 34.0**	**-0.1**
PAMC	**Pamplona, Colo**	**14.22**	**228**	*eP*	**Pn**	**03 17 36.8**	**+0.5**
SJCC	**San Jacinto, C**	**14.60**	**242**	*eP*	**P**	**03 17 44.2**	**0.0**
BOAV	**Boa Vista**	**14.81**	**174**	Pn	**Pn**	**03 17 42.4**	**-0.9**
BARC	**Barichara**	**15.08**	**227**	*eP*	**Pn**	**03 17 47.5**	**+0.4**
PTBC	**PUERTO BERRIO,**	**16.03**	**230**	*eP*	**Pn**	**03 17 57.2**	**-1.5**
UREC	**San Jos de Ur**	**16.08**	**236**	*eP*	**P**	**03 18 00.5**	**-0.1**
ROSC	**El Rosal**	**17.12**	**226**	P	**Pn**	**03 18 12.5**	**0.0**
ROSC				IAmb	IAmb	03 18 14.6	
	comp=Z,12nm,0.8s						
ROSC	**El Rosal**	**17.12**	**226**	*eP*	**Pn**	**03 18 12.4**	**0.0**
ROSC	**El Rosal**	**17.12**	**226**	P	**P**	**03 18 13.3**	**+0.8**
	comp=Z,11nm,0.6s,baz=60,slow=14,SNR=6.8						
VILC	**Villavicencio,**	**17.25**	**222**	*eP*	**Pn**	**03 18 16.1**	**+2.4**
GUY2C	**Guyana, Caldas**	**17.59**	**229**	*eP*	**P**	**03 18 17.8**	**+0.2**
CBOC	**Ciudad Bolivar**	**17.63**	**232**	*eP*	**P**	**03 18 17.7**	**-0.2**
PLMC	**San Jos del P**	**18.47**	**230**	*eP*	**P**	**03 18 26.8**	**-0.2**
YOTC	**Yotoco, Valle**	**19.14**	**228**	*eP*	**P**	**03 18 32.7**	**-1.7**
GARC	**Garzon, Huila**	**19.87**	**223**	*eP*	**Pn**	**03 18 45.6**	**+0.6**
BBAC	**Balboa, Cauca**	**21.16**	**226**	*eP*	**P**	**03 18 58.7**	**+2.4**
GCUF	**Volcan Galeras**	**21.81**	**225**	*eP*	**P**	**03 19 04.9**	**+1.5**
TULM	**Tulcn-Chalpat**	**22.48**	**225**	P	**P**	**03 19 10.4**	**0.0**
TULM				IAmb	IAmb	03 19 14.0	
	comp=Z,7.5nm,0.8s						
LCR2	**La Lucha 2**	**22.50**	**254**	P	**P**	**03 19 09.7**	**-0.7**
LCR2				IAmb	IAmb	03 19 13.2	
	comp=Z,7.5nm,0.6s						
OTAV	**Otavalo**	**23.28**	**225**	P	**P**	**03 19 17.8**	**-0.4**
OTAV	**Otavalo**	**23.28**	**225**	*eP*	**P**	**03 19 17.2**	**-1.0**
CHSH	**Refugio Sur-Vo**	**24.84**	**223**	P	**P**	**03 19 33.1**	**+0.6**
U56A	**King**	**24.98**	**323**	P	**P**	**03 19 33.9**	**+0.9**
U56A				IAmb	IAmb	03 19 36.9	
	comp=Z,8.0nm,0.8s						
BG3	**Lake Jocassee**	**25.64**	**318**	P	**P**	**03 19 35.9**	**-3.0**
BG3				IAmb	IAmb	03 19 48.6	
	comp=Z,14nm,1.3s						
MCRA	**Macar, Loja**	**27.73**	**221**	P	**P**	**03 19 56.6**	**-1.3**
MCRA	**Macar, Loja**	**27.73**	**221**	*eP*	**P**	**03 19 58.2**	**+0.3**
VT1	**Waterbury**	**28.48**	**344**	P	**P**	**03 20 02.5**	**-1.7**
ULM	**Lac du Bonnet**	**42.63**	**328**	P	**P**	**03 22 05.8**	**+0.9**
	comp=Z,2.7nm,0.3s,baz=135,slow=8.2,SNR=11						
	comp=Z,2.7nm,0.3s						
PDAR	**Pinedale Array**	**47.52**	**313**	P	**P**	**03 22 45.6**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=113,slow=8.8,SNR=4.5						
PDAR				pP	**pP**	**03 23 09.3**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=120,slow=10,SNR=3.3						
	comp=Z,0.4nm,0.6s						
NVAR	**Mina Array Bea**	**53.12**	**305**	P	**P**	**03 23 27.8**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=105,slow=5.7,SNR=2.0						
NVAR				pP	**pP**	**03 23 52.5**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=100,slow=8.1,SNR=3.4						
	comp=Z,0.2nm,0.6s						
H10N3	**ASCENSION HYDR**	**53.27**	**114**	T	T	04 20 38.9	
	baz=299,slow=75,SNR=148						
H10N2	**ASCENSION HYDR**	**53.27**	**114**	T	T	04 20 39.4	
	baz=299,slow=75,SNR=118						
H10N1	**ASCENSION HYDR**	**53.29**	**114**	T	T	04 20 38.3	
	baz=299,slow=75,SNR=138						
H10S3	**ASCENSION HYDR**	**53.66**	**115**	T	T	04 21 06.0	
	baz=294,slow=74						
H10S2	**ASCENSION HYDR**	**53.67**	**115**	T	T	04 21 07.4	
	baz=286,slow=74						
YKA	**Yellowknife Ar**	**57.94**	**334**	P	**P**	**03 24 01.0**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=109,slow=7.3,SNR=12						
YKA				pP	**pP**	**03 24 25.3**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=110,slow=7.3,SNR=4.0						
	comp=Z,0.6nm,0.7s						

*IDC **30** 03:26:48.4±1.5, 13°.53N×91°.31W, h0km, mb3.8/6, mbtmp3.8/10, ML3.6/4, MS3.5/6, Error ellipse: s-maj=37.2km s-min=20.5km az=35.0*
*NEIC **30** 03:26:49.9±1.6, 13°.37N±0°.07×91°.45W±0°.06, h10km±1km, mb4.1/30, Error ellipse: s-maj=13.2km s-min=6.9km az=219.0*
*CATAC **30** 03:26:49.4±0.6, 13°.11N×91°.44W, h10km, ML4.0*

ISC 30 03:26:49.6±1.6, 13°.35N±0°.05×91°.46W±0°.04, h15km±10km, n85, σ1°17/96, mb4.2/14, MS3.4/4, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**1.19**	**349**		**Pg**	**03 27 12.1**	**-0.5**
RTAL				Sn	**Sb**	**03 27 26.5**	**-0.6**
GUNB	**GUNB**	**1.64**	**41**	*iP*	**Pb**	**03 27 19.2**	**-0.6**
GUNB				IAML		03 27 42.1	
	comp=Z,490nm,1.0s						
GUNB				*iS*	**Sg**	**03 27 44.8**	**+2.1**
NUBE	**Las Nubes**	**1.72**	**71**	*iP*	**Pn**	**03 27 19.5**	**+0.3**
NUBE				*iS*	**Sg**	**03 27 44.4**	**-0.7**
NUBE				IAML		03 28 00.8	
	comp=Z,410nm,1.0s						
HUEH	**Huehuetenango**	**1.96**	**359**		**Pn**	**03 27 23.3**	**+0.8**
QUIS	**Sacapulas**	**1.96**	**10**	*iP*	**Pg**	**03 27 26.0**	**-1.3**
QUIS				*iS*	**Sg**	**03 27 54.3**	**+1.5**
QUIS				IAML		03 28 00.8	
	comp=Z,560nm,1.0s						
PMON	**Piamonte**	**2.12**	**80**	*iP*	**Pn**	**03 27 25.1**	**+0.6**
PMON				*iS*	**Sb**	**03 27 53.0**	**-0.9**
PMON				IAML		03 28 06.7	
	comp=Z,700nm,1.0s						
SNET	**Serv Nac Est T**	**2.19**	**81**		**Pn**	**03 27 25.7**	**+0.1**
MTO3	**Montecristo**	**2.29**	**63**	Pn	**Pn**	**03 27 27.5**	**+0.5**
MTO3				Sn	**Sn**	**03 27 55.5**	**+0.4**
MTO3	**Montecristo**	**2.29**	**63**	*iP*	**Pn**	**03 27 28.2**	**+1.2**
MTO3				*iS*	**Sb**	**03 27 59.4**	**+0.4**
MTO3				IAML		03 28 00.4	
	comp=Z,370nm,1.0s						
ESQI	**Esquipulas**	**2.38**	**59**		**Pn**	**03 27 28.1**	**-0.1**
SJTE	**Alcalda de S**	**2.40**	**83**	*iP*	**Pn**	**03 27 29.5**	**+1.1**
SJTE				*iS*	**Sn**	**03 27 59.8**	**+2.2**
SJTE				IAML		03 28 11.8	
	comp=Z,250nm,1.0s						
PAVA	**Las Pavas**	**2.48**	**81**	*iP*	**Pn**	**03 27 30.4**	**+0.9**
PAVA				IAML		03 28 26.0	
	comp=Z,590nm,1.0s						
COEG	**Centro de Oper**	**2.52**	**84**	*iP*	**Pn**	**03 27 31.0**	**+0.9**
COEG				IAML		03 28 11.7	
	comp=Z,310nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.68**	**82**	*iP*	**Pn**	**03 27 33.0**	**+0.8**
SCLA				IAML		03 27 51.2	
	comp=Z,140nm,1.0s						
CCIG	**Comitan**	**2.99**	**347**		**Pn**	**03 27 38.3**	**+1.6**
CCIG	**Comitan**	**2.99**	**347**	*iP*	**Pb**	**03 27 40.3**	**-2.4**
CCIG				*iS*	**Sb**	**03 28 19.9**	**+0.8**
CCIG				IAML		03 28 30.6	
	comp=Z,250nm,1.0s						
PACA	**Pacayal**	**3.05**	**87**	*iP*	**Pn**	**03 27 39.9**	**+2.4**
PACA				*iS*	**Sn**	**03 28 14.8**	**+1.0**
PACA				IAML		03 28 31.1	
	comp=Z,2μm,1.0s						
CNCH	**Conchagua**	**3.53**	**91**	*iP*	**Pn**	**03 27 44.1**	**+0.1**
CNCH				IAML		03 28 30.8	
	comp=Z,560nm,1.0s						
CSGN	**Cosiguina Volc**	**3.82**	**95**	*iP*	**Pn**	**03 27 47.9**	**0.0**
CSGN				IAML		03 28 36.5	
	comp=Z,710nm,1.0s						
TGUH	**Tegucigalpa,Un**	**4.13**	**80**	Pn	**Pn**	**03 27 52.8**	**+0.6**
CRIN	**San Cristobal**	**4.34**	**98**	Pn	**Pn**	**03 27 55.2**	**0.0**
CNGN	**Cerro Negro**	**4.72**	**100**	Pn	**Pn**	**03 28 00.3**	**+0.1**
COPN	**Copaltepe**	**4.89**	**103**	*iP*	**Pn**	**03 28 02.5**	**-0.1**
COPN				IAML		03 29 03.9	
	comp=Z,170nm,1.0s						
LIMN	**Finca el Limon**	**4.97**	**93**	*iP*	**Pn**	**03 28 03.4**	**-0.4**
LIMN				IAML		03 28 04.6	
	comp=Z,76nm,1.0s						
CMIG	**Matias Romero**	**4.98**	**319**	Pn	**Pn**	**03 28 04.9**	**+1.1**
	comp=Z,1.2nm,0.3s,baz=148,slow=8.6,SNR=10						
CMIG				Sn	**Sn**	**03 29 02.2**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=127,slow=10,SNR=3.8						
CMIG				LR	LR	03 29 45.6	
	comp=Z,71nm,20.9s,baz=156,slow=36						
	comp=Z,2.8nm,0.3s						
BRAN	**Las Pilas**	**5.02**	**97**	*iP*	**Pb**	**03 28 15.1**	**-2.0**
MATN	**Matagalpa**	**5.41**	**94**		**Pn**	**03 28 09.0**	**-0.8**
MATN	**Matagalpa**	**5.41**	**94**	*iP*	**Pn**	**03 28 09.5**	**-0.3**
BOAB	**BOACO BROADBAN**	**5.72**	**98**	Pn	**Pn**	**03 28 13.7**	**-0.3**
HZTE	**Horizontes, Gu**	**6.30**	**114**	Pn	**Pn**	**03 28 22.9**	**+0.8**
HZTE	**Horizontes, Gu**	**6.30**	**114**	*iP*	**Pn**	**03 28 23.2**	**+1.1**
ORTG	**Ortega, Santa**	**6.58**	**116**		**Pn**	**03 28 26.8**	**+0.9**
ORTG	**Ortega, Santa**	**6.58**	**116**	*iP*	**Pn**	**03 28 27.3**	**+1.4**
DUNO	**Dulce Nombre,**	**6.68**	**118**	Pn	**Pn**	**03 28 27.1**	**-0.1**
JTS	**Las Juntas de**	**7.06**	**115**	Pn	**Pn**	**03 28 33.2**	**+0.8**
JTS	**Las Juntas de**	**7.06**	**115**	Pn	**Pn**	**03 28 33.6**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=308,slow=18,SNR=5.0						
JTS				Sn	**Sn**	**03 29 48.1**	**-4.4**
	comp=Z,1.0nm,0.3s,baz=108,slow=20,SNR=1.6						
	comp=Z,3.1nm,0.4s						
COVE	**Coope Vega, Sa**	**7.38**	**110**	*iP*	**Pn**	**03 28 40.5**	**+3.6**
TEIG	**Tepich**	**7.49**	**24**	Pn	**Pn**	**03 28 39.7**	**+1.4**
TEIG	**Tepich**	**7.49**	**24**	Pn	**Pn**	**03 28 36.7**	**-1.6**
	comp=Z,1.4nm,0.3s,baz=173,slow=2.4,SNR=1.6						
TEIG				Sn	**Sn**	**03 29 59.5**	**-3.4**
	baz=171,slow=19						
TEIG				LR	LR	03 31 58.7	
	comp=Z,2μm,20.1s,baz=13,slow=43						
	comp=Z,60nm,0.7s						
JACO	**JACO, Garabito**	**7.60**	**118**	Pn	**Pn**	**03 28 41.2**	**+1.2**
TLIG	**Tlapa**	**8.03**	**302**		**Pn**	**03 28 46.4**	**+0.5**
RIMA	**Rio Macho**	**8.25**	**115**		**Pn**	**03 28 50.0**	**+1.0**
DRK0	**Durika**	**9.02**	**116**	Pn	**Pn**	**03 29 00.9**	**+1.4**
MTDJ	**Mount Denham**	**14.25**	**68**	Pn	**Pn**	**03 30 12.7**	**+1.6**
HNDO	**Hondo**	**17.66**	**337**		**Pn**	**03 30 55.0**	**-0.1**
HNDO				IAmb	IAmb	03 31 19.8	
	comp=Z,7.0nm,0.5s						
PULU	**Pululahua**	**18.44**	**135**	P	**Pn**	**03 31 06.2**	**+1.0**
IMBA	**Imbabura, San**	**18.47**	**134**	P	**P**	**03 31 06.2**	**+0.6**
HPIG		**18.96**	**318**	P	**P**	**03 31 10.4**	**-0.2**
HPIG				IAmb	IAmb	03 31 27.5	
	comp=Z,8.6nm,1.3s						
SLOR	**San Lorenzo -**	**18.99**	**136**	P	**P**	**03 31 11.2**	**-0.1**
BRDY	**Brady**	**19.15**	**340**	P	**P**	**03 31 11.9**	**-0.6**
BRDY				IAmb	IAmb	03 31 33.8	
	comp=Z,3.7nm,1.0s						
SAND	**Sanderson**	**19.25**	**331**	P	**P**	**03 31 14.1**	**+0.5**
SAND				IAmb	IAmb	03 31 26.2	
	comp=Z,4.9nm,0.9s						
CHSH	**Refugio Sur-Vo**	**19.32**	**139**	P	**P**	**03 31 15.9**	**+0.9**
CHSH				IAmb	IAmb	03 31 28.2	
	comp=Z,12nm,1.4s						
TX31	**Lajitas Ar. Si**	**19.53**	**326**	P	**P**	**03 31 17.3**	**+0.6**
TXAR	**Lajitas Array**	**19.53**	**326**	P	**P**	**03 31 17.3**	**+0.7**
TXAR	**Lajitas Array**	**19.53**	**326**	P	**Pn**	**03 31 18.7**	**+0.7**
	baz=150,slow=8.6,SNR=16						
	comp=Z,2.0nm,0.9s						
OZNA	**Ozona**	**19.63**	**335**	P	**Pn**	**03 31 19.2**	**+0.1**
OZNA				IAmb	IAmb	03 31 21.4	
	comp=Z,5.1nm,0.8s						
COHC	**Cochancay**	**19.84**	**142**	P	**P**	**03 31 21.1**	**+1.0**
PLPT	**Palo Pinto**	**20.36**	**343**	P	**P**	**03 31 25.8**	**+0.2**
PLPT				IAmb	IAmb	03 31 27.8	
	comp=Z,9.4nm,0.8s						
SGCY	**Sterling City**	**20.50**	**336**	P	**P**	**03 31 27.2**	**0.0**
SGCY				IAmb	IAmb	03 31 29.6	
	comp=Z,13nm,0.7s						
MNHN	**Monahans**	**20.71**	**332**	P	**P**	**03 31 30.1**	**+0.6**
MNHN				IAmb	IAmb	03 31 33.1	
	comp=Z,17nm,0.8s						
BOSC	**San Juan Bosco**	**20.84**	**141**	P	**P**	**03 31 31.7**	**+0.6**
SDV	**Santo Domingo**	**20.91**	**100**	P	**P**	**03 31 31.7**	**-0.2**
	comp=Z,1.3nm,0.2s,baz=354,slow=19,SNR=2.2						
	comp=Z,1.3nm,0.2s						
MCRA	**Macar, Loja**	**20.98**	**146**	P	**P**	**03 31 31.9**	**-0.7**
PECS	**Pecos**	**21.26**	**330**	P	**P**	**03 31 36.7**	**+1.2**
PECS				IAmb	IAmb	03 31 39.3	
	comp=Z,15nm,1.0s						
WHAR	**Wooly Hollow**	**21.86**	**358**	P	**P**	**03 31 42.5**	**+0.8**
WHAR				IAmb	IAmb	03 31 59.0	
	comp=Z,8.2nm,1.1s						
FCAR	**Ozark Folk Cen**	**22.45**	**359**	P	**P**	**03 31 47.1**	**-1.0**
FCAR				IAmb	IAmb	03 31 48.9	
	comp=Z,4.4nm,0.8s						
CPCT	**Cooper Cave**	**22.88**	**15**	P	**P**	**03 31 52.8**	**+0.2**
CPCT				IAmb	IAmb	03 32 09.6	
	comp=Z,9.6nm,1.3s						
TKL	**Tuckaleechee C**	**23.27**	**16**	P	**P**	**03 31 56.6**	**0.0**
TKL				IAmb	IAmb	03 32 11.6	
	comp=Z,9.1nm,1.0s						
TKL	**Tuckaleechee C**	**23.27**	**16**	P	**P**	**03 31 55.8**	**-0.8**
	comp=Z,4.2nm,0.7s,baz=177,slow=12,SNR=6.2						
TKL				LR	LR	03 41 49.4	
	comp=Z,95nm,18.5s,baz=168,slow=39						
	comp=Z,4.2nm,0.7s						
AMTX	**Amarillo**	**23.35**	**338**	P	**P**	**03 31 57.5**	**-0.1**
AMTX				IAmb	IAmb	03 31 59.0	
	comp=Z,8.5nm,0.8s						
U49A	**Red Boiling Sp**	**23.62**	**11**	P	**P**	**03 31 59.5**	**-0.6**
U49A				IAmb	IAmb	03 32 00.3	
	comp=Z,6.4nm,0.8s						
MGMO	**Mountain Grove**	**23.72**	**358**	P	**P**	**03 32 00.9**	**-0.2**
MGMO				IAmb	IAmb	03 32 01.8	
	comp=Z,9.0nm,1.0s						
TZTN	**Tazewell**	**24.16**	**16**	P	**P**	**03 32 04.9**	**-0.4**
V55A	**Taylorsville**	**24.23**	**21**	P	**P**	**03 32 04.9**	**-1.0**
V55A				IAmb	IAmb	03 32 16.7	
	comp=Z,7.9nm,1.0s						
S39A	**Bolivar**	**24.30**	**356**	P	**P**	**03 32 05.4**	**-1.1**
S39A				IAmb	IAmb	03 32 07.7	
	comp=Z,6.5nm,0.8s						
CCM	**Cathedral Cave**	**24.61**	**0**	P	**P**	**03 32 08.0**	**-1.3**
SADO	**Sadowa**	**33.03**	**16**	LR	LR	03 47 52.4	
	comp=Z,112nm,18.1s,baz=270,slow=38						
PDAR	**Pinedale Array**	**33.23**	**335**	P	**P**	**03 33 26.1**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=108,slow=8.0,SNR=3.8						
	comp=Z,0.2nm,0.6s						
ETMB	**Extrema**	**34.02**	**131**	P	**P**	**03 33 33.3**	**0.0**
ETMB				IAmb	IAmb	03 33 50.6	
	comp=Z,4.6nm,1.1s						
NVAR	**Mina Array Bea**	**34.51**	**321**	P	**P**	**03 33 39.2**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=134,slow=8.9,SNR=9.6						
	comp=Z,1.0nm,0.7s						
YBH	**Yreka Blue Hor**	**39.20**	**322**	LR	LR	03 50 54.9	
	comp=Z,50nm,18.8s,baz=184,slow=37						
SCHQ	**Schefferville**	**45.65**	**20**	LR	LR	03 57 45.8	
	comp=Z,51nm,18.5s,baz=292,slow=41						
YKA	**Yellowknife Ar**	**51.78**	**347**	P	**P**	**03 35 55.9**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=152,slow=7.0,SNR=12						
YKA				PcP	**PcP**	**03 37 09.8**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=151,slow=3.8,SNR=6.3						
	comp=Z,0.8nm,0.8s						
ILAR	**Eielson Array**	**63.64**	**337**	P	**P**	**03 37 19.4**	**-0.4**
	comp=Z,2.2nm,1.0s,baz=126,slow=4.2,SNR=16						
	comp=Z,2.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**146.77**	**342**	PKPbc	**PKPbc**	**03 46 32.1**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=344,slow=4.6,SNR=12						

CATAC 30 03:31:17.3±0.6, 9°.11N×84°.48W, h8km, ML2.4, Costa Rica

| Code | Station Name | Δ

CPMI				IAML			03 33 15.5	
	comp=Z,360nm,1.0s							
VTLO	**VTLO**	**1.18**	**41**	*eP*	**Pg**	**03 32 58.2**	**-0.6**	
POPE	**POPE, Guanacas**	**1.18**	**321**	*i* P	**Pb**	**03 32 56.4**	**-2.1**	
POPE				*i* S	**Sg**	**03 33 14.7**	**+0.6**	
POPE				IAML		03 33 21.0		
	comp=Z,190nm,1.0s							
RVSTA	**Santa Teresita**	**1.18**	**46**	*eP*	**Pb**	**03 32 58.2**	**-0.4**	
MONTE	**Monteverde**	**1.20**	**346**	*eP*	**Pb**	**03 32 57.4**	**-1.5**	
EDBA	**Buenos Aires**	**1.22**	**89**	*eP*	**Pb**	**03 32 57.8**	**-1.4**	
INDI	**Punta indio, G**	**1.22**	**306**	*i* P	**Pn**	**03 32 57.0**	**-2.1**	
INDI				IAML		03 33 27.4		
	comp=Z,94nm,1.0s							
JTS	**Las Juntas de**	**1.22**	**339**	*eP*	**Pn**	**03 32 57.3**	**-1.9**	
SOCE	**Pocosol**	**1.24**	**355**	*eP*	**Pn**	**03 32 59.1**	**-0.4**	
SOCE	**Pocosol**	**1.24**	**355**	*i* P	**Pn**	**03 32 58.7**	**-0.8**	
SOCE				IAML		03 32 59.5		
	comp=Z,760nm,1.0s							
SOCE				*i* S	**Sn**	**03 33 17.6**	**+1.3**	
DRK0	**Durika**	**1.25**	**84**	*eP*	**Pn**	**03 32 58.8**	**-1.0**	
RIFO	**Rio Frio, Sara**	**1.30**	**26**	*eP*	**Pn**	**03 33 00.3**	**0.0**	
RIFO	**Rio Frio, Sara**	**1.30**	**26**	*i* P	**Pn**	**03 33 00.0**	**-0.3**	
RIFO				*i* S	**Sg**	**03 33 19.0**	**+1.1**	
RIFO				IAML		03 33 20.9		
	comp=Z,630nm,1.0s							
CASO	**Castillo**	**1.30**	**350**	*eP*	**Pn**	**03 32 59.5**	**-0.9**	
EDP2	**Potrero Grande**	**1.32**	**95**	*eP*	**Pn**	**03 33 00.5**	**-0.1**	
LCOCO	**El Coco**	**1.32**	**45**	*eP*	**Pn**	**03 32 60.0**	**-0.6**	
FORC	**Fortuna**	**1.33**	**353‖**	*eP*	**Pn**	**03 33 00.2**	**-0.5**	
ARE1	**Arenal 1**	**1.33**	**351**	*eP*	**Pn**	**03 33 00.1**	**-0.6**	
VACR	**Volcan Arenal**	**1.33**	**353**	*eP*	**Pn**	**03 33 00.4**	**-0.4**	
VACR	**Volcan Arenal**	**1.33**	**353**	*i* P	**Pn**	**03 33 00.6**	**-0.2**	
VACR				*i* S	**Sg**	**03 33 20.5**	**+1.5**	
VACR				IAML		03 33 23.3		
	comp=Z,460nm,1.0s							
CEDE	**Laguna Cedeo**	**1.35**	**352**	*eP*	**Pn**	**03 33 01.2**	**+0.1**	
PIRO	**Carate, Puerto**	**1.37**	**122**	*eP*	**Pg**	**03 33 03.0**	**+0.7**	
TABAC	**Tabacon**	**1.37**	**349**	*eP*	**Pn**	**03 33 00.6**	**-0.8**	
POTG	**Potrero Grande**	**1.37**	**94**	*eP*	**Pn**	**03 33 01.0**	**-0.3**	
POTG	**Potrero Grande**	**1.37**	**94**	*i* P	**Pn**	**03 33 00.9**	**-0.4**	
POTG				IAML		03 33 06.9		
	comp=Z,640nm,1.0s							
EDAD	**Golfito**	**1.41**	**110**	*eP*	**Pb**	**03 33 02.5**	**0.0**	
PLVR	**Palo Verde**	**1.46**	**325**	*eP*	**Pn**	**03 33 02.9**	**+0.3**	
ORTG	**Ortega, Santa**	**1.53**	**322**	*i* P	**Pb**	**03 33 04.7**	**+0.1**	
ORTG				*i* S	**Sg**	**03 33 26.0**	**+0.6**	
ORTG				IAML		03 33 36.1		
	comp=Z,66nm,1.0s							
ACAL	**Aguas Claras**	**1.57**	**341⇑**	*i* P	**Pn**	**03 33 03.3**	**-0.8**	
COVE	**Coope Vega, Sa**	**1.57**	**4**	*eP*	**Pn**	**03 33 03.5**	**-0.5**	
COVE	**Coope Vega, Sa**	**1.57**	**4**	*i* P	**Pn**	**03 33 03.6**	**-0.5**	
COVE				IAML		03 33 50.6		
	comp=Z,160nm,1.0s							
TRT2	**Tortugero**	**1.60**	**28**	*i* P	**Pn**	**03 33 04.1**	**-0.3**	
TRT2				IAML		03 33 43.0		
	comp=Z,180nm,1.0s							
CUI	**Cuipilapa**	**1.64**	**337⇑**	*i* P	**Pn**	**03 33 04.3**	**-0.7**	
CUI				*e*S	**Sb**	**03 33 27.8**	**+0.6**	
CDITO	**Canoas**	**1.71**	**109**	*i* P	**Pn**	**03 33 06.0**	**+0.1**	
CDITO				IAML		03 33 49.9		
	comp=Z,180nm,1.0s							
MESS	**Mesas**	**1.73**	**337**	*eP*	**Pn**	**03 33 05.0**	**-1.2**	
CTCR	**Cotoan**	**1.74**	**98**	*i* P	**Pg**	**03 33 09.2**	**-0.3**	
VMAR	**Armenia, Volca**	**1.76**	**340**	*i* P	**Pn**	**03 33 06.8**	**+0.1**	
VMAR				IAML		03 33 51.5		
	comp=Z,220nm,1.0s							
CANAL	**Canalete**	**1.77**	**342**	*eP*	**Pn**	**03 33 06.9**	**+0.2**	
VRLE	**La Escondida,**	**1.84**	**333**	*i* P	**Pn**	**03 33 08.1**	**+0.3**	
VRLE				IAML		03 33 15.5		
	comp=Z,68nm,1.0s							
LAPC	**Finca la Perla**	**1.85**	**331**	*eP*	**Pn**	**03 33 08.5**	**+0.6**	
HZTE	**Horizontes, Gu**	**1.90**	**326**	*i* P	**Pn**	**03 33 08.9**	**+0.4**	
HZTE				IAML		03 33 27.9		
	comp=Z,120nm,1.0s							

NOU 30 03:51:10.5,18°19S×168°12E,h33km,MLv3.9/13,
Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.47**	**8**	P	Pn	03 51 22.5	+1.6
LIFNC	**LIFOU**	**2.70**	**198**	P	Pn	03 51 50.5	-1.2
MARNC	**Mare, Loyalty**	**3.27**	**181**	P	Pn	03 51 59.2	-0.3
YATNC	**Mamie plateau,**	**4.02**	**196**	P	Pn	03 52 09.8	0.0
DZM	**Mont Dzumac**	**4.17**	**202**	P	Pn	03 52 12.1	+0.2
NOUC	**Port Laguerre**	**4.25**	**203**	P	Pn	03 52 13.4	+0.5
KOUNC	**Koumac, New Ca**	**4.31**	**236**	P	Pn	03 52 13.3	-0.5
OUENC	**Ouen Island, N**	**4.37**	**196**	P	Pn	03 52 16.1	+1.4
ONTNC	**Ouen Toro**	**4.38**	**201**	P	Pn	03 52 15.6	+0.8

*IDC **30** 04:06:15.0±5.0,15°.83N×93°.77W,h71km±27km,mb3.3/3,*
mbtmp3.6/4,MS3.5/1,Error ellipse: s-maj=51.3km
s-min=15.7km az=4.0
*MEX **30** 04:06:15.4±1.1,15°.75N×93°.96W,h82km±16km,MD4.2*
*CATAC **30** 04:06:19.1±1.1,15°.84N×93°.65W,h19km±22km,ML4.1*
ISC 30 04:06:14.7±0.9,15.78N±0.05×93.96W±0.04,h70km±12km,
n53,σ2°08/73,mb3.5/3,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**0.47**	**6**	*i* P	Pn	04 06 28.6	+1.4
CARR				*e*S	Sn	04 06 39.2	+2.8
PCIG		**0.72**	**96**	*i* P	**Pn**	**04 06 29.6**	**-0.1**
PCIG				*i* S	**Sn**	**04 06 41.3**	**+0.4**
NILT	**Santiago Nilte**	**1.01**	**321**	*i* P	Pn	04 06 34.5	+1.2
NILT				*e*S	**Sn**	**04 06 49.5**	**+2.5**
TGIG		**1.28**	**39**	*i* P	**Pn**	**04 06 37.1**	**+0.3**
TGIG				*i* S	**Sn**	**04 06 53.2**	**-0.2**
UXUV	**UXUV**	**1.54**	**353**	*i* P	Pn	04 06 41.9	+1.7
UXUV				*e*S	**Sn**	**04 06 59.7**	**+0.2**
CMIG	**Matias Romero**	**1.58**	**326**	P	**Pn**	**04 06 41.3**	**+0.6**
	60nm,0.4s,baz=150,slow=9.6,SNR=108						
CMIG				S	**Sn**	**04 07 02.3**	**+1.9**
	177nm,0.5s,baz=147,slow=14,SNR=16						
CMIG				LR	LR	04 07 33.5	
	comp=Z,54nm,20.6s,baz=162,slow=48						
CMIG	**Matias Romero**	**1.58**	**326**	*i* P	Pn	04 06 41.6	+0.9
CMIG				*i* S	**Sn**	**04 06 59.8**	**-0.6**
PATR	**El Naranjo**	**1.79**	**111**	*i* P	**Pn**	**04 06 43.3**	**-0.4**
PATR				*i* S	**Sn**	**04 07 04.3**	**-1.4**
PAVE	**Pavencul**	**1.81**	**108**	*i* P	**Pn**	**04 06 44.0**	**-0.1**
PAVE				*i* S	**Sn**	**04 07 06.2**	**-0.2**
CCIG	**Comitan**	**1.82**	**74**	*eP*	**Pn**	**04 06 44.3**	**+0.1**
CCIG				*e*S	**Sn**	**04 07 04.8**	**-1.6**
CCIG	**Comitan**	**1.82**	**74**	*i* P	**Pn**	**04 06 45.3**	**+1.2**
CCIG				*i* S	**Sn**	**04 07 04.8**	**-1.6**
CCIG				IAML		04 07 11.7	
	comp=Z,760nm,1.0s						
THIG		**1.85**	**118**	*eP*	**Pn**	**04 06 44.9**	**+0.5**
THIG				*e*S	**Sn**	**04 07 05.8**	**-1.0**
CHUJ	**Union Juarez**	**1.91**	**111**	*i* P	**Pn**	**04 06 44.8**	**-0.5**
CHUJ				*i* S	**Sn**	**04 07 08.0**	**-0.7**
SMCA	**Catarina**	**2.04**	**116**	*i* P	**Pn**	**04 06 47.7**	**+0.9**
SMCA				*i* S	**Sn**	**04 07 12.2**	**+0.9**
SMCA				IAML		04 07 15.5	
	comp=Z,1μm,1.0s						
HUIG	**Huatulco**	**2.07**	**270**	*i* P	**Pn**	**04 06 46.5**	**-0.8**
HUIG				*e*S	**Sn**	**04 07 09.6**	**-2.5**
SMSP	**San Marcos**	**2.25**	**111**	*i* P	Pn	04 06 53.1	+3.1
SMSP				*i* S	**Sn**	**04 07 17.4**	**+0.5**
SMSP				IAML		04 07 25.3	
	comp=Z,2μm,1.0s						
RTAL	**Retalhuleu**	**2.52**	**119**	*i* P	Pn	04 06 55.8	+2.5
RTAL				IAML		04 07 27.1	
	comp=Z,890nm,1.0s						
NEUV	**Arroyo Zacate**	**2.61**	**318**	*eP*	**Pn**	**04 06 55.6**	**+1.0**
NEUV				*e*S	**Sn**	**04 07 27.0**	**+1.7**
QUIS	**Sacapulas**	**2.81**	**100**	*i* P	Pn	04 06 59.1	+1.7
QUIS				IAML		04 07 51.5	
	comp=Z,510nm,1.0s						
VHO	**Vista Hermosa**	**2.96**	**296**	*eP*	Pn	04 07 01.0	+1.5
VHO				*e*S	**Sn**	**04 07 34.6**	**+0.7**
PMUV	**Sontecomapan**	**2.97**	**338**	*eP*	**Pn**	**04 06 58.8**	**-0.8**
PMUV				*e*S	**Sn**	**04 07 32.6**	**-1.5**
PEIG	**Puerto Escondi**	**3.08**	**275**	*eP*	**Pn**	**04 07 00.2**	**-0.8**
PEIG				*e*S	**Sn**	**04 07 33.8**	**-2.8**
YOIG	**Yosondua**	**3.61**	**288**	*eP*	Pn	04 07 10.1	+1.7
YOIG				*e*S	**Sn**	**04 07 49.9**	**-0.1**
TOIG	**Toxpalan**	**3.76**	**308**	*eP*	Pn	04 07 12.5	+2.1
TOIG				*e*S	**Sn**	**04 07 57.3**	**+3.7**

TXIG	**Tlaxiaco**	**3.94**	**292**	*eP*	Pn	04 07 15.2	+2.3	
TXIG				*e*S	**Sn**	**04 07 59.7**	**+1.6**	
PNIG	**Pinotepa**	**4.05**	**279**	*eP*	**Pn**	**04 07 14.3**	**0.0**	
PNIG				*e*S	**Sn**	**04 07 57.0**	**-3.6**	
PETF	**Flores**	**4.09**	**73**	*i* P	**Pn**	**04 07 14.6**	**-0.2**	
PETF				*i* S	**Sn**	**04 07 58.1**	**-3.3**	
PETF	**Flores**	**4.09**	**73**	*i* P	**Pn**	**04 07 15.1**	**+0.3**	
PETF				*i* S	**Sn**	**04 08 01.5**	**+0.1**	
PETF				IAML		04 08 01.9		
	comp=Z,290nm,1.0s							
SCIG	**Sabancuy**	**4.13**	**39**	*eP*	**Pn**	**04 07 15.0**	**-0.3**	
SCIG				*e*S	**Sn**	**04 07 59.5**	**-2.9**	
TPIG	**Tehuac#an**	**4.18**	**309**	*eP*	Pn	04 07 17.9	+1.7	
TPIG				*e*S	**Sn**	**04 08 05.1**	**+1.1**	
HLIG	**Huajuapan de L**	**4.21**	**300**	*eP*	Pn	04 07 17.9	+1.3	
HLIG				*e*S	**Sn**	**04 08 00.3**	**-4.4**	
NUBE	**Las Nubes**	**4.45**	**114**	*i* P	Pn	04 07 22.9	+3.0	
NUBE				*i* S	**Sn**	**04 08 11.5**	**+1.0**	
NUBE				IAML		04 08 13.5		
	comp=Z,100nm,1.0s							
JAUV	**Jalcomulco**	**4.48**	**323**	*eP*	**Pn**	**04 07 20.1**	**-0.1**	
JAUV				*e*S	**Sn**	**04 08 10.1**	**-1.0**	
FTIG	**Fresnillo de T**	**4.52**	**299**	*eP*	Pn	04 07 23.3	+2.5	
FTIG				*e*S	**Sn**	**04 08 10.6**	**-1.6**	
LVIG	**Laguna Verde**	**4.57**	**330**	*eP*	**Pn**	**04 07 19.8**	**-1.6**	
LVIG				*e*S	**Sn**	**04 08 08.7**	**-4.5**	
MGIG	**Malinaltepec**	**4.71**	**289**	*eP*	Pn	04 07 25.6	+2.2	
MGIG				*e*S	**Sn**	**04 08 16.2**	**-0.7**	
TLIG	**Tlapa**	**4.76**	**293**	*eP*	Pn	04 07 27.2	+3.2	
TLIG				*e*P		04 07 27.3		
TLIG				*e*S	**Sn**	**04 08 17.9**	**-0.1**	
TLIG				*e*S		04 08 18.2		
CRIG	**Cruz Grande**	**5.06**	**282**	*eP*	**Pn**	**04 07 28.3**	**+0.3**	
CRIG				*e*S	**Sn**	**04 08 21.3**	**-3.9**	
LLGN	**La Laguna**	**5.11**	**108**	*i* P	Pn	04 07 37.4	+8.6	
DAIG	**Los Arroyos**	**5.60**	**284**	*eP*	**Pn**	**04 07 33.8**	**-1.7**	
DAIG				*e*S	**Sn**	**04 08 31.5**	**-7.0**	
MEIG	**Mezcala**	**5.83**	**292**	*eP*	Pn	04 07 33.8	-4.8	
MEIG				*e*S	**Sn**	**04 08 43.5**	**-0.6**	
NISHN	**Nisperales Com**	**5.85**	**89**	*i* P	Pn	04 07 41.4	+2.5	
CAIG	**El Cayaco**	**6.18**	**283**	*eP*	**Pn**	**04 07 41.6**	**-1.8**	
CAIG				*e*S	**Sn**	**04 08 47.2**	**-5.5**	
ARIG	**Puente Sto Nin**	**6.60**	**293**	*eP*	**Pn**	**04 07 50.0**	**+0.8**	
ARIG				*e*S	**Sn**	**04 09 03.2**	**+0.3**	
TEIG	**Tepich**	**6.99**	**50**	P	**Pn**	**04 07 53.1**	**-1.3**	
	comp=Z,182nm,0.3s,baz=225,slow=4.3,SNR=54							
TEIG				S	**Sn**	**04 09 08.8**	**-3.6**	
	comp=Z,377nm,0.4s,baz=55,slow=18,SNR=16							
TEIG				LR	LR	04 10 55.6		
	comp=Z,405nm,19.2s,baz=134,slow=41							
ZIIG	**Zihuatanejo**	**7.42**	**285**	*eP*	**Pn**	**04 08 00.7**	**+0.4**	
ZIIG				*e*S	**Sn**	**04 09 18.7**	**-4.3**	
MOIG	**Morelia**	**7.91**	**300**	*i* P		04 06 28.3		
CRUN	**El Crucero**	**8.34**	**116**	*i* P	Pn	04 08 15.7	+2.7	
MMIG	**Aquila**	**9.32**	**287**	*eP*	**Pn**	**04 08 27.2**	**+1.0**	
MMIG				*e*S	**Sn**	**04 10 12.4**	**+2.9**	
TXAR	**Lajitas Array**	**16.19**	**328**	P	**Pn**	**04 10 00.2**	**+2.3**	
	comp=Z,1.1nm,0.8s,baz=144,slow=12,SNR=9.8							
PDAR	**Pinedale Array**	**30.04**	**337**	P	**P**	**04 12 17.6**	**+0.3**	
	comp=Z,0.2nm,0.5s,baz=135,slow=12,SNR=2.2							
	comp=Z,0.2nm,0.5s							
NVAR	**Mina Array Bea**	**31.11**	**321**	P	**P**	**04 12 28.6**	**+1.8**	
	comp=Z,0.7nm,0.7s,baz=142,slow=8.9,SNR=7.7							
	comp=Z,0.7nm,0.7s							
YKA	**Yellowknife Ar**	**48.88**	**347**	P	**P**	**04 14 52.2**	**-0.9**	
	comp=Z,1.1nm,0.7s,baz=156,slow=7.0,SNR=26							
	comp=Z,1.1nm,0.7s							

*IDC **30** 04:13:18.7±0.8,28°.06N×101°.70E,h0km,mb3.7/11,*
mbtmp3.7/12,ML3.8/1,MS3.1/5,Error ellipse:
s-maj=29.1km s-min=15.9km az=67.0
ISC 30 04:13:20.2±0.8,28°.1N±0°.1×101°.7E±0°.2,h10km,n15,
σ0°63/11,mb3.9/10,MS3.1/4,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.95**	**195**	Pn	**Pn**	**04 15 43.7**	**+0.4**
	0.2nm,0.3s,baz=2.9,slow=13,SNR=4.2						
CMAR				Pg		04 16 20.8	
	0.4nm,0.3s,baz=7.1,slow=18,SNR=16						
CMAR				Lg	Lg	04 18 25.3	
	baz=231,slow=12						
CMAR				LR	LR	04 19 55.4	
	comp=Z,73nm,20.1s,baz=10.0,slow=40						
	0.4nm,0.3s						
SONM	**Songino Array**	**20.02**	**9**	P	Pn	04 17 55.4	+0.4
	0.8nm,0.8s,baz=191,slow=12,SNR=5.2						
	0.8nm,0.8s						
KSRS	**Korea Array**	**23.85**	**60**	P	**P**	**04 18 34.5**	**+0.9**
	2.5nm,0.6s,baz=249,slow=11,SNR=9.5						
KSRS				LR	LR	04 27 54.2	
	comp=Z,21nm,20.3s,baz=245,slow=37						
	2.5nm,0.6s						
MKAR	**Makanchi Array**	**24.09**	**326**	P	**P**	**04 18 36.9**	**+1.0**
	2.5nm,0.7s,baz=133,slow=10,SNR=24						
	2.5nm,0.7s						
JNU	**Nakatsue**	**25.54**	**71**	LR	LR	04 28 33.2	
	comp=Z,46nm,19.1s,baz=266,slow=36						
KURBB	**Kurchatov Arra**	**28.53**	**328**	P	**P**	**04 19 16.0**	**+0.1**
	1.0nm,0.2s,baz=138,slow=9.8,SNR=4.9						
	1.0nm,0.2s						
ZALV	**Zalesovo Beam**	**28.64**	**339**	P	**P**	**04 19 17.3**	**+0.6**
	0.5nm,0.5s,baz=150,slow=12,SNR=2.0						
	0.5nm,0.5s						
MJAR	**Matsushiro Arr**	**31.80**	**65**	LR	LR	04 33 27.0	
	comp=Z,40nm,18.8s,baz=39,slow=38						
BVAR	**Borovoye Array**	**33.97**	**326**	P	**P**	**04 20 03.2**	**-0.6**
	0.3nm,0.5s,baz=128,slow=9.3,SNR=2.3						
	0.3nm,0.5s						
WRA	**Warrnunga Arr**	**57.24**	**143**	P	**P**	**04 23 07.4**	**-0.6**
	1.6nm,0.6s,baz=331,slow=7.9,SNR=18						
	1.6nm,0.6s						
EIL	**Elat**	**57.72**	**289**	LR	LR	04 52 57.5	
	comp=Z,22nm,18.3s,baz=240,slow=41						
FINES	**FINESS Array B**	**58.92**	**327**	P	**P**	**04 23 19.1**	**-0.1**
	3.0nm,0.9s,baz=101,slow=2.8,SNR=3.0						
	3.0nm,0.9s						
ASAR	**Alice Springs**	**60.11**	**146**	P	**P**	**04 23 27.7**	**-0.2**
	0.3nm,0.4s,baz=328,slow=6.8,SNR=8.7						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**73.41**	**25**	P	**P**	**04 24 52.0**	**-0.3**
	0.3nm,0.8s,baz=289,slow=5.5,SNR=2.1						
	0.3nm,0.8s						
YKA	**Yellowknife Ar**	**85.14**	**16**	P	**P**	**04 25 55.9**	**-0.4**
	0.2nm,0.8s,baz=326,slow=4.6,SNR=1.4						
	0.2nm,0.8s						

*NEIC **30** 04:13:23.3±1.2,36°.72N±0°.03×99°.42W±0°.04,h5km±2km,*
Error ellipse: s-maj=5.8km s-min=3.7km az=297.0
*TUL **30** 04:13:24.2±1.6,36°.72N±0°.04×99°.39W±0°.05,h6km±6km,*
ML3.2,mb_Lg2.8/44(NEIC),ML3.1/12(NEIC),Error ellipse:
s-maj=6.1km s-min=5.6km az=187.0
*ANF **30** 04:13:24.0±0.5,36°.73N×99°.40W,h5km,ML3.6/11,Error*
ellipse: s-maj=6.5km s-min=5.0km az=69.0
ISC 30 04:13:23.7±1.2,36.76N±0°.02×99.39W±0°.02,h1km±10km,
n80,σ0°66/84,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.49**	**141**	Pg	**Pg**	**04 13 33.4**	**+0.2**
U32A				Sg	**Sg**	**04 13 39.8**	**+0.3**
U32A				IAML		04 13 40.3	
	comp=E,2μm,0.5s						
U32A				IAML		04 13 40.5	
	comp=N,1μm,0.2s						
U32A	**Winter Ranch,**	**0.49**	**141**	P	**Pg**	**04 13 33.3**	**+0.2**
	baz=318,SNR=90						
U32A				S	**Sg**	**04 13 40.0**	**+0.4**
	baz=318						
OK035	**E0210 Rd and N**	**0.55**	**96**		**Pg**	**04 13 34.7**	**+0.5**
OK035				Sg	**Sg**	**04 13 42.4**	**+1.2**
OK035				IAML		04 13 45.3	
	comp=N,1μm,0.3s						
ELIS	**Ellis County**	**0.70**	**182**		**Pg**	**04 13 36.9**	**-0.1**
ELIS				Sg	**Sg**	**04 13 45.9**	**-0.2**
ELIS				IAML		04 13 49.9	
	comp=N,704nm,0.3s						
OK032	**Salt Plains WL**	**0.95**	**87**	Pg	**Pg**	**04 13 42.1**	**+0.3**
OK032				IAML		04 13 58.2	
	comp=N,617nm,0.1s						
KAN10	**Anthony SW Sta**	**1.09**	**71**	Sg	**Sb**	**04 14 00.0**	**-0.2**
KAN14	**Manchester OK**	**1.16**	**80**		**Pb**	**04 13 46.1**	**-0.4**
CROK	**Carrier**	**1.16**	**103**		**Pb**	**04 13 45.7**	**-0.8**

GC02	**Grant County #**	**1.23**	**85**		**Pn**	**04 13 47.2**	**-0.7**	
KAN12	**Harper NE Stat**	**1.23**	**64**		**Pn**	**04 13 47.6**	**-0.4**	
KAN06	**Argonia West S**	**1.31**	**68**		**Pn**	**04 13 49.0**	**-0.2**	
KAN17	**Caldwell West**	**1.33**	**77**	Pg	**Pn**	**04 13 49.1**	**-0.2**	
KAN01	**Argonia South**	**1.36**	**73**		**Pn**	**04 13 49.6**	**-0.2**	
KAN09	**Caldwell North**	**1.47**	**75**		**Pb**	**04 13 51.5**	**-0.2**	
KAN13	**South Haven SW**	**1.55**	**80**		**Pb**	**04 13 52.8**	**-0.4**	
R32A	**Long Quarter,**	**1.74**	**18**		**Pb**	**04 13 56.3**	**-0.2**	
R32A	**Long Quarter,**	**1.74**	**18**	P	**Pb**	**04 13 56.7**	**+0.3**	
	baz=198,SNR=14							
R32A				S	**Sg**	**04 14 20.3**	**+0.7**	
	baz=198							
BLOK	**Blackwell**	**1.74**	**89**		**Pb**	**04 13 55.6**	**-0.9**	
SMWD	**Samnorwood**	**1.80**	**203**		**Pn**	**04 13 56.1**	**+0.3**	
OK048	**Pawnee Station**	**2.00**	**99**		**Pn**	**04 13 58.9**	**+0.4**	
CBKS	**Cedar Bluff**	**2.06**	**352**		**Pb**	**04 14 01.0**	**-1.0**	
CBKS	**Cedar Bluff**	**2.06**	**352**	P	**Pb**	**04 14 01.0**	**-1.0**	
	baz=172							
CBKS				S	**Sb**	**04 14 27.2**	**-1.0**	
	baz=172							
CBKS	**Cedar Bluff**	**2.06**	**352**	P	**Pb**	**04 14 01.8**	**-0.2**	
	baz=172,SNR=39							
CBKS				S	**Sg**	**04 14 30.0**	**-0.1**	
	baz=172							
OK051	**E0350 and S346**	**2.07**	**96**		**Pn**	**04 14 00.1**	**+0.6**	
OKCSW	**OKLAHOMA CITY**	**2.08**	**130**		**Pn**	**04 13 59.4**	**-0.3**	
OKCSW				IAmb_Lg		04 14 28.4		
	comp=Z,33nm,0.7s							
WMOK	**Wichita Mounta**	**2.08**	**166**		**Pn**	**04 13 59.9**	**+0.2**	
WMOK				IAmb_Lg		04 14 32.8		
	comp=Z,33nm,1.0s							
WMOK	**Wichita Mounta**	**2.08**	**166**	P	**Pn**	**04 13 59.4**	**-0.3**	
	baz=346							
WMOK				S	**Sn**	**04 14 25.8**	**-0.4**	
	baz=346							
WMOK	**Wichita Mounta**	**2.08**	**166**	P	**Pn**	**04 13 59.8**	**+0.2**	
	baz=346,SNR=7.7							
WMOK				S	**Sb**	**04 14 27.8**	**-0.7**	
	baz=346							
OK033	**Mehan**	**2.10**	**109**		**Pb**	**04 14 01.0**	**-1.6**	
T35A	**Sooner Cattle**	**2.31**	**85**		**Pn**	**04 14 03.3**	**+0.5**	
T35B	**Sooner Cattle**	**2.31**	**85**	P	**Pn**	**04 14 03.7**	**+0.8**	
	baz=266,SNR=61							
T35B				S	**Sb**	**04 14 36.2**	**+0.9**	
	baz=266							
DEOK	**Depew**	**2.51**	**111**	Pn	**Pn**	**04 14 05.8**	**+0.3**	
W35A	**Tecumseh**	**2.60**	**128**	Pn	**Pn**	**04 14 06.9**	**+0.1**	
AMTX	**Amarillo**	**2.65**	**225**	Pn	**Pn**	**04 14 07.7**	**+0.1**	
AMTX				IAmb_Lg		04 14 52.6		
	comp=Z,38nm,0.9s							
AMTX	**Amarillo**	**2.65**	**225**	P	**Pn**	**04 14 07.1**	**-0.4**	
	baz=45							
AMTX	**Amarillo**	**2.65**	**225**	Sb	**Sb**	**04 14 45.0**	**+0.1**	
	baz=45							
RTBA	**Rita Blanca**	**2.71**	**264**		**Pn**	**04 14 09.6**	**+1.1**	
TUL3	**Leonard**	**3.02**	**105**	Pn	**Pn**	**04 14 13.1**	**+0.4**	
TUL3	**Leonard**	**3.02**	**105**	P	**Pn**	**04 14 12.7**	**0.0**	
	baz=287							
TUL3				S	**Sn**	**04 14 49.8**	**+0.2**	
	baz=287							
TUL3	**Leonard**	**3.02**	**105**	P	**Pn**	**04 14 12.9**	**+0.3**	
	baz=287							
WTFS	**Witchita Falls**	**3.08**	**166**		**Pn**	**04 14 13.2**	**-0.3**	
KSU1	**Kansas State U**	**3.20**	**42**	IAmb_Lg		04 15 08.7		
	comp=Z,31nm,1.0s							
KSU1	**Kansas State U**	**3.20**	**42**	P	**Pn**	**04 14 15.7**	**+0.6**	
	baz=224							
KSU1				S	**Sn**	**04 14 54.8**	**+0.8**	
	baz=224							
LOOK	**Love County**	**3.30**	**146**		**Pn**	**04 14 15.6**	**-0.8**	
LOOK				IAmb_Lg		04 15 15.4		
	comp=Z,27nm,0.9s							
DKNS	**Dickens**	**3.34**	**203**	Pn

BJCM	**Johnson Can.**	**0.18**	**188**			Pg	04 15 15.1	+0.1
HBTM	**San Juan Bauti**	**0.20**	**310**			Pg	04 15 16.0	+0.5
BVL	**Bear Valley**	**0.20**	**136**			Pg	04 15 15.9	+0.5
OCR	**O'Connell Ranc**	**0.23**	**329**			Pg	04 15 16.1	+0.1
ANZ	**Anzar Road**	**0.24**	**312**			Pg	04 15 16.6	+0.2
HTUM	**Tustin Road**	**0.25**	**295**			Pg	04 15 16.6	+0.2
BPCNC	**Pine Canyon**	**0.26**	**235**			Pg	04 15 16.9	+0.4
HFEM	**San Felipe**	**0.26**	**353**			Pg	04 15 17.9	+1.2
BAVM	**Antelope Valle**	**0.28**	**106**			Pg	04 15 18.1	+1.1
BPIM	**Pinnacles**	**0.28**	**146**			Pg	04 15 17.1	+0.2
HERM	**Elkhorn Road**	**0.29**	**285**			Pg	04 15 17.7	+0.5
PACP	**Pacheco Peak**	**0.29**	**12**			Pb	04 15 18.4	-1.1
BBGB	**Big Mountain B**	**0.30**	**119**			Pb	04 15 18.8	-0.9
BBGB	**Big Mountain B**	**0.30**	**119**	IAML			04 15 25.0	
	comp=N,5µm,0.6s							
BBGB				IAML			04 15 27.7	
	comp=E,5µm,0.7s							
BBNM	**San Benito**	**0.31**	**132**			Pg	04 15 18.4	+0.8
BSGM	**Shirttail Gulc**	**0.32**	**164**			Pg	04 15 17.7	0.0
CDC	**Canada Road**	**0.32**	**342**			Pb	04 15 18.9	-1.1
HCBM	**Chamberlain**	**0.32**	**311**			Pg	04 15 18.1	+0.4
HCOM	**Corn Cob Canyo**	**0.32**	**301**			Pg	04 15 18.3	+0.5
BSMM	**Soledad Missio**	**0.34**	**189**			Pg	04 15 18.5	+0.4
HPCM	**Pacheco Lake**	**0.34**	**12**			Pb	04 15 19.4	-1.1
HPCM						Sb	04 15 25.4	-1.0
HAST	**Hastings Reser**	**0.36**	**205**			Pg	04 15 18.7	+0.1
HAST						Sg	04 15 23.9	+0.6
SLD	**San Luis Dam**	**0.37**	**18**			Pg	04 15 19.6	+0.9
GHS	**Gilroy Hot Spr**	**0.38**	**350**			Pg	04 15 20.0	+1.0
LRV	**Little Rabbit**	**0.41**	**137**			Pg	04 15 20.1	+0.6
JELB	**Ellicott, Sand**	**0.43**	**299**			Pg	04 15 20.1	+0.4
BPRM	**Ponciano Ridge**	**0.43**	**223**			Pg	04 15 20.0	+0.1
BCWM	**Chews Ridge**	**0.45**	**202**			Pg	04 15 20.4	+0.2
CADM	**Anderson Res.**	**0.49**	**335**			Pg	04 15 21.9	+0.9
JLAB	**Laurel Hill**	**0.53**	**325**			Pg	04 15 22.5	+0.8
BPOM	**Post Ranch**	**0.59**	**214**			Pg	04 15 22.9	-0.1
CCOB	**Coe Ranch Numb**	**0.59**	**335**			Pb	04 15 24.4	-0.3
CMPM	**Mikes Peak**	**0.64**	**3**			Pb	04 15 25.0	-0.4
ARN	**Arnold Ranch**	**0.64**	**348**			Pb	04 15 24.9	-0.7
PCCM	**Crazy Canyon**	**0.65**	**166**			Pg	04 15 24.3	+0.2
MHC	**Mount Hamilton**	**0.66**	**340**			Pb	04 15 25.1	-0.7
PMPB	**Monarch Peak**	**0.68**	**138**			Pg	04 15 24.8	+0.2
JJOM	**Saint Joseph's**	**0.69**	**315**			Pg	04 15 25.3	+0.5
SCCB	**Santa Clara Co**	**0.69**	**325**			Pb	04 15 25.8	-0.6
HULI	**Fort Hunter Li**	**0.71**	**172**			Pg	04 15 25.1	0.0
CMMM	**Mount Mocho**	**0.74**	**352**			Pb	04 15 26.7	-0.6
MTOS	**Mt Oso, Westle**	**0.78**	**2**			Pb	04 15 27.6	-0.3
CMLM	**Mount Lewis**	**0.79**	**343**			Pb	04 15 27.7	-0.4
PJUM	**Juniper Ridge**	**0.79**	**128**			Pg	04 15 27.4	+0.7
PSAM	**San Ardo**	**0.79**	**151**			Pg	04 15 26.6	-0.2
PPTM	**Peach Tree Val**	**0.80**	**140**			Pg	04 15 26.9	0.0
CALM	**Calaveras Res.**	**0.81**	**335**			Pb	04 15 28.0	-0.4
JSJM	**St Joseph**	**0.84**	**317**			Pb	04 15 28.5	-0.5
JBMM	**Black Mountain**	**0.87**	**314**			Pg	04 15 28.3	0.0
PDRM	**Domengine Ranc**	**0.89**	**115**			Pb	04 15 29.8	+0.1
PSMM	**Smith Mountain**	**0.90**	**136**			Pg	04 15 28.9	+0.1
JFP	**Foothills Park**	**0.92**	**314**			Pg	04 15 29.2	-0.1
JPSM		**0.92**	**301**			Pg	04 15 29.2	-0.1
PHSB	**Hesperia Broad**	**0.93**	**164**			Pg	04 15 29.1	-0.3
JSFB	**Stanford Teles**	**0.94**	**317**			Pg	04 15 29.8	+0.1
WENL	**Wente Vineyard**	**0.95**	**341**			Pb	04 15 30.6	-0.2
PHPM	**Hope Ranch**	**0.96**	**140**			Pg	04 15 29.6	-0.4
PWMM	**Westland Maint**	**0.97**	**107**			Pb	04 15 30.7	-0.4
JRSC	**Jasper Ridge**	**0.98**	**314**			Pg	04 15 29.9	-0.4
CVLM	**Vallecito**	**0.98**	**337**			Pb	04 15 31.0	-0.3
MYLM	**Yosemite Lake**	**1.00**	**48**			Pg	04 15 31.1	+0.2
CNIC	**Niles Canyon**	**1.01**	**332**			Pg	04 15 30.8	-0.1
PANM	**San Antonio Re**	**1.01**	**158**			Pg	04 15 30.6	-0.4
PVCM	**Vineyard Canyo**	**1.04**	**140**			Pg	04 15 31.2	-0.4
PPO	**Portuguese Can**	**1.04**	**145**			Pg	04 15 31.6	-0.1
PSTM	**Stockdale Moun**	**1.05**	**139**			Pg	04 15 31.1	-0.6
PHCM	**Hearst Castle**	**1.05**	**171**			Pg	04 15 31.3	-0.4
JCHM	**Cahill Ridge**	**1.13**	**315**			Pg	04 15 32.4	-1.0
PWKM	**Work Ranch**	**1.14**	**143**			Pg	04 15 32.6	-0.8
PHFM	**Heflinger Ranc**	**1.14**	**137**			Pg	04 15 32.7	-0.8
RAMR	**Ramage Ranch**	**1.15**	**160**			Pg	04 15 32.8	-0.9
CSLM	**San Leandro Hi**	**1.17**	**329**			Pg	04 15 33.2	-0.9
PHAM	**Harlan Ranch**	**1.18**	**138**			Pg	04 15 33.6	-0.6
SAC	**San Andreas**	**1.20**	**316**			Pg	04 15 33.4	-1.3
GHC	**Gold Hill**	**1.21**	**137**			Pg	04 15 34.3	-0.5
PKEM	**Kettleman Hill**	**1.21**	**123**			Pn	04 15 35.6	+0.1
PSRM	**Scobie Ranch**	**1.23**	**134**			Pg	04 15 34.3	-0.9
PKLM	**Kerr Lake**	**1.26**	**139**			Pg	04 15 34.4	-1.2
JMGM	**Milagra Ridge**	**1.27**	**316**			Pg	04 15 34.4	-1.6
TCAS	**Cass Winery, P**	**1.29**	**149**			Pg	04 15 34.8	-1.5
TCHL	**Shandon**	**1.29**	**143**			Pg	04 15 35.1	-1.2
PMRM	**Maxey Ranch**	**1.30**	**135**			Pg	04 15 35.3	-1.3
CVPM	**Vollmer Peak**	**1.35**	**330**			Pn	04 15 35.6	-1.8
FRI	**Friant**	**1.35**	**78**			Pn	04 15 36.7	-0.8
TRAM	**Private Proper**	**1.37**	**139**			Pn	04 15 36.9	-0.7
TSCN	**Private Proper**	**1.43**	**145**			Pn	04 15 37.7	-0.9
CPIM	**Pinole Ridge**	**1.44**	**332**			Pn	04 15 37.2	-1.4
EFD	**Emergency Oper**	**1.49**	**160**			Pn	04 15 38.5	-0.8
CMB	**Columbia Colle**	**1.52**	**30**	Pn	Pn	Pn	04 15 38.9	-1.0
NOLM	**Olema**	**1.74**	**320**			Pn	04 15 40.6	-2.1
NBRB	**Beebe Ranch Br**	**1.80**	**329**			Pn	04 15 42.0	-1.6
CARC	**Carrizo Plain**	**1.87**	**138**			Pn	04 15 43.1	-1.5
CRGC	**Crocker Grade**	**1.99**	**138**			Pn	04 15 44.8	-1.4
MDPB	**Devils Postpil**	**2.04**	**63**			Pn	04 15 48.0	+0.8
MDPB	**Devils Postpil**	**2.04**	**63**	IAML			04 16 21.3	
	comp=E,72nm,0.7s							
MRDM	**Red Cones**	**2.04**	**64**			Pn	04 15 48.0	+0.8
MINS	**Minaret Summit**	**2.06**	**62**			Pn	04 15 47.8	+0.3
MMSM	**Mammoth Summit**	**2.07**	**63**			Pn	04 15 45.7	-1.9
OMMB	**Old Mammoth Mi**	**2.09**	**64**			Pn	04 15 47.8	-0.1
OMMB				IAML			04 16 22.2	
	comp=E,43nm,0.9s							
OMMB				IAML			04 16 23.9	
	comp=N,45nm,1.0s							
MMLB	**Mammoth Lakes**	**2.12**	**63**			Pb	04 15 49.9	-1.0
MGPM	**Gravel Pit**	**2.16**	**65**			Pn	04 15 49.8	+1.0
MCSM	**Casa Diablo Ho**	**2.17**	**64**			Pb	04 15 50.7	-1.1
MCVM	**Convict Lake**	**2.20**	**66**			Pn	04 15 50.1	+0.7
AFDM	**Forest Hills D**	**2.24**	**8**			Pn	04 15 49.3	-0.5
WAKR	**Walker**	**2.35**	**40**			Pn	04 15 51.4	+0.1
WAKR				IAML			04 16 29.1	
	comp=E,35nm,0.7s							
WAKR				IAML			04 16 39.5	
	comp=N,27nm,1.5s							
BCW	**Bitter Crk WRg**	**2.38**	**138**			Pn	04 15 51.2	-0.4
BCW				IAML			04 16 45.3	
	comp=E,53nm,1.2s							
EMB	**Emerald Bay**	**2.46**	**24**	Pn	Pn	Pn	04 15 52.6	-0.3
EMB				IAML			04 16 28.9	
	comp=E,40nm,0.5s							
EMB				IAML			04 16 40.2	
	comp=N,42nm,0.9s							
ISA	**Isabella, Lake**	**2.56**	**113**			Pn	04 15 54.0	-0.2
ISA				IAML			04 16 29.8	
	comp=N,27nm,0.9s							
ISA				IAML			04 16 31.1	
	comp=E,18nm,0.7s							
LHV	**Little Huntoon**	**2.74**	**55**	Pn	Pn	Pn	04 15 56.6	+0.1
YERR	**Yerington**	**2.82**	**36**			Pn	04 15 57.5	-0.3
YERR				IAML			04 16 57.0	
	comp=N,23nm,0.7s							
ORV	**Oroville**	**2.83**	**358**	Pn	Pn	Pn	04 15 57.7	-0.1
RYN	**Ryan**	**2.95**	**49**	Pn	Pn	Pn	04 15 57.8	-1.8
RYN				IAML			04 16 50.0	
	comp=E,22nm,0.9s							
RYN				IAML			04 16 50.1	
	comp=N,19nm,1.0s							
CCAC	**Calif City Air**	**3.13**	**119**			Pn	04 16 01.2	-0.8
CCAC				IAML			04 17 02.9	
	comp=N,27nm,1.2s							
CCAC				IAML			04 17 15.8	
	comp=E,21nm,1.1s							
MZP	**Montezuma Peak**	**3.32**	**72**	Pn	Pn	Pn	04 16 05.2	+0.4
GMN	**Gold Mountain**	**3.33**	**79**	Pn	Pn	Pn	04 16 04.0	-0.9
GMN				IAML			04 17 02.6	
	comp=N,12nm,1.0s							
QSM	**Queen of Sheba**	**3.71**	**100**	Pn	Pn	Pn	04 16 09.5	-0.3
QSM				IAML			04 17 29.2	
	comp=N,9.0nm,3.8s							
TPNV	**Topopah Spring**	**4.11**	**85**	Pn	Pn	Pn	04 16 15.1	-0.4
TPNV				IAML			04 17 37.2	
	comp=N,11nm,1.8s							
TPNV				IAML			04 17 39.3	
	comp=N,12nm,2.0s							

*PNSN **30** 04:37:46.9,46°.17N×120°.54W,h14km,MD2.5, Fault plane solution: NP1:ϕ280.00000°,δ70.00000°,λ140.00000°.*
*NEIC **30** 04:37:47.0±1.2,46°.17N±0°.01×120°.53W±0°.04,h17km±4km, Error ellipse: s-maj=3.9km s-min=1.6km az=101.0*
SEA 30 04:37:46.9±1.3,46°.165N±0°.007×120°.54W±0°.04, h14km±6km,ML2.5/7,Error ellipse: s-maj=4.4km s-min=0.5km az=102.0,Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRW	**Toppenish Ridg**	**0.13**	**360**		Pg	04 37 50.6	+0.3
BLTW	**Bickleton**	**0.36**	**134**		Pg	04 37 54.3	+0.1
MXC	**Moxie City**	**0.45**	**23**		Pg	04 37 56.0	+0.2
MXC					Sb	04 38 02.6	-0.6
F07A	**Phinny Hill Vi**	**0.51**	**122**	Pg	Pg	04 37 56.6	-0.2
F07A				Sg	Sg	04 38 03.6	0.0
NAC	**Naches**	**0.60**	**341**		Pg	04 37 58.7	0.0
PAT2	**Paterson 2**	**0.61**	**117**		Pb	04 37 59.2	-0.2
E07A	**Sunnyside**	**0.62**	**50**	Pg	Pg	04 37 58.6	-0.4
E07A				Sg	Sg	04 38 07.5	+0.3
MDW	**Midway**	**0.70**	**50**		Pg	04 38 00.3	-0.2
MDW					Sb	04 38 10.5	0.0
HAWA	**Hanford**	**0.74**	**72**	Pg	Pg	04 38 00.4	-0.8
EBG	**Ellensburg**	**0.74**	**359**		Pg	04 38 01.2	-0.1
GBB	**Gable Butte**	**0.77**	**55**		Pg	04 38 01.8	-0.1
GBB					Sb	04 38 12.6	+0.1
BVW	**Beverly**	**0.79**	**35**		Pg	04 38 01.9	-0.4
GBL	**Gable Mountain**	**0.87**	**60**		Pg	04 38 03.6	0.0
G06A	**Carlson Farm,**	**0.93**	**184**	Pg	Pb	04 38 03.6	-1.3
VTHM	**Trough**	**0.98**	**181**		Pb	04 38 05.3	-0.5
SR41	**SR410 Landslid**	**1.00**	**317**		Pb	04 38 05.3	-0.7
TBM	**Table Mountain**	**1.00**	**358**		Pb	04 38 05.5	-0.6
LON	**Longmire**	**1.05**	**304**		Pb	04 38 06.9	-0.1
LON	**Longmire**	**1.05**	**304**		Pb	04 38 05.9	-1.1
FHE	**Frenchman Hill**	**1.07**	**42**		Pb	04 38 06.7	-0.4
RCS	**Mount Rainier-**	**1.08**	**311**		Pb	04 38 07.3	-0.4
FMW	**Mount Fremont**	**1.09**	**315**		Pb	04 38 07.5	-0.2
LTY	**Liberty**	**1.10**	**355**		Pb	04 38 06.2	-1.5
B202	**Windy Ridge, M**	**1.11**	**275**		Pb	04 38 07.5	-0.5
HOOD	**Mount Hood Mea**	**1.15**	**223**	Pn	Pb	04 38 07.1	-1.5
FL2	**Flat Top 2**	**1.26**	**272**		Pb	04 38 10.6	+0.2
F04A	**Amboy**	**1.33**	**261**	Pn	Pb	04 38 11.3	-0.3
G08A	**Pilot Rock**	**1.41**	**128**	Pn	Pn	04 38 10.6	-1.7
B941	**Kapowsin**	**1.42**	**306**		Pb	04 38 12.8	-0.3
D05A	**Enumclaw**	**1.43**	**316**	Pn	Pn	04 38 12.4	0.0
D08A	**Wollman Farm,**	**1.43**	**51**	Pn	Pn	04 38 11.3	-1.2
ETW	**Entiat**	**1.45**	**6**		Pn	04 38 12.4	-0.4
RATT	**Rattlesnake La**	**1.53**	**326**		Pn	04 38 14.2	+0.4
WTV	**Waterville**	**1.59**	**15**		Pn	04 38 14.6	0.0
E09A	**Wood Farm, Sta**	**1.70**	**77**	Pn	Pn	04 38 15.2	-0.9
WRW	**Wenatchee Ridg**	**1.71**	**352**		Pn	04 38 16.8	+0.4
C05A	**Tolt Reservoir**	**1.72**	**333**		Pb	04 38 17.4	-0.9
H04A	**Detroit Lake**	**1.88**	**219**	Pn	Pn	04 38 18.7	0.0
I05D	**Terrebonne, OR**	**1.91**	**197**	Pn	Pn	04 38 19.5	+0.4
NLW	**Nelson Butte**	**1.92**	**4**		Pn	04 38 18.0	-1.3
GNW	**Green Mountain**	**2.10**	**313**	Pn	Pn	04 38 21.4	-0.2
I07A	**Izee**	**2.21**	**160**	Pn	Pn	04 38 22.6	-0.6
C09A	**Chrisman Ranch**	**2.26**	**43**		Pn	04 38 24.1	+0.2
H04D	**Lebanon**	**2.26**	**224**	Pn	Pn	04 38 23.9	+0.1
F10A	**Beach Ranch, E**	**2.32**	**94**		Pn	04 38 24.6	-0.1
BUCK	**Buck Mountain**	**2.62**	**222**	Pn	Pn	04 38 29.2	+0.4
BMO	**Blue Mountains**	**2.63**	**119**	Pn	Pn	04 38 28.7	-0.3
MPOR	**Mary's Peak**	**2.69**	**233**		Pn	04 38 30.0	+0.1
I04A	**Tendick Farm,**	**2.72**	**210**	Pn	Pn	04 38 30.2	0.0
I03D	**Drain, OR**	**3.17**	**220**	Pn	Pn	04 38 35.8	-0.6
PLID	**Pearl Lake**	**3.36**	**107**	Pn	Pn	04 38 38.3	-1.0
MSO	**Missoula**	**4.61**	**79**	Pn	Pn	04 38 54.8	-1.4
LYMT	**Lyon Mountain**	**5.75**	**79**	Pn	Pn	04 39 12.5	+0.5
BOZ	**Bozeman (W)**	**6.25**	**92**	Pn	Pn	04 39 17.8	-1.1
YHL	**Hebgen Lake**	**6.71**	**98**	Pn	Pn	04 39 25.0	-0.2

*NEIC **30** 04:38:07.7±1.9,46°.15N±0°.01×120°.52W±0°.01,h17km±2km, Error ellipse: s-maj=1.9km s-min=1.0km az=200.0*
SEA 30 04:38:07.2±1.9,46°.15N±0°.01×120°.54W±0°.01,h20km±2km, ML2.7/3,ML2.8/40(NEIC),Error ellipse: s-maj=1.9km s-min=1.4km az=189.0,Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLTW	**Bickleton**	**0.35**	**133**		Pb	04 38 14.8	0.0
MXC	**Moxie City**	**0.46**	**22**		Pg	04 38 16.5	-0.1
MXC					Sb	04 38 23.5	+0.4
MXC	**Moxie City**	**0.46**	**22**	IAML		04 38 23.7	
	comp=E,707nm,0.6s						
MXC				IAML		04 38 24.1	
	comp=N,297nm,0.3s						
F07A	**Phinny Hill Vi**	**0.50**	**121**		Pg	04 38 17.7	+0.3
F07A					Sb	04 38 24.9	+0.7
F07A	**Phinny Hill Vi**	**0.50**	**121**	IAML		04 38 26.3	
	comp=N,751nm,0.4s						
F07A				IAML		04 38 29.1	
	comp=E,726nm,0.5s						
PAT2	**Paterson 2**	**0.61**	**116**		Pg	04 38 19.7	+0.3
PAT2					Sg	04 38 28.2	+0.7
E07A	**Sunnyside**	**0.62**	**49**		Sg	04 38 28.6	+0.6
E07A	**Sunnyside**	**0.62**	**49**	Pg	Pb	04 38 19.2	-0.2
E07A	**Sunnyside**	**0.62**	**49**	IAML		04 38 29.0	
	comp=N,337nm,0.6s						
E07A				IAML		04 38 37.1	
	comp=E,270nm,0.5s						
HAWA	**Hanford**	**0.74**	**71**		Sg	04 38 31.9	+0.3
HAWA	**Hanford**	**0.74**	**71**	Pg	Pb	04 38 21.4	0.0
HAWA	**Hanford**	**0.74**	**71**	IAML		04 38 35.9	
	comp=E,214nm,0.6s						
HAWA				IAML		04 38 39.2	
	comp=E,146nm,0.6s						
GBB	**Gable Butte**	**0.78**	**54**		Sg	04 38 33.2	+0.3
G06A	**Carlson Farm,**	**0.92**	**184**		Pn	04 38 25.0	-0.1
G06A				Sg	Sb	04 38 35.9	-0.5
G06A				IAML		04 38 38.5	
	comp=N,367nm,0.4s						
G06A				IAML		04 38 41.0	
	comp=E,466nm,0.2s						
LTY	**Liberty**	**1.11**	**355**	Pn	Pb	04 38 27.7	0.0
LTY				IAML		04 38 45.0	
	comp=E,152nm,0.5s						
LTY				IAML		04 38 45.6	
	comp=N,253nm,0.6s						
HOOD	**Mount Hood Mea**	**1.14**	**223**	Pn	Pn	04 38 27.8	-0.4
HOOD				IAML		04 38 48.7	
	comp=E,262nm,0.5s						
HOOD				IAML		04 38 49.3	
	comp=N,210nm,0.4s						
F04A	**Amboy**	**1.33**	**261**		Pn	04 38 29.9	-0.7
F04A				IAML		04 38 51.1	
	comp=N,150nm,0.5s						
F04A				IAML		04 38 51.9	
	comp=E,208nm,0.3s						
G08A	**Pilot Rock**	**1.41**	**127**	Pn	Pn	04 38 29.9	-1.9
D05A	**Enumclaw**	**1.44**	**317**		Pb	04 38 32.9	-0.3
D05A				Sg	Sg	04 38 53.4	-0.3
D05A				IAML		04 38 56.8	
	comp=E,104nm,0.4s						
D05A				IAML		04 38 57.2	
	comp=N,103nm,0.6s						
D08A	**Wollman Farm,**	**1.44**	**50**	Pn	Pn	04 38 31.1	-1.1
D08A				IAML		04 38 52.0	
	comp=N,122nm,0.4s						
D08A				IAML		04 38 52.1	
	comp=E,115nm,0.3s						
E09A	**Wood Farm, Sta**	**1.70**	**77**	Pn	Pn	04 38 36.5	+0.8
F04D	**Rainier, OR**	**1.72**	**269**	Pn	Pn	04 38 35.5	-0.5
I05D	**Terrebonne, OR**	**1.90**	**198**	Pn	Pb	04 38 40.2	-1.0
GNW	**Green Mountain**	**2.11**	**313**	Pn	Pn	04 38 42.3	+0.9
I07A	**Izee**	**2.20**	**160**	Pn	Pn	04 38 44.2	+1.5
I07A				IAML		04 39 18.9	
	comp=E,68nm,0.3s						
I07A				IAML		04 39 27.4	
	comp=N,61nm,0.8s						
H04D	**Lebanon**	**2.25**	**224**	Pn	Pn	04 38 44.8	+1.5
H04D				IAML		04 39 19.2	
	comp=N,87nm,0.6s						
F10A	**Beach Ranch, E**	**2.31**	**93**	Pn	Pn	04 38 45.5	+1.2
F10A				IAML		04 39 27.5	
	comp=N,84nm,0.3s						
B08A	**Colville Reser**	**2.35**	**20**	Pn	Pn	04 38 44.2	-0.6
PLID	**Pearl Lake**	**3.36**	**107**	Pn	Pn	04 38 59.6	+0.8

NNC 30 04:47:50.0±6.5,37°.62N×71°.56E,h0km,mb3.6,mpv3.3, 2C-1D,Error ellipse: s-maj=56.5km s-min=45.8km

az=132.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.79**	**19**	⇓P	Pn	04 49 04.1	+0.3
	1.1nm,0.5s						
AML				⇑S	Sn	04 50 00.8	+0.6
	2.6nm,0.6s						
KK31	**Karatay Array**	**5.53**	**352**	⇑P	Pn	04 49 15.0	+1.4
	2.5nm,0.3s,baz=166,slow=12,SNR=99						
KK31				S	Sn	04 50 19.5	+1.6
	3.2nm,0.3s,baz=171,slow=24,SNR=18						
AB31	**Akbulak array**	**14.35**	**328**	P	Pn	04 51 10.3	-3.9
	0.3nm,0.3s,baz=150,slow=11,SNR=22						

*ISN **30** 04:49:39.8±1.0,34°.70N×46°.29E,h14km±13km,ML3.1*
*TEH **30** 04:49:40.4,34°.66N×46°.27E,h8km±38km,ML2.9*
ISC 30 04:49:40.1±1.1,34°.69N±0°.04×46°.25E±0°.04,h9km±10km, n16,σ0°.84/20,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.11**	**86**	Pg	**Pg**	**04 49 43.6**	**+0.7**
IGHG	**Ghaleghazi**	**0.45**	**144**	Pg	**Pb**	**04 49 49.3**	**-1.1**
KGS1	**Ghasr-e-Shirin**	**0.57**	**251**	Pg	**Pb**	**04 49 51.8**	**-0.6**
ILIN	**Lien**	**0.63**	**69**	Pg	**Pb**	**04 49 52.5**	**-1.0**
KCHF	**Cheshme Sefid,**	**0.78**	**122**	Pg	**Pg**	**04 49 54.8**	**-0.3**
ILBA	**Ilam Banvizeh**	**1.07**	**182**	Pg	**Pg**	**04 49 59.9**	**-0.7**
IKOM	**Komasi**	**1.16**	**116**	Pg	**Pg**	**04 50 01.6**	**-0.9**
IBZA	**Bozab**	**1.35**	**99**	Pg	**Pb**	**04 50 05.7**	**0.0**
IALM	**Almabolaq**	**1.59**	**83**	Pg	**Pg**	**04 50 10.2**	**-0.4**
IBDR	**Badra**	**1.60**	**190**	*e*Pn	**Pb**	**04 50 10.0**	**+0.1**
IBDR				*e*Sn	**Sg**	**04 50 31.0**	**-0.6**
IBDR				AML	AML	04 50 36.8	
	comp=E,153nm,0.6s						
IBDR				AML	AML	04 50 37.0	
	comp=N,137nm,0.5s						
IKRK	**Kirkuk**	**1.72**	**295**	*e*Pn	**Pn**	**04 50 11.0**	**+0.7**
IKRK				*e*Sn	**Sg**	**04 50 35.0**	**-0.4**
IKRK				AML	AML	04 50 39.8	
	comp=N,510nm,0.4s						
IKRK				AML	AML	04 50 44.2	
	comp=E,395nm,0.4s						
IKFM	**Kafar-mosalman**	**1.77**	**131**	Pg	**Pg**	**04 50 13.5**	**-0.5**
HSAM	**Samen**	**2.00**	**103**	Pn	**Pb**	**04 50 16.8**	**-0.1**
BHD	**Baghdad**	**2.10**	**228**	*e*Pn	**Pn**	**04 50 16.5**	**+1.0**
BHD				*e*Sn	**Sb**	**04 50 44.0**	**-0.7**
HAGD	**Aghdareh**	**2.38**	**86**	Pn	**Pb**	**04 50 22.6**	**-0.8**
RAFI	**Al-Rafai**	**2.96**	**182**	*e*Pn	**Pn**	**04 50 29.0**	**+1.6**
RAFI				*e*Sn	**Sn**	**04 51 04.0**	**+0.9**

IDC 30 04:56:12.7±2.7,51°.78N×94°.68E,h0km,mbtmp2.7/2, ML2.1/2,Error ellipse: s-maj=42.5km s-min=19.2km az=17.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**6.35**	**294**	Pg	Pb	04 58 07.3	+3.3
	0.2nm,0.3s,baz=109,slow=17,SNR=5.4						
ZALV				Lg	Lg	04 59 31.0	
	0.1nm,0.3s,baz=101,slow=28,SNR=1.7						
SONM	**Songino Array**	**8.54**	**113**	Pg	Pg	04 58 47.8	-8.4
	0.1nm,0.3s,baz=301,slow=14,SNR=2.3						
SONM				Lg	Lg	05 00 42.6	
	0.1nm,0.3s,baz=302,slow=28,SNR=1.8						
MKAR	**Makanchi Array**	**9.50**	**243**	Pn	Pn	04 58 30.8	+0.1
	baz=61,slow=10,SNR=4.3						
MKAR				Lg	Lg	05 01 13.9	
	0.1nm,0.3s,baz=59,slow=26,SNR=1.7						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**10.20**	**270**	Pn	Pn	04 58 41.4	+1.1
	baz=74,slow=15,SNR=3.3						
KURBB	

s-min=13.5km az=36.0
*SNET **30** 05:14:42.8±0.8, 13°.83N×91°.16W, h19^{km}±13^{km}, ML3.8*
*CATAC **30** 05:14:42.0±0.5, 13°.92N×91°.30W, h32^{km}±9^{km}, ML4.1*
*GCG **30** 05:14:45.7±0.9, 14°.27N×91°.22W, h45^{km}±20^{km}, MD3.9*

ISC 30 05:14:42.3±0.9, **13°.98N**±0°.05×**91°.27W**±0°.04, **h69**^{km}±7^{km}, **n56**, σ0°**83**/86, **mb3.8**/3, **1C-3D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.43**	**318**	*i*	P	**Pn**		**05 14 54.6**	**+0.3**
SULM					eS	**Sn**		**05 15 04.2**	**+1.0**
FUG	**Fuego 3**	**0.62**	**42**	*e*	P	**Pn**		**05 14 56.4**	**-0.1**
FUG					eS	**Sn**		**05 15 07.2**	**+0.3**
RTAL	**Retalhuleu**	**0.68**	**323**	*i*	P	**Pn**		**05 14 55.8**	**-1.1**
RTAL					iS	**Sn**		**05 15 06.6**	**-1.1**
RTAL					IAML			05 15 25.5	
	comp=Z,3μm,1.0s								
PCG	**Pacaya**	**0.76**	**58**	⇓*i*	P	**Pn**		**05 14 58.2**	**+0.1**
PCG					eS	**Sn**		**05 15 08.8**	**-0.9**
STG3	**Santiaguito 3,**	**0.78**	**338**	⇓*e*	P	**Pn**		**05 14 57.7**	**-0.6**
CHTG	**Tecpan**	**0.82**	**20**	*i*	P	**Pn**		**05 14 58.4**	**-0.5**
CHTG					iS	**Sn**		**05 15 11.0**	**-0.1**
CHTG					IAML			05 15 14.4	
	comp=Z,29μm,1.0s								
SOKI	**Kika Raxquin**	**0.84**	**351**	*i*	P	**Pn**		**05 14 58.5**	**-0.7**
SOKI					iS	**Sn**		**05 15 11.2**	**-0.5**
SOKI					IAML			05 15 14.9	
	comp=Z,12μm,1.0s								
GUMI	**Mixco**	**0.91**	**45**	*i*	P	**Pn**		**05 14 59.8**	**0.0**
GUMI					iS	**Sn**		**05 15 13.5**	**+0.7**
GUMI					IAML			05 15 16.9	
	comp=Z,12μm,1.0s								
GCG4	**OSOP**	**0.94**	**50**	*i*	P	**Pn**		**05 15 00.3**	**+0.2**
GCG4					IAML			05 15 16.4	
	comp=Z,6μm,1.0s								
NBG	**Las Nubes**	**1.08**	**56**	⇓*e*	P	**Pn**		**05 15 03.1**	**+1.1**
NBG					eS	**Sn**		**05 15 19.2**	**+2.5**
GUNB	**GUNB**	**1.08**	**56**	*i*	P	**Pn**		**05 15 02.0**	**-0.1**
GUNB					IAML			05 15 02.5	
	comp=Z,4μm,1.0s								
GUNB					iS	**Sn**		**05 15 17.5**	**+0.7**
SMSP	**San Marcos**	**1.10**	**333**	*i*	P	**Pn**		**05 15 02.0**	**-0.3**
SMSP					iS	**Sn**		**05 15 16.2**	**-1.0**
SMSP					IAML			05 15 17.4	
	comp=Z,13μm,1.0s								
QUIS	**Sacapulas**	**1.31**	**8**	*i*	P	**Pn**		**05 15 05.1**	**+0.2**
QUIS					iS	**Sn**		**05 15 22.6**	**+0.8**
QUIS					IAML			05 15 27.6	
	comp=Z,2μm,1.0s								
HUEH	**Huehuetenango**	**1.35**	**350**	*i*	P	**Pn**		**05 15 05.7**	**+0.2**
HUEH					iS	**Sn**		**05 15 24.4**	**+1.6**
HUEH					IAML			05 15 30.1	
	comp=Z,2μm,1.0s								
SLOZ	**Alcaldia de Sa**	**1.44**	**88**	*e*	P	**Pn**		**05 15 06.4**	**-0.1**
SLOZ					eS	**Sn**		**05 15 25.7**	**+0.9**
LOAL	**Lomas de Alarc**	**1.45**	**89**	*i*	P	**Pn**		**05 15 06.6**	**0.0**
LOAL					iS	**Sn**		**05 15 25.2**	**+0.3**
LOAL					IAML			05 15 30.0	
	comp=Z,5μm,1.0s								
NUBE	**Las Nubes**	**1.45**	**93**	*e*	P	**Pn**		**05 15 06.3**	**-0.4**
NUBE					eS	**Sn**		**05 15 24.2**	**-0.9**
NUBE	**Las Nubes**	**1.45**	**93**	*i*	P	**Pn**		**05 15 06.3**	**-0.4**
NUBE					iS	**Sn**		**05 15 24.4**	**-0.7**
NUBE					IAML			05 15 27.1	
	comp=Z,2μm,1.0s								
CEVE	**Cerro Verde**	**1.61**	**95**	*i*	P	**Pn**		**05 15 09.2**	**+0.3**
CEVE					eS	**Sn**		**05 15 29.6**	**+0.7**
CEVE					IAML			05 15 31.1	
	comp=Z,3μm,0.3s								
CEVE	**Cerro Verde**	**1.61**	**95**	*i*	P	**Pn**		**05 15 09.1**	**+0.3**
CEVE					iS	**Sn**		**05 15 29.8**	**+0.9**
CEVE					IAML			05 15 36.7	
	comp=Z,4μm,1.0s								
UNIC	**Universidad Ca**	**1.67**	**90**	*i*	P	**Pn**		**05 15 09.2**	**-0.4**
UNIC					iS	**Sn**		**05 15 30.6**	**+0.4**
UNIC					IAML			05 15 32.1	
	comp=Z,570nm,1.0s								
JAYA	**Jayaque - finc**	**1.80**	**100**	*e*	P	**Pn**		**05 15 11.1**	**-0.3**
JAYA					eS	**Sn**		**05 15 32.7**	**-0.7**
JAYA	**Jayaque - finc**	**1.80**	**100**	*i*	P	**Pn**		**05 15 11.4**	**0.0**
JAYA					IAML			05 15 35.5	
	comp=Z,6μm,1.0s								
CEDA	**San Andres**	**1.83**	**95**		IAML			05 15 39.1	
	comp=Z,646nm,0.5s								
MTO3	**Montecristo**	**1.90**	**77**	*i*	P	**Pn**		**05 15 12.0**	**-0.8**
MTO3					IAML			05 15 39.9	
	comp=Z,320nm,1.0s								
PMON	**Piamonte**	**1.92**	**98**	*i*	P	**Pn**		**05 15 13.7**	**+0.8**
PMON					iS	**Sn**		**05 15 37.3**	**+1.1**
PMON					IAML			05 15 40.7	
	comp=Z,2μm,1.0s								
ESQI	**Esquipulas**	**1.96**	**73**	*i*	P	**Pn**		**05 15 13.2**	**-0.2**
ESQI					IAML			05 15 33.8	
	comp=Z,760nm,1.0s								
LALI	**Alcalda de L**	**1.96**	**104**	*e*	P	**Pn**		**05 15 13.2**	**-0.1**
LALI					eS	**Sn**		**05 15 36.5**	**-0.4**
LALI	**Alcalda de L**	**1.96**	**104**	*i*	P	**Pn**		**05 15 13.7**	**+0.4**
LALI					iS	**Sn**		**05 15 37.1**	**+0.1**
LALI					IAML			05 15 46.6	
	comp=Z,270nm,1.0s								
SNET	**Serv Nac Est T**	**2.00**	**98**	*i*	P	**Pn**		**05 15 14.7**	**+0.7**
SNET					iS	**Sn**		**05 15 38.5**	**+0.3**
SNET					IAML			05 15 42.1	
	comp=Z,2μm,1.0s								
PANCS	**Alcalda de**	**2.06**	**100**	*i*	P	**Pn**		**05 15 14.4**	**-0.5**
PANCS					iS	**Sn**		**05 15 39.1**	**-0.6**
PANCS					IAML			05 15 46.9	
	comp=Z,2μm,1.0s								
LOMA	**Loma Larga**	**2.07**	**99**	*e*	P	**Pn**		**05 15 15.4**	**+0.4**
LOMA	**Loma Larga**	**2.07**	**99**	*i*	P	**Pn**		**05 15 15.8**	**+0.8**
LOMA					iS	**Sn**		**05 15 40.2**	**+0.4**
LOMA					IAML			05 15 51.1	
	comp=Z,1μm,1.0s								
SJTE	**Alcalda de S**	**2.23**	**99**	*e*	P	**Pn**		**05 15 17.3**	**+0.2**
SJTE					eS	**Sn**		**05 15 44.2**	**+0.5**
SJTE	**Alcalda de S**	**2.23**	**99**	*i*	P	**Pn**		**05 15 17.8**	**+0.7**
SJTE					IAML			05 15 49.3	
	comp=Z,730nm,1.0s								
LLGN	**La Laguna**	**2.26**	**85**	*i*	P	**Pn**		**05 15 16.9**	**-0.7**
LLGN					IAML			05 15 41.1	
	comp=Z,1μm,1.0s								
PAVA	**Las Pavas**	**2.28**	**96**	*e*	P	**Pn**		**05 15 18.0**	**+0.1**
PAVA	**Las Pavas**	**2.28**	**96**	*i*	P	**Pn**		**05 15 17.7**	**-0.2**
PAVA					IAML			05 15 58.1	
	comp=Z,1μm,1.0s								
COEG	**Centro de Oper**	**2.35**	**99**	*e*	P	**Pn**		**05 15 18.8**	**0.0**
COEG					IAML			05 15 55.1	
	comp=Z,436nm,0.2s								
COEG	**Centro de Oper**	**2.35**	**99**	*i*	P	**Pn**		**05 15 19.0**	**+0.3**
COEG					IAML			05 16 06.0	
	comp=Z,490nm,1.0s								
UESV	**Universidad de**	**2.44**	**98**	*i*	P	**Pn**		**05 15 19.9**	**0.0**
UESV					IAML			05 15 53.3	
	comp=Z,330nm,1.0s								
SCLA	**Alcaldia de Sa**	**2.48**	**96**	*e*	P	**Pn**		**05 15 20.5**	**0.0**
SCLA	**Alcaldia de Sa**	**2.48**	**96**	*i*	P	**Pn**		**05 15 20.6**	**0.0**
SCLA					IAML			05 16 05.6	
	comp=Z,140nm,1.0s								
SARH	**Santa Rosa de**	**2.56**	**72**	*i*	P	**Pn**		**05 15 21.4**	**-0.1**
ALJI	**Alcalda de J**	**2.70**	**104**	*e*	P	**Pn**		**05 15 23.4**	**0.0**
ALJI					eS	**Sn**		**05 15 54.5**	**-0.7**
ALJI	**Alcalda de J**	**2.70**	**104**	*i*	P	**Pn**		**05 15 23.5**	**0.0**
ALJI					IAML			05 16 04.9	
	comp=Z,290nm,1.0s								
CMIG	**Matias Romero**	**4.66**	**312**		P	**Pn**		**05 15 51.4**	**+1.3**
	comp=Z,7.4nm,0.3s,baz=148,slow=8.5,SNR=45								
CMIG					S	**Sn**		**05 16 42.7**	**-0.3**
	comp=Z,12nm,0.4s,baz=265,slow=23,SNR=2.3								
TEIG	**Tepich**	**6.84**	**24**		P	**Pn**		**05 16 20.3**	**+0.3**
	comp=Z,567nm,0.4s,baz=338,slow=1.5,SNR=96								
TEIG					S	**Sn**		**05 17 34.1**	**-2.3**
	comp=Z,56nm,0.4s,baz=9.5,slow=20,SNR=0.7								
TEIG					LR	LR		05 19 15.2	
	comp=Z,775nm,19.8s,baz=354,slow=41								
JTS	**Las Juntas de**	**7.18**	**120**		P	**Pn**		**05 16 25.4**	**+0.6**
	comp=Z,1.7nm,0.3s,baz=88,slow=21,SNR=7.3								
JTS					S	**Sn**		**05 17 42.9**	**-2.1**
	comp=Z,2.3nm,0.4s,baz=294,slow=20,SNR=1.0								
TXAR	**Lajitas Array**	**19.11**	**325**		P	**P**		**05 19 01.8**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=143,slow=9.8,SNR=5.6								
TKL	**Tuckaleechee C**	**22.61**	**16**		P	**P**		**05 19 36.3**	**-1.1**
	comp=Z,2.0nm,0.5s,baz=172,slow=9.4,SNR=7.0								
	comp=Z,2.0nm,0.5s								
NVAR	**Mina Array Bea**	**34.13**	**320**		P	**P**		**05 21 22.9**	**+1.9**
	comp=Z,1.4nm,0.7s,baz=134,slow=8.4,SNR=12								
	comp=Z,1.4nm,0.7s								
YKA	**Yellowknife Ar**	**51.21**	**346**		P	**P**		**05 23 36.6**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=153,slow=7.3,SNR=7.5								
	comp=Z,0.3nm,0.7s								
WRA	**Warramunga Arr**	**136.08**	**256**		PKP	**PKPdf**		**05 33 55.4**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=91,slow=2.3,SNR=2.0								
ASAR	**Alice Springs**	**136.33**	**250**		PKP	**PKPdf**		**05 33 57.6**	**+0.6**
	comp=Z,0.4nm,1.1s,baz=96,slow=2.4,SNR=1.7								
CMAR	**Chiang Mai Arr**	**146.23**	**342**		PKPbc	**PKPdf**		**05 34 14.2**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=332,slow=3.1,SNR=5.8								

*IDC **30** 05:19:59.2±1.0, 16°.50N×95°.26W, h0^{km}, mb3.9/10, mbtmp3.9/10, ML5.9/1, Error ellipse: s-maj=22.2km s-min=10.6km az=127.0*
*NEIC **30** 05:19:59.8, 16°.59N×95°.23W, h1^{km}*
*NEIC **30** 05:20:02.9±1.6, 16°.64N±0°.05×95°.19W±0°.03, h20^{km}±5^{km}, mb4.4/61, Mwr4.0/15, Md4.7/122(MEX), Error ellipse: s-maj=7.2km s-min=4.0km az=186.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.03; $M_{\theta\theta}$-0.49; $M_{\phi\phi}$-0.54; $M_{r\theta}$0.77; $M_{\theta\phi}$0.74; $M_{\phi r}$-0.09; Fault plane solution: $M_0$1.39000×10^{15} NP1:ϕ_s114.65000°, δ62.65000°, λ66.54000°. NP2:ϕ_s338.01000°, δ35.43000°, λ127.58000°. Principal axes: T 1.3750, Plg64.0000°, Azm344.0000°; N 0.0338, Plg21.0000°, Azm126.0000°; P -1.4089, Plg15.0000°, Azm222.0000°;*
*MEX **30** 05:20:03.8±1.4, 16°.49N×95°.18W, h14^{km}±12^{km}, MD4.7*
*CATAC **30** 05:20:07.6±1.1, 15°.79N×95°.46W, h129^{km}±23^{km}, MB4.8, mb4.8, ML5.0*

ISC 30 05:20:01.1±1.2, **16°.56N**±0°.03×**95°.24W**±0°.02, **h12**^{km}±7^{km}, **n359**, σ1°**72**/406, **mb4.4**/22, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.60**	**89**	*e*	P	**Pg**		**05 20 12.9**	**+0.2**
NILT					eS	**Sg**		**05 20 20.2**	**-0.5**
CMIG	**Matias Romero**	**0.63**	**33**	Pg		**Pg**		**05 20 13.1**	**-0.2**
	407nm,0.3s,baz=214,slow=14,SNR=34								
CMIG				Lg		Lg		05 20 22.0	
	840nm,0.3s,baz=117,slow=9.2,SNR=26								
CMIG	**Matias Romero**	**0.63**	**33**	*i*	P	**Pb**		**05 20 14.9**	**+0.8**
CMIG					iS	**Sg**		**05 20 21.7**	**0.0**
HUIG	**Huatulco**	**1.15**	**227**	*e*	P	Pn		05 20 20.7	-2.3
HUIG					eS	**Sb**		**05 20 35.4**	**-2.3**
NEUV	**Arroyo Zacate**	**1.27**	**335**	*e*	P	**Pn**		**05 20 24.1**	**-0.5**
NEUV					eS	**Sb**		**05 20 41.2**	**+0.1**
UXUV	**UXUV**	**1.29**	**54**	*i*	P	**Pn**		**05 20 24.4**	**-0.6**
UXUV					iS	**Sb**		**05 20 41.3**	**-0.6**
CARR	**Arriaga**	**1.31**	**104**	*e*	P	**Pn**		**05 20 23.8**	**-1.5**
CARR					eS	**Sn**		**05 20 40.0**	**-2.7**
OXLC	**Oaxaca**	**1.49**	**290**	*e*	P	**Pn**		**05 20 27.3**	**-0.6**
OXLC					eS	**Sn**		**05 20 47.1**	**-0.3**
OXIG	**Oaxaca**	**1.52**	**290**			**Pn**		**05 20 28.4**	**+0.1**
OXIG						**Sn**		**05 20 48.4**	**+0.3**
VHO	**Vista Hermosa**	**1.52**	**290**	*i*	P	**Pn**		**05 20 28.4**	**+0.1**
VHO					eS	**Sn**		**05 20 47.0**	**-1.0**
PEIG	**Puerto Escondi**	**1.92**	**253**	*e*	P	**Pn**		**05 20 34.1**	**+0.5**
PEIG					eS	**Sn**		**05 20 57.3**	**-0.3**
TGIG		**2.04**	**84**	*e*	P	**Pn**		**05 20 35.3**	**0.0**
TGIG					eS	**Sn**		**05 20 59.4**	**-1.4**
TGBT	**Tuxtla Gutierr**	**2.07**	**84**	*e*	P	**Pb**		**05 20 39.2**	**+0.5**
TGBT					eS	**Sb**		**05 21 04.9**	**+0.5**
PCIG		**2.12**	**113**			**Pn**		**05 20 38.0**	**+1.6**
PCIG						**Sn**		**05 21 03.1**	**+0.4**
PCIG		**2.12**	**113**	*e*	P	**Pn**		**05 20 38.0**	**+1.6**
PCIG					eS	**Sn**		**05 21 00.2**	**-2.5**
YOIG	**Yosondua**	**2.23**	**278**	*e*	P	Pn		05 20 28.7	-9.4
YOIG					eS	Sn		05 20 57.7	-8.0
TOIG	**Toxpalan**	**2.32**	**311**	*e*	P	**Pb**		**05 20 42.4**	**-0.5**
TOIG					iS	**Sb**		**05 21 11.6**	**0.0**
TXIG	**Tlaxiaco**	**2.52**	**286**			**Pb**		**05 20 45.1**	**-1.3**
TXIG						**Sb**		**05 21 15.8**	**-1.7**
TXIG	**Tlaxiaco**	**2.52**	**286**	*e*	P	**Pb**		**05 20 45.1**	**-1.3**
TXIG					eS	**Sn**		**05 21 13.8**	**+0.9**
TPIG	**Tehuac#an**	**2.74**	**313**	*e*	P	**Pn**		**05 20 48.0**	**+2.9**
TPIG					eS	**Sb**		**05 21 22.0**	**-1.8**
HLIG	**Huajuapan de L**	**2.76**	**298**	*e*	P	**Pb**		**05 20 48.8**	**-1.7**
HLIG					eS	**Sb**		**05 21 21.8**	**-2.5**
PNIG	**Pinotepa**	**2.77**	**267**	*e*	P	**Pn**		**05 20 44.4**	**-1.0**
PNIG					eS	**Sn**		**05 21 19.5**	**+0.7**
CCIG	**Comitan**	**2.99**	**95**	Pn		**Pn**		**05 20 45.9**	**-2.6**
CCIG	**Comitan**	**2.99**	**95**	*i*	P	**Pb**		**05 20 56.6**	**+2.2**
CCIG					iS	**Sg**		**05 21 36.8**	**-0.5**
CCIG					IAML			05 21 51.8	
	comp=Z,2μm,1.0s								
FTIG	**Fresnillo de T**	**3.07**	**296**	*e*	P	**Pb**		**05 20 53.5**	**-2.3**
FTIG					eS	**Sb**		**05 21 32.0**	**-1.3**
JAUV	**Jalcomulco**	**3.16**	**332**	*e*	P	**Pb**		**05 20 58.4**	**+1.1**
JAUV					eS	**Sb**		**05 21 36.8**	**+1.0**
PATR	**El Naranjo**	**3.23**	**116**	*e*	P	**Pn**		**05 20 51.7**	**-0.2**
PATR					eS	**Sn**		**05 21 28.3**	**-2.1**
PAVE	**Pavencul**	**3.25**	**114**	*e*	P	**Pn**		**05 20 51.1**	**-1.0**
PAVE					eS	**Sn**		**05 21 29.5**	**-1.3**
MGIG	**Malinaltepec**	**3.32**	**282**	*e*	P	Pn		05 20 44.1	-8.9
MGIG					eS	**Sn**		**05 21 31.2**	**-1.3**
TLIG	**Tlapa**	**3.33**	**288**	Pn		**Pn**		**05 20 51.8**	**-1.4**
TLIG	**Tlapa**	**3.33**	**288**	*e*	P	**Pn**		**05 20 49.7**	**-3.5**
TLIG					eS	**Sn**		**05 21 36.6**	**+3.7**
CHUJ	**Union Juarez**	**3.35**	**115**	*e*	P	**Pn**		**05 20 53.4**	**-0.1**
CHUJ					eS	**Sn**		**05 21 30.7**	**-2.6**
HMTT	**Tlapaneco**	**3.40**	**292**	*e*	P	**Pn**		**05 20 58.2**	**+4.1**
HMTT					eS	**Sb**		**05 21 41.3**	**-1.5**
SMCA	**Catarina**	**3.49**	**119**	*i*	P	**Pn**		**05 20 59.2**	**+4.0**
SMCA					iS	**Sn**		**05 21 39.3**	**+2.9**
SMCA					IAML			05 22 02.8	
	comp=Z,2μm,1.0s								
CRIG	**Cruz Grande**	**3.73**	**273**			**Sn**		**05 21 41.8**	**-0.8**
CRIG	**Cruz Grande**	**3.73**	**273**	*e*	P	**Pn**		**05 20 59.2**	**+0.6**
CRIG					eS	**Sn**		**05 21 41.8**	**-0.8**
HUEH	**Huehuetenango**	**3.80**	**108**	Pn		**Pn**		**05 20 57.4**	**-2.4**
HUEH	**Huehuetenango**	**3.80**	**108**	*e*	P	**Pn**		**05 21 03.4**	**+3.6**
HUEH					eS	**Sn**		**05 21 49.0**	**+4.5**
HUEH	**Huehuetenango**	**3.80**	**108**	*i*	P	**Pb**		**05 21 05.4**	**-2.9**
HUEH					IAML			05 22 05.0	
	comp=Z,5μm,1.0s								
RTAL	**Retalhuleu**	**3.97**	**120**			**Pn**		**05 21 01.3**	**-0.6**
RTAL	**Retalhuleu**	**3.97**	**120**	*i*	P	**Pn**		**05 21 06.5**	**+4.6**
RTAL					IAML			05 22 16.4	
	comp=Z,910nm,1.0s								
PPM	**Popocatepetl**	**4.08**	**308**	*e*	P	**Pn**		**05 21 05.6**	**+1.8**
PPM					eS	**Sn**		**05 21 49.1**	**-2.5**
PPIG	**Popocatepetl**	**4.08**	**308**			**Pn**		**05 21 06.3**	**+2.5**
SOKI	**Kika Raxquin**	**4.08**	**115**	*i*	P	Pn		05 21 08.8	+5.1
SOKI					IAML			05 22 24.6	
	comp=Z,1μm,1.0s								
AMVM	**AMECAMECA**	**4.24**	**308**	*e*	P	Pn		05 21 00.0	-5.8
AMVM					eS	**Sn**		**05 21 53.5**	**-1.9**
DAIG	**Los Arroyos**	**4.25**	**277**			**Pn**		**05 21 05.8**	**+0.1**
DAIG	**Los Arroyos**	**4.25**	**277**	*e*	P	**Pn**		**05 21 05.8**	**+0.1**
DAIG					eS	**Sn**		**05 21 58.7**	**+3.5**
YAIG	**Yautepec**	**4.31**	**303**			**Pn**		**05 21 07.0**	**+0.4**
YAIG	**Yautepec**	**4.31**	**303**	*e*	P	**Pn**		**05 21 07.0**	**+0.4**
YAIG					eS	**Sn**		**05 22 00.2**	**+3.3**
MEIG	**Mezcala**	**4.40**	**289**			**Pn**		**05 21 08.9**	**+1.1**
MEIG						**Sn**		**05 21 59.6**	**+0.5**
MEIG	**Mezcala**	**4.40**	**289**	*e*	P	**Pn**		**05 21 08.9**	**+1.1**
MEIG					eS	**Sn**		**05 21 59.6**	**+0.5**
MPVM	**San Francisco**	**4.45**	**307**	*e*	P	**Pn**		**05 21 09.0**	**+0.3**
MPVM					eS	**Sn**		**05 21 58.7**	**-1.8**
PLIG	**Platanillo**	**4.46**	**295**			**Pn**		**05 21 11.0**	**+2.4**
PLIG	**Platanillo**	**4.46**	**295**	*e*	P	**Pn**		**05 21 11.0**	**+2.4**
PLIG					eS	**Sn**		**05 22 03.9**	**+3.4**
THVM	**De Xico**	**4.49**	**308**	*e*	P	**Pn**		**05 21 09.6**	**+0.5**
THVM					eS	**Sn**		**05 22 01.7**	**+0.3**
XCVM	**Xochimilco**	**4.56**	**307**	*e*	P	**Pn**		**05 21 10.6**	**+0.4**
XCVM					eS	**Sn**		**05 22 02.6**	**-0.7**
TLVM	**San Miguel Top**	**4.56**	**306**	*e*	P	**Pn**		**05 21 09.8**	**-0.5**
TLVM					eS	**Sn**		**05 22 03.2**	**-0.3**
VTVM	**Tizayuca**	**4.63**	**314**			**Sb**		**05 22 17.2**	**-1.3**
VTVM	**Tizayuca**	**4.63**	**314**	*e*	P	Pb		05 21 16.7	-3.9
VTVM					eS	**Sb**		**05 22 17.2**	**-1.3**
PBVM	**Pinon**	**4.65**	**309**			**Sn**		**05 22 05.2**	**+0.2**
PBVM	**Pinon**	**4.65**	**309**	*e*	P	**Pn**		**05 21 14.4**	**+3.3**
PBVM					eS	**Sn**		**05 22 05.2**	**+0.2**
UNM	**Universidad Na**	**4.65**	**307**	Pn		**Pn**		**05 21 13.5**	**+2.0**
UNM	**Universidad Na**	**4.65**	**307**	*e*	P	**Pn**		**05 21 14.8**	**+3.4**
UNM					eS	**Sn**		**05 22 11.4**	**+5.9**
BJVM	**Benito Juarez**	**4.67**	**307**	*e*	P	**Pn**		**05 21 11.6**	**-0.1**
BJVM					eS	**Sn**		**05 22 04.7**	**-1.3**
AOVM	**Tlapan**	**4.73**	**305**	*e*	P	**Pn**		**05 21 11.2**	**-1.5**
AOVM					eS	**Sn**		**05 22 05.1**	**-2.6**
CJVM	**Cuajimalpa**	**4.75**	**306**	*e*	S	**Sn**		**05 22 07.0**	**-1.0**
PTVM	**Pico Tres Padr**	**4.76**	**310**	*e*	P	**Pn**		**05 21 17.2**	**+4.3**
PTVM					eS	**Sn**		**05 22 14.4**	**+6.2**
INVM	**La Marquesa**	**4.79**	**305**	*e*	P	**Pn**		**05 21 12.9**	**-0.5**
INVM					eS	**Sn**		**05 22 08.5**	**-0.6**
CAIG	**El Cayaco**	**4.84**	**276**			**Pn**		**05 21 13.9**	**+0.1**
CAIG	**El Cayaco**	**4.84**	**276**	*e*	P	**Pn**		**05 21 13.9**	**+0.1**
CAIG					eS	**Sn**		**05 22 16.6**	**+6.8**
GUMI	**Mixco**	**4.85**	**113**	*i*	P	Pn		05 21 05.9	-8.3
AZVM	**Cuida Lopez Ma**	**4.88**	**309**			**Sn**		**05 22 11.1**	**-0.2**
AZVM	**Cuida Lopez Ma**	**4.88**	**309**	*e*	P	Pn		05 21 20.0	+5.3
AZVM					eS	**Sn**		**05 22 11.1**	**-0.2**
ZUVM	**ZUMPANGO**	**4.88**	**312**			**Pb**		**05 21 26.4**	**-0.4**
ZUVM	**ZUMPANGO**	**4.88**	**312**	*e*	P	Pn		05 21 20.4	+5.8
ZUVM					eS	**Sb**		**05 22 20.5**	**-5.2**
ARIG	**Puente Sto Nin**	**5.17**	**290**			**Pn**		**05 21 20.2**	**+1.8**
ARIG	**Puente Sto Nin**	**5.17**	**290**	*e*	P	**Pn**		**05 21 20.2**	**+1.8**
ARIG					eS	**Sn**		**05 22 24.5**	**+6.5**
DEIG	**Demacu**	**5.18**	**317**	*e*	P	**Pn**		**05 21 21.8**	**+3.1**
DEIG					eS	**Sb**		**05 22 28.2**	**-5.9**
ATVM	**ATLACOMULCO**	**5.41**	**307**			**Sn**		**05 22 23.0**	**-1.3**
ATVM	**ATLACOMULCO**	**5.41**	**307**	*e*	P	**Pn**		**05 21 24.8**	**+2.9**
ATVM					eS	**Sn**		**05 22 23.0**	**-1.3**
ACIG	**Acambay**	**5.57**	**308**			**Pn**		**05 21 24.4**	**+0.5**
ACIG						**Sn**		**05 22 27.6**	**-0.4**
ACIG	**Acambay**	**5.57**	**308**	*e*	P	**Pn**		**05 21 24.4**	**+0.5**
ACIG					eS	**Sn**		**05 22 27.6**	**-0.4**
NUBE	**Las Nubes**	**5.89**	**116**	*i*	P	**Pn**		**05 21 30.4**	**+1.9**
NUBE					IAmb	IAmb		05 21 40.2	
	comp=Z,82nm,0.7s								
NUBE				*i*	S	**Sn**		**05 22 37.7**	**+1.6**
NUBE					IAML			05 23 21.6	
	comp=Z,180nm,1.0s								
ESQI	**Esquipulas**	**6.02**	**108**		Pn	**Pn**		**05 21 30.0**	**-0.1**
ZIIG	**Zihuatanejo**	**6.04**	**281**			**Pn**		**05 21 30.8**	**+0.5**
ZIIG	**Zihuatanejo**	**6.04**	**281**	*e*	P	**Pn**		**05 21 30.8**	**+0.5**
ZIIG					eS	Sn		05 22 49.0	+9.5
MTO3	**Montecristo**	**6.06**	**110**		Pn	**Pn**		**05 21 28.6**	**-2.2**
JRQG	**Juriquilla Cam**	**6.43**	**311**	*e*	P	**Pn**		**05 21 39.0**	**+3.1**
JRQG					eS	**Sn**		**05 22 48.4**	**-1.0**
JRQG					eS	Sb		05 22 56.3	-14
MOIG	**Morelia**	**6.45**	**300**		Pn	**Pn**		**05 21

LCAR	Lake Charles	19.77	10	P		P	05 24 30.5	-0.5
U38A	Gravette	19.82	2	P		P	05 24 31.1	-0.5
U38A				IAmb		IAmb	05 24 37.7	
	comp=Z,14nm,0.7s							
GOGA	Godfrey	19.86	30	P		P	05 24 31.1	-0.9
GOGA	Godfrey	19.86	30	P		P	05 24 31.8	-0.3
	baz=215							
OK051	E0350 and S346	19.92	356	P		P	05 24 32.4	-0.3
OK051				IAmb		IAmb	05 24 39.5	
	comp=Z,15nm,0.7s							
BLOK	Blackwell	20.20	355	P		P	05 24 35.2	-0.5
BLOK				IAmb		IAmb	05 24 40.9	
	comp=Z,20nm,0.8s							
T35A	Sooner Cattle	20.31	357	P		P	05 24 36.1	-0.8
T35A				IAmb		IAmb	05 24 43.7	
	comp=Z,24nm,0.7s							
KAN14	Manchester OK	20.46	354			P	05 24 36.3	-2.3
WVT	Waverly	20.58	17	P		P	05 24 39.4	-0.4
WVT	Waverly	20.58	17	P		P	05 24 40.0	+0.1
	baz=200							
PBMO	Poplar Bluff	20.59	11	P		P	05 24 38.7	-1.2
PBMO				IAmb		IAmb	05 24 44.5	
	comp=Z,26nm,0.9s							
MGMO	Mountain Grove	20.68	7	P		P	05 24 41.2	+0.1
MGMO				IAmb		IAmb	05 24 45.3	
	comp=Z,7.5nm,0.6s							
ANMO	Albuquerque	20.88	333	P		P	05 24 44.6	+1.2
ANMO	Albuquerque	20.88	333	P		P	05 24 44.8	+1.4
	baz=148							
ANMO	Albuquerque	20.88	333	P		P	05 24 43.2	-0.2
	comp=Z,1.2nm,0.5s,baz=174,slow=7.7,SNR=7.7							
	comp=Z,1.2nm,0.5s							
RTBA	Rita Blanca	20.89	343	P		P	05 24 43.5	+0.1
RTBA				IAmb		IAmb	05 24 46.4	
	comp=Z,19nm,0.8s							
TUC	Tucson	21.08	321	P		P	05 24 46.7	+1.3
TUC	Tucson	21.08	321	P		P	05 24 48.0	+2.5
	baz=134							
S39A	Bolivar	21.12	4	P		P	05 24 45.6	-0.1
S39A				IAmb		IAmb	05 24 49.3	
	comp=Z,9.1nm,0.7s							
U49A	Red Boiling Sp	21.57	21	P		P	05 24 49.6	-1.0
U49A				IAmb		IAmb	05 24 52.6	
	comp=Z,8.2nm,0.6s							
T47A	Sharon Grove	21.59	18	P		P	05 24 51.4	+0.7
T47A				IAmb		IAmb	05 24 53.2	
	comp=Z,20nm,0.8s							
TKL	Tuckaleechee C	21.59	26	P		P	05 24 51.0	+0.2
	comp=Z,6.2nm,0.8s,baz=184,slow=9.2,SNR=7.0							
	comp=Z,6.2nm,0.8s							
CCM	Cathedral Cave	21.70	9	P		P	05 24 50.4	-1.5
CCM				IAmb		IAmb	05 24 54.1	
	comp=Z,12nm,0.6s							
CCM	Cathedral Cave	21.70	9	P		P	05 24 52.0	+0.1
	baz=190							
T25A	Trinidad	22.05	340	P		P	05 24 57.0	+1.1
	baz=156							
214A	Organ Pipe Nat	22.12	317	P		P	05 24 57.5	+0.9
214A	Organ Pipe Nat	22.12	317	P		P	05 24 58.9	+2.3
	baz=130,SNR=6.3							
KMSC	Kings Mountain	22.29	31	P		P	05 24 57.2	-1.2
	baz=217							
PIX	Pinacate	22.30	315	P		P	05 24 58.3	-0.2
KSU1	Kansas State U	22.49	357	P		P	05 25 01.3	+0.8
	baz=176,SNR=5.6							
CBKS	Cedar Bluff	22.52	351	P		P	05 25 02.2	+1.4
	baz=169							
Q44A	Meyer Farm, Va	22.92	13	P		P	05 25 03.5	-1.4
SDCO	Great Sand Dun	22.96	339	P		P	05 25 05.3	-0.4
SDCO	Great Sand Dun	22.96	339	P		P	05 25 07.2	+1.4
	baz=154,SNR=5.3							
WCI	Wyandotte Cave	22.98	18	P		P	05 25 03.9	-1.6
WCI				IAmb		IAmb	05 25 06.8	
	comp=Z,12nm,0.7s							
WCI	Wyandotte Cave	22.98	18	P		P	05 25 05.6	0.0
	baz=202							
P38A	Dawn	23.03	3	P		P	05 25 05.2	-0.9
P38A				IAmb		IAmb	05 25 26.7	
	comp=Z,13nm,0.8s							
KSCO	Kaye Shedlock'	23.28	345	P		P	05 25 09.9	+1.1
	baz=162							
S22A	4UR Ranch, Cre	23.45	336	P		P	05 25 11.7	+1.0
	baz=151							
P43A	Skaggs, Pawnee	23.53	11	P		P	05 25 10.5	-0.6
MVCO	Mesa Verde	23.68	333	P		P	05 25 13.8	+1.0
	baz=147							
WUAZ	Wupatki	23.74	326	P		P	05 25 15.6	+2.1
	baz=138							
N38A	Joes South For	24.21	4	P		P	05 25 17.0	-0.6
HDIL	Hopedale	24.46	11	P		P	05 25 19.6	-0.3
	baz=194							
PDMCI	Parker Dam,Lak	24.49	320	P		P	05 25 22.9	+2.7
	baz=131							
P49A	Miami Univ. Ec	24.66	20	P		P	05 25 20.4	-1.3
P49A				IAmb		IAmb	05 25 22.3	
	comp=Z,11nm,0.8s							
P49A	Miami Univ. Ec	24.66	20	P		P	05 25 20.7	-1.1
	baz=205							
IKP	In-Ko-Pah, Jac	24.76	314	P		P	05 25 24.6	+1.8
	baz=125							
SFIN	Lafayette	24.76	15	P		P	05 25 21.4	-1.2
	baz=199							
ISCO	Idaho Springs	24.86	341	P		P	05 25 24.1	+0.3
ISCO				IAmb		IAmb	05 25 27.0	
	comp=Z,4.0nm,0.7s							
ISCO	Idaho Springs	24.86	341	P		P	05 25 25.4	+1.6
	baz=156							
BGNE	Belgrade	24.89	355	P		P	05 25 25.0	+1.2
	baz=173							
BC3	Big Chuckawall	24.92	317	P		P	05 25 25.6	+1.4
	baz=128							
OGNE	Ogallala	25.00	348	P		P	05 25 27.1	+2.2
	baz=164,SNR=13							
IRM	Iron Mountain	25.03	318	P		P	05 25 27.1	+1.9
	baz=129							
MONP2	Monument Peak	25.11	314	P		P	05 25 28.7	+2.5
	baz=125							
O48B	Farmland	25.18	18	P		P	05 25 25.0	-1.4
O48B	Farmland	25.18	18	P		P	05 25 25.9	-0.5
	baz=203,SNR=7.1							
SCIA	State Center	25.32	4	P		P	05 25 27.8	+0.1
	baz=184							
O49A	Covington	25.38	20	P		P	05 25 26.6	-1.7
BELC	Belle Mtn. Jos	25.49	317	P		P	05 25 31.3	+1.9
	baz=128							
TPFO	Pinon Flats	25.55	316	P		P	05 25 31.9	+1.9
	baz=126							
PFO	Pinyon Flats O	25.56	316	P		P	05 25 31.7	+1.6
	baz=126							
N47A	Urbana	25.60	17	P		P	05 25 29.0	-1.2
KNB	Kanab	25.64	326	P		P	05 25 32.2	+1.4
L40A	Anamosa	25.65	7	P		P	05 25 30.1	-0.5
P52A	Corning	25.67	24	P		P	05 25 30.5	-0.4
	baz=210							
GMRC	Granite Mounta	25.76	319	P		P	05 25 33.7	+1.8
	baz=130							
L42A	Oliver, Polo	25.81	10	P		P	05 25 31.4	-0.7
ACSO	Alum Creek Sta	25.88	22	P		P	05 25 32.8	+0.1
	baz=208							
O20A	White River Ci	26.07	337	P		P	05 25 36.3	+1.6
	baz=150							
K38A	Parkersburg	26.09	4	P		P	05 25 33.9	-0.7
HEC	Hector,Ludlow	26.22	318	P		P	05 25 37.9	+1.9
	baz=126							
L44A	Lake County Fo	26.30	12	P		P	05 25 37.4	+0.9
	baz=196							
TUQ	Turquoise Moun	26.34	319	P		P	05 25 39.6	+2.4
	baz=130							
JFWS	Jewell Farm	26.61	8	P		P	05 25 38.2	-1.1
JFWS	Jewell Farm	26.61	8	P		P	05 25 39.0	-0.4
	baz=191,SNR=8.5							
BFSC	Mount Baldy Ra	26.73	315	P		P	05 25 42.4	+1.7
	baz=126							
GSC	Goldstone, Bar	26.81	318	P		P	05 25 44.2	+2.8
	baz=128							
ECSD	EROS Data Cent	27.11	358	P		P	05 25 43.3	-0.6
ECSD				IAmb		IAmb	05 25 47.2	
	comp=Z,5.3nm,0.6s							
ECSD	EROS Data Cent	27.11	358	P		P	05 25 43.7	-0.2
	baz=177							
LRMC	Laurel Mtn Rad	27.48	318	P		P	05 25 49.6	+2.1
	baz=127							
MPMC	Manual Prospec	27.72	319	P		P	05 25 50.9	+1.2
	baz=129							
I42A	Draeger Farm,	27.77	10	P		P	05 25 49.2	-0.6
I42A				IAmb		IAmb	05 25 55.0	
	comp=Z,16nm,1.1s							
ARVC	Arvin	28.03	316	P		P	05 25 53.7	+1.5
	baz=125							
DUG	Dugway, Tooele	28.06	331	P		P	05 25 53.1	+0.5
	baz=142							
R11B	Troy Canyon, C	28.11	325	P		P	05 25 54.3	+1.2
	baz=135							
ISA	Isabella, Lake	28.11	317	P		P	05 25 54.5	+1.5
	baz=126							
CWC	Cottonwood Cre	28.33	319	P		P	05 25 56.8	+1.7
	baz=128							
VES	Vestal, Richgr	28.62	317	P		P	05 25 59.3	+1.9
	baz=126							
ERPA	Erie	28.64	24	P		P	05 25 56.6	-0.9
	baz=212							
SPMN	Marine on St.	28.65	4	P		P	05 25 57.2	-0.4
SPMN	Marine on St.	28.65	4	P		P	05 25 57.5	-0.1
	baz=185							
BW06	Boulder Array	28.84	338	P		P	05 26 00.1	+0.5
	baz=150							
PDAR	Pinedale Array	28.84	338	P		P	05 26 00.1	+0.5
	comp=Z,0.4nm,0.8s,baz=150,slow=7.3,SNR=2.1							
	comp=Z,0.4nm,0.8s							
F36A	Milaca	29.25	2	P		P	05 26 01.8	-1.1
F36A				IAmb		IAmb	05 26 02.5	
	comp=Z,8.5nm,0.8s							
NVAR	Mina Array Bea	29.73	322	P		P	05 26 09.5	+2.0
	comp=Z,2.3nm,0.8s,baz=138,slow=8.6,SNR=19							
	comp=Z,2.3nm,0.8s							
REDW	Red Top Meadow	29.84	337	P		P	05 26 09.8	+1.4
RLMT	Red Lodge	30.82	340	P		P	05 26 17.6	+0.6
	baz=153							
LAO	LASA Array	31.40	345	P		P	05 26 22.2	+0.2
	baz=159							
MDND	Maddock	31.41	354	P		P	05 26 22.2	+0.2
	baz=172							
EYMN	Ely	31.45	5	P		P	05 26 21.7	-0.7
	baz=187							
HLID	Hailey	31.46	333	P		P	05 26 23.9	+1.2
	baz=143							
ULM	Lac du Bonnet	33.61	359	P		P	05 26 40.5	-0.8
	comp=Z,6.6nm,0.7s,baz=172,slow=10,SNR=9.0							
	comp=Z,6.6nm,0.7s							
LBNH	Lisbon	33.90	31	P		P	05 26 42.3	-1.6
	baz=223							
FFC	Flin Flon	38.44	354	P		P	05 27 22.4	-0.1
LPAZ	La Paz	42.19	139	P		P	05 27 54.2	-0.6
YKA	Yellowknife Ar	47.86	348	P		P	05 28 38.4	-0.2
	comp=Z,1.0nm,0.6s,baz=153,slow=7.1,SNR=25							
	comp=Z,1.0nm,0.6s							
S34M	Telegraph Cree	49.14	336	P		P	05 28 48.2	-0.3
	baz=132							
M29M	Somme Creek	54.84	337	P		P	05 29 31.6	+0.5
	baz=126							
L29M	L29M	55.12	338	P		P	05 29 33.1	+0.1
	baz=127							
DAWY	Dawson	56.15	338	P		P	05 29 40.2	-0.2
	baz=126							
G31M	Satah River	56.36	343	P		P	05 29 40.9	-0.8
	baz=133							
L27K	Beaver Creek,	56.47	337	P		P	05 29 42.1	-0.6
	baz=123							
BDFB	Brasilia	56.52	122	P		P	05 29 44.5	+0.7
	comp=Z,1.2nm,0.6s,baz=307,slow=10,SNR=3.5							
	comp=Z,1.2nm,0.6s							
F31M	Tsiigehtchic	56.57	343	P		P	05 29 43.6	+0.4
	baz=134							
N25K	Chitina, Valde	56.81	334	P		P	05 29 45.7	+0.5
	baz=120							
K27K	Chicken	57.10	338	P		P	05 29 47.5	+0.4
	baz=124							
INK	Inuvik	57.12	344	P		P	05 29 47.7	+0.6
INK				IAmb		IAmb	05 29 50.3	
	comp=Z,3.0nm,0.7s							
INK	Inuvik	57.12	344	P		P	05 29 47.8	+0.6
	baz=135							
H29M	Whitestone	57.13	341	P		P	05 29 47.6	+0.4
	baz=129							
F30M	Barrier River	57.26	343	P		P	05 29 48.1	0.0
	baz=132							
HARP	HARP	57.43	335	P		P	05 29 49.2	-0.3
	baz=119							
G29M	Pine Creek	57.46	341	P		P	05 29 49.5	-0.1
	baz=129							
SCRK	Sand Creek	57.78	337	P		P	05 29 51.4	-0.7
	baz=122							
PAX	Paxson	57.84	335	P		P	05 29 52.7	+0.2
	baz=119							
J26L	Joseph Creek	57.90	338	P		P	05 29 52.5	-0.4
	baz=122							
A36M	Sachs Harbour	58.16	349	P		P	05 29 54.3	0.0
A36M				IAmb		IAmb	05 29 57.4	
	comp=Z,3.5nm,0.8s							
A36M	Sachs Harbour	58.16	349	P		P	05 29 54.3	0.0
	baz=146							
KNK	Knik Glacier	58.36	333	P		P	05 29 55.4	-0.7
	baz=116							
F28M	Old Crow	58.46	342	P		P	05 29 55.6	-1.1
	baz=128							
G27K	Doyon Strip	58.54	340	P		P	05 29 57.0	-0.2
	baz=125							
J25K	Salcha River,	58.63	337	P		P	05 29 58.8	+0.9
	baz=120							
DHY	Denali Highway	58.66	335	P		P	05 29 58.5	+0.3
	baz=118							
WAT1	Susitna Watana	59.02	335	P		P	05 30 01.1	+0.5
	baz=116							
HOM	Homer	59.10	330	P		P	05 30 01.7	+0.5
	baz=111							
ILAR	Eielson Array	59.27	337	P		P	05 30 02.4	+0.1
	comp=Z,0.4nm,0.8s,baz=149,slow=5.2,SNR=7.1							
	comp=Z,0.4nm,0.8s							
E27K	Coleen River	59.33	342	P		P	05 30 02.9	+0.2
	baz=126							
SUA	Susitna One	59.38	333	P		P	05 30 03.5	+0.3
	baz=113							
F26K	Sheenjek River	59.84	341	P		P	05 30 06.3	+0.1
	baz=123							
P19K	Oil Pt	59.86	330	P		P	05 30 06.0	-0.5
	baz=110							
TRF	Thorofare Moun	60.00	335	P		P	05 30 07.6	0.0
	baz=115							
H24K	Noodor Dome	60.15	338	P		P	05 30 08.4	0.0
	baz=118							
F25K	Christian Rive	60.27	340	P		P	05 30 09.2	+0.1
	baz=122							
G24K	Hadweenzic Riv	60.43	339	P		P	05 30 10.9	+0.7
	baz=119							
BPAW	Bear Paw Mtn.	60.56	335	P		P	05 30 11.1	-0.1
	baz=114							
M20K	Styx River	60.60	333	P		P	05 30 11.8	+0.3
	baz=111							
CAST	Castle Rocks	60.73	334	P		P	05 30 12.4	+0.1
	baz=113							
R17K	Ugashik Creek	60.81	327	P		P	05 30 12.8	-0.2
	baz=106							
N19K	Bonanza Creek	60.84	331	P		P	05 30 13.4	+0.2
	baz=109							
MLY	Manley	60.85	336	P		P	05 30 13.0	-0.2
	baz=115							
O18K	Koktuh Hills	60.87	330	P		P	05 30 13.6	+0.3
	baz=108							
L20K	Farewell, AK	61.14	333	P		P	05 30 15.8	+0.6
	baz=111							
G23K	Bananza Creek	61.33	338	P		P	05 30 16.6	+0.2
	baz=117							
R16K	Pilot Point	61.41	327	P		P	05 30 17.5	+0.5
	baz=105							
D25K	Kavik River	61.41	342	P		P	05 30 17.1	+0.2
	baz=122							
E24K	Your Creek	61.44	340	P		P	05 30 17.7	+0.5
	baz=119							
H22K	Ishtalitna Cre	61.46	337	P		P	05 30 17.8	+0.5
	baz=115							
K20K	Telida	61.53	334	P		P	05 30 17.4	-0.4
	baz=111							
CHGN	Chignik	61.55	326	P		P	05 30 17.4	-0.6
	baz=103							
E23K	Chandalar	61.81	340	P		P	05 30 19.2	-0.5
	baz=118							
J20K	Nowinta River	61.86	335	P		P	05 30 19.9	-0.1
	baz=111							
H21K	Melozitna Rive	61.90	337	P		P	05 30 20.0	-0.2
	baz=113							
G22K	Bettles	61.95	338	P		P	05 30 20.4	-0.1
	baz=115							
P16K	Nushagak River	62.00	329	P		P	05 30 21.5	+0.6
	baz=105							
N17K	Nushagak Hills	62.01	330	P		P	05 30 21.4	+0.4
	baz=106							
TOLK	Toolik Lake Re	62.07	340	P		P	05 30 20.6	-0.7
	baz=118							
TTA	Tatalina	62.22	333	P		P	05 30 22.7	+0.2
	baz=109							
C24K	Franklin Bluff	62.32	342	P		P	05 30 22.6	-0.3
	baz=120							
J19K	Poorman	62.41	334	P		P	05 30 23.2	-0.4
	baz=110							
F22K	John River	62.44	339	P		P	05 30 23.4	-0.4
	baz=115							
G21K	Allakaket	62.50	337	P		P	05 30 24.2	0.0
	baz=113							
E22K	Anaktuvuk Pass	62.58	339	P		P	05 30 24.2	-0.6
	baz=116							
H20K	Anotleneega Mo	62.64	336	P		P	05 30 24.8	-0.4
	baz=111							
J18K	Innoko River	62.69	334	P		P	05 30 25.8	+0.3
	baz=108							
F21K	Alatna River	62.78	338	P		P	05 30 26.6	+0.5
	baz=113							
C23K	Itkillik River	62.96	341	P		P	05 30 27.8	+0.6
	baz=118							
H18K	Honhosa River	63.90	335	P		P	05 30 34.9	+1.3
	baz=108							
B21K	Ikpikpuk River	64.12	340	P		P	05 30 34.4	-0.4
	baz=113							
E20K	Nigu River	64.13	339	P		P	05 30 34.2	-0.9
	baz=111							
F19K	Shaleruckik Mo	64.20	337	P		P	05 30 34.2	-1.3
	baz=109							
L15K	Ungalak Mounta	64.33	331	P		P	05 30 36.5	+0.1
	baz=103							
H17K	Granite Mounta	64.47	335	P		P	05 30 37.2	0.0
	baz=106							
K15K	Wolf Creek Mou	64.49	332	P		P	05 30 37.9	+0.4
	baz=103							
I17K	Unalakleet	64.51	334	P		P	05 30 37.8	+0.3
	baz=105							
A22K	Sinclair Lake	64.79	342	P		P	05 30 39.3	+0.1
	baz=114							
D19K	Kuna River	64.88	339	P		P	05 30 39.2	-0.7
	baz=109							
B20K	Meade River	65.09	340	P		P	05 30 40.2	-0.9
	baz=111							
H16K	Elim	65.35	334	P		P	05 30 41.4	-1.6
	baz=104							
E18K	Tukpahlearik C	65.44	337	P		P	05 30 43.7	+0.2
	baz=106							
C19K	Lookout Ridge	65.58	339	P		P	05 30 44.8	+0.3
	baz=108							
E17K	Hotham Inlet	65.80	337	P		P	05 30 45.8	-0.1
	baz=105							
A19K	Wainwright	66.42	340	P		P	05 30 50.9	+1.1
	baz=107							
F15K	North Star Dit	66.58	335	P		P	05 30 50.8	-0.1
	baz=102							
NIKH	Nikolski High	67.09	321	P		P	05 30 54.1	-0.3
	baz=93							
F14K	Arctic Creek	67.22	335	P		P	05 30 54.2	-0.7
	baz=100							
TNA	Tin City	67.89	335	P		P	05 30 55.2	-4.0
	baz=99							
SPIA	Saint Paul Isl	68.12	325	P		P	05 30 57.4	-3.4
	baz=93							
EKA	Eskdalemuir Ar	77.73	36	P		P	05 31 57.2	-0.6
	comp=Z,0.9nm,0.6s,baz=286,slow=6.9,SNR=5.0							
	comp=Z,0.9nm,0.6s							
ESDC	Sonseca Array	80.58	51	P		P	05 32 13.6	-0.2
	comp=Z,1.0nm,0.9s,baz=298,slow=5.9,SNR=5.3							
	comp=Z,1.0nm,0.9s							
WRA	Warramunga Arr	132.93	258	PKP		PKPdf	05 39 17.7	+0.5
	comp=Z,0.3nm,0.8s,baz=84,slow=2.1,SNR=2.0							
ASAR	Alice Springs	133.50	253	PKP		PKPdf	05 39 18.2	0.0
	comp=Z,0.2nm,0.6s,baz=70,slow=1.3,SNR=1.9							

IDC ***30*** *05:32:06.5±1.7,31°.97N×48°.56E,h0km,mb3.9/15, mbtmp3.8/19,ML3.3/4,MS3.5/28,Error ellipse: s-maj=35.8km s-min=15.9km az=159.0*
TEH ***30*** *05:32:08.7,31°.80N×48°.67E,h20km±26km,ML4.0*
OMAN ***30*** *05:32:12.4±1.5,31°.67N×49°.14E,h10km,mb4.1/13,Error ellipse: s-maj=13.3km s-min=11.6km az=64.0*

ISC 30 05:32:07.3±0.5,**31°.84N**±0°.05×**48°.72E**±0°.04,**h10km**,**n108,**
σ2s15/104,**mb4.0**/22,**MS3.6**/24,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
AHWZ	Ahwaz	0.51	188	Pg	Pb	05	32	18.9	+0.6
AMIS	Naft Sefid	0.51	109	Pg	Pg	05	32	18.3	+1.0
AMIS				Sg	Sb	05	32	28.2	+2.3
JHBN	Jahan bin	1.70	76	Pg	Pn	05	32	39.6	+2.3
ZNGN	Zangian	1.83	81	Pn	Pn	05	32	41.6	+2.4
IKFM	Kafar-mosalman	1.84	337	Pn	Pn	05	32	41.6	+2.6
IBRJ	Brojen	2.16	87	Pn	Pn	05	32	46.2	+2.5
HSAM	Samen	2.37	358	Pn	Pn	05	32	48.8	+2.2
IKOM	Komasi	2.54	337	Pn	Pn	05	32	50.1	+1.3
KLNJ	Kolanjah	2.59	108	Pn	Pn	05	32	52.1	+2.5
IBZA	Bozab	2.72	345	Pn	Pn	05	32	54.0	+2.5
ILBA	Ilam Banvizeh	2.77	311	Pn	Pn	05	32	53.4	+1.5
KCHF	Cheshme Sefid,	2.81	330	Pn	Pn	05	32	54.9	+2.3
IKLH	Kolahrood	2.83	58	Pn	Pn	05	32	56.0	+3.1
IGAR	Gharneh	2.87	78	Pn	Pn	05	32	56.2	+2.8
QAMS	Qamsar	2.94	49	Pn	Pn	05	32	57.6	+3.2
HAGD	Aghdareh	3.00	7	Pn	Pn	05	32	57.9	+2.7
IALM	Almabolaq	3.05	351	Pn	Pn	05	32	59.0	+3.1
IGHG	Ghaleghazi	3.07	325	Pn	Pn	05	32	58.1	+1.9
IRAM	Ramesheh	3.11	90	Pn	Pn	05	32	59.3	+2.6
IZEF	Zefreh	3.23	70	Pn	Pn	05	33	01.7	+3.3
ILIN	Lien	3.41	335	Pn	Pn	05	33	03.4	+2.6
IDHR	Dehrash	3.46	326	Pn	Pn	05	33	03.0	+1.5
KRSH	Karshahi	3.57	53	Pn	Pn	05	33	05.9	+2.9
IQOM	Qom	3.58	33	Pn	Pn	05	33	06.0	+2.8
IRAZ	Razeghan	3.70	15	Pn	Pn	05	33	07.6	+2.9
AHBU	AHRAM	3.70	142	Pn	Pn	05	33	06.3	+1.7
ISFB	Sefidab	3.87	49	Pn	Pn	05	33	09.2	+2.1
IVRN	Varamin	4.03	38	Pn	Pn	05	33	11.5	+2.4
DSBU	Dashti - Bushe	4.10	147	Pn	Pn	05	33	13.0	+2.9
ANAR	Anarak	4.44	71	Pn	Pn	05	33	17.0	+2.1
IDMV	Damavand	4.64	36	Pn	Pn	05	33	19.4	+1.6
QSDN	Sirdan	4.67	4	Pn	Pn	05	33	20.4	+2.2
IFIR	Firoozkooh	5.07	40	Pn	Pn	05	33	26.1	+2.5
MZPU	Pul - Mazandar	5.16	26	Pn	Pn	05	33	28.3	+3.4
IPRN	Peran	5.32	33	Pn	Pn	05	33	30.1	+3.1
SAKB	Bahrain	6.05	164	P	Pn	05	33	38.6	+1.8
SAKB				S	Sn	05	34	49.8	+3.6
SHMA	Al-Shehemyia	6.27	161	P	Pn	05	33	41.7	+1.8
SHMA				S	Sn	05	34	51.7	0.0
IHRS	Heris	6.61	348	Pn	Pn	05	33

BSY				S		Sn	05 37 00.8	-6.2	
SMDO	**Samad**	**12.04**	**134**	P		Pn	05 35 00.4	+1.3	
SMDO				S		Sn	05 37 09.7	-3.8	
EIL	**Elat**	**12.04**	**263**	Pn		Pn	05 34 59.0	0.0	
	0.2nm,0.3s,baz=49,slow=19,SNR=1.7								
EIL				LR		LR	05 40 37.2		
	comp=Z,175nm,20.2s,baz=66,slow=43								
	0.8nm,0.3s								
WSAR	**Wadi Sarin**	**12.27**	**132**	P		Pn	05 35 02.3	+0.2	
WSAR	**Wadi Sarin**	**12.27**	**132**	Pn		Pn	05 35 02.4	+0.2	
	0.9nm,0.3s,baz=332,slow=13,SNR=6.3								
WSAR				Sn		Sn	05 37 12.4	-6.5	
	0.3nm,0.3s,baz=157,slow=20,SNR=2.7								
WSAR				LR		LR	05 40 55.5		
	comp=Z,120nm,19.6s,baz=12,slow=42								
KBZ	**Khabaz**	**12.73**	**340**	LR		LR	05 39 43.9		
	comp=Z,69nm,21.5s,baz=162,slow=36								
JLN	**Jalan Bani Buh**	**13.55**	**133**	P		Pn	05 35 18.3	-1.4	
BRTR	**Keskin Array B**	**14.54**	**307**	Pn		Pn	05 35 33.4	0.0	
	0.1nm,0.3s,baz=98,slow=16,SNR=2.1								
BRTR				LR		LR	05 42 06.2		
	comp=Z,65nm,20.5s,baz=114,slow=42								
	0.2nm,0.3s								
WHFO	**Wadi Hawf**	**14.59**	**161**	P		Pn	05 35 32.2	-1.8	
DMTO	**DMTO**	**15.15**	**157**	P		Pn	05 35 39.5	-1.9	
	SNR=9.9								
AKTO	**Aktyubinsk**	**19.83**	**18**	P		P	05 36 37.5	-0.6	
	0.1nm,0.3s,baz=204,slow=12,SNR=2.2								
	1.0nm,0.5s								
BELG	**Belogornoye**	**20.56**	**358**	P		P	05 36 46.0	0.0	
	16nm,0.8s,baz=156,slow=20,SNR=3.9								
	16nm,0.8s								
AAK	**Ala-Archa**	**23.09**	**55**	LR		LR	05 47 39.7		
	comp=Z,333nm,19.0s,baz=270,slow=40								
AKASG	**Malin Array Be**	**23.75**	**328**	P		P	05 37 19.6	0.0	
	0.5nm,0.5s,baz=128,slow=9.3,SNR=4.7								
	0.5nm,0.5s								
ARU	**Arti**	**25.53**	**13**	LR		LR	05 51 12.1		
	comp=Z,60nm,21.8s,baz=252,slow=45								
KOLS	**Kolonicke sedl**	**26.21**	**318**	*e*		P	05 37 44.8	+2.6	
BVAR	**Borovoye Array**	**26.34**	**30**	P		P	05 37 43.3	-0.1	
	3.9nm,0.6s,baz=228,slow=7.6,SNR=35								
BVAR				LR		LR	05 48 48.5		
	comp=Z,120nm,19.6s,baz=232,slow=38								
	3.9nm,0.6s								
KURBB	**Kurchatov Arra**	**28.94**	**41**	P		P	05 38 07.2	+0.5	
	0.8nm,0.6s,baz=242,slow=9.4,SNR=7.5								
	0.8nm,0.6s								
MKAR	**Makanchi Array**	**29.69**	**50**	P		P	05 38 14.1	+0.7	
	0.4nm,0.5s,baz=240,slow=9.2,SNR=3.7								
MKAR				LR		LR	05 51 54.3		
	comp=Z,98nm,20.7s,baz=236,slow=40								
	0.4nm,0.5s								
OBKA	**Obir**	**30.01**	**309**	*e*P		P	05 38 19.4	+3.1	
	2.6nm,1.3s								
LESA	**Schwarzleotal**	**31.50**	**310**	*e*P		P	05 38 29.2	-0.2	
	1.7nm,0.7s								
WTTA	**Wattenberg**	**32.13**	**309**	*e*P		P	05 38 34.9	-0.2	
	4.9nm,0.9s								
WATA	**Walderalm**	**32.19**	**310**	*e*P		P	05 38 36.9	+1.4	
	3.4nm,0.7s								
SQTA	**Sankt Quirin**	**32.41**	**309**	*i* P		P	05 38 37.1	-0.3	
	1.8nm,0.7s								
MOTA	**Moosalm**	**32.51**	**309**	*i* P		P	05 38 38.2	-0.1	
	8.5nm,1.2s								
FETA	**Feichten**	**32.67**	**309**	*e*P		P	05 38 40.2	+0.4	
	2.8nm,0.8s								
KEST	**Kesra**	**32.81**	**288**	LR		LR	05 54 42.3		
	comp=Z,73nm,18.1s,baz=344,slow=42								
FINES	**FINESS Array B**	**33.09**	**340**	P		P	05 38 42.3	-0.7	
	1.3nm,0.7s,baz=145,slow=9.2,SNR=6.8								
	1.3nm,0.7s								
DAVA	**Damuels**	**33.30**	**309**	*e*P		P	05 38 45.1	-0.2	
	18nm,1.4s								
ZALV	**Zalesovo Beam**	**33.91**	**39**	P		P	05 38 50.5	+0.2	
	0.8nm,0.5s,baz=244,slow=8.1,SNR=5.0								
ZALV				LR		LR	05 54 16.7		
	comp=Z,74nm,19.8s,baz=290,slow=39								
	0.8nm,0.5s								
KMBO	**Kilima Mbogo**	**34.54**	**201**	LR		LR	05 52 50.2		
	comp=Z,75nm,19.1s,baz=65,slow=36								
HFS	**Hagfors**	**36.55**	**331**	P		P	05 39 11.9	-1.1	
	1.6nm,0.6s,baz=142,slow=10,SNR=8.1								
	1.6nm,0.6s								
NOA	**NORSAR Array B**	**38.08**	**331**	P		P	05 39 23.7	-2.2	
	0.5nm,0.7s,baz=111,slow=12,SNR=3.3								
NOA				LR		LR	05 56 23.1		
	comp=Z,54nm,18.1s,baz=290,slow=38								
	0.5nm,0.7s								
ARCES	**ARCESS Array B**	**39.96**	**348**	P		P	05 39 40.2	-1.4	
	6.4nm,1.1s,baz=150,slow=7.3,SNR=3.7								
	6.4nm,1.1s								
ESDC	**Sonseca Array**	**42.95**	**296**	P		P	05 40 06.3	-0.2	
	0.5nm,0.7s,baz=70,slow=8.0,SNR=5.5								
ESDC				LR		LR	05 58 50.2		
	comp=Z,66nm,18.0s,baz=250,slow=38								
	0.5nm,0.7s								
EKA	**Eskdalemuir Ar**	**43.03**	**319**	P		P	05 40 05.7	-1.2	
	0.7nm,0.7s,baz=108,slow=7.9,SNR=1.6								
	0.7nm,0.7s								
SONM	**Songino Array**	**46.01**	**52**	LR		LR	06 02 33.5		
	comp=Z,61nm,18.4s,baz=208,slow=40								
TORD	**Torodi Ar. Bea**	**46.86**	**258**	P		P	05 40 38.0	+0.1	
	1.5nm,0.8s,baz=54,slow=7.8,SNR=8.4								
TORD				LR		LR	06 01 20.4		
	comp=Z,48nm,21.1s,baz=74,slow=38								
	1.5nm,0.8s								
CMAR	**Chiang Mai Arr**	**46.99**	**94**	LR		LR	06 04 00.9		
	comp=Z,30nm,18.0s,baz=300,slow=41								
SPITS	**Spitsbergen Ar**	**48.55**	**352**	P		P	05 40 50.1	-0.1	
	5.4nm,0.7s,baz=147,slow=9.7,SNR=14								
	5.4nm,0.7s								
LSZ	**Lusaka**	**50.82**	**206**	LR		LR	06 04 31.4		
	comp=Z,58nm,18.3s,baz=170,slow=38								
TSUM	**Tsumeb**	**58.88**	**215**	LR		LR	06 08 05.9		
	comp=Z,43nm,20.3s,baz=335,slow=37								
LBTB	**Lobatse**	**60.70**	**204**	LR		LR	06 07 38.9		
	comp=Z,85nm,18.5s,baz=25,slow=35								
KLR	**Kul'dur**	**62.34**	**47**	LR		LR	06 09 55.3		
	comp=Z,53nm,18.2s,baz=8.5,slow=36								
KSRS	**Korea Array**	**63.59**	**61**	LR		LR	06 13 09.0		
	comp=Z,21nm,18.2s,baz=20,slow=39								
BOSA	**Boshof**	**64.13**	**203**	LR		LR	06 11 24.2		
	comp=Z,75nm,18.4s,baz=24,slow=37								
SFJD	**Kangerlussuaq**	**64.64**	**335**	LR		LR	06 10 55.9		
	comp=Z,65nm,18.0s,baz=163,slow=36								
JNU	**Nakatsue**	**67.48**	**64**	LR		LR	06 19 18.4		
	comp=Z,35nm,18.4s,baz=312,slow=42								
JOW	**Kunigami**	**68.06**	**71**	LR		LR	06 16 08.2		
	comp=Z,48nm,20.2s,baz=108,slow=39								
MA2	**Magadan**	**68.81**	**32**	LR		LR	06 17 02.9		
	comp=Z,70nm,18.6s,baz=340,slow=39								
SUR	**Sutherland**	**69.11**	**205**	LR		LR	06 12 54.7		
	comp=Z,73nm,19.3s,baz=22,slow=35								
KAPI	**Kappang**	**76.70**	**105**	LR		LR	06 25 30.2		
	comp=Z,29nm,18.2s,baz=293,slow=42								
YKA	**Yellowknife Ar**	**85.05**	**352**	P		P	05 44 41.9	-1.0	
	0.2nm,0.8s,baz=47,slow=8.5,SNR=4.1								
	0.2nm,0.8s								

CATAC ***30*** *05:50:55.1±0.4, 8.°99N×84.°05W, h6km±3km, ML3.3*
UCR ***30*** *05:50:55.2±0.9, 8.°95N×84.°08W, h29km±2km, MW3.6*
UPA ***30*** *05:50:56.1±0.7, 8.°84N×83.°90W, h0km±12km, MW3.5*

ISC 30 05:50:54.4±1.2, 8.°93N±0.°03×84.°07W±0.°03, h13km±9km, n84, σ0°93/105, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHAL	**Ojochal**	**0.45**	**69**	*i* P	**Pg**	**05 51 04.2**	**+0.9**
OCHAL				*i* S	**Sg**	**05 51 09.9**	**+0.5**
OCHAL				IAML		05 51 10.5	
	comp=Z,61nm,1.0s						
SVQ2	**Quepos**	**0.50**	**350**	*e*P	**Pg**	**05 51 04.7**	**+0.4**
SVQ2				*e*S	**Sb**	**05 51 12.9**	**+0.6**
LLNJ	**Naranjito**	**0.54**	**357**	*e*P	**Pg**	**05 51 05.3**	**+0.4**
LLNJ				*e*S	**Sb**	**05 51 13.5**	**+0.1**
EDPN	**Palmar Norte**	**0.61**	**87**	*e*P	**Pg**	**05 51 06.9**	**+0.6**
EDPN				*e*S	**Sb**	**05 51 16.2**	**+0.8**
CDM	**Cerro de Muert**	**0.69**	**26**	*e*P	**Pg**	**05 51 07.6**	**-0.3**
CDM	**Cerro de Muert**	**0.69**	**26**	*i* P	**Pg**	**05 51 07.6**	**-0.3**
CDM				*i* S	**Sg**	**05 51 17.0**	**0.0**
CDM				IAML		05 51 18.4	
	comp=Z,470nm,1.0s						
BUS1	**Rivas**	**0.69**	**28**	*e*P	**Pg**	**05 51 07.7**	**-0.4**
RAZU	**San Marcos de**	**0.72**	**4**	*e*P	**Pg**	**05 51 08.3**	**-0.1**
BURE	**Buenos Aires**	**0.76**	**72**	*e*P	**Pg**	**05 51 09.6**	**+0.4**
ABE2	**San Pablo**	**0.77**	**1**	*e*P	**Pg**	**05 51 09.5**	**+0.2**
LCR2	**La Lucha 2**	**0.81**	**5**	*e*P	**Pg**	**05 51 09.6**	**-0.4**
LCR2	**La Lucha 2**	**0.81**	**5**	*i* P	**Pg**	**05 51 09.8**	**-0.2**
LCR2				*i* S	**Sg**	**05 51 20.5**	**-0.1**
LCR2				IAML		05 51 21.4	
	comp=Z,730nm,1.0s						
EDBA	**Buenos Aires**	**0.82**	**74**	*e*P	**Pg**	**05 51 09.7**	**-0.6**
RIMA	**Rio Macho**	**0.85**	**14**	*e*P	**Pg**	**05 51 10.1**	**-0.9**
RIMA	**Rio Macho**	**0.85**	**14**	*i* P	**Pg**	**05 51 10.2**	**-0.7**
RIMA				*i* S	**Sg**	**05 51 21.4**	**-0.8**
RIMA				IAML		05 51 22.6	
	comp=Z,550nm,1.0s						
PTJ1	**Puerto Jimnez**	**0.86**	**117**	*e*P	**Pg**	**05 51 11.4**	**+0.4**
ACOS	**Acosta**	**0.86**	**354**	*e*P	**Pg**	**05 51 10.6**	**-0.5**
DRK0	**Durika**	**0.88**	**68**	*e*P	**Pg**	**05 51 10.8**	**-0.7**
EDP2	**Potrero Grande**	**0.89**	**85**	*e*P	**Pg**	**05 51 11.7**	**+0.1**
PIRO	**Carate, Puerto**	**0.90**	**126**	*i* P	**Pb**	**05 51 13.2**	**+1.3**
PIRO				IAML		05 51 16.0	
	comp=Z,660nm,1.0s						
REPA	**Paraso**	**0.91**	**13**	*e*P	**Pg**	**05 51 12.3**	**+0.3**
JACO	**JACO, Garabito**	**0.93**	**321**	*e*P	**Pg**	**05 51 11.4**	**-0.9**
JACO	**JACO, Garabito**	**0.93**	**321**	*i* P	**Pg**	**05 51 11.4**	**-0.9**
JACO				IAML		05 51 11.4	
	comp=Z,580nm,1.0s						
EDAD	**Golfito**	**0.94**	**107**	*e*P	**Pg**	**05 51 11.8**	**-0.7**
POTG	**Potrero Grande**	**0.95**	**83**	*e*P	**Pg**	**05 51 12.4**	**-0.3**
POTG	**Potrero Grande**	**0.95**	**83**	*i* P	**Pg**	**05 51 12.6**	**-0.2**
POTG				*i* S	**Sb**	**05 51 25.7**	**+0.4**
POTG				IAML		05 51 29.8	
	comp=Z,2μm,1.0s						
OCM	**Ochomogo**	**0.96**	**7**	*e*P	**Pg**	**05 51 12.1**	**-0.9**
OCM	**Ochomogo**	**0.96**	**7**	*i* P	**Pg**	**05 51 12.2**	**-0.8**
OCM				*i* S	**Sg**	**05 51 24.8**	**-0.8**
OCM				IAML		05 51 24.9	
	comp=Z,780nm,1.0s						
LUJA	**Lujan**	**0.99**	**0**	*e*P	**Pg**	**05 51 13.7**	**+0.3**
SANTA	**Santa Ana**	**1.00**	**354**	*e*P	**Pg**	**05 51 12.8**	**-0.9**
PCAYA	**Pacayas**	**1.01**	**15**	*e*P	**Pg**	**05 51 13.9**	**0.0**
TRIB	**Turrialba**	**1.04**	**22**	*e*P	**Pg**	**05 51 14.5**	**0.0**
BELE	**Belen**	**1.04**	**354**	*e*P	**Pg**	**05 51 14.4**	**-0.1**
TRB2	**Turrubares**	**1.04**	**339**	*e*P	**Pg**	**05 51 15.0**	**-1.5**
RAFA	**San Farael, Vo**	**1.05**	**14**	*e*P	**Pg**	**05 51 14.0**	**-0.7**
RAFA	**San Farael, Vo**	**1.05**	**14**	*i* P	**Pg**	**05 51 14.3**	**-0.4**
RAFA				IAML		05 51 29.1	
	comp=Z,4μm,1.0s						
HDC	**Heredia**	**1.06**	**358**	*e*P	**Pg**	**05 51 14.1**	**-0.8**
HDC3	**Heredia 3**	**1.06**	**358**	*e*P	**Pg**	**05 51 14.0**	**-0.8**
HDC3	**Heredia 3**	**1.06**	**358**	*i* P	**Pg**	**05 51 14.1**	**-0.8**
HDC3				IAML		05 51 34.2	
	comp=Z,610nm,1.0s						
HAYA	**Volcan Irazu**	**1.06**	**12**	*i* P	**Pg**	**05 51 14.1**	**-0.9**
HAYA				*i* S	**Sg**	**05 51 28.2**	**-0.7**
HAYA				IAML		05 51 29.0	
	comp=Z,2μm,1.0s						
ICR3	**Volcano Irazu**	**1.06**	**13**	*e*P	**Pg**	**05 51 14.1**	**-0.9**
VICA	**Volcano Irazu**	**1.07**	**12**	*e*P	**Pg**	**05 51 14.1**	**-1.0**
VERB	**Verbena**	**1.07**	**20**	*e*P	**Pg**	**05 51 14.0**	**-1.1**
VTCV	**VTCV, Calle Va**	**1.10**	**18**	*e*P	**Pg**	**05 51 14.5**	**-1.1**
VTRT	**Volcan Turrial**	**1.10**	**15**	*e*P	**Pg**	**05 51 14.1**	**-1.5**
VTLA	**Turrialba Volc**	**1.10**	**15**	*e*P	**Pg**	**05 51 14.7**	**-1.0**
CVTQ	**Turrialba Volc**	**1.11**	**16**	*e*P	**Pg**	**05 51 14.8**	**-0.9**
CVTV	**Tajo**	**1.11**	**17**	*e*P	**Pg**	**05 51 14.9**	**-0.9**
RVSTA	**Santa Teresita**	**1.12**	**22**	*e*P	**Pg**	**05 51 14.7**	**-1.2**
RVSTA				*e*P	**Pg**	**05 51 14.7**	**-1.2**
CVTR	**Volcan Turrial**	**1.12**	**16**	*e*P	**Pg**	**05 51 15.1**	**-1.0**
TCS1	**Tacares**	**1.12**	**349**	*e*P	**Pg**	**05 51 14.9**	**-1.2**
TCS1	**Tacares**	**1.12**	**349**	*i* P	**Pg**	**05 51 15.4**	**-0.7**
TCS1				IAML		05 51 32.4	
	comp=Z,3μm,1.0s						
VTLO	**VTLO**	**1.15**	**17**	*e*P	**Pg**	**05 51 15.4**	**-1.3**
CBL1	**Cabuya**	**1.20**	**303**	*e*P	**Pg**	**05 51 15.3**	**-2.2**
SRA1	**San Ramn**	**1.21**	**341**	*e*P	**Pg**	**05 51 16.0**	**-1.8**
CDITO	**Canoas**	**1.24**	**107**	*e*P	**Pg**	**05 51 17.1**	**-1.1**
CDITO	**Canoas**	**1.24**	**107**	*e*P	**Pg**	**05 51 17.0**	**-1.3**
CDITO	**Canoas**	**1.24**	**107**	*i* P	**Pg**	**05 51 17.0**	**-1.3**
CDITO				*i* S	**Sg**	**05 51 34.3**	**-0.1**
CDITO				IAML		05 51 38.5	
	comp=Z,380nm,1.0s						
LCOCO	**El Coco**	**1.25**	**24**	*e*P	**Pg**	**05 51 17.0**	**-1.5**
VPS6	**Volcano Poas**	**1.26**	**353**	*e*P	**Pg**	**05 51 17.5**	**-1.1**
CTCR	**Cotoan**	**1.30**	**92**	*i* P	**Pg**	**05 51 18.9**	**-0.5**
CTCR				IAML		05 51 36.7	
	comp=Z,2μm,1.0s						
BRU2	**Volcan**	**1.37**	**96**	*e*P	**Pn**	**05 51 19.5**	**0.0**
BRU2				*e*S	**Sb**	**05 51 37.3**	**-0.3**
BRU2	**Volcan**	**1.37**	**96**	*e*P	**Pn**	**05 51 19.4**	**0.0**
BRU2	**Volcan**	**1.37**	**96**	*i* P	**Pn**	**05 51 19.5**	**0.0**
BRU2				IAML		05 51 45.9	
	comp=Z,360nm,1.0s						
CPMI	**Catarata Coope**	**1.37**	**347**	*e*P	**Pn**	**05 51 18.5**	**-0.9**
CPMI	**Catarata Coope**	**1.37**	**347**	*i* P	**Pn**	**05 51 18.6**	**-0.9**
CPMI				*i* S	**Sb**	**05 51 37.2**	**-0.5**
CPMI				IAML		05 51 38.2	
	comp=Z,590nm,1.0s						
RIFO	**Rio Frio, Sara**	**1.38**	**6**	*i* P	**Pn**	**05 51 19.7**	**+0.3**
RIFO				*i* S	**Sb**	**05 51 37.3**	**-0.4**
RIFO				IAML		05 51 40.7	
	comp=Z,690nm,1.0s						
PTPM	**Petroterminale**	**1.39**	**121**	*e*P	**Pn**	**05 51 19.5**	**0.0**
PTPM				*e*S	**Sb**	**05 51 36.4**	**-1.4**
BC3P	**Paso Ancho**	**1.45**	**95**	*e*P	**Pn**	**05 51 20.6**	**0.0**
SOCE	**Pocosol**	**1.54**	**340**	*i* P	**Pn**	**05 51 21.8**	**+0.2**
SOCE				IAML		05 51 44.3	
	comp=Z,1μm,1.0s						
BCO2	**Palmira**	**1.54**	**98**	*e*P	**Pn**	**05 51 21.3**	**-0.5**
BCO2				*e*S	**Sn**	**05 51 41.2**	**-0.6**
JTS	**Las Juntas de**	**1.60**	**327**	*e*P	**Pn**	**05 51 21.1**	**-1.4**
LNBQ3	**Los Naranjos,**	**1.62**	**95**	*e*P	**Pn**	**05 51 23.0**	**+0.1**
POPE	**POPE, Guanacas**	**1.62**	**314**	*e*P	**Pn**	**05 51 23.8**	**-1.8**
POPE	**POPE, Guanacas**	**1.62**	**314**	*i* P	**Pn**	**05 51 24.0**	**+1.3**
POPE				IAML		05 51 55.5	
	comp=Z,67nm,1.0s						
VACR	**Volcan Arenal**	**1.64**	**339**	*i* P	**Pn**	**05 51 23.5**	**+0.5**
VACR				*i* S	**Sn**	**05 51 45.8**	**+1.7**
VACR				IAML		05 51 47.7	
	comp=Z,320nm,1.0s						
ARE1	**Arenal 1**	**1.65**	**337**	*e*P	**Pn**	**05 51 24.1**	**+1.0**
TRT2	**Tortugero**	**1.65**	**12**	*i* P	**Pn**	**05 51 23.0**	**-0.1**
TRT2				*i* S	**Sn**	**05 51 44.5**	**+0.4**
TRT2				IAML		05 51 45.9	
	comp=Z,340nm,1.0s						
CNI2	**El Empalme, Bo**	**1.66**	**73**	*e*P	**Pn**	**05 51 22.8**	**-0.3**
CNI2				*e*S	**Sn**	**05 51 43.6**	**-0.7**
DVD	**David**	**1.68**	**107**	*e*P	**Pn**	**05 51 23.1**	**-0.4**
DVD				*e*S	**Sn**	**05 51 43.9**	**-1.0**
INDI	**Punta indio, G**	**1.69**	**303**	*e*P	**Pn**	**05 51 21.8**	**-1.8**
INDI	**Punta indio, G**	**1.69**	**303**	*i* P	**Pn**	**05 51 25.2**	**+1.6**
INDI				IAML		05 52 05.1	
	comp=Z,53nm,1.0s						
ORTG	**Ortega, Santa**	**1.97**	**316**	*i* P	**Pn**	**05 51 29.3**	**+1.7**
ORTG				IAML		05 52 52.7	
	comp=Z,51nm,1.0s						
HZTE	**Horizontes, Gu**	**2.32**	**320**	*i* P	**Pg**	**05 51 41.6**	**+2.7**

CATAC ***30*** *06:24:29.7±0.6, 14.°19N×92.°41W, h17km±5km, ML4.5*
MEX ***30*** *06:24:29.9±0.7, 14.°14N×92.°49W, h62km±20km, MD4.2*
NEIC ***30*** *06:24:30.9±1.7, 14.°21N±0.°06×92.°39W±0.°07, h38km±11km, mb4.2/7, Md4.3/32(MEX), Error ellipse: s-maj=10.7km s-min=7.9km az=224.0*
SNET ***30*** *06:24:31.5±1.1, 13.°88N×92.°35W, h34km±999km, ML4.3*
IDC ***30*** *06:24:31.7±2.3, 14.°44N×92.°19W, h56km±19km, mb3.5/4, mbtmp3.7/7, ML3.6/3, MS3.4/4, Error ellipse: s-maj=28.5km s-min=13.6km az=32.0*
GCG ***30*** *06:24:33.0±0.7, 14.°56N×92.°15W, h73km±10km, MD4.1*

ISC 30 06:24:27.9±1.2, 14.°29N±0.°04×92.°54W±0.°03, h27km±9km, n112, σ2°15/164, mb4.0/5, MS3.1/3, 1C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.67**	**23**		**Pn**	**06 24 43.8**	**+2.2**
THIG					**Sn**	**06 24 54.7**	**+3.5**
THIG		**0.67**	**23**	*i* P	**Pn**	**06 24 43.8**	**+2.2**
THIG				*i* S	**Sn**	**06 24 54.7**	**+3.5**
SMCA	**Catarina**	**0.72**	**38**	*i* P	**Pb**	**06 24 43.6**	**+1.7**
SMCA				*i* S	**Sn**	**06 24 54.2**	**+1.7**
SMCA				IAML		06 24 54.5	
	comp=Z,7μm,1.0s						
RTAL	**Retalhuleu**	**0.85**	**74**		**Pn**	**06 24 44.6**	**+0.5**
RTAL	**Retalhuleu**	**0.85**	**74**	*i* P	**Pn**	**06 24 44.5**	**+0.5**
RTAL				*i* S	**Sb**	**06 24 56.0**	**+0.9**
RTAL	**Retalhuleu**	**0.85**	**74**	*i* P	**Pb**	**06 24 44.8**	**+0.8**
RTAL				IAML		06 24 45.0	
	comp=Z,16μm,1.0s						
RTAL				*i* S	**Sb**	**06 24 56.4**	**+1.3**
PATR	**El Naranjo**	**0.88**	**19**	*i* P	**Pb**	**06 24 46.1**	**+1.4**
PATR				*e*S	**Sb**	**06 24 57.3**	**+1.2**
CHUJ	**Union Juarez**	**0.90**	**27**	*i* P	**Pb**	**06 24 46.1**	**+1.0**
CHUJ				*i* S	**Sb**	**06 24 58.0**	**+1.2**
SULM	**Suchitepequez,**	**0.94**	**89**	*i* P	**Pb**	**06 24 47.1**	**+1.5**
SULM				*e*S	**Sb**	**06 24 58.6**	**+0.8**
PAVE	**Pavencul**	**0.97**	**21**	*i* P	**Pb**	**06 24 47.5**	**+1.3**
PAVE				*i* S	**Sb**	**06 24 59.0**	**+1.9**
SMSP	**San Marcos**	**1.00**	**47**	*i* P	**Pn**	**06 24 47.4**	**+1.0**
SMSP				*i* S	**Sb**	**06 25 01.1**	**+1.3**
STG3	**Santiaguito 3,**	**1.03**	**66**	*e*P	**Pn**	**06 24 47.6**	**+0.9**
STG3				*e*S	**Sb**	**06 25 01.8**	**+1.5**
SOKI	**Kika Raxquin**	**1.22**	**64**	*i* P	**Pn**	**06 24 50.3**	**+0.8**
SOKI				IAML		06 24 53.7	
	comp=Z,3μm,1.0s						
SOKI				*i* S	**Sb**	**06 25 09.3**	**+3.2**
HUEH	**Huehuetenango**	**1.43**	**44**		**Pb**	**06 24 54.3**	**+0.2**
HUEH	**Huehuetenango**	**1.43**	**44**	*i* P	**Pb**	**06 24 54.3**	**+0.2**
HUEH				*i* S	**Sb**	**06 25 13.6**	**+1.6**
HUEH	**Huehuetenango**	**1.43**	**44**	*i* P	**Pb**	**06 24 54.5**	**+0.4**
HUEH				IAML		06 24 56.9	
	comp=Z,7μm,1.0s						
HUEH				*i* S	**Sb**	**06 25 13.6**	**+1.6**
PCIG		**1.56**	**335**	*i* P	**Pb**	**06 24 56.5**	**+0.5**
PCIG				*e*S	**Sn**	**06 25 15.7**	**+2.6**
CHTG	**Tecpan**	**1.57**	**72**	*i* P	**Pn**	**06 24 55.5**	**+1.2**
CHTG				*i* S	**Sb**	**06 25 16.5**	**+0.3**
CHTG				IAML		06 25 17.7	
	comp=Z,8μm,1.0s						
FUG	**Fuego 3**	**1.65**	**84**	*e*P	**Pn**	**06 24 55.6**	**+0.4**
FUG				*e*S	**Sn**	**06 25 13.0**	**-2.7**
QUIS	**Sacapulas**	**1.72**	**54**	*i* P	**Pb**	**06 24 58.6**	**-0.3**
QUIS				*i* S	**Sb**	**06 25 20.3**	**+0.2**
QUIS				IAML		06 25 20.8	
	comp=Z,6μm,1.0s						
PCG	**Pacaya**	**1.87**	**87**	*i* P	**Pn**	**06 24 59.4**	**+1.0**
GUMI	**Mixco**	**1.90**	**79**	*i* P	**Pn**	**06 24 59.6**	**+1.0**
GUMI				*i* S	**Sn**	**06 25 22.0**	**+0.3**
GUMI				IAML		06 25 24.7	
	comp=Z,6μm,1.0s						
GCG4	**OSOP**	**1.96**	**81**	*i* P	**Pn**	**06 25 00.6**	**+1.0**
GCG4				*i* S	**Sn**	**06 25 23.6**	**+0.2**
GCG4				IAML		06 25 25.7	
	comp=Z,4μm,1.0s						
CCIG	**Comitan**	**2.02**	**11**		**Pb**	**06 25 04.0**	**0.0**
CCIG	**Comitan**	**2.02**	**11**	*e*P	**Pb**	**06 25 04.2**	**+0.1**
CCIG				*e*S	**Sb**	**06 25 29.6**	**+0.7**
NBG	**Las Nubes**	**2.14**	**82**	*e*P	**Pn**	**06 25 04.4**	**+2.3**
NBG				*e*S	**Sn**	**06 25 25.6**	**-2.3**
GUNB	**GUNB**	**2.15**	**81**	*i* P	**Pn**	**06 25 03.6**	**+1.4**
GUNB				*i* S	**Sn**	**06 25 29.3**	**+1.3**
GUNB				IAML		06 25 34.2	
	comp=Z,2μm,1.0s						
CARR	**Arriaga**	**2.36**	**326**	*e*P	**Pb**	**06 25 09.2**	**-0.5**
CARR				*e*S	**Sb**	**06 25 37.5**	**-0.9**
TGIG		**2.54**	**347**		**Pn**	**06 25 10.4**	**+3.0**
TGIG		**2.54**	**347**	*i* P	**

TOIG				*e*S		**Sn**	**06 26 58.5**	**+1.2**
PNIG	**Pinotepa**	**5.79**	**292**	*e*P		**Pn**	**06 25 56.3**	**+4.3**
PNIG				*e*S		**Sn**	**06 26 53.1**	**-4.4**
TXIG	**Tlaxiaco**	**5.84**	**301**	*e*P		Pn	06 25 58.4	+5.5
TXIG				*e*S		**Sn**	**06 26 58.8**	**-0.4**
HLIG	**Huajuapan de L**	**6.17**	**306**	*e*P		Pn	06 26 02.7	+5.3
FTIG	**Fresnillo de T**	**6.47**	**305**	*e*P		**Pn**	**06 26 04.7**	**+3.1**
FTIG				*e*S		**Sn**	**06 27 13.3**	**-1.3**
JAUV	**Jalcomulco**	**6.50**	**322**	*e*P		**Pn**	**06 26 03.8**	**+2.1**
JAUV				*e*S		**Sn**	**06 27 13.6**	**-1.5**
MGIG	**Malinaltepec**	**6.56**	**297**	*e*P		Pn	06 26 08.7	+5.9
MGIG				*e*S		**Sn**	**06 27 11.1**	**-5.8**
MATN	**Matagalpa**	**6.57**	**101**	Pn		**Pn**	**06 26 01.4**	**-1.4**
TLIG	**Tlapa**	**6.65**	**300**	Pn		**Pn**	**06 26 06.9**	**+2.9**
TLIG	**Tlapa**	**6.65**	**300**	*e*P		**Pn**	**06 26 08.0**	**+4.0**
CRIG	**Cruz Grande**	**6.81**	**292**	*e*P		**Pn**	**06 26 08.9**	**+2.9**
CRIG				*e*S		**Sn**	**06 27 21.1**	**-1.6**
BOAB	**BOACO BROADBAN**	**6.93**	**104**	Pn		**Pn**	**06 26 08.6**	**+0.9**
TEIG	**Tepich**	**7.17**	**34**			**Pn**	**06 26 11.8**	**+0.8**
TEIG	**Tepich**	**7.17**	**34**	P		**Pn**	**06 26 11.4**	**+0.4**
	comp=Z,293nm,0.5s,baz=3.6,slow=2.1,SNR=55							
TEIG				S		**Sn**	**06 27 26.4**	**-5.2**
	comp=Z,190nm,0.6s,baz=52,slow=19,SNR=1.2							
TEIG				LR		LR	06 29 37.6	
	comp=Z,884nm,20.9s,baz=49,slow=45							
DAIG	**Los Arroyos**	**7.37**	**293**	*e*P		**Pn**	**06 26 14.6**	**+0.8**
DAIG				*e*S		**Sn**	**06 27 33.0**	**-3.6**
PPM	**Popocatepetl**	**7.53**	**310**	*e*P		Pn	06 26 22.6	+6.3
PPM				*e*S		**Sn**	**06 27 43.5**	**+2.4**
HZTE	**Horizontes, Gu**	**7.65**	**117**	Pn		**Pn**	**06 26 18.2**	**+0.6**
CAIG	**El Cayaco**	**7.94**	**291**	*e*P		**Pn**	**06 26 24.2**	**+2.7**
CAIG				*e*S		**Sn**	**06 27 52.3**	**+1.9**
ORTG	**Ortega, Santa**	**7.94**	**119**	Pn		**Pn**	**06 26 22.6**	**+1.0**
JTS	**Las Juntas de**	**8.41**	**117**	P		**Pn**	**06 26 29.4**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=302,slow=21,SNR=5.8							
JTS				S		**Sn**	**06 27 58.0**	**-4.2**
	comp=Z,1.8nm,0.5s,baz=232,slow=23,SNR=1.1							
	comp=Z,1.7nm,0.4s							
JACO	**JACO, Garabito**	**8.97**	**120**	Pn		**Pn**	**06 26 35.8**	**+0.1**
LCR2	**La Lucha 2**	**9.49**	**117**	Pn		**Pn**	**06 26 45.3**	**+2.3**
RIMA	**Rio Macho**	**9.60**	**117**			**Pn**	**06 26 46.7**	**+2.1**
346A	**Big Creek Wild**	**17.25**	**9**	Pn		**P**	**06 28 28.5**	**+0.3**
346A				IAmb		IAmb	06 28 45.2	
	comp=Z,13nm,0.8s							
237A	**Washetta, Mont**	**17.89**	**351**			**P**	**06 28 37.3**	**+2.1**
TXAR	**Lajitas Array**	**18.17**	**327**	P		**P**	**06 28 41.7**	**+3.2**
TXAR	**Lajitas Array**	**18.17**	**327**	P		**P**	**06 28 41.9**	**+3.4**
	comp=Z,0.1nm,0.3s,baz=150,slow=12,SNR=9.6							
	comp=Z,0.7nm,0.7s							
146A	**Union**	**18.54**	**9**	P		**Pn**	**06 28 45.7**	**+2.9**
MNHN	**Monahans**	**19.39**	**333**	P		**Pn**	**06 28 55.5**	**+2.3**
MNHN				IAmb		IAmb	06 28 56.4	
	comp=Z,7.8nm,0.7s							
SDDR	**Presa de Saban**	**20.88**	**74**	P		**P**	**06 29 07.5**	**-0.7**
SDDR				IAmb		IAmb	06 29 34.9	
	comp=Z,25nm,1.4s							
SMWD	**Samnorwood**	**21.86**	**343**	P		**P**	**06 29 20.6**	**+2.1**
SMWD				IAmb		IAmb	06 29 22.3	
	comp=Z,10nm,0.8s							
TKL	**Tuckaleechee C**	**22.69**	**19**	LR		LR	06 37 33.3	
	comp=Z,42nm,21.0s,baz=170,slow=35							
SJG	**San Juan**	**25.61**	**78**	LR		LR	06 39 12.0	
	comp=Z,51nm,19.2s,baz=224,slow=35							
PDAR	**Pinedale Array**	**31.95**	**336**	P		**P**	**06 30 52.5**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=158,slow=9.7,SNR=2.7							
	comp=Z,0.2nm,0.5s							
NVAR	**Mina Array Bea**	**33.12**	**321**	P		**P**	**06 31 05.0**	**+2.9**
	comp=Z,1.5nm,0.7s,baz=137,slow=8.6,SNR=16							
	comp=Z,1.5nm,0.7s							
YBH	**Yreka Blue Hor**	**37.82**	**322**	LR		LR	06 50 05.3	
	comp=Z,52nm,19.1s,baz=36,slow=40							
YKA	**Yellowknife Ar**	**50.63**	**347**	P		**P**	**06 33 23.9**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=154,slow=7.0,SNR=34							
	comp=Z,1.3nm,0.7s							
ILAR	**Eielson Array**	**62.37**	**337**	P		**P**	**06 34 47.9**	**0.0**
	comp=Z,0.7nm,0.8s,baz=130,slow=5.3,SNR=7.6							
	comp=Z,0.7nm,0.8s							
CMAR	**Chiang Mai Arr**	**145.55**	**340**	PKPbc		**PKPdf**	**06 44 03.0**	**-1.6**
	comp=Z,3.3nm,0.7s,baz=339,slow=3.8,SNR=18							

*NNC **30** 06:26:46.0±0.5, 49.˚78N×73.˚68E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=4.7km s-min=3.5km az=27.0, Suspected Mining explosion.*
*SOME **30** 06:26:46.0, 49.72N×73.˚80E, h10km*
*IDC **30** 06:26:47.5±1.1, 49.˚79N×73.˚70E, h0km, mbtmp2.9/5, ML2.8/4, Error ellipse: s-maj=16.2km s-min=7.5km az=25.0*

ISC 30 06:26:47.1±0.8, 49°89N±0.˚05×73°69E±0.˚04, h0km, n26, σ1°77/32, 4C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BRZS	**Berezniki**	**0.66**	**279**	*e*P		**Pg**		**06 27 00.2**	**+0.4**
	24nm,0.7s								
BRZS				*e*S		**Sg**		**06 27 10.3**	**+1.9**
	57nm,0.5s								
BRZS	**Berezniki**	**0.66**	**279**	P		**Pg**		**06 26 58.7**	**-1.0**
	4.8nm,0.2s								
BRZS				S		**Sg**		**06 27 08.5**	**+0.2**
	57nm,0.5s								
OTUK	**Ortayu**	**1.87**	**209**	P		**Pn**		**06 27 18.6**	**-1.7**
	7.1nm,0.3s								
OTUK				S		**Sn**		**06 27 42.5**	**-2.1**
	8.1nm,0.5s								
KURBB	**Kurchatov Arra**	**3.19**	**75**	Pn		**Pn**		**06 27 38.8**	**+0.4**
	0.5nm,0.3s,baz=259,slow=17,SNR=26								
KURBB				Pg		**Pb**		**06 27 44.2**	**-0.4**
	0.7nm,0.3s,baz=259,slow=17,SNR=44								
KURBB				Lg		Lg		06 28 29.1	
	1.2nm,0.3s,baz=253,slow=28,SNR=8.0								
	0.8nm,0.5s								
KURBB	**Kurchatov Arra**	**3.19**	**75**	⇑Pg		**Pb**		**06 27 45.0**	**+0.5**
	4.1nm,0.5s								
KURBB				⇑Lg		Lg		06 28 31.3	
	33nm,0.6s								
KURK	**Kurchatov**	**3.27**	**73**	⇓Pg		**Pb**		**06 27 46.4**	**+0.5**
	2.5nm,0.4s								
KURK				⇑Lg		Lg		06 28 29.9	
	15nm,0.5s								
BVA0	**Borovoye Array**	**3.76**	**328**	Pn		**Pn**		**06 27 49.0**	**+2.7**
	0.7nm,0.7s,baz=140,slow=12,SNR=4.1								
BVA0				⇓Pg		**Pg**		**06 27 57.3**	**-1.9**
	3.4nm,0.8s,baz=142,slow=15,SNR=22								
BVA0				⇓Lg		Lg		06 28 48.3	
	4.7nm,0.5s,baz=138,slow=28,SNR=8.2								
BVAR	**Borovoye Array**	**3.76**	**328**	Pn		**Pn**		**06 27 47.6**	**+1.3**
	0.2nm,0.3s,baz=141,slow=12,SNR=4.4								
BVAR				Pg		**Pb**		**06 27 54.9**	**+0.6**
	0.2nm,0.3s,baz=144,slow=16,SNR=16								
BVAR				Lg		Lg		06 28 47.8	
	0.4nm,0.3s,baz=146,slow=26,SNR=11								
KUU	**Kurty**	**6.26**	**162**	*e*Pg		**Pb**		**06 28 38.0**	**+1.0**
	0.5nm,0.1s								
KUU				*e*Lg		Lg		06 29 58.0	
	9.0nm,0.6s								
KUU	**Kurty**	**6.26**	**162**	Pg		**Pb**		**06 28 38.0**	**+1.0**
	0.5nm,0.1s								
KUU				Lg		Lg		06 29 58.0	
	9.0nm,0.6s								
ARXS	**Arharly**	**6.34**	**152**	*e*Pg		**Pb**		**06 28 39.8**	**+1.6**
	1.4nm,0.2s								
ARXS				*e*Lg		Lg		06 30 01.1	
	5.7nm,0.7s								
ARXS	**Arharly**	**6.34**	**152**	Pg		**Pb**		**06 28 37.9**	**-0.3**
	1.8nm,0.4s								
ARXS				Lg		Lg		06 29 59.6	
	7.1nm,0.6s								
KTBS	**Karatobe**	**6.51**	**161**	*e*Pg		**Pb**		**06 28 42.8**	**+1.7**
	0.4nm,0.4s								
KTBS				*e*Lg		Lg		06 30 06.2	
	18nm,0.6s								
KTBS	**Karatobe**	**6.51**	**161**	Pg		**Pb**		**06 28 41.7**	**+0.6**
	1.6nm,0.4s								
KTBS				Lg		Lg		06 30 04.9	
	21nm,0.6s								
MK31	**Makanchi Array**	**6.51**	**115**	⇑Pg		**Pb**		**06 28 43.3**	**+2.1**
	0.4nm,0.4s,baz=296,slow=14,SNR=3.9								
MK31				⇓Lg		Lg		06 30 10.8	
	2.6nm,0.5s,baz=300,slow=27,SNR=11								
MKAR	**Makanchi Array**	**6.51**	**115**	Pn		**Pn**		**06 28 23.6**	**-0.5**
	0.4nm,0.3s,baz=297,slow=13,SNR=23								
MKAR				Sn		**Sn**		**06 29 37.0**	**-2.0**
	0.1nm,0.3s,baz=306,slow=27,SNR=2.3								
MKAR				Lg		Lg		06 30 11.4	
	0.6nm,0.3s,baz=298,slow=28,SNR=6.4								
	0.4nm,0.3s								
MTBS	**Maitube**	**7.02**	**163**	*e*Pg		**Pb**		**06 28 52.7**	**+2.8**
	0.8nm,0.2s								
MTBS				*e*Lg		Lg		06 30 23.1	
	5.8nm,0.3s								
MTBS	**Maitube**	**7.02**	**163**	Pg		**Pb**		**06 28 51.3**	**+1.5**
	0.8nm,0.2s								
MTBS				Lg		Lg		06 30 20.8	
	9.2nm,0.5s								
KST	**Kastek**	**7.02**	**166**	*e*Pg		**Pb**		**06 28 52.8**	**+2.8**
	0.8nm,0.1s								
KST				*e*Lg		Lg		06 30 23.2	
	12nm,0.7s								
KST	**Kastek**	**7.02**	**166**	Pg		**Pb**		**06 28 51.7**	**+1.8**
	1.1nm,0.5s								
KST				Lg		Lg		06 30 21.5	
	12nm,0.6s								
KOTS	**Kotyrbulak**	**7.06**	**159**	*e*Pg		**Pb**		**06 28 54.0**	**+3.5**
	2.3nm,0.3s								
KOTS				*e*Lg		Lg		06 30 25.8	
	13nm,0.5s								
KOTS	**Kotyrbulak**	**7.06**	**159**	Pg		**Pb**		**06 28 54.0**	**+3.5**
	2.3nm,0.3s								
KOTS				Lg		Lg		06 30 25.8	
	13nm,0.5s								
KK31	**Karatay Array**	**7.13**	**199**	⇓Lg		Lg		06 30 28.0	
	3.0nm,0.6s,baz=17,slow=28,SNR=6.2								
I46RU	**ZALESOVO INFRA**	**7.99**	**55**	I		I		07 14 10.0	
	baz=238,slow=319,SNR=1.6								
ZALV	**Zalesovo Beam**	**7.99**	**55**	Pn		**Pn**		**06 28 44.9**	**+0.6**
	0.3nm,0.3s,baz=248,slow=13,SNR=4.4								
ZALV				Sn		**Sn**		**06 30 16.0**	**+0.7**
	0.2nm,0.3s,baz=247,slow=22,SNR=3.6								
ZALV				Lg		Lg		06 31 03.5	
	0.2nm,0.3s,baz=248,slow=24,SNR=2.4								
	0.7nm,0.3s								
AKTO	**Aktyubinsk**	**10.08**	**279**	Pn		**Pn**		**06 29 11.8**	**-1.2**
	0.2nm,0.3s,baz=94,slow=13,SNR=2.4								
	0.4nm,0.3s								

IDC 30 06:38:32.9±1.6, 4°46S×139°14E, h0km, mb3.6/3, mbtmp3.8/5, ML4.1/2, MS3.4/2, Error ellipse: s-maj=74.8km s-min=22.6km az=98.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.08**	**197**	Pn		Pn		06 42 18.8	-1.8
	0.5nm,0.3s,baz=14,slow=13,SNR=18								
WRA				Sn		Sn		06 45 12.3	-7.5
	0.2nm,0.3s,baz=9.5,slow=24,SNR=2.5								
WRA				Lg		Lg		06 47 02.7	
	0.1nm,0.3s,baz=23,slow=33,SNR=2.3								
	1.3nm,0.4s								
ASAR	**Alice Springs**	**19.75**	**194**	P		Pn		06 43 06.0	0.0
	1.0nm,0.3s,baz=20,slow=10,SNR=125								
ASAR				Lg		Lg		06 48 59.2	
	baz=20,slow=28,SNR=1.8								
ASAR				LR		LR		06 52 03.1	
	comp=Z,55nm,18.3s,baz=50,slow=41								
	4.5nm,0.6s								
SONM	**Songino Array**	**59.47**	**335**	P		P		06 48 37.8	-0.1
	0.3nm,0.7s,baz=132,slow=6.4,SNR=2.3								
	0.3nm,0.7s								
BVAR	**Borovoye Array**	**80.98**	**325**	P		P		06 50 48.0	-1.5
	0.5nm,0.6s,baz=98,slow=6.0,SNR=2.6								
	0.5nm,0.6s								
ILAR	**Eielson Array**	**87.24**	**24**	P		P		06 51 22.2	+1.1
	0.4nm,0.6s,baz=270,slow=4.2,SNR=4.5								
	0.4nm,0.9s								
OPO	**Ambohidratompo**	**90.44**	**251**	LR		LR		07 28 03.9	
	comp=Z,38nm,18.2s,baz=357,slow=33								

IDC 30 06:57:01.3±2.9, 21°16S×179°98E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=281.7km s-min=36.0km az=162.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.53**	**258**	P		P		07 04 58.1	-0.8
	1.4nm,0.6s,baz=98,slow=7.5,SNR=30								
	1.4nm,0.6s								
WRA	**Warramunga Arr**	**42.65**	**263**	P		P		07 05 00.4	+0.5
	2.2nm,0.6s,baz=96,slow=8.4,SNR=78								
	2.2nm,0.6s								
TXAR	**Lajitas Array**	**89.00**	**58**	P		P		07 09 58.5	0.0
	0.2nm,0.8s,baz=224,slow=5.0,SNR=2.7								
	0.2nm,0.8s								

*IDC **30** 07:08:38.3±0.8, 10.˚03N×140.˚22E, h0km, mb4.0/16, mbtmp4.0/17, ML4.6/1, MS3.6/29, Error ellipse: s-maj=25.4km s-min=16.0km az=89.0*
*NEIC **30** 07:08:40.4±0.9, 10.˚0N±0.˚1×140.˚1E±0.˚1, h10km±1km, mb4.5/32, Error ellipse: s-maj=23.4km s-min=15.9km az=110.0*

ISC 30 07:08:43.3±0.5, 10°00N±0.˚07×140°18E±0.˚09, h35km, n92, σ0°92/64, mb4.3/38, MS3.6/28, 1D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.81**	**52**			**Pn**		**07 10 07.3**	**+0.2**
GUMO	**Guam**	**5.81**	**52**	Pn		**Pn**		**07 10 07.0**	**0.0**
	19nm,0.3s,baz=215,slow=12,SNR=10								
GUMO				Sn		**Sn**		**07 11 09.5**	**-3.0**
	12nm,0.3s,baz=172,slow=23,SNR=1.9								
GUMO				LR		LR		07 12 57.4	
	comp=Z,245nm,18.6s,baz=230,slow=45								
	67nm,0.3s								
DAV	**Davao City (W)**	**14.73**	**260**	LR		LR		07 19 03.7	
	comp=Z,86nm,18.4s,baz=88,slow=42								
JCJ	**Chichijima**	**17.11**	**6**	LR		LR		07 16 57.0	
	comp=Z,104nm,21.0s,baz=202,slow=29								
JOW	**Kunigami**	**20.17**	**328**	LR		LR		07 19 22.0	
	comp=Z,136nm,21.7s,baz=170,slow=32								
PMG	**Port Moresby**	**20.49**	**160**	LR		LR		07 20 49.6	
	comp=Z,160nm,19.1s,baz=350,slow=36								
JHJ	**Hachijo jima 2**	**23.01**	**359**	LR		LR		07 21 12.0	
	comp=Z,147nm,18.4s,baz=204,slow=33								
JMN	**Monobe**	**24.31**	**347**	P		**P**		**07 13 57.0**	**-0.7**
JMN				IAmb		IAmb		07 14 07.1	
	comp=Z,11nm,0.9s								
MTN	**Manton Dam**	**24.41**	**202**	P		**P**		**07 13 58.4**	**-0.3**
JNU	**Nakatsue**	**24.55**	**341**	P		**P**		**07 13 58.6**	**-1.3**
JNU	**Nakatsue**	**24.55**	**341**	LR		LR		07 21 56.2	
	comp=Z,123nm,21.4s,baz=148,slow=32								
KAPI	**Kappang**	**25.23**	**235**	P		**P**		**07 14 05.1**	**-1.1**
KAPI				IAmb		IAmb		07 14 22.5	
	comp=Z,11nm,1.1s								
KAPI	**Kappang**	**25.23**	**235**	LR		LR		07 23 48.0	
	comp=Z,79nm,20.1s,baz=0.0,slow=36								
H11S3	**WAKE ISLAND Hy**	**27.01**	**69**	T		T		07 42 33.0	
	baz=255,slow=75,SNR=3240								
H11S1	**WAKE ISLAND Hy**	**27.03**	**69**	T		T		07 42 34.5	
	baz=255,slow=75,SNR=940								
H11S2	**WAKE ISLAND Hy**	**27.03**	**69**	T		T		07 42 33.0	
	baz=255,slow=75,SNR=1572								
H11N1	**WAKE ISLAND Hy**	**27.53**	**66**	T		T		07 43 14.3	
	baz=253,slow=75,SNR=287								
H11N2	**WAKE ISLAND Hy**	**27.54**	**66**	T		T		07 43 11.2	
	baz=253,slow=75,SNR=250								
H11N3	**WAKE ISLAND Hy**	**27.54**	**66**	T		T		07 43 11.9	
	baz=253,slow=75,SNR=144								
HNR	**Honiara**	**27.56**	**134**	LR		LR		07 24 51.7	
	comp=Z,908nm,18.2s,baz=308,slow=35								
KNRA	**Kununurra**	**27.91**	**204**	P		**P**		**07 14 30.2**	**0.0**
KNRA				IAmb		IAmb		07 14 53.0	
	comp=Z,7.8nm,0.8s								
KSRS	**Korea Array**	**29.48**	**340**	P		**P**		**07 14 43.7**	**-0.3**
	comp=Z,1.6nm,1.0s,baz=164,slow=9.7,SNR=2.9								
KSRS				LR		LR		07 24 36.0	
	comp=Z,100nm,21.8s,baz=150,slow=32								
	comp=Z,1.6nm,1.0s								
WB0	**Warramunga Arr**	**30.12**	**191**	P		**P**		**07 14 50.1**	**+0.2**
WB0				IAmb		IAmb		07 15 04.8	
	comp=Z,6.9nm,1.0s								
WR0	**Warramunga Arr**	**30.29**	**191**	P		**P**		**07 14 51.4**	**+0.1**
WR0				IAmb		IAmb		07 15 06.2	
	comp=Z,7.9nm,1.0s								
WB2	**Warramunga Arr**	**30.30**	**191**	P		**P**		**07 14 52.0**	**+0.5**
WB2				IAmb		IAmb		07 15 15.2	
	comp=Z,6.6nm,1.1s								
WRA	**Warramunga Arr**	**30.31**	**191**	P		**P**		**07 14 51.4**	**-0.1**
WRA	**Warramunga Arr**	**30.31**	**191**	P		**P**		**07 14 51.3**	**-0.2**
	comp=Z,2.3nm,1.0s,baz=11,slow=10,SNR=11								
WRA				PcP		**PcP**		**07 17 52.0**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=5.4,slow=2.7,SNR=1.3								
	comp=Z,2.3nm,1.0s								
AS31	**Alice Springs**	**34.02**	**190**	P		**P**		**07 15 23.9**	**-0.2**
ASAR	**Alice Springs**	**34.02**	**190**	P		**P**		**07 15 23.8**	**-0.3**
ASAR	**Alice Springs**	**34.02**	**190**	P		**P**		**07 15 24.6**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=19,slow=12,SNR=26								
ASAR				PcP		**PcP**		**07 18 02.7**	**+1.1**
	comp=Z,0.3nm,0.9s,baz=20,slow=3.0,SNR=1.6								
ASAR				LR		LR		07 29 01.1	
	comp=Z,138nm,20.2s,baz=13,slow=36								
	comp=Z,0.8nm,0.6s								
ASAJ	**Asahikawa**	**34.05**	**3**	LR		LR		07 28 50.0	
	comp=Z,61nm,21.9s,baz=181,slow=36								
USA0B	**Ussuriysk Arra**	**34.80**	**350**	P		**P**		**07 15 29.1**	**-1.5**
USRK	**Ussuriysk Ar.**	**34.80**	**350**	P		**P**		**07 15 30.5**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=163,slow=10,SNR=3.3								
USRK				LR		LR		07 27 38.8	
	comp=Z,104nm,21.5s,baz=186,slow=33								
	comp=Z,2.0nm,0.8s								
ENH	**Enshi**	**34.98**	**310**	P		**P**		**07 15 31.1**	**-1.4**
BNX	**BinXian**	**37.26**	**345**	⇓P		**P**		**07 15 52.0**	**+0.4**
BNX				pmax		pmax			
	comp=Z,14nm,1.1s								
BNX				pmax		pmax			
	comp=Z,180nm,4.5s								
KLR	**Kul'dur**	**39.73**	**351**	P		**P**		**07 16 12.8**	**+0.4**
	comp=Z,11nm,0.9s,baz=163,slow=6.8,SNR=31								
KLR				LR		LR		07 30 16.7	
	comp=Z,67nm,20.4s,baz=158,slow=33								
	comp=Z,11nm,0.9s								
HHC	**Hu-ho-hao-te**	**39.79**	**325**	*e*P		**P**		**07 16 13.5**	**+0.4**
HHC				pmax		pmax			
	comp=Z,29nm,0.6s								
HHC				pmax		pmax			
	comp=Z,180nm,6.0s								
PZH	**PanZhiHua**	**39.83**	**300**	P		**P**		**07 16 14.5**	**+0.8**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,120nm,5.9s								
CM31	**Chiang Mai Arr**	**40.77**	**287**	P		**P**		**07 16 19.8**	**-1.6**
CMAR	**Chiang Mai Arr**	**40.77**	**287**	P		**P**		**07 16 19.5**	**-1.9**
CMAR	**Chiang Mai Arr**	**40.77**	**287**	P		**P**		**07 16 22.4**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=92,slow=6.8,SNR=6.7								
CMAR				LR		LR		07 34 31.6	
	comp=Z,13nm,18.1s,baz=90,slow=38								
	comp=Z,1.2nm,0.6s								
DZM	**Mont Dzumac**	**40.98**	**141**	*e*LR		LR		07 27 31.3	
	comp=Z,115nm,24.1s								
DZM	**Mont Dzumac**	**40.98**	**141**	LR		LR		07 30 35.5	
	comp=Z,73nm,19.4s,baz=262,slow=32								
HEH	**HeiHe**	**41.50**	**348**	*e*P		**P**		**07 16 26.8**	**-0.1**
HEH				pmax		pmax			
	comp=Z,11nm,0.9s								
HEH				pmax		pmax			
	comp=Z,320nm,6.3s								
STKA	**Stephens Creek**	**41.66**	**178**	LR		LR		07 32 50.2	
	comp=Z,69nm,20.3s,baz=23,slow=35								
LZH	**Lanzhou**	**41.94**	**314**	*e*P		**P**		**07 16 29.3**	**-1.6**
LZH				pP		pP		07 16 33.3	-7.2
LZH				pmax		pmax			
	comp=Z,9.0nm,1.3s								
FORT	**Forrest**	**42.19**	**196**	P		**P**		**07 16 33.3**	**+0.6**
BBOO	**Buckleboo**	**42.75**	**185**	P		**P**		**07 16 36.7**	**-0.6**
BBOO				IAmb		IAmb		07 17 03.8	
	comp=Z,8.9nm,1.1s								
GSI	**Gunungsitoli**	**43.22**	**261**	P		**P**		**07 16 40.3**	**-1.2**
PETK	**Petropavlovsk-**	**45.25**	**15**	LR		LR		07 32 45.1	
	comp=Z,87nm,21.1s,baz=161,slow=32								
GTA	**Gaotai**	**46.33**	**316**	*e*P		**P**		**07 17 07.8**	**+1.7**
GTA				pP		pP		07 17 15.8	+0.1
GTA				pmax		pmax			
	comp=Z,3.0nm,1.1s								
SONM	**Songino Array**	**47.23**	**329**	P		**P**		**07 17 13.4**	**+0.4**
	comp=Z,1.2nm,1.1s,baz=132,slow=6.6,SNR=5.8								
SONM				LR		LR		07 37 19.7	
	comp=Z,50nm,20.3s,baz=74,slow=36								
	comp=Z,1.2nm,1.1s								
TOO	**Toolangi**	**47.58**	**174**	P		**P**		**07 17 16.0**	**+0.3**
NWAO	**Narrogin (SRO)**	**47.97**	**206**	P		**P**		**07 17 17.9**	**-0.8**
MA2	**Magadan**	**50.11**	**7**	LR		LR		07 37 04.6	
	comp=Z,40nm,21.2s,baz=166,slow=34								
YAK	**Yakutsk**	**52.50**	**354**	P		**P**		**07 17 53.0**	**+0.4**
SEY	**Seymchan**	**53.57**	**7**	LR		LR		07 39 12.5	
	comp=Z,36nm,19.7s,baz=267,slow=34			

VYHS Vyhne 102.24 324 *e*PDIFF **Pdif 07 22 35.7 +0.8**

*IDC **30** 07:32:04.7±2.4,32˚10N×48˚74E,h0km,mb4.0/7, mbtmp4.0/7,Error ellipse: s-maj=64.2km s-min=27.0km az=153.0*
*TEH **30** 07:32:04.9,31˚90N×48˚74E,h11km,ML4.0*
ISC 30 07:32:05.2±0.8,**31˚91N**±0˚05×**48˚73E**±0˚04,**h10**km,**n39,** σ1§**56**/39,**mb3.8/7,Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMIS	**Naft Sefid**	**0.53**	**117**	Pg	**Pg**	**07 32 14.7**	**-0.8**
AHWZ	**Ahwaz**	**0.58**	**187**	Pg	**Pg**	**07 32 16.9**	**-0.5**
JHBN	**Jahan bin**	**1.68**	**78**	Pg	**Pg**	**07 32 36.6**	**-0.8**
IKFM	**Kafar-mosalman**	**1.78**	**335**	Pg	**Pg**	**07 32 38.6**	**-0.7**
ZNGN	**Zangian**	**1.82**	**83**	Pn	**Pb**	**07 32 38.5**	**-0.3**
IPIR	**Pirpir**	**1.99**	**66**	Pn	**Pb**	**07 32 41.0**	**-0.7**
IBRJ	**Brojen**	**2.15**	**89**	Pn	**Pb**	**07 32 43.2**	**-1.3**
HSAM	**Samen**	**2.30**	**357**	Pn	**Pb**	**07 32 45.3**	**-1.7**
IKOM	**Komasi**	**2.48**	**336**	Pn	**Pn**	**07 32 47.4**	**+1.6**
KLNJ	**Kolanjah**	**2.60**	**109**	Pn	**Pn**	**07 32 48.3**	**+0.6**
IBZA	**Bozab**	**2.66**	**344**	Pn	**Pn**	**07 32 50.0**	**+1.6**
ILBA	**Ilam Banvizeh**	**2.73**	**310**	Pn	**Pn**	**07 32 50.5**	**+1.3**
IKLH	**Kolahrood**	**2.79**	**59**	Pn	**Pn**	**07 32 51.8**	**+1.6**
QAMS	**Qamsar**	**2.89**	**50**	Pn	**Pn**	**07 32 53.5**	**+1.9**
HAGD	**Aghdareh**	**2.93**	**7**	Pn	**Pn**	**07 32 53.7**	**+1.6**
IALM	**Almabolaq**	**2.98**	**351**	Pn	**Pn**	**07 32 54.5**	**+1.7**
IGHG	**Ghaleghazi**	**3.02**	**324**	Pn	**Pn**	**07 32 55.0**	**+1.7**
IRAM	**Ramesheh**	**3.11**	**91**	Pn	**Pn**	**07 32 56.9**	**+2.4**
IZEF	**Zefreh**	**3.20**	**71**	Pn	**Pn**	**07 32 57.6**	**+1.7**
ILIN	**Lien**	**3.35**	**334**	Pn	**Pn**	**07 32 59.6**	**+1.7**
IDHR	**Dehrash**	**3.41**	**325**	Pn	**Pn**	**07 32 59.7**	**+1.1**
IQOM	**Qom**	**3.52**	**33**	Pn	**Pn**	**07 33 02.0**	**+1.7**
KRSH	**Karshahi**	**3.53**	**53**	Pn	**Pn**	**07 33 02.8**	**+2.6**
IRAZ	**Razeghan**	**3.63**	**16**	Pn	**Pn**	**07 33 04.4**	**+2.7**
ISFB	**Sefidab**	**3.82**	**49**	Pn	**Pn**	**07 33 05.4**	**+1.2**
IVRN	**Varamin**	**3.97**	**38**	Pn	**Pn**	**07 33 08.1**	**+1.9**
ANAR	**Anarak**	**4.41**	**72**	Pn	**Pn**	**07 33 13.2**	**+0.9**
IDMV	**Damavand**	**4.58**	**36**	Pn	**Pn**	**07 33 16.4**	**+1.6**
KLST	**Kelardasht - M**	**4.99**	**22**	Pn	**Pn**	**07 33 22.6**	**+2.1**
IFIR	**Firoozkooh**	**5.01**	**41**	Pn	**Pn**	**07 33 22.7**	**+2.0**
MZPU	**Pul - Mazandar**	**5.10**	**27**	Pn	**Pn**	**07 33 24.2**	**+2.3**
IGLO	**Ghaloghah**	**6.23**	**41**	Pn	**Pn**	**07 33 38.9**	**+1.4**
BVAR	**Borovoye Array**	**26.28**	**30**	P	**P**	**07 37 40.3**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=226,slow=7.6,SNR=9.7 1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**28.89**	**41**	P	**P**	**07 38 04.6**	**+0.6**
	2.8nm,0.2s,baz=243,slow=9.5,SNR=1.3 2.8nm,0.2s						
MKAR	**Makanchi Array**	**29.64**	**50**	P	**P**	**07 38 10.3**	**-0.5**
	0.2nm,0.7s,baz=249,slow=7.1,SNR=1.5 0.2nm,0.7s						
FINES	**FINESS Array B**	**33.03**	**340**	P	**P**	**07 38 39.9**	**-0.4**
	4.3nm,1.1s,baz=159,slow=8.4,SNR=1.5 4.3nm,1.1s						
ZALV	**Zalesovo Beam**	**33.85**	**39**	P	**P**	**07 38 46.6**	**-1.0**
	0.5nm,0.6s,baz=265,slow=6.8,SNR=2.1 0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**46.88**	**258**	P	**P**	**07 40 37.4**	**+1.4**
	0.3nm,0.5s,baz=55,slow=9.1,SNR=3.5 0.3nm,0.5s						
SPITS	**Spitsbergen Ar**	**48.49**	**352**	P	**P**	**07 40 46.8**	**-0.8**
	6.8nm,0.9s,baz=132,slow=6.0,SNR=1.8 6.8nm,0.9s						

*IDC **30** 07:32:17.9±0.9,31˚82N×48˚66E,h0km,mb3.9/20, mbtmp3.9/26,ML3.6/6,Error ellipse: s-maj=21.3km s-min=13.4km az=172.0*
ISC 30 07:32:19.2±0.7,**31˚8N**±0˚1×**48˚65E**±0˚07,**h10**km,**n36,** σ0§**97**/35,**mb4.0**/29,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**9.88**	**49**	Pn	**Pn**	**07 34 42.3**	**+0.9**
	0.3nm,0.3s,baz=224,slow=12,SNR=3.0 2.4nm,0.7s						
MMAI	**Mount Meron Ar**	**11.26**	**280**	Pn	**Pn**	**07 35 01.4**	**+1.2**
	0.9nm,0.3s,baz=90,slow=17,SNR=2.0						
MMAI				Lg	Lg	07 38 16.4	
	0.4nm,0.3s,baz=97,slow=29,SNR=1.4 0.4nm,0.3s						
EIL	**Elat**	**11.97**	**263**	Pn	**Pn**	**07 35 09.6**	**-0.4**
	0.3nm,0.3s,baz=18,slow=20,SNR=1.8 1.8nm,0.5s						
WSAR	**Wadi Sarin**	**12.30**	**132**	Pn	**Pn**	**07 35 13.6**	**-0.8**
	0.7nm,0.3s,baz=333,slow=7.7,SNR=7.9 3.3nm,0.5s						
BRTR	**Keskin Array B**	**14.51**	**307**	Pn	**P**	**07 35 48.3**	**-3.1**
	0.1nm,0.3s,baz=141,slow=13,SNR=3.7 0.2nm,0.4s						
AKTO	**Aktyubinsk**	**19.87**	**18**	P	**Pn**	**07 36 50.2**	**-1.8**
	0.2nm,0.3s,baz=206,slow=10,SNR=2.9 1.1nm,0.4s						
BELG	**Belogornoye**	**20.58**	**358**	P	Pn	07 36 58.3	-2.0
	9.8nm,0.6s,baz=277,slow=3.4,SNR=5.2 9.8nm,0.6s						
AKASG	**Malin Array Be**	**23.74**	**328**	P	**P**	**07 37 31.4**	**0.0**
	0.2nm,0.3s,baz=130,slow=8.0,SNR=7.4 0.2nm,0.3s						
BVAR	**Borovoye Array**	**26.40**	**30**	P	**P**	**07 37 56.0**	**+0.3**
	4.4nm,0.5s,baz=225,slow=7.7,SNR=27 4.4nm,0.5s						
KURBB	**Kurchatov Arra**	**29.01**	**41**	P	**P**	**07 38 19.9**	**+0.8**
	2.6nm,0.2s,baz=243,slow=9.5,SNR=5.1 2.6nm,0.2s						
RONA	**Rosalia, Austr**	**29.24**	**312**	*i* P	**P**	**07 38 22.6**	**+1.4**
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**29.76**	**50**	P	**P**	**07 38 26.4**	**+0.6**
	0.7nm,0.7s,baz=243,slow=8.2,SNR=6.4 0.7nm,0.7s						
OBKA	**Obir**	**29.97**	**309**	*e*P	**P**	**07 38 29.8**	**+2.0**
	1.2nm,0.5s						
LESA	**Schwarzleotal**	**31.47**	**310**	*e*P	**P**	**07 38 41.9**	**+0.9**
	0.3nm,0.2s						
WTTA	**Wattenberg**	**32.10**	**310**	*i* P	**P**	**07 38 47.3**	**+0.7**
	2.1nm,0.5s						
WATA	**Walderalm**	**32.16**	**310**	*i* P	**P**	**07 38 47.5**	**+0.3**
	1.3nm,0.3s						
SQTA	**Sankt Quirin**	**32.37**	**309**	*i* P	**P**	**07 38 49.4**	**+0.5**
	3.8nm,0.4s						
MOTA	**Moosalm**	**32.47**	**309**	*i* P	**P**	**07 38 49.9**	**0.0**
	2.7nm,0.5s						
FETA	**Feichten**	**32.64**	**309**	*i* P	**P**	**07 38 52.2**	**+0.8**
	1.6nm,0.8s						
RETA	**Reutte**	**32.73**	**310**	*i* P	**P**	**07 38 51.6**	**-0.5**
	0.9nm,0.3s						
FINES	**FINESS Array B**	**33.09**	**340**	P	**P**	**07 38 54.9**	**0.0**
	1.1nm,0.5s,baz=147,slow=10,SNR=9.5 1.1nm,0.5s						
DAVA	**Damuels**	**33.27**	**309**	*i* P	**P**	**07 38 57.3**	**+0.4**
	5.9nm,0.5s						
ZALV	**Zalesovo Beam**	**33.97**	**39**	P	**P**	**07 39 02.5**	**-0.2**
	1.3nm,0.6s,baz=248,slow=7.8,SNR=7.2 1.3nm,0.6s						
HFS	**Hagfors**	**36.55**	**331**	P	**P**	**07 39 24.9**	**+0.1**
	2.6nm,0.5s,baz=126,slow=9.3,SNR=10 2.6nm,0.5s						
NOA	**NORSAR Array B**	**38.07**	**331**	P	**P**	**07 39 36.6**	**-1.1**
	0.3nm,0.5s,baz=112,slow=9.6,SNR=1.4 0.3nm,0.5s						
ARCES	**ARCESS Array B**	**39.97**	**348**	P	**P**	**07 39 53.9**	**+0.4**
	4.2nm,0.9s,baz=160,slow=7.8,SNR=6.2 4.2nm,0.9s						
ESDC	**Sonseca Array**	**42.90**	**296**	P	**P**	**07 40 19.1**	**+1.0**
	0.5nm,0.6s,baz=75,slow=8.5,SNR=5.2 0.5nm,0.6s						
EKA	**Eskdalemuir Ar**	**43.01**	**319**	P	**P**	**07 40 18.4**	**-0.1**
	0.6nm,0.5s,baz=102,slow=8.7,SNR=4.4 0.6nm,0.5s						
SONM	**Songino Array**	**46.07**	**52**	P	**P**	**07 40 44.1**	**+0.7**
	0.3nm,0.6s,baz=270,slow=9.7,SNR=2.1 0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**46.79**	**258**	P	**P**	**07 40 49.8**	**+0.6**
	1.5nm,0.5s,baz=54,slow=8.8,SNR=10 1.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**47.05**	**94**	P	**P**	**07 40 50.8**	**-0.5**
	0.6nm,0.5s,baz=286,slow=9.2,SNR=5.5 0.6nm,0.5s						
SPITS	**Spitsbergen Ar**	**48.57**	**352**	P	**P**	**07 41 02.4**	**+0.1**
	1.8nm,0.4s,baz=144,slow=10,SNR=15 1.8nm,0.4s						
DBIC	**Dimbokro**	**55.70**	**255**	P	**P**	**07 41 56.7**	**+0.6**
	1.4nm,0.6s,baz=45,slow=4.3,SNR=2.1 1.4nm,0.6s						
SCHQ	**Schefferville**	**77.53**	**328**	P	**P**	**07 44 15.4**	**+0.4**
	1.8nm,0.5s,baz=90,slow=2.0,SNR=1.9 1.8nm,0.5s						
ILAR	**Eielson Array**	**82.97**	**7**	P	**P**	**07 44 43.7**	**-0.4**
	0.4nm,0.9s,baz=314,slow=3.7,SNR=3.2 0.4nm,0.9s						
YKA	**Yellowknife Ar**	**85.06**	**352**	P	**P**	**07 44 54.5**	**-0.3**
	0.1nm,0.6s,baz=318,slow=7.0,SNR=5.8 0.1nm,0.6s						

*IDC **30** 07:33:43.3±1.0,31˚93N×48˚67E,h0km,mb4.0/19, mbtmp3.9/25,ML3.2/5,MS3.5/1,Error ellipse: s-maj=22.3km s-min=14.6km az=3.0*
*NEIC **30** 07:33:45.9±1.9,31˚9N±0˚1×48˚56E±0˚09,h10km±1km, mb4.3/23,Error ellipse: s-maj=18.1km s-min=13.5km az=180.0*
*MOS **30** 07:33:46.7±1.3,32˚02N×48˚68E,h25km,mb4.3/18,Error ellipse: s-maj=8.3km s-min=5.5km az=98.9*
ISC 30 07:33:44.8±0.7,**31˚80N**±0˚10×**48˚61E**±0˚06,**h10**km,**n120,** σ1§**41**/118,**mb4.3**/36,**32C-7D,Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GURO	**Guroymak-BITLI**	**8.62**	**323**	Pn	**Pn**	**07 35 48.7**	**-1.1**
GNI	**Garni**	**8.90**	**340**	Pn	**Pn**	**07 35 54.3**	**+0.7**
GNI	**Garni**	**8.90**	**340**	P	**P**	**07 35 54.3**	**+0.7**
GEYT	**Alibeck**	**9.92**	**49**		**Pn**	**07 36 08.8**	**+1.4**
GEYT	**Alibeck**	**9.92**	**49**	Pn	**Pn**	**07 36 08.8**	**+1.4**
GEYT	**Alibeck**	**9.92**	**49**	Pn	**Pn**	**07 36 05.3**	**-2.1**
	0.1nm,0.3s,baz=233,slow=14,SNR=2.7 2.2nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**9.92**	**49**		**Pn**	**07 36 08.1**	**+0.8**
MMAI	**Mount Meron Ar**	**11.23**	**280**	Pn	**Pn**	**07 36 25.8**	**+0.3**
	0.3nm,0.3s,baz=90,slow=16,SNR=1.6						
MMAI				Lg	Lg	07 39 42.2	
	0.5nm,0.3s,baz=104,slow=36,SNR=1.7 0.3nm,0.3s						
WSAR	**Wadi Sarin**	**12.31**	**131**	Pn	**Pn**	**07 36 39.7**	**-0.5**
	2.7nm,0.4s,baz=31,slow=18,SNR=1.5						
WSAR				Sn	Sn	07 38 47.5	-10
	0.2nm,0.3s,baz=30,slow=20,SNR=1.8						
BNN	**Bunyan**	**12.57**	**308**		**Pn**	**07 36 46.9**	**+3.1**
KBZ	**Khabaz**	**12.73**	**341**	Pn	**Pn**	**07 36 47.2**	**+1.4**
	0.1nm,0.3s,baz=121,slow=8.9,SNR=2.2 1.4nm,0.9s						
KVAR	**Kislovodsk Arr**	**13.00**	**341**	LR	LR	07 42 05.3	
	comp=Z,227nm,19.9s,baz=96,slow=39						
KIV	**Kislovodsk**	**13.00**	**341**	*e*P	Pn	07 36 58.2	+8.6
KIV				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BR131	**Keskin Array S**	**14.49**	**307**	Pn	**Pn**	**07 37 08.4**	**-1.7**
BR131	**Keskin Array S**	**14.49**	**307**	P	**Pn**	**07 37 08.4**	**-1.7**
BRTR	**Keskin Array B**	**14.49**	**307**	Pn	**Pn**	**07 37 06.6**	**-3.5**
BRTR	**Keskin Array B**	**14.49**	**307**	Pn	**Pn**	**07 37 10.8**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=137,slow=12,SNR=2.3 comp=Z,0.8nm,0.8s						
KBL	**Kabul**	**17.32**	**75**	P	**Pn**	**07 37 48.4**	**+1.5**
KBL	**Kabul**	**17.32**	**75**	P	**Pn**	**07 37 48.4**	**+1.5**
KBL				pmax	pmax		
	comp=Z,10.0nm,1.3s						
SIMJ	**Simiganj**	**18.00**	**62**	P	**P**	**07 37 56.8**	**+1.1**
ABKAR	**Akbulak array**	**19.41**	**23**		**P**	**07 38 12.2**	**+1.3**
BTK	**Batken**	**19.75**	**59**	P	**P**	**07 38 15.8**	**+1.0**
BTK				IAmb	IAmb	07 38 32.4	
	comp=Z,11nm,1.4s						
BTK	**Batken**	**19.75**	**59**	P	**P**	**07 38 15.8**	**+1.0**
BTK				pmax	pmax		
	comp=Z,11nm,1.4s						
AKTO	**Aktyubinsk**	**19.89**	**18**	P	**P**	**07 38 14.5**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=234,slow=12,SNR=1.8 comp=Z,1.8nm,0.8s						
VRH	**Novokhopyorsk**	**20.05**	**347**	*e*P	**P**	**07 38 16.6**	**-1.3**
VRH				pmax	pmax		
	comp=Z,60nm,0.8s						
VORD	**Divnogorie**	**20.36**	**343**	*e*P	**P**	**07 38 19.5**	**-1.7**
VORD				pmax	pmax		
	comp=Z,20nm,1.1s						
TPGR	**Topolog**	**20.45**	**315**	⇑P	**P**	**07 38 23.7**	**+1.4**
BELG	**Belogornoye**	**20.59**	**358**	⇓*e*P	**P**	**07 38 23.7**	**-0.1**
BELG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BELG	**Belogornoye**	**20.59**	**358**	P	**P**	**07 38 23.4**	**-0.4**
	comp=Z,19nm,1.0s,baz=230,slow=7.9,SNR=6.2 comp=Z,19nm,1.0s						
VSR	**Storozhevoye**	**20.62**	**343**	*e*P	**P**	**07 38 20.8**	**-3.3**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KK31	**Karatay Array**	**20.66**	**51**	P	**P**	**07 38 24.8**	**+0.1**
KK31	**Karatay Array**	**20.66**	**51**	P	**P**	**07 38 24.8**	**+0.1**
KK31				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KKAR	**Karatay Array**	**20.66**	**51**	P	**P**	**07 38 24.5**	**-0.2**
KKAR	**Karatay Array**	**20.66**	**51**	P	**P**	**07 38 24.9**	**+0.2**
KKAR	**Karatay Array**	**20.66**	**51**	P	**P**	**07 38 24.5**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,8.0nm,1.3s						
CFR	**Carcaliu**	**20.79**	**316**	⇑P	**P**	**07 38 27.3**	**+1.3**
CFR	**Carcaliu**	**20.79**	**316**	⇑P	**P**	**07 38 27.3**	**+1.3**
ISR	**Istrita**	**21.72**	**314**	⇑P	**P**	**07 38 39.2**	**+3.1**
ISR	**Istrita**	**21.72**	**314**	⇑P	**P**	**07 38 39.2**	**+3.1**
LPSR	**Galich'ya Gora**	**21.95**	**344**	*e*P	**P**	**07 38 38.3**	**-0.1**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VRI	**Vrincioaia**	**22.00**	**316**	⇑P	**P**	**07 38 41.0**	**+2.0**
VRI	**Vrincioaia**	**22.00**	**316**	⇑P	**P**	**07 38 41.0**	**+2.0**
PLOR	**Plostina**	**22.03**	**316**	⇑P	**P**	**07 38 41.7**	**+2.2**
PLOR	**Plostina**	**22.03**	**316**	⇑P	**P**	**07 38 41.7**	**+2.2**
MLR	**Muntele Rosu**	**22.27**	**314**	⇑P	**P**	**07 38 42.3**	**+0.2**
MLR	**Muntele Rosu**	**22.27**	**314**	P	**P**	**07 38 42.1**	**0.0**
MLR				IAmb	IAmb	07 39 25.5	
	comp=Z,11nm,1.0s						
MLR	**Muntele Rosu**	**22.27**	**314**	⇑P	**P**	**07 38 42.3**	**+0.2**
COVR	**Voineasa-Covas**	**22.30**	**315**	⇑P	**P**	**07 38 44.8**	**+2.5**
TESR	**Tescani**	**22.39**	**317**	⇑P	**P**	**07 38 44.6**	**+1.4**
TURR	**Turia**	**22.52**	**316**	⇑P	**P**	**07 38 46.4**	**+1.8**
VOIR		**22.80**	**313**	⇑P	**P**	**07 38 50.0**	**+2.4**
VOIR		**22.80**	**313**	⇑P	**P**	**07 38 50.0**	**+2.4**
DOPR	**Dopca**	**22.85**	**315**	⇑P	**P**	**07 38 50.1**	**+1.9**
ARR	**Arges**	**23.02**	**313**	⇑P	**P**	**07 38 52.2**	**+2.2**
AKASG	**Malin Array Be**	**23.73**	**328**	P	**P**	**07 38 56.5**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=139,slow=9.6,SNR=6.9 comp=Z,2.0nm,0.7s						
AKBB	**Malin Array Si**	**23.73**	**328**	P	**P**	**07 38 56.8**	**-0.1**
AKBB				IAmb	IAmb	07 38 57.8	
	comp=Z,7.8nm,1.0s						
AKBB	**Malin Array Si**	**23.73**	**328**	⇓*i*P	**P**	**07 38 56.0**	**-0.9**
AKBB				pmax	pmax		
	comp=Z,14nm,1.4s						
KIEV	**Kiev**	**23.73**	**328**	P	**P**	**07 38 56.8**	**-0.1**
KIEV				IAmb	IAmb	07 38 57.9	
	comp=Z,7.0nm,1.0s						
KIEV	**Kiev**	**23.73**	**328**	P	**P**	**07 38 56.8**	**-0.1**
KIEV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BURAR	**Bucovina Array**	**23.81**	**318**	⇑P	**P**	**07 38 59.4**	**+1.5**
BURAR	**Bucovina Array**	**23.81**	**318**	P	**P**	**07 38 58.3**	**+0.4**
BURAR	**Bucovina Array**	**23.81**	**318**	⇑P	**P**	**07 38 59.4**	**+1.5**
BUR08	**Bucovina Ar. S**	**23.84**	**318**	P	**P**	**07 38 59.0**	**+0.9**
BUR08				IAmb	IAmb	07 39 23.5	
	comp=Z,9.6nm,1.2s						
DJES	**Djerdap**	**24.07**	**310**	P	**P**	**07 39 00.8**	**+0.5**
BOOM	**Boomskoye usch**	**24.16**	**56**	P	**P**	**07 39 02.1**	**+0.8**
BOOM				IAmb	IAmb	07 39 09.8	
	comp=Z,15nm,1.4s						
BOOM	**Boomskoye usch**	**24.16**	**56**	P	**P**	**07 39 02.1**	**+0.8**
BOOM				pmax	pmax		
	comp=Z,15nm,1.4s						
GZR	**Gura Zlata**	**24.20**	**311**	⇑P	**P**	**07 39 02.9**	**+1.4**
BOVS	**Bovan**	**24.23**	**307**	⇑P	**P**	**07 39 03.7**	**+2.0**
MARR	**Marisel-Cluj**	**24.57**	**315**	⇑P	**P**	**07 39 05.5**	**+0.7**
OBN	**Obninsk**	**24.82**	**343**	*eP*	**P**	**07 39 06.6**	**-0.3**
OBN				*e*		07 39 49.2	
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MOS	**Moscow**	**25.15**	**345**	*e*P	**P**	**07 39 08.1**	**-1.8**
MOS				pmax	pmax		
	comp=Z,36nm,1.0s						
SIRR	**Siria**	**25.28**	**313**	⇑P	**P**	**07 39 13.5**	**+2.2**
TARG	**Taragay, Kyrgy**	**25.30**	**59**	P	**P**	**07 39 13.2**	**+1.3**
TARG				IAmb	IAmb	07 39 15.7	
	comp=Z,6.5nm,0.9s						
TARG	**Taragay, Kyrgy**	**25.30**	**59**	P	**P**	**07 39 13.2**	**+1.3**
TARG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARU	**Arti**	**25.59**	**13**	P	**P**	**07 39 15.3**	**+1.5**
ARU				IAmb	IAmb	07 39 50.9	
	comp=Z,4.0nm,0.8s						
ARU	**Arti**	**25.59**	**13**	⇓*e*P	**P**	**07 39 15.0**	**+1.2**
ARU				pmax	pmax		
	comp=Z,16nm,1.8s						
ARU	**Arti**	**25.59**	**13**	P	**P**	**07 39 12.6**	**-1.3**
BRVK	**Borovoye**	**26.40**	**30**		**P**	**07 39 23.1**	**+1.8**
BRVK				IAmb	IAmb	07 39 28.2	
	comp=Z,8.2nm,1.2s						
BRVK	**Borovoye**	**26.40**	**30**	*de*P	**P**	**07 39 23.6**	**+2.3**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BVAR	**Borovoye Array**	**26.42**	**30**	P	**P**	**07 39 20.0**	**-1.5**
BVAR	**Borovoye Array**	**26.42**	**30**	P	**P**	**07 39 20.0**	**-1.5**
	comp=Z,2.8nm,0.6s,baz=225,slow=7.7,SNR=7.5 comp=Z,2.8nm,0.6s						
MORH	**Mrgy, Hungar**	**27.18**	**311**	⇑P	**P**	**07 39 29.7**	**+1.3**
KURBB	**Kurchatov Arra**	**29.04**	**41**	P	**P**	**07 39 44.7**	**-0.2**
	comp=Z,2.1nm,0.2s,baz=243,slow=9.3,SNR=6.0 comp=Z,2.1nm,0.2s						
KURK	**Kurchatov**	**29.13**	**41**	P	**P**	**07 39 46.2**	**+0.5**
KURK				IAmb	IAmb	07 39 50.2	
	comp=Z,8.6nm,1.2s						
KURK	**Kurchatov**	**29.13**	**41**	*c* P	**P**	**07 39 46.0**	**+0.3**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
MK31	**Makanchi Array**	**29.79**	**50**	⇓*i*P	**P**	**07 39 53.0**	**+1.3**
MKAR	**Makanchi Array**	**29.79**	**50**	P	**P**	**07 39 52.0**	**+0.4**
MKAR	**Makanchi Array**	**29.79**	**50**	*ce*P	**P**	**07 39 54.0**	**+2.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**29.79**	**50**	P	**P**	**07 39 50.2**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=238,slow=7.4,SNR=4.4 comp=Z,0.7nm,0.7s						
KHC	**Kasperske Hory**	**31.42**	**314**	⇑*e*P	**P**	**07 40 07.4**	**+1.3**
KHC				pmax	pmax		
	comp=Z,33nm,2.6s						
FINES	**FINESS Array B**	**33.10**	**340**	*ce*P	**P**	**07 40 20.7**	**+0.2**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**33.10**	**340**	P	**P**	**07 40 18.0**	**-2.5**
	comp=Z,3.1nm,0.8s,baz=142,slow=11,SNR=5.8 comp=Z,3.1nm,0.8s						
TUE	**Stuetta**	**33.43**	**307**	P	**P**	**07 40 22.1**	**-1.8**
DGZ	**Jazzator, Alta**	**33.95**	**47**	⇓*i*P	**P**	**07 40 28.8**	**+0.5**
DGZ				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ZAA0	**Zalesovo Array**	**34.00**	**39**	P	**P**	**07 40 28.5**	**0.0**
ZAA0				IAmb	IAmb	07 40 31.9	
	comp=Z,4.5nm,1.0s						
ZALV	**Zalesovo Beam**	**34.00**	**39**	P	**P**	**07 40 28.2**	**-0.3**
ZALV	**Zalesovo Beam**	**34.00**	**39**	P	**P**	**07 40 28.2**	**-0.3**
ZALV	**Zalesovo Beam**	**34.00**	**39**	P	**P**	**07 40 27.1**	**-1.4**
	comp=Z,3.8nm,1.0s,baz=251,slow=9.2,SNR=6.9 comp=Z,3.8nm,1.0s						
HFS	**Hagfors**	**36.54**	**331**	P	**P**	**07 40 50.2**	**-0.1**
	comp=Z,4.0nm,0.9s,baz=116,slow=12,SNR=5.1 comp=Z,4.0nm,0.9s						
NOA	**NORSAR Array B**	**38.07**	**331**	P	**P**	**07 41 02.4**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=130,slow=8.1,SNR=1.8 comp=Z,0.8nm,0.8s						
ESDC	**Sonseca Array**	**42.88**	**296**	P	**P**	**07 41 43.4**	**0.0**
	comp=Z,2.1nm,1.2s,baz=81,slow=7.9,SNR=4.7 comp=Z,2.1nm,1.2s						
EKA	**Eskdalemuir Ar**	**43.00**	**319**	P	**P**	**07 41 43.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=101,slow=6.6,SNR=1.3 comp=Z,0.2nm,0.3s						
NRIK	**Noril'sk**	**43.51**	**19**	⇑*e*P	**P**	**07 41 48.9**	**+0.9**
NRIK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NRIK	**Noril'sk**	**43.51**	**19**	P	**P**	**07 41 47.1**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=227,slow=5.4,SNR=1.5 comp=Z,0.9nm,0.4s						
SONM	**Songino Array**	**46.10**	**52**	P	**P**	**07 42 08.2**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=297,slow=9.5,SNR=2.6 comp=Z,0.4nm,0.6s						
TOA0	**Torodi Ar. Sit**	**46.76**	**258**	P	**P**	**07 42 15.8**	**+1.2**
TOA0				IAmb	IAmb	07 42 19.6	
	comp=Z,4.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**46.76**	**258**	P	**P**	**07 42 15.6**	**+1.0**
TORD				IAmb	IAmb	07 42 19.6	
	comp=Z,4.4nm,1.0s						
TORD	**Torodi Ar. Bea**	**46.76**	**258**	P	**P**	**07 42 15.4**	**+0.8**
	comp=Z,4.4nm,0.9s,baz=51,slow=9.3,SNR=9.8 comp=Z,4.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**47.08**	**94**	P	**P**	**07 42 16.9**	**-0.1**
**

EKA	**Eskdalemuir Ar**	**42.84**	**319**	P	**P**	**07 42 07.0**	**-0.8**
	0.2nm,0.4s,baz=102,slow=8.8,SNR=1.6							
	0.2nm,0.4s							
SONM	**Songino Array**	**45.87**	**52**	P	**P**	**07 42 31.9**	**-0.6**
	0.3nm,0.6s,baz=305,slow=5.1,SNR=1.9							
	0.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**46.89**	**257**	P	**P**	**07 42 39.4**	**-1.3**
	0.9nm,0.4s,baz=62,slow=7.4,SNR=6.2							
	0.9nm,0.4s							
CMAR	**Chiang Mai Arr**	**47.03**	**94**	P	**P**	**07 42 43.0**	**+1.4**
	0.8nm,0.7s,baz=291,slow=7.6,SNR=2.3							
	0.8nm,0.7s							
SPITS	**Spitsbergen Ar**	**48.31**	**352**	P	**P**	**07 42 51.2**	**+0.3**
	1.8nm,0.5s,baz=144,slow=10,SNR=9.0							
	1.8nm,0.5s							
BORG	**Borgarnes**	**53.00**	**330**	LR	LR	08 09 01.3		
	comp=Z,80nm,22.0s,baz=77,slow=40							
ILAR	**Eielson Array**	**82.70**	**7**	P	**P**	**07 46 32.0**	**-1.1**
	0.5nm,1.1s,baz=324,slow=4.5,SNR=2.3							
	0.5nm,1.1s							
YKA	**Yellowknife Ar**	**84.80**	**352**	P	**P**	**07 46 43.6**	**-0.3**
	0.4nm,0.9s,baz=0.3,slow=4.9,SNR=3.6							
	0.4nm,0.9s							

*IDC **30** 07:43:04.7±1.2,31°.88N×48°.66E, h0km, mb3.9/17, mbtmp3.9/22, MLS.2/4, Error ellipse: s-maj=24.0km s-min=15.7km az=177.0*
*TEH **30** 07:43:07.0, 31°.90N×48°.78E, h12km±43km, ML3.7*
ISC 30 07:43:06.4±0.5,**31°.90N**±0°.04×**48°.76E**±0°.04,**h10km, n62,**
σ2§05/61, mb4.0/21, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMIS	**Naft Sefid**	**0.51**	**118**	Pg	**Pg**	**07 43 16.9**	**+0.6**
AHWZ	**Ahwaz**	**0.58**	**190**	Pg	**Pb**	**07 43 19.2**	**+0.6**
JHBN	**Jahan bin**	**1.65**	**78**	Pg	**Pg**	**07 43 38.4**	**+0.3**
ZNGN	**Zangian**	**1.79**	**83**	Pg	**Pg**	**07 43 40.5**	**-0.3**
IKFM	**Kafar-mosalman**	**1.79**	**335**	Pn	**Pb**	**07 43 40.5**	**+1.1**
IBRJ	**Brojen**	**2.12**	**89**	Pn	**Pb**	**07 43 44.9**	**-0.2**
HSAM	**Samen**	**2.31**	**357**	Pn	**Pb**	**07 43 47.7**	**-0.6**
IKOM	**Komasi**	**2.50**	**335**	Pn	**Pb**	**07 43 50.5**	**-1.0**
KLNJ	**Kolanjah**	**2.58**	**109**	Pn	**Pn**	**07 43 50.7**	**+2.2**
IBZA	**Bozab**	**2.67**	**344**	Pn	**Pb**	**07 43 53.3**	**-1.2**
ILBA	**Ilam Banvizeh**	**2.75**	**309**	Pn	**Pn**	**07 43 52.8**	**+2.1**
IKLH	**Kolahrood**	**2.77**	**59**	Pn	**Pb**	**07 43 54.2**	**-1.9**
KCHF	**Cheshme Sefid,**	**2.77**	**329**	Pn	**Pn**	**07 43 54.1**	**+3.0**
IGAR	**Gharneh**	**2.83**	**79**	Pn	**Pn**	**07 43 54.8**	**+2.9**
QAMS	**Qamsar**	**2.88**	**50**	Pn	**Pb**	**07 43 56.0**	**-2.0**
HAGD	**Aghdareh**	**2.93**	**6**	Pn	**Pn**	**07 43 56.6**	**+3.4**
IALM	**Almabolaq**	**2.99**	**351**	Pn	**Pn**	**07 43 57.3**	**+3.2**
IGHG	**Ghaleghazi**	**3.04**	**323**	Pn	**Pn**	**07 43 57.8**	**+3.0**
IRAM	**Ramesheh**	**3.08**	**91**	Pn	**Pn**	**07 43 57.8**	**+2.5**
IZEF	**Zefreh**	**3.18**	**71**	Pn	**Pn**	**07 43 59.9**	**+3.2**
ILIN	**Lien**	**3.36**	**334**	Pn	**Pn**	**07 44 02.3**	**+3.0**
IDHR	**Dehrash**	**3.43**	**325**	Pn	**Pn**	**07 44 02.4**	**+2.3**
KRSH	**Karshahi**	**3.51**	**53**	Pn	**Pn**	**07 44 04.4**	**+3.2**
IQOM	**Qom**	**3.51**	**33**	Pn	**Pn**	**07 44 03.8**	**+2.5**
IRAZ	**Razeghan**	**3.63**	**15**	Pn	**Pn**	**07 44 06.5**	**+3.6**
ISFB	**Sefidab**	**3.81**	**49**	Pn	**Pn**	**07 44 08.2**	**+3.0**
IVRN	**Varamin**	**3.96**	**38**	Pn	**Pn**	**07 44 10.6**	**+3.4**
DSBU	**Dashti - Bushe**	**4.14**	**148**	Pn	**Pn**	**07 44 12.4**	**+2.6**
ANAR	**Anarak**	**4.39**	**72**	Pn	**Pn**	**07 44 15.8**	**+2.6**
IDMV	**Damavand**	**4.57**	**36**	Pn	**Pn**	**07 44 18.7**	**+2.8**
KLST	**Kelardasht - M**	**4.98**	**22**	Pn	**Pn**	**07 44 24.6**	**+3.1**
IFIR	**Firoozkooh**	**5.00**	**41**	Pn	**Pn**	**07 44 24.3**	**+2.6**
MZPU	**Pul - Mazandar**	**5.09**	**26**	Pn	**Pn**	**07 44 26.3**	**+3.4**
IALA	**Alasht**	**5.36**	**38**	Pn	**Pn**	**07 44 29.6**	**+2.9**
GEYT	**Alibeck**	**9.75**	**49**	Pn	**Pn**	**07 45 28.0**	**+1.2**
	2.0nm,0.9s,baz=25,slow=18,SNR=1.4							
MMAI	**Mount Meron Ar**	**11.34**	**279**	Lg	Lg	07 49 03.4		
	0.4nm,0.3s,baz=146,slow=28,SNR=1.7							
EIL	**Elat**	**12.08**	**263**	Pn	**Pn**	**07 45 56.1**	**-2.6**
	0.2nm,0.3s,baz=52,slow=15,SNR=1.8							
	6.4nm,1.1s							
WSAR	**Wadi Sarin**	**12.28**	**132**	Pn	**Pn**	**07 46 00.8**	**-0.7**
	0.1nm,0.3s,baz=319,slow=12,SNR=2.2							
	2.7nm,0.7s							
BRTR	**Keskin Array B**	**14.53**	**307**	Pn	**Pn**	**07 46 33.9**	**+1.6**
	0.1nm,0.3s,baz=156,slow=8.8,SNR=1.3							
	0.1nm,0.3s							
AKTO	**Aktyubinsk**	**19.75**	**18**	P	**P**	**07 47 36.9**	**+0.6**
	0.1nm,0.3s,baz=194,slow=11,SNR=1.4							
	0.6nm,0.5s							
BELG	**Belogornoye**	**20.50**	**358**	P	**P**	**07 47 44.0**	**-0.3**
	14nm,0.9s,baz=224,slow=1.0,SNR=2.3							
	14nm,0.9s							
AKASG	**Malin Array Be**	**23.71**	**328**	P	**P**	**07 48 18.2**	**-0.1**
	0.4nm,0.4s,baz=138,slow=8.4,SNR=4.7							
	0.4nm,0.4s							
ARU	**Arti**	**25.46**	**13**	P	**P**	**07 48 34.6**	**+0.3**
	1.3nm,0.4s,baz=106,slow=7.4,SNR=1.7							
	1.3nm,0.4s							
BVAR	**Borovoye Array**	**26.27**	**30**	P	**P**	**07 48 42.4**	**+0.6**
	2.7nm,0.6s,baz=225,slow=7.8,SNR=18							
	2.7nm,0.6s							
KURBB	**Kurchatov Arra**	**28.87**	**41**	P	**P**	**07 49 05.6**	**+0.5**
	1.7nm,0.2s,baz=248,slow=6.9,SNR=2.8							
	1.7nm,0.2s							
MKAR	**Makanchi Array**	**29.63**	**50**	P	**P**	**07 49 12.1**	**+0.2**
	0.5nm,0.7s,baz=238,slow=7.0,SNR=4.8							
	0.5nm,0.7s							
WTTA	**Wattenberg**	**32.12**	**309**	*i* P	**P**	**07 49 30.7**	**-3.3**
	2.4nm,0.7s							
WATA	**Walderalm**	**32.18**	**309**	*i* P	**P**	**07 49 32.6**	**-1.9**
	1.0nm,0.4s							
SQTA	**Sankt Quirin**	**32.39**	**309**	*i* P	**P**	**07 49 35.1**	**-1.2**
	2.1nm,0.4s							
MOTA	**Moosalm**	**32.49**	**309**	*i* P	**P**	**07 49 36.4**	**-0.8**
	1.5nm,0.4s							
FETA	**Feichten**	**32.66**	**309**	*e*P	**P**	**07 49 40.1**	**+1.4**
	1.2nm,0.5s							
FINES	**FINESS Array B**	**33.04**	**340**	P	**P**	**07 49 41.1**	**-0.6**
	0.7nm,0.4s,baz=156,slow=10,SNR=8.4							
	0.7nm,0.4s							
ZALV	**Zalesovo Beam**	**33.84**	**39**	P	**P**	**07 49 49.1**	**+0.4**
	0.5nm,0.4s,baz=252,slow=9.2,SNR=4.2							
	0.5nm,0.4s							
HFS	**Hagfors**	**36.51**	**331**	P	**P**	**07 50 11.3**	**-0.5**
	1.1nm,0.4s,baz=120,slow=8.8,SNR=7.3							
	1.1nm,0.4s							
NOA	**NORSAR Array B**	**38.04**	**331**	P	**P**	**07 50 23.9**	**-0.8**
	0.7nm,0.8s,baz=128,slow=9.0,SNR=2.0							
	0.7nm,0.8s							
ARCES	**ARCESS Array B**	**39.90**	**347**	P	**P**	**07 50 39.5**	**-0.7**
	2.5nm,0.8s,baz=156,slow=8.9,SNR=4.7							
	2.5nm,0.8s							
ESDC	**Sonseca Array**	**42.95**	**296**	P	**P**	**07 51 05.0**	**-0.6**
	0.4nm,0.6s,baz=86,slow=7.5,SNR=4.1							
	0.4nm,0.6s							
EKA	**Eskdalemuir Ar**	**43.00**	**319**	P	**P**	**07 51 04.5**	**-1.2**
	1.9nm,0.9s,baz=104,slow=8.0,SNR=1.6							
	1.9nm,0.9s							
SONM	**Songino Array**	**45.94**	**52**	P	**P**	**07 51 30.1**	**+0.5**
	0.3nm,0.4s,baz=263,slow=7.1,SNR=2.1							
	0.3nm,0.4s							
TORD	**Torodi Ar. Bea**	**46.91**	**258**	P	**P**	**07 51 36.9**	**-0.5**
	0.9nm,0.5s,baz=53,slow=9.2,SNR=7.1							
	0.9nm,0.5s							
CMAR	**Chiang Mai Arr**	**46.96**	**94**	P	**P**	**07 51 38.1**	**+0.3**
	0.6nm,0.5s,baz=295,slow=8.9,SNR=2.3							
	0.6nm,0.5s							
SPITS	**Spitsbergen Ar**	**48.49**	**352**	P	**P**	**07 51 49.2**	**+0.3**
	9.5nm,0.9s,baz=142,slow=8.4,SNR=12							
	9.5nm,0.9s							

*IDC **30** 07:45:22.6±2.4,31°.95N×48°.67E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=53.1km s-min=29.0km az=149.0*
ISC 30 07:45:23.9±2.1,**31°.9N**±0°.3×**48°.7E**±0°.2,**h10km, n7,** σ0§99/6,
mb3.8/6, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BELG	**Belogornoye**	**20.47**	**358**	P	Pn	07 50 01.4	-2.3
	5.8nm,0.5s,baz=157,slow=16,SNR=2.1						
	5.8nm,0.5s						
BVAR	**Borovoye Array**	**26.28**	**30**	P	**P**	**07 50 60.0**	**+0.6**
	1.2nm,0.5s,baz=227,slow=7.7,SNR=6.1						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**29.66**	**50**	P	**P**	**07 51 29.1**	**-0.6**
	0.2nm,0.5s,baz=238,slow=8.3,SNR=2.2						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**32.99**	**340**	P	**P**	**07 51 58.9**	**+0.1**
	1.0nm,0.7s,baz=146,slow=10,SNR=3.4						
	1.0nm,0.7s						
HFS	**Hagfors**	**36.46**	**331**	P	**P**	**07 52 27.5**	**-1.3**
	0.8nm,0.5s,baz=123,slow=10,SNR=1.7						
	0.8nm,0.5s						
TORD	**Torodi Ar. Bea**	**46.85**	**258**	P	**P**	**07 53 54.6**	**+0.2**
	0.4nm,0.4s,baz=59,slow=8.5,SNR=4.1						
	0.4nm,0.4s						
SPITS	**Spitsbergen Ar**	**48.46**	**352**	P	**P**	**07 54 06.9**	**+0.8**
	9.3nm,0.9s,baz=155,slow=7.2,SNR=2.1						
	9.3nm,0.9s						

*IDC **30** 07:48:16.7±1.3,31°.83N×48°.61E, h0km, mb4.0/16, mbtmp3.9/21, ML3.5/4, MS3.2/10, Error ellipse: s-maj=26.8km s-min=14.7km az=167.0*
*TEH **30** 07:48:18.9, 31°.85N×48°.74E, h12km±28km, ML4.0*
*NEIC **30** 07:48:19.0±1.4, 31°.71N±0°.07×48°.69E±0°.08, h10km±1km, mb4.2/18, Error ellipse: s-maj=15.7km s-min=6.7km az=139.0*
ISC 30 07:48:18.6±0.5,**31°.82N**±0°.04×**48°.70E**±0°.04,**h10km, n111,**
σ1§61/106, mb4.1/26, MS3.5/4, 13C-1D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.49**	**186**	Pg	**Pb**	**07 48 29.7**	**+0.4**
AMIS	**Naft Sefid**	**0.52**	**107**	Pg	**Pb**	**07 48 29.5**	**-0.4**
AMIS				Sg	**Sb**	**07 48 37.6**	**+0.1**
JHBN	**Jahan bin**	**1.72**	**76**	Pg	**Pg**	**07 48 51.1**	**-0.4**
IKFM	**Kafar-mosalman**	**1.84**	**337**	Pn	**Pb**	**07 48 52.4**	**+0.1**
ZNGN	**Zangian**	**1.85**	**80**	Pn	**Pb**	**07 48 53.0**	**+0.3**
IPIR	**Pirpir**	**2.04**	**65**	Pn	**Pb**	**07 48 55.7**	**-0.3**
IBRJ	**Brojen**	**2.18**	**87**	Pn	**Pb**	**07 48 57.6**	**-0.6**
HSAM	**Samen**	**2.38**	**358**	Pn	**Pb**	**07 49 00.1**	**-1.7**
IKOM	**Komasi**	**2.55**	**337**	Pn	**Pn**	**07 49 02.3**	**+2.2**
KLNJ	**Kolanjah**	**2.60**	**107**	Pn	**Pn**	**07 49 02.9**	**+1.9**
IBZA	**Bozab**	**2.73**	**345**	Pn	**Pn**	**07 49 04.6**	**+1.9**
ILBA	**Ilam Banvizeh**	**2.76**	**311**	Pn	**Pn**	**07 49 05.4**	**+2.4**
KCHF	**Cheshme Sefid,**	**2.81**	**331**	Pn	**Pn**	**07 49 06.1**	**+2.3**
IKLH	**Kolahrood**	**2.85**	**58**	Pn	**Pn**	**07 49 06.5**	**+2.1**
IGAR	**Gharneh**	**2.89**	**78**	Pn	**Pn**	**07 49 07.1**	**+2.2**
HAGD	**Aghdareh**	**3.01**	**7**	Pn	**Pn**	**07 49 08.9**	**+2.4**
IALM	**Almabolaq**	**3.06**	**352**	Pn	**Pn**	**07 49 09.7**	**+2.4**
IGHG	**Ghaleghazi**	**3.07**	**325**	Pn	**Pn**	**07 49 10.3**	**+2.9**
IRAM	**Ramesheh**	**3.13**	**89**	Pn	**Pn**	**07 49 10.6**	**+2.4**
IZEF	**Zefreh**	**3.25**	**70**	Pn	**Pn**	**07 49 12.0**	**+2.1**
ILIN	**Lien**	**3.41**	**335**	Pn	**Pn**	**07 49 14.8**	**+2.7**
IDHR	**Dehrash**	**3.46**	**327**	Pn	**Pn**	**07 49 14.7**	**+2.0**
KRSH	**Karshahi**	**3.59**	**53**	Pn	**Pn**	**07 49 16.7**	**+2.2**
IQOM	**Qom**	**3.60**	**33**	Pn	**Pn**	**07 49 16.8**	**+2.0**
IRAZ	**Razeghan**	**3.71**	**16**	Pn	**Pn**	**07 49 19.0**	**+2.8**
ISFB	**Sefidab**	**3.90**	**49**	Pn	**Pn**	**07 49 20.4**	**+1.8**
IVRN	**Varamin**	**4.05**	**38**	Pn	**Pn**	**07 49 22.9**	**+2.2**
DSBU	**Dashti - Bushe**	**4.10**	**147**	Pn	**Pn**	**07 49 23.9**	**+2.5**
IMHD	**Mahdasht**	**4.18**	**23**	Pn	**Pn**	**07 49 24.9**	**+2.3**
ISAD	**Sadrabad**	**4.24**	**87**	Pn	**Pn**	**07 49 25.6**	**+2.1**
ANAR	**Anarak**	**4.46**	**71**	Pn	**Pn**	**07 49 28.3**	**+1.9**
IDMV	**Damavand**	**4.66**	**36**	Pn	**Pn**	**07 49 30.6**	**+1.4**
QSDN	**Sirdan**	**4.68**	**5**	Pn	**Pn**	**07 49 32.1**	**+2.5**
KLST	**Kelardasht - M**	**5.07**	**22**	Pn	**Pn**	**07 49 37.3**	**+2.4**
IFIR	**Firoozkooh**	**5.09**	**40**	Pn	**Pn**	**07 49 38.0**	**+2.9**
MZPU	**Pul - Mazandar**	**5.18**	**27**	Pn	**Pn**	**07 49 38.7**	**+2.3**
IPRN	**Peran**	**5.34**	**33**	Pn	**Pn**	**07 49 40.3**	**+1.8**
TNSJ	**Nastanj**	**6.98**	**70**	Pn	**Pn**	**07 50 03.5**	**+2.5**
TKDS	**Koohdasht(Taba**	**7.32**	**74**	Pn	**Pn**	**07 50 08.3**	**+2.7**
GURO	**Guroymak-BITLI**	**8.65**	**323**	Pn	**Pn**	**07 50 24.8**	**+0.9**
GNI	**Garni**	**8.90**	**340**	LR	LR	07 53 41.1	
	comp=Z,24nm,18.1s,baz=156,slow=37						
GEYT	**Alibeck**	**9.84**	**49**	Pn	**Pn**	**07 50 41.1**	**+0.9**
	7.0nm,1.0s,baz=227,slow=7.7,SNR=2.9						
GEYT				Lg	Lg	07 53 29.7	
	0.1nm,0.3s,baz=221,slow=15,SNR=1.3						
GEYT				LR	LR	07 54 53.3	
	comp=Z,250nm,18.6s,baz=243,slow=40						
GYA0B	**ALIBECK ARRAY**	**9.84**	**49**	Pn	**Pn**	**07 50 42.2**	**+2.0**
MMAI	**Mount Meron Ar**	**11.30**	**280**	Pn	**Pn**	**07 50 58.3**	**-1.9**
	0.4nm,0.3s,baz=89,slow=15,SNR=1.3						
MMAI				Sn	**Sn**	**07 53 07.3**	**+0.7**
	0.7nm,0.3s,baz=94,slow=12,SNR=1.7						
MMAI				Lg	Lg	07 54 14.3	
	0.9nm,0.3s,baz=70,slow=42,SNR=1.2						
MMAI				LR	LR	07 56 37.7	
	comp=Z,86nm,20.0s,baz=63,slow=45						
	0.3nm,0.3s						
EIL	**Elat**	**12.02**	**263**	LR	LR	07 56 48.3	
	comp=Z,113nm,19.0s,baz=66,slow=43						
WSAR	**Wadi Sarin**	**12.27**	**132**	Pn	**Pn**	**07 51 12.4**	**-1.1**
	0.4nm,0.3s,baz=309,slow=13,SNR=1.3						
WSAR				LR	LR	07 56 21.1	
	comp=Z,57nm,20.0s,baz=21,slow=39						
	1.7nm,0.5s						
BNN	**Bunyan**	**12.62**	**307**		**Pn**	**07 51 21.0**	**+2.8**
KBZ	**Khabaz**	**12.73**	**341**	Pn	**Pn**	**07 51 18.6**	**-1.0**
	0.1nm,0.3s,baz=269,slow=18,SNR=1.4						
KBZ				LR	LR	07 56 34.0	
	comp=Z,94nm,20.0s,baz=162,slow=39						
BR131	**Keskin Array S**	**14.54**	**307**	Pn	**Pn**	**07 51 45.4**	**+0.9**
BRTR	**Keskin Array B**	**14.54**	**307**	Pn	**Pn**	**07 51 45.4**	**+0.9**
BRTR	**Keskin Array B**	**14.54**	**307**	Pn	**Pn**	**07 51 45.2**	**+0.7**
	0.1nm,0.3s,baz=138,slow=15,SNR=2.6						
	0.7nm,0.8s						
ANTO	**Ankara**	**15.18**	**306**	Pn	**Pn**	**07 51 54.3**	**+1.2**
ANTO				IAmb	IAmb	07 52 16.5	
	comp=Z,7.5nm,0.7s						
SIMJ	**Simiganj**	**17.92**	**62**	P	**P**	**07 52 29.1**	**+0.5**
ABKAR	**Akbulak array**	**19.36**	**23**	P	**Pn**	**07 52 44.9**	**-0.3**
AKTO	**Aktyubinsk**	**19.84**	**18**	P	**P**	**07 52 49.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=234,slow=6.9,SNR=2.6						
	comp=Z,1.1nm,0.5s						
BELG	**Belogornoye**	**20.57**	**358**	P	**P**	**07 52 56.6**	**-0.7**
	comp=Z,19nm,0.8s,baz=170,slow=6.1,SNR=4.3						
	comp=Z,19nm,0.8s						
KK31	**Karatay Array**	**20.59**	**51**	P	Pn	07 52 59.5	-0.5
KK31				IAmb	IAmb	07 53 03.8	
	comp=Z,5.8nm,1.4s						
KKAR	**Karatay Array**	**20.59**	**51**	P	Pn	07 52 58.8	-1.1
NIL	**Nilore**	**20.72**	**78**	P	Pn	07 53 01.5	-0.1
NIL				IAmb	IAmb	07 53 04.8	
	comp=Z,7.8nm,1.1s						
RDO	**Rodhopi**	**20.77**	**303**	P	**P**	**07 52 59.4**	**-0.2**
RDO				IAmb	IAmb	07 53 08.1	
	comp=Z,18nm,1.1s						
CFR	**Carcaliu**	**20.82**	**316**	⇑P	**P**	**07 52 59.9**	**-0.2**
RAZG	**Razgrad**	**21.04**	**310**	⇑P	**P**	**07 53 04.0**	**+1.4**
VRI	**Vrincioaia**	**22.03**	**316**	⇑P	**P**	**07 53 14.6**	**+1.5**
PLOR	**Plostina**	**22.07**	**316**	⇑P	**P**	**07 53 14.3**	**+0.7**
MLR	**Muntele Rosu**	**22.31**	**314**	⇑P	**P**	**07 53 21.3**	**+5.0**
MLR	**Muntele Rosu**	**22.31**	**314**	P	**P**	**07 53 18.9**	**+2.6**
MLR				IAmb	IAmb	07 53 21.9	
	comp=Z,9.5nm,0.9s						
TURR	**Turia**	**22.55**	**316**	⇑P	**P**	**07 53 19.9**	**+1.1**
VOIR		**22.83**	**313**	⇑P	**P**	**07 53 23.6**	**+1.8**
ARR	**Arges**	**23.06**	**313**	⇑P	**P**	**07 53 25.4**	**+1.3**
AAK	**Ala-Archa**	**23.11**	**55**	LR	LR	08 04 00.7	
	comp=Z,166nm,19.9s,baz=268,slow=41						
AKASG	**Malin Array Be**	**23.75**	**328**	P	**P**	**07 53 30.0**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=131,slow=8.8,SNR=8.4						
	comp=Z,1.9nm,0.7s						
BURAR	**Bucovina Array**	**23.84**	**318**	⇑P	**P**	**07 53 33.5**	**+1.5**
BURAR	**Bucovina Array**	**23.84**	**318**	P	**P**	**07 53 32.7**	**+0.7**
BUR08	**Bucovina Ar. S**	**23.87**	**318**	P	**P**	**07 53 33.0**	**+0.7**
BUR08				IAmb	IAmb	07 53 41.5	
	comp=Z,5.4nm,1.1s						
BOVS	**Bovan**	**24.28**	**307**	⇑P	**P**	**07 53 36.5**	**+0.6**
MARR	**Marisel-Cluj**	**24.60**	**314**	⇑P	**P**	**07 53 40.2**	**+1.2**
MDVR	**Moldovita**	**24.69**	**309**	⇓P	**P**	**07 53 40.2**	**+0.4**
TARG	**Taragay, Kyrgy**	**25.22**	**59**	P	**P**	**07 53 46.6**	**+1.6**
TARG				IAmb	IAmb	07 53 48.8	
	comp=Z,6.4nm,1.1s						
SIRR	**Siria**	**25.32**	**312**	⇑P	**P**	**07 53 47.0**	**+1.6**
KOLS	**Kolonicke sedl**	**26.21**	**318**	*e*	**P**	**07 53 54.7**	**+1.3**
BVAR	**Borovoye Array**	**26.36**	**30**	P	**P**	**07 53 54.6**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=224,slow=6.7,SNR=14						
BVAR				LR	LR	08 04 42.3	
	comp=Z,48nm,20.0s,baz=245,slow=37						
	comp=Z,2.3nm,0.6s						
TIP	**Timpagrande**	**26.92**	**295**	P	**P**	**07 54 00.2**	**+0.2**
MORH	**Mrgy, Hungar**	**27.22**	**311**	⇑P	**P**	**07 54 03.3**	**+0.7**
KURBB	**Kurchatov Arra**	**28.36**	**41**	P	**P**	**07 54 18.8**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=242,slow=9.6,SNR=5.8						
	comp=Z,0.8nm,0.6s						
MK31	**Makanchi Array**	**29.72**	**50**	P	**P**	**07 54 25.4**	**+0.6**
MKAR	**Makanchi Array**	**29.72**	**50**	P	**P**	**07 54 25.1**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=243,slow=8.0,SNR=3.5						
MKAR				LR	LR	08 08 04.3	
	comp=Z,96nm,19.7s,baz=315,slow=40						
	comp=Z,0.3nm,0.6s						
ABTA	**Abfaltersbach**	**31.41**	**309**	*e*P	**P**	**07 54 41.4**	**+1.5**
WTTA	**Wattenberg**	**32.13**	**309**	*e*P	**P**	**07 54 46.4**	**+0.1**
	comp=Z,1.8nm,0.4s						
WATA	**Walderalm**	**32.19**	**310**	*e*P	**P**	**07 54 46.5**	**-0.2**
	comp=Z,2.3nm,0.6s						
SQTA	**Sankt Quirin**	**32.40**	**309**	*e*P	**P**	**07 54 48.4**	**-0.2**
	comp=Z,2.9nm,0.4s						
MOTA	**Moosalm**	**32.50**	**309**	*e*P	**P**	**07 54 49.1**	**-0.4**
	comp=Z,0.7nm,0.2s						
CLL	**Collm**	**32.60**	**317**	*e*P	**P**	**07 54 51.0**	**+0.9**
	comp=Z,3.0nm,0.6s						
FETA	**Feichten**	**32.67**	**309**	*e*P	**P**	**07 54 51.0**	**+0.1**
	comp=Z,2.0nm,0.8s						
RETA	**Reutte**	**32.76**	**310**	*e*P	**P**	**07 54 54.4**	**+2.7**
	comp=Z,6.0nm,1.4s						
FINES	**FINESS Array B**	**33.09**	**340**	P	**P**	**07 54 53.6**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=151,slow=12,SNR=8.6						
	comp=Z,1.6nm,0.6s						
ZAA0	**Zalesovo Array**	**33.93**	**39**	P	**P**	**07 55 01.4**	**-0.3**
ZAA0				IAmb	IAmb	07 55 05.3	
	comp=Z,4.2nm,1.2s						
ZALV	**Zalesovo Beam**	**33.93**	**39**	P	**P**	**07 55 01.5**	**-0.1**
ZALV	**Zalesovo Beam**	**33.93**	**39**	P	**P**	**07 55 01.2**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=238,slow=8.5,SNR=3.8						
	comp=Z,1.5nm,0.7s						
HFS	**Hagfors**	**36.56**	**331**	P	**P**	**07 55 23.3**	**-0.9**
	comp=Z,3.7nm,0.8s,baz=126,slow=9.7,SNR=7.9						
	comp=Z,3.7nm,0.8s						
NOA	**NORSAR Array B**	**38.08**	**331**	P	**P**	**07 55 36.0**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=130,slow=6.7,SNR=1.9						
	comp=Z,0.6nm,0.8s						
ARCES	**ARCESS Array B**	**39.97**	**348**	P	**P**	**07 55 52.1**	**-0.7**
	comp=Z,9.3nm,1.2s,baz=157,slow=9.5,SNR=4.5						
	comp=Z,9.3nm,1.2s						
ESDC	**Sonseca Array**	**42.93**	**296**	P	**P**	**07 56 16.1**	**-1.6**
	comp=Z,1.1nm,0.9s,baz=75,slow=8.1,SNR=5.1						
	comp=Z,1.1nm,0.9s						
EKA	**Eskdalemuir Ar**	**43.03**	**319**	P	**P**	**07 56 16.9**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=103,slow=8.8,SNR=2.4						
	comp=Z,1.5nm,0.8s						
TOA0	**Torodi Ar. Sit**	**46.84**	**258**	P	**P**	**07 56 48.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**46.84**	**258**	P	**P**	**07 56 48.6**	**-0.3**
TORD				IAmb	IAmb	07 56 53.7	
	comp=Z,4.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**46.84**	**258**	P	**P**	**07 56 48.5**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=48,slow=8.3,SNR=10						
	comp=Z,2.8nm,0.8s						
SPB2	**Spitsbergen Ar**	**48.56**	**352**	P	**P**	**07 57 01.6**	**+0.1**
SPITS	**Spitsbergen Ar**	**48.56**	**352**	P	**P**	**07 57 01.6**	**+0.1**
	comp=Z,4.9nm,0.6s,baz=126,slow=9.1,SNR=16						
	comp=Z,4.9nm,0.6s						
LSZ	**Lusaka**	**50.80**	**206**	LR	LR	08 20 26.3	
	comp=Z,62nm,18.7s,baz=176,slow=38						
ILAR	**Eielson Array**	**82.95**	**7**	P	**P**	**08 00 42.9**	**-0.5**
	comp=Z,0.5nm,1.0s,baz=352,slow=3.2,SNR=2.7						
	comp=Z,0.5nm,1.0s						
YKA	**Yellowknife Ar**	**85.06**	**352**	P	**P**	**08 00

IPIR	Pirpir	2.02	65	Pn	Pn	07 52 38.2	+1.7	
IBRJ	Brojen	2.17	88	Pn	Pn	07 52 39.7	+1.3	
HSAM	Samen	2.36	358	Pn	Pn	07 52 42.9	+1.8	
IKOM	Komasi	2.53	337	Pn	Pn	07 52 46.0	+2.6	
KLNJ	Kolanjah	2.60	108	Pn	Pn	07 52 46.0	+1.5	
IKLH	Kolahrood	2.83	58	Pn	Pn	07 52 49.6	+2.0	
IGAR	Gharneh	2.88	78	Pn	Pn	07 52 50.0	+1.9	
QAMS	Qamsar	2.94	50	Pn	Pn	07 52 50.9	+1.8	
HAGD	Aghdareh	2.99	7	Pn	Pn	07 52 51.9	+2.3	
IALM	Almabolaq	3.04	352	Pn	Pn	07 52 52.1	+1.7	
IRAM	Rameshesh	3.12	90	Pn	Pn	07 52 53.7	+2.2	
IZEF	Zefreh	3.23	70	Pn	Pn	07 52 55.0	+1.9	
ILIN	Lien	3.39	335	Pn	Pn	07 52 56.9	+1.7	
IDHR	Dehrash	3.45	326	Pn	Pn	07 52 57.5	+1.5	
KRSH	Karshahi	3.57	53	Pn	Pn	07 52 59.6	+1.9	
IQOM	Qom	3.58	33	Pn	Pn	07 52 59.5	+1.6	
IRAZ	Razeghan	3.69	16	Pn	Pn	07 53 01.9	+2.5	
ANAR	Anarak	4.44	71	Pn	Pn	07 53 11.4	+1.8	
QSDN	Sirdan	4.66	5	Pn	Pn	07 53 14.3	+1.7	
KLST	Kelardasht - M	5.05	22	Pn	Pn	07 53 20.7	+2.7	
GEM	Giv'at Ha'Em	11.10	280	P	Pn	07 54 36.3	-4.5	
BLGI	Bet Lehem HaGe	11.48	278	P	Pn	07 54 43.3	-2.7	
YTIR	Yattir	11.60	271	P	Pn	07 54 51.8	+4.0	
OFRI	`Ofer	11.65	277	P	Pn	07 54 46.8	-1.6	
AQBJ	Aqaba	11.94	263	P	Pn	07 55 02.8	+10	
EIL	Elat	12.04	263	P	Pn	07 55 13.0	+19	
MBRI	Mt Berech	12.04	264	P	Pn	07 55 03.0	+9.2	
BVAR	Borovoye Array 0.8nm,0.6s,baz=237,slow=7.9,SNR=3.2 0.8nm,0.6s	26.34	30	P	P	07 57 37.7	-0.3	
MKAR	Makanchi Array 0.3nm,0.6s,baz=262,slow=8.5,SNR=2.8 0.3nm,0.6s	29.69	50	P	P	07 58 07.6	-0.5	
GERES	GERESS Array B	31.27	313	LR	LR	08 13 39.4		
	comp=Z,98nm,20.1s,baz=360,slow=42							
FINES	FINESS Array B 3.2nm,1.0s,baz=134,slow=5.5,SNR=1.5 3.2nm,1.0s	33.08	340	P	P	07 58 36.2	-1.4	
ZALV	Zalesovo Beam 0.3nm,0.3s,baz=231,slow=9.1,SNR=2.0 0.3nm,0.3s	33.90	39	P	P	07 58 44.4	-0.5	
ARCES	ARCESS Array B 5.2nm,1.1s,baz=153,slow=6.1,SNR=1.9 5.2nm,1.1s	39.94	348	P	P	07 59 35.1	-1.1	
TORD	Torodi Ar. Bea 0.6nm,1.0s,baz=62,slow=8.2,SNR=2.2 0.6nm,1.0s	46.85	258	P	P	08 00 31.4	-1.1	
SPITS	Spitsbergen Ar 17nm,1.0s,baz=148,slow=9.7,SNR=7.1 17nm,1.0s	48.54	352	P	P	08 00 44.3	-0.6	

*IDC **30** 07:53:58.9±1.2,9.41S×113.00E,h0km,mb3.9/11, mbtmp3.9/11,MS3.3/1, Error ellipse: s-maj=60.3km s-min=16.3km az=49.0*

*DJA **30** 07:54:02.1±0.2,10.3S×11.3E×,h10km,M4.2/15, mb4.3/7,mB5.1/1,MLv4.2/15,Mw(mB)4.4/1*

ISC 30 07:54:03.9±0.9,9.7S±0.1×112.89E±0.0,h36km,n26, σ1§81/26,mb4.0/11,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	1.71	47	P	Pn	07 54 31.5	+0.3
BLJI	Banyuglugur	2.02	20	P	Pn	07 54 37.7	+2.3
ABJI	Asem Bagus	2.27	36	P	Pn	07 54 41.4	+2.5
IGBI	Denpasar	2.37	70	P	Pn	07 54 42.1	+1.8
NGJI	Ngawi	2.67	328	P	Pn	07 54 47.3	+2.9
SRBI	Singaraja	2.77	56	P	Pn	07 54 47.9	+2.2
KMMI	Kalianget	2.79	22	P	Pn	07 54 48.7	+2.6
UGM	Wanagama	2.91	306	P	Pn	07 54 48.9	+1.2
SMRI	Semarang	3.55	317	P	Pn	07 54 58.3	+1.9
TWSI	Taliwang, Sumb	4.04	77	P	Pn	07 55 05.4	+2.2
KPJI	Karang Pucung	4.55	300	P	Pn	07 55 13.5	+3.3
CMJI	Cimerak	4.77	293	P	Pn	07 55 14.1	+0.8
PLAI	Plampang	4.89	81	P	Pn	07 55 17.0	+2.1
CNJI	Cibinong 9.7nm,0.9s,1µm0.1nm	6.16	292	P	Pn	07 55 34.0	+1.7
EDFI	Ende, Flores 6.5nm,0.9s	8.73	85	P	Pn	07 56 08.8	+1.0
WRA	Warramunga Arr 1.1nm,0.9s,baz=291,slow=11,SNR=11 1.1nm,0.9s	23.09	119	P	P	07 59 06.4	-0.3
ASAR	Alice Springs 1.5nm,0.6s,baz=304,slow=8.7,SNR=29 1.5nm,0.6s	24.43	127	P	P	07 59 20.6	+1.2
CMAR	Chiang Mai Arr 1.0nm,0.8s,baz=163,slow=8.7,SNR=6.7 1.0nm,0.8s	31.14	334	P	P	08 00 19.4	0.0
STKA	Stephens Creek 1.9nm,0.8s,baz=317,slow=9.2,SNR=3.3	34.58	134	P	P	08 00 50.2	+0.8
STKA	comp=Z,52nm,21.8s,baz=25,slow=36 1.9nm,0.8s			LR	LR	08 14 47.3		
MJAR	Matsushiro Arr 1.0nm,0.6s,baz=192,slow=8.7,SNR=3.2 1.0nm,0.6s	51.75	26	P	P	08 03 05.7	-2.2
SONM	Songino Array 1.2nm,0.6s,baz=178,slow=8.2,SNR=8.1 1.2nm,0.6s	57.52	355	P	P	08 03 49.0	-0.7
MKAR	Makanchi Array 1.6nm,0.5s,baz=151,slow=7.4,SNR=28 1.6nm,0.5s	62.48	337	P	P	08 04 22.9	-0.7
ZALV	Zalesovo Beam 1.5nm,0.5s,baz=153,slow=5.1,SNR=8.6 1.5nm,0.5s	67.67	342	P	P	08 04 55.9	-1.3
GEYT	Alibeck 0.7nm,0.4s,baz=122,slow=5.4,SNR=1.9 0.7nm,0.4s	69.65	316	P	P	08 05 09.4	-0.5
BVAR	Borovoye Array 0.4nm,0.5s,baz=72,slow=4.7,SNR=2.7 0.4nm,0.5s	72.16	335	P	P	08 05 24.0	-0.8
AKTO	Aktyubinsk 1.0nm,0.6s,baz=149,slow=5.9,SNR=4.8 1.0nm,0.6s	76.42	327	P	P	08 05 49.4	-0.3

PRU 30 08:02:17.6,50°20N×19°26E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	Liptovska Anna	1.06	173	eSG	Sg	08 02 50.4	-1.2
MAUC	Maruska	1.25	229	eSG	Sg	08 02 57.4	-0.3
VYHS	Vyhne	1.73	189	ePN	Pn	08 03 45.7	-3.2
VYHS				eSN	Sn	08 03 57.2	-4.5
DPC	Dobruska-Polom	1.89	276	eSG	Sb	08 03 17.7	+0.5

*IDC **30** 08:12:57.8±2.2,31.92N×48.65E,h0km,mb3.5/8, mbtmp3.5/8,MS3.3/5, Error ellipse: s-maj=49.8km s-min=25.3km az=164.0*

*TEH **30** 08:12:59.0,31.88N×48.77E,h12km±33km,ML3.5*

ISC 30 08:13:00.8±0.7,31.85N±0.05×48.76E±0.04,h20km,n50, σ1§37/48,mb3.7/9,MS3.3/3,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMIS	Naft Sefid	0.48	112	Pg	Pb	08 13 09.0	-1.7
AMIS				Sg	Sb	08 13 17.5	+0.2
AHWZ	Ahwaz	0.53	191	Pg	Pb	08 13 10.7	-0.7
AHWZ				Sg	Sb	08 13 19.9	+1.3
JHBN	Jahan bin	1.66	76	Pg	Pn	08 13 30.4	+1.3
ZNGN	Zangian	1.80	81	Pg	Pn	08 13 32.6	+1.7
IKFM	Kafar-mosalman	1.84	335	Pn	Pn	08 13 32.9	+1.7
IPIR	Pirpir	1.99	65	Pn	Pn	08 13 34.9	+1.4
IBRJ	Brojen	2.12	88	Pn	Pn	08 13 36.8	+1.3
HSAM	Samen	2.36	357	Pn	Pn	08 13 39.6	+0.9
IKOM	Komasi	2.55	336	Pn	Pn	08 13 42.7	+1.6
KLNJ	Kolanjah	2.56	108	Pn	Pn	08 13 42.7	+1.2
IBZA	Bozab	2.72	344	Pn	Pn	08 13 45.2	+1.6
ILBA	Ilam Banvizeh	2.79	310	Pn	Pn	08 13 45.8	+1.5
IKLH	Kolahrood	2.79	58	Pn	Pn	08 13 46.0	+1.4
IGAR	Gharneh	2.84	78	Pn	Pn	08 13 46.3	+1.1
QAMS	Qamsar	2.91	49	Pn	Pn	08 13 48.3	+2.1
HAGD	Aghdareh	2.98	6	Pn	Pn	08 13 48.5	+1.3
IALM	Almabolaq	3.04	351	Pn	Pn	08 13 49.5	+1.5
IRAM	Rameshesh	3.08	90	Pn	Pn	08 13 50.0	+1.4
IGHG	Ghaleghazi	3.08	324	Pn	Pn	08 13 49.5	+0.9
IZEF	Zefreh	3.19	70	Pn	Pn	08 13 51.6	+1.5
ILIN	Lien	3.41	334	Pn	Pn	08 13 54.6	+1.5
IDHR	Dehrash	3.47	326	Pn	Pn	08 13 55.0	+1.2
KRSH	Karshahi	3.54	52	Pn	Pn	08 13 56.6	+1.9
IQOM	Qom	3.55	32	Pn	Pn	08 13 56.2	+1.1
IRAZ	Razeghan	3.68	15	Pn	Pn	08 13 58.3	+1.6
ISFB	Sefidab	3.84	49	Pn	Pn	08 14 00.3	+1.4
IVRN	Varamin	4.00	38	Pn	Pn	08 14 02.7	+1.7
DSBU	Dashti - Bushe	4.09	147	Pn	Pn	08 14 03.8	+1.5
ISAD	Sadrabad	4.19	88	Pn	Pn	08 14 05.4	+1.6
ANAR	Anarak	4.40	71	Pn	Pn	08 14 08.1	+1.4
IDMV	Damavand	4.61	35	Pn	Pn	08 14 10.6	+1.0
QSDN	Sirdan	4.65	4	Pn	Pn	08 14 11.6	+1.4
KLST	Kelardasht - M	5.03	22	Pn	Pn	08 14 17.0	+1.6
IFIR	Firoozkooh	5.03	40	Pn	Pn	08 14 17.2	+1.8
MZPU	Pul - Mazandar	5.13	26	Pn	Pn	08 14 18.7	+1.9
TNSJ	Nastanj	6.93	70	Pn	Pn	08 14 42.3	+1.0
TKDS	Koohdasht(Taba	7.26	74	Pn	Pn	08 14 46.8	+0.9
GEYT	Alibeck comp=Z,148nm,19.7s,baz=287,slow=41	9.79	49	LR	LR	08 19 42.6		
EIL	Elat comp=Z,50nm,19.9s,baz=63,slow=42	12.08	263	LR	LR	08 21 18.9		
AAK	Ala-Archa comp=Z,83nm,19.3s,baz=291,slow=40	23.06	55	LR	LR	08 28 19.8		
AKASG	Malin Array Be 0.1nm,0.2s,baz=212,slow=27,SNR=1.2 0.1nm,0.2s	23.75	328	P	P	08 18 11.2	-0.5	
BVAR	Borovoye Array 1.0nm,0.6s,baz=226,slow=7.7,SNR=7.6 1.0nm,0.6s	26.31	30	P	P	08 18 34.4	-0.6	
KURBB	Kurchatov Arra 0.4nm,0.3s,baz=249,slow=7.7,SNR=1.3 0.4nm,0.3s	28.91	41	P	P	08 18 59.2	+0.9	
MKAR	Makanchi Array 0.2nm,0.6s,baz=251,slow=11,SNR=1.6	29.66	50	P	P	08 19 05.1	+0.1	
MKAR	comp=Z,61nm,18.2s,baz=326,slow=41 0.2nm,0.6s			LR	LR	08 33 20.7		
FINES	FINESS Array B 2.3nm,1.0s,baz=145,slow=10.0,SNR=1.1 2.3nm,1.0s	33.09	340	P	P	08 19 33.9	-1.0	
ZALV	Zalesovo Beam 0.3nm,0.3s,baz=254,slow=10,SNR=2.5 0.3nm,0.3s	33.88	39	P	P	08 19 41.2	-0.7	
SONM	Songino Array 0.3nm,0.7s,baz=253,slow=9.1,SNR=2.6 0.3nm,0.7s	45.97	52	P	P	08 21 23.7	+1.1	
TORD	Torodi Ar. Bea 0.2nm,0.4s,baz=62,slow=7.1,SNR=2.8 0.2nm,0.4s	46.90	258	P	P	08 21 29.2	-0.8	
SPITS	Spitsbergen Ar 12nm,1.1s,baz=143,slow=13,SNR=7.3	48.55	352	P	P	08 21 41.4	-0.7	
ULM	Lac du Bonnet comp=Z,42nm,20.1s,baz=144,slow=35	92.46	338	LR	LR	09 06 57.7		

*VAO **30** 08:20:40.0±0.4,19.16S×69.47W,h10km,mb5.8*

*NEIC **30** 08:20:48.8,19.32S×69.33W,h80km,Moment Tensor Solution. Duration: 1§9 Moment tensor: Scale 10^16^Nm; Mrr=3.96; Mθθ=1.49; Mφφ=5.45; Mrθ=1.14; Mθφ=0.56; Mφr=4.93; Fault plane solution: Mo=6.98000×10^16^ NP1: φs=349.42000°,δ=69.44000°,λ=104.43000°. NP2: φs=205.64000°,δ=24.94000°,λ=56.41000°. Principal axes: T 7.5586, Plg23.0000°, Azm90.0000°; N -1.1593, Plg13.0000°, Azm355.0000°; P -6.3993, Plg63.0000°, Azm237.0000°;*

*NEIC **30** 08:20:48.8,19.32S×69.22W,h80km*

*SJA **30** 08:20:49.5±0.8,19.29S×69.36W,h114km±3km,ML5.1, MW4.9*

*BJI **30** 08:20:50.0,19.30S×69.20W,h90km,mB5.6/5*

*IDC **30** 08:20:51.2±0.3,19.17S×69.11W,h104km±2km,mb4.8/23, mbtmp5.1/27,MS4.0/32,Error ellipse: s-maj=11.6km s-min=9.6km az=76.0*

*MOS **30** 08:20:51.0±1.5,19.24S×69.18W,h111km,mb5.1/23, Error ellipse: s-maj=12.7km s-min=6.3km az=101.9*

*NEIC **30** 08:20:51.5±2.1,19.34S±0.04×69.43W±0.03,h103km±4km, mb5.3/119,Mww5.2/37,Error ellipse: s-maj=6.5km s-min=3.6km az=145.0*

*GUC **30** 08:20:51.3±0.7,19.28S×69.36W,h106km±2km,ML5.1*

*GCMT **30** 08:20:54.5±0.2,19.36S±0.01×69.56W±0.01,h126km±1km, MW5.2/138,Moment Tensor Solution. s92,c128; s138,c216; Duration: 1§0 Moment tensor: Scale 10^16^ Nm; Mrr=2.01±.16; Mθθ=0.11±.18; Mφφ=1.91±.22; Mrθ=1.14±.10; Mθφ=3.42±.17; Mφr=8.32±.13; Best double couple: Mo=9.26300×10^16^ NP1:φs=357.00000°,δ84.00000°, λ=113.00000°. NP2:φs=252.00000°,δ=23.00000°, λ=16.00000°. Principal axes: T 8.9650, Plg35.0000°, Azm106.0000°; N 0.6020, Plg22.0000°, Azm360.0000°; P -9.5610, Plg47.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 08:20:50.5±0.2,19.29S±0.02×69.27W±0.04,h103km±2km, h103km:pP-P,n859,σ1§56/932,mb5.2/114,26C-29D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	Chusmiza	0.38	169		Pn	08 21 07.9	+1.3
GO01	Chusmiza	0.38	169	eP	Pn	08 21 07.7	+1.2
GO01				eS	Sn	08 21 20.3	+1.8
GO01	Chusmiza	0.38	169	⇓iP	Pn	08 21 07.8	+1.3
GO01				iS	Sn	08 21 20.3	+1.8
GO01	comp=E,189µm,0.4s			IAML		08 21 21.4		
PB11	IPOC Station P	0.59	218		Pn	08 21 07.9	+0.4
PB11	IPOC Station P	0.59	218	eP	Pn	08 21 07.7	+0.1
PB11				eS	Sn	08 21 21.7	+1.4
PB11	comp=Z,33µm,0.2s			IAML		08 21 24.1		
PB11	IPOC Station P	0.59	218	⇑iP	Pn	08 21 08.0	+0.4
PB11				iS	Sn	08 21 20.6	+0.3
PB11	comp=E,66µm,0.6s			IAML		08 21 22.1		
PB08	IPOC Station P	0.85	173		Pn	08 21 11.6	+1.5
PB08	IPOC Station P	0.85	173	eP	Pn	08 20 53.6	-17
PB08				eS	Sn	08 21 11.7	-13
PB08	comp=Z,22µm,1.8s			IAML		08 21 31.6		
PB08	IPOC Station P	0.85	173	⇑iP	Pn	08 21 11.6	+1.5
PB08				iS	Sn	08 21 26.7	+1.9
PX02	IPOC Station P	0.94	290	⇑iP	Pn	08 21 09.4	-1.2
PX02				iS	Sn	08 21 23.6	-2.2
PB16	IPOC Station P	0.98	347		Pn	08 21 13.0	+1.4
PB16				Sn	Sn	08 21 28.4	+1.1
PB16	IPOC Station P	0.98	347	eP	Pn	08 21 12.8	+1.1
PB16				eS	Sn	08 21 29.2	+1.9
PB16	comp=Z,67µm,0.4s			IAML		08 21 30.2		
PB16	IPOC Station P	0.98	347	⇑iP	Pn	08 21 12.7	+1.1
PB16				iS	Sn	08 21 28.9	+1.5
PB16	comp=E,100µm,0.3s			IAML		08 21 30.3		
HMBC	Humberstone	1.14	211	eP	Pn	08 21 12.9	0.0
HMBC				eS	Sn	08 21 30.9	+1.1
HMBC	Humberstone	1.14	211	⇑iP	Pn	08 21 12.9	0.0
HMBC				iS	Sn	08 21 29.7	-0.1
HMBC	comp=N,30µm,0.4s			IAML		08 21 36.6		
PX03	IPOC Station P	1.16	197	iP	Pn	08 21 12.7	-0.4
PB12	IPOC Station P	1.21	304		Pn	08 21 13.1	-0.5
PB12				Sn	Sn	08 21 29.6	-1.4
PB12	IPOC Station P	1.21	304	eP	Pn	08 21 13.1	-0.5
PB12	comp=Z,31µm,0.4s			IAML		08 21 33.0		
PB12	IPOC Station P	1.21	304	⇑iP	Pn	08 21 13.2	-0.4
PB12				iS	Sn	08 21 29.8	-1.2
PB12	comp=E,61µm,0.3s			IAML		08 21 30.3		
TA02	Huaiquique	1.27	220		Pn	08 21 13.8	-0.4
TA02	Huaiquique	1.27	220	eP	Pn	08 21 13.8	-0.4
TA02				eS	Sn	08 21 32.4	+0.3
TA02	comp=Z,16µm,0.5s			IAML		08 21 35.9		
TA02	Huaiquique	1.27	220	⇑iP	Pn	08 21 13.9	-0.3
TA02				iS	Sn	08 21 31.7	-0.4
TA02	comp=N,42µm,0.1s			IAML		08 21 33.5		
AP01	Chacalluta	1.37	312		Pn	08 21 15.4	0.0
AP01	Chacalluta	1.37	312	eP	Pn	08 21 14.6	-0.8
AP01	comp=Z,34µm,0.6s			IAML		08 21 43.8		
AP01	Chacalluta	1.37	312	⇑iP	Pn	08 21 15.2	-0.1
AP01				iS	Sn	08 21 33.5	-0.6
TA01	Diego Aracena	1.53	214		Pn	08 21 16.8	-0.6
TA01	Diego Aracena	1.53	214	eP	Pn	08 21 17.0	-0.3
TA01				eS	Sn	08 21 38.5	+0.8
TA01	Diego Aracena	1.53	214	⇑iP	Pn	08 21 16.7	-0.6
TA01				iS	Sn	08 21 36.4	-1.3
PB18	Visviri	1.70	353		Pn	08 21 22.8	+2.7
PB18	Visviri	1.70	353	⇓iP	Pn	08 21 22.6	+2.6
PATCX	Punta Patache	1.73	208		Pn	08 21 19.5	-0.5
PATCX	Punta Patache	1.73	208	eP	Pn	08 21 19.4	-0.6
PATCX	Punta Patache	1.73	208	⇑iP	Pn	08 21 19.4	-0.5
PATCX				iS	Sn	08 21 41.6	-0.7
PB01	IPOC Station P	1.76	187		Pn	08 21 21.1	+0.9
PB01	IPOC Station P	1.76	187	eP	Pn	08 21 20.8	+0.5
PB01	comp=Z,6µm,0.2s			IAML		08 21 49.4		
PB01	IPOC Station P	1.76	187	⇑iP	Pn	08 21 21.1	+0.9
PB01				iS	Sn	08 21 43.3	+0.5
PB01	comp=E,13µm,0.2s			IAML		08 21 48.2		
PB02	IPOC Station P	2.10	196		Pn	08 21 24.9	+0.2
PB02	IPOC Station P	2.10	196	eP	Pn	08 21 25.5	+0.8
PB02	comp=Z,13µm,0.3s			IAML		08 22 00.6		
PB02	IPOC Station P	2.10	196	⇑iP	Pn	08 21 24.9	+0.2
PB02	comp=E,25µm,0.9s			IAML		08 21 59.3		
PB07	IPOC Station P	2.49	193		Pn	08 21 30.4	+0.5
PB07	IPOC Station P	2.49	193	eP	Pn	08 21 30.3	+0.5
PB07	comp=Z,7µm,1.5s			IAML		08 22 05.3		
PB07	IPOC Station P	2.49	193	eP	Pn	08 21 29.9	+0.1
PB09	IPOC Station P	2.49	179		Pn	08 21 31.1	+1.2
PB09	IPOC Station P	2.49	179	eP	Pn	08 21 31.3	+1.4
PB09	comp=Z,9µm,1.2s			IAML		08 22 06.9		
PB09	IPOC Station P	2.49	179	⇓iP	Pn	08 21 31.0	+1.2
PB04	IPOC Station P	3.14	195	Pn	Pn	08 21 38.1	-0.2
PB04	IPOC Station P	3.14	195	eP	Pn	08 21 39.5	+1.1
PB04	comp=Z,4µm,1.4s			IAML		08 22 37.7		
PB04	IPOC Station P	3.14	195	⇓iP	Pn	08 21 38.3	-0.1
I08BO	LAS PENAS INFR baz=202,slow=19,SNR=1.7	3.15	14	P	Pn	08 21 41.9	+3.0
I08BO	baz=210,slow=328,SNR=7.0			I	I	08 36 30.0		
LPAZ	La Paz	3.18	20		Pn	08 21 42.0	+2.7
LPAZ	La Paz	3.18	20	P	Pn	08 21 42.0	+2.7
LPAZ	La Paz	3.18	20	eP	Pn	08 21 42.4	+3.0
LVC	Limon Verde	3.32	174	Pn	Pn	08 21 42.2	+1.2
LVC	Limon Verde	3.32	174	eP	Pn	08 21 42.6	+1.6
LVC				eS	Sn	08 22 12.4	-7.5
LVC	comp=Z,2µm,1.1s			IAML		08 22 27.2		
LVC	Limon Verde comp=Z,2µm,0.7s,baz=340,slow=8.9,SNR=334	3.32	174	P	Pn	08 21 42.4	+1.4
LVC				S	Sn	08 22 20.9	+1.1
LVC	comp=Z,968nm,0.3s,baz=9.9,slow=9.9,SNR=12 Limon Verde	3.32	174	⇓iP	Pn	08 21 42.2	+1.2
PB06	IPOC Station P	3.41	185		Pn	08 21 42.3	+0.3
PB06	IPOC Station P	3.41	185	eP	Pn	08 21 42.5	+0.5
PB06	comp=Z,3µm,0.5s			IAML		08 22 33.9		
PB06	IPOC Station P	3.41	185	⇓iP	Pn	08 21 42.2	+0.3
PB05	IPOC Station P	3.65	194		Pn	08 21 45.3	+0.1
PB05	IPOC Station P	3.65	194	eP	Pn	08 21 44.8	-0.4
PB05	comp=Z,2µm,1.0s			IAML		08 22 58.4		
PB05	IPOC Station P	3.65	194	⇓iP	Pn	08 21 44.8	-0.4
PB05				iS	Sn	08 22 26.6	-0.8
AF01	San Pedro de A	3.78	165		Pn	08 21 50.3	+3.1
PB15	IPOC Station P	3.90	183		Pn	08 21 49.6	+0.9
PB15	IPOC Station P	3.90	183	eP	Pn	08 21 49.2	+0.6
PB15	comp=Z,4µm,0.3s			IAML		08 22 51.8		
YJA	Yavi	4.54	130	eP	Pn	08 22 01.0	+3.5
PB14	IPOC Station P	5.41	191	Pn	Pn	08 22 07.6	-1.6
GO02	Mina Guanaco	5.85	183	Pn	Pn	08 22 14.3	-0.8
SIV	San Ignacio comp=Z,365nm,0.5s,baz=251,slow=12,SNR=1938	8.47	69	P	Pn	08 22 49.0	-1.5
SIV	comp=Z,97nm,0.8s,baz=162,slow=22,SNR=1.1			S	Sn	08 24 15.4	-9.1
SIV	comp=Z,1µm,21.8s,baz=258,slow=42			LR	LR	08 26 39.1		
NNA	Nana	10.29	314	eP	Pn	08 23 12.8	-2.4
NNA	Nana comp=Z,9.2nm,0.3s,baz=163,slow=6.7,SNR=8.8	10.29	314	P	Pn	08 23 12.4	-2.8
NNA	comp=Z,32nm,0.3s,baz=183,slow=13,SNR=2.2			S	Sn	08 24 58.8	-10
ZON	Zonda	12.22	178	Pn	Pn	08 23 44.1	+3.1
ZON	Zonda	12.22	178	P	Pn	08 23 44.1	+3.1
CFA	Coronel Fontan comp=Z,6.1nm,0.3s,baz=4.0,slow=16,SNR=25	12.30	176	P	Pn	08 23 38.9	-3.2
CFA	comp=Z,6.1nm,0.4s,baz=323,slow=20,SNR=1.5			S	Sn	08 25 49.2	-8.1
AQDB	Aquidauana	12.82	98	eP	Pn	08 23 46.5	-2.6
CPUP	Villa Florida	13.05	125	eP	Pn	08 23 50.0	-1.9
CPUP	Villa Florida comp=Z,155nm,1.0s,baz=304,slow=12,SNR=131	13.05	125	P	Pn	08 23 50.1	-1.8
SALV	Santo Antonio	13.38	78	eP	Pn	08 23 52.8	-3.5
VA03	San Esteban	13.47	185		Pn	08 23 58.0	+0.5
RVDE	Rio Verde (Bra	13.54	91	eP	Pn	08 23 55.3	-3.3
ROC1	El Roble	13.72	186		Pn	08 23 59.5	-1.5
PP1B	Ponte de Pedra	13.76	85	eP	Pn	08 23 58.4	-2.9
VA01	Torpederas	13.84	188	Pn	Pn	08 24 00.8	-1.4
PEL	Peldehue	13.86	185		Pn	08 24 01.7	-0.8
PEL	Peldehue	13.86	185	P	Pn	08 24 01.7	-0.8
MT02	Curacav	14.01	186		Pn	08 24 03.6	-0.9
RPRD	Ribas do Rio P	14.69	97	eP	Pn	08 24 12.5	-0.8
ATAH	Atahualpa comp=Z,7.3nm,0.9s,baz=128,slow=20,SNR=1.7	14.99	323	P	Pn	08 24 17.0	-0.5
ATAH	comp=Z,4.2nm,0.5s,baz=49,slow=17,SNR=1.5			S	Sn	08 27 03.3	+0.1
MCR1	Marechal Candi	15.04	113	eP	Pn	08 24 17.4	-0.3
BO01	Tunca	15.13	186	Pn	Pn	08 24 18.3	-0.4
BO01	comp=Z,147nm,0.8s			IAmb	IAmb	08 24 24.1		
ITQB	Itaqui	15.46	134		Pn	08 24 22.0	-0.9
ITQB	comp=Z,188nm,1.0s			IAmb	IAmb	08 24 34.0		
ITQB	Itaqui	15.46	134	eP	Pn	08 24 21.1	-1.8
CLDB	Colider	15.46	59	eP	Pn	08 24 19.6	-3.4
BO02	Sierra Bellavi	15.50	185	P	Pn	08 24 23.3	-0.2
BO02	comp=Z,176nm,0.8s			IAmb	IAmb	08 24 29.3	

CNLB Canela 19.50 124 *eP* P **08 25 08.4 -1.3**
TRQA Tornquist 19.75 163 P P **08 25 12.9 +0.7**
TRQA IAmb IAmb 08 25 14.1
comp=Z,223nm,0.8s
TRQA Tornquist 19.75 163 P P **08 25 12.9 +0.7**
TRQA pmax pmax
comp=Z,223nm,0.9s
ITTB Itaituba 19.86 43 *eP* P **08 25 11.9 -1.7**
IPMB Ipameri, GO 20.00 90 *eP* P **08 25 14.4 -0.8**
PTLC Puerto Leguiza 20.09 344 *eP* Pn 08 25 17.6 -1.2
GO06 Curarrehue 20.31 185 P P **08 25 18.6 +0.2**
GO06 IAmb IAmb 08 25 20.4
comp=Z,83nm,0.8s
SALI Salinas 20.51 325 P P **08 25 21.3 +0.8**
SLOR San Lorenzo - 20.54 333 P Pn 08 25 23.4 -1.2
BDFB Brasilia 20.59 83 P P **08 25 20.5 -1.1**
comp=Z,237nm,0.5s,baz=258,slow=10,SNR=51
BDFB LR LR 08 34 53.4
comp=Z,537nm,21.9s,baz=265,slow=41
comp=Z,237nm,0.5s
SPB Sao Paulo 20.77 106 P P **08 25 22.4 -0.9**
SPB IAmb IAmb 08 25 27.8
comp=Z,210nm,1.0s
SPB Sao Paulo 20.77 106 *eP* P **08 25 22.3 -1.0**
PET01 Itanhaem-SP 21.01 108 *eP* P **08 25 24.6 -1.4**
VAO Valinhos 21.12 104 *eP* P **08 25 25.7 -1.6**
BONI La Bonita 21.23 337 *eP* P **08 25 29.6 +1.0**
IMBA Imbabura, San 21.33 335 P P **08 25 30.1 +0.3**
IMBA IAmb IAmb 08 25 50.8
comp=Z,134nm,0.9s
OTAV Otavalo 21.39 334 P P **08 25 30.8 +0.3**
OTAV Otavalo 21.39 334 *eP* P **08 25 31.3 +0.8**
OTAV Otavalo 21.39 334 P P **08 25 30.8 +0.3**
OTAV pmax pmax
comp=Z,60nm,1.2s
PLCA Paso Flores 21.40 183 P P **08 25 30.6 +0.6**
PLCA IAmb IAmb 08 25 34.4
comp=Z,193nm,1.2s
PLCA Paso Flores 21.40 183 P P **08 25 30.6 +0.6**
PLCA pmax pmax
comp=Z,193nm,1.3s
PLCA Paso Flores 21.40 183 *eP* P **08 25 30.7 +0.7**
PLCA Paso Flores 21.40 183 P P **08 25 30.6 +0.6**
comp=Z,85nm,1.0s,baz=1.9,slow=11,SNR=43
comp=Z,85nm,1.0s
PAC1 Pacto, Parasо 21.56 333 *eP* P **08 25 32.6 +0.6**
TULM Tulcn-Chalpat 21.57 336 *eP* P **08 25 35.2 +2.8**
PMNB Patos De Minas 21.61 92 *eP* P **08 25 30.9 -1.6**
FLOC Florencia 21.67 342 *eP* P **08 25 31.2 -1.8**
CMBC Cumbal 21.79 336 *eP* P **08 25 36.9 +2.2**
GCUF Volcan Galeras 21.88 338 *eP* P **08 25 35.7 0.0**
LL03 Petrohue 21.94 186 P P **08 25 35.1 -0.5**
LL03 IAmb IAmb 08 26 00.1
comp=Z,99nm,0.8s
CRUC La Cruz 22.06 339 *eP* P **08 25 39.8 +2.3**
GARC Garzon, Huila 22.20 343 *eP* P **08 25 37.0 -1.9**
BBAC Balboa, Cauca 22.58 339 *eP* P **08 25 43.2 +0.4**
MALB Monte Alegre 22.72 42 *eP* P **08 25 41.2 -2.7**
POPC Popayan, Colom 22.88 341 *eP* P **08 25 46.5 +0.8**
BOAV Boa Vista 23.20 23 P P **08 25 47.5 -1.1**
BOAV IAmb IAmb 08 25 49.5
comp=Z,152nm,1.0s
BOAV Boa Vista 23.20 23 *eP* P **08 25 47.2 -1.4**
BOAV Boa Vista 23.20 23 *eP* P **08 25 46.9 -1.7**
PTGC Puerto Gaitan, 23.51 353 *eP* P **08 25 51.1 -0.3**
JAMC Jamundi, Valle 23.52 341 *eP* P **08 25 51.7 0.0**
VILC Villavicencio, 23.66 349 *eP* P **08 25 53.3 +0.4**
LL07 Hotel Espejo d 23.74 188 P P **08 25 52.6 -0.5**
LL07 IAmb IAmb 08 25 55.3
comp=Z,109nm,0.9s
ORTC Ortega, Tolima 23.79 345 *eP* P **08 25 52.6 -1.4**
GR1C Gorgona, Isla 23.82 338 *eP* P **08 25 55.0 +0.8**
LL02 Futaleuf 23.93 185 P P **08 25 54.3 -0.6**
CVER Cruz Verde, Cu 24.13 348 *eP* P **08 26 01.8 +4.3**
YOTC Yotoco, Valle 24.15 343 *eP* P **08 25 57.0 -0.3**
ROSC El Rosal 24.49 348 *eP* P **08 26 02.6 +2.0**
ROSC El Rosal 24.49 348 P P **08 26 00.4 -0.3**
comp=Z,4.7nm,0.3s,baz=134,slow=17,SNR=2.9
ROSC LR LR 08 36 59.2
comp=Z,324nm,21.7s,baz=208,slow=40
comp=Z,4.7nm,0.3s
PLMC San Jos del P 25.01 343 *eP* P **08 26 05.0 -0.2**
GUY2C Guyana, Caldas 25.09 346 *eP* P **08 26 05.7 -0.5**
AY01 Puyuhuapi 25.22 186 P P **08 26 06.2 -0.3**
SPBC San Pablo de B 25.23 349 *eP* P **08 26 06.0 -1.0**
MCPB Macapa, AP 25.27 44 *eP* P **08 26 06.0 -1.4**
DUB01 Friburgo-RJ 25.30 101 *eP* P **08 26 08.0 +0.3**
TAMC Tame, Arauca 25.68 354 *eP* P **08 26 10.5 -0.6**
CBOC Ciudad Bolivar 25.86 344 *eP* P **08 26 12.6 -0.3**
BARC Barichara 26.01 351 *eP* P **08 26 13.8 -0.5**
PTBC PUERTO BERRIO, 26.17 348 *eP* P **08 26 12.5 -3.0**
COYC Coyhaique 26.31 184 P P **08 26 15.8 -0.7**
PAMC Pamplona, Colo 26.68 352 *eP* P **08 26 19.9 -0.7**
DBBC Dabeiba 27.02 345 *eP* P **08 26 23.2 0.0**
ZARC Zaragoza, Cauc 27.18 348 *eP* P **08 26 22.9 -1.6**
UREC San Jos de Ur 27.57 346 *eP* P **08 26 27.3 -0.7**
OCAC Ocana 27.64 351 *eP* P **08 26 26.6 -2.2**
APAC Apartado, Choc 27.96 344 *eP* P **08 26 33.9 +2.4**
SDV Santo Domingo 28.03 357 P P **08 26 31.1 -1.2**
SDV Santo Domingo 28.03 357 *eP* P **08 26 30.9 -1.5**
SDV Santo Domingo 28.03 357 *eP* P **08 26 31.3 -1.0**
SDV Santo Domingo 28.03 357 LR LR 08 38 36.6
comp=Z,306nm,18.4s,baz=192,slow=38
BAUV El Baul 28.08 3 P P **08 26 31.4 -1.1**
GUA01 Guaratinga, BA 28.15 89 *eP* P **08 26 32.8 -0.4**
ABR01 Abrolhos, BA 28.98 92 *eP* P **08 26 40.5 -0.2**
MDP Montagnes des 29.25 36 P P **08 26 41.8 -1.2**
comp=Z,14nm,0.5s,baz=206,slow=9.7,SNR=24
comp=Z,14nm,0.5s
ARGC Ariguani, Magd 29.38 350 *eP* P **08 26 42.6 -1.5**
SJCC San Jacinto, C 29.58 348 *eP* P **08 26 44.9 -1.1**
LCR2 La Lucha 2 32.30 332 P P **08 27 11.3 +1.3**
LCR2 IAmb IAmb 08 27 13.2
comp=Z,55nm,1.1s
JACO JACO, Garabito 32.52 331 P P **08 27 11.6 -0.2**
JACO IAmb IAmb 08 27 14.9
comp=Z,53nm,1.1s
HDC Heredia 32.58 332 P P **08 27 13.8 +1.4**
HDC IAmb IAmb 08 27 16.0
comp=Z,101nm,1.2s
SOCE Pocosol 33.14 332 P P **08 27 17.4 +0.2**
SOCE IAmb IAmb 08 27 20.9
comp=Z,175nm,1.3s
JTS Las Juntas de 33.21 331 *eP* P **08 27 18.3 +0.5**
JTS Las Juntas de 33.21 331 LR LR 08 42 25.1
comp=Z,295nm,20.3s,baz=154,slow=39
SVB Belmont 33.31 14 P P **08 27 16.6 -2.0**
EFI East Falkland 33.50 167 *d iP* P **08 27 21.2 +1.3**
EFI pmax pmax
comp=Z,106nm,1.9s
EFI East Falkland 33.50 167 P P **08 27 20.9 +1.1**
EFI pP **pP** **08 27 44.9 +0.8**
MPOM Morne Pois Mar 34.53 14 P P **08 27 27.2 -1.9**
BIM Bigot 34.55 14 P P **08 27 27.4 -2.0**
FDF Fort de France 34.74 14 P P **08 27 28.2 -2.8**
RCBR Riachuelo 35.12 72 *eP* P **08 27 34.9 +0.4**
RCBR Riachuelo 35.12 72 P P **08 27 33.2 -1.2**
comp=Z,105nm,0.6s,baz=247,slow=10,SNR=108
RCBR LR LR 08 43 28.8
comp=Z,574nm,18.4s,baz=244,slow=39
comp=Z,105nm,0.6s
RCBR Riachuelo 35.12 72 P P **08 27 34.2 -0.2**
MLPR Magueyes Islan 37.09 4 P P **08 27 49.5 -1.5**
MLPR IAmb IAmb 08 27 50.9
comp=Z,47nm,0.9s
SJG San Juan 37.29 5 *eP* P **08 27 50.1 -2.6**
SJG San Juan 37.29 5 P P **08 27 50.2 -2.4**
RPN Rapa Nui 37.52 250 LR LR 08 40 03.5
comp=Z,455nm,18.2s,baz=96,slow=31
TGUH Tegucigalpa,Un 37.58 331 P P **08 27 55.8 +0.5**
TGUH IAmb IAmb 08 27 57.2
comp=Z,48nm,1.1s
SDDR Presa de Saban 38.09 357 P P **08 27 58.4 -1.1**
ESQI Esquipulas 39.01 328 P P **08 28 09.0 +1.7**
ESQI IAmb IAmb 08 28 12.5
comp=Z,42nm,0.8s
TEIG Tepich 43.47 334 P P **08 28 43.7 +0.2**
TEIG IAmb IAmb 08 28 45.8
comp=Z,47nm,1.2s
TEIG Tepich 43.47 334 P P **08 28 43.2 -0.4**
TEIG pP **pP** **08 29 08.3 -0.4**
TEIG sP **sP** **08 29 20.8 0.0**
PMSA Palmer Station 45.59 177 *eP* P **08 29 01.6 +1.6**
PMSA Palmer Station 45.59 177 LR LR 08 47 57.1
comp=Z,89nm,18.7s,baz=337,slow=36
TLIG Tlapa 46.58 320 P P **08 29 09.4 +0.9**
TLIG IAmb IAmb 08 29 11.3
comp=Z,53nm,1.2s
DWPF Disney Wildern 48.57 346 P P **08 29 23.2 -0.3**
baz=165
MOIG Morelia 49.79 319 P P **08 29 34.4 +1.1**
MOIG IAmb IAmb 08 29 35.9
comp=Z,51nm,0.9s
TIGA Tifton 52.28 344 P P **08 29 51.2 -0.2**
baz=163
255A Hazlehurst 52.48 346 P P **08 29 53.3 +0.4**
baz=164
352A Blakely 52.67 343 P P **08 29 53.4 -0.8**
352A Blakely 52.67 343 P P **08 29 53.9 -0.4**
baz=162,SNR=15
ZAIG Zacatecas 52.96 321 P P **08 29 57.9 +0.9**
ZAIG IAmb IAmb 08 29 59.6
comp=Z,52nm,1.2s
BRAL Brewton 53.00 341 P P **08 29 56.2 -0.5**
baz=159
BRAL Brewton 53.00 341 P P **08 29 56.3 -0.3**
baz=159
NHSC New Hope 53.13 349 P P **08 29 57.9 +0.2**
baz=167,SNR=7.6
NHSC New Hope 53.13 349 P P **08 29 57.8 +0.2**
baz=167,SNR=7.6
154A Montrose 53.28 345 P P **08 29 58.3 -0.4**
154A Montrose 53.28 345 P P **08 29 58.7 0.0**
baz=164,SNR=12
250A Grady 53.52 342 P P **08 29 59.1 -1.3**
baz=160,SNR=12
HAW Hawthorne Fire 53.66 347 P P **08 30 01.4 -0.1**
baz=166,SNR=13
152A Waverly Hall 53.74 344 P P **08 30 01.9 -0.2**
152A IAmb IAmb 08 30 04.9
comp=Z,34nm,0.9s
152A Waverly Hall 53.74 344 P P **08 30 01.2 -0.9**
baz=162,SNR=12
346A Big Creek Wild 53.99 339 P P **08 30 02.8 -1.1**
baz=156
Y57A Sumter 54.06 349 P P **08 30 04.5 +0.1**
baz=167,SNR=7.6
Y57A P P **08 30 04.5 +0.1**
baz=167,SNR=7.6
GOGA Godfrey 54.13 345 P P **08 30 04.1 -0.8**
baz=164,SNR=5.2
GOGA Godfrey 54.13 345 P P **08 30 04.4 -0.6**
baz=164,SNR=5.2
HBVL Hebbronville 54.18 327 P P **08 30 06.3 +0.8**
HBVL IAmb IAmb 08 30 07.8
comp=Z,37nm,1.1s
ASCN Ascension 54.35 86 P P **08 30 06.4 -0.6**
JSC Jenkinsville 54.48 348 P P **08 30 07.3 -0.2**
baz=166,SNR=7.9
HODGE Hodges 54.64 347 P P **08 30 08.3 -0.3**
baz=165,SNR=8.5
BIRD Birdtown, Kers 54.68 349 P P **08 30 08.7 -0.2**
baz=167,SNR=12
Y52A Lilburn 54.71 345 P P **08 30 08.5 -0.6**
baz=163
Y52A P P **08 30 08.5 -0.6**
baz=163
LRAL Lakeview Retre 54.72 342 P P **08 30 08.3 -0.9**
baz=160,SNR=5.2
LRAL Lakeview Retre 54.72 342 P P **08 30 08.0 -1.2**
baz=160,SNR=5.2
441A DeRidder 54.81 335 P P **08 30 11.3 +1.4**
baz=152,SNR=5.1
146A Union 54.99 340 P P **08 30 10.9 -0.3**
baz=157
W57A Gilead 55.09 349 P P **08 30 11.7 -0.1**
baz=168,SNR=9.5
W57A P P **08 30 11.7 -0.1**
baz=168,SNR=9.5
PAULI Pauline 55.12 347 P P **08 30 12.1 0.0**
PAULI IAmb IAmb 08 30 13.0
comp=Z,29nm,0.7s
PAULI Pauline 55.12 347 P P **08 30 11.6 -0.5**
baz=166,SNR=10.0
Z47A Carrollton 55.20 341 P P **08 30 11.8 -0.8**
Z47A IAmb IAmb 08 30 12.8
comp=Z,23nm,0.9s
Z47A Carrollton 55.20 341 P P **08 30 10.9 -1.7**
baz=158
735A Kenedy 55.23 329 P P **08 30 13.1 +0.1**
735A IAmb IAmb 08 30 15.0
comp=Z,77nm,1.1s
735A Kenedy 55.23 329 P P **08 30 14.5 +1.5**
baz=147
HKT Hockley 55.24 332 P P **08 30 13.6 +0.7**
HKT IAmb IAmb 08 30 14.9
comp=Z,44nm,1.2s
HKT Hockley 55.24 332 P P **08 30 13.2 +0.2**
baz=149
HKT Hockley 55.24 332 *d iP* P **08 30 13.1 +0.2**
HKT pmax pmax
comp=Z,48nm,1.3s
HKT Hockley 55.24 332 P P **08 30 13.6 +0.7**
HKT pP **pP** **08 30 39.9 +0.8**
HKT sP **sP** **08 30 51.5 +0.6**
Y49A Blount Mountai 55.32 343 P P **08 30 12.4 -1.1**
baz=160
KMSC Kings Mountain 55.33 348 P P **08 30 13.4 -0.2**
KMSC IAmb IAmb 08 30 14.6
comp=Z,38nm,0.8s
KMSC Kings Mountain 55.33 348 P P **08 30 13.4 -0.2**
baz=166,SNR=14
KMSC Kings Mountain 55.33 348 P P **08 30 13.4 -0.2**
baz=166,SNR=14
CASEE Lake Jocassee 55.52 346 P P **08 30 15.2 +0.3**
baz=165,SNR=8.8
V58A Windy Hill, Pi 55.57 350 P P **08 30 14.9 -0.4**
baz=169
V58A P P **08 30 14.9 -0.4**
baz=169
X51A Calhoun 55.57 344 P P **08 30 15.2 -0.1**
baz=162
X51A P P **08 30 15.2 -0.1**
baz=162
833A Chaparral WMA, 55.58 328 P P **08 30 15.4 -0.1**
833A Chaparral WMA, 55.58 328 P P **08 30 15.8 +0.3**
baz=145,SNR=21
833A Chaparral WMA, 55.58 328 P P **08 30 16.1 +0.6**
baz=145,SNR=21
EF01 Eagle Ford 01 55.74 329 P P **08 30 16.1 -0.5**
EF01 IAmb IAmb 08 30 17.7
comp=Z,96nm,1.2s
W52A Murphy 55.85 345 P P **08 30 17.1 -0.3**
baz=164,SNR=6.3
V55A Taylorsville 56.00 348 P P **08 30 18.6 +0.3**
V55A Taylorsville 56.00 348 P P **08 30 18.8 +0.4**
baz=167,SNR=21
V55A P P **08 30 18.8 +0.4**
baz=167,SNR=21
X48A Hartselle 56.06 342 P P **08 30 18.0 -0.7**
baz=160,SNR=11
V53A Saluda 56.15 347 P P **08 30 18.7 -0.8**
baz=165,SNR=7.1
V53A P P **08 30 18.7 -0.8**
baz=165,SNR=7.1
Y45A Yeager Farm, C 56.28 340 P P **08 30 19.4 -1.0**
baz=157,SNR=8.4
W50A Signal Mountai 56.29 344 P P **08 30 19.6 -0.9**
baz=162,SNR=10
NATX Nacogdoches 56.30 334 P P **08 30 21.1 +0.5**
NATX Nacogdoches 56.30 334 P P **08 30 21.4 +0.9**
baz=151,SNR=11
NATX Nacogdoches 56.30 334 P P **08 30 21.3 +0.7**
baz=151,SNR=11
U56A King 56.32 349 P P **08 30 21.1 +0.5**
baz=168,SNR=7.4
U56A P P **08 30 21.1 +0.5**
baz=168,SNR=7.4
TKL Tuckaleechee C 56.35 346 P P **08 30 20.2 -0.7**
TKL IAmb IAmb 08 30 21.6
comp=Z,29nm,0.8s
TKL Tuckaleechee C 56.35 346 P P **08 30 19.6 -1.3**
baz=164,SNR=12
TKL Tuckaleechee C 56.35 346 P P **08 30 20.2 -0.7**
TKL pmax pmax
comp=Z,29nm,0.9s
TKL Tuckaleechee C 56.35 346 LR LR 08 57 12.9
comp=Z,110nm,18.0s,baz=155,slow=39
V52A Sevierville 56.48 346 P P **08 30 20.8 -1.0**
baz=164,SNR=15
T59A Double "B" Far 56.50 352 P P **08 30 21.0 -0.9**
baz=171,SNR=5.7
T59A P P **08 30 21.0 -0.9**
baz=171,SNR=5.7
V51A Loudon 56.62 345 P P **08 30 22.2 -0.6**
baz=163,SNR=5.9
435B Jarrell 56.74 331 P P **08 30 23.9 +0.2**
baz=148
435B Jarrell 56.74 331 P P **08 30 24.1 +0.4**
baz=148,SNR=5.5
U54A Nelsons Funny 56.76 348 P P **08 30 23.8 0.0**
baz=166,SNR=14
U54A P P **08 30 23.8 0.0**
baz=166,SNR=14
T57A Hurt 56.77 350 P P **08 30 23.7 -0.1**
baz=169,SNR=7.7
T57A P P **08 30 23.7 -0.1**
baz=169,SNR=7.7
OXF Oxford 56.83 340 P P **08 30 22.7 -1.6**
baz=157,SNR=12
OXF Oxford 56.83 340 P P **08 30 23.0 -1.2**
baz=157,SNR=12
237A Washetta, Mont 56.99 333 P P **08 30 26.2 +0.8**
baz=150,SNR=18
CCAR Cane Creek 57.09 338 P P **08 30 26.6 +0.5**
baz=155
TZTN Tazewell 57.15 346 P P **08 30 26.0 -0.5**
baz=164
TZTN Tazewell 57.15 346 P P **08 30 25.6 -0.9**
baz=164
BLA Blacksburg 57.17 349 P P **08 30 26.7 0.0**
baz=168
BLA Blacksburg 57.17 349 P P **08 30 27.0 +0.3**
baz=168
V48A Smith Brothers 57.20 343 P P **08 30 26.2 -0.7**
baz=160,SNR=16
JCT Junction City 57.55 329 P P **08 30 29.4 -0.1**
baz=146,SNR=16
JCT Junction City 57.55 329 P P **08 30 29.1 -0.4**
baz=146,SNR=16
U49A Red Boiling Sp 57.65 344 P P **08 30 28.7 -1.3**
baz=162,SNR=9.5
WHTX Lake Whitney, 57.70 332 P P **08 30 30.6 +0.1**
baz=148
WHTX Lake Whitney, 57.70 332 P P **08 30 31.0 +0.5**
baz=148
TREL Terrell 57.74 333 P P **08 30 31.0 +0.3**
TREL IAmb IAmb 08 30 32.5
comp=Z,51nm,1.0s
Z38A Mt. Pleasant 57.74 335 P P **08 30 31.0 +0.3**
baz=151,SNR=10
WVT Waverly 57.85 342 P P **08 30 30.3 -1.1**
WVT IAmb IAmb 08 30 33.6
comp=Z,24nm,0.7s
WVT Waverly 57.85 342 P P **08 30 30.0 -1.4**
baz=160
WVT Waverly 57.85 342 P P **08 30 29.8 -1.6**
baz=160,SNR=17
WVT Waverly 57.85 342 P P **08 30 30.3 -1.1**
WVT pmax pmax
comp=Z,25nm,0.7s
WVT Waverly 57.85 342 P P **08 30 29.9 -1.6**
WVT pP **pP** **08 30 56.9 -0.9**
WVT sP **sP** **08 31 08.4 -1.2**
T50A Nancy 57.90 345 P P **08 30 30.5 -1.3**
baz=163
T50A P P **08 30 30.5 -1.3**
baz=163
S54A Dingess, Beckl 57.90 349 P P **08 30 31.6 -0.2**
baz=167,SNR=16
S54A P P **08 30 31.6 -0.2**
baz=167,SNR=16
HPIG 57.94 321 P P **08 30 32.9 +0.4**
HPIG IAmb IAmb 08 30 34.2
comp=Z,19nm,0.9s
FW13 Cleburne 58.00 332 P P **08 30 32.5 0.0**
FW13 IAmb IAmb 08 30 59.4
comp=Z,27nm,0.8s
R55A Marlinton 58.17 350 P P **08 30 34.9 +1.2**
baz=168
R55A P P **08 30 34.9 +1.2**
baz=168
S51A Beattyville 58.21 347 P P **08 30 33.7 -0.2**
baz=164,SNR=5.4
S51A P P **08 30 33.7 -0.2**
baz=164,SNR=5.4
SLBS Sierra La Lagu 58.29 315 P P **08 30 36.1 +1.3**
SLBS IAmb IAmb 08 30 37.6
comp=Z,28nm,0.9s
T47A Sharon Grove 58.45 343 P P **08 30 34.5 -1.1**
baz=160,SNR=21
R53A Hurricane 58.54 348 P P **08 30 36.0 -0.2**
baz=166,SNR=8.3
R53A P P **08 30 36.0 -0.2**
baz=166,SNR=8.3
TX31 Lajitas Ar. Si 58.63 325 P P **08 30 36.9 -0.3**
baz=142,SNR=16
TXAR Lajitas Array 58.63 325 P P **08 30 36.9 -0.2**
comp=Z,7.5nm,1.0s,baz=143,slow=7.9,SNR=41
comp=Z,7.5nm,1.0s
Z35A Perchaven, San 58.75 333 P P **08 30 37.9 +0.2**
baz=149,SNR=27
Q56A Snyder Ridge, 58.76 351 P P **08 30 38.4 +0.7**
baz=169,SNR=7.5
Q56A P P **08 30 38.4 +0.7**
baz=169,SNR=7.5
LCAR Lake Charles 58.83 339 P P **08 30 36.9 -1.3**
baz=156,SNR=13
FW03 Perrin-Whitt E 58.86 332 P P **08 30 38.8 +0.3**
FW03 IAmb IAmb 08 30 39.9
comp=Z,62nm,1.4s
T45B Paducah 58.91 342 P P **08 30 37.8 -1.0**
baz=159,SNR=8.7
T45A Paducah 58.91 342 P P **08 30 37.6 -1.2**
PARMO Parma 58.92 341 P P **08 30 38.2 -0.6**
Q54A Coxs Mills 58.97 349 P P **08 30 38.1 -1.1**
baz=168,SNR=11
Q54A P P **08 30 38.1 -1.1**
baz=168,SNR=11
R50A Paris 58.99 346 P P **08 30 38.4 -0.9**
R50A IAmb IAmb 08 30 41.5
comp=Z,31nm,1.0s
R50A Paris 58.99 346 P P **08 30 38.6 -0.7**
baz=164,SNR=12
R50A P P **08 30 38.6 -0.7**
baz=164,SNR=12
R49A Shelbyville 59.19 345 P P **08 30 39.8 -0.9**
baz=163,SNR=6.0
R49A P P **08 30 39.8 -0.9**
baz=163,SNR=6.0
Q52A Bidwell 59.21 348 P P **08 30 40.5 -0.3**
baz=166,SNR=7.4
Q52A P P **08 30 40.5 -0.3**
baz=166,SNR=7.4
ABTX Abilene, Hawle 59.24 330 P P **08 30 40.7 -0.4**
baz=146,SNR=15
ABTX Abilene, Hawle 59.24 330 P P **08 30 40.5 -0.7**
baz=146,SNR=15
PBMO Poplar Bluff 59.24 340 P P **08 30 40.2 -0.8**
baz=157,SNR=20
LOOK Love County 59.29 333 P **08 30 41.6 +0.1**
TUPA Temple Univers 59.40 355 P P **08 30 42.2 +0.2**
baz=174
WCI Wyandotte Cave 59.41 344 P P **08 30 41.0 -1.2**
baz=162
WCI Wyandotte Cave 59.41 344 P P **08 30 40.6 -1.5**
baz=162,SNR=8.4
WCI Wyandotte Cave 59.41 344 P P **08 30 40.9 -1.2**
WCI pP **pP** **08 31 07.4 -1.4**
ALPN Alpine 59.43 325 P P **08 30 42.6 -0.1**
ALPN IAmb IAmb 08 30 43.9
comp=Z,23nm,1.1s
MCWV Mont Chateau 59.47 351 P P **08 30 41.7 -0.8**
baz=169,SNR=7.3
MCWV Mont Chateau 59.47 351 P P **08 30 42.9 +0.4**
baz=169,SNR=7.3
Q51A Peebles 59.49 347 P P **08 30 42.6 -0.1**
baz=165,SNR=7.7
Q51A P P **08 30 42.6 -0.1**
baz=165,SNR=7.7
P53A Whipple 59.56 349 P P **08 30 42.8 -0.3**
P53A Whipple 59.56 349 P P **08 30 43.5 +0.3**
baz=167,SNR=17
P53A P P **08 30 43.5 +0.3**
baz=167,SNR=17
U40A Yellville 59.67 338 P P **08 30 43.2 -0.8**
baz=154,SNR=18

U40A P P 08 30 43.2 -0.8
baz=154,SNR=18
S44A Carbondale 59.72 342 P P 08 30 43.6 -0.7
baz=158,SNR=15
MNHN Monahans 59.73 327 P P 08 30 44.2 -0.4
MNHN IAmb IAmb 08 30 45.9
comp=Z,68nm,1.1s
P52A Corning 59.84 349 P P 08 30 44.2 -0.9
baz=166,SNR=9.1
P51A Williamsport 59.87 348 P P 08 30 44.4 -0.9
baz=165,SNR=7.6
P51A P P 08 30 44.4 -0.9
baz=165,SNR=7.6
O54A Avella 60.06 350 P P 08 30 46.0 -0.6
baz=168
O54A P P 08 30 46.0 -0.6
baz=168
O52A Adamsville 60.25 349 P P 08 30 47.8 -0.1
O52A IAmb IAmb 08 30 48.4
comp=Z,34nm,0.8s
O52A Adamsville 60.25 349 P P 08 30 47.4 -0.5
baz=166,SNR=7.0
O52A P P 08 30 47.4 -0.5
baz=166,SNR=7.0
O53A New Philadelph 60.27 349 P P 08 30 47.7 -0.3
baz=167,SNR=7.3
P49A Miami Univ. Ec 60.27 346 P P 08 30 47.3 -0.8
baz=163,SNR=7.7
P49A Miami Univ. Ec 60.27 346 P P 08 30 47.1 -1.0
baz=163,SNR=7.7
U38A Gravette 60.30 337 P P 08 30 47.4 -1.0
baz=153,SNR=6.4
FVM French Village 60.34 341 P P 08 30 48.0 -0.6
baz=157,SNR=22
SHEL Horse Pasture 60.34 98 P P 08 30 50.2 +1.1
OLIL Olney 60.36 343 P P 08 30 47.2 -1.4
baz=160
P48A Milroy 60.36 346 P P 08 30 47.1 -1.6
baz=163
P48A P P 08 30 47.1 -1.6
baz=163
TUL3 Leonard 60.37 335 P P 08 30 48.4 -0.4
baz=151,SNR=22
TUL3 Leonard 60.37 335 P P 08 30 48.4 -0.4
baz=151,SNR=22
ACSO Alum Creek Sta 60.58 348 P P 08 30 49.4 -0.7
baz=165,SNR=11
ACSO Alum Creek Sta 60.58 348 P P 08 30 49.7 -0.5
baz=165,SNR=11
CCM Cathedral Cave 60.67 340 P P 08 30 50.0 -0.8
CCM IAmb IAmb 08 30 51.0
comp=Z,32nm,1.0s
CCM Cathedral Cave 60.67 340 P P 08 30 49.8 -1.0
baz=156
CCM Cathedral Cave 60.67 340 P P 08 30 50.2 -0.6
baz=156,SNR=14
CCM Cathedral Cave 60.67 340 P P 08 30 50.0 -0.8
CCM pmax pmax
comp=Z,32nm,1.0s
CCM Cathedral Cave 60.67 340 P P 08 30 49.7 -1.0
N53A Lisbon 60.75 350 P P 08 30 51.4 +0.1
baz=168,SNR=6.2
N53A P P 08 30 51.4 +0.1
baz=168,SNR=6.2
PSDB Penn State Uni 60.75 352 P P 08 30 52.8 +1.5
baz=170
PAMR Moraine State 60.76 351 P P 08 30 51.7 +0.3
baz=168
Q44A Meyer Farm, Va 60.77 342 P P 08 30 50.2 -1.2
baz=159,SNR=9.4
O49A Covington 60.81 347 P P 08 30 50.8 -1.0
baz=164,SNR=12
O49A P P 08 30 50.8 -1.0
baz=164,SNR=12
BRYW Bryant College 60.93 358 P P 08 30 52.7 +0.2
BRYW IAmb IAmb 08 30 54.5
comp=Z,62nm,0.9s
P46A Rosedale 60.95 344 P P 08 30 51.7 -1.0
baz=161
BELA Belgrano 2 60.97 172 P P 08 30 53.7 +1.3
S39A Bolivar 61.03 338 P P 08 30 52.9 -0.4
S39A IAmb IAmb 08 30 53.7
comp=Z,41nm,1.1s
S39A Bolivar 61.03 338 P P 08 30 52.4 -0.8
baz=154,SNR=18
O48B Farmland 61.06 346 P P 08 30 52.3 -1.1
baz=163,SNR=11
O48B Farmland 61.06 346 P P 08 30 52.3 -1.1
baz=163,SNR=11
N51A Ashland 61.12 349 P P 08 30 52.8 -1.1
baz=166,SNR=6.0
N51A P P 08 30 52.8 -1.1
baz=166,SNR=6.0
R40A Maddies Statio 61.21 339 P P 08 30 53.4 -1.1
baz=155,SNR=12
PAOC Oil Creek Stat 61.26 351 P P 08 30 55.4 +0.6
baz=169
OK048 Pawnee Station 61.27 335 P 08 30 54.8 -0.1
M53A WI Miller and 61.34 350 P P 08 30 55.1 -0.2
baz=168,SNR=5.2
MNTX Cornudas Mount 61.40 325 P P 08 30 55.0 -0.9
baz=141,SNR=39
MNTX Cornudas Mount 61.40 325 P P 08 30 55.3 -0.6
baz=141,SNR=39
MBO M'Bour 61.42 61 P P 08 30 55.9 -0.4
ALLY Alegheny Colle 61.46 351 P P 08 30 56.1 0.0
baz=168,SNR=5.4
N49A Columbus Grove 61.49 347 P P 08 30 55.2 -1.0
baz=164,SNR=25
N49A P P 08 30 55.2 -1.0
baz=164,SNR=25
BINY Binghamton 61.49 354 P P 08 30 56.0 -0.3
baz=173
BINY Binghamton 61.49 354 P P 08 30 56.5 +0.2
baz=173
L61B Northampton 61.51 357 P P 08 30 56.1 -0.2
baz=176
HRV Adam Dziewonsk 61.52 358 P P 08 30 55.8 -0.7
baz=178
T35B Sooner Cattle 61.53 335 P P 08 30 56.9 +0.2
baz=151,SNR=17
P43A Skaggs, Pawnee 61.60 342 P P 08 30 55.9 -1.2
baz=159,SNR=13
SFIN Lafayette 61.64 345 P P 08 30 55.6 -1.7
baz=161,SNR=7.3
SFIN Lafayette 61.64 345 P P 08 30 55.8 -1.5
baz=161,SNR=7.3
M50A Fremont 61.72 348 P P 08 30 57.0 -0.8
baz=165,SNR=5.7
M50A P P 08 30 57.0 -0.8
baz=165,SNR=5.7
N47A Urbana 61.78 346 P P 08 30 56.9 -1.3
baz=163,SNR=6.7
N47A P P 08 30 56.9 -1.3
baz=163,SNR=6.7
MSTX Muleshoe 61.84 329 P P 08 30 58.1 -0.8
baz=144,SNR=40
MSTX Muleshoe 61.84 329 P P 08 30 58.3 -0.7
baz=144,SNR=40
ERPA Erie 61.90 351 P P 08 30 58.7 -0.3
baz=169
ERPA Erie 61.90 351 P P 08 30 59.6 +0.6
baz=169
WVNY West Valley, N 61.99 352 P P 08 30 59.2 -0.4
baz=170
AMTX Amarillo 62.06 330 P P 08 30 59.5 -0.9
baz=145
AMTX Amarillo 62.06 330 P P 08 31 00.1 -0.3
baz=145
U32A Winter Ranch, 62.10 333 P P 08 31 00.1 -0.4
baz=148,SNR=5.6
P40A Paris 62.27 340 P P 08 31 00.4 -1.1
baz=156,SNR=14
VNA3 Neumayer Olymp 62.27 162 ⇓P P 08 31 03.0 +1.8
comp=Z,8.0nm,0.8s
HDIL Hopedale 62.39 343 P P 08 31 00.9 -1.3
HDIL IAmb IAmb 08 31 01.9
comp=Z,33nm,0.7s
HDIL Hopedale 62.39 343 P P 08 31 01.0 -1.3
baz=159,SNR=6.2
HDIL Hopedale 62.39 343 P P 08 31 00.9 -1.3
baz=159,SNR=6.2
L48A N Adams 62.52 347 P P 08 31 02.4 -0.8
baz=164,SNR=7.5
L48A P P 08 31 02.4 -0.8
baz=164,SNR=7.5
J58A Remsen 62.58 355 P P 08 31 05.3 +1.8
baz=174
J58A P P 08 31 05.3 +1.8
baz=174
J59A Piesco 62.63 356 P P 08 31 04.5 +0.6
baz=175
J59A P P 08 31 04.5 +0.6
baz=175
P38A Dawn 62.84 339 P P 08 31 04.1 -1.2
baz=154,SNR=14
VNA2 Neumayer--Watz 62.84 161 ⇓P P 08 31 08.8 +3.8
comp=Z,10.0nm,0.9s,baz=300,slow=6.0
K50A Casco 62.97 349 P P 08 31 04.3 -1.8
baz=166,SNR=11
K50A P P 08 31 04.3 -1.8
baz=166,SNR=11
LBNH Lisbon 63.26 358 P P 08 31 07.7 -0.3
baz=177
121A Cookes Peak, D 63.35 324 P P 08 31 10.1 +1.0
baz=139,SNR=10
121A Cookes Peak, D 63.35 324 P P 08 31 09.8 +0.7
baz=139,SNR=10
KSU1 Kansas State U 63.47 336 P P 08 31 09.0 -0.5
baz=151,SNR=12
KSU1 Kansas State U 63.47 336 P P 08 31 08.9 -0.7
baz=151,SNR=12
L44A Lake County Fo 63.54 345 P P 08 31 08.6 -1.3
baz=160
R32A Long Quarter, 63.71 334 P P 08 31 10.9 -0.3
baz=149,SNR=8.2
LONY Lake Ozonia 63.78 356 P P 08 31 12.2 +0.8
LONY Lake Ozonia 63.78 356 P P 08 31 11.2 -0.3
baz=175
N38A Joes South For 63.79 340 P P 08 31 11.3 -0.3
baz=155
L42A Oliver, Polo 63.84 343 P P 08 31 10.9 -0.9
baz=159
J47A Sunmer 63.84 347 P P 08 31 11.1 -0.7
baz=164,SNR=8.1
J47A P P 08 31 11.1 -0.7
baz=164,SNR=8.1
Y22A Socorro 63.97 326 P P 08 31 13.5 +0.4
baz=140,SNR=11
PKME Peaks-Kenny Pk 64.24 360 P P 08 31 14.8 +0.4
baz=180
L40A Anamosa 64.33 342 P P 08 31 13.8 -1.3
baz=157,SNR=5.1
SADO Sadowa 64.38 352 LR LR 09 03 16.9
comp=Z,90nm,18.3s,baz=158,slow=40
CBKS Cedar Bluff 64.47 334 P P 08 31 16.2 +0.1
baz=148,SNR=7.1
CBKS Cedar Bluff 64.47 334 P P 08 31 16.5 +0.4
baz=148,SNR=7.1
SNAA Sanae 64.47 161 P P 08 31 16.3 +0.5
SNAA Sanae 64.47 161 ⇓P P 08 31 18.9 +3.1
comp=Z,210nm,0.8s
SNAA Sanae 64.47 161 *ce*P P 08 31 17.2 +1.4
SNAA pmax pmax
comp=Z,16nm,1.1s
SNAA Sanae 64.47 161 P P 08 31 16.5 +0.7
comp=Z,8.0nm,0.8s,baz=200,slow=10,SNR=3.1
SNAA LR LR 08 59 42.0
comp=Z,37nm,19.7s,baz=352,slow=36
SNAA PKP2bc 09 00 06.0
comp=Z,1.9nm,0.3s,baz=117,slow=9.0,SNR=5.2
comp=Z,8.0nm,0.8s
ANMO Albuquerque 64.47 327 P P 08 31 16.6 +0.1
ANMO Albuquerque 64.47 327 P P 08 31 16.3 -0.1
baz=141
ANMO Albuquerque 64.47 327 P P 08 31 16.5 +0.1
baz=141,SNR=12
ANMO Albuquerque 64.47 327 *de*P P 08 31 16.8 +0.4
ANMO pmax pmax
comp=Z,27nm,1.7s
ANMO Albuquerque 64.47 327 P P 08 31 16.8 +0.4
ANMO pP pP 08 31 43.4 +0.3
N35A Tabor 64.67 338 P P 08 31 16.9 -0.4
baz=153
SCIA State Center 64.79 340 P P 08 31 17.8 -0.3
baz=155
JFWS Jewell Farm 64.84 343 P P 08 31 17.9 -0.5
JFWS IAmb IAmb 08 31 22.3
comp=Z,37nm,0.8s
JFWS Jewell Farm 64.84 343 P P 08 31 17.7 -0.7
baz=158
JFWS Jewell Farm 64.84 343 P P 08 31 17.7 -0.7
baz=158
JFWS Jewell Farm 64.84 343 P P 08 31 17.9 -0.5
JFWS pmax pmax
comp=Z,37nm,0.9s
F64A Sherman 64.85 1 P P 08 31 18.5 +0.1
F64A IAmb IAmb 08 31 21.5
comp=Z,22nm,0.6s
F64A Sherman 64.85 1 P P 08 31 18.3 0.0
baz=181
F64A P P 08 31 18.3 0.0
baz=181
TUC Tucson 64.90 322 P P 08 31 19.7 +0.6
TUC Tucson 64.90 322 P P 08 31 19.5 +0.3
baz=137
TUC Tucson 64.90 322 P P 08 31 19.7 +0.6
TUC pmax pmax
comp=Z,30nm,1.5s
TUC Tucson 64.90 322 P P 08 31 19.9 +0.7
TUC pP pP 08 31 45.9 +0.1
T25A Trinidad 65.18 330 P P 08 31 21.1 +0.1
baz=144,SNR=12
GLMI Grayling 65.32 348 P P 08 31 21.5 0.0
baz=164,SNR=5.4
GLMI Grayling 65.32 348 P P 08 31 21.2 -0.3
baz=164,SNR=5.4
K38A Parkersburg 65.33 341 P P 08 31 21.3 -0.3
baz=156
I42A Draeger Farm, 65.40 344 P P 08 31 21.7 -0.3
baz=160
I40A Norwalk 65.85 343 P P 08 31 24.5 -0.4
baz=158
214A Organ Pipe Nat 65.86 320 P P 08 31 26.6 +1.4
baz=135,SNR=26
KSCO Kaye Shedlock' 65.87 332 P P 08 31 25.9 +0.6
baz=146,SNR=9.6
KSCO Kaye Shedlock' 65.87 332 P P 08 31 25.7 +0.4
baz=146,SNR=9.6
L34A Svendsen Farm, 65.90 338 P P 08 31 25.0 -0.3
baz=152
PIX Pinacate 65.98 319 P P 08 31 26.7 +0.8
D62A Allapoint, All 66.06 0 P P 08 31 26.3 +0.2
D62A IAmb IAmb 08 31 29.4
comp=Z,18nm,0.7s
D62A Allapoint, All 66.06 0 P P 08 31 26.3 +0.2
baz=180,SNR=5.3
D62A P P 08 31 26.3 +0.2
baz=180,SNR=5.3
BGNE Belgrade 66.06 337 P P 08 31 26.4 +0.1
baz=150,SNR=7.6
BGNE Belgrade 66.06 337 P P 08 31 26.3 -0.1
baz=150,SNR=7.6
SDCO Great Sand Dun 66.18 329 P P 08 31 28.2 +0.7
baz=143,SNR=43
SDCO Great Sand Dun 66.18 329 P P 08 31 27.9 +0.3
baz=143,SNR=43
TROLL Troll, Antarti 66.18 161 ⇓P P 08 31 28.6 +1.7
comp=Z,522nm,0.6s
W18A Petrified Fore 66.36 324 P P 08 31 29.4 +0.8
baz=138
E46A Sault Ste Mari 66.75 349 P P 08 31 29.5 -1.0
baz=165
I37B Waseca 66.76 341 P P 08 31 30.3 -0.4
baz=155,SNR=6.3
S22A 4UR Ranch, Cre 66.83 328 P P 08 31 32.2 +0.5
baz=142,SNR=11
Q24A Divide 66.98 330 P P 08 31 33.1 +0.5
baz=143,SNR=13
OGNE Ogallala 67.21 334 P P 08 31 33.9 +0.2
baz=147,SNR=8.5
OGNE Ogallala 67.21 334 P P 08 31 33.6 -0.2
baz=147,SNR=8.5
MVCO Mesa Verde 67.27 327 P P 08 31 35.0 +0.6
baz=140,SNR=16
ECSD EROS Data Cent 67.54 339 P P 08 31 35.2 -0.5
baz=152,SNR=11
ECSD EROS Data Cent 67.54 339 P P 08 31 34.9 -0.8
baz=152,SNR=11
WUAZ Wupatki 67.56 324 P P 08 31 37.5 +1.3
WUAZ IAmb IAmb 08 31 38.7
comp=Z,38nm,1.1s
WUAZ Wupatki 67.56 324 P P 08 31 37.4 +1.3
baz=137,SNR=26
SPMN Marine on St. 67.69 342 P P 08 31 35.7 -0.8
baz=156,SNR=6.8
SPMN Marine on St. 67.69 342 P P 08 31 35.5 -1.0
baz=156,SNR=6.8
K30B Basset 67.70 336 P P 08 31 36.5 -0.2
K30B Basset 67.70 336 P P 08 31 36.8 +0.1
baz=149,SNR=14
GLA Glamis 67.84 320 P P 08 31 38.1 +0.2
baz=134
ISCO Idaho Springs 67.87 330 P P 08 31 38.8 +0.6
baz=143,SNR=22
ISCO Idaho Springs 67.87 330 P P 08 31 38.5 +0.3
baz=143,SNR=22
LIC Lamto 68.12 75⇑*i*P P 08 31 38.7 -1.2
comp=Z,135nm,1.0s
YUH Yuha Desert 68.24 319 P P 08 31 41.5 +1.2
PDMCI Parker Dam,Lak 68.29 321 P P 08 31 41.3 +0.8
baz=134
TIC Toumodi 68.29 74⇑*i*P P 08 31 39.9 -1.1
comp=Z,153nm,1.1s
IKP In-Ko-Pah, Jac 68.36 319 P P 08 31 42.5 +1.4
baz=132,SNR=17
SWSC Sam W. Stewart 68.37 319 P P 08 31 42.7 +1.6
baz=133,SNR=5.4
KIC Kosan Boka 68.43 75⇑*i*P P 08 31 40.8 -1.1
comp=Z,263nm,1.0s
DBIC Dimbokro 68.45 74 P P 08 31 41.0 -0.9
DBIC Dimbokro 68.45 74 P P 08 31 41.1 -0.9
comp=Z,109nm,0.9s,baz=232,slow=5.9,SNR=94
DBIC S S 08 40 33.5 -2.5
comp=Z,14nm,1.1s,baz=338,slow=22,SNR=20
DBIC LR LR 09 01 32.7
comp=Z,266nm,18.6s,baz=207,slow=36
comp=Z,109nm,0.9s
DBIC Dimbokro 68.45 74 ⇑P P 08 31 41.2 -0.8
DBIC pP pP 08 32 10.1 +0.9
DBIC sP sP 08 32 21.4 +0.5
DBIC PP PP 08 34 08.2 -6.2
F36A Milaca 68.48 342 P P 08 31 40.7 -0.7
baz=156,SNR=8.2
CBX Cerro Bola 68.48 318 P P 08 31 42.9 +1.0
CBX IAmb IAmb 08 31 44.9
comp=Z,47nm,1.2s
BC3 Big Chuckawall 68.63 320 P P 08 31 44.2 +1.4
baz=133,SNR=21
MONP2 Monument Peak 68.72 319 P P 08 31 45.0 +1.5
baz=132,SNR=17
IRM Iron Mountain 68.79 320 P P 08 31 45.0 +1.3
baz=134,SNR=32
N23A Red Feather La 68.89 331 P P 08 31 44.8 +0.3
baz=143
NEE2 Needles Airpor 68.89 321 P P 08 31 45.7 +1.4
baz=134
SUSD Miller 68.98 338 P P 08 31 44.6 -0.1
baz=150
NVL N'lazarevskaya 69.01 159 *e*P P 08 31 44.5 0.0
NVL pmax pmax
comp=Z,27nm,1.2s
109C Camp Elliot, M 69.14 318 P P 08 31 47.1 +1.2
baz=132
TAOE Nuku Hiva Isla 69.15 268 *e*S S 08 40 55.1 +11
comp=Z,408nm,26.2s
TAOE Nuku Hiva Isla 69.15 268 *e*LR LR 08 52 50.2
comp=Z,368nm,29.1s
BELC Belle Mtn. Jos 69.20 320 P P 08 31 47.5 +1.1
baz=133,SNR=19
TPFO Pinon Flats 69.22 319 P P 08 31 47.9 +1.4
baz=132,SNR=14
PFO Pinyon Flats O 69.22 319 P P 08 31 47.7 +1.2
PFO Pinyon Flats O 69.22 319 P P 08 31 47.8 +1.2
baz=132,SNR=17
PFO Pinyon Flats O 69.22 319 P P 08 31 47.7 +1.2
PFO pmax pmax
comp=Z,26nm,1.2s
PFO Pinyon Flats O 69.22 319 P P 08 31 47.8 +1.3
PFO pP pP 08 32 14.5 +1.0
PFO sP sP 08 32 26.8 +1.7
F33A 5 Mile Ranch, 69.30 340 P P 08 31 45.9 -0.7
baz=153,SNR=5.1
O20A White River Ci 69.38 329 P P 08 31 48.3 +0.9
baz=141,SNR=14
GMRC Granite Mounta 69.53 320 P P 08 31 49.6 +1.2
baz=133,SNR=22
MURC Murrieta 69.67 319 P P 08 31 50.4 +1.2
baz=132
EYMN Ely 69.83 344 P P 08 31 50.5 +0.7
baz=158
BBRC Big Bear Solar 69.94 319 P P 08 31 52.8 +1.7
baz=132
HEC Hector,Ludlow 69.97 320 P P 08 31 52.4 +1.4
baz=133,SNR=6.5
SCI2 San Clemente I 70.12 317 P P 08 31 53.4 +1.5
baz=131
TUQ Turquoise Moun 70.13 321 P P 08 31 53.2 +1.1
baz=133,SNR=15
MVU Marysvale 70.19 325 P P 08 31 53.1 +0.6
CIS Catalina Islan 70.31 318 P P 08 31 54.5 +1.4
baz=131,SNR=5.4
BFSC Mount Baldy Ra 70.38 319 P P 08 31 54.9 +1.3
baz=132,SNR=13
RRX Edison Barstow 70.40 320 P P 08 31 55.0 +1.4
baz=132
FMP Fort Macarthur 70.44 318 P P 08 31 55.1 +1.4
baz=131
K22A Casper 70.55 332 P P 08 31 55.1 +0.6
baz=143,SNR=14
K22A Casper 70.55 332 P P 08 31 54.8 +0.3
baz=143,SNR=14
GSC Goldstone, Bar 70.57 320 P P 08 31 56.3 +1.6
baz=133,SNR=18
SHOC Shoshone, Teco 70.65 321 P P 08 31 56.6 +1.5
baz=133,SNR=9.9
RSSD Black Hills 70.67 334 P P 08 31 55.6 +0.3
RSSD Black Hills 70.67 334 P P 08 31 55.6 +0.3
baz=146
RSSD Black Hills 70.67 334 P P 08 31 55.7 +0.3
baz=146,SNR=18
RSSD Black Hills 70.67 334 P P 08 31 55.6 +0.3
RSSD pmax pmax
comp=Z,32nm,1.2s
RSSD Black Hills 70.67 334 P P 08 31 56.0 +0.7
RSSD pP pP 08 32 23.0 +0.5
RSSD sP sP 08 32 34.3 +0.2
B35A Bob, Littlefor 70.81 343 P P 08 31 54.8 -0.9
baz=156,SNR=6.9
DECC Green Verdugo 70.81 319 P P 08 31 57.1 +1.0
baz=131
QSPA South Pole Qui 70.89 180 P P 08 31 57.5 +1.2
QSPA South Pole Qui 70.89 180 P P 08 31 57.7 +1.5
comp=Z,14nm,0.9s,baz=164,slow=5.9,SNR=90
QSPA pP pP 08 32 24.0 +0.8
comp=Z,13nm,0.9s,baz=151,slow=1.9,SNR=4.1
QSPA PKPPKP P'P'df 08 59 53.3 -0.1
comp=Z,3.7nm,1.1s,baz=292,slow=2.6,SNR=5.6
comp=Z,14nm,0.9s
QSPA South Pole Qui 70.89 180 P P 08 31 57.8 +1.5
QSPA pP pP 08 32 24.2 +1.0
QSPA sP sP 08 32 36.9 +2.1
SNCC San Nicolas Is 70.92 317 P P 08 31 57.5 +0.8
baz=130
MPU Maple Canyon 70.99 327 P P 08 31 58.2 +1.0
EDW2 Edwards Air Fo 71.01 319 P P 08 31 58.2 +0.8
baz=132,SNR=12
GWY Greenwater Val 71.08 321 P P 08 31 58.8 +1.0
LRMC Laurel Mtn Rad 71.22 320 P P 08 31 60.0 +1.3
baz=132,SNR=15
TPNV Topopah Spring 71.35 322 P P 08 32 01.0 +1.5
baz=134,SNR=22
FURC Furnace Creek, 71.39 321 P P 08 32 01.2 +1.7
baz=133,SNR=26
SCZ2 Santa Cruz Isl 71.47 318 P P 08 32 01.2 +1.1
baz=130,SNR=5.4
MPMC Manual Prospec 71.49 320 P P 08 32 01.4 +1.0
baz=132,SNR=15
ARVC Arvin 71.69 319 P P 08 32 02.6 +1.3
baz=131
DUG Dugway, Tooele 71.74 326 P P 08 32 03.0 +1.2
baz=137,SNR=24
ISA Isabella, Lake 71.82 320 P P 08 32 03.6 +1.4
baz=132,SNR=16
R11B Troy Canyon, C 71.94 323 P P 08 32 04.6 +1.6
baz=134,SNR=29
PDAR Pinedale Array 72.04 330 P P 08 32 03.5 -0.1
comp=Z,4.8nm,0.9s,baz=145,slow=5.4,SNR=25
PDAR pP pP 08 32 29.6 -1.2
comp=Z,1.6nm,0.5s,baz=126,slow=7.6,SNR=3.7
PDAR LR LR 09 10 19.0
comp=Z,37nm,19.5s,baz=119,slow=41
comp=Z,4.8nm,0.9s

BW06	**Boulder Array**	72.04	330	P		P	08 32 03.6	+0.1
	baz=140,SNR=9.9								
GRAC	**Grapevine Rang**	72.04	321	P		P	08 32 04.9	+1.4
	baz=133								
CWC	**Cottonwood Cre**	72.10	320	P		P	08 32 05.4	+1.5
	baz=132								
PKM	**Mcpherson Peak**	72.15	318	P		P	08 32 05.5	+1.2
	baz=130,SNR=22								
MDND	**Maddock**	72.16	339	P		P	08 32 03.9	0.0
MDND	**Maddock**	72.16	339	P		P	08 32 04.0	+0.2
	baz=150,SNR=14								
MDND	**Maddock**	72.16	339	P		P	08 32 04.6	+0.7
	baz=150,SNR=14								
VES	**Vestal, Richgr**	72.31	319	P		P	08 32 06.5	+1.5
	baz=131,SNR=20								
BGU	**Big Grassy Mou**	72.38	327	P		P	08 32 05.9	+0.3
SMMC	**Simmler**	72.54	318	P		P	08 32 07.8	+1.4
	baz=130,SNR=17								
ELIB	**Princess Elisa**	72.63	161	*d*P		P	08 32 08.3	+1.7
ELIB				*d*PcP		PcP	08 32 25.5	+1.9
ULM	**Lac du Bonnet**	73.12	343	P		P	08 32 08.6	-0.9
	comp=Z,12nm,0.8s,baz=152,slow=6.7,SNR=16								
ULM				pP		pP	08 32 35.0	-2.0
	comp=Z,13nm,1.0s,baz=142,slow=3.2,SNR=3.1								
	comp=Z,12nm,0.8s								
ELK	**Elko**	73.42	325	LR		LR	09 04 54.7		
	comp=Z,91nm,18.8s,baz=118,slow=36								
NVAR	**Mina Array Bea**	73.55	322	P		P	08 32 13.1	+0.5
NVAR	**Mina Array Bea**	73.55	322	P		P	08 32 13.8	+1.2
	comp=Z,11nm,1.0s,baz=144,slow=6.3,SNR=54								
NVAR				pP		pP	08 32 39.5	-0.2
	comp=Z,4.0nm,0.9s,baz=124,slow=3.8,SNR=2.5								
	comp=Z,11nm,1.0s								
LAO	**LASA Array**	73.65	334	P		P	08 32 12.9	+0.1
	baz=144,SNR=13								
LAO	**LASA Array**	73.65	334	P		P	08 32 13.1	+0.3
	baz=144,SNR=13								
RLMT	**Red Lodge**	73.72	332	P		P	08 32 14.3	+0.9
	baz=141,SNR=20								
H17A	**Grant Village**	73.76	330	P		P	08 32 15.1	+1.4
	baz=140								
SCHQ	**Schefferville**	73.85	1	P		P	08 32 13.5	-0.2
	comp=Z,17nm,0.9s,baz=219,slow=8.7,SNR=16								
SCHQ				pP		pP	08 32 40.9	-0.4
	comp=Z,14nm,0.9s,baz=146,slow=5.7,SNR=3.6								
	comp=Z,17nm,0.9s								
TBI	**Tubuai**	73.90	250	*e*P		P	08 32 28.0	+13	
	comp=Z,346nm,26.8s								
TBI				*e*S		S	08 41 39.2	+0.5	
	comp=Z,608nm,26.5s								
TBI	**Tubuai**	73.90	250	*e*LR		LR	08 54 55.1		
	comp=Z,2µm,34.8s								
YHH	**Holmes Hill**	74.18	331	P		P	08 32 17.1	+0.9
VAH	**Vaihoa**	74.35	259	*e*P		P	08 32 18.8	+1.3
	comp=Z,77nm,1.2s								
PMOR	**Pomariorio Ree**	74.66	259	*e*P		P	08 32 21.1	+1.8
	comp=Z,85nm,1.2s								
PNTR	**Pine Nut**	74.75	322	P		P	08 32 20.8	+1.2
PNTR				IAmb		IAmb	08 32 22.4		
	comp=Z,43nm,1.3s								
HLID	**Hailey**	75.00	328	P		P	08 32 22.2	+1.4
	baz=136,SNR=23								
TVO	**Taravao**	75.15	256	*e*P		P	08 32 23.7	+1.5
	comp=Z,24nm,1.3s								
TVO	**Taravao**	75.15	256	*e*T		T	09 54 00.2		
	comp=Z,1.2nm,0.3s								
BOZ	**Bozeman (W)**	75.16	331	P		P	08 32 22.4	+0.8
	baz=139,SNR=16								
TIAR	**Tiarei**	75.30	256	*e*T		T	09 53 52.9		
	comp=Z,1.2nm,0.3s								
PAE	**Paea**	75.49	256	*e*P		P	08 32 24.2	+0.2	
	comp=Z,22nm,1.3s								
PPT2	**Papeete2**	75.50	256	*e*P		P	08 32 24.6	+0.4	
	comp=Z,51nm,1.3s								
PPT2				*e*S		S	08 41 48.6	-8.3	
	comp=Z,125nm,27.2s								
PPT2	**Papeete2**	75.50	256	*e*LR		LR	08 55 40.6		
	comp=Z,189nm,33.0s								
PPT2				*e*LR		LR	08 55 54.6		
	comp=Z,286nm,30.2s								
PPT	**Papeete**	75.51	256	P		P	08 32 26.1	+2.0	
	comp=Z,47nm,1.1s,baz=101,slow=12,SNR=6.1								
	comp=Z,47nm,1.1s								
MFID	**Camas Ranch**	75.62	327	P		P	08 32 25.6	+1.3
MFID				IAmb		IAmb	08 32 27.0		
	comp=Z,52nm,1.2s								
ORV	**Oroville**	76.17	321	P		P	08 32 28.6	+1.2
ORV				IAmb		IAmb	08 32 30.1		
	comp=Z,53nm,1.2s								
ORV	**Oroville**	76.17	321	P		P	08 32 28.6	+1.2
ORV				pmax		pmax			
	comp=Z,53nm,1.2s								
EGMT	**Eagleton**	76.18	333	P		P	08 32 27.7	+0.4	
	baz=141,SNR=5.8								
TOA0	**Torodi Ar. Sit**	76.94	71	P		P	08 32 31.2	-1.0	
TORD	**Torodi Ar. Bea**	76.94	71	P		P	08 32 31.1	-1.2	
TORD	**Torodi Ar. Bea**	76.94	71	P		P	08 32 31.0	-1.2	
	comp=Z,54nm,0.8s,baz=265,slow=4.8,SNR=102								
TORD				pP		pP	08 32 59.5	-0.7	
	comp=Z,48nm,0.9s,baz=278,slow=4.6,SNR=5.1								
TORD				S		S	08 42 06.2	-6.3	
	comp=Z,10nm,1.0s,baz=256,slow=7.8,SNR=15								
TORD				LR		LR	09 05 50.3		
	comp=Z,296nm,18.6s,baz=241,slow=35								
	comp=Z,54nm,0.8s								
MSO	**Missoula**	77.14	330	P		P	08 32 34.0	+1.1	
	baz=137								
SBA	**Scott Base**	77.93	190	P		P	08 32 38.8	+2.1	
SBA	**Scott Base**	77.93	190	P		P	08 32 38.8	+2.1	
SBA				pmax		pmax			
	comp=Z,24nm,1.2s								
YBH	**Yreka Blue Hor**	78.27	322	LR		LR	09 06 23.2		
	comp=Z,33nm,18.9s,baz=122,slow=35								
AVE	**Averroes**	78.83	49	P		P	08 32 42.6	+0.3	
FFC	**Flin Flon**	78.84	341	P		P	08 32 42.0	+0.2	
FFC	**Flin Flon**	78.84	341	P		P	08 32 42.0	+0.2	
FFC				pmax		pmax			
	comp=Z,13nm,1.1s								
VNDA	**Vanda**	78.96	190	P		P	08 32 44.6	+2.2	
VNDA	**Vanda**	78.96	190	P		P	08 32 44.6	+2.2	
VNDA				pmax		pmax			
	comp=Z,13nm,1.2s								
VNDA	**Vanda**	78.96	190	P		P	08 32 44.5	+2.2	
	comp=Z,6.1nm,1.0s,baz=131,slow=3.2,SNR=12								
VNDA				LR		LR	09 04 40.0		
	comp=Z,38nm,21.1s,baz=162,slow=33								
	comp=Z,6.1nm,1.0s								
WIN	**Windhoek**	79.60	110	P		P	08 32 47.2	+0.1	
WIN				IAmb		IAmb	08 32 48.5		
	comp=Z,46nm,1.5s								
WIN	**Windhoek**	79.60	110	P		P	08 32 47.2	+0.1	
WIN				pmax		pmax			
	comp=Z,46nm,1.5s								
SUR	**Sutherland**	79.99	121	P		P	08 32 49.6	+0.5	
SUR				IAmb		IAmb	08 32 52.7		
	comp=Z,52nm,1.3s								
SUR	**Sutherland**	79.99	121	LR		LR	09 05 42.4		
	comp=Z,67nm,20.1s,baz=237,slow=34								
MORF	**Marmelete**	80.13	45	*e*P		P	08 32 50.7	+1.4	
	comp=Z,56nm,1.0s								
MORF				*e*pP		pP	08 33 20.5	+3.1	
MORF	**Marmelete**	80.13	45	*e*P		P	08 32 50.1	+0.8	
MORF				IAmb		IAmb	08 32 58.0		
	comp=Z,64nm,1.1s								
PTEO	**Sao Teotonio**	80.22	45	*e*P		P	08 32 51.1	+1.4	
	comp=Z,78nm,0.8s								
PTEO				*e*pP		pP	08 33 21.4	+3.6	
PBDV	**Barranco-do-Ve**	80.58	45	*e*P		P	08 32 52.3	+0.6	
	comp=Z,51nm,0.9s								
PBDV				*e*pP		pP	08 33 15.0	-4.8	
MDT	**Midelt**	80.60	50	LR		LR	09 07 24.6		
	comp=Z,73nm,19.5s,baz=258,slow=35								
PNCL	**Nicolau / Gran**	80.66	44	*e*P		P	08 32 51.8	-0.3	
	comp=Z,35nm,1.3s								
MESJ	**Messejana**	80.71	45	*e*P		P	08 32 53.1	+0.7	
	comp=Z,28nm,1.0s								
MESJ	**Messejana**	80.71	45	*e*P		P	08 32 53.2	+0.7	
MESJ				IAmb		IAmb	08 33 00.5		
	comp=Z,22nm,0.7s								
PCVE	**Castro Verde**	80.72	45	*e*P		P	08 32 53.1	+0.7	
	comp=Z,34nm,1.3s								
PVAQ	**Vaqueiros**	80.81	45	*e*P		P	08 32 58.1	+5.2	
	comp=Z,18nm,1.5s								
TSUM	**Tsumeb**	81.00	107	P		P	08 32 55.1	+0.5	
TSUM				IAmb		IAmb	08 32 56.3		
	comp=Z,44nm,0.9s								
PBEJ	**Beja**	81.05	45	*e*P		P	08 32 55.0	+0.8	
	comp=Z,28nm,0.7s								
EVO	**Evora**	81.23	44	*e*P		P	08 32 55.5	+0.4	
	comp=Z,20nm,1.6s								
PSBE	**So Bento**	81.26	43	*e*P		P	08 33 03.3	+8.0	
	comp=Z,80nm,1.9s								
PMTG	**Montargil**	81.38	44	*e*P		P	08 32 56.4	+0.5	
	comp=Z,44nm,1.3s								
PBAR	**Barroqus**	81.68	45	*e*P		P	08 32 58.0	+0.5	
	comp=Z,26nm,1.5s								
PESTR	**Estremoz**	81.69	44	*e*P		P	08 32 58.1	+0.6	
	comp=Z,33nm,1.0s								
PESTR				*e*pP		pP	08 33 28.6	+2.8	
PCAS	**Casmilo, Conde**	81.75	43	*e*P		P	08 32 58.2	+0.4	
	comp=Z,57nm,1.5s								
PMRV	**Marv??o**	82.12	44	*e*P		P	08 33 01.0	+1.2	
	comp=Z,25nm,1.6s								
PCBR	**Castelo Branco**	82.29	43	*e*P		P	08 33 02.0	+1.4	
	comp=Z,26nm,1.5s								
PVIS	**Viseu**	82.50	42	*e*P		P	08 33 02.6	+0.8	
MTE	**Manteigas**	82.55	43	*e*P		P	08 33 02.6	+0.5	
	comp=Z,49nm,1.3s								
MTE				*e*pP		pP	08 33 32.7	+2.3	
PVRL	**Vila Real**	82.92	42	*e*P		P	08 33 04.3	+0.4	
	comp=Z,63nm,1.5s								
POLO	**Lamas de Olo**	82.92	42	*e*P		P	08 33 04.2	+0.2	
	comp=Z,26nm,1.8s								
MVO	**Moncorvo**	83.29	42	*e*P		P	08 33 06.3	+0.4	
	comp=Z,22nm,1.2s								
RAR	**Rarotonga**	83.66	250	LR		LR	09 01 43.8		
	comp=Z,94nm,20.2s,baz=170,slow=29								
PBRG	**Braganca**	83.82	42	*e*P		P	08 33 08.9	+0.3	
	comp=Z,43nm,1.7s								
PBRG				*e*pP		pP	08 33 38.0	+1.1	
PAB	**San Pablo**	84.18	45	P		P	08 33 10.7	+0.2	
PAB				IAmb		IAmb	08 33 12.4		
	comp=Z,62nm,1.5s								
PAB	**San Pablo**	84.18	45	P		P	08 33 10.7	+0.2	
PAB				pmax		pmax			
	comp=Z,62nm,1.5s								
ESDC	**Sonseca Array**	84.51	45	P		P	08 33 12.6	+0.5	
	comp=Z,14nm,0.9s,baz=241,slow=5.4,SNR=36								
ESDC				pP		pP	08 33 39.4	-1.1	
	comp=Z,18nm,1.0s,baz=250,slow=5.1,SNR=7.7								
ESDC				LR		LR	09 09 17.3		
	comp=Z,93nm,18.2s,baz=256,slow=34								
	comp=Z,14nm,0.9s								
BOSA	**Boshof**	84.78	118	P		P	08 33 14.3	+0.3	
BOSA				IAmb		IAmb	08 33 15.1		
	comp=Z,37nm,1.3s								
BOSA	**Boshof**	84.78	118	P		P	08 33 14.3	+0.3	
BOSA				pmax		pmax			
	comp=Z,37nm,1.3s								
BOSA	**Boshof**	84.78	118	P		P	08 33 14.0	0.0	
	comp=Z,20nm,1.1s,baz=217,slow=3.9,SNR=9.4								
BOSA				pP		pP	08 33 41.7	-0.6	
	comp=Z,13nm,0.9s,baz=213,slow=2.3,SNR=4.3								
	comp=Z,20nm,1.1s								
LBTB	**Lobatse**	86.25	115	P		P	08 33 21.4	+0.1	
LBTB	**Lobatse**	86.25	115	P		P	08 33 21.4	+0.1	
LBTB				pmax		pmax			
	comp=Z,16nm,1.1s								
LBTB	**Lobatse**	86.25	115	LR		LR	09 09 59.6		
	comp=Z,70nm,18.8s,baz=252,slow=34								
MAW	**Mawson**	86.53	163	P		P	08 33 24.2	+2.5	
MAW	**Mawson**	86.53	163	P		P	08 33 24.2	+2.5	
MAW				pmax		pmax			
	comp=Z,7.0nm,0.4s								
MAW	**Mawson**	86.53	163	P		P	08 33 22.8	+1.1	
	comp=Z,28nm,0.2s,baz=244,slow=6.4,SNR=164								
MAW				LR		LR	09 12 07.8		
	comp=Z,47nm,20.4s,baz=242,slow=36								
	comp=Z,28nm,0.2s								
DY2G	**Dye2**	87.23	9	*i* P		P	08 33 24.3	-0.9	
DY2G				IAmb		IAmb	08 33 28.9		
	comp=Z,43nm,1.0s								
BBB	**Bella Bella**	87.59	328	LR		LR	09 18 27.6		
	comp=Z,38nm,18.3s,baz=112,slow=40								
YKA	**Yellowknife Ar**	89.00	341	P		P	08 33 33.4	+0.2	
	comp=Z,40nm,0.9s,baz=137,slow=4.5,SNR=312								
YKA				pP		pP	08 34 00.9	-0.8	
	comp=Z,18nm,0.9s,baz=138,slow=4.6,SNR=5.3								
YKA				LR		LR	09 16 49.5		
	comp=Z,52nm,18.7s,baz=258,slow=38								
	comp=Z,40nm,0.9s								
FLDN	**Fort Liard**	90.51	336	P		P	08 33 41.5	+1.1	
	baz=130								
KOTAN	**Kotaneelee Air**	90.67	336	P		P	08 33 42.2	+1.0	
	baz=130								
ICESG	**Greenland Ices**	90.67	10	*i* P		P	08 33 41.3	-0.1	
ICESG				IAmb		IAmb	08 33 45.1		
	comp=Z,57nm,1.0s								
LSZ	**Lusaka**	91.85	107	LR		LR	09 12 33.0		
	comp=Z,170nm,20.1s,baz=268,slow=34								
DLBC	**Dease Lake**	92.10	333	P		P	08 33 48.9	+1.0	
	baz=125								
KEST	**Kesra**	92.25	53	P		P	08 33 48.9	-0.2	
	comp=Z,3.7nm,0.7s,baz=56,slow=6.7,SNR=3.1								
KEST				LR		LR	09 15 39.3		
	comp=Z,105nm,19.5s,baz=276,slow=36								
	comp=Z,3.7nm,0.7s								
S34M	**Telegraph Cree**	92.29	332	P		P	08 33 49.2	+0.5	
	baz=124								
WTLY	**Watson Lake, Y**	92.54	334	P		P	08 33 50.1	+0.2	
	baz=126								
EKA	**Eskdalemuir Ar**	92.92	32	P		P	08 33 50.2	-1.5	
	comp=Z,1.2nm,0.6s,baz=210,slow=15,SNR=2.9								
	comp=Z,1.2nm,0.6s								
R33M	**Jennings River**	93.04	333	P		P	08 33 53.3	+1.0	
	baz=124								
TGTN	**Hyland Airport**	93.16	336	P		P	08 33 53.5	+0.8	
	baz=126								
SUMG	**Summit**	93.94	9	P		P	08 33 57.5	+1.0	
SUMG				IAmb		IAmb	08 34 01.1		
	comp=Z,32nm,1.3s								
SUMG	**Summit**	93.94	9	P		P	08 33 57.5	+1.0	
SUMG				pmax		pmax			
	comp=Z,32nm,1.3s								
SUMG	**Summit**	93.94	9	*i* P		P	08 33 56.0	-0.5	
SUMG				IAmb		IAmb	08 34 00.7		
	comp=Z,34nm,1.4s								
P33M	**Teslin, Yukon**	94.27	333	P		P	08 33 58.4	+0.5	
	baz=122								
RES	**Resolute Bay**	95.18	353	LR		LR	09 18 13.6		
	comp=Z,17nm,19.1s,baz=91,slow=36								
URZ	**Urewera**	95.48	226	LR		LR	09 07 57.8		
	comp=Z,92nm,21.1s,baz=153,slow=30								
FARO	**Faro, Yukon**	95.55	335	P		P	08 34 04.3	+0.6	
	baz=122								
RPZ	**Rata Peaks**	96.49	219	LR		LR	09 08 39.4		
	comp=Z,36nm,18.3s,baz=158,slow=30								
VAE	**Valguarnera**	96.68	53	LR		LR	09 17 26.9		
	comp=Z,89nm,21.1s,baz=333,slow=35								
DAVOX	**Davos/Dischmat**	96.68	43	LR		LR	09 14 40.0		
	comp=Z,67nm,20.1s,baz=262,slow=34								
NEEM	**North Greenlan**	97.13	4	*i* P		P	08 34 09.6	-1.2	
NEEM				IAmb		IAmb	08 34 13.6		
	comp=Z,17nm,1.3s								
FETA	**Feichten**	97.31	43	*i* P		Pdif	08 34 12.9	+0.6	
	comp=Z,5.4nm,1.1s								
MOTA	**Moosalm**	97.66	43	*i* PcP		Pdif	08 34 15.6	+1.8	
	comp=Z,8.5nm,1.2s								
SQTA	**Sankt Quirin**	97.69	43	*i* P		P	08 34 13.4	-0.4	
	comp=Z,6.1nm,0.8s								
M29M	**Somme Creek**	97.74	334	P		Pdif	08 34 14.0	+0.4	
	baz=117								
J30M	**Hart River**	97.89	336	P		Pdif	08 34 14.6	+0.3	
	baz=119								
L29M	**L29M**	97.91	335	P		Pdif	08 34 14.4	+0.1	
	baz=117								
WTTA	**Wattenberg**	97.98	43	*i* PcP		Pdif	08 34 16.6	+1.4	
	comp=Z,9.9nm,0.8s								
K29M	**Barlow Dome**	98.00	335	P		P	08 34 14.7	-0.1	
	baz=118								
I30M	**Mount Dempster**	98.22	337	P		Pdif	08 34 16.0	+0.2	
	baz=119								
YUK3	**Moose Creek**	98.29	333	P		P	08 34 16.0	-0.2	
	baz=116								
G31M	**Satah River**	98.30	339	P		P	08 34 15.9	0.0	
	baz=120								
CTG	**Chitna Glacier**	98.33	332	P		P	08 34 16.0	-0.3	
	baz=115								
ABTA	**Abfaltersbach**	98.37	43	*e*Pdiff		P	08 34 14.5	-2.4	
	comp=Z,3.8nm,0.7s								
F31M	**Tsiigehtchic**	98.39	339	P		P	08 34 16.2	-0.1	
	baz=121								
A36M	**Sachs Harbour**	98.49	345	P		P	08 34 16.3	-0.4	
	baz=128								
LESA	**Schwarzleotal**	98.70	43	*i* Pdiff		Pdif	08 34 19.7	+1.4	
	comp=Z,5.4nm,0.9s								
INK	**Inuvik**	98.76	340	P		P	08 34 17.9	0.0	
	baz=121								
I29M	**Ogilvie Camp,**	99.00	337	P		Pdif	08 34 19.1	0.0	
	baz=117								
KBA	**Koelnbreinsper**	99.02	43	*e*Pdiff		Pdif	08 34 22.6	+2.7	
	comp=Z,5.3nm,0.6s								
MYKA	**Terra Mystica**	99.07	44	*i* Pdiff		Pdif	08 34 21.8	+1.8	
	comp=Z,5.9nm,0.6s								
M27K	**Edge Creek, AK**	99.14	333	P		Pdif	08 34 19.5	-0.4	
	baz=114								
F30M	**Barrier River**	99.16	339	P		Pdif	08 34 20.0	+0.2	
	baz=119								
L27K	**Beaver Creek,**	99.40	334	P		Pdif	08 34 21.2	+0.2	
	baz=114								
H29M	**Whitestone**	99.41	337	P		Pdif	08 34 21.2	+0.3	
	baz=117								
G29M	**Pine Creek**	99.60	338	P		Pdif	08 34 22.2	+0.5	
	baz=117								
OBKA	**Obir**	99.63	44	*i* Pdiff		Pdif	08 34 24.5	+2.1	
	comp=Z,7.0nm,0.7s								
GERES	**GERESS Array B**	99.80	42	P		Pdif	08 34 23.5	+0.4	
	comp=Z,0.6nm,0.8s,baz=146,slow=43,SNR=1.6								
	comp=Z,0.6nm,0.8s								
KHC	**Kasperske Hory**	99.81	41	*e*P		Pdif	08 34 32.2	+9.1	
KHC	**Kasperske Hory**	99.81	41	*e*P		Pdif	08 34 32.2	+9.1	
K27K	**Chicken**	99.90	335	P		Pdif	08 34 23.5	+0.3	
	baz=114								
SOKA	**Soboth**	100.00	44	*i* Pdiff		Pdif	08 34 25.2	+1.2	
	comp=Z,4.4nm,1.0s								
N25K	**Chitina, Valde**	100.03	332	P		Pdif	08 34 24.3	+0.4	
	baz=112								
CKRC	**Cesky Krumlov**	100.17	42	*e*P		Pdif	08 34 33.7	+9.0	
CKRC	**Cesky Krumlov**	100.17	42	*e*P		Pdif	08 34 33.7	+9.0	
E29M	**Blow River**	100.22	339	P		Pdif	08 34 24.4	-0.1	
	baz=117								
ZVC	**Vikna**	100.28	41	*e*P		Pdif	08 34 34.2	+9.0	
I27K	**Kandik River**	100.35	336	P		Pdif	08 34 24.9	-0.2	
	baz=114								
ARSA	**Arzberg**	100.48	44	*e*Pdiff		Pdif	08 34 26.0	-0.2	
	comp=Z,4.5nm,1.6s								
HARP	**HAARP**	100.56	333	P		Pdif	08 34 25.6	-0.6	
	baz=112								
KLU	**Klutina**	100.57	332	P		Pdif	08 34 26.1	-0.2	
	baz=111								
SCRK	**Sand Creek**	100.65	334	P		Pdif	08 34 26.9	+0.2	
	baz=112								
J26L	**Joseph Creek**	100.68	335	P		Pdif	08 34 26.7	0.0	
	baz=112								
G27K	**Doyon Strip**	100.86	337	P		Pdif	08 34 27.5	+0.1	
	baz=114								
D28M	**Stokes Point**	100.91	340	P		Pdif	08 34 27.8	+0.3	
	baz=116								
RIDG	**Independent Ri**	100.92	334	P		Pdif	08 34 28.5	+0.8	
	baz=112								
RONA	**Rosalia, Austr**	101.12	43	*e*pPdiff		pPdif	08 34 50.9	-6.9	
	comp=Z,4.3nm,1.3s								
SCM	**Sheep Creek Mo**	101.32	332	P		Pdif	08 34 30.3	+0.7	
	baz=110								
E27K	**Coleen River**	101.38	339	P		Pdif	08 34 29.8	+0.1	
	baz=114								
J25K	**Salcha River,**	101.45	335	P		Pdif	08 34 30.1	0.0	
	baz=111								
M23K	**Glacier View**	101.49	332	P		Pdif	08 34 30.1	-0.2	
	baz=109								
D27M	**Malcolm River**	101.60	340	P		Pdif	08 34 31.3	+0.6	
	baz=114								
KRLC	**Kraliky**	102.08	41	*e*P		Pdif	08 34 43.4	+10	
KRLC	**Kraliky**	102.08	41	*e*P		Pdif	08 34 43.4	+10	
F26K	**Sheenjek River**	102.09	338	P		Pdif	08 34 33.1	+0.2	
	baz=111								
ILAR	**Eielson Array**	102.11	335	PP		PP	08 38 40.9	-5.2	
	comp=Z,1.1nm,0.9s,baz=104,slow=5.4,SNR=5.9								
OHAK	**Old Harbor**	102.83	326	P		Pdif	08 34 36.2	0.0	
	baz=106								
H24K	**Noodor Dome**	102.85	336	P		Pdif	08 34 36.4	+0.2	
	baz=108								
VYHS	**Vyhne**	102.97	43	*e*P		Pdif	08 34 44.1	+6.9	
VYHS	**Vyhne**	102.97	43	*e*PDIFF		Pdif	08 34 44.1	+6.9	
TTA	**Tatalina**	105.51	332	P		PKiKP	08 39 01.6	+0.5	
	baz=102								
G18K	**Tagagawik**	107.17	335	P		PKiKP	08 39 04.4	+0.4	
	baz=99								
A21K	**Barrow**	107.26	340	P		PKiKP	08 39 04.3	+0.4	
	baz=99								
K15K	**Wolf Creek Mou**	107.92	331	P		PKiKP	08 39 05.8	+0.4	
	baz=98								
M14K	**Bethel**	107.93	329	P		PKiKP	08 39 07.0	+1.5	
	baz=98								
F17K	**Baldwin Pennin**	108.29	335	P		PKiKP	08 39 06.6	+0.7	
	baz=96								
M13K	**Dall Lake**	108.57	329	P		PKiKP	08 39 07.6	+0.9	
	baz=96								
A19K	**Wainwright**	108.59	339	P		PKiKP	08 39 07.1	+0.6	
	baz=95								
NACGM	**Naroch**	109.00	37	*e*Pdif		Pdif	08

GEYT	**Alibeck**	**130.88**	**56**	PKP	**PKPdf**	**08 39 50.3**	**+0.1**	
	comp=Z,1.1nm,0.5s,baz=263,slow=8.6,SNR=4.0							
ASAR	**Alice Springs**	**131.69**	**209**	PKhKP	PKPpre	08 39 32.5		
	comp=Z,0.2nm,0.4s,baz=133,slow=3.1,SNR=4.6							
ASAR				PKP	**PKPdf**	**08 39 52.0**	**-0.1**	
	comp=Z,4.6nm,0.9s,baz=150,slow=2.4,SNR=20							
ASAR				pPKP	pPKPdf	08 40 20.6	-1.2	
	comp=Z,7.3nm,1.0s,baz=146,slow=2.3,SNR=7.9							
ASAR				PP	**PP**	**08 42 10.9**	**-0.8**	
	comp=Z,4.0nm,1.1s,baz=150,slow=6.2,SNR=6.8							
ASAR				SKPbc	**SKPbc**	**08 43 08.0**	**-0.6**	
	comp=Z,4.3nm,1.1s,baz=157,slow=4.7,SNR=6.5							
SKR	**Severo-Kuril's**	**132.48**	**322**	*e*P	**Pdif**	**08 36 43.2**	**-5.1**	
BRVK	**Borovoye**	**134.08**	**33**	*e*PKIKP	**PKiKP**	**08 39 58.2**	**+1.2**	
BVA0	**Borovoye Array**	**134.15**	**33**	*i* PKIKP	**PKiKP**	**08 39 59.3**	**+2.1**	
BVAR	**Borovoye Array**	**134.15**	**33**	PKP	**PKPdf**	**08 39 55.8**	**0.0**	
	comp=Z,1.5nm,0.7s,baz=288,slow=1.4,SNR=8.0							
BVAR				SKP		08 43 21.5		
	comp=Z,0.9nm,0.8s,baz=328,slow=5.1,SNR=2.3							
WRA	**Warramunga Arr**	**134.66**	**212**	PKhKP	PKPpre	08 39 43.8		
	comp=Z,0.3nm,0.6s,baz=158,slow=1.4,SNR=5.3							
WRA				PKP	**PKPdf**	**08 39 58.2**	**+0.3**	
	comp=Z,2.4nm,0.6s,baz=152,slow=1.8,SNR=19							
WRA				pPKP	pPKPdf	08 40 25.9	-1.1	
	comp=Z,2.2nm,0.4s,baz=155,slow=1.8,SNR=4.7							
WRA				SKPbc	**SKPbc**	**08 43 18.3**	**-0.4**	
	comp=Z,2.6nm,1.1s,baz=160,slow=2.9,SNR=8.7							
YAK	**Yakutsk**	**135.30**	**347**	*e*PKIKP	**PKPdf**	**08 39 56.5**	**-1.1**	
KK31	**Karatay Array**	**138.75**	**46**	*i* PKIKP	**PKiKP**	**08 40 07.8**	**+0.9**	
KURK	**Kurchatov**	**139.65**	**31**	*e*PKIKP	**PKPdf**	**08 40 06.6**	**+0.6**	
KURBB	**Kurchatov Arra**	**139.66**	**32**	PKhKP	PKPpre	08 39 59.9		
	comp=Z,1.0nm,0.7s,baz=269,slow=16,SNR=9.4							
KURBB				PKP	**PKPdf**	**08 40 06.0**	**0.0**	
	comp=Z,1.8nm,0.9s,baz=297,slow=2.9,SNR=12							
KURBB				pPKP	pPKPdf	08 40 33.8	-1.9	
	comp=Z,2.1nm,0.8s,baz=302,slow=2.8,SNR=4.0							
KURBB				PP	PP	08 43 15.2	+13	
	comp=Z,1.8nm,1.1s,baz=284,slow=5.9,SNR=6.8							
KURBB				SKPbc	**SKPbc**	**08 43 31.0**	**-1.4**	
	comp=Z,1.1nm,1.0s,baz=311,slow=4.0,SNR=5.7							
ZALV	**Zalesovo Beam**	**140.09**	**24**	PKhKP	PKPpre	08 40 00.5		
	comp=Z,0.6nm,0.5s,baz=305,slow=40,SNR=4.8							
ZALV				PKP	**PKPdf**	**08 40 06.8**	**0.0**	
	comp=Z,12nm,0.9s,baz=281,slow=3.3,SNR=33							
ZALV				pPKP	pPKPdf	08 40 33.8	-2.6	
	comp=Z,12nm,0.9s,baz=299,slow=3.1,SNR=4.3							
ZALV				SKPbc	**SKPbc**	**08 43 33.1**	**-0.3**	
	comp=Z,2.2nm,0.8s,baz=336,slow=3.3,SNR=4.0							
AAK	**Ala-Archa**	**141.61**	**45**	*e*PKIKP	**PKPdf**	**08 40 10.1**	**0.0**	
ZEA	**Zeya**	**143.33**	**344**	*e*PKIKP	PKPbc	08 40 10.4	+0.5	
ZEA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
ASAJ	**Asahikawa**	**143.67**	**320**	PKP	**PKPdf**	**08 40 14.3**	**+0.9**	
	comp=Z,12nm,1.0s,baz=49,slow=22,SNR=2.4							
KSH	**Kashi**	**143.94**	**49**	PKP	PKPbc	08 40 12.8	+0.5	
KSH				pPKP	pPKPdf	08 40 35.3	-8.6	
KSH				sPKP		08 40 45.3		
KSH				PP	**PP**	**08 43 27.5**	**-1.3**	
MK31	**Makanchi Array**	**144.02**	**34**	*i* PKIKP	**PKPdf**	**08 40 14.3**	**+0.3**	
MKAR	**Makanchi Array**	**144.02**	**34**	PKP	**PKPab**	**08 40 11.8**	**+0.2**	
	comp=Z,1.5nm,0.5s,baz=333,slow=4.8,SNR=14							
MKAR				pPKP	**pPKPdf**	**08 40 42.5**	**-1.1**	
	comp=Z,4.5nm,0.9s,baz=343,slow=3.8,SNR=4.6							
MKAR				SKPbc	**SKPbc**	**08 43 41.9**	**-1.7**	
	comp=Z,2.1nm,1.0s,baz=292,slow=4.5,SNR=3.2							
DGZ	**Jazzator, Alta**	**144.39**	**26**	*e*PKIKP	**PKPab**	**08 40 12.1**	**-1.0**	
KLR	**Kul'dur**	**145.69**	**335**	*d i* PKP2	**PKiKP**	**08 40 17.1**	**-0.2**	
KLR	**Kul'dur**	**145.69**	**335**	PKPbc	**PKPab**	**08 40 17.7**	**0.0**	
	comp=Z,25nm,1.0s,baz=60,slow=3.5,SNR=41							
KLR				pPKPbc	**pPKPdf**	**08 40 45.9**	**-0.5**	
	comp=Z,20nm,1.0s,baz=30,slow=4.9,SNR=6.0							
HEH	**HeiHe**	**146.37**	**341**	PKPbc	**PKPdf**	**08 40 18.5**	**+0.6**	
HEH				sPKP		08 40 48.8		
HEH				AMB	AMB			
	comp=Z,180nm,5.2s							
IRK	**Irkutsk**	**146.73**	**7**	*e*PKP2	**PKPbc**	**08 40 20.8**	**+0.5**	
IRK				pmax	pmax			
	comp=Z,90nm,1.5s							
MOY	**Mondy**	**146.79**	**11**	*e*PKP2	**PKPbc**	**08 40 20.4**	**-0.2**	
MOY				pmax	pmax			
	comp=Z,37nm,1.2s							
GUMO	**Guam**	**146.81**	**265**	PKPbc	**PKPbc**	**08 40 21.5**	**-0.1**	
	comp=Z,227nm,1.1s,baz=151,slow=8.8,SNR=4.3							
ZAK	**Zakamensk**	**148.41**	**9**	*e*PKIKP	**PKPdf**	**08 40 22.4**	**+1.0**	
ZAK				pmax	pmax			
	comp=Z,11nm,1.1s							
HYB	**Hyderabad**	**149.43**	**88**	*e*PKiKP	**PKiKP**	**08 40 29.9**	**+0.4**	
HYB				*e*PKPab	**PKPab**	**08 40 33.8**	**+0.2**	
USA0B	**Ussuriysk Arra**	**149.46**	**329**	*d i* PKP2	**PKiKP**	**08 40 28.3**	**-0.5**	
USRK	**Ussuriysk Ar.**	**149.46**	**329**	PKPbc	**PKiKP**	**08 40 28.5**	**-0.2**	
	comp=Z,40nm,1.0s,baz=26,slow=1.7,SNR=32							
USRK				pPKPbc	**pPKPbc**	**08 40 56.7**	**-0.5**	
	comp=Z,20nm,0.9s,baz=36,slow=2.3,SNR=5.2							
BNX	**BinXian**	**150.24**	**336**	PKPbc	**PKPab**	**08 40 29.8**	**+0.3**	
MDJ	**Mudanjiang**	**150.25**	**332**	PKPbc	**PKPdf**	**08 40 25.8**	**+1.4**	
MDJ				SKS	**SKSdf**	**08 47 21.5**	**-1.4**	
MDJ				SS	**SS**	**09 03 18.8**	**+4.5**	
MDJ				AMB	AMB			
	comp=Z,260nm,5.0s							
MJAR	**Matsushiro Arr**	**150.40**	**311**	PKPbc	**PKiKP**	**08 40 30.8**	**-0.2**	
	comp=Z,16nm,0.8s,baz=72,slow=2.0,SNR=31							
MJAR				pPKPbc	**pPKPbc**	**08 40 58.8**	**-0.9**	
	comp=Z,9.4nm,0.9s,baz=249,slow=0.4,SNR=4.0							
MAJO	**Matsushiro**	**150.40**	**311**	PKPdf	**PKPdf**	**08 40 25.5**	**+0.6**	
MAJO	**Matsushiro**	**150.40**	**311**	PKIKP	**PKPdf**	**08 40 25.5**	**+0.6**	
MSHR	**Mys Shultsa**	**151.06**	**328**	*i* PKIKP	**PKPbc**	**08 40 31.5**	**-0.1**	
SONM	**Songino Array**	**151.31**	**6**		**PKPdf**	**08 40 27.2**	**+1.1**	
SONM	**Songino Array**	**151.31**	**6**	PKP	**PKPdf**	**08 40 27.4**	**+1.3**	
	comp=Z,3.8nm,0.9s,baz=319,slow=0.4,SNR=16							
SONM				PKPbc	**PKiKP**	**08 40 33.0**	**+0.4**	
	comp=Z,34nm,1.0s,baz=329,slow=1.0,SNR=50							
SONM				pPKPbc	**pPKPbc**	**08 40 60.0**	**-1.7**	
	comp=Z,18nm,0.8s,baz=317,slow=1.4,SNR=5.3							
ULN	**Ulaanbaatar**	**151.34**	**5**	*de*PKIKP	**PKPdf**	**08 40 26.5**	**+0.3**	
CN2	**Changchun**	**152.62**	**336**	PKPbc	**PKPdf**	**08 40 31.0**	**+3.0**	
KAPI	**Kappang**	**154.27**	**201**	PKPab	**PKPab**	**08 40 54.9**	**+1.3**	
	comp=Z,61nm,1.1s,baz=179,slow=3.1,SNR=21							
XLT	**XiLinHaoTe**	**155.06**	**351**	*e*PKPbc	PKPdf	08 40 41.3	+10	
KSRS	**Korea Array**	**156.48**	**324**	PKP	**PKPdf**	**08 40 34.0**	**+0.5**	
	comp=Z,3.4nm,1.1s,baz=10,slow=0.7,SNR=8.4							
KSRS				PKPab	**pPKPdf**	**08 41 03.1**	**-0.2**	
	comp=Z,6.2nm,1.0s,baz=46,slow=3.6,SNR=8.3							
KSAR	**Wonju Array Be**	**156.51**	**324**	PKPdf	**PKPdf**	**08 40 32.8**	**-0.8**	
KSAR	**Wonju Array Be**	**156.51**	**324**	PKIKP	**PKPdf**	**08 40 32.8**	**-0.8**	
GTA	**Gaotai**	**157.84**	**23**	PKP	**PKPdf**	**08 40 36.5**	**+1.1**	
GTA				pPKP	pPKPdf	08 41 05.8	+0.6	
HHC	**Hu-ho-hao-te**	**158.50**	**358**	*e*PKP	**PKPdf**	**08 40 32.0**	**-4.1**	
BTO	**Baotou**	**158.75**	**1**	*e*PKP	**PKPdf**	**08 40 38.3**	**+1.9**	
BTO				PP	**PP**	**08 44 57.8**	**+5.7**	
HNS	**HongShan**	**161.62**	**350**	PKP	**PKPdf**	**08 40 41.3**	**+1.7**	
XAN	**Xi'an**	**165.22**	**6**	PKP	**PKPdf**	**08 40 43.0**	**-0.2**	
NJ2	**Nanjing**	**165.34**	**332**	*e*PKP	**PKPdf**	**08 40 45.0**	**+1.8**	
CD2	**Chengdu**	**166.82**	**27**	PKP	**PKPdf**	**08 40 44.0**	**-0.5**	
CMAR	**Chiang Mai Arr**	**168.81**	**92**	PKPdf	**PKPdf**	**08 40 46.3**	**+0.1**	
CMAR	**Chiang Mai Arr**	**168.81**	**92**	PKIKP	**PKPdf**	**08 40 46.3**	**+0.1**	
CMAR	**Chiang Mai Arr**	**168.81**	**92**	PKP	**PKPdf**	**08 40 46.0**	**-0.2**	
	comp=Z,0.6nm,0.3s,baz=320,slow=2.4,SNR=7.1							
CMAR				PKPab	**PKPab**	**08 41 57.4**	**0.0**	
	comp=Z,6.2nm,1.0s,baz=262,slow=5.9,SNR=18							
CMAR				pPKPab	**pPKPab**	**08 42 24.8**	**-1.2**	
	comp=Z,0.5nm,0.5s,baz=259,slow=2.6,SNR=1.5							
PZH	**PanZhiHua**	**169.04**	**47**	PKP	**PKPdf**	**08 40 46.5**	**+0.2**	
QIZ	**Qiongzhong**	**179.12**	**107**	PKP	**PKPdf**	**08 40 49.3**	**-0.4**	
QIZ				PP	**PP**	**08 46 36.3**	**-0.8**	
QIZ				SS	SS	09 08 12.0	-0.5	

IDC 30 08:23:38.3±562.0, 38°51N×112°15E, h0km, Error ellipse: s-maj=258.7km s-min=121.4km az=21.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**10.19**	**338**	I	I	09 24 40.0	
	0.1nm,0.8s,baz=153,slow=340,SNR=2.1						
I45RU	**USSURIYSK INFR**	**15.93**	**63**	I	I	09 56 40.0	
	baz=254,slow=327,SNR=1.0						
I30JP	**ISUMI INFRASON**	**22.71**	**89**	I	I	10 42 30.0	
	baz=288,slow=306,SNR=0.7						

IDC 30 08:24:56.1±3.3, 22°.88N×11°.92W, h0km, mb3.8/4, mbtmp3.8/6, ML3.5/2, Error ellipse: s-maj=110.2km s-min=30.7km az=81.0

ISC 30 08:24:59.6±2.2, 23°.00N±0°.2×11°.5W±0°.4, h10km, n10, σ0s94/8, mb3.8/4, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I11CV	**MAIO ISLAND IN**	**13.46**	**237**	I	I	09 47 10.0	
	0.2nm,0.7s,baz=54,slow=314,SNR=1.9						
TORD	**Torodi Ar. Bea**	**15.87**	**126**	Pn	**Pn**	**08 28 43.3**	**0.0**
	0.1nm,0.3s,baz=315,slow=12,SNR=3.9						
	0.6nm,0.6s						
DBIC	**Dimbokro**	**17.42**	**158**	P	**Pn**	**08 29 02.6**	**-0.2**
	0.3nm,0.3s,baz=320,slow=9.9,SNR=2.1						
	1.0nm,3s						
I17CI	**DIMBOKRO INFRA**	**17.42**	**158**	I	I	10 17 40.0	
	baz=335,slow=316,SNR=2.1						
HFS	**Hagfors**	**41.11**	**19**	P	**P**	**08 32 43.1**	**-0.4**
	2.0nm,0.8s,baz=230,slow=12,SNR=4.6						
	2.0nm,0.8s						
FINES	**FINESS Array B**	**46.26**	**24**	P	**P**	**08 33 24.3**	**-0.6**
	2.4nm,0.9s,baz=193,slow=11,SNR=4.4						
	2.4nm,0.9s						
KURBB	**Kurchatov Arra**	**72.60**	**42**	P	**P**	**08 36 27.6**	**+0.5**
	0.3nm,0.5s,baz=268,slow=7.4,SNR=5.4						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**76.09**	**45**	P	**P**	**08 36 48.4**	**+0.8**
	0.2nm,0.5s,baz=293,slow=6.5,SNR=2.2						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**148.08**	**91**	PKPbc	**PKPbc**	**08 44 45.1**	**-1.2**
	0.2nm,0.6s,baz=276,slow=2.6,SNR=1.2						
ASAR	**Alice Springs**	**148.25**	**98**	PKPbc	**PKPdf**	**08 44 44.5**	**+1.2**
	0.5nm,0.7s,baz=318,slow=1.2,SNR=1.7						

IDC 30 08:29:44.7±2.5, 31°.85N×48°.78E, h0km, mb3.7/6, mbtmp3.7/6, MS3.5/2, Error ellipse: s-maj=63.6km s-min=29.0km az=153.0
TEH 30 08:29:45.8, 31°.86N×48°.75E, h9km±39km, ML3.2

ISC 30 08:29:46.5±0.8, 31°.90N±0°.04×48°.75E±0°.04, h10km, n32, σ1s89/31, mb3.5/6, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMIS	**Naft Sefid**	**0.51**	**117**	Pg	**Pg**	**08 29 56.0**	**-0.4**
AMIS				Sg	**Sb**	**08 30 04.4**	**-0.7**
AHWZ	**Ahwaz**	**0.57**	**189**	Pg	**Pb**	**08 29 57.2**	**-1.4**
JHBN	**Jahan bin**	**1.66**	**78**	Pg	**Pg**	**08 30 18.1**	**-0.2**
IKFM	**Kafar-mosalman**	**1.79**	**335**	Pn	**Pg**	**08 30 20.8**	**0.0**
ZNGN	**Zangian**	**1.80**	**82**	Pn	**Pg**	**08 30 20.0**	**-1.0**
IPIR	**Pirpir**	**1.98**	**66**	Pn	**Pb**	**08 30 23.0**	**+0.3**
IBRJ	**Brojen**	**2.13**	**89**	Pn	**Pb**	**08 30 25.2**	**-0.2**
HSAM	**Samen**	**2.31**	**357**	Pn	**Pb**	**08 30 27.8**	**-0.6**
IKOM	**Komasi**	**2.50**	**336**	Pn	**Pb**	**08 30 30.7**	**-0.8**
ILBA	**Ilam Banvizeh**	**2.75**	**309**	Pn	**Pn**	**08 30 32.7**	**+2.0**
IKLH	**Kolahrood**	**2.77**	**59**	Pn	**Pb**	**08 30 34.5**	**-1.8**
QAMS	**Qamsar**	**2.88**	**50**	Pn	**Pb**	**08 30 35.8**	**-2.4**
HAGD	**Aghdareh**	**2.94**	**6**	Pn	**Pb**	**08 30 36.7**	**-2.3**
IALM	**Almabolaq**	**3.00**	**351**	Pn	**Pb**	**08 30 37.6**	**-2.5**
IGHG	**Ghaleghazi**	**3.04**	**324**	Pn	**Pb**	**08 30 37.7**	**-3.1**
IRAM	**Ramesheh**	**3.09**	**91**	Pn	**Pn**	**08 30 37.8**	**+2.2**
IZEF	**Zefreh**	**3.19**	**71**	Pn	**Pb**	**08 30 39.7**	**-3.6**
ILIN	**Lien**	**3.36**	**334**	Pn	**Pn**	**08 30 41.8**	**+2.5**
IDHR	**Dehrash**	**3.42**	**325**	Pn	**Pn**	**08 30 42.5**	**+2.3**
KRSH	**Karshahi**	**3.52**	**53**	Pn	**Pn**	**08 30 44.0**	**+2.7**
IQOM	**Qom**	**3.52**	**33**	Pn	**Pn**	**08 30 43.7**	**+2.3**
IRAZ	**Razeghan**	**3.63**	**15**	Pn	**Pn**	**08 30 45.5**	**+2.5**
ISFB	**Sefidab**	**3.82**	**49**	Pn	**Pn**	**08 30 47.5**	**+2.1**
QSDN	**Sirdan**	**4.61**	**4**	Pn	**Pn**	**08 30 59.2**	**+2.8**
AAK	**Ala-Archa**	**23.04**	**55**	LR	LR	08 44 53.1	
	comp=Z,78nm,18.1s,baz=351,slow=39						
BVAR	**Borovoye Array**	**26.28**	**30**	P	**P**	**08 35 22.1**	**+0.3**
	0.6nm,0.6s,baz=230,slow=9.2,SNR=5.0						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**28.88**	**41**	P	**P**	**08 35 44.9**	**-0.3**
	0.3nm,0.6s,baz=214,slow=4.5,SNR=2.3						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**29.64**	**50**	P	**P**	**08 35 51.9**	**-0.1**
	0.1nm,0.4s,baz=262,slow=9.8,SNR=1.8						
	0.1nm,0.4s						
FINES	**FINESS Array B**	**33.04**	**340**	P	**P**	**08 36 22.1**	**+0.3**
	1.8nm,0.8s,baz=146,slow=7.7,SNR=3.3						
	1.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**46.90**	**258**	P	**P**	**08 38 17.1**	**-0.2**
	0.3nm,0.6s,baz=48,slow=7.9,SNR=1.5						
	0.3nm,0.6s						
SPITS	**Spitsbergen Ar**	**48.50**	**352**	P	**P**	**08 38 28.9**	**-0.1**
	9.6nm,1.0s,baz=152,slow=9.4,SNR=7.2						
	9.6nm,1.0s						
ILAR	**Eielson Array**	**82.87**	**7**	LR	LR	09 27 38.8	
	comp=Z,28nm,19.1s,baz=55,slow=42						

IDC 30 08:36:29.4±8.7, 48°.24N×154°.41E, h84km±103km, mb3.3/3, mbtmp3.5/4, ML2.5/1, Error ellipse: s-maj=261.0km s-min=34.7km az=94.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.30**	**22**	P	Pn	08 37 46.1	0.0
	0.7nm,0.3s,baz=180,slow=13,SNR=5.9						
	2.1nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**30.18**	**156**	T	T	09 14 06.6	
	baz=344,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**30.20**	**156**	T	T	09 14 10.5	
	baz=344,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy**	**30.20**	**156**	T	T	09 14 14.0	
	baz=344,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**31.30**	**157**	T	T	09 15 33.2	
	baz=344,slow=76,SNR=72						
H11S3	**WAKE ISLAND Hy**	**31.31**	**157**	T	T	09 15 31.5	
	baz=344,slow=76,SNR=72						
H11S2	**WAKE ISLAND Hy**	**31.32**	**157**	T	T	09 15 39.2	
	baz=344,slow=76,SNR=54						
WRA	**Warramunga Arr**	**70.21**	**200**	P	P	08 47 33.4	+0.2
	0.3nm,0.5s,baz=17,slow=6.6,SNR=4.8						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**73.90**	**200**	P	P	08 47 55.0	-0.1
	0.3nm,0.8s,baz=17,slow=6.1,SNR=2.1						
	0.3nm,0.8s						
EKA	**Eskdalemuir Ar**	**75.09**	**347**	P	P	08 48 01.8	0.0
	0.5nm,0.5s,baz=8.9,slow=5.0,SNR=3.5						
	0.5nm,0.5s						
H03N2	**Juan Fernandez**	**137.87**	**90**	T	T	11 29 06.1	
	baz=310,slow=77,SNR=8.7						
H03N1	**Juan Fernandez**	**137.89**	**90**	T	T	11 29 03.8	
	baz=310,slow=77,SNR=8.7						
H03N3	**Juan Fernandez**	**137.89**	**90**	T	T	11 29 07.4	
	baz=310,slow=77,SNR=7.3						

NAO 30 08:56:35.7, 39°.12N×28°.77E, h33km, mb3.6
ISK 30 08:56:38.7, 39°.37N×25°.52E, h9km, ML4.0/21
THE 30 08:56:39.8, 39°.38N×25°.56E, h8km, ML3.7/19, Error ellipse: s-maj=0.8km s-min=0.3km az=111.0
AFAD 30 08:56:39.5±0.0, 39°.37N×25°.56E, h19km±2km, MW3.9
ATH 30 08:56:40.0, 39°.38N×25°.55E, h7km±1km, ML3.7/13, Error ellipse: s-maj=1.9km s-min=0.7km az=105.0

ISC 30 08:56:39.9±0.9, 39°.37N±0°.02×25°.55E±0°.02, h11km±7km, n129, σ0s69/172, 32C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.28**	**124**	Pg	**Pg**	**08 56 45.7**	**0.0**
SIGR				Sg	**Sg**	**08 56 50.0**	**+0.4**
SIGR	**SIGRI**	**0.28**	**124**	P	**Pg**	**08 56 45.6**	**0.0**
SIGR				S	**Sg**	**08 56 49.9**	**+0.4**
	101μm,0.5s						
SIGR	**SIGRI**	**0.28**	**124**	P	**Pg**	**08 56 45.7**	**0.0**
SIGR				S	**Sg**	**08 56 49.9**	**+0.3**
SIGR				AML	AML	08 56 50.7	
SIGR				AML	AML	08 56 50.8	
GPNR	**Gulpinar-Canak**	**0.46**	**79**	Pg	**Pg**	**08 56 48.5**	**-0.4**
GPNR				Sg	**Sg**	**08 56 55.8**	**+0.8**
KOCA	**Canakkale, Ayv**	**0.47**	**74**	P	**Pg**	**08 56 49.2**	**0.0**
KOCA				S	**Sg**	**08 56 56.0**	**+0.5**
PRK	**Paraskevi**	**0.57**	**102**	P	**Pg**	**08 56 51.0**	**0.0**
PRK				S	**Sg**	**08 56 58.9**	**+0.3**
	20μm,0.4s						
PRK	**Paraskevi**	**0.57**	**102**	P	**Pg**	**08 56 50.8**	**-0.2**
PRK				S	**Sg**	**08 56 58.9**	**+0.3**
PRK				AML	AML	08 57 00.0	
	comp=N,45907μm,0.4s						
PRK				AML	AML	08 57 00.9	
	comp=E,34685μm,0.4s						
LIA	**Limnos Island**	**0.60**	**332**	P	**Pg**	**08 56 51.6**	**+0.1**
LIA				S	**Sg**	**08 56 59.7**	**+0.3**
	comp=E,22μm,0.4s						
LIA	**Limnos Island**	**0.60**	**332**	P	**Pg**	**08 56 51.2**	**-0.3**
LIA				S	**Sg**	**08 56 59.4**	**-0.1**
LIA				AML	AML	08 57 00.1	
	comp=E,44040μm,0.4s						
LIA				AML	AML	08 57 03.8	
	comp=N,43747μm,0.4s						
EZN	**Ezine**	**0.75**	**53**	Pg	**Pg**	**08 56 53.9**	**-0.5**
EZN	**Ezine**	**0.75**	**53**	P	**Pg**	**08 56 53.8**	**-0.6**
EZN				S	**Sg**	**08 57 04.4**	**+0.1**
	comp=N,9μm,0.4s						
ECEA	**Canakkale, Ece**	**0.83**	**35**	P	**Pg**	**08 56 55.4**	**-0.5**
ECEA				S	**Sn**	**08 57 09.3**	**-0.4**
LESV	**Lesvos island,**	**0.83**	**108**	P	**Pg**	**08 56 55.5**	**-0.4**
LESV				S	**Sb**	**08 57 07.5**	**+0.1**
	comp=N,58μm,0.6s						
GOAD	**anakkale-G¶**	**0.84**	**19**	P	**Pg**	**08 56 55.4**	**-0.7**
GOAD				S	**Sb**	**08 57 07.7**	**0.0**
EAG3	**Mitilini, Lesv**	**0.84**	**109**	P	**Pg**	**08 56 55.8**	**-0.3**
EAG3				S	**Sg**	**08 57 07.1**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.86**	**64**	P	**Pg**	**08 56 55.8**	**-0.6**
BAYC				S	**Sb**	**08 57 08.4**	**+0.2**
GADA	**Gvkgeada**	**0.86**	**18**	Pg	**Pg**	**08 56 55.9**	**-0.6**
GOKC	**Gokceada-Canak**	**0.88**	**19**	Pg	**Pg**	**08 56 56.4**	**-0.4**
SKY	**Skiros Island**	**0.92**	**238**	P	**Pg**	**08 56 57.3**	**-0.3**
SKY				S	**Sb**	**08 57 10.2**	**+0.2**
	comp=N,6μm,0.6s						
SKY	**Skiros Island**	**0.92**	**238**	P	**Pg**	**08 56 57.7**	**+0.1**
SKY				S	**Sb**	**08 57 10.2**	**+0.2**
SKY				AML	AML	08 57 13.5	
	comp=N,13742μm,0.5s						
SKY				AML	AML	08 57 14.6	
	comp=E,9815μm,0.5s						
EAG2	**Marmaro, Chios**	**0.93**	**152**	P	**Pg**	**08 56 57.5**	**-0.3**
EAG2				S	**Sb**	**08 57 10.5**	**+0.1**
COMU	**Canakkale**	**1.02**	**44**	Pg	**Pg**	**08 56 59.1**	**-0.4**
CAND	**Candarli**	**1.06**	**113**	Pg	**Pb**	**08 56 59.6**	**-0.6**
DKL	**Dikili**	**1.09**	**105**	Pn	**Pb**	**08 57 00.3**	**-0.5**
SMTH	**Samothraki Isl**	**1.10**	**359**	P	**Pb**	**08 56 59.9**	**-1.0**
SMTH				S	**Sg**	**08 57 15.6**	**+0.2**
	comp=E,2μm,0.5s						
SMTH	**Samothraki Isl**	**1.10**	**359**	P	**Pb**	**08 57 00.0**	**-0.9**
SMTH				S	**Sb**	**08 57 14.4**	**-0.8**
SMTH				AML	AML	08 57 18.0	
	comp=E,3964μm,0.4s						
SMTH				AML	AML	08 57 23.1	
	comp=N,3084μm,0.5s						
FOCM	**Foa**	**1.13**	**125**	Pn	**Pb**	**08 57 00.9**	**-0.5**
RFT7	**Candarli**	**1.14**	**111**	Pn	**Pb**	**08 57 01.2**	**-0.4**
BUHA	**Balikesir, Bur**	**1.19**	**83**	P	**Pb**	**08 57 01.9**	**-0.5**
BUHA				S	**Sn**	**08 57 18.5**	**-0.1**
CESE	**eme**	**1.19**	**150**	Pn	**Pb**	**08 57 01.8**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.25**	**34**	Pn	**Pn**	**08 57 02.8**	**-0.4**
ZEDA	**zmir-Bergama**	**1.25**	**108**	P	**Pn**	**08 57 03.0**	**-0.3**
ZEDA				S	**Sb**	**08 57 19.4**	**-0.2**
ENZZ	**Sultanice-Enez**	**1.32**	**20**	Pn	**Pn**	**08 57 04.4**	**+0.2**
CANM	**Can-anakkale**	**1.32**	**61**

HORT	Hortiatis	2.25	304	P		Pn	08 57 17.4	+0.4
APE	Apeiranthos	2.30	180	⇑P		Pn	08 57 16.3	-1.4
APE				⇓S		Sn	08 57 44.1	-1.9
APE	Apeiranthos	2.30	180	P		Pn	08 57 17.1	-0.6
APE	Apeiranthos	2.30	180	P		Pn	08 57 17.6	-0.1
AXAR	Agios Charalam	2.33	256	P		Pn	08 57 17.4	-0.7
NVR	Nevrokopi	2.36	327	P		Pn	08 57 18.0	-0.6
NVR	Nevrokopi	2.36	327	P		Pn	08 57 19.3	+0.7
KULA	Kula-Manisa	2.57	108	P		Pn	08 57 21.3	-0.2
EDRB	Edirne	2.64	20	P		Pn	08 57 21.4	-0.9
MAKR	Makrakomi, Fth	2.68	263	P		Pn	08 57 22.9	0.0
BODT	Bodrum	2.69	148	P		Pn	08 57 22.4	-0.7
THL	Klokotos Trika	2.74	275	P		Pn	08 57 23.5	-0.3
GUR	Goura	2.89	241	P		Pn	08 57 26.8	-0.1
ANX	Ano Chora	2.93	256	P		Pn	08 57 26.4	-0.1
VAY	Valandovo	3.00	312	*i* Pn		Pg	08 57 37.5	+0.2
STIP	Stip	3.46	313	*i* Pn		Pn	08 57 33.2	-0.4
ELND	Elena	3.56	4	⇑P		Pn	08 57 35.0	-0.1
LOZB	Loznitsa	4.07	11	⇓P		Pn	08 57 42.7	+0.6
PLVB	Pleven	4.07	350	⇑P		Pn	08 57 42.5	+0.4
RAZG	Razgrad	4.25	9	⇑P		Pn	08 57 44.8	+0.2
BLKB	Belogradchik	4.77	334	⇑P		Pn	08 57 52.4	+0.8
ICOR	Ion Corvin	5.03	19	⇑P		Pn	08 57 56.0	+0.8
BOVS	Bovan	5.15	327	⇑P		Pn	08 57 57.2	+0.4
TIRR	Tirgusor	5.51	22	⇑P		Pn	08 58 01.8	0.0
HARR	Harsova	5.60	18	⇑P		Pn	08 58 03.2	+0.2
TPGR	Topolog	5.88	20	⇑P		Pn	08 58 06.9	-0.1
HERR	Herculane	5.98	338	⇑P		Pn	08 58 08.2	-0.1
ARR	Arges	6.03	354	⇑P		Pn	08 58 09.4	+0.4
VOIR		6.08	357	⇑P		Pn	08 58 09.8	+0.2
CFR	Carcaliu	6.11	17	⇑P		Pn	08 58 10.1	+0.1
MDVR	Moldovita	6.11	333	⇑P		Pn	08 58 10.7	+0.5
MLR	Muntele Rosu	6.12	3	⇑P		Pn	08 58 12.0	+1.6
LOT	Lotru	6.22	348	⇑P		Pn	08 58 11.8	+0.2
BISRR	Bisoca	6.23	8	⇑P		Pn	08 58 13.7	+1.9
GZR	Gura Zlata	6.36	342	⇑P		Pn	08 58 13.7	+0.2
COVR	Voineasa-Covas	6.49	4	⇑P		Pn	08 58 17.1	+1.8
PLOR	Plostina	6.53	7	⇑P		Pn	08 58 17.9	+2.1
VRI	Vrincioaia	6.55	7	⇑P		Pn	08 58 18.0	+1.9
DOPR	Dopca	6.59	359	⇑P		Pn	08 58 17.6	+0.9
TURR	Turia	6.69	3	⇑P		Pn	08 58 19.5	+1.5
BOSR	Bodos	6.70	1	⇑P		Pn	08 58 19.5	+1.3
OZUR		6.72	1	⇑P		Pn	08 58 19.8	+1.3
MDB	Medias	6.82	353	⇑P		Pn	08 58 21.8	+2.0
SURR	Surduc	6.86	340	⇑P		Pn	08 58 20.8	+0.5
BZS	Buzias	6.88	336	⇑P		Pn	08 58 20.8	+0.1
TESR	Tescani	7.18	6	⇑P		Pn	08 58 26.5	+1.7
SIRR	Siria	7.46	339	⇑P		Pn	08 58 28.6	0.0
BURAR	Bucovina Array	8.25	358	⇓P		Pn	08 58 40.7	+1.3
MORH	Mrgy, Hungar	8.52	326	⇑P		Pn	08 58 43.4	+0.4
VYHS	Vyhne	10.32	334	*e*PN		Pn	08 59 06.4	-1.4
NB2	NORSAR Subarra	23.45	342	P		P	09 01 51.2	+2.2
	comp=Z,1.4nm,0.8s,baz=146,slow=10							

*IDC **30** 09:00:43.7±1.9,31°.80N×48°.68E,h0km,mb3.8/14, mbtmp3.7/17,ML3.2/3,MS2.9/2,Error ellipse: s-maj=39.6km s-min=18.8km az=164.0*
*TEH **30** 09:00:46.2,31°.89N×48°.72E,h9km±0.60km,ML3.6*
ISC 30 09:00:46.3±0.6,31°.89N±0.04×48°.71E±0.04,h10km,n62, σ1s98/60,mb4.0/20,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AMIS	**Naft Sefid**	0.54	114	Pg		Pg	**Pg**	09 00 56.5	-0.2
AMIS				Sg		Sg	**Sb**	09 01 05.9	+0.3
AHWZ	**Ahwaz**	0.56	186	Pg		Pg	**Pb**	09 00 57.7	-0.5
JHBN	**Jahan bin**	1.69	78	Pg		Pg	**Pg**	09 01 18.4	-0.5
IKFM	**Kafar-mosalman**	1.79	336	Pn		Pn	**Pb**	09 01 19.8	+0.6
ZNGN	**Zangian**	1.83	82	Pn		Pn	**Pb**	09 01 20.3	+0.1
IPIR	**Pirpir**	2.01	66	Pn		Pn	**Pb**	09 01 23.4	+0.3
IBRJ	**Brojen**	2.17	89	Pn		Pn	**Pb**	09 01 24.7	-1.1
HSAM	**Samen**	2.32	358	Pn		Pn	**Pb**	09 01 27.7	-0.8
IKOM	**Komasi**	2.50	336	Pn		Pn	**Pb**	09 01 30.2	-1.1
IBZA	**Bozab**	2.67	345	Pn		Pn	**Pb**	09 01 31.6	+1.9
ILBA	**Ilam Banvizeh**	2.73	310	Pn		Pn	**Pb**	09 01 32.9	-2.4
IKLH	**Kolahrood**	2.81	59	Pn		Pn	**Pb**	09 01 34.9	-1.8
IGAR	**Gharneh**	2.87	79	Pn		Pn	**Pb**	09 01 35.8	-2.0
QAMS	**Qamsar**	2.92	50	Pn		Pn	**Pb**	09 01 36.2	-2.4
HAGD	**Aghdareh**	2.95	7	Pn		Pn	**Pb**	09 01 36.8	-2.4
IALM	**Almabolaq**	3.00	351	Pn		Pn	**Pb**	09 01 36.9	+2.7
IGHG	**Ghaleghazi**	3.03	324	Pn		Pn	**Pb**	09 01 36.6	+2.1
IRAM	**Ramesheh**	3.12	90	Pn		Pn	**Pb**	09 01 38.3	+2.5
IZEF	**Zefreh**	3.22	71	Pn		Pn	**Pb**	09 01 39.6	+2.4
ILIN	**Lien**	3.36	335	Pn		Pn	**Pb**	09 01 41.9	+2.8
IDHR	**Dehrash**	3.42	326	Pn		Pn	**Pb**	09 01 42.2	+2.4
IQOM	**Qom**	3.55	33	Pn		Pn	**Pb**	09 01 43.2	+1.5
KRSH	**Karshahi**	3.55	53	Pn		Pn	**Pb**	09 01 44.4	+2.8
IRAZ	**Razeghan**	3.65	16	Pn		Pn	**Pb**	09 01 46.5	+3.4
ISFB	**Sefidab**	3.85	49	Pn		Pn	**Pb**	09 01 48.3	+2.6
IVRN	**Varamin**	4.00	38	Pn		Pn	**Pb**	09 01 50.4	+2.7
IMHD	**Mahdasht**	4.12	23	Pn		Pn	**Pb**	09 01 52.6	+3.1
DSBU	**Dashti - Bushe**	4.15	147	Pn		Pn	**Pb**	09 01 51.4	+1.6
ISAD	**Sadrabad**	4.23	88	Pn		Pn	**Pb**	09 01 52.9	+1.8
IDMV	**Damavand**	4.60	36	Pn		Pn	**Pb**	09 01 58.4	+2.2
QSDN	**Sirdan**	4.62	5	Pn		Pn	**Pb**	09 01 59.0	+2.5
ILAS	**Lasjerd**	4.97	44	Pn		Pn	**Pb**	09 02 03.9	+2.6
IFIR	**Firoozkooh**	5.04	41	Pn		Pn	**Pb**	09 02 04.7	+2.5
IPFR	**Peran**	5.28	34	Pn		Pn	**Pb**	09 02 08.8	+3.4
IGLO	**Ghaloghah**	6.26	41	Pn		Pn	**Pb**	09 02 22.4	+3.5
TPRV	**Parvadeh(Tabas**	6.83	78	Pn		Pn	**Pb**	09 02 30.5	+3.8
TNSJ	**Nastanj**	6.95	71	Pn		Pn	**Pb**	09 02 31.6	+3.2
GEYT	**Alibeck**	9.79	49	Pn		Pn	**Pb**	09 03 06.7	-0.6
	0.1nm,0.3s,baz=216,slow=12,SNR=1.7 1.1nm,0.6s								
MMAI	**Mount Meron Ar**	11.30	279	Lg		Lg		09 06 44.3	
	baz=97,slow=36								
MMAI				LR		LR		09 08 09.9	
	comp=Z,53nm,18.7s,baz=68,slow=40								
EIL	**Elat**	12.04	263	LR		LR		09 09 38.7	
	comp=Z,60nm,19.0s,baz=258,slow=45								
BRTR	**Keskin Array B**	14.51	307	Pn		Pn	**Pb**	09 04 15.1	+3.4
	0.1nm,0.3s,baz=139,slow=13,SNR=2.4 0.4nm,0.6s								
AKTO	**Aktyubinsk**	19.78	18	Pn		P		09 05 17.0	+0.5
	0.3nm,0.3s,baz=262,slow=7.7,SNR=2.9 0.9nm,0.5s								
AKASG	**Malin Array Be**	23.70	328	P		P		09 05 57.6	-0.5
	0.2nm,0.3s,baz=137,slow=8.4,SNR=4.4 0.2nm,0.3s								
BVAR	**Borovoye Array**	26.30	30	P		P		09 06 22.3	+0.3
	2.0nm,0.6s,baz=229,slow=7.7,SNR=9.6 2.0nm,0.6s								
KURBB	**Kurchatov Arra**	28.91	41	P		P		09 06 45.2	-0.1
	0.6nm,0.7s,baz=242,slow=9.6,SNR=4.2 0.6nm,0.7s								
RONA	**Rosalia, Austr**	29.23	312	*e*P		P		09 06 49.2	+1.0
	6.9nm,1.9s								
ARSA	**Arzberg**	29.56	311	*e*P		P		09 06 53.5	+2.3
	7.8nm,1.8s								
CONA	**Conrad Observa**	29.58	312	*e*pP		pP		09 07 09.4	+15
	6.9nm,1.6s								
MKAR	**Makanchi Array**	29.67	50	P		P		09 06 51.8	-0.3
	0.4nm,0.6s,baz=248,slow=8.1,SNR=4.3 0.4nm,0.6s								
WTTA	**Wattenberg**	32.09	309	*i* P		P		09 07 13.9	+0.2
	4.8nm,0.9s								
SQTA	**Sankt Quirin**	32.37	309	*i* P		P		09 07 15.5	-0.5
	2.1nm,0.5s								
FETA	**Feichten**	32.63	309	*e*P		P		09 07 17.7	-0.7
	5.0nm,1.3s								
FINES	**FINESS Array B**	33.04	340	P		P		09 07 20.9	-0.6
	3.5nm,0.9s,baz=125,slow=9.6,SNR=3.9 3.5nm,0.9s								
ZALV	**Zalesovo Beam**	33.87	39	P		P		09 07 28.5	-0.4
	0.5nm,0.4s,baz=251,slow=9.2,SNR=3.6 0.5nm,0.4s								
HFS	**Hagfors**	36.51	331	P		P		09 07 50.9	-0.7
	1.0nm,0.4s,baz=132,slow=8.8,SNR=8.6 1.0nm,0.4s								
NOA	**NORSAR Array B**	38.03	331	P		P		09 08 03.4	-1.1
	1.0nm,0.9s,baz=127,slow=7.3,SNR=2.2 1.0nm,0.9s								
ARCES	**ARCESS Array B**	39.91	348	P		P		09 08 19.3	-0.8
	4.0nm,1.1s,baz=145,slow=9.9,SNR=3.6 4.0nm,1.1s								
ESDC	**Sonseca Array**	42.92	296	P		P		09 08 44.6	-0.7
	0.3nm,0.7s,baz=71,slow=8.0,SNR=2.3 0.3nm,0.7s								
EKA	**Eskdalemuir Ar**	42.98	319	P		P		09 08 44.5	-1.0
	1.5nm,0.8s,baz=105,slow=8.2,SNR=2.4 1.5nm,0.8s								
TORD	**Torodi Ar. Bea**	46.86	258	P		P		09 09 15.4	-1.5
	1.0nm,0.6s,baz=61,slow=5.6,SNR=6.9								
SPITS	**Spitsbergen Ar**	48.50	352	P		P		09 09 29.1	+0.2
	7.3nm,0.8s,baz=148,slow=9.8,SNR=10 7.3nm,0.8s								
ILAR	**Eielson Array**	82.89	7	P		P		09 13 09.5	-1.4
	0.2nm,0.9s,baz=347,slow=3.7,SNR=2.4 0.2nm,0.9s								

*NNC **30** 09:02:09.8±1.0,42°.59N×75°.56E,h0km,mb3.2,mpv2.7, Error ellipse: s-maj=7.5km s-min=4.3km az=171.0*
*SOME **30** 09:02:09.3,42°.62N×75°.53E,h0km*
*KNET **30** 09:02:10.1±0.1,42°.62N×75°.54E,h11km±1km,ml1.2,Error ellipse: s-maj=1.0km s-min=0.8km az=85.0*
ISC 30 09:02:10.4±1.1,42°.61N±0°.03×75°.54E±0°.02,h9km±9km, n29,σ0s67/56,10C-8D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	0.31	8	⇑P		Pg		09 02 16.4	-0.3
	16nm,0.2s,SNR=34								
TKM2				⇓S		Sg		09 02 21.3	+0.4
	54nm,0.2s								
TKM2	**Tokmak 2**	0.31	8	⇓P		Pg		09 02 16.3	-0.4
	3.0nm,0.2s								
TKM2				⇑S		Sg		09 02 21.3	+0.4
	19nm,0.3s								
KBK	**Karagaybulak**	0.43	276	⇓P		Pg		09 02 19.0	+0.1
	14nm,0.3s,SNR=13								
KBK				⇓S		Sb		09 02 26.0	-1.2
	12nm,0.2s								
KST	**Kastek**	0.53	36	*e*P		Pg		09 02 20.6	-0.2
	6.5nm,0.2s								
KST				*e*S		Sg		09 02 28.4	+0.6
	12nm,0.2s								
KST	**Kastek**	0.53	36	P		Pg		09 02 20.6	-0.2
	6.5nm,0.2s								
KST				S		Sg		09 02 28.4	+0.6
	12nm,0.2s								
KZA	**Kyzart**	0.58	202	⇑P		Pg		09 02 21.8	+0.2
	12nm,0.2s,SNR=16								
ULHL	**Ulahol**	0.64	125	⇑P		Pg		09 02 22.4	-0.4
	5.5nm,0.2s,SNR=29								
ULHL				⇑S		Sb		09 02 32.5	-0.6
	4.6nm,0.2s								
DGS	**Degeres**	0.65	15	*e*P		Pg		09 02 23.1	+0.1
DGS				*e*S		Sb		09 02 33.2	-0.2
DGS	**Degeres**	0.65	15	P		Pg		09 02 23.1	+0.1
DGS				S		Sb		09 02 33.2	-0.2
CHMS	**Chumysh**	0.69	304	⇓P		Pg		09 02 23.6	-0.3
	3.5nm,0.3s								
CHMS				⇑S		Sg		09 02 33.4	+0.5
	2.8nm,0.2s								
CHMS	**Chumysh**	0.69	304	⇓P		Pg		09 02 23.1	-0.7
	1.2nm,0.3s								
CHMS				⇑S		Sg		09 02 33.4	+0.5
	1.7nm,0.4s								
AAK	**Ala-Archa**	0.77	272	⇑P		Pg		09 02 25.1	-0.2
	18nm,0.2s,SNR=19								
AAK				⇓S		Sb		09 02 36.2	-0.5
	11nm,0.4s								
MTBS	**Maitube**	0.84	52	*e*P		Pg		09 02 26.0	-0.6
	2.5nm,0.2s								
MTBS				*e*S		Sb		09 02 38.1	-0.5
	7.8nm,0.3s								
MTBS	**Maitube**	0.84	52	P		Pg		09 02 26.0	-0.6
	2.5nm,0.2s								
MTBS				S		Sb		09 02 38.1	-0.5
	7.8nm,0.3s								
KRBS	**Karabastau**	1.09	5	*e*P		Pg		09 02 30.4	-0.9
	0.9nm,0.3s								
KRBS				*e*S		Sg		09 02 45.3	-0.2
	2.2nm,0.2s								
KRBS	**Karabastau**	1.09	5	P		Pg		09 02 30.4	-0.9
	0.8nm,0.2s								
KRBS				S		Sb		09 02 45.9	+0.1
	1.6nm,0.2s								
TNSS	**Tian-Shan**	1.12	67	*e*P		Pg		09 02 31.7	-0.3
	1.2nm,0.1s								
TNSS				*e*S		Sb		09 02 47.4	+0.2
	5.8nm,0.2s								
TNSS	**Tian-Shan**	1.12	67	P		Pg		09 02 31.7	-0.3
	0.9nm,0.1s								
TNSS				S		Sb		09 02 46.7	-0.4
	3.7nm,0.1s								
EKS2	**Erkin-Say**	1.30	273	⇓P		Pn		09 02 35.2	+0.3
	2.4nm,0.2s,SNR=10								
EKS2				⇑S		Sn		09 02 53.5	+1.1
	1.1nm,0.2s								
KOTS	**Kotyrbulak**	1.31	61	*e*P		Pb		09 02 35.4	0.0
	0.8nm,0.1s								
KOTS				*e*S		Sn		09 02 54.1	+1.2
	8.3nm,0.3s								
KOTS	**Kotyrbulak**	1.31	61	P		Pb		09 02 35.4	0.0
	0.8nm,0.1s								
KOTS				S		Sn		09 02 54.1	+1.2
	8.3nm,0.3s								
KTBS	**Karatobe**	1.38	37	*e*P		Pg		09 02 36.1	-0.8
	3.6nm,0.2s								
KTBS				*e*S		Sn		09 02 55.1	+0.6
	5.8nm,0.3s								
KTBS	**Karatobe**	1.38	37	P		Pg		09 02 36.2	-0.8
	3.6nm,0.2s								
KTBS				S		Sn		09 02 55.1	+0.6
	5.8nm,0.3s								
KUU	**Kurty**	1.41	24	*e*P		Pn		09 02 36.7	+0.3
	2.9nm,0.2s								
KUU				*e*S		Sn		09 02 56.1	+1.1
	5.4nm,0.4s								
KUU	**Kurty**	1.41	24	P		Pn		09 02 36.0	-0.3
	6.4nm,0.2s								
KUU				S		Sn		09 02 55.9	+0.8
	5.4nm,0.2s								
AML	**Almayashu**	1.45	251	⇑P		Pg		09 02 37.5	-0.7
	1.6nm,0.2s,SNR=7.6								
MRKS	**Merke**	1.71	275	*e*P		Pb		09 02 41.9	-0.1
	4.9nm,0.3s								
MRKS				*e*S		Sg		09 03 05.2	-0.2
	2.2nm,0.3s								
MRKS	**Merke**	1.71	275	P		Pb		09 02 41.9	-0.1
	4.9nm,0.3s								
MRKS				S		Sg		09 03 05.2	-0.2
	2.2nm,0.3s								
KURS	**Kuram**	2.12	65	P		Pn		09 02 46.8	+0.6
KURS				S		Sn		09 03 10.1	-2.5

IDC 30 09:04:57.6±788.0,41°.07N×89°.78E,h0km,Error ellipse: s-maj=371.2km s-min=180.4km az=21.0,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	13.31	347	I	I	I		10 26 50.0	
	baz=165,slow=337,SNR=2.1								
I34MN	**SONGINO INFRAS**	13.64	55	I	I	I		10 24 00.0	
	baz=249,slow=308,SNR=0.7								
I45RU	**USSURIYSK INFR**	30.95	70	I	I	I		12 14 20.0	
	baz=278,slow=318,SNR=0.4								

*IDC **30** 09:08:11.7±2.1,31°.90N×48°.68E,h0km,mb3.5/8, mbtmp3.5/8,Error ellipse: s-maj=49.9km s-min=22.8km az=160.0*
*TEH **30** 09:08:12.7,31°.90N×48°.73E,h9km±44km,ML3.4*
ISC 30 09:08:13.3±0.7,31°.93N±0°.04×48°.72E±0°.04,h10km,n35, σ1s89/36,mb3.7/9,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AMIS	**Naft Sefid**	0.55	118	Pg		Pg	**Pg**	09 08 23.3	-0.7
AMIS				Sg		Sg	**Sb**	09 08 32.6	-0.4
AHWZ	**Ahwaz**	0.60	186	Pg		Pg	**Pb**	09 08 25.0	-0.9
JHBN	**Jahan bin**	1.68	79	Pg		Pg	**Pg**	09 08 44.6	-1.0
IKFM	**Kafar-mosalman**	1.75	335	Pg		Pg	**Pg**	09 08 47.1	+0.1
ZNGN	**Zangian**	1.82	84	Pn		Pg	**Pb**	09 08 47.0	-1.3
IPIR	**Pirpir**	1.99	67	Pn		Pn	**Pb**	09 08 49.7	-0.1
IBRJ	**Brojen**	2.16	90	Pn		Pn	**Pb**	09 08 52.3	-0.3
HSAM	**Samen**	2.28	358	Pn		Pn	**Pb**	09 08 54.0	-0.7
IKOM	**Komasi**	2.46	336	Pn		Pn	**Pb**	09 08 56.2	-1.5
ILBA	**Ilam Banvizeh**	2.71	309	Pn		Pn	**Pb**	09 08 59.6	-2.3
IKLH	**Kolahrood**	2.78	59	Pn		Pn	**Pb**	09 09 00.8	-2.5
QAMS	**Qamsar**	2.89	51	Pn		Pn	**Pb**	09 09 02.4	-2.6
HAGD	**Aghdareh**	2.91	7	Pn		Pn	**Pb**	09 09 02.8	-2.6
IALM	**Almabolaq**	2.96	351	Pn		Pn	**Pb**	09 09 03.2	+2.5
IGHG	**Ghaleghazi**	3.00	324	Pn		Pn	**Pb**	09 09 03.9	-3.0
IRAM	**Ramesheh**	3.12	91	Pn		Pn	**Pb**	09 09 04.5	+1.8
IZEF	**Zefreh**	3.20	72	Pn		Pn	**Pb**	09 09 06.5	+2.5
ILIN	**Lien**	3.32	334	Pn		Pn	**Pb**	09 09 08.4	+2.8
IDHR	**Dehrash**	3.38	325	Pn		Pn	**Pb**	09 09 08.8	+2.5
IQOM	**Qom**	3.51	33	Pn		Pn	**Pb**	09 09 10.9	+2.7
KRSH	**Karshahi**	3.52	54	Pn		Pn	**Pb**	09 09 10.5	+2.3
IRAZ	**Razeghan**	3.61	16	Pn		Pn	**Pb**	09 09 12.7	+3.2
ISFB	**Sefidab**	3.82	50	Pn		Pn	**Pb**	09 09 13.9	+1.7
IVRN	**Varamin**	3.96	39	Pn		Pn	**Pb**	09 09 16.8	+2.6
DSBU	**Dashti - Bushe**	4.18	148	Pn		Pn	**Pb**	09 09 19.0	+1.8
QSDN	**Sirdan**	4.58	5	Pn		Pn	**Pb**	09 09 25.6	+2.8
AKASG	**Malin Array Be**	23.67	328	P		P		09 13 24.5	-0.3
	0.1nm,0.3s,baz=142,slow=9.2,SNR=2.0 0.1nm,0.3s								
BVAR	**Borovoye Array**	26.26	30	P		P		09 13 48.8	+0.2
	1.6nm,0.5s,baz=222,slow=7.6,SNR=13 1.6nm,0.5s								
KURBB	**Kurchatov Arra**	28.88	41	P		P		09 14 13.2	+1.3
	0.4nm,0.6s,baz=241,slow=9.7,SNR=4.3 0.4nm,0.6s								
FINES	**FINESS Array B**	33.00	340	P		P		09 14 47.9	-0.3
	1.8nm,0.7s,baz=174,slow=7.7,SNR=4.2 1.8nm,0.7s								
ZALV	**Zalesovo Beam**	33.84	39	P		P		09 14 55.8	+0.2
	0.4nm,0.4s,baz=240,slow=11,SNR=3.7 0.4nm,0.4s								
ESDC	**Sonseca Array**	42.90	296	P		P		09 16 12.6	+0.5
	0.3nm,0.6s,baz=62,slow=6.7,SNR=1.1 0.3nm,0.6s								
SONM	**Songino Array**	45.95	52	P		P		09 16 36.2	-0.3
	0.2nm,0.5s,baz=289,slow=4.4,SNR=1.5 0.2nm,0.5s								
TORD	**Torodi Ar. Bea**	46.88	258	P		P		09 16 43.3	-0.7
	0.5nm,0.7s,baz=54,slow=7.6,SNR=4.0 0.5nm,0.7s								
SPITS	**Spitsbergen Ar**	48.46	352	P		P		09 16 55.5	0.0
	12nm,1.0s,baz=144,slow=9.3,SNR=7.6								

*IDC **30** 09:43:46.0±3.3,26°.91N×140°.36E,h497km±39km,mb2.8/9, mbtmp3.6/10,Error ellipse: s-maj=36.9km s-min=19.1km az=79.0*
ISC 30 09:43:46.1±1.2,26°.9N±0°.2×140°.4E±0°.3,h500km,n10, σ0s71/10,mb3.1/9,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	9.76	350	P		P		09 45 59.9	-0.9
	2.0nm,0.5s,baz=162,slow=10,SNR=1.9								
SONM	**Songino Array**	33.74	317	P		P		09 49 46.4	+1.1
	0.2nm,0.5s,baz=100,slow=7.9,SNR=2.1 0.2nm,0.5s								
WRA	**Warramunga Arr**	46.97	188	P		P		09 51 31.2	-0.3
	0.3nm,0.4s,baz=4.0,slow=7.4,SNR=7.5 0.3nm,0.4s								
MKAR	**Makanchi Array**	49.35	310	P		P		09 51 48.7	-0.4
	0.1nm,0.4s,baz=83,slow=9.4,SNR=1.7 0.1nm,0.4s								
KURBB	**Kurchatov Arra**	52.01	315	P		P		09 52 08.1	-0.3
	0.3nm,0.4s,baz=92,slow=8.2,SNR=5.5 0.3nm,0.4s								
BVAR	**Borovoye Array**	57.08	317	P		P		09 52 44.0	0.0
	0.8nm,0.4s,baz=89,slow=6.4,SNR=5.2 0.8nm,0.4s								
YKA	**Yellowknife Ar**	73.04	28	P		P		09 54 25.0	+0.6
	0.1nm,0.5s,baz=320,slow=5.1,SNR=4.0 0.1nm,0.5s								
ARCES	**ARCESS Array B**	73.17	341	P		P		09 54 25.6	+0.6
	4.9nm,1.0s,baz=74,slow=9.5,SNR=1.7 4.9nm,1.0s								
FINES	**FINESS Array B**	77.38	333	P		P		09 54 48.6	0.0
	1.1nm,0.3s,baz=74,slow=4.6,SNR=16 1.1nm,0.3s								
NOA	**NORSAR Array B**	83.16	338	P		P		09 55 18.3	-0.7
	0.3nm,0.4s,baz=50,slow=4.2,SNR=1.6 0.3nm,0.4s								

IDC 30 09:55:51.7±3.5,26°.92N×144°.38E,h0km,mb3.5/5, mbtmp3.5/5,Error ellipse: s-maj=144.0km s-min=34.3km az=77.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	47.59	193	P		P		10 04 29.4	-0.1
	0.2nm,0.6s

1.2nm,0.7s
ARCES **ARCESS Array B** 39.95 348 P P 11 00 58.0 -1.6
14nm,1.3s,baz=150,slow=9.3,SNR=1.8
14nm,1.3s
TORD **Torodi Ar. Bea** 46.90 258 P P 11 01 55.4 -0.9
0.3nm,0.4s,baz=53,slow=7.7,SNR=5.8
0.3nm,0.4s

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*NOU **30** 10:58:29.5,21˚.86S×179˚.34W,h587km,mb4.8/72,Fiji Islands Region*
*NEIC **30** 10:58:30.4±1.8,21˚.8S±0˚.1×179˚.5W±0˚.1,h581km±7km, mb4.6/221,Error ellipse: s-maj=16.3km s-min=13.5km az=141.0*
*IDC **30** 10:58:31.0±1.2,21˚.82S×179˚.56W,h597km±13km, mb3.8/19,mbtmp4.8/20,Error ellipse: s-maj=11.7km s-min=9.1km az=157.0*
ISC 30 10:58:30.1±0.3,21˚.97S±0˚.05×179˚.44W±0˚.05,h592km, n701,σ1§02/633,mb4.6/133,32C-21D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TAVE	**Taveuni**	5.26	355	P	P		11 00 04.6	0.0
DGTI	**Dogotuki**	5.70	352	P	P		11 00 08.1	-0.2
RIZ	**Raoul Island**	7.37	170	P	P		11 00 22.5	-0.5
RIZ				S	S		11 01 55.3	-0.3
RAO	**Raoul Island**	7.38	170	P	P		11 00 22.9	-0.2
RAO	**Raoul Island**	7.38	170	P	P		11 00 22.7	-0.4
RAO	**Raoul Island**	7.38	170	P	P		11 00 22.6	-0.4
	299nm,0.3s,baz=115,slow=22,SNR=3.9							
RAO				S	S		11 01 51.8	-3.9
	114nm,0.3s,baz=289,slow=23,SNR=1.5							
GLKZ	**Green Lake**	7.39	170	P	P		11 00 22.1	-1.0
GLKZ				S	S		11 01 54.4	-1.5
NIUE	**Niue**	9.36	74	P	P		11 00 41.3	-1.1
	baz=9.2,SNR=11							
NIUE	**Niue**	9.36	74	P	P		11 00 41.1	-1.4
NIUE	**Niue**	9.36	74	P	P		11 00 41.3	-1.1
AFI	**Afiamalu**	10.83	44	P	P		11 00 54.0	-3.2
AFI	**Afiamalu**	10.83	44	P	P		11 00 53.9	-3.3
MARNC	**Mare, Loyalty**	11.66	270	P	P		11 01 05.7	+0.3
MARNC	**Mare, Loyalty**	11.66	270	P	P		11 01 05.7	+0.3
PINNC	**Pines Island,**	12.16	265	P	P		11 01 10.7	+0.2
PINNC	**Pines Island,**	12.16	265	P	P		11 01 10.6	+0.2
DVP	**Devils Point**	12.39	288	P	P		11 01 12.7	-0.1
LIFNC	**LIFOU**	12.47	273	P	P		11 01 12.6	-1.1
LIFNC	**LIFOU**	12.47	273	P	P		11 01 12.5	-1.1
YATNC	**Mamie plateau,**	12.68	267	P	P		11 01 15.9	+0.2
OUENC	**Ouen Island, N**	12.72	265	P	P		11 01 16.1	0.0
OUENC	**Ouen Island, N**	12.72	265	P	P		11 01 16.4	+0.3
DZM	**Mont Dzumac**	13.10	267	P	P		11 01 19.8	-0.3
DZM	**Mont Dzumac**	13.10	267	P	P		11 01 19.8	-0.3
DZM	**Mont Dzumac**	13.10	267	P	P		11 01 19.6	-0.5
	59nm,0.7s,baz=78,slow=20,SNR=50							
NOUC	**Port Laguerre**	13.23	267	P	P		11 01 21.1	-0.2
NFK	**Norfolk Island**	13.39	236	P	P		11 01 24.6	+1.7
	baz=14,SNR=5.6							
NFK	**Norfolk Island**	13.39	236	P	P		11 01 24.8	+1.9
OUZ	**Omahuta**	14.54	203	P	P		11 01 35.9	+1.9
OUZ	**Omahuta**	14.54	203	P	P		11 01 37.9	+3.9
WCZ	**Waipu Caves**	14.94	200	P	P		11 01 39.6	+1.9
KOUNC	**Koumac, New Ca**	15.24	272	P	P		11 01 41.4	+0.6
KOUNC	**Koumac, New Ca**	15.24	272	P	P		11 01 41.5	+0.7
KUZ	**Kuaotunu**	15.31	195	P	P		11 01 42.6	+1.4
KUZ	**Kuaotunu**	15.31	195	P	P		11 01 42.7	+1.6
TOZ	**Tahuroa Road**	16.30	194	P	P		11 01 52.6	+2.3
TOZ				IAmb	IAmb		11 01 54.1	
	comp=Z,16nm,0.7s							
URZ	**Urewera**	16.50	190	P	P		11 01 51.8	-0.3
URZ	**Urewera**	16.50	190	P	P		11 01 50.2	-2.0
	comp=Z,9.7nm,0.6s,baz=13,slow=2.6,SNR=16							
URZ				S	S		11 04 28.7	-8.0
	comp=Z,9.7nm,0.5s,baz=114,slow=23,SNR=12							
TLZ	**Tolley Road**	16.87	194	P	P		11 01 57.9	+2.4
RTZ	**Ruatahuna**	16.87	190	P	P		11 01 54.4	-1.2
RTZ				IAmb	IAmb		11 02 29.6	
	comp=Z,36nm,1.5s							
HIZ	**Hauiti**	17.20	195	P	P		11 01 59.6	+1.1
HIZ	**Hauiti**	17.20	195	P	P		11 02 01.7	+3.2
BKZ	**Black Stump Fm**	17.49	191	P	P		11 02 01.0	-0.2
ETVZ	**East Tongariro**	17.61	193	P	P		11 02 02.5	+0.2
SNVZ	**South Ngauruho**	17.67	193	P	P		11 02 03.2	+0.2
KWHZ	**Kaweka Forest**	17.75	191	P	P		11 02 03.1	-0.5
KWHZ				S	S		11 04 52.6	-4.6
VRZ	**Vera Road**	17.80	195	P	P		11 02 06.5	+2.5
BHHZ	**Black Hill Sta**	17.88	191	P	P		11 02 02.7	-2.1
BHHZ				S	S		11 04 54.3	-5.0
KAHZ	**Kahuranaki**	18.04	189	P	P		11 02 07.2	+0.9
KAHZ				S	S		11 04 59.3	-2.5
ANWZ	**Angora Road**	18.75	190	P	P		11 02 14.5	+1.8
ANWZ				S	S		11 05 09.9	-3.3
BFZ	**Birch Farm**	19.01	190	P	P		11 02 15.2	+0.2
BFZ	**Birch Farm**	19.01	190	P	P		11 02 15.2	+0.2
BFZ	**Birch Farm**	19.01	190	P	P		11 02 15.1	+0.2
BFZ				S	S		11 05 16.6	-0.7
MRZ	**Mangatainoka R**	19.10	192	P	P		11 02 14.5	-1.3
MRZ				S	S		11 05 14.3	-4.5
OGWZ	**Otaki Gorge**	19.33	192	P	P		11 02 17.4	-0.5
HOWZ	**Holdsworth Sta**	19.34	192	P	P		11 02 20.7	+2.7
HOWZ				S	S		11 05 20.0	-2.7
DUWZ	**D'Urville Isla**	19.60	195	P	P		11 02 20.6	+0.3
DUWZ				S	S		11 05 29.5	+2.8
CAW	**Cannon Point**	19.63	192	P	P		11 02 19.5	-1.1
CAW				S	S		11 05 21.8	-5.5
TCW	**Tory Channel**	19.90	194	P	P		11 02 22.8	-0.3
TCW				S	S		11 05 28.9	-2.6
QRZ	**Quartz Range**	19.99	198	P	P		11 02 24.9	+1.1
QRZ	**Quartz Range**	19.99	198	P	P		11 02 24.7	+0.9
TKNZ	**Takaka Hill**	20.06	197	P	P		11 02 24.5	0.0
TKNZ				S	S		11 05 32.0	-2.1
NNZ	**Nelson**	20.12	196	P	P		11 02 25.1	+0.1
NNZ				S	S		11 05 30.9	-4.0
MRNZ	**Matariki Terra**	20.46	197	P	P		11 02 27.6	-0.4
KHZ	**Kahutara**	21.22	194	P	P		11 02 34.5	-0.3
KHZ	**Kahutara**	21.22	194	P	P		11 02 33.9	-1.0
KHZ				S	S		11 05 49.0	-3.2
RPZ	**Rata Peaks**	23.07	198	P	P		11 02 52.5	+1.1
JCZ	**Jackson Bay**	24.10	201	P	P		11 03 01.1	+0.5
WHZ	**Wether Hill Ro**	25.99	200	P	P		11 03 18.9	+1.8
EIDS	**Eidsvold**	27.19	257	P	P		11 03 28.6	+0.6
	baz=27,SNR=13							
EIDS	**Eidsvold**	27.19	257	P	P		11 03 28.9	+0.9
EIDS	**Eidsvold**	27.19	257	P	P		11 03 28.7	+0.8
ARMA	**Armidale**	27.23	246	P	P		11 03 30.2	+1.8
	baz=27,SNR=72							
ARMA	**Armidale**	27.23	246	P	P		11 03 30.3	+1.8
ARMA	**Armidale**	27.23	246	P	P		11 03 30.1	+1.8
MGCD	**Mangrove Creek**	28.31	240	P	P		11 03 39.6	+2.0
	baz=28,SNR=31							
PPT	**Papeete**	28.41	86	P	P		11 03 39.4	+0.7
	comp=Z,8.7nm,0.7s,baz=86,slow=19,SNR=2.4							
	comp=Z,8.7nm,0.7s							
PPTF	**Pamatai, Papee**	28.42	87	P	P		11 03 39.7	+0.8
PPTF				IAmb	IAmb		11 03 44.7	
	comp=Z,41nm,1.5s							
CNB	**Canberra Magne**	30.30	237	P	P		11 03 56.6	+1.7
	baz=30,SNR=59							
CNB	**Canberra Magne**	30.30	237	P	P		11 03 56.5	+1.7
CAN	**Canberra**	30.59	237	P	P		11 03 58.9	+1.7
CAN	**Canberra**	30.59	237	P	P		11 03 58.4	+1.2
YNG	**Young**	30.78	239	P	P		11 04 00.2	+1.3
MILA	**Mila**	31.02	234	P	P		11 04 02.2	+1.3
	baz=31,SNR=3.2							
MILA	**Mila**	31.02	234	P	P		11 04 02.4	+1.5
CTA	**Charters Tower**	32.04	267	P	P		11 04 10.2	+0.4
CTA	**Charters Tower**	32.04	267	P	P		11 04 10.3	+0.6
	comp=Z,51nm,0.4s,baz=93,slow=12,SNR=61							
CTA				ScP	ScP		11 09 28.8	-0.4
	comp=Z,4.2nm,0.8s,baz=180,slow=6.1,SNR=3.6							
	comp=Z,51nm,0.4s							
CTAO	**Charters Tower**	32.04	267	P	P		11 04 10.6	+0.8
CTAO	**Charters Tower**	32.04	267	P	P		11 04 10.2	+0.4
CMSA	**Cobar Meteorol**	32.45	245	P	P		11 04 14.0	+1.0
	baz=33,SNR=106							
CMSA	**Cobar Meteorol**	32.45	245	P	P		11 04 13.9	+0.8
QLP	**Quilpie**	33.36	255	P	P		11 04 21.4	+0.6
	baz=34,SNR=23							
QLP	**Quilpie**	33.36	255	P	P		11 04 21.4	+0.6
TOO	**Toolangi**	33.95	235	P	P		11 04 26.8	+1.1
	baz=34,SNR=42							
TOO	**Toolangi**	33.95	235	P	P		11 04 27.0	+1.3
TOO	**Toolangi**	33.95	235	P	P		11 04 26.8	+1.1
MTSU	**Mount Surprise**	34.21	270	P	P		11 04 28.6	+0.5
	baz=34,SNR=52							
PMG	**Port Moresby**	34.41	286	P	P		11 04 29.9	+0.2
PMG	**Port Moresby**	34.41	286	P	P		11 04 29.9	+0.2
STKA	**Stephens Creek**	35.95	246	P	P		11 04 43.4	+1.1
	baz=36,SNR=80							
STKA	**Stephens Creek**	35.95	246	P	P		11 04 43.1	+0.8
STKA				IAmb	IAmb		11 04 43.8	
	comp=Z,6.4nm,0.6s							
STKA	**Stephens Creek**	35.95	246	P	P		11 04 43.2	+0.9
STKA	**Stephens Creek**	35.95	246	P	P		11 04 43.4	+1.1
	comp=Z,28nm,0.5s,baz=92,slow=10,SNR=100							
STKA				ScP	ScP		11 09 43.3	+0.3
	comp=Z,5.4nm,0.9s,baz=322,slow=4.8,SNR=5.3							
	comp=Z,28nm,0.5s							
ARPS	**Mount Arapiles**	36.56	237	P	P		11 04 48.0	+0.8
	baz=37,SNR=6.9							
MANU	**Manus Island**	37.87	297	P	P		11 04 57.6	-0.5
QIS	**Mount Isa**	38.12	264	P	P		11 04 59.7	-0.4
	baz=38,SNR=19							
QIS	**Mount Isa**	38.12	264	P	P		11 04 59.8	-0.3
HTT	**Hallett**	38.37	244	P	P		11 05 02.5	+0.5
	baz=38,SNR=30							
HTT	**Hallett**	38.37	244	P	P		11 05 02.7	+0.7
LCRK	**Leigh Creek**	38.74	248	P	P		11 05 05.7	+0.7
BBOO	**Buckleboo**	40.70	245	P	P		11 05 20.9	+0.3
	baz=41,SNR=91							
BBOO	**Buckleboo**	40.70	245	P	P		11 05 21.1	+0.4
BBOO	**Buckleboo**	40.70	245	P	P		11 05 20.8	+0.2
OOD	**Oodnadatta**	40.95	253	P	P		11 05 23.8	+1.2
MULG	**Mulgathing**	42.33	249	P	P		11 05 33.8	+0.4
ASAR	**Alice Springs**	42.90	258	P	P		11 05 38.1	+0.1
	comp=Z,49nm,0.8s,baz=98,slow=8.1,SNR=587							
ASAR				ScP	ScP		11 10 11.3	+0.9
	comp=Z,2.7nm,0.8s,baz=110,slow=4.0,SNR=8.3							
ASAR				S	S		11 11 18.1	-3.0
	comp=Z,2.4nm,0.9s,baz=98,slow=15,SNR=11							
ASAR				ScS	ScS		11 14 32.4	-0.5
	comp=Z,0.7nm,0.8s,baz=94,slow=5.2,SNR=5.6							
	comp=Z,49nm,0.8s							
WB0	**Warramunga Arr**	43.08	264	P	P		11 05 38.9	-0.5
WRAB	**Tennant Creek**	43.08	264	P	P		11 05 39.0	-0.5
WRA	**Warramunga Arr**	43.09	264	P	P		11 05 39.0	-0.6
	comp=Z,32nm,0.8s,baz=91,slow=5.9,SNR=258							
WRA				ScP	ScP		11 10 12.0	+0.8
	comp=Z,4.2nm,0.9s,baz=97,slow=4.2,SNR=11							
WRA				S	S		11 11 22.0	-2.0
	comp=Z,1.7nm,1.0s,baz=99,slow=14,SNR=6.2							
	comp=Z,32nm,0.8s							
KDU	**Kakadu**	46.67	273	P	P		11 06 06.5	-0.4
	baz=47,SNR=26							
KDU	**Kakadu**	46.67	273	P	P		11 06 06.6	-0.3
KHLU	**Kahalu`u**	47.29	31	P	P		11 06 11.5	0.0
FORT	**Forrest**	47.49	248	P	P		11 06 12.8	-0.1
	baz=48,SNR=50							
FORT	**Forrest**	47.49	248	P	P		11 06 13.1	+0.2
FORT	**Forrest**	47.49	248	P	P		11 06 12.8	-0.1
KEKH	**Kekaha**	47.74	25	P	P		11 06 14.7	+0.1
HPAH	**Hawaii Prepara**	47.76	31	P	P		11 06 15.3	+0.3
WRKA	**Warakurna**	47.79	256	P	P		11 06 15.3	+0.1
	baz=48,SNR=173							
WRKA	**Warakurna**	47.79	256	P	P		11 06 15.3	+0.1
MTN	**Manton Dam**	47.86	272	P	P		11 06 15.3	-0.5
	baz=48,SNR=8.3							
MTN	**Manton Dam**	47.86	272	P	P		11 06 15.7	-0.1
KNRA	**Kununurra**	49.25	268	P	P		11 06 26.1	+0.1
	baz=49,SNR=26							
KNRA	**Kununurra**	49.25	268	P	P		11 06 26.2	+0.2
KNRA	**Kununurra**	49.25	268	P	P		11 06 26.1	+0.1
FITZ	**Fitzroy Crossi**	51.52	264	P	P		11 06 42.9	+0.4
	baz=52,SNR=18							
FITZ	**Fitzroy Crossi**	51.52	264	P	P		11 06 43.1	+0.5
FITZ	**Fitzroy Crossi**	51.52	264	P	P		11 06 43.0	+0.4
SWI	**Sorong**	52.36	287	P	P		11 06 48.5	-0.1
	comp=Z,163nm,0.8s,comp=Z,1µm							
SOEI	**Soe**	55.23	273	P	P		11 07 10.8	+1.9
SOEI	**Soe**	55.23	273	P	P		11 07 09.3	+0.4
	comp=Z,75nm,0.6s							
PSA00	**Pilbara Seismi**	56.04	258	P	P		11 07 14.7	+0.3
PSA00				IAmb	IAmb		11 07 15.0	
	comp=Z,33nm,1.0s							
PSA00	**Pilbara Seismi**	56.04	258	IAmb	IAmb		11 07 15.0	
	comp=Z,14nm,1.1s							
PSA00	**Pilbara Seismi**	56.04	258	P	P		11 07 14.4	+0.1
MEEK	**Meekatharra**	56.18	252	P	P		11 07 14.8	-0.4
	baz=56,SNR=6.7							
MEEK	**Meekatharra**	56.18	252	P	P		11 07 15.0	-0.3
KLBR	**Kellerberrin**	56.23	246	P	P		11 07 15.5	+0.1
	baz=56,SNR=18							
MBWA	**Marble Bar**	56.24	259	P	P		11 07 15.6	-0.1
MBWA				IAmb	IAmb		11 07 16.2	
	comp=Z,32nm,0.8s							
MBWA	**Marble Bar**	56.24	259	P	P		11 07 15.4	-0.3
VNDA	**Vanda**	56.33	185	P	P		11 07 18.2	+2.8
VNDA	**Vanda**	56.33	185	P	P		11 07 17.4	+2.1
	comp=Z,1.6nm,0.6s,baz=357,slow=6.7,SNR=14							
	comp=Z,1.6nm,0.6s							
NWAO	**Narrogin (SRO)**	56.52	244	P	P		11 07 17.8	+0.3
NWAO				IAmb	IAmb		11 07 18.1	
	comp=Z,61nm,1.1s							
NWAO	**Narrogin (SRO)**	56.52	244	P	P		11 07 18.2	+0.8
NWAO				IAmb	IAmb		11 07 19.5	
	comp=Z,15nm,1.0s							
NWAO	**Narrogin (SRO)**	56.52	244	P	P		11 07 17.9	+0.5
SANI	**Sanana**	56.57	283	P	P		11 07 17.3	-0.7
	comp=Z,24nm,1.0s							
BLDU	**Ballidu**	57.24	247	P	P		11 07 22.4	0.0
	baz=57,SNR=28							
BLDU	**Ballidu**	57.24	247	P	P		11 07 22.2	-0.2
MUN	**Mundaring**	57.49	245	P	P		11 07 24.1	+0.1
	baz=58,SNR=3.4							
MUN	**Mundaring**	57.49	245	P	P		11 07 24.4	+0.4
MMRI	**Maumere**	57.49	274	P	P		11 07 24.4	+0.1
MMRI				IAmb	IAmb		11 07 24.9	
	comp=Z,61nm,1.1s							
MMRI	**Maumere**	57.49	274	P	P		11 07 23.8	-0.5
	comp=Z,58nm,1.0s,comp=Z,3µm							
EDFI	**Ende, Flores**	57.96	273	P	P		11 07 26.9	-0.7
	comp=Z,37nm,1.6s,comp=Z,544nm							
MORW	**Morawa**	58.04	249	P	P		11 07 28.1	+0.3
MORW				IAmb	IAmb		11 07 29.4	
	comp=Z,46nm,1.5s							
GIRL	**Giralia**	60.88	256	P	P		11 07 48.1	+1.4
GIRL	**Giralia**	60.88	256	P	P		11 07 48.1	+1.4
PLAI	**Plampang**	61.56	272	P	P		11 07 51.1	-0.2
PLAI	**Plampang**	61.56	272	P	P		11 07 50.3	-1.0
	comp=Z,49nm,0.8s							
TWSI	**Taiwang, Sumb**	62.42	271	P	P		11 07 56.1	-0.8
	comp=Z,23nm,1.0s							
TOLI2	**Tolitoli**	62.62	283	P	P		11 07 58.2	0.0
MPSI	**Mapaga**	63.09	282	P	P		11 08 00.7	-0.5
	comp=Z,20nm,0.7s							
JAGI	**Jajag, Banyuwa**	65.05	271	P	P		11 08 12.5	-1.1
QSPA	**South Pole Qui**	68.10	180	P	P		11 08 33.1	+1.4
QSPA				IAmb	IAmb		11 08 34.2	
	comp=Z,15nm,0.9s							
QSPA	**South Pole Qui**	68.10	180	P	P		11 08 33.0	+1.4
	comp=Z,12nm,0.8s,baz=290,slow=0.3,SNR=84							
	comp=Z,12nm,0.8s							
UGM	**Wanagama**	68.61	270	P	P		11 08 35.7	+0.3
UGM	**Wanagama**	68.61	270	P	P		11 08 35.8	+0.3
KPJI	**Karang Pucung**	70.29	270	P	P		11 08 45.2	-0.3
	comp=Z,17nm,0.7s							
MJAR	**Matsushiro Arr**	70.62	325	P	P		11 08 46.7	-0.2
	comp=Z,1.6nm,0.7s,baz=156,slow=5.6,SNR=7.4							
	comp=Z,1.6nm,0.7s							
CGJI	**Cibinong**	73.55	269	P	P		11 09 03.5	-0.8
UNV	**Unalaska Valle**	76.33	8	P	P		11 09 18.0	-0.8
PEA0B	**Petropavlovsk-**	77.36	346	P	P		11 09 24.7	+0.2
PEA0B				IAmb	IAmb		11 09 37.4	
	comp=Z,51nm,1.4s							
PETK	**Petropavlovsk-**	77.36	346	P	P		11 09 23.9	-0.6
PETK	**Petropavlovsk-**	77.36	346	P	P		11 09 23.7	-0.8
	comp=Z,12nm,0.7s,baz=139,slow=4.4,SNR=30							
	comp=Z,12nm,0.7s							
FALS	**False Pass**	77.74	9	P	P		11 09 28.2	+1.7
	baz=195							
HKPS	**Hong Kong Po S**	78.25	300	P	P		11 09 29.0	-1.0
USRK	**Ussuysk Ar.**	79.44	327	P	P		11 09 35.0	-0.8
	comp=Z,3.5nm,1.0s,baz=132,slow=2.1,SNR=4.8							
	comp=Z,3.5nm,1.0s							
SCZ2	**Santa Cruz Isl**	79.58	47	P	P		11 09 37.9	+1.1
	baz=235							
MAW	**Mawson**	79.73	200	P	P		11 09 38.1	+1.1
	comp=Z,1.7nm,0.5s,baz=105,slow=9.6,SNR=2.1							
	comp=Z,1.7nm,0.5s							
PKM	**Mcpherson Peak**	79.98	46	P	P		11 09 40.2	+1.1
	baz=234							
CIS	**Catalina Islan**	80.08	48	P	P		11 09 40.4	+1.0
	baz=236							
SMMC	**Simmler**	80.10	46	P	P		11 09 40.9	+1.4
	baz=234							
BCW	**Bitter Crk WRg**	80.27	46	IAmb	IAmb		11 09 42.9	
	comp=Z,30nm,1.4s							
FMP	**Fort Macarthur**	80.33	48	P	P		11 09 40.9	+0.3
	baz=236							
KCPM	**Cahto Peak**	80.48	40	IAmb	IAmb		11 09 43.9	
	comp=Z,22nm,1.1s							
KMPM	**Mount Pierce**	80.62	40	IAmb	IAmb		11 09 44.9	
	comp=Z,39nm,1.1s							
109C	**Camp Elliot, M**	80.70	49	P	P		11 09 43.6	+1.0
	baz=236							
ARVC	**Arvin**	80.77	46	P	P		11 09 43.8	+0.8
	baz=235							
VES	**Vestal, Richgr**	81.01	46	P	P		11 09 45.1	+0.9
	baz=235							
MURC	**Murrieta**	81.03	48	P	P		11 09 45.2	+0.9
	baz=236							
BFSC	**Mount Baldy Ra**	81.06	48	P	P		11 09 45.3	+0.6
	baz=236							
MONP2	**Monument Peak**	81.18	49	P	P		11 09 46.3	+0.9
	baz=237,SNR=13							
EDW2	**Edwards Air Fo**	81.20	47	P	P		11 09 46.2	+1.0
	baz=236,SNR=12							
IKP	**In-Ko-Pah, Jac**	81.27	50	P	P		11 09 46.5	+0.8
	baz=237,SNR=6.9							
ISA	**Isabella, Lake**	81.32	46	IAmb	IAmb		11 09 47.8	
	comp=Z,11nm,0.8s							
ISA	**Isabella, Lake**	81.32	46	P	P		11 09 47.0	+1.2
	baz=235,SNR=13							
CMB	**Columbia Colle**	81.45	43	IAmb	IAmb		11 09 48.2	
	comp=Z,13nm,1.1s							
PFO	**Pinyon Flats O**	81.55	49	P	P		11 09 47.6	+0.5
PFO	**Pinyon Flats O**	81.55	49	P	P		11 09 47.9	+0.7
	baz=237							
TPFO	**Pinon Flats**	81.55	49	P	P		11 09 47.9	+0.8
	baz=237							
BBRC	**Big Bear Solar**	81.59	48	P	P		11 09 47.8	+0.4
	baz=236							
AFDM	**Forest Hills D**	81.62	42	P	P		11 09 47.8	+0.6
SWSC	**Sam W. Stewart**	81.65	50	P	P		11 09 48.6	+1.1
	baz=237,SNR=6.7							
ORV	**Oroville**	81.66	41	P	P		11 09 48.0	+0.6
LRMC	**Laurel Mtn Rad**	81.75	47	P	P		11 09 48.9	+0.8
	baz=236,SNR=7.7							
R18K	**Karluk**	81.95	13	P	P		11 09 50.0	+1.7
	baz=203							
CWC	**Cottonwood Cre**	82.02	46	P	P		11 09 50.3	+0.8
	baz=235							
BELC	**Belle Mtn. Jos**	82.08	49	P	P		11 09 50.7	+0.9
	baz=237,SNR=11							
MPMC	**Manual Prospec**	82.20	46	P	P		11 09 51.4	+0.9
	baz=236,SNR=14							
MLAC	**Mammoth, Mammo**	82.21	44	P	P		11 09 51.5	+1.0
	baz=235							
GSC	**Goldstone, Bar**	82.24	47	P	P		11 09 51.5	+1.0
	baz=236,SNR=7.1							
YBH	**Yreka Blue Hor**	82.27	39	P	P		11 09 51.2	+0.6
YBH				IAmb	IAmb		11 09 52.9	
	comp=Z,15nm,0.9s							
TIN	**Tinemaha, Big**	82.27	45	P	P		11 09 51.9	+1.2
	baz=235							
BC3	**Big Chuckawall**	82.28	49	P	P		11 09 51.9	+1.1
	baz=237,SNR=6.6							
HEC	**Hector,Ludlow**	82.30	48	P	P		11 09 51.9	+1.0
	baz=237,SNR=7.0							
WAKR	**Walker**	82.33	43	IAmb	IAmb		11 09 52.8	
	comp=Z,12nm,0.7s							
GLA	**Glamis**	82.39	50	P	P		11 09 52.6	+1.3
	baz=238							
MPK	**Martis Peak**	82.42	42	IAmb	IAmb		11 09 53.6	
	comp=Z,48nm,1.3s							
O15K	**Ungalikthiuk R**	82.45	10	P	P		11 09 52.1	+1.2
	baz=198							
Q16K	**King Salmon**	82.54	12	P	P		11 09 51.3	0.0
	baz=201							
PNTR	**Pine Nut**	82.57	43	IAmb	IAmb		11 09 54.3	
	comp=Z,32nm,0.8s							
HUMO	**Hull Mountain**	82.67	38	IAmb	IAmb		11 09 55.1	
	comp=Z,21nm,1.2s							
YERR	**Yerington**	82.73	43	IAmb	IAmb		11 09 54.8	
	comp=Z,

	baz=202								
L17K	**Donlin**	85.50	10	P		P	11 10 05.3	-0.5	
	baz=200								
I07A	**Izee**	85.57	39	IAmb		IAmb	11 10 08.8		
	comp=Z,17nm,1.2s								
319A	**Douglas**	85.60	54	IAmb		IAmb	11 10 09.9		
	comp=Z,23nm,1.0s								
O22K	**Cooper Landing**	85.64	14	P		P	11 10 06.2	-0.3	
	baz=208								
GAMB	**Gambell**	85.68	3	P		P	11 10 06.7	+0.2	
	baz=187								
N20K	**Mount Spurr**	85.75	13	P		P	11 10 06.4	-0.7	
	baz=205								
J08A	**Circle Bar Ran**	85.75	40	IAmb		IAmb	11 10 09.6		
	comp=Z,14nm,1.3s								
P23K	**Montague Islan**	85.77	16	P		P	11 10 06.0	-1.1	
	baz=210								
L18K	**Granite Mounta**	85.85	10	P		P	11 10 06.9	-0.6	
	baz=201								
HEH	**HeiHe**	85.87	329	*e*P		P	11 10 08.0	+0.2	
U15A	**North Rim**	85.94	48	IAmb		IAmb	11 10 11.1		
	comp=Z,12nm,0.7s								
K17K	**Iditarod**	86.05	10	P		P	11 10 08.2	-0.2	
	baz=200								
WUAZ	**Wupatki**	86.11	49	P		P	11 10 08.5	-1.1	
	baz=240								
L19K	**White Mountain**	86.13	11	IAmb		IAmb	11 10 10.0		
	comp=Z,12nm,0.8s								
L19K	**White Mountain**	86.13	11	P		P	11 10 08.7	-0.1	
	baz=203,SNR=5.7								
RC01	**Rabbit Creek A**	86.18	14	P		P	11 10 08.9	-0.2	
	baz=208								
TROLL	**Troll, Antarti**	86.25	181	⇓P		P	11 10 09.8	+0.1	
	comp=Z,61nm,0.3s								
ELK	**Elko**	86.27	43	P		P	11 10 10.4	+0.1	
SUA	**Susitna One**	86.29	13	P		P	11 10 09.0	-0.7	
	baz=207,SNR=5.6								
PKCU	**Pink Cliffs**	86.45	47	IAmb		IAmb	11 10 14.1		
	comp=Z,17nm,1.1s								
SNAA	**Sanae**	86.58	179	⇑P		P	11 10 10.7	-0.3	
	comp=Z,35nm,0.4s								
SNAA	**Sanae**	86.58	179	P		P	11 10 10.9	-0.2	
	comp=Z,1.5nm,0.5s,baz=198,slow=12,SNR=8.6 comp=Z,1.5nm,0.5s								
L20K	**Farewell, AK**	86.59	12	P		P	11 10 10.3	-0.7	
	baz=204								
SKT	**Skwentna**	86.59	13	P		P	11 10 09.5	-1.5	
	baz=206								
G08A	**Pilot Rock**	86.59	38	IAmb		IAmb	11 10 13.5		
	comp=Z,14nm,0.9s								
GLI	**Glacier Island**	86.61	15	P		P	11 10 09.4	-1.7	
	baz=210								
MXC	**Moxie City**	86.61	36	IAmb		IAmb	11 10 13.3		
	comp=Z,14nm,0.9s								
TTA	**Tatalina**	86.62	10	P		P	11 10 11.6	+0.4	
TTA	**Tatalina**	86.62	10	P		P	11 10 09.0	-2.2	
	baz=202								
EYAK	**Cordova Ski Ar**	86.66	16	P		P	11 10 10.0	-1.3	
	baz=211								
M22K	**Willow**	86.69	13	P		P	11 10 11.5	+0.1	
	baz=207								
KNK	**Knik Glacier**	86.75	14	IAmb		IAmb	11 10 12.5		
	comp=Z,16nm,0.7s								
KNK	**Knik Glacier**	86.75	14	P		P	11 10 12.0	+0.2	
	baz=209,SNR=5.3								
PMR	**Palmer**	86.76	14	IAmb		IAmb	11 10 11.9		
	comp=Z,9.9nm,0.6s								
PMR	**Palmer**	86.76	14	P		P	11 10 11.3	-0.4	
PMR	**Palmer**	86.76	14	P		P	11 10 11.6	-0.1	
	baz=208								
VNA3	**Neumayer Olymp**	86.76	177	⇑P		P	11 10 11.7	-0.2	
	comp=Z,10nm,0.6s								
E07A	**Sunnyside**	86.84	37	IAmb		IAmb	11 10 14.7		
	comp=Z,18nm,0.8s								
J18K	**Innoko River**	87.01	10	IAmb		IAmb	11 10 14.2		
	comp=Z,9.6nm,0.8s								
J18K	**Innoko River**	87.01	10	P		P	11 10 13.3	+0.4	
	baz=201								
MVU	**Marysvale**	87.06	46	IAmb		IAmb	11 10 16.5		
	comp=Z,10nm,0.9s								
U33K	**Whale Pass**	87.08	24	P		P	11 10 13.8	+0.5	
	baz=222								
V35K	**Ketchikan**	87.08	25	P		P	11 10 13.6	+0.2	
	baz=224								
SML	**Sawmill**	87.13	14	P		P	11 10 12.9	-0.7	
	baz=209								
VNA2	**Neumayer--Watz**	87.19	177	⇑P		P	11 10 14.3	+0.5	
	comp=Z,6.5nm,0.6s,baz=193,slow=5.0								
CUT	**Chulitna**	87.24	13	P		P	11 10 13.5	-0.5	
	baz=207,SNR=7.8								
M23K	**Glacier View**	87.26	14	P		P	11 10 13.7	-0.5	
	baz=209								
121A	**Cookes Peak, D**	87.26	53	P		P	11 10 16.1	+1.0	
	baz=242								
PPLA	**Purkeypile**	87.29	12	P		P	11 10 14.0	-0.5	
	baz=205								
BMO	**Blue Mountains**	87.30	39	IAmb		IAmb	11 10 15.9		
	comp=Z,8.5nm,1.0s								
BMRM	**Bremner River**	87.31	16	P		P	11 10 14.3	-0.2	
	baz=212								
H16K	**Elim**	87.35	7	P		P	11 10 14.7	+0.2	
	baz=196								
K20K	**Telida**	87.36	11	P		P	11 10 14.3	-0.3	
	baz=204								
MFID	**Camas Ranch**	87.37	41	IAmb		IAmb	11 10 17.1		
	comp=Z,12nm,0.9s								
SCM	**Sheep Creek Mo**	87.39	15	P		P	11 10 14.8	0.0	
	baz=210,SNR=7.2								
VNA1	**Neumayer--Stat**	87.42	177	⇓P		P	11 10 15.0	+0.1	
	comp=Z,0.3nm,0.2s								
KLU	**Klutina**	87.43	15	P		P	11 10 14.9	-0.2	
	baz=211								
G15K	**Niukluk**	87.50	6	P		P	11 10 15.0	-0.2	
	baz=194								
CRQE	**Cirque**	87.53	17	P		P	11 10 15.3	-0.3	
	baz=214								
J19K	**Poorman**	87.68	10	IAmb		IAmb	11 10 32.1		
	comp=Z,13nm,1.5s								
J19K	**Poorman**	87.68	10	P		P	11 10 16.0	0.0	
	baz=202								
PNL	**Peninsula**	87.70	19	P		P	11 10 16.7	+0.4	
PNL	**Peninsula**	87.70	19	P		P	11 10 15.9	-0.4	
	baz=217								
F14K	**Arctic Creek**	87.75	5	P		P	11 10 15.8	-0.5	
	baz=192								
CAST	**Castle Rocks**	87.78	12	P		P	11 10 15.3	-1.3	
	baz=205,SNR=16								
VRDI	**Verde Repeater**	87.83	17	IAmb		IAmb	11 10 18.0		
	comp=Z,12nm,1.0s								
N25K	**Chitina, Valde**	87.86	16	IAmb		IAmb	11 10 18.0		
	comp=Z,14nm,0.8s								
N25K	**Chitina, Valde**	87.86	16	P		P	11 10 16.9	-0.1	
	baz=212,SNR=6.5								
GRNC	**Granite Creek**	87.88	17	IAmb		IAmb	11 10 18.4		
	comp=Z,14nm,1.0s								
M24K	**Tolsona, Glenn**	87.90	15	P		P	11 10 17.6	+0.4	
	baz=211								
GLB	**Gilahina Butte**	87.92	16	IAmb		IAmb	11 10 18.1		
	comp=Z,11nm,0.7s								
H17K	**Granite Mounta**	87.93	8	P		P	11 10 16.4	-0.8	
	baz=198								
WAT6	**Susitna Watana**	87.94	14	P		P	11 10 16.9	-0.6	
	baz=209,SNR=5.6								
Q16A	**Castle Valley**	87.97	46	IAmb		IAmb	11 10 20.9		
	comp=Z,6.4nm,0.9s								
WAT1	**Susitna Watana**	87.98	14	P		P	11 10 17.3	-0.2	
	baz=208								
G16K	**Koyuk River**	88.07	7	P		P	11 10 17.5	-0.3	
	baz=196								
J20K	**Nowinta River**	88.10	11	IAmb		IAmb	11 10 18.3		
	comp=Z,6.3nm,0.7s								
J20K	**Nowinta River**	88.10	11	P		P	11 10 17.8	-0.2	
	baz=203								
KTH	**Kantishna Hill**	88.13	12	IAmb		IAmb	11 10 17.9		
	comp=Z,11nm,0.8s								
CHUM	**Lake Minchumin**	88.16	12	P		P	11 10 17.6	-0.7	
	baz=205,SNR=5.2								
LOGN	**Logan Glacier**	88.17	18	IAmb		IAmb	11 10 19.7		
	comp=Z,11nm,0.8s								
TRF	**Thorofare Moun**	88.17	13	P		P	11 10 18.0	-0.5	
	baz=207,SNR=14								
P29M	**Windy Craggy**	88.18	20	P		P	11 10 18.5	0.0	
	baz=218								
GCSA	**Galena City Sc**	88.19	9	P		P	11 10 18.3	0.0	
	baz=201								
CTG	**Chitna Glacier**	88.19	18	P		P	11 10 19.1	+0.5	
	baz=215,SNR=6.7								
PLID	**Pearl Lake**	88.19	39	IAmb		IAmb	11 10 20.9		
	comp=Z,22nm,1.4s								
MPU	**Maple Canyon**	88.22	45	IAmb		IAmb	11 10 21.4		
	comp=Z,7.6nm,1.2s								
HLID	**Hailey**	88.31	41	IAmb		IAmb	11 10 21.8		
	comp=Z,8.6nm,0.8s								
HLID	**Hailey**	88.31	41	P		P	11 10 20.0	+0.3	
	baz=237,SNR=12								
H18K	**Honhosa River**	88.35	9	P		P	11 10 18.4	-0.8	
	baz=200								
SPUT	**South Promonto**	88.35	44	IAmb		IAmb	11 10 21.8		
	comp=Z,10nm,1.0s								
G17K	**Kiwalik Mounta**	88.38	8	P		P	11 10 19.2	0.0	
	baz=197								
HARP	**HAARP**	88.39	15	P		P	11 10 19.1	-0.3	
	baz=212								
C09A	**Chrisman Ranch**	88.45	36	IAmb		IAmb	11 10 21.6		
	comp=Z,8.7nm,0.8s								
DHY	**Denali Highway**	88.46	14	P		P	11 10 19.3	-0.6	
	baz=210								
CTU	**Camp Tracy**	88.49	45	IAmb		IAmb	11 10 22.3		
	comp=Z,8.3nm,1.0s								
SRU	**San Rafael Swe**	88.50	47	IAmb		IAmb	11 10 22.4		
	comp=Z,10nm,0.9s								
P17A	**Butcher Ranch,**	88.54	46	IAmb		IAmb	11 10 23.0		
	comp=Z,17nm,1.3s								
425A	**Indio Mountain**	88.59	56	IAmb		IAmb	11 10 23.5		
	comp=Z,7.8nm,0.8s								
BPAW	**Bear Paw Mtn.**	88.61	12	P		P	11 10 19.6	-0.8	
	baz=206								
MNTX	**Cornudas Mount**	88.69	55	P		P	11 10 22.0	+0.5	
	baz=243								
MCK	**McKinley**	88.70	13	P		P	11 10 20.6	-0.2	
	baz=208,SNR=6.2								
PAX	**Paxson**	88.81	15	P		P	11 10 20.8	-0.6	
	baz=211								
P30M	**Million Dollar**	88.81	20	P		P	11 10 21.9	+0.4	
	baz=219								
YUK8	**Steele Glacier**	88.89	18	P		P	11 10 22.2	+0.1	
	baz=216,SNR=6.2								
M26K	**Nabesna, AK**	88.94	16	IAmb		IAmb	11 10 23.2		
	comp=Z,9.6nm,1.1s								
M26K	**Nabesna, AK**	88.94	16	P		P	11 10 22.7	+0.7	
	baz=214								
TXAR	**Lajitas Array**	88.97	58	P		P	11 10 24.0	+1.0	
	comp=Z,6.6nm,0.9s,baz=215,slow=5.9,SNR=64 comp=Z,6.6nm,0.9s								
H19K	**Roundabout Mou**	88.98	9	P		P	11 10 22.4	+0.3	
	baz=201								
G18K	**Tagagawik**	89.01	8	P		P	11 10 21.9	-0.3	
	baz=199								
YUK6	**Outpost Mounta**	89.03	19	P		P	11 10 22.5	-0.2	
	baz=218								
HWUT	**Hardware Ranch**	89.08	44	IAmb		IAmb	11 10 24.6		
	comp=Z,7.3nm,0.7s								
YUK3	**Moose Creek**	89.10	17	P		P	11 10 23.6	+0.6	
	baz=216,SNR=10								
S34M	**Telegraph Cree**	89.14	23	IAmb		IAmb	11 10 25.0		
	comp=Z,8.2nm,0.8s								
S34M	**Telegraph Cree**	89.14	23	P		P	11 10 24.0	+1.0	
	baz=224								
M27K	**Edge Creek, AK**	89.19	17	P		P	11 10 23.8	+0.5	
	baz=214								
H20K	**Anotleneega Mo**	89.19	10	P		P	11 10 23.4	+0.4	
	baz=203								
HYT	**Haines Junctio**	89.19	19	P		P	11 10 23.1	-0.3	
	baz=218								
F17K	**Baldwin Pennin**	89.21	7	P		P	11 10 23.5	+0.5	
	baz=197								
PLCA	**Paso Flores**	89.23	134	P		P	11 10 25.4	+1.4	
	comp=Z,4.3nm,0.9s,baz=233,slow=3.5,SNR=11 comp=Z,4.3nm,0.9s								
YUK4	**Talbot Arm**	89.27	18	P		P	11 10 24.5	+0.7	
	baz=218								
CMAR	**Chiang Mai Arr**	89.35	290	P		P	11 10 26.2	+1.3	
	comp=Z,0.5nm,0.6s,baz=142,slow=3.5,SNR=4.7 comp=Z,0.5nm,0.6s								
ANMO	**Albuquerque**	89.36	52	P		P	11 10 25.5	+0.7	
ANMO				IAmb		IAmb	11 10 26.5		
	comp=Z,7.9nm,1.0s								
ANMO	**Albuquerque**	89.36	52	P		P	11 10 25.0	+0.2	
	baz=243								
L26K	**Log Cabin Wild**	89.37	16	IAmb		IAmb	11 10 25.0		
	comp=Z,10nm,1.2s								
L26K	**Log Cabin Wild**	89.37	16	P		P	11 10 23.1	-0.9	
	baz=213								
I21K	**Tanana**	89.40	11	IAmb		IAmb	11 10 24.5		
	comp=Z,10nm,0.8s								
I21K	**Tanana**	89.40	11	P		P	11 10 23.7	-0.3	
	baz=205								
HHC	**Hu-ho-hao-te**	89.43	315	*e*P		P	11 10 22.5	-2.4	
HHC				pmax		pmax			
	comp=Z,17nm,0.6s								
HHC				pmax		pmax			
	comp=Z,210nm,4.8s								
NEA2	**Nenana**	89.43	13	P		P	11 10 23.1	-1.1	
	baz=208								
ALPN	**Alpine**	89.45	57	IAmb		IAmb	11 10 27.1		
	comp=Z,9.4nm,0.6s								
K24K	**Donnelly Dome**	89.45	14	P		P	11 10 24.2	-0.1	
	baz=211,SNR=5.2								
G19K	**Purcell Mounta**	89.47	9	IAmb		IAmb	11 10 25.1		
	comp=Z,8.1nm,0.9s								
G19K	**Purcell Mounta**	89.47	9	P		P	11 10 24.4	+0.1	
	baz=201								
Q32M	**Nakina River**	89.49	22	P		P	11 10 24.6	-0.2	
	baz=223								
MLY	**Manley**	89.50	12	IAmb		IAmb	11 10 23.9		
	comp=Z,3.4nm,0.7s								
MLY	**Manley**	89.50	12	P		P	11 10 23.7	-0.8	
	baz=206								
BVCY	**Beaver Creek**	89.51	17	P		P	11 10 25.1	+0.5	
	baz=215,SNR=5.0								
H21K	**Melozitna Rive**	89.69	11	IAmb		IAmb	11 10 26.1		
	comp=Z,5.7nm,0.8s								
H21K	**Melozitna Rive**	89.69	11	P		P	11 10 25.6	+0.2	
	baz=205								
HDA	**Harding Lake**	89.72	13	IAmb		IAmb	11 10 26.5		
	comp=Z,5.5nm,1.2s								
HDA	**Harding Lake**	89.72	13	P		P	11 10 25.2	-0.3	
	baz=210,SNR=6.5								
HDA				P		P	11 10 25.2	-0.3	
	baz=210,SNR=6.5								
CCB	**Clear Creek Bu**	89.74	13	P		P	11 10 25.0	-0.6	
E17K	**Hotham Inlet**	89.76	7	P		P	11 10 25.9	+0.3	
	baz=196								
L27K	**Beaver Creek,**	89.79	16	P		P	11 10 25.8	-0.1	
	baz=215								
RDMU	**Red Mountain**	89.86	46	IAmb		IAmb	11 10 28.5		
	comp=Z,9.2nm,0.9s								
WHY	**Whitehorse**	89.89	20	P		P	11 10 27.0	+0.5	
	baz=221								
DLBC	**Dease Lake**	89.93	24	P		P	11 10 26.4	-0.3	
	baz=225								
MDM	**Murphy Dome**	89.93	13	P		P	11 10 25.3	-1.2	
MDM				IAmb		IAmb	11 10 26.4		
	comp=Z,6.4nm,0.9s								
COLA	**College**	89.93	13	P		P	11 10 25.8	-0.6	
COLA	**College**	89.93	13	P		P	11 10 26.2	-0.2	
COLA	**College**	89.93	13	P		P	11 10 26.1	-0.4	
	baz=209								
AHID	**Auburn Hatcher**	89.96	43	IAmb		IAmb	11 10 29.8		
	comp=Z,8.3nm,0.7s								
SCRK	**Sand Creek**	90.02	15	IAmb		IAmb	11 10 28.0		
	comp=Z,4.9nm,1.0s								
SCRK	**Sand Creek**	90.02	15	P		P	11 10 26.8	-0.2	
	baz=213								
F19K	**Shaleruckik Mo**	90.02	8	IAmb		IAmb	11 10 27.0		
	comp=Z,5.2nm,0.8s								
F19K	**Shaleruckik Mo**	90.02	8	P		P	11 10 26.8	0.0	
	baz=200								
IL31		90.05	13	IAmb		IAmb	11 10 26.6		
	comp=Z,4.9nm,0.9s								
ILAR	**Eielson Array**	90.05	13	P		P	11 10 26.1	-0.9	
	comp=Z,2.4nm,0.7s,baz=217,slow=4.6,SNR=43 comp=Z,2.4nm,0.7s								
H22K	**Ishtalitna Cre**	90.16	11	P		P	11 10 27.4	-0.1	
	baz=206								
M29M	**Somme Creek**	90.19	18	P		P	11 10 28.4	+0.5	
	baz=218								
PZH	**PanZhiHua**	90.22	298	P		P	11 10 30.5	+1.6	
PZH				pmax		pmax			
	comp=Z,10.0nm,0.6s								
PZH				pmax		pmax			
	comp=Z,130nm,5.1s								
D17K	**Noatak River**	90.22	6	P		P	11 10 28.5	+0.7	
	baz=195								
E18K	**Tukpahlearik C**	90.22	7	IAmb		IAmb	11 10 28.7		
	comp=Z,6.8nm,0.9s								
E18K	**Tukpahlearik C**	90.22	7	P		P	11 10 27.8	+0.1	
	baz=198								
POKR	**Poker Plat Res**	90.23	13	P		P	11 10 27.8	-0.1	
	baz=210								
J25K	**Salcha River,**	90.24	14	IAmb		IAmb	11 10 28.5		
	comp=Z,4.4nm,0.7s								
J25K	**Salcha River,**	90.24	14	P		P	11 10 27.6	-0.4	
	baz=211								
G21K	**Allakaket**	90.36	10	IAmb		IAmb	11 10 29.3		
	comp=Z,6.8nm,0.8s								
G21K	**Allakaket**	90.36	10	P		P	11 10 29.0	+0.6	
	baz=204								
S22A	**4UR Ranch, Cre**	90.39	49	IAmb		IAmb	11 10 31.5		
	comp=Z,6.9nm,1.1s								
S22A	**4UR Ranch, Cre**	90.39	49	P		P	11 10 29.6	-0.1	
	baz=242								
SAND	**Sanderson**	90.45	58	IAmb		IAmb	11 10 31.7		
	comp=Z,3.9nm,0.8s								
F20K	**Avaraart Lake**	90.51	9	P		P	11 10 29.0	-0.1	
	baz=202								
K27K	**Chicken**	90.53	15	IAmb		IAmb	11 10 30.5		
	comp=Z,3.7nm,0.8s								
K27K	**Chicken**	90.53	15	P		P	11 10 29.3	+0.1	
	baz=214								
O20A	**White River Ci**	90.54	47	IAmb		IAmb	11 10 31.6		
	comp=Z,7.0nm,0.8s								
O20A	**White River Ci**	90.54	47	P		P	11 10 29.8	-0.3	
	baz=242								
MNHN	**Monahans**	90.54	56	IAmb		IAmb	11 10 31.1		
	comp=Z,2.6nm,0.6s								
J26L	**Joseph Creek**	90.56	15	IAmb		IAmb	11 10 30.8		
	comp=Z,11nm,1.0s								
J26L	**Joseph Creek**	90.56	15	P		P	11 10 29.3	-0.2	
	baz=213								
C16K	**Lisburne Hills**	90.58	5	P		P	11 10 29.2	-0.1	
	baz=193								
IMW	**Indian Meadow**	90.63	42	IAmb		IAmb	11 10 33.0		
	comp=Z,8.2nm,1.1s								
E19K	**Redstone River**	90.68	8	IAmb		IAmb	11 10 30.8		
	comp=Z,10nm,0.9s								
E19K	**Redstone River**	90.68	8	P		P	11 10 29.7	-0.2	
	baz=201								
H24K	**Noodor Dome**	90.77	12	P		P	11 10 30.3	-0.1	
	baz=209								
M30M	**Minto, Yukon**	90.78	18	P		P	11 10 30.6	+0.1	
	baz=219								
L29M	**L29M**	90.82	17	IAmb		IAmb	11 10 31.7		
	comp=Z,6.3nm,0.8s								
L29M	**L29M**	90.82	17	P		P	11 10 30.9	+0.2	
	baz=218,SNR=6.0								
BW06	**Boulder Array**	90.95	44	IAmb		IAmb	11 10 32.6		
	comp=Z,3.7nm,0.9s								
BW06	**Boulder Array**	90.95	44	P		P	11 10 31.4	-0.6	
	baz=241								
PDAR	**Pinedale Array**	90.95	44	P		P	11 10 32.3	+0.3	
	comp=Z,2.9nm,0.8s,baz=197,slow=2.8,SNR=20 comp=Z,2.9nm,0.8s								
YHL	**Hebgen Lake**	90.97	41	IAmb		IAmb	11 10 34.0		
	comp=Z,3.4nm,0.8s								
C17K	**DeLong Mountai**	90.97	6	P		P	11 10 31.0	-0.2	
	baz=195								
PRP	**Porcupine Dome**	90.98	13	P		P	11 10 30.7	-0.8	
	baz=211								
F21K	**Alatna River**	91.01	10	P		P	11 10 31.3	-0.1	
	baz=204								
G22K	**Bettles**	91.06	11	P		P	11 10 31.8	+0.1	
	baz=206								
BOZ	**Bozeman (W)**	91.07	41	IAmb		IAmb	11 10 34.6		
	comp=Z,4.1nm,0.9s								
BOZ	**Bozeman (W)**	91.07	41	P		P	11 10 32.5	+0.1	
	baz=239,SNR=5.5								
G23K	**Bananza Creek**	91.14	11	P		P	11 10 32.1	0.0	
	baz=207								
M31M	**Drury Creek, Y**	91.21	19	P		P	11 10 32.4	-0.1	
	baz=221								
DAWY	**Dawson**	91.24	16	P		P	11 10 32.7	+0.1	
	baz=217								
SDCO	**Great Sand Dun**	91.33	50	IAmb		IAmb	11 10 35.3		
	comp=Z,3.5nm,0.8s								
SDCO	**Great Sand Dun**	91.33	50	P		P	11 10 33.2	-0.8	
	baz=243								
C18K	**Utukok River**	91.34	7	P		P	11 10 33.1	+0.2	
	baz=197								
EGAK	**Eagle**	91.37	15	P		P	11 10 33.2	+0.1	
	baz=215								
DRIO	**Del Rio**	91.42	59	IAmb		IAmb	11 10 35.7		
	comp=Z,16nm,0.7s								
F22K	**John River**	91.48	10	P		P	11 10 33.8	+0.2	
	baz=205								
D19K	**Kuna River**	91.55	8	IAmb		IAmb	11 10 34.7		
	comp=Z,8.1nm,0.9s								
D19K	**Kuna River**	91.55	8	P		P	11 10 34.3	+0.4	
	baz=200								
FARO	**Faro, Yukon**	91.56	20	P		P	11 10 34.2	+0.1	
	baz=222								
COLD	**Coldfoot**	91.57	11	P		P	11 10 34.1	+0.1	
	baz=207								
K29M	**Barlow Dome**	91.57	17	IAmb		IAmb	11 10 35.3		
	comp=Z,4.4nm,1.0s								
K29M	**Barlow Dome**	91.57	17	P		P	11 10 34.1	-0.2	
	baz=218								
E20K	**Nigu River**	91.57	8	P		P	11 10 34.1	0.0	
	baz=202								
G24K	**Hadweenzic Riv**	91.61	12	P		P	11 10 33.9	-0.3	
	baz=210								
OZNA	**Ozona**	91.64	57	IAmb		IAmb	11 10 36.8		
	comp=Z,7.1nm,1.1s								
MSTX	**Muleshoe**	91.66	54	P		P	11 10 34.7	-0.7	
	baz=245								
T25A	**Trinidad**	91.83	51	P		P	11 10 35.6	-0.6	
	baz=244								
D20K	**Etivluk River**	91.94	8	P		P	11 10 35.6	-0.2	
	baz=201								
C19K	**Lookout Ridge**	91.95	7	IAmb		IAmb	11 10 36.5		
	comp=Z,5.8nm,0.7s								
C19K	**Lookout Ridge**	91.95	7	P		P	11 10 35.6	-0.2	
	baz=198								
833A	**Chaparal WMA,**	91.95	60	P		P	11 10 35.6	-1.0	
	baz=246								
B18K	**Kokolik River**	91.96	6	P

I30M	**Mount Dempster**	92.95	17	P		**P**	11 10 40.3	-0.3
	baz=219							
D23K	**Nanushuk River**	93.05	10	P		**P**	11 10 41.1	+0.4
	baz=207							
B21K	**Ikpikpuk River**	93.06	8	P		**P**	11 10 41.1	+0.3
	baz=203							
B20K	**Meade River**	93.09	8	P		**P**	11 10 41.0	+0.1
	baz=201							
F26K	**Sheenjek River**	93.13	13	P		**P**	11 10 41.2	0.0
	baz=212							
E25K	**Arctic Village**	93.21	12	P		**P**	11 10 42.5	+0.9
	baz=211							
H29M	**Whitestone**	93.22	15	P		**P**	11 10 41.5	-0.1
	baz=218							
ABTX	**Abilene, Hawle**	93.48	56	P		**P**	11 10 43.4	-0.2
	baz=246							
EPYK	**Eagle Plains**	93.76	16	P		**P**	11 10 43.9	-0.2
	baz=219							
C23K	**Itkillik River**	93.84	10	P		**P**	11 10 43.9	-0.4
	baz=207							
G29M	**Pine Creek**	93.86	15	P		**P**	11 10 44.6	+0.1
	baz=218							
B22K	**Teshekpuk Lake**	93.88	9	P		**P**	11 10 44.5	+0.1
	baz=204							
KSCO	**Kaye Shedlock'**	93.91	49	P		**P**	11 10 45.3	-0.3
	baz=245							
E27K	**Colleen River**	94.08	13	P		**P**	11 10 45.4	0.0
	baz=215							
D25K	**Kavik River**	94.10	11	P		**P**	11 10 45.4	-0.2
	baz=211							
A22K	**Sinclair Lake**	94.29	8	P		**P**	11 10 47.1	+0.8
	baz=203							
G30M	**tAoh Zraii Nji**	94.36	16	IAmb		IAmb	11 10 46.8	
	comp=Z,5.2nm,0.8s							
G30M	**tAoh Zraii Nji**	94.36	16	P		**P**	11 10 46.8	0.0
	baz=220							
435B	**Jarrell**	94.37	59	P		**P**	11 10 46.8	-0.9
	baz=247							
A21K	**Barrow**	94.39	7	P		**P**	11 10 47.1	+0.3
	baz=201							
G31M	**Satah River**	94.81	16	P		**P**	11 10 48.8	0.0
	baz=221							
E28M	**Babbage River**	94.86	14	IAmb		IAmb	11 10 50.4	
	comp=Z,9.7nm,1.4s							
E28M	**Babbage River**	94.86	14	P		**P**	11 10 49.3	+0.3
	baz=217							
C26K	**Camden Bay**	94.87	11	P		**P**	11 10 49.6	+0.6
	baz=212							
LAO	**LASA Array**	94.89	41	P		**P**	11 10 49.6	-0.2
	baz=243							
F30M	**Barrier River**	94.95	15	P		**P**	11 10 49.6	+0.2
	baz=220							
WMOK	**Wichita Mounta**	94.98	55	P		**P**	11 10 50.6	+0.2
	baz=247							
RSSD	**Black Hills**	95.14	44	P		**P**	11 10 51.1	-0.1
RSSD				IAmb		IAmb	11 10 51.8	
	comp=Z,2.4nm,0.8s							
RSSD	**Black Hills**	95.14	44	P		**P**	11 10 51.1	-0.1
	baz=244							
F31M	**Tsiigehtchic**	95.34	16	P		**P**	11 10 51.2	+0.1
	baz=222							
D28M	**Stokes Point**	95.62	13	P		**P**	11 10 52.0	-0.4
	baz=218							
INK	**Inuvik**	96.04	16	P		**P**	11 10 53.9	-0.4
	baz=222							
TUL3	**Leonard**	97.69	55	P		Pdif	11 11 02.2	-0.3
	baz=249							
YKA	**Yellowknife Ar**	98.41	25	P		Pdif	11 11 04.6	-0.3
	comp=Z,0.5nm,0.8s,baz=250,slow=4.8,SNR=6.3							
	comp=Z,0.5nm,0.8s							
LRAL	**Lakeview Retre**	103.59	60	P		**Pdif**	11 11 28.5	-0.3
	baz=253							
WVT	**Waverly**	103.85	56	P		**Pdif**	11 11 30.6	+0.8
	baz=253							
HDIL	**Hopedale**	104.05	52	P		**Pdif**	11 11 30.8	+0.2
	baz=253							
EYMN	**Ely**	104.65	44	P		**Pdif**	11 11 33.2	+0.1
	baz=254							
WCI	**Wyandotte Cave**	105.62	55	P		**PKiKP**	11 15 47.8	+0.8
	baz=254							
O48B	**Farmland**	107.01	53	P		**PKiKP**	11 15 50.2	+0.7
	baz=256							
GLMI	**Grayling**	108.47	48	P		**PKiKP**	11 15 53.0	+0.9
	baz=257							
ZALV	**Zalesovo Beam**	110.79	321	PKiKP		**PKiKP**	11 15 54.8	-1.4
	comp=Z,0.9nm,0.4s,baz=165,slow=1.4,SNR=8.8							
MKAR	**Makanchi Array**	111.23	313	PKiKP		**PKiKP**	11 15 56.3	-1.0
	comp=Z,0.5nm,0.5s,baz=179,slow=1.2,SNR=11							
MKAR				PKKPbc		**PKKPbc**	11 26 55.0	-0.8
	comp=Z,0.6nm,0.7s,baz=298,slow=2.6,SNR=6.9							
MKAR				PKKPab		**PKKPab**	11 27 06.7	+0.7
	comp=Z,0.3nm,0.7s,baz=277,slow=3.2,SNR=3.7							
KURBB	**Kurchatov Arra**	114.21	317	PKP		PKiKP	11 16 01.9	-1.0
	comp=Z,2.0nm,0.2s,baz=96,slow=1.6,SNR=5.0							
KK31	**Karatay Array**	119.10	308			**PKPdf**	11 16 12.0	-0.5
KKAR	**Karatay Array**	119.10	308			**PKPdf**	11 16 12.0	-0.5
BVAR	**Borovoye Array**	119.33	319	PKP		**PKPdf**	11 16 11.9	-0.8
	comp=Z,4.3nm,0.4s,baz=111,slow=2.1,SNR=37							
SPITS	**Spitsbergen Ar**	123.24	356	PKP		**PKPdf**	11 16 19.1	-0.4
	comp=Z,4.9nm,0.6s,baz=70,slow=3.6,SNR=13							
BOSA	**Boshof**	124.35	206	PKP		**PKPdf**	11 16 23.9	+0.6
	comp=Z,2.0nm,0.9s,baz=75,slow=7.4,SNR=3.7							
ABKAR	**Akbulak array**	126.22	316			**PKPdf**	11 16 26.0	0.0
GEYT	**Alibeck**	128.43	302	PKP		**PKPdf**	11 16 30.3	-0.3
	comp=Z,1.0nm,0.3s,baz=153,slow=1.7,SNR=6.1							
ARCES	**ARCESS Array B**	130.11	349	PKP		**PKPdf**	11 16 32.1	-0.7
	comp=Z,3.6nm,0.5s,baz=359,slow=1.4,SNR=22							
FINES	**FINESS Array B**	136.78	342	PKhKP		PKPpre	11 16 32.5	
	comp=Z,1.8nm,0.7s,baz=216,slow=9.4,SNR=5.5							
FINES				PKP		**PKPdf**	11 16 44.9	-0.6
	comp=Z,3.4nm,0.6s,baz=113,slow=1.9,SNR=12							
FINES				SKPbc		**SKPbc**	11 19 23.1	-0.2
	comp=Z,2.8nm,0.8s,baz=46,slow=4.0,SNR=2.7							
NB2	**NORSAR Subarra**	140.26	352	PKP		**PKPdf**	11 16 45.5	-6.4
	comp=Z,1.8nm,0.8s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	140.26	352	PKhKP		PKPpre	11 16 44.7	
	comp=Z,0.5nm,0.5s,baz=33,slow=1.1,SNR=8.2							
HFS	**Hagfors**	140.76	350	PKhKP		PKPpre	11 16 45.3	
	comp=Z,3.1nm,0.3s,baz=64,slow=3.4,SNR=43							
STRU	**Stroemstad**	142.20	351	*i* P		**PKPdf**	11 16 50.6	-4.7
MBAR	**Mbarara**	142.99	237				11 16 57.5	
TJOU	**Tjoern**	143.10	350	*i* P		**PKPdf**	11 16 53.0	-4.0
BORU	**Boraas**	143.28	349	*i* P		PKPab	11 16 53.4	-2.3
SNART	**Snartemo**	143.36	354	*i* P		PKPab	11 16 55.0	-0.9
ARPR	**Arapgir-MALATY**	143.57	307			PKPab	11 16 57.6	0.0
AKASG	**Malin Array Be**	143.62	329	PKP		PKPab	11 16 56.2	-0.9
	comp=Z,7.5nm,0.4s,baz=42,slow=4.2,SNR=54							
KIEV	**Kiev**	143.63	329			PKPab	11 16 56.7	-0.5
ONAU	**Onsala**	143.66	350	*i* P		PKPab	11 16 54.8	-2.2
SUW	**Suwalki**	143.71	337	*e*PKPdf		PKPab	11 16 56.7	-0.7
BLEU	**Blekinge**	143.90	346	*i* P		PKPbc	11 16 55.8	-2.1
DEL	**Delary**	144.17	347	*i* P		PKPbc	11 16 55.0	-3.7
BJUU	**Bjuv**	144.71	348	*i* P		**PKPdf**	11 16 58.5	-1.3
MUID	**Monsted U'grnd**	144.98	352	*i* P		**PKPdf**	11 17 00.5	+0.3
LUNU	**Lund**	145.04	347	*i* P		**PKPdf**	11 17 00.6	-0.4
BNN	**Bunyan**	145.50	307	PKPbc		**PKPbc**	11 17 04.1	+0.7
SORM	**Soroca**	145.72	326	⇑P		**PKPbc**	11 17 03.4	-0.1
EKA	**Eskdalemuir Ar**	146.57	4	PKPbc		**PKPbc**	11 17 05.0	-0.6
	comp=Z,4.3nm,0.6s,baz=9.3,slow=3.1,SNR=18							
BRTR	**Keskin Array B**	146.79	310			**PKPbc**	11 17 06.8	-0.2
BRTR	**Keskin Array B**	146.79	310	PKPbc		**PKPbc**	11 17 06.6	-0.4
	comp=Z,4.5nm,0.7s,baz=135,slow=4.7,SNR=21							
VASR	**Vaslui**	146.96	325	⇓P		**PKPbc**	11 17 07.5	+0.5
KWP	**Kalwaria Pacla**	147.32	333	*e*PKPbc		**PKPbc**	11 17 07.9	+0.1
KWP	**Kalwaria Pacla**	147.32	333			**PKPbc**	11 17 08.3	+0.4
MMAI	**Mount Meron Ar**	147.34	297	PKPbc		**PKPbc**	11 17 09.0	+0.5
	comp=Z,7.2nm,0.6s,baz=69,slow=4.6,SNR=14							
BURAR	**Bucovina Array**	147.64	328	⇓P		**PKiKP**	11 17 10.2	-0.1
TESR	**Tescani**	147.65	325	⇓P		**PKPbc**	11 17 08.0	-0.8
OJC	**Ojcow**	148.01	336	*e*PKPbc		**PKPbc**	11 17 09.6	0.0
KOLS	**Kolonicke sedl**	148.03	333	*e*PKP		**PKPbc**	11 17 10.7	+1.0
HARR	**Harsova**	148.07	322	⇓P		**PKPbc**	11 17 10.4	+0.5
STHS	**Stebnicka Huta**	148.09	334	*e*PKP		**PKPbc**	11 17 09.8	0.0
CRVS	**Cervenica-Dubn**	148.40	333	*e*PKP		**PKPbc**	11 17 11.2	+0.6
NIE	**Niedzica**	148.46	335	*e*PKPbc		**PKPbc**	11 17 11.7	+0.9
FLTG	**Flechtingen**	148.59	347	*e*PKPbc		**PKPbc**	11 17 11.1	+0.2
	baz=21,slow=2.4							
KSP	**Ksiaz**	148.67	341	*e*PKPbc		**PKPbc**	11 17 11.8	+0.6
MLR	**Muntele Rosu**	148.69	325	⇑P		**PKPbc**	11 17 12.0	+0.4
MLR	**Muntele Rosu**	148.69	325			**PKPbc**	11 17 11.6	0.0
OSTC	**Ostas**	148.94	341⇑	*e*PKP		**PKPbc**	11 17 12.6	+0.7
CHVC	**Chvalec**	148.96	341⇑	*e*PKP		**PKPbc**	11 17 12.5	+0.6
LANS	**Liptovska Anna**	149.00	336	*e*PKP		**PKiKP**	11 17 13.4	+0.4
LANS				*e*			11 17 19.0	
UPC	**Upice**	149.05	341⇑	*e*PKP		**PKPbc**	11 17 12.6	+0.5
DPC	**Dobruska-Polom**	149.09	340⇑	*e*PKP		**PKPbc**	11 17 12.9	+0.6
CLL	**Collm**	149.16	345	*e*PKPdf		**PKPdf**	11 17 07.0	-0.3
CLL				*i* PKPbc		**PKPbc**	11 17 12.3	0.0
	comp=Z,34nm,1.0s							
CLL				*i* PKiKP		**PKiKP**	11 17 14.4	+1.2
CLL				*i* PKPab		**PKPab**	11 17 18.5	-0.7
	comp=Z,6.0nm,0.8s							
KRLC	**Kraliky**	149.18	339⇑	*e*PKP		**PKPbc**	11 17 12.8	+0.3
MORC	**Moravsky Berou**	149.18	338	⇓P		**PKPbc**	11 17 13.2	+0.7
MORC	**Moravsky Berou**	149.18	338	*e*PKP		**PKPbc**	11 17 12.8	+0.3
VOIR		149.20	325	⇓P		**PKPbc**	11 17 12.3	-0.5
CLZ	**Clausthal**	149.23	348	*e*PKPbc		**PKPbc**	11 17 13.1	+0.6
	baz=21,slow=2.4							
BRG	**Berggiesshubel**	149.31	343	*i* PKP		**PKPbc**	11 17 13.2	+0.4
BRG				Amp			11 17 14.0	
	comp=Z,19nm,0.9s							
BRG	**Berggiesshubel**	149.31	343	P		**PKPab**	11 17 20.4	+0.5
BRG				Amp			11 17 20.7	
	comp=Z,8.9nm,0.8s							
BRG	**Berggiesshubel**	149.31	343	*e*PKPbc		**PKPbc**	11 17 13.3	+0.6
	baz=21,slow=2.4							
FBE	**Freiberg**	149.42	344	*e*PKPbc		**PKPbc**	11 17 13.6	+0.6
	baz=21,slow=2.4							
MAUC	**Maruska**	149.43	338⇑	*e*PKP		**PKPbc**	11 17 13.9	+0.8
MAUC			⇑	*e*PKP		**PKPbc**	11 17 14.0	+0.8
ARR	**Arges**	149.46	326	⇓P		**PKiKP**	11 17 14.9	+0.7
RICC	**Richard**	149.57	343⇑	*e*PKP		**PKPbc**	11 17 14.0	+0.7
GTTG	**Gottingen**	149.59	348	*e*PKPbc		**PKPbc**	11 17 13.6	+0.3
	baz=21,slow=2.4							
HSKC	**Hora Svate Kat**	149.69	344⇑	*e*PKP		**PKPbc**	11 17 14.0	+0.3
VYHS	**Vyhne**	149.78	336	*e*PKP		**PKPbc**	11 17 14.2	+0.3
LOT	**Lotru**	149.86	326	⇓P		**PKPbc**	11 17 14.0	-0.4
VRAC	**Vranov**	149.90	339	⇓P		**PKPbc**	11 17 14.8	+0.6
VRAC	**Vranov**	149.90	339	*e*PKP		**PKPbc**	11 17 14.3	+0.1
VRAC				*e*			11 17 23.3	
JAVC	**Velka Javorina**	149.91	337	*e*PKP		**PKiKP**	11 17 15.6	+0.7
GOPC	**GO Pecny, Ondr**	149.94	342⇑	*e*PKP		**PKPbc**	11 17 14.6	+0.3
PRU	**Pruhonice**	149.94	342⇑	*e*PKP		**PKPbc**	11 17 14.5	+0.3
MOX	**Moxa**	150.10	346	*e*PKPbc		**PKPbc**	11 17 14.9	+0.3
	baz=21,slow=2.4							
TANN	**Tannenbergstha**	150.11	345	*e*PKPbc		**PKPbc**	11 17 14.9	+0.2
	baz=21,slow=2.4							
WERD	**Werda**	150.12	345	*e*PKPbc		**PKPbc**	11 17 15.1	+0.4
	baz=21,slow=2.4							
PLN	**Plauen**	150.12	345	*e*PKPbc		**PKPbc**	11 17 14.8	+0.1
	baz=21,slow=2.4							
KRUC	**Moravsky**	150.18	339	*e*PKP		**PKPbc**	11 17 14.9	+0.1
KRUC				*e*			11 17 24.1	
KASTN	**Kahler Asten**	150.19	350	*e*PKPbc		**PKPbc**	11 17 14.9	+0.1
	baz=21,slow=2.4							
GUNZ	**Gunzen**	150.19	345	*e*PKPbc		**PKPbc**	11 17 15.4	+0.5
	baz=21,slow=2.4							
WERN	**Wernitzgruen**	150.25	345	*e*PKPbc		**PKPbc**	11 17 15.7	+0.7
	baz=21,slow=2.4							
UBBA	**Unterbreizbach**	150.28	348	*e*PKPbc		**PKPbc**	11 17 14.8	-0.1
	baz=21,slow=2.4							
NKC	**Novy Kostel**	150.28	345⇑	*e*PKP		**PKPbc**	11 17 15.7	+0.6
SIRR	**Siria**	150.31	330	⇑P		**PKPbc**	11 17 15.6	+0.4
ELND	**Elena**	150.32	321	⇑P		**PKPbc**	11 17 15.6	+0.2
MODS	**Modra-Piesok**	150.46	337	*e*PKP		**PKPbc**	11 17 16.2	+0.7
SURR	**Surduc**	150.46	329	⇓P		**PKPbc**	11 17 15.7	+0.1
ZVC	**Zvikov**	150.54	342⇑	*e*PKP		**PKPbc**	11 17 16.0	+0.3
ZVC				*e*PKPAB		**PKPab**	11 17 26.1	+1.0
MANZ	**Manzenberg**	150.60	345	*e*PKPbc		**PKPbc**	11 17 16.2	+0.4
	baz=21,slow=2.4							
SRE	**Strehaia**	150.69	326	⇓P		**PKPbc**	11 17 16.8	+0.7
PLVB	**Pleven**	150.76	323	⇑P		**PKPbc**	11 17 16.3	-0.1
BZS	**Buzias**	150.81	329	⇑P		**PKPbc**	11 17 16.1	-0.3
HERR	**Herculane**	150.94	327	⇑P		**PKPbc**	11 17 16.4	-0.3
KHC	**Kasperske Hory**	150.99	342			**PKPbc**	11 17 17.1	+0.3
KHC				PKPab		**PKPab**	11 17 27.9	+0.8
KHC	**Kasperske Hory**	150.99	342⇑	*e*PKP		**PKPbc**	11 17 16.9	+0.1
KHC				*e*PKPAB		**PKPab**	11 17 27.4	+0.3
CKRC	**Cesky Krumlov**	151.06	341⇑	*e*PKP		**PKPbc**	11 17 17.2	+0.3
MEM	**Membach**	151.10	353	*d*PKP		**PKPbc**	11 17 16.8	-0.1
BTNL	**Ternell**	151.11	353	*d*PKP		**PKPbc**	11 17 16.9	0.0
TNS	**Taunus Mts**	151.13	349	*e*PKPbc		**PKPbc**	11 17 17.3	+0.3
	baz=21,slow=2.4							
BSTI	**Sart Tilman**	151.18	353	*d*PKP		**PKPbc**	11 17 17.3	+0.2
GEC2	**GERESS Array S**	151.21	342	PKPdf		**PKPdf**	11 17 11.1	+0.4
GEC2						**PKPbc**	11 17 17.1	-0.2
GEC2				PKPab		**PKPab**	11 17 28.5	+0.4
GERES	**GERESS Array B**	151.21	342	PKPbc		**PKPbc**	11 17 17.2	-0.1
	comp=Z,6.4nm,0.7s,baz=30,slow=3.5,SNR=13							
GERES				PKPab		**PKPab**	11 17 27.4	-0.7
	comp=Z,4.9nm,0.4s,baz=15,slow=4.1,SNR=2.5							
CONA	**Conrad Observa**	151.34	338	*i* PKP		**PKPbc**	11 17 17.8	+0.2
	comp=Z,9.4nm,0.7s							
MDVR	**Moldovita**	151.36	328	⇑P		**PKPbc**	11 17 17.7	0.0
RONA	**Rosalia, Austr**	151.38	338	*i* PKP		**PKPbc**	11 17 17.7	0.0
	comp=Z,14nm,0.5s							
BMRD	**Maredsous**	151.53	354	*d*PKP		**PKPbc**	11 17 18.1	+0.3
BLKB	**Belogradchik**	151.67	325	⇑P		**PKPdf**	11 17 15.2	+3.7
DOU	**Dourbes**	151.75	355	*d*PKP		**PKPbc**	11 17 18.3	0.0
WLF	**Walferdange**	152.01	352	*d*PKP		**PKPbc**	11 17 19.1	+0.2
ARSA	**Arzberg**	152.04	338	*e*PKP		**PKiKP**	11 17 19.8	+0.5
	comp=Z,17nm,0.7s							
BIOA	**Bachi, Aus**	152.27	341	*e*PKP		**PKPbc**	11 17 19.6	0.0
	comp=Z,1.8nm,0.5s							
SOKA	**Soboth**	152.70	338	*i* PKP		**PKPbc**	11 17 20.0	-0.6
	comp=Z,1.2nm,0.5s							
LESA	**Schwarzleotal**	152.79	342	*i* PKP		**PKPbc**	11 17 20.6	-0.3
	comp=Z,2.5nm,0.5s							
KBA	**Koelnbreinsper**	152.90	341	*e*PKP		**PKPbc**	11 17 20.1	-1.1
	comp=Z,1.2nm,0.4s							
OBKA	**Obir**	153.01	338	*e*PKP		**PKPbc**	11 17 21.9	+0.5
	comp=Z,3.2nm,0.9s							
WATA	**Walderalm**	153.18	343	*i* PKP		**PKPbc**	11 17 21.4	-0.3
	comp=Z,2.6nm,0.6s							
MYKA	**Terra Mystica**	153.21	340	*i* PKP		**PKPbc**	11 17 20.8	-1.0
	comp=Z,2.6nm,0.4s							
WTTA	**Wattenberg**	153.23	343	*i* PKP		**PKPbc**	11 17 21.6	-0.3
	comp=Z,4.6nm,0.4s							
RETA	**Reutte**	153.25	345	*e*PKP		**PKiKP**	11 17 22.5	+0.7
	comp=Z,1.2nm,0.6s							
MOTA	**Moosalm**	153.30	344	*i* PKP		**PKPbc**	11 17 21.7	-0.3
	comp=Z,7.1nm,1.1s							
VNDS	**Vrh nad Dolski**	153.31	338	*i* PKPdf		**PKPbc**	11 17 21.5	-0.4
SQTA	**Sankt Quirin**	153.38	344	*i* PKP		**PKPbc**	11 17 21.6	-0.6
	comp=Z,2.3nm,0.6s							
LJU	**Ljubljana**	153.43	338	*i* PKPbc		**PKPbc**	11 17 21.8	-0.3
ABTA	**Abfaltersbach**	153.45	341	*i* PKP		**PKPbc**	11 17 21.3	-1.0
	comp=Z,4.4nm,0.5s							
CRNS	**Crni Vrh**	153.49	338	*i* PKPdf		**PKPbc**	11 17 21.6	-0.7
DAVA	**Damuels**	153.65	346	*e*PKP		**PKPbc**	11 17 23.2	+0.4
	comp=Z,2.9nm,0.5s							
ESDC	**Sonseca Array**	161.94	11			**PKPab**	11 18 14.4	-0.2
ESDC	**Sonseca Array**	161.94	11	PKPab		**PKPab**	11 18 14.0	-0.6
	comp=Z,2.8nm,1.0s,baz=336,slow=5.5,SNR=9.5							
LIC	**Lamto**	163.44	160⇑	*e*PKIKP		**PKPdf**	11 17 26.0	-0.6
	comp=Z,16nm,0.9s							
LIC	**Lamto**	163.44	160⇑	*i*PKP1		**PKPab**	11 18 23.0	+1.3
	comp=Z,23nm,0.7s							
KIC	**Kosan Boka**	163.65	161⇑	*e*PKIKP		**PKPdf**	11 17 26.2	-0.7
	comp=Z,11nm,0.8s							
KIC	**Kosan Boka**	163.65	161⇑	*e*PKP1		**PKPab**	11 18 23.5	+0.8
	comp=Z,12nm,0.6s							
TIC	**Toumodi**	163.83	160⇑	*i*PKIKP		**PKPdf**	11 17 26.3	-0.7
	comp=Z,8.3nm,0.7s							
TIC	**Toumodi**	163.83	160	⇓*i*PKP1		**PKPab**	11 18 24.4	+0.9
	comp=Z,10nm,0.7s							
DBIC	**Dimbokro**	163.91	160	PKP		**PKPdf**	11 17 26.7	-0.4
	comp=Z,2.2nm,0.5s,baz=180,slow=1.9,SNR=4.8							
DBIC				PKPab		**PKPab**	11 18 24.5	+0.7
	comp=Z,2.3nm,0.8s,baz=182,slow=6.5,SNR=6.6							
TORD	**Torodi Ar. Bea**	171.16	187	PKP		**PKPdf**	11 17 31.3	-0.8
	comp=Z,2.1nm,0.8s,baz=5.2,slow=1.4,SNR=13							
TORD				PKPab		**PKPab**	11 18 56.2	+0.4
	comp=Z,1.5nm,0.8s,baz=160,slow=2.6,SNR=8.7							

*IDC **30** 11:18:44.6±2.1,47.6°N×152.2°E±0.1,h178km±19km, mb3.3/18, mbtmp3.7/20, Error ellipse: s-maj=17.4km s-min=12.0km az=147.0*

ISC 30 11:18:41.7±0.8, 47.5°N±0.1°×152.2°E±0.1°, h150km, n26, σ1§46/21, mb3.5/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	6.65	30	P		**Pn**	11 20 18.0	+1.1
	2.1nm,0.5s,baz=204,slow=11,SNR=11							
PETK				S		**Sn**	11 21 35.6	+4.0
	3.7nm,0.9s,baz=233,slow=18,SNR=2.4							
ASAJ	**Asahikawa**	7.50	247	P		**Pn**	11 20 31.3	+3.0
	5.1nm,0.7s,baz=58,slow=16,SNR=4.7							
H11N2	**WAKE ISLAND Hy**	30.17	152	T		T	11 56 25.8	
	baz=341,slow=74							
H11N1	**WAKE ISLAND Hy**	30.18	152	T		T	11 56 28.9	
	baz=341,slow=74							
H11N3	**WAKE ISLAND Hy**	30.18	152	T		T	11 56 26.2	
	baz=341							
H11S1	**WAKE ISLAND Hy**	31.25	153	T		T	11 57 50.4	
	baz=342,slow=76,SNR=12							
H11S3	**WAKE ISLAND Hy**	31.26	153	T		T	11 58 06.3	
	baz=342,slow=76,SNR=11							
H11S2	**WAKE ISLAND Hy**	31.27	153	T		T	11 57 59.8	
	baz=342,slow=76,SNR=8.0							
ILAR	**Eielson Array**	36.38	39	P		**P**	11 25 29.2	-1.8
	0.1nm,0.3s,baz=251,slow=7.0,SNR=6.5							
	0.1nm,0.3s							
ZALV	**Zalesovo Beam**	41.67	305	P		**P**	11 26 13.8	-1.2
	0.2nm,0.3s,baz=60,slow=8.9,SNR=2.0							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	46.04	296	P		**P**	11 26 49.4	-0.6
	0.4nm,0.7s,baz=66,slow=11,SNR=2.8							
	0.4nm,0.7s							
KURBB	**Kurchatov Arra**	46.52	303	P		**P**	11 26 52.9	-0.8
	1.5nm,0.2s,baz=62,slow=8.9,SNR=3.2							
	1.5nm,0.2s							
BVAR	**Borovoye Array**	49.90	309	P		**P**	11 27 19.0	-0.6
	0.4nm,0.4s,baz=31,slow=8.7,SNR=3.5							
	0.4nm,0.4s							
YKA	**Yellowknife Ar**	50.72	37	P		**P**	11 27 25.6	+0.1
	0.3nm,0.5s,baz=297,slow=7.4,SNR=6.6							
	0.3nm,0.5s							
CMAR	**Chiang Mai Arr**	51.93	255	P		**P**	11 27 35.1	-0.1
	0.4nm,0.3s,baz=30,slow=7.7,SNR=4.6							
	0.4nm,0.3s							
ARU	**Arti**	54.04	317	P		**P**	11 27 49.4	-0.7
	1.3nm,0.4s,baz=262,slow=20,SNR=2.0							
	1.3nm,0.4s							
NVAR	**Mina Array Bea**	62.66	62	P		**P**	11 28 50.3	-0.1
	0.2nm,0.5s,baz=283,slow=8.1,SNR=2.6							
	0.2nm,0.5s							
FINES	**FINESS Array B**	63.10	334	P		**P**	11 28 51.7	-0.

ANAR	**Anarak**	**4.40**	**71**	Pn	Pn	11 32 07.7 +2.2
IDMV	**Damavand**	**4.60**	**35**	Pn	Pn	11 32 10.3 +1.9
QSDN	**Sirdan**	**4.64**	**4**	Pn	Pn	11 32 11.5 +2.6
KLST	**Kelardasht - M**	**5.02**	**22**	Pn	Pn	11 32 16.1 +1.9
IFIR	**Firoozkooh**	**5.03**	**40**	Pn	Pn	11 32 16.1 +1.9
MZPU	**Pul - Mazandar**	**5.12**	**26**	Pn	Pn	11 32 18.1 +2.6

*IDC **30** 11:43:16.5±0.6,64.04N×149.19W,h0km,mb3.8/19, mbtmp3.8/23,ML3.5/4,MS3.4/7,Error ellipse: s-maj=11.5km s-min=8.9km az=143.0*

*AEIC **30** 11:43:16.3±2.3,63.80N±0.01×149.02W±0.05,h7km±5km, ML4.1,ML4.3/172(NEIC),Mwr4.0/122(NEIC),Error ellipse: s-maj=3.4km s-min=2.0km az=80.0*

*NEIC **30** 11:43:16.7,63.80N×149.02W,h6km*

*NEIC **30** 11:43:17.1±2.4,63.80N±0.01×149.00W±0.04,h10km±2km, Error ellipse: s-maj=3.3km s-min=3.0km az=254.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=0.07; Mθθ=0.93; Mϕϕ=1.00; Mrθ=0.22; Mθϕ=-0.23; Mϕr=0.38; Fault plane solution: M0=1.08000×10¹⁵ NP1:ϕs=37.86000°, δ89.87000°,λ23.71000°. NP2:ϕs=307.80000°,δ66.29000°, λ179.86000°. Principal axes: T 1.1269, Plg17.0000°, Azm265.0000°; N -0.0937, Plg66.0000°, Azm38.0000°; P -1.0332, Plg16.0000°, Azm170.0000°;*

ISC 30 11:43:16.8±0.9,63.82N±0.02×149.03W±0.02,h10km±6km, n539,σ1ϕ07/503,mb3.9/21,MS3.4/5,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MCK	**McKinley**	**0.10**	**155**			**Pg**	**11 43 19.9**	**+0.6**
MCK	**McKinley**	**0.10**	**155**	P		**Pg**	**11 43 18.4**	**-0.9**
	baz=331							
MCK				S		**Pg**	**11 43 20.0**	**+0.6**
	baz=331							
BWN	**Browne**	**0.40**	**331**			**Pg**	**11 43 24.3**	**-0.4**
BWN				IAML			11 43 33.0	
	comp=N,23μm,0.8s							
BWN				IAML			11 43 34.1	
	comp=E,23μm,0.7s							
BWN	**Browne**	**0.40**	**331**			**Sg**	**11 43 29.6**	**-0.4**
RND	**Reindeer**	**0.42**	**169**			**Pg**	**11 43 24.4**	**-0.7**
RND	**Reindeer**	**0.42**	**169**			**Sg**	**11 43 29.9**	**-0.8**
RND	**Reindeer**	**0.42**	**169**	IAML			11 43 30.1	
	comp=E,6μm,0.4s							
RND				IAML			11 43 30.3	
	comp=N,7μm,0.5s							
TRF	**Thorofare Moun**	**0.68**	**237**			**Pg**	**11 43 29.1**	**-0.8**
TRF				IAML			11 43 41.2	
	comp=N,10μm,0.6s							
TRF	**Thorofare Moun**	**0.68**	**237**	P		**Pg**	**11 43 29.1**	**-0.8**
	baz=56							
TRF				S		**Sg**	**11 43 38.5**	**-0.2**
	baz=56							
WRH	**Wood River Hil**	**0.77**	**32**			**Pg**	**11 43 31.2**	**-0.5**
NEA2	**Nenana**	**0.78**	**359**			**Pg**	**11 43 31.3**	**-0.5**
NEA2	**Nenana**	**0.78**	**359**			**Sb**	**11 43 42.7**	**-0.3**
NEA2	**Nenana**	**0.78**	**359**	P		**Pg**	**11 43 31.3**	**-0.5**
	baz=179							
NEA2				S		**Sb**	**11 43 42.7**	**-0.3**
	baz=179							
KTH	**Kantishna Hill**	**0.89**	**253**			**Pg**	**11 43 33.1**	**-0.8**
KTH				IAML			11 43 48.6	
	comp=E,8μm,0.5s							
BPAW	**Bear Paw Mtn.**	**0.91**	**289**			**Pg**	**11 43 33.7**	**-0.6**
BPAW	**Bear Paw Mtn.**	**0.91**	**289**			**Sn**	**11 43 47.8**	**-1.1**
BPAW	**Bear Paw Mtn.**	**0.91**	**289**	IAML			11 43 48.4	
	comp=E,7μm,0.5s							
BPAW				IAML			11 43 48.5	
	comp=N,25μm,0.8s							
BPAW	**Bear Paw Mtn.**	**0.91**	**289**	P		**Pg**	**11 43 33.5**	**-0.8**
	baz=107							
BPAW				S		**Sn**	**11 43 47.8**	**-1.1**
	baz=107							
CCB	**Clear Creek Bu**	**0.99**	**32**			**Pg**	**11 43 35.3**	**-0.5**
CCB	**Clear Creek Bu**	**0.99**	**32**			**Sb**	**11 43 49.1**	**0.0**
CCB	**Clear Creek Bu**	**0.99**	**32**	IAML			11 43 50.1	
	comp=E,15μm,0.6s							
CCB				IAML			11 43 50.2	
	comp=N,8μm,0.4s							
WAT7	**Susitna Watana**	**0.99**	**175**			**Pg**	**11 43 34.6**	**-1.3**
WAT1	**Susitna Watana**	**1.02**	**168**			**Pg**	**11 43 35.0**	**-1.3**
WAT1	**Susitna Watana**	**1.02**	**168**	P		**Pg**	**11 43 35.0**	**-1.3**
	baz=348							
DHY	**Denali Highway**	**1.05**	**135**			**Pg**	**11 43 35.9**	**-1.1**
DHY	**Denali Highway**	**1.05**	**135**			**Sg**	**11 43 49.0**	**-1.6**
DHY	**Denali Highway**	**1.05**	**135**	IAML			11 43 50.8	
	comp=E,4μm,0.6s							
DHY				IAML			11 43 52.2	
	comp=N,5μm,0.7s							
DHY	**Denali Highway**	**1.05**	**135**	P		**Pg**	**11 43 35.7**	**-1.3**
	baz=316							
HDA	**Harding Lake**	**1.09**	**56**			**Sg**	**11 43 51.3**	**-0.4**
HDA	**Harding Lake**	**1.09**	**56**	P		**Pg**	**11 43 36.4**	**-1.2**
	baz=238							
HDA				P		**Pg**	**11 43 36.4**	**-1.2**
	baz=238							
HDA				S		**Sg**	**11 43 51.3**	**-0.4**
	baz=238							
HDA				S		**Sg**	**11 43 51.3**	**-0.4**
	baz=238							
COLA	**College**	**1.18**	**25**			**Sg**	**11 43 53.7**	**-0.9**
COLA	**College**	**1.18**	**25**	P		**Pb**	**11 43 38.6**	**-0.6**
MDM	**Murphy Dome**	**1.20**	**16**			**Pb**	**11 43 39.0**	**-0.6**
IL31		**1.33**	**43**			**Pn**	**11 43 41.0**	**-0.5**
ILAR	**Eielson Array**	**1.33**	**43**			**Pn**	**11 43 41.2**	**-0.3**
ILAR	**Eielson Array**	**1.33**	**43**	Pg		**Pn**	**11 43 40.5**	**-1.0**
	comp=N,159nm,0.3s,baz=233,slow=16,SNR=1786							
ILAR				Lg		Lg	11 43 58.3	
	comp=N,824nm,0.3s,baz=230,slow=29,SNR=19							
ILAR				LR		LR	11 44 00.4	
	comp=N,694nm,21.6s,baz=303,slow=35							
I23K	**Minto, Yukon-K**	**1.34**	**354**			**Pn**	**11 43 41.2**	**-0.4**
I23K	**Minto, Yukon-K**	**1.34**	**354**	IAML			11 44 01.2	
	comp=E,5μm,0.7s							
I23K				IAML			11 44 01.6	
	comp=N,6μm,0.7s							
I23K	**Minto, Yukon-K**	**1.34**	**354**	P		**Pn**	**11 43 41.2**	**-0.4**
	baz=174							
WAT6	**Susitna Watana**	**1.37**	**154**			**Pn**	**11 43 41.1**	**-1.1**
WAT6	**Susitna Watana**	**1.37**	**154**	P		**Pn**	**11 43 41.1**	**-1.1**
	baz=335							
CAST	**Castle Rocks**	**1.42**	**255**			**Pn**	**11 43 41.8**	**-1.0**
CAST				IAML			11 44 03.2	
	comp=E,3μm,0.5s							
CAST	**Castle Rocks**	**1.42**	**255**	P		**Pn**	**11 43 41.7**	**-1.0**
	baz=72							
MLY	**Manley**	**1.43**	**329**			**Pn**	**11 43 42.6**	**-0.2**
MLY				IAML			11 44 02.6	
	comp=E,3μm,0.6s							
MLY				IAML			11 44 03.5	
	comp=N,3μm,0.6s							
MLY	**Manley**	**1.43**	**329**	P		**Pn**	**11 43 42.3**	**-0.5**
	baz=148							
K24K	**Donnelly Dome**	**1.44**	**89**			**Pn**	**11 43 42.9**	**-0.1**
K24K	**Donnelly Dome**	**1.44**	**89**	P		**Pn**	**11 43 42.9**	**-0.1**
	baz=272							
CHUM	**Lake Minchumin**	**1.46**	**274**			**Pn**	**11 43 42.5**	**-0.7**
CHUM	**Lake Minchumin**	**1.46**	**274**	P		**Pn**	**11 43 42.5**	**-0.7**
	baz=91							
POKR	**Poker Plat Res**	**1.47**	**27**	IAML			11 44 03.7	
	comp=E,3μm,0.8s							
POKR				IAML			11 44 04.2	
	comp=N,3μm,0.4s							
POKR	**Poker Plat Res**	**1.47**	**27**			**Pn**	**11 43 42.9**	**-0.5**
POKR	**Poker Plat Res**	**1.47**	**27**	P		**Pn**	**11 43 43.0**	**-0.5**
	baz=209							
CUT	**Chulitna**	**1.53**	**202**			**Pn**	**11 43 44.5**	**+0.3**
CUT	**Chulitna**	**1.53**	**202**	P		**Pn**	**11 43 44.5**	**+0.3**
	baz=21							
PPLA	**Purkeypile**	**1.70**	**238**			**Pn**	**11 43 46.0**	**-0.6**
PPLA	**Purkeypile**	**1.70**	**238**	P		**Pn**	**11 43 46.0**	**-0.6**
	baz=55							
J25K	**Salcha River,**	**1.79**	**62**			**Pn**	**11 43 47.1**	**-0.7**
J25K	**Salcha River,**	**1.79**	**62**	IAML			11 44 12.9	
	comp=E,3μm,0.8s							
J25K				IAML			11 44 16.6	
	comp=N,2μm,0.5s							
J25K	**Salcha River,**	**1.79**	**62**	P		**Pn**	**11 43 47.1**	**-0.7**
	baz=245							
PAX	**Paxson**	**1.81**	**116**			**Pn**	**11 43 48.4**	**+0.2**
PAX	**Paxson**	**1.81**	**116**	P		**Pn**	**11 43 47.5**	**-0.6**
	baz=300							
RIDG	**Independent Ri**	**1.86**	**91**			**Pn**	**11 43 50.2**	**+1.5**
RIDG				IAML			11 44 16.4	
	comp=N,3μm,0.8s							
RIDG	**Independent Ri**	**1.86**	**91**	P		**Pn**	**11 43 49.0**	**+0.2**
	baz=274							
I21K	**Tanana**	**1.87**	**318**			**Pn**	**11 43 48.6**	**-0.3**
I21K	**Tanana**	**1.87**	**318**	P		**Pn**	**11 43 48.6**	**-0.3**
	baz=136							
SML	**Sawmill**	**2.05**	**171**			**Pn**	**11 43 51.0**	**-0.3**
SML				IAML			11 44 20.1	
	comp=E,2μm,0.8s							
SML				IAML			11 44 23.9	
	comp=N,2μm,0.8s							
SML	**Sawmill**	**2.05**	**171**	P		**Pn**	**11 43 51.2**	**-0.2**
	baz=351							
GHO	**Glory Hole Cre**	**2.06**	**179**			**Pn**	**11 43 51.5**	**0.0**
GHO				IAML			11 44 25.2	
	comp=N,2μm,0.6s							
GHO				IAML			11 44 28.1	
	comp=E,1μm,0.7s							
H24K	**Noodor Dome**	**2.08**	**13**			**Pn**	**11 43 51.8**	**-0.1**
H24K	**Noodor Dome**	**2.08**	**13**	IAML			11 44 21.9	
	comp=E,2μm,1.0s							
H24K	**Noodor Dome**	**2.08**	**13**	P		**Pn**	**11 43 51.8**	**-0.1**
	baz=194							
M23K	**Glacier View**	**2.12**	**163**			**Pn**	**11 43 52.1**	**-0.2**
M23K	**Glacier View**	**2.12**	**163**	P		**Pn**	**11 43 52.1**	**-0.2**
	baz=344							
M22K	**Willow**	**2.13**	**194**			**Pn**	**11 43 52.2**	**-0.2**
M22K	**Willow**	**2.13**	**194**	P		**Pn**	**11 43 52.2**	**-0.2**
	baz=13							
SCM	**Sheep Creek Mo**	**2.14**	**158**			**Pn**	**11 43 52.9**	**+0.2**
SCM	**Sheep Creek Mo**	**2.14**	**158**	P		**Pn**	**11 43 52.8**	**+0.2**
	baz=339							
M24K	**Tolsona, Glenn**	**2.16**	**142**			**Pn**	**11 43 54.1**	**+1.2**
M24K	**Tolsona, Glenn**	**2.16**	**142**	P		**Pn**	**11 43 53.7**	**+0.8**
	baz=324							
SKT	**Skwentna**	**2.17**	**213**			**Pn**	**11 43 53.6**	**+0.5**
SKT				IAML			11 44 25.6	
	comp=E,2μm,0.6s							
SKT				IAML			11 44 34.9	
	comp=N,1μm,0.9s							
SKT	**Skwentna**	**2.17**	**213**	P		**Pn**	**11 43 53.5**	**+0.5**
	baz=30							
SCRK	**Sand Creek**	**2.23**	**84**			**Pn**	**11 43 53.4**	**-0.6**
SCRK				IAML			11 44 27.9	
	comp=E,2μm,0.4s							
SCRK	**Sand Creek**	**2.23**	**84**	P		**Pn**	**11 43 53.2**	**-0.8**
	baz=268							
PMR	**Palmer**	**2.24**	**181**	Pn		**Pn**	**11 43 54.0**	**+0.2**
PMR	**Palmer**	**2.24**	**181**	P		**Pn**	**11 43 54.4**	**+0.5**
PMR	**Palmer**	**2.24**	**181**	P		**Pn**	**11 43 54.1**	**+0.2**
	baz=0.9							
HARP	**HAARP**	**2.26**	**127**			**Pn**	**11 43 56.0**	**+1.7**
PRP	**Porcupine Dome**	**2.27**	**40**			**Pn**	**11 43 54.5**	**0.0**
PRP				IAML			11 44 29.2	
	comp=N,2μm,0.5s							
PRP				IAML			11 44 29.4	
	comp=E,2μm,0.4s							
PRP	**Porcupine Dome**	**2.27**	**40**	P		**Pn**	**11 43 54.3**	**-0.2**
	baz=223							
J20K	**Nowinta River**	**2.29**	**281**			**Pn**	**11 43 53.7**	**-0.8**
J20K	**Nowinta River**	**2.29**	**281**	IAML			11 44 31.6	
	comp=N,2μm,0.6s							
J20K				IAML			11 44 37.0	
	comp=E,2μm,0.6s							
J20K	**Nowinta River**	**2.29**	**281**	P		**Pn**	**11 43 53.7**	**-0.8**
	baz=97							
K20K	**Telida**	**2.30**	**261**			**Pn**	**11 43 53.7**	**-1.1**
K20K	**Telida**	**2.30**	**261**	IAML			11 44 37.9	
	comp=E,1μm,0.9s							
K20K	**Telida**	**2.30**	**261**	P		**Pn**	**11 43 53.7**	**-1.1**
	baz=76							
H22K	**Ishtalitna Cre**	**2.31**	**335**			**Pn**	**11 43 55.0**	**+0.1**
H22K	**Ishtalitna Cre**	**2.31**	**335**	P		**Pn**	**11 43 55.1**	**+0.1**
	baz=153							
KNK	**Knik Glacier**	**2.43**	**174**			**Pn**	**11 43 56.7**	**+0.1**
KNK				IAML			11 44 36.9	
	comp=N,1μm,0.7s							
KNK	**Knik Glacier**	**2.43**	**174**	P		**Pn**	**11 43 57.3**	**+0.7**
	baz=354							
H21K	**Melozitna Rive**	**2.46**	**320**			**Pn**	**11 43 56.6**	**-0.3**
H21K	**Melozitna Rive**	**2.46**	**320**	P		**Pn**	**11 43 56.6**	**-0.3**
	baz=137							
J26L	**Joseph Creek**	**2.49**	**72**			**Pn**	**11 43 57.0**	**-0.4**
J26L	**Joseph Creek**	**2.49**	**72**	IAML			11 44 35.0	
	comp=E,1μm,0.6s							
J26L				IAML			11 44 39.8	
	comp=N,1μm,0.6s							
J26L	**Joseph Creek**	**2.49**	**72**	P		**Pn**	**11 43 57.0**	**-0.4**
	baz=257							
SUA	**Susitna One**	**2.50**	**199**			**Pn**	**11 43 58.1**	**+0.5**
SUA	**Susitna One**	**2.50**	**199**	IAML			11 44 41.0	
	comp=N,1μm,0.7s							
SUA	**Susitna One**	**2.50**	**199**	P		**Pn**	**11 43 58.1**	**+0.5**
	baz=18							
MENT	**Mentasta**	**2.55**	**108**			**Pn**	**11 43 59.4**	**+1.2**
MENT	**Mentasta**	**2.55**	**108**	P		**Pn**	**11 44 00.2**	**+2.0**
I20K	**Naaghedeneel**	**2.57**	**295**			**Pn**	**11 43 58.1**	**-0.3**
I20K	**Naaghedeneel**	**2.57**	**295**	P		**Pn**	**11 43 58.1**	**-0.3**
	baz=110							
L20K	**Farewell, AK**	**2.58**	**241**			**Pn**	**11 43 57.4**	**-1.3**
L20K	**Farewell, AK**	**2.58**	**241**	P		**Pn**	**11 43 57.4**	**-1.3**
	baz=56							
STLK	**Strandline Lak**	**2.67**	**210**			**Pn**	**11 44 00.6**	**+0.7**
L26K	**Log Cabin Wild**	**2.67**	**105**			**Pn**	**11 44 00.2**	**+0.3**
L26K	**Log Cabin Wild**	**2.67**	**105**	P		**Pn**	**11 44 00.3**	**+0.3**
	baz=290							
M20K	**Styx River**	**2.71**	**226**			**Pn**	**11 44 00.9**	**+0.5**
M20K	**Styx River**	**2.71**	**226**	IAML			11 44 43.2	
	comp=E,1μm,0.9s							
M20K				IAML			11 44 45.3	
	comp=N,1μm,0.6s							
M20K	**Styx River**	**2.71**	**226**	P		**Pn**	**11 44 00.9**	**+0.5**
	baz=42							
KLU	**Klutina**	**2.74**	**147**			**Pn**	**11 44 03.2**	**+2.3**
KLU				IAML			11 44 40.7	
	comp=N,1μm,0.6s							
KLU				IAML			11 44 44.0	
	comp=E,1μm,0.9s							
KLU	**Klutina**	**2.74**	**147**	P		**Pn**	**11 44 01.7**	**+0.9**
	baz=330							
RC01	**Rabbit Creek A**	**2.76**	**187**			**Pn**	**11 44 02.6**	**+1.6**
RC01				IAML			11 44 41.0	
	comp=N,871nm,0.4s							
RC01				IAML			11 44 43.3	
	comp=E,868nm,0.6s							
RC01	**Rabbit Creek A**	**2.76**	**187**	P		**Pn**	**11 44 02.4**	**+1.3**
	baz=6.3							
WACK	**Wrangell Chich**	**2.83**	**128**			**Pn**	**11 44 04.2**	**+1.9**
WAZA	**Wrangell Mount**	**2.83**	**126**			**Pn**	**11 44 04.0**	**+1.6**
SPCG	**Spurr Capps Gl**	**2.89**	**210**			**Pn**	**11 44 03.9**	**+0.9**
J19K	**Poorman**	**2.92**	**276**			**Pn**	**11 44 02.6**	**-0.7**
J19K	**Poorman**	**2.92**	**276**	IAML			11 44 54.2	
	comp=E,1μm,0.9s							
J19K				IAML			11 44 55.5	
	comp=N,1μm,1.1s							
J19K	**Poorman**	**2.92**	**276**	P		**Pn**	**11 44 02.6**	**-0.7**
	baz=90							
WASW	**Wrangell South**	**2.92**	**128**			**Pn**	**11 44 05.5**	**+1.9**
G23K	**Bananza Creek**	**2.93**	**352**			**Pn**	**11 44 03.7**	**+0.2**
G23K	**Bananza Creek**	**2.93**	**352**	P		**Pn**	**11 44 03.7**	**+0.2**
	baz=172							
SPCP	**Crater Peak Br**	**2.94**	**211**			**Pn**	**11 44 04.4**	**+0.6**
IMAR	**Indian Mountai**	**2.96**	**319**	Pn		**Pn**	**11 44 03.2**	**-0.6**
G24K	**Hadweenzic Riv**	**2.96**	**12**			**Pn**	**11 44 03.9**	**0.0**
G24K	**Hadweenzic Riv**	**2.96**	**12**	IAML			11 44 54.1	
	comp=E,691nm,1.0s							
G24K				IAML			11 44 56.5	
	comp=N,820nm,1.0s							
G24K	**Hadweenzic Riv**	**2.96**	**12**	P		**Pn**	**11 44 03.9**	**0.0**
	baz=194							
SPCN	**Chakachatna No**	**2.99**	**211**			**Pn**	**11 44 05.3**	**+1.0**
SPNN	**North Nagishla**	**2.99**	**216**			**Pn**	**11 44 05.7**	**+1.3**
BGL	**Barrier Glacie**	**3.00**	**213**			**Pn**	**11 44 05.4**	**+0.9**
SPCR	**Spurr Chakacha**	**3.02**	**211**			**Pn**	**11 44 05.3**	**+0.7**
N20K	**Mount Spurr**	**3.02**	**211**	P		**Pn**	**11 44 05.3**	**+0.7**
	baz=28							
N25K	**Chitina, Valde**	**3.02**	**135**			**Pn**	**11 44 06.1**	**+1.4**
N25K	**Chitina, Valde**	**3.02**	**135**	P		**Pn**	**11 44 06.1**	**+1.4**
	baz=319							
H20K	**Anotleneega Mo**	**3.03**	**306**			**Pn**	**11 44 04.5**	**-0.3**
H20K	**Anotleneega Mo**	**3.03**	**306**	P		**Pn**	**11 44 04.5**	**-0.3**
	baz=121							
K27K	**Chicken**	**3.08**	**83**			**Pn**	**11 44 04.9**	**-0.6**
K27K	**Chicken**	**3.08**	**83**	IAML			11 44 59.6	
	comp=N,925nm,0.9s							
K27K	**Chicken**	**3.08**	**83**	P		**Pn**	**11 44 04.9**	**-0.6**
	baz=269							
GLI	**Glacier Island**	**3.09**	**162**			**Pn**	**11 44 06.8**	**+1.2**
GLI	**Glacier Island**	**3.09**	**162**	IAML			11 44 49.8	
	comp=N,650nm,0.5s							
GLI				IAML			11 44 50.9	
	comp=E,854nm,0.6s							
GLI	**Glacier Island**	**3.09**	**162**	P		**Pn**	**11 44 06.8**	**+1.2**
	baz=344							
M26K	**Nabesna, AK**	**3.09**	**115**			**Pn**	**11 44 07.0**	**+1.4**
M26K	**Nabesna, AK**	**3.09**	**115**	P		**Pn**	**11 44 07.0**	**+1.4**
	baz=300							
DIV	**Divide**	**3.09**	**149**			**Pn**	**11 44 06.9**	**+1.2**
L19K	**White Mountain**	**3.13**	**241**			**Pn**	**11 44 04.8**	**-1.3**
L19K	**White Mountain**	**3.13**	**241**	IAML			11 44 59.5	
	comp=E,1μm,1.1s							
L19K				IAML			11 45 02.0	
	comp=N,839nm,0.8s							
L19K	**White Mountain**	**3.13**	**241**	P		**Pn**	**11 44 04.8**	**-1.3**
	baz=56							
FYU	**Fort Yukon**	**3.19**	**28**			**Pn**	**11 44 07.2**	**+0.3**
FYU				IAML			11 45 00.7	
	comp=E,975nm,0.7s							
G25K	**Bearman Lake**	**3.20**	**21**			**Pn**	**11 44 07.2**	**+0.1**
G25K	**Bearman Lake**	**3.20**	**21**	P		**Pn**	**11 44 07.2**	**+0.1**
	baz=204							
CAPN	**Captain Cook N**	**3.22**	**199**			**Pn**	**11 44 06.2**	**-1.2**
TTA	**Tatalina**	**3.27**	**257**	Pn		**Pn**	**11 44 06.7**	**-1.5**
TTA				IAML			11 45 08.9	
	comp=N,464nm,0.6s							
TTA	**Tatalina**	**3.27**	**257**	P		**Pn**	**11 44 07.1**	**-1.1**
TTA	**Tatalina**	**3.27**	**257**	P		**Pn**	**11 44 06.6**	**-1.5**
	baz=71							
G22K	**Bettles**	**3.28**	**343**			**Pn**	**11 44 08.9**	**+0.7**
G22K	**Bettles**	**3.28**	**343**	P		**Pn**	**11 44 08.9**	**+0.7**
	baz=161							
G21K	**Allakaket**	**3.30**	**327**			**Pn**	**11 44 08.7**	**+0.2**
G21K	**Allakaket**	**3.30**	**327**	IAML			11 45 04.4	
	comp=N,765nm,0.6s							
G21K	**Allakaket**	**3.30**	**327**	P		**Pn**	**11 44 08.7**	**+0.2**
	baz=143							
FID	**Port Fidalgo**	**3.30**	**158**			**Pn**	**11 44 09.9**	**+1.3**
FID	**Port Fidalgo**	**3.30**	**158**	IAML			11 44 55.6	
	comp=E,672nm,0.7s							
FID				IAML			11 45 05.9	
	comp=N,622nm,0.6s							
L27K	**Beaver Creek,**	**3.32**	**100**			**Pn**	**11 44 08.4**	**-0.4**
L27K	**Beaver Creek,**	**3.32**	**100**	IAML			11 45 01.4	
	comp=N,442nm,0.7s							
L27K	**Beaver Creek,**	**3.32**	**100**	P		**Pn**	**11 44 08.6**	**-0.2**
	baz=286							
BCAR	**Beaver Creek A**	**3.34**	**100**	Pn		**Pn**	**11 44 08.3**	**-0.8**
O22K	**Cooper Landing**	**3.37**	**186**			**Pn**	**11 44 11.3**	**+2.0**
O22K	**Cooper Landing**	**3.37**	**186**	P		**Pn**	**11 44 11.1**	**+1.7**
	baz=5.1							
SLKM	**Skilak Lake**	**3.37**	**190**			**Pn**	**11 44 11.4**	**+1.9**
GLB	**Gilahina Butte**	**3.39**	**132**			**Pn**	**11 44 11.4**	**+1.6**
GLB	**Gilahina Butte**	**3.39**	**132**	IAML			11 44 59.6	
	comp=E,544nm,0.8s							
GLB				IAML			11 45 03.4	
	comp=N,523nm,0.8s							
J18K	**Innoko River**	**3.45**	**268**			**Pn**	**11 44 09.6**	**-1.0**
J18K	**Innoko River**	**3.45**	**268**	IAML			11 45 13.1	
	comp=N,431nm,0.8s							
J18K	**Innoko River**	**3.45**	**268**	P		**Pn**	**11 44 09.5**	**-1.0**
	baz=81							
COLD	**Coldfoot**	**3.46**	**352**			**Pn**	**11 44 10.9**	**+0.3**
COLD	**Coldfoot**	**3.46**	**352**	P		**Pn**	**11 44 10.9**	**+0.3**
	baz=172							
BMRM	**Bremner River**	**3.52**	**142**			**Pn**	**11 44 12.4**	**+0.7**
BMRM	**Bremner River**	**3.52**	**142**	P		**Pn**	**11 44 10.8**	**-0.9**
	baz=326							
GCSA	**Galena City Sc**	**3.55**	**289**			**Pn**	**11 44 11.6**	**-0.3**
GCSA	**Galena City Sc**	**3.55**	**289**	P		**Pn**	**11 44 11.6**	**-0.3**
	baz=102							
EGAK	**Eagle**	**3.56**	**71**			**Pn**	**11 44 11.9**	**-0.2**
EGAK	**Eagle**	**3.56**	**71**	P		**Pn**	**11 44 12.7**	**+0.7**
	baz=258							
M27K	**Edge Creek, AK**	**3.57**	**111**			**Pn**	**11 44 13.0**	**+0.8**
M27K	**Edge Creek, AK**	**3.57**	**111**	IAML			11 45 14.5	
	comp=E,470nm,0.9s							
M27K	**Edge Creek, AK**	**3.57**	**111**	P		**Pn**	**11 44 13.0**	**+0.8**
	baz=297							
H19K	**Roundabout Mou**	**3.62**	**302**			**Pn**	**11 44 12.6**	**-0.3**
H19K	**Roundabout Mou**	**3.62**	**302**	IAML			11 45 15.7	
	comp=N,418nm,1.1s							
H19K				IAML			11 45 18.1	
	comp=E,484nm,1.6s							
H19K	**Roundabout Mou**	**3.62**	**302**	P		**Pn**	**11 44 12.6**	**-0.3**
	baz=115							
RDT	**Redoubt**	**3.62**	**207**			**Pn**	**11 44 14.1**	**+1.1**
EYAK	**Cordova Ski Ar**	**3.62**	**153**			**Pn**	**11 44 14.6**	**+1.7**
EYAK	**Cordova Ski Ar**	**3.62**	**153**	P		**Pn**	**11 44 15.1**	**+2.2**
EYAK	**Cordova Ski Ar**	**3.62**	**153**	P		**Pn**	**11 44 14.6**	**+1.7**
	baz=336							
HIN	**Hinchinbrook I**	**3.63**	**160**			**Pn**	**11 44 14.1**	**+0.9**
HIN				IAML			11 45 19.6	
	comp=N,650nm,0.9s							
**I27

baz=121
BRLK Bradley Lake 4.17 193 Pn 11 44 21.9 +1.5
BRSE Bradley Lake S 4.17 192 Pn 11 44 22.5 +1.9
BRSE Bradley Lake S 4.17 192 P Pn 11 44 22.5 +1.9
baz=10
TGL Tana Glacier 4.22 134 Pn 11 44 22.1 +0.9
I28M Miner Creek 4.24 63 Pn 11 44 21.7 +0.2
I28M Miner Creek 4.24 63 IAML 11 45 35.8
comp=N,338nm,1.4s
I28M Miner Creek 4.24 63 P Pn 11 44 21.7 +0.2
baz=252
BERG Berg Lake 4.25 142 Pn 11 44 22.9 +1.3
KIAG Kiagna River 4.25 130 Pn 11 44 22.9 +1.2
H18K Honhosa River 4.25 292 Pn 11 44 21.7 +0.1
H18K Honhosa River 4.25 292 IAML 11 45 37.0
comp=N,255nm,1.5s
H18K Honhosa River 4.25 292 P Pn 11 44 21.7 +0.1
baz=104
IVE Iliamna Volcan 4.26 208 Pn 11 44 23.1 +1.4
DAWY Dawson 4.26 82 Pn Pn 11 44 21.9 +0.2
DAWY Dawson 4.26 82 P Pn 11 44 21.1 -0.6
baz=271
E23K Chandalar 4.26 357 Pn 11 44 22.6 +0.8
E23K Chandalar 4.26 357 P Pn 11 44 22.6 +0.8
baz=177
YUK2 White River 4.27 115 Pn 11 44 22.7 +0.7
E24K Your Creek 4.28 3 Pn 11 44 22.7 +0.7
E24K Your Creek 4.28 3 P Pn 11 44 22.7 +0.7
baz=183
F20K Avaraart Lake 4.28 322 Pn 11 44 22.9 +1.0
F20K Avaraart Lake 4.28 322 P Pn 11 44 22.9 +1.0
baz=136
G27K Doyon Strip 4.31 43 Pn 11 44 22.0 -0.4
G27K Doyon Strip 4.31 43 IAML 11 45 37.1
comp=E,254nm,0.8s
G27K IAML 11 45 39.0
comp=N,253nm,1.3s
G27K Doyon Strip 4.31 43 P Pn 11 44 22.0 -0.4
baz=229
ILS Iliamna Low So 4.32 208 Pn 11 44 25.0 +2.4
K17K Iditarod 4.33 259 Pn 11 44 21.6 -1.1
K17K Iditarod 4.33 259 IAML 11 45 46.6
comp=E,278nm,0.9s
K17K IAML 11 45 49.8
comp=N,298nm,1.0s
K17K Iditarod 4.33 259 P Pn 11 44 21.8 -0.9
baz=71
HOM Homer 4.36 198 Pn 11 44 26.2 +3.2
HOM Homer 4.36 198 P Pn 11 44 25.8 +2.7
baz=15
F26K Sheenjek River 4.38 25 Pn 11 44 23.4 +0.1
F26K Sheenjek River 4.38 25 P Pn 11 44 23.5 +0.1
baz=210
BARN Barnard Glacie 4.40 126 Pn 11 44 26.4 +2.5
O19K Port Alsworth 4.41 217 Pn 11 44 23.1 -0.6
O19K Port Alsworth 4.41 217 P Pn 11 44 24.6 +0.9
baz=32
YUK3 Moose Creek 4.43 114 Pn 11 44 25.4 +1.1
YUK3 Moose Creek 4.43 114 P Pn 11 44 25.4 +1.1
baz=301
CNPM China Poot 4.44 195 Pn 11 44 26.6 +2.5
KAIM Kayak Island 4.47 149 Pn 11 44 26.4 +1.8
KAIM Kayak Island 4.47 149 P Pn 11 44 26.1 +1.4
baz=333
E22K Anaktuvuk Pass 4.48 347 Pn 11 44 26.0 +1.3
E22K Anaktuvuk Pass 4.48 347 P Pn 11 44 26.0 +1.3
baz=164
N18K Kilae Creek 4.50 229 Pn 11 44 25.1 +0.1
N18K Kilae Creek 4.50 229 P Pn 11 44 25.1 +0.1
baz=42
E25K Arctic Village 4.54 17 Pn Pn 11 44 25.7 +0.1
E25K Arctic Village 4.54 17 P Pn 11 44 25.8 +0.2
baz=200
L17K Donlin 4.55 252 Pn 11 44 24.3 -1.4
L17K Donlin 4.55 252 P Pn 11 44 24.3 -1.4
baz=64
CTG Chitna Glacier 4.58 125 P Pn 11 44 28.1 +1.9
baz=312
M17K Holitna River 4.58 242 Pn 11 44 24.7 -1.3
M17K Holitna River 4.58 242 P Pn 11 44 25.0 -1.1
baz=54
CTGM Chitina Glacie 4.58 125 Pn 11 44 28.1 +1.8
Q23K Middleton Isla 4.59 163 Pn 11 44 28.6 +2.5
Q23K Middleton Isla 4.59 163 IAML 11 45 24.5
comp=N,326nm,2.0s
Q23K IAML 11 46 10.7
comp=E,302nm,1.9s
Q23K Middleton Isla 4.59 163 P Pn 11 44 28.6 +2.5
baz=345
MID Middleton Isla 4.59 163 Pn 11 44 28.6 +2.5
MID Middleton Isla 4.59 163 P Pn 11 44 29.3 +3.1
GRNC Granite Creek 4.60 129 Pn 11 44 27.2 +0.7
BARK Barkley Ridge 4.60 135 Pn 11 44 27.9 +1.5
G18K Tagagawik 4.61 301 Pn 11 44 26.8 +0.4
G18K Tagagawik 4.61 301 P Pn 11 44 26.8 +0.4
baz=112
P19K Oil Pt 4.63 207 Pn 11 44 28.8 +1.9
P19K Oil Pt 4.63 207 IAML 11 45 43.2
comp=N,327nm,0.8s
P19K IAML 11 45 53.8
comp=E,266nm,0.8s
P19K Oil Pt 4.63 207 P Pn 11 44 28.8 +1.9
baz=24
SNH Sunshine Point 4.67 139 Pn 11 44 29.2 +1.8
F19K Shaleruckik Mo 4.75 313 Pn 11 44 28.3 -0.1
F19K Shaleruckik Mo 4.75 313 IAML 11 45 56.3
comp=E,222nm,0.7s
F19K Shaleruckik Mo 4.75 313 P Pn 11 44 28.6 +0.2
baz=126
LOGN Logan Glacier 4.80 125 Pn 11 44 28.7 -0.5
TOLK Toolik Lake Re 4.85 358 Pn Pn 11 44 31.4 +1.5
TOLK IAML 11 45 30.2
comp=E,203nm,0.9s
TOLK IAML 11 45 30.9
comp=N,242nm,0.7s
TOLK Toolik Lake Re 4.85 358 P Pn 11 44 31.3 +1.5
baz=177
H17K Granite Mounta 4.86 288 Pn 11 44 30.3 +0.4
H17K Granite Mounta 4.86 288 IAML 11 45 55.3
comp=E,172nm,0.7s
H17K Granite Mounta 4.86 288 P Pn 11 44 30.3 +0.4
baz=98
I29M Ogilvie Camp, 4.87 67 Pn 11 44 29.9 -0.1
I29M Ogilvie Camp, 4.87 67 IAML 11 45 52.1
comp=N,276nm,1.0s
I29M IAML 11 45 56.6
comp=E,252nm,0.9s
I29M Ogilvie Camp, 4.87 67 P Pn 11 44 30.5 +0.5
baz=256
L29M L29M 4.94 93 Pn 11 44 30.9 -0.2
L29M L29M 4.94 93 P Pn 11 44 30.9 -0.2
baz=283
O18K Koktuh Hills 4.94 219 Pn 11 44 31.8 +0.8
O18K Koktuh Hills 4.94 219 IAML 11 45 55.4
comp=N,197nm,0.6s
O18K IAML 11 46 07.2
comp=E,160nm,1.1s
O18K Koktuh Hills 4.94 219 P Pn 11 44 31.8 +0.8
baz=34
YUK8 Steele Glacier 4.98 117 Pn 11 44 33.9 +2.0
YUK8 Steele Glacier 4.98 117 P Pn 11 44 33.9 +2.0
baz=305
E19K Redstone River 4.99 321 Pn 11 44 32.6 +1.0
M29M Somme Creek 4.99 101 Pn 11 44 31.8 0.0
M29M Somme Creek 4.99 101 P Pn 11 44 31.8 0.0
baz=291
N17K Nushagak Hills 5.05 233 Pn 11 44 32.5 0.0
N17K Nushagak Hills 5.05 233 P Pn 11 44 32.6 0.0
baz=46
E21K Killik River 5.06 339 Pn 11 44 34.0 +1.3
E21K Killik River 5.06 339 P Pn 11 44 34.0 +1.3
baz=154
K29M Barlow Dome 5.09 85 Pn 11 44 33.3 0.0
K29M Barlow Dome 5.09 85 P Pn 11 44 33.3 0.0
baz=275
H29M Whitestone 5.12 57 Pn 11 44 33.5 0.0
H29M Whitestone 5.12 57 P Pn 11 44 33.5 0.0
baz=247
I17K Unalakleet 5.16 276 P Pn 11 44 34.2 +0.2
baz=86
J16K Anvik River 5.20 269 Pn 11 44 33.5 -1.2
J16K Anvik River 5.20 269 P Pn 11 44 33.5 -1.2
baz=79
D23K Nanushuk River 5.21 353 Pn 11 44 36.6 +1.9
D23K Nanushuk River 5.21 353 P Pn 11 44 36.6 +1.9
baz=172
L16K Owhat River 5.25 251 Pn Pn 11 44 33.3 -1.9
L16K Owhat River 5.25 251 P Pn 11 44 33.6 -1.6
baz=62
G17K Kiwalik Mounta 5.27 294 Pn 11 44 35.6 0.0
G17K Kiwalik Mounta 5.27 294 P Pn 11 44 35.6 0.0
baz=103
D22K Ayikyak River 5.29 345 Pn 11 44 37.0 +1.2
D22K Ayikyak River 5.29 345 P Pn 11 44 37.0 +1.2
baz=162
E20K Nigu River 5.32 330 Pn 11 44 38.0 +1.7
E20K Nigu River 5.32 330 P Pn 11 44 38.0 +1.7
baz=144
E27K Coleen River 5.33 31 Pn 11 44 36.1 -0.2
E27K Coleen River 5.33 31 P Pn 11 44 36.1 -0.2
baz=218
D24K Happy Valley 5.36 1 Pn 11 44 38.3 +1.6
D24K Happy Valley 5.36 1 P Pn 11 44 38.3 +1.6
baz=181
F28M Old Crow 5.36 41 Pn 11 44 36.4 -0.4
F28M Old Crow 5.36 41 P Pn 11 44 36.4 -0.4
baz=229
SAMH Samovar Hills 5.37 130 Pn 11 44 38.7 +1.7
Q19K Cape Douglas, 5.39 206 Pn 11 44 39.5 +2.3
Q19K Cape Douglas, 5.39 206 P Pn 11 44 39.5 +2.3
baz=22
M16K Timber Creek 5.40 243 Pn 11 44 36.0 -1.4
M16K Timber Creek 5.40 243 P Pn 11 44 36.1 -1.2
baz=54
YUK4 Talbot Arm 5.40 113 P Pn 11 44 38.6 +1.1
baz=26
Q20K Shuyak Island 5.47 199 P Pn 11 44 39.1 +0.8
baz=16
SYI Shuyak Island 5.47 199 Pn 11 44 39.1 +0.8
G29M Pine Creek 5.55 51 Pn 11 44 39.3 -0.1
G29M Pine Creek 5.55 51 P Pn 11 44 39.3 -0.1
baz=241
O17K Koliganek Bris 5.58 227 Pn 11 44 39.9 +0.1
O17K Koliganek Bris 5.58 227 P Pn 11 44 39.9 +0.1
baz=40
J30M Hart River 5.60 77 Pn 11 44 40.2 0.0
J30M Hart River 5.60 77 P Pn 11 44 40.2 0.0
baz=268
D25K Kavik River 5.63 10 Pn 11 44 42.0 +1.5
D25K Kavik River 5.63 10 P Pn 11 44 42.0 +1.5
baz=192
I30M Mount Dempster 5.64 70 Pn 11 44 40.3 -0.4
I30M Mount Dempster 5.64 70 P Pn 11 44 40.3 -0.4
baz=261
N16K Nishlik Lake 5.67 238 Pn 11 44 40.7 -0.3
N16K Nishlik Lake 5.67 238 P Pn 11 44 40.7 -0.3
baz=49
M30M Minto, Yukon 5.67 97 Pn 11 44 40.7 -0.4
M30M Minto, Yukon 5.67 97 P Pn 11 44 40.7 -0.4
baz=288
YUK6 Outpost Mounta 5.74 115 Pn 11 44 44.4 +2.2
YUK6 Outpost Mounta 5.74 115 P Pn 11 44 44.4 +2.2
baz=305
D20K Etivluk River 5.79 331 Pn 11 44 43.9 +1.2
D20K Etivluk River 5.79 331 P Pn 11 44 43.5 +0.8
baz=145
F17K Baldwin Pennin 5.79 302 Pn 11 44 43.1 +0.5
F17K Baldwin Pennin 5.79 302 P Pn 11 44 43.1 +0.5
baz=111
EPYK Eagle Plains 5.79 58 P Pn 11 44 42.7 -0.1
baz=250
H16K Elim 5.82 284 Pn 11 44 43.0 -0.1
H16K Elim 5.82 284 P Pn 11 44 43.0 -0.1
baz=92
C21K Knifeblade Rid 5.83 339 Pn 11 44 44.7 +1.5
C21K Knifeblade Rid 5.83 339 P Pn 11 44 44.7 +1.5
baz=154
YUK5 Granite Creek 5.84 112 Pn 11 44 45.5 +2.0
P17K Kvichak River 5.84 221 Pn 11 44 44.4 +1.1
P17K Kvichak River 5.84 221 P Pn 11 44 44.4 +1.1
baz=34
MAYO Mayo, Yukon 5.84 86 Pn 11 44 43.2 -0.2
K15K Wolf Creek Mou 5.89 261 Pn 11 44 42.9 -1.1
K15K Wolf Creek Mou 5.89 261 P Pn 11 44 42.9 -1.1
baz=69
C24K Franklin Bluff 5.93 1 Pn 11 44 45.8 +1.3
C24K Franklin Bluff 5.93 1 P Pn 11 44 45.8 +1.3
baz=182
KAHC Katmai Hardscr 5.94 212 Pn 11 44 46.9 +2.1
Q18K Katmai Hardscr 5.94 212 P Pn 11 44 46.9 +2.1
baz=26
G16K Koyuk River 5.95 291 Pn 11 44 44.8 0.0
G16K Koyuk River 5.95 291 P Pn 11 44 44.8 0.0
baz=99
D19K Kuna River 5.96 326 Pn 11 44 46.2 +1.2
D19K Kuna River 5.96 326 P Pn 11 44 46.2 +1.2
baz=138
KAHG Katmai Hook Gl 5.97 209 Pn 11 44 47.7 +2.4
N30M Aishikik Lake 5.99 108 Pn 11 44 46.3 +0.8
N30M Aishikik Lake 5.99 108 P Pn 11 44 46.3 +0.8
baz=298
E18K Tukpahlearik C 6.00 312 Pn 11 44 46.4 +0.9
E18K Tukpahlearik C 6.00 312 P Pn 11 44 46.4 +0.9
baz=122
O16K Kokwok River B 6.04 230 Pn 11 44 46.2 +0.1
O16K Kokwok River B 6.04 230 P Pn 11 44 46.2 +0.1
baz=42
O29M Mount Kennedy 6.05 121 Pn 11 44 47.0 +0.7
O29M Mount Kennedy 6.05 121 P Pn 11 44 47.0 +0.7
baz=310
C23K Itkillik River 6.08 355 Pn 11 44 48.0 +1.5
C23K Itkillik River 6.08 355 P Pn 11 44 48.0 +1.5
baz=173
L15K Ungalak Mounta 6.11 255 Pn 11 44 45.9 -1.2
L15K Ungalak Mounta 6.11 255 P Pn 11 44 45.9 -1.2
baz=64
E28M Babbage River 6.14 34 Pn 11 44 47.1 -0.4
E28M Babbage River 6.14 34 P Pn 11 44 47.1 -0.4
baz=223
PNL Peninsula 6.18 128 P Pn 11 44 50.4 +2.3
G30M tAoh Zrail Nji 6.21 54 Pn Pn 11 44 49.2 +0.7
B21K Ikpikpuk River 6.23 342 Pn 11 44 49.2 +0.5
B21K Ikpikpuk River 6.23 342 P Pn 11 44 49.2 +0.5
baz=157
E17K Hotham Inlet 6.25 307 Pn 11 44 49.4 +0.4
E17K Hotham Inlet 6.25 307 P Pn 11 44 49.4 +0.4
baz=116
M15K Kasigluk River 6.28 245 Pn 11 44 48.6 -0.8
M15K Kasigluk River 6.28 245 P Pn 11 44 48.6 -0.8
baz=55
KDAK Kodiak Island 6.30 198 Pn Pn 11 44 50.1 +0.5
KDAK Kodiak Island 6.30 198 Pn Pn 11 44 50.3 +0.6
comp=E,2.6nm,0.3s,baz=60,slow=11,SNR=29
KDAK Sn Sn 11 45 59.6 -2.0
comp=E,5.6nm,0.3s,baz=138,slow=23,SNR=8.0
KDAK LR LR 11 47 35.7
comp=E,200nm,20.7s,baz=39,slow=40
comp=E,7.1nm,0.4s
D27M Malcolm River 6.32 27 Pn 11 44 50.4 +0.4
D27M Malcolm River 6.32 27 P Pn 11 44 50.4 +0.4
baz=214
C26K Camden Bay 6.33 13 Pn 11 44 51.3 +1.2
C26K Camden Bay 6.33 13 P Pn 11 44 50.8 +0.7
baz=197
N15K Kwethluk River 6.37 240 Pn 11 44 50.7 +0.1
N15K Kwethluk River 6.37 240 P Pn 11 44 50.7 +0.1
baz=50
ACHA Angle Creek He 6.40 211 Pn 11 44 52.0 +0.9
E29M Blow River 6.43 40 Pn 11 44 51.2 -0.3
E29M Blow River 6.43 40 P Pn 11 44 51.5 0.0
baz=230
ANCK Angle Creek 6.45 212 Pn 11 44 53.2 +1.3
N31M Braeburn, Yuko 6.54 105 Pn 11 44 53.7 +0.8
N31M Braeburn, Yuko 6.54 105 P Pn 11 44 53.7 +0.8
baz=297
G15K Niukluk 6.61 287 Pn 11 44 53.6 -0.2
G15K Niukluk 6.61 287 P Pn 11 44 53.6 -0.2
baz=94
J14K Nanvaranak Lak 6.64 267 Pn 11 44 53.7 -0.6
J14K Nanvaranak Lak 6.64 267 P Pn 11 44 53.7 -0.6
baz=74
F30M Barrier River 6.65 49 Pn 11 44 54.6 +0.2
F30M Barrier River 6.65 49 P Pn 11 44 54.6 +0.2
baz=241
B22K Teshekpuk Lake 6.77 347 Pn 11 44 57.0 +1.0
B22K Teshekpuk Lake 6.77 347 P Pn 11 44 57.0 +1.0
baz=163
M14K Bethel 6.77 249 Pn 11 44 55.5 -0.6
M14K Bethel 6.77 249 P Pn 11 44 55.5 -0.6
baz=57
C19K Lookout Ridge 6.78 326 Pn 11 44 57.1 +0.9
C19K Lookout Ridge 6.78 326 P Pn 11 44 57.1 +0.9
baz=136
L14K Kuka Creek 6.78 255 Pn 11 44 55.6 -0.5
L14K Kuka Creek 6.78 255 P Pn 11 44 55.6 -0.5
baz=62
R18K Karluk 6.81 205 Pn 11 44 57.3 +0.6
R18K Karluk 6.81 205 P Pn 11 44 57.3 +0.6
baz=21
M31M Drury Creek, Y 6.86 97 Pn 11 44 57.4 +0.1
M31M Drury Creek, Y 6.86 97 P Pn 11 44 57.4 +0.1
baz=290
D28M Stokes Point 6.88 32 Pn 11 44 58.1 +0.5
D28M Stokes Point 6.88 32 P Pn 11 44 58.1 +0.5
baz=222
C18K Utukok River 6.89 320 Pn 11 44 58.1 +0.3
C18K Utukok River 6.89 320 P Pn 11 44 58.1 +0.3
baz=129
G31M Satah River 6.90 57 Pn 11 44 57.1 -0.8
G31M Satah River 6.90 57 P Pn 11 44 57.3 -0.6
baz=250
F15K North Star Dit 6.94 293 Pn 11 44 58.5 0.0
F15K North Star Dit 6.94 293 P Pn 11 44 58.5 0.0
baz=99
OHAK Old Harbor 6.94 200 Pn 11 44 58.5 0.0
OHAK Old Harbor 6.94 200 P Pn 11 44 58.6 +0.1
OHAK Old Harbor 6.94 200 P Pn 11 44 58.5 0.0
baz=16
O15K Ungalikthiuk R 6.95 233 Pn 11 44 58.7 +0.1
O15K Ungalikthiuk R 6.95 233 P Pn 11 44 58.9 +0.3
baz=43
D17K Noatak River 6.97 310 Pn 11 44 59.4 +0.7
D17K Noatak River 6.97 310 P Pn 11 44 59.4 +0.7
baz=117
B20K Meade River 6.98 336 Pn 11 44 59.4 +0.4
B20K Meade River 6.98 336 P Pn 11 44 59.3 +0.4
baz=149
RDOG Red Dog Mine 7.08 313 Pn Pn 11 45 01.7 +1.4
ANM Nome 7.17 283 Pn 11 45 01.9 +0.3
ANM Nome 7.17 283 P Pn 11 45 01.9 +0.3
baz=89
FARO Faro, Yukon 7.30 96 Pn 11 45 02.9 -0.6
C17K DeLong Mountai 7.39 315 Pn 11 45 04.7 +0.1
C17K DeLong Mountai 7.39 315 P Pn 11 45 04.7 +0.1
baz=122
B18K Kokolik River 7.53 323 Pn 11 45 07.2 +0.8
B18K Kokolik River 7.53 323 P Pn 11 45 07.2 +0.8
baz=132
M13K Dall Lake 7.53 250 Pn 11 45 06.9 +0.4
M13K Dall Lake 7.53 250 P Pn 11 45 07.1 +0.6
baz=57
A22K Sinclair Lake 7.57 345 Pn 11 45 07.1 +0.2
A22K Sinclair Lake 7.57 345 P Pn 11 45 07.1 +0.2
baz=160
F14K Arctic Creek 7.61 290 Pn 11 45 07.7 +0.2
F14K Arctic Creek 7.61 290 P Pn 11 45 07.7 +0.2
baz=95
INK Inuvik 7.73 48 P Pn 11 45 09.8 +0.6
baz=242
INK Inuvik 7.73 48 Pn Pn 11 45 09.9 +0.6
comp=E,1.1nm,0.3s,baz=233,slow=17,SNR=25
INK Sn Sn 11 46 32.4 -4.3
comp=E,1.0nm,0.3s,baz=272,slow=13,SNR=3.1
INK Lg Lg 11 47 16.3
comp=E,1.2nm,0.3s,baz=328,slow=15,SNR=3.1
comp=E,5.6nm,0.4s
A19K Wainwright 7.94 329 Pn 11 45 12.5 +0.3
A19K Wainwright 7.94 329 P Pn 11 45 12.4 +0.3
baz=138
C16K Lisburne Hills 7.99 311 Pn 11 45 13.6 +0.8
C16K Lisburne Hills 7.99 311 P Pn 11 45 13.1 +0.4
baz=116
A21K Barrow 8.07 342 Pn 11 45 14.1 +0.3
A21K Barrow 8.07 342 P Pn 11 45 14.1 +0.3
baz=155
TNA Tin City 8.28 291 Pn 11 45 17.1 +0.4
TNA Tin City 8.28 291 P Pn 11 45 17.1 +0.4
baz=94
SIT Sitka 9.56 129 P Pn 11 45 37.4 +3.0
DLBC Dease Lake 10.63 112 Pn Pn 11 45 53.2 +4.2
baz=251,slow=13,SNR=1.8
DLBC Lg Lg 11 48 50.6
comp=E,0.4nm,0.3s,baz=9.2,slow=23,SNR=4.4
comp=E,1.8nm,0.8s
YKA Yellowknife Ar 15.49 79 Pn Pn 11 46 53.5 -1.5
comp=E,0.3nm,0.3s,baz=293,slow=21,SNR=27
YKA Lg Lg 11 51 24.9
baz=286,slow=35
YKA LR LR 11 53 14.0
comp=E,143nm,20.4s,baz=18,slow=38
comp=E,1.5nm,0.8s
RES Resolute Bay 21.08 37 P P 11 48 00.1 -0.6
comp=E,0.8nm,0.7s,baz=254,slow=7.4,SNR=2.1
comp=E,0.8nm,0.7s
EDM Edmonton 21.13 103 P P 11 48 04.3 +2.8
NEW Newport 23.30 117 LR LR 11 57 47.7
comp=E,71nm,18.3s,baz=352,slow=37
ELK Elko 30.37 123 LR LR 12 02 02.6
comp=E,70nm,18.1s,baz=158,slow=37
PDAR Pinedale Array 30.85 114 P P 11 49 35.8 +2.7
comp=E,0.8nm,0.9s,baz=344,slow=2.2,SNR=5.6
PDAR LR LR 12 02 19.1
comp=E,61nm,20.2s,baz=336,slow=37
comp=E,0.8nm,0.9s
ULM Lac du Bonnet 30.91 91 LR LR 12 01 45.7
comp=E,86nm,20.9s,baz=228,slow=36
NVAR Mina Array Bea 31.32 129 P P 11 49 40.5 +3.2
comp=E,0.7nm,0.7s,baz=317,slow=7.4,SNR=6.1
comp=E,0.7nm,0.7s
SPITS Spitsbergen Ar 37.96 5 P P 11 50 33.5 -0.4
comp=E,9.2nm,0.9s,baz=27,slow=9.7,SNR=1.1
comp=E,9.2nm,0.9s
KLR Kul'dur 43.02 289 P P 11 51 15.4 -0.6
comp=E,1.2nm,0.8s,baz=63,slow=8.3,SNR=3.0
comp=E,1.2nm,0.8s
TXAR Lajitas Array 44.85 118 P P 11 51 33.1 +2.1
comp=E,0.4nm,0.6s,baz=334,slow=7.2,SNR=6.0
comp=E,0.4nm,0.6s
ARCES ARCESS Array B 46.87 3 P P 11 51 46.6 +0.2
comp=E,3.2nm,0.9s,baz=350,slow=10,SNR=1.6
comp=E,3.2nm,0.9s
TKL Tuckaleechee C 47.83 94 LR LR 12 12 01.0
comp=E,131nm,19.7s,baz=350,slow=36
SONM Songino Array 54.05 306 P P 11 52 41.4 +0.2
comp=E,0.5nm,0.7s,baz=8.1,slow=6.4,SNR=5.0
comp=E,0.5nm,0.7s
NOA NORSAR Array B 54.57 12 P P 11 52 43.8 -0.7
comp=E,0.8nm,0.7s,baz=350,slow=7.3,SNR=2.4
comp=E,0.8nm,0.7s
FINES FINESS Array B 55.00 3 P P 11 52 47.2 -0.4
comp=E,1.9nm,0.8s,baz=329,slow=6.7,SNR=5.3
comp=E,1.9nm,0.8s
ZALV Zalesovo Beam 55.38 325 P P 11 52 50.3 -0.1
comp=E,0.2nm,0.4s,baz=26,slow=8.0,SNR=1.5
comp=E,0.2nm,0.4s
HHC Hu-ho-hao-te 58.07 298 eP P 11 53 09.8 -0.1
HHC pmax pmax
comp=Z,24nm,0.6s
HHC pmax pmax
comp=Z,79nm,4.0s
ARU Arti 58.21 342 P P 11 53 10.4 -0.1
comp=Z,0.7nm,0.3s,baz=55,slow=23,SNR=1.1
comp=Z,0.7nm,0.3s
EKA Eskdalemuir Ar 58.28 22 P P 11 53 10.6 -0.5
comp=Z,2.3nm,0.8s,baz=340,slow=7.1,SNR=3.5
comp=Z,2.3nm,0.8s
BVAR Borovoye Array 59.52 334 P P 11 53 19.1 -0.6
comp=Z,0.7nm,0.7s,baz=41,slow=14,SNR=4.3
comp=Z,0.7nm,0.7s
KURBB Kurchatov Arra 59.99 327 P P 11 53 23.1 +0.2
comp=Z,0.2nm,0.4s,baz=30,slow=7.1,SNR=1.9
KURBB PcP PcP 11 54 08.6 -0.3
comp=Z,0.4nm,0.6s,baz=33,slow=3.8,SNR=4.7
comp=Z,0.2nm,0.4s
MKAR Makanchi Array 62.57 323 P P 11 53 40.1 -0.4
comp=Z,0.3nm,0.6s,baz=48,slow=6.3,SNR=2.9
comp=Z,0.3nm,0.6s
WMQ Urumqi 63.76 318 eP P 11 53 54.5 +6.0
WMQ pmax pmax
comp=Z,11nm,0.7s
AKASG Malin Array Be 65.81 1 P P 11 54 01.4 -0.2
comp=Z,0.8nm,0.5s,baz=0.5,slow=6.5,SNR=4.8
comp=Z,0.8nm,0.5s
ESDC Sonseca Array 73.19 27 P P 11 54 47.9 +0.4
comp=Z,1.2nm,1.0s,baz=354,slow=6.7,SNR=4.3
comp=Z,1.2nm,1.0s
CMAR Chiang Mai Arr 82.87 298 P P 11 55 42.0 +0.5
comp=Z,0.4nm,0.6s,baz=19,slow=5.7,SNR=2.9

	comp=Z,0.4nm,0.6s							
VNDA	**Vanda**	**144.25**	**196**	PKP	PKPbc	12 02 49.8	+0.6	
	comp=Z,1.3nm,1.0s,baz=55,slow=15,SNR=2.1							
BOSA	**Boshof**	**144.59**	**9**	PKP	**PKPab**	**12 02 51.2**	**-0.4**	
	comp=Z,2.0nm,0.6s,baz=276,slow=3.6,SNR=4.6							
QSPA	**South Pole Qui**	**153.64**	**180**	PKPbc	**PKPbc**	**12 03 14.2**	**+0.2**	
	comp=Z,0.5nm,0.6s,baz=128,slow=4.5,SNR=1.9							

*NEIC **30** 12:14:18.0±1.2, 15°.0S±0°.1×167°.2E±0°.2, h85km±23km, mb4.0/7, Error ellipse: s-maj=24.1km s-min=17.4km az=80.0*

*IDC **30** 12:14:21.4±12.0, 15°.36S×165°.67E, h0km, mb4.0/3, mbtmp4.0/4, ML3.9/1, Error ellipse: s-maj=219.7km s-min=35.3km az=55.0*

*NOU **30** 12:14:25.3, 15°.41S×167°.99E, h104km, MLv4.3/12, Vanuatu Islands*

ISC 30 12:14:15.3±2.0, 14°.8S±0°.1×167°.1E±0°.2, h50km, n26, σ2s19/29, mb4.0/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**3.07**	**160**	P	**Pn**	**12 15 03.5**	**+2.1**
LIFNC	**LIFOU**	**5.92**	**179**	Pn	**Pn**	**12 15 39.6**	**-0.9**
LIFNC				Sn	**Sn**	**12 16 41.9**	**-5.0**
LIFNC	**LIFOU**	**5.92**	**179**	P	**Pn**	**12 15 41.6**	**+1.2**
KOUNC	**Koumac, New Ca**	**6.28**	**205**	Pn	**Pn**	**12 15 46.0**	**+0.6**
KOUNC				Sn	**Sn**	**12 16 56.5**	**+0.6**
KOUNC	**Koumac, New Ca**	**6.28**	**205**	P	Pn	12 15 55.2	+10
	20nm,1.5s						
YATNC	**Mamie plateau,**	**7.20**	**181**	P	**Pn**	**12 15 59.7**	**+1.7**
DZM	**Mont Dzumac**	**7.23**	**185**		**Pn**	**12 16 01.6**	**+3.1**
DZM				Sn	**Sn**	**12 17 20.3**	**+1.0**
DZM	**Mont Dzumac**	**7.23**	**185**	P	**Pn**	**12 16 02.5**	**+4.0**
DZM	**Mont Dzumac**	**7.23**	**185**	Pn	**Pn**	**12 16 01.7**	**+3.2**
	2.1nm,0.3s,baz=0.0,slow=20,SNR=100						
DZM				Sn	**Sn**	**12 17 18.5**	**-0.9**
	2.4nm,0.3s,baz=320,slow=22,SNR=10						
	3.9nm,0.3s						
NOUC	**Port Laguerre**	**7.27**	**186**	P	**Pn**	**12 16 03.6**	**+4.6**
ONTNC	**Ouen Toro**	**7.46**	**184**	Pn	**Pn**	**12 16 04.7**	**+3.1**
ONTNC				Sn	**Sn**	**12 17 23.7**	**-1.2**
OUENC	**Ouen Island, N**	**7.55**	**182**	Pn	**Pn**	**12 16 03.9**	**+1.0**
OUENC	**Ouen Island, N**	**7.55**	**182**	P	**Pn**	**12 16 06.1**	**+3.2**
PINNC	**Pines Island,**	**7.75**	**177**	Pn	**Pn**	**12 16 05.6**	**0.0**
PINNC	**Pines Island,**	**7.75**	**177**	P	**Pn**	**12 16 07.6**	**+2.0**
STKA	**Stephens Creek**	**28.79**	**229**	P	**P**	**12 20 07.5**	**-1.1**
STKA	**Stephens Creek**	**28.79**	**229**	P	**P**	**12 20 08.6**	**0.0**
	1.2nm,0.4s,baz=40,slow=8.6,SNR=4.8						
	1.2nm,0.4s						
WR0	**Warramunga Arr**	**31.43**	**256**	P	P	12 20 31.1	-1.0
WR0				IAmb	IAmb	12 21 13.3	
	comp=Z,4.7nm,1.3s						
WB0	**Warramunga Arr**	**31.56**	**256**	P	**P**	**12 20 33.0**	**-0.2**
WB0				IAmb	IAmb	12 20 46.0	
	comp=Z,4.5nm,1.2s						
WRAB	**Tennant Creek**	**31.61**	**256**	P	**P**	**12 20 32.8**	**-0.9**
WRAB				IAmb	IAmb	12 21 16.8	
	comp=Z,7.1nm,1.5s						
WRA	**Warramunga Arr**	**31.62**	**256**	P	**P**	**12 20 33.6**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=86,slow=9.1,SNR=12						
	comp=Z,0.4nm,0.5s						
AS31	**Alice Springs**	**32.46**	**249**	P	**P**	**12 20 40.5**	**-0.7**
AS31				IAmb	IAmb	12 20 41.8	
	comp=Z,0.9nm,0.4s						
ASAR	**Alice Springs**	**32.46**	**249**	P	**P**	**12 20 40.3**	**-0.9**
ASAR	**Alice Springs**	**32.46**	**249**	P	**P**	**12 20 41.1**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=75,slow=9.2,SNR=67						
	comp=Z,1.2nm,0.4s						
BBOO	**Buckleboo**	**33.37**	**232**	P	**P**	**12 20 48.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**39.81**	**259**	P	**P**	**12 21 43.3**	**-0.7**
FITZ				IAmb	IAmb	12 22 27.4	
	comp=Z,1.4nm,1.2s						

*ANF **30** 12:15:24.9±0.1, 34°.31N×116°.84W, h8km±1km, ML3.3/40, ML3.4/40, Error ellipse: s-maj=0.9km s-min=0.8km az=177.0*

*PAS **30** 12:15:25.5±1.1, 34°.316N±0°.006×116°.851W±0°.006, h2km±7km, ML3.2/321, ML3.0/78(NEIC), Error ellipse: s-maj=1.2km s-min=0.2km az=219.0*

*NEIC **30** 12:15:25.4±1.1, 34°.320N±0°.009×116°.845W±0°.006, h2km±8km, Error ellipse: s-maj=1.3km s-min=0.7km az=190.0*

ISC 30 12:15:25.0±0.8, 34°.31N±0°.01×116°.84W±0°.01, h8km±5km, n160, σ0s53/217, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIL	**Silver Peak**	**0.04**	**13**		**Pg**	**12 15 26.4**	**-0.5**
BBRC	**Big Bear Solar**	**0.08**	**237**	P	**Pg**	**12 15 27.3**	**0.0**
	baz=47,SNR=1000						
BBRC				S	**Sg**	**12 15 28.8**	**-0.2**
	baz=47						
CFT	**Crafton Hills**	**0.35**	**220**		**Pg**	**12 15 32.5**	**+0.6**
CFT					**Sb**	**12 15 38.0**	**-1.3**
HLNC	**Highland**	**0.36**	**240**		**Pg**	**12 15 32.5**	**+0.4**
HLNC					**Sb**	**12 15 38.2**	**-1.3**
GTM	**Goat Mountain**	**0.40**	**91**		**Pg**	**12 15 33.0**	**+0.2**
GTM					**Sg**	**12 15 38.8**	**+0.7**
BBSC	**Beaumont Base**	**0.40**	**197**		**Pb**	**12 15 33.7**	**-0.6**
BBSC					**Sb**	**12 15 39.5**	**-1.1**
CFSC	**Central Fire S**	**0.42**	**242**		**Pg**	**12 15 33.5**	**+0.4**
CFSC					**Sb**	**12 15 40.4**	**-0.8**
CFSC	**Central Fire S**	**0.42**	**242**		**Pb**	**12 15 33.9**	**-0.7**
DEVC	**Devers**	**0.43**	**149**		**Pb**	**12 15 34.4**	**-0.4**
DEVC					**Sb**	**12 15 40.9**	**-0.5**
BLAC	**Blackrock camp**	**0.44**	**122**		**Pb**	**12 15 34.4**	**-0.6**
BLAC					**Sg**	**12 15 40.3**	**+0.9**
CLTC	**Calectric**	**0.45**	**242**		**Pg**	**12 15 34.0**	**+0.2**
CLTC					**Sb**	**12 15 41.3**	**-0.7**
VTV	**Victorville**	**0.48**	**302**		**Pg**	**12 15 34.4**	**+0.1**
VTV					**Sg**	**12 15 40.8**	**+0.2**
PEC	**Perris**	**0.49**	**213**		**Pg**	**12 15 35.0**	**+0.5**
PEC					**Sg**	**12 15 41.9**	**+1.0**
EW2	**E Wide Canyon**	**0.51**	**135**		**Pb**	**12 15 35.7**	**-0.5**
EW2					**Sb**	**12 15 42.9**	**-0.9**
RSBC	**Riverside Bore**	**0.52**	**231**		**Pg**	**12 15 35.6**	**+0.5**
RSBC					**Sg**	**12 15 43.0**	**+1.0**
RSBC	**Riverside Bore**	**0.52**	**231**		**Pg**	**12 15 35.5**	**+0.5**
RSBC					**Sg**	**12 15 42.9**	**+1.0**
RVR	**Riverside**	**0.54**	**235**		**Pg**	**12 15 35.8**	**+0.3**
RVR					**Sg**	**12 15 43.3**	**+0.7**
ADO	**Adelanto Recei**	**0.55**	**297**		**Pg**	**12 15 35.6**	**-0.1**
ADO					**Sb**	**12 15 43.9**	**-1.1**
SS2	**San Sevaine**	**0.56**	**260**		**Pg**	**12 15 36.2**	**+0.5**
RRX	**Edison Barstow**	**0.58**	**347**		**Pg**	**12 15 36.6**	**+0.3**
RRX					**Sg**	**12 15 44.7**	**+0.9**
RRX	**Edison Barstow**	**0.58**	**347**	P	**Pg**	**12 15 36.6**	**+0.3**
	baz=168,SNR=25						
RRX				S	**Sg**	**12 15 44.8**	**+0.9**
	baz=168						
HMTC	**Hemet**	**0.61**	**193**		**Pg**	**12 15 37.3**	**+0.5**
HMTC					**Sb**	**12 15 46.0**	**-0.7**
POB	**Polly Butte**	**0.62**	**186**		**Pb**	**12 15 37.6**	**-0.5**
POB					**Sb**	**12 15 46.5**	**-0.5**
GVDA	**Garner Valley**	**0.65**	**168**		**Pg**	**12 15 37.9**	**+0.4**
GVDA					**Sb**	**12 15 47.0**	**-0.9**
HEC	**Hector,Ludlow**	**0.67**	**38**		**Pb**	**12 15 38.3**	**-0.6**
HEC					**Sg**	**12 15 47.3**	**+0.7**
HEC	**Hector,Ludlow**	**0.67**	**38**	P	**Pb**	**12 15 38.3**	**-0.6**
	baz=220,SNR=501						
HEC				S	**Sg**	**12 15 47.4**	**+0.7**
	baz=220						
DGR	**Domenigoni Val**	**0.67**	**192**		**Pg**	**12 15 38.3**	**+0.4**
DGR					**Sb**	**12 15 47.5**	**-0.8**
BFSC	**Mount Baldy Ra**	**0.68**	**265**		**Pg**	**12 15 38.3**	**+0.1**
BFSC					**Sg**	**12 15 47.5**	**+0.4**
BFSC	**Mount Baldy Ra**	**0.68**	**265**	P	**Pg**	**12 15 38.3**	**+0.1**
	baz=83,SNR=295						
BFSC				S	**Sg**	**12 15 47.5**	**+0.4**
	baz=83						
TPC	**Twentynine Pal**	**0.69**	**107**		**Pb**	**12 15 38.8**	**-0.4**
BACC	**Bachelor Mtn.**	**0.71**	**194**		**Pg**	**12 15 39.0**	**+0.3**
BACC					**Sg**	**12 15 48.3**	**+0.4**
SSK	**Sunset Peak**	**0.71**	**263**		**Pg**	**12 15 39.0**	**+0.3**
CRNC	**Corona**	**0.74**	**235**		**Pg**	**12 15 39.2**	**0.0**
CRNC					**Sg**	**12 15 48.6**	**-0.2**
CRY	**Cary Ranch**	**0.74**	**173**		**Pb**	**12 15 39.8**	**-0.4**
CRY					Pn	12 15 49.8	+7.9
PMD	**Palm Desert**	**0.76**	**150**		**Pg**	**12 15 39.7**	**+0.1**
PMD	**Palm Desert**	**0.76**	**150**		**Sg**	**12 15 50.1**	**+0.6**
BELC	**Belle Mtn. Jos**	**0.76**	**113**		**Pb**	**12 15 40.2**	**-0.3**
BELC					Pn	12 15 49.8	+7.7
BELC	**Belle Mtn. Jos**	**0.76**	**113**	P	**Pb**	**12 15 40.2**	**-0.3**
	baz=294,SNR=523						
BELC				S	**Sb**	**12 15 50.5**	**-0.7**
	baz=294						
PFO	**Pinyon Flats O**	**0.76**	**155**	Pg	**Pg**	**12 15 40.0**	**+0.3**
PFO	**Pinyon Flats O**	**0.76**	**155**		**Pg**	**12 15 39.9**	**+0.3**
PFO					**Sb**	**12 15 50.5**	**-0.6**
PFO	**Pinyon Flats O**	**0.76**	**155**	P	**Pg**	**12 15 39.9**	**+0.3**
	baz=335,SNR=90						
PFO				S	**Sb**	**12 15 50.4**	**-0.7**
	baz=335						
CHNC	**Chino**	**0.76**	**247**		**Pg**	**12 15 39.0**	**-0.6**
CHNC					**Sg**	**12 15 50.1**	**+0.6**
MURC	**Murrieta**	**0.76**	**203**		**Pg**	**12 15 39.9**	**+0.2**
MURC					**Sb**	**12 15 50.8**	**-0.2**
MURC	**Murrieta**	**0.76**	**203**	P	**Pg**	**12 15 39.9**	**+0.2**
	baz=22,SNR=51						
MURC				S	**Sb**	**12 15 50.6**	**-0.5**
	baz=22						
XPFO	**Pion Flat**	**0.76**	**155**		**Pg**	**12 15 39.9**	**+0.2**
XPFO					**Sg**	**12 15 50.2**	**+0.5**
SNDA	**J Saunders Pla**	**0.78**	**166**		**Pb**	**12 15 40.4**	**-0.4**
SNDA					Pn	12 15 50.9	+8.6
ELS	**Elsinore Mount**	**0.82**	**217**	Pg	**Pg**	**12 15 40.7**	**0.0**
ELS	**Elsinore Mount**	**0.82**	**217**		Pn	12 15 51.5	+8.6
HYS	**Haystack Butte**	**0.82**	**313**		**Pg**	**12 15 40.7**	**-0.1**
HYS					**Sg**	**12 15 51.8**	**+0.3**
BZNA	**Buzz No.'s Pla**	**0.82**	**170**		**Pb**	**12 15 41.4**	**-0.3**
BZNA					Pn	12 15 52.5	+10
PSRC	**Puddingstone R**	**0.83**	**255**		**Pg**	**12 15 41.2**	**+0.3**
PSRC					Pn	12 15 52.2	+9.3
FRD	**Ford Ranch, An**	**0.83**	**166**		**Pb**	**12 15 41.4**	**-0.3**
FRD					Pn	12 15 52.2	+9.2
FRD	**Ford Ranch, An**	**0.83**	**166**		**Pb**	**12 15 41.4**	**-0.3**
SBB	**Saddle Back Bu**	**0.90**	**295**		**Pg**	**12 15 42.1**	**-0.2**
SBB					Pn	12 15 53.8	+10
JNH	**Juniper Hills**	**0.93**	**279**		**Pg**	**12 15 42.8**	**-0.1**
PLM	**Palomar**	**0.95**	**181**		**Pb**	**12 15 43.5**	**-0.3**
CHFC	**Chilao Flat St**	**0.98**	**272**		**Pg**	**12 15 43.6**	**-0.3**
GSC	**Goldstone, Bar**	**0.99**	**2**		**Pg**	**12 15 44.0**	**-0.1**
GSC	**Goldstone, Bar**	**0.99**	**2**	P	**Pg**	**12 15 44.1**	**-0.1**
	baz=182,SNR=631						
GSC				S	**Sb**	**12 15 57.4**	**-0.4**
	baz=182						
LRRC	**Littlerock Res**	**1.01**	**283**		**Pg**	**12 15 44.1**	**-0.2**
MWC	**Mount Wilson**	**1.01**	**266**		**Pg**	**12 15 44.3**	**-0.1**
DSCC	**Desert Studies**	**1.03**	**36**		**Pg**	**12 15 44.8**	**0.0**
GMRC	**Granite Mounta**	**1.08**	**64**		**Pg**	**12 15 45.6**	**-0.2**
GMRC	**Granite Mounta**	**1.08**	**64**	P	**Pg**	**12 15 45.6**	**-0.2**
	baz=245,SNR=241						
GMRC				S	**Sb**	**12 16 00.1**	**-0.3**
	baz=245						
GVRC	**Garvey Reservo**	**1.09**	**257**		**Pn**	**12 15 46.4**	**-0.1**
BORC	**Borrego Spring**	**1.09**	**161**		**Pb**	**12 15 46.1**	**0.0**
EDW2	**Edwards Air Fo**	**1.11**	**301**		**Pg**	**12 15 46.0**	**-0.4**
EDW2	**Edwards Air Fo**	**1.11**	**301**	P	**Pg**	**12 15 45.9**	**-0.4**
	baz=121,SNR=224						
EDW2				S	**Sg**	**12 16 00.6**	**-0.2**
	baz=121						
MATG	**Mataguay Scout**	**1.11**	**172**		**Pb**	**12 15 46.7**	**+0.1**
PASC	**Pasadena Art C**	**1.12**	**264**		**Pg**	**12 15 46.2**	**-0.3**
PASC				IAML		12 16 04.8	
	comp=N,553nm,0.5s						
PASC				IAML		12 16 05.4	
	comp=E,340nm,0.3s						
GORC	**Green Oak Ranc**	**1.19**	**196**		**Pb**	**12 15 47.5**	**-0.3**
SLH	**Sleepy Hollow**	**1.21**	**156**		**Pg**	**12 15 48.5**	**+0.3**
JUEM	**Julian Eagle M**	**1.24**	**171**		**Pg**	**12 15 48.8**	**0.0**
DECC	**Green Verdugo**	**1.24**	**268**	P	**Pn**	**12 15 48.4**	**-0.2**
	baz=87,SNR=38						
DECC				S	**Sn**	**12 16 05.6**	**+0.1**
	baz=87						
ALPC	**Antelope**	**1.27**	**288**		**Pn**	**12 15 48.8**	**-0.2**
DTP	**Desert Tortois**	**1.27**	**320**		**Pn**	**12 15 48.7**	**-0.4**
TPO	**Tropico Hills**	**1.28**	**297**		**Pn**	**12 15 49.1**	**-0.1**
CCAC	**Calif City Air**	**1.29**	**311**		**Pn**	**12 15 48.5**	**-0.8**
CCCA	**Chr Cany lake**	**1.29**	**341**		**Pg**	**12 15 49.6**	**-0.2**
BC3	**Big Chuckawall**	**1.32**	**119**		**Pg**	**12 15 50.9**	**+0.6**
BC3	**Big Chuckawall**	**1.32**	**119**	P	**Pb**	**12 15 49.9**	**-0.2**
	baz=300,SNR=251						
BC3				S	**Sn**	**12 16 07.8**	**+0.1**
	baz=300						
FMP	**Fort Macarthur**	**1.34**	**244**	P	**Pn**	**12 15 50.1**	**0.0**
	baz=63						
FMP				S	**Sn**	**12 16 07.9**	**-0.1**
	baz=63						
DJJ	**Donna J Jenkin**	**1.35**	**262**		**Pb**	**12 15 50.3**	**-0.2**
TUQ	**Turquoise Moun**	**1.36**	**33**		**Pn**	**12 15 50.1**	**-0.2**
TUQ	**Turquoise Moun**	**1.36**	**33**	P	**Pn**	**12 15 50.1**	**-0.2**
	baz=214,SNR=194						
TUQ				S	**Sg**	**12 16 08.7**	**+0.1**
	baz=214						
LRMC	**Laurel Mtn Rad**	**1.36**	**330**		**Pg**	**12 15 51.4**	**+0.2**
LRMC	**Laurel Mtn Rad**	**1.36**	**330**	P	**Pn**	**12 15 50.2**	**-0.2**
	baz=149,SNR=150						
LRMC				S	**Sg**	**12 16 09.0**	**+0.2**
	baz=149						
EML	**El Monte Cty P**	**1.41**	**180**		**Pb**	**12 15 51.4**	**-0.1**
IRM	**Iron Mountain**	**1.41**	**96**		**Pg**	**12 15 51.9**	**-0.2**
IRM	**Iron Mountain**	**1.41**	**96**	P	**Pn**	**12 15 50.6**	**-0.4**
	baz=277,SNR=217						
IRM				S	**Sg**	**12 16 10.0**	**-0.4**
	baz=277						
RPV	**Rancho Palos V**	**1.42**	**247**		**Pb**	**12 15 51.2**	**-0.4**
109C	**Camp Elliot, M**	**1.43**	**189**		**Pn**	**12 15 50.8**	**-0.4**
109C				IAML		12 16 10.6	
	comp=E,329nm,0.2s						
109C				IAML		12 16 11.0	
	comp=N,378nm,0.3s						
109C	**Camp Elliot, M**	**1.43**	**189**	P	**Pn**	**12 15 51.1**	**-0.1**
	baz=8.4,SNR=29						
109C				S	**Sn**	**12 16 09.9**	**-0.3**
	baz=8.4						
CPE	**Camp Elliot**	**1.43**	**189**		**Pn**	**12 15 51.4**	**+0.2**
MONP2	**Monument Peak**	**1.45**	**166**		**Pb**	**12 15 52.5**	**+0.1**
MONP2	**Monument Peak**	**1.45**	**166**	Pb	**Pb**	**12 15 52.4**	**+0.1**
	baz=346,SNR=120						
MONP2				S	**Sg**	**12 16 11.6**	**-0.1**
	baz=346						
BLCC	**Black Canyon**	**1.52**	**268**		**Pb**	**12 15 53.7**	**+0.3**
SRTC	**Snort**	**1.57**	**332**		**Pg**	**12 15 55.1**	**-0.1**
MTPC	**Mountain Pass**	**1.58**	**42**		**Pg**	**12 15 55.5**	**+0.1**
OSI	**Osito Audit: C**	**1.59**	**282**	P	**Pn**	**12 15 53.7**	**+0.2**
	baz=100,SNR=25						
OSI				Sb	**Sg**	**12 16 16.3**	**+0.3**
	baz=100						
CIAC	**Catalina I. Ai**	**1.59**	**236**		**Pb**	**12 15 54.3**	**-0.3**
CIS	**Catalina Islan**	**1.59**	**236**	P	**Pn**	**12 15 53.7**	**+0.2**
	baz=54,SNR=23						
CIS				S	**Sb**	**12 16 15.0**	**+0.1**
	baz=54						
SWSC	**Sam W. Stewart**	**1.61**	**147**		**Pn**	**12 15 53.4**	**-0.3**
SWSC	**Sam W. Stewart**	**1.61**	**147**	P	**Pn**	**12 15 53.4**	**-0.3**
	baz=328,SNR=51						
SWSC				Sb	**Sg**	**12 16 16.8**	**+0.1**
	baz=328						
BAR	**Barrett**	**1.63**	**175**		**Pb**	**12 15 54.8**	**-0.4**
BAR				IAML		12 16 17.8	
	comp=N,212nm,0.4s						
QSM	**Queen of Sheba**	**1.66**	**359**		**Pb**	**12 15 55.6**	**-0.1**
QSM				IAML		12 16 21.0	
	comp=N,278nm,0.5s						
QSM				IAML		12 16 21.2	
	comp=E,285nm,0.9s						
SHOC	**Shoshone, Teco**	**1.66**	**16**	P	**Pn**	**12 15 54.4**	**+0.1**
	baz=197,SNR=324						
SHOC				Sb	**Sg**	**12 16 18.7**	**+0.4**
	baz=197						
DUZA	**Dulzura**	**1.69**	**178**		**Pb**	**12 15 56.2**	**-0.2**
OLP	**Otay Lakes Par**	**1.69**	**183**		**Pb**	**12 15 56.3**	**-0.1**
TKX	**Tecate**	**1.74**	**174**		**Pb**	**12 15 56.6**	**-0.6**
TKX				IAML		12 16 20.8	
	comp=N,231nm,0.2s						
IKP	**In-Ko-Pah, Jac**	**1.76**	**160**		**Pn**	**12 15 56.3**	**+0.4**
IKP	**In-Ko-Pah, Jac**	**1.76**	**160**	P	**Pn**	**12 15 56.1**	**+0.3**
	baz=340,SNR=47						
IKP				Sb	**Sg**	**12 16 21.5**	**-0.1**
	baz=340						
TJX	**Tijuana**	**1.80**	**186**		**Pb**	**12 15 57.4**	**-0.8**
RMX	**La Rumorosa**	**1.81**	**159**		**Pb**	**12 15 57.9**	**-0.7**
RMX				IAML		12 16 25.3	
	comp=E,132nm,0.5s						
YUH	**Yuha Desert**	**1.82**	**155**		**Pn**	**12 15 56.7**	**+0.1**
MPMC	**Manual Prospec**	**1.83**	**343**	Pb	**Pb**	**12 15 58.9**	**+0.1**
	baz=163,SNR=107						
MPMC				Sb	**Sg**	**12 16 23.6**	**-0.2**
	baz=163						
ARVC	**Arvin**	**1.83**	**297**	P	**Pn**	**12 15 56.9**	**+0.1**
	baz=116,SNR=76						
ARVC				Sb	**Sg**	**12 16 23.4**	**-0.5**
	baz=116						
GWY	**Greenwater Val**	**1.88**	**4**		**Pn**	**12 15 57.6**	**+0.1**
GWY				IAML		12 16 29.7	
	comp=N,165nm,0.8s						
NEE2	**Needles Airpor**	**1.89**	**75**	Pg	**Pg**	**12 16 00.6**	**-0.7**
	baz=257,SNR=20						
NEE2				Sb	**Sg**	**12 16 25.3**	**-0.4**
	baz=257						
ISA	**Isabella, Lake**	**1.91**	**316**		**Pn**	**12 15 57.9**	**+0.1**
ISA				IAML		12 16 29.9	
	comp=N,103nm,0.6s						
ISA				IAML		12 16 31.0	
	comp=E,130nm,0.8s						
ISA	**Isabella, Lake**	**1.91**	**316**	Pg	**Pg**	**12 16 01.0**	**-0.6**
	baz=135,SNR=118						
ISA				Sb	**Sg**	**12 16 25.6**	**-0.6**
	baz=135						
SCI2	**San Clemente I**	**1.94**	**228**	P	**Pn**	**12 15 58.5**	**+0.3**
	baz=46,SNR=12						
SCI2				S	**Sn**	**12 16 23.3**	**+0.5**
	baz=46						
CBX	**Cerro Bola**	**1.99**	**176**		**Pb**	**12 16 00.6**	**-0.9**
BLYC	**Blythe**	**2.00**	**105**	Pn	**Pn**	**12 15 58.9**	**-0.1**
BLYC				IAML		12 16 33.1	
	comp=N,113nm,0.6s						
BLYC				IAML		12 16 33.7	
	comp=E,124nm,0.4s						
GLA	**Glamis**	**2.09**	**126**	P	**Pn**	**12 16 00.4**	**+0.1**
	baz=307						
FURC	**Furnace Creek,**	**2.16**	**359**	Pb	**Pb**	**12 16 05.0**	**+0.8**
	baz=180,SNR=59						
V12A	**Nelson**	**2.16**	**48**	Pn	**Pn**	**12 16 01.7**	**+0.3**
V12A				IAML		12 16 41.0	
	comp=E,101nm,0.5s						
V12A				IAML		12 16 44.1	
	comp=N,109nm,0.8s						
BCW	**Bitter Crk WRg**	**2.21**	**287**		**Pn**	**12 16 02.5**	**+0.4**
PDMCI	**Parker Dam,Lak**	**2.23**	**89**	Pb	**Pb**	**12 16 06.2**	**+0.6**
	baz=271,SNR=40						
PDMCI				Sb	**Sg**	**12 16 35.8**	**-0.9**
	baz=271						
SCZ2	**Santa Cruz Isl**	**2.34**	**263**	P	**Pn**	**12 16 04.6**	**+0.8**
	baz=81						
CWC	**Cottonwood Cre**	**2.36**	**335**	Pb	**Pb**	**12 16 08.7**	**+0.9**
	baz=154						
SBC	**Santa Barbara**	**2.38**	**274**	P	**Pn**	**12 16 04.4**	**+0.1**
	baz=92						
VES	**Vestal, Richgr**	**2.40**	**310**	Pb	**Pb**	**12 16 09.4**	**+1.1**
	baz=129,SNR=15						
ESJX	**Sierra Juarez**	**2.41**	**162**		**Pn**	**12 16 06.2**	**+1.2**
ESJX				IAML		12 16 42.1	
	comp=E,70nm,0.5s						
ESJX				IAML		12 16 44.7	
	comp=N,52nm,0.5s						
CCX	**Cicese**	**2.44**	**176**		**Pn**	**12 16 06.4**	**+1.4**
CCX				IAML		12 16 42.8	
	comp=N,85nm,0.9s						
CCX				IAML		12 16 44.0	
	comp=E,101nm,0.6s						
SNCC	**San Nicolas Is**	**2.47**	**245**	Pn	**Pn**	**12 16 05.4**	**-0.1**
SNCC				IAML		12 16 44.1	
	comp=N,82nm,0.7s						
SNCC				IAML		12 16 47.0	
	comp=E,55nm,0.5s						
SNCC	**San Nicolas Is**	**2.47**	**245**	P	**Pn**	**12 16 05.7**	**+0.2**
	baz=64						
WCT	**Wildcat Mounta**	**2.49**	**4**		**Pn**	**12 16 06.0**	**+0.1**
PKM	**Mcpherson Peak**	**2.52**	**284**	P	**Pn**	**12 16 06.8**	**+0.4**
	baz=102,SNR=47						
W13A	**Hualapai Mount**	**2.56**	**71**	Pn	**Pn**	**12 16 07.0**	**0.0**
W13A				IAML		12 16 48.0	
	comp=N,66nm,0.5s						
W13A				IAML		12 16 50.0	
	comp=E,59nm,0.4s						
SHPR	**Sheep Range**	**2.59**	**32**		**Pn**	**12 16 07.9**	**+0.6**
TPNV	**Topopah Spring**	**2.68**	**10**		**Pn**	**12 16 09.7**	**+1.1**
TPNV				IAML		12 16 53.7	
	comp=E,80nm,0.6s						
TPNV				IAML		12 16 55.6	
	comp=E,77nm,0.5s						
TPNV	**Topopah Spring**	**2.68**	**10**	P	**Pn**	**12 16 09.1**	**+0.6**
	baz=191,SNR=63						
SMMC	**Simmler**	**2.79**	**292**	P	**Pn**	**12 16 10.1**	**+0.2**
	baz=110,SNR=7.5						
GMN	**Gold Mountain**	**3.01**	**354**		**Pn**	**12 16 14.2**	**+1.0**
VTX	**Valle De La Tr**	**3.04**	**163**		**Pn**	**12 16 14.7**	**+1.3**
VTX				IAML		12 17 03.1	
	comp=E,45nm,0.7s						
VTX				IAML		12 17 07.0	
	comp=N,40nm,0.9s						
Y14A	**Wickenburg**	**3.20**	**95**	Pn	**Pn**	**12 16 16.4**	**+0.8**
Y14A				IAML		12 17

comp=Z,46µm,0.3s
AC04 Llanos de Chal 0.47 119 *e*P **Pn** 12 54 43.7 **-0.9**
AC04 eS **Sb** **12 54 48.9 -0.4**
AC04 IAML 12 54 49.3
comp=N,23µm,0.2s
GO03 Copiap 1.22 72 P **Pn** 12 54 55.3 **+0.3**
GO03 Copiap 1.22 72 *e*P **Pn** **12 54 55.3 +0.3**
GO03 eS **Sn** **12 55 09.8 -1.4**
GO03 IAML 12 55 12.9
comp=Z,5µm,0.4s
GO03 Copiap 1.22 72 *e*P **Pn** **12 54 54.7 -0.3**
GO03 *i* S **Sb** **12 55 09.6 -1.1**
GO03 IAML 12 55 11.9
comp=E,7µm,0.4s
AC06 Mina Casimiro 1.22 60 Pn **Pn** **12 54 55.0 +0.1**
AC06 Mina Casimiro 1.22 60⇓*e*P **Pn** **12 54 54.9 0.0**
LCO Las Campanas 1.27 145 Pn **Pn** **12 54 56.7 +0.8**
LCO Las Campanas 1.27 145 *e*P **Pn** **12 54 56.5 +0.6**
LCO *i* S **Sb** **12 55 12.2 -0.2**
AC05 El Transito 1.41 128 Pn **Pg** **12 54 58.7 -0.8**
AC05 El Transito 1.41 128 *e*P **Pg** **12 54 58.8 -0.6**
AC05 *i* S **Sb** **12 55 14.8 -1.5**
AC05 IAML 12 55 16.2
comp=E,10µm,0.6s
CO05 La Serena 1.96 172 **Pn** **12 55 06.5 +1.5**
CO05 La Serena 1.96 172⇑*e*P **Pn** **12 55 06.4 +1.3**
CO05 *i* S **Sn** **12 55 30.3 +0.9**
CO05 IAML 12 55 36.0
comp=N,4µm,0.2s
AC01 Pan de Azucar 2.00 25 Pn **Pn** **12 55 06.3 +0.5**
AC01 Pan de Azucar 2.00 25 *e*P Pn 12 55 01.1 -4.7
AC01 *e*P 12 55 05.6
AC01 eS Sn 12 55 14.9 -16
AC01 Pan de Azucar 2.00 25⇓*e*P **Pn** **12 55 06.3 +0.5**
GO04 Tololo Observa 2.28 164 **Pn** **12 55 11.8 +2.0**
GO04 Tololo Observa 2.28 164 *e*P **Pb** **12 55 12.0 -1.4**
GO04 eS **Sn** **12 55 39.9 +2.1**
GO04 IAML 12 55 49.4
comp=Z,11µm,0.7s
GO04 Tololo Observa 2.28 164 *e*P **Pn** **12 55 11.7 +1.8**
GO04 eS **Sn** **12 55 37.5 -0.4**
CO01 Juntas del Tor 2.36 148 **Pb** **12 55 13.2 -1.7**
CO01 Juntas del Tor 2.36 148 *e*P **Pb** **12 55 13.3 -1.5**
CO01 eS **Sb** **12 55 41.9 -2.1**
CO01 IAML 12 55 42.4
comp=Z,2µm,0.3s
CO01 Juntas del Tor 2.36 148⇑*e*P **Pb** **12 55 13.3 -1.5**
CO01 *i* S **Sn** **12 55 41.0 +1.2**
CO01 IAML 12 55 42.6
comp=E,3µm,0.3s
CO06 Fray Jorge 2.69 182 **Pn** **12 55 16.0 +0.8**
CO06 Fray Jorge 2.69 182 *e*P **Pn** **12 55 16.1 +0.9**
AROD Rodeo 2.84 141 *e*P **Pb** **12 55 21.5 -1.4**
AROD eS **Sb** **12 55 57.5 -0.1**
CO03 El Pedregal 2.95 166 Pn **Pn** **12 55 20.8 +1.9**
CO03 El Pedregal 2.95 166 *e*P **Pn** **12 55 20.6 +1.7**
CO03 eS **Sn** **12 55 56.3 +2.3**
CO03 IAML 12 56 09.4
comp=Z,1µm,0.7s
CO03 El Pedregal 2.95 166⇑*e*P **Pn** **12 55 20.5 +1.7**
CO03 IAML 12 56 07.0
comp=N,2µm,0.3s
VCA Vinchina 3.03 105 *e*P **Pb** **12 55 24.1 -2.1**
VCA eS **Sb** **12 56 03.6 +0.4**
VCA IAML 12 56 10.0
comp=Z,1µm,0.5s
VCA Vinchina 3.03 105 *e*P **Pb** **12 55 24.7 -1.5**
ACDV Cuesta del Vie 3.04 137 *e*P **Pb** **12 55 24.6 -1.8**
ACDV eS **Sb** **12 56 01.1 -2.4**
ACDV IAML 12 56 12.9
comp=Z,776nm,0.7s
AGUA GUANDACOL 3.07 120 *e*P **Pb** **12 55 25.5 -1.3**
AGUA eS **Sb** **12 56 04.6 +0.4**
AGUA IAML 12 56 13.0
comp=Z,1µm,0.4s
CO02 Combarbal 3.25 172 **Pn** **12 55 24.4 +1.4**
CO02 Combarbal 3.25 172 *e*P **Pn** **12 55 25.1 +2.1**
CO02 IAML 12 56 18.6
comp=Z,2µm,0.6s
CO02 Combarbal 3.25 172⇑*e*P **Pn** **12 55 24.4 +1.4**
CO02 eS **Sn** **12 56 01.1 -0.5**
GO02 Mina Guanaco 3.30 32 Pn **Pn** **12 55 25.0 +1.1**
GO02 Mina Guanaco 3.30 32 *e*P **Pn** **12 55 24.3 +0.5**
GO02 *e*P 12 55 25.1
GO02 eS **Sg** **12 56 20.6 +2.2**
GO02 Mina Guanaco 3.30 32 *e*P **Pn** **12 55 25.0 +1.1**
GO02 eS **Sn** **12 56 02.0 -1.0**
ACCO Cerro Coronel 3.38 141 *e*P **Pb** **12 55 29.6 -2.7**
ACCO eS **Sb** **12 56 11.8 -1.6**
PB14 IPOC Station P 3.49 17 Pn **Pn** **12 55 26.4 0.0**
PB14 IPOC Station P 3.49 17 *e*P **Pn** **12 55 25.8 -0.6**
PB14 IPOC Station P 3.49 17⇑*e*P **Pn** **12 55 26.5 0.0**
DOCA Reserva Natura 3.66 145 *e*P **Pn** **12 55 32.6 +3.8**
DOCA eS **Sb** **12 56 17.1 -4.2**
DOCA IAML 12 56 36.9
comp=Z,559nm,0.8s
RTLS Leoncito 4.28 153 *e*P Pn 12 55 42.2 +4.9
RTLS eS **Sn** **12 56 32.8 +5.6**
ACLC CERRO LA CRUZ 4.28 111 *e*P **Pn** **12 55 40.3 +3.1**
ZON Zonda 4.34 146 Pn **Pn** **12 55 39.4 +1.4**
AVFE Valle Fertil 4.46 128 *e*P **Pn** **12 55 42.7 +3.2**
AVFE eS **Sn** **12 56 35.6 +4.3**
VA06 Catapilco 4.58 177 **Pn** **12 55 41.6 +0.5**
VA06 Catapilco 4.58 177⇑*e*P **Pn** **12 55 42.0 +0.9**
VA03 San Esteban 4.85 170 **Pn** **12 55 46.7 +1.8**
ROC1 El Roble 5.00 175 **Pn** **12 55 47.9 +0.6**
VA01 Torpederas 5.03 181 Pn **Pn** **12 55 46.5 -0.9**
CYA Choya 5.08 97 *e*P **Pn** **12 55 50.3 +2.2**
CYA Choya 5.08 97 *e*P **Pn** **12 55 50.0 +1.9**
PB15 IPOC Station P 5.10 22 **Pn** **12 55 49.2 +0.7**
PB15 IPOC Station P 5.10 22 *e*P **Pn** **12 55 49.2 +0.7**
PB15 eS **Sn** **12 56 48.0 +0.6**
PB15 IPOC Station P 5.10 22 *e*P **Pn** **12 55 49.2 +0.7**
ASAL Salagasta 5.16 154 *e*P **Pn** **12 55 53.5 +4.3**
PEL Peldehue 5.20 172 **Pn** **12 55 51.5 +1.7**
PB05 IPOC Station P 5.24 14 **Pn** **12 55 49.3 -1.1**
PB05 IPOC Station P 5.24 14 *e*P **Pn** **12 55 49.7 -0.7**
PB05 eS **Sn** **12 56 48.3 -2.4**
MT02 Curacav 5.28 176 **Pn** **12 55 51.1 +0.3**
MT03 Universidad Ad 5.57 171 **Pn** **12 55 56.4 +1.5**
VA05 Santo Domingo 5.66 181 **Pn** **12 55 55.7 -0.3**
MT09 Talagante 5.80 175 **Pn** **12 55 58.9 +0.8**
LVC Limon Verde 5.85 25 **Pn** **12 55 59.4 +0.5**
LVC Limon Verde 5.85 25 P **Pn** **12 56 00.1 +1.2**
comp=Z,1.5nm,0.3s,baz=172,slow=7.8,SNR=18
LVC S **Sn** **12 57 06.2 +0.2**
comp=Z,26nm,0.5s,baz=189,slow=15,SNR=3.7
LVC LR LR 12 58 27.9
comp=Z,277nm,19.6s,baz=210,slow=40
comp=Z,4.6nm,0.3s
MT01 Popeta 5.88 178 **Pn** **12 55 59.6 +0.6**
BO04 La Punta 6.05 173 **Pn** **12 56 02.6 +1.3**
PB02 IPOC Station P 6.79 13 **Pn** **12 56 10.6 -1.1**
GO05 Huala 7.02 183 Pn **Pn** **12 56 14.0 -0.7**
PATCX Punta Patache 7.23 10 Pn **Pn** **12 56 15.9 -1.8**
H03N1 Juan Fernandez 8.36 228 P **Pn** **12 56 33.8 +0.9**
baz=107,slow=17,SNR=52
H03N1 S **Sn** **12 58 03.0 -4.0**
baz=120,slow=22,SNR=5.9
H03N1 T T 13 05 30.7
baz=55,slow=71,SNR=1032
H03N2 Juan Fernandez 8.38 228 P **Pn** **12 56 33.6 +0.6**
baz=107,slow=17,SNR=35
H03N2 S **Sn** **12 58 02.3 -4.9**
baz=120,slow=22,SNR=7.4
H03N2 T T 13 05 31.9
baz=55,slow=71,SNR=1439
H03N3 Juan Fernandez 8.38 228 P **Pn** **12 56 33.7 +0.5**
baz=107,slow=17,SNR=80
H03N3 S Sn 12 58 00.6 -6.8
baz=120,slow=22,SNR=5.9
H03N3 T T 13 05 34.4
baz=55,slow=71,SNR=1070
VA04 Juan Fernndez 8.44 226 Pn **Pn** **12 56 34.2 +0.1**
H03S3 Juan Fernandez 8.61 226 P **Pn** **12 56 35.3 -0.8**
baz=275,slow=75,SNR=49
H03S3 S Sn 12 58 04.2 -8.7
baz=38,slow=70,SNR=28
H03S1 Juan Fernandez 8.62 225 P **Pn** **12 56 35.0 -1.3**
baz=275,slow=75,SNR=59
H03S1 S Sn 12 58 03.5 -10
baz=38,slow=70,SNR=20
H03S2 Juan Fernandez 8.62 226 P **Pn** **12 56 35.9 -0.5**
baz=275,slow=75,SNR=55
H03S2 S Sn 12 58 05.0 -8.4
baz=38,slow=70,SNR=18
PLCA Paso Flores 12.75 177 P **Pn** **12 57 37.7 +4.4**
comp=Z,0.1nm,0.3s,baz=163,slow=9.5,SNR=1.1
PLCA LR LR 13 02 42.9
comp=Z,160nm,20.4s,baz=346,slow=38
comp=Z,0.4nm,0.4s
CPUP Villa Florida 12.76 86 P **Pn** **12 57 35.0 +1.7**
comp=Z,0.1nm,0.3s,baz=296,slow=13,SNR=1.7
CPUP S **Sn** **12 59 48.4 -6.9**
comp=Z,3.0nm,0.8s,baz=334,slow=19,SNR=2.0
CPUP LR LR 13 02 49.0
comp=Z,91nm,21.9s,baz=264,slow=39
comp=Z,0.6nm,0.5s
TRQA Tornquist 12.85 144 **Pn** **12 57 37.1 +2.5**
SIV San Ignacio 15.37 41 P **Pn** **12 58 10.4 +1.5**
baz=216,slow=12,SNR=2.3
SIV LR LR 13 05 01.2
comp=Z,89nm,19.7s,baz=286,slow=41
comp=Z,0.6nm,0.3s
PLTB Pedras Altas 16.01 108 P **Pn** **12 58 16.9 -0.3**
NNA Nana 16.66 342 LR LR 13 03 57.9
comp=Z,44nm,18.0s,baz=174,slow=33
SAML Samuel 20.50 24 P **P** **12 59 11.4 +1.3**
ATAH Atahualpa 21.72 341 LR LR 13 06 28.2
comp=Z,35nm,19.9s,baz=219,slow=33
MG04 Isla Riesco 24.86 180 P **P** **12 59 52.3 -1.9**
ORCD Orcadas 37.41 159 P **P** **13 01 41.7 -2.9**
ORCD IAmb IAmb 13 01 42.5
comp=Z,74nm,0.9s
MDP Montagnes des 37.60 32 LR LR 13 19 14.0
comp=Z,44nm,18.6s,baz=188,slow=39
ILAM Ilet Lapin Mar 43.73 15 P **P** **13 02 33.6 -3.7**
CMIG Matias Romero 50.18 330 LR LR 13 20 26.8
comp=Z,37nm,19.5s,baz=43,slow=31
BELA Belgrano 2 52.73 171 P **P** **13 03 46.7 +0.6**
BELA IAmb IAmb 13 03 48.5
comp=Z,4.0nm,1.1s
VNA3 Neumayer Olymp 54.80 160⇓P **P** **13 04 02.6 +1.2**
comp=Z,3.2nm,0.6s
VNA2 Neumayer--Watz 55.42 159⇓P **P** **13 04 07.2 +1.3**
comp=Z,5.1nm,0.5s,baz=288,slow=8.0
SNAA Sanae 57.02 159 P **P** **13 04 16.7 -0.6**
SNAA IAmb IAmb 13 04 19.2
comp=Z,5.3nm,0.8s
SNAA Sanae 57.02 159⇓P **P** **13 04 18.1 +0.8**
comp=Z,96nm,0.6s
SNAA Sanae 57.02 159 P **P** **13 04 18.1 +0.8**
comp=Z,5.2nm,0.8s,baz=280,slow=7.6,SNR=14
comp=Z,5.2nm,0.8s
TROLL Troll, Antarti 58.74 160⇓P **P** **13 04 30.4 +0.9**
comp=Z,246nm,0.7s
QSPA South Pole Qui 62.24 180 P **P** **13 04 54.1 +0.6**
QSPA IAmb IAmb 13 04 56.4
comp=Z,5.0nm,0.8s
QSPA South Pole Qui 62.24 180 P **P** **13 04 55.1 +1.6**
comp=Z,4.5nm,0.6s,baz=155,slow=1.1,SNR=47
comp=Z,4.5nm,0.6s
TXAR Lajitas Array 64.75 329 P **P** **13 05 13.0 +2.6**
comp=Z,0.3nm,0.6s,baz=142,slow=10,SNR=3.9
TXAR LR LR 13 30 03.7
comp=Z,33nm,19.3s,baz=50,slow=33
comp=Z,0.3nm,0.6s
DBIC Dimbokro 72.91 73 P **P** **13 06 01.1 -0.3**
comp=Z,2.1nm,0.5s,baz=208,slow=6.1,SNR=4.4
comp=Z,2.1nm,0.5s
RAR Rarotonga 78.86 252 LR LR 13 33 26.2
comp=Z,30nm,20.2s,baz=171,slow=29
NVAR Mina Array Bea 79.22 324 P **P** **13 06 39.4 +2.3**
comp=Z,0.1nm,0.3s,baz=146,slow=6.6,SNR=2.8
comp=Z,0.1nm,0.3s
TOA0 Torodi Ar. Sit 81.78 70 P **P** **13 06 50.6 -0.5**
TOA0 IAmb IAmb 13 06 53.2
comp=Z,5.0nm,1.5s
TORD Torodi Ar. Bea 81.78 70 P **P** **13 06 50.8 -0.3**
TORD IAmb IAmb 13 06 53.3
comp=Z,3.2nm,1.4s
TORD Torodi Ar. Bea 81.78 70 P **P** **13 06 51.5 +0.3**
comp=Z,0.7nm,0.6s,baz=272,slow=4.6,SNR=11
comp=Z,0.7nm,0.6s
BOSA Boshof 82.51 118 P **P** **13 06 54.8 -0.3**
comp=Z,1.9nm,0.6s,baz=252,slow=4.1,SNR=7.5
comp=Z,1.9nm,0.6s
FRB Frobisher Bay 91.44 1 LR LR 13 51 37.3
comp=Z,60nm,18.3s,baz=196,slow=37
ASAR Alice Springs 123.09 208 PKP **PKPdf** **13 13 29.9 +0.8**
comp=Z,0.6nm,0.5s,baz=129,slow=1.5,SNR=20
H11S2 WAKE ISLAND Hyl 26.08 273 T T 15 32 45.0
baz=114,slow=75,SNR=32
H11S1 WAKE ISLAND Hyl 26.09 273 T T 15 32 49.5
baz=114,slow=75,SNR=36
H11S3 WAKE ISLAND Hyl 26.09 273 T T 15 32 50.0
baz=114,slow=75,SNR=32
WRA Warramunga Arr 126.19 211 PKP **PKPdf** **13 13 36.3 +1.2**
comp=Z,1.7nm,0.7s,baz=157,slow=1.8,SNR=29
H11N3 WAKE ISLAND Hyl 26.33 275 T T 15 33 10.9
baz=114
H11N1 WAKE ISLAND Hyl 26.35 275 T T 15 33 15.5
baz=114
H11N2 WAKE ISLAND Hyl 26.35 275 T T 15 33 13.3
baz=114
KURBB Kurchatov Arra 147.99 37 PKPbc **PKPdf** **13 14 16.3 +2.4**
comp=Z,0.5nm,0.3s,baz=300,slow=3.1,SNR=6.0
ZALV Zalesovo Beam 148.79 27 **PKPbc** **13 14 19.2 +0.3**
ZALV Zalesovo Beam 148.79 27 PKPbc **PKPdf** **13 14 17.7 +2.7**
comp=Z,2.7nm,0.6s,baz=310,slow=3.5,SNR=18
AAK Ala-Archa 148.89 53 **PKPbc** **13 14 20.2 +0.4**
MKAR Makanchi Array 152.18 40 PKPbc **PKPbc** **13 14 28.3 +0.9**
comp=Z,1.3nm,0.6s,baz=316,slow=1.9,SNR=18
PZH PanZhiHua 173.84 102 PKP **PKPdf** **13 14 38.0 -4.0**

*IDC **30** 13:30:09.7±0.8,27.°05N×53.°26E,h0km,mb4.1/24, mbtmp4.0/29,ML3.6/5,MS3.4/15,Error ellipse: s-maj=19.4km s-min=13.6km az=8.0*
*DSN **30** 13:30:11.8±1.8,27.°19N×53.°26E,h10km,ML4.0/10,Error ellipse: s-maj=21.6km s-min=7.8km az=169.0*
*TEH **30** 13:30:11.7,27.°13N×53.°39E,h5km,ML3.9*
*NEIC **30** 13:30:12.8±2.3,27.°13N±0.°07×53.°36E±0.°10,h10km±1km, mb4.0/23,Error ellipse: s-maj=14.5km s-min=11.8km az=285.0*
*OMAN **30** 13:30:13.7±0.1,27.°11N×53.°38E,h10km,mb4.8/10, ml4.1/13,Error ellipse: s-maj=1.3km s-min=0.7km az=355.0*

ISC 30 13:30:12.2±1.1,27.°13N±0.°03×53.°38E±0.°03,h13km±7km, n153,σ1s75/168,mb4.1/42,MS3.4/12,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LMD1	**Lamerd**	**0.28**	**318**	Pg	**Pg**	**13 30 17.6**	**-0.4**
LMD1				Sg	**Sg**	**13 30 22.4**	**+0.4**
LAR1	**LAR**	**1.04**	**59**	Pg	**Pn**	**13 30 33.2**	**+0.7**
QIR1	**Qir**	**1.37**	**348**	Pg	**Pg**	**13 30 39.8**	**+1.2**
JHRM	**Jahrom**	**1.38**	**7**	Pg	**Pg**	**13 30 40.2**	**+1.4**
ESRB	**Sir Abu**	**2.05**	**158**	Pn	**Pb**	**13 30 48.9**	**-0.4**
JRN	**Qarnain Island**	**2.23**	**192**	P	**Pb**	**13 30 51.5**	**-0.8**
	SNR=16						
JRN				S	**Sb**	**13 31 22.0**	**+2.1**
JRN	**Qarnain Island**	**2.23**	**192**	Pn	**Pb**	**13 30 52.7**	**+0.3**
DSBU	**Dashti - Bushe**	**2.24**	**304**	Pn	**Pb**	**13 30 51.7**	**-0.9**
SHMA	**Al-Shehemyia**	**2.50**	**240**	P	**Pn**	**13 30 54.4**	**+1.8**
	SNR=8.1						
SHMA				S	**Sn**	**13 31 26.1**	**+3.0**
UMQ	**Umm Al-Quwin**	**2.60**	**127**	Pn	**Pb**	**13 30 57.0**	**-1.7**
SHI	**Shiraz**	**2.62**	**343**	Pn	**Pb**	**13 30 57.6**	**-1.5**
SHME	**Shamm**	**2.70**	**113**	P	**Pn**	**13 30 56.4**	**+1.0**
SHME				S	**Sb**	**13 31 31.6**	**-1.9**
SHME	**Shamm**	**2.70**	**113**	P	**Pn**	**13 30 56.8**	**+1.4**
SHME				S	**Sn**	**13 31 30.8**	**+2.9**
SHME	**Shamm**	**2.70**	**113**	Pn	**Pn**	**13 30 56.5**	**+1.1**
SAKB	**Bahrain**	**2.79**	**246**	Pn	**Pn**	**13 30 59.6**	**+3.0**
IBND	**Bandar-abas**	**2.83**	**83**	Pn	**Pn**	**13 30 59.5**	**+2.3**
BANOM	**Banah**	**2.88**	**114**	P	**Pn**	**13 30 60.0**	**+2.1**
BANOM				S	**Sn**	**13 31 35.6**	**+3.1**
BANOM	**Banah**	**2.88**	**114**	Pn	**Pn**	**13 31 00.2**	**+2.3**
AJN	**Ajban**	**2.94**	**150**	P	**Pn**	**13 30 59.9**	**+1.3**
AJN	**Ajban**	**2.94**	**150**	P	**Pb**	**13 31 01.8**	**-2.6**
	SNR=6.2						
AJN				S	**Sb**	**13 31 38.0**	**-2.4**
AJN	**Ajban**	**2.94**	**150**	Pn	**Pn**	**13 31 01.1**	**+2.4**
NAZ	**Nazwa, Dubai**	**2.96**	**136**	*i* P	**Pn**	**13 31 01.3**	**+2.4**
	SNR=7.5						
NAZ	**Nazwa, Dubai**	**2.96**	**136**	P	**Pn**	**13 31 01.5**	**+2.6**
	SNR=9.3						
NAZ				S	**Sn**	**13 31 37.8**	**+3.4**
NAZ	**Nazwa, Dubai**	**2.96**	**136**	Pn	**Pn**	**13 31 01.6**	**+2.6**
ASUD	**Al Ashush, Dub**	**3.05**	**144**	*i* P	**Pn**	**13 31 02.5**	**+2.3**
	SNR=52						
ASUD	**Al Ashush, Dub**	**3.05**	**144**	P	**Pn**	**13 31 02.7**	**+2.5**
	SNR=52						
ASUD				S	**Sn**	**13 31 40.1**	**+3.4**
ASUD	**Al Ashush, Dub**	**3.05**	**144**	Pn	**Pn**	**13 31 02.1**	**+1.9**
MASF	**Masafi**	**3.05**	**124**	P	**Pn**	**13 31 02.3**	**+2.0**
	SNR=17						
MASF				S	**Sn**	**13 31 38.7**	**+2.0**
MSFE	**Esma-Masafi**	**3.06**	**125**	*i* P	**Pn**	**13 31 02.1**	**+1.8**
	SNR=12						
MSFE	**Esma-Masafi**	**3.06**	**125**	Pn	**Pn**	**13 31 01.9**	**+1.6**
TRNA	**Turayna**	**3.08**	**220**	P	**Pn**	**13 31 02.7**	**+2.2**
	SNR=10						
FAQ	**Al Faqa, Dubai**	**3.10**	**139**	P	**Pn**	**13 31 02.9**	**+2.0**
FAQ	**Al Faqa, Dubai**	**3.10**	**139**	P	**Pn**	**13 31 03.1**	**+2.2**
	SNR=7.4						
SMRA	**Abu-Samra**	**3.30**	**225**	P	**Pn**	**13 31 05.4**	**+1.8**
	SNR=11						
SMRA				S	**Sn**	**13 31 45.1**	**+2.3**
HATD	**Hatta, Dubai**	**3.38**	**132**	*i* P	**Pn**	**13 31 06.5**	**+1.7**
	SNR=20						
HATD	**Hatta, Dubai**	**3.38**	**132**	P	**Pn**	**13 31 06.7**	**+2.0**
	SNR=20						
HATD				S	**Sn**	**13 31 47.4**	**+2.7**
ASHO	**Ashiyiah**	**3.43**	**135**	*i* P	**Pn**	**13 31 07.1**	**+1.6**
	SNR=27						
ASHO	**Ashiyiah**	**3.43**	**135**	P	**Pn**	**13 31 07.2**	**+1.8**
ASHO				S	**Sn**	**13 31 48.5**	**+2.4**
ALNE	**Al Ain**	**3.74**	**144**	*e*P	**Pn**	**13 31 11.5**	**+1.9**
	SNR=6.3						
ALNE	**Al Ain**	**3.74**	**144**	P	**Pn**	**13 31 11.9**	**+2.3**
	SNR=10						
ALNE				S	**Sn**	**13 31 56.9**	**+3.3**
NGRK	**Negar Kerman**	**3.87**	**49**	Pn	**Pn**	**13 31 14.5**	**+2.7**
KHNJ	**Kahnooj**	**3.93**	**77**	Pn	**Pn**	**13 31 14.3**	**+2.0**
SOHO	**SOHO**	**4.13**	**136**	*i* P	**Pn**	**13 31 16.0**	**+1.0**
	SNR=16						
SOHO	**SOHO**	**4.13**	**136**	P	**Pn**	**13 31 16.2**	**+1.3**
SOHO				S	**Sn**	**13 32 06.1**	**+2.9**
KLNJ	**Kolanjah**	**4.17**	**338**	Pn	**Pn**	**13 31 19.1**	**+3.2**
JASK	**Jask - Hormozg**	**4.22**	**106**	P	**Pn**	**13 31 18.0**	**+1.8**
JASK				S	**Sn**	**13 32 08.5**	**+3.1**
JASK	**Jask - Hormozg**	**4.22**	**106**	Pn	**Pn**	**13 31 18.3**	**+2.1**
KHGB	**Koh Gabri**	**4.23**	**39**	Pn	**Pn**	**13 31 20.0**	**+3.4**
IMEH	**Mehriz**	**4.38**	**14**	Pn	**Pn**	**13 31 22.1**	**+3.5**
ARQ	**Araqi**	**4.73**	**142**	P	**Pn**	**13 31 24.6**	**+1.3**
	SNR=17						
ARQ				S	**Sn**	**13 32 19.6**	**+1.5**
IRAM	**Ramesheh**	**4.74**	**350**	Pn	**Pn**	**13 31 26.6**	**+3.0**
ISAD	**Sadrabad**	**4.77**	**3**	Pn	**Pn**	**13 31 27.4**	**+3.3**
IBAF	**Bafgh**	**4.84**	**23**	Pn	**Pn**	**13 31 28.1**	**+3.2**
KBAM	**BAM**	**4.91**	**65**	Pn	**Pn**	**13 31 29.0**	**+3.2**
ICHK	**Chekchek**	**5.17**	**10**	Pn	**Pn**	**13 31 32.5**	**+3.0**
BSY	**Bisya**	**5.58**	**141**	P	**Pn**	**13 31 36.7**	**+1.7**
	SNR=9.2						
BSY				S	**Sn**	**13 32 40.7**	**+1.7**
BIDO	**Bidbid**	**5.60**	**129**	P	**Pn**	**13 31 37.1**	**+1.8**
BIDO				S	**Sn**	**13 32 40.0**	**+0.5**
SMDO	**Samad**	**5.86**	**133**	P	**Pn**	**13 31 40.7**	**+1.8**
	SNR=17						
SMDO				S	**Sn**	**13 32 46.5**	**+0.4**
ANAR	**Anarak**	**6.05**	**3**	Pn	**Pn**	**13 31 44.1**	**+2.6**
WSAR	**Wadi Sarin**	**6.14**	**128**	P	**Pn**	**13 31 44.1**	**+1.5**
	SNR=33						
WSAR				S	**Sn**	**13 32 51.6**	**-1.2**
WSAR	**Wadi Sarin**	**6.14**	**128**	Pn	**Pn**	**13 31 43.6**	**+1.0**
	4.6nm,0.3s,baz=318,slow=9.4,SNR=35						
WSAR				Sn	**Sn**	**13 32 49.6**	**-3.2**
	4.7nm,0.3s,baz=148,slow=20,SNR=10						
	16nm,0.4s						
JMDO	**Jabal Madar**	**6.40**	**137**	P	**Pn**	**13 31 47.6**	**+1.3**
	SNR=12						
TPRV	**Parvadeh(Tabas**	**6.54**	**25**	Pn	**Pn**	**13 31 51.2**	**+2.9**
WBK	**Wadi Bani Khal**	**6.79**	**130**	P	**Pn**	**13 31 52.5**	**+0.9**
	SNR=16						
WBK				S	**Sn**	**13 33 09.3**	**+0.5**
KRSH	**Karshahi**	**6.90**	**351**	Pn	**Pn**	**13 31 55.5**	**+2.3**
NGCH	**Negor - Chabah**	**7.19**	**102**	P	**Pn**	**13 31 58.0**	**+1.0**
NGCH				S	**Sn**	**13 33 18.5**	**-0.1**
TKDS	**Koohdasht(Taba**	**7.23**	**26**	Pn	**Pn**	**13 32 00.2**	**+2.5**
TNSJ	**Nastanj**	**7.36**	**21**	Pn	**Pn**	**13 32 02.0**	**+2.5**
JLN	**Jalan Bani Buh**	**7.40**	**131**	P	**Pn**	**13 32 00.3**	**+0.3**
	SNR=5.6						
MHTO	**MHTO**	**7.42**	**145**	P	**Pn**	**13 32 01.2**	**+1.0**
	SNR=16						
SRVN	**Saravan**	**8.04**	**86**	Pn	**Pn**	**13 32 11.0**	**+2.2**
WHFO	**Wadi Hawf**	**9.18**	**178**	P	**Pn**	**13 32 23.9**	**-0.5**
	SNR=6.3						
SHAO	**Shalim**	**9.30**	**167**	*i* P	**Pn**	**13 32 26.0**	**-0.1**
	SNR=9.0						
SHAO	**Shalim**	**9.30**	**167**	P	**Pn**	**13 32 26.0**	**-0.1**
	SNR=9.2						
DMTO	**DMTO**	**9.48**	**171**	P	**Pn**	**13 32 30.0**	**+1.4**
	SNR=8.0						
ABTO	**Aybut**	**9.73**	**180**	P	**Pn**	**13 32 31.9**	**-0.1**
HRA	**Herat**	**10.51**	**44**	Pn	**Pn**	**13 32 42.8**	**0.0**
GEYT	**Alibeck**	**11.48**	**19**		**Pn**	**13 32 59.5**	**+3.5**
GEYT	**Alibeck**	**11.48**	**19**	Pn	**Pn**	**13 32 56.8**	**+0.9**
	0.2nm,0.3s,baz=181,slow=12,SNR=2.1						
GEYT				LR	LR	13 38 08.6	
	comp=Z,164nm,19.1s,baz=232,slow=41						
	0.7nm,0.4s						
GNI	**Garni**	**14.83**	**333**	LR	LR	13 40 53.7	
	comp=Z,24nm,18.6s,baz=56,slow=43						
GURO	**Guroymak-BITLI**	**14.84**	**323**	Pn	**Pn**	**13 33 41.0**	**-0.9**
KBL	**Kabul**	**15.34**	**57**	Pn	**Pn**	**13 33 47.9**	**-0.8**
EIL	**Elat**	**16.41**	**283**	Pn	**Pn**	**13 33 59.8**	**-2.5**
	0.1nm,0.3s,baz=155,slow=11,SNR=2.4						
	3.0nm,0.8s						
MMAI	**Mount Meron Ar**	**16.62**	**295**	Pn	**Pn**	**13 34 02.7**	**-2.3**
	0.4nm,0.3s,baz=123,slow=12,SNR=1.9						
	2.1nm,0.8s						
ARPR	**Arapgir-MALATY**	**17.32**	**317**		**Pn**	**13 34 13.3**	**-0.6**
ARPR				IAmb	IAmb	13 34 24.7	
	comp=Z,11nm,1.2s						
SIMJ	**Simiganj**	**17.42**	**45**		**Pn**	**13 34 14.5**	**-0.7**
NIL	**Nilore**	**18.32**	**64**	P	**Pn**	**13 34 26.4**	**+0.2**
NIL				IAmb	IAmb	13 34 31.2	
	comp=Z,6.6nm,0.8s						
KBZ	**Khabaz**	**18.61**	**336**	P	**P**	**13 34 28.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=163,slow=12,SNR=2.2						
KBZ				LR	LR	13 42 43.9	
	comp=Z,43nm,21.0s,baz=178,slow=40						
	comp=Z,0.6nm,0.4s						
BNN	**Bunyan**	**18.75**	**313**		**P**	**13 34 31.6**	**+0.6**
BNN				IAmb	IAmb	13 34 39.6	
	comp=Z,18nm,0.9s						
KIV	**Kislovodsk**	**18.88**	**336**	P	**P**	**13 34 31.7**	**-0.7**
KIV				IAmb	IAmb	13 34 53.6	
	comp=Z,9.1nm,0.6s						
BTK	**Batken**	**19.38**	**44**	P	**Pn**	**13 34 39.7**	**+0.7**
BTK				IAmb	IAmb	13 34 43.4	
	comp=Z,6.6nm,1.0s						
BR131	**Keskin Array S**	**20.66**	**312**	P	**P**	**13 34 53.6**	**+1.7**
BR131				IAmb	IAmb	13 34 58.1	
	comp=Z,5.9nm,0.8s						
BRTR	**Keskin Array B**	**20.66**	**312**	P	**P**	**13 34 53.3**	**+1.4**
BRTR	**Keskin Array B**	**20.66**	**312**	P	**P**	**13 34 51.4**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=132,slow=12,SNR=5.8						
	comp=Z,1.5nm,0.7

BVAR				LR	LR	13 49 42.3			
	comp=Z,78nm,18.6s,baz=239,slow=41 comp=Z,3.2nm,0.7s								
AKASG	**Malin Array Be**	**29.87**	**329**	P	**P**	**13 36 18.5**	**-0.7**		
	comp=Z,1.6nm,0.5s,baz=135,slow=8.0,SNR=14 comp=Z,1.6nm,0.5s								
AKBB	**Malin Array Si**	**29.87**	**329**	P	**P**	**13 36 19.1**	**-0.1**		
KIEV	**Kiev**	**29.87**	**328**	P	**P**	**13 36 19.0**	**-0.2**		
MAKZ	**Makanchi**	**29.88**	**41**	P	**P**	**13 36 20.6**	**+1.1**		
MAKZ				IAmb	IAmb	13 36 25.0			
	comp=Z,3.7nm,0.8s								
MK31	**Makanchi Array**	**30.05**	**42**	P	**P**	**13 36 22.1**	**+1.1**		
MK31				IAmb	IAmb	13 36 26.1			
	comp=Z,2.0nm,0.8s								
MKAR	**Makanchi Array**	**30.05**	**42**	P	**P**	**13 36 21.6**	**+0.5**		
MKAR	**Makanchi Array**	**30.05**	**42**	P	**P**	**13 36 22.4**	**+1.3**		
	comp=Z,2.2nm,0.8s,baz=223,slow=8.4,SNR=21								
MKAR				LR	LR	13 50 48.9			
	comp=Z,49nm,18.2s,baz=256,slow=41 comp=Z,2.2nm,0.8s								
BUR08	**Bucovina Ar. S**	**30.07**	**320**	P	**P**	**13 36 22.8**	**+1.5**		
KURBB	**Kurchatov Arra**	**30.29**	**32**	P	**P**	**13 36 24.0**	**+1.0**		
	comp=Z,0.9nm,0.2s,baz=234,slow=8.4,SNR=3.3								
KURBB				LR	LR	13 50 38.6			
	comp=Z,107nm,18.1s,baz=183,slow=40 comp=Z,0.9nm,0.2s								
KIRV	**Kirov**	**31.56**	**356**	LR	LR	13 51 59.0			
	comp=Z,74nm,20.3s,baz=267,slow=41								
KMBO	**Kilima Mbogo**	**32.10**	**211**	LR	LR	13 50 38.3			
	comp=Z,83nm,18.2s,baz=84,slow=38								
ZAA0	**Zalesovo Array**	**35.38**	**32**	P	**P**	**13 37 07.2**	**-0.2**		
ZAA0				IAmb	IAmb	13 37 11.9			
	comp=Z,3.2nm,0.8s								
ZALV	**Zalesovo Beam**	**35.38**	**32**	P	**P**	**13 37 07.6**	**+0.1**		
	comp=Z,3.5nm,0.8s,baz=235,slow=9.2,SNR=11								
ZALV				LR	LR	13 53 39.0			
	comp=Z,58nm,19.6s,baz=234,slow=40 comp=Z,3.5nm,0.8s								
RONA	**Rosalia, Austr**	**35.44**	**315**	*e*P	**P**	**13 37 07.4**	**-0.7**		
	comp=Z,1.4nm,0.7s								
KBA	**Koelnbreinsper**	**37.11**	**313**	*i* P	**P**	**13 37 23.2**	**+0.7**		
	comp=Z,1.4nm,0.5s								
BIOA	**Bad Ischl, Aus**	**37.12**	**314**	*e*P	**P**	**13 37 22.8**	**+0.3**		
	comp=Z,5.2nm,1.4s								
CLUD	**Cludinico**	**37.22**	**312**	P	**P**	**13 37 23.3**	**-0.1**		
ABTA	**Abfaltersbach**	**37.55**	**312**	*i* P	**P**	**13 37 26.7**	**+0.5**		
	comp=Z,6.6nm,1.2s								
LESA	**Schwarzleotal**	**37.65**	**314**	*i* P	**P**	**13 37 26.7**	**-0.3**		
	comp=Z,0.5nm,0.3s								
WTTA	**Wattenberg**	**38.27**	**313**	*i* P	**P**	**13 37 32.0**	**-0.4**		
	comp=Z,4.7nm,0.7s								
WATA	**Walderalm**	**38.33**	**313**	*i* P	**P**	**13 37 32.2**	**-0.7**		
	comp=Z,8.3nm,1.0s								
SQTA	**Sankt Quirin**	**38.54**	**313**	*i* P	**P**	**13 37 34.2**	**-0.4**		
	comp=Z,3.1nm,0.5s								
MOTA	**Moosalm**	**38.65**	**313**	*i* P	**P**	**13 37 35.2**	**-0.3**		
	comp=Z,3.3nm,0.6s								
FETA	**Feichten**	**38.80**	**312**	*i* P	**P**	**13 37 36.8**	**-0.1**		
	comp=Z,1.5nm,0.5s								
FINES	**FINESS Array B**	**38.89**	**339**	P	**P**	**13 37 36.7**	**-0.4**		
	comp=Z,2.1nm,0.4s,baz=143,slow=9.7,SNR=15 comp=Z,2.1nm,0.4s								
RETA	**Reutte**	**38.91**	**313**	*i* P	**P**	**13 37 36.6**	**-1.0**		
	comp=Z,3.8nm,1.0s								
DAVA	**Damuels**	**39.43**	**312**	*i* P	**P**	**13 37 41.4**	**-0.7**		
	comp=Z,7.4nm,0.5s								
HFS	**Hagfors**	**42.61**	**332**	P	**P**	**13 38 07.4**	**-0.5**		
	comp=Z,1.6nm,0.4s,baz=119,slow=12,SNR=11 comp=Z,1.6nm,0.4s								
CMAR	**Chiang Mai Arr**	**42.70**	**92**	P	**P**	**13 38 09.7**	**+0.5**		
	comp=Z,0.5nm,0.3s,baz=283,slow=10,SNR=5.0 comp=Z,0.5nm,0.3s								
NOA	**NORSAR Array B**	**44.13**	**332**	P	**P**	**13 38 19.4**	**-0.8**		
	comp=Z,0.6nm,0.6s,baz=122,slow=7.5,SNR=1.5 comp=Z,0.6nm,0.6s								
ARCES	**ARCESS Array B**	**45.44**	**347**	P	**P**	**13 38 30.5**	**0.0**		
	comp=Z,3.4nm,0.9s,baz=57,slow=4.5,SNR=7.6 comp=Z,3.4nm,0.9s								
SONM	**Songino Array**	**45.86**	**49**	P	**P**	**13 38 34.3**	**-0.1**		
	comp=Z,1.0nm,0.8s,baz=268,slow=7.5,SNR=7.1 comp=Z,1.0nm,0.8s								
ESDC	**Sonseca Array**	**48.73**	**300**	P	**P**	**13 38 55.8**	**-0.9**		
	comp=Z,1.8nm,1.0s,baz=59,slow=8.4,SNR=6.8 comp=Z,1.8nm,1.0s								
EKA	**Eskdalemuir Ar**	**49.23**	**321**	P	**P**	**13 38 58.9**	**-1.2**		
	comp=Z,0.3nm,0.4s,baz=103,slow=7.6,SNR=1.8 comp=Z,0.3nm,0.4s								
TORD	**Torodi Ar. Bea**	**50.15**	**265**	P	**P**	**13 39 06.5**	**-1.2**		
	comp=Z,1.7nm,0.7s,baz=59,slow=7.9,SNR=9.8 comp=Z,1.7nm,0.7s								
SPITS	**Spitsbergen Ar**	**53.80**	**351**	P	**P**	**13 39 34.7**	**+0.6**		
	comp=Z,12nm,0.9s,baz=139,slow=11,SNR=2.2 comp=Z,12nm,0.9s								
TSUM	**Tsumeb**	**57.66**	**221**	LR	LR	14 07 15.5			
	comp=Z,51nm,18.7s,baz=336,slow=39								
DBIC	**Dimbokro**	**58.77**	**261**	P	**P**	**13 40 09.7**	**-0.8**		
	comp=Z,7.0nm,0.7s,baz=21,slow=5.6,SNR=7.8 comp=Z,7.0nm,0.7s								
KSRS	**Korea Array**	**62.38**	**60**	P	**P**	**13 40 33.9**	**-0.9**		
	comp=Z,1.1nm,0.7s,baz=282,slow=6.1,SNR=3.3 comp=Z,1.1nm,0.7s								
KLR	**Kul'dur**	**62.60**	**46**	LR	LR	14 11 39.7			
	comp=Z,68nm,18.3s,baz=82,slow=40								
SUR	**Sutherland**	**66.81**	**210**	LR	LR	14 12 10.0			
	comp=Z,35nm,18.7s,baz=20,slow=38								
SEY	**Seymchan**	**70.15**	**29**	LR	LR	14 15 35.7			
	comp=Z,56nm,19.4s,baz=331,slow=39								
PETK	**Petropavlovsk-**	**76.76**	**37**	P	**P**	**13 42 04.0**	**+0.6**		
	comp=Z,6.6nm,1.1s,baz=297,slow=6.3,SNR=2.3 comp=Z,6.6nm,1.1s								
SCHQ	**Schefferville**	**83.65**	**330**	P	**P**	**13 42 39.8**	**-0.7**		
	comp=Z,5.8nm,1.0s,baz=28,slow=3.8,SNR=3.7 comp=Z,5.8nm,1.0s								
ILAR	**Eielson Array**	**87.05**	**9**	P	**P**	**13 42 57.1**	**-0.1**		
	comp=Z,0.6nm,0.8s,baz=321,slow=3.8,SNR=7.8 comp=Z,0.6nm,0.8s								
YKA	**Yellowknife Ar**	**90.17**	**354**	P	**P**	**13 43 12.5**	**+0.5**		
	comp=Z,0.7nm,0.8s,baz=1.6,slow=5.1,SNR=12 comp=Z,0.7nm,0.8s								
WRA	**Warramunga Arr**	**91.27**	**112**	P	**P**	**13 43 17.1**	**-0.7**		
	comp=Z,0.3nm,1.0s,baz=316,slow=4.1,SNR=2.6 comp=Z,0.3nm,1.0s								
ASAR	**Alice Springs**	**92.67**	**115**	P	**P**	**13 43 23.3**	**-1.0**		
	comp=Z,0.2nm,0.6s,baz=292,slow=5.3,SNR=5.3 comp=Z,0.2nm,0.6s								

JMA 30 14:26:47.1±0.2, 25.7N±0.4×14.1E±, h56km, MV4.3/10, IOTO ISLANDS REGION, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**1.50**	**51**	P	Pn	14 27 12.3	+0.5
JHH2				S	Sn	14 27 30.7	+0.5
CBIJ	**Chichi jima**	**1.82**	**40**	P	Pn	14 27 16.6	+0.4
CBIJ				*e*S	Sn	14 27 39.5	+1.3
JAG	**Ashikaga**	**10.77**	**354**	P	Pn	14 29 18.1	-0.4
JHO	**Hitachi**	**10.89**	**359**	P	Pn	14 29 20.2	0.0

*MOS **30** 14:34:39.9±0.9, 43.27N×145.10E, h93km, mb4.4/19, Error ellipse: s-maj=9.0km s-min=5.9km az=84.2*

*SKHL **30** 14:34:40.8±0.7, 43.20N×145.20E, h96km±4km, mb5.2/6, msh6.0/3*

*IDC **30** 14:34:40.6±0.6, 43.24N×145.19E, h87km±5km, mb4.0/22, mbtmp4.2/29, Error ellipse: s-maj=10.5km s-min=7.7km az=17.0*

*NIED **30** 14:34:40.9, 43.22N×145.19E, h87km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-0.49; Mθθ 0.79; Mφφ-0.29; Mrθ 0.98; Mθφ 0.18; Mφr-0.31; Fault plane solution: M0 1.24000×10^15 NP1: φs286.00000°, δ76.00000°, λ-70.00000°. NP2:φs48.00000°, δ24.00000°, λ-145.00000°.*

*JMA **30** 14:34:40.9±0.1, 43.2N±0.4×145.2E±0.6, h87km±1km, MD4.0/40, MV4.2/40, NEMURO REGION*

JMA Felt II J1 at NEMURO REGION .

*NEIC **30** 14:34:41.9±1.5, 43.18N±0.03×145.2E±0.1, h104km±8km, mb4.5/93, Error ellipse: s-maj=13.3km s-min=3.9km az=78.0*

ISC 30 14:34:40.4±0.5, 43.22N±0.04×145.19E±0.03, h89km±4km, n231, σ1°18/226, mb4.5/93, 12C-19D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKHN	**Kushirohamanak**	**0.14**	**188**	P	**Pn**	**14 34 53.6**	**+0.5**
JKHN				*e*S	**Sn**	**14 35 02.9**	**+0.4**
JKHN	**Kushirohamanak**	**0.14**	**188**	A	A	14 34 53.6	
	comp=E,36nm,0.5s,comp=N,41nm,1.1s						
AKK	**Akkeshi**	**0.33**	**231**	*e*P	**Pn**	**14 34 54.2**	**+0.3**
NMR	**Nemuro--Hokkai**	**0.42**	**69**	*e*P	**Pn**	**14 34 54.8**	**+0.4**
NMR				*e*S	**Sn**	**14 35 04.8**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.42**	**69**	*e*PN	**Pn**	**14 34 54.8**	**+0.4**
NMR				*e*S	**Sn**	**14 35 04.8**	**-0.1**
JAK	**Akkeshi**	**0.42**	**238**	P	**Pn**	**14 34 54.9**	**+0.4**
JAK				*e*S	**Sn**	**14 35 05.2**	**+0.3**
JAK	**Akkeshi**	**0.42**	**238**	A	A	14 34 54.9	
	comp=E,34nm,0.2s,comp=N,56nm,0.2s						
NEM2	**Nemuro 2**	**0.43**	**70**	⇓P	**Pn**	**14 34 54.8**	**+0.3**
NEM2				⇓*e*S	**Sn**	**14 35 04.8**	**-0.2**
NEM2	**Nemuro 2**	**0.43**	**70**	A	A	14 34 54.8	
	comp=E,32nm,0.3s,comp=N,29nm,0.4s						
JNK	**Nakash**	**0.50**	**317**	⇓P	**Pn**	**14 34 55.0**	**-0.1**
JNK				⇓*e*S	**Sn**	**14 35 05.6**	**-0.3**
JNK	**Nakash**	**0.50**	**317**	A	A	14 34 55.0	
	comp=E,14nm,0.3s,comp=N,15nm,0.4s						
JNSB	**Nemuroshibetsu**	**0.57**	**347**	A	A	14 34 56.1	
	comp=E,11nm,1.2s,comp=N,9.0nm,0.9s						
JRA	**Rausu**	**0.72**	**356**	⇓P	**Pn**	**14 34 57.5**	**+0.5**
JRA				⇓*e*S	**Sn**	**14 35 09.8**	**+0.4**
JRA	**Rausu**	**0.72**	**356**	A	A	14 34 57.5	
	comp=E,14nm,0.4s,comp=N,12nm,0.3s						
RUSJ	**Misakicho**	**0.89**	**3**	*e*PN	**Pn**	**14 34 59.3**	**+0.6**
RUSJ				*e*S	**Sn**	**14 35 14.1**	**+1.6**
YUK	**Yuzh-Kuril'sk**	**0.95**	**31**	*e*P	**Pn**	**14 35 00.2**	**+0.7**
YUK				AMB	AMB	14 35 00.6	
	comp=N,5μm,0.3s						
YUK				*e*S	**Sn**	**14 35 14.6**	**+0.9**
YUK				A	A	14 35 17.7	
	comp=N,17μm,0.5s						
YUK				A	A	14 35 17.7	
	comp=N,8μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**0.95**	**31**	*e*PN	**Pn**	**14 35 00.2**	**+0.7**
YUK				*e*S	**Sn**	**14 35 14.6**	**+0.9**
YUK				pmax	pmax		
	comp=N,1μm,0.2s						
YUK				pmax	pmax		
	comp=Z,6μm,0.2s						
YUK				pmax	pmax		
	comp=E,3μm,0.3s						
YUK				smax	smax		
	comp=E,17μm,0.3s						
YUK				smax	smax		
	comp=N,10μm,0.5s						
JAR	**Ashorobuto**	**1.04**	**275**	⇓P	**Pn**	**14 35 01.1**	**+0.6**
JAR				⇓*e*S	**Sn**	**14 35 15.7**	**+0.2**
JAR	**Ashorobuto**	**1.04**	**275**	A	A	14 35 01.1	
	comp=E,7.0nm,0.5s,comp=N,7.0nm,0.7s						
JOB	**Onbets**	**1.04**	**253**	P	**Pn**	**14 35 01.2**	**+0.7**
JOB				*e*S	**Sn**	**14 35 16.0**	**+0.5**
JOB	**Onbets**	**1.04**	**253**	A	A	14 35 01.2	
	comp=E,14nm,1.8s,comp=N,14nm,0.3s						
JTKR	**Abashiri--Toko**	**1.20**	**309**	⇓P	**Pn**	**14 35 03.1**	**+0.8**
JTKR				⇓*e*S	**Sn**	**14 35 18.9**	**+0.1**
SHO	**Shikotan**	**1.36**	**61**	*e*P	**Pn**	**14 35 04.5**	**+0.2**
SHO				AMB	AMB	14 35 05.0	
	comp=N,1μm,0.3s						
SHO				*e*S	**Sn**	**14 35 21.9**	**-0.5**
SHO				A	A	14 35 24.8	
	comp=N,3μm,0.4s						
SHO				A	A	14 35 24.8	
	comp=N,4μm,0.4s						
SHO	**Shikotan**	**1.36**	**61**	*e*PN	**Pn**	**14 35 04.5**	**+0.2**
SHO				*e*S	**Sn**	**14 35 21.9**	**-0.5**
SHO				pmax	pmax		
	comp=N,430nm,0.2s						
SHO				pmax	pmax		
	comp=E,476nm,0.2s						
SHO				pmax	pmax		
	comp=Z,1μm,0.2s						
SHO				smax	smax		
	comp=E,4μm,0.4s						
SHO				smax	smax		
	comp=N,4μm,0.2s						
JCH	**Churui**	**1.47**	**246**	P	**Pn**	**14 35 06.2**	**+0.5**
JCH				*e*S	**Sn**	**14 35 24.4**	**-0.5**
JCH	**Churui**	**1.47**	**246**	A	A	14 35 06.2	
	comp=E,3.0nm,0.4s,comp=N,8.0nm,1.3s						
JMP	**Maruseppu**	**1.54**	**301**	⇓*i*P	**Pn**	**14 35 07.5**	**+0.8**
JMP				⇓*e*S	**Sn**	**14 35 27.1**	**+0.5**
ERM	**Erimo**	**1.92**	**232**	Pn	**Pn**	**14 35 12.1**	**+0.6**
ERM	**Erimo**	**1.92**	**232**	*e*PN	**Pn**	**14 35 11.9**	**+0.4**
JKA	**Kamikawa-asahi**	**2.08**	**296**	Pn	**Pn**	**14 35 15.3**	**+1.7**
ASAJ	**Asahikawa**	**2.08**	**296**	P	**Pn**	**14 35 15.4**	**+1.7**
	comp=N,109nm,0.4s,baz=173,slow=9.3,SNR=418						
ASAJ				S	**Sn**	**14 35 39.6**	**+0.6**
	comp=N,162nm,0.5s,baz=122,slow=22,SNR=21						
KUR	**Kuril'sk**	**2.79**	**43**	*e*P	**Pn**	**14 35 25.2**	**+2.2**
KUR				AMB	AMB	14 35 35.8	
	comp=N,180nm,0.4s						
KUR				*i* S	**Sn**	**14 35 58.1**	**+2.4**
KUR				A	A	14 36 01.1	
	comp=N,310nm,0.5s						
KUR				A	A	14 36 01.1	
	comp=N,470nm,0.5s						
KUR	**Kuril'sk**	**2.79**	**43**	*e*PN	**Pn**	**14 35 25.2**	**+2.2**
KUR				*i* S	**Sn**	**14 35 58.1**	**+2.4**
KUR				pmax	pmax		
	comp=Z,176nm,0.4s						
KUR				pmax	pmax		
	comp=E,92nm,0.5s						
KUR				pmax	pmax		
	comp=N,69nm,0.3s						
KUR				smax	smax		
	comp=E,469nm,0.5s						
KUR				smax	smax		
	comp=N,305nm,0.4s						
JTM	**Tenmabayashi**	**3.92**	**233**	Pn	**Pn**	**14 35 38.3**	**0.0**
YSS	**Yuzh-Sakhalins**	**4.11**	**336**	Pn	**Pn**	**14 35 41.3**	**+0.4**
YSS	**Yuzh-Sakhalins**	**4.11**	**336**	*e*P	**Pn**	**14 35 41.5**	**+0.6**
YSS				AMB	AMB	14 35 45.9	
	comp=N,20nm,0.5s						
YSS				*e*S	**Sn**	**14 36 28.4**	**+0.6**
YSS				A	A	14 36 35.5	
	comp=N,40nm,0.6s						
YSS				A	A	14 36 35.5	
	comp=N,30nm,0.6s						
YSS				AMS	AMS	14 38 09.0	
	comp=N,500nm,14.0s						
YSS	**Yuzh-Sakhalins**	**4.11**	**336**	*e*PN	**Pn**	**14 35 41.5**	**+0.6**
YSS				*e*S	**Sn**	**14 36 28.4**	**+0.6**
YSS				pmax	pmax		
	comp=Z,50nm,1.1s						
YSS				smax	smax		
	comp=N,50nm,0.5s						
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
UGL	**Uglegorsk**	**6.25**	**341**	*e*P	**Pn**	**14 36 08.7**	**-1.2**
UGL				AMB	AMB	14 36 09.7	
	comp=Z,40nm,0.5s						
UGL	**Uglegorsk**	**6.25**	**341**	*e*PN	**Pn**	**14 36 08.4**	**-1.5**
UGL				pmax	pmax		
	comp=Z,130nm,1.0s						
JMM	**Marumori**	**6.31**	**214**		**Pn**	**14 36 09.5**	**-1.4**
TYV	**Tymovskoe**	**7.84**	**348**	*e*P	**Pn**	**14 36 33.0**	**+1.4**
TYV				AMB	AMB	14 36 38.0	
	comp=Z,10.0nm,0.7s						
TYV				AMB	AMB	14 36 39.0	
	comp=Z,200nm,3.0s						
TYV				*e*S	**Sn**	**14 37 57.8**	**-0.8**
TYV				A	A	14 38 02.9	
TYV				A	A	14 38 09.5	
	comp=Z,500nm,5.0s						
TYV				A	A	14 38 09.5	
	comp=Z,400nm,5.0s						
TYV	**Tymovskoe**	**7.84**	**348**	*e*PN	**Pn**	**14 36 33.0**	**+1.4**
TYV				*e*S	**Sn**	**14 38 02.2**	**+3.6**
TYV				pmax	pmax		
	comp=Z,13nm,0.7s						
TYV				pmax	pmax		
	comp=Z,200nm,2.9s						
TYV				smax	smax		
	comp=N,8.0nm,2.3s						
TYV				smax	smax		
	comp=E,10.0nm,2.3s						
TYV				smax	smax		
	comp=N,500nm,4.9s						
TYV				smax	smax		
	comp=E,400nm,4.9s						
MJA0	**Matsu Arr-Jizo**	**8.54**	**221**	*e*PN	**Pn**	**14 36 41.9**	**+0.6**
MJB9	**Matsu-Tunnel**	**8.56**	**221**		**Pn**	**14 36 42.2**	**+0.8**
MAJO	**Matsushiro**	**8.56**	**221**	Pn	**Pn**	**14 36 41.3**	**-0.2**
MAJO	**Matsushiro**	**8.56**	**221**	⇑*e*PN	**Pn**	**14 36 42.0**	**+0.5**
MJAR	**Matsushiro Arr**	**8.56**	**221**	P	**Pn**	**14 36 41.4**	**-0.1**
	comp=E,3.0nm,0.6s,baz=27,slow=14,SNR=24						
MJAR				S	**Sn**	**14 38 14.8**	**-1.5**
	comp=E,1.2nm,0.5s,baz=118,slow=6.2,SNR=1.2						
USRK	**Ussuriysk Ar.**	**9.61**	**280**	P	**Pn**	**14 36 56.2**	**+0.4**
	comp=E,1.4nm,0.8s,baz=76,slow=14,SNR=2.3						
SKR	**Severo-Kuril's**	**10.55**	**41**	*e*P	**Pn**	**14 37 10.4**	**+1.9**
SKR				AMB	AMB	14 37 15.3	
	comp=E,40nm,0.7s						
SKR	**Severo-Kuril's**	**10.55**	**41**	⇓*e*PN	**Pn**	**14 37 10.7**	**+2.2**
JHJ	**Hachijo jima 2**	**10.94**	**205**	P	**Pn**	**14 37 14.6**	**+0.6**
	comp=E,98nm,0.8s,baz=15,slow=12,SNR=1.7						
KLR	**Kul'dur**	**11.07**	**308**	*e*P	**Pn**	**14 37 18.8**	**+3.1**
KLR	**Kul'dur**	**11.07**	**308**	⇓*e*PN	**Pn**	**14 37 19.8**	**+4.1**
KLR	**Kul'dur**	**11.07**	**308**	P	**Pn**	**14 37 17.6**	**+2.0**
	comp=E,1.4nm,0.7s,baz=112,slow=12,SNR=4.7						
PAU	**Pauzhetka**	**11.40**	**40**	*e*P	**Pn**	**14 37 20.6**	**+0.6**
PAU				AMB	AMB	14 37 22.1	
	comp=E,20nm,0.5s						
PEA0B	**Petropavlovsk-**	**12.93**	**36**	Pn	**Pn**	**14 37 38.5**	**-2.0**
PEA0B	**Petropavlovsk-**	**12.93**	**36**	⇓*e*PN	**Pn**	**14 37 40.2**	**-0.3**
KSRS	**Korea Array**	**14.36**	**252**	P	**P**	**14 38 02.0**	**-1.7**
	comp=E,0.8nm,0.6s,baz=63,slow=13,SNR=2.4						
KSAR	**Wonju Array Be**	**14.40**	**252**	Pn	**Pn**	**14 37 58.4**	**-1.4**
KSAR	**Wonju Array Be**	**14.40**	**252**	P	**Pn**	**14 37 58.4**	**-1.4**
MA2	**Magadan**	**16.73**	**10**	P	**Pn**	**14 38 28.7**	**-0.3**
	comp=E,6.6nm,0.6s,baz=183,slow=10,SNR=5.3						
KBG	**Krutoberegovo**	**17.20**	**35**	*e*P	**Pn**	**14 38 33.2**	**-1.6**
KBG				AMB	AMB	14 38 35.0	
	comp=E,30nm,0.4s						
SEY	**Seymchan**	**20.19**	**10**	⇑*i*P	**P**	**14 39 05.1**	**-2.5**
SEY				pmax	pmax		
	comp=Z,14nm,2.3s						
YAK	**Yakutsk**	**20.96**	**339**	*e*P	**P**	**14 39 15.9**	**+0.1**
YAK	**Yakutsk**	**20.96**	**339**	⇑*e*P	**P**	**14 39 15.9**	**+0.1**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
YAK	**Yakutsk**	**20.96**	**339**	P	**P**	**14 39 14.5**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=118,slow=3.7,SNR=8.3						
ULN	**Ulaanbaatar**	**26.92**	**293**	*e*P	**P**	**14 40 14.5**	**+1.3**
ULN	**Ulaanbaatar**	**26.92**	**293**	⇓*e*P	**P**	**14 40 14.5**	**+1.3**
ULN				pmax	pmax		
	comp=Z,10.0nm,2.5s						
BILL	**Bilibino**	**27.28**	**17**	⇓*e*P	**P**	**14 40 13.5**	**-2.5**
BILL				pmax	pmax		
	comp=Z,19nm,4.4s						
SONM	**Songino Array**	**27.36**	**293**	P	**P**	**14 40 16.7**	**-0.5**
SONM	**Songino Array**	**27.36**	**293**	P	**P**	**14 40 17.6**	**+0.4**
	comp=Z,3.5nm,0.6s,baz=91,slow=8.5,SNR=25 comp=Z,3.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.68**	**135**	T	T	15 11 47.1	
	baz=328,slow=75,SNR=536						
H11N1	**WAKE ISLAND Hy**	**29.69**	**135**	T	T	15 11 48.6	
	baz=328,slow=75,SNR=588						
H11N3	**WAKE ISLAND Hy**	**29.70**	**135**	T	T	15 11 50.4	
	baz=328,slow=75,SNR=609						
H11S1	**WAKE ISLAND Hy**	**30.61**	**137**	T	T	15 12 58.0	
	baz=329,slow=76,SNR=898						
H11S3	**WAKE ISLAND Hy**	**30.61**	**137**	T	T	15 12 57.2	
	baz=329,slow=76,SNR=782						
H11S2	**WAKE ISLAND Hy**	**30.63**	**137**	T	T	15 12 54.8	
	baz=329,slow=76,SNR=688						
ANM	**Nome**	**34.84**	**35**	P	**P**	**14 41 23.5**	**+1.0**
ANM	**Nome**	**34.84**	**35**	P	**P**	**14 41 23.5**	**+1.0**
ANM				pmax	pmax		
	comp=Z,16nm,1.4s						
F15K	**North Star Dit**	**35.42**	**33**	P	**P**	**14 41 28.5**	**+1.1**
F15K				IAmb	IAmb	14 41 36.3	
	comp=Z,10nm,1.2s						
C16K	**Lisburne Hills**	**35.89**	**29**	P	**P**	**14 41 30.8**	**-0.5**
C16K				IAmb	IAmb	14 41 31.9	
	comp=Z,6.4nm,0.9s						
G16K	**Koyuk River**	**36.28**	**34**	P	**P**	**14 41 35.3**	**+0.6**
G16K				IAmb	IAmb	14 41 38.2	
	comp=Z,5.2nm,1.0s						
N15K	**Kwethluk River**	**36.67**	**43**	P	**P**	**14 41 38.3**	**+0.1**
J16K	**Anvik River**	**36.69**	**38**	P	**P**	**14 41 38.3**	**+0.1**
J16K				IAmb	IAmb	14 41 48.3	
	comp=Z,15nm,1.4s						
I17K	**Unalakleet**	**36.73**	**37**	P	**P**	**14 41 39.6**	**+1.1**
F17K	**Baldwin Pennin**	**36.93**	**33**	P	**P**	**14 41 40.4**	**+0.2**
F17K				IAmb	IAmb	14 41 42.9	
	comp=Z,7.4nm,0.9s						
L16K	**Owhat River**	**37.06**	**41**	P	**P**	**14 41 41.5**	**+0.1**
H17K	**Granite Mounta**	**37.21**	**35**	P	**P**	**14 41 42.7**	**0.0**
H17K				IAmb	IAmb	14 41 44.9	
	comp=Z,5.7nm,1.1s						
E18K	**Tukpahlearik C**	**37.39**	**31**	P	**P**	**14 41 44.1**	**-0.1**
E18K				IAmb	IAmb	14 41 47.4	
	comp=Z,7.9nm,1.3s						
C18K	**Utukok River**	**37.46**	**29**	P	**P**	**14 41 44.3**	**-0.5**
G18K	**Tagagawik**	**37.88**	**34**	P	**P**	**14 41 49.0**	**+0.7**
H18K	**Honhosa River**	**37.89**	**35**	P	**P**	**14 41 48.8**	**+0.3**
M17K	**Holitna River**	**38.02**	**41**	P	**P**	**14 41 50.2**	**+0.6**
C19K	**Lookout Ridge**	**38.14**	**28**	P	**P**	**14 41 50.8**	**+0.2**
C19K				IAmb	IAmb	14 41 51.7	
	comp=Z,7.4nm,0.9s						
F19K	**Sha

G23K	Bananza Creek	41.42	33	P		P		14 42 16.5	-1.1
TOLK	Toolik Lake Re	41.66	30	P		P		14 42 19.7	0.0
BWN	Browne	41.67	37	P		P		14 42 21.6	+1.9
I23K	Minto, Yukon-K	41.69	35	P		P		14 42 20.5	+0.7
NEA2	Nenana	41.83	36	P		P		14 42 21.8	+0.8
RND	Reindeer	41.98	38	IAmb		IAmb		14 42 24.7	
	comp=Z,7.1nm,0.8s								
E24K	Your Creek	42.04	31	P		P		14 42 22.5	-0.3
E24K				IAmb		IAmb		14 42 24.8	
	comp=Z,5.9nm,0.8s								
GHO	Glory Hole Cre	42.07	40	P		P		14 42 23.1	0.0
GHO				IAmb		IAmb		14 42 45.3	
	comp=Z,9.9nm,1.2s								
MDM	Murphy Dome	42.17	36	IAmb		IAmb		14 42 26.7	
	comp=Z,5.9nm,0.7s								
H24K	Noodor Dome	42.29	34	IAmb		IAmb		14 42 27.3	
	comp=Z,8.0nm,1.1s								
COLA	College	42.34	36	P		P		14 42 25.8	+0.7
COLA	College	42.34	36	P		P		14 42 25.8	+0.7
COLA				pmax		pmax			
	comp=Z,13nm,0.6s								
G24K	Hadweenzic Riv	42.43	33	IAmb		IAmb		14 42 28.2	
	comp=Z,6.2nm,0.9s								
POKR	Poker Plat Res	42.50	35	IAmb		IAmb		14 42 29.7	
	comp=Z,10nm,0.8s								
DHY	Denali Highway	42.67	38	P		P		14 42 28.3	+0.3
DHY				IAmb		IAmb		14 42 30.7	
	comp=Z,7.0nm,1.0s								
IL31		42.76	36	IAmb		IAmb		14 42 30.8	
	comp=Z,9.0nm,1.1s								
ILAR	Eielson Array	42.76	36	*e*P		P		14 42 29.0	+0.5
ILAR				pmax		pmax			
	comp=Z,5.0nm,0.4s								
ILAR	Eielson Array	42.76	36	P		P		14 42 29.1	+0.5
	comp=Z,3.3nm,0.5s,baz=259,slow=6.0,SNR=136								
	comp=Z,3.3nm,0.5s								
D25K	Kavik River	42.84	29	IAmb		IAmb		14 42 30.4	
	comp=Z,8.3nm,0.8s								
PRP	Porcupine Dome	43.28	35	IAmb		IAmb		14 42 34.9	
	comp=Z,7.6nm,0.6s								
MK31	Makanchi Array	43.56	297	P		P		14 42 35.6	+0.3
MK31	Makanchi Array	43.56	297	*c*	*i* P	P		14 42 35.4	+0.1
MKAR	Makanchi Array	43.56	297	P		P		14 42 35.4	+0.1
MKAR	Makanchi Array	43.56	297	P		P		14 42 35.7	+0.4
	comp=Z,2.8nm,0.6s,baz=83,slow=9.1,SNR=37								
	comp=Z,2.8nm,0.6s								
MAKZ	Makanchi	43.76	298	P		P		14 42 36.9	0.0
MAKZ	Makanchi	43.76	298	P		P		14 42 36.9	0.0
MAKZ				pmax		pmax			
	comp=Z,3.0nm,0.8s								
SCRK	Sand Creek	44.09	37	IAmb		IAmb		14 42 41.5	
	comp=Z,1.1nm,0.8s								
KURK	Kurchatov	44.64	304	P		P		14 42 43.8	0.0
KURK				IAmb		IAmb		14 42 44.1	
	comp=Z,5.0nm,0.6s								
KURK	Kurchatov	44.64	304	*e*P		P		14 42 43.6	-0.2
KURK	Kurchatov	44.64	304	*ce*P		P		14 42 43.6	-0.2
KURK				pmax		pmax			
	comp=Z,3.0nm,0.6s								
KURBB	Kurchatov Arra	44.72	304	P		P		14 42 44.4	0.0
	comp=Z,5.0nm,0.6s,baz=69,slow=8.7,SNR=23								
	comp=Z,5.0nm,0.6s								
G27K	Doyon Strip	44.73	33	P		P		14 42 45.1	+0.7
M26K	Nabesna, AK	44.76	39	P		P		14 42 45.0	+0.3
M26K				IAmb		IAmb		14 42 49.6	
	comp=Z,10.0nm,1.1s								
K27K	Chicken	44.91	37	IAmb		IAmb		14 42 49.1	
	comp=Z,12nm,1.0s								
L27K	Beaver Creek,	45.18	38	IAmb		IAmb		14 42 51.9	
	comp=Z,5.8nm,0.7s								
EGAK	Eagle	45.20	35	IAmb		IAmb		14 42 50.3	
	comp=Z,10.0nm,1.1s								
E28M	Babbage River	45.34	30	P		P		14 42 48.9	-0.2
I28M	Miner Creek	45.60	34	IAmb		IAmb		14 42 54.5	
	comp=Z,10nm,1.0s								
CMAR	Chiang Mai Arr	46.01	252	P		P		14 42 55.9	+1.0
	comp=Z,0.4nm,0.4s,baz=39,slow=8.7,SNR=4.8								
	comp=Z,0.4nm,0.4s								
H29M	Whitestone	46.11	33	IAmb		IAmb		14 42 59.3	
	comp=Z,12nm,1.4s								
G29M	Pine Creek	46.14	32	IAmb		IAmb		14 42 58.2	
	comp=Z,10.0nm,1.1s								
L29M	L29M	46.82	37	IAmb		IAmb		14 43 05.5	
	comp=Z,9.8nm,0.8s								
I30M	Mount Dempster	47.11	34	IAmb		IAmb		14 43 05.3	
	comp=Z,7.2nm,0.7s								
INK	Inuvik	47.58	30	IAmb		IAmb		14 43 08.4	
	comp=Z,5.2nm,0.8s								
HYT	Haines Junctio	47.66	40	P		P		14 43 07.7	+0.2
HYT				IAmb		IAmb		14 43 10.6	
	comp=Z,14nm,1.1s								
BVAR	Borovoye Array	48.73	309	P		P		14 43 15.8	+0.1
	comp=Z,2.0nm,0.4s,baz=76,slow=9.2,SNR=24								
	comp=Z,2.0nm,0.4s								
BRVK	Borovoye	48.78	309	P		P		14 43 14.3	-1.7
BRVK	Borovoye	48.78	309	*e*P		P		14 43 16.9	+0.8
BRVK	Borovoye	48.78	309	*e*P		P		14 43 16.9	+0.8
BRVK				pmax		pmax			
	comp=Z,2.0nm,0.8s								
PMG	Port Moresby	52.40	178	*ce*P		P		14 43 47.3	+3.7
PMG				pmax		pmax			
	comp=Z,18nm,1.3s								
ARU	Arti	53.75	317	*e*P		P		14 43 52.8	-0.4
ARU	Arti	53.75	317	*c*	*i* P	P		14 43 52.7	-0.4
ARU								14 45 52.4	
ARU				S		S		14 51 19.4	-1.0
ARU				SS		SKiKP		14 54 53.1	-4.5
ARU				pmax		pmax			
	comp=Z,7.0nm,0.7s								
SPITS	Spitsbergen Ar	55.03	349	P		P		14 44 01.0	-1.1
SPITS	Spitsbergen Ar	55.03	349	P		P		14 44 01.0	-1.1
	comp=Z,22nm,1.1s,baz=76,slow=7.0,SNR=13								
	comp=Z,22nm,1.1s								
ABKAR	Akbulak array	56.28	308	P		P		14 44 11.2	-0.2
ABKAR	Akbulak array	56.28	308	P		P		14 44 11.7	+0.3
YKA	Yellowknife Ar	57.03	33	*e*P		P		14 44 16.6	+0.1
YKA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
YKA	Yellowknife Ar	57.03	33	P		P		14 44 16.8	+0.2
	comp=Z,1.1nm,0.7s,baz=303,slow=7.2,SNR=17								
YKA				pP		pP		14 44 37.9	-0.7
	comp=Z,0.5nm,0.7s,baz=300,slow=7.6,SNR=3.8								
	comp=Z,1.1nm,0.7s								
NEEM	North Greenlan	59.18	4	*i* P		P		14 44 30.7	-1.1
NEEM				IAmb		IAmb		14 44 32.1	
	comp=Z,4.5nm,0.4s								
ARCES	ARCESS Array B	59.24	339	*e*P		P		14 44 34.2	+2.3
ARCES				pmax		pmax			
	comp=Z,5.0nm,1.0s								
ARCES	ARCESS Array B	59.24	339	P		P		14 44 31.9	0.0
	comp=Z,4.6nm,1.0s,baz=39,slow=6.2,SNR=6.2								
	comp=Z,4.6nm,1.0s								
DAG	Danmarks Havn	59.85	356	*i* P		P		14 44 34.9	-1.0
DAG				IAmb		IAmb		14 44 35.9	
	comp=Z,1.2nm,0.5s								
UPNV	Upernavik	63.35	7	*i* P		P		14 44 58.1	-1.4
UPNV				IAmb		IAmb		14 44 59.1	
	comp=Z,5.6nm,0.6s								
WRA	Warramunga Arr	63.64	191	*e*P		P		14 45 05.6	+3.6
WRA	Warramunga Arr	63.64	191	P		P		14 45 01.9	-0.1
	comp=Z,0.6nm,0.7s,baz=7.9,slow=6.9,SNR=8.7								
WRA				pP		pP		14 45 23.7	-0.7
	comp=Z,0.6nm,1.1s,baz=9.6,slow=6.9,SNR=2.0								
WRA				PcP		PcP		14 45 37.6	+0.1
	comp=Z,0.6nm,0.9s,baz=353,slow=1.9,SNR=2.2								
	comp=Z,0.6nm,0.7s								
SUMG	Summit	64.48	1	P		P		14 45 07.3	-0.1
SUMG	Summit	64.48	1	P		P		14 45 07.3	-0.1
SUMG				pmax		pmax			
	comp=Z,15nm,0.8s								
SUMG	Summit	64.48	1	*i* P		P		14 45 07.0	-0.4
SUMG				IAmb		IAmb		14 45 08.4	
	comp=Z,13nm,0.5s								
FINES	FINESS Array B	64.69	332	P		P		14 45 08.2	-0.3
	comp=Z,8.3nm,0.5s,baz=45,slow=7.9,SNR=78								
	comp=Z,8.3nm,0.5s								
OBN	Obninsk	64.89	323	*e*P		P		14 45 08.7	-1.1
OBN	Obninsk	64.89	323	*e*P		P		14 45 08.7	-1.1
OBN				*e*				14 45 39.0	
OBN				*e*				14 47 34.6	
OBN				pmax		pmax			
	comp=Z,3.0nm,0.9s								
ASAR	Alice Springs	67.36	191	P		P		14 45 27.0	+1.0
	comp=Z,1.4nm,0.7s,baz=8.8,slow=5.6,SNR=32								
	comp=Z,1.4nm,0.7s								
ICESG	Greenland Ices	67.95	2	*i* P		P		14 45 29.1	-0.5
ICESG				IAmb		IAmb		14 45 30.9	
	comp=Z,11nm,0.8s								
KIV	Kislovodsk	69.04	311	*e*P		P		14 45 37.1	+0.6
KIV	Kislovodsk	69.04	311	*e*P		P		14 45 37.1	+0.6
KIV				*e*				14 45 59.4	
KIV				*e*				14 48 10.1	
KIV				*e*PPP		PPP		14 49 52.8	
KIV				pmax		pmax			
	comp=Z,3.0nm,0.5s								
NVAR	Mina Array Bea	69.07	57	P		P		14 45 38.3	+1.4
	comp=Z,0.8nm,0.7s,baz=291,slow=6.6,SNR=7.1								
	comp=Z,0.8nm,0.7s								
KBZ	Khabaz	69.07	311	*e*P		P		14 45 38.1	+1.6
KBZ	Khabaz	69.07	311	*e*P		P		14 45 38.1	+1.6
KBZ				pmax		pmax			
	comp=Z,11nm,2.3s								
KBZ	Khabaz	69.07	311	P		P		14 45 37.7	+1.2
	comp=Z,1.2nm,0.5s,baz=148,slow=6.0,SNR=7.6								
	comp=Z,1.2nm,0.5s								
NB2	NORSAR Subarra	69.57	338	P		P		14 45 39.4	0.0
	comp=Z,2.6nm,0.4s,baz=33,slow=6.5								
NOA	NORSAR Array B	69.57	338	P		P		14 45 39.2	-0.1
	comp=Z,2.7nm,0.4s,baz=30,slow=5.2,SNR=44								
	comp=Z,2.7nm,0.4s								
HFS	Hagfors	69.61	336	P		P		14 45 39.4	-0.2
	comp=Z,9.2nm,0.4s,baz=50,slow=7.9,SNR=90								
	comp=Z,9.2nm,0.4s								
DY2G	Dye2	70.28	5	*i* P		P		14 45 43.2	-0.6
DY2G				IAmb		IAmb		14 45 45.7	
	comp=Z,7.1nm,0.7s								
BCW	Bitter Crk WRg	70.58	60	P		P		14 45 44.8	-1.3
AKASG	Malin Array Be	71.15	323	*e*P		P		14 45 49.0	-0.1
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
AKASG	Malin Array Be	71.15	323	P		P		14 45 49.0	-0.1
	comp=Z,2.3nm,0.6s,baz=40,slow=5.8,SNR=16								
	comp=Z,2.3nm,0.6s								
AKBB	Malin Array Si	71.15	323	*i* P		P		14 45 48.7	-0.4
AKBB				pmax		pmax			
	comp=Z,6.0nm,0.9s								
PDAR	Pinedale Array	71.34	49	P		P		14 45 51.5	+0.7
	comp=Z,0.9nm,0.6s,baz=106,slow=0.6,SNR=7.9								
PDAR				pP		pP		14 46 14.1	+0.5
	comp=Z,0.8nm,0.7s,baz=278,slow=1.7,SNR=4.6								
	comp=Z,0.9nm,0.6s								
BUR08	Bucovina Ar. S	75.19	323	P		P		14 46 11.5	-1.6
CLL	Collm	77.11	332	*i* P		P		14 46 24.4	+0.6
CLL	Collm	77.11	332	*i* P		P		14 46 24.4	+0.6
EKA	Eskdalemuir Ar	78.20	342	P		P		14 46 30.0	+0.2
	comp=Z,1.7nm,0.6s,baz=26,slow=4.8,SNR=9.8								
EKA				pP		pP		14 46 52.5	-0.5
	comp=Z,0.4nm,0.4s,baz=21,slow=5.4,SNR=1.4								
	comp=Z,1.7nm,0.6s								
KHC	Kasperske Hory	78.72	330	*i* P		P		14 46 33.6	+0.8
KHC				pmax		pmax			
	comp=Z,73nm,4.2s								
CONA	Conrad Observa	78.85	328	*e*P		P		14 46 34.0	+0.4
	comp=Z,4.7nm,1.3s								
GERES	GERESS Array B	78.91	330	P		P		14 46 34.5	+0.5
	comp=Z,0.5nm,0.5s,baz=0.0,slow=8.8,SNR=2.4								
	comp=Z,0.5nm,0.5s								
SOKA	Soboth	80.20	328	*e*P		P		14 46 39.6	-1.4
	comp=Z,6.8nm,2.0s								
LESA	Schwarzleotal	80.47	330	*e*P		P		14 46 43.2	+0.8
	comp=Z,0.2nm,0.1s								
KBA	Koelnbreinsper	80.51	329	*i* P		P		14 46 44.3	+1.6
	comp=Z,1.1nm,0.4s								
OBKA	Obir	80.53	328	*e*P		P		14 46 42.3	-0.4
	comp=Z,6.8nm,1.2s								
WATA	Walderalm	80.95	330	*e*P		P		14 46 40.7	-4.3
	comp=Z,9.6nm,1.9s								
MOTA	Moosalm	81.12	330	*e*P		P		14 46 41.4	-4.5
	comp=Z,8.2nm,1.4s								
FETA	Feichten	81.53	330	*e*P		P		14 46 45.5	-2.6
	comp=Z,8.7nm,1.9s								
TXAR	Lajitas Array	84.13	55	P		P		14 47 02.5	+0.8
	comp=Z,0.5nm,0.7s,baz=297,slow=2.9,SNR=9.4								
TXAR				pP		pP		14 47 25.0	-0.3
	comp=Z,0.1nm,0.4s,baz=282,slow=4.7,SNR=2.3								
	comp=Z,0.5nm,0.7s								
H03N2	Juan Fernandez	144.40	89	T		T		17 35 21.2	
	baz=296								
H03N3	Juan Fernandez	144.41	89	T		T		17 35 24.0	
	baz=296								
H03N1	Juan Fernandez	144.41	89	T		T		17 35 24.0	
	baz=296								

NEIC ***30*** *14:37:57.2±2.5, 17.66N±0.05×101.23W±0.09, h50km±8km, mb4.3/85, Md4.6/16(MEX), Error ellipse: s-maj=12.3km s-min=6.8km az=70.0*

MEX ***30*** *14:37:59.2±1.0, 17.65N×101.27W, h48km±7km, MD4.4*

IDC ***30*** *14:38:03.9±3.7, 18.00N×100.72W, h92km±30km, mb3.8/7, mbtmp4.1/11, MS3.3/10, Error ellipse: s-maj=41.2km s-min=19.3km az=31.0*

ISC 30 14:37:56.5±0.6, 17.63N±0.03×101.23W±0.03, h44km±5km, n398, σ1°44/418, mb4.3/36, MS3.2/6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PET2	Petatlan	0.09	199	*i*	P		Pn	14 38 04.5	+0.9
PET2				*i*	S		Sn	14 38 10.2	+1.6
ZIIG	Zihuatanejo	0.22	265				Pn	14 38 05.4	+1.1
ZIIG							Sn	14 38 11.2	+1.3
ZIIG	Zihuatanejo	0.22	265	*i*	P		Pn	14 38 05.4	+1.1
ZIIG				*i*	S		Sn	14 38 11.2	+1.3
ATYC	Atoyac	0.87	118	*e*	P		Pn	14 38 13.7	+1.4
ATYC				*i*	S		Sn	14 38 25.9	+2.1
ARIG	Puente Sto Nin	1.06	52				Pn	14 38 15.5	+0.5
ARIG							Sn	14 38 29.0	+0.3
ARIG	Puente Sto Nin	1.06	52	*i*	P		Pn	14 38 15.5	+0.5
ARIG				*i*	S		Sn	14 38 29.0	+0.3
CAIG	El Cayaco	1.08	122				Pn	14 38 16.8	+1.5
CAIG							Sn	14 38 29.6	+0.5
CAIG	El Cayaco	1.08	122	*i*	P		Pn	14 38 16.8	+1.5
CAIG					eS		Sn	14 38 31.1	+2.0
ACP2	Acapulco	1.49	120	*e*	P		Pn	14 38 23.3	+2.5
ACP2					eS		Sn	14 38 41.8	+2.7
MEIG	Mezcala	1.56	79				Pn	14 38 23.2	+1.3
MEIG							Sn	14 38 42.5	+1.4
MEIG	Mezcala	1.56	79	*e*	P		Pn	14 38 23.2	+1.3
MEIG					eS		Sn	14 38 42.5	+1.4
DAIG	Los Arroyos	1.62	111				Pn	14 38 24.5	+1.8
DAIG							Sn	14 38 46.2	+3.7
DAIG	Los Arroyos	1.62	111	*e*	P		Pn	14 38 24.5	+1.8
DAIG					eS		Sn	14 38 44.3	+1.9
TEJU	Tejupilco	1.63	39	*e*	P		Pn	14 38 24.6	+1.7
TEJU					eS		Sn	14 38 44.2	+1.4
PLIG	Platanillo	1.81	65	*e*	P		Pn	14 38 26.7	+1.3
PLIG					eS		Sn	14 38 49.6	+2.4
MOIG	Morelia	2.04	1				Pn	14 38 29.2	+0.5
MOIG	Morelia	2.04	1	*e*	P		Pn	14 38 29.5	+0.8
MOIG					eS		Sn	14 38 53.1	+0.1
MMIG	Aquila	2.12	288	*e*	P		Pn	14 38 30.0	+0.5
MMIG					eS		Sn	14 38 52.6	-2.0
CRIG	Cruz Grande	2.19	113				Pn	14 38 31.9	+1.4
CRIG							Sn	14 38 56.1	-0.3
CRIG	Cruz Grande	2.19	113	*e*	P		Pn	14 38 32.4	+1.9
CRIG					eS		Sn	14 38 57.3	+0.9
YAIG	Yautepec	2.40	59	*e*	P		Pn	14 38 34.3	+0.9
YAIG					eS		Sn	14 39 03.8	+2.1
MGIG	Malinaltepec	2.51	99	*e*	P		Pn	14 38 38.0	+3.0
MGIG					eS		Sn	14 39 07.9	+3.4
TLIG	Tlapa	2.54	91				Pn	14 38 37.8	+2.4
TLIG	Tlapa	2.54	91	*e*	P		Pn	14 38 37.9	+2.5
TLIG					eS		Sn	14 39 07.7	+2.5
HMTT	Tlapaneco	2.55	86	*e*	P		Pn	14 38 38.0	+2.4
HMTT					eS		Sn	14 39 07.3	+1.9
UNM	Universidad Na	2.58	49				Pn	14 38 37.3	+1.2
UNM	Universidad Na	2.58	49	*e*	P		Pn	14 38 37.1	+1.0
UNM					eS		Sn	14 39 08.6	+2.2
COIG	Colima	2.80	304	*e*	P		Pn	14 38 41.0	+2.0
PPM	Popocatepetl	2.86	60	*e*	P		Pn	14 38 41.5	+1.4
PPM					eS		Sn	14 39 16.8	+3.2
EZ5V		2.91	310	*e*	P		Pn	14 38 42.7	+2.1
JUBC	Volcan de Coli	2.91	311	*e*	P		Pn	14 38 43.7	+3.2
MNGA	Volcan de Coli	2.91	309	*e*	P		Pn	14 38 43.7	+3.1
INCO	Volcan de Coli	2.94	310	*e*	P		Pn	14 38 43.3	+2.2
CDAR	Ciudad de Arme	2.95	297	*e*	P		Pn	14 38 41.7	+0.9
SOMAC	Volcano de Col	2.96	310	*e*	P		Pn	14 38 43.9	+2.5
FTIG	Fresnillo de T	2.97	84	*e*	P		Pn	14 38 43.5	+2.3
FTIG					eS		Sn	14 39 18.7	+3.0
CEGR	Campo Tres	3.05	306	*e*	P		Pn	14 38 44.7	+2.3
IGIG	Irapuato, Guan	3.11	358	*e*	S		Sn	14 39 26.3	+6.9
JRQG	Juriquilla Cam	3.15	13	*e*	P		Pn	14 38 52.3	+8.4
JRQG				*e*	S		Sn	14 39 23.3	+2.9
PNIG	Pinotepa	3.21	112	*e*	P		Pn	14 38 46.7	+2.2
PNIG				*e*	S		Sn	14 39 24.3	+2.6
HLIG	Huajuapan de L	3.27	86	*e*	P		Pn	14 38 48.0	+2.4
HLIG				*e*	S		Sn	14 39 21.3	-2.1
TXIG	Tlaxiaco	3.33	96	*e*	P		Pn	14 38 49.1	+2.8
TXIG				*e*	S		Sn	14 39 28.3	+3.5
DEIG	Demacu	3.38	38	*e*	P		Pn	14 38 47.1	+0.1
DEIG				*e*	S		Sn	14 39 29.6	+3.7
YOIG	Yosondua	3.60	102	*e*	P		Pn	14 38 53.4	+3.2
YOIG				*e*	S		Sn	14 39 34.7	+3.1
TPIG	Tehuac#an	3.77	77	*e*	S		Sn	14 39 36.4	+0.9
TOIG	Toxpalan	4.00	83	*e*	P		Pn	14 38 57.6	+2.2
TOIG				*e*	S		Sn	14 39 44.7	+3.6
CJM	Chamela	4.07	298	*e*	P		Pn	14 38 58.6	+2.4
CJM				*e*	S		Sn	14 39 45.2	+2.5
AAIG	Aguscalientes	4.45	346	*e*	P		Pn	14 39 01.9	+0.1
AAIG				*e*	S		Sn	14 39 55.2	+2.7
ZAIG	Zacatecas	5.27	346				Pn	14 39 14.0	+0.9
CMIG	Matias Romero	6.08	94	P			Pn	14 39 26.2	+2.2
	3.4nm,0.3s,baz=291,slow=8.9,SNR=8.7								
CMIG				S			Sn	14 40 29.2	-3.2
	22nm,0.6s,baz=282,slow=15,SNR=4.0								
CMIG				LR			LR	14 42 00.7	
	comp=Z,136nm,19.0s,baz=271,slow=42								
H06S1	SOCORRO T	9.31	278	T			T	14 49 27.5	
	SNR=12								
833A	Chaparral WMA,	10.78	9	P			Pn	14 40 28.8	+0.5
	baz=189								
TXAR	Lajitas Array	11.87	350	P			Pn	14 40 46.0	+2.8
	0.3nm,0.7s,baz=169,slow=10,SNR=2.8								
TXAR				LR			LR	14 45 40.9	
	comp=Z,100nm,18.2s,baz=153,slow=39								
TEIG	Tepich	12.53	76	P			Pn	14 40 50.4	-1.8
	41nm,0.8s,baz=243,slow=23,SNR=1.7								
TEIG				S			Sn	14 43 03.3	-7.2
	29nm,0.5s,baz=276,slow=20,SNR=1.6								
TEIG				LR			LR	14 45 09.9	
	comp=Z,418nm,20.6s,baz=80,slow=36								
JCT	Junction City	12.86	6	P			Pn	14 40 57.4	+0.6
	baz=185								
BRDY	Brady	13.75	8	P			P	14 41 15.7	-0.8
PECS	Pecos	13.89	351				Pn	14 41 10.3	-0.6
MNTX	Cornudas Mount	14.51	346	P			Pn	14 41 20.5	+1.4
	baz=163,SNR=9.7								
ABTX	Abilene, Hawle	15.00	5	P			P	14 41 30.1	-0.3
ABTX	Abilene, Hawle	15.00	5	P			Pn	14 41 26.2	+0.5
	baz=185,SNR=6.3								
NATX	Nacogdoches	15.28	22	P			Pn	14 41 29.9	+0.6
	baz=204								
PLPT	Palo Pinto	15.35	9				P	14 41 34.0	-0.3
PLPT				IAmb			IAmb	14 41 35.6	
	comp=Z,33nm,0.9s								
POST	Post	15.38	359				P	14 41 35.5	+0.8
POST				IAmb			IAmb	14 41 37.1	
	comp=Z,28nm,1.0s								
FW03	Perrin-Whitt E	15.61	10	P			P	14 41 37.8	+0.6
FW03				IAmb			IAmb	14 41 38.7	
	comp=Z,34nm,0.7s								
APMT	Aspermont	15.67	3	P			P	14 41 37.9	+0.1
APMT				IAmb			IAmb	14 41 39.2	
	comp=Z,13nm,0.7s								
DKNS	Dickens	15.98	1	P			P	14 41 41.2	-0.1
DKNS				IAmb			IAmb	14 41 53.6	
	comp=Z,12nm,1.2s								
121A	Cookes Peak, D	15.98	339	P			P	14 41 43.2	+1.8
121A	Cookes Peak, D	15.98	339	P			Pn	14 41 40.2	+1.7
	baz=156,SNR=6.3								
MSTX	Muleshoe	16.34	355	P			Pn	14 41 43.3	+0.3
	baz=174								
TUC	Tucson	16.98	331	P			P	14 41 52.9	+0.5
	baz=146								
Y22D	IRIS PASSCAL I	17.16	344	P			Pn	14 41 54.1	+0.9
	baz=160								
WMOK	Wichita Mounta	17.18	7				Pn	14 41 53.9	+0.5
AMTX	Amarillo	17.19	359				Pn	14 41 53.2	-0.4
AMTX	Amarillo	17.19	359	P			Pn	14 41 54.3	+0.6
	baz=178								
SMWD	Samnorwood	17.43	3				Pn	14 41 56.6	+0.1
SMWD				IAmb			IAmb	14 41 59.5	
	comp=Z,9.0nm,0.8s								
143A

MGMO					IAmb	IAmb	14 42 36.4			
	comp=Z,9.8nm,0.7s									
BELC	**Belle Mtn. Jos**	**21.00**	**324**		P	**P**	**14 42 37.5**	**+1.0**		
	baz=136									
X48A	**Hartselle**	**21.01**	**34**		P	**P**	**14 42 34.1**	**-2.3**		
X48A					IAmb	IAmb	14 42 36.6			
	comp=Z,5.8nm,0.6s									
TIGA	**Tifton**	**21.09**	**46**		P	**P**	**14 42 36.9**	**-0.5**		
	baz=234									
U15A	**North Rim**	**21.13**	**335**		P	**P**	**14 42 38.9**	**+0.9**		
CBKS	**Cedar Bluff**	**21.15**	**3**		P	**P**	**14 42 37.8**	**-0.2**		
	baz=184									
S39A	**Bolivar**	**21.16**	**18**		P	**P**	**14 42 36.9**	**-1.2**		
S39A					IAmb	IAmb	14 42 38.3			
	comp=Z,12nm,0.7s									
PBMO	**Poplar Bluff**	**21.33**	**24**		P	**P**	**14 42 38.5**	**-1.3**		
KSCO	**Kaye Shedlock'**	**21.34**	**357**		P	**P**	**14 42 40.8**	**+0.7**		
	baz=176									
GMRC	**Granite Mounta**	**21.39**	**326**		P	**P**	**14 42 42.0**	**+1.3**		
	baz=139									
MURC	**Murrieta**	**21.41**	**321**		P	**P**	**14 42 42.2**	**+1.5**		
	baz=133									
KSU1	**Kansas State U**	**21.77**	**10**		P	**P**	**14 42 43.5**	**-1.0**		
	baz=192									
FPAL	**Fort Paine**	**21.87**	**37**		P	**P**	**14 42 44.0**	**-1.7**		
HMU	**Henry Mountain**	**21.89**	**339**		P	**P**	**14 42 48.4**	**+2.3**		
HMU					IAmb	IAmb	14 42 50.4			
	comp=Z,10.0nm,0.8s									
WVT	**Waverly**	**21.92**	**30**		P	**P**	**14 42 44.4**	**-1.8**		
WVT					IAmb	IAmb	14 42 46.4			
	comp=Z,5.8nm,0.7s									
WVT	**Waverly**	**21.92**	**30**		P	**P**	**14 42 45.5**	**-0.7**		
	baz=216									
TUQ	**Turquoise Moun**	**22.03**	**326**		P	**P**	**14 42 49.6**	**+2.1**		
	baz=139									
R40A	**Maddies Statio**	**22.03**	**19**		P	**P**	**14 42 45.8**	**-1.6**		
R40A					IAmb	IAmb	14 42 46.9			
	comp=Z,9.2nm,0.7s									
BFSC	**Mount Baldy Ra**	**22.13**	**322**		P	**P**	**14 42 50.9**	**+2.3**		
	baz=134									
FVM	**French Village**	**22.39**	**23**		P	**P**	**14 42 48.5**	**-2.7**		
FVM					IAmb	IAmb	14 42 50.0			
	comp=Z,5.8nm,0.7s									
GOGA	**Godfrey**	**22.40**	**42**		P	**P**	**14 42 49.8**	**-1.5**		
GOGA					IAmb	IAmb	14 42 54.4			
	comp=Z,6.3nm,0.8s									
GOGA	**Godfrey**	**22.40**	**42**		P	**P**	**14 42 51.0**	**-0.3**		
	baz=230									
GSC	**Goldstone, Bar**	**22.40**	**325**		P	**P**	**14 42 53.1**	**+1.6**		
	baz=137									
ISCO	**Idaho Springs**	**22.42**	**351**		P	**P**	**14 42 52.7**	**+0.9**		
ISCO	**Idaho Springs**	**22.42**	**351**		P	**P**	**14 42 53.0**	**+1.1**		
	baz=168									
W50A	**Signal Mountai**	**22.52**	**36**		P	**P**	**14 42 50.6**	**-2.1**		
W50A					IAmb	IAmb	14 42 52.9			
	comp=Z,8.3nm,0.9s									
QSM	**Queen of Sheba**	**22.93**	**326**		P	**P**	**14 42 57.4**	**+0.4**		
LRMC	**Laurel Mtn Rad**	**23.02**	**324**		P	**P**	**14 43 00.0**	**+2.0**		
	baz=136									
CPCT	**Cooper Cave**	**23.15**	**37**		P	**P**	**14 42 57.4**	**-1.7**		
O20A	**White River Ci**	**23.24**	**346**		P	**P**	**14 42 59.6**	**-0.6**		
O20A					IAmb	IAmb	14 43 02.3			
	comp=Z,4.6nm,0.7s									
O20A	**White River Ci**	**23.24**	**346**		P	**P**	**14 43 01.4**	**+1.2**		
	baz=162									
P40A	**Paris**	**23.24**	**18**		P	**P**	**14 42 57.3**	**-2.6**		
P40A					IAmb	IAmb	14 43 00.8			
	comp=Z,8.6nm,0.8s									
U49A	**Red Boiling Sp**	**23.25**	**33**		P	**P**	**14 42 57.7**	**-2.4**		
U49A					IAmb	IAmb	14 42 58.9			
	comp=Z,4.0nm,0.6s									
OGNE	**Ogallala**	**23.25**	**358**		P	**P**	**14 43 00.4**	**+0.3**		
	baz=178									
MPMC	**Manual Prospec**	**23.34**	**325**		P	**P**	**14 43 02.6**	**+1.4**		
	baz=137									
TPNV	**Topopah Spring**	**23.36**	**328**		P	**P**	**14 43 03.5**	**+2.1**		
	baz=141,SNR=6.8									
ARVC	**Arvin**	**23.44**	**321**		P	**P**	**14 43 04.9**	**+2.9**		
	baz=133									
V51A	**Loudon**	**23.50**	**36**		P	**P**	**14 43 00.3**	**-2.2**		
V51A					IAmb	IAmb	14 43 02.2			
	comp=Z,8.5nm,0.7s									
TKL	**Tuckaleechee C**	**23.72**	**37**		P	**P**	**14 43 02.2**	**-2.4**		
TKL					IAmb	IAmb	14 43 03.8			
	comp=Z,9.9nm,0.8s									
TKL	**Tuckaleechee C**	**23.72**	**37**		P	**P**	**14 43 02.3**	**-2.4**		
	comp=Z,7.2nm,0.6s,baz=193,slow=11,SNR=11									
TKL					LR	LR	14 53 24.0			
	comp=Z,56nm,18.6s,baz=342,slow=40									
	comp=Z,7.2nm,0.6s									
BG3	**Lake Jocassee**	**23.77**	**40**		P	**P**	**14 43 03.4**	**-1.7**		
BG3					IAmb	IAmb	14 43 06.1			
	comp=Z,11nm,0.8s									
CWC	**Cottonwood Cre**	**23.94**	**325**		P	**P**	**14 43 08.9**	**+2.0**		
	baz=136									
T50A	**Nancy**	**24.12**	**34**		P	**P**	**14 43 06.1**	**-2.2**		
R11B	**Troy Canyon, C**	**24.17**	**332**		P	**P**	**14 43 08.3**	**-0.6**		
R11B	**Troy Canyon, C**	**24.17**	**332**		P	**P**	**14 43 11.1**	**+2.1**		
	baz=144									
SMMC	**Simmler**	**24.27**	**320**		P	**P**	**14 43 11.9**	**+2.2**		
	baz=131									
WCI	**Wyandotte Cave**	**24.34**	**30**		P	**P**	**14 43 07.7**	**-2.6**		
WCI					IAmb	IAmb	14 43 12.0			
	comp=Z,11nm,0.8s									
WCI	**Wyandotte Cave**	**24.34**	**30**		P	**P**	**14 43 10.2**	**-0.1**		
	baz=216									
NHSC	**New Hope**	**24.41**	**47**		P	**P**	**14 43 10.9**	**-0.1**		
	baz=236									
TZTN	**Tazewell**	**24.48**	**36**		P	**P**	**14 43 09.8**	**-1.8**		
TZTN					IAmb	IAmb	14 43 12.1			
	comp=Z,8.3nm,0.7s									
TZTN	**Tazewell**	**24.48**	**36**		P	**P**	**14 43 11.1**	**-0.5**		
	baz=224									
DUG	**Dugway, Tooele**	**24.62**	**338**		P	**P**	**14 43 14.0**	**+1.0**		
	baz=152									
N41A	**Harden Midland**	**24.68**	**19**		P	**P**	**14 43 11.0**	**-2.4**		
KMSC	**Kings Mountain**	**24.86**	**42**		P	**P**	**14 43 14.5**	**-0.5**		
	baz=231									
HDIL	**Hopedale**	**25.07**	**22**		P	**P**	**14 43 17.0**	**+0.2**		
	baz=208									
S51A	**Beattyville**	**25.25**	**34**		P	**P**	**14 43 17.4**	**-1.1**		
K22A	**Casper**	**25.35**	**351**		P	**P**	**14 43 20.6**	**+1.0**		
	baz=168,SNR=5.6									
U54A	**Nelsons Funny**	**25.46**	**39**		P	**P**	**14 43 19.2**	**-1.4**		
NVAR	**Mina Array Bea**	**25.54**	**328**		P	**P**	**14 43 22.7**	**+1.3**		
NVAR	**Mina Array Bea**	**25.54**	**328**		P	**P**	**14 43 24.5**	**+3.0**		
	comp=Z,5.5nm,0.7s,baz=146,slow=9.4,SNR=46									
	comp=Z,5.5nm,0.7s									
SFIN	**Lafayette**	**25.76**	**25**		P	**P**	**14 43 23.5**	**+0.5**		
	baz=212									
ELK	**Elko**	**26.01**	**335**		LR	LR	14 54 28.5			
	comp=Z,75nm,20.1s,baz=124,slow=38									
BW06	**Boulder Array**	**26.04**	**346**		P	**P**	**14 43 26.7**	**+0.8**		
	baz=161,SNR=5.3									
PDAR	**Pinedale Array**	**26.04**	**346**		P	**P**	**14 43 26.1**	**+0.2**		
	comp=Z,4.7nm,1.0s,baz=147,slow=8.8,SNR=18									
PDAR					LR	LR	14 53 11.9			
	comp=Z,64nm,20.3s,baz=156,slow=35									
	comp=Z,4.7nm,1.0s									
P49A	**Miami Univ. Ec**	**26.12**	**30**		P	**P**	**14 43 26.1**	**-0.3**		
	baz=218									
WAKR	**Walker**	**26.19**	**326**		P	**P**	**14 43 26.5**	**-0.8**		
L42A	**Oliver, Polo**	**26.23**	**20**		P	**P**	**14 43 26.2**	**-1.2**		
L42A					IAmb	IAmb	14 43 30.5			
	comp=Z,14nm,0.9s									
ECSD	**EROS Data Cent**	**26.32**	**8**		P	**P**	**14 43 27.0**	**-1.2**		
ECSD	**EROS Data Cent**	**26.32**	**8**		P	**P**	**14 43 28.4**	**+0.2**		
	baz=190									
Q51A	**Peebles**	**26.41**	**33**		P	**P**	**14 43 26.5**	**-2.6**		
O48B	**Farmland**	**26.49**	**28**		P	**P**	**14 43 30.2**	**+0.4**		
	baz=216									
RSSD	**Black Hills**	**26.52**	**355**		P	**P**	**14 43 30.4**	**+0.2**		
	baz=174									
S54A	**Dingess, Beckl**	**26.63**	**37**		P	**P**	**14 43 30.6**	**-0.5**		
S54A					IAmb	IAmb	14 43 54.2			
	comp=Z,13nm,1.3s									
BLA	**Blacksburg**	**26.76**	**39**		P	**P**	**14 43 30.4**	**-1.9**		
BLA	**Blacksburg**	**26.76**	**39**		P	**P**	**14 43 31.5**	**-0.8**		
	baz=229									
JFWS	**Jewell Farm**	**26.88**	**18**		P	**P**	**14 43 33.3**	**0.0**		
	baz=203									
Q52A	**Bidwell**	**26.93**	**34**		P	**P**	**14 43 34.5**	**+0.8**		
L44A	**Lake County Fo**	**26.99**	**22**		P	**P**	**14 43 34.0**	**-0.3**		
	baz=209									
P52A	**Corning**	**27.49**	**33**		P	**P**	**14 43 37.5**	**-1.3**		
	baz=222									
ACSO	**Alum Creek Sta**	**27.50**	**31**		P	**P**	**14 43 38.2**	**-0.7**		
	baz=220									
H17A	**Grant Village**	**27.82**	**346**		P	**P**	**14 43 41.9**	**-0.1**		
	baz=160									
S57A	**Dark Hollow, R**	**28.00**	**40**		P	**P**	**14 43 41.9**	**-1.4**		
S57A					IAmb	IAmb	14 44 04.4			
	comp=Z,8.5nm,1.1s									
HLID	**Hailey**	**28.16**	**339**		P	**P**	**14 43 45.8**	**+0.9**		
	baz=152									
SPMN	**Marine on St.**	**28.41**	**13**		P	**P**	**14 43 46.7**	**-0.1**		
	baz=197									
O53A	**New Philadelph**	**28.42**	**33**		P	**P**	**14 43 45.6**	**-1.4**		
	baz=223									
M53A	**WI Miller and**	**29.57**	**32**		P	**P**	**14 43 57.2**	**0.0**		
	baz=223									
SDV	**Santo Domingo**	**30.98**	**102**		LR	LR	14 57 54.1			
	comp=Z,27nm,19.7s,baz=294,slow=39									
BINY	**Binghamton**	**32.61**	**36**		P	**P**	**14 44 23.5**	**-0.5**		
	baz=229									
ULM	**Lac du Bonnet**	**32.83**	**6**		P	**P**	**14 44 21.8**	**-4.0**		
ULM	**Lac du Bonnet**	**32.83**	**6**		P	**P**	**14 44 24.8**	**-1.0**		
	comp=Z,1.6nm,0.5s,baz=179,slow=14,SNR=3.3									
	comp=Z,1.6nm,0.5s									
NEW	**Newport**	**33.20**	**340**		LR	LR	14 58 41.0			
	comp=Z,74nm,18.0s,baz=90,slow=38									
LONY	**Lake Ozonia**	**34.98**	**34**		P	**P**	**14 44 44.1**	**-0.5**		
	baz=228									
YKA	**Yellowknife Ar**	**45.79**	**351**		P	**P**	**14 46 12.8**	**-0.8**		
	comp=Z,0.4nm,0.7s,baz=160,slow=7.0,SNR=5.1									
	comp=Z,0.4nm,0.7s									
P30M	**Million Dollar**	**49.60**	**337**		P	**P**	**14 46 43.2**	**-0.1**		
	baz=133									
M31M	**Drury Creek, Y**	**50.20**	**341**		P	**P**	**14 46 48.4**	**+0.6**		
	baz=137									
PNL	**Peninsula**	**50.22**	**336**		P	**P**	**14 46 48.5**	**+0.6**		
	baz=130									
N30M	**Aishikik Lake**	**50.57**	**339**		P	**P**	**14 46 51.2**	**+0.6**		
	baz=133									
YUK6	**Outpost Mounta**	**50.67**	**338**		P	**P**	**14 46 51.9**	**+0.3**		
	baz=132									
YUK4	**Talbot Arm**	**51.04**	**338**		P	**P**	**14 46 55.5**	**+1.1**		
	baz=132									
M30M	**Minto, Yukon**	**51.25**	**340**		P	**P**	**14 46 55.9**	**+0.2**		
	baz=134									
YUK8	**Steele Glacier**	**51.41**	**337**		P	**P**	**14 46 57.6**	**+0.4**		
	baz=130									
M29M	**Somme Creek**	**51.72**	**339**		P	**P**	**14 46 59.8**	**+0.5**		
	baz=132									
L29M	**L29M**	**52.06**	**340**		P	**P**	**14 47 01.9**	**+0.1**		
	baz=133									
CRQE	**Cirque**	**52.34**	**336**		P	**P**	**14 47 04.0**	**+0.1**		
	baz=126									
K29M	**Barlow Dome**	**52.38**	**341**		P	**P**	**14 47 03.7**	**-0.5**		
	baz=134									
AC01	**Pan de Azucar**	**52.73**	**145**		P	**P**	**14 47 06.6**	**-0.5**		
Q23K	**Middleton Isla**	**52.94**	**333**		P	**P**	**14 47 08.4**	**+0.2**		
	baz=122									
EYAK	**Cordova Ski Ar**	**53.30**	**334**		P	**P**	**14 47 10.8**	**-0.1**		
	baz=123									
M26K	**Nabesna, AK**	**53.30**	**337**		P	**P**	**14 47 11.2**	**+0.2**		
	baz=127									
N25K	**Chitina, Valde**	**53.44**	**336**		P	**P**	**14 47 12.2**	**+0.2**		
	baz=125									
G31M	**Satah River**	**53.72**	**345**		P	**P**	**14 47 13.9**	**+0.1**		
	baz=140									
KLU	**Klutina**	**53.89**	**335**		P	**P**	**14 47 15.0**	**-0.4**		
	baz=124									
EPYK	**Eagle Plains**	**53.96**	**343**		P	**P**	**14 47 15.3**	**-0.3**		
	baz=136									
F31M	**Tsiigehtchic**	**53.99**	**345**		P	**P**	**14 47 15.9**	**+0.1**		
	baz=140									
K27K	**Chicken**	**54.00**	**339**		P	**P**	**14 47 16.2**	**+0.2**		
	baz=129									
GLI	**Glacier Island**	**54.03**	**334**		P	**P**	**14 47 16.4**	**+0.1**		
	baz=122									
AC04	**Llanos de Chal**	**54.11**	**147**		P	**P**	**14 47 16.2**	**-1.0**		
EGAK	**Eagle**	**54.18**	**340**		P	**P**	**14 47 17.5**	**+0.2**		
	baz=131									
I28M	**Miner Creek**	**54.24**	**341**		P	**P**	**14 47 17.8**	**0.0**		
	baz=132									
G30M	**tAoh Zraii Nji**	**54.27**	**344**		P	**P**	**14 47 18.2**	**+0.2**		
	baz=137									
H29M	**Whitestone**	**54.31**	**342**		P	**P**	**14 47 18.7**	**+0.5**		
	baz=135									
M24K	**Tolsona, Glenn**	**54.34**	**336**		P	**P**	**14 47 19.0**	**+0.4**		
	baz=124									
PAX	**Paxson**	**54.56**	**337**		P	**P**	**14 47 20.2**	**0.0**		
	baz=125									
INK	**Inuvik**	**54.61**	**346**		P	**P**	**14 47 20.5**	**+0.2**		
	baz=141									
SCRK	**Sand Creek**	**54.62**	**338**		P	**P**	**14 47 21.0**	**+0.3**		
	baz=127									
F30M	**Barrier River**	**54.63**	**345**		P	**P**	**14 47 20.7**	**+0.2**		
	baz=138									
G29M	**Pine Creek**	**54.71**	**343**		P	**P**	**14 47 21.3**	**+0.2**		
	baz=135									
M23K	**Glacier View**	**54.78**	**335**		P	**P**	**14 47 21.7**	**0.0**		
	baz=122									
RIDG	**Independent Ri**	**54.78**	**338**		P	**P**	**14 47 22.0**	**+0.3**		
	baz=126									
J26L	**Joseph Creek**	**54.80**	**339**		P	**P**	**14 47 22.6**	**+0.7**		
	baz=128									
I27K	**Kandik River**	**54.87**	**341**		P	**P**	**14 47 23.1**	**+0.8**		
	baz=131									
KNK	**Knik Glacier**	**54.88**	**334**		P	**P**	**14 47 23.0**	**+0.6**		
	baz=121									
O22K	**Cooper Landing**	**54.94**	**333**		P	**P**	**14 47 23.1**	**+0.3**		
	baz=119									
SML	**Sawmill**	**55.03**	**335**		P	**P**	**14 47 23.9**	**+0.3**		
	baz=121									
BRSE	**Bradley Lake S**	**55.03**	**332**		P	**P**	**14 47 23.9**	**+0.3**		
	baz=117									
H03N2	**Juan Fernandez**	**55.06**	**157**		T	T	15 46 43.7			
	baz=335,slow=77,SNR=103									
H03N1	**Juan Fernandez**	**55.07**	**157**		T	T	15 46 45.2			
	baz=335,slow=77,SNR=68									
H03N3	**Juan Fernandez**	**55.08**	**157**		T	T	15 46 44.1			
	baz=335,slow=77,SNR=92									
OHAK	**Old Harbor**	**55.15**	**328**		P	**P**	**14 47 24.7**	**+0.4**		
	baz=113									
K24K	**Donnelly Dome**	**55.16**	**338**		P	**P**	**14 47 24.6**	**+0.2**		
	baz=125									
WAT6	**Susitna Watana**	**55.21**	**336**		P	**P**	**14 47 24.6**	**-0.4**		
	baz=122									
PMR	**Palmer**	**55.25**	**334**		P	**P**	**14 47 25.0**	**0.0**		
	baz=120									
RC01	**Rabbit Creek A**	**55.25**	**334**		P	**P**	**14 47 24.8**	**-0.3**		
	baz=119									
H27K	**Steamboat Moun**	**55.25**	**341**		P	**P**	**14 47 25.1**	**0.0**		
	baz=131									
Q20K	**Shuyak Island**	**55.29**	**330**		P	**P**	**14 47 25.4**	**0.0**		
	baz=115									
DHY	**Denali Highway**	**55.34**	**336**		P	**P**	**14 47 25.0**	**-0.8**		
	baz=123									
SII	**Sitkinak Islan**	**55.34**	**328**		P	**P**	**14 47 25.2**	**-0.6**		
	baz=112									
HOM	**Homer**	**55.40**	**332**		P	**P**	**14 47 25.0**	**-1.2**		
	baz=116									
J25K	**Salcha River,**	**55.49**	**339**		P	**P**	**14 47 25.4**	**-1.4**		
	baz=126									
WAT1	**Susitna Watana**	**55.66**	**336**		P	**P**	**14 47 27.6**	**-0.5**		
	baz=122									
G27K	**Doyon Strip**	**55.68**	**342**		P	**P**	**14 47 29.7**	**+1.6**		
G27K					IAmb	IAmb	14 47 30.4			
	comp=Z,2.4nm,0.8s									
G27K	**Doyon Strip**	**55.68**	**342**		P	**P**	**14 47 28.8**	**+0.7**		
	baz=131									
CAPN	**Captain Cook N**	**55.70**	**333**		P	**P**	**14 47 27.7**	**-0.5**		
	baz=118									
F28M	**Old Crow**	**55.72**	**343**		P	**P**	**14 47 28.7**	**+0.3**		
	baz=134									
E29M	**Blow River**	**55.74**	**344**		P	**P**	**14 47 27.4**	**-1.1**		
	baz=136									
CHIR	**Chirikof Islan**	**55.82**	**326**		P	**P**	**14 47 29.2**	**0.0**		
	baz=110									
SUA	**Susitna One**	**55.85**	**334**		P	**P**	**14 47 29.6**	**+0.1**		
	baz=118									
R18K	**Karluk**	**55.86**	**329**		P	**P**	**14 47 29.5**	**0.0**		
	baz=112									
HDA	**Harding Lake**	**55.93**	**338**		P	**P**	**14 47 29.7**	**-0.2**		
	baz=124									
HDA					P	**P**	**14 47 29.7**	**-0.2**		
	baz=124									
PRP	**Porcupine Dome**	**56.08**	**339**		P	**P**	**14 47 31.6**	**+0.5**		
	baz=126									
ILAR	**Eielson Array**	**56.11**	**338**		P	**P**	**14 47 32.6**	**+1.5**		
	comp=Z,1.4nm,0.9s,baz=152,slow=6.1,SNR=18									
	comp=Z,1.4nm,0.9s									
CUT	**Chulitna**	**56.12**	**335**		P	**P**	**14 47 31.2**	**0.0**		
	baz=120									
P19K	**Oil Pt**	**56.12**	**331**		P	**P**	**14 47 31.4**	**0.0**		
	baz=115									
MCK	**McKinley**	**56.28**	**337**		P	**P**	**14 47 32.4**	**-0.1**		
	baz=122									
E28M	**Babbage River**	**56.32**	**344**		P	**P**	**14 47 32.3**	**-0.3**		
	baz=134									
G26K	**Porcupine Rive**	**56.41**	**341**		P	**P**	**14 47 32.9**	**-0.4**		
	baz=129									
SKT	**Skwentna**	**56.43**	**334**		P	**P**	**14 47 33.4**	**-0.2**		
	baz=118									
Q18K	**Katmai Hardscr**	**56.55**	**330**		P	**P**	**14 47 34.5**	**-0.1**		
	baz=112									
E27K	**Coleen River**	**56.58**	**343**		P	**P**	**14 47 34.2**	**-0.4**		
	baz=132									
D28M	**Stokes Point**	**56.63**	**345**		P	**P**	**14 47 34.7**	**-0.1**		
	baz=136									
TRF	**Thorofare Moun**	**56.66**	**336**		P	**P**	**14 47 36.5**	**+1.1**		
TRF	**Thorofare Moun**	**56.66**	**336**		P	**P**	**14 47 35.0**	**-0.3**		
	baz=120									
Q17K	**Contact Creek**	**56.83**	**329**		P	**P**	**14 47 36.7**	**+0.1**		
	baz=111									
O19K	**Port Alsworth**	**56.85**	**332**		P	**P**	**14 47 37.0**	**+0.5**		
	baz=114									
R17K	**Ugashik Creek**	**56.86**	**328**		P	**P**	**14 47 37.1**	**+0.5**		
	baz=110									
BMAR	**Burnt Mountain**	**56.95**	**342**		P	**P**	**14 47 36.8**	**-0.4**		
F26K	**Sheenjek River**	**56.99**	**342**		P	**P**	**14 47 37.8**	**+0.3**		
	baz=129									
G25K	**Bearman Lake**	**57.02**	**341**		P	**P**	**14 47 38.3**	**+0.8**		
	baz=126									
M20K	**Styx River**	**57.06**	**334**		P	**P**	**14 47 37.9**	**-0.2**		
	baz=116									
H24K	**Noodor Dome**	**57.06**	**339**		P	**P**	**14 47 38.5**	**+0.5**		
H24K					IAmb	IAmb	14 47 41.6			
	comp=Z,2.3nm,0.8s									
H24K	**Noodor Dome**	**57.06**	**339**		P	**P**	**14 47 38.5**	**+0.5**		
	baz=124									
O18K	**Koktuh Hills**	**57.12**	**331**		P	**P**	**14 47 39.4**	**+0.9**		
	baz=113									
PPLA	**Purkeypile**	**57.13**	**335**		P	**P**	**14 47 38.9**	**+0.2**		
	baz=118									
D27M	**Malcolm River**	**57.14**	**344**		P	**P**	**14 47 38.5**	**0.0**		
	baz=133									
RES	**Resolute Bay**	**57.18**	**2**		P	**P**	**14 47 38.0**	**-0.6**		
RES					IAmb	IAmb	14 47 45.5			
	comp=Z,3.3nm,1.4s									
N19K	**Bonanza Creek**	**57.18**	**332**		P	**P**	**14 47 40.0**	**+1.0**		
	baz=114									
I23K	**Minto, Yukon-K**	**57.20**	**338**		P	**P**	**14 47 39.9**	**+1.1**		
	baz=122									
BPAW	**Bear Paw Mtn.**	**57.25**	**337**		P	**P**	**14 47 40.5**	**+1.1**		
	baz=120									
CAST	**Castle Rocks**	**57.34**	**336**		P	**P**	**14 47 40.8**	**+0.8**		
	baz=118									
F25K	**Christian Rive**	**57.38**	**341**		P	**P**	**14 47 42.0**	**+1.8**		
	baz=127									
G24K	**Hadweenzic Riv**	**57.42**	**340**		P	**P**	**14 47 40.6**	**+0.2**		
G24K	**Hadweenzic Riv**	**57.42**	**340**		P	**P**	**14 47 41.9**	**+1.4**		
	baz=125									
CHGN	**Chignik**	**57.46**	**326**		P	**P**	**14 47 42.8**	**+2.0**		
	baz=108									
MLY	**Manley**	**57.63**	**338**		P	**P**	**14 47 43.6**	**+1.5**		
	baz=120									
L20K	**Farewell, AK**	**57.64**	**334**		P	**P**	**14 47 42.9**	**+0.8**		
	baz=116									
CHUM	**Lake Minchumin**	**57.66**	**336**		P	**P**	**14 47 43.1**	**+1.0**		
	baz=118									
E25K	**Arctic Village**	**57.68**	**342**		P	**P**	**14 47 43.8**	**+1.5**		
	baz=128									
O17K	**Koliganek Bris**	**57.97**	**330**		P	**P**	**14 47 44.9**	**+0.5**		
	baz=111									
F24K	**Squaw Lake**	**58.03**	**341**		P	**P**	**14 47 45.6**	**+0.9**		
	baz=125									
M18K	**Stony River**	**58.05**	**333**		P	**P**	**14 47 46.0**	**+1.0**		
	baz=113									
S14K	**Fog Glacier**	**58.06**	**326**		P	**P**	**14 47 46.4**	**+1.2**		
	baz=107									
K20K	**Telida**	**58.11**	**335**		P	**P**	**14 47 46.4**	**+1.1**		
	baz=116									
P16K	**Nushagak River**	**58.14**	**329**		P	**P**	**14 47 46.7**	**+1.2**		
	baz=110									
I21K	**Tanana**	**58.16**	**337**		P	**P**	**14 47 46.5**	**+0.8**		
	baz=119									
G23K	**Bananza Creek**	**58.27**	**339**		P	**P**	**14 47 47.3**	**+0.8**		
	baz=122									
N17K	**Nushagak Hills**	**58.29**	**331**		P	**P**	**14 47 47.

baz=115
J16K Anvik River 60.79 334 P P 14 48 03.8 0.0
baz=110
K15K Wolf Creek Mou 60.86 332 P P 14 48 04.5 +0.2
baz=108
F19K Shaleruckik Mo 61.03 338 P P 14 48 06.5 +1.1
baz=114
C21K Knifeblade Rid 61.07 341 P P 14 48 07.2 +1.6
baz=118
H17K Granite Mounta 61.09 335 P P 14 48 07.0 +1.1
baz=111
E20K Nigu River 61.10 340 P P 14 48 06.6 +0.6
baz=117
E19K Redstone River 61.10 339 P P 14 48 06.9 +1.1
baz=115
M13K Dall Lake 61.15 330 P P 14 48 07.3 +1.0
baz=105
B21K Ikpikpuk River 61.24 341 P P 14 48 07.3 +0.6
baz=119
B22K Teshekpuk Lake 61.24 342 P P 14 48 07.4 +0.6
baz=120
UNV Unalaska Valle 61.39 322 P P 14 48 09.1 +1.0
baz=99
D20K Etivluk River 61.45 340 P P 14 48 09.1 +0.9
baz=116
G17K Kiwalik Mounta 61.59 336 P P 14 48 09.4 +0.2
baz=111
D19K Kuna River 61.85 339 P P 14 48 11.0 +0.2
D19K IAmb IAmb 14 48 18.6
comp=Z,2.1nm,1.1s
D19K Kuna River 61.85 339 P P 14 48 11.1 +0.2
baz=115
J14K Nanvaranak Lak 61.90 332 P P 14 48 11.7 +0.4
baz=106
A22K Sinclair Lake 62.03 343 P P 14 48 12.4 +0.4
baz=119
B20K Meade River 62.20 341 P P 14 48 13.7 +0.5
baz=116
G16K Koyuk River 62.22 336 P P 14 48 13.8 +0.5
baz=109
E18K Tukpahlearik C 62.28 338 P P 14 48 13.4 -0.4
E18K IAmb IAmb 14 48 16.5
comp=Z,4.4nm,1.1s
E18K Tukpahlearik C 62.28 338 P P 14 48 14.4 +0.6
baz=112
M11K Mekoryuk 62.51 330 P P 14 48 15.6 +0.2
baz=103
C19K Lookout Ridge 62.59 340 P P 14 48 15.8 -0.1
baz=114
E17K Hotham Inlet 62.59 337 P P 14 48 17.0 +1.1
baz=110
A21K Barrow 62.65 343 P P 14 48 16.5 +0.4
baz=118
NIKH Nikolski High 62.66 321 P P 14 48 16.6 0.0
baz=97
C18K Utukok River 62.94 339 P P 14 48 19.0 +0.7
C18K IAmb IAmb 14 48 20.8
comp=Z,1.6nm,0.8s
C18K Utukok River 62.94 339 P P 14 48 18.3 0.0
baz=112
F15K North Star Dit 63.22 336 P P 14 48 19.8 -0.3
baz=107
B18K Kokolik River 63.42 340 P P 14 48 20.8 -0.6
baz=112
A19K Wainwright 63.50 341 P P 14 48 20.8 -1.0
baz=113
P08K Saint George I 63.54 325 P P 14 48 22.6 +0.3
baz=98
C17K DeLong Mountai 63.56 339 P P 14 48 22.7 +0.3
baz=110
F14K Arctic Creek 63.83 335 P P 14 48 24.3 +0.2
baz=105
SPIA Saint Paul Isl 64.00 326 P P 14 48 26.1 +0.7
baz=98
C16K Lisburne Hills 64.26 338 P P 14 48 27.1 +0.3
baz=107
BORG Borgarnes 69.91 27 LR LR 15 18 33.5
comp=Z,16nm,18.7s,baz=122,slow=35
SPITS Spitsbergen Ar 78.27 11 P P 14 49 51.6 +0.2
comp=Z,3.4nm,0.9s,baz=208,slow=4.7,SNR=0.9
comp=Z,3.4nm,0.9s
WRA Warramunga Ar 127.54 258 PKP PKiKP 14 56 58.8 +0.6
comp=Z,0.4nm,0.9s,baz=62,slow=1.6,SNR=2.9

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*IDC **30** 14:46:20.8±1.4, 32.°71N×137.°49E, h0km, mb3.3/4, mbtmp3.4/6, ML2.9/2, Error ellipse: s-maj=52.1km s-min=21.6km az=70.0*
*JMA **30** 14:46:32.7±0.3, 33.°7N±0.°7×14°0E±°, h152km±2km, MV2.9/32, NEAR MIYAKEJIMA ISLAND*
ISC 30 14:46:31.8±1.0, 33.°58N±0.°07×139.°63E±0.°08, h150km, n21, σ1§32/22, mb3.1/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMKN	**Mikurajimanish**	**0.32**	**355**	P	**Pn**	**14 46 53.3**	**+0.9**
JMKN				S	**Sn**	**14 47 09.0**	**+0.8**
JMYK	**Miyake Tsubota**	**0.49**	**352**	P	**Pn**	**14 46 54.1**	**+1.1**
JHJ2	**Mitsune**	**0.49**	**161**	P	**Pn**	**14 46 54.4**	**+1.3**
JHCJ	**Hachijojimakas**	**0.52**	**164**	P	**Pn**	**14 46 55.1**	**+1.8**
JKO	**Kozu shima**	**0.73**	**326**	P	**Pn**	**14 46 55.3**	**+0.8**
JSKK	**Shikinejimakit**	**0.83**	**336**	*e*P	**Pn**	**14 46 56.9**	**+1.7**
JIZS	**Izushimoda**	**1.30**	**332**	P	**Pn**	**14 47 00.1**	**+0.8**
BSO3	**Boso 3**	**1.43**	**31**	P	**Pn**	**14 47 01.2**	**+1.0**
BSO1	**Boso 1**	**1.55**	**46**	P	**Pn**	**14 47 02.5**	**+1.2**
JOD2	**Odawara 2**	**1.74**	**345**	P	**Pn**	**14 47 04.9**	**+0.9**
SHZ3	**Shizuoka 3**	**1.89**	**322**	P	**Pn**	**14 47 07.0**	**+1.2**
SHZ3				S	**Sn**	**14 47 33.4**	**+1.6**
JYN	**Shimob**	**2.11**	**335**	P	**Pn**	**14 47 09.7**	**+1.4**
TTO2	**TONANKAI O.B.S**	**2.17**	**275**	P	**Pn**	**14 47 09.9**	**+1.3**
TTO1	**TONANKAI O.B.S**	**2.37**	**272**	P	**Pn**	**14 47 12.3**	**+1.2**
JRY	**Ryogami san**	**2.51**	**346**	P	**Pn**	**14 47 14.1**	**+1.1**
MJAR	**Matsushiro Arr**	**3.18**	**339**	Pn	**Pn**	**14 47 21.9**	**+0.5**
	0.2nm,0.3s,baz=169,slow=10,SNR=24						
	0.8nm,0.3s						
JCJ	**Chichijima**	**6.83**	**160**	Pn	Pn	14 48 01.9	-7.7
	0.9nm,0.3s,baz=269,slow=17,SNR=1.7						
JCJ				Sn	Sn	14 49 16.0	-10
	8.3nm,0.3s,baz=281,slow=23,SNR=1.6						
	58nm,0.8s						
MKAR	**Makanchi Array**	**44.80**	**305**	P	**P**	**14 54 28.1**	**-2.5**
	0.2nm,0.4s,baz=105,slow=8.9,SNR=3.7						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**47.05**	**310**	P	**P**	**14 54 47.4**	**-0.6**
	0.5nm,0.7s,baz=89,slow=7.4,SNR=5.6						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**53.46**	**186**	P	**P**	**14 55 35.7**	**-0.8**
	0.1nm,0.3s,baz=1.4,slow=7.9,SNR=8.0						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**57.19**	**186**	P	**P**	**14 56 02.5**	**-0.6**
	0.1nm,0.6s,baz=21,slow=10,SNR=2.2						
	0.1nm,0.6s						

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*REN **30** 15:04:43.9±0.7, 36.°730N±0.°010×115.°90W±0.°02, h7km±3km, ML2.6/20, ML2.5/46(NEIC), Error ellipse: s-maj=1.9km s-min=1.4km az=89.0*
*ANF **30** 15:04:43.7±0.3, 36.°73N×115.°91W, h9km±2km, ML2.6/22, ML2.6/22, Error ellipse: s-maj=2.0km s-min=1.4km az=71.0*
*NEIC **30** 15:04:43.9±0.9, 36.°742N±0.°009×115.°89W±0.°02, h8km±4km, Error ellipse: s-maj=1.9km s-min=1.3km az=90.0*
ISC 30 15:04:43.9±1.0, 36.°74N±0.°02×115.°89W±0.°02, h8km±9km, n75, σ0§92/84, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPY	**CP-1**	**0.24**	**325**		**Pg**	**15 04 48.9**	**+0.1**
CPY					**Sg**	**15 04 52.4**	**+0.4**
TPNV	**Topopah Spring**	**0.36**	**306**		**Pg**	**15 04 50.9**	**-0.2**
TPNV					**Sg**	**15 04 56.2**	**+0.3**
TPNV	**Topopah Spring**	**0.36**	**306**	IAML		15 04 56.2	
	500nm,0.4s						
TPNV				IAML		15 04 56.7	
	864nm,0.3s						
TPNV	**Topopah Spring**	**0.36**	**306**	P	**Pg**	**15 04 51.1**	**0.0**
	baz=128,SNR=469						
TPNV				S	**Sg**	**15 04 55.5**	**-0.3**
	baz=128						
AMDNV	**Amargosa**	**0.43**	**228**		**Pg**	**15 04 51.9**	**-0.3**
AMDNV					**Sg**	**15 04 57.6**	**-0.2**
WCT	**Wildcat Mounta**	**0.60**	**276**		**Pg**	**15 04 55.0**	**-0.4**
WCT					**Sg**	**15 05 03.8**	**+0.6**
WCT	**Wildcat Mounta**	**0.60**	**276**	IAML		15 05 04.1	
	comp=E,193nm,0.4s						
WCT				IAML		15 05 07.1	
	comp=N,156nm,0.5s						
SHPR	**Sheep Range**	**0.63**	**111**		**Pg**	**15 04 56.1**	**0.0**
SHPR					**Sb**	**15 05 05.9**	**-0.4**
FURC	**Furnace Creek,**	**0.83**	**251**		**Pg**	**15 04 59.9**	**0.0**
FURC	**Furnace Creek,**	**0.83**	**251**	P	**Pg**	**15 04 59.4**	**-0.5**
	baz=71,SNR=21						
FURC				S	**Sg**	**15 05 10.7**	**0.0**
	baz=71						
GWY	**Greenwater Val**	**0.84**	**229**		**Pg**	**15 04 59.9**	**-0.1**
GWY	**Greenwater Val**	**0.84**	**229**	IAML		15 05 11.4	
	comp=N,228nm,0.4s						
GWY				IAML		15 05 12.8	
	comp=E,223nm,0.3s						
WTNK	**Soaring Height**	**0.89**	**127**		**Pg**	**15 05 01.1**	**+0.1**
SHOC	**Shoshone, Teco**	**0.89**	**201**		**Pg**	**15 05 00.7**	**-0.4**
SHOC	**Shoshone, Teco**	**0.89**	**201**	P	**Pg**	**15 05 00.8**	**-0.3**
	baz=20,SNR=22						
SHOC				S	**Sg**	**15 05 12.4**	**-0.3**
	baz=20						
S11A	**Rachel**	**0.91**	**7**		**Pg**	**15 05 01.6**	**+0.1**
S11A	**Rachel**	**0.91**	**7**	IAML		15 05 18.4	
	comp=N,197nm,0.3s						
S11A				IAML		15 05 18.9	
	comp=E,181nm,0.4s						
PRN	**Pahroc Range**	**0.94**	**45**		**Pb**	**15 05 02.7**	**+0.1**
SGV	**South Grapevin**	**0.95**	**285**		**Pg**	**15 05 01.6**	**-0.6**
QSM	**Queen of Sheba**	**1.10**	**226**		**Pg**	**15 05 04.9**	**-0.3**
QSM	**Queen of Sheba**	**1.10**	**226**	IAML		15 05 20.4	
	comp=E,88nm,0.2s						
QSM				IAML		15 05 22.7	
	comp=N,102nm,0.3s						
GRAC	**Grapevine Rang**	**1.22**	**283**		**Pb**	**15 05 06.8**	**-0.3**
GRAC	**Grapevine Rang**	**1.22**	**283**		**Pb**	**15 05 07.1**	**-0.1**
GRAC				IAML		15 05 26.3	
	comp=N,252nm,0.5s						
GRAC				IAML		15 05 28.0	
	comp=E,247nm,0.3s						
GRAC	**Grapevine Rang**	**1.22**	**283**	P	**Pb**	**15 05 06.9**	**-0.3**
	baz=102,SNR=12						
GRAC				S	**Sb**	**15 05 23.0**	**-0.1**
	baz=102						
GMN	**Gold Mountain**	**1.23**	**297**		**Pg**	**15 05 06.9**	**-0.7**
GMN	**Gold Mountain**	**1.23**	**297**	IAML		15 05 28.1	
	comp=N,140nm,0.4s						
GMN				IAML		15 05 28.3	
	comp=E,101nm,0.2s						
MTPC	**Mountain Pass**	**1.28**	**168**		**Pn**	**15 05 07.9**	**-0.4**
TUQ	**Turquoise Moun**	**1.30**	**181**		**Pn**	**15 05 08.5**	**0.0**
TUQ	**Turquoise Moun**	**1.30**	**181**	P	**Pn**	**15 05 08.1**	**-0.4**
	baz=0.9,SNR=18						
TUQ				S	**Sb**	**15 05 25.3**	**-0.2**
	baz=0.9						
V12A	**Nelson**	**1.31**	**140**		**Pn**	**15 05 08.6**	**-0.1**
V12A	**Nelson**	**1.31**	**140**	IAML		15 05 29.4	
	comp=N,72nm,0.5s						
V12A				IAML		15 05 29.5	
	comp=E,48nm,0.7s						
MPMC	**Manual Prospec**	**1.46**	**243**	P	**Pn**	**15 05 10.0**	**-0.8**
	baz=62,SNR=38						
MPMC				S	**Sn**	**15 05 30.0**	**-0.2**
	baz=62						
MZP	**Montezuma Peak**	**1.53**	**309**		**Pn**	**15 05 11.7**	**-0.1**
MZP				IAML		15 05 35.5	
	comp=E,36nm,0.3s						
GSC	**Goldstone, Bar**	**1.61**	**208**		**Pb**	**15 05 14.1**	**0.0**
GSC	**Goldstone, Bar**	**1.61**	**208**		**Pn**	**15 05 12.5**	**-0.3**
GSC	**Goldstone, Bar**	**1.61**	**208**	IAML		15 05 36.0	
	comp=N,48nm,0.5s						
GSC				IAML		15 05 36.3	
	comp=E,82nm,0.6s						
GSC	**Goldstone, Bar**	**1.61**	**208**	P	**Pn**	**15 05 12.6**	**-0.2**
	baz=27,SNR=30						
GSC				Sb	**Sg**	**15 05 35.3**	**-0.5**
	baz=27						
ICU	**Indian Springs**	**1.63**	**75**		**Pb**	**15 05 13.9**	**-0.3**
R11B	**Troy Canyon, C**	**1.63**	**8**		**Pn**	**15 05 11.6**	**-1.5**
R11B				Pn	**Pb**	**15 05 14.1**	**-0.2**
R11B				IAML		15 05 38.1	
	comp=E,30nm,0.1s						
R11B	**Troy Canyon, C**	**1.63**	**8**	P	**Pn**	**15 05 12.6**	**-0.5**
	baz=189,SNR=28						
R11B				Sb	**Sg**	**15 05 36.2**	**-0.1**
	baz=189						
TPH	**Tonopah**	**1.71**	**322**		**Pb**	**15 05 15.6**	**-0.1**
CWC	**Cottonwood Cre**	**1.79**	**261**	Sb	**Sb**	**15 05 40.4**	**+0.7**
	baz=80						
TIN	**Tinemaha, Big**	**1.91**	**280**	Sb	**Sg**	**15 05 44.0**	**-1.2**
	baz=99						
LRMC	**Laurel Mtn Rad**	**1.92**	**230**	Sb	**Sb**	**15 05 44.3**	**+0.8**
	baz=48						
HEC	**Hector,Ludlow**	**1.94**	**191**	Pb	**Pb**	**15 05 19.6**	**0.0**
	baz=10,SNR=13						
HEC				Sb	**Sb**	**15 05 44.7**	**+0.8**
	baz=10						
GMRC	**Granite Mounta**	**1.96**	**175**	P	**Pn**	**15 05 17.3**	**-0.2**
	baz=354,SNR=9.3						
GMRC				Sb	**Sg**	**15 05 46.1**	**-0.8**
	baz=354						
RRX	**Edison Barstow**	**2.07**	**206**	Sb	**Sg**	**15 05 49.2**	**-1.1**
	baz=25						
LCMT	**Little Creek M**	**2.14**	**82**		**Pn**	**15 05 19.9**	**-0.1**
NEE2	**Needles Airpor**	**2.22**	**152**	S	**Sn**	**15 05 48.5**	**-0.2**
	baz=332						
W13A	**Hualapai Mount**	**2.30**	**135**	Pn	**Pn**	**15 05 22.3**	**-0.1**
ISA	**Isabella, Lake**	**2.35**	**244**	Sb	**Sg**	**15 05 57.9**	**-1.5**
	baz=62						
BENR	**Benton**	**2.36**	**295**		**Pn**	**15 05 23.6**	**+0.5**
NV11	**Mina Array Sit**	**2.47**	**314**		**Pn**	**15 05 25.2**	**+0.5**
EDW2	**Edwards Air Fo**	**2.52**	**223**	Sb	**Sb**	**15 06 02.0**	**+1.3**
	baz=42						
NV08	**Mina Array Sit**	**2.55**	**311**		**Pn**	**15 05 26.0**	**+0.3**
NVAR	**Mina Array Bea**	**2.56**	**312**		**Pn**	**15 05 25.2**	**-0.6**
SPR3	**Spring Creek 3**	**2.57**	**28**		**Pn**	**15 05 25.9**	**-0.3**
LHV	**Little Huntoon**	**2.57**	**307**		**Pn**	**15 05 25.9**	**0.0**
NV09	**Mina Array Sit**	**2.58**	**312**		**Pn**	**15 05 26.9**	**+0.7**
OMMB	**Old Mammoth Mi**	**2.64**	**290**	Pn	**Pn**	**15 05 27.3**	**+0.2**
IRM	**Iron Mountain**	**2.64**	**167**	Sb	**Sg**	**15 06 07.0**	**-1.9**
	baz=347						
MDPB	**Devils Postpil**	**2.70**	**290**		**Pn**	**15 05 26.8**	**-1.1**
BELC	**Belle Mtn. Jos**	**2.73**	**182**	Pb	**Pb**	**15 05 33.3**	**+0.2**
	baz=1.7,SNR=5.9						
BELC				Sb	**Sb**	**15 06 09.4**	**+2.5**
	baz=1.7						
RYN	**Ryan**	**2.82**	**313**		**Pn**	**15 05 28.3**	**-1.1**
KVN	**Kaiserville**	**2.90**	**324**	Pn	**Pn**	**15 05 30.4**	**-0.1**
U15A	**North Rim**	**2.91**	**95**		**Pb**	**15 05 37.9**	**+1.7**
PKCU	**Pink Cliffs**	**2.94**	**75**	Pg	**Pg**	**15 05 39.2**	**-1.1**
BC3	**Big Chuckawall**	**3.10**	**173**	Sb	**Sg**	**15 06 20.6**	**-2.8**
	baz=353						
PFO	**Pinyon Flats O**	**3.15**	**189**	Sb	**Sb**	**15 06 21.8**	**+2.9**
	baz=8.2						
TPFO	**Pinon Flats**	**3.16**	**189**	Sb	**Sb**	**15 06 21.7**	**+2.6**
	baz=8.1						
MTPU	**Mount Pierson**	**3.22**	**65**		**Pn**	**15 05 33.3**	**-1.9**
ELS	**Elsinore Mount**	**3.33**	**203**	Pg	**Pb**	**15 05 44.9**	**+1.6**
ELS				IAML		15 06 18.7	
	comp=E,5.7nm,4.9s						
MVU	**Marysvale**	**3.41**	**58**		**Pb**	**15 05 46.8**	**+2.1**
BMN	**Battle Mountai**	**3.83**	**345**	Pn	**Pn**	**15 05 43.0**	**-0.4**
BMN				IAML		15 06 48.4	
	comp=N,6.9nm,0.5s						
BMN				IAML		15 08 10.4	
	comp=E,6.6nm,4.8s						
ELK	**Elko**	**4.03**	**7**	Pn	**Pn**	**15 05 46.4**	**+0.2**
ELK				IAML		15 06 51.0	
	comp=E,3.1nm,4.7s						

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*TIF **30** 15:06:16.6, 43.°32N×46.°96E, h10km±3km*
*MOS **30** 15:06:17.2, 42.°96N×46.°95E, h6km, MPVA3.8*
*DRS **30** 15:06:17.9, 43.°01N×46.°95E, h12km*
*NORS **30** 15:06:19.5, 42.°85N×46.°80E, h6km, MPVA3.8*
ISC 30 15:06:18.4±0.8, 43.°01N±0.°02×46.°94E±0.°02, h7km±5km, n91, σ1§71/175, 1C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBC	**Dubki**	**0.08**	**281**	*i*Pg	**Pg**	**15 06 20.4**	**0.0**
DBC				*e*S	**Sg**	**15 06 22.7**	**+0.8**
DBC				pmax	pmax		
	comp=Z,906nm,0.3s						
DBC				smax	smax		
	comp=E,4μm,0.5s						
DBC	**Dubki**	**0.08**	**281**	*i*Pg	**Pg**	**15 06 20.5**	**0.0**
DBC				*e*Sg	**Sg**	**15 06 22.3**	**+0.4**
KRNR	**Karanay**	**0.18**	**188**	*i*PG	**Pg**	**15 06 21.8**	**-0.2**
KRNR				*e*S	**Sg**	**15 06 25.1**	**+0.6**
KRNR				pmax	pmax		
	comp=Z,249nm,0.3s						
KRNR				smax	smax		
	comp=E,2μm,0.2s						
KRNR	**Karanay**	**0.18**	**188**	*i*Pg	**Pg**	**15 06 21.9**	**-0.2**
KRNR				*e*Sg	**Sg**	**15 06 24.8**	**+0.3**
BUJR	**Buynaksk**	**0.22**	**145**	*e*PG	**Pb**	**15 06 23.4**	**+0.7**
BUJR				*e*S	**Sg**	**15 06 28.0**	**+2.3**
BUJR				pmax	pmax		
	comp=Z,153nm,0.1s						
BUJR				smax	smax		
	comp=E,2μm,0.4s						
BUJR	**Buynaksk**	**0.22**	**145**	*e*Pg	**Pb**	**15 06 23.5**	**+0.7**
BUJR				*e*Sg	**Sg**	**15 06 27.7**	**+2.0**
DLMR	**Dylym**	**0.24**	**286**	*e*PG	**Pb**	**15 06 23.6**	**+0.5**
DLMR				*e*S	**Sg**	**15 06 28.0**	**+1.7**
DLMR				pmax	pmax		
	comp=Z,293nm,0.1s						
DLMR				smax	smax		
	comp=N,8μm,0.2s						
DLMR	**Dylym**	**0.24**	**286**	*e*Pg	**Pb**	**15 06 23.7**	**+0.5**
DLMR				*e*Sg	**Sg**	**15 06 28.4**	**+2.1**
UNCR	**Uncukul**	**0.31**	**200**	*i*PG	**Pg**	**15 06 24.4**	**-0.1**
UNCR				*e*S	**Sg**	**15 06 29.2**	**+0.6**
UNCR	**Uncukul**	**0.31**	**200**	*i*Pg	**Pg**	**15 06 24.4**	**-0.1**
UNCR				*e*Sg	**Sg**	**15 06 29.2**	**+0.6**
ARKR	**Arakani**	**0.40**	**174**	*e*PG	**Pg**	**15 06 26.2**	**-0.1**
ARKR				*e*S	**Sb**	**15 06 32.5**	**-1.9**
ARKR				pmax	pmax		
	comp=Z,195nm,0.2s						
ARKR				smax	smax		
	comp=N,2μm,0.2s						
ARKR	**Arakani**	**0.40**	**174**	*e*Pg	**Pg**	**15 06 26.1**	**-0.2**
ARKR				*e*Sg	**Sg**	**15 06 32.2**	**+0.7**
MAK	**Makhachkala**	**0.42**	**96**	*e*PG	**Pb**	**15 06 28.4**	**+0.3**
MAK				*e*S	**Sb**	**15 06 34.4**	**-0.3**
MAK	**Makhachkala**	**0.42**	**96**	*e*Pg	**Pb**	**15 06 28.4**	**+0.3**
MAK				*e*Sg	**Sb**	**15 06 34.4**	**-0.3**
KANR	**Karaman**	**0.45**	**64**	*e*PG	**Pb**	**15 06 27.4**	**-1.2**
KANR				*e*S	**Sb**	**15 06 35.3**	**-0.2**
KANR				pmax	pmax		
	comp=Z,243nm,0.5s						
KANR				smax	smax		
	comp=E,184nm,0.7s						
KANR	**Karaman**	**0.45**	**64**	*e*Pg	**Pb**	**15 06 27.5**	**-1.2**
KANR				*e*Sg	**Sb**	**15 06 34.6**	**-0.9**
HNZR	**Khunzah**	**0.48**	**200**	*i*PG	**Pg**	**15 06 27.5**	**-0.1**
HNZR				*e*S	**Sb**	**15 06 35.2**	**-1.4**
XNZR	**Khunzakh**	**0.49**	**201**	*i*Pg	**Pg**	**15 06 27.4**	**-0.5**
XNZR				*e*Sg	**Sg**	**15 06 35.2**	**+0.8**
DVE	**Vedeno**	**0.60**	**266**	*e*PG	**Pb**	**15 06 30.8**	**-0.5**
DVE				*e*S	**Sb**	**15 06 39.8**	**-0.2**
DVE	**Vedeno**	**0.60**	**266**	*e*Pg	**Pb**	**15 06 30.8**	**-0.5**
DVE				*e*Sg	**Sb**	**15 06 39.8**	**-0.2**
GNBR	**Gunib**	**0.62**	**178**	*e*PG	**Pg**	**15 06 30.2**	**0.0**
GNBR				*e*S	**Sb**	**15 06 39.7**	**-0.8**
GNBR	**Gunib**	**0.62**	**178**	*e*Pg	**Pg**	**15 06 30.2**	**0.0**
GNBR				*e*Sg	**Sb**	**15 06 39.7**	**-0.8**
BTLR	**Botlikh**	**0.63**	**237**	*e*PG	**Pb**	**15 06 30.7**	**-1.1**
BTLR				*e*S	**Sb**	**15 06 41.0**	**+0.1**
BTLR				pmax	pmax		
	comp=Z,43nm,0.3s						
BTLR				smax	smax		
	comp=N,194nm,0.6s						
BTLR	**Botlikh**	**0.63**	**237**	*e*Pg	**Pb**	**15 06 30.8**	**-1.1**
BTLR				*e*Sg	**Sb**	**15 06 40.5**	**-0.4**
SGKR	**Sergokala**	**0.76**	**136**	*e*PG	**Pb**	**15 06 33.2**	**-0.8**
SGKR				*e*S	**Sb**	**15 06 44.4**	**-0.1**
SGKR				pmax	pmax		
	comp=Z,55nm,0.4s						
SGKR				smax	smax		
	comp=N,142nm,0.6s						
SGKR				smax	smax		
	comp=E,175nm,0.2s						
SGKR				smax	smax		
	comp=E,153nm,0.2s						
SGKR	**Sergokala**	**0.76**	**136**	*e*Pg	**Pn**	**15 06 34.3**	**-1.3**
SGKR				*e*Sg	**Sb**	**15 06 44.5**	**-0.1**
KMKR	**Kumukh**	**0.88**	**172**	*e*PG	**Pb**	**15 06 35.4**	**-0.8**
KMKR				*e*S	**Sb**	**15 06 48.4**	**+0.2**
KMKR	**Kumukh**	**0.88**	**172**	*e*Pg	**Pb**	**15 06 35.4**	**-0.8**
KMKR				*e*Sg	**Sb**	**15 06 48.4**	**+0.2**
URKR	**Urkarakh**	**0.98**	**148**	*e*PG	**Pg**	**15 06 36.6**	**-0.6**
URKR				*e*S	**Sb**	**15 06 51.0**	**-0.1**
URKR				pmax	pmax		
	comp=Z,45nm,0.4s						
URKR				smax	smax		
	comp=E,118nm,0.2s						
URKR				smax	smax		
	comp=N,201nm,0.2s						
URKR				smax	smax		
	comp=N,166nm,0.2s						
URKR	**Urkarakh**	**0.98**	**148**	*e*Pg	**Pg**	**15 06 36.7**	**-0.6**
URKR				*e*Sg	**Sb**	**15 06 51.1**	**-0.1**
LGD	**Lagodekhi**	**1.28**	**204**	P	**Pb**	**15 06 42.2**	**-0.6**
LGD				S	**Sg**	**15 07 01.6**	**+2.1**
LGD	**Lagodekhi**	**1.28**	**204**	PG	**Pb**	**15 06 42.2**	**-0.6**
LGD				S	**Sg**	**15 07 01.6**	**+2.1**
DRN	**Derbent**	**1.42**	**133**	*e*PG	**Pg**	**15 06 45.9**	**+0.4**
DRN				*e*S	**Sg**	**15 07 05.8**	**+1.9**
DRN	**Derbent**	**1.42**	**133**	*e*Pg	**Pg**	**15 06 45.9**	**+0.4**
DRN				*e*Sg	**Sg**	**15 07 05.8**	**+1.9**
KMGR	**Komgaron**	**1.52**	**273**	*e*PG	**Pg**	**15 06 48.7**	**+1.1**
KMGR				*e*S	**Sg**	**15 07 10.1**	**+2.8**
KMGR	**Komgaron**	**1.52**	**273**	*e*Pg	**Pg**	**15 06 48.7**	**+1.1**
KMGR				*e*Sg	**Sg**	**15 07 09.3**	**+1.9**
CHRG	**Chargali**	**1.63**	**246**	P	**Pb**	**15 06 48.5**	**-0.5**
CHRG				S	**Sg**	**15 07 13.4**	**+2.6**
AKT	**Akhty**	**1.63**	**159**	*e*PG	**Pn**	**15 06 47.4**	**-0.3**
AKT				*e*S	**Sg**	**15 07 11.0**	**+0.1**
AKT				pmax	pmax		
	comp=Z,69nm,0.3s						
AKT				smax	smax		
	comp=E,442nm,0.2s						
AKT	**Akhty**	**1.63**	**159**	*e*Pg	**Pg**	**15 06 48.8**	**-0.9**
AKT				*e*Sg	**Sg**	**15 07 10.3**	**-0.6**
KSMR	**Kasumkent**	**1.66**	**147**	*e*PG	**Pg**	**15 06 49.2**	**-1.0**
KSMR				*e*S	**Sg**	**15 07 10.9**	**-0.7**
KSMR	**Kasumkent**	**1.66**	**147**	*e*Pg	**Pg**	**15 06 49.2**	**-1.0**
KSMR				*e*Sg	**Sg**	**15 07 10.9**	**-0.7**
DDFL	**Dedoflistskaro**	**1.67**	**202**	P	**Pg**	**15 06 52.9**	**+2.4**
DDFL				S	**Sg**	**15 07 20.2**	**+8.0**
DDFL	**Dedoflistskaro**	**1.67**	**202**	PN	**Pg**	**15 06 52.9**	**+2.4**
DDFL				S	**Sg**	**15 07 20.2**	**+8.0**
TRKR	**Terskaya**	**1.76**	**295**	*e*PN	**Pg**	**15 06 52.4**	**+0.2**
TRKR				*e*S	**Sg**	**15 07 18.5**	**+3.4**
TRKR	**Terskaya**	**1.76**	**295**	*e*Pg	**Pg**	**15 06 52.4**	**+0.2**
TRKR				*e*Sg	**Sg**	**15 07 18.5**	**+3.4**
BTKR	**Batakoyurt**	**1.79**	**283**	*e*PN	**Pg**	**15 06 53.3**	**+0.5**
BTKR				*e*S	**Sg**	**15 07 20.1**	**+4.1**
BTKR	**Batakoyurt**	**1.79**	**283**	*e*Pg	**Pg**	**15 06 53.5**	**+0.7**
BTKR				*e*Sg	**Sg**	**15 07 20.1**	**+4.1**

KORR				eS	Sg	15 07 26.5	+0.4	
KORR	**Kora**	**2.11**	**273**	ePg	Pg	15 06 58.0	-0.8	
KORR				eSg	Sg	15 07 25.2	-0.9	
STDR	**Stavd-Durt**	**2.14**	**281**	ePN	Pg	15 06 59.3	0.0	
STDR				eS	Sg	15 07 28.9	+1.9	
STDR	**Stavd-Durt**	**2.14**	**281**	ePg	Pg	15 06 59.3	0.0	
STDR				eSg	Sg	15 07 28.9	+1.9	
ZEI	**Tsey**	**2.24**	**265**	ePN	Pb	15 06 58.8	-0.7	
ZEI				eS	Sg	15 07 29.0	-1.5	
ZEI	**Tsey**	**2.24**	**265**	ePg	Pb	15 06 58.8	-0.7	
ZEI				eSg	Sg	15 07 29.0	-1.5	
LSNR	**Lesken**	**2.30**	**278**	ePN	Pg	15 07 01.3	-1.1	
LSNR				eS	Sb	15 07 29.2	+0.4	
LSNR	**Lesken**	**2.30**	**278**	ePn	Pg	15 07 01.3	-1.1	
LSNR				eSn	Sb	15 07 29.2	+0.4	
DIGR	**Digorskoe uzhe**	**2.47**	**269**	ePN	Pb	15 07 01.4	-1.9	
DIGR				eS	Sg	15 07 35.8	-1.9	
DIGR	**Digorskoe uzhe**	**2.47**	**269**	ePn	Pb	15 07 01.4	-1.9	
DIGR				eSn	Sg	15 07 35.8	-1.9	
TRLG	**Trialeti**	**2.57**	**236**	P	Pb	15 07 04.5	-0.4	
TRLG				S	Sg	15 07 38.6	-2.2	
TRLG	**Trialeti**	**2.57**	**236**	PN	Pb	15 07 04.5	-0.4	
TRLG				S	Sg	15 07 38.6	-2.2	
ALIG	**Mtskhetisjvari**	**2.59**	**251**	P	Pg	15 07 06.4	-1.7	
ALIG	**Mtskhetisjvari**	**2.59**	**251**	PN	Pg	15 07 06.4	-1.7	
ONI	**Oni**	**2.60**	**262**	P	Pb	15 07 02.9	-2.5	
ONI				S	Sb	15 07 36.5	-1.1	
ONI	**Oni**	**2.60**	**262**	PN	Pb	15 07 02.9	-2.5	
ONI				S	Sb	15 07 36.5	-1.1	
DMNI	**Dmanisi**	**2.64**	**232**	P	Pb	15 07 04.1	-2.1	
DMNI	**Dmanisi**	**2.64**	**232**	PN	Pb	15 07 04.1	-2.1	
KBTC	**Kuba-Taba**	**2.70**	**289**	ePN	Pg	15 07 08.0	-2.1	
KBTC				eS	Sb	15 07 40.6	+0.1	
KBTC	**Kuba-Taba**	**2.70**	**289**	ePn	Pg	15 07 08.0	-2.1	
KBTC				eSn	Sb	15 07 40.6	+0.1	
PYA1	**Pyatigorsk**	**2.99**	**292**	ePN	Pn	15 07 00.4	-5.9	
PYA1				eS	Sb	15 07 47.0	-1.8	
PYA1	**Pyatigorsk**	**2.99**	**292**	ePn	Pn	15 07 00.4	-5.9	
PYA1				eSn	Sb	15 07 47.0	-1.8	
KBZ	**Khabaz**	**3.04**	**285**	ePN	Pn	15 07 08.0	+1.1	
KBZ				eS	Sn	15 07 44.8	+1.3	
KBZ	**Khabaz**	**3.04**	**285**	ePn	Pn	15 07 08.0	+1.1	
KBZ				eSn	Sn	15 07 44.8	+1.3	
SHA1	**Shidzhatmaz**	**3.21**	**285**	ePN	Pn	15 07 09.5	0.0	
SHA1				eS	Sn	15 07 49.0	+0.9	
SHA1	**Shidzhatmaz**	**3.21**	**285**	ePn	Pn	15 07 09.5	0.0	
SHA1				eSn	Sn	15 07 49.0	+0.9	
KIV0	**Kislovodsk Arr**	**3.23**	**289**	ePn	Pn	15 07 11.9	+2.2	
KIV0				eSn	Sn	15 07 48.4	-0.1	
KIV	**Kislovodsk**	**3.24**	**289**	ePN	Pn	15 07 10.3	+0.5	
KIV				eS	Sn	15 07 48.3	-0.4	
KIV	**Kislovodsk**	**3.24**	**289**	ePn	Pn	15 07 10.3	+0.5	
KIV				eSn	Sn	15 07 48.3	-0.4	
GNI	**Garni**	**3.29**	**211**	ePN	Pb	15 07 17.7	+0.4	
GNI				eS	Sb	15 07 54.4	-3.3	
GNI	**Garni**	**3.29**	**211**	ePn	Pb	15 07 17.7	+0.4	
GNI				eSn	Sb	15 07 54.4	-3.3	

*IDC **30** 15:38:28.2±0.9, 18°.78S×67°.00W, h234km±8km, mb4.0/16, mbtmp4.6/22, Error ellipse: s-maj=10.1km s-min=9.3km az=101.0*
*SJA **30** 15:38:28.2±1.9, 18°.87S×67°.02W, h250km, ML4.6, MW4.3*
*SCB **30** 15:38:29.4±1.4, 18°.89S×67°.19W, h252km±11km, ML4.3/5, MW4.7, Error ellipse: s-maj=4.6km s-min=3.6km az=1.0*
*NEIC **30** 15:38:29.8±2.2, 18°.82S±0°.06×67°.21W±0°.09, h255km±8km, mb4.5/38, Error ellipse: s-maj=13.0km s-min=9.3km az=90.0*
*VAO **30** 15:38:29.4±0.3, 18°.69S×67°.12W, h242km, mb4.5*
ISC 30 15:38:28.8±0.5,**18°.81S**±0°.04×**67°.13W**±0°.04,**h246**km±5km,
n239,σ1°**42**/277,**mb4.4**/29,**1D**,**Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEO	**Opoqueri**	**0.76**	**288**	Pg	**Pn**	**15 39 04.7**	**+1.9**
SOET	**ToroToro**	**1.42**	**61**	Pg	**Pn**	**15 39 08.1**	**+1.5**
SOEJ	**Jacaque**	**2.08**	**331**	Pg	**Pn**	**15 39 15.0**	**+2.7**
GO01	**Chusmiza**	**2.13**	**246**		**Pn**	**15 39 14.1**	**+1.4**
GO01				Sn	**S**	**15 39 49.6**	**+2.4**
GO01	**Chusmiza**	**2.13**	**246**	Pg	**Pn**	**15 39 14.1**	**+1.4**
GO01	**Chusmiza**	**2.13**	**246**	eP	**Pn**	**15 39 14.3**	**+1.6**
BBOE	**La Paz, Chanca**	**2.14**	**337**	Pg	**Pn**	**15 39 15.4**	**+2.5**
PB16	**IPOC Station P**	**2.31**	**281**		**Pn**	**15 39 15.9**	**+1.5**
PB16				Sn	**S**	**15 39 51.5**	**+1.2**
PB16	**IPOC Station P**	**2.31**	**281**	Pg	**Pn**	**15 39 16.1**	**+1.6**
PB16	**IPOC Station P**	**2.31**	**281**	eP	**Pn**	**15 39 15.4**	**+0.9**
PB16				eS	**S**	**15 39 57.6**	**+7.3**
PB08	**IPOC Station P**	**2.33**	**235**		**Pn**	**15 39 15.5**	**+1.0**
PB08	**IPOC Station P**	**2.33**	**235**	Pg	**Pn**	**15 39 15.7**	**+1.2**
PB08	**IPOC Station P**	**2.33**	**235**	eP	**Pn**	**15 39 15.6**	**+1.2**
PB08				eS	**S**	**15 39 53.7**	**+3.3**
PB08	**IPOC Station P**	**2.33**	**235**	eP	**Pn**	**15 39 15.7**	**+1.2**
PB08				*i* S	**S**	**15 39 51.2**	**+0.8**
PB08				IAML		15 39 58.1	
	comp=N,353nm,0.7s						
PB18	**Visviri**	**2.54**	**298**		**Pn**	**15 39 19.2**	**+2.4**
PB11	**IPOC Station P**	**2.57**	**248**		**Pn**	**15 39 16.9**	**+0.3**
PB11	**IPOC Station P**	**2.57**	**248**	Pg	**Pn**	**15 39 17.0**	**+0.3**
PB11	**IPOC Station P**	**2.57**	**248**	eP	**Pn**	**15 39 17.1**	**+0.4**
PB11				eS	**S**	**15 39 55.4**	**+1.0**
PB11	**IPOC Station P**	**2.57**	**248**	eP	**Pn**	**15 39 16.9**	**+0.3**
PB11				*i* S	**S**	**15 39 53.5**	**-0.8**
BBOD	**La Paz, Gloria**	**2.57**	**327**	Pg	**Pn**	**15 39 19.1**	**+2.0**
LPAZ	**La Paz**	**2.68**	**339**	Pn	**Pn**	**15 39 19.7**	**+1.4**
LPAZ	**La Paz**	**2.68**	**339**	Pg	**Pn**	**15 39 19.9**	**+1.6**
LPAZ	**La Paz**	**2.68**	**339**	eP	**Pn**	**15 39 19.7**	**+1.4**
LPAZ				eS	**S**	**15 39 59.0**	**+1.6**
MOCB	**Mochara**	**2.81**	**150**	Pg	**Pn**	**15 39 21.4**	**+2.0**
MOCB				Sg	**S**	**15 39 58.5**	**-0.8**
MOCB				IAML		15 40 03.9	
	comp=N,41nm,0.6s						
PX02	**IPOC Station P**	**2.91**	**266**	eP	**Pn**	**15 39 19.6**	**-0.5**
PX02				*i* S	**S**	**15 39 57.6**	**-3.1**
HMBC	**Humberstone**	**2.99**	**240**	Pg	**Pn**	**15 39 20.9**	**-0.1**
HMBC				Sg	**S**	**15 40 00.5**	**-1.7**
HMBC				IAML		15 40 06.9	
	comp=N,738nm,0.7s						
HMBC	**Humberstone**	**2.99**	**240**	eP	**Pn**	**15 39 20.9**	**-0.1**
HMBC				eS	**S**	**15 40 00.9**	**-1.3**
HMBC				IAML		15 40 03.8	
	comp=Z,1μm,0.4s						
HMBC	**Humberstone**	**2.99**	**240**	eP	**Pn**	**15 39 20.6**	**-0.4**
HMBC				*i* S	**S**	**15 40 00.0**	**-2.2**
PB12	**IPOC Station P**	**3.04**	**273**		**Pn**	**15 39 21.2**	**-0.3**
PB12	**IPOC Station P**	**3.04**	**273**	Pg	**Pn**	**15 39 22.0**	**+0.4**
PB12	**IPOC Station P**	**3.04**	**273**	eP	**Pn**	**15 39 21.3**	**-0.3**
PB12				eS	**S**	**15 40 02.1**	**-1.1**
PB12				IAML		15 40 03.2	
	comp=Z,953nm,0.6s						
PB12	**IPOC Station P**	**3.04**	**273**	eP	**Pn**	**15 39 21.3**	**-0.3**
PB12				*i* S	**S**	**15 40 00.5**	**-2.8**
AP01	**Chacalluta**	**3.08**	**278**		**Pn**	**15 39 22.2**	**+0.3**
AP01	**Chacalluta**	**3.08**	**278**	Pg	**Pn**	**15 39 22.4**	**+0.5**
AP01	**Chacalluta**	**3.08**	**278**	eP	**Pn**	**15 39 21.6**	**-0.2**
AP01				eS	**S**	**15 40 04.1**	**+0.3**
AP01				IAML		15 40 08.7	
	comp=Z,1μm,0.8s						
AP01	**Chacalluta**	**3.08**	**278**	eP	**Pn**	**15 39 21.9**	**+0.1**
AP01				*i* S	**S**	**15 40 01.3**	**-2.5**
PB01	**IPOC Station P**	**3.15**	**225**		**Pn**	**15 39 22.9**	**+0.2**
PB01	**IPOC Station P**	**3.15**	**225**	Pg	**Pn**	**15 39 23.2**	**+0.5**
PB01				Sg	**S**	**15 40 03.9**	**-1.4**
PB01				IAML		15 40 09.4	
	comp=Z,743nm,0.2s						
PB01	**IPOC Station P**	**3.15**	**225**	eP	**Pn**	**15 39 23.0**	**+0.3**
PB01				eS	**S**	**15 40 05.1**	**-0.3**
PB01				IAML		15 40 09.3	
	comp=Z,604nm,0.2s						
TA02	**Huaiquique**	**3.19**	**242**		**Pn**	**15 39 22.7**	**-0.3**
TA02	**Huaiquique**	**3.19**	**242**	Pg	**Pn**	**15 39 23.7**	**+0.7**
TA02	**Huaiquique**	**3.19**	**242**	eP	**Pn**	**15 39 23.1**	**0.0**
TA02				eS	**S**	**15 40 03.8**	**-2.2**
TA02				IAML		15 40 04.2	
	comp=Z,499nm,0.2s						
TA01	**Diego Aracena**	**3.37**	**238**		**Pn**	**15 39 24.7**	**-0.4**
TA01	**Diego Aracena**	**3.37**	**238**	Pg	**Pn**	**15 39 25.3**	**+0.2**
TA01	**Diego Aracena**	**3.37**	**238**	eP	**Pn**	**15 39 25.2**	**+0.2**
TA01				eS	**S**	**15 40 09.2**	**-0.5**
TA01	**Diego Aracena**	**3.37**	**238**	eP	**Pn**	**15 39 24.5**	**-0.6**
TA01				*i* S	**S**	**15 40 06.2**	**-3.4**
SOTI	**Planta Incahua**	**3.43**	**108**	Pg	**Pn**	**15 39 27.6**	**+1.7**
PATCX	**Punta Patache**	**3.48**	**234**		**Pn**	**15 39 26.8**	**+0.3**
PATCX	**Punta Patache**	**3.48**	**234**	eP	**Pn**	**15 39 26.4**	**-0.1**
PATCX				eS	**S**	**15 40 10.2**	**-2.0**
PATCX				IAML		15 40 11.3	
	comp=Z,539nm,0.5s						
PATCX	**Punta Patache**	**3.48**	**234**	eP	**Pn**	**15 39 26.1**	**-0.4**
PATCX				*i* S	**S**	**15 40 09.1**	**-3.0**
PB09	**IPOC Station P**	**3.58**	**213**		**Pn**	**15 39 29.3**	**+1.6**
PB09	**IPOC Station P**	**3.58**	**213**	Pg	**Pn**	**15 39 29.1**	**+1.5**
PB09	**IPOC Station P**	**3.58**	**213**	eP	**Pn**	**15 39 28.5**	**+0.8**
PB09				eS	**S**	**15 40 16.1**	**+1.8**
PB09				IAML		15 40 18.3	
	comp=Z,396nm,0.8s						
PB02	**IPOC Station P**	**3.61**	**226**		**Pn**	**15 39 29.3**	**+1.4**
PB02	**IPOC Station P**	**3.61**	**226**	Pg	**Pn**	**15 39 29.0**	**+1.0**
PB02				Sg	**S**	**15 40 12.7**	**-2.1**
PB02				IAML		15 40 20.5	
	comp=Z,2μm,0.4s						
PB02	**IPOC Station P**	**3.61**	**226**	eP	**Pn**	**15 39 28.0**	**+0.1**
PB02				eS	**S**	**15 40 14.1**	**-0.7**
PB02				IAML		15 40 16.8	
	comp=Z,2μm,0.3s						
YJA	**Yavi**	**3.68**	**156**	eP	**Pn**	**15 39 31.0**	**+1.9**
YJA				eS	**S**	**15 40 12.8**	**-4.0**
PB07	**IPOC Station P**	**3.89**	**221**		**Pn**	**15 39 31.8**	**+0.5**
PB07	**IPOC Station P**	**3.89**	**221**	Pg	**Pn**	**15 39 31.7**	**+0.4**
PB07	**IPOC Station P**	**3.89**	**221**	eP	**Pn**	**15 39 31.3**	**0.0**
PB07				eS	**S**	**15 40 18.6**	**-2.3**
PB07				IAML		15 40 22.4	
	comp=Z,521nm,0.4s						
LVC	**Limon Verde**	**4.14**	**203**	Pg	**Pn**	**15 39 35.2**	**+0.8**
LVC	**Limon Verde**	**4.14**	**203**	eP	**Pn**	**15 39 34.6**	**+0.2**
LVC				eS	**S**	**15 40 26.8**	**+0.4**
LVC	**Limon Verde**	**4.14**	**203**	eP	**Pn**	**15 39 35.4**	**+1.0**
LVC	**Limon Verde**	**4.14**	**203**	P	**Pn**	**15 39 35.2**	**+0.8**
	comp=Z,100nm,0.4s,baz=32,slow=11,SNR=257						
LVC				S	**S**	**15 40 25.3**	**-1.1**
	comp=Z,79nm,0.4s,baz=200,slow=18,SNR=32						
AF01	**San Pedro de A**	**4.24**	**193**	Pn	**Pn**	**15 39 37.5**	**+2.0**
AF01	**San Pedro de A**	**4.24**	**193**	Pg	**Pn**	**15 39 36.4**	**+0.9**
PB06	**IPOC Station P**	**4.50**	**210**		**Pn**	**15 39 38.7**	**+0.2**
PB06	**IPOC Station P**	**4.50**	**210**	Pg	**Pn**	**15 39 39.4**	**+0.8**
PB06	**IPOC Station P**	**4.50**	**210**	eP	**Pn**	**15 39 38.3**	**-0.3**
PB06				IAML		15 40 37.0	
	comp=Z,282nm,0.5s						
PB04	**IPOC Station P**	**4.51**	**218**		**Pn**	**15 39 38.9**	**+0.2**
PB04	**IPOC Station P**	**4.51**	**218**	Pg	**Pn**	**15 39 38.9**	**+0.2**
PB04				Sg	**S**	**15 40 31.4**	**-2.8**
PB04				IAML		15 40 33.4	
	comp=Z,393nm,0.4s						
PB05	**IPOC Station P**	**4.95**	**215**	Pn	**Pn**	**15 39 43.7**	**-0.2**
PB05	**IPOC Station P**	**4.95**	**215**	Pg	**Pn**	**15 39 43.9**	**0.0**
BBSD	**Serra de San D**	**6.41**	**76**	eP	**Pn**	**15 40 01.3**	**-0.7**
SIV	**San Ignacio**	**6.42**	**65**	P	**Pn**	**15 40 01.7**	**-0.6**
	comp=Z,59nm,0.8s,baz=254,slow=9.6,SNR=166						
SIV				S	**S**	**15 41 12.8**	**-4.2**
	comp=Z,32nm,0.9s,baz=252,slow=16,SNR=8.6						
GO02	**Mina Guanaco**	**6.73**	**199**	Pn	**Pn**	**15 40 05.9**	**-0.4**
BBRB	**Robore, Bolivi**	**6.96**	**87**	eP	**Pn**	**15 40 08.0**	**-1.0**
AC01	**Pan de Azucar**	**7.98**	**203**		**Pn**	**15 40 20.5**	**-1.3**
PTLB	**Pontes e Lacer**	**8.34**	**68**		**Pn**	**15 40 25.7**	**-0.7**
PTLB	**Pontes e Lacer**	**8.34**	**68**	eP	**Pn**	**15 40 26.1**	**-0.3**
VILB	**Vilhena**	**8.85**	**50**	Pn	**Pn**	**15 40 33.1**	**+0.2**
VILB	**Vilhena**	**8.85**	**50**	P	**Pn**	**15 40 32.9**	**-0.1**
ETMB	**Extrema**	**8.98**	**6**	Pn	**Pn**	**15 40 35.0**	**+0.4**
ETMB	**Extrema**	**8.98**	**6**	eP	**Pn**	**15 40 34.6**	**0.0**
AC06	**Mina Casimiro**	**9.02**	**199**	Pn	**Pn**	**15 40 35.3**	**+0.4**
BDQN	**Bodoquena, MS**	**9.91**	**101**	eP	**Pn**	**15 40 46.4**	**0.0**
AC05	**El Transito**	**10.39**	**195**	Pn	**Pn**	**15 40 50.9**	**-1.5**
SAML	**Samuel**	**10.52**	**22**	Pn	**Pn**	**15 40 54.1**	**+0.1**
SAML	**Samuel**	**10.52**	**22**	eP	**Pn**	**15 40 53.8**	**-0.2**
LCO	**Las Campanas**	**10.67**	**197**		**Pn**	**15 40 55.2**	**-0.9**
AQDB	**Aquidauana**	**10.89**	**101**	Pn	**Pn**	**15 40 59.8**	**+1.1**
AQDB	**Aquidauana**	**10.89**	**101**	eP	**Pn**	**15 40 59.5**	**+0.7**
ANTJ	**Antonio Joao (**	**10.90**	**109**	eP	**Pn**	**15 41 00.7**	**+1.8**
SALV	**Santo Antonio**	**11.29**	**77**	eP	**Pn**	**15 41 04.2**	**+0.5**
CO01	**Juntas del Tor**	**11.45**	**193**	P	**P**	**15 41 08.1**	**-1.5**
RVDE	**Rio Verde (Bra**	**11.54**	**93**	eP	**Pn**	**15 41 06.9**	**+0.1**
NNA	**Nana**	**11.56**	**305**		**Pn**	**15 41 08.5**	**+1.3**
NNA	**Nana**	**11.56**	**305**	P	**Pn**	**15 41 08.1**	**+0.9**
	comp=Z,26nm,0.4s,baz=137,slow=11,SNR=8.3						
NNA				S	**S**	**15 43 08.4**	**-7.8**
	comp=Z,23nm,0.4s,baz=204,slow=20,SNR=7.9						
PP1B	**Ponte de Pedra**	**11.70**	**86**	eP	**Pn**	**15 41 09.0**	**+0.2**
CPUP	**Villa Florida**	**11.74**	**131**	P	**Pn**	**15 41 08.8**	**-0.4**
	comp=Z,2.2nm,1.0s,baz=307,slow=10,SNR=3.5						
GO04	**Tololo Observa**	**11.80**	**196**		**Pn**	**15 41 11.8**	**+1.6**
PDRB	**Porto dos Gac**	**12.32**	**56**	eP	**Pn**	**15 41 13.9**	**-2.7**
CO03	**El Pedregal**	**12.41**	**194**	Pn	**Pn**	**15 41 18.2**	**+0.6**
CO06	**Fray Jorge**	**12.50**	**198**	Pn	**Pn**	**15 41 17.1**	**-1.6**
RPRD	**Ribas do Rio P**	**12.76**	**100**	eP	**P**	**15 41 24.2**	**+0.1**
CO02	**Combarbal**	**12.83**	**195**	P	**Pn**	**15 41 23.6**	**+0.7**
CLDB	**Colider**	**13.49**	**56**	eP	**P**	**15 41 32.4**	**+0.1**
C2SB	**Chapadao do Su**	**13.53**	**92**	eP	**P**	**15 41 33.9**	**+1.2**
VA06	**Catapilco**	**14.20**	**194**		**Pn**	**15 41 38.0**	**-1.4**
VA03	**San Esteban**	**14.24**	**192**	P	**P**	**15 41 41.7**	**+1.2**
ITQB	**Itaqui**	**14.44**	**140**	P	**P**	**15 41 43.1**	**+0.5**
ITQB	**Itaqui**	**14.44**	**140**	eP	**P**	**15 41 44.7**	**+2.0**
ROC1	**El Roble**	**14.54**	**193**	P	**P**	**15 41 45.8**	**+1.8**
PEL	**Peldehue**	**14.63**	**192**	P	**P**	**15 41 43.6**	**-1.2**
CRSM	**Crissiumal (Br**	**14.81**	**128**	eP	**Pn**	**15 41 48.3**	**+1.5**
FRBT	**Francisco Belt**	**14.83**	**121**	eP	**Pn**	**15 41 49.4**	**+2.2**
MT02	**Curacav**	**14.84**	**193**	P	**Pn**	**15 41 47.9**	**+0.7**
UNIS	**Unistalda (Bra**	**15.02**	**135**	eP	**Pn**	**15 41 52.0**	**+2.7**
MT13	**San Alfonso**	**15.14**	**190**	P	**Pn**	**15 41 53.4**	**+2.4**
PCMB	**Pacaembu**	**15.15**	**103**	eP	**Pn**	**15 41 52.5**	**+1.5**
PTGB	**Pitanga**	**15.17**	**115**	eP	**Pn**	**15 41 53.6**	**+2.2**
LMEL	**Las Melosas**	**15.23**	**190**	P	**P**	**15 41 51.8**	**+0.2**
LMEL				IAmb	IAmb	15 41 54.6	
	comp=Z,15nm,1.1s						
MT09	**Talagante**	**15.30**	**192**	P	**P**	**15 41 52.8**	**+0.5**
MT09				IAmb	IAmb	15 41 57.3	
	comp=Z,16nm,1.0s						
BO04	**La Punta**	**15.44**	**191**	P	**Pn**	**15 41 55.0**	**+0.6**
BO04				IAmb	IAmb	15 41 57.8	
	comp=Z,22nm,0.8s						
MT01	**Popeta**	**15.44**	**193**	P	**P**	**15 41 54.2**	**+0.5**
MT01				IAmb	IAmb	15 41 56.9	
	comp=Z,26nm,1.1s						
LDASE	**Londrina, Braz**	**15.62**	**110**	eP	**Pn**	**15 41 58.0**	**+1.4**
RODS	**Rosario do Sul**	**15.79**	**139**	eP	**Pn**	**15 41 58.6**	**0.0**
ITRB	**Iturama**	**15.86**	**96**	eP	**Pn**	**15 42 00.1**	**+0.6**
BO01	**Tunca**	**15.92**	**192**	P	**Pn**	**15 42 00.1**	**0.0**
ATAH	**Atahualpa**	**15.96**	**315**	P	**Pn**	**15 42 01.6**	**+0.5**
	comp=Z,8.9nm,0.7s,baz=132,slow=9.5,SNR=5.3						
ITAB	**Concordia**	**16.14**	**124**	P	**Pn**	**15 42 02.7**	**0.0**
ITAB	**Concordia**	**16.14**	**124**	eP	**Pn**	**15 42 02.8**	**0.0**
BO02	**Sierra Bellavi**	**16.25**	**191**	P	**P**	**15 42 00.8**	**-1.9**
ALGR	**Alto Alegre (B**	**16.28**	**130**	eP	**Pn**	**15 42 04.3**	**-0.1**
NPGB	**Novo Progresso**	**16.36**	**46**	eP	**P**	**15 42 03.8**	**-0.2**
GO05	**Huala**	**16.70**	**194**	P	**P**	**15 42 07.0**	**-0.4**
SNDB	**Serra Nova Dou**	**16.70**	**68**	eP	**P**	**15 42 08.5**	**+0.8**
MACA	**Manacapuru-AM**	**16.78**	**23**	P	**P**	**15 42 08.6**	**+0.1**
MACA	**Manacapuru-AM**	**16.78**	**23**	eP	**P**	**15 42 08.8**	**+0.3**
CPSB	**Cacapava Do Su**	**16.96**	**136**	eP	**P**	**15 42 10.6**	**+0.3**
FRTB	**Fartura**	**17.00**	**108**	eP	**P**	**15 42 11.9**	**+1.0**
ML02	**Panimavida**	**17.31**	**192**	P	**P**	**15 42 12.8**	**-1.4**
PLTB	**Pedras Altas**	**17.75**	**139**	P	**P**	**15 42 17.2**	**-1.8**
PLTB				IAmb	IAmb	15 42 20.3	
	comp=Z,16nm,0.8s						
PLTB	**Pedras Altas**	**17.75**	**139**	eP	**P**	**15 42 19.4**	**+0.4**
IPMB	**Ipameri, GO**	**17.97**	**90**	eP	**P**	**15 42 22.7**	**+1.1**
CNLB	**Canela**	**18.15**	**128**	eP	**P**	**15 42 23.5**	**+0.1**
ITTB	**Itaituba**	**18.16**	**39**	eP	**P**	**15 42 23.5**	**-0.1**
BDFB	**Brasilia**	**18.52**	**83**	P	**Pn**	**15 42 29.7**	**-1.3**
BDFB				IAmb	IAmb	15 42 34.7	
	comp=Z,18nm,1.1s						
BDFB	**Brasilia**	**18.52**	**83**	P	**P**	**15 42 28.3**	**+0.7**
	comp=Z,10nm,0.6s,baz=264,slow=10,SNR=18						
RCLB	**Rio Claro- Sao**	**18.69**	**104**	eP	**P**	**15 42 30.0**	**+0.7**
SPB	**Sao Paulo**	**18.97**	**108**	eP	**P**	**15 42 32.4**	**+0.2**
MCRA	**Macar, Loja**	**19.05**	**317**	P	**P**	**15 42 34.4**	**+1.3**
MCRA				IAmb	IAmb	15 42 35.6	
	comp=Z,8.8nm,0.8s						
VAO	**Valinhos**	**19.29**	**106**	eP	**P**	**15 42 36.6**	**+0.9**
PMNB	**Patos De Minas**	**19.60**	**93**	eP	**P**	**15 42 40.0**	**+0.9**
TRQA	**Tornquist**	**19.70**	**168**	P	**P**	**15 42 38.7**	**-1.2**
COHC	**Cochancay**	**20.12**	**322**	eP	**P**	**15 42 46.8**	**+2.3**
PARB	**Paraibuna**	**20.56**	**106**	eP	**P**	**15 42 49.1**	**-0.2**
PIAT	**Ana Tenorio**	**20.80**	**327**	eP	Pn	15 42 55.8	-2.3
PRPB	**Paraupebas**	**21.03**	**56**	eP	**P**	**15 42 53.6**	**-0.5**
MALB	**Monte Alegre**	**21.04**	**38**	eP	**P**	**15 42 53.3**	**-0.9**
GO06	**Curarrehue**	**21.05**	**189**	P	**P**	**15 42 53.5**	**-0.7**
GO06				IAmb	IAmb	15 42 57.3	
	comp=Z,14nm,0.8s						
BSCB	**Bom Sucesso**	**21.13**	**100**	eP	**P**	**15 42 55.7**	**+0.5**
FLOC	**Florencia**	**21.93**	**337**	eP	**P**	**15 42 59.9**	**-2.7**
OTAV	**Otavalo**	**21.95**	**328**	eP	**P**	**15 43 02.9**	**-0.4**
OTAV	**Otavalo**	**21.95**	**328**	eP	**P**	**15 43 04.0**	**+0.6**
BOAV	**Boa Vista**	**22.05**	**18**	P	**P**	**15 43 04.0**	**+0.3**
BOAV				IAmb	IAmb	15 43 04.8	
	comp=Z,17nm,0.7s						
BOAV	**Boa Vista**	**22.05**	**18**	eP	**P**	**15 43 03.1**	**-0.6**
BOAV	**Boa Vista**	**22.05**	**18**	eP	**P**	**15 43 03.8**	**+0.1**
PLCA	**Paso Flores**	**22.05**	**187**	P	**P**	**15 43 03.8**	**+0.2**
PLCA	**Paso Flores**	**22.05**	**187**	eP	**P**	**15 43 05.1**	**+1.5**
PLCA	**Paso Flores**	**22.05**	**187**	P	**P**	**15 43 04.8**	**+1.2**
	comp=Z,9.0nm,0.9s,baz=357,slow=12,SNR=13						
	comp=Z,9.0nm,0.9s						
JANB	**Januaria**	**22.14**	**84**	eP	**P**	**15 43 04.6**	**0.0**
PAC1	**Pacto, Paraso**	**22.15**	**328**	eP	**P**	**15 43 04.3**	**-0.5**
DIAM	**Diamantina, MG**	**22.24**	**92**	eP	**P**	**15 43 05.7**	**0.0**
SDBA	**SAO DESIDERIO**	**22.32**	**77**	eP	**P**	**15 43 06.4**	**+0.1**
BBAC	**Balboa, Cauca**	**22.97**	**333**	eP	**P**	**15 43 12.9**	**+0.6**
POPC	**Popayan, Colom**	**23.20**	**335**	eP	**P**	**15 43 15.7**	**+1.2**
DUB01	**Friburgo-RJ**	**23.41**	**102**	eP	**P**	**15 43 17.9**	**+1.6**
MCPB	**Macapa, AP**	**23.55**	**41**	eP	**P**	**15 43 16.9**	**-0.6**
VILC	**Villavicencio,**	**23.67**	**343**	eP	**P**	**15 43 19.4**	**+0.8**
JAMC	**Jamundi, Valle**	**23.81**	**336**	eP	**P**	**15 43 20.1**	**+0.1**
ORTC	**Ortega, Tolima**	**23.95**	**340**	eP	**P**	**15 43 20.1**	**-0.9**
YOTC	**Yotoco, Valle**	**24.40**	**337**	eP	**P**	**15 43 24.2**	**-1.0**
SJMB	**Sao Joao De Ma**	**24.56**	**94**	eP	**P**	**15 43 27.1**	**+0.6**
ALF01	**Guarapari-ES**	**24.91**	**99**	eP	**P**	**15 43 31.3**	**+1.6**
GUY2C	**Guyana, Caldas**	**25.22**	**340**	eP	**P**	**15 43 33.1**	**+0.1**
PLMC	**San Jos del P**	**25.23**	**338**	eP	**P**	**15 43 31.6**	**-1.1**
SPBC	**San Pablo de B**	**25.25**	**344**	eP	**P**	**15 43 33.2**	**+0.3**
**RI

n42,σ0.93/72,8C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.33**	**355**	*e*P		**Pn**	**15 45 33.7**	**-0.5**
LVC				*e*S		**Sn**	**15 45 47.1**	**-0.9**
LVC				IAML			15 45 48.0	
	comp=Z,1μm,0.1s							
LVC	**Limon Verde**	**0.33**	**355**	*e*P		**Pn**	**15 45 33.3**	**-0.9**
LVC				*i* S		**Sn**	**15 45 45.6**	**-2.3**
LVC				IAML			15 45 47.1	
	comp=Z,9μm,0.2s							
PB15	**IPOC Station P**	**0.61**	**243**	*e*P		**Pn**	**15 45 35.6**	**+0.1**
PB15				*e*S		**Sn**	**15 45 50.9**	**+0.6**
PB15	**IPOC Station P**	**0.61**	**243**	⇑*i*P		**Pn**	**15 45 36.3**	**+0.8**
PB15				*i* S		**Sn**	**15 45 50.5**	**+0.2**
AF01	**San Pedro de A**	**0.65**	**92**	⇓*i*P		**Pn**	**15 45 35.1**	**-0.7**
AF01				IAML			15 45 57.7	
	comp=E,7μm,1.0s							
PB06	**IPOC Station P**	**0.68**	**290**	*e*P		Pn	15 45 31.0	-4.9
PB06				*e*P			15 45 35.9	
PB06				*e*S		**Sn**	**15 45 51.3**	**+0.2**
PB06				IAML			15 45 52.2	
	comp=Z,4μm,0.1s							
PB06	**IPOC Station P**	**0.68**	**290**	⇑*i*P		**Pn**	**15 45 36.6**	**+0.6**
PB06				*i* S		**Sn**	**15 45 51.0**	**0.0**
PB06				IAML			15 45 52.2	
	comp=E,6μm,0.2s							
PB09	**IPOC Station P**	**1.18**	**343**	*e*P		**Pn**	**15 45 40.8**	**+0.3**
PB09				*e*S		**Sn**	**15 45 59.7**	**+0.6**
PB09				IAML			15 46 01.2	
	comp=Z,816nm,0.7s							
PB09	**IPOC Station P**	**1.18**	**343**	⇓*i*P		**Pn**	**15 45 41.4**	**+0.9**
PB09				*e*S		**Sn**	**15 45 59.0**	**-0.2**
PB04	**IPOC Station P**	**1.32**	**297**	*e*P		**Pn**	**15 45 42.5**	**+0.6**
PB04				*e*S		**Sn**	**15 46 02.8**	**+1.1**
PB04				IAML			15 46 05.1	
	comp=Z,1μm,0.1s							
PB04	**IPOC Station P**	**1.32**	**297**	⇑*i*P		**Pn**	**15 45 42.9**	**+1.0**
PB04				*i* S		**Sn**	**15 46 02.2**	**+0.6**
PB04				IAML			15 46 04.3	
PB07	**IPOC Station P**	**1.52**	**322**	*e*P		**Pn**	**15 45 44.5**	**+0.3**
PB07				*e*S		**Sn**	**15 46 06.6**	**+0.9**
PB07				IAML			15 46 07.1	
	comp=Z,980nm,0.2s							
PB07	**IPOC Station P**	**1.52**	**322**	⇑*i*P		**Pn**	**15 45 45.2**	**+1.0**
PB07				*i* S		**Sn**	**15 46 06.0**	**+0.2**
PB07				IAML			15 46 07.2	
	comp=E,2μm,0.2s							
PB02	**IPOC Station P**	**1.86**	**329**	*e*P		**Pn**	**15 45 48.7**	**+0.5**
PB02				*e*S		**Sn**	**15 46 13.3**	**+0.5**
PB02				IAML			15 46 20.5	
	comp=Z,881nm,0.2s							
PB02	**IPOC Station P**	**1.86**	**329**	*e*P		**Pn**	**15 45 49.0**	**+0.8**
PB02				*i* S		**Sn**	**15 46 12.8**	**0.0**
PB02				IAML			15 46 20.1	
	comp=E,750nm,0.2s							
PB01	**IPOC Station P**	**1.97**	**343**	*e*P		**Pn**	**15 45 49.6**	**+0.2**
PB01				*e*S		**Sn**	**15 46 15.5**	**+0.5**
PB01				IAML			15 46 21.7	
	comp=Z,351nm,0.1s							
PB01	**IPOC Station P**	**1.97**	**343**	*e*P		**Pn**	**15 45 49.9**	**+0.5**
PB01				*e*S		**Sn**	**15 46 14.7**	**-0.3**
PB01				IAML			15 46 16.6	
	comp=E,725nm,0.2s							
PB14	**IPOC Station P**	**2.19**	**219**	*e*P		**Pn**	**15 45 52.8**	**+0.5**
PB14				*e*S		**Sn**	**15 46 20.9**	**+0.8**
PB14				IAML			15 46 25.7	
	comp=Z,170nm,0.2s							
PB14	**IPOC Station P**	**2.19**	**219**	*e*P		**Pn**	**15 45 53.0**	**+0.7**
PB14				*i* S		**Sn**	**15 46 18.9**	**-1.3**
GO02	**Mina Guanaco**	**2.31**	**196**	*e*P		**Pn**	**15 45 54.2**	**+0.4**
GO02				*e*S		**Sn**	**15 46 23.9**	**+1.0**
GO02				IAML			15 46 28.9	
	comp=Z,300nm,0.3s							
GO02	**Mina Guanaco**	**2.31**	**196**	⇑*e*P		**Pn**	**15 45 54.9**	**+1.1**
GO02				*e*S		**Sn**	**15 46 23.6**	**+0.6**
PATCX	**Punta Patache**	**2.42**	**330**	*e*P		**Pn**	**15 45 55.3**	**+0.3**
PATCX				*e*S		**Sn**	**15 46 22.5**	**-2.4**
PATCX				IAML			15 46 49.8	
	comp=Z,166nm,0.5s							
PATCX	**Punta Patache**	**2.42**	**330**	*e*P		**Pn**	**15 45 55.2**	**+0.2**
TA01	**Diego Aracena**	**2.65**	**333**	*e*P		**Pn**	**15 45 57.8**	**-0.1**
TA01				*e*S		**Sn**	**15 46 31.0**	**+0.8**
TA01				IAML			15 46 57.9	
	comp=Z,100nm,0.6s							
TA01	**Diego Aracena**	**2.65**	**333**	*e*P		**Pn**	**15 45 58.1**	**+0.2**
PB08	**IPOC Station P**	**2.79**	**355**	*e*P		**Pn**	**15 46 00.4**	**+0.2**
PB08				*e*S		**Sn**	**15 46 34.8**	**+0.7**
PB08				IAML			15 46 35.3	
	comp=Z,84nm,0.2s							
PB08	**IPOC Station P**	**2.79**	**355**	⇑*e*P		**Pn**	**15 46 00.8**	**+0.7**
HMBC	**Humberstone**	**2.81**	**340**	*e*P		**Pn**	**15 45 59.9**	**-0.2**
HMBC				*e*S		**Sn**	**15 46 34.3**	**+0.2**
HMBC				IAML			15 47 07.1	
	comp=Z,193nm,0.3s							
HMBC	**Humberstone**	**2.81**	**340**	⇑*e*P		**Pn**	**15 45 59.7**	**-0.4**
YJA	**Yavi**	**3.20**	**77**	*e*P		**Pn**	**15 46 07.6**	**+2.1**
PB11	**IPOC Station P**	**3.24**	**347**	*e*P		**Pn**	**15 46 05.7**	**-0.1**
PB11				*e*S		**Sn**	**15 46 44.2**	**0.0**
PB11				IAML			15 46 45.9	
	comp=Z,103nm,0.2s							
PB11	**IPOC Station P**	**3.24**	**347**	*e*P		**Pn**	**15 46 05.4**	**-0.4**
GO01	**Chusmiza**	**3.27**	**355**	*e*P		**Pn**	**15 46 06.4**	**0.0**
GO01				*e*S		**Sn**	**15 46 44.8**	**-0.5**
GO01				IAML			15 46 47.6	
	comp=Z,102nm,0.3s							
GO01	**Chusmiza**	**3.27**	**355**	*e*P		**Pn**	**15 46 07.0**	**+0.7**
GO01				*e*S		**Sn**	**15 46 45.2**	**-0.1**
GO01				IAML			15 46 47.8	
	comp=E,504nm,0.1s							
AC01	**Pan de Azucar**	**3.56**	**206**	*e*P		**Pn**	**15 46 09.0**	**-0.8**
AC01				*e*S		**Sn**	**15 46 50.7**	**-0.8**
AC01				IAML			15 47 19.2	
	comp=Z,56nm,0.6s							
AC01	**Pan de Azucar**	**3.56**	**206**	⇑*e*P		**Pn**	**15 46 09.7**	**-0.1**
AC01				*e*S		**Sn**	**15 46 49.5**	**-1.9**
PB12	**IPOC Station P**	**4.51**	**342**	*e*P		**Pn**	**15 46 21.4**	**-1.2**
PB12				*e*S		**Sn**	**15 47 10.8**	**-3.5**
PB12				IAML			15 47 15.3	
	comp=Z,28nm,0.3s							
PB12	**IPOC Station P**	**4.51**	**342**	*e*P		**Pn**	**15 46 21.3**	**-1.2**
PB16	**IPOC Station P**	**4.62**	**353**	*e*P		**Pn**	**15 46 25.0**	**+0.6**
PB16				*e*S		**Sn**	**15 47 18.6**	**+1.1**
PB16	**IPOC Station P**	**4.62**	**353**	*e*P		**Pn**	**15 46 25.4**	**+1.0**
GO03	**Copiap**	**4.80**	**195**	*e*P		**Pn**	**15 46 25.9**	**-0.4**
GO03				*e*S		Sn	15 47 07.8	-13
GO03				IAML			15 47 48.5	
	comp=Z,30nm,0.3s							
GO03	**Copiap**	**4.80**	**195**	*e*P		**Pn**	**15 46 25.5**	**-0.7**

*KRNET **30** 15:55:45.6±0.1, 43.11N×76.90E, h17km, mb3.5*
*NNC **30** 15:55:45.6±0.3, 43.09N×76.88E, h0km, mb3.9, mpv4.0,*
Error ellipse: s-maj=2.7km s-min=1.7km az=173.0
*SOME **30** 15:55:45.5, 43.10N×76.88E, h10km*
*KNET **30** 15:55:47.0±0.4, 43.05N×76.74E, h11km±2km, ml2.6, Error ellipse: s-maj=3.2km s-min=2.5km az=95.0*

ISC 30 15:55:46.0±0.7, 43.08N±0.02×76.90E±0.01, h10km±3km, n92,σ1.9/10/158, 56C-24D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**0.06**	**143**	*e*P		**Pg**	**15 55 47.9**	**-0.6**
	baz=53							
TNSS				*e*S		**Sg**	**15 55 49.6**	**-0.7**
	baz=53							
TNSS	**Tian-Shan**	**0.06**	**143**	⇓*i*P		**Pg**	**15 55 47.9**	**-0.6**
	baz=160							
TNSS	**Tian-Shan**	**0.06**	**143**	*e*P		**Pg**	**15 55 47.9**	**-0.6**
	2μm,0.1s							
TNSS				*e*S		**Sg**	**15 55 49.6**	**-0.7**
	8μm,0.2s							
TNSS	**Tian-Shan**	**0.06**	**143**	P		**Pg**	**15 55 47.9**	**-0.6**
	2μm,0.1s							
TNSS				S		**Sg**	**15 55 49.6**	**-0.7**
	4μm,0.2s							
AAA	**Alma-Ata**	**0.13**	**5**	⇓*i*P		**Pg**	**15 55 48.8**	**-0.2**
	baz=114							
AAA				*e*S		**Sg**	**15 55 51.1**	**-0.1**
	baz=114							
AAA	**Alma-Ata**	**0.13**	**5**	*e*P		**Pg**	**15 55 48.8**	**-0.2**
	4μm,0.1s							
AAA				*e*S		**Sg**	**15 55 51.2**	**-0.1**
	2μm,0.1s							
AAA	**Alma-Ata**	**0.13**	**5**	P		**Pg**	**15 55 48.8**	**-0.2**
	4μm,0.1s							
AAA				S		**Sg**	**15 55 51.2**	**-0.1**
	2μm,0.1s							
MDOK	**Medeo**	**0.14**	**54**	*e*P		**Pg**	**15 55 48.8**	**-0.5**
	baz=63							
MDOK				*e*S		**Sg**	**15 55 51.0**	**-0.6**
	baz=63							
MDOK	**Medeo**	**0.14**	**54**	⇓*i*P		**Pg**	**15 55 48.7**	**-0.5**
	baz=115							
MDOK				*e*S		**Sg**	**15 55 51.0**	**-0.6**
	baz=115							
MDOK	**Medeo**	**0.14**	**54**	*e*P		**Pg**	**15 55 48.8**	**-0.5**
	1μm,0.2s							
MDOK				*e*S		**Sg**	**15 55 51.0**	**-0.6**
	2μm,0.1s							
MDOK	**Medeo**	**0.14**	**54**	⇑P		**Pg**	**15 55 48.6**	**-0.6**
MDOK				Pg		**Pg**	**15 55 48.8**	**-0.5**
	1μm,0.2s							
MDOK				⇑S		**Sg**	**15 55 51.0**	**-0.6**
MDOK				Lg		Lg	15 55 51.0	
	2μm,0.1s							
KNDC	**Almaty**	**0.14**	**20**	⇑P		**Pg**	**15 55 49.1**	**-0.2**
KNDC				⇑S		**Sg**	**15 55 51.7**	**+0.1**
IZV	**Izvestkoviy**	**0.21**	**257**	*e*P		**Pg**	**15 55 50.2**	**-0.3**
	baz=51							
IZV				*e*S		**Sg**	**15 55 53.5**	**-0.1**
	baz=51							
IZV	**Izvestkoviy**	**0.21**	**257**	*e*P		**Pg**	**15 55 50.2**	**-0.3**
	155nm,0.1s							
IZV				*e*S		**Sg**	**15 55 53.6**	**-0.1**
	840nm,0.2s							
IZV	**Izvestkoviy**	**0.21**	**257**	P		**Pg**	**15 55 50.2**	**-0.3**
	155nm,0.1s							
IZV				S		**Sg**	**15 55 53.6**	**-0.1**
	840nm,0.2s							
KASK	**Kaskelen**	**0.23**	**306**	⇑P		**Pb**	**15 55 50.6**	**-0.2**
KASK				⇑S		**Sg**	**15 55 54.5**	**+0.5**
MTBS	**Maitube**	**0.35**	**278**	*e*P		**Pg**	**15 55 52.6**	**-0.4**
	baz=74							
MTBS				*e*S		**Sg**	**15 55 57.4**	**-0.2**
	baz=74							
MTBS	**Maitube**	**0.35**	**278**	*e*P		**Pg**	**15 55 52.6**	**-0.4**
	294nm,0.2s							
MTBS				*e*S		**Sg**	**15 55 57.4**	**-0.2**
	524nm,0.2s							
MTBS	**Maitube**	**0.35**	**278**	P		**Pg**	**15 55 52.6**	**-0.4**
	294nm,0.2s							
MTBS				S		**Sg**	**15 55 57.4**	**-0.2**
	524nm,0.2s							
ANVS	**Anan'yevo**	**0.64**	**118**	⇑*i*P		**Pg**	**15 55 57.9**	**-0.5**
	baz=19							
ANVS				⇑*i*S		**Sb**	**15 56 06.9**	**-1.6**
	baz=19							
KST	**Kastek**	**0.69**	**267**	*e*P		**Pg**	**15 55 58.8**	**-0.6**
	baz=65							
KST				*e*S		**Sb**	**15 56 08.1**	**-1.7**
	baz=65							
KST	**Kastek**	**0.69**	**267**	*e*P		**Pg**	**15 55 58.8**	**-0.6**
	183nm,0.2s							
KST				*e*S		**Sb**	**15 56 08.1**	**-1.7**
	88nm,0.2s							
KST	**Kastek**	**0.69**	**267**	P		**Pg**	**15 55 58.8**	**-0.6**
	183nm,0.2s							
KST				S		**Sb**	**15 56 08.1**	**-1.7**
	88nm,0.2s							
CHKK	**Chushkaly**	**0.77**	**5**	*e*P		**Pg**	**15 56 00.2**	**-0.8**
	baz=6.0							
CHKK				*e*S		**Sg**	**15 56 10.5**	**-0.6**
	baz=6.0							
CHKK	**Chushkaly**	**0.77**	**5**	⇓*i*P		**Pg**	**15 56 00.1**	**-0.8**
	baz=9.7							
CHKK				*e*S		**Sg**	**15 56 10.4**	**-0.6**
	baz=9.7							
CHKK	**Chushkaly**	**0.77**	**5**	*e*P		**Pg**	**15 56 00.2**	**-0.8**
	90nm,0.1s							
CHKK				*e*S		**Sg**	**15 56 10.5**	**-0.6**
	199nm,0.2s							
CHKK	**Chushkaly**	**0.77**	**5**	P		**Pg**	**15 56 00.2**	**-0.8**
	90nm,0.1s							
CHKK				S		**Sg**	**15 56 10.5**	**-0.6**
	199nm,0.2s							
KUU	**Kurty**	**0.91**	**333**	⇓*i*P		**Pg**	**15 56 01.9**	**-1.5**
	baz=331							
KUU	**Kurty**	**0.91**	**333**	*e*P		**Pg**	**15 56 01.9**	**-1.5**
	34nm,0.1s							
KUU				*e*S		**Sg**	**15 56 13.3**	**-2.0**
	130nm,0.2s							
KUU	**Kurty**	**0.91**	**333**	P		**Pg**	**15 56 01.9**	**-1.5**
	34nm,0.1s							
KUU				S		**Sg**	**15 56 13.3**	**-2.0**
	130nm,0.2s							
ULHL	**Ulahol**	**0.97**	**210**	⇓P		**Pg**	**15 56 03.7**	**-0.9**
	19nm,0.2s,SNR=8.0							
ULHL				⇑S		**Sb**	**15 56 17.0**	**-1.0**
	66nm,0.2s							
ULHL	**Ulahol**	**0.97**	**210**	⇑*i*P		**Pb**	**15 56 04.2**	**-0.8**
	baz=10.0							
ULHL				⇑*i*S		**Sn**	**15 56 18.0**	**-1.8**
	baz=10.0							
TKM2	**Tokmak 2**	**0.97**	**261**	⇓P		**Pg**	**15 56 03.8**	**-0.9**
	37nm,0.1s,SNR=210							
TKM2				⇑S		**Sb**	**15 56 17.1**	**-0.8**
	148nm,0.1s							
TKM2	**Tokmak 2**	**0.97**	**261**	⇑*i*P		**Pg**	**15 56 03.8**	**-0.9**
	baz=59							
TKM2				⇑*i*S		**Sb**	**15 56 17.3**	**-0.7**
	baz=59							
TKM2	**Tokmak 2**	**0.97**	**261**	⇓P		**Pg**	**15 56 03.7**	**-0.9**
	18nm,0.3s							
TKM2				⇑S		**Sb**	**15 56 17.2**	**-0.8**
	25nm,0.3s							
SATY	**Saty**	**1.10**	**91**	*e*P		**Pb**	**15 56 06.3**	**-1.0**
	baz=92							
SATY				*e*S		**Sb**	**15 56 21.2**	**-0.7**
	baz=92							
SATY	**Saty**	**1.10**	**91**	*e*P		**Pb**	**15 56 06.1**	**-1.2**
	baz=98							
SATY	**Saty**	**1.10**	**91**	*e*P		**Pb**	**15 56 06.3**	**-1.0**
	48nm,0.2s							
SATY				*e*S		**Sb**	**15 56 21.2**	**-0.7**
	300nm,0.1s							
SATY	**Saty**	**1.10**	**91**	P		**Pb**	**15 56 06.3**	**-1.0**
	48nm,0.2s							
SATY				S		**Sb**	**15 56 21.2**	**-0.7**
	300nm,0.1s							
ZHN	**Zhinishke**	**1.13**	**85**	*e*P		**Pb**	**15 56 06.6**	**-1.1**
	baz=86							
ZHN				*e*S		**Sb**	**15 56 21.5**	**-1.0**
	baz=86							
ZHN	**Zhinishke**	**1.13**	**85**	*i* P		**Pb**	**15 56 06.3**	**-1.4**
	baz=92							
ZHN	**Zhinishke**	**1.13**	**85**	*e*P		**Pb**	**15 56 06.6**	**-1.1**
	64nm,0.1s							
ZHN				*e*S		**Sb**	**15 56 21.5**	**-1.0**
	267nm,0.2s							
ZHN	**Zhinishke**	**1.13**	**85**	P		**Pb**	**15 56 06.6**	**-1.1**
	64nm,0.1s							
ZHN				S		**Sb**	**15 56 21.5**	**-1.0**
	267nm,0.2s							
PRZ	**Przheval'sk**	**1.26**	**118**	⇑*i*P		**Pg**	**15 56 09.4**	**-0.8**
	baz=18							
PRZ				⇑*i*S		**Sn**	**15 56 26.7**	**-0.2**
	baz=18							
KPKS	**Kokpek**	**1.36**	**73**	*i* Pn		**Pb**	**15 56 10.7**	**-0.9**
	baz=80							
KPKS				*i* Pb		**Pg**	**15 56 11.2**	**-1.0**
	baz=80							
KBK	**Karagaybulak**	**1.50**	**254**	⇓P		**Pb**	**15 56 13.0**	**-1.0**
	103nm,0.1s,SNR=92							
KBK				⇑S		**Sg**	**15 56 33.2**	**-1.0**
	82nm,0.2s							
KBK	**Karagaybulak**	**1.50**	**254**	⇑*i*P		**Pg**	**15 56 13.5**	**-1.2**
	baz=53							
KBK				⇑*i*S		**Sg**	**15 56 33.7**	**-0.5**
	baz=53							
UZB	**Uzynbulak**	**1.56**	**87**	*e*P		**Pb**	**15 56 14.3**	**-0.7**
	baz=88							
UZB				*e*S		**Sg**	**15 56 34.8**	**-1.3**
	baz=88							
UZB	**Uzynbulak**	**1.56**	**87**	*i* Pn		**Pb**	**15 56 14.0**	**-1.0**
	baz=92							
UZB	**Uzynbulak**	**1.56**	**87**	*e*P		**Pb**	**15 56 14.3**	**-0.7**
	44nm,0.1s							
UZB				*e*S		**Sg**	**15 56 34.8**	**-1.3**
	32nm,0.2s							
UZB	**Uzynbulak**	**1.56**	**87**	P		**Pb**	**15 56 14.3**	**-0.7**
	44nm,0.1s							
UZB				S		**Sg**	**15 56 34.8**	**-1.3**
	32nm,0.2s							
CHMS	**Chumysh**	**1.58**	**268**	⇓P		**Pb**	**15 56 14.2**	**-1.1**
	36nm,0.2s,SNR=29							
CHMS				⇑S		**Sg**	**15 56 35.0**	**-1.7**
	138nm,0.2s							
CHMS	**Chumysh**	**1.58**	**268**	⇑*i*P		**Pb**	**15 56 14.2**	**-1.1**
	baz=67							
CHMS				⇑*i*S		**Sg**	**15 56 35.9**	**-0.8**
	baz=67							
CHMS	**Chumysh**	**1.58**	**268**	⇑P		**Pb**	**15 56 14.2**	**-1.1**
	15nm,0.3s							
CHMS				⇑S		**Sb**	**15 56 34.9**	**-0.5**
	52nm,0.5s							
KZA	**Kyzart**	**1.58**	**231**	⇑P		**Pg**	**15 56 15.2**	**-1.1**
	16nm,0.3s,SNR=20							
KZA				⇑S		**Sg**	**15 56 37.1**	**+0.2**
	40nm,0.2s							
KZA	**Kyzart**	**1.58**	**231**	⇑*i*P		**Pb**	**15 56 14.9**	**-0.7**
	baz=30							
KZA				⇑*i*S		**Sg**	**15 56 36.3**	**-0.5**
	baz=30							
FRU1	**Bishkek**	**1.69**	**261**	⇑*i*P		**Pb**	**15 56 16.6**	**-0.6**
	baz=61							
FRU1				⇑*i*S		**Sg**	**15 56 39.5**	**-0.8**
	baz=61							
SGDS	**Sogindy**	**1.70**	**283**	*i* Pg		**Pb**	**15 56 16.2**	**-1.2**
	baz=279							
SGDS	**Sogindy**	**1.70**	**283**	P		**Pb**	**15 56 16.3**	**-1.0**
	43nm,0.2s							
SGDS				S		**Sb**	**15 56 37.8**	**-1.0**
	102nm,0.2s							
USP	**Ospenovka**	**1.76**	**277**	⇑P		**Pb**	**15 56 17.4**	**-1.1**
	19nm,0.1s,SNR=70							
USP				⇓S		**Sb**	**15 56 40.6**	**-0.1**
	82nm,0.2s							
USP	**Ospenovka**	**1.76**	**277**	⇑*i*P		**Pb**	**15 56 17.6**	**-0.9**
	baz=76							
USP				⇑*i*S		**Sg**	**15 56 40.9**	**-1.8**
	baz=76							
AAK	**Ala-Archa**	**1.82**	**257**	⇑P		**Pb**	**15 56 18.9**	**-0.7**
	40nm,0.3s,SNR=63							
AAK				⇓S		**Sg**	**15 56 42.9**	**-1.7**
	48nm,0.4s							
AAK	**Ala-Archa**	**1.82**	**257**	⇑*i*P		**Pb**	**15 56 18.9**	**-0.7**
	baz=56							
AAK				⇑*i*S		**Sg**	**15 56 43.4**	**-1.2**
	baz=56							
SHLS	**Shalkode**	**1.88**	**87**	*e*Pb		**Pg**	**15 56 25.0**	**+2.9**
	baz=91							
SHLS				*e*Pg		Pb	15 56 25.9	+5.4
	baz=91							
SHLS	**Shalkode**	**1.88**	**87**	*e*Pg		Pg	15 56 26.0	+4.0
	44nm,0.2s							
SHLS				*e*Lg		Lg	15 56 55.0	
	91nm,0.3s							
SHLS	**Shalkode**	**1.88**	**87**	Pg		Pg	15 56 26.0	+4.0
	44nm,0.2s							
SHLS				Lg		Lg	15 56 55.0	
	91nm,0.3s							
PDGK	**Podgornoye**	**1.91**	**82**	P		**Pb**	**15 56 20.4**	**-0.7**
	33nm,0.2s							
PDGK				S		**Sg**	**15 56 45.6**	**-1.9**
	23nm,0.2s							
PDGK	**Podgornoye**	**1.91**	**82**	⇑Pn		**Pb**	**15 56 20.1**	**-0.9**
	27nm,0.3s							
PDGK				⇓Lg		Lg	15 56 45.2	
	14nm,0.3s							
UCH	**Uchtor**	**1.96**	**245**	⇓P		**Pb**	**15 56 21.7**	**-0.4**
	9.6nm,0.2s,SNR=24							
UCH				⇓S		**Sg**	**15 56 47.7**	**-1.2**
	16nm,0.2s							
UCH	**Uchtor**	**1.96**	**245**	⇑*i*P		**Pb**	**15 56 21.4**	**-0.6**
	baz=44							
UCH				⇑*i*S		**Sg**	**15 56 47.6**	**-1.3**
	baz=44							
TDK	**Taldyqorghan**	**2.21**	**29**	*e*Pg		**Pb**	**15 56 23.8**	**-2.2**
	baz=32							
TDK				*e*Lg		Lg	15 56 53.2	
	baz=32							
ARLS	**Aral**	**2.26**	**238**	⇓*i*P		**Pb**	**15 56 25.8**	**-1.3**
	baz=37							
ARLS				⇓*i*S		**Sb**	**15 56 54.3**	**-0.9**
	baz=37							
EKS2	**Erkin-Say**	**2.33**	**261**	⇑P		**Pb**	**15 56 26.9**	**-1.4**
	13nm,0.2s,SNR=40							
EKS2				⇑S		**Sb**	**15 56 57.2**	**0.0**
	34nm,0.2s							
EKS2	**Erkin-Say**	**2.33**	**261**	⇓*i*P		**Pb**	**15 56 26.5**	**-1.8**
	baz=60							
EKS2				⇓*i*S		**Sb**	**15 56 56.0**	**-1.2**
	baz=60							
DJR	**Jarkent**	**2.44**	**58**	*e*Pg		**Pb**	**15 56 30.0**	**-0.1**
	9.2nm,0.1s							
DJR				*e*Lg		Lg	15 57 01.6	
	68nm,0.3s							
DJR	**Jarkent**	**2.44**	**58**	Pg		**Pb**	**15 56 29.4**	**-0.7**
	8.6nm,0.2s							
DJR				Lg		Lg	15 57 01.2	
	65nm,0.3s							
AML	**Almayashu**	**2.55**	**249**	⇑*i*P		**Pb**	**15 56 30.1**	**-2.0**
	baz=49							
AML				⇑*i*S		**Sb**	**15 57 01.6**	**-2.1**
	baz=49							
AML	**Almayashu**	**2.55**	**249**	⇑Pg		**Pb**	**15 56 32.4**	**+0.2**
	2.6nm,0.6s							
AML				⇓Lg		Lg	15 57 07.8	
	2.0nm,0.5s							
MRKS	**Merke**	**2.72**	**264**	*e*Pg		**Pb**	**15 56 34.6**	**-0.2**
	13nm,0.3s							
MRKS				*e*Lg		Lg	15 57 09.9	
	23nm,0.3s							
MRKS	**Merke**	**2.72**	**264**	Pg		**Pb**	**15 56 34.6**	**-0.2**
	13nm,0.3s							
MRKS				Lg		Lg	15 57 09.9	
	23nm,0.3s							
BTLS	**Baital**	**2.84**	**315**	*e*Pg		**Pb**	**15 56 35.6**	**-1.2**
	baz=313							
BTLS				*e*Lg		Lg	15 57 12.8	
	baz=313							
BTLS	**Baital**	**2.84**	**315**	*e*Pg		**Pb**	**15 56 37.1**	**+0.3**
	2.6nm,0.1s							
BTLS				*e*L

mb4.5/9, Error ellipse: s-maj=10.0km s-min=5.3km az=71.0

*GUC **30** 16:18:29.5±0.7, 21°23S×68°68W, h119km±4km, ML4.2*

ISC 30 16:18:28.3±0.6, **21°22S**±0°03×**68°63W**±0°05, **h111**km±6km, **n91**, σ1°**37**/106, **mb4.5**/12, **4D**, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.81**	**225**		**Pn**	**16 18 49.3**	**+1.3**
PB09				Sn	**Sn**	**16 19 04.8**	**+1.9**
PB09	**IPOC Station P**	**0.81**	**225**	*eP*	**Pn**	**16 18 49.4**	**+1.4**
PB09				*i* S	**Sn**	**16 19 04.8**	**+1.9**
PB09				IAML		16 19 06.1	
	comp=N,4μm,0.6s						
PB01	**IPOC Station P**	**0.82**	**282**		**Pn**	**16 18 48.4**	**+0.4**
PB01				Sn	**Sn**	**16 19 03.3**	**+0.5**
PB01	**IPOC Station P**	**0.82**	**282**	*eP*	**Pn**	**16 18 48.5**	**+0.6**
PB01				*i* S	**Sn**	**16 19 03.6**	**+0.8**
PB01				IAML		16 19 04.5	
	comp=N,10μm,0.3s						
PB08	**IPOC Station P**	**1.18**	**335**		**Pn**	**16 18 52.7**	**+0.8**
PB08	**IPOC Station P**	**1.18**	**335**	*eP*	**Pn**	**16 18 53.4**	**+1.4**
PB08				*i* S	**Sn**	**16 19 11.4**	**+1.7**
PB08				IAML		16 19 13.9	
	comp=N,7μm,0.5s						
PB02	**IPOC Station P**	**1.19**	**265**		**Pn**	**16 18 52.0**	**+0.2**
PB02	**IPOC Station P**	**1.19**	**265**	*eP*	**Pn**	**16 18 52.3**	**+0.6**
PB02				*i* S	**Sn**	**16 19 09.9**	**+0.4**
PB02				IAML		16 19 12.0	
	comp=E,13μm,0.6s						
PB07	**IPOC Station P**	**1.28**	**246**		**Pn**	**16 18 52.8**	**0.0**
PB07	**IPOC Station P**	**1.28**	**246**	*eP*	**Pn**	**16 18 53.5**	**+0.6**
PB07				*i* S	**Sn**	**16 19 11.7**	**+0.3**
PB07				IAML		16 19 13.9	
	comp=E,4μm,0.5s						
LVC	**Limon Verde**	**1.41**	**191**	Pn	**Pn**	**16 18 56.1**	**+1.5**
LVC				Sn	**Sn**	**16 19 15.9**	**+1.4**
LVC	**Limon Verde**	**1.41**	**191**	P	**Pn**	**16 18 56.1**	**+1.5**
	comp=E,182nm,0.4s,baz=27,slow=10.0,SNR=494						
LVC				S	**Sn**	**16 19 17.0**	**+2.5**
	comp=E,570nm,0.5s,baz=103,slow=23,SNR=17						
LVC	**Limon Verde**	**1.41**	**191**	*eP*	**Pn**	**16 18 55.8**	**+1.2**
LVC				*i* S	**Sn**	**16 19 16.4**	**+1.9**
PATCX	**Punta Patache**	**1.48**	**285**	Pn	**Pn**	**16 18 55.3**	**+0.2**
PATCX	**Punta Patache**	**1.48**	**285**	*eP*	**Pn**	**16 18 55.8**	**+0.7**
PATCX				*i* S	**Sn**	**16 19 15.9**	**+0.6**
HMBC	**Humberstone**	**1.50**	**308**	*eP*	**Pn**	**16 18 55.9**	**+0.5**
HMBC				*i* S	**Sn**	**16 19 16.1**	**+0.1**
TA01	**Diego Aracena**	**1.59**	**294**		**Pn**	**16 18 56.6**	**+0.4**
TA01	**Diego Aracena**	**1.59**	**294**	*eP*	**Pn**	**16 18 56.7**	**+0.4**
TA01				*i* S	**Sn**	**16 19 17.3**	**-0.3**
TA01				IAML		16 19 18.8	
	comp=E,10μm,0.3s						
GO01	**Chusmiza**	**1.63**	**341**		**Pn**	**16 18 58.4**	**+1.1**
GO01	**Chusmiza**	**1.63**	**341**	*eP*	**Pn**	**16 18 58.3**	**+1.1**
GO01				*i* S	**Sn**	**16 19 21.0**	**+1.8**
TA02	**Huaiquique**	**1.69**	**303**		**Pn**	**16 18 57.8**	**+0.3**
TA02	**Huaiquique**	**1.69**	**303**	*eP*	**Pn**	**16 18 57.8**	**+0.3**
TA02				*i* S	**Sn**	**16 19 19.4**	**-0.4**
PB06	**IPOC Station P**	**1.72**	**210**		**Pn**	**16 18 58.7**	**+0.6**
PB06	**IPOC Station P**	**1.72**	**210**	*eP*	**Pn**	**16 18 59.1**	**+1.0**
PB06				*i* S	**Sn**	**16 19 22.0**	**+1.2**
PB11	**IPOC Station P**	**1.74**	**326**		**Pn**	**16 18 58.8**	**+0.5**
PB11	**IPOC Station P**	**1.74**	**326**	*eP*	**Pn**	**16 18 58.6**	**+0.3**
PB11				*i* S	**Sn**	**16 19 21.7**	**+0.6**
AF01	**San Pedro de A**	**1.78**	**167**		**Pn**	**16 19 01.7**	**+2.8**
PB04	**IPOC Station P**	**1.80**	**232**	Pn	**Pn**	**16 18 59.4**	**+0.3**
PB04	**IPOC Station P**	**1.80**	**232**	*eP*	**Pn**	**16 18 59.3**	**+0.3**
PB04				*i* S	**Sn**	**16 19 22.6**	**+0.1**
PB04				IAML		16 19 30.1	
	comp=N,2μm,0.2s						
PB15	**IPOC Station P**	**2.13**	**201**		**Pn**	**16 19 04.0**	**+0.7**
PB15	**IPOC Station P**	**2.13**	**201**	*i* S	**Sn**	**16 19 30.4**	**+0.4**
PB05	**IPOC Station P**	**2.19**	**222**		**Pn**	**16 19 04.3**	**+0.4**
PB05	**IPOC Station P**	**2.19**	**222**	*eP*	**Pn**	**16 19 04.0**	**+0.1**
PB05				*i* S	**Sn**	**16 19 30.5**	**-0.7**
PB05				IAML		16 19 36.4	
	comp=E,925nm,0.6s						
PB16	**IPOC Station P**	**2.98**	**344**	Pn	**Pn**	**16 19 16.0**	**+1.3**
PB12	**IPOC Station P**	**3.04**	**328**	Pn	**Pn**	**16 19 13.7**	**-1.3**
AP01	**Chacalluta**	**3.26**	**330**		**Pn**	**16 19 17.0**	**-0.8**
PB18	**Visviri**	**3.69**	**347**		**Pn**	**16 19 26.7**	**+2.5**
PB14	**IPOC Station P**	**3.77**	**205**	Pn	**Pn**	**16 19 25.3**	**+0.4**
GO02	**Mina Guanaco**	**4.03**	**193**	Pn	**Pn**	**16 19 28.0**	**-0.4**
LPAZ	**La Paz**	**4.92**	**6**	Pn	**Pn**	**16 19 42.8**	**+2.1**
AC01	**Pan de Azucar**	**5.23**	**200**	Pn	**Pn**	**16 19 42.8**	**-1.6**
GO03	**Copiap**	**6.52**	**193**	Pn	**Pn**	**16 19 59.5**	**-2.2**
AC05	**El Transito**	**7.73**	**191**		**Pn**	**16 20 15.4**	**-2.9**
CO01	**Juntas del Tor**	**8.83**	**188**		**Pn**	**16 20 31.3**	**-1.9**
SIV	**San Ignacio**	**8.85**	**55**	P	**Pn**	**16 20 30.9**	**-2.5**
	comp=E,61nm,0.5s,baz=248,slow=9.6,SNR=328						
CO03	**El Pedregal**	**9.76**	**191**	Pn	Pn	16 20 40.8	-5.0
CO02	**Combarbal**	**10.17**	**192**	Pn	Pn	16 20 45.9	-5.4
PTLB	**Pontes e Lacer**	**10.68**	**59**	Pn	**Pn**	**16 20 54.9**	**-3.3**
CPUP	**Villa Florida**	**11.53**	**118**	Pn	**Pn**	**16 21 09.1**	**-0.4**
CPUP	**Villa Florida**	**11.53**	**118**	P	**Pn**	**16 21 08.2**	**-1.3**
	comp=E,2.4nm,0.5s,baz=320,slow=12,SNR=6.2						
AQDB	**Aquidauana**	**12.11**	**89**	Pn	Pn	16 21 13.6	-3.7
MT02	**Curacav**	**12.20**	**190**	Pn	**Pn**	**16 21 17.5**	**-0.9**
MT01	**Popeta**	**12.81**	**190**	Pn	**Pn**	**16 21 22.7**	**-3.7**
SAML	**Samuel**	**13.28**	**24**	Pn	**Pn**	**16 21 33.0**	**+0.5**
BO01	**Tunca**	**13.30**	**189**	Pn	**Pn**	**16 21 32.2**	**-0.6**
BO02	**Sierra Bellavi**	**13.66**	**188**		**Pn**	**16 21 37.2**	**-0.3**
ITAB	**Concordia**	**16.19**	**115**	Pn	**Pn**	**16 22 09.0**	**-0.4**
PLTB	**Pedras Altas**	**17.05**	**131**	P	**P**	**16 22 17.4**	**-2.5**
TRQA	**Tornquist**	**17.74**	**163**		**P**	**16 22 24.3**	**-3.2**
GO06	**Curarrehue**	**18.47**	**187**	P	**P**	**16 22 33.3**	**-2.3**
GO06				IAmb	IAmb	16 22 38.0	
	comp=Z,20nm,0.9s						
LR05	**Curie**	**19.17**	**188**	P	**P**	**16 22 41.3**	**-1.8**
PLCA	**Paso Flores**	**19.53**	**184**	P	**P**	**16 22 46.1**	**-0.9**
PLCA				IAmb	IAmb	16 22 53.3	
	comp=Z,19nm,0.8s						
PLCA	**Paso Flores**	**19.53**	**184**	P	**P**	**16 22 48.6**	**+1.6**
	comp=Z,17nm,0.8s,baz=354,slow=12,SNR=21						
BDFB	**Brasilia**	**20.32**	**78**	P	**P**	**16 22 55.0**	**-0.9**
BDFB				IAmb	IAmb	16 22 56.8	
	comp=Z,13nm,0.5s						
BDFB	**Brasilia**	**20.32**	**78**	P	**P**	**16 22 55.3**	**-0.6**
	comp=Z,13nm,0.5s,baz=252,slow=10,SNR=21						
BDFB				LR	LR	16 32 04.1	
	comp=Z,66nm,18.3s,baz=169,slow=40						
	comp=Z,13nm,0.5s						
LL01	**San Ignacio de**	**21.34**	**188**	P	**P**	**16 23 06.5**	**+0.1**
LL01				IAmb	IAmb	16 23 10.1	
	comp=Z,26nm,0.9s						
MDP	**Montagnes des**	**30.49**	**33**	LR	LR	16 38 35.2	
	comp=Z,28nm,18.1s,baz=260,slow=40						
VNA3	**Neumayer Olymp**	**60.26**	**161**	⇓P	**P**	**16 28 26.0**	**+1.4**
	comp=Z,5.8nm,0.7s						
VNA2	**Neumayer--Watz**	**60.83**	**161**	⇓P	**P**	**16 28 29.8**	**+1.3**
	comp=Z,6.1nm,0.6s,baz=279,slow=7.0						
SNAA	**Sanae**	**62.46**	**161**	⇓P	**P**	**16 28 40.7**	**+1.2**
	comp=Z,117nm,0.6s						
SNAA	**Sanae**	**62.46**	**161**	P	**P**	**16 28 40.6**	**+1.1**
	comp=Z,5.0nm,0.6s,baz=276,slow=7.9,SNR=14						
	comp=Z,5.0nm,0.6s						
TROLL	**Troll, Antarti**	**64.18**	**161**	⇓P	**P**	**16 28 52.3**	**+1.4**
	comp=Z,262nm,0.5s						
DBIC	**Dimbokro**	**68.40**	**73**	P	**P**	**16 29 18.2**	**-0.3**
	comp=Z,6.0nm,0.7s,baz=226,slow=7.1,SNR=9.4						
	comp=Z,6.0nm,0.7s						
QSPA	**South Pole Qui**	**68.97**	**180**	P	**P**	**16 29 22.7**	**+1.3**
QSPA				IAmb	IAmb	16 29 24.4	
	comp=Z,8.4nm,1.0s						
QSPA	**South Pole Qui**	**68.97**	**180**	P	**P**	**16 29 23.4**	**+2.0**
	comp=Z,7.5nm,0.9s,baz=336,slow=0.6,SNR=44						
	comp=Z,7.5nm,0.9s						
PDAR	**Pinedale Array**	**74.00**	**330**	P	**P**	**16 29 53.7**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=117,slow=6.3,SNR=2.2						
	comp=Z,0.2nm,0.5s						
NVAR	**Mina Array Bea**	**75.43**	**322**	P	**P**	**16 30 01.3**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=167,slow=7.3,SNR=4.0						
	comp=Z,0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**77.01**	**70**	P	**P**	**16 30 09.2**	**-0.3**
	comp=Z,4.7nm,0.6s,baz=261,slow=4.6,SNR=34						
	comp=Z,4.7nm,0.6s						
BOSA	**Boshof**	**83.35**	**118**	P	**P**	**16 30 43.9**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=252,slow=6.4,SNR=3.5						
	comp=Z,3.4nm,0.9s						
MAW	**Mawson**	**84.53**	**163**	P	**P**	**16 30 49.6**	**+1.0**
	comp=Z,4.1nm,0.6s,baz=217,slow=6.7,SNR=6.9						
	comp=Z,4.1nm,0.6s						

YKA	**Yellowknife Ar**	**91.01**	**340**	P	**P**	**16 31 20.1**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=133,slow=4.4,SNR=19						
	comp=Z,0.9nm,0.8s						
ASAR	**Alice Springs**	**130.29**	**207**	PKP	**PKiKP**	**16 37 27.0**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=128,slow=1.8,SNR=24						
WRA	**Warramunga Arr**	**133.33**	**210**	PKP	**PKiKP**	**16 37 33.1**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=159,slow=2.0,SNR=16						
KURBB	**Kurchatov Arra**	**140.96**	**33**	PKP	**PKPdf**	**16 37 45.4**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=298,slow=2.9,SNR=2.1						
ZALV	**Zalesovo Beam**	**141.58**	**25**	PKP	**PKPdf**	**16 37 47.0**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=274,slow=3.0,SNR=7.1						
MKAR	**Makanchi Array**	**145.25**	**36**	PKPbc	**PKPab**	**16 37 53.9**	**+0.8**
	comp=Z,3.0nm,0.7s,baz=324,slow=2.8,SNR=40						
KLR	**Kul'dur**	**147.68**	**335**	PKPbc	**PKPbc**	**16 38 00.4**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=357,slow=2.9,SNR=4.5						
USRK	**Ussuriysk Ar.**	**151.41**	**328**	PKPbc	**PKiKP**	**16 38 10.0**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=312,slow=1.1,SNR=8.5						
MJAR	**Matsushiro Arr**	**152.10**	**309**	PKPbc	**PKPbc**	**16 38 11.0**	**0.0**
	comp=Z,1.8nm,1.0s,baz=113,slow=1.3,SNR=5.4						
SONM	**Songino Array**	**153.14**	**7**	PKPbc	**PKiKP**	**16 38 14.0**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=301,slow=2.9,SNR=5.3						
PZH	**PanZhiHua**	**169.74**	**57**	PKP	**PKPdf**	**16 38 19.8**	**-3.7**

*SNET **30** 16:19:29.4±2.4, 13°45N×90°27W, h22km, ML3.8*

*CATAC **30** 16:19:30.3±0.4, 13°44N×90°20W, h26km±3km, ML3.9*

*GCG **30** 16:19:31.2±0.4, 13°44N×90°37W, h28km±3km, MD3.7*

ISC 30 16:19:28.8±1.3, **13°44N**±0°05×**90°23W**±0°03, **h19**km±3km, **n57**, σ0°**65**/104, **2C-1D**, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**0.64**	**43**	*eP*	**Pn**	**16 19 42.9**	**-0.1**
NUBE				*eS*	**Sn**	**16 19 53.0**	**+0.4**
NUBE	**Las Nubes**	**0.64**	**43**	*i* P	**Pn**	**16 19 42.8**	**-0.1**
NUBE				IAML		16 19 43.2	
	comp=Z,2μm,1.0s						
NUBE				*i* S	**Sn**	**16 19 52.8**	**+0.2**
CEVE	**Cerro Verde**	**0.70**	**56**	*eP*	**Pn**	**16 19 44.0**	**0.0**
CEVE				*eS*	**Sn**	**16 19 54.9**	**+0.6**
CEVE	**Cerro Verde**	**0.70**	**56**	*i* P	**Pn**	**16 19 43.9**	**0.0**
CEVE				*i* S	**Sn**	**16 19 55.4**	**+1.0**
CEVE				IAML		16 19 56.6	
	comp=Z,8μm,1.0s						
LOAL	**Lomas de Alarc**	**0.71**	**38**	*i* P	**Pn**	**16 19 44.2**	**+0.4**
LOAL				IAML		16 19 44.4	
	comp=Z,15μm,1.0s						
LOAL				*i* S	**Sn**	**16 19 55.4**	**+1.2**
SBLS	**San Blas**	**0.71**	**56**	*eP*	**Pn**	**16 19 44.0**	**0.0**
SBLS				*eS*	**Sn**	**16 19 55.3**	**+0.7**
RTR	**El Retiro**	**0.73**	**51**	*eP*	**Pn**	**16 19 44.5**	**+0.3**
SLOZ	**Alcaldia de Sa**	**0.73**	**36**	*eP*	**Pn**	**16 19 44.4**	**+0.3**
SLOZ				*eS*	**Sn**	**16 19 55.7**	**+1.0**
SNJE	**San Jose**	**0.74**	**54**	*eP*	**Pn**	**16 19 44.4**	**0.0**
JAYA	**Jayaque - finc**	**0.79**	**74**	*eP*	**Pn**	**16 19 44.7**	**-0.3**
JAYA				*eS*	**Sn**	**16 19 56.2**	**-0.1**
JAYA	**Jayaque - finc**	**0.79**	**74**	*i* P	**Pn**	**16 19 44.7**	**-0.3**
JAYA				*i* S	**Sn**	**16 19 55.6**	**-0.7**
JAYA				IAML		16 19 56.8	
	comp=Z,30μm,1.0s						
UNIC	**Universidad Ca**	**0.85**	**50**	*i* P	**Pn**	**16 19 45.7**	**-0.1**
UNIC				*i* S	**Sn**	**16 19 58.3**	**+0.5**
UNIC				IAML		16 19 59.5	
	comp=Z,1μm,1.0s						
LALI	**Alcalda de L**	**0.88**	**87**	*eP*	**Pn**	**16 19 47.9**	**+1.7**
LALI				*eS*	**Sn**	**16 19 59.1**	**+0.7**
LALI	**Alcalda de L**	**0.88**	**87**	*i* P	**Pn**	**16 19 47.9**	**+1.7**
LALI				*i* S	**Sg**	**16 19 57.6**	**-0.2**
LALI				IAML		16 20 00.3	
	comp=Z,270nm,1.0s						
CEDA	**San Andres**	**0.89**	**66**	*eP*	**Pn**	**16 19 46.3**	**0.0**
CEDA				*eS*	**Sn**	**16 19 58.9**	**+0.3**
CEDA	**San Andres**	**0.89**	**66**	*i* P	**Pn**	**16 19 46.0**	**-0.3**
CEDA				*i* S	**Sn**	**16 19 58.6**	**0.0**
CEDA				IAML		16 20 07.9	
	comp=Z,9μm,1.0s						
PMON	**Piamonte**	**0.93**	**73**	*i* P	**Pn**	**16 19 46.9**	**0.0**
PMON				*i* S	**Sn**	**16 19 59.9**	**+0.2**
PMON				IAML		16 20 01.9	
	comp=Z,4μm,1.0s						
MAGS	**Ministerio de**	**0.95**	**75**	*i* P	**Pg**	**16 19 49.0**	**+1.7**
MAGS				*i* S	**Sn**	**16 20 00.5**	**+0.3**
MAGS				IAML		16 20 05.0	
	comp=Z,2μm,1.0s						
ITCA	**Escuela Especi**	**0.95**	**76**	*i* P	**Pg**	**16 19 48.1**	**+0.7**
ITCA				*i* S	**Sg**	**16 19 59.3**	**-0.7**
ITCA				IAML		16 20 01.7	
	comp=Z,6μm,1.0s						
BOQS	**Boqueron**	**0.97**	**72**	*eP*	**Pg**	**16 19 47.5**	**-0.2**
SNET	**Serv Nac Est T**	**1.00**	**75**	*i* P	**Pg**	**16 19 48.0**	**-0.3**
SNET				*i* S	**Sn**	**16 20 01.4**	**0.0**
SNET				IAML		16 20 04.9	
	comp=Z,4μm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.01**	**67**	*i* P	**Pn**	**16 19 47.9**	**0.0**
QUEZ				*i* S	**Sn**	**16 20 01.9**	**+0.3**
QUEZ				IAML		16 20 06.0	
	comp=Z,8μm,1.0s						
SEMO	**Seminario San**	**1.01**	**75**	*i* P	**Pg**	**16 19 48.4**	**-0.1**
SEMO				*i* S	**Sn**	**16 20 01.7**	**0.0**
SEMO				IAML		16 20 03.8	
	comp=Z,6μm,1.0s						
PCG	**Pacaya**	**1.02**	**339**	⇑*i* P	**Pg**	**16 19 49.7**	**+1.0**
PCG				*eS*	**Sn**	**16 20 02.6**	**+0.4**
JUAM	**Asuncion Mita**	**1.03**	**29**	*i* P	**Pg**	**16 19 48.4**	**-0.4**
JUAM				*i* S	**Sn**	**16 20 02.9**	**+0.8**
JUAM				IAML		16 20 04.1	
	comp=Z,3μm,1.0s						
UTEC	**Universidad Te**	**1.03**	**75**	*i* P	**Pg**	**16 19 48.8**	**-0.1**
UTEC				IAML		16 20 06.6	
	comp=Z,2μm,1.0s						
PANCS	**Alcalda de**	**1.03**	**80**	*i* P	**Pg**	**16 19 48.8**	**-0.1**
PANCS				*i* S	**Sb**	**16 20 01.4**	**+0.1**
PANCS				IAML		16 20 03.7	
	comp=Z,5μm,1.0s						
LOMA	**Loma Larga**	**1.05**	**78**	*eP*	**Pg**	**16 19 48.7**	**-0.5**
LOMA	**Loma Larga**	**1.05**	**78**	*i* P	**Pg**	**16 19 48.8**	**-0.5**
LOMA				*i* S	**Sn**	**16 20 02.3**	**-0.4**
LOMA				IAML		16 20 08.0	
	comp=Z,2μm,1.0s						
IGN	**Direccin Gen**	**1.06**	**75**	*i* P	**Pg**	**16 19 49.7**	**+0.2**
IGN				*i* S	**Sg**	**16 20 03.6**	**0.0**
IGN				IAML		16 20 09.3	
	comp=Z,6μm,1.0s						
UDBS	**Universidad Do**	**1.08**	**75**	*i* P	**Pg**	**16 19 50.7**	**+0.9**
UDBS				*i* S	**Sg**	**16 20 04.1**	**+0.1**
UDBS				IAML		16 20 10.0	
	comp=Z,2μm,1.0s						
LFRS	**El Faro**	**1.15**	**81**	*eP*	**Pb**	**16 19 50.0**	**-0.1**
NBG	**Las Nubes**	**1.15**	**354**	*eP*	**Pg**	**16 19 52.2**	**+1.0**
NBG				*eS*	**Sg**	**16 20 08.4**	**+2.0**
GUNB	**GUNB**	**1.16**	**354**	*i* P	**Pb**	**16 19 50.1**	**-0.3**
GUNB				IAML		16 19 51.1	
	comp=Z,2μm,1.0s						
GUNB				*i* S	**Sg**	**16 20 05.6**	**-1.0**
FUG	**Fuego 3**	**1.17**	**329**	⇑*eP*	**Pg**	**16 19 51.0**	**-0.6**
FUG				*eS*	**Sb**	**16 20 04.4**	**-1.0**
SJTE	**Alcalda de S**	**1.20**	**81**	*eP*	**Pg**	**16 19 52.2**	**+0.1**
SJTE				*eS*	**Sg**	**16 20 07.6**	**-0.3**
SJTE	**Alcalda de S**	**1.20**	**81**	*i* P	**Pn**	**16 19 50.6**	**0.0**
SJTE				*i* S	**Sn**	**16 20 06.4**	**0.0**
SJTE				IAML		16 20 10.4	
	comp=Z,1μm,1.0s						
MTO3	**Montecristo**	**1.27**	**41**	*eP*	**Pb**	**16 19 51.8**	**-0.5**
MTO3				*eS*	**Sn**	**16 20 08.2**	**-0.2**
MTO3	**Montecristo**	**1.27**	**41**	*i* P	**Pb**	**16 19 51.8**	**-0.5**
MTO3				*i* S	**Sn**	**16 20 08.4**	**0.0**
MTO3				IAML		16 20 09.7	
	comp=Z,630nm,1.0s						
PAVA	**Las Pavas**	**1.28**	**77**	*i* P	**Pb**	**16 19 52.5**	**+0.1**
PAVA				*i* S	**Sg**	**16 20 09.4**	**-1.1**
PAVA				IAML		16 20 16.0	
	comp=Z,2μm,1.0s						
COEG	**Centro de Oper**	**1.32**	**82**	*eP*	**Pb**	**16 19 52.8**	**-0.2**
COEG				*eS*	**Sb**	**16 20 09.9**	**+0.3**
COEG	**Centro de Oper**	**1.32**	**82**	*i* P	**Pb**	**16 19 53.0**	**0.0**
COEG				*i* S	**Sb**	**16 20 09.8**	**+0.2**
COEG				IAML		16 20 13.6	
	comp=Z,1μm,1.0s						
ESQI	**Esquipulas**	**1.41**	**37**	*i* P	**Pb**	**16 19 53.8**	**-0.8**
ESQI				*i* S	**Sb**	**16 20 12.3**	**+0.1**
ESQI				IAML		16 20 16.1	
	comp=Z,930nm,1.0s						
TECO	**Alcaldia de Te**	**1.41**	**86**	*i* P	**Pn**	**16 19 53.1**	**-0.3**
TECO				*i* S	**Sn**	**16 20 10.9**	**-0.6**
TECO				IAML		16 20 13.6	
	comp=Z,530nm,1.0s						
UESV	**Universidad de**	**1.41**	**82**	*i* S	**Sn**	**16 20 11.7**	**+0.1**
LLGN	**La Laguna**	**1.44**	**60**	*i* P	**Pg**	**16 19 56.1**	**-0.6**
LLGN				IAML		16 19 59.3	
	comp=Z,890nm,1.0s						
LLGN				*i* S	**Sb**	**16 20 13.4**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.48**	**80**	*eP*	**Pb**	**16 19 55.0**	**-0.7**
SCLA	**Alcaldia de Sa**	**1.48**	**80**	*i* P	**Pb**	**16 19 55.5**	**-0.2**
SCLA				*i* S	**Sb**	**16 20 13.7**	**-0.5**
SCLA				IAML		16 20 20.5	
	comp=Z,290nm,1.0s						
CHTG	**Tecpan**	**1.51**	**331**	*i* P	**Pb**	**16 19 55.7**	**-0.7**
CHTG				*i* S	**Sg**	**16 20 16.0**	**-1.8**
CHTG				IAML		16 20 18.6	
	comp=Z,2μm,1.0s						
PQSS	**Presa 15 de Se**	**1.63**	**83**	*i* P	**Pn**	**16 19 56.9**	**+0.4**
PQSS				*i* S	**Sb**	**16 20 18.0**	**-0.5**
PQSS				IAML		16 20 20.6	
	comp=Z,360nm,1.0s						
RTAL	**Retalhuleu**	**1.79**	**307**	*i* P	**Pb**	**16 20 00.3**	**-0.7**
RTAL				IAML		16 20 35.0	
	comp=Z,530nm,1.0s						
STG3	**Santiaguito 3,**	**1.82**	**314**	*eP*	**Pn**	**16 19 60.0**	**+0.7**
STG3				*eS*	**Sn**	**16 20 22.3**	**+0.5**
PACA	**Pacayal**	**1.85**	**89**	*eP*	**Pb**	**16 20 00.9**	**-1.2**
PACA	**Pacayal**	**1.85**	**89**	*i* P	**Pn**	**16 20 00.6**	**+1.0**
PACA				*i* S	**Sn**	**16 20 23.3**	**+0.7**
PACA				IAML		16 20 32.5	
	comp=Z,4μm,1.0s						
SARH	**Santa Rosa de**	**1.95**	**47**	*i* P	**Pn**	**16 20 01.8**	**+0.9**
SARH				*i* S	**Sn**	**16 20 24.9**	**0.0**
SMCA	**Catarina**	**2.28**	**308**	*i* P	**Pn**	**16 20 05.6**	**+0.2**
SMCA				*i* S	**Sn**	**16 20 33.6**	**+0.6**
SMCA				IAML		16 20 41.3	
	comp=Z,530nm,1.0s						
CNCH	**Conchagua**	**2.33**	**94**	*i* P	**Pn**	**16 20 06.5**	**+0.2**
CNCH				*i* S	**Sn**	**16 20 35.6**	**+1.1**
CNCH				IAML		16 20 39.7	
	comp=Z,1μm,1.0s						

*JMA **30** 16:25:12.5±0.3, 40°4N±0°9×14°4E±°, h38km, MV2.9/29, FAR E OFF SANRIKU*

*IDC **30** 16:25:22.7±16.0, 40°44N×142°34E, h0km, mb3.7/3, mbtmp3.5/4, ML1.8/1, Error ellipse: s-maj=323.3km s-min=44.3km az=98.0*

ISC 30 16:25:10.9±1.5, **40°36N**±0°07×**144°31E**±0°09, **h10**km, **n22**, σ1°**92**/28, **mb3.6**/3, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.87**	**333**	P	**Pn**	**16 25 42.3**	**-0.6**
JEM				*eS*	**Sn**	**16 26 04.4**	**-2.2**
JTH	**Tanohata**	**1.92**	**258**	P	**Pn**	**16 25 42.0**	**-1.7**
JKEN	**Kujiedanarisaw**	**1.99**	**266**	P	**Pn**	**16 25 42.8**	**-1.9**
MIYJ	**Miyakonagasawa**	**2.06**	**249**	P	**Pn**	**16 25 44.6**	**-1.1**
JANG	**Nango**	**2.13**	**271**	P	**Pn**	**16 25 44.9**	**-1.7**
JNBK	**Urakawa-nobuka**	**2.25**	**329**	P	**Pn**	**16 25 47.8**	**-0.4**
JNBK				*eS*	**Sn**	**16 26 14.7**	**-1.3**
JCH	**Churui**	**2.36**	**343**	*eP*	**Pn**	**16 25 48.8**	**-1.0**
JOM	**Ohasama**	**2.48**	**250**	P	**Pn**	**16 25 50.8**	**-0.6**
JAK	**Akkeshi**	**2.65**	**6**	S	**Sn**	**16 26 23.5**	**-2.4**
JOT	**Ohata**	**2.67**	**294**	P	**Pn**	**16 25

0.6nm,0.6s,baz=69,slow=3.0,SNR=5.2

*IDC **30** 16:49:44.3±1.0,20.68S×172.73E,h0km,mb3.8/6, mbtmp3.7/7,ML3.1/1,MS3.4/9,Error ellipse: s-maj=44.7km s-min=25.7km az=155.0*

ISC 30 16:49:49.4±0.8,20.7S±0.2×172.7E±0.2,h35km,n28, σ1§17/20,mb3.8/6,MS3.4/6,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.99**	**255**	Pn	**Pn**	**16 51 16.3**	**+0.6**
	0.5nm,0.3s,baz=289,slow=21,SNR=10.0						
DZM				LR	LR	16 52 54.5	
	comp=Z,56nm,18.1s,baz=98,slow=32 3.7nm,0.6s						
HNR	**Honiara**	**16.59**	**310**	LR	LR	16 59 33.7	
	comp=Z,380nm,20.2s,baz=138,slow=35						
URZ	**Urewera**	**17.96**	**169**	LR	LR	16 59 14.4	
	comp=Z,151nm,19.5s,baz=108,slow=32						
RPZ	**Rata Peaks**	**23.04**	**183**	LR	LR	17 02 36.1	
	comp=Z,116nm,20.2s,baz=3.5,slow=34						
CTA	**Charters Tower**	**24.78**	**267**	LR	LR	17 03 11.5	
	comp=Z,420nm,19.1s,baz=87,slow=32						
STKA	**Stephens Creek**	**29.94**	**242**	LR	LR	17 06 28.1	
	comp=Z,54nm,20.6s,baz=35,slow=34						
ASAR	**Alice Springs**	**35.97**	**258**	P	**P**	**16 56 46.9**	**-0.3**
	0.5nm,0.8s,baz=90,slow=9.3,SNR=7.5 0.5nm,0.8s						
VNDA	**Vanda**	**57.16**	**183**	LR	LR	17 20 37.7	
	comp=Z,420nm,19.0s,baz=358,slow=32						
QSPA	**South Pole Qui**	**69.41**	**180**	P	**P**	**17 00 53.4**	**-0.3**
	0.4nm,0.7s,baz=142,slow=20,SNR=1.4 0.4nm,0.7s						
MA2	**Magadan**	**81.93**	**349**	LR	LR	17 36 11.4	
	comp=Z,344nm,20.6s,baz=161,slow=34						
CMAR	**Chiang Mai Arr**	**82.04**	**293**	P	**P**	**17 02 07.3**	**+0.8**
	0.8nm,0.8s,baz=135,slow=4.9,SNR=8.3 0.8nm,0.8s						
NVAR	**Mina Array Bea**	**87.34**	**47**	P	**P**	**17 02 34.3**	**+1.2**
	0.8nm,0.9s,baz=232,slow=5.0,SNR=4.7 0.8nm,0.9s						
ILAR	**Eielson Array**	**90.64**	**16**	P	**P**	**17 02 46.8**	**-1.0**
	0.4nm,0.7s,baz=267,slow=4.2,SNR=7.2						
ILAR				LR	LR	17 41 00.4	
	comp=Z,36nm,18.4s,baz=238,slow=34 0.4nm,0.7s						
TXAR	**Lajitas Array**	**94.61**	**61**	P	**P**	**17 03 08.3**	**+1.2**
	0.3nm,0.7s,baz=235,slow=4.4,SNR=4.3 0.3nm,0.7s						
MORC	**Moravsky Berou**	**144.87**	**332**	*e*PKP	PKPbc	17 09 21.9	0.0
JAVC	**Velka Javorina**	**145.48**	**331**	*e*PKP	**PKPab**	**17 09 25.5**	**+1.4**
VRAC	**Vranov**	**145.64**	**332**	*e*PKP	**PKPab**	**17 09 24.6**	**0.0**
KRUC	**Moravsky**	**145.91**	**332**	*e*PKP	**PKPab**	**17 09 25.3**	**-0.3**
CONA	**Conrad Observa**	**146.98**	**331**	*e*PKP	**PKPbc**	**17 09 28.1**	**-0.3**
	5.2nm,1.0s						
GERES	**GERESS Array B**	**147.22**	**334**	PKPbc	**PKPbc**	**17 09 29.2**	**+0.1**
	1.9nm,0.8s,baz=0.0,slow=5.3,SNR=7.3						
MOA	**Molln**	**147.75**	**332**	*i* PKP	**PKPdf**	**17 09 23.7**	**-3.9**
	7.5nm,1.5s						
SOKA	**Soboth**	**148.29**	**330**	*e*PKiKP	**PKPab**	**17 09 34.6**	**-0.5**
	1.6nm,0.7s						
LESA	**Schwarzleotal**	**148.76**	**333**	*e*PKP	**PKPbc**	**17 09 32.9**	**-0.3**
	6.0nm,1.4s						
ABTA	**Abfaltersbach**	**149.36**	**333**	*e*PKP	**PKPbc**	**17 09 34.1**	**-0.6**
	4.9nm,1.3s						
MOTA	**Moosalm**	**149.47**	**335**	*e*PKP	**PKPbc**	**17 09 35.0**	**-0.1**
	1.6nm,0.7s						
SQTA	**Sankt Quirin**	**149.53**	**335**	*i* PKP	**PKPdf**	**17 09 30.5**	**-0.1**
	7.4nm,1.4s						
FETA	**Feichten**	**149.88**	**335**	*e*PKP	**PKPbc**	**17 09 35.8**	**-0.3**
	9.4nm,1.5s						
DAVA	**Damuels**	**149.99**	**336**	*i* PKP	**PKPab**	**17 09 41.5**	**-0.6**
	15nm,1.3s						

HEL 30 16:52:39.3±0.1,67.67N×33.76E,h0km,ML1.2, Explosion,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.41**	**56**	*e*P	Pg	16 52 46.3	-0.8
LVZ				*e*S	Sg	16 52 52.7	+0.4
VRF	**Varrio**	**1.59**	**275**	*e*PN	Pn	16 53 08.2	-0.4
VRF				MSG		16 53 23.8	
	comp=Z,1.4nm,0.2s						
VRF				*e*S	Sn	16 53 27.8	-2.0
OLKF	**Oulanka, Finla**	**2.19**	**234**	*e*PG	Pb	16 53 18.8	-0.9
OLKF				MSG		16 53 42.7	
	comp=Z,0.8nm,0.2s						
KU6	**Riekki**	**2.25**	**225**	*e*PB	Pn	16 53 18.6	+0.8
KU6				MSG		16 53 45.3	
	comp=Z,0.8nm,0.2s						
KU6				*e*SG	Sb	16 53 48.3	-0.9
MSF	**Maaselka**	**2.57**	**229**	*e*PG	Pb	16 53 27.2	+0.9
SGF	**Sodankyl**	**2.79**	**269**	*e*PG	Pb	16 53 29.0	-0.8
SGF				*e*SB	Sb	16 54 03.5	-1.0
RNF	**Rovaniemi**	**3.21**	**254**	*e*S	Sn	16 54 05.1	-4.7
KEV	**Kevo**	**3.23**	**313**	*e*P	Pn	16 53 31.6	+0.4
KEV				MSG		16 54 12.7	
	comp=Z,0.7nm,0.2s						
ARA0	**ARCESS Array S**	**3.56**	**306**	*e*P	Pn	16 53 35.1	-0.6

*IDC **30** 17:00:48.0±0.6,10.05N×140.22E,h0km,mb4.2/17, mbtmp4.2/18,ML4.9/1,MS3.0/6,Error ellipse: s-maj=21.0km s-min=15.0km az=83.0*

*NEIC **30** 17:00:52.4±2.2,10.11N±0.08×140.17E±0.07,h19km±5km, mb4.7/82,Error ellipse: s-maj=15.0km s-min=6.3km az=141.0*

ISC 30 17:00:53.6±0.4,10.06N±0.06×140.22E±0.07,h35km,n126, σ1§32/121,mb4.5/63,MS3.0/4,1C,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.75**	**52**		**Pn**	**17 02 17.6**	**+1.2**
GUMO				Sn	**Sn**	**17 03 20.0**	**-1.2**
GUMO	**Guam**	**5.75**	**52**	Pn	**Pn**	**17 02 14.4**	**-2.0**
	30nm,0.3s,baz=319,slow=2.5,SNR=20						
GUMO				Sn	**Sn**	**17 03 20.0**	**-1.2**
	51nm,0.3s,baz=5.5,slow=21,SNR=6.0						
GUMO				LR	LR	17 04 47.7	
	comp=Z,65nm,18.5s,baz=214,slow=42 99nm,0.3s						
DAV	**Davao City (W)**	**14.78**	**260**	LR	LR	17 09 03.5	
	comp=Z,52nm,21.9s,baz=359,slow=34						
JCJ	**Chichijima**	**17.05**	**6**	P	**Pn**	**17 04 47.6**	**-1.8**
JOW	**Kunigami**	**20.15**	**328**	P	**P**	**17 05 22.0**	**-2.8**
PMG	**Port Moresby**	**20.53**	**160**	P	**P**	**17 05 27.8**	**-1.3**
LUWI	**Luwuk**	**20.57**	**239**	P	**P**	**17 05 26.3**	**-3.3**
LUWI				IAmb	IAmb	17 05 41.7	
	comp=Z,49nm,1.1s						
TOLI2	**Tolitoli**	**21.27**	**247**	P	**P**	**17 05 34.8**	**-2.3**
TOLI2				IAmb	IAmb	17 05 44.6	
	comp=Z,19nm,0.9s						
YULB	**Yu-li**	**22.42**	**309**	P	**P**	**17 05 48.3**	**-1.1**
SSLB	**Suanglung**	**22.90**	**309**	P	**P**	**17 05 52.2**	**-2.3**
SSLB				IAmb	IAmb	17 06 29.8	
	comp=Z,44nm,1.4s						
JHJ	**Hachijo jima 2**	**22.96**	**359**	LR	LR	17 13 23.2	
	comp=Z,42nm,19.5s,baz=112,slow=33						
MTN	**Manton Dam**	**24.48**	**202**	P	**P**	**17 06 08.4**	**-1.2**
MTN				IAmb	IAmb	17 06 37.3	
	comp=Z,16nm,1.3s						
SOEI	**Soe**	**25.29**	**219**	P	**P**	**17 06 16.0**	**-1.1**
SOEI				IAmb	IAmb	17 06 49.9	
	comp=Z,15nm,1.0s						
JGF	**Kuroka**	**25.56**	**355**	P	**P**	**17 06 18.0**	**-1.4**
BKB	**Balikpapan**	**25.80**	**245**	P	**P**	**17 06 19.4**	**-2.2**
H11S3	**WAKE ISLAND Hy**	**26.95**	**69**	T	T	17 34 44.5	
	baz=255,slow=75,SNR=1382						
H11S1	**WAKE ISLAND Hy**	**26.97**	**69**	T	T	17 34 44.7	
	baz=255,slow=75,SNR=996						
H11S2	**WAKE ISLAND Hy**	**26.97**	**69**	T	T	17 34 45.3	
	baz=255,slow=75,SNR=1014						
H11N1	**WAKE ISLAND Hy**	**27.47**	**66**	T	T	17 35 22.6	
	baz=253,slow=75,SNR=166						
H11N2	**WAKE ISLAND Hy**	**27.48**	**66**	T	T	17 35 23.5	
	baz=253,slow=75,SNR=139						
H11N3	**WAKE ISLAND Hy**	**27.48**	**66**	T	T	17 35 20.5	
	baz=253,slow=75,SNR=110						
NJ2	**Nanjing**	**29.49**	**321**	*e*P	**P**	**17 06 58.5**	**+4.0**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,140nm,3.8s						
WR0	**Warramunga Arr**	**30.35**	**191**	P	**P**	**17 07 00.9**	**-1.3**
WB2	**Warramunga Arr**	**30.36**	**191**	P	**P**	**17 07 01.5**	**-0.8**
WB2				IAmb	IAmb	17 07 20.3	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**30.37**	**191**	P	**P**	**17 07 01.1**	**-1.3**
WRA	**Warramunga Arr**	**30.37**	**191**	P	**P**	**17 07 00.8**	**-1.6**
	comp=Z,2.1nm,0.8s,baz=12,slow=9.7,SNR=16 comp=Z,2.1nm,0.8s						
AS31	**Alice Springs**	**34.08**	**190**	P	**P**	**17 07 33.9**	**-1.1**
ASAR	**Alice Springs**	**34.08**	**190**	P	**P**	**17 07 34.2**	**-0.7**
ASAR	**Alice Springs**	**34.08**	**190**	P	**P**	**17 07 34.4**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=18,slow=12,SNR=111						
ASAR				PcP	**PcP**	**17 10 12.8**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=18,slow=2.6,SNR=12						
ASAR				LR	LR	17 21 12.5	
	comp=Z,47nm,18.1s,baz=5.5,slow=36 comp=Z,1.8nm,0.6s						
MDJ	**Mudanjiang**	**35.64**	**347**	P	**P**	**17 07 43.5**	**-4.6**
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,130nm,7.2s						
BNX	**BinXian**	**37.22**	**345**	⇑P	**P**	**17 08 02.5**	**+0.9**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.3s						
BNX				pmax	pmax		
	comp=Z,120nm,5.5s						
HHC	**Hu-ho-hao-te**	**39.77**	**325**	*e*P	**P**	**17 08 25.8**	**+2.5**
HHC				pmax	pmax		
	comp=Z,22nm,0.5s						
HHC				pmax	pmax		
	comp=Z,170nm,5.6s						
PZH	**PanZhiHua**	**39.84**	**299**	P	**P**	**17 08 26.0**	**+1.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.9s						
CM31	**Chiang Mai Arr**	**40.79**	**287**	P	**P**	**17 08 32.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**40.79**	**287**	P	**P**	**17 08 32.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**40.79**	**287**	P	**P**	**17 08 32.8**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=91,slow=6.6,SNR=34						
CMAR				LR	LR	17 25 04.6	
	comp=Z,11nm,19.3s,baz=110,slow=36 comp=Z,2.4nm,0.7s						
DZM	**Mont Dzumac**	**41.00**	**141**	P	**P**	**17 08 34.3**	**+0.7**
DZM				IAmb	IAmb	17 08 35.4	
	comp=Z,6.9nm,0.7s						
DZM	**Mont Dzumac**	**41.00**	**141**	P	**P**	**17 08 33.6**	**0.0**
	comp=Z,7.5nm,0.8s,baz=267,slow=12,SNR=9.0						
DZM				LR	LR	17 22 43.6	
	comp=Z,25nm,18.6s,baz=46,slow=32 comp=Z,7.5nm,0.8s						
HEH	**HeiHe**	**41.45**	**348**	*e*P	**P**	**17 08 37.3**	**+0.4**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FORT	**Forrest**	**42.25**	**196**	P	**P**	**17 08 43.2**	**-0.3**
FORT				IAmb	IAmb	17 08 53.6	
	comp=Z,14nm,0.8s						
BBOO	**Buckleboo**	**42.81**	**185**	P	**P**	**17 08 47.5**	**-0.6**
BBOO				IAmb	IAmb	17 09 02.2	
	comp=Z,26nm,1.4s						
PEA0B	**Petropavlovsk-**	**45.19**	**15**	P	**P**	**17 09 07.4**	**+0.3**
PETK	**Petropavlovsk-**	**45.19**	**15**	P	**P**	**17 09 06.5**	**-0.5**
PETK	**Petropavlovsk-**	**45.19**	**15**	P	**P**	**17 09 07.5**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=208,slow=15,SNR=6.8 comp=Z,2.2nm,0.7s						
SONM	**Songino Array**	**47.20**	**329**	P	**P**	**17 09 25.2**	**+2.1**
SONM	**Songino Array**	**47.20**	**329**	P	**P**	**17 09 24.3**	**+1.2**
	comp=Z,0.8nm,0.9s,baz=133,slow=3.9,SNR=4.1 comp=Z,0.8nm,0.9s						
NWAO	**Narrogin (SRO)**	**48.04**	**206**	P	**P**	**17 09 32.5**	**+2.9**
SEY	**Seymchan**	**53.51**	**7**	P	**P**	**17 10 11.3**	**+0.9**
	comp=Z,3.1nm,0.7s,baz=263,slow=22,SNR=12 comp=Z,3.1nm,0.7s						
KIWB	**Kanaga Island**	**54.16**	**31**	P	**P**	**17 10 16.4**	**+1.1**
MRNZ	**Matariki Terra**	**59.31**	**152**	P	**P**	**17 10 53.3**	**+1.3**
MKAR	**Makanchi Array**	**60.97**	**318**	P	**P**	**17 11 03.4**	**0.0**
MKAR	**Makanchi Array**	**60.97**	**318**	P	**P**	**17 11 03.2**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=99,slow=7.6,SNR=5.6 comp=Z,0.5nm,0.7s						
MAKZ	**Makanchi**	**61.18**	**318**	P	**P**	**17 11 04.7**	**-0.1**
ZALV	**Zalesovo Beam**	**61.94**	**327**	P	**P**	**17 11 08.5**	**-1.2**
ZALV	**Zalesovo Beam**	**61.94**	**327**	P	**P**	**17 11 08.8**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=115,slow=7.8,SNR=4.6 comp=Z,0.8nm,0.6s						
KURK	**Kurchatov**	**64.43**	**322**	P	**P**	**17 11 26.3**	**0.0**
KURK				IAmb	IAmb	17 11 34.2	
	comp=Z,3.8nm,0.9s						
KURBB	**Kurchatov Arra**	**64.46**	**322**	P	**P**	**17 11 25.9**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=108,slow=6.4,SNR=8.4 comp=Z,1.3nm,0.7s						
NIL	**Nilore**	**65.35**	**302**	P	**P**	**17 11 33.3**	**+0.6**
K15K	**Wolf Creek Mou**	**66.70**	**26**	P	**P**	**17 11 41.5**	**+0.7**
F15K	**North Star Dit**	**66.99**	**22**	P	**P**	**17 11 43.3**	**+0.7**
NRIK	**Noril'sk**	**68.03**	**342**	P	**P**	**17 11 48.2**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=60,slow=8.1,SNR=2.0 comp=Z,0.7nm,0.3s						
K17K	**Idlitarod**	**68.24**	**26**	P	**P**	**17 11 52.4**	**+1.8**
H17K	**Granite Mounta**	**68.44**	**23**	P	**P**	**17 11 52.7**	**+1.0**
H17K				IAmb	IAmb	17 11 54.1	
	comp=Z,5.7nm,0.9s						
F17K	**Baldwin Pennin**	**68.56**	**22**	P	**P**	**17 11 53.9**	**+1.5**
H18K	**Honhosa River**	**69.12**	**23**	P	**P**	**17 11 56.4**	**+0.4**
G18K	**Tagagawik**	**69.30**	**23**	P	**P**	**17 11 57.4**	**+0.4**
G18K				IAmb	IAmb	17 11 58.7	
	comp=Z,6.5nm,1.1s						
C18K	**Utukok River**	**69.55**	**19**	P	**P**	**17 11 59.4**	**+0.8**
J19K	**Poorman**	**69.82**	**25**	P	**P**	**17 12 00.0**	**-0.3**
J19K				IAmb	IAmb	17 12 02.6	
	comp=Z,4.4nm,0.9s						
BVAR	**Borovoye Array**	**69.92**	**323**	P	**P**	**17 11 59.6**	**-1.5**
	comp=Z,2.1nm,0.7s comp=Z,2.1nm,0.7s						
G19K	**Purcell Mounta**	**69.99**	**23**		**P**	**17 12 02.2**	**+0.9**
F19K	**Shaleruckik Mo**	**69.99**	**22**	P	**P**	**17 12 02.3**	**+1.0**
H19K	**Roundabout Mou**	**70.01**	**23**	P	**P**	**17 12 01.4**	**0.0**
H19K				IAmb	IAmb	17 12 04.9	
	comp=Z,8.5nm,1.1s						
C19K	**Lookout Ridge**	**70.27**	**19**	P	**P**	**17 12 04.3**	**+1.3**
C19K				IAmb	IAmb	17 12 05.8	
	comp=Z,6.7nm,1.1s						
E19K	**Redstone River**	**70.42**	**21**	P	**P**	**17 12 05.3**	**+1.3**
E19K				IAmb	IAmb	17 12 06.3	
	comp=Z,6.1nm,0.8s						
J20K	**Nowinta River**	**70.49**	**25**	P	**P**	**17 12 05.9**	**+1.5**
J20K				IAmb	IAmb	17 12 07.0	
	comp=Z,7.5nm,0.9s						
D19K	**Kuna River**	**70.51**	**20**	P	**P**	**17 12 05.4**	**+0.8**
D19K				IAmb	IAmb	17 12 06.6	
	comp=Z,7.7nm,1.1s						
SKT	**Skwentna**	**71.02**	**28**	P	**P**	**17 12 07.1**	**-0.6**
CAST	**Castle Rocks**	**71.15**	**26**	P	**P**	**17 12 09.5**	**+1.0**
IMAR	**Indian Mountai**	**71.21**	**23**	P	**P**	**17 12 09.4**	**+0.6**
SUA	**Susitna One**	**71.25**	**28**	P	**P**	**17 12 09.1**	**-0.1**
G21K	**Allakaket**	**71.47**	**23**	P	**P**	**17 12 11.7**	**+1.3**
H21K	**Melozitna Rive**	**71.48**	**24**	P	**P**	**17 12 11.9**	**+1.4**
H21K				IAmb	IAmb	17 12 13.0	
	comp=Z,5.9nm,1.0s						
KTH	**Kantishna Hill**	**71.69**	**26**	P	**P**	**17 12 12.1**	**+0.3**
KTH				IAmb	IAmb	17 12 13.7	
	comp=Z,6.6nm,1.0s						
BPAW	**Bear Paw Mtn.**	**71.80**	**26**	P	**P**	**17 12 12.2**	**-0.2**
BPAW				IAmb	IAmb	17 12 13.8	
	comp=Z,9.9nm,1.1s						
TRF	**Thorofare Moun**	**71.94**	**26**	P	**P**	**17 12 13.0**	**-0.4**
TRF				IAmb	IAmb	17 12 19.3	
	comp=Z,9.3nm,1.1s						
PMR	**Palmer**	**72.04**	**28**	P	**P**	**17 12 13.6**	**-0.1**
PMR				IAmb	IAmb	17 12 39.2	
	comp=Z,11nm,1.3s						
MLY	**Manley**	**72.14**	**25**	P	**P**	**17 12 15.1**	**+0.6**
MLY				IAmb	IAmb	17 12 16.6	
	comp=Z,7.9nm,1.0s						
GHO	**Glory Hole Cre**	**72.17**	**28**	P	**P**	**17 12 14.7**	**0.0**
KNK	**Knik Glacier**	**72.31**	**29**	P	**P**	**17 12 14.7**	**-0.8**
SML	**Sawmill**	**72.45**	**28**	P	**P**	**17 12 16.6**	**+0.2**
D22K	**Ayikyak River**	**72.51**	**20**		**P**	**17 12 17.9**	**+1.4**
D22K				IAmb	IAmb	17 12 34.7	
	comp=Z,7.1nm,1.3s						
RND	**Reindeer**	**72.56**	**26**	P	**P**	**17 12 16.8**	**-0.1**
RND				IAmb	IAmb	17 12 19.6	
	comp=Z,13nm,1.4s						
E22K	**Anaktuvuk Pass**	**72.59**	**21**	P	**P**	**17 12 18.4**	**+1.3**
E22K				IAmb	IAmb	17 12 19.4	
	comp=Z,5.4nm,1.1s						
G23K	**Bananza Creek**	**72.86**	**23**	P	**P**	**17 12 19.3**	**+0.6**
G23K				IAmb	IAmb	17 12 21.3	
	comp=Z,5.7nm,0.9s						
COLD	**Coldfoot**	**72.93**	**22**	P	**P**	**17 12 20.2**	**+1.2**
COLD				IAmb	IAmb	17 12 21.6	
	comp=Z,7.3nm,1.0s						
MDM	**Murphy Dome**	**73.16**	**25**	P	**P**	**17 12 20.9**	**+0.5**
MDM				IAmb	IAmb	17 12 22.9	
	comp=Z,3.2nm,0.7s						
C23K	**Itkillik River**	**73.49**	**20**		**P**	**17 12 23.2**	**+0.9**
H24K	**Noodor Dome**	**73.50**	**24**	P	**P**	**17 12 22.9**	**+0.4**
H24K				IAmb	IAmb	17 12 25.4	
	comp=Z,9.3nm,1.2s						
TOLK	**Toolik Lake Re**	**73.53**	**21**	P	**P**	**17 12 23.6**	**+1.0**
IL31		**73.69**	**25**	P	**P**	**17 12 22.9**	**-0.6**
IL31				IAmb	IAmb	17 12 23.5	
	comp=Z,9.3nm,1.4s						
ILAR	**Eielson Array**	**73.69**	**25**	P	**P**	**17 12 23.1**	**-0.4**
ILAR	**Eielson Array**	**73.69**	**25**	P	**P**	**17 12 22.6**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=248,slow=5.8,SNR=42 comp=Z,2.4nm,0.7s						
G24K	**Hadweenzic Riv**	**73.84**	**23**	P	**P**	**17 12 26.0**	**+1.6**
F24K	**Squaw Lake**	**73.87**	**22**	P	**P**	**17 12 26.1**	**+1.5**
GLB	**Gilahina Butte**	**74.52**	**29**	P	**P**	**17 12 29.4**	**+0.9**
GLB				IAmb	IAmb	17 12 30.1	
	comp=Z,5.9nm,0.9s						
VRDI	**Verde Repeater**	**74.67**	**29**	P	**P**	**17 12 30.2**	**+0.6**
FYU	**Fort Yukon**	**74.70**	**24**	P	**P**	**17 12 30.2**	**+0.9**
FYU				IAmb	IAmb	17 12 45.1	
	comp=Z,11nm,1.4s						
SCRK	**Sand Creek**	**74.79**	**26**	P	**P**	**17 12 31.1**	**+0.9**
SCRK				IAmb	IAmb	17 12 55.4	
	comp=Z,7.3nm,1.4s						
E25K	**Arctic Village**	**74.86**	**22**	P	**P**	**17 12 31.6**	**+1.3**
E25K				IAmb	IAmb	17 12 33.8	
	comp=Z,8.5nm,1.4s						
BMAR	**Burnt Mountain**	**75.10**	**23**		**P**	**17 12 33.0**	**+1.3**
CTGM	**Chitina Glacie**	**75.66**	**30**	P	**P**	**17 12 37.0**	**+1.8**
LOGN	**Logan Glacier**	**75.81**	**30**	P	**P**	**17 12 37.1**	**+1.0**
LOGN				IAmb	IAmb	17 12 38.5	
	comp=Z,6.5nm,0.8s						
ABKAR	**Akbulak array**	**76.11**	**318**	P	**P**	**17 12 36.9**	**-1.0**
ABKAR	**Akbulak array**	**76.11**	**318**	P	**P**	**17 12 36.8**	**-1.0**
ABKAR				IAmb	IAmb	17 12 42.4	
	comp=Z,2.0nm,1.0s						
I28M	**Miner Creek**	**76.69**	**25**	P	**P**	**17 12 42.1**	**+1.1**
I28M				IAmb	IAmb	17 12 47.7	
	comp=Z,5.2nm,1.1s						
DAWY	**Dawson**	**76.81**	**26**	P	**P**	**17 12 43.1**	**+1.5**
DAWY				IAmb	IAmb	17 12 50.8	
	comp=Z,5.3nm,1.1s						
E28M	**Babbage River**	**77.14**	**22**		**P**	**17 12 44.6**	**+1.3**
L29M	**L29M**	**77.32**	**27**	P	**P**	**17 12 46.2**	**+1.7**
L29M				IAmb	IAmb	17 12 47.3	
	comp=Z,9.1nm,1.1s						
K29M	**Barlow Dome**	**77.62**	**27**	P	**P**	**17 12 47.9**	**+1.6**
K29M				IAmb	IAmb	17 12 48.4	
	comp=Z,6.4nm,1.1s						
GEYT	**Alibeck**	**77.69**	**307**	P	**P**	**17 12 48.2**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=282,slow=36,SNR=2.1 comp=Z,1.2nm,0.7s						
M30M	**Minto, Yukon**	**77.91**	**28**	P	**P**	**17 12 49.6**	**+1.8**
M30M				IAmb	IAmb	17 12 50.3	
	comp=Z,7.7nm,1.3s						
J30M	**Hart River**	**78.17**	**26**	P	**P**	**17 12 49.3**	**0.0**
A36M	**Sachs Harbour**	**81.91**	**18**	P	**P**	**17 13 09.4**	**+0.3**
YKA	**Yellowknife Ar**	**88.05**	**27**	P	**P**	**17 13 40.2**	**+0.1**
	comp=Z,1.2nm,1.0s,baz=294,slow=5.3,SNR=9.1 comp=Z,1.2nm,1.0s						
FINES	**FINESS Array B**	**92.38**	**334**	P	**P**	**17 13 58.5**	**-1.8**
	comp=Z,2.7nm,0.9s,baz=69,slow=7.6,SNR=4.4 comp=Z,2.7nm,0.9s						
NVAR	**Mina Array Bea**	**92.67**	**50**	P	**P**	**17 14 03.3**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=265,slow=5.3,SNR=9.8 comp=Z,1.1nm,0.6s						

*TRN **30** 17:04:49.8,10.77N×62.25W,h78km,MD4.4*
TRN Felt in Trinidad MMI IV, V.
*FUNV **30** 17:04:50.1,10.69N×62.10W,h33km,MW4.1*
*IDC **30** 17:04:51.1±4.2,10.97N×62.40W,h93km±38km,mb3.4/5, mbtmp3.8/6,Error ellipse: s-maj=37.9km s-min=23.6km az=61.0*

ISC 30 17:04:48.9±0.8,10.79N±0.05×62.29W±0.04,h85km±8km, n57,σ1§81/84,mb3.7/5,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.88**	**99**	*e*P	**Pn**	**17 05 08.1**	**+1.2**
TRN				*e*S	**Sn**	**17 05 19.7**	**-0.7**
CRUV	**Carupano**	**0.94**	**263**	*e*P	**Pn**	**17 05 08.9**	**+1.4**
CRUV				*e*S	**Sn**	**17 05 22.1**	**+0.6**
GRGR	**Grenville**	**1.48**	**25**	*e*P	**Pn**	**17 05 14.8**	**+0.6**
GRGR				*e*S	**Sn**	**17 05 33.5**	**+0.3**
GRHS	**Sauteurs**	**1.57**	**24**	*e*P	**Pn**	**17 05 15.9**	**+0.5**
GRHS				*e*S	**Sn**	**17 05 35.0**	**-0.3**
GCMP	**Grenada, Carri**	**1.89**	**27**	*e*P	**Pn**	**17 05 20.4**	**+0.9**
GCMP				*e*S	**Sn**	**17 05 42.4**	**-0.4**
CUMV	**Cumana_UDO**	**1.90**	**259**	*e*P	**Pn**	**17 05 22.8**	**+3.1**
CU

CURV				eS		Sn	17 07 58.6	-2.8
SDV	Santo Domingo	8.43	258	S		Sn	17 08 17.9	-4.4
	12nm,0.4s,baz=28,slow=17,SNR=7.6							
AOPR	Arecibo Observ	8.67	331	eP		Pn	17 06 54.0	+2.4
AOPR	Arecibo Observ	8.67	331	eS		Sn	17 08 22.7	-5.1
SOCV	Socops	8.80	254	eP		Pn	17 06 53.6	+0.1
SOCV				eS		Sn	17 08 26.3	-4.9
MDP	Montagnes des	11.10	120	P		Pn	17 07 21.4	-3.4
	11nm,0.7s,baz=309,slow=14,SNR=16							
MDP				S		Sn	17 09 16.8	-10
	20nm,0.3s,baz=46,slow=16,SNR=19							
SIV	San Ignacio	26.63	177	P		P	17 10 22.7	+2.9
	1.7nm,0.6s,baz=354,slow=9.0,SNR=10							
	1.7nm,0.6s							
TXAR	Lajitas Array	42.74	302	P		P	17 12 39.1	+0.9
	0.2nm,0.5s,baz=106,slow=9.2,SNR=3.5							
TXAR				PcP		PcP	17 14 28.9	+0.4
	0.1nm,0.5s,baz=108,slow=5.8,SNR=3.8							
	0.2nm,0.5s							
PDAR	Pinedale Array	51.92	317	P		P	17 13 48.5	-0.9
	0.8nm,0.6s,baz=115,slow=10,SNR=9.5							
	0.8nm,0.6s							
ILAR	Eielson Array	78.02	334	P		P	17 16 37.0	-1.0
	0.2nm,0.7s,baz=91,slow=5.2,SNR=2.1							
	0.2nm,0.7s							
FINES	FINESS Array B	79.83	29	P		P	17 16 48.5	+0.6
	1.4nm,0.4s,baz=271,slow=3.8,SNR=25							
	1.4nm,0.4s							
CMAR	Chiang Mai Arr	145.54	33	PKPbc		PKPdf	17 24 19.1	+0.8
	0.3nm,0.4s,baz=307,slow=4.7,SNR=4.6							

IDC 30 17:05:08.7±1.5,5°29S×149°90E,h0km,mb3.5/3, mbtmp3.6/4,ML1.2/1,Error ellipse: s-maj=67.4km s-min=18.0km az=138.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	2.33	65	Pn	Pn	17 05 49.6	+1.3
	baz=232,slow=19						
KRVT				Sn	Sn	17 06 18.1	+0.4
	baz=143,slow=20						
PMG	Port Moresby	4.91	213	Pn	Pn	17 06 24.8	+1.0
	0.6nm,0.3s,baz=198,slow=17,SNR=2.5						
PMG				Sn	Sn	17 07 21.9	+0.5
	2.2nm,0.3s,baz=117,slow=18,SNR=2.5						
	7.3nm,0.7s						
WRA	Warramunga Arr	21.01	225	P	P	17 09 54.7	+0.6
	1.5nm,0.8s,baz=51,slow=10.0,SNR=8.2						
	1.5nm,0.8s						
ASAR	Alice Springs	23.91	219	P	P	17 10 23.8	-0.7
	1.0nm,0.5s,baz=55,slow=9.2,SNR=35						
	1.0nm,0.5s						
ILAR	Eielson Array	83.71	23	P	P	17 17 38.6	-0.5
	0.3nm,0.8s,baz=261,slow=5.1,SNR=3.1						
	0.3nm,0.8s						

*THE **30** 17:06:18.2,37°.01N×28°.07E,h1km±1km,ML3.0/6,Error ellipse: s-maj=1.0km s-min=0.4km az=79.0*
*AFAD **30** 17:06:18.1±0.0,36°.99N×28°.10E,h7km±4km,MW3.7*
*ISK **30** 17:06:18.5,36°.99N×28°.11E,h7km,ML3.2/26*
ISC 30 17:06:18.2±0.9,37°.00N±0°.02×28°.08E±0°.01,h11km±7km, n58,σ0s57/94,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.21	51	Pg	Pg	17 06 22.9	+0.2
YER				Sg	Sg	17 06 26.5	+0.7
YER	Yerkesik	0.21	51	P	Pg	17 06 22.7	0.0
YER				S	Sg	17 06 26.1	+0.3
TURN	Turunc	0.26	150	Pg	Pg	17 06 23.5	-0.1
TURN				Sg	Sg	17 06 27.7	+0.5
TURN	Turunc	0.26	150	P	Pg	17 06 23.5	-0.1
TURN				S	Sg	17 06 26.7	-0.6
RFTAA	Mazikoy-Bodrum	0.27	269	Pg	Pg	17 06 23.9	+0.2
RFTAA				Sg	Sb	17 06 29.4	-0.2
MULA	Mugla, Merkez-	0.32	37	P	Pg	17 06 24.7	0.0
MULA				S	Sg	17 06 28.6	-0.4
MLSB	Milas	0.38	320	Pg	Pb	17 06 26.7	-0.3
MLSB				Sg	Sb	17 06 33.0	+0.1
DATC	Datca-Mugla	0.41	234	Pg	Pb	17 06 27.6	0.0
DAT	Datca	0.49	236	Pg	Pb	17 06 28.8	-0.1
DAT				Sg	Sb	17 06 36.6	+0.5
DAT	Datca	0.49	236	P	Pg	17 06 28.5	+0.7
DAT				S	Sg	17 06 34.3	+0.1
DAT	Datca	0.49	236	P	Pg	17 06 27.6	-0.2
DAT				S	Sb	17 06 36.0	-0.1
DALY	Dalyan (Mula)	0.50	112	Pg	Pg	17 06 28.1	+0.2
DALY				Sg	Sb	17 06 35.5	-0.7
BDRM	Kayabasi	0.51	277	P	Pg	17 06 27.8	-0.5
BDRM				S	Sb	17 06 36.7	-0.1
YAZI	Mula-Dat§a-	0.60	238	P	Pg	17 06 30.3	+0.5
YAZI				S	Sg	17 06 37.6	0.0
BODT	Bodrum	0.62	276	Pg	Pb	17 06 31.6	+0.5
BODT				Sg	Sb	17 06 41.1	+1.3
BODT	Bodrum	0.62	276	P	Pg	17 06 30.4	+0.2
BODT				S	Sb	17 06 39.8	0.0
RFTB	Kemer-Bodrum	0.65	267	Pg	Pb	17 06 32.3	+0.7
YKAV	Yalikavak-Bodr	0.65	281	Pg	Pb	17 06 31.8	+0.2
ARG	Arkhangelos	0.79	177	Pg	Pg	17 06 33.2	-0.2
ARG	Arkhangelos	0.79	177	P	Pg	17 06 33.3	-0.2
ARG				S	Sb	17 06 45.9	+1.3
	1µm,0.6s						
DDIM	Aydin, Didim	0.81	304	P	Pn	17 06 36.3	+0.7
DDIM				S	Sn	17 06 47.1	-0.4
TAVA	DENIZLI_Tavas	0.81	55	P	Pg	17 06 33.9	0.0
TAVA				S	Sg	17 06 43.6	-0.9
ESEN	Aydn-Nazilli	0.82	15	P	Pg	17 06 34.3	+0.2
ESEN				S	Sg	17 06 43.3	-1.5
NISR	Nisiros	0.86	243	P	Pg	17 06 35.0	+0.2
NISR				S	Sn	17 06 48.1	-0.7
	1µm,0.8s						
FETI	Fethiye-Mugla	0.87	111	Pg	Pb	17 06 35.6	+0.2
FETY	Fethiye	0.89	114	Pg	Pb	17 06 35.6	-0.1
GCAM	G?zelcami?	0.97	316	Pg	Pn	17 06 37.7	-0.1
GCAM	G?zelcami?	0.97	316	P	Pg	17 06 37.1	+0.2
GCAM				S	Sb	17 06 50.1	+0.2
CAME	Cameli-Denizli	0.98	93	Pg	Pb	17 06 37.6	+0.2
DNIZ	Denizli-Tavas-	0.98	51	P	Pb	17 06 37.5	+0.1
DNIZ				S	Sg	17 06 49.1	-0.9
IZZE	Mula-Seydike	1.08	121	P	Pb	17 06 39.0	0.0
IZZE				S	Sn	17 06 54.4	+0.1
APMY	Acipayam-Deniz	1.08	64	Pg	Pn	17 06 39.6	+0.1
IZMR	zmir-demi	1.14	355	P	Pg	17 06 40.2	+0.1
IZMR				S	Sb	17 06 53.9	-0.7
GOLH	Golhisar	1.21	78	P	Pg	17 06 42.6	+1.1
GOLH				S	Sb	17 06 56.7	-0.1
KNIK	Mula-Seydike	1.21	97	P	Pb	17 06 41.0	-0.2
KNIK				S	Sn	17 06 54.8	+0.7
SMG	Samos	1.21	306	P	Pn	17 06 40.8	-0.4
SMG				S	Sg	17 06 57.5	+0.1
	450nm,0.5s						
KIRA	zmir-Kiraz	1.22	12	P	Pn	17 06 41.5	+0.2
KIRA				S	Sb	17 06 56.6	-0.5
INCE	Denizli-Bozkur	1.39	59	P	Pg	17 06 44.7	-0.2
INCE				S	Sg	17 07 03.7	+0.8
DGB	zmir	1.41	318	P	Pn	17 06 44.0	+0.1
GMLD	Gumuldur	1.42	320	Pn	Pg	17 06 46.0	+0.6
KSL	Kastellorizon	1.48	125	P	Pn	17 06 44.6	-0.2
KSL				S	Sg	17 07 05.3	-0.6
	308nm,0.9s						
ELL	Elmali	1.49	99	Pn	Pn	17 06 45.5	+0.4
MANT	Manisa	1.53	14	P	Pb	17 06 46.6	-0.2
MANT				S	Sn	17 07 04.8	-1.0
KULA	Kula-Manisa	1.58	17	Pn	Pb	17 06 47.2	-0.3
KULA	Kula-Manisa	1.58	17	P	Pn	17 06 46.3	0.0
KULA				S	Sn	17 07 07.1	+0.4
KARP	Karpathos	1.63	207	Pn	Pb	17 06 48.2	-0.2
KARP	Karpathos	1.63	207	P	Pn	17 06 46.4	-0.5
KARP				S	Sn	17 07 08.2	+0.2
	915nm,0.8s						
DEMR	Demre-Antalya	1.66	117	Pn	Pb	17 06 48.5	-0.3
GOMA	Golmarmara-Man	1.71	356	Pn	Pb	17 06 50.1	+0.5
BRDR	BURDUR-Merkez	1.73	66	P	Pb	17 06 50.1	+0.1
BRDR				S	Sg	17 07 13.2	-0.5
PASA	Karahalli, USA	1.75	39	P	Pb	17 06 50.3	-0.1
KORT	Korkueli	1.82	89	P	Pg	17 06 53.6	+0.4
KORT				S	Sg	17 07 17.8	+1.1
AKUM	Antalya-Kumluc	1.94	110	P	Pg	17 06 55.6	+0.1
APE	Apeiranthos	2.04	273	Pn	Pb	17 06 54.8	-0.5
APE	Apeiranthos	2.04	273	P	Pn	17 06 52.4	-0.2
APE				S	Sn	17 07 18.5	+0.4
	72nm,0.8s						
RFT7	Candarli	2.15	335	Pn	Pn	17 06 55.9	+1.8
DKL	Dikili	2.26	336	Pn	Pb	17 06 58.0	-1.1
ZKR	Zakros	2.41	219	Pn	Pb	17 07 00.0	-1.7

*IDC **30** 18:00:41.4±0.6,52°.68S×25°.94E,h0km,mb4.3/14, mbtmp4.3/14,MS4.0/41,Error ellipse: s-maj=21.6km s-min=15.2km az=61.0*
*NEIC **30** 18:00:42.9±1.3,52°.64S±0°.06×25°.9E±0°.2,h10km±1km, mb4.7/31,Error ellipse: s-maj=23.5km s-min=10.3km az=85.0*
*GCMT **30** 18:00:44.9±0.3,52°.79S±0°.02×26°.01E±0°.04,h19km±1km, MW4.9/85,Moment Tensor Solution. s21,c22; s85,c110; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.76±.16; Mθθ 1.70±.15; Mϕϕ-0.94±.12; Mrθ 0.49±.25; Mrϕ 2.13±.09; Mθϕ 0.75±.27; Best double couple: Mo2.65300×10^16^ NP1:ϕs197.00000°,δ86.00000°,λ-159.00000°. NP2: ϕs106.00000°,δ69.00000°,λ-4.00000°. Principal axes: T 3.0510, Plg12.0000°, Azm330.0000°; N -0.7980, Plg69.0000°, Azm207.0000°; P -2.2550, Plg17.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 30 18:00:42.7±0.5,52°.62S±0°.07×25°.9E±0°.1,h10km,n87, σ0s76/53,mb4.6/23,MS4.0/43,2D,South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	CROZET ISLANDS	17.70	81	T	T	18 23 05.3	
	baz=241,slow=74,SNR=137						
H04S3	CROZET ISLANDS	17.71	81	T	T	18 23 06.7	
	baz=241,slow=74,SNR=120						
H04S1	CROZET ISLANDS	17.72	81	T	T	18 23 05.4	
	baz=241,slow=74,SNR=201						
GRHM	Grahamstown, E	19.34	1	P	P	18 05 08.0	-0.1
GRHM				IAmb	IAmb	18 05 27.6	
	comp=Z,89nm,1.4s						
SOE	Somerset East	19.90	359	P	P	18 05 14.3	0.0
SOE				IAmb	IAmb	18 05 25.6	
	comp=Z,31nm,1.2s						
SUR	Sutherland	20.57	348	P	P	18 05 21.6	0.0
SUR				IAmb	IAmb	18 05 31.4	
	comp=Z,34nm,1.1s						
SUR	Sutherland	20.57	348	P	P	18 05 23.6	+2.0
	comp=Z,11nm,0.9s,baz=178,slow=8.7,SNR=4.9						
SUR				S	S	18 08 58.9	-13
	comp=Z,6.5nm,1.0s,baz=105,slow=20,SNR=2.7						
SUR				LR	LR	18 11 28.8	
	comp=Z,914nm,22.0s,baz=162,slow=31						
	comp=Z,11nm,0.9s						
TROLL	Troll, Antarti	21.98	199	⇓P	P	18 05 36.4	-0.1
	comp=Z,411nm,0.8s						
SNAA	Sanae	22.92	203	P	P	18 05 46.8	+0.4
SNAA				IAmb	IAmb	18 06 27.2	
	comp=Z,34nm,1.5s						
SNAA	Sanae	22.92	203	⇓P	P	18 05 48.8	+2.4
	comp=Z,168nm,0.9s						
SNAA	Sanae	22.92	203	P	P	18 05 47.3	+0.8
	comp=Z,2.0nm,0.8s,baz=68,slow=19,SNR=7.6						
SNAA				LR	LR	18 12 50.2	
	comp=Z,169nm,18.9s,baz=44,slow=32						
	comp=Z,2.0nm,0.8s						
MAW	Mawson	23.24	144	P	P	18 05 48.5	-1.1
	comp=Z,8.7nm,0.5s,baz=126,slow=13,SNR=20						
MAW				LR	LR	18 12 53.7	
	comp=Z,530nm,21.6s,baz=300,slow=32						
	comp=Z,8.7nm,0.5s						
BOSA	Boshof	23.99	359	P	P	18 05 57.8	+0.4
BOSA	Boshof	23.99	359	P	P	18 05 58.0	+0.5
	comp=Z,3.8nm,0.8s,baz=188,slow=10,SNR=6.5						
BOSA				LR	LR	18 13 37.9	
	comp=Z,494nm,20.5s,baz=178,slow=32						
	comp=Z,3.8nm,0.8s						
LBTB	Lobatse	27.57	359	P	P	18 06 28.2	-1.7
LBTB				IAmb	IAmb	18 06 47.9	
	comp=Z,8.6nm,1.1s						
LBTB	Lobatse	27.57	359	LR	LR	18 15 45.6	
	comp=Z,381nm,20.5s,baz=174,slow=33						
WIN	Windhoek	30.76	344	P	P	18 06 57.1	-1.2
WIN				IAmb	IAmb	18 07 07.2	
	comp=Z,23nm,1.5s						
BELA	Belgrano 2	33.05	200	P	P	18 07 17.7	-0.1
TSUM	Tsumeb	33.98	346	P	P	18 07 26.7	+0.2
TSUM				IAmb	IAmb	18 07 37.2	
	comp=Z,8.1nm,1.2s						
TSUM	Tsumeb	33.98	346	LR	LR	18 19 37.1	
	comp=Z,270nm,21.5s,baz=165,slow=33						
LSZ	Lusaka	37.30	4	P	P	18 07 55.7	+0.7
LSZ	Lusaka	37.30	4	LR	LR	18 21 21.2	
	comp=Z,240nm,20.9s,baz=178,slow=33						
QSPA	South Pole Qui	37.60	180	P	P	18 07 56.2	-0.9
QSPA	South Pole Qui	37.60	180	P	P	18 07 56.7	-0.5
	comp=Z,27nm,1.0s,baz=253,slow=3.0,SNR=56						
	comp=Z,27nm,1.0s						
CASY	Casey	41.58	143	P	P	18 08 31.4	+1.3
PMSA	Palmer Station	44.24	218	LR	LR	18 25 25.0	
	comp=Z,116nm,18.4s,baz=106,slow=34						
VNDA	Vanda	47.28	168	P	P	18 09 15.5	-0.1
VNDA				IAmb	IAmb	18 09 32.7	
	comp=Z,7.8nm,1.2s						
VNDA	Vanda	47.28	168	P	P	18 09 15.6	+0.1
	comp=Z,2.3nm,0.7s,baz=236,slow=7.0,SNR=13						
VNDA				LR	LR	18 28 32.8	
	comp=Z,254nm,21.1s,baz=211,slow=35						
	comp=Z,2.3nm,0.7s						
SBA	Scott Base	47.58	170	P	P	18 09 17.6	-0.2
KMBO	Kilima Mbogo	52.19	14	LR	LR	18 30 51.3	
	comp=Z,89nm,18.8s,baz=89,slow=35						
LODK	Lodwar	56.41	11	P	P	18 10 23.7	-0.6
TRQA	Tornquist	59.71	246	P	P	18 10 47.4	+0.1
TRQA				IAmb	IAmb	18 10 49.4	
	comp=Z,8.3nm,0.9s						
PLCA	Paso Flores	62.41	238	P	P	18 11 05.3	-0.4
PLCA	Paso Flores	62.41	238	P	P	18 11 05.6	0.0
	comp=Z,3.1nm,0.9s,baz=320,slow=7.9,SNR=4.5						
PLCA				LR	LR	18 36 15.3	
	comp=Z,45nm,18.2s,baz=155,slow=34						
	comp=Z,3.1nm,0.9s						
ITQB	Itaqui	62.66	256	P	P	18 11 07.8	+0.5
DBIC	Dimbokro	64.60	326	P	P	18 11 19.1	-1.0
DBIC				IAmb	IAmb	18 11 21.5	
	comp=Z,11nm,1.4s						
DBIC	Dimbokro	64.60	326	LR	LR	18 34 17.3	
	comp=Z,182nm,19.1s,baz=174,slow=31						
NWAO	Narrogin (SRO)	65.36	112	P	P	18 11 25.3	+0.3
NWAO	Narrogin (SRO)	65.36	112	P	P	18 11 25.3	+0.3
NWAO	Narrogin (SRO)	65.36	112	P	P	18 11 25.1	0.0
	comp=Z,10nm,1.0s,baz=184,slow=13,SNR=2.2						
NWAO				LR	LR	18 36 21.9	
	comp=Z,48nm,18.4s,baz=214,slow=33						
	comp=Z,10nm,1.0s						
CPUP	Villa Florida	65.54	258	P	P	18 11 25.5	-0.8
CPUP				IAmb	IAmb	18 11 28.3	
	comp=Z,10.0nm,1.4s						
CPUP	Villa Florida	65.54	258	P	P	18 11 26.1	-0.2
	comp=Z,2.7nm,1.0s,baz=132,slow=2.6,SNR=3.2						
CPUP				LR	LR	18 34 03.3	
	comp=Z,74nm,22.0s,baz=152,slow=30						
	comp=Z,2.7nm,1.0s						
MORW	Morawa	67.55	109	P	P	18 11 39.1	0.0
BDFB	Brasilia	67.97	273	P	P	18 11 42.0	0.0
	comp=Z,3.7nm,0.8s,baz=194,slow=8.4,SNR=4.3						
BDFB				LR	LR	18 35 12.5	
	comp=Z,113nm,20.4s,baz=116,slow=30						
	comp=Z,3.7nm,0.8s						
RCBR	Riachuelo	68.50	290	LR	LR	18 35 21.2	
	comp=Z,88nm,18.6s,baz=90,slow=30						
TOA0	Torodi Ar. Sit	68.75	335	P	P	18 11 46.8	+0.2
TOA0				IAmb	IAmb	18 11 59.9	
	comp=Z,6.2nm,1.2s						
TORD	Torodi Ar. Bea	68.75	335	P	P	18 11 47.1	+0.6
TORD				IAmb	IAmb	18 11 59.9	
	comp=Z,6.1nm,1.3s						
TORD	Torodi Ar. Bea	68.75	335	P	P	18 11 47.0	+0.4
	comp=Z,1.2nm,0.7s,baz=150,slow=3.6,SNR=7.8						
TORD				LR	LR	18 35 53.0	
	comp=Z,117nm,19.8s,baz=160,slow=31						
	comp=Z,1.2nm,0.7s						
CO01	Juntas del Tor	70.20	247	P	P	18 11 56.4	+0.5
CO01				IAmb	IAmb	18 11 58.8	
	comp=Z,9.2nm,0.8s						
LVC	Limon Verde	75.19	252	LR	LR	18 41 10.6	
	comp=Z,24nm,21.9s,baz=222,slow=32						
PALK	Pallekele	75.58	57	LR	LR	18 37 37.2	
	comp=Z,148nm,21.2s,baz=322,slow=29						
SIV	San Ignacio	75.65	262	LR	LR	18 41 09.2	
	comp=Z,114nm,18.8s,baz=105,slow=32						
STKA	Stephens Creek	78.94	129	P	P	18 12 46.4	+0.1
	comp=Z,1.7nm,0.9s,baz=225,slow=4.4,SNR=3.7						
STKA				LR	LR	18 38 45.8	
	comp=Z,67nm,21.9s,baz=204,slow=29						
	comp=Z,1.7nm,0.9s						
RPZ	Rata Peaks	79.45	155	LR	LR	18 45 24.9	
	comp=Z,90nm,21.5s,baz=196,slow=34						
LEM	Lembang	79.82	88	LR	LR	18 41 27.4	
	comp=Z,70nm,18.3s,baz=215,slow=31						
ASAR	Alice Springs	81.74	118	P	P	18 13 02.1	+0.6
ASAR	Alice Springs	81.74	118	P	P	18 13 01.6	+0.1
	comp=Z,2.1nm,0.7s,baz=213,slow=5.1,SNR=39						
ASAR				LR	LR	18 44 41.7	
	comp=Z,65nm,20.8s,baz=206,slow=32						
	comp=Z,2.1nm,0.7s						
AS31	Alice Springs	81.74	118	P	P	18 13 01.6	+0.1
EIL	Elat	82.32	8	LR	LR	18 51 07.9	
	comp=Z,54nm,18.5s,baz=224,slow=37						
SAML	Samuel	82.41	265	P	P	18 13 03.9	-1.2
SAML				IAmb	IAmb	18 13 07.6	
	comp=Z,5.0nm,0.8s						
WRA	Warramunga Arr	84.98	116	P	P	18 13 17.6	-0.7
WRA	Warramunga Arr	84.98	116	P	P	18 13 18.6	+0.2
	comp=Z,1.7nm,0.9s,baz=210,slow=3.9,SNR=12						
	comp=Z,1.7nm,0.9s						
WRAB	Tennant Creek	85.00	116	P	P	18 13 17.9	-0.4
WRAB				IAmb	IAmb	18 13 31.0	
	comp=Z,7.9nm,1.1s						
WB0	Warramunga Arr	85.16	116	P	P	18 13 18.1	-1.1
WB0				IAmb	IAmb	18 13 32.1	
	comp=Z,12nm,1.4s						
MMAI	Mount Meron Ar	85.68	8	LR	LR	18 51 18.8	
	comp=Z,66nm,20.0s,baz=194,slow=35						
URZ	Urewera	86.09	158	LR	LR	18 49 11.7	
	comp=Z,181nm,21.6s,baz=298,slow=34						
MDP	Montagnes des	87.10	282	LR	LR	18 46 37.6	
	comp=Z,111nm,21.2s,baz=99,slow=32						
NNA	Nana	88.17	253	LR	LR	18 51 18.2	
	comp=Z,16nm,19.3s,baz=146,slow=34						
KAPI	Kappang	88.39	96	LR	LR	18 48 54.9	
	comp=Z,35nm,18.0s,baz=168,slow=33						
MDT	Midelt	89.16	335	LR	LR	18 49 02.6	
	comp=Z,123nm,19.5s,baz=192,slow=32						
KEST	Kesra	89.17	347	LR	LR	18 53 39.1	
	comp=Z,181nm,20.0s,baz=228,slow=36						
VAE	Valguarnera	90.29	351	LR	LR	18 55 21.7	
	comp=Z,228nm,18.6s,baz=161,slow=36						
CTA	Charters Tower	91.08	126	LR	LR	18 52 59.3	
	comp=Z,40nm,19.4s,baz=244,slow=34						
ATAH	Atahualpa	92.96	254	LR	LR	18 52 57.9	
	comp=Z,32nm,21.2s,baz=170,slow=34						
CMAR	Chiang Mai Arr	94.62	66	LR	LR	18 52 42.0	
	comp=Z,16nm,18.0s,baz=225,slow=33						
ESDC	Sonseca Array	95.51	337	LR	LR	18 57 11.0	
	comp=Z,50nm,18.1s,baz=168,slow=36						
RAO	Raoul Island	95.85	159	LR	LR	18 54 27.7	
	comp=Z,70nm,21.9s,baz=110,slow=34						
KBZ	Khabaz	97.08	12	LR	LR	19 01 26.3	
	comp=Z,44nm,18.2s,baz=236,slow=38						
MLR	Muntele Rosu	97.73	0	LR	LR	19 01 15.2	
	comp=Z,183nm,18.5s,baz=180,slow=37						
DZM	Mont Dzumac	98.07	143	eLR	LR	18 46 22.6	
	comp=Z,108nm,34.1s						
DZM	Mont Dzumac	98.07	143	LR	LR	18 52 07.5	
	comp=Z,36nm,20.3s,baz=249,slow=32						
TBI	Tubuai	104.25	184	eLR	LR	18 49 23.7	
	comp=Z,880nm,39.0s						
PPT2	Papeete2	109.98	185	eLR	LR	18 52 06.1	
	comp=Z,72nm,23.2s						
TIXI	Tiksi	142.67	31	PKhKP	PKPpre	18 20 08.5	
	comp=Z,0.1nm,0.3s,baz=226,slow=0.3,SNR=15						
TIXI				PKP	PKPdf	18 20 15.3	+0.9
	comp=Z,0.1nm,0.3s,baz=305,slow=4.0,SNR=3.7						
PDAR	Pinedale Array	148.91	270	PKPbc	PKPbc	18 20 29.6	-0.6
	comp=Z,3.1nm,0.9s,baz=117,slow=5.2,SNR=7.2						
NVAR	Mina Array Bea	151.53	254	PKPbc	PKPbc	18 20 36.6	0.0
	comp=Z,2.4nm,1.0s,baz=141,slow=2.3,SNR=9.7						
NVAR				PKPab	PKPab	18 20 45.6	+0.4
	comp=Z,7.0nm,1.1s,baz=145,slow=2.2,SNR=15						
YKA	Yellowknife Ar	157.00	311	PKPab	PKPab	18 21 08.1	+0.6
	comp=Z,0.6nm,0.9s,baz=82,slow=4.4,SNR=5.9						

DJA 30 18:19:39.5±0.4,3°S±5°×127°E±°,h10km,M2.8/5,MLv2.8/5, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	0.38	149	P	Pg	18 19 47.7	+0.6
NLAI				S	Sb	18 19 53.6	-0.8
SANI	Sanana	1.25	313	P	Pn	18 20 02.2	-0.8
SANI				S	Sn	18 20 19.9	0.0
LBMI	Labuha	2.33	15	P	Pn	18 20 17.5	-0.5

IDC 30 18:20:37.2±6.2,6°49S×129°28E,h337km±73km,mb2.6/1, mbtmp3.6/3,Error ellipse: s-maj=113.7km s-min=22.8km az=71.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.24	160	P	P	18 23 43.6	-0.7
	0.4nm,0.5s,baz=340,slow=11,SNR=7.9						
WRA				S	S	18 26 16.3	-3.2
	0.3nm,0.8s,baz=357,slow=18,SNR=1.9						
ASAR	Alice Springs	17.65	166	P	P	18 24 21.4	+0.2
	2.6nm,0.5s,baz=343,slow=11,SNR=102						
ASAR				S	S	18 27 27.7	+0.8
	0.2nm,0.9s,baz=337,slow=18,SNR=2.4						
MKAR	Makanchi Array	67.41	327	P	P	18 30 57.2	0.0
	0.2nm,0.5s,baz=122,slow=8.7,SNR=4.5						
	0.2nm,0.5s			

SCZ	Santa Cruz	0.11	240			Pg	18 48 56.6	+1.7	
BSLM	Silva Ranch	0.13	335			Pg	18 48 56.4	+1.1	
BJCM	Johnson Can.	0.14	220			Pg	18 48 55.3	0.0	
SAO	San Andreas Ge	0.17	309		Pg	Pg	18 48 55.7	-0.2	
SAO					Sg	Sg	18 48 57.5	-0.8	
BSRM	Salinas Radio	0.19	273			Pg	18 48 56.3	0.0	
BSRM						Sg	18 48 59.1	+0.2	
FRP	Fremont Peak	0.20	300			Pg	18 48 56.3	-0.1	
BAVM	Antelope Valle	0.20	93			Pg	18 48 57.3	+0.9	
BBGB	Big Mountain B	0.21	112			Pg	18 48 57.6	+1.0	
BBGB					Sg	Sg	18 49 01.8	+2.4	
BBNM	San Benito	0.22	132			Pg	18 48 57.4	+0.6	
HLTM	Lone Tree Road	0.23	354			Pg	18 48 58.5	+1.5	
BSGM	Shirttail Gulc	0.24	175			Pg	18 48 57.1	-0.1	
BPCNC	Pine Canyon	0.29	254			Pg	18 48 58.4	+0.2	
HBTM	San Juan Bauti	0.29	312			Pg	18 48 58.5	+0.3	
BSMM	Soledad Missio	0.30	204			Pg	18 48 58.4	+0.1	
LRV	Little Rabbit	0.31	137			Pg	18 48 59.1	+0.5	
ANZ	Anzar Road	0.34	313			Pg	18 48 59.1	+0.1	
HTUM	Tustin Road	0.34	301			Pg	18 48 59.0	-0.1	
HFEM	San Felipe	0.34	344			Pg	18 48 60.0	+0.9	
HAST	Hastings Reser	0.34	219			Pg	18 48 59.1	-0.1	
HAST						Sg	18 49 03.8	+0.1	
PACP	Pacheco Peak	0.35	359			Pb	18 49 00.2	-0.9	
HERM	Elkhorn Road	0.37	292			Pg	18 48 59.9	+0.2	
HPCM	Pacheco Lake	0.40	1			Pg	18 49 01.1	+0.8	
CDC	Canada Road	0.40	336			Pg	18 49 01.0	+0.7	
HCAM	Canada Road	0.40	336			Pg	18 49 00.9	+0.7	
HCBM	Chamberlain	0.41	312			Pg	18 49 01.1	+0.7	
HCOM	Corn Cob Canyo	0.41	304			Pg	18 49 00.6	+0.1	
BCWM	Chews Ridge	0.42	214			Pg	18 49 00.6	0.0	
SLD	San Luis Dam	0.42	136			Pg	18 49 01.3	+0.7	
BPRM	Ponciano Ridge	0.44	236			Pg	18 49 00.9	0.0	
GHS	Gilroy Hot Spr	0.46	343			Pg	18 49 02.1	+0.7	
HLPM	Lions Peak	0.48	324			Pg	18 49 02.0	+0.4	
HMOM	Monterey	0.52	264			Pg	18 49 02.4	0.0	
HMOM						Sg	18 49 10.0	+0.9	
JELB	Ellicott, Sant	0.52	302			Pg	18 49 02.5	+0.1	
SCKWR	San Luis Creek	0.55	18			Pb	18 49 04.4	-0.1	
BAPM	Anderson Peak	0.56	212			Pg	18 49 03.2	-0.1	
CADM	Anderson Res.	0.58	331			Pg	18 49 04.2	+0.6	
BPOM	Post Ranch	0.58	223			Pg	18 49 03.4	-0.2	
PMPB	Monarch Peak	0.58	139			Pg	18 49 03.6	-0.1	
JLAB	Laurel Hill	0.62	324			Pb	18 49 05.1	-0.5	
HULI	Fort Hunter Li	0.63	177			Pg	18 49 04.5	-0.1	
CCOB	Coe Ranch Numb	0.68	333			Pb	18 49 06.8	+0.1	
PJUM	Juniper Ridge	0.70	127			Pb	18 49 06.6	-0.5	
CMPM	Mikes Peak	0.70	358			Pb	18 49 06.8	-0.2	
PSAM	San Ardo	0.70	153			Pg	18 49 05.8	-0.2	
PPTM	Peach Tree Val	0.71	140			Pg	18 49 06.0	0.0	
ARN	Arnold Ranch	0.72	344			Pg	18 49 06.8	+0.5	
MHC	Mount Hamilton	0.74	337			Pg	18 49 07.2	+0.5	
PAPM	Alder Peak	0.74	185			Pg	18 49 06.7	-0.1	
JJOM	Saint Joseph's	0.78	315			Pg	18 49 07.0	-0.5	
PDRM	Domengine Ranc	0.80	113			Pb	18 49 08.6	-0.1	
PSMM	Smith Mountain	0.81	136			Pg	18 49 07.9	0.0	
CMMM	Mount Mocho	0.82	348			Pb	18 49 08.8	-0.3	
MTOS	Mt Oso, Westle	0.85	357			Pb	18 49 09.7	+0.1	
PHSB	Hesperia Broad	0.85	167			Pg	18 49 08.4	-0.3	
PHPM	Hope Ranch	0.87	141			Pg	18 49 08.7	-0.3	
CMLM	Mount Lewis	0.87	340			Pg	18 49 09.5	+0.3	
PWMM	Westland Maint	0.89	104			Pb	18 49 10.6	+0.4	
CALM	Calaveras Res.	0.90	333			Pg	18 49 09.6	0.0	
PANM	San Antonio Re	0.93	161			Pg	18 49 09.8	-0.3	
PVCM	Vineyard Canyo	0.95	140			Pg	18 49 10.2	-0.4	
PPO	Portuguese Can	0.95	146			Pg	18 49 10.6	-0.1	
PSTM	Stockdale Moun	0.96	139			Pg	18 49 10.5	-0.3	
JBMM	Black Mountain	0.96	314			Pg	18 49 10.0	-0.9	
PHCM	Hearst Castle	0.98	174			Pg	18 49 10.7	-0.4	
CSTL	Corral Hollow	1.00	350			Pb	18 49 11.9	-0.2	
JFP	Foothills Park	1.01	314			Pg	18 49 10.9	-1.0	
JPSM		1.01	303			Pg	18 49 10.8	-1.1	
JSFB	Stanford Teles	1.03	316			Pg	18 49 11.4	-0.9	
WENL	Wente Vineyard	1.04	339			Pg	18 49 12.3	-0.1	
PWKM	Work Ranch	1.04	143			Pg	18 49 12.1	-0.4	
PHFM	Heflinger Ranc	1.05	137			Pg	18 49 11.7	-0.8	
CTM	Castle Mountai	1.05	133			Pb	18 49 13.1	0.0	
CVLM	Vallecito	1.07	336			Pg	18 49 12.3	-0.5	
JRSC	Jasper Ridge	1.07	315			Pg	18 49 11.1	-1.9	
RAMR	Ramage Ranch	1.07	162			Pg	18 49 12.4	-0.5	
PHAM	Harlan Ranch	1.08	139			Pg	18 49 12.7	-0.5	
CNIC	Niles Canyon	1.10	330			Pg	18 49 12.5	-1.0	
GHC	Gold Hill	1.11	137			Pg	18 49 13.2	-0.6	
PKEM	Kettleman Hill	1.12	122			Pn	18 49 14.6	+0.1	
PSCM	Scobie Ranch	1.14	134			Pg	18 49 13.8	-0.4	
PKLM	Kerr Lake	1.16	139			Pg	18 49 13.7	-1.1	
PSNM	Stone Corral	1.18	137			Pg	18 49 14.3	-0.7	
CBSNC	Byron Hot Spri	1.20	346			Pg	18 49 15.0	-0.3	
TCHL	Shandon	1.20	143			Pg	18 49 14.8	-0.7	
PMRM	Maxey Ranch	1.21	136			Pg	18 49 14.9	-0.7	
ARDC	Alexander Ranc	1.22	168			Pg	18 49 14.2	-1.6	
CMOB	Morgan Territo	1.23	340			Pn	18 49 17.3	+1.2	
JCHM	Cahill Ridge	1.23	315			Pg	18 49 14.1	-1.9	
TRAM	Private Proper	1.27	140			Pn	18 49 15.8	-0.9	
FRI	Friant	1.30	75			Pn	18 49 16.1	-1.1	
TSCN	Private Proper	1.34	145			Pn	18 49 16.6	-1.1	
PTAM	Tassajara Cree	1.34	160			Pn	18 49 16.1	-1.6	
JMGM	Milagra Ridge	1.37	316			Pn	18 49 15.7	-2.3	
EFD	Emergency Oper	1.41	161			Pn	18 49 16.7	-1.8	
TSCS	Shell Creek So	1.43	148			Pn	18 49 17.2	-1.7	
BKS	Berkeley--Byer	1.44	328			Pn	18 49 16.1	-2.9	
PBPM	Bitterwater Pu	1.45	137			Pn	18 49 18.0	-1.2	
DPD	Davis Peak	1.48	164			Pn	18 49 19.8	+0.3	
CMB	Columbia Colle	1.55	27		Pg	Pn	18 49 19.1	-0.9	
CMB					IAML		18 49 45.0		
	comp=E,80nm,0.8s								
CMB					IAML		18 49 46.9		
	comp=N,91nm,0.7s								
MCCM	Marconi Confer	1.96	320		Pn	Pn	18 49 24.0	-2.1	
MCCM					IAML		18 49 46.6		
	comp=E,61nm,1.9s								
MDPB	Devils Postpil	2.01	60			Pn	18 49 26.6	-0.5	
MDPB					IAML		18 49 58.7		
	comp=E,98nm,0.6s								
MINS	Minaret Summit	2.03	60			Pb	18 49 29.6	-0.3	
OMMB	Old Mammoth Mi	2.06	62			Pn	18 49 26.2	-1.6	
OMMB					IAML		18 49 57.3		
	comp=N,63nm,0.5s								
OMMB					IAML		18 50 00.9		
	comp=E,65nm,0.8s								
MDYM	Dry Creek	2.07	60			Pb	18 49 30.8	+0.2	
MDRNC	Doe Ridge	2.19	63			Pb	18 49 32.5	0.0	
BCW	Bitter Crk WRg	2.29	138			Pn	18 49 30.8	+0.1	
BCW					IAML		18 50 19.1		
	comp=E,68nm,0.8s								
BCW					IAML		18 50 19.3		
	comp=N,49nm,1.0s								
AFDM	Forest Hills D	2.30	6		Pn	Pn	18 49 30.2	-0.7	
ORC	Owens River	2.31	64			Pb	18 49 34.5	-0.1	
WAKR	Walker	2.36	38			Pn	18 49 31.8	0.0	
WAKR					IAML		18 50 07.7		
	comp=E,86nm,0.8s								
WAKR					IAML		18 50 18.1		
	comp=N,76nm,0.8s								
CASR	Casa Diablo Mo	2.37	66			Pb	18 49 34.6	-1.0	
ISA	Isabella, Lake	2.48	113			Pn	18 49 33.3	0.0	
EMB	Emerald Bay	2.50	22			Pn	18 49 33.0	-0.7	
EMB					IAML		18 50 15.9		
	comp=E,46nm,0.5s								
EMB					IAML		18 50 20.0		
	comp=N,59nm,0.8s								
LHV	Little Huntoon	2.72	53			Pn	18 49 36.3	-0.4	
HOPS	Hopland Field	2.73	329		Pn	Pn	18 49 36.3	-0.5	
HOPS					IAML		18 50 12.4		
	comp=N,31nm,3.1s								
HOPS					IAML		18 50 38.5		
	comp=E,29nm,1.8s								
PNTR	Pine Nut	2.77	28			Pn	18 49 36.5	-1.0	
MPK	Martis Peak	2.81	20			Pn	18 49 38.4	+0.2	
MPK					IAML		18 50 26.3		
	comp=N,57nm,0.9s								
YERR	Yerington	2.83	34			Pn	18 49 38.0	-0.3	
YERR					IAML		18 50 34.5		
	comp=N,43nm,0.8s								
ORV	Oroville	2.90	357		Pn	Pn	18 49 39.3	+0.2	
RYN	Ryan	2.94	47			Pn	18 49 39.8	-0.1	
RYN					IAML		18 50 40.6		
	comp=N,32nm,1.0s								
RYN					IAML		18 50 40.6		
	comp=E,31nm,0.9s								
NVAR	Mina Array Bea	2.96	52			Pn	18 49 39.1	-1.0	
CCAC	Calif City Air	3.04	119			Pn	18 49 39.9	-1.3	
CCAC					IAML		18 50 40.7		
	comp=E,34nm,1.3s								
CCAC					IAML		18 50 44.0		
	comp=N,47nm,1.2s								
NV11	Mina Array Sit	3.05	54			Pn	18 49 41.6	+0.3	
NV11					IAML		18 50 33.6		
	comp=N,18nm,1.1s								
NV11					IAML		18 50 38.5		
	comp=E,18nm,1.0s								
GRAC	Grapevine Rang	3.16	83		Pn	Pn	18 49 41.3	-1.4	
GRAC					IAML		18 50 41.2		
	comp=E,33nm,1.0s								
GRAC					IAML		18 50 43.2		
	comp=N,30nm,0.8s								
MZP	Montezuma Peak	3.28	70			Pn	18 49 44.5	-0.1	
GMN	Gold Mountain	3.28	78			Pn	18 49 43.6	-1.0	
GMN					IAML		18 50 42.4		
	comp=N,15nm,0.8s								
PAHR	Pah Rah Range	3.39	26			Pn	18 49 44.8	-1.2	
PAHR					IAML		18 50 49.8		
	comp=E,16nm,1.6s								
KVN	Kaiserville	3.47	46			Pn	18 49 44.9	-2.2	
KVN					IAML		18 50 52.5		
	comp=N,15nm,1.4s								
KVN					IAML		18 50 55.0		
	comp=E,16nm,1.4s								
KCPM	Cahto Peak	3.53	330		Pn	Pn	18 49 46.3	-1.5	
TPH	Tonopah	3.53	65			Pn	18 49 47.7	-0.3	
QSM	Queen of Sheba	3.63	100			Pn	18 49 47.3	-1.8	
QSM					IAML		18 51 00.0		
	comp=N,9.5nm,1.4s								
WCT	Wildcat Mounta	3.74	87			Pn	18 49 49.1	-1.6	
GWY	Greenwater Val	3.75	96			Pn	18 49 51.0	+0.1	
GSC	Goldstone, Bar	3.87	109			Pn	18 49 51.9	-0.6	
GSC					IAML		18 51 10.2		
	comp=E,10.0nm,1.2s								
GSC					IAML		18 51 13.0		
	comp=N,10nm,3.9s								
TPNV	Topopah Spring	4.05	84			Pn	18 49 54.2	-0.8	
TPNV					IAML		18 51 15.2		
	comp=N,13nm,1.1s								
TPNV					IAML		18 51 16.6		
	comp=N,8.9nm,2.7s								

NEIC ***30*** *19:04:33.8±2.0, 84.˚7N±0.˚1×˚±˚, h10km±1km, mb4.2/13, Error ellipse: s-maj=27.6km s-min=10.4km az=48.0*
IDC ***30*** *19:04:34.8±1.4, 84.˚47N×2.˚11E, h0km, mb3.6/5, mbtmp3.8/8, ML4.0/3, MS3.4/6, Error ellipse: s-maj=36.5km s-min=19.6km az=62.0*
BER ***30*** *19:04:37.2±2.9, 84.˚81N×10.˚15E, h10km, ML2.5, ML4.0(NAO), Confirmed Earthquake*
KOLA ***30*** *19:04:39.0, 84.˚64N×5.˚50E, h0km, ML2.6, Error ellipse: s-maj=124.0km s-min=22.9km az=70.0, Arctic Ocean, Gakkel ridge*

ISC 30 19:04:33.4±0.7, 84.˚74N±0.˚06×7.˚40E±0.˚06, h10km, n70, σ2ˢ23/83, mb3.9/9, MS3.5/6, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	5.88	171	Pn	Pn	Pn	19 06 01.7	+1.4
KBS				Sn	Sn	Sn	19 07 05.9	-1.7
KBS	Kingsbay	5.88	171	Pn	Pn	Pn	19 06 01.3	+1.0
KBS	Kingsbay	5.88	171	P	Pn	Pn	19 06 01.3	+1.0
KBS				S	S	Sn	19 07 05.5	-2.1
KBS	Kingsbay	5.88	171	*e*P	Pn	Pn	19 06 01.1	+0.7
KBS				*e*S	S	Sn	19 07 06.2	-1.5
KBS				IAML			19 07 08.6	
	comp=E,7.7nm,0.5s							
KBS	Kingsbay	5.88	171	*e*		Pn	19 06 00.4	+0.1
	baz=354,slow=10							
KBS				*i* P		Pn	19 06 01.3	+1.0
KBS				*e*S		Sn	19 07 06.0	-1.7
ZFI2	Zemlya Franca-	6.22	107	*e*P		Pn	19 06 05.6	+0.5
ZFI2				*e*S		Sn	19 07 12.2	-3.9
	comp=Z,29nm,2.7s							
OMEGA	Omega	6.25	107	*e*P		Pn	19 06 05.9	+0.4
OMEGA				*e*S		Sn	19 07 12.3	-4.5
	comp=Z,34nm,2.1s							
SPA0	Spitsbergen Ar	6.71	164	Pn		Pn	19 06 13.2	+1.3
	baz=9.5,slow=11							
SPA0				Sn		Sn	19 07 25.3	-2.9
	baz=5.2,slow=22							
SPA0	Spitsbergen Ar	6.71	164	Pn		Pn	19 06 13.2	+1.3
	baz=9.5,slow=11							
SPA0				Sn		Sn	19 07 25.3	-2.9
	baz=5.2,slow=22							
SPA0				IAML			19 07 32.5	
	comp=Z,5.7nm,0.7s							
SPITS	Spitsbergen Ar	6.71	164	P		Pn	19 06 12.9	+1.1
SPITS				S		Sn	19 07 25.3	-2.9
SPITS	Spitsbergen Ar	6.71	164	Pn		Pn	19 06 12.9	+1.1
	baz=22,slow=14							
SPITS				Sn		Sn	19 07 25.2	-3.1
	baz=18,slow=5.6							
	comp=Z,6.3nm,0.4s							
SPB2	Spitsbergen Ar	6.72	164	Pn		Pn	19 06 12.7	+0.8
BRBB	Barentsburg B	6.75	168	Pn		Pn	19 06 14.5	+2.2
BRBB				Sn		Sn	19 07 27.9	-1.2
BRBB	Barentsburg B	6.75	168	P		Pn	19 06 13.2	+1.0
BRBB				S		Sn	19 07 27.2	-1.9
BRBB	Barentsburg B	6.75	168	*e*P		Pn	19 06 13.5	+1.2
BRBB				*e*S		Sn	19 07 25.2	-3.9
BRBA	Barentsburg A	6.79	168	Pn		Pn	19 06 14.7	+1.9
BRBA				Sn		Sn	19 07 28.6	-1.3
BRBA	Barentsburg A	6.79	168	*e*P		Pn	19 06 14.7	+1.9
HSPB	Hornsund (broa	7.87	166	Pn		Pn	19 06 29.9	+2.2
HSPB				Sn		Sn	19 07 56.4	-0.2
HSPB	Hornsund (broa	7.87	166	P		Pn	19 06 29.6	+2.0
HSPB				S		Sn	19 07 55.4	-1.2
HSPB	Hornsund (broa	7.87	166	*e*P		Pn	19 06 29.6	+2.0
HSPB				*e*S		Sn	19 07 50.8	-5.8
HSPB				IAML			19 08 14.9	
	comp=Z,4.4nm,0.6s							
HOPEN	Hopen	8.67	152	Pn		Pn	19 06 39.1	+0.5
HOPEN				Sn		Sn	19 08 12.6	-3.6
HOPEN	Hopen	8.67	152	*e*P		Pn	19 06 38.8	+0.2
HOPEN				*e*S		Sn	19 08 08.8	-7.5
HOPEN				IAML			19 08 17.1	
	comp=Z,7.3nm,0.2s							
DAG	Danmarks Havn	8.86	221	*e*P		Pn	19 06 44.1	+3.0
DAG	Danmarks Havn	8.86	221	*i* P		Pn	19 06 44.0	+2.8
DAG				*i* P		Pn	19 06 44.6	+3.5
NEEM	North Greenlan	10.84	263	*i* P		Pn	19 07 06.9	-1.6
SUMG	Summit	14.34	241	Pn		Pn	19 07 52.5	-3.9
SUMG	Summit	14.34	241	*i* P		Pn	19 07 57.4	+1.0
VADS	Vadso	15.21	151	*e*P		Pn	19 08 08.4	+0.6
TRO	Tromso	15.34	165	P		P	19 08 12.2	-2.0
JETT	Jettan, Norway	15.45	163	P		Pn	19 08 12.0	+1.0
JETT	Jettan, Norway	15.45	163	P		Pn	19 08 12.0	+1.0
KEV	Kevo	15.48	154	P		Pn	19 08 12.5	+1.3
KEV	Kevo	15.48	154	Pn		Pn	19 08 11.7	+0.4
KEV	Kevo	15.48	154	*e*P		Pn	19 08 12.6	+1.3
ARA0	ARCESS Array S	15.64	156	P		Pn	19 08 13.2	-0.2
	baz=359,slow=11							
ARA0	ARCESS Array S	15.64	156	P		Pn	19 08 13.2	-0.2
	baz=359,slow=11							
ARCES	ARCESS Array B	15.64	156	Pn		Pn	19 08 13.5	+0.1
ARCES				IAmb		IAmb	19 08 37.6	
	comp=Z,32nm,1.5s							
ARCES	ARCESS Array B	15.64	156	Pn		Pn	19 08 13.0	-0.4
	comp=Z,0.4nm,0.3s,baz=355,slow=12,SNR=36							
ARCES				Sn		Sn	19 10 54.8	-12
	comp=Z,0.1nm,0.3s,baz=359,slow=20,SNR=1.7							
	comp=Z,5.0nm,0.9s							
KIF	Kilpisjarvi	16.01	162	P		Pn	19 08 20.2	+2.0
KIF	Kilpisjarvi	16.01	162	P		Pn	19 08 20.2	+2.0
HEF	Hetta	16.70	159	*e*P		Pn	19 08 28.4	+1.4
RES	Resolute Bay	17.31	299			Pn	19 08 31.9	-2.7
RES	Resolute Bay	17.31	299	Pn		Pn	19 08 32.7	-1.9
	comp=Z,0.3nm,0.3s,baz=36,slow=11,SNR=16							
	comp=Z,3.1nm,0.7s							
LVZ	Lovozero	17.68	145			P	19 08 41.1	+0.8
LVZ					IAmb	IAmb	19 08 57.7	
	comp=Z,46nm,1.4s							
APA0	Apatity Array	17.89	147	P		Pn	19 08 41.7	-0.1
	slow=11							
APA0	Apatity Array	17.89	147	P		Pn	19 08 41.7	-0.1
	slow=11							
NRIK	Nord'sk	20.53	86	P		Pn	19 09 18.1	+4.7
	comp=Z,2.3nm,0.4s,baz=27,slow=6.3,SNR=4.4							
	comp=Z,2.3nm,0.4s							

FINES	FINESS Array B	23.75	158	P		P	19 09 47.8	+2.5
FINES	FINESS Array B	23.75	158	P		P	19 09 48.0	+2.7
	comp=Z,1.7nm,0.8s,baz=349,slow=18,SNR=4.5							
	comp=Z,1.7nm,0.8s							
NOA	NORSAR Array B	23.84	175	LR		LR	19 18 36.0	
	comp=Z,32nm,21.6s,baz=290,slow=36							
D25K	Kavik River	25.66	339	P		P	19 10 02.8	+0.1
D25K				IAmb		IAmb	19 10 08.0	
	comp=Z,6.5nm,1.5s							
NRS	Narsarsuaq	26.11	241	P		P	19 10 01.9	-4.9
E28M	Babbage River	26.12	333	P		P	19 10 07.9	+1.0
E29M	Blow River	26.27	332	P		P	19 10 08.9	+0.8
E29M				IAmb		IAmb	19 10 19.9	
	comp=Z,6.5nm,1.5s							
D19K	Kuna River	26.80	348	P		P	19 10 12.8	-0.3
D19K				IAmb		IAmb	19 10 37.5	
	comp=Z,6.8nm,1.4s							
E22K	Anaktuvuk Pass	27.02	343	P		P	19 10 14.9	0.0
BMAR	Burnt Mountain	27.49	337	P		P	19 10 18.8	-0.5
ILAR	Eielson Array	30.23	338	P		P	19 10 47.1	+3.5
	comp=Z,0.3nm,0.9s,baz=12,slow=10,SNR=2.7							
	comp=Z,0.3nm,0.9s							
ARU	Arti	30.67	122	LR		LR	19 24 12.5	
	comp=Z,77nm,18.6s,baz=329,slow=38							
CLL	Collm	33.61	174	*i* P		P	19 11 14.0	+0.7
BUR08	Bucovina Ar. S	37.53	160	P		P	19 11 47.8	+0.7
BUR08				IAmb		IAmb	19 12 06.5	
	comp=Z,3.2nm,1.4s							
ABKAR	Akbulak array	37.91	122	P		P	19 11 52.4	+2.3
KURK	Kurchatov	38.05	102	P		P	19 11 52.5	+1.2
KBZ	Khabaz	42.24	141	P		P	19 12 29.2	+3.2
	comp=Z,1.6nm,0.8s,baz=0.8,slow=4.3,SNR=4.4							
	comp=Z,1.6nm,0.8s							
MKAR	Makanchi Array	42.27	100	LR		LR	19 32 03.3	
	comp=Z,48nm,18.3s,baz=327,slow=39							
SONM	Songino Array	43.44	75	P		P	19 12 44.9	+9.0
	comp=Z,0.7nm,0.9s,baz=347,slow=5.9,SNR=3.6							
	comp=Z,0.7nm,0.9s							
GEYT	Allbeck	49.02	126	LR		LR	19 39 35.3	
	comp=Z,53nm,18.2s,baz=256,slow=43							
ANMO	Albuquerque	57.51	297	LR		LR	19 38 45.2	
	comp=Z,41nm,20.6s,baz=120,slow=36							
TOA0	Torodi Ar. Sit	71.67	186	P		P	19 15 55.6	+0.8
TOA0				IAmb		IAmb	19 16 24.3	
	comp=Z,2.8nm,1.2s							
PALK	Pallekele	81.28	106	LR		LR	19 56 29.1	
	comp=Z,29nm,19.2s,baz=188,slow=38							

IDC ***30*** *19:06:24.6±1.6, 40.˚25N×77.˚65E, h0km, mb3.5/4, mbtmp3.5/9, ML3.0/5, MS2.5/2, Error ellipse: s-maj=20.8km s-min=16.7km az=164.0*
SOME ***30*** *19:06:25.5, 40.˚47N×77.˚58E, h0km*
NNC ***30*** *19:06:27.4±1.9, 40.˚40N×77.˚49E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=14.0km s-min=10.3km az=173.0*
KRNET ***30*** *19:06:27.3±0.1, 40.˚41N×77.˚49E, mb3.7*
MOS ***30*** *19:06:32.0±1.2, 40.˚55N×77.˚86E, h20km, mb4.0/7, Error ellipse: s-maj=11.4km s-min=5.3km az=89.1*

ISC 30 19:06:31.8±1.3, 40.˚65N±0.˚04×77.˚57E±0.˚03, h13km±8km, n127, σ1ˢ85/154, mb3.8/8, 43C-25D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	1.66	228	P		Pg	19 07 03.0	-0.7
KSH				pP		Pb	19 07 05.5	+3.1
KSH				S		Sg	19 07 31.0	+5.7
KSH				smax		smax		
	comp=N,490nm,0.6s							
KSH				smax		smax		
	comp=E,640nm,0.7s							
ULHL	Ulahol	1.88	329	P		Pb	19 07 05.8	-0.4
	SNR=89							
ULHL	Ulahol	1.88	329	⇓*i*P		Pb	19 07 05.3	-0.9
	baz=33							
ULHL				⇓*i*S		Sg	19 07 32.9	+0.5
	baz=33							
PRZ	Przheval'sk	1.94	19	⇑*i*P		Pb	19 07 07.0	-0.1
	baz=18							
PRZ				⇑*i*S		Sg	19 07 36.4	+2.2
	baz=18							
ANVS	Anan'yevo	2.14	2	⇑*i*P		Pb	19 07 09.7	-0.8
	baz=3.0							
ANVS				⇑*i*S		Sg	19 07 40.5	0.0
	baz=3.0							
KZA	Kyzart	2.25	310	P		Pb	19 07 11.6	-1.0
	SNR=90							

TKM2 ⇓*i*S **Sb** **19 07 52.8 -0.7**
baz=31
UZB **Uzynbulak** **2.73 23** *i* Pn **Pn** **19 07 17.3 +1.9**
baz=17
UZB *e*Pb **Pb** **19 07 21.3 +0.8**
baz=17
UZB **Uzynbulak** **2.73 23** *e*Pg **Pb** **19 07 20.4 -0.1**
comp=E,39nm,0.6s
UZB *e*Lg Lg 19 08 00.1
comp=E,152nm,0.7s
UZB **Uzynbulak** **2.73 23** *i* PN **Pn** **19 07 17.3 +1.9**
UZB *e* 19 07 21.3
ARLS **Aral** **2.73 297** ⇑*i*P **Pn** **19 07 15.3 -0.2**
baz=2.0
ARLS ⇑*i*S **Sn** **19 07 50.6 +2.1**
baz=2.0
UCH **Uchtor** **2.79 306** P **Pn** **19 07 18.3 +1.7**
SNR=27
UCH **Uchtor** **2.79 306** ⇑*i*P **Pn** **19 07 16.9 +0.4**
baz=10.0
UCH ⇑*i*S **Sn** **19 07 52.9 +2.6**
baz=10.0
KBK **Karagaybulak** **2.81 317** P **Pb** **19 07 19.7 -2.2**
SNR=54
KBK **Karagaybulak** **2.81 317** ⇑*i*P **Pn** **19 07 17.4 +0.8**
baz=20
KBK ⇑*i*S **Sb** **19 07 54.3 -2.0**
baz=20
KURS **Kuram** **2.88 9** *e*Pg **Pb** **19 07 23.8 +0.8**
comp=E,40nm,0.6s
KURS *e*Lg Lg 19 08 06.1
comp=E,120nm,0.9s
SHLS **Shalkode** **2.88 29** ⇑*i*Pn **Pb** **19 07 21.3 -1.9**
baz=28
SHLS *e*Pb **Pg** **19 07 25.9 -1.2**
baz=28
SHLS *e*Pg Pn 19 07 27.1 +10
baz=28
SHLS **Shalkode** **2.88 29** *e*Pg **Pg** **19 07 25.8 -1.2**
comp=E,59nm,0.4s
SHLS *e*Lg Lg 19 08 09.4
comp=E,157nm,0.6s
SHLS **Shalkode** **2.88 29** *c* iPN **Pb** **19 07 21.2 -1.9**
SHLS *e* 19 07 27.1
DGS **Degeres** **2.92 333** *e*Pg **Pb** **19 07 24.3 +0.5**
comp=E,25nm,0.7s
DGS *e*Lg Lg 19 08 06.4
comp=E,216nm,0.6s
KPKS **Kokpek** **2.94 16** ⇑*i*Pn **Pn** **19 07 20.4 +2.0**
baz=11
KPKS *i* Pb **Pb** **19 07 24.9 +0.8**
baz=11
KPKS **Kokpek** **2.94 16** *c i*PN **Pn** **19 07 20.3 +2.0**
PDGK **Podgornoye** **3.04 28** PN **Pn** **19 07 20.9 +1.2**
PDGK 19 08 06.0
PDGK **Podgornoye** **3.04 28** ⇓Pn **Pn** **19 07 21.0 +1.2**
comp=E,33nm,0.6s
PDGK ⇑Lg Lg 19 08 08.0
comp=E,304nm,0.6s
AAK **Ala-Archa** **3.04 312** P **Pn** **19 07 22.4 +2.6**
SNR=9.2
AAK **Ala-Archa** **3.04 312** ⇑*i*P **Pn** **19 07 20.5 +0.7**
baz=16
AAK ⇑*i*S **Sn** **19 07 59.3 +3.1**
baz=16
AAK **Ala-Archa** **3.04 312** Pn **Pn** **19 07 22.2 +2.4**
comp=E,3.0nm,0.3s,baz=135,slow=8.5,SNR=49
AAK Pg **Pb** **19 07 26.7 +0.8**
comp=E,12nm,0.3s,baz=165,slow=12,SNR=51
AAK Lg Lg 19 08 09.1
comp=E,13nm,0.3s,baz=263,slow=16,SNR=21
AAK LR LR 19 08 44.4
comp=E,87nm,19.7s,baz=252,slow=42
comp=E,22nm,0.4s
FRU1 **Bishkek** **3.08 316** ⇓*i*P **Pn** **19 07 21.5 +1.2**
baz=19
FRU1 ⇓*i*S **Sb** **19 08 01.2 -2.9**
baz=19
KTBS **Karatobe** **3.13 348** *e*Pg **Pb** **19 07 27.9 +0.5**
comp=E,44nm,0.6s
KTBS *e*Lg Lg 19 08 13.0
comp=E,340nm,0.6s
CHMS **Chumysh** **3.15 319** P **Pn** **19 07 24.0 +2.8**
SNR=16
CHMS **Chumysh** **3.15 319** ⇓*i*P **Pn** **19 07 22.5 +1.3**
baz=22
CHMS ⇓*i*S **Sn** **19 08 02.6 +3.9**
baz=22
CHMS **Chumysh** **3.15 319** PN **Pb** **19 07 26.7 -1.1**
CHMS **Chumysh** **3.15 319** ⇑Pg **Pb** **19 07 26.7 -1.1**
comp=E,49nm,0.6s
CHMS ⇑Lg Lg 19 08 13.6
comp=E,48nm,0.5s
SFK **Sufi-Kurgan** **3.17 260** ⇑*i*P **Pn** **19 07 19.6 -2.0**
baz=64
SFK ⇑*i*S **Sn** **19 07 57.5 -1.9**
baz=64
CHKK **Chushkaly** **3.23 353** *i* Pn **Pn** **19 07 25.1 +2.7**
baz=350
CHKK *e*Pb **Pb** **19 07 30.5 +1.4**
baz=350
CHKK **Chushkaly** **3.23 353** *e*Pg **Pb** **19 07 30.2 +1.1**
comp=E,43nm,0.5s
CHKK *e*Lg Lg 19 08 16.7
comp=E,292nm,0.4s
CHKK **Chushkaly** **3.23 353** *i* PN **Pn** **19 07 25.0 +2.7**
AML **Almayashu** **3.27 298** P **Pn** **19 07 24.7 +1.6**
SNR=21
AML **Almayashu** **3.27 298** ⇑*i*P **Pn** **19 07 23.1 0.0**
baz=2.0
AML ⇑*i*S **Sn** **19 08 04.0 +1.9**
baz=2.0
AML **Almayashu** **3.27 298** PN **Pb** **19 07 27.8 -2.1**
AML **Almayashu** **3.27 298** ⇑Pg **Pb** **19 07 27.8 -2.1**
comp=E,1.9nm,0.5s
AML ⇓Lg Lg 19 08 13.2
comp=E,30nm,0.8s
KUU **Kurty** **3.37 345** ⇑*i*Pn **Pn** **19 07 26.2 +2.0**
baz=343
KUU *e*Pb **Pb** **19 07 33.7 +2.3**
baz=343
KUU **Kurty** **3.37 345** *e*Pg **Pb** **19 07 31.5 +0.1**
comp=E,28nm,0.8s
KUU *e*Lg Lg 19 08 19.4
comp=E,172nm,0.5s
KUU **Kurty** **3.37 345** *c* iPN **Pn** **19 07 26.1 +2.0**
USP **Ospenovka** **3.48 320** P **Pb** **19 07 34.0 +0.8**
SNR=12
USP **Ospenovka** **3.48 320** ⇓*i*P **Pn** **19 07 27.0 +1.3**
baz=23
USP ⇓*i*S **Sn** **19 08 10.4 +3.7**
baz=23
EKS2 **Erkin-Say** **3.48 307** P **Pn** **19 07 28.3 +2.6**
SNR=28
EKS2 **Erkin-Say** **3.48 307** ⇓*i*P **Pn** **19 07 26.1 +0.3**
baz=10.0
EKS2 ⇓*i*S **Sn** **19 08 09.2 +2.3**
baz=10.0
ARSB **Arslanbob** **3.54 283** ⇑*e*P **Pn** **19 07 26.1 -0.5**
baz=86
ARSB ⇑*e*S **Sn** **19 08 08.5 +0.2**
baz=86
SGDS **Sogindy** **3.56 323** *e*Pb **Pb** **19 07 35.3 +0.7**
baz=323
SGDS **Sogindy** **3.56 323** *e*PN **Pb** **19 07 35.3 +0.7**
ARXS **Arharly** **3.57 3** *e*Pg **Pb** **19 07 36.7 +1.9**
comp=E,30nm,0.6s
ARXS *e*Lg Lg 19 08 27.6
comp=E,190nm,0.5s
OHH **Osh** **3.64 270** ⇑*e*P **Pn** **19 07 26.3 -1.7**
baz=73
OHH ⇑*i*S **Sn** **19 08 09.5 -1.4**
baz=73
MRKS **Merke** **3.87 304** *e*Pg **Pb** **19 07 40.1 +0.2**
comp=E,18nm,0.7s
MRKS *e*Lg Lg 19 08 33.1
comp=E,84nm,0.5s
DJR **Jarkent** **4.03 23** *e*Pg **Pb** **19 07 43.8 +1.0**
comp=E,5.7nm,0.4s
DJR *e*Lg Lg 19 08 40.1
comp=E,77nm,0.6s
ARK **Arkit** **4.38 287** ⇑*i*P **Pn** **19 07 37.8 -0.3**
baz=90
ARK ⇑*i*S **Sn** **19 08 29.2 +0.1**
baz=90
TDK **Taldyqorghan** **4.40 8** *e*Pg **Pg** **19 07 54.2 -1.9**
baz=5.0
TDK **Taldyqorghan** **4.40 8** *e*PN **Pg** **19 07 54.1 -1.9**

TRKS **Terek-Say** **4.94 282** ⇑*i*P **Pn** **19 07 44.6 -1.2**
baz=84
TRKS ⇑*i*S **Sn** **19 08 41.1 -1.8**
baz=84
BTLS **Baital** **5.10 331** *e*Pb **Pb** **19 08 03.9 +3.0**
baz=330
BTLS **Baital** **5.10 331** *e*Pg **Pb** **19 08 03.2 +2.4**
comp=E,6.8nm,0.6s
BTLS *e*Lg Lg 19 09 13.3
comp=E,37nm,0.8s
BTLS **Baital** **5.10 331** *e*PN **Pb** **19 08 03.8 +3.0**
DZA **Taraz** **5.17 298** *e*PN **Pn** **19 07 52.8 +3.9**
baz=300
DZA *e*Pb **Pb** **19 08 03.8 +1.7**
baz=300
DZA *e*Pg **Pg** **19 08 08.9 -2.0**
baz=300
DZA **Taraz** **5.17 298** *e*PN **Pn** **19 07 52.8 +3.9**
DZA *e* 19 08 08.9
BTK **Batken** **5.19 266** ⇓*i*P **Pn** **19 07 47.7 -1.5**
baz=68
BTK ⇓*i*S **Sn** **19 08 46.3 -2.7**
baz=68
KK31 **Karatay Array** **5.81 297** PN **Pb** **19 08 15.3 +2.3**
KK31 **Karatay Array** **5.81 297** Pg **Pb** **19 08 15.3 +2.3**
comp=E,2.9nm,0.7s,baz=128,slow=16,SNR=14
KK31 Lg Lg 19 09 32.5
comp=E,11nm,0.6s,baz=116,slow=25,SNR=9.2
KKAR **Karatay Array** **5.81 297** ⇓*i*P **Pn** **19 07 58.0 +0.3**
baz=0.0
KKAR ⇓*i*S **Sn** **19 09 04.0 -0.2**
baz=0.0
MK31 **Makanchi Array** **7.03 28** *d i*PN **Pn** **19 08 15.0 +0.5**
MK31 **Makanchi Array** **7.03 28** ⇓Pn **Pn** **19 08 14.7 +0.3**
comp=E,0.4nm,0.3s,baz=206,slow=13,SNR=41
MK31 ⇑Lg Lg 19 10 13.4
comp=E,4.1nm,0.5s
MKAR **Makanchi Array** **7.03 28** Pn **Pn** **19 08 14.9 +0.5**
comp=E,0.4nm,0.3s,baz=200,slow=15,SNR=22
MKAR Sn **Sn** **19 09 36.5 +2.2**
comp=E,0.3nm,0.3s,baz=210,slow=25,SNR=4.1
MKAR Lg Lg 19 10 14.9
comp=E,0.5nm,0.3s,baz=210,slow=27,SNR=4.2
MKAR LR LR 19 10 53.4
comp=E,22nm,18.5s,baz=308,slow=37
comp=E,0.7nm,0.5s
WMQ **Urumqi** **8.16 64** ePn **Pn** **19 08 29.5 -0.4**
WMQ Sn **Sn** **19 10 03.3 +1.3**
WMQ smax smax
comp=N,10.0nm,0.7s
WMQ smax smax
comp=E,16nm,0.5s
ZSN **Zaisan** **8.59 35** *e*Pn **Pn** **19 08 35.5 -0.4**
baz=33
ZSN **Zaisan** **8.59 35** *e*P **Pn** **19 08 35.4 -0.4**
KURBB **Kurchatov Arra** **10.00 4** Pn **Pn** **19 08 53.6 -1.5**
baz=190,slow=12,SNR=10
KURBB Lg Lg 19 11 49.6
comp=E,0.1nm,0.3s,baz=185,slow=32,SNR=9.5
comp=E,0.4nm,0.5s
KURBB **Kurchatov Arra** **10.00 4** ⇑Lg Lg 19 11 48.7
comp=E,15nm,0.8s
KURK **Kurchatov** **10.10 4** ⇑*e*P **Pn** **19 08 58.1 +1.7**
DGZ **Jazzator, Alta** **11.41 34** ⇑*e*P **Pn** **19 09 15.1 +0.5**
DANN **Dangsing** **13.28 156** *e*P Pn 19 09 29.2 -11
PYUN **Piuthan** **13.29 159** *e*P Pn 19 09 28.8 -12
BVAR **Borovoye Array** **13.31 341** Pn **Pn** **19 09 40.7 +0.3**
baz=119,slow=8.4,SNR=2.7
BVAR Lg Lg 19 13 27.1
baz=150,slow=27,SNR=5.5
BRVK **Borovoye** **13.37 341** ⇑*e*P **P** **19 09 47.4 -3.3**
GKN **Gorkha** **13.89 153** *e*P Pn 19 09 37.7 -11
comp=E,7.6nm,0.3s
ZALV **Zalesovo Beam** **14.18 18** *e*P **Pn** **19 09 54.9 +2.8**
ZALV **Zalesovo Beam** **14.18 18** Pn **Pn** **19 09 51.6 -0.6**
comp=E,0.1nm,0.3s,baz=197,slow=14,SNR=3.6
ZALV Lg Lg 19 14 01.5
comp=E,0.1nm,0.3s,baz=198,slow=23,SNR=2.8
comp=E,0.6nm,0.6s
GUN **Gumba** **14.43 149** *e*P Pn 19 09 44.7 -11
comp=E,7.0nm,0.4s
PKI **Pulchoki** **14.56 151** *e*P Pn 19 09 45.5 -12
JIRN **Jiri** **14.78 149** *e*P Pn 19 09 48.1 -13
comp=E,6.9nm,0.4s
AB31 **Akbulak array** **15.13 311** P **Pn** **19 10 02.8 -2.3**
AB31 **Akbulak array** **15.13 311** P **Pn** **19 10 02.8 -2.3**
comp=E,0.5nm,0.7s,baz=138,slow=12,SNR=4.3
AKTO **Aktyubinsk** **16.79 312** P **Pn** **19 10 26.4 -0.1**
comp=E,0.2nm,0.3s,baz=132,slow=11,SNR=3.8
comp=E,1.1nm,0.5s
ARU **Arti** **20.08 328** *i* P Pn 19 11 07.4 +0.8
ARU pmax pmax
comp=Z,3.0nm,1.1s
SONM **Songino Array** **21.78 61** P **P** **19 11 19.6 -3.8**
comp=Z,0.2nm,0.8s,baz=257,slow=13,SNR=2.4
comp=Z,0.2nm,0.8s
ULN **Ulaanbaatar** **22.22 61** ⇓*i*P **P** **19 11 28.9 +0.7**
ULN pmax pmax
comp=Z,6.0nm,1.7s
KBZ **Khabaz** **25.76 288** *i* P **P** **19 12 05.4 +3.3**
KBZ pmax pmax
comp=Z,2.0nm,1.4s
KIV **Kislovodsk** **25.89 289** *e*P **P** **19 12 07.4 +4.0**
KIV *e*PPP PPP 19 12 52.3
KIV pmax pmax
comp=Z,2.0nm,0.8s
OBN **Obninsk** **30.57 312** *e*P **P** **19 12 48.6 +3.7**
OBN *e* 19 13 47.7
OBN pmax pmax
comp=Z,3.0nm,1.0s
HIA **Hailar** **30.72 59** *i* P **P** **19 12 46.5 +0.1**
HIA pmax pmax
comp=Z,3.0nm,0.9s
FINES **FINESS Array B** **37.18 322** P **P** **19 13 40.4 -1.9**
comp=Z,2.7nm,1.0s,baz=92,slow=11,SNR=1.7
comp=Z,2.7nm,1.0s
KMBO **Kilima Mbogo** **55.43 232** *i* P **P** **19 16 08.3 +1.9**
TORD **Torodi Ar. Bea** **70.88 271** P P 19 17 43.3 -5.5
comp=Z,0.8nm,0.6s,baz=44,slow=5.7,SNR=8.1
comp=Z,0.8nm,0.6s
YKA **Yellowknife Ar** **76.74 6** P **P** **19 18 19.1 -3.3**
comp=Z,0.3nm,0.8s,baz=342,slow=5.4,SNR=5.1
comp=Z,0.3nm,0.8s

*GII **30** 19:12:47.6±0.0,37.°11N×28.°65E,h5km,Mm3.6/10*
*ISK **30** 19:12:49.4,37.°11N×28.°65E,h5km,ML3.7/35*
*IDC **30** 19:12:49.8±0.9,37.°01N×28.°78E,h0km,mb3.8/11, mbtmp3.8/17,ML4.0/5,MS3.2/6,Error ellipse: s-maj=18.2km s-min=15.4km az=169.0*
*THE **30** 19:12:49.8,37.°06N×28.°64E,h0km,ML3.7/6,Error ellipse: s-maj=1.0km s-min=0.7km az=49.0*
*AFAD **30** 19:12:50.3±0.0,37.°13N×28.°66E,h7km±2km,MW3.9*
*ATH **30** 19:12:51.6±0.7,37.°08N×28.°63E,h13km±6km,ML3.7/7, Manual Solution by N.Liadopoulou This location: 2019/12/22 07:38:05 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*

ISC 30 19:12:50.3±1.0,37.°11N±0.02×28.°64E±0.01,h6km±7km, n170,σ1ᵍ45/236,mb3.9/11,7C-2D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
YER	**Yerkesik**	**0.29**	**276**			Pg	**Pg**	**19 12 56.4**	**+0.5**
YER						Sg	**Sb**	**19 13 01.6**	**-1.4**
YER	**Yerkesik**	**0.29**	**276**			P	**Pg**	**19 12 56.2**	**+0.3**
YER						S	**Sb**	**19 13 01.5**	**-1.4**
DALY	**Dalyan (Mula)**	**0.29**	**178**			Pg	**Pg**	**19 12 56.3**	**+0.4**
DALY						Sg	**Sb**	**19 13 01.8**	**-1.2**
MULA	**Mugla, Merkez-**	**0.29**	**300**			P	**Pb**	**19 12 56.7**	**-1.3**
MULA						S	**Sg**	**19 13 01.1**	**+1.1**
TAVA	**DENIZLI_Tavas**	**0.42**	**31**			P	**Pg**	**19 12 58.3**	**-0.2**
TAVA						S	**Sg**	**19 13 03.1**	**-0.9**
TURN	**Turunc**	**0.46**	**224**			Pg	**Pg**	**19 12 59.0**	**-0.1**
TURN						Sg	**Sb**	**19 13 07.4**	**-0.4**
TURN	**Turunc**	**0.46**	**224**			P	**Pg**	**19 12 59.0**	**-0.1**
TURN						S	**Sb**	**19 13 06.4**	**-1.4**
CAEL	**Denizli, Camel**	**0.54**	**88**			S	**Sg**	**19 13 07.3**	**-0.6**
FETI	**Fethiye-Mugla**	**0.55**	**139**			Pg	**Pb**	**19 13 01.3**	**-1.1**
FETI						Sg	**Sb**	**19 13 10.3**	**-0.3**
CAME	**Cameli-Denizli**	**0.56**	**107**			Pg	**Pb**	**19 13 01.2**	**-1.3**
CAME						Sg	**Sb**	**19 13 09.8**	**-1.0**
FETY	**Fethiye**	**0.59**	**143**			Pg	**Pg**	**19 13 01.8**	**+0.2**
FETY						Sg	**Sb**	**19 13 11.6**	**-0.1**
FETY	**Fethiye**	**0.59**	**143**			P	**Pb**	**19 13 03.5**	**+0.4**
DNIZ	**Denizli-Tavas-**	**0.61**	**31**			P	**Pg**	**19 13 01.5**	**-0.5**
DNIZ						S	**Sg**	**19 13 09.5**	**-0.4**
APMY	**Acipayam-Deniz**	**0.64**	**55**			Pg	**Pg**	**19 13 02.3**	**-0.3**
APMY						Sg	**Sb**	**19 13 12.9**	**-0.3**
MLSB	**Milas**	**0.71**	**286**			Pg	**Pb**	**19 13 04.4**	**-0.8**
RFTAA	**Mazikoy-Bodrum**	**0.72**	**262**			Pg	**Pb**	**19 13 04.7**	**-0.6**
ESEN	**Aydn-Nazilli**	**0.73**	**342**			P	**Pg**	**19 13 04.2**	**-0.1**
GOLH	**Golhisar**	**0.75**	**80**			P	**Pg**	**19 13 04.4**	**-0.3**
GOLH						S	**Sg**	**19 13 13.0**	**-1.4**
KNIK	**Mula-Seydike**	**0.79**	**109**			P	**Pb**	**19 13 05.7**	**-0.8**
IZZE	**Mula-Seydike**	**0.82**	**145**			P	**Pb**	**19 13 05.8**	**-0.2**
IZZE						S	**Sg**	**19 13 16.0**	**-0.6**
DATC	**Datca-Mugla**	**0.86**	**246**			Pg	**Pb**	**19 13 07.7**	**+0.1**
DAT	**Datca**	**0.93**	**246**			Pg	**Pg**	**19 13 08.2**	**0.0**
DAT	**Datca**	**0.93**	**246**			P	**Pb**	**19 13 08.9**	**0.0**
DAT						S	**Sn**	**19 13 22.9**	**-0.8**
DAT	**Datca**	**0.93**	**246**			P	**Pg**	**19 13 07.3**	**-0.9**
DAT						S	**Sb**	**19 13 22.0**	**+0.4**
BDRM	**Kayabasi**	**0.96**	**268**			P	**Pn**	**19 13 09.6**	**-0.7**
BDRM						S	**Sb**	**19 13 22.7**	**+0.4**
INCE	**Denizli-Bozkur**	**0.96**	**51**			P	**Pg**	**19 13 07.9**	**-0.8**
INCE						S	**Sg**	**19 13 20.9**	**-0.2**
ARG	**Arkhangelos**	**0.98**	**205**			Pg	**Pb**	**19 13 09.6**	**-0.1**
ARG	**Arkhangelos**	**0.98**	**205**			P	**Pg**	**19 13 07.6**	**-1.5**
ARG						S	**Sb**	**19 13 23.3**	**+0.4**
	3µm,0.9s								
ARG	**Arkhangelos**	**0.98**	**205**			P	**Pb**	**19 13 09.1**	**-0.6**
ARG						S	**Sb**	**19 13 23.3**	**+0.4**
YAZI	**Mula-Dat§a-**	**1.04**	**246**			P	**Pg**	**19 13 11.0**	**-0.4**
BODT	**Bodrum**	**1.06**	**268**			Pg	**Pn**	**19 13 11.3**	**-0.5**
BODT	**Bodrum**	**1.06**	**268**			P	**Pg**	**19 13 10.2**	**-0.5**
BODT						S	**Sn**	**19 13 26.4**	**-0.5**
ELL	**Elmali**	**1.08**	**109**			Pg	**Pn**	**19 13 11.3**	**-0.8**
YKAV	**Yalikavak-Bodr**	**1.09**	**271**			Pn	**Pb**	**19 13 11.3**	**-0.2**
KIRA	**zmir-Kiraz**	**1.10**	**350**			P	**Pg**	**19 13 11.2**	**-0.3**
KIRA						S	**Sb**	**19 13 26.0**	**-0.6**
RFTB	**Kemer-Bodrum**	**1.10**	**263**			Pn	**Pg**	**19 13 11.3**	**-0.2**
DIDI	**Didim-Aydin**	**1.15**	**284**			Pn	**Pn**	**19 13 12.5**	**-0.4**
IZMR	**zmir-demi**	**1.16**	**332**			P	**Pg**	**19 13 12.1**	**-0.5**
IZMR						P	**Pg**	**19 13 12.1**	**-0.5**
IZMR						S	**Sg**	**19 13 27.4**	**-0.3**
IZMR						S	**Sb**	**19 13 27.6**	**-0.6**
DDIM	**Aydin, Didim**	**1.17**	**288**			P	**Pn**	**19 13 13.2**	**0.0**
DDIM						S	**Sn**	**19 13 29.5**	**+0.1**
KSL	**Kastellorizon**	**1.22**	**141**			P	**Pg**	**19 13 11.3**	**-2.4**
KSL						S	**Sb**	**19 13 29.4**	**-0.4**
	3µm,0.9s								
KSL	**Kastellorizon**	**1.22**	**141**			P	**Pn**	**19 13 14.1**	**+0.2**
KSL						S	**Sn**	**19 13 30.2**	**-0.5**
GCAM	**G?zelcaml?**	**1.27**	**298**			Pn	**Pb**	**19 13 15.3**	**+0.7**
GCAM	**G?zelcaml?**	**1.27**	**298**			P	**Pb**	**19 13 14.9**	**+0.4**
GCAM						S	**Sn**	**19 13 32.6**	**+0.7**
BRDR	**BURDUR-Merkez**	**1.28**	**62**			P	**Pn**	**19 13 15.3**	**+0.5**
BRDR						S	**Sn**	**19 13 32.9**	**+0.6**
NISR	**Nisiros**	**1.31**	**248**			P	**Pn**	**19 13 13.1**	**-2.0**
NISR						S	**Sb**	**19 13 32.2**	**-0.1**
	3µm,1.1s								
NISR	**Nisiros**	**1.31**	**248**			P	**Pg**	**19 13 15.1**	**-0.3**
NISR						S	**Sn**	**19 13 32.8**	**-0.1**
DEMR	**Demre-Antalya**	**1.34**	**130**			Pn	**Pg**	**19 13 16.3**	**+0.4**
KLNA	**Kalymnos**	**1.34**	**264**			P	**Pb**	**19 13 15.4**	**-0.3**
KORT	**Korkueli**	**1.37**	**94**			Pn	**Pg**	**19 13 17.1**	**+0.5**
KORT	**Korkueli**	**1.37**	**94**			P	**Pg**	**19 13 17.4**	**+0.8**
KORT						S	**Sn**	**19 13 36.3**	**+1.6**
MANT	**Manisa**	**1.38**	**357**			P	**Pn**	**19 13 16.0**	**-0.4**
MANT						S	**Sg**	**19 13 32.1**	**-2.7**
BASM	**Basmaki-Afyon**	**1.38**	**54**			Pn	**Pg**	**19 13 16.7**	**-0.1**
KHL	**Karahalli**	**1.40**	**30**			Pn	**Pg**	**19 13 17.5**	**+0.3**
KULA	**Kula-Manisa**	**1.41**	**1**			Pn	**Pb**	**19 13 16.5**	**-0.5**
KULA	**Kula-Manisa**	**1.41**	**1**			P	**Pn**	**19 13 15.4**	**-1.2**
KULA						S	**Sn**	**19 13 36.8**	**+1.3**
PASA	**Karahalli, USA**	**1.41**	**28**			P	**Pn**	**19 13 15.4**	**-1.2**
PASA						S	**Sb**	**19 13 32.8**	**-2.6**
BUCA	**Burdur, Bucak-**	**1.55**	**81**			P	**Pg**	**19 13 19.4**	**-0.6**
BUCA						S	**Sg**	**19 13 41.5**	**+1.5**
SMG	**Samos**	**1.56**	**293**			P	**Pn**	**19 13 18.4**	**-0.1**
SMG						S	**Sn**	**19 13 38.5**	**-0.6**
	1µm,0.6s								
SMG	**Samos**	**1.56**	**293**			P	**Pn**	**19 13 18.4**	**-0.1**
SMG						S	**Sb**	**19 13 39.1**	**-0.3**
AKUM	**Antalya-Kumluc**	**1.58**	**119**			P	**Pg**	**19 13 20.9**	**+0.3**
AKUM						S	**Sg**	**19 13 44.1**	**+3.2**
BCK	**Bucak**	**1.59**	**77**			Pn	**Pg**	**19 13 20.2**	**-0.7**
KEMT	**Kemer-ANTALYA**	**1.62**	**108**			Pn	**Pb**	**19 13 20.1**	**-0.4**
ANTB	**Antalya**	**1.63**	**97**			Pn	**Pg**	**19 13 20.7**	**-0.7**
USAK	**Uak-Merkez**	**1.63**	**10**			P	**Pb**	**19 13 20.0**	**-0.8**
USAK						S	**Sn**	**19 13 38.4**	**-2.6**
KZIL	**AFYON_Kizioren**	**1.66**	**46**			P	**Pb**	**19 13 20.8**	**-0.5**
KZIL						S	**Sg**	**19 13 43.8**	**+0.3**
ISP	**Isparta**	**1.66**	**64**			Pn	**Pb**	**19 13 20.9**	**-0.4**
ISP	**Isparta**	**1.66**	**64**			Pn	**Pn**	**19 13 18.4**	**-1.7**
ISP	**Isparta**	**1.66**	**64**			P	**Pn**	**19 13 20.1**	**0.0**
GMLD	**Gumuldur**	**1.68**	**306**			Pn	**Pb**	**19 13 21.5**	**-0.1**
DGB	**zmir**	**1.69**	**305**			P	**Pn**	**19 13 19.7**	**-0.6**
DGB						S	**Sn**	**19 13 42.0**	**-0.2**
GOMA	**Golmarmara-Man**	**1.70**	**341**			Pn	**Pb**	**19 13 21.4**	**-0.5**
AKHS	**Akhisar**	**1.89**	**340**			P	**Pb**	**19 13 23.8**	**-1.4**
AKS	**Akhisar**	**1.89**	**340**			Pn	**Pb**	**19 13 24.0**	**-1.2**
DEMI	**Demirci**	**1.93**	**2**			P	**Pn**	**19 13 23.9**	**0.0**
DEMI						S	**Sn**	**19 13 46.3**	**-2.2**
KARP	**Karpathos**	**1.96**	**218**			Pn	**Pb**	**19 13 25.2**	**-1.2**
KARP	**Karpathos**	**1.96**	**218**			P	**Pn**	**19 13 22.5**	**-1.6**
KARP						S	**Sn**	**19 13 47.9**	**-1.2**
	1µm,0.7s								
KARP	**Karpathos**	**1.96**	**218**			P	**Pg**	**19 13 27.0**	**-0.9**
KARP	**Karpathos**	**1.96**	**218**			P	**Pn**	**19 13 24.6**	**+0.4**
KARP						S	**Sn**	**19 13 48.3**	**-0.8**
SIMA	**Simav-Kutahya**	**1.99**	**8**			Pn	**Pn**	**19 13 25.2**	**+0.6**
GEDZ	**Gediz**	**2.03**	**17**			Pn	**Pb**	**19 13 26.5**	**-1.1**
ZEYE	**Izmir, Urla-Ze**	**2.04**	**304**			P	**Pn**	**19 13 25.1**	**-0.1**
ZEYE						S	**Sn**	**19 13 50.6**	**-0.3**
GDZ	**Gediz**	**2.09**	**18**			P	**Pn**	**19 13 22.9**	**-3.1**
FOCM	**Foa**	**2.20**	**317**			Pn	**Pb**	**19 13 28.7**	**-1.8**
ZEDA	**zmir-Bergama**	**2.23**	**327**			P	**Pn**	**19 13 27.9**	**+0.2**
ZEDA						S	**Sn**	**19 13 52.3**	**-3.3**
RFT7	**Candarli**	**2.29**	**324**			Pn	**Pb**	**19 13 30.2**	**-1.9**
KARB	**zmir-Karabur**	**2.35**	**312**			P	**Pn**	**19 13 29.9**	**+0.5**
STEP	**BALIKESIR_Sava**	**2.38**	**343**			P	**Pn**	**19 13 30.9**	**+1.0**
DKL	**Dikili**	**2.39**	**326**			Pn	**Pb**	**19 13 31.7**	**-2.0**
APE	**Apeiranthos**	**2.49**	**270**			Pn	**Pn**	**19 13 32.6**	**+1.2**
APE	**Apeiranthos**	**2.49**	**270**			Pn	**Pn**	**19 13 28.3**	**-3.1**
APE	**Apeiranthos**	**2.49**	**270**			P	**Pn**	**19 13 31.4**	**0.0**
APE						S	**Sn**	**19 14 02.6**	**+0.5**
DURS	**Dursunbey**	**2.49**	**357**			P	**Pn**	**19 13 32.1**	**+0.5**
EAG3	**Mitilini, Lesv**	**2.56**	**321**			P	**Pn**	**19 13 33.3**	**+0.9**
AYVA	**Ayvalik**	**2.68**	**326**			P	**Pn**	**19 13 35.9**	**+1.9**
BUHA	**Balikesir, Bur**	**2.69**	**333**			P	**Pn**	**19 13 34.3**	**+0.2**
SNTS	**Nea Kammeni, S**	**2.70**	**256**			P	**Pn**	**19 13 34.5**	**+0.2**
BALY	**Balya**	**2.75**	**343**			P	**Pn**	**19 13 35.8**	**+0.8**
ZKR	**Zakros**	**2.79**	**225**			P	**Pn**	**19 13 36.4**	**+0.8**
PRK	**Paraskevi**	**2.84**	**320**			P	**Pn**	**19 13 35.8**	**-0.3**
PRK						S	**Sn**	**19 14 11.6**	**+1.0**
	775nm,0.7s								
PRK	**Paraskevi**	**2.84**	**320**			P	**Pn**	**19 13 36.7**	**+0.6**
SIGR	**SIGRI**	**3.04**	**315**			P	**Pn**	**19 13 39.2**	**+0.3**
SIGR	**SIGRI**	**3.04**	**315**			P	**Pn**	**19 13 39.9**	**+1.0**
KOCA	**Canakkale, Ayv**	**3.10**	**321**			P	**Pn**	**19 13 40.0**	**+0.3**
FRMA	**Ierapetra Chan**	**3.15**	**229**			P	**Pn**	**19 13 40.2**	**-0.2**
ANTO	**Ankara**	**4.27**	**48**			⇑P	**Pn**	**19 13 58.5**	**+2.6**
CSS	**Mathiatis**	**4

NATI	**Neve Ativ**	**6.96**	**121**	Pn	**Pn**	19 14 31.2	-1.6
NATI				Sn	**Sn**	19 15 50.3	-2.0
NATI	**Neve Ativ**	**6.96**	**121**	P	**Pn**	19 14 32.2	-0.6
SLTI	**Sal'it**	**7.17**	**131**	P	**Pn**	19 14 36.5	+0.9
KSHT	**Keshet**	**7.18**	**123**	Pn	**Pn**	19 14 33.5	-2.4
KSHT				Sn	**Sn**	19 15 55.9	-1.9
MMLI	**Mount Malkishu**	**7.27**	**128**	Pn	**Pn**	19 14 34.9	-2.2
MMLI				Sn	**Sn**	19 15 57.6	-2.3
SHMJ	**Saham**	**7.30**	**125**	P	**Pn**	19 14 38.4	+0.9
TIRR	**Tirgusor**	**7.35**	**359**	⇓P	**Pn**	19 14 40.9	+2.8
SALP	**Salfit**	**7.38**	**131**	Pn	**Pn**	19 14 36.4	-2.2
SALP				Sn	**Sn**	19 16 00.2	-2.4
QRNJ	**Al-Qirein**	**7.43**	**128**	P	**Pn**	19 14 40.9	+1.6
HMDT	**Nahal Hemdat**	**7.46**	**128**	P	**Pn**	19 14 40.7	+1.1
AMAZ	**Amatzia**	**7.61**	**135**	P	**Pn**	19 14 42.7	+1.0
UJAP	**Al Uja**	**7.62**	**130**	Pn	**Pn**	19 14 39.5	-2.4
KZIT	**Kziot**	**7.81**	**141**	Pn	**Pn**	19 14 41.7	-2.9
KZIT				Sn	**Sn**	19 16 10.8	-2.6
KZIT	**Kziot**	**7.81**	**141**	P	**Pn**	19 14 44.8	+0.2
DSI	**Dead Sea**	**7.84**	**133**	Pn	**Pn**	19 14 41.8	-3.2
DSI				Sn	**Sn**	19 16 11.8	-2.3
DSI	**Dead Sea**	**7.84**	**133**	P	**Pn**	19 14 46.6	+1.6
YTIR	**Yattir**	**7.84**	**135**	Pn	**Pn**	19 14 42.1	-3.0
YTIR				Sn	**Sn**	19 16 12.2	-2.0
YTIR	**Yattir**	**7.84**	**135**	P	**Pn**	19 14 46.4	+1.3
MSBI	**Mazada**	**8.02**	**134**	Pn	**Pn**	19 14 45.5	-1.8
MSBI				Sn	**Sn**	19 16 16.4	-2.0
LISJ	**El Lisan**	**8.14**	**134**	P	**Pn**	19 14 50.1	+1.1
GHAJ	**Ghor Haditha**	**8.15**	**133**	P	**Pn**	19 14 51.0	+1.9
KARJ	**KARJ**	**8.33**	**134**	P	Pn	19 14 42.0	-10
BOVS	**Bovan**	**8.39**	**323**	⇑P	**Pn**	19 14 54.3	+1.8
ASF	**Jabal al Asfar**	**8.40**	**123**	P	**Pn**	19 14 53.9	+1.3
PRNI	**Paran**	**8.57**	**140**	Pn	**Pn**	19 14 53.4	-1.5
PRNI				Sn	**Sn**	19 16 29.6	-2.4
PRNI	**Paran**	**8.57**	**140**	P	**Pn**	19 14 55.8	+0.9
MLR	**Muntele Rosu**	**8.62**	**347**	⇑P	**Pn**	19 14 57.9	+2.3
MLR	**Muntele Rosu**	**8.62**	**347**	Pn	**Pn**	19 14 58.4	+2.8
	0.3nm,0.3s,baz=325,slow=19,SNR=7.3 4.2nm,0.8s						
KRMI	**Paran Flat**	**8.62**	**142**	Pn	**Pn**	19 14 53.5	-2.1
HRFI	**Mount Harif**	**8.84**	**141**	Pn	**Pn**	19 14 56.5	-2.2
HRFI				Sn	**Sn**	19 16 36.8	-1.9
VRI	**Vrincioaia**	**8.87**	**351**	⇑P	**Pn**	19 15 00.8	+1.8
MBRI	**Mt Berech**	**8.98**	**143**	Pn	**Pn**	19 14 58.9	-1.7
MBRI				Sn	**Sn**	19 16 39.9	-2.2
MBRI	**Mt Berech**	**8.98**	**143**	P	**Pn**	19 14 02.3	+1.7
EIL	**Elat**	**9.10**	**143**	Pn	**Pn**	19 15 00.6	-1.6
EIL				Sn	**Sn**	19 16 42.2	-2.8
EIL	**Elat**	**9.10**	**143**	P	**Pn**	19 15 03.0	+0.8
EIL	**Elat**	**9.10**	**143**	Pn	**Pn**	19 15 01.2	-0.9
	2.6nm,0.3s,baz=297,slow=6.8,SNR=25						
EIL				S	**Sn**	19 16 40.2	-4.7
	1.0nm,0.3s,baz=335,slow=15,SNR=3.8 6.6nm,0.5s						
TURR	**Turia**	**9.15**	**348**	⇓P	**Pn**	19 15 06.2	+3.3
BOSR	**Bodos**	**9.23**	**347**	⇑P	**Pn**	19 15 03.9	-0.1
MILM	**Milestii Mici**	**9.80**	**1**	*eP*	**Pn**	19 15 14.5	+2.7
	23nm,0.6s						
BZS	**Buzias**	**10.00**	**330**	⇑P	**Pn**	19 15 11.5	-3.0
BURAR	**Bucovina Array**	**10.80**	**348**	⇑P	**Pn**	19 15 28.6	+3.1
KBZ	**Khabaz**	**12.71**	**54**	Pn	**Pn**	19 15 53.5	+1.9
	0.7nm,0.8s,baz=270,slow=14,SNR=1.8						
KBZ				LR	LR	19 22 25.7	
	comp=Z,62nm,18.1s,baz=296,slow=45						
GERES	**GERESS Array B**	**16.00**	**322**	Pn	**P**	19 16 40.7	+1.2
	0.3nm,0.3s,baz=138,slow=12,SNR=2.9						
GERES				LR	LR	19 23 00.8	
	comp=Z,105nm,21.0s,baz=250,slow=38 0.9nm,0.7s						
DAVOX	**Davos/Dischmat**	**16.94**	**311**	LR	LR	19 23 06.9	
	comp=Z,131nm,19.6s,baz=71,slow=36						
FINES	**FINESS Array B**	**24.41**	**357**	P	**P**	19 18 10.8	+1.5
	4.1nm,0.7s,baz=161,slow=12,SNR=10 4.1nm,0.7s						
AKTO	**Aktyubinsk**	**24.86**	**48**	P	**P**	19 18 13.3	-0.2
	1.7nm,0.5s,baz=259,slow=7.7,SNR=6.8 1.7nm,0.5s						
HFS	**Hagfors**	**24.95**	**342**	LR	LR	19 29 14.2	
	comp=Z,140nm,18.2s,baz=190,slow=39						
ESDC	**Sonseca Array**	**25.61**	**286**	P	**P**	19 18 22.5	+2.1
	0.5nm,0.7s,baz=80,slow=9.8,SNR=4.2 0.5nm,0.7s						
ARCES	**ARCESS Array B**	**32.53**	**358**	P	**P**	19 19 22.7	+1.0
	2.9nm,0.8s,baz=173,slow=8.2,SNR=2.3 2.9nm,0.8s						
BVAR	**Borovoye Array**	**32.96**	**48**	LR	LR	19 36 08.6	
	comp=Z,59nm,19.1s,baz=293,slow=42						
TORD	**Torodi Ar. Bea**	**33.90**	**232**	P	**P**	19 19 33.9	-0.2
	1.5nm,0.4s,baz=35,slow=9.3,SNR=25 1.5nm,0.4s						
KURBB	**Kurchatov Arra**	**37.71**	**53**	P	**P**	19 20 06.9	+0.5
	1.0nm,0.6s,baz=276,slow=8.8,SNR=14						
KURBB				PcP	**PcP**	19 22 23.8	+0.3
	0.2nm,0.5s,baz=261,slow=3.3,SNR=4.0 1.0nm,0.6s						
MKAR	**Makanchi Array**	**40.35**	**59**	P	**P**	19 20 28.6	-0.1
	0.4nm,0.5s,baz=270,slow=8.4,SNR=6.8						
MKAR				PcP	**PcP**	19 22 31.9	0.0
	0.3nm,0.7s,baz=280,slow=1.5,SNR=3.0 0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**41.62**	**48**	P	**P**	19 20 38.2	-0.8
	0.7nm,0.5s,baz=271,slow=8.5,SNR=4.4 0.7nm,0.5s						
SONM	**Songino Array**	**56.07**	**53**	P	**P**	19 22 30.7	+0.5
	0.3nm,0.6s,baz=309,slow=9.1,SNR=2.5 0.3nm,0.6s						
KSRS	**Korea Array**	**74.86**	**54**	P	**P**	19 24 31.3	-0.5
	0.7nm,0.6s,baz=290,slow=4.1,SNR=2.6 0.7nm,0.6s						
MJAR	**Matsushiro Arr**	**81.92**	**50**	P	**P**	19 25 11.8	+0.8
	0.6nm,0.6s,baz=320,slow=2.5,SNR=5.4 0.6nm,0.6s						

IDC 30 19:16:19.6±6.4, 27.18N×65.41E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=197.0km s-min=32.3km az=141.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**23.68**	**30**	P	P	19 21 32.8	-0.1
	0.8nm,0.8s,baz=209,slow=8.8,SNR=5.4 0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**25.47**	**20**	P	P	19 21 50.0	+0.9
	0.4nm,0.8s,baz=215,slow=8.1,SNR=4.3 0.4nm,0.8s						
BVAR	**Borovoye Array**	**26.09**	**7**	P	P	19 21 54.4	-0.4
	0.6nm,0.6s,baz=166,slow=8.9,SNR=2.5 0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**30.34**	**23**	P	P	19 22 32.2	-0.5
	0.2nm,0.3s,baz=220,slow=11,SNR=2.6 0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**60.86**	**270**	P	P	19 26 34.3	0.0
	0.3nm,0.5s,baz=60,slow=8.5,SNR=1.8 0.3nm,0.5s						

*IDC **30** 19:20:51.0±2.0, 30.19N×138.73E, h405km±42km, mb2.7/5, mbtmp3.5/7, Error ellipse: s-maj=106.0km s-min=15.1km az=73.0.*

ISC 30 19:20:50.5±0.9, 30.1N±0.1×138.7E±0.2, h400km, n7, σ1s10/8, mb2.9/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.26**	**133**	P	**Pn**	19 22 04.9	-0.3
	84nm,0.9s,baz=182,slow=23,SNR=1.4						
JCJ				S	**S**	19 23 05.1	-0.6
	21nm,0.3s,baz=285,slow=23,SNR=6.2						
MJAR	**Matsushiro Arr**	**6.46**	**356**	P	**Pn**	19 22 29.3	+1.3
	0.7nm,0.7s,baz=183,slow=6.8,SNR=4.0						
KURBB	**Kurchatov Arra**	**48.78**	**313**	P	**P**	19 28 56.0	-0.8
	0.1nm,0.4s,baz=90,slow=7.9,SNR=5.5 0.1nm,0.4s						
WRA	**Warramunga Arr**	**49.91**	**185**	P	**P**	19 29 06.5	+1.0
	0.3nm,0.5s,baz=3.1,slow=7.8,SNR=9.6 0.3nm,0.5s						
ASAR	**Alice Springs**	**53.64**	**185**	P	**P**	19 29 33.7	+1.0
	0.2nm,0.6s,baz=358,slow=6.0,SNR=10 0.2nm,0.6s						
BVAR	**Borovoye Array**	**53.79**	**316**	P	**P**	19 29 32.8	-0.6
	0.4nm,0.5s,baz=54,slow=7.4,SNR=2.5 0.4nm,0.5s						
FINES	**FINESS Array B**	**73.92**	**333**	P	**P**	19 31 41.7	-1.1
	1.4nm,1.0s,baz=34,slow=5.2,SNR=1.2 1.4nm,1.0s						

*IDC **30** 19:25:46.0±1.2, 4.02N×126.58E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=126.7km s-min=17.2km az=67.0*

*DJA **30** 19:25:49.6±1.4, 4.7N±11.2×12.7E±.7, h15km±4km, M4.0/12, mb4.0/7, MLv4.0/12*

ISC 30 19:25:51.2±0.9, 4.17N±0.10×126.83E±0.08, h35km, n15, σ0s92/17, mb3.7/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.38**	**250**	P	**Pn**	19 26 13.6	-0.4
SGSI				S	**Sn**	19 26 30.7	-0.3
TNTI	**Ternate**	**3.41**	**171**	P	**Pn**	19 26 41.9	-0.1
LBMI	**Labuha**	**4.82**	**172**	P	**Pn**	19 27 02.4	+1.1
GTOI	**Gorontalo**	**5.18**	**228**	P	**Pn**	19 27 06.5	+0.2
	7.5nm,1.2s,0.0nm						
MRSI	**Marisa**	**6.10**	**233**	P	**Pn**	19 27 20.3	+1.3
	28nm,0.5s,0.1nm						
SANI	**Sanana**	**6.23**	**188**	P	**Pn**	19 27 20.4	-0.3
	4.9nm,0.8s,0.1nm						
LUWI	**Luwuk**	**6.57**	**218**	P	**Pn**	19 27 27.0	+1.6
	35nm,0.9s,0.1nm						
SWI	**Sorong**	**6.67**	**138**	P	**Pn**	19 27 28.1	+1.3
	8.1nm,1.2s,0.1nm						
WRA	**Warramunga Arr**	**25.07**	**163**	P	**P**	19 31 11.5	-1.0
	2.1nm,0.6s,baz=342,slow=10,SNR=26 2.1nm,0.6s						
ASAR	**Alice Springs**	**28.51**	**166**	P	**P**	19 31 42.6	-1.0
	0.1nm,0.4s,baz=340,slow=6.8,SNR=6.6 0.1nm,0.4s						
STKA	**Stephens Creek**	**38.50**	**160**	P	**P**	19 33 09.9	-0.3
	2.3nm,0.8s,baz=322,slow=11,SNR=3.7 2.3nm,0.8s						
SONM	**Songino Array**	**46.92**	**341**	P	**P**	19 34 18.8	+0.3
	0.4nm,0.7s,baz=130,slow=6.2,SNR=2.4 0.4nm,0.7s						
MKAR	**Makanchi Array**	**57.26**	**325**	P	**P**	19 35 35.7	+0.4
	0.3nm,0.5s,baz=119,slow=7.7,SNR=8.1						
MKAR				PcP	**PcP**	19 36 30.6	+1.2
	0.4nm,0.6s,baz=110,slow=5.7,SNR=2.4 0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**61.43**	**327**	P	**P**	19 36 03.6	-0.3
	0.4nm,0.7s,baz=128,slow=5.8,SNR=4.5 0.4nm,0.7s						
BVAR	**Borovoye Array**	**67.01**	**327**	P	**P**	19 36 39.9	-0.7
	0.3nm,0.4s,baz=132,slow=2.2,SNR=3.8 0.3nm,0.4s						

*SKHL **30** 19:26:18.3±0.3, 44.40N×150.30E, h32km±2km, mb4.4/3*
*JMA **30** 19:26:18.9±0.6, 45.1N±4.5×15.0E±., h30km, MV4.0/14, SE OFF ETOROFU*
*IDC **30** 19:26:22.4±1.5, 46.47N×149.38E, h0km, mb3.7/10, mbtmp3.7/12, ML3.3/2, Error ellipse: s-maj=39.3km s-min=24.4km az=77.0*

ISC 30 19:26:13.1±1.5, 44.3N±0.1×150.7E±0.1, h35km, n33, σ2s45/38, mb3.6/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.23**	**296**	*eP*	**Pn**	19 26 48.5	+1.0
KUR				AMB	AMB	19 26 54.1	
	100nm,0.3s						
KUR				*i* S	**Sn**	19 27 11.4	-2.3
KUR				A	A	19 27 13.1	
	90nm,0.2s						
KUR				A	A	19 27 13.1	
	40nm,0.2s						
SHO	**Shikotan**	**2.82**	**263**	*eP*	**Pn**	19 26 57.3	+1.6
SHO				AMB	AMB	19 26 58.8	
	30nm,0.2s						
SHO				*eS*	**Sn**	19 27 26.8	-1.7
SHO				A	A	19 27 30.7	
	100nm,0.2s						
SHO				A	A	19 27 30.7	
	90nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**3.49**	**267**	*eP*	**Pn**	19 27 07.6	+2.7
YUK				AMB	AMB	19 27 10.4	
	60nm,0.3s						
YUK				*eS*	**Sn**	19 27 44.2	-0.8
YUK				A	A	19 27 50.9	
	160nm,0.5s						
YUK				A	A	19 27 50.9	
	210nm,0.5s						
NEM2	**Nemuro 2**	**3.71**	**257**	*eP*	**Pn**	19 27 10.4	+2.6
NEM2				*eS*	**Sn**	19 27 47.9	-2.4
NMR	**Nemuro--Hokkai**	**3.72**	**257**	*eP*	**Pn**	19 27 10.1	+2.1
NMR				*eS*	**Sn**	19 27 49.4	-1.1
JRA	**Rausu**	**4.03**	**267**	*eP*	**Pn**	19 27 16.1	+3.8
JRA				*eS*	**Sn**	19 27 59.2	+0.9
JNK	**Nakash**	**4.38**	**263**	*eP*	**Pn**	19 27 20.1	+3.0
JNK				*eS*	**Sn**	19 28 06.1	-0.8
AKK	**Akkeshi**	**4.44**	**255**	*eP*	**Pn**	19 27 20.8	+2.9
AKK				*eS*	**Sn**	19 28 07.4	-1.0
JAK	**Akkeshi**	**4.55**	**255**	*eP*	**Pn**	19 27 22.1	+2.7
JAK				*eS*	**Sn**	19 28 08.8	-2.3
JAR	**Ashorobuto**	**5.12**	**261**	*eP*	**Pn**	19 27 30.9	+3.6
JAR				*eS*	**Sn**	19 28 24.0	-1.1
JOB	**Onbets**	**5.18**	**257**	*eP*	**Pn**	19 27 31.3	+3.2
JOB				*eS*	**Sn**	19 28 25.0	-1.6
JCH	**Churui**	**5.60**	**255**	*eP*	**Pn**	19 27 36.8	+2.9
JCH				*eS*	**Sn**	19 28 35.5	-1.5
JKK2	**Kamakawa 2**	**5.75**	**269**	*eP*	**Pn**	19 27 40.1	+4.2
ASAJ	**Asahikawa**	**5.83**	**271**	Pn	**Pn**	19 27 41.1	+4.0
	0.8nm,0.3s,baz=308,slow=9.3,SNR=11 3.0nm,0.3s						
JNBK	**Urakawa-nobuka**	**6.14**	**254**	*eP*	**Pn**	19 27 44.2	+2.9
JNBK				*eS*	**Sn**	19 28 45.8	-4.5
JANG	**Nango**	**7.85**	**243**	*eS*	**Sn**	19 29 28.3	-4.1
USRK	**Ussuriysk Ar.**	**13.42**	**276**	Pn	**Pn**	19 29 21.0	+0.1
	0.2nm,0.3s,baz=85,slow=15,SNR=4.3 0.9nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**27.98**	**146**	T	T	20 03 15.1	
	baz=335,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**27.99**	**146**	T	T	20 03 08.1	
	baz=335,slow=76,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**27.99**	**146**	T	T	20 03 09.5	
	baz=335,slow=76,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**29.00**	**147**	T	T	20 04 29.2	
	baz=336,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**29.01**	**147**	T	T	20 04 25.4	
	baz=336,slow=76,SNR=9.5						
H11S2	**WAKE ISLAND Hy**	**29.02**	**147**	T	T	20 04 25.8	
	baz=336,slow=76,SNR=9.3						
SONM	**Songino Array**	**30.63**	**293**	P	**P**	19 32 24.6	+0.7
	0.4nm,0.7s,baz=65,slow=10,SNR=2.2 0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**42.71**	**307**	P	**P**	19 34 03.8	-2.6
	0.4nm,0.3s,baz=87,slow=9.1,SNR=2.4 0.4nm,0.3s						
MKAR	**Makanchi Array**	**46.59**	**298**	P	**P**	19 34 37.5	0.0
	0.3nm,0.8s,baz=83,slow=9.0,SNR=2.6 0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**47.42**	**305**	P	**P**	19 34 43.4	-0.5
	1.1nm,0.5s,baz=73,slow=8.5,SNR=10 1.1nm,0.5s						
BVAR	**Borovoye Array**	**51.12**	**310**	P	**P**	19 35 11.4	-0.7
	0.4nm,0.5s,baz=60,slow=9.3,SNR=2.6 0.4nm,0.5s						
FINES	**FINESS Array B**	**65.52**	**334**	P	**P**	19 36 51.5	-1.0
	2.2nm,1.0s,baz=44,slow=8.3,SNR=1.2 2.2nm,1.0s						
WRA	**Warramunga Arr**	**65.66**	**197**	P	P	19 37 19.8	+26
	0.3nm,0.8s,baz=15,slow=6.9,SNR=1.8 0.3nm,0.8s						
ASAR	**Alice Springs**	**69.36**	**196**	P	P	19 37 43.6	+27
	0.5nm,1.1s,baz=19,slow=5.9,SNR=4.4 0.5nm,1.1s						
NOA	**NORSAR Array B**	**69.98**	**340**	P	**P**	19 37 20.1	-0.5
	1.0nm,0.6s,baz=27,slow=6.3,SNR=2.1 1.0nm,0.6s						
KBZ	**Khabaz**	**71.32**	**313**	P	**P**	19 37 29.1	+0.2
	1.2nm,0.7s,baz=68,slow=5.7,SNR=4.8 1.2nm,0.7s						

*IDC **30** 19:36:22.5±6.6, 18.82S×169.07E, h136km±57km, mb3.7/3, mbtmp4.0/4, Error ellipse: s-maj=87.3km s-min=49.1km az=153.0*
*NOU **30** 19:36:27.8, 19.37S×169.40E, h106km, MLv3.6/9, Vanuatu Islands*

ISC 30 19:36:22.4±2.2, 19.1S±0.2×169.4E±0.3, h150km, n13, σ1s37/12, mb3.8/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.75**	**319**	P	Pn	19 37 01.7	+7.0
MARNC	**Mare, Loyalty**	**2.73**	**208**	P	**Pn**	19 37 06.5	+0.1
YATNC	**Mamie plateau,**	**3.80**	**218**	P	**Pn**	19 37 20.4	+0.4
DZM	**Mont Dzumac**	**4.08**	**222**	P	**Pn**	19 37 25.1	+1.3
DZM	**Mont Dzumac**	**4.08**	**222**	P	**Pn**	19 37 24.7	+0.9
	3.6nm,0.3s,baz=75,slow=20,SNR=54						
DZM				S	**Sn**	19 38 10.0	-1.5
	6.1nm,0.4s,baz=90,slow=9.5,SNR=3.7						
OUENC	**Ouen Island, N**	**4.11**	**215**	P	**Pn**	19 37 25.3	+1.2
NOUC	**Port Laguerre**	**4.19**	**223**	P	**Pn**	19 37 27.3	+2.2
ONTNC	**Ouen Toro**	**4.25**	**220**	P	**Pn**	19 37 28.0	+2.1
KOUNC	**Koumac, New Ca**	**5.03**	**252**	P	Pn	19 37 39.6	+3.4
STKA	**Stephens Creek**	**28.07**	**237**	P	**P**	19 42 00.0	+0.1
	2.0nm,0.9s,baz=81,slow=12,SNR=4.0 2.0nm,0.9s						
WRA	**Warramunga Arr**	**33.02**	**263**	P	**P**	19 42 42.8	-0.9
	0.5nm,0.5s,baz=90,slow=8.3,SNR=14 0.5nm,0.5s						
ASAR	**Alice Springs**	**33.31**	**256**	P	**P**	19 42 45.5	-0.6
	3.0nm,0.5s,baz=82,slow=8.9,SNR=131 3.0nm,0.5s						
ARCES	**ARCESS Array B**	**124.93**	**345**	PKP	**PKiKP**	19 55 04.2	-0.1
	3.1nm,0.9s,baz=67,slow=3.0,SNR=1.4						

*CATAC **30** 19:37:58.9±0.4, 9.66N×84.90W, h12km±3km, ML3.5*
*UCR **30** 19:37:59.5±1.1, 9.66N×84.92W, h24km±2km, MW3.7*

ISC 30 19:37:59.2±1.0, 9.62N±0.04×84.91W±0.02, h26km±7km, n75, σ0s52/106, 1C-16D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBL1	**Cabuya**	**0.18**	**260**	*eP*	**Pb**	19 38 04.6	-0.2
CBL1				*eS*	**Sb**	19 38 09.2	+0.7
JACO	**JACO, Garabito**	**0.25**	**80**	*eP*	**Pb**	19 38 05.2	-0.4
JACO				*eS*	**Sb**	19 38 09.9	-0.1
JACO	**JACO, Garabito**	**0.25**	**80**	*i* P	**Pb**	19 38 05.2	-0.4
JACO				*i* S	**Sb**	19 38 09.9	-0.1
JACO				IAML		19 38 10.0	
	comp=Z,6μm,1.0s						
ARZA	**Esparza**	**0.44**	**33**	*eP*	**Pb**	19 38 08.8	+0.2
ARZA				*eS*	**Sb**	19 38 15.5	+0.7
TRB2	**Turrubares**	**0.54**	**57**	*eP*	**Pb**	19 38 09.5	-0.7
POPE	**POPE, Guanacas**	**0.56**	**322**	*eP*	**Pb**	19 38 09.9	-0.6
INDI	**Punta indio, G**	**0.63**	**293**	*eP*	**Pb**	19 38 11.5	-0.2
INDI				*eS*	**Sn**	19 38 21.9	+0.1
INDI	**Punta indio, G**	**0.63**	**293**	*i* P	**Pb**	19 38 11.5	-0.2
INDI				*i* S	**Sn**	19 38 21.9	+0.1
INDI				IAML		19 38 23.7	
	comp=Z,2μm,1.0s						
RAMO	**San Ramon**	**0.64**	**43**	*eP*	**Pb**	19 38 12.1	+0.2
MONTE	**Monteverde**	**0.69**	**8**	⇓*i*P	**Pb**	19 38 11.9	-0.9
DUNO	**Dulce Nombre,**	**0.73**	**309**	*eP*	**Pb**	19 38 12.6	-0.9
DUNO	**Dulce Nombre,**	**0.73**	**309**	*i* P	**Pb**	19 38 12.7	-0.7
DUNO				*i* S	**Sn**	19 38 23.9	-0.5
TCS1	**Tacares**	**0.73**	**55**	*eP*	**Pb**	19 38 13.2	-0.3
TCS1	**Tacares**	**0.73**	**55**	*i* P	**Pb**	19 38 13.2	-0.3
TCS1				IAML		19 38 29.1	
	comp=Z,11μm,1.0s						
NICO	**Nicoya**	**0.73**	**314**	*eP*	**Pb**	19 38 13.1	-0.3
ACOS	**Acosta**	**0.76**	**77**	*eP*	**Pb**	19 38 13.3	-0.6
ACOS				*eS*	**Sb**	19 38 24.4	+0.5
BELE	**Belen**	**0.80**	**64**	*eP*	**Pn**	19 38 15.0	0.0
BELE				*eS*	**Sn**	19 38 25.9	-0.1
SOCE	**Pocosol**	**0.81**	**21**	*eP*	**Pb**	19 38 14.2	-0.6
SOCE	**Pocosol**	**0.81**	**21**	*i* P	**Pb**	19 38 14.1	-0.7
SOCE				IAML		19 38 14.7	
	comp=Z,7μm,1.0s						
SOCE				*i* S	**Sn**	19 38 25.4	-0.9
JUD3	**Juan Diaz 3**	**0.82**	**311**	*eP*	**Pb**	19 38 14.4	-0.6
CASO	**Castillo**	**0.83**	**12**	*eP*	**Pb**	19 38 14.3	-0.7
CPMI	**Catarata Coope**	**0.84**	**38**	*eP*	**Pb**	19 38 14.8	-0.6
CPMI	**Catarata Coope**	**0.84**	**38**	*i* P	**Pb**	19 38 14.8	-0.6
CPMI				IAML		19 38 15.2	
	comp=Z,2μm,1.0s						
CPMI				*i* S	**Sb**	19 38 26.3	0.0
PLVR	**Palo Verde**	**0.84**	**329**	*eP*	**Pb**	19 38 14.6	-0.8
ABE2	**San Pablo**	**0.85**	**84**	*eP*	**Pb**	19 38 15.3	-0.2
ABE2				*eS*	**Sb**	19 38 26.5	-0.1
ARE1	**Arenal 1**	**0.86**	**13**	*eP*	**Pb**	19 38 15.2	-0.4
FORC	**Fortuna**	**0.87**	**16**	⇑*i*P	**Pb**	19 38 15.2	-0.6
HDC3	**Heredia 3**	**0.88**	**64**	*eP*	**Pb**	19 38 15.5	-0.4
HDC3	**Heredia 3**	**0.88**	**64**	*i* P	**Pb**	19 38 15.5	-0.4
HDC3				*i* S	**Sb**	19 38 27.7	+0.4
HDC3				IAML		19 38 32.8	
	comp=Z,1μm,1.0s						
VACR	**Volcan Arenal**	**0.88**	**15**	*eP*	**Pb**	19 38 15.3	-0.7
VACR	**Volcan Arenal**	**0.88**	**15**	*i* P	**Pb**	19 38 15.2	-0.7
VACR				*i* S	**Sb**	19 38 26.6	-0.7
VACR				IAML		19 38 38.7	
	comp=Z,1μm,1.0s						
TABAC	**Tabacon**	**0.88**	**9**	⇓*i*P	**Pb**	19 38 15.7	-0.4
CEDE	**Laguna Cede

VORI	**VORI**	**1.27**	**340**	*e*P	**Pb**	**19 38 22.3**	**-0.3**
BUEV	**Buena Vista**	**1.27**	**337**	⇓*i*P	**Pn**	**19 38 21.4**	**0.0**
GBS3	**Finca Las Img**	**1.27**	**335**	⇓*i*P	**Pn**	**19 38 21.5**	**+0.1**
GBS3				*e*S	**Sb**	**19 38 38.7**	**+0.1**
GB1A	**Borinquen Arri**	**1.28**	**338**	*e*P	**Pn**	**19 38 21.7**	**0.0**
RVSTA	**Santa Teresita**	**1.29**	**74**	*e*P	**Pn**	**19 38 22.6**	**+0.8**
BUAI	**Buenos Aires**	**1.32**	**342**	*e*P	**Pn**	**19 38 22.2**	**+0.1**
LCOCO	**El Coco**	**1.41**	**71**	*e*P	**Pb**	**19 38 25.1**	**+0.1**
LCHIL	**Los Chiles**	**1.42**	**8**	*e*P	**Pb**	**19 38 25.0**	**-0.1**
LCRUZ	**La Cruz**	**1.61**	**334**	*e*P	**Pb**	**19 38 28.3**	**-0.1**

TEH ***30*** *19:45:04.5, 34.°80N×45.°78E, h10^{km}±41^{km}, ML2.7*
ISN ***30*** *19:45:05.0±0.4, 34.°81N×45.°76E, h13^{km}±34^{km}, ML2.8*
ISC 30 19:45:05.6±1.1**, 34.°82N**±0.°07×**45.°81E**±0.°05**, h10**^{km}**, n10, σ1.ˢ07**/14**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.49**	**104**	Pg	**Pg**	**19 45 14.3**	**-0.8**
IDHR				Sg	**Sb**	**19 45 22.8**	**-0.9**
IGHG	**Ghaleghazi**	**0.80**	**128**	Pg	**Pg**	**19 45 20.4**	**-0.6**
KCHF	**Cheshme Sefid,**	**1.15**	**118**	Pg	**Pb**	**19 45 26.8**	**-0.9**
ILBA	**Ilam Banvizeh**	**1.24**	**164**	Pg	**Pn**	**19 45 28.0**	**-1.0**
IKRK	**Kirkuk**	**1.34**	**296**	*e*Pg	**Pn**	**19 45 30.3**	**0.0**
IKRK				*e*Sg	**Sb**	**19 45 48.3**	**+0.3**
IKRK				AML	AML	19 45 52.0	
	comp=N,219nm,0.3s						
IKRK				AML	AML	19 45 52.0	
	comp=E,255nm,0.4s						
IKOM	**Komasi**	**1.54**	**114**	Pg	**Pb**	**19 45 34.2**	**-0.2**
IBDR	**Badra**	**1.71**	**177**	*e*Pn	**Pn**	**19 45 36.0**	**+0.6**
IBDR				*e*Sn	**Sn**	**19 45 59.0**	**+1.7**
IBDR				AML	AML	19 46 04.0	
	comp=E,102nm,0.4s						
IBDR				AML	AML	19 46 11.6	
	comp=N,63nm,0.8s						
BHD	**Baghdad**	**1.95**	**218**	*e*Pn	**Pn**	**19 45 39.0**	**+0.3**
BHD				*e*Sn	**Sn**	**19 46 04.0**	**+0.7**
IKFM	**Kafar-mosalman**	**2.13**	**127**	Pn	**Pn**	**19 45 42.9**	**+1.7**
HSAM	**Samen**	**2.38**	**104**	Pn	**Pn**	**19 45 46.4**	**+1.4**

IDC ***30*** *20:04:45.8±1.4, 23.°84N×121.°95E, h0^{km}, mb3.2/4, mbtmp3.3/5, ML3.7/1, Error ellipse: s-maj=75.6km s-min=23.9km az=70.0*
ASIES ***30*** *20:04:47.6, 24.°10N×122.°66E, h18^{km}, ML3.7, Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.74; $M_{\theta\theta}$-1.99; $M_{\phi\phi}$1.25; $M_{r\theta}$0.30; $M_{\theta\phi}$-0.67; $M_{\phi r}$-1.15; Fault plane solution: $M_0$2.21471×10^{21} NP1: ϕ_s117.33000°, δ65.88000°, λ150.46000°. NP2: ϕ_s220.37000°, δ63.26000°, λ27.24000°. Principal axes: T Plg37.3870°, Azm78.0680°; N Plg52.5620°, Azm261.5230°; P Plg1.6680°, Azm169.3430°;*
TAP ***30*** *20:04:47.6, 24.°10N×122.°66E, h18^{km}, ML3.7, C*
JMA ***30*** *20:04:48.2±0.2, 24.°1N±1.°0×122.°7E±0.°5, h19^{km}±2^{km}, MD3.3/15, MV3.6/15, NW OFF ISHIGAKIJIMA IS*
NIED ***30*** *20:04:48.2, 24.°09N×122.°67E, h19^{km}, MW3.6, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.78; $M_{\theta\theta}$-1.54; $M_{\phi\phi}$2.32; $M_{r\theta}$1.28; $M_{\theta\phi}$0.07; $M_{\phi r}$0.16; Fault plane solution: $M_0$2.41000×10^{14} NP1: ϕ_s220.00000°, δ68.00000°, λ-31.00000°. NP2: ϕ_s322.00000°, δ62.00000°, λ-155.00000°.*
ISC 30 20:04:45.4±1.2**, 24.°01N**±0.°02×**122.°69E**±0.°02**, h6**^{km}±9^{km}**, n169, σ0.ˢ87**/229**, mb3.2**/4**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.36**	**288**	*i*P	**Pb**	**20 04 54.3**	**+0.2**
	baz=270						
EOS3	**EOS3**	**0.44**	**309**	*i*P	**Pb**	**20 04 55.8**	**+0.3**
	baz=302						
EOS3				*e*S	**Sb**	**20 05 02.2**	**-0.1**
	baz=302						
JYNG	**Yonagunijimaku**	**0.49**	**28**	*i*P	**Pb**	**20 04 57.0**	**+0.4**
JYNG				S	**Sb**	**20 05 03.0**	**-1.1**
JYNG	**Yonagunijimaku**	**0.49**	**28**	A	A	20 04 57.0	
	comp=E,4.0nm,0.8s,comp=N,6.0nm,0.5s						
YOJ	**Yonaguni jima**	**0.53**	**33**	P	**Pb**	**20 04 57.8**	**+0.5**
YOJ	**Yonaguni jima**	**0.53**	**33**	*i*P	**Pb**	**20 04 57.8**	**+0.5**
YOJ				S	**Sb**	**20 05 04.5**	**-0.8**
YOJ	**Yonaguni jima**	**0.53**	**33**	A	A	20 04 57.8	
	comp=E,3.0nm,1.8s,comp=N,3.0nm,1.0s						
YOJ	**Yonaguni jima**	**0.53**	**33**	*i*P	**Pb**	**20 04 57.8**	**+0.5**
	baz=49						
YOJ				S	**Sb**	**20 05 04.6**	**-0.6**
	baz=49						
EOS2	**EOS2**	**0.58**	**314**	*i*P	**Pb**	**20 04 58.8**	**+0.8**
	baz=311						
EAHA	**Aohua**	**0.93**	**290**	P	**Pb**	**20 05 04.3**	**+0.4**
	baz=294						
EWUT	**Wuta**	**0.94**	**297**	*i*P	**Pb**	**20 05 04.0**	**-0.1**
	baz=302						
ESAO	**Su ao**	**0.96**	**306**	*i*P	**Pb**	**20 05 04.2**	**-0.3**
	baz=303						
ESAO				*e*S	**Sb**	**20 05 16.9**	**-0.4**
	baz=303						
ENA	**Nanau**	**0.96**	**296**	*i*P	**Pb**	**20 05 04.3**	**-0.2**
	baz=300						
TWC	**Suao**	**0.97**	**308**	P	**Pb**	**20 05 04.3**	**-0.4**
	baz=298						
ETL	**Fush Village**	**0.99**	**279**	P	**Pn**	**20 05 06.1**	**+0.2**
	baz=275						
HWA	**Hwalien**	**0.99**	**268**	*e*P	**Pn**	**20 05 06.3**	**+0.3**
	baz=264						
IRIF	**Iriomote-Funau**	**1.00**	**71**	*i*P	**Pn**	**20 05 06.4**	**+0.4**
IRIF				*e*S	**Sn**	**20 05 20.1**	**-0.4**
TWD	**Chiawan**	**1.00**	**274**	P	**Pn**	**20 05 05.9**	**-0.2**
	baz=271						
TWD				*i*S	**Sb**	**20 05 19.6**	**+0.9**
	baz=271						
NACB	**Ninganchiao**	**1.02**	**279**	P	**Pn**	**20 05 06.4**	**+0.1**
NACB	**Ninganchiao**	**1.02**	**279**	*i*P	**Pn**	**20 05 06.3**	**0.0**
	baz=276						
HATJ	**Hateruma jima**	**1.02**	**87**	P	**Pn**	**20 05 07.0**	**+0.7**
HATJ				*e*S	**Sn**	**20 05 21.3**	**+0.3**
SHUL	**Shoufeng**	**1.06**	**258**	P	**Pb**	**20 05 06.8**	**+0.6**
	baz=253						
EGS		**1.08**	**320**	*e*P	**Pn**	**20 05 07.3**	**+0.1**
	baz=329						
ETM	**Tongmen**	**1.10**	**268**	*i*P	**Pb**	**20 05 07.2**	**+0.3**
	baz=250						
ETLH	**Xiulin Townshi**	**1.12**	**280**	P	**Pn**	**20 05 08.1**	**+0.2**
	baz=278						
ETLH				*e*S	**Sn**	**20 05 23.1**	**-0.5**
	baz=278						
ILA	**Ilan**	**1.14**	**311**	*e*P	**Pn**	**20 05 08.3**	**+0.3**
	baz=310						
ILA				*e*S	**Sn**	**20 05 23.0**	**-1.0**
	baz=310						
ESL	**Shilin**	**1.17**	**261**	*i*P	**Pg**	**20 05 07.8**	**-0.1**
	baz=257						
LXIB	**Xiulin Townshi**	**1.17**	**271**	*i*P	**Pb**	**20 05 08.4**	**+0.3**
	baz=267						
TWE	**Neicheng**	**1.17**	**307**	P	**Pn**	**20 05 08.3**	**-0.1**
	baz=305						
TWE				*i*S	**Sb**	**20 05 23.3**	**-0.2**
	baz=305						
TWB1	**Santiao Chiao**	**1.18**	**327**	*e*P	**Pn**	**20 05 09.0**	**+0.5**
	baz=327						
LATG	**Datong**	**1.18**	**296**	*i*P	**Pn**	**20 05 08.7**	**0.0**
	baz=300						
LATG				*e*S	**Sn**	**20 05 24.4**	**-0.9**
	baz=300						
ENTT	**Nioudou**	**1.20**	**302**	*i*P	**Pn**	**20 05 08.9**	**0.0**
	baz=300						
EGFH	**Guangfu**	**1.21**	**254**	P	**Pg**	**20 05 08.7**	**0.0**
	baz=250						
EGFH				*e*S	**Sb**	**20 05 25.0**	**+0.4**
	baz=250						
JKRS	**Kuro-shima**	**1.22**	**79**	P	**Pn**	**20 05 10.7**	**+1.5**
JKRS				S	**Sn**	**20 05 27.3**	**+1.3**
NDT	**Datong Townshi**	**1.23**	**299**	P	**Pn**	**20 05 09.6**	**+0.5**
	baz=305						
NDT				*e*S	**Sb**	**20 05 24.8**	**-0.4**
	baz=305						
WARBT	**Fenglin Townsh**	**1.23**	**256**	P	**Pg**	**20 05 08.7**	**-0.4**
	baz=240						
WARBT				*e*S	**Sg**	**20 05 24.9**	**-0.2**
	baz=240						
TIPB	**Shuangxi**	**1.24**	**321**	*i*P	**Pn**	**20 05 10.0**	**+0.7**
	baz=320						
TIPB				*i*S	**Sb**	**20 05 24.9**	**-0.7**
	baz=320						
FUSB	**Fushanzhiwuyua**	**1.25**	**307**	*i*P	**Pn**	**20 05 10.1**	**+0.5**
	baz=305						
NNSB	**Datong**	**1.27**	**289**	*i*P	**Pn**	**20 05 10.4**	**+0.6**
	baz=287						
HGSD	**Ruisui**	**1.27**	**246**	*i*P	**Pg**	**20 05 09.6**	**-0.3**
	baz=243						
NNS	**Nan Shan**	**1.28**	**290**	*e*P	**Pn**	**20 05 10.6**	**+0.6**
	baz=288						
NNS				*e*S	**Sn**	**20 05 27.2**	**-0.3**
	baz=288						
SXI1	**Grass Mountain**	**1.31**	**326**	P	**Pn**	**20 05 10.4**	**0.0**
	baz=337						
WHF	**Hehuan Shan**	**1.31**	**276**	P	**Pn**	**20 05 11.1**	**+0.4**
	baz=274						
NWLT	**Wulai**	**1.32**	**305**	*e*P	**Pb**	**20 05 11.4**	**+0.6**
	baz=303						
NWLT				*e*S	**Sb**	**20 05 27.6**	**-0.4**
	baz=303						
ECBN	**Changbin**	**1.33**	**239**	*e*P	**Pn**	**20 05 11.1**	**+0.5**
	baz=235						
ECBN				*e*S	**Sg**	**20 05 27.4**	**-0.9**
	baz=235						
NWF	**Wu-fen Shan**	**1.34**	**322**	*e*P	**Pb**	**20 05 10.6**	**-0.5**
	baz=322						
WFSB	**Wu-fen Shan**	**1.34**	**322**	*e*P	**Pb**	**20 05 10.9**	**-0.1**
	baz=322						
EHY	**Hungye**	**1.35**	**248**	*i*P	**Pn**	**20 05 10.9**	**0.0**
	baz=244						
EHY				*i*S	**Sg**	**20 05 28.6**	**-0.4**
	baz=244						
YHNB	**Yeheng**	**1.37**	**299**	P	**Pb**	**20 05 12.2**	**+0.7**
YHNB	**Yeheng**	**1.37**	**299**	*i*P	**Pb**	**20 05 12.2**	**+0.7**
	baz=298						
YHNB				*e*S	**Sn**	**20 05 29.6**	**-0.1**
	baz=298						
JIJ	**Ishigaki jima**	**1.37**	**75**	P	**Pg**	**20 05 12.3**	**+0.5**
JIJ				*e*S	**Sn**	**20 05 30.0**	**+0.3**
NSK	**Sanguang**	**1.38**	**299**	*i*P	**Pg**	**20 05 12.4**	**+0.4**
	baz=297						
NSK				*e*S	**Sn**	**20 05 29.7**	**-0.4**
	baz=297						
OWD	**Renai**	**1.39**	**268**	P	**Pb**	**20 05 12.1**	**+0.1**
	baz=265						
CHGB	**Renai**	**1.39**	**272**	*i*P	**Pb**	**20 05 12.1**	**+0.1**
	baz=255						
TWA	**Mucha**	**1.40**	**314**	P	**Pg**	**20 05 13.2**	**+0.9**
	baz=330						
TWA				*i*S	**Sn**	**20 05 30.0**	**-0.3**
	baz=330						
TWT	**Tachien**	**1.41**	**280**	*e*P	**Pg**	**20 05 13.2**	**+0.7**
	baz=278						
TNOU	**National Taiwa**	**1.41**	**324**	*e*P	**Pb**	**20 05 11.7**	**-0.5**
	baz=323						
YULB	**Yu-li**	**1.42**	**244**	P	**Pn**	**20 05 12.2**	**+0.3**
YULB	**Yu-li**	**1.42**	**244**	P	**Pn**	**20 05 12.0**	**+0.1**
	baz=241						
YULB				*e*S	**Sb**	**20 05 30.5**	**-0.3**
	baz=241						
EYUL	**Yuli**	**1.42**	**243**	*i*P	**Pn**	**20 05 12.3**	**+0.5**
	baz=238						
EYUL				*e*S	**Sb**	**20 05 31.3**	**+0.5**
	baz=238						
TDCB	**Techi**	**1.42**	**280**	*e*P	**Pg**	**20 05 13.1**	**+0.3**
	baz=278						
NHDH	**Xindian Distri**	**1.42**	**312**	*e*P	**Pg**	**20 05 13.2**	**+0.5**
	baz=321						
NHDH				*i*S	**Sn**	**20 05 30.7**	**-0.2**
	baz=321						
TWF1	**Yuli**	**1.44**	**243**	P	**Pn**	**20 05 12.5**	**+0.4**
	baz=239						
TWF1				S	**Sb**	**20 05 31.2**	**0.0**
	baz=239						
WUSB	**Renai**	**1.44**	**269**	*i*P	**Pb**	**20 05 12.8**	**0.0**
	baz=267						
CHKH	**Chenggong**	**1.44**	**236**	*e*P	**Pn**	**20 05 12.2**	**+0.1**
	baz=231						
CHKH				*e*S	**Sb**	**20 05 28.8**	**-2.6**
	baz=231						
VWDT	**VWDT**	**1.44**	**260**	P	**Pn**	**20 05 12.6**	**+0.4**
	baz=246						
TATO	**Taipei**	**1.46**	**311**	P	**Pg**	**20 05 14.6**	**+1.2**
FULB	**Fuli**	**1.52**	**238**	*e*P	**Pn**	**20 05 13.4**	**+0.2**
	baz=221						
CHKT	**Chengkung**	**1.52**	**234**	*i*P	**Pn**	**20 05 12.9**	**-0.3**
	baz=215						
CHKT				*e*S	**Sn**	**20 05 30.8**	**-2.5**
	baz=215						
YM01	**YM01**	**1.52**	**318**	*e*P	**Pg**	**20 05 15.4**	**+0.8**
	baz=332						
YM08	**YM08**	**1.54**	**320**	*e*P	**Pg**	**20 05 14.7**	**-0.3**
	baz=333						
NFF	**Wufeng Townshi**	**1.56**	**294**	*e*P	**Pg**	**20 05 15.5**	**0.0**
	baz=291						
ANP	**Anpu**	**1.58**	**318**	*e*P	**Pg**	**20 05 16.6**	**+0.7**
	baz=331						
JISG	**Ishigakijimahi**	**1.58**	**69**	P	**Pb**	**20 05 15.0**	**-0.1**
JISG				S	**Sn**	**20 05 34.7**	**-0.2**
TWS1	**Kuangyinshan**	**1.59**	**313**	*e*P	**Pg**	**20 05 16.9**	**+1.0**
	baz=329						
TWY	**Chenhua**	**1.60**	**322**	*e*P	**Pb**	**20 05 15.0**	**-0.5**
	baz=322						
SSLB	**Suanglung**	**1.61**	**262**	P	**Pb**	**20 05 15.3**	**-0.3**
SSLB	**Suanglung**	**1.61**	**262**	*e*P	**Pb**	**20 05 15.3**	**-0.3**
	baz=260						
NTST	**Danshui**	**1.61**	**316**	*e*P	**Pg**	**20 05 17.3**	**+0.9**
	baz=316						
EHD	**Haiduan**	**1.61**	**238**	*e*P	**Pn**	**20 05 14.5**	**0.0**
	baz=223						
EHD				*e*S	**Sn**	**20 05 34.8**	**-0.9**
	baz=223						
WHP	**Taichung City**	**1.62**	**280**	*e*P	**Pg**	**20 05 16.4**	**-0.1**
	baz=266						
WCS	**Beigang Elemen**	**1.63**	**272**	*e*P	**Pb**	**20 05 15.9**	**-0.1**
	baz=270						
ECS	**Chishang**	**1.63**	**236**	P	**Pn**	**20 05 15.8**	**+1.0**
	baz=219						
ECS				*e*S	**Sn**	**20 05 36.6**	**+0.5**
	baz=219						
EDH	**Donghe**	**1.64**	**231**	*e*P	**Pn**	**20 05 14.9**	**0.0**
	baz=215						
SMLT	**Sun Moon Lake**	**1.65**	**266**	P	**Pb**	**20 05 16.1**	**-0.2**
	baz=251						
LIOB	**Emei**	**1.65**	**293**	*e*P	**Pg**	**20 05 17.4**	**+0.2**
	baz=292						
NSTT	**Nanjuang**	**1.66**	**292**	*e*P	**Pg**	**20 05 17.4**	**0.0**
	baz=292						
NSTT				*e*S	**Sg**	**20 05 38.5**	**-0.3**
	baz=292						
NCUH	**Zhongli**	**1.67**	**305**	*e*P	**Pg**	**20 05 17.1**	**-0.4**
	baz=305						
TYC	**Yuchr**	**1.68**	**267**	*e*P	**Pb**	**20 05 16.6**	**-0.2**
	baz=265						
WHYT	**Xinyi Township**	**1.71**	**260**	*i*P	**Pb**	**20 05 17.2**	**-0.2**
	baz=258						
SBCB	**Hsinchu**	**1.74**	**297**	*e*P	**Pg**	**20 05 18.6**	**-0.2**
	baz=297						
ELDTW	**Lidau**	**1.74**	**242**	*i*P	**Pn**	**20 05 16.4**	**+0.1**
	baz=238						
ELDTW				*e*S	**Sn**	**20 05 37.7**	**-1.3**
	baz=238						
LDUT	**Ludao**	**1.74**	**220**	*i*P	**Pn**	**20 05 16.5**	**+0.2**
	baz=216						
LDUT				*e*S	**Sn**	**20 05 36.6**	**-2.2**
	baz=216						
TWQ1	**Liyutan**	**1.78**	**281**	P	**Pg**	**20 05 19.6**	**-0.1**
	baz=280						
ALS	**Alishan**	**1.80**	**254**	P	**Pn**	**20 05 18.5**	**+1.1**
	baz=252						
WJS	**Zhushan**	**1.81**	**264**	P	**Pb**	**20 05 19.6**	**+0.7**
	baz=263						
WJS				*e*S	**Sg**	**20 05 43.8**	**+0.2**
	baz=263						
LONT	**Longtian**	**1.81**	**233**	P	**Pn**	**20 05 17.6**	**+0.5**
	baz=218						
WNT	**Mingjian**	**1.84**	**266**	P	**Pb**	**20 05 20.1**	**+0.5**
	baz=265						
WNT				*e*S	**Sg**	**20 05 44.6**	**0.0**
	baz=265						
TCU	**Taichung**	**1.85**	**275**	*e*P	**Pb**	**20 05 20.1**	**+0.4**
	baz=273						
CHN5	**Tsauling**	**1.89**	**258**	P	**Pb**	**20 05 20.4**	**0.0**
	baz=243						
TTN	**Taitung**	**1.89**	**229**	*e*S	**Sn**	**20 05 42.9**	**+0.3**
	baz=224						
TWGBT	**Beinan**	**1.90**	**232**	P	**Pn**	**20 05 19.0**	**+0.6**
TWGBT	**Beinan**	**1.90**	**232**	P	**Pn**	**20 05 18.8**	**+0.4**
	baz=216						
TWG	**Pinlang**	**1.90**	**232**	*e*P	**Pn**	**20 05 18.9**	**+0.4**
	baz=218						
TWG				*e*S	**Sn**	**20 05 41.7**	**-1.1**
	baz=218						
WDJ	**Dajia District**	**1.90**	**281**	*e*P	**Pb**	**20 05 20.8**	**+0.2**
	baz=280						
JTJ	**Tarama**	**1.94**	**71**	P	**Pb**	**20 05 20.5**	**-0.7**
JTJ				*e*S	**Sn**	**20 05 44.5**	**+0.9**
STYH	**Taoyuan**	**1.95**	**245**	*i*P	**Pn**	**20 05 20.4**	**+1.4**
	baz=231						
STYH				*e*S	**Sn**	**20 05 44.3**	**+0.5**
	baz=231						
WCHH	**Zhanghua**	**1.95**	**272**	*e*P	**Pb**	**20 05 21.7**	**+0.3**
	baz=272						
WCHH				*e*S	**Sg**	**20 05 47.4**	**-0.9**
	baz=272						
WGK	**Gukeng**	**1.98**	**261**	*e*P	**Pb**	**20 05 21.8**	**-0.1**
	baz=259						
WCKO	**Fanlu**	**2.00**	**254**	*e*P	**Pb**	**20 05 22.1**	**-0.1**
	baz=252						
WDLH	**Douliu**	**2.00**	**261**	*e*P	**Pb**	**20 05 22.1**	**-0.1**
	baz=260						
TPUB	**Ta-pu**	**2.02**	**250**	P	**Pb**	**20 05 22.5**	**-0.1**
TPUB	**Ta-pu**	**2.02**	**250**	*e*P	**Pb**	**20 05 22.1**	**-0.5**
	baz=247						
TPUB				*e*S	**Sb**	**20 05 48.0**	**-0.1**
	baz=247						
CHN4	**Tsaushan**	**2.03**	**252**	*e*P	**Pb**	**20 05 22.9**	**0.0**
	baz=249						
WTP	**Ta-pu**	**2.05**	**249**	P	**Pb**	**20 05 22.5**	**-0.7**
	baz=233						
WTP				*i*S	**Sb**	**20 05 48.7**	**-0.3**
	baz=233						
CHN2	**Minshiung**	**2.09**	**257**	*e*P	**Pb**	**20 05 24.1**	**+0.3**
	baz=256						
WRL	**Guolierlin Hig**	**2.12**	**267**	*e*P	**Pb**	**20 05 23.9**	**-0.4**
	baz=267						
WRL				S	**Sb**	**20 05 51.2**	**+0.3**
	baz=267						
ECL	**Taimali**	**2.13**	**229**	*e*P	**Pn**	**20 05 21.7**	**+0.1**
	baz=238						
WTK	**Tuku**	**2.13**	**262**	*e*P	**Pb**	**20 05 24.3**	**-0.3**
	baz=261						
WTK				*e*S	**Sb**	**20 05 51.9**	**+0.6**
	baz=261						
SLGT	**Liugui**	**2.13**	**242**	*e*P	**Pb**	**20 05 23.7**	**-0.9**
	baz=240						
CHY	**Chiayi**	**2.14**	**257**	*e*P	**Pb**	**20 05 24.4**	**-0.3**
	baz=255						
CHY				*e*S	**Sb**	**20 05 51.4**	**-0.1**
	baz=255						
SGST	**Jiashian**	**2.15**	**245**	*e*P	**Pn**	**20 05 23.5**	**+1.6**
	baz=230						
SGST				*e*S	**Sn**	**20 05 50.9**	**+2.1**
	baz=230						
CHN1	**Nanshi**	**2.15**	**248**	P	**Pb**	**20 05 24.6**	**-0.2**
	baz=245						
CHN1				*e*S	**Sb**	**20 05 52.2**	**+0.4**
	baz=245						
TWK	**Hsinying**	**2.15**	**250**	*e*P	**Pb**	**20 05 24.5**	**-0.4**
	baz=248						
TWK				*e*S	**Sb**	**20 05 52.0**	**+0.1**
	baz=248						
SNST	**Tainan City**	**2.16**	**249**	*e*P	**Pb**	**20 05 24.6**	**-0.4**
	baz=247						
SNST				S	**Sb**	**20 05 51.7**	**-0.4**
	baz=247						
LAY	**Lan-yu**	**2.23**	**208**	*e*P	**Pn**	**20 05 22.5**	**-0.5**
	baz=205						
LYUB	**Lan-yu**	**2.25**	**207**	*e*P	**Pn**	**20 05 22.6**	**-0.6**
	baz=216						
TSMG	**Majia**	**2.29**	**236**	*e*P	**Pn**	**20 05 25.6**	**+1.8**
	baz=223						
WSF	**Szhu**	**2.29**	**261**	*e*P	**Pb**	**20 05 26.2**	**-1.1**
	baz=260						
WSF				*e*S	**Sb**	**20 05 55.9**	**+0.1**
	baz=260						
ICHU	**Yijhu**	**2.31**	**254**	P	**Pb**	**20 05 26.6**	**-0.9**
	baz=252						
ICHU				*i*S	**Sb**	**20 05 55.4**	**-0.8**
	baz=252						
SCST	**Cishan**	**2.31**	**241**	*e*P	**Pb**	**20 05 27.7**	**+0.2**
	baz=238						
SCST				*e*S	**Sb**	**20 05 57.1**	**+0.8**
	baz=238						
WSL	**Shuilin Townsh**	**2.31**	**258**	*e*P	**Pb**	**20 05 26.5**	**-1.1**
	baz=257						
WSL				S	**Sb**	**20 05 55.9**	**-0.4**
	baz=257						
CHN3	**Shinhua**	**2.33**	**247**	*e*S	**Sb**	**20 05 58.1**	**+1.1**
	baz=244						
EAST	**Anshuo**	**2.35**	**227**	*e*P	**Pn**	**20 05 25.2**	**+0.6**
	baz=223						
MASBT	**Mashibuluo**	**2.35**	**234**	P	**Pn**	**20 05 26.2**	**+1.6**
	baz=223						
TAWH	**Dawu Township**	**2.35**	**225**	*e*P	**Pn**	**20 05 25.9**	**+1.3**
	baz=235						
SHHT	**Tainan City**	**2.37**	**246**	P	**Pb**	**20 05 28.9**	**+0.4**
	baz=243						
SHHT				S	**Sb**	**20 05 60.0**	**+2.0**
	baz=243						
CHN8	**Yiju**	**2.37**	**254**	*e*P	**Pb**	**20 05 27.1**	**-1.5**
	baz=253						
CHN8				*e*S	**Sb**	**20 05 57.2**	**-0.9**
	baz=253						
SGLT	**Jiouru**	**2.40**	**238**	*e*P	**Pb**	**20 05 29.2**	**+0.2**
	baz=228						
TWM1	**Shoushan**	**2.40**	**241**	*e*P	**Pb**	**20 05 29.5**	**+0.5**
	baz=238						
SCLT	**Jiali**	**2.44**	**251**	*e*S	**Sb**	**20 05 59.5**	**-0.6**
	baz=248						
JMJ	**Miyako jima 2**	**2.50**	**71**	P	**Pb**	**20 05 29.1**	**-1.7**
SCZT	**Fangliau**	**2.51**	**230**	*e*P	**Pn**	**20 05 29.0**	**+2.2**
	baz=219						
TSCK	**Chigu Township**	**2.54**	**251**	P	**Pn**	**20 05 29.5**	**+2.3**
	baz=249						
TSCK				*e*S	**Sn**	**20 06 00.6**	**+2.0**
	baz=249						
SMST	**Manzhou Townsh**	**2.62**	**221**	*e*P	**Pn**	**20 05 30.7**	**+2.4**
	baz=218						
WSSB	**Gushan**	**2.62**	**239**	*e*P	**Pn**	**20 05 31.0**	**+2.6**
	baz=237						
HEN	**Hengchun**	**2.69**	**222**	*e*P	**Pn**	**20 05 31.6**	**+2.3**
	baz=219						
TWKBT	**Hengchun**	**2.69**	**220**	*e*P	**Pn**	**20 05 31.4**	**+2.0**
	baz=217						
TWK1	**Hengchun**	**2.70**	**221**	*e*P	**Pn**	**20 05 31.4**	**+2.0**
	baz=217						
WDGT	**Dungji**	**2.88**	**256**	*e*P	**Pn**	**20 05 33.5**	**+1.6**
	baz=240						
WDGT				*e*S	**Sn**	**20 06 06.9**	**0.0**
	baz=240						
PHUB	**P'eng-hu**	**2.90**	**261**	*e*P	**Pn**	**20 05 33.9**	**+1.7**
	baz=259						
PHUB				*e*S	**Sn**	**20 06 07.9**	**+0.5**
	baz=259						
PNG	**Penghu**	**2.91**	**262**	*e*P	**Pn**	**20 05 33.8**	**+1.5**
	baz=260						
PNG				*e*S	**Sn**	**20 06 08.3**	**+0.7**
	baz=260						
VCHM	**Qimei**	**3.10**	**256**	*e*P	**Pn**	**20 05 36.8**	**+1.8**
	baz=254						
VWUC	**VWUC**	**3.11**	**289**	*e*P	**Pn**	**20 05 35.8**	**+0.7**
	baz=290						
MATB	**Ma-tsu**	**3.28**	**311**	*e*P	**Pn**	**20 05 38.4**	**+1.0**
	baz=324						
LYJJ	**Jianjiangzhen**	**3.66**	**314**	*e*P	**Pn**	**20 05 43.3**	**+0.6**
	baz=327						
XPSS	**Dashiqiu**	**3.68**	**323**	*e*P	**Pn**	**20 05 44.7**	**+1.8**
	baz=325						
KNM	**Kinmen**	**3.91**	**277**	*e*P	**Pn**	**20 05 48.8**	**+2.8**
	baz=277						
MHZQ	**Yeshan**	**3.92**	**303**	*e*P	**Pn**	**20 05 46.7**	**+0.5**
	baz=305						
KNMB	**Chin-men Tao**	**3.95**	**277**	*e*P	**Pn**	**20 05 47.2**	**+0.5**
	baz=278						
AXDP	**Jialang**	**4.39**	**283**	*e*P	**Pn**	**20 05 54.0**	**+1.3**
	baz=284						
ZPLA	**Ao Xicun**	**4.52**	**270**	*e*P	**Pn**	**20 05 55.3**	**+0.8**
	baz=269						
DSXP	**Dongshan**	**4.83**	**267**	*e*P	**Pn**	**20 06 00.4**	**+1.6**
	baz=267						
SXFK	**Yanhouchang**	**5.15**	**299**	*e*P	**Pn**	**20 06 04.1**	**+0.9**
	baz=302						
KSRS	**Korea Array**	**14.13**	**17**	Pn	**P**	**20 08 13.0**	**-0.9**
	comp=N,0.3nm,0.3s,baz=198,slow=11,SNR=7.7						
	comp=N,1.4nm,0.7s						
SONM	**Songino Array**	**27.08**	**335**	P	**P**	**20 10 28.0**	**-1.0**

comp=N,0.2nm,0.7s,baz=127,slow=7.0,SNR=1.9
comp=N,0.2nm,0.7s

MKAR Makanchi Array 39.42 315 P **P 20 12 15.2 -1.0**
comp=N,0.4nm,0.9s,baz=100,slow=7.9,SNR=2.7
comp=N,0.4nm,0.9s

WRA Warramunga Arr 45.14 164 P **P 20 13 03.4 +0.4**
comp=N,0.5nm,0.8s,baz=342,slow=8.2,SNR=3.3
comp=N,0.5nm,0.8s

ASAR Alice Springs 48.63 166 P **P 20 13 32.2 +1.9**
comp=N,0.2nm,0.7s,baz=347,slow=7.6,SNR=2.4
comp=N,0.2nm,0.7s

IDC 30 20:29:16.5±4.9, 29°98S×137°31E, h0km, mbtmp2.5/3, ML2.3/3, Error ellipse: s-maj=109.6km s-min=18.5km az=43.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**4.14**	**118**	Pn	Pn	20 30 20.4	-0.6
	0.1nm,0.3s,baz=315,slow=16,SNR=1.3						
STKA				Sn	Sn	20 31 09.9	-0.2
	0.2nm,0.3s,baz=32,slow=21,SNR=3.6						
STKA				Lg	Lg	20 31 29.3	
	0.7nm,0.3s,baz=6.3,slow=16,SNR=6.6						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**6.98**	**333**	Pn	Pn	20 31 01.4	+1.2
	0.1nm,0.3s,baz=174,slow=8.5,SNR=7.5						
ASAR				Sn	Sn	20 32 21.8	+1.5
	baz=156,slow=22,SNR=4.3						
	0.3nm,1.0s						
WRA	**Warramunga Arr**	**10.35**	**344**	Pn	Pn	20 31 45.0	-1.2
	baz=162,slow=13,SNR=1.3						
	0.1nm,0.4s						

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*BJI **30** 20:53:22.0, 29°40N×52°00E, h5km, mb4.6/56, mB5.1/27, Ms4.5/26, Ms7.4.3/25*
*THR **30** 20:53:23.5±0.6, 29°37N×51°87E, h16km, ML4.6*
*NEIC **30** 20:53:24.7±1.3, 29°45N±0°07×51°98E±0°05, h10km±1km, mb4.9/116, Error ellipse: s-maj=11.9km s-min=7.5km az=10.0*
*OMAN **30** 20:53:25.4±0.0, 29°31N×52°03E, h10km, mb5.0/33, ml4.5/6, ms3.9/8, Error ellipse: s-maj=0.9km s-min=0.5km az=241.0*
*GII **30** 20:53:25.6±0.3, 29°47N×51°98E, h43km, Mm5.3/2*
*TEH **30** 20:53:26.3, 29°50N×52°02E, h17km±23km, ML4.8*
*DSN **30** 20:53:26.1±0.4, 29°37N×52°03E, h10km, mb4.8/5, ML4.5/11, Error ellipse: s-maj=9.4km s-min=4.0km az=46.0*
*MOS **30** 20:53:26.0±1.0, 29°45N×51°98E, h33km, mb4.9/59, Error ellipse: s-maj=4.8km s-min=3.3km az=95.6*
*IDC **30** 20:53:27.7±1.5, 29°44N×51°98E, h33km±9km, mb4.3/31, mbtmp4.5/39, ML3.9/9, MS3.9/49, Error ellipse: s-maj=11.5km s-min=9.9km az=157.0*

ISC 30 20:53:25.8±0.3, 29°48N±0°02×52°01E±0°02, h22km±3km, h22km:pP-P, n705, σ1s69/771, mb4.8/172, MS4.0/53, 42C-28D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHI	**Shiraz**	**0.47**	**70**	Pg	**Pb**	**20 53 35.9**	**+0.5**
SHI				Sg	**Sb**	**20 53 43.1**	**+1.2**
AHBU	**AHRAM**	**0.88**	**226**	Pg	**Pn**	**20 53 42.9**	**0.0**
DSBU	**Dashti - Bushe**	**1.30**	**211**	Pg	**Pb**	**20 53 50.5**	**+1.0**
DSBU				Sg	**Sb**	**20 54 11.2**	**+5.5**
QIR1	**Qir**	**1.35**	**138**	Pg	**Pb**	**20 53 52.2**	**+1.8**
GHIR	**Ghir-Karzin**	**1.47**	**144**	*e*Pg	**Pb**	**20 53 53.6**	**+1.2**
GHIR				IAML		20 54 17.9	
	comp=E,9μm,0.4s						
GHIR				IAML		20 54 25.1	
	comp=N,6μm,0.6s						
KLNJ	**Kolanjah**	**1.56**	**347**	Pg	**Pb**	**20 53 55.3**	**+1.0**
JHRM	**Jahrom**	**1.68**	**125**	Pg	**Pb**	**20 53 56.9**	**+0.8**
IRAM	**Ramesheh**	**2.34**	**8**	Pn	**Pb**	**20 54 06.0**	**-1.4**
LMD1	**Lamerd**	**2.37**	**154**	Pn	**Pb**	**20 54 05.6**	**-2.1**
IBRJ	**Brojen**	**2.50**	**345**	Pn	**Pn**	**20 54 08.0**	**+2.5**
LAR1	**LAR**	**2.76**	**130**	Pn	**Pn**	**20 54 10.8**	**+2.1**
ZNGN	**Zangian**	**2.81**	**340**	Pn	**Pn**	**20 54 11.7**	**+2.0**
ISAD	**Sadrabad**	**2.82**	**30**	Pn	**Pb**	**20 54 13.2**	**-2.4**
IGAR	**Gharneh**	**2.91**	**1**	Pn	**Pn**	**20 54 13.6**	**+2.5**
IMEH	**Mehriz**	**2.94**	**49**	Pn	**Pb**	**20 54 15.4**	**-2.3**
JHBN	**Jahan bin**	**2.97**	**337**	Pn	**Pn**	**20 54 13.8**	**+1.9**
AMIS	**Naft Sefid**	**3.20**	**313**	Pn	**Pn**	**20 54 17.0**	**+2.2**
IPIR	**Pirpir**	**3.33**	**344**	Pn	**Pn**	**20 54 18.7**	**+1.8**
NASN	**Na'in**	**3.38**	**12**	*e*Pn	**Pn**	**20 54 19.4**	**+1.8**
IZEF	**Zefreh**	**3.41**	**5**	Pn	**Pn**	**20 54 20.1**	**+2.2**
ICHK	**Chekchek**	**3.44**	**36**	Pn	**Pn**	**20 54 21.2**	**+2.9**
AHWZ	**Ahwaz**	**3.44**	**303**	Pn	**Pn**	**20 54 20.9**	**+2.9**
YZKH	**Yazd**	**3.65**	**37**	*e*Pn	**Pn**	**20 54 24.6**	**+3.5**
IBAF	**Bafgh**	**3.72**	**55**	Pn	**Pn**	**20 54 25.1**	**+3.0**
SAKB	**Bahrain**	**3.73**	**201**	P	**Pn**	**20 54 24.7**	**+2.7**
SAKB				S	**Sn**	**20 55 04.2**	**-1.0**
SAKB	**Bahrain**	**3.73**	**201**	Pn	**Pn**	**20 54 24.6**	**+2.6**
SHMA	**Al-Shehemyia**	**3.73**	**195**	P	**Pn**	**20 54 24.6**	**+2.5**
	SNR=47						
SHMA				S	**Sn**	**20 55 05.0**	**-0.3**
IKLH	**Kolahrood**	**3.84**	**355**	Pn	**Pn**	**20 54 25.4**	**+1.5**
KHGB	**Koh Gabri**	**3.98**	**76**	Pn	**Pn**	**20 54 28.5**	**+2.8**
NGRK	**Negar Kerman**	**4.12**	**87**	Pn	**Pn**	**20 54 30.3**	**+2.5**
KRBR	**Kerman**	**4.16**	**82**	*e*Pn	**Pn**	**20 54 31.3**	**+3.0**
KRBR				IAML		20 55 24.1	
	comp=N,345nm,0.6s						
KRBR				IAML		20 55 26.8	
	comp=E,472nm,0.6s						
BNDS	**Bandar-Abbas**	**4.21**	**119**	*e*Pn	**Pn**	**20 54 30.2**	**+1.3**
BNDS				IAML		20 55 26.6	
	comp=N,429nm,0.5s						
BNDS				IAML		20 55 34.8	
	comp=E,308nm,0.6s						
QAMS	**Qamsar**	**4.27**	**353**	Pn	**Pn**	**20 54 31.8**	**+2.1**
IBND	**Bandar-abas**	**4.47**	**116**	Pn	**Pn**	**20 54 34.3**	**+2.0**
KRSH	**Karshahi**	**4.47**	**1**	Pn	**Pn**	**20 54 35.2**	**+2.8**
JRN	**Qarnain Island**	**4.58**	**170**	P	**Pn**	**20 54 35.0**	**+1.2**
JRN				S	**Sn**	**20 55 26.1**	**-0.3**
JRN	**Qarnain Island**	**4.58**	**170**	Pn	**Pn**	**20 54 35.1**	**+1.2**
KHMZ	**Khomeyn**	**4.59**	**338**	*e*Pn	**Pn**	**20 54 35.4**	**+1.3**
KHMZ				IAML		20 55 32.6	
	comp=E,386nm,0.8s						
KHMZ				IAML		20 55 34.2	
	comp=N,418nm,0.5s						
ESRB	**Sir Abu**	**4.69**	**155**	Pn	**Pn**	**20 54 36.3**	**+1.1**
TRNA	**Turayna**	**4.78**	**189**	P	**Pn**	**20 54 38.2**	**+1.6**
	SNR=108						
TRNA				S	**Sn**	**20 55 29.7**	**-1.6**
SMRA	**Abu-Samra**	**4.84**	**193**	P	**Pn**	**20 54 39.5**	**+2.2**
	SNR=33						
SMRA				S	**Sn**	**20 55 34.2**	**+1.5**
ISFB	**Sefidab**	**4.86**	**2**	Pn	**Pn**	**20 54 38.5**	**+0.8**
SHME	**Shamm**	**5.01**	**132**	*i* P	**Pn**	**20 54 40.1**	**+0.4**
	SNR=26						
SHME				S	**Sn**	**20 55 37.1**	**+0.2**
SHME	**Shamm**	**5.01**	**132**	P	**Pn**	**20 54 41.3**	**+1.6**
	SNR=26						
SHME				P	Pb	20 54 41.4	-11
	SNR=11						
SHME				S	**Sn**	**20 55 37.8**	**+0.8**
GHVR	**GHOM**	**5.02**	**353**	*e*Pn	**Pn**	**20 54 42.1**	**+2.2**
GHVR				IAML		20 55 56.7	
	comp=N,199nm,0.4s						
GHVR				IAML		20 55 58.1	
	comp=E,227nm,0.5s						
UMQ	**Umm Al-Quwin**	**5.11**	**140**	P	**Pn**	**20 54 42.5**	**+1.5**
UMQ				S	**Sn**	**20 55 40.9**	**+1.6**
BANOM	**Banah**	**5.20**	**132**	*i* P	**Pn**	**20 54 43.6**	**+1.2**
	SNR=14						
BANOM	**Banah**	**5.20**	**132**	P	**Pn**	**20 54 43.9**	**+1.5**
BANOM				S	**Sn**	**20 55 41.5**	**-0.2**
ASAQ	**Ashtian**	**5.32**	**342**	*e*Pn	**Pn**	**20 54 45.5**	**+1.3**
ASAQ				IAML		20 55 49.8	
	comp=E,249nm,0.3s						
ASAQ				IAML		20 55 50.4	
	comp=N,444nm,0.6s						
TPRV	**Parvadeh(Tabas**	**5.34**	**47**	Pn	**Pn**	**20 54 47.2**	**+2.9**
IVRN	**Varamin**	**5.50**	**358**	Pn	**Pn**	**20 54 47.9**	**+1.4**
MASF	**Masafi**	**5.51**	**137**	P	**Pn**	**20 54 48.0**	**+1.4**
	SNR=22						
MASF				S	**Sn**	**20 55 48.2**	**-1.2**
	SNR=8.0						
MSFE	**Esma-Masafi**	**5.52**	**137**	*i* P	**Pn**	**20 54 47.8**	**+1.1**
	SNR=22						
HSAM	**Samen**	**5.53**	**329**	Pn	**Pn**	**20 54 48.3**	**+1.2**
NAZ	**Nazwa, Dubai**	**5.53**	**143**	*i* P	**Pn**	**20 54 48.4**	**+1.5**
	SNR=20						
NAZ	**Nazwa, Dubai**	**5.53**	**143**	P	**Pn**	**20 54 48.5**	**+1.6**
	SNR=7.2						
NAZ				S	**Sn**	**20 55 49.5**	**-0.4**
AJN	**Ajban**	**5.57**	**151**	*i* P	**Pn**	**20 54 48.7**	**+1.3**
	SNR=6.1						
AJN	**Ajban**	**5.57**	**151**	P	**Pn**	**20 54 48.9**	**+1.5**
	SNR=6.1						
AJN				S	**Sn**	**20 55 50.4**	**-0.4**
KBAM	**BAM**	**5.64**	**92**	Pn	**Pn**	**20 54 51.0**	**+2.6**
ASUD	**Al Ashush, Dub**	**5.67**	**148**	*i* P	**Pn**	**20 54 50.3**	**+1.5**
	SNR=62						
ASUD	**Al Ashush, Dub**	**5.67**	**148**	P	**Pn**	**20 54 50.4**	**+1.7**
	SNR=61						
ASUD				S	**Sn**	**20 55 53.3**	**0.0**
FAQ	**Al Faqa, Dubai**	**5.70**	**145**	*i* P	**Pn**	**20 54 50.3**	**+1.2**
	SNR=14						
FAQ	**Al Faqa, Dubai**	**5.70**	**145**	P	**Pn**	**20 54 50.5**	**+1.4**
	SNR=18						
FAQ				S	**Sn**	**20 55 53.1**	**-0.8**
HAGD	**Aghdareh**	**5.85**	**336**	Pn	**Pn**	**20 54 52.4**	**+1.0**
HATD	**Hatta, Dubai**	**5.92**	**141**	*i* P	**Pn**	**20 54 53.0**	**+0.9**
	SNR=41						
HATD	**Hatta, Dubai**	**5.92**	**141**	P	**Pn**	**20 54 53.1**	**+0.9**
	SNR=41						
HATD				S	**Sn**	**20 55 58.0**	**-1.3**
ILAS	**Lasjerd**	**5.94**	**8**	Pn	**Pn**	**20 54 54.6**	**+2.0**
TNSJ	**Nastanj**	**5.94**	**40**	Pn	**Pn**	**20 54 55.5**	**+3.0**
IHSB	**Hasanabad**	**5.97**	**354**	Pn	**Pn**	**20 54 54.1**	**+1.1**
ASHO	**Ashiyiah**	**5.99**	**142**	*i* P	**Pn**	**20 54 54.0**	**+0.8**
	SNR=96						
ASHO	**Ashiyiah**	**5.99**	**142**	P	**Pn**	**20 54 54.0**	**+0.8**
	SNR=97						
ASHO				S	**Sn**	**20 55 59.6**	**-1.5**
TKDS	**Koohdasht(Taba**	**6.00**	**45**	Pn	**Pn**	**20 54 56.1**	**+2.7**
TABS	**Tabas**	**6.02**	**45**	*e*Pn	**Pn**	**20 54 56.4**	**+2.8**
IKOM	**Komasi**	**6.04**	**322**	Pn	**Pn**	**20 54 55.2**	**+1.2**
DAMV	**Damavand**	**6.13**	**360**	*e*Pn	**Pn**	**20 54 57.6**	**+2.3**
IRAZ	**Razeghan**	**6.16**	**344**	Pn	**Pn**	**20 54 56.7**	**+1.1**
IANJ	**Anjilo**	**6.18**	**15**	Pn	**Pn**	**20 54 58.5**	**+2.6**
IALM	**Almabolaq**	**6.27**	**330**	Pn	**Pn**	**20 54 58.7**	**+1.5**
IMHD	**Mahdasht**	**6.29**	**350**	Pn	**Pn**	**20 54 58.1**	**+0.8**
JASK	**Jask - Hormozg**	**6.32**	**123**	Pn	**Pn**	**20 54 59.0**	**+1.3**
ALNE	**Al Ain**	**6.36**	**147**	*i* P	**Pn**	**20 54 59.2**	**+1.0**
	SNR=22						
ALNE	**Al Ain**	**6.36**	**147**	P	**Pn**	**20 54 59.2**	**+1.0**
	SNR=22						
ALNE				S	**Sn**	**20 56 08.5**	**-1.7**
KCHF	**Cheshme Sefid,**	**6.38**	**320**	Pn	**Pn**	**20 54 59.5**	**+0.9**
ILBA	**Ilam Banvizeh**	**6.45**	**311**	*e*Pn	**Pn**	**20 55 00.3**	**+0.9**
ILBA	**Ilam Banvizeh**	**6.45**	**311**	Pn	**Pn**	**20 55 00.1**	**+0.6**
CHTH	**Charan**	**6.45**	**354**	*e*Pn	**Pn**	**20 55 01.4**	**+1.7**
THKV	**Tehran--Karaj**	**6.49**	**352**	*e*Pn	**Pn**	**20 55 02.4**	**+2.3**
MZR	**Muzera**	**6.59**	**168**	P	**Pn**	**20 55 03.0**	**+1.6**
	SNR=8.0						
MZR				S	**Sn**	**20 56 14.1**	**-1.8**
BSRN	**Basiran**	**6.61**	**66**	*e*Pn	**Pn**	**20 55 04.1**	**+2.4**
BSRN	**Basiran**	**6.61**	**66**	Pn	**Pn**	**20 55 03.9**	**+2.1**
IKOO	**Kooshah**	**6.68**	**62**	Pn	**Pn**	**20 55 06.2**	**+3.3**
SOHO	**SOHO**	**6.69**	**142**	*i* P	**Pn**	**20 55 02.8**	**0.0**
	SNR=40						
SOHO	**SOHO**	**6.69**	**142**	P	**Pn**	**20 55 03.0**	**+0.3**
SOHO				S	**Sn**	**20 56 17.0**	**-1.2**
ITEG	**Tejag**	**6.70**	**58**	Pn	**Pn**	**20 55 04.8**	**+1.8**
IPRN	**Peran**	**6.75**	**2**	Pn	**Pn**	**20 55 07.2**	**+3.6**
SNGE	**Sanandaj**	**6.84**	**326**	*e*Pn	**Pn**	**20 55 06.2**	**+1.1**
ILIN	**Lien**	**6.90**	**323**	Pn	**Pn**	**20 55 07.1**	**+1.2**
AFRZ	**Afriz**	**7.16**	**55**	Pn	**Pn**	**20 55 11.5**	**+2.1**
IGLO	**Ghaloghah**	**7.17**	**12**	Pn	**Pn**	**20 55 12.1**	**+2.6**
NHDN	**Nehbandan**	**7.20**	**73**	Pn	**Pn**	**20 55 12.7**	**+2.8**
SHRO	**Shahrood**	**7.31**	**26**	*e*Pn	**Pn**	**20 55 14.0**	**+2.6**
ARQ	**Araqi**	**7.34**	**146**	P	**Pn**	**20 55 12.1**	**+0.4**
	SNR=75						
ARQ				S	**Sn**	**20 56 31.6**	**-2.7**
QSDN	**Sirdan**	**7.39**	**342**	Pn	**Pn**	**20 55 13.1**	**+0.5**
GIDE	**GILAN DEYLAMAN**	**7.62**	**347**	*e*Pn	**Pn**	**20 55 17.8**	**+2.0**
ZHSF	**Zahedan**	**7.64**	**87**	*e*Pn	**Pn**	**20 55 18.4**	**+2.4**
ZNJK	**Zanjan**	**7.69**	**340**	*e*Pn	**Pn**	**20 55 18.2**	**+1.5**
BIDO	**Bidbid**	**8.08**	**136**	P	**Pn**	**20 55 22.0**	**+0.2**
	SNR=9.1						
BIDO				S	**Sn**	**20 56 48.6**	**-4.0**
BSY	**Bisya**	**8.17**	**144**	P	**Pn**	**20 55 23.3**	**+0.2**
	SNR=28						
BSY				P	**Pn**	**20 55 23.3**	**+0.2**
	SNR=28						
BSY				S	**Sn**	**20 56 50.4**	**-4.5**
BSY				S	**Sn**	**20 56 50.4**	**-4.5**
SHRT	**Shahrakht**	**8.19**	**57**	*e*Pn	**Pn**	**20 55 26.6**	**+3.1**
SHRT	**Shahrakht**	**8.19**	**57**	Pn	**Pn**	**20 55 26.5**	**+3.1**
SBZV	**Sabzevar**	**8.34**	**33**	Pn	**Pn**	**20 55 27.8**	**+2.2**
SMDO	**Samad**	**8.38**	**138**	P	**Pn**	**20 55 26.0**	**-0.1**
	SNR=44						
SMDO				S	**Sn**	**20 56 56.0**	**-4.2**
	SNR=5.2						
CHBR	**Chabahar**	**8.46**	**115**	*e*Pn	**Pn**	**20 55 27.3**	**+0.3**
TBHD	**Torbat heydari**	**8.50**	**44**	Pn	**Pn**	**20 55 30.6**	**+2.9**
WSAR	**Wadi Sarin**	**8.60**	**135**	P	**Pn**	**20 55 29.0**	**0.0**
	SNR=74						
WSAR				S	**Sn**	**20 57 00.1**	**-5.2**
WSAR	**Wadi Sarin**	**8.60**	**135**	Pn	**Pn**	**20 55 29.0**	**0.0**
	comp=N,9.1nm,0.3s,baz=326,slow=9.7,SNR=145						
WSAR				Sn	**Sn**	**20 57 01.5**	**-3.8**
	comp=N,6.9nm,0.3s,baz=151,slow=22,SNR=6.1						
WSAR				LR	LR	20 59 21.6	
	comp=N,284nm,19.8s,baz=318,slow=41						
	comp=N,28nm,0.4s						
MRVT	**Maraveh tapeh**	**8.84**	**22**	*e*Pn	**Pn**	**20 55 35.2**	**+3.0**
MRVT	**Maraveh tapeh**	**8.84**	**22**	Pn	**Pn**	**20 55 34.4**	**+2.1**
JMDO	**Jabal Madar**	**8.96**	**141**	P	**Pn**	**20 55 32.9**	**-1.0**
JMDO				P	**Pn**	**20 55 32.9**	**-1.0**
JMDO				S	**Sn**	**20 57 09.3**	**-4.9**
JMDO				S	**Sn**	**20 57 09.3**	**-4.9**
MAHB	**Mahabad**	**8.98**	**326**	Pn	**Pn**	**20 55 35.3**	**+1.0**
IMOG	**Moghan**	**9.04**	**41**	Pn	**Pn**	**20 55 38.2**	**+2.9**
ISFR	**Sfrayin**	**9.06**	**32**	Pn	**Pn**	**20 55 38.1**	**+2.6**
IAKL	**Akhelmad**	**9.08**	**37**	Pn	**Pn**	**20 55 38.9**	**+3.1**
WBK	**Wadi Bani Khal**	**9.27**	**136**	P	**Pn**	**20 55 37.7**	**-0.5**
	SNR=8.6						
WBK				P	**Pn**	**20 55 37.7**	**-0.5**
	SNR=8.6						
WBK				S	**Sn**	**20 57 17.2**	**-4.7**
WBK				S	**Sn**	**20 57 17.2**	**-4.7**
BJRD	**Bojnurd**	**9.35**	**27**	*e*Pn	**Pn**	**20 55 42.4**	**+3.0**
JRKH	**Jarkhoshk**	**9.51**	**45**	Pn	**Pn**	**20 55 44.8**	**+3.3**
LKRN	**Lenkeran, Azer**	**9.58**	**345**	P	**Pn**	**20 55 45.1**	**+2.7**
IKRD	**Kardeh**	**9.61**	**39**	Pn	**Pn**	**20 55 47.5**	**+4.4**
IEMG	**Emamgholi**	**9.66**	**33**	Pn	**Pn**	**20 55 46.5**	**+2.8**
GEYT	**Alibeck**	**9.84**	**30**	Pn	**Pn**	**20 55 48.4**	**+2.4**
GEYT	**Alibeck**	**9.84**	**30**	Pn	**Pn**	**20 55 49.0**	**+3.0**
	comp=N,1.3nm,0.3s,baz=193,slow=12,SNR=60						
GEYT				Lg	Lg	20 58 40.9	
	baz=243,slow=19						
GEYT				LR	LR	21 00 17.5	
	comp=N,1μm,21.3s,baz=207,slow=41						
	comp=N,29nm,0.8s						
GYA0	**ALIBECK ARRAY**	**9.84**	**30**	P	**Pn**	**20 55 48.3**	**+2.3**
GYA0B	**ALIBECK ARRAY**	**9.84**	**30**	Pn	**Pn**	**20 55 47.9**	**+1.9**
JLN	**Jalan Bani Buh**	**9.88**	**136**	P	**Pn**	**20 55 45.8**	**-0.8**
	SNR=11						
JLN				S	**Sn**	**20 57 30.9**	**-6.0**
GRMI	**Germi**	**9.90**	**341**	*e*Pn	**Pn**	**20 55 48.5**	**+1.5**
GRMI	**Germi**	**9.90**	**341**	Pn	**Pn**	**20 55 49.0**	**+2.0**
HRA	**Herat**	**9.97**	**58**	Pn	**Pn**	**20 55 50.3**	**+2.3**
MHTO	**MHTO**	**10.03**	**146**	P	**Pn**	**20 55 48.0**	**-0.7**
	SNR=18						
MHTO				S	**Sn**	**20 57 36.3**	**-4.2**
CUKT	**Cukurca**	**10.45**	**320**	*e*P	**Pn**	**20 55 53.9**	**-0.5**
DQM	**DQM**	**10.76**	**151**	P	**Pn**	**20 55 57.4**	**-1.1**
	SNR=16						
DQM				S	**Sn**	**20 57 53.5**	**-4.9**
NAX	**Nakhchivan**	**11.06**	**333**	P	**Pn**	**20 56 05.0**	**+2.3**
MAKU	**Maku**	**11.55**	**330**	*e*Pn	**Pn**	**20 56 11.7**	**+2.1**
VANB	**Van**	**11.56**	**324**	*e*P	**Pn**	**20 56 08.1**	**-1.5**
AKDM	**Akdamar-Van**	**11.57**	**322**	*e*P	**Pn**	**20 56 09.9**	**+0.1**
WHFO	**Wadi Hawf**	**11.62**	**172**	P	**Pn**	**20 56 08.7**	**-1.8**
	SNR=29						
CLDR	**Calidiran**	**11.72**	**327**	*e*P	**Pn**	**20 56 12.8**	**+0.8**
SHAO	**Shalim**	**11.88**	**163**	*i* P	**Pn**	**20 56 12.6**	**-1.4**
	SNR=20						
SHAO	**Shalim**	**11.88**	**163**	P	**Pn**	**20 56 11.7**	**-2.3**
	SNR=20						
MNGR	**Mingechevir, A**	**11.96**	**342**	P	**Pn**	**20 56 17.6**	**+2.7**
DMTO	**DMTO**	**12.02**	**166**	P	**Pn**	**20 56 13.6**	**-2.2**
	SNR=44						
GANJ	**Ganja**	**12.07**	**339**	P	**Pn**	**20 56 18.9**	**+2.4**
RBK	**Rabkut**	**12.09**	**170**	P	**Pn**	**20 56 15.1**	**-1.8**
RBK				S	**Sn**	**20 58 26.1**	**-5.1**
ABTO	**Aybut**	**12.13**	**174**	P	**Pn**	**20 56 15.2**	**-2.3**
	SNR=52						
GNI	**Garni**	**12.20**	**333**	P	Pn	20 56 24.4	+6.1
GNI	**Garni**	**12.20**	**333**	Pn	**Pn**	**20 56 22.5**	**+4.2**
	comp=N,0.3nm,0.3s,baz=210,slow=23,SNR=2.3						
GNI				LR	LR	21 00 52.0	
	comp=N,74nm,21.8s,baz=148,slow=36						
	comp=N,2.3nm,0.5s						
GURO	**Guroymak-BITLI**	**12.25**	**320**	Pn	**Pn**	**20 56 18.5**	**-0.6**
SEKA	**Sheki**	**12.34**	**343**	P	**Pn**	**20 56 23.1**	**+2.9**
AGRB	**Hanur-Agry**	**12.51**	**326**	*e*P	Pn	20 56 28.2	+5.6
VRTB	**Varto-Mus**	**13.00**	**321**	*e*P	**Pn**	**20 56 29.5**	**+0.2**
ASF	**Jabal al Asfar**	**13.26**	**285**	P	**Pn**	**20 56 32.1**	**-0.8**
KARS	**Kars**	**13.30**	**329**	Pn	**Pn**	**20 56 32.9**	**-0.5**
KARS	**Kars**	**13.30**	**329**	P	**Pn**	**20 56 32.9**	**-0.5**
KOPR	**Koprukoy-ERZUR**	**13.39**	**324**	*e*P	**Pn**	**20 56 35.9**	**+1.2**
SENK	**Senkaya-Erzuru**	**13.58**	**327**	*e*P	**Pn**	**20 56 37.2**	**-0.1**
AKH	**Akhalkalaki**	**13.77**	**332**	Pn	**Pn**	**20 56 40.2**	**+0.4**
AKH	**Akhalkalaki**	**13.77**	**332**	P	**Pn**	**20 56 40.2**	**+0.4**
HSUJ	**Al Zarqa**	**13.85**	**285**	P	**P**	**20 56 48.0**	**-1.0**
MAK	**Makhachkala**	**13.93**	**346**	*e*P	**Pn**	**20 56 39.2**	**-2.6**
MAK				*e*S	**Sn**	**20 59 14.2**	**-1.5**
MAK				pmax	pmax		
	comp=Z,102nm,1.0s						
MAK				MLR	MLR		
	comp=Z,509nm,17.0s						
PTK	**Pertek**	**14.03**	**315**	*e*P	**Pn**	**20 56 41.6**	**-1.8**
KARJ	**KARJ**	**14.23**	**281**	P	**P**	**20 56 51.3**	**-1.9**
SHMJ	**Saham**	**14.29**	**287**	P	**Pn**	**20 56 47.2**	**+0.4**
KSHT	**Keshet**	**14.29**	**288**	Sn	**Sn**	**20 59 22.7**	**-2.1**
GHAJ	**Ghor Haditha**	**14.31**	**281**		**Pn**	**20 56 45.8**	**-1.3**
GHAJ	**Ghor Haditha**	**14.31**	**281**	Pn	**Pn**	**20 56 45.2**	**-1.9**
GHAJ	**Ghor Haditha**	**14.31**	**281**	P	**Pn**	**20 56 48.1**	**+1.0**
LISJ	**El Lisan**	**14.38**	**281**	P	**P**	**20 56 54.7**	**-0.1**
QRNJ	**Al-Qirein**	**14.39**	**286**	P	**P**	**20 56 53.2**	**-1.8**
NATI	**Neve Ativ**	**14.40**	**289**	P	**Pn**	**20 56 49.0**	**+0.7**
GEM	**Giv'at Ha'Em**	**14.45**	**289**	Pn	**Pn**	**20 56 47.4**	**-1.7**
DSI	**Dead Sea**	**14.48**	**282**	Pn	**Pn**	**20 56 47.6**	**-1.9**
MSBI	**Mazada**	**14.49**	**281**	Pn	**Pn**	**20 56 47.7**	**-1.8**
ZFRI	**Zfri**	**14.62**	**278**	Pn	**Pn**	**20 56 49.6**	**-1.8**
ZFRI	**Zfri**	**14.62**	**278**	P	**P**	**20 56 57.8**	**+0.2**
MMA0B	**Mount Meron ar**	**14.63**	**288**	Pn	**Pn**	**20 56 49.9**	**-1.7**
MMA0B				Sn	**Sn**	**20 59 30.7**	**-2.5**
MMAI	**Mount Meron Ar**	**14.63**	**288**	Pn	**Pn**	**20 56 52.2**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=100,slow=15,SNR=7.9						
MMAI				Sn	**Sn**	**20 59 29.9**	**-3.3**
	comp=Z,6.1nm,0.3s,baz=117,slow=33,SNR=11						
MMAI				LR	LR	21 03 56.6	
	comp=Z,315nm,18.4s,baz=74,slow=43						
	comp=Z,3.3nm,0.6s						
MMC7	**Mount Meron ar**	**14.64**	**288**	Pn	**Pn**	**20 56 50.7**	**-1.0**
YTIR	**Yattir**	**14.70**	**282**	P	**P**	**20 57 00.0**	**+1.5**
HRFI	**Mount Harif**	**14.76**	**276**	*e*P	**Pn**	**20 56 52.9**	**-0.3**
HRFI	**Mount Harif**	**14.76**	**276**	Pn	**Pn**	**20 56 51.0**	**-2.2**
PRNI	**Paran**	**14.78**	**278**	P	**P**	**20 57 00.8**	**+1.5**
ONI	**Oni**	**14.79**	**334**	*e*P	**Pn**	**20 56 53.8**	**+0.2**
ONI	**Oni**	**14.79**	**334**	Pn	**Pn**	**20 56 55.1**	**+1.6**
ONI	**Oni**	**14.79**	**334**	P	**Pn**	**20 56 55.2**	**+1.6**
ZEI	**Tsey**	**14.79**	**336**	*e*P	**Pn**	**20 56 53.6**	**-0.2**

ANN Anapa 19.16 327 *e*P **P** 20 57 47.4 -0.2
ANN *e*S **S** 21 01 25.2 +1.8
ANN pmax pmax
comp=Z,23nm,1.5s
SVRH Sivrihisar-ESK 19.56 306 *e*P **P** 20 57 52.1 -0.1
ISP Isparta 19.70 301 P **P** 20 57 52.5 -1.1
ISP Isparta 19.70 301 P **P** 20 57 52.6 -1.1
ISP pmax pmax
comp=Z,20nm,0.8s
ATD Arta Tunnel 19.80 207 P **P** 20 57 54.0 -0.9
ATD Arta Tunnel 19.80 207 P **Pn** 20 57 56.2 -0.3
baz=355,slow=5.3,SNR=5.5
ATD LR LR 21 06 46.5
comp=Z,65nm,18.3s,baz=20,slow=40
ELL Elmali 19.85 297 *e*P **Pn** 20 57 57.4 +0.3
ELL Elmali 19.85 297 P **P** 20 57 55.5 +0.1
ELL Elmali 19.85 297 P **P** 20 57 55.5 +0.1
ELL pmax pmax
comp=Z,70nm,0.6s
SHUT Suhut-Afyon 19.92 303 *e*P **Pn** 20 57 58.9 +1.0
KK31 Karatay Array 20.12 43 P **P** 20 57 58.6 +0.4
KK31 IAmb IAmb 20 58 11.2
comp=Z,43nm,1.1s
KK31 Karatay Array 20.12 43 P **P** 20 57 58.6 +0.4
KK31 pmax pmax
comp=Z,43nm,1.1s
KKAR Karatay Array 20.12 43 P **P** 20 57 58.7 +0.5
KKAR Karatay Array 20.12 43 P **P** 20 57 58.0 -0.1
KKAR IAmb IAmb 20 58 11.2
comp=Z,43nm,1.1s
KKAR Karatay Array 20.12 43 P **P** 20 57 58.7 +0.5
KKAR pmax pmax
comp=Z,43nm,1.1s
MDUB Mudurnu 20.22 308 *e*P Pn 20 58 00.5 -0.9
MDUB Mudurnu 20.22 308 P **P** 20 57 59.5 +0.1
CAME Cameli-Denizli 20.37 297 *e*P Pn 20 58 02.7 -0.6
SRCK Saricakaya, Es 20.43 307 *e*P Pn 20 58 02.9 -0.9
DZA Taraz 20.49 44 *e*P **P** 20 58 03.2 +0.9
baz=44
DZA Taraz 20.49 44 *e*P **P** 20 58 03.1 +0.9
APMY Acipayam-Deniz 20.52 299 *e*P **P** 20 58 02.0 -0.6
ABKAR Akbulak array 20.65 15 P **P** 20 58 04.3 +0.4
ABKAR Akbulak array 20.65 15 P **P** 20 58 04.0 +0.1
ABKAR IAmb IAmb 20 58 10.1
comp=Z,22nm,0.9s
GULT Gulveren 20.68 308 *e*P Pn 20 58 06.9 +0.2
SIM Simferopol' 20.94 322 *e*P Pn 20 58 09.5 -0.1
SIM pmax pmax
comp=Z,25nm,0.8s
ARG Arkhangelos 21.13 295 P **P** 20 58 06.5 -2.6
ARG IAmb IAmb 20 58 13.2
comp=Z,63nm,1.3s
ARG Arkhangelos 21.13 295 P **P** 20 58 06.5 -2.6
ARG pmax pmax
comp=Z,63nm,1.3s
AKTO Aktyubinsk 21.41 11 P **P** 20 58 13.3 +1.3
comp=Z,30nm,0.8s,baz=196,slow=8.7,SNR=35
AKTO LR LR 21 08 38.5
comp=Z,345nm,18.0s,baz=237,slow=42
comp=Z,30nm,0.8s
AML Almayashu 21.57 48 P **P** 20 58 15.8 +1.5
SNR=91
KARP Karpathos 21.78 293 P **P** 20 58 17.2 +1.0
KARP IAmb IAmb 20 58 21.9
comp=Z,51nm,0.8s
EKS2 Erkin-Say 21.89 47 P **P** 20 58 19.5 +2.1
SNR=24
KSH Kashi 22.08 57 P **P** 20 58 16.5 -3.0
KSH pP pP 20 58 19.5 -6.8
KSH PP **PnPn** 20 58 41.8 +0.1
KSH pmax pmax
comp=Z,17nm,0.7s
KSH LR LR
comp=Z,190nm,12.1s
KSH LR LR
comp=Z,570nm,13.5s
KSH LR LR
comp=Z,460nm,14.8s
UCH Uchtor 22.16 49 P **P** 20 58 22.3 +1.7
SNR=36
BALB Balikesir 22.24 304 P **P** 20 58 20.2 -0.9
BALB IAmb IAmb 20 58 39.8
comp=Z,29nm,1.0s
AAK Ala-Archa 22.34 48 P **P** 20 58 23.9 +1.7
SNR=26
AAK Ala-Archa 22.34 48 P **P** 20 58 23.2 +0.9
AAK Ala-Archa 22.34 48 *i* P **P** 20 58 24.4 +2.1
SNR=30
AAK Ala-Archa 22.34 48 P **P** 20 58 24.5 +2.3
AAK P **P** 20 58 24.5 +2.3
AAK Ala-Archa 22.34 48 ⇓ *i*P **P** 20 58 24.0 +1.7
AAK Ala-Archa 22.34 48 ScP **ScP** 21 05 53.0 -0.5
comp=Z,4.6nm,0.7s,baz=257,slow=2.8,SNR=10
AAK LR LR 21 08 39.0
comp=Z,564nm,21.7s,baz=250,slow=41
FRU1 Bishkek 22.51 48 P **P** 20 58 25.3 +1.3
FRU1 IAmb IAmb 20 58 44.3
comp=Z,42nm,0.9s
FRU1 Bishkek 22.51 48 P **P** 20 58 25.3 +1.3
FRU1 pmax pmax
comp=Z,42nm,0.9s
KZA Kyzart 22.58 50 P **P** 20 58 27.4 +2.3
SNR=45
KBK Karagaybulak 22.64 48 P **P** 20 58 29.8 +4.2
SNR=37
USP Ospenovka 22.65 47 P **P** 20 58 28.9 +3.4
SNR=34
CHMS Chumysh 22.68 47 P **P** 20 58 29.2 +3.5
SNR=24
SGDS Sogindy 22.82 46 *e*P **P** 20 58 28.4 +1.0
baz=46
SGDS Sogindy 22.82 46 *e*P **P** 20 58 28.3 +1.0
VRH Novokhopyorsk 23.02 343 *e*P **P** 20 58 28.0 -1.2
VRH *e*S **S** 21 02 35.2 -3.3
VRH pmax pmax
comp=Z,50nm,0.6s
BELG Belogornoye 23.12 353 *d* i P **P** 20 58 30.5 +0.4
BELG pmax pmax
comp=Z,23nm,1.0s
TKM2 Tokmak 2 23.19 48 P **P** 20 58 33.0 +1.8
SNR=18
ULHL Ulahol 23.31 50 P **P** 20 58 34.5 +2.0
SNR=5.7
BTLS Baital 23.32 42 *e*P **P** 20 58 33.2 +0.9
comp=Z,15nm,0.9s,baz=42
BTLS Baital 23.32 42 *e*P **P** 20 58 33.1 +0.9
BTLS pmax pmax
comp=Z,15nm,0.9s
VSR Storozhevoye 23.74 340 *e*P **P** 20 58 34.7 -1.6
VSR *e*S **S** 21 02 47.6 -2.7
VSR pmax pmax
comp=Z,10.0nm,0.5s
ALN Alexandroupoli 23.99 305 P **P** 20 58 38.3 -0.5
ALN Alexandroupoli 23.99 305 P **P** 20 58 38.3 -0.5
ALN pmax pmax
comp=Z,19nm,1.0s
FURI Furi 24.00 214 P **P** 20 58 39.0 -0.4
FURI IAmb IAmb 20 58 49.3
comp=Z,38nm,1.0s
KUU Kurty 24.12 47 ⇑ *i*P **P** 20 58 41.0 +0.9
baz=47
KUU Kurty 24.12 47 *c* i P **P** 20 58 40.9 +0.9
VORR Voronezh 24.13 340 *e*P **P** 20 58 38.1 -1.9
VORR *e*S **S** 21 02 56.7 +0.2
VORR pmax pmax
comp=Z,50nm,0.5s
TPGR Topolog 24.14 316 ⇓P **P** 20 58 41.7 +1.5
TARG Taragay, Kyrgy 24.17 53 P **P** 20 58 41.9 +0.9
TARG IAmb IAmb 20 58 45.7
comp=Z,33nm,0.9s
TARG Taragay, Kyrgy 24.17 53 P **P** 20 58 41.9 +0.9
TARG pmax pmax
comp=Z,33nm,0.9s
AAA Alma-Ata 24.18 49 *e*P **P** 20 58 41.8 +1.1
comp=Z,18nm,0.8s,baz=49
AAA Alma-Ata 24.18 49 *e*P **P** 20 58 41.7 +1.1
AAA pmax pmax
comp=Z,18nm,0.8s
MDOK Medeo 24.25 49 *e*P **P** 20 58 42.2 +0.9
baz=49
MDOK Medeo 24.25 49 *e*P **P** 20 58 42.2 +0.9
RDO Rodhopi 24.44 306 P **P** 20 58 42.5 -0.4
CFR Carcaliu 24.48 316 ⇓P **P** 20 58 45.1 +1.8
CFR Carcaliu 24.48 316 ⇓P **P** 20 58 45.1 +1.8
CHKK Chushkaly 24.52 47 *e*P **P** 20 58 44.8 +1.1
baz=47
CHKK Chushkaly 24.52 47 *e*P **P** 20 58 44.7 +1.1
LOZB Loznitsa 24.59 311 ⇑P **P** 20 58 45.5 +1.2
RAZG Razgrad 24.73 312 ⇑P **P** 20 58 45.9 +0.4
PRZ Przheval'sk 24.87 51 P **P** 20 58 47.5 +0.5
PRZ Przheval'sk 24.87 51 P **P** 20 58 47.5 +0.5
PRZ pmax pmax
comp=Z,72nm,0.8s
LPSR Galich'ya Gora 25.04 341 *e*P **P** 20 58 45.7 -2.5
LPSR *e*S **S** 21 03 11.0 0.0
LPSR pmax pmax
comp=Z,20nm,0.7s
MILM Milestii Mici 25.06 320 ⇓ *i*P **P** 20 58 48.5 +0.1
comp=Z,30nm,0.7s
MILM Milestii Mici 25.06 320 *d* i P **P** 20 58 48.5 +0.1
MILM pmax pmax
comp=Z,30nm,0.7s
SATY Saty 25.10 50 *e*P **P** 20 58 50.2 +1.1
comp=Z,12nm,1.0s,baz=50
SATY Saty 25.10 50 *e*P **P** 20 58 50.1 +1.1
SATY pmax pmax
comp=Z,12nm,1.0s
ZHN Zhinishke 25.17 50 *e*P **P** 20 58 50.8 +1.1
baz=50
ZHN Zhinishke 25.17 50 *e*P **P** 20 58 50.7 +1.1
ARXS Arharly 25.22 47 *e*P **P** 20 58 51.5 +1.4
SGRR Singureni 25.36 313 ⇑P **P** 20 58 54.2 +3.0
GHRR 25.38 317 ⇑P **P** 20 58 53.3 +1.9
SULR 25.39 314 ⇑P **P** 20 58 53.8 +2.3
ISR Istrita 25.43 315 ⇓P **P** 20 58 54.1 +2.2
ISR Istrita 25.43 315 ⇓P **P** 20 58 54.1 +2.2
ODBI Odobesti 25.44 317 ⇓P **P** 20 58 54.5 +2.6
VASR Vaslui 25.48 319 ⇑P **P** 20 58 53.3 +1.1
BISRR Bisoca 25.54 316 ⇑P **P** 20 58 54.8 +1.9
UZB Uzynbulak 25.55 50 *e*P **P** 20 58 54.0 +0.8
baz=50
UZB Uzynbulak 25.55 50 *e*P **P** 20 58 53.9 +0.8
VRI Vrincioaia 25.69 316 ⇑P **P** 20 58 55.9 +1.7
VRI Vrincioaia 25.69 316 ⇑P **P** 20 58 55.9 +1.7
PLOR Plostina 25.73 316 ⇑P **P** 20 58 56.7 +2.1
PLOR Plostina 25.73 316 ⇑P **P** 20 58 56.7 +2.1
BRZS Berezniki 25.76 32 *e*P **P** 20 58 56.5 +1.6
baz=32
BRZS Berezniki 25.76 32 *e*P **P** 20 58 56.4 +1.6
SHLS Shalkode 25.85 51 *e*P **P** 20 58 59.2 +3.3
comp=Z,27nm,1.2s,baz=51
SHLS Shalkode 25.85 51 *e*P **P** 20 58 59.1 +3.2
SHLS pmax pmax
comp=Z,27nm,1.2s
PLVB Pleven 25.90 310 ⇓P **P** 20 58 57.5 +1.4
TDK Taldyqorghan 25.95 46 *e*P **P** 20 58 57.5 +0.8
comp=Z,20nm,0.8s,baz=46
TDK Taldyqorghan 25.95 46 *e*P **P** 20 58 57.4 +0.8
TDK pmax pmax
comp=Z,20nm,0.8s
MLR Muntele Rosu 25.98 315 ⇓P **P** 20 58 58.8 +1.9
MLR Muntele Rosu 25.98 315 P **P** 20 58 57.3 +0.3
MLR IAmb IAmb 20 59 24.9
comp=Z,27nm,0.9s
MLR Muntele Rosu 25.98 315 ⇓P **P** 20 58 58.8 +1.9
COVR Voineasa-Covas 25.99 316 ⇓P **P** 20 58 59.3 +2.3
SORM Soroca 26.03 322 ⇓P **P** 20 58 56.9 -0.4
SORM Soroca 26.03 322 ⇓P **P** 20 58 56.9 -0.4
TESR Tescani 26.07 318 ⇓P **P** 20 58 58.9 +1.3
TURR Turia 26.21 316 ⇑P **P** 20 59 00.9 +1.9
OZUR 26.37 316 ⇑P **P** 20 59 01.6 +1.2
VOIR 26.50 314 ⇑P **P** 20 59 03.5 +1.8
VOIR 26.50 314 ⇑P **P** 20 59 03.5 +1.8
DOPR Dopca 26.55 316 ⇑P **P** 20 59 03.3 +1.3
STIP Stip 27.00 305 *i* P **P** 20 59 06.4 +0.3
BRVK Borovoye 27.11 25 P **P** 20 59 07.5 +0.6
BRVK IAmb IAmb 20 59 18.4
comp=Z,14nm,0.8s
BRVK Borovoye 27.11 25 P **P** 20 59 08.6 +1.7
BRVK P **P** 20 59 08.6 +1.7
BRVK Borovoye 27.11 25 *c* i P **P** 20 59 08.7 +1.7
BRVK pmax pmax
comp=Z,10.0nm,0.6s
BVAR Borovoye Array 27.12 25 P **P** 20 59 08.9 +1.9
comp=Z,18nm,0.5s,baz=221,slow=7.5,SNR=160
BVAR PcP **PcP** 21 02 28.1 +0.7
comp=Z,1.1nm,0.5s,baz=180,slow=1.1,SNR=4.5
BVAR ScP **ScP** 21 06 04.9 -1.5
comp=Z,4.3nm,0.8s,baz=236,slow=2.3,SNR=16
BVAR LR LR 21 11 24.1
comp=Z,361nm,18.2s,baz=220,slow=40
comp=Z,18nm,0.5s
PYUN Piuthan 27.15 85 *e*P **P** 20 59 08.8 +1.0
AKASG Malin Array Be 27.24 327 P **P** 20 59 08.5 +0.4
AKASG Malin Array Be 27.24 327 *i* P **P** 20 59 10.1 +2.0
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 27.24 327 P **P** 20 59 07.4 -0.7
comp=Z,1.4nm,0.4s,baz=135,slow=9.1,SNR=13
AKASG PcP **PcP** 21 02 26.1 -1.5
comp=Z,0.3nm,0.4s,baz=89,slow=2.2,SNR=1.8
AKASG ScP **ScP** 21 06 05.3 -1.5
comp=Z,1.0nm,0.6s,baz=89,slow=2.1,SNR=6.3
comp=Z,1.4nm,0.4s
AKBB Malin Array Si 27.24 327 P **P** 20 59 07.0 -1.2
AKBB IAmb IAmb 20 59 38.0
comp=Z,24nm,1.4s
AKBB Malin Array Si 27.24 327 *de*P **P** 20 59 10.3 +2.2
KIEV Kiev 27.24 327 ⇓P **P** 20 59 09.6 +1.4
KIEV Kiev 27.24 327 P **P** 20 59 06.7 -1.4
KIEV IAmb IAmb 20 59 38.0
comp=Z,21nm,1.4s
KIEV Kiev 27.24 327 P **P** 20 59 12.3 +4.2
KIEV Kiev 27.24 327 ⇓P **P** 20 59 09.6 +1.4
BLKB Belogradchik 27.30 309 ⇑P **P** 20 59 10.1 +1.3
ARU Arti 27.33 8 P **P** 20 59 09.7 +0.9
ARU IAmb IAmb 20 59 16.0
comp=Z,14nm,0.6s
ARU Arti 27.33 8 *c* i P **P** 20 59 10.4 +1.5
ARU 20 59 53.5
ARU S **S** 21 03 54.4 +7.2
ARU SS **SnSn** 21 05 02.0 +5.4
ARU pmax pmax
comp=Z,6.0nm,0.9s
ARU Arti 27.33 8 LR LR 21 11 56.3
comp=Z,328nm,18.5s,baz=191,slow=40
FNA Florina 27.34 303 P **P** 20 59 09.5 +0.3
FNA Florina 27.34 303 P **P** 20 59 09.5 +0.3
FNA pmax pmax
comp=Z,6.0nm,0.9s
BURAR Bucovina Array 27.48 319 ⇑P **P** 20 59 11.8 +1.3
BURAR Bucovina Array 27.48 319 ⇑P **P** 20 59 11.0 +0.5
BURAR Bucovina Array 27.48 319 ⇑P **P** 20 59 11.8 +1.3
BUR08 Bucovina Ar. S 27.51 319 P **P** 20 59 11.3 +0.6
KBN Korca 27.73 302 P **P** 20 59 13.6 +0.8
KBN IAmb IAmb 20 59 42.2
comp=Z,35nm,1.2s
KBN Korca 27.73 302 P **P** 20 59 13.6 +0.8
KBN pmax pmax
comp=Z,35nm,1.2s
KOLN Koldanda 27.74 86 *e*P **P** 20 59 13.8 +0.7
DANN Dangsing 27.77 84 *e*P **P** 20 59 14.5 +1.0
comp=Z,84nm,0.8s
DJES Djerdap 27.80 311 P **P** 20 59 13.5 +0.3
OHR Ohrid 27.84 303 *i* P **P** 20 59 15.5 +1.8
OBN Obninsk 27.91 341 *e*P **P** 20 59 14.8 +0.7
OBN *e* 21 00 01.7
OBN *e*PPP PPP 21 00 13.2
OBN pmax pmax
comp=Z,45nm,1.7s
OBN MLR MLR
comp=Z,136nm,18.0s
HERR Herculane 27.95 311 ⇑P **P** 20 59 14.5 0.0
SVE Sverdlovsk 28.00 10 *e*P **P** 20 59 16.7 +1.8
SVE pmax pmax
comp=Z,16nm,1.1s
MOS Moscow 28.18 343 *e*P **P** 20 59 13.9 -2.5
MDVR Moldovita 28.37 311 ⇑P **P** 20 59 19.7 +1.3
GKN Gorkha 28.60 85 *e*P **P** 20 59 21.1 +0.4
comp=Z,8.6nm,0.3s
BZS Buzias 28.76 312 ⇓P **P** 20 59 22.3 +0.5
BZS Buzias 28.76 312 ⇓P **P** 20 59 22.3 +0.5
MAKZ Makanchi 28.99 45 P **P** 20 59 24.5 +0.7
MAKZ IAmb IAmb 20 59 33.0
comp=Z,18nm,1.1s
MAKZ Makanchi 28.99 45 P **P** 20 59 24.5 +0.7
MAKZ pmax pmax
comp=Z,18nm,1.2s
KURBB Kurchatov Arra 29.02 36 P **P** 20 59 25.7 +1.7
comp=Z,2.9nm,0.2s,baz=236,slow=9.3,SNR=13
KURBB ScP **ScP** 21 06 11.5 -0.8
comp=Z,1.1nm,0.3s,baz=230,slow=4.0,SNR=9.5
KURBB LR LR 21 12 38.1
comp=Z,399nm,18.8s,baz=184,slow=40
comp=Z,2.9nm,0.2s
KURK Kurchatov 29.12 36 P **P** 20 59 25.9 +1.0
KURK Kurchatov 29.12 36 P **P** 20 59 26.5 +1.5
KURK P **P** 20 59 26.5 +1.5
KURK Kurchatov 29.12 36 *c* i P **P** 20 59 26.3 +1.4
KURK pmax pmax
comp=Z,9.0nm,1.3s
KIRV Kirov 29.15 357 *c* i P **P** 20 59 26.5 +1.5
KIRV Kirov 29.15 357 LR LR 21 14 03.7
comp=Z,216nm,20.3s,baz=173,slow=42
MK31 Makanchi Array 29.18 45 P **P** 20 59 26.3 +0.8
MK31 IAmb IAmb 20 59 34.5
comp=Z,11nm,0.9s
MK31 Makanchi Array 29.18 45 *i* P **P** 20 59 26.8 +1.3
MK31 pmax pmax
comp=Z,11nm,0.7s
MKAR Makanchi Array 29.18 45 P **P** 20 59 26.2 +0.7
MKAR Makanchi Array 29.18 45 *i* P **P** 20 59 27.0 +1.5
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 29.18 45 P **P** 20 59 27.0 +1.5
comp=Z,2.7nm,0.7s,baz=228,slow=8.6,SNR=38
MKAR PcP **PcP** 21 02 32.6 0.0
comp=Z,0.3nm,0.3s,baz=220,slow=1.8,SNR=5.1
MKAR ScP **ScP** 21 06 12.0 -1.0
comp=Z,1.4nm,0.8s,baz=191,slow=1.2,SNR=8.0
MKAR LR LR 21 12 51.8
comp=Z,458nm,20.1s,baz=255,slow=40
comp=Z,2.7nm,0.7s
KKN Kakani 29.20 85 *e*P **P** 20 59 26.8 +0.7
PKI Pulchoki 29.35 85 *e*P **P** 20 59 28.0 +0.4
comp=Z,19nm,0.6s
GUN Gumba 29.69 85 *e*P **P** 20 59 31.4 +0.7
comp=Z,41nm,0.8s
SEM Semipalatinsk 29.80 38 *e*P **P** 20 59 31.9 +0.7
baz=37
SEM Semipalatinsk 29.80 38 *e*P **P** 20 59 31.9 +0.7
KOLS Kolonicke sedl 29.85 319 *e*P **P** 20 59 32.8 +1.4
KOLS Kolonicke sedl 29.85 319 *e*P **P** 20 59 32.8 +1.4
KOLS pmax pmax
comp=Z,8.0nm,0.8s
JIRN Jiri 30.01 85 *e*P **P** 20 59 33.9 +0.4
comp=Z,13nm,0.6s
CRVS Cervenica-Dubn 30.30 318 *e* P 20 59 44.5 +9.1
CRVS Cervenica-Dubn 30.30 318 *e*P P 20 59 44.5 +9.1
LODK Lodwar 30.35 214 P **P** 20 59 36.0 -0.3
LODK Lodwar 30.35 214 P **P** 20 59 37.7 +1.5
SNR=5.2
MNK Minsk 30.47 332 *e*P **P** 20 59 35.2 -1.7
comp=E,5.0nm,1.2s
MNK *e*P **P** 20 59 35.2 -1.7
comp=N,4.0nm,1.2s
MNK *e*P **P** 20 59 35.2 -1.7
comp=Z,5.0nm,0.9s,baz=135
MNK *i* PP **PnPn** 21 00 33.5 -2.2
MNK *i* PPP PPP 21 00 42.7
MNK *i* S **S** 21 04 38.0 +1.3
MNK *i* SS **SnSn** 21 06 14.6 +1.4
MNK *i* SSS SSS 21 06 29.9
MNK *i* LQ LQ 21 09 28.4
MNK *i* LR LR 21 11 41.8
MNK *i* LRM MLR 21 12 58.2
comp=E,22nm,7.0s
MNK *i* LRM MLR 21 13 01.8
comp=N,87nm,10.0s
MNK *i* LRM MLR 21 13 02.4
comp=Z,87nm,8.9s
MNK Minsk 30.47 332 *e*P **P** 20 59 35.1 -1.7
MNK *i* PPP PPP 21 00 42.7
MNK *i* S **S** 21 04 37.9 +1.3
MNK *i* SS **SnSn** 21 06 14.5 +1.4
MNK pmax pmax
comp=Z,5.0nm,0.9s
MNK pmax pmax
comp=E,5.0nm,1.2s
MNK pmax pmax
comp=N,4.0nm,1.2s
MNK MLR MLR
comp=E,22nm,7.0s
MNK MLR MLR
comp=N,87nm,10.0s
MNK MLR MLR
comp=Z,87nm,9.0s
TIP Timpagrande 30.51 298 P **P** 20 59 38.4 +0.9
TIP IAmb IAmb 20 59 40.5
comp=Z,28nm,1.5s
ZSN Zaisan 31.05 46 *e*P **P** 20 59 43.5 +1.4
baz=45
ZSN Zaisan 31.05 46 *e*P **P** 20 59 43.4 +1.4
NACGM Naroch 31.21 332 *e*P **P** 20 59 43.7 +0.4
comp=E,2μm,0.8s
ODAN Odare 31.23 86 *e*P **P** 20 59 43.0 -1.1
CUC Castrocucco 31.35 299 P **P** 20 59 44.8 0.0
CUC IAmb IAmb 20 59 57.8
comp=Z,12nm,0.8s
TAPN Taplejung 31.40 85 *e*P **P** 20 59 46.4 +0.7
LANS Liptovska Anna 31.58 318 *e*P **P** 20 59 48.5 +1.8
LANS *e* 20 59 56.1
LANS Liptovska Anna 31.58 318 *e*P **P** 20 59 48.5 +1.8
LANS *e* 20 59 56.1
LANS pmax pmax
comp=Z,7.0nm,0.8s
VYHS Vyhne 31.67 316 *e*P **P** 20 59 47.8 +0.3
VYHS *e* 20 59 56.3
VYHS Vyhne 31.67 316 *e*P **P** 20 59 47.9 +0.4
VYHS *e* 20 59 56.3
VYHS pmax pmax
comp=Z,8.0nm,0.9s
SRO Srobarova 31.71 315 *e*P **P** 20 59 49.4 +1.5
SRO *e* 20 59 55.6
SRO Srobarova 31.71 315 *e*P **P** 20 59 49.4 +1.5
SRO *e* 20 59 55.6
SRO pmax pmax
comp=Z,20nm,1.0s
WMQ Urumqi 31.74 53 *e*P **P** 20 59 50.3 +2.1
WMQ pP pP 20 59 56.8 +1.4
WMQ pmax pmax
comp=Z,26nm,0.7s
WMQ LR LR
comp=Z,550nm,14.1s
WMQ LR LR
comp=Z,110nm,16.1s
OJC Ojcow 31.88 320 *e*P **P** 20 59 50.1 +0.8
OJC Ojcow 31.88 320 P **P** 20 59 49.0 -0.2
OJC IAmb IAmb 20 59 58.2
comp=Z,7.5nm,0.7s
OJC Ojcow 31.88 320 P **P** 20 59 49.1 -0.2
OJC pmax pmax
comp=Z,7.0nm,0.7s
PRGR Permogore 32.43 354 *e*P **P** 20 59 53.5 -0.5
PRGR *e* 21 02 44.8
PRGR pmax pmax
comp=Z,19nm,0.8s
KLMR Klimovskoe 32.47 349 *e*P **P** 20 59 52.3 -2.0
KLMR *e*P **P** 20 59 52.3 -2.0
KLMR *e*P **P** 20 59 52.3 -2.0
KLMR AMP 20 59 55.3
comp=Z,43nm,1.0s
KLMR *e*S **S** 21 05 05.6 -2.1
KLMR *e*S **S** 21 05 05.6 -2.1
KLMR Klimovskoe 32.47 349 *e*P **P** 20 59 52.2 -2.0
KLMR *e*S **S** 21 05 05.6 -2.1
KLMR pmax pmax
comp=Z,43nm,1.0s
JAVC Velka Javorina 32.52 316 *e*P **P** 20 59 58.6 +3.5
JAVC *e* 21 00 03.3
SMOL Smolenice 32.53 315 *e*P P 21 00 03.5 +8.4
KOGS Kog 32.55 311 *i* P **P** 20 59 56.1 +0.9
MODS Modra-Piesok 32.57 315 *e* P 21 00 02.9 +7.5
MODS Modra-Piesok 32.57 315 *e*P P 21 00 02.9 +7.5
OKC Ostrava-Krasne 32.65 318 *e*P P 21 00 04.4 +8.3
BOJS Bojanci 32.92 309 *i* P **P** 20 59 59.5 +0.9
RONA Rosalia, Austr 32.94 314 *i* P **P** 20 59 59.6 +0.9
comp=Z,7.9nm,0.8s
MORC Moravsky Berou 32.98 318 *e*P **P** 20 59 59.5 +0.5
MORC *e* 21 00 06.4
ARSA Arzberg 33.28 312 *i* P **P** 21 00 03.4 +1.8
comp=Z,4.0nm,0.7s
CONA Conrad Observa 33.29 314 *i* P **P** 21 00 01.4 -0.4
comp=Z,4.9nm,1.3s

VRAC Vranov 33.35 316 *e*P **P** **21 00 02.9 +0.7**
VRAC *e* 21 00 09.2
KRUC Moravsky 33.38 316 *e*P **P** **21 00 03.0 +0.6**
KRUC *e* 21 00 08.8
SOKA Soboth 33.41 311 *e*P **P** **21 00 04.7 +1.8**
comp=Z,7.0nm,0.9s
DGZ Jazzator, Alta 33.51 43⇑ *e*P **P** **21 00 05.4 +1.6**
DGZ pmax pmax
comp=Z,18nm,1.6s
KMBO Kilima Mbogo 33.55 207 P **P** **21 00 06.3 +1.8**
KMBO Kilima Mbogo 33.55 207 *i* P **P** **21 00 06.0 +1.5**
KMBO pmax pmax
comp=Z,3.0nm,0.7s
KMBO Kilima Mbogo 33.55 207 P **P** **21 00 04.5 0.0**
comp=Z,2.2nm,0.7s,baz=19,slow=12,SNR=4.1
KMBO LR LR 21 14 52.3
comp=Z,823nm,18.3s,baz=84,slow=38
comp=Z,2.2nm,0.7s
LJU Ljubljana 33.56 310 *i* P **P** **21 00 05.4 +1.3**
GBAS Gorenja Brezov 33.59 310 *i* P **P** **21 00 05.3 +0.9**
OBKA Obir 33.68 311 *i* pP **P** **21 00 08.0 +2.8**
comp=Z,7.0nm,1.6s
GUMA Gualdo di Mace 33.69 304 P **P** **21 00 05.3 0.0**
GUMA IAmb IAmb 21 00 59.4
comp=Z,37nm,1.3s
NRCA Norcia 33.81 304 P **P** **21 00 07.4 +1.0**
NRCA IAmb IAmb 21 00 16.9
comp=Z,19nm,1.1s
FDMO Fiordimonte 33.87 304 P **P** **21 00 07.9 +1.1**
FDMO IAmb IAmb 21 00 14.7
comp=Z,14nm,0.8s
LSA Lhasa 33.93 80 P **P** **21 00 09.0 +1.0**
LSA IAmb IAmb 21 00 19.1
comp=Z,13nm,0.8s
LSA Lhasa 33.93 80 P **P** **21 00 09.6 +1.7**
LSA P **P** **21 00 09.6 +1.7**
LSA Lhasa 33.93 80 P **P** **21 00 09.0 +1.0**
LSA pmax pmax
comp=Z,13nm,0.8s
DPC Dobruska-Polom 33.94 318 *e*P **P** **21 00 07.9 +0.6**
DPC Dobruska-Polom 33.94 318 *e*P **P** **21 00 07.9 +0.6**
OSTC Ostas 34.08 318 *e*P **P** **21 00 08.9 +0.3**
OSTC Ostas 34.08 318 *e*P **P** **21 00 08.9 +0.3**
ZAA0 Zalesovo Array 34.09 35 P **P** **21 00 09.3 +0.8**
ZAA0 IAmb IAmb 21 00 19.0
comp=Z,16nm,1.1s
ZALV Zalesovo Beam 34.09 35 P **P** **21 00 08.9 +0.3**
ZALV Zalesovo Beam 34.09 35 P **P** **21 00 09.5 +1.0**
comp=Z,4.9nm,0.6s,baz=237,slow=8.7,SNR=35
ZALV ScP **ScP** **21 06 27.8 -1.6**
comp=Z,1.4nm,0.7s,baz=228,slow=3.5,SNR=5.7
ZALV LR LR 21 16 08.2
comp=Z,167nm,20.2s,baz=231,slow=40
comp=Z,4.9nm,0.6s
CESX Cesi 34.16 303 P **P** **21 00 09.8 +0.4**
CESX IAmb IAmb 21 00 11.8
comp=Z,27nm,1.2s
SABO M.te Sabotino 34.17 310 P **P** **21 00 09.2 -0.1**
SABO IAmb IAmb 21 00 19.7
comp=Z,11nm,0.8s
CHVC Chvalec 34.19 318 *e*P **P** **21 00 10.0 +0.5**
CHVC Chvalec 34.19 318 *e*P **P** **21 00 10.0 +0.5**
MOA Molln 34.28 313 *i* P **P** **21 00 10.9 +0.6**
comp=Z,6.9nm,0.9s
MYKA Terra Mystica 34.32 311 *e*P **P** **21 00 12.1 +1.4**
comp=Z,1.1nm,0.5s
KIBK Kibwezi 34.35 205 P **P** **21 00 11.1 -0.2**
KIBK IAmb IAmb 21 00 13.9
comp=Z,9.2nm,0.8s
CKRC Cesky Krumlov 34.57 315 *e*P **P** **21 00 12.6 -0.2**
CKRC *ex* x 21 00 19.6
CKRC Cesky Krumlov 34.57 315 *e*P **P** **21 00 12.6 -0.2**
CKRC *e* 21 00 19.6
BIOA Bad Ischl, Aus 34.63 312 *i* P **P** **21 00 14.1 +0.7**
comp=Z,1.3nm,0.4s
KBA Koelnbreinsper 34.64 311 *i* P **P** **21 00 14.5 +0.9**
comp=Z,12nm,0.7s
ZVC Zvikov 34.86 316 *e*P **P** **21 00 15.7 +0.4**
ZVC *ex* x 21 00 21.9
PALK Pallekele 34.88 124 P **P** **21 00 16.0 +0.2**
PALK IAmb IAmb 21 00 29.3
comp=Z,31nm,1.3s
PALK Pallekele 34.88 124 P **P** **21 00 16.0 +0.2**
PALK pmax pmax
comp=Z,31nm,1.3s
PALK Pallekele 34.88 124 LR LR 21 15 00.0
comp=Z,57nm,19.8s,baz=53,slow=37
GERES GERESS Array B 34.96 314 P **P** **21 00 15.7 -0.5**
comp=Z,0.7nm,0.6s,baz=134,slow=3.9,SNR=1.9
GERES ScP **ScP** **21 06 30.4 -2.2**
comp=Z,1.9nm,1.0s,baz=87,slow=4.0,SNR=1.9
comp=Z,0.7nm,0.6s
ABTA Abfaltersbach 35.10 310 *i* P **P** **21 00 18.3 +0.9**
comp=Z,8.6nm,1.1s
KHC Kasperske Hory 35.13 315 P **P** **21 00 17.4 -0.2**
KHC Kasperske Hory 35.13 315 *e*P **P** **21 00 18.0 +0.3**
KHC *ep*P **pP** **21 00 23.2 -1.7**
KHC Kasperske Hory 35.13 315⇑ *i*P **P** **21 00 17.7 0.0**
KHC pmax pmax
comp=Z,12nm,1.3s
LESA Schwarzleotal 35.17 312 *i* P **P** **21 00 18.1 -0.1**
comp=Z,3.3nm,0.5s
SHL Shillong 35.46 87 P **P** **21 00 20.1 -0.8**
SHL IAmb IAmb 21 00 23.8
comp=Z,11nm,0.5s
SHL Shillong 35.46 87 P **P** **21 00 20.1 -0.8**
SHL pmax pmax
comp=Z,11nm,0.5s
BRG Berggiesshubel 35.53 318 *e*P P 21 00 29.6 +8.5
BRG Amp 21 00 30.0
comp=Z,4.3nm,0.9s
BRG Berggiesshubel 35.53 318 *e*P P 21 00 29.5 +8.4
BRG pmax pmax
comp=Z,4.0nm,0.9s
WTTA Wattenberg 35.81 311 *i* P **P** **21 00 24.0 +0.2**
comp=Z,5.3nm,0.5s,SNR=7.9
WTTA *i* PcP **PcP** **21 02 52.5 +1.5**
comp=Z,3.0nm,0.7s
WTTA *i* S **S** **21 05 57.1 -3.0**
comp=Z,3.5nm,0.8s
WATA Walderalm 35.87 311 *i* P **P** **21 00 23.8 -0.4**
comp=Z,4.7nm,0.5s,SNR=5.7
WATA *i* PcP **PcP** **21 02 50.9 -0.2**
comp=Z,0.8nm,0.3s
SQTA Sankt Quirin 36.08 311 *i* P **P** **21 00 25.9 0.0**
comp=Z,9.9nm,0.4s,SNR=18
SQTA *e*PcP **PcP** **21 02 52.0 +0.3**
comp=Z,0.7nm,0.2s
SQTA *e*S **S** **21 06 01.0 -3.1**
comp=Z,3.1nm,0.7s
MBAR Mbarara 36.16 218 P **P** **21 00 26.2 -0.8**
MBAR IAmb IAmb 21 00 28.8
comp=Z,9.9nm,0.8s
MBAR Mbarara 36.16 218 P **P** **21 00 27.7 +0.7**
MBAR Mbarara 36.16 218 *d* iP **P** **21 00 27.7 +0.7**
MBAR pmax pmax
comp=Z,9.0nm,0.7s
MOTA Moosalm 36.18 311 *e*P **P** **21 00 26.5 -0.4**
comp=Z,16nm,0.8s,SNR=7.5
MOTA *i* PcP **PcP** **21 02 52.7 +0.6**
comp=Z,1.1nm,0.4s
MOTA *i* S **S** **21 06 03.2 -2.5**
comp=Z,2.9nm,0.8s
CLL Collm 36.25 318 *e*P **P** **21 00 26.0 -1.2**
CLL *i* x x 21 00 34.0
comp=Z,10.0nm,1.1s
CLL Collm 36.25 318 *i* P P 21 00 34.0 +6.8
KEST Kesra 36.26 291 P **P** **21 00 28.7 +1.1**
KEST IAmb IAmb 21 01 22.9
comp=Z,61nm,2.0s
KEST Kesra 36.26 291 P **P** **21 00 29.0 +1.4**
comp=Z,3.9nm,0.6s,baz=35,slow=2.4,SNR=7.9
comp=Z,3.9nm,0.6s
FIA1 FINESS Array S 36.27 339 P **P** **21 00 27.0 -0.2**
FINES FINESS Array B 36.27 339 P **P** **21 00 26.9 -0.3**
FINES FINESS Array B 36.27 339 P **P** **21 00 27.3 +0.1**
comp=Z,2.7nm,0.4s,baz=146,slow=9.1,SNR=32
FINES LR LR 21 16 59.8
comp=Z,228nm,19.7s,baz=139,slow=39
comp=Z,2.7nm,0.4s
FETA Feichten 36.35 310 *i* P **P** **21 00 28.5 +0.2**
comp=Z,2.8nm,0.4s,SNR=12
FETA *i* PcP **PcP** **21 02 53.5 +0.9**
comp=Z,5.9nm,0.9s
FETA *i* S **S** **21 06 04.6 -3.7**
comp=Z,1.6nm,0.6s

GOMU GeErMu 36.36 68 P **P** **21 00 30.8 +2.0**
GOMU pP pP 21 00 34.5 -1.6
GOMU sP sP 21 00 38.5 -0.4
GOMU pmax pmax
comp=Z,5.0nm,0.9s
RETA Reutte 36.44 311 *i* P **P** **21 00 28.5 -0.5**
comp=Z,2.2nm,0.4s
RETA *i* PcP **PcP** **21 02 55.2 +2.4**
comp=Z,3.0nm,0.9s
RETA *i* S **S** **21 06 07.2 -2.3**
comp=Z,1.7nm,0.7s
FUORN Ofenpass-Fuorn 36.57 310 P **P** **21 00 30.6 +0.3**
BSD Bornholm Skovb 36.84 325 *i* P **P** **21 00 30.0 -2.1**
BSD IAML 21 00 31.7
comp=Z,1.8nm,0.3s
BSD IAmb IAmb 21 00 31.7
comp=Z,1.8nm,0.3s
DAVOX Davos/Dischmat 36.86 310 P **P** **21 00 33.0 +0.3**
DAVOX Davos/Dischmat 36.86 310 P **P** **21 00 33.0 +0.3**
comp=Z,4.0nm,0.6s,baz=134,slow=5.6,SNR=14
DAVOX LR LR 21 17 35.1
comp=Z,164nm,19.2s,baz=73,slow=39
comp=Z,4.0nm,0.6s
DAVA Damuels 36.98 311 *i* P **P** **21 00 33.5 -0.1**
comp=Z,16nm,0.4s
DAVA *i* PcP **PcP** **21 02 58.8 +4.3**
comp=Z,5.6nm,0.8s
LUNU Lund 37.82 325 *i* P **P** **21 00 40.3 -0.1**
DEL Delary 38.01 326 *i* P **P** **21 00 41.0 -1.0**
BJUU Bjuv 38.24 325 *i* P **P** **21 00 42.9 -1.1**
BNI Bardonecchia 38.75 306 P **P** **21 00 48.1 -0.5**
BNI IAmb IAmb 21 00 57.2
comp=Z,13nm,0.8s
BNI Bardonecchia 38.75 306 P **P** **21 00 48.1 -0.5**
BNI pmax pmax
comp=Z,13nm,0.9s
BORU Boraas 39.10 327 *i* P **P** **21 00 50.5 -0.7**
TJOU Tjoern 39.83 327 *i* P **P** **21 00 56.1 -1.2**
HFS Hagfors 39.98 331 P **P** **21 00 58.4 0.0**
comp=Z,7.0nm,0.5s,baz=126,slow=9.8,SNR=69
HFS LR LR 21 20 43.1
comp=Z,150nm,19.5s,baz=124,slow=41
comp=Z,7.0nm,0.5s
GTA Gaotai 40.24 63 ⇑P **P** **21 01 03.5 +2.3**
GTA pP pP 21 01 07.0 -1.5
GTA sP sP 21 01 09.5 -1.9
GTA ScP **ScP** **21 06 52.3 -0.5**
GTA S **S** **21 07 10.8 +3.5**
GTA pmax pmax
comp=Z,29nm,0.7s
GTA LR LR
comp=Z,170nm,19.5s
GTA LR LR
comp=Z,140nm,19.5s
GTA LR LR
comp=Z,230nm,18.3s
STRU Stroemstad 40.51 329 *i* P **P** **21 01 01.7 -1.2**
TNCH TengChong 41.38 85 P **P** **21 01 12.0 +1.3**
TNCH pP pP 21 01 15.0 -3.0
TNCH sP sP 21 01 17.5 -3.4
TNCH S **S** **21 07 27.5 +2.9**
TNCH pmax pmax
comp=Z,24nm,0.8s
TNCH LR LR
comp=Z,140nm,4.0s
TNCH LR LR
comp=Z,150nm,4.5s
TNCH LR LR
comp=Z,73nm,5.0s
NB2 NORSAR Subarra 41.49 331 P **P** **21 01 10.3 -0.7**
comp=Z,1.9nm,0.5s,baz=122,slow=8.6
NOA NORSAR Array B 41.49 331 P **P** **21 01 10.4 -0.7**
comp=Z,2.1nm,0.5s,baz=127,slow=9.0,SNR=18
NOA LR LR 21 22 23.3
comp=Z,51nm,19.1s,baz=120,slow=42
comp=Z,2.1nm,0.5s
TAM Tamanrasset 42.05 272 P **P** **21 01 16.4 +0.2**
TAM Tamanrasset 42.05 272 P **P** **21 01 16.4 +0.2**
TAM pmax pmax
comp=Z,7.0nm,0.8s
MOY Mondy 42.31 44 *e*P **P** **21 01 20.1 +2.1**
MOY pmax pmax
comp=Z,17nm,1.3s
HEF Hetta 42.36 345 *e*P **P** **21 01 19.2 +1.2**
ARCES ARCESS Array B 42.88 347 P **P** **21 01 22.4 +0.3**
ARCES ARCESS Array B 42.88 347 P **P** **21 01 23.3 +1.1**
comp=Z,3.2nm,0.5s,baz=144,slow=8.5,SNR=22
ARCES LR LR 21 21 54.8
comp=Z,135nm,18.2s,baz=176,slow=40
comp=Z,3.2nm,0.5s
ZAK Zakamensk 43.50 47 *e*P **P** **21 01 27.6 0.0**
ZAK pmax pmax
comp=Z,7.0nm,0.9s
LZH Lanzhou 43.65 67 ⇑P **P** **21 01 30.5 +1.4**
LZH pP pP 21 01 37.0 +0.5
LZH sP sP 21 01 40.5 +1.2
LZH pmax pmax
comp=Z,14nm,1.2s
LZH LR LR
comp=Z,210nm,14.4s
LZH LR LR
comp=Z,250nm,14.8s
LZH LR LR
comp=Z,340nm,14.8s
PZH PanZhiHua 43.75 81 P **P** **21 01 29.8 -0.2**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,130nm,5.3s
CHTO Chiang Mai 43.87 93 P **P** **21 01 31.4 +0.6**
CHTO IAmb IAmb 21 01 41.4
comp=Z,10nm,0.8s
CHTO Chiang Mai 43.87 93 P **P** **21 01 31.4 +0.6**
CHTO pmax pmax
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 44.01 94 *i* P **P** **21 01 29.7 -2.3**
CMAR Chiang Mai Arr 44.01 94 P **P** **21 01 31.8 -0.1**
comp=Z,0.6nm,0.4s,baz=287,slow=7.7,SNR=7.1
CMAR ScP **ScP** **21 07 07.2 -0.8**
comp=Z,0.1nm,0.4s,baz=276,slow=4.2,SNR=4.3
CMAR LR LR 21 24 09.7
comp=Z,52nm,19.2s,baz=285,slow=42
comp=Z,0.6nm,0.4s
CRAI Chiangrai 44.58 90 P **P** **21 01 36.8 +0.3**
CRAI IAmb IAmb 21 01 48.4
comp=Z,9.1nm,0.8s
NRIK Noril'sk 44.80 17 P **P** **21 01 38.4 +0.8**
NRIK IAmb IAmb 21 01 49.3
comp=Z,9.3nm,0.9s
NRIK Noril'sk 44.80 17 *de*P **P** **21 01 39.2 +1.6**
NRIK pmax pmax
comp=Z,10.0nm,1.0s
NRIK Noril'sk 44.80 17 P **P** **21 01 39.2 +1.6**
comp=Z,5.9nm,0.8s,baz=223,slow=5.5,SNR=7.1
NRIK LR LR 21 23 51.7
comp=Z,327nm,19.1s,baz=212,slow=41
comp=Z,5.9nm,0.8s
KMI Kunming 45.01 83 ⇓P **P** **21 01 40.5 +0.4**
KMI sP pP 21 01 47.5 +0.1
KMI pmax pmax
comp=Z,26nm,0.7s
SONM Songino Array 45.26 50 P **P** **21 01 43.0 +1.3**
SONM Songino Array 45.26 50 P **P** **21 01 43.1 +1.3**
comp=Z,2.7nm,0.8s,baz=256,slow=10,SNR=23
SONM PcP **PcP** **21 03 21.6 +0.2**
comp=Z,0.5nm,0.6s,baz=221,slow=3.0,SNR=1.7
SONM LR LR 21 23 33.7
comp=Z,366nm,18.9s,baz=256,slow=40
comp=Z,2.7nm,0.8s
ULN Ulaanbaatar 45.70 50 P **P** **21 01 46.0 +0.7**
ULN IAmb IAmb 21 01 53.7
comp=Z,7.4nm,0.7s
ULN Ulaanbaatar 45.70 50 *ce*P **P** **21 01 46.5 +1.2**
ULN pmax pmax
comp=Z,6.0nm,0.6s
ESDC Sonseca Array 46.53 298 P **P** **21 01 51.4 -0.4**
ESDC Sonseca Array 46.53 298 P **P** **21 01 52.3 +0.5**
comp=Z,2.1nm,1.0s,baz=61,slow=8.4,SNR=10.0
ESDC PcP **PcP** **21 03 26.2 +0.2**
comp=Z,0.5nm,0.7s,baz=43,slow=3.3,SNR=1.5
comp=Z,2.1nm,1.0s
EKA Eskdalemuir Ar 46.65 320 P **P** **21 01 52.1 -0.4**
comp=Z,1.3nm,0.3s,baz=103,slow=8.0,SNR=22
comp=Z,1.3nm,0.3s
PAB San Pablo 46.84 298 P **P** **21 01 54.6 +0.3**
PAB San Pablo 46.84 298 P **P** **21 01 54.6 +0.3**

PAB pmax pmax
comp=Z,48nm,1.9s
GYA Guiyang 48.00 80 ⇓P **P** **21 02 04.8 +1.3**
GYA pmax pmax
comp=Z,10.0nm,0.9s
BTO Baotou 48.00 60 *e*P **P** **21 02 04.0 +0.7**
BTO pP **pP** **21 02 08.8 -1.9**
BTO sP **sP** **21 02 11.0 -2.7**
BTO PP **PP** **21 03 55.0 -0.3**
BTO S **S** **21 09 01.8 +1.6**
BTO sS **pS** **21 09 08.5 -0.4**
BTO SS **SS** **21 12 22.5 -6.5**
BTO pmax pmax
comp=Z,57nm,0.8s
BTO pmax pmax
comp=Z,300nm,5.3s
BTO LR LR
comp=Z,510nm,15.9s
BTO LR LR
comp=Z,560nm,16.0s
BTO LR LR
comp=Z,690nm,20.0s
ABPO Ambohimpanom 48.44 186 P **P** **21 02 07.8 +1.0**
ABPO IAmb IAmb 21 02 08.7
comp=Z,19nm,1.1s
ABPO Ambohimpanom 48.44 186 P **P** **21 02 07.8 +1.0**
ABPO pmax pmax
comp=Z,19nm,1.1s
MVO Moncorvo 48.72 301 *e*P **P** **21 02 10.6 +1.8**
comp=Z,51nm,1.9s
PBAR Barrancos 49.09 297 *e*P **P** **21 02 12.5 +0.9**
comp=Z,33nm,1.4s
HHC Hu-ho-hao-te 49.14 60 *e*P **P** **21 02 12.5 +0.4**
HHC pmax pmax
comp=Z,19nm,0.5s
HHC pmax pmax
comp=Z,260nm,4.0s
PMRV Marv??o 49.20 298 *e*P **P** **21 02 13.3 +0.9**
comp=Z,24nm,1.8s
PCBR Castelo Branco 49.21 299 *e*P **P** **21 02 14.1 +1.7**
comp=Z,47nm,1.3s
PVRL Vila Real 49.22 301 *e*P **P** **21 02 14.6 +2.0**
comp=Z,78nm,1.7s
TOA0 Torodi Ar. Sit 49.23 262 P **P** **21 02 13.1 +0.2**
TOA0 Torodi Ar. Sit 49.23 262 P **P** **21 02 13.3 +0.4**
TORD Torodi Ar. Bea 49.23 262 P **P** **21 02 12.7 -0.3**
TORD Torodi Ar. Bea 49.23 262 P **P** **21 02 13.1 +0.2**
comp=Z,36nm,0.6s,baz=55,slow=8.7,SNR=291
TORD ScP **ScP** **21 07 29.0 -0.9**
comp=Z,0.2nm,0.3s,baz=56,slow=5.6,SNR=2.7
TORD LR LR 21 23 32.1
comp=Z,130nm,19.2s,baz=66,slow=37
comp=Z,36nm,0.6s
PESTR Estremoz 49.42 298 *e*P **P** **21 02 15.1 +1.0**
comp=Z,63nm,1.7s
PESTR Estremoz 49.42 298 P **P** **21 02 14.7 +0.5**
PBEJ Beja 49.76 297 *e*P **P** **21 02 18.1 +1.4**
comp=Z,25nm,2.1s
LSZ Lusaka 50.09 211 P **P** **21 02 19.5 0.0**
LSZ Lusaka 50.09 211 P **P** **21 02 19.5 0.0**
LSZ pmax pmax
comp=Z,8.0nm,1.0s
LSZ Lusaka 50.09 211 LR LR 21 25 18.0
comp=Z,388nm,18.2s,baz=42,slow=38
PSBE So Bento 50.26 299 *e*P **P** **21 02 20.9 +0.4**
comp=Z,70nm,1.8s
PNCL Nicolau / Gran 50.27 297 *e*P **P** **21 02 20.5 0.0**
comp=Z,39nm,2.0s
LYN LuoYang 50.85 68 *e*P **P** **21 02 26.8 +1.8**
LYN pmax pmax
comp=Z,30nm,0.8s
LYN pmax pmax
comp=Z,200nm,4.7s
SPB2 Spitsbergen Ar 51.29 351 P **P** **21 02 28.6 +0.9**
SPITS Spitsbergen Ar 51.30 351 P **P** **21 02 29.1 +1.4**
comp=Z,24nm,0.9s,baz=134,slow=12,SNR=23
SPITS LR LR 21 28 42.3
comp=Z,144nm,19.0s,baz=114,slow=41
comp=Z,24nm,0.9s
VOI Vohitsoka 51.34 186 P **P** **21 02 28.4 -0.4**
PSI Prapat 51.78 112 P **P** **21 02 30.7 -1.6**
PSI pmax pmax
comp=Z,14nm,1.2s
RPSI Rantau Prapat 51.84 112 P **P** **21 02 30.7 -2.0**
RPSI IAmb IAmb 21 02 41.3
comp=Z,14nm,1.2s
BJI Beijing 52.74 60 P **P** **21 02 40.5 +1.5**
BJI S **S** **21 10 04.3 -1.5**
BJI pmax pmax
comp=Z,4.0nm,0.7s
BJI LR LR
comp=Z,120nm,13.2s
BJI LR LR
comp=Z,97nm,13.2s
BJI LR LR
comp=Z,210nm,22.6s
TIA Tai'an 54.22 65 P **P** **21 02 51.0 +1.1**
TIA pmax pmax
comp=Z,10.0nm,0.7s
PDSI Padang 55.22 114 P P 21 03 05.7 +8.3
NJ2 Nanjing 56.65 69 *e*P **P** **21 03 08.8 +1.3**
NJ2 pP **pP** **21 03 12.0 -3.1**
NJ2 pmax pmax
comp=Z,14nm,1.0s
NJ2 pmax pmax
comp=Z,320nm,3.9s
BORG Borgarnes 56.66 331 LR LR 21 28 37.6
comp=Z,141nm,20.3s,baz=98,slow=37
KRJI Kerinci 56.72 115 P P 21 03 17.4 +9.1
DAG Danmarks Havn 57.11 345 *i* P **P** **21 03 09.0 -1.1**
DAG IAmb IAmb 21 03 10.7
comp=Z,4.6nm,0.8s
DBIC Dimbokro 58.00 259 P **P** **21 03 17.0 -0.2**
DBIC Dimbokro 58.00 259 P **P** **21 03 17.4 +0.2**
comp=Z,28nm,0.7s,baz=50,slow=6.9,SNR=50
DBIC LR LR 21 30 04.3
comp=Z,190nm,19.0s,baz=24,slow=38
comp=Z,28nm,0.7s
TIXI Tiksi 58.18 21 P **P** **21 03 18.0 +0.4**
TIXI IAmb IAmb 21 03 33.5
comp=Z,35nm,2.0s
TIXI Tiksi 58.18 21 ⇑ *i*P **P** **21 03 18.3 +0.7**
TIXI pmax pmax
comp=Z,10.0nm,1.8s
TIXI Tiksi 58.18 21 LR LR 21 31 35.3
comp=Z,8.7nm,18.6s,baz=248,slow=39
ZEA Zeya 58.27 42 *e*P **P** **21 03 20.3 +1.7**
ZEA *e* 21 03 30.4
TSUM Tsumeb 58.70 219 P **P** **21 03 21.4 -0.7**
TSUM IAmb IAmb 21 03 23.7
comp=Z,5.6nm,0.8s
TSUM Tsumeb 58.70 219 LR LR 21 31 27.7
comp=Z,132nm,18.7s,baz=50,slow=39
YAK Yakutsk 58.70 33 P **P** **21 03 21.4 0.0**
YAK Yakutsk 58.70 33 ⇑ *e*P **P** **21 03 21.5 +0.1**
YAK pmax pmax
comp=Z,6.0nm,0.6s
YAK Yakutsk 58.70 33 LR LR 21 31 40.1
comp=Z,8.2nm,19.0s,baz=277,slow=39
CN2 Changchun 58.82 54 P **P** **21 03 23.3 +0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HEH HeiHe 58.90 47 *e*P **P** **21 03 23.5 +0.5**
HEH pmax pmax
comp=Z,9.0nm,0.8s
HEH pmax pmax
comp=Z,330nm,5.0s
HEH LR LR
comp=Z,310nm,15.1s
HEH LR LR
comp=Z,360nm,15.5s
HEH LR LR
comp=Z,620nm,15.5s
BNX BinXian 59.77 52 ⇑P **P** **21 03 27.0 -2.1**
BNX pmax pmax
comp=Z,10.0nm,2.2s
BNX pmax pmax
comp=Z,130nm,5.3s
LBTB Lobatse 59.83 208 P **P** **21 03 30.3 +0.5**
LBTB IAmb IAmb 21 03 31.5
comp=Z,13nm,0.8s
LBTB Lobatse 59.83 208 P **P** **21 03 30.3 +0.5**
LBTB pmax pmax
comp=Z,13nm,0.9s
LBTB Lobatse 59.83 208 LR LR 21 32 27.0
comp=Z,187nm,19.2s,baz=32,slow=39

KASI Kota Agung 61.20 116 P P 21 03 45.4 +6.1
WIN Windhoek 61.70 217 P **P** **21 03 43.1 +0.4**
WIN IAmb IAmb 21 03 44.5
comp=Z,13nm,1.1s

WIN Windhoek 61.70 217 P **P** **21 03 43.1 +0.4**
WIN pmax pmax
comp=Z,13nm,1.1s

KLR Kul'dur 61.86 47 *i* P **P** **21 03 43.2 -0.1**
KLR pmax pmax
comp=Z,5.0nm,1.7s

KLR Kul'dur 61.86 47 LR LR 21 33 15.5
comp=Z,394nm,18.4s,baz=286,slow=39

KS19 Wonju Array Si 62.21 61 P **P** **21 03 46.1 +0.3**
KSAR Wonju Array Be 62.24 61 P **P** **21 03 46.4 +0.4**
KSAR Wonju Array Be 62.24 61 P **P** **21 03 46.4 +0.4**
KSRS Korea Array 62.26 61 P **P** **21 03 46.2 +0.1**
comp=Z,4.8nm,0.6s,baz=282,slow=6.4,SNR=27

KSRS LR LR 21 34 37.5
comp=Z,118nm,19.1s,baz=290,slow=40
comp=Z,4.8nm,0.6s

SUMG Summit 62.30 340 *i* P **P** **21 03 47.0 +0.6**
SUMG IAmb IAmb 21 03 55.8
comp=Z,10nm,1.0s

CGJI Cibinong 62.81 116 P P 21 03 57.6 +7.5
BOSA Boshof 63.18 206 P **P** **21 03 52.4 +0.1**
BOSA Boshof 63.18 206 P **P** **21 03 52.6 +0.2**
comp=Z,9.1nm,0.8s,baz=29,slow=6.0,SNR=16

BOSA LR LR 21 32 47.5
comp=Z,211nm,19.5s,baz=22,slow=37
comp=Z,9.1nm,0.8s

USRK Ussurlysk Ar. 63.30 52 P **P** **21 03 52.8 -0.2**
comp=Z,2.8nm,0.6s,baz=274,slow=6.6,SNR=8.2
comp=Z,2.8nm,0.6s

NEEM North Greenlan 64.24 346 *i* P **P** **21 03 59.1 +0.1**
NEEM IAML 21 04 00.3
comp=Z,3.7nm,0.7s

NEEM IAmb IAmb 21 04 00.3
comp=Z,3.7nm,0.7s

JNU Nakatsue 65.95 64 LR LR 21 37 16.6
comp=Z,86nm,20.1s,baz=296,slow=40

SFJD Kangerlussuaq 67.95 336 LR LR 21 34 44.2
comp=Z,106nm,18.7s,baz=102,slow=36

JMN Monobe 68.08 63 P **P** **21 04 24.2 +0.1**
SUR Sutherland 68.28 208 P **P** **21 04 24.9 -0.3**
SUR Sutherland 68.28 208 LR LR 21 36 47.8
comp=Z,139nm,18.0s,baz=42,slow=38

SEY Seymchan 68.68 29 *i* P **P** **21 04 28.7 +1.5**
SEY pmax pmax
comp=Z,6.0nm,1.0s

SEY Seymchan 68.68 29 LR LR 21 38 01.2
comp=Z,194nm,20.0s,baz=266,slow=39

MA2 Magadan 69.27 33 *i* P **P** **21 04 31.8 +0.8**
MA2 pmax pmax
comp=Z,12nm,0.9s

MA2 Magadan 69.27 33 LR LR 21 39 02.1
comp=Z,88nm,20.2s,baz=302,slow=39

NUUK Nuuk 69.54 333 *i* P **P** **21 04 30.9 -1.7**
YSS Yuzh-Sakhalins 69.58 47 *e*P **P** **21 04 31.9 -1.2**
YSS pmax pmax
comp=Z,20nm,0.9s

YSS MLR MLR
comp=Z,400nm,16.0s

MAJO Matsushiro 70.31 59 P **P** **21 04 37.3 -0.5**
MAJO Matsushiro 70.31 59 P **P** **21 04 37.3 -0.5**
MAJO pmax pmax
comp=Z,44nm,2.0s

MJAR Matsushiro Arr 70.32 59 P **P** **21 04 38.2 +0.4**
comp=Z,0.9nm,0.8s,baz=315,slow=12,SNR=6.6

MJAR LR LR 21 37 44.1
comp=Z,72nm,20.8s,baz=327,slow=38
comp=Z,0.9nm,0.8s

ASAJ Asahikawa 70.53 50 P **P** **21 04 38.0 -1.0**
ASAJ pmax pmax
comp=Z,139nm,1.8s

ASAJ Asahikawa 70.53 50 LR LR 21 38 38.0
comp=Z,158nm,21.1s,baz=310,slow=38

JKA Kamikawa-asahi 70.54 50 P **P** **21 04 38.0 -1.0**
MPSI Mapaga 70.67 101 P P 21 04 47.8 +7.5
JTM Tenmabayashi 70.76 54 P **P** **21 04 39.7 -0.7**
TOLI2 Tolitoli 71.03 100 P **P** **21 04 41.3 -1.1**
TOLI2 IAmb IAmb 21 04 49.3
comp=Z,8.9nm,0.9s

BILL Bilibino 71.40 21 *i* P **P** **21 04 45.0 +1.1**
BILL pmax pmax
comp=Z,9.0nm,1.1s

SHEL Horse Pasture 71.72 239 P **P** **21 04 47.1 +0.5**
SHEL Horse Pasture 71.72 239 P **P** **21 04 47.1 +0.5**
SHEL pmax pmax
comp=Z,45nm,0.8s

RES Resolute Bay 73.86 351 P **P** **21 04 59.0 +0.6**
RES Resolute Bay 73.86 351 P **P** **21 04 59.0 +0.6**
RES pmax pmax
comp=Z,7.0nm,1.4s

PETK Petropavlovsk- 75.61 37 LR LR 21 41 02.5
comp=Z,126nm,18.4s,baz=279,slow=38

FRB Frobisher Bay 76.03 337 LR LR 21 40 00.9
comp=Z,51nm,21.5s,baz=49,slow=37

B20K Meade River 78.58 10 P **P** **21 05 26.1 +0.9**
B20K IAmb IAmb 21 05 35.0
comp=Z,8.4nm,0.8s

A36M Sachs Harbour 78.79 359 P **P** **21 05 26.9 +0.6**
B22K Teshekpuk Lake 78.80 9 P **P** **21 05 27.4 +1.0**
B22K IAmb IAmb 21 05 38.9
comp=Z,8.1nm,0.8s

C18K Utukok River 79.14 12 P **P** **21 05 28.7 +0.3**
SOEI Soe 79.66 107 P **P** **21 05 32.3 0.0**
SOEI IAmb IAmb 21 06 00.5
comp=Z,15nm,1.0s

D19K Kuna River 79.80 11 P **P** **21 05 32.8 +0.8**
D19K IAmb IAmb 21 05 39.3
comp=Z,40nm,2.0s

TOLK Toolik Lake Re 80.87 8 P **P** **21 05 39.0 +1.1**
TOLK IAmb IAmb 21 05 39.8
comp=Z,6.2nm,0.7s

SCHQ Schefferville 81.02 329 P **P** **21 05 39.2 +0.4**
SCHQ Schefferville 81.02 329 P **P** **21 05 38.6 -0.2**
comp=Z,1.7nm,0.3s,baz=45,slow=4.5,SNR=12
comp=Z,1.7nm,0.3s

C36M Paulatuk 81.42 359 P **P** **21 05 40.4 -0.2**
C36M IAmb IAmb 21 05 55.5
comp=Z,38nm,1.9s

INK Inuvik 82.42 2 LR LR 21 46 31.0
comp=Z,32nm,21.3s,baz=356,slow=39

BMAR Burnt Mountain 82.58 6 P **P** **21 05 48.4 +1.6**
IMAR Indian Mountai 82.80 10 P **P** **21 05 48.9 +0.9**
FYU Fort Yukon 83.35 7 P **P** **21 05 52.1 +1.4**
MLY Manley 84.14 9 P **P** **21 05 56.0 +1.1**
MLY IAmb IAmb 21 06 10.1
comp=Z,16nm,1.5s

ILAR Eielson Array 84.90 8 P **P** **21 05 58.6 -0.1**
ILAR Eielson Array 84.90 8 P **P** **21 05 58.9 +0.2**
comp=Z,2.2nm,0.7s,baz=323,slow=4.0,SNR=28

ILAR LR LR 21 52 27.6
comp=Z,44nm,18.1s,baz=310,slow=42
comp=Z,2.2nm,0.7s

BPAW Bear Paw Mtn. 84.98 10 P **P** **21 06 00.2 +1.0**
BPAW IAmb IAmb 21 06 12.0
comp=Z,12nm,0.9s

HDA Harding Lake 85.24 8 P **P** **21 05 59.9 -0.5**
HDA IAmb IAmb 21 06 09.7
comp=Z,4.7nm,0.7s

MCK McKinley 85.63 9 P **P** **21 06 02.5 +0.2**
MCK IAmb IAmb 21 06 14.3
comp=Z,10nm,0.8s

MCK McKinley 85.63 9 P **P** **21 06 02.6 +0.2**
MCK pmax pmax
comp=Z,10.0nm,0.8s

TRF Thorofare Moun 85.70 10 P **P** **21 06 03.8 +0.8**
SCRK Sand Creek 86.00 7 P **P** **21 06 05.2 +0.9**
SCRK IAmb IAmb 21 06 06.7
comp=Z,11nm,0.9s

DAWY Dawson 86.33 5 P **P** **21 06 06.4 +0.5**
DAWY IAmb IAmb 21 06 20.6
comp=Z,8.3nm,1.0s

BCAR Beaver Creek A 87.11 6 P **P** **21 06 10.8 +1.1**
YKA Yellowknife Ar 87.72 354 P **P** **21 06 13.1 +0.5**
YKA Yellowknife Ar 87.72 354 P **P** **21 06 13.5 +0.9**
comp=Z,2.3nm,0.8s,baz=4.6,slow=5.2,SNR=42

YKA PP **PP** **21 09 42.2 +4.9**
comp=Z,0.5nm,0.9s,baz=3.8,slow=7.4,SNR=3.9
comp=Z,2.3nm,0.8s

KDAK Kodiak Island 90.64 13 LR LR 21 51 56.8
comp=Z,84nm,18.0s,baz=48,slow=39

RCBR Riachuelo 91.02 264 LR LR 21 46 52.0
comp=Z,66nm,20.2s,baz=69,slow=35

WRA Warramunga Arr 93.24 111 P **P** **21 06 37.8 -1.2**
comp=Z,0.3nm,0.8s,baz=315,slow=4.1,SNR=1.8
comp=Z,0.3nm,0.8s

ASAR Alice Springs 94.75 114 P **P** **21 06 44.9 -1.0**
comp=Z,0.5nm,0.8s,baz=302,slow=4.7,SNR=3.2
comp=Z,0.5nm,0.8s

NVAR Mina Array Bea 111.83 352 PKiKP **PKiKP** **21 11 59.4 -0.1**
comp=Z,0.2nm,0.5s,baz=87,slow=1.9,SNR=1.8

TXAR Lajitas Array 117.07 336 PKP **PKPdf** **21 12 08.7 -1.0**
comp=Z,0.1nm,0.6s,baz=21,slow=4.2,SNR=1.7

QSPA South Pole Qui 119.32 180 PKP **PKPdf** **21 12 12.0 -0.6**
comp=Z,1.7nm,0.7s,baz=245,slow=1.0,SNR=7.7

PLCA Paso Flores 132.44 240 PKP **PKiKP** **21 12 39.3 -0.3**
comp=Z,1.6nm,1.0s,baz=153,slow=2.3,SNR=3.0

*DJA **30** 20:56:45.6±0.5,8°S±4°×12°3E±°, h271km±7km, M3.7/11, mb3.8/3, mB5.0/1, MLv3.6/11, Mw(mB)4.3/1*
*IDC **30** 20:56:51.2±4.1, 7°16S×124°20E, h327km±44km, mb3.2/3, mbtmp4.0/5, Error ellipse: s-maj=150.2km s-min=13.7km az=61.0*
ISC 30 20:56:45.0±0.8,**7°74S**±0°07×**123°08E**±0°07,**h250**km,**n26, σ2§19/29, mb3.4/3, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.22**	**223**	P	**Pn**	**20 57 25.1**	**+3.8**
MMRI	**Maumere**	**1.22**	**223**	P	**Pn**	**20 57 23.9**	**+2.6**
EDFI	**Ende, Flores**	**1.70**	**234**	P	**Pn**	**20 57 28.0**	**+3.0**
BBSI	**Bau Bau**	**2.30**	**347**	P	**Pn**	**20 57 33.7**	**+3.4**
SOEI	**Soe**	**2.32**	**150**	P	**Pn**	**20 57 33.2**	**+2.6**
SOEI	**Soe**	**2.32**	**150**	P	**Pn**	**20 57 32.6**	**+2.0**
SOEI				S	**S**	**20 58 09.3**	**+2.7**
BASI	**Baing, Sumba**	**3.49**	**225**	P	**Pn**	**20 57 44.9**	**+2.0**
BASI				S	**S**	**20 58 27.9**	**-0.9**
BKSI	**Bulukumba**	**3.80**	**309**	P	**Pn**	**20 57 49.1**	**+2.6**
PLAI	**Plampang**	**5.36**	**258**	P	**Pn**	**20 58 06.6**	**+1.4**
PLAI	**Plampang**	**5.36**	**258**	P	**Pn**	**20 58 05.7**	**+0.5**
	20nm,0.9s,0.3nm						
NLAI	**Namlea**	**6.00**	**42**	P	**Pn**	**20 58 14.1**	**+0.9**
	7.8nm,0.5s,0.1nm						
TWSI	**Taliwang, Sumb**	**6.22**	**260**	P	**Pn**	**20 58 15.7**	**-0.2**
	13nm,0.6s,0.2nm						
JAGI	**Jajag, Banyuwa**	**8.87**	**265**	P	**Pn**	**20 58 50.4**	**+1.0**
TOLI2	**Tolitoli**	**9.09**	**345**	P	Pn	20 58 48.1	-4.0
MTN	**Manton Dam**	**9.40**	**123**	P	**Pn**	**20 58 56.6**	**+0.5**
KNRA	**Kununurra**	**9.65**	**145**	P	**Pn**	**20 59 01.8**	**+2.6**
KDU	**Kakadu**	**10.46**	**119**	P	**Pn**	**20 59 09.4**	**-0.1**
UGM	**Wanagoma**	**12.45**	**268**	P	**Pn**	**20 59 34.4**	**+0.2**
WRA	**Warramunga Arr**	**16.31**	**139**	P	**P**	**21 00 18.9**	**-0.5**
	2.3nm,0.5s,baz=319,slow=12,SNR=72						
WRA				S	**S**	**21 03 12.4**	**-5.0**
	0.9nm,0.8s,baz=323,slow=21,SNR=4.4						
WRKA	**Warakurna**	**17.91**	**164**	P	**P**	**21 00 37.0**	**+0.3**
ASAR	**Alice Springs**	**18.93**	**148**	P	**P**	**21 00 48.5**	**+0.7**
	3.2nm,0.5s,baz=337,slow=14,SNR=146						
ASAR				S	**S**	**21 04 06.2**	**-3.2**
	1.3nm,1.0s,baz=326,slow=23,SNR=8.5						
MEEK	**Meekatharra**	**19.27**	**192**	P	**P**	**21 00 51.6**	**+0.3**
QIS	**Mount Isa**	**20.44**	**130**	P	**P**	**21 01 03.4**	**-0.5**
STKA	**Stephens Creek**	**29.56**	**147**	P	**P**	**21 02 26.1**	**-0.7**
	2.0nm,0.5s,baz=317,slow=9.7,SNR=7.1						
	2.0nm,0.5s						
MKAR	**Makanchi Array**	**65.28**	**330**	P	**P**	**21 06 58.5**	**-1.6**
	0.5nm,0.6s,baz=126,slow=6.2,SNR=2.9						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**69.39**	**337**	P	**P**	**21 07 24.0**	**-1.7**
	0.3nm,0.4s,baz=143,slow=5.1,SNR=2.1						
	0.3nm,0.4s						

*IDC **30** 20:57:59.2±1.9, 14°07N×145°69E, h102km±17km, mb3.5/6, mbtmp3.8/6, Error ellipse: s-maj=42.8km s-min=29.6km az=105.0*
*NEIC **30** 20:58:01.2±0.9, 14°10N±0°07×145°50E±0°04, h110km±8km, mb4.4/8, Error ellipse: s-maj=9.9km s-min=4.8km az=165.0*
ISC 30 20:57:59.8±0.7,**14°2N**±0°1×**145°6E**±0°1,**h100**km,**n24, σ1§10/19, mb4.1/10, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.91**	**231**	P	**Pn**	**20 58 20.3**	**+1.0**
	3µm,0.3s,baz=110,slow=3.8,SNR=518						
GUMO				S	**Sn**	**20 58 34.5**	**+0.6**
	2µm,0.3s,baz=8.7,slow=21,SNR=75						
PATS	**Pohnpei**	**14.46**	**119**	Pn	**Pn**	**21 01 20.4**	**+0.6**
H11S3	**WAKE ISLAND Hy**	**20.69**	**75**	T	T	21 24 11.4	
	baz=263,slow=74,SNR=14						
H11S1	**WAKE ISLAND Hy**	**20.70**	**75**	T	T	21 24 12.4	
	baz=263,slow=74,SNR=11						
H11S2	**WAKE ISLAND Hy**	**20.70**	**75**	T	T	21 24 12.6	
	baz=263,slow=74,SNR=7.6						
H11N1	**WAKE ISLAND Hy**	**21.09**	**72**	T	T	21 24 31.3	
	baz=260,slow=76,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**21.10**	**72**	T	T	21 24 30.7	
	baz=260,slow=76,SNR=3.0						
H11N3	**WAKE ISLAND Hy**	**21.11**	**72**	T	T	21 24 32.0	
	baz=260,slow=76,SNR=3.8						
MAJO	**Matsushiro**	**23.25**	**345**	P	**P**	**21 02 58.5**	**0.0**
MAJO				IAmb	IAmb	21 03 08.8	
	comp=Z,21nm,1.4s						
MJB9	**Matsu-Tunnel**	**23.25**	**345**	P	**P**	**21 02 59.1**	**+0.6**
WB0	**Warramunga Arr**	**35.48**	**198**	P	**P**	**21 04 45.9**	**-1.0**
WB0				IAmb	IAmb	21 04 47.9	
	comp=Z,8.4nm,1.4s						
WRA	**Warramunga Arr**	**35.66**	**198**	P	**P**	**21 04 47.5**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=21,slow=9.1,SNR=3.1						
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**46.68**	**324**	P	**P**	**21 06 20.5**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=123,slow=10,SNR=2.3						
	comp=Z,0.2nm,0.5s						
MK31	**Makanchi Array**	**61.57**	**316**	P	**P**	**21 08 06.3**	**-0.3**
MKAR	**Makanchi Array**	**61.57**	**316**	P	**P**	**21 08 05.2**	**-1.4**
N17K	**Nushagak Hills**	**61.89**	**28**	P	**P**	**21 08 09.3**	**+0.7**
N19K	**Bonanza Creek**	**63.24**	**28**	P	**P**	**21 08 19.1**	**+1.5**
SKT	**Skwentna**	**64.96**	**28**	P	**P**	**21 08 28.7**	**0.0**
SKT				IAmb	IAmb	21 08 53.6	
	comp=Z,12nm,1.4s						
CAST	**Castle Rocks**	**65.17**	**26**	P	**P**	**21 08 30.8**	**+0.7**
CAST				IAmb	IAmb	21 08 54.8	
	comp=Z,5.5nm,1.3s						
ILAR	**Eielson Array**	**67.75**	**25**	P	**P**	**21 08 45.5**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=254,slow=6.1,SNR=8.5						
	comp=Z,0.8nm,0.7s						
BCAR	**Beaver Creek A**	**69.61**	**28**	P	**P**	**21 08 58.6**	**+0.5**
BVAR	**Borovoye Array**	**69.92**	**322**	P	**P**	**21 09 00.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=100,slow=8.4,SNR=2.5						
	comp=Z,0.2nm,0.3s						
YKA	**Yellowknife Ar**	**82.02**	**28**	P	**P**	**21 10 08.3**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=284,slow=5.8,SNR=5.5						
	comp=Z,0.3nm,0.6s						
FINES	**FINESS Array B**	**90.94**	**335**	P	**P**	**21 10 50.1**	**-2.2**
	comp=Z,2.4nm,0.9s,baz=33,slow=7.3,SNR=6.8						
	comp=Z,2.4nm,0.9s						

*JMA **30** 21:01:25.3±0.2,26°N±1°×12°4E±°, h165km, MV2.7/29, NW OFF MIYAKOJIMA ISLAND*
*IDC **30** 21:01:29.3±6.4,26°71N×125°25E, h232km±163km, mb3.2/3, mbtmp3.8/4, Error ellipse: s-maj=199.4km s-min=103.5km az=106.0*
ISC 30 21:01:24.2±1.0,**26°2N**±0°2×**124°5E**±0°1,**h169**km±21km, **n25, σ1§40/43, mb3.7/3, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**1.47**	**152**	P	**Pn**	**21 01 55.6**	**+0.6**
JIKM				*e*S	**Sn**	**21 02 18.9**	**+0.2**
JIRB	**Irabujima**	**1.53**	**156**	P	**Pn**	**21 01 56.3**	**+0.8**
JIRB				S	**Sn**	**21 02 18.9**	**-0.8**
JTJ	**Tarama**	**1.60**	**173**	P	**Pn**	**21 01 56.8**	**+0.5**
JTJ				S	**Sn**	**21 02 20.4**	**-0.6**
JISG	**Ishigakijimahi**	**1.65**	**186**	P	**Pn**	**21 01 57.4**	**+0.6**
JISG				S	**Sn**	**21 02 20.9**	**-1.1**
JMJ2	**Miyako jima3**	**1.66**	**153**	P	**Pn**	**21 01 57.7**	**+0.8**
JMJ2				S	**Sn**	**21 02 22.1**	**-0.2**
JOGS	**Gusukube**	**1.68**	**151**	P	**Pn**	**21 01 57.8**	**+0.7**
JOGS				S	**Sn**	**21 02 22.5**	**-0.1**
JIJ	**Ishigaki jima**	**1.89**	**190**	P	**Pn**	**21 01 59.2**	**-0.1**
JIJ				S	**Sn**	**21 02 24.2**	**-2.3**
IRIF	**Iriomote-Funau**	**2.02**	**200**	P	**Pn**	**21 02 00.9**	**+0.2**
IRIF				S	**Sn**	**21 02 28.3**	**-0.7**
JKRS	**Kuro-shima**	**2.04**	**193**	P	**Pn**	**21 02 00.9**	**0.0**
JKRS				S	**Sn**	**21 02 27.6**	**-1.8**
JKE	**Kume jima 2**	**2.06**	**87**	P	**Pn**	**21 02 02.8**	**+1.6**
JKE				*e*S	**Sn**	**21 02 30.9**	**+1.2**
HATJ	**Hateruma jima**	**2.26**	**196**	S	**Sn**	**21 02 32.2**	**-1.7**
JYNG	**Yonagunijimaku**	**2.26**	**219**	*e*S	**Sn**	**21 02 32.7**	**-1.3**
JAGN	**Aguni-jima**	**2.48**	**81**	P	**Pn**	**21 02 07.5**	**+1.4**
JAGN				S	**Sn**	**21 02 38.2**	**-0.4**
JJT3	**Tamagusuku3**	**2.95**	**91**	P	**Pn**	**21 02 13.1**	**+1.3**
JJT3				*e*S	**Sn**	**21 02 48.2**	**-0.5**
JNTH	**Nagotoyohara**	**3.17**	**84**	P	**Pn**	**21 02 15.2**	**+0.7**
JNTH				*e*S	**Sn**	**21 02 50.8**	**-2.8**
JIH	**Iheya**	**3.21**	**75**	*e*S	**Sn**	**21 02 52.8**	**-1.5**
JOW	**Kunigami**	**3.43**	**79**	P	**Pn**	**21 02 18.3**	**+0.6**
JOW				*e*S	**Sn**	**21 02 57.0**	**-2.5**
JOW	**Kunigami**	**3.43**	**79**	P	**Pn**	**21 02 18.3**	**+0.6**
	27nm,0.3s,baz=252,slow=3.2,SNR=39						
JOW				S	**Sn**	**21 02 55.5**	**-4.0**
	16nm,0.3s,baz=221,slow=20,SNR=10						
JYRO	**Yoronjima**	**3.62**	**77**	P	**Pn**	**21 02 20.6**	**+0.5**
JYRO				*e*S	**Sn**	**21 03 01.6**	**-2.1**
JOKE	**Okinoerabujima**	**3.81**	**72**	P	**Pn**	**21 02 23.1**	**+0.6**
JOKE				*e*S	**Sn**	**21 03 06.0**	**-2.1**
JTK	**Tokunoshima**	**4.26**	**68**	*e*P	**Pn**	**21 02 28.4**	**0.0**
JTK				*e*S	**Sn**	**21 03 16.3**	**-2.1**
JAMN	**Amaminishikomi**	**4.62**	**63**	*e*S	**Sn**	**21 03 26.4**	**-0.3**
MKAR	**Makanchi Array**	**39.06**	**313**	P	**P**	**21 08 34.9**	**+0.3**
	0.3nm,0.5s,baz=100,slow=10,SNR=6.2						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**40.25**	**324**	P	**P**	**21 08 43.7**	**-0.5**
	1.1nm,0.5s,baz=122,slow=8.3,SNR=5.6						
	1.1nm,0.5s						
GEYT	**Alibeck**	**56.38**	**300**	P	**P**	**21 10 49.2**	**+1.2**
	1.5nm,0.7s,baz=90,slow=10,SNR=3.6						
	1.5nm,0.7s						

*IDC **30** 21:06:13.5±1.6, 21°57N×143°18E, h310km±15km, mb3.6/23, mbtmp4.3/28, Error ellipse: s-maj=13.5km s-min=9.0km az=79.0*
*NEIC **30** 21:06:15.8±1.3, 21°50N±0°08×143°1E±0°1, h330km±5km, mb4.2/62, Error ellipse: s-maj=18.1km s-min=11.6km az=87.0*
ISC 30 21:06:13.5±0.4,**21°54N**±0°05×**143°06E**±0°10,**h311**km, **n101, σ1§01/111, mb4.2/50, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.59**	**352**	Pn	**Pn**	**21 07 41.0**	**+2.8**
JCJ	**Chichijima**	**5.59**	**352**	P	**Pn**	**21 07 37.2**	**-0.9**
	74nm,0.4s,baz=263,slow=13,SNR=11						
JCJ				S	**S**	**21 08 43.8**	**-2.8**
	85nm,0.4s,baz=270,slow=20,SNR=6.9						
GUMO	**Guam**	**8.09**	**167**	P	**Pn**	**21 08 09.6**	**+1.2**
	105nm,0.6s,baz=310,slow=17,SNR=6.4						
JHJ	**Hachijo jima 2**	**11.89**	**347**	P	**Pn**	**21 08 53.5**	**-0.9**
	31nm,0.3s,baz=73,slow=19,SNR=1.7						
JHJ				S	**S**	**21 11 05.0**	**-1.9**
	114nm,1.1s,baz=250,slow=24,SNR=1.7						
JMN	**Monobe**	**14.61**	**328**		**Pn**	**21 09 29.6**	**+2.8**
MJAR	**Matsushiro Arr**	**15.54**	**345**	P	**P**	**21 09 36.1**	**+0.3**
	3.2nm,0.3s,baz=155,slow=5.4,SNR=37						
MJAR				S	**S**	**21 12 20.2**	**-3.4**
	0.8nm,0.5s,baz=190,slow=20,SNR=2.1						
MAJO	**Matsushiro**	**15.54**	**345**	P	**Pn**	**21 09 37.3**	**-0.4**
MAJO				IAmb	IAmb	21 09 38.7	
	comp=Z,14nm,0.8s						
MJB9	**Matsu-Tunnel**	**15.54**	**345**	P	**Pn**	**21 09 38.1**	**+0.4**
MJB9				IAmb	IAmb	21 09 39.7	
	comp=Z,14nm,0.8s						
JNU	**Nakatsue**	**15.80**	**319**	P	**Pn**	**21 09 40.8**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=201,slow=19,SNR=1.3						
JMM	**Marumori**	**16.39**	**354**	P	**Pn**	**21 09 47.9**	**+0.2**
YHNB	**Yeheng**	**20.19**	**283**	P	**P**	**21 10 28.2**	**+2.4**
KSRS	**Korea Array**	**20.57**	**324**	P	**P**	**21 10 30.1**	**+0.7**
	comp=Z,2.1nm,0.6s,baz=148,slow=8.9,SNR=11						
	comp=Z,2.1nm,0.6s						
MTN	**Manton Dam**	**36.12**	**200**	P	**P**	**21 12 45.8**	**-1.0**
MA2	**Magadan**	**38.40**	**6**	P	**P**	**21 13 06.2**	**+0.9**
MA2				IAmb	IAmb	21 13 29.4	
	comp=Z,34nm,1.5s						
SONM	**Songino Array**	**39.39**	**321**	P	**P**	**21 13 13.0**	**-0.8**
SONM	**Songino Array**	**39.39**	**321**	P	**P**	**21 13 14.9**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=142,slow=6.5,SNR=4.6						
CHTO	**Chiang Mai**	**41.40**	**274**	P	**P**	**21 13 28.5**	**-2.0**
CMAR	**Chiang Mai Arr**	**41.47**	**274**	P	**P**	**21 13 32.2**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=81,slow=6.4,SNR=7.2						
	comp=Z,0.5nm,0.5s						
CTAO	**Charters Tower**	**41.49**	**175**	P	**P**	**21 13 31.1**	**0.0**
CTAO				IAmb	IAmb	21 13 55.5	
	comp=Z,17nm,1.5s						
YAK	**Yakutsk**	**41.50**	**351**	P	**P**	**21 13 30.2**	**-0.4**
YAK				IAmb	IAmb	21 13 31.7	
	comp=Z,7.4nm,0.7s						
WB0	**Warramunga Arr**	**41.92**	**192**	P	**P**	**21 13 34.4**	**-0.2**
WRA	**Warramunga Arr**	**42.10**	**192**	P	**P**	**21 13 35.9**	**-0.1**
WRA	**Warramunga Arr**	**42.10**	**192**	P	**P**	**21 13 35.9**	**-0.1**
	comp=Z,1.2nm,0.2s,baz=14,slow=9.4,SNR=73						
WRA				PcP	**PcP**	**21 15 24.7**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=4.5,slow=3.6,SNR=2.6						
WRA				S	**S**	**21 19 30.3**	**-1.4**
	comp=Z,0.9nm,1.2s,baz=16,slow=15,SNR=2.4						
	comp=Z,1.2nm,0.2s						
FITZ	**Fitzroy Crossi**	**42.93**	**205**	P	**P**	**21 13 42.5**	**-0.1**
AS31	**Alice Springs**	**45.81**	**192**	P	**P**	**21 14 04.5**	**-0.7**
ASAR	**Alice Springs**	**45.81**	**192**	P	**P**	**21 14 04.4**	**-0.9**
ASAR	**Alice Springs**	**45.81**	**192**	P	**P**	**21 14 05.2**	**0.0**
	comp=Z,0.5nm,0.3s,baz=12,slow=6.6,SNR=27						
ASAR				PcP	**PcP**	**21 15 36.5**	**-0.4**
	comp=Z,0.5nm,1.0s,baz=19,slow=5.7,SNR=2.0						
ASAR				S	**S**	**21 20 22.2**	**-2.8**
	comp=Z,0.7nm,0.9s,baz=19,slow=19,SNR=5.3						
	comp=Z,0.5nm,0.3s						
GSI	**Gunungsitoli**	**48.64**	**252**	P	**P**	**21 14 26.7**	**-0.4**
AKUT	**Akutan**	**50.31**	**37**	P	**P**	**21 14 39.5**	**+0.5**
TIXI	**Tiksi**	**50.79**	**354**	P	**P**	**21 14 42.5**	**+0.2**
STKA	**Stephens Creek**	**53.13**	**182**	P	**P**	**21 14 59.7**	**-0.3**
STKA	**Stephens Creek**	**53.13**	**182**	P	**P**	**21 14 60.0**	**0.0**
	comp=Z,0.9nm,0.4s,baz=340,slow=5.9,SNR=3.8						
	comp=Z,0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**54.26**	**322**	P	**P**	**21 15 08.2**	**+0.4**
ZALV	**Zalesovo Beam**	**54.26**	**322**	P	**P**	**21 15 08.4**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=116,slow=6.8,SNR=6.3						
ZALV				PcP	**PcP**	**21 16 06.9**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=118,slow=5.4,SNR=6.9						
	comp=Z,1.0nm,0.5s						
L14K	**Kuka Creek**	**54.41**	**29**	P	**P**	**21 15 09.8**	**+1.1**
MK31	**Makanchi Array**	**54.72**	**313**	P	**P**	**21 15 12.0**	**+0.7**
MKAR	**Makanchi Array**	**54.72**

BPAW	**Bear Paw Mtn.**	**60.36**	**27**	P	**P**	**21 15 50.8**	**+0.8**
BPAW				IAmb	IAmb	21 15 51.9	
	comp=Z,8.7nm,0.7s						
TRF	**Thorofare Moun**	**60.53**	**28**	P	**P**	**21 15 51.6**	**+0.2**
TRF				IAmb	IAmb	21 15 52.5	
	comp=Z,4.8nm,0.9s						
GHO	**Glory Hole Cre**	**60.87**	**30**	P	**P**	**21 15 53.8**	**+0.2**
GHO				IAmb	IAmb	21 15 58.8	
	comp=Z,15nm,1.1s						
SML	**Sawmill**	**61.15**	**30**	P	**P**	**21 15 55.6**	**+0.1**
RND	**Reindeer**	**61.16**	**28**	P	**P**	**21 15 55.1**	**-0.4**
RND				IAmb	IAmb	21 15 56.1	
	comp=Z,10nm,1.2s						
MCK	**McKinley**	**61.18**	**28**	P	**P**	**21 15 55.7**	**+0.2**
MCK				IAmb	IAmb	21 15 59.5	
	comp=Z,12nm,1.4s						
I23K	**Minto, Yukon-K**	**61.26**	**26**	P	**P**	**21 15 57.0**	**+1.0**
I23K				IAmb	IAmb	21 15 58.7	
	comp=Z,5.6nm,0.8s						
SCM	**Sheep Creek Mo**	**61.63**	**30**	P	**P**	**21 15 59.1**	**+0.5**
SCM				IAmb	IAmb	21 16 07.8	
	comp=Z,17nm,1.2s						
C23K	**Itkillik River**	**61.84**	**21**	P	**P**	**21 16 00.9**	**+1.2**
TOLK	**Toolik Lake Re**	**61.91**	**23**	P	**P**	**21 16 01.7**	**+1.4**
ILAR	**Eielson Array**	**62.23**	**27**	P	**P**	**21 16 01.9**	**-0.6**
	comp=Z,2.8nm,0.7s,baz=257,slow=5.6,SNR=42						
	comp=Z,2.8nm,0.7s						
BVAR	**Borovoye Array**	**62.72**	**320**	P	**P**	**21 16 07.0**	**+1.1**
	comp=Z,3.8nm,0.4s,baz=96,slow=7.5,SNR=50						
BVAR				PcP	**PcP**	**21 16 41.6**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=101,slow=5.1,SNR=4.5						
	comp=Z,3.8nm,0.4s						
BRVK	**Borovoye**	**62.78**	**320**	P	**P**	**21 16 07.0**	**+0.7**
KK31	**Karatay Array**	**63.06**	**308**	P	**P**	**21 16 08.5**	**+0.1**
SCRK	**Sand Creek**	**63.39**	**28**	P	**P**	**21 16 10.5**	**+0.3**
SCRK				IAmb	IAmb	21 16 11.4	
	comp=Z,4.4nm,0.7s						
BMAR	**Burnt Mountain**	**63.54**	**24**	P	**P**	**21 16 12.9**	**+1.9**
BCAR	**Beaver Creek A**	**64.30**	**29**	P	**P**	**21 16 16.8**	**+0.7**
WHY	**Whitehorse**	**67.60**	**32**	P	**P**	**21 16 38.2**	**+1.1**
WHY				IAmb	IAmb	21 16 52.3	
	comp=Z,6.1nm,1.3s						
INK	**Inuvik**	**67.76**	**24**	P	**P**	**21 16 38.1**	**+0.4**
INK				IAmb	IAmb	21 16 51.1	
	comp=Z,5.2nm,1.4s						
RTZ	**Ruatahuna**	**67.77**	**152**	P	**P**	**21 16 37.5**	**-0.8**
ARU	**Arti**	**69.32**	**324**	P	**P**	**21 16 47.7**	**+0.1**
ARU				IAmb	IAmb	21 17 13.7	
	comp=Z,7.7nm,1.4s						
ARU	**Arti**	**69.32**	**324**	P	**P**	**21 16 47.4**	**-0.2**
	comp=Z,2.1nm,0.3s,baz=79,slow=6.1,SNR=6.1						
	comp=Z,2.1nm,0.3s						
ABKAR	**Akbulak array**	**69.58**	**316**	P	**P**	**21 16 49.8**	**+0.5**
ABKAR				IAmb	IAmb	21 16 50.4	
	comp=Z,2.3nm,0.6s						
A36M	**Sachs Harbour**	**70.22**	**19**	P	**P**	**21 16 52.4**	**-0.4**
A36M				IAmb	IAmb	21 16 55.4	
	comp=Z,6.5nm,0.8s						
SPITS	**Spitsbergen Ar**	**75.97**	**350**	P	**P**	**21 17 26.8**	**+0.6**
	comp=Z,5.6nm,0.8s,baz=97,slow=6.8,SNR=6.2						
	comp=Z,5.6nm,0.8s						
YKA	**Yellowknife Ar**	**76.65**	**28**	P	**P**	**21 17 30.1**	**0.0**
	comp=Z,3.5nm,0.6s,baz=290,slow=6.1,SNR=83						
	comp=Z,3.5nm,0.6s						
RES	**Resolute Bay**	**77.25**	**13**	P	**P**	**21 17 33.1**	**-0.1**
RES				IAmb	IAmb	21 17 34.6	
	comp=Z,2.1nm,0.7s						
KEV	**Kevo**	**78.47**	**341**	P	**P**	**21 17 40.3**	**+0.3**
HUMO	**Hull Mountain**	**78.55**	**49**	P	**P**	**21 17 42.5**	**+1.5**
HUMO				IAmb	IAmb	21 17 43.2	
	comp=Z,12nm,1.5s						
YBH	**Yreka Blue Hor**	**79.01**	**49**	P	**P**	**21 17 43.5**	**-0.2**
	comp=Z,2.6nm,0.9s,baz=355,slow=2.6,SNR=5.2						
	comp=Z,2.6nm,0.9s						
ARCES	**ARCESS Array B**	**79.03**	**341**	P	**P**	**21 17 42.9**	**-0.2**
ARCES	**ARCESS Array B**	**79.03**	**341**	P	**P**	**21 17 43.4**	**+0.3**
	comp=Z,2.1nm,0.4s,baz=81,slow=8.9,SNR=33						
	comp=Z,2.1nm,0.4s						
KCPM	**Cahto Peak**	**79.04**	**52**	P	**P**	**21 17 44.5**	**+0.6**
PINE	**Pine Mountain**	**79.56**	**47**	P	**P**	**21 17 47.3**	**+0.6**
NEW	**Newport**	**80.47**	**42**	P	**P**	**21 17 50.4**	**-0.8**
	comp=Z,2.8nm,0.6s,baz=280,slow=4.8,SNR=5.6						
	comp=Z,2.8nm,0.6s						
KBZ	**Khabaz**	**82.39**	**314**	P	**P**	**21 18 01.4**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=142,slow=5.5,SNR=4.7						
	comp=Z,1.4nm,0.7s						
FINES	**FINESS Array B**	**83.27**	**334**	P	**P**	**21 18 04.7**	**-0.7**
FINES	**FINESS Array B**	**83.27**	**334**	P	**P**	**21 18 04.9**	**-0.5**
	comp=Z,2.1nm,0.4s,baz=69,slow=4.6,SNR=32						
	comp=Z,2.1nm,0.4s						
NVAR	**Mina Array Bea**	**83.33**	**51**	P	**P**	**21 18 06.8**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=277,slow=5.1,SNR=19						
	comp=Z,1.9nm,0.7s						
ELK	**Elko**	**84.61**	**48**	P	**P**	**21 18 12.8**	**-0.1**
ELK				IAmb	IAmb	21 18 14.4	
	comp=Z,5.6nm,1.1s						
ELK	**Elko**	**84.61**	**48**	P	**P**	**21 18 12.6**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=295,slow=5.6,SNR=6.2						
	comp=Z,1.6nm,0.5s						
BOZ	**Bozeman (W)**	**84.99**	**43**	P	**P**	**21 18 14.5**	**-0.1**
TPNV	**Topopah Spring**	**85.40**	**52**	P	**P**	**21 18 16.7**	**-0.1**
TPNV				IAmb	IAmb	21 18 18.1	
	comp=Z,3.2nm,0.8s						
SUMG	**Summit**	**86.12**	**0**	P	**P**	**21 18 20.7**	**+0.9**
AKASG	**Malin Array Be**	**87.57**	**324**	P	**P**	**21 18 25.3**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=54,slow=4.8,SNR=4.1						
	comp=Z,0.3nm,0.4s						
PDAR	**Pinedale Array**	**87.58**	**45**	P	**P**	**21 18 26.4**	**-0.9**
PDAR	**Pinedale Array**	**87.58**	**45**	P	**P**	**21 18 25.8**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=213,slow=3.0,SNR=4.8						
	comp=Z,0.2nm,0.5s						
HFS	**Hagfors**	**88.83**	**337**	P	**P**	**21 18 31.2**	**-1.1**
	comp=Z,3.6nm,0.9s,baz=346,slow=0.6,SNR=1.8						
	comp=Z,3.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**128.75**	**309**	PKP	**PKPdf**	**21 24 44.8**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=48,slow=2.1,SNR=2.2						
PLCA	**Paso Flores**	**145.74**	**132**	PKPbc	**PKPbc**	**21 25 16.8**	**+0.4**
	comp=Z,4.2nm,0.6s,baz=249,slow=3.7,SNR=13						

IDC 30 21:07:03.2±2.4, 3°67S×151°31E, h0km, mb2.9/2, mbtmp2.9/2, Error ellipse: s-maj=49.3km s-min=21.2km az=21.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.95**	**132**	Pn	Pn	21 07 23.9	0.0
	baz=253,slow=19						
KRVT				Sn	Sn	21 07 39.5	+1.3
	baz=343,slow=19						
WRA	**Warramunga Arr**	**23.14**	**224**	P	P	21 12 12.1	+0.7
	0.2nm,0.5s,baz=53,slow=10,SNR=4.7						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**26.04**	**219**	P	P	21 12 38.5	0.0
	0.2nm,0.8s,baz=57,slow=8.2,SNR=1.4						
	0.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**148.54**	**289**	PKPbc	PKPbc	21 26 51.9	-1.4
	0.3nm,0.6s,baz=48,slow=2.1,SNR=2.2						

*SDD **30** 21:15:19.8±1.7, 18°.87N×70°.51W, h12km±12km, MD3.0, ML2.7, MW3.9*
*OSPL **30** 21:15:20.5±2.5, 18°.80N×70°.45W, h10km±30km, ML2.6*

ISC 30 21:15:18.5±0.9, 18°.84N±0°.04×70°.47W±0°.03, h14km±7km, n11, σ0°.57/22, 6C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABDR	**Alto Bandera**	**0.15**	**259**	⇑*e*Pg	**Pg**	**21 15 22.6**	**0.0**
ABDR				IAML		21 15 25.1	
	comp=E,5μm,0.3s						
ABDR				⇓*e*Sg	**Sg**	**21 15 25.2**	**-0.1**
ABDR				IAML		21 15 25.8	
	comp=N,6μm,0.2s						
DR08	**Loma La Naviza**	**0.45**	**74**	*e*Pg	**Pb**	**21 15 28.9**	**+0.7**
DR08				⇓*e*Sg	**Sb**	**21 15 35.6**	**+0.8**
DR08				IAML		21 15 36.5	
	comp=N,3μm,0.1s						
BANI	**BANI**	**0.46**	**166**	⇑*e*Pg	**Pg**	**21 15 28.1**	**+0.4**
BANI				⇑*e*Sg	**Sb**	**21 15 35.3**	**+0.1**
BANI				IAML		21 15 36.7	
	comp=E,1μm,0.2s						
BANI				IAML		21 15 37.7	
	comp=N,2μm,0.3s						
LOSC1	**San Cristbal**	**0.55**	**141**	*i* P	**Pg**	**21 15 29.0**	**-0.4**
LOSC1				*e*S	**Sg**	**21 15 36.9**	**0.0**
LOSC1				IAML		21 15 41.4	
	comp=Z,917nm,0.4s						
SC01	**Santiago de lo**	**0.63**	**338**	*i* P	**Pn**	**21 15 32.4**	**-0.7**
SC01				*e*S	**Sn**	**21 15 42.4**	**-0.6**
SC01				IAML		21 15 44.5	
	comp=Z,335nm,0.6s						
SDD	**Santo Domingo**	**0.65**	**125**	*i* P	**Pg**	**21 15 31.3**	**0.0**
SDD				*e*S	**Sg**	**21 15 40.3**	**+0.3**
SDDR	**Presa de Saban**	**0.78**	**280**	*i* P	**Pb**	**21 15 34.1**	**+0.1**
SDDR				*e*S	**Sb**	**21 15 45.6**	**+1.1**
SDDR				IAML		21 15 49.3	
	comp=Z,164nm,0.5s						
LOBA2	**Hotel Casa Bon**	**0.96**	**218**	*e*Pg	**Pb**	**21 15 36.4**	**-0.5**
LOBA2				⇑*e*Sg	**Sg**	**21 15 50.4**	**+0.8**
LOBA2				IAML		21 15 51.0	
	comp=N,16nm,0.2s						
LOBA2				IAML		21 15 51.3	
	comp=E,20nm,0.2s						
PODR	**Polo**	**1.02**	**229**	*i* P	**Pb**	**21 15 37.7**	**-0.3**
PODR				*e*S	**Sn**	**21 15 53.4**	**+0.6**
HATOM	**Hato Mayor del**	**1.04**	**93**	⇑*e*Pg	**Pn**	**21 15 38.3**	**-0.4**
HATOM				⇑*e*Sg	**Sn**	**21 15 52.9**	**-0.2**
HATOM				IAML		21 15 55.0	
	comp=N,246nm,0.2s						
HIDR	**Higuey Centro**	**1.68**	**98**	*e*Pg	**Pb**	**21 15 48.7**	**-0.6**
HIDR				⇓*e*Sg	**Sb**	**21 16 10.9**	**+0.5**

IDC 30 21:17:36.1±2.0, 13°.01N×121°.73E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=90.9km s-min=17.4km az=57.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.34**	**325**	Pn	Pn	21 18 02.4	+0.3
	128nm,0.3s,baz=198,slow=20,SNR=12						
TGY				Sn	Sn	21 18 20.9	+0.2
	62nm,0.3s,baz=29,slow=19,SNR=9.0						
CMAR	**Chiang Mai Arr**	**22.59**	**287**	P	P	21 22 38.5	0.0
	0.3nm,0.5s,baz=98,slow=10,SNR=3.2						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**35.01**	**159**	P	P	21 24 29.8	-0.9
	0.5nm,0.9s,baz=336,slow=9.5,SNR=3.0						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**38.34**	**162**	P	P	21 24 59.4	+0.3
	0.2nm,0.5s,baz=340,slow=6.7,SNR=9.0						
	0.2nm,0.5s						

*IDC **30** 21:24:49.5±1.5, 51°.42N×176°.41E, h0km, mb3.5/7, mbtmp3.7/9, ML3.2/2, Error ellipse: s-maj=37.8km s-min=20.7km az=171.0*
*AEIC **30** 21:24:53.7±1.4, 51°.7N±0°.1×176°.41E±0°.07, h10km±5km, Error ellipse: s-maj=18.9km s-min=4.7km az=193.0*
*NEIC **30** 21:24:55.2±1.6, 51°.5N±0°.1×176°.34E±0°.08, h38km±11km, mb3.9/19, ML3.5(AEIC), Error ellipse: s-maj=17.5km s-min=6.3km az=190.0*

ISC 30 21:24:52.1±2.3, 51°.5N±0°.1×176°.36E±0°.04, h16km±14km, n55, σ1s05/56, mb3.6/10, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**1.41**	**71**		**Pb**	**21 25 17.6**	**-0.4**
LSSA					**Sg**	**21 25 36.6**	**-0.9**
LSNW	**Little Sitkin**	**1.42**	**71**		**Sn**	**21 25 35.3**	**-0.2**
LSSE	**Little Sitkin**	**1.44**	**72**		**Pb**	**21 25 18.3**	**-0.2**
LSPA	**Little Sitkin**	**1.45**	**72**		**Pb**	**21 25 18.4**	**-0.3**
LSPA					**Sg**	**21 25 38.0**	**-0.7**
SHEM	**Shemya Is, Ala**	**1.84**	**312**	Pn	**Pn**	**21 25 24.2**	**+1.1**
	156nm,0.3s,baz=116,slow=2.5,SNR=22						
SHEM				Sn	**Sn**	**21 25 46.4**	**+0.4**
	99nm,0.3s,baz=208,slow=15,SNR=16						
SMY	**Shemya**	**1.84**	**312**		**Pn**	**21 25 23.8**	**+0.7**
SMY					**Sn**	**21 25 46.2**	**+0.1**
AMKA	**Amchitka**	**1.85**	**93**		**Pb**	**21 25 24.3**	**-1.2**
AMKA					**Sn**	**21 25 46.9**	**+0.7**
CESW	**Semis' Southwe**	**2.03**	**78**		**Pn**	**21 25 26.5**	**+0.9**
CEPE	**Semis' Perret**	**2.10**	**76**		**Pn**	**21 25 27.8**	**+1.2**
CEPE					**Sb**	**21 25 53.8**	**-1.7**
GANO	**Gareloi North**	**3.03**	**82**		**Pn**	**21 25 40.9**	**+1.5**
TAFP	**Tanaga Falls P**	**3.54**	**82**		**Pn**	**21 25 48.4**	**+1.9**
KICM	**Kanaga Island**	**4.03**	**82**		**Pn**	**21 25 55.4**	**+2.3**
KIWB	**Kanaga Island**	**4.05**	**83**	Pn	**Pn**	**21 25 54.8**	**+1.3**
ADK	**Adak**	**4.34**	**82**		**Pn**	**21 25 58.0**	**+0.6**
ATKA	**Atka Island**	**5.89**	**80**	Pn	**Pn**	**21 26 20.8**	**+2.1**
PETK	**Petropavlovsk-**	**11.53**	**285**	Pn	**Pn**	**21 27 36.9**	**+1.0**
PETK	**Petropavlovsk-**	**11.53**	**285**	Pn	**Pn**	**21 27 37.5**	**+1.6**
	0.2nm,0.3s,baz=64,slow=24,SNR=1.8						
PETK				Sn	**Sn**	**21 29 40.6**	**-3.7**
	0.1nm,0.3s,baz=163,slow=26,SNR=2.2						
	4.0nm,0.9s						
F17K	**Baldwin Pennin**	**18.71**	**29**	Pn	**Pn**	**21 29 11.4**	**+1.4**
F17K				IAmb	IAmb	21 29 36.7	
	comp=Z,24nm,1.5s						
H18K	**Honhosa River**	**18.85**	**34**		**Pn**	**21 29 12.7**	**+1.0**
H18K				IAmb	IAmb	21 29 15.8	
	comp=Z,9.9nm,1.4s						
KDAK	**Kodiak Island**	**18.91**	**59**	P	**P**	**21 29 12.0**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=353,slow=10,SNR=2.0						
	comp=Z,22nm,1.1s						
G18K	**Tagagawik**	**19.18**	**32**		**Pn**	**21 29 16.1**	**+0.4**
G18K				IAmb	IAmb	21 29 16.7	
	comp=Z,7.7nm,1.4s						
RDOG	**Red Dog Mine**	**19.41**	**24**	P	**P**	**21 29 17.7**	**+0.5**
M20K	**Styx River**	**19.50**	**46**	P	**Pn**	**21 29 19.3**	**-0.4**
M20K				IAmb	IAmb	21 29 24.2	
	comp=Z,11nm,1.2s						
CNPM	**China Poot**	**19.84**	**54**	P	**P**	**21 29 22.2**	**+0.2**
J20K	**Nowhere River**	**19.93**	**39**	P	**Pn**	**21 29 24.0**	**-0.6**
F19K	**Shaleruckit Mo**	**20.03**	**30**	P	**P**	**21 29 24.3**	**+0.3**
SKT	**Skwentna**	**20.25**	**46**		**P**	**21 29 27.5**	**+1.0**
SKT				IAmb	IAmb	21 29 36.8	
	comp=Z,11nm,1.3s						
C18K	**Utukok River**	**20.28**	**24**	P	**P**	**21 29 27.8**	**+1.0**
C18K				IAmb	IAmb	21 29 48.3	
	comp=Z,4.7nm,1.2s						
SUA	**Susitna One**	**20.48**	**48**	P	**P**	**21 29 29.1**	**0.0**
E19K	**Redstone River**	**20.58**	**29**	P	**P**	**21 29 30.2**	**+0.2**
E19K				IAmb	IAmb	21 29 44.1	
	comp=Z,5.8nm,1.4s						
IMAR	**Indian Mountai**	**20.92**	**35**	P	**P**	**21 29 34.2**	**+0.6**
D19K	**Kuna River**	**20.99**	**26**	P	**P**	**21 29 34.4**	**0.0**
D19K				IAmb	IAmb	21 29 57.4	
	comp=Z,8.7nm,1.4s						
SCM	**Sheep Creek Mo**	**22.15**	**48**	P	**P**	**21 29 47.0**	**-0.1**
SCM				IAmb	IAmb	21 30 08.5	
	comp=Z,14nm,1.2s						
E22K	**Anaktuvuk Pass**	**22.66**	**31**	P	**P**	**21 29 52.1**	**-0.3**
ILAR	**Eielson Array**	**23.08**	**41**	P	**P**	**21 29 57.3**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=249,slow=7.8,SNR=4.8						
	comp=Z,0.4nm,0.8s						
VRDI	**Verde Repeater**	**23.90**	**50**	P	**P**	**21 30 05.0**	**0.0**
BMAR	**Burnt Mountain**	**24.83**	**35**	P	**P**	**21 30 14.4**	**+1.0**
H11N2	**WAKE ISLAND Hy**	**32.59**	**197**	T	T	22 06 31.9	
	baz=11,slow=76,SNR=72						
H11N3	**WAKE ISLAND Hy**	**32.60**	**197**	T	T	22 06 36.9	
	baz=11,slow=76,SNR=62						
H11N1	**WAKE ISLAND Hy**	**32.60**	**197**	T	T	22 06 37.5	
	baz=11,slow=76,SNR=72						
H11S1	**WAKE ISLAND Hy**	**33.81**	**197**	T	T	22 08 06.8	
	baz=11,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**33.83**	**197**	T	T	22 08 06.1	
	baz=11,slow=76,SNR=7.2						
H11S2	**WAKE ISLAND Hy**	**33.83**	**197**	T	T	22 08 06.1	
	baz=11,slow=76,SNR=3.6						
YKA	**Yellowknife Ar**	**37.31**	**46**	P	**P**	**21 32 03.0**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=285,slow=8.2,SNR=5.2						
	comp=Z,0.4nm,0.8s						
SONM	**Songino Array**	**43.85**	**294**	P	**P**	**21 32 58.4**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=63,slow=4.7,SNR=4.7						
	comp=Z,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**56.79**	**311**	P	**P**	**21 34 34.6**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=45,slow=6.5,SNR=5.4						
	comp=Z,0.6nm,0.3s						
MK31	**Makanchi Array**	**57.53**	**306**	P	**P**	**21 34 39.6**	**-0.9**
MK31				IAmb	IAmb	21 34 49.4	
	comp=Z,0.9nm,1.2s						
MKAR	**Makanchi Array**	**57.53**	**306**	P	**P**	**21 34 40.0**	**-0.5**
MKAR	**Makanchi Array**	**57.53**	**306**	P	**P**	**21 34 40.2**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=52,slow=7.0,SNR=4.9						
	comp=Z,0.3nm,0.5s						
BVAR	**Borovoye Array**	**58.77**	**317**	P	**P**	**21 34 49.4**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=51,slow=7.8,SNR=10.0						
	comp=Z,1.3nm,0.6s						
BRVK	**Borovoye**	**58.80**	**317**	P	**P**	**21 34 49.2**	**0.0**
TXAR	**Lajitas Array**	**61.61**	**78**	P	**P**	**21 35 07.6**	**-1.3**
ABKAR	**Akbulak array**	**65.94**	**320**	P	**P**	**21 35 37.5**	**+0.5**
ABKAR	**Akbulak array**	**65.94**	**320**	P	**P**	**21 35 37.3**	**+0.3**
ABKAR				IAmb	IAmb	21 35 47.5	
	comp=Z,2.8nm,1.3s						
WRA	**Warramunga Arr**	**80.10**	**220**	P	**P**	**21 37 00.9**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=26,slow=6.1,SNR=2.1						
	comp=Z,0.3nm,0.8s						

*IDC **30** 21:32:37.9±3.0, 18°.69N×145°.47E, h178km±29km, mb3.0/6, mbtmp3.5/7, MS3.0/1, Error ellipse: s-maj=45.5km s-min=19.7km az=108.0*
*NEIC **30** 21:32:38.4±0.6, 18°.6N±0°.1×145°.8E±0°.4, h167km±12km, mb3.8/6, Error ellipse: s-maj=54.7km s-min=5.4km az=109.0*

ISC 30 21:32:40.4±0.8, 18°.5N±0°.1×145°.5E±0°.3, h200km, n16, σ1s01/16, mb3.3/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.96**	**187**	Pn	**Pn**	**21 33 53.6**	**-0.8**
GUMO	**Guam**	**4.96**	**187**	P	**Pn**	**21 33 55.2**	**+0.8**
	21nm,0.5s,baz=2.1,slow=10,SNR=1.8						
GUMO				S	**Sn**	**21 34 51.5**	**-1.2**
	66nm,0.9s,baz=17,slow=15,SNR=1.9						
DAV	**Davao City (W)**	**22.50**	**242**	LR	LR	21 46 04.6	
	comp=Z,35nm,18.9s,baz=332,slow=36						
WR0	**Warramunga Arr**	**39.75**	**196**	P	**P**	**21 39 54.5**	**+0.7**
WR0				IAmb	IAmb	21 40 23.8	
	comp=Z,4.2nm,1.2s						
WRA	**Warramunga Arr**	**39.78**	**197**	P	**P**	**21 39 55.3**	**+1.2**
WRA	**Warramunga Arr**	**39.78**	**197**	P	**P**	**21 39 54.8**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=15,slow=8.6,SNR=13						
	comp=Z,0.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**41.32**	**209**	P	**P**	**21 40 08.1**	**+1.5**
FITZ				IAmb	IAmb	21 40 32.8	
	comp=Z,1.5nm,1.4s						
ASAR	**Alice Springs**	**43.45**	**196**	P	**P**	**21 40 24.4**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=16,slow=6.3,SNR=6.6						
	comp=Z,0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**61.32**	**318**	P	**P**	**21 42 33.9**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=95,slow=7.0,SNR=2.1						
	comp=Z,0.3nm,0.8s						
H24K	**Noodor Dome**	**63.70**	**25**	P	**P**	**21 42 50.9**	**+0.6**
ILAR	**Eielson Array**	**63.87**	**26**	P	**P**	**21 42 49.5**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=250,slow=6.2,SNR=4.2						
	comp=Z,0.2nm,0.5s						
E24K	**Your Creek**	**64.03**	**22**	P	**P**	**21 42 52.7**	**+0.2**
E24K				IAmb	IAmb	21 43 00.5	
	comp=Z,3.4nm,1.4s						
BMAR	**Burnt Mountain**	**65.33**	**24**	P	**P**	**21 43 01.7**	**+0.8**
D27M	**Malcolm River**	**66.97**	**22**	P	**P**	**21 43 12.1**	**+0.8**
D27M				IAmb	IAmb	21 43 18.9	
	comp=Z,2.6nm,1.4s						
YKA	**Yellowknife Ar**	**78.21**	**28**	P	**P**	**21 44 17.2**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=288,slow=6.2,SNR=3.2						
	comp=Z,0.3nm,0.7s						
NVAR	**Mina Array Bea**	**83.38**	**52**	P	**P**	**21 44 45.9**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=270,slow=4.4,SNR=3.5						
	comp=Z,0.4nm,0.7s						

*SJA **30** 21:46:46.2±0.7, 22°.80S×69°.14W, h91km±2km, ML3.9, MW3.9*
*NEIC **30** 21:46:47.9±1.6, 22°.80S±0°.04×69°.18W±0°.01, h83km±5km, mb4.0/7, Error ellipse: s-maj=6.0km s-min=1.2km az=186.0*
*GUC **30** 21:46:48.0±0.7, 22°.78S×69°.19W, h81km±3km, ML3.9*
*IDC **30** 21:46:51.3±16.0, 22°.89S×68°.62W, h103km±126km, mb3.6/3, mbtmp4.0/4, ML4.2/1, Error ellipse: s-maj=151.7km s-min=24.8km az=125.0*

ISC 30 21:46:47.4±0.7, 22°.78S±0°.03×69°.18W±0°.03, h82km±5km, n79, σ1s84/109, mb4.0/4, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.30**	**56**		**Pn**	**21 47 00.7**	**+0.3**
LVC				Sn	**Sn**	**21 47 09.8**	**-0.1**
LVC	**Limon Verde**	**0.30**	**56**	*e*P	**Pn**	**21 47 00.7**	**+0.3**
LVC				*e*S	**Sn**	**21 47 11.6**	**+1.7**
LVC				IAML		21 47 11.6	
	comp=Z,2μm,0.2s						
LVC	**Limon Verde**	**0.30**	**56**	LR	LR	21 47 19.4	
	comp=Z,237nm,18.4s,baz=40,slow=73						
PB06	**IPOC Station P**	**0.37**	**281**		**Pn**	**21 47 01.2**	**+0.6**
PB06				Sn	**Sn**	**21 47 10.9**	**+0.5**
PB06	**IPOC Station P**	**0.37**	**281**	*e*P	**Pn**	**21 47 01.1**	**+0.6**
PB06				*e*S	**Sn**	**21 47 11.7**	**+1.4**
PB06				IAML		21 47 13.7	
	comp=Z,3μm,

PATCX *e*S **Sn** **21 47 55.6 +8.3**
PATCX IAML 21 47 58.9
comp=Z,522nm,0.5s
PATCX Punta Patache 2.15 335 *e*P **Pn** **21 47 22.1 +0.7**
PATCX *i* S **Sn** **21 47 49.4 +2.1**
PATCX IAML 21 47 55.7
comp=N,1μm,0.2s
PB14 IPOC Station P 2.16 211 Pn **Pn** **21 47 22.4 +0.6**
PB14 IPOC Station P 2.16 211 *e*P **Pn** **21 47 21.8 +0.1**
PB14 *e*S **Sn** **21 47 53.1 +5.2**
PB14 IAML 21 47 55.4
comp=Z,1μm,0.3s
TA01 Diego Aracena 2.39 337 **Pn** **21 47 24.8 +0.2**
TA01 Diego Aracena 2.39 337 *e*P **Pn** **21 47 24.9 +0.4**
TA01 *e*S **Sn** **21 47 53.1 +0.1**
TA01 IAML 21 48 02.2
comp=Z,334nm,0.6s
TA01 Diego Aracena 2.39 337 *e*P **Pn** **21 47 24.8 +0.2**
TA01 *i* S **Sn** **21 47 55.1 +2.2**
TA01 IAML 21 48 06.9
comp=N,725nm,0.5s
GO02 Mina Guanaco 2.41 189 Pn **Pn** **21 47 26.0 +0.9**
GO02 Mina Guanaco 2.41 189 *e*P **Pn** **21 47 25.8 +0.7**
GO02 *e*S **Sn** **21 47 58.1 +4.2**
GO02 IAML 21 48 08.5
comp=Z,866nm,0.1s
GO02 Mina Guanaco 2.41 189 *e*P **Pn** **21 47 25.8 +0.7**
GO02 *i* S **Sn** **21 47 56.1 +2.2**
PB08 IPOC Station P 2.62 0 **Pn** **21 47 29.0 +1.0**
PB08 IPOC Station P 2.62 0 *e*P **Pn** **21 47 28.8 +0.8**
PB08 *e*S Sn 21 48 10.9 +12
PB08 IAML 21 48 12.6
comp=Z,270nm,0.3s
TA02 Huaiquique 2.65 340 **Pn** **21 47 28.1 +0.1**
PB11 IPOC Station P 3.03 351 **Pn** **21 47 33.5 +0.1**
PB11 IPOC Station P 3.03 351 *e*P **Pn** **21 47 34.1 +0.7**
PB11 *e*S **Sn** **21 48 12.1 +3.3**
PB11 *e*S 21 48 16.8
PB11 IAML 21 48 20.2
comp=Z,394nm,0.3s
GO01 Chusmiza 3.09 360 **Pn** **21 47 34.7 +0.3**
GO01 Chusmiza 3.09 360 *e*P **Pn** **21 47 35.4 +0.9**
GO01 *e*S Sn 21 48 21.9 +11
GO01 IAML 21 48 25.3
comp=Z,268nm,0.8s
YJA Yavi 3.44 81 *e*P **Pn** **21 47 43.3 +4.2**
AC01 Pan de Azucar 3.60 201 Pn **Pn** **21 47 39.8 -1.0**
AC01 Pan de Azucar 3.60 201 *e*P **Pn** **21 47 39.9 -1.0**
AC01 *e*S Sn 21 48 34.5 +12
AC01 IAML 21 48 37.9
comp=Z,552nm,0.6s
AZAP Zapla 4.04 112 *e*P Pn 21 47 31.0 -16
PB12 IPOC Station P 4.28 345 Pn **Pn** **21 47 49.9 -0.4**
PB12 IPOC Station P 4.28 345 *e*P **Pn** **21 47 48.7 -1.6**
PB12 IAML 21 48 53.4
comp=Z,231nm,0.5s
PB16 IPOC Station P 4.43 356 Pn **Pn** **21 47 53.7 +1.0**
AC06 Mina Casimiro 4.69 193 Pn **Pn** **21 47 54.4 -1.3**
GO03 Copiap 4.89 191 **Pn** **21 47 57.0 -1.5**
AC05 El Transito 6.12 189 Pn **Pn** **21 48 13.7 -1.6**
LCO Las Campanas 6.36 192 Pn **Pn** **21 48 16.1 -2.7**
LPAZ La Paz 6.53 9 Pn **Pn** **21 48 23.0 +1.6**
CO01 Juntas del Tor 7.22 186 **Pn** **21 48 28.6 -1.9**
CO03 El Pedregal 8.14 189 Pn **Pn** **21 48 38.5 -4.3**
CO02 Combarbal 8.55 191 Pn **Pn** **21 48 44.5 -4.0**
VA03 San Esteban 10.03 187 Pn **Pn** **21 49 04.9 -3.7**
PTLB Pontes e Lacer 11.96 54 Pn **Pn** **21 49 32.0 -2.8**
H03N1 Juan Fernandez 13.65 217 T T 22 02 40.6
baz=41,slow=72,SNR=16
H03N2 Juan Fernandez 13.66 217 T T 22 02 38.4
baz=41,slow=72,SNR=11
H03N3 Juan Fernandez 13.67 217 T T 22 02 40.9
baz=41,slow=72,SNR=17
ITAB Concordia 16.07 110 Pn **Pn** **21 50 28.4 -0.1**
TRQA Tornquist 16.44 160 **Pn** **21 50 33.3 +0.4**
PLCA Paso Flores 17.94 183 P **Pn** **21 50 51.2 -0.2**
PLCA IAmb IAmb 21 51 07.0
comp=Z,8.9nm,1.4s
PLCA Paso Flores 17.94 183 P **Pn** **21 50 51.9 +0.5**
comp=Z,0.2nm,0.3s,baz=354,slow=11,SNR=4.7
comp=Z,1.6nm,0.7s
BDFB Brasilia 21.19 74 P **P** **21 51 24.9 -1.6**
BDFB IAmb IAmb 21 51 38.2
comp=Z,4.4nm,1.0s
BDFB Brasilia 21.19 74 P **P** **21 51 24.5 -2.0**
comp=Z,1.3nm,0.4s,baz=226,slow=12,SNR=3.8
comp=Z,1.3nm,0.4s
QSPA South Pole Qui 67.42 180 P **P** **21 57 35.2 +1.2**
QSPA IAmb IAmb 21 57 35.9
comp=Z,2.6nm,0.9s
QSPA South Pole Qui 67.42 180 P **P** **21 57 35.2 +1.2**
comp=Z,1.1nm,0.6s,baz=189,slow=0.9,SNR=14
QSPA pP **pP** **21 57 57.6 +1.7**
comp=Z,0.6nm,0.6s,baz=322,slow=0.9,SNR=2.0
comp=Z,1.1nm,0.6s
TOA0 Torodi Ar. Sit 78.02 70 P **P** **21 58 36.5 -0.9**
TOA0 IAmb IAmb 21 58 37.3
comp=Z,1.9nm,0.7s
TORD Torodi Ar. Bea 78.02 70 P **P** **21 58 36.5 -0.9**
TORD IAmb IAmb 21 58 37.2
comp=Z,1.5nm,0.7s
TORD Torodi Ar. Bea 78.02 70 P **P** **21 58 36.2 -1.2**
comp=Z,1.4nm,0.6s,baz=257,slow=5.1,SNR=14
comp=Z,1.4nm,0.6s
MKAR Makanchi Array 146.80 37 PKPbc **PKPab** **22 06 20.4 -1.0**
comp=Z,0.2nm,0.6s,baz=320,slow=3.8,SNR=4.2
MKAR pPKPbc **pPKPdf** **22 06 43.8 +1.7**
comp=Z,0.5nm,0.8s,baz=277,slow=1.0,SNR=3.9

*NOU **30** 21:55:18.6,23°.42S×171°.93W,h0km,mb4.9/16,Tonga Islands Region*
*IDC **30** 21:55:49.0±0.6,22°.66S×175°.90W,h0km,mb4.2/13, mbtmp4.3/14,ML5.0/1,MS3.7/36,Error ellipse: s-maj=25.7km s-min=18.2km az=134.0*
*NEIC **30** 21:55:50.6±2.3,22°.93S±0°.09×175°.7W±0°.1,h10km±1km, mb4.8/31,Error ellipse: s-maj=17.5km s-min=13.7km az=238.0*

ISC 30 21:55:57.9±0.4,**23°.07S**±0°.06×**175°.79W**±0°.07,**h71**km, **n130,**σ**2°17**/88,**mb4.5**/27,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**5.58**	**329**	P	**Pn**	**21 57 18.1**	**-0.3**
RAO	**Raoul Island**	**6.45**	**197**	Pn	**Pn**	**21 57 31.5**	**+1.3**
	27nm,0.3s,baz=72,slow=22,SNR=1.5						
RAO				Sn	**Sn**	**21 58 44.2**	**+1.9**
	29nm,0.3s,baz=113,slow=24,SNR=1.4						
	113nm,0.3s						
NIUE	**Niue**	**6.76**	**55**		Pn	21 57 23.7	-11
NIUE				Sn	Sn	21 58 26.2	-24
TAVE	**Taveuni**	**7.42**	**328**	P	**Pn**	**21 57 44.1**	**+0.6**
DGTI	**Dogotuki**	**7.94**	**327**	P	**Pn**	**21 57 50.8**	**+0.1**
YSA	**Yasawairara**	**8.89**	**314**	P	Pn	21 58 10.8	+7.1
AFI	**Afiamalu**	**9.87**	**23**	Pn	Pn	21 58 06.7	-10
RAR	**Rarotonga**	**14.96**	**86**	Pn	Pn	21 59 17.3	-8.1
RAR	**Rarotonga**	**14.96**	**86**	Pn	Pn	21 59 17.4	-8.0
	3.9nm,0.3s,baz=268,slow=7.8,SNR=15						
RAR				Sn	Sn	22 01 45.6	-25
	2.3nm,0.3s,baz=336,slow=18,SNR=2.7						
RAR				LR	LR	22 03 58.9	
	comp=Z,118nm,21.2s,baz=302,slow=33						
PINNC	**Pines Island,**	**15.46**	**268**	P	**P**	**21 59 35.4**	**+0.5**
PINNC				IAmb	IAmb	21 59 47.4	
	comp=Z,44nm,1.0s						
PINNC	**Pines Island,**	**15.46**	**268**	P	P	21 59 42.3	+7.4
OUENC	**Ouen Island, N**	**16.04**	**269**	P	**P**	**21 59 41.2**	**-0.1**
OUENC				IAmb	IAmb	21 59 51.9	
	comp=Z,28nm,0.9s						
OUENC	**Ouen Island, N**	**16.04**	**269**	P	**P**	**21 59 47.7**	**+6.4**
URZ	**Urewera**	**16.32**	**200**	Pn	**Pn**	**21 59 40.2**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=99,slow=17,SNR=1.5						
URZ				Sn	**Sn**	**22 02 34.8**	**-8.0**
	comp=Z,0.6nm,0.3s,baz=73,slow=21,SNR=2.8						
ONTNC	**Ouen Toro**	**16.41**	**269**		**P**	**21 59 45.1**	**-0.3**
DZM	**Mont Dzumac**	**16.44**	**270**	*e*P	**P**	**21 59 48.1**	**+2.2**
	comp=Z,40nm,1.0s						
DZM				*e*S	S	22 03 09.7	+15
	comp=Z,93nm,24.4s						
DZM				*e*LR	LR	22 03 49.0	
	comp=Z,446nm,24.5s						
DZM	**Mont Dzumac**	**16.44**	**270**	P	**P**	**21 59 45.3**	**-0.6**
DZM	**Mont Dzumac**	**16.44**	**270**	P	**P**	**21 59 52.3**	**+6.4**
DZM	**Mont Dzumac**	**16.44**	**270**	Pn	**P**	**21 59 48.5**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=75,slow=16,SNR=12						
DZM				LR	LR	22 04 29.9	
	comp=Z,148nm,21.8s,baz=81,slow=32						
NOUC	**Port Laguerre**	**16.57**	**270**	P	P	21 59 54.3	+7.1
KOUNC	**Koumac, New Ca**	**18.67**	**274**	P	**P**	**22 00 09.0**	**-1.3**
KOUNC				IAmb	IAmb	22 00 25.3	
	comp=Z,42nm,1.2s						
KOUNC	**Koumac, New Ca**	**18.67**	**274**	P	**Pn**	**22 00 17.7**	**+6.3**
BFZ	**Birch Farm**	**18.80**	**199**		**P**	**22 00 10.2**	**-1.4**
BFZ				IAmb	IAmb	22 00 28.6	
	comp=Z,44nm,1.1s						
MRZ	**Mangatainoka R**	**18.99**	**201**		**P**	**22 00 12.2**	**-1.5**
MRZ				IAmb	IAmb	22 00 45.1	
	comp=Z,24nm,1.1s						
TBI	**Tubuai**	**24.19**	**96**	*e*LR	LR	22 06 58.0	
	comp=Z,2μm,26.5s						
TBI	**Tubuai**	**24.19**	**96**	*e*T	T	22 25 53.3	
	comp=Z,19nm,0.4s						
PAE	**Paea**	**25.14**	**82**	*e*P	**P**	**22 01 15.4**	**-1.1**
	comp=Z,8.4nm,1.0s						
PAE	**Paea**	**25.14**	**82**	*e*T	T	22 26 49.6	
	comp=Z,42nm,0.3s						
PPT2	**Papeete2**	**25.16**	**82**	*e*P	**P**	**22 01 15.3**	**-1.5**
	comp=Z,32nm,1.2s						
PPT2				*e*S	S	22 05 22.7	-14
	comp=Z,98nm,31.0s						
PPT2				*e*LR	LR	22 06 59.9	
	comp=Z,313nm,28.2s						
PPT2				*e*LR	LR	22 07 19.2	
	comp=Z,410nm,26.2s						
PPT2	**Papeete2**	**25.16**	**82**	*e*T	T	22 26 52.6	
	comp=Z,34nm,0.4s						
PPT	**Papeete**	**25.17**	**82**	LR	LR	22 08 29.3	
	comp=Z,87nm,21.6s,baz=242,slow=30						
TIAR	**Tiarei**	**25.38**	**82**	*e*P	**P**	**22 01 16.9**	**-1.8**
	comp=Z,1.8nm,0.9s						
TIAR	**Tiarei**	**25.38**	**82**	*e*T	T	22 26 56.3	
	comp=Z,2.3nm,0.3s						
TVO	**Taravao**	**25.40**	**83**	*e*T	T	22 27 03.7	
	comp=Z,4.8nm,0.3s						
MEH	**Mehetia**	**26.46**	**84**	*e*T	T	22 28 39.3	
	comp=Z,54nm,0.3s						
HNR	**Honiara**	**26.89**	**296**	LR	LR	22 11 06.6	
	comp=Z,1μm,20.1s,baz=196,slow=34						
EIDS	**Eidsvold**	**30.26**	**259**	P	**P**	**22 02 03.2**	**+0.9**
EIDS				IAmb	IAmb	22 02 06.2	
	comp=Z,36nm,1.8s						
CTA	**Charters Tower**	**35.36**	**267**	P	**P**	**22 02 44.4**	**-2.4**
CTA	**Charters Tower**	**35.36**	**267**	LR	LR	22 16 36.1	
	comp=Z,97nm,18.0s,baz=84,slow=35						
CTAO	**Charters Tower**	**35.36**	**267**	P	**P**	**22 02 47.2**	**+0.3**
CTAO				IAmb	IAmb	22 02 51.5	
	comp=Z,9.6nm,0.6s						
CTAO	**Charters Tower**	**35.36**	**267**	P	**P**	**22 02 44.7**	**-2.1**
TOO	**Toolangi**	**36.15**	**237**	P	**P**	**22 02 53.9**	**+0.5**
PMG	**Port Moresby**	**37.95**	**285**	P	**P**	**22 03 06.9**	**-2.0**
PMG	**Port Moresby**	**37.95**	**285**	P	**P**	**22 03 08.2**	**-0.7**
PMG	**Port Moresby**	**37.95**	**285**	P	**P**	**22 03 08.3**	**-0.7**
PMG	**Port Moresby**	**37.95**	**285**	LR	LR	22 17 09.2	
	comp=Z,89nm,19.1s,baz=132,slow=34						
STKA	**Stephens Creek**	**38.61**	**247**	P	**P**	**22 03 14.2**	**-0.1**
STKA	**Stephens Creek**	**38.61**	**247**	P	**P**	**22 03 14.6**	**+0.3**
	comp=Z,1.7nm,0.4s,baz=131,slow=11,SNR=5.8						
STKA				LR	LR	22 19 06.5	
	comp=Z,122nm,18.4s,baz=34,slow=36						
	comp=Z,1.7nm,0.4s						
BBOO	**Buckleboo**	**43.32**	**246**	P	**P**	**22 03 52.4**	**-0.6**
AS31	**Alice Springs**	**45.98**	**259**	P	**P**	**22 04 13.5**	**-0.9**
ASAR	**Alice Springs**	**45.98**	**259**	P	**P**	**22 04 13.4**	**-1.0**
ASAR	**Alice Springs**	**45.98**	**259**	P	**P**	**22 04 13.8**	**-0.6**
	comp=Z,5.7nm,0.6s,baz=98,slow=6.8,SNR=88						
ASAR				PcP	**PcP**	**22 05 52.2**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=121,slow=4.5,SNR=1.2						
ASAR				S	**S**	**22 10 51.6**	**-2.8**
	comp=Z,0.2nm,0.9s,baz=156,slow=20,SNR=1.2						
ASAR				LR	LR	22 22 19.1	
	comp=Z,132nm,20.3s,baz=106,slow=35						
	comp=Z,5.7nm,0.6s						
WR0	**Warramunga Arr**	**46.14**	**264**	P	**P**	**22 04 14.1**	**-1.5**
WR0				IAmb	IAmb	22 04 18.2	
	comp=Z,5.5nm,0.9s						
WRA	**Warramunga Arr**	**46.33**	**264**	P	**P**	**22 04 15.6**	**-1.5**
WRA	**Warramunga Arr**	**46.33**	**264**	P	**P**	**22 04 15.9**	**-1.2**
	comp=Z,3.9nm,0.6s,baz=90,slow=6.0,SNR=67						
WRA				ScP	**ScP**	**22 09 45.7**	**+7.1**
	comp=Z,0.7nm,1.0s,baz=100,slow=4.0,SNR=2.0						
WRA				S	**S**	**22 10 54.1**	**-5.3**
	comp=Z,0.8nm,1.1s,baz=99,slow=13,SNR=2.0						
	comp=Z,3.9nm,0.6s						
FORT	**Forrest**	**50.22**	**248**	P	**P**	**22 04 46.2**	**-0.6**
FORT				IAmb	IAmb	22 05 10.2	
	comp=Z,17nm,1.0s						
MTN	**Manton Dam**	**51.27**	**272**	P	**P**	**22 04 54.2**	**-0.8**
MTN				IAmb	IAmb	22 05 01.0	
	comp=Z,32nm,1.7s						
KNRA	**Kununurra**	**52.57**	**268**	P	**P**	**22 05 04.3**	**-0.3**
KNRA				IAmb	IAmb	22 05 07.9	
	comp=Z,25nm,1.3s						
GUMO	**Guam**	**53.01**	**309**	LR	LR	22 24 48.2	
	comp=Z,56nm,21.7s,baz=112,slow=33						
FITZ	**Fitzroy Crossi**	**54.75**	**264**	P	**P**	**22 05 20.9**	**+0.4**
VNDA	**Vanda**	**55.56**	**186**	LR	LR	22 28 02.2	
	comp=Z,21nm,19.4s,baz=354,slow=35						
NWAO	**Narrogin (SRO)**	**59.09**	**244**	LR	LR	22 30 06.5	
	comp=Z,62nm,19.8s,baz=128,slow=35						
MBWA	**Marble Bar**	**59.32**	**258**	P	**P**	**22 05 53.4**	**+0.5**
MORW	**Morawa**	**60.78**	**249**	P	**P**	**22 06 02.8**	**0.0**
JCJ	**Chichijima**	**64.32**	**319**	LR	LR	22 30 48.5	
	comp=Z,63nm,19.8s,baz=116,slow=33						
KAPI	**Kappang**	**64.57**	**6**	LR	LR	22 33 21.2	
	comp=Z,60nm,21.8s,baz=127,slow=35						
TOLI2	**Tolitoli**	**66.15**	**282**	P	**P**	**22 06 38.7**	**+0.4**
TOLI2				IAmb	IAmb	22 06 39.5	
	comp=Z,5.7nm,0.8s						
QSPA	**South Pole Qui**	**67.01**	**180**	P	**P**	**22 06 46.0**	**+2.8**
QSPA				IAmb	IAmb	22 06 47.9	
	comp=Z,8.4nm,0.9s						
QSPA	**South Pole Qui**	**67.01**	**180**	P	**P**	**22 06 46.4**	**+3.2**
	comp=Z,5.9nm,0.8s,baz=50,slow=1.5						
QSPA				LR	LR	22 31 39.6	
	comp=Z,41nm,21.9s,baz=20,slow=32						
	comp=Z,5.9nm,0.8s						
MJAR	**Matsushiro Arr**	**73.49**	**323**	P	**P**	**22 07 20.7**	**-2.3**
	comp=Z,1.0nm,0.8s,baz=154,slow=5.8,SNR=4.3						
MJAR				LR	LR	22 33 56.1	
	comp=Z,53nm,21.0s,baz=122,slow=31						
	comp=Z,1.0nm,0.8s						
JNU	**Nakatsue**	**75.54**	**316**	LR	LR	22 34 18.9	
	comp=Z,39nm,21.6s,baz=116,slow=31						
BELA	**Belgrano 2**	**76.75**	**172**	P	**P**	**22 07 43.5**	**+2.3**
BELA				IAmb	IAmb	22 07 44.6	
	comp=Z,5.4nm,0.8s						
ASAJ	**Asahikawa**	**76.96**	**331**	LR	LR	22 34 01.4	
	comp=Z,78nm,21.3s,baz=158,slow=30						
PMSA	**Palmer Station**	**78.12**	**156**	LR	LR	22 38 06.6	
	comp=Z,37nm,19.5s,baz=206,slow=32						
PETK	**Petropavlovsk-**	**79.28**	**344**	P	**P**	**22 07 53.0**	**-2.3**
	comp=Z,6.5nm,0.9s,baz=126,slow=7.5,SNR=4.4						
PETK				LR	LR	22 35 01.6	
	comp=Z,93nm,21.4s,baz=157,slow=30						
	comp=Z,6.5nm,0.9s						
MAW	**Mawson**	**79.84**	**199**	LR	LR	22 42 03.1	
	comp=Z,48nm,19.1s,baz=90,slow=35						
KSRS	**Korea Array**	**80.16**	**318**	LR	LR	22 37 51.5	
	comp=Z,36nm,21.8s,baz=125,slow=32						
YBH	**Yreka Blue Hor**	**81.04**	**37**	LR	LR	22 38 54.5	
	comp=Z,26nm,18.2s,baz=216,slow=32						
GMN	**Gold Mountain**	**81.47**	**43**	P	**P**	**22 08 07.9**	**+0.2**
NVAR	**Mina Array Bea**	**81.51**	**42**	P	**P**	**22 08 07.8**	**-0.1**
NVAR	**Mina Array Bea**	**81.51**	**42**	P	**P**	**22 08 08.1**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=224,slow=7.9,SNR=10						
	comp=Z,1.6nm,0.9s						
TPNV	**Topopah Spring**	**81.91**	**44**	P	**P**	**22 08 09.7**	**-0.3**
TPNV				IAmb	IAmb	22 08 29.7	
	comp=Z,8.6nm,1.7s						
KDAK	**Kodiak Island**	**82.85**	**12**	LR	LR	22 37 17.8	
	comp=Z,82nm,21.4s,baz=189,slow=30						
H03S2	**Juan Fernandez**	**82.86**	**124**	T	T	23 39 53.9	
	baz=246,slow=74,SNR=263						
H03S1	**Juan Fernandez**	**82.87**	**124**	T	T	23 39 53.3	
	baz=246,slow=74,SNR=265						
H03S3	**Juan Fernandez**	**82.88**	**124**	T	T	23 39 52.1	
	baz=246,slow=74,SNR=262						
H03N2	**Juan Fernandez**	**83.01**	**123**	T	T	23 39 58.4	
	baz=252,slow=73,SNR=129						
H03N3	**Juan Fernandez**	**83.01**	**123**	T	T	23 39 59.8	
	baz=252,slow=73,SNR=102						
H03N1	**Juan Fernandez**	**83.02**	**123**	T	T	23 39 57.3	
	baz=252,slow=73,SNR=162						
SNAA	**Sanae**	**85.39**	**178**	LR	LR	22 44 29.4	
	comp=Z,25nm,19.6s,baz=176,slow=34						
KLR	**Kul'dur**	**85.78**	**329**	P	**P**	**22 08 30.0**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=144,slow=7.5,SNR=3.7						
KLR				LR	LR	22 41 39.2	
	comp=Z,55nm,21.3s,baz=124,slow=32						
	comp=Z,1.2nm,0.8s						
PLCA	**Paso Flores**	**86.03**	**133**	LR	LR	22 39 55.7	
	comp=Z,30nm,19.3s,baz=214,slow=31						
TXAR	**Lajitas Array**	**86.73**	**56**	P	**P**	**22 08 35.1**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=230,slow=5.9,SNR=6.8						
TXAR				LR	LR	22 41 24.9	
	comp=Z,17nm,18.4s,baz=42,slow=32						
	comp=Z,1.0nm,0.9s						
MA2	**Magadan**	**86.81**	**344**	LR	LR	22 41 16.1	
	comp=Z,47nm,19.6s,baz=127,slow=32						
NEW	**Newport**	**88.27**	**35**	LR	LR	22 38 37.8	
	comp=Z,48nm,21.6s,baz=193,slow=29						
TRF	**Thorofare Moun**	**88.54**	**11**		**P**	**22 08 41.0**	**-1.4**
SEY	**Seymchan**	**89.34**	**346**	LR	LR	22 46 09.4	
	comp=Z,16nm,20.3s,baz=8.5,slow=34						
PDAR	**Pinedale Array**	**89.44**	**42**	P	**P**	**22 08 45.8**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=302,slow=5.2,SNR=2.9						
	comp=Z,0.3nm,0.7s						
ILAR	**Eielson Array**	**90.37**	**12**	P	**P**	**22 08 49.5**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=220,slow=5.6,SNR=7.4						
	comp=Z,1.1nm,0.9s						
J26L	**Joseph Creek**	**90.80**	**13**	P	**P**	**22 08 53.3**	**+0.4**
J26L				IAmb	IAmb	22 08 54.2	
	comp=Z,7.0nm,0.8s						
E19K	**Redstone River**	**91.31**	**7**		**P**	**22 08 54.5**	**-0.6**
E19K				IAmb	IAmb	22 08 56.2	
	comp=Z,6.8nm,1.0s						
CFA	**Coronel Fontan**	**91.94**	**126**	LR	LR	22 43 16.1	
	comp=Z,34nm,18.8s,baz=343,slow=31						
CMAR	**Chiang Mai Arr**	**92.89**	**289**	P	**P**	**22 09 05.3**	**+1.8**
	comp=Z,1.3nm,1.0s,baz=124,slow=3.0,SNR=7.9						
CMAR				LR	LR	22 50 59.7	
	comp=Z,15nm,18.8s,baz=75,slow=36						
	comp=Z,1.3nm,1.0s						
NNA	**Nana**	**93.43**	**104**	LR	LR	22 41 00.7	
	comp=Z,42nm,20.8s,baz=246,slow=29						
ATAH	**Atahualpa**	**93.99**	**99**	LR	LR	22 41 28.7	
	comp=Z,27nm,21.2s,baz=265,slow=29						
LVC	**Limon Verde**	**95.64**	**117**	LR	LR	22 42 09.1	
	comp=Z,17nm,20.2s,baz=230,slow=29						
INK	**Inuvik**	**96.22**	**15**	LR	LR	22 51 59.1	
	comp=Z,32nm,18.1s,baz=1.5,slow=35						
YKA	**Yellowknife Ar**	**97.99**	**24**	P	**P**	**22 09 25.0**	**-0.6**
	comp=Z,0.1nm,0.5s,baz=242,slow=4.5,SNR=3.2						
	comp=Z,0.1nm,0.5s						
MKAR	**Makanchi Array**	**114.44**	**312**	PKiKP	PKPdf	22 14 28.9	-0.7
	comp=Z,0.2nm,0.6s,baz=56,slow=3.6,SNR=2.6						
KURBB	**Kurchatov Arra**	**117.31**	**316**	PKP	**PKPdf**	**22 14 34.6**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=107,slow=2.0,SNR=4.0						
BVAR	**Borovoye Array**	**122.36**	**319**	PKP	**PKPdf**	**22 14 44.0**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=76,slow=1.9,SNR=13						
ARCES	**ARCESS Array B**	**131.80**	**350**	PKP	**PKiKP**	**22 15 03.1**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=27,slow=1.4,SNR=1.8						
HFS	**Hagfors**	**142.37**	**352**	PKiKP	PKPpre	22 15 17.1	
	comp=Z,3.4nm,1.0s,baz=82,slow=11,SNR=4.7						
GURO	**Guroymak-BITLI**	**144.31**	**304**		PKPbc	22 15 24.9	+0.2
KOPT	**Kop Dagi**	**145.05**	**307**	PKPbc	**PKPab**	**22 15 26.9**	**-0.3**
MARD	**Mardin**	**145.58**	**303**	PKPdf	**PKPdf**	**22 15 27.3**	**-1.2**
SUW	**Suwalki**	**145.95**	**340**	PKPdf	**PKPdf**	**22 15 28.1**	**-0.2**
AKASG	**Malin Array Be**	**146.24**	**331**	PKPdf	**PKPdf**	**22 15 29.2**	**+0.3**
AKASG	**Malin Array Be**	**146.24**	**331**	PKPbc	**PKPbc**	**22 15 29.4**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=38,slow=4.3,SNR=14						
ARPR	**Arapgir-MALATY**	**146.93**	**307**	PKPbc	**PKPbc**	**22 15 32.1**	**-0.6**
EKA	**Eskdalemuir Ar**	**147.31**	**8**	PKPbc	**PKPbc**	**22 15 32.1**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=346,slow=4.4,SNR=2.3						
BR131	**Hankin Array S**	**150.07**	**311**	PKPbc	**PKPbc**	**22 15 40.3**	**-0.5**
BRTR	**Keskin Array B**	**150.07**	**311**	PKPbc	**PKPbc**	**22 15 41.0**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=136,slow=3.4,SNR=12						
MMAI	**Mount Meron Ar**	**150.83**	**297**	PKPbc	**PKPbc**	**22 15 42.6**	**-0.2**
	comp=Z,6.5nm,0.8s,baz=121,slow=6.2,SNR=5.9						
OSTC	**Ostas**	**151.00**	**344**	*e*PKP	**PKPbc**	**22 15 42.2**	**-0.3**
DPC	**Dobruska-Polom**	**151.17**	**344**	*e*PKP	**PKiKP**	**22 15 44.4**	**+0.9**
VYHS	**Vyhne**	**152.09**	**339**	*e*	**PKPbc**	**22 15 44.7**	**-0.4**
KHC	**Kasperske Hory**	**152.96**	**346**	*e*PKP	**PKiKP**	**22 15 50.0**	**+2.8**
CKRC	**Cesky Krumlov**	**153.08**	**345**	*e*PKP	**PKiKP**	**22 15 47.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**169.85**	**166**	PKP	**PKPdf**	**22 15 57.8**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=347,slow=1.0,SNR=3.1						
TORD				PKPab	**PKPab**	**22 17 14.4**	**+1.7**
	comp=Z,1.0nm,0.8s,baz=161,slow=2.1,SNR=5.7						

*IDC **30** 21:56:08.9±1.0,34°.23N×84°.77E,h0km,mb3.5/11, mbtmp3.6/14,ML3.2/3,MS3.2/11,Error ellipse: s-maj=28.5km s-min=19.3km az=50.0*

ISC 30 21:56:14.4±0.7,**34°.35N**±0°.08×**84°.7E**±0°.1,**h35**km,**n28,** σ**0°.95**/**24,mb3.5**/10,**MS3.1**/8,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DANN	**Dangsing**	**6.04**	**188**	*e*P	**Pn**	**21 57 41.9**	**+0.4**
PYUN	**Piuthan**	**6.40**	**194**	*e*P	**Pn**	**21 57 46.0

comp=Z,0.3nm,0.8s
ILAR Eielson Array 73.31 21 P P 22 07 40.7 -1.3
comp=Z,0.3nm,0.9s,baz=303,slow=5.0,SNR=1.5
ILAR LR LR 22 42 21.9
comp=Z,61nm,18.2s,baz=226,slow=38
comp=Z,0.3nm,0.9s
TORD Torodi Ar. Bea 77.00 277 P P 22 08 03.7 -0.3
comp=Z,0.4nm,0.7s,baz=58,slow=5.4,SNR=2.3
comp=Z,0.4nm,0.7s

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*IDC **30** 21:57:36.1±6.9,36.87N×70.78E,h118km±58km, mbtmp3.5/4, Error ellipse: s-maj=88.2km s-min=19.8km az=153.0*
*NNC **30** 21:57:37.1±12.0,37.20N×70.59E,h0km,mb3.3,mpv2.9, Error ellipse: s-maj=122.1km s-min=72.9km az=152.0*
ISC 30 21:57:31.8±2.7,36.8N±0.2×70.8E±0.1,h10km,n8, σ1§41/10,2C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**4.91**	**54**	P	P	21 58 39.5	-6.3
KSH				S	Sn	21 59 26.0	-17
KSH				pmax	pmax		
	comp=Z,13nm,0.5s						
KSH				smax	smax		
	comp=N,35nm,0.6s						
KSH				smax	smax		
	comp=E,21nm,0.7s						
KSH				LR	LR		
	comp=N,460nm,12.6s						
KSH				LR	LR		
	comp=E,380nm,11.5s						
AML	**Almayashu**	**5.81**	**22**	⇓P		**Pn**	**21 58 59.6 +1.2**
	comp=E,0.2nm,0.4s						
AML				⇓S		**Sn**	**22 00 03.8 -1.5**
	comp=E,1.2nm,0.7s						
KK31	**Karatay Array**	**6.34**	**358**	⇑P		**Pn**	**21 59 07.6 +2.3**
	comp=E,1.1nm,0.3s,baz=181,slow=13,SNR=38						
KK31				⇑S		**Sn**	**22 00 18.7 +1.0**
	comp=E,1.1nm,0.3s,baz=185,slow=23,SNR=6.3						
AAK	**Ala-Archa**	**6.52**	**25**	P		**Pn**	**21 59 07.9 -0.1**
	comp=E,1.9nm,0.3s,baz=185,slow=5.3,SNR=17						
AAK				S		**Sn**	**22 00 21.2 -1.2**
	comp=E,1.7nm,0.7s,baz=153,slow=9.0,SNR=6.8						
GEYT	**Alibeck**	**10.18**	**280**	P		**Pn**	**21 59 58.3 +0.4**
	comp=E,0.5nm,0.3s,baz=116,slow=3.4,SNR=6.3						
GEYT				S		**Sn**	**22 01 51.0 -1.1**
	comp=E,1.3nm,0.6s,baz=72,slow=32,SNR=1.5						
MKAR	**Makanchi Array**	**13.17**	**37**	P		**Pn**	**22 00 39.5 +0.7**
	comp=E,0.3nm,0.6s,baz=212,slow=11,SNR=1.5						
AB31	**Akbulak array**	**14.78**	**331**	⇓P		**Pn**	**22 01 00.0 -0.8**
	comp=E,0.2nm,0.3s,baz=149,slow=12,SNR=26						
ZALV	**Zalesovo Beam**	**19.74**	**25**	P		P	22 01 55.1 -6.4
	comp=E,2.2nm,0.4s,baz=209,slow=9.8,SNR=17						

JMA 30 22:06:41.3±0.2,25.7N±2.2×123.4E±0.6,h82km±4km, MV1.4/6,NW OFF ISHIGAKIJIMA IS,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.58**	**151**	*e*P	Pn	22 06 55.8	-0.1
IRIF				*e*S	Sn	22 07 06.9	+0.2
JKRS	**Kuro-shima**	**0.81**	**139**	*e*P	Pn	22 06 58.5	+0.3
JKRS				*e*S	Sn	22 07 11.3	+0.5
JIJ	**Ishigaki jima**	**0.81**	**126**	P	Pn	22 06 58.2	0.0
JIJ				*e*S	Sn	22 07 11.0	+0.1
JISG	**Ishigakijimahi**	**0.85**	**107**	P	Pn	22 06 58.9	+0.3

TAP 30 22:06:55.2,24.46N×122.38E,h81km±1km,ML2.4,D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.14**	**255**	*i* P	Pn	22 07 07.0	+0.3
	baz=255						
EOS2				*i* S	Sn	22 07 16.5	+1.3
	baz=255						
EOS3	**EOS3**	**0.18**	**199**	*i* P	Pn	22 07 07.2	+0.4
	baz=198						
EOS3				*i* S	Sn	22 07 16.8	+1.4
	baz=198						
EOS4	**EOS4**	**0.34**	**190**	P	Pn	22 07 07.3	-0.1
	baz=189						
EOS4				S	Sn	22 07 16.8	+0.5
	baz=189						
TWC	**Suao**	**0.51**	**288**	*i* P	Pn	22 07 09.5	+0.4
	baz=287						
TWC				*i* S	Sn	22 07 18.7	-0.7
	baz=287						
EWUT	**Wuta**	**0.55**	**269**	*e*S	Sn	22 07 20.5	+0.5
	baz=268						
ENA	**Nanau**	**0.58**	**267**	*i* P	Pn	22 07 10.2	+0.5
	baz=267						
ENA				*i* S	Sn	22 07 21.2	+0.6
	baz=267						
TWE	**Neicheng**	**0.70**	**292**	P	Pn	22 07 10.8	-0.2
	baz=292						
TWE				S	Sn	22 07 23.1	+0.5
	baz=292						
TIPB	**Shuangxi**	**0.72**	**316**	*e*P	Pn	22 07 11.1	-0.1
	baz=315						
TIPB				S	Sn	22 07 22.2	-0.9
	baz=315						
ETL	**Fush Village**	**0.75**	**247**	S	Sn	22 07 24.1	+0.4
	baz=246						
ENTT	**Nioudou**	**0.76**	**284**	P	Pn	22 07 12.4	+0.8
	baz=283						
ENTT				S	Sn	22 07 24.8	+0.9
	baz=283						
NACB	**Ninganchiao**	**0.77**	**249**	S	Sn	22 07 24.1	+0.2
	baz=248						
LATG	**Datong**	**0.78**	**276**	*i* P	Pn	22 07 12.6	+0.6
	baz=275						
LATG				*i* S	Sn	22 07 25.2	+0.9
	baz=275						
FUSB	**Fushanzhiwuyua**	**0.78**	**293**	P	Pn	22 07 12.1	+0.2
	baz=292						
FUSB				S	Sn	22 07 24.0	-0.3
	baz=292						
NDT	**Datong Townshi**	**0.80**	**281**	P	Pn	22 07 13.0	+0.9
	baz=280						
NDT				S	Sn	22 07 25.4	+0.8
	baz=280						
TWD	**Chiawan**	**0.81**	**243**	*i* S	Sn	22 07 25.1	+0.5
	baz=242						
ETLH	**Xiulin Townshi**	**0.85**	**253**	*e*P	Pn	22 07 12.9	+0.2
	baz=253						
ETLH				S	Sn	22 07 26.6	+0.8
	baz=253						
NWLT	**Wulai**	**0.86**	**292**	*e*P	Pn	22 07 13.0	+0.3
	baz=291						
NWLT				*e*S	Sn	22 07 25.9	+0.2
	baz=291						
NNSB	**Datong**	**0.91**	**269**	P	Pn	22 07 13.7	+0.4
	baz=268						
NNSB				S	Sn	22 07 26.4	-0.5
	baz=268						
NNS	**Nan Shan**	**0.92**	**269**	P	Pn	22 07 14.1	+0.6
	baz=268						
NNS				S	Sn	22 07 27.4	+0.3
	baz=268						
YHNB	**Yeheng**	**0.94**	**283**	P	Pn	22 07 14.2	+0.5
	baz=283						
YHNB				S	Sn	22 07 27.9	+0.4
	baz=283						
ETM	**Tongmen**	**0.94**	**239**	*e*S	Sn	22 07 27.6	+0.1
	baz=238						
NSK	**Sanguang**	**0.95**	**284**	*i* P	Pn	22 07 14.4	+0.6
	baz=283						
NSK				*i* S	Sn	22 07 28.3	+0.5
	baz=283						
LXIB	**Xiulin Townshi**	**0.98**	**244**	*e*S	Sn	22 07 28.6	+0.1
	baz=243						
SHUL	**Shoufeng**	**1.00**	**228**	*e*S	Sn	22 07 29.6	+1.1
	baz=228						
WHF	**Hehuan Shan**	**1.06**	**253**	*e*S	Sn	22 07 31.5	+0.9
	baz=252						
ESL	**Shilin**	**1.07**	**234**	*e*S	Sn	22 07 30.3	+0.1
	baz=233						
TWT	**Tachien**	**1.12**	**260**	*e*S	Sn	22 07 32.9	+1.5
	baz=259						
NFF	**Wufeng Townshi**	**1.16**	**279**	*e*P	Pn	22 07 16.9	+0.5
	baz=278						
NFF				*e*S	Sn	22 07 32.0	-0.2
	baz=278						
WARBT	**Fenglin Townsh**	**1.17**	**231**	*e*P	Pn	22 07 15.9	-0.5
	baz=231						
WARBT				*e*S	Sn	22 07 31.3	-0.9
	baz=231						
CHGB	**Renai**	**1.17**	**251**	P	Pn	22 07 17.2	+0.7
	baz=250						
CHGB				S	Sn	22 07 32.9	+0.3
	baz=250						
EGFH	**Guangfu**	**1.17**	**228**	*e*S	Sn	22 07 32.3	0.0
	baz=228						
OWD	**Renai**	**1.21**	**246**	P	Pn	22 07 17.9	+1.0
	baz=245						
OWD				S	Sn	22 07 33.3	0.0
	baz=245						
WUSB	**Renai**	**1.24**	**248**	P	Pn	22 07 18.2	+0.8
	baz=248						
WUSB				S	Sn	22 07 34.8	+0.8
	baz=248						
LIOB	**Emei**	**1.26**	**279**	*e*P	Pn	22 07 17.6	+0.1
	baz=278						
HGSD	**Ruisui**	**1.30**	**223**	*e*P	Pn	22 07 18.2	+0.2
	baz=222						
HGSD				*e*S	Sn	22 07 34.8	-0.3
	baz=222						
WHP	**Taichung City**	**1.32**	**263**	P	Pn	22 07 20.4	+2.1
	baz=262						
WHP				S	Sn	22 07 37.6	+1.8
	baz=262						
VWDT	**VWDT**	**1.33**	**239**	P	Pn	22 07 19.5	+1.2
	baz=238						
VWDT				S	Sn	22 07 36.7	+0.9
	baz=238						
WCS	**Beigang Elemen**	**1.40**	**254**	*e*P	Pn	22 07 20.6	+1.3
	baz=253						
YULB	**Yu-li**	**1.45**	**223**	*e*P	Pn	22 07 20.8	+0.8
	baz=223						
SSLB	**Suanglung**	**1.46**	**243**	*e*P	Pn	22 07 21.6	+1.4
	baz=242						
SSLB				*e*S	Sn	22 07 39.5	+0.6
	baz=242						
SMLT	**Sun Moon Lake**	**1.47**	**247**	*e*P	Pn	22 07 20.7	+0.4
	baz=246						
TYC	**Yuchr**	**1.49**	**249**	*e*P	Pn	22 07 21.5	+1.0
	baz=248						
ALS	**Alishan**	**1.72**	**237**	*e*P	Pn	22 07 24.9	+1.2
	baz=236						

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*IDC **30** 22:11:40.3±1.2,33.41N×132.11E,h63km±10km,mb3.7/10, mbtmp4.1/15,MS3.3/4,Error ellipse: s-maj=13.7km s-min=11.7km az=47.0*
*NIED **30** 22:11:40.4,33.33N×132.20E,h52km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=5.43; $M_{\theta\theta}$=0.92; $M_{\phi\phi}$6.36; $M_{r\theta}$4.86; $M_{\theta\phi}$2.41; $M_{\phi r}$5.03; Fault plane solution: $M_0$9.48000×10^{14} NP1: ϕ_s218.00000°,δ70.00000°,λ-71.00000°. NP2: ϕ_s353.00000°,δ27.00000°,λ-132.00000°.*
*JMA **30** 22:11:40.4±0.0,33.3N±0.1×132.2E±0.1,h52km,MD3.9/34, MV4.0/34,BUNGO CHANNEL*
JMA Felt II J1 at BUNGO CHANNEL .
ISC 30 22:11:39.5±0.7,33.32N±0.04×132.19E±0.04,h60km±6km, n36,σ1§11/37,mb3.9/11,4D,Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNA	**Nagahama**	**0.34**	**46**	⇓*i* P	Pn	**22 11 49.9**	**-0.1**
JNA				⇓*e*S	Sn	**22 11 56.5**	**-1.1**
JNA	**Nagahama**	**0.34**	**46**	A	A	22 11 49.9	
	comp=E,7.0nm,0.6s,comp=N,17nm,0.6s						
UWA2	**Uwa jima 2**	**0.38**	**106**	*i* P	Pn	**22 11 50.3**	**-0.1**
UWA2				S	Sn	**22 11 57.6**	**-0.6**
UWA2	**Uwa jima 2**	**0.38**	**106**	A	A	22 11 50.3	
	comp=E,4.0nm,0.5s,comp=N,6.0nm,0.4s						
JUS	**Usuki**	**0.45**	**236**	⇓*i* P	Pn	**22 11 51.3**	**+0.4**
JUS				⇓S	Sn	**22 11 59.0**	**-0.2**
JUS	**Usuki**	**0.45**	**236**	A	A	22 11 51.3	
	comp=E,10.0nm,0.9s,comp=N,8.0nm,0.6s						
JSKE	**Saikikamae**	**0.57**	**205**	A	A	22 11 52.8	
	comp=E,15nm,0.6s,comp=N,11nm,0.7s						
JKI	**Kunimi**	**0.60**	**301**	A	A	22 11 53.1	
	comp=E,39nm,0.5s,comp=N,36nm,0.3s						
JBEP	**Beppuamama**	**0.65**	**272**	A	A	22 11 53.8	
	comp=E,64nm,0.4s,comp=N,80nm,0.3s						
JTO	**Tosashimizu**	**0.69**	**131**	*i* P	Pn	**22 11 54.0**	**+0.4**
JTO				S	Sn	**22 12 03.7**	**-0.3**
JKU	**Kubokawa**	**0.73**	**90**	*i* P	Pn	**22 11 54.3**	**+0.1**
JKU				S	Sn	**22 12 04.9**	**0.0**
JKD	**Kudamatsu**	**0.78**	**340**	A	A	22 11 55.3	
	comp=E,8.0nm,0.8s,comp=N,11nm,0.5s						
JET	**Tanbara**	**0.85**	**57**	*i* P	Pn	**22 11 55.9**	**+0.2**
JET				S	Sn	**22 12 07.0**	**-0.6**
JHM	**Kurahashi**	**0.87**	**19**	*i* P	Pn	**22 11 56.2**	**+0.4**
JHM				S	Sn	**22 12 08.2**	**+0.3**
JHM	**Kurahashi**	**0.87**	**19**	A	A	22 11 56.2	
	comp=E,.5.0nm,0.7s,comp=N,8.0nm,0.7s						
JNU	**Nakatsue**	**1.11**	**260**	P	Pn	**22 12 00.2**	**+1.1**
	comp=N,807nm,0.3s,baz=75,slow=5.1,SNR=3317						
JNU				S	Sn	**22 12 13.8**	**+0.1**
	comp=N,342nm,0.3s,baz=159,slow=22,SNR=18						
JHT	**Toyohira**	**1.35**	**8**	*i* P	Pn	**22 12 03.1**	**+0.9**
JIU3	**Izumi3**	**1.39**	**237**	*i* P	Pn	**22 12 03.7**	**+1.0**
KSRS	**Korea Array**	**5.40**	**321**	P	Pn	**22 12 58.6**	**+1.2**
	comp=N,5.2nm,0.6s,baz=135,slow=14,SNR=22						
KSRS				S	Sn	**22 13 56.9**	**-1.3**
	comp=N,5.8nm,0.5s,baz=137,slow=24,SNR=5.8						
KSRS				LR	LR	22 15 18.8	
	comp=N,100nm,20.0s,baz=140,slow=41						
MJAR	**Matsushiro Arr**	**5.90**	**55**	P	Pn	**22 13 06.5**	**+2.2**
	comp=N,17nm,0.5s,baz=241,slow=14,SNR=91						
JHJ	**Hachijo jima 2**	**6.37**	**90**	P	Pn	**22 13 11.2**	**+0.5**
	comp=N,74nm,0.3s,baz=91,slow=21,SNR=12						
JOW	**Kunigami**	**7.30**	**209**	P	Pn	**22 13 25.5**	**+2.0**
	comp=N,6.4nm,0.6s,baz=128,slow=24,SNR=1.1						
JOW				S	Sn	**22 14 41.6**	**-3.3**
	comp=N,13nm,0.8s,baz=251,slow=25,SNR=1.6						
JCJ	**Chichijima**	**10.64**	**123**	P	Pn	**22 14 09.6**	**+0.4**
	comp=N,49nm,0.5s,baz=325,slow=19,SNR=2.1						
SONM	**Songino Array**	**24.23**	**314**	P	P	**22 16 51.1**	**+0.4**
	comp=N,1.3nm,0.6s,baz=132,slow=9.8,SNR=12						
SONM				LR	LR	22 27 01.9	
	comp=N,47nm,19.7s,baz=24,slow=38						
	comp=N,1.3nm,0.6s						
MKAR	**Makanchi Array**	**39.84**	**305**	P	P	**22 19 06.8**	**-0.2**
	comp=N,0.1nm,0.5s,baz=89,slow=11,SNR=1.9						
KURBB	**Kurchatov Arra**	**42.48**	**311**	P	P	**22 19 27.6**	**-0.9**
	comp=N,0.5nm,0.6s,baz=93,slow=8.7,SNR=6.6						
	comp=N,0.5nm,0.6s						
NRIK	**Noril'sk**	**43.73**	**339**	LR	LR	22 39 25.6	
	comp=N,91nm,18.0s,baz=213,slow=38						
LEM	**Lembang**	**46.24**	**215**	LR	LR	22 42 40.9	
	comp=N,37nm,18.1s,baz=150,slow=40						
BVAR	**Borovoye Array**	**47.57**	**314**	P	P	**22 20 08.8**	**-0.1**
	comp=N,1.4nm,0.6s,baz=102,slow=9.3,SNR=17						
BVAR				PcP	**PcP**	**22 21 37.3**	**-0.5**
	comp=N,0.3nm,0.4s,baz=116,slow=3.4,SNR=1.8						
	comp=N,1.4nm,0.6s						
WRA	**Warramunga Arr**	**53.00**	**177**	P	P	**22 20 51.2**	**+1.0**
	comp=N,1.0nm,0.8s,baz=353,slow=7.6,SNR=8.3						
	comp=N,1.0nm,0.8s						
ASAR	**Alice Springs**	**56.69**	**178**	P	P	**22 21 18.3**	**+1.5**
	comp=N,1.3nm,0.8s,baz=12,slow=9.8,SNR=26						
	comp=N,1.3nm,0.8s						
ARCES	**ARCESS Array B**	**64.71**	**338**	P	P	**22 22 09.2**	**-1.6**
	comp=N,3.8nm,1.0s,baz=55,slow=7.8,SNR=5.3						
	comp=N,3.8nm,1.0s						
FINES	**FINESS Array B**	**68.42**	**330**	P	P	**22 22 34.5**	**0.0**
	comp=N,0.7nm,0.4s,baz=64,slow=6.3,SNR=11						
	comp=N,0.7nm,0.4s						
HFS	**Hagfors**	**74.13**	**333**	P	P	**22 23 08.3**	**-0.8**
	comp=N,6.7nm,1.1s,baz=61,slow=9.0,SNR=5.4						
	comp=N,6.7nm,1.1s						
NOA	**NORSAR Array B**	**74.46**	**334**	P	P	**22 23 10.2**	**-0.8**
	comp=N,0.6nm,0.7s,baz=47,slow=6.1,SNR=1.7						
	comp=N,0.6nm,0.7s						
NVAR	**Mina Array Bea**	**83.18**	**48**	P	P	**22 24 01.3**	**+1.8**
	comp=N,0.3nm,0.4s,baz=316,slow=3.8,SNR=1.4						
	comp=N,0.3nm,0.4s						

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*IDC **30** 22:14:29.3±3.3,29.47N×141.22E,h35km±26km, mb3.7/22, mbtmp3.9/26,ML3.4/4,MS3.2/3,Error ellipse: s-maj=22.6km s-min=12.2km az=77.0*
*NEIC **30** 22:14:31.4±2.6,29.56N±0.06×141.1E±0.1,h50km±8km, mb4.4/20,Error ellipse: s-maj=15.4km s-min=8.9km az=79.0*
ISC 30 22:14:32.3±0.5,29.47N±0.05×141.21E±0.08,h67km,n70, σ1§65/69,mb4.2/31,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.52**	**160**		Pn	**22 15 10.6**	**-0.3**
JCJ				Sn	Sn	**22 15 38.3**	**-2.2**
JCJ	**Chichijima**	**2.52**	**160**	Pn	Pn	**22 15 07.4**	**-3.5**
	25nm,0.3s,baz=300,slow=18,SNR=11						
JCJ				Sn	Sn	**22 15 34.4**	**-6.1**
	110nm,0.3s,baz=225,slow=22,SNR=11						
	113nm,0.3s						
JHJ2	**Mitsune**	**3.82**	**342**	Pn	Pn	**22 15 25.1**	**-3.5**
JHJ	**Hachijo jima 2**	**3.83**	**342**	Pn	Pn	**22 15 24.6**	**-4.3**
	6.1nm,0.3s,baz=232,slow=21,SNR=1.7						
JHJ				Sn	Sn	**22 16 08.2**	**-4.5**
	31nm,0.3s,baz=35,slow=22,SNR=5.5						
	72nm,0.8s						
MJAR	**Matsushiro Arr**	**7.49**	**341**	Pn	Pn	**22 16 17.7**	**-1.1**
	0.1nm,0.3s,baz=158,slow=12,SNR=4.0						
MJAR				Sn	Sn	**22 17 40.3**	**-1.8**
	baz=14,slow=27						
	1.5nm,0.5s						
JMM	**Marumori**	**8.38**	**358**		Pn	**22 16 29.3**	**-1.6**
JMZ	**Minamidaito 2**	**9.57**	**250**	Pn	Pn	**22 16 46.3**	**-1.0**
JTM	**Tenmabayashi**	**11.29**	**359**	Pn	Pn	**22 17 08.5**	**-2.2**
ERM	**Erimo**	**12.61**	**7**	Pn	Pn	**22 17 28.1**	**-0.7**
ASAJ	**Asahikawa**	**14.66**	**4**	Pn	Pn	**22 17 53.6**	**-2.3**
	0.4nm,0.3s,baz=254,slow=25,SNR=2.2						
ASAJ				LR	LR	22 24 38.2	
	comp=Z,46nm,18.6s,baz=194,slow=42						
	9.5nm,1.0s						
JKA	**Kamikawa-asahi**	**14.66**	**4**	Pn	Pn	**22 17 53.3**	**-2.6**
USA0B	**Ussuriysk Arra**	**16.43**	**336**	Pn	Pn	**22 18 16.3**	**-2.1**
USRK	**Ussuriysk Ar.**	**16.43**	**336**	Pn	Pn	**22 18 17.3**	**-1.1**
YHNB	**Yeheng**	**18.30**	**260**	P	P	**22 18 41.0**	**0.0**
YULB	**Yu-li**	**18.82**	**256**	P	Pn	**22 18 48.2**	**+0.4**
YULB				IAmb	IAmb	22 19 07.1	
	comp=Z,57nm,1.4s						
KLR	**Kul'dur**	**21.01**	**343**	P	P	**22 19 10.7**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=175,slow=12,SNR=4.6						
	comp=Z,1.4nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**25.24**	**107**	T	T	22 45 41.7	
	baz=297						
H11N1	**WAKE ISLAND Hy**	**25.24**	**107**	T	T	22 45 47.9	
	baz=297,slow=74						
H11N3	**WAKE ISLAND Hy**	**25.26**	**107**	T	T	22 45 50.8	
	baz=297,slow=74						
H11S3	**WAKE ISLAND Hy**	**25.66**	**109**	T	T	22 46 37.2	
	baz=303						
H11S1	**WAKE ISLAND Hy**	**25.66**	**109**	T	T	22 46 37.2	
	baz=303						
H11S2	**WAKE ISLAND Hy**	**25.67**	**109**	T	T	22 46 37.2	
	baz=303						
SONM	**Songino Array**	**32.43**	**314**	P	P	**22 20 56.5**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=120,slow=8.9,SNR=3.2						
	comp=Z,0.5nm,0.8s						
FAKI	**Fak Fak**	**33.33**	**196**	P	P	**22 21 05.5**	**+1.6**
CRAI	**Chiangrai**	**38.02**	**266**	P	P	**22 21 45.2**	**+1.0**
CRAI				IAmb	IAmb	22 21 46.6	
	comp=Z,4.3nm,0.9s						
PMG	**Port Moresby**	**39.08**	**171**	LR	LR	22 38 00.7	
	comp=Z,36nm,18.1s,baz=326,slow=36						
CHTO	**Chiang Mai**	**39.81**	**264**	P	P	**22 21 59.5**	**+0.3**
CHTO				IAmb	IAmb	22 22 00.9	
	comp=Z,5.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**39.96**	**264**	P	P	**22 22 01.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**39.96**	**264**	P	P	**22 22 00.9**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=60,slow=5.8,SNR=13						
	comp=Z,1.2nm,0.8s						
TIXI	**Tiksi**	**42.77**	**354**	P	P	**22 22 23.4**	**+0.8**
ZALV	**Zalesovo Beam**	**47.15**	**318**	P	P	**22 22 57.4**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=111,slow=7.9,SNR=2.5						
ZALV				PcP	**PcP**	**22 24 29.4**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=95,slow=2.8,SNR=5.6						
	comp=Z,0.4nm,0.4s						
MK31	**Makanchi Array**	**48.32**	**308**	P	P	**22 23 06.1**	**-0.9**
MK31				IAmb	IAmb	22 23 08.0	
	comp=Z,1.8nm,1.1s						
MKAR	**Makanchi Array**	**48.32**	**308**	P	P	**22 23 06.4**	**-0.6**
MKAR	**Makanchi Array**	**48.32**	**308**	P	P	**22 23 06.7**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=93,slow=9.3,SNR=9.9						
MKAR				PcP	**PcP**	**22 24 33.9**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=79,slow=6.3,SNR=6.9						
	comp=Z,0.7nm,0.7s						
WB0	**Warramunga Arr**	**49.39**	**188**	P	P	**22 23 15.3**	**-0.1**
WR0	**Warramunga Arr**	**49.56**	**188**	P	P	**22 23 16.7**	**+0.1**
WR0				IAmb	IAmb	22 23 21.2	
	comp=Z,3.7nm,0.6s						
WRA	**Warramunga Arr**	**49.57**	**189**	P	P	**22 23 16.6**	**-0.1**
WRA	**Warramunga Arr**	**49.57**	**189**	P	P	**22 23 16.9**	**+0.3**
	comp=Z,3.0nm,0.6s,baz=5.3,slow=7.7,SNR=29						
	comp=Z,3.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**49.62**	**200**	P	P	**22 23 17.4**	**+0.4**
NRIK	**Noril'sk**	**50.13**	**338**	P	P	**22 23 20.6**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=103,slow=14,SNR=1.7						
	comp=Z,0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**50.78**	**313**	P	P	**22 23 25.1**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=92,slow=6.6,SNR=7.6						
	comp=Z,0.7nm,0.7s						
G18K	**Tagagawik**	**51.34**	**27**	P	P	**22 23 29.9**	**+0.4**
ASAR	**Alice Springs**	**53.30**	**188**	P	P	**22 23 44.3**	**-0.2**
ASAR	**Alice Springs**	**53.30**	**188**	P	P	**22 23 44.7**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=0.0,slow=5.3,SNR=9.4						
	comp=Z,0.5nm,0.6s						
IMAR	**Indian Mountai**	**53.33**	**28**	P	P	**22 23 45.6**	**+1.3**
PSA00	**Pilbara Seismi**	**54.77**	**205**	P	P	**22 23 55.3**	**+0.1**
PSA00				IAmb	IAmb	22 24 22.0	
	comp=Z,3.6nm,1.1s						
C23K	**Itkillik River**	**55.14**	**23**	P	P	**22 23 59.1**	**+1.8**
C23K				IAmb	IAmb	22 24 08.7	
	comp=Z,4.8nm,1.3s						
BVAR	**Borovoye Array**	**55.73**	**316**	P	P	**22 24 02.1**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=97,slow=8.0,SNR=18						
	comp=Z,2.4nm,0.6s						
BRVK	**Borovoye**	**55.79**	**316**	P	P	**22 24 02.0**	**-0.2**
BRVK				IAmb	IAmb	22 24 03.6	
	comp=Z,2.4nm,0.9s						
F24K	**Squaw Lake**	**55.83**	**26**	P	P	**22 24 04.2**	**+1.8**
F24K				IAmb	IAmb	22 24 08.7	
	comp=Z,4.9nm,1.1s						
ILAR	**Eielson Array**	**56.06**	**29**	P	P	**22 24 04.3**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=251,slow=5.6,SNR=2.5						
	comp=Z,0.3nm,0.8s						
KK31	**Karatay Array**	**57.02**	**305**	P	P	**22 24

CLL					*i* sP		**pwP**	**22 27 33.6**	**-1.7**
QSPA	**South Pole Qui**	**119.24**	**180**		PKP		**PKiKP**	**22 33 13.7**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=234,slow=1.2,SNR=5.0								

IDC ***30*** *22:26:10.1±0.8,24.86N×125.33E,h0km,mb3.6/15, mbtmp3.6/17,ML3.0/1,Error ellipse: s-maj=24.3km s-min=16.7km az=66.0*
JMA ***30*** *22:26:15.7±0.1,24.9N±0.6×125.6E±0.5,h49km,MD3.7/13, MV3.6/13,NEAR MIYAKOJIMA ISLAND*
JMA Felt I J1 at NEAR MIYAKOJIMA ISLAND .

ISC 30 22:26:12.2±1.6,25.03N±0.08×125.71E±0.06,h16km±10km, n37,σ1§10/40,mb3.6/15,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.39**	**226**	*i*	P		**Pn**	**22 26 24.2**	**+1.0**
JOGS					S		**Sn**	**22 26 30.5**	**+0.2**
JOGS	**Gusukube**	**0.39**	**226**		A		A	22 26 24.2	
	comp=E,29nm,1.5s,comp=N,14nm,0.6s								
JIKM	**Ikemajima**	**0.43**	**256**	*i*	P		**Pn**	**22 26 25.2**	**+1.4**
JIKM					S		**Sn**	**22 26 31.9**	**+0.4**
JIKM	**Ikemajima**	**0.43**	**256**		A		A	22 26 25.2	
	comp=E,16nm,0.4s,comp=N,15nm,0.5s								
JMJ2	**Miyako jima3**	**0.45**	**230**	*i*	P		**Pn**	**22 26 24.9**	**+0.8**
JMJ2					S		**Sn**	**22 26 31.6**	**-0.3**
JMJ2	**Miyako jima3**	**0.45**	**230**		A		A	22 26 24.9	
	comp=E,23nm,0.8s,comp=N,16nm,0.9s								
JIRB	**Irabujima**	**0.53**	**248**	*i*	P		**Pn**	**22 26 25.8**	**+0.7**
JIRB					S		**Sn**	**22 26 33.2**	**-0.6**
JIRB	**Irabujima**	**0.53**	**248**		A		A	22 26 25.8	
	comp=E,6.0nm,0.2s,comp=N,11nm,1.7s								
JTJ	**Tarama**	**0.99**	**247**	*i*	P		**Pn**	**22 26 32.1**	**+0.6**
JTJ					S		**Sb**	**22 26 44.1**	**0.0**
JTJ	**Tarama**	**0.99**	**247**		A		A	22 26 32.1	
	comp=E,5.0nm,1.1s,comp=N,3.0nm,0.8s								
JISG	**Ishigakijimahi**	**1.35**	**251**	*i*	P		**Pb**	**22 26 37.1**	**0.0**
JISG					*e*S		**Sb**	**22 26 53.3**	**-0.8**
JIJ	**Ishigaki jima**	**1.57**	**245**		P		**Pn**	**22 26 40.2**	**+0.7**
JIJ					S		**Sn**	**22 26 58.7**	**-1.0**
JKE	**Kume jima 2**	**1.61**	**37**		P		**Pg**	**22 26 44.2**	**+1.0**
JKRS	**Kuro-shima**	**1.74**	**243**		P		**Pn**	**22 26 42.8**	**+1.0**
JKRS					*e*S		**Sn**	**22 27 03.8**	**+0.1**
IRIF	**Iriomote-Funau**	**1.93**	**249**		P		**Pn**	**22 26 44.9**	**+0.5**
IRIF					*e*S		**Sn**	**22 27 06.6**	**-1.8**
HATJ	**Hateruma jima**	**1.99**	**241**		P		**Pn**	**22 26 46.4**	**+1.1**
JAGN	**Aguni-jima**	**2.08**	**41**		P		**Pg**	**22 26 51.1**	**-1.0**
JAGN					*e*S		**Sg**	**22 27 19.1**	**0.0**
JOW	**Kunigami**	**2.92**	**52**		Pn		**Pb**	**22 27 02.8**	**-1.2**
	comp=N,2.9nm,0.3s,baz=249,slow=18,SNR=9.2								
JOW					Sn		**Sb**	**22 27 38.7**	**-0.9**
	comp=N,7.4nm,0.3s,baz=118,slow=19,SNR=2.1 comp=N,11nm,0.5s								
MJAR	**Matsushiro Arr**	**15.70**	**40**		Pn		**P**	**22 29 59.6**	**+2.8**
	comp=N,0.6nm,0.5s,baz=230,slow=11,SNR=1.9								
CMAR	**Chiang Mai Arr**	**25.68**	**261**		P		**P**	**22 31 39.8**	**-2.0**
	comp=N,0.3nm,0.3s,baz=77,slow=5.6,SNR=4.1 comp=N,0.3nm,0.3s								
SONM	**Songino Array**	**27.41**	**331**		P		**P**	**22 31 57.1**	**-0.2**
	comp=N,0.3nm,0.4s,baz=152,slow=10,SNR=6.9 comp=N,0.3nm,0.4s								
MKAR	**Makanchi Array**	**40.67**	**314**		P		**P**	**22 33 51.4**	**-0.6**
	comp=N,0.5nm,0.7s,baz=97,slow=8.6,SNR=12 comp=N,0.5nm,0.7s								
ZALV	**Zalesovo Beam**	**41.86**	**325**		P		**P**	**22 34 00.7**	**-0.9**
	comp=N,1.6nm,0.6s,baz=118,slow=7.8,SNR=8.5 comp=N,1.6nm,0.6s								
KURBB	**Kurchatov Arra**	**44.18**	**318**		P		**P**	**22 34 19.5**	**-0.9**
	comp=N,0.4nm,0.6s,baz=110,slow=9.5,SNR=6.3 comp=N,0.4nm,0.6s								
WRA	**Warramunga Arr**	**45.48**	**169**		P		**P**	**22 34 29.6**	**-1.4**
	comp=N,0.3nm,0.7s,baz=350,slow=8.7,SNR=5.0 comp=N,0.3nm,0.7s								
ASAR	**Alice Springs**	**49.06**	**170**		P		**P**	**22 34 58.0**	**-0.9**
	comp=N,0.2nm,0.5s,baz=343,slow=6.1,SNR=4.2 comp=N,0.2nm,0.5s								
BVAR	**Borovoye Array**	**49.68**	**319**		P		**P**	**22 35 03.0**	**-0.3**
	comp=N,0.4nm,0.4s,baz=104,slow=8.8,SNR=6.1 comp=N,0.4nm,0.4s								
STKA	**Stephens Creek**	**58.59**	**164**		P		**P**	**22 36 09.3**	**+0.9**
	comp=N,1.0nm,0.6s,baz=342,slow=19,SNR=3.0 comp=N,1.0nm,0.6s								
ILAR	**Eielson Array**	**66.56**	**28**		P		**P**	**22 37 04.1**	**+2.8**
	comp=N,0.2nm,0.7s,baz=281,slow=5.6,SNR=5.1 comp=N,0.2nm,0.7s								
KBZ	**Khabaz**	**68.16**	**309**		P		**P**	**22 37 12.1**	**+0.3**
	comp=N,1.6nm,1.0s,baz=27,slow=9.0,SNR=3.0 comp=N,1.6nm,1.0s								
FINES	**FINESS Array B**	**72.78**	**330**		P		**P**	**22 37 39.9**	**+0.2**
	comp=N,1.0nm,0.6s,baz=54,slow=7.1,SNR=12 comp=N,1.0nm,0.6s								
AKASG	**Malin Array Be**	**74.96**	**319**		P		**P**	**22 37 52.3**	**-0.4**
	comp=N,0.2nm,0.3s,baz=66,slow=6.3,SNR=2.5 comp=N,0.2nm,0.3s								
BRTR	**Keskin Array B**	**75.96**	**307**		P		**P**	**22 37 57.7**	**-1.2**
	comp=N,0.8nm,0.8s,baz=77,slow=7.7,SNR=5.9 comp=N,0.8nm,0.8s								
NOA	**NORSAR Array B**	**79.37**	**333**		P		**P**	**22 38 17.5**	**+0.2**
	comp=N,0.7nm,0.8s,baz=54,slow=6.2,SNR=1.7 comp=N,0.7nm,0.8s								
H03N2	**Juan Fernandez**	**156.96**	**117**		T		T	01 42 45.7	
	baz=251,slow=74,SNR=9.2								
H03N3	**Juan Fernandez**	**156.96**	**117**		T		T	01 42 47.2	
	baz=251,slow=74,SNR=7.2								
H03N1	**Juan Fernandez**	**156.98**	**117**		T		T	01 42 47.1	
	baz=251,slow=74,SNR=8.4								

UPP 30 23:14:46.3±0.1,67.19N×20.66E,h0km,ML2.0, Suspected explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**207**			P	Pg	23 14 48.0	+0.3
DUNU						S	Sg	23 14 49.1	+0.5
RATU	**Laukkuluspa**	**0.76**	**328**			P	Pg	23 15 00.3	-0.5
KUA	**Kurravaara**	**0.78**	**351**			P	Pg	23 15 00.9	-0.3
SALU	**Saltoluokta**	**0.86**	**284**			P	Pg	23 15 02.3	-0.4
ERTU	**Ertsjaerv**	**0.88**	**136**			P	Pg	23 15 02.6	-0.5
LANU	**Lannavaara**	**1.00**	**30**			P	Pg	23 15 05.1	-0.4
HARU	**Harads**	**1.04**	**173**			P	Pg	23 15 05.3	-0.8
KOVU	**Salmi**	**1.06**	**350**			P	Pg	23 15 06.5	0.0
KALU	**Kalix**	**1.72**	**140**			P	Pn	23 15 17.6	+0.2
SJUU	**Sjulsmark**	**1.73**	**167**			P	Pn	23 15 17.6	+0.1

HEL 30 23:15:36.2±0.4,67.17N×20.77E,h0km,ML1.3, Suspected explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.84**	**137**			PG	Pg	23 15 51.0	-1.2
LANU	**Lannavaara**	**1.00**	**28**			PG	Pg	23 15 54.1	-1.1
KLF	**Kolari**	**1.25**	**86**			PG	Pg	23 15 59.0	-1.1
	baz=267								
KLF						MSG		23 16 13.8	
	comp=Z,1.7nm,0.2s								
KLF						SN	Sb	23 16 16.9	-0.2
HEF	**Hetta**	**1.66**	**40**			PG	Pn	23 16 06.0	-0.5
	baz=220								
HEF						MSG		23 16 25.7	
	comp=Z,1.9nm,0.2s								
HEF						SN	Sn	23 16 28.0	-0.5
KALU	**Kalix**	**1.68**	**141**			PG	Pn	23 16 06.5	-0.3
	baz=326								
KALU						SN	Sg	23 16 30.8	+0.9
TOF	**Tornio**	**1.79**	**126**			PG	Pn	23 16 08.6	+0.3
	baz=309								
TOF						MSG		23 16 29.9	
	comp=Z,1.7nm,0.2s								
TOF						SG	Sb	23 16 32.8	0.0
KIF	**Kilpisjarvi**	**1.84**	**0**			PG	Pn	23 16 09.7	+0.7
KIF						MSG		23 16 32.2	
	comp=Z,4.1nm,0.2s								
KIF						SG	Sg	23 16 34.9	-0.4
KTK1	**Kautokeino**	**2.07**	**25**			PG	Pb	23 16 13.5	-1.1
KTK1						SG	Sb	23 16 40.7	-0.1
RNF	**Rovaniemi**	**2.15**	**103**			PG	Pn	23 16 14.2	+1.1
RNF						SG	Sb	23 16 43.7	+0.8
SGF	**Sodankyl**	**2.25**	**80**			PG	Pn	23 16 16.0	+1.4
SGF						SG	Sb	23 16 46.6	+0.7

SOME ***30*** *23:23:53.1,39.20N×73.03E,h0km*
BJI ***30*** *23:23:59.3,39.30N×72.64E,h7km,mb4.4/40,mB4.9/21, ML4.2/6,Ms4.2/19,Ms7 3.8/18*
IDC ***30*** *23:24:01.4±0.5,39.35N×73.05E,h0km,mb4.1/26, mbtmp4.2/34,ML3.5/8,MS3.6/42,Error ellipse: s-maj=10.2km s-min=8.8km az=158.0*
NNC ***30*** *23:24:02.0±1.9,39.49N×73.14E,h0km,mb4.7,mpv4.3, Error ellipse: s-maj=16.7km s-min=10.3km az=155.0*
KRNET ***30*** *23:24:01.3±0.1,39.50N×73.05E,h14km,mb4.7*
MOS ***30*** *23:24:02.7±1.1,39.39N×72.93E,h14km,mb4.8/39,Error ellipse: s-maj=4.8km s-min=3.2km az=83.3*
NEIC ***30*** *23:24:05.3±1.8,39.46N±0.03×72.97E±0.06,h22km±3km, mb4.6/59,Error ellipse: s-maj=6.3km s-min=4.6km az=89.0*

ISC 30 23:24:05.1±0.6,39.44N±0.03×72.99E±0.02,h24km±4km, n415,σ1§95/430,mb4.4/95,MS3.7/40,53C-48D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.70**	**35**	⇑	*i*P		Pb	23 24 13.5	-5.3
	baz=33								
SFK				⇑	*i*S		**Sb**	**23 24 21.9**	**-6.2**
	baz=33								
DRK	**Karamyk**	**0.92**	**273**	⇑	*e*P		**Pb**	**23 24 19.0**	**-3.6**
	baz=70								
DRK				⇑	*e*S		**Sb**	**23 24 33.0**	**-1.5**
	baz=70								
OHH	**Osh**	**1.09**	**352**	⇑	*i*P		**Pn**	**23 24 20.9**	**-4.1**
	baz=49								
OHH				⇑	*i*S		**Sb**	**23 24 35.8**	**-3.5**
	baz=49								
OHH	**Osh**	**1.09**	**352**		PG		**Pn**	**23 24 22.1**	**-2.9**
BTK	**Batken**	**1.78**	**291**	⇓	*i*P		**Pn**	**23 24 34.6**	**+0.1**
	baz=89								
BTK				⇓	*i*S		**Sb**	**23 24 59.4**	**+0.3**
	baz=89								
BTK	**Batken**	**1.78**	**291**		Pn		**Pn**	**23 24 34.2**	**-0.2**
BTK	**Batken**	**1.78**	**291**		PN		**Pn**	**23 24 34.2**	**-0.2**
ARSB	**Arslanbob**	**1.88**	**360**	⇑	*i*P		**Pn**	**23 24 35.0**	**-0.9**
	baz=58								
ARSB				⇑	*i*S		**Sn**	**23 24 59.7**	**+0.7**
	baz=58								
ARSB	**Arslanbob**	**1.88**	**360**				**Pn**	**23 24 36.2**	**+0.3**
ARSB							**Sb**	**23 25 01.7**	**-0.3**
ARSB	**Arslanbob**	**1.88**	**360**		PN		**Pn**	**23 24 35.9**	**0.0**
ARSB					S		**Sb**	**23 25 03.5**	**+1.5**
KSH	**Kashi**	**2.31**	**87**		Pg		**Pn**	**23 24 38.3**	**-3.5**
KSH					Sg		**Sn**	**23 25 11.5**	**+2.0**
KSH					smax		smax		
	comp=N,3μm,0.8s								
KSH					smax		smax		
	comp=E,2μm,1.2s								
ARK	**Arkit**	**2.48**	**342**	⇓	*i*P		**Pn**	**23 24 44.1**	**0.0**
	baz=41								
ARK				⇓	*i*S		**Sn**	**23 25 14.9**	**+1.2**
	baz=41								
ARK	**Arkit**	**2.48**	**342**		PN		**Pn**	**23 24 45.3**	**+1.2**
TRKS	**Terek-Say**	**2.52**	**327**	⇑	*i*P		**Pn**	**23 24 43.8**	**-0.9**
	baz=25								
TRKS				⇑	*i*S		**Sn**	**23 25 14.5**	**-0.2**
	baz=25								
ARLS	**Aral**	**2.62**	**22**	⇑	*i*P		**Pn**	**23 24 45.1**	**-1.0**
	baz=22								
ARLS				⇑	*i*S		**Sn**	**23 25 17.2**	**-0.1**
	baz=22								
ARLS	**Aral**	**2.62**	**22**		PN		**Pn**	**23 24 47.1**	**+1.0**
AML	**Almayashu**	**2.74**	**11**		P		**Pn**	**23 24 49.5**	**+1.5**
	SNR=167								
AML	**Almayashu**	**2.74**	**11**	⇓	*i*P		**Pn**	**23 24 47.2**	**-0.7**
	baz=10.0								
AML				⇓	*i*S		**Sn**	**23 25 20.7**	**+0.2**
	baz=10.0								
AML	**Almayashu**	**2.74**	**11**		PN		**Pn**	**23 24 50.0**	**+2.1**
AML	**Almayashu**	**2.74**	**11**	⇓	Pg		**Pn**	**23 24 50.2**	**+2.3**
	54nm,0.7s								
AML				⇓	Lg		Lg	23 25 28.6	
	567nm,0.8s								
UCH	**Uchtor**	**3.02**	**22**		P		**Pn**	**23 24 54.0**	**+2.2**
	SNR=59								
UCH	**Uchtor**	**3.02**	**22**	⇑	*e*P		**Pn**	**23 24 50.9**	**-0.9**
	baz=22								
UCH				⇑	*i*S		**Sn**	**23 25 26.9**	**-0.5**
	baz=22								
SIMJ	**Simiganj**	**3.19**	**257**				**Pn**	**23 24 55.4**	**+1.4**
EKS2	**Erkin-Say**	**3.27**	**10**		P		**Pn**	**23 24 57.1**	**+2.1**
	SNR=28								
EKS2	**Erkin-Say**	**3.27**	**10**	⇑	*e*P		**Pn**	**23 24 54.5**	**-0.5**
	baz=10.0								
EKS2				⇑	*i*S		**Sn**	**23 25 33.0**	**-0.2**
	baz=10.0								
MRKS	**Merke**	**3.31**	**3**		*e*Pg		**Pb**	**23 25 00.5**	**-2.6**
	30nm,0.4s								
MRKS					*e*Lg		Lg	23 25 49.3	
	709nm,0.5s								
MRKS	**Merke**	**3.31**	**3**		Pg		**Pn**	**23 24 57.9**	**+2.4**
	24nm,0.3s								
MRKS					Lg		Lg	23 25 46.1	
	242nm,0.5s								
AAK	**Ala-Archa**	**3.39**	**19**		P		**Pn**	**23 24 58.8**	**+2.1**
	SNR=355								
AAK	**Ala-Archa**	**3.39**	**19**	⇑	*i*P		**Pn**	**23 24 55.9**	**-0.8**
	baz=19								
AAK				⇑	*i*S		**Sn**	**23 25 36.1**	**-0.1**
	baz=19								
AAK	**Ala-Archa**	**3.39**	**19**		Pn		**Pn**	**23 24 58.5**	**+1.8**
AAK	**Ala-Archa**	**3.39**	**19**	*d*	iPN		**Pn**	**23 24 58.7**	**+2.0**
AAK					pmax		pmax		
	comp=Z,333nm,1.0s								
AAK	**Ala-Archa**	**3.39**	**19**		Pn		**Pn**	**23 24 59.3**	**+2.6**
	comp=Z,29nm,0.3s,baz=200,slow=10,SNR=226								
AAK					Sn		**Sb**	**23 25 44.5**	**-0.9**
	comp=Z,37nm,0.3s,baz=332,slow=19,SNR=7.3 comp=Z,201nm,0.6s								
KBK	**Karagaybulak**	**3.54**	**24**		P		**Pn**	**23 25 01.2**	**+2.5**
	SNR=88								
KBK	**Karagaybulak**	**3.54**	**24**	⇓	*e*P		**Pn**	**23 24 57.6**	**-1.1**
	baz=24								
KBK				⇓	*i*S		**Sn**	**23 25 38.5**	**-1.4**
	baz=24								
FRU1	**Bishkek**	**3.59**	**20**	⇓	*i*P		**Pn**	**23 24 59.2**	**-0.1**
	baz=19								
FRU1				⇓	*i*S		**Sn**	**23 25 41.1**	**+0.2**
	baz=19								
FRU1	**Bishkek**	**3.59**	**20**				**Pn**	**23 25 01.2**	**+1.9**
FRU1	**Bishkek**	**3.59**	**20**		PN		**Pn**	**23 25 01.2**	**+1.9**
DZA	**Taraz**	**3.67**	**341**	*i*	P		**Pn**	**23 25 01.7**	**+1.3**
	baz=340								
DZA	**Taraz**	**3.67**	**341**	*e*	Pg		**Pb**	**23 25 05.7**	**-3.5**
	comp=Z,189nm,0.5s								
DZA				*e*	Lg		Lg	23 25 58.2	
	comp=Z,904nm,0.4s								
DZA	**Taraz**	**3.67**	**341**	*i*	PN		**Pn**	**23 25 01.6**	**+1.3**
CHMS	**Chumysh**	**3.80**	**20**		P		**Pn**	**23 25 04.4**	**+2.2**
	SNR=141								
CHMS	**Chumysh**	**3.80**	**20**	⇑	*e*P		**Pn**	**23 25 01.6**	**-0.5**
	baz=20								
CHMS				⇑	*i*S		**Sn**	**23 25 45.5**	**-0.5**
	baz=20								
CHMS	**Chumysh**	**3.80**	**20**		PN		**Pn**	**23 25 04.3**	**+2.2**
CHMS	**Chumysh**	**3.80**	**20**	⇓	Pn		**Pn**	**23 25 04.3**	**+2.2**
	comp=Z,146nm,0.7s								
CHMS				⇓	Lg		Lg	23 25 59.4	
	comp=Z,285nm,0.8s								
CHM	**Chimkent**	**3.85**	**319**	*e*	P		**Pn**	**23 25 04.1**	**+1.2**
	baz=318								
CHM	**Chimkent**	**3.85**	**319**	*e*	Pg		**Pb**	**23 25 09.5**	**-2.8**
	comp=Z,62nm,0.3s								
CHM				*e*	Lg		Lg	23 26 05.2	
	comp=Z,1μm,0.9s								
CHM	**Chimkent**	**3.85**	**319**	*e*	PN		**Pn**	**23 25 04.9**	**+2.0**
USP	**Ospenovka**	**3.99**	**16**		P		**Pn**	**23 25 06.8**	**+2.1**
	SNR=29								
USP	**Ospenovka**	**3.99**	**16**	⇑	*e*P		**Pn**	**23 25 04.1**	**-0.7**
	baz=16								
USP				⇑	*i*S		**Sn**	**23 25 50.3**	**-0.5**
	baz=16								
TKM2	**Tokmak 2**	**4.00**	**29**		P		**Pn**	**23 25 07.4**	**+2.4**
	SNR=26								
TKM2	**Tokmak 2**	**4.00**	**29**	⇑	*i*P		**Pn**	**23 25 04.6**	**-0.4**
	baz=28								
TKM2				⇑	*i*S		**Sn**	**23 25 50.6**	**-0.6**
	baz=28								
TKM2	**Tokmak 2**	**4.00**	**29**		PN		**Pn**	**23 25 09.0**	**+4.0**
TKM2	**Tokmak 2**	**4.00**	**29**	⇓	Pn		**Pn**	**23 25 07.2**	**+2.2**
	comp=Z,114nm,0.7s								
TKM2				⇑	Lg		Lg	23 26 08.0	
	comp=Z,469nm,0.9s								
KK31	**Karatay Array**	**4.11**	**334**		Pn		**Pn**	**23 25 07.2**	**+0.8**
KK31	**Karatay Array**	**4.11**	**334**		PN		**Pn**	**23 25 08.4**	**+2.0**
KK31					S		**Sn**	**23 25 57.3**	**+3.6**
KK31	**Karatay Array**	**4.11**	**334**		Pn		**Pn**	**23 25 08.4**	**+2.0**
	comp=Z,83nm,0.6s,baz=144,slow=12,SNR=1295								
KK31				⇑	Sn		**Sn**	**23 25 57.3**	**+3.6**
	comp=Z,110nm,0.5s,baz=43,slow=53,SNR=4.0								
KKAR	**Karatay Array**	**4.11**	**334**	⇑	*i*P		**Pn**	**23 25 06.8**	**+0.4**
	baz=33								
KKAR				⇑	*i*S		**Sn**	**23 25 53.9**	**+0.2**
	baz=33								
KKAR	**Karatay Array**	**4.11**	**334**				**Pn**	**23 25 07.7**	**+1.3**
KKAR	**Karatay Array**	**4.11**	**334**		Pn		**Pn**	**23 25 07.4**	**+1.1**
KKAR	**Karatay Array**	**4.11**	**334**		PN		**Pn**	**23 25 07.7**	**+1.3**
SGDS	**Sogindy**	**4.19**	**17**	*e*	P		**Pn**	**23 25 09.1**	**+1.5**
	baz=18								
SGDS	**Sogindy**	**4.19**	**17**	*e*	PN		**Pn**	**23 25 09.1**	**+1.5**
SGDS	**Sogindy**	**4.19**	**17**		Pg		Pb	23 25 13.5	-4.7
	comp=Z,12nm,0.3s								
SGDS					Lg		Lg	23 26 12.3	
	comp=Z,282nm,1.1s								
KST	**Kastek**	**4.24**	**31**	*e*	Pg		**Pb**	**23 25 15.1**	**-4.0**
	comp=Z,63nm,0.5s								
KST				*e*	Lg		Lg	23 26 14.2	
	comp=Z,600nm,0.9s								
TARG	**Taragay, Kyrgy**	**4.32**	**57**				**Pn**	**23 25 10.4**	**+0.7**
TARG	**Taragay, Kyrgy**	**4.32**	**57**		PN		**Pn**	**23 25 10.4**	**+0.7**
DGS	**Degeres**	**4.34**	**28**	*e*	Pg		**Pb**	**23 25 17.7**	**-3.0**
	comp=Z,82nm,0.9s								
DGS				*e*	Lg		Lg	23 26 18.1	
	comp=Z,316nm,0.9s								
DGS	**Degeres**	**4.34**	**28**		Pg		**Pb**	**23 25 17.7**	**-3.0**
	comp=Z,82nm,0.9s								
DGS					Lg		Lg	23 26 18.1	
	comp=Z,316nm,0.9s								
MTBS	**Maitube**	**4.51**	**34**	*e*	Pg		**Pb**	**23 25 20.2**	**-3.3**
	comp=Z,30nm,0.6s								
MTBS				*e*	Lg		Lg	23 26 22.9	
	comp=Z,188nm,0.9s								
MTBS	**Maitube**	**4.51**	**34**		Pg		**Pb**	**23 25 20.2**	**-3.3**
	comp=Z,30nm,0.6s								
MTBS					Lg		Lg	23 26 24.1	
	comp=Z,188nm,0.8s								
IZV	**Izvestkoviy**	**4.51**	**36**	*e*	P		**Pb**	**23 25 20.2**	**-3.5**
IZV				*e*	S		**Sb**	**23 26 22.8**	**+5.0**
	comp=Z,269nm,0.7s								
IZV	**Izvestkoviy**	**4.51**	**36**		Pg		**Pb**	**23 25 20.2**	**-3.5**
IZV					Lg		Lg	23 26 24.3	
KASK	**Kaskelen**	**4.67**	**35**	⇑	Pn		**Pb**	**23 25 22.3**	**-4.0**
KASK				⇑	Lg		Lg	23 26 30.0	
TNSS	**Tian-Shan**	**4.67**	**38**	*e*	P		**Pn**	**23 25 16.4**	**+1.9**
	baz=40								
TNSS	**Tian-Shan**	**4.67**	**38**	*e*	Pg		**Pb**	**23 25 23.0**	**-3.5**
	comp=Z,57nm,0.6s								
TNSS				*e*	Lg		Lg	23 26 27.8	
	comp=Z,138nm,0.7s								
TNSS	**Tian-Shan**	**4.67**	**38**	*e*	PN		**Pn**	**23 25 16.4**	**+1.9**
TNSS	**Tian-Shan**	**4.67**	**38**		Pg		**Pb**	**23 25 24.2**	**-2.3**
	comp=Z,34nm,0.5s								
TNSS					Lg		Lg	23 26 30.2	
	comp=Z,151nm,1.1s								
KRBS	**Karabastau**	**4.71**	**24**	*e*	Pg		**Pb**	**23 25 24.9**	**-2.0**
	comp=Z,9.9nm,0.4s								
KRBS				*e*	Lg		Lg	23 26 31.7	
	comp=Z,169nm,0.8s								
KRBS	**Karabastau**	**4.71**	**24**		Pg		Pb	23 25 21.6	-5.3
	comp=Z,15nm,0.4s								
KRBS					Lg		Lg	23 26 26.4	
	comp=Z,169nm,1.1s								
AAA	**Alma-Ata**	**4.79**	**37**	*e*	P		**Pn**	**23 25 18.1**	**+2.3**
	baz=39								
AAA	**Alma-Ata**	**4.79**	**37**	*e*	PN		**Pn**	**23 25 18.0**	**+2.3**
AAA	**Alma-Ata**	**4.79**	**37**		Pg		**Pb**	**23 25 25.4**	**-2.9**
	comp=Z,43nm,0.7s								
AAA					Lg		Lg	23 26 32.4	
	comp=Z,580nm,1.1s								
MDOK	**Medeo**	**4.81**	**38**	*e*	P		**Pn**	**23 25 18.1**	**+1.8**
	baz=40								
MDOK	**Medeo**	**4.81**	**38**	*e*	Pg		**Pb**	**23 25 25.2**	**-3.6**
	comp=Z,35nm,0.8s								
MDOK				*e*	Lg		Lg	23 26 31.7	
	comp=Z,359nm,1.1s								
MDOK	**Medeo**	**4.81**	**38**	*e*	PN		**Pn**	**23 25 18.0**	**+1.8**
MDOK	**Medeo**	**4.81**	**38**	⇓	Pn		**Pn**	**23 25 19.3**	**+3.1**
	comp=Z,287nm,1.0s								
MDOK					Pg		**Pb**	**23 25 25.2**	**-3.6**
	comp=Z,35nm,0.8s								
MDOK					Lg		Lg	23 26 32.9	
	comp=Z,359nm,1.1s								
MDOK				⇓	Lg		Lg	23 26 33.1	
	comp=Z,452nm,0.8s								
KNDC	**Almaty**	**4.82**	**37**		P

KURS Lg Lg 23 26 58.7
comp=Z,193nm,1.5s
BTLS Baital 5.65 8 *e*P **Pn 23 25 29.2 +1.7**
baz=8.2
BTLS Baital 5.65 8 *e*Pg **Pb 23 25 42.8 -0.2**
comp=Z,8.0nm,0.6s
BTLS *e*Lg Lg 23 27 01.7
comp=Z,111nm,0.8s
BTLS Baital 5.65 8 *e*PN **Pn 23 25 29.2 +1.7**
BTLS Baital 5.65 8 Pg **Pb 23 25 41.8 -1.2**
comp=Z,8.0nm,0.6s
BTLS Lg Lg 23 27 00.8
comp=Z,85nm,1.0s
NIL Nilore 5.78 178 Pn **Pn 23 25 32.2 +2.8**
NIL Nilore 5.78 178 PN **Pn 23 25 32.2 +2.8**
KBL Kabul 5.82 214 Pn **Pn 23 25 30.9 +0.8**
KBL Kabul 5.82 214 PN **Pn 23 25 30.9 +0.8**
UZB Uzynbulak 5.86 49 *e*P **Pn 23 25 33.0 +2.3**
baz=50
UZB Uzynbulak 5.86 49 *e*Pg **Pb 23 25 44.0 -2.7**
comp=Z,14nm,0.5s
UZB *e*Lg Lg 23 27 04.5
comp=Z,68nm,1.2s
UZB Uzynbulak 5.86 49 *e*PN **Pn 23 25 32.9 +2.3**
UZB Uzynbulak 5.86 49 Pg **Pb 23 25 44.0 -2.7**
comp=Z,14nm,0.5s
UZB Lg Lg 23 27 04.5
comp=Z,68nm,1.2s
ARXS Arharly 5.98 36 *e*PN **Pn 23 25 33.6 +1.4**
ARXS Arharly 5.98 36 Pg **Pb 23 25 45.2 -3.4**
comp=Z,16nm,1.1s
ARXS Lg Lg 23 27 06.9
comp=Z,159nm,0.9s
SHLS Shalkode 6.13 51 *e*P Pn 23 25 40.1 +5.9
baz=54
SHLS Shalkode 6.13 51 *e*PN Pn 23 25 40.0 +5.8
SHLS Shalkode 6.13 51 Pg **Pb 23 25 54.1 +3.0**
comp=Z,14nm,0.6s
SHLS Lg Lg 23 27 22.0
comp=Z,190nm,1.4s
PDGK Podgornoye 6.25 49 PN Pn 23 25 42.0 +6.2
PDGK Podgornoye 6.25 49 Pg **Pb 23 25 50.8 -2.3**
comp=Z,11nm,0.8s
PDGK Lg Lg 23 27 16.6
comp=Z,56nm,1.0s
PDGK Podgornoye 6.25 49 ⇑Pn **Pn 23 25 37.8 +2.0**
comp=Z,23nm,0.9s
PDGK ⇑Lg Lg 23 27 17.5
comp=Z,263nm,1.0s
TDK Taldyqorghan 6.86 34 *e*P **Pn 23 25 46.3 +2.1**
baz=35
TDK Taldyqorghan 6.86 34 *e*PN **Pn 23 25 46.2 +2.1**
TDK Taldyqorghan 6.86 34 Pg **Pb 23 26 02.3 -1.2**
comp=Z,77nm,0.8s
TDK Lg Lg 23 27 36.5
comp=Z,249nm,1.0s
DJR Jarkent 7.04 44 Pg **Pb 23 26 06.4 -0.4**
comp=Z,8.9nm,1.0s
DJR Lg Lg 23 27 43.4
comp=Z,76nm,1.4s
OTUK Ortayu 8.81 357 P **Pn 23 26 11.7 +0.8**
OTUK Ortayu 8.81 357 ⇑Pn **Pn 23 26 11.7 +0.8**
comp=Z,7.9nm,0.6s
OTUK ⇑Lg Lg 23 28 42.9
comp=Z,56nm,0.9s
KLP Kalpa 8.98 150 *e*P **Pn 23 26 17.0 +3.4**
KLP *e*S **Sn 23 27 54.3 +0.2**
KLP IAML 23 28 08.4
comp=N,884nm,0.5s
MAKZ Makanchi 9.86 39 Pn **Pn 23 26 26.1 +0.8**
MAKZ Makanchi 9.86 39 P **Pn 23 26 26.1 +0.8**
KKR Kurukshetra 9.97 160 *e*P **Pn 23 26 28.4 +1.6**
HRA Herat 9.97 243 Pn **Pn 23 26 26.0 -1.0**
MK31 Makanchi Array 10.01 40 Pn **Pn 23 26 29.1 +1.8**
MK31 Makanchi Array 10.01 40 *c i*P **Pn 23 26 30.4 +3.1**
MK31 Makanchi Array 10.01 40 ⇓Pn **Pn 23 26 31.2 +3.8**
comp=N,14nm,1.1s,baz=230,slow=13,SNR=49
MK31 ⇓Lg Lg 23 29 19.2
comp=N,56nm,1.2s,baz=217,slow=27,SNR=4.5
MKAR Makanchi Array 10.01 40 Pn **Pn 23 26 28.1 +0.8**
MKAR Makanchi Array 10.01 40 *i*P **Pn 23 26 30.5 +3.2**
MKAR pmax pmax
comp=Z,11nm,1.1s
MKAR Makanchi Array 10.01 40 Pn **Pn 23 26 29.2 +1.9**
comp=Z,0.1nm,0.3s,baz=218,slow=11,SNR=37
MKAR Lg Lg 23 29 18.1
comp=Z,0.2nm,0.3s,baz=232,slow=31,SNR=3.8
comp=Z,10nm,1.1s
JOSI Joshimath 10.37 147 *e*P **Pn 23 26 32.7 +0.2**
JOSI *e*S **Sn 23 28 21.6 -6.5**
PTH Pithoragarh 11.52 147 *e*P **Pn 23 26 46.7 -1.6**
PTH *e*P 23 26 46.8
PTH *e*S **Sn 23 28 49.7 -6.5**
PTH *e*S 23 28 49.8
LGTI Lohaghat 11.62 147 *e*P **Pn 23 26 48.4 -1.0**
LGTI *e*S Sn 23 28 49.6 -8.8
LGTI IAML 23 29 05.6
comp=E,23nm,0.6s
KUDL Kundal 11.64 164 *e*P **Pn 23 26 50.7 +1.1**
KUDL *e*S **Sn 23 28 51.4 -7.4**
SONA Sohna 11.67 162 *e*P **Pn 23 26 51.5 +1.5**
SONA *e*S **Sn 23 28 56.7 -2.8**
GEYT Alibeck 11.72 267 Pn **Pn 23 26 48.7 -2.1**
GEYT Alibeck 11.72 267 Pn **Pn 23 26 48.9 -1.9**
comp=E,1.3nm,0.3s,baz=96,slow=7.4,SNR=22
GEYT Sn **Sn 23 29 00.6 -0.3**
comp=E,1.6nm,0.3s,baz=106,slow=21,SNR=3.7
GEYT LR LR 23 31 31.2
comp=E,80nm,19.9s,baz=12,slow=38
comp=E,2.4nm,0.3s
GYA0 ALIBECK ARRAY 11.72 267 P **Pn 23 26 50.2 -0.6**
GYA0B ALIBECK ARRAY 11.72 267 **Pn 23 26 50.1 -0.7**
GYA0B ALIBECK ARRAY 11.72 267 ⇓Pn **Pn 23 26 53.3 +2.5**
GYA0B ⇓Sn **Sn 23 29 00.4 -0.4**
ZSN Zaisan 11.76 43 *e*P **Pn 23 26 54.0 +2.6**
baz=44
ZSN Zaisan 11.76 43 *e*P **Pn 23 26 53.9 +2.6**
WMQ Urumqi 11.84 64 *e*P **Pn 23 26 53.8 +1.3**
WMQ pmax pmax
comp=E,32nm,0.9s
WMQ LR LR
comp=E,510nm,6.3s
WMQ LR LR
comp=E,410nm,5.7s
WMQ LR LR
comp=E,170nm,12.5s
KURBB Kurchatov Arra 11.84 17 Pn **Pn 23 26 51.8 -0.6**
comp=E,0.1nm,0.3s,baz=209,slow=13,SNR=11
KURBB Lg Lg 23 30 16.9
comp=E,0.1nm,0.3s,baz=205,slow=28,SNR=7.7
KURBB LR LR 23 31 40.6
comp=E,245nm,20.1s,baz=216,slow=38
comp=E,2.1nm,0.9s
KURBB Kurchatov Arra 11.84 17 ⇑Lg Lg 23 30 15.9
comp=E,80nm,1.1s
KURK Kurchatov 11.95 18 Pn **Pn 23 26 52.4 -1.5**
KURK Kurchatov 11.95 18 *de*P **Pn 23 26 53.5 -0.3**
KURK pmax pmax
comp=Z,6.0nm,1.3s
KURK Kurchatov 11.95 18 ⇑Lg Lg 23 30 19.7
comp=Z,124nm,1.3s
SEM Semipalatinsk 12.11 23 *e*P **Pn 23 26 58.0 +1.8**
baz=23
SEM Semipalatinsk 12.11 23 *e*P **Pn 23 26 57.9 +1.8**
AJM Ajmer 13.00 173 *e*S **Sn 23 29 30.0 -2.3**
AJM IAML 23 29 34.7
comp=N,17nm,0.8s
AJM IAML 23 29 40.8
comp=E,19nm,0.5s
AB31 Akbulak array 13.52 321 P **Pn 23 27 12.0 -3.3**
AB31 Akbulak array 13.52 321 P **Pn 23 27 12.9 -2.4**
comp=E,6.0nm,0.5s,baz=128,slow=13,SNR=210
ABKAR Akbulak array 13.52 321 Pn **Pn 23 27 12.5 -2.8**
ABKAR Akbulak array 13.52 321 **Pn 23 27 12.8 -2.5**
BVAR Borovoye Array 13.71 353 Pn **Pn 23 27 15.5 -2.3**
comp=E,0.1nm,0.3s,baz=163,slow=11,SNR=20
BVAR LR LR 23 32 58.8
comp=E,342nm,19.5s,baz=171,slow=39
comp=E,6.6nm,0.9s
BRVK Borovoye 13.75 353 **Pn 23 27 16.2 -2.1**
BRVK Borovoye 13.75 353 *c i*P **Pn 23 27 16.1 -2.2**
BRVK pmax pmax
comp=Z,12nm,1.7s
PYUN Piuthan 14.03 141 *e*P **Pn 23 27 18.4 -4.1**
comp=Z,48nm,0.6s

DANN Dangsing 14.21 138 *e*P **Pn 23 27 22.4 -2.7**
DGZ Jazzator, Alta 14.51 40⇑*e*P **Pn 23 27 30.2 +1.3**
GKN Gorkha 14.95 136 *e*P **Pn 23 27 31.4 -3.7**
comp=Z,24nm,0.8s
AKTO Aktyubinsk 15.24 321 Pn **Pn 23 27 36.8 -1.7**
comp=Z,1.1nm,0.3s,baz=127,slow=13,SNR=11
AKTO Sn **Sn 23 30 21.3 -5.2**
comp=Z,0.5nm,0.3s,baz=360,slow=19,SNR=2.1
AKTO LR LR 23 33 59.6
comp=Z,478nm,18.8s,baz=196,slow=39
comp=Z,3.8nm,0.5s
AKTO Aktyubinsk 15.24 321 ⇑P **Pn 23 27 36.7 -1.9**
comp=Z,8.3nm,0.6s
GUN Gumba 15.71 133 *e*P **Pn 23 27 42.9 -2.3**
PKI Pulchoki 15.71 135 *e*P **Pn 23 27 42.3 -2.9**
JIRN Jiri 16.08 133 *e*P **Pn 23 27 47.1 -2.8**
comp=Z,25nm,0.6s
ZAA0 Zalesovo Array 16.59 25 **Pn 23 27 55.2 -0.7**
ZALV Zalesovo Beam 16.59 25 **Pn 23 27 54.8 -1.1**
ZALV Zalesovo Beam 16.59 25 *i*P **P 23 27 59.7 +1.4**
ZALV pmax pmax
comp=Z,6.0nm,0.6s
ZALV Zalesovo Beam 16.59 25 Pn **Pn 23 27 56.1 +0.2**
comp=Z,1.1nm,0.3s,baz=222,slow=11,SNR=19
ZALV LR LR 23 34 42.6
comp=Z,82nm,18.2s,baz=222,slow=38
comp=Z,6.0nm,0.6s
RAMN Ramite 16.86 134 *e*P **Pn 23 27 56.3 -3.4**
ODAN Odare 17.37 132 *e*P **Pn 23 28 03.0 -3.2**
GOMU GeErMu 17.54 94 P **P 23 28 10.5 +1.2**
GOMU pP pP 23 28 14.3 -2.7
GOMU sP sP 23 28 18.0 -2.7
GOMU pmax pmax
comp=Z,5.0nm,0.7s
LSA Lhasa 17.81 118 P **P 23 28 13.1 +0.7**
LSA Lhasa 17.81 118 P **P 23 28 13.1 +0.7**
LSA pmax pmax
comp=Z,6.0nm,0.9s
LKRN Lenkeran, Azer 18.80 275 P **P 23 28 23.0 +0.3**
SVE Sverdlovsk 19.20 339 *e*P **P 23 28 27.2 +0.3**
SVE MLR MLR
comp=Z,358nm,12.0s
MAK Makhachkala 19.47 289 *e*P **P 23 28 29.7 -0.3**
MAK *e*S **S 23 32 08.0 -0.5**
MAK pmax pmax
comp=Z,142nm,1.1s
MAK MLR MLR
comp=Z,62nm,14.0s
ARU Arti 19.48 335 P **P 23 28 29.1 -1.0**
ARU Arti 19.48 335 *d i*P **P 23 28 29.7 -0.4**
ARU S **Sn 23 32 11.0 +1.9**
ARU pmax pmax
comp=Z,13nm,1.2s
ARU Arti 19.48 335 P **P 23 28 30.3 +0.3**
baz=133,slow=6.5,SNR=9.0
comp=Z,12nm,0.8s
SEKA Sheki 19.72 283 P **P 23 28 33.2 +0.3**
MNGR Mingechevir, A 19.84 282 P **Pn 23 28 35.0 -0.7**
WSAR Wadi Sarin 20.23 221 P **P 23 28 39.5 +1.0**
comp=Z,5.3nm,0.8s,baz=64,slow=6.0,SNR=6.2
WSAR LR LR 23 38 44.2
comp=Z,85nm,20.7s,baz=62,slow=44
comp=Z,5.3nm,0.8s
GANJ Ganja 20.43 282 P **P 23 28 41.6 +1.1**
GTA Gaotai 20.70 82 P **P 23 28 45.0 +1.4**
GTA sP pP 23 28 49.0 -2.4
GTA pP sP 23 28 55.8 +0.7
GTA pmax pmax
comp=Z,21nm,0.9s
GTA LR LR
comp=Z,110nm,14.3s
GTA LR LR
comp=Z,210nm,12.3s
GTA LR LR
comp=Z,170nm,13.5s
SHL Shillong 21.05 125 P **P 23 28 47.2 -0.3**
SHL IAmb IAmb 23 28 53.2
comp=Z,18nm,0.5s
SHL Shillong 21.05 125 P **P 23 28 47.2 -0.3**
SHL pmax pmax
comp=Z,18nm,0.5s
NAX Nakhchivan 21.25 278 P **P 23 28 50.4 +0.9**
GNI Garni 21.68 281 P **P 23 28 54.0 -0.3**
GNI Garni 21.68 281⇑*e*P **P 23 28 56.3 +2.1**
GNI pmax pmax
comp=Z,44nm,1.1s
GNI Garni 21.68 281 P **P 23 28 56.5 +2.3**
comp=Z,23nm,0.9s,baz=83,slow=6.1,SNR=10
GNI LR LR 23 38 35.5
comp=Z,40nm,18.7s,baz=86,slow=40
comp=Z,23nm,0.9s
BELG Belogornoye 21.75 315 *de*P **P 23 28 54.4 -0.2**
BELG pmax pmax
comp=Z,14nm,0.8s
BELG Belogornoye 21.75 315 P **P 23 28 54.8 +0.2**
comp=Z,38nm,0.8s,baz=142,slow=2.5,SNR=10
BELG LR LR 23 38 56.0
comp=Z,70nm,20.9s,baz=173,slow=41
comp=Z,38nm,0.8s
ZEI Tsey 22.12 288 *e*P **P 23 28 59.0 +0.1**
ZEI pmax pmax
comp=Z,13nm,1.1s
NCK Nalchik 22.34 290⇓*e*P **P 23 29 00.6 -0.5**
NCK pmax pmax
comp=Z,34nm,0.7s
ONI Oni 22.45 288 P **P 23 29 03.6 +1.3**
ONI IAmb IAmb 23 29 10.7
comp=Z,26nm,0.9s
ONI Oni 22.45 288 P **P 23 29 03.7 +1.3**
ONI pmax pmax
comp=Z,26nm,0.9s
AKH Akhalkalaki 22.49 285 P **P 23 29 03.2 +0.3**
AKH Akhalkalaki 22.49 285 P **P 23 29 03.3 +0.3**
AKH pmax pmax
comp=Z,45nm,0.7s
KBZ Khabaz 22.84 291⇓*e*P **P 23 29 06.6 +0.2**
KBZ pmax pmax
comp=Z,11nm,0.8s
KBZ Khabaz 22.84 291 P **P 23 29 06.5 +0.2**
comp=Z,1.8nm,0.7s,baz=87,slow=9.3,SNR=7.1
KBZ LR LR 23 40 01.5
comp=Z,90nm,19.3s,baz=94,slow=42
comp=Z,1.8nm,0.7s
KARS Kars 22.88 283 P **P 23 29 06.6 -0.4**
KARS Kars 22.88 283 P **P 23 29 06.6 -0.4**
KARS pmax pmax
comp=Z,91nm,1.3s
MOY Mondy 22.95 49 *e*P **P 23 29 10.2 +2.6**
MOY pmax pmax
comp=Z,31nm,2.2s
KVAR Kislovodsk Arr 22.99 291 P **P 23 29 09.2 +1.1**
comp=Z,1.7nm,0.6s,baz=260,slow=19,SNR=1.8
KVAR S **S 23 33 23.1 +5.9**
comp=Z,3.5nm,0.8s,baz=135,slow=4.3,SNR=2.2
KVAR LR LR 23 40 58.0
comp=Z,52nm,21.9s,baz=108,slow=44
comp=Z,1.7nm,0.6s
KIV Kislovodsk 23.00 291 P **P 23 29 07.4 -0.7**
KIV Kislovodsk 23.00 291⇓*e*P **P 23 29 08.6 +0.5**
KIV *e**PP **pP 23 29 16.1 0.0**
KIV *e* 23 29 32.2
KIV *e* 23 32 59.6
KIV pmax pmax
comp=Z,13nm,0.6s
KIV MLR MLR
comp=Z,65nm,16.0s
ZAK Zakamensk 23.92 53 *e*P **P 23 29 13.8 -3.3**
ZAK pmax pmax
comp=Z,6.0nm,1.9s
GURO Guroymak-BITLI 24.02 278 P **P 23 29 17.7 -0.5**
KIRV Kirov 24.39 330 *ce*P **P 23 29 22.2 +1.0**
KIRV Kirov 24.39 330 LR LR 23 39 26.9
comp=Z,302nm,19.1s,baz=137,slow=38
LZH Lanzhou 24.56 88 *e*P **P 23 29 26.0 +2.8**
LZH pmax pmax
comp=Z,15nm,1.2s
LZH LR LR
comp=Z,380nm,16.8s
LZH LR LR
comp=Z,190nm,12.4s
LZH LR LR
comp=Z,310nm,16.5s
SONM Songino Array 25.43 60 P **P 23 29 31.2 +0.2**
SONM IAmb IAmb 23 29 35.4
comp=Z,14nm,1.3s
SONM Songino Array 25.43 60 P **P 23 29 31.2 +0.2**

SONM pmax pmax
comp=Z,14nm,1.3s
SONM Songino Array 25.43 60 P **P 23 29 31.6 +0.6**
comp=Z,4.9nm,0.8s,baz=268,slow=8.9,SNR=23
SONM LR LR 23 40 34.3
comp=Z,161nm,20.6s,baz=294,slow=39
comp=Z,4.9nm,0.8s
TNCH TengChong 25.83 116 P **P 23 29 37.0 +2.2**
TNCH S **S 23 34 02.0 -1.1**
TNCH pmax pmax
comp=Z,14nm,0.5s
TNCH pmax pmax
comp=Z,100nm,4.5s
TNCH LR LR
comp=Z,170nm,3.9s
TNCH LR LR
comp=Z,190nm,6.2s
TNCH LR LR
comp=Z,82nm,6.2s
ULN Ulaanbaatar 25.88 60 P **P 23 29 34.9 -0.1**
ULN Ulaanbaatar 25.88 60 *ce*P **P 23 29 35.3 +0.3**
ULN pmax pmax
comp=Z,17nm,1.9s
VORD Divnogorie 26.16 307 *e*P **P 23 29 36.0 -1.3**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 26.29 308 *e*P **P 23 29 36.3 -2.2**
VSR pmax pmax
comp=Z,7.0nm,0.6s
ANN Anapa 26.77 293 *e*P **P 23 29 40.5 -2.3**
ANN *e*S **S 23 34 12.7 -4.5**
ANN pmax pmax
comp=Z,22nm,1.2s
LPSR Galich'ya Gora 26.79 311 *e*P **P 23 29 40.8 -2.1**
LPSR pmax pmax
comp=Z,20nm,1.1s
PZH PanZhiHua 27.23 110 P **P 23 29 50.8 +3.4**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,110nm,4.7s
PRGR Permogore 27.83 332 *e*P **P 23 29 53.1 +0.9**
PRGR pmax pmax
comp=Z,20nm,1.6s
OBN Obninsk 28.85 315 *e*P **P 23 30 04.0 +2.7**
OBN *e* 23 33 09.1
OBN *e*S **S 23 34 46.1 -3.7**
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,152nm,17.0s
OBN Obninsk 28.85 315 LR LR 23 42 54.8
comp=Z,159nm,20.0s,baz=32,slow=39
SIM Simferopol' 29.12 294 *e*P **P 23 30 06.8 +2.9**
SIM pmax pmax
comp=Z,11nm,0.8s
HHC Hu-ho-hao-te 29.37 75 *e*P **P 23 30 09.5 +3.2**
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,140nm,4.7s
KLMR Klimovskoe 29.78 327 *e*P **P 23 30 09.9 +0.4**
KLMR AMP 23 30 19.3
comp=Z,18nm,1.5s
KLMR *e*PP **PnPn 23 31 05.5 +0.1**
KLMR Klimovskoe 29.78 327 *e*P **P 23 30 09.8 +0.3**
KLMR *e* 23 31 05.4
KLMR pmax pmax
comp=Z,18nm,1.5s
BR131 Keskin Array S 30.16 283 P **P 23 30 13.9 +0.5**
BR131 IAmb IAmb 23 30 21.0
comp=Z,5.4nm,1.0s
BR131 Keskin Array S 30.16 283⇑*e*P **P 23 30 15.0 +1.6**
BRTR Keskin Array B 30.16 283 P **P 23 30 12.5 -0.9**
BRTR Keskin Array B 30.16 283 P **P 23 30 15.2 +1.8**
comp=Z,1.7nm,0.8s,baz=87,slow=9.2,SNR=9.5
comp=Z,1.7nm,0.8s
CMAR Chiang Mai Arr 30.68 125 P **P 23 30 17.4 -0.5**
comp=Z,1.2nm,0.8s,baz=311,slow=8.6,SNR=13
comp=Z,1.2nm,0.8s
NRIK Noril'sk 30.96 10 P **P 23 30 20.4 +0.5**
NRIK Noril'sk 30.96 10⇑*e*P **P 23 30 21.6 +1.7**
NRIK pmax pmax
comp=Z,7.0nm,1.6s
NRIK Noril'sk 30.96 10 P **P 23 30 21.4 +1.5**
comp=Z,1.2nm,0.4s,baz=188,slow=6.7,SNR=6.6
comp=Z,1.2nm,0.4s
LYN LuoYang 31.73 86 *e*P **P 23 30 31.5 +4.4**
LYN pmax pmax
comp=Z,8.0nm,0.5s
LYN pmax pmax
comp=Z,150nm,5.1s
BOD Bodaibo 32.09 41 *e*P **P 23 30 30.7 +0.7**
BOD pmax pmax
comp=Z,11nm,1.2s
AKASG Malin Array Be 32.44 305 P **P 23 30 32.9 -0.2**
AKASG Malin Array Be 32.44 305 *i*P **P 23 30 34.5 +1.4**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 32.44 305 P **P 23 30 34.6 +1.5**
comp=Z,0.5nm,0.4s,baz=79,slow=7.4,SNR=10
AKASG LR LR 23 44 49.0
comp=Z,108nm,20.7s,baz=6.5,slow=38
comp=Z,0.5nm,0.4s
AKBB Malin Array Si 32.44 305 *ce*P **P 23 30 33.6 +0.5**
KIEV Kiev 32.45 305 P **P 23 30 33.1 -0.1**
KIEV IAmb IAmb 23 30 36.6
comp=Z,5.2nm,0.8s
KIEV Kiev 32.45 305 P **P 23 30 33.1 -0.1**
KIEV pmax pmax
comp=Z,5.0nm,0.8s
EIL Elat 32.60 264 LR LR 23 46 30.3
comp=Z,46nm,18.6s,baz=66,slow=41
PALK Pallekele 32.77 166 LR LR 23 44 15.2
comp=Z,118nm,18.3s,baz=90,slow=37
BJI Beijing 32.98 75 P **P 23 30 38.8 +0.9**
BJI pmax pmax
comp=Z,3.0nm,0.7s
VRI Vrincioaia 34.23 296 ⇓P **P 23 30 51.4 +2.6**
VRI Vrincioaia 34.23 296 ⇓P **P 23 30 51.4 +2.6**
PLOR Plostina 34.29 296 ⇓P **P 23 30 51.8 +2.4**
PLOR Plostina 34.29 296 ⇓P **P 23 30 51.8 +2.4**
NACGM Naroch 34.30 312 *e*P **P 23 30 46.9 -2.4**
comp=E,2μm,0.7s,baz=98
COVR Voineasa-Covas 34.60 296 ⇑P **P 23 30 54.3 +2.3**
MLR Muntele Rosu 34.82 296 ⇓P **P 23 30 55.6 +1.5**
MLR Muntele Rosu 34.82 296 P **P 23 30 55.2 +1.2**
MLR IAmb IAmb 23 30 57.5
comp=Z,12nm,1.1s
MLR Muntele Rosu 34.82 296 ⇓P **P 23 30 55.6 +1.5**
MLR Muntele Rosu 34.82 296 LR LR 23 48 25.2
comp=Z,102nm,18.4s,baz=60,slow=42
BURAR Bucovina Array 35.11 299 ⇓P **P 23 30 59.8 +3.3**
BURAR Bucovina Array 35.11 299 P **P 23 30 56.9 +0.4**
BURAR Bucovina Array 35.11 299 ⇓P **P 23 30 59.8 +3.3**
LVZ Lovozero 35.36 336 P **P 23 30 58.9 +0.6**
LVZ Lovozero 35.36 336 P **P 23 30 58.9 +0.6**
LVZ pmax pmax
comp=Z,44nm,1.2s
VOIR 35.45 296 ⇓P **P 23 31 01.2 +1.7**
VOIR 35.45 296 ⇓P **P 23 31 01.2 +1.7**
FINES FINESS Array B 35.99 323 P **P 23 31 04.4 +0.6**
FINES FINESS Array B 35.99 323 P **P 23 31 04.5 +0.8**
comp=Z,2.5nm,0.4s,baz=112,slow=9.3,SNR=39
FINES LR LR 23 45 34.6
comp=Z,117nm,21.4s,baz=102,slow=36
comp=Z,2.5nm,0.4s
LOT Lotru 36.34 296 ⇓P **P 23 31 09.0 +1.9**
HERR Herculane 37.38 295 ⇓P **P 23 31 16.5 +0.7**
NJ2 Nanjing 37.62 87 *e*P **P 23 31 20.5 +2.5**
NJ2 pP **sP 23 31 29.0 -0.9**
NJ2 sP **pP 23 31 32.3 +5.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,140nm,4.5s
BZS Buzias 37.81 297 ⇓P **P 23 31 21.4 +2.0**
BZS Buzias 37.81 297 ⇓P **P 23 31 21.4 +2.0**
MDVR Moldovita 37.89 295 ⇓P **P 23 31 21.9 +1.7**
BOVS Bovan 38.12 293 ⇑P **P 23 31 23.1 +1.1**
OJC Ojcow 38.47 304 P **P 23 31 25.4 +0.5**
OJC IAmb IAmb 23 31 31.7
comp=Z,6.6nm,0.9s
OJC Ojcow 38.47 304 P **P 23 31 25.4 +0.5**
OJC pmax pmax

comp=Z,7.0nm,0.9s
ZEA Zeya 38.95 50 *e*P **P 23 31 31.7 +2.8**
ARCES ARCESS Array B 39.07 336 P **P 23 31 30.1 +0.4**
ARCES IAmb IAmb 23 31 34.1
comp=Z,24nm,1.4s
ARCES ARCESS Array B 39.07 336 P **P 23 31 30.1 +0.4**
ARCES pmax pmax
comp=Z,24nm,1.4s
ARCES ARCESS Array B 39.07 336 P **P 23 31 30.5 +0.8**
comp=Z,4.3nm,0.7s,baz=108,slow=8.9,SNR=15
ARCES LR LR 23 48 43.6
comp=Z,207nm,18.7s,baz=134,slow=38
comp=Z,4.3nm,0.7s
DIVS Divibare 39.23 295 P **P 23 31 32.6 +1.1**
DIVS IAmb IAmb 23 31 42.1
comp=Z,16nm,1.5s
HEH HeiHe 39.26 56 *e*P **P 23 31 31.0 -0.5**
HEH pmax pmax
comp=Z,4.0nm,0.8s
VYHS Vyhne 39.27 302 *e*P **P 23 31 34.6 +2.9**
VYHS *e* 23 53 00.9
VYHS Vyhne 39.27 302 *e*P **P 23 31 34.6 +2.9**
MORH Mrgy, Hungar 39.76 298 ⇑P **P 23 31 36.5 +0.7**
MORC Moravsky Berou 39.96 304 ⇓P **P 23 31 39.1 +1.6**
MORC Moravsky Berou 39.96 304 P **P 23 31 38.3 +0.9**
MORC Moravsky Berou 39.96 304 *e*P **P 23 31 38.9 +1.5**
MORC Moravsky Berou 39.96 304 P **P 23 31 38.3 +0.9**
MORC pmax pmax
comp=Z,3.0nm,0.7s
VRAC Vranov 40.63 303 *e*P **P 23 31 44.8 +1.8**
VRAC Vranov 40.63 303 LR LR 23 53 34.3
comp=Z,110nm,19.8s,baz=98,slow=44
YAK Yakutsk 40.67 37 P **P 23 31 43.8 +0.7**
YAK IAmb IAmb 23 31 44.7
comp=Z,13nm,0.9s
YAK Yakutsk 40.67 37⇓ *e*P **P 23 31 44.2 +1.1**
YAK pmax pmax
comp=Z,11nm,0.8s
KRUC Moravsky 40.80 303 *e*P **P 23 31 45.7 +1.4**
RONA Rosalia, Austr 41.08 301 *e*P **P 23 31 48.0 +1.3**
comp=Z,4.0nm,1.5s
CONA Conrad Observa 41.33 301 *i* P **P 23 31 50.3 +1.5**
comp=Z,3.6nm,0.8s
MDJ Mudanjiang 41.65 64 P P 23 31 46.5 -4.8
MDJ pmax pmax
comp=Z,8.0nm,1.2s
MDJ pmax pmax
comp=Z,120nm,3.6s
ARSA Arzberg 41.68 300 *i* P **P 23 31 53.0 +1.4**
comp=Z,0.3nm,0.2s
HFS Hagfors 41.78 320 P **P 23 31 52.7 +0.4**
comp=Z,4.0nm,0.5s,baz=102,slow=11,SNR=17
HFS LR LR 23 50 18.5
comp=Z,201nm,18.7s,baz=72,slow=38
comp=Z,4.0nm,0.5s
KLR Kul'dur 42.18 57⇓ *e*P **P 23 31 56.5 +0.9**
KLR pmax pmax
comp=Z,9.0nm,1.3s
KLR Kul'dur 42.18 57 LR LR 23 50 51.5
comp=Z,90nm,18.2s,baz=274,slow=38
MOA Molln 42.40 301 *i* P **P 23 31 58.8 +1.3**
comp=Z,1.6nm,0.5s
TIXI Tiksi 42.46 23 P **P 23 31 57.7 +0.1**
TIXI IAmb IAmb 23 32 00.6
comp=Z,4.7nm,0.6s
TIXI Tiksi 42.46 23⇑ *e*P **P 23 31 57.3 -0.3**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
OBKA Obir 42.48 299 *i* P **P 23 31 60.0 +1.7**
comp=Z,1.9nm,0.5s
KSRS Korea Array 42.51 75 P **P 23 31 57.8 -0.6**
comp=Z,1.5nm,0.9s,baz=272,slow=8.4,SNR=2.9
KSRS LR LR 23 50 40.5
comp=Z,39nm,18.1s,baz=290,slow=38
comp=Z,1.5nm,0.9s
GEC2 GERESS Array S 42.58 303 P **P 23 31 59.9 +0.8**
GERES GERESS Array B 42.58 303 P **P 23 31 59.1 0.0**
GERES GERESS Array B 42.58 303 P **P 23 31 59.1 0.0**
GERES GERESS Array B 42.58 303 P **P 23 32 00.7 +1.6**
comp=Z,2.7nm,0.7s,baz=58,slow=7.8,SNR=11
GERES LR LR 23 52 04.6
comp=Z,86nm,19.4s,baz=314,slow=39
comp=Z,2.7nm,0.7s
KHC Kasperske Hory 42.61 303 P **P 23 31 59.2 0.0**
KHC Kasperske Hory 42.61 303⇑ *e*P **P 23 32 00.3 +1.1**
KHC pmax pmax
comp=Z,23nm,1.8s
CLL Collm 42.63 307 *i* P **P 23 32 01.5 +2.2**
NC405 NORSAR Array S 42.79 321 P **P 23 31 59.7 -0.8**
BIOA Bad Ischl, Aus 42.84 301 *i* P **P 23 32 02.5 +1.3**
comp=Z,2.0nm,0.4s
NB2 NORSAR Subarra 43.03 321 P **P 23 32 02.5 0.0**
comp=Z,1.8nm,0.9s,baz=91,slow=8.6
NOA NORSAR Array B 43.03 321 P **P 23 32 02.8 +0.3**
comp=Z,1.1nm,0.6s,baz=91,slow=8.1,SNR=9.8
NOA LR LR 23 50 48.4
comp=Z,169nm,18.8s,baz=95,slow=37
comp=Z,1.1nm,0.6s
KBA Koelnbreinsper 43.17 300 *i* P **P 23 32 04.6 +0.6**
comp=Z,3.5nm,0.6s
SABO M.te Sabotino 43.24 299 P **P 23 32 04.3 0.0**
SABO IAmb IAmb 23 32 13.7
comp=Z,12nm,1.0s
LESA Schwarzleotal 43.54 301 *i* P **P 23 32 08.0 +1.2**
comp=Z,1.9nm,0.4s
ABTA Abfaltersbach 43.80 300 *i* P **P 23 32 09.8 +1.0**
comp=Z,0.5nm,0.3s
WTTA Wattenberg 44.26 301 *e*P **P 23 32 13.1 +0.4**
comp=Z,3.5nm,0.7s
WATA Walderalm 44.28 301 *i* P **P 23 32 12.9 0.0**
comp=Z,3.0nm,0.8s
SQTA Sankt Quirin 44.55 301 *e*P **P 23 32 17.0 +1.9**
comp=Z,0.4nm,0.3s
MOTA Moosalm 44.60 301 *i* P **P 23 32 15.8 +0.4**
comp=Z,1.7nm,0.6s
RETA Reutte 44.79 302 *i* P **P 23 32 18.2 +1.4**
comp=Z,10nm,1.6s
FETA Feichten 44.92 301 *i* P **P 23 32 19.4 +1.4**
comp=Z,1.5nm,0.6s
SPITS Spitsbergen Ar 45.01 346 P **P 23 32 19.5 +1.4**
comp=Z,12nm,1.0s,baz=90,slow=12,SNR=1.9
SPITS LR LR 23 53 37.7
comp=Z,98nm,20.1s,baz=102,slow=39
comp=Z,12nm,1.0s
FUORN Ofenpass-Fuorn 45.33 301 P **P 23 32 21.8 +0.4**
FUORN IAmb IAmb 23 32 45.5
comp=Z,8.1nm,1.3s
DAVA Damuels 45.42 302 *i* P **P 23 32 22.4 +0.5**
comp=Z,5.3nm,0.6s
DAVOX Davos/Dischmat 45.55 301 LR LR 23 52 03.7
comp=Z,135nm,18.0s,baz=92,slow=37
JNU Nakatsue 46.41 79 LR LR 23 54 02.1
comp=Z,65nm,18.1s,baz=304,slow=39
SENIN Lac Senin/Sane 47.37 301 P **P 23 32 36.5 -0.8**
BNI Bardonecchia 48.17 299 P **P 23 32 43.4 -0.1**
BNI IAmb IAmb 23 33 01.1
comp=Z,8.5nm,1.1s
BNI Bardonecchia 48.17 299 P **P 23 32 43.4 -0.1**
BNI pmax pmax
comp=Z,8.0nm,1.2s
MJAR Matsushiro Arr 50.47 71 P **P 23 33 01.6 +0.6**
comp=Z,3.2nm,0.9s,baz=289,slow=9.4,SNR=8.3
MJAR LR LR 23 54 57.4
comp=Z,62nm,18.4s,baz=1.5,slow=37
comp=Z,3.2nm,0.9s
ASAJ Asahikawa 50.71 61 LR LR 23 55 53.6
comp=Z,98nm,18.3s,baz=288,slow=38
EKA Eskdalemuir Ar 51.30 315 P **P 23 33 06.8 -0.1**
comp=Z,0.8nm,0.5s,baz=86,slow=9.0,SNR=5.8
comp=Z,0.8nm,0.5s
KMBO Kilima Mbogo 51.97 228 *i* P **P 23 33 13.8 +1.1**
KMBO pmax pmax
comp=Z,2.0nm,0.9s
KMBO Kilima Mbogo 51.97 228 P **P 23 33 12.0 -0.6**
comp=Z,2.3nm,0.9s,baz=47,slow=11,SNR=5.6
KMBO LR LR 23 55 18.0
comp=Z,44nm,18.5s,baz=91,slow=36
comp=Z,2.3nm,0.9s
DAG Danmarks Havn 52.37 343 *i* P **P 23 33 15.0 +0.4**
JHJ Hachijo jima 2 53.12 75 LR LR 23 58 54.5
comp=Z,65nm,18.7s,baz=48,slow=39
BORG Borgarnes 56.87 329 LR LR 23 57 50.5
comp=Z,163nm,18.7s,baz=53,slow=36
ESBB Sonseca Array 57.50 297 P **P 23 33 52.9 +0.6**
ESBB IAmb IAmb 23 34 00.4
comp=Z,4.9nm,1.1s
ESDC Sonseca Array 57.50 297 P **P 23 33 52.7 +0.3**
ESDC IAmb IAmb 23 34 00.4
comp=Z,5.6nm,1.4s
ESDC Sonseca Array 57.50 297 P **P 23 33 52.1 -0.2**
comp=Z,0.9nm,0.8s,baz=56,slow=6.2,SNR=11
ESDC LR LR 00 04 34.1
comp=Z,92nm,19.8s,baz=52,slow=42
comp=Z,0.9nm,0.8s
NEEM North Greenlan 58.50 348 *i* P **P 23 33 57.3 -1.8**
KAPI Kappang 61.74 125 LR LR 00 05 37.0
comp=Z,9.7nm,18.0s,baz=274,slow=40
B20K Meade River 64.95 17 P **P 23 34 42.5 +0.3**
C18K Utukok River 64.99 19 P **P 23 34 42.8 +0.2**
C18K IAmb IAmb 23 34 48.9
comp=Z,4.0nm,0.8s
E18K Tukpahlearik C 66.04 20 P **P 23 34 49.3 0.0**
E18K IAmb IAmb 23 34 54.5
comp=Z,4.0nm,0.7s
TOA0 Torodi Ar. Sit 67.36 269 P **P 23 34 57.9 -0.6**
TOA0 IAmb IAmb 23 35 10.7
comp=Z,3.8nm,1.1s
TORD Torodi Ar. Bea 67.36 269 P **P 23 34 57.6 -0.9**
TORD IAmb IAmb 23 35 10.7
comp=Z,3.0nm,1.1s
TORD Torodi Ar. Bea 67.36 269 P **P 23 34 57.6 -0.9**
comp=Z,1.4nm,0.6s,baz=42,slow=7.0,SNR=13
comp=Z,1.4nm,0.6s
GUMO Guam 67.55 91 LR LR 00 06 54.5
comp=Z,13nm,19.2s,baz=111,slow=38
G19K Purcell Mounta 67.92 20 P **P 23 35 01.0 -0.2**
G19K IAmb IAmb 23 35 12.9
comp=Z,5.8nm,1.1s
LSZ Lusaka 68.61 227 LR LR 00 05 58.6
comp=Z,39nm,18.3s,baz=338,slow=37
IMAR Indian Mountai 68.89 19 P **P 23 35 07.0 -0.4**
E28M Babbage River 69.57 12 P **P 23 35 11.6 0.0**
E28M IAmb IAmb 23 35 18.8
comp=Z,3.4nm,0.8s
BMAR Burnt Mountain 69.71 15 P **P 23 35 13.0 +0.5**
INK Inuvik 70.75 10 P **P 23 35 18.9 +0.2**
INK Inuvik 70.75 10 P **P 23 35 18.9 +0.2**
INK pmax pmax
comp=Z,8.0nm,1.1s
CAST Castle Rocks 71.39 20 P **P 23 35 22.7 0.0**
CAST IAmb IAmb 23 35 50.3
comp=Z,9.6nm,1.4s
ILAR Eielson Array 71.52 17 P **P 23 35 22.9 -0.6**
comp=Z,2.8nm,0.9s,baz=325,slow=4.9,SNR=24
comp=Z,2.8nm,0.9s
KTH Kantishna Hill 71.58 19 P **P 23 35 23.5 -0.4**
RND Reindeer 72.22 18 P **P 23 35 27.5 -0.3**
RND Reindeer 72.22 18 P **P 23 35 27.5 -0.3**
RND pmax pmax
comp=Z,14nm,1.4s
SKT Skwentna 72.72 20 P **P 23 35 30.0 -0.7**
SCRK Sand Creek 72.85 16 P **P 23 35 31.5 -0.1**
SCRK IAmb IAmb 23 35 35.7
comp=Z,4.1nm,1.0s
DAWY Dawson 73.70 14 P **P 23 35 36.2 -0.2**
DAWY IAmb IAmb 23 35 38.3
comp=Z,4.1nm,0.9s
BCAR Beaver Creek A 74.12 16 P **P 23 35 39.1 +0.1**
PSA00 Pilbara Seismi 74.84 135 P **P 23 35 43.8 +0.2**
PSA00 IAmb IAmb 23 35 46.1
comp=Z,5.6nm,1.0s
FITZ Fitzroy Crossi 75.44 129 P **P 23 35 46.9 -0.2**
LBTB Lobatse 77.90 223 P **P 23 36 01.5 +0.5**
LBTB Lobatse 77.90 223 P **P 23 36 01.5 +0.5**
LBTB pmax pmax
comp=Z,18nm,1.4s
TSUM Tsumeb 77.96 233 LR LR 00 16 58.7
comp=Z,46nm,18.2s,baz=344,slow=41
YKA Yellowknife Ar 78.23 4 P **P 23 36 02.0 -0.2**
YKA Yellowknife Ar 78.23 4 *i* P **P 23 36 03.0 +0.8**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 78.23 4 P **P 23 36 02.5 +0.3**
comp=Z,1.9nm,0.8s,baz=346,slow=5.6,SNR=23
comp=Z,1.9nm,0.8s
WB0 Warramunga Arr 82.17 123 P **P 23 36 23.4 -0.6**
WB0 IAmb IAmb 23 36 49.5
comp=Z,6.0nm,1.2s
WRA Warramunga Arr 82.26 124 P **P 23 36 24.1 -0.5**
WRA Warramunga Arr 82.26 124 *i* P **P 23 36 25.2 +0.7**
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 82.26 124 P **P 23 36 24.2 -0.3**
comp=Z,2.0nm,0.8s,baz=326,slow=5.0,SNR=20
comp=Z,2.0nm,0.8s
ASAR Alice Springs 84.69 126 P **P 23 36 36.6 -0.4**
ASAR Alice Springs 84.69 126 P **P 23 36 36.2 -0.8**
comp=Z,0.5nm,0.7s,baz=316,slow=5.6,SNR=9.5
comp=Z,0.5nm,0.7s
FORT Forrest 86.59 135 P **P 23 36 46.2 -0.1**
ULM Lac du Bonnet 90.15 353 LR LR 00 19 41.5
comp=Z,85nm,19.6s,baz=16,slow=37
NEW Newport 92.22 7 LR LR 00 23 17.4
comp=Z,57nm,18.5s,baz=37,slow=38
PDAR Pinedale Array 98.14 2 LR LR 00 26 30.9
comp=Z,23nm,20.3s,baz=52,slow=38
ELK Elko 99.84 6 LR LR 00 29 33.7
comp=Z,27nm,18.0s,baz=258,slow=39
QSPA South Pole Qui 129.23 180 PKP **PKPdf 23 43 10.0 -0.2**
comp=Z,0.9nm,0.9s,baz=342,slow=2.3,SNR=2.3
PLCA Paso Flores 152.20 256 PKPbc **PKiKP 23 44 00.1 +1.4**
comp=Z,2.0nm,1.0s,baz=139,slow=12,SNR=2.0

*IDC **30** 23:46:10.1±0.6,37.˙35N×105.˙00W,h0km,mb3.9/7, mbtmp3.8/15,ML3.6/8,MS3.4/21,Error ellipse: s-maj=12.2km s-min=8.1km az=72.0*
*NEIC **30** 23:46:11.9±1.0,37.˙27N±0.˙04×104.˙86W±0.˙06,h4km±2km, mb4.1/14,mb_Lg4.2/161,ML4.2/88,Mwr4.0/47,Error ellipse: s-maj=8.0km s-min=5.7km az=241.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-1.32; Mθθ0.63; Mφφ0.69; Mrθ-0.59; Mθφ0.62; Mφr0.06; Fault plane solution: M₀1.43000×10¹⁵ NP1: φs208.31000°,δ39.34000°,λ-115.83000°. NP2: φs60.35000°,δ55.21000°,λ-70.35000°. Principal axes: T 1.3311, Plg8.0000°, Azm136.0000°; N 0.1759, Plg16.0000°, Azm229.0000°; P -1.5070, Plg72.0000°, Azm20.0000°;*
*ANF **30** 23:46:11.3±0.3,37.˙35N×104.˙83W,h5km,ML4.8/17 Error ellipse: s-maj=3.9km s-min=3.2km az=30.0*
*NEIC **30** 23:46:12.1,37.˙29N×104.˙89W,h5km*
ISC 30 23:46:10.6±1.1,37.˙37N±0.˙03×104.˙85W±0.˙02,h2km±8km, n218,σ1$30/196,mb3.9/7,MS3.4/14,Colorado

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T25A	**Trinidad**	**0.42**	**123**	Pg	**Pg**	**23 46 18.6**	**0.0**
T25A				Sg	**Sg**	**23 46 24.4**	**+0.3**
T25A				IAML		23 46 24.7	
	comp=E,17μm,0.7s						
T25A				IAML		23 46 29.4	
	comp=N,9μm,1.0s						
T25A	**Trinidad**	**0.42**	**123**	P	**Pg**	**23 46 18.6**	**0.0**
	baz=291						
T25A				S	**Sg**	**23 46 24.3**	**+0.3**
	baz=291						
SDCO	**Great Sand Dun**	**0.64**	**306**	Pg	**Pg**	**23 46 22.3**	**-0.6**
SDCO	**Great Sand Dun**	**0.64**	**306**	P	**Pg**	**23 46 22.5**	**-0.4**
	baz=133,SNR=1000						
SDCO				S	**Sg**	**23 46 31.1**	**-0.2**
	baz=133						
SDCO	**Great Sand Dun**	**0.64**	**306**	P	**Pg**	**23 46 22.3**	**-0.6**
	baz=133,SNR=1000						
SDCO				S	**Sg**	**23 46 31.1**	**-0.2**
	baz=133						
Q24A	**Divide**	**1.61**	**352**		**Pn**	**23 46 40.6**	**+0.3**
Q24A					**Sn**	**23 47 02.2**	**+0.4**
Q24A				IAML		23 47 02.5	
	comp=E,4μm,0.3s						
Q24A				IAML		23 47 03.8	
	comp=N,2μm,0.3s						
Q24A	**Divide**	**1.61**	**352**	P	**Pn**	**23 46 40.8**	**+0.5**
	baz=172,SNR=615						
Q24A				S	**Sn**	**23 47 02.2**	**+0.4**
	baz=172						
S22A	**4UR Ranch, Cre**	**1.62**	**284**		**Pn**	**23 46 40.0**	**-0.3**
S22A				IAML		23 47 07.0	
	comp=E,3μm,0.9s						
S22A	**4UR Ranch, Cre**	**1.62**	**284**	P	**Pn**	**23 46 40.1**	**-0.3**
	baz=106,SNR=1000						
S22A				S	**Sn**	**23 47 01.4**	**-0.6**
	baz=106						
RTBA	**Rita Blanca**	**1.93**	**118**		**Pn**	**23 46 45.3**	**+0.8**
RTBA				Sg	**Sb**	**23 47 11.3**	**+0.2**
RTBA				IAML		23 47 12.6	
	comp=E,7μm,0.6s						
RTBA				IAML		23 47 14.3	
	comp=E,5μm,0.9s						
RTBA				IAmb_Lg		23 47 14.4	
	comp=Z,2μm,0.8s						
KSCO	**Kaye Shedlock'**	**2.40**	**46**		**Pb**	**23 46 53.7**	**-0.7**
KSCO				Sg	**Sb**	**23 47 26.2**	**+1.6**
KSCO	**Kaye Shedlock'**	**2.40**	**46**	P	**Pb**	**23 46 53.8**	**-0.7**
	baz=226,SNR=264						
KSCO				Sb	**Sb**	**23 47 26.7**	**+2.2**
	baz=226						
KSCO	**Kaye Shedlock'**	**2.40**	**46**	P	**Pb**	**23 46 53.9**	**-0.6**
	baz=226,SNR=264						
KSCO				S	**Sb**	**23 47 26.2**	**+1.6**
	baz=226						
SMCO	**Snowmass**	**2.46**	**318**		**Pn**	**23 46 53.9**	**+1.8**
SMCO				IAML		23 47 32.2	
	comp=Z,1μm,0.7s						
ISCO	**Idaho Springs**	**2.50**	**346**		**Pn**	**23 46 54.7**	**+2.2**
ISCO	**Idaho Springs**	**2.50**	**346**	P	**Pn**	**23 46 55.0**	**+2.5**
	baz=167,SNR=201						
ISCO	**Idaho Springs**	**2.50**	**346**	P	**Pn**	**23 46 55.2**	**+2.6**
	baz=167,SNR=201						
ISCO				S	**Sb**	**23 47 29.0**	**+1.3**
	baz=167						
ANMO	**Albuquerque**	**2.75**	**209**	Pn	**Pn**	**23 46 55.6**	**-0.2**
ANMO	**Albuquerque**	**2.75**	**209**	P	**Pn**	**23 46 55.9**	**+0.1**
	baz=29						
ANMO	**Albuquerque**	**2.75**	**209**	P	**Pn**	**23 46 56.0**	**+0.2**
	baz=29,SNR=138						
ANMO				Sb	**Sb**	**23 47 35.7**	**+1.0**
	baz=29						
ANMO	**Albuquerque**	**2.75**	**209**	Pn	**Pn**	**23 46 55.9**	**+0.1**
	comp=Z,5.2nm,0.3s,baz=114,slow=14,SNR=113						
ANMO				Lg		23 47 32.4	
	comp=Z,11nm,0.3s,baz=148,slow=18,SNR=6.4						
ANMO				LR	LR	23 47 40.1	
	comp=Z,75nm,19.2s,baz=130,slow=34						
	comp=Z,53nm,0.5s						
MVCO	**Mesa Verde**	**2.92**	**268**		**Pn**	**23 46 59.5**	**+1.3**
MVCO	**Mesa Verde**	**2.92**	**268**	P	**Pn**	**23 46 59.5**	**+1.3**
	baz=87,SNR=807						
BRIGG	**Briggsdale**	**3.23**	**7**	Pn	**Pn**	**23 47 05.1**	**+2.7**
AMTX	**Amarillo**	**3.57**	**133**	Pn	**Pn**	**23 47 07.5**	**+0.6**
AMTX	**Amarillo**	**3.57**	**133**	P	**Pn**	**23 47 07.5**	**+0.6**
	baz=314						
AMTX				Sb	**Sb**	**23 48 00.0**	**+1.9**
	baz=314						
AMTX	**Amarillo**	**3.57**	**133**	P	**Pn**	**23 47 08.0**	**+1.0**
	baz=314,SNR=56						
Y22D	**IRIS PASSCAL I**	**3.70**	**208**	Pb	**Pb**	**23 47 17.5**	**+0.9**
	baz=27,SNR=15						
Y22D	**IRIS PASSCAL I**	**3.70**	**208**	Pb	**Pb**	**23 47 15.9**	**-0.7**
	baz=27,SNR=15						
Y22F	**Passcal Instru**	**3.70**	**208**	Pb	**Pb**	**23 47 17.3**	**+0.6**
	baz=27,SNR=15						
MSTX	**Muleshoe**	**3.79**	**153**	Pn	**Pn**	**23 47 10.2**	**+0.2**
MSTX	**Muleshoe**	**3.79**	**153**	P	**Pn**	**23 47 10.0**	**-0.1**
	baz=333,SNR=267						
MSTX	**Muleshoe**	**3.79**	**153**	P	**Pn**	**23 47 10.0**	**-0.1**
	baz=333,SNR=267						
O20A	**White River Ci**	**3.83**	**317**	Pn	**Pn**	**23 47 13.3**	**+2.6**
O20A				IAML		23 48 21.1	
	comp=N,444nm,1.7s						
O20A				IAML		23 48 32.9	
	comp=E,461nm,1.4s						
O20A	**White River Ci**	**3.83**	**317**	P	**Pn**	**23 47 13.5**	**+2.8**
	baz=136,SNR=54						
Y22A	**Socorro**	**3.83**	**207**	P	**Pn**	**23 47 12.3**	**+1.5**
	baz=26,SNR=8.4						
PHWY	**Pilot Hill**	**3.96**	**353**		**Pn**	**23 47 14.9**	**+2.4**
PHWY				IAML		23 48 15.8	
	comp=E,340nm,0.6s						
OGNE	**Ogallala**	**4.19**	**31**	Pn	**Pn**	**23 47 17.4**	**+1.9**
OGNE				IAmb_Lg		23 48 33.5	
	comp=E,461nm,0.8s						
OGNE	**Ogallala**	**4.19**	**31**	P	**Pn**	**23 47 17.6**	**+2.1**
	baz=212,SNR=13						
OGNE	**Ogallala**	**4.19**	**31**	P	**Pn**	**23 47 18.1**	**+2.6**
	baz=212,SNR=13						
CBKS	**Cedar Bluff**	**4.28**	**69**	Pn	**Pn**	**23 47 17.5**	**+0.7**
CBKS				IAmb_Lg		23 48 28.1	
	comp=Z,492nm,0.8s						
CBKS	**Cedar Bluff**	**4.28**	**69**	P	**Pn**	**23 47 17.7**	**+1.0**
	baz=251,SNR=11						
CBKS				Sb	**Sb**	**23 48 21.4**	**+2.7**
	baz=251						
CBKS	**Cedar Bluff**	**4.28**	**69**	P	**Pn**	**23 47 17.8**	**+1.0**
	baz=251,SNR=11						
SMWD	**Samnorwood**	**4.35**	**120**	Pn	**Pn**	**23 47 18.2**	**+0.4**
SMWD				IAmb_Lg		23 48 30.9	
	comp=Z,752nm,0.8s						
SMWD				IAML		23 48 32.5	
	comp=Z,2μm,0.6s						
SMWD				IAML		23 48 34.2	
	comp=Z,2μm,0.9s						
W18A	**Petrified Fore**	**4.55**	**242**	Pn	**Pn**	**23 47 21.2**	**+0.7**
W18A				IAML		23 48 37.8	
	comp=E,298nm,1.4s						
W18A	**Petrified Fore**	**4.55**	**242**	P	**Pn**	**23 47 21.2**	**+0.7**
	baz=60,SNR=9.5						
W18A				Sb	**Sb**	**23 48 28.4**	**+1.9**
	baz=60						
RWWY	**Rawlins**	**4.69**	**338**		**Pn**	**23 47 23.7**	**+1.2**
RWWY				IAML		23 48 42.2	
	comp=E,289nm,0.7s						
RWWY				IAML		23 48 50.9	
	comp=E,273nm,1.6s						
U32A	**Winter Ranch,**	**4.79**	**100**		**Pn**	**23 47 24.3**	**+0.6**
U32A				IAmb_Lg		23 48 52.9	
	comp=Z,524nm,0.8s						
U32A	**Winter Ranch,**	**4.79**	**100**	P	**Pn**	**23 47 24.5**	**+0.8**
	baz=282,SNR=20						
SRU	**San Rafael Swe**	**4.80**	**293**	Pn	**Pn**	**23 47 24.9**	**+0.9**
RDMU	**Red Mountain**	**4.88**	**312**	Pn	**Pn**	**23 47 26.8**	**+1.7**
RDMU				IAML		23 48 48.0	
	comp=E,200nm,1.0s						
RDMU				IAML		23 48 50.2	
	comp=N,160nm,1.1s						
DKNS	**Dickens**	**4.89**	**138**		**Pn**	**23 47 25.5**	**+0.3**
DKNS				IAmb_Lg		23 48 46.6	
	comp=Z,460nm,0.9s						
DKNS				IAML		23 48 49.3	
	comp=Z,1μm,0.8s						
DKNS				IAML		23 48 58.6	
	comp=Z,1μm,0.7s						
R32A	**Long Quarter,**	**4.96**	**76**		**Pn**	**23 47 26.6**	**+0.5**
R32A	**Long Quarter,**	**4.96**	**76**	P	**Pn**	**23 47 27.1**	**+0.9**
	baz=259,SNR=6.7						
X18A	**Snowflake**	**5.02**	**237**		**Pn**	**23 47 27.6**	**+0.6**
X18A				IAML		23 48 59.4	
	comp=N,208nm,1.1s						
P17A	**Butcher Ranch,**	**5.08**	**296**		**Pn**	**23 47 30.3**	**+2.4**
P17A				IAML		23 48 50.8	
	comp=N,158nm,1.1s						
P17A				IAML		23 48 58.3	
	comp=E,221nm,0.8s						
POST	**Post**	**5.09**	**146**	Pn	**Pn**	**23 47 28.2**	**+0.2**
POST				IAmb_Lg		23 48 56.1	
	comp=Z,250nm,1.0s						
Q16A	**Castle Valley**	**5.22**	**289**		**Pn**	**23 47 31.8**	**+2.0**
121A	**Cookes Peak, D**	**5.39**	**207**	Pn	**Pn**	**23 47 32.2**	**0.0**
121A				IAML		23 49 07.7	
	comp=N,99nm,1.4s						
121A				IAML		23 49 16.4	
	comp=E,116nm,0.8s						
121A	**Cookes Peak, D**	**5.39**	**207**	P	**Pn**	**23 47 32.6**	**+0.4**
	baz=26,SNR=30						
121A	**Cookes Peak, D**	**5.39**	**207**	P	**Pn**	**23 47 32.4**	**+0.2**
	baz=26,SNR=30						
K22A	**Casper**	**5.43**	**347**	P	**Pn**	**23 47 34.6**	**+2.0**
	baz=166,SNR=6.7						
KAN12	**Harper NE Stat**	**5.46**	**89**	Pn	**Pn**	**23 47 33.6**	**+0.7**
KAN08	**Anthony NE Sta**	**5.48**	**89**	Pn	**Pn**	**23 47 34.4**	**+1.1**
KAN14	**Manchester OK**	**5.51**	**92**	Pn	**Pn**	**23 47 34.1**	**+0.5**
KAN14				IAmb_Lg		23 49 18.7	
	comp=Z,471nm,1.1s						
SN01	**Snyder 1**	**5.54**	**143**		**Pn**	**23 47 34.7**	**+0.6**
SN01				IAmb_Lg		23 49 11.6	
	comp=Z,288nm,0.8s						
CROK	**Carrier**	**5.56**	**97**		**Pn**	**23 47 35.0**	**+0.7**
CROK				IAmb_Lg		23 49 19.4	
	comp=Z,320nm,0.8s						

ODSA Odessa 5.57 159 lAmb_Lg 23 49 11.1
comp=Z,274nm,1.1s
KAN06 Argonia West S 5.57 89 lAmb_Lg 23 49 20.0
comp=Z,495nm,1.0s
WMOK Wichita Mounta 5.57 116 Pn **Pn** **23 47 34.2 -0.2**
WMOK lAmb_Lg 23 49 18.3
comp=Z,324nm,1.0s
WMOK Wichita Mounta 5.57 116 Pb **Pb** **23 47 48.3 -0.3**
baz=299,SNR=16
WUAZ Wupatki 5.58 253 Pn **Pn** **23 47 36.0 +1.3**
WUAZ Wupatki 5.58 253 P **Pn** **23 47 36.2 +1.5**
baz=70,SNR=27
APMT Aspermont 5.58 135 **Pn** **23 47 35.0 +0.4**
APMT lAmb_Lg 23 49 21.0
comp=Z,399nm,0.9s
BSUT Blindstream Ca 5.59 306 Pn **Pn** **23 47 37.1 +2.0**
GC02 Grant County # 5.61 93 Pn **Pn** **23 47 35.3 +0.4**
KAN01 Argonia South 5.66 90 lAmb_Lg 23 49 09.4
comp=Z,454nm,1.1s
KAN17 Caldwell West 5.66 91 **Pn** **23 47 36.4 +0.7**
KAN17 lAmb_Lg 23 49 21.0
comp=Z,369nm,0.8s
MNTX Cornudas Mount 5.67 185 P **Pn** **23 47 39.1 +3.2**
baz=4.2,SNR=111
KAN09 Caldwell North 5.77 90 **Pn** **23 47 37.4 +0.2**
KAN09 lAmb_Lg 23 49 14.9
comp=Z,448nm,0.9s
KAN13 South Haven SW 5.89 91 Pn **Pn** **23 47 39.4 +0.5**
KAN13 lAmb_Lg 23 49 26.4
comp=Z,294nm,0.8s
PECS Pecos 6.04 172 lAmb_Lg 23 49 33.3
comp=Z,222nm,0.8s
U15A North Rim 6.04 263 Pn **Pn** **23 47 42.7 +1.5**
X16A Lo Mia Camp, P 6.11 243 **Pn** **23 47 42.7 +0.7**
SGCY Sterling City 6.25 150 lAmb_Lg 23 49 32.7
comp=Z,561nm,1.1s
MNHN Monahans 6.26 163 **Pn** **23 47 45.0 +1.1**
MNHN lAmb_Lg 23 49 32.9
comp=Z,365nm,0.9s
OKCSW OKLAHOMA CITY 6.29 106 lAmb_Lg 23 49 32.8
comp=Z,339nm,0.8s
WTFS Witchita Falls 6.32 123 Pn **Pn** **23 47 45.5 +0.8**
WTFS lAmb_Lg 23 49 43.8
comp=Z,143nm,0.8s
FNO Franklin 6.37 107 Pn **Pn** **23 47 45.2 -0.2**
ABTX Abilene, Hawle 6.37 136 Pn **Pn** **23 47 45.6 +0.1**
ABTX lAmb_Lg 23 49 35.2
comp=Z,347nm,1.0s
ABTX Abilene, Hawle 6.37 136 P **Pn** **23 47 45.7 +0.1**
baz=319,SNR=12
ABTX Abilene, Hawle 6.37 136 P **Pn** **23 47 45.8 +0.2**
baz=319,SNR=12
OK048 Pawnee Station 6.40 96 **Pn** **23 47 45.7 -0.2**
OK048 lAmb_Lg 23 49 41.4
comp=Z,353nm,0.9s
OK051 E0350 and S346 6.47 95 lAmb_Lg 23 49 43.9
comp=Z,282nm,0.7s
OK033 Mehan 6.49 99 **Pn** **23 47 47.8 +0.8**
PD31 Pinedale Array 6.49 328 Pn **Pn** **23 47 48.2 +0.9**
PDAR Pinedale Array 6.49 328 **Pn** **23 47 48.6 +1.3**
PDAR Pinedale Array 6.49 328 Pn **Pn** **23 47 48.8 +1.5**
comp=Z,1.3nm,0.3s,baz=135,slow=15,SNR=26
PDAR Lg Lg 23 49 34.6
comp=Z,3.4nm,0.3s,baz=130,slow=27,SNR=3.0
comp=Z,3.9nm,0.6s
425A Indio Mountain 6.57 181 lAmb_Lg 23 49 44.0
comp=Z,264nm,1.1s
BGNE Belgrade 6.57 50 Pn **Pn** **23 47 49.6 +1.4**
BGNE Belgrade 6.57 50 P **Pn** **23 47 49.5 +1.4**
baz=234,SNR=8.1
BGNE Belgrade 6.57 50 P **Pn** **23 47 49.8 +1.6**
baz=234,SNR=8.1
QUOK Quay 6.64 98 **Pn** **23 47 50.3 +1.1**
N33A J Bar K, Exete 6.67 57 lAmb_Lg 23 49 47.4
comp=Z,347nm,0.8s
T35A Sooner Cattle 6.67 91 Pn **Pn** **23 47 50.1 +0.5**
T35A lAmb_Lg 23 49 46.8
comp=Z,336nm,0.7s
T35B Sooner Cattle 6.67 91 P **Pn** **23 47 50.4 +0.8**
baz=276,SNR=60
KSU1 Kansas State U 6.71 73 lAmb_Lg 23 49 53.6
comp=Z,388nm,1.0s
KSU1 Kansas State U 6.71 73 P **Pn** **23 47 50.4 +0.3**
baz=257
LCMT Little Creek M 6.71 269 **Pn** **23 47 51.9 +1.6**
RSSD Black Hills 6.77 5 Pn **Pn** **23 47 52.2 +1.1**
RSSD Black Hills 6.77 5 P **Pn** **23 47 52.3 +1.1**
baz=186
RSSD Black Hills 6.77 5 P **Pn** **23 47 52.8 +1.7**
baz=186,SNR=24
W35A Tecumseh 6.81 107 Pn **Pn** **23 47 50.9 -0.6**
DUG Dugway, Tooele 6.83 297 P **Pn** **23 47 54.1 +2.2**
baz=113
PLPT Palo Pinto 7.02 128 Pn **Pn** **23 47 54.7 +0.3**
PLPT lAmb_Lg 23 50 12.9
comp=Z,130nm,0.7s
TUC Tucson 7.02 226 lAmb_Lg 23 49 55.7
comp=Z,19nm,0.8s
TUC Tucson 7.02 226 lAmb_Lg 23 49 55.8
comp=Z,18nm,0.8s
FW03 Perrin-Whitt E 7.03 126 lAmb_Lg 23 50 11.1
comp=Z,163nm,0.8s
ALPN Alpine 7.05 171 lAmb_Lg 23 50 02.2
comp=Z,265nm,1.2s
LOOK Love County 7.09 116 lAmb_Lg 23 50 06.6
comp=Z,214nm,0.7s
OZNA Ozona 7.13 153 lAmb_Lg 23 49 58.1
comp=Z,230nm,1.0s
Z35A Perchaven, San 7.40 121 lAmb_Lg 23 50 13.3
comp=Z,353nm,1.2s
FW06 Azle 7.41 124 lAmb_Lg 23 50 14.4
comp=Z,151nm,0.8s
TUL3 Leonard 7.42 99 Pn **Pn** **23 47 59.8 -0.1**
TUL3 Leonard 7.42 99 P **Pn** **23 47 60.0 +0.1**
baz=283,SNR=24
TUL3 Leonard 7.42 99 P **Pn** **23 48 00.7 +0.8**
baz=283,SNR=24
FW07 Weatherford 7.43 127 lAmb_Lg 23 50 18.1
comp=Z,392nm,1.2s
SAND Sanderson 7.74 162 Pn **Pn** **23 48 03.6 -0.6**
SAND lAmb_Lg 23 50 24.9
comp=Z,154nm,0.9s
BRDY Brady 7.76 140 Pn **Pn** **23 48 03.5 -1.0**
BRDY lAmb_Lg 23 50 27.9
comp=Z,166nm,0.8s
FW13 Cleburne 7.88 127 lAmb_Lg 23 50 36.9
comp=Z,326nm,1.2s
N35A Tabor 7.96 61 P **Pn** **23 48 09.0 +1.8**
baz=246
RLO Rose Lookout 7.97 96 lAmb_Lg 23 50 32.9
comp=Z,196nm,0.9s
FW14 Alvarado 8.01 126 lAmb_Lg 23 50 37.4
comp=Z,236nm,0.9s
JCT Junction City 8.05 147 lAmb_Lg 23 50 39.6
comp=Z,328nm,1.0s
JCT Junction City 8.05 147 P **Pn** **23 48 08.4 -0.1**
baz=330
JCT Junction City 8.05 147 P **Pn** **23 48 08.6 +0.1**
baz=330
TX31 Lajitas Ar. Si 8.07 173 Pn **Pn** **23 48 09.1 +0.1**
TX31 Lajitas Ar. Si 8.07 173 P **Pn** **23 48 10.0 +1.1**
baz=353,SNR=17
TXAR Lajitas Array 8.07 173 **Pn** **23 48 09.4 +0.4**
TXAR Lajitas Array 8.07 173 Pn **Pn** **23 48 10.1 +1.1**
comp=Z,0.9nm,0.3s,baz=1.1,slow=11,SNR=64
TXAR Lg Lg 23 50 18.3
comp=Z,3.4nm,0.3s,baz=358,slow=33,SNR=3.7
TXAR LR LR 23 51 22.9
comp=Z,175nm,18.2s,baz=340,slow=39
comp=Z,1.9nm,0.5s
WHTX Lake Whitney, 8.11 129 Pn **Pn** **23 48 09.2 -0.1**
WHTX lAmb_Lg 23 50 37.1
comp=Z,255nm,1.1s
WHTX Lake Whitney, 8.11 129 P **Pn** **23 48 09.3 -0.1**
baz=313
FW16 Waxahatchie 8.15 124 lAmb_Lg 23 50 35.5
comp=Z,532nm,1.2s
SUSD Miller 8.35 30 Pn **Pn** **23 48 14.1 +1.5**
SUSD Miller 8.35 30 P **Pn** **23 48 13.8 +1.2**
baz=214,SNR=8.1
SUSD Miller 8.35 30 P **Pn** **23 48 14.7 +2.1**
baz=214,SNR=8.1
RLMT Red Lodge 8.43 338 P **Pn** **23 48 16.0 +2.2**
baz=156
U38A Gravette 8.43 93 Pn **Pn** **23 48 13.8 +0.1**
U38A Gravette 8.43 93 P **Pn** **23 48 14.0 +0.2**
baz=279,SNR=78

TREL Terrell 8.54 120 lAmb_Lg 23 50 49.0
comp=Z,269nm,0.9s
R11B Troy Canyon, C 8.55 280 Pn **Pn** **23 48 16.7 +1.1**
R11B Troy Canyon, C 8.55 280 P **Pn** **23 48 15.9 +0.4**
baz=94,SNR=10
DRIO Del Rio 8.68 155 lAmb_Lg 23 50 48.9
comp=Z,175nm,0.9s
ELK Elko 8.76 296 Pn **Pn** **23 48 16.8 -1.7**
comp=Z,0.1nm,0.3s,baz=92,slow=17,SNR=1.9
ELK Lg Lg 23 50 43.4
comp=Z,0.1nm,0.3s,baz=360,slow=17,SNR=1.6
ELK LR LR 23 52 08.7
comp=Z,202nm,18.6s,baz=102,slow=41
comp=Z,0.3nm,0.3s
HHAR Hobbs 8.81 94 Pn **Pn** **23 48 18.8 -0.1**
435B Jarrell 8.91 135 Pn **Pn** **23 48 22.3 +2.0**
435B lAmb_Lg 23 51 02.4
comp=Z,273nm,0.9s
435B Jarrell 8.91 135 P **Pn** **23 48 20.4 +0.1**
baz=319
ECSD EROS Data Cent 8.92 42 Pn **Pn** **23 48 21.4 +1.0**
ECSD EROS Data Cent 8.92 42 P **Pn** **23 48 21.6 +1.2**
baz=227,SNR=25
HNDO Hondo 9.10 148 lAmb_Lg 23 51 08.0
comp=Z,224nm,0.9s
P38A Dawn 9.15 72 Pn **Pn** **23 48 23.0 -0.6**
P38A Dawn 9.15 72 P **Pn** **23 48 22.9 -0.6**
baz=259,SNR=12
S39A Bolivar 9.16 84 Pn **Pn** **23 48 24.1 +0.3**
237A Washetta, Mont 9.17 123 Pn **Pn** **23 48 22.6 -1.2**
LAO LASA Array 9.37 354 P **Pn** **23 48 27.3 +0.7**
baz=173,SNR=5.8
HLID Hailey 9.56 313 P **Pn** **23 48 29.4 +0.1**
baz=128,SNR=7.9
U40A Yellville 9.66 92 P **Pn** **23 48 29.8 -0.8**
baz=279,SNR=12
U40A P **Pn** **23 48 29.8 -0.8**
baz=279,SNR=12
E28A Huff 9.70 17 lAmb_Lg 23 51 22.7
comp=Z,155nm,0.8s
EF01 Eagle Ford 01 9.84 145 lAmb_Lg 23 51 33.1
comp=Z,157nm,1.1s
R40A Maddies Statio 9.99 81 Pn **Pn** **23 48 34.5 -0.7**
NVAR Mina Array Bea 10.69 280 Pn **Pn** **23 48 46.4 +1.5**
comp=Z,0.1nm,0.3s,baz=98,slow=13,SNR=3.3
NVAR Lg Lg 23 51 39.9
comp=Z,0.1nm,0.3s,baz=77,slow=29,SNR=1.2
NVAR LR LR 23 53 20.1
comp=Z,272nm,18.3s,baz=88,slow=41
comp=Z,0.4nm,0.6s
CCM Cathedral Cave 10.80 82 P **Pn** **23 48 45.3 -0.8**
baz=270
SPMN Marine on St. 11.97 45 P **Pn** **23 49 02.6 +0.4**
baz=233,SNR=6.5
F36A Milaca 11.98 41 P **Pn** **23 49 01.6 -0.7**
baz=229,SNR=12
L42A Oliver, Polo 12.57 64 Pn **Pn** **23 49 08.3 -2.1**
OXF Oxford 12.83 98 P **Pn** **23 49 12.4 -1.5**
baz=287,SNR=8.8
LPIG La Paz 14.03 201 LR LR 23 54 50.4
comp=Z,75nm,18.7s,baz=14,slow=37
NEW Newport 14.11 324 Pn **Pn** **23 49 31.4 0.0**
comp=Z,0.1nm,0.3s,baz=120,slow=14,SNR=1.8
NEW LR LR 23 55 18.9
comp=Z,302nm,18.2s,baz=141,slow=39
comp=Z,0.8nm,0.7s
ULM Lac du Bonnet 14.40 24 Pn **Pn** **23 49 32.7 -2.6**
comp=Z,0.8nm,0.3s,baz=204,slow=10,SNR=8.8
ULM Lg Lg 23 53 36.6
comp=Z,1.3nm,0.3s,baz=147,slow=17,SNR=2.7
comp=Z,1.8nm,0.3s
CLTN Cedars of Leba 14.90 89 Pn **Pn** **23 49 40.2 -2.1**
DBO Dodson Butte 15.17 298 Pn **Pn** **23 49 46.0 +0.2**
LRAL Lakeview Retre 15.22 101 Pn **Pn** **23 49 44.0 -2.4**
LRAL lAmb lAmb 23 49 59.9
comp=Z,5.5nm,0.9s
U49A Red Boiling Sp 15.27 87 Pn **Pn** **23 49 45.2 -2.0**
U49A lAmb lAmb 23 49 59.4
comp=Z,8.0nm,0.9s
LTY Liberty 15.29 315 Pn **Pn** **23 49 49.2 +1.8**
LTY lAmb lAmb 23 49 57.0
comp=Z,5.2nm,0.8s
P48A Milroy 15.37 76 Pn **Pn** **23 49 46.1 -2.3**
Y49A Blount Mountai 15.40 98 Pn **Pn** **23 49 45.9 -2.9**
Y49A lAmb lAmb 23 50 12.3
comp=Z,11nm,1.1s
SWET Sewanee 15.40 92 Pn **Pn** **23 49 47.4 -1.6**
SWET lAmb lAmb 23 50 05.2
comp=Z,13nm,1.3s
D41A Chassel 15.44 46 Pn **Pn** **23 49 47.4 -1.9**
FPAL Fort Paine 15.83 94 Pn **Pn** **23 49 51.8 -2.7**
FPAL lAmb lAmb 23 50 03.1
comp=Z,16nm,1.3s
W50A Signal Mountai 15.90 92 Pn **Pn** **23 49 54.6 -0.8**
T50A Nancy 15.95 85 Pn **Pn** **23 49 54.1 -1.9**
N49A Columbus Grove 16.41 71 Pn **Pn** **23 49 57.4 -4.5**
N49A lAmb lAmb 23 50 09.1
comp=Z,20nm,1.1s
CPCT Cooper Cave 16.48 91 Pn **Pn** **23 50 01.0 -1.8**
V51A Loudon 16.54 89 Pn **Pn** **23 50 02.1 -1.5**
V51A lAmb lAmb 23 50 15.2
comp=Z,12nm,0.9s
TKL Tuckaleechee C 17.03 89 P **Pn** **23 50 09.3 -0.5**
comp=Z,0.6nm,0.3s,baz=212,slow=7.2,SNR=10
TKL Lg Lg 23 54 57.3
comp=Z,0.7nm,0.3s,baz=179,slow=20,SNR=2.4
TKL LR LR 23 56 47.7
comp=Z,134nm,19.6s,baz=292,slow=37
comp=Z,4.7nm,0.6s
SADO Sadowa 20.69 61 P **P** **23 50 51.4 -0.4**
comp=Z,9.8nm,0.9s,baz=345,slow=12,SNR=3.4
comp=Z,9.8nm,0.9s
CMIG Matias Romero 22.03 154 P **P** **23 51 05.7 -0.7**
comp=Z,0.6nm,0.3s,baz=284,slow=4.2,SNR=1.7
CMIG LR LR 00 00 07.0
comp=Z,24nm,18.7s,baz=357,slow=38
comp=Z,0.6nm,0.3s
BBB Bella Bella 22.05 320 LR LR 00 00 13.1
comp=Z,91nm,19.8s,baz=135,slow=38
TEIG Tepich 22.36 135 LR LR 00 00 42.1
comp=Z,506nm,19.0s,baz=183,slow=39
YKA Yellowknife Ar 25.86 350 P **P** **23 51 42.9 -0.4**
comp=Z,2.1nm,0.9s,baz=165,slow=9.2,SNR=14
YKA PcP **PcP** **23 55 12.3 +0.1**
comp=Z,0.6nm,0.6s,baz=163,slow=2.4,SNR=5.8
YKA LR LR 00 01 24.1
comp=Z,49nm,19.9s,baz=302,slow=35
comp=Z,2.1nm,0.9s
INK Inuvik 34.82 342 LR LR 00 09 30.5
comp=Z,54nm,21.0s,baz=2.0,slow=40
ILAR Eielson Array 36.90 331 P **P** **23 53 21.6 +1.3**
comp=Z,1.0nm,0.8s,baz=128,slow=7.4,SNR=16
ILAR PcP **PcP** **23 55 42.1 +0.4**
comp=Z,0.3nm,0.8s,baz=130,slow=2.6,SNR=2.6
comp=Z,1.0nm,0.8s
KDAK Kodiak Island 37.12 319 LR LR 00 07 33.1
comp=Z,119nm,18.5s,baz=103,slow=35
RES Resolute Bay 37.70 4 LR LR 00 09 22.7
comp=Z,88nm,21.0s,baz=1.0,slow=37
SDV Santo Domingo 41.95 124 LR LR 00 13 29.8
comp=Z,26nm,21.7s,baz=269,slow=39
ROSC El Rosal 42.73 132 LR LR 00 13 56.7
comp=Z,41nm,21.5s,baz=316,slow=39
MA2 Magadan 65.20 327 LR LR 00 28 57.5
comp=Z,28nm,18.5s,baz=124,slow=39
SIV San Ignacio 67.18 134 LR LR 00 30 55.1
comp=Z,24nm,18.5s,baz=278,slow=40
BDFB Brasilia 75.05 123 LR LR 00 32 22.8
comp=Z,15nm,21.5s,baz=98,slow=37
MDT Midelt 78.07 58 LR LR 00 29 32.3
comp=Z,65nm,18.7s,baz=293,slow=33
BVAR Borovoye Array 89.88 3 P **P** **23 59 10.9 +0.1**
comp=Z,1.1nm,0.7s,baz=343,slow=3.1,SNR=6.8
comp=Z,1.1nm,0.7s
SONM Songino Array 90.71 340 P **P** **23 59 15.9 +0.9**
comp=Z,0.8nm,0.8s,baz=10,slow=3.5,SNR=5.7
SONM LR LR 00 46 10.4
comp=Z,38nm,18.8s,baz=240,slow=40
comp=Z,0.8nm,0.8s
HHC Hu-ho-hao-te 95.31 333 *e*P **P** **23 59 33.3 -3.0**
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,220nm,6.1s
MKAR Makanchi Array 95.97 355 P **P** **23 59 38.1 -1.0**
comp=Z,0.3nm,0.8s,baz=2.2,slow=3.9,SNR=3.0
comp=Z,0.3nm,0.8s
CMAR Chiang Mai Arr 120.12 334 PKP **PKiKP** **00 05 04.4 +0.8**
comp=Z,0.3nm,0.4s,baz=280,slow=2.7,SNR=1.8
WRA Warramunga Arr 126.08 271 PKP **PKPdf** **00 05 15.0 +0.2**
comp=Z,0.6nm,1.0s,baz=68,slow=2.6,SNR=3.0
QSPA South Pole Qui 127.21 180 PKP **PKPdf** **00 05 15.5 -0.1**
comp=Z,1.2nm,0.6s,baz=180,slow=1.0,SNR=8.8
ASAR Alice Springs 128.33 268 PKP **PKPdf** **00 05 18.9 -0.1**
comp=Z,0.2nm,0.6s,baz=67,slow=2.4,SNR=1.8

*NEIC **31** 00:13:03.0±1.3, 15°.80S±0°.10×173°.93W±0°.07, h129km±9km, mb4.2/13, Error ellipse: s-maj=14.6km s-min=9.2km az=162.0*
*IDC **31** 00:13:17.3±9.5, 16°.45S×173°.79W, h283km±88km, mb3.4/5, mbtmp4.0/6, Error ellipse: s-maj=116.8km s-min=30.6km az=144.0*
ISC 31 00:13:01.4±0.7, 15°.86S±0°.08×173°.94W±0°.08, h115km, n23, σ1°.29/25, mb4.2/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.85**	**47**		**Pn**	**00 13 47.3**	**+1.6**
AFI				Sn	**Sn**	**00 14 19.0**	**-0.7**
NIUE	**Niue**	**4.99**	**130**	Pn	**Pn**	**00 14 15.8**	**+1.6**
NIUE				Sn	**Sn**	**00 15 08.9**	**-1.9**
PINNC	**Pines Island,**	**18.81**	**246**	P	**P**	**00 17 13.0**	**+0.9**
PINNC				IAmb	IAmb	00 17 26.6	
comp=Z,16nm,0.9s							
OUENC	**Ouen Island, N**	**19.28**	**247**	P	**P**	**00 17 19.2**	**+1.9**
OUENC				IAmb	IAmb	00 17 25.2	
comp=Z,9.9nm,0.8s							
DZM	**Mont Dzumac**	**19.55**	**249**	P	**P**	**00 17 20.9**	**+0.6**
DZM				IAmb	IAmb	00 17 34.4	
comp=Z,15nm,1.3s							
DZM	**Mont Dzumac**	**19.55**	**249**	P	**Pn**	**00 17 23.9**	**+1.3**
comp=Z,3.8nm,0.7s,baz=105,slow=18,SNR=3.9							
RTZ	**Ruatahuna**	**24.04**	**198**	P	**P**	**00 18 05.8**	**-0.1**
RTZ				IAmb	IAmb	00 18 33.0	
comp=Z,11nm,1.2s							
MRZ	**Mangatainoka R**	**26.34**	**198**	P	**P**	**00 18 28.5**	**+1.9**
STKA	**Stephens Creek**	**43.36**	**240**	P	**P**	**00 20 51.7**	**-0.7**
STKA	**Stephens Creek**	**43.36**	**240**	P	**P**	**00 20 49.9**	**-2.6**
comp=Z,2.4nm,0.8s,baz=74,slow=5.3,SNR=4.0							
comp=Z,2.4nm,0.8s							
BBOO	**Buckleboo**	**48.13**	**240**	P	**P**	**00 21 28.6**	**-1.4**
WR0	**Warramunga Arr**	**49.04**	**257**	P	**P**	**00 21 36.8**	**-0.4**
WR0				IAmb	IAmb	00 21 39.5	
comp=Z,5.0nm,1.4s							
WRA	**Warramunga Arr**	**49.23**	**257**	P	**P**	**00 21 37.2**	**-1.5**
WRA	**Warramunga Arr**	**49.23**	**257**	P	**P**	**00 21 38.0**	**-0.7**
comp=Z,0.9nm,0.4s,baz=94,slow=6.8,SNR=30							
comp=Z,0.9nm,0.4s							
AS31	**Alice Springs**	**49.47**	**252**	P	**P**	**00 21 39.6**	**-0.9**
AS31				IAmb	IAmb	00 21 41.4	
comp=Z,2.5nm,0.7s							
ASAR	**Alice Springs**	**49.48**	**252**	P	**P**	**00 21 39.3**	**-1.2**
ASAR	**Alice Springs**	**49.48**	**252**	P	**P**	**00 21 39.9**	**-0.6**
comp=Z,10nm,0.7s,baz=86,slow=7.8,SNR=178							
comp=Z,10nm,0.7s							
FORT	**Forrest**	**54.75**	**243**	P	**P**	**00 22 18.2**	**-1.2**
QSPA	**South Pole Qui**	**74.19**	**180**	P	**P**	**00 24 26.1**	**+0.7**
J18K	**Innoko River**	**80.20**	**8**	P	**P**	**00 24 58.4**	**-0.3**
J18K				IAmb	IAmb	00 25 11.6	
comp=Z,11nm,1.4s							
PDAR	**Pinedale Array**	**82.95**	**42**	P	**P**	**00 25 13.3**	**-0.7**
comp=Z,0.3nm,0.5s,baz=238,slow=5.2,SNR=3.9							
comp=Z,0.3nm,0.5s							
ILAR	**Eielson Array**	**82.99**	**11**	P	**P**	**00 25 13.0**	**-0.4**
comp=Z,0.3nm,0.9s,baz=230,slow=6.0,SNR=6.3							
comp=Z,0.3nm,0.9s							
IMAR	**Indian Mountai**	**83.00**	**8**	P	**P**	**00 25 13.3**	**-0.1**

*UPP **31** 00:53:58.3±0.1, 67°.17N×20°.71E, h0km, ML2.7, Confirmed Induced event*
*HEL **31** 00:53:59.8±0.5, 67°.18N×20°.75E, h0km, ML1.1, Suspected explosion*
ISC 31 00:53:58.3±0.8, 67°.17N±0°.02×20°.75E±0°.03, h0km, n21, σ0°77/35, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.08**	**238**	P	**Pg**	**00 53 59.9**	**+0.1**
DUNU				S	**Sg**	**00 54 01.0**	**+0.2**
RATU	**Laukkuluspa**	**0.80**	**327**	P	**Pg**	**00 54 12.9**	**-0.6**
ERTU	**Ertsjaerv**	**0.84**	**136**	P	**Pg**	**00 54 14.2**	**-0.1**
ERTU				S	**Sg**	**00 54 25.3**	**+0.2**
ERTU	**Ertsjaerv**	**0.84**	**136**	PG	**Pg**	**00 54 14.2**	**-0.1**
ERTU				SB	**Sb**	**00 54 26.9**	**-0.6**
SALU	**Saltoluokta**	**0.90**	**285**	P	**Pg**	**00 54 15.5**	**+0.1**
LANU	**Lannavaara**	**1.01**	**28**	P	**Pg**	**00 54 17.6**	**+0.1**
LANU	**Lannavaara**	**1.01**	**28**	PB	**Pg**	**00 54 17.8**	**+0.3**
LANU				SN	**Sb**	**00 54 33.3**	**+0.9**
HARU	**Harads**	**1.01**	**175**	P	**Pb**	**00 54 18.2**	**-0.4**
HARU				S	**Sg**	**00 54 31.4**	**+0.8**
KLF	**Kolari**	**1.26**	**85**	PG	**Pg**	**00 54 22.2**	**-0.2**
baz=269							
KLF				MSG		00 54 37.6	
comp=Z,1.2nm,0.2s							
KLF				SN	**Sn**	**00 54 40.4**	**-0.3**
HEF	**Hetta**	**1.67**	**40**	PG	**Pn**	**00 54 29.3**	**+0.6**
baz=226							
HEF				MSG		00 54 49.3	
comp=Z,1.4nm,0.2s							
HEF				SN	**Sb**	**00 54 51.6**	**+0.2**
KALU	**Kalix**	**1.68**	**140**	P	**Pn**	**00 54 28.9**	**+0.1**
KALU	**Kalix**	**1.68**	**140**	PG	**Pb**	**00 54 29.9**	**-0.1**
baz=321							
KALU				SN	**Sg**	**00 54 54.3**	**+2.3**
SJUU	**Sjulsmark**	**1.70**	**168**	P	**Pn**	**00 54 29.2**	**+0.1**
TOF	**Tornio**	**1.80**	**126**	PG	**Pb**	**00 54 31.9**	**-0.1**
TOF				MSG		00 54 53.7	
comp=Z,0.9nm,0.2s							
TOF				SG	**Sg**	**00 54 56.8**	**+0.9**
KIF	**Kilpisjarvi**	**1.85**	**1**	PG	**Pb**	**00 54 33.0**	**+0.1**
KIF				MSG		00 54 55.5	
comp=Z,1.9nm,0.2s							
KIF				SG	**Sg**	**00 54 58.2**	**+0.6**
KTK1	**Kautokeino**	**2.08**	**26**	PG	**Pb**	**00 54 36.9**	**+0.1**
KTK1				SG	**Sb**	**00 55 03.9**	**+0.7**
RNF	**Rovaniemi**	**2.15**	**103**	PG	**Pb**	**00 54 38.4**	**+0.4**
RNF				SG	**Sg**	**00 55 07.2**	**-0.2**
SGF	**Sodankyl**	**2.26**	**80**	PG	**Pb**	**00 54 39.9**	**0.0**
baz=265							
SGF				SG	**Sg**	**00 55 10.6**	**-0.2**
TRO	**Tromso**	**2.57**	**346**	SG	**Sg**	**00 55 20.3**	**-0.4**
ARA0	**ARCESS Array S**	**2.96**	**34**	PN	**Pn**	**00 54 47.2**	**+0.7**
ARA0				SB	**Sb**	**00 55 27.7**	**-0.9**
VRF	**Varrio**	**3.46**	**76**	SN	**Sn**	**00 55 32.4**	**-2.7**

BER 31 01:19:36.2±0.6, 71°.47N×7°.33W, h3km±999km, ML2.7, Confirmed Earthquake, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.57**	**214**	*e*P	Pg	01 19 47.0	-0.1
JNE				IAML		01 19 59.8	
comp=Z,205nm,0.2s							
JMIC	**Jan Mayen**	**0.62**	**219**	*e*P	Pg	01 19 47.8	-0.2
JMIC				*e*S	Sg	01 19 56.7	+0.8
JMIC				IAML		01 19 57.0	
comp=Z,330nm,0.2s							
JMI	**Jan Mayen**	**0.71**	**221**	*e*P	Pg	01 19 49.8	+0.1
JMI				*e*S	Sg	01 19 58.9	0.0
JMI				IAML		01 20 01.1	
comp=Z,398nm,0.3s							
DAG	**Danmarks Havn**	**6.16**	**335**	*i* P	Pn	01 21 14.0	+6.2
DAG				*i* S	Sn	01 22 22.1	+3.5

*IDC **31** 01:45:16.8±3.0, 9°.06S×123°.56E, h84km±26km, mb4.3/17, mbtmp4.6/19, MS3.5/16, Error ellipse: s-maj=24.6km s-min=12.4km az=73.0*
*DJA **31** 01:45:18.3±0.1, 9°.5±2°×12°.4E±°, h92km±2km, M4.9/35, mb5.0/35, mB5.5/19, MLv4.8/11, Mw4.5/63, Mw(mB)5.0/19*
*NEIC **31** 01:45:18.3±2.1, 9°.37S±0°.07×123°.47E±0°.05, h103km±5km, mb4.6/40, Error ellipse: s-maj=12.0km s-min=4.8km az=213.0*
ISC 31 01:45:19.0±0.4, 9°.35S±0°.04×123°.54E±0°.05, h109km±3km, h110km:pP-P, n192, σ2°.23/198, mb4.6/41, 2D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.83**	**120**	Pn	**Pn**	**01 45 37.8**	**-0.8**
SOEI	**Soe**	**0.83**	**120**	P	**Pn**	**01 45 37.6**	**-1.0**
MMRI	**Maumere**	**1.47**	**299**	Pn	**Pn**	**01 45 43.9**	**-1.4**
MMRI				Sn	**Sn**	**01 46 02.9**	**-2.5**
MMRI	**Maumere**	**1.47**	**299**	P	**Pn**	**01 45 44.5**	**-0.9**
MMRI	**Maumere**	**1.47**	**299**	P	**Pn**	**01 45 43.5**	**-1.9**
MMRI				S	**Sn**	**01 46 02.9**	**-2.5**
EDFI	**Ende, Flores**	**1.92**	**288**	P	**Pn**	**01 45 50.2**	**-0.9**
EDFI				S	**Sn**	**01 46 13.3**	**-2.2**
BASI	**Baing, Sumba**	**3.04**	**253**	P	**Pn**	**01 46 06.0**	**+0.4**
BBSI	**Bau Bau**	**3.95**	**346**	P	**Pn**	**01 46 17.0**	**-0.8**
BKSI	**Bulukumba**	**5.24**	**319**	P	**Pn**	**01 46 34.2**	**-0.9**
KAPI	**Kappang**	**5.71**	**319**	Pn	**Pn**	**01 46 40.9**	**-0.6**
KAPI	**Kappang** 115nm,0.9s,baz=129,slow=9.7,SNR=34	**5.71**	**319**	P	**Pn**	**01 46 41.4**	**-0.1**
KAPI				LR	LR	01 49 06.4	
	comp=Z,513nm,19.2s,baz=132,slow=42						
PLAI	**Plampang**	**5.71**	**275**	P	**Pn**	**01 46 42.3**	**+0.8**
PLAI	**Plampang** 313nm,0.6s,4μm1.8nm	**5.71**	**275**	P	**Pn**	**01 46 41.4**	**-0.1**
SPSI	**Sidrap Palu**	**6.53**	**325**	P	**Pn**	**01 46 51.9**	**-0.7**
TWSI	**Taliwang, Sumb** 140nm,0.6s,2μm1.2nm	**6.60**	**275**	P	**Pn**	**01 46 52.8**	**-0.8**
NLAI	**Namlea**	**7.02**	**30**	P	**Pn**	**01 46 59.2**	**-0.1**
TTSI	**Tana Toraja** 94nm,1.8s,1μm0.3nm	**7.27**	**329**	P	**Pn**	**01 47 02.6**	**0.0**
SANI	**Sanana**	**7.65**	**19**	P	**Pn**	**01 47 08.7**	**+0.9**
SANI	**Sanana** 54nm,1.2s,739nm0.2nm	**7.65**	**19**	P	**Pn**	**01 47 07.3**	**-0.5**
SAUI	**Saumlaki**	**7.79**	**81**	Pn	**Pn**	**01 47 07.8**	**-2.0**
SAUI	**Saumlaki**	**7.79**	**81**	P	**Pn**	**01 47 09.1**	**-0.7**
KNRA	**Kununurra** baz=8.2,SNR=246	**8.10**	**141**	P	**Pn**	**01 47 11.6**	**-2.3**
KNRA				S	**Sn**	**01 48 36.9**	**-7.0**
	baz=8.2						
KNRA	**Kununurra**	**8.10**	**141**	Pn	**Pn**	**01 47 12.3**	**-1.6**
KNRA	**Kununurra**	**8.10**	**141**	P	**Pn**	**01 47 11.9**	**-2.0**
MTN	**Manton Dam** baz=8.3,SNR=139	**8.22**	**116**	P	**Pn**	**01 47 13.6**	**-2.0**
MTN				S	**Sn**	**01 48 40.4**	**-6.5**
	baz=8.3						
MTN	**Manton Dam**	**8.22**	**116**	Pn	**Pn**	**01 47 14.5**	**-1.1**
MTN	**Manton Dam**	**8.22**	**116**	P	**Pn**	**01 47 14.3**	**-1.3**
LUWI	**Luwuk**	**8.28**	**355**		**Pn**	**01 47 15.6**	**-0.9**
LUWI	**Luwuk** 110nm,0.6s,2μm	**8.28**	**355**	P	**Pn**	**01 47 15.3**	**-1.1**
FITZ	**Fitzroy Crossi** baz=9.0,SNR=128	**8.94**	**167**	P	**Pn**	**01 47 23.4**	**-1.9**
FITZ				S	**Sn**	**01 48 57.6**	**-6.6**
	baz=9.0						
FITZ	**Fitzroy Crossi**	**8.94**	**167**	Pn	**Pn**	**01 47 23.9**	**-1.3**
FITZ	**Fitzroy Crossi**	**8.94**	**167**	P	**Pn**	**01 47 24.2**	**-1.1**
JAGI	**Jajag, Banyuwa**	**9.31**	**275**		**Pn**	**01 47 26.8**	**-3.6**
JAGI	**Jajag, Banyuwa**	**9.31**	**275**	P	**Pn**	**01 47 28.3**	**-2.1**
JAGI	**Jajag, Banyuwa** 47nm,0.6s	**9.31**	**275**	P	**Pn**	**01 47 26.3**	**-4.1**
KDU	**Kakadu** baz=9.5,SNR=190	**9.38**	**112**	P	**Pn**	**01 47 28.5**	**-2.8**
KDU				S	**Sn**	**01 49 07.8**	**-7.2**
	baz=9.5						
KDU	**Kakadu**	**9.38**	**112**	P	**Pn**	**01 47 29.2**	**-2.1**
MPSI	**Mapaga** 15nm,0.7s	**10.28**	**339**	P	**Pn**	**01 47 43.5**	**0.0**
BKB	**Balikpapan**	**10.40**	**320**	Pn	**Pn**	**01 47 45.9**	**+0.7**
BBKI	**Banjar Baru**	**10.43**	**304**	P	**Pn**	**01 47 46.8**	**+1.2**
TOLI2	**Tolitoli**	**10.74**	**345**	Pn	**Pn**	**01 47 49.8**	**-0.1**
TOLI2	**Tolitoli**	**10.74**	**345**	P	**Pn**	**01 47 51.0**	**+1.2**
TNTI	**Ternate**	**10.75**	**21**	Pn	**Pn**	**01 47 50.9**	**+1.0**
FAKI	**Fak Fak**	**10.76**	**54**	Pn	**Pn**	**01 47 50.0**	**-0.1**
FAKI	**Fak Fak**	**10.76**	**54**	P	**Pn**	**01 47 51.1**	**+1.1**
FAKI	**Fak Fak**	**10.76**	**54**	P	**Pn**	**01 47 50.6**	**+0.6**
MBWA	**Marble Bar**	**12.30**	**197**	Pn	**Pn**	**01 48 09.2**	**-1.4**
MBWA	**Marble Bar**	**12.30**	**197**	P	**Pn**	**01 48 10.6**	**0.0**
PSA00	**Pilbara Seismi**	**12.67**	**196**		**Pn**	**01 48 14.0**	**-1.3**
PSA00	**Pilbara Seismi**	**12.67**	**196**	P	**Pn**	**01 48 14.8**	**-0.5**
UGM	**Wanagama**	**12.95**	**275**	P	**Pn**	**01 48 19.3**	**+0.2**
SMRI	**Semarang**	**13.16**	**279**		**Pn**	**01 48 19.4**	**-2.5**
SMRI	**Semarang** 86nm,0.9s	**13.16**	**279**	P	**Pn**	**01 48 21.3**	**-0.6**
KPJI	**Karang Pucung**	**14.59**	**277**	P	**Pn**	**01 48 37.4**	**-2.9**
WB0	**Warramunga Arr**	**14.75**	**136**	Pn	**Pn**	**01 48 40.6**	**-1.6**
WRA	**Warramunga Arr**	**14.83**	**136**	Pn	**Pn**	**01 48 41.1**	**-2.2**
WRA	**Warramunga Arr** 9.8nm,0.5s,baz=318,slow=14,SNR=105	**14.83**	**136**	P	**Pn**	**01 48 39.5**	**-3.9**
WRA				S	Sn	01 51 14.5	-13
	56nm,0.7s,baz=312,slow=26,SNR=12						
WRAB	**Tennant Creek**	**14.83**	**136**		**Pn**	**01 48 41.7**	**-1.6**
WB2	**Warramunga Arr**	**14.84**	**136**	Pn	**Pn**	**01 48 41.4**	**-2.1**
WR0	**Warramunga Arr**	**14.98**	**136**	Pn	**Pn**	**01 48 42.4**	**-2.8**
WR0				IAmb	IAmb	01 48 51.0	
	comp=Z,51nm,0.8s						
CMJI	**Cimerak** comp=Z,90nm,1.0s	**15.00**	**275**	P	**P**	**01 48 47.4**	**-0.9**
BBJI	**Bungbulang**	**15.83**	**276**	P	**P**	**01 48 57.2**	**-0.3**
GIRL	**Giralia** baz=16,SNR=7.9	**15.95**	**213**	P	**Pn**	**01 48 57.5**	**+0.1**
GIRL	**Giralia**	**15.95**	**213**	P	**P**	**01 48 59.0**	**+0.3**
LEM	**Lembang** comp=Z,27nm,0.7s,baz=311,slow=20,SNR=2.3	**15.96**	**278**	P	**Pn**	**01 48 55.7**	**-1.9**
LEM				LR	LR	01 55 27.8	
	comp=Z,135nm,21.9s,baz=56,slow=38						
WRKA	**Warakurna** baz=16,SNR=30	**16.25**	**164**	P	**Pn**	**01 48 59.5**	**-1.5**
WRKA	**Warakurna**	**16.25**	**164**	P	**P**	**01 49 01.8**	**-0.3**
CNJI	**Cibinong**	**16.36**	**276**	P	**Pn**	**01 49 00.8**	**-1.6**
DAV	**Davao City (W)** comp=Z,88nm,21.2s,baz=51,slow=37	**16.43**	**7**	LR	LR	01 55 11.0	
DBJI	**Dramaga** comp=Z,50nm,0.6s,comp=Z,10μm	**16.86**	**278**	P	**P**	**01 49 09.7**	**+0.9**
SKJI	**Sukabumi** comp=Z,168nm,1.2s	**16.97**	**277**	P	**Pn**	**01 49 09.9**	**0.0**
AS31	**Alice Springs**	**17.35**	**146**	P	**Pn**	**01 49 14.6**	**0.0**
ASAR	**Alice Springs**	**17.35**	**146**	P	**P**	**01 49 14.3**	**0.0**
ASAR	**Alice Springs** comp=Z,34nm,0.7s,baz=320,slow=11,SNR=123	**17.35**	**146**	P	**Pn**	**01 49 15.1**	**+0.5**
ASAR				S	Sn	01 52 16.6	-11
	comp=Z,38nm,0.8s,baz=309,slow=18,SNR=13						
ASAR				LR	LR	01 56 59.7	
	comp=Z,193nm,18.2s,baz=338,slow=40						
XMIS	**Christmas Isla**	**17.66**	**265**	P	**P**	**01 49 13.9**	**-3.8**
MEEK	**Meekatharra** baz=18,SNR=37	**17.82**	**195**	P	**P**	**01 49 18.4**	**-1.0**
MEEK	**Meekatharra**	**17.82**	**195**	P	**Pn**	**01 49 23.0**	**+2.8**
CGJI	**Cibinong** comp=Z,47nm,1.1s,comp=Z,7μm	**17.88**	**277**	P	**P**	**01 49 16.9**	**-3.2**
QIS	**Mount Isa** baz=19,SNR=79	**19.09**	**128**	P	**P**	**01 49 32.9**	**-0.4**
QIS	**Mount Isa**	**19.09**	**128**	P	**Pn**	**01 49 35.9**	**+0.6**
KASI	**Kota Agung** comp=Z,97nm,0.4s,comp=Z,2μm	**19.26**	**280**	P	**P**	**01 49 33.5**	**-1.6**
MORW	**Morawa** baz=21,SNR=34	**20.84**	**199**	P	**P**	**01 49 51.7**	**-0.5**
MORW	**Morawa**	**20.84**	**199**	P	**P**	**01 49 51.2**	**-1.0**
MORW	**Morawa**	**20.84**	**199**	P	Pn	01 49 55.0	-0.7
OOD	**Oodnadatta**	**21.64**	**150**	P	**P**	**01 50 03.0**	**+2.4**
FORT	**Forrest** baz=22,SNR=72	**21.74**	**169**	P	**P**	**01 50 03.5**	**+1.8**
FORT	**Forrest**	**21.74**	**169**	P	**P**	**01 50 02.0**	**+0.3**
FORT	**Forrest**	**21.74**	**169**	P	**P**	**01 50 03.8**	**+2.1**
KMBL	**Kambalda** baz=22,SNR=8.9	**21.97**	**184**	P	**P**	**01 50 06.2**	**+2.1**
KMBL	**Kambalda**	**21.97**	**184**	P	**P**	**01 50 06.2**	**+2.1**
MTSU	**Mount Surprise** baz=22,SNR=32	**21.98**	**116**	P	**P**	**01 50 06.2**	**+1.9**
KLBR	**Kellerberrin** baz=23,SNR=38	**22.78**	**193**	P	**P**	**01 50 14.3**	**+1.9**
MULG	**Mulgathing**	**23.03**	**156**	P	**P**	**01 50 17.2**	**+2.3**
PMG	**Port Moresby**	**23.31**	**92**	P	**P**	**01 50 17.9**	**+0.3**
PMG	**Port Moresby** comp=Z,90nm,19.8s,baz=214,slow=42	**23.31**	**92**	LR	LR	02 01 37.8	
MUN	**Mundaring** baz=24,SNR=5.4	**23.53**	**196**	P	**P**	**01 50 21.7**	**+2.3**
MUN	**Mundaring**	**23.53**	**196**	P	**P**	**01 50 22.2**	**+2.8**
NWAO	**Narrogin (SRO)** baz=24,SNR=16	**24.18**	**193**	P	**P**	**01 50 27.6**	**+2.3**
NWAO				P	**P**	**01 50 27.6**	**+2.3**
	baz=24,SNR=16						
NWAO	**Narrogin (SRO)**	**24.18**	**193**	P	**P**	**01 50 25.5**	**+0.2**
NWAO				IAmb	IAmb	01 50 32.6	
	comp=Z,22nm,0.8s						
NWAO	**Narrogin (SRO)**	**24.18**	**193**	P	**P**	**01 50 27.6**	**+2.3**
NWAO	**Narrogin (SRO)**	**24.18**	**193**	LR	LR	01 59 38.3	
	comp=Z,57nm,20.3s,baz=338,slow=35						
BKNI	**Bangkinang**	**24.38**	**292**	P	**P**	**01 50 26.0**	**-1.3**
BKNI	**Bangkinang** comp=Z,58nm,0.5s,comp=Z,10μm	**24.38**	**292**	P	**P**	**01 50 27.1**	**-0.2**
CTAO	**Charters Tower**	**24.39**	**119**	P	**P**	**01 50 29.3**	**+1.8**
CTAO	**Charters Tower**	**24.39**	**119**	P	**P**	**01 50 31.0**	**+3.6**
PDSI	**Padang** comp=Z,19nm,0.7s,comp=Z,4μm	**24.44**	**289**	P	**P**	**01 50 24.1**	**-3.8**
INKA	**Innaminka**	**24.46**	**141**	P	**P**	**01 50 32.4**	**+4.5**
LCRK	**Leigh Creek**	**25.07**	**149**	P	**P**	**01 50 36.6**	**+3.2**
RKGY	**Rocky Gully** baz=26,SNR=13	**25.86**	**192**	P	**P**	**01 50 41.6**	**+1.1**
BBOO	**Buckleboo** baz=26,SNR=74	**26.06**	**155**	P	**P**	**01 50 43.9**	**+1.5**
BBOO	**Buckleboo**	**26.06**	**155**	P	**P**	**01 50 43.8**	**+1.4**
BBOO	**Buckleboo**	**26.06**	**155**	P	**P**	**01 50 44.8**	**+2.4**
RPSI	**Rantau Prapat**	**27.29**	**295**	P	**P**	**01 50 52.8**	**-0.8**
RPSI				IAmb	IAmb	01 50 53.8	
	comp=Z,15nm,1.3s						
HTT	**Hallett** baz=28,SNR=17	**27.85**	**152**	P	**P**	**01 50 59.7**	**+1.2**
HTT	**Hallett**	**27.85**	**152**	P	**P**	**01 51 01.6**	**+3.2**
STKA	**Stephens Creek** baz=28,SNR=7.7	**27.99**	**146**	P	**P**	**01 51 00.3**	**+0.6**
STKA	**Stephens Creek**	**27.99**	**146**	P	**P**	**01 51 00.6**	**+0.9**
STKA	**Stephens Creek**	**27.99**	**146**	P	**P**	**01 51 03.1**	**+3.5**
STKA	**Stephens Creek** comp=Z,9.4nm,0.7s,baz=316,slow=9.8,SNR=21	**27.99**	**146**	P	**P**	**01 51 01.9**	**+2.3**
STKA				LR	LR	02 03 45.7	
	comp=Z,167nm,19.3s,baz=17,slow=39						
CMSA	**Cobar Meteorol** comp=Z,9.4nm,0.7s	**30.18**	**140**	P	**P**	**01 51 20.3**	**+1.3**
CMSA	**Cobar Meteorol** baz=30,SNR=9.2	**30.18**	**140**	P	**P**	**01 51 23.0**	**+3.9**
ARPS	**Mount Arapiles** baz=32,SNR=17	**31.95**	**152**	P	**P**	**01 51 35.5**	**+0.9**
TOO	**Toolangi** baz=34,SNR=5.3	**34.39**	**148**	P	**P**	**01 51 57.3**	**+1.5**
HNR	**Honiara** comp=Z,773nm,18.1s,baz=312,slow=38	**35.91**	**93**	LR	LR	02 07 41.8	
CM31	**Chiang Mai Arr**	**36.77**	**319**	P	**P**	**01 52 14.8**	**-1.6**
CM31				IAmb	IAmb	01 52 17.3	
	comp=Z,9.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**36.77**	**319**	P	**P**	**01 52 15.8**	**-0.6**
CMAR	**Chiang Mai Arr** comp=Z,4.6nm,0.8s,baz=144,slow=6.8,SNR=29	**36.77**	**319**	P	**P**	**01 52 14.6**	**-1.8**
CMAR				ScP	**ScP**	**01 58 15.2**	**+1.7**
	comp=Z,2.2nm,0.8s,baz=170,slow=2.9,SNR=12						
CMAR				LR	LR	02 08 29.1	
	comp=Z,33nm,21.0s,baz=135,slow=38						
CHTO	**Chiang Mai** comp=Z,4.6nm,0.8s	**37.03**	**319**	P	**P**	**01 52 17.3**	**-1.2**
CHTO				IAmb	IAmb	01 52 19.4	
	comp=Z,7.2nm,0.9s						
CRAI	**Chiangrai**	**37.19**	**322**	P	**P**	**01 52 19.4**	**-0.6**
WHN	**Wuhan**	**40.63**	**348**	P	**P**	**01 52 48.8**	**+0.4**
NJ2	**Nanjing**	**41.41**	**354**	*e*P	**P**	**01 52 58.5**	**+3.8**
NJ2				pP	**pP**	**01 53 19.3**	**+0.6**
NJ2				sP	**sP**	**01 53 30.8**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,260nm,4.5s						
PZH	**PanZhiHua**	**41.45**	**330**	P	**P**	**01 52 59.0**	**+3.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,130nm,5.3s						
DZM	**Mont Dzumac**	**43.05**	**112**	P	**P**	**01 53 09.0**	**+0.6**
DZM				IAmb	IAmb	01 53 11.5	
	comp=Z,14nm,1.1s						
DZM	**Mont Dzumac**	**43.05**	**112**	LR	LR	02 13 03.0	
	comp=Z,35nm,19.1s,baz=38,slow=39						
PALK	**Pallekele** comp=Z,30nm,19.7s,baz=211,slow=38	**45.76**	**290**	LR	LR	02 14 05.0	
SHL	**Shillong**	**46.41**	**319**	P	**P**	**01 53 33.9**	**-1.2**
SHL				IAmb	IAmb	01 53 35.3	
	comp=Z,23nm,1.0s						
MJAR	**Matsushiro Arr** comp=Z,2.3nm,0.5s,baz=195,slow=8.8,SNR=15	**47.68**	**16**	P	**P**	**01 53 42.4**	**-2.2**
	comp=Z,2.3nm,0.5s						
LZH	**Lanzhou**	**48.85**	**339**	*e*P	**P**	**01 53 55.0**	**+1.2**
LZH				pP	pP	01 54 01.8	-17
LZH				pmax	pmax		
	comp=Z,18nm,1.6s						
HHC	**Hu-ho-hao-te**	**51.15**	**348**	*e*P	**P**	**01 54 15.0**	**+4.0**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,190nm,4.5s						
BTO	**Baotou**	**51.24**	**347**	*e*P	**P**	**01 54 15.5**	**+3.8**
BTO				pP	**pwP**	**01 54 41.8**	**+0.8**
BTO				sP	**sP**	**01 54 54.3**	**+5.9**
BTO				PP	**PP**	**01 56 15.5**	**+5.7**
BTO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BTO				pmax	pmax		
	comp=Z,280nm,8.3s						
GTA	**Gaotai**	**53.28**	**337**	*e*P	**P**	**01 54 27.3**	**+0.5**
GTA				sP	pP	01 54 52.5	+0.6
GTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
RPZ	**Rata Peaks** comp=Z,69nm,18.1s,baz=284,slow=36	**53.53**	**138**	LR	LR	02 17 59.9	
USRK	**Ussuriysk Ar.** comp=Z,4.1nm,0.5s,baz=196,slow=6.5,SNR=23	**53.84**	**8**	P	**P**	**01 54 29.3**	**-1.3**
	comp=Z,4.1nm,0.5s						
MDJ	**Mudanjiang**	**53.99**	**5**	P	**P**	**01 54 32.0**	**+0.3**
MDJ				PcP	sP	01 55 18.5	+10
MDJ				PP	**PP**	**01 56 29.0**	**-5.3**
MDJ				ScP	**ScP**	**01 59 14.0**	**-10**
MDJ				PcS	PcS	01 59 25.8	-9.0
MDJ				S	S	02 02 29.8	+31
MDJ				ScS	**ScS**	**02 04 13.5**	**+3.2**
URZ	**Urewera** comp=Z,82nm,19.8s,baz=304,slow=37	**55.89**	**130**	LR	LR	02 19 39.7	
ULN	**Ulaanbaatar**	**58.80**	**347**	P	**P**	**01 55 04.7**	**-1.4**
ULN				IAmb	IAmb	01 55 09.1	
	comp=Z,6.8nm,1.4s						
SONM	**Songino Array**	**58.92**	**347**	P	**P**	**01 55 06.0**	**-0.8**
SONM				IAmb	IAmb	01 55 09.7	
	comp=Z,3.9nm,1.2s						
SONM	**Songino Array** comp=Z,1.6nm,0.6s,baz=158,slow=8.6,SNR=5.6	**58.92**	**347**	P	**P**	**01 55 05.1**	**-1.7**
	comp=Z,1.6nm,0.6s						
HEH	**HeiHe**	**59.44**	**3**	*e*P	**P**	**01 55 07.5**	**-2.7**
HEH				pmax	pmax		
	comp=Z,12nm,1.2s						
WMQ	**Urumqi**	**62.11**	**331**	*e*P	**P**	**01 55 29.5**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,25nm,0.9s						
NIL	**Nilore**	**64.08**	**314**	P	**P**	**01 55 39.8**	**-1.9**
KSH	**Kashi**	**65.61**	**321**	P	**P**	**01 55 51.8**	**+0.1**
KSH				pP	pP	01 56 18.3	+0.7
KSH				S	**S**	**02 04 26.5**	**-2.4**
KSH				pmax	pmax		
	comp=Z,11nm,0.7s						
MK31	**Makanchi Array**	**66.88**	**330**	P	**P**	**01 55 58.8**	**-0.7**
MKAR	**Makanchi Array**	**66.88**	**330**	P	**P**	**01 55 58.6**	**-0.9**
MKAR	**Makanchi Array** comp=Z,14nm,0.6s,baz=134,slow=7.8,SNR=112	**66.88**	**330**	P	**P**	**01 55 59.2**	**-0.3**
	comp=Z,14nm,0.6s						
MAKZ	**Makanchi**	**67.05**	**330**	P	**P**	**01 55 59.6**	**-0.9**
MAKZ				IAmb	IAmb	01 56 01.6	
	comp=Z,11nm,0.9s						
KBL	**Kabul**	**67.54**	**313**	P	**P**	**01 56 03.2**	**-0.9**
KBL				IAmb	IAmb	01 56 05.8	
	comp=Z,15nm,0.9s						
AAK	**Ala-Archa**	**68.38**	**323**	P	**P**	**01 56 08.9**	**-0.2**
AAK				IAmb	IAmb	01 56 10.6	
	comp=Z,5.1nm,0.7s						
AAK	**Ala-Archa** comp=Z,18nm,20.5s,baz=68,slow=39	**68.38**	**323**	LR	LR	02 29 25.9	
PETK	**Petropavlovsk-** comp=Z,2.1nm,0.7s,baz=205,slow=3.4,SNR=9.3	**68.68**	**21**	P	**P**	**01 56 09.5**	**-1.0**
	comp=Z,2.1nm,0.7s						
SIMJ	**Simiganj**	**69.63**	**317**	P	**P**	**01 56 15.9**	**-1.1**
VNDA	**Vanda**	**70.98**	**172**	P	**P**	**01 56 24.3**	**-0.1**
VNDA				IAmb	IAmb	01 56 27.9	
	comp=Z,6.5nm,1.2s						
VNDA	**Vanda** comp=Z,4.1nm,1.1s,baz=331,slow=6.9,SNR=5.5	**70.98**	**172**	P	**P**	**01 56 26.6**	**+2.2**
VNDA				LR	LR	02 25 54.6	
	comp=Z,53nm,20.0s,baz=306,slow=34						
	comp=Z,4.1nm,1.1s						
ZALV	**Zalesovo Beam**	**71.03**	**337**	P	**P**	**01 56 23.3**	**-1.7**
ZALV	**Zalesovo Beam** comp=Z,13nm,0.5s,baz=135,slow=4.5,SNR=57	**71.03**	**337**	P	**P**	**01 56 23.8**	**-1.2**
	comp=Z,13nm,0.5s						
KK31	**Karatay Array**	**71.04**	**322**	P	**P**	**01 56 24.0**	**-1.3**
KKAR	**Karatay Array**	**71.04**	**322**	P	**P**	**01 56 24.1**	**-1.2**
KURBB	**Kurchatov Arra** comp=Z,9.8nm,0.8s,baz=142,slow=5.1,SNR=60	**71.33**	**332**	P	**P**	**01 56 26.5**	**-0.4**
	comp=Z,9.8nm,0.8s						
KURK	**Kurchatov**	**71.35**	**332**	P	**P**	**01 56 25.9**	**-1.1**
HRA	**Herat**	**72.46**	**310**	P	**P**	**01 56 34.2**	**-0.1**
BVAR	**Borovoye Array** comp=Z,1.8nm,0.6s,baz=126,slow=7.5,SNR=12	**76.76**	**330**	P	**P**	**01 56 57.5**	**-1.0**
	comp=Z,1.8nm,0.6s						
BRVK	**Borovoye**	**76.83**	**330**	P	**P**	**01 56 58.2**	**-0.6**
BRVK				IAmb	IAmb	01 57 00.2	
	comp=Z,8.8nm,1.4s						
GEYT	**Alibeck**	**76.95**	**312**	P	**P**	**01 56 57.3**	**-2.6**
GEYT	**Alibeck** comp=Z,1.5nm,0.7s,baz=141,slow=9.6,SNR=4.1	**76.95**	**312**	P	**P**	**01 56 59.9**	**0.0**
	comp=Z,1.5nm,0.7s						
ABKAR	**Akbulak array**	**80.46**	**323**	P	**P**	**01 57 17.4**	**-1.4**
QSPA	**South Pole Qui** comp=Z,4.1nm,0.7s,baz=314,slow=1.9,SNR=14	**80.65**	**180**	P	**P**	**01 57 22.2**	**+2.5**
	comp=Z,4.1nm,0.7s						
AKTO	**Aktyubinsk** comp=Z,50nm,18.5s,baz=332,slow=38	**82.10**	**324**	LR	LR	02 37 52.6	
NRIK	**Noril'sk**	**82.38**	**348**	P	**P**	**01 57 28.9**	**+0.4**
NRIK				IAmb	IAmb	01 57 30.3	
	comp=Z,8.7nm,1.1s						
NRIK	**Noril'sk** comp=Z,3.4nm,0.6s,baz=137,slow=4.5,SNR=9.8	**82.38**	**348**	P	**P**	**01 57 28.2**	**-0.3**
	comp=Z,3.4nm,0.6s						
ELIB	**Princess Elisa** comp=Z,4.5nm,1.0s	**84.33**	**198**	*d*P	**P**	**01 57 42.2**	**+3.5**
ELIB				*d*pP	**pP**	**01 58 04.8**	**-1.6**
ARU	**Arti**	**84.39**	**330**	P	**P**	**01 57 38.2**	**-0.8**
ARU				IAmb	IAmb	01 57 40.9	
	comp=Z,19nm,1.4s						
ARU	**Arti** comp=Z,5.0nm,0.7s,baz=137,slow=4.2,SNR=11	**84.39**	**330**	P	**P**	**01 57 38.0**	**-1.1**
	comp=Z,5.0nm,0.7s						
KMBO	**Kilima Mbogo** comp=Z,2.6nm,0.8s,baz=18,slow=11,SNR=3.9	**86.15**	**269**	P	**P**	**01 57 49.5**	**+0.4**
	comp=Z,2.6nm,0.8s						
GURO	**Guroymak-BITLI**	**89.19**	**309**	P	**P**	**01 58 03.0**	**0.0**
GURO				IAmb	IAmb	01 58 09.3	
	comp=Z,2.1nm,0.8s						
SNAA	**Sanae** comp=Z,4.5nm,0.8s,baz=156,slow=10.0,SNR=6.5	**91.84**	**195**	P	**P**	**01 58 17.5**	**+3.0**
	comp=Z,4.5nm,0.8s						
BELA	**Belgrano 2**	**92.06**	**185**	P	**P**	**01 58 16.5**	**+1.1**
LBTB	**Lobatse** comp=Z,24nm,20.4s,baz=76,slow=30	**93.20**	**244**	LR	LR	02 32 11.6	
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.8s,baz=115,slow=2.8,SNR=4.7	**112.63**	**25**	PKKPbc	PKKPbc	02 14 33.8	-0.1
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,0.7s,baz=62,slow=2.0,SNR=8.1	**122.93**	**280**	PKP	**PKPdf**	**02 04 03.6**	**+0.1**
PDAR	**Pinedale Array** comp=Z,0.1nm,0.3s,baz=144,slow=1.2,SNR=3.7	**123.06**	**45**	PKP	**PKPdf**	**02 04 02.1**	**-1.2**
TXAR	**Lajitas Array** comp=Z,0.6nm,0.8s,baz=228,slow=2.3,SNR=6.9	**131.61**	**59**	SKPbc	**SKPab**	**02 07 36.6**	**+0.3**
CPUP	**Villa Florida** comp=Z,1nm,0.7s,baz=175,slow=3.0,SNR=23	**144.53**	**179**	PKP	**PKPdf**	**02 04 44.5**	**+1.0**

*UPP **31** 01:56:48.9±0.1, 67°18N×20°69E, h0km, ML2.6, Confirmed Induced event*
*HEL **31** 01:56:48.5±0.2, 67°16N×20°53E, h0km, ML1.9, Suspected explosion*
*IDC **31** 01:56:49.1±0.8, 67°16N×20°87E, h0km, mbtmp3.0/4, ML2.2/4, Error ellipse: s-maj=15.2km s-min=6.7km az=115.0*

ISC 31 01:56:48.2±0.7, 67°20N±0°02×20°54E±0°03, h0km, n37, σ1°08/66, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**170**	P	**Pg**	**01 56 50.6**	**+1.0**
DUNU				S	**Sg**	**01 56 51.5**	**+0.9**
RATU	**Laukkuluspa**	**0.73**	**331**	P	**Pb**	**01 57 03.4**	**-0.4**
RATU				S	**Sb**	**01 57 13.8**	**-0.5**
SALU	**Saltoluokta**	**0.81**	**284**	P	**Pb**	**01 57 05.2**	**+0.1**
ERTU	**Ertsjaerv**	**0.92**	**134**	P	**Pg**	**01 57 05.0**	**-0.7**
ERTU				S	**Sg**	**01 57 16.7**	**-0.9**
ERTU	**Ertsjaerv**	**0.92**	**134**	PG	**Pg**	**01 57 04.5**	**-1.2**
ERTU				SB	**Sg**	**01 57 16.8**	**-0.8**
LANU	**Lannavaara**	**1.02**	**32**	P	**Pg**	**01 57 07.9**	**+0.1**
LANU	**Lannavaara**	**1.02**	**32**	PG	**Pg**	**01 57

FINES				Lg	Lg	02 00 02.3	
	comp=Z,0.6nm,0.3s,baz=343,slow=28,SNR=4.4						
	comp=Z,3.1nm,0.9s						
NOA	**NORSAR Array B**	**7.39**	**218**	Pn	**Pn**	**01 58 37.7**	**+0.4**
	baz=28,slow=11,SNR=4.1						
NOA				Sn	**Sn**	**01 59 59.1**	**-2.7**
	baz=17,slow=18,SNR=3.9						
NOA				Lg	Lg	02 00 42.5	
	baz=26,slow=18,SNR=4.4						
	comp=Z,0.6nm,0.9s						
HFS	**Hagfors**	**7.71**	**206**	Pn	**Pn**	**01 58 41.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=28,slow=14,SNR=6.5						
HFS				Sn	**Sn**	**02 00 06.3**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=39,slow=21,SNR=6.1						
	comp=Z,1.7nm,0.8s						

IDC ***31*** *02:09:16.0±1.6,8.˚91S×123.˚82E, h0km, mb4.0/3, mbtmp3.8/5, ML3.3/2, Error ellipse: s-maj=206.2km s-min=29.0km az=57.0*

DJA ***31*** *02:09:27.6±0.5,9.˚5±4.˚×12.˚4E±.˚, h93km±9km, M3.7/6, mb4.0/2, MLv3.5/6*

NEIC ***31*** *02:09:28.0±1.0,9.˚4S±0.˚1×123.˚44E±0.˚08, h106km±8km, mb4.3/6, Error ellipse: s-maj=22.6km s-min=4.1km az=207.0*

ISC 31 02:09:27.0±0.7,**9.˚40S**±0.˚09×**123.˚48E**±0.˚07,**h100**km,**n35, σ2s72/39, mb4.0/6, Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.85**	**114**		**Pn**	**02 09 47.5**	**+1.5**
SOEI				Sn	**Sn**	**02 10 02.6**	**+2.3**
SOEI	**Soe**	**0.85**	**114**	P	**Pn**	**02 09 47.6**	**+1.5**
MMRI	**Maumere**	**1.45**	**302**		**Pn**	**02 09 53.8**	**+1.2**
MMRI				Sn	**Sn**	**02 10 13.3**	**+1.3**
MMRI	**Maumere**	**1.45**	**302**	P	**Pn**	**02 09 54.1**	**+1.5**
MMRI	**Maumere**	**1.45**	**302**	P	**Pn**	**02 09 53.9**	**+1.3**
MMRI				S	**Sn**	**02 10 13.0**	**+1.0**
EDFI	**Ende, Flores**	**1.88**	**290**	P	**Pn**	**02 10 00.0**	**+1.8**
BKSI	**Bulukumba**	**5.25**	**320**	P	**Pn**	**02 10 44.2**	**+1.1**
	14nm,0.6s,0.1nm						
PLAI	**Plampang**	**5.66**	**275**	P	**Pn**	**02 10 52.2**	**+3.4**
KNRA	**Kununurra**	**8.09**	**141**	Pn	**Pn**	**02 11 21.9**	**0.0**
KNRA	**Kununurra**	**8.09**	**141**	P	**Pn**	**02 11 21.8**	**0.0**
MTN	**Manton Dam**	**8.25**	**115**	Pn	**Pn**	**02 11 23.8**	**-0.2**
MTN	**Manton Dam**	**8.25**	**115**	P	**Pn**	**02 11 24.6**	**+0.6**
FITZ	**Fitzroy Crossi**	**8.89**	**167**	Pn	**Pn**	**02 11 33.1**	**+0.4**
KDU	**Kakadu**	**9.41**	**111**	P	**Pn**	**02 11 38.9**	**-0.9**
PSA00	**Pilbara Seismi**	**12.60**	**196**		**Pn**	**02 12 22.6**	**-0.1**
WB0	**Warramunga Arr**	**14.74**	**136**	Pn	**Pn**	**02 12 49.5**	**-1.1**
WRA	**Warramunga Arr**	**14.83**	**136**	Pn	**Pn**	**02 12 51.8**	**+0.1**
WRA	**Warramunga Arr**	**14.83**	**136**	Pn	**Pn**	**02 12 47.0**	**-4.7**
	0.1nm,0.3s,baz=312,slow=14,SNR=3.3						
WRA				Sn	Sn	02 15 23.6	-12
	0.6nm,0.3s,baz=311,slow=25,SNR=9.0						
	0.3nm,0.6s						
WB2	**Warramunga Arr**	**14.84**	**136**	Pn	**Pn**	**02 12 50.7**	**-1.1**
WR0	**Warramunga Arr**	**14.98**	**136**	Pn	**Pn**	**02 12 52.5**	**-1.1**
WRKA	**Warakurna**	**16.21**	**164**	P	**P**	**02 13 12.6**	**+2.3**
ASAR	**Alice Springs**	**17.34**	**146**	P	**Pn**	**02 13 23.6**	**+0.7**
	0.3nm,0.3s,baz=320,slow=11,SNR=46						
ASAR				S	**Sn**	**02 16 26.3**	**-10**
	2.8nm,0.8s,baz=321,slow=24,SNR=18						
	1.4nm,0.5s						
QIS	**Mount Isa**	**19.10**	**127**	P	**Pn**	**02 13 45.9**	**+1.9**
OOD	**Oodnadatta**	**21.61**	**149**	P	**P**	**02 14 14.9**	**+5.8**
MULG	**Mulgathing**	**23.00**	**156**	P	**P**	**02 14 28.3**	**+4.9**
KRJI	**Kerinci**	**23.07**	**287**	P	**P**	**02 14 18.5**	**-5.8**
CTAO	**Charters Tower**	**24.42**	**118**	P	**P**	**02 14 34.8**	**-1.7**
CTAO				IAmb	IAmb	02 14 53.3	
	comp=Z,8.8nm,1.4s						
BBOO	**Buckleboo**	**26.03**	**155**	P	**P**	**02 14 53.5**	**+2.5**
BBOO				IAmb	IAmb	02 14 55.8	
	comp=Z,33nm,1.4s						
GVZ	**Greta Valley S**	**54.54**	**137**	P	**P**	**02 18 44.5**	**-0.3**
MK31	**Makanchi Array**	**66.91**	**331**	P	**P**	**02 20 10.1**	**+1.4**
MKAR	**Makanchi Array**	**66.91**	**331**	P	**P**	**02 20 09.4**	**+0.8**
MKAR	**Makanchi Array**	**66.91**	**331**	P	**P**	**02 20 09.1**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=146,slow=7.9,SNR=28						
	comp=Z,1.1nm,0.6s						
MAKZ	**Makanchi**	**67.07**	**330**	P	**P**	**02 20 09.3**	**-0.3**
MAKZ				IAmb	IAmb	02 20 11.9	
	comp=Z,2.3nm,1.1s						
ZALV	**Zalesovo Beam**	**71.06**	**337**	P	**P**	**02 20 33.1**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=144,slow=5.6,SNR=6.7						
	comp=Z,1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**71.36**	**332**	P	**P**	**02 20 36.0**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=143,slow=5.4,SNR=8.0						
	comp=Z,0.5nm,0.6s						

IDC ***31*** *02:28:02.2±0.6, 12.˚47N×145.˚04E, h0km, mb4.2/23, mbtmp4.2/23, MS3.9/29, Error ellipse: s-maj=24.3km s-min=12.9km az=87.0*

NEIC ***31*** *02:28:11±0.8, 12.˚65N±0.˚08×144.˚9E±0.˚1, h54km±8km, mb4.5/50, Error ellipse: s-maj=20.0km s-min=11.3km az=88.0*

ISC 31 02:28:07.8±0.5,**12.˚51N**±0.˚06×**145.˚09E**±0.˚09,**h38**km,**n123, σ1s130/92, mb4.5/52, MS4.0/37, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.09**	**348**	Pn	**Pn**	**02 28 28.0**	**+1.4**
GUMO	**Guam**	**1.09**	**348**	Pn	**Pn**	**02 28 27.0**	**+0.4**
	198nm,0.3s,baz=53,slow=3.7,SNR=90						
GUMO				Sn	**Sn**	**02 28 38.8**	**-1.6**
	468nm,0.3s,baz=180,slow=20,SNR=11						
MANU	**Manus Island**	**14.64**	**171**	Pn	**P**	**02 31 37.2**	**-0.9**
FAKI	**Fak Fak**	**19.95**	**221**	P	**Pn**	**02 32 40.7**	**+2.1**
FAKI				IAmb	IAmb	02 32 46.1	
	comp=Z,52nm,1.2s						
JHJ	**Hachijo jima 2**	**21.08**	**348**	LR	LR	02 39 39.6	
	comp=Z,346nm,21.9s,baz=49,slow=33						
JOW	**Kunigami**	**21.26**	**315**	LR	LR	02 41 09.4	
	comp=Z,236nm,18.5s,baz=296,slow=37						
H11S3	**WAKE ISLAND Hy**	**21.63**	**71**	T	T	02 56 19.7	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**21.65**	**71**	T	T	02 56 14.2	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**21.65**	**71**	T	T	02 56 41.8	
	baz=253						
PMG	**Port Moresby**	**21.87**	**175**	P	**P**	**02 32 55.3**	**-2.2**
	comp=Z,3.0nm,0.4s,baz=336,slow=10.0,SNR=1.2						
PMG				LR	LR	02 40 48.6	
	comp=Z,403nm,18.3s,baz=313,slow=35						
	comp=Z,3.0nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**22.12**	**68**	T	T	02 56 42.8	
	baz=252,slow=75						
H11N2	**WAKE ISLAND Hy**	**22.13**	**68**	T	T	02 57 25.5	
	baz=252						
H11N3	**WAKE ISLAND Hy**	**22.14**	**68**	T	T	02 57 08.4	
	baz=252,slow=75						
JNU	**Nakatsue**	**24.29**	**330**	LR	LR	02 42 21.2	
	comp=Z,92nm,19.3s,baz=136,slow=35						
MJAR	**Matsushiro Arr**	**24.71**	**347**	P	**P**	**02 33 24.2**	**-1.4**
	comp=Z,2.7nm,0.7s,baz=171,slow=8.8,SNR=8.5						
MJAR				LR	LR	02 42 04.6	
	comp=Z,214nm,19.1s,baz=152,slow=34						
	comp=Z,2.7nm,0.7s						
MAJO	**Matsushiro**	**24.72**	**347**	P	**P**	**02 33 25.0**	**-0.6**
MAJO				IAmb	IAmb	02 33 48.6	
	comp=Z,14nm,1.1s						
MJB9	**Matsu-Tunnel**	**24.72**	**347**	P	**P**	**02 33 25.0**	**-0.6**
MJB9				IAmb	IAmb	02 33 48.6	
	comp=Z,13nm,1.0s						
YULB	**Yu-li**	**25.05**	**299**	P	**P**	**02 33 28.0**	**-0.8**
SSLB	**Suanglung**	**25.49**	**299**	P	**P**	**02 33 31.9**	**-0.8**
LUWI	**Luwuk**	**25.93**	**240**	P	**P**	**02 33 35.7**	**-1.0**
HNR	**Honiara**	**26.33**	**145**	LR	LR	02 44 00.1	
	comp=Z,3µm,19.8s,baz=323,slow=36						
KSRS	**Korea Array**	**29.20**	**331**	P	**P**	**02 34 04.8**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=142,slow=9.9,SNR=7.1						
KSRS				LR	LR	02 44 40.6	
	comp=Z,74nm,18.5s,baz=140,slow=34						
	comp=Z,1.5nm,0.5s						
NJ2	**Nanjing**	**30.96**	**313**	*e*P	**P**	**02 34 21.0**	**-0.5**
NJ2				pP	**sP**	**02 34 34.3**	**-1.6**
NJ2				sP	**pwP**	**02 34 40.0**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,240nm,4.9s						
CTA	**Charters Tower**	**32.42**	**178**	LR	LR	02 48 01.9	
	comp=Z,145nm,18.6s,baz=311,slow=37						
USRK	**Ussuriysk Ar.**	**33.52**	**343**	LR	LR	02 46 56.2	
	comp=Z,162nm,18.9s,baz=171,slow=34						
WB0	**Warramunga Arr**	**33.76**	**198**	P	**P**	**02 34 47.7**	**+1.6**
WB0				IAmb	IAmb	02 35 00.9	
	comp=Z,7.9nm,0.8s						
WR0	**Warramunga Arr**	**33.90**	**198**	P	**P**	**02 34 48.6**	**+1.3**
WR0				IAmb	IAmb	02 35 02.7	
	comp=Z,11nm,1.2s						
WRAB	**Tennant Creek**	**33.93**	**198**	P	**P**	**02 34 49.0**	**+1.4**
WB2	**Warramunga Arr**	**33.94**	**198**	P	**P**	**02 34 48.7**	**+1.1**
WRA	**Warramunga Arr**	**33.95**	**198**	P	**P**	**02 34 49.6**	**+1.9**
WRA	**Warramunga Arr**	**33.95**	**198**	P	**P**	**02 34 45.8**	**-2.0**
	comp=Z,1.8nm,0.7s,baz=21,slow=9.6,SNR=27						
	comp=Z,1.8nm,0.7s						
QIZ	**Qiongzhong**	**34.49**	**285**	P	**P**	**02 34 52.3**	**-0.2**
QIZ				S	**S**	**02 40 16.0**	**-2.8**
QIZ				LR	LR		
	comp=N,570nm,16.0s						
QIZ				LR	LR		
	comp=E,390nm,21.9s						
QIZ				LR	LR		
	comp=Z,490nm,16.0s						
MDJ	**Mudanjiang**	**34.64**	**340**	P	P	02 35 00.8	+7.3
MDJ				pmax	pmax		
	comp=Z,17nm,2.3s						
MDJ				pmax	pmax		
	comp=Z,180nm,6.2s						
AS31	**Alice Springs**	**37.59**	**197**	P	**P**	**02 35 20.2**	**+1.3**
ASAR	**Alice Springs**	**37.59**	**197**	P	**P**	**02 35 18.8**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=22,slow=9.9,SNR=42						
ASAR				PcP	**PcP**	**02 37 37.7**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=21,slow=5.4,SNR=2.4						
ASAR				LR	LR	02 52 24.8	
	comp=Z,319nm,18.4s,baz=20,slow=39						
	comp=Z,1.0nm,0.6s						
KLR	**Kul'dur**	**38.24**	**346**	LR	LR	02 51 31.8	
	comp=Z,211nm,18.2s,baz=158,slow=37						
DZM	**Mont Dzumac**	**40.25**	**148**	*e*P	**P**	**02 35 40.4**	**-0.9**
	comp=Z,31nm,21.0s						
DZM	**Mont Dzumac**	**40.25**	**148**	*e*LR	LR	02 46 50.7	
	comp=Z,584nm,30.6s						
DZM	**Mont Dzumac**	**40.25**	**148**	LR	LR	02 52 07.3	
	comp=Z,305nm,18.5s,baz=41,slow=36						
HEH	**HeiHe**	**40.33**	**342**	*e*P	**P**	**02 35 40.0**	**-1.5**
HHC	**Hu-ho-hao-te**	**40.73**	**320**	*e*P	**P**	**02 35 46.5**	**+1.4**
HHC				pmax	pmax		
	comp=Z,15nm,0.5s						
HHC				pmax	pmax		
	comp=Z,220nm,5.9s						
HHC				LR	LR		
	comp=N,610nm,18.8s						
HHC				LR	LR		
	comp=E,500nm,17.8s						
HHC				LR	LR		
	comp=Z,950nm,17.1s						
BTO	**Baotou**	**41.58**	**319**	*e*P	**P**	**02 35 55.0**	**+2.9**
BTO				pP	**pwP**	**02 36 10.5**	**+1.0**
BTO				sP	**sP**	02 36 17.5	+11
BTO				PP	**PnPn**	**02 37 35.5**	**+1.9**
BTO				S	**S**	**02 42 07.5**	**+1.8**
BTO				sS	sS	02 42 32.0	+11
BTO				SS	**SS**	**02 45 07.8**	**-3.8**
BTO				pmax	pmax		
	comp=Z,14nm,0.8s						
BTO				pmax	pmax		
	comp=Z,120nm,3.7s						
BTO				LR	LR		
	comp=N,490nm,13.2s						
BTO				LR	LR		
	comp=E,500nm,15.2s						
BTO				LR	LR		
	comp=Z,450nm,20.1s						
PETK	**Petropavlovsk-**	**41.73**	**11**	LR	LR	02 52 17.4	
	comp=Z,163nm,19.5s,baz=192,slow=35						
LEM	**Lembang**	**41.91**	**245**	LR	LR	02 55 03.7	
	comp=Z,86nm,19.9s,baz=42,slow=39						
PZH	**PanZhiHua**	**42.95**	**295**	P	**P**	**02 36 04.5**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,4.7s						
STKA	**Stephens Creek**	**44.26**	**184**	P	**P**	**02 36 13.9**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=4.1,slow=14,SNR=1.6						
STKA				LR	LR	02 55 22.1	
	comp=Z,238nm,18.3s,baz=21,slow=37						
	comp=Z,1.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**44.77**	**284**	P	**P**	**02 36 18.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**44.77**	**284**	P	**P**	**02 36 19.1**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=74,slow=5.9,SNR=6.0						
CMAR				LR	LR	02 55 40.3	
	comp=Z,106nm,18.3s,baz=105,slow=37						
	comp=Z,0.8nm,0.3s						
SONM	**Songino Array**	**47.73**	**325**	P	**P**	**02 36 40.5**	**-0.7**
SONM	**Songino Array**	**47.73**	**325**	P	**P**	**02 36 41.2**	**0.0**
	comp=Z,0.5nm,0.6s,baz=136,slow=6.2,SNR=5.3						
SONM				LR	LR	02 57 56.9	
	comp=Z,255nm,18.8s,baz=112,slow=38						
	comp=Z,0.5nm,0.6s						
GTA	**Gaotai**	**48.05**	**312**	*e*P	**P**	**02 36 43.8**	**+0.1**
GTA				pP	pwP	02 37 01.8	-0.7
GTA				PcP	**PcP**	**02 38 13.0**	**+1.7**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SEY	**Seymchan**	**50.61**	**4**	LR	LR	02 56 34.2	
	comp=Z,82nm,20.1s,baz=163,slow=34						
YAK	**Yakutsk**	**50.68**	**351**	P	**P**	**02 37 03.5**	**+0.3**
YAK	**Yakutsk**	**50.68**	**351**	LR	LR	02 58 41.6	
	comp=Z,6.1nm,18.2s,baz=134,slow=36						
SHL	**Shillong**	**51.64**	**293**	P	**P**	**02 37 10.3**	**-1.0**
RAO	**Raoul Island**	**54.76**	**140**	LR	LR	02 59 38.5	
	comp=Z,162nm,18.3s,baz=340,slow=35						
ODAN	**Odare**	**55.74**	**294**	*e*P	**P**	**02 37 40.7**	**-0.7**
RAMN	**Ramite**	**56.45**	**294**	*e*P	**P**	**02 37 46.4**	**-0.1**
JIRN	**Jiri**	**56.85**	**295**	*e*P	**P**	**02 37 49.3**	**-0.2**
GUN	**Gumba**	**57.14**	**295**	*e*P	**P**	**02 37 51.4**	**-0.1**
	comp=Z,52nm,1.0s						
PKI	**Pulchoki**	**57.54**	**295**	*e*P	**P**	**02 37 54.0**	**-0.3**
GKN	**Gorkha**	**58.24**	**295**	*e*P	**P**	**02 37 58.8**	**-0.2**
URZ	**Urewera**	**58.73**	**151**	LR	LR	03 02 39.6	
	comp=Z,136nm,18.1s,baz=319,slow=35						
DANN	**Dangsing**	**59.03**	**296**	*e*P	**P**	**02 38 04.3**	**-0.4**
	comp=Z,38nm,0.5s						
PYUN	**Piuthan**	**59.70**	**295**	*e*P	**P**	**02 38 08.3**	**-0.9**
TIXI	**Tiksi**	**59.92**	**354**	P	**P**	**02 38 09.0**	**-0.6**
TIXI				IAmb	IAmb	02 38 11.9	
	comp=Z,2.9nm,0.8s						
RPZ	**Rata Peaks**	**60.77**	**159**	LR	LR	03 03 36.4	
	comp=Z,129nm,18.8s,baz=288,slow=35						
MK31	**Makanchi Array**	**62.41**	**316**	P	**P**	**02 38 26.3**	**-0.8**
MKAR	**Makanchi Array**	**62.41**	**316**	P	**P**	**02 38 27.0**	**0.0**
	comp=Z,0.7nm,0.4s,baz=95,slow=8.7,SNR=17						
	comp=Z,0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**62.62**	**325**	P	**P**	**02 38 29.3**	**+1.1**
ZALV	**Zalesovo Beam**	**62.62**	**325**	P	**P**	**02 38 27.4**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=112,slow=6.3,SNR=4.7						
ZALV				PcP	**PcP**	**02 39 06.8**	**0.0**
	comp=Z,2.5nm,0.5s,baz=124,slow=3.8,SNR=10						
ZALV				LR	LR	03 07 17.7	
	comp=Z,98nm,19.2s,baz=98,slow=38						
	comp=Z,0.7nm,0.4s						
MAKZ	**Makanchi**	**62.63**	**316**	P	**P**	**02 38 28.2**	**-0.2**
KURK	**Kurchatov**	**65.54**	**320**	P	**P**	**02 38 47.2**	**-0.3**
KURK				IAmb	IAmb	02 39 30.9	
	comp=Z,4.5nm,1.1s						
KURBB	**Kurchatov Arra**	**65.58**	**320**	P	**P**	**02 38 47.5**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=103,slow=6.7,SNR=13						
	comp=Z,1.3nm,0.4s						
NRIK	**Noril'sk**	**67.21**	**341**	P	**P**	**02 38 58.0**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=121,slow=10,SNR=5.8						
	comp=Z,1.5nm,0.4s						
B20K	**Meade River**	**67.58**	**18**	IAmb	IAmb	02 39 25.9	
	comp=Z,5.2nm,1.0s						
NIL	**Nilore**	**68.12**	**301**	P	**P**	**02 39 03.5**	**-0.9**
E22K	**Anaktuvuk Pass**	**68.58**	**21**	IAmb	IAmb	02 39 10.0	
	comp=Z,12nm,1.4s						
MDM	**Murphy Dome**	**68.94**	**25**	IAmb	IAmb	02 39 47.3	
	comp=Z,9.2nm,1.3s						
IL31		**69.44**	**25**	IAmb	IAmb	02 39 17.2	
	comp=Z,5.6nm,1.1s						
ILAR	**Eielson Array**	**69.44**	**25**	P	**P**	**02 39 13.7**	**+1.8**
ILAR	**Eielson Array**	**69.44**	**25**	P	**P**	**02 39 12.1**	**+0.2**
	comp=Z,2.3nm,0.5s,baz=249,slow=6.1,SNR=55						
ILAR				LR	LR	03 08 06.2	
	comp=Z,64nm,21.4s,baz=260,slow=35						
	comp=Z,2.3nm,0.5s						
J25K	**Salcha River,**	**70.04**	**25**	IAmb	IAmb	02 39 48.8	
	comp=Z,8.2nm,1.4s						
KK31	**Karatay Array**	**70.32**	**311**	P	**P**	**02 39 16.7**	**-1.0**
KKAR	**Karatay Array**	**70.32**	**311**	P	**P**	**02 39 16.7**	**-1.0**
SCRK	**Sand Creek**	**70.49**	**26**	P	**P**	**02 39 19.3**	**+0.8**
SCRK				IAmb	IAmb	02 39 29.6	
	comp=Z,11nm,1.5s						
J26L	**Joseph Creek**	**70.77**	**26**	IAmb	IAmb	02 39 23.2	
	comp=Z,5.2nm,0.6s						
D25K	**Kavik River**	**70.84**	**20**	IAmb	IAmb	02 40 00.9	
	comp=Z,4.9nm,0.9s						
BVAR	**Borovoye Array**	**70.90**	**322**	P	**P**	**02 39 21.3**	**+0.3**
	comp=Z,2.5nm,0.5s,baz=105,slow=7.4,SNR=19						
	comp=Z,2.5nm,0.5s						
BMAR	**Burnt Mountain**	**71.00**	**23**	P	**P**	**02 39 20.5**	**-0.9**
PPT2	**Papeete2**	**71.09**	**114**	*e*S	**S**	**02 48 32.3**	**-4.8**
	comp=Z,29nm,23.8s						
PPT2	**Papeete2**	**71.09**	**114**	*e*LR	LR	03 01 04.5	
	comp=Z,128nm,26.8s						
PPT2				*e*LR	LR	03 01 24.0	
	comp=Z,91nm,21.2s						
SIMJ	**Simiganj**	**71.47**	**307**	P	**P**	**02 39 24.2**	**-0.7**
KBL	**Kabul**	**71.59**	**302**	P	**P**	**02 39 25.4**	**-0.4**
KBL				IAmb	IAmb	02 39 28.7	
	comp=Z,8.9nm,0.9s						
F28M	**Old Crow**	**72.81**	**23**	P	**P**	**02 39 34.0**	**+1.8**
F28M				IAmb	IAmb	02 40 16.2	
	comp=Z,3.6nm,0.8s						
E28M	**Babbage River**	**73.10**	**22**	IAmb	IAmb	02 39 48.3	
	comp=Z,5.2nm,1.1s						
TBI	**Tubuai**	**73.25**	**119**	*e*LR	LR	03 02 29.3	
	comp=Z,318nm,25.2s						
G31M	**Satah River**	**74.90**	**24**	P	**P**	**02 39 45.8**	**+1.3**
G31M				IAmb	IAmb	02 39 47.4	
	comp=Z,15nm,1.4s						
HRA	**Herat**	**77.20**	**303**	IAmb	IAmb	02 40 00.3	
	comp=Z,6.1nm,0.7s						
TAOE	**Nuku Hiva Isla**	**77.25**	**102**	*e*LR	LR	03 04 08.7	
	comp=Z,141nm,23.8s						
A36M	**Sachs Harbour**	**78.09**	**19**	P	**P**	**02 40 03.1**	**+0.7**
A36M				IAmb	IAmb	02 40 26.8	
	comp=Z,4.4nm,0.9s						
GEYT	**Alibeck**	**80.07**	**307**	IAmb	IAmb	02 40 16.1	
	comp=Z,5.7nm,0.9s						
GEYT	**Alibeck**	**80.07**	**307**	P	**P**	**02 40 14.6**	**+0.6**
	comp=Z,2.7nm,0.7s,baz=105,slow=9.5,SNR=9.3						
	comp=Z,2.7nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**80.07**	**307**	P	**P**	**02 40 15.1**	**+1.1**
GYA0B				IAmb	IAmb	02 40 19.1	
	comp=Z,4.0nm,0.8s						
KIRV	**Kirov**	**82.37**	**328**	LR	LR	03 17 26.7	
	comp=Z,35nm,18.5s,baz=34,slow=36						
YKA	**Yellowknife Ar**	**83.71**	**27**	P	**P**	**02 40 33.0**	**+0.5**
YKA	**Yellowknife Ar**	**83.71**	**27**	P	**P**	**02 40 34.1**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=286,slow=5.5,SNR=18						
	comp=Z,0.9nm,0.6s						
SPITS	**Spitsbergen Ar**	**85.14**	**351**	P	**P**	**02 40 40.5**	**+0.9**
	comp=Z,2.1nm,0.6s,baz=58,slow=13,SNR=4.0						
	comp=Z,2.1nm,0.6s						
RES	**Resolute Bay**	**85.54**	**13**	IAmb	IAmb	02 41 24.6	
	comp=Z,5.0nm,1.1s						
NVAR	**Mina Array Bea**	**87.42**	**51**	P	**P**	**02 40 52.5**	**+0.7**
NVAR	**Mina Array Bea**	**87.42**	**51**	P	**P**	**02 40 53.0**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=289,slow=5.0,SNR=5.2						
	comp=Z,0.4nm,0.5s						
ARCES	**ARCESS Array B**	**88.17**	**342**	P	**P**	**02 40 55.5**	**+1.1**
	comp=Z,3.8nm,0.9s,baz=357,slow=2.4,SNR=8.0						
ARCES				LR	LR	03 25 09.6	
	comp=Z,81nm,18.1s,baz=39,slow=39						
	comp=Z,3.8nm,0.9s						
ELK	**Elko**	**89.12**	**49**	P	**P**	**02 41 01.9**	**+2.0**
ELK				IAmb	IAmb	02 41 20.7	
	comp=Z,3.7nm,1.1s						
GNI	**Garni**	**89.78**	**311**	LR	LR	03 26 42.2	
	comp=Z,24nm,18.1s,baz=20,slow=39						
FINES	**FINESS Array B**	**92.22**	**335**	P	**P**	**02 41 12.7**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=62,slow=5.5,SNR=16						
	comp=Z,1.5nm,0.6s						
PDAR	**Pinedale Array**	**92.56**	**45**	P	**P**	**02 41 15.8**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=289,slow=4.5,SNR=3.5						
	comp=Z,0.2nm,0.6s						
AKASG	**Malin Array Be**	**96.02**	**325**	LR	LR	03 26 58.1	
	comp=Z,127nm,18.2s,baz=47,slow=37						
HFS	**Hagfors**	**97.86**	**338**	P	**P**	**02 41 38.6**	**-0.7**
	comp=Z,3.4nm,1.0s,baz=146,slow=8.0,SNR=4.2						
	comp=Z,3.4nm,1.0s						
BRTR	**Keskin Array B**	**97.96**	**314**	P	**P**	**02 41 39.4**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=111,slow=5.9,SNR=3.0						
BRTR				LR	LR	03 30 53.8	
	comp=Z,40nm,18.2s,baz=360,slow=38						
	comp=Z,0.4nm,0.6s						
MAW	**Mawson**	**98.52**	**203**	LR	LR	03 25 15.9	
	comp=Z,60nm,18.8s,baz=72,slow=35						
SFJD	**Kangerlussuaq**	**99.88**	**6**	LR	LR	03 26 32.9	
	comp=Z,45nm,21.2s,baz=18,slow=35						
**T

	1.4nm,1.1s							
NVAR	**Mina Array Bea**	**78.55**	**52**	P		**P**	**02 49 35.9**	**+0.7**
	0.4nm,0.8s,baz=311,slow=5.8,SNR=2.5							
	0.4nm,0.8s							
PDAR	**Pinedale Array**	**81.46**	**44**	P		**P**	**02 49 51.8**	**+0.9**
	0.2nm,0.6s,baz=226,slow=0.9,SNR=3.5							
	0.2nm,0.6s							
TXAR	**Lajitas Array**	**93.70**	**51**	P		**P**	**02 50 51.0**	**+0.5**
	0.2nm,0.7s,baz=299,slow=3.7,SNR=4.7							
	0.2nm,0.7s							

IDC 31 02:41:02.1±55.0, 22°04S×177°57W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=1007.0km s-min=155.4km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.51**	**246**	P	P	02 48 16.7	-1.3
	1.3nm,0.6s,baz=94,slow=10,SNR=5.3						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**44.58**	**258**	P	P	02 49 16.1	-0.2
	0.3nm,0.5s,baz=92,slow=7.2,SNR=10						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**44.81**	**263**	P	P	02 49 19.0	+0.8
	1.0nm,0.5s,baz=98,slow=8.3,SNR=23						
	1.0nm,0.5s						

*SJA **31** 02:43:29.2±0.6,21°17S×69°16W,h92km±3km, ML3.6, MW3.6*
*GUC **31** 02:43:30.8±0.6,21°16S×69°12W,h89km±3km, ML3.4*
ISC 31 02:43:30.8±1.4, 21°13S±0°03×69°23W±0°05, h93km±9km, n33, σ1°02/52, 8C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.25**	**289**	*eP*	**Pn**	**02 43 43.8**	**-0.6**
PB01				*eS*	**Sn**	**02 43 54.4**	**-0.2**
PB01				IAML		02 43 55.0	
	comp=Z,8μm,0.2s						
PB01	**IPOC Station P**	**0.25**	**289**	⇑*iP*	**Pn**	**02 43 43.9**	**-0.6**
PB01				*eS*	**Sn**	**02 43 54.3**	**-0.2**
PB02	**IPOC Station P**	**0.65**	**253**	*eP*	**Pn**	**02 43 46.9**	**-0.3**
PB02				*eS*	**Sn**	**02 44 00.2**	**+0.7**
PB02				IAML		02 44 01.8	
	comp=Z,4μm,0.2s						
PB02	**IPOC Station P**	**0.65**	**253**	⇑*iP*	**Pn**	**02 43 47.1**	**-0.1**
PB02				*eS*	**Sn**	**02 43 60.0**	**+0.5**
PB09	**IPOC Station P**	**0.67**	**181**	*eP*	**Pn**	**02 43 46.6**	**-0.9**
PB09				IAML		02 44 03.6	
	comp=Z,1μm,0.7s						
PB09	**IPOC Station P**	**0.67**	**181**	*iP*	**Pn**	**02 43 46.8**	**-0.7**
PB09				*eS*	**Sn**	**02 43 59.6**	**-0.3**
PB09				IAML		02 44 03.0	
	comp=E,1μm,0.3s						
PX03	**IPOC Station P**	**0.81**	**332**	*eP*	**Pn**	**02 43 48.0**	**-0.8**
PX03				*eS*	**Sn**	**02 44 02.5**	**+0.3**
PB07	**IPOC Station P**	**0.85**	**225**	*eP*	**Pn**	**02 43 48.8**	**-0.6**
PB07				*eS*	**Sn**	**02 44 03.4**	**+0.3**
PB07				IAML		02 44 04.0	
	comp=Z,1μm,0.3s						
PB07	**IPOC Station P**	**0.85**	**225**	⇑*iP*	**Pn**	**02 43 48.9**	**-0.4**
PB07				*eS*	**Sn**	**02 44 03.2**	**+0.1**
PB07				IAML		02 44 03.7	
	comp=N,2μm,0.1s						
PATCX	**Punta Patache**	**0.91**	**289**	*eP*	**Pn**	**02 43 50.2**	**+0.4**
PATCX	**Punta Patache**	**0.91**	**289**	⇑*iP*	**Pn**	**02 43 50.2**	**+0.4**
PB08	**IPOC Station P**	**0.98**	**4**	*eP*	**Pn**	**02 43 50.7**	**-0.2**
PB08				IAML		02 44 07.9	
	comp=Z,504nm,0.2s						
PB08	**IPOC Station P**	**0.98**	**4**	*iP*	**Pn**	**02 43 50.8**	**-0.2**
PB08				*eS*	**Sn**	**02 44 06.2**	**+0.2**
PB08				IAML		02 44 07.9	
	comp=E,810nm,0.2s						
TA01	**Diego Aracena**	**1.05**	**302**	*eP*	**Pn**	**02 43 51.3**	**0.0**
TA01				*eS*	**Sn**	**02 44 08.9**	**+2.3**
TA01				IAML		02 44 10.1	
	comp=Z,351nm,0.2s						
TA01	**Diego Aracena**	**1.05**	**302**	⇑*iP*	**Pn**	**02 43 51.3**	**0.0**
TA01				*eS*	**Sn**	**02 44 07.6**	**+1.0**
TA01				IAML		02 44 09.1	
	comp=E,1μm,0.2s						
TA02	**Huaiquique**	**1.20**	**315**	*eP*	**Pn**	**02 43 53.1**	**+0.1**
TA02				*eS*	**Sn**	**02 44 11.7**	**+2.0**
TA02				IAML		02 44 13.7	
	comp=Z,772nm,0.1s						
TA02	**Huaiquique**	**1.20**	**315**	*iP*	**Pn**	**02 43 53.4**	**+0.3**
PB11	**IPOC Station P**	**1.42**	**344**	*eP*	**Pn**	**02 43 55.5**	**-0.3**
PB11				IAML		02 44 18.1	
	comp=Z,638nm,0.2s						
PB11	**IPOC Station P**	**1.42**	**344**	⇑*iP*	**Pn**	**02 43 55.8**	**0.0**
PB11				*eS*	**Sn**	**02 44 15.1**	**+0.4**
PB11				IAML		02 44 16.5	
	comp=E,1μm,0.3s						
GO01	**Chusmiza**	**1.45**	**1**	*eP*	**Pn**	**02 43 56.7**	**+0.1**
GO01				*eS*	**Sn**	**02 44 16.9**	**+1.0**
GO01	**Chusmiza**	**1.45**	**1**	⇑*iP*	**Pn**	**02 43 56.6**	**+0.1**
GO01				*eS*	**Sn**	**02 44 16.7**	**+0.7**
PB04	**IPOC Station P**	**1.47**	**215**	*eP*	**Pn**	**02 43 56.1**	**-0.5**
PB04				*eS*	**Sn**	**02 44 15.9**	**-0.1**
PB04				IAML		02 44 20.2	
	comp=Z,631nm,0.5s						
PB04	**IPOC Station P**	**1.47**	**215**	⇑*iP*	**Pn**	**02 43 56.0**	**-0.5**
LVC	**Limon Verde**	**1.51**	**169**	*eP*	**Pn**	**02 43 57.2**	**0.0**
LVC				*eS*	**Sn**	**02 44 18.3**	**+1.3**
LVC				IAML		02 44 21.0	
	comp=Z,404nm,0.9s						
PB06	**IPOC Station P**	**1.60**	**191**	*eP*	**Pn**	**02 43 57.7**	**-0.5**
PB06				IAML		02 44 24.6	
	comp=Z,476nm,0.5s						
PB06	**IPOC Station P**	**1.60**	**191**	*eP*	**Pn**	**02 43 57.8**	**-0.5**
PB06				*eS*	**Sn**	**02 44 18.5**	**-0.4**
PB06				IAML		02 44 22.8	
	comp=E,627nm,0.3s						
PB05	**IPOC Station P**	**1.94**	**207**	*eP*	**Pn**	**02 44 01.7**	**-0.8**
PB05				IAML		02 44 34.7	
	comp=Z,251nm,0.4s						
PB05	**IPOC Station P**	**1.94**	**207**	*eP*	**Pn**	**02 44 01.8**	**-0.7**
PB15	**IPOC Station P**	**2.08**	**186**	*eP*	**Pn**	**02 44 05.1**	**+0.6**
PB15				IAML		02 44 39.8	
	comp=Z,1μm,0.3s						
PB12	**IPOC Station P**	**2.70**	**337**	*eP*	**Pn**	**02 44 11.6**	**-1.0**
PB12				IAML		02 44 49.2	
	comp=Z,118nm,0.2s						
PB12	**IPOC Station P**	**2.70**	**337**	*iP*	**Pn**	**02 44 11.4**	**-1.2**
PB16	**IPOC Station P**	**2.79**	**355**	*eP*	**Pn**	**02 44 15.0**	**+0.8**
PB16				*eS*	**Sn**	**02 44 42.4**	**-4.9**
PB16				IAML		02 44 54.8	
	comp=Z,71nm,0.7s						
YJA	**Yavi**	**3.61**	**107**	*eP*	**Pn**	**02 44 26.2**	**+1.1**

*SJA **31** 02:47:06.1±0.7,23°07S×66°77W,h241km±7km, ML3.7, MW3.6*
*GUC **31** 02:47:08.9±0.6,23°03S×67°21W,h242km±12km, ML4.0*
ISC 31 02:47:08.7±1.3, 23°15S±0°04×66°83W±0°05, h208km, n39, σ1°01/61, 10C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**1.56**	**52**	*eP*	**Pn**	**02 47 44.3**	**+0.1**
AZAP	**Zapla**	**1.94**	**124**	*eP*	**Pn**	**02 47 47.2**	**-0.2**
SLA	**San Lorenzo**	**1.98**	**142**	*eP*	**Pn**	**02 47 49.1**	**+1.3**
LVC	**Limon Verde**	**1.99**	**285**	*eP*	**Pn**	**02 47 49.0**	**+0.9**
LVC	**Limon Verde**	**1.99**	**285**	⇑*iP*	**Pn**	**02 47 49.1**	**+0.9**
ASTB	**Santa Barbara**	**2.32**	**110**	*eP*	**Pn**	**02 47 51.5**	**+0.1**
ASTB				*eS*	S	02 48 39.8	+16
PB15	**IPOC Station P**	**2.43**	**268**	*eP*	**Pn**	**02 47 53.4**	**+0.8**
PB15				*eS*	**S**	**02 48 27.6**	**+1.4**
PB15	**IPOC Station P**	**2.43**	**268**	⇑*iP*	**Pn**	**02 47 53.5**	**+0.9**
PB15				*eS*	**S**	**02 48 27.2**	**+1.0**
PB06	**IPOC Station P**	**2.57**	**279**	*eP*	**Pn**	**02 47 54.6**	**+0.6**
PB06				IAML		02 48 33.8	
	comp=Z,127nm,0.1s						
PB06	**IPOC Station P**	**2.57**	**279**	*eP*	**Pn**	**02 47 54.8**	**+0.7**
PB06				*eS*	**S**	**02 48 29.1**	**+0.3**
PB06				IAML		02 48 34.4	
	comp=N,273nm,0.1s						
PB09	**IPOC Station P**	**2.61**	**301**	*eP*	**Pn**	**02 47 55.6**	**+1.1**
PB09				*eS*	**S**	**02 48 32.6**	**+2.9**
PB09				IAML		02 48 35.5	
	comp=Z,78nm,0.4s						
PB09	**IPOC Station P**	**2.61**	**301**	⇑*iP*	**Pn**	**02 47 55.6**	**+1.1**
ALOL	**LOMAS DE OLMED**	**2.70**	**105**	*eP*	**Pn**	**02 47 54.6**	**-0.7**
ALOL				*eP*		02 47 54.9	
FSA	**Cafayete**	**3.05**	**165**	*eP*	**Pn**	**02 48 00.4**	**+0.9**
PB05	**IPOC Station P**	**3.12**	**275**	*eP*	**Pn**	**02 48 00.5**	**+0.2**
PB05				*eS*	**S**	**02 48 40.5**	**+0.3**
PB05				IAML		02 48 42.2	
	comp=Z,63nm,0.1s						
PB05	**IPOC Station P**	**3.12**	**275**	⇑*iP*	**Pn**	**02 48 00.5**	**+0.2**
PB05				*eS*	**S**	**02 48 39.7**	**-0.5**
PB05				IAML		02 48 44.7	
	comp=E,158nm,0.7s						
PB07	**IPOC Station P**	**3.16**	**296**	*eP*	**Pn**	**02 48 01.0**	**+0.1**
PB07				*eS*	**S**	**02 48 40.8**	**-0.4**
PB07				IAML		02 48 42.2	
	comp=Z,153nm,0.1s						
PB07	**IPOC Station P**	**3.16**	**296**	⇑*iP*	**Pn**	**02 48 01.1**	**+0.2**
PB07				*eS*	**S**	**02 48 40.5**	**-0.7**
PB07				IAML		02 48 40.7	
	comp=N,229nm,0.2s						
PB04	**IPOC Station P**	**3.17**	**284**	*eP*	**Pn**	**02 48 00.9**	**-0.1**
PB04				*eS*	**S**	**02 48 42.4**	**+1.1**
PB04				IAML		02 48 45.5	
	comp=Z,134nm,0.1s						
PB04	**IPOC Station P**	**3.17**	**284**	⇑*iP*	**Pn**	**02 48 01.2**	**+0.3**
GO02	**Mina Guanaco**	**3.22**	**231**	*eP*	**Pn**	**02 48 02.8**	**+1.1**
GO02				*eS*	**S**	**02 48 44.2**	**+1.6**
GO02	**Mina Guanaco**	**3.22**	**231**	⇑*iP*	**Pn**	**02 48 02.4**	**+0.7**
PB01	**IPOC Station P**	**3.24**	**310**	*eP*	**Pn**	**02 48 01.8**	**+0.1**
PB01				*eS*	**S**	**02 48 43.0**	**+0.4**
PB01				IAML		02 48 44.5	
	comp=Z,158nm,0.1s						
PB01	**IPOC Station P**	**3.24**	**310**	⇑*iP*	**Pn**	**02 48 01.8**	**+0.1**
PB01				*eS*	**S**	**02 48 42.6**	**0.0**
PB01				IAML		02 48 45.3	
PB02	**IPOC Station P**	**3.38**	**302**	*eP*	**Pn**	**02 48 03.2**	**-0.1**
PB02				*eS*	**S**	**02 48 45.4**	**-0.3**
PB02				IAML		02 48 47.5	
	comp=Z,217nm,0.4s						
PB02	**IPOC Station P**	**3.38**	**302**	*iP*	**Pn**	**02 48 03.2**	**-0.1**
PB14	**IPOC Station P**	**3.59**	**245**	*eP*	**Pn**	**02 48 06.3**	**+0.3**
PB14				*eS*	**S**	**02 48 49.7**	**-0.8**
PB14				IAML		02 48 50.9	
	comp=Z,157nm,0.1s						
PB08	**IPOC Station P**	**3.69**	**324**	*eP*	**Pn**	**02 48 08.4**	**+1.0**
PB08				*eS*	**S**	**02 48 53.4**	**+0.3**
PB08				IAML		02 48 57.8	
	comp=Z,48nm,0.3s						
PB08	**IPOC Station P**	**3.69**	**324**	⇑*iP*	**Pn**	**02 48 08.3**	**+0.8**
PB08				*eS*	**S**	**02 48 53.6**	**+0.5**
PB08				IAML		02 48 56.1	
	comp=E,107nm,0.2s						
PATCX	**Punta Patache**	**3.86**	**306**	*eP*	**Pn**	**02 48 08.5**	**-0.7**
PATCX				*eS*	**S**	**02 48 54.7**	**-1.5**
PATCX	**Punta Patache**	**3.86**	**306**	*eP*	**Pn**	**02 48 08.7**	**-0.5**
PATCX				*eS*	**S**	**02 48 53.6**	**-2.6**
TA01	**Diego Aracena**	**4.04**	**309**	*eP*	**Pn**	**02 48 10.2**	**-1.1**
TA01				*eS*	**S**	**02 48 58.0**	**-2.1**
TA01				IAML		02 49 04.9	
	comp=Z,37nm,0.2s						
GO01	**Chusmiza**	**4.11**	**327**	*eP*	**Pn**	**02 48 12.9**	**+0.3**
GO01				*eS*	**S**	**02 49 04.2**	**+1.8**
GO01	**Chusmiza**	**4.11**	**327**	⇑*iP*	**Pn**	**02 48 12.8**	**+0.2**
TA02	**Huaiquique**	**4.20**	**312**	*eP*	**Pn**	**02 48 12.0**	**-1.3**
TA02				IAML		02 49 06.2	
	comp=Z,115nm,0.1s						
PB11	**IPOC Station P**	**4.28**	**322**	*eP*	**Pn**	**02 48 13.2**	**-1.2**
PB11				IAML		02 49 07.2	
	comp=Z,137nm,0.3s						
PB11	**IPOC Station P**	**4.28**	**322**	⇓*iP*	**Pn**	**02 48 13.5**	**-1.0**
AC01	**Pan de Azucar**	**4.54**	**228**	*eP*	**Pn**	**02 48 16.8**	**-0.8**
AC01				*eS*	**S**	**02 49 10.3**	**-1.2**
AC01				IAML		02 49 13.6	
	comp=Z,46nm,0.3s						
GO03	**Copiap**	**5.39**	**214**	*eP*	**Pn**	**02 48 27.6**	**-0.7**
GO03				*eS*	**S**	**02 49 29.0**	**-2.0**

TEH 31 03:03:27.0, 30°88N×57°16E, h8km±46km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRM1	**Kerman Provinc**	**0.39**	**166**	Pg	Pg	03 03 35.2	+0.5
KHGB	**Koh Gabri**	**0.78**	**230**	Pg	Pg	03 03 42.4	+0.4
NGRK	**Negar Kerman**	**1.29**	**197**	Pg	Pg	03 03 52.3	+0.5
NGRK				Sg	Sn	03 04 10.3	+1.0
IBAF	**Bafgh**	**1.54**	**298**	Pg	Pb	03 03 56.0	+0.2
BSRN	**Basiran**	**2.00**	**57**	Pn	Pb	03 04 02.6	-1.0
KBAM	**BAM**	**2.07**	**147**	Pn	Pb	03 04 03.7	-1.2
TPRV	**Parvadeh(Tabas**	**2.18**	**349**	Pn	Pb	03 04 05.7	-0.9
IKOO	**Kooshah**	**2.20**	**45**	Pn	Pb	03 04 05.7	-1.5
IMEH	**Mehriz**	**2.24**	**284**	Pn	Pb	03 04 07.3	-0.6
ITEG	**Tejag**	**2.42**	**34**	Pn	Pn	03 04 08.6	+1.6
NHDN	**Nehbandan**	**2.53**	**78**	Pn	Pb	03 04 11.2	-1.5
ICHK	**Chekchek**	**2.71**	**301**	Pn	Pb	03 04 13.8	-2.1
TKDS	**Koohdasht(Taba**	**2.72**	**359**	Pn	Pn	03 04 12.7	+1.6
IDAH	**Dahanechah**	**2.95**	**51**	Pn	Pb	03 04 17.4	-2.6
AFRZ	**Afriz**	**2.98**	**31**	Pn	Pn	03 04 16.2	+1.5
TNSJ	**Nastanj**	**3.11**	**351**	Pn	Pn	03 04 18.2	+1.8
ISAD	**Sadrabad**	**3.15**	**290**	Pn	Pn	03 04 19.1	+2.0
ZHDN	**Zahedan**	**3.49**	**114**	Pn	Pn	03 04 24.0	+2.3
SHRT	**Shahrakht**	**3.82**	**43**	Pn	Pn	03 04 28.9	+2.7
IRAM	**Ramesheh**	**4.19**	**284**	Pn	Pn	03 04 33.9	+2.5
TBJM	**Torbat-e-JAM**	**5.12**	**30**	Pn	Pn	03 04 47.0	+3.0
SBZV	**Sabzevar**	**5.50**	**4**	Pn	Pn	03 04 51.3	+1.9

*NNC **31** 03:09:50.8±2.3,36°59N×70°27E,h121km±48km, mb2.6, mpv3.2, Error ellipse: s-maj=18.1km s-min=16.5km az=42.0*
*IDC **31** 03:09:51.1±8.6,36°55N×70°47E,h113km±62km, mb3.6/3, mbtmp3.7/8, Error ellipse: s-maj=78.9km s-min=43.1km az=163.0*
ISC 31 03:09:50.2±2.0, 36°6N±0°1×70°3E±0°1, h100km, n14, σ0°92/22, 8C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.16**	**25**	⇑P	**Pn**	**03 11 19.2**	**+0.2**
	0.2nm,0.4s						
AML				⇑S	**Sn**	**03 12 28.6**	**+0.3**
	5.1nm,0.9s						
KK31	**Karatay Array**	**6.53**	**2**	⇑P	**Pn**	**03 11 24.0**	**+0.4**
	1.4nm,0.5s,baz=184,slow=13,SNR=35						
KK31				⇓S	**Sn**	**03 12 38.4**	**+1.8**
	2.5nm,0.6s,baz=191,slow=27,SNR=5.6						
AAK	**Ala-Archa**	**6.89**	**27**	P	**Pn**	**03 11 28.6**	**0.0**
	2.1nm,0.3s,baz=170,slow=7.9,SNR=11						
AAK				S	**Sn**	**03 12 45.3**	**-0.3**
	3.1nm,0.4s,baz=318,slow=23,SNR=14						
CHMS	**Chumysh**	**7.30**	**27**	⇑P	**Pn**	**03 11 33.8**	**-0.3**
	1.0nm,0.4s						
CHMS				⇓S	**Sn**	**03 12 56.7**	**+1.4**
	4.8nm,0.7s						
TKM2	**Tokmak 2**	**7.56**	**31**	⇑P	**Pn**	**03 11 38.7**	**+0.9**
	1.0nm,0.4s						
TKM2				⇑S	**Sn**	**03 13 01.7**	**-0.3**
	2.6nm,0.8s						
MKAR	**Makanchi Array**	**13.60**	**38**	P	**Pn**	**03 12 57.8**	**-1.0**
	0.4nm,0.7s,baz=222,slow=16,SNR=4.4						
MKAR				S	**Sn**	**03 15 28.1**	**-0.2**
	0.2nm,0.6s,baz=299,slow=1.2,SNR=1.4						
AB31	**Akbulak array**	**14.74**	**333**	⇑P	**Pn**	**03 13 12.9**	**-0.5**
	0.6nm,0.5s,baz=167,slow=12,SNR=23						
AB31				⇑S	**Sn**	**03 15 53.2**	**-2.5**
	0.4nm,0.6s,baz=152,slow=23,SNR=5.0						
KURBB	**Kurchatov Arra**	**15.26**	**20**	P	**Pn**	**03 13 19.7**	**-0.3**
	0.4nm,0.2s,baz=210,slow=9.9,SNR=4.3						
AKTO	**Aktyubinsk**	**16.42**	**331**	P	**P**	**03 13 36.3**	**+0.8**
	0.7nm,0.5s,baz=143,slow=11,SNR=4.0						
AKTO	**Aktyubinsk**	**16.42**	**331**	⇓P	**Pn**	**03 13 34.9**	**+0.3**
	0.2nm,0.5s						
AKTO				⇓S	**Sn**	**03 16 36.6**	**+0.1**
	0.6nm,0.9s						
BVAR	**Borovoye Array**	**16.45**	**0**	P	**P**	**03 13 36.0**	**+0.1**
	0.5nm,0.4s,baz=162,slow=9.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**20.11**	**26**	P	**P**	**03 14 15.3**	**-0.4**
	6.6nm,0.3s,baz=221,slow=11,SNR=36						
	6.6nm,0.3s						
FINES	**FINESS Array B**	**37.09**	**326**	P	**P**	**03 16 51.1**	**+0.7**
	4.6nm,1.1s,baz=123,slow=10,SNR=3.9						
	4.6nm,1.1s						
NOA	**NORSAR Array B**	**43.96**	**323**	P	**P**	**03 17 46.8**	**-0.2**
	0.4nm,0.8s,baz=90,slow=7.9,SNR=1.5						
	0.4nm,0.8s						

*IDC **31** 03:11:19.5±1.1,17°74S×172°56W,h0km, mb4.0/9, mbtmp4.0/10, ML3.3/1, MS3.6/5, Error ellipse: s-maj=55.6km s-min=21.2km az=157.0*
ISC 31 03:11:22.7±0.9, 17°9S±0°2×172°5W±0°1, h21km, n26, σ1°29/17, mb4.0/9, MS3.4/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**12.46**	**108**	Pn	**Pn**	**03 14 18.6**	**-0.3**
	1.7nm,0.3s,baz=239,slow=4.1,SNR=6.9						
	16nm,0.5s						
DZM	**Mont Dzumac**	**20.22**	**255**	*e*LR	LR	03 20 43.0	
	comp=Z,210nm,25.1s						
DZM	**Mont Dzumac**	**20.22**	**255**	LR	LR	03 22 03.4	
	comp=Z,127nm,21.3s,baz=137,slow=32						
PPT2	**Papeete2**	**21.85**	**93**	*e*P	P	03 16 23.5	+9.4
	9.4nm,19.8s						
PPT2				*e*LR	LR	03 21 17.3	
	comp=Z,226nm,27.8s						
PPT2				*e*LR	LR	03 21 24.1	
	comp=Z,98nm,30.2s						
PPT	**Papeete**	**21.85**	**93**	LR	LR	03 23 13.6	
	comp=Z,126nm,18.2s,baz=262,slow=33						
TBI	**Tubuai**	**22.24**	**108**	*e*P	P	03 15 57.6	-21
	305nm,36.0s						
TBI				*e*LR	LR	03 21 40.0	
	comp=Z,1μm,27.8s						
TAOE	**Nuku Hiva Isla**	**32.69**	**78**	*e*LR	LR	03 26 06.8	
	comp=Z,96nm,28.2s						
CTA	**Charters Tower**	**38.99**	**260**	LR	LR	03 32 35.6	
	comp=Z,50nm,21.5s,baz=86,slow=33						
WRA	**Warramunga Arr**	**50.16**	**259**	P	**P**	**03 20 16.3**	**-0.8**
	1.2nm,0.8s,baz=96,slow=7.0,SNR=12						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**50.20**	**254**	P	**P**	**03 20 17.2**	**-0.3**
	3.3nm,0.6s,baz=89,slow=8.3,SNR=44						
ASAR				LR	LR	03 42 01.5	
	comp=Z,64nm,18.5s,baz=78,slow=37						
	3.3nm,0.6s						
NVAR	**Mina Array Bea**	**75.59**	**41**	P	**P**	**03 23 04.8**	**-1.5**
	1.1nm,1.1s,baz=220,slow=9.4,SNR=3.7						
	1.1nm,1.1s						
TXAR	**Lajitas Array**	**81.28**	**55**	P	**P**	**03 23 39.1**	**+1.3**
	0.8nm,1.1s,baz=199,slow=8.2,SNR=4.9						
	0.8nm,1.1s						
PDAR	**Pinedale Array**	**83.53**	**41**	P	**P**	**03 23 49.5**	**0.0**
	0.5nm,0.8s,baz=207,slow=5.8,SNR=3.7						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**84.69**	**11**	P	**P**	**03 23 54.4**	**-0.2**
	1.7nm,1.1s,baz=208,slow=5.1,SNR=5.1						
	1.7nm,1.1s						
INK	**Inuvik**	**90.44**	**14**	P	**P**	**03 24 20.9**	**-1.2**
	0.8nm,0.9s,baz=216,slow=14,SNR=2.2						
	0.8nm,0.9s						
YKA	**Yellowknife Ar**	**92.01**	**23**	P	**P**	**03 24 28.8**	**-0.7**
	0.3nm,1.0s,baz=249,slow=4.6,SNR=4.8						
	0.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**94.19**	**288**	P	**P**	**03 24 40.9**	**+0.2**
	0.5nm,0.3s,baz=75,slow=3.9,SNR=2.0						
	0.5nm,0.3s						
SONM	**Songino Array**	**97.23**	**318**	LR	LR	04 07 17.8	
	comp=Z,82nm,19.0s,baz=152,slow=35						
BRTR	**Keskin Array B**	**148.58**	**319**	PKPbc	**PKiKP**	**03 31 10.3**	**+0.2**
	0.7nm,0.8s,baz=69,slow=7.9,SNR=3.3						
CONA	**Conrad Observa**	**149.24**	**349**	*ep*PKiKP	**PKPab**	**03 31 13.7**	**-0.7**
	7.1nm,1.9s						
RONA	**Rosalia, Austr**	**149.38**	**348**	*e*PKP	**PKPab**	**03 31 14.1**	**-0.7**
	3.2nm,0.9s						
MOTA	**Moosalm**	**150.44**	**355**	*e*PKP	**PKPab**	**03 31 18.5**	**-0.8**
	7.1nm,1.2s						
SOKA	**Soboth**	**150.59**	**349**	*ep*PKP	pPKPdf	03 31 10.1	-2.3
	3.3nm,1.0s						
FETA	**Feichten**	**150.80**	**355**	*ep*PKP	**PKPab**	**03 31 23.3**	**+2.4**
	6.0nm,1.3s						
MYKA	**Terra Mystica**	**150.86**	**351**	*ep*PKP	**PKPab**	**03 31 22.5**	**+1.5**
	6.6nm,1.7s						
ABTA	**Abfaltersbach**	**150.90**	**353**	*ep*PKiKP	**PKiKP**	**03 31 17.1**	**+2.6**
	6.7nm,1.3s						

*IDC **31** 03:14:10.0±14.0,27°63S×69°40W,h0km, mb3.8/1, mbtmp3.8/1, Error ellipse: s-maj=881.2km s-min=118.8km az=4.0*
*SJA **31** 03:14:24.8±0.8,27°02S×69°48W,h123km±7km, ML3.3, MW3.5*
*GUC **31** 03:14:26.5±0.6,27°06S×69°49W,h110km±5km, ML3.4*
ISC 31 03:14:25.5±0.9, 27°02S±0°03×69°48W±0°04, h124km±8km, n46, σ1°27/67, 3C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AC06	**Mina Casimiro**	**0.84**	**247**	⇑*iP*	**Pn**	**03 14 46.2**	**-0.3**
AC06				⇑*eS*	**Sn**	**03 15 01.3**	**-1.0**
AC06				IAML		03 15 02.8	
	comp=E,2μm,0.1s						
GO03	**Copiap**	**0.88**	**230**	*eP*	**Pn**	**03 14 46.4**	**-0.4**
GO03				*eS*	**Sn**	**03 15 02.2**	**-0.7**
GO03	**Copiap**	**0.88**	**230**	*eP*	**Pn**	**03 14 46.5**	**-0.2**
GO03				*eS*	**Sn**	**03 15

CYA					*e*S	**Sn**	**03 15 57.1**	**-3.7**
CYA					IAML		03 15 57.8	
	comp=Z,40nm,0.7s							
ACCO	**Cerro Coronel**	**3.57**	**174**		*e*P	**Pn**	**03 15 20.6**	**+0.9**
ACCO					*e*S	**Sn**	**03 16 02.4**	**+0.7**
ACCO					IAML		03 16 04.0	
	comp=Z,54nm,0.4s							
AHML	**Horco Molle**	**3.71**	**87**		*e*P	**Pn**	**03 15 21.5**	**+0.2**
AHML					*e*S	**Sn**	**03 16 03.8**	**-0.8**
AHML					IAML		03 16 25.5	
	comp=Z,4.7nm,0.6s							
PB15	**IPOC Station P**	**3.80**	**0**		*e*P	**Pn**	**03 15 22.7**	**0.0**
PB15					*e*S	Sn	03 15 56.4	-11
PB15					IAML		03 16 15.8	
	comp=Z,382nm,0.2s							
DOCA	**Reserva Natura**	**3.93**	**175**		*e*P	**Pn**	**03 15 24.8**	**+0.3**
DOCA					*e*S	**Sn**	**03 16 09.4**	**-0.7**
CO03	**El Pedregal**	**3.95**	**195**		*e*P	**Pn**	**03 15 23.6**	**-0.9**
CO03					IAML		03 16 11.7	
	comp=Z,40nm,0.2s							
CO03					*e*S	**Sn**	**03 16 11.8**	**+1.6**
PB05	**IPOC Station P**	**4.20**	**351**		*e*P	**Pn**	**03 15 26.3**	**-1.7**
PB05					IAML		03 16 39.1	
	comp=Z,45nm,0.6s							
SLA	**San Lorenzo**	**4.25**	**58**		*e*P	**Pn**	**03 15 30.0**	**+1.4**
SLA					IAML		03 16 37.8	
	comp=Z,4.6nm,2.2s							
PB06	**IPOC Station P**	**4.30**	**359**		*e*P	**Pn**	**03 15 28.6**	**-0.7**
PB06					*e*S	**Sn**	**03 16 19.8**	**+1.0**
PB06					IAML		03 16 20.9	
	comp=Z,51nm,0.2s							
CO02	**Combarbal**	**4.37**	**197**		*e*P	**Pn**	**03 15 28.6**	**-1.5**
CO02					*e*S	**Sn**	**03 16 19.6**	**-0.8**
CO02					IAML		03 16 52.1	
	comp=Z,57nm,0.4s							
LVC	**Limon Verde**	**4.42**	**7**		*e*P	**Pn**	**03 15 30.7**	**-0.5**
LVC					IAML		03 16 52.0	
	comp=Z,37nm,0.4s							
CFA	**Coronel Fontan**	**4.69**	**167**		*e*P	**Pn**	**03 15 34.2**	**-0.2**
CFA					*e*S	**Sn**	**03 16 24.6**	**-3.4**
CFA					IAML		03 16 29.5	
	comp=Z,15nm,0.3s							
PB04	**IPOC Station P**	**4.71**	**352**		*e*P	**Pn**	**03 15 33.0**	**-1.8**
PB04					IAML		03 16 53.5	
	comp=Z,44nm,0.4s							
RTLS	**Leoncito**	**4.76**	**178**		*e*S	**Sn**	**03 16 28.2**	**-1.7**
RTLS					IAML		03 16 29.4	
	comp=Z,69nm,0.3s							
PB09	**IPOC Station P**	**5.21**	**2**		*e*P	**Pn**	**03 15 41.2**	**-0.3**
PB09					IAML		03 17 07.4	
	comp=Z,33nm,0.7s							
PB07	**IPOC Station P**	**5.29**	**356**		*e*P	**Pn**	**03 15 40.3**	**-2.2**
TORD	**Torodi Ar. Bea**	**79.73**	**70**	P		**P**	**03 26 21.1**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=223,slow=5.5,SNR=5.1							
	comp=Z,0.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**79.73**	**70**	P		pP	03 26 53.2	+0.5
	comp=Z,0.3nm,0.5s,baz=225,slow=3.9,SNR=5.4							
TORD	**Torodi Ar. Bea**	**79.73**	**70**					
	comp=Z,0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**147.10**	**28**	PKPbc		**PKPab**	**03 33 55.2**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=339,slow=3.6,SNR=2.2							
ZALV	**Zalesovo Beam**	**147.10**	**28**	PKPbc		pPKPbc	03 34 25.1	-2.7
	comp=Z,1.0nm,0.6s,baz=298,slow=3.1,SNR=5.1							
MKAR	**Makanchi Array**	**150.27**	**41**	PKPbc		**PKiKP**	**03 34 03.7**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=301,slow=2.9,SNR=4.7							
MKAR	**Makanchi Array**	**150.27**	**41**	PKPbc		pPKPbc	03 34 34.2	-2.1
	comp=Z,0.6nm,0.7s,baz=294,slow=2.7,SNR=5.5							

*CNRM **31** 03:20:43.8, 35˚.56N×4˚.54W, h87km, ml1.9*
*SFS **31** 03:20:44.2, 35˚.61N×4˚.56W, h74km, ML2.9/18, ML2.9/17, MLv2.9/18*
*INMG **31** 03:20:44.4±1.8, 35˚.63N×4˚.65W, h68km, ML2.5, Error ellipse: s-maj=4.4km s-min=3.7km az=96.0*
*MDD **31** 03:20:44.9±0.4, 35˚.63N×4˚.56W, h72km±10km, Mb3.2/32, Error ellipse: s-maj=3.3km s-min=2.3km az=174.0*
*IGIL **31** 03:20:45.3, 35˚.63N×4˚.56W, h72km, ML2.2*

ISC 31 03:20:42.5±1.2, 35˚.64N±0˚.02×4˚.55W±0˚.02, h93km±6km, n94, σ1s58/166, 20C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVLZ	**Peæn de**	**0.51**	**156**	Sn	**Sn**	**03 21 05.4**	**-3.3**
PVLZ				Pn	**Pn**	**03 20 57.4**	**-0.1**
PALE	**Palemas**	**0.65**	**130**	P	**Pn**	**03 20 60.0**	**+1.1**
PALE	**Palemas**	**0.65**	**130**	P	**Pn**	**03 20 59.5**	**+0.6**
PALE				S	**Sn**	**03 21 10.2**	**-0.9**
SMIR	**Smir Dam**	**0.68**	**274**	P	**Pn**	**03 20 59.9**	**+0.9**
SMIR				S	**Sn**	**03 21 12.6**	**+1.3**
CEU	**Ceuta**	**0.72**	**292**	Sn	**Sn**	**03 21 11.0**	**-0.9**
CEU				Pn	**Pn**	**03 20 59.5**	**+0.2**
ECEU	**Ceuta**	**0.72**	**291**	Pg	**Pn**	**03 21 00.6**	**+1.2**
ECEU				⇑*i*Vmb_V		03 21 02.7	
	376nm,SNR=5.6						
ECEU				Sg	**Sn**	**03 21 10.7**	**-1.3**
ECEU	**Ceuta**	**0.72**	**291**	Pn	**Pn**	**03 21 00.3**	**+0.9**
CHEFC	**Chefchaouen**	**0.83**	**231**	P	**Pn**	**03 21 01.9**	**+1.2**
CHEFC				S	**Sn**	**03 21 14.9**	**+0.6**
EMIJ	**Mijas**	**0.94**	**349**	Pg	**Pn**	**03 21 01.9**	**+0.1**
EMIJ				⇑*i*Vmb_V		03 21 04.0	
	419nm,SNR=9.2						
EMIJ				Sg	**Sn**	**03 21 15.2**	**-1.0**
EMIJ	**Mijas**	**0.94**	**349**	Sn	**Sn**	**03 21 15.0**	**-1.1**
EMIJ				Pn	**Pn**	**03 21 01.9**	**+0.1**
EJIF	**Jimena Fronter**	**1.10**	**318**	Pg	**Pn**	**03 21 05.8**	**+2.3**
EJIF				Sg	**Sn**	**03 21 19.7**	**+0.4**
EMAL	**Malaga-Limoner**	**1.13**	**5**	Sn	**Sn**	**03 21 18.6**	**-1.3**
EMAL				Pn	**Pn**	**03 21 04.5**	**+0.7**
AKLM	**AKL**	**1.26**	**153**	P	**Pn**	**03 21 06.8**	**+1.3**
AKLM	**AKL**	**1.26**	**153**	P	**Pn**	**03 21 05.5**	**0.0**
AKLM				S	**Sn**	**03 21 19.9**	**-2.9**
EALB	**Alboran**	**1.27**	**76**	Pg	**Pn**	**03 21 05.8**	**+0.4**
EALB				⇑*i*Vmb_V		03 21 06.9	
	282nm,SNR=2.3						
EALB				Sg	**Sn**	**03 21 22.3**	**-0.5**
EALB	**Alboran**	**1.27**	**76**	Sn	**Sn**	**03 21 22.1**	**-0.7**
EALB				Pn	**Pn**	**03 21 06.0**	**+0.6**
GOG	**Mont Gurugu**	**1.34**	**108**	P	**Pn**	**03 21 07.0**	**+0.6**
GOG	**Mont Gurugu**	**1.34**	**108**	P	**Pn**	**03 21 06.6**	**+0.2**
GOG				S	**Sn**	**03 21 25.0**	**+0.5**
ELGU	**Los Guajares,**	**1.44**	**31**	Pn	**Pn**	**03 21 08.1**	**+0.4**
ELGU				⇑*i*Vmb_V		03 21 08.5	
	653nm,SNR=12						
ELGU				Sn	**Sn**	**03 21 25.3**	**-1.3**
ELGU	**Los Guajares,**	**1.44**	**31**	Pn	**Pn**	**03 21 07.9**	**+0.2**
ELGU				Sn	**Sn**	**03 21 25.5**	**-1.2**
EGOR	**Sierra Gorda,**	**1.51**	**14**	Pn	**Pn**	**03 21 10.3**	**+1.7**
EGOR				⇑*i*Vmb_V		03 21 12.8	
	63nm,SNR=1.0						
EGOR				Sn	**Sn**	**03 21 27.3**	**-1.1**
EGOR	**Sierra Gorda,**	**1.51**	**14**	Pn	**Pn**	**03 21 10.3**	**+1.7**
ESPR	**Espera**	**1.62**	**320**	Pn	**Pn**	**03 21 09.8**	**0.0**
ESPR				⇑*i*Vmb_V		03 21 13.6	
	120nm,SNR=1.6						
ESPR				Sn	**Sn**	**03 21 30.5**	**-0.1**
ESPR	**Espera**	**1.62**	**320**	Pn	**Pn**	**03 21 11.2**	**+1.4**
ESPR				Sn	**Sn**	**03 21 30.3**	**-0.3**
CHAS	**Isla Isabel II**	**1.79**	**104**	Pn	**Pn**	**03 21 13.0**	**+1.0**
CHAS				Sn	**Sn**	**03 21 32.4**	**-2.1**
EQUE	**Quentar**	**1.80**	**30**	Pn	**Pn**	**03 21 11.8**	**-0.5**
EQUE				⇑*i*Vmb_V		03 21 17.4	
	123nm,SNR=1.3						
EQUE				Sn	**Sn**	**03 21 33.5**	**-1.5**
EBER	**Berja**	**1.84**	**46**	Pn	**Pn**	**03 21 13.8**	**+0.9**
EBER				⇑*i*Vmb_V		03 21 17.6	
	92nm,SNR=1.1						
EBER				Sn	**Sn**	**03 21 35.3**	**-0.7**
EBER	**Berja**	**1.84**	**46**	Pn	**Pn**	**03 21 13.7**	**+0.9**
EBER				Sn	**Sn**	**03 21 35.0**	**-1.0**
TAF	**Taforalt**	**1.93**	**115**	P	**Pn**	**03 21 15.5**	**+1.5**
TAF				S	**Sn**	**03 21 37.6**	**-0.4**
LCRM	**LCR**	**1.96**	**187**	P	**Pn**	**03 21 14.7**	**+0.2**
LCRM	**LCR**	**1.96**	**187**	P	**Pn**	**03 21 14.7**	**+0.2**
LCRM				S	**Sn**	**03 21 42.0**	**+3.2**
JBK	**JBK**	**2.08**	**128**	P	**Pn**	**03 21 16.5**	**+0.4**
JBK				S	**Sn**	**03 21 40.4**	**-1.3**
IFR	**Ifrane**	**2.17**	**193**	Pn	**Pn**	**03 21 17.3**	**+0.1**
IFR				Sn	**Sn**	**03 21 40.6**	**-3.0**
EQES	**Quesada**	**2.47**	**28**	Pn	**Pn**	**03 21 23.1**	**+2.1**
EQES				⇑*i*Vmb_V		03 21 25.6	
	96nm,SNR=0.9						
EQES				Sn	**Sn**	**03 21 51.0**	**+0.4**
EADA	**Adamuz**	**2.52**	**360**	Pn	**Pn**	**03 21 23.4**	**+1.7**
EADA				⇑*i*Vmb_V		03 21 25.0	
	342nm,SNR=3.5						
EADA				Sn	**Sn**	**03 21 51.6**	**-0.2**
EADA	**Adamuz**	**2.52**	**360**	Pn	**Pn**	**03 21 23.4**	**+1.7**
ECAB	**El Cabril**	**2.53**	**344**	Pn	**Pn**	**03 21 22.6**	**+0.8**
ECAB				⇑*i*Vmb_V		03 21 24.1	
	214nm,SNR=2.1						
ECAB				Sn	**Sn**	**03 21 50.6**	**-1.4**
ECAB	**El Cabril**	**2.53**	**344**	Pn	**Pn**	**03 21 22.8**	**+1.0**
ECAB				Sn	**Sn**	**03 21 50.6**	**-1.4**
EMIN	**Mina Concepcio**	**2.72**	**322**	Pn	**Pn**	**03 21 25.3**	**+1.0**
EMIN				⇑*i*Vmb_V		03 21 27.8	
	354nm,SNR=4.6						
EMIN				Sn	**Sn**	**03 21 55.1**	**-1.4**
EMIN	**Mina Concepcio**	**2.72**	**322**	Pn	**Pn**	**03 21 25.3**	**+1.0**
EMIN				Sn	**Sn**	**03 21 54.9**	**-1.6**
MD31	**MD31**	**2.77**	**184**	P	**Pn**	**03 21 25.7**	**+0.7**
MD31				S	**Sn**	**03 21 57.6**	**-0.2**
ZHG	**ZHG**	**2.79**	**219**	P	**Pn**	**03 21 28.0**	**+2.7**
MDT	**Midelt**	**2.82**	**181**	P	**Pn**	**03 21 26.2**	**+0.5**
MDT	**Midelt**	**2.82**	**181**	P	**Pn**	**03 21 26.2**	**+0.5**
MDT				S	**Sn**	**03 21 58.1**	**-0.8**
EGRO	**El Granado**	**3.02**	**310**	Pn	**Pn**	**03 21 29.2**	**+0.9**
EGRO				⇑*i*Vmb_V		03 21 29.4	
	809nm,SNR=8.5						
EGRO				Sn	**Sn**	**03 22 02.0**	**-1.7**
EGRO	**El Granado**	**3.02**	**310**	Pn	**Pn**	**03 21 29.2**	**+0.9**
EGRO				Sn	**Sn**	**03 22 01.9**	**-1.8**
PVAQ	**Vaqueiros**	**3.10**	**306**	*e*P	**Pn**	**03 21 30.1**	**+0.8**
PVAQ				*e*S	**Sn**	**03 22 03.8**	**-1.7**
PVAQ	**Vaqueiros**	**3.10**	**306**	P	**Pn**	**03 21 32.0**	**+2.7**
PBDV	**Barranco-do-Ve**	**3.16**	**301**	*e*P	**Pn**	**03 21 31.1**	**+0.9**
PBDV				*e*S	**Sn**	**03 22 05.5**	**-1.5**
PBDV				A	A	03 22 07.3	
	9.9nm,0.4s						
PBAR	**Barrancos**	**3.22**	**323**	*e*P	**Pn**	**03 21 32.1**	**+1.1**
PBAR				*e*S	**Sn**	**03 22 06.9**	**-1.6**
PBAR				A	A	03 22 09.2	
	9.3nm,0.1s						
PBAR	**Barrancos**	**3.22**	**323**	Pn	**Pn**	**03 21 32.0**	**+1.1**
AVE	**Averroes**	**3.32**	**226**	Pn	**Pn**	**03 21 32.9**	**+0.5**
AVE				Sn	**Sn**	**03 22 08.3**	**-2.6**
PCVE	**Castro Verde**	**3.44**	**306**	*e*P	**Pn**	**03 21 34.8**	**+0.9**
PCVE				*e*S	**Sn**	**03 22 11.9**	**-1.8**
PCVE				A	A	03 22 13.9	
	8.3nm,0.4s						
PCVE	**Castro Verde**	**3.44**	**306**	Pn	**Pn**	**03 21 34.7**	**+0.8**
PBEJ	**Beja**	**3.57**	**313**	*e*P	**Pn**	**03 21 36.6**	**+0.9**
PBEJ				*e*S	**Sn**	**03 22 15.0**	**-1.9**
PBEJ				A	A	03 22 15.8	
	5.2nm,0.3s						
MESJ	**Messejana**	**3.67**	**308**	*e*P	**Pn**	**03 21 38.0**	**+0.9**
MESJ				*e*S	**Sn**	**03 22 17.3**	**-2.1**
MESJ				A	A	03 22 20.3	
	5.5nm,0.2s						
MESJ	**Messejana**	**3.67**	**308**	*e*P	**Pn**	**03 21 38.1**	**+0.9**
MESJ				*e*S	**Sn**	**03 22 16.9**	**-2.5**
MESJ				IAML		03 22 18.8	
	comp=N,5.6nm,0.2s						
EBAD	**Badajoz**	**3.68**	**328**	Pn	**Pn**	**03 21 38.5**	**+1.3**
EBAD				⇑*i*Vmb_V		03 21 39.1	
	comp=N,734nm,SNR=8.4						
EBAD				Sn	**Sn**	**03 22 18.3**	**-1.2**
EBAD	**Badajoz**	**3.68**	**328**	Pn	**Pn**	**03 21 38.5**	**+1.3**
EBAD				Sn	**Sn**	**03 22 18.0**	**-1.5**
MORF	**Marmelete**	**3.70**	**298**	*e*P	**Pn**	**03 21 38.6**	**+1.1**
MORF				*e*S	**Sn**	**03 22 18.2**	**-1.9**
MORF				A	A	03 22 20.4	
	comp=N,12nm,0.1s						
MORF	**Marmelete**	**3.70**	**298**	*e*P	**Pn**	**03 21 38.6**	**+1.1**
PFVI	**Vila Bisbo**	**3.76**	**295**	*e*P	**Pn**	**03 21 39.7**	**+1.5**
PFVI				*e*S	**Sn**	**03 22 19.4**	**-2.0**
PFVI				A	A	03 22 27.5	
	comp=N,16nm,0.5s						
ETOB	**Tobarra**	**3.84**	**38**	Pn	**Pn**	**03 21 41.4**	**+1.9**
ETOB				⇑*i*Vmb_V		03 21 42.7	
	comp=N,120nm,SNR=1.3						
ETOB				Sn	**Sn**	**03 22 23.5**	**-0.1**
ETOB	**Tobarra**	**3.84**	**38**	Pn	**Pn**	**03 21 41.6**	**+2.1**
PTEO	**Sao Teotonio**	**3.86**	**301**	*e*P	**Pn**	**03 21 41.0**	**+1.4**
PTEO				*e*S	**Sn**	**03 22 22.2**	**-1.7**
PTEO				A	A	03 22 25.3	
	comp=N,8.3nm,0.3s						
PAB	**San Pablo**	**3.90**	**2**	Pn	**Pn**	**03 21 41.6**	**+1.3**
PAB				⇑*i*Vmb_V		03 21 42.0	
	comp=N,139nm,SNR=2.0						
PAB				Sn	**Sn**	**03 22 23.2**	**-1.9**
EVO	**Evora**	**4.00**	**317**	⇑*e*P	**Pn**	**03 21 42.9**	**+1.4**
EVO				*e*S	**Sn**	**03 22 25.6**	**-1.7**
EVO				A	A	03 22 27.1	
	comp=N,26nm,0.1s						
EVO	**Evora**	**4.00**	**317**	Pn	**Pn**	**03 21 42.9**	**+1.4**
EVO				Sn	**Sn**	**03 22 25.3**	**-2.0**
PESTR	**Estremoz**	**4.03**	**324**	*e*P	**Pn**	**03 21 43.5**	**+1.5**
PESTR				*e*S	**Sn**	**03 22 26.4**	**-1.7**
PESTR				A	A	03 22 28.0	
	comp=N,4.7nm,0.2s						
PESTR	**Estremoz**	**4.03**	**324**	P	**Pn**	**03 21 43.5**	**+1.5**
PESTR	**Estremoz**	**4.03**	**324**	Pn	**Pn**	**03 21 43.5**	**+1.5**
PNCL	**Nicolau / Gran**	**4.03**	**309**	*e*P	**Pn**	**03 21 42.9**	**+1.0**
PNCL				*e*S	**Sn**	**03 22 25.5**	**-2.5**
PNCL				A	A	03 22 27.0	
	comp=N,9.9nm,0.2s						
PNCL	**Nicolau / Gran**	**4.03**	**309**	Pn	**Pn**	**03 21 42.8**	**+0.9**
ESDC	**Sonseca Array**	**4.06**	**6**	Pn	**Pn**	**03 21 43.8**	**+1.5**
ESDC				Sn	**Sn**	**03 22 26.5**	**-2.3**
SRHM	**Skhour des Reh**	**4.21**	**222**	P	**Pn**	**03 21 47.6**	**+3.2**
PMRV	**Marv??o**	**4.41**	**330**	*e*P	**Pn**	**03 21 48.4**	**+1.4**
PMRV				*e*S	**Sn**	**03 22 35.4**	**-1.7**
PMRV				A	A	03 22 48.5	
	comp=N,4.3nm,0.7s						
PMTG	**Montargil**	**4.50**	**321**	*e*P	**Pn**	**03 21 49.7**	**+1.4**
PMTG				*e*S	**Sn**	**03 22 37.8**	**-1.7**
PMTG				A	A	03 22 38.2	
	comp=N,2.8nm,0.2s						
EPLA	**Plasencia**	**4.58**	**345**	Pn	**Pn**	**03 21 50.8**	**+1.4**
EPLA				⇑*i*Vmb_V		03 21 51.2	
	comp=N,287nm,SNR=1.7						
EPLA				Sn	**Sn**	**03 22 39.5**	**-1.9**
PACT	**Alcochete**	**4.63**	**314**	*e*P	**Pn**	**03 21 51.9**	**+1.9**
PACT				*e*S	**Sn**	**03 22 41.7**	**-0.8**
PCBR	**Castelo Branco**	**4.79**	**332**	*e*P	**Pn**	**03 21 53.8**	**+1.6**
PCBR				*e*S	**Sn**	**03 22 44.3**	**-2.2**
PCBR				A	A	03 22 45.1	
	comp=N,2.0nm,0.4s						
GUD	**Guadarrama**	**5.01**	**3**	Pn	**Pn**	**03 21 57.2**	**+1.9**
GUD				⇑*i*Vmb_V		03 22 02.1	
	comp=N,38nm,SNR=0.5						
PMAFR	**Mafra**	**5.02**	**313**	*e*S	**Sn**	**03 22 50.5**	**-1.5**
PMAFR				A	A	03 23 00.7	
	comp=N,19nm,0.8s						
OUZM	**OUZ**	**5.07**	**202**	P	**Pn**	**03 21 58.5**	**+2.3**
PSBE	**So Bento**	**5.13**	**320**	*e*P	**Pn**	**03 21 58.7**	**+1.8**
PSBE				*e*S	**Sn**	**03 22 52.9**	**-1.9**
PSBE				A	A	03 22 55.2	
	comp=N,5.0nm,0.7s						
MTE	**Manteigas**	**5.31**	**334**	*e*P	**Pn**	**03 21 59.9**	**+0.6**
MTE				*e*S	**Sn**	**03 22 58.5**	**-0.7**
PCAS	**Casmilo, Conde**	**5.40**	**326**	*e*P	**Pn**	**03 22 02.6**	**+2.1**
PCAS				*e*S	**Sn**	**03 22 57.3**	**-4.0**
PCAS				A	A	03 23 17.7	
	comp=N,2.6nm,0.5s						
ETOR	**Torete**	**5.53**	**20**	Pn	**Pn**	**03 22 03.7**	**+1.3**
ETOR				Sn	**Sn**	**03 23 01.7**	**-3.0**
PVIS	**Viseu**	**5.71**	**334**	*e*P	**Pn**	**03 22 06.0**	**+1.2**
PVIS				*e*S	**Sn**	**03 23 06.9**	**-2.1**
PVIS				A	A	03 23 09.2	
	comp=N,3.4nm,0.7s						
MVO	**Moncorvo**	**5.85**	**341**	*e*P	**Pn**	**03 22 08.1**	**+1.4**
MVO				*e*S	**Sn**	**03 23 10.3**	**-2.1**
MVO				A	A	03 23 35.9	
	comp=N,2.5nm,0.6s						
PVRL	**Vila Real**	**6.15**	**337**	*e*P	**Pn**	**03 22 12.7**	**+1.9**
PVRL				*e*S	**Sn**	**03 23 17.6**	**-2.1**
PVRL				A	A	03 23 21.6	
	comp=N,3.9nm,0.4s						
POLO	**Lamas de Olo**	**6.26**	**337**	*e*P	**Pn**	**03 22 14.3**	**+1.9**
POLO				*e*S	**Sn**	**03 23 20.0**	**-2.5**
PBRG	**Braganca**	**6.39**	**345**	*e*P	**Pn**	**03 22 15.9**	**+1.9**
PCAB	**Cabril**	**6.64**	**337**	*e*P	**Pn**	**03 22 19.4**	**+2.0**
PCAB				*e*S	**Sn**	**03 23 35.3**	**+3.7**
PCAB				A	A	03 23 41.6	
	comp=N,13nm,0.4s						
ELOB	**Lobios**	**6.80**	**337**	Pn	**Pn**	**03 22 21.1**	**+1.6**
ELOB				⇑*i*Vmb_V		03 22 24.3	
	comp=N,166nm,SNR=0.5						
ELOB				Sn	**Sn**	**03 23 32.4**	**-3.1**

IDC 31 03:25:12.5±1.8, 7˚.21S×123˚.05E, h0km, mb3.3/1, mbtmp3.9/3, ML4.2/2, Error ellipse: s-maj=175.9km s-min=17.7km az=59.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.74**	**140**	Pn	Pn	03 29 09.5	+0.9
	1.1nm,0.3s,baz=316,slow=13,SNR=44						
WRA				Sn	Sn	03 32 12.1	-3.2
	0.1nm,0.3s,baz=221,slow=29,SNR=1.7						
	5.8nm,0.6s						
ASAR	**Alice Springs**	**19.40**	**149**	P	P	03 29 40.5	+0.1
	0.4nm,0.3s,baz=332,slow=14,SNR=46						
ASAR				S	S	03 33 20.4	-0.4
	0.2nm,0.7s,baz=315,slow=22,SNR=2.6						
	2.7nm,0.5s						
MKAR	**Makanchi Array**	**64.80**	**330**	P	P	03 35 53.1	0.0
	0.2nm,0.7s,baz=128,slow=7.9,SNR=3.5						
	0.2nm,0.7s						

*IDC **31** 03:37:47.2±2.1, 7˚.48S×67˚.74E, h0km, mb3.7/6, mbtmp3.7/6, MS3.5/5, Error ellipse: s-maj=64.5km s-min=30.2km az=63.0*

ISC 31 03:37:48.7±2.0, 7˚.5S±0˚.3×67˚.7E±0˚.4, h10km, n19, σ0s96/9, mb3.9/6, MS3.5/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**19.57**	**42**	LR	LR	03 48 00.7	
	comp=Z,108nm,18.7s,baz=316,slow=31						
KMBO	**Kilima Mbogo**	**30.99**	**280**	LR	LR	03 54 18.3	
	comp=Z,26nm,19.1s,baz=84,slow=32						
LSZ	**Lusaka**	**39.44**	**255**	LR	LR	03 59 33.8	
	comp=Z,74nm,18.1s,baz=125,slow=33						
CMAR	**Chiang Mai Arr**	**40.19**	**50**	P	**P**	**03 45 26.1**	**+0.6**
	0.6nm,0.5s,baz=243,slow=9.9,SNR=5.2						
	0.6nm,0.5s						
H04N2	**CROZET ISLANDS**	**40.90**	**197**	T	T	04 29 27.1	
	baz=26,slow=75,SNR=16						
H04N1	**CROZET ISLANDS**	**40.91**	**197**	T	T	04 29 31.5	
	baz=26,slow=75,SNR=15						
H04N3	**CROZET ISLANDS**	**40.92**	**197**	T	T	04 29 21.3	
	baz=26,slow=75,SNR=16						
LBTB	**Lobatse**	**43.78**	**242**	LR	LR	04 02 21.4	
	comp=Z,60nm,18.0s,baz=96,slow=34						
H01W3	**Cape Leeuwin H**	**50.55**	**130**	T	T	04 40 40.9	
	baz=292						
H01W2	**Cape Leeuwin H**	**50.56**	**130**	T	T	04 40 41.1	
	baz=292						
H01W1	**Cape Leeuwin H**	**50.57**	**130**	T	T	04 40 47.0	
	baz=292						
KAPI	**Kappang**	**51.79**	**91**	LR	LR	04 06 24.1	
	comp=Z,106nm,20.6s,baz=31,slow=33						
MKAR	**Makanchi Array**	**55.57**	**12**	P	**P**	**03 47 23.3**	**-1.1**
	0.2nm,0.3s,baz=201,slow=8.5,SNR=4.6						
MKAR				PcP	**PcP**	**03 48 25.1**	**+1.0**
	0.2nm,0.6s,baz=214,slow=5.1,SNR=1.7						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**62.88**	**11**	P	**P**	**03 48 13.7**	**-1.1**
	0.3nm,0.3s,baz=186,slow=10,SNR=1.7						
	0.3nm,0.3s						
SONM	**Songino Array**	**64.80**	**28**	P	**P**	**03 48 28.2**	**+0.4**
	0.7nm,0.8s,baz=240,slow=6.0,SNR=4.3						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**65.27**	**113**	P	**P**	**03 48 30.4**	**-0.9**
	1.0nm,1.0s,baz=278,slow=6.2,SNR=7.2						
	1.0nm,1.0s						
WRA	**Warramunga Arr**	**65.57**	**108**	P	**P**	**03 48 33.4**	**+0.1**
	1.1nm,1.1s,baz=278,slow=5.8,SNR=4.6						
	1.1nm,1.1s						
PDAR	**Pinedale Array**	**144.77**	**356**	PKP	**PKPdf**	**03 57 27.4**	**+0.8**
	0.1nm,0.5s,baz=90,slow=3.6,SNR=2.6						
NVAR	**Mina Array Bea**	**148.72**	**9**	PKPbc	**PKPbc**	**03 57 37.0**	**-0.1**
	1.2nm,0.9s,baz=349,slow=1.8,SNR=4.7						

*BGR **31** 03:48:42.1, 29˚.55N×129˚.67E, h33km, mb5.8, mB_BB6.1, Ms4.2*
*BJI **31** 03:48:53.1, 29˚.43N×129˚.67E, h170km, mb5.1/82, mB5.1/49*
*MOS **31** 03:48:56.8±1.1, 29˚.67N×129˚.27E, h176km, mb5.1/77, Error ellipse: s-maj=6.7km s-min=3.8km az=112.4*
*NE

JMTN	**Minamitane**	**1.52**	**62**	*i*	P		**Pn**	**03 49 29.0**	**-0.4**
JMTN					S		**Sn**	**03 49 52.6**	**-1.2**
JMTN	**Minamitane**	**1.52**	**62**		A		A	03 49 29.0	
	comp=E,25nm,1.4s,comp=N,22nm,4.2s								
JTN	**Tanegashima 3**	**1.71**	**55**	*i*	P		**Pn**	**03 49 31.0**	**-0.3**
JTN				*e*	S		**Sn**	**03 49 55.8**	**-1.5**
JTN	**Tanegashima 3**	**1.71**	**55**		A		A	03 49 31.0	
	comp=E,19nm,3.7s,comp=N,12nm,1.7s								
JTK	**Tokunoshima**	**1.92**	**191**	*i*	P		**Pn**	**03 49 33.6**	**-0.1**
JTK					S		**Sn**	**03 50 00.1**	**-1.3**
JTK	**Tokunoshima**	**1.92**	**191**		A		A	03 49 33.6	
	comp=E,36nm,1.9s,comp=N,54nm,2.1s								
JTSR	**Tashiro 2**	**2.01**	**42**	*i*	P		**Pn**	**03 49 34.6**	**+0.1**
JTSR					S		**Sn**	**03 50 01.2**	**-1.8**
JTSR	**Tashiro 2**	**2.01**	**42**		A		A	03 49 34.6	
	comp=E,14nm,2.0s,comp=N,14nm,0.9s								
JSJ	**Shimokoshiki**	**2.01**	**9**	*i*	P		**Pn**	**03 49 35.4**	**+0.9**
JSJ					S		**Sn**	**03 50 03.5**	**+0.4**
JSJ	**Shimokoshiki**	**2.01**	**9**		A		A	03 49 35.4	
	comp=E,8.0nm,1.9s,comp=N,9.0nm,2.8s								
JSU	**Suzuyama**	**2.05**	**27**	*i*	P		**Pn**	**03 49 36.0**	**+1.0**
JSU	**Suzuyama**	**2.05**	**27**		A		A	03 49 36.0	
	comp=E,22nm,3.4s,comp=N,12nm,3.1s								
JOKE	**Okinoerabujima**	**2.41**	**197**	*i*	P		**Pn**	**03 49 38.9**	**-0.3**
JOKE					S		**Sn**	**03 50 09.1**	**-2.2**
JOKE	**Okinoerabujima**	**2.41**	**197**		A		A	03 49 38.9	
	comp=E,26nm,2.2s,comp=N,17nm,2.0s								
JNAR	**Kushima--Naru**	**2.47**	**42**	*i*	P		**Pn**	**03 49 40.6**	**+0.8**
JNAR					S		**Sn**	**03 50 12.1**	**-0.3**
JNAR	**Kushima--Naru**	**2.47**	**42**		A		A	03 49 40.6	
	comp=E,20nm,2.8s,comp=N,16nm,1.4s								
JNKG	**Nichinankitago**	**2.63**	**41**		A		A	03 49 42.3	
	comp=E,20nm,2.3s,comp=N,9.0nm,0.4s								
JTZ	**Takazaki**	**2.67**	**34**	*i*	P		**Pn**	**03 49 42.9**	**+0.7**
JTZ					S		**Sn**	**03 50 16.0**	**-0.6**
JTZ	**Takazaki**	**2.67**	**34**		A		A	03 49 42.9	
	comp=E,11nm,1.4s,comp=N,10.0nm,4.9s								
JZO	**Okuchi**	**2.67**	**23**	*i*	P		**Pn**	**03 49 43.8**	**+1.6**
JZO	**Okuchi**	**2.67**	**23**		A		A	03 49 43.8	
	comp=E,14nm,3.7s,comp=N,10.0nm,3.7s								
JYRO	**Yoronjima**	**2.77**	**197**		A		A	03 49 44.3	
	comp=E,12nm,4.6s,comp=N,16nm,3.1s								
JHD	**Hondo**	**2.85**	**13**		A		A	03 49 46.0	
	comp=E,8.0nm,3.5s,comp=N,6.0nm,2.9s								
JIH	**Iheya**	**2.91**	**205**		A		A	03 49 46.3	
	comp=E,12nm,1.1s,comp=N,12nm,4.4s								
JOW	**Kunigami**	**3.00**	**199**		Pn		**Pn**	**03 49 45.4**	**-0.8**
JOW	**Kunigami**	**3.00**	**199**		P		**Pn**	**03 49 45.8**	**-0.4**
JOW	**Kunigami**	**3.00**	**199**		A		A	03 49 47.1	
	comp=E,15nm,1.2s,comp=N,17nm,1.2s								
JOW	**Kunigami**	**3.00**	**199**		P		**Pn**	**03 49 45.1**	**-1.1**
	comp=N,2µm,0.3s,baz=94,slow=15,SNR=2087								
JOW					S		**Sn**	**03 50 18.9**	**-4.9**
	comp=N,5µm,0.3s,baz=120,slow=28,SNR=14								
JOW					LR		LR	03 50 46.2	
	comp=N,1µm,20.8s,baz=110,slow=36								
JIU3	**Izumi3**	**3.12**	**23**		A		A	03 49 48.9	
	comp=E,11nm,4.2s,comp=N,8.0nm,3.6s								
JKIT	**Kitakata**	**3.44**	**31**		A		A	03 49 52.8	
	comp=E,5.0nm,0.4s,comp=N,6.0nm,1.0s								
JNU	**Nakatsue**	**3.67**	**20**				**Pn**	**03 49 56.3**	**+1.8**
JNU	**Nakatsue**	**3.67**	**20**		P		**Pn**	**03 49 56.7**	**+2.2**
JNU	**Nakatsue**	**3.67**	**20**		P		**Pn**	**03 49 56.1**	**+1.6**
	comp=N,906nm,0.5s,baz=194,slow=3.7,SNR=2199								
JNU					S		**Sn**	**03 50 36.3**	**-2.5**
	comp=N,390nm,0.5s,baz=338,slow=22,SNR=11								
JNU					LR		LR	03 51 05.2	
	comp=N,2µm,18.9s,baz=302,slow=35								
JJT3	**Tamagusuku3**	**3.79**	**202**		A		A	03 49 57.4	
	comp=E,21nm,1.3s,comp=N,26nm,2.9s								
JUS	**Usuki**	**3.95**	**31**		A		A	03 49 59.3	
	comp=E,4.0nm,1.3s,comp=N,6.0nm,1.8s								
JKDJ	**Kitadaitoujima**	**4.10**	**155**		A		A	03 49 59.8	
	comp=E,17nm,2.8s,comp=N,13nm,3.0s								
JMZ	**Minamidaito 2**	**4.19**	**156**		Pn		**Pn**	**03 50 00.6**	**-0.7**
JMZ	**Minamidaito 2**	**4.19**	**156**		P		**Pn**	**03 50 01.3**	**0.0**
JMZ	**Minamidaito 2**	**4.19**	**156**		A		A	03 50 01.1	
	comp=E,20nm,3.0s,comp=N,19nm,2.3s								
JTU	**Tsushima**	**4.83**	**0**				**Pn**	**03 50 10.8**	**+1.5**
JMN	**Monobe**	**5.58**	**43**		Pn		**Pn**	**03 50 19.0**	**-0.3**
JMN	**Monobe**	**5.58**	**43**		P		**Pn**	**03 50 19.3**	**0.0**
JMN	**Monobe**	**5.58**	**43**		A		A	03 50 20.3	
	comp=E,4.0nm,0.3s,comp=N,5.0nm,0.4s								
TJN	**Taejon**	**6.88**	**347**		Pn		**Pn**	**03 50 37.6**	**+1.2**
TJN	**Taejon**	**6.88**	**347**		P		**Pn**	**03 50 38.8**	**+2.5**
TJN	**Taejon**	**6.88**	**347**	*eP*			**Pn**	**03 50 36.0**	**-0.3**
SSE	**Sheshan**	**7.19**	**283**		P		**Pn**	**03 50 38.8**	**-1.7**
SSE					S		**Sn**	**03 52 00.3**	**-1.1**
SSE					pmax		pmax		
	comp=N,14nm,0.7s								
SSE					LR		LR		
	comp=N,560nm,6.2s								
SSE					LR		LR		
	comp=N,390nm,6.5s								
YOJ	**Yonaguni jima**	**7.68**	**229**		Pn		**Pn**	**03 50 45.5**	**-1.5**
YOJ	**Yonaguni jima**	**7.68**	**229**		P		**Pn**	**03 50 45.5**	**-1.5**
KSAR	**Wonju Array Be**	**7.83**	**351**		Pn		**Pn**	**03 50 50.4**	**+1.5**
KSAR	**Wonju Array Be**	**7.83**	**351**		P		**Pn**	**03 50 50.4**	**+1.5**
KSRS	**Korea Array**	**7.84**	**352**		P		**Pn**	**03 50 50.9**	**+1.9**
	comp=N,19nm,0.7s,baz=172,slow=14,SNR=45								
KS19	**Wonju Array Si**	**7.89**	**351**				**Pn**	**03 50 50.4**	**+0.7**
INCN	**Inchon**	**8.10**	**344**		Pn		**Pn**	**03 50 52.6**	**+0.1**
INCN	**Inchon**	**8.10**	**344**		P		**Pn**	**03 50 54.5**	**+2.0**
INCN	**Inchon**	**8.10**	**344**		P		**Pn**	**03 50 52.6**	**+0.1**
TATO	**Taipei**	**8.42**	**238**		Pn		**Pn**	**03 50 56.2**	**-0.6**
YHNB	**Yeheng**	**8.68**	**237**				**Pn**	**03 50 58.6**	**-1.6**
YHNB	**Yeheng**	**8.68**	**237**		P		**Pn**	**03 51 00.5**	**+0.2**
NACB	**Ninganchiao**	**8.83**	**233**				**Pn**	**03 51 00.7**	**-1.5**
NACB	**Ninganchiao**	**8.83**	**233**		P		**Pn**	**03 51 01.0**	**-1.2**
JSG	**Sagara**	**8.99**	**54**				**Pn**	**03 51 03.4**	**-0.8**
JSG	**Sagara**	**8.99**	**54**		P		**Pn**	**03 51 05.4**	**+1.2**
NJ2	**Nanjing**	**9.32**	**287**	*eP*			**Pn**	**03 51 09.5**	**+0.9**
NJ2					sP			03 51 49.8	
NJ2					S		**Sn**	**03 52 54.8**	**+2.4**
NJ2					pmax		pmax		
	comp=N,10.0nm,0.6s								
SSLB	**Suanglung**	**9.53**	**234**		Pn		**Pn**	**03 51 08.4**	**-3.0**
YULB	**Yu-li**	**9.55**	**231**				**Pn**	**03 51 07.7**	**-4.0**
JHJ	**Hachijo jima 2**	**9.55**	**66**		P		Pn	03 51 16.8	+5.2
	comp=N,303nm,0.3s,baz=299,slow=18,SNR=75								
JHJ					S		**Sn**	**03 53 00.5**	**+2.6**
	comp=N,243nm,1.0s,baz=49,slow=23,SNR=2.5								
JHJ					LR		LR	03 54 50.8	
	comp=N,835nm,19.0s,baz=201,slow=37								
JHJ2	**Mitsune**	**9.58**	**66**				**Pn**	**03 51 11.8**	**-0.1**
TPUB	**Ta-pu**	**10.07**	**233**				**Pn**	**03 51 16.3**	**-2.2**
MAJO	**Matsushiro**	**10.09**	**45**		Pn		**Pn**	**03 51 19.5**	**+0.8**
MAJO	**Matsushiro**	**10.09**	**45**		P		**Pn**	**03 51 19.9**	**+1.2**
MAJO	**Matsushiro**	**10.09**	**45**	*d*	iP		**Pn**	**03 51 19.0**	**+0.3**
MJAR	**Matsushiro Arr**	**10.09**	**45**		P		**Pn**	**03 51 19.1**	**+0.4**
	comp=N,30nm,1.0s,baz=240,slow=12,SNR=42								
MJAR					S		**Sn**	**03 53 03.3**	**-7.6**
	comp=N,5.0nm,0.5s,baz=211,slow=16,SNR=4.2								
MJB9	**Matsu-Tunnel**	**10.09**	**45**				**Pn**	**03 51 18.8**	**+0.1**
QZH	**Quanzhou**	**10.67**	**246**		P		**Pn**	**03 51 27.0**	**+0.7**
QZH					S		**Sn**	**03 53 18.5**	**-6.2**
QZH					pmax		pmax		
	comp=N,150nm,0.9s								
KNMB	**Chin-men Tao**	**11.06**	**245**				**Pn**	**03 51 30.7**	**-0.7**
DL2	**Dalian**	**11.19**	**327**		P		**Pn**	**03 51 34.0**	**+1.0**
DL2					S		**Sn**	**03 53 39.0**	**+1.9**
DL2					pmax		pmax		
	comp=N,110nm,1.0s								
DL2					pmax		pmax		
	comp=N,250nm,9.5s								
JCJ	**Chichijima**	**11.59**	**100**		P		**Pn**	**03 51 38.0**	**-0.3**
	comp=N,142nm,0.4s,baz=279,slow=13,SNR=3.7								
TIA	**Tai'an**	**12.15**	**306**		P		**Pn**	**03 51 46.3**	**+0.9**
TIA					S		**Sn**	**03 54 02.5**	**+2.3**
TIA					pmax		pmax		
	comp=N,99nm,1.0s								
TIA					pmax		pmax		
	comp=N,220nm,6.1s								
TIA					LR		LR		
	comp=N,140nm,10.2s								
TIA					LR		LR		
	comp=N,230nm,9.6s								
TIA					LR		LR		
	comp=N,190nm,10.3s								
JMM	**Marumori**	**12.53**	**46**				**Pn**	**03 51 50.0**	**-0.3**
JMM	**Marumori**	**12.53**	**46**		P		**Pn**	**03 51 51.7**	**+1.5**
SNY	**Shenyang**	**12.99**	**340**	⇓	P		**P**	**03 51 59.5**	**-0.6**
SNY					S		**Sn**	**03 54 23.5**	**+3.4**
SNY					pmax		pmax		
	comp=N,130nm,1.3s								
SNY					LR		LR		
	comp=N,410nm,5.4s								
SNY					LR		LR		
	comp=N,530nm,4.9s								
SNY					LR		LR		
	comp=N,500nm,9.0s								
WHN	**Wuhan**	**13.02**	**278**	⇓	iP		**Pn**	**03 51 57.5**	**+1.0**
WHN					S		**Sn**	**03 54 22.0**	**+1.0**
WHN					pmax		pmax		
	comp=N,130nm,0.8s								
WHN					pmax		pmax		
	comp=N,900nm,3.6s								
HNS	**HongShan**	**14.42**	**306**	⇑	P		**P**	**03 52 15.3**	**-0.7**
HNS					S		**S**	**03 54 57.0**	**-1.6**
HNS					pmax		pmax		
	comp=N,380nm,1.0s								
HNS					LR		LR		
	comp=N,430nm,11.0s								
HNS					LR		LR		
	comp=N,410nm,10.9s								
HNS					LR		LR		
	comp=N,430nm,10.9s								
CN2	**Changchun**	**14.43**	**349**		P		**P**	**03 52 18.3**	**+2.2**
CN2					S		**Sn**	**03 54 52.8**	**-1.9**
CN2					pmax		pmax		
	comp=N,30nm,0.8s								
CN2					pmax		pmax		
	comp=N,300nm,3.0s								
CNSH	**ChangSha**	**14.46**	**268**	⇑	P		**Pn**	**03 52 15.0**	**+0.4**
CNSH					S		**Sn**	**03 54 55.5**	**-0.1**
CNSH					LR		LR		
	comp=N,560nm,9.4s								
CNSH					LR		LR		
	comp=N,540nm,11.8s								
SZP	**Santa**	**14.56**	**216**		P		**Pn**	**03 52 16.4**	**+0.5**
JTM	**Tenmabayashi**	**14.63**	**38**				**Pn**	**03 52 15.4**	**-1.2**
JTM	**Tenmabayashi**	**14.63**	**38**		P		**P**	**03 52 17.5**	**-0.8**
USRK	**Ussuriysk Ar.**	**14.64**	**8**		P		**P**	**03 52 18.2**	**-0.3**
	comp=N,1.9nm,0.7s,baz=202,slow=11,SNR=2.0								
MDJ	**Mudanjiang**	**14.91**	**1**		P		**P**	**03 52 25.0**	**+3.6**
MDJ					S		**Sn**	**03 55 04.3**	**-1.8**
MDJ					pmax		pmax		
	comp=N,16nm,1.1s								
MDJ					pmax		pmax		
	comp=N,280nm,4.1s								
MDJ					LR		LR		
	comp=N,280nm,10.3s								
MDJ					LR		LR		
	comp=N,440nm,13.2s								
MDJ					LR		LR		
	comp=N,370nm,14.7s								
BJI	**Beijing**	**14.94**	**317**		Pn		**P**	**03 52 22.5**	**+0.8**
BJI					S		**S**	**03 55 12.5**	**+2.9**
BJI					pmax		pmax		
	comp=Z,110nm,1.2s								
LYN	**LuoYang**	**15.10**	**293**	⇑	P		**P**	**03 52 23.8**	**+0.2**
LYN					S		**Sn**	**03 55 11.5**	**+0.6**
LYN					pmax		pmax		
	comp=Z,530nm,1.2s								
LYN					pmax		pmax		
	comp=Z,1µm,4.9s								
BNX	**BinXian**	**16.10**	**355**	⇓	P		**Pn**	**03 52 35.8**	**+1.2**
BNX					S		**Sn**	**03 55 34.5**	**-0.1**
BNX					pmax		pmax		
	comp=Z,50nm,1.2s								
BNX					pmax		pmax		
	comp=Z,310nm,3.4s								
TIY	**Taiyuan**	**16.18**	**304**	*e*	P		**Pn**	**03 52 38.0**	**+2.3**
TIY					S		**S**	**03 55 32.3**	**-2.6**
TIY					pmax		pmax		
	comp=Z,290nm,0.7s								
TIY					pmax		pmax		
	comp=Z,1µm,5.4s								
ERM	**Erimo**	**16.61**	**38**		P		**P**	**03 52 39.9**	**-0.2**
ERM	**Erimo**	**16.61**	**38**	*d*	iP		**Pn**	**03 52 41.8**	**+1.1**
ERM					pmax		pmax		
	comp=Z,132nm,2.5s								
ENH	**Enshi**	**17.22**	**277**				**Pn**	**03 52 47.7**	**-0.5**
ENH	**Enshi**	**17.22**	**277**		P		**Pn**	**03 52 48.9**	**+0.7**
TGY	**Tagaytay City**	**17.35**	**208**		P		**Pn**	**03 52 50.0**	**+0.1**
TGY	**Tagaytay City**	**17.35**	**208**		P		**Pn**	**03 52 50.0**	**+0.1**
	comp=Z,108nm,0.3s,baz=330,slow=8.1,SNR=5.5								
XLT	**XiLinHaoTe**	**17.69**	**327**	*eP*			**P**	**03 52 52.5**	**+0.3**
XLT					S		**S**	**03 56 05.8**	**-1.2**
XLT					pmax		pmax		
	comp=Z,120nm,1.3s								
XLT					pmax		pmax		
	comp=Z,480nm,6.0s								
ASAJ	**Asahikawa**	**17.85**	**33**		P		**P**	**03 52 53.6**	**-0.2**
	comp=Z,6.1nm,0.5s,baz=228,slow=14,SNR=12								
XAN	**Xi'an**	**17.88**	**289**	⇓	P		**Pn**	**03 52 55.3**	**-0.7**
XAN					pP		P	03 53 00.3	+6.0
XAN					pmax		pmax		
	comp=Z,1µm,4.5s								
XAN					LR		LR		
	comp=Z,490nm,11.7s								
XAN					LR		LR		
	comp=Z,400nm,8.3s								
XAN					LR		LR		
	comp=Z,470nm,7.6s								
HHC	**Hu-ho-hao-te**	**18.27**	**312**	⇑	iP		**Pn**	**03 53 00.0**	**-0.5**
HHC					sP		sP	03 53 47.0	-2.5
HHC					S		**S**	**03 56 11.8**	**-6.6**
HHC					pmax		pmax		
	comp=Z,150nm,0.7s								
HHC					pmax		pmax		
	comp=Z,1µm,3.7s								
BTO	**Baotou**	**19.16**	**310**	*eP*			**Pn**	**03 53 10.5**	**-0.5**
BTO					sP		**sP**	**03 54 02.5**	**+3.2**
BTO					S		**S**	**03 56 34.8**	**-1.3**
BTO					pmax		pmax		
	comp=Z,140nm,1.1s								
BTO					pmax		pmax		
	comp=Z,1µm,4.1s								
BTO					LR		LR		
	comp=Z,1µm,19.0s								
BTO					LR		LR		
	comp=Z,620nm,13.9s								
BTO					LR		LR		
	comp=Z,1µm,11.9s								
KLR	**Kul'dur**	**19.61**	**5**	*c*	iP		**P**	**03 53 12.2**	**-0.6**
KLR					pmax		pmax		
	comp=Z,12nm,0.9s								
KLR	**Kul'dur**	**19.61**	**5**		P		**P**	**03 53 12.7**	**-0.1**
	comp=Z,6.2nm,0.8s,baz=197,slow=8.4,SNR=23								
KLR					S		**S**	**03 56 37.7**	**-6.8**
	comp=Z,1.5nm,0.7s,baz=234,slow=6.8,SNR=2.0								
KLR					PcP		**PcP**	**03 57 25.1**	**+0.3**
	comp=Z,4.2nm,0.7s,baz=178,slow=2.2,SNR=5.0								
KLR					ScP		**ScP**	**04 00 45.0**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=112,slow=9.4,SNR=3.5								
YSS	**Yuzh-Sakhalins**	**20.15**	**27**		P		**P**	**03 53 18.7**	**+0.1**
YSS					lAmb		lAmb	03 53 23.2	
	comp=Z,49nm,0.9s								
YSS	**Yuzh-Sakhalins**	**20.15**	**27**		P		Pn	03 53 20.9	-1.7
YSS	**Yuzh-Sakhalins**	**20.15**	**27**	*eP*			**P**	**03 53 19.8**	**+1.2**
YSS				*eS*			**S**	**03 56 52.4**	**-2.8**
YSS					pmax		pmax		
	comp=Z,400nm,5.3s								
YSS					pmax		pmax		
	comp=Z,50nm,0.8s								
YSS					smax		smax		
	comp=N,700nm,9.1s								
GYA	**Guiyang**	**20.27**	**266**	⇑	P		**P**	**03 53 22.3**	**+2.1**
GYA					sP		sP	03 54 12.8	+1.2
GYA					S		**S**	**03 56 52.3**	**-5.9**
GYA					pmax		pmax		
	comp=N,57nm,0.7s								
GYA					pmax		pmax		
	comp=N,350nm,8.5s								
GYA					LR		LR		
	comp=N,380nm,3.8s								
GYA					LR		LR		
	comp=N,260nm,5.6s								
GYA					LR		LR		
	comp=N,310nm,5.6s								
HEH	**HeiHe**	**20.60**	**356**	*eP*			**P**	**03 53 23.8**	**+0.5**
HEH					S		**S**	**03 57 04.5**	**+0.5**
HEH					PcP		**PcP**	**03 57 26.3**	**-0.3**
HEH					ScP		**ScP**	**04 00 46.5**	**-0.4**
HEH					pmax		pmax		
	comp=N,10.0nm,1.1s								
HEH					pmax		pmax		
	comp=N,230nm,5.5s								
QIZ	**Qiongzhong**	**20.66**	**244**		P		**P**	**03 53 23.0**	**-1.4**
QIZ					PP		**pP**	**03 53 54.8**	**+0.9**
QIZ					sP		**sP**	**03 54 14.5**	**-0.9**
QIZ					S		**S**	**03 57 07.0**	**+1.2**
QIZ					pmax		pmax		
	comp=N,42nm,1.7s								
QIZ					pmax		pmax		
	comp=N,510nm,3.0s								
HIA	**Hailar**	**20.88**	**342**		P		**P**	**03 53 25.8**	**-0.7**
HIA	**Hailar**	**20.88**	**342**		P		Pn	03 53 29.4	-2.3
HIA	**Hailar**	**20.88**	**342**		P		**P**	**03 53 25.8**	**-0.7**
HIA					pmax		pmax		
	comp=Z,19nm,1.0s								
GUMO	**Guam**	**21.51**	**135**		LR		LR	04 02 01.5	
	comp=Z,92nm,18.7s,baz=112,slow=36								
GRNR	**Gornyy**	**21.72**	**12**	⇑	iP		**P**	**03 53 35.6**	**+0.3**
GRNR					pmax		pmax		
	comp=Z,3.0nm,0.7s								
GRNR					MLR		MLR		
	comp=E,170nm,15.0s								
GRNR					MLR		MLR		
	comp=N,140nm,20.0s								
GRNR					MLR		MLR		
	comp=Z,140nm,20.0s								
CD2	**Chengdu**	**22.12**	**280**		P		**P**	**03 53 38.0**	**-1.5**
CD2					pP		pP	03 54 12.8	+2.8
CD2					S		**S**	**03 57 30.5**	**-0.3**
CD2					sS		sS	03 58 23.0	-2.0
CD2					pmax		pmax		
	comp=Z,110nm,0.7s								
CD2					pmax		pmax		
	comp=Z,670nm,3.0s								
CD2					LR		LR		
	comp=Z,950nm,7.2s								
CD2					LR		LR		
	comp=Z,740nm,5.9s								
CD2					LR		LR		
	comp=Z,890nm,7.2s								
LZH	**Lanzhou**	**22.32**	**293**	⇑	iP		**P**	**03 53 41.3**	**-0.2**
LZH					pP		pP	03 54 18.0	+5.8
LZH					sP		sP	03 54 34.5	+0.7
LZH					S		**S**	**03 57 32.3**	**-1.8**
LZH					ScP		**ScP**	**04 00 52.5**	**+0.7**
LZH					pmax		pmax		
	comp=Z,120nm,1.4s								
LZH					pmax		pmax		
	comp=Z,760nm,4.9s								
LZH					LR		LR		
	comp=Z,360nm,16.8s								
LZH					LR		LR		
	comp=Z,340nm,15.1s								
LZH					LR		LR		
	comp=Z,380nm,14.4s								
TYV	**Tymovskoe**	**23.39**	**22**	*eP*			**P**	**03 53 51.5**	**+0.6**
TYV				*eS*			**S**	**03 57 55.4**	**+4.5**
TYV					pmax		pmax		
	comp=Z,100nm,3.3s								
TYV					pmax		pmax		
	comp=Z,10.0nm,1.3s								
TYV					smax		smax		
	comp=E,500nm,5.9s								
KMI	**Kunming**	**24.03**	**266**	⇑	P		**P**	**03 53 56.3**	**-1.1**
KMI					pP		pP	03 54 34.3	+3.4
KMI					S		**S**	**03 57 58.8**	**-3.3**
KMI					pmax		pmax		
	comp=E,50nm,0.9s								
KMI					pmax		pmax		
	comp=E,210nm,4.4s								
KMI					LR		LR		
	comp=E,290nm,11.1s								
KMI					LR		LR		
	comp=E,240nm,8.9s								
KMI					LR		LR		
	comp=E,240nm,10.2s								
ZEA	**Zeya**	**24.09**	**357**	*eP*			**P**	**03 53 57.4**	**+0.2**
ZEA				*e*				03 58 06.8	
ZEA					pmax		pmax		
	comp=Z,10.0nm,0.9s								
SLVN	**Son La**	**24.38**	**256**		lAmb		lAmb	03 54 04.4	
	comp=Z,31nm,0.9s								
PZH	**PanZhiHua**	**24.54**	**269**		P		**P**	**03 54 00.8**	**-1.0**
PZH					pP		**pP**	**03 54 35.0**	**-1.2**
PZH					sP		**sP**	**03 54 52.3**	**-4.6**
PZH					S		**S**	**03 58 14.0**	**+4.1**
PZH					sS		sS	03 59 03.8	-8.2
PZH					pmax		pmax		
	comp=Z,20nm,0.7s								
PZH					pmax		pmax		
	comp=Z,180nm,7.6s								
ULN	**Ulaanbaatar**	**24.99**	**323**		P		**P**	**03 54 05.4**	**-0.3**
ULN					lAmb		lAmb	03 54 08.5	
	comp=Z,47nm,0.6s								
ULN							**PcP**	**03 57 35.8**	**-0.2**
ULN	**Ulaanbaatar**	**24.99**	**323**	*c*	iP		**P**	**03 54 05.1**	**-0.6**
ULN					pmax		pmax		
	comp=Z,39nm,0.6s								
SONM	**Songino Array**	**25.32**	**322**		P		**P**	**03 54 07.8**	**-0.8**
SONM					lAmb		lAmb	03 54 11.5	
	comp=Z,31nm,0.8s								
SONM	**Songino Array**	**25.32**	**322**		P		**P**	**03 54 08.0**	**-0.6**
	comp=Z,27nm,0.8s,baz=140,slow=7.4,SNR=78								
SONM					PcP		**PcP**	**03 57 37.2**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=112,slow=2.6,SNR=7.2								
SONM					ScP		**ScP**	**04 00 59.0**	**-0.7**
	comp=Z,3.4nm,0.8s,baz=138,slow=3.2,SNR=15								
	comp=Z,27nm,0.8s								
GTA	**Gaotai**	**26.09**	**300**		P		**P**	**03 54 17.0**	**+1.3**
GTA					PP		**PP**	**03 55 12.8**	**-5.3**
GTA					PcP		**PcP**	**03 57 39.5**	**+0.8**
GTA					ScP		**ScP**	**04 01 02.5**	**+0.4**
GTA					PcS		**PcS**	**04 01 19.5**	**-0.3**
GTA					pmax		pmax		
	comp=Z,93nm,0.8s								
G

YAK *e*PP **pP** **03 55 48.9 +2.5**
YAK *e* 03 56 25.3
YAK *e* 03 57 53.6
YAK *e*S **S** **04 00 11.0 -0.4**
YAK *e* 04 05 11.5
YAK pmax pmax
comp=Z,19nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.4s
YAK pmax pmax
comp=Z,193nm,5.6s
YAK pmax pmax
comp=N,77nm,5.4s
YAK pmax pmax
comp=E,140nm,5.6s
YAK smax smax
comp=E,227nm,7.3s
YAK smax smax
comp=N,220nm,6.9s
FAKI Fak Fak 32.54 175 P **P** **03 55 12.2 -0.5**
FAKI IAmb IAmb 03 55 14.3
comp=Z,31nm,1.0s
FAKI Fak Fak 32.54 175 P **P** **03 55 13.5 +0.8**
FAKI Fak Fak 32.54 175 P **P** **03 55 13.7 +1.0**
comp=Z,34nm,1.1s
MA2 Magadan 33.24 20⇑ *e*P **P** **03 55 18.3 0.0**
MA2 pmax pmax
comp=Z,33nm,2.5s
SHL Shillong 33.35 272 P **P** **03 55 18.7 -1.3**
SHL IAmb IAmb 03 55 22.4
comp=Z,29nm,0.7s
SHL PcP **PcP** **03 57 57.2 -0.5**
MTKI Muara Teweh, K 33.44 207 P **P** **03 55 22.5 +2.0**
STKI Sintang 34.03 213 P P 03 55 19.7 -5.9
SURA Surathani 34.49 240 P **P** **03 55 31.1 +1.5**
SRIT Nakonsritamara 34.88 239 P **P** **03 55 33.7 +0.7**
SRIT Nakonsritamara 34.88 239 P **P** **03 55 35.0 +2.0**
BBKI Banjar Baru 35.77 205 P **P** **03 55 41.9 +1.4**
comp=Z,378nm,1.0s
WMQ Urumqi 35.85 305 pmax pmax
comp=Z,35nm,0.7s
WMQ Urumqi 35.85 305 *e*P **P** **03 55 41.0 0.0**
WMQ PP **PP** **03 57 06.3 +0.3**
WMQ PcP **PcP** **03 58 05.3 +0.8**
WMQ pmax pmax
comp=Z,24nm,0.7s
WMQ Urumqi 35.85 305 *e*P **PcP** **03 58 05.5 +1.0**
SEY Seymchan 36.44 18⇑ *e*P **P** **03 55 45.7 0.0**
SEY pmax pmax
comp=Z,10.0nm,0.8s
ODAN Odare 36.92 276 *e*P **P** **03 55 51.3 +0.8**
DGZ Jazzator, Alta 37.33 314⇓ *e*P **P** **03 55 53.4 -0.2**
DGZ pmax pmax
comp=Z,8.0nm,1.4s
RAMN Ramite 37.58 277 *e*P **P** **03 55 57.1 +1.0**
comp=Z,48nm,0.6s
JIRN Jiri 37.76 278 *e*P **P** **03 55 57.3 -0.5**
GUN Gumba 37.97 278 *e*P **P** **03 55 59.2 -0.3**
ZSN Zaisan 38.44 310 *e*P **P** **03 56 01.6 -1.2**
baz=310
ZSN Zaisan 38.44 310 *e*P **P** **03 56 01.6 -1.2**
PKI Pulchoki 38.46 278 *e*P **P** **03 56 03.1 -0.4**
comp=Z,64nm,0.5s
KKN Kakani 38.52 278 *e*P **P** **03 56 03.5 -0.4**
PPBI Pangkal Pinang 38.67 219 P **P** **03 56 07.1 +2.1**
comp=Z,64nm,1.1s
DMN Daman 38.71 278 *e*P **P** **03 56 05.4 -0.1**
EDFI Ende, Flores 38.91 192 P **P** **03 56 04.9 -2.2**
comp=Z,17nm,0.7s
GKN Gorkha 39.02 279 *e*P **P** **03 56 08.4 +0.4**
comp=Z,67nm,0.5s
PSI Prapat 39.34 233 P **P** **03 56 12.3 +1.6**
KMMI Kalianget 39.40 205 P **P** **03 56 12.7 +1.7**
comp=Z,129nm,1.0s
RPSI Rantau Prapat 39.42 233 P **P** **03 56 11.3 +0.1**
RPSI PcP **PcP** **03 58 15.7 -0.1**
SOEI Soe 39.51 188 P **P** **03 56 10.8 -1.2**
SOEI IAmb IAmb 03 56 29.0
comp=Z,26nm,0.8s
SOEI Soe 39.51 188 P **P** **03 56 13.1 +1.1**
SOEI Soe 39.51 188 P **P** **03 56 11.3 -0.7**
comp=Z,36nm,1.2s
KCSI Kotacane, Aceh 39.64 235 P **P** **03 56 13.8 +0.7**
comp=Z,44nm,0.6s,comp=Z,4µm
DANN Dangsing 39.69 280 *e*P **P** **03 56 13.3 -0.4**
comp=Z,109nm,0.5s
BKNI Bangkinang 39.74 228 P **P** **03 56 13.7 -0.2**
BKNI Bangkinang 39.74 228 P **P** **03 56 15.4 +1.5**
BKNI Bangkinang 39.74 228 P **P** **03 56 16.0 +2.1**
comp=Z,131nm,1.0s
PLAI Plampang 39.88 198 P **P** **03 56 15.3 +0.4**
KOLN Koldanda 39.97 279 *e*P **P** **03 56 15.5 -0.4**
ABJI Asem Bagus 40.00 204 P **P** **03 56 17.8 +1.9**
comp=Z,86nm,2.2s
TWSI Taliwang, Sumb 40.04 199 P **P** **03 56 16.8 +0.5**
comp=Z,93nm,0.9s,comp=Z,2µm
MK31 Makanchi Array 40.07 309 *d* *i*P **P** **03 56 15.3 -0.9**
MKAR Makanchi Array 40.07 309 P **P** **03 56 15.8 -0.4**
MKAR Makanchi Array 40.07 309 *i* P **P** **03 56 15.3 -0.9**
MKAR pmax pmax
comp=Z,11nm,0.7s
MKAR Makanchi Array 40.07 309 P **P** **03 56 14.8 -1.4**
comp=Z,11nm,0.7s,baz=94,slow=10,SNR=96
MKAR PP **PnPn** **03 57 55.2 -2.0**
comp=Z,7.7nm,0.8s,baz=97,slow=9.9,SNR=7.6
MKAR PcP **PcP** **03 58 17.6 +0.2**
comp=Z,10nm,0.6s,baz=72,slow=3.2,SNR=14
MKAR ScP **ScP** **04 01 49.2 -1.0**
comp=Z,5.4nm,0.9s,baz=90,slow=5.8,SNR=16
comp=Z,11nm,0.7s
MLSI Meulaboh, Aceh 40.12 237 P **P** **03 56 17.6 +0.6**
comp=Z,201nm,0.7s
ZAA0 Zalesovo Array 40.17 320 P **P** **03 56 15.3 -1.6**
ZAA0 IAmb IAmb 03 56 18.7
comp=Z,19nm,0.7s
ZAA0 PcP **PcP** **03 58 16.8 -0.9**
ZALV Zalesovo Beam 40.17 320 P **P** **03 56 15.6 -1.3**
ZALV PcP **PcP** **03 58 16.8 -0.9**
ZALV Zalesovo Beam 40.17 320 P **P** **03 56 15.9 -1.1**
comp=Z,19nm,0.6s,baz=107,slow=8.6,SNR=53
ZALV PcP **PcP** **03 58 17.1 -0.5**
comp=Z,14nm,0.7s,baz=142,slow=2.6,SNR=14
ZALV ScP **ScP** **04 01 48.5 -2.0**
comp=Z,3.7nm,0.8s,baz=135,slow=4.8,SNR=10
comp=Z,19nm,0.6s
MAKZ Makanchi 40.28 309 P **P** **03 56 17.6 -0.4**
MAKZ Makanchi 40.28 309 P **P** **03 56 17.6 -0.4**
MAKZ pmax pmax
comp=Z,8.0nm,0.7s
MAKZ Makanchi 40.28 309 P **P** **03 56 16.8 -1.2**
MAKZ pP **pP** **03 56 55.9 +0.9**
MAKZ PcP **PcP** **03 58 18.0 -0.2**
MAKZ ScP **ScP** **04 01 50.5 -0.6**
PYUN Piuthan 40.41 280 *e*P **P** **03 56 18.9 -0.6**
comp=Z,41nm,0.4s
NGJI Ngawi 40.66 208 P **P** **03 56 23.6 +2.3**
comp=Z,122nm,0.9s
SMRI Semarang 40.80 209 P **P** **03 56 22.3 -0.2**
PDSI Padang 41.06 227 P **P** **03 56 26.1 +1.4**
comp=Z,33nm,0.7s,comp=Z,3µm
GSI Gunungsitoli 41.35 233 P **P** **03 56 26.1 -1.0**
GSI PcP **PcP** **03 58 22.9 +0.8**
GSI Gunungsitoli 41.35 233 P **P** **03 56 27.7 +0.7**
GSI Gunungsitoli 41.35 233 P **P** **03 56 27.4 +0.4**
comp=Z,113nm,0.6s,comp=Z,2µm
SNSI Sinabang, Aceh 41.45 235 P **P** **03 56 29.1 +1.3**
comp=Z,175nm,1.0s
UGM Wanagama 41.54 209 P **P** **03 56 29.4 +0.9**
UGM Wanagama 41.54 209 P **P** **03 56 29.5 +0.9**
KPJI Karang Pucung 41.71 211 P **P** **03 56 31.3 +1.4**
comp=Z,155nm,1.0s
SHLS Shalkode 41.75 303 *e*P **P** **03 56 26.2 -4.0**
baz=303
SHLS Shalkode 41.75 303 *e*P **P** **03 56 26.2 -4.0**
PBSI Pulau Batu 41.85 231 P **P** **03 56 32.3 +1.2**
comp=Z,160nm,0.6s
SEM Semipalatinsk 41.99 314 *e*P **P** **03 56 30.1 -2.1**
comp=Z,17nm,0.7s,baz=314
SEM Semipalatinsk 41.99 314 *e*P **P** **03 56 30.9 -1.3**
SEM pmax pmax
comp=Z,17nm,0.7s
DBJI Dramaga 42.07 215 P **P** **03 56 34.4 +1.5**
comp=Z,201nm,1.2s,comp=Z,14µm

UZB Uzynbulak 42.07 303 *e*P **P** **03 56 32.0 -0.8**
baz=303
UZB Uzynbulak 42.07 303 *e*P **P** **03 56 32.0 -0.8**
LWLI Liwa 42.18 219 P **P** **03 56 35.4 +1.5**
comp=Z,58nm,0.7s
KDU Kakadu 42.23 175 P **P** **03 56 34.0 -0.1**
MTN Manton Dam 42.31 177 P **P** **03 56 34.1 -0.7**
MTN IAmb IAmb 03 56 35.4
comp=Z,50nm,0.9s
MTN Manton Dam 42.31 177 P **P** **03 56 34.8 0.0**
KASI Kota Agung 42.36 218 P **P** **03 56 35.9 +0.7**
comp=Z,42nm,1.0s
BBJI Bungbulang 42.42 213 P **P** **03 56 35.6 -0.2**
TDK Taldyqorghan 42.59 306 *e*P **P** **03 56 36.2 -0.6**
comp=Z,15nm,0.9s,baz=306
TDK Taldyqorghan 42.59 306 *e*P **P** **03 56 36.2 -0.6**
TDK pmax pmax
comp=Z,15nm,0.9s
CGJI Cibinong 42.65 216 P **P** **03 56 36.9 -0.6**
comp=Z,37nm,1.1s
ARXS Orharly 42.97 304 *e*P **P** **03 56 38.8 -1.1**
KURK Kurchatov 43.07 314 P **P** **03 56 39.5 -1.1**
KURK IAmb IAmb 03 56 42.4
comp=Z,27nm,0.8s
KURK Kurchatov 43.07 314*c* *i*P **P** **03 56 39.2 -1.3**
KURK pmax pmax
comp=Z,32nm,0.8s
KURK Kurchatov 43.07 314 P **P** **03 56 39.5 -1.1**
KURK pP **pP** **03 57 19.8 +1.8**
KURK PcP **PcP** **03 58 26.9 -0.3**
KURK ScP **ScP** **04 02 01.2 -0.8**
KURBB Kurchatov Arra 43.11 314 P **P** **03 56 40.0 -0.9**
comp=Z,20nm,0.7s,baz=102,slow=8.9,SNR=66
KURBB PcP **PcP** **03 58 26.8 -0.7**
comp=Z,6.7nm,0.6s,baz=98,slow=3.7,SNR=10
KURBB ScP **ScP** **04 02 01.2 -1.0**
comp=Z,0.8nm,0.3s,baz=98,slow=4.1,SNR=6.8
comp=Z,20nm,0.7s
MDOK Medeo 43.51 303 *e*P **P** **03 56 43.4 -1.0**
baz=303
MDOK Medeo 43.51 303 *e*P **P** **03 56 43.4 -1.0**
CHKK Chushkaly 43.56 304 *e*P **P** **03 56 43.6 -1.0**
baz=304
CHKK Chushkaly 43.56 304 *e*P **P** **03 56 43.6 -1.0**
KUU Kurty 44.03 304 *e*P **P** **03 56 47.8 -0.6**
baz=304
KUU Kurty 44.03 304 *e*P **P** **03 56 47.8 -0.6**
BILL Bilibino 44.09 19 *i*P **P** **03 56 48.3 -0.2**
BILL pmax pmax
comp=Z,36nm,1.0s
KSH Kashi 44.45 298 P **P** **03 56 55.0 +3.1**
KSH pP pP 03 57 35.0 +5.4
KSH PP **PP** **03 58 45.0 +5.9**
KSH PcS **PcS** **04 02 28.0 +1.9**
TKM2 Tokmak 2 44.58 302 *i*P **P** **03 56 50.8 -2.2**
TKM2 pmax pmax
comp=Z,15nm,0.7s
KNRA Kununurra 45.10 181 P **P** **03 56 56.6 -0.4**
KNRA IAmb IAmb 03 56 58.5
comp=Z,61nm,1.1s
KNRA Kununurra 45.10 181 P **P** **03 56 57.6 +0.7**
SGDS Sogindy 45.28 303 *e*P **P** **03 56 57.8 -0.6**
baz=303
SGDS Sogindy 45.28 303 *e*P **P** **03 56 57.7 -0.6**
AAK Ala-Archa 45.40 302 P **P** **03 56 59.1 -0.3**
AAK PcP **PcP** **03 58 35.4 -0.3**
AAK Ala-Archa 45.40 302 *i*P **P** **03 56 58.9 -0.5**
SNR=5.5
AAK Ala-Archa 45.40 302*ce*P **P** **03 57 00.6 +1.2**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 45.40 302 P **P** **03 56 59.6 +0.3**
AAK pP **pP** **03 57 40.0 +2.8**
AAK PcP **PcP** **03 58 36.1 +0.4**
AAK ScP **ScP** **04 02 11.3 -0.8**
BTLS Baital 45.68 305 *e*P **P** **03 57 00.3 -1.0**
baz=305
BTLS Baital 45.68 305 *e*P **P** **03 57 00.3 -1.0**
NRIK Noril'sk 46.30 341 P **P** **03 57 05.2 -0.6**
NRIK PcP **PcP** **03 58 37.7 -0.3**
NRIK Noril'sk 46.30 341⇑ *i*P **P** **03 57 04.4 -1.4**
NRIK pmax pmax
comp=Z,15nm,1.5s
NRIK Noril'sk 46.30 341 P **P** **03 57 04.8 -1.0**
comp=Z,6.8nm,0.7s,baz=109,slow=8.7,SNR=8.9
NRIK PcP **PcP** **03 58 38.3 +0.2**
comp=Z,28nm,0.7s,baz=114,slow=3.9,SNR=29
comp=Z,6.8nm,0.7s
BRZS Berezniki 46.77 312⇑ *i*P **P** **03 57 09.0 -0.8**
baz=312
BRZS Berezniki 46.77 312*c* *i*P **P** **03 57 08.9 -0.8**
NIL Nilore 47.42 290 P **P** **03 57 14.4 -0.7**
NIL IAmb IAmb 03 57 17.2
comp=Z,30nm,0.8s
NIL Nilore 47.42 290 P **P** **03 57 14.4 -0.7**
NIL pmax pmax
comp=Z,30nm,0.8s
NIL Nilore 47.42 290 P **P** **03 57 15.1 0.0**
FITZ Fitzroy Crossi 47.64 185 P **P** **03 57 16.4 -0.3**
FITZ Fitzroy Crossi 47.64 185 P **P** **03 57 17.5 +0.8**
HYB Hyderabad 47.80 267 *e*P **P** **03 57 17.1 -1.1**
HYB eS **S** **04 04 02.6 +0.7**
KK31 Karatay Array 48.30 303 P **P** **03 57 21.3 -0.4**
KK31 PcP **PcP** **03 58 45.1 -0.7**
KKAR Karatay Array 48.30 303 P **P** **03 57 21.3 -0.4**
KKAR PcP **PcP** **03 58 44.8 -0.9**
BTK Batken 48.36 299 P **P** **03 57 22.2 -0.1**
BTK PcP **PcP** **03 58 46.1 -0.1**
BTK Batken 48.36 299 P **P** **03 57 22.2 -0.1**
BTK 03 58 46.1
BTK pmax pmax
comp=Z,8.0nm,1.3s
BVAR Borovoye Array 48.42 316 P **P** **03 57 22.0 -0.4**
comp=Z,28nm,0.7s,baz=96,slow=8.3,SNR=32
BVAR pP **pP** **03 58 02.4 +1.7**
comp=Z,9.9nm,0.7s,baz=93,slow=8.9,SNR=3.5
BVAR PcP **PcP** **03 58 46.0 0.0**
comp=Z,25nm,0.6s,baz=112,slow=3.4,SNR=20
BVAR ScP **ScP** **04 02 23.5 -0.8**
comp=Z,3.2nm,0.8s,baz=99,slow=4.7,SNR=7.0
comp=Z,28nm,0.7s
BRVK Borovoye 48.48 316 P **P** **03 57 22.4 -0.5**
BRVK IAmb IAmb 03 57 25.7
comp=Z,46nm,0.7s
BRVK PcP **PcP** **03 58 46.0 -0.2**
BRVK Borovoye 48.48 316*c* *i*P **P** **03 57 22.4 -0.5**
BRVK pmax pmax
comp=Z,55nm,0.8s
BRVK Borovoye 48.48 316 P **P** **03 57 22.2 -0.7**
BRVK pP **pP** **03 58 03.3 +2.2**
BRVK sP **sP** **03 58 23.0 +2.7**
BRVK PcP **PcP** **03 58 46.2 0.0**
BRVK ScP **ScP** **04 02 24.3 -0.3**
CHM Chimkent 49.03 302 *e*P **P** **03 57 26.0 -1.3**
baz=302
CHM Chimkent 49.03 302 *e*P **P** **03 57 25.9 -1.3**
WRAB Tennant Creek 49.56 174 P **P** **03 57 30.6 -0.8**
WRAB Tennant Creek 49.56 174 P **P** **03 57 30.6 -0.8**
WRAB pmax pmax
comp=Z,18nm,0.9s
WRA Warramunga Arr 49.57 174 P **P** **03 57 31.6 +0.1**
comp=Z,10nm,0.6s,baz=350,slow=8.2,SNR=60
WRA pP **pP** **03 58 10.0 +0.1**
comp=Z,3.8nm,0.8s,baz=353,slow=8.3,SNR=2.8
WRA PcP **PcP** **03 58 51.0 +0.5**
comp=Z,1.5nm,0.6s,baz=349,slow=3.8,SNR=4.8
WRA ScP **ScP** **04 02 29.3 -0.3**
comp=Z,1.1nm,0.9s,baz=338,slow=4.5,SNR=5.1
comp=Z,10nm,0.6s
WR0 Warramunga Arr 49.61 174 P **P** **03 57 30.9 -0.9**
WR0 IAmb IAmb 03 57 33.0
comp=Z,28nm,1.0s
SPIA Saint Paul Isl 49.66 38 P **P** **03 57 30.7 -1.1**
baz=263
SIMJ Simiganj 49.94 297 P **P** **03 57 34.2 -0.2**
SIMJ PcP **PcP** **03 58 51.9 0.0**
SIMJ Simiganj 49.94 297 P **P** **03 57 34.4 +0.1**
SIMJ PcP **PcP** **03 58 52.1 +0.1**
GAMB Gambell 50.15 30 P **P** **03 57 35.4 +0.2**
baz=256
KBL Kabul 50.66 292 P **P** **03 57 40.4 +0.5**
KBL PcP **PcP** **03 58 55.0 +0.1**
KBL Kabul 50.66 292 P **P** **03 57 40.4 +0.5**
KBL 03 58 55.0

KBL pmax pmax
comp=Z,20nm,1.0s
PALK Pallekele 50.78 254 P **P** **03 57 40.6 -0.2**
PALK IAmb IAmb 03 57 42.4
comp=Z,35nm,0.8s
PALK Pallekele 50.78 254 P **P** **03 57 40.6 -0.2**
PALK pmax pmax
comp=Z,35nm,0.9s
PALK Pallekele 50.78 254 P **P** **03 57 41.3 +0.5**
PALK PcP **PcP** **03 58 56.7 +1.4**
QIS Mount Isa 50.92 168 P **P** **03 57 42.2 +0.6**
MBWA Marble Bar 51.39 192 P **P** **03 57 44.5 -0.6**
MBWA IAmb IAmb 03 57 46.5
comp=Z,40nm,1.2s
MBWA Marble Bar 51.39 192 P **P** **03 57 45.8 +0.7**
MBWA Marble Bar 51.39 192 P **P** **03 57 44.5 -0.6**
MBWA PcP **PcP** **03 58 57.1 -0.1**
UNV Unalaska Valle 51.56 43 P **P** **03 57 45.8 -0.1**
baz=269
PSA00 Pilbara Seismi 51.77 191 P **P** **03 57 47.6 -0.3**
PSA00 IAmb IAmb 03 57 49.2
comp=Z,48nm,1.1s
PSA00 Pilbara Seismi 51.77 191 IAmb IAmb 03 57 49.2
comp=Z,28nm,1.1s
PSA00 Pilbara Seismi 51.77 191 P **P** **03 57 48.7 +0.8**
M11K Mekoryuk 52.12 35 P **P** **03 57 49.9 -0.1**
baz=264
TNA Tin City 52.13 28 P **P** **03 57 49.8 -0.2**
baz=258
F14K Arctic Creek 52.76 28 P **P** **03 57 54.7 0.0**
baz=260
ANM Nome 53.02 29 P **P** **03 57 57.9 +1.3**
ANM IAmb IAmb 03 57 59.2
comp=Z,25nm,0.9s
ANM Nome 53.02 29 P **P** **03 57 56.0 -0.6**
baz=262
ANM Nome 53.02 29 P **P** **03 57 57.9 +1.3**
ANM pmax pmax
comp=Z,25nm,0.9s
AS31 Alice Springs 53.22 175 P **P** **03 57 58.2 -0.3**
ASAR Alice Springs 53.22 175 P **P** **03 57 59.0 +0.5**
comp=Z,4.1nm,0.3s,baz=359,slow=6.5,SNR=204
ASAR pP **pP** **03 58 39.2 +1.7**
comp=Z,2.8nm,0.8s,baz=359,slow=6.8,SNR=2.9
ASAR PcP **PcP** **03 59 05.0 +0.8**
comp=Z,2.8nm,0.6s,baz=360,slow=4.5,SNR=7.6
ASAR ScP **ScP** **04 02 45.4 +0.1**
comp=Z,0.7nm,0.9s,baz=347,slow=3.2,SNR=4.1
comp=Z,4.1nm,0.3s
F15K North Star Dit 53.49 28 IAmb IAmb 03 58 02.5
comp=Z,36nm,0.9s
F15K North Star Dit 53.49 28 P **P** **03 57 59.9 -0.2**
baz=262
M13K Dall Lake 53.53 35 P **P** **03 58 00.4 +0.1**
baz=267
J14K Nanvaranak Lak 53.61 32 P **P** **03 58 01.0 +0.1**
baz=265
G15K Niukluk 53.64 29 P **P** **03 58 01.2 +0.1**
baz=263
C16K Lieburne Hills 53.66 25 IAmb IAmb 03 58 02.7
comp=Z,40nm,0.8s
C16K Lisburne Hills 53.66 25 P **P** **03 58 01.2 0.0**
baz=259
L14K Kuka Creek 53.91 34 IAmb IAmb 03 58 06.0
comp=Z,37nm,1.1s
L14K Kuka Creek 53.91 34 P **P** **03 58 03.0 -0.1**
baz=267
SVE Sverdlovsk 54.18 321 *e*P **P** **03 58 07.2 +2.1**
SVE pmax pmax
comp=Z,26nm,0.8s
M14K Bethel 54.23 34 P **P** **03 58 04.9 -0.5**
baz=268
N14K Kuskokwak Cree 54.34 35 P **P** **03 58 05.8 -0.4**
baz=268
H16K Elim 54.37 30 P **P** **03 58 05.6 -0.7**
baz=265
G16K Koyuk River 54.40 29 P **P** **03 58 05.5 -1.1**
baz=264
WRKA Warakurna 54.42 181 P **P** **03 58 07.2 0.0**
C17K DeLong Mountai 54.48 25 P **P** **03 58 07.0 -0.2**
baz=261
L15K Ungalak Mounta 54.50 33 P **P** **03 58 07.0 -0.4**
baz=267
K15K Wolf Creek Mou 54.51 32 P **P** **03 58 07.0 -0.4**
baz=267
RDOG Red Dog Mine 54.52 25 IAmb IAmb 03 58 09.3
comp=Z,17nm,0.8s
RDOG Red Dog Mine 54.52 25 P **P** **03 58 06.7 -0.7**
baz=262
E17K Hotham Inlet 54.80 27 P **P** **03 58 09.3 -0.2**
baz=263
M15K Kasigluk River 54.86 34 P **P** **03 58 09.7 -0.2**
baz=269
F17K Baldwin Pennin 54.96 27 P **P** **03 58 10.4 -0.1**
baz=264
I17K Unalakleet 54.98 31 IAmb IAmb 03 58 13.0
comp=Z,20nm,0.8s
I17K Unalakleet 54.98 31 P **P** **03 58 10.7 -0.1**
baz=267
J16K Anvik River 54.99 31 P **P** **03 58 11.0 +0.1**
baz=267
ABKAR Akbulak array 55.06 312 P **P** **03 58 11.1 -0.5**
ABKAR PcP **sP** **03 59 09.7 0.0**
B18K Kokolik River 55.11 24 P **P** **03 58 12.1 +0.4**
baz=262
G17K Kiwalik Mounta 55.12 29 P **P** **03 58 11.3 -0.4**
baz=266
N15K Kwethluk River 55.15 35 P **P** **03 58 11.8 -0.3**
baz=270
C18K Utukok River 55.23 25 IAmb IAmb 03 58 14.3
comp=Z,36nm,0.8s
C18K Utukok River 55.23 25 P **P** **03 58 12.4 -0.2**
baz=263
O15K Ungalikthiuk R 55.28 36 P **P** **03 58 12.3 -0.7**
baz=271
E18K Tukpahlearik C 55.31 26 IAmb IAmb 03 58 15.5
comp=Z,25nm,0.8s
E18K Tukpahlearik C 55.31 26 P **P** **03 58 13.3 +0.2**
baz=264
ARU Arti 55.34 320 P **P** **03 58 12.8 -0.6**
ARU IAmb IAmb 03 58 15.7
comp=Z,25nm,0.9s
ARU Arti 55.34 320*c* *i*P **P** **03 58 14.7 +1.2**
ARU *PP **pP** **03 58 54.6 +2.0**
ARU 03 59 11.1
ARU 04 00 17.2
ARU S **S** **04 05 49.2 +5.3**
ARU SS **SS** **04 09 30.9 +0.4**
ARU pmax pmax
comp=Z,28nm,0.9s
ARU Arti 55.34 320 P **P** **03 58 12.6 -0.9**
comp=Z,14nm,0.5s,baz=75,slow=1.9,SNR=18
ARU PcP **sP** **03 59 11.6 0.0**
comp=Z,21nm,0.7s,baz=96,slow=2.6,SNR=8.7
comp=Z,14nm,0.5s
ARU Arti 55.34 320 P **P** **03 58 12.8 -0.6**
ARU PcP **sP** **03 59 11.6 0.0**
H17K Granite Mounta 55.39 29 IAmb IAmb 03 58 16.2
comp=Z,34nm,1.2s
H17K Granite Mounta 55.39 29 P **P** **03 58 13.1 -0.6**
baz=267
L16K Owhat River 55.46 33 P **P** **03 58 13.9 -0.3**
baz=269
A19K Wainwright 55.48 23 P **P** **03 58 14.5 +0.2**
baz=262
S14K Fog Glacier 55.52 40 P **P** **03 58 15.0 +0.1**
baz=273
M16K Timber Creek 55.70 34 P **P** **03 58 15.4 -0.6**
baz=270
N16K Nishlik Lake 55.80 35 P **P** **03 58 16.8 0.0**
baz=271
C19K Lookout Ridge 55.86 24 IAmb IAmb 03 58 19.2
comp=Z,29nm,0.9s
C19K Lookout Ridge 55.86 24 P **P** **03 58 17.2 +0.1**
baz=264
G18K Tagagawik 55.97 28 IAmb IAmb 03 58 19.3
comp=Z,17nm,0.8s
G18K Tagagawik 55.97 28 P **P** **03 58 17.8 0.0**
baz=267
L17K Donlin 56.02 33 P **P** **03 58 18.7 +0.4**
baz=270
K17K Iditarod 56.02 32 IAmb IAmb 03 58 20.9
comp=Z,24nm,0.8s
K17K Iditarod 56.02 32 P **P** **03 58 19.2 +0.9**
baz=270
H18K Honhosa River 56.05 29 IAmb IAmb 03 58 20.6
comp=Z,20nm,1.0s

H18K	Honhosa River	56.05	29	P		P		03 58 18.7	+0.2	
	baz=268									
CHGN	Chignik	56.15	40	P		P		03 58 19.0	-0.2	
	baz=274									
HRA	Herat	56.15	293	P		P		03 58 18.6	-1.3	
O16K	Kokwok River B	56.16	36	P		P		03 58 19.2	0.0	
	baz=272									
P16K	Nushagak River	56.23	36	P		P		03 58 19.6	-0.1	
	baz=272									
D19K	Kuna River	56.34	25	P		P		03 58 20.2	-0.2	
	baz=266									
F19K	Shaleruckik Mo	56.37	27	IAmb		IAmb		03 58 22.3		
	comp=Z,21nm,1.2s									
F19K	Shaleruckik Mo	56.37	27	P		P		03 58 20.3	-0.3	
	baz=267									
M17K	Holitna River	56.44	34	P		P		03 58 21.7	+0.5	
M17K				IAmb		IAmb		03 58 24.2		
	comp=Z,28nm,0.9s									
M17K	Holitna River	56.44	34	P		P		03 58 21.4	+0.2	
	baz=271									
N17K	Nushagak Hills	56.58	35	P		P		03 58 22.6	+0.3	
	baz=272									
E19K	Redstone River	56.61	26	IAmb		IAmb		03 58 24.4		
	comp=Z,34nm,0.8s									
E19K	Redstone River	56.61	26	P		P		03 58 22.2	-0.1	
	baz=267									
G19K	Purcell Mounta	56.62	28	IAmb		IAmb		03 58 24.3		
	comp=Z,17nm,1.0s									
G19K	Purcell Mounta	56.62	28	P		P		03 58 22.0	-0.5	
	baz=268,SNR=7.7									
O17K	Koliganek Bris	56.66	36	P		P		03 58 22.7	0.0	
	baz=273									
GCSA	Galena City Sc	56.67	30	P		P		03 58 22.6	-0.2	
	baz=270									
J18K	Innoko River	56.74	31	P		P		03 58 23.4	+0.1	
	baz=270									
L18K	Granite Mounta	56.78	33	IAmb		IAmb		03 58 26.3		
	comp=Z,14nm,0.9s									
L18K	Granite Mounta	56.78	33	P		P		03 58 23.4	-0.1	
	baz=271									
B20K	Meade River	56.79	23	IAmb		IAmb		03 58 25.4		
	comp=Z,28nm,0.8s									
B20K	Meade River	56.79	23	P		P		03 58 23.7	+0.2	
	baz=266,SNR=22									
H19K	Roundabout Mou	56.87	29	P		P		03 58 24.3	+0.2	
	baz=269									
D20K	Etivluk River	56.90	25	P		P		03 58 24.6	+0.2	
	baz=267									
Q16K	King Salmon	56.94	37	P		P		03 58 24.5	-0.3	
	baz=274									
P17K	Kvichak River	57.02	36	P		P		03 58 25.4	+0.1	
	baz=274									
E20K	Nigu River	57.04	25	P		P		03 58 25.1	-0.3	
	baz=268									
A21K	Barrow	57.08	22	P		P		03 58 25.6	+0.1	
	baz=265,SNR=16									
R17K	Ugashik Creek	57.16	38	P		P		03 58 26.0	-0.3	
	baz=275									
F20K	Avaraart Lake	57.18	27	P		P		03 58 26.6	+0.3	
	baz=269									
M18K	Stony River	57.21	33	P		P		03 58 26.0	-0.6	
	baz=272									
N18K	Kilae Creek	57.22	34	P		P		03 58 26.5	-0.2	
	baz=273									
J19K	Poorman	57.23	30	IAmb		IAmb		03 58 28.9		
	comp=Z,29nm,0.9s									
J19K	Poorman	57.23	30	P		P		03 58 26.2	-0.5	
	baz=271									
OOD	Oodnadatta	57.48	173	P		P		03 58 29.4	+0.6	
H20K	Anotleneega Mo	57.52	29	P		P		03 58 29.0	+0.2	
	baz=271									
C21K	Knifeblade Rid	57.58	24	P		P		03 58 29.3	+0.1	
	baz=268									
A22K	Sinclair Lake	57.59	22	P		P		03 58 29.3	+0.2	
	baz=267									
O18K	Koktuh Hills	57.61	35	P		P		03 58 29.7	+0.2	
	baz=274									
P18K	Big Mountain,	57.63	36	P		P		03 58 30.0	+0.3	
	baz=274									
L19K	White Mountain	57.64	33	P		P		03 58 30.4	+0.7	
L19K				IAmb		IAmb		03 58 33.7		
	comp=Z,33nm,1.3s									
L19K	White Mountain	57.64	33	P		P		03 58 29.7	0.0	
	baz=273									
B21K	Ikpikpuk River	57.65	24	P		P		03 58 29.2	-0.4	
	baz=268									
I20K	Naaghedeneel	57.70	29	P		P		03 58 29.3	-0.7	
	baz=272									
E21K	Killik River	57.87	25	P		P		03 58 31.0	-0.2	
	baz=270,SNR=21									
J20K	Nowinta River	57.87	30	IAmb		IAmb		03 58 33.9		
	comp=Z,34nm,1.0s									
J20K	Nowinta River	57.87	30	P		P		03 58 31.6	+0.4	
	baz=272									
K20K	Telida	57.94	31	IAmb		IAmb		03 58 34.6		
	comp=Z,26nm,0.9s									
K20K	Telida	57.94	31	P		P		03 58 32.0	+0.3	
	baz=273									
O19K	Port Alsworth	58.02	35	P		P		03 58 32.4	+0.1	
	baz=275									
F21K	Alatna River	58.06	27	IAmb		IAmb		03 58 34.9		
	comp=Z,16nm,0.9s									
F21K	Alatna River	58.06	27	P		P		03 58 32.9	+0.4	
	baz=271,SNR=15									
G21K	Allakaket	58.06	27	P		P		03 58 33.1	+0.5	
	baz=271									
L20K	Farewell, AK	58.07	32	P		P		03 58 33.2	+0.5	
	baz=274									
B22K	Teshekpuk Lake	58.08	23	P		P		03 58 33.6	+1.1	
	baz=269									
R18K	Karluk	58.20	38	P		P		03 58 34.6	+1.0	
	baz=276									
D22K	Ayikyak River	58.34	25	P		P		03 58 35.0	+0.6	
D22K	Ayikyak River	58.34	25	P		P		03 58 35.7	+1.3	
	baz=271									
H21K	Melozitna Rive	58.38	28	IAmb		IAmb		03 58 37.3		
	comp=Z,28nm,0.9s									
H21K	Melozitna Rive	58.38	28	P		P		03 58 35.9	+1.2	
	baz=273									
GEYT	Alibeck	58.47	299	P		P		03 58 37.3	+1.5	
	comp=Z,5.3nm,0.6s,baz=68,slow=4.0,SNR=14									
GEYT				PcP		PcP		03 59 24.4	-0.2	
	comp=Z,3.3nm,0.7s,baz=54,slow=7.3,SNR=3.7									
	comp=Z,5.3nm,0.6s									
GYA0B	ALIBECK ARRAY	58.47	299	P		P		03 58 35.7	-0.1	
M20K	Styx River	58.47	33	P		P		03 58 36.7	+1.2	
	baz=275									
Q19K	Cape Douglas,	58.48	36	P		P		03 58 36.1	+0.5	
	baz=276									
F22K	John River	58.55	26	P		P		03 58 36.8	+0.9	
	baz=272									
P19K	Oil Pt	58.62	35	P		P		03 58 37.1	+0.5	
	baz=276									
E22K	Anaktuvuk Pass	58.67	25	P		P		03 58 37.7	+0.9	
	baz=272									
CHUM	Lake Minchumin	58.69	30	P		P		03 58 37.8	+0.9	
	baz=274									
I21K	Tanana	58.75	29	IAmb		IAmb		03 58 40.1		
	comp=Z,28nm,0.9s									
I21K	Tanana	58.75	29	P		P		03 58 38.3	+1.0	
	baz=274									
PPLA	Purkeypile	58.82	32	P		P		03 58 38.2	+0.2	
	baz=275									
CAST	Castle Rocks	58.83	31	P		P		03 58 38.1	+0.2	
CAST				IAmb		IAmb		03 58 40.5		
	comp=Z,20nm,0.9s									
CAST	Castle Rocks	58.83	31	P		P		03 58 38.4	+0.5	
	baz=275									
G22K	Bettles	58.84	27	P		P		03 58 38.2	+0.3	
	baz=273									
H22K	Ishtalitna Cre	58.95	28	P		P		03 58 39.3	+0.6	
	baz=274									
N20K	Mount Spurr	58.97	34	P		P		03 58 39.3	+0.4	
	baz=276									
C23K	Itkillik River	59.05	23	IAmb		IAmb		03 58 41.4		
	comp=Z,29nm,1.1s									
C23K	Itkillik River	59.05	23	P		P		03 58 39.6	+0.4	
	baz=272									
D23K	Nanushuk River	59.06	24	P		P		03 58 39.6	+0.2	
	baz=272,SNR=24									
Q20K	Shuyak Island	59.17	37	P		P		03 58 39.6	-0.7	
	baz=277									
KDAK	Kodiak Island	59.17	38	P		P		03 58 40.1	-0.2	
	baz=278									
SKT	Skwentna	59.21	33	IAmb		IAmb		03 58 41.7		
	comp=Z,18nm,1.0s									
SKT	Skwentna	59.21	33	P		P		03 58 40.4	-0.1	
	baz=276									
BPAW	Bear Paw Mtn.	59.26	30	P		P		03 58 40.8	0.0	
BPAW				IAmb		IAmb		03 58 43.2		
	comp=Z,16nm,1.0s									
BPAW	Bear Paw Mtn.	59.26	30	P		P		03 58 41.3	+0.5	
	baz=275									
MLY	Manley	59.28	29	IAmb		IAmb		03 58 43.5		
	comp=Z,15nm,0.8s									
MLY	Manley	59.28	29	P		P		03 58 41.5	+0.4	
	baz=275									
COLD	Coldfoot	59.33	27	P		P		03 58 41.5	+0.2	
	baz=274,SNR=7.9									
KTH	Kantishna Hill	59.34	31	IAmb		IAmb		03 58 46.0		
	comp=Z,19nm,1.1s									
G23K	Bananza Creek	59.44	27	IAmb		IAmb		03 58 44.5		
	comp=Z,24nm,0.9s									
G23K	Bananza Creek	59.44	27	P		P		03 58 42.1	0.0	
	baz=274									
TOLK	Toolik Lake Re	59.48	25	IAmb		IAmb		03 58 44.5		
	comp=Z,28nm,0.9s									
TOLK	Toolik Lake Re	59.48	25	P		P		03 58 42.8	+0.5	
	baz=274									
E23K	Chandalar	59.50	26	P		P		03 58 42.8	+0.3	
	baz=274,SNR=40									
CAPN	Captain Cook N	59.53	34	P		P		03 58 42.0	-0.6	
	baz=277									
TRF	Thorofare Moun	59.63	31	P		P		03 58 43.4	-0.2	
	baz=276									
SUA	Susitna One	59.64	33	P		P		03 58 43.4	-0.2	
	baz=277									
D24K	Happy Valley	59.71	24	P		P		03 58 43.5	-0.3	
	baz=274									
C24K	Franklin Bluff	59.72	24	P		P		03 58 43.7	-0.1	
	baz=274									
CUT	Chulitna	59.75	32	P		P		03 58 44.0	-0.1	
	baz=277									
MORW	Morawa	59.79	193	P		P		03 58 44.9	+0.1	
MORW				IAmb		IAmb		03 58 46.1		
	comp=Z,40nm,1.1s									
MORW	Morawa	59.79	193	P		P		03 58 45.3	+0.5	
MULG	Mulgathing	59.80	175	P		P		03 58 45.3	+0.5	
I23K	Minto, Yukon-K	59.85	29	IAmb		IAmb		03 58 49.5		
	comp=Z,41nm,1.6s									
I23K	Minto, Yukon-K	59.85	29	P		P		03 58 44.8	0.0	
	baz=276									
BRSE	Bradley Lake S	59.86	35	P		P		03 58 44.9	-0.1	
	baz=278									
M22K	Willow	59.90	33	P		P		03 58 45.2	0.0	
M22K	Willow	59.90	33	P		P		03 58 45.6	+0.4	
	baz=277									
E24K	Your Creek	59.92	25	P		P		03 58 46.3	+0.9	
	baz=275									
NEA2	Nenana	60.04	30	P		P		03 58 46.5	+0.3	
NEA2	Nenana	60.04	30	P		P		03 58 46.8	+0.7	
	baz=276									
KIRV	Kirov	60.04	323	*de*P		P		03 58 46.3	+0.1	
KIRV	Kirov	60.04	323	P		P		03 58 46.7	+0.5	
	comp=Z,20nm,0.5s,baz=108,slow=4.0,SNR=5.1									
	comp=Z,20nm,0.5s									
FORT	Forrest	60.14	181	P		P		03 58 46.8	-0.4	
FORT	Forrest	60.14	181	P		P		03 58 46.4	-0.7	
RC01	Rabbit Creek A	60.17	34	P		P		03 58 47.6	+0.5	
	baz=278									
MCK	McKinley	60.20	30	P		P		03 58 47.9	+0.7	
	baz=277									
F24K	Squaw Lake	60.20	26	IAmb		IAmb		03 58 49.7		
	comp=Z,31nm,0.8s									
F24K	Squaw Lake	60.20	26	P		P		03 58 47.8	+0.6	
	baz=276									
RND	Reindeer	60.27	31	P		P		03 58 48.0	+0.1	
RND	Reindeer	60.27	31	P		P		03 58 48.0	+0.1	
RND				pmax		pmax				
	comp=Z,57nm,0.8s									
H24K	Noodor Dome	60.39	28	IAmb		IAmb		03 58 51.5		
	comp=Z,26nm,0.9s									
H24K	Noodor Dome	60.39	28	P		P		03 58 49.6	+1.0	
	baz=277									
LCRK	Leigh Creek	60.39	171	P		P		03 58 49.9	+1.0	
PMR	Palmer	60.39	33	P		P		03 58 49.1	+0.6	
PMR	Palmer	60.39	33	P		P		03 58 48.8	+0.3	
	baz=278									
G24K	Hadweenzic Riv	60.45	27	IAmb		IAmb		03 58 51.8		
	comp=Z,28nm,0.8s									
G24K	Hadweenzic Riv	60.45	27	P		P		03 58 49.9	+0.9	
	baz=277									
SEW	Seward	60.45	35	P		P		03 58 49.1	+0.2	
	baz=279									
GHO	Glory Hole Cre	60.46	33	IAmb		IAmb		03 58 52.0		
	comp=Z,22nm,0.9s									
WAT1	Susitna Watana	60.49	32	P		P		03 58 49.2	0.0	
	baz=278									
COLA	College	60.52	29	P		P		03 58 49.6	+0.3	
COLA				IAmb		IAmb		03 58 51.4		
	comp=Z,17nm,0.7s									
COLA	College	60.52	29	P		P		03 58 51.6	+2.2	
COLA	College	60.52	29	P		P		03 58 50.0	+0.6	
	baz=277									
COLA	College	60.52	29	P		P		03 58 50.0	+0.6	
COLA	College	60.52	29	P		P		03 58 50.4	+1.1	
COLA				pP		PcP		03 59 32.4	+0.2	
D25K	Kavik River	60.57	24	IAmb		IAmb		03 58 51.8		
	comp=Z,25nm,0.9s									
D25K	Kavik River	60.57	24	P		P		03 58 50.2	+0.5	
	baz=276									
CCB	Clear Creek Bu	60.57	29	IAmb		IAmb		03 58 51.5		
	comp=Z,11nm,0.7s									
POKR	Poker Plat Res	60.66	29	P		P		03 58 51.2	+0.8	
	baz=278,SNR=25									
KNK	Knik Glacier	60.74	33	P		P		03 58 50.9	0.0	
	baz=279									
SML	Sawmill	60.74	33	IAmb		IAmb		03 58 52.7		
	comp=Z,24nm,0.9s									
SML	Sawmill	60.74	33	P		P		03 58 51.1	+0.2	
	baz=279									
WAT6	Susitna Watana	60.89	32	P		P		03 58 51.9	-0.3	
	baz=279									
IL31		60.94	29	IAmb		IAmb		03 58 55.0		
	comp=Z,15nm,0.8s									
ILAR	Eielson Array	60.94	29	P		P		03 58 51.8	-0.5	
ILAR	Eielson Array	60.94	29	P		P		03 58 52.1	-0.2	
	comp=Z,8.8nm,0.7s,baz=272,slow=5.4,SNR=98									
ILAR				PcP		pP		03 59 32.5	+0.3	
	comp=Z,0.9nm,0.7s,baz=284,slow=3.9,SNR=1.4									
	comp=Z,8.8nm,0.7s									
HDA	Harding Lake	60.97	30	P		P		03 58 52.2	-0.2	
	baz=278									
HDA				P		P		03 58 52.2	-0.2	
	baz=278									
DHY	Denali Highway	60.98	31	IAmb		IAmb		03 58 54.9		
	comp=Z,12nm,0.8s									
DHY	Denali Highway	60.98	31	P		P		03 58 53.2	+0.5	
	baz=279									
G25K	Bearman Lake	60.98	27	P		P		03 58 53.1	+0.7	
	baz=278									
E25K	Arctic Village	61.01	25	IAmb		IAmb		03 58 55.4		
	comp=Z,29nm,1.1s									
E25K	Arctic Village	61.01	25	P		P		03 58 54.2	+1.5	
	baz=278									
C26K	Camden Bay	61.01	23	P		P		03 58 53.1	+0.6	
	baz=277									
M23K	Glacier View	61.02	33	P		P		03 58 53.4	+0.5	
	baz=279									
F25K	Christian Rive	61.05	26	P		P		03 58 53.9	+0.9	
	baz=278									
SCM	Sheep Creek Mo	61.20	33	P		P		03 58 54.4	+0.2	
	baz=280									
PRP	Porcupine Dome	61.40	28	IAmb		IAmb		03 58 58.5		
	comp=Z,24nm,0.8s									
PRP	Porcupine Dome	61.40	28	P		P		03 58 55.8	+0.3	
	baz=279									
PRGR	Permogore	61.42	327	*e*P		P		03 58 55.2	-0.3	
PRGR				*e**PP		pP		03 59 34.4	-1.1	
PRGR				pmax		pmax				
	comp=Z,17nm,1.0s									
GLI	Glacier Island	61.48	34	P		P		03 58 56.1	+0.2	
	baz=280									
P23K	Montague Islan	61.49	35	P		P		03 58 56.0	0.0	
	baz=280									
K24K	Donnelly Dome	61.57	30	P		P		03 58 56.5	0.0	
	baz=280									
F26K	Sheenjek River	61.60	26	P		P		03 58 57.3	+0.7	
	baz=279									
J25K	Salcha River,	61.61	29	IAmb		IAmb		03 58 59.0		
	comp=Z,40nm,1.8s									
J25K	Salcha River,	61.61	29	P		P		03 58 56.7	-0.2	
	baz=280									
M24K	Tolsona, Glenn	61.69	32	P		P		03 58 57.3	-0.1	
	baz=280									
PAX	Paxson	61.86	31	P		P		03 58 59.0	+0.5	
	baz=280,SNR=7.6									
G26K	Porcupine Rive	61.86	26	P		P		03 58 59.0	+0.6	
	baz=280									
KLU	Klutina	61.92	33	IAmb		IAmb		03 59 03.4		
	comp=Z,18nm,1.0s									
KLU	Klutina	61.92	33	P		P		03 58 59.0	0.0	
	baz=281									
HARP	HAARP	62.11	32	P		P		03 58 60.0	-0.1	
	baz=281									
EYAK	Cordova Ski Ar	62.19	34	P		P		03 59 00.6	0.0	
	baz=282									
BELG	Belogornoye	62.22	317	*d* P		P		03 59 01.5	+0.6	
BELG				pmax		pmax				
	comp=Z,6.0nm,1.0s									
BELG	Belogornoye	62.22	317	P		P		03 59 01.2	+0.3	
	comp=Z,18nm,0.6s,baz=325,slow=1.2,SNR=12									
BELG				PcP		PcP		03 59 38.6	-0.7	
	comp=Z,55nm,0.8s,baz=173,slow=2.5,SNR=11									
	comp=Z,18nm,0.6s									
STKA	Stephens Creek	62.32	168	P		P		03 59 01.7	0.0	
STKA	Stephens Creek	62.32	168	P		P		03 59 02.5	+0.7	
STKA	Stephens Creek	62.32	168	P		P		03 59 02.3	+0.5	
	comp=Z,2.1nm,0.3s,baz=353,slow=8.2,SNR=9.2									
STKA				PcP		PcP		03 59 40.6	+0.8	
	comp=Z,4.1nm,0.8s,baz=330,slow=16,SNR=5.3									
STKA				LR		LR		04 23 56.0		
	comp=Z,40nm,21.7s,baz=19,slow=34									
	comp=Z,2.1nm,0.3s									
SCRK	Sand Creek	62.32	30	IAmb		IAmb		03 59 03.1		
	comp=Z,33nm,1.0s									
SCRK	Sand Creek	62.32	30	P		P		03 59 01.5	-0.2	
	baz=281,SNR=25									
J26L	Joseph Creek	62.40	29	IAmb		IAmb		03 59 03.3		
	comp=Z,27nm,0.8s									
J26L	Joseph Creek	62.40	29	P		P		03 59 02.2	+0.1	
	baz=281									
I26K	Coal Creek Min	62.41	28	IAmb		IAmb		03 59 03.4		
	comp=Z,16nm,0.8s									
I26K	Coal Creek Min	62.41	28	P		P		03 59 02.8	+0.7	
	baz=281									
E27K	Coleen River	62.46	25	IAmb		IAmb		03 59 05.1		
	comp=Z,27nm,0.8s									
E27K	Coleen River	62.46	25	P		P		03 59 03.6	+1.2	
	baz=281									
D27M	Malcolm River	62.48	24	IAmb		IAmb		03 59 05.1		
	comp=Z,31nm,1.1s									
D27M	Malcolm River	62.48	24	P		P		03 59 03.9	+1.3	
	baz=281									
N25K	Chitina, Valde	62.52	33	IAmb		IAmb		03 59 07.4		
	comp=Z,25nm,1.1s									
N25K	Chitina, Valde	62.52	33	P		P		03 59 03.3	+0.3	
	baz=282									
DZM	Mont Dzumac	62.63	141	LR		LR		04 21 51.4		
	comp=Z,48nm,21.8s,baz=160,slow=32									
MENT	Mentasta	62.65	31	P		P		03 59 04.6	+0.9	
MENT	Mentasta	62.65	31	P		P		03 59 06.0	+2.3	
BMRM	Bremner River	62.65	33	P		P		03 59 04.2	+0.4	
	baz=282									
G27K	Doyon Strip	62.71	26	P		P		03 59 05.0	+0.9	
	baz=282									
L26K	Log Cabin Wild	62.80	31	IAmb		IAmb		03 59 07.1		
	comp=Z,24nm,0.8s									
L26K	Log Cabin Wild	62.80	31	P		P		03 59 05.7	+1.0	
	baz=282,SNR=13									
CMSA	Cobar Meteorol	62.84	164	P		P		03 59 07.3	+2.1	
H27K	Steamboat Moun	62.88	27	P		P		03 59 06.7	+1.4	
	baz=282									
GLB	Gilahina Butte	62.93	33	IAmb		IAmb		03 59 07.8		
	comp=Z,19nm,0.9s									
I27K	Kandik River	62.98	28	P		P		03 59 07.1	+1.2	
	baz=282									
M26K	Nabesna, AK	63.09	31	P		P		03 59 07.8	+1.2	
	baz=283									
E28M	Babbage River	63.12	24	IAmb		IAmb		03 59 09.3		
	comp=Z,25nm,0.9s									
E28M	Babbage River	63.12	24	P		P		03 59 07.4	+0.7	
	baz=283									
K27K	Chicken	63.13	30	IAmb		IAmb		03 59 09.3		
	comp=Z,38nm,1.1s									
K27K	Chicken	63.13	30	P		P		03 59 08.3	+1.5	
	baz=283									
VRDI	Verde Repeater	63.14	33	P		P		03 59 07.2	0.0	
VRDI				IAmb		IAmb		03 59 09.1		
	comp=Z,26nm,0.8s									
F28M	Old Crow	63.22	25	IAmb		IAmb		03 59 10.2		
	comp=Z,29nm,0.9s									
F28M	Old Crow	63.22	25	P		P		03 59 08.9	+1.5	
	baz=283									
D28M	Stokes Point	63.24	23	P		P		03 59 08.3	+0.9	
	baz=283									
NWAO	Narrogin (SRO)	63.32	191	P		P		03 59 08.2	-0.1	
NWAO				IAmb		IAmb		03 59 09.7		
	comp=Z,35nm,1.1s									
NWAO	Narrogin (SRO)	63.32	191	P		P		03 59 09.0	+0.6	
NWAO	Narrogin (SRO)	63.32	191	P		P		03 59 08.3	-0.1	
NWAO				pmax		pmax				
	comp=Z,35nm,1.2s									
EGAK	Eagle	63.35	29	IAmb		IAmb		03 59 09.9		
	comp=Z,18nm,0.9s									
EGAK	Eagle	63.35	29	P		P		03 59 09.1	+0.8	
	baz=283									
CRQM	Cirque	63.40	33	IAmb		IAmb		03 59 10.9		
	comp=Z,30nm,0.9s									
CRQE	Cirque	63.42	33	P		P		03 59 09.7	+0.7	
	baz=284									
HTT	Hallett	63.42	171	P		P		03 59 09.9	+0.8	
L27K	Beaver Creek,	63.46	31	IAmb		IAmb		03 59 11.7		
	comp=Z,26nm,1.0s									
L27K	Beaver Creek,	63.46	31	P		P		03 59 09.7	+0.6	
	baz=284,SNR=16									
M27K	Edge Creek, AK	63.61	31	P		P		03 59 10.9	+0.7	
M27K				IAmb		IAmb		03 59 12.4		
	comp=Z,29nm,0.9s									
M27K	Edge Creek, AK	63.61	31	P		P		03 59 11.4	+1.3	
	baz=284									
I28M	Miner Creek	63.70	28	IAmb		IAmb		03 59 13.4		
	comp=Z,33nm,1.0s									
I28M	Miner Creek	63.70	28	P		P		03 59 11.4	+0.8	
	baz=284									
BANOM	Banah	63.73	286	P		P		03 59 10.8

baz=287
G30M tAoh Zraii Nji 64.75 26 P **P** 03 59 18.2 +0.8
G30M tAoh Zraii Nji 64.75 26 P **P** 03 59 17.6 +0.2
baz=286,SNR=30
FAQ Al Faqa, Dubai 64.76 285 *i* P **P** 03 59 18.3 +0.2
SNR=6.2
YUK8 Steele Glacier 64.85 32 P **P** 03 59 18.6 +0.2
baz=286
ALNE Al Ain 64.89 284 *i* P **P** 03 59 19.5 +0.5
SNR=5.8
PINM Pinnacle 64.95 34 P **P** 03 59 19.2 +0.3
baz=286
ASUD Al Ashush, Dub 65.03 285 P **P** 03 59 21.3 +1.5
L29M L29M 65.08 30 P **P** 03 59 20.6 +1.0
baz=287
M29M Somme Creek 65.12 31 IAmb IAmb 03 59 23.0
comp=Z,20nm,0.8s
M29M Somme Creek 65.12 31 P **P** 03 59 20.8 +0.8
baz=287
K29M Barlow Dome 65.13 29 IAmb IAmb 03 59 22.6
comp=Z,22nm,0.9s
K29M Barlow Dome 65.13 29 P **P** 03 59 21.5 +1.5
baz=287
APA Apatity 65.14 335 ⇓ *i* P **P** 03 59 17.3 -2.5
APA *i* 03 59 49.2
APA pmax pmax
comp=Z,23nm,1.0s
APA MLR MLR
comp=Z,1µm,12.0s
I30M Mount Dempster 65.20 28 IAmb IAmb 03 59 22.8
comp=Z,24nm,1.0s
I30M Mount Dempster 65.20 28 P **P** 03 59 21.0 +0.6
baz=287,SNR=25
AJN Ajban 65.34 285 P **P** 03 59 23.4 +1.5
INK Inuvik 65.34 24 IAmb IAmb 03 59 23.0
comp=Z,32nm,1.1s
INK Inuvik 65.34 24 P **P** 03 59 21.1 +0.1
baz=288,SNR=13
YUK4 Talbot Arm 65.35 32 P **P** 03 59 22.0 +0.4
baz=287
J30M Hart River 65.41 28 IAmb IAmb 03 59 23.8
comp=Z,10nm,0.8s
J30M Hart River 65.41 28 P **P** 03 59 22.2 +0.4
baz=287,SNR=12
PNL Peninsula 65.49 34 P **P** 03 59 22.4 +0.1
baz=287
G31M Satah River 65.50 26 IAmb IAmb 03 59 23.6
comp=Z,16nm,0.8s
G31M Satah River 65.50 26 P **P** 03 59 22.2 0.0
baz=288,SNR=9.9
F31M Tsiigehtchic 65.53 25 IAmb IAmb 03 59 23.9
comp=Z,20nm,0.9s
F31M Tsiigehtchic 65.53 25 P **P** 03 59 22.3 -0.1
baz=288,SNR=14
YUK6 Outpost Mounta 65.60 32 P **P** 03 59 23.3 +0.1
baz=287
SPA0 Spitsbergen Ar 65.67 348 *e* P **P** 03 59 23.4 +0.3
SPITS Spitsbergen Ar 65.67 348 P **P** 03 59 22.5 -0.6
comp=Z,18nm,0.8s,baz=72,slow=9.4,SNR=21
SPITS PcP **PcP** 03 59 52.8 -0.2
comp=Z,8.2nm,0.6s,baz=72,slow=8.0,SNR=5.3
SPITS PP **PP** 04 01 49.5 +0.2
comp=Z,35nm,1.1s,baz=179,slow=9.0,SNR=3.6
comp=Z,18nm,0.8s
O29M Mount Kennedy 65.70 33 P **P** 03 59 23.8 +0.1
baz=288
VADS Vadso 65.71 338 *e* P **P** 03 59 23.0 -0.5
M30M Minto, Yukon 65.82 30 P **P** 03 59 25.1 +0.7
M30M Minto, Yukon 65.82 30 P **P** 03 59 24.9 +0.6
baz=288
MAYO Mayo, Yukon 65.89 29 P **P** 03 59 24.9 +0.2
baz=288
N30M Aishikik Lake 66.03 32 P **P** 03 59 26.1 +0.3
baz=288
HYT Haines Junctio 66.04 32 IAmb IAmb 03 59 28.6
comp=Z,21nm,0.9s
HYT Haines Junctio 66.04 32 P **P** 03 59 26.3 +0.4
baz=288
VRH Novokhopyorsk 66.07 317 *e* P **P** 03 59 24.3 -1.7
VRH *e* 03 59 52.4
VRH pmax pmax
comp=Z,30nm,0.6s
P29M Windy Craggy 66.30 34 IAmb IAmb 03 59 30.5
comp=Z,24nm,0.9s
P29M Windy Craggy 66.30 34 P **P** 03 59 27.6 +0.1
baz=288
HSPB Hornsund (broa 66.40 347 *e* P **P** 03 59 26.2 -1.5
P30M Million Dollar 66.52 33 P **P** 03 59 29.1 +0.2
baz=289
KEV Kevo 66.60 338 P **P** 03 59 28.5 -0.6
N31M Braeburn, Yuko 66.62 31 IAmb IAmb 03 59 32.3
comp=Z,20nm,0.8s
N31M Braeburn, Yuko 66.62 31 P **P** 03 59 29.7 +0.2
baz=289
A36M Sachs Harbour 66.65 19 P **P** 03 59 29.8 +0.4
baz=294,SNR=49
O30N Mendenhall 66.72 32 P **P** 03 59 30.6 +0.5
baz=289
MOS Moscow 66.95 322 *e* P **P** 03 59 29.0 -2.6
MOS pmax pmax
comp=Z,52nm,1.2s
M31M Drury Creek, Y 67.00 30 IAmb IAmb 03 59 34.2
comp=Z,14nm,0.8s
M31M Drury Creek, Y 67.00 30 P **P** 03 59 32.3 +0.5
baz=290,SNR=12
ARA0 ARCESS Array S 67.17 338 *e* P **P** 03 59 32.1 -0.7
ARCES ARCESS Array B 67.17 338 P **P** 03 59 32.3 -0.4
ARCES IAmb IAmb 03 59 33.2
comp=Z,48nm,1.2s
ARCES ARCESS Array B 67.17 338 P **P** 03 59 32.3 -0.4
ARCES pmax pmax
comp=Z,48nm,1.3s
ARCES ARCESS Array B 67.17 338 P **P** 03 59 32.0 -0.7
comp=Z,14nm,0.8s,baz=68,slow=8.2,SNR=26
comp=Z,14nm,0.8s
GOF Gofitskoye 67.21 310 *ce* P **P** 03 59 34.7 +1.3
LPSR Galich'ya Gora 67.26 319 *e* P **P** 03 59 32.3 -1.3
LPSR *e* 03 59 58.0
LPSR pmax pmax
comp=Z,40nm,0.8s
HAMF Hammerfest 67.28 340 *e* P **P** 03 59 32.6 -0.8
WHY Whitehorse 67.31 32 P **P** 03 59 34.5 +0.6
baz=290
NCK Nalchik 67.37 308 ⇓ *i* P **P** 03 59 35.1 +0.6
NCK pmax pmax
comp=Z,25nm,1.0s
ZEI Tsey 67.40 307 *e* P **P** 03 59 33.8 -1.1
ZEI pmax pmax
comp=Z,45nm,1.4s
VORR Voronezh 67.41 318 *e* P **P** 03 59 33.1 -1.4
VORR *e* 03 59 59.1
VORR pmax pmax
comp=Z,30nm,0.4s
SHAO Shalim 67.44 278 P **P** 03 59 36.4 +1.1
FARO Faro, Yukon 67.45 30 P **P** 03 59 35.3 +0.7
baz=291
SKAG Skagway 67.52 33 IAmb IAmb 03 59 37.9
comp=Z,27nm,0.9s
SKAG Skagway 67.52 33 P **P** 03 59 35.3 +0.3
baz=290
VSR Storozhevoye 67.59 317 *e* P **P** 03 59 34.3 -1.3
VSR *e* 03 59 57.8
VSR pmax pmax
comp=Z,40nm,1.0s
VORD Divnogorie 67.59 317 *e* P **P** 03 59 34.5 -1.2
VORD *e* 03 59 59.2
VORD pmax pmax
comp=Z,40nm,1.3s
S31K Pelican 67.60 35 P **P** 03 59 36.2 +0.6
baz=290
GNI Garni 67.72 304 P **P** 03 59 38.1 +1.1
GNI Garni 67.72 304 P **P** 03 59 39.2 +2.3
GNI Garni 67.72 304 *d* *i* P **P** 03 59 38.9 +2.0
GNI pmax pmax
comp=Z,39nm,1.3s
OBN Obninsk 67.73 322 P **P** 03 59 36.0 -0.4
OBN IAmb IAmb 03 59 37.2
comp=Z,19nm,0.7s
OBN Obninsk 67.73 322 ⇓ *e* P **P** 03 59 36.4 0.0
OBN *e* PP **pP** 04 00 18.0 +0.8
OBN *e* PPP PPP 04 03 49.4
OBN pmax pmax
comp=Z,24nm,0.8s
OBN Obninsk 67.73 322 P **P** 03 59 36.6 +0.2
comp=Z,9.3nm,0.4s,baz=24,slow=20,SNR=4.5
comp=Z,9.3nm,0.4s
KBZ Khabaz 67.76 309 *d* *i* P **P** 03 59 37.7 +0.8

KBZ Khabaz 67.76 309 P **P** 03 59 37.0 +0.1
comp=Z,34nm,0.8s,baz=72,slow=3.7,SNR=41
comp=Z,34nm,0.8s
ONI Oni 67.78 307 IAmb IAmb 03 59 39.9
comp=Z,25nm,0.9s
KIV Kislovodsk 67.83 309 ⇑ P **P** 03 59 39.0 +1.5
KIV Kislovodsk 67.83 309 P **P** 03 59 38.0 +0.5
KIV Kislovodsk 67.83 309 *i* P **P** 03 59 38.5 +1.1
SNR=8.0
KIV Kislovodsk 67.83 309 *de* P **P** 03 59 38.7 +1.2
KIV *e* *PP **pP** 04 00 23.7 +5.5
KIV *e* 04 02 04.0
KIV *e* PPP PPP 04 03 48.8
KIV pmax pmax
comp=Z,89nm,1.7s
KIV Kislovodsk 67.83 309 P **P** 03 59 39.1 +1.7
ALE Alert 67.88 2 P **P** 03 59 37.3 +0.2
ALE PcP **PcP** 04 00 01.3 -0.9
N32M Quiet Lake 67.96 31 IAmb IAmb 03 59 40.2
comp=Z,26nm,0.9s
N32M Quiet Lake 67.96 31 P **P** 03 59 38.8 +0.9
baz=292
KTK1 Kautokeino 68.12 338 *e* P **P** 03 59 38.3 -0.5
C36M Paulatuk 68.13 21 P **P** 03 59 39.0 +0.4
baz=296,SNR=37
P32M Atlin 68.24 33 P **P** 03 59 40.3 +0.6
baz=292
R32K Eaglecrest 68.33 34 P **P** 03 59 40.9 +0.7
baz=292
SIT Sitka 68.38 36 P **P** 03 59 41.1 +0.6
baz=291
JIS Juneau Island 68.40 34 IAmb IAmb 03 59 43.5
comp=Z,29nm,1.0s
P33M Teslin, Yukon 68.43 32 P **P** 03 59 42.0 +1.1
P33M IAmb IAmb 03 59 43.5
comp=Z,18nm,0.9s
P33M Teslin, Yukon 68.43 32 P **P** 03 59 41.1 +0.2
baz=292,SNR=12
TOO Toolangi 68.59 166 P **P** 03 59 41.8 -0.2
TOO IAmb IAmb 03 59 45.4
comp=Z,45nm,1.6s
TOO Toolangi 68.59 166 P **P** 03 59 41.8 -0.2
TOO pmax pmax
comp=Z,45nm,1.6s
S32K Killisnoo 68.60 35 P **P** 03 59 42.5 +0.6
baz=292
JETT Jettan, Norway 68.77 339 *e* P **P** 03 59 43.4 +0.6
PUL Pulkovo 69.15 328 ⇓ *e* P **P** 03 59 46.1 +0.9
PUL pmax pmax
comp=Z,65nm,1.0s
Q32M Nakina River 69.17 33 P **P** 03 59 45.6 0.0
baz=293
TRO Tromso 69.19 339 *e* P **P** 03 59 44.5 -0.8
R33M Jennings River 69.61 33 P **P** 03 59 49.2 +1.0
baz=294
U33K Whale Pass 69.86 36 P **P** 03 59 50.2 +0.6
baz=293
TGTN Hyland Airport 69.94 30 P **P** 03 59 50.8 +0.7
baz=295
SOC Sochi 69.97 309 *e* P **P** 03 59 48.5 -2.0
SOC *e* *PP **pP** 04 00 27.9 -3.6
SOC *e* *SP **sP** 04 00 47.4 -2.5
SOC *e* 04 02 29.9
SOC *e* PPP PPP 04 04 08.6
SOC *e* S **S** 04 08 45.7 -1.0
SOC *e* SS **SS** 04 13 17.4 -1.4
SOC pmax pmax
comp=Z,40nm,0.7s
CRAG Craig 70.12 37 P **P** 03 59 52.1 +0.9
baz=294
S34M Telegraph Cree 70.13 34 P **P** 03 59 52.3 +1.0
baz=294
GURO Guroymak-BITLI 70.26 304 IAmb IAmb 03 59 55.1
comp=Z,28nm,0.8s
WTLY Watson Lake, Y 70.31 31 P **P** 03 59 53.0 +0.6
baz=295
FINES FINESS Array B 70.36 330 P **P** 03 59 52.1 -0.5
FINES FINESS Array B 70.36 330 *i* P **P** 03 59 52.0 -0.5
FINES pmax pmax
comp=Z,8.0nm,0.3s
FINES FINESS Array B 70.36 330 P **P** 03 59 52.0 -0.6
comp=Z,8.2nm,0.3s,baz=64,slow=6.3,SNR=90
comp=Z,8.2nm,0.3s
DLBC Dease Lake 70.45 33 P **P** 03 59 54.4 +1.2
DLBC Dease Lake 70.45 33 P **P** 03 59 53.4 +0.1
baz=295
T35M Bob Quinn 70.96 35 P **P** 03 59 57.0 +0.7
baz=295
ANN Anapa 71.02 311 *d* *i* P **P** 03 59 57.1 +0.3
ANN *e* PPP PPP 04 04 22.3
ANN *e* S **S** 04 09 00.0 +1.3
ANN pmax pmax
comp=Z,64nm,0.8s
WRGLY Wrigley 71.17 27 IAmb IAmb 03 59 59.7
comp=Z,27nm,0.9s
WRGLY Wrigley 71.17 27 P **P** 03 59 58.1 +0.7
baz=299,SNR=6.6
STEI Steigen 71.23 339 *e* P **P** 03 59 57.1 -0.5
VSU Vasula 71.38 327 *e* P **P** 03 59 59.5 +0.7
VSU Vasula 71.38 327 ⇓ *i* P **P** 03 59 58.7 -0.1
VSU pmax pmax
comp=Z,86nm,0.8s
FAUS Fauske 71.51 338 *e* P **P** 03 59 58.5 -0.9
MEF Metsahovi 71.65 329 *e* P **P** 04 00 00.1 -0.2
DAG Danmarks Havn 71.97 353 *i* P **P** 03 59 59.5 -2.5
DAG IAmb IAmb 04 00 02.2
comp=Z,41nm,1.3s
RES Resolute Bay 71.98 11 IAmb IAmb 04 00 03.0
comp=Z,23nm,0.8s
RAF Rauma 72.40 331 *e* P **P** 04 00 04.6 -0.2
MOR8 Moi Rana 72.46 337 *e* P **P** 04 00 03.2 -1.9
MNK Minsk 72.58 323 *i* P **P** 04 00 06.9 +0.9
comp=E,12nm,1.0s
MNK *i* P **P** 04 00 06.9 +0.9
comp=N,23nm,1.0s
MNK *i* P **P** 04 00 06.9 +0.9
comp=Z,51nm,0.9s,baz=63
MNK *i* pP **pP** 04 00 47.8 +0.5
MNK *i* PP **PP** 04 02 50.2 +0.9
MNK *i* PPP PPP 04 04 35.1
MNK *i* S **S** 04 09 17.7 +1.3
MNK *i* sS **sS** 04 10 29.3 +1.0
MNK *i* SS SS 04 14 14.8 +17
MNK *i* SSS SSS 04 17 30.1
MNK *i* LRM MLR 04 33 10.4
comp=Z,127nm,18.1s
MNK *i* LRM MLR 04 33 13.0
comp=N,447nm,19.4s
MNK *i* LRM MLR 04 33 16.2
comp=E,221nm,18.1s
MNK Minsk 72.58 323 *i* P **P** 04 00 06.9 +0.9
MNK *i* 04 00 23.3
MNK *i* *PP **pP** 04 00 47.8 +0.5
MNK *i* 04 02 50.1
MNK *i* PPP PPP 04 04 35.1
MNK *i* S **S** 04 09 17.6 +1.3
MNK *i* 04 09 57.4
MNK pmax pmax
comp=Z,51nm,0.9s
MNK pmax pmax
comp=E,12nm,1.0s
MNK pmax pmax
comp=N,23nm,1.0s
MNK MLR MLR
comp=Z,127nm,18.0s
MNK MLR MLR
comp=N,447nm,19.0s
MNK MLR MLR
comp=E,221nm,18.0s
MTSE Matsula 72.62 328 *e* P **P** 04 00 07.2 +1.1
ARPR Arapgir-MALATY 72.70 305 IAmb IAmb 04 00 09.6
comp=Z,27nm,0.9s
IZAR Zarasai 72.85 325 *e* P **P** 04 00 08.2 +0.7
NACGM Naroch 72.97 324 ⇓ *i* P **P** 04 00 08.9 +0.7
comp=Z,98nm,1.0s,baz=63
ISAL Salakas 73.00 325 *e* P **P** 04 00 09.4 +1.0
SIM Simferopol' 73.11 312 *e* P **P** 04 00 09.1 -0.2
SIM *e* 04 00 25.0
SIM *e* S **S** 04 09 22.0 -0.6
SIM pmax pmax
comp=Z,61nm,0.9s
NEEM North Greenlan 73.12 0 *i* P **P** 04 00 07.7 -1.5
NEEM IAmb IAmb 04 00 09.9
comp=Z,50nm,1.1s
AKASG Malin Array Be 73.56 319 *ce* P **P** 04 00 10.8 -1.0

AKASG pmax pmax
comp=Z,42nm,0.6s
AKASG Malin Array Be 73.56 319 P **P** 04 00 10.8 -1.0
comp=Z,38nm,0.6s,baz=57,slow=6.0,SNR=144
comp=Z,38nm,0.6s
AKBB Malin Array Si 73.56 319 *c* *i* P **P** 04 00 11.1 -0.7
AKBB pmax pmax
comp=Z,55nm,0.6s
KIEV Kiev 73.58 319 ⇓ P **P** 04 00 12.7 +0.8
KIEV Kiev 73.58 319 P **P** 04 00 11.3 -0.5
KIEV Kiev 73.58 319 *i* P **P** 04 00 12.4 +0.5
SNR=40
KIEV Kiev 73.58 319 P **P** 04 00 12.7 +0.8
SLIT Slitere, Latvi 73.86 328 *e* P **P** 04 00 12.9 -0.5
VSVD Vaisvydziai 73.89 326 *e* P **P** 04 00 14.7 +1.1
PABE Paberze 74.11 325 P **P** 04 00 14.5 -0.3
PABE Paberze 74.11 325 *e* P **P** 04 00 15.3 +0.5
NSS Namsos 74.26 336 *e* P **P** 04 00 14.7 -0.9
UPP Uppsala 74.77 331 *e* P **P** 04 00 18.5 -0.1
PBUR Paburge 74.84 326 *e* P **P** 04 00 19.4 +0.3
YKA Yellowknife Ar 74.99 26 *ce* P **P** 04 00 20.7 +0.9
YKA pmax pmax
comp=Z,12nm,0.8s
YKA Yellowknife Ar 74.99 26 P **P** 04 00 20.7 +0.9
comp=Z,11nm,0.7s,baz=299,slow=5.9,SNR=115
comp=Z,11nm,0.7s
SUW Suwalki 75.24 324 *e* P **P** 04 00 21.5 +0.1
SUW Suwalki 75.24 324 *e* P **P** 04 00 21.9 +0.5
SORM Soroca 75.25 317 ⇑ P **P** 04 00 21.1 -0.5
SORM Soroca 75.25 317 P **P** 04 00 21.1 -0.5
KIS Kishinev 75.50 316 *e* P **P** 04 00 22.0 -1.1
comp=Z,27nm,0.6s
KIS Kishinev 75.50 316 *e* P **P** 04 00 22.0 -1.1
KIS pmax pmax
comp=Z,27nm,0.6s
MILM Milestii Mici 75.54 316 *e* P **P** 04 00 22.0 -1.3
comp=Z,74nm,1.0s
MILM *e* pP **pP** 04 01 03.0 -1.8
MILM Milestii Mici 75.54 316 ⇑ P **P** 04 00 22.6 -0.7
MILM Milestii Mici 75.54 316 *e* P **P** 04 00 22.0 -1.3
MILM *e* *PP **pP** 04 01 03.0 -1.8
MILM *e* S **SKiKP** 04 09 38.0 +11
MILM pmax pmax
comp=Z,74nm,1.0s
TBLU Trondheim 75.64 336 *e* P **P** 04 00 22.4 -1.2
BR131 Keskin Array S 75.71 308 IAmb IAmb 04 00 25.9
comp=Z,40nm,0.9s
BR131 Keskin Array S 75.71 308 *c* *i* P **P** 04 00 24.4 -0.1
BRTR Keskin Array B 75.71 308 *ce* P **P** 04 00 24.5 -0.1
BRTR pmax pmax
comp=Z,26nm,0.8s
BRTR Keskin Array B 75.71 308 P **P** 04 00 23.9 -0.7
comp=Z,26nm,0.8s,baz=98,slow=4.7,SNR=118
comp=Z,26nm,0.8s
VIKU Vikbolandet 75.91 330 *e* P **P** 04 00 25.0 -0.2
ANTO Ankara 76.22 308 P **P** 04 00 27.9 +0.5
ANTO IAmb IAmb 04 00 28.9
comp=Z,33nm,1.0s
ANTO Ankara 76.22 308 P **P** 04 00 27.9 +0.5
ANTO pmax pmax
comp=Z,33nm,1.0s
HFS Hagfors 76.23 332 P **P** 04 00 25.9 -1.1
comp=Z,18nm,0.7s,baz=60,slow=6.8,SNR=42
comp=Z,18nm,0.7s
BR231 Keskin MP Arra 76.25 308 IAmb IAmb 04 00 29.1
comp=Z,27nm,0.9s
VASR Vaslui 76.29 316 ⇑ P **P** 04 00 27.8 +0.3
TLCR 76.36 314 ⇑ P **P** 04 00 28.6 +0.7
TLCR 76.36 314 P **P** 04 00 28.6 +0.7
VLDR Vladesti 76.50 315 ⇑ P **P** 04 00 29.3 +0.6
VARL Varlezi 76.61 315 ⇓ P **P** 04 00 29.8 +0.5
SCTR Scanteiesti 76.63 315 ⇑ P **P** 04 00 30.0 +0.5
TATR Tatarca 76.64 315 ⇑ P **P** 04 00 29.4 0.0
NB2 NORSAR Subarra 76.66 334 P **P** 04 00 28.2 -1.2
comp=Z,36nm,0.8s,baz=48,slow=5.6
NB2 NORSAR Subarra 76.66 334 P **P** 04 00 28.2 -1.2
baz=48,slow=5.6
NOA NORSAR Array B 76.66 334 P **P** 04 00 28.4 -1.0
comp=Z,22nm,0.7s,baz=50,slow=5.5,SNR=91
comp=Z,22nm,0.7s
NC602 NORSAR Array S 76.72 333 *e* P **P** 04 00 28.7 -1.0
TPGR Topolog 76.76 314 ⇓ P **P** 04 00 30.5 +0.2
NEGRR Negrea 76.77 315 ⇑ P **P** 04 00 30.4 +0.1
CFR Carcaliu 76.78 315 ⇑ P **P** 04 00 29.8 -0.5
CFR Carcaliu 76.78 315 P **P** 04 00 29.8 -0.5
NBO00 NORSAR Array S 76.83 334 IAmb IAmb 04 00 30.4
comp=Z,30nm,0.8s
DOMB Dombas 76.84 335 *e* P **P** 04 00 29.6 -0.8
IZVR Izvoarele 76.84 315 ⇑ P **P** 04 00 31.2 +0.6
LVV L'vov 76.91 320 *e* P **P** 04 00 30.6 +0.4
MDUB Mudurnu 77.03 309 P **P** 04 00 32.1 +0.2
MOL Molde 77.04 336 *e* P **P** 04 00 31.4 0.0
TESR Tescani 77.05 316 ⇓ P **P** 04 00 32.1 +0.3
PANC Panciu 77.06 316 ⇑ P **P** 04 00 33.1 +1.3
HARR Harsova 77.15 314 ⇓ P **P** 04 00 32.6 +0.2
HARR Harsova 77.15 314 P **P** 04 00 32.6 +0.2
VRI Vrincioaia 77.31 316 ⇓ P **P** 04 00 34.1 +0.8
VRI Vrincioaia 77.31 316 P **P** 04 00 34.1 +0.8
BUR08 Bucovina Ar. S 77.34 318 P **P** 04 00 33.3 -0.3
BUR08 IAmb IAmb 04 00 34.9
comp=Z,25nm,0.7s
BURAR Bucovina Array 77.35 318 ⇓ P **P** 04 00 34.1 +0.5
BURAR Bucovina Array 77.35 318 IAmb IAmb 04 00 35.1
comp=Z,33nm,0.7s
BURAR Bucovina Array 77.35 318 P **P** 04 00 34.1 +0.5
PLOR Plostina 77.37 316 ⇑ P **P** 04 00 34.3 +0.6
PLOR Plostina 77.37 316 P **P** 04 00 34.3 +0.6
MMAI Mount Meron Ar 77.47 301 P **P** 04 00 35.2 +0.7
comp=Z,25nm,0.8s,baz=69,slow=7.9,SNR=23
comp=Z,25nm,0.8s
BISRR Bisoca 77.48 315 ⇑ P **P** 04 00 35.4 +1.1
AKN Aaknes 77.49 336 *e* P **P** 04 00 34.1 +0.1
ICOR Ion Corvin 77.51 314 ⇓ P **P** 04 00 35.4 +1.1
OSL Oslo 77.54 333 *e* P **P** 04 00 34.0 -0.2
BEL Belsk 77.61 323 *e* P **P** 04 00 35.0 +0.2
COVR Voineasa-Covas 77.64 316 ⇓ P **P** 04 00 36.0 +0.8
TURR Turia 77.65 316 ⇑ P **P** 04 00 35.8 +0.6
SUMG Summit 77.67 356 P **P** 04 00 35.4 +0.1
SUMG Summit 77.67 356 P **P** 04 00 35.4 +0.1
SUMG pmax pmax
comp=Z,76nm,0.8s
SUMG Summit 77.67 356 *i* P **P** 04 00 34.1 -1.1
SUMG IAmb IAmb 04 00 36.7
comp=Z,70nm,0.7s
UPNV Upernavik 77.74 2 *i* P **P** 04 00 33.4 -1.7
UPNV IAmb IAmb 04 00 35.5
comp=Z,41nm,0.8s
KWP Kalwaria Pacla 77.74 320 *e* P **P** 04 00 36.3 +0.7
OZUR 77.77 316 ⇑ P **P** 04 00 37.0 +1.1
NEHR Nehoiu 77.80 315 ⇓ P **P** 04 00 36.8 +0.7
ISR Istrita 77.80 315 ⇓ P **P** 04 00 37.7 +1.6
ISR Istrita 77.80 315 P **P** 04 00 37.6 +1.6
BOSR Bodos 77.86 316 ⇑ P **P** 04 00 37.4 +1.1
MLR Muntele Rosu 77.98 316 ⇓ P **P** 04 00 37.3 +0.2
MLR Muntele Rosu 77.98 316 IAmb IAmb 04 00 38.5
comp=Z,17nm,0.6s
MLR Muntele Rosu 77.98 316 P **P** 04 00 37.5 +0.4
comp=Z,12nm,0.5s,baz=23,slow=7.7,SNR=66
comp=Z,12nm,0.5s
SKAR Skarslia 77.99 334 *e* P **P** 04 00 36.8 0.0
SCO Scoresbysund 78.02 351 *i* P **P** 04 00 35.6 -1.2
SCO IAmb IAmb 04 00 38.1
comp=Z,36nm,0.8s
KONO Kongsberg 78.16 333 *e* P **P** 04 00 36.7 -1.0
SULR 78.19 315 ⇓ P **P** 04 00 39.0 +0.8
BMR Baia Mare 78.32 318 ⇑ P **P** 04 00 39.4 +0.5
BMR Baia Mare 78.32 318 P **P** 04 00 39.3 +0.5
DEL Delary 78.34 329 *e* P **P** 04 00 38.7 0.0
DEL Delary 78.34 329 *i* P **P** 04 00 38.0 -0.7
KOLS Kolonicke sedl 78.35 320 *e* P **P** 04 00 39.7 +0.7
KOLS Kolonicke sedl 78.35 320 *e* P **P** 04 00 39.7 +0.7
KOLS pmax pmax
comp=Z,26nm,0.8s
MSEY Mahe Island 78.40 258 P **P** 04 00 41.2 +1.3
VOIR 78.55 316 ⇓ P **P** 04 00 40.5 +0.2
VOIR 78.55 316 P **P** 04 00 40.4 +0.2
RAZG Razgrad 78.59 314 ⇑ P **P** 04 00 41.1 +0.6
SGRR Singureni 78.60 314 ⇑ P **P** 04 00 40.4 +0.1
GKP Gorka Klasztor 78.63 325 *e* P **P** 04 00 41.0 +0.7
GKP Gorka Klasztor 78.63 325 *e* P **P** 04 00 41.2 +0.9
LOZB Loznitsa 78.64 313 ⇑ P **P** 04 00 41.3 +0.6
STHS Stebnicka Huta 78.67 321 *e* P **P** 04 00 40.9 +0.2
STHS Stebnicka Huta 78.67 321 *e* P **P** 04 00 40.9 +0.2

STHS pmax pmax
comp=Z,16nm,1.0s
BSD Bornholm Skovb 78.67 328 *eP* **P 04 00 40.3 -0.2**
BSD Bornholm Skovb 78.67 328 *i* P **P 04 00 39.0 -1.6**
BSD IAmb IAmb 04 00 41.1
comp=Z,72nm,0.8s
CRVS Cervenica-Dubn 78.82 320 *eP* **P 04 00 42.5 +0.9**
CRVS Cervenica-Dubn 78.82 320 *eP* **P 04 00 42.5 +0.9**
CRVS pmax pmax
comp=Z,47nm,1.1s
MESR Meseseni 78.91 318 ⇑P **P 04 00 43.3 +1.2**
OJC Ojcow 79.02 322 *eP* **P 04 00 42.7 +0.1**
OJC Ojcow 79.02 322 P **P 04 00 42.9 +0.3**
OJC Ojcow 79.02 322 P **P 04 00 42.9 +0.3**
OJC pmax pmax
comp=Z,118nm,0.9s
LUNU Lund 79.03 329 *i* P **P 04 00 42.0 -0.5**
HUMR Humele 79.06 315 ⇑P **P 04 00 42.9 0.0**
MARR Marisel-Cluj 79.06 318 ⇑P **P 04 00 43.8 +0.8**
COPA Copaceanca 79.11 315 ⇑P **P 04 00 43.2 0.0**
ODD1 Odda 79.13 334 *eP* **P 04 00 43.1 0.0**
NIE Niedzica 79.19 321 *eP* **P 04 00 44.6 +1.1**
ELND Elena 79.31 313 ⇑P **P 04 00 45.0 +0.6**
LOT Lotru 79.31 316 ⇑P **P 04 00 45.3 +0.9**
COP Copenhagen 79.46 329 *i* P **P 04 00 43.7 -1.1**
COP IAmb IAmb 04 00 45.7
comp=Z,190nm,1.0s
BLS5 Blasjo 79.52 334 *eP* **P 04 00 45.2 0.0**
KECS Kecovo 79.59 320 *eP* **P 04 00 47.2 +1.5**
KECS Kecovo 79.59 320 *eP* **P 04 00 47.2 +1.5**
KECS pmax pmax
comp=Z,40nm,1.6s
VLAD Vladila 79.68 315 ⇑P **P 04 00 47.0 +0.7**
LANS Liptovska Anna 79.79 321 *eP* **P 04 00 48.3 +1.5**
LANS Liptovska Anna 79.79 321 *eP* **P 04 00 48.3 +1.5**
LANS pmax pmax
comp=Z,10.0nm,0.7s
PLVB Pleven 79.87 314 ⇑P **P 04 00 47.4 +0.1**
SNART Snartemo 79.96 333 *eP* **P 04 00 47.1 -0.4**
SNART Snartemo 79.96 333 *i* P **P 04 00 47.0 -0.4**
SRE Strehaia 80.07 316 ⇑P **P 04 00 49.6 +1.2**
SRE Strehaia 80.07 316 P **P 04 00 49.6 +1.2**
OKC Ostrava-Krasne 80.11 322 *eP* **P 04 00 48.3 -0.2**
OKC Ostrava-Krasne 80.11 322 *eP* **P 04 00 48.3 -0.2**
SURR Surduc 80.13 317 ⇑P **P 04 00 48.3 -0.4**
PSZ Piszkesteto 80.23 320 ⇑P **P 04 00 49.8 +0.4**
PSZ Piszkesteto 80.23 320 IAmb IAmb 04 00 52.8
comp=Z,29nm,1.0s
PSZ Piszkesteto 80.23 320 P **P 04 00 49.7 +0.4**
ALN Alexandroupoli 80.24 312 IAmb IAmb 04 00 50.4
comp=Z,26nm,1.2s
MUD Monsted U'grnd 80.39 331 *i* P **P 04 00 48.2 -1.6**
MUD IAmb IAmb 04 00 50.3
comp=Z,196nm,1.5s
HERR Herculane 80.43 316 ⇑P **P 04 00 50.2 0.0**
RDO Rodhopi 80.44 312 IAmb IAmb 04 00 51.6
comp=Z,25nm,1.1s
MORC Moravsky Berou 80.47 322 ⇑P **P 04 00 51.1 +0.6**
MORC Moravsky Berou 80.47 322 P **P 04 00 50.9 +0.4**
MORC IAmb IAmb 04 00 52.1
comp=Z,33nm,0.9s
MORC Moravsky Berou 80.47 322 *eP* **P 04 00 50.7 +0.2**
MORC Moravsky Berou 80.47 322 P **P 04 00 51.1 +0.6**
VYHS Vyhne 80.50 321 *eP* **P 04 00 51.7 +1.1**
VYHS Vyhne 80.50 321 *eP* **P 04 00 51.7 +1.1**
VYHS pmax pmax
comp=Z,53nm,0.8s
KSP Ksiaz 80.50 324 *eP* **P 04 00 51.2 +0.7**
BZS Buzias 80.51 317 ⇑P **P 04 00 50.1 -0.6**
BZS Buzias 80.51 317 P **P 04 00 50.0 -0.6**
MAUC Maruska 80.55 322 *eP* **P 04 00 51.2 +0.3**
KRLC Kraliky 80.70 323 *eP* **P 04 00 51.5 -0.2**
KRLC Kraliky 80.70 323 *eP* **P 04 00 51.5 -0.2**
OSTC Ostas 80.71 324 *eP* **P 04 00 52.2 +0.5**
OSTC Ostas 80.71 324 *eP* **P 04 00 52.2 +0.5**
CHVC Chvalec 80.78 324 *eP* **P 04 00 52.7 +0.6**
CHVC Chvalec 80.78 324 *eP* **P 04 00 52.7 +0.6**
DPC Dobruska-Polom 80.78 323 *eP* **P 04 00 52.6 +0.5**
DPC Dobruska-Polom 80.78 323 *eP* **P 04 00 52.6 +0.5**
RUE Ruedersdorf 80.79 326 *eP* **P 04 00 53.1 +1.2**
RUE Ruedersdorf 80.79 326 *eP* **P 04 00 52.8 +0.8**
comp=Z,91nm,1.0s,baz=50,slow=5.1
SSRD Sdr. Stenderup 80.82 330 *i* P **P 04 00 50.6 -1.5**
SSRD IAmb IAmb 04 00 54.2
comp=Z,72nm,0.7s
UPC Upice 80.85 324 *eP* **P 04 00 52.4 0.0**
UPC Upice 80.85 324 *eP* **P 04 00 52.4 0.0**
MDVR Moldovita 80.90 317 ⇑P **P 04 00 52.4 -0.5**
JAVC Velka Javorina 80.93 322 *eP* **P 04 00 54.5 +1.6**
BLKB Belogradchik 80.94 315 ⇑P **P 04 00 52.9 -0.2**
EDM Edmonton 81.16 33 P **P 04 00 54.4 +0.3**
EDM IAmb IAmb 04 00 56.3
comp=Z,62nm,1.5s
EDM Edmonton 81.16 33 P **P 04 00 54.4 +0.3**
EDM pmax pmax
comp=Z,62nm,1.5s
SRO Srobarova 81.17 320 *eP* **P 04 00 55.4 +1.2**
SRO Srobarova 81.17 320 *eP* **P 04 00 55.4 +1.2**
SRO pmax pmax
comp=Z,26nm,0.7s
ICESG Greenland Ices 81.19 356 *i* P **P 04 00 52.7 -1.6**
ICESG IAmb IAmb 04 00 56.9
comp=Z,72nm,0.9s
BUCK Buck Mountain 81.24 44 IAmb IAmb 04 00 57.2
comp=Z,60nm,1.4s
VRAC Vranov 81.25 322 ⇓P **P 04 00 55.2 +0.6**
VRAC Vranov 81.25 322 *eP* **P 04 00 54.6 +0.1**
VRAC Vranov 81.25 322 P **P 04 00 55.1 +0.6**
VRAC Vranov 81.25 322 P **P 04 00 54.9 +0.3**
comp=Z,45nm,0.9s,baz=65,slow=5.1,SNR=63
VRAC LR LR 04 39 45.9
comp=Z,57nm,18.9s,baz=106,slow=38
comp=Z,45nm,0.9s
SMOL Smolenice 81.26 321 *eP* **P 04 00 56.0 +1.4**
SMOL pmax pmax
comp=Z,23nm,0.8s
SOEG Soedalen 81.36 353 *i* P **P 04 00 53.5 -1.3**
SOEG IAmb IAmb 04 00 55.8
comp=Z,32nm,0.8s
ATD Arta Tunnel 81.38 278 P **P 04 00 56.5 +0.6**
ILULI Ilulissat 81.40 0 IAmb IAmb 04 00 56.0
comp=Z,61nm,0.9s
ILULI Ilulissat 81.40 0 *i* P **P 04 00 53.9 -1.0**
ILULI IAmb IAmb 04 00 55.6
comp=Z,62nm,0.9s
HOOD Mount Hood Mea 81.41 42 IAmb IAmb 04 00 58.2
comp=Z,27nm,1.1s
MODS Modra-Piesok 81.42 321 *eP* **P 04 00 56.5 +1.0**
MODS Modra-Piesok 81.42 321 *eP* **P 04 00 56.5 +1.0**
MODS pmax pmax
comp=Z,119nm,1.2s
KRUC Moravsky 81.50 322 *eP* **P 04 00 56.0 +0.2**
BSEG Bad Segeberg 81.51 328 *eP* **P 04 00 56.3 +0.5**
comp=Z,60nm,0.8s,baz=50,slow=5.1
BOVS Bovan 81.53 316 ⇑P **P 04 00 55.5 -0.6**
PVCC Panska Ves 81.58 324 *eP* **P 04 00 56.7 +0.5**
PVCC Panska Ves 81.58 324 *eP* **P 04 00 56.7 +0.5**
ZST Bratislava 81.62 321 *eP* **P 04 00 57.9 +1.4**
ZST Bratislava 81.62 321 *eP* **P 04 00 57.9 +1.4**
ZST pmax pmax
comp=Z,51nm,0.6s
GORT1 Trebel 81.65 327 *eP* **P 04 00 57.4 +0.9**
comp=Z,128nm,1.2s,baz=50,slow=5.1
BRG Berggiesshubel 81.68 325 ⇑*iP* **P 04 00 57.3 +0.5**
BRG Amp 04 00 59.5
comp=Z,22nm,0.9s
BRG Berggiesshubel 81.68 325 P P 04 01 05.1 +8.3
BRG Amp 04 01 06.7
comp=Z,6.2nm,0.9s
BRG Berggiesshubel 81.68 325 P P 04 01 11.6 +15
BRG Amp 04 01 13.7
comp=Z,9.3nm,1.0s
BRG Berggiesshubel 81.68 325 ⇑*iP* **P 04 00 57.2 +0.5**
BRG pmax pmax
comp=Z,22nm,0.9s
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG Berggiesshubel 81.68 325 *eP* **P 04 00 57.3 +0.5**
comp=Z,22nm,0.9s,baz=50,slow=5.1
LRW Lerwick 81.75 337 *eP* **P 04 00 56.1 -0.8**
LRW IAmb IAmb 04 00 57.3
comp=Z,62nm,0.8s

I04A Tendick Farm, 81.80 44 IAmb IAmb 04 00 59.9
comp=Z,35nm,1.5s
RICC Richard 81.81 324 *eP* **P 04 00 58.4 +1.0**
FRGS Fruska Gora 81.82 318 ⇑P **P 04 00 58.1 +0.4**
FRGS Fruska Gora 81.82 318 ⇑*iP* **P 04 00 57.4 -0.3**
GOPC GO Pecny, Ondr 81.83 324 *eP* **P 04 00 57.9 +0.3**
GOPC GO Pecny, Ondr 81.83 324 *eP* **P 04 00 57.9 +0.3**
TREC Trest 81.84 323 *eP* **P 04 00 58.4 +0.7**
TREC Trest 81.84 323 *eP* **P 04 00 58.4 +0.7**
CLL Collm 81.89 325 P **P 04 00 58.1 +0.3**
CLL Collm 81.89 325 ⇑*iP* **P 04 00 58.2 +0.4**
comp=Z,74nm,0.7s
CLL Collm 81.89 325 ⇑*iP* **P 04 00 58.2 +0.4**
CLL pmax pmax
comp=Z,74nm,0.7s
CLL Collm 81.89 325 *eP* **P 04 00 58.1 +0.3**
comp=Z,70nm,0.7s,baz=50,slow=5.1
MORH Mrgy, Hungar 81.90 319 ⇑P **P 04 00 58.2 +0.2**
PRU Pruhonice 81.92 324 *eP* **P 04 00 58.3 +0.3**
PRU Pruhonice 81.92 324 *eP* **P 04 00 58.3 +0.3**
C09A Chrisman Ranch 81.92 39 P **P 04 00 58.9 +0.8**
PRA Prague 81.92 324 *eP* **P 04 00 59.3 +1.3**
PRA Prague 81.92 324 *eP* **P 04 00 59.3 +1.3**
FBE Freiberg 81.95 325 *eP* **P 04 00 59.1 +0.9**
comp=Z,39nm,0.8s,baz=50,slow=5.1
FLTG Flechtingen 82.10 327 *eP* **P 04 00 59.0 +0.1**
comp=Z,80nm,0.7s,baz=50,slow=5.1
HSKC Hora Svate Kat 82.10 325 *eP* **P 04 00 59.3 +0.3**
KARP Karpathos 82.22 306 P **P 04 00 59.3 -0.6**
TEKS Tekeris 82.33 317 ⇑*iP* **P 04 00 59.9 -0.4**
RONA Rosalia, Austr 82.35 321 *i* P **P 04 01 01.3 +1.0**
comp=Z,52nm,2.0s,SNR=12
ZVC Zvikov 82.43 323 *eP* **P 04 01 01.0 +0.3**
CONA Conrad Observa 82.45 322 *i* P **P 04 01 01.7 +0.8**
comp=Z,76nm,0.9s,SNR=32
ASSE Asse, Remlinge 82.50 327 *eP* **P 04 01 01.4 +0.5**
baz=50,slow=5.1
NRDL Niedersach Rie 82.53 327 *eP* **P 04 01 01.6 +0.6**
comp=Z,52nm,1.1s,baz=50,slow=5.1
NEUB Neuenburg 82.55 326 *eP* **P 04 01 02.0 +0.7**
comp=Z,313nm,1.3s,baz=50,slow=5.1
PINE Pine Mountain 82.69 43 IAmb IAmb 04 01 05.3
comp=Z,19nm,0.9s
TANN Tannenbergstha 82.71 325 *eP* **P 04 01 02.2 0.0**
comp=Z,34nm,1.0s,baz=50,slow=5.1
RETH Retten/Aller, 82.72 328 *eP* **P 04 01 02.4 +0.4**
comp=Z,76nm,1.1s,baz=50,slow=5.1
L04D Klamath Falls 82.74 45 IAmb IAmb 04 01 05.1
comp=Z,18nm,0.8s
CKRC Cesky Krumlov 82.74 323 *eP* **P 04 01 02.5 +0.1**
CKRC Cesky Krumlov 82.74 323 *eP* **P 04 01 02.5 +0.1**
WERD Werda 82.77 325 *eP* **P 04 01 03.0 +0.5**
comp=Z,48nm,1.1s,baz=50,slow=5.1
BBLS Lazići 82.79 317 ⇑*iP* **P 04 01 02.8 0.0**
SJES Sjenica 82.79 316 ⇑*iP* **P 04 01 02.7 -0.1**
J05D Fort Rock, OR 82.80 44 P **P 04 01 03.5 +0.6**
GUNZ Gunzen 82.81 325 *eP* **P 04 01 03.3 +0.6**
comp=Z,64nm,0.9s,baz=50,slow=5.1
PLN Plauen 82.82 325 *eP* **P 04 01 03.0 +0.3**
comp=Z,46nm,1.0s,baz=50,slow=5.1
CLZ Clausthal 82.83 327 *eP* **P 04 01 03.7 +0.9**
comp=Z,167nm,0.9s,baz=50,slow=5.1
NKC Novy Kostel 82.83 325 *eP* **P 04 01 03.2 +0.4**
NKC Novy Kostel 82.83 325 *eP* **P 04 01 03.2 +0.4**
WERN Wernitzgruen 82.83 325 *eP* **P 04 01 03.5 +0.7**
comp=Z,68nm,0.9s,baz=50,slow=5.1
K04D Chiloquin, OR 82.85 45 IAmb IAmb 04 01 05.7
comp=Z,27nm,0.9s
HAPS Han Pijesak,Bl 82.93 317 ⇑*iP* **P 04 01 03.8 +0.2**
KHC Kasperske Hory 82.94 323 P **P 04 01 03.9 +0.5**
KHC IAmb IAmb 04 01 05.2
comp=Z,50nm,1.0s
KHC Kasperske Hory 82.94 323 *eP* **P 04 01 03.6 +0.2**
KHC Kasperske Hory 82.94 323 *c iP* **P 04 01 03.1 -0.3**
KHC pmax pmax
comp=Z,188nm,1.7s
RUDO Rudo 82.95 317 ⇑*iP* **P 04 01 03.0 -0.5**
MOX Moxa 82.99 325 *eP* **P 04 01 04.0 +0.4**
comp=Z,39nm,0.9s,baz=50,slow=5.1
MOX eL L 04 45 26.1
comp=Z,103nm,19.0s
GEC2 GERESS Array S 83.05 323 *eP* **P 04 01 04.4 +0.3**
comp=Z,45nm,0.8s,baz=50,slow=5.1
GERES GERESS Array B 83.05 323 P **P 04 01 03.6 -0.4**
GERES GERESS Array B 83.05 323 P **P 04 01 04.6 +0.5**
comp=Z,32nm,0.8s,baz=53,slow=5.2,SNR=51
comp=Z,32nm,0.8s
KOGS Kog 83.11 320 *i* P **P 04 01 04.2 -0.1**
MANZ Manzenberg 83.16 325 *eP* **P 04 01 05.1 +0.6**
comp=Z,13nm,0.9s,baz=50,slow=5.1
GTTG Gottingen 83.21 327 *eP* **P 04 01 05.4 +0.7**
comp=Z,168nm,0.8s,baz=50,slow=5.1
ROTZ Rotzenmuhle 83.24 324 *eP* **P 04 01 05.7 +0.8**
comp=Z,21nm,0.9s,baz=50,slow=5.1
WET Wettzell 83.29 324 *eP* **P 04 01 05.8 +0.6**
comp=Z,30nm,1.0s,baz=50,slow=5.1
K05A Sumner Lake 83.32 44 IAmb IAmb 04 01 08.5
comp=Z,19nm,1.0s
MOA Molln 83.36 322 *i* P **P 04 01 06.2 +0.6**
comp=Z,80nm,1.1s,SNR=16
BLY Banja Luka 83.58 318 ⇑*iP* **P 04 01 06.7 0.0**
A051A Mrakovica 83.59 319 ⇑*iP* **P 04 01 06.5 -0.3**
SFJD Kangerlussuaq 83.62 360 P **P 04 01 05.4 -1.0**
SFJD Kangerlussuaq 83.62 360 *i* P **P 04 01 04.7 -1.8**
SFJD IAmb IAmb 04 01 07.1
comp=Z,73nm,0.8s
SFJD Kangerlussuaq 83.62 360 P **P 04 01 06.3 -0.1**
comp=Z,64nm,0.7s,baz=3.2,slow=4.6,SNR=38
comp=Z,64nm,0.7s
SOKA Soboth 83.65 321 *i* P **P 04 01 07.5 +0.3**
comp=Z,85nm,1.2s,SNR=38
UBBA Unterbreizbach 83.67 326 *eP* **P 04 01 07.4 +0.5**
comp=Z,51nm,0.8s,baz=50,slow=5.1
IBBN Ibbenburen 83.74 328 *eP* **P 04 01 07.6 +0.3**
comp=Z,187nm,0.8s,baz=50,slow=5.1
GRF Grafenberg Arr 83.79 325 *eP* **P 04 01 08.6 +0.9**
comp=Z,138nm,1.0s,baz=50,slow=5.1
GRF eL L 04 49 21.1
comp=Z,119nm,19.9s
BIOA Bad Ischl, Aus 83.79 322 *i* P **P 04 01 08.7 +1.0**
comp=Z,91nm,1.2s,SNR=23
GRFO Grafenberg 83.79 325 P **P 04 01 08.0 +0.3**
GRFO Grafenberg 83.79 325 P **P 04 01 08.0 +0.3**
GRFO pmax pmax
comp=Z,134nm,1.0s
MGRS Mrkonjic Grad 83.84 318 ⇑*iP* **P 04 01 09.0 +0.9**
BRY Bratogost 83.86 316 ⇑*iP* **P 04 01 08.3 0.0**
DRME Dracevica, Mon 83.88 315 ⇑*iP* **P 04 01 08.0 -0.3**
NEVS Neseinje 83.89 317 *eP* **P 04 01 06.8 -1.6**
BIGH Upper Bighouse 83.91 337 *eP* **P 04 01 07.4 -0.7**
BIGH IAmb IAmb 04 01 08.8
comp=Z,56nm,0.9s
TIR Tirane 83.93 314 IAmb IAmb 04 01 13.2
comp=Z,38nm,0.9s
OBKA Obir 84.02 321 *i* P **P 04 01 09.2 +0.2**
comp=Z,27nm,0.9s
OBKA Obir 84.02 321 ⇑*iP* **P 04 01 08.9 -0.1**
TREB Trebinje 84.08 316 *eP* **P 04 01 08.8 -0.5**
DY2G Dye2 84.09 358 *i* P **P 04 01 07.8 -1.4**
DY2G IAmb IAmb 04 01 10.0
comp=Z,71nm,0.7s
A050A Klekovaca 84.12 318 ⇑*iP* **P 04 01 09.4 -0.2**
HCY Herceg Novi 84.14 316 ⇑*iP* **P 04 01 08.9 -0.7**
KASTN Kahler Asten 84.17 327 *eP* **P 04 01 10.1 +0.5**
comp=Z,77nm,0.8s,baz=50,slow=5.1
RJOB Jochberg 84.21 323 *eP* **P 04 01 10.7 +0.8**
comp=Z,60nm,1.0s,baz=50,slow=5.1
BOJS Bojanci 84.24 320 *i* P **P 04 01 10.3 +0.3**
LJU Ljubljana 84.31 321 *i* P **P 04 01 10.6 +0.1**
KBA Koelnbreinsper 84.32 322 *i* P **P 04 01 10.8 +0.2**
comp=Z,35nm,1.0s
STON Ston 84.38 317 ⇑*iP* **P 04 01 09.6 -1.1**
MCD Coleburn Disti 84.39 337 *eP* **P 04 01 09.2 -1.4**
J08A Circle Bar Ran 84.41 43 IAmb IAmb 04 01 13.7
comp=Z,20nm,1.0s
MYKA Terra Mystica 84.44 321 *i* P **P 04 01 11.0 -0.1**
comp=Z,23nm,1.0s,SNR=11
LESA Schwarzleotal 84.47 322 *i* P **P 04 01 11.6 +0.4**
comp=Z,53nm,0.6s
ANGG Ammassalik, Gr 84.48 355 IAmb IAmb 04 01 11.5
comp=Z,34nm,0.9s
ANGG Ammassalik, Gr 84.48 355 *i* P **P 04 01 08.7 -2.1**
ANGG IAmb IAmb 04 01 11.2
comp=Z,40nm,1.0s
PRED Cave del Predi 84.60 321 P **P 04 01 11.2 -0.7**

PRED IAmb IAmb 04 01 12.5
comp=Z,26nm,1.1s
ISOG Isortoq, Green 84.65 355 *i* P **P 04 01 09.7 -2.0**
FUR Furstenfeldbru 84.73 324 *eP* **P 04 01 13.3 +0.8**
comp=Z,107nm,1.0s,baz=50,slow=5.1
FCC Fort Churchill 84.77 21 IAmb IAmb 04 01 13.6
comp=Z,37nm,0.8s
TNS Taunus Mts 84.81 326 *eP* **P 04 01 13.2 +0.4**
comp=Z,51nm,0.8s,baz=50,slow=5.1
MSO Missoula 84.86 38 P **P 04 01 13.6 +0.4**
baz=309
SABO M.te Sabotino 84.86 321 IAmb IAmb 04 01 13.9
comp=Z,94nm,1.2s
ABTA Abfaltersbach 84.98 322 *i* P **P 04 01 13.0 -0.8**
comp=Z,32nm,0.6s,SNR=21
FFC Flin Flon 85.07 27 P **P 04 01 14.6 +0.6**
FFC Flin Flon 85.07 27 P **P 04 01 14.6 +0.6**
FFC pmax pmax
comp=Z,49nm,0.9s
WATA Walderalm 85.10 323 *i* P **P 04 01 14.1 -0.4**
comp=Z,11nm,0.6s,SNR=9.0
WTTA Wattenberg 85.12 323 *i* P **P 04 01 14.3 -0.3**
comp=Z,57nm,1.3s,SNR=13
LEWI Lewis, Hebride 85.15 338 *eP* **P 04 01 13.4 -0.9**
AHRW Bad Neuenahr-A 85.25 327 *eP* **P 04 01 16.6 +1.7**
comp=Z,68nm,0.9s,baz=50,slow=5.1
MOTA Moosalm 85.34 323 *i* P **P 04 01 15.4 -0.3**
comp=Z,39nm,1.1s,SNR=10
SQTA Sankt Quirin 85.37 323 *i* P **P 04 01 15.6 -0.2**
comp=Z,23nm,0.6s,SNR=12
STU Stuttgart 85.39 325 IAmb IAmb 04 01 17.5
comp=Z,24nm,0.8s
STU Stuttgart 85.39 325 *eP* **P 04 01 15.9 +0.1**
comp=Z,83nm,1.0s,baz=50,slow=5.1
RETA Reutte 85.43 323 *i* P **P 04 01 16.1 0.0**
comp=Z,30nm,1.9s
INVG Invergeldie, C 85.55 336 *eP* **P 04 01 15.1 -1.2**
UBR Ueberruh 85.64 324 *eP* **P 04 01 16.7 -0.4**
comp=Z,34nm,1.2s,baz=50,slow=5.1
BTNL Ternell 85.66 328 *dP* **P 04 01 16.9 -0.2**
comp=Z,22nm,1.2s
MEM Membach 85.70 328 *dP* **P 04 01 16.9 -0.3**
comp=Z,35nm,1.0s
BEBN Eben Emael 85.72 328 *dP* **P 04 01 17.2 -0.1**
FETA Feichten 85.75 323 *i* P **P 04 01 17.5 -0.3**
comp=Z,18nm,0.7s,SNR=8.2
MPK Martis Peak 85.81 47 P **P 04 01 18.8 +0.5**
BHOU Houvegnez 85.88 328 *dP* **P 04 01 18.1 0.0**
comp=Z,22nm,1.1s
CTI Castel Tesino 85.88 322 P **P 04 01 17.4 -0.9**
CTI Castel Tesino 85.88 322 P **P 04 01 17.4 -0.9**
CTI pmax pmax
comp=Z,42nm,0.8s
GDLE Glaisdale, N Y 85.88 333 *eP* **P 04 01 16.9 -1.1**
BSTI Sart Tilman 85.92 328 *dP* **P 04 01 18.6 +0.3**
comp=Z,8.6nm,0.9s
EDMD Edmundbyers 86.02 334 *eP* **P 04 01 16.9 -1.7**
DAVA Damuels 86.02 324 *i* P **P 04 01 18.9 -0.1**
comp=Z,24nm,0.6s
EKA Eskdalemuir Ar 86.08 335 P **P 04 01 18.2 -0.8**
comp=Z,20nm,0.6s,baz=39,slow=4.7,SNR=46
comp=Z,20nm,0.6s
ESK Eskdalemuir 86.11 335 *eP* **P 04 01 18.2 -0.9**
ESK IAmb IAmb 04 01 19.5
comp=Z,50nm,0.9s
ESK Eskdalemuir 86.11 335 P **P 04 01 18.7 -0.4**
ESK IAmb IAmb 04 01 18.8
comp=Z,40nm,0.9s
ESK Eskdalemuir 86.11 335 P **P 04 01 18.7 -0.4**
ESK pmax pmax
comp=Z,40nm,0.9s
BFO Black Forest 86.12 325 P **P 04 01 19.3 -0.1**
BFO Black Forest 86.12 325 P **P 04 01 19.3 -0.1**
BFO pmax pmax
comp=Z,11nm,0.8s
LAWE Loch Awe, Argy 86.16 337 *eP* **P 04 01 18.1 -1.2**
PGBU Glenifferbraes 86.19 336 *eP* **P 04 01 19.3 -0.2**
PGBU IAmb IAmb 04 01 20.1
comp=Z,75nm,1.0s
PNTR Pine Nut 86.21 47 P **P 04 01 21.1 +0.8**
EGMT Eagleton 86.26 35 IAmb IAmb 04 01 22.2
comp=Z,29nm,1.0s
EGMT Eagleton 86.26 35 P **P 04 01 20.3 +0.2**
baz=312,SNR=13
WLF Walferdange 86.28 327 *dP* **P 04 01 20.5 +0.4**
WLF Walferdange 86.28 327 *eP* **P 04 01 20.6 +0.5**
comp=Z,135nm,1.3s,baz=50,slow=5.1
BGES Gesves 86.28 328 *dP* **P 04 01 19.9 -0.2**
comp=Z,16nm,1.3s
LRM Limekiln Ridge 86.29 38 P **P 04 01 20.4 -0.1**
TEOL Teolo 86.31 321 P **P 04 01 19.9 -0.4**
DAVOX Davos/Dischmat 86.35 323 P **P 04 01 20.5 -0.2**
comp=Z,40nm,0.6s,baz=48,slow=6.8,SNR=11
comp=Z,40nm,0.6s
RCHB Rochefort 86.37 328 *dP* **P 04 01 20.0 -0.5**
NUUK Nuuk 86.45 0 *i* P **P 04 01 19.0 -1.6**
BMRD Maredsous 86.48 328 *dP* **P 04 01 20.5 -0.6**
comp=Z,28nm,1.0s
HLID Hailey 86.64 41 P **P 04 01 22.1 -0.1**
baz=309
WAKR Walker 86.65 47 IAmb IAmb 04 01 24.9
comp=Z,34nm,1.9s
DOU Dourbes 86.71 328 *dP* **P 04 01 21.6 -0.5**
comp=Z,19nm,1.1s
ECH Echery 86.78 325 IAmb IAmb 04 01 23.1
comp=Z,19nm,0.9s
TUE Stuetta 86.83 323 IAmb IAmb 04 01 23.7
comp=Z,26nm,0.8s
BOZ Bozeman (W) 86.88 38 P **P 04 01 23.5 +0.2**
baz=310
BMN Battle Mountai 86.89 45 P **P 04 01 24.0 +0.5**
BMN Battle Mountai 86.89 45 P **P 04 01 24.0 +0.5**
BMN pmax pmax
comp=Z,7.0nm,1.0s
FDMO Fiordimonte 86.98 319 P **P 04 01 23.9 +0.3**
LBWR Ladybower, Pea 87.00 333 *eP* **P 04 01 22.6 -0.9**
LBWR IAmb IAmb 04 01 23.6
comp=Z,83nm,0.9s
NRCA Norcia 87.09 319 IAmb IAmb 04 01 26.1
comp=Z,26nm,1.0s
CAMP Campotosto 87.10 318 IAmb IAmb 04 01 25.8
comp=Z,28nm,1.0s
TIP Timpagrande 87.12 314 ⇑P **P 04 01 25.1 +0.6**
INTR Introdacqua 87.14 318 IAmb IAmb 04 01 28.1
comp=Z,14nm,0.8s
KVN Kaiserville 87.17 46 P **P 04 01 25.1 +0.2**
KVN Kaiserville 87.17 46 P **P 04 01 25.1 +0.2**
KVN pmax pmax
comp=Z,9.0nm,0.9s
ZCCA Zocca 87.33 321 P **P 04 01 26.1 +0.8**
LHV Little Huntoon 87.39 47 IAmb IAmb 04 01 28.8
comp=Z,38nm,2.0s
NVAR Mina Array Bea 87.41 47 P **P 04 01 27.4 +1.3**
comp=Z,1.9nm,0.6s,baz=302,slow=5.2,SNR=28
comp=Z,1.9nm,0.6s
YHL Hebgen Lake 87.60 38 IAmb IAmb 04 01 29.8
comp=Z,20nm,1.0s
OSSC Osservatorio P 87.71 320 IAmb IAmb 04 01 28.2
comp=Z,16nm,0.7s
YMR Madison River 87.84 38 IAmb IAmb 04 01 31.1
comp=Z,8nm,0.9s
YNR Norris Junctio 87.96 38 IAmb IAmb 04 01 32.2
comp=Z,16nm,1.2s
FOEL Foel Wylfa 87.97 333 *eP* **P 04 01 27.3 -0.9**
FOEL IAmb IAmb 04 01 28.1
comp=Z,41nm,0.7s
CEL Celeste 88.22 314 P **P 04 01 29.7 +0.1**
YMP Mirror Lake PI 88.23 38 P **P 04 01 31.0 +1.1**
YMP IAmb IAmb 04 01 33.1
comp=Z,14nm,1.1s
H17A Grant Village 88.23 38 IAmb IAmb 04 01 34.3
comp=Z,22nm,0.9s
H17A Grant Village 88.23 38 P **P 04 01 30.3 +0.5**
baz=311
IMW Indian Meadow 88.36 39 IAmb IAmb 04 01 33.7
comp=Z,12nm,0.9s
FLWY Flagg Ranch 88.37 39 IAmb IAmb 04 01 34.0
comp=Z,19nm,0.8s
RLMT Red Lodge 88.44 37 IAmb IAmb 04 01 33.5
comp=Z,37nm,1.4s
RLMT Red Lodge 88.44 37 P **P 04 01 31.3 +0.5**
baz=312
PKM Mcpherson Peak 88.51 50 P **P 04 01 31.9 +0.6**
baz=306
MCH1 Michaelchurch 88.58 333 *eP* **P 04 01 29.1 -1.8**
TPAW Teton Pass 88.62 39 IAmb IAmb 04 01 34.7
comp=Z,11nm,0.9s

CWC	Cottonwood Cre	88.74	48	P	P	04 01 32.3	+0.1
	baz=307						
GRAC	Grapevine Rang	88.86	47	P	P	04 01 33.0	+0.3
	baz=307						
LAO	LASA Array	88.93	35	P	P	04 01 33.1	+0.2
	baz=314						
LAO	LASA Array	88.93	35	P	P	04 01 34.3	+1.4
	baz=314						
BGU	Big Grassy Mou	89.09	42	P	P	04 01 34.8	+0.9
BNI	Bardonecchia	89.17	323	P	P	04 01 32.9	-1.2
BNI				IAmb	IAmb	04 01 35.1	
	comp=Z,11nm,0.6s						
BNI	Bardonecchia	89.17	323	P	P	04 01 32.9	-1.2
BNI				pmax	pmax		
	comp=Z,11nm,0.6s						
R11B	Troy Canyon, C	89.17	45	P	P	04 01 34.2	-0.1
	baz=308						
MPMC	Manual Prospec	89.35	48	P	P	04 01 35.2	0.0
	baz=307						
HWUT	Hardware Ranch	89.50	41	IAmb	IAmb	04 01 38.7	
	comp=Z,31nm,1.2s						
FURC	Furnace Creek,	89.50	48	P	P	04 01 35.9	+0.3
	baz=307						
SPR3	Spring Creek 3	89.53	44	IAmb	IAmb	04 01 39.4	
	comp=Z,23nm,1.9s						
LRMC	Laurel Mtn Rad	89.57	49	P	P	04 01 36.4	+0.2
	baz=307						
TPNV	Topopah Spring	89.61	47	P	P	04 01 36.5	+0.2
	baz=308						
DUG	Dugway, Tooele	89.69	43	P	P	04 01 36.7	+0.1
DUG				IAmb	IAmb	04 01 39.5	
	comp=Z,11nm,0.9s						
DUG	Dugway, Tooele	89.69	43	P	P	04 01 37.5	+0.8
	baz=310						
DUG	Dugway, Tooele	89.69	43	P	P	04 01 36.7	+0.1
DUG				pmax	pmax		
	comp=Z,11nm,0.9s						
EDW2	Edwards Air Fo	89.72	49	P	P	04 01 37.4	+0.6
	baz=307						
RAFF	Raffo Rosso	89.81	314	P	P	04 01 37.5	+0.4
BW06	Boulder Array	89.86	39	P	P	04 01 38.0	+0.5
	baz=312,SNR=14						
PDAR	Pinedale Array	89.86	39	P	P	04 01 38.3	+0.8
	comp=Z,5.2nm,0.8s,baz=336,slow=1.0,SNR=44						
PDAR				PKKPbc	PKKPbc	04 19 07.8	-0.9
	comp=Z,0.4nm,0.6s,baz=117,slow=3.1,SNR=4.1						
	comp=Z,5.2nm,0.8s						
TCUT	Toone Canyon	89.91	41	IAmb	IAmb	04 01 40.5	
	comp=Z,19nm,1.0s						
SSB	Saint Sauveur	90.10	325	P	P	04 01 37.5	-0.8
SSB				IAmb	IAmb	04 01 39.2	
	comp=Z,8.9nm,0.7s						
SSB	Saint Sauveur	90.10	325	P	P	04 01 37.5	-0.8
SSB				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GSC	Goldstone, Bar	90.25	48	P	P	04 01 39.7	+0.5
	baz=307						
NLU	North Lily Min	90.28	42	IAmb	IAmb	04 01 42.3	
	comp=Z,11nm,0.8s						
BFSC	Mount Baldy Ra	90.32	50	P	P	04 01 40.0	+0.3
	baz=307						
SCI2	San Clemente I	90.47	51	P	P	04 01 40.5	+0.3
	baz=306						
MPU	Maple Canyon	90.49	42	IAmb	IAmb	04 01 43.2	
	comp=Z,13nm,0.9s						
BSUT	Blindstream Ca	90.66	41	IAmb	IAmb	04 01 44.5	
	comp=Z,15nm,1.4s						
TUQ	Turquoise Moun	90.74	48	P	P	04 01 41.9	+0.3
	baz=308						
HEC	Hector,Ludlow	90.84	49	P	P	04 01 42.4	+0.4
	baz=308						
ULM	Lac du Bonnet	90.90	27	P	P	04 01 42.4	+0.5
	comp=Z,37nm,0.8s,baz=319,slow=4.6,SNR=54						
	comp=Z,37nm,0.8s						
TCRU	Three Creeks R	90.92	44	IAmb	IAmb	04 01 45.7	
	comp=Z,36nm,1.7s						
MURC	Murrieta	91.02	50	P	P	04 01 43.0	+0.2
	baz=307						
PPT	Papeete	91.09	110	LR	LR	04 38 42.4	
	comp=Z,21nm,19.4s,baz=340,slow=33						
MDND	Maddock	91.19	31	P	P	04 01 43.6	+0.3
MDND	Maddock	91.19	31	P	P	04 01 43.8	+0.5
	baz=319						
MDND	Maddock	91.19	31	P	P	04 01 44.8	+1.5
	baz=319						
GMRC	Granite Mounta	91.31	48	P	P	04 01 44.1	-0.2
	baz=308						
RDMU	Red Mountain	91.32	41	IAmb	IAmb	04 01 46.8	
	comp=Z,12nm,0.8s						
MTPU	Mount Pierson	91.44	44	IAmb	IAmb	04 01 48.4	
	comp=Z,9.7nm,0.9s						
LCMT	Little Creek M	91.45	45	IAmb	IAmb	04 01 47.6	
	comp=Z,8.0nm,0.9s						
Q16A	Castle Valley	91.48	43	IAmb	IAmb	04 01 48.0	
	comp=Z,10nm,0.9s						
PFO	Pinyon Flats O	91.50	50	P	P	04 01 45.8	+0.6
PFO				IAmb	IAmb	04 01 47.4	
	comp=Z,9.6nm,1.0s						
PFO	Pinyon Flats O	91.50	50	P	P	04 01 45.4	+0.3
	baz=308						
PFO	Pinyon Flats O	91.50	50	P	P	04 01 45.8	+0.6
PFO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TPFO	Pinon Flats	91.50	50	P	P	04 01 45.4	+0.2
	baz=308						
PMD	Palm Desert	91.53	50	IAmb	IAmb	04 01 47.3	
	comp=Z,8.5nm,0.9s						
BELC	Belle Mtn. Jos	91.56	49	P	P	04 01 45.5	0.0
	baz=308						
K22A	Casper	91.58	38	IAmb	IAmb	04 01 47.3	
	comp=Z,8.8nm,0.9s						
K22A	Casper	91.58	38	P	P	04 01 44.9	-0.5
	baz=314						
K22A	Casper	91.58	38	P	P	04 01 46.5	+1.1
	baz=314						
E28A	Huff	91.65	32	IAmb	IAmb	04 01 47.8	
	comp=Z,18nm,0.8s						
E28A	Huff	91.65	32	P	P	04 01 47.1	+1.6
	baz=318						
KNB	Kanab	91.71	45	IAmb	IAmb	04 01 49.2	
	comp=Z,19nm,0.9s						
SRU	San Rafael Swe	91.73	42	IAmb	IAmb	04 01 48.6	
	comp=Z,15nm,0.8s						
RSSD	Black Hills	91.83	35	P	P	04 01 46.7	+0.1
RSSD				IAmb	IAmb	04 01 49.5	
	comp=Z,15nm,0.8s						
RSSD	Black Hills	91.83	35	P	P	04 01 46.7	+0.1
	baz=316						
RSSD	Black Hills	91.83	35	P	P	04 01 47.4	+0.8
	baz=316						
RSSD	Black Hills	91.83	35	P	P	04 01 46.7	+0.1
RSSD				pmax	pmax		
	comp=Z,15nm,0.9s						
RWWY	Rawlins	91.88	39	IAmb	IAmb	04 01 48.0	
	comp=Z,9.7nm,0.9s						
MONP2	Monument Peak	91.96	50	P	P	04 01 47.7	+0.3
	baz=308						
IRM	Iron Mountain	92.03	48	P	P	04 01 47.7	+0.3
	baz=308,SNR=8.3						
BC3	Big Chuckawall	92.13	49	P	P	04 01 48.1	+0.1
	baz=308,SNR=7.3						
KIBK	Kibwezi	92.28	269	IAmb	IAmb	04 01 51.4	
	comp=Z,14nm,1.1s						
IKP	In-Ko-Pah, Jac	92.31	50	P	P	04 01 49.0	+0.1
	baz=308						
SWSC	Sam W. Stewart	92.34	50	P	P	04 01 49.2	+0.4
	baz=308						
O20A	White River Ci	92.36	40	IAmb	IAmb	04 01 51.3	
	comp=Z,12nm,1.0s						
O20A	White River Ci	92.36	40	P	P	04 01 49.0	-0.1
	baz=313						
KMBO	Kilima Mbogo	92.38	270	P	P	04 01 49.2	-0.5
KMBO	Kilima Mbogo	92.38	270	P	P	04 01 49.8	+0.2
KMBO	Kilima Mbogo	92.38	270	*i* P	P	04 01 49.4	-0.2
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KMBO	Kilima Mbogo	92.38	270	P	P	04 01 48.4	-1.2
	comp=Z,4.0nm,0.7s,baz=42,slow=10,SNR=10						
	comp=Z,4.0nm,0.7s						
U15A	North Rim	92.41	45	IAmb	IAmb	04 01 53.3	
	comp=Z,11nm,0.9s						
PDMCI	Parker Dam,Lak	92.59	48	P	P	04 01 50.3	+0.3
	baz=309						
ABPO	Ambohimpanom	92.68	250	P	P	04 01 50.3	-0.5
ABPO				IAmb	IAmb	04 01 51.7	
	comp=Z,15nm,0.8s						
ABPO	Ambohimpanom	92.68	250	P	P	04 01 50.3	-0.5
ABPO				pmax	pmax		
	comp=Z,15nm,0.8s						
ESJX	Sierra Juarez	92.81	51	IAmb	IAmb	04 01 54.0	
	comp=Z,11nm,1.0s						
GLA	Glamis	92.92	49	P	P	04 01 52.0	+0.4
	baz=308						
PHWY	Pilot Hill	93.09	38	IAmb	IAmb	04 01 54.8	
	comp=Z,9.9nm,1.2s						
B35A	Bob, Littlefor	93.26	27	P	P	04 01 53.4	+0.6
	baz=324						
VTX	Valle De La Tr	93.30	51	IAmb	IAmb	04 01 56.1	
	comp=Z,7.5nm,0.9s						
WUAZ	Wupatki	93.57	45	IAmb	IAmb	04 01 57.4	
	comp=Z,8.7nm,0.9s						
WUAZ	Wupatki	93.57	45	P	P	04 01 54.0	-0.7
	baz=311						
KEST	Kesra	93.88	315	P	P	04 01 55.5	-0.4
	comp=Z,7.1nm,0.7s,baz=1.7,slow=5.5,SNR=13						
	comp=Z,7.1nm,0.7s						
ISCO	Idaho Springs	94.06	39	P	P	04 01 57.0	-0.1
	baz=315						
SUSD	Miller	94.06	32	P	P	04 01 56.4	-0.2
SUSD	Miller	94.06	32	P	P	04 01 56.6	0.0
	baz=320						
SUSD	Miller	94.06	32	P	P	04 01 57.8	+1.2
	baz=320						
SFX	San Felipe	94.15	51	IAmb	IAmb	04 01 59.8	
	comp=Z,11nm,1.0s						
F33A	5 Mile Ranch,	94.19	30	P	P	04 01 58.0	+0.9
	baz=322						
MVCO	Mesa Verde	94.19	43	P	P	04 01 57.7	+0.1
	baz=312						
EYMN	Ely	94.47	26	P	P	04 01 57.8	-0.6
	baz=325						
SCHQ	Schefferville	94.68	9	P	P	04 01 58.7	-0.5
	comp=Z,8.3nm,0.8s,baz=342,slow=5.2,SNR=7.2						
	comp=Z,8.3nm,0.8s						
PIX	Pinacate	94.75	50	IAmb	IAmb	04 02 02.3	
	comp=Z,6.7nm,1.1s						
S22A	4UR Ranch, Cre	94.80	41	IAmb	IAmb	04 02 04.5	
	comp=Z,17nm,2.0s						
S22A	4UR Ranch, Cre	94.80	41	P	P	04 02 00.2	-0.3
	baz=314						
Q24A	Divide	94.90	40	P	P	04 02 00.6	-0.3
	baz=315						
214A	Organ Pipe Nat	94.93	49	IAmb	IAmb	04 02 04.2	
	comp=Z,7.0nm,1.1s						
214A	Organ Pipe Nat	94.93	49	P	P	04 02 00.8	0.0
	baz=310						
K30B	Basset	95.08	34	P	P	04 02 02.2	+0.9
	baz=319						
SDCO	Great Sand Dun	95.56	41	P	P	04 02 03.6	-0.3
	baz=314						
ECSD	EROS Data Cent	95.69	32	IAmb	IAmb	04 02 04.9	
	comp=Z,5.3nm,1.1s						
ECSD	EROS Data Cent	95.69	32	P	P	04 02 03.7	-0.4
	baz=321						
ECSD	EROS Data Cent	95.69	32	P	P	04 02 04.6	+0.6
	baz=321						
TUC	Tucson	96.02	48	P	P	04 02 06.5	+0.6
TUC	Tucson	96.02	48	P	P	04 02 05.9	+0.1
	baz=311						
TUC	Tucson	96.02	48	P	P	04 02 06.5	+0.6
TUC				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SPMN	Marine on St.	96.16	28	P	P	04 02 05.6	-0.5
	baz=324						
SPMN	Marine on St.	96.16	28	P	P	04 02 06.6	+0.5
	baz=324						
T25A	Trinidad	96.60	40	IAmb	IAmb	04 02 10.5	
	comp=Z,18nm,1.6s						
T25A	Trinidad	96.60	40	P	P	04 02 08.1	-0.5
	baz=315						
BGNE	Belgrade	96.75	34	P	P	04 02 08.3	-0.6
	baz=320						
ANMO	Albuquerque	96.94	43	P	P	04 02 09.5	-0.6
	baz=314						
ANMO	Albuquerque	96.94	43	‖ *e*P	P	04 02 11.2	+1.1
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.3s						
121A	Cookes Peak, D	97.77	46	P	P	04 02 13.4	-0.5
	baz=313						
MBAR	Mbarara	97.78	274	P	Pdif	04 02 14.3	+0.1
MBAR	Mbarara	97.78	274	*d* iP	Pdif	04 02 14.6	+0.4
MBAR				pmax	pmax		
	comp=Z,13nm,1.1s						
PBRG	Braganca	98.14	328	*e*P	P	04 02 14.4	-0.7
	comp=Z,58nm,1.6s						
ESDC	Sonseca Array	98.48	325	P	P	04 02 15.2	-1.5
ESDC				IAmb	IAmb	04 02 17.0	
	comp=Z,5.8nm,1.1s						
ESDC	Sonseca Array	98.48	325	P	P	04 02 15.8	-1.0
	comp=Z,4.5nm,0.9s,baz=28,slow=4.0,SNR=19						
	comp=Z,4.5nm,0.9s						
PGAV	Gavieira, Arco	98.69	329	*e*P	P	04 02 15.7	-2.0
	comp=Z,104nm,2.0s						
MVO	Moncorvo	98.78	328	*e*P	Pdif	04 02 18.6	+0.6
	comp=Z,22nm,1.7s						
POLO	Lamas de Olo	98.96	329	*e*P	P	04 02 18.7	-0.2
PVRL	Vila Real	99.00	329	*e*P	P	04 02 18.9	-0.1
KSU1	Kansas State U	99.28	35	P	Pdif	04 02 19.4	-0.8
	baz=321						
PVIS	Viseu	99.53	328	*e*P	Pdif	04 02 21.3	-0.1
MTE	Manteigas	99.62	328	*e*P	Pdif	04 02 21.4	-0.4
GLMI	Grayling	99.64	24	P	Pdif	04 02 20.7	-1.0
	baz=331						
MSTX	Muleshoe	99.79	42	P	Pdif	04 02 21.8	-0.9
	baz=316						
COI	Coimbra	100.17	328	*e*P	Pdif	04 02 23.6	-0.6
PMRV	Marv??o	100.32	327	*e*P	Pdif	04 02 24.8	-0.1
PESTR	Estremoz	100.86	327	*e*P	Pdif	04 02 26.8	-0.5
PSBE	So Bento	100.90	328	*e*P	Pdif	04 02 27.5	0.0
PMTG	Montargil	101.00	328	*e*P	Pdif	04 02 27.6	-0.3
PBAR	Barrancos	101.15	326	*e*P	Pdif	04 02 28.5	-0.1
EVO	Evora	101.33	327	*e*P	Pdif	04 02 29.1	-0.3
WMOK	Wichita Mounta	101.47	39	P	Pdif	04 02 29.2	-0.9
	baz=319						
PMAFR	Mafra	101.58	328	*e*P	Pdif	04 02 30.5	0.0
PBEJ	Beja	101.66	327	*e*P	Pdif	04 02 30.9	0.0
MESJ	Messejana	101.98	327	*e*P	Pdif	04 02 32.2	-0.1
PCVE	Castro Verde	102.06	327	*e*P	Pdif	04 02 32.6	0.0
PVAQ	Vaqueiros	102.08	326	*e*P	Pdif	04 02 33.0	+0.3
TUL3	Leonard	102.16	36	P	Pdif	04 02 32.1	-1.0
	baz=321						
TXAR	Lajitas Array	102.53	46	P	Pdif	04 02 34.5	-0.5
	comp=Z,0.9nm,0.9s,baz=316,slow=3.8,SNR=7.6						
TXAR				PKiKP	PKiKP	04 06 55.2	-0.2
	comp=Z,0.3nm,0.7s,baz=329,slow=1.1,SNR=5.2						
TXAR				PKKPbc	PKKPbc	04 18 35.2	+1.0
	comp=Z,0.3nm,0.5s,baz=148,slow=5.6,SNR=6.5						
MORF	Marmelete	102.61	327	*e*P	Pdif	04 02 35.5	+0.3
TORD	Torodi Ar. Bea	113.98	302	PKiKP	PKiKP	04 07 16.3	-0.7
	comp=Z,3.2nm,0.7s,baz=23,slow=4.0,SNR=25						
TORD				PKKPbc	PKKPbc	04 17 59.4	+1.4
	comp=Z,0.6nm,0.7s,baz=246,slow=2.8,SNR=4.2						
BOSA	Boshof	114.90	250	PKP	PKPdf	04 07 18.1	-0.4
	comp=Z,7nm,0.6s,baz=79,slow=1.5,SNR=13						
QSPA	South Pole Qui	119.45	180		PKPdf	04 07 25.5	-0.6
QSPA	South Pole Qui	119.45	180	PKP	PKPdf	04 07 25.8	-0.2
	comp=Z,5.1nm,0.6s,baz=322,slow=1.3,SNR=11						
QSPA				PKKPbc	PKKPab	04 17 36.7	-1.8
	comp=Z,0.8nm,0.6s,baz=194,slow=1.5,SNR=5.1						
ELIB	Princess Elisa	122.88	201	*d* PKPdf	PKPdf	04 07 32.3	-0.3
DBIC	Dimbokro	123.08	302	PKPdf	PKPdf	04 07 33.8	-0.7
DBIC	Dimbokro	123.08	302	PKP	PKPdf	04 07 34.2	-0.4
	comp=Z,11nm,0.7s,baz=31,slow=2.4,SNR=15						
KIC	Kosan Boka	123.20	301	‖ *e*PKIKP	PKPdf	04 07 34.2	-0.6
	comp=Z,25nm,0.8s						
TIC	Toumodi	123.22	302	‖ *e*PKIKP	PKPdf	04 07 34.2	-0.7
	comp=Z,14nm,0.7s						
LIC	Lamto	123.50	302	‖ *e*PKIKP	PKPdf	04 07 34.6	-0.8
	comp=Z,40nm,0.9s						
TROLL	Troll, Antarti	129.08	199	‖ P	PKiKP	04 07 44.8	-0.4
	comp=Z,314nm,0.6s						
SNAA	Sanae	130.71	198	PKP	PKPdf	04 07 47.9	+0.4
	comp=Z,1.9nm,0.9s,baz=324,slow=4.5,SNR=3.6						
BELA	Belgrano 2	131.18	184	PKPdf	PKPdf	04 07 47.6	-0.6
VNA2	Neumayer--Watz	132.35	198	‖ P	PKPdf	04 07 51.0	+0.5
	baz=92,slow=3.0						
SDV	Santo Domingo	137.10	30	PKPdf	PKPdf	04 08 01.3	-0.1
ROSC	El Rosal	138.84	37	PKPdf	PKPdf	04 08 04.2	-0.6
ROSC	El Rosal	138.84	37	PKIKP	PKPdf	04 08 04.2	-0.6
ROSC	El Rosal	138.84	37	PKP	PKPdf	04 08 05.7	+0.9
	comp=Z,14nm,0.8s,baz=157,slow=19,SNR=8.2						
CHSH	Refugio Sur-Vo	141.19	49		PKPdf	04 08 07.0	-2.4
BOAV	Boa Vista	146.73	18	PKPbc	PKPbc	04 08 19.7	-0.5
BOAV	Boa Vista	146.73	18	*e*P	PKPbc	04 08 19.5	-0.7
BOAV	Boa Vista	146.73	18	*e*P	PKPbc	04 08 19.7	-0.5
TBTG	Tabatinga, AM	148.77	39	PKPbc	PKPbc	04 08 24.9	-0.7
TBTG	Tabatinga, AM	148.77	39	*e*P	PKPbc	04 08 25.9	+0.3
CZSB	Cruzeiro do Su	149.90	48	PKPbc	PKPdf	04 08 24.9	+1.5
CZSB	Cruzeiro do Su	149.90	48	*e*P	PKPdf	04 08 24.4	+1.0
CZSB	Cruzeiro do Su	149.90	48	*e*P	PKPdf	04 08 23.5	+0.1
NNA	Nana	149.97	60		PKPbc	04 08 27.4	-1.2
NNA	Nana	149.97	60	*e*P	PKPbc	04 08 28.7	+0.2
NNA	Nana	149.97	60	PKIKP	PKPbc	04 08 27.4	-1.2
TEFE	Tefe	150.79	30	*e*P	PKPdf	04 08 25.8	+1.1
MCPB	Macapa, AP	150.81	3	*e*P	PKPdf	04 08 25.9	+1.1
SAML	Samuel	156.26	32	PKPdf	PKPdf	04 08 32.7	+0.2
SAML				PKPab	PKPab	04 08 59.8	-1.4
SAML	Samuel	156.26	32	PKP2	PKPab	04 08 59.8	-1.4
SAML						05 08 32.7	
BDFB	Brasilia	165.81	350	PKPdf	PKPdf	04 08 41.1	-1.6
BDFB					PKPab	04 09 41.1	-1.8
BDFB	Brasilia	165.81	350	PKP	PKPdf	04 08 42.4	-0.3
	comp=Z,4.5nm,0.9s,baz=56,slow=7.3,SNR=5.4						
BDFB				PKPab	PKPab	04 09 40.1	-2.8
	comp=Z,7.1nm,0.7s,baz=4.5,slow=2.7,SNR=11						
AQDB	Aquidauana	169.76	28	PKPdf	PKPdf	04 08 44.9	-0.3
AQDB				PKPab	PKPab	04 09 59.0	-1.2
CPUP	Villa Florida	173.22	62	PKP	PKPdf	04 08 47.3	+0.6
	comp=Z,1.5nm,0.6s,baz=249,slow=4.0,SNR=4.0						
CPUP				PKPab	PKPab	04 10 14.4	-1.2
	comp=Z,2.1nm,1.0s,baz=339,slow=8.6,SNR=3.1						

NAO ***31*** *03:49:12.3±3.1, 70°.86N×6°.34W, h4km±35km, ML4.5*
IDC ***31*** *03:49:12.5±0.5, 70°.89N×6°.69W, h0km, mb4.0/25, mbtmp4.1/29, ML3.5/3, MS3.8/29, Error ellipse: s-maj=15.1km s-min=9.2km az=22.0*
BER ***31*** *03:49:15.0±4.3, 70°.86N×6°.42W, h1km±24km, mb(Pn)3.4, ML3.5, mb4.6(USGS), Confirmed Earthquake*
NEIC ***31*** *03:49:16.2±1.1, 71°.07N±0°.08×6°.3W±0°.2, h10km±1km, mb4.6/65, Error ellipse: s-maj=14.3km s-min=12.6km az=224.0*
REY ***31*** *03:49:17.3, 70°.74N×8°.00W, h10km*
BGR ***31*** *03:49:20.5, 71°.30N×5°.34W, h33km, mb4.6, Ms3.3*
DNK ***31*** *03:49:20.0±3.5, 71°.34N×6°.70W, h0km±125km, ML1.4*

ISC 31 03:49:14.3±0.3, 70°91N±0°.04×6°51W±0°.03, h9km, n258, σ2°56/240, mb4.5/82, MS3.8/25, 10D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNE	Jan Mayen East	0.59	278	*e*P	Pg	03 49 25.8	+0.1
JMIC	Jan Mayen	0.66	277	Pg	Pg	03 49 26.6	-0.4
JMIC				Lg	Lg	03 49 35.6	
JMIC	Jan Mayen	0.66	277	*e*P	Pg	03 49 26.5	-0.4
JMIC				*e*S	Sg	03 49 35.8	+0.2
JMIC				IAML		03 49 38.1	
	comp=Z,3μm,0.3s						
JMIC	Jan Mayen	0.66	277	Pn	Pg	03 49 26.6	-0.4
	comp=Z,244nm,0.3s,baz=121,slow=7.8,SNR=100						
JMIC				Sn	Sg	03 49 33.9	-1.7
	comp=Z,699nm,0.3s,baz=182,slow=20,SNR=20						
JMI	Jan Mayen	0.73	272	Pg	Pg	03 49 28.0	-0.3
JMI				Lg	Lg	03 49 38.2	
JMI	Jan Mayen	0.73	272	*e*P	Pg	03 49 28.2	-0.1
JMI				*e*S	Sg	03 49 38.2	+0.3
JMI				IAML		03 49 40.3	
	comp=Z,2μm,0.4s						
SCO	Scoresbysund	5.14	273	*e*P	Pn	03 50 34.9	+3.7
SCO				IAML		03 51 31.7	
	comp=Z,0.5nm,0.3s						
SCO	Scoresbysund	5.14	273	*e*P	Pn	03 50 34.9	+3.7
SCO				IAML		03 51 31.7	
	comp=Z,0.5nm,0.3s						
ILEI	Leirhofn	5.80	224	P	Pn	03 50 38.4	-2.0
	baz=220						
ILEI				S	Sn	03 51 43.1	-3.8
	baz=220						
IGIL	Gilhagi	6.05	221	P	Pn	03 50 41.7	-2.1
	baz=217						
IGIL				S	Sn	03 51 48.8	-4.2
	baz=217						
IHED	Heoinshofoi	6.26	224	P	Pn	03 50 44.8	-1.9
	baz=221						
IHED				S	Sn	03 51 54.2	-4.0
	baz=221						
IDIM	Dimmadalss	6.28	223	P	Pn	03 50 45.7	-1.1
	baz=219						
IDIM				S	Sn	03 51 54.7	-3.9
	baz=219						
IGHA	Grjothals	6.32	221	P	Pn	03 50 45.5	-2.0
	baz=217						
IGHA				S	Sn	03 51 56.1	-3.5
	baz=217						
ISKI	Skildingahlsh	6.37	223	P	Pn	03 50 47.3	-0.9
	baz=219						
IGRS	Grimsstaoir	6.38	219	P	Pn	03 50 46.9	-1.4
	baz=214						
IGRS				S	Sn	03 51 58.8	-2.4
	baz=214						
IGRA	Granastaoir	6.46	224	P	Pn	03 50 48.1	-1.3
	baz=221						
IGRA				S	Sn	03 51 59.2	-3.9
	baz=221						
IKVO	Krokottuvotn	6.47	221	P	Pn	03 50 47.9	-1.8
	baz=217						
IMEL	Melhnausar	6.55	220	P	Pn	03 50 48.7	-2.0
	baz=216						
IMEL				S	Sn	03 52 02.9	-2.4
	baz=216						
DAG	Danmarks Havn	6.77	336	*e*P	Pn	03 50 51.7	-2.0
DAG				*e*S	Sn	03 52 03.0	-7.8
DAG				IAML		03 52 06.2	
	comp=Z,4.8nm,0.4s						
DAG	Danmarks Havn	6.77	336	*e*	Pn	03 50 48.4	-5.3
	baz=137,slow=16						
DAG				*i* P	Pn	03 50 51.9	-1.7
DAG				*e*S	Sn	03 52 03.0	-7.8
DAG				IAML		03 52 06.2	
	comp=Z,4.8nm,0.4s						
IADA	Aoalbol	6.82	214	P	Pn	03 50 53.4	-1.1
	baz=210						
IMKO	Mokollar	7.01	217	P	Pn	03 50 55.8	-1.2
	baz=212						
IVSH	V-Sauoahnukur	7.04	214	P	Pn	03 50 56.5	-1.0
	baz=210					

comp=Z,0.6nm,0.4s
AKN Aaknes 10.25 142 Pn **Pn** **03 51 38.8 -2.6**
AKN Sn **Sn** **03 53 29.7 -6.6**
AKN Aaknes 10.25 142 Pn **Pn** **03 51 38.8 -2.6**
AKN Sn **Sn** **03 53 29.7 -6.6**
KTK1 Kautokeino 10.32 86 *e*P **Pn** **03 51 39.8 -2.4**
HOPEN Hopen 10.33 43 Pn **Pn** **03 51 42.6 +0.3**
HOPEN Hopen 10.33 43 *e*P **Pn** **03 51 42.8 +0.4**
HEF Hetta 10.72 89 Pn **Pn** **03 51 44.7 -3.0**
HEF Hetta 10.72 89 *e*P **Pn** **03 51 45.0 -2.8**
ARA0 ARCESS Array S 10.85 82 Pn **Pn** **03 51 47.2 -2.4**
baz=284,slow=12
ARA0 ARCESS Array S 10.85 82 Pn **Pn** **03 51 47.2 -2.4**
baz=284,slow=12
ARCES ARCESS Array B 10.85 82 Pn **Pn** **03 51 46.7 -2.8**
comp=Z,0.2nm,0.3s,baz=301,slow=10,SNR=28
ARCES LR LR 03 55 21.6
comp=Z,195nm,20.0s,baz=292,slow=34
LRW Lerwick 11.04 166 Pn **Pn** **03 51 51.4 -0.7**
LRW Sn Sn 03 53 43.6 -12
LRW Lerwick 11.04 166 Pn **Pn** **03 51 51.4 -0.7**
LRW Sn Sn 03 53 43.6 -12
NOD Norderasen 11.11 122 *e*P **Pn** **03 51 50.9 -2.2**
KEV Kevo 11.26 80 Pn **Pn** **03 51 53.3 -1.8**
KEV Kevo 11.26 80 *e* **Pn** **03 51 52.5 -2.6**
NB2 NORSAR Subarra 12.19 135 Pn **Pn** **03 52 06.4 -1.5**
NB2 NORSAR Subarra 12.19 135 Pn **Pn** **03 52 06.4 -1.5**
NOA NORSAR Array B 12.19 135 Pn **Pn** **03 52 05.2 -2.7**
baz=336,slow=11,SNR=4.9
NOA LR LR 03 56 42.2
comp=Z,228nm,20.0s,baz=330,slow=37
NC405 NORSAR Array S 12.24 134 Pn **Pn** **03 52 11.3 +2.7**
NRA0 NORESS Array S 12.53 135 Pn **Pn** **03 52 10.8 -1.8**
baz=335,slow=16
NRA0 NORESS Array S 12.53 135 Pn **Pn** **03 52 10.8 -1.8**
baz=335,slow=16
HFS Hagfors 13.57 133 Pn **Pn** **03 52 25.1 -1.5**
baz=337,slow=16
HFS Hagfors 13.57 133 Pn **Pn** **03 52 25.1 -1.5**
baz=337,slow=16
HFS Hagfors 13.57 133 Pn **Pn** **03 52 25.2 -1.5**
comp=Z,0.3nm,0.3s,baz=355,slow=10,SNR=9.9
HFS LR LR 03 57 45.4
comp=Z,380nm,18.6s,baz=332,slow=38
comp=Z,5.2nm,0.7s
APA0 Apatity Array 14.18 84 Pn Pn 03 52 29.9 -5.0
APA0 Apatity Array 14.18 84 Pn Pn 03 52 29.9 -5.0
EKA Eskdalemuir Ar 15.71 173 P **Pn** **03 52 55.2 -0.2**
EKA Eskdalemuir Ar 15.71 173 P **Pn** **03 52 55.2 -0.2**
EKA Eskdalemuir Ar 15.71 173 Pn **Pn** **03 52 54.7 -0.7**
baz=1.2,slow=13
comp=Z,0.6nm,0.4s
ESK Eskdalemuir 15.72 173 Pn **P** **03 52 59.6 -0.1**
ESK IAmb IAmb 03 53 07.2
comp=Z,57nm,1.1s
FIA1 FINESS Array S 15.98 110 Pn **Pn** **03 53 00.2 +1.4**
FIA0 FINESS Array S 15.98 110 P **Pn** **03 52 56.5 -2.4**
baz=324,slow=16
FIA0 FINESS Array S 15.98 110 P **Pn** **03 52 56.5 -2.4**
baz=324,slow=16
FINES FINESS Array B 15.98 110 **Pn** **03 52 60.0 +1.1**
FINES FINESS Array B 15.98 110 Pn **Pn** **03 52 56.4 -2.4**
comp=Z,0.2nm,0.3s,baz=320,slow=13,SNR=13
FINES LR LR 03 58 26.0
comp=Z,328nm,20.3s,baz=319,slow=34
comp=Z,4.0nm,0.7s
SFJD Kangerlussuaq 16.02 278 LR LR 03 58 32.9
comp=Z,323nm,18.1s,baz=9.0,slow=35
BSEG Bad Segeberg 18.60 148 *e*P **Pn** **03 53 31.7 0.0**
comp=Z,49nm,1.2s,baz=344,slow=8.9
PABE Paberze 20.30 124 P **P** **03 53 49.7 -0.2**
CLZ Clausthal 20.62 149 *e*P Pn 03 53 58.7 +2.8
comp=Z,24nm,1.3s,baz=344,slow=8.9
KLMR Klimovskoe 20.73 96 *e*Pn **P** **03 53 51.7 -2.9**
KLMR AMP 03 54 05.4
comp=Z,87nm,1.4s
BEBN Eben Emael 20.95 158 *d*P Pn 03 54 00.7 +1.1
BSTI Sart Tilman 21.15 158 *d*P **P** **03 54 04.9 +5.7**
MEM Membach 21.18 158 *d*P **P** **03 53 59.0 -0.5**
comp=Z,18nm,0.9s
BTNL Ternell 21.22 157 *d*P **P** **03 54 06.0 +6.0**
BCLA Clavier 21.28 159 *d*P **P** **03 54 03.1 +2.5**
comp=Z,12nm,1.3s
BGES Gesves 21.29 159 *d*P **P** **03 54 03.6 +2.9**
SUW Suwalki 21.41 127 *e*P **P** **03 54 03.8 +1.8**
SUW Suwalki 21.41 127 P **P** **03 54 03.8 +1.8**
BHOU Houvegnez 21.43 158 *d*P **P** **03 54 07.7 +5.4**
comp=Z,18nm,1.5s
DOU Dourbes 21.52 160 *d*P **P** **03 54 06.0 +2.8**
RCHB Rochefort 21.53 159 *d*P **P** **03 54 06.3 +3.0**
UBBA Unterbreizbach 21.55 151 *e*P **P** **03 54 06.4 +3.1**
comp=Z,73nm,1.7s,baz=344,slow=8.9
CLL Collm 21.60 145 P **P** **03 54 07.4 +3.3**
CLL IAmb IAmb 03 54 15.8
comp=Z,32nm,1.3s
CLL Collm 21.60 145 *e*P **P** **03 54 07.0 +2.9**
comp=Z,14nm,1.3s
CLL *ex* x 03 54 11.0
CLL *ex* x 03 54 13.0
comp=Z,68nm,1.7s
CLL *ex* x 03 54 44.0
CLL Collm 21.60 145 *e*P **P** **03 54 08.0 +3.9**
comp=Z,79nm,1.8s,baz=344,slow=8.9
TNS Taunus Mts 21.89 154 *e*P **P** **03 54 09.9 +2.6**
comp=Z,17nm,1.0s,baz=344,slow=8.9
MOX Moxa 21.99 148 *e*L L 04 04 46.6
comp=Z,102nm,19.5s
BRG Berggiesshubel 22.20 144 *e*P **P** **03 54 16.4 +5.9**
BRG Amp 03 54 18.5
comp=Z,6.0nm,1.1s
BRG Berggiesshubel 22.20 144 P P 03 54 25.9 +15
BRG Amp 03 54 31.8
comp=Z,34nm,1.8s
MNK Minsk 22.27 120 *i* P **P** **03 54 09.7 -1.5**
comp=E,4.0nm,0.9s
MNK *i* P **P** **03 54 09.7 -1.5**
comp=N,25nm,1.1s
MNK *i* P **P** **03 54 09.7 -1.5**
comp=Z,13nm,0.8s,baz=331
MNK *i* PP **PnPn** **03 54 32.0 -1.4**
MNK *i* PPP PPP 03 54 39.8
MNK *i* S **S** **03 58 15.3 -0.7**
MNK *i* SS **SnSn** **03 58 43.6 +0.9**
MNK *i* SSS SSS 03 58 58.3
MNK *i* LQ LQ 03 59 40.2
MNK *i* LR LR 04 01 27.8
MNK *i* LRM MLR 04 02 36.8
comp=Z,279nm,17.4s
MNK *i* LRM MLR 04 02 41.3
comp=N,230nm,16.8s
MNK *i* LRM MLR 04 02 42.6
comp=E,80nm,17.4s
NKC Novy Kostel 22.53 147 *e*P **P** **03 54 20.2 +6.1**
PVCC Panska Ves 22.65 143 *e*P **P** **03 54 20.0 +4.7**
KSP Ksiaz 22.70 140 *e*P **P** **03 54 17.4 +1.6**
GRF Grafenberg Arr 22.84 149 *e*L L 04 06 08.4
comp=E,112nm,18.4s
CHVC Chvalec 22.89 141 *e*P **P** **03 54 11.1 -6.8**
OSTC Ostas 22.95 141 *e*P **P** **03 54 19.9 +1.4**
UPC Upice 22.96 141 *e*P **P** **03 54 24.6 +6.1**
GRA4 Grafenberg Arr 23.00 149 *e*P **P** **03 54 23.6 +4.7**
comp=E,26nm,1.2s,baz=344,slow=8.9
PRU Pruhonice 23.16 144 *e*P **P** **03 54 22.0 +1.4**
DPC Dobruska-Polom 23.17 141 *e*P **P** **03 54 21.1 +0.3**
STU Stuttgart 23.41 153 P **P** **03 54 26.1 +2.9**
KRLC Kraliky 23.52 140 *e*P **P** **03 54 30.9 +6.5**
ZVC Zvikov 23.61 145 *e*P **P** **03 54 31.8 +6.6**
ECH Echery 23.67 157 P **P** **03 54 26.4 +0.6**
ECH IAmb IAmb 03 54 32.5
comp=Z,24nm,1.4s
KHC Kasperske Hory 23.80 146 *e*P **P** **03 54 32.5 +5.5**
FRB Frobisher Bay 23.88 284 LR LR 04 03 20.2
comp=Z,237nm,18.2s,baz=7.0,slow=36
MORC Moravsky Berou 23.97 139 P **P** **03 54 30.2 +1.5**
MORC IAmb IAmb 03 54 55.3
comp=Z,21nm,1.5s
MORC Moravsky Berou 23.97 139 *e*P **P** **03 54 29.8 +1.2**
OJC Ojcow 24.05 136 *e*P **P** **03 54 28.7 -0.7**
OJC Ojcow 24.05 136 P **P** **03 54 29.8 +0.4**
OJC IAmb IAmb 03 54 53.5
comp=Z,31nm,1.4s
GEC2 GERESS Array S 24.09 146 P **P** **03 54 33.0 +3.1**
GERES GERESS Array B 24.09 146 P **P** **03 54 32.3 +2.5**
GERES GERESS Array B 24.09 146 P **P** **03 54 29.9 +0.1**
comp=Z,0.8nm,0.7s,baz=347,slow=8.1,SNR=1.4
comp=Z,0.8nm,0.7s
RES Resolute Bay 24.10 319 LR LR 04 03 30.8
comp=Z,220nm,18.6s,baz=13,slow=36
VRAC Vranov 24.21 141 *e*P **P** **03 54 32.6 +1.7**
VRAC Vranov 24.21 141 P **P** **03 54 30.9 0.0**
comp=Z,0.9nm,0.3s,baz=322,slow=12,SNR=2.1
comp=Z,0.9nm,0.3s
CKRC Cesky Krumlov 24.23 145 *e*P **P** **03 54 36.7 +5.7**
OBN Obninsk 24.36 108 P **P** **03 54 31.5 -0.6**
OBN Obninsk 24.36 108 P **P** **03 54 33.0 +0.9**
comp=Z,11nm,0.6s,baz=0.0,slow=10,SNR=3.1
comp=Z,11nm,0.6s
KRUC Moravsky 24.41 142 *e*P **P** **03 54 34.1 +1.5**
RETA Reutte 24.90 151 *e*pP pP 03 54 43.1 +3.6
NIE Niedzica 24.92 136 *e*P **P** **03 54 37.8 +0.5**
DAVA Damuels 24.96 153 *e*P **P** **03 54 39.5 +1.7**
comp=Z,6.1nm,0.9s
LANS Liptovska Anna 24.98 137 *e*P P 03 54 45.4 +7.5
MOTA Moosalm 25.10 151 *e*P **P** **03 54 41.3 +2.2**
comp=Z,4.7nm,1.0s
STHS Stebnicka Huta 25.14 134 *e*P P 03 54 48.1 +8.8
WATA Walderalm 25.18 150 *e*pP pP 03 54 45.8 +3.7
comp=Z,18nm,1.2s
BIOA Bad Ischl, Aus 25.19 147 *e*P **P** **03 54 44.0 +4.3**
comp=Z,1.5nm,0.4s
SQTA Sankt Quirin 25.23 151 *e*P **P** **03 54 45.8 +5.5**
comp=Z,10nm,1.1s
WTTA Wattenberg 25.26 150 *e*pP pP 03 54 47.6 +4.8
comp=Z,19nm,1.2s
LESA Schwarzleotal 25.28 148 *e*pP pP 03 54 47.5 +4.6
comp=Z,5.8nm,1.2s
FETA Feichten 25.35 152 *e*pP pP 03 54 48.2 +4.6
comp=Z,5.6nm,1.1s
CONA Conrad Observa 25.38 143 *e*P **P** **03 54 45.4 +3.8**
comp=Z,5.9nm,1.4s
VYHS Vyhne 25.46 139 *e*P **P** **03 54 47.2 +5.0**
TUE Stuetta 25.68 154 P **P** **03 54 45.8 +1.4**
RONA Rosalia, Austr 25.69 143 *e*P **P** **03 54 45.3 +1.0**
comp=Z,7.5nm,1.1s
KIRV Kirov 25.71 90 P **P** **03 54 43.6 -0.7**
comp=Z,6.6nm,0.6s,baz=287,slow=7.6,SNR=5.0
KIRV LR LR 04 03 47.9
comp=Z,157nm,20.6s,baz=3.4,slow=34
comp=Z,6.6nm,0.6s
KBA Koelnbreinsper 25.73 148 *e*P **P** **03 54 49.0 +4.1**
comp=Z,6.2nm,0.6s
ABTA Abfaltersbach 25.91 149 *e*P **P** **03 54 51.7 +5.4**
comp=Z,12nm,1.2s
AKASG Malin Array Be 26.02 122 P **P** **03 54 46.1 -1.1**
comp=Z,0.8nm,0.4s,baz=333,slow=9.7,SNR=12
comp=Z,0.8nm,0.4s
AKBB Malin Array Si 26.02 122 P **P** **03 54 49.0 +1.8**
AKBB IAmb IAmb 03 55 05.0
comp=Z,17nm,1.1s
KIEV Kiev 26.02 122 P **P** **03 54 46.6 -0.6**
KIEV IAmb IAmb 03 55 05.0
comp=Z,17nm,1.1s
MYKA Terra Mystica 26.22 147 *e*P **P** **03 54 52.4 +3.2**
comp=Z,6.4nm,1.1s
CLUD Cludinico 26.25 149 P **P** **03 54 52.8 +3.4**
SOKA Soboth 26.42 145 *e*P **P** **03 54 54.0 +3.0**
comp=Z,5.4nm,1.4s
CTI Castel Tesino 26.45 151 P **P** **03 54 52.6 +1.4**
CTI IAmb IAmb 03 55 02.4
comp=Z,18nm,1.0s
BURAR Bucovina Array 27.79 130 P **P** **03 55 06.0 +2.7**
NRIK Noril'sk 29.00 47 P **P** **03 55 13.9 +0.2**
NRIK Noril'sk 29.00 47 P **P** **03 55 14.2 +0.5**
comp=Z,1.6nm,0.8s,baz=341,slow=14,SNR=4.0
comp=Z,1.6nm,0.8s
SCHQ Schefferville 30.18 270 LR LR 04 06 18.6
comp=Z,197nm,18.2s,baz=60,slow=34
BELG Belogornoye 30.19 99 P **P** **03 55 23.2 -1.1**
comp=Z,8.3nm,0.8s,baz=303,slow=6.1,SNR=5.0
comp=Z,8.3nm,0.8s
ARU Arti 30.43 84 P **P** **03 55 26.7 +0.2**
ARU Arti 30.43 84 P **P** **03 55 24.9 -1.6**
comp=Z,2.0nm,0.3s,baz=311,slow=11,SNR=10.0
ARU LR LR 04 06 58.7
comp=Z,146nm,20.2s,baz=332,slow=35
comp=Z,2.0nm,0.3s
ESDC Sonseca Array 31.34 176 P **P** **03 55 34.6 -0.1**
comp=Z,1.2nm,0.9s,baz=359,slow=9.9,SNR=5.6
comp=Z,1.2nm,0.9s
TIXI Tiksi 34.76 23 P **P** **03 56 05.2 +1.1**
KEST Kesra 36.24 158 P **P** **03 56 21.2 +3.8**
KEST Kesra 36.24 158 LR LR 04 11 26.7
comp=Z,236nm,19.7s,baz=260,slow=37
KBZ Khabaz 36.33 112 P **P** **03 56 18.9 +1.0**
comp=Z,8.1nm,0.8s,baz=347,slow=11,SNR=21
comp=Z,8.1nm,0.8s
INK Inuvik 36.58 330 LR LR 04 11 40.9
comp=Z,95nm,20.1s,baz=339,slow=37
ABKAR Akbulak array 36.91 90 P **P** **03 56 22.5 -0.4**
BRVK Borovoye 37.03 77 P **P** **03 56 24.6 +0.8**
BRVK IAmb IAmb 03 56 30.4
comp=Z,7.6nm,0.8s
BVAR Borovoye Array 37.09 77 P **P** **03 56 24.3 -0.1**
comp=Z,6.0nm,0.9s,baz=323,slow=9.3,SNR=20
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 37.34 125 P **P** **03 56 28.4 +1.6**
BRTR Keskin Array B 37.34 125 P **P** **03 56 27.2 +0.5**
comp=Z,1.1nm,0.7s,baz=355,slow=7.5,SNR=4.9
comp=Z,1.1nm,0.7s
ONI Oni 37.53 112 IAmb IAmb 03 56 38.9
comp=Z,11nm,1.0s
YKA Yellowknife Ar 37.91 314 P **P** **03 56 32.4 +1.2**
YKA Yellowknife Ar 37.91 314 P **P** **03 56 31.4 +0.2**
comp=Z,1.6nm,1.0s,baz=27,slow=8.9,SNR=13
YKA PcP **PcP** **03 58 46.2 -0.6**
comp=Z,0.3nm,0.8s,baz=22,slow=2.8,SNR=4.1
YKA LR LR 04 11 41.6
comp=Z,211nm,18.4s,baz=3.0,slow=36
comp=Z,1.6nm,1.0s
G31M Satah River 37.96 330 P **P** **03 56 32.6 +1.1**
G31M IAmb IAmb 03 56 33.0
comp=Z,16nm,1.3s
G29M Pine Creek 38.57 332 P **P** **03 56 37.5 +0.8**
G29M IAmb IAmb 03 56 49.2
comp=Z,9.9nm,1.0s
AKH Akhalkalaki 38.62 113 P **P** **03 56 39.6 +2.0**
ARPR Arapgir-MALATY 39.23 120 IAmb IAmb 03 56 50.7
comp=Z,13nm,1.1s
I30M Mount Dempster 39.87 330 P **P** **03 56 48.8 +1.1**
GNI Garni 40.15 112 LR LR 04 12 51.6
comp=Z,196nm,19.4s,baz=264,slow=35
RDOG Red Dog Mine 40.38 347 P **P** **03 56 52.6 +0.9**
ZALV Zalesovo Beam 40.78 65 P **P** **03 56 53.8 -1.4**
comp=Z,2.2nm,1.0s,baz=327,slow=16,SNR=0.8
comp=Z,2.2nm,1.0s
I26K Coal Creek Min 40.84 334 IAmb IAmb 03 57 08.9
comp=Z,18nm,1.4s
FFC Flin Flon 41.32 299 P **P** **03 57 00.5 +0.9**
KURBB Kurchatov Arra 41.75 72 P **P** **03 57 04.0 +0.8**
comp=Z,0.0nm,0.7s,baz=322,slow=6.0,SNR=4.9
comp=Z,2.0nm,0.7s
ILAR Eielson Array 41.87 336 P **P** **03 57 03.5 -0.6**
comp=Z,1.5nm,1.1s,baz=14,slow=6.5,SNR=10
ILAR LR LR 04 15 39.4
comp=Z,56nm,20.7s,baz=61,slow=38
comp=Z,1.5nm,1.1s
K27K Chicken 41.89 333 IAmb IAmb 03 57 19.0
comp=Z,16nm,1.4s
M30M Minto, Yukon 42.39 328 P **P** **03 57 09.7 +1.3**
BCAR Beaver Creek A 42.75 332 P **P** **03 57 12.2 +0.9**
L27K Beaver Creek, 42.76 332 IAmb IAmb 03 57 27.3
comp=Z,19nm,1.5s
SADO Sadowa 42.88 273 LR LR 04 14 23.4
comp=Z,130nm,18.6s,baz=98,slow=35
ULM Lac du Bonnet 43.42 291 P **P** **03 57 15.4 -1.4**
comp=Z,1.7nm,0.8s,baz=0.0,slow=6.1,SNR=2.0
ULM LR LR 04 15 41.0
comp=Z,94nm,18.3s,baz=52,slow=37
comp=Z,1.7nm,0.8s
GEYT Alibeck 46.41 99 P **P** **03 57 41.7 +1.0**
GEYT Alibeck 46.41 99 P **P** **03 57 41.3 +0.5**
comp=Z,1.5nm,0.6s,baz=318,slow=6.2,SNR=5.7
comp=Z,1.5nm,0.6s
GYA0B ALIBECK ARRAY 46.41 99 P **P** **03 57 42.2 +1.5**
GYA0B IAmb IAmb 03 57 47.6
comp=Z,7.5nm,1.1s
TAM Tamanrasset 48.65 165 P **P** **03 58 01.8 +3.4**
TAM IAmb IAmb 03 58 07.3
comp=Z,5.7nm,1.2s
KDAK Kodiak Island 49.37 337 LR LR 04 20 07.9
comp=Z,71nm,21.2s,baz=76,slow=38
BBB Bella Bella 50.36 317 LR LR 04 19 33.1
comp=Z,58nm,18.4s,baz=33,slow=36
NEW Newport 51.30 307 LR LR 04 20 20.8
comp=Z,123nm,18.1s,baz=41,slow=36
MSO Missoula 51.77 303 IAmb IAmb 03 58 23.6
comp=Z,9.9nm,1.1s
TKL Tuckaleechee C 52.62 272 LR LR 04 20 00.8
comp=Z,112nm,18.3s,baz=353,slow=35
YHL Hebgen Lake 52.81 300 IAmb IAmb 03 58 43.1
comp=Z,8.3nm,1.3s
K22A Casper 53.47 295 IAmb IAmb 03 58 35.5
comp=Z,6.3nm,1.0s
PDAR Pinedale Array 54.25 298 P **P** **03 58 40.2 -0.1**
comp=Z,0.7nm,0.8s,baz=46,slow=6.4,SNR=6.0
PDAR LR LR 04 21 35.2
comp=Z,138nm,18.4s,baz=17,slow=36
comp=Z,0.7nm,0.8s
G08A Pilot Rock 54.53 307 IAmb IAmb 03 58 44.3
comp=Z,7.7nm,1.2s
HEH HeiHe 54.72 35 *e*P **P** **03 58 44.0 +0.7**
HLID Hailey 54.90 302 P **P** **03 58 46.0 +1.1**
RDMU Red Mountain 56.28 297 IAmb IAmb 03 58 57.2
comp=Z,4.7nm,0.9s
DUG Dugway, Tooele 57.57 299 IAmb IAmb 03 59 24.2
comp=Z,8.4nm,1.2s
ELK Elko 57.74 302 LR LR 04 23 13.9
comp=Z,41nm,18.4s,baz=34,slow=35
TOA0 Torodi Ar. Sit 57.95 171 P **P** **03 59 06.8 +0.1**
TOA0 IAmb IAmb 03 59 14.1
comp=Z,8.2nm,1.1s
TORD Torodi Ar. Bea 57.95 171 P **P** **03 59 06.6 -0.1**
TORD IAmb IAmb 03 59 28.7
comp=Z,9.6nm,1.4s
TORD Torodi Ar. Bea 57.95 171 P **P** **03 59 06.5 -0.2**
comp=Z,2.7nm,0.9s,baz=359,slow=9.0,SNR=17
TORD LR LR 04 25 54.0
comp=Z,226nm,18.2s,baz=24,slow=38
comp=Z,2.7nm,0.9s
GTA Gaotai 58.30 61 *e*P **P** **03 59 10.3 +1.2**
GTA sP pwP 03 59 22.3 +7.2
GTA pmax pmax
comp=Z,3.0nm,1.3s
XLT XiLinHaoTe 58.37 46 *e*P **P** **03 59 10.0 +0.5**
XLT sP pwP 03 59 17.8 +2.3
XLT pmax pmax
comp=Z,15nm,0.9s
XLT pmax pmax
comp=Z,240nm,5.3s
YBH Yreka Blue Hor 58.83 308 LR LR 04 24 54.1
comp=Z,83nm,19.5s,baz=24,slow=36
SPR3 Spring Creek 3 59.11 300 P **P** **03 59 16.6 +1.7**
SPR3 IAmb IAmb 03 59 34.3
comp=Z,9.4nm,1.5s
KVN Kaiserville 60.11 303 P **P** **03 59 22.7 +1.0**
KVN IAmb IAmb 03 59 31.1
comp=Z,7.1nm,1.4s
HHC Hu-ho-hao-te 60.14 51 *e*P **P** **03 59 21.3 -0.5**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,250nm,5.8s
YERR Yerington 60.49 304 IAmb IAmb 03 59 27.0
comp=Z,7.7nm,1.3s
MDJ Mudanjiang 60.55 35 P **P** **03 59 21.3 -3.0**
MDJ pP pwP 03 59 43.5 +13
MDJ PP **PcP** **04 00 09.3 +0.5**
MDJ ScP **ScP** **04 04 06.0 -3.7**
MDJ PcS **PcS** **04 04 11.5 +0.3**
MDJ ScS SKKSac 04 09 05.5 -9.2
NVAR Mina Array Bea 60.75 303 P **P** **03 59 26.4 +0.3**
comp=Z,0.2nm,0.5s,baz=355,slow=4.5,SNR=2.9
NVAR LR LR 04 25 42.0
comp=Z,80nm,18.1s,baz=0.5,slow=36
comp=Z,0.2nm,0.5s
USRK Ussuriysk Ar. 61.39 33 P **P** **03 59 29.6 -0.4**
comp=Z,1.8nm,0.7s,baz=316,slow=8.1,SNR=4.0
comp=Z,1.8nm,0.7s
SGCY Sterling City 61.69 286 P **P** **03 59 33.7 +1.3**
SGCY IAmb IAmb 03 59 41.0
comp=Z,5.3nm,1.0s
OMMB Old Mammoth Mi 61.71 304 IAmb IAmb 03 59 55.1
comp=Z,5.4nm,1.3s
MDPB Devils Postpil 61.71 304 P **P** **03 59 34.6 +1.9**
MDPB IAmb IAmb 03 59 47.1
comp=Z,4.8nm,1.1s
LZH Lanzhou 62.54 59 *e*P **P** **03 59 39.3 +1.1**
LZH pP pwP 03 59 47.0 +2.8
LZH pmax pmax
comp=Z,16nm,1.0s
ALPN Alpine 63.91 287 IAmb IAmb 03 59 55.8
comp=Z,8.4nm,1.2s
DBIC Dimbokro 64.18 178 LR LR 04 28 56.4
comp=Z,137nm,18.3s,baz=14,slow=37
TXAR Lajitas Array 64.88 287 P **P** **03 59 54.0 +0.5**
comp=Z,0.3nm,0.7s,baz=46,slow=2.7,SNR=1.9
TXAR LR LR 04 27 59.9
comp=Z,60nm,18.9s,baz=8.5,slow=36
comp=Z,0.3nm,0.7s
TEIG Tepich 68.36 269 LR LR 04 29 52.2
comp=Z,543nm,19.7s,baz=198,slow=36
MJAR Matsushiro Arr 69.91 30 P **P** **04 00 25.4 +0.2**
comp=Z,4.0nm,1.0s,baz=359,slow=6.3,SNR=7.7
comp=Z,4.0nm,1.0s
NJ2 Nanjing 70.30 47 *e*P **P** **04 00 27.3 -0.3**
NJ2 pP **sP** **04 00 30.3 +0.1**
NJ2 sP **pwP** **04 00 32.0 -1.7**
NJ2 pmax pmax
comp=Z,14nm,0.6s
NJ2 pmax pmax
comp=Z,270nm,5.4s
PZH PanZhiHua 70.92 64 P **P** **04 00 32.5 +0.8**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,140nm,7.0s
CMAR Chiang Mai Arr 77.64 69 P **P** **04 01 11.2 +0.4**
CMAR Chiang Mai Arr 77.64 69 P **P** **04 01 12.3 +1.5**
comp=Z,0.5nm,0.4s,baz=335,slow=5.9,SNR=5.8
comp=Z,0.5nm,0.4s
TULM Tulcn-Chalpat 83.26 252 P **P** **04 01 44.1 +2.6**
OTAV Otavalo 83.92 253 P **P** **04 01 47.9 +3.1**
ASAR Alice Springs 127.55 47 PKP **PKPdf** **04 08 17.2 -1.9**
comp=Z,0.5nm,0.8s,baz=352,slow=1.9,SNR=3.8
ELIB Princess Elisa 143.93 165 *d*PKPdf **PKiKP** **04 08 50.8 -0.7**

NEIC ***31*** *03:50:19.8±1.9, 18°.82N±0°.03×155°.35W±0°.02, h10km±1km, Error ellipse: s-maj=5.1km s-min=3.0km az=352.0*
HVO 31 03:50:21.6±1.8, 18°81'N±0°.05×155°39'W±0°.03, h27km±7km, ML3.0/28, ML3.0/50(NEIC), **Error ellipse: s-maj=7.2km s-min=4.5km az=169.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.32**	**331**		Pb	03 50 28.3	-0.8
HPO					Sb	03 50 33.7	-0.5
HTC	**Hot Caves**	**0.43**	**359**		Pb	03 50 29.9	-0.9
KHU	**Kahuku**	**0.49**	**334**		Pb	03 50 30.3	-1.6
HLP	**Hilina Pali**	**0.49**	**9**		Pb	03 50 30.6	-1.2
HLP					Sb	03 50 37.5	-1.3
AIN	**Ainahou**	**0.57**	**354**		Pb	03 50 31.6	-1.5
AIN				Sg	Sb	03 50 38.6	-2.4
SDHHI	**Sand Hill**	**0.59**	**9**		Pb	03 50 31.1	-2.4
SDHHI				Sn	Sb	03 50 38.5	-3.0
PUH	**Pauahi**	**0.59**	**16**	Pn	Pb	03 50 31.1	-2.4
PUH				Sn	Sb	03 50 38.5	-3.0
RIM	**Rim**	**0.60**	**11**	Pn	Pb	03 50 31.1	-2.6
RIM				IAML		03 50 41.9	
	comp=E,1μm,0.3s						
RIM				IAML		03 50 41.9	
	comp=N,1μm,0.3s						
KKO	**Keanakako`i**	**0.60**	**11**	Pn	Pb	03 50 31.1	-2.6
KKO				Sn	Sb	03 50 39.0	-2.8
KKO				IAML		03 50 39.7	
	comp=E,1μm,0.3s						
KKO				IAML		03 50 41.4	
	comp=N,987nm,0.3s						
WRMHI	**West Rim**	**0.60**	**8**	Pn	Pb	03 50 31.1	-2.6
WRMHI				Sn	Sb	03 50 39.5	-2.4
WRMHI				IAML		03 50 42.1	
	comp=N,1μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.61**	**20**		Pb	03 50 31.9	-1.9
BYL	**Byron's Ledge**	**0.61**	**12**	Pn	Pb	03 50 31.4	-2.5
BYL					Sb	03 50 38.7	-3.6
BYL				IAML		03 50 40.1	
	comp=N,689nm,0.3s						
BYL				IAML		03 50 41.0	
	comp=E,676nm,0.4s						

OBL	**Observatory Le**	**0.62**	**9**	Pn	Pb	03 50 31.2	-2.7
OBL				IAML		03 50 40.4	
	comp=E,1μm,0.7s						
UWE	**Uwekahuna**	**0.62**	**9**	Pn	Pb	03 50 31.8	-2.2
UWE				Sn	Sb	03 50 39.1	-3.3
UWB	**Uwekahuna B**	**0.62**	**10**	Pn	Pb	03 50 30.8	-3.3
UWB				Sn	Sb	03 50 39.1	-3.4
HATHI	**Halema'uma'u T**	**0.63**	**11**	Pn	Pb	03 50 31.6	-2.5
HATHI				Sn	Sb	03 50 39.6	-3.0
HATHI				IAML		03 50 40.2	
	comp=N,503nm,0.2s						
HATHI				IAML		03 50 43.5	
	comp=E,620nm,0.6s						
SBLHI	**Steaming Bluff**	**0.63**	**11**	Pn	Pb	03 50 30.7	-3.5
SBLHI				Sn	Sb	03 50 39.7	-2.9
SBLHI				IAML		03 50 45.0	
	comp=E,511nm,0.5s						
SBLHI				IAML		03 50 45.0	
	comp=N,443nm,0.3s						
STCH	**Steam Cracks**	**0.63**	**23**	Pn	Pb	03 50 31.6	-2.5
STCH				Sn	Sb	03 50 38.6	-4.0
STCH				IAML		03 50 40.9	
	comp=E,863nm,0.1s						
STCH				IAML		03 50 42.7	
	comp=N,490nm,0.2s						
JCUZ	**Jacuzzi**	**0.64**	**25**	Pn	Pb	03 50 31.2	-3.0
JCUZ				Sn	Sb	03 50 39.0	-3.8
JCUZ				IAML		03 50 42.4	
	comp=E,449nm,0.5s						
NPOC	**North of Pu'u**	**0.64**	**24**	Pn	Pb	03 50 31.7	-2.6
NPOC				Sn	Sb	03 50 38.1	-4.9
NPOC				IAML		03 50 41.0	
	comp=N,774nm,0.5s						
RSD	**Rainshed**	**0.66**	**9**	Pn	Pb	03 50 31.6	-3.1
RSD				Sn	Sb	03 50 40.2	-3.4
MLH	**Mauna Loa**	**0.68**	**0**	Pn	Pb	03 50 32.8	-2.3
MLH				Sn	Sb	03 50 41.6	-2.7
MLH				IAML		03 50 42.0	
	comp=E,953nm,0.2s						
MLH				IAML		03 50 44.1	
	comp=N,859nm,0.1s						
MWH	**Moku'aweowe**	**0.70**	**344**	Pn	Pb	03 50 33.1	-2.6
MWH				IAML		03 50 43.7	
	comp=E,354nm,1.5s						
JOKA	**Jonika Flow**	**0.72**	**30**		Pb	03 50 33.3	-2.4
JOKA					Pn	03 50 41.8	+5.7
MLOA	**Mauna Loa Obse**	**0.75**	**346**	Sn	Sb	03 50 42.6	-3.8
ALEP	**Alea Permanent**	**0.77**	**342**		Pb	03 50 34.0	-2.7
ALEP					Pn	03 50 43.2	+6.1
HMH	**Humu'ula Sheep**	**0.80**	**354**	Pn	Pb	03 50 34.4	-2.7
HMH				Sn	Sb	03 50 44.4	-3.2
HMH				IAML		03 50 45.0	
	comp=E,644nm,0.2s						
CPH	**Captain Cook**	**0.84**	**324**		Pb	03 50 34.6	-3.0
KHLU	**Kahalu`u**	**0.92**	**329**	Pn	Pn	03 50 35.6	-3.2
KHLU				IAML		03 50 47.4	
	comp=N,386nm,0.1s						
POHA	**Pohakuloa**	**0.96**	**352**	Pn	Pn	03 50 36.1	-3.4
POHA				IAML		03 50 52.2	
	comp=N,536nm,0.2s						
POHA				IAML		03 50 52.7	
	comp=N,520nm,0.1s						
POHA	**Pohakuloa**	**0.96**	**352**	Sn	Sb	03 50 47.5	-4.6
HUH	**Hualalai**	**0.97**	**334**		Pn	03 50 37.0	-2.8
HUH				IAML		03 50 50.0	
	comp=N,463nm,0.1s						
HUH				IAML		03 50 55.4	
	comp=E,434nm,0.3s						
HPAH	**Hawaii Prepara**	**1.25**	**347**	Pn	Pn	03 50 39.7	-3.8
HPAH				IAML		03 50 54.7	
	comp=N,338nm,0.4s						
MHA	**Mahukona**	**1.46**	**341**	Pn	Pn	03 50 42.8	-3.3
HLK	**Haleakala**	**2.10**	**338**	Pn	Pn	03 50 52.0	-3.3
WMR	**Waimanalo Ridg**	**3.30**	**320**		Pn	03 51 07.9	-3.6
HON	**Honolulu**	**3.51**	**316**	Pn	Pn	03 51 10.4	-3.9
KEKH	**Kekaha**	**5.14**	**309**	Pn	Pn	03 51 33.0	-3.8

IDC 31 03:51:45.5±6.0, 5°54S×133°80E, h0km, mb3.5/1, mbtmp3.1/3, ML2.8/2, Error ellipse: s-maj=335.5km s-min=34.3km az=78.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.33**	**178**	Pn	Pn	03 55 10.6	+0.7
	baz=359,slow=13,SNR=1.6						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**18.03**	**180**	P	Pn	03 55 57.1	-0.6
	0.1nm,0.3s,baz=352,slow=11,SNR=7.4						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**69.14**	**325**	P	P	04 02 53.9	+0.1
	0.4nm,0.8s,baz=111,slow=7.9,SNR=1.5						
	0.4nm,0.8s						

IDC 31 03:57:18.2±1.3, 13°32N×145°73E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=26.3km s-min=21.7km az=27.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.89**	**288**	Pn	Pn	03 57 38.6	+0.6
	31nm,0.3s,baz=126,slow=12,SNR=5.3						
GUMO				Sn	Sn	03 57 52.2	+0.7
	101nm,0.3s,baz=11,slow=24,SNR=8.8						
WRA	**Warramunga Arr**	**34.90**	**199**	P	P	04 04 12.1	+0.3
	0.5nm,0.8s,baz=20,slow=9.3,SNR=3.6						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**38.53**	**198**	P	P	04 04 42.1	-0.6
	0.2nm,0.7s,baz=22,slow=10,SNR=2.1						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**65.38**	**320**	P	P	04 08 01.6	-1.0
	0.5nm,0.4s,baz=101,slow=5.0,SNR=2.1						
	0.5nm,0.4s						
ILAR	**Eielson Array**	**68.45**	**25**	P	P	04 08 22.3	+0.3
	0.2nm,0.5s,baz=257,slow=5.7,SNR=8.7						
	0.2nm,0.5s						

*NEIC **31** 03:57:47.1±1.7, 57.3°S±0.1°×25.5°W±0.2, h52km±6km, mb4.8/17, Error ellipse: s-maj=22.4km s-min=12.8km az=51.0*

*IDC **31** 03:57:53.8±5.0, 57.1°S×25.2°E±2.0, h101km±45km, mb4.1/8, mbtmp4.4/10, MS3.2/2, Error ellipse: s-maj=21.3km s-min=15.7km az=60.0*

ISC 31 03:57:47.6±0.5, 57.34S±0.07°×25.64W±0.09°, h50km, n84, σ1≡97/81, mb4.6/14, 2C-6D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.84**	**292**	Pn	**Pn**	**03 59 29.1**	**+3.9**
ORCD	**Orcadas**	**10.40**	**243**	Pn	**Pn**	**04 00 13.1**	**-0.7**
VNA1	**Neumayer--Stat**	**15.27**	**158**	⇓P	**P**	**04 01 25.4**	**+1.9**
	comp=Z,2.9nm,0.2s						
VNA3	**Neumayer Olymp**	**15.48**	**161**	⇓P	**P**	**04 01 27.9**	**+2.0**
	comp=Z,4.1nm,0.3s						
VNA3				⇓S	**Sn**	**04 04 09.7**	**-2.8**
	comp=Z,1.4nm,0.4s						
VNA2	**Neumayer--Watz**	**15.67**	**158**	⇓P	**P**	**04 01 30.4**	**+2.5**
	comp=Z,2.2nm,0.2s,baz=319,slow=14						
VNA2				⇑S	**Sn**	**04 04 13.0**	**-3.9**
	comp=Z,2.1nm,0.6s,baz=29,slow=15						
ESPZ	**Base Esperanza**	**16.52**	**235**		**P**	**04 01 38.5**	**+1.1**
SNAA	**Sanae**	**17.21**	**156**	Pn	**Pn**	**04 01 43.1**	**-1.0**
SNAA	**Sanae**	**17.21**	**156**	⇓P	**P**	**04 01 50.7**	**+5.6**
	comp=Z,38nm,0.3s						
SNAA				⇓S	**Sn**	**04 04 49.7**	**-4.6**
	comp=Z,39nm,0.9s						
SNAA	**Sanae**	**17.21**	**156**	P	**P**	**04 01 50.3**	**+5.2**
	comp=Z,1.3nm,0.3s,baz=320,slow=17,SNR=23						
SNAA				S	**Sn**	**04 04 48.5**	**-5.8**
	comp=Z,0.7nm,0.4s,baz=13,slow=22,SNR=1.3						
TROLL	**Troll, Antarti**	**18.70**	**153**	⇑P	Pn	04 02 10.5	+8.1
	comp=Z,64nm,0.3s						
EFI	**East Falkland**	**19.53**	**273**	P	**P**	**04 02 10.1**	**-0.5**
EFI				IAmb	IAmb	04 02 11.1	
	comp=Z,95nm,1.3s						
PMSA	**Palmer Station**	**19.74**	**232**	P	**Pn**	**04 02 15.0**	**+0.5**
	comp=Z,21nm,1.0s,baz=105,slow=11,SNR=2.2						
PMSA				LR	LR	04 08 46.4	
	comp=Z,59nm,18.1s,baz=230,slow=33						
BELA	**Belgrano 2**	**20.86**	**185**	P	**P**	**04 02 25.8**	**+1.0**
BELA				IAmb	IAmb	04 02 30.6	
	comp=Z,15nm,0.5s						
QSPA	**South Pole Qui**	**32.91**	**180**	P	**P**	**04 04 18.9**	**+2.2**
QSPA	**South Pole Qui**	**32.91**	**180**	P	**P**	**04 04 19.3**	**+2.6**
	comp=Z,17nm,0.5s,baz=206,slow=2.4,SNR=309						
	comp=Z,17nm,0.5s						
QSPA	**South Pole Qui**	**32.91**	**180**	P	**P**	**04 04 19.2**	**+2.6**
PLCA	**Paso Flores**	**33.07**	**281**	P	**P**	**04 04 17.2**	**-1.1**
	comp=Z,2.1nm,0.8s,baz=144,slow=8.7,SNR=3.8						
PLCA				LR	LR	04 16 34.4	
	comp=Z,42nm,19.4s,baz=151,slow=34						
	comp=Z,2.1nm,0.8s						
LMEL	**Las Melosas**	**38.06**	**289**	P	**P**	**04 05 02.2**	**+0.9**
CPUP	**Villa Florida**	**38.31**	**310**	P	**P**	**04 05 01.6**	**-1.6**
CPUP				IAmb	IAmb	04 05 03.3	
	comp=Z,6.1nm,0.8s						
CPUP	**Villa Florida**	**38.31**	**310**	P	**P**	**04 05 02.2**	**-0.9**
	comp=Z,5.3nm,0.7s,baz=152,slow=10.0,SNR=12						
	comp=Z,5.3nm,0.7s						
CPUP	**Villa Florida**	**38.31**	**310**	P	**P**	**04 05 02.6**	**-0.5**
AQDB	**Aquidauana**	**42.93**	**316**	P	**P**	**04 05 40.1**	**-1.2**
AQDB				IAmb	IAmb	04 05 41.1	
	comp=Z,7.7nm,0.6s						
AC04	**Llanos de Chal**	**43.04**	**293**	P	**P**	**04 05 41.2**	**-0.9**
BDFB	**Brasilia**	**44.91**	**329**	P	**P**	**04 05 58.5**	**+1.1**
	comp=Z,1.5nm,0.3s,baz=152,slow=5.1,SNR=9.8						
	comp=Z,1.5nm,0.3s						
VNDA	**Vanda**	**45.32**	**182**	P	**P**	**04 06 02.4**	**+2.6**
	comp=Z,4.8nm,0.6s,baz=183,slow=8.8,SNR=40						
	comp=Z,4.8nm,0.6s						
VNDA	**Vanda**	**45.32**	**182**	P	**P**	**04 06 02.4**	**+2.6**
BOSA	**Boshof**	**45.49**	**73**	P	**P**	**04 06 02.5**	**+0.6**
	comp=Z,3.9nm,0.7s,baz=211,slow=8.9,SNR=11						
	comp=Z,3.9nm,0.7s						
H04S2	**CROZET ISLANDS**	**46.25**	**112**	T	T	04 57 04.3	
	baz=226,slow=76,SNR=5.4						
H04S3	**CROZET ISLANDS**	**46.26**	**112**	T	T	04 57 03.6	
	baz=226,slow=76,SNR=3.7						
H04S1	**CROZET ISLANDS**	**46.27**	**112**	T	T	04 57 00.1	
	baz=226,slow=76,SNR=4.5						
LVC	**Limon Verde**	**46.69**	**299**	P	**P**	**04 06 10.5**	**-1.1**
LVC	**Limon Verde**	**46.69**	**299**	P	**P**	**04 06 10.7**	**-1.0**
LVC				PP	**PP**	**04 07 59.9**	**-1.9**
PTLB	**Pontes e Lacer**	**48.82**	**315**	P	**P**	**04 06 26.3**	**-1.4**
PTLB				IAmb	IAmb	04 06 28.3	
	comp=Z,12nm,0.8s						
H10S2	**ASCENSION HYDR**	**49.02**	**14**	T	T	04 59 12.0	
	baz=188,slow=74,SNR=14						
H10S3	**ASCENSION HYDR**	**49.02**	**14**	T	T	04 59 12.3	
	baz=32,slow=74,SNR=40						
GO01	**Chusmiza**	**49.35**	**301**	P	**P**	**04 06 31.7**	**-0.6**
GO01				IAmb	IAmb	04 06 32.0	
	comp=Z,5.4nm,0.4s						
H10N1	**ASCENSION HYDR**	**50.14**	**14**	T	T	05 00 35.6	
	baz=189,slow=75,SNR=15						
H10N3	**ASCENSION HYDR**	**50.14**	**14**	T	T	05 00 36.1	
	baz=189,slow=75,SNR=48						
H10N2	**ASCENSION HYDR**	**50.15**	**14**	T	T	05 00 36.7	
	baz=189,slow=75,SNR=37						
VILB	**Vilhena**	**51.51**	**315**	P	**P**	**04 06 46.9**	**-1.2**
VILB				IAmb	IAmb	04 06 48.9	
	comp=Z,15nm,1.0s						
LPAZ	**La Paz**	**51.82**	**304**	P	**P**	**04 06 50.1**	**-1.0**
SAML	**Samuel**	**56.32**	**314**	P	**P**	**04 07 20.8**	**-2.4**
SAML	**Samuel**	**56.32**	**314**	P	**P**	**04 07 22.8**	**-0.4**
ETMB	**Extrema**	**56.76**	**310**	P	**P**	**04 07 24.8**	**-1.5**
ETMB				IAmb	IAmb	04 07 26.4	
	comp=Z,6.9nm,0.7s						
COHC	**Cochancay**	**69.07**	**301**	P	**P**	**04 08 46.7**	**-1.4**
COHC	**Cochancay**	**69.07**	**301**	*eP*	**P**	**04 08 46.3**	**-1.8**
GARC	**Garzon, Huila**	**71.49**	**306**	*eP*	**P**	**04 09 02.4**	**-0.8**
BBAC	**Balboa, Cauca**	**72.12**	**305**	*eP*	**P**	**04 09 03.3**	**-0.6**
POPC	**Popayan, Colom**	**72.33**	**305**	*eP*	**P**	**04 09 08.1**	**-0.1**
PRAC	**Prado**	**72.59**	**308**	*eP*	**P**	**04 09 08.9**	**-0.6**
ORTC	**Ortega, Tolima**	**72.92**	**307**	*eP*	**P**	**04 09 11.0**	**-0.4**
JAMC	**Jamundi, Valle**	**72.92**	**306**	*eP*	**P**	**04 09 08.9**	**-2.8**
YOTC	**Yotoco, Valle**	**73.47**	**306**	*eP*	**P**	**04 09 12.8**	**-2.0**
TORD	**Torodi Ar. Bea**	**73.78**	**28**	P	**P**	**04 09 16.8**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=199,slow=6.1,SNR=4.6						
	comp=Z,1.4nm,0.6s						
PLMC	**San Jos del P**	**74.26**	**307**	*eP*	**P**	**04 09 18.1**	**-1.2**
PAMC	**Pamplona, Colo**	**74.95**	**311**	*eP*	**P**	**04 09 22.4**	**-1.3**
PTBC	**PUERTO BERRIO,**	**74.95**	**309**	*eP*	**P**	**04 09 20.5**	**-2.8**
SDV	**Santo Domingo**	**75.53**	**314**	P	**P**	**04 09 26.8**	**0.0**
SDV				IAmb	IAmb	04 09 27.3	
	comp=Z,9.9nm,0.8s						
SDV	**Santo Domingo**	**75.53**	**314**	*eP*	**P**	**04 09 26.7**	**0.0**
ZARC	**Zaragoza, Cauc**	**75.98**	**309**	*eP*	**P**	**04 09 27.1**	**-2.0**
ASAR	**Alice Springs**	**97.49**	**161**	P	**P**	**04 11 15.8**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=182,slow=3.8,SNR=2.4						
	comp=Z,0.3nm,0.8s						
WRA	**Warramunga Arr**	**101.21**	**161**	P	**Pdif**	**04 11 36.9**	**+4.2**
	comp=Z,0.2nm,0.5s,baz=197,slow=4.3,SNR=2.0						
NVAR	**Mina Array Bea**	**122.68**	**291**	PKP	**PKiKP**	**04 16 37.0**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=131,slow=2.7,SNR=2.1						
CMAR	**Chiang Mai Arr**	**123.82**	**110**	PKP	**PKiKP**	**04 16 39.7**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=193,slow=3.7,SNR=1.2						
FINES	**FINESS Array B**	**125.13**	**27**	PKP	**PKPdf**	**04 16 39.0**	**-1.8**
	comp=Z,3.6nm,1.0s,baz=240,slow=2.7,SNR=5.0						
YKA	**Yellowknife Ar**	**137.70**	**316**	PKP	**PKPdf**	**04 17 03.8**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=136,slow=1.9,SNR=12						
FARO	**Faro, Yukon**	**145.05**	**309**		**PKPdf**	**04 17 17.4**	**-0.3**
A36M	**Sachs Harbour**	**145.76**	**327**	PKPbc	**PKPab**	**04 17 20.7**	**+0.9**
N30M	**Aishikik Lake**	**146.33**	**306**	PKPbc	**PKPab**	**04 17 22.2**	**0.0**
M30M	**Minto, Yukon**	**146.65**	**308**		**PKPbc**	**04 17 21.4**	**-0.8**
INK	**Inuvik**	**147.34**	**319**		**PKPbc**	**04 17 22.3**	**-1.6**
L29M	**L29M**	**147.42**	**309**		**PKPdf**	**04 17 22.5**	**+0.7**
E29M	**Blow River**	**148.93**	**318**		**PKPbc**	**04 17 26.8**	**-1.3**
F28M	**Old Crow**	**149.47**	**317**		**PKPbc**	**04 17 28.2**	**-1.3**
SONM	**Songino Array**	**149.94**	**88**	PKPbc	**PKiKP**	**04 17 31.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=222,slow=3.2,SNR=4.8						
SONM				PKPab	**PKPab**	**04 17 37.7**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=221,slow=3.1,SNR=5.7						
D27M	**Malcolm River**	**150.20**	**320**		**PKPbc**	**04 17 30.4**	**-0.9**
I26K	**Coal Creek Min**	**150.20**	**311**		**PKPbc**	**04 17 30.7**	**-0.6**
IL31		**151.61**	**310**		**PKPbc**	**04 17 33.6**	**-0.9**
ILAR	**Eielson Array**	**151.61**	**310**	PKPbc	**PKPbc**	**04 17 34.0**	**-0.6**
	comp=Z,2.0nm,0.4s,baz=133,slow=2.3,SNR=55						
E25K	**Arctic Village**	**151.69**	**317**		**PKPbc**	**04 17 34.3**	**-0.5**
D25K	**Kavik River**	**152.12**	**319**		**PKPbc**	**04 17 33.8**	**-1.9**
E24K	**Your Creek**	**152.77**	**316**		**PKPbc**	**04 17 36.1**	**-1.1**
TOLK	**Toolik Lake Re**	**153.22**	**318**		**PKPbc**	**04 17 37.3**	**-0.9**
C23K	**Itkillik River**	**153.62**	**320**		**PKPbc**	**04 17 37.9**	**-1.0**

*BJI **31** 04:02:08.9, 37.83N×22.03E, h4km, mb4.8/44, mB5.2/23, Ms4.7/4, Ms7 4.4/5*

*GII **31** 04:02:11.4±0.0, 38.23N×22.81E, h4km, Mm5.2/4*

*TIR **31** 04:02:15.7, 38.33N×23.07E, h12km±7km, Md4.6, Ml4.9*

*ISK **31** 04:02:16.2, 38.26N×22.76E, h2km, ML4.7/64*

*GCMT **31** 04:02:17.5±0.2, 38.02N±0.02°×22.75E±0.03, h18km, MW4.9/107, Moment Tensor Solution. s28,c33; s107,c140; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.82±.14; Mθθ2.29±.09; Mφφ0.52±.08; Mrθ-0.02±.18; Mθφ0.60±.06; Mφr-0.76±.23; Best double couple: M☐2.73600×10^16 NP1:φs61.00000°, δ49.00000°, λ-106.00000°. NP2:φs265.00000°, δ44.00000°, λ-72.00000°. Principal axes: T 2.4840, Plg3.0000°, Azm162.0000°; N 0.4970, Plg12.0000°, Azm71.0000°; P -2.9870, Plg78.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*AFAD **31** 04:02:17.0±0.0, 38.33N×22.62E, h15km±35km, MW4.8*

*NEIC **31** 04:02:18.6, 38.16N×22.80E, h18km, Moment Tensor Solution. Duration: 1s2 Moment tensor: Scale 10^16 Nm; Mrr-1.95; Mθθ1.50; Mφφ0.45; Mrθ0.16; Mθφ0.62; Mφr-0.25; Fault plane solution: M☐1.88000×10^16 NP1: φs253.03000°, δ46.13000°, λ-79.03000°. NP2:φs57.40000°, δ44.95000°, λ-101.19000°. Principal axes: T 1.7823, Plg1.0000°, Azm335.0000°; N 0.2052, Plg8.0000°, Azm65.0000°; P -1.9875, Plg82.0000°, Azm241.0000°;*

*MOS **31** 04:02:18.0±1.0, 38.23N×22.88E, h21km, mb5.1/59, MS4.4/14 Error ellipse: s-maj=5.0km s-min=2.6km az=81.0*

*MED_RC **31** 04:02:18.0±0.2, 38.01N×22.73E, h16km, MW4.8/58, Moment Tensor Solution.Mantle waves: s58,c75; Duration: 1s3 Moment tensor: Scale 10^16 Nm; Mrr-1.84±.14; Mθθ1.91±.09; Mφφ-0.07±.07; Mrθ-0.54±.21; Mθφ0.89±.06; Mφr-0.25±.23; Best double couple: M☐2.13000×10^16 NP1:φs68.00000°, δ53.00000°, λ-92.00000°. NP2:φs251.00000°, δ37.00000°, λ-87.00000°. Principal axes: T 2.3300, Plg8.0000°, Azm159.0000°; N -0.4100, Plg2.0000°, Azm69.0000°; P -1.9300, Plg82.0000°, Azm327.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*NEIC **31** 04:02:18.5±1.5, 38.24N±0.06×22.86E±0.07, h10km±1km, mb5.0/290, Mww4.8/19 Error ellipse: s-maj=9.7km s-min=8.9km az=201.0*

*NEIC **31** 04:02:18.6, 38.26N×22.93E, h18km*

*ATH **31** 04:02:19.2, 38.24N×22.84E, h9km, Mw4.7, Moment Tensor Solution. s10 Moment tensor: Mrr-1.17; Mθθ1.21; Mφφ-0.04; Mrθ0.01; Mθφ0.36; Mφr-0.09; Fault plane solution: NP1:φs260.00000°, δ45.00000°, λ-83.00000°. NP2:φs70.00000°, δ46.00000°, λ-97.00000°.*

*THE **31** 04:02:19.0, 38.23N×22.81E, h4km, ML4.7/26 Error ellipse: s-maj=0.8km s-min=0.3km az=359.0*

*IDC **31** 04:02:20.4±1.9, 38.23N×22.87E, h27km±12km, mb4.5/37, mbtmp4.6/50, ML3.8/13, MS3.9/49, Error ellipse: s-maj=9.4km s-min=8.2km az=154.0*

*PDG **31** 04:02:20.9±0.9, 38.30N×22.88E, h31km±5km, ML4.8/11, Error ellipse: s-maj=0.7km s-min=1.2km az=0.0*

*NAO **31** 04:02:37.3, 39.61N×21.12E, h33km, mb4.4*

ISC 31 04:02:18.4±0.5, 38.23N±0.01×22.84E±0.01, h14km±2km, n1391, σ1≡55/1399, mb5.0/237, MS4.1/49, 59C-62D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THAL	**Thalero**	**0.24**	**217**	P	**Pg**	**04 02 23.6**	**0.0**
THAL				S	**Sg**	**04 02 27.5**	**+0.4**
	807μm,0.2s						
THAL	**Thalero**	**0.24**	**217**	P	**Pg**	**04 02 23.9**	**+0.4**
THAL				S	**Sg**	**04 02 27.5**	**+0.4**
THAL				AML	AML	04 02 28.7	
THAL				AML	AML	04 02 29.6	
LOUT	**Loutraki**	**0.26**	**157**	P	**Pg**	**04 02 24.4**	**+0.4**
LOUT				S	**Sb**	**04 02 29.0**	**-0.2**
VIL2	**Platees**	**0.34**	**93**	P	**Pb**	**04 02 26.9**	**+0.7**
VIL2				S	**Sb**	**04 02 32.5**	**+1.2**
VIL2				AML	AML	04 02 34.9	
VIL2				AML	AML	04 02 40.8	
DLFA	**Delphi**	**0.37**	**313**	P	**Pg**	**04 02 25.8**	**-0.2**
DLFA				S	**Sg**	**04 02 31.6**	**+0.5**
DLFA				AML	AML	04 02 33.2	
DLFA				AML	AML	04 02 39.6	
VILL	**Villia**	**0.38**	**100**	P	**Pb**	**04 02 26.9**	**0.0**
VILL				S	**Sb**	**04 02 32.8**	**+0.3**
	259μm,0.7s						
GUR	**Goura**	**0.49**	**234**	P	**Pg**	**04 02 27.5**	**-0.7**
GUR				S	**Sg**	**04 02 34.8**	**0.0**
	96μm,0.3s						
GUR	**Goura**	**0.49**	**234**	P	**Pg**	**04 02 28.0**	**-0.1**
GUR				S	**Sg**	**04 02 35.0**	**+0.2**
GUR				AML	AML	04 02 35.7	
GUR				AML	AML	04 02 37.6	
AXAR	**Agios Charalam**	**0.56**	**345**	P	**Pg**	**04 02 29.3**	**-0.1**
AXAR				S	**Sb**	**04 02 37.4**	**-0.4**
	242μm,0.5s						
AXAR	**Agios Charalam**	**0.56**	**345**	P	**Pg**	**04 02 29.5**	**+0.1**
AXAR				S	**Sg**	**04 02 37.1**	**+0.3**
AXAR				AML	AML	04 02 44.8	
AXAR				AML	AML	04 02 47.3	
KLV	**Kalavryta, Ach**	**0.58**	**252**	P	**Pg**	**04 02 29.4**	**-0.3**
KLV				S	**Sg**	**04 02 36.9**	**-0.5**
	17μm,0.8s						
KLV	**Kalavryta, Ach**	**0.58**	**252**	P	**Pg**	**04 02 29.4**	**-0.3**
KLV				S	**Sg**	**04 02 37.5**	**+0.1**
KLV				AML	AML	04 02 43.2	
	comp=E,21274μm,0.7s						
KLV				AML	AML	04 02 47.2	
	comp=N,31240μm,0.6s						
ALIK	**Aliki, Aigiali**	**0.58**	**274**	P	**Pg**	**04 02 29.6**	**-0.2**
ALIK				S	**Sg**	**04 02 37.6**	**+0.2**
LAKA	**Lakka**	**0.68**	**271**	P	**Pg**	**04 02 31.7**	**0.0**
LAKA				S	**Sg**	**04 02 40.7**	**0.0**
	comp=N,39μm,0.9s						
LAKA	**Lakka**	**0.68**	**271**	P	**Pb**	**04 02 31.9**	**-0.2**
LAKA				S	**Sb**	**04 02 41.4**	**0.0**
LAKA				AML	AML	04 02 52.6	
	comp=E,81150μm,0.6s						
LAKA				AML	AML	04 02 53.8	
	comp=N,84772μm,1.3s						
ATH	**Athens Observa**	**0.73**	**110**	P	**Pb**	**04 02 33.5**	**+0.6**
ATH				S	**Sn**	**04 02 45.0**	**-0.3**
	comp=N,211μm,0.6s						
ATH	**Athens Observa**	**0.73**	**110**	P	**Pb**	**04 02 32.9**	**0.0**
ATH				S	**Sb**	**04 02 43.3**	**+0.5**
ATH				AML	AML	04 02 48.3	
ATH				AML	AML	04 02 48.8	
EFP	**Efpalio**	**0.76**	**285**	P	**Pg**	**04 02 32.4**	**-0.9**
EFP				S	**Sb**	**04 02 44.0**	**+0.3**
	comp=N,43μm,1.1s						
EFP	**Efpalio**	**0.76**	**285**	P	**Pg**	**04 02 33.1**	**-0.1**
EFP				S	**Sb**	**04 02 43.9**	**+0.3**
EFP				AML	AML	04 02 50.0	
EFP				AML	AML	04 02 50.3	
	comp=N,47340μm,0.7s						
ATHU	**Athens Univers**	**0.79**	**109**	P	**Pb**	**04 02 34.2**	**+0.3**
ATHU				S	**Sb**	**04 02 45.4**	**+1.0**
	comp=N,61μm,0.7s						
ANX	**Ano Chora**	**0.81**	**297**	P	**Pg**	**04 02 33.7**	**-0.5**
ANX				S	**Sb**	**04 02 45.6**	**+0.4**
	comp=N,53μm,0.9s						
ANX	**Ano Chora**	**0.81**	**297**	P	**Pg**	**04 02 34.1**	**-0.1**
ANX				S	**Sb**	**04 02 45.8**	**+0.6**
ANX				AML	AML	04 02 49.5	
	comp=N,92833μm,0.6s						
ANX				AML	AML	04 02 50.8	

KYMI S Sn 04 02 55.4 +1.9
comp=N,41µm,1.1s
KYMI Kymi, Euboea I 1.07 67 P Pg 04 02 39.2 +0.2
KYMI S Sg 04 02 53.2 +0.3
KYMI AML AML 04 02 58.0
comp=N,62888µm,1.0s
KYMI AML AML 04 03 03.3
comp=E,92510µm,0.9s
RLS Riolos of Patr 1.10 262 P Pb 04 02 38.4 -0.8
RLS S Sn 04 02 54.2 -0.1
comp=E,9µm,1.0s
RLS Riolos of Patr 1.10 262 P Pb 04 02 38.8 -0.3
RLS S Sn 04 02 54.2 -0.1
RLS AML AML 04 03 05.6
comp=E,17445µm,1.2s
RLS AML AML 04 03 11.2
comp=N,18216µm,0.6s
PVO Paravola 1.11 291 P Pb 04 02 39.1 -0.2
PVO S Sn 04 02 55.4 +0.9
comp=N,42µm,1.4s
PVO Paravola 1.11 291 P Pg 04 02 40.4 +0.6
PVO S Sn 04 02 54.8 +0.3
NEO Neokhori 1.12 15 P Pb 04 02 39.6 +0.1
NEO S Sn 04 02 55.9 +1.0
comp=N,21µm,0.8s
NEO Neokhori 1.12 15 P Pg 04 02 39.9 -0.1
NEO S Sn 04 02 55.3 +0.5
NEO AML AML 04 03 03.0
comp=E,38399µm,0.7s
NEO AML AML 04 03 07.2
comp=N,45587µm,0.9s
ALNA Alonissos 1.22 41 P Pb 04 02 41.2 0.0
ALNA S Sg 04 02 57.9 +0.1
ALNA AML AML 04 03 06.5
comp=N,86124µm,0.7s
ALNA AML AML 04 03 08.6
comp=E,89568µm,1.8s
KLMT Kalamata 1.32 208 P Pb 04 02 42.9 0.0
KLMT S Sg 04 03 01.9 +0.9
comp=E,31µm,1.1s
AST1 Astakos 1.41 283 P Pb 04 02 44.5 0.0
AST1 S Sb 04 03 03.0 +0.6
comp=E,18µm,1.4s
THL Klokotos Trika 1.48 334 P Pn 04 02 45.1 +0.5
THL S Sg 04 03 06.2 0.0
comp=E,8µm,1.4s
THL Klokotos Trika 1.48 334 P Pb 04 02 45.5 -0.2
THL S Sb 04 03 04.7 +0.3
THL AML AML 04 03 13.1
comp=N,10378µm,0.9s
THL AML AML 04 03 14.6
comp=N,11995µm,0.8s
SKY Skiros Island 1.49 64 P Pg 04 02 46.5 -0.5
SKY S Sg 04 03 07.0 +0.7
comp=E,21µm,0.7s
SKY Skiros Island 1.49 64 P Pb 04 02 45.4 -0.4
SKY S Sn 04 03 03.8 -0.1
SKY AML AML 04 03 17.6
comp=E,36081µm,0.6s
SKY AML AML 04 03 20.5
comp=N,39500µm,0.8s
VLI Veliai 1.51 177 P Pn 04 02 45.5 +0.5
VLI S Sg 04 03 08.0 +1.0
comp=N,35µm,0.9s
VLI Veliai 1.51 177 P Pb 04 02 45.9 -0.2
VLI S Sb 04 03 05.5 +0.3
VLI AML AML 04 03 05.9
comp=N,40098µm,0.8s
VLI AML AML 04 03 12.6
comp=E,49064µm,0.9s
MNVA Monemvasia 1.54 174 P Pb 04 02 46.3 -0.5
MNVA S Sb 04 03 06.6 +0.5
PYL PYLOS 1.59 214 P Pb 04 02 47.5 -0.1
PYL S Sb 04 03 08.1 +0.6
comp=E,11µm,0.9s
PYL PYLOS 1.59 214 P Pb 04 02 46.9 -0.6
PYL S Sn 04 03 06.4 0.0
PYL AML AML 04 03 14.9
comp=E,17614µm,1.2s
PYL AML AML 04 03 23.0
comp=N,23252µm,1.1s
LTHK Lithakia 1.67 253 P Pb 04 02 48.6 -0.2
LTHK AML AML 04 03 24.2
comp=N,22393µm,0.7s
LTHK AML AML 04 03 33.3
comp=E,20172µm,1.0s
NYDR Nydri-Lefkada 1.75 287 P Pb 04 02 49.4 -0.9
NYDR Nydri-Lefkada 1.75 287 P Pn 04 02 49.0 +0.7
EVGI Lefkada island 1.76 284 P Pn 04 02 49.0 +0.5
VLS Valsamata 1.78 269 P Pn 04 02 48.9 +0.2
VLS AML AML 04 03 23.2
comp=E,7387µm,0.8s
VLS AML AML 04 03 29.4
comp=N,11964µm,0.9s
PSDA Pessada-Kefalo 1.78 267 P Pn 04 02 49.4 +0.6
LKD2 Lefkada island 1.80 289 P Pg 04 02 52.3 -0.7
baz=285
LKD2 S Sg 04 03 18.6 +2.2
baz=285
LKD2 AMP
comp=N,35nm,0.9s,baz=285
LKD2 Lefkada island 1.80 289 P Pn 04 02 49.2 +0.1
LKD2 AML AML 04 03 29.1
comp=E,12157µm,1.5s
LKD2 AML AML 04 03 37.3
comp=N,22723µm,0.9s
FSK Fiskardo 1.81 278 P Pn 04 02 49.7 +0.6
FSK AML AML 04 03 22.7
comp=N,17252µm,1.5s
FSK AML AML 04 03 31.1
comp=E,23969µm,1.4s
TSLK Tsoukalades, L 1.82 290 P Pn 04 02 49.3 +0.1
PAIG Paliouri 1.82 21 Pn Pn 04 02 49.2 0.0
PAIG Sn Sb 04 03 14.4 +0.3
PAIG Paliouri 1.82 21 P Pn 04 02 49.5 +0.3
DRAG Dragano-Lefkad 1.84 285 P Pn 04 02 50.4 +0.8
LXRA Lixouri, Kepha 1.90 270 P Pb 04 02 51.7 -1.0
KEF4 Livadi, Kephal 1.91 272 P Pb 04 02 51.9 -1.0
DMLN Damoulianata-K 1.94 271 P Pb 04 02 52.4 -1.2
TNSA Tinos 1.96 110 P Pn 04 02 51.9 +0.7
KEF3 Kipouria, Keph 1.97 270 P Pn 04 02 51.8 +0.5
MHLO Agia Marina, M 1.97 141 P Pn 04 02 52.3 +1.0
KPRO Kipourio 2.07 327 P Pn 04 02 52.4 -0.4
KPRO AML AML 04 03 40.9
comp=N,15134µm,1.5s
KPRO AML AML 04 03 42.4
comp=E,11841µm,1.3s
JAN Janina 2.11 313 P Pb 04 02 55.0 -1.5
JAN AML AML 04 03 36.0
comp=N,10923µm,0.6s
JAN AML AML 04 03 43.8
comp=E,14108µm,1.1s
EFSA Agios Efstrati 2.13 51 P Pn 04 02 54.3 +0.9
PSRA Psara 2.16 81 P Pn 04 02 55.1 +1.2
OUR Ouranopolis 2.28 22 Pn Pn 04 02 55.9 +0.3
OUR Ouranopolis 2.28 22 P Pn 04 02 55.9 +0.3
OUR AML AML 04 03 44.5
comp=E,8969µm,1.4s
OUR AML AML 04 03 45.4
comp=N,7360µm,0.8s
IGT Igoumenitsa 2.35 304 P Pb 04 02 59.5 -1.1
baz=301
IGT S Sg 04 03 32.4 -1.6
baz=301
IGT AMP
comp=E,16nm,1.2s,baz=301
IGT Igoumenitsa 2.35 304 P Pn 04 02 58.4 +1.8
IGT Igoumenitsa 2.35 304 P Pn 04 02 56.9 +0.2
IGT AML AML 04 03 43.4
comp=E,8030µm,1.2s
IGT AML AML 04 03 53.1
comp=N,6106µm,1.5s
PENT Pentalofos 2.37 327 P Pn 04 02 57.9 +1.0
HORT Hortiatis 2.38 5 Pn Pn 04 02 57.2 +0.2
HORT Hortiatis 2.38 5 P Pn 04 02 57.2 +0.2
HORT AML AML 04 03 45.3
comp=N,2242µm,0.9s
HORT AML AML 04 03 45.8
comp=E,3020µm,0.9s
ANKY Antikythira Is 2.38 171 P Pn 04 02 57.9 +0.9
ANKY AML AML 04 03 51.6
comp=E,23490µm,1.0s
ANKY AML AML 04 03 59.4
comp=N,17053µm,1.1s
THE Thessaloniki 2.40 2 P Pn 04 02 57.4 +0.2
baz=359
THE S Sn 04 03 28.1 +1.6
baz=359
THE AMP
comp=E,3.4nm,1.4s,baz=359
THE Thessaloniki 2.40 2 P Pn 04 02 57.5 +0.2
THE Thessaloniki 2.40 2 P Pn 04 02 57.2 -0.1
APE Apeiranthos 2.43 118 ⇑P Pn 04 02 58.5 +0.9
APE Apeiranthos 2.43 118 Pn Pn 04 02 58.9 +1.2
APE Apeiranthos 2.43 118 Pn Pn 04 02 53.0 -4.7
APE Apeiranthos 2.43 118 P Pn 04 02 58.2 +0.5
APE S Sb 04 03 32.2 +0.6
APE Apeiranthos 2.43 118 *c i*P Pn 04 02 58.1 +0.4
APE Apeiranthos 2.43 118 P Pn 04 02 58.6 +0.9
LIA Limnos Island 2.47 47 P Pn 04 02 58.5 +0.4
SIGR SIGRI 2.55 66 Pn Pn 04 03 00.5 +1.2
SIGR SIGRI 2.55 66 P Pn 04 03 00.2 +0.9
EAG2 Marmaro, Chios 2.58 82 P Pn 04 03 00.7 +0.9
NEST Nestorio 2.59 328 P Pn 04 03 00.5 +0.6
NEST AML AML 04 03 51.4
comp=N,7656µm,0.8s
NEST AML AML 04 03 55.5
comp=E,9200µm,1.2s
LSK Leskovik 2.59 318 P Pb 04 03 03.7 -1.1
baz=315
LSK S Sb 04 03 37.6 +1.2
baz=315
LSK AMP
comp=N,36nm,1.3s,baz=315
SOH Sokhos 2.62 8 P Pn 04 03 01.4 +1.1
CMBO Columbo, Santo 2.69 130 P Pn 04 03 02.4 +1.2
KASA Kassiopi 2.73 305 P Pn 04 03 02.0 +0.3
SNT5 Nea Kammeni, S 2.73 131 P Pn 04 03 03.2 +1.5
KOKK Kokkinochori, 2.74 19 P Pn 04 03 01.9 0.0
GRG Griva 2.75 353 Pn Pn 04 03 02.3 +0.2
GRG Griva 2.75 353 P Pn 04 03 02.6 +0.6
GRG AML AML 04 04 12.5
comp=E,2442µm,1.8s
GRG AML AML 04 04 18.3
comp=N,2965µm,1.5s
RODP Rodopos 2.76 164 Pn Pn 04 03 03.7 +1.5
SRN Sarande 2.76 308 P Pb 04 03 04.8 -2.7
baz=304
SRN S Sb 04 03 41.6 +0.5
baz=304
SRN AMP
comp=N,9.1nm,2.0s,baz=304
THAS Thassos island 2.79 31 P Pn 04 03 02.4 -0.1
FNA Florina 2.79 336 Pn Pn 04 03 02.6 -0.1
FNA Sn Sn 04 03 35.9 -0.3
FNA Florina 2.79 336 Pn Pn 04 03 03.9 +1.2
FNA Florina 2.79 336 P Pn 04 03 04.3 +1.6
baz=333
FNA S Sb 04 03 40.4 -1.8
baz=333
FNA AMP
comp=E,4.4nm,1.3s,baz=333
FNA Florina 2.79 336 P Pn 04 03 03.9 +1.2
FNA Florina 2.79 336 P Pn 04 03 03.3 +0.6
FNA S Sn 04 03 37.2 +0.9
FNA Florina 2.79 336 P Pn 04 03 03.9 +1.2
FNA Florina 2.79 336 P Pn 04 03 04.3 +1.6
FNA AML AML 04 03 45.3
comp=N,5468µm,0.7s
FNA AML AML 04 03 53.9
comp=E,5774µm,1.1s
KEK Kerkira 2.80 303 Pn Pn 04 03 02.4 -0.3
KEK Sn Sn 04 03 36.2 -0.1
KEK Kerkira 2.80 303 Pn Pn 04 03 04.2 +1.2
KEK Kerkira 2.80 303 P Pn 04 03 03.9 +1.2
KEK Kerkira 2.80 303 P Pn 04 03 04.0 +1.2
KEK AML AML 04 04 05.9
comp=E,3520µm,0.8s
KEK AML AML 04 04 08.4
comp=N,6312µm,1.4s
KARB zmir-Karabur 2.83 80 P Pn 04 03 04.3 +1.1
KARB S Sn 04 03 38.8 +1.6
GPNR Gulpinar-Canak 2.85 63 Pn Pn 04 03 04.6 +1.2
PRK Paraskevi 2.87 68 P Pn 04 03 03.9 +0.2
CHAN Chania 2.87 160 P Pn 04 03 04.3 +0.6
KOCA Canakkale, Ayv 2.87 63 P Pn 04 03 04.3 +0.6
KOCA S Sn 04 03 36.2 -1.9
KBN Korca 2.87 327 Pn Pn 04 03 05.6 +1.8
KBN Korca 2.87 327 P Pn 04 03 06.2 +2.4
baz=324
KBN S Sb 04 03 42.9 -1.6
baz=324
KBN AMP
comp=N,14nm,1.1s,baz=324
KBN Korca 2.87 327 P Pn 04 03 05.6 +1.8
ZEYE Izmir, Urla-Ze 2.88 89 P Pn 04 03 05.3 +1.5
ZEYE S Sn 04 03 41.5 +3.2
IMMV Iera Moni Meta 2.91 161 Pn Pn 04 03 04.8 +0.6
IMMV Iera Moni Meta 2.91 161 P Pn 04 03 05.3 +1.0
KVLA Kavala 2.96 23 P Pn 04 03 04.7 -0.2
BOZC Bozcaada 2.97 56 P Pn 04 02 52.1 -1.3
BOZC S Sn 04 03 34.5 -6.1
EAG3 Mitilini, Lesv 3.04 72 P Pn 04 03 08.1 +2.0
KAVA Kavala 3.05 24 P Pn 04 03 06.0 -0.2
SMTH Samothraki Isl 3.06 42 P Pn 04 03 06.3 0.0
GOAD anakkale-G¶ 3.07 50 P Pn 04 03 05.7 -0.7
GOAD S Sn 04 03 44.5 +1.6
GADA Gvkgeada 3.08 49 Pn Pn 04 03 08.2 +1.6
FOCM Foa 3.09 80 Pn Pn 04 03 08.8 +2.1
VAY Valandovo 3.10 356 *i* Pn Pn 04 03 08.2 +1.4
EZN Ezine 3.15 58 Pn Pn 04 03 09.1 +1.6
EZN Ezine 3.15 58 P Pn 04 03 07.7 +0.2
EZN S Sn 04 03 48.1 +3.3
ECEA Canakkale, Ece 3.16 54 P Pn 04 03 09.3 +1.6
DGB zmir 3.19 92 S Sn 04 03 45.8 -0.1
AYVA Ayvalik 3.19 69 P Pn 04 03 06.7 -1.5
AYVA S Sn 04 03 49.8 +3.8
SMG Samos 3.20 98 P Pn 04 03 09.8 +1.6
GMLD Gumuldur 3.21 91 Pn Pn 04 03 09.8 +1.4
NVR Nevrokopi 3.22 14 P Pn 04 03 10.0 +1.5
BAYC CANAKKALE_Bayr 3.26 61 P Pn 04 03 09.6 +0.6
BAYC S Sn 04 03 48.1 +0.5
RFT7 Candarli 3.28 76 Pn Pn 04 03 10.8 +1.5
OHR Ohrid 3.28 332 *i* Pn Pn 04 03 12.0 +2.5
DKL Dikili 3.29 74 Pn Pn 04 03 11.5 +2.0
DKL Dikili 3.29 74 P Pb 04 03 14.0 -2.6
COMU Canakkale 3.38 55 Pn Pn 04 03 12.5 +1.7
ZEDA zmir-Bergama 3.40 76 P Pn 04 03 11.3 +0.3
IACM Heraklion 3.42 148 P Pn 04 03 12.0 +0.7
KSTL Kastelli Herak 3.42 148 P Pn 04 03 15.0 +3.7
VLO Vlora 3.43 312 Pn Pn 04 03 14.2 +2.8
VLO Vlora 3.43 312 P Pn 04 03 14.1 +2.8
baz=309
VLO S Sb 04 03 59.4 -1.0
baz=309
VLO AMP
comp=E,17nm,0.8s,baz=309
VLO Vlora 3.43 312 P Pn 04 03 14.2 +2.8
ENZZ Sultanice-Enez 3.49 46 Pn Pn 04 03 13.9 +1.7
STIP Stip 3.50 352 *i* Pn Pn 04 03 14.1 +1.7
TMBK Timbaki Herakl 3.51 153 P Pn 04 03 13.3 +0.9
GCAM G?zlcaml? 3.51 97 Pn Pn 04 03 14.5 +2.0
GCAM G?zlcaml? 3.51 97 P Pn 04 03 14.0 +1.5
GCAM S Sb 04 03 59.7 -3.0
GVD Gavdhos 3.53 163 Pn Pn 04 03 15.1 +2.4
GVD Gavdhos 3.53 163 P Pn 04 03 14.6 +1.8
BUHA Balikesir, Bur 3.54 68 P Pn 04 03 13.3 +0.4
BUHA S Sb 04 04 02.0 -1.6
PEHC Pehcevo 3.55 1 *i* Pn Pn 04 03 13.5 +0.4
GELI Tayfur-Gelibol 3.55 51 Pn Pn 04 03 14.4 +1.3
CAVK Edirne/Enez-Ca 3.56 45 P Pn 04 03 12.0 -1.2
CAVK S Sb 04 04 01.7 -2.5
DDIM Aydin, Didim 3.56 101 P Pn 04 03 13.3 0.0
DDIM S Sb 04 04 07.0 +2.7
RDO Rodhopi 3.58 35 Pn Pn 04 03 14.4 +0.9
RDO Rodhopi 3.58 35 Pn Pn 04 03 13.2 -0.2
RDO Rodhopi 3.58 35 P Pn 04 03 13.3 -0.2
ENEZ Enez 3.58 45 Pn Pn 04 03 14.6 +1.1
KOSK Kos Island 3.60 113 P Pn 04 03 14.5 +0.7
ALN Alexandroupoli 3.64 42 Pn Pn 04 03 15.6 +1.4
ALN Alexandroupoli 3.64 42 Pn 04 03 14.3 +0.1
ALN Alexandroupoli 3.64 42 P Pn 04 03 09.3 -4.9
ALN S Sn 04 03 56.7 -0.2
ALN Alexandroupoli 3.64 42 P Pn 04 03 14.3 +0.1
ALN Alexandroupoli 3.64 42 P Pn 04 03 14.5 +0.3
YKAV Yalikavak-Bodr 3.69 106 Pn Pn 04 03 16.8 +1.9
LPK Lapseki 3.72 54 Pn Pn 04 03 17.3 +1.9
CANM Can-anakkale 3.73 60 Pn Pn 04 03 17.3 +1.8
BODT Bodrum 3.73 107 Pn Pn 04 03 17.6 +2.0
BODT Bodrum 3.73 107 P Pn 04 03 17.6 +2.0
BODT S Sb 04 04 11.0 +1.8
ERIK Erikli-Kesan 3.75 48 Pn Pn 04 03 17.0 +1.3
ERIK Erikli-Kesan 3.75 48 P Pn 04 03 12.3 -3.4
ERIK S Sb 04 04 04.7 -4.8
BDRM Kayabasi 3.83 106 P Pn 04 03 18.3 +1.3
BDRM S Sb 04 04 08.0 -4.0
SCTE Santa Cesarea 3.87 300 Pn Pn 04 03 19.1 +1.6
SCTE Santa Cesarea 3.87 300 P Pn 04 03 19.4 +2.0
baz=298
SCTE Santa Cesarea 3.87 300 P Pn 04 03 19.4 +2.0
TIR Tirane 3.87 325 ⇓P Pn 04 03 20.2 +2.7
TIR Tirane 3.87 325 Pn Pn 04 03 20.4 +2.9
TIR Tirane 3.87 325 P Pn 04 03 20.8 +3.3
baz=322
TIR AMP
comp=E,2.9nm,1.2s,baz=322
TIR Tirane 3.87 325 P Pn 04 03 20.1 +2.7
SKO Skopje 3.89 344 *i* Pn Pn 04 03 19.4 +1.6
KDZ Kurdzhali 3.90 29 Pn Pn 04 03 18.2 +0.3
PHP Peshkopia 3.92 333 P Pn 04 03 20.1 +2.0
baz=330
PHP AMP
comp=N,5.3nm,1.6s,baz=330
AKHS Akhisar 3.95 79 P Pg 04 03 33.2 -0.9
FRMA Ierapetra Chan 3.96 143 P Pn 04 03 21.6 +2.9
STEP BALIKESIR_Sava 3.98 72 P Pn 04 03 20.3 +1.3
STEP S Sb 04 04 14.6 -1.6
YAZI Mula-Dat§a- 3.98 111 P Pn 04 03 20.9 +2.0
YAZI S Sb 04 04 11.6 -4.6
GOMA Golmarmara-Man 4.01 82 Pn Pn 04 03 21.6 +2.2
BALY Balya 4.02 66 P Pn 04 03 20.3 +0.7
MLSB Milas 4.02 102 Pn Pn 04 03 21.7 +2.2
MLSB Milas 4.02 102 P Pn 04 03 20.9 +1.4
MLSB S Sn 04 04 09.6 +3.2
DAT Datca 4.05 110 Pn Pn 04 03 22.5 +2.4
KRBG Karabiga-Canak 4.08 57 Pn Pn 04 03 22.4 +2.1
RFTAA Mazikoy-Bodrum 4.08 106 Pn Pn 04 03 22.8 +2.5
UKOP Uzunkopru-Edir 4.12 44 Pn Pn 04 03 22.3 +1.5
ZKR Zakros 4.12 138 Pn Pn 04 03 23.3 +2.3
ZKR Zakros 4.12 138 P Pn 04 03 23.1 +2.2
RKY Sarkoy-Tekirda 4.16 52 Pn Pn 04 03 23.3 +1.8
BALB Balikesir 4.17 69 Pn Pn 04 03 23.5 +1.9
BALB Balikesir 4.17 69 Pn Pn 04 03 23.1 +1.5
BALB Balikesir 4.17 69 P Pn 04 03 21.9 +0.3
PLD Plovdiv 4.18 20 Pn Pn 04 03 22.5 +0.8
GONE Gonen-Balikesi 4.18 63 Pn Pn 04 03 23.9 +2.2
BKES Balkesir-Mer 4.24 68 P Pn 04 03 22.2 -0.3
ESEN Aydn-Nazilli 4.37 94 P Pn 04 03 26.9 +2.6
ESEN S Sb 04 04 27.9 +0.4
KARP Karpathos 4.37 126 Pn Pn 04 03 26.9 +2.5
KARP Karpathos 4.37 126 Pn Pn 04 03 25.7 +1.3
KARP Karpathos 4.37 126 P Pn 04 03 29.6 +5.2
KARP Karpathos 4.37 126 P Pn 04 03 26.0 +1.6
KIRA zmir-Kiraz 4.38 89 P Pn 04 03 26.2 +1.7
KIRA S Sn 04 04 18.6 +3.2
EDC Edincik 4.43 60 Pn Pn 04 03 27.3 +2.1
MULA Mugla, Merkez- 4.45 101 P Pn 04 03 27.5 +2.0
YER Yerkesik 4.45 103 Pn Pn 04 03 27.9 +2.4
YER Yerkesik 4.45 103 P Pn 04 03 27.2 +1.7
TURN Turunc 4.53 107 Pn Pn 04 03 28.9 +2.4
TURN Turunc 4.53 107 P Pn 04 03 28.2 +1.7
TURN S Sb 04 04 30.2 -1.9
KULA Kula-Manisa 4.58 85 Pn Pn 04 03 29.9 +2.6
KULA Kula-Manisa 4.58 85 P Pn 04 03 29.2 +1.9
DURS Dursunbey 4.60 71 P Pn 04 03 23.6 -4.0
ULC Ulcinj 4.64 325 ⇑*i*Pn Pn 04 03 29.7 +1.6
ULC *i* Sn Sn 04 04 21.2 -0.5
BCI Bajram Curri 4.65 334 P Pn 04 03 30.9 +2.8
baz=332
BCI AMP
comp=E,4.5nm,1.0s,baz=332
ARG Arkhangelos 4.67 114 Pn Pn 04 03 31.1 +2.7
ARG Arkhangelos 4.67 114 Pn Pn 04 03 29.8 +1.3
ARG Arkhangelos 4.67 114 P Pn 04 03 29.8 +1.3
ARG Arkhangelos 4.67 114 P Pn 04 03 30.3 +1.9
EDRB Edirne 4.69 38 Pn Pn 04 03 30.7 +1.9
KCTX Karacabey (Bur 4.74 63 Pn Pn 04 03 31.7 +2.3
CRLT Corlu 4.76 51 Pn Pn 04 03 31.7 +2.0
DALY Dalyan (Mula) 4.83 105 Pn Pn 04 03 33.8 +3.2
DRME Dracevica, Mon 4.85 326 *e*Pn Pn 04 03 32.7 +1.8
DRME Dracevica, Mon 4.85 326 ⇑*i*Pn Pn 04 03 32.5 +1.6
DRME *i* Sn Sn 04 04 26.2 -0.6
TIP Timpagrande 4.85 283 ⇑P Pn 04 03 32.7 +1.7
TIP Timpagrande 4.85 283 Pn Pn 04 03 31.4 +0.3
TAVA DENIZLI_Tavas 4.86 97 P Pn 04 03 32.8 +1.6
USAK Uak-Merkez 4.87 82 P Pn 04 03 32.5 +1.3
SIMA Simav-Kutahya 4.88 78 Pn Pn 04 03 33.6 +2.2
PVY Plav 4.89 334 ⇓*i*Pn Pn 04 03 32.9 +1.4
PVY *i* Sn Sn 04 04 26.8 -1.1
BUM Brajici-Budva 5.07 325 ⇑*i*Pn Pn 04 03 35.6 +1.6
BUM *i* Sn Sn 04 04 31.5 -0.8
SLVT Silivri 5.11 52 Pn Pn 04 03 36.9 +2.4
MDNY Mudanya-Bursa 5.15 64 Pn Pn 04 03 37.2 +2.2
IVA Berane 5.16 335 ⇓*i*Pn Pn 04 03 36.7 +1.5
IVA *i* Sn Sn 04 04 33.1 -1.4
GEDZ Gediz 5.21 79 Pn Pn 04 03 38.4 +2.5
ARMT Armutlu 5.21 62 Pn Pn 04 03 38.9 +3.0
PASA Karahalli, USA 5.23 87 P Pn 04 03 40.5 +4.3
ELND Elena 5.23 25 ⇓P Pn 04 03 37.2 +1.0
CEME Cevo 5.25 326 ⇓*i*Pn Pn 04 03 38.1 +1.6
CEME *i* Sn Sn 04 04 35.8 -1.1
CAEL Denizli, Camel 5.25 100 P Pn 04 03 40.5 +3.9
KOME Kolasin 5.27 332 ⇓*i*Pn Pn 04 03 38.2 +1.4
KOME *i* Sn Sn 04 04 35.8 -1.4
GTKS Kestanelik-??a 5.30 54 Pn Pn 04 03 39.8 +2.7
CTYL Yalikoy Yolu 5.30 51 Pn Pn 04 03 39.3 +2.2
TVSB Tavsanli 5.31 75 Pn Pn 04 03 40.0 +2.7
PLVB Pleven 5.33 14 ⇓P Pn 04 03 38.7 +1.2
INCE Denizli-Bozkur 5.34 93 P Pn 04 03 40.1 +2.3
INCE S Sb 04 05 00.4 +4.7
HCY Herceg Novi 5.37 323 *e*Pn Pn 04 03 38.8 +0.8
HCY Herceg Novi 5.37 323 ⇑*i*Pn Pn 04 03 39.7 +1.7
HCY *i* Sn Sn 04 04 38.6 -1.0
IZZE Mula-Seydike 5.39 107 P Pn 04 03 39.8 +1.5
GEMT Gemlik 5.39 64 Pn Pn 04 03 40.8 +2.4
BLKB Belogradchik 5.39 359 ⇑P Pn 04 03 39.7 +1.3
NKME Niksic 5.42 328 ⇑*i*Pn Pn 04 03 40.4 +1.6
NKME *i* Sn Sn 04 04 39.7 -1.2
BGKT Bogazkoy 5.44 55 Pn Pn 04 03 41.7 +2.7
BOVS Bovan 5.47 351 ⇑P Pn 04 03 40.0 +0.5
CEL Celeste 5.47 272 Pn Pn 04 03 39.6 +0.1
SJES Sjenica 5.48 337 *e*Pn Pn 04 03 41.7 +2.0
KNIK Mula-Seydike 5.52 102 P Pn 04 03 45.1 +4.8
KAVV Kandilli-Istan 5.57 58 Pn Pn 04 03 43.2 +2.4
ISK Istanbul-Kandi 5.57 57 Pn Pn 04 03 43.4 +2.6
TREB Trebinje 5.64 324 *e*Pn Pn 04 03 41.7 -0.1
KLYT Kilyos 5.65 56 Pn Pn 04 03 44.6 +2.7
BRY Bratogost 5.70 326 *e*Pn Pn 04 03 44.3 +1.5
BRY Bratogost 5.70 326 *e*Pn Pn 04 03 44.3 +1.5
BRY *i* Sn Sn 04 04 46.7 -1.4
PLE Pljevlja 5.73 334 ⇑*i*Pn Pn 04 03 44.6 +1.5
PLE *i* Sn Sn 04 04 47.0 -1.7
CUC Castrocucco 5.74 290 Pn Pn 04 03 44.6 +1.4
ZIMR 5.75 19 ⇑P Pn 04 03 44.1 +0.9
ZIMR 5.75 19 P Pn 04 03 44.1 +0.9
ADVT Abdulvahap 5.78 65 P Pn 04 03 44.4 +0.7
ADVT S Sb 04 05 05.0 -3.1
ELL Elmali 5.81 103 Pn Pn 04 03 44.9 +0.7
ELL Elmali 5.81 103 P Pn 04 03 44.9 +0.7
LOZB Loznitsa 5.87 28 ⇓P Pn 04 03 45.6 +0.6
VLAD Vladila 5.88 11 ⇑P Pn 04 03 46.4 +1.2
HISA Bilecik-Osmane 5.92 66 P Pn 04 03 47.2 +1.4
HISA S Sb 04 05 10.3 -1.9
RUDO Rudo 5.99 335 *e*Pn Pn 04 03 47.7 +1.1
RAZG Razgrad 6.01 26 ⇑P Pn 04 03 47.5 +0.6
PUNG Punghina 6.05 1 ⇓P Pn 04 03 48.1 +0.8
STON Ston 6.07 321 *e*Pn Pn 04 03 47.4 -0.3
ISP Isparta 6.08 91 Pn 04 03 48.4 +0.5
ISP Isparta 6.08 91 ⇑*e*P Pn 04 03 50.9 +3.0
COPA Copaceanca 6.17 16 ⇑P Pn 04 03 49.5 +0.5
BBLS Lazići 6.20 336 *e*Pn Pn 04 03 51.3 +1.7
NEVS Nevesinje 6.21 326 *e*Pn Pn 04 03 51.2 +1.5
RMGR Halanga-Turnu 6.43 359 ⇓P Pn 04 03 53.7 +1.1
SRE Strehaia 6.43 2 ⇓P Pn 04 03 53.4 +0.7
SRE Strehaia 6.43 2 P Pn 04 03 53.3 +0.7
SGRR Singureni 6.44 20 ⇑P Pn 04 03 53.7 +1.0
DJES Djerdap 6.44 358 ⇓P Pn 04 03 53.3 +0.6

DJES	Djerdap	6.44	358		Pn		Pn	04 03 52.6	-0.2		
SGRT	San Giovanni R	6.49	305		Pn		Pn	04 03 53.4	-0.1		
HUMR	Humele	6.50	14	⇓	P		Pn	04 03 54.7	+1.2		
HAPS	Han Pijesak,BI	6.55	335		ePn		Pn	04 03 55.5	+1.2		
MDVR	Moldovita	6.60	353	⇑	P		Pn	04 03 56.5	+1.4		
HERR	Herculane	6.66	357	⇑	P		Pn	04 03 56.4	+0.7		
VAE	Valguarnera	6.71	266		Pn		Pn	04 04 00.1	+3.6		
	comp=E,2.3nm,0.3s,baz=117,slow=2.6,SNR=7.1										
VAE					Sn		Sn	04 05 16.6	+3.7		
	comp=E,3.4nm,0.3s,baz=82,slow=15,SNR=1.8										
	comp=E,27nm,0.8s										
TEKS	Tekeris	6.79	340		eP		Pn	04 03 58.3	+0.7		
RAFF	Raffo Rosso	6.80	264		Pn		Pn	04 03 58.4	+0.7		
STFAR	Stefanesti-Arg	6.82	13	⇓	P		Pn	04 04 00.3	+2.4		
SULR		6.94	21	⇑	P		Pn	04 04 00.6	+1.1		
ICOR	Ion Corvin	6.97	31	⇓	P		Pn	04 04 01.4	+1.4		
GZR	Gura Zlata	7.16	360	⇑	P		Pn	04 04 03.4	+0.6		
GZR	Gura Zlata	7.16	360		P		Pn	04 04 03.3	+0.6		
MTUR	Matau	7.19	13	⇑	P		Pn	04 04 04.9	+1.7		
MTUR	Matau	7.19	13		P		Pn	04 04 04.8	+1.7		
AMRR	Amara	7.21	26	⇓	P		Pn	04 04 04.2	+0.9		
AMRR	Amara	7.21	26		P		Pn	04 04 04.2	+0.9		
LOT	Lotru	7.25	5	⇓	P		Pn	04 04 04.9	+1.0		
FRGS	Fruska Gora	7.29	343	⇑	P		Pn	04 04 06.3	+1.9		
FRGS	Fruska Gora	7.29	343		ePn		Pn	04 04 05.4	+1.0		
VOIR		7.39	12	⇓	P		Pn	04 04 07.3	+1.4		
VOIR		7.39	12		P		Pn	04 04 07.2	+1.4		
DOB	Doboj	7.41	333		ePn		Pn	04 04 03.9	-2.1		
ISR	Istrita	7.42	21	⇓	P		Pn	04 04 08.2	+2.0		
ISR	Istrita	7.42	21		P		Pn	04 04 08.2	+2.0		
BZS	Buzias	7.44	353	⇑	P		Pn	04 04 07.2	+0.7		
BZS	Buzias	7.44	353		P		Pn	04 04 07.2	+0.7		
HARR	Harsova	7.50	29	⇑	P		Pn	04 04 08.6	+1.2		
HARR	Harsova	7.50	29		P		Pn	04 04 08.5	+1.2		
TIRR	Tirgusor	7.50	32	⇑	P		Pn	04 04 08.3	+1.0		
TIRR	Tirgusor	7.50	32		P		Pn	04 04 08.3	+1.0		
SURR	Surduc	7.54	356	⇑	P		Pn	04 04 08.7	+0.8		
MGRS	Mrkonjic Grad	7.55	327		ePn		Pn	04 04 09.0	+1.0		
MLR	Muntele Rosu	7.62	17	⇓	P		Pn	04 04 10.8	+1.7		
MLR	Muntele Rosu	7.62	17		Pn		Pn	04 04 09.4	+0.4		
MLR	Muntele Rosu	7.62	17		P		Pn	04 04 09.4	+0.4		
MLR	Muntele Rosu	7.62	17		Pn		Pn	04 04 10.9	+1.9		
	comp=E,11nm,0.3s,baz=259,slow=4.9,SNR=74										
MLR					Sn		Sn	04 05 35.9	+0.7		
	baz=23,slow=21										
MLR					Lg		Lg	04 06 22.7			
	baz=98,slow=20										
CLTB	Caltabellotta	7.64	268				Pn	04 04 10.5	+1.1		
NEHR	Nehoiu	7.64	19	⇑	P		Pn	04 04 11.3	+2.0		
DEV	Deva	7.65	0	⇓	P		Pn	04 04 11.4	+2.1		
DEV	Deva	7.65	0		P		Pn	04 04 11.4	+2.1		
BLY	Banja Luka	7.78	329		ePn		Pn	04 04 11.3	+0.2		
TPGR	Topolog	7.83	30	⇓	P		Pn	04 04 13.2	+1.3		
A050A	Klekovaca	7.84	325		ePn		Pn	04 04 12.3	+0.2		
BISRR	Bisoca	7.86	20	⇑	P		Pn	04 04 14.4	+2.1		
BR231	Keskin MP Arra	7.90	75		Pn		Pn	04 04 12.9	0.0		
JURR	Jurilovca	7.95	33	⇓	P		Pn	04 04 14.8	+1.4		
DOPR	Dopca	7.96	13	⇑	P		Pn	04 04 15.8	+2.1		
MDB	Medias	7.99	8	⇑	P		Pn	04 04 16.2	+2.1		
MDB	Medias	7.99	8		P		Pn	04 04 16.1	+2.1		
CFR	Carcaliu	7.99	28	⇓	P		Pn	04 04 14.6	+0.5		
CFR	Carcaliu	7.99	28		P		Pn	04 04 14.5	+0.5		
COVR	Voineasa-Covas	8.01	17	⇑	P		Pn	04 04 16.6	+2.3		
A051A	Mrakovica	8.11	329		ePn		Pn	04 04 15.8	+0.1		
BOSR	Bodos	8.12	14	⇓	P		Pn	04 04 18.0	+2.2		
PLOR	Plostina	8.13	19	⇑	P		Pn	04 04 18.0	+2.0		
PLOR	Plostina	8.13	19		P		Pn	04 04 17.9	+2.0		
PRIJ	Prijedor	8.15	328		ePn		Pn	04 04 15.7	-0.6		
ODBI	Odobesti	8.16	21	⇑	P		Pn	04 04 19.1	+2.9		
OZUR		8.16	15	⇑	P		Pn	04 04 18.5	+2.1		
VRI	Vrincioaia	8.16	19	⇑	P		Pn	04 04 18.5	+2.1		
VRI	Vrincioaia	8.16	19		P		Pn	04 04 18.5	+2.1		
TURR	Turia	8.17	16	⇓	P		Pn	04 04 18.1	+1.6		
TLCR		8.26	31	⇑	P		Pn	04 04 19.0	+1.3		
TLCR		8.26	31		P		Pn	04 04 19.0	+1.3		
PANC	Panciu	8.28	21	⇓	P		Pn	04 04 19.9	+1.9		
MARR	Marisel-Cluj	8.45	1	⇑	P		Pn	04 04 21.4	+1.0		
CJR	Cluj-Napoca	8.50	4	⇓	P		Pn	04 04 23.3	+2.3		
CJR	Cluj-Napoca	8.50	4		P		Pn	04 04 23.3	+2.3		
VARL	Varlezi	8.52	24	⇑	P		Pn	04 04 23.2	+1.9		
GHRR		8.53	22	⇑	P		Pn	04 04 22.8	+1.4		
BR131	Keskin Array S	8.54	77	⇑	eP		Pn	04 04 25.1	+3.4		
BRTR	Keskin Array B	8.54	77				Pn	04 04 24.8	+3.0		
BRTR	Keskin Array B	8.54	77		i P		Pn	04 04 25.5	+3.8		
BRTR					pmax		pmax				
	comp=Z,22nm,0.8s										
BRTR	Keskin Array B	8.54	77		Pn		Pn	04 04 23.8	+2.0		
	comp=Z,0.6nm,0.3s,baz=258,slow=11,SNR=27										
BRTR					Lg		Lg	04 06 52.4			
	baz=237,slow=11										
	comp=Z,7.6nm,0.7s										
VLDR	Vladesti	8.55	25	⇑	P		Pn	04 04 23.7	+2.1		
MORH	Mrgy, Hungar	8.57	340	⇑	P		Pn	04 04 22.7	+0.8		
GUMA	Gualdo di Mace	8.69	307				Pn	04 04 25.2	+1.5		
NRCA	Norcia	8.72	305				Pn	04 04 24.6	+0.5		
TESR	Tescani	8.74	18	⇓	P		Pn	04 04 26.0	+1.6		
FDMO	Fiordimonte	8.84	306				Pn	04 04 25.4	-0.3		
ARCR	ARCALIA	8.92	7	⇑	P		Pn	04 04 28.4	+1.6		
CSS	Mathiatis	9.04	108		Pn		Pn	04 04 24.1	-4.4		
LEOM	Leova	9.16	24	⇑	P		Pn	04 04 33.9	+3.9		
LEOM	Leova	9.16	24		P		Pn	04 04 33.9	+3.9		
VASR	Vaslui	9.17	22	⇓	P		Pn	04 04 32.5	+2.3		
BSZH	Besenyszg	9.26	349	⇓	P		Pn	04 04 34.4	+3.0		
BMR	Baia Mare	9.45	3	⇓	P		Pn	04 04 35.8	+1.7		
BMR	Baia Mare	9.45	3		P		Pn	04 04 35.7	+1.7		
BURAR	Bucovina Array	9.54	10	⇑	P		Pn	04 04 37.5	+2.0		
BURAR	Bucovina Array	9.54	10		Pn		Pn	04 04 34.8	-0.6		
BURAR	Bucovina Array	9.54	10		P		Pn	04 04 37.4	+2.0		
KOGS	Kog	9.55	331		i Pn		Pn	04 04 35.5	+0.1		
MILM	Milestii Mici	9.73	25		eP		Pn	04 04 39.0	+1.1		
MILM					eL		L	04 08 38.0			
MILM					LQM			04 08 51.0			
	comp=Z,2μm,10.6s										
MILM					LRM		MLR	04 08 54.0			
	comp=Z,2μm,11.0s										
MILM	Milestii Mici	9.73	25	⇑	P		Pn	04 04 38.8	+0.8		
MILM	Milestii Mici	9.73	25		P		Pn	04 04 38.7	+0.8		
KIS	Kishinev	9.80	25		eP		Pn	04 04 39.0	+0.1		
KIS					eL		L	04 07 56.0			
KIS					LQM			04 08 07.0			
	comp=Z,600nm,14.5s										
KIS					LRM		MLR	04 08 57.0			
	comp=Z,600nm,11.0s										
KIS	Kishinev	9.80	25		eP		Pn	04 04 39.0	+0.1		
KIS					MLR		MLR				
	comp=N,1μm,9.6s										
PSZ	Piszkesteto	9.92	348	⇑	P		Pn	04 04 42.0	+1.4		
PSZ	Piszkesteto	9.92	348		P		Pn	04 04 41.9	+1.4		
LJU	Ljubljana	9.95	324		i Pn		Pn	04 04 41.9	+0.9		
SRO	Srobarova	10.14	342		ePN		Pn	04 04 46.4	+3.0		
SRO					eSN		Sn	04 06 38.2	+1.4		
SRO	Srobarova	10.14	342		eP		Pn	04 04 46.4	+3.0		
SRO					e			04 06 38.2			
SOKA	Soboth	10.22	328		ePn		Pn	04 04 45.4	+0.7		
	comp=N,20nm,1.0s,SNR=11										
SOKA					i Sn		Sn	04 06 36.0	-3.1		
	comp=N,6.2nm,0.6s										
OBKA	Obir	10.30	326		i Pn		Pn	04 04 47.6	+1.8		
	comp=N,3.0nm,0.5s										
OBKA					i Sn		Sn	04 06 41.3	+0.3		
	comp=N,21nm,0.8s										
OBKA	Obir	10.30	326		ePn		Pn	04 04 47.5	+1.8		
KECS	Kecovo	10.39	351		ePN		Pn	04 04 50.2	+3.3		
KECS	Kecovo	10.39	351		eP		Pn	04 04 50.2	+3.3		
RONA	Rosalia, Austr	10.61	335		i Pn		Pn	04 04 52.4	+2.5		
	comp=N,5.7nm,0.6s										
RONA					eSn		Sn	04 06 48.4	-0.1		
	comp=N,0.4nm,0.2s										
VYHS	Vyhne	10.67	345		ePN		Pn	04 04 52.3	+1.6		
VYHS	Vyhne	10.67	345		eSN		Sn	04 04 54.4	+4.5		
VYHS	Vyhne	10.67	345		eP		Pn	04 04 52.3	+1.6		
VYHS					e			04 06 54.4			
PRED	Cave del Predi	10.70	323		Pn		Pn	04 04 52.5	+1.4		
KOLS	Kolonicke sedl	10.71	358		ePN		Pn	04 04 55.9	+4.6		
KOLS	Kolonicke sedl	10.71	358		eP		Pn	04 04 55.9	+4.6		
CRVS	Cervenica-Dubn	10.72	355		ePN		Pn	04 04 55.4	+4.0		
CRVS	Cervenica-Dubn	10.72	355		eP		Pn	04 04 55.4	+4.0		
SIM	Simferopol'	10.78	48		eP		Pn	04 04 56.5	+4.2		
SIM					eS		Sn	04 06 54.0	+1.3		
SIM					pmax		pmax				
	comp=Z,48nm,1.2s										
SIM					smax		smax				
	comp=N,80nm,1.5s										
MYKA	Terra Mystica	10.80	324		i Pn		Pn	04 04 54.4	+1.9		
	comp=N,1.9nm,0.5s										
MYKA					eSn		Sn	04 06 49.0	-4.2		
	comp=N,7.4nm,0.8s										
MODS	Modra-Piesok	10.92	340		ePN		Pn	04 04 57.5	+3.4		
MODS					eSN		Sn	04 06 56.6	+0.6		
MODS	Modra-Piesok	10.92	340		eP		Pn	04 04 57.5	+3.4		
MODS					e			04 06 56.6			
CONA	Conrad Observa	10.95	335		i Pn		Pn	04 05 00.1	+5.4		
	comp=N,9.0nm,0.9s										
CONA					i Sn		Sn	04 06 57.5	+0.5		
	comp=N,6.0nm,0.6s										
CLUD	Cludinico	11.04	321		Pn		Pn	04 04 56.7	+0.9		
KEST	Kesra	11.08	261		Pn		Pn	04 04 58.6	+2.2		
	comp=N,0.2nm,0.3s,baz=331,slow=1.2,SNR=5.2										
KEST					Sn		Sn	04 07 03.2	+3.0		
	comp=N,0.1nm,0.3s,baz=356,slow=13,SNR=1.4										
	comp=N,3.2nm,0.7s										
LANS	Liptovska Anna	11.19	349		ePN		Pn	04 05 02.5	+4.6		
LANS	Liptovska Anna	11.19	349		eSN		Sn	04 07 09.1	+6.4		
LANS	Liptovska Anna	11.19	349		eP		Pn	04 05 02.5	+4.6		
LANS					e			04 07 09.1			
JAVC	Velka Javorina	11.27	342		ePN		Pn	04 05 00.5	+1.5		
KBA	Koelnbreinsper	11.27	325		i Pn		Pn	04 05 09.6	+11		
	comp=N,9.4nm,0.6s										
NIE	Niedzica	11.34	352		eP		Pn	04 05 03.6	+3.7		
CTI	Castel Tesino	11.40	317		Pn		Pn	04 05 00.1	-0.7		
CTI	Castel Tesino	11.40	317		P		Pn	04 05 00.1	-0.7		
KWP	Kalwaria Pacla	11.40	360		eP		Pn	04 05 05.5	+4.7		
ABTA	Abfaltersbach	11.42	321		i Pn		Pn	04 05 01.5	+0.4		
	comp=N,3.9nm,0.5s										
ABTA					i Sn		Sn	04 07 05.9	-2.6		
	comp=N,18nm,0.9s										
MMAI	Mount Meron Ar	11.46	113		Pn		Pn	04 05 02.7	+1.0		
	comp=N,3.7nm,0.3s,baz=305,slow=12,SNR=12										
MMAI					Sn		Sn	04 07 08.6	-1.1		
	comp=N,1.2nm,0.3s,baz=287,slow=30,SNR=1.5										
MMAI					LR		LR	04 09 52.7			
	comp=N,211nm,21.1s,baz=271,slow=40										
	comp=N,10nm,0.5s										
MOA	Molln	11.47	330		ePn		Pn	04 05 03.1	+1.3		
	comp=N,21nm,1.1s,SNR=7.1										
MOA					i Sn		Sn	04 07 08.8	-0.9		
	comp=N,2.8nm,0.5s										
GEM	Giv'at Ha'Em	11.56	112		Pn		Pn	04 04 58.1	-4.8		
NATI	Neve Ativ	11.59	111		Pn		Pn	04 04 59.0	-4.3		
BIOA	Bad Ischl, Aus	11.61	328		i Pn		Pn	04 05 04.2	+0.7		
	comp=N,11nm,0.9s										
BIOA					eSn		Sn	04 07 10.6	-2.4		
	comp=N,3.1nm,0.4s										
LVV	L'vov	11.62	4		eP		Pn	04 05 06.8	+3.1		
LVV					eS		Sn	04 07 16.9	+3.7		
LVV					MLR		MLR				
	comp=E,1μm,11.0s										
LVV					MLR		MLR				
	comp=N,1μm,12.0s										
LVV					MLR		MLR				
	comp=Z,2μm,11.0s										
SALO	Salr	11.77	313		Pn		Pn	04 05 06.8	+1.0		
KRUC	Moravsky	11.79	339		ePN		Pn	04 05 08.0	+2.0		
LESA	Schwarzleotal	11.83	324		i Pn		Pn	04 05 07.7	+1.0		
	comp=Z,10nm,1.1s										
LESA					i Sn		Sn	04 07 14.4	-4.1		
	comp=Z,5.3nm,0.5s										
QRNJ	Al-Qirein	11.95	116		P		Pn	04 05 09.9	+1.7		
VRAC	Vranov	11.96	340	⇓	P		Pn	04 05 09.6	+1.3		
VRAC	Vranov	11.96	340		ePN		Pn	04 05 08.8	+0.5		
VRAC	Vranov	11.96	340		Pn		Pn	04 05 09.2	+0.8		
	comp=Z,0.1nm,0.3s,baz=160,slow=15,SNR=2.9										
VRAC					LR		LR	04 11 06.1			
	comp=Z,1μm,18.0s,baz=172,slow=44										
	comp=Z,2.2nm,0.8s										
KZIT	Kziot	11.99	124		Pn		Pn	04 05 03.7	-5.2		
KZIT					Sn		Sn	04 07 18.6	-3.9		
RJOB	Jochberg	12.01	326		eP		Pn	04 05 10.7	+1.6		
	comp=Z,14nm,0.6s,baz=140,slow=11										
OKC	Ostrava-Krasne	12.09	345		AMS		AMS	04 10 40.0			
	comp=Z,2μm,13.6s										
MORC	Moravsky Berou	12.16	343		ePN		Pn	04 05 15.0	+3.9		
OJC	Ojcow	12.19	351		eP		Pn	04 05 14.6	+3.1		
YTIR	Yattir	12.19	121		Pn		Pn	04 05 06.8	-4.8		
YTIR					Sn		Sn	04 07 22.9	-4.4		
YTIR	Yattir	12.19	121		P		Pn	04 05 11.3	-0.3		
WTTA	Wattenberg	12.21	321		i Pn		Pn	04 05 14.2	+2.2		
	comp=Z,2.6nm,0.4s										
WTTA					i Sn		Sn	04 07 26.4	-1.5		
	comp=Z,13nm,0.6s										
DSI	Dead Sea	12.24	119		Sn		Sn	04 07 24.2	-4.3		
CKRC	Cesky Krumlov	12.26	332		eP		Pn	04 05 12.8	+0.4		
CKRC	Cesky Krumlov	12.26	332		eP		Pn	04 05 12.8	+0.4		
TREC	Trest	12.27	337		AMS		AMS	04 11 20.0			
	comp=Z,2μm,10.0s										
WATA	Walderalm	12.29	321		i Pn		Pn	04 05 13.8	+0.8		
	comp=Z,6.9nm,0.6s,SNR=5.9										
WATA					i Sn		Sn	04 07 27.7	-2.1		
	comp=Z,24nm,1.0s										
MSBI	Mazada	12.38	120		Sn		Sn	04 07 27.3	-4.6		
SQTA	Sankt Quirin	12.39	320		i Pn		Pn	04 05 15.8	+1.4		
	comp=Z,6.9nm,0.7s										
SQTA					eSn		Sn	04 07 30.8	-1.5		
	comp=Z,19nm,0.7s										
GEC2	GERESS Array S	12.50	331		eP		Pn	04 05 16.9	+1.1		
	comp=Z,12nm,0.8s,baz=140,slow=11										
GEC2					eL		L	04 12 24.1			
	comp=Z,170nm,20.4s										
GERES	GERESS Array B	12.50	331		Pn		Pn	04 05 17.0	+1.1		
	comp=Z,0.4nm,0.3s,baz=148,slow=15,SNR=4.2										
GERES					Sn		Sn	04 07 33.2	-1.8		
	comp=Z,0.3nm,0.3s,baz=146,slow=21,SNR=1.9										
	comp=Z,2.3nm,0.6s										
FUORN	Ofenpass-Fuorn	12.51	316				Pn	04 05 16.4	+0.3		
FETA	Feichten	12.51	318		i Pn		Pn	04 05 20.3	+4.3		
	comp=Z,5.9nm,0.7s,SNR=6.4										
FETA					eSn		Sn	04 07 32.8	-2.4		
	comp=Z,8.0nm,0.7s										
MOTA	Moosalm	12.53	320		i Pn		Pn	04 05 18.3	+2.0		
	comp=Z,15nm,0.8s,SNR=4.6										
MOTA					i Sn		Sn	04 07 32.2	-3.6		
	comp=Z,27nm,1.1s										
KRLC	Kraliky	12.61	342		eP		Pn	04 05 20.9	+3.6		
KRLC					AMS		AMS	04 10 50.0			
	comp=Z,2μm,11.1s										
KRLC	Kraliky	12.61	342		eP		Pn	04 05 20.9	+3.6		
KRLC					MLR		MLR				
	comp=Z,2μm,11.1s										
KARJ	KARJ	12.70	120		P		Pn	04 05 15.6	-2.9		
ANN	Anapa	12.75	54		eP		Pn	04 05 21.1	+2.0		
ANN					eS		Sn	04 07 44.9	+4.2		
ANN					pmax		pmax				
	comp=Z,43nm,1.3s										
ANN					MLR		MLR				
	comp=Z,368nm,12.0s										
PRNI	Paran	12.75	124		Pn		Pn	04 05 14.9	-4.4		
PRNI					Sn		Sn	04 07 36.8	-4.3		
KHC	Kasperske Hory	12.78	331		Pn		Pn	04 05 19.7	0.0		
KHC	Kasperske Hory	12.78	331		eP		Pn	04 05 18.7	-1.0		
KHC					AMS		AMS	04 10 30.0			
	comp=Z,3μm,9.1s										
KHC	Kasperske Hory	12.78	331	⇓	eP		Pn	04 05 20.4	+0.7		
RETA	Reutte	12.80	320		ePn		Pn	04 05 20.5	+0.5		
	comp=Z,6.8nm,0.7s										
RETA					eSn		Sn	04 07 38.3	-3.9		
	comp=Z,15nm,1.4s										
DAVOX	Davos/Dischmat	12.81	316		Pn		Pn	04 05 22.1	+1.9		
	comp=Z,0.9nm,0.3s,baz=138,slow=15,SNR=6.9										
DAVOX					Sn		Sn	04 07 38.5	-4.2		
	comp=Z,0.5nm,0.3s,baz=301,slow=17,SNR=3.8										
DAVOX					LR		LR	04 11 53.5			
	comp=Z,872nm,18.9s,baz=130,slow=45										
	comp=Z,2.5nm,0.3s										
ZVC	Zvikov	12.82	334		eP		Pn	04 05 19.7	-0.4		
ZVC					AMS		AMS	04 10 40.0			
	comp=Z,3μm,12.4s										
DPC	Dobruska-Polom	12.98	341		eP		Pn	04 05 27.1	+4.7		
DPC					AMS		AMS	04 11 00.0			
	comp=Z,3μm,12.6s										
DPC	Dobruska-Polom	12.98	341		eP		Pn	04 05 27.1	+4.7		
DPC					MLR		MLR				
	comp=Z,3μm,12.6s										
HRFI	Mount Harif	12.98	125		Pn		Pn	04 05 16.3	-6.1		
FUR	Furstenfeldbru	13.02	323		eL		L	04 11 37.2			
	comp=Z,2μm,19.3s										
GOPC	GO Pecny, Ondr	13.03	336		AMS		AMS	04 10 40.0			
	comp=Z,2μm,7.8s										
WET	Wettzell	13.06	330		eL		L	04 11 56.6			
MBRI	Mt Berech	13.07	126		Pn		Pn	04 05 19.4	-4.3		
MBRI					Sn		Sn	04 07 44.6	-4.3		
MBRI	Mt Berech	13.07	126		P		Pn	04 05 23.8	+0.1		
DAVA	Damuels	13.13	318		i Pn		Pn	04 05 27.4	+3.0		
	comp=Z,8.9nm,0.9s										
DAVA					eSn		Sn	04 07 47.5	-2.8		
	comp=Z,9.8nm,0.6s										
PRU	Pruhonice	13.17	336		eP		Pn	04 05 26.0	+1.1		
PRU					AMS		AMS	04 10 40.0			
	comp=Z,2μm,7.7s										
PRU	Pruhonice	13.17	336		eP		Pn	04 05 26.0	+1.1		
PRU					MLR		MLR				
	comp=Z,2μm,7.7s										
EIL	Elat	13.18	127		Pn		Pn	04 05 19.3	-5.8		
EIL					Sn		Sn	04 07 46.6	-4.8		
EIL	Elat	13.18	127		Pn		Pn	04 05 24.1	-1.0		
	comp=Z,2.0nm,0.3s,baz=341,slow=13,SNR=13										
EIL					Sn		Sn	04 07 43.1	-8.3		
	comp=Z,0.6nm,0.3s,baz=270,slow=22,SNR=3.8										
EIL					LR		LR	04 12 35.0			
	comp=Z,192nm,18.7s,baz=300,slow=47										
	comp=Z,14nm,0.8s										
OSTC	Ostas	13.20	341		eP		Pn	04 05 29.9	+4.6		
OSTC					AMS		AMS	04 11 10.0			
	comp=Z,2μm,13.5s										
OSTC	Ostas	13.20	341		eP		Pn	04 05 29.9	+4.6		
OSTC					MLR		MLR				
	comp=Z,2μm,13.5s										
UPC	Upice	13.21	341		AMS		AMS	04 11 10.0			
	comp=Z,2μm,10.8s										
KIEV	Kiev	13.26	18		Pn		Pn	04 05 25.7	-0.4		
KIEV	Kiev	13.26	18		P		Pn	04 05 25.7	-0.4		
CHVC	Chvalec	13.27	341		eP		Pn	04 05 30.6	+4.3		
CHVC					AMS		AMS	04 11 10.0			
	comp=Z,2μm,13.0s										
CHVC	Chvalec	13.27	341		eP		Pn	04 05 30.6	+4.3		
CHVC					MLR		MLR				
	comp=Z,2μm,13.0s										
AKASG	Malin Array Be	13.27	18		i P		Pn	04 05 24.8	-1.4		
AKASG					pmax		pmax				
	comp=Z,6.0nm,0.8s										
AKASG	Malin Array Be	13.27	18		Pn		Pn	04 05 24.9	-1.4		
	comp=Z,1.1nm,0.3s,baz=204,slow=13,SNR=9.3										
AKASG					LR		LR	04 10 53.1			
	comp=

MNK comp=Z,1µm,14.8s *i* LRM MLR 04 13 41.2
comp=N,1µm,15.5s
MNK Minsk 16.64 10 *i* P **Pn** **04 06 10.3 -0.7**
MNK *i* S **Sn** **04 09 16.2 +0.8**
MNK pmax pmax
comp=N,12nm,0.8s
MNK pmax pmax
comp=Z,15nm,0.9s
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK MLR MLR
comp=E,109nm,12.0s
MNK MLR MLR
comp=Z,1µm,15.0s
MNK MLR MLR
comp=N,1µm,15.0s
ZEI Tsey 16.64 67 *e*P **P** **04 06 16.2 +2.5**
ZEI pmax pmax
comp=Z,24nm,1.2s
NACGM Naroch 16.89 8 *e*P **P** **04 06 19.1 +2.8**
GNI Garni 17.08 77 Pn **Pn** **04 06 11.8 -5.1**
GNI Garni 17.08 77⇓ *e*P **P** **04 06 17.8 -0.8**
GNI Garni 17.08 77 P **Pn** **04 06 17.5 +0.6**
comp=Z,0.2nm,0.3s,baz=192,slow=19,SNR=1.4
comp=Z,3.5nm,0.7s
BTNL Ternell 17.13 322 *d*P **Pn** **04 06 17.9 +0.6**
PABE Paberze 17.30 2 Pn **Pn** **04 06 18.7 -0.6**
PABE Paberze 17.30 2 *e*P **P** **04 06 22.3 +1.6**
VSR Storozhevoye 17.36 36 *e*P **P** **04 06 23.9 +2.5**
VSR pmax pmax
comp=Z,20nm,1.3s
BSTI Sart Tilman 17.41 321 *d*PP **PnPn** **04 06 32.1 +1.2**
ISAL Salakas 17.49 6 *e*P **P** **04 06 24.9 +2.1**
BGES Gesves 17.53 320 *d*PP **PnPn** **04 06 32.5 0.0**
DOU Dourbes 17.61 318 *d*P **P** **04 06 25.0 +0.8**
DOU *d*PP **PnPn** **04 06 34.4 +0.8**
BMRD Maredsous 17.64 319 *d*PP **PnPn** **04 06 34.7 +0.6**
IZAR Zarasai 17.68 6 *e*P **P** **04 06 26.8 +1.9**
VORR Voronezh 17.69 35 *e*P **P** **04 06 28.5 +3.5**
VORR pmax pmax
comp=Z,50nm,0.5s
NAX Nakhchivan 17.70 80 P **P** **04 06 30.2 +4.8**
BSD Bornholm Skovb 17.73 345 *i* P **P** **04 06 27.3 +1.9**
BSD IAmb IAmb 04 06 37.4
comp=Z,37nm,1.1s
VSVD Vaisvydziai 17.78 2 *e*P **P** **04 06 27.7 +1.8**
BSEG Bad Segeberg 17.91 335 *e*P **P** **04 06 27.5 +0.1**
comp=Z,15nm,1.0s,baz=140,slow=11
LPSR Galich'ya Gora 18.22 33 *e*P **P** **04 06 31.4 +0.6**
LPSR pmax pmax
comp=Z,70nm,1.0s
GANJ Ganja 18.29 75 P **P** **04 06 34.7 +2.9**
LUNU Lund 18.52 343 *i* P **Pn** **04 06 35.1 +0.7**
ECHE Chera 18.57 282 P **Pn** **04 06 36.8 +1.6**
VRH Novokhopyorsk 18.59 40 *e*P **Pn** **04 06 35.7 +0.5**
VRH pmax pmax
comp=Z,40nm,1.1s
BLEU Blekinge 18.68 348 *i* P **P** **04 06 35.7 -0.2**
MNGR Mingechevir, A 18.87 75 P **Pn** **04 06 41.9 +3.3**
SEKA Sheki 18.96 73 P **Pn** **04 06 43.2 +3.4**
EMUR La Murta 18.97 276 P **P** **04 06 37.5 -1.8**
DEL Delary 19.21 345 *e*P **Pn** **04 06 43.7 +1.1**
DEL Delary 19.21 345 *i* P **Pn** **04 06 46.0 +3.4**
OBN Obninsk 19.28 24 **Pn** **04 06 43.8 +0.4**
OBN Obninsk 19.28 24*ce*P **Pn** **04 06 45.7 +2.2**
OBN pmax pmax
comp=Z,74nm,1.3s
OBN MLR MLR
comp=Z,289nm,15.0s
OBN Obninsk 19.28 24 P **P** **04 06 40.8 -1.6**
comp=Z,2.1nm,0.3s,baz=274,slow=14,SNR=1.7
OBN LR LR 04 15 02.0
comp=Z,332nm,19.8s,baz=192,slow=40
comp=Z,6.0nm,0.4s
MAK Makhachkala 19.29 68 *e*P **P** **04 06 40.5 -2.2**
MAK *e*S **Sn** **04 10 18.7 -1.0**
MAK pmax pmax
comp=Z,235nm,1.0s
MAK MLR MLR
comp=Z,287nm,11.0s
ENIJ Nijar 19.88 274 P **P** **04 06 49.1 -0.1**
MOS Moscow 20.14 25 *e*P **P** **04 06 51.5 -0.3**
MOS *e* 04 07 10.2
MOS *e*S Sn 04 10 41.0 +1.1
MOS pmax pmax
comp=Z,90nm,1.4s
MOS MLR MLR
comp=Z,800nm,10.0s
UCM Universidad Co 20.28 284 P **P** **04 06 54.4 +0.8**
LKRN Lenkeran, Azer 20.30 81 P Pn 04 06 58.0 +2.3
VSU Vasula 20.41 6 *e*P Pn 04 06 55.8 -1.0
VSU Vasula 20.41 6*c i*P **P** **04 06 55.0 +0.3**
VSU pmax pmax
comp=Z,196nm,0.8s
EBER Berja 20.43 274 P Pn 04 06 58.2 +0.7
CHAS Isla Isabel II 20.47 269 P **P** **04 06 56.6 +1.0**
ONAU Onsala 20.49 343 *i* P **P** **04 06 53.6 -1.9**
MTSE Matsula 20.51 1 *e*P Pn 04 06 57.1 -0.9
BORU Boraas 20.52 344 *i* P **P** **04 06 54.8 -1.1**
FIGM Figuig 20.59 260 P **P** **04 06 58.0 +0.8**
VIKU Vikbolandet 20.68 351 *e*P **P** **04 06 58.6 +1.0**
EALB Alboran 20.75 272 P **P** **04 06 59.3 +0.6**
ESBB Sonseca Array 20.87 282 P **P** **04 06 59.7 -0.4**
ESDC Sonseca Array 20.88 282 P **P** **04 07 00.2 +0.2**
ESDC Sonseca Array 20.88 282 P **P** **04 07 00.9 +0.8**
comp=Z,14nm,0.6s,baz=75,slow=11,SNR=1.95
ESDC PcP **PcP** **04 11 08.0 0.0**
comp=Z,1.0nm,0.9s,baz=37,slow=2.3,SNR=4.0
comp=Z,14nm,0.6s
GOG Mont Gurugu 20.91 270 P Pn 04 07 02.0 -1.0
TJOU Tjoern 21.13 343 *i* P **P** **04 07 00.8 -1.7**
PAB San Pablo 21.18 282 P **P** **04 07 03.0 -0.4**
PAB San Pablo 21.18 282 P **P** **04 07 04.4 +1.0**
PAB San Pablo 21.18 282 P **P** **04 07 03.0 -0.4**
PAB pmax pmax
comp=Z,29nm,1.0s
TAM Tamanrasset 21.38 229 P **P** **04 07 06.8 +1.2**
TAM Tamanrasset 21.38 229 P **P** **04 07 06.8 +1.2**
TAM pmax pmax
comp=Z,21nm,1.1s
EADA Adamuz 21.53 278 P **P** **04 07 07.1 0.0**
EMAL Malaga-Limoner 21.66 275 P **P** **04 07 11.5 +3.0**
AKLM AKL 21.79 268 P **P** **04 07 12.0 +2.0**
UPP Uppsala 21.90 353 *e*P **P** **04 07 11.3 +0.5**
PVLZ Peæn de 21.95 270 P **P** **04 07 12.5 +0.9**
MEF Metsahovi 22.03 2 *e*P **P** **04 07 15.3 +3.1**
PUL Pulkovo 22.09 10⇓ *e*P **P** **04 07 14.2 +1.4**
PUL pmax pmax
comp=Z,95nm,0.7s
STRU Stroemstad 22.14 344 *i* P **P** **04 07 10.4 -3.0**
CWF Charnwood Fore 22.15 319 *e*P **P** **04 07 14.0 +0.4**
BELG Belogornoye 22.31 43*d i*P **P** **04 07 17.6 +2.4**
BELG pmax pmax
comp=Z,27nm,1.1s
BELG Belogornoye 22.31 43 P **P** **04 07 15.4 +0.2**
comp=Z,38nm,0.9s,baz=273,slow=1.2,SNR=6.3
comp=Z,38nm,0.9s
SNART Snartemo 22.55 338 *i* P **P** **04 07 18.0 +0.3**
HFS Hagfors 22.68 348 P **P** **04 07 18.2 -1.0**
comp=Z,10nm,0.8s,baz=153,slow=13,SNR=1.8
HFS LR LR 04 17 48.0
comp=Z,592nm,19.0s,baz=171,slow=41
comp=Z,10nm,0.8s
LCRM LCR 22.84 267 P **P** **04 07 23.0 +1.7**
PBRG Braganca 22.89 288 *e*P **P** **04 07 22.8 +1.2**
comp=Z,46nm,1.7s
MDT Midelt 22.94 265 P **P** **04 07 22.9 +0.6**
IFR Ifrane 23.11 267 P **P** **04 07 24.5 +0.5**
MVO Moncorvo 23.12 287 *e*P **P** **04 07 24.2 +0.2**
comp=Z,93nm,1.7s
ARF Arif 23.18 261 P **P** **04 07 25.0 +0.3**
FINES FINESS Array B 23.33 4 P **P** **04 07 26.2 +0.4**
FINES FINESS Array B 23.33 4 P **P** **04 07 24.6 -1.2**
comp=Z,8.1nm,0.7s,baz=169,slow=10,SNR=1.5
FINES PcP **PcP** **04 11 11.6 -0.8**
comp=Z,4.2nm,1.0s,baz=146,slow=3.7,SNR=3.4
comp=Z,8.1nm,0.7s
PBAR Barrancos 23.44 279 *e*P **P** **04 07 28.3 +1.1**
comp=Z,34nm,1.7s
PMRV Marv??o 23.54 282 *e*P **P** **04 07 31.6 +3.5**
comp=Z,60nm,1.8s
MTE Manteigas 23.56 285 *e*P **P** **04 07 26.1 -2.3**
comp=Z,30nm,1.6s

PCBR Castelo Branco 23.56 283 *e*P **P** **04 07 30.9 +2.6**
comp=Z,26nm,1.4s
EDMD Edmundbyers 23.62 323 *e*P **P** **04 07 28.5 -0.2**
NC602 NORSAR Array S 23.63 346 P **P** **04 07 28.2 -0.6**
POLO Lamas de Olo 23.69 287 *e*P P 04 07 40.0 +10
comp=Z,48nm,1.6s
PESTR Estremoz 23.76 281 *e*P **P** **04 07 28.8 -1.5**
comp=Z,31nm,2.1s
NC405 NORSAR Array S 23.95 347 P **P** **04 07 31.7 -0.2**
NB2 NORSAR Subarra 23.97 346 P **P** **04 07 31.4 -0.7**
comp=Z,22nm,1.0s,baz=160,slow=10
NOA NORSAR Array B 23.97 346 P **P** **04 07 31.2 -0.9**
comp=Z,4.0nm,0.8s,baz=180,slow=8.4,SNR=15
comp=Z,4.0nm,0.8s
KESW Keswick, Cumbr 24.04 321 *e*P **P** **04 07 33.4 +0.6**
KESW IAmb IAmb 04 07 42.2
comp=Z,201nm,1.5s
PBEJ Beja 24.11 279 *e*P **P** **04 07 38.4 +4.8**
comp=Z,26nm,1.4s
EVO Evora 24.14 280 *e*P **P** **04 07 34.4 +0.5**
comp=Z,24nm,1.7s
PMTG Montargil 24.23 282 *e*P **P** **04 07 34.1 -0.6**
comp=Z,29nm,1.9s
NC204 NORSAR Array S 24.27 346 P **P** **04 07 35.1 +0.1**
NC204 IAmb IAmb 04 07 39.2
comp=Z,39nm,1.1s
PBDV Barranco-do-Ve 24.31 277 *e*P **P** **04 07 35.8 +0.3**
comp=Z,53nm,1.3s
PCVE Castro Verde 24.32 278 *e*P **P** **04 07 36.2 +0.7**
comp=Z,24nm,1.7s
PCAS Casmilo, Conde 24.32 284 *e*P **P** **04 07 36.4 +0.9**
comp=Z,77nm,1.7s
MESJ Messejana 24.42 279 *e*P **P** **04 07 40.0 +3.6**
comp=Z,30nm,1.4s
EKA Eskdalemuir Ar 24.47 323 P **P** **04 07 37.5 +0.7**
comp=Z,18nm,0.6s,baz=118,slow=9.1,SNR=33
comp=Z,18nm,0.6s
ESK Eskdalemuir 24.48 323 *e*P **P** **04 07 37.8 +1.0**
ESK IAmb IAmb 04 07 44.0
comp=Z,51nm,0.8s
ESK Eskdalemuir 24.48 323 P **P** **04 07 37.5 +0.7**
ESK IAmb IAmb 04 07 44.2
comp=Z,49nm,0.8s
ESK Eskdalemuir 24.48 323 P **P** **04 07 37.5 +0.7**
ESK pmax pmax
comp=Z,49nm,0.8s
EDI Edinburgh 24.81 324 *e*P **P** **04 07 39.9 +0.1**
EDI IAmb IAmb 04 07 48.6
comp=Z,73nm,0.8s
MORF Marmelete 24.86 278 P **P** **04 07 41.2 +0.7**
MORF IAmb IAmb 04 07 45.9
comp=Z,58nm,1.6s
MORF Marmelete 24.86 278 P **P** **04 07 41.2 +0.7**
MORF pmax pmax
comp=Z,58nm,1.6s
KLMR Klimovskoe 24.95 19 *e*P **P** **04 07 39.4 -1.6**
KLMR AMP 04 07 47.5
comp=Z,80nm,1.1s
KLMR ePP **PnPn** **04 08 13.0 -0.9**
KLMR LQ LQ 04 15 21.2
KLMR LQ LQ 04 15 21.2
KLMR LR LR 04 16 02.8
KLMR AMP 04 18 05.7
comp=Z,556nm,9.5s
KLMR Klimovskoe 24.95 19 *e*P **P** **04 07 39.4 -1.6**
KLMR *e* 04 08 13.0
KLMR pmax pmax
comp=Z,80nm,1.1s
KLMR MLR MLR
comp=Z,556nm,10.0s
AVE Averroes 24.98 268 P **P** **04 07 42.4 +0.9**
OUZM OUZ 25.37 262 P **P** **04 07 47.0 +1.7**
INVG Invergeldie, C 25.50 324 *e*P **P** **04 07 46.0 +0.1**
TIO Tiouine 25.76 263 P **P** **04 07 50.1 +1.3**
LAWE Loch Awe, Argy 26.04 323 *e*P **P** **04 07 51.5 +0.7**
KIRV Kirov 26.64 32*de*P **P** **04 07 57.1 +0.9**
KIRV Kirov 26.64 32 LR LR 04 18 42.4
comp=Z,184nm,19.4s,baz=249,slow=37
PRGR Permogore 27.36 24 *e*P **P** **04 08 01.4 -1.3**
PRGR pmax pmax
comp=Z,39nm,0.9s
GEYT Alibeck 27.67 80 P **P** **04 08 07.6 +1.8**
comp=Z,4.6nm,0.5s,baz=284,slow=6.0,SNR=17
comp=Z,4.6nm,0.5s
GYA0B ALIBECK ARRAY 27.67 80 P **P** **04 08 06.8 +0.9**
ABKAR Akbulak array 28.71 55 P **P** **04 08 14.2 -0.7**
ABKAR **PcP** **04 11 24.5 -0.5**
ARU Arti 29.82 41 P **P** **04 08 25.6 +0.9**
ARU Arti 29.82 41*d i*P **P** **04 08 24.8 +0.1**
ARU 04 09 16.0
ARU 04 11 23.0
ARU S **S** **04 13 22.8 +2.1**
ARU SS **SnSn** **04 14 52.1 +1.2**
ARU pmax pmax
comp=Z,18nm,1.0s
ARU MLR MLR
comp=Z,325nm,12.0s
ARU Arti 29.82 41 P **P** **04 08 24.8 +0.1**
comp=Z,4.3nm,0.5s,baz=236,slow=5.6,SNR=10.0
ARU LR LR 04 20 57.2
comp=Z,215nm,18.1s,baz=284,slow=38
comp=Z,4.3nm,0.5s
NAZ Nazwa, Dubai 30.74 106 P **P** **04 08 33.7 +0.6**
SVE Sverdlovsk 31.03 41⇓ *e*P **P** **04 08 36.4 +1.0**
SVE pmax pmax
comp=Z,33nm,1.4s
SVE MLR MLR
comp=Z,570nm,12.0s
HATD Hatta, Dubai 31.18 106 P **P** **04 08 37.0 -0.1**
ASHO Ashiyiah 31.21 106 P **P** **04 08 36.4 -0.9**
TOA0 Torodi Ar. Sit 31.26 223 P **P** **04 08 38.1 +0.3**
TORD Torodi Ar. Bea 31.26 223 P **P** **04 08 37.4 -0.4**
TORD PcP **PcP** **04 11 29.4 -2.8**
TORD Torodi Ar. Bea 31.26 223 P **P** **04 08 37.6 -0.2**
comp=Z,4.5nm,0.6s,baz=33,slow=8.9,SNR=31
TORD PcP **PcP** **04 11 31.0 -1.1**
comp=Z,2.0nm,1.1s,baz=38,slow=2.8,SNR=3.5
comp=Z,4.5nm,0.6s
ARCES ARCESS Array B 31.40 2 P **P** **04 08 38.0 -0.5**
comp=Z,3.2nm,0.7s,baz=198,slow=7.6,SNR=7.2
ARCES PcP **PcP** **04 11 30.5 -1.2**
comp=Z,0.9nm,0.4s,baz=206,slow=1.9,SNR=6.8
ARCES LR LR 04 20 56.8
comp=Z,175nm,18.6s,baz=164,slow=36
comp=Z,3.2nm,0.7s
SOHO SOHO 31.87 106 P **P** **04 08 43.3 +0.2**
BRVK Borovoye 35.63 50 P **P** **04 09 15.6 +0.1**
BRVK IAmb IAmb 04 09 24.5
comp=Z,17nm,0.8s
BRVK Borovoye 35.63 50*d i*P **P** **04 09 16.2 +0.7**
BRVK pmax pmax
comp=Z,18nm,0.8s
BVAR Borovoye Array 35.69 50 P **P** **04 09 17.7 +1.7**
comp=Z,8.6nm,0.7s,baz=264,slow=6.0,SNR=37
comp=Z,8.6nm,0.7s
SIMJ Simiganj 35.86 75 P **P** **04 09 18.7 +0.8**
KK31 Karatay Array 36.10 67 P **P** **04 09 20.7 +1.0**
KK31 IAmb IAmb 04 09 22.3
comp=Z,17nm,0.8s
KK31 Karatay Array 36.10 67 P **P** **04 09 20.7 +1.0**
KK31 pmax pmax
comp=Z,17nm,0.9s
KKAR Karatay Array 36.10 67 P **P** **04 09 20.7 +1.0**
KKAR IAmb IAmb 04 09 22.3
comp=Z,17nm,0.8s
KKAR Karatay Array 36.10 67 P **P** **04 09 20.7 +1.0**
KKAR pmax pmax
comp=Z,17nm,0.9s
LODK Lodwar 36.48 159 P **P** **04 09 23.8 +0.6**
JMIC Jan Mayen 36.62 343 LR LR 04 25 52.7
comp=Z,173nm,19.0s,baz=82,slow=39
DZA Taraz 36.73 67 *e*P **P** **04 09 25.1 0.0**
baz=67
DZA Taraz 36.73 67 *e*P **P** **04 09 25.1 0.0**
BORG Borgarnes 36.97 330 LR LR 04 27 01.8
comp=Z,307nm,20.6s,baz=119,slow=40
BRZS Berezniki 37.01 55 *e*P **P** **04 09 27.3 -0.1**
baz=55
BRZS Berezniki 37.01 55 *e*P **P** **04 09 27.3 -0.1**
BTLS Baital 38.33 63⇓ *i*P **P** **04 09 39.1 +0.4**
baz=63
BTLS Baital 38.33 63*d i*P **P** **04 09 39.0 +0.4**
EKS2 Erkin-Say 38.54 67 P **P** **04 09 42.0 +1.4**
SNR=18
SGDS Sogindy 39.00 65 *e*P **P** **04 09 44.0 -0.4**
baz=65

SGDS Sogindy 39.00 65 *e*P **P** **04 09 44.0 -0.4**
AAK Ala-Archa 39.06 67 P **P** **04 09 46.3 +1.3**
SNR=15
AAK Ala-Archa 39.06 67 P **P** **04 09 45.8 +0.8**
AAK Ala-Archa 39.06 67*d i*P **P** **04 09 46.3 +1.3**
AAK pmax pmax
comp=Z,22nm,1.0s
AAK Ala-Archa 39.06 67 LR LR 04 30 32.8
comp=Z,112nm,19.4s,baz=286,slow=43
FRU1 Bishkek 39.13 66 IAmb IAmb 04 09 51.4
comp=Z,43nm,0.9s
UCH Uchtor 39.16 67 P **P** **04 09 47.6 +1.5**
SNR=6.2
CHMS Chumysh 39.18 66 P **P** **04 09 46.8 +1.1**
SNR=11
MBAR Mbarara 39.32 167 P **P** **04 09 47.3 0.0**
MBAR Mbarara 39.32 167⇑ *i*P **P** **04 09 48.4 +1.1**
MBAR pmax pmax
comp=Z,11nm,1.3s
KBK Karagaybulak 39.39 67 P **P** **04 09 45.3 -2.4**
SNR=9.6
KZA Kyzart 39.73 67 P **P** **04 09 52.9 +2.1**
SNR=8.5
TKM2 Tokmak 2 39.80 66 P **P** **04 09 52.3 +1.1**
SNR=6.3
TKM2 Tokmak 2 39.80 66 *i* P **P** **04 09 51.5 +0.3**
TKM2 pmax pmax
comp=Z,15nm,1.2s
KUU Kurty 40.14 64 *e*P **P** **04 09 53.7 -0.1**
comp=Z,37nm,1.1s,baz=64
KUU Kurty 40.14 64 *e*P **P** **04 09 53.6 -0.1**
KUU pmax pmax
comp=Z,37nm,1.1s
SPITS Spitsbergen Ar 40.15 358 P **P** **04 09 53.7 +0.3**
comp=Z,7.1nm,0.9s,baz=153,slow=13,SNR=1.5
comp=Z,7.1nm,0.9s
DBIC Dimbokro 40.20 226 P **P** **04 09 54.8 +0.3**
DBIC Dimbokro 40.20 226 P **P** **04 09 54.8 +0.3**
DBIC pmax pmax
comp=Z,13nm,0.9s
DBIC Dimbokro 40.20 226 P **P** **04 09 54.6 +0.1**
comp=Z,4.7nm,0.6s,baz=25,slow=8.9,SNR=8.6
comp=Z,4.7nm,0.6s
CHKK Chushkaly 40.61 64 *e*P **P** **04 09 57.9 +0.2**
baz=64
CHKK Chushkaly 40.61 64 *e*P **P** **04 09 57.9 +0.2**
NIL Nilore 40.66 81 P **P** **04 09 57.4 -0.8**
NIL Nilore 40.66 81 P **P** **04 09 57.4 -0.8**
NIL pmax pmax
comp=Z,16nm,1.1s
AAA Alma-Ata 40.69 65 *e*P **P** **04 09 59.5 +1.1**
comp=Z,22nm,0.9s,baz=65
AAA Alma-Ata 40.69 65 *e*P **P** **04 09 59.4 +1.1**
AAA pmax pmax
comp=Z,22nm,0.9s
KURBB Kurchatov Arra 40.73 54 P **P** **04 09 59.0 +0.5**
comp=Z,15nm,0.7s,baz=282,slow=8.6,SNR=86
KURBB PcP **PcP** **04 11 59.8 +0.1**
comp=Z,0.8nm,0.3s,baz=287,slow=3.9,SNR=4.4
KURBB ScP **ScP** **04 15 47.1 -1.6**
comp=Z,1.5nm,1.0s,baz=281,slow=4.7,SNR=7.0
KURBB LR LR 04 30 54.8
comp=Z,145nm,19.5s,baz=179,slow=42
comp=Z,15nm,0.7s
TNSS Tian-Shan 40.75 66 *e*P **P** **04 09 59.0 -0.3**
baz=66
TNSS Tian-Shan 40.75 66 *e*P **P** **04 09 59.0 -0.3**
KURK Kurchatov 40.78 54 P **P** **04 09 58.8 -0.1**
KURK Kurchatov 40.78 54*d i*P **P** **04 09 59.2 +0.3**
KURK pmax pmax
comp=Z,22nm,0.9s
MDOK Medeo 40.79 65 *i* P **P** **04 10 00.2 +0.9**
baz=65
MDOK Medeo 40.79 65 *i* P **P** **04 10 00.2 +0.9**
KSH Kashi 40.88 71 P **P** **04 09 59.8 -0.3**
KSH pmax pmax
comp=Z,9.0nm,1.1s
KMBO Kilima Mbogo 41.36 158 P **P** **04 10 05.2 +0.9**
KMBO Kilima Mbogo 41.36 158 P **P** **04 10 05.2 +0.9**
KMBO pmax pmax
comp=Z,8.0nm,1.3s
KMBO Kilima Mbogo 41.36 158 P **P** **04 10 04.3 +0.1**
comp=Z,2.8nm,0.8s,baz=1.2,slow=10.0,SNR=7.6
comp=Z,2.8nm,0.8s
TDK Taldyqorghan 41.39 62 *e*P **P** **04 10 04.5 +0.4**
baz=62
TDK Taldyqorghan 41.39 62 *e*P **P** **04 10 04.4 +0.4**
ZHN Zhinishke 41.78 65 *e*P **P** **04 10 07.5 +0.1**
baz=65
ZHN Zhinishke 41.78 65 *e*P **P** **04 10 07.5 +0.1**
SATY Saty 41.78 65⇓ *i*P **P** **04 10 08.5 +1.0**
comp=Z,16nm,1.0s,baz=65
SATY Saty 41.78 65*d i*P **P** **04 10 08.5 +1.0**
SATY pmax pmax
comp=Z,16nm,1.0s
UZB Uzynbulak 42.20 65 *e*P **P** **04 10 11.2 +0.2**
baz=65
UZB Uzynbulak 42.20 65 *e*P **P** **04 10 11.1 +0.2**
DAG Danmarks Havn 42.65 347 *i* P **P** **04 10 14.0 +0.1**
DAG IAmb IAmb 04 10 34.3
comp=Z,74nm,2.6s
KIBK Kibwezi 42.74 157 P **P** **04 10 15.6 +0.2**
MAKZ Makanchi 43.50 59 P **P** **04 10 20.7 -0.5**
MAKZ Makanchi 43.50 59 P **P** **04 10 20.7 -0.5**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
MK31 Makanchi Array 43.71 59 P **P** **04 10 23.3 +0.3**
MK31 IAmb IAmb 04 10 24.5
comp=Z,26nm,1.1s
MK31 Makanchi Array 43.71 59*d i*P **P** **04 10 23.2 +0.3**
MKAR Makanchi Array 43.71 59 P **P** **04 10 23.3 +0.3**
comp=Z,11nm,0.4s,baz=270,slow=7.7,SNR=303
MKAR ScP **ScP** **04 15 59.0 -1.8**
comp=Z,2.4nm,0.9s,baz=270,slow=3.6,SNR=9.4
MKAR LR LR 04 32 06.0
comp=Z,96nm,18.9s,baz=286,slow=41
comp=Z,11nm,0.4s
ZAA0 Zalesovo Array 44.29 48 P **P** **04 10 27.6 +0.2**
ZALV Zalesovo Beam 44.29 48 *i* P **P** **04 10 27.6 +0.1**
ZALV pmax pmax
comp=Z,48nm,0.7s
ZALV Zalesovo Beam 44.29 48 P **P** **04 10 27.6 +0.1**
comp=Z,47nm,0.7s,baz=275,slow=8.8,SNR=175
ZALV LR LR 04 31 18.2
comp=Z,78nm,18.4s,baz=276,slow=39
comp=Z,47nm,0.7s
ZSN Zaisan 45.31 57 *e*P **P** **04 10 35.7 +0.1**
comp=Z,14nm,1.1s,baz=57
ZSN Zaisan 45.31 57 *e*P **P** **04 10 35.7 +0.1**
ZSN pmax pmax
comp=Z,15nm,1.1s
SUMG Summit 45.45 338 *i* P **P** **04 10 37.3 +0.4**
SUMG IAmb IAmb 04 10 56.2
comp=Z,3.0nm,0.8s
NRIK Noril'sk 45.93 27 P **P** **04 10 41.0 +0.7**
NRIK Noril'sk 45.93 27*d i*P **P** **04 10 41.6 +1.4**
NRIK pmax pmax
comp=Z,39nm,1.1s
NRIK Noril'sk 45.93 27 P **P** **04 10 41.3 +1.1**
comp=Z,20nm,0.9s,baz=242,slow=5.6,SNR=18
NRIK LR LR 04 33 45.5
comp=Z,164nm,18.8s,baz=268,slow=41
comp=Z,20nm,0.9s
DGZ Jazzator, Alta 46.52 54*d i*P **P** **04 10 45.9 +0.5**
DGZ pmax pmax
comp=Z,29nm,1.2s
DY2G Dye2 47.38 329 *i* P **P** **04 10 53.3 +1.4**
DY2G IAmb IAmb 04 11 00.9
comp=Z,9.5nm,0.8s
NEEM North Greenlan 49.53 344 *i* P **P** **04 11 07.2 -1.2**
NEEM IAmb IAmb 04 11 18.9
comp=Z,3.4nm,1.2s
PYUN Piuthan 50.57 83 *e*P **P** **04 11 16.2 -0.7**
comp=Z,43nm,0.8s
DANN Dangsing 51.06 82 *e*P **P** **04 11 20.1 -0.6**
comp=Z,97nm,0.9s
KOLN Koldanda 51.20 83 *e*P **P** **04 11 20.5 -1.2**
GKN Gorkha 51.91 82 *e*P **P** **04 11 25.7 -1.2**
DMN Daman 52.46 82 *e*P **P** **04 11 30.2 -0.9**
HYB Hyderabad 52.63 97 *e*P **P** **04 11 32.5 +0.3**
PKI Pulchoki 52.71 82 *e*P **P** **04 11 31.7 -1.4**
GUN Gumba 52.92 81 *e*P **P** **04 11 33.4 -1.2**
JIRN Jiri 53.28 81 *e*P **P** **04 11 36.1 -1.2**
comp=Z,18nm,0.7s
LSZ Lusaka 53.46 174 P **P** **04 11 38.8 +0.6**
LSZ Lusaka 53.46 174 P **P** **04 11 38.8 +0.6**

LSZ pmax pmax
comp=Z,12nm,1.2s
LSZ Lusaka 53.46 174 LR LR 04 33 54.8
comp=Z,156nm,18.4s,baz=3.0,slow=35
RAMN Ramite 53.94 82 *e*P **P 04 11 40.6 -1.4**
comp=Z,43nm,0.9s
MOY Mondy 54.35 49 *e*P **P 04 11 45.4 +0.9**
MOY pmax pmax
comp=Z,26nm,1.7s
ODAN Odare 54.60 82 *e*P **P 04 11 45.3 -1.5**
ZAK Zakamensk 56.14 49 *e*P **P 04 11 57.0 -0.4**
ZAK pmax pmax
comp=Z,14nm,1.0s
TSUM Tsumeb 57.34 186 P **P 04 12 06.0 -0.1**
TSUM Tsumeb 57.34 186 LR LR 04 37 30.6
comp=Z,167nm,18.8s,baz=333,slow=37
GTA Gaotai 58.18 63 *e*P **P 04 12 12.0 -0.1**
GTA sP sP 04 12 23.3 +5.1
GTA pmax pmax
comp=Z,9.0nm,0.8s
SHL Shillong 58.74 81 P **P 04 12 14.8 -1.4**
SHL IAmb IAmb 04 12 21.7
comp=Z,14nm,1.1s
SHL Shillong 58.74 81 P **P 04 12 14.8 -1.4**
SHL pmax pmax
comp=Z,14nm,1.1s
TIXI Tiksi 58.96 21 P **P 04 12 17.4 +0.6**
TIXI Tiksi 58.96 21⇑ *e*P **P 04 12 16.8 0.0**
TIXI pmax pmax
comp=Z,6.0nm,0.9s
TIXI Tiksi 58.96 21 LR LR 04 41 41.6
comp=Z,11nm,18.7s,baz=345,slow=40
SONM Songino Array 59.01 51 P **P 04 12 17.6 -0.1**
SONM IAmb IAmb 04 12 18.7
comp=Z,11nm,0.8s
SONM Songino Array 59.01 51 P **P 04 12 17.6 -0.1**
SONM pmax pmax
comp=Z,11nm,0.8s
SONM Songino Array 59.01 51 P **P 04 12 18.0 +0.3**
comp=Z,8.8nm,0.8s,baz=283,slow=8.3,SNR=68
SONM ScP **ScP 04 17 05.3 -1.3**
comp=Z,0.9nm,1.0s,baz=266,slow=4.2,SNR=3.7
SONM LR LR 04 42 10.8
comp=Z,177nm,18.4s,baz=318,slow=40
comp=Z,8.8nm,0.8s
BOD Bodaibo 59.20 39 *e*P **P 04 12 17.2 -1.5**
BOD pmax pmax
comp=Z,28nm,1.0s
ULN Ulaanbaatar 59.40 51 P **P 04 12 20.8 +0.4**
ULN IAmb IAmb 04 12 21.4
comp=Z,12nm,0.8s
ULN Ulaanbaatar 59.40 51 *d i*P **P 04 12 19.5 -0.9**
ULN pmax pmax
comp=Z,13nm,0.8s
SCHQ Schefferville 59.66 318 P **P 04 12 21.4 -0.5**
SCHQ Schefferville 59.66 318 P **P 04 12 22.0 +0.1**
comp=Z,20nm,0.5s,baz=67,slow=5.3,SNR=72
comp=Z,20nm,0.5s
RES Resolute Bay 60.22 344 LR LR 04 39 51.8
comp=Z,81nm,18.8s,baz=27,slow=37
WIN Windhoek 60.71 186 P **P 04 12 30.0 +0.4**
WIN IAmb IAmb 04 12 31.3
comp=Z,9.6nm,1.0s
WIN Windhoek 60.71 186 P **P 04 12 30.0 +0.4**
WIN pmax pmax
comp=Z,10.0nm,1.0s
LZH Lanzhou 62.54 64 *e*P **P 04 12 42.0 +0.1**
LZH pP pP 04 12 46.3 -0.1
LZH sP sP 04 12 49.3 +1.2
LZH pmax pmax
comp=Z,20nm,1.1s
LBTB Lobatse 62.96 177 P **P 04 12 45.1 +0.5**
LBTB Lobatse 62.96 177 P **P 04 12 45.1 +0.5**
LBTB pmax pmax
comp=Z,17nm,0.9s
LBTB Lobatse 62.96 177 LR LR 04 42 27.0
comp=Z,115nm,18.7s,baz=4.0,slow=38
YAK Yakutsk 64.16 30 *e*P **P 04 12 51.3 -0.7**
YAK *e**PP **pP 04 12 54.6 -2.3**
YAK *e* 04 13 26.1
YAK *e* 04 15 12.1
YAK *e*S **S 04 21 29.0 +0.7**
YAK *e**SS sS 04 21 46.3 +10
YAK *e*SS **SS 04 25 38.3 +1.7**
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,1.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,227nm,5.3s
YAK pmax pmax
comp=N,211nm,7.6s
YAK pmax pmax
comp=E,119nm,4.8s
YAK smax smax
comp=N,185nm,7.7s
YAK smax smax
comp=E,177nm,8.1s
CD2 Chengdu 65.05 69 *e*P **P 04 12 58.0 -0.4**
PKME Peaks-Kenny Pk 65.45 309 P **P 04 13 00.3 -0.4**
baz=60
HHC Hu-ho-hao-te 65.49 56 *e*P **P 04 13 01.3 +0.1**
HHC pmax pmax
comp=E,41nm,0.6s
HHC pmax pmax
comp=E,290nm,5.1s
PZH PanZhiHua 65.83 75 P **P 04 13 02.0 -1.6**
PZH pmax pmax
comp=E,10.0nm,0.8s
PZH pmax pmax
comp=E,170nm,5.0s
HIA Hailar 66.19 45 P **P 04 13 05.1 -0.4**
HIA IAmb IAmb 04 13 10.1
comp=Z,11nm,1.0s
HIA Hailar 66.19 45 P **P 04 13 05.1 -0.4**
HIA pmax pmax
comp=Z,11nm,1.0s
BOSA Boshof 66.53 178 P **P 04 13 08.8 +1.0**
BOSA Boshof 66.53 178 P **P 04 13 08.8 +1.0**
BOSA pmax pmax
comp=Z,29nm,1.2s
BOSA Boshof 66.53 178 P **P 04 13 08.3 +0.5**
comp=Z,13nm,0.9s,baz=5.9,slow=6.9,SNR=23
BOSA LR LR 04 43 07.9
comp=Z,107nm,18.3s,baz=343,slow=37
comp=Z,13nm,0.9s
XAN Xi'an 67.17 64 ⇑P **P 04 13 11.5 -0.5**
XAN pP sP 04 13 18.0 -0.2
XAN pmax pmax
comp=Z,12nm,1.0s
LBNH Lisbon 67.58 309 P **P 04 13 13.5 -0.9**
baz=58
ZEA Zeya 67.71 38 *e*P **P 04 13 15.4 +0.4**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
A36M Sachs Harbour 67.81 350 P **P 04 13 14.0 -1.3**
baz=27
CHTO Chiang Mai 67.87 83 P **P 04 13 15.6 -1.0**
CHTO Chiang Mai 67.87 83 P **P 04 13 15.6 -1.0**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
CMAR Chiang Mai Arr 68.07 83 P **P 04 13 16.6 -1.2**
CMAR Chiang Mai Arr 68.07 83 P **P 04 13 16.4 -1.4**
comp=Z,4.5nm,0.9s,baz=304,slow=8.0,SNR=24
CMAR LR LR 04 46 43.0
comp=Z,25nm,19.1s,baz=275,slow=39
comp=Z,4.5nm,0.9s
CRAI Chiangrai 68.19 81 P **P 04 13 17.6 -1.0**
CRAI IAmb IAmb 04 13 18.3
comp=Z,6.6nm,0.8s
HRV Adam Dziewonsk 68.28 307 P **P 04 13 17.6 -1.2**
baz=58
VLDQ Val d'Or 68.71 315 IAmb IAmb 04 13 29.6
comp=Z,18nm,1.1s
BJI Beijing 68.92 55 P **P 04 13 22.3 -0.5**
LONY Lake Ozonia 68.98 311 P **P 04 13 21.8 -1.3**
baz=57
L61B Northampton 69.00 308 P **P 04 13 22.5 -0.8**
baz=57
ENH Enshi 69.58 67 P **P 04 13 26.7 -0.4**
ENH IAmb IAmb 04 13 33.0
comp=Z,18nm,1.1s
HEH HeiHe 69.80 41 *e*P **P 04 13 27.8 -0.3**
HEH pmax pmax
comp=Z,14nm,0.9s
HEH pmax pmax
comp=Z,230nm,6.2s
C36M Paulatuk 70.00 348 IAmb IAmb 04 13 33.5
comp=Z,14nm,0.9s
C36M Paulatuk 70.00 348 P **P 04 13 28.2 -0.7**
baz=27
FCC Fort Churchill 70.12 330 IAmb IAmb 04 13 37.3
comp=Z,32nm,1.9s
SUR Sutherland 70.27 182 LR LR 04 46 42.0
comp=Z,267nm,18.7s,baz=354,slow=38
BILL Bilibino 70.55 14⇑ *e*P **P 04 13 35.0 +2.6**
BILL pmax pmax
comp=Z,11nm,1.7s
PAL Palisades 70.57 307 P **P 04 13 31.2 -1.7**
baz=56
A21K Barrow 70.75 360 P **P 04 13 31.9 -1.6**
baz=0.4
A22K Sinclair Lake 71.06 359 P **P 04 13 34.7 -0.7**
baz=1.8
BINY Binghamton 71.18 309 P **P 04 13 35.6 -1.1**
baz=55
SEY Seymchan 71.42 22⇓ *e*P **P 04 13 38.0 +0.3**
SEY pmax pmax
comp=Z,15nm,1.6s
SADO Sadowa 71.58 313 LR LR 04 44 38.7
comp=Z,63nm,19.5s,baz=50,slow=36
B22K Teshekpuk Lake 71.71 359 IAmb IAmb 04 13 44.5
comp=Z,13nm,1.1s
B22K Teshekpuk Lake 71.71 359 P **P 04 13 38.8 -0.5**
baz=3.1
C26K Camden Bay 71.79 356 P **P 04 13 39.5 -0.4**
baz=10
A19K Wainwright 71.84 1 P **P 04 13 39.7 -0.4**
baz=357
D28M Stokes Point 71.90 353 P **P 04 13 40.2 -0.2**
baz=15
B20K Meade River 72.08 0 P **P 04 13 41.5 0.0**
baz=360
C23K Itkillik River 72.14 358 IAmb IAmb 04 13 47.7
comp=Z,18nm,1.0s
C23K Itkillik River 72.14 358 P **P 04 13 41.7 -0.3**
baz=5.4
D27M Malcolm River 72.17 354 IAmb IAmb 04 13 47.5
comp=Z,14nm,1.0s
D27M Malcolm River 72.17 354 P **P 04 13 41.9 -0.4**
baz=13
C24K Franklin Bluff 72.19 357 P **P 04 13 41.7 -0.5**
baz=7.0
INK Inuvik 72.31 351 IAmb IAmb 04 13 43.7
comp=Z,17nm,1.4s
INK Inuvik 72.31 351 P **P 04 13 42.4 -0.6**
baz=19,SNR=8.1
INK Inuvik 72.31 351 LR LR 04 49 41.6
comp=Z,63nm,18.0s,baz=197,slow=39
B21K Ikpikpuk River 72.45 359 IAmb IAmb 04 13 45.9
comp=Z,18nm,1.4s
B21K Ikpikpuk River 72.45 359 P **P 04 13 43.5 -0.3**
baz=2.1
D25K Kavik River 72.47 356 P **P 04 13 45.0 +0.9**
D25K IAmb IAmb 04 13 49.0
comp=Z,14nm,1.1s
D25K Kavik River 72.47 356 P **P 04 13 44.1 +0.1**
baz=8.9
CN2 Changchun 72.51 48 P **P 04 13 42.5 -2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
KLR Kul'dur 72.66 41⇓ *i*P **P 04 13 44.6 -0.8**
KLR pmax pmax
comp=Z,12nm,1.1s
B18K Kokolik River 72.67 2 P **P 04 13 44.6 -0.5**
baz=356
E28M Babbage River 72.67 353 IAmb IAmb 04 13 50.8
comp=Z,14nm,0.9s
E28M Babbage River 72.67 353 P **P 04 13 45.0 -0.2**
baz=14
E29M Blow River 72.73 353 P **P 04 13 45.1 -0.4**
baz=16
D24K Happy Valley 72.76 357 IAmb IAmb 04 13 47.6
comp=Z,17nm,1.2s
D24K Happy Valley 72.76 357 P **P 04 13 46.4 +0.7**
baz=6.8
C21K Knifeblade Rid 72.92 359 P **P 04 13 47.3 +0.7**
baz=1.9
C19K Lookout Ridge 72.97 1 IAmb IAmb 04 13 58.0
comp=Z,21nm,1.6s
C19K Lookout Ridge 72.97 1 P **P 04 13 47.6 +0.7**
baz=358
D23K Nanushuk River 73.02 358 P **P 04 13 47.1 -0.1**
baz=5.3
D22K Ayikyak River 73.16 358 IAmb IAmb 04 13 50.2
comp=Z,22nm,1.4s
D22K Ayikyak River 73.16 358 P **P 04 13 47.5 -0.6**
baz=3.7
F31M Tsiigehtchic 73.16 351 P **P 04 13 48.2 +0.2**
baz=19,SNR=30
F30M Barrier River 73.25 352 P **P 04 13 48.4 -0.2**
baz=17
E27K Coleen River 73.26 354 IAmb IAmb 04 13 51.0
comp=Z,22nm,1.2s
E27K Coleen River 73.26 354 P **P 04 13 48.1 -0.6**
baz=13
TOLK Toolik Lake Re 73.30 357 P **P 04 13 48.1 -0.8**
baz=6.2
D20K Etivluk River 73.38 360 P **P 04 13 49.3 0.0**
baz=0.4
C18K Utukok River 73.40 2 IAmb IAmb 04 13 58.1
comp=Z,13nm,1.1s
C18K Utukok River 73.40 2 P **P 04 13 49.0 -0.5**
baz=357
MA2 Magadan 73.50 25 P **P 04 13 50.7 +0.5**
MA2 Magadan 73.50 25 *de*P **P 04 13 50.3 +0.1**
MA2 pmax pmax
comp=Z,27nm,0.9s
MA2 Magadan 73.50 25 LR LR 04 48 39.0
comp=Z,114nm,18.6s,baz=321,slow=38
C17K DeLong Mountai 73.52 2 P **P 04 13 49.7 -0.5**
baz=355
D19K Kuna River 73.59 0 IAmb IAmb 04 13 56.4
comp=Z,22nm,1.4s
D19K Kuna River 73.59 0 P **P 04 13 51.2 +0.5**
baz=359
E25K Arctic Village 73.61 355 P **P 04 13 50.9 +0.1**
baz=9.5,SNR=7.7
E21K Killik River 73.62 359 P **P 04 13 50.9 0.0**
baz=2.6
C16K Lisburne Hills 73.64 3 P **P 04 13 50.4 -0.4**
baz=353
ERPA Erie 73.64 311 P **P 04 13 51.0 -0.4**
baz=53
F28M Old Crow 73.67 353 IAmb IAmb 04 13 55.8
comp=Z,11nm,0.9s
F28M Old Crow 73.67 353 P **P 04 13 50.8 -0.4**
baz=14,SNR=10
G31M Satah River 73.72 351 IAmb IAmb 04 13 52.2
comp=Z,14nm,0.8s
G31M Satah River 73.72 351 P **P 04 13 51.0 -0.4**
baz=19,SNR=8.9
E24K Your Creek 73.82 357 P **P 04 13 51.4 -0.6**
baz=7.1,SNR=7.6
E20K Nigu River 73.83 360 P **P 04 13 51.5 -0.7**
baz=0.8
E22K Anaktuvuk Pass 73.88 358 P **P 04 13 51.4 -1.0**
baz=4.4,SNR=8.2
E23K Chandalar 73.88 357 P **P 04 13 51.6 -0.8**
baz=6.2
G30M tAoh Zraii Nji 73.90 352 IAmb IAmb 04 13 56.9
comp=Z,15nm,1.1s
G30M tAoh Zraii Nji 73.90 352 P **P 04 13 52.0 -0.5**
baz=17,SNR=10.0
F26K Sheenjek River 73.94 355 P **P 04 13 52.1 -0.6**
baz=11
RDOG Red Dog Mine 73.95 2 P **P 04 13 53.7 +1.0**
RDOG Red Dog Mine 73.95 2 P **P 04 13 52.2 -0.5**
baz=355
YKA Yellowknife Ar 73.95 341 P **P 04 13 53.1 +0.3**
comp=Z,2.5nm,0.7s,baz=27,slow=5.2,SNR=50
YKA LR LR 04 47 40.9
comp=Z,117nm,19.1s,baz=330,slow=37
comp=Z,2.5nm,0.7s
P57A Homestead Farm 74.01 308 IAmb IAmb 04 13 56.2
comp=Z,19nm,1.1s
F25K Christian Rive 74.14 355 P **P 04 13 53.6 -0.3**
baz=9.4,SNR=6.1
G29M Pine Creek 74.17 352 P **P 04 13 53.4 -0.6**
baz=16
F24K Squaw Lake 74.34 356 IAmb IAmb 04 13 57.4
comp=Z,11nm,0.9s
F24K Squaw Lake 74.34 356 P **P 04 13 54.8 -0.3**
baz=7.5
CBN Corbin Frederi 74.37 306 P **P 04 13 55.5 -0.1**
baz=54
MDJ Mudanjiang 74.38 45 P **PcP 04 14 07.3 -3.0**
MDJ PP **PP 04 16 45.5 +4.2**
MDJ Mudanjiang 74.38 45 ScS **ScS 04 24 08.0 +1.9**
MDJ Mudanjiang 74.38 45 SS SS 04 28 30.5 +16
MDJ pmax pmax
comp=Z,21nm,2.3s
MDJ pmax pmax
comp=Z,220nm,5.5s
M53A WI Miller and 74.46 311 P **P 04 13 54.7 -1.5**
baz=52
F22K John River 74.52 358 P **P 04 13 55.4 -0.7**
baz=4.0
EPYK Eagle Plains 74.55 352 IAmb IAmb 04 13 57.3
comp=Z,16nm,0.8s
EPYK Eagle Plains 74.55 352 P **P 04 13 55.9 -0.4**
baz=16,SNR=7.9
G27K Doyon Strip 74.62 354 P **P 04 13 56.3 -0.4**
baz=13
E19K Redstone River 74.64 0 P **P 04 13 57.3 +0.5**
E19K IAmb IAmb 04 14 01.8
comp=Z,16nm,0.8s
E19K Redstone River 74.64 0 P **P 04 13 56.4 -0.4**
baz=360
E18K Tukpahlearik C 74.64 1 IAmb IAmb 04 14 01.6
comp=Z,11nm,0.8s
E18K Tukpahlearik C 74.64 1 P **P 04 13 56.6 -0.1**
baz=357
G26K Porcupine Rive 74.65 355 P **P 04 13 56.9 +0.1**
baz=11,SNR=15
COLD Coldfoot 74.74 357 P **P 04 13 56.3 -1.0**
baz=5.7,SNR=5.9
F21K Alatna River 74.84 359 P **P 04 13 58.1 +0.2**
baz=3.0,SNR=7.0
H29M Whitestone 74.88 352 IAmb IAmb 04 13 59.2
comp=Z,15nm,0.7s
H29M Whitestone 74.88 352 P **P 04 13 58.2 +0.1**
baz=15
E17K Hotham Inlet 74.95 2 P **P 04 13 58.8 +0.2**
baz=356
G25K Bearman Lake 74.99 355 P **P 04 13 59.0 +0.3**
baz=9.0
MCWV Mont Chateau 75.04 309 IAmb IAmb 04 14 02.7
comp=Z,25nm,1.0s
MCWV Mont Chateau 75.04 309 P **P 04 13 58.9 -0.6**
baz=52
F20K Avaraart Lake 75.04 359 P **P 04 13 59.0 0.0**
baz=1.1
G22K Bettles 75.09 358 P **P 04 13 59.0 -0.3**
baz=4.6
FYU Fort Yukon 75.13 355 P **P 04 13 59.9 +0.3**
FYU IAmb IAmb 04 14 06.0
comp=Z,31nm,1.3s
G24K Hadweenzic Riv 75.14 356 P **P 04 13 59.4 -0.3**
baz=7.8
H27K Steamboat Moun 75.17 354 P **P 04 13 58.9 -1.0**
baz=13,SNR=12
NJ2 Nanjing 75.20 61 *e*P **P 04 14 01.0 +0.4**
NJ2 pP **pP 04 14 05.0 -0.1**
NJ2 sP **sP 04 14 06.3 -0.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,310nm,4.9s
G23K Bananza Creek 75.25 357 P **P 04 13 59.6 -0.8**
baz=5.8
F19K Shaleruckik Mo 75.27 0 IAmb IAmb 04 14 05.2
comp=Z,16nm,1.1s
F19K Shaleruckik Mo 75.27 0 P **P 04 13 59.5 -0.8**
baz=360
WRGLY Wrigley 75.36 345 IAmb IAmb 04 14 02.8
comp=Z,22nm,1.0s
WRGLY Wrigley 75.36 345 P **P 04 14 00.8 -0.2**
baz=27,SNR=5.3
O53A New Philadelph 75.51 310 P **P 04 14 01.7 -0.5**
baz=52
G21K Allakaket 75.55 358 IAmb IAmb 04 14 07.2
comp=Z,13nm,0.9s
G21K Allakaket 75.55 358 P **P 04 14 01.5 -0.5**
baz=3.0
I30M Mount Dempster 75.61 351 P **P 04 14 02.1 -0.4**
baz=17
F17K Baldwin Pennin 75.61 2 P **P 04 14 02.9 +0.6**
baz=357
AAM Ann Arbor 75.69 313 P **P 04 14 03.4 +0.2**
baz=51
I29M Ogilvie Camp, 75.70 352 P **P 04 14 03.2 +0.3**
baz=15,SNR=23
U59A Littleton 75.74 305 P **P 04 14 05.1 +1.5**
baz=53
U59A P **P 04 14 05.1 +1.5**
baz=53
I28M Miner Creek 75.79 353 P **P 04 14 03.0 -0.5**
baz=14,SNR=7.5
I27K Kandik River 75.80 353 P **P 04 14 03.0 -0.5**
baz=12
G19K Purcell Mounta 75.96 360 IAmb IAmb 04 14 09.5
comp=Z,9.3nm,0.8s
G19K Purcell Mounta 75.96 360 P **P 04 14 04.0 -0.4**
baz=0.0
USA0B Ussuriysk Arra 75.97 44⇑ *e*P **P 04 14 03.9 -0.9**
USRK Ussuriysk Ar. 75.97 44 P **P 04 14 04.7 -0.1**
USRK Ussuriysk Ar. 75.97 44 P **P 04 14 04.0 -0.8**
comp=Z,8.3nm,0.9s,baz=278,slow=5.9,SNR=6.9
comp=Z,8.3nm,0.9s
H24K Noodor Dome 76.02 356 P **P 04 14 04.4 -0.3**
baz=7.5
FFC Flin Flon 76.05 331 P **P 04 14 05.5 +0.4**
FFC IAmb IAmb 04 14 07.9
comp=Z,28nm,1.9s
FFC Flin Flon 76.05 331 P **P 04 14 05.5 +0.4**
FFC pmax pmax
comp=Z,28nm,1.9s
H22K Ishtalitna Cre 76.11 358 P **P 04 14 05.1 -0.2**
baz=4.7
PRP Porcupine Dome 76.19 355 P **P 04 14 05.5 -0.3**
baz=9.4
G18K Tagagawik 76.20 1 IAmb IAmb 04 14 10.6
comp=Z,12nm,0.9s
G18K Tagagawik 76.20 1 P **P 04 14 05.8 +0.1**
baz=359
TNA Tin City 76.20 5 P **P 04 14 06.4 +0.7**
baz=351
I26K Coal Creek Min 76.22 354 IAmb IAmb 04 14 07.6
comp=Z,9.1nm,0.8s
I26K Coal Creek Min 76.22 354 P **P 04 14 05.7 -0.1**
baz=11
J30M Hart River 76.23 351 P **P 04 14 05.7 -0.4**
baz=17
EYMN Ely 76.23 321 P **P 04 14 06.4 +0.1**
baz=48
F14K Arctic Creek 76.38 4 P **P 04 14 06.4 -0.4**
baz=353
H21K Melozitna Rive 76.39 358 IAmb IAmb 04 14 12.6
comp=Z,19nm,1.1s
H21K Melozitna Rive 76.39 358 P **P 04 14 06.4 -0.4**
baz=3.5
P52A Corning 76.45 310 P **P 04 14 07.2 -0.4**
baz=51
CNNC Cliffs of the 76.47 304 P **P 04 14 07.4 -0.4**
baz=53
EGAK Eagle 76.56 353 P **P 04 14 07.9 +0.1**
baz=13
G17K Kiwalik Mounta 76.57 1 P **P 04 14 07.8 0.0**
baz=357
H19K Roundabout Mou 76.58 360 P **P 04 14 06.7 -1.1**
baz=0.6
ACSO Alum Creek Sta 76.58 311 P **P 04 14 08.4 +0.1**
ACSO Alum Creek Sta 76.58 311 P **P 04 14 08.1 -0.3**
baz=51
ACSO Alum Creek Sta 76.58 311 P **P 04 14 09.3 +0.9**
baz=51
H20K Anotleneega Mo 76.60 359 P **P 04 14 07.4 -0.6**
baz=1.8
G16K Koyuk River 76.63 2 P **P 04 14 07.5 -0.7**
baz=356
POKR Poker Plat Res 76.71 356 IAmb IAmb 04 14 13.8
comp=Z,12nm,0.9s
POKR Poker Plat Res 76.71 356 P **P 04 14 08.5 -0.2**
baz=7.8,SNR=7.1
ULM Lac du Bonnet 76.73 325 P **P 04 14 09.1 +0.1**
comp=Z,4.9nm,0.8s,baz=39,slow=5.5,SNR=5.9
ULM LR LR 04 48 30.3
comp=Z,109nm,19.9s,baz=43,slow=36
comp=Z,4.9nm,0.8s

I23K	Minto, Yukon-K	76.78	357	IAmb	IAmb	04 14 14.3					
	comp=Z,9.3nm,0.8s										
I23K	Minto, Yukon-K	76.78	357	P	P	04 14 08.7	-0.2				
	baz=6.3										
TYV	Tymovskoe	76.79	34	eP	P	04 14 09.7	+0.4				
TYV				pmax	pmax						
	comp=Z,100nm,3.4s										
TYV				pmax	pmax						
	comp=Z,7.0nm,0.9s										
I21K	Tanana	76.85	358	P	P	04 14 09.6	+0.2				
	baz=4.2										
BLA	Blacksburg	76.89	307	P	P	04 14 09.9	-0.3				
	baz=52										
MDM	Murphy Dome	76.91	356	IAmb	IAmb	04 14 14.7					
	comp=Z,11nm,0.9s										
H18K	Honhosa River	76.95	1	IAmb	IAmb	04 14 20.6					
	comp=Z,19nm,1.2s										
H18K	Honhosa River	76.95	1	P	P	04 14 09.7	-0.3				
	baz=359										
MLY	Manley	76.95	357	IAmb	IAmb	04 14 15.3					
	comp=Z,13nm,1.1s										
MLY	Manley	76.95	357	P	P	04 14 09.5	-0.6				
	baz=5.2,SNR=8.8										
IL31		77.02	356	IAmb	IAmb	04 14 22.7					
	comp=Z,35nm,1.9s										
ILAR	Eielson Array	77.02	356	P	P	04 14 11.3	+0.9				
ILAR	Eielson Array	77.02	356	P	P	04 14 11.1	+0.7				
	comp=Z,2.1nm,0.7s,baz=350,slow=3.1,SNR=43										
ILAR				LR	LR	04 49 17.7					
	comp=Z,41nm,20.7s,baz=3.0,slow=37										
	comp=Z,2.1nm,0.7s										
J26L	Joseph Creek	77.05	354	IAmb	IAmb	04 14 15.8					
	comp=Z,10nm,0.8s										
J26L	Joseph Creek	77.05	354	P	P	04 14 10.2	-0.5				
	baz=11										
J25K	Salcha River,	77.08	355	P	P	04 14 10.4	-0.3				
	baz=9.5										
DAWY	Dawson	77.08	352	IAmb	IAmb	04 14 12.4					
	comp=Z,17nm,0.8s										
DAWY	Dawson	77.08	352	P	P	04 14 10.8	0.0				
	baz=14,SNR=18										
K29M	Barlow Dome	77.08	351	P	P	04 14 10.6	-0.3				
	baz=16										
MAYO	Mayo, Yukon	77.11	350	P	P	04 14 10.6	-0.4				
	baz=17										
H17K	Granite Mounta	77.15	1	P	P	04 14 10.5	-0.6				
	baz=358										
R53A	Hurricane	77.15	309	P	P	04 14 12.8	+1.2				
	baz=51,SNR=5.9										
R53A				P	P	04 14 12.8	+1.2				
	baz=51,SNR=5.9										
I20K	Naaghedeneel	77.29	359	P	P	04 14 11.2	-0.7				
	baz=2.1										
NEA2	Nenana	77.32	356	P	P	04 14 12.4	+0.4				
	baz=6.5										
GCSA	Galena City Sc	77.36	360	P	P	04 14 12.5	+0.2				
	baz=0.2										
K27K	Chicken	77.38	353	P	P	04 14 12.2	-0.3				
	baz=12										
HDA	Harding Lake	77.38	355	IAmb	IAmb	04 14 17.3					
	comp=Z,18nm,1.0s										
HDA	Harding Lake	77.38	355	P	P	04 14 11.8	-0.6				
	baz=8.2										
HDA				P	P	04 14 11.8	-0.6				
	baz=8.2										
H16K	Elim	77.39	2	P	P	04 14 11.5	-0.9				
	baz=356										
SCRK	Sand Creek	77.60	354	P	P	04 14 15.0	+1.2				
SCRK				IAmb	IAmb	04 14 19.0					
	comp=Z,24nm,1.5s										
SCRK	Sand Creek	77.60	354	P	P	04 14 13.2	-0.6				
	baz=11,SNR=6.9										
GAMB	Gambell	77.68	7	P	P	04 14 13.7	-0.3				
	baz=348										
O48B	Farmland	77.85	312	P	P	04 14 15.1	-0.4				
	baz=50										
KSAR	Wonju Array Be	77.86	52	P	P	04 14 14.0	-1.5				
KSAR	Wonju Array Be	77.86	52	P	P	04 14 14.0	-1.5				
TGTN	Hyland Airport	77.86	346	P	P	04 14 15.1	-0.1				
	baz=23										
L29M	L29M	77.86	351	IAmb	IAmb	04 14 17.1					
	comp=Z,11nm,1.0s										
L29M	L29M	77.86	351	P	P	04 14 14.7	-0.4				
	baz=15,SNR=5.9										
KSRS	Korea Array	77.87	52	P	P	04 14 15.0	-0.6				
KSRS	Korea Array	77.87	52	P	P	04 14 14.9	-0.6				
	comp=Z,2.0nm,0.5s,baz=309,slow=4.3,SNR=9.0										
KSRS				LR	LR	04 54 01.4					
	comp=Z,30nm,21.2s,baz=350,slow=40										
	comp=Z,2.0nm,0.5s										
BPAW	Bear Paw Mtn.	77.89	357	IAmb	IAmb	04 14 19.5					
	comp=Z,13nm,1.0s										
BPAW	Bear Paw Mtn.	77.89	357	P	P	04 14 14.5	-0.8				
	baz=4.9										
RIDG	Independent Ri	77.90	354	P	P	04 14 14.7	-0.7				
	baz=9.9										
J20K	Nowinta River	77.91	359	P	P	04 14 14.5	-0.8				
	baz=2.4										
K24K	Donnelly Dome	77.91	355	P	P	04 14 14.5	-0.9				
	baz=9.1,SNR=5.2										
FARO	Faro, Yukon	78.06	349	IAmb	IAmb	04 14 18.9					
	comp=Z,15nm,1.2s										
FARO	Faro, Yukon	78.06	349	P	P	04 14 16.0	-0.3				
	baz=19,SNR=7.8										
P49A	Miami Univ. Ec	78.06	311	P	P	04 14 16.3	-0.3				
	baz=50										
J19K	Poorman	78.11	359	IAmb	IAmb	04 14 21.9					
	comp=Z,16nm,1.0s										
J19K	Poorman	78.11	359	P	P	04 14 16.2	-0.3				
	baz=1.2										
CHUM	Lake Minchumin	78.16	358	P	P	04 14 17.0	+0.3				
	baz=3.9										
MCK	McKinley	78.17	356	P	P	04 14 16.2	-0.6				
	baz=6.6										
I17K	Unalakleet	78.19	2	P	P	04 14 16.6	-0.2				
	baz=357										
U54A	Nelsons Funny	78.20	307	P	P	04 14 19.0	+1.4				
	baz=51										
U54A				P	P	04 14 19.0	+1.4				
	baz=51										
M30M	Minto, Yukon	78.21	351	P	P	04 14 16.6	-0.6				
	baz=16										
V55A	Taylorsville	78.23	306	IAmb	IAmb	04 14 20.1					
	comp=Z,15nm,1.0s										
V55A	Taylorsville	78.23	306	P	P	04 14 18.6	+1.0				
	baz=51										
V55A				P	P	04 14 18.6	+1.0				
	baz=51										
M31M	Drury Creek, Y	78.24	349	IAmb	IAmb	04 14 23.0					
	comp=Z,11nm,0.8s										
M31M	Drury Creek, Y	78.24	349	P	P	04 14 17.1	-0.2				
	baz=18,SNR=7.6										
SJG	San Juan	78.25	284	P	P	04 14 19.2	+1.2				
	comp=Z,4.6nm,0.4s,baz=328,slow=9.6,SNR=1.6										
	comp=Z,4.6nm,0.4s										
KOTAN	Kotaneelee Air	78.27	344	P	P	04 14 17.1	-0.4				
	baz=26										
BCAR	Beaver Creek A	78.30	353	P	P	04 14 18.4	+0.8				
L27K	Beaver Creek,	78.31	353	IAmb	IAmb	04 14 19.7					
	comp=Z,12nm,0.9s										
L27K	Beaver Creek,	78.31	353	P	P	04 14 17.7	0.0				
	baz=12,SNR=7.7										
L26K	Log Cabin Wild	78.48	354	P	P	04 14 19.2	+0.6				
	baz=11										
TRF	Thorofare Moun	78.52	357	P	P	04 14 18.9	0.0				
	baz=5.5										
P48A	Milroy	78.53	311	P	P	04 14 19.9	+0.7				
	baz=50										
P48A				P	P	04 14 19.9	+0.7				
	baz=50										
M29M	Somme Creek	78.55	351	P	P	04 14 19.1	0.0				
	baz=15										
S51A	Beattyville	78.59	309	P	P	04 14 20.5	+0.9				
	baz=50										
S51A				P	P	04 14 20.5	+0.9				
	baz=50										
MENT	Mentasta	78.60	354	IAmb	IAmb	04 14 26.0					
	comp=Z,14nm,0.9s										
CAST	Castle Rocks	78.61	358	IAmb	IAmb	04 14 24.5					
	comp=Z,9.0nm,0.8s										
CAST	Castle Rocks	78.61	358	P	P	04 14 19.2	-0.1				
	baz=4.0										
J18K	Innoko River	78.65	360	P	P	04 14 18.6	-0.9				
	baz=0.3										
PAX	Paxson	78.71	355	P	P	04 14 18.7	-1.2				
	baz=9.3										
K20K	Telida	78.73	359	IAmb	IAmb	04 14 25.6					
	comp=Z,16nm,1.1s										
K20K	Telida	78.73	359	P	P	04 14 19.4	-0.5				
	baz=2.5										
DHY	Denali Highway	78.74	355	P	P	04 14 19.6	-0.6				
	baz=7.8										
SPMN	Marine on St.	78.75	319	P	P	04 14 20.8	+0.4				
	baz=46										
KMSC	Kings Mountain	78.75	306	P	P	04 14 20.3	-0.2				
KMSC				IAmb	IAmb	04 14 22.8					
	comp=Z,14nm,1.1s										
KMSC	Kings Mountain	78.75	306	P	P	04 14 19.7	-0.8				
	baz=51										
KMSC	Kings Mountain	78.75	306	P	P	04 14 22.2	+1.7				
	baz=51										
J16K	Anvik River	78.79	2	P	P	04 14 20.0	-0.3				
	baz=357										
BVCY	Beaver Creek	78.84	352	P	P	04 14 20.1	-0.6				
	baz=13,SNR=6.7										
JFWS	Jewell Farm	78.98	316	P	P	04 14 21.2	-0.5				
	baz=47										
M27K	Edge Creek, AK	79.00	353	IAmb	IAmb	04 14 27.4					
	comp=Z,24nm,1.1s										
M27K	Edge Creek, AK	79.00	353	P	P	04 14 21.2	-0.5				
	baz=12										
N32M	Quiet Lake	79.04	348	P	P	04 14 21.1	-0.6				
	baz=19										
M26K	Nabesna, AK	79.07	353	P	P	04 14 21.6	-0.2				
	baz=11										
N31M	Braeburn, Yuko	79.12	350	IAmb	IAmb	04 14 27.3					
	comp=Z,16nm,1.1s										
N31M	Braeburn, Yuko	79.12	350	P	P	04 14 21.4	-0.8				
	baz=17										
PPLA	Purkeypile	79.14	358	P	P	04 14 21.3	-1.0				
	baz=4.0										
J14K	Nanvaranak Lak	79.24	3	P	P	04 14 22.2	-0.5				
	baz=355										
WAT6	Susitna Watana	79.25	356	P	P	04 14 22.3	-0.7				
	baz=7.5										
HARP	HAARP	79.25	354	P	P	04 14 21.4	-1.5				
	baz=9.6										
TZTN	Tazewell	79.26	308	P	P	04 14 22.3	-1.0				
	baz=50										
PAULI	Pauline	79.26	306	IAmb	IAmb	04 14 25.6					
	comp=Z,19nm,1.1s										
PAULI	Pauline	79.26	306	P	P	04 14 23.7	+0.4				
	baz=51										
N30M	Aishikik Lake	79.33	350	P	P	04 14 22.5	-0.8				
	baz=16										
K17K	Iditarod	79.40	1	P	P	04 14 22.6	-1.0				
	baz=359										
YUK3	Moose Creek	79.43	352	P	P	04 14 22.7	-1.4				
	baz=13,SNR=8.2										
CUT	Chulitna	79.56	357	P	P	04 14 23.1	-1.3				
	baz=5.5										
M24K	Tolsona, Glenn	79.62	355	P	P	04 14 23.5	-1.4				
	baz=8.8										
YUK4	Talbot Arm	79.64	351	P	P	04 14 23.6	-1.5				
	baz=15,SNR=8.1										
YSS	Yuzh-Sakhalins	79.64	37	P	P	04 14 24.7	-0.5				
YSS	Yuzh-Sakhalins	79.64	37	eP	P	04 14 25.4	+0.3				
YSS				pmax	pmax						
	comp=Z,20nm,1.1s										
T50A	Nancy	79.75	309	IAmb	IAmb	04 14 28.1					
	comp=Z,26nm,1.3s										
T50A	Nancy	79.75	309	P	P	04 14 27.1	+1.2				
	baz=50										
T50A				P	P	04 14 27.1	+1.2				
	baz=50										
WHY	Whitehorse	79.78	349	P	P	04 14 24.9	-1.0				
	baz=18										
YUK8	Steele Glacier	79.83	352	P	P	04 14 24.6	-1.7				
	baz=14										
O44A	Mansfield	79.84	313	IAmb	IAmb	04 14 28.8					
	comp=Z,15nm,0.8s										
WCI	Wyandotte Cave	79.84	311	P	P	04 14 27.1	+0.6				
WCI				IAmb	IAmb	04 14 29.1					
	comp=Z,21nm,1.1s										
WCI	Wyandotte Cave	79.84	311	P	P	04 14 25.6	-0.9				
	baz=49										
WCI	Wyandotte Cave	79.84	311	P	P	04 14 27.0	+0.6				
	baz=49										
WCI	Wyandotte Cave	79.84	311	P	P	04 14 27.1	+0.6				
WCI				pmax	pmax						
	comp=Z,21nm,1.2s										
O30N	Mendenhall	79.85	350	P	P	04 14 25.1	-1.0				
	baz=17										
P33M	Teslin, Yukon	79.89	348	P	P	04 14 25.5	-0.8				
	baz=19										
L18K	Granite Mounta	79.90	360	P	P	04 14 25.5	-0.8				
	baz=0.4										
L19K	White Mountain	79.92	359	IAmb	IAmb	04 14 31.6					
	comp=Z,25nm,1.1s										
L19K	White Mountain	79.92	359	P	P	04 14 25.4	-1.0				
	baz=1.8										
TKL	Tuckaleechee C	79.97	308	IAmb	IAmb	04 14 30.4					
	comp=Z,30nm,1.4s										
TKL	Tuckaleechee C	79.97	308	P	P	04 14 28.0	+0.8				
	baz=50										
TKL	Tuckaleechee C	79.97	308	LR	LR	04 50 39.4					
	comp=Z,95nm,18.8s,baz=356,slow=36										
SCM	Sheep Creek Mo	79.97	355	P	P	04 14 25.9	-0.8				
	baz=7.8										
L17K	Donlin	79.98	1	P	P	04 14 25.9	-0.9				
	baz=359										
YUK6	Outpost Mounta	79.99	351	P	P	04 14 26.0	-1.2				
	baz=15										
N25K	Chitina, Valde	79.99	354	P	P	04 14 26.5	-0.4				
	baz=10.0										
HYT	Haines Junctio	79.99	350	IAmb	IAmb	04 14 32.4					
	comp=Z,17nm,1.0s										
HYT	Haines Junctio	79.99	350	P	P	04 14 26.6	-0.5				
	baz=16,SNR=5.8										
M23K	Glacier View	80.03	355	P	P	04 14 26.2	-0.9				
	baz=7.5										
SKT	Skwentna	80.03	357	IAmb	IAmb	04 14 30.8					
	comp=Z,12nm,0.8s										
SKT	Skwentna	80.03	357	P	P	04 14 25.8	-1.2				
	baz=4.5										
HDIL	Hopedale	80.04	314	IAmb	IAmb	04 14 29.8					
	comp=Z,14nm,0.8s										
HDIL	Hopedale	80.04	314	P	P	04 14 27.0	-0.5				
	baz=48										
HDIL	Hopedale	80.04	314	P	P	04 14 28.2	+0.8				
	baz=48										
SML	Sawmill	80.06	356	P	P	04 14 26.9	-0.4				
	baz=7.0										
L40A	Anamosa	80.09	316	P	P	04 14 27.4	-0.3				
L40A				IAmb	IAmb	04 14 29.8					
	comp=Z,33nm,1.2s										
GHO	Glory Hole Cre	80.12	356	IAmb	IAmb	04 14 30.7					
	comp=Z,25nm,1.0s										
MDND	Maddock	80.16	325	P	P	04 14 27.2	-0.8				
	baz=42										
M20K	Styx River	80.18	358	P	P	04 14 27.2	-0.8				
	baz=3.2										
M22K	Willow	80.20	357	P	P	04 14 27.2	-0.7				
	baz=5.6										
KLU	Klutina	80.21	355	P	P	04 14 26.9	-1.2				
	baz=8.9										
V51A	Loudon	80.23	308	P	P	04 14 30.5	+1.9				
	baz=50										
CTG	Chitna Glacier	80.31	352	P	P	04 14 27.4	-1.4				
	baz=12										
PMR	Palmer	80.31	356	P	P	04 14 27.7	-0.8				
	baz=6.4										
R33M	Jennings River	80.34	347	IAmb	IAmb	04 14 31.7					
	comp=Z,18nm,0.9s										
R33M	Jennings River	80.34	347	P	P	04 14 27.6	-1.3				
	baz=21										
L15K	Ungalak Mounta	80.38	2	P	P	04 14 27.8	-1.1				
	baz=356										
L16K	Owhat River	80.39	1	P	P	04 14 28.1	-0.9				
	baz=358										
LOGN	Logan Glacier	80.42	352	IAmb	IAmb	04 14 34.5					
	comp=Z,14nm,0.8s										
W52A	Murphy	80.43	307	P	P	04 14 30.8	+1.1				
	baz=50										
KNK	Knik Glacier	80.45	356	P	P	04 14 28.5	-0.9				
	baz=5.9										
SUA	Susitna One	80.52	357	P	P	04 14 28.9	-0.9				
	baz=5.1										
GRNC	Granite Creek	80.59	352	IAmb	IAmb	04 14 31.9					
	comp=Z,26nm,1.0s										
P30M	Million Dollar	80.60	350	P	P	04 14 28.7	-1.5				
	baz=16										
BMRM	Bremner River	80.62	354	P	P	04 14 29.0	-1.3				
	baz=10.0										
P32M	Atlin	80.62	348	P	P	04 14 29.1	-1.3				
	baz=18										
M18K	Stony River	80.62	359	P	P	04 14 28.9	-1.3				
	baz=1.1										
O29M	Mount Kennedy	80.64	351	P	P	04 14 29.0	-1.5				
	baz=15										
U49A	Red Boiling Sp	80.65	309	IAmb	IAmb	04 14 33.0					
	comp=Z,31nm,1.2s										
U49A	Red Boiling Sp	80.65	309	P	P	04 14 31.9	+1.1				
	baz=49,SNR=8.2										
L14K	Kuka Creek	80.68	3	P	P	04 14 29.9	-0.6				
	baz=356										
CRQE	Cirque	80.70	353	P	P	04 14 30.1	-0.7				
	baz=11										
M17K	Holitna River	80.72	0	P	P	04 14 29.9	-0.9				
	baz=360										
N20K	Mount Spurr	80.84	358	P	P	04 14 30.4	-1.1				
	baz=3.9										
RC01	Rabbit Creek A	80.85	356	P	P	04 14 29.9	-1.6				
	baz=5.9										
GLI	Glacier Island	80.90	355	P	P	04 14 30.2	-1.6				
	baz=8.0										
Q32M	Nakina River	80.98	347	P	P	04 14 30.6	-1.8				
	baz=20										
PETK	Petropavlovsk-	80.98	26	P	P	04 14 30.8	-1.5				
	comp=Z,2.7nm,0.8s,baz=333,slow=1.6,SNR=2.3										
PETK				LR	LR	04 53 53.1					
	comp=Z,134nm,18.5s,baz=315,slow=38										
	comp=Z,2.7nm,0.8s										
Q44A	Meyer Farm, Va	80.99	313	P	P	04 14 33.8	+1.2				
	baz=48										
SKAG	Skagway	81.00	349	P	P	04 14 30.8	-1.4				
	baz=17										
PINM	Pinnacle	81.04	352	P	P	04 14 32.1	-0.5				
	baz=13										
DLBC	Dease Lake	81.06	346	P	P	04 14 32.8	+0.1				
DLBC				IAmb	IAmb	04 14 56.0					
	comp=Z,21nm,1.6s										
DLBC	Dease Lake	81.06	346	P	P	04 14 32.2	-0.5				
	baz=21										
EYAK	Cordova Ski Ar	81.13	354	P	P	04 14 32.1	-0.8				
	baz=9.0										
T47A	Sharon Grove	81.14	310	P	P	04 14 34.4	+0.9				
	baz=48,SNR=7.8										
P29M	Windy Craggy	81.18	350	IAmb	IAmb	04 14 38.9					
	comp=Z,14nm,0.8s										
P29M	Windy Craggy	81.18	350	P	P	04 14 32.2	-1.0				
	baz=15										
GOGA	Godfrey	81.22	306	IAmb	IAmb	04 14 36.1					
	comp=Z,16nm,1.1s										
GOGA	Godfrey	81.22	306	P	P	04 14 33.9	0.0				
	baz=50										
W50A	Signal Mountai	81.22	308	IAmb	IAmb	04 14 36.4					
	comp=Z,28nm,1.1s										
W50A	Signal Mountai	81.22	308	P	P	04 14 35.5	+1.6				
	baz=49,SNR=9.7										
CLTN	Cedars of Leba	81.26	309	IAmb	IAmb	04 14 36.2					
	comp=Z,14nm,1.1s										
Y52A	Lilburn	81.30	306	IAmb	IAmb	04 14 36.8					
	comp=Z,26nm,1.1s										
Y52A	Lilburn	81.30	306	P	P	04 14 35.6	+1.2				
	baz=50										
Y52A				P	P	04 14 35.6	+1.2				
	baz=50										
EDM	Edmonton	81.34	335	IAmb	IAmb	04 14 35.4					
	comp=Z,16nm,0.7s										
PNL	Peninsula	81.36	351	P	P	04 14 33.5	-0.7				
	baz=14										
M15K	Kasigluk River	81.39	2	P	P	04 14 34.0	-0.3				
	baz=357										
N18K	Kilae Creek	81.44	359	P	P	04 14 34.4	-0.2				
	baz=1.0										
M11K	Mekoryuk	81.46	5	P	P	04 14 34.2	-0.4				
	baz=353										
M13K	Dall Lake	81.58	3	P	P	04 14 35.0	-0.3				
	baz=355										
N17K	Nushagak Hills	81.60	0	P	P	04 14 34.4	-1.0				
	baz=360										
ASAJ	Asahikawa	81.61	39	LR	LR	04 55 43.5					
	comp=Z,106nm,20.6s,baz=12,slow=39										
SDDR	Presa de Saban	81.63	287	eP	P	04 14 39.4	+3.0				
ECSD	EROS Data Cent	81.73	320	P	P	04 14 36.1	-0.4				
	baz=44,SNR=5.3										
ECSD	EROS Data Cent	81.73	320	P	P	04 14 36.7	+0.2				
	baz=44										
S34M	Telegraph Cree	81.76	346	IAmb	IAmb	04 14 39.5					
	comp=Z,14nm,1.1s										
S34M	Telegraph Cree	81.76	346	P	P	04 14 35.1	-1.2				
	baz=20,SNR=5.8										
V48A	Smith Brothers	81.79	309	IAmb	IAmb	04 14 38.7					
	comp=Z,19nm,1.2s										
V48A	Smith Brothers	81.79	309	P	P	04 14 37.7	+0.8				
	baz=48										
P23K	Montague Islan	81.80	355	P	P	04 14 35.4	-1.1				
	baz=7.7										
FPAL	Fort Paine	81.84	308	IAmb	IAmb	04 14 38.8					
	comp=Z,16nm,1.2s										
SIUC	Southern Illin	81.91	312	P	P	04 14 37.6	+0.1				
S44A	Carbondale	81.94	312	P	P	04 14 38.9	+1.3				
	baz=47										
R32K	Eaglecrest	82.01	348	P	P	04 14 36.7	-0.9				
	baz=18										
WVT	Waverly	82.15	310	P	P	04 14 38.2	-0.5				
	baz=48										
O18K	Koktuh Hills	82.26	359	P	P	04 14 37.7	-1.3				
	baz=1.5										
Q23K	Middleton Isla	82.29	354	P	P	04 14 36.2	-2.8				
	baz=8.6										
HOM	Homer	82.36	357	P	P	04 14 37.7	-1.8				
	baz=4.3										
P19K	Oil Pt	82.42	358	P	P	04 14 38.1	-1.7				
	baz=3.1										
FVM	French Village	82.43	313	P	P	04 14 41.3	+1.1				
	baz=47,SNR=5.9										
CGM3	Cape Girardeau	82.45	312	IAmb	IAmb	04 14 42.0					
	comp=Z,26nm,1.3s										
T

baz=38
LCAR Lake Charles 84.16 312 P P 04 14 50.3 +1.1
baz=46
OXF Oxford 84.19 310 P P 04 14 48.3 -1.0
baz=47
BGNE Belgrade 84.20 320 P P 04 14 47.5 -1.8
baz=43
BGNE Belgrade 84.20 320 P P 04 14 50.5 +1.1
baz=43
KDAK Kodiak Island 84.27 358 LR LR 04 57 08.9
comp=Z,75nm,18.7s,baz=56,slow=39
S39A Bolivar 84.28 314 P P 04 14 51.0 +1.2
baz=45,SNR=6.8
SPIA Saint Paul Isl 84.32 7 P P 04 14 48.1 -1.5
baz=350
EGMT Eagleton 84.33 330 P P 04 14 48.3 -1.6
baz=36,SNR=11
CRAG Craig 84.44 347 P P 04 14 49.3 -0.9
baz=19
R18K Karluk 84.54 359 P P 04 14 49.2 -1.4
baz=2.1
R16K Pilot Point 84.57 0 P P 04 14 49.7 -1.1
baz=360
MJAR Matsushiro Arr 84.63 47 P P 04 14 49.9 -1.7
comp=Z,3.3nm,1.0s,baz=325,slow=4.9,SNR=7.1
MJAR LR LR 04 57 33.4
comp=Z,53nm,18.3s,baz=320,slow=39
comp=Z,3.3nm,1.0s
Y45A Yeager Farm, C 84.71 309 P P 04 14 53.0 +1.0
baz=47
FCAR Ozark Folk Cen 84.85 312 IAmb IAmb 04 14 54.6
comp=Z,17nm,1.1s
OHAK Old Harbor 84.86 358 P P 04 14 51.0 -1.2
baz=3.0
U40A Yellville 84.95 313 P P 04 14 54.2 +1.0
baz=45,SNR=7.3
U40A P P 04 14 54.2 +1.0
baz=45,SNR=7.3
RSSD Black Hills 85.00 325 P P 04 14 54.4 +0.8
RSSD Black Hills 85.00 325 P P 04 14 53.1 -0.5
baz=39
RSSD Black Hills 85.00 325 P P 04 14 54.4 +0.8
baz=39
RSSD Black Hills 85.00 325 P P 04 14 54.4 +0.8
RSSD pmax pmax
comp=Z,8.0nm,1.3s
KSU1 Kansas State U 85.08 317 P P 04 14 54.1 +0.3
baz=43,SNR=5.5
KSU1 Kansas State U 85.08 317 P P 04 14 54.7 +0.9
baz=43,SNR=5.5
BDFB Brasilia 85.20 246 P P 04 14 55.3 +0.6
BDFB Brasilia 85.20 246 P P 04 14 55.3 +0.6
BDFB pmax pmax
comp=Z,7.0nm,1.0s
BDFB Brasilia 85.20 246 P P 04 14 53.8 -0.9
comp=Z,5.0nm,0.9s,baz=43,slow=6.0,SNR=5.7
BDFB LR LR 04 52 56.2
comp=Z,97nm,20.1s,baz=37,slow=36
comp=Z,5.0nm,0.9s
UALR University of 85.76 312 P P 04 14 57.8 +0.6
UALR IAmb IAmb 04 14 59.1
comp=Z,17nm,1.1s
U38A Gravette 85.77 314 P P 04 14 57.9 +0.6
baz=44,SNR=10
S14K Fog Glacier 85.83 1 P P 04 14 56.7 -0.6
baz=358
X40A Basin Creek Fa 86.25 312 IAmb IAmb 04 15 01.6
comp=Z,21nm,1.4s
RLO Rose Lookout 86.32 314 IAmb IAmb 04 15 01.7
comp=Z,16nm,1.0s
346A Big Creek Wild 86.35 308 P P 04 15 02.2 +2.0
baz=47
BBB Bella Bella 86.47 343 LR LR 04 53 52.8
comp=Z,24nm,20.3s,baz=20,slow=36
RLMT Red Lodge 86.49 328 IAmb IAmb 04 15 05.6
comp=Z,23nm,1.6s
RLMT Red Lodge 86.49 328 P P 04 15 00.2 -0.7
baz=36
T35B Sooner Cattle 86.61 316 P P 04 15 02.4 +0.9
baz=43,SNR=6.1
143A Socs Landing, 86.64 310 P P 04 15 03.2 +1.6
baz=46
SDPT Sand Point 86.75 2 P P 04 15 00.7 -0.9
baz=357
NEW Newport 86.82 335 LR LR 04 56 36.9
comp=Z,139nm,18.2s,baz=32,slow=38
MACA Manacapuru-AM 86.85 264 P P 04 15 03.9 +1.1
MSO Missoula 86.91 332 P P 04 15 02.1 -0.7
baz=33
TUL3 Leonard 86.94 314 P P 04 15 02.2 -0.9
baz=44,SNR=7.2
TUL3 Leonard 86.94 314 P P 04 15 03.9 +0.9
baz=44,SNR=7.2
CBKS Cedar Bluff 86.94 319 P P 04 15 02.2 -0.8
baz=42
BOZ Bozeman (W) 87.05 330 P P 04 15 03.2 -0.4
baz=34,SNR=8.3
K22A Casper 87.28 325 IAmb IAmb 04 15 05.4
comp=Z,13nm,0.9s
K22A Casper 87.28 325 P P 04 15 03.5 -1.3
baz=37,SNR=6.1
K22A Casper 87.28 325 P P 04 15 04.7 -0.1
baz=37,SNR=6.1
SDV Santo Domingo 87.28 279 P P 04 15 05.5 +0.2
SDV IAmb IAmb 04 15 07.0
comp=Z,12nm,0.8s
SDV Santo Domingo 87.28 279 eP P 04 15 06.2 +1.0
SDV Santo Domingo 87.28 279 P P 04 15 06.0 +0.7
comp=Z,9.1nm,0.7s,baz=41,slow=3.1,SNR=13
comp=Z,9.1nm,0.7s
PHWY Pilot Hill 87.86 324 IAmb IAmb 04 15 09.3
comp=Z,13nm,1.1s
IMW Indian Meadow 88.18 329 P P 04 15 10.0 +0.8
PDAR Pinedale Array 88.52 327 P P 04 15 10.7 -0.1
comp=Z,2.0nm,0.7s,baz=64,slow=4.1,SNR=20
PDAR LR LR 04 55 44.1
comp=Z,90nm,20.2s,baz=30,slow=36
comp=Z,2.0nm,0.7s
BW06 Boulder Array 88.52 327 P P 04 15 09.6 -1.2
baz=36
ISCO Idaho Springs 89.11 323 P P 04 15 13.2 -0.5
ISCO IAmb IAmb 04 15 15.2
comp=Z,17nm,1.6s
ISCO Idaho Springs 89.11 323 P P 04 15 12.7 -1.0
baz=38,SNR=7.6
ISCO Idaho Springs 89.11 323 P P 04 15 14.4 +0.7
baz=38,SNR=7.6
ISCO Idaho Springs 89.11 323 P P 04 15 13.2 -0.5
ISCO pmax pmax
comp=Z,17nm,1.6s
HAWA Hanford 89.25 335 IAmb IAmb 04 15 15.6
comp=Z,7.8nm,0.8s
NATX Nacogdoches 89.26 311 P P 04 15 13.6 -0.6
baz=44
WMOK Wichita Mounta 89.46 315 IAmb IAmb 04 15 17.0
comp=Z,9.3nm,0.8s
Q24A Divide 89.54 322 P P 04 15 15.2 -0.6
baz=38
Z35A Perchaven, San 89.64 314 P P 04 15 17.3 +1.4
baz=43
HLID Hailey 89.84 330 P P 04 15 15.7 -1.3
baz=32
SMWD Samnorwood 89.98 317 IAmb IAmb 04 15 19.5
comp=Z,11nm,1.1s
O20A White River Ci 90.07 325 IAmb IAmb 04 15 18.9
comp=Z,11nm,0.9s
O20A White River Ci 90.07 325 P P 04 15 18.1 0.0
baz=36
RDMU Red Mountain 90.31 326 IAmb IAmb 04 15 20.1
comp=Z,13nm,0.9s
FW03 Perrin-Whitt E 90.31 314 IAmb IAmb 04 15 21.2
comp=Z,16nm,0.8s
HWUT Hardware Ranch 90.33 328 IAmb IAmb 04 15 20.2
comp=Z,11nm,0.8s
MFID Camas Ranch 90.51 331 P P 04 15 19.6 -0.4
MFID IAmb IAmb 04 15 21.5
comp=Z,10nm,1.1s
T25A Trinidad 90.60 320 P P 04 15 20.1 -0.6
baz=39
PLPT Palo Pinto 90.62 314 IAmb IAmb 04 15 22.6
comp=Z,17nm,0.8s
TCUT Toone Canyon 90.66 327 IAmb IAmb 04 15 21.7
comp=Z,5.6nm,0.9s
SDCO Great Sand Dun 90.67 322 P P 04 15 20.7 -0.3
baz=38,SNR=5.3
SDCO Great Sand Dun 90.67 322 P P 04 15 20.9 -0.1
baz=38
WHTX Lake Whitney, 90.73 313 P P 04 15 20.7 -0.3
baz=43
APMT Aspermont 91.25 315 IAmb IAmb 04 15 32.8
comp=Z,35nm,1.7s
S22A 4UR Ranch, Cre 91.31 322 IAmb IAmb 04 15 25.4
comp=Z,8.6nm,1.1s
S22A 4UR Ranch, Cre 91.31 322 P P 04 15 23.2 -0.8
baz=37,SNR=7.4
ZARC Zaragoza, Cauc 91.42 281 eP P 04 15 22.9 -1.6
BGU Big Grassy Mou 91.50 328 IAmb IAmb 04 15 26.1
comp=Z,6.9nm,1.1s
ABTX Abilene, Hawle 91.51 315 P P 04 15 24.3 -0.4
baz=42,SNR=10.0
ABTX Abilene, Hawle 91.51 315 P P 04 15 25.5 +0.9
baz=42
PV22 Blue Mesa, Par 91.61 324 P P 04 15 25.0 -0.2
PTBC PUERTO BERRIO, 91.70 280 eP P 04 15 26.6 +0.8
SRU San Rafael Swe 91.92 326 IAmb IAmb 04 15 27.3
comp=Z,6.9nm,1.0s
SPBC San Pablo de B 91.95 279 eP P 04 15 24.8 -2.3
DUG Dugway, Tooele 92.02 328 P P 04 15 26.9 -0.2
DUG IAmb IAmb 04 15 28.3
comp=Z,5.6nm,0.9s
DUG Dugway, Tooele 92.02 328 P P 04 15 26.4 -0.7
baz=33,SNR=5.4
DUG Dugway, Tooele 92.02 328 P P 04 15 26.9 -0.2
DUG pmax pmax
comp=Z,6.0nm,0.9s
BRDY Brady 92.14 313 IAmb IAmb 04 15 30.6
comp=Z,7.4nm,1.0s
MSTX Muleshoe 92.20 317 P P 04 15 26.8 -1.2
baz=40
WVOR Wild Horse Val 92.40 333 IAmb IAmb 04 15 47.4
comp=Z,7.0nm,1.4s
MVCO Mesa Verde 92.54 323 P P 04 15 29.3 -0.3
baz=36
ELK Elko 92.56 329 LR LR 05 00 17.5
comp=Z,94nm,19.0s,baz=44,slow=38
J05D Fort Rock, OR 92.56 335 IAmb IAmb 04 15 31.7
comp=Z,5.3nm,0.8s
ROSC El Rosal 92.65 278 P P 04 15 31.2 +0.6
comp=Z,5.4nm,0.6s,baz=245,slow=24,SNR=4.8
comp=Z,5.4nm,0.6s
SGCY Sterling City 92.87 315 IAmb IAmb 04 15 36.9
comp=Z,5.4nm,1.0s
TCRU Three Creeks R 93.19 326 IAmb IAmb 04 15 34.3
comp=Z,4.6nm,0.8s
JCT Junction City 93.20 313 IAmb IAmb 04 15 34.0
comp=Z,4.4nm,0.8s
JCT Junction City 93.20 313 P P 04 15 32.4 -0.2
baz=42
JCT Junction City 93.20 313 P P 04 15 33.6 +1.1
baz=42
GUY2C Guyana, Caldas 93.22 279 eP P 04 15 35.9 +2.4
PTLB Pontes e Lacer 93.28 253 IAmb IAmb 04 15 35.0
comp=Z,6.1nm,0.9s
ANMO Albuquerque 93.35 320 P P 04 15 33.7 +0.4
baz=38
ANMO Albuquerque 93.35 320 LR LR 04 58 59.3
comp=Z,74nm,18.7s,baz=131,slow=36
OZNA Ozona 93.62 314 IAmb IAmb 04 15 36.6
comp=Z,8.9nm,0.7s
Q12A Willow Creek R 93.84 328 IAmb IAmb 04 15 39.9
comp=Z,6.1nm,1.0s
ORTC Ortega, Tolima 93.95 278 eP P 04 15 36.7 +0.5
MNHN Monahans 94.21 316 IAmb IAmb 04 15 38.5
comp=Z,19nm,1.9s
YBH Yreka Blue Hor 94.44 335 LR LR 05 00 32.0
comp=Z,62nm,18.5s,baz=24,slow=37
DRIO Del Rio 94.45 313 IAmb IAmb 04 15 39.9
comp=Z,11nm,0.7s
833A Chaparral WMA, 94.56 312 P P 04 15 38.4 -0.3
baz=42
R11B Troy Canyon, C 94.73 328 P P 04 15 39.5 -0.1
baz=32
YOTC Yotoco, Valle 94.76 279 eP P 04 15 40.9 +0.8
W18A Petrified Fore 94.82 323 P P 04 15 39.9 -0.2
baz=36
SAND Sanderson 94.91 314 IAmb IAmb 04 15 42.3
comp=Z,4.6nm,0.8s
U15A North Rim 94.93 325 P P 04 15 41.1 +0.4
U15A IAmb IAmb 04 15 47.2
comp=Z,17nm,1.8s
SIV San Ignacio 95.07 254 P P 04 15 41.8 +0.6
comp=Z,2.0nm,0.8s,baz=70,slow=11,SNR=6.8
comp=Z,2.0nm,0.8s
WUAZ Wupatki 95.26 324 P P 04 15 41.9 -0.2
baz=34
MNTX Cornudas Mount 95.35 318 P P 04 15 42.0 -0.4
baz=38,SNR=5.7
MNTX Cornudas Mount 95.35 318 P P 04 15 42.4 0.0
baz=38
ALPN Alpine 95.43 316 IAmb IAmb 04 15 44.6
comp=Z,4.0nm,0.9s
NVAR Mina Array Bea 95.75 330 P P 04 15 44.4 0.0
comp=Z,0.5nm,0.8s,baz=41,slow=4.9,SNR=4.7
NVAR LR LR 05 00 47.5
comp=Z,102nm,18.5s,baz=31,slow=37
comp=Z,0.5nm,0.8s
121A Cookes Peak, D 95.94 320 P P 04 15 45.1 -0.1
baz=37
LHV Little Huntoon 95.99 330 IAmb IAmb 04 15 55.6
comp=Z,15nm,1.6s
TX31 Lajitas Ar. Si 96.25 315 IAmb IAmb 04 15 48.3
comp=Z,6.1nm,0.9s
TX31 Lajitas Ar. Si 96.25 315 P P 04 15 47.5 +0.9
baz=39
TXAR Lajitas Array 96.25 315 P P 04 15 46.6 0.0
TXAR Lajitas Array 96.25 315 P P 04 15 46.6 0.0
TXAR Lajitas Array 96.25 315 P P 04 15 47.6 +1.0
comp=Z,2.0nm,0.8s,baz=62,slow=4.2,SNR=22
TXAR LR LR 04 58 47.8
comp=Z,36nm,20.7s,baz=15,slow=35
comp=Z,2.0nm,0.8s
GRAC Grapevine Rang 96.62 329 P P 04 15 47.1 -1.0
baz=30
JTS Las Juntas de 97.33 289 LR LR 05 02 18.2
comp=Z,16nm,18.3s,baz=27,slow=37
TUQ Turquoise Moun 97.35 327 P P 04 15 50.6 -0.9
baz=31
CWC Cottonwood Cre 97.39 329 P P 04 15 50.7 -1.0
baz=30
MPMC Manual Prospec 97.48 329 P P 04 15 50.7 -1.5
baz=30
PDMCI Parker Dam,Lak 97.53 325 P P 04 15 50.8 -1.4
baz=33
TUC Tucson 97.61 322 P P 04 15 51.3 -1.4
baz=35
GMRC Granite Mounta 97.79 327 P P 04 15 51.6 -1.9
baz=32
GSC Goldstone, Bar 97.84 328 P P 04 15 52.5 -1.2
baz=31
LRMC Laurel Mtn Rad 98.05 328 P P 04 15 53.4 -1.3
baz=30
IRM Iron Mountain 98.10 326 P P 04 15 53.5 -1.3
baz=32
ISA Isabella, Lake 98.22 329 P P 04 15 53.7 -1.7
baz=30
BELC Belle Mtn. Jos 98.61 326 P P 04 15 55.4 -1.8
baz=32
PFO Canyon Flats O 99.14 327 P Pdif 04 15 57.4 -2.1
baz=31
TPFO Pinon Flats 99.14 327 P Pdif 04 15 57.5 -2.1
baz=31
IKP In-Ko-Pah, Jac 99.80 326 P Pdif 04 16 00.4 -2.1
baz=32
PLCA Paso Flores 115.85 237 PKP PKPdf 04 20 59.4 -0.9
comp=Z,1.6nm,0.7s,baz=90,slow=3.0,SNR=3.5
WRA Warramunga Arr 118.71 94 PKP PKPdf 04 21 04.8 -1.6
comp=Z,1.3nm,0.7s,baz=322,slow=2.0,SNR=16
WRA PKKPbc PKKPab 04 31 22.6 -1.6
comp=Z,0.3nm,0.8s,baz=115,slow=3.4,SNR=4.9
ASAR Alice Springs 120.36 97 PKP PKPdf 04 21 08.6 -0.9
comp=Z,1.6nm,0.6s,baz=303,slow=1.5,SNR=29
ASAR PKKPbc PKKPab 04 31 16.8 0.0
comp=Z,0.4nm,0.5s,baz=122,slow=3.7,SNR=10
QSPA South Pole Qui 128.08 180 PKP PKPdf 04 21 22.2 -0.8
comp=Z,4.5nm,0.7s,baz=263,slow=1.4,SNR=24
STKA Stephens Creek 130.25 102 PKP PKPdf 04 21 27.1 -1.1
comp=Z,0.7nm,0.5s,baz=64,slow=3.9,SNR=3.7
DZM Mont Dzumac 144.91 73 eLR LR 05 09 14.2
comp=Z,70nm,23.2s
DZM Mont Dzumac 144.91 73 PKPdf PKPdf 04 21 55.6 +0.1
OUENC Ouen Island, N 145.41 73 PKPbc PKPbc 04 21 55.0 -1.1
TAOE Nuku Hiva Isla 146.98 328 eLR LR 05 10 30.7
comp=Z,321nm,28.8s
PPT2 Papeete2 158.39 340 eLR LR 05 15 49.8
comp=Z,62nm,22.8s
TBI Tubuai 163.77 334 eLR LR 05 18 23.2
comp=Z,293nm,29.0s

*CATAC **31** 04:15:32.8±0.9, 13°.78N×90°.71W, h73km±13km, ML3.0*
*GCG **31** 04:15:34.8±0.7, 13°.71N×90°.77W, h47km±34km, MD3.0*
*SNET **31** 04:15:34.2±1.0, 13°.47N×90°.58W, h24km±5km, ML2.9*
ISC 31 04:15:33.3±1.9, **13°.66N**±0°.09×**90°.69W**±0°.05, **h21**km±4km, **n19**, σ0°.82/34, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FUG	**Fuego 3**	**0.80**	**349**	*eP*		**Pn**	**04 15 49.2**	**-0.3**
FUG				*eS*		**Sn**	**04 16 00.8**	**-0.1**
NUBE	**Las Nubes**	**0.92**	**75**	*eP*		**Pb**	**04 15 50.4**	**-0.2**
NUBE				*eS*		**Sn**	**04 16 03.6**	**-0.1**
NUBE				IAML			04 16 05.1	
	comp=Z,131nm,0.2s							
NUBE	**Las Nubes**	**0.92**	**75**	*i* P		**Pb**	**04 15 50.0**	**-0.6**
NUBE				*i* S		**Sn**	**04 16 03.6**	**-0.1**
NUBE				IAML			04 16 05.1	
	comp=Z,250nm,1.0s							
LOAL	**Lomas de Alarc**	**0.94**	**69**	*i* P		**Pb**	**04 15 50.9**	**-0.1**
LOAL				*i* S		**Sn**	**04 16 05.4**	**+1.1**
LOAL				IAML			04 16 13.7	
	comp=Z,3μm,1.0s							
SLOZ	**Alcaldia de Sa**	**0.95**	**67**	*eP*		**Pb**	**04 15 51.0**	**-0.1**
SLOZ				*eS*		**Sn**	**04 16 05.0**	**+0.6**
NBG	**Las Nubes**	**0.98**	**20**	*eP*		**Pn**	**04 15 52.5**	**+0.4**
NBG				*eS*		**Sn**	**04 16 06.9**	**+1.4**
GUNB	**GUNB**	**0.99**	**20**	*i* P		**Pb**	**04 15 50.8**	**-1.1**
GUNB				IAML			04 15 53.3	
	comp=Z,260nm,1.0s							
CEVE	**Cerro Verde**	**1.05**	**81**	*eP*		**Pb**	**04 15 52.7**	**-0.2**
CEVE				*eS*		**Sn**	**04 16 07.4**	**+0.3**
CEVE				IAML			04 16 09.5	
	comp=Z,788nm,0.2s							
CEVE	**Cerro Verde**	**1.05**	**81**	*i* P		**Pb**	**04 15 52.9**	**0.0**
CEVE				*i* S		**Sn**	**04 16 08.2**	**+1.1**
CEVE				IAML			04 16 09.3	
	comp=Z,680nm,1.0s							
SULM	**Suchitepequez,**	**1.07**	**307**	*eS*		**Sn**	**04 16 08.4**	**+1.2**
SNJE	**San Jose**	**1.07**	**79**	*eP*		**Pb**	**04 15 52.8**	**-0.5**
SNJE				*eS*		**Sn**	**04 16 07.8**	**+0.2**
UNIC	**Universidad Ca**	**1.15**	**74**	*i* P		**Pn**	**04 15 53.3**	**-1.0**
UNIC				*i* S		**Sb**	**04 16 08.7**	**-0.4**
UNIC				IAML			04 16 51.6	
	comp=Z,150nm,1.0s							
JAYA	**Jayaque - finc**	**1.21**	**90**	*eP*		**Pn**	**04 15 54.5**	**-0.6**
JAYA				*eS*		**Sb**	**04 16 09.2**	**-1.5**
JAYA				IAML			04 16 13.4	
	comp=Z,425nm,0.2s							
JAYA	**Jayaque - finc**	**1.21**	**90**	*i* P		**Pn**	**04 15 54.7**	**-0.4**
JAYA				*i* S		**Sb**	**04 16 10.6**	**-0.1**
JAYA				IAML			04 16 13.2	
	comp=Z,990nm,1.0s							
PMON	**Piamonte**	**1.34**	**88**	*i* P		**Pn**	**04 15 56.4**	**-0.4**
PMON				IAML			04 16 17.7	
	comp=Z,190nm,1.0s							
STG3	**Santiaguito 3,**	**1.35**	**321**	*eP*		**Pn**	**04 15 57.2**	**+0.1**
STG3				*eS*		**Sn**	**04 16 13.5**	**-1.0**
LOMA	**Loma Larga**	**1.48**	**90**	*eP*		**Pn**	**04 15 58.5**	**-0.3**
LOMA				*eS*		**Sn**	**04 16 16.8**	**-0.7**
LOMA				IAML			04 16 21.3	
	comp=Z,160nm,0.1s							
MTO3	**Montecristo**	**1.48**	**60**	*i* P		**Pn**	**04 15 56.7**	**-2.3**
MTO3				IAML			04 16 21.9	
	comp=Z,33nm,1.0s							
SJTE	**Alcalda de S**	**1.64**	**91**	*eP*		**Pn**	**04 16 00.6**	**-0.3**
SJTE				*eS*		**Sn**	**04 16 20.5**	**-0.9**

*IDC **31** 04:34:05.1±8.2, 32°.63N×142°.93E, h0km, mb3.4/6, mbtmp3.3/7, ML2.2/1, Error ellipse: s-maj=309.8km s-min=21.9km az=68.0*
*JMA **31** 04:34:10.8±0.5, 32°N±1°×14°2E±°, h21km, MV3.3/10, E OFF HACHIJOJIMA ISLAND*
ISC 31 04:34:14.1±1.5, **32°.32N**±0°.10×**141°.8E**±0°.2, **h35**km, **n10**, σ0°77/11, **mb3.5/6, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**1.82**	**295**	P		**Pn**	**04 34 42.1**	**-0.8**
JHJ2	**Mitsune**	**1.82**	**296**	P		**Pn**	**04 34 42.2**	**-0.7**
BSO1	**Boso 1**	**2.42**	**344**	*eP*		**Pn**	**04 34 49.7**	**-0.9**
BSO1				*eS*		**Sn**	**04 35 18.3**	**-0.5**
MJAR	**Matsushiro Arr**	**5.14**	**326**	Pn		**Pn**	**04 35 28.6**	**+0.2**
	0.1nm,0.3s,baz=157,slow=10,SNR=6.8							
	0.4nm,0.3s							
SONM	**Songino Array**	**30.87**	**311**	P		**P**	**04 40 28.6**	**+1.5**
	0.2nm,0.4s,baz=105,slow=9.1,SNR=1.8							
	0.2nm,0.4s							
ZALV	**Zalesovo Beam**	**45.40**	**316**	P		**P**	**04 42 29.0**	**0.0**
	0.4nm,0.5s,baz=101,slow=7.5,SNR=1.9							
	0.4nm,0.5s							
MKAR	**Makanchi Array**	**47.00**	**306**	P		**P**	**04 42 41.6**	**-0.1**
	0.2nm,0.4s,baz=85,slow=8.3,SNR=3.2							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**49.23**	**311**	P		**P**	**04 42 58.9**	**0.0**
	0.3nm,0.5s,baz=90,slow=7.6,SNR=6.7							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**52.45**	**189**	P		**P**	**04 43 22.8**	**-0.6**
	0.4nm,0.5s,baz=5.2,slow=7.6,SNR=10							
	0.4nm,0.5s							
ASAR	**Alice Springs**	**56.18**	**189**	P		**P**	**04 43 50.5**	**0.0**
	0.1nm,0.5s,baz=352,slow=5.8,SNR=2.2							
	0.1nm,0.5s							

*IDC **31** 05:15:57.0±1.7, 1°.39N×126°.10E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=172.1km s-min=21.7km az=66.0*
*DJA **31** 05:16:01.6±0.4, 1°N±4°×12°6E±°, h10km, M3.4/6, MLv3.4/6*
ISC 31 05:16:01.9±1.3, **1°.6N**±0°.1×**126°.56E**±0°.08, **h35**km, **n8**, σ1§11/9, **mb3.5/4, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.12**	**134**	P		**Pn**	**05 16 22.1**	**+1.0**
LBMI	**Labuha**	**2.37**	**157**	P		**Pn**	**05 16 39.6**	**+1.2**
LBMI				S		**Sn**	**05 17 05.2**	**-1.1**
KMSI	**Cibinong**	**2.75**	**249**	S		**Sn**	**05 17 15.0**	**-0.7**
GTOI	**Gorontalo**	**3.66**	**256**	P		**Pn**	**05 16 57.2**	**+1.1**
WRA	**Warramunga Arr**	**22.68**	**161**	P		**P**	**05 20 59.5**	**-1.1**
	2.9nm,0.8s,baz=337,slow=11,SNR=23							
	2.9nm,0.8s							
ASAR	**Alice Springs**	**26.07**	**165**	P		**P**	**05 21 32.8**	**+0.4**
	0.4nm,0.4s,baz=346,slow=7.7,SNR=15							
	0.4nm,0.4s							
MKAR	**Makanchi Array**	**59.24**	**326**	P		**P**	**05 25 59.9**	**0.0**
	0.1nm,0.3s,baz=119,slow=7.3,SNR=5.4							
	0.1nm,0.3s							
KURBB	**Kurchatov Arra**	**63.48**	**328**	P		**P**	**05 26 27.6**	**-0.8**
	0.2nm,0.4s,baz=129,slow=6.0,SNR=2.2							
	0.2nm,0.4s							

*NEIC **31** 05:28:17.0±2.3, 40°.21N±0°.02×124°.77W±0°.04, h10km±2km, Error ellipse: s-maj=5.4km s-min=3.7km az=85.0*
NCEDC 31 05:28:22.4±2.2, **40°.28N**±0°.03×**124°.42W**±0°.06, **h19**km±2km, **ML3.0**/22, **ML2.8**/50(NEIC), **Error ellipse: s-maj=6.7km s-min=3.5km az=81.0, Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KCTM	**Capetown**	**0.20**	**17**			Pg	05 28 28.0	+0.5
KMPM	**Mount Pierce**	**0.26**	**59**			Pg	05 28 28.7	+0.2
KMPM				Sg		Sg	05 28 33.6	+0.9
FER	**Ferndale**	**0.32**	**22**			Pb	05 28 29.9	+0.5
KCRM	**Chalk Rock**	**0.48**	**72**			Pb	05 28 32.3	+0.1
KMRM	**Mail Ridge**	**0.54**	**96**			Pg	05 28 33.4	0.0
KMRM				Sg		Sg	05 28 42.2	+1.5
JCC	**Jacoby Creek,**	**0.61**	**29**			Pb	05 28 33.2	-1.1
JCC				Sg		Sb	05 28 41.4	-1.1
JCC				IAML			05 28 43.5	
	comp=E,695nm,0.6s							
KHMM	**Horse Mountain**	**0.79**	**41**			Pb	05 28 36.4	-1.1
KHMM				Sg		Sb	05 28 47.0	-0.9
KHMM				IAML			05 28 51.1	
	comp=E,346nm,0.6s							
KIPM	**Iron Peak**	**0.86**	**123**			Pb	05 28 37.5	-1.2
KCPM	**Cahto Peak**	**0.88**	**133**			Pb	05 28 37.6	-1.4
KRPM	**Rodgers**	**0.92**	**19**			Pb	05 28 38.0	-1.8
KHBM	**Hayfork Bally**	**0.99**	**67**			Pb	05 28 39.3	-1.6
KFPM	**Farley Peak**	**1.00**	**130**			Pb	05 28 39.3	-1.8

KBNM	Bluenose Ridge	1.01	112			Pb	05 28 40.1	-1.3
GTC	Three Chop Rid	1.10	143			Pn	05 28 40.6	-2.2
DCMP	DeCamp, Califo	1.16	134			Pn	05 28 41.3	-2.3
LBPM	Beegum Peak	1.17	88			Pn	05 28 42.1	-1.7
KOMM	Orleans Mounta	1.23	36			Pn	05 28 42.6	-2.1
O02D	Mt. Diablo Mer	1.25	94			Pn	05 28 43.5	-1.4
KRMB	Red Mountain	1.30	17			Pn	05 28 43.2	-2.4
KRMB					IAML		05 28 58.8	
	comp=E,127nm,0.4s							
KRMB					IAML		05 28 59.1	
	comp=N,154nm,0.6s							
LGPM	Granite Peak	1.36	62			Pn	05 28 44.5	-2.0
GWRM	Wonder Ranch	1.38	141			Pn	05 28 44.4	-2.2
GHMM	Hull Mountain	1.39	124			Pn	05 28 44.7	-2.1
GROM	Round Mountain	1.39	105			Pn	05 28 45.4	-1.4
GHOM	Hamilton Openi	1.41	151			Pb	05 28 48.2	+0.2
GVV	Valley View	1.43	110			Pn	05 28 45.6	-1.8
N02D	Trinity Center	1.47	62			Pn	05 28 46.2	-1.7
KSXB	Camp Six Broad	1.60	15			Pn	05 28 47.4	-2.3
KSXB					IAML		05 29 06.8	
	comp=E,194nm,0.5s							
KSXB					IAML		05 29 08.6	
	comp=N,88nm,0.7s							
M02C	Callahan	1.62	46			Pn	05 28 48.2	-1.8
GHLM	Highland Sprin	1.64	139			Pn	05 28 48.1	-2.2
HOPS	Hopland Field	1.65	141	Pn		Pn	05 28 48.1	-2.2
GCK	Clark Valley	1.69	115			Pn	05 28 49.8	-1.0
GTSM	Trough Springs	1.70	124			Pn	05 28 49.3	-1.8
LTCM	Tuscan Springs	1.75	92			Pn	05 28 50.6	-1.1
GPMM	Pine Mountain	1.83	141			Pn	05 28 51.1	-1.7
LSHM	Sage Hen Hill	1.88	74			Pn	05 28 52.3	-1.2
LAMM	Antelope Mount	1.90	45			Pn	05 28 51.9	-2.0
GRTM	Round Top Moun	1.90	134			Pn	05 28 51.3	-2.5
LCSM	College of the	1.91	53			Pn	05 28 51.8	-2.1
GHCM	House Creek	1.92	150			Pn	05 28 52.0	-2.1
KBO	Bosley Butte	1.93	4	Pn		Pn	05 28 52.3	-2.0
KBO					IAML		05 29 14.8	
	comp=E,106nm,0.3s							
KBO					IAML		05 29 15.0	
	comp=N,144nm,0.4s							
YBH	Yreka Blue Hor	1.94	41	Pn		Pn	05 28 52.8	-1.5
L02F	Cave Junction	1.94	19			Pn	05 28 52.5	-1.8
L02F					IAML		05 29 16.6	
	comp=N,86nm,0.4s							
L02F					IAML		05 29 17.2	
	comp=E,139nm,0.4s							
LGBM	Gray Butte	1.99	57			Pn	05 28 54.6	-0.6
O03E	Paynes Creek	2.00	89			Pn	05 28 53.4	-1.8
M03C	McCloud	2.00	60			Pn	05 28 54.6	-0.6
LDBM	Digger Butte	2.02	85			Pn	05 28 53.7	-1.7
MNRC	McLaughlin Min	2.07	132			Pn	05 28 54.2	-2.0
LHEM	Herd Peak	2.14	50			Pn	05 28 56.4	-0.8
B040	Montague	2.16	44			Pn	05 28 56.8	-1.1
LMEM	Manzanita Entr	2.19	82			Pn	05 28 59.6	+1.7
OSUM	Sutter Buttes	2.22	116			Pn	05 28 56.1	-2.0
OGOM	Van Goodin Ran	2.24	105			Pn	05 28 56.9	-1.5
LRDM	Redding Peak	2.26	84			Pn	05 29 00.6	+1.8
SUTB	Sutter Butte	2.28	117			Pn	05 28 56.7	-2.3
HATC	Hat Creek Radi	2.31	76			Pn	05 28 58.9	-0.5
OSTM	Stimpson Lane	2.35	112			Pn	05 28 57.9	-2.1
LGMM	Garner Mountai	2.35	55			Pn	05 28 59.5	-0.6
OBHM	Bloomer Hill	2.35	105			Pn	05 28 58.6	-1.4
ORV	Oroville	2.36	107	Pn		Pn	05 28 58.4	-1.6
ORV					IAML		05 29 28.6	
	comp=E,50nm,0.3s							
ORV					IAML		05 29 29.5	
	comp=N,50nm,0.7s							
OWYM	Wyandotte	2.40	109			Pn	05 28 58.7	-1.9
OHCM	Honcut	2.45	112			Pn	05 28 59.0	-2.2
M04C	Macdoel	2.46	52			Pn	05 29 00.7	-0.8
K02D	Willamette Mer	2.48	13	Pn		Pn	05 29 00.4	-1.3
K02D					IAML		05 29 29.2	
	comp=N,40nm,0.4s							
KPK	Kanaka Peak	2.49	105			Pn	05 29 00.8	-1.1
L04D	Klamath Falls	2.50	39			Pn	05 29 02.2	0.0
L04D					IAML		05 29 33.9	
	comp=N,64nm,0.6s							
HUMO	Hull Mountain	2.57	25	Pn		Pn	05 29 01.7	-1.2
NOLM	Olema	2.57	150			Pn	05 29 00.9	-2.0
DBO	Dodson Butte	2.97	17	Pn		Pn	05 29 08.0	-0.5
DBO					IAML		05 29 33.2	
	comp=N,21nm,3.9s							
DBO					IAML		05 30 14.8	
	comp=E,25nm,3.0s							
AFDM	Forest Hills D	2.98	116			Pn	05 29 07.5	-1.1
JPSM		3.48	152			Pn	05 29 14.5	-0.9
K05A	Summer Lake	3.60	46			Pn	05 29 16.8	-0.5
K05A					IAML		05 30 58.6	
	comp=N,17nm,5.0s							
K05A					IAML		05 30 59.3	
	comp=E,19nm,3.8s							
J05D	Fort Rock, OR	3.83	37			Pn	05 29 20.3	0.0
J05D					IAML		05 29 57.4	
	comp=N,19nm,4.1s							
J05D					IAML		05 30 03.7	
	comp=E,22nm,4.4s							
PAHR	Pah Rah Range	3.91	97			Pn	05 29 20.2	-1.2
PAHR					IAML		05 30 13.9	
	comp=E,10nm,0.8s							
SAO	San Andreas Ge	4.21	146	Pn		Pn	05 29 24.5	-1.1
HJSM	John Smith Roa	4.24	144			Pb	05 29 31.2	-5.0
BPCNC	Pine Canyon	4.30	149			Pn	05 29 26.3	-0.5
PINE	Pine Mountain	4.36	35	Pn		Pn	05 29 28.2	+0.5
PINE					IAML		05 30 19.6	
	comp=E,18nm,4.5s							
PINE					IAML		05 30 54.7	
	comp=N,14nm,4.1s							
BBGB	Big Mountain B	4.55	143	Pn		Pn	05 29 29.3	-0.9
WVOR	Wild Horse Val	4.85	62	Pn		Pn	05 29 32.6	-1.8
WVOR					IAML		05 30 46.6	
	comp=N,7.8nm,5.0s							
WVOR					IAML		05 32 50.1	
	comp=N,7.3nm,4.3s							
RYN	Ryan	4.85	108	Pn		Pn	05 29 34.1	-0.4
PMPB	Monarch Peak	4.96	144	Pn		Pn	05 29 34.1	-1.7
KVN	Kaiserville	5.03	102			Pn	05 29 36.8	-0.1
J08A	Circle Bar Ran	5.40	53			Pn	05 29 40.8	-1.1
ISA	Isabella, Lake	6.58	133			Pn	05 29 59.8	+1.7
LON	Longmire	6.74	15	Pn		Pn	05 29 58.7	-1.5
WISH	Wishkah	6.85	4	Pn		Pn	05 30 00.4	-1.3

*IDC **31** 05:42:35.8±1.0,36°.91N×20°.78E,h0km,mb3.8/12, mbtmp3.7/22,ML3.3/10,MS3.3/10, Error ellipse: s-maj=20.9km s-min=13.9km az=161.0*
*ATH **31** 05:42:38.4,36°.98N×20°.60E,h6km±1km,ML3.7/16, Error ellipse: s-maj=2.4km s-min=1.2km az=225.0*
*PDG **31** 05:42:38.4±0.7,37°.03N×20°.63E,h11km±1km,ML3.9/10, Error ellipse: s-maj=2.4km s-min=3.2km az=0.0*
*THE **31** 05:42:38.5,37°.03N×20°.64E,h0km±1km,ML3.8/16, Error ellipse: s-maj=1.5km s-min=0.5km az=222.0*
ISC 31 05:42:39.2±1.2,37°.01N±0°.04×20°.63E±0°.03,h28km±9km, n150,σ2ϕ35/209,mb3.7/12,MS3.6/6,16C-17D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRI1	kERI	0.67	13	P		Pb	05 42 51.0		-1.3
KRI1				S		Sb	05 43 00.6		-0.6
	18μm,0.5s								
LTHK	Lithakia	0.71	13	P		Pb	05 42 51.9		-1.2
LTHK				S		Sb	05 43 02.2		-0.4
	15μm,0.6s								
LTHK	Lithakia	0.71	13	P		Pb	05 42 51.8		-1.3
LTHK				S		Sn	05 43 03.3		-0.1
LTHK				AML	AML		05 43 07.6		
	comp=E,29793μm,0.9s								
LTHK				AML	AML		05 43 11.7		
	comp=N,26711μm,0.4s								
PYL	PYLOS	0.90	97	P		Pb	05 42 55.2		-1.0
PYL				S		Sn	05 43 08.4		+0.4
	comp=N,6μm,0.8s								
PYL	PYLOS	0.90	97	P		Pb	05 42 55.3		-0.9
PYL				S		Sb	05 43 08.0		+0.1
PYL				AML	AML		05 43 13.2		
	comp=E,9488μm,0.6s								
PYL				AML	AML		05 43 16.3		
	comp=N,11996μm,0.7s								
PSDA	Pessada-Kefalo	1.10	358	P		Pb	05 42 58.9		-0.7
PSDA				S		Sn	05 43 14.8		+1.8
	comp=N,4μm,0.7s								
KLMT	Kalamata	1.15	87	P		Pb	05 43 00.1		-0.2
KLMT				S		Sn	05 43 16.9		+2.9
	comp=N,5μm,0.7s								
VLS	Valsamata	1.16	358	P		Pn	05 42 59.9		+0.3
VLS				S		Sn	05 43 16.9		+2.3
	comp=N,3μm,0.6s								
VLS	Valsamata	1.16	358	P		Pb	05 43 00.3		-0.4
VLS				S		Sn	05 43 16.6		+2.1
VLS				AML	AML		05 43 27.7		
	comp=E,5244μm,0.5s								
VLS				AML	AML		05 43 30.5		
	comp=N,4074μm,0.6s								
KEF3	Kipouria, Keph	1.21	349	P		Pb	05 43 01.1		-0.3
KEF3				S		Sn	05 43 18.4		+2.7
	comp=N,11μm,0.6s								
KEF3	Kipouria, Keph	1.21	349	P		Pb	05 43 01.2		-0.3
KEF3				S		Sn	05 43 17.9		+2.2
RLS	Riolos of Patr	1.24	32	P		Pb	05 43 01.2		-0.7
RLS				S		Sn	05 43 19.9		+3.5
	comp=N,2μm,1.4s								
RLS	Riolos of Patr	1.24	32	P		Pb	05 43 02.1		+0.2
RLS				S		Sn	05 43 18.5		+2.1
RLS				AML	AML		05 43 24.6		
	comp=E,5086μm,0.7s								
RLS				AML	AML		05 43 27.0		
	comp=N,3896μm,1.0s								
DMLN	Damoulianata-K	1.24	351	P		Pn	05 43 01.1		+0.4
DMLN				S		Sn	05 43 19.1		+2.6
	comp=N,5μm,0.7s								
KEF4	Livadi, Kephal	1.25	353	P		Pb	05 43 01.6		-0.6
KEF4				S		Sn	05 43 19.8		+3.0
	comp=N,14μm,0.8s								
KEF4	Livadi, Kephal	1.25	353	P		Pb	05 43 01.5		-0.7
KEF4				S		Sn	05 43 18.5		+1.7
DRO	Drossia	1.27	42	P		Pn	05 43 01.6		+0.5
DRO				S		Sn	05 43 20.1		+2.8
	comp=N,4μm,0.5s								
DRO	Drossia	1.27	42	P		Pb	05 43 02.5		0.0
DRO				S		Sn	05 43 19.8		+2.5
DRO				AML	AML		05 43 31.4		
	comp=N,7884μm,0.5s								
DRO				AML	AML		05 43 39.1		
	comp=E,8789μm,0.5s								
VSK1	VASILIKIADES	1.40	358	P		Pb	05 43 03.7		-0.9
VSK1				S		Sb	05 43 24.4		+2.4
	comp=E,3μm,0.8s								
FSK	Fiskardo	1.45	358	P		Pb	05 43 04.6		-0.9
FSK				S		Sb	05 43 24.8		+1.4
	comp=E,3μm,0.8s								
FSK	Fiskardo	1.45	358	P		Pb	05 43 04.8		-0.7
FSK				S		Sb	05 43 24.0		+0.6
FSK				AML	AML		05 43 35.8		
	comp=E,5728μm,0.7s								
FSK				AML	AML		05 43 37.6		
	comp=N,4126μm,0.9s								
UPR	University Cam	1.56	36	P		Pn	05 43 06.0		+0.9
KLV	Kalavryta, Ach	1.59	49	P		Pb	05 43 07.2		-0.7
KLV				S		Sb	05 43 29.1		+1.5
	comp=N,880nm,0.8s								
KLV	Kalavryta, Ach	1.59	49	P		Pb	05 43 07.1		-0.8
KLV				AML	AML		05 43 47.1		
	comp=N,1911μm,0.8s								
KLV				AML	AML		05 43 52.5		
	comp=E,1278μm,0.8s								
EVGI	Lefkada island	1.60	1	P		Pb	05 43 07.1		-1.1
EVGI				S		Sb	05 43 29.4		+1.3
	comp=E,2μm,0.6s								
GUR	Goura	1.64	55	P		Pn	05 43 07.3		+1.0
GUR				S		Sb	05 43 29.7		+0.4
	comp=E,2μm,0.7s								
GUR	Goura	1.64	55	P		Pb	05 43 08.1		-0.9
GUR				AML	AML		05 43 47.3		
	comp=E,2821μm,0.6s								
GUR				AML	AML		05 43 49.4		
	comp=N,3338μm,0.6s								
DRAG	Dragano-Lefkad	1.67	358	P		Pb	05 43 08.2		-1.1
NYDR	Nydri-Lefkada	1.70	2	P		Pb	05 43 08.8		-1.0
ALIK	Aliki, Aigiali	1.71	43	P		Pn	05 43 08.1		+1.0
EFP	Efpalio	1.74	35	P		Pb	05 43 09.4		-1.0
EFP	Efpalio	1.74	35	P		Pb	05 43 09.3		-1.0
EFP				S		Sb	05 43 30.8		-1.0
EFP				AML	AML		05 43 47.8		
	comp=N,1869μm,0.6s								
EFP				AML	AML		05 43 50.8		
	comp=E,2127μm,0.8s								
PVO	Paravola	1.75	24	P		Pb	05 43 10.0		-0.7
PVO	Paravola	1.75	24	P		Pb	05 43 09.7		-1.0
PVO				S		Sb	05 43 31.5		-0.7
LKD2	Lefkada island	1.77	1	P		Pb	05 43 10.2		-0.9
VLI	Veliai	1.87	98	P		Pb	05 43 12.0		-0.7
VLI	Veliai	1.87	98	P		Pn	05 43 10.7		+1.3
VLI				S		Sn	05 43 33.7		+1.6
VLI				AML	AML		05 43 59.4		
	comp=E,2993μm,0.9s								
VLI				AML	AML		05 44 04.2		
	comp=N,2228μm,0.8s								
ANX	Ano Chora	1.88	33	P		Pb	05 43 11.1		-1.8
ANX	Ano Chora	1.88	33	P		Pb	05 43 11.6		-1.4
ANX				S		Sb	05 43 34.3		-1.7
ANX				AML	AML		05 43 45.2		
	comp=N,5322μm,0.6s								
ANX				AML	AML		05 43 48.2		
	comp=E,3400μm,1.1s								
EVR	Evrytania	2.12	26	P		Pn	05 43 14.4		+1.6
EVR				AML	AML		05 43 52.8		
	comp=E,3069μm,0.8s								
EVR				AML	AML		05 43 53.5		
	comp=N,4274μm,1.1s								
ANKY	Antikythira Is	2.44	117	P		Pn	05 43 19.3		+2.2
ANKY	Antikythira Is	2.44	117	P		Pn	05 43 18.5		+1.4
ATH	Athens Observa	2.63	68	P		Pn	05 43 21.1		+1.3
ATH	Athens Observa	2.63	68	P		Pn	05 43 21.6		+1.8
ATH				AML	AML		05 44 21.2		
	comp=E,830μm,0.6s								
ATH				AML	AML		05 44 32.1		
	comp=N,869μm,1.0s								
JAN	Janina	2.65	4	P		Pn	05 43 22.1		+2.1
JAN				AML	AML		05 44 20.0		
	comp=E,1423μm,1.0s								
JAN				AML	AML		05 44 24.6		
	comp=N,750μm,1.1s								
VLY	Voula,Athens	2.65	71	P		Pn	05 43 20.7		+0.6
VLY				AML	AML		05 44 13.8		
	comp=N,1003μm,0.7s								
VLY				AML	AML		05 44 17.9		
	comp=E,748μm,0.9s								
THL	Klokotos Trika	2.77	23	P		Pn	05 43 23.8		+2.1
KEK	Kerkira	2.77	347	P		Pn	05 43 22.7		+1.0
KEK				AML	AML		05 44 26.1		
	comp=E,615μm,0.6s								
KEK				AML	AML		05 44 36.3		
	comp=N,781μm,0.7s								
NEO	Neokhori	3.07	41	P		Pn	05 43 27.1		+1.3
IMMV	Iera Moni Meta	3.12	119	P		Pn	05 43 27.3		+0.7
PENT	Pentalofos	3.20	7	P		Pn	05 43 30.2		+2.5
NEST	Nestorio	3.41	5	P		Pn	05 43 33.9		+3.3
TIP	Timpagrande	3.74	306	⇑P		Pn	05 43 38.5		+3.4
TIP				⇑S		Sn	05 44 17.4		-0.9
OHR	Ohrid	4.09	2	*i* Pn		Pn	05 43 42.5		+2.5
TIR	Tirane	4.37	352	⇓P		Pn	05 43 45.1		+1.5
TIR				⇓S		Sn	05 44 27.8		-5.9
MATE	Matera	4.75	321	⇑P		Pn	05 43 50.5		+1.6
MATE				⇑S		Sn	05 44 39.6		-3.4
STIP	Stip	4.83	14	*i* Pn		Pn	05 43 53.1		+3.2
VAE	Valguarnera	4.98	277	Pn		Pn	05 43 55.5		+3.4
	comp=N,3.6nm,0.3s,baz=162,slow=11,SNR=12								
VAE				Sn		Sn	05 44 48.5		-0.4
	comp=N,3.0nm,0.3s,baz=168,slow=20,SNR=2.5								
	comp=N,42nm,0.8s								
ULC	Ulcinj	5.06	348	*e*Pn		Pn	05 43 53.4		+0.2
ULC				*i* Sn		Sn	05 44 49.0		-1.7
PEHC	Pehcevo	5.07	20	*i* Pn		Pn	05 43 55.6		+2.2
DRME	Dracevica, Mon	5.29	348	*e*Pn		Pn	05 43 56.6		+0.3
DRME	Dracevica, Mon	5.29	348	*e*Pn		Pn	05 43 56.5		+0.3
DRME				*i* Sn		Sn	05 44 54.2		-2.0
BUM	Brajici-Budva	5.45	346	⇓*i* Pn		Pn	05 43 58.1		-0.5
BUM				*i* Sn		Sn	05 44 57.7		-2.6
PVY	Plav	5.60	355	*e*Pn		Pn	05 44 02.0		+1.3
PVY				*i* Sn		Sn	05 45 02.0		-2.1
HCY	Herceg Novi	5.67	344	*e*Pn		Pn	05 44 00.7		-0.9
HCY	Herceg Novi	5.67	344	*e*Pn		Pn	05 44 01.3		-0.3
HCY				*i* Sn		Sn	05 45 03.8		-1.9
CEME	Cevo	5.68	347	*e*Pn		Pn	05 44 01.3		-0.5
CEME				*i* Sn		Sn	05 45 03.9		-2.2
IVA	Berane	5.88	355	⇑*i* Pn		Pn	05 44 05.7		+1.2
IVA				*i* Sn		Sn	05 45 08.7		-2.3
NKME	Niksic	5.89	348	*e*Pn		Pn	05 44 04.8		+0.2
NKME				*i* Sn		Sn	05 45 08.0		-3.2
KOME	Kolasin	5.89	352	*e*Pn		Pn	05 44 05.8		+1.1
KOME				*i* Sn		Sn	05 45 09.1		-2.2
TREB	Trebinje	5.96	344	*e*Pn		Pn	05 44 04.9		-0.6
BRY	Bratogost	6.10	345	*e*Pn		Pn	05 44 07.0		-0.5
BRY	Bratogost	6.10	345	⇑*i* Pn		Pn	05 44 06.5		-1.0
BRY				*i* Sn		Sn	05 45 12.0		-4.4
SJES	Sjenica	6.26	356	*e*Pn		Pn	05 44 10.4		+0.6
STON	Ston	6.27	340	*e*Pn		Pn	05 44 08.9		-0.8
PLE	Pljevlja	6.38	352	*e*Pn		Pn	05 44 12.7		+1.3
PLE				*i* Sn		Sn	05 45 20.6		-2.8
NEVS	Nevesinje	6.57	344	*e*Pn		Pn	05 44 13.9		-0.1
BOVS	Bovan	6.67	7	⇓P		Pn	05 44 16.3		+1.1
BOVS				⇓S		Sn	05 45 26.7		-3.4
RUDO	Rudo	6.67	352	*e*Pn		Pn	05 44 14.3		-0.9
BLKB	Belogradchik	6.78	13	⇑P		Pn	05 44 18.9		+2.0
BBLS	Lazići	6.91	353	*e*Pn		Pn	05 44 17.6		-1.0
PLVB	Pleven	7.06	24	⇑P		Pn	05 44 24.1		+3.5
PLVB				⇑S		Sn	05 45 39.5		-0.4
ELND	Elena	7.15	33	⇑P		Pn	05 44 26.6		+4.8
HAPS	Han Pijesak,Bl	7.18	350	*e*Pn		Pn	05 44 22.3		-0.1
TEKS	Tekeris	7.58	354	*e*Pn		Pn	05 44 26.7		-1.0
MDVR	Moldovita	7.80	6	⇓P		Pn	05 44 33.2		+2.4
MDVR				⇓S		Sn	05 45 53.8		-4.5
MGRS	Mrkonjic Grad	7.87	341	*e*Pn		Pn	05 44 32.3		+0.5
HERR	Herculane	7.97	9	⇓P		Pn	05 44 35.9		+2.7
A050A	Klekovaca	8.08	339	*e*Pn		Pn	05 44 35.6		+0.9
BLY	Banja Luka	8.16	342	*e*Pn		Pn	05 44 36.9		+1.3
FRGS	Fruska Gora	8.16	356	⇓P		Pn	05 44 36.3		+0.5
FRGS				⇓S		Sn	05 46 01.3		-5.7
FRGS	Fruska Gora	8.16	356	*e*Pn		Pn	05 44 32.3		-3.4
A051A	Mrakovica	8.47	342	*e*Pn		Pn	05 44 39.9		-0.1
GZR	Gura Zlata	8.53	10	⇓P		Pn	05 44 42.3		+1.5
BZS	Buzias	8.63	5	⇓P		Pn	05 44 44.7		+2.6
BZS				⇓S		Sn	05 46 15.0		-3.5
LOT	Lotru	8.75	15	⇑P		Pn	05 44 46.1		+2.2
SURR	Surduc	8.80	7	⇑P		Pn	05 44 46.0		+1.5
SURR				⇑S		Sn	05 46 17.3		-5.5
VOIR		9.05	20	⇓P		Pn	05 44 52.1		+4.1
KEST	Kesra	9.19	265	Pn		Pn	05 44 52.4		+2.5
	comp=N,0.3nm,0.3s,baz=52,slow=5.7,SNR=6.6								
KEST				Sn		Sn	05 46 31.0		-1.5
	comp=N,0.1nm,0.3s,baz=345,slow=12,SNR=2.1								
	comp=N,3.9nm,0.7s								
MORH	Mrgy, Hungar	9.31	351	⇑P		Pn	05 44 52.1		+0.6
MLR	Muntele Rosu	9.37	24	⇓P		Pn	05 44 56.7		+4.3
MLR	Muntele Rosu	9.37	24	Pn		Pn	05 44 54.8		+2.5
	comp=N,0.1nm,0.3s,baz=197,slow=18,SNR=2.8								
MLR				LR		LR	05 49 41.4		
	comp=N,99nm,18.5s,baz=234,slow=45								
	comp=N,1.7nm,0.6s								
NEHR	Nehoiu	9.42	25	⇑P		Pn	05 44 56.9		+3.9
PLOR	Plostina	9.92	25	⇓P		Pn	05 45 04.4		+4.6
VRI	Vrincioaia	9.96	25	⇑P		Pn	05 45 04.4		+4.0
OBKA	Obir	10.52	336	*e*Pn		Pn	05 45 08.5		+0.5
OBKA				*e*Sn		Sn	05 47 00.4		-4.5
OBKA	Obir	10.52	336	*e*Pn		Pn	05 45 07.8		-0.3
SOKA	Soboth	10.52	338	*i* Pn		Pn	05 45 08.1		0.0
BRTR	Keskin Array B	10.57	71	Pn		Pn	05 45 08.0		-0.8
	baz=246,slow=13,SNR=2.6								
BRTR				LR		LR	05 49 11.7		
	comp=N,58nm,19.7s,baz=271,slow=38								
	comp=N,0.9nm,0.9s								
CEI	Carei	10.75	7	⇓P		Pn	05 45 13.2		+2.0
MYKA	Terra Mystica	10.93	334	*e*Pn		Pn	05 45 15.0		+1.3
MYKA				*i* Sn		Sn	05 47 12.0		-3.0
	comp=N,0.8nm,0.3s								
RONA	Rosalia, Austr	11.15	345	*e*Pn		Pn	05 45 16.8		+0.1
ABTA	Abfaltersbach	11.45	331	*e*Pn		Pn	05 45 21.1		+0.3
ABTA				*i* Sn		Sn	05 47 21.1		-6.6
	comp=N,1.4nm,0.4s								
CONA	Conrad Observa	11.46	344	*e*Pn		Pn	05 45 21.3		+0.3
VYHS	Vyhne	11.55	354	*e*PN		Pn	05 45 22.3		+0.2
MODS	Modra-Piesok	11.62	349	*e*PN		Pn	05 45 23.4		+0.3
MOA	Molln	11.80	339	*i* Pn		Pn	05 45 25.6		0.0
BIOA	Bad Ischl, Aus	11.85	336	*e*Pn		Pn	05 45 26.1		-0.1
LESA	Schwarzleotal	11.95	333	*e*Pn		Pn	05 45 28.0		+0.4
LESA				*i* Sn		Sn	05 47 34.6		-5.4
	comp=N,4.1nm,0.8s								
WTTA	Wattenberg	12.22	330	*e*Pn		Pn	05 45 31.3		-0.1
WTTA				*e*Sn		Sn	05 47 41.5		-5.1
	comp=N,1.4nm,0.4s								
WATA	Walderalm	12.30	330	*e*Pn		Pn	05 45 34.1		+1.7
	SNR=4.6								
WATA				*e*Sn		Sn	05 47 41.5		-7.1
SQTA	Sankt

MKAR	**Makanchi Array**	**45.84**	**57**	P		**P**	**05 50 59.0**	**+0.3**	
	comp=N,0.4nm,0.6s,baz=269,slow=7.4,SNR=7.4								
	comp=N,0.4nm,0.6s								
ZALV	**Zalesovo Beam**	**46.41**	**47**	P		**P**	**05 51 03.3**	**+0.3**	
	comp=N,0.7nm,0.5s,baz=284,slow=7.3,SNR=4.0								
	comp=N,0.7nm,0.5s								
LBTB	**Lobatse**	**61.87**	**175**	LR		LR	06 24 58.5		
	comp=N,40nm,18.6s,baz=36,slow=41								
BDFB	**Brasilia**	**83.09**	**245**	LR		LR	06 32 28.6		
	comp=N,43nm,18.8s,baz=27,slow=36								
JNU	**Nakatsue**	**84.63**	**52**	LR		LR	06 36 36.0		
	comp=N,24nm,18.9s,baz=358,slow=38								

IDC ***31*** *05:47:47.3±1.0,29.°79N×95.°16E,h0km,mb3.7/6, mbtmp3.6/8,ML3.5/2, Error ellipse: s-maj=48.3km s-min=18.3km az=61.0*

ISC 31 05:47:52.6±1.2,29.8N±0.2×95.2E±0.3,h35km,n8,σ0.6s47/8, mb3.7/6,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**19.69**	**333**	P		**P**	**05 52 18.2**	**-0.5**
	0.1nm,0.3s,baz=145,slow=10,SNR=3.1							
	0.2nm,0.4s							
SONM	**Songino Array**	**19.92**	**23**	P		**P**	**05 52 21.3**	**-0.1**
	0.2nm,0.3s,baz=206,slow=9.0,SNR=15							
	1.8nm,0.7s							
KURBB	**Kurchatov Arra**	**24.25**	**334**	P		**P**	**05 53 05.6**	**-0.5**
	1.4nm,0.8s,baz=145,slow=10,SNR=13							
	1.4nm,0.8s							
ZALV	**Zalesovo Beam**	**25.25**	**346**	P		**P**	**05 53 15.3**	**+0.2**
	1.6nm,0.6s,baz=163,slow=9.5,SNR=8.5							
	1.6nm,0.6s							
BVAR	**Borovoye Array**	**29.44**	**329**	P		**P**	**05 53 53.5**	**+0.7**
	0.4nm,0.5s,baz=141,slow=9.3,SNR=3.3							
	0.4nm,0.5s							
WRA	**Warramunga Arr**	**62.20**	**138**	P		**P**	**05 58 10.9**	**+0.1**
	0.4nm,0.6s,baz=324,slow=7.4,SNR=5.2							
	0.4nm,0.6s							
ASAR	**Alice Springs**	**64.90**	**141**	P		**P**	**05 58 28.6**	**+0.1**
	0.4nm,0.6s,baz=320,slow=6.4,SNR=10.0							
	0.4nm,0.6s							
TORD	**Torodi Ar. Bea**	**86.57**	**283**	P		**P**	**06 00 32.5**	**-0.3**
	0.5nm,0.9s,baz=34,slow=5.5,SNR=3.5							
	0.5nm,0.9s							

WEL 31 06:37:56.5,39.°S±13.°×17.°6E±2.°6,h160km±22km,M2.2/18, mB5.1/1,ML1.6/7,MLv2.2/18,Mw(mB)4.4/1, Error ellipse: s-maj=0.0km s-min=0.0km az=103.3,North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OTVZ	**Oturere**	**0.35**	**214**	P		Pn	06 38 18.8	+0.2
WTVZ	**West Tongariro**	**0.35**	**227**	P		Pn	06 38 18.1	-0.4
SNVZ	**South Ngauruho**	**0.38**	**215**	P		Pn	06 38 18.9	+0.3
TUVZ	**Tukino**	**0.44**	**208**	P		Pn	06 38 19.1	+0.2
WNVZ	**Wahianoa**	**0.52**	**209**	P		Pn	06 38 19.5	+0.2
BKZ	**Black Stump Fm**	**0.53**	**123**	P		Pn	06 38 19.6	+0.5
MOVZ	**Moawhango**	**0.55**	**194**	P		Pn	06 38 19.5	+0.3
BHHZ	**Black Hill Sta**	**0.62**	**170**	P		Pn	06 38 20.4	+0.7
KWHZ	**Kaweka Forest**	**0.67**	**145**	P		Pn	06 38 21.4	+1.4
MTHZ	**Maungataniwha**	**0.72**	**89**	P		Pn	06 38 19.7	-0.5
NMHZ	**Naumai**	**0.73**	**108**	P		Pn	06 38 21.5	+1.2
KRHZ	**Kereru**	**0.84**	**156**	P		Pn	06 38 22.5	+1.5
PNHZ	**Pukenui**	**1.06**	**168**	P		Pn	06 38 20.0	-2.7
URZ	**Urewera**	**1.12**	**57**	P		Pn	06 38 20.2	-3.0
KAHZ	**Kahuranaki**	**1.18**	**141**	P		Pn	06 38 26.0	+2.2
TSZ	**Takapari Road**	**1.18**	**178**	P		Pn	06 38 25.2	+1.4
MWZ	**Matawai**	**1.37**	**67**	P		Pn	06 38 23.2	-2.4
KNZ	**Kokohu**	**1.38**	**97**	P		Pn	06 38 25.5	0.0
RIGZ	**Rimuhau**	**1.45**	**84**	P		Pn	06 38 25.4	-0.9
MHGZ	**Mahia Peninsul**	**1.57**	**101**	P		Pn	06 38 27.9	+0.4
RUGZ	**Raukumara Rang**	**1.65**	**57**	P		Pn	06 38 24.2	-4.3
MRZ	**Mangatainoka R**	**1.80**	**188**	P		Pn	06 38 30.6	+0.6
BFZ	**Birch Farm**	**1.82**	**172**	P		Pn	06 38 31.4	+1.2
CNGZ	**Carnagh Statio**	**1.83**	**78**	P		Pn	06 38 29.0	-1.3
OGWZ	**Otaki Gorge**	**2.02**	**196**	P		Pn	06 38 32.7	+0.3
HOWZ	**Holdsworth Sta**	**2.04**	**189**	P		Pn	06 38 33.0	+0.2
KIW	**Kapiti Island**	**2.13**	**201**	P		Pn	06 38 33.3	-0.4
CAW	**Cannon Point**	**2.33**	**196**	P		Pn	06 38 35.8	-0.1
TCW	**Tory Channel**	**2.65**	**208**	P		Pn	06 38 38.8	-1.1
PLWZ	**Palliser**	**2.74**	**191**	P		Pn	06 38 40.4	-0.6
TUWZ	**Tuamarina**	**2.97**	**210**	P		Pn	06 38 42.2	-1.6
TKNZ	**Takaka Hill**	**3.13**	**226**	P		Pn	06 38 42.1	-3.9
THZ	**Tophouse**	**3.69**	**218**	P		Pn	06 38 50.5	-2.6
KHZ	**Kahutara**	**3.98**	**206**	P		Pn	06 38 54.7	-1.9
GVZ	**Greta Valley S**	**4.64**	**207**	P		Pn	06 39 02.5	-2.8
LTZ	**Lake Taylor**	**4.79**	**214**	P		Pn	06 39 04.2	-3.0
MHCZ	**Mount Hutt**	**5.69**	**214**	P		Pn	06 39 19.7	+0.5

IDC ***31*** *06:45:26.1±2.6,23.°11N×94.°47E,h106km±23km, mb3.6/9, mbtmp3.9/10,Error ellipse: s-maj=44.8km s-min=13.6km az=59.0*

ISC 31 06:45:21.4±0.8,23.°1N±0.°2×94.°2E±0.°1,h58km,n23, σ2.6s63/33,mb4.0/9,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.41**	**135**	P		**Pn**	**06 46 55.4**	**+2.1**
	1.5nm,0.3s,baz=310,slow=13,SNR=15							
ODAN	**Odare**	**7.21**	**303**	*e*Pg		**Pn**	**06 47 08.2**	**+3.8**
ODAN				*e*Sg		**Sn**	**06 48 24.9**	**-0.2**
	129nm,0.2s							
TAPN	**Taplejung**	**7.23**	**307**	*e*Sn		**Sn**	**06 48 26.5**	**+0.9**
	94nm,0.2s							
RAMN	**Ramite**	**7.87**	**301**	*e*Pn		**Pn**	**06 47 17.8**	**+4.3**
RAMN				*e*Sn		**Sn**	**06 48 40.3**	**-1.0**
	110nm,0.4s							
JIRN	**Jiri**	**8.54**	**304**	*e*Pn		**Pn**	**06 47 26.1**	**+3.4**
JIRN				*e*Sn		**Sn**	**06 48 56.0**	**-1.8**
	73nm,0.2s							
GUN	**Gumba**	**8.90**	**304**	*e*Pn		**Pn**	**06 47 31.1**	**+3.4**
GUN				*e*Sn		**Sn**	**06 49 06.1**	**-0.6**
	196nm,0.5s							
PKI	**Pulchoki**	**9.10**	**301**	*e*Pn		**Pn**	**06 47 33.4**	**+3.0**
PKI				*e*Sn		**Sn**	**06 49 10.0**	**-1.5**
	23nm,0.2s							
KKN	**Kakani**	**9.30**	**302**	*e*Sg		**Sn**	**06 49 14.1**	**-2.2**
	63nm,0.2s							
DMN	**Daman**	**9.36**	**301**	*e*Sn		**Sn**	**06 49 15.6**	**-2.1**
	49nm,0.4s							
GKN	**Gorkha**	**9.91**	**302**	*e*Pn		**Pn**	**06 47 44.8**	**+3.6**
GKN				*e*Sn		**Sn**	**06 49 28.5**	**-2.5**
	116nm,0.3s							
KOLN	**Koldanda**	**10.63**	**298**	*e*Pg		**Pn**	**06 47 53.9**	**+2.7**
KOLN				*e*Sg		**Sn**	**06 49 46.4**	**-2.5**
	32nm,0.3s							
DANN	**Dangsing**	**10.75**	**301**	*e*Pn		**Pn**	**06 47 55.3**	**+2.4**
DANN				*e*Sn		**Sn**	**06 49 49.2**	**-2.7**
	41nm,0.3s							
PYUN	**Piuthan**	**11.26**	**299**	*e*Pn		**Pn**	**06 48 01.8**	**+2.0**
PYUN				*e*Sn		**Sn**	**06 50 00.5**	**-3.7**
	44nm,0.5s							
MKAR	**Makanchi Array**	**25.52**	**341**	P		**P**	**06 50 45.8**	**+1.3**
	3.7nm,0.6s,baz=147,slow=11,SNR=51							
	3.7nm,0.6s							
KURBB	**Kurchatov Arra**	**30.07**	**340**	P		**P**	**06 51 25.7**	**+0.7**
	0.8nm,0.6s,baz=152,slow=8.0,SNR=7.2							
KURBB				ScP		**ScP**	**06 57 56.1**	**-6.8**
	0.2nm,0.5s,baz=152,slow=2.2,SNR=5.1							
	0.8nm,0.6s							
ZALV	**Zalesovo Beam**	**31.62**	**349**	P		**P**	**06 51 38.4**	**-0.3**
	0.5nm,0.4s,baz=180,slow=7.2,SNR=2.6							
	0.5nm,0.4s							
BVAR	**Borovoye Array**	**34.95**	**335**	P		**P**	**06 52 07.6**	**0.0**
	0.4nm,0.5s,baz=154,slow=8.0,SNR=2.5							
	0.4nm,0.5s							
WRA	**Warramunga Arr**	**58.00**	**134**	P		**P**	**06 55 06.5**	**-2.0**
	1.4nm,0.7s,baz=320,slow=7.6,SNR=18							
	1.4nm,0.7s							
ASAR	**Alice Springs**	**60.41**	**138**	P		**P**	**06 55 23.8**	**-1.3**
	0.8nm,0.6s,baz=319,slow=6.6,SNR=28							
	0.8nm,0.6s							
ARCES	**ARCESS Array B**	**61.13**	**338**	P		**P**	**06 55 29.4**	**0.0**
	1.6nm,0.8s,baz=110,slow=7.9,SNR=1.1							
	1.6nm,0.8s							
BOSA	**Boshof**	**83.94**	**236**	P		**P**	**06 57 45.8**	**+0.1**
	2.4nm,1.0s,baz=61,slow=6.5,SNR=3.9							
	2.4nm,1.0s							
TORD	**Torodi Ar. Bea**	**87.17**	**283**	P		**P**	**06 58 02.3**	**+0.4**
	0.5nm,0.8s,baz=35,slow=3.5,SNR=2.8							
	0.5nm,0.8s							
TXAR	**Lajitas Array**	**125.13**	**19**	PKP		**PKPdf**	**07 04 14.0**	**-2.0**
	0.2nm,0.8s,baz=53,slow=0.3,SNR=3.8							

NEIC ***31*** *07:06:52.5±0.8,20.°17N±0.°03×155.°88W±0.°04,h32km±8km, Error ellipse: s-maj=5.8km s-min=4.5km az=68.0*

HVO 31 07:06:54.7±1.1,20.°19N±0.°04×155.°87W±0.°04,h26km±3km, ML2.3/2,ML2.5/24(NEIC),Error ellipse: s-maj=6.1km s-min=4.5km az=210.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MHA	**Mahukona**	**0.03**	**272**	Pg		Pb	07 06 59.0	-0.2
HPAH	**Hawaii Prepara**	**0.22**	**134**	Pg		Pb	07 06 59.9	-1.0
HPAH				IAML			07 07 04.1	
	comp=N,762nm,0.2s							
HPAH				IAML			07 07 04.1	
	comp=E,654nm,0.3s							
HUH	**Hualalai**	**0.50**	**176**	Pg		Pb	07 07 03.6	-1.5
HUH				IAML			07 07 14.5	
	comp=N,249nm,1.9s							
POHA	**Pohakuloa**	**0.53**	**143**			Sb	07 07 11.1	-2.0
POHA	**Pohakuloa**	**0.53**	**143**			Pb	07 07 04.2	-1.5
POHA				IAML			07 07 11.3	
	comp=N,400nm,0.2s							
POHA				IAML			07 07 11.4	
	comp=N,513nm,0.2s							
KHLU	**Kahalu`u**	**0.59**	**182**			Pb	07 07 04.5	-2.1
KHLU						Sb	07 07 12.0	-2.7
HLK	**Haleakala**	**0.67**	**328**			Pb	07 07 05.8	-2.3
HLK				IAML			07 07 21.6	
	comp=E,169nm,4.7s							
ALEP	**Alea Permanent**	**0.68**	**162**			Pb	07 07 06.5	-1.7
ALEP						Pn	07 07 15.1	+6.1
HMH	**Humu`ula Sheep**	**0.69**	**148**			Pb	07 07 06.4	-1.9
HMH						Sb	07 07 15.1	-2.4
CPH	**Captain Cook**	**0.70**	**184**			Pb	07 07 06.1	-2.2
MLOA	**Mauna Loa Obse**	**0.70**	**157**	Pg		Pb	07 07 05.6	-3.1
MLOA				IAML			07 07 15.6	
	comp=N,159nm,3.5s							
MLOA				IAML			07 07 28.6	
	comp=E,222nm,4.1s							
MWH	**Moku'aweowe**	**0.74**	**160**			Pb	07 07 06.8	-2.6
MWH				IAML			07 07 13.9	
	comp=N,217nm,3.0s							
MWH				IAML			07 07 30.4	
	comp=E,269nm,3.7s							
MLH	**Mauna Loa**	**0.83**	**146**			Pb	07 07 08.1	-2.6
MLH				IAML			07 07 16.8	
	comp=E,173nm,3.4s							
MLH						Sb	07 07 17.9	-3.6
MLH				IAML			07 07 40.7	
	comp=N,207nm,3.4s							
AIN	**Ainahou**	**0.90**	**154**			Pb	07 07 09.1	-2.7
AIN						Sb	07 07 19.8	-3.7
AIN				IAML			07 07 30.5	
	comp=E,202nm,3.8s							
RSD	**Rainshed**	**0.91**	**142**			Pb	07 07 09.4	-2.6
RSD						Sb	07 07 19.9	-3.9
KHU	**Kahuku**	**0.97**	**166**			Pn	07 07 09.8	-3.1
JOKA	**Jonika Flow**	**1.11**	**132**			Sn	07 07 24.6	-4.4

IDC 31 07:14:25.6±6.8,14.°76S×166.°79E,h0km,mb3.4/3, mbtmp3.4/3,MS3.0/1,Error ellipse: s-maj=338.6km s-min=35.2km az=143.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.28**	**183**	LR		LR	07 18 37.8	
	comp=Z,101nm,18.4s,baz=14,slow=35							
WRA	**Warramunga Arr**	**31.37**	**256**	P		P	07 20 47.8	-0.6
	0.5nm,1.1s,baz=89,slow=8.2,SNR=2.8							
	0.5nm,1.1s							
ASAR	**Alice Springs**	**32.23**	**249**	P		P	07 20 56.4	+0.5
	0.3nm,0.8s,baz=76,slow=9.0,SNR=2.4							
	0.3nm,0.8s							
ILAR	**Eielson Array**	**86.69**	**18**	P		P	07 27 10.9	0.0
	0.2nm,0.5s,baz=235,slow=5.0,SNR=9.9							
	0.2nm,0.5s							

CATAC ***31*** *07:15:59.8±0.9,13.°14N×89.°82W,h18km±6km,ML3.6*
SNET ***31*** *07:15:59.9±1.6,13.°14N×89.°85W,h27km,ML3.5*
GCG ***31*** *07:16:02.5±0.5,13.°22N×90.°01W,h84km±45km,MD3.8*

ISC 31 07:15:59.9±1.6,13.°13N±0.°06×89.°84W±0.°04,h27km±12km, n66,σ0.°58/88,1D,El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LALI	**Alcalda de L**	**0.62**	**55**	*e*P		**Pn**	**07 16 12.8**	**-0.1**
LALI				*e*S		**Sb**	**07 16 21.0**	**+0.4**
LALI	**Alcalda de L**	**0.62**	**55**	*i*P		**Pn**	**07 16 12.8**	**-0.1**
LALI				*i*S		**Sb**	**07 16 21.2**	**+0.6**
LALI				IAML			07 16 21.4	
	comp=Z,1μm,1.0s							
JAYA	**Jayaque - finc**	**0.65**	**36**	*e*P		**Pn**	**07 16 13.5**	**0.0**
JAYA				*e*S		**Sb**	**07 16 21.8**	**+0.2**
JAYA	**Jayaque - finc**	**0.65**	**36**	*i*P		**Pn**	**07 16 13.2**	**-0.3**
JAYA				*i*S		**Sn**	**07 16 23.4**	**+0.4**
JAYA				IAML			07 16 24.1	
	comp=Z,7μm,1.0s							
CEVE	**Cerro Verde**	**0.73**	**17**	*e*P		**Pn**	**07 16 14.7**	**0.0**
CEVE	**Cerro Verde**	**0.73**	**17**	*i*P		**Pn**	**07 16 14.5**	**-0.2**
CEVE				IAML			07 16 27.4	
	comp=Z,1μm,1.0s							
SBLS	**San Blas**	**0.74**	**17**	*e*P		**Pn**	**07 16 14.7**	**-0.1**
SNJE	**San Jose**	**0.77**	**17**	*e*		**Pn**	**07 16 15.1**	**-0.1**
SNJE				*e*P		**Pn**	**07 16 15.1**	**-0.1**
SNJE				*e*P		**Pn**	**07 16 15.2**	**-0.1**
NUBE	**Las Nubes**	**0.77**	**5**	*e*P		**Pn**	**07 16 15.1**	**-0.1**
NUBE				*e*S		**Sn**	**07 16 25.6**	**-0.5**
NUBE	**Las Nubes**	**0.77**	**5**	*i*P		**Pb**	**07 16 14.6**	**-0.3**
NUBE				*i*S		**Sb**	**07 16 25.2**	**+0.1**
NUBE				IAML			07 16 28.0	
	comp=Z,880nm,1.0s							
MAGS	**Ministerio de**	**0.78**	**44**	*i*P		**Pb**	**07 16 14.5**	**-0.3**
MAGS				IAML			07 16 32.7	
	comp=Z,740nm,1.0s							
PMON	**Piamonte**	**0.78**	**41**	*i*P		**Pb**	**07 16 14.9**	**0.0**
PMON				IAML			07 16 33.7	
	comp=Z,2μm,1.0s							
RTR	**El Retiro**	**0.79**	**14**	*e*P		**Pn**	**07 16 15.6**	**+0.1**
CEDA	**San Andres**	**0.80**	**33**	*e*P		**Pn**	**07 16 15.4**	**-0.1**
PANCS	**Alcalda de**	**0.81**	**53**	*i*P		**Pb**	**07 16 14.8**	**-0.5**
PANCS				*i*S		**Sb**	**07 16 25.7**	**-0.2**
PANCS				IAML			07 16 26.0	
	comp=Z,6μm,1.0s							
SNET	**Serv Nac Est T**	**0.81**	**47**	*e*P		**Pb**	**07 16 15.4**	**-0.1**
SNET				*e*S		**Sb**	**07 16 25.8**	**-0.3**
SNET	**Serv Nac Est T**	**0.81**	**47**	*i*P		**Pn**	**07 16 15.7**	**0.0**
SNET				*i*S		**Sb**	**07 16 26.5**	**+0.3**
SNET				IAML			07 16 31.1	
	comp=Z,2μm,1.0s							
BOQS	**Boqueron**	**0.82**	**42**	*e*P		**Pn**	**07 16 15.9**	**0.0**
BOQS				*e*S		**Sn**	**07 16 26.7**	**-0.4**
LOMA	**Loma Larga**	**0.83**	**52**	*e*P		**Pn**	**07 16 15.9**	**0.0**
LOMA				*e*S		**Sn**	**07 16 27.2**	**-0.2**
LOMA	**Loma Larga**	**0.83**	**52**	*i*P		**Pb**	**07 16 15.2**	**-0.6**
LOMA				IAML			07 16 28.5	
	comp=Z,2μm,1.0s							
UTEC	**Universidad Te**	**0.85**	**48**	*i*P		**Pb**	**07 16 15.9**	**-0.1**
UTEC				*i*S		**Sn**	**07 16 27.9**	**+0.2**
UTEC				IAML			07 16 32.1	
	comp=Z,1μm,1.0s							
LOAL	**Lomas de Alarc**	**0.87**	**4**	*i*P		**Pn**	**07 16 16.6**	**+0.2**
LOAL				IAML			07 16 32.9	
	comp=Z,2μm,1.0s							
IGN	**Direccin Gen**	**0.88**	**48**	*i*P		**Pn**	**07 16 16.5**	**0.0**
IGN				IAML			07 16 34.2	
	comp=Z,5μm,1.0s							
SLOZ	**Alcaldia de Sa**	**0.90**	**4**	*e*P		**Pb**	**07 16 16.8**	**0.0**
QUEZ	**Alcaldia de Qu**	**0.90**	**38**	*i*P		**Pb**	**07 16 17.0**	**+0.1**
QUEZ				IAML			07 16 37.8	
	comp=Z,4μm,1.0s							
UNIC	**Universidad Ca**	**0.90**	**19**	*i*P		**Pb**	**07 16 17.0**	**+0.1**
UNIC				IAML			07 16 18.2	
	comp=Z,320nm,1.0s							
LFRS	**El Faro**	**0.91**	**57**	*e*P		**Pn**	**07 16 17.0**	**0.0**
LFU	**La Fuente**	**0.94**	**49**	*e*P		**Pb**	**07 16 17.8**	**+0.1**
SJTE	**Alcalda de S**	**0.95**	**59**	*e*P		**Pn**	**07 16 17.5**	**0.0**
SJTE	**Alcalda de S**	**0.95**	**59**	*i*P		**Pn**	**07 16 17.2**	**-0.3**
SJTE				IAML			07 16 33.6	
	comp=Z,2μm,1.0s							
PAVA	**Las Pavas**	**1.06**	**56**	*e*P		**Pb**	**07 16 19.5**	**-0.1**
PAVA	**Las Pavas**	**1.06**	**56**	*i*P		**Pb**	**07 16 19.8**	**+0.2**
PAVA				IAML			07 16 37.2	
	comp=Z,2μm,1.0s							
COEG	**Centro de Oper**	**1.06**	**62**	*e*P		**Pb**	**07 16 19.5**	**-0.1**
COEG	**Centro de Oper**	**1.06**	**62**	*i*P		**Pn**	**07 16 19.3**	**+0.3**
COEG				IAML			07 16 37.7	
	comp=Z,790nm,1.0s							
SNVI	**San Vicente**	**1.09**	**64**	*e*P		**Pn**	**07 16 19.9**	**+0.4**
TECO	**Alcaldia de Te**	**1.11**	**68**	*e*P		**Pn**	**07 16 19.4**	**-0.3**
TECO	**Alcaldia de Te**	**1.11**	**68**	*i*P		**Pn**	**07 16 19.4**	**-0.3**
TECO				IAML			07 16 37.2	
	comp=Z,1μm,1.0s							
UESV	**Universidad de**	**1.15**	**64**	*i*P		**Pn**	**07 16 20.5**	**+0.3**
UESV				IAML			07 16 40.9	
	comp=Z,1μm,1.0s							
JUAM	**Asuncion Mita**	**1.21**	**6**	*i*P		**Pn**	**07 16 21.5**	**+0.4**
JUAM				IAML			07 16 22.2	
	comp=Z,680nm,1.0s							
SCLA	**Alcaldia de Sa**	**1.23**	**62**	*e*P		**Pb**	**07 16 22.0**	**-0.5**
SCLA				*e*S		**Sn**	**07 16 37.0**	**-0.1**
ALJI	**Alcalda de J**	**1.25**	**81**	*e*P		**Pn**	**07 16 21.2**	**-0.5**
ALJI				*e*S		**Sn**	**07 16 36.9**	**-0.8**
ALJI	**Alcalda de J**	**1.25**	**81**	*i*P		**Pn**	**07 16 20.8**	**-0.9**
ALJI				IAML			07 16 40.7	
	comp=Z,560nm,1.0s							
PQSS	**Presa 15 de Se**	**1.34**	**68**	*e*P		**Pn**	**07 16 23.3**	**+0.4**
PQSS	**Presa 15 de Se**	**1.34**	**68**	*i*P		**Pn**	**07 16 22.7**	**-0.2**
PQSS				IAML			07 16 42.4	
	comp=Z,840nm,1.0s							
MTO3	**Montecristo**	**1.35**	**20**	*e*P		**Pn**	**07 16 23.6**	**+0.5**
MTO3	**Montecristo**	**1.35**	**20**	*i*P		**Pn**	**07 16 22.9**	**-0.3**
MTO3				IAML			07 17 06.9	
	comp=Z,270nm,1.0s							
LLGN	**La Laguna**	**1.35**	**40**	*i*P		**Pn**	**07 16 22.6**	**-0.5**
LLGN				IAML			07 17 40.7	
	comp=Z,800nm,1.0s							
TECA	**Tecapa**	**1.36**	**74**	*e*P		**Pn**	**07 16 23.4**	**+0.1**
ESQI	**Esquipulas**	**1.51**	**19**	*i*P		**Pn**	**07 16 25.9**	**+0.7**
ESQI				IAML			07 17 11.9	
	comp=Z,520nm,1.0s							
PACA	**Pacayal**	**1.52**	**77**	*e*P		**Pn**	**07 16 26.4**	**+1.0**
PACA				*e*S		**Sb**	**07 16 45.9**	**-0.4**
PACA	**Pacayal**	**1.52**	**77**	*i*P		**Pn**	**07 16 26.5**	**+1.0**
PACA				IAML			07 16 53.8	
	comp=Z,7μm,1.0s							
NBG	**Las Nubes**	**1.53**	**341**	*e*P		**Pb**	**07 16 28.0**	**+0.2**
NBG				*e*S		**Sn**	**07 16 43.1**	**-1.9**
LCY	**Lacayo**	**1.54**	**79**	*e*P		**Pn**	**07 16 26.7**	**+1.1**
LCY				*e*S		**Sb**	**07 16 46.2**	**-0.7**
GUNB	**GUNB**	**1.54**	**342**	*i*P		**Pn**	**07 16 26.1**	**+0.2**
GUNB				IAML			07 16 48.7	
	comp=Z,180nm,1.0s							
VSM	**San Miguel**	**1.56**	**79**	*e*P		**Pn**	**07 16 26.9**	**+0.9**
FUG	**Fuego 3**	**1.63**	**324**	*e*P		**Pn**	**07 16 28.1**	**+1.0**
FUG				*e*S		**Sb**	**07 16 48.3**	**-1.4**
CAHU	**Cacacuatique**	**1.71**	**68**	*e*P		**Pn**	**07 16 28.4**	**+0.3**
SARH	**Santa Rosa de**	**1.95**	**33**	*i*P		**Pn**	**07 16 32.7**	**+1.4**
CNCH	**Conchagua**	**1.96**	**85**	*e*P		**Pn**	**07 16 32.0**	**+0.4**
CNCH				*e*S		**Sn**	**07 16 56.2**	**+0.8**
CNCH	**Conchagua**	**1.96**	**85**	*i*P		**Pn**	**07 16 32.4**	**+0.9**
CNCH				IAML			07 16 59.3	
	comp=Z,960nm,1.0s							
AMPH	**Amapala**	**2.13**	**86**	*i*P		**Pb**	**07 16 37.2**	**-0.7**
STG3	**Santiaguito 3,**	**2.30**	**313**	*e*P		**Pn**	**07 16 37.0**	**+0.8**
STG3				*e*S		**Sn**	**07 17 04.1**	**+0.3**
COMHN	**El Horno**	**2.58**	**59**	*i*P		**Pn**	**07 16 40.1**	**0.0**
YUSH	**Yuscaran**	**3.03**	**74**	*i*P		**Pb**	**07 16 55.3**	**+2.1**
WILN	**Americas 2**	**3.69**	**105**	*i*P		**Pn**	**07 16 54.3**	**-0.9**
WILN				IAML			07 17 33.2	
	comp=Z,240nm,1.0s							
MATN	**Matagalpa**	**3.82**	**92**	*i*P		**Pn**	**07 16 57.1**	**0.0**

MEX 31 07:20:12.5±0.6,15.°37N×94.°50W,h16km±12km,MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**1.28**	**75**	*e*P		Pn	07 20 32.4	-3.3
PCIG				*e*S		Sb	07 20 46.8	-5.6
HUIG	**Huatulco**	**1.60**	**284**	*e*P		Pn	07 20 37.1	-3.1

ISC 31 07:52:39.7±0.9, 0°56'N±0'07×122°60'E±0'05, h114km, n14, σ2§13/20, mb3.4/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.42**	**79**	P	**Pn**	**07 52 54.4**	**-2.1**
GTOI				S	**Sn**	**07 53 04.6**	**-4.5**
MRSI	**Marisa**	**0.66**	**263**	P	**Pn**	**07 52 56.2**	**-2.0**
MRSI				S	**Sn**	**07 53 06.9**	**-5.2**
KMSI	**Cibinong**	**1.38**	**89**	P	**Pn**	**07 53 06.0**	**+0.6**
KMSI				S	**Sn**	**07 53 24.2**	**-0.7**
LUWI	**Luwuk**	**1.60**	**174**	P	**Pn**	**07 53 08.1**	**+0.1**
MPSI	**Mapaga**	**2.71**	**265**	P	**Pn**	**07 53 22.3**	**+0.3**
SANI	**Sanana**	**4.26**	**127**	P	**Pn**	**07 53 40.5**	**-2.2**
TTSI	**Tana Toraja**	**4.53**	**218**	P	**Pn**	**07 53 46.2**	**-0.1**
SPSI	**Sidrap Palu**	**5.31**	**212**	P	**Pn**	**07 53 57.0**	**+0.2**
	38nm,0.5s,4µm0.2nm						
NLAI	**Namlea**	**5.87**	**130**	P	**Pn**	**07 54 03.6**	**-0.8**
KAPI	**Kappang**	**6.22**	**207**	P	**Pn**	**07 54 08.1**	**-1.0**
	3.1nm,0.3s,baz=7.6,slow=6.9,SNR=8.1						
KAPI				S	**Sn**	**07 55 17.9**	**-1.1**
	5.1nm,0.4s,baz=88,slow=13,SNR=1.0						
	9.0nm,0.4s						
WRA	**Warramunga Arr**	**23.40**	**151**	P	**P**	**07 57 38.2**	**-0.5**
	0.9nm,0.4s,baz=335,slow=8.6,SNR=34						
WRA				PcP	**PcP**	**08 01 22.8**	**+0.8**
	0.5nm,1.0s,baz=333,slow=2.2,SNR=1.8						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**26.47**	**156**	P	**P**	**07 58 07.1**	**+0.7**
	0.4nm,0.4s,baz=341,slow=14,SNR=23						
ASAR				PcP	**PcP**	**08 01 30.2**	**+1.4**
	0.5nm,0.3s,baz=350,slow=2.0,SNR=12						
	0.4nm,0.4s						
STKA	**Stephens Creek**	**36.93**	**153**	P	**P**	**07 59 38.2**	**+0.4**
	0.9nm,0.5s,baz=329,slow=15,SNR=5.3						
	0.9nm,0.5s						
SONM	**Songino Array**	**49.15**	**346**	P	**P**	**08 01 19.1**	**+3.1**
	0.3nm,0.7s,baz=170,slow=8.8,SNR=2.5						
	0.3nm,0.7s						

*IDC **31** 08:27:48.4±0.9, 4°09'S×151°43'E, h231km±9km, mb3.5/3, mbtmp4.0/5, Error ellipse: s-maj=54.6km s-min=17.4km az=127.0*

*NEIC **31** 08:27:48.6±2.0, 4°2'S±0°2×151°75'E±0°08, h229km±9km, mb4.1/16, Error ellipse: s-maj=22.4km s-min=9.5km az=195.0*

ISC 31 08:27:49.2±0.9, 4°20'S±0°10×151°71'E±0°10, h250km, n28, σ1§51/32, mb4.1/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.34**	**109**	P	**Pn**	**08 28 17.9**	**-3.7**
KRVT				S	**S**	**08 28 44.8**	**-2.4**
MANU	**Manus Island**	**4.83**	**296**	Pn	**Pn**	**08 29 01.6**	**-1.4**
PMG	**Port Moresby**	**6.87**	**221**	Pn	**Pn**	**08 29 26.1**	**-2.1**
PMG	**Port Moresby**	**6.87**	**221**	P	**Pn**	**08 29 26.5**	**-1.8**
	6.0nm,0.6s,baz=18,slow=11,SNR=3.6						
PMG				S	**S**	**08 30 45.0**	**-2.7**
	3.9nm,0.5s,baz=114,slow=20,SNR=1.5						
CTA	**Charters Tower**	**16.67**	**198**	P	**Pn**	**08 31 29.0**	**-0.2**
	1.7nm,0.8s,baz=17,slow=11,SNR=2.6						
CTAO	**Charters Tower**	**16.67**	**198**	P	**P**	**08 31 28.0**	**+0.6**
CTAO				IAmb	IAmb	08 31 49.5	
	comp=Z,4.9nm,1.1s						
EIDS	**Eidsvold**	**21.06**	**182**	P	**P**	**08 32 14.0**	**-0.4**
MTN	**Manton Dam**	**22.07**	**246**	P	**P**	**08 32 25.9**	**+1.9**
MTN				IAmb	IAmb	08 32 47.2	
	comp=Z,5.3nm,1.1s						
DZM	**Mont Dzumac**	**22.80**	**142**	P	**P**	**08 32 30.8**	**+0.1**
DZM				IAmb	IAmb	08 32 43.6	
	comp=Z,2.2nm,0.8s						
WB0	**Warramunga Arr**	**22.90**	**226**	P	**P**	**08 32 33.2**	**+1.6**
WB0				IAmb	IAmb	08 32 33.2	
	comp=Z,5.3nm,0.6s						
WR0	**Warramunga Arr**	**22.92**	**225**	P	**P**	**08 32 33.1**	**+1.4**
WR0				IAmb	IAmb	08 32 33.4	
	comp=Z,4.5nm,0.7s						
WRAB	**Tennant Creek**	**23.04**	**226**	P	**P**	**08 32 34.4**	**+1.6**
WB2	**Warramunga Arr**	**23.05**	**226**	P	**P**	**08 32 34.5**	**+1.6**
WRA	**Warramunga Arr**	**23.05**	**226**	P	**P**	**08 32 33.5**	**+0.5**
WRA	**Warramunga Arr**	**23.05**	**226**	P	**P**	**08 32 34.1**	**+1.1**
	comp=Z,9.2nm,0.6s,baz=48,slow=9.4,SNR=215						
WRA				PcP	**PcP**	**08 36 15.3**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=46,slow=2.4,SNR=1.2						
WRA				S	**S**	**08 36 23.3**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=50,slow=16,SNR=4.9						
	comp=Z,9.2nm,0.6s						
KNRA	**Kununurra**	**25.28**	**242**	P	**P**	**08 32 54.5**	**+1.4**
AS31	**Alice Springs**	**25.88**	**220**	P	**P**	**08 32 59.7**	**+1.2**
ASAR	**Alice Springs**	**25.88**	**220**	P	**P**	**08 32 58.8**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=51,slow=8.7,SNR=19						
	comp=Z,0.5nm,0.3s						
ARMA	**Armidale**	**26.08**	**180**	P	**P**	**08 33 01.9**	**+1.6**
ARMA				IAmb	IAmb	08 33 28.1	
	comp=Z,1.1nm,1.1s						
FITZ	**Fitzroy Crossi**	**29.01**	**240**	P	**P**	**08 33 26.5**	**+0.2**
STKA	**Stephens Creek**	**29.13**	**198**	P	**P**	**08 33 27.3**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=29,slow=14,SNR=4.8						
	comp=Z,0.8nm,0.6s						
CAN	**Canberra**	**31.07**	**184**	P	**P**	**08 33 45.3**	**+1.1**
BBOO	**Buckleboo**	**32.01**	**205**	P	**P**	**08 33 52.4**	**-0.1**
BBOO				IAmb	IAmb	08 34 11.0	
	comp=Z,6.5nm,1.1s						
FORT	**Forrest**	**34.58**	**217**	P	**P**	**08 34 15.0**	**+0.4**
TKNZ	**Takaka Hill**	**41.35**	**155**	P	**P**	**08 35 12.2**	**+1.4**
VNDA	**Vanda**	**73.47**	**178**	P	**P**	**08 38 54.9**	**+1.0**
VNDA				IAmb	IAmb	08 39 16.9	
	comp=Z,2.7nm,1.1s						
QSPA	**South Pole Qui**	**85.76**	**180**	P	**P**	**08 40 00.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**149.08**	**289**	PKPbc	**PKiKP**	**08 47 09.3**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=72,slow=2.4,SNR=11						

*IDC **31** 08:37:58.2±2.7, 37°34'N×72°08'E, h206km±22km, mb3.2/7, mbtmp3.9/14, Error ellipse: s-maj=25.2km s-min=14.8km az=161.0*

*MOS **31** 08:37:58.8±0.8, 37°37'N×72°16'E, h228km, mb3.7/6, Error ellipse: s-maj=10.8km s-min=5.2km az=81.5*

*NEIC **31** 08:37:59.7±1.6, 37°37'N±0°07×72°12'E±0°09, h217km±7km, mb4.1/7, Error ellipse: s-maj=11.1km s-min=10.2km az=64.0*

*NNC **31** 08:38:01.0±13.0, 37°56'N×71°64'E, h179km±503km, mb3.2, mpv4.2, Error ellipse: s-maj=211.3km s-min=74.2km az=179.0*

*SOME **31** 08:38:04.7, 38°73'N×73°58'E, h0km*

ISC 31 08:37:57.5±0.5, 37°32'N±0°04×72°21'E±0°05, h200km, n100, σ1§98/117, mb3.8/16, 5C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMJ	**Simiganj**	**2.86**	**299**		**Pn**	**08 38 47.7**	**+2.1**
SIMJ				Sn	**Sn**	**08 39 22.5**	**-0.7**
BTK	**Batken**	**2.94**	**339**	Pn	**Pn**	**08 38 50.0**	**+3.5**
BTK	**Batken**	**2.94**	**339**	PN	**Pn**	**08 38 50.0**	**+3.5**
KSH	**Kashi**	**3.68**	**52**	P	**Pn**	**08 38 53.5**	**-1.9**
KSH				S	**Sn**	**08 39 33.8**	**-7.0**
KSH				pmax	pmax		
	comp=Z,66nm,0.7s						
KSH				smax	smax		
	comp=N,130nm,0.9s						
KSH				smax	smax		
	comp=E,84nm,0.6s						
NIL	**Nilore**	**3.76**	**167**	Pn	**Pn**	**08 39 00.8**	**+4.4**
NIL	**Nilore**	**3.76**	**167**	PN	**Pn**	**08 39 00.8**	**+4.4**
KBL	**Kabul**	**3.78**	**224**	Pn	**Pn**	**08 39 00.1**	**+3.3**
KBL	**Kabul**	**3.78**	**224**	PN	**Pn**	**08 39 00.1**	**+3.3**
ARSB	**Arslanbob**	**4.04**	**8**		**Pn**	**08 39 01.9**	**+2.0**
ARSB	**Arslanbob**	**4.04**	**8**	PN	**Pn**	**08 39 01.9**	**+2.0**
AML	**Almayashu**	**4.94**	**13**	P	**Pn**	**08 39 13.6**	**+2.2**
	SNR=310						
AML	**Almayashu**	**4.94**	**13**	PN	**Pn**	**08 39 13.4**	**+2.0**
AML	**Almayashu**	**4.94**	**13**	⇑P	**Pn**	**08 39 13.4**	**+2.0**
	comp=E,4.5nm,0.4s						
AML				⇑S	**Sn**	**08 40 08.3**	**-1.4**
	comp=E,53nm,0.8s						
JMU	**Jammu**	**5.10**	**154**	*e*P	**Pn**	**08 39 16.4**	**+3.3**
JMU				*e*S	**Sn**	**08 40 13.4**	**+0.7**
UCH	**Uchtor**	**5.21**	**19**	P	**Pn**	**08 39 17.2**	**+2.2**
	SNR=37						
KZA	**Kyzart**	**5.30**	**25**	P	**Pn**	**08 39 17.6**	**+1.6**
	SNR=16						
EKS2	**Erkin-Say**	**5.47**	**12**	P	**Pn**	**08 39 20.1**	**+2.2**
	SNR=53						
MRKS	**Merke**	**5.47**	**8**	*e*Pg	**Pn**	**08 39 19.9**	**+2.0**
	comp=E,96nm,0.2s						
MRKS				*e*Lg	Lg	08 40 20.2	
	comp=E,143nm,0.4s						
AAK	**Ala-Archa**	**5.59**	**18**	P	**Pn**	**08 39 22.1**	**+2.5**
	SNR=40						
AAK	**Ala-Archa**	**5.59**	**18**	Pn	**Pn**	**08 39 21.9**	**+2.3**
AAK	**Ala-Archa**	**5.59**	**18**	*de*PN	**Pn**	**08 39 21.9**	**+2.3**
AAK				pmax	pmax		
	comp=Z,35nm,0.6s						
AAK	**Ala-Archa**	**5.59**	**18**	P	**Pn**	**08 39 21.7**	**+2.1**
	comp=Z,36nm,0.3s,baz=206,slow=2.9,SNR=188						
AAK				S	**Sn**	**08 40 24.7**	**+0.3**
	comp=Z,12nm,0.3s,baz=180,slow=20,SNR=10						
THN	**Thein Dam**	**5.66**	**148**	*e*P	**Pn**	**08 39 23.7**	**+3.3**
THN				*e*S	**Sn**	**08 40 26.5**	**+0.6**
THN				IAML		08 40 31.9	
	comp=N,75nm,0.5s						
THN				IAML		08 40 35.3	
	comp=E,78nm,0.2s						
KBK	**Karagaybulak**	**5.73**	**21**	P	**Pn**	**08 39 24.3**	**+3.0**
	SNR=15						
FRU1	**Bishkek**	**5.79**	**18**		**Pn**	**08 39 24.8**	**+2.8**
FRU1	**Bishkek**	**5.79**	**18**	PN	**Pn**	**08 39 24.8**	**+2.8**
ULHL	**Ulahol**	**5.82**	**31**	P	**Pn**	**08 39 24.4**	**+1.9**
	SNR=5.5						
BOOM	**Boomskoye usch**	**5.91**	**28**		**Pn**	**08 39 26.0**	**+2.4**
BOOM	**Boomskoye usch**	**5.91**	**28**	PN	**Pn**	**08 39 26.0**	**+2.4**
KK31	**Karatay Array**	**5.92**	**348**	Pn	**Pn**	**08 39 25.4**	**+1.8**
KK31	**Karatay Array**	**5.92**	**348**	PN	**Pn**	**08 39 25.4**	**+1.8**
KK31	**Karatay Array**	**5.92**	**348**	⇑P	**Pn**	**08 39 24.9**	**+1.3**
	comp=E,18nm,0.4s,baz=176,slow=15,SNR=427						
KK31				S	**Sn**	**08 40 28.5**	**-3.4**
	comp=E,37nm,0.6s,baz=180,slow=24,SNR=14						
KKAR	**Karatay Array**	**5.92**	**348**		**Pn**	**08 39 25.4**	**+1.7**
KKAR	**Karatay Array**	**5.92**	**348**	Pn	**Pn**	**08 39 25.4**	**+1.7**
KKAR	**Karatay Array**	**5.92**	**348**	PN	**Pn**	**08 39 25.4**	**+1.7**
CHMS	**Chumysh**	**6.00**	**18**	P	**Pn**	**08 39 26.6**	**+2.0**
	SNR=12						
CHMS	**Chumysh**	**6.00**	**18**	PN	**Pn**	**08 39 26.4**	**+1.8**
CHMS				S	**Sn**	**08 40 33.1**	**-0.5**
CHMS	**Chumysh**	**6.00**	**18**	⇑P	**Pn**	**08 39 26.4**	**+1.8**
	comp=E,11nm,0.5s						
CHMS				⇓S	**Sn**	**08 40 33.1**	**-0.5**
	comp=E,29nm,0.8s						
TKM2	**Tokmak 2**	**6.17**	**24**	P	**Pn**	**08 39 29.2**	**+2.2**
	SNR=12						
TKM2	**Tokmak 2**	**6.17**	**24**	PN	**Pn**	**08 39 28.5**	**+1.5**
TKM2				S	**Sn**	**08 40 38.3**	**+0.4**
TKM2	**Tokmak 2**	**6.17**	**24**	⇓P	**Pn**	**08 39 28.5**	**+1.5**
	comp=E,27nm,0.5s						
TKM2				⇓S	**Sn**	**08 40 38.3**	**+0.4**
	comp=E,12nm,0.8s						
TARG	**Taragay. Kyrgy**	**6.17**	**43**	Pn	**Pn**	**08 39 26.4**	**-0.9**
TARG	**Taragay. Kyrgy**	**6.17**	**43**	PN	**Pn**	**08 39 26.4**	**-0.9**
USP	**Ospenovka**	**6.19**	**16**	P	**Pn**	**08 39 28.5**	**+1.4**
	SNR=7.4						
KST	**Kastek**	**6.40**	**26**	*e*Pg	**Pn**	**08 39 32.2**	**+2.3**
	comp=E,21nm,0.7s						
KST				*e*Lg	Lg	08 40 42.2	
	comp=E,26nm,0.4s						
DGS	**Degeres**	**6.51**	**24**	*e*Pg	**Pn**	**08 39 33.4**	**+2.1**
	comp=E,12nm,0.3s						
DGS				*e*Lg	Lg	08 40 44.3	
	comp=E,9.9nm,0.3s						
TNSS	**Tian-Shan**	**6.76**	**31**	*e*Pg	**Pn**	**08 39 36.7**	**+1.8**
	comp=E,16nm,0.2s						
TNSS				*e*Lg	Lg	08 40 50.4	
	comp=E,2.7nm,0.3s						
BHK	**Bhakra**	**6.84**	**148**	*e*P	**Pn**	**08 39 37.9**	**+2.2**
BHK				*e*S	**Sn**	**08 40 52.3**	**-1.3**
KLP	**Kalpa**	**7.63**	**137**	*e*P	**Pn**	**08 39 49.0**	**+2.7**
KLP				*e*S	Sn	08 41 03.5	-9.2
KHET	**Khetri**	**9.71**	**161**	*e*P	**Pn**	**08 40 13.2**	**+0.3**
KUDL	**Kundal**	**9.83**	**157**	*e*P	**Pn**	**08 40 15.4**	**+0.8**
KUDL				*e*S	**Sn**	**08 41 58.3**	**-6.2**
GEYT	**Alibeck**	**11.20**	**277**	Pn	**Pn**	**08 40 31.7**	**-0.4**
GEYT	**Alibeck**	**11.20**	**277**	P	**Pn**	**08 40 31.9**	**-0.1**
	comp=E,0.9nm,0.4s,baz=123,slow=12,SNR=5.4						
GEYT				S	**Sn**	**08 42 32.6**	**-4.4**
	comp=E,2.6nm,0.5s,baz=106,slow=26,SNR=2.9						
GYA0	**ALIBECK ARRAY**	**11.20**	**277**	P	**Pn**	**08 40 32.4**	**+0.3**
GYA0B	**ALIBECK ARRAY**	**11.20**	**277**	Pn	**Pn**	**08 40 32.4**	**+0.3**
MAKZ	**Makanchi**	**11.93**	**34**	Pn	**Pn**	**08 40 42.2**	**+0.9**
MAKZ	**Makanchi**	**11.93**	**34**	P	**Pn**	**08 40 42.2**	**+0.9**
MK31	**Makanchi Array**	**12.06**	**35**	Pn	**Pn**	**08 40 44.4**	**+1.4**
MK31	**Makanchi Array**	**12.06**	**35**	*i* P	**Pn**	**08 40 44.7**	**+1.7**
MKAR	**Makanchi Array**	**12.06**	**35**	P	**Pn**	**08 40 44.0**	**+1.0**
	comp=E,0.4nm,0.6s,baz=224,slow=12,SNR=8.2						
PYUN	**Piuthan**	**12.91**	**132**	*e*P	**Pn**	**08 40 54.6**	**+0.5**
	comp=E,18nm,0.5s						
DANN	**Dangsing**	**13.19**	**129**	*e*P	**Pn**	**08 40 58.5**	**+0.8**
	comp=E,13nm,0.3s						
KOLN	**Koldanda**	**13.52**	**132**	*e*P	**Pn**	**08 41 03.4**	**+1.8**
KURBB	**Kurchatov Arra**	**14.05**	**17**	P	**Pn**	**08 41 07.2**	**-0.6**
	comp=E,0.6nm,0.7s,baz=206,slow=10,SNR=6.5						
KURBB				S	**Sn**	**08 43 45.9**	**+1.3**
	comp=E,0.6nm,0.8s,baz=201,slow=20,SNR=3.7						
KURK	**Kurchatov**	**14.15**	**17**	Pn	**Pn**	**08 41 08.8**	**-0.3**
KURK	**Kurchatov**	**14.15**	**17**	*i* P	**P**	**08 41 11.0**	**+0.3**
ABKAR	**Akbulak array**	**14.88**	**327**		**Pn**	**08 41 18.0**	**0.0**
JIRN	**Jiri**	**15.21**	**125**	*e*P	**P**	**08 41 23.7**	**+0.6**
BVAR	**Borovoye Array**	**15.76**	**356**	P	**Pn**	**08 41 28.6**	**0.0**
	comp=E,3.3nm,0.5s,baz=162,slow=10,SNR=37						
BVAR				S	**S**	**08 44 21.5**	**-1.7**
	comp=E,0.6nm,0.6s,baz=168,slow=21,SNR=3.5						
BRVK	**Borovoye**	**15.79**	**356**	P	**Pn**	**08 41 29.3**	**+0.3**
BRVK				IAmb	IAmb	08 41 32.2	
	comp=Z,5.4nm,0.9s						
BRVK	**Borovoye**	**15.79**	**356**	*i* P	**Pn**	**08 41 29.4**	**+0.3**
RAMN	**Ramite**	**15.96**	**126**	*e*P	**Pn**	**08 41 33.3**	**+1.6**
	comp=Z,22nm,0.6s						
DGZ	**Jazzator, Alta**	**16.54**	**37**	*i* P	**Pn**	**08 41 38.4**	**+0.1**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKTO	**Aktyubinsk**	**16.59**	**327**	P	**Pn**	**08 41 38.6**	**-0.1**
	comp=Z,9.2nm,0.6s,baz=131,slow=7.6,SNR=22						
ZAA0	**Zalesovo Array**	**18.77**	**24**	P	**P**	**08 42 02.5**	**+1.2**
ZAA0				IAmb	IAmb	08 42 03.9	
	comp=Z,3.7nm,0.8s						
ZALV	**Zalesovo Beam**	**18.77**	**24**	P	**P**	**08 42 02.5**	**+1.2**
ZALV	**Zalesovo Beam**	**18.77**	**24**	*i* P	**P**	**08 42 02.7**	**+1.3**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ZALV	**Zalesovo Beam**	**18.77**	**24**	P	**P**	**08 42 02.4**	**+1.0**
	comp=Z,3.7nm,0.3s,baz=209,slow=9.9,SNR=27						
ARU	**Arti**	**21.20**	**339**	P	**P**	**08 42 26.8**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=106,slow=19,SNR=3.9						
	comp=Z,1.3nm,0.3s						
BELG	**Belogornoye**	**22.88**	**319**	*i* P	**P**	**08 42 42.9**	**-0.5**
BELG				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KBZ	**Khabaz**	**23.11**	**295**	*i* P	**P**	**08 42 45.7**	**+0.1**
KBZ				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KIRV	**Kirov**	**25.94**	**332**	*i* P	**P**	**08 43 11.4**	**+0.3**
SONM	**Songino Array**	**27.07**	**56**	P	**P**	**08 43 22.6**	**+1.1**
SONM	**Songino Array**	**27.07**	**56**	P	**P**	**08 43 23.2**	**+1.7**
	comp=Z,1.0nm,0.5s,baz=263,slow=8.7,SNR=8.4						
	comp=Z,1.0nm,0.5s						
ULN	**Ulaanbaatar**	**27.51**	**56**	*ce*P	**P**	**08 43 25.8**	**+0.3**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.8s						
OBN	**Obninsk**	**29.96**	**318**	⇓*e*P	**P**	**08 43 46.1**	**-0.7**
OBN				*e**PP	**pP**	**08 44 27.5**	**-0.7**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**30.57**	**71**	*e*P	**P**	**08 43 53.0**	**+0.5**
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,240nm,4.8s						
NRIK	**Noril'sk**	**33.15**	**10**	*i* P	**P**	**08 44 15.1**	**+0.6**
NRIK				pmax	pmax		
	comp=Z,4.0nm,1.5s						
AKBB	**Malin Array Si**	**33.20**	**308**	*i* P	**P**	**08 44 14.7**	**-0.4**
AKBB				pmax	pmax		
	comp=Z,3.0nm,1.1s						
FINES	**FINESS Array B**	**37.35**	**325**	P	**P**	**08 44 50.9**	**+0.5**
	comp=Z,4.9nm,1.1s,baz=128,slow=16,SNR=2.6						
	comp=Z,4.9nm,1.1s						
GSI	**Gunungsitoli**	**42.79**	**141**	P	**P**	**08 45 35.5**	**-0.1**
TIXI	**Tiksi**	**44.65**	**22**	P	**P**	**08 45 50.7**	**+1.0**
TIXI				IAmb	IAmb	08 45 51.2	
	comp=Z,3.5nm,0.3s						
TIXI	**Tiksi**	**44.65**	**22**	*i* P	**P**	**08 45 50.4**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**44.92**	**62**	P	**P**	**08 45 50.6**	**-1.6**
USRK	**Ussuriysk Ar.**	**44.92**	**62**	P	**P**	**08 45 50.7**	**-1.6**
PESTR	**Estremoz**	**60.82**	**298**	P	**P**	**08 47 47.9**	**-0.6**
PESTR				IAmb	IAmb	08 47 50.2	
	comp=Z,7.5nm,1.0s						
TORD	**Torodi Ar. Bea**	**66.70**	**269**	P	**P**	**08 48 26.7**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=47,slow=6.3,SNR=6.0						
	comp=Z,0.4nm,0.4s						
ILAR	**Eielson Array**	**73.72**	**16**	P	**P**	**08 49 08.6**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=306,slow=4.8,SNR=4.9						
	comp=Z,0.4nm,0.8s						
YKA	**Yellowknife Ar**	**80.38**	**3**	P	**P**	**08 49 45.8**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=321,slow=10,SNR=8.0						
	comp=Z,0.3nm,0.5s						
WRA	**Warramunga Arr**	**81.61**	**123**	P	**P**	**08 49 52.9**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=338,slow=6.9,SNR=1.7						
	comp=Z,0.2nm,0.7s						

IDC 31 08:48:47.2±2.9, 9°49'S×124°87'E, h252km±33km, mb3.0/3, mbtmp3.4/6, Error ellipse: s-maj=108.0km s-min=16.1km az=52.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**6.75**	**311**	P	**Pn**	**08 50 24.5**	**-0.4**
	2.7nm,0.4s,baz=149,slow=11,SNR=1.4						
KAPI				S	**S**	**08 51 44.1**	**+1.0**
	6.4nm,0.4s,baz=100,slow=17,SNR=1.7						
WRA	**Warramunga Arr**	**13.85**	**140**	P	**Pn**	**08 51 51.9**	**-1.7**
	0.2nm,0.5s,baz=320,slow=13,SNR=2.4						
WRA				S	**S**	**08 54 25.7**	**-1.2**
	0.4nm,0.3s,baz=317,slow=24,SNR=10						
ASAR	**Alice Springs**	**16.53**	**150**	P	**Pn**	**08 52 25.4**	**-0.3**
	0.2nm,0.6s,baz=316,slow=11,SNR=7.2						
ASAR				S	**S**	**08 55 25.8**	**+1.9**
	0.4nm,0.5s,baz=308,slow=20,SNR=8.5						
MKAR	**Makanchi Array**	**67.66**	**330**	P	**P**	**08 59 16.6**	**-0.7**
	0.2nm,0.5s,baz=135,slow=8.1,SNR=2.6						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**71.68**	**336**	P	**P**	**08 59 41.0**	**-0.5**
	0.4nm,0.5s,baz=130,slow=8.3,SNR=1.9						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**72.09**	**331**	P	P	**08 59 44.8**	**+0.8**
	0.3nm,0.3s,baz=142,slow=4.8,SNR=4.1						
	0.3nm,0.3s						

IDC 31 09:25:12.7±3.3, 19°32S×176°25W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=98.2km s-min=43.3km az=28.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.40**	**255**	P	P	**09 33 41.2**	**-0.1**
	1.8nm,0.5s,baz=95,slow=8.1,SNR=54						
ASAR				PcP	PcP	**09 35 15.0**	**-1.4**
	0.3nm,0.7s,baz=106,slow=4.1,SNR=5.9						
	1.8nm,0.5s						
WRA	**Warramunga Arr**	**46.40**	**261**	P	P	**09 33 41.5**	**+0.1**
	0.4nm,0.2s,baz=96,slow=7.4,SNR=32						
	0.4nm,0.2s						
QSPA	**South Pole Qui**	**70.75**	**180**	P	P	**09 36 30.8**	**+0.2**
	0.7nm,0.7s,baz=34,slow=0.1,SNR=5.2						
	0.7nm,0.7s						
AKASG	**Malin Array Be**	**142.74**	**333**	PKP	PKiKP	**09 44 49.6**	**-1.4**
	0.8nm,0.5s,baz=44,slow=4.0,SNR=8.2						

CATAC 31 09:44:15.9±0.4, 9°72N×84°27W, h5km, MB5.7, ML2.4, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCR2	**La Lucha 2**	**0.26**	**84**	*i* P	Pb	**09 44 22.3**	**-0.9**
LCR2				IAML		09 44 22.4	
	comp=Z,3µm,1.0s						
OCM	**Ochomogo**	**0.35**	**59**	*i* P	Pb	**09 44 24.4**	**-0.4**
OCM				IAML		09 44 24.4	
	comp=Z,540nm,1.0s						
OCM				*i* S	Sg	**09 44 26.7**	**-0.8**
JACO	**JACO, Garabito**	**0.39**	**262**	*i* P	Pg	**09 44 22.0**	**-1.5**
JACO				IAML		09 44 50.4	
	comp=Z,38nm,1.0s						
CDM	**Cerro de Muert**	**0.52**	**108**	*i* P	Pb	**09 44 27.9**	**+0.1**
CDM				*i* S	Sg	**09 44 32.8**	**-0.1**
CDM				IAML		09 44 35.9	
	comp=Z,54nm,1.0s						

VA01	**Torpederas**	**1.04**	**178**	*eP*		**Pn**	**10 22 17.4**	**+0.4**
VA01				*eS*		**Sn**	**10 22 32.7**	**+1.2**
VA01	**Torpederas**	**1.04**	**178**	*eP*		**Pn**	**10 22 17.7**	**+0.7**
VA01				*eS*		**Sn**	**10 22 32.6**	**+1.2**
VA01				IAML			10 22 35.4	
	comp=E,6µm,0.1s							
ROCH	**El Roble**	**1.14**	**150**	*eP*		**Pg**	**10 22 19.3**	**+0.7**
ROCH				*eP*		**Pn**	**10 22 19.0**	**+0.4**
ROCH				*eS*		**Sn**	**10 22 34.4**	**0.0**
ROCH				*eS*		**Sg**	**10 22 35.0**	**+1.6**
ROCH				IAML			10 22 38.1	
	comp=N,8µm,0.7s							
ROCH				IAML			10 22 38.7	
	comp=E,4µm,0.6s							
ROC1	**El Roble**	**1.14**	**150**			**Pn**	**10 22 19.2**	**+0.5**
ROC1	**El Roble**	**1.14**	**150**	*eP*		**Pn**	**10 22 19.3**	**+0.6**
ROC1				*eS*		**Sn**	**10 22 35.5**	**+1.1**
CO06	**Fray Jorge**	**1.31**	**2**			**Pb**	**10 22 21.7**	**+0.5**
MT02	**Curacav**	**1.35**	**160**			**Pg**	**10 22 22.4**	**-0.3**
MT02	**Curacav**	**1.35**	**160**	*eP*		**Pg**	**10 22 22.3**	**-0.4**
MT02				*eS*		**Sg**	**10 22 40.8**	**+0.5**
MT02	**Curacav**	**1.35**	**160**	*eP*		**Pg**	**10 22 22.6**	**-0.1**
CO03	**El Pedregal**	**1.43**	**37**			**Pg**	**10 22 24.1**	**0.0**
CO03	**El Pedregal**	**1.43**	**37**	*eP*		**Pg**	**10 22 24.1**	**0.0**
CO03				*eS*		**Sg**	**10 22 43.0**	**+0.4**
CO03				IAML			10 22 45.2	
	comp=Z,4µm,0.3s							
PEL	**Peldehue**	**1.43**	**144**			**Pb**	**10 22 23.3**	**0.0**
PEL	**Peldehue**	**1.43**	**144**	*eP*		**Pg**	**10 22 23.6**	**-0.6**
PEL				*eS*		**Sg**	**10 22 43.6**	**+0.8**
MT10	**Hacienda Santa**	**1.61**	**143**	*eP*		**Pb**	**10 22 26.7**	**+0.2**
MT10				*eS*		**Sg**	**10 22 47.4**	**-1.1**
MT10				IAML			10 22 51.6	
	comp=E,8µm,0.4s							
MT05	**Renca**	**1.62**	**151**	*eP*		**Pb**	**10 22 26.7**	**+0.2**
MT05				*eS*		**Sg**	**10 22 49.4**	**+0.7**
MT05				IAML			10 22 58.1	
	comp=Z,2µm,1.3s							
MT05	**Renca**	**1.62**	**151**	*eP*		**Pb**	**10 22 26.7**	**+0.2**
MT05				*eS*		**Sg**	**10 22 47.7**	**-1.0**
MT05				IAML			10 22 53.0	
	comp=E,5µm,0.3s							
VA05	**Santo Domingo**	**1.67**	**178**			**Pn**	**10 22 26.5**	**+0.8**
MT14	**Cerro Cal¡n**	**1.71**	**146**	⇑*iP*		**Pb**	**10 22 28.4**	**+0.3**
MT14				*eS*		**Sg**	**10 22 50.1**	**-1.6**
MT03	**Universidad Ad**	**1.80**	**147**	*eP*		**Pb**	**10 22 29.6**	**-0.1**
MT03				*eS*		**Sg**	**10 22 53.7**	**-1.0**
MT03				IAML			10 22 56.0	
	comp=Z,4µm,0.4s							
MT15	**Las Vizcachas**	**1.89**	**149**	*eP*		**Pb**	**10 22 31.2**	**0.0**
MT15				*eS*		**Sb**	**10 22 55.3**	**+0.5**
MT15				IAML			10 23 00.8	
	comp=N,5µm,0.2s							
MT01	**Popeta**	**1.91**	**169**	*eP*		**Pb**	**10 22 30.4**	**-1.1**
MT01				*eS*		**Sg**	**10 22 57.8**	**-0.4**
MT01				IAML			10 23 02.8	
	comp=Z,1µm,0.9s							
MT04	**Ro Olivares**	**1.93**	**138**	⇑*iP*		**Pb**	**10 22 31.7**	**-0.2**
MT04				*eS*		**Sb**	**10 22 56.6**	**+0.6**
MT04				IAML			10 22 59.1	
	comp=E,2µm,0.2s							
GO04	**Tololo Observa**	**1.96**	**23**			**Pb**	**10 22 32.1**	**-0.4**
GO04	**Tololo Observa**	**1.96**	**23**	*eP*		**Pb**	**10 22 32.1**	**-0.4**
GO04				*eS*		**Sg**	**10 22 59.1**	**-0.7**
GO04	**Tololo Observa**	**1.96**	**23**	*eP*		**Pb**	**10 22 33.0**	**+0.6**
GO04				*eS*		**Sg**	**10 22 60.0**	**+0.2**
GO04				IAML			10 23 01.6	
	comp=N,11µm,0.4s							
MT12	**Pirque**	**1.99**	**152**	*eP*		**Pb**	**10 22 32.5**	**-0.3**
MT12				*eS*		**Sb**	**10 22 57.0**	**-0.7**
MT12				IAML			10 23 04.7	
	comp=E,3µm,0.3s							
RTLS	**Leoncito**	**2.04**	**85**	*eP*		**Pg**	**10 22 34.5**	**-1.4**
RTLS				*eS*		**Sg**	**10 23 03.6**	**+1.3**
RTLS				IAML			10 23 08.8	
	comp=Z,5µm,0.6s							
CO05	**La Serena**	**2.10**	**11**			**Pb**	**10 22 33.4**	**-1.2**
MT13	**San Alfonso**	**2.11**	**146**			**Pb**	**10 22 34.2**	**-0.8**
BO04	**La Punta**	**2.19**	**156**			**Pb**	**10 22 35.3**	**-1.1**
LMEL	**Las Melosas**	**2.24**	**147**			**Pb**	**10 22 36.2**	**-1.0**
LMEL	**Las Melosas**	**2.24**	**147**	*eP*		**Pb**	**10 22 36.3**	**-0.9**
LMEL				*eS*		**Sb**	**10 23 04.1**	**-0.8**
LMEL				IAML			10 23 10.9	
	comp=N,2µm,0.3s							
CO01	**Juntas del Tor**	**2.42**	**35**			**Pb**	**10 22 39.2**	**-1.1**
CO01	**Juntas del Tor**	**2.42**	**35**	*eP*		**Pb**	**10 22 39.9**	**-0.5**
CO01				*eS*		**Sb**	**10 23 09.8**	**-0.5**
CO01				IAML			10 23 14.2	
	comp=Z,897nm,0.2s							
BO01	**Tunca**	**2.45**	**168**	Pn		**Pn**	**10 22 38.3**	**+1.7**
BO01	**Tunca**	**2.45**	**168**	*eP*		**Pn**	**10 22 38.0**	**+1.4**
BO01				*eS*		**Sg**	**10 23 13.6**	**-1.9**
BO01				IAML			10 23 16.3	
	comp=Z,550nm,0.6s							
DOCA	**Reserva Natura**	**2.45**	**66**	*eP*		**Pb**	**10 22 41.8**	**+0.8**
DOCA				*eS*		**Sg**	**10 23 14.5**	**-1.1**
ZON	**Zonda**	**2.60**	**81**	*eP*		**Pb**	**10 22 43.9**	**+0.7**
ZON				*eS*		**Sg**	**10 23 24.1**	**+3.9**
ZON				IAML			10 23 28.0	
	comp=Z,568nm,1.6s							
BO02	**Sierra Bellavi**	**2.90**	**165**	*eP*		**Pn**	**10 22 44.5**	**+1.7**
BO02				IAML			10 23 30.6	
	comp=Z,1µm,0.6s							
CFA	**Coronel Fontan**	**2.96**	**84**	*eP*		**Pb**	**10 22 48.0**	**-1.5**
CFA				IAML			10 23 30.4	
	comp=Z,398nm,0.6s							
CFA	**Coronel Fontan**	**2.96**	**84**	Pn		**Pb**	**10 22 46.6**	**-2.8**
	comp=Z,28nm,0.3s,baz=255,slow=12,SNR=217							
CFA				LR		LR	10 23 22.7	
	comp=Z,114nm,20.9s,baz=274,slow=29							
CFA				Sn		**Sb**	**10 23 23.9**	**-1.7**
	comp=Z,25nm,0.3s,baz=107,slow=12,SNR=9.9							
	comp=Z,211nm,0.5s							
GO05	**Huala**	**3.02**	**184**	*eP*		**Pn**	**10 22 44.8**	**+0.4**
LCO	**Las Campanas**	**3.08**	**16**	Pn		**Pn**	**10 22 47.1**	**+1.7**
LCO	**Las Campanas**	**3.08**	**16**	*eP*		**Pn**	**10 22 47.0**	**+1.6**
LCO				IAML			10 23 37.3	
	comp=Z,4µm,0.9s							
AC05	**El Transito**	**3.37**	**22**	Pn		**Pn**	**10 22 51.8**	**+2.5**
AC05	**El Transito**	**3.37**	**22**	*eP*		**Pn**	**10 22 51.6**	**+2.4**
AC05				*eS*		**Sb**	**10 23 36.3**	**-1.0**
AC05				IAML			10 23 48.9	
	comp=Z,812nm,0.7s							
AGUA	**GUANDACOL**	**3.71**	**49**	*eP*		**Pb**	**10 22 59.8**	**-2.4**
AGUA				IAML			10 24 09.2	
	comp=Z,732nm,0.7s							
ML02	**Panimavida**	**3.77**	**177**			**Pn**	**10 22 55.6**	**+0.9**
AC04	**Llanos de Chal**	**3.81**	**8**	Pn		**Pn**	**10 22 57.3**	**+2.2**
AC04	**Llanos de Chal**	**3.81**	**8**	*eP*		**Pn**	**10 22 56.3**	**+1.2**
AC04				IAML			10 24 02.8	
	comp=Z,578nm,0.8s							
GO03	**Copiap**	**4.55**	**16**			**Pn**	**10 23 06.8**	**+1.3**
GO03	**Copiap**	**4.55**	**16**	*eP*		**Pn**	**10 23 06.5**	**+1.1**
GO03				*eS*		**Sb**	**10 24 13.1**	**+1.6**
AC06	**Mina Casimiro**	**4.75**	**14**	Pn		**Pn**	**10 23 09.1**	**+0.9**
ACLC	**CERRO LA CRUZ**	**4.81**	**59**	*eP*		**Pn**	**10 23 13.2**	**+4.1**
ACLC				*eS*		**Sb**	**10 24 18.0**	**-1.0**
ACLC				IAML			10 24 18.7	
	comp=Z,383nm,1.2s							
BI05	**Punta Hualpn**	**4.91**	**194**	Pn		**Pn**	**10 23 09.1**	**-1.2**
H03N1	**Juan Fernandez**	**6.26**	**255**	Pn		**Pn**	**10 23 29.7**	**+1.1**
	baz=92,slow=14							
H03N1				T		T	10 30 07.2	
	baz=82,slow=73,SNR=1120							
H03N3	**Juan Fernandez**	**6.27**	**255**	Pn		**Pn**	**10 23 29.6**	**+0.8**
	baz=92,slow=14							
H03N3				T		T	10 30 04.1	
	baz=82,slow=73,SNR=1294							
H03N2	**Juan Fernandez**	**6.28**	**255**	Pn		**Pn**	**10 23 29.8**	**+1.0**
	baz=92,slow=14							
H03N2				T		T	10 30 06.2	
	baz=82,slow=73,SNR=1017							
PLCA	**Paso Flores**	**8.78**	**174**	Pn		**Pn**	**10 24 04.8**	**+1.4**
PLCA	**Paso Flores**	**8.78**	**174**	Pn		**Pn**	**10 24 05.3**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=341,slow=11,SNR=34							
PLCA				LR		LR	10 28 05.3	
	comp=Z,124nm,18.9s,baz=348,slow=42							
	comp=Z,2.1nm,0.4s							
LVC	**Limon Verde**	**9.66**	**15**	Pn		**Pn**	**10 24 15.1**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=231,slow=11,SNR=1.1							
LVC				Sn		**Sn**	**10 26 02.3**	**-2.2**
	comp=Z,0.8nm,0.3s,baz=236,slow=16,SNR=3.8							
LVC				LR		LR	10 28 10.3	
	comp=Z,133nm,21.9s,baz=210,slow=39							
	comp=Z,0.6nm,0.3s							
TRQA	**Tornquist**	**10.00**	**130**	Pn		**Pn**	**10 24 24.2**	**+4.0**
ITQB	**Itaqui**	**13.15**	**84**			**Pn**	**10 25 05.1**	**+1.9**
CPUP	**Villa Florida**	**13.75**	**69**	Pn		**Pn**	**10 25 11.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=242,slow=10,SNR=3.6							
CPUP				Sn		**Sn**	**10 27 44.6**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=185,slow=15,SNR=2.2							
CPUP				LR		LR	10 30 58.5	
	comp=Z,248nm,18.2s,baz=252,slow=39							
	comp=Z,2.6nm,0.9s							
LPAZ	**La Paz**	**15.96**	**13**			**Pn**	**10 25 42.2**	**+0.5**
ITAB	**Concordia**	**17.65**	**79**	P		**Pn**	**10 26 02.4**	**0.0**
ITAB				IAmb		IAmb	10 26 17.1	
	comp=Z,56nm,1.4s							
SIV	**San Ignacio**	**18.62**	**34**	P		**P**	**10 26 13.4**	**-0.8**
	baz=200,slow=12,SNR=5.2							
SIV				LR		LR	10 34 46.5	
	comp=Z,88nm,18.8s,baz=286,slow=42							
	comp=Z,1.0nm,0.7s							
ETMB	**Extrema**	**22.64**	**14**	P		**P**	**10 26 57.4**	**-0.2**
ETMB				IAmb		IAmb	10 27 06.4	
	comp=Z,6.6nm,1.1s							
SAML	**Samuel**	**24.24**	**21**	P		**P**	**10 27 13.5**	**-0.1**
BDFB	**Brasilia**	**26.99**	**58**	P		**P**	**10 27 37.8**	**-0.9**
BDFB	**Brasilia**	**26.99**	**58**	P		**P**	**10 27 38.2**	**-0.5**
	comp=Z,7.7nm,1.0s,baz=222,slow=7.6,SNR=7.6							
BDFB				LR		LR	10 39 56.4	
	comp=Z,97nm,18.7s,baz=162,slow=40							
	comp=Z,7.7nm,1.0s							
RPN	**Rapa Nui**	**32.99**	**269**	LR		LR	10 37 56.9	
	comp=Z,64nm,19.6s,baz=62,slow=29							
PMSA	**Palmer Station**	**33.15**	**174**	LR		LR	10 40 46.1	
	comp=Z,93nm,19.1s,baz=320,slow=34							
BOAV	**Boa Vista**	**35.80**	**19**	P		**P**	**10 28 54.8**	**-1.1**
BOAV				IAmb		IAmb	10 28 57.3	
	comp=Z,8.3nm,1.2s							
MDP	**Montagnes des**	**41.10**	**30**	LR		LR	10 48 37.2	
	comp=Z,62nm,19.5s,baz=150,slow=39							
RCBR	**Riachuelo**	**42.35**	**60**	LR		LR	10 49 07.0	
	comp=Z,59nm,19.4s,baz=252,slow=38							
QSPA	**South Pole Qui**	**58.25**	**180**	P		**P**	**10 31 51.1**	**+0.3**
QSPA				IAmb		IAmb	10 32 22.1	
	comp=Z,5.6nm,1.4s							
QSPA	**South Pole Qui**	**58.25**	**180**	P		**P**	**10 31 51.7**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=147,slow=3.1,SNR=10							
	comp=Z,1.5nm,0.7s							
TXAR	**Lajitas Array**	**68.13**	**330**	P		**P**	**10 32 56.7**	**0.0**
	comp=Z,0.2nm,0.6s,baz=150,slow=8.6,SNR=5.3							
	comp=Z,0.2nm,0.6s							
DBIC	**Dimbokro**	**74.26**	**72**	LR		LR	11 02 21.4	
	comp=Z,37nm,21.9s,baz=238,slow=33							
BOSA	**Boshof**	**80.75**	**118**	LR		LR	11 06 47.6	
	comp=Z,22nm,19.0s,baz=207,slow=33							
LBTB	**Lobatse**	**82.88**	**115**	LR		LR	11 06 47.2	
	comp=Z,33nm,20.1s,baz=216,slow=32							
TOA0	**Torodi Ar. Sit**	**83.25**	**70**	P		**P**	**10 34 23.3**	**-0.2**
TOA0				IAmb		IAmb	10 34 23.7	
	comp=Z,2.7nm,0.9s							
TORD	**Torodi Ar. Bea**	**83.25**	**70**	P		**P**	**10 34 23.5**	**0.0**
	comp=Z,1.9nm,0.8s,baz=250,slow=7.5,SNR=11							
	comp=Z,1.9nm,0.8s							
H11S2	**WAKE ISLAND Hyl**	**26.07**	**270**	T		T	12 59 54.6	
	baz=118,slow=75,SNR=35							
H11S1	**WAKE ISLAND Hyl**	**26.09**	**270**	T		T	12 59 57.5	
	baz=118,slow=75,SNR=27							
H11S3	**WAKE ISLAND Hyl**	**26.09**	**270**	T		T	12 59 58.2	
	baz=118,slow=75,SNR=26							
H11N3	**WAKE ISLAND Hyl**	**26.44**	**272**	T		T	13 00 23.5	
	baz=117,slow=75,SNR=19							
H11N1	**WAKE ISLAND Hyl**	**26.45**	**272**	T		T	13 00 24.0	
	baz=117,slow=75,SNR=9.4							
H11N2	**WAKE ISLAND Hyl**	**26.45**	**272**	T		T	13 00 23.8	
	baz=117,slow=75,SNR=45							
BVAR	**Borovoye Array**	**145.59**	**41**	PKPbc		**PKPab**	**10 41 35.4**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=298,slow=3.2,SNR=9.9							
KURBB	**Kurchatov Arra**	**151.18**	**41**	PKPbc		**PKPbc**	**10 41 49.5**	**0.0**
	comp=Z,0.9nm,0.4s,baz=297,slow=3.0,SNR=7.0							
ZALV	**Zalesovo Beam**	**152.36**	**31**	PKPbc		**PKPbc**	**10 41 52.1**	**0.0**
	comp=Z,2.3nm,0.7s,baz=302,slow=2.8,SNR=13							
MKAR	**Makanchi Array**	**155.19**	**46**	PKPbc		PKPdf	10 41 58.6	+9.1
	comp=Z,0.3nm,0.8s,baz=328,slow=4.4,SNR=3.5							
MKAR				PKPab		**PKPab**	**10 42 14.2**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=291,slow=5.1,SNR=4.5							

*SJA **31** 11:01:06.8±0.6, 22°.76S×68°.46W, h146km±4km, ML3.9, MW3.8*
*IDC **31** 11:01:07.4±0.7, 22°.68S×68°.18W, h114km±6km, mb3.6/9, mbtmp3.9/12, Error ellipse: s-maj=18.0km s-min=16.9km az=51.0*
*GUC **31** 11:01:08.8±0.9, 22°.72S×68°.43W, h129km±5km, ML4.0*
*NEIC **31** 11:01:08.0±2.4, 22°.82S±0°.07×68°.36W±0°.06, h128km±4km, mb4.3/8, Error ellipse: s-maj=10.2km s-min=7.2km az=154.0*
*VAO **31** 11:01:09.0±0.3, 22°.37S×68°.23W, h108km±3km, mb4.4*
ISC 31 11:01:07.5±0.5, 22°.75S±0°.03×68°.33W±0°.04, h125km±5km, n133, σt§81/167, mb3.9/9, 10C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AF01	**San Pedro de A**	**0.25**	**146**			**Pn**	**11 01 26.3**	**+1.1**
AF01				Sn		**Sn**	**11 01 39.9**	**+1.3**
AF01	**San Pedro de A**	**0.25**	**146**	*i* P		**Pn**	**11 01 26.4**	**+1.1**
LVC	**Limon Verde**	**0.55**	**284**	*eP*		**Pn**	**11 01 27.4**	**+0.8**
LVC				*eS*		**Sn**	**11 01 41.8**	**+0.7**
LVC				IAML			11 01 42.4	
	comp=Z,2µm,0.4s							
LVC	**Limon Verde**	**0.55**	**284**	*eP*		**Pn**	**11 01 27.5**	**+0.8**
LVC				*eS*		**Sn**	**11 01 41.3**	**+0.1**
LVC	**Limon Verde**	**0.55**	**284**	P		**Pn**	**11 01 27.5**	**+0.8**
	comp=Z,496nm,0.3s,baz=119,slow=7.8,SNR=1799							
LVC				LR		LR	11 01 29.1	
	comp=Z,27nm,18.5s,baz=287,slow=32							
LVC				S		**Sn**	**11 01 41.5**	**+0.3**
	baz=264,slow=19							
LVC	**Limon Verde**	**0.55**	**284**	⇓*iP*		**Pn**	**11 01 27.0**	**+0.3**
LVC				*i* S		**Sn**	**11 01 41.0**	**-0.1**
PB06	**IPOC Station P**	**1.15**	**272**	*eP*		**Pn**	**11 01 32.1**	**+0.6**
PB06				*eS*		**Sn**	**11 01 50.8**	**+1.0**
PB06				IAML			11 01 53.1	
	comp=Z,2µm,0.2s							
PB06	**IPOC Station P**	**1.15**	**272**	⇑*iP*		**Pn**	**11 01 32.1**	**+0.6**
PB06				*i* S		**Sn**	**11 01 50.4**	**+0.6**
PB06				IAML			11 01 53.1	
	comp=N,4µm,0.2s							
PB15	**IPOC Station P**	**1.15**	**246**			**Pn**	**11 01 32.2**	**+0.6**
PB15				Sn		**Sn**	**11 01 51.0**	**+1.1**
PB15	**IPOC Station P**	**1.15**	**246**	*eP*		**Pn**	**11 01 32.5**	**+1.0**
PB15				*eS*		**Sn**	**11 01 51.4**	**+1.6**
PB15	**IPOC Station P**	**1.15**	**246**	⇑*iP*		**Pn**	**11 01 32.6**	**+1.0**
PB15				*i* S		**Sn**	**11 01 51.3**	**+1.4**
PB09	**IPOC Station P**	**1.27**	**318**	*eP*		**Pn**	**11 01 33.9**	**+1.1**
PB09				*eS*		**Sn**	**11 01 54.0**	**+2.0**
PB09				IAML			11 01 54.9	
	comp=Z,2µm,0.3s							
PB09	**IPOC Station P**	**1.27**	**318**	⇑*iP*		**Pn**	**11 01 34.2**	**+1.3**
PB09				*i* S		**Sn**	**11 01 52.8**	**+0.7**
PB09				IAML			11 01 54.6	
	comp=N,2µm,0.4s							
PB04	**IPOC Station P**	**1.73**	**283**	*eP*		**Pn**	**11 01 38.4**	**+0.4**
PB04				*eS*		**Sn**	**11 02 01.8**	**+0.4**
PB04				IAML			11 02 03.7	
	comp=Z,1µm,0.6s							
PB04	**IPOC Station P**	**1.73**	**283**	⇑*iP*		**Pn**	**11 01 38.4**	**+0.4**
PB04				*i* S		**Sn**	**11 02 00.8**	**-0.6**
PB04				IAML			11 02 02.6	
	comp=N,2µm,0.2s							
PB05	**IPOC Station P**	**1.73**	**266**	*eP*		**Pn**	**11 01 38.3**	**+0.3**
PB05				*eS*		**Sn**	**11 02 01.4**	**+0.1**
PB05				IAML			11 02 02.4	
	comp=Z,691nm,0.4s							
PB05	**IPOC Station P**	**1.73**	**266**	⇑*iP*		**Pn**	**11 01 38.3**	**+0.3**
PB05				*i* S		**Sn**	**11 02 00.3**	**-1.0**
PB05				IAML			11 02 08.9	
	comp=E,871nm,0.2s							
PB07	**IPOC Station P**	**1.76**	**305**	*eP*		**Pn**	**11 01 38.9**	**+0.4**
PB07				*eS*		**Sn**	**11 02 01.9**	**-0.2**
PB07				IAML			11 02 04.1	
	comp=Z,1µm,0.2s							
PB07	**IPOC Station P**	**1.76**	**305**	⇑*iP*		**Pn**	**11 01 39.0**	**+0.6**
PB07				*i* S		**Sn**	**11 02 01.5**	**-0.6**
PB07				IAML			11 02 03.4	
	comp=N,2µm,0.3s							
PB01	**IPOC Station P**	**2.00**	**327**	*eP*		**Pn**	**11 01 41.8**	**+0.5**
PB01				*eS*		**Sn**	**11 02 08.1**	**+0.9**
PB01				IAML			11 02 10.9	
	comp=E,608nm,0.5s							
PB01	**IPOC Station P**	**2.00**	**327**	⇑*iP*		**Pn**	**11 01 41.9**	**+0.5**
PB01				*i* S		**Sn**	**11 02 07.0**	**-0.2**
PB01				IAML			11 02 10.3	
	comp=N,846nm,0.2s							
PB02	**IPOC Station P**	**2.03**	**314**	*eP*		**Pn**	**11 01 41.8**	**+0.2**
PB02				*eS*		**Sn**	**11 02 07.8**	**0.0**
PB02				IAML			11 02 13.0	
	comp=Z,2µm,0.3s							
PB02	**IPOC Station P**	**2.03**	**314**	⇑*iP*		**Pn**	**11 01 42.0**	**+0.3**
PB02				*i* S		**Sn**	**11 02 06.9**	**-0.8**
PB02				IAML			11 02 09.1	
	comp=E,2µm,0.2s							
PATCX	**Punta Patache**	**2.56**	**318**	Pn		**Pn**	**11 01 48.3**	**0.0**
PATCX	**Punta Patache**	**2.56**	**318**	*eP*		**Pn**	**11 01 47.9**	**-0.4**
PATCX				*eS*		**Sn**	**11 02 18.5**	**-1.1**
PATCX	**Punta Patache**	**2.56**	**318**	*i* P		**Pn**	**11 01 47.8**	**-0.4**
PATCX				*i* S		**Sn**	**11 02 17.6**	**-2.0**
PATCX				IAML			11 02 25.4	
	comp=E,776nm,0.2s							
PB14	**IPOC Station P**	**2.67**	**225**	*eP*		**Pn**	**11 01 50.0**	**0.0**
PB14				*eS*		**Sn**	**11 02 21.0**	**-1.5**
PB14				IAML			11 02 21.7	
	comp=Z,430nm,0.3s							
PB14	**IPOC Station P**	**2.67**	**225**	*eP*		**Pn**	**11 01 49.9**	**0.0**
PB14				*eS*		**Sn**	**11 02 20.7**	**-1.8**
GO02	**Mina Guanaco**	**2.67**	**205**	Pn		**Pn**	**11 01 50.5**	**+0.5**
GO02	**Mina Guanaco**	**2.67**	**205**	*eP*		**Pn**	**11 01 50.4**	**+0.5**
GO02				*eS*		**Sn**	**11 02 22.3**	**-0.2**
GO02	**Mina Guanaco**	**2.67**	**205**	⇑*iP*		**Pn**	**11 01 50.5**	**+0.5**
GO02				*i* S		**Sn**	**11 02 22.5**	**-0.1**
YJA	**Yavi**	**2.67**	**78**	*eP*		**Pn**	**11 01 53.4**	**+3.4**
YJA				*eS*		**Sn**	**11 02 28.3**	**+5.6**
PB08	**IPOC Station P**	**2.70**	**343**			**Pn**	**11 01 52.2**	**+1.8**
PB08	**IPOC Station P**	**2.70**	**343**	*eP*		**Pn**	**11 01 51.9**	**+1.5**
PB08	**IPOC Station P**	**2.70**	**343**	*i* P		**Pn**	**11 01 52.0**	**+1.5**
TA01	**Diego Aracena**	**2.77**	**321**			**Pn**	**11 01 50.5**	**-0.4**
TA01	**Diego Aracena**	**2.77**	**321**	*eP*		**Pn**	**11 01 50.2**	**-0.7**
TA01				*eS*		**Sn**	**11 02 21.4**	**-3.0**
TA01				IAML			11 02 25.0	
	comp=Z,239nm,0.7s							
TA01	**Diego Aracena**	**2.77**	**321**	*i* P		**Pn**	**11 01 50.1**	**-0.8**
TA02	**Huaiquique**	**2.98**	**325**			**Pn**	**11 01 55.7**	**+2.0**
TA02	**Huaiquique**	**2.98**	**325**	*eP*		**Pn**	**11 01 57.0**	**+3.3**
TA02				IAML			11 02 55.4	
	comp=Z,248nm,0.4s							
GO01	**Chusmiza**	**3.17**	**345**	Pn		**Pn**	**11 01 57.4**	**+0.8**
GO01	**Chusmiza**	**3.17**	**345**	*eP*		**Pn**	**11 01 57.8**	**+1.2**
GO01				*eS*		**Sn**	**11 02 36.0**	**+1.6**
GO01	**Chusmiza**	**3.17**	**345**	*eP*		**Pn**	**11 01 57.8**	**+1.2**
PB11	**IPOC Station P**	**3.22**	**337**	*eP*		**Pn**	**11 01 56.1**	**-0.9**
PB11				IAML			11 03 12.7	
	comp=Z,142nm,0.7s							
PB11	**IPOC Station P**	**3.22**	**337**	*eP*		**Pn**	**11 01 56.5**	**-0.4**
SLA	**San Lorenzo**	**3.25**	**128**	*eP*		**Pn**	**11 02 01.1**	**+3.7**
AZAP	**Zapla**	**3.34**	**117**	*eP*		**Pn**	**11 02 01.0**	**+2.4**
AC01	**Pan de Azucar**	**3.97**	**211**	Pn		**Pn**	**11 02 05.8**	**-0.9**
AC01	**Pan de Azucar**	**3.97**	**211**	*eP*		Pn	11 01 54.5	-12
AC01				IAML			11 02 43.2	
	comp=Z,125nm,0.5s							
AC01	**Pan de Azucar**	**3.97**	**211**	⇑*iP*		**Pn**	**11 02 05.5**	**-1.2**
PB12	**IPOC Station P**	**4.51**	**335**	*eP*		**Pn**	**11 02 12.6**	**-1.5**
PB12				*eS*		Sn	11 02 54.8	-11
PB12				IAML			11 03 34.9	
	comp=Z,75nm,0.6s							
PB16	**IPOC Station P**	**4.52**	**346**	*eP*		**Pn**	**11 02 15.3**	**+0.6**
PB16

QSPA	**South Pole Qui**	**67.45**	**180**	P		**P**		**11 11 51.7**	**+2.0**
	comp=Z,1.8nm,0.5s,baz=232,slow=0.6,SNR=21									
	comp=Z,1.8nm,0.5s									
PDAR	**Pinedale Array**	**75.45**	**330**	P		**P**		**11 12 39.4**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=125,slow=7.8,SNR=2.5									
	comp=Z,0.2nm,0.6s									
ULM	**Lac du Bonnet**	**76.66**	**342**	P		**P**		**11 12 45.0**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=153,slow=9.9,SNR=4.1									
	comp=Z,1.2nm,0.5s									
NVAR	**Mina Array Bea**	**76.80**	**322**	P		**P**		**11 12 47.8**	**+2.1**
	comp=Z,0.3nm,0.7s,baz=189,slow=6.5,SNR=2.9									
	comp=Z,0.3nm,0.7s									
TOA0	**Torodi Ar. Sit**	**77.27**	**70**	P		**P**		**11 12 48.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**77.27**	**70**	P		**P**		**11 12 49.0**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=264,slow=5.1,SNR=12									
	comp=Z,1.0nm,0.5s									
YKA	**Yellowknife Ar**	**92.53**	**340**	P		**P**		**11 14 05.3**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=135,slow=4.0,SNR=11									
	comp=Z,0.5nm,0.7s									
ASAR	**Alice Springs**	**129.05**	**207**	PKP		**PKiKP**		**11 20 02.5**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=142,slow=1.9,SNR=7.2									
WRA	**Warramunga Arr**	**132.15**	**209**	PKP		**PKiKP**		**11 20 08.7**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=161,slow=1.7,SNR=12									
ZALV	**Zalesovo Beam**	**142.84**	**26**	PKP		**PKPdf**		**11 20 26.7**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=306,slow=4.8,SNR=2.4									
MKAR	**Makanchi Array**	**146.31**	**37**	PKPbc		**PKPbc**		**11 20 33.9**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=309,slow=2.6,SNR=7.1									
SONM	**Songino Array**	**154.61**	**8**	PKPbc		**PKiKP**		**11 20 53.9**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=8.2,slow=1.7,SNR=2.0									
PZH	**PanZhiHua**	**170.23**	**65**	PKP		**PKPdf**		**11 20 58.5**	**-2.7**

*TEH **31** 11:29:44.6,31.˚90N×48.˚73E,h7km,ML3.5*
*DSN **31** 11:29:52.8±0.8,31.˚73N×49.˚72E,h10km,ML3.3/4, Error ellipse: s-maj=35.9km s-min=5.9km az=46.0*
ISC 31 11:29:45.9±1.5,**31.˚80N**±0.˚06×**48.˚85E**±0.˚10,**h20**km,**n34,**
σ2**9**15/30,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMIS	**Naft Sefid**	**0.40**	**110**	Pg	**Pb**	**11 29 55.1**	**+0.9**
AHWZ	**Ahwaz**	**0.50**	**201**	Pg	Pb	11 29 56.6	+0.6
JHBN	**Jahan bin**	**1.60**	**74**	Pg	**Pb**	**11 30 15.6**	**+0.7**
ZNGN	**Zangian**	**1.73**	**79**	Pn	**Pb**	**11 30 18.2**	**+1.1**
IKFM	**Kafar-mosalman**	**1.91**	**334**	Pg	Pn	11 30 17.4	+0.1
IPIR	**Pirpir**	**1.94**	**63**	Pn	**Pb**	**11 30 20.8**	**+0.1**
IBRJ	**Brojen**	**2.05**	**86**	Pn	**Pb**	**11 30 22.7**	**+0.1**
HSAM	**Samen**	**2.41**	**355**	Pn	**Pn**	**11 30 25.1**	**+0.7**
KLNJ	**Kolanjah**	**2.47**	**108**	Pn	**Pb**	**11 30 28.5**	**-1.4**
IKOM	**Komasi**	**2.62**	**335**	Pn	Pn	11 30 27.5	+0.3
IKLH	**Kolahrood**	**2.75**	**56**	Pn	**Pb**	**11 30 32.2**	**-2.4**
IGAR	**Gharneh**	**2.77**	**77**	Pn	**Pb**	**11 30 32.9**	**-2.0**
ILBA	**Ilam Banvizeh**	**2.87**	**310**	Pn	Pn	11 30 30.1	-0.5
QAMS	**Qamsar**	**2.88**	**47**	Pn	**Pn**	**11 30 33.4**	**+2.5**
IRAM	**Ramesheh**	**3.01**	**89**	Pn	**Pb**	**11 30 36.1**	**-2.8**
HAGD	**Aghdareh**	**3.02**	**5**	Pn	**Pn**	**11 30 33.8**	**+1.1**
IALM	**Almabolaq**	**3.10**	**350**	Pn	**Pn**	**11 30 34.7**	**+0.7**
IZEF	**Zefreh**	**3.14**	**69**	Pn	**Pn**	**11 30 36.9**	**+2.5**
IGHG	**Ghaleghazi**	**3.17**	**323**	Pn	Pn	11 30 34.8	+0.1
KRSH	**Karshahi**	**3.51**	**51**	Pn	**Pn**	**11 30 41.8**	**+2.3**
IDHR	**Dehrash**	**3.55**	**325**	Pn	Pn	11 30 39.2	-0.8
IRAZ	**Razeghan**	**3.70**	**14**	Pn	**Pn**	**11 30 44.0**	**+1.9**
ISFB	**Sefidab**	**3.81**	**47**	Pn	**Pn**	**11 30 45.9**	**+2.3**
IVRN	**Varamin**	**3.99**	**36**	Pn	**Pn**	**11 30 48.1**	**+2.2**
DSBU	**Dashti - Bushe**	**4.01**	**148**	Pn	**Pn**	**11 30 50.2**	**+3.9**
ANAR	**Anarak**	**4.35**	**70**	Pn	**Pn**	**11 30 53.7**	**+2.8**
IFIR	**Firoozkooh**	**5.02**	**36**	Pn	**Pn**	**11 31 02.7**	**+2.3**
KLST	**Kelardasht - M**	**5.05**	**21**	Pn	**Pn**	**11 31 02.6**	**+1.9**
MZPU	**Pul - Mazandar**	**5.14**	**25**	Pn	**Pn**	**11 31 04.0**	**+2.0**
IGLO	**Ghaloghah**	**6.24**	**40**	Pn	**Pn**	**11 31 18.4**	**+1.3**
ASUD	**Al Ashush, Dub**	**9.15**	**140**	P	**Pn**	**11 31 58.4**	**+1.6**
MDH	**Madha**	**9.21**	**133**	P	**Pn**	**11 31 57.6**	**0.0**
MDH				S	**Sn**	**11 33 36.9**	**-3.8**
HATD	**Hatta, Dubai**	**9.46**	**136**	P	**Pn**	**11 32 01.7**	**+0.6**
ASHO	**Ashiyiah**	**9.52**	**136**	P	**Pn**	**11 32 02.5**	**+0.6**
ASHO				S	**Sn**	**11 33 44.7**	**-3.7**

*IDC **31** 11:30:52.6±2.5,51.˚77N×172.˚47E,h0km,mb3.2/2, mbtmp3.4/3,ML2.9/1,Error ellipse: s-maj=62.2km s-min=28.1km az=157.0*
*NEIC **31** 11:30:53.0±1.7,51.˚64N±0.˚07×172.˚5E±0.˚1,h10km±2km, mb4.1/18,Error ellipse: s-maj=17.1km s-min=6.4km az=132.0*
ISC 31 11:30:52.9±1.3,**51.˚7N**±0.˚1×**172.˚49E**±0.˚09,**h10**km,**n30,**
σ1**9**24/31,**mb4.0/9,Near Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEM	**Shemya Is, Ala**	**1.47**	**42**	Pn	**Pn**	**11 31 20.0**	**+0.6**
	6.9nm,0.3s,baz=269,slow=19,SNR=2.0						
SHEM				Sn	**Sn**	**11 31 37.9**	**-0.6**
	61nm,0.3s,baz=246,slow=21,SNR=13						
SMY	**Shemya**	**1.47**	**42**	Pn	**Pn**	**11 31 19.8**	**+0.4**
AMKA	**Amchitka**	**4.27**	**91**	Pn	**Pn**	**11 31 57.5**	**-0.3**
PET	**Petropavlovsk**	**8.58**	**285**	Pn	**Pn**	**11 32 56.7**	**-0.3**
PEA0B	**Petropavlovsk-**	**9.16**	**285**	Pn	**Pn**	**11 33 05.3**	**+0.3**
PETK	**Petropavlovsk-**	**9.16**	**285**	Pn	**Pn**	**11 33 03.4**	**-1.7**
PETK	**Petropavlovsk-**	**9.16**	**285**	Pn	**Pn**	**11 33 05.2**	**+0.1**
	0.6nm,0.3s,baz=94,slow=20,SNR=32						
PETK				Sn	Sn	11 34 37.6	-11
	0.1nm,0.3s,baz=79,slow=24,SNR=1.9						
	1.5nm,0.4s						
ANM	**Nome**	**17.31**	**33**	Pn	**Pn**	**11 34 52.9**	**-1.4**
ANM				IAmb	IAmb	11 34 54.9	
	comp=Z,16nm,1.2s						
H18K	**Honhosa River**	**20.14**	**37**	P	**P**	**11 35 25.0**	**-1.8**
H18K				IAmb	IAmb	11 35 25.4	
	comp=Z,18nm,1.5s						
TTA	**Tatalina**	**20.19**	**44**	P	**P**	**11 35 26.1**	**-1.3**
TTA				IAmb	IAmb	11 35 58.5	
	comp=Z,14nm,1.5s						
J20K	**Nowinta River**	**21.39**	**41**	P	**P**	**11 35 41.1**	**+0.7**
J20K				IAmb	IAmb	11 36 23.4	
	comp=Z,16nm,1.5s						
C19K	**Lookout Ridge**	**21.93**	**27**	P	**P**	**11 35 49.7**	**+3.6**
C19K				IAmb	IAmb	11 36 10.5	
	comp=Z,10.0nm,1.5s						
SKT	**Skwentna**	**21.94**	**48**	P	**P**	**11 35 48.8**	**+2.6**
IMAR	**Indian Mountai**	**22.23**	**37**	P	**P**	**11 35 47.8**	**-1.5**
B20K	**Meade River**	**23.16**	**26**	P	**P**	**11 35 59.8**	**+0.8**
SMK	**Sawmill**	**23.41**	**49**	P	**P**	**11 36 01.9**	**+0.2**
B21K	**Ikpikpuk River**	**23.67**	**28**	P	**P**	**11 36 03.0**	**-1.1**
E22K	**Anaktuvuk Pass**	**23.82**	**33**	P	**P**	**11 36 06.0**	**+0.2**
SCM	**Sheep Creek Mo**	**23.88**	**49**	P	**P**	**11 36 06.7**	**+0.4**
D22K	**Ayikyak River**	**23.88**	**31**	P	**P**	**11 36 05.9**	**-0.3**
D22K				IAmb	IAmb	11 36 45.0	
	comp=Z,6.3nm,1.5s						
MDM	**Murphy Dome**	**24.07**	**41**	P	**P**	**11 36 08.7**	**+0.7**
CCB	**Clear Creek Bu**	**24.17**	**42**	P	**P**	**11 36 10.0**	**+1.1**
CCB				IAmb	IAmb	11 36 25.1	
	comp=Z,4.4nm,1.3s						
B22K	**Teshekpuk Lake**	**24.40**	**27**	P	**P**	**11 36 12.4**	**+1.4**
ILAR	**Eielson Array**	**24.58**	**42**	P	**P**	**11 36 13.6**	**+0.9**
	comp=Z,0.8nm,0.9s,baz=251,slow=8.8,SNR=5.0						
	comp=Z,0.8nm,0.9s						
C23K	**Itkillik River**	**24.98**	**30**	P	**P**	**11 36 17.5**	**+1.3**
C23K				IAmb	IAmb	11 36 48.7	
	comp=Z,3.7nm,1.4s						
BCAR	**Beaver Creek A**	**26.56**	**47**	P	**P**	**11 36 31.4**	**+0.7**
I28M	**Miner Creek**	**27.59**	**42**	P	**P**	**11 36 40.0**	**+0.1**
I28M				IAmb	IAmb	11 37 22.7	
	comp=Z,6.5nm,1.5s						
H29M	**Whitestone**	**28.32**	**40**	P	**P**	**11 36 46.5**	**+0.2**
G31M	**Satah River**	**30.02**	**39**	P	**P**	**11 37 01.9**	**+0.6**
G31M				IAmb	IAmb	11 37 11.3	
	comp=Z,5.0nm,1.4s						
TXAR	**Lajitas Array**	**63.92**	**75**	P	**P**	**11 41 26.8**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=321,slow=7.0,SNR=1.9						
	comp=Z,0.2nm,0.6s						

*AFAD **31** 11:38:05.4±0.0,37.˚84N×37.˚74E,h6km±1km,ML3.6*
*ISK **31** 11:38:05.1,37.˚84N×37.˚73E,h5km,ML3.5/37*
ISC 31 11:38:06.2±0.9,**37.˚84N**±0.˚02×**37.˚77E**±0.˚02,**h5**km±7km,
n54,σ1**9**06/75,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKCA	**Adyaman/G¶l**	**0.08**	**236**	P	**Pg**	**11 38 07.1**	**-0.9**
AKCA				*i* AML	AML	11 38 09.0	
	comp=E,9μm,0.6s						
AKCA				S	**Sg**	**11 38 09.5**	**+0.3**
AKCA				*i* AML	AML	11 38 10.0	
	comp=N,16μm,0.8s						
AZEY	**Adyaman-Merk**	**0.38**	**94**	P	**Pg**	**11 38 13.5**	**-0.2**
AZEY				S	**Sb**	**11 38 19.9**	**-1.9**
AZEY				*i* AML	AML	11 38 20.0	
	comp=E,4μm,0.7s						
GZT	**Gaziantep**	**0.51**	**199**	P	**Pg**	**11 38 15.6**	**-0.4**
GZT				*i* AML	AML	11 38 23.0	
	comp=N,2μm,0.3s						
GZT				S	**Sb**	**11 38 24.1**	**-1.3**
KHMN	**Narli-Kahraman**	**0.66**	**228**	Pg	**Pg**	**11 38 18.6**	**-0.2**
KHMN				Sg	**Sg**	**11 38 28.4**	**+1.0**
ELBS	**KAHRAMANMARAS**	**0.70**	**314**	P	**Pg**	**11 38 19.1**	**-0.5**
ELBS				S	**Sg**	**11 38 29.1**	**+0.4**
ELBS				*i* AML	AML	11 38 31.0	
	comp=N,6μm,0.6s						
ELBS				*i* AML	AML	11 38 31.0	
	comp=E,4μm,0.4s						
MAYA	**Malatya/Merkez**	**0.71**	**47**	P	**Pg**	**11 38 19.1**	**-0.8**
MAYA				S	**Sg**	**11 38 29.8**	**+0.6**
MAYA				*i* AML	AML	11 38 31.0	
	comp=E,2μm,0.5s						
KMRS	**Kahramanmaras**	**0.76**	**245**	Pg	**Pg**	**11 38 20.4**	**-0.5**
KMRS				Sg	**Sb**	**11 38 31.8**	**-0.9**
DARE	**Darende-Malaty**	**0.77**	**343**	Pg	**Pg**	**11 38 20.7**	**-0.3**
DARE				Sg	**Sb**	**11 38 32.2**	**-0.7**
NZIP	**Nizip/Gaziante**	**0.80**	**185**	P	**Pg**	**11 38 20.6**	**-0.9**
NZIP				S	**Sn**	**11 38 34.8**	**-1.6**
NZIP				*i* AML	AML	11 38 35.0	
	comp=E,3μm,0.3s						
NZIP				*i* AML	AML	11 38 39.0	
	comp=N,2μm,0.5s						
GAZ	**Gaziantep**	**0.80**	**214**	Pg	**Pg**	**11 38 21.3**	**-0.2**
GAZ				Sg	**Sb**	**11 38 33.2**	**-0.5**
HCB	**Kahramanmara**	**0.84**	**234**	S	**Sb**	**11 38 35.5**	**+0.6**
URFA	**Urfa**	**0.93**	**115**	Pg	**Pn**	**11 38 24.7**	**-0.1**
URFA				Sg	**Sn**	**11 38 38.9**	**-0.7**
KAMA	**Osmaniye**	**1.09**	**234**	P	**Pg**	**11 38 27.0**	**-0.1**
KAMA				S	**Sg**	**11 38 40.5**	**-0.7**
KAMA				*i* AML	AML	11 38 43.0	
	comp=N,826nm,0.2s						
KAMA				*i* AML	AML	11 38 44.0	
	comp=E,908nm,0.5s						
SARI	**SarD1z-Kayseri**	**1.21**	**299**	Pn	**Pg**	**11 38 28.8**	**-0.6**
SARI				Sn	**Sb**	**11 38 46.1**	**+0.5**
ARPR	**Arapgir-MALATY**	**1.33**	**19**	Pn	**Pb**	**11 38 31.6**	**-0.2**
SAIM	**ADANA**	**1.34**	**277**	P	**Pn**	**11 38 30.5**	**-1.1**
SAIM				S	**Sb**	**11 38 49.0**	**-0.3**
SAIM				*i* AML	AML	11 38 54.0	
	comp=N,2μm,0.4s						
SAIM				*i* AML	AML	11 38 54.0	
	comp=E,2μm,0.3s						
KOZT	**Kozan**	**1.58**	**258**	Pn	**Pn**	**11 38 35.0**	**+0.1**
KOZT				Sn	**Sb**	**11 38 56.6**	**+0.4**
PTK	**Pertek**	**1.66**	**50**	Pn	**Pb**	**11 38 36.8**	**-0.5**
PTK				Sn	**Sg**	**11 39 00.0**	**+0.6**
CEYT	**Ceyhan**	**1.81**	**243**	Pn	**Pn**	**11 38 38.4**	**+0.4**
CEYT				Sn	**Sb**	**11 39 02.2**	**-0.5**
BNN	**Bunyan**	**1.82**	**304**	Pn	**Pn**	**11 38 38.4**	**+0.1**
RHAN	**Hatay/Reyhanl**	**1.83**	**211**	P	**Pg**	**11 38 41.2**	**-0.1**
RHAN				S	**Sg**	**11 39 05.4**	**+0.4**
RHAN				*i* AML	AML	11 39 10.0	
	comp=E,505nm,0.5s						
RHAN				*i* AML	AML	11 39 11.0	
	comp=N,525nm,0.3s						
AKO	**Adana**	**1.88**	**259**	P	**Pn**	**11 38 37.6**	**-1.4**
AKO				S	**Sn**	**11 39 01.1**	**-2.0**
DYBB	**Diyarbakir**	**1.88**	**86**	Pn	**Pb**	**11 38 40.3**	**-0.8**
TAHT	**Tahtakopru-Hat**	**1.93**	**221**	Pn	**Pn**	**11 38 40.2**	**+0.5**
TAHT				Sn	**Sb**	**11 39 05.5**	**-0.7**
GUNE	**Kayseri**	**1.99**	**303**	P	**Pb**	**11 38 43.3**	**+0.3**
GUNE				S	**Sg**	**11 39 13.2**	**+3.0**
GUNE				*i* AML	AML	11 39 24.0	
	comp=N,370nm,0.6s						
GUNE				*i* AML	AML	11 39 26.0	
	comp=E,614nm,1.1s						
MAZI	**Mazidag**	**2.16**	**99**	Pn	**Pn**	**11 38 44.0**	**+1.0**
SVSK	**Karacayir**	**2.16**	**344**	Pn	**Pn**	**11 38 43.4**	**+0.5**
CMRD	**Camardi-Nigde**	**2.21**	**266**	Pn	**Pn**	**11 38 43.6**	**0.0**
KARA	**Karaisali**	**2.23**	**256**	Pn	**Pn**	**11 38 44.5**	**+0.7**
ERZN	**Erzincan**	**2.32**	**41**	Pn	**Pn**	**11 38 45.9**	**+0.7**
BNGB	**Bingl**	**2.56**	**62**	Pn	**Pn**	**11 38 49.5**	**+1.0**
YOZ	**Yozgat**	**2.63**	**314**	Pn	**Pn**	**11 38 49.9**	**+0.5**
KOZK	**Kozakli-Nevseh**	**2.66**	**302**	Pn	**Pn**	**11 38 50.3**	**+0.5**
TOKT	**Tokat**	**2.66**	**339**	Pn	**Pn**	**11 38 50.6**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.70**	**53**	Pn	**Pn**	**11 38 51.7**	**+1.3**
SVAN	**Silvan-Diyarba**	**2.73**	**82**	Pn	**Pn**	**11 38 52.3**	**+1.6**
MERS	**Mersin**	**2.76**	**250**	Pn	**Pn**	**11 38 51.7**	**+0.5**
GULA	**Gulagac**	**2.83**	**281**	Pn	**Pn**	**11 38 52.8**	**+0.6**
YESY	**Yesilyurt**	**3.19**	**270**	Pn	**Pn**	**11 38 57.5**	**+0.4**
KIZK	**Mersin**	**3.19**	**246**	Pn	**Pn**	**11 38 58.2**	**+1.1**
YAYX	**Yaylak**	**3.30**	**291**	Pn	**Pn**	**11 38 59.3**	**+0.7**
SULT	**Sultanhani-AKS**	**3.38**	**277**	Pn	**Pn**	**11 39 00.5**	**+0.8**
CORM	**Corum**	**3.38**	**315**	Pn	**Pn**	**11 39 01.2**	**+1.4**
SILI	**Silifke-Mersin**	**3.41**	**246**	Pn	**Pn**	**11 39 00.8**	**+0.9**
KEBE	**Keben-Mersin**	**3.52**	**248**	Pn	**Pn**	**11 39 02.7**	**+1.0**
IKL	**Isikli**	**3.63**	**245**	Pn	**Pn**	**11 39 04.2**	**+1.1**
BR131	**Keskin Array S**	**3.74**	**302**	Pn	**Pn**	**11 39 05.5**	**+0.8**
CHBY	**Cihanbeyli**	**3.91**	**282**	Pn	**Pn**	**11 39 08.3**	**+1.3**
BERE	**Bereket-Mersin**	**3.92**	**249**	Pn	**Pn**	**11 39 08.3**	**+1.0**
KULU	**Kulu**	**3.93**	**289**	Pn	**Pn**	**11 39 08.3**	**+1.0**
NATI	**Neve Ativ**	**4.86**	**201**	P	**Pn**	**11 39 22.0**	**+2.1**
GEM	**Giv'at Ha'Em**	**4.92**	**201**	P	**Pn**	**11 39 23.5**	**+2.7**
ASF	**Jabal al Asfar**	**5.70**	**187**	P	**Pn**	**11 39 33.9**	**+2.4**
HMDT	**Nahal Hemdat**	**5.87**	**199**	P	**Pn**	**11 39 36.1**	**+2.3**

*IDC **31** 11:42:31.5±1.8,16.˚32N×95.˚19W,h0km,mb3.8/5, mbtmp3.7/6,ML4.4/2,MS3.1/9,Error ellipse: s-maj=33.8km s-min=13.7km az=123.0*
*NEIC **31** 11:42:32.1±2.9,16.˚2N±0.˚1×95.˚36W±0.˚06,h10km±2km, mb4.1/18,Md4.5/17(MEX),Error ellipse: s-maj=18.5km s-min=7.9km az=198.0*
*MEX **31** 11:42:33.4±1.2,16.˚12N×95.˚25W,h56km±50km,MD4.5*
*CATAC **31** 11:42:37.0±0.7,15.˚95N×95.˚14W,h152km±17km,MB4.9, mb4.5,ML4.5*
ISC 31 11:42:31.0±0.6,**16.˚19N**±0.˚03×**95.˚21W**±0.˚02,**h10**km,**n85,**
σ1**9**99/100,**mb4.0/7,MS3.0/7,Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NILT	**Santiago Nilte**	**0.68**	**56**	*e*P	**Pg**	**11 42 43.3**	**-0.9**
NILT				*e*S	**Sg**	**11 42 52.2**	**-0.9**
CMIG	**Matias Romero**	**0.95**	**19**		**Pg**	**11 42 47.4**	**-1.9**
CMIG					**Sg**	**11 42 59.1**	**-2.7**
CMIG	**Matias Romero**	**0.95**	**19**	Pg	**Pg**	**11 42 46.8**	**-2.5**
	361nm,0.3s,baz=209,slow=13,SNR=2269						
CMIG				Lg	Lg	11 42 59.3	
	991nm,0.3s,baz=101,slow=21,SNR=37						
CMIG	**Matias Romero**	**0.95**	**19**	*i* P	**Pg**	**11 42 47.4**	**-1.9**
CMIG				*e*S	**Sg**	**11 42 59.1**	**-2.7**
HUIG	**Huatulco**	**0.96**	**244**		**Pg**	**11 42 48.1**	**-1.4**
HUIG					**Sg**	**11 43 00.8**	**-1.1**
HUIG	**Huatulco**	**0.96**	**244**	*e*P	**Pg**	**11 42 48.1**	**-1.4**
HUIG				*e*S	**Sg**	**11 43 00.8**	**-1.1**
UXUV	**UXUV**	**1.52**	**42**	*e*P	**Pb**	**11 42 57.6**	**-1.6**
UXUV				*e*S	**Sb**	**11 43 17.3**	**-1.3**
NEUV	**Arroyo Zacate**	**1.62**	**340**	*e*P	**Pn**	**11 42 58.0**	**-1.7**
NEUV				*e*S	**Sn**	**11 43 19.1**	**-1.5**
OXLC	**Oaxaca**	**1.68**	**302**	*e*P	**Pn**	**11 42 59.9**	**-0.7**
OXLC				*e*S	**Sn**	**11 43 20.4**	**-1.9**
OXIG	**Oaxaca**	**1.71**	**301**		**Pn**	**11 43 00.2**	**-0.8**
OXIG					**Sn**	**11 43 21.5**	**-1.6**
VHO	**Vista Hermosa**	**1.71**	**301**	*e*P	**Pn**	**11 43 00.2**	**-0.8**
VHO				*e*S	**Sn**	**11 43 21.5**	**-1.5**
PEIG	**Puerto Escondi**	**1.87**	**265**		**Pn**	**11 43 01.4**	**-1.8**
PEIG					**Sb**	**11 43 27.1**	**-1.7**
PEIG	**Puerto Escondi**	**1.87**	**265**	*e*P	**Pn**	**11 43 01.4**	**-1.8**
PEIG				*e*S	**Sb**	**11 43 27.1**	**-1.7**
PCIG		**1.97**	**104**		**Pn**	**11 43 03.5**	**-1.0**
PCIG		**1.97**	**104**	*e*P	**Pn**	**11 43 03.5**	**-1.0**
TUIG	**Tuzandepetl**	**1.99**	**22**	*e*P	**Pn**	**11 43 04.4**	**-0.2**
TUIG				*e*S	**Sb**	**11 43 30.2**	**-1.9**
TGIG		**2.09**	**73**	*e*P	**Pb**	**11 43 07.9**	**-1.1**
TGIG				*e*S	**Sb**	**11 43 33.0**	**-2.1**
YOIG	**Yosondua**	**2.34**	**287**	*e*P	**Pn**	**11 43 10.1**	**+0.4**
YOIG				*e*S	**Sn**	**11 43 35.4**	**-3.3**
PMUV	**Sontecomapan**	**2.35**	**2**	*e*P	**Pn**	**11 43 06.9**	**-2.8**
TOIG	**Toxpalan**	**2.60**	**317**	*e*P	**Pb**	**11 43 14.5**	**-3.3**
TOIG				*e*S	**Sn**	**11 43 44.0**	**-0.9**
TXIG	**Tlaxiaco**	**2.67**	**294**	*e*P	**Pb**	**11 43 16.3**	**-2.8**
TXIG				*e*S	**Sn**	**11 43 46.3**	**-0.7**
PNIG	**Pinotepa**	**2.81**	**275**	*e*P	**Pn**	**11 43 15.0**	**-1.1**
PNIG				*e*S	**Sn**	**11 43 49.9**	**-0.1**
CCIG	**Comitan**	**2.95**	**88**		**Pb**	**11 43 20.1**	**-3.8**
CCIG	**Comitan**	**2.95**	**88**	*e*P	**Pb**	**11 43 20.2**	**-3.6**
CCIG				*e*S	**Sn**	**11 43 54.0**	**+0.3**
CCIG	**Comitan**	**2.95**	**88**	*i* P	**Pb**	**11 43 21.8**	**-2.1**
CCIG				*i* S	**Sb**	**11 44 00.3**	**+0.2**
CCIG				IAML		11 44 10.6	
	comp=Z,950nm,1.0s						
HLIG	**Huajuapan de L**	**2.97**	**304**	*e*S	**Sn**	**11 43 54.7**	**+0.4**
TPIG	**Tehuac#an**	**3.03**	**318**	*e*P	**Pb**	**11 43 20.9**	**-4.2**
TPIG				*e*S	**Sb**	**11 44 01.4**	**-0.8**
FTIG	**Fresnillo de T**	**3.28**	**302**	*e*P	**Pn**	**11 43 24.5**	**+2.0**
FTIG				*e*S	**Sn**	**11 44 01.6**	**-0.1**
SMCA	**Catarina**	**3.30**	**113**	*i* P	**Pb**	**11 43 25.5**	**-4.1**
SMCA				IAML		11 44 41.5	
	comp=Z,630nm,1.0s						
MGIG	**Malinaltepec**	**3.44**	**288**	*e*P	**Pn**	**11 43 26.3**	**+1.4**
MGIG				*e*S	**Sn**	**11 44 03.6**	**-2.3**
TLIG	**Tlapa**	**3.49**	**294**		**Pn**	**11 43 25.7**	**+0.2**
TLIG	**Tlapa**	**3.49**	**294**	*e*P	**Pb**	**11 43 28.7**	**-4.4**
TLIG				*e*S	**Sn**	**11 44 05.4**	**-1.6**
TLIG	**Tlapa**	**3.49**	**294**	*i* S	**Sb**	**11 44 17.0**	**+1.4**
HUEH	**Huehuetenango**	**3.67**	**103**		Pb	11 43 31.2	-5.0
LVIG	**Laguna Verde**	**3.70**	**342**	*e*S	**Sn**	**11 44 15.0**	**+3.0**
RTAL	**Retalhuleu**	**3.77**	**115**		**Pn**	**11 43 30.9**	**+1.7**
RTAL	**Retalhuleu**	**3.77**	**115**	*i* P	**Pn**	**11 43 30.9**	**+1.7**
RTAL				IAML		11 44 36.7	
	comp=Z,380nm,1.0s						
CRIG	**Cruz Grande**	**3.80**	**279**	*e*P	**Pn**	**11 43 29.1**	**-0.6**
CRIG				*e*S	**Sn**	**11 44 14.5**	**0.0**
SOKI	**Kika Raxquin**	**3.91**	**110**	*i* P	**Pn**	**11 43 32.9**	**+1.4**
SOKI				IAML		11 44 49.0	
	comp=Z,430nm,1.0s						
QUIS	**Sacapulas**	**4.06**	**102**	*i* P	**Pb**	**11 43 39.5**	**-3.3**
QUIS				IAML		11 44 40.7	
	comp=Z,600nm,1.0s						
PPM	**Popocatepetl**	**4.34**	**312**	*e*P	Pb	11 43 41.7	-6.0
PPM				*e*S	**Sn**	**11 44 31.6**	**+3.2**
UNM	**Universidad Na**	**4.91**	**310**	Pn	**Pn**	**11 43 43.9**	**-1.2**
PETF	**Flores**	**5.17**	**81**		**Pn**	**11 43 50.8**	**+2.3**
PETF	**Flores**	**5.17**	**81**	*i* P	**Pn**	**11 43 50.4**	**+1.8**
PETF				IAML		11 43 54.3	
	comp=Z,160nm,1.0s						
PETF				IAmb	IAmb	11 43 54.4	
	comp=Z,97nm,0.4s						
PETF				IVmB_BB		11 44 43.7	
	comp=Z,3μm,1.0s						
NUBE	**Las Nubes**	**5.72**	**113**	*i* P	**Pn**	**11 43 59.2**	**+3.1**
NUBE				IAmb	IAmb	11 44 11.8	
	comp=Z,50nm,1.1s						
NUBE				IAML		11 45 12.1	
	comp=Z,74nm,1.0s						
CEVE	**Cerro Verde**

IDC 31 11:58:24.6±10.0, 18°75S×175°52W, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=444.0km s-min=39.6km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.18**	**260**	P	P	12 07 00.3	+0.9
	0.2nm,0.7s,baz=91,slow=6.9,SNR=2.0 0.2nm,0.7s						
ASAR	**Alice Springs**	**47.21**	**255**	P	P	12 06 58.9	-0.8
	0.6nm,0.7s,baz=90,slow=8.2,SNR=12 0.6nm,0.7s						
ILAR	**Eielson Array**	**86.11**	**12**	P	P	12 11 07.0	0.0
	0.2nm,0.6s,baz=206,slow=5.7,SNR=5.2 0.2nm,0.6s						

IDC 31 12:02:09.7±9.6, 17°35S×176°79W, h0km, mb3.5/3, mbtmp3.5/3, MS2.9/1, Error ellipse: s-maj=429.3km s-min=38.5km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**25.95**	**95**	LR	LR	12 15 00.2	
	comp=Z,25nm,21.0s,baz=278,slow=30						
WRA	**Warramunga Arr**	**46.26**	**259**	P	P	12 10 36.8	-0.5
	0.2nm,0.8s,baz=92,slow=6.9,SNR=1.8 0.2nm,0.8s						
ASAR	**Alice Springs**	**46.43**	**254**	P	P	12 10 38.7	+0.1
	1.3nm,0.8s,baz=89,slow=8.5,SNR=14 1.3nm,0.8s						
ILAR	**Eielson Array**	**85.00**	**12**	P	P	12 14 46.6	0.0
	0.3nm,0.7s,baz=223,slow=6.1,SNR=5.1 0.3nm,0.7s						

*STR **31** 12:04:04.1±0.5, 49°N×3°×±°, h15km, MLv2.2/13, Error ellipse: s-maj=0.0km s-min=0.0km az=30.5, preliminary*

LDG 31 12:04:04.4±0.1, 49°10N×6°99E, h5km, Md2.4/1, Ml2.2/10, Error ellipse: s-maj=2.7km s-min=1.6km az=4.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIEL	**Dossenheim-sur**	**0.36**	**137**	Pg	Pg	12 04 11.5	+0.1
CIEL				Sg	Sg	12 04 16.8	+0.6
LEMB	**Lembach**	**0.51**	**97**	Pg	Pg	12 04 13.0	-1.2
LEMB				Sg	Sg	12 04 19.2	-1.6
SUBF	**Surbourg**	**0.59**	**107**	Pg	Pg	12 04 15.3	-0.5
SUBF	**Surbourg**	**0.59**	**107**	Sg	Sg	12 04 22.6	-0.9
SZBH	**soultz borehol**	**0.60**	**106**	Pg	Pg	12 04 15.3	-0.6
SZBH				Sg	Sg	12 04 23.2	-0.5
WLS	**Welschbruch**	**0.72**	**160**	Pg	Pg	12 04 18.2	-0.1
WLS				Sg	Sg	12 04 27.9	+0.2
NEEW	**Neewiller pres**	**0.75**	**100**	Pg	Pg	12 04 17.9	-0.8
NEEW				Sg	Sg	12 04 27.8	-0.7
WLF	**Walferdange**	**0.79**	**316**	Pg	Pg	12 04 19.9	+0.4
WLF	**Walferdange**	**0.79**	**316**	Sg	Sg	12 04 29.9	+0.1
ABH	**Alteburg**	**0.86**	**25**	Pg	Pg	12 04 19.5	-1.5
ABH	**Alteburg**	**0.86**	**25**	Sg	Sg	12 04 29.8	-2.4
BABA	**Baden-Baden-Ne**	**0.88**	**115**	Pg	Pg	12 04 20.6	-0.7
BABA	**Baden-Baden-Ne**	**0.88**	**115**	Sg	Sg	12 04 31.6	-1.1
ECH	**Echery**	**0.89**	**173**	Pg	Pg	12 04 21.0	-0.4
ECH				Sg	Sg	12 04 32.8	-0.1
OPP	**Oppenau**	**0.99**	**127**	Pg	Pg	12 04 21.8	-1.7
OPP	**Oppenau**	**0.99**	**127**	Sg	Sg	12 04 34.2	-2.2
PAGF	**Fort de Pagny**	**0.99**	**237**	*e*Pg	Pg	12 04 23.1	-0.4
PAGF				*e*Sg	Sg	12 04 36.3	-0.1
	12nm,0.3s						
HAU	**Haudompre**	**1.17**	**202**	*e*Pg	Pg	12 04 26.8	0.0
HAU				*e*Sg	Sg	12 04 41.7	-0.3
	8.8nm,0.2s						
HINF	**Hinteralfeld**	**1.28**	**184**	*e*Pg	Pg	12 04 28.6	-0.4
HINF				*e*Sg	Sg	12 04 44.6	-1.0
	8.8nm,0.3s						
SAVF	**Savonnieres en**	**1.32**	**249**	*e*Pg	Pn	12 04 29.4	-0.1
SAVF				*e*Sg	Sg	12 04 46.0	-0.8
	3.3nm,0.2s						
MEZF	**Maizieres J'vi**	**1.41**	**246**	*e*Sn	Sb	12 04 47.9	-1.6
	1.8nm,0.2s						
SFTF	**Sexfontaines**	**1.57**	**236**	*e*Pg	Pb	12 04 34.1	+0.2
SFTF				*e*Sg	Sn	12 04 53.3	-0.4
	2.9nm,0.2s						
BAIF	**Baives**	**2.05**	**299**	*e*Pg	Pb	12 04 42.4	+0.3
LOR	**Lormes**	**2.78**	**230**	*e*Pn	Pn	12 04 47.3	-2.3
LOR				*e*Sn	Sn	12 05 19.7	-3.8
LOR				*e*Sg	Sb	12 05 30.4	+1.5
	1.6nm,0.2s						
SSF	**Saint Saulge**	**3.10**	**230**	*e*Sg	Sb	12 05 40.9	+2.9
	1.1nm,0.2s						
SMF	**Signal de Mont**	**3.24**	**222**	*e*Sg	Sb	12 05 45.0	+2.9
	1.1nm,0.2s						

*IDC **31** 12:09:53.5±3.5, 29°32S×138°33E, h0km, mbtmp2.6/3, ML2.5/3, Error ellipse: s-maj=152.4km s-min=18.6km az=49.0*
*AUST **31** 12:09:54.4±0.8, 29°48S×138°13E, h10km, Error ellipse: s-maj=9.3km s-min=7.8km az=68.0*

ISC 31 12:09:52.6±0.9, 29°46S±0°05×138°17E±0°05, h10km, n14, σ2§30/26, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRK	**Leigh Creek**	**0.99**	**177**	P	**Pn**	**12 10 13.7**	**+1.2**
	baz=1.0						
LCRK				S	**Sn**	**12 10 25.9**	**-0.6**
	baz=1.0						
OOD	**Oodnadatta**	**2.74**	**307**	P	**Pn**	**12 10 39.8**	**+3.3**
	baz=2.7						
OOD				S	**Sn**	**12 11 11.8**	**+2.1**
	baz=2.7						
INKA	**Innaminka**	**2.84**	**54**	P	**Pb**	**12 10 41.1**	**-2.2**
	baz=2.9						
INKA				S	**Sn**	**12 11 14.6**	**+2.4**
	baz=2.9						
MULG	**Mulgathing**	**3.66**	**256**	P	**Pn**	**12 10 51.3**	**+2.0**
	baz=3.6						
MULG				S	**Sn**	**12 11 32.7**	**+0.2**
	baz=3.6						
BBOO	**Buckleboo**	**3.80**	**208**	P	**Pn**	**12 10 53.1**	**+1.9**
	baz=3.8						
BBOO				S	**Sn**	**12 11 35.0**	**-0.9**
	baz=3.8						
STKA	**Stephens Creek**	**3.81**	**130**	P	**Pn**	**12 10 53.2**	**+1.8**
	baz=3.8						
STKA				S	**Sn**	**12 11 36.0**	**-0.3**
	baz=3.8						
STKA	**Stephens Creek**	**3.81**	**130**	Pn	**Pn**	**12 10 53.5**	**+2.1**
	0.1nm,0.3s,baz=296,slow=15,SNR=3.0						
STKA				Sn	**Sn**	**12 11 37.8**	**+1.5**
	0.9nm,0.3s,baz=335,slow=18,SNR=5.6						
STKA				Lg	Lg	12 11 54.6	
	1.5nm,0.3s,baz=58,slow=23,SNR=6.0 0.8nm,0.4s						
HTT	**Hallett**	**4.01**	**171**	P	**Pn**	**12 10 56.5**	**+2.3**
	baz=4.0						
HTT				S	**Sn**	**12 11 41.3**	**0.0**
	baz=4.0						
CMSA	**Cobar Meteorol**	**6.82**	**110**	P	**Pn**	**12 11 34.6**	**+2.0**
	baz=6.8						
ASAR	**Alice Springs**	**6.92**	**326**	Pn	**Pn**	**12 11 36.1**	**+2.1**
	0.1nm,0.3s,baz=151,slow=12,SNR=10						
ASAR				Sn	**Sn**	**12 12 49.4**	**-3.5**
	0.2nm,0.3s,baz=147,slow=22,SNR=7.4 0.2nm,0.3s						
ASPA	**Alice Springs**	**6.92**	**326**	P	**Pn**	**12 11 36.0**	**+2.0**
	baz=6.9						
ASPA				S	**Sn**	**12 12 51.4**	**-1.4**
	baz=6.9						
ARPS	**Mount Arapiles**	**7.92**	**158**	P	**Pn**	**12 11 49.4**	**+1.7**
	baz=7.9						
ARPS				S	**Sn**	**12 13 12.3**	**-5.0**
	baz=7.9						
WC3	**Warramunga Arr**	**10.06**	**339**	P	**Pn**	**12 12 19.2**	**+1.9**
	baz=10						
WRA	**Warramunga Arr**	**10.09**	**339**	Pn	**Pn**	**12 12 18.3**	**+0.7**
	0.1nm,0.3s,baz=155,slow=12,SNR=4.8						
WRA				Sn	**Sn**	**12 14 07.5**	**-3.4**
	0.1nm,0.3s,baz=164,slow=24,SNR=2.0 0.1nm,0.3s						

*IDC **31** 12:24:05.0±0.6, 24°32N×125°14E, h0km, mb4.3/28, mbtmp4.3/32, ML3.4/4, MS3.5/24, Error ellipse: s-maj=15.5km s-min=13.2km az=78.0*

*NIED **31** 12:24:09.7, 24°30N×125°18E, h34km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr 1.16; Mθθ -0.71; Mφφ -0.45; Mrθ 2.00; Mrφ -1.00; Mθφ 1.59; Fault plane solution: Mo 2.90000×10^15 NP1: φs 51.00000°, δ 76.00000°, λ 92.00000°. NP2: φs 224.00000°, δ 14.00000°, λ 83.00000°.*
*JMA **31** 12:24:09.7±0.2, 24°N±1°×125°2E±0°6, h34km±4km, MD4.3/11, MV4.1/11, NEAR MIYAKOJIMA ISLAND*
JMA Felt I J1 at NEAR MIYAKOJIMA ISLAND .
*NEIC **31** 12:24:13.2±2.8, 24°1N±0°1×125°04E±0°07, h59km±7km, mb4.6/70, Error ellipse: s-maj=14.7km s-min=9.6km az=170.0*

ISC 31 12:24:08.7±1.4, 24°22N±0°06×125°18E±0°04, h24km±9km, n192, σ1§41/180, mb4.6/70, MS3.6/23, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.54**	**14**	*i* P	**Pb**	**12 24 19.4**	**-0.1**
JMJ2				S	**Sb**	**12 24 26.3**	**-0.5**
JMJ2	**Miyako jima3**	**0.54**	**14**	A	A	12 24 19.4	
	comp=E,53nm,0.9s,comp=N,30nm,0.8s						
JOGS	**Gusukube**	**0.58**	**21**	*i* P	**Pb**	**12 24 20.2**	**+0.1**
JOGS				S	**Sb**	**12 24 28.2**	**+0.3**
JOGS	**Gusukube**	**0.58**	**21**	A	A	12 24 20.2	
	comp=E,91nm,0.4s,comp=N,58nm,0.3s						
JMJ	**Miyako jima 2**	**0.60**	**10**	P	**Pb**	**12 24 18.8**	**-1.8**
JIRB	**Irabujima**	**0.61**	**359**	P	**Pb**	**12 24 20.3**	**-0.4**
JIRB				S	**Sb**	**12 24 27.8**	**-1.0**
JIRB	**Irabujima**	**0.61**	**359**	A	A	12 24 20.3	
	comp=E,31nm,2.1s,comp=N,25nm,0.5s						
JTJ	**Tarama**	**0.61**	**314**	*i* P	**Pb**	**12 24 20.8**	**+0.1**
JTJ				S	**Sb**	**12 24 28.9**	**+0.1**
JTJ	**Tarama**	**0.61**	**314**	A	A	12 24 20.8	
	comp=E,26nm,2.0s,comp=N,26nm,3.2s						
JIKM	**Ikemajima**	**0.70**	**5**	*i* P	**Pb**	**12 24 21.8**	**-0.5**
JIKM				S	**Sb**	**12 24 31.4**	**-0.2**
JIKM	**Ikemajima**	**0.70**	**5**	A	A	12 24 21.8	
	comp=E,30nm,1.3s,comp=N,21nm,0.6s						
JISG	**Ishigakijimahi**	**0.87**	**295**	*i* P	**Pb**	**12 24 24.9**	**-0.3**
JISG				S	**Sb**	**12 24 36.5**	**0.0**
JISG	**Ishigakijimahi**	**0.87**	**295**	A	A	12 24 24.9	
	comp=E,24nm,0.6s,comp=N,16nm,0.5s						
JIJ	**Ishigaki jima**	**0.96**	**279**	*i* P	**Pn**	**12 24 26.7**	**+0.1**
JIJ				S	**Sn**	**12 24 39.7**	**+0.3**
JIJ	**Ishigaki jima**	**0.96**	**279**	A	A	12 24 26.7	
	comp=E,10.0nm,0.7s,comp=N,8.0nm,1.6s						
JKRS	**Kuro-shima**	**1.07**	**271**	P	**Pb**	**12 24 29.5**	**+1.0**
JKRS				S	**Sn**	**12 24 44.6**	**+2.4**
JKRS	**Kuro-shima**	**1.07**	**271**	A	A	12 24 29.5	
	comp=E,31nm,3.7s,comp=N,30nm,1.6s						
HATJ	**Hateruma jima**	**1.27**	**263**	P	**Pb**	**12 24 31.8**	**-0.1**
HATJ				S	**Sb**	**12 24 48.0**	**+0.3**
HATJ	**Hateruma jima**	**1.27**	**263**	A	A	12 24 31.8	
	comp=E,15nm,1.6s,comp=N,18nm,2.7s						
IRIF	**Iriomote-Funau**	**1.33**	**275**	P	**Pb**	**12 24 32.7**	**-0.2**
IRIF				S	**Sb**	**12 24 50.7**	**+1.1**
IRIF	**Iriomote-Funau**	**1.33**	**275**	A	A	12 24 32.7	
	comp=E,17nm,1.2s,comp=N,20nm,1.5s						
YOJ	**Yonaguni jima**	**2.00**	**277**	P	**Pb**	**12 24 42.9**	**-1.4**
YOJ	**Yonaguni jima**	**2.00**	**277**	P	**Pb**	**12 24 43.3**	**-1.0**
YOJ	**Yonaguni jima**	**2.00**	**277**	A	A	12 24 42.1	
	comp=E,6.0nm,4.4s,comp=N,5.0nm,5.4s						
JYNG	**Yonagunijimaku**	**2.05**	**277**	A	A	12 24 42.9	
	comp=E,5.0nm,4.2s,comp=N,9.0nm,3.3s						
JKE	**Kume jima 2**	**2.55**	**34**	A	A	12 24 49.4	
	comp=E,3.0nm,3.1s,comp=N,2.0nm,5.1s						
JJT3	**Tamagusuku3**	**3.04**	**50**	A	A	12 24 56.5	
	comp=E,9.0nm,3.8s,comp=N,7.0nm,6.7s						
NACB	**Ninganchiao**	**3.28**	**270**		**Pn**	**12 24 58.6**	**+0.1**
NACB	**Ninganchiao**	**3.28**	**270**	P	**Pn**	**12 24 58.6**	**+0.1**
TATO	**Taipei**	**3.44**	**283**		**Pn**	**12 25 03.7**	**+2.9**
YHNB	**Yeheng**	**3.50**	**278**		**Pn**	**12 25 03.4**	**+1.8**
YHNB	**Yeheng**	**3.50**	**278**	P	**Pn**	**12 25 03.6**	**+2.0**
YULB	**Yu-li**	**3.65**	**258**	Pn	**Pn**	**12 25 02.6**	**-1.0**
YULB	**Yu-li**	**3.65**	**258**	P	**Pn**	**12 25 03.2**	**-0.5**
JOW	**Kunigami**	**3.82**	**46**	P	**Pn**	**12 25 06.4**	**+0.4**
JOW	**Kunigami**	**3.82**	**46**	Pn	**Pn**	**12 25 04.7**	**-1.3**
JOW	comp=N,7.0nm,0.3s,baz=111,slow=21,SNR=14			Sn	**Sn**	**12 25 52.1**	**+2.0**
	comp=N,6.5nm,0.3s,baz=101,slow=30,SNR=1.4 comp=N,15nm,0.3s						
SSLB	**Suanglung**	**3.89**	**265**	Pn	**Pn**	**12 25 06.7**	**-0.3**
SSLB	**Suanglung**	**3.89**	**265**	P	**Pn**	**12 25 07.6**	**+0.6**
TWGBT	**Beinan**	**4.01**	**250**	P	**Pn**	**12 25 07.9**	**-0.8**
TWG	**Pinlang**	**4.02**	**251**		**Pn**	**12 25 07.1**	**-1.7**
TPUB	**Ta-pu**	**4.27**	**259**		**Pn**	**12 25 13.4**	**+1.2**
TPUB	**Ta-pu**	**4.27**	**259**	P	**Pn**	**12 25 13.6**	**+1.4**
JMZ	**Minamidaito 2**	**5.71**	**73**	Pn	**Pn**	**12 25 36.3**	**+4.3**
JMZ	**Minamidaito 2**	**5.71**	**73**	P	**Pn**	**12 25 35.2**	**+3.3**
KNMB	**Chin-men Tao**	**6.20**	**274**	Pn	**Pn**	**12 25 39.0**	**+0.3**
JNU	**Nakatsue**	**10.18**	**28**	Pn	**Pn**	**12 26 31.5**	**-1.9**
	comp=N,0.5nm,0.3s,baz=232,slow=4.9,SNR=5.2						
JNU				LR	LR	12 29 34.1	
	comp=N,26nm,20.4s,baz=180,slow=33 comp=N,12nm,1.0s						
KSRS	**Korea Array**	**13.40**	**9**	Pn	**Pn**	**12 27 16.5**	**-0.8**
	comp=N,0.1nm,0.3s,baz=195,slow=11,SNR=2.9						
KSRS				LR	LR	12 32 52.9	
	comp=N,150nm,18.2s,baz=185,slow=40 comp=N,1.4nm,0.8s						
MJB9	**Matsu-Tunnel**	**16.63**	**39**		**P**	**12 28 04.5**	**+2.1**
JMM	**Marumori**	**19.04**	**41**	P	**Pn**	**12 28 33.1**	**+3.3**
USA0B	**Ussuriysk Arra**	**20.70**	**14**	P	Pn	12 28 49.7	+0.3
USRK	**Ussuriysk Ar.**	**20.70**	**14**	P	Pn	12 28 50.8	+1.4
USRK	**Ussuriysk Ar.**	**20.70**	**14**	P	**P**	**12 28 45.1**	**-1.8**
	comp=N,1.6nm,0.7s,baz=211,slow=13,SNR=4.5						
USRK				LR	LR	12 36 42.8	
	comp=N,77nm,19.0s,baz=186,slow=37 comp=N,1.6nm,0.7s						
GUMO	**Guam**	**21.39**	**116**	LR	LR	12 35 12.7	
	comp=N,92nm,21.9s,baz=350,slow=31						
ERM	**Erimo**	**23.19**	**36**	P	**P**	**12 29 18.9**	**+5.3**
ERM				IAmb	IAmb	12 29 22.5	
	comp=Z,41nm,1.1s						
CRAI	**Chiangrai**	**23.30**	**265**	P	**P**	**12 29 15.9**	**+1.0**
CHTO	**Chiang Mai**	**24.98**	**263**	P	**P**	**12 29 30.8**	**+0.2**
CHTO				IAmb	IAmb	12 29 41.8	
	comp=Z,9.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**25.08**	**262**	P	**P**	**12 29 32.5**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=67,slow=7.1,SNR=9.9						
CMAR				LR	LR	12 40 37.3	
	comp=Z,70nm,19.3s,baz=75,slow=40 comp=Z,0.8nm,0.7s						
KLR	**Kul'dur**	**25.49**	**10**	LR	LR	12 39 39.0	
	comp=Z,68nm,18.0s,baz=180,slow=37						
SANI	**Sanana**	**26.12**	**178**	P	**P**	**12 29 39.9**	**-1.0**
	comp=Z,16nm,1.2s						
SONM	**Songino Array**	**27.89**	**332**	P	**P**	**12 29 58.2**	**+1.5**
SONM	**Songino Array**	**27.89**	**332**	P	**P**	**12 29 55.1**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=150,slow=12,SNR=19						
SONM				PcP	**PcP**	**12 33 12.0**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=90,slow=3.2,SNR=2.6						
SONM				LR	LR	12 42 19.3	
	comp=Z,172nm,19.0s,baz=168,slow=39 comp=Z,1.0nm,0.3s						
KAPI	**Kappang**	**29.54**	**191**	LR	LR	12 41 14.8	
	comp=Z,35nm,21.7s,baz=20,slow=35						
BBSI	**Bau Bau**	**29.64**	**185**	P	**P**	**12 30 10.2**	**-2.2**
	comp=Z,100nm,0.9s						
SHL	**Shillong**	**30.19**	**280**	P	**P**	**12 30 17.7**	**+0.2**
SHL				IAmb	IAmb	12 30 30.8	
	comp=Z,17nm,1.0s						
TAPN	**Taplejung**	**33.80**	**283**	*e*P	**P**	**12 30 50.6**	**+1.3**
ODAN	**Odare**	**34.12**	**283**	*e*P	**P**	**12 30 52.3**	**+0.3**
RAMN	**Ramite**	**34.82**	**283**	*e*P	**P**	**12 30 58.8**	**+0.7**
	comp=Z,15nm,0.8s						
JIRN	**Jiri**	**35.13**	**284**	*e*P	**P**	**12 31 01.5**	**+0.6**
	comp=Z,17nm,0.8s						
GUN	**Gumba**	**35.39**	**285**	*e*P	**P**	**12 31 03.8**	**+0.6**
	comp=Z,24nm,0.9s						
PKI	**Pulchoki**	**35.83**	**284**	*e*P	**P**	**12 31 07.1**	**+0.2**
DANN	**Dangsing**	**37.24**	**285**	*e*P	**P**	**12 31 19.5**	**+0.7**
	comp=Z,40nm,0.9s						
MTN	**Manton Dam**	**37.29**	**170**	P	**P**	**12 31 15.0**	**-3.9**
MTN				IAmb	IAmb	12 31 41.0	
	comp=Z,12nm,1.2s						
KOLN	**Koldanda**	**37.42**	**285**	*e*P	**P**	**12 31 19.9**	**-0.4**
	comp=Z,41nm,1.1s						
PEA0B	**Petropavlovsk-**	**37.85**	**32**	P	**P**	**12 31 22.2**	**-1.1**
PETK	**Petropavlovsk-**	**37.85**	**32**	P	**P**	**12 31 22.2**	**-1.2**
PETK	**Petropavlovsk-**	**37.85**	**32**	P	**P**	**12 31 22.8**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=194,slow=3.1,SNR=9.2						
PETK				LR	LR	12 47 17.3	
	comp=Z,44nm,20.3s,baz=231,slow=37 comp=Z,1.5nm,0.6s						
PYUN	**Piuthan**	**37.93**	**285**	*e*P	**P**	**12 31 25.3**	**+0.7**
	comp=Z,36nm,0.8s						
PET	**Petropavlovsk**	**38.27**	**33**	P	**P**	**12 31 25.6**	**-1.2**
H11N1	**WAKE ISLAND Hy**	**38.84**	**88**	T	T	13 12 50.8	
	baz=284,slow=74,SNR=9.5						
H11N2	**WAKE ISLAND Hy**	**38.84**	**88**	T	T	13 12 50.7	
	baz=284,slow=74,SNR=9.5						
H11N3	**WAKE ISLAND Hy**	**38.85**	**88**	T	T	13 12 54.7	
	baz=284,slow=74,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**38.97**	**90**	T	T	13 13 40.4	
	baz=280,slow=75						
H11S1	**WAKE ISLAND Hy**	**38.98**	**90**	T	T	13 13 05.2	
	baz=280,slow=75						
H11S2	**WAKE ISLAND Hy**	**38.99**	**90**	T	T	13 13 17.5	
	baz=280,slow=75						
MK31	**Makanchi Array**	**40.89**	**314**	P	**P**	**12 31 48.0**	**-0.8**
MK31				IAmb	IAmb	12 31 49.0	
	comp=Z,9.3nm,1.2s						
MKAR	**Makanchi Array**	**40.89**	**314**	P	**P**	**12 31 48.0**	**-0.8**
MKAR	**Makanchi Array**	**40.89**	**314**	P	**P**	**12 31 48.0**	**-0.8**
	comp=Z,5.3nm,0.4s,baz=101,slow=9.8,SNR=200						
MKAR				PcP	**PcP**	**12 33 48.9**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=144,slow=2.7,SNR=2.5						
MKAR				LR	LR	12 50 07.7	
	comp=Z,85nm,20.3s,baz=76,slow=38 comp=Z,5.3nm,0.4s						
MAKZ	**Makanchi**	**41.10**	**314**	P	**P**	**12 31 49.9**	**-0.6**
MAKZ				IAmb	IAmb	12 31 50.8	
	comp=Z,15nm,1.2s						
FITZ	**Fitzroy Crossi**	**42.06**	**179**	P	**P**	**12 31 56.6**	**-2.0**
ZAA0	**Zalesovo Array**	**42.25**	**325**	P	**P**	**12 31 57.9**	**-1.9**
ZALV	**Zalesovo Beam**	**42.25**	**325**	P	**P**	**12 31 57.1**	**-2.7**
ZALV	**Zalesovo Beam**	**42.25**	**325**	P	**P**	**12 31 57.9**	**-1.9**
	comp=Z,3.2nm,0.4s,baz=112,slow=8.7,SNR=29						
ZALV				PcP	**PcP**	**12 33 53.0**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=118,slow=3.4,SNR=2.1						
ZALV				LR	LR	12 51 23.2	
	comp=Z,95nm,18.9s,baz=80,slow=39 comp=Z,3.2nm,0.4s						
TARG	**Taragay, Kyrgy**	**42.84**	**306**	P	**P**	**12 32 06.6**	**+1.3**
KURK	**Kurchatov**	**44.44**	**319**	P	**P**	**12 32 15.7**	**-1.8**
KURK				IAmb	IAmb	12 32 17.9	
	comp=Z,9.6nm,1.1s						
KURBB	**Kurchatov Arra**	**44.46**	**319**	P	**P**	**12 32 16.7**	**-1.1**
	comp=Z,3.2nm,0.6s,baz=108,slow=8.3,SNR=20 comp=Z,3.2nm,0.6s						
WB0	**Warramunga Arr**	**44.63**	**168**	P	**P**	**12 32 19.4**	**0.0**
WRAB	**Tennant Creek**	**44.79**	**168**	P	**P**	**12 32 20.9**	**+0.3**
WRA	**Warramunga Arr**	**44.79**	**168**	P	**P**	**12 32 20.2**	**-0.4**
WRA	**Warramunga Arr**	**44.79**	**168**	P	**P**	**12 32 21.0**	**+0.3**
	comp=Z,3.4nm,0.7s,baz=348,slow=8.8,SNR=52 comp=Z,3.4nm,0.7s						
WB2	**Warramunga Arr**	**44.80**	**168**	P	**P**	**12 32 20.3**	**-0.4**
WB2				IAmb	IAmb	12 32 29.0	
	comp=Z,7.7nm,0.9s						
WR0	**Warramunga Arr**	**44.85**	**167**	P	**P**	**12 32 20.9**	**-0.2**
WR0				IAmb	IAmb	12 32 29.5	
	comp=Z,9.0nm,1.1s						
PALK	**Pallekele**	**45.77**	**256**	LR	LR	12 52 02.2	
	comp=Z,21nm,19.7s,baz=190,slow=37						
ARSB	**Arslanbob**	**46.38**	**305**	P	**P**	**12 32 33.6**	**+0.3**
AS31	**Alice Springs**	**48.35**	**169**	P	**P**	**12 32 49.0**	**+0.5**
ASAR	**Alice Springs**	**48.35**	**169**	P	**P**	**12 32 49.2**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=354,slow=13,SNR=40						
ASAR				PcP	**PcP**	**12 34 14.9**	**-0.1**
	comp=Z,0.1nm,0.6s,baz=334,slow=3.7,SNR=1.2						
ASAR				LR	LR	12 52 13.5	
	comp=Z,22nm,21.1s,baz=335,slow=35 comp=Z,1.1nm,0.6s						
KK31	**Karatay Array**	**48.36**	**307**	P	**P**	**12 32 49.3**	**+0.8**
KKAR	**Karatay Array**	**48.36**	**307**	P	**P**	**12 32 49.3**	**+0.8**
CTA	**Charters Tower**	**48.59**	**153**	LR	LR	12 53 00.2	
	comp=Z,49nm,20.1s,baz=270,slow=36						
KBL	**Kabul**	**49.44**	**296**	P	**P**	**12 32 57.8**	**+0.6**
BVAR	**Borovoye Array**	**49.98**	**320**	P	**P**	**12 33 00.2**	**-0.5**
	comp=Z,2.0nm,0.4s,baz=106,slow=9.2,SNR=14						
BVAR				PcP	**PcP**	**12 34 19.9**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=94,slow=6.2,SNR=4.0 comp=Z,2.0nm,0.4s						
BRVK	**Borovoye**	**50.05**	**320**	P	**P**	**12 32 59.8**	**-1.5**
BRVK				IAmb	IAmb	12 33 01.5	
	comp=Z,4.4nm,0.9s						
NRIK	**Noril'sk**	**50.35**	**344**	P	**P**	**12 33 01.9**	**-1.4**
	comp=Z,3.3nm,0.8s,baz=122,slow=10,SNR=6.3						
NRIK				PcP	**PcP**	**12 34 22.1**	**+0.5**
	comp=Z,2.6nm,0.6s,baz=148,slow=3.7,SNR=5.5						
NRIK				LR	LR	12 56 49.1	
	comp=Z,108nm,18.8s,baz=132,slow=39 comp=Z,3.3nm,0.8s						
ABKAR	**Akbulak array**	**56.03**	**314**	P	**P**	**12 33 45.1**	**-0.3**
ARU	**Arti**	**57.28**	**323**	P	**P**	**12 33 53.5**	**-0.7**
ARU	**Arti**	**57.28**	**323**	P	**P**	**12 33 53.4**	**-0.7**
	comp=Z,5.2nm,0.6s,baz=62,slow=2.6,SNR=13						
ARU				LR	LR	12 59 46.9	
	comp=Z,91nm,20.2s,baz=86,slow=38 comp=Z,

TOLK	**Toolik Lake Re**	**65.96**	**24**	P	**P**	**12 34 54.7**	**+2.1**
TOLK				IAmb	IAmb	12 35 05.5	
	comp=Z,6.4nm,0.8s						
TRF	**Thorofare Moun**	**66.20**	**29**	P	**P**	**12 34 56.3**	**+2.0**
TRF				IAmb	IAmb	12 35 29.3	
	comp=Z,11nm,1.4s						
E24K	**Your Creek**	**66.42**	**24**	P	**P**	**12 34 56.4**	**+0.8**
E24K				IAmb	IAmb	12 35 08.7	
	comp=Z,9.6nm,0.9s						
F24K	**Squaw Lake**	**66.71**	**25**	P	**P**	**12 34 58.0**	**+0.6**
D25K	**Kavik River**	**67.04**	**23**	P	**P**	**12 35 00.3**	**+0.8**
D25K				IAmb	IAmb	12 35 12.2	
	comp=Z,6.6nm,0.9s						
IL31		**67.50**	**28**	P	**P**	**12 35 03.0**	**+0.7**
IL31				IAmb	IAmb	12 35 16.4	
	comp=Z,7.8nm,1.2s						
ILAR	**Eielson Array**	**67.50**	**28**	P	**P**	**12 35 03.0**	**+0.6**
ILAR	**Eielson Array**	**67.50**	**28**	P	**P**	**12 35 02.9**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=295,slow=9.4,SNR=26						
	comp=Z,0.5nm,0.5s						
E25K	**Arctic Village**	**67.50**	**24**	P	**P**	**12 35 04.5**	**+2.1**
E25K				IAmb	IAmb	12 35 16.3	
	comp=Z,10nm,1.4s						
GNI	**Garni**	**67.78**	**305**	LR	LR	13 07 45.5	
	comp=Z,30nm,18.6s,baz=49,slow=39						
BMAR	**Burnt Mountain**	**67.98**	**25**	P	**P**	**12 35 07.1**	**+1.6**
J25K	**Salcha River,**	**68.17**	**28**	P	**P**	**12 35 07.9**	**+1.2**
J25K				IAmb	IAmb	12 35 40.2	
	comp=Z,6.8nm,1.3s						
KBZ	**Khabaz**	**68.29**	**309**	P	**P**	**12 35 07.1**	**-0.6**
	comp=Z,3.0nm,1.0s,baz=120,slow=5.5,SNR=6.7						
	comp=Z,3.0nm,1.0s						
SCRK	**Sand Creek**	**68.88**	**28**	P	**P**	**12 35 12.3**	**+1.1**
SCRK				IAmb	IAmb	12 35 36.4	
	comp=Z,12nm,1.4s						
G27K	**Doyon Strip**	**69.23**	**25**	P	**P**	**12 35 15.9**	**+2.7**
E28M	**Babbage River**	**69.60**	**23**	P	**P**	**12 35 17.1**	**+1.7**
E28M				IAmb	IAmb	12 35 28.5	
	comp=Z,8.0nm,0.7s						
BCAR	**Beaver Creek A**	**70.05**	**29**	P	**P**	**12 35 19.1**	**+0.7**
SPITS	**Spitsbergen Ar**	**70.22**	**348**	P	**P**	**12 35 18.4**	**-0.8**
	comp=Z,1.6nm,0.4s,baz=73,slow=5.7,SNR=9.2						
	comp=Z,1.6nm,0.4s						
I28M	**Miner Creek**	**70.23**	**26**	P	**P**	**12 35 21.1**	**+1.5**
I28M				IAmb	IAmb	12 35 33.2	
	comp=Z,5.9nm,0.8s						
H29M	**Whitestone**	**70.65**	**25**	P	**P**	**12 35 24.2**	**+2.3**
H29M				IAmb	IAmb	12 36 00.6	
	comp=Z,8.5nm,1.4s						
ARCES	**ARCESS Array B**	**70.86**	**338**	P	**P**	**12 35 22.4**	**-0.8**
	comp=Z,2.3nm,0.9s,baz=73,slow=8.1,SNR=8.4						
	comp=Z,2.3nm,0.9s						
INK	**Inuvik**	**71.81**	**23**	P	**P**	**12 35 30.3**	**+1.5**
INK				IAmb	IAmb	12 35 41.3	
	comp=Z,7.2nm,0.9s						
A36M	**Sachs Harbour**	**72.99**	**18**	P	**P**	**12 35 35.6**	**-0.3**
A36M				IAmb	IAmb	12 35 47.5	
	comp=Z,6.1nm,0.8s						
FIA1	**FINESS Array S**	**73.24**	**330**	P	**P**	**12 35 37.3**	**-0.2**
FINES	**FINESS Array B**	**73.24**	**330**	P	**P**	**12 35 36.9**	**-0.6**
FINES	**FINESS Array B**	**73.24**	**330**	P	**P**	**12 35 37.2**	**-0.3**
	comp=Z,7.8nm,0.6s,baz=63,slow=6.5,SNR=46						
FINES				LR	LR	13 11 16.0	
	comp=Z,135nm,18.2s,baz=56,slow=39						
	comp=Z,7.8nm,0.6s						
AKASG	**Malin Array Be**	**75.25**	**319**	P	**P**	**12 35 48.3**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=67,slow=6.0,SNR=7.2						
	comp=Z,0.7nm,0.4s						
AKBB	**Malin Array Si**	**75.25**	**319**	P	**P**	**12 35 48.4**	**-1.0**
AKBB				IAmb	IAmb	12 35 58.9	
	comp=Z,9.0nm,1.2s						
KIEV	**Kiev**	**75.26**	**319**	P	**P**	**12 35 48.8**	**-0.7**
KIEV				IAmb	IAmb	12 35 58.9	
	comp=Z,7.3nm,1.2s						
BRTR	**Keskin Array B**	**76.07**	**307**	P	**P**	**12 35 53.3**	**-1.2**
BRTR	**Keskin Array B**	**76.07**	**307**	P	**P**	**12 35 54.4**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=106,slow=2.3,SNR=5.7						
BRTR				LR	LR	13 14 01.8	
	comp=Z,42nm,18.4s,baz=326,slow=39						
	comp=Z,0.9nm,0.6s						
DAG	**Danmarks Havn**	**76.87**	**352**	*i* P	**P**	**12 35 55.5**	**-2.7**
DAG				IAmb	IAmb	12 35 58.1	
	comp=Z,2.5nm,0.9s						
NEEM	**North Greenlan**	**78.54**	**359**	*i* P	**P**	**12 36 06.4**	**-1.4**
NEEM				IAmb	IAmb	12 36 08.7	
	comp=Z,5.4nm,0.9s						
BURAR	**Bucovina Array**	**78.84**	**317**	P	**P**	**12 36 08.3**	**-1.5**
TULEG	**Thule**	**79.10**	**3**	*i* P	**P**	**12 36 10.8**	**+0.2**
TULEG				IAmb	IAmb	12 36 13.7	
	comp=Z,20nm,0.9s						
HFS	**Hagfors**	**79.29**	**332**	P	**P**	**12 36 12.1**	**+0.2**
	comp=Z,4.6nm,0.7s,baz=92,slow=5.0,SNR=16						
	comp=Z,4.6nm,0.7s						
NC405	**NORSAR Array S**	**79.62**	**333**	P	**P**	**12 36 12.7**	**-1.1**
NB201	**NORSAR Array S**	**79.83**	**333**	P	**P**	**12 36 14.4**	**-0.5**
NB2	**NORSAR Subarra**	**79.87**	**333**	P	**P**	**12 36 14.1**	**-1.0**
	comp=Z,8.3nm,1.1s,baz=59,slow=5.1						
NOA	**NORSAR Array B**	**79.87**	**333**	P	**P**	**12 36 14.8**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=56,slow=5.3,SNR=10						
NOA				LR	LR	13 15 49.0	
	comp=Z,45nm,18.3s,baz=35,slow=39						
	comp=Z,2.8nm,0.8s						
YKA	**Yellowknife Ar**	**81.49**	**24**	P	**P**	**12 36 23.8**	**+0.1**
YKA	**Yellowknife Ar**	**81.49**	**24**	P	**P**	**12 36 24.1**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=301,slow=5.8,SNR=16						
	comp=Z,1.0nm,0.7s						
VYHS	**Vyhne**	**82.32**	**320**	*eP*	**P**	**12 36 30.0**	**+1.6**
SUMG	**Summit**	**82.81**	**355**	P	**P**	**12 36 30.4**	**-0.6**
SUMG				IAmb	IAmb	12 36 42.3	
	comp=Z,8.1nm,0.8s						
SUMG	**Summit**	**82.81**	**355**	*i* P	**P**	**12 36 29.8**	**-1.2**
SUMG				IAmb	IAmb	12 36 41.9	
	comp=Z,6.2nm,0.7s						
ICESG	**Greenland Ices**	**86.31**	**355**	*eP*	**P**	**12 36 48.8**	**+0.2**
ICESG				IAmb	IAmb	12 36 58.8	
	comp=Z,5.0nm,0.9s						
DY2G	**Dye2**	**89.36**	**357**	*eP*	**P**	**12 37 07.6**	**+4.5**
DY2G				IAmb	IAmb	12 37 16.9	
	comp=Z,4.3nm,0.6s						
FRB	**Frobisher Bay**	**91.67**	**6**	LR	LR	13 20 42.7	
	comp=Z,40nm,18.4s,baz=16,slow=37						
NVAR	**Mina Array Bea**	**93.88**	**45**	P	**P**	**12 37 23.8**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=291,slow=7.6,SNR=2.4						
	comp=Z,0.5nm,0.9s						

*OSPL **31** 12:29:16.6±4.0, 18.˚13N×69.˚08W, h132km±32km, ML3.3*
*SDD **31** 12:29:17.1±2.6, 18.˚64N×68.˚99W, h118km±13km, MD3.3, ML3.5,MW3.5*

ISC 31 12:29:16.6±1.4,**18.˚5N**±0.˚1×**68.˚99W**±0.˚03,**h106**km±10km, **n19**,σ1§**77**/36,**6C-7D**,**Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HIDR	**Higuey Centro**	**0.29**	**63**	⇑*e*P	g	**Pn**	**12 29 31.8**	**0.0**
HIDR				*e*Sg		**Sn**	**12 29 44.7**	**+1.5**
SADR	**Isla Saona**	**0.33**	**144**	⇓*e*P	g	**Pn**	**12 29 32.4**	**+0.4**
SADR				⇓*e*Sg		**Sn**	**12 29 45.6**	**+2.1**
HATOM	**Hato Mayor del**	**0.49**	**311**	⇑*e*P	g	**Pn**	**12 29 32.0**	**-1.0**
HATOM				*e*Sg		**Sn**	**12 29 44.8**	**-0.5**
HATOM				IAML			12 29 46.0	
	comp=E,1μm,0.2s							
HATOM				IAML			12 29 46.0	
	comp=N,948nm,0.2s							
HATOM				IAML			12 29 46.0	
	comp=E,1μm,0.2s							
HATOM				IAML			12 29 46.2	
	comp=N,946nm,0.2s							
SDD	**Santo Domingo**	**0.88**	**270**	*i* P		**Pn**	**12 29 35.7**	**-0.5**
SDD				*e*S		**Sn**	**12 29 51.2**	**+0.2**
LOSC1	**San Cristbal**	**1.07**	**267**	*i* P		**Pn**	**12 29 38.1**	**0.0**
LOSC1				*e*S		**Sn**	**12 29 55.4**	**+1.0**
LOSC1				IAML			12 29 58.1	
	comp=Z,436nm,0.2s							
DR08	**Loma La Naviza**	**1.10**	**297**	⇓*e*P	g	**Pn**	**12 29 37.4**	**-1.2**
DR08				⇓*e*Sg		**Sn**	**12 29 54.7**	**-0.5**
DR08				IAML			12 29 59.7	
	comp=N,4μm,0.1s							
BANI	**BANI**	**1.30**	**267**	⇑*e*P	g	**Pn**	**12 29 40.8**	**-0.1**
BANI				⇑*e*Sg		**Sn**	**12 30 00.2**	**+0.8**
BANI				IAML			12 30 06.1	
	comp=N,602nm,0.2s							
BANI				IAML			12 30 06.2	
	comp=E,474nm,0.3s							
ABDR	**Alto Bandera**	**1.59**	**283**	⇓*e*P	g	**Pn**	**12 29 44.2**	**-0.4**
ABDR				⇑*e*Sg		**Sn**	**12 30 05.8**	**-0.1**
ABDR				IAML			12 30 08.8	
	comp=N,365nm,0.2s							
ABDR				IAML			12 30 09.8	
	comp=E,344nm,0.4s							
AGPR	**Aguadilla, PR**	**1.78**	**90**	*i* P		**Pn**	**12 29 47.0**	**+0.5**
AGPR				*e*S		**Sn**	**12 30 11.3**	**+1.8**
AGPR				IAML			12 30 20.0	
	comp=Z,178nm,0.2s							
CRPR	**Cabo Rojo, PR**	**1.84**	**104**	⇓*e*Pg		**Pn**	**12 29 47.1**	**-0.2**
CRPR				*e*Sg		**Sn**	**12 30 12.2**	**+1.3**
CRPR				IAML			12 30 25.3	
	comp=N,80nm,0.5s							
CRPR				IAML			12 30 25.5	
	comp=E,66nm,0.2s							
SC01	**Santiago de lo**	**1.91**	**301**	*i* P		**Pn**	**12 29 49.5**	**+1.3**
SC01				*e*S		**Sn**	**12 30 13.9**	**+1.6**
SC01				IAML			12 30 15.2	
	comp=Z,148nm,0.2s							
AOPR	**Arecibo Observ**	**2.12**	**93**	*e*P		**Pn**	**12 29 49.9**	**-1.1**
AOPR				*e*S		**Sn**	**12 30 20.6**	**+3.3**
AOPR	**Arecibo Observ**	**2.12**	**93**	⇓*e*Pg		**Pn**	**12 29 50.5**	**-0.5**
AOPR				⇑*e*Sg		**Sn**	**12 30 17.0**	**-0.3**
AOPR				IAML			12 30 25.5	
	comp=E,1μm,0.2s							
AOPR				IAML			12 30 26.0	
	comp=N,731nm,0.3s							
PODR	**Polo**	**2.20**	**263**	*i* P		**Pn**	**12 29 51.1**	**-1.0**
PODR				*e*S		**Sn**	**12 30 17.8**	**-1.6**
SDDR	**Presa de Saban**	**2.24**	**284**	*e*P		**Pn**	**12 29 52.7**	**+0.1**
SDDR				*e*S		**Sn**	**12 30 21.4**	**+1.3**
SDDR	**Presa de Saban**	**2.24**	**284**	*i* P		**Pn**	**12 29 53.1**	**+0.5**
SDDR				*e*S		**Sn**	**12 30 21.7**	**+1.6**
SDDR				IAML			12 30 28.4	
	comp=Z,91nm,0.3s							
SJG	**San Juan**	**2.72**	**97**	*e*P		**Pn**	**12 29 58.2**	**-0.5**
SJG				*e*S		**Sn**	**12 30 33.3**	**+2.2**
ANBD	**Bethesda, Anti**	**7.02**	**100**	*e*P		**Pn**	**12 30 53.4**	**-3.4**
ANBD	**Bethesda, Anti**	**7.02**	**100**	*e*S		**Sn**	**12 32 08.7**	**-6.5**

*IDC **31** 12:33:31.7±1.0, 12.˚42N×145.˚18E, h0km, mb3.7/9, mbtmp3.7/9, MS3.4/1, Error ellipse: s-maj=38.0km s-min=17.2km az=89.0*

ISC 31 12:33:37.4±1.0,**12.˚41N**±0.˚10×**145.˚1E**±0.˚3,**h38**km,**n11**, σ0§**77**/11,**mb3.8**/9,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**1.20**	**348**	Pn		**Pn**	**12 33 57.5**	**-0.1**
	52nm,0.3s,baz=63,slow=3.9,SNR=105							
GUMO				Sn		**Sn**	**12 34 12.9**	**+0.3**
	153nm,0.3s,baz=251,slow=22,SNR=8.5							
WRA	**Warramunga Arr**	**33.86**	**198**	P		**P**	**12 40 16.6**	**+0.1**
	0.2nm,0.5s,baz=22,slow=10.0,SNR=5.9							
	0.2nm,0.5s							
ASAR	**Alice Springs**	**37.50**	**197**	P		**P**	**12 40 48.0**	**+0.3**
	0.2nm,0.8s,baz=18,slow=13,SNR=4.2							
	0.2nm,0.8s							
URZ	**Urewera**	**58.63**	**151**	LR		LR	13 06 39.3	
	comp=Z,28nm,18.3s,baz=104,slow=34							
MKAR	**Makanchi Array**	**62.51**	**316**	P		**P**	**12 43 57.2**	**0.0**
	0.1nm,0.3s,baz=95,slow=9.1,SNR=6.6							
	0.1nm,0.3s							
KURBB	**Kurchatov Arra**	**65.68**	**320**	P		**P**	**12 44 19.1**	**+1.2**
	0.6nm,0.2s,baz=98,slow=6.8,SNR=2.8							
	0.6nm,0.2s							
ILAR	**Eielson Array**	**69.52**	**25**	P		**P**	**12 44 41.2**	**-0.6**
	0.4nm,0.4s,baz=254,slow=5.8,SNR=16							
	0.4nm,0.4s							
BVAR	**Borovoye Array**	**71.00**	**322**	P		**P**	**12 44 50.9**	**-0.3**
	0.4nm,0.4s,baz=103,slow=8.8,SNR=4.4							
	0.4nm,0.4s							
GEYT	**Ailbeck**	**80.15**	**307**	P		**P**	**12 45 43.7**	**-0.3**
	0.4nm,0.4s,baz=78,slow=7.5,SNR=2.6							
	0.4nm,0.4s							
YKA	**Yellowknife Ar**	**83.78**	**27**	P		**P**	**12 46 03.5**	**+1.1**
	0.1nm,0.7s,baz=294,slow=12,SNR=5.7							
	0.1nm,0.7s							
FINES	**FINESS Array B**	**92.33**	**335**	P		**P**	**12 46 42.3**	**-1.2**
	2.1nm,0.9s,baz=49,slow=6.3,SNR=4.7							
	2.1nm,0.9s							

*ASIES **31** 13:31:05.0,24.˚96N×122.˚95E,h42km,ML3.9,Mw4.3, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}1.71; $M_{\theta\theta}$0.54; $M_{\phi\phi}$-2.25; $M_{r\theta}$1.30; $M_{r\phi}$-1.67; $M_{\theta\phi}$-0.86; Fault plane solution: M_o3.05375×10^{22} NP1: ϕ_s171.62000°,δ60.43000°,λ40.92000°. NP2:ϕ_s58.46000°, δ55.27000°,λ143.10000°. Principal axes: T Plg48.7440°, Azm27.4980°; N Plg41.0880°, Azm201.2690°; P Plg3.0910°, Azm293.9680°;*
*TAP **31** 13:31:05.0,24.˚96N×122.˚95E,h42km,ML3.9,D*
*JMA **31** 13:31:06.3±0.2,24.˚9N±0.˚9×122.˚9E±0.˚6,h25km±2km, MV3.0/15,NW OFF ISHIGAKIJIMA IS*
*IDC **31** 13:31:33.6±6.2,25.˚11N×123.˚16E,h285km±73km, mb3.0/10,mbtmp3.7/11,Error ellipse: s-maj=26.3km s-min=12.9km az=65.0*

ISC 31 13:31:08.9±0.8,**24.˚90N**±0.˚03×**122.˚89E**±0.˚03,**h35**km,**n138**, σ1§**40**/224,**mb3.5**/9,**11C-2D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JYNG	**Yonagunijimaku**	**0.45**	**174**	*i* P		**Pn**	**13 31 15.9**	**-3.0**
JYNG				*e*S		**Sn**	**13 31 22.9**	**-2.8**
YOJ	**Yonaguni jima**	**0.45**	**166**	*i* P		**Pn**	**13 31 16.0**	**-2.9**
YOJ				*e*S		**Sn**	**13 31 22.9**	**-2.9**
YOJ	**Yonaguni jima**	**0.45**	**166**	*e*P		**Pn**	**13 31 15.9**	**-2.9**
	baz=174							
YOJ				*e*S		**Sn**	**13 31 22.5**	**-3.2**
	baz=174							
EOS2	**EOS2**	**0.77**	**231**	P		**Pn**	**13 31 21.1**	**-2.0**
	baz=235							
EOS2				*e*S		**Sn**	**13 31 31.4**	**-2.0**
	baz=235							
EOS3	**EOS3**	**0.80**	**221**	⇑P		**Pn**	**13 31 21.7**	**-1.9**
	baz=225							
EOS3				*e*S		**Sn**	**13 31 33.1**	**-1.2**
	baz=225							
TWB1	**Santiao Chiao**	**0.83**	**278**	⇑P		**Pn**	**13 31 21.0**	**-3.1**
	baz=274							
TWB1				S		**Sn**	**13 31 31.6**	**-3.5**
	baz=274							
EOS4	**EOS4**	**0.94**	**214**	*e*P		**Pn**	**13 31 23.7**	**-1.5**
	baz=215							
EOS4				*i* S		**Sn**	**13 31 35.7**	**-1.5**
	baz=215							
SXI1	**Grass Mountain**	**0.94**	**282**	⇓*i* P		**Pn**	**13 31 23.2**	**-2.5**
	baz=278							
SXI1				S		**Sn**	**13 31 35.6**	**-2.4**
	baz=278							
IRIF	**Iriomote-Funau**	**0.95**	**126**	P		**Pn**	**13 31 24.0**	**-1.8**
IRIF				*e*S		**Sn**	**13 31 37.7**	**-0.4**
TIPB	**Shuangxi**	**0.97**	**274**	⇑P		**Pn**	**13 31 23.6**	**-2.4**
	baz=271							
TIPB				*i* S		**Sn**	**13 31 35.6**	**-3.0**
	baz=271							
TWC	**Suao**	**0.99**	**253**	⇑P		**Pn**	**13 31 23.4**	**-2.9**
	baz=258							
TWC				*e*S		**Sn**	**13 31 38.6**	**-0.5**
	baz=258							
ESAO	**Su ao**	**1.00**	**251**	⇑P		**Pn**	**13 31 23.5**	**-3.0**
	baz=250							
ESAO				*e*S		**Sn**	**13 31 36.4**	**-3.0**
	baz=250							
NWF	**Wu-fen Shan**	**1.02**	**280**	*i* P		**Pn**	**13 31 24.7**	**-2.1**
	baz=276							
NWF				*e*S		**Sn**	**13 31 39.4**	**-0.5**
	baz=276							
WFSB	**Wu-fen Shan**	**1.02**	**280**	P		**Pn**	**13 31 24.6**	**-2.1**
	baz=276							
WFSB				*e*S		**Sn**	**13 31 39.4**	**-0.4**
	baz=276							
PCYT	**Pengchaiyu**	**1.04**	**315**	⇑*e*P		**Pn**	**13 31 25.6**	**-1.3**
	baz=318							
PCYT				*e*S		**Sn**	**13 31 40.0**	**-0.3**
	baz=318							
TNOU	**National Taiwa**	**1.04**	**284**	P		**Pn**	**13 31 25.0**	**-2.1**
	baz=280							
TNOU				S		**Sn**	**13 31 38.4**	**-2.0**
	baz=280							
ILA	**Ilan**	**1.05**	**263**	*e*P		**Pn**	**13 31 26.3**	**-0.8**
	baz=260							
ILA				S		**Sn**	**13 31 39.9**	**-0.5**
	baz=260							
NDS	**Dongshan**	**1.10**	**256**	P		**Pn**	**13 31 25.2**	**-2.6**
	baz=244							
NDS				S		**Sn**	**13 31 40.4**	**-1.4**
	baz=244							
EWUT	**Wuta**	**1.11**	**246**	⇑P		**Pn**	**13 31 25.4**	**-2.5**
	baz=245							
EWUT				*i* S		**Sn**	**13 31 40.0**	**-2.0**
	baz=245							
TWE	**Neicheng**	**1.13**	**261**	*e*P		**Pn**	**13 31 24.6**	**-3.5**
	baz=259							
TWE				S		**Sn**	**13 31 41.2**	**-1.2**
	baz=259							
ENA	**Nanau**	**1.15**	**246**	⇑P		**Pn**	**13 31 25.6**	**-2.8**
	baz=245							
ENA				S		**Sn**	**13 31 41.4**	**-1.6**
	baz=245							
HATJ	**Hateruma jima**	**1.18**	**135**	P		**Pn**	**13 31 28.0**	**-1.0**
HATJ				S		**Sn**	**13 31 44.0**	**+0.2**
TWA	**Mucha**	**1.19**	**274**	P		**Pn**	**13 31 27.1**	**-1.9**
	baz=281							
TWA				*e*S		**Sn**	**13 31 43.9**	**-0.1**
	baz=281							
EAHA	**Aohua**	**1.19**	**242**	⇓*e*P		**Pn**	**13 31 28.2**	**-0.8**
	baz=241							
EAHA				S		**Sn**	**13 31 42.3**	**-1.7**
	baz=241							
FUSB	**Fushanzhiwuyua**	**1.19**	**264**	S		**Sn**	**13 31 43.9**	**-0.3**
	baz=261							
JKRS	**Kuro-shima**	**1.21**	**123**	*e*P		**Pn**	**13 31 28.3**	**-1.1**
JKRS				S		**Sn**	**13 31 44.5**	**-0.1**
YM08	**YM08**	**1.21**	**284**	P		**Pn**	**13 31 27.5**	**-1.9**
	baz=281							
YM01	**YM01**	**1.22**	**282**	P		**Pn**	**13 31 27.4**	**-2.2**
	baz=279							
YM01				*e*S		**Sn**	**13 31 43.9**	**-1.0**
	baz=279							
TWY	**Chenhua**	**1.23**	**288**	P		**Pn**	**13 31 27.9**	**-1.7**
	baz=285							
TWY				S		**Sn**	**13 31 43.6**	**-1.3**
	baz=285							
ENTT	**Nioudou**	**1.23**	**258**	P		**Pn**	**13 31 28.4**	**-1.2**
	baz=247							
ENTT				*e*S		**Sn**	**13 31 45.3**	**+0.2**
	baz=247							
NHDH	**Xindian Distri**	**1.24**	**273**	P		**Pn**	**13 31 27.9**	**-1.9**
	baz=278							
NHDH				S		**Sn**	**13 31 44.6**	**-0.6**
	baz=278							
JIJ	**Ishigaki jima**	**1.26**	**115**	P		**Pn**	**13 31 28.6**	**-1.4**
TAP	**Taipei**	**1.26**	**277**	*e*P		**Pn**	**13 31 29.4**	**-0.6**
	baz=282							
TAP				S		**Sn**	**13 31 45.5**	**-0.4**
	baz=282							
NWLT	**Wulai**	**1.27**	**265**	P		**Pn**	**13 31 28.7**	**-1.4**
	baz=263							
NWLT				*e*S		**Sn**	**13 31 45.8**	**-0.1**
	baz=263							
ANP	**Anpu**	**1.27**	**283**	P		**Pn**	**13 31 28.2**	**-2.1**
	baz=280							
ANP				*i* S		**Sn**	**13 31 44.4**	**-1.9**
	baz=280							
TATO	**Taipei**	**1.27**	**274**	P		**Pn**	**13 31 28.6**	**-1.7**
TATO	**Taipei**	**1.27**	**274**	P		**Pn**	**13 31 28.5**	**-1.7**
NDT	**Datong Townshi**	**1.29**	**257**	P		**Pn**	**13 31 29.1**	**-1.3**
	baz=255							
NDT				*e*S		**Sn**	**13 31 46.8**	**+0.4**
	baz=255							
LATG	**Datong**	**1.29**	**254**	*i* P		**Pn**	**13 31 28.9**	**-1.6**
	baz=244							
LATG				S		**Sn**	**13 31 46.0**	**-0.8**
	baz=244							
JISG	**Ishigakijimahi**	**1.33**	**103**	P		**Pn**	**13 31 29.8**	**-1.1**
ETL	**Fush Village**	**1.37**	**238**	*e*P		**Pn**	**13 31 31.5**	**-0.1**
	baz=237							
ETL				*e*S		**Sn**	**13 31 46.5**	**-2.0**
	baz=237							
NACB	**Ninganchiao**	**1.38**	**239**	P		**Pn**	**13 31 30.5**	**-1.2**
NACB	**Ninganchiao**	**1.38**	**239**	P		**Pn**	**13 31 30.2**	**-1.5**
NACB	**Ninganchiao**	**1.38**	**239**	*e*P		**Pn**	**13 31 30.5**	**-1.2**
	baz=238							
NACB				S		**Sn**	**13 31 48.4**	**-0.4**
	baz=238							
YHNB	**Yeheng**	**1.40**	**261**	P		**Pn**	**13 31 30.8**	**-1.2**
YHNB	**Yeheng**	**1.40**	**261**	*e*P		**Pn**	**13 31 32.2**	**+0.2**
	baz=251							
YHNB				*e*S		**Sn**	**13 31 49.1**	**-0.1**
	baz=251							
NSK	**Sanguang**	**1.41**	**261**	*e*P		**Pn**	**13 31 31.6**	**-0.6**
	baz=251							
NSK				*e*S		**Sn**	**13 31 49.8**	**+0.2**
	baz=251							
TWD	**Chiawan**	**1.44**	**236**	*e*P		**Pn**	**13 31 31.7**	**-0.7**
	baz=235							
TWD				*e*S		**Sn**	**13 31 51.1**	**+1.1**
	baz=235							
NNSB	**Datong**	**1.45**	**251**	P		**Pn**	**13 31 31.6**	**-1.1**
	baz=250							
NNSB				*e*S		**Sn**	**13 31 50.4**	**-0.2**
	baz=250							
NNS	**Nan Shan**	**1.46**	**252**	P		**Pn**	**13 31 32.2**	**-0.6**
	baz=251							
NNS				*e*S		**Sn**	**13 31 51.2**	**+0.5**
	baz=251							
ETLH	**Xiulin Townshi**	**1.46**	**242**	P		**Pn**	**13 31 31.2**	**-1.6**
	baz=229							
ETLH				*e*S		**Sn**	**13 31 50.4**	**-0.3**
	baz=229							
HWA	**Hwalien**	**1.49**	**232**	P		**Pn**	**13 31 32.3**	**-0.8**
	baz=232							
HWA				S		**Sn**	**13 31 51.6**	**+0.2**
	baz=232							
ETM	**Tongmen**	**1.58**	**234**	*e*P		**Pn**	**13 31 33.6**	**-0.8**
	baz=234							
ETM				*e*S		**

baz=229
WUSB eS Sn 13 32 01.3 +0.7
baz=229
WHP Taichung City 1.88 251 eP Pn 13 31 40.2 +1.6
baz=241
WHP eS Sn 13 32 01.1 +0.1
baz=241
HGSD Ruisui 1.94 224 eP Pn 13 31 38.6 -0.8
baz=214
HGSD eS Sn 13 32 03.3 +0.8
baz=214
VWDT VWDT 1.96 235 eP Pn 13 31 39.4 -0.2
baz=235
VWDT eS Sn 13 32 04.0 +1.0
baz=235
DPDB Guoxing 1.99 245 eS Sn 13 32 03.3 -0.5
baz=234
WCS Beigang Elemen 1.99 245 eP Pn 13 31 41.4 +1.3
baz=234
WCS eS Sn 13 32 04.0 +0.3
baz=234
EHY Hungye 2.00 226 eP Pn 13 31 38.2 -1.9
baz=237
EHY S Sn 13 32 02.9 -1.0
baz=237
SMLT Sun Moon Lake 2.08 241 eP Pn 13 31 41.0 -0.4
baz=230
SMLT eS Sn 13 32 05.2 -0.9
baz=230
SSLB Suanglung 2.08 238 P Pn 13 31 40.6 -0.8
SSLB Suanglung 2.08 238 P Pn 13 31 41.1 -0.3
SSLB Suanglung 2.08 238 eP Pn 13 31 40.8 -0.7
baz=238
SSLB eS Sn 13 32 07.2 +1.0
baz=238
YULB Yu-li 2.09 224 P Pn 13 31 40.1 -1.4
YULB Yu-li 2.09 224 P Pn 13 31 40.0 -1.4
YULB Yu-li 2.09 224 eP Pn 13 31 40.0 -1.4
baz=235
YULB eS Sn 13 32 06.4 +0.1
baz=235
TYC Yuchr 2.10 242 eP Pn 13 31 41.6 0.0
baz=231
TYC eS Sn 13 32 06.9 +0.4
baz=231
EYUL Yuli 2.11 223 eP Pn 13 31 41.1 -0.6
baz=236
EYUL eS Sn 13 32 06.6 -0.2
baz=236
TWF1 Yuli 2.12 224 eP Pn 13 31 40.4 -1.5
baz=236
TWF1 eS Sn 13 32 05.5 -1.5
baz=236
CHKH Chenggong 2.18 219 eP Pn 13 31 42.8 +0.1
baz=209
WHYT Xinyi Township 2.21 238 eP Pn 13 31 42.8 -0.4
baz=227
WHYT eS Sn 13 32 09.9 +0.6
baz=227
FULB Fuli 2.24 221 eP Pn 13 31 42.9 -0.6
baz=210
FULB eS Sn 13 32 11.0 +1.1
baz=210
WJS Zhushan 2.25 242 eP Pn 13 31 44.9 +1.3
baz=232
WJS eS Sn 13 32 11.0 +0.9
baz=232
WNT Mingjian 2.25 244 eP Pn 13 31 44.6 +0.9
baz=243
CHKT Chengkung 2.27 218 eP Pn 13 31 43.8 -0.2
baz=208
EHD Haiduan 2.33 222 eP Pn 13 31 43.0 -1.7
baz=233
EHD S Sn 13 32 10.1 -2.1
baz=233
ALS Alishan 2.35 234 eP Pn 13 31 45.2 -0.1
baz=224
ALS eS Sn 13 32 13.7 +0.5
baz=224
ECS Chishang 2.36 221 eP Pn 13 31 45.2 +0.1
baz=234
ECS eS Sn 13 32 13.4 +0.5
baz=234
CHN5 Tsauling 2.40 238 eP Pn 13 31 46.8 +1.0
baz=237
CHN5 eS Sn 13 32 14.2 +0.1
baz=237
EDH Donghe 2.41 217 P Pn 13 31 42.3 -3.5
baz=209
EDH eS Sn 13 32 10.8 -3.3
baz=209
WDLH Douliu 2.46 241 eP Pn 13 31 46.3 -0.2
baz=231
WDLH eS Sn 13 32 16.3 +0.9
baz=231
WRL Guolierlin Hig 2.50 247 eS Sn 13 32 15.4 -0.9
baz=246
WCKO Fanlu 2.54 236 eP Pn 13 31 48.8 +1.1
baz=235
LONT Longtian 2.56 219 eP Pn 13 31 46.0 -1.9
baz=230
LONT eS Sn 13 32 17.2 -0.6
baz=230
WTK Tuku 2.58 243 eP Pn 13 31 48.7 +0.5
baz=242
WTK eS Sn 13 32 19.1 +0.7
baz=242
STYH Taoyuan 2.59 229 eP Pn 13 31 48.0 -0.3
baz=221
STYH eS Sn 13 32 16.6 -2.0
baz=221
CHN4 Tsaushan 2.60 234 eP Pn 13 31 48.8 +0.3
baz=234
CHN4 eS Sn 13 32 19.8 +0.8
baz=234
STYT Tauyuan 2.61 229 eP Pn 13 31 48.7 +0.1
baz=221
STYT eS Sn 13 32 19.2 +0.1
baz=221
TPUB Ta-pu 2.61 233 P Pn 13 31 49.3 +0.7
TPUB Ta-pu 2.61 233 eP Pn 13 31 48.6 0.0
baz=224
TPUB eS Sn 13 32 18.3 -0.8
baz=224
CHY Chiayi 2.65 239 eP Pn 13 31 50.9 +1.8
baz=251
WTP Ta-pu 2.65 232 eP Pn 13 31 50.0 +0.8
baz=232
WTP eS Sn 13 32 18.7 -1.5
baz=232
TWGBT Beinan 2.66 219 P Pn 13 31 48.0 -1.2
TWGBT Beinan 2.66 219 P Pn 13 31 47.7 -1.5
TWGBT Beinan 2.66 219 eP Pn 13 31 47.0 -2.2
baz=229
TWGBT eS Sn 13 32 19.5 -0.7
baz=229
TWG Pinlang 2.66 219 eP Pn 13 31 47.3 -2.0
baz=229
TWG eS Sn 13 32 20.6 +0.3
baz=229
TWK Hsinying 2.73 234 eP Pn 13 31 50.8 +0.4
baz=233
SLGT Liugui 2.80 228 eP Pn 13 31 52.1 +0.9
baz=228
ICHU Yijhu 2.84 238 eP Pn 13 31 51.9 +0.2
baz=237
ECL Taimali 2.90 218 eP Pn 13 31 52.3 -0.2
baz=226
MATB Ma-tsu 2.94 296 eP Pn 13 31 52.3 -0.8
baz=294
MATB eS Sn 13 32 25.2 -1.9
baz=294
SCST Cishan 2.97 228 eP Pn 13 31 55.1 +1.5
baz=240
SSD Sandimen 2.98 224 eP Pn 13 31 53.8 +0.1
baz=224
TSMG Majia 3.00 224 eP Pn 13 31 55.4 +1.4
baz=217
TSMG eS Sn 13 32 30.7 +1.9
baz=217
MASBT Mashibuluo 3.08 223 eP Pn 13 31 56.0 +0.9
baz=215
TSCK Chigu Township 3.10 236 eP Pn 13 31 56.0 +0.6
baz=225
LYUB Lan-yu 3.12 203 eP Pn 13 31 53.4 -2.3
baz=203
XPSS Dashiqiu 3.16 310 eP Pn 13 31 55.4 -0.8
baz=309

LYJJ Jianjiangzhen 3.27 301 eP Pn 13 31 56.2 -1.4
baz=299
LYJJ eS Sn 13 32 33.2 -2.0
baz=299
TWKBT Hengchun 3.51 213 eP Pn 13 32 00.3 -0.7
baz=219
AXDP Jialang 4.47 271 eP Pn 13 32 13.2 -0.9
baz=271
KSRS Korea Array 13.23 18 P P 13 34 27.9 +4.2
1.7nm,0.9s,baz=202,slow=12,SNR=3.3
USRK Ussuriysk Ar. 20.63 19 P Pn 13 35 48.5 +0.8
2.3nm,0.9s,baz=214,slow=10.0,SNR=5.3
2.3nm,0.9s
CMAR Chiang Mai Arr 23.14 259 P P 13 36 18.6 +6.4
0.2nm,0.4s,baz=78,slow=8.4,SNR=2.2
0.2nm,0.4s
KLR Kul'dur 25.26 14 P P 13 36 32.8 +1.2
1.9nm,0.8s,baz=196,slow=5.2,SNR=6.5
1.9nm,0.8s
SONM Songino Array 26.35 334 P P 13 36 42.9 +1.1
1.1nm,0.8s,baz=153,slow=8.7,SNR=8.6
1.1nm,0.8s
MKAR Makanchi Array 38.92 315 P P 13 38 31.9 +0.5
0.3nm,0.5s,baz=100,slow=11,SNR=7.0
0.3nm,0.5s
ZALV Zalesovo Beam 40.51 326 P P 13 38 44.5 +0.2
0.5nm,0.6s,baz=104,slow=8.6,SNR=2.9
0.5nm,0.6s
KURBB Kurchatov Arra 42.58 319 P P 13 39 01.9 +0.6
0.4nm,0.2s,baz=96,slow=7.5,SNR=1.5
0.4nm,0.2s
WRA Warramunga Arr 45.95 165 P P 13 39 29.0 +0.4
3.2nm,0.7s,baz=346,slow=8.6,SNR=47
3.2nm,0.7s
BVAR Borovoye Array 48.12 320 P P 13 39 45.0 -0.3
0.2nm,0.5s,baz=100,slow=6.0,SNR=2.1
0.2nm,0.5s
ASAR Alice Springs 49.45 167 P P 13 39 56.8 +1.1
0.7nm,0.6s,baz=347,slow=9.9,SNR=27
0.7nm,0.6s

TAP 31 13:31:19.7, 24°58N×121°50E, h11km, ML1.3, 1C-4D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NDT	**Datong Townshi**	**0.03**	**25**	⇓P		Pg		13 31 21.5	-0.2
	baz=23								
NDT				S		Sg		13 31 22.8	-0.3
	baz=23								
LATG	**Datong**	**0.05**	**152**	⇓*i*P		Pg		13 31 21.8	-0.1
	baz=152								
LATG				*e*S		Sg		13 31 23.9	+0.4
	baz=152								
ENTT	**Nioudou**	**0.09**	**44**	⇓*i*P		Pg		13 31 22.2	0.0
	baz=48								
ENTT				*i* S		Sg		13 31 24.0	0.0
	baz=48								
YHNB	**Yeheng**	**0.14**	**308**	⇑P		Pg		13 31 23.0	-0.1
	baz=308								
YHNB				*i* S		Sg		13 31 25.5	-0.1
	baz=308								
NSK	**Sanguang**	**0.16**	**307**	*e*P		Pg		13 31 23.4	0.0
	baz=307								
NSK				*i* S		Sg		13 31 25.8	-0.1
	baz=307								
NNSB	**Datong**	**0.18**	**216**	⇓*e*P		Pg		13 31 23.4	-0.4
	baz=215								
NNSB				*e*S		Sg		13 31 26.4	-0.2
	baz=215								
NWLT	**Wulai**	**0.20**	**0**	*e*P		Pb		13 31 25.5	+0.2
NWLT				*i* S		Sg		13 31 26.9	0.0

*UCR **31** 13:38:14.2±1.1, 9°33N×83°25W, h1km±4km, MW4.1*
*UPA **31** 13:38:15.2±1.3, 9°23N×83°20W, h0km±7km, MW4.0*
*CATAC **31** 13:38:15.0±0.3, 9°32N×83°29W, h4km±2km, ML4.3*

ISC 31 13:38:14.7±1.1, 9°33N±0°02×83°25W±0°02, h1km±9km, n94, σ0s96/143, 4C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRBA	**San Rafael, Bu**	**0.14**	**228**	*i* P		**Pg**		**13 38 18.0**	**+0.5**
SRBA				IAML				13 38 21.3	
	comp=Z,1600μm,1.0s								
EDBA	**Buenos Aires**	**0.16**	**187**	*e*P		**Pg**		**13 38 18.7**	**+0.8**
EDBA				*e*S		**Sg**		**13 38 21.4**	**+1.4**
POTG	**Potrero Grande**	**0.30**	**154**	*e*P		**Pg**		**13 38 21.0**	**+0.4**
POTG	**Potrero Grande**	**0.30**	**154**	*i* P		**Pg**		**13 38 21.2**	**+0.7**
POTG				*i* S		**Sg**		**13 38 25.5**	**+1.0**
POTG				IAML				13 38 28.1	
	comp=Z,74μm,1.0s								
EDP2	**Potrero Grande**	**0.32**	**166**	*e*P		**Pg**		**13 38 21.7**	**+0.8**
EDP2				*e*S		**Sg**		**13 38 26.3**	**+1.3**
EDPN	**Palmar Norte**	**0.41**	**209**	*e*P		**Pg**		**13 38 23.6**	**+1.0**
EDPN				*e*S		**Sb**		**13 38 30.6**	**-1.0**
OCHAL	**Ojochal**	**0.45**	**240**	*i* P		**Pg**		**13 38 23.7**	**+0.4**
OCHAL				*i* S		**Sg**		**13 38 30.0**	**+0.8**
OCHAL				IAML				13 38 32.6	
	comp=Z,710nm,1.0s								
BUS1	**Rivas**	**0.54**	**295**	*e*P		**Pg**		**13 38 25.0**	**0.0**
CDM	**Cerro de Muert**	**0.55**	**294**	*e*P		**Pg**		**13 38 25.1**	**-0.2**
CDM				*e*S		**Sg**		**13 38 33.0**	**+0.5**
CDM	**Cerro de Muert**	**0.55**	**294**	*i* P		**Pg**		**13 38 25.1**	**-0.2**
CDM				*i* S		**Sg**		**13 38 32.7**	**+0.2**
CDM				IAML				13 38 34.2	
	comp=Z,14μm,1.0s								
VITO	**San Vito**	**0.58**	**151**	*e*P		**Pb**		**13 38 27.7**	**0.0**
EDAD	**Golfito**	**0.68**	**173**	*e*P		**Pg**		**13 38 27.4**	**-0.3**
EDAD				*e*S		**Sg**		**13 38 36.7**	**+0.2**
FITO	**Golfito**	**0.70**	**172**	*e*P		**Pg**		**13 38 27.7**	**-0.5**
VINA	**Juan Vinas**	**0.74**	**319**	*e*P		**Pg**		**13 38 29.1**	**+0.1**
VERB	**Verbena**	**0.75**	**325**	*e*P		**Pg**		**13 38 29.2**	**0.0**
RVSTA	**Santa Teresita**	**0.75**	**329**	*e*P		**Pg**		**13 38 30.2**	**+1.0**
BRU2	**Volcan**	**0.77**	**134**	⇑*i*P		**Pg**		**13 38 29.5**	**0.0**
BRU2				*e*S		**Sg**		**13 38 40.4**	**+1.0**
BRU2	**Volcan**	**0.77**	**134**	*e*P		**Pg**		**13 38 29.4**	**0.0**
CNI2	**El Empalme, Bo**	**0.78**	**83**	⇑*e*P		**Pg**		**13 38 29.7**	**0.0**
CNI2				*e*S		**Sg**		**13 38 41.1**	**+1.5**
REPA	**Paraso**	**0.79**	**309**	*e*P		**Pg**		**13 38 30.3**	**+0.5**
IRES	**Siquirres**	**0.80**	**342**	*e*P		**Pg**		**13 38 30.8**	**+0.7**
PCAYA	**Pacayas**	**0.80**	**317**	*e*P		**Pg**		**13 38 31.3**	**+1.1**
LCOCO	**El Coco**	**0.81**	**338**	*e*P		**Pg**		**13 38 30.9**	**+0.6**
BC3P	**Paso Ancho**	**0.81**	**129**	⇑*i*P		**Pg**		**13 38 30.1**	**-0.3**
BC3P				*e*S		**Sb**		**13 38 43.3**	**0.0**
CVTV	**Tajo**	**0.83**	**324**	*e*P		**Pg**		**13 38 30.9**	**+0.2**
RAFA	**San Farael, Vo**	**0.83**	**319**	*i* P		**Pg**		**13 38 31.0**	**+0.2**
CDITO	**Canoas**	**0.84**	**153**	*e*P		**Pg**		**13 38 30.8**	**0.0**
CDITO				*e*S		**Sg**		**13 38 41.8**	**+0.2**
CDITO	**Canoas**	**0.84**	**153**	*i* P		**Pg**		**13 38 31.1**	**+0.3**
CDITO				*i* S		**Sn**		**13 38 46.6**	**0.0**
CDITO				IAML				13 38 55.4	
	comp=Z,11μm,1.0s								
LLNJ	**Naranjito**	**0.85**	**280**	*e*P		**Pg**		**13 38 31.0**	**0.0**
LCR2	**La Lucha 2**	**0.85**	**299**	*i* P		**Pg**		**13 38 29.7**	**-1.3**
LCR2				IAML				13 38 32.5	
	comp=Z,4μm,1.0s								
LCR2				*i* S		**Sg**		**13 38 41.4**	**-0.6**
ICR3	**Volcano Irazu**	**0.86**	**319**	*e*P		**Pg**		**13 38 31.2**	**-0.1**
HAYA	**Volcan Irazu**	**0.87**	**318**	*i* P		**Pg**		**13 38 31.4**	**-0.1**
HAYA				*i* S		**Sg**		**13 38 43.6**	**+0.8**
HAYA				IAML				13 38 46.9	
	comp=Z,15μm,1.0s								
ABE2	**San Pablo**	**0.87**	**296**	*e*P		**Pg**		**13 38 30.7**	**-0.9**
LPPC	**Paso Canoas**	**0.89**	**152**	*e*P		**Pg**		**13 38 31.6**	**-0.2**
SVQ2	**Quepos**	**0.91**	**277**	*e*P		**Pg**		**13 38 31.6**	**-0.6**
PIRO	**Carate, Puerto**	**0.92**	**185**	*i* P		**Pg**		**13 38 32.6**	**+0.2**
PIRO				*i* S		**Sb**		**13 38 45.8**	**-0.4**
PIRO				IAML				13 38 48.1	
	comp=Z,8μm,1.0s								
BCO2	**Palmira**	**0.94**	**130**	*e*P		**Pg**		**13 38 32.4**	**-0.3**
BCO2				*e*S		**Sb**		**13 38 46.1**	**-0.7**
CCOL	**Caracol de Cor**	**0.95**	**163**	*i* P		**Pg**		**13 38 32.7**	**-0.3**
CCOL				*i* S		**Sg**		**13 38 45.1**	**-0.3**
CCOL				IAML				13 38 50.0	
	comp=Z,7μm,1.0s								
AMPA	**Desamparados**	**0.98**	**305**	*e*P		**Pg**		**13 38 32.4**	**-1.1**
CORON	**Coronado**	**0.98**	**311**	*e*P		**Pg**		**13 38 33.2**	**-0.3**
LUPE	**Guadalupe**	**1.00**	**308**	*e*P		**Pg**		**13 38 33.2**	**-0.8**
ACOS	**Acosta**	**1.01**	**298**	*e*P		**Pg**		**13 38 33.0**	**-1.2**
MEXI	**Barrio Mexico**	**1.02**	**307**	*e*P		**Pg**		**13 38 33.7**	**-0.7**
HDC3	**Heredia 3**	**1.08**	**309**	*i* P		**Pg**		**13 38 34.9**	**-0.6**
HDC3				*i* S		**Sg**		**13 38 49.4**	**-0.1**
HDC3				IAML				13 38 50.1	
	comp=Z,6μm,1.0s								
BELE	**Belen**	**1.12**	**305**	*e*P		**Pg**		**13 38 36.1**	**-0.2**
CHGR2	**Aguacate**	**1.16**	**109**	*e*P		**Pg**		**13 38 35.8**	**-1.3**
CHGR2				*e*S		**Sg**		**13 38 51.6**	**-0.4**
PTPM	**Petroterminale**	**1.17**	**162**	*e*P		**Pg**		**13 38 36.3**	**-1.0**
PTPM				*e*S		**Sg**		**13 38 52.2**	**-0.3**
RIFO	**Rio Frio, Sara**	**1.19**	**326**	*e*P		**Pg**		**13 38 36.4**	**-1.1**
RIFO	**Rio Frio, Sara**	**1.19**	**326**	*i* P		**Pg**		**13 38 36.4**	**-1.1**
RIFO				*i* S		**Sg**		**13 38 52.8**	**-0.1**
RIFO				IAML				13 38 59.4	
	comp=Z,6μm,1.0s								
DVD	**David**	**1.19**	**138**	*e*P		**Pg**		**13 38 36.8**	**-0.7**
DVD				*e*S		**Sg**		**13 38 53.4**	**+0.4**
TCS1	**Tacares**	**1.25**	**305**	*e*P		**Pg**		**13 38 38.0**	**-0.8**
TCS1	**Tacares**	**1.25**	**305**	*i* P		**Pg**		**13 38 38.4**	**-0.4**
TCS1				IAML				13 39 00.5	
	comp=Z,28μm,1.0s								
JACO	**JACO, Garabito**	**1.43**	**284**	*i* P		**Pn**		**13 38 40.2**	**-1.6**
JACO				IAML				13 38 41.8	
	comp=Z,3μm,1.0s								
JACO				*i* S		**Sg**		**13 39 00.2**	**-0.4**
CPMI	**Catarata Coope**	**1.46**	**311**	*i* P		**Pn**		**13 38 41.4**	**-1.0**
CPMI				*i* S		**Sg**		**13 39 01.9**	**+0.1**
CPMI				IAML				13 39 07.4	
	comp=Z,2μm,1.0s								
SOCE	**Pocosol**	**1.71**	**308**	*i* P		**Pn**		**13 38 45.6**	**0.0**
SOCE				IAML				13 38 46.8	
	comp=Z,6μm,1.0s								
SOCE				*i* S		**Sn**		**13 39 08.6**	**+0.5**
COVE	**Coope Vega, Sa**	**1.79**	**321**	*i* P		**Pn**		**13 38 46.4**	**-0.3**
COVE				*i* S		**Sn**		**13 39 10.1**	**0.0**
COVE				IAML				13 39 18.5	
	comp=Z,4μm,1.0s								
FORC	**Fortuna**	**1.80**	**309**	*e*P		**Pn**		**13 38 46.9**	**0.0**
VACR	**Volcan Arenal**	**1.81**	**309**	*i* P		**Pn**		**13 38 46.9**	**-0.1**
VACR				IAML				13 38 48.8	
	comp=Z,3μm,1.0s								
VACR				*i* S		**Sn**		**13 39 11.1**	**+0.5**
MONTE	**Monteverde**	**1.82**	**303**	*e*P		**Pn**		**13 38 46.7**	**-0.5**
MONTE				*e*S		**Sn**		**13 39 11.2**	**+0.2**
CASO	**Castillo**	**1.83**	**307**	*e*P		**Pn**		**13 38 47.1**	**-0.2**
CEDE	**Laguna Cedeo**	**1.84**	**309**	⇑*e*P		**Pn**		**13 38 47.7**	**+0.2**
CEDE				*e*S		**Sn**		**13 39 12.5**	**+1.1**
SGBR	**La Fortuna**	**1.87**	**308**	*e*P		**Pn**		**13 38 47.5**	**-0.5**
TABAC	**Tabacon**	**1.89**	**308**	*e*P		**Pn**		**13 38 49.5**	**+1.2**
TABAC				*e*S		**Sb**		**13 39 15.0**	**+0.7**
COTE	**Lago Cote**	**2.06**	**307**	*e*P		**Pn**		**13 38 50.4**	**-0.1**
ACAL	**Aguas Claras**	**2.18**	**307**	⇓*e*P		**Pn**		**13 38 53.1**	**+0.8**
ACAL				*e*S		**Sb**		**13 39 22.5**	**-0.2**
PTEN	**Parque Tenorio**	**2.19**	**309**	⇓*i*P		**Pn**		**13 38 53.2**	**+0.8**
PTEN				*e*S		**Sb**		**13 39 23.0**	**0.0**
VERA	**Finca Concepci**	**2.20**	**314**	⇓*e*P		**Pn**		**13 38 53.1**	**+0.7**
VERA				*e*S		**Sn**		**13 39 22.0**	**+1.8**
MORZ	**Rio Naranjo**	**2.24**	**307**	*e*P		**Pn**		**13 38 54.4**	**+1.4**
INDI	**Punta indio, G**	**2.28**	**284**	*i* P		**Pn**		**13 38 51.8**	**-1.7**
INDI				*i* S		**Sn**		**13 39 20.7**	**-1.6**
INDI				IAML				13 39 32.6	
	comp=Z,640nm,1.0s								
CUI	**Cuipilapa**	**2.30**	**305**	*e*P		**Pn**		**13 38 54.8**	**+0.9**
CANAL	**Canalete**	**2.32**	**310**	*e*P		**Pn**		**13 38 54.3**	**+0.3**
CANAL				*e*S		**Sb**		**13 39 27.3**	**+0.7**
COLC	**Colonia**	**2.34**	**305**	*e*P		**Pn**		**13 38 55.5**	**+1.1**
COLC				*e*S		**Sb**		**13 39 26.5**	**-0.6**
HORNC	**Hornillas**	**2.34**	**306**	*e*P		**Pn**		**13 38 54.2**	**-0.3**
HORNC				*e*S		**Sn**		**13 39 26.1**	**+2.1**
CAMAV	**Centro de Prod**	**2.35**	**306**	*e*P		**Pn**		**13 38 54.3**	**-0.2**
CAMAV				*e*S		**Sb**		**13 39 26.7**	**-0.8**
VMAR	**Armenia, Volca**	**2.35**	**309**	*e*P		**Pn**		**13 38 54.9**	**+0.3**
VMAR				*e*S		**Sb**		**13 39 29.1**	**+1.6**
MESS	**Mesas**	**2.37**	**307**	*e*P		**Pn**		**13 38 55.3**	**+0.4**
MESS				*e*S		**Sb**		**13 39 27.6**	**-0.5**
CLARA	**Aguas Claras**	**2.38**	**308**	*e*P		**Pn**		**13 38 56.2**	**+1.2**
LIM1	**Limonal**	**2.39**	**305**	*e*P		**Pn**		**13 38 56.2**	**+1.0**
LIM1				*e*S		**Sn**		**13 39 27.0**	**+1.8**
GP77	**Hacienda Santa**	**2.49**	**305**	*e*P		**Pn**		**13 38 57.2**	**+0.8**
GPS2	**Hotel Rincn d**	**2.51**	**305**	*e*P		**Pn**		**13 38 57.0**	**+0.3**
GPS2				*e*S		**Sn**		**13 39 29.4**	**+1.5**
GP03	**Hacienda Santa**	**2.52**	**305**	*e*P		**Pn**		**13 38 58.3**	**+1.5**
GPS1	**Guardaparques**	**2.52**	**305**	*e*P		**Pn**		**13 38 57.2**	**+0.4**
GPS1				*e*S		**Sb**		**13 39 33.5**	**+1.2**
GPS3	**Bodega del ICE**	**2.52**	**305**	*e*P		**Pn**		**13 38 57.4**	**+0.6**
GPS3				*e*S		**Sn**		**13 39 30.3**	**+2.0**
GMAL	**Guarumal, Vera**	**2.53**	**128**	*e*P		**Pn**		**13 38 57.3**	**+0.3**
GMAL				*e*S		**Sn**		**13 39 25.0**	**-3.5**
SAJU	**San Juanillo,**	**2.53**	**287**	*e*P		**Pn**		**13 38 54.9**	**-2.0**
BUAI	**Buenos Aires**	**2.56**	**307**	*e*P		**Pn**		**13 38 58.5**	**+1.1**
BUEV	**Buena Vista**	**2.58**	**305**	*e*P		**Pn**		**13 38 58.5**	**+0.8**
LAPC	**Finca la Perla**	**2.58**	**304**	⇓*e*P		**Pn**		**13 38 58.2**	**+0.6**
LAPC				*e*S		**Sn**		**13 39 31.8**	**+2.1**
GB1A	**Borinquen Arri**	**2.58**	**305**	*e*P		**Pn**		**13 38 54.4**	**-3.3**
GBS3	**Finca Las Img**	**2.61**	**304**	*e*P		**Pn**		**13 38 58.0**	**0.0**
PNME	**Penonome**	**3.01**	**106**	*e*P		**Pb**		**13 39 07.6**	**-1.5**
CACAO	**El Cacao, Vera**	**3.08**	**130**	*e*P		**Pn**		**13 39 06.3**	**+1.8**
CACAO				*e*S		**Sn**		**13 39 44.2**	**+2.2**
CHIT3	**Chitre**	**3.12**	**116**	*e*P		**Pn**		**13 39 06.1**	**+1.1**
CHIT3				*e*S		**Sb**		**13 39 47.9**	**-1.6**
BCIP	**Isla Barro Col**	**3.38**	**92**	*e*P		**Pn**		**13 39 08.9**	**+0.3**

*IDC **31** 13:38:14.4±1.9, 51°70N×176°43W, h0km, mb3.4/6, mbtmp3.6/7, ML3.8/1, Error ellipse: s-maj=61.4km s-min=22.3km az=4.0*
*AEIC **31** 13:38:20.8±1.1, 51°53N±0°09×176°15W±0°05, h44km±8km, Error ellipse: s-maj=12.8km s-min=3.4km az=168.0*
*NEIC **31** 13:38:21.3±0.7, 51°51N±0°08×176°14W±0°02, h38km±16km, mb3.8/27, ML3.5(AEIC), Error ellipse: s-maj=11.7km s-min=1.7km az=175.0*

ISC 31 13:38:21.3±0.9, 51°6N±0°1×176°20W±0°05, h47km, n66, σ0s86/59, mb3.8/11, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ETKA	**Kagalaska Isla**	**0.33**	**337**				**Pn**	**13 38 30.1**	**-0.3**
ADK	**Adak**	**0.44**	**317**				**Pn**	**13 38 31.4**	**-0.3**
ADK							**Sn**	**13 38 39.1**	**0.0**
GSCK	**Great Sitkin C**	**0.45**	**3**				**Pn**	**13 38 32.1**	**+0.3**
GSMY	**Great Sitkin M**	**0.49**	**10**				**Pn**	**13 38 32.6**	**+0.3**
GSTD	**Great Sitkin T**	**0.50**	**4**				**Pn**	**13 38 32.7**	**+0.3**
GSSP	**Great Sitkin S**	**0.53**	**1**				**Pn**	**13 38 33.2**	**+0.4**
KIRH	**Kanaga Island**	**0.65**	**302**				**Pn**	**13 38 34.5**	**+0.2**
KIWB	**Kanaga Island**	**0.66**	**297**				**Pn**	**13 38 34.3**	**-0.1**
KICM	**Kanaga Island**	**0.72**	**300**				**Pn**	**13 38 35.4**	**+0.2**
TAFP	**Tanaga Falls P**	**1.16**	**288**				**Pn**	**13 38 41.6**	**+0.5**
TAFP							**Sn**	**13 38 56.9**	**+0.9**
TASE	**Tanaga Southea**	**1.18**	**284**				**Pn**	**13 38 42.0**	**+0.6**
ATKA	**Atka Island**	**1.40**	**62**				**Pn**	**13 38 43.0**	**-0.8**
ATKA	**Atka Island**	**1.40**	**62**				**Sn**	**13 39 01.6**	**+0.1**
KOKL	**Mount Kliuchef**	**1.45**	**58**				**Pn**	**13 38 45.3**	**+0.1**
KOFP	**Korovin Flat P**	**1.48**	**60**				**Pn**	**13 38 45.5**	**-0.1**
GANO	**Gareloi North**	**1.64**	**280**				**Pn**	**13 38 48.4**	**+0.7**
AMKA	**Amchitka**	**2.82**	**268**				**Pn**	**13 39 04.3**	**+0.5**
SDPT	**Sand Point**	**10.11**	**62**	Pn			**Pn**	**13 40 43.8**	**+0.1**
M16K	**Timber Creek**	**13.43**	**38**	Pn			**Pn**	**13 41 28.9**	**0.0**
SVW2	**Sparrevohn**	**14.83**	**42**	P			**P**	**13 41 52.5**	**-0.2**
KDAK	**Kodiak Island**	**14.96**	**56**	Pn			**Pn**	**13 41 48.4**	**-1.1**
	0.4nm,0.3s,baz=225,slow=10.0,SNR=2.0 29nm,1.1s								
SKT	**Skwentna**	**16.96**	**43**	P			**P**	**13 42 17.1**	**+0.8**
CAST	**Castle Rocks**	**17.44**	**38**	P			**P**	**13 42 23.0**	**+1.4**
CAST				IAmb			IAmb	13 43 03.5	
	comp=Z,8.5nm,1.3s								
CUT	**Chulitna**	**17.68**	**42**	P			**P**	**13 42 25.6**	**+1.4**
F19K	**Shaleruckik Mo**	**17.86**	**24**				**Pn**	**13 42 26.2**	**+0.2**
F19K				IAmb			IAmb	13 43 02.6	
	comp=Z,7.8nm,1.2s								
KTH	**Kantishna Hill**	**17.96**	**38**				**P**	**13 42 27.8**	**+0.5**
TRF	**Thorofare Moun**	**18.15**	**39**	P			**Pn**	**13 42 30.4**	**+0.7**
E19K	**Redstone River**	**18.48**	**23**	P			**Pn**	**13 42 34.5**	**+1.0**
I23K	**Minto, Yukon-K**	**19.36**	**35**	P			**P**	**13 42 43.6**	**+1.0**
I

	comp=Z,11nm,1.5s							
B20K	**Meade River**	**20.52**	**19**	P	**P**	**13 42 56.2**	**+1.0**	
B20K				IAmb	IAmb	13 42 58.8		
	comp=Z,4.8nm,1.3s							
J25K	**Salcha River,**	**20.61**	**39**	P	**P**	**13 42 56.9**	**+0.6**	
D22K	**Ayikyak River**	**20.68**	**24**	P	**P**	**13 42 58.0**	**+1.0**	
D22K				IAmb	IAmb	13 43 14.9		
	comp=Z,4.0nm,1.1s							
B21K	**Ikpikpuk River**	**20.76**	**21**	P	**P**	**13 42 58.5**	**+0.8**	
B21K				IAmb	IAmb	13 43 24.7		
	comp=Z,4.8nm,1.1s							
SCRK	**Sand Creek**	**20.92**	**41**	P	**P**	**13 42 59.0**	**-0.6**	
SCRK				IAmb	IAmb	13 43 00.7		
	comp=Z,4.5nm,0.9s							
J26L	**Joseph Creek**	**21.28**	**40**	P	**P**	**13 43 03.4**	**-0.1**	
TOLK	**Toolik Lake Re**	**21.35**	**27**	P	**P**	**13 43 05.1**	**+0.9**	
B22K	**Teshekpuk Lake**	**21.58**	**21**	P	**P**	**13 43 07.3**	**+0.8**	
K27K	**Chicken**	**21.73**	**42**	P	**P**	**13 43 08.8**	**+0.7**	
K27K				IAmb	IAmb	13 43 10.2		
	comp=Z,3.0nm,0.9s							
BMAR	**Burnt Mountain**	**22.20**	**32**	P	**P**	**13 43 14.7**	**+1.4**	
D25K	**Kavik River**	**22.68**	**27**	P	**P**	**13 43 18.4**	**0.0**	
K29M	**Barlow Dome**	**23.61**	**44**	P	**P**	**13 43 28.2**	**+0.5**	
K29M				IAmb	IAmb	13 43 31.4		
	comp=Z,3.4nm,1.0s							
H29M	**Whitestone**	**23.93**	**38**	P	**P**	**13 43 30.7**	**+0.1**	
H29M				IAmb	IAmb	13 44 08.2		
	comp=Z,6.4nm,1.4s							
J30M	**Hart River**	**24.28**	**42**	P	**P**	**13 43 35.0**	**+1.0**	
J30M				IAmb	IAmb	13 43 38.6		
	comp=Z,4.8nm,1.1s							
G29M	**Pine Creek**	**24.29**	**36**	P	**P**	**13 43 34.7**	**+0.8**	
G29M				IAmb	IAmb	13 43 47.6		
	comp=Z,6.2nm,1.4s							
CRAG	**Craig**	**25.60**	**64**	P	**P**	**13 43 46.3**	**+0.6**	
H11N2	**WAKE ISLAND Hy**	**34.43**	**209**	T	T	14 21 48.3		
	baz=20,slow=76							
H11N3	**WAKE ISLAND Hy**	**34.44**	**209**	T	T	14 21 48.9		
	baz=20,slow=76							
H11N1	**WAKE ISLAND Hy**	**34.45**	**209**	T	T	14 21 49.6		
	baz=20,slow=76							
H11S1	**WAKE ISLAND Hy**	**35.64**	**209**	T	T	14 23 11.6		
	baz=17,slow=76							
H11S2	**WAKE ISLAND Hy**	**35.66**	**209**	T	T	14 23 18.1		
	baz=17,slow=76							
H11S3	**WAKE ISLAND Hy**	**35.66**	**209**	T	T	14 23 10.6		
	baz=17,slow=76							
RYN	**Ryan**	**41.66**	**85**	P	**P**	**13 46 05.0**	**-0.1**	
RYN				IAmb	IAmb	13 46 11.6		
	comp=Z,2.1nm,1.1s							
PDAR	**Pinedale Array**	**44.70**	**74**	P	**P**	**13 46 30.4**	**+0.7**	
	comp=Z,0.3nm,0.4s,baz=333,slow=3.2,SNR=5.4							
	comp=Z,0.3nm,0.4s							
TXAR	**Lajitas Array**	**57.02**	**83**	P	**P**	**13 48 02.5**	**+0.2**	
	comp=Z,0.2nm,0.7s,baz=324,slow=6.2,SNR=4.1							
	comp=Z,0.2nm,0.7s							
KURBB	**Kurchatov Arra**	**60.16**	**315**	P	**P**	**13 48 22.2**	**-1.6**	
	comp=Z,0.6nm,0.6s,baz=44,slow=6.6,SNR=13							
	comp=Z,0.6nm,0.6s							
MKAR	**Makanchi Array**	**61.18**	**310**	P	**P**	**13 48 29.1**	**-1.7**	
	comp=Z,0.2nm,0.4s,baz=40,slow=5.2,SNR=2.1							
	comp=Z,0.2nm,0.4s							
BVAR	**Borovoye Array**	**61.79**	**321**	P	**P**	**13 48 33.4**	**-1.3**	
	comp=Z,0.2nm,0.3s,baz=43,slow=7.4,SNR=3.1							
	comp=Z,0.2nm,0.3s							
H03N2	**Juan Fernandez**	**119.64**	**107**	T	T	16 08 22.9		
	baz=317,slow=77,SNR=21							
H03N1	**Juan Fernandez**	**119.65**	**107**	T	T	16 08 24.3		
	baz=317,slow=77,SNR=25							
H03N3	**Juan Fernandez**	**119.65**	**107**	T	T	16 08 23.5		
	baz=317,slow=77,SNR=22							
BOSA	**Boshof**	**152.01**	**317**	PKPbc	**PKPbc**	**13 58 10.6**	**-0.5**	
	comp=Z,1.6nm,0.6s,baz=30,slow=3.1,SNR=5.7							

*OTT **31** 13:39:19.3±0.2, 71.35N×64.52W, h18km, ML3.4/2, 179km northeast from Clyde River, Nu Baffin Bay Seismic Zone.*
*DNK **31** 13:39:21.1±2.8, 71.49N×64.30W, h26km±16km, ML1.7*
ISC 31 13:39:14.3±0.8, 71.46N±0.05×64.53W±0.05, h10km, n16, σ3°59/29, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UPNV	**Upernavik**	**2.91**	**59**	*i* P	**Pn**	**13 40 04.6**	**+4.0**
UPNV				*i* S	**Sn**	**13 40 35.1**	**-0.5**
UPNV				IAML		13 40 38.0	
	comp=Z,41nm,0.3s						
UMMG	**Uummannaq**	**4.12**	**95**	*i* P	**Pn**	**13 40 21.8**	**+4.7**
UMMG				*i* S	**Sn**	**13 41 03.9**	**-1.3**
UMMG				IAML		13 41 07.5	
	comp=Z,10nm,0.3s						
ILULI	**Ilulissat**	**5.06**	**110**	*i* S	**Sn**	**13 41 27.9**	**-0.5**
ILULI	**Ilulissat**	**5.06**	**110**	PN	**Pn**	**13 40 33.5**	**+3.5**
ILULI				SN	**Sn**	**13 41 27.9**	**-0.5**
ILULI				Trac		13 41 31.4	
	comp=Z,1.5nm,0.1s						
ILON	**Igloolik, Nuna**	**6.17**	**259**	PN	**Pn**	**13 40 47.6**	**+2.3**
ILON				SN	**Sn**	**13 41 54.6**	**-1.2**
ILON				Trac		13 42 12.6	
	comp=Z,3.9nm,0.2s						
SFJD	**Kangerlussuaq**	**6.66**	**125**	*i* P	**Pn**	**13 40 54.8**	**+2.9**
SFJD				*i* S	**Sn**	**13 42 04.9**	**-2.9**
SFJD				IAML		13 42 11.3	
	comp=Z,0.7nm,0.1s						
SFJD	**Kangerlussuaq**	**6.66**	**125**	PN	**Pn**	**13 40 54.5**	**+2.6**
SFJD				SN	**Sn**	**13 42 04.8**	**-2.9**
NEEM	**North Greenlan**	**7.00**	**25**	*i* P	**Pn**	**13 40 58.8**	**+2.0**
NEEM				*i* S	**Sn**	**13 42 12.8**	**-3.6**
NEEM				IAML		13 42 16.2	
	comp=Z,3.2nm,0.2s						
FRB	**Frobisher Bay**	**7.89**	**193**	*i* P	**Pn**	**13 41 12.3**	**+3.4**
FRB				*i* S	**Sn**	**13 42 34.4**	**-3.7**
FRB	**Frobisher Bay**	**7.89**	**193**	PN	**Pn**	**13 41 10.9**	**+2.0**
FRB				SN	**Sn**	**13 42 33.8**	**-4.3**
FRB				Trac		13 43 15.3	
	comp=Z,5.4nm,0.3s						
SUMG	**Summit**	**8.11**	**70**	*i* P	**Pn**	**13 41 14.1**	**+1.9**
SUMG				*i* S	**Sn**	**13 42 38.4**	**-5.6**
SUMG				IAML		13 42 43.5	
	comp=Z,2.8nm,0.4s						
DY2G	**Dye2**	**8.22**	**118**	*e*S	**Sn**	**13 42 42.7**	**-3.9**
DY2G				IAML		13 43 02.9	
	comp=Z,0.5nm,0.2s						
ICESG	**Greenland Ices**	**8.71**	**94**	*i* P	**Pn**	**13 41 23.3**	**+3.0**
ICESG				*i* S	**Sn**	**13 42 50.8**	**-7.7**
ICESG				IAML		13 42 58.5	
	comp=Z,1.3nm,0.2s						
RES	**Resolute Bay**	**9.35**	**304**	*i* P	**Pn**	**13 41 33.0**	**+4.2**
RES				*i* S	**Sn**	**13 43 09.1**	**-4.6**
RES	**Resolute Bay**	**9.35**	**304**	PN	**Pn**	**13 41 33.0**	**+4.2**
RES				SN	**Sn**	**13 43 11.9**	**-1.8**
RES				Trac		13 43 19.2	
	comp=Z,139nm,2.5s						
EUNU	**Eureka**	**10.06**	**338**	*i* P	**Pn**	**13 41 38.5**	**-0.1**

*NEIC **31** 13:51:26.3±0.7, 7.23S±0.07×123.2E±0.2, h222km±13km, mb4.1/9, Error ellipse: s-maj=24.9km s-min=10.6km az=92.0*
*DJA **31** 13:51:30.5±0.5, 8°S±5°×12°3E±°, h231km±6km, M3.7/11, mb3.7/6, MLv3.6/11*
*IDC **31** 13:51:32.1±2.3, 7.77S×123.09E, h239km±25km, mb3.2/5, mbtmp3.9/8, Error ellipse: s-maj=60.9km s-min=10.6km az=59.0*
ISC 31 13:51:30.5±0.7, 7.85S±0.07×123.13E±0.08, h221km, n45, σ1°23/47, mb3.5/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.18**	**228**	Pn	**Pn**	**13 52 04.4**	**+0.8**
MMRI				Sn	S	**13 52 31.9**	**+2.3**
MMRI	**Maumere**	**1.18**	**228**	P	**Pn**	**13 52 05.9**	**+2.2**
MMRI	**Maumere**	**1.18**	**228**	P	**Pn**	**13 52 04.5**	**+0.8**
EDFI	**Ende, Flores**	**1.69**	**238**	P	**Pn**	**13 52 08.3**	**+0.5**
SOEI	**Soe**	**2.20**	**150**	Pn	**Pn**	**13 52 14.0**	**+1.1**
SOEI	**Soe**	**2.20**	**150**	P	**Pn**	**13 52 14.5**	**+1.7**
SOEI	**Soe**	**2.20**	**150**	P	**Pn**	**13 52 13.9**	**+1.1**
BASI	**Baing, Sumba**	**3.45**	**227**	P	**Pn**	**13 52 26.6**	**0.0**
BKSI	**Bulukumba**	**3.90**	**310**	P	**Pn**	**13 52 32.3**	**+0.3**
KAPI	**Kappang**	**4.38**	**310**	P	**Pn**	**13 52 39.6**	**+1.8**
	4.0nm,0.3s,baz=115,slow=9.1,SNR=5.8						
PLAI	**Plampang**	**5.39**	**259**	P	**Pn**	**13 52 50.6**	**+0.2**
	17nm,0.9s,0.2nm						
TWSI	**Taliwang, Sumb**	**6.25**	**261**	P	**Pn**	**13 53 01.4**	**+0.1**
	27nm,1.6s,0.1nm						
MTN	**Manton Dam**	**9.30**	**123**		**Pn**	**13 53 40.0**	**-0.7**
MTN	**Manton Dam**	**9.30**	**123**	P	**Pn**	**13 53 40.5**	**-0.1**
KNRA	**Kununurra**	**9.54**	**145**		**Pn**	**13 53 43.3**	**-0.2**
KNRA	**Kununurra**	**9.54**	**145**	P	**Pn**	**13 53 43.7**	**+0.2**
TNTI	**Ternate**	**9.54**	**26**	Pn	Pn	13 53 31.7	-12
FAKI	**Fak Fak**	**10.31**	**62**	P	**P**	**13 53 59.1**	**-1.0**
KDU	**Kakadu**	**10.37**	**118**	P	**Pn**	**13 53 54.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**10.48**	**167**		**Pn**	**13 53 52.9**	**-2.7**
FITZ	**Fitzroy Crossi**	**10.48**	**167**	P	**Pn**	**13 53 54.3**	**-1.3**
MBWA	**Marble Bar**	**13.64**	**194**	P	**P**	**13 54 37.5**	**+0.5**
PSA00	**Pilbara Seismi**	**14.01**	**193**		**P**	**13 54 41.7**	**+0.5**
WB0	**Warramunga Arr**	**16.11**	**138**	P	**P**	**13 55 04.4**	**-0.1**
WRA	**Warramunga Arr**	**16.20**	**139**	P	**P**	**13 55 05.5**	**+0.1**
	2.6nm,0.7s,baz=313,slow=10,SNR=52						
WRA					S	**13 58 00.5**	**-3.8**
	1.2nm,0.8s,baz=318,slow=25,SNR=7.7						
WRAB	**Tennant Creek**	**16.20**	**139**	P	**P**	**13 55 05.6**	**+0.1**
WRAB				IAmb	IAmb	13 55 06.4	
	comp=Z,3.3nm,0.6s						
WB2	**Warramunga Arr**	**16.21**	**139**	P	**P**	**13 55 05.7**	**+0.1**
WB2				IAmb	IAmb	13 55 09.5	
	comp=Z,5.6nm,1.1s						
WR0	**Warramunga Arr**	**16.34**	**139**	P	**Pn**	**13 55 07.4**	**-0.7**
WR0				IAmb	IAmb	13 55 09.3	
	comp=Z,6.3nm,0.8s						
WRKA	**Warakurna**	**17.79**	**165**	P	**P**	**13 55 23.7**	**+0.9**
AS31	**Alice Springs**	**18.82**	**148**	P	**P**	**13 55 34.6**	**+0.6**
AS31				IAmb	IAmb	13 55 39.2	
	comp=Z,3.0nm,0.7s						
ASAR	**Alice Springs**	**18.82**	**148**	P	**P**	**13 55 35.1**	**+1.1**
	comp=Z,7.4nm,0.6s,baz=325,slow=11,SNR=88						
ASAR					S	**13 58 59.4**	**+3.2**
	comp=Z,0.6nm,0.9s,baz=332,slow=25,SNR=5.2						
MEEK	**Meekatharra**	**19.18**	**192**	P	**P**	**13 55 38.5**	**+0.8**
QIS	**Mount Isa**	**20.34**	**130**	P	**P**	**13 55 50.6**	**+0.4**
MORW	**Morawa**	**22.14**	**197**	P	**P**	**13 56 07.8**	**-0.6**
MORW	**Morawa**	**22.14**	**197**	P	**P**	**13 56 07.9**	**-0.4**
OOD	**Oodnadatta**	**23.12**	**151**	P	**P**	**13 56 17.3**	**+0.1**
FORT	**Forrest**	**23.28**	**169**	P	**P**	**13 56 19.2**	**+0.6**
FORT				IAmb	IAmb	13 56 45.9	
	comp=Z,13nm,1.1s						
FORT	**Forrest**	**23.28**	**169**	P	**P**	**13 56 19.6**	**+1.0**
BBOO	**Buckleboo**	**27.58**	**156**	P	**P**	**13 56 57.2**	**-0.1**
STKA	**Stephens Creek**	**29.45**	**147**	P	**P**	**13 57 14.5**	**+0.6**
STKA	**Stephens Creek**	**29.45**	**147**	P	**P**	**13 57 14.4**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=330,slow=13,SNR=1.5						
	comp=Z,0.5nm,0.3s						
USRK	**Ussuriysk Ar.**	**52.42**	**8**	P	**P**	**14 00 20.2**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=179,slow=6.3,SNR=4.8						
	comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**65.39**	**330**	P	**P**	**14 01 49.2**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=137,slow=7.4,SNR=8.3						
	comp=Z,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**69.51**	**337**	P	**P**	**14 02 13.4**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=143,slow=5.6,SNR=4.2						
	comp=Z,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**69.83**	**332**	P	**P**	**14 02 15.8**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=137,slow=5.4,SNR=8.4						
	comp=Z,0.2nm,0.4s						

*TAP **31** 14:06:27.0, 24.91N×122.85E, h19km, ML2.6, D*
*JMA **31** 14:06:27.3±0.4, 25°N±1°×12°3E±°, h22km, MV2.0/9, NW OFF ISHIGAKIJIMA IS*
ISC 31 14:06:25.4±1.4, 24.92N±0.07×122.88E±0.03, h10km±13km, n44, σ0°61/55, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.47**	**173**	P	**Pn**	**14 06 37.0**	**-1.3**
JYNG				S	**Sb**	**14 06 44.0**	**+1.1**
YOJ	**Yonaguni jima**	**0.47**	**165**	P	**Pb**	**14 06 36.7**	**+0.9**
YOJ				*e*S	**Sb**	**14 06 43.0**	**+0.1**
YOJ	**Yonaguni jima**	**0.47**	**165**	*i* P	**Pb**	**14 06 36.8**	**+0.9**
	baz=162						
YOJ				S	**Sb**	**14 06 43.0**	**+0.1**
	baz=162						
EOS2	**EOS2**	**0.77**	**230**	P	**Pn**	**14 06 41.9**	**-0.4**
	baz=233						
EOS2				*e*S	**Sb**	**14 06 52.3**	**+0.9**
	baz=233						
EOS3	**EOS3**	**0.81**	**219**	P	**Pn**	**14 06 42.2**	**-0.6**
	baz=222						
EOS3				S	**Sb**	**14 06 53.3**	**+0.8**
	baz=222						
SXI1	**Grass Mountain**	**0.93**	**281**	P	**Pb**	**14 06 43.8**	**+0.2**
	baz=282						
EOS4	**EOS4**	**0.95**	**213**	*e*P	**Pn**	**14 06 44.5**	**0.0**
	baz=212						
EOS4				*e*S	**Sb**	**14 06 55.7**	**-0.5**
	baz=212						
TIPB	**Shuangxi**	**0.96**	**273**	*e*P	**Pg**	**14 06 43.9**	**+0.1**
	baz=274						
IRIF	**Iriomote-Funau**	**0.97**	**127**	P	**Pn**	**14 06 44.8**	**-0.3**
IRIF				S	**Sg**	**14 06 56.5**	**-0.3**
TWC	**Suao**	**0.99**	**252**	*e*P	**Pn**	**14 06 46.0**	**+0.7**
	baz=252						
EWUT	**Wuta**	**1.11**	**245**	P	**Pb**	**14 06 45.9**	**-0.8**
	baz=255						
EWUT				*e*S	**Sb**	**14 07 01.3**	**+0.1**
	baz=255						
TWE	**Neicheng**	**1.12**	**260**	*e*P	**Pb**	**14 06 46.7**	**-0.1**
	baz=260						
ENA	**Nanau**	**1.15**	**245**	*e*P	**Pb**	**14 06 46.7**	**-0.6**
	baz=254						
ENA				S	**Sb**	**14 07 01.7**	**-0.6**
	baz=254						
FUSB	**Fushanzhiwuyua**	**1.18**	**262**	*e*P	**Pg**	**14 06 48.3**	**+0.1**
	baz=263						
EAHA	**Aohua**	**1.19**	**241**	*e*P	**Pg**	**14 06 48.5**	**+0.2**
	baz=241						
HATJ	**Hateruma jima**	**1.21**	**135**	S	**Sb**	**14 07 03.3**	**-0.7**
ENTT	**Nioudou**	**1.23**	**257**	*e*P	**Pb**	**14 06 48.7**	**+0.1**
	baz=257						
NWLT	**Wulai**	**1.26**	**264**	*e*P	**Pb**	**14 06 49.4**	**+0.1**
	baz=265						
NDT	**Datong Townshi**	**1.28**	**256**	*e*P	**Pn**	**14 06 49.3**	**-0.1**
	baz=256						
LATG	**Datong**	**1.29**	**253**	*e*P	**Pn**	**14 06 49.1**	**-0.5**
	baz=253						
LATG				*e*S	**Sb**	**14 07 06.1**	**-0.3**
	baz=253						
JISG	**Ishigakijimahi**	**1.34**	**104**	P	**Pg**	**14 06 51.4**	**+0.1**
NACB	**Ninganchiao**	**1.39**	**238**	*e*P	**Pb**	**14 06 51.2**	**-0.2**
	baz=238						
NACB				*e*S	**Sn**	**14 07 09.1**	**-0.1**
	baz=238						
YHNB	**Yeheng**	**1.39**	**260**	*e*P	**Pb**	**14 06 51.7**	**+0.2**
	baz=261						
NSK	**Sanguang**	**1.40**	**260**	*e*P	**Pb**	**14 06 51.7**	**-0.1**
	baz=261						
NNSB	**Datong**	**1.45**	**250**	*e*P	**Pb**	**14 06 52.2**	**-0.3**
	baz=251						
NNS	**Nan Shan**	**1.45**	**251**	*e*P	**Pb**	**14 06 52.7**	**+0.1**
	baz=252						
ETLH	**Xiulin Townshi**	**1.46**	**241**	*e*P	**Pb**	**14 06 52.7**	**0.0**
	baz=242						
LXIB	**Xiulin Townshi**	**1.61**	**236**	P	**Pn**	**14 06 54.5**	**+0.5**
	baz=238						
FUSS	**Fushou**	**1.63**	**246**	*e*P	**Pb**	**14 06 56.2**	**+0.4**
	baz=247						
WHF	**Hehuan Shan**	**1.66**	**243**	*e*P	**Pb**	**14 06 56.2**	**-0.2**
	baz=243						
CHGB	**Renai**	**1.77**	**241**	*e*P	**Pb**	**14 06 57.9**	**-0.3**
	baz=228						
WARBT	**Fenglin Townsh**	**1.81**	**229**	*e*P	**Pn**	**14 06 56.1**	**-0.6**
	baz=216						
WUSB	**Renai**	**1.85**	**240**	*e*P	**Pb**	**14 06 58.6**	**-0.8**
	baz=228						
WHP	**Taichung City**	**1.87**	**250**	*e*P	**Pb**	**14 06 59.4**	**-0.3**
	baz=238						
HGSD	**Ruisui**	**1.95**	**223**	*e*P	**Pn**	**14 06 59.1**	**+0.6**
	baz=225						
VWDT	**VWDT**	**1.97**	**234**	*e*P	**Pn**	**14 06 59.7**	**+0.9**
	baz=222						
WCS	**Beigang Elemen**	**1.99**	**245**	*e*P	**Pb**	**14 07 01.8**	**+0.1**
	baz=232						
EHY	**Hungye**	**2.00**	**226**	*e*P	**Pn**	**14 07 00.2**	**+0.9**
	baz=227						
SSLB	**Suanglung**	**2.09**	**238**	*e*P	**Pn**	**14 07 01.9**	**+1.4**
	baz=225						
YULB	**Yu-li**	**2.10**	**224**	*e*P	**Pn**	**14 07 00.3**	**-0.3**
	baz=213						
EYUL	**Yuli**	**2.12**	**223**	*e*P	**Pn**	**14 07 01.6**	**+0.7**
	baz=212						
TWF1	**Yuli**	**2.13**	**223**	*e*P	**Pn**	**14 07 00.8**	**-0.2**
	baz=212						
WHYT	**Xinyi Township**	**2.21**	**237**	*e*P	**Pb**	**14 07 03.9**	**-1.6**
	baz=225						
EHD	**Haiduan**	**2.34**	**221**	*e*P	**Pn**	**14 07 03.9**	**-0.1**
	baz=210						

*IDC **31** 14:06:22.9±1.8, 0.44S×123.88E, h0km, mb3.2/3, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=57.2km s-min=27.8km az=63.0*
*DJA **31** 14:06:28.3±1.0, 1°S±3°×12°4E±°, h13km±9km, M3.7/13, mb3.9/4, mB5.2/1, MLv3.6/13, Mw(mB)4.5/1*
ISC 31 14:06:29.6±1.0, 0.67S±0.05×123.71E±0.06, h35km, n16, σ1°38/19, mb3.3/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWK	**Luwuk**	**1.01**	**248**	P	**Pn**	**14 06 47.6**	**+0.3**
KMSI	**Cibinong**	**1.27**	**12**	P	**Pn**	**14 06 51.7**	**+0.9**
KMSI				S	**Sn**	**14 07 08.2**	**+1.6**
MRSI	**Marisa**	**2.10**	**303**	P	**Pn**	**14 07 02.2**	**-0.2**
SANI	**Sanana**	**2.66**	**121**	P	**Pn**	**14 07 09.4**	**-0.6**
LBMI	**Labuha**	**3.79**	**90**	P	**Pn**	**14 07 26.2**	**+0.6**
LBMI				S	**Sn**	**14 08 10.6**	**+1.6**
TNTI	**Ternate**	**3.93**	**69**	P	**Pn**	**14 07 26.6**	**-0.9**
MPSI	**Mapaga**	**3.94**	**285**	P	**Pn**	**14 07 29.9**	**+2.3**
NLAI	**Namlea**	**4.24**	**127**	P	**Pn**	**14 07 33.2**	**+1.4**
TTSI	**Tana Toraja**	**4.55**	**239**	P	**Pn**	**14 07 37.8**	**+1.8**
SPSI	**Sidrap Palu**	**5.12**	**230**	P	**Pn**	**14 07 45.8**	**+1.9**
	15nm,0.7s,2µm0.1nm						
BKSI	**Bulukumba**	**5.85**	**218**	P	**Pn**	**14 07 55.5**	**+1.6**
	8.5nm,1.2s,0.1nm						
KAPI	**Kappang**	**5.85**	**222**	Pn	**Pn**	**14 07 54.6**	**+0.7**
	1.2nm,0.3s,baz=65,slow=19,SNR=2.8						
KAPI				Sn	**Sn**	**14 08 59.5**	**-0.3**
	0.8nm,0.3s,baz=212,slow=22,SNR=1.9						
	3.0nm,0.2s						
FAKI	**Fak Fak**	**8.82**	**105**	P	**Pn**	**14 08 35.2**	**+0.4**
WRA	**Warramunga Arr**	**21.80**	**152**	P	**P**	**14 11 17.8**	**-1.0**
	0.6nm,0.7s,baz=330,slow=12,SNR=9.0						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**24.91**	**157**	P	**P**	**14 11 49.5**	**0.0**
	0.6nm,0.7s,baz=337,slow=7.2,SNR=15						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**59.55**	**328**	P	**P**	**14 16 27.5**	**-2.2**
	0.1nm,0.4s,baz=122,slow=7.0,SNR=1.8						
	0.1nm,0.4s						

*IDC **31** 14:10:54.3±26.0, 24.87S×173.86W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=482.9km s-min=145.5km az=81.0*
*NEIC **31** 14:11:01.1±0.6, 25.1S±0.1×174.5W±0.2, h9km±8km, mb4.2/13, Error ellipse: s-maj=27.0km s-min=6.9km az=60.0*
ISC 31 14:10:58.9±2.9, 25.0S±0.2×174.3W±0.3, h10km, n25, σ1°32/19, mb4.2/10, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.38**	**217**	Pn	**Pn**	**14 12 18.0**	**-1.3**
TOZ	**Tahuroa Road**	**15.44**	**212**	P	**Pn**	**14 14 40.1**	**+3.3**
TOZ				IAmb	IAmb	14 15 21.7	
	comp=Z,13nm,1.4s						
MARNC	**Mare, Loyalty**	**16.65**	**278**	P	**Pn**	**14 14 54.6**	**+2.1**
NNZ	**Nelson**	**19.21**	**209**	P	**P**	**14 15 22.3**	**-0.7**
EIDS	**Eidsvold**	**31.33**	**262**	P	**P**	**14 17 17.9**	**-1.8**
EIDS				IAmb	IAmb	14 17 33.1	
	comp=Z,5.5nm,1.0s						
CTA	**Charters Tower**	**36.71**	**269**	P	**P**	**14 18 07.2**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=111,slow=10,SNR=5.9						
	comp=Z,2.4nm,0.6s						
CTAO	**Charters Tower**	**36.71**	**269**	P	**P**	**14 18 07.2**	**+0.7**
STKA	**Stephens Creek**	**39.23**	**250**	P	**P**	**14 18 26.9**	**-0.7**
STKA	**Stephens Creek**	**39.23**	**250**	P	**P**	**14 18 26.8**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=107,slow=11,SNR=4.0						
	comp=Z,0.9nm,0.4s						
BBOO	**Buckleboo**	**43.88**	**248**	P	**P**	**14 19 04.7**	**-1.1**
BBOO				IAmb	IAmb	14 19 30.2	
	comp=Z,11nm,1.2s						
AS31	**Alice Springs**	**47.03**	**260**	P	**P**	**14 19 30.2**	**-0.7**
AS31				IAmb	IAmb	14 19 30.9	
	comp=Z,1.2nm,1.2s						
ASAR	**Alice Springs**	**47.03**	**260**	P	**P**	**14 19 30.0**	**-0.9**
ASAR	**Alice Springs**	**47.03**	**260**	P	**P**	**14 19 30.5**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=95,slow=8.1,SNR=38						
	comp=Z,1.0nm,0.4s						
WR0	**Warramunga Arr**	**47.37**	**265**	P	**P**	**14 19 32.9**	**-0.7**
WB2	**Warramunga Arr**	**47.54**	**265**	P	**P**	**14 19 34.5**	**-0.4**
WB2				IAmb	IAmb	14 19 59.6	
	comp=Z,4.5nm,1.2s						
WB0	**Warramunga Arr**	**47.55**	**265**	P	**P**	**14 19 34.4**	**-0.6**
WB0				IAmb	IAmb	14 19 36.9	
	comp=Z,4.6nm,1.3s						
WRA	**Warramunga Arr**	**47.55**	**265**	P	**P**	**14 19 34.5**	**-0.5**
WRA	**Warramunga Arr**	**47.55**	**265**	P	**P**	**14 19 34.5**	**-0.5**

DZM	**Mont Dzumac**	**10.11**	**175**	P		**Pn**	**14 54 24.5**	**+1.4**
DZM	**Mont Dzumac**	**10.11**	**175**	Pn		**Pn**	**14 54 24.3**	**+1.2**
	15nm,0.6s,baz=354,slow=12,SNR=64							
DZM				Sn		**Sn**	**14 56 11.8**	**-4.8**
	baz=109,slow=18							
DZM				LR		LR	14 57 25.3	
	comp=Z,178nm,19.8s,baz=48,slow=33							
NOUC	**Port Laguerre**	**10.13**	**176**	P		**Pn**	**14 54 25.4**	**+2.2**
YATNC	**Mamie plateau,**	**10.15**	**172**	P		**Pn**	**14 54 25.0**	**+1.5**
ONTNC	**Ouen Toro**	**10.35**	**175**			**Pn**	**14 54 27.9**	**+1.7**
OUENC	**Ouen Island, N**	**10.49**	**173**	P		**Pn**	**14 54 30.3**	**+2.1**
PINNC	**Pines Island,**	**10.77**	**170**			**Pn**	**14 54 33.7**	**+1.6**
PMG	**Port Moresby**	**18.17**	**276**	P		**Pn**	**14 56 11.1**	**+0.9**
PMG	**Port Moresby**	**18.17**	**276**	P		**P**	**14 56 11.4**	**+0.9**
	0.2nm,0.3s,baz=119,slow=9.1,SNR=3.5							
	9.4nm,1.0s							
EIDS	**Eidsvold**	**19.05**	**224**			**P**	**14 56 21.0**	**+0.9**
CTA	**Charters Tower**	**20.15**	**244**	P		**P**	**14 56 33.4**	**+1.2**
	12nm,0.9s,baz=66,slow=11,SNR=9.8							
CTA				LR		LR	15 04 25.5	
	comp=Z,228nm,18.2s,baz=56,slow=37							
	12nm,0.9s							
CTAO	**Charters Tower**	**20.15**	**244**	P		**P**	**14 56 33.2**	**+1.0**
TOZ	**Tahuroa Road**	**27.20**	**162**	P		**P**	**14 57 43.7**	**+2.1**
TOZ				IAmb		IAmb	14 57 48.0	
	comp=Z,74nm,1.6s							
RTZ	**Ruatahuna**	**28.47**	**161**	P		**P**	**14 57 54.3**	**+1.2**
RTZ				IAmb		IAmb	14 57 55.8	
	comp=Z,41nm,0.8s							
STKA	**Stephens Creek**	**29.61**	**224**	P		**P**	**14 58 03.8**	**+0.7**
STKA	**Stephens Creek**	**29.61**	**224**	P		**P**	**14 58 03.2**	**+0.1**
	comp=Z,4.3nm,0.6s,baz=46,slow=9.0,SNR=16							
STKA				LR		LR	15 09 11.6	
	comp=Z,191nm,19.5s,baz=0.2,slow=35							
	comp=Z,4.3nm,0.6s							
TCW	**Tory Channel**	**30.16**	**167**	P		**P**	**14 58 08.9**	**+1.0**
WR0	**Warramunga Arr**	**30.74**	**251**	P		**P**	**14 58 12.4**	**-1.0**
WR0				IAmb		IAmb	14 59 19.1	
	comp=Z,24nm,1.1s							
WB0	**Warramunga Arr**	**30.84**	**251**	P		**P**	**14 58 13.1**	**-1.2**
WB0				IAmb		IAmb	14 59 23.1	
	comp=Z,55nm,1.2s							
WRAB	**Tennant Creek**	**30.91**	**251**	P		**P**	**14 58 14.2**	**-0.7**
WRAB				IAmb		IAmb	14 59 24.5	
	comp=Z,50nm,1.2s							
WB2	**Warramunga Arr**	**30.91**	**251**	P		**P**	**14 58 14.1**	**-0.8**
WB2				IAmb		IAmb	14 59 24.6	
	comp=Z,49nm,1.1s							
WRA	**Warramunga Arr**	**30.93**	**251**	P		**P**	**14 58 13.9**	**-1.1**
WRA	**Warramunga Arr**	**30.93**	**251**	P		**P**	**14 58 14.4**	**-0.6**
	comp=Z,4.6nm,0.7s,baz=83,slow=9.3,SNR=40							
	comp=Z,4.6nm,0.7s							
RPZ	**Rata Peaks**	**32.02**	**172**	IAmb		IAmb	14 58 26.5	
	comp=Z,31nm,0.7s							
ASAR	**Alice Springs**	**32.15**	**244**	P		**P**	**14 58 24.7**	**-1.1**
	comp=Z,6.2nm,0.8s,baz=69,slow=8.8,SNR=56							
ASAR				LR		LR	15 11 24.7	
	comp=Z,181nm,19.1s,baz=24,slow=36							
	comp=Z,6.2nm,0.8s							
RAR	**Rarotonga**	**34.50**	**110**	LR		LR	15 10 45.7	
	comp=Z,266nm,19.4s,baz=333,slow=33							
FORT	**Forrest**	**39.31**	**236**	P		**P**	**14 59 27.0**	**-0.1**
FORT				IAmb		IAmb	15 00 48.7	
	comp=Z,56nm,0.8s							
PPT	**Papeete**	**43.75**	**103**	LR		LR	15 14 42.3	
	comp=Z,52nm,21.3s,baz=268,slow=31							
PPT2	**Papeete2**	**43.75**	**103**	*e*S		**S**	**15 06 38.9**	**+4.3**
	comp=Z,57nm,26.5s							
PPT2				*e*LQ		LQ	15 10 23.8	
	comp=Z,315nm,26.8s							
PPT2				*e*LR		LR	15 12 17.0	
	comp=Z,342nm,31.2s							
PPT2				*e*LR		LR	15 12 24.0	
	comp=Z,171nm,34.5s							
TBI	**Tubuai**	**44.26**	**111**	*e*LR		LR	15 12 36.8	
	comp=Z,712nm,33.2s							
TAOE	**Nuku Hiva Isla**	**53.51**	**92**	*e*LR		LR	15 16 49.9	
	comp=Z,106nm,24.5s							
VNDA	**Vanda**	**65.59**	**181**	P		**P**	**15 02 40.8**	**-0.5**
	comp=Z,2.4nm,1.1s,baz=14,slow=8.7,SNR=2.6							
	comp=Z,2.4nm,1.1s							
CM31	**Chiang Mai Arr**	**72.22**	**294**	P		**P**	**15 03 23.9**	**+0.4**
CM31				IAmb		IAmb	15 03 28.3	
	comp=Z,9.7nm,0.9s							
CMAR	**Chiang Mai Arr**	**72.22**	**294**	P		**P**	**15 03 23.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**72.22**	**294**	P		**P**	**15 03 24.4**	**+0.8**
	comp=Z,5.0nm,0.9s,baz=116,slow=4.7,SNR=9.0							
	comp=Z,5.0nm,0.9s							
QSPA	**South Pole Qui**	**78.06**	**180**	P		**P**	**15 03 56.2**	**-0.4**
QSPA				IAmb		IAmb	15 04 00.5	
	comp=Z,11nm,0.9s							
QSPA	**South Pole Qui**	**78.06**	**180**	P		**P**	**15 03 56.5**	**0.0**
	comp=Z,10nm,0.9s,baz=5.5,slow=3.1,SNR=45							
	comp=Z,10nm,0.9s							
SONM	**Songino Array**	**79.23**	**324**	P		**P**	**15 04 04.0**	**+0.8**
	comp=Z,3.7nm,1.0s,baz=141,slow=6.1,SNR=3.0							
	comp=Z,3.7nm,1.0s							
BILL	**Bilibino**	**79.78**	**0**	P		**P**	**15 04 05.2**	**-0.4**
BILL				IAmb		IAmb	15 04 06.8	
	comp=Z,27nm,1.3s							
F19K	**Shaleruckik Mo**	**83.03**	**14**	IAmb		IAmb	15 05 50.7	
	comp=Z,10nm,0.9s							
MAW	**Mawson**	**83.79**	**202**	P		**P**	**15 04 26.6**	**-0.3**
	comp=Z,3.6nm,0.9s,baz=120,slow=8.1,SNR=3.6							
	comp=Z,3.6nm,0.9s							
CCB	**Clear Creek Bu**	**84.08**	**18**	P		**P**	**15 04 27.4**	**-0.8**
COLA	**College**	**84.22**	**18**	P		**P**	**15 04 28.2**	**-0.8**
ILAR	**Eielson Array**	**84.45**	**19**	P		**P**	**15 04 29.6**	**-0.6**
	comp=Z,3.5nm,0.6s,baz=247,slow=5.1,SNR=86							
	comp=Z,3.5nm,0.6s							
J25K	**Salcha River,**	**84.82**	**19**	IAmb		IAmb	15 04 43.7	
	comp=Z,17nm,0.8s							
SCRK	**Sand Creek**	**84.85**	**20**	P		**P**	**15 04 32.5**	**+0.1**
SCRK				IAmb		IAmb	15 06 23.5	
	comp=Z,18nm,1.0s							
L27K	**Beaver Creek,**	**85.01**	**21**	IAmb		IAmb	15 06 29.2	
	comp=Z,11nm,1.1s							
BBB	**Bella Bella**	**85.47**	**34**	LR		LR	15 34 55.8	
	comp=Z,44nm,21.1s,baz=250,slow=30							
ISA	**Isabella, Lake**	**85.84**	**52**	P		**P**	**15 04 37.5**	**-0.5**
WAKR	**Walker**	**85.99**	**49**	IAmb		IAmb	15 04 39.8	
	comp=Z,9.1nm,1.4s							
EGAK	**Eagle**	**86.31**	**20**	IAmb		IAmb	15 04 51.6	
	comp=Z,14nm,0.7s							
NVAR	**Mina Array Bea**	**86.81**	**50**	P		**P**	**15 04 42.5**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=231,slow=7.1,SNR=9.5							
NVAR				LR		LR	15 35 21.5	
	comp=Z,68nm,20.7s,baz=258,slow=30							
	comp=Z,1.3nm,0.8s							
KVN	**Kaiserville**	**87.15**	**49**	P		**P**	**15 04 44.0**	**-0.5**
KVN				IAmb		IAmb	15 04 45.6	
	comp=Z,12nm,1.8s							
WVOR	**Wild Horse Val**	**87.81**	**46**	IAmb		IAmb	15 06 16.2	
	comp=Z,9.5nm,1.6s							
PRN	**Pahroc Range**	**88.98**	**52**	IAmb		IAmb	15 04 55.0	
	comp=Z,8.2nm,1.0s							
Q12A	**Willow Creek R**	**89.59**	**50**	IAmb		IAmb	15 04 57.1	
	comp=Z,6.1nm,0.9s							
BELA	**Belgrano 2**	**89.61**	**176**	P		**P**	**15 04 54.4**	**-0.8**
BELA				IAmb		IAmb	15 04 55.4	
	comp=Z,6.7nm,0.9s							
HSIG		**90.20**	**60**	IAmb		IAmb	15 05 00.5	
	comp=Z,6.2nm,1.1s							
SZCU	**Shurtz Canyon**	**90.53**	**52**	IAmb		IAmb	15 05 02.4	
	comp=Z,17nm,1.8s							
KNB	**Kanab**	**90.59**	**52**	IAmb		IAmb	15 05 02.2	
	comp=Z,6.2nm,1.2s							
U15A	**North Rim**	**90.86**	**53**	IAmb		IAmb	15 05 03.6	
	comp=Z,5.2nm,0.9s							
PKCU	**Pink Cliffs**	**91.10**	**52**	IAmb		IAmb	15 05 05.3	
	comp=Z,8.6nm,1.1s							
TUC	**Tucson**	**91.10**	**57**	P		**P**	**15 05 03.4**	**+0.3**
TUC				IAmb		IAmb	15 05 05.2	
	comp=Z,7.4nm,1.6s							
ELIB	**Princess Elisa**	**92.60**	**191**	*d*P		**P**	**15 05 09.4**	**+0.1**
	comp=Z,4.1nm,1.3s							
RDMU	**Red Mountain**	**93.89**	**50**	IAmb		IAmb	15 08 25.0	
	comp=Z,3.9nm,0.7s							
MKAR	**Makanchi Array**	**93.99**	**317**	P		**P**	**15 05 16.0**	**0.0**
	comp=Z,3.7nm,0.7s,baz=114,slow=5.1,SNR=2.8							
	comp=Z,3.7nm,0.7s							
ZALV	**Zalesovo Beam**	**94.12**	**324**	P		**P**	**15 05 15.8**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=134,slow=4.2,SNR=1.6							
	comp=Z,1.6nm,0.6s							
PDAR	**Pinedale Array**	**94.36**	**47**	P		**P**	**15 05 17.9**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=270,slow=3.0,SNR=4.4							
	comp=Z,0.3nm,0.6s							
A36M	**Sachs Harbour**	**95.04**	**17**	IAmb		IAmb	15 05 21.0	
	comp=Z,10nm,0.9s							
YKA	**Yellowknife Ar**	**95.90**	**27**	P		**P**	**15 05 22.8**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=256,slow=5.1,SNR=14							
	comp=Z,0.7nm,0.7s							
TXAR	**Lajitas Array**	**96.50**	**61**	P		**P**	**15 05 27.6**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=226,slow=5.6,SNR=6.2							
	comp=Z,0.6nm,0.8s							
BOSA	**Boshof**	**124.27**	**223**	PKP		**PKPdf**	**15 10 57.8**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=162,slow=2.4,SNR=9.2							
SDV	**Santo Domingo**	**124.81**	**87**			**PKPdf**	**15 10 58.2**	**-1.0**
KEST	**Kesra**	**147.96**	**322**	PKPbc		**PKPbc**	**15 11 44.1**	**+0.2**
	comp=Z,9.6nm,0.9s,baz=59,slow=2.2,SNR=7.8							
ESDC	**Sonseca Array**	**150.84**	**343**	PKPbc		**PKPbc**	**15 11 50.2**	**-0.7**
	comp=Z,1.9nm,0.9s,baz=8.4,slow=2.3,SNR=7.7							
TORD	**Torodi Ar. Bea**	**164.11**	**276**	PKP		**PKPdf**	**15 12 01.5**	**-0.9**
	comp=Z,1.2nm,0.9s,baz=99,slow=2.9,SNR=5.3							

BJI ***31*** *14:53:28.3,5˚.14N×125˚.25E,h49km, mb5.0/78, mB5.2/49, Ms4.7/67, Ms7 4.6/67*

MOS ***31*** *14:53:30.0±0.9, 5˚.59N×124˚.95E, h41km, mb5.3/58, MS4.5/7, Error ellipse: s-maj=8.5km s-min=4.4km az=114.7*

NEIC ***31*** *14:53:31.6±2.0, 5˚.50N±0˚.05×124˚.90E±0˚.07, h31km±4km, mb5.3/199, Mww5.1/18, Error ellipse: s-maj=10.2km s-min=7.6km az=99.0*

NEIC ***31*** *14:53:32.8, 5˚.39N×125˚.10E, h30km, Moment Tensor Solution. Duration: 1ŧ8 Moment tensor: Scale 10¹⁶Nm; Mrr3.15; Mθθ-0.82; Mφφ-2.33; Mrθ0.54; Mθφ4.24; Mφr1.82; Fault plane solution: M₀5.30000×10¹⁶ NP1: φs352.01000°, δ62.99000°, λ135.88000°. NP2: φs105.78000°, δ51.67000°, λ35.38000°. Principal axes: T 4.5910, Plg49.0000°, Azm313.0000°; N 1.4145, Plg40.0000°, Azm147.0000°; P -6.0055, Plg7.0000°, Azm51.0000°;*

GCMT ***31*** *14:53:32.6±0.2, 5˚.47N±0˚.01×124˚.89E±0˚.01, h25km, MW5.1/117, Moment Tensor Solution. s74,c90; s117,c186; Duration: 0 Moment tensor: Scale 1016Nm; Mrr3.00±.13; Mθθ-1.49±.09; Mφφ-1.51±.10; Mrθ3.91±.24; Mθφ4.14±.07; Mφr0.38±.20; Best double couple: M₀6.26700×10¹⁶ NP1:φs101.00000°,δ71.00000°, λ51.00000°. NP2:φs350.00000°,δ43.00000°,λ151.00000°. Principal axes: T 6.1510, Plg48.0000°, Azm329.0000°; N 0.2330, Plg37.0000°, Azm116.0000°; P -6.3840, Plg17.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***31*** *14:53:32.8, 5˚.49N×124˚.90E, h30km*

DJA ***31*** *14:53:33.0±0.4, 6˚N±2˚×12˚5E±˚, h38km±4km, M5.1/61, mb5.3/61, mB5.6/39, MLv5.6/10, Mw5.2/43, Mw(mB)5.1/39, MwMwp4.9/12, Mwp5.2/12*

IDC ***31*** *14:53:36.0±1.1, 5˚.52N×124˚.89E, h83km±9km, mb4.6/39, mbtmp4.9/41, MS4.3/51, Error ellipse: s-maj=12.1km s-min=7.8km az=83.0*

ISC 31 14:53:31.9±0.3, 5˚.50N±0˚.03×124˚.97E±0˚.04, h41km±2km, h41km:pP-P, n872, σ1ŧ61/831, mb5.2/200, MS4.4/86, 35C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.67**	**21**	Pn	**Pn**	**14 54 01.4**	**+2.8**
DAV	**Davao City (W)**	**1.67**	**21**	P	**Pn**	**14 54 02.0**	**+3.4**
	22µm,0.3s,baz=233,slow=1.7,SNR=585						
DAV				S	**Sn**	**14 54 25.6**	**+6.7**
	30µm,0.4s,baz=311,slow=20,SNR=17						
DAV				LR	LR	14 54 38.6	
	comp=Z,13µm,18.7s,baz=78,slow=37						
SGSI	**Sangihe**	**1.89**	**163**	P	**Pn**	**14 54 01.9**	**+0.2**
SGSI				S	**Sn**	**14 54 23.7**	**-0.6**
KMSI	**Cibinong**	**5.00**	**191**	P	**Pn**	**14 54 43.4**	**-1.0**
	1µm,0.9s,17µm7µm9.5nm						
GTOI	**Gorontalo**	**5.22**	**202**	P	**Pn**	**14 54 46.3**	**-1.1**
	402nm,0.6s,4µm4µm1.6nm						
TNTI	**Ternate**	**5.27**	**153**	Pn	**Pn**	**14 54 49.0**	**+0.8**
TNTI	**Ternate**	**5.27**	**153**	P	**Pn**	**14 54 50.1**	**+1.9**
TNTI	**Ternate**	**5.27**	**153**	P	**Pn**	**14 54 49.6**	**+1.4**
	283nm,1.1s,4µm1µm1.4nm						
MRSI	**Marisa**	**5.84**	**211**	P	**Pn**	**14 54 55.4**	**-0.6**
	758nm,0.4s,11µm6µm5.9nm						
TOLI2	**Tolitoli**	**6.04**	**224**	Pn	**Pn**	**14 54 55.8**	**-3.0**
LBMI	**Labuha**	**6.60**	**157**	P	**Pn**	**14 55 07.8**	**+1.3**
	261nm,1.0s,5µm2.2nm						
LUWI	**Luwuk**	**6.86**	**199**	Pn	**Pn**	**14 55 11.3**	**+1.3**
LUWI	**Luwuk**	**6.86**	**199**	P	Pn	14 55 15.0	+4.9
LUWI	**Luwuk**	**6.86**	**199**	P	**Pn**	**14 55 13.7**	**+3.6**
	527nm,0.6s,9µm5µm3.4nm						
MPSI	**Mapaga**	**7.21**	**225**	P	**Pn**	**14 55 12.1**	**-2.8**
SANI	**Sanana**	**7.57**	**172**	P	**Pn**	**14 55 20.2**	**+0.4**
SANI	**Sanana**	**7.57**	**172**	P	**Pn**	**14 55 19.5**	**-0.3**
	226nm,0.7s,3µm1.0nm						
KKM	**Kota Kinabalu**	**8.73**	**274**		**Pn**	**14 55 35.2**	**-0.6**
KKM	**Kota Kinabalu**	**8.73**	**274**	P	**Pn**	**14 55 37.5**	**+1.7**
SWI	**Sorong**	**8.91**	**135**	P	**Pn**	**14 55 39.4**	**+1.2**
	94nm,0.7s						
NLAI	**Namlea**	**8.94**	**166**	P	**Pn**	**14 55 38.7**	**+0.1**
	137nm,0.7s,5µm						
TGY	**Tagaytay City**	**9.42**	**335**	P	**Pn**	**14 55 47.2**	**+2.0**
	63nm,0.3s,baz=165,slow=20,SNR=2.0						
TGY				LR	LR	14 59 51.1	
	comp=Z,4µm,19.9s,baz=116,slow=40						
I39PW	**PALAU INFRASON**	**9.72**	**78**	I	I	15 52 50.0	
	baz=266,slow=346,SNR=0.9						
TTSI	**Tana Toraja**	**9.93**	**211**	P	**Pn**	**14 55 54.8**	**+2.7**
	120nm,1.1s,2µm3µm						
BKB	**Balikpapan**	**10.50**	**230**	Pn	**Pn**	**14 56 00.1**	**+0.2**
BKB	**Balikpapan**	**10.50**	**230**	P	**Pn**	**14 56 01.1**	**+1.1**
BKB	**Balikpapan**	**10.50**	**230**	P	**Pn**	**14 56 01.0**	**+1.1**
	86nm,0.7s,2µm5µm						
SPSI	**Sidrap Palu**	**10.75**	**209**	P	**Pn**	**14 56 04.6**	**+1.3**
	59nm,1.2s,842nm2µm						
FAKI	**Fak Fak**	**11.08**	**139**	Pn	**Pn**	**14 56 09.1**	**+1.2**
FAKI	**Fak Fak**	**11.08**	**139**	P	**Pn**	**14 56 09.9**	**+2.0**
FAKI	**Fak Fak**	**11.08**	**139**	P	**Pn**	**14 56 09.2**	**+1.2**
	107nm,1.0s,982nm						
BNDI	**Bandanaira**	**11.11**	**154**	P	**Pn**	**14 56 10.0**	**+1.7**
	142nm,1.0s,17µm						
KAPI	**Kappang**	**11.68**	**207**	Pn	**Pn**	**14 56 16.9**	**+0.8**
KAPI	**Kappang**	**11.68**	**207**	P	**Pn**	**14 56 17.6**	**+1.6**
	5.4nm,0.6s,baz=38,slow=6.9,SNR=4.8						
BKSI	**Bulukumba**	**11.79**	**204**	P	**Pn**	**14 56 20.2**	**+2.5**
	39nm,0.9s,499nm						
MTKI	**Muara Teweh, K**	**11.93**	**238**	P	**Pn**	**14 56 21.3**	**+1.8**
	66nm,0.9s						
KMPI	**Kaimana, Papua**	**12.61**	**136**	P	**Pn**	**14 56 30.0**	**+1.2**
	99nm,0.9s						
SBUM	**Sibu**	**13.08**	**257**	Pn	**Pn**	**14 56 37.0**	**+1.8**
BBKI	**Banjar Baru**	**13.48**	**229**	P	**Pn**	**14 56 43.5**	**+2.8**
	154nm,1.1s,2µm						
MMRI	**Maumere**	**14.31**	**191**		**Pn**	**14 56 51.8**	**-0.1**
MMRI	**Maumere**	**14.31**	**191**	P	P	14 57 07.0	+8.6
STKI	**Sintang**	**14.52**	**249**	P	P	14 57 04.8	+4.1
EDFI	**Ende, Flores**	**14.53**	**193**	P	**Pn**	**14 56 57.5**	**+2.4**
	42nm,1.4s,652nm						
KSM	**Kuching**	**15.17**	**255**		**P**	**14 57 06.1**	**-1.9**
SOEI	**Soe**	**15.18**	**183**	Pn	**Pn**	**14 57 04.4**	**+0.7**
SOEI	**Soe**	**15.18**	**183**	P	**P**	**14 57 06.7**	**-1.4**
SOEI	**Soe**	**15.18**	**183**	P	**P**	**14 57 12.2**	**+4.1**
PLAI	**Plampang**	**15.94**	**207**	P	**P**	**14 57 16.2**	**-0.3**
	314nm,1.0s,3µm						
TWSI	**Taliwang, Sumb**	**16.29**	**210**	P	**P**	**14 57 22.8**	**+2.5**
KMMI	**Kalianget**	**16.62**	**222**	P	**P**	**14 57 26.8**	**+2.8**
DLV	**T Lat**	**17.50**	**293**		**Pn**	**14 57 32.7**	**-0.6**
JAGI	**Jajag, Banyuwa**	**17.58**	**218**	P	**P**	**14 57 35.9**	**+1.1**
TWGBT	**Beinan**	**17.62**	**348**	P	**P**	**14 57 36.3**	**+1.3**
TWG	**Pinlang**	**17.62**	**348**		**Pn**	**14 57 33.9**	**-0.6**
TWG				IAmb	IAmb	14 57 38.0	
	comp=Z,171nm,0.7s						
YULB	**Yu-li**	**18.14**	**349**	P	**P**	**14 57 40.8**	**+0.1**
YULB	**Yu-li**	**18.14**	**349**	P	**P**	**14 57 41.4**	**+0.7**
TPUB	**Ta-pu**	**18.18**	**347**	P	**P**	**14 57 42.5**	**+1.2**
TPUB				IAmb	IAmb	14 57 46.0	
	comp=Z,265nm,0.8s						
TPUB	**Ta-pu**	**18.18**	**347**	P	**P**	**14 57 43.8**	**+2.5**
NGJI	**Ngawi**	**18.58**	**227**	P	Pn	14 57 53.0	+6.8
SSLB	**Suanglung**	**18.59**	**348**	P	**Pn**	**14 57 46.2**	**-0.1**
SSLB	**Suanglung**	**18.59**	**348**	P	**Pn**	**14 57 47.8**	**+1.5**
NACB	**Ninganchiao**	**18.85**	**350**	P	**P**	**14 57 48.3**	**-0.3**
SMRI	**Semarang**	**19.13**	**229**	P	**P**	**14 57 51.2**	**-0.5**
SMRI				IAmb	IAmb	14 58 04.9	
	comp=Z,140nm,1.1s						
SMRI	**Semarang**	**19.13**	**229**	P	**Pn**	**14 57 54.9**	**+2.1**
	comp=Z,228nm,1.1s						
MTN	**Manton Dam**	**19.23**	**161**	P	**P**	**14 57 52.0**	**-0.8**
	baz=19,SNR=36						
MTN	**Manton Dam**	**19.23**	**161**	P	**P**	**14 57 52.3**	**-0.4**
MTN	**Manton Dam**	**19.23**	**161**	P	**Pn**	**14 57 56.5**	**+2.5**
YHNB	**Yeheng**	**19.37**	**350**	P	**P**	**14 57 53.9**	**-0.4**
YHNB				IAmb	IAmb	14 58 00.6	
	comp=Z,102nm,0.8s						
YHNB	**Yeheng**	**19.37**	**350**	P	**Pn**	**14 57 56.7**	**+1.0**
TABU	**Tabubil**	**19.44**	**123**	P	**Pn**	**14 57 58.3**	**+1.7**
KDU	**Kakadu**	**19.55**	**158**	P	**P**	**14 57 56.0**	**-0.2**
	baz=20,SNR=13						
KDU	**Kakadu**	**19.55**	**158**	P	**P**	**14 57 57.3**	**+1.0**
UGM	**Wanagama**	**19.63**	**227**	P	**Pn**	**14 58 00.3**	**+1.4**
	comp=Z,145nm,0.9s						
KNMB	**Chin-men Tao**	**19.89**	**342**	Pn	**Pn**	**14 58 02.6**	**+0.8**
KNMB				IAmb	IAmb	14 58 10.4	
	comp=Z,118nm,0.9s						
QIZ	**Qiongzhong**	**19.96**	**314**	P	**Pn**	**14 58 02.8**	**+0.1**
QIZ				S	**S**	**15 01 42.3**	**-0.9**
QIZ				sS	**sS**	**15 02 02.0**	**+4.6**
QIZ				pmax	pmax		
	comp=Z,57nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,800nm,5.4s						
QIZ				LR	LR		
	comp=Z,990nm,16.7s						
QIZ				LR	LR		
	comp=Z,700nm,15.1s						
QIZ				LR	LR		
	comp=Z,1µm,18.2s						
QZH	**Quanzhou**	**20.28**	**343**	*i*P	Pn	14 58 06.5	+0.2
QZH				S	Sn	15 01 53.8	-0.1
QZH				pmax	pmax		
	comp=Z,170nm,1.2s						
QZH				LR	LR		
	comp=Z,1µm,14.7s						
QZH				LR	LR		
	comp=Z,2µm,16.9s						
QZH				LR	LR		
	comp=Z,2µm,19.3s						
PPBI	**Pangkal Pinang**	**20.30**	**248**	P	Pn	14 58 06.7	0.0
	comp=Z,38nm,0.9s,comp=Z,22µm						
KPJI	**Karang Pucung**	**20.47**	**232**	P	Pn	14 58 09.4	+0.7
	comp=Z,153nm,1.0s						
GUMO	**Guam**	**21.18**	**66**	P	**P**	**14 58 14.3**	**+0.3**
	comp=Z,59nm,0.5s,baz=243,slow=18,SNR=4.0						
GUMO				LR	LR	15 05 46.3	
	comp=Z,340nm,21.3s,baz=246,slow=34						
	comp=Z,59nm,0.5s						
LEM	**Lembang**	**21.21**	**235**	P	**P**	**14 58 16.6**	**+2.1**
	comp=Z,18nm,0.6s,baz=85,slow=11,SNR=18						
	comp=Z,18nm,0.6s						
DSRI	**Dabo**	**21.22**	**254**	P	**P**	**14 58 16.9**	**+2.5**
	comp=Z,22nm,0.4s,comp=Z,3µmcomp=Z,2µm						
KNRA	**Kununurra**	**21.38**	**170**	P	**P**	**14 58 16.6**	**+0.5**
	baz=22,SNR=33						
KNRA	**Kununurra**	**21.38**	**170**	P	**P**	**14 58 16.0**	**-0.1**
KNRA	**Kununurra**	**21.38**	**170**	P	**P**	**14 58 16.8**	**+0.8**
MYKOM	**Kota Tinggi**	**21.40**	**261**	P	**P**	**14 58 16.1**	**-0.2**
MYKOM				IAmb	IAmb	14 58 24.4	
	comp=Z,72nm,0.9s						
JOW	**Kunigami**	**21.44**	**8**	P	**P**	**14 58 16.7**	**0.0**
JOW				IAmb	IAmb	14 58 20.9	
	comp=Z,110nm,0.8s						
JOW	**Kunigami**	**21.44**	**8**	P	**P**	**14 58 18.9**	**+2.2**
JOW	**Kunigami**	**21.44**	**8**	P	**P**	**14 58 18.6**	**+1.9**
	comp=Z,106nm,0.7s,baz=207,slow=6.7,SNR=17						
JOW				LR	LR	15 06 21.9	
	comp=Z,1µm,21.7s,baz=148,slow=36						
	comp=Z,106nm,0.7s						
UBPT	**Khong Chiam**	**21.48**	**298**	P	**P**	**14 58 18.1**	**+0.8**
UBPT				IAmb	IAmb	14 58 19.7	
	comp=Z,117nm,1.1s						
UBPT	**Khong Chiam**	**21.48**	**298**	P	**P**	**14 58 19.4**	**+2.2**
BBJI	**Bungbulang**	**21.56**	**233**	P	**P**	**14 58 22.7**	**+4.6**
CBJI	**Citeko**	**21.62**	**237**	P	**P**	14 58 25.7	+6.9
CNJI	**Cibinong**	**21.89**	**235**	P	**P**	**14 58 25.5**	**+3.9**
	comp=Z,56nm,1.0s

NJ2 LR LR
comp=Z,7,720nm,18.9s
comp=Z,1μm,17.5s
KCSI Kotacane, Aceh 27.19 267 P **P** **14 59 13.6 +1.6**
comp=Z,40nm,1.1s
GYA Guiyang 27.20 322 ⇑P **P** **14 59 14.5 +2.4**
GYA pP pwP 14 59 28.0 +0.9
GYA S **S** **15 03 47.0 -1.4**
GYA pmax pmax
comp=Z,13nm,1.0s
GYA pmax pmax
comp=Z,370nm,6.5s
GYA LR LR
comp=Z,680nm,15.4s
GYA LR LR
comp=Z,1μm,14.6s
GYA LR LR
comp=Z,1μm,17.0s
PSA00 Pilbara Seismi 27.37 190 P **P** **14 59 13.6 +0.1**
PSA00 IAmb IAmb 14 59 27.7
comp=Z,69nm,1.0s
PSA00 Pilbara Seismi 27.37 190 P **P** **14 59 13.3 -0.2**
PSA00 IAmb IAmb 14 59 27.6
comp=Z,53nm,1.1s
PSA00 Pilbara Seismi 27.37 190 P **P** **14 59 15.3 +1.8**
GSI Gunungsitoli 27.66 262 P **P** **14 59 16.1 -0.2**
GSI IAmb IAmb 14 59 41.0
comp=Z,59nm,1.0s
GSI Gunungsitoli 27.66 262 P **P** **14 59 19.3 +3.1**
comp=Z,60nm,1.0s
JNU Nakatsue 28.02 11 P **P** **14 59 18.9 -0.4**
JNU Nakatsue 28.02 11 P **P** **14 59 22.7 +3.4**
JNU Nakatsue 28.02 11 P **P** **14 59 18.4 -0.8**
comp=Z,16nm,0.7s,baz=196,slow=3.6,SNR=4.6
JNU LR LR 15 10 29.6
comp=Z,539nm,22.0s,baz=188,slow=36
comp=Z,16nm,0.7s
CRAI Chiangrai 28.03 304 P **P** **14 59 20.2 +0.7**
CM31 Chiang Mai Arr 28.48 299 P **P** **14 59 23.6 +0.1**
CMAR Chiang Mai Arr 28.48 299 *i* P **P** **14 59 24.7 +1.2**
CMAR pmax pmax
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 28.48 299 P **P** **14 59 24.4 +1.0**
comp=Z,12nm,0.9s,baz=117,slow=7.5,SNR=68
CMAR ScP **ScP** **15 06 09.8 -3.3**
comp=Z,1.9nm,1.0s,baz=84,slow=1.2,SNR=6.6
CMAR LR LR 15 11 26.4
comp=Z,528nm,18.5s,baz=105,slow=38
comp=Z,12nm,0.9s
CHTO Chiang Mai 28.62 300 P **P** **14 59 25.3 +0.5**
CHTO Chiang Mai 28.62 300 P **P** **14 59 25.6 +0.9**
CHTO Chiang Mai 28.62 300 P **P** **14 59 25.3 +0.5**
CHTO pmax pmax
comp=Z,23nm,0.9s
ENH Enshi 28.63 331 P **P** **14 59 24.5 -0.2**
ENH Enshi 28.63 331 P **P** **14 59 27.0 +2.3**
KMI Kunming 28.90 315 ⇑P **P** **14 59 26.0 -1.4**
KMI S **S** **15 04 21.3 +5.9**
KMI pmax pmax
comp=Z,9.0nm,1.3s
KMI LR LR
comp=Z,640nm,19.7s
KMI LR LR
comp=Z,550nm,26.1s
KMI LR LR
comp=Z,720nm,23.7s
JMN Monobe 29.28 15 P **P** **14 59 31.3 +0.9**
QIS Mount Isa 29.62 151 P **P** **14 59 34.7 +1.1**
baz=30,SNR=8.6
QIS Mount Isa 29.62 151 P **P** **14 59 35.5 +1.9**
MTSU Mount Surprise 30.26 141 P **P** **14 59 39.9 +0.6**
baz=30,SNR=5.6
AS31 Alice Springs 30.27 164 P **P** **14 59 39.3 0.0**
ASAR Alice Springs 30.27 164 P **P** **14 59 39.6 +0.2**
ASAR Alice Springs 30.27 164 P **P** **14 59 39.8 +0.4**
comp=Z,6.0nm,0.8s,baz=344,slow=7.0,SNR=31
comp=Z,6.0nm,0.8s
PZH PanZhiHua 30.46 316 P **P** **14 59 42.3 +1.2**
PZH S **S** **15 04 36.8 -2.9**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,150nm,6.1s
PZH LR LR
comp=Z,490nm,15.5s
PZH LR LR
comp=Z,580nm,15.9s
PZH LR LR
comp=Z,800nm,16.9s
WRKA Warakurna 30.53 174 P **P** **14 59 45.4 +3.8**
JHJ Hachijo jima 2 30.75 25 LR LR 15 12 19.3
comp=Z,290nm,20.0s,baz=258,slow=36
LYN LuoYang 31.14 340 ⇑P **P** **14 59 47.8 +1.0**
LYN pP sP 15 00 00.0 -1.1
LYN S **S** **15 04 51.0 +1.1**
LYN pmax pmax
comp=Z,54nm,0.7s
LYN pmax pmax
comp=Z,190nm,6.4s
LYN LR LR
comp=Z,910nm,18.0s
LYN LR LR
comp=Z,640nm,15.7s
LYN LR LR
comp=Z,1μm,16.5s
KSAR Wonju Array Be 31.90 4 P **P** **14 59 53.1 -0.4**
KSAR Wonju Array Be 31.90 4 P **P** **14 59 53.1 -0.4**
KSRS Korea Array 31.91 4 P **P** **14 59 54.3 +0.7**
comp=Z,10nm,0.7s,baz=182,slow=10.0,SNR=34
KSRS LR LR 15 15 08.4
comp=Z,432nm,18.7s,baz=180,slow=40
comp=Z,10nm,0.7s
TNCH TengChong 31.94 310 ⇑P **P** **14 59 54.5 +0.2**
TNCH pP pP 15 00 05.0 +0.9
TNCH pmax pmax
comp=Z,15nm,1.7s
TNCH LR LR
comp=Z,270nm,9.8s
TNCH LR LR
comp=Z,300nm,14.6s
TNCH LR LR
comp=Z,570nm,17.7s
KS19 Wonju Array Si 31.96 4 P **P** **14 59 54.5 +0.5**
KS19 IAmb IAmb 15 00 02.5
comp=Z,34nm,1.1s
XAN Xi'an 32.06 334 ⇑P **P** **14 59 56.0 +1.0**
XAN S **S** **15 05 07.3 +2.8**
XAN pmax pmax
comp=Z,580nm,4.7s
XAN LR LR
comp=Z,1μm,15.1s
XAN LR LR
comp=Z,480nm,13.7s
XAN LR LR
comp=Z,1μm,15.7s
XAN Xi'an 32.06 334 ⇑P **P** **14 59 55.8 +0.8**
XAN pP **pP** **15 00 03.9 -1.1**
CD2 Chengdu 32.19 324 P **P** **14 59 57.3 +1.1**
CD2 S **S** **15 05 07.8 +1.3**
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 LR LR
comp=Z,1μm,17.2s
CD2 LR LR
comp=Z,1μm,19.1s
CD2 LR LR
comp=Z,950nm,19.6s
MND Mandalay 32.38 303 P **P** **14 59 59.2 +1.3**
MEEK Meekatharra 32.54 191 P **P** **15 00 01.1 +1.8**
baz=33,SNR=4.4
MEEK Meekatharra 32.54 191 P **P** **15 00 03.2 +4.0**
CTA Charters Tower 32.93 141 P **P** **15 00 03.9 +1.1**
comp=Z,6.4nm,0.7s,baz=305,slow=7.6,SNR=12
CTA LR LR 15 15 37.3
comp=Z,293nm,18.6s,baz=325,slow=40
comp=Z,6.4nm,0.7s
CTAO Charters Tower 32.93 141 P **P** **15 00 04.1 +1.4**
CTAO Charters Tower 32.93 141 P **P** **15 00 05.2 +2.4**
CTAO Charters Tower 32.93 141 P **P** **15 00 04.1 +1.4**
CTAO pmax pmax
comp=Z,18nm,1.0s
CTAO Charters Tower 32.93 141 P **P** **15 00 04.4 +1.7**
CTAO pP **pP** **15 00 12.1 -0.6**
HNS HongShan 33.10 345 ⇑P **P** **15 00 04.5 +0.5**
HNS PP **PnPn** **15 01 15.3 +0.6**
HNS S **S** **15 05 19.8 -0.6**

HNS pmax pmax
comp=Z,35nm,1.0s
HNS LR LR
comp=Z,660nm,22.6s
HNS LR LR
comp=Z,370nm,23.3s
HNS LR LR
comp=Z,990nm,20.0s
MAJO Matsushiro 33.19 20 P **P** **15 00 03.6 -1.2**
MAJO IAmb IAmb 15 00 17.8
comp=Z,48nm,1.4s
MAJO Matsushiro 33.19 20 *i* P **P** **15 00 04.6 -0.2**
MAJO pmax pmax
comp=Z,5.0nm,0.6s
MAJO Matsushiro 33.19 20 P **P** **15 00 04.2 -0.7**
MJAR Matsushiro Arr 33.19 20 P **P** **15 00 03.8 -1.1**
comp=Z,7.7nm,0.6s,baz=194,slow=9.4,SNR=47
MJAR ScP **ScP** **15 06 23.5 -4.8**
comp=Z,2.7nm,0.8s,baz=175,slow=2.4,SNR=5.2
MJAR LR LR 15 14 12.9
comp=Z,314nm,18.4s,baz=206,slow=37
comp=Z,7.7nm,0.6s
MJB9 Matsu-Tunnel 33.19 20 P **P** **15 00 04.8 -0.1**
MJB9 IAmb IAmb 15 00 18.7
comp=Z,48nm,1.4s
OOD Oodnadatta 34.68 163 P **P** **15 00 19.3 +1.5**
BJI Beijing 35.29 348 P **P** **15 00 23.0 +0.1**
BJI sP **sP** **15 00 39.5 +2.0**
BJI pmax pmax
comp=Z,28nm,0.7s
BJI LR LR
comp=Z,160nm,20.7s
BJI LR LR
comp=Z,260nm,21.9s
BJI LR LR
comp=Z,320nm,19.7s
JMM Marumori 35.29 22 P **P** **15 00 21.9 -1.1**
JMM Marumori 35.29 22 P **P** **15 00 23.7 +0.7**
LZH Lanzhou 36.10 330 ⇓*i* P **P** **15 00 32.5 +2.3**
LZH pP pwP 15 00 45.8 +0.3
LZH S **S** **15 06 13.3 +6.2**
LZH sS sS 15 06 27.0 +3.3
LZH pmax pmax
comp=Z,150nm,1.3s
LZH pmax pmax
comp=Z,470nm,4.0s
LZH LR LR
comp=Z,980nm,16.5s
LZH LR LR
comp=Z,900nm,18.2s
LZH LR LR
comp=Z,1μm,17.5s
SNY Shenyang 36.19 358 ⇓P **P** **15 00 30.8 +0.2**
SNY pmax pmax
comp=Z,33nm,0.8s
FORT Forest 36.20 176 P **P** **15 00 31.8 +1.0**
baz=36,SNR=10
FORT Forest 36.20 176 P **P** **15 00 31.4 +0.6**
FORT Forest 36.20 176 P **P** **15 00 33.5 +2.7**
INKA Innaminka 36.39 156 P **P** **15 00 34.9 +2.4**
MULG Mulgathing 36.63 167 P **P** **15 00 36.2 +1.7**
KMBL Kambalda 36.78 184 P **P** **15 00 36.4 +0.6**
baz=37,SNR=5.1
KMBL Kambalda 36.78 184 P **P** **15 00 39.6 +3.8**
QLP Quilpie 36.95 151 P **P** **15 00 41.3 +4.0**
HHC Hu-ho-hao-te 37.19 343 ⇑P **P** **15 00 40.3 +1.0**
HHC sP pwP 15 00 56.5 +1.7
HHC PP **PnPn** **15 02 11.8 +6.4**
HHC *e*S **S** **15 06 24.5 +1.1**
HHC pmax pmax
comp=Z,57nm,0.7s
HHC pmax pmax
comp=Z,200nm,4.4s
HHC LR LR
comp=Z,1μm,17.2s
HHC LR LR
comp=Z,1μm,20.8s
SHL Shillong 37.42 306 P **P** **15 00 42.0 +0.4**
SHL Shillong 37.42 306 P **P** **15 00 42.0 +0.4**
SHL pmax pmax
comp=Z,64nm,0.7s
BTO Baotou 37.44 341 *e*P **P** **15 00 44.3 +2.9**
BTO pP **pwP** **15 00 56.5 -0.4**
BTO sP **sP** **15 01 01.5 +5.7**
BTO PP **PnPn** **15 02 14.0 +5.6**
BTO S **S** **15 06 33.0 +5.8**
BTO sS **ScP** **15 06 51.5 +7.8**
BTO SS **SnSn** **15 09 08.5 +1.5**
BTO pmax pmax
comp=Z,37nm,0.8s
BTO pmax pmax
comp=Z,340nm,7.2s
BTO LR LR
comp=Z,1μm,17.9s
BTO LR LR
comp=Z,700nm,16.7s
BTO LR LR
comp=Z,1μm,15.3s
HNR Honiara 37.88 113 LR LR 15 15 00.3
comp=Z,3μm,20.2s,baz=292,slow=34
LCRK Leigh Creek 37.93 161 P **P** **15 00 48.1 +2.6**
JTM Tenmabayashi 37.98 20 P **P** **15 00 45.5 -0.4**
CN2 Changchun 38.14 1 P P 15 00 54.5 +7.3
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=N,300nm,16.0s
CN2 LR LR
comp=E,400nm,16.0s
CN2 LR LR
comp=Z,500nm,17.0s
NWAO Narrogin (SRO) 38.92 190 LR LR 15 19 08.6
comp=Z,204nm,18.9s,baz=295,slow=39
USA0B Ussuriysk Arra 39.03 8 P **P** **15 00 54.7 +0.1**
USA0B IAmb IAmb 15 01 11.2
comp=Z,125nm,1.9s
USA0B Ussuriysk Arra 39.03 8 P **P** **15 00 54.7 +0.1**
USA0B pmax pmax
comp=Z,125nm,1.9s
USRK Ussuriysk Ar. 39.03 8 P **P** **15 00 54.7 +0.1**
USRK Ussuriysk Ar. 39.03 8 P **P** **15 00 55.3 +0.7**
comp=Z,10nm,0.6s,baz=195,slow=8.0,SNR=27
USRK LR LR 15 15 36.9
comp=Z,404nm,21.9s,baz=189,slow=34
comp=Z,10nm,0.6s
XLT XiLinHaoTe 39.03 350 *e*P **P** **15 00 52.5 -2.3**
XLT pmax pmax
comp=Z,15nm,0.9s
XLT pmax pmax
comp=Z,140nm,5.5s
XLT LR LR
comp=Z,390nm,15.7s
XLT LR LR
comp=Z,350nm,16.8s
MDJ Mudanjiang 39.17 5 IAmb IAmb 15 01 12.9
comp=Z,33nm,0.9s
MDJ Mudanjiang 39.17 5 P **P** **15 00 57.5 +1.7**
MDJ Mudanjiang 39.17 5 P **P** **15 00 55.3 -0.5**
MDJ pP pwP 15 01 14.3 +3.0
MDJ PP **PnPn** **15 02 33.8 +4.8**
MDJ PcP **PcP** **15 02 59.0 -5.6**
MDJ pmax pmax
comp=Z,34nm,2.1s
MDJ pmax pmax
comp=Z,560nm,5.8s
MDJ LR LR
comp=Z,460nm,10.6s
MDJ LR LR
comp=Z,210nm,12.7s
MDJ LR LR
comp=Z,1μm,22.7s
MDJ Mudanjiang 39.17 5 P **P** **15 00 56.7 +0.9**
MDJ pP **pP** **15 01 04.8 -1.0**
MDJ sP **sP** **15 01 08.1 -2.1**
BBOO Buckleboo 39.53 165 P **P** **15 00 59.9 +0.9**
baz=40,SNR=56
BBOO Buckleboo 39.53 165 P **P** **15 00 59.6 +0.7**
BBOO IAmb IAmb 15 01 14.2
comp=Z,82nm,1.1s
BBOO Buckleboo 39.53 165 P **P** **15 01 00.5 +1.6**
EIDS Eidsvold 39.82 142 P **P** **15 01 00.5 -0.9**
baz=40,SNR=6.0
EIDS Eidsvold 39.82 142 P **P** **15 01 04.5 +3.1**
BNX BinXian 40.14 3 ⇓P **P** **15 01 05.3 +1.5**
BNX pmax pmax
comp=Z,12nm,1.6s

BNX pmax pmax
comp=Z,190nm,3.9s
STKA Stephens Creek 40.41 158 P **P** **15 01 07.3 +1.1**
baz=41,SNR=32
STKA Stephens Creek 40.41 158 P **P** **15 01 07.9 +1.6**
STKA Stephens Creek 40.41 158 P **P** **15 01 07.5 +1.3**
STKA Stephens Creek 40.41 158 P **P** **15 01 07.9 +1.6**
STKA pmax pmax
comp=Z,11nm,0.8s
STKA Stephens Creek 40.41 158 P **P** **15 01 07.6 +1.3**
comp=Z,34nm,0.9s,baz=333,slow=8.6,SNR=32
comp=Z,34nm,0.9s
TEY Ternei 40.67 13 ⇑*e*P **P** **15 01 08.5 +0.3**
TEY pmax pmax
comp=E,10.0nm,1.1s
TEY pmax pmax
comp=N,20nm,0.9s
TEY pmax pmax
comp=Z,30nm,1.0s
GTA Gaotai 40.69 330 ⇑P **P** **15 01 10.0 +1.3**
GTA sP pwP 15 01 25.3 +1.3
GTA pmax pmax
comp=Z,26nm,1.2s
GTA LR LR
comp=Z,820nm,16.7s
GTA LR LR
comp=Z,540nm,17.9s
GTA LR LR
comp=Z,1μm,16.7s
HTT Hallett 40.92 162 P **P** **15 01 12.7 +2.2**
baz=41,SNR=11
HTT Hallett 40.92 162 P **P** **15 01 12.9 +2.4**
GOMU GeErMu 41.22 322 P **P** **15 01 15.0 +1.6**
GOMU S **S** **15 07 32.0 +7.3**
GOMU pmax pmax
comp=Z,11nm,0.8s
GOMU LR LR
comp=Z,430nm,17.0s
GOMU LR LR
comp=Z,580nm,16.8s
GOMU LR LR
comp=Z,1μm,16.6s
ASAJ Asahikawa 41.46 19 P **P** **15 01 15.4 +0.7**
ASAJ pmax pmax
comp=Z,51nm,1.0s
ASAJ Asahikawa 41.46 19 P **P** **15 01 15.0 +0.2**
comp=Z,13nm,0.7s,baz=232,slow=9.2,SNR=12
ASAJ LR LR 15 18 13.1
comp=Z,412nm,20.9s,baz=222,slow=36
comp=Z,13nm,0.7s
JKA Kamikawa-asahi 41.46 19 P **P** **15 01 15.4 +0.6**
JKA IAmb IAmb 15 01 31.4
comp=Z,51nm,1.0s
TAPN Taplejung 41.56 306 *e*P **P** **15 01 16.9 +0.6**
comp=Z,116nm,1.0s
ODAN Odare 41.62 305 *e*P **P** **15 01 17.3 +0.6**
comp=Z,115nm,0.8s
CMSA Cobar Meteorol 41.80 153 P **P** **15 01 19.1 +1.4**
baz=42,SNR=10
CMSA Cobar Meteorol 41.80 153 P **P** **15 01 20.6 +2.9**
RAMN Ramite 42.31 305 *e*P **P** **15 01 22.7 +0.4**
comp=Z,192nm,1.1s
JIRN Jiri 42.92 305 *e*P **P** **15 01 28.2 +0.8**
comp=Z,173nm,0.9s
GUN Gumba 43.27 306 *e*P **P** **15 01 30.9 +0.7**
comp=Z,256nm,0.9s
PKI Pulchoki 43.52 305 *e*P **P** **15 01 32.3 +0.1**
KKN Kakani 43.71 305 *e*P **P** **15 01 33.8 +0.2**
comp=Z,151nm,1.3s
DMN Daman 43.79 305 *e*P **P** **15 01 34.7 +0.5**
HIA Hailar 43.83 355 P **P** **15 01 35.7 +1.7**
HIA Hailar 43.83 355 P **P** **15 01 33.8 -0.2**
HIA pP **pP** **15 01 41.6 -2.8**
HIA sP **pwP** **15 01 45.6 -3.6**
ARMA Armidale 43.90 146 P **P** **15 01 37.0 +2.1**
baz=44,SNR=4.6
KLR Kul'dur 43.95 6 *ce*P **P** **15 01 34.5 -0.4**
KLR pmax pmax
comp=Z,15nm,1.3s
KLR Kul'dur 43.95 6 LR LR 15 22 54.5
comp=Z,298nm,18.4s,baz=193,slow=40
YSS Yuzh-Sakhalins 44.05 18 P **P** **15 01 35.6 -0.1**
YSS IAmb IAmb 15 01 51.9
comp=Z,48nm,1.1s
YSS Yuzh-Sakhalins 44.05 18 *e*P **P** **15 01 35.7 0.0**
YSS *e* 15 01 50.1
YSS *e* 15 03 12.1
YSS *e*S **S** **15 08 04.5 -0.7**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS pmax pmax
comp=Z,300nm,4.6s
YSS MLR MLR
comp=Z,400nm,11.0s
GKN Gorkha 44.32 305 *e*P **P** **15 01 38.5 +0.1**
HEH HeiHe 44.64 2 *e*P **P** **15 01 40.0 -0.4**
HEH pmax pmax
comp=Z,13nm,0.8s
HEH pmax pmax
comp=Z,310nm,5.1s
HEH LR LR
comp=Z,220nm,15.3s
HEH LR LR
comp=Z,570nm,16.0s
HEH LR LR
comp=Z,760nm,17.2s
ULN Ulaanbaatar 44.91 343 P **P** **15 01 42.6 -0.2**
ULN IAmb IAmb 15 01 43.9
comp=Z,26nm,1.0s
ULN Ulaanbaatar 44.91 343 *ce*P **P** **15 01 42.6 -0.2**
ULN pmax pmax
comp=Z,29nm,1.0s
ULN Ulaanbaatar 44.91 343 P **P** **15 01 43.0 +0.2**
ARPS Mount Arapiles 44.91 161 P **P** **15 01 44.7 +2.0**
baz=45,SNR=7.9
SONM Songino Array 45.08 342 P **P** **15 01 43.4 -0.7**
SONM Songino Array 45.08 342 P **P** **15 01 43.8 -0.2**
comp=Z,10nm,0.8s,baz=156,slow=9.0,SNR=62
SONM LR LR 15 22 00.1
comp=Z,599nm,20.9s,baz=152,slow=38
comp=Z,10nm,0.8s
KOLN Koldanda 45.08 304 *e*P **P** **15 01 44.3 -0.2**
comp=Z,227nm,1.1s
DANN Dangsing 45.17 305 *e*P **P** **15 01 45.7 +0.4**
YNG Young 45.35 152 P **P** **15 01 49.5 +3.2**
AUMAG Moama Anglican 45.35 157 P **P** **15 01 50.3 +4.1**
PYUN Piuthan 45.71 304 *e*P **P** **15 01 50.1 +0.6**
comp=Z,203nm,0.8s
UGL Uglegorsk 45.78 16 *e*P **P** **15 01 45.7 -3.7**
GRNR Gornyy 46.12 10 ⇓*i*P **P** **15 01 52.9 +0.8**
GRNR pmax pmax
comp=N,2.0nm,0.9s
GRNR pmax pmax
comp=Z,1.0nm,1.0s
GRNR MLR MLR
comp=E,160nm,16.0s
GRNR MLR MLR
comp=N,200nm,13.0s
GRNR MLR MLR
comp=Z,260nm,15.0s
CAN Canberra 46.48 153 P **P** **15 01 57.2 +2.0**
CAN Canberra 46.48 153 P **P** **15 01 58.3 +3.1**
CAN Canberra 46.48 153 P **P** **15 01 57.2 +2.0**
CAN pmax pmax
comp=Z,101nm,1.6s
HYB Hyderabad 46.88 289 *e*P **P** **15 01 58.2 -0.5**
HYB *ep*P **pP** **15 02 07.6 -1.3**
HYB *e*S **S** **15 08 47.5 +0.5**
TOO Toolangi 46.93 158 P **P** **15 02 00.5 +1.9**
baz=47,SNR=8.7
TOO Toolangi 46.93 158 P **P** **15 01 58.6 0.0**
TOO Toolangi 46.93 158 P **P** **15 02 02.0 +3.4**
TOO Toolangi 46.93 158 P **P** **15 01 58.6 0.0**
TOO pmax pmax
comp=Z,74nm,1.4s
TYV Tymovskoe 47.57 15 *e*P **P** **15 02 06.4 +3.0**
TYV *e*S **S** **15 09 01.1 +5.4**
TYV pmax pmax
comp=Z,8.0nm,0.8s
TYV pmax pmax
comp=Z,200nm,3.6s
TYV smax smax
comp=N,500nm,6.1s
TYV smax smax
comp=E,400nm,6.1s
ZEA Zeya 48.12 2 *e*P **P** **15 02 07.1 -0.5**

ZEA *e* 15 02 23.1
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA MLR MLR
comp=E,300nm,13.0s
ZEA MLR MLR
comp=N,500nm,14.0s
ZEA MLR MLR
comp=Z,300nm,15.0s
ZAK Zakamensk 48.29 342 *e*P **P 15 02 04.6 -4.6**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
NOUC Port Laguerre 48.88 126 P **P 15 02 16.4 +2.4**
NOUC Port Laguerre 48.88 126 P **P 15 02 15.3 +1.4**
NOUC sP **sP 15 02 27.0 -1.7**
DZM Mont Dzumac 48.98 125 *e*P **P 15 02 12.3 -2.6**
comp=Z,65nm,0.9s
DZM *e*S S 15 09 25.5 +8.8
comp=Z,128nm,27.6s
DZM *e*SS **SS 15 12 51.6 +3.4**
comp=Z,116nm,25.1s
DZM *e*LR LR 15 16 20.2
comp=Z,427nm,27.5s
DZM Mont Dzumac 48.98 125 IAmb IAmb 15 02 29.0
comp=Z,26nm,0.8s
DZM Mont Dzumac 48.98 125 P **P 15 02 17.1 +2.2**
DZM Mont Dzumac 48.98 125 P **P 15 02 16.1 +1.2**
comp=Z,111nm,1.0s,baz=289,slow=10,SNR=9.1
comp=Z,111nm,1.0s
DZM Mont Dzumac 48.98 125 P **P 15 02 16.5 +1.6**
DZM sP **sP 15 02 27.9 -1.6**
LIFNC LIFOU 49.02 124 P **P 15 02 18.4 +3.3**
YATNC Mamie plateau, 49.34 125 P **P 15 02 19.4 +1.9**
MOY Mondy 50.13 341 *e*P **P 15 02 22.6 -0.6**
MOY pmax pmax
comp=Z,19nm,1.0s
WMQ Urumqi 50.28 325 *e*P **P 15 02 25.0 +0.6**
WMQ pmax pmax
comp=Z,24nm,1.3s
WMQ pmax pmax
comp=Z,190nm,4.3s
WMQ LR LR
comp=Z,730nm,14.9s
WMQ LR LR
comp=Z,560nm,20.9s
WMQ LR LR
comp=Z,490nm,18.7s
BOD Bodaibo 52.88 353 *e*P **P 15 02 42.5 -1.0**
BOD pmax pmax
comp=Z,16nm,1.6s
ZSN Zaisan 54.08 327 *e*P **P 15 02 52.5 -0.1**
comp=Z,11nm,1.1s,baz=327
ZSN Zaisan 54.08 327 *e*P **P 15 02 52.4 -0.1**
ZSN pmax pmax
comp=Z,11nm,1.1s
DGZ Jazzator, Alta 54.20 331 *i* P **P 15 02 52.9 -0.6**
DGZ pmax pmax
comp=Z,15nm,0.8s
PEA0B Petropavlovsk- 54.49 24*ce*P **P 15 02 55.7 +0.3**
PETK Petropavlovsk- 54.49 24 P **P 15 02 56.4 +1.0**
comp=Z,35nm,0.8s,baz=210,slow=3.7,SNR=45
PETK LR LR 15 26 27.7
comp=Z,216nm,19.8s,baz=225,slow=36
comp=Z,35nm,0.8s
MK31 Makanchi Array 55.11 325 P **P 15 02 59.9 -0.2**
MK31 IAmb IAmb 15 03 01.6
comp=Z,57nm,1.4s
MK31 Makanchi Array 55.11 325 *i* P **P 15 03 00.0 0.0**
MK31 pmax pmax
comp=Z,17nm,0.5s
MKAR Makanchi Array 55.11 325 P **P 15 03 00.2 +0.2**
comp=Z,28nm,0.6s,baz=121,slow=8.0,SNR=446
MKAR LR LR 15 28 14.6
comp=Z,765nm,18.1s,baz=142,slow=38
comp=Z,28nm,0.6s
UZB Uzynbulak 55.15 320 *e*P **P 15 03 00.8 +0.2**
comp=Z,8.6nm,0.6s,baz=320
UZB Uzynbulak 55.15 320 *e*P **P 15 03 00.7 +0.2**
UZB pmax pmax
comp=Z,9.0nm,0.6s
TARG Taragay, Kyrgy 55.27 318 P **P 15 03 02.1 +0.4**
TARG Taragay, Kyrgy 55.27 318 P **P 15 03 02.1 +0.4**
TARG pmax pmax
comp=Z,11nm,0.6s
MAKZ Makanchi 55.30 325 P **P 15 03 00.8 -0.6**
MAKZ Makanchi 55.30 325 P **P 15 03 00.8 -0.6**
MAKZ pmax pmax
comp=Z,69nm,1.4s
MAKZ Makanchi 55.30 325 P **P 15 03 01.5 +0.1**
NIL Nilore 55.46 307 P **P 15 03 03.0 +0.2**
NIL Nilore 55.46 307 P **P 15 03 03.0 +0.2**
NIL pmax pmax
comp=Z,75nm,0.9s
NIL Nilore 55.46 307 ⇑P **P 15 03 03.4 +0.5**
SATY Saty 55.50 320 *e*P **P 15 03 03.5 +0.4**
comp=Z,6.9nm,0.6s,baz=320
SATY Saty 55.50 320 *e*P **P 15 03 03.4 +0.4**
SATY pmax pmax
comp=Z,7.0nm,0.6s
KPKS Kokpek 55.52 320 *e*P **P 15 03 03.5 +0.3**
comp=Z,6.5nm,0.5s,baz=320
KPKS Kokpek 55.52 320 *e*P **P 15 03 03.4 +0.3**
KPKS pmax pmax
comp=Z,7.0nm,0.5s
ZHN Zhinishke 55.53 320 *e*P **P 15 03 03.1 -0.2**
baz=320
ZHN Zhinishke 55.53 320 *e*P **P 15 03 03.0 -0.2**
KSH Kashi 55.56 315 P **P 15 03 05.5 +2.0**
KSH sP pwP 15 03 21.0 +1.1
KSH pmax pmax
comp=Z,18nm,1.1s
KSH LR LR
comp=Z,280nm,17.9s
KSH LR LR
comp=Z,740nm,16.5s
KSH LR LR
comp=Z,660nm,18.0s
ARXS Arharly 56.42 321 *e*P **P 15 03 09.4 -0.2**
TNSS Tian-Shan 56.43 319 *e*P **P 15 03 09.7 -0.4**
baz=319
TNSS Tian-Shan 56.43 319 *e*P **P 15 03 09.7 -0.4**
TDK Taldyqorghan 56.45 322 *e*P **P 15 03 09.5 -0.2**
comp=Z,13nm,0.8s,baz=322
TDK Taldyqorghan 56.45 322 *e*P **P 15 03 09.5 -0.2**
TDK pmax pmax
comp=Z,13nm,0.8s
YAK Yakutsk 56.51 3 P **P 15 03 09.1 -0.6**
YAK Yakutsk 56.51 3 *e*P **P 15 03 08.0 -1.7**
YAK *e**PP **sP 15 03 21.6 -3.1**
YAK *e* 15 05 11.1
YAK *e*PPP PPP 15 06 29.0
YAK *e*S **S 15 10 56.5 -1.6**
YAK *e**SS sS 15 11 22.0 +3.8
YAK *e* 15 12 52.2
YAK pmax pmax
comp=Z,57nm,1.5s
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,2.0nm,0.7s
YAK pmax pmax
comp=Z,157nm,4.7s
YAK pmax pmax
comp=N,123nm,4.7s
YAK pmax pmax
comp=E,142nm,4.5s
YAK smax smax
comp=E,186nm,5.6s
YAK smax smax
comp=N,111nm,5.9s
YAK Yakutsk 56.51 3 P **P 15 03 09.1 -0.6**
comp=N,3.3nm,0.7s,baz=200,slow=1.4,SNR=38
YAK LR LR 15 29 51.2
comp=N,13nm,19.3s,baz=150,slow=38
YAK Yakutsk 56.51 3 P **P 15 03 09.1 -0.6**
ULHL Ulahol 56.54 318 P **P 15 03 11.8 +1.1**
SNR=8.0
CHKK Chushkaly 56.79 320 *e*P **P 15 03 11.8 -0.3**
baz=320
CHKK Chushkaly 56.79 320 *e*P **P 15 03 11.7 -0.3**
KZA Kyzart 57.13 317 P **P 15 03 15.9 +0.8**
SNR=20
KUU Kurty 57.22 320 ⇑*i*P **P 15 03 15.3 +0.1**
baz=320
KUU Kurty 57.22 320*c i*P **P 15 03 15.3 +0.1**
TKM2 Tokmak 2 57.27 318 P **P 15 03 16.3 +0.6**
SNR=14
TKM2 Tokmak 2 57.27 318 *i* P **P 15 03 15.9 +0.2**
TKM2 pmax pmax
comp=Z,9.0nm,0.6s
MA2 Magadan 57.44 15 P **P 15 03 16.5 +0.1**
MA2 Magadan 57.44 15*ce*P **P 15 03 16.2 -0.2**
MA2 pmax pmax
comp=Z,32nm,1.3s
MA2 Magadan 57.44 15 P **P 15 03 16.0 -0.4**
comp=Z,14nm,0.6s,baz=194,slow=8.0,SNR=14
comp=Z,14nm,0.6s
MA2 Magadan 57.44 15 P **P 15 03 17.2 +0.9**
KBK Karagaybulak 57.58 318 P **P 15 03 18.8 +0.9**
SNR=12
ARLS Aral 57.67 317 P **P 15 03 19.5 +1.0**
UCH Uchtor 57.69 317 P **P 15 03 20.0 +1.0**
SNR=30
CHMS Chumysh 57.86 318 P **P 15 03 19.8 +0.1**
SNR=5.6
AAK Ala-Archa 57.88 318 P **P 15 03 20.4 +0.4**
SNR=12
AAK Ala-Archa 57.88 318 P **P 15 03 20.4 +0.4**
AAK Ala-Archa 57.88 318 *i* P **P 15 03 20.2 +0.2**
SNR=14
AAK Ala-Archa 57.88 318*ce*P **P 15 03 19.8 -0.2**
AAK pmax pmax
comp=Z,22nm,1.7s
AAK Ala-Archa 57.88 318 LR LR 15 29 58.3
comp=Z,646nm,21.4s,baz=104,slow=38
AAK Ala-Archa 57.88 318 P **P 15 03 20.5 +0.4**
SGDS Sogindy 58.13 319 *e*P **P 15 03 21.4 -0.3**
baz=319
SGDS Sogindy 58.13 319 *e*P **P 15 03 21.3 -0.3**
USP Ospenovka 58.14 318 P **P 15 03 22.4 +0.7**
SNR=7.5
OHH Osh 58.21 315 P **P 15 03 22.9 +0.7**
AML Almayashu 58.21 317 P **P 15 03 23.4 +0.8**
SNR=36
ZAA0 Zalesovo Array 58.23 333 P **P 15 03 20.6 -1.4**
ZAA0 IAmb IAmb 15 03 21.7
comp=Z,31nm,1.4s
ZALV Zalesovo Beam 58.23 333 P **P 15 03 20.7 -1.3**
comp=Z,9.4nm,0.6s,baz=129,slow=6.5,SNR=62
ZALV LR LR 15 29 27.0
comp=Z,194nm,19.2s,baz=129,slow=37
comp=Z,9.4nm,0.6s
EKS2 Erkin-Say 58.37 318 P **P 15 03 23.5 +0.1**
SNR=28
KBL Kabul 59.06 307 P **P 15 03 28.1 -0.4**
KBL Kabul 59.06 307 P **P 15 03 28.1 -0.4**
KBL pmax pmax
comp=Z,42nm,0.6s
BTLS Baital 59.20 320 ⇑*i*P **P 15 03 28.7 -0.3**
comp=Z,14nm,1.4s,baz=320
BTLS Baital 59.20 320*c i*P **P 15 03 28.6 -0.3**
BTLS pmax pmax
comp=Z,14nm,1.4s
ARK Arkit 59.26 316 P **P 15 03 30.4 +0.8**
KURBB Kurchatov Arra 59.31 328 P **P 15 03 29.2 -0.4**
comp=Z,37nm,0.8s,baz=126,slow=6.3,SNR=253
KURBB LR LR 15 30 44.6
comp=Z,222nm,18.4s,baz=187,slow=38
comp=Z,37nm,0.8s
KURK Kurchatov 59.31 328 P **P 15 03 28.7 -0.9**
KURK Kurchatov 59.31 328*ce*P **P 15 03 29.1 -0.5**
KURK pmax pmax
comp=Z,22nm,0.6s
KURK Kurchatov 59.31 328 P **P 15 03 29.3 -0.3**
KURK pP **pP 15 03 37.4 -2.7**
BTK Batken 59.44 314 IAmb IAmb 15 03 33.1
comp=Z,28nm,0.8s
DZA Taraz 60.11 317 *e*P **P 15 03 35.3 -0.1**
comp=Z,7.1nm,0.5s,baz=317
DZA Taraz 60.11 317 *e*P **P 15 03 35.2 -0.1**
DZA pmax pmax
comp=Z,7.0nm,0.5s
SIMJ Simiganj 60.30 312 P **P 15 03 36.6 -0.2**
SIMJ IAmb IAmb 15 03 38.8
comp=Z,28nm,1.2s
SIMJ Simiganj 60.30 312 ⇑P **P 15 03 36.9 0.0**
SIMJ pP **pP 15 03 45.6 -1.6**
SEY Seymchan 60.73 14*ce*P **P 15 03 39.8 +0.8**
SEY pmax pmax
comp=Z,37nm,1.7s
SEY Seymchan 60.73 14 P **P 15 03 40.2 +1.2**
comp=Z,12nm,0.9s,baz=200,slow=8.0,SNR=21
SEY LR LR 15 28 24.4
comp=Z,160nm,21.8s,baz=204,slow=34
comp=Z,12nm,0.9s
KK31 Karatay Array 60.75 317 P **P 15 03 39.2 -0.5**
KK31 IAmb IAmb 15 03 41.9
comp=Z,18nm,0.7s
KK31 Karatay Array 60.75 317 P **P 15 03 39.2 -0.5**
KK31 pmax pmax
comp=Z,18nm,0.7s
KKAR Karatay Array 60.75 317 P **P 15 03 39.2 -0.5**
KKAR IAmb IAmb 15 03 41.9
comp=Z,18nm,0.7s
KKAR Karatay Array 60.75 317 P **P 15 03 38.9 -0.8**
KKAR Karatay Array 60.75 317 P **P 15 03 38.9 -0.8**
KKAR pmax pmax
comp=Z,18nm,0.7s
CHM Chimkent 61.09 316 *e*P **P 15 03 42.2 +0.1**
baz=316
CHM Chimkent 61.09 316 *e*P **P 15 03 42.1 +0.1**
BRZS Berezniki 62.24 325 ⇑*i*P **P 15 03 49.1 -0.5**
baz=325
BRZS Berezniki 62.24 325*c i*P **P 15 03 49.0 -0.5**
RPZ Rata Peaks 64.21 145 LR LR 15 32 14.8
comp=Z,278nm,21.1s,baz=298,slow=36
HRA Herat 64.48 305 P **P 15 04 04.8 -0.2**
HRA IAmb IAmb 15 04 06.0
comp=Z,17nm,0.8s
RAO Raoul Island 64.78 126 LR LR 15 33 08.0
comp=Z,56nm,18.1s,baz=280,slow=37
BVAR Borovoye Array 64.89 327 P **P 15 04 06.2 -0.8**
comp=Z,20nm,0.8s,baz=132,slow=8.2,SNR=94
BVAR LR LR 15 34 34.7
comp=Z,243nm,19.1s,baz=124,slow=38
comp=Z,20nm,0.8s
BRVK Borovoye 64.96 327 P **P 15 04 06.6 -0.9**
BRVK Borovoye 64.96 327*ce*P **P 15 04 06.5 -0.9**
BRVK pmax pmax
comp=Z,56nm,1.3s
BRVK Borovoye 64.96 327 P **P 15 04 06.7 -0.8**
URZ Urewera 65.02 137 LR LR 15 31 55.4
comp=Z,277nm,20.9s,baz=42,slow=35
BKZ Black Stump Fm 65.06 138 P **P 15 04 08.6 +0.2**
BKZ IAmb IAmb 15 04 27.1
comp=Z,34nm,1.1s
RTZ Ruatahuna 65.11 137 P **P 15 04 08.9 +0.2**
TIXI Tiksi 66.11 1 P **P 15 04 12.3 -2.2**
TIXI Tiksi 66.11 1 P **P 15 04 12.3 -2.2**
TIXI pmax pmax
comp=Z,15nm,1.0s
TIXI Tiksi 66.11 1 LR LR 15 33 14.3
comp=Z,19nm,21.8s,baz=198,slow=36
TIXI Tiksi 66.11 1 P **P 15 04 13.2 -1.3**
SOHO SOHO 68.10 294 *i* P **P 15 04 27.7 -0.4**
SNR=13
NRIK Noril'sk 68.31 347 P **P 15 04 26.8 -1.6**
NRIK IAmb IAmb 15 04 28.0
comp=Z,17nm,0.6s
NRIK Noril'sk 68.31 347*ce*P **P 15 04 27.0 -1.5**
NRIK pmax pmax
comp=Z,15nm,0.6s
NRIK Noril'sk 68.31 347 P **P 15 04 27.1 -1.3**
comp=Z,15nm,0.7s,baz=126,slow=6.2,SNR=45
NRIK LR LR 15 36 56.8
comp=Z,390nm,20.1s,baz=152,slow=38
comp=Z,15nm,0.7s
GEYT Alibeck 68.43 309 IAmb IAmb 15 04 31.6
comp=Z,23nm,1.1s
GEYT Alibeck 68.43 309 P **P 15 04 29.9 -0.1**
comp=Z,14nm,0.9s,baz=140,slow=7.2,SNR=30
GEYT LR LR 15 38 52.8
comp=Z,222nm,19.4s,baz=86,slow=40
comp=Z,14nm,0.9s
GYA0B ALIBECK ARRAY 68.43 309 IAmb IAmb 15 04 34.7
comp=Z,17nm,0.7s
HATD Hatta, Dubai 68.52 294 *i* P **P 15 04 30.9 +0.2**
SNR=20
MSFE Esma-Masafi 68.53 295 *i* P **P 15 04 32.2 +1.4**
SNR=6.1
ASHO Ashiyiah 68.57 294 *i* P **P 15 04 31.0 -0.1**
SNR=34
SHAO Shalim 68.69 287 *i* P **P 15 04 32.5 +0.7**
SNR=12
ALNE Al Ain 68.81 294 *i* P **P 15 04 33.0 +0.5**
SNR=22
NAZ Nazwa, Dubai 68.95 295 P **P 15 04 33.9 +0.5**
FAQ Al Faqa, Dubai 69.00 294 P **P 15 04 34.0 +0.3**
ASUD Al Ashush, Dub 69.23 294 *i* P **P 15 04 35.8 +0.7**
SNR=10
ABKAR Akbulak array 69.68 321 P **P 15 04 36.3 -1.1**
ABKAR Akbulak array 69.68 321 P **P 15 04 36.1 -1.2**
ABKAR IAmb IAmb 15 04 38.5
comp=Z,27nm,0.8s
MZR Muzera 70.84 292 P **P 15 04 45.4 +0.3**
AKTO Aktyubinsk 71.19 322 LR LR 15 38 17.2
comp=Z,424nm,18.5s,baz=13,slow=38
NIKH Nikolski High 71.39 36 P **P 15 04 47.2 -0.5**
baz=254
SVE Sverdlovsk 71.54 329*de*P **P 15 04 47.7 -0.9**
SVE pmax pmax
comp=Z,45nm,1.1s
SPIA Saint Paul Isl 71.89 31 P **P 15 04 50.1 -0.5**
baz=251
ARU Arti 72.51 328 P **P 15 04 52.6 -1.8**
ARU IAmb IAmb 15 04 53.9
comp=Z,27nm,0.8s
ARU Arti 72.51 328*c i*P **P 15 04 52.8 -1.6**
ARU 15 05 11.0
ARU 15 07 33.3
ARU S **S 15 14 14.3 -1.4**
ARU SS **SS 15 18 53.4 -1.6**
ARU pmax pmax
comp=Z,55nm,1.4s
ARU Arti 72.51 328 LR LR 15 38 41.8
comp=Z,201nm,21.2s,baz=110,slow=37
UNV Unalaska Valle 72.98 35 P **P 15 04 57.4 +0.2**
baz=256
M11K Mekoryuk 74.85 29 P **P 15 05 08.2 +0.1**
baz=254
FALS False Pass 74.97 35 P **P 15 05 08.5 -0.3**
baz=258
F14K Arctic Creek 76.26 24 P **P 15 05 15.8 -0.2**
baz=253
ANM Nome 76.38 25 P **P 15 05 16.5 -0.2**
baz=254
SDPT Sand Point 76.72 34 P **P 15 05 18.2 -0.6**
baz=260
L14K Kuka Creek 76.76 28 P **P 15 05 19.1 +0.2**
baz=257
N14K Kuskokwak Cree 76.94 30 P **P 15 05 19.5 -0.4**
baz=258
M14K Bethel 76.97 29 P **P 15 05 20.3 +0.2**
baz=258
F15K North Star Dit 77.00 24 P **P 15 05 19.7 -0.5**
baz=254
O14K Tigyukauivet M 77.01 30 P **P 15 05 20.1 -0.3**
baz=259
G15K Niukluk 77.05 24 P **P 15 05 20.9 +0.4**
baz=255
MAK Makhachkala 77.10 313 *e*P **P 15 05 20.7 -0.5**
MAK *e* 15 08 13.0
MAK *e*PPP PPP 15 10 06.5
MAK *e*S **S 15 15 08.2 +0.8**
MAK *e*SS **SS 15 20 09.1 +3.8**
MAK pmax pmax
comp=Z,90nm,1.4s
MAK MLR MLR
comp=Z,153nm,18.0s
S14K Fog Glacier 77.39 34 P **P 15 05 22.4 -0.3**
baz=261
L15K Ungalak Mounta 77.39 28 P **P 15 05 22.2 -0.3**
baz=258
C16K Lisburne Hills 77.46 21 P **P 15 05 22.8 +0.1**
baz=253
K15K Wolf Creek Mou 77.50 27 P **P 15 05 23.7 +0.6**
baz=258
M15K Kasigluk River 77.58 29 P **P 15 05 23.9 +0.4**
baz=259
H16K Elim 77.71 25 P **P 15 05 24.8 +0.6**
baz=257
O15K Ungalikthiuk R 77.72 31 P **P 15 05 24.7 +0.3**
baz=260
N15K Kwethluk River 77.77 30 P **P 15 05 24.9 +0.3**
baz=260
KIRV Kirov 77.81 329*ce*P **P 15 05 22.9 -1.9**
G16K Koyuk River 77.84 24 P **P 15 05 25.1 +0.2**
baz=256
BELG Belogornoye 77.94 322 *i* P **P 15 05 24.4 -1.3**
BELG pmax pmax
comp=Z,14nm,1.1s
BELG Belogornoye 77.94 322 LR LR 15 42 13.9
comp=Z,172nm,18.3s,baz=110,slow=38
CHGN Chignik 78.02 34 P **P 15 05 25.7 -0.3**
baz=262
D17K Noatak River 78.12 22 P **P 15 05 26.9 +0.5**
baz=255
J16K Anvik River 78.12 26 P **P 15 05 26.8 +0.3**
baz=258
I17K Unalakleet 78.20 26 IAmb IAmb 15 05 42.4
comp=Z,27nm,1.1s
I17K Unalakleet 78.20 26 P **P 15 05 26.9 0.0**
baz=258
RDOG Red Dog Mine 78.28 21 P **P 15 05 27.5 +0.2**
baz=255
C17K DeLong Mountai 78.29 21 P **P 15 05 28.0 +0.6**
baz=255
RAR Rarotonga 78.34 113 LR LR 15 34 16.8
comp=Z,103nm,21.0s,baz=330,slow=31
L16K Owhat River 78.34 28 P **P 15 05 27.9 +0.1**
baz=260
E17K Hotham Inlet 78.44 22 P **P 15 05 28.6 +0.4**
baz=257
M16K Timber Creek 78.47 29 IAmb IAmb 15 05 42.2
comp=Z,40nm,1.1s
M16K Timber Creek 78.47 29 P **P 15 05 28.4 -0.1**
baz=260
N16K Nishlik Lake 78.47 29 P **P 15 05 28.0 -0.6**
baz=261
F17K Baldwin Pennin 78.52 23 P **P 15 05 28.4 -0.2**
baz=257
G17K Kiwalik Mounta 78.56 24 P **P 15 05 28.9 0.0**
baz=258
P16K Nushagak River 78.64 31 P **P 15 05 29.2 -0.2**
baz=262
R16K Pilot Point 78.65 32 P **P 15 05 29.2 -0.3**
baz=262
O16K Kokwok River B 78.67 30 P **P 15 05 28.8 -0.8**
baz=262
H17K Granite Mounta 78.75 25 IAmb IAmb 15 05 47.7
comp=Z,35nm,1.4s
H17K Granite Mounta 78.75 25 P **P 15 05 29.4 -0.5**
baz=259
L17K Donlin 78.96 28 P **P 15 05 30.6 -0.6**
baz=261
E18K Tukpahlearik C 78.98 22 IAmb IAmb 15 05 50.3
comp=Z,11nm,0.8s
E18K Tukpahlearik C 78.98 22 P **P 15 05 30.7 -0.5**
baz=258
B18K Kokolik River 78.99 20 P **P 15 05 30.9 -0.3**
baz=256
GNI Garni 79.01 310 *i* P **P 15 05 31.4 -0.7**
GNI pmax pmax
comp=Z,19nm,1.5s
GNI Garni 79.01 310 LR LR 15 48 11.5
comp=Z,76nm,18.0s,baz=98,slow=42
C18K Utukok River 79.04 21 IAmb IAmb 15 05 59.0
comp=Z,10.0nm,0.8s
C18K Utukok River 79.04 21 P **P 15 05 31.2 -0.3**
baz=257
K17K Iditarod 79.05 27 IAmb IAmb 15 05 48.3
comp=Z,50nm,1.2s
K17K Iditarod 79.05 27 P **P 15 05 31.2 -0.5**
baz=261
O17K Koliganek Bris 79.19 30 P **P 15 05 32.0 -0.5**
baz=262
N17K Nushagak Hills 79.25 29 P **P 15 05 33.1 +0.3**
baz=262
M17K Holitna River 79.25 29 P **P 15 05 33.0 +0.2**
baz=262
Q16K King Salmon 79.28 31 P **P 15 05 32.8 -0.1**
baz=263
H18K Honhosa River 79.43 25 IAmb IAmb 15 05 47.2
comp=Z,33nm,1.3s
H18K Honhosa River 79.43 25 P **P 15 05 34.0 +0.3**
baz=260
A19K Wainwright 79.44 19 P **P 15 05 33.9 +0.4**

baz=257
G18K Tagagawik 79.44 24 P P 15 05 34.0 +0.2
baz=260
C19K Lookout Ridge 79.70 21 IAmb IAmb 15 05 52.3
comp=Z,26nm,0.8s
C19K Lookout Ridge 79.70 21 P P 15 05 35.3 +0.1
baz=258
L18K Granite Mounta 79.72 28 P P 15 05 35.3 0.0
baz=262
ZEI Tsey 79.73 312 eP P 15 05 33.8 -2.3
ZEI pmax pmax
comp=Z,44nm,1.4s
J18K Innoko River 79.88 27 IAmb IAmb 15 05 51.0
comp=Z,33nm,1.2s
J18K Innoko River 79.88 27 P P 15 05 36.1 0.0
baz=262
N18K Kilae Creek 79.91 29 P P 15 05 36.0 -0.3
baz=263
F19K Shaleruckik Mo 79.96 23 P P 15 05 36.8 +0.4
baz=260
GCSA Galena City Sc 79.99 25 P P 15 05 36.6 -0.1
baz=262
M18K Stony River 80.03 29 P P 15 05 37.7 +0.7
baz=263
P18K Big Mountain, 80.09 31 P P 15 05 37.7 +0.3
baz=264
D19K Kuna River 80.11 21 IAmb IAmb 15 05 51.4
comp=Z,19nm,0.7s
D19K Kuna River 80.11 21 P P 15 05 37.7 +0.3
baz=260
G19K Purcell Mounta 80.12 24 IAmb IAmb 15 05 51.1
comp=Z,19nm,0.9s
G19K Purcell Mounta 80.12 24 P P 15 05 37.7 +0.4
baz=261
PRGR Permogore 80.12 332 eP P 15 05 34.8 -2.6
PRGR pmax pmax
comp=Z,30nm,0.7s
TTA Tatalina 80.12 27 P P 15 05 37.7 +0.1
baz=263
Q18K Katmai Hardscr 80.13 32 P P 15 05 36.8 -0.9
baz=264
E19K Redstone River 80.27 22 IAmb IAmb 15 05 52.5
comp=Z,34nm,0.9s
E19K Redstone River 80.27 22 P P 15 05 38.2 0.0
baz=261
H19K Roundabout Mou 80.28 24 P P 15 05 37.7 -0.5
baz=262
R18K Karluk 80.32 33 P P 15 05 38.5 -0.1
baz=265
J19K Poorman 80.43 26 IAmb IAmb 15 05 53.5
comp=Z,27nm,1.1s
J19K Poorman 80.43 26 P P 15 05 39.3 +0.2
baz=263
KBZ Khabaz 80.50 313 ceP P 15 05 39.3 -0.5
KBZ pmax pmax
comp=Z,9.0nm,1.1s
KBZ Khabaz 80.50 313 P P 15 05 39.1 -0.7
comp=Z,5.5nm,0.9s,baz=101,slow=2.8,SNR=11
KBZ LR LR 15 47 04.4
comp=Z,174nm,19.0s,baz=73,slow=40
comp=Z,5.5nm,0.9s
L19K White Mountain 80.57 28 P P 15 05 40.3 +0.4
L19K White Mountain 80.57 28 P P 15 05 40.5 +0.6
baz=264
N19K Bonanza Creek 80.61 29 P P 15 05 40.2 0.0
baz=264
O19K Port Alsworth 80.63 30 P P 15 05 40.5 +0.3
baz=265
KIV Kislovodsk 80.66 314 P P 15 05 39.8 -1.1
KIV IAmb IAmb 15 05 42.2
comp=Z,15nm,0.7s
KIV Kislovodsk 80.66 314 iP P 15 05 41.5 +0.6
SNR=5.9
KIV Kislovodsk 80.66 314 deP P 15 05 40.7 -0.2
KIV e 15 05 48.2
KIV e 15 08 51.0
KIV ePPP PPP 15 10 34.2
KIV pmax pmax
comp=Z,12nm,0.7s
D20K Etivluk River 80.69 21 P P 15 05 40.8 +0.3
baz=261
B20K Meade River 80.71 20 IAmb IAmb 15 05 54.8
comp=Z,28nm,0.9s
B20K Meade River 80.71 20 P P 15 05 41.3 +0.8
baz=260
E20K Nigu River 80.78 22 P P 15 05 41.4 +0.4
baz=262
F20K Avaraart Lake 80.79 23 IAmb IAmb 15 05 59.6
comp=Z,13nm,0.8s
F20K Avaraart Lake 80.79 23 P P 15 05 41.9 +1.0
baz=262
Q19K Cape Douglas, 80.86 31 P P 15 05 41.7 +0.2
baz=266
OHAK Old Harbor 80.92 33 P P 15 05 41.9 +0.1
baz=263
H20K Anotleneega Mo 80.93 25 P P 15 05 42.2 +0.4
baz=264
I20K Naaghedeneel 81.02 25 P P 15 05 42.5 +0.3
baz=264
K20K Telida 81.05 27 IAmb IAmb 15 05 56.6
comp=Z,23nm,1.0s
K20K Telida 81.05 27 P P 15 05 42.9 +0.5
baz=264,SNR=5.3
L20K Farewell, AK 81.05 28 P P 15 05 42.7 +0.2
baz=265
J20K Nowinta River 81.10 26 IAmb IAmb 15 05 58.1
comp=Z,20nm,0.9s
J20K Nowinta River 81.10 26 P P 15 05 43.2 +0.5
baz=264
A21K Barrow 81.10 19 P P 15 05 42.5 0.0
baz=261,SNR=12
KDAK Kodiak Island 81.34 32 P P 15 05 44.4 +0.4
baz=267
KDAK Kodiak Island 81.34 32 LR LR 15 35 35.1
comp=Z,101nm,21.5s,baz=217,slow=31
M20K Styx River 81.35 28 P P 15 05 44.4 +0.2
baz=266
C21K Knifeblade Rid 81.41 21 P P 15 05 44.8 +0.5
baz=263
O20K Slope Mountain 81.47 30 P P 15 05 44.9 +0.1
baz=266
Q20K Shuyak Island 81.49 32 P P 15 05 45.0 +0.2
baz=267
VRH Novokhopyorsk 81.51 321 eP P 15 05 42.5 -2.6
VRH pmax pmax
comp=Z,31nm,1.4s
B21K Ikpikpuk River 81.53 20 IAmb IAmb 15 05 59.2
comp=Z,27nm,0.8s
B21K Ikpikpuk River 81.53 20 P P 15 05 45.2 +0.4
baz=263
A22K Sinclair Lake 81.58 19 P P 15 05 45.4 +0.3
baz=262
G21K Allakaket 81.60 24 IAmb IAmb 15 05 59.7
comp=Z,24nm,1.0s
G21K Allakaket 81.60 24 P P 15 05 45.6 +0.3
baz=264
E21K Killik River 81.62 22 IAmb IAmb 15 05 59.5
comp=Z,28nm,0.9s
E21K Killik River 81.62 22 P P 15 05 45.9 +0.5
baz=264
F21K Alatna River 81.68 23 P P 15 05 46.4 +0.7
baz=264
N20K Mount Spurr 81.74 29 P P 15 05 46.1 -0.1
baz=266
H21K Melozitna Rive 81.80 25 IAmb IAmb 15 06 00.9
comp=Z,26nm,1.0s
H21K Melozitna Rive 81.80 25 P P 15 05 46.8 +0.4
baz=265
PPLA Purkeypile 81.86 27 P P 15 05 46.7 -0.2
baz=266
CHUM Lake Minchumin 81.88 26 P P 15 05 47.0 +0.3
baz=266
CAST Castle Rocks 81.94 27 IAmb IAmb 15 06 01.3
comp=Z,30nm,1.0s
CAST Castle Rocks 81.94 27 P P 15 05 47.2 0.0
baz=266,SNR=7.4
B22K Teshekpuk Lake 82.02 20 IAmb IAmb 15 06 02.9
comp=Z,29nm,0.9s
B22K Teshekpuk Lake 82.02 20 P P 15 05 47.7 +0.3
baz=264
I21K Tanana 82.11 25 P P 15 05 48.1 +0.2
baz=266
SKT Skwentna 82.11 28 P P 15 05 47.8 -0.3
baz=267
D22K Ayikyak River 82.13 21 IAmb IAmb 15 06 07.2
comp=Z,12nm,0.9s
D22K Ayikyak River 82.13 21 P P 15 05 48.1 +0.1
baz=265

F22K John River 82.20 23 P P 15 05 48.6 +0.2
baz=266
E22K Anaktuvuk Pass 82.39 22 IAmb IAmb 15 06 04.5
comp=Z,22nm,0.8s
E22K Anaktuvuk Pass 82.39 22 P P 15 05 49.6 +0.1
baz=266,SNR=8.4
BRSE Bradley Lake S 82.39 31 P P 15 05 49.8 +0.1
baz=268
H22K Ishtalitna Cre 82.41 24 P P 15 05 49.9 +0.3
baz=266
G22K Bettles 82.42 23 P P 15 05 49.5 0.0
baz=266
SUA Susitna One 82.46 29 P P 15 05 50.3 +0.2
baz=268
BPAW Bear Paw Mtn. 82.47 26 P P 15 05 50.0 +0.1
baz=267,SNR=6.1
KTH Kantishna Hill 82.47 27 IAmb IAmb 15 06 06.4
comp=Z,33nm,1.1s
MLY Manley 82.63 25 P P 15 05 50.7 -0.1
MLY IAmb IAmb 15 06 06.3
comp=Z,25nm,1.0s
MLY Manley 82.63 25 P P 15 05 51.3 +0.5
baz=267,SNR=7.5
CUT Chulitna 82.72 28 P P 15 05 51.6 +0.4
baz=268
TRF Thorofare Moun 82.75 27 P P 15 05 50.5 -1.1
TRF IAmb IAmb 15 06 08.7
comp=Z,37nm,1.1s
TRF Thorofare Moun 82.75 27 P P 15 05 51.8 +0.2
baz=268
M22K Willow 82.77 29 P P 15 05 51.7 +0.2
baz=268
D23K Nanushuk River 82.86 21 P P 15 05 52.5 +0.6
baz=267
O22K Cooper Landing 82.93 30 P P 15 05 52.5 +0.2
baz=269
RC01 Rabbit Creek A 82.94 29 P P 15 05 52.9 +0.6
baz=269
C23K Itkillik River 82.94 20 IAmb IAmb 15 06 06.5
comp=Z,30nm,0.8s
C23K Itkillik River 82.94 20 P P 15 05 52.4 +0.2
baz=267
COLD Coldfoot 82.95 23 P P 15 05 52.7 +0.4
baz=267,SNR=6.1
G23K Bananza Creek 83.00 24 IAmb IAmb 15 06 14.0
comp=Z,17nm,1.0s
G23K Bananza Creek 83.00 24 P P 15 05 52.8 +0.2
baz=268,SNR=6.4
KLMR Klimovskoe 83.01 331 eP P 15 05 48.1 -4.6
KLMR AMP 15 05 52.7
comp=Z,88nm,1.5s
KLMR LQ LQ 15 41 19.8
KLMR LQ LQ 15 41 19.8
KLMR LR LR 15 43 22.4
KLMR AMP 15 46 31.1
comp=Z,730nm,15.0s
KLMR Klimovskoe 83.01 331 eP P 15 05 48.1 -4.6
KLMR pmax pmax
comp=Z,88nm,1.5s
KLMR MLR MLR
comp=Z,730nm,15.0s
VORD Divnogorie 83.04 321 eP P 15 05 49.3 -3.8
VORD pmax pmax
comp=Z,9.0nm,0.9s
SEW Seward 83.05 30 P P 15 05 52.6 -0.4
baz=269
VSR Storozhevoye 83.12 321 eP P 15 05 48.9 -4.6
VSR pmax pmax
comp=Z,6.0nm,0.8s
E23K Chandalar 83.21 22 P P 15 05 53.5 -0.3
baz=268,SNR=13
I23K Minto, Yukon-K 83.22 25 P P 15 05 53.8 +0.1
baz=268,SNR=15
PMR Palmer 83.24 29 P P 15 05 53.5 -0.4
baz=269
TOLK Toolik Lake Re 83.25 22 IAmb IAmb 15 06 09.3
comp=Z,17nm,0.8s
TOLK Toolik Lake Re 83.25 22 P P 15 05 53.7 -0.2
baz=268,SNR=10
LPSR Galich'ya Gora 83.26 322 eP P 15 05 50.5 -3.7
LPSR pmax pmax
comp=Z,10.0nm,0.9s
NEA2 Nenana 83.33 26 P P 15 05 54.4 +0.1
baz=269
MCK McKinley 83.37 27 P P 15 05 54.2 -0.3
baz=269,SNR=9.0
WAT1 Susitna Watana 83.53 27 P P 15 05 54.8 -0.7
baz=269
D24K Happy Valley 83.54 21 P P 15 05 55.2 -0.1
baz=268
KNK Knik Glacier 83.56 29 P P 15 05 55.7 +0.1
baz=270
C24K Franklin Bluff 83.60 20 P P 15 05 55.8 +0.2
baz=268
SML Sawmill 83.62 28 P P 15 05 56.4 +0.5
baz=270
E24K Your Creek 83.64 22 IAmb IAmb 15 06 10.4
comp=Z,13nm,0.9s
E24K Your Creek 83.64 22 P P 15 05 55.9 -0.1
baz=269
MDM Murphy Dome 83.69 25 IAmb IAmb 15 06 09.5
comp=Z,15nm,0.8s
H24K Noodor Dome 83.84 24 IAmb IAmb 15 06 12.2
comp=Z,26nm,0.8s
H24K Noodor Dome 83.84 24 P P 15 05 57.2 +0.1
baz=270
COLA College 83.85 25 P P 15 05 55.9 -1.1
COLA IAmb IAmb 15 06 25.2
comp=Z,23nm,0.9s
COLA College 83.85 25 P P 15 05 56.1 -0.8
baz=270
COLA College 83.85 25 P P 15 05 55.9 -1.1
COLA pmax pmax
comp=Z,23nm,0.9s
F24K Squaw Lake 83.85 23 IAmb IAmb 15 06 11.4
comp=Z,19nm,1.0s
F24K Squaw Lake 83.85 23 P P 15 05 56.6 -0.4
baz=270,SNR=8.3
WAT6 Susitna Watana 83.90 28 P P 15 05 57.6 +0.1
baz=270
M23K Glacier View 83.91 29 P P 15 05 56.9 -0.5
baz=270
ARPR Arapgir-MALATY 83.96 309 IAmb IAmb 15 06 09.5
comp=Z,14nm,0.8s
MOS Moscow 84.00 325 eP P 15 05 55.0 -2.9
MOS pmax pmax
comp=Z,40nm,1.0s
G24K Hadweenzic Riv 84.01 24 IAmb IAmb 15 06 12.5
comp=Z,42nm,1.0s
G24K Hadweenzic Riv 84.01 24 P P 15 05 57.7 -0.1
baz=270
POKR Poker Plat Res 84.03 25 P P 15 05 58.0 +0.1
baz=270
DHY Denali Highway 84.06 27 P P 15 05 57.9 -0.4
baz=270
P23K Montague Islan 84.08 30 P P 15 05 58.6 +0.4
baz=271
SCM Sheep Creek Mo 84.10 28 P P 15 05 58.1 -0.3
baz=271
HDA Harding Lake 84.24 26 IAmb IAmb 15 06 11.6
comp=Z,24nm,0.8s
HDA Harding Lake 84.24 26 P P 15 05 58.2 -0.8
baz=271,SNR=9.7
HDA P P 15 05 58.2 -0.8
baz=271,SNR=9.7
IL31 84.27 26 IAmb IAmb 15 06 12.2
comp=Z,16nm,0.8s
ILAR Eielson Array 84.27 26 P P 15 05 57.6 -1.5
comp=Z,4.0nm,0.7s,baz=244,slow=6.2,SNR=17
comp=Z,4.0nm,0.7s
D25K Kavik River 84.41 21 IAmb IAmb 15 06 14.2
comp=Z,32nm,1.1s
D25K Kavik River 84.41 21 P P 15 05 59.8 -0.1
baz=271
G25K Bearman Lake 84.56 23 P P 15 06 00.5 0.0
baz=271
OBN Obninsk 84.61 325 P P 15 05 59.3 -1.8
OBN Obninsk 84.61 325 ceP P 15 05 59.2 -1.8
OBN e 15 06 07.3
OBN e 15 09 11.8
OBN eS SPn 15 17 18.7 +0.9
OBN pmax pmax
comp=Z,85nm,1.7s
OBN MLR MLR
comp=Z,329nm,20.0s
OBN Obninsk 84.61 325 LR LR 15 45 38.7
comp=Z,335nm,20.1s,baz=11,slow=37

M24K Tolsona, Glenn 84.64 28 P P 15 06 00.8 -0.3
baz=272
F25K Christian Rive 84.72 23 P P 15 06 01.3 -0.1
baz=272
E25K Arctic Village 84.73 22 IAmb IAmb 15 06 20.5
comp=Z,28nm,1.1s
E25K Arctic Village 84.73 22 P P 15 06 01.4 -0.1
baz=272,SNR=13
K24K Donnelly Dome 84.77 26 P P 15 06 01.3 -0.5
baz=272
KLU Klutina 84.78 29 P P 15 06 01.6 -0.2
baz=272
MAW Mawson 84.81 200 LR LR 15 39 08.0
comp=Z,89nm,20.8s,baz=63,slow=32
PRP Porcupine Dome 84.82 25 P P 15 06 01.3 -0.8
baz=272
C26K Camden Bay 84.91 20 P P 15 06 01.9 -0.3
baz=272
J25K Salcha River, 84.92 26 IAmb IAmb 15 06 15.0
comp=Z,16nm,0.8s
J25K Salcha River, 84.92 26 P P 15 06 02.8 +0.2
baz=272
GAZ Gaziantep 84.93 307 IAmb IAmb 15 06 04.2
comp=Z,34nm,1.2s
PAX Paxson 84.94 27 P P 15 06 02.9 +0.2
baz=272
HARP HAARP 85.10 28 P P 15 06 03.0 -0.4
baz=272
RIDG Independent Ri 85.19 27 P P 15 06 03.8 -0.1
baz=273
F26K Sheenjek River 85.28 23 P P 15 06 04.4 +0.1
baz=273
VNDA Vanda 85.40 172 P P 15 06 04.8 +0.3
VNDA Vanda 85.40 172 P P 15 06 04.8 +0.3
VNDA pmax pmax
comp=Z,8.0nm,1.0s
VNDA Vanda 85.40 172 P P 15 06 03.7 -0.8
comp=Z,2.2nm,0.9s,baz=277,slow=6.4,SNR=3.6
VNDA LR LR 15 43 14.2
comp=Z,72nm,20.6s,baz=330,slow=35
comp=Z,2.2nm,0.9s
N25K Chitina, Valde 85.40 29 P P 15 06 04.9 -0.1
baz=273
G26K Porcupine Rive 85.46 23 P P 15 06 05.2 +0.1
baz=273
SCRK Sand Creek 85.55 26 P P 15 06 05.7 -0.1
baz=273
J26L Joseph Creek 85.70 26 IAmb IAmb 15 06 35.7
comp=Z,14nm,0.9s
J26L Joseph Creek 85.70 26 P P 15 06 06.5 0.0
baz=274
GLB Gilahina Butte 85.79 29 P P 15 06 06.3 -0.6
GLB IAmb IAmb 15 06 21.5
comp=Z,34nm,1.2s
I26K Coal Creek Min 85.83 25 IAmb IAmb 15 06 21.3
comp=Z,122nm,1.9s
I26K Coal Creek Min 85.83 25 P P 15 06 07.2 +0.3
baz=274
L26K Log Cabin Wild 85.90 27 P P 15 06 07.2 -0.2
baz=274
M26K Nabesna, AK 86.11 28 P P 15 06 08.1 -0.3
baz=274
E27K Coleen River 86.21 22 IAmb IAmb 15 06 36.6
comp=Z,16nm,0.9s
E27K Coleen River 86.21 22 P P 15 06 08.7 -0.1
baz=275
G27K Doyon Strip 86.31 23 IAmb IAmb 15 06 37.3
comp=Z,16nm,1.1s
G27K Doyon Strip 86.31 23 P P 15 06 09.2 -0.1
baz=275
D27M Malcolm River 86.34 21 IAmb IAmb 15 06 37.5
comp=Z,22nm,1.1s
D27M Malcolm River 86.34 21 P P 15 06 09.3 -0.2
baz=276
K27K Chicken 86.39 26 IAmb IAmb 15 06 24.8
comp=Z,29nm,1.1s
K27K Chicken 86.39 26 P P 15 06 10.4 +0.7
baz=275
H27K Steamboat Moun 86.42 24 P P 15 06 10.1 +0.2
baz=276
I27K Kandik River 86.44 25 P P 15 06 09.7 -0.3
baz=275
L27K Beaver Creek, 86.59 27 P P 15 06 10.8 0.0
baz=275
M27K Edge Creek, AK 86.63 28 P P 15 06 11.4 +0.3
baz=275
GHAJ Ghor Haditha 86.67 301 IAmb IAmb 15 06 13.3
comp=Z,26nm,1.0s
MMAI Mount Meron Ar 86.68 303 P P 15 06 10.8 -1.1
comp=Z,9.8nm,0.9s,baz=54,slow=7.3,SNR=3.4
MMAI LR LR 15 50 57.6
comp=Z,73nm,19.0s,baz=58,slow=40
comp=Z,9.8nm,0.9s
EGAK Eagle 86.71 25 P P 15 06 11.4 +0.1
baz=276
F28M Old Crow 86.92 22 IAmb IAmb 15 06 26.9
comp=Z,18nm,0.9s
F28M Old Crow 86.92 22 P P 15 06 12.2 -0.1
baz=277
E28M Babbage River 86.92 21 IAmb IAmb 15 06 39.5
comp=Z,12nm,1.1s
E28M Babbage River 86.92 21 P P 15 06 11.9 -0.3
baz=277
CTG Chitna Glacier 87.02 29 P P 15 06 12.2 -0.8
baz=276
CTGM Chitina Glacie 87.03 29 IAmb IAmb 15 06 36.5
comp=Z,28nm,1.0s
BVCY Beaver Creek 87.10 28 P P 15 06 12.6 -0.7
baz=276
D28M Stokes Point 87.11 21 P P 15 06 12.9 -0.3
baz=278
I28M Miner Creek 87.15 25 IAmb IAmb 15 06 43.9
comp=Z,31nm,1.1s
I28M Miner Creek 87.15 25 P P 15 06 13.2 -0.4
baz=277
KIBK Kibwezi 87.17 267 P P 15 06 14.1 -0.6
PPT Papeete 87.32 108 LR LR 15 41 34.7
comp=Z,28nm,18.6s,baz=274,slow=33
PPT2 Papeete2 87.32 108 eS SKSac 15 16 47.1 +6.7
comp=Z,16nm,25.5s
PPT2 Papeete2 87.32 108 eLR LR 15 33 48.6
comp=Z,169nm,29.2s
PPT2 eLR LR 15 34 08.0
comp=Z,218nm,28.5s
EIL Elat 87.33 299 LR LR 15 50 39.0
comp=Z,96nm,20.8s,baz=65,slow=39
YUK3 Moose Creek 87.36 28 P P 15 06 14.4 -0.4
baz=277
BR131 Keskin Array S 87.55 309 iP P 15 06 14.7 -1.4
BRTR Keskin Array B 87.55 309 P P 15 06 14.4 -1.7
comp=Z,4.5nm,0.9s,baz=108,slow=4.1,SNR=17
BRTR LR LR 15 52 14.1
comp=Z,69nm,18.2s,baz=100,slow=40
comp=Z,4.5nm,0.9s
E29M Blow River 87.55 22 P P 15 06 15.8 +0.5
baz=279
DAWY Dawson 87.56 26 P P 15 06 15.2 -0.3
baz=278
PINM Pinnacle 87.65 30 P P 15 06 15.7 -0.3
baz=277
H29M Whitestone 87.69 24 IAmb IAmb 15 06 40.9
comp=Z,16nm,0.9s
H29M Whitestone 87.69 24 P P 15 06 15.9 -0.2
baz=278
G29M Pine Creek 87.73 23 P P 15 06 15.8 -0.4
baz=279
YUK8 Steele Glacier 87.75 29 P P 15 06 16.0 -0.7
baz=277
KMBO Kilima Mbogo 87.84 269 P P 15 06 17.2 -0.9
KMBO IAmb IAmb 15 06 19.4
comp=Z,28nm,1.8s
KMBO Kilima Mbogo 87.84 269 P P 15 06 18.3 +0.2
KMBO Kilima Mbogo 87.84 269 P P 15 06 17.2 -0.9
KMBO pmax pmax
comp=Z,28nm,1.8s
KMBO Kilima Mbogo 87.84 269 P P 15 06 16.2 -1.9
comp=Z,4.2nm,0.8s,baz=63,slow=5.7,SNR=9.7
KMBO LR LR 15 44 42.2
comp=Z,39nm,18.7s,baz=92,slow=35
comp=Z,4.2nm,0.8s
I29M Ogilvie Camp, 87.84 25 IAmb IAmb 15 06 33.2
comp=Z,16nm,1.1s
I29M Ogilvie Camp, 87.84 25 P P 15 06 16.7 -0.1
baz=278
TBI Tubuai 88.10 114 eSS SS 15 22 50.0 +0.4
comp=Z,362nm,27.2s
TBI Tubuai 88.10 114 eLR LR 15 34 14.5
comp=Z,952nm,30.0s

PNL	**Peninsula**	88.14	30	P		**P**	15 06 17.6	-0.7
	baz=278							
ARCES	**ARCESS Array B**	88.19	340	P		**P**	15 06 16.0	-2.3
	comp=Z,3.4nm,0.6s,baz=69,slow=6.6,SNR=17							
ARCES				LR		LR	15 51 54.6	
	comp=Z,184nm,19.4s,baz=62,slow=40							
	comp=Z,3.4nm,0.6s							
M29M	**Somme Creek**	88.20	28	P		**P**	15 06 18.5	-0.2
	baz=278							
L29M	**L29M**	88.25	27	IAmb		IAmb	15 06 33.1	
	comp=Z,12nm,0.9s							
L29M	**L29M**	88.25	27	P		**P**	15 06 18.3	-0.5
	baz=279							
YUK4	**Talbot Arm**	88.27	29	P		**P**	15 06 18.3	-0.8
	baz=278							
EPYK	**Eagle Plains**	88.33	24	IAmb		IAmb	15 06 34.8	
	comp=Z,25nm,1.1s							
EPYK	**Eagle Plains**	88.33	24	P		**P**	15 06 18.6	-0.4
	baz=280							
K29M	**Barlow Dome**	88.41	26	P		**P**	15 06 19.0	-0.6
	baz=279							
SPITS	**Spitsbergen Ar**	88.41	349	P		**P**	15 06 17.0	-2.3
SPITS	**Spitsbergen Ar**	88.41	349	P		**P**	15 06 16.9	-2.3
	comp=Z,19nm,0.9s,baz=94,slow=7.9,SNR=16							
	comp=Z,19nm,0.9s							
G30M	**tAoh Zrail Nji**	88.41	23	P		**P**	15 06 19.1	-0.4
	baz=280							
O29M	**Mount Kennedy**	88.46	30	P		**P**	15 06 19.5	-0.4
	baz=278							
F30M	**Barrier River**	88.47	22	P		**P**	15 06 19.7	0.0
	baz=281							
I30M	**Mount Dempster**	88.66	25	P		**P**	15 06 19.9	-0.9
	baz=280							
J30M	**Hart River**	88.80	25	IAmb		IAmb	15 06 38.9	
	comp=Z,15nm,1.4s							
J30M	**Hart River**	88.80	25	P		**P**	15 06 20.6	-0.8
	baz=280							
HYT	**Haines Junctio**	88.90	29	P		**P**	15 06 21.1	-0.9
	baz=279							
M30M	**Minto, Yukon**	88.94	27	P		**P**	15 06 21.3	-0.8
	baz=280							
P29M	**Windy Craggy**	88.97	30	P		**P**	15 06 21.5	-0.8
	baz=279							
N30M	**Aishikik Lake**	89.00	28	P		**P**	15 06 21.4	-1.0
	baz=280							
INK	**Inuvik**	89.16	21	P		**P**	15 06 22.5	-0.3
	baz=283							
MAYO	**Mayo, Yukon**	89.17	26	P		**P**	15 06 22.4	-0.7
	baz=281							
G31M	**Satah River**	89.18	23	IAmb		IAmb	15 06 35.9	
	comp=Z,12nm,0.9s							
G31M	**Satah River**	89.18	23	P		**P**	15 06 22.4	-0.6
	baz=282							
F31M	**Tsiigehtchic**	89.27	22	P		**P**	15 06 22.8	-0.6
	baz=283							
P30M	**Million Dollar**	89.28	30	P		**P**	15 06 22.4	-1.3
	baz=280							
AKASG	**Malin Array Be**	89.42	321	P		**P**	15 06 21.8	-2.7
	comp=Z,2.6nm,0.8s,baz=71,slow=4.1,SNR=7.7							
AKASG				LR		LR	15 50 36.7	
	comp=Z,160nm,18.5s,baz=61,slow=38							
	comp=Z,2.6nm,0.8s							
AKBB	**Malin Array Si**	89.42	321	*ce*P		**P**	15 06 22.3	-2.2
AKBB				pmax		pmax		
	comp=Z,17nm,1.4s							
FINES	**FINESS Array B**	89.45	332	P		**P**	15 06 22.2	-2.2
	comp=Z,6.3nm,0.8s,baz=73,slow=5.0,SNR=22							
FINES				LR		LR	15 50 28.1	
	comp=Z,340nm,19.1s,baz=74,slow=38							
	comp=Z,6.3nm,0.8s							
O30N	**Mendenhall**	89.59	29	P		**P**	15 06 24.6	-0.6
	baz=280							
N31M	**Braeburn, Yuko**	89.61	28	P		**P**	15 06 24.5	-0.7
	baz=281							
VSU	**Vasula**	89.65	329	*ce*P		**P**	15 06 25.2	-0.2
VSU				pmax		pmax		
	comp=Z,31nm,1.7s							
MNK	**Minsk**	89.67	325	*i* P		**P**	15 06 23.2	-2.4
	comp=E,8.0nm,1.2s							
MNK				*i* P		**P**	15 06 23.2	-2.4
	comp=N,19nm,1.2s							
MNK				*i* P		**P**	15 06 23.2	-2.4
	comp=Z,18nm,0.8s,baz=81							
MNK				*i* pP		**sP**	15 06 37.9	-2.8
MNK				*i* PP		**PP**	15 09 55.3	-2.3
MNK				*i* PPP		PPP	15 11 52.1	
MNK				*i* S		**SKSac**	15 16 48.7	-4.2
MNK				*i* sS		**S**	15 17 14.8	+0.8
MNK				*i* SS		**SS**	15 23 09.0	-1.7
MNK				*i* SSS		SSS	15 26 45.0	
MNK				*i* LQ		LQ	15 44 10.1	
MNK				*i* LR		LR	15 46 43.0	
MNK				*i* LRM		MLR	15 48 47.6	
	comp=E,154nm,22.3s							
MNK				*i* LRM		MLR	15 48 51.9	
	comp=Z,362nm,18.9s							
MNK				*i* LRM		MLR	15 49 25.4	
	comp=N,598nm,19.8s							
MNK	**Minsk**	89.67	325	*i* P		**P**	15 06 23.2	-2.4
MNK				*i* *PP		**sP**	15 06 37.8	-2.8
MNK				*i*			15 09 55.2	
MNK				*i* PPP		PPP	15 11 52.1	
MNK				*i* S		**SKSac**	15 16 48.6	-4.2
MNK				*i* *SS		**S**	15 17 14.7	+0.8
MNK				*i* SS		**SS**	15 23 08.9	-1.7
MNK				*i* SSS		SSS	15 26 44.9	
MNK				pmax		pmax		
	comp=Z,18nm,0.8s							
MNK				pmax		pmax		
	comp=E,8.0nm,1.2s							
MNK				pmax		pmax		
	comp=N,19nm,1.2s							
MNK				MLR		MLR		
	comp=E,154nm,22.0s							
MNK				MLR		MLR		
	comp=Z,362nm,19.0s							
MNK				MLR		MLR		
	comp=N,598nm,20.0s							
S31K	**Pelican**	90.03	32	P		**P**	15 06 26.7	-0.4
	baz=280							
M31M	**Drury Creek, Y**	90.11	27	P		**P**	15 06 27.8	+0.3
	baz=282							
WHY	**Whitehorse**	90.20	29	P		**P**	15 06 27.2	-0.8
	baz=282							
SKAG	**Skagway**	90.21	30	P		**P**	15 06 27.6	-0.4
	baz=281							
NACGM	**Naroch**	90.24	325	*e*P		**P**	15 06 30.9	+2.7
	comp=Z,34nm,0.8s,baz=80							
FARO	**Faro, Yukon**	90.58	27	IAmb		IAmb	15 06 43.5	
	comp=Z,11nm,0.8s							
FARO	**Faro, Yukon**	90.58	27	P		**P**	15 06 29.8	0.0
	baz=283							
A36M	**Sachs Harbour**	90.82	17	IAmb		IAmb	15 06 48.6	
	comp=Z,7.7nm,0.8s							
N32M	**Quiet Lake**	90.95	28	P		**P**	15 06 30.3	-1.2
	baz=283							
R33M	**Jennings River**	92.40	30	P		**P**	15 06 37.3	-1.0
	baz=285							
MLR	**Muntele Rosu**	92.42	316	LR		LR	15 54 38.4	
	comp=Z,170nm,19.2s,baz=2.0,slow=40							
WRAK	**Wrangell Islan**	92.42	33	P		**P**	15 06 37.3	-1.0
	baz=284							
BUR08	**Bucovina Ar. S**	92.53	318	IAmb		IAmb	15 07 24.6	
	comp=Z,31nm,1.9s							
T35M	**Bob Quinn**	93.40	32	P		**P**	15 06 42.0	-0.9
	baz=285							
CRVS	**Cervenica-Dubn**	94.70	320	*e*P		**P**	15 06 48.4	-0.6
CRVS	**Cervenica-Dubn**	94.70	320	*e*P		**P**	15 06 48.4	-0.6
DAG	**Danmarks Havn**	95.27	352	*i* P		**P**	15 06 48.0	-3.0
QSPA	**South Pole Qui**	95.40	180	P		**P**	15 06 51.4	-0.5
	comp=Z,1.7nm,0.8s,baz=315,slow=3.8,SNR=3.6							
	comp=Z,1.7nm,0.8s							
TAOE	**Nuku Hiva Isla**	95.64	98	*e*LR		LR	15 38 04.4	
	comp=Z,303nm,26.9s							
HFS	**Hagfors**	95.64	332	P		**P**	15 06 50.2	-2.8
	comp=Z,1.8nm,0.8s,baz=75,slow=6.3,SNR=4.5							
	comp=Z,1.8nm,0.8s							
NB2	**NORSAR Subarra**	96.43	333	P		**P**	15 06 53.1	-3.5
	comp=Z,28nm,1.7s,baz=67,slow=4.6							
NB2	**NORSAR Subarra**	96.43	333	P		**P**	15 06 53.1	-3.5
	baz=67,slow=4.6							
NOA	**NORSAR Array B**	96.43	333	P		**P**	15 06 53.8	-2.9
	comp=Z,2.5nm,0.9s,baz=67,slow=4.5,SNR=4.7							
	comp=Z,2.5nm,0.9s							
VYHS	**Vyhne**	96.48	320	*e*PDIFF		**P**	15 06 55.3	-1.8
VYHS	**Vyhne**	96.48	320	*e*P		**P**	15 06 55.3	-1.8
NEEM	**North Greenlan**	97.14	359	*i* P		**P**	15 06 55.4	-4.5
VRAC	**Vranov**	97.67	321	LR		LR	15 57 09.3	
	comp=Z,169nm,18.7s,baz=36,slow=39							
LSZ	**Lusaka**	97.96	255	LR		LR	15 48 47.2	
	comp=Z,102nm,21.4s,baz=102,slow=34							
YKA	**Yellowknife Ar**	98.61	24	P		**P**	15 07 05.7	-0.7
	comp=Z,1.4nm,0.9s,baz=297,slow=5.0,SNR=8.1							
	comp=Z,1.4nm,0.9s							
CLL	**Collm**	99.18	324	*e*Pdif		**Pdif**	15 07 10.0	+0.8
CLL				AMS		AMS	15 55 00.0	
	comp=Z,300nm,19.7s							
CLL	**Collm**	99.18	324	*e*P		**Pdif**	15 07 10.0	+0.8
CLL				MLR		MLR		
	comp=Z,300nm,19.7s							
KHC	**Kasperske Hory**	99.60	322	*i* P		**Pdif**	15 07 10.4	-0.8
KHC				pmax		pmax		
	comp=Z,5.0nm,1.3s							
GERES	**GERESS Array B**	99.62	321	LR		LR	15 54 56.6	
	comp=Z,182nm,20.9s,baz=74,slow=37							
MSO	**Missoula**	106.48	38	P		**PKiKP**	15 11 51.1	-1.7
	baz=297							
NVAR	**Mina Array Bea**	107.01	47	Pdiff		**Pdif**	15 07 45.0	+0.3
	comp=Z,0.6nm,0.6s,baz=274,slow=5.5,SNR=5.9							
VES	**Vestal, Richgr**	107.35	50	P		**PKiKP**	15 11 52.9	-1.7
	baz=290							
SNCC	**San Nicolas Is**	107.89	53	P		**PKiKP**	15 11 54.5	-1.2
	baz=289							
CWC	**Cottonwood Cre**	107.90	49	P		**PKiKP**	15 11 54.2	-1.5
	baz=291							
BOZ	**Bozeman (W)**	108.47	38	P		**PKiKP**	15 11 55.4	-1.2
	baz=299							
MPMC	**Manual Prospec**	108.49	49	P		**PKiKP**	15 11 55.8	-1.1
	baz=292							
EDW2	**Edwards Air Fo**	108.53	51	P		**PKiKP**	15 11 56.0	-0.9
	baz=291							
FMP	**Fort Macarthur**	108.70	52	P		**PKiKP**	15 11 56.0	-1.1
	baz=290							
R11B	**Troy Canyon, C**	109.02	46	P		**PKiKP**	15 11 56.8	-1.1
	baz=294							
MURC	**Murrieta**	109.60	52	P		**PKiKP**	15 11 57.9	-1.0
	baz=291							
HEC	**Hector,Ludlow**	109.81	50	P		**PKiKP**	15 11 58.0	-1.4
	baz=292							
TUQ	**Turquoise Moun**	109.90	49	P		**PKiKP**	15 11 57.8	-1.8
	baz=292							
TPFO	**Pinon Flats**	110.17	51	P		**PKiKP**	15 11 58.9	-1.2
	baz=292							
GMRC	**Granite Mounta**	110.35	50	P		**PKiKP**	15 11 59.3	-1.1
	baz=292							
BELC	**Belle Mtn. Jos**	110.38	51	P		**PKiKP**	15 12 00.5	0.0
	baz=292							
LAO	**LASA Array**	111.12	35	P		**PKiKP**	15 12 01.6	+0.1
	baz=304							
BW06	**Boulder Array**	111.16	40	P		**PKiKP**	15 12 01.5	-0.4
	baz=300							
PDMCI	**Parker Dam,Lak**	111.69	50	P		**PKiKP**	15 12 00.6	-2.2
	baz=293							
K22A	**Casper**	113.13	39	P		**PKiKP**	15 12 03.6	-1.9
	baz=302							
WUAZ	**Wupatki**	113.26	48	P		**PKiKP**	15 12 04.5	-1.5
	baz=296							
RSSD	**Black Hills**	113.84	36	P		**PKiKP**	15 12 05.5	-1.4
	baz=305							
ULM	**Lac du Bonnet**	114.23	27	PKP		**PKiKP**	15 12 05.5	-1.6
	comp=Z,7.7nm,0.5s,baz=308,slow=1.8,SNR=11							
N23A	**Red Feather La**	114.43	40	P		**PKiKP**	15 12 07.1	-1.1
	baz=302							
MVCO	**Mesa Verde**	114.56	45	P		**PKiKP**	15 12 06.9	-1.5
	baz=299							
ISCO	**Idaho Springs**	115.22	41	P		**PKiKP**	15 12 08.3	-1.5
	baz=302							
S22A	**4UR Ranch, Cre**	115.46	44	P		**PKiKP**	15 12 08.9	-1.4
	baz=300							
Q24A	**Divide**	115.97	42	P		**PKiKP**	15 12 10.1	-1.2
	baz=302							
SDCO	**Great Sand Dun**	116.37	43	P		**PKPdf**	15 12 10.8	-1.2
	baz=301							
OGNE	**Ogallala**	116.87	38	P		**PKPdf**	15 12 11.4	-1.2
	baz=305							
ANMO	**Albuquerque**	117.10	46	P		**PKPdf**	15 12 12.0	-1.4
	baz=299							
121A	**Cookes Peak, D**	117.25	49	P		**PKPdf**	15 12 12.9	-0.8
	baz=297							
T25A	**Trinidad**	117.42	43	P		**PKPdf**	15 12 12.8	-1.1
	baz=302							
KSCO	**Kaye Shedlock'**	117.59	40	P		**PKPdf**	15 12 12.9	-1.2
	baz=304							
EYMN	**Ely**	117.88	27	P		**PKPdf**	15 12 13.5	-0.8
	baz=318							
ECSD	**EROS Data Cent**	118.30	33			**PKPdf**	15 12 13.9	-1.2
ECSD	**EROS Data Cent**	118.30	33	P		**PKPdf**	15 12 14.0	-1.2
	baz=312							
BGNE	**Belgrade**	118.93	36	P		**PKPdf**	15 12 15.3	-1.2
	baz=309							
SCHQ	**Schefferville**	119.08	8	PKP		**PKPdf**	15 12 14.9	-1.5
	comp=Z,4.0nm,0.5s,baz=301,slow=1.4,SNR=15							
SPMN	**Marine on St.**	119.25	30	P		**PKPdf**	15 12 15.8	-1.2
	baz=316							
MNTX	**Cornudas Mount**	119.44	49	P		**PKPdf**	15 12 16.7	-1.0
	baz=298							
CBKS	**Cedar Bluff**	119.55	39	P		**PKPdf**	15 12 16.9	-0.9
	baz=306							
MSTX	**Muleshoe**	120.22	45	P		**PKPdf**	15 12 18.3	-1.0
	baz=302							
TORD	**Torodi Ar. Bea**	120.70	289	PKP		**PKPdf**	15 12 18.4	-2.2
	comp=Z,1.4nm,0.6s,baz=37,slow=2.9,SNR=7.1							
KSU1	**Kansas State U**	121.30	37	P		**PKPdf**	15 12 20.4	-0.7
	baz=310							
SCIA	**State Center**	121.37	33	P		**PKPdf**	15 12 20.1	-1.1
	baz=314							
MNHN	**Monahans**	121.57	48			**PKPdf**	15 12 20.9	-1.0
TXAR	**Lajitas Array**	121.86	51	PKP		**PKPdf**	15 12 22.4	-0.2
	comp=Z,1.6nm,0.7s,baz=249,slow=0.7,SNR=25							
JFWS	**Jewell Farm**	122.19	30	P		**PKPdf**	15 12 21.6	-1.1
	baz=317							
GLMI	**Grayling**	123.30	25	P		**PKPdf**	15 12 23.5	-1.3
	baz=324							
TUL3	**Leonard**	123.81	40	P		**PKPdf**	15 12 24.4	-1.6
	baz=309							
L44A	**Lake County Fo**	123.89	29	P		**PKPdf**	15 12 25.0	-1.0
	baz=320							
DRIO	**Del Rio**	124.13	49			**PKPdf**	15 12 26.3	-0.6
JCT	**Junction City**	124.19	47	PKPdf		**PKPdf**	15 12 26.2	-0.7
JCT	**Junction City**	124.19	47	P		**PKPdf**	15 12 26.4	-0.6
	baz=302							
JCT	**Junction City**	124.19	47	PKIKP		**PKPdf**	15 12 26.2	-0.7
HDIL	**Hopedale**	124.41	31	P		**PKPdf**	15 12 26.3	-0.7
	baz=317							
CCM	**Cathedral Cave**	125.13	35	P		**PKPdf**	15 12 27.5	-1.0
	baz=314							
833A	**Chaparral WMA,**	125.62	49	P		**PKPdf**	15 12 29.1	-0.5
	baz=301							
SFIN	**Lafayette**	125.66	30	P		**PKPdf**	15 12 27.6	-1.7
	baz=320							
O48B	**Farmland**	126.69	29	P		**PKPdf**	15 12 29.9	-1.5
	baz=322							
NATX	**Nacogdoches**	127.09	43	P		**PKPdf**	15 12 31.3	-1.1
	baz=307							
LONY	**Lake Ozonia**	127.10	17	P		**PKPdf**	15 12 30.8	-1.3
	baz=335							
ERPA	**Erie**	127.43	23	P		**PKPdf**	15 12 32.4	-0.4
	baz=328							
P49A	**Miami Univ. Ec**	127.47	29	P		**PKPdf**	15 12 31.8	-1.1
	baz=322							
WCI	**Wyandotte Cave**	127.69	31	P		**PKPdf**	15 12 32.1	-1.3
	baz=319							
ACSO	**Alum Creek Sta**	127.72	27	P		**PKPdf**	15 12 32.1	-1.3
	baz=324							
M53A	**WI Miller and**	127.72	24	P		**PKPdf**	15 12 31.8	-1.6
	baz=327							
LBNH	**Lisbon**	128.20	15	P		**PKPdf**	15 12 33.2	-1.0
	baz=338							
WVT	**Waverly**	128.42	34			**PKPdf**	15 12 34.1	-0.7
WVT	**Waverly**	128.42	34	P		**PKPdf**	15 12 33.8	-1.0
	baz=317							
WVT	**Waverly**	128.42	34	PKIKP		**PKPdf**	15 12 34.1	-0.7
O53A	**New Philadelph**	128.49	26	P		**PKPdf**	15 12 33.5	-1.3
	baz=326							
P52A	**Corning**	128.59	27	P		**PKPdf**	15 12 33.8	-1.3
	baz=325							
OXF	**Oxford**	128.66	37	P		**PKPdf**	15 12 33.8	-1.4
	baz=314							
BINY	**Binghamton**	128.83	20	P		**PKPdf**	15 12 34.4	-1.1
	baz=333							
MCWV	**Mont Chateau**	129.56	25	P		**PKPdf**	15 12 35.5	-1.4
	baz=327							
L61B	**Northampton**	129.64	17	P		**PKPdf**	15 12 35.3	-1.6
	baz=337							
HRV	**Adam Dziewonsk**	129.91	16	P		**PKPdf**	15 12 36.1	-1.4
	baz=338							
TZTN	**Tazewell**	130.38	30	P		**PKPdf**	15 12 37.5	-1.1
	baz=322							
PAL	**Palisades**	130.58	19	P		**PKPdf**	15 12 37.7	-1.1
	baz=335							
LRAL	**Lakeview Retre**	131.12	36	P		**PKPdf**	15 12 38.8	-1.2
	baz=316							
BLA	**Blacksburg**	131.34	27	P		**PKPdf**	15 12 39.6	-0.8
	baz=326							
BRAL	**Brewton**	132.41	38	P		**PKPdf**	15 12 41.7	-0.8
	baz=315							
KMSC	**Kings Mountain**	132.59	30	P		**PKPdf**	15 12 41.5	-1.2
	baz=323							
GOGA	**Godfrey**	132.84	33	P		**PKPdf**	15 12 42.8	-0.4
	baz=320							
CNNC	**Cliffs of the**	134.12	26	P		**PKPdf**	15 12 45.4	-0.2
	baz=328							
TIGA	**Tifton**	134.25	35	P		**PKPdf**	15 12 44.8	-1.2
	baz=319							
NHSC	**New Hope**	134.79	30	P		**PKPdf**	15 12 46.3	-0.6
	baz=324							
DWPF	**Disney Wildern**	137.98	36	P		**PKPdf**	15 12 52.6	-0.4
	baz=319							
PLCA	**Paso Flores**	142.26	161	PKP		**PKPdf**	15 13 00.5	0.0
	comp=Z,1.5nm,0.7s,baz=218,slow=4.5,SNR=5.1							
TRQA	**Tornquist**	146.98	170	PKPbc		**PKPbc**	15 13 10.3	-0.3
TRQA	**Tornquist**	146.98	170	PKP2		**PKPbc**	15 13 10.3	-0.3
CDITO	**Canoas**	148.91	63			**PKPdf**	15 13 14.3	+1.8
SDDR	**Presa de Saban**	150.87	33			**PKPbc**	15 13 19.9	-1.2
LCO	**Las Campanas**	152.31	149			**PKPbc**	15 13 24.3	-0.2
LCO	**Las Campanas**	152.31	149	PKIKP		**PKPbc**	15 13 24.3	-0.2
AC05	**El Transito**	152.67	150			**PKPbc**	15 13 25.2	+0.1

NEIC ***31*** *15:42:07.8±1.7,20°.4S±0°.2×177°.9W±0°.2,h537km±13km, mb4.3/16, Error ellipse: s-maj=24.9km s-min=19.7km az=145.0*

IDC ***31*** *15:42:11.2±3.0,20°.37S×178°.12W,h567km±33km, mb3.0/10, mbtmp3.9/11, Error ellipse: s-maj=22.6km s-min=16.1km az=149.0*

ISC 31 15:42:07.4±0.6, 20°.3S±0°.1×177°.95W±0°.10, h534km, n39, σ1°37/42, mb3.8/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NIUE	**Niue**	7.66	82	P	P		**P** 15 44 00.9	-0.4
AFI	**Afiamalu**	8.69	44	P	P		**P** 15 44 08.1	-3.8
PINNC	**Pines Island,**	13.79	258	P	P		**P** 15 45 06.0	+1.5
OUENC	**Ouen Island, N**	14.32	259	P	P		**P** 15 45 11.8	+1.6
DZM	**Mont Dzumac**	14.66	260	P	P		**P** 15 45 16.2	+2.4
DZM	**Mont Dzumac**	14.66	260	P	P		**P** 15 45 13.7	-0.1
	5.0nm,0.9s,baz=76,slow=14,SNR=3.6							
TOZ	**Tahuroa Road**	18.25	197	P	P		**P** 15 45 46.1	-2.1
TOZ				IAmb	IAmb		15 46 18.2	
	comp=Z,18nm,1.4s							
RTZ	**Ruatahuna**	18.74	192	P	P		**P** 15 45 50.5	-2.2
BFZ	**Birch Farm**	20.88	192	P	P		**P** 15 46 11.6	-0.5
MRZ	**Mangatainoka R**	21.00	194	P	P		**P** 15 46 11.6	-1.5
TUWZ	**Tuamarina**	22.13	196	P	P		**P** 15 46 24.0	+0.7
BBOO	**Buckleboo**	42.67	243	P	P		**P** 15 49 17.3	0.0
BBOO				IAmb	IAmb		15 49 49.6	
	comp=Z,14nm,1.4s							
WR0	**Warramunga Arr**	44.48	262	P	P		**P** 15 49 30.8	-0.7
WR0				IAmb	IAmb		15 50 05.7	
	comp=Z,10nm,1.5s							
AS31	**Alice Springs**	44.60	257	P	P		**P** 15 49 31.3	-1.2
ASAR	**Alice Springs**	44.60	257	P	P		**P** 15 49 31.4	-1.1
ASAR	**Alice Springs**	44.60	257	P	P		**P** 15 49 33.0	+0.5
	comp=Z,2.1nm,0.5s,baz=90,slow=7.9,SNR=80							
ASAR				PcP	PcP		15 51 03.7	-0.2
	comp=Z,0.5nm,0.6s,baz=102,slow=3.9,SNR=7.4							
ASAR				S	S		15 55 26.1	-3.7
	comp=Z,0.6nm,1.0s,baz=87,slow=18,SNR=5.5							
	comp=Z,2.1nm,0.5s							
WB0	**Warramunga Arr**	44.65	262	P	P		**P** 15 49 32.4	-0.5
WB2	**Warramunga Arr**	44.66	262	P	P		**P** 15 49 32.4	-0.5
WRA	**Warramunga Arr**	44.67	262	P	P		**P** 15 49 32.9	-0.2
	comp=Z,1.0nm,0.3s,baz=97,slow=7.4,SNR=61							
WRA				PcP	PcP		15 51 04.7	+0.5
	comp=Z,0.3nm,0.9s,baz=91,slow=3.1,SNR=1.7							
	comp=Z,1.0nm,0.3s							
MTN	**Manton Dam**	49.21	270	P	P		**P** 15 50 07.0	-0.2
MTN				IAmb	IAmb		15 50 46.2	
	comp=Z,8.7nm,1.2s							
FORT	**Forrest**	49.41	246	P	P		**P** 15 50 08.4	-0.1
FORT				IAmb	IAmb		15 50 41.0	
	comp=Z,25nm,1.4s							
MBWA	**Marble Bar**	57.94	257	P	P		**P** 15 51 08.8	-0.3
MBWA				IAmb	IAmb		15 51 13.7	
	comp=Z,21nm,1.4s							
QSPA	**South Pole Qui**	69.73	180	P	P		**P** 15 52 24.2	+0.6
QSPA	**South Pole Qui**	69.73	180	P	P		**P** 15 52 24.4	+0.8
	comp=Z,1.3nm,0.7s,baz=270,slow=1.5,SNR=9.2							
	comp=Z,1.3nm,0.7s							
MJAR	**Matsushiro Arr**	70.11	324	P	P		**P** 15 52 26.4	+0.3
	comp=Z,0.9nm,0.7s,baz=163,slow=5.7,SNR=5.7							
	comp=Z,0.9nm,0.7s							
PETK	**Petropavlovsk-**	76.12	345	P	P		**P** 15 53 00.6	+0.5
	comp=Z,0.8nm,0.6s,baz=132,slow=8.4,SNR=1.5							
	comp=Z,0.8nm,0.6s							
USRK	**Ussuriysk Ar.**	78.86	326	P	P		**P** 15 53 16.5	+1.4
	comp=Z,1.8

SPA2	**Spitsbergen Ar**	**1.33**	**340**	Pn		**Pn**	**15 50 46.4**	**-0.2**
SPA0	**Spitsbergen Ar**	**1.33**	**340**	Pn		**Pn**	**15 50 46.2**	**-0.4**
	baz=147,slow=18							
SPA0				Pg		**Pg**	**15 50 47.3**	**-0.1**
	baz=147,slow=18							
SPA0				Lg		Lg	15 51 03.8	
	baz=162,slow=28							
SPA0	**Spitsbergen Ar**	**1.33**	**340**	Pn		**Pn**	**15 50 46.5**	**-0.1**
SPA0	**Spitsbergen Ar**	**1.33**	**340**	⇑*iP*		**Pn**	**15 50 46.2**	**-0.4**
SPA0				*i* S		**Sn**	**15 51 04.2**	**-0.1**
SPA0	**Spitsbergen Ar**	**1.33**	**340**	Pn		**Pn**	**15 50 46.2**	**-0.4**
	baz=147,slow=18							
SPA0				Pg		**Pg**	**15 50 47.3**	**-0.1**
	baz=147,slow=18							
SPA0				Sg		**Sb**	**15 51 03.8**	**-0.3**
	baz=162,slow=28							
SPITS	**Spitsbergen Ar**	**1.33**	**340**	Pg		**Pn**	**15 50 46.2**	**-0.4**
	baz=142,slow=19							
SPITS				Lg		Lg	15 51 04.2	
	baz=151,slow=32							
SPA3	**Spitsbergen Ar**	**1.33**	**340**	Pn		**Pn**	**15 50 46.5**	**-0.1**
SPB5	**Spitsbergen Ar**	**1.33**	**340**	Pn		**Pn**	**15 50 46.5**	**-0.2**
BRBA	**Barentsburg A**	**1.47**	**322**	Pn		**Pg**	**15 50 50.2**	**+0.1**
BRBA				Lg		Lg	15 51 10.1	
BRBA	**Barentsburg A**	**1.47**	**322**	*e*P		**Pn**	**15 50 48.8**	**+0.3**
BRBA				*e*Pg		**Pg**	**15 50 50.2**	**+0.1**
BRBA				*e*Sg		**Sg**	**15 51 09.3**	**+0.1**
BRBA				IAML			15 51 11.2	
	comp=Z,14μm,0.3s							
BRBB	**Barentsburg B**	**1.50**	**322**	Pn		**Pn**	**15 50 49.1**	**+0.2**
BRBB				Pg		**Pg**	**15 50 50.8**	**+0.1**
BRBB				Lg		Lg	15 51 09.8	
BRBB	**Barentsburg B**	**1.50**	**322**	*e*P		**Pn**	**15 50 49.3**	**+0.4**
BRBB				*e*Pg		**Pg**	**15 50 50.7**	**+0.1**
BRBB				*e*S		**Sb**	**15 51 09.2**	**+0.3**
HOPEN	**Hopen**	**1.54**	**103**	Pn		**Pn**	**15 50 48.9**	**-0.6**
HOPEN				Pg		**Pg**	**15 50 51.6**	**+0.2**
HOPEN				Sn		**Sn**	**15 51 08.6**	**-1.0**
HOPEN				Lg		Lg	15 51 11.8	
HOPEN	**Hopen**	**1.54**	**103**	⇑*iP*		**Pn**	**15 50 48.9**	**-0.6**
HOPEN				*i* S		**Sn**	**15 51 07.1**	**-2.4**
HOPEN	**Hopen**	**1.54**	**103**	⇑*iP*		**Pn**	**15 50 48.8**	**-0.7**
HOPEN				*e*Pg		**Pg**	**15 50 51.3**	**-0.1**
HOPEN				*e*S		**Sn**	**15 51 07.6**	**-2.0**
HOPEN				*e*Sg		**Sb**	**15 51 10.8**	**+0.7**
KBS	**Kingsbay**	**2.43**	**328**	Pn		**Pn**	**15 51 00.9**	**-0.8**
KBS				Pg		**Pg**	**15 51 07.3**	**-1.2**
KBS				Lg		Lg	15 51 38.1	
KBS	**Kingsbay**	**2.43**	**328**			**Pn**	**15 51 00.9**	**-0.8**
KBS	**Kingsbay**	**2.43**	**328**	⇑*iP*		**Pn**	**15 51 01.0**	**-0.6**
KBS				*e*S		**Sn**	**15 51 31.2**	**-0.3**
KBS	**Kingsbay**	**2.43**	**328**	*e*P		**Pn**	**15 51 01.1**	**-0.6**
KBS				*e*Pg		**Pg**	**15 51 07.2**	**-1.2**
KBS				*e*Sg		**Sg**	**15 51 37.9**	**-2.0**
KBS				IAML			15 51 41.8	
	comp=Z,9μm,0.5s							
KBS	**Kingsbay**	**2.43**	**328**	*ce*P		**Pn**	**15 51 01.1**	**-0.6**
KBS				pmax		pmax		
	comp=Z,208nm,0.6s							
KBS	**Kingsbay**	**2.43**	**328**	*e*P		**Pb**	**15 51 04.8**	**-0.9**
KBS				*e*			15 51 38.1	
BJO1	**Bjornoya**	**2.46**	**178**	Pn		**Pn**	**15 51 01.2**	**-0.9**
BJO1				Pg		**Pg**	**15 51 08.5**	**-0.6**
BJO1				Lg		Lg	15 51 41.3	
BJO1	**Bjornoya**	**2.46**	**178**	*e*Pg		**Pg**	**15 51 08.3**	**-0.7**
BJO1				*e*Sg		**Sg**	**15 51 40.4**	**-0.5**
BJO1				IAML			15 51 45.9	
	comp=Z,4μm,0.4s							
BJO1	**Bjornoya**	**2.46**	**178**	*i* P		**Pg**	**15 51 08.0**	**-1.0**
BJO1				*i* S		**Sg**	**15 51 40.0**	**-0.9**
HAMF	**Hammerfest**	**6.49**	**165**	Pn		**Pn**	**15 51 55.9**	**-1.6**
HAMF				Sn		**Sn**	**15 53 04.4**	**-7.1**
HAMF	**Hammerfest**	**6.49**	**165**	*e*P		**Pn**	**15 51 56.3**	**-1.2**
HAMF				*e*S		**Sn**	**15 53 04.3**	**-7.1**
ZFI2	**Zemlya Franca-**	**6.73**	**42**	*e*P		**Pn**	**15 51 59.2**	**-1.5**
ZFI2				*e*S		**Sn**	**15 53 10.1**	**-7.1**
	comp=Z,178nm,0.8s							
OMEGA	**Omega**	**6.74**	**42**	*e*P		**Pn**	**15 51 59.3**	**-1.4**
OMEGA				*e*S		**Sn**	**15 53 10.7**	**-6.7**
	comp=Z,198nm,0.7s							
TRO	**Tromso**	**7.36**	**179**	Pn		**Pn**	**15 52 08.9**	**-0.3**
TRO				Sn		**Sn**	**15 53 30.0**	**-2.6**
TRO	**Tromso**	**7.36**	**179**	*e*P		**Pn**	**15 52 09.3**	**+0.1**
JETT	**Jettan, Norway**	**7.45**	**175**	Pn		**Pn**	**15 52 10.0**	**-0.6**
JETT				Sn		**Sn**	**15 53 30.4**	**-4.8**
JETT	**Jettan, Norway**	**7.45**	**175**	Pn		**Pn**	**15 52 10.0**	**-0.6**
JETT				Sn		**Sn**	**15 53 30.4**	**-4.8**
VADS	**Vadso**	**7.49**	**151**	P		**Pn**	**15 52 10.4**	**-0.8**
VADS				S		**Sn**	**15 53 29.4**	**-6.6**
VADS	**Vadso**	**7.49**	**151**	*e*P		**Pn**	**15 52 10.6**	**-0.5**
KEV	**Kevo**	**7.61**	**157**	Pn		**Pn**	**15 52 11.2**	**-1.5**
KEV				Sn		**Sn**	**15 53 31.1**	**-7.7**
KEV	**Kevo**	**7.61**	**157**	Pn		**Pn**	**15 52 11.0**	**-1.7**
KEV	**Kevo**	**7.61**	**157**	*e*P		**Pn**	**15 52 11.4**	**-1.3**
KEV				*e*S		**Sn**	**15 53 31.0**	**-7.9**
KEV	**Kevo**	**7.61**	**157**	P		**Pn**	**15 52 11.0**	**-1.7**
ARA0	**ARCESS Array S**	**7.71**	**162**	Pn		**Pn**	**15 52 13.4**	**-0.7**
	baz=353,slow=12							
ARA0				Sn		**Sn**	**15 53 34.1**	**-7.2**
	baz=3.8,slow=22							
ARA0	**ARCESS Array S**	**7.71**	**162**	Pn		**Pn**	**15 52 13.4**	**-0.7**
	baz=353,slow=12							
ARA0				Sn		**Sn**	**15 53 34.1**	**-7.2**
	baz=3.8,slow=22							
ARCES	**ARCESS Array B**	**7.71**	**162**	P		**Pn**	**15 52 13.2**	**-0.9**
ARCES				S		**Sn**	**15 53 34.3**	**-7.0**
ARCES	**ARCESS Array B**	**7.71**	**162**	Pn		**Pn**	**15 52 13.2**	**-0.9**
	comp=Z,2.7nm,0.3s,baz=352,slow=13,SNR=76							
ARCES				Sn		**Sn**	**15 53 33.5**	**-7.9**
	comp=Z,9.8nm,0.3s,baz=10,slow=21,SNR=5.9							
ARCES				Lg		Lg	15 54 23.8	
	comp=Z,8.4nm,0.3s,baz=343,slow=25,SNR=2.1							
	comp=Z,9.2nm,0.4s							
KIF	**Kilpisjarvi**	**8.01**	**174**	Pn		**Pn**	**15 52 17.1**	**-1.1**
KIF				Sn		**Sn**	**15 53 43.3**	**-5.5**
KIF	**Kilpisjarvi**	**8.01**	**174**	Pn		**Pn**	**15 52 17.1**	**-1.1**
KIF				Sn		**Sn**	**15 53 43.3**	**-5.5**
KTK1	**Kautokeino**	**8.09**	**168**	Pn		**Pn**	**15 52 18.7**	**-0.6**
KTK1				Sn		**Sn**	**15 53 45.7**	**-5.0**
KTK1	**Kautokeino**	**8.09**	**168**	*e*P		**Pn**	**15 52 20.6**	**+1.2**
PRVG	**Vayda Guba**	**8.19**	**145**	P		**Pn**	**15 52 19.6**	**-1.0**
PRVG				S		**Sn**	**15 53 46.5**	**-6.6**
DAG	**Danmarks Havn**	**8.39**	**287**	*e*P		Pn	15 52 28.1	+4.8
DAG	**Danmarks Havn**	**8.39**	**287**	*e*		**Pn**	**15 52 18.9**	**-4.4**
	baz=75,slow=16							
DAG				*i* P		**Pn**	**15 52 26.6**	**+3.2**
DAG				*i* S		**Sn**	**15 53 53.6**	**-4.4**
DAG				IAML			15 54 01.1	
	comp=Z,15nm,0.4s							
HEF	**Hetta**	**8.71**	**168**	*e*P		**Pn**	**15 52 27.2**	**-0.6**
LOF	**Lofoten**	**8.99**	**192**	Pn		**Pn**	**15 52 33.6**	**+2.0**
LOF				Sn		**Sn**	**15 54 07.4**	**-5.3**
LOF	**Lofoten**	**8.99**	**192**	*e*P		**Pn**	**15 52 33.9**	**+2.2**
TERR	**Teriberka**	**9.09**	**140**	P		**Pn**	**15 52 30.8**	**-2.2**
TERR				S		Sn	15 54 04.7	-11
STEI	**Steigen**	**9.12**	**188**	*e*P		**Pn**	**15 52 36.5**	**+3.0**
JMIC	**Jan Mayen**	**9.48**	**245**	Pn		**Pn**	**15 52 40.3**	**+1.9**
JMIC	**Jan Mayen**	**9.48**	**245**	Pn		**Pn**	**15 52 39.3**	**+1.0**
	comp=Z,11nm,0.3s,baz=162,slow=16,SNR=2.7							
FAUS	**Fauske**	**9.67**	**188**	P		**Pn**	**15 52 44.1**	**+3.2**
FAUS				S		**Sn**	**15 54 33.0**	**+3.5**
FAUS	**Fauske**	**9.67**	**188**	*e*P		**Pn**	**15 52 44.6**	**+3.7**
LVZ	**Lovozero**	**10.24**	**144**	Pn		**Pn**	**15 52 47.3**	**-1.5**
LVZ	**Lovozero**	**10.24**	**144**	*i* P		**Pn**	**15 52 47.1**	**-1.7**
APA0	**Apatity Array**	**10.31**	**148**	Pn		**Pn**	**15 52 47.1**	**-2.6**
	baz=339,slow=14							
APA0				Sn		Sn	15 54 34.6	-10
	baz=344,slow=18							
APA0	**Apatity Array**	**10.31**	**148**	P		**Pn**	**15 52 46.8**	**-2.9**
APA0				S		Sn	15 54 34.6	-10
APA0	**Apatity Array**	**10.31**	**148**	Pn		**Pn**	**15 52 47.1**	**-2.6**
	baz=339,slow=14							
APA0				Sn		Sn	15 54 34.6	-10
	baz=344,slow=18							
APA	**Apatity**	**10.39**	**147**	P		**Pn**	**15 52 48.8**	**-2.1**
APA				S		Sn	15 54 37.8	-9.4
APA	**Apatity**	**10.39**	**147**	⇓*iP*		**Pn**	**15 52 46.8**	**-4.0**
APA				pmax		pmax		
	comp=Z,39nm,0.7s							
KONS	**Konsvik**	**10.63**	**192**	Pn		**Pn**	**15 52 55.9**	**+1.8**
KONS				Sn		**Sn**	**15 54 52.0**	**-1.2**
KONS	**Konsvik**	**10.63**	**192**	*e*P		**Pn**	**15 52 56.4**	**+2.3**
STOK	**Stokkvaagen**	**10.81**	**192**	*e*P		**Pn**	**15 53 01.2**	**+4.7**
MOR8	**Moi Rana**	**10.91**	**189**	*e*P		**Pn**	**15 52 59.5**	**+1.6**
NSS	**Namsos**	**12.66**	**193**	*e*P		**Pn**	**15 53 25.6**	**+3.9**
SCO	**Scoresbysund**	**12.78**	**261**	Pn		**Pn**	**15 53 22.8**	**-0.6**
SCO	**Scoresbysund**	**12.78**	**261**	P		**Pn**	**15 53 22.8**	**-0.6**
SCO	**Scoresbysund**	**12.78**	**261**	*i* P		**Pn**	**15 53 25.0**	**+1.5**
NOD	**Norderasen**	**13.63**	**187**	*e*P		**P**	**15 53 40.4**	**-3.6**
AMDE	**Amderma**	**13.89**	**98**	*e*P		**Pn**	**15 53 35.0**	**-3.5**
	comp=Z,18nm,0.8s							
AMDE				*e*S		Sn	15 55 59.0	-14
NEEM	**North Greenlan**	**14.65**	**306**	*e*P		**Pn**	**15 53 51.2**	**+2.1**
NEEM				IAmb		IAmb	15 54 03.2	
	comp=Z,30nm,1.2s							
NEEM				*i* S		**Sn**	**15 56 26.8**	**-4.5**
NEEM				IAML			15 56 42.3	
	comp=Z,2.7nm,0.4s							
SUMG	**Summit**	**15.03**	**283**	Pn		**Pn**	**15 53 53.5**	**-0.9**
SUMG	**Summit**	**15.03**	**283**	P		**Pn**	**15 53 53.5**	**-0.9**
FIA0	**FINESS Array S**	**15.78**	**167**	P		**Pn**	**15 54 02.5**	**-1.4**
	baz=358,slow=14							
FIA0	**FINESS Array S**	**15.78**	**167**	P		**Pn**	**15 54 02.5**	**-1.4**
	baz=358,slow=14							
FIA1	**FINESS Array S**	**15.78**	**167**	Pn		**Pn**	**15 54 01.4**	**-2.5**
FINES	**FINESS Array B**	**15.78**	**167**	Pn		**Pn**	**15 54 01.1**	**-2.8**
FINES	**FINESS Array B**	**15.78**	**167**	P		**Pn**	**15 54 01.1**	**-2.8**
FINES	**FINESS Array B**	**15.78**	**167**	Pn		**Pn**	**15 54 00.2**	**-3.7**
	comp=Z,0.8nm,0.3s,baz=5.2,slow=12,SNR=35							
FINES				Sn		Sn	15 56 44.9	-14
	comp=Z,0.8nm,0.3s,baz=353,slow=24,SNR=3.4							
FINES				Lg		Lg	15 58 28.9	
	comp=Z,1.6nm,0.3s,baz=9.6,slow=26,SNR=1.3							
FINES				LR		LR	16 00 08.7	
	comp=Z,236nm,19.3s,baz=348,slow=37							
	comp=Z,2.1nm,0.3s							
SVZ	**Severnaya Zeml**	**15.90**	**43**	P		**Pn**	**15 54 02.7**	**-2.6**
	comp=Z,15nm,0.7s							
SVZ				*e*S		Sn	15 56 48.1	-13
NC204	**NORSAR Array S**	**15.96**	**194**			**P**	**15 54 09.9**	**-0.1**
NC204				IAmb		IAmb	15 54 17.6	
	comp=Z,35nm,1.2s							
NC303	**NORSAR Array S**	**15.98**	**193**			**P**	**15 54 09.5**	**-0.6**
NC303				IAmb		IAmb	15 54 17.4	
	comp=Z,29nm,1.0s							
RAF	**Rauma**	**16.04**	**174**	*e*P		**P**	**15 54 10.8**	**+0.1**
NC405	**NORSAR Array S**	**16.08**	**192**			**P**	**15 54 11.3**	**+0.1**
NC405				IAmb		IAmb	15 54 18.4	
	comp=Z,36nm,1.1s							
NB201	**NORSAR Array S**	**16.16**	**193**			**P**	**15 54 12.1**	**-0.1**
NB201				IAmb		IAmb	15 54 35.4	
	comp=Z,36nm,1.1s							
NB2	**NORSAR Subarra**	**16.18**	**193**	P		**P**	**15 54 12.3**	**0.0**
NB2	**NORSAR Subarra**	**16.18**	**193**	P		**P**	**15 54 12.3**	**0.0**
NOA	**NORSAR Array B**	**16.18**	**193**	Pn		**Pn**	**15 54 06.9**	**-2.2**
	baz=5.4,slow=13,SNR=1.1							
NOA				Sn		**Sn**	**15 57 01.6**	**-6.7**
	baz=292,slow=20,SNR=1.1							
NOA				Lg		Lg	15 58 51.1	
	baz=51,slow=24,SNR=3.9							
	comp=Z,0.4nm,0.9s							
NBO00	**NORSAR Array S**	**16.21**	**194**			**P**	**15 54 13.0**	**+0.3**
NBO00				IAmb		IAmb	15 54 25.2	
	comp=Z,33nm,1.2s							
NAO01	**NORSAR Array S**	**16.39**	**193**			**P**	**15 54 15.2**	**+0.6**
NAO01				IAmb		IAmb	15 54 23.7	
	comp=Z,65nm,1.4s							
NC602	**NORSAR Array S**	**16.46**	**192**			**P**	**15 54 15.2**	**-0.2**
NRA0	**NORESS Array S**	**16.46**	**192**	P		**P**	**15 54 15.3**	**-0.2**
NRA0	**NORESS Array S**	**16.46**	**192**	P		**P**	**15 54 15.3**	**-0.2**
MEF	**Metsahovi**	**16.93**	**170**	*e*P		**P**	**15 54 21.4**	**+0.8**
HFS	**Hagfors**	**16.98**	**188**	P		**P**	**15 54 22.0**	**+0.8**
	baz=18,slow=12							
HFS	**Hagfors**	**16.98**	**188**	P		**P**	**15 54 22.0**	**+0.8**
	baz=18,slow=12							
HFS	**Hagfors**	**16.98**	**188**	Pn		**P**	**15 54 21.8**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=27,slow=10,SNR=22							
HFS				Sn		**Sn**	**15 57 22.8**	**-4.9**
	comp=Z,0.2nm,0.3s,baz=30,slow=15,SNR=1.3							
HFS				Lg		Lg	15 59 17.9	
	comp=Z,0.1nm,0.3s,baz=47,slow=29,SNR=1.4							
UPP	**Uppsala**	**17.18**	**182**	*e*P		**P**	**15 54 22.5**	**-0.8**
KLMR	**Klimovskoe**	**17.62**	**145**	*e*P		**Pn**	**15 54 26.0**	**-1.2**
	comp=Z,40nm,1.0s							
KLMR				*e*S		Sn	15 57 30.0	-13
KLMR	**Klimovskoe**	**17.62**	**145**	*e*Pn		**Pn**	**15 54 21.4**	**-5.8**
KLMR				*e*Pn		**Pn**	**15 54 21.4**	**-5.8**
KLMR				*e*Pn		**Pn**	**15 54 21.4**	**-5.8**
KLMR				AMP			15 54 32.2	
	comp=Z,40nm,1.0s							
KLMR				*e*Sn		Sn	15 57 30.2	-13
KLMR				*e*Sn		Sn	15 57 30.2	-13
KLMR	**Klimovskoe**	**17.62**	**145**	*e*P		**Pn**	**15 54 21.3**	**-5.9**
KLMR				pmax		pmax		
	comp=Z,40nm,1.0s							
KONO	**Kongsberg**	**17.65**	**195**	*i* P		**P**	**15 54 28.3**	**-0.3**
KONO				pmax		pmax		
	comp=Z,30nm,1.8s							
PUL	**Pulkovo**	**17.71**	**160**	*i* P		**P**	**15 54 29.9**	**+0.7**
PUL				pmax		pmax		
	comp=Z,45nm,0.8s							
PRGR	**Permogore**	**17.77**	**135**	*e*P		**Pn**	**15 54 25.9**	**-3.1**
	comp=Z,65nm,0.8s							
PRGR				*e*S		Sn	15 57 31.6	-15
PRGR	**Permogore**	**17.77**	**135**	*e*P		**Pn**	**15 54 25.9**	**-3.1**
PRGR				pmax		pmax		
	comp=Z,65nm,0.8s							
MTSE	**Matsula**	**18.41**	**171**	*e*P		**Pn**	**15 54 37.6**	**+0.7**
EUNU	**Eureka**	**18.42**	**328**			**P**	**15 54 36.7**	**-0.3**
VIKU	**Vikbolandet**	**18.55**	**183**	*e*P		**P**	**15 54 38.2**	**-0.2**
VSU	**Vasula**	**18.79**	**167**	*e*P		**P**	**15 54 40.9**	**-0.2**
VSU	**Vasula**	**18.79**	**167**	*ce*P		**Pn**	**15 54 41.8**	**+0.3**
VSU				pmax		pmax		
	comp=Z,65nm,1.0s							
BORU	**Boraas**	**19.51**	**189**	*i* P		**Pn**	**15 54 52.9**	**+2.7**
ONAU	**Onsala**	**19.78**	**191**	*i* P		**Pn**	**15 54 55.7**	**+2.3**
NRIK	**Noril'sk**	**20.05**	**75**	P		**P**	**15 54 54.6**	**-0.1**
NRIK				IAmb		IAmb	15 54 59.6	
	comp=Z,29nm,1.1s							
NRIK	**Noril'sk**	**20.05**	**75**	*ce*P		Pn	15 54 56.7	+0.2
NRIK				pmax		pmax		
	comp=Z,27nm,1.1s							
NRIK	**Noril'sk**	**20.05**	**75**	P		Pn	15 54 55.8	-0.7
	comp=Z,18nm,0.9s,baz=334,slow=8.2,SNR=32							
NRIK				S		**S**	**15 58 29.8**	**-10**
	comp=Z,5.4nm,0.9s,baz=345,slow=10,SNR=2.2							
NRIK				LR		LR	16 05 20.3	
	comp=Z,225nm,19.3s,baz=310,slow=45							
	comp=Z,18nm,0.9s							
FABU	**Falkenberg**	**20.15**	**189**	*i*		Pn	15 55 03.9	+6.1
ILULI	**Ilulissat**	**20.32**	**285**	P		**P**	**15 54 55.9**	**-1.7**
ILULI				IAmb		IAmb	15 55 14.8	
	comp=Z,38nm,1.2s							
ILULI	**Ilulissat**	**20.32**	**285**	P		**P**	**15 54 55.9**	**-1.7**
ILULI				pmax		pmax		
	comp=Z,38nm,1.2s							
DEL	**Delary**	**20.64**	**187**	*e*P		**P**	**15 55 02.2**	**+0.9**
DEL	**Delary**	**20.64**	**187**	*i* P		Pn	15 55 05.5	+1.9
BLEU	**Blekinge**	**20.76**	**184**	*i* P		Pn	15 55 05.6	+0.7
PBUR	**Paburge**	**21.05**	**175**	*e*P		**P**	**15 55 06.9**	**+1.2**
BJUV	**Bjuv**	**21.06**	**189**	*i* P		**P**	**15 55 10.0**	**+4.2**
VSVD	**Vaisvydziai**	**21.15**	**172**	*e*P		**P**	**15 55 07.4**	**+0.7**
KIRV	**Kirov**	**21.28**	**132**	*i* P		**P**	**15 55 07.3**	**-0.8**
KIRV	**Kirov**	**21.28**	**132**	P		**P**	**15 55 07.8**	**-0.4**
	comp=Z,22nm,0.7s,baz=340,slow=5.8,SNR=8.8							
KIRV				S		S	15 58 51.7	-12
	comp=Z,11nm,0.6s,baz=161,slow=21,SNR=5.7							
KIRV				LR		LR	16 04 31.8	
	comp=Z,58nm,21.7s,baz=343,slow=40							
	comp=Z,22nm,0.7s							
LUNU	**Lund**	**21.49**	**188**	*i* P		**P**	**15 55 12.1**	**+1.6**
PABE	**Paberze**	**21.62**	**172**	P		**P**	**15 55 12.7**	**+0.9**
PABE	**Paberze**	**21.62**	**172**	*e*P		**P**	**15 55 12.6**	**+0.8**
ISAL	**Salakas**	**21.64**	**168**	*e*P		**P**	**15 55 12.7**	**+0.6**
SFJD	**Kangerlussuaq**	**22.01**	**281**	P		**P**	**15 55 16.7**	**+0.8**
SFJD	**Kangerlussuaq**	**22.01**	**281**	P		**P**	**15 55 16.6**	**+0.8**
	comp=Z,16nm,0.9s,baz=23,slow=8.4,SNR=4.9							
	comp=Z,16nm,0.9s							
NACGM	**Naroch**	**22.34**	**168**	*i* P		**P**	**15 55 24.2**	**+4.6**
MOS	**Moscow**	**22.38**	**151**	*e*P		**P**	**15 55 21.6**	**+1.6**
MOS				*e*			15 59 19.2	
MOS				*e*S		**S**	**15 59 27.2**	**+1.6**
MOS				pmax		pmax		
	comp=Z,42nm,0.8s							
MNK	**Minsk**	**22.80**	**166**	*i* P		**P**	**15 55 23.9**	**-0.5**
	comp=E,7.0nm,1.0s							
MNK				*i* P		**P**	**15 55 23.9**	**-0.5**
	comp=N,40nm,0.9s							
MNK				*i* P		**P**	**15 55 23.9**	**-0.5**
	comp=Z,41nm,0.9s,baz=354							
MNK				*i* PPP		PPP	15 55 55.9	
MNK				*i* S		**S**	**15 59 33.9**	**+0.7**
MNK				*i* SS		**SnSn**	**16 00 05.6**	**+2.4**
MNK				*i* SSS		SSS	16 00 19.0	
MNK				*i* LQ		LQ	16 01 37.0	
MNK				*i* LR		LR	16 03 19.6	
MNK				*i* LRM		MLR	16 04 19.8	
MNK				*i* LRM		MLR	16 04 30.0	
	comp=N,229nm,15.3s							
MNK				*i* LRM		MLR	16 04 34.2	
	comp=Z,174nm,17.8s							
MNK	**Minsk**	**22.80**	**166**	*i* P		**P**	**15 55 23.9**	**-0.5**
MNK				*i* PPP		PPP	15 55 55.8	
MNK				*i* S		**S**	**15 59 33.9**	**+0.7**
MNK				*i* SSS		SSS	16 00 18.9	
MNK				pmax		pmax		
	comp=E,7.0nm,1.0s							
MNK				pmax		pmax		
	comp=Z,41nm,0.9s							
MNK				pmax		pmax		
	comp=N,40nm,0.9s							
MNK				MLR		MLR		
	comp=N,229nm,15.0s							
MNK				MLR		MLR		
	comp=Z,174nm,18.0s							
OBN	**Obninsk**	**22.89**	**153**	P		**P**	**15 55 25.3**	**0.0**
OBN	**Obninsk**	**22.89**	**153**	*ce*P		**P**	**15 55 27.3**	**+2.0**
OBN				*e*			15 55 53.3	
OBN				*e*S		S	15 59 23.6	-11
OBN				pmax		pmax		
	comp=Z,88nm,1.7s							
OBN				MLR		MLR		
	comp=Z,112nm,11.0s							
SUW	**Suwalki**	**23.10**	**173**	*e*P		**P**	**15 55 29.2**	**+1.7**
SUW	**Suwalki**	**23.10**	**173**	P		**P**	**15 55 27.4**	**-0.1**
SUW	**Suwalki**	**23.10**	**173**	*e*P		**P**	**15 55 28.2**	**+0.7**
SUW	**Suwalki**	**23.10**	**173**	P		**P**	**15 55 27.4**	**-0.1**
SUW				pmax		pmax		
	comp=Z,87nm,0.9s							
EKA	**Eskdalemuir Ar**	**23.10**	**213**	P		**P**	**15 55 28.8**	**+1.2**
	comp=Z,2.1nm,0.9s,baz=6.4,slow=13,SNR=2.0							
	comp=Z,2.1nm,0.9s							
ARU	**Arti**	**24.97**	**122**	P		**P**	**15 55 44.2**	**-1.0**
ARU	**Arti**	**24.97**	**122**	*c* *i*P		**P**	**15 55 47.9**	**+2.7**
ARU							15 56 17.7	
ARU				S		**S**	**16 00 14.0**	**+5.5**
ARU				SS		**SnSn**	**16 01 02.3**	**+6.0**
ARU				pmax		pmax		
	comp=Z,2.0nm,0.7s							
ARU	**Arti**	**24.97**	**122**	LR		LR	16 06 57.8	
	comp=Z,88nm,19.0s,baz=294,slow=40							
SVE	**Sverdlovsk**	**25.00**	**119**	*e*P		**P**	**15 55 50.7**	**+5.2**
SVE				pmax		pmax		
	comp=Z,12nm,0.9s							
BEL	**Belsk**	**25.23**	**177**	*e*P		**P**	**15 55 49.1**	**+1.6**
LPSR	**Galich'ya Gora**	**25.61**	**151**	*e*P		**P**	**15 55 51.5**	**+0.4**
LPSR				pmax		pmax		
	comp=Z,70nm,0.8s							
CLL	**Collm**	**25.83**	**188**	*e*P		**P**	**15 55 52.0**	**-1.1**
CLL				*ex*		x	15 55 57.0	
CLL				*ex*		x	15 56 11.0	
CLL				*i* x		x	15 56 22.4	
CLL				*e*PPP		PPP	15 56 39.0	
CLL	**Collm**	**25.83**	**188**	*e*P		**P**	**15 55 57.0**	**+3.9**
TIXI	**Tiksi**	**26.00**	**43**	P		**P**	**15 55 55.1**	**+0.7**
TIXI				IAmb		IAmb	15 56 13.3	
	comp=Z,9.5nm,0.9s							
TIXI

A36M IAmb IAmb 15 56 36.0
comp=Z,8.4nm,1.4s
WTTA Wattenberg 29.92 190 *e*P **P 15 56 33.7 +3.8**
comp=Z,1.7nm,0.7s
KBA Koelnbreinsper 30.05 187 *e*P **P 15 56 33.7 +2.7**
comp=Z,1.8nm,0.8s
MYKA Terra Mystica 30.49 187 *e*P **P 15 56 35.8 +1.0**
comp=Z,0.6nm,0.2s
BRVK Borovoye 30.51 111 *i*P **P 15 56 35.3 +0.5**
BRVK pmax pmax
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 30.57 111 P **P 15 56 37.2 +1.9**
comp=Z,0.4nm,0.6s,baz=358,slow=8.7,SNR=2.2
comp=Z,0.4nm,0.6s
AKTO Aktyubinsk 30.57 127 LR LR 16 09 52.3
comp=Z,90nm,21.4s,baz=48,slow=38
OBKA Obir 30.59 186 *i*P **P 15 56 39.5 +3.8**
comp=Z,2.8nm,0.9s
TEOL Teolo 31.82 189 P **P 15 56 47.6 +1.1**
TEOL IAmb IAmb 15 57 25.0
comp=Z,6.1nm,0.9s
ABKAR Akbulak array 32.06 125 P **P 15 56 50.1 +1.6**
C36M Paulatuk 32.18 336 P **P 15 56 49.1 -0.2**
C36M IAmb IAmb 15 57 02.4
comp=Z,9.3nm,1.2s
SSB Saint Sauveur 32.30 199 P **P 15 56 51.8 +1.2**
SSB Saint Sauveur 32.30 199 P **P 15 56 51.8 +1.2**
SSB pmax pmax
comp=Z,20nm,1.5s
B22K Teshekpuk Lake 32.84 355 P **P 15 56 55.5 +0.4**
B22K IAmb IAmb 15 57 02.1
comp=Z,7.9nm,0.9s
ZALV Zalesovo Beam 32.89 95 P **P 15 56 56.6 +0.9**
comp=Z,0.4nm,0.5s,baz=335,slow=6.4,SNR=3.9
ZALV PcP **PcP 15 59 40.1 +0.4**
comp=Z,1.5nm,0.6s,baz=325,slow=5.1,SNR=5.0
comp=Z,0.4nm,0.5s
B20K Meade River 33.23 357 P **P 15 56 58.9 +0.4**
B20K IAmb IAmb 15 57 40.5
comp=Z,11nm,1.4s
C23K Itkillik River 33.28 353 P **P 15 56 59.2 +0.3**
C23K IAmb IAmb 15 57 03.8
comp=Z,5.6nm,0.7s
D27M Malcolm River 33.50 347 P **P 15 57 00.2 -0.8**
D27M IAmb IAmb 15 57 03.7
comp=Z,7.1nm,1.4s
D25K Kavik River 33.66 350 P **P 15 57 02.4 +0.1**
D25K IAmb IAmb 15 57 08.6
comp=Z,5.7nm,0.8s
OSSC Osservatorio P 33.67 190 P **P 15 57 04.5 +1.9**
BILL Bilibino 33.89 21 *i*P **P 15 57 06.3 +2.0**
BILL pmax pmax
comp=Z,5.0nm,1.2s
D24K Happy Valley 33.91 352 P **P 15 57 04.3 -0.1**
INK Inuvik 33.97 342 P **P 15 57 04.4 -0.5**
INK IAmb IAmb 15 57 11.7
comp=Z,4.9nm,1.1s
INK Inuvik 33.97 342 P **P 15 57 04.4 -0.5**
INK pmax pmax
comp=Z,5.0nm,1.1s
E28M Babbage River 34.05 346 P **P 15 57 05.4 -0.3**
FDMO Fiordimonte 34.10 187 P **P 15 57 06.5 +0.2**
FDMO IAmb IAmb 15 57 13.3
comp=Z,5.9nm,0.9s
E29M Blow River 34.17 345 P **P 15 57 06.9 +0.1**
D22K Ayikyak River 34.29 354 P **P 15 57 08.1 +0.3**
NRCA Norcia 34.30 187 P **P 15 57 07.6 -0.5**
NRCA IAmb IAmb 15 57 15.9
comp=Z,4.9nm,0.9s
TOLK Toolik Lake Re 34.45 352 P **P 15 57 09.7 +0.5**
TOLK IAmb IAmb 15 57 30.6
comp=Z,9.4nm,1.3s
KURK Kurchatov 34.52 104 P **P 15 57 11.7 +1.8**
KURK IAmb IAmb 15 57 15.7
comp=Z,4.3nm,0.8s
KURK Kurchatov 34.52 104*ce*P **P 15 57 13.4 +3.5**
KURK pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 34.57 149⇑*e*P **P 15 57 11.4 +0.9**
KIV *e* 15 58 29.3
KIV pmax pmax
comp=Z,2.0nm,0.8s
KIV MLR MLR
comp=Z,38nm,13.0s
E27K Coleen River 34.58 347 P **P 15 57 10.2 -0.1**
E27K IAmb IAmb 15 57 44.1
comp=Z,8.9nm,1.4s
KURBB Kurchatov Arra 34.59 104 P **P 15 57 11.2 +0.8**
comp=Z,3.6nm,0.7s,baz=338,slow=7.8,SNR=4.2
comp=Z,3.6nm,0.7s
C18K Utukok River 34.62 360 P **P 15 57 11.1 +0.4**
C18K IAmb IAmb 15 57 45.4
comp=Z,13nm,1.4s
E21K Killik River 34.76 355 P **P 15 57 12.5 +0.7**
D19K Kuna River 34.76 358 P **P 15 57 12.1 +0.2**
D19K IAmb IAmb 15 57 37.0
comp=Z,13nm,1.4s
KBZ Khabaz 34.82 149 P **P 15 57 13.4 +0.9**
comp=Z,2.3nm,0.9s,baz=229,slow=5.2,SNR=9.6
KBZ LR LR 16 11 32.5
comp=Z,80nm,18.8s,baz=3.0,slow=36
comp=Z,2.3nm,0.9s
E25K Arctic Village 34.83 350 P **P 15 57 12.4 0.0**
E25K IAmb IAmb 15 57 18.9
comp=Z,5.6nm,0.9s
F31M Tsiigehtchic 34.84 342 P **P 15 57 11.8 -0.7**
F31M IAmb IAmb 15 57 18.1
comp=Z,7.6nm,1.2s
YAK Yakutsk 34.89 50 *i*P **P 15 57 14.2 +1.3**
YAK pmax pmax
comp=Z,3.0nm,0.9s
YAK Yakutsk 34.89 50 LR LR 16 12 17.6
comp=Z,4.7nm,19.2s,baz=311,slow=38
C16K Lisburne Hills 34.98 3 P **P 15 57 14.2 +0.6**
E24K Your Creek 34.98 352 P **P 15 57 14.1 +0.3**
E24K IAmb IAmb 15 57 39.4
comp=Z,8.5nm,1.4s
F28M Old Crow 35.06 346 P **P 15 57 14.6 +0.1**
F28M IAmb IAmb 15 57 38.1
comp=Z,10nm,1.2s
RDOG Red Dog Mine 35.21 1 P **P 15 57 16.2 +0.5**
RDOG IAmb IAmb 15 57 25.7
comp=Z,5.5nm,0.8s
SGRT San Giovanni R 35.32 184 P **P 15 57 16.0 -1.0**
SGRT IAmb IAmb 15 57 21.4
comp=Z,8.8nm,0.9s
G31M Satah River 35.39 342 P **P 15 57 16.4 -0.8**
G31M IAmb IAmb 15 57 34.4
comp=Z,4.7nm,0.8s
G30M tAoh Zraii Nji 35.47 343 P **P 15 57 17.1 -0.9**
G30M IAmb IAmb 15 57 43.2
comp=Z,8.2nm,1.2s
BMAR Burnt Mountain 35.48 349 P **P 15 57 18.6 +0.5**
G29M Pine Creek 35.65 344 P **P 15 57 18.7 -0.8**
G29M IAmb IAmb 15 57 50.2
comp=Z,8.8nm,1.0s
BOD Bodaibo 35.78 66 *e*P **P 15 57 20.7 0.0**
BOD pmax pmax
comp=Z,12nm,1.2s
F20K Avaraart Lake 36.19 356 P **P 15 57 24.0 -0.1**
H29M Whitestone 36.36 344 P **P 15 57 25.3 -0.3**
H29M IAmb IAmb 15 57 47.3
comp=Z,9.1nm,1.1s
SCHQ Schefferville 36.41 284 P **P 15 57 25.0 -1.1**
SCHQ Schefferville 36.41 284 P **P 15 57 25.1 -1.1**
comp=Z,2.4nm,0.7s,baz=15,slow=10,SNR=4.6
comp=Z,2.4nm,0.7s
G21K Allakaket 36.68 355 P **P 15 57 28.0 -0.3**
G19K Purcell Mounta 37.11 357 P **P 15 57 32.0 0.0**
I29M Ogilvie Camp, 37.21 344 P **P 15 57 31.9 -0.9**
I28M Miner Creek 37.22 345 P **P 15 57 33.0 0.0**
I30M Mount Dempster 37.22 343 P **P 15 57 32.3 -0.7**
I30M IAmb IAmb 15 57 50.9
comp=Z,4.2nm,0.7s
IMAR Indian Mountai 37.22 355 P **P 15 57 33.4 +0.5**
SEY Seymchan 37.44 33 *i*P **P 15 57 36.7 +2.0**
SEY pmax pmax
comp=Z,9.0nm,2.0s
AKT Akhty 37.65 143⇑*i*P **P 15 57 37.5 +0.6**
AKT *e*S **P 15 57 39.6 +2.7**
AKT *e*S **P 15 57 39.8 +2.9**
AKT pmax pmax
comp=Z,29nm,0.1s
YKA Yellowknife Ar 37.79 326 P **P 15 57 36.8 -0.9**
YKA Yellowknife Ar 37.79 326 P **P 15 57 37.0 -0.7**
comp=Z,0.4nm,0.8s,baz=8.7,slow=8.1,SNR=6.4
YKA PcP **PcP 15 59 53.5 -0.4**
comp=Z,0.8nm,0.8s,baz=358,slow=2.9,SNR=9.2
YKA LR LR 16 14 10.6
comp=Z,47nm,18.4s,baz=300,slow=38
comp=Z,0.4nm,0.8s
J30M Hart River 37.86 343 P **P 15 57 37.7 -0.7**
BRTR Keskin Array B 37.89 161 P **P 15 57 40.5 +1.6**
BRTR Keskin Array B 37.89 161 P **P 15 57 39.7 +0.8**
comp=Z,1.2nm,0.8s,baz=332,slow=7.2,SNR=2.3
BRTR LR LR 16 14 31.1
comp=Z,64nm,20.0s,baz=346,slow=38
comp=Z,1.2nm,0.8s
I23K Minto, Yukon-K 37.94 352 P **P 15 57 40.3 +1.3**
MDM Murphy Dome 38.09 351 P **P 15 57 40.3 0.0**
MDM IAmb IAmb 15 57 41.9
comp=Z,11nm,1.1s
IL31 38.23 350 P **P 15 57 41.1 -0.3**
ILAR Eielson Array 38.23 350 P **P 15 57 42.0 +0.6**
comp=Z,0.8nm,0.5s,baz=2.1,slow=6.7,SNR=18
ILAR PcP **PcP 15 59 54.9 -0.5**
comp=Z,1.1nm,0.6s,baz=336,slow=3.7,SNR=9.8
ILAR LR LR 16 13 07.6
comp=Z,44nm,19.0s,baz=19,slow=36
comp=Z,0.8nm,0.5s
FCC Fort Churchill 38.24 309 P **P 15 57 40.5 -1.0**
FCC Fort Churchill 38.24 309 P **P 15 57 40.5 -1.0**
FCC pmax pmax
comp=Z,5.0nm,1.4s
NEA2 Nenana 38.49 351 P **P 15 57 44.5 +0.9**
GNI Garni 38.57 147 LR LR 16 13 11.7
comp=Z,56nm,18.5s,baz=358,slow=36
ESDC Sonseca Array 38.63 208 P **P 15 57 45.4 +0.3**
comp=Z,0.9nm,0.8s,baz=14,slow=7.9,SNR=4.4
comp=Z,0.9nm,0.8s
K29M Barlow Dome 38.66 343 P **P 15 57 45.6 +0.3**
K29M IAmb IAmb 15 58 24.2
comp=Z,12nm,1.5s
MOY Mondy 38.68 81 *e*P P 15 57 32.2 -13
MOY pmax pmax
comp=Z,31nm,3.2s
K27K Chicken 38.75 347 P **P 15 57 47.0 +1.3**
MAKZ Makanchi 38.95 102 P **P 15 57 49.4 +1.7**
MAKZ Makanchi 38.95 102 P **P 15 57 49.4 +1.7**
MAKZ pmax pmax
comp=Z,4.0nm,1.2s
MK31 Makanchi Array 39.03 102 P **P 15 57 47.8 -0.6**
MK31 Makanchi Array 39.03 102*ce*P **P 15 57 49.1 +0.7**
MKAR Makanchi Array 39.03 102 P **P 15 57 48.1 -0.2**
MKAR Makanchi Array 39.03 102 P **P 15 57 49.2 +0.8**
comp=Z,4.3nm,0.8s,baz=342,slow=7.0,SNR=11
MKAR LR LR 16 18 13.0
comp=Z,87nm,19.0s,baz=18,slow=43
comp=Z,4.3nm,0.8s
L29M L29M 39.43 344 P **P 15 57 53.2 +1.7**
KTH Kantishna Hill 39.59 353 P **P 15 57 53.6 +0.7**
VAE Valguarnera 39.61 185 P **P 15 57 52.7 -0.6**
comp=Z,3.4nm,0.3s,baz=177,slow=22,SNR=2.0
comp=Z,3.4nm,0.3s
BCAR Beaver Creek A 39.69 346 P **P 15 57 54.3 +0.6**
J16K Anvik River 40.01 359 P **P 15 57 56.4 +0.1**
J16K IAmb IAmb 15 58 02.5
comp=Z,15nm,1.3s
N30M Aishikik Lake 41.00 342 P **P 15 58 04.5 -0.1**
N30M IAmb IAmb 15 58 11.8
comp=Z,13nm,1.3s
L18K Granite Mounta 41.05 357 P **P 15 58 06.7 +1.8**
SKT Skwentna 41.18 353 P **P 15 58 05.7 -0.3**
SCM Sheep Creek Mo 41.18 350 P **P 15 58 06.2 +0.2**
SCM Sheep Creek Mo 41.18 350 P **P 15 58 06.3 +0.2**
SCM pmax pmax
comp=Z,37nm,1.2s
AAK Ala-Archa 41.30 112 *i*P **P 15 58 07.6 +0.2**
AAK pmax pmax
comp=Z,6.0nm,2.1s
AAK Ala-Archa 41.30 112 LR LR 16 16 43.0
comp=Z,68nm,19.3s,baz=352,slow=38
M20K Styx River 41.32 354 P **P 15 58 09.9 +2.6**
M20K IAmb IAmb 15 58 33.1
comp=Z,12nm,1.2s
KEST Kesra 41.52 191 P **P 15 58 09.4 +0.3**
comp=Z,2.0nm,0.6s,baz=347,slow=14,SNR=2.5
comp=Z,2.0nm,0.6s
O30N Mendenhall 41.62 342 P **P 15 58 10.0 +0.3**
O30N IAmb IAmb 15 58 16.3
comp=Z,6.9nm,1.1s
M17K Holitna River 41.88 357 P **P 15 58 13.2 +1.5**
M17K IAmb IAmb 15 58 53.0
comp=Z,15nm,1.1s
ZEA Zeya 42.25 57 *e*P P 15 58 19.7 +4.9
ZEA pmax pmax
comp=Z,20nm,0.8s
M16K Timber Creek 42.27 358 P **P 15 58 15.8 +0.9**
M16K IAmb IAmb 15 58 59.7
comp=Z,13nm,1.1s
GEYT Alibeck 42.71 132 P **P 15 58 20.0 +1.2**
comp=Z,2.4nm,0.8s,baz=316,slow=6.2,SNR=7.3
GEYT PcP **PcP 16 00 10.8 +0.6**
comp=Z,1.5nm,0.7s,baz=344,slow=3.8,SNR=2.5
GEYT LR LR 16 19 54.5
comp=Z,73nm,18.6s,baz=15,slow=42
comp=Z,2.4nm,0.8s
SONM Songino Array 43.49 78 P **P 15 58 26.5 +1.4**
SONM Songino Array 43.49 78 P **P 15 58 26.0 +0.9**
SONM Songino Array 43.49 78 P **P 15 58 26.0 +0.9**
comp=Z,1.7nm,0.9s,baz=333,slow=6.7,SNR=16
SONM PP **PcP 16 00 12.3 -0.5**
comp=Z,1.3nm,1.0s,baz=338,slow=7.2,SNR=3.5
SONM LR LR 16 19 43.9
comp=Z,96nm,18.4s,baz=351,slow=40
comp=Z,1.7nm,0.9s
ULN Ulaanbaatar 43.60 77*ce*P **P 15 58 27.7 +1.7**
ULN pmax pmax
comp=Z,21nm,2.5s
MMAI Mount Meron Ar 44.69 160 LR LR 16 17 13.8
comp=Z,51nm,20.4s,baz=305,slow=36
HEH HeiHe 45.60 58 *e*P **P 15 58 42.5 +0.8**
HEH pmax pmax
comp=Z,10.0nm,0.9s
HEH pmax pmax
comp=Z,200nm,6.8s
EDM Edmonton 46.63 322 P **P 15 58 49.8 -0.1**
EDM IAmb IAmb 15 59 17.4
comp=Z,5.2nm,0.9s
EDM Edmonton 46.63 322 P **P 15 58 49.8 -0.1**
EDM pmax pmax
comp=Z,5.0nm,0.9s
ULM Lac du Bonnet 46.67 307 P **P 15 58 50.0 -0.2**
ULM IAmb IAmb 15 58 55.3
comp=Z,8.9nm,1.5s
ULM Lac du Bonnet 46.67 307 P **P 15 58 50.0 -0.2**
ULM pmax pmax
comp=Z,9.0nm,1.5s
ULM Lac du Bonnet 46.67 307 P **P 15 58 49.9 -0.3**
comp=Z,1.5nm,0.7s,baz=177,slow=20,SNR=2.1
comp=Z,1.5nm,0.7s
KLR Kul'dur 47.40 55 *i*P **P 15 58 58.6 +2.7**
KLR pmax pmax
comp=Z,2.0nm,1.0s
KLR Kul'dur 47.40 55 P **P 15 58 58.0 +2.1**
comp=Z,1.9nm,0.8s,baz=348,slow=5.9,SNR=6.4
KLR LR LR 16 20 51.5
comp=Z,74nm,18.5s,baz=287,slow=39
comp=Z,1.9nm,0.8s
PETK Petropavlovsk- 47.67 32 P **P 15 58 58.5 +0.6**
comp=Z,4.3nm,0.9s,baz=29,slow=9.4,SNR=4.3
comp=Z,4.3nm,0.9s
LONY Lake Ozonia 47.73 286 P **P 15 58 59.2 +0.7**
EYMN Ely 48.06 302 P **P 15 59 01.1 +0.1**
B35A Bob, Littlefor 48.09 304 P **P 15 59 01.0 -0.2**
BBB Bella Bella 49.43 334 LR LR 16 22 19.6
comp=Z,60nm,18.1s,baz=24,slow=39
BNX BinXian 49.92 60⇑P **P 15 59 17.5 +2.2**
BNX pmax pmax
comp=Z,10.0nm,1.5s
BNX pmax pmax
comp=Z,250nm,4.9s
F33A 5 Mile Ranch, 50.99 305 P **P 15 59 23.2 -0.1**
F33A IAmb IAmb 15 59 24.2
comp=Z,4.5nm,0.8s
CN2 Changchun 51.39 62 P P 15 59 31.3 +4.9
CN2 pmax pmax
comp=Z,10.0nm,0.5s
YSS Yuzh-Sakhalins 51.53 46 *e*P **P 15 59 31.6 +4.2**
YSS pmax pmax
comp=Z,10.0nm,0.8s
NEW Newport 51.99 324 LR LR 16 21 39.8
comp=Z,71nm,18.8s,baz=9.5,slow=36
USRK Ussuriysk Ar. 52.29 57 P **P 15 59 33.9 +0.8**
USRK Ussuriysk Ar. 52.29 57 P **P 15 59 34.0 +1.0**
comp=Z,4.5nm,0.7s,baz=346,slow=6.6,SNR=13
comp=Z,4.5nm,0.7s
JFWS Jewell Farm 52.65 299 P **P 15 59 36.2 +0.4**
JFWS Jewell Farm 52.65 299 P **P 15 59 36.2 +0.4**
JFWS pmax pmax
comp=Z,41nm,1.5s
MSO Missoula 52.95 321 P **P 15 59 38.4 +0.3**
ECSD EROS Data Cent 53.09 305 P **P 15 59 39.0 0.0**
ECSD IAmb IAmb 15 59 43.5
comp=Z,3.4nm,0.7s
N49A Columbus Grove 53.32 293 P **P 15 59 41.1 +0.3**
BOZ Bozeman (W) 53.82 318 P **P 15 59 45.5 +0.9**
BOZ Bozeman (W) 53.82 318 P **P 15 59 45.5 +0.9**
BOZ pmax pmax
comp=Z,2.0nm,0.9s
ASAJ Asahikawa 54.26 47 LR LR 16 28 01.0
comp=Z,35nm,18.7s,baz=1.0,slow=42
YHL Hebgen Lake 54.48 318 P **P 15 59 49.6 0.0**
IMW Indian Meadow 55.37 317 P **P 15 59 56.7 +0.7**
IMW IAmb IAmb 15 59 57.9
comp=Z,3.0nm,0.8s
MOOW Moose Ponds 55.49 317 P **P 15 59 57.2 +0.4**
PDAR Pinedale Array 56.26 316 P **P 16 00 01.8 -0.5**
comp=Z,0.2nm,0.4s,baz=19,slow=8.8,SNR=2.9
PDAR LR LR 16 22 44.6
comp=Z,49nm,18.4s,baz=24,slow=35
comp=Z,0.2nm,0.4s
RWWY Rawlins 56.93 314 P **P 16 00 06.0 -1.2**
J05D Fort Rock, OR 57.42 326 P **P 16 00 11.6 +1.1**
J05D IAmb IAmb 16 00 15.9
comp=Z,3.7nm,0.9s
S44A Carbondale 57.48 296 P **P 16 00 11.5 +0.8**
KSRS Korea Array 58.00 62 P **P 16 00 15.4 +1.0**
comp=Z,1.4nm,0.8s,baz=355,slow=9.8,SNR=1.6
KSRS LR LR 16 28 01.7
comp=Z,46nm,19.3s,baz=0.0,slow=39
comp=Z,1.4nm,0.8s
YBH Yreka Blue Hor 59.14 327 LR LR 16 25 19.6
comp=Z,72nm,18.1s,baz=23,slow=36
P18A Preston Nutter 59.44 316 P **P 16 00 24.6 -0.1**
Q16A Castle Valley 60.28 316 P **P 16 00 31.2 +0.8**
Q16A IAmb IAmb 16 00 59.1
comp=Z,3.9nm,0.8s
WHAR Wooly Hollow 60.41 298 P **P 16 00 30.6 -0.6**
WHAR IAmb IAmb 16 00 35.2
comp=Z,5.1nm,1.2s
MSU Marysvale 60.83 317 P **P 16 00 35.2 +1.0**
MSU Marysvale 60.83 317 P **P 16 00 35.2 +1.0**
MVU Marysvale 60.84 317 P **P 16 00 35.0 +0.6**
MJAR Matsushiro Arr 60.86 53 P **P 16 00 35.0 +0.8**
MJAR Matsushiro Arr 60.86 53 P **P 16 00 35.0 +0.8**
comp=Z,5.2nm,0.9s,baz=348,slow=7.4,SNR=8.2
comp=Z,5.2nm,0.9s
MTPU Mount Pierson 61.29 317 P **P 16 00 38.7 +1.2**
PNTR Pine Nut 61.34 324 P **P 16 00 38.6 +0.9**
NVAR Mina Array Bea 61.81 323 P **P 16 00 39.8 -1.1**
comp=Z,0.3nm,0.7s,baz=11,slow=5.8,SNR=2.7
comp=Z,0.3nm,0.7s
JNU Nakatsue 62.78 61 LR LR 16 30 54.8
comp=Z,34nm,18.1s,baz=356,slow=39
PZH PanZhiHua 62.83 90 P **P 16 00 51.5 +3.8**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,140nm,5.3s
TORD Torodi Ar. Bea 64.41 198 P **P 16 00 58.5 +0.5**
TORD IAmb IAmb 16 00 59.8
comp=Z,6.4nm,1.5s
TORD Torodi Ar. Bea 64.41 198 P **P 16 00 57.5 -0.6**
comp=Z,1.3nm,0.8s,baz=7.9,slow=6.9,SNR=7.2
comp=Z,1.3nm,0.8s
TXAR Lajitas Array 68.37 307 P **P 16 01 22.9 -0.4**
TXAR Lajitas Array 68.37 307 P **P 16 01 23.0 -0.4**
TXAR Lajitas Array 68.37 307 P **P 16 01 22.1 -1.3**
comp=Z,0.4nm,0.5s,baz=32,slow=5.3,SNR=6.6
comp=Z,0.4nm,0.5s
CMAR Chiang Mai Arr 69.96 95*ce*P **P 16 01 36.0 +2.8**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 69.96 95 P **P 16 01 33.4 +0.1**
comp=Z,1.5nm,0.8s,baz=339,slow=7.1,SNR=12
comp=Z,1.5nm,0.8s
DBIC Dimbokro 71.37 205 P **P 16 01 42.4 +0.6**
comp=Z,5.3nm,1.1s,baz=351,slow=6.6,SNR=3.8
comp=Z,5.3nm,1.1s
TEIG Tepich 74.18 291 LR LR 16 36 28.5
comp=Z,487nm,19.0s,baz=192,slow=37
WRA Warramunga Arr 115.02 69 PKP **PKPdf 16 09 02.3 -0.3**
comp=Z,0.2nm,0.8s,baz=57,slow=1.8,SNR=1.2
ASAR Alice Springs 118.54 71 PKP **PKPdf 16 09 08.1 -1.2**
comp=Z,0.6nm,0.6s,baz=4.7,slow=1.6,SNR=23
MAW Mawson 146.84 151 PKPbc **PKPbc 16 10 02.2 -0.1**
comp=Z,1.5nm,0.3s,baz=324,slow=7.8,SNR=4.4
SNAA Sanae 148.97 193 PKPbc **PKPbc 16 10 07.6 -0.4**
comp=Z,1.0nm,0.3s,baz=184,slow=22,SNR=1.6

*IDC **31** 15:56:06.2±1.6,35°.05N×139°.91E,h118km±11km,mb3.0/7, mbtmp3.4/7,Error ellipse: s-maj=39.4km s-min=6.3km az=70.0*
*JMA **31** 15:56:06.6±0.3,35°.0N±0°.9×14°0E±°,h123km±2km, MV3.0/36,SAGAMINADA*
ISC 31 15:56:07.0±0.8,35°.04N±0°.05×139°.78E±0°.06,h124km±6km, n25,σ0°57/33,mb3.3/6,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATJ	**Tateyama 2**	**0.09**	**94**	P	**Pn**	**15 56 23.9**	**0.0**
TATJ				S	**Sn**	**15 56 36.8**	**+0.2**
JYO	**Yokosk**	**0.21**	**333**	P	**Pn**	**15 56 24.1**	**0.0**
JYO				S	**Sn**	**15 56 37.2**	**+0.1**
JIM2	**Oshima 3**	**0.43**	**222**	P	**Pn**	**15 56 24.6**	**-0.5**
JIM2				S	**Sn**	**15 56 37.5**	**-1.2**
JOD2	**Odawara 2**	**0.61**	**292**	*i*P	**Pn**	**15 56 25.6**	**-0.6**
JOD2				S	**Sn**	**15 56 39.8**	**-0.8**
BSO3	**Boso 3**	**0.65**	**111**	*i*P	**Pn**	**15 56 26.1**	**+0.1**
BSO3				S	**Sn**	**15 56 41.6**	**+1.1**
JIZS	**Izushimoda**	**0.81**	**247**	P	**Pn**	**15 56 27.8**	**+0.2**
JIZS				S	**Sn**	**15 56 43.5**	**+0.3**
JFNN	**Fujinakano**	**0.91**	**280**	*i*P	**Pn**	**15 56 28.8**	**+0.3**
JFNN				S	**Sn**	**15 56 45.1**	**+0.3**
JMYK	**Miyake Tsubota**	**0.99**	**191**	P	**Pn**	**15 56 29.2**	**-0.1**
BSO1	**Boso 1**	**1.06**	**111**	*i*P	**Pn**	**15 56 29.3**	**0.0**
JYN	**Shimob**	**1.11**	**295**	*i*P	**Pn**	**15 56 30.9**	**+0.3**
JYN				S	**Sn**	**15 56 49.5**	**+1.1**
JMKN	**Mikurajimanish**	**1.15**	**188**	P	**Pn**	**15 56 30.8**	**-0.1**
JMKN				S	**Sn**	**15 56 48.5**	**-0.5**
JRY	**Ryogami san**	**1.21**	**324**	*i*P	**Pn**	**15 56 31.6**	**0.0**
JAG	**Ashikaga**	**1.41**	**349**	*i*P	**Pn**	**15 56 32.9**	**-0.8**
JHJ	**Hachijo jima 2**	**1.92**	**180**	P	**Pn**	**15 56 39.8**	**+0.2**
	80nm,0.3s,baz=72,slow=22,SNR=16						
JHJ				S	**Sn**	**15 57 03.6**	**-0.9**
	54nm,0.2s,baz=250,slow=23,SNR=8.7						
MJAR	**Matsushiro Arr 1.97 320**			P	**Pn**	**15 56 39.6**	**-0.7**
	12nm,0.3s,baz=198,slow=19,SNR=202						
MJAR				S	**Sn**	**15 57 05.5**	**-0.3**
	14nm,0.4s,baz=146,slow=29,SNR=11						
SONM	**Songino Array 27.87 308**			P	**P**	**16 01 45.4**	**+0.3**
	0.4nm,0.8s,baz=113,slow=8.8,SNR=2.1						
	0.4nm,0.8s						
H11N2	**WAKE ISLAND Hy 28.38 115**			T	T	16 31 38.9	
	baz=308						
H11N1	**WAKE ISLAND Hy 28.39 115**			T	T	16 31 44.0	
	baz=308						
H11N3	**WAKE ISLAND Hy 28.40 115**			T	T	16 31 40.6	
	baz=308						
MKAR	**Makanchi Array 44.09 304**			P	**P**	**16 04 03.0**	**+0.4**
	0.1nm,0.4s,baz=84,slow=7.8,SNR=2.0						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra 46.21 309**			P	**P**	**16 04 20.0**	**+0.7**
	0.4nm,0.4s,baz=84,slow=7.7,SNR=4.3						
	0.4nm,0.4s						
WRA	**Warramunga Arr 54.92 186**			P	**P**	**16 05 24.4**	**-0.5**
	0.5nm,0.9s,baz=1.4,slow=7.6,SNR=7.7						
	0.5nm,0.9s						
ASAR	**Alice Springs 58.65 186**			P	**P**	**16 05 51.6**	**+0.4**
	0.1nm,0.7s,baz=24,slow=11,SNR=1.4						
	0.1nm,0.7s						
YKA	**Yellowknife Ar 66.19 29**			P	**P**	**16 06 40.2**	**-0.7**
	baz=295,slow=6.5,SNR=1.4						

FINES FINESS Array B 69.96 332 P **P** **16 07 04.6 +0.1**
2.5nm,0.9s,baz=46,slow=8.1,SNR=1.8
2.5nm,0.9s

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*IDC **31** 16:02:55.8±0.6,33°.93N×87°.04E,h0km,mb3.9/16, mbtmp3.9/20,ML3.4/4,MS3.5/5,Error ellipse: s-maj=19.3km s-min=13.8km az=45.0*
*MOS **31** 16:02:58.2±1.5,34°.04N×87°.02E,h21km,mb4.2/12,Error ellipse: s-maj=11.1km s-min=5.9km az=114.3*
*NEIC **31** 16:02:59.9±1.6,34°.06N±0°.08×87°.04E±0°.08,h16km±4km, mb4.5/50,Error ellipse: s-maj=12.2km s-min=8.9km az=199.0*
ISC 31 16:02:58.8±0.4,**34°.06N**±0°.06×**87°.08E**±0°.06,**h10**km,**n133,**
σ1§**39**/131,**mb4.5**/44,**MS3.6**/6,**11C-1D,Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUN	**Gumba**	**6.21**	**190**	*e*P		**Pn**	**16 04 32.7**	**+1.8**
	58nm,0.5s							
DANN	**Dangsing**	**6.36**	**207**	*e*P		**Pn**	**16 04 34.4**	**+1.5**
	20nm,0.5s							
GKN	**Gorkha**	**6.39**	**200**	*e*P		**Pn**	**16 04 34.6**	**+1.4**
JIRN	**Jiri**	**6.42**	**187**	*e*P		**Pn**	**16 04 36.3**	**+2.5**
	21nm,0.5s							
PKI	**Pulchoki**	**6.62**	**193**	*e*P		**Pn**	**16 04 38.0**	**+1.5**
	34nm,0.7s							
DMN	**Daman**	**6.65**	**195**	*e*P		**Pn**	**16 04 38.7**	**+1.9**
TAPN	**Taplejung**	**6.71**	**175**	*e*P		**Pn**	**16 04 39.1**	**+1.4**
	14nm,0.4s							
PYUN	**Piuthan**	**6.90**	**212**	*e*P		**Pn**	**16 04 40.9**	**+0.7**
	92nm,1.0s							
RAMN	**Ramite**	**7.10**	**183**	*e*P		**Pn**	**16 04 44.9**	**+1.9**
	12nm,0.5s							
LGTI	**Lohaghat**	**7.41**	**234**	*ex*		**Pn**	**16 04 50.2**	**+3.1**
SMLA	**Simla**	**8.86**	**253**	*ex*		**Pn**	**16 05 10.2**	**+3.3**
DHRM	**DHARAMSHALA**	**9.22**	**262**	*ex*		**Pn**	**16 05 10.8**	**-1.2**
KSH	**Kashi**	**10.44**	**305**	P		**Pn**	**16 05 30.8**	**+2.1**
KSH				PP		**PnPn**	**16 05 44.0**	**+7.7**
KSH				pmax		pmax		
	comp=Z,6.0nm,1.1s							
KSH				LR		LR		
	comp=N,240nm,10.1s							
KSH				LR		LR		
	comp=E,290nm,9.8s							
KSH				LR		LR		
	comp=Z,470nm,10.8s							
TARG	**Taragay, Kyrgy**	**10.60**	**319**	Pn		**Pn**	**16 05 32.1**	**+1.0**
TARG	**Taragay, Kyrgy**	**10.60**	**319**	P		**Pn**	**16 05 32.1**	**+1.0**
KUDL	**Kundal**	**10.82**	**240**	*ex*		**Pn**	**16 05 34.2**	**+0.4**
NIL	**Nilore**	**11.51**	**272**	Pn		**Pn**	**16 05 41.8**	**-1.4**
NIL	**Nilore**	**11.51**	**272**	P		**Pn**	**16 05 41.8**	**-1.4**
AAK	**Ala-Archa**	**13.06**	**315**	Pn		**Pn**	**16 06 04.7**	**+0.1**
AAK	**Ala-Archa**	**13.06**	**315**	*ce*P		**Pn**	**16 06 04.8**	**+0.2**
AAK				pmax		pmax		
	comp=Z,2.0nm,0.8s							
AAK	**Ala-Archa**	**13.06**	**315**	Pn		**Pn**	**16 06 02.8**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=125,slow=12,SNR=7.0							
	comp=Z,1.4nm,0.6s							
MK31	**Makanchi Array**	**13.23**	**345**	Pn		**Pn**	**16 06 07.0**	**+0.3**
MK31	**Makanchi Array**	**13.23**	**345**	*ce*P		**Pn**	**16 06 07.8**	**+1.1**
MKAR	**Makanchi Array**	**13.23**	**345**	Pn		**Pn**	**16 06 06.8**	**+0.1**
MKAR	**Makanchi Array**	**13.23**	**345**	*i* P		**Pn**	**16 06 07.6**	**+0.9**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**13.23**	**345**	Pn		**Pn**	**16 06 05.5**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=148,slow=15,SNR=22							
	comp=Z,2.4nm,0.8s							
MAKZ	**Makanchi**	**13.31**	**345**	Pn		**Pn**	**16 06 07.1**	**-0.7**
MAKZ	**Makanchi**	**13.31**	**345**	P		**Pn**	**16 06 07.1**	**-0.7**
BTK	**Batken**	**14.29**	**299**	Pn		**Pn**	**16 06 20.6**	**-0.8**
BTK	**Batken**	**14.29**	**299**	P		**Pn**	**16 06 20.6**	**-0.8**
KBL	**Kabul**	**14.92**	**277**	P		**P**	**16 06 35.6**	**-0.1**
KBL	**Kabul**	**14.92**	**277**	P		**P**	**16 06 35.6**	**-0.1**
SIMJ	**Simiganj**	**15.27**	**293**	P		**P**	**16 06 39.8**	**+0.3**
DGZ	**Jazzator, Alta**	**15.63**	**1**	*i* P		**Pn**	**16 06 40.1**	**+0.8**
DGZ				pmax		pmax		
	comp=Z,7.0nm,1.6s							
KK31	**Karatay Array**	**15.77**	**310**	Pn		**Pn**	**16 06 38.4**	**-2.6**
KK31	**Karatay Array**	**15.77**	**310**	P		**Pn**	**16 06 38.4**	**-2.6**
KK31				pmax		pmax		
	comp=Z,3.0nm,1.3s							
KKAR	**Karatay Array**	**15.77**	**310**	Pn		**Pn**	**16 06 37.8**	**-3.2**
KKAR	**Karatay Array**	**15.77**	**310**	P		**Pn**	**16 06 37.8**	**-3.2**
KURBB	**Kurchatov Arra**	**17.70**	**342**	P		**Pn**	**16 07 05.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=158,slow=12,SNR=24							
	comp=Z,7.9nm,0.8s							
KURK	**Kurchatov**	**17.76**	**342**			**Pn**	**16 07 06.6**	**+0.6**
KURK	**Kurchatov**	**17.76**	**342**	*ce*P		**Pn**	**16 07 06.2**	**+0.2**
KURK				pmax		pmax		
	comp=Z,11nm,1.0s							
CRAI	**Chiangrai**	**18.13**	**136**			**P**	**16 07 12.4**	**+1.3**
HYB	**Hyderabad**	**18.25**	**207**	*e*P		**Pn**	**16 07 12.6**	**+0.3**
HYB				*e*S		S	16 10 57.4	+16
CHTO	**Chiang Mai**	**18.50**	**142**	P		**P**	**16 07 15.2**	**0.0**
CHTO	**Chiang Mai**	**18.50**	**142**	P		**P**	**16 07 15.2**	**0.0**
CHTO				pmax		pmax		
	comp=Z,4.0nm,1.0s							
CM31	**Chiang Mai Arr**	**18.80**	**143**	P		**P**	**16 07 16.9**	**-1.7**
CMAR	**Chiang Mai Arr**	**18.80**	**143**	P		**P**	**16 07 16.9**	**-1.6**
CMAR	**Chiang Mai Arr**	**18.80**	**143**	*ce*P		**Pn**	**16 07 19.3**	**+0.3**
CMAR				pmax		pmax		
	comp=Z,3.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**18.80**	**143**	P		**P**	**16 07 17.3**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=330,slow=12,SNR=19							
CMAR				LR		LR	16 14 47.9	
	comp=Z,40nm,20.8s,baz=0.0,slow=38							
	comp=Z,3.4nm,1.0s							
ZAA0	**Zalesovo Array**	**19.95**	**356**	P		**P**	**16 07 31.6**	**+0.7**
ZALV	**Zalesovo Beam**	**19.95**	**356**	*i* P		**Pn**	**16 07 32.2**	**-0.3**
ZALV				pmax		pmax		
	comp=Z,3.0nm,0.8s							
ZALV	**Zalesovo Beam**	**19.95**	**356**	P		**P**	**16 07 31.6**	**+0.8**
	comp=Z,3.9nm,0.9s,baz=187,slow=9.9,SNR=11							
	comp=Z,3.9nm,0.9s							
SONM	**Songino Array**	**19.98**	**41**	P		**P**	**16 07 32.3**	**+0.9**
SONM	**Songino Array**	**19.98**	**41**	P		**P**	**16 07 32.3**	**+0.9**
SONM				pmax		pmax		
	comp=Z,4.0nm,1.0s							
SONM	**Songino Array**	**19.98**	**41**	P		**P**	**16 07 31.9**	**+0.5**
	comp=Z,1.6nm,0.9s,baz=233,slow=8.0,SNR=12							
	comp=Z,1.6nm,0.9s							
ULN	**Ulaanbaatar**	**20.36**	**41**			Pn	16 07 36.8	-0.8
ULN	**Ulaanbaatar**	**20.36**	**41**	*ce*P		Pn	16 07 36.8	-0.7
ULN				pmax		pmax		
	comp=Z,5.0nm,0.7s							
BVAR	**Borovoye Array**	**22.39**	**333**	P		**P**	**16 07 57.5**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=146,slow=11,SNR=9.1							
	comp=Z,1.8nm,0.6s							
BRVK	**Borovoye**	**22.46**	**333**	P		**P**	**16 07 58.7**	**+0.8**
BRVK	**Borovoye**	**22.46**	**333**	*ce*P		**P**	**16 08 00.2**	**+2.3**
BRVK				pmax		pmax		
	comp=Z,6.0nm,1.1s							
ABKAR	**Akbulak array**	**25.15**	**315**	P		**P**	**16 08 24.5**	**+0.5**
ABKAR	**Akbulak array**	**25.15**	**315**	P		**P**	**16 08 24.9**	**+0.9**
ABKAR				IAmb		IAmb	16 08 28.7	
	comp=Z,5.4nm,1.2s							
ARU	**Arti**	**29.69**	**328**	LR		LR	16 22 37.8	
	comp=Z,98nm,19.8s,baz=180,slow=40							
KIV	**Kislovodsk**	**35.51**	**300**	*de*P		**P**	**16 09 57.7**	**+1.8**
KIV				*e*			16 11 08.6	
KIV				*e*S		**S**	**16 15 29.3**	**-2.0**
KIV				pmax		pmax		
	comp=Z,14nm,2.4s							
KIV				MLR		MLR		
	comp=Z,37nm,16.0s							
KLR	**Kul'dur**	**36.10**	**51**	*ce*P		**P**	**16 10 01.1**	**+0.4**
KLR				pmax		pmax		
	comp=Z,11nm,2.5s							
KLR	**Kul'dur**	**36.10**	**51**	P		**P**	**16 10 00.6**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=273,slow=7.4,SNR=6.4							
	comp=Z,2.0nm,0.8s							
YAK	**Yakutsk**	**38.77**	**31**	*i* P		**P**	**16 10 24.9**	**+1.8**
YAK				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KKM	**Kota Kinabalu**	**38.78**	**129**	P		**P**	**16 10 24.5**	**+0.6**
OBN	**Obninsk**	**40.57**	**317**	*ie*P		**P**	**16 10 38.9**	**+0.7**
OBN				*e*			16 12 15.3	
OBN				pmax		pmax		
	comp=Z,18nm,1.6s							
OBN				MLR		MLR		
	comp=Z,91nm,18.0s							
MJAR	**Matsushiro Arr**	**41.40**	**71**	P		**P**	**16 10 43.4**	**-2.0**
	comp=Z,3.2nm,1.1s,baz=282,slow=6.8,SNR=3.5							
	comp=Z,3.2nm,1.1s							
JSG	**Sagara**	**41.81**	**74**	P		**P**	**16 10 49.9**	**+1.2**
BRTR	**Keskin Array B**	**42.59**	**294**	*ce*P		**P**	**16 10 57.5**	**+2.3**
BRTR				pmax		pmax		
	comp=Z,2.0nm,0.9s							
BRTR	**Keskin Array B**	**42.59**	**294**	P		**P**	**16 10 54.5**	**-0.7**
	comp=Z,2.2nm,1.0s,baz=99,slow=9.3,SNR=6.9							
	comp=Z,2.2nm,1.0s							
AKASG	**Malin Array Be**	**44.68**	**310**	*ce*P		**P**	**16 11 12.3**	**+0.7**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.8s							
AKASG	**Malin Array Be**	**44.68**	**310**	P		**P**	**16 11 10.8**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=82,slow=7.8,SNR=6.0							
	comp=Z,0.8nm,0.6s							
SMRI	**Semarang**	**46.49**	**147**	P		**P**	**16 11 26.9**	**+0.6**
FINES	**FINESS Array B**	**46.98**	**325**	P		**P**	**16 11 29.3**	**-0.3**
	comp=Z,5.2nm,1.0s,baz=121,slow=14,SNR=8.0							
FINES				LR		LR	16 33 36.0	
	comp=Z,93nm,21.2s,baz=226,slow=39							
	comp=Z,5.2nm,1.0s							
MLR	**Muntele Rosu**	**47.30**	**303**	P		**P**	**16 11 32.2**	**-0.4**
MLR	**Muntele Rosu**	**47.30**	**303**	P		**P**	**16 11 32.2**	**-0.4**
MLR				pmax		pmax		
	comp=Z,17nm,1.5s							
PETK	**Petropavlovsk-**	**52.35**	**46**	P		**P**	**16 12 10.4**	**-0.3**
PETK	**Petropavlovsk-**	**52.35**	**46**	P		**P**	**16 12 10.5**	**-0.3**
VRAC	**Vranov**	**52.92**	**309**	LR		LR	16 38 21.0	
	comp=Z,67nm,19.2s,baz=26,slow=40							
NB2	**NORSAR Subarra**	**54.15**	**324**	P		**P**	**16 12 22.6**	**-1.3**
	comp=Z,6.4nm,0.9s,baz=84,slow=7.4							
NOA	**NORSAR Array B**	**54.15**	**324**	P		**P**	**16 12 22.4**	**-1.5**
	comp=Z,2.4nm,0.8s,baz=84,slow=7.3,SNR=7.6							
NOA				LR		LR	16 37 09.9	
	comp=Z,52nm,19.4s,baz=335,slow=38							
	comp=Z,2.4nm,0.8s							
GERES	**GERESS Array B**	**54.88**	**309**	P		**P**	**16 12 28.6**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=91,slow=6.7,SNR=4.9							
	comp=Z,1.5nm,0.7s							
KMBO	**Kilima Mbogo**	**58.36**	**244**	*ce*P		**P**	**16 12 55.7**	**+0.9**
KMBO				pmax		pmax		
	comp=Z,1.0nm,0.6s							
KMBO	**Kilima Mbogo**	**58.36**	**244**	P		**P**	**16 12 54.0**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=54,slow=9.6,SNR=3.9							
	comp=Z,1.2nm,0.5s							
C18K	**Utukok River**	**66.03**	**22**	P		**P**	**16 13 45.8**	**+0.5**
C19K	**Lookout Ridge**	**66.27**	**21**	P		**P**	**16 13 47.0**	**+0.1**
C19K				IAmb		IAmb	16 14 28.2	
	comp=Z,5.8nm,1.3s							
B20K	**Meade River**	**66.46**	**20**	P		**P**	**16 13 48.0**	**+0.1**
D19K	**Kuna River**	**67.06**	**21**	P		**P**	**16 13 52.2**	**+0.3**
D19K				IAmb		IAmb	16 14 02.0	
	comp=Z,7.8nm,1.5s							
E19K	**Redstone River**	**67.94**	**22**	P		**P**	**16 13 57.6**	**+0.3**
E19K				IAmb		IAmb	16 14 08.3	
	comp=Z,8.5nm,1.4s							
C23K	**Itkillik River**	**68.35**	**18**	P		**P**	**16 14 00.0**	**+0.2**
C23K				IAmb		IAmb	16 14 00.9	
	comp=Z,4.8nm,0.9s							
D22K	**Ayikyak River**	**68.41**	**20**	P		**P**	**16 14 00.5**	**+0.2**
D22K				IAmb		IAmb	16 14 04.2	
	comp=Z,4.4nm,1.1s							
G19K	**Purcell Mounta**	**68.77**	**23**	P		**P**	**16 14 02.9**	**+0.2**
H18K	**Honhosa River**	**68.93**	**24**	P		**P**	**16 14 04.3**	**+0.6**
TOLK	**Toolik Lake Re**	**69.42**	**19**	P		**P**	**16 14 06.5**	**-0.1**
TOLK				IAmb		IAmb	16 14 07.4	
	comp=Z,2.7nm,0.8s							
G21K	**Allakaket**	**69.68**	**22**	P		**P**	**16 14 08.4**	**+0.1**
G21K				IAmb		IAmb	16 14 39.0	
	comp=Z,5.8nm,1.4s							
IMAR	**Indian Mountai**	**69.94**	**22**	P		**P**	**16 14 09.9**	**0.0**
WB0	**Warramunga Arr**	**69.96**	**133**	P		**P**	**16 14 09.2**	**-1.4**
WB0				IAmb		IAmb	16 14 34.1	
	comp=Z,4.5nm,1.2s							
WRA	**Warramunga Arr**	**70.06**	**133**	P		**P**	**16 14 09.3**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=326,slow=6.4,SNR=10							
	comp=Z,0.5nm,0.6s							
WB2	**Warramunga Arr**	**70.06**	**133**	P		**P**	**16 14 09.9**	**-1.3**
WB2				IAmb		IAmb	16 14 36.1	
	comp=Z,4.3nm,1.2s							
E24K	**Your Creek**	**70.10**	**19**	P		**P**	**16 14 11.2**	**+0.3**
E24K				IAmb		IAmb	16 14 11.8	
	comp=Z,4.0nm,1.2s							
K17K	**Iditarod**	**70.41**	**26**	P		**P**	**16 14 13.6**	**+0.9**
H21K	**Melozitna Rive**	**70.45**	**22**	P		**P**	**16 14 13.5**	**+0.5**
H21K				IAmb		IAmb	16 14 44.6	
	comp=Z,8.7nm,1.5s							
J19K	**Poorman**	**70.58**	**25**	P		**P**	**16 14 14.6**	**+0.8**
J19K				IAmb		IAmb	16 14 41.4	
	comp=Z,11nm,1.5s							
J20K	**Nowinta River**	**70.97**	**24**	P		**P**	**16 14 16.6**	**+0.5**
K20K	**Telida**	**71.52**	**25**	P		**P**	**16 14 20.4**	**+0.8**
K20K				IAmb		IAmb	16 14 28.5	
	comp=Z,5.6nm,1.1s							
BMAR	**Burnt Mountain**	**71.61**	**19**	P		**P**	**16 14 20.6**	**+0.5**
H24K	**Noodor Dome**	**71.83**	**21**	P		**P**	**16 14 21.8**	**+0.4**
H24K				IAmb		IAmb	16 14 51.3	
	comp=Z,2.6nm,1.3s							
A36M	**Sachs Harbour**	**71.85**	**10**	P		**P**	**16 14 21.1**	**-0.2**
A36M				IAmb		IAmb	16 14 25.2	
	comp=Z,6.5nm,0.8s							
E28M	**Babbage River**	**71.98**	**16**	P		**P**	**16 14 22.0**	**-0.3**
E28M				IAmb		IAmb	16 14 25.7	
	comp=Z,5.4nm,1.2s							
CAST	**Castle Rocks**	**72.16**	**24**	P		**P**	**16 14 23.5**	**+0.2**
CAST				IAmb		IAmb	16 14 24.2	
	comp=Z,11nm,1.3s							
MDM	**Murphy Dome**	**72.34**	**22**	P		**P**	**16 14 24.5**	**0.0**
MDM				IAmb		IAmb	16 14 52.6	
	comp=Z,2.3nm,1.0s							
E29M	**Blow River**	**72.53**	**16**	P		**P**	**16 14 25.5**	**+0.1**
E29M				IAmb		IAmb	16 14 26.5	
	comp=Z,4.4nm,1.1s							
ASAR	**Alice Springs**	**72.64**	**136**	P		**P**	**16 14 25.8**	**-1.0**
ASAR	**Alice Springs**	**72.64**	**136**	P		**P**	**16 14 25.5**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=324,slow=6.1,SNR=12							
	comp=Z,0.5nm,0.7s							
F28M	**Old Crow**	**72.67**	**17**	P		**P**	**16 14 25.6**	**-0.8**
F28M				IAmb		IAmb	16 14 27.3	
	comp=Z,3.5nm,1.1s							
M20K	**Styx River**	**72.81**	**25**	P		**P**	**16 14 28.3**	**+0.9**
ILAR	**Eielson Array**	**72.88**	**21**	P		**P**	**16 14 27.1**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=320,slow=4.4,SNR=8.8							
	comp=Z,0.7nm,0.8s							
INK	**Inuvik**	**73.55**	**15**	P		**P**	**16 14 31.2**	**-0.3**
INK				IAmb		IAmb	16 14 32.1	
	comp=Z,6.6nm,1.4s							
INK	**Inuvik**	**73.55**	**15**	P		**P**	**16 14 31.2**	**-0.3**
INK				pmax		pmax		
	comp=Z,7.0nm,1.5s							
G29M	**Pine Creek**	**73.67**	**17**	P		**P**	**16 14 33.1**	**+0.8**
G29M				IAmb		IAmb	16 15 04.6	
	comp=Z,9.4nm,1.4s							
G30M	**tAoh Zrail Nji**	**74.04**	**16**	P		**P**	**16 14 34.1**	**-0.4**
G30M				IAmb		IAmb	16 14 40.1	
	comp=Z,5.5nm,1.4s							
H29M	**Whitestone**	**74.14**	**17**	P		**P**	**16 14 34.6**	**-0.4**
H29M				IAmb		IAmb	16 14 44.4	
	comp=Z,3.9nm,1.4s							
I28M	**Miner Creek**	**74.34**	**19**	P		**P**	**16 14 35.7**	**-0.6**
G31M	**Satah River**	**74.54**	**16**	P		**P**	**16 14 36.6**	**-0.6**
G31M				IAmb		IAmb	16 14 37.3	
	comp=Z,4.8nm,0.8s							
SCM	**Sheep Creek Mo**	**74.84**	**24**	P		**P**	**16 14 39.3**	**0.0**
SCM	**Sheep Creek Mo**	**74.84**	**24**	P		**P**	**16 14 39.3**	**0.0**
SCM				pmax		pmax		
	comp=Z,14nm,1.1s							
TORD	**Torodi Ar. Bea**	**78.99**	**278**	P		**P**	**16 15 00.1**	**-3.2**
	comp=Z,0.6nm,0.9s,baz=36,slow=6.4,SNR=3.2							
	comp=Z,0.6nm,0.9s							
YKA	**Yellowknife Ar**	**82.21**	**10**	P		**P**	**16 15 18.7**	**-1.1**
	comp=Z,1.2nm,0.9s,baz=333,slow=5.2,SNR=14							
	comp=Z,1.2nm,0.9s							
QSPA	**South Pole Qui**	**123.84**	**180**	PKP		**PKPdf**	**16 21 53.8**	**-2.4**
	comp=Z,1.3nm,0.9s,baz=237,slow=5.2,SNR=3.0							
CPUP	**Villa Florida**	**148.41**	**274**	PKPbc		**PKPdf**	**16 22 42.6**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=335,slow=10.0,SNR=2.7							

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*NEIC **31** 16:26:55.4±2.2,5°.0S±0°.1×152°.3E±0°.1,h61km±11km, mb4.2/17,Error ellipse: s-maj=24.4km s-min=16.5km az=138.0*
*IDC **31** 16:26:58.8±5.3,5°.20S×152°.31E,h83km±44km,mb3.4/8, mbtmp3.8/9,ML2.2/1,Error ellipse: s-maj=49.5km s-min=27.0km az=116.0*
ISC 31 16:26:54.7±0.8,**5°.0S**±0°.1×**152°.3E**±0°.1,**h55**km,**n30,**
σ0§**82**/33,**mb4.0**/12,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**6.73**	**229**			**Pn**	**16 28 31.4**	**+0.5**
PMG	**Port Moresby**	**6.73**	**229**	P		**Pn**	**16 28 34.8**	**+3.8**
	3.3nm,0.3s,baz=290,slow=3.9,SNR=14							
PMG				S		**Sn**	**16 29 46.4**	**+0.1**
	27nm,0.4s,baz=50,slow=20,SNR=13							
	12nm,0.3s							
ONTNC	**Ouen Toro**	**22.01**	**143**	P		**P**	**16 31 44.1**	**-0.4**
MTN	**Manton Dam**	**22.31**	**248**	P		**P**	**16 31 49.5**	**+1.8**
MTN				IAmb		IAmb	16 31 52.9	
	comp=Z,16nm,1.1s							
OUENC	**Ouen Island, N**	**22.32**	**142**	P		**P**	**16 31 47.5**	**-0.4**
OUENC				IAmb		IAmb	16 32 21.7	
	comp=Z,16nm,1.2s							
WB0	**Warramunga Arr**	**22.81**	**228**	P		**P**	**16 31 53.0**	**-0.1**
WB0				IAmb		IAmb	16 32 06.2	
	comp=Z,6.7nm,1.5s							
WR0	**Warramunga Arr**	**22.82**	**228**	P		**P**	**16 31 53.2**	**+0.1**
WR0				IAmb		IAmb	16 31 55.5	
	comp=Z,7.1nm,1.2s							
WB2	**Warramunga Arr**	**22.95**	**228**	P		**P**	**16 31 54.1**	**-0.4**
WB2				IAmb		IAmb	16 31 57.6	
	comp=Z,2.8nm,0.6s							
WRA	**Warramunga Arr**	**22.95**	**228**	P		**P**	**16 31 54.9**	**+0.3**
WRA	**Warramunga Arr**	**22.95**	**228**	P		**P**	**16 31 54.5**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=52,slow=10.0,SNR=27							
	comp=Z,1.6nm,0.4s							
KNRA	**Kununurra**	**25.45**	**244**	P		**P**	**16 32 16.9**	**-0.7**
KNRA				IAmb		IAmb	16 32 36.8	
	comp=Z,12nm,0.9s							
AS31	**Alice Springs**	**25.68**	**222**	P		**P**	**16 32 18.4**	**-1.4**
ASAR	**Alice Springs**	**25.68**	**222**	P		**P**	**16 32 18.4**	**-1.4**
ASAR	**Alice Springs**	**25.68**	**222**	P		**P**	**16 32 20.1**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=55,slow=8.9,SNR=23							
	comp=Z,0.8nm,0.6s							
FITZ	**Fitzroy Crossi**	**29.14**	**241**	P		**P**	**16 32 50.1**	**-0.6**
MBWA	**Marble Bar**	**35.45**	**240**	P		**P**	**16 33 43.4**	**-2.6**
MBWA				IAmb		IAmb	16 33 49.3	
	comp=Z,11nm,1.2s							
YULB	**Yu-li**	**41.36**	**314**	P		**P**	**16 34 33.1**	**-2.5**
LHMI	**Lhok Sumawe**	**56.20**	**280**	P		**P**	**16 36 26.9**	**-2.8**
CMAR	**Chiang Mai Arr**	**57.50**	**295**	P		**P**	**16 36 41.5**	**+2.7**
	comp=Z,0.7nm,1.0s,baz=120,slow=6.3,SNR=4.8							
	comp=Z,0.7nm,1.0s							
ADK	**Adak**	**62.51**	**21**	P		**P**	**16 37 10.7**	**-1.7**
ULN	**Ulaanbaatar**	**65.89**	**328**	P		**P**	**16 37 32.3**	**-2.5**
ULN				IAmb		IAmb	16 37 54.7	
	comp=Z,4.8nm,1.5s							
SONM	**Songino Array**	**66.21**	**328**	P		**P**	**16 37 39.9**	**+2.9**
	comp=Z,0.2nm,0.4s,baz=143,slow=5.0,SNR=2.5							
	comp=Z,0.2nm,0.4s							
MKAR	**Makanchi Array**	**80.13**	**319**	P		**P**	**16 39 00.9**	**+1.9**
MKAR	**Makanchi Array**	**80.13**	**319**	P		**P**	**16 39 00.5**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=102,slow=6.3,SNR=6.3							
	comp=Z,0.3nm,0.6s							
MAKZ	**Makanchi**	**80.34**	**319**	P		**P**	**16 39 02.4**	**+2.3**
MAKZ				IAmb		IAmb	16 39 03.4	
	comp=Z,1.0nm,0.7s							
KTH	**Kantishna Hill**	**80.37**	**22**	P		**P**	**16 39 02.1**	**+2.2**
ZALV	**Zalesovo Beam**	**81.03**	**326**	P		**P**	**16 39 04.8**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=107,slow=4.9,SNR=4.1							
	comp=Z,0.5nm,0.4s							
ILAR	**Eielson Array**	**82.51**	**22**	P		**P**	**16 39 12.9**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=249,slow=5.5,SNR=17							
	comp=Z,0.8nm,0.6s							
BVAR	**Borovoye Array**	**89.09**	**323**	P		**P**	**16 39 44.3**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=103,slow=6.5,SNR=2.7							
	comp=Z,0.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**149.89**	**288**	PKPbc		**PKiKP**	**16 46 41.3**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=76,slow=2.4,SNR=9.1							

IDC 31 16:31:37.6±2.6,**5°.71N×126°.22E,h0**km,**mb3.5**/3, **mbtmp3.5**/3,**Error ellipse: s-maj=216.5km s-min=27.6km az=66.0,Mindanao**

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

comp=Z,4.9nm,1.2s
QSPA South Pole Qui 84.78 180 P **P** **16 55 15.9 +0.6**
comp=Z,1.0nm,0.7s,baz=6.8,slow=0.7,SNR=8.1
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 148.45 287 PKPbc **PKPbc** **17 02 28.3 0.0**
comp=Z,0.5nm,0.8s,baz=48,slow=2.1,SNR=3.2

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*IDC **31** 16:47:54.2±9.9,36°.27N×71°.07E,h101^{km}±62^{km}, mb2.9/2, mbtmp3.4/5, ML3.2/3, Error ellipse: s-maj=140.9km s-min=28.0km az=147.0*
ISC 31 16:47:56.6±1.8,36°.6N±0°.1×70°.9E±0°.1,h100^{km},n8, σ1º10/12,**1C-1D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.94**	**21**	P	**Pn**	**16 49 23.0**	**+0.7**
	0.3nm,0.3s						
AML				S	**Sn**	**16 50 29.0**	**-0.2**
	2.1nm,0.7s						
KK31	**Karatay Array**	**6.50**	**358**	‖P	**Pn**	**16 49 29.1**	**-0.5**
	5.5nm,0.3s,baz=182,slow=13,SNR=283						
KK31				⇑S	**Sn**	**16 50 40.7**	**-1.5**
	1.6nm,0.6s,baz=189,slow=26,SNR=6.0						
AAK	**Ala-Archa**	**6.64**	**24**	P	**Pn**	**16 49 32.9**	**+1.2**
	1.7nm,0.3s,baz=186,slow=4.8,SNR=31						
AAK				S	**Sn**	**16 50 45.4**	**-0.5**
	1.6nm,0.4s,baz=37,slow=14,SNR=5.6						
	4.3nm,0.4s						
GEYT	**Alibeck**	**10.25**	**281**	P	**Pn**	**16 50 21.3**	**+0.7**
	0.3nm,0.3s,baz=119,slow=12,SNR=5.6						
GEYT				S	**Sn**	**16 52 14.4**	**+0.8**
	1.3nm,0.4s,baz=279,slow=13,SNR=8.9						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**13.27**	**36**	P	**P**	**16 51 06.2**	**-0.8**
	0.1nm,0.4s,baz=217,slow=10.0,SNR=2.2						
BVAR	**Borovoye Array**	**16.42**	**359**	P	**Pn**	**16 51 42.4**	**+1.5**
	baz=158,slow=12,SNR=4.5						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**19.86**	**25**	P	**P**	**16 52 19.7**	**+0.2**
	0.4nm,0.3s,baz=203,slow=10,SNR=5.3						
	0.4nm,0.3s						
TORD	**Torodi Ar. Bea**	**65.61**	**269**	P	**P**	**16 58 28.8**	**-1.5**
	0.1nm,0.4s,baz=40,slow=7.4,SNR=1.5						
	0.1nm,0.4s						

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*IDC **31** 16:52:25.9±1.4,68°.98N×12°.82E,h0^{km},mbtmp3.5/5, ML2.1/5, Error ellipse: s-maj=16.9km s-min=11.4km az=103.0*
*HEL **31** 16:52:25.5±0.5,68°.94N×12°.41E,h10^{km},ML1.9, Confirmed Earthquake*
*NAO **31** 16:52:26.6±3.1,68°.87N×12°.49E,h6^{km}±12^{km}, ML2.1*
*UPP **31** 16:52:26.5±2.5,68°.91N×12°.82E,h0^{km}, ML2.1*
*BER **31** 16:52:27.5±3.4,68°.89N×12°.12E,h14^{km}±13^{km},ML1.9, ML2.1(NAO), Confirmed Earthquake*
ISC 31 16:52:25.0±1.9,68°.93N±0°.05×12°.55E±0°.07,h8^{km}±10^{km}, n46,σ1º**22**/76,**Northern Norway**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOF	**Lofoten**	**0.89**	**155**	Pg	**Pg**	**16 52 42.7**	**+0.8**
LOF				Lg	Lg	16 52 55.1	
LOF	**Lofoten**	**0.89**	**155**	*e*P	**Pg**	**16 52 42.7**	**+0.8**
LOF				*e*S	**Sb**	**16 52 55.3**	**+0.8**
LOF				IAML		16 52 55.7	
	comp=Z,94nm,0.3s						
STEI	**Steigen**	**1.42**	**134**	Pn	**Pn**	**16 52 51.3**	**+0.3**
STEI				Lg	Lg	16 53 10.1	
STEI	**Steigen**	**1.42**	**134**	*e*P	**Pn**	**16 52 51.4**	**+0.3**
STEI				*e*S	**Sg**	**16 53 10.1**	**-0.4**
STEI				IAML		16 53 12.2	
	comp=Z,28nm,0.4s						
STEI	**Steigen**	**1.42**	**134**	*e*P	**Pn**	**16 52 51.3**	**+0.3**
STEI				*e*PN	**Pg**	**16 52 52.4**	**+0.3**
STEI				*e*S	**Sn**	**16 53 09.7**	**-0.1**
FAUS	**Fauske**	**1.86**	**145**	*e*P	**Pn**	**16 52 57.2**	**0.0**
FAUS				*e*S	**Sn**	**16 53 19.4**	**-1.4**
FAUS				IAML		16 53 28.3	
	comp=Z,16nm,0.4s						
TRO	**Tromso**	**2.38**	**70**	*e*PG	**Pg**	**16 53 09.5**	**-1.0**
TRO				*e*S	**Sn**	**16 53 33.2**	**-0.3**
TRO				*e*SG	**Sg**	**16 53 40.6**	**-0.6**
KONS	**Konsvik**	**2.46**	**175**	Pn	**Pn**	**16 53 05.5**	**+0.3**
KONS				Sn	**Sn**	**16 53 34.5**	**-0.9**
KONS	**Konsvik**	**2.46**	**175**	*e*P	**Pn**	**16 53 05.7**	**+0.4**
KONS				*e*S	**Sn**	**16 53 34.5**	**-0.9**
KONS				IAML		16 53 37.1	
	comp=Z,6.4nm,0.4s						
STOK	**Stokkvaagen**	**2.62**	**176**	*e*P	**Pn**	**16 53 08.2**	**+0.7**
STOK				*e*S	**Sn**	**16 53 38.3**	**-1.2**
SALU	**Saltoluokta**	**2.72**	**122**	P	**Pn**	**16 53 10.2**	**+1.2**
SALU				S	**Sn**	**16 53 43.6**	**+1.6**
SALU	**Saltoluokta**	**2.72**	**122**	*e*P	**Pn**	**16 53 10.4**	**+1.4**
RATU	**Laukkuluspa**	**2.84**	**110**	P	**Pn**	**16 53 11.7**	**+1.1**
MOR8	**Moi Rana**	**2.87**	**164**	*e*P	**Pn**	**16 53 11.2**	**+0.2**
MOR8				*e*S	**Sn**	**16 53 44.2**	**-1.5**
MOR8				IAML		16 53 46.0	
	comp=Z,10nm,0.2s						
JETT	**Jettan, Norway**	**2.87**	**74**	Pn	**Pn**	**16 53 12.7**	**+1.6**
JETT				Sn	**Sb**	**16 53 50.5**	**-1.2**
JETT				Lg	Lg	16 53 59.0	
JETT	**Jettan, Norway**	**2.87**	**74**	Pn	**Pn**	**16 53 12.7**	**+1.6**
JETT				Sn	**Sb**	**16 53 50.5**	**-1.2**
JETT				Sg	**Sg**	**16 53 59.0**	**+2.0**
JETT	**Jettan, Norway**	**2.87**	**74**	*e*P	**Pn**	**16 53 12.2**	**+1.2**
JETT				*e*SB	**Sb**	**16 53 52.2**	**+0.5**
KOVU	**Salmi**	**2.88**	**101**	P	**Pn**	**16 53 12.4**	**+1.2**
KIF	**Kilpisjarvi**	**2.98**	**85**	Pn	**Pn**	**16 53 13.8**	**+1.4**
KIF				Pg	**Pg**	**16 53 20.9**	**-1.1**
KIF				Sn	**Sn**	**16 53 49.0**	**+0.7**
KIF				Lg	Lg	16 53 59.8	
KIF	**Kilpisjarvi**	**2.98**	**85**	*e*P	**Pn**	**16 53 13.5**	**+1.0**
KIF				MSG		16 54 02.2	
	comp=Z,5.2nm,0.2s						
KIF	**Kilpisjarvi**	**2.98**	**85**	*e*P	**Pn**	**16 53 13.5**	**+1.0**
KIF				MSG		16 54 02.2	
	comp=Z,5.2nm,0.2s						
KUA	**Kurravaara**	**3.04**	**105**	P	**Pn**	**16 53 14.8**	**+1.4**
DUNU	**Dundret**	**3.52**	**117**	P	**Pn**	**16 53 20.8**	**+0.9**
DUNU				S	**Sn**	**16 54 01.6**	**-0.2**
LANU	**Lannavaara**	**3.59**	**100**	P	**Pn**	**16 53 21.8**	**+0.8**
LANU	**Lannavaara**	**3.59**	**100**	*e*P	**Pn**	**16 53 21.7**	**+0.7**
LANU				*e*S	**Sn**	**16 54 03.3**	**-0.3**
LANU	**Lannavaara**	**3.59**	**100**	*e*P	**Pn**	**16 53 21.7**	**+0.7**
LANU				*e*S	**Sn**	**16 54 03.3**	**-0.3**
KTK1	**Kautokeino**	**3.85**	**84**	Pn	**Pn**	**16 53 25.8**	**+1.3**
KTK1				Lg	Lg	16 54 27.7	
KTK1	**Kautokeino**	**3.85**	**84**	*e*P	**Pn**	**16 53 27.1**	**+2.5**
HEF	**Hetta**	**4.09**	**92**	*e*P	**Pn**	**16 53 28.6**	**+0.8**
HEF				*e*S	**Sn**	**16 54 15.6**	**-0.3**
HEF				MSG		16 54 38.2	
	comp=Z,2.6nm,0.3s						
HEF	**Hetta**	**4.09**	**92**	*e*P	**Pn**	**16 53 28.6**	**+0.8**
HEF				*e*S	**Sn**	**16 54 15.6**	**-0.3**
HEF				MSG		16 54 38.2	
	comp=Z,2.6nm,0.3s						
HARU	**Harads**	**4.26**	**127**	P	**Pn**	**16 53 30.6**	**+0.5**
ERTU	**Ertsjaerv**	**4.38**	**119**	P	**Pn**	**16 53 32.2**	**+0.5**
KLF	**Kolari**	**4.61**	**106**	*e*P	**Pn**	**16 53 35.0**	**+0.2**
KLF				*e*S	**Sn**	**16 54 27.5**	**-0.9**
KLF				MSG		16 54 57.0	
	comp=Z,0.8nm,0.3s						
KLF	**Kolari**	**4.61**	**106**	*e*P	**Pn**	**16 53 35.0**	**+0.2**
KLF				*e*S	**Sn**	**16 54 27.5**	**-0.9**
KLF				MSG		16 54 57.0	
	comp=Z,0.8nm,0.3s						
LILU	**Lilltraesk**	**4.64**	**139**	P	**Pn**	**16 53 36.5**	**+1.2**
ARCES	**ARCESS Array B**	**4.65**	**77**	Pn	**Pn**	**16 53 36.5**	**+1.0**
	baz=269,slow=14,SNR=1.3						
ARCES				Lg	Lg	16 54 46.9	
	comp=Z,0.4nm,0.3s,baz=269,slow=27,SNR=10						
	comp=Z,5.3nm,1.1s						
ARA0	**ARCESS Array S**	**4.65**	**77**	Pn	**Pn**	**16 53 38.0**	**+2.5**
	baz=258,slow=11						
ARA0				Sn	**Sn**	**16 54 31.9**	**+2.3**
	baz=273,slow=18						
ARA0				Lg	Lg	16 54 51.5	
	baz=266,slow=28						
ARA0	**ARCESS Array S**	**4.65**	**77**	Pn	**Pn**	**16 53 38.0**	**+2.5**
	baz=258,slow=11						
ARA0				Sn	**Sn**	**16 54 31.9**	**+2.3**
	baz=273,slow=18						
ARA0				Sg	**Sg**	**16 54 51.5**	**-2.7**
	baz=266,slow=28						
NOA	**NORSAR Array B**	**7.95**	**185**	Pn	**Pn**	**16 54 22.5**	**+1.8**
	baz=359,slow=13,SNR=1.8						
NOA				Sn	**Sn**	**16 55 51.6**	**+0.9**
	baz=0.1,slow=9.8,SNR=1.8						
	comp=Z,0.8nm,1.1s						
NRA0	**NORESS Array S**	**8.24**	**183**	Pn	**Pn**	**16 54 25.3**	**+0.6**
	slow=14						
NRA0	**NORESS Array B**	**8.24**	**183**	Pn	**Pn**	**16 54 25.3**	**+0.6**
	slow=14						
HFS	**Hagfors**	**8.85**	**176**	Pn	**Pn**	**16 54 34.1**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=8.9,slow=10,SNR=1.3						
	comp=Z,2.6nm,0.9s						
SPITS	**Spitsbergen Ar**	**9.36**	**5**	Pn	**Pn**	**16 54 39.7**	**-0.3**
	baz=196,slow=14						
	comp=Z,17nm,1.1s						
FIA0	**FINESS Array S**	**9.40**	**136**	Pn	**Pn**	**16 54 41.6**	**+1.1**
	baz=329,slow=12						
FIA0	**FINESS Array S**	**9.40**	**136**	Pn	**Pn**	**16 54 41.6**	**+1.1**
	baz=329,slow=12						
FINES	**FINESS Array B**	**9.40**	**136**	Pn	**Pn**	**16 54 40.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=327,slow=12,SNR=4.0						
FINES				Sn	**Sn**	**16 56 23.0**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=333,slow=20,SNR=4.0						
FINES				Lg	Lg	16 57 22.3	
	comp=Z,0.1nm,0.3s,baz=332,slow=29,SNR=1.8						
	comp=Z,0.7nm,0.6s						

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*IDC **31** 16:53:47.8±1.4,17°.06N×100°.76W,h0^{km}, mb4.0/6, mbtmp3.9/10, ML3.5/4, MS3.5/13, Error ellipse: s-maj=32.8km s-min=24.0km az=45.0*
*NEIC **31** 16:53:49.0±2.3,17°.04N±0°.03×100°.85W±0°.03,h10^{km}±1^{km}, mb4.4/50, Md4.6/62(MEX), Error ellipse: s-maj=6.8km s-min=3.7km az=223.0*
*MEX **31** 16:53:51.4±0.8,16°.98N×100°.90W,h13^{km}±5^{km}, MD4.6*
ISC 31 16:53:48.4±1.2,17°.02N±0°.03×100°.86W±0°.03,h12^{km}±7km, n133,σ1º**68**/183,**mb4.3**/25,**MS3.3**/8,**Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATYC	**Atoyac**	**0.45**	**64**	*e*P	**Pb**	**16 53 59.0**	**+0.6**
ATYC				*e*S	**Sb**	**16 54 05.6**	**+0.6**
CAIG	**El Cayaco**	**0.56**	**87**		**Pb**	**16 54 01.5**	**+1.2**
CAIG					**Sb**	**16 54 09.5**	**+1.2**
CAIG	**El Cayaco**	**0.56**	**87**	*i* P	**Pb**	**16 54 01.5**	**+1.2**
CAIG				*i* S	**Sb**	**16 54 09.5**	**+1.2**
PET2	**Petatlan**	**0.65**	**323**	*e*P	**Pg**	**16 54 01.2**	**+0.2**
PET2				*e*S	**Sg**	**16 54 10.0**	**+0.5**
ZIIG	**Zihuatanejo**	**0.83**	**315**		**Pg**	**16 54 04.3**	**-0.1**
ZIIG					**Sg**	**16 54 15.1**	**-0.1**
ZIIG	**Zihuatanejo**	**0.83**	**315**	*i* P	**Pg**	**16 54 04.3**	**-0.1**
ZIIG				*i* S	**Sg**	**16 54 15.1**	**-0.1**
ACP2	**Acapulco**	**0.94**	**98**		**Pn**	**16 54 08.4**	**+1.0**
ACP2					**Sb**	**16 54 20.7**	**+1.6**
ACP2	**Acapulco**	**0.94**	**98**	*e*P	**Pn**	**16 54 08.4**	**+1.0**
ACP2				*e*S	**Sb**	**16 54 20.7**	**+1.6**
DAIG	**Los Arroyos**	**1.15**	**90**		**Pb**	**16 54 10.5**	**+0.2**
DAIG					**Sb**	**16 54 24.4**	**-0.9**
DAIG	**Los Arroyos**	**1.15**	**90**	*e*P	**Pb**	**16 54 10.5**	**+0.2**
DAIG				*e*S	**Sb**	**16 54 24.4**	**-0.9**
ARIG	**Puente Sto Nin**	**1.35**	**21**		**Pn**	**16 54 13.1**	**0.0**
ARIG					**Sb**	**16 54 29.4**	**-1.5**
ARIG	**Puente Sto Nin**	**1.35**	**21**	*i* P	**Pn**	**16 54 13.1**	**0.0**
ARIG				*i* S	**Sb**	**16 54 29.4**	**-1.5**
MEIG	**Mezcala**	**1.49**	**52**		**Pn**	**16 54 15.6**	**+0.5**
MEIG					**Sn**	**16 54 34.0**	**-0.5**
MEIG	**Mezcala**	**1.49**	**52**	*e*P	**Pn**	**16 54 15.6**	**+0.5**
MEIG				*e*S	**Sn**	**16 54 34.0**	**-0.5**
CRIG	**Cruz Grande**	**1.68**	**99**		**Pn**	**16 54 17.9**	**+0.3**
CRIG					**Sn**	**16 54 36.9**	**-2.2**
CRIG	**Cruz Grande**	**1.68**	**99**	*e*P	**Pn**	**16 54 17.9**	**+0.3**
CRIG				*e*S	**Sn**	**16 54 36.9**	**-2.2**
PLIG	**Platanillo**	**1.88**	**43**		**Pn**	**16 54 21.2**	**+0.6**
PLIG					**Sb**	**16 54 46.4**	**+0.1**
PLIG	**Platanillo**	**1.88**	**43**	*i* P	**Pn**	**16 54 21.2**	**+0.6**
PLIG				*e*S	**Sb**	**16 54 46.4**	**+0.1**
TEJU	**Tejupilco**	**1.99**	**19**	*e*P	**Pb**	**16 54 24.1**	**-0.6**
TEJU				*e*S	**Sb**	**16 54 49.7**	**+0.1**
TLIG	**Tlapa**	**2.25**	**76**		**Pn**	**16 54 27.1**	**+1.4**
TLIG	**Tlapa**	**2.25**	**76**	*e*P	**Pn**	**16 54 26.8**	**+1.1**
TLIG				*e*S	**Sn**	**16 54 54.4**	**+0.9**
HMTT	**Tlapaneco**	**2.33**	**70**		**Pn**	**16 54 28.8**	**+2.1**
HMTT					**Sg**	**16 55 02.6**	**-0.7**
HMTT	**Tlapaneco**	**2.33**	**70**	*e*P	**Pn**	**16 54 28.8**	**+2.1**
HMTT				*e*S	**Sg**	**16 55 02.6**	**-0.7**
YAIG	**Yautepec**	**2.50**	**43**		**Pn**	**16 54 29.1**	**-0.1**
YAIG					**Sn**	**16 54 58.4**	**-1.4**
YAIG	**Yautepec**	**2.50**	**43**	*e*P	**Pn**	**16 54 29.1**	**-0.1**
YAIG				*e*S	**Sn**	**16 54 58.4**	**-1.4**
MOIG	**Morelia**	**2.67**	**353**	Pn	**Pn**	**16 54 34.1**	**+2.6**
MOIG					**Sb**	**16 55 08.0**	**-1.2**
MOIG	**Morelia**	**2.67**	**353**	*i* P	**Pb**	**16 54 34.0**	**-1.9**
MOIG				*e*S	**Sb**	**16 55 07.0**	**-2.1**
PNIG	**Pinotepa**	**2.69**	**103**		**Pn**	**16 54 32.7**	**+1.2**
PNIG					**Sb**	**16 55 10.7**	**+1.2**
PNIG	**Pinotepa**	**2.69**	**103**	*e*P	**Pn**	**16 54 32.7**	**+1.2**
PNIG				*e*S	**Sb**	**16 55 10.7**	**+1.2**
MMIG	**Aquila**	**2.69**	**298**		**Pn**	**16 54 30.7**	**-0.8**
MMIG					**Sn**	**16 55 06.7**	**+2.6**
MMIG	**Aquila**	**2.69**	**298**	*e*P	**Pn**	**16 54 30.7**	**-0.8**
MMIG				*e*S	**Sn**	**16 55 06.7**	**+2.6**
FTIG	**Fresnillo de T**	**2.75**	**71**		**Pn**	**16 54 33.8**	**+1.4**
FTIG					**Sb**	**16 55 09.9**	**-1.4**
FTIG	**Fresnillo de T**	**2.75**	**71**	*i* P	**Pn**	**16 54 33.8**	**+1.4**
FTIG				*e*S	**Sb**	**16 55 09.9**	**-1.4**
UNM	**Universidad Na**	**2.80**	**34**	Pn	**Pb**	**16 54 36.6**	**-1.9**
UNM				Sn	**Sb**	**16 55 15.2**	**+2.2**
UNM	**Universidad Na**	**2.80**	**34**	*e*P	**Pb**	**16 54 38.3**	**-0.3**
UNM				*e*S	**Sb**	**16 55 14.2**	**+1.2**
PPIG	**Popocatepetl**	**2.94**	**46**		**Pn**	**16 54 35.8**	**+0.3**
PPIG					**Sn**	**16 55 11.7**	**+0.7**
PPM	**Popocatepetl**	**2.94**	**46**	*e*P	**Pn**	**16 54 35.8**	**+0.3**
PPM				*e*S	**Sn**	**16 55 11.7**	**+0.6**
TXIG	**Tlaxiaco**	**2.96**	**85**		**Pn**	**16 54 37.1**	**+1.5**
TXIG					**Sn**	**16 55 11.4**	**+0.2**
TXIG	**Tlaxiaco**	**2.96**	**85**	*e*P	**Pn**	**16 54 37.1**	**+1.5**
TXIG				*e*S	**Sn**	**16 55 11.4**	**+0.2**
HLIG	**Huajuapan de L**	**3.02**	**74**		**Pn**	**16 54 37.7**	**+1.3**
HLIG					**Sn**	**16 55 09.4**	**-3.2**
HLIG	**Huajuapan de L**	**3.02**	**74**	*e*P	**Pn**	**16 54 37.7**	**+1.3**
HLIG				*e*S	**Sn**	**16 55 09.4**	**-3.2**
YOIG	**Yosondua**	**3.17**	**92**		**Pn**	**16 54 40.1**	**+1.6**
YOIG					**Sn**	**16 55 14.7**	**-1.7**
YOIG	**Yosondua**	**3.17**	**92**	*e*P	**Pn**	**16 54 40.1**	**+1.6**
YOIG				*e*S	**Sn**	**16 55 14.7**	**-1.7**
TPIG	**Tehuac#an**	**3.61**	**67**		**Pn**	**16 54 45.5**	**+1.1**
TPIG					**Sn**	**16 55 31.2**	**+4.1**
TPIG	**Tehuac#an**	**3.61**	**67**	*i* P	**Pn**	**16 54 45.5**	**+1.1**
TPIG				*e*S	**Sn**	**16 55 31.2**	**+4.1**
JRQG	**Juriquilla Cam**	**3.69**	**6**	*e*P	**Pb**	**16 54 51.8**	**-1.9**
JRQG				*e*S	**Sn**	**16 55 29.6**	**+0.5**
DHIG	**Demacu**	**3.70**	**28**		**Pn**	**16 54 45.2**	**-0.4**
DHIG					**Sn**	**16 55 34.2**	**+4.9**
DEIG	**Demacu**	**3.70**	**28**	*e*P	**Pn**	**16 54 45.2**	**-0.5**
DEIG				*e*S	**Sn**	**16 55 34.2**	**+4.9**
PEIG	**Puerto Escondi**	**3.70**	**105**		**Pn**	**16 54 44.8**	**-0.6**
PEIG					**Sb**	**16 55 39.0**	**+0.3**
PEIG	**Puerto Escondi**	**3.70**	**105**	*e*P	**Pn**	**16 54 44.8**	**-0.6**
PEIG				*e*S	**Sb**	**16 55 39.0**	**+0.3**
IGIG	**Irapuato, Guan**	**3.75**	**353**		**Pb**	**16 54 53.0**	**-1.7**
IGIG					**Sb**	**16 55 36.1**	**-4.0**
IGIG	**Irapuato, Guan**	**3.75**	**353**	*e*P	**Pb**	**16 54 53.0**	**-1.7**
IGIG				*e*S	**Sb**	**16 55 36.1**	**-4.0**
TOIG	**Toxpalan**	**3.77**	**73**		**Pn**	**16 54 47.8**	**+1.3**
TOIG					**Sb**	**16 55 38.5**	**-2.3**
TOIG	**Toxpalan**	**3.77**	**73**	*e*P	**Pn**	**16 54 47.8**	**+1.3**
TOIG				*e*S	**Sb**	**16 55 38.5**	**-2.3**
OXIG	**Oaxaca**	**3.94**	**89**		**Pn**	**16 54 49.8**	**+0.8**
OXIG					**Sn**	**16 55 33.1**	**-2.3**
VHO	**Vista Hermosa**	**3.94**	**89**	*e*P	**Pn**	**16 54 49.8**	**+0.8**
VHO				*e*S	**Sn**	**16 55 33.1**	**-2.3**
HUIG	**Huatulco**	**4.72**	**105**		**Pn**	**16 54 59.0**	**-0.5**
HUIG					**Sn**	**16 55 47.2**	**-7.1**
HUIG	**Huatulco**	**4.72**	**105**	*e*P	**Pn**	**16 54 59.0**	**-0.5**
HUIG				*e*S	**Sn**	**16 55 47.2**	**-7.1**
CMIG	**Matias Romero**	**5.71**	**88**	Pn	**Pn**	**16 55 14.6**	**+1.4**
	0.9nm,0.3s,baz=270,slow=13,SNR=8.5						
CMIG				Sn	**Sn**	**16 56 16.0**	**-2.7**
	3.4nm,0.3s,baz=281,slow=18,SNR=4.7						
CMIG				Lg	Lg	16 56 38.1	
	7.0nm,0.3s,baz=249,slow=23,SNR=8.8						
CMIG				LR	LR	16 57 43.4	
	comp=Z,334nm,18.0s,baz=212,slow=42						
	2.3nm,0.3s						
LPIG	**La Paz**	**11.31**	**310**	LR	LR	17 00 12.6	
	comp=Z,121nm,19.6s,baz=50,slow=34						
TEIG	**Tepich**	**12.35**	**73**	Pn	**Pn**	**16 56 43.6**	**-0.5**
	2.3nm,0.3s,baz=204,slow=18,SNR=1.4						
TEIG				Sn	**Sn**	**16 58 57.8**	**-4.0**
	2.2nm,0.3s,baz=74,slow=22,SNR=1.9						
TEIG				LR	LR	17 02 36.9	
	comp=Z,1μm,20.1s,baz=29,slow=43						
	44nm,0.8s						
DRIO	**Del Rio**	**12.35**	**1**	Pn	**Pn**	**16 56 46.7**	**+2.5**
TXAR	**Lajitas Array**	**12.53**	**349**	Pn	**Pn**	**16 56 49.4**	**+2.7**
	baz=168,slow=13,SNR=2.8						
TXAR				Lg	Lg	17 00 22.1	
	baz=165,slow=25						
TXAR				LR	LR	17 02 08.6	
	comp=Z,159nm,18.8s,baz=158,slow=40						
	0.2nm,0.7s						
BRDY	**Brady**	**14.31**	**6**	Pn	**Pn**	**16 57 12.4**	**+1.5**
PECS	**Pecos**	**14.55**	**350**	P	**P**	**16 57 21.7**	**+0.8**
HSIG		**15.12**	**324**	P	**P**	**16 57 26.8**	**-0.4**
HSIG				IAmb	IAmb	16 57 37.9	
	comp=Z,6.5nm,0.8s						
ABTX	**Abilene, Hawle**	**15.58**	**4**	Pn	**Pn**	**16 57 28.8**	**+0.8**
237A	**Washetta, Mont**	**15.61**	**16**	P	**P**	**16 57 32.1**	**-0.4**
NATX	**Nacogdoches**	**15.72**	**20**		**Pn**	**16 57 30.0**	**+0.2**
NATX				IAmb	IAmb	16 57 42.3	
	comp=Z,21nm,0.8s						
PLPT	**Palo Pinto**	**15.90**	**8**		**Pn**	**16 57 33.8**	**+1.7**
PLPT				IAmb	IAmb	16 57 46.3	
	comp=Z,15nm,0.9s						
319A	**Douglas**	**16.22**	**333**	Pn	**Pn**	**16 57 36.4**	**+0.1**
APMT	**Aspermont**	**16.25**	**2**	Pn	**Pn**	**16 57 37.5**	**+0.9**
APMT				IAmb	IAmb	16 57 48.2	
	comp=Z,15nm,1.1s						
DKNS	**Dickens**	**16.58**	**360**		**Pn**	**16 57 40.3**	**-0.6**
DKNS				IAmb	IAmb	16 57 52.0	
	comp=Z,9.1nm,0.7s						
MSTX	**Muleshoe**	**16.97**	**355**		**Pn**	**16 57 45.2**	**-0.6**
Z38A	**Mt. Pleasant**	**17.02**	**17**	P	**Pn**	**16 57 43.5**	**-2.9**
Z38A				IAmb	IAmb	16 57 54.9	
	comp=Z,22nm,0.9s						
WLAR	**White Oak Lake**	**18.00**	**21**	P	**Pn**	**16 57 54.5**	**-4.0**
SMWD	**Samnorwood**	**18.02**	**2**	P	**Pn**	**16 57 58.0**	**-0.9**
SMWD				IAmb	IAmb	16 58 10.2	
	comp=Z,7.5nm,0.6s						
ANMO	**Albuquerque**	**18.55**	**345**	P	**P**	**16 58 04.2**	**-1.0**
ANMO	**Albuquerque**	**18.55**	**345**	P	**Pn**	**16 58 06.7**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=236,slow=10,SNR=5.0						
ANMO				LR	LR	17 05 55.0	
	comp=Z,248nm,19.0s,baz=254,slow=39						
	comp=Z,2.1nm,1.0s						
TUL3	**Leonard**	**19.35**	**12**	P	**P**	**16 58 13.3**	**-0.6**
TUL3				IAmb	IAmb	16 58 21.4	
	comp=Z,10nm,0.6s						
X16A	**Lo Mia Camp, P**	**19.76**	**333**	P	**P**	**16 58 18.2**	**-0.3**
RLO	**Rose Lookout**	**19.77**	**14**	P	**P**	**16 58 17.4**	**-1.0**
RLO				IAmb	IAmb	16 58 28.6	
	comp=Z,17nm,0.8s						
FCAR	**Ozark Folk Cen**	**20.34**	**21**	P	**P**	**16 58 23.8**	**-0.9**
FCAR				IAmb	IAmb	16 58 32.2	
	comp=Z,10nm,0.8s						
WUAZ	**Wupatki**	**20.67**	**335**	P	Pn	16 58 31.0	+0.2
BLYC	**Blythe**	**20.70**	**326**	P	**P**	**16 58 28.9**	**+0.3**
PLAL	**Pickwick Lake**	**21.23**	**30**	P	**P**	**16 58 33.6**	**-0.6**
PLAL				IAmb	IAmb	16 58 42.2	
	comp=Z,8.4nm,1.0s						
MGMO	**Mountain Grove**	**21.45**	**19**	P	**P**	**16 58 37.1**	**+0.4**
MGMO				IAmb	IAmb	16 58 44.8	
	comp=Z,8.0nm,0.9s						
S39A	**Bolivar**	**21.64**	**16**	P	**P**	**16 58 38.1**	**-0.6**
S39A				IAmb	IAmb	16 58 49.7	
	comp=Z,6.0nm,0.8s						
R40A	**Maddies Statio**	**22.50**	**18**	P	**P**	**16 58 47.8**	**-0.1**
R40A				IAmb	IAmb	16 58 53.5	
	comp=Z,14nm,1.2s						
CCM

comp=Z,3.1nm,0.9s
EKA Eskdalemuir Ar 80.48 35 P **P** **17 06 00.6 +0.4**
comp=Z,1.6nm,0.8s,baz=280,slow=5.0,SNR=1.7
comp=Z,1.6nm,0.8s
NOA NORSAR Array B 85.46 27 LR LR 17 49 32.6
comp=Z,23nm,18.8s,baz=345,slow=39
WRA Warramunga Arr 127.76 258 PKP **PKiKP** **17 12 56.0 +0.7**
comp=Z,0.5nm,0.8s,baz=30,slow=0.9,SNR=5.6
ASAR Alice Springs 128.48 253 PKP **PKPdf** **17 12 57.2 +1.1**
comp=Z,0.4nm,0.9s,baz=101,slow=2.0,SNR=2.7
CMAR Chiang Mai Arr 139.72 330 PKP **PKPdf** **17 13 16.7 -0.6**
comp=Z,0.4nm,0.8s,baz=345,slow=3.1,SNR=3.1

*SNET **31** 17:08:00.3±1.4, 14°.92N×86°.78W, h2km±25km, ML3.7*
*CATAC **31** 17:08:01.3±0.5, 15°.02N×86°.84W, h5km, ML3.9*
ISC 31 17:07:58.8±1.7, 14°.93N±0°.05×86°.86W±0°.04, h3km±13km, n34, σ0°.94/60, Honduras

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
TGUH	**Tegucigalpa,Un**	**0.96**	**205**	*eP*		**Pn**	**17 08 18.6**	**-0.7**
TGUH	**Tegucigalpa,Un**	**0.96**	**205**	*iP*		**Pn**	**17 08 18.7**	**-0.7**
TGUH				*iS*		**Sn**	**17 08 32.4**	**-1.2**
TGUH				IAML			17 08 38.0	
	comp=Z,3μm,1.0s							
RCPN	**Sur Rio San Ju**	**1.58**	**152**	*iP*		**Pb**	**17 08 28.6**	**-0.2**
RCPN				*iS*		**Sg**	**17 08 49.7**	**0.0**
RCPN				IAML			17 08 52.9	
	comp=Z,9.0nm,1.0s							
CAHU	**Cacacuatique**	**1.75**	**229**	*eP*		**Pg**	**17 08 32.2**	**-0.2**
IZABA	**Izabal, Puerto**	**1.85**	**296**	*iP*		**Pb**	**17 08 32.4**	**-0.9**
IZABA				*iS*		**Sg**	**17 08 57.7**	**-0.5**
IZABA				IAML			17 09 02.9	
	comp=Z,15nm,1.0s							
CNCH	**Conchagua**	**1.90**	**210**	*eP*		**Pb**	**17 08 34.3**	**0.0**
CNCH				*eS*		**Sg**	**17 09 00.5**	**+0.5**
CNCH				IAML			17 09 06.9	
	comp=Z,2μm,0.4s							
CNCH	**Conchagua**	**1.90**	**210**	*iP*		**Pb**	**17 08 34.1**	**-0.2**
CNCH				*iS*		**Sg**	**17 09 00.3**	**+0.3**
CNCH				IAML			17 09 02.4	
	comp=Z,2μm,1.0s							
LIMN	**Finca el Limon**	**1.92**	**166**	*iP*		**Pb**	**17 08 34.8**	**+0.2**
LIMN				*iS*		**Sb**	**17 08 59.5**	**+0.5**
LIMN				IAML			17 09 06.7	
	comp=Z,1μm,1.0s							
CNRM	**Centro Naciona**	**1.93**	**221**	*iP*		**Pb**	**17 08 33.7**	**-1.0**
CNRM				*iS*		**Sg**	**17 09 01.4**	**+0.4**
CNRM				IAML			17 09 05.6	
	comp=Z,5μm,1.0s							
PACA	**Pacayal**	**2.04**	**225**	*eP*		**Pb**	**17 08 36.4**	**-0.1**
PACA				*eS*		**Sg**	**17 09 05.1**	**+0.7**
PACA	**Pacayal**	**2.04**	**225**	*iP*		**Pb**	**17 08 36.5**	**-0.1**
PACA				*iS*		**Sg**	**17 09 05.1**	**+0.7**
PACA				IAML			17 09 08.2	
	comp=Z,4μm,1.0s							
RANC	**El Ranchito**	**2.04**	**223**	*eP*		**Pb**	**17 08 36.3**	**-0.3**
RANC				*eS*		**Sg**	**17 09 04.4**	**0.0**
MATN	**Matagalpa**	**2.19**	**156**	*iP*		**Pb**	**17 08 39.4**	**+0.3**
MATN				*iS*		**Sg**	**17 09 09.3**	**+0.1**
MATN				IAML			17 09 11.5	
	comp=Z,530nm,1.0s							
SCLA	**Alcaldia de Sa**	**2.19**	**236**	*eS*		**Sg**	**17 09 09.0**	**-0.3**
CRIN	**San Cristobal**	**2.23**	**185**	*iP*		**Pb**	**17 08 38.0**	**-1.8**
CRIN				IAML			17 09 23.0	
	comp=Z,1μm,1.0s							
PAVA	**Las Pavas**	**2.35**	**239**	*iP*		**Pn**	**17 08 39.3**	**+0.8**
PAVA				*iS*		**Sg**	**17 09 13.5**	**-1.0**
PAVA				IAML			17 09 19.7	
	comp=Z,1μm,1.0s							
PAVA	**Las Pavas**	**2.35**	**239**	*iP*		**Pn**	**17 08 39.1**	**+0.6**
PAVA				*iS*		**Sg**	**17 09 13.6**	**-1.0**
PAVA				IAML			17 09 19.7	
	comp=Z,1μm,1.0s							
COEG	**Centro de Oper**	**2.36**	**237**	*iP*		**Pb**	**17 08 41.3**	**-0.7**
COEG				*iS*		**Sg**	**17 09 14.0**	**-0.7**
COEG				IAML			17 09 18.4	
	comp=Z,470nm,1.0s							
MOM3	**MOM3**	**2.43**	**172**	*iP*		**Pb**	**17 08 43.7**	**+0.5**
MOM3				IAML			17 09 42.2	
	comp=Z,25nm,1.0s							
ESQI	**Esquipulas**	**2.43**	**262**	*eP*		**Pb**	**17 08 43.1**	**-0.2**
ESQI				*eS*		**Sb**	**17 09 14.6**	**+0.8**
ESQI	**Esquipulas**	**2.43**	**262**	*iP*		**Pb**	**17 08 43.3**	**-0.1**
ESQI				*iS*		**Sb**	**17 09 15.2**	**+1.4**
ESQI				IAML			17 09 19.7	
	comp=Z,920nm,1.0s							
SJTE	**Alcalda de S**	**2.46**	**238**	*eS*		**Sg**	**17 09 16.7**	**-1.4**
SJTE	**Alcalda de S**	**2.46**	**238**	*iP*		**Pb**	**17 08 41.5**	**-2.4**
SJTE				*iS*		**Sg**	**17 09 17.1**	**-1.0**
SJTE				IAML			17 09 18.3	
	comp=Z,250nm,1.0s							
MTO3	**Montecristo**	**2.48**	**258**	*eP*		**Pb**	**17 08 43.9**	**-0.4**
MTO3				*eS*		**Sb**	**17 09 16.0**	**+0.6**
MTO3				IAML			17 09 22.9	
	comp=Z,128nm,0.4s							
MTO3	**Montecristo**	**2.48**	**258**	*iP*		**Pb**	**17 08 43.7**	**-0.6**
MTO3				*iS*		**Sb**	**17 09 15.5**	**+0.2**
MTO3				IAML			17 09 22.4	
	comp=Z,520nm,1.0s							
MOM2	**El Cardon**	**2.51**	**172**	*iP*		**Pg**	**17 08 48.0**	**+1.1**
MOM2				*iS*		**Sg**	**17 09 20.2**	**+0.7**
MOM2				IAML			17 09 28.6	
	comp=Z,270nm,1.0s							
MOMN	**Momotombo**	**2.53**	**173**	*iP*		**Pb**	**17 08 44.8**	**-0.1**
MOMN				IAML			17 09 23.2	
	comp=Z,13nm,1.0s							
PMON	**Piamonte**	**2.68**	**243**	*iP*		**Pb**	**17 08 47.4**	**-0.1**
PMON				*iS*		**Sg**	**17 09 23.6**	**-1.3**
PMON				IAML			17 09 36.6	
	comp=Z,400nm,1.0s							
BOAB	**BOACO BROADBAN**	**2.73**	**155**	*iS*		**Sg**	**17 09 25.8**	**-0.7**
JAYA	**Jayaque - finc**	**2.82**	**243**	*iP*		**Pb**	**17 08 49.3**	**-0.6**
JAYA				*iS*		**Sb**	**17 09 26.4**	**+1.5**
JAYA				IAML			17 09 30.7	
	comp=Z,440nm,1.0s							
WILN	**Americas 2**	**2.83**	**167**	*iP*		**Pb**	**17 08 47.8**	**-2.3**
WILN				IAML			17 08 48.9	
	comp=Z,550nm,1.0s							
WILN				*iS*		**Sg**	**17 09 28.3**	**-1.6**
CEVE	**Cerro Verde**	**2.90**	**248**	*iP*		**Pb**	**17 08 51.5**	**+0.1**
CEVE				*iS*		**Sg**	**17 09 32.1**	**0.0**
CEVE				IAML			17 09 39.7	
	comp=Z,450nm,1.0s							
NUBE	**Las Nubes**	**3.01**	**250**	*iP*		**Pn**	**17 08 47.6**	**0.0**
NUBE				*iS*		**Sb**	**17 09 32.5**	**+1.9**
NUBE				IAML			17 09 45.0	
	comp=Z,310nm,1.0s							
GUNB	**GUNB**	**3.39**	**265**	*iP*		**Pb**	**17 08 59.9**	**+0.1**
GUNB				*iS*		**Sb**	**17 09 43.9**	**+2.3**
GUNB				IAML			17 09 52.6	
	comp=Z,350nm,1.0s							

IDC 31 17:20:44.0±2.7, 19°.14N×71°.81E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=76.3km s-min=28.9km az=68.0, Arabian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
CMAR	**Chiang Mai Arr**	**25.68**	**87**	P		P	17 26 15.9	0.0
	1.0nm,0.8s,baz=280,slow=9.6,SNR=9.6							
	1.0nm,0.8s							
MKAR	**Makanchi Array**	**28.89**	**15**	P		P	17 26 44.7	+0.3
	0.1nm,0.5s,baz=217,slow=7.4,SNR=3.1							
	0.1nm,0.5s							
ZALV	**Zalesovo Beam**	**36.16**	**13**	P		P	17 27 47.6	-0.3
	0.6nm,0.6s,baz=191,slow=8.9,SNR=5.0							
	0.6nm,0.6s							
WRA	**Warramunga Arr**	**72.55**	**119**	P		P	17 32 13.5	+0.1
	0.3nm,0.6s,baz=306,slow=5.2,SNR=2.3							
	0.3nm,0.6s							
ASAR	**Alice Springs**	**74.00**	**123**	P		P	17 32 21.9	0.0
	0.4nm,0.5s,baz=310,slow=6.0,SNR=5.8							
	0.4nm,0.5s							
ILAR	**Eielson Array**	**91.25**	**16**	P		P	17 33 50.9	-0.1
	0.3nm,0.9s,baz=306,slow=5.9,SNR=1.4							
	0.3nm,0.9s							

*DJA **31** 17:24:16.3±0.2, 8°.5S±2°×10°.7E±°, h10km, M4.6/21, mb4.9/10, MLv4.5/21*
*NEIC **31** 17:24:17.9±2.2, 8°.15S±0°.06×106°.88E±0°.08, h36km±4km, mb4.1/12, Error ellipse: s-maj=12.3km s-min=7.4km az=119.0*
*IDC **31** 17:24:24.2±1.7, 7°.78S×107°.28E, h89km±11km, mb3.7/20, mbtmp4.0/21, MS3.2/6, Error ellipse: s-maj=28.0km s-min=12.0km az=55.0*
ISC 31 17:24:18.6±0.5, 8°.10S±0°.06×107°.07E±0°.05, h46km, n94, σ1°.42/86, mb4.0/24, MS3.0/5, Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
CNJI	**Cibinong**	**0.79**	**5**	P		**Pn**	**17 24 33.4**	**0.0**
CNJI				S		**Sn**	**17 24 43.5**	**-0.6**
BBJI	**Bungbulang**	**0.86**	**43**	P		**Pn**	**17 24 34.3**	**-0.1**
SKJI	**Sukabumi**	**1.20**	**335**	P		**Pn**	**17 24 39.4**	**+0.4**
LEM	**Lembang**	**1.38**	**23**	P		**Pn**	**17 24 42.7**	**+1.1**
LEM				S		**Sn**	**17 25 01.8**	**+3.1**
LEM	**Lembang**	**1.38**	**23**	P		**Pn**	**17 24 43.1**	**+1.5**
	440nm,0.4s,baz=298,slow=23,SNR=88							
LEM				S		**Sn**	**17 24 59.4**	**+0.7**
	2μm,0.6s,baz=172,slow=20,SNR=16							
CMJI	**Cimerak**	**1.41**	**77**	P		**Pn**	**17 24 40.8**	**-1.0**
CMJI				S		**Sn**	**17 24 56.5**	**-2.7**
DBJI	**Dramaga**	**1.57**	**348**	P		**Pn**	**17 24 45.7**	**+1.6**
TNG	**Tangerang**	**1.96**	**348**	P		**Pn**	**17 24 51.2**	**+1.8**
KPJI	**Karang Pucung**	**2.00**	**68**	P		**Pn**	**17 24 50.7**	**+0.7**
CGJI	**Cibinong**	**2.01**	**317**	P		**Pn**	**17 24 50.6**	**+0.5**
SBJI	**Serang**	**2.17**	**335**	P		**Pn**	**17 24 54.5**	**+2.1**
XMI	**Christmas Isla**	**2.70**	**210**	P		**Pn**	**17 24 58.4**	**-1.3**
XMIS	**Christmas Isla**	**2.75**	**210**			Pn	17 24 58.5	-1.8
XMIS	**Christmas Isla**	**2.75**	**210**	P		**Pn**	**17 24 58.6**	**-1.7**
YOGI	**Yogyakarta**	**3.21**	**85**	P		**Pn**	**17 25 07.5**	**+0.9**
UGM	**Wanagama**	**3.43**	**87**			**Pn**	**17 25 09.9**	**+0.2**
UGM	**Wanagama**	**3.43**	**87**	P		**Pn**	**17 25 10.2**	**+0.6**
UGM	**Wanagama**	**3.43**	**87**	P		**Pn**	**17 25 09.8**	**+0.2**
SMRI	**Semarang**	**3.50**	**73**			**Pn**	**17 25 13.7**	**+3.1**
SMRI	**Semarang**	**3.50**	**73**	P		**Pn**	**17 25 13.8**	**+3.1**
SMRI	**Semarang**	**3.50**	**73**	P		**Pn**	**17 25 12.6**	**+1.9**
KASI	**Kota Agung**	**3.61**	**315**	P		**Pn**	**17 25 13.1**	**+1.0**
LWLI	**Liwa**	**4.28**	**316**	P		**Pn**	**17 25 22.7**	**+1.3**
NGJI	**Ngawi**	**4.42**	**81**	P		Pn	17 25 28.5	+5.3
LHSI	**Lahat**	**5.51**	**320**	P		**Pn**	**17 25 40.2**	**+1.9**
	116nm,0.8s,0.4nm							
MNAI	**Manna**	**5.52**	**312**	P		**Pn**	**17 25 40.0**	**+1.6**
MNAI	**Manna**	**5.52**	**312**	P		**Pn**	**17 25 39.8**	**+1.4**
	347nm,1.2s,1.4nm							
BLJI	**Banyuglugur**	**6.48**	**87**	P		**Pn**	**17 25 52.2**	**+0.7**
	32nm,0.5s,0.2nm							
KMMI	**Kalianget**	**6.92**	**82**	P		**Pn**	**17 25 57.2**	**-0.4**
	27nm,1.3s,0.2nm							
JAGI	**Jajag, Banyuwa**	**7.02**	**94**			**Pn**	**17 26 00.8**	**+1.8**
JAGI	**Jajag, Banyuwa**	**7.02**	**94**	P		**Pn**	**17 26 01.0**	**+2.0**
JAGI	**Jajag, Banyuwa**	**7.02**	**94**	P		**Pn**	**17 26 00.2**	**+1.2**
	56nm,0.7s,0.4nm							
ABJI	**Asem Bagus**	**7.11**	**88**	P		**Pn**	**17 26 00.7**	**+0.6**
	69nm,0.5s,0.3nm							
SRBI	**Singaraja**	**8.07**	**90**	P		**Pn**	**17 26 14.4**	**+1.1**
	47nm,0.5s							
KRJI	**Kerinci**	**8.17**	**317**	P		**Pn**	**17 26 15.6**	**+0.8**
	86nm,0.6s							
PPSI	**Pulau Pagai**	**8.80**	**307**	P		**Pn**	**17 26 23.4**	**+0.1**
	150nm,1.0s							
TWSI	**Taiwang, Sumb**	**9.73**	**94**	P		**Pn**	**17 26 36.7**	**+0.6**
	30nm,0.9s							
PLAI	**Plampang**	**10.62**	**95**	P		**Pn**	**17 26 49.7**	**+1.4**
PLAI	**Plampang**	**10.62**	**95**	P		**Pn**	**17 26 48.5**	**+0.2**
KAPI	**Kappang**	**12.97**	**77**	P		**Pn**	**17 27 22.0**	**+1.6**
	2.3nm,0.2s,baz=70,slow=19,SNR=1.9							
KAPI					LR	LR	17 32 48.4	
	comp=Z,100nm,19.8s,baz=244,slow=40							
GSI	**Gunungsitoli**	**13.30**	**314**	Pn		Pn	17 27 20.9	-4.0
GIRL	**Giralia**	**16.02**	**155**	Pn		**Pn**	**17 27 59.0**	**-1.9**
GIRL	**Giralia**	**16.02**	**155**	P		**Pn**	**17 28 00.6**	**-0.3**
SOEI	**Soe**	**17.07**	**97**	P		**Pn**	**17 28 16.5**	**+2.1**
SOEI				IAmb		IAmb	17 28 28.1	
	comp=Z,20nm,1.0s							
SOEI	**Soe**	**17.07**	**97**	P		**Pn**	**17 28 17.2**	**+2.9**
MBWA	**Marble Bar**	**17.84**	**138**	P		**Pn**	**17 28 24.5**	**+0.9**
PSA00	**Pilbara Seismi**	**18.20**	**139**	P		**P**	**17 28 28.1**	**+0.2**
PSA00	**Pilbara Seismi**	**18.20**	**139**	P		**P**	**17 28 28.8**	**+0.9**
FITZ	**Fitzroy Crossi**	**20.62**	**121**	P		**P**	**17 28 55.6**	**+1.3**
FITZ	**Fitzroy Crossi**	**20.62**	**121**	P		**P**	**17 28 56.4**	**+2.1**
MTN	**Manton Dam**	**24.12**	**103**	P		**P**	**17 29 30.2**	**-0.3**
TGY	**Tagaytay City**	**26.00**	**32**	LR		LR	17 39 43.6	
	comp=Z,262nm,21.9s,baz=118,slow=36							
CMAR	**Chiang Mai Arr**	**27.58**	**343**	P		**P**	**17 29 59.4**	**-2.2**
	comp=Z,0.6nm,0.8s,baz=177,slow=8.6,SNR=8.8							
CMAR					LR	LR	17 42 53.9	
	comp=Z,32nm,19.3s,baz=120,slow=41							
	comp=Z,0.6nm,0.8s							
WB0	**Warramunga Arr**	**28.89**	**117**	P		**P**	**17 30 13.2**	**-0.2**
WB0					IAmb	IAmb	17 30 49.6	
	comp=Z,7.9nm,1.4s							
WRA	**Warramunga Arr**	**28.91**	**117**	P		**P**	**17 30 14.2**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=290,slow=10,SNR=8.9							
WRA					PcP	**PcP**	**17 33 22.2**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=297,slow=2.3,SNR=1.8							
	comp=Z,1.1nm,0.8s							
WRAB	**Tennant Creek**	**28.91**	**117**	P		**P**	**17 30 14.5**	**+0.8**
WRAB					IAmb	IAmb	17 30 54.9	
	comp=Z,6.3nm,1.2s							
WB2	**Warramunga Arr**	**28.92**	**117**	P		**P**	**17 30 14.4**	**+0.8**
WB2					IAmb	IAmb	17 30 48.2	
	comp=Z,5.1nm,1.3s							
WR0	**Warramunga Arr**	**29.09**	**117**	P		**P**	**17 30 15.5**	**+0.3**
WR0					IAmb	IAmb	17 30 38.2	
	comp=Z,3.4nm,1.1s							
AS31	**Alice Springs**	**30.01**	**124**	P		**P**	**17 30 23.1**	**-0.3**
ASAR	**Alice Springs**	**30.01**	**124**	P		**P**	**17 30 23.8**	**+0.5**
ASAR	**Alice Springs**	**30.01**	**124**	P		**P**	**17 30 25.1**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=302,slow=8.6,SNR=13							
ASAR					PcP	**PcP**	**17 33 25.6**	**+0.8**
	comp=Z,0.3nm,1.0s,baz=299,slow=2.5,SNR=1.8							
ASAR					LR	LR	17 43 59.4	
	comp=Z,37nm,18.8s,baz=289,slow=39							
	comp=Z,0.6nm,0.8s							
PALK	**Palikelei**	**30.40**	**299**	LR		LR	17 41 37.8	
	comp=Z,34nm,19.8s,baz=238,slow=34							
H08S2	**Diego Garcia H**	**34.24**	**268**	T		T	18 06 44.6	
	baz=93,slow=74							
H08S3	**Diego Garcia H**	**34.25**	**268**	T		T	18 06 45.0	
	baz=93,slow=74							
H08S1	**Diego Carcia H**	**34.26**	**268**	T		T	18 06 40.8	
	baz=93							
STKA	**Stephens Creek**	**39.87**	**131**	P		**P**	**17 31 49.8**	**+1.7**
	comp=Z,2.7nm,0.4s,baz=313,slow=8.1,SNR=12							
STKA					LR	LR	17 50 08.3	
	comp=Z,20nm,19.8s,baz=222,slow=39							
	comp=Z,2.7nm,0.4s							
MJAR	**Matsushiro Arr**	**53.16**	**31**	P		**P**	**17 33 29.5**	**-2.6**
	comp=Z,1.5nm,0.9s,baz=248,slow=7.3,SNR=2.6							
	comp=Z,1.5nm,0.9s							
SONM	**Songino Array**	**55.69**	**359**	P		**P**	**17 33 49.2**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=179,slow=8.8,SNR=3.0							
	comp=Z,0.4nm,0.6s							
USRK	**Ussuriysk Ar.**	**56.73**	**21**	P		**P**	**17 33 56.4**	**-1.3**
	comp=Z,2.1nm,0.8s,baz=174,slow=5.1,SNR=3.2							
	comp=Z,2.1nm,0.8s							
MKAR	**Makanchi Array**	**58.94**	**340**	P		**P**	**17 34 12.7**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=149,slow=8.7,SNR=17							
	comp=Z,0.9nm,0.5s							
H04N2	**CROZET ISLANDS**	**60.48**	**221**	T		T	18 40 34.7	
	baz=67,slow=75,SNR=4.2							
H04N1	**CROZET ISLANDS**	**60.49**	**221**	T		T	18 40 39.3	
	baz=67,slow=75,SNR=4.7							
H04N3	**CROZET ISLANDS**	**60.50**	**221**	T		T	18 40 33.7	
	baz=67,slow=75,SNR=4.6							
H04S1	**CROZET ISLANDS**	**60.65**	**220**	T		T	18 41 21.1	
	baz=66							
H04S3	**CROZET ISLANDS**	**60.66**	**220**	T		T	18 41 11.4	
	baz=66							
H04S2	**CROZET ISLANDS**	**60.67**	**220**	T		T	18 41 21.9	
	baz=66							
KLR	**Kul'dur**	**61.05**	**18**	P		**P**	**17 34 25.4**	**-2.3**
	comp=Z,1.5nm,0.7s,baz=288,slow=4.3,SNR=4.1							
	comp=Z,1.5nm,0.7s							
ASAJ	**Asahikawa**	**61.10**	**29**	P		**P**	**17 34 25.5**	**-2.6**
	comp=Z,3.0nm,0.9s,baz=273,slow=9.6,SNR=1.2							
	comp=Z,3.0nm,0.9s							
KURBB	**Kurchatov Arra**	**63.50**	**340**	P		**P**	**17 34 43.5**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=157,slow=5.6,SNR=7.8							
	comp=Z,1.1nm,0.6s							
KURK	**Kurchatov**	**63.55**	**340**	P		**P**	**17 34 42.1**	**-2.2**
ZALV	**Zalesovo Beam**	**64.61**	**346**	P		**P**	**17 34 50.2**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=158,slow=6.5,SNR=4.1							
	comp=Z,0.3nm,0.3s							
GEYT	**Alibeck**	**64.62**	**319**	P		**P**	**17 34 51.7**	**0.0**
	comp=Z,0.4nm,0.4s,baz=148,slow=40,SNR=2.3							
	comp=Z,0.4nm,0.4s							
BVAR	**Borovoye Array**	**68.40**	**337**	P		**P**	**17 35 15.1**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=142,slow=10.0,SNR=12							
	comp=Z,2.0nm,0.6s							
ABKAR	**Akbulak array**	**70.39**	**329**	P		**P**	**17 35 27.7**	**-0.1**
PETK	**Petropavlovsk-**	**74.52**	**29**	P		**P**	**17 35 50.9**	**-1.4**
	comp=Z,1.9nm,0.9s,baz=13,slow=14,SNR=1.8							
	comp=Z,1.9nm,0.9s							
KBZ	**Khabaz**	**77.50**	**318**	P		**P**	**17 36 10.4**	**+0.9**
	comp=Z,0.9nm,1.1s,baz=239,slow=20,SNR=1.6							
	comp=Z,0.9nm,1.1s							
NRIK	**Noril'sk**	**78.44**	**353**	P		**P**	**17 36 14.0**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=139,slow=3.3,SNR=1.8							
	comp=Z,0.7nm,0.4s							
QSPA	**South Pole Qui**	**81.90**	**180**	P		**P**	**17 36 34.8**	**+1.6**
QSPA					IAmb	IAmb	17 36 52.7	
	comp=Z,2.0nm,0.8s							
QSPA	**South Pole Qui**	**81.90**	**180**	P		**P**	**17 36 34.8**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=66,slow=7.3,SNR=2.1							
	comp=Z,0.4nm,0.5s							
BRTR	**Keskin Array B**	**82.60**	**312**	P		**P**	**17 36 37.4**	**0.0**
BRTR	**Keskin Array B**	**82.60**	**312**	P		**P**	**17 36 38.0**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=142,slow=6.3,SNR=5.4							
	comp=Z,1.3nm,0.9s							
FINES	**FINESS Array B**	**92.76**	**332**	P		**P**	**17 37 26.1**	**+0.3**
	comp=Z,6.7nm,1.2s,baz=117,slow=20,SNR=2.2							
	comp=Z,6.7nm,1.2s							
YKA	**Yellowknife Ar**	**117.86**	**20**	PKP		**PKPdf**	**17 43 00.1**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=317,slow=1.7,SNR=2.8							
TXAR	**Lajitas Array**	**144.23**	**50**	PKP		**PKPab**	**17 43 50.0**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=297,slow=0.4,SNR=9.0							

*IDC **31** 17:28:01.8±0.8, 29°.08N×142°.29E, h0km, mb3.7/12, mbtmp3.7/15, ML3.2/3, Error ellipse: s-maj=27.1km s-min=15.2km az=82.0*
ISC 31 17:28:06.4±0.7, 29°.00N±0°.07×142°.2E±0°.1, h35km, n20, σ1°.41/19, mb3.6/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
JCJ	**Chichijima**	**1.90**	**180**	Pn		**Pn**	**17 28 34.7**	**-1.7**
	7.2nm,0.3s,baz=3.7,slow=19,SNR=1.5							
JCJ					Sn	**Sn**	**17 28 57.0**	**-2.0**
	44nm,0.3s,baz=315,slow=17,SNR=14							
MJAR	**Matsushiro Arr**	**8.23**	**337**	Pn		**Pn**	**17 30 01.3**	**-2.0**
	0.1nm,0.3s,baz=155,slow=9.7,SNR=4.2							
	1.7nm,0.5s							
KSRS	**Korea Array**	**14.60**	**309**	Pn		**Pn**	**17 31 29.5**	**-0.8**
	0.2nm,0.3s,baz=173,slow=14,SNR=1.6							
	1.2nm,0.9s							
ASAJ	**Asahikawa**	**15.09**	**1**	Pn		**Pn**	**17 31 34.9**	**-2.0**
	0.2nm,0.3s,baz=245,slow=17,SNR=1.2							
	4.5nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**24.29**	**107**	T		T	17 59 02.2	
	baz=288							
H11N1	**WAKE ISLAND Hy**	**24.29**	**107**	T		T	17 58 45.6	
	baz=288							
H11N3	**WAKE ISLAND Hy**	**24.31**	**107**	T		T	17 59 07.4	
	baz=288							
PETK	**Petropavlovsk-**	**26.66**	**21**	P		**P**	**17 33 41.8**	**0.0**
	3.8nm,1.1s,baz=218,slow=11,SNR=1.9							
	3.8nm,1.1s							
SONM	**Songino Array**	**33.36**	**314**	P		**P**	**17 34 42.4**	**+1.0**
	0.5nm,0.6s,baz=92,slow=9.5,SNR=2.0							
	0.5nm,0.6s							
ZALV	**Zalesovo Beam**	**48.06**	**318**	P		**P**	**17 36 43.0**	**+0.7**
	0.3nm,0.4s,baz=110,slow=6.6,SNR=2.3							
	0.3nm,0.4s							
WRA	**Warramunga Arr**	**49.24**	**190**	P		**P**	**17 36 53.0**	**+1.4**
	3.2nm,0.8s,baz=9.5,slow=8.0,SNR=27							
WRA					PcP	**PcP**	**17 38 16.3**	**+2.0**
	0.4nm,0.5s,baz=5.4,slow=3.8,SNR=5.8							
	3.2nm,0.8s							
MKAR	**Makanchi Array**	**49.28**	**308**	P		**P**	**17 36 52.4**	**+0.7**
	0.4nm,0.6s,baz=90,slow=10,SNR=4.1							
	0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**51.72**	**313**	P		**P**	**17 37 10.8**	**+0.8**
	1.2nm,0.3s,baz=91,slow=7.5,SNR=13							

comp=Z,38nm,19.2s,baz=146,slow=31
LSZ Lusaka 29.89 312 LR LR 18 01 45.7
comp=Z,48nm,18.6s,baz=128,slow=32
MAW Mawson 30.86 171 LR LR 18 02 17.2
comp=Z,48nm,18.8s,baz=15,slow=32
KMBO Kilima Mbogo 38.34 338 LR LR 18 07 44.4
comp=Z,38nm,18.4s,baz=90,slow=34
H01W2 Cape Leeuwin H 50.29 107 T T 18 48 24.5
baz=248,slow=75,SNR=11
H01W3 Cape Leeuwin H 50.30 107 T T 18 48 25.1
baz=248,slow=75,SNR=11
H01W1 Cape Leeuwin H 50.31 107 T T 18 48 25.8
baz=248,slow=75,SNR=9.3
QSPA South Pole Qui 52.64 180 LR LR 18 15 31.2
comp=Z,66nm,18.9s,baz=267,slow=34
ASAR Alice Springs 70.75 105 P P 17 57 15.2 +0.1
0.2nm,0.5s,baz=233,slow=5.0,SNR=7.7
0.2nm,0.5s
CMAR Chiang Mai Arr 71.79 48 P P 17 57 21.4 +0.2
0.3nm,0.7s,baz=236,slow=6.4,SNR=2.9
0.3nm,0.7s
WRA Warramunga Arr 73.15 102 P P 17 57 29.3 -0.2
0.3nm,0.8s,baz=233,slow=5.2,SNR=4.8
0.3nm,0.8s
ILAR Eielson Array 150.79 15 PKPbc PKPbc 18 05 49.8 -0.3
0.6nm,0.8s,baz=328,slow=3.1,SNR=4.8

*IDC **31** 17:48:52.0±1.2,14.°04N×93.°03E,h0km,mb3.5/7,*
mbtmp3.5/8,ML3.2/1,MS3.1/1,Error ellipse: s-maj=41.3km
s-min=20.1km az=60.0
ISC 31 17:48:57.0±1.1,14.°1N±0.°1×93.°2E±0.°1,h32km,n9,
σ0s88/10,mb3.5/7,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.02**	**51**	Pn	**Pn**	**17 50 38.8**	**+1.1**
	0.1nm,0.3s,baz=242,slow=15,SNR=6.5						
CMAR				Sn	**Sn**	**17 51 55.2**	**-1.3**
	baz=233,slow=27						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**33.81**	**347**	P	**P**	**17 55 37.0**	**+0.7**
	0.5nm,0.7s,baz=159,slow=9.5,SNR=6.6						
	0.5nm,0.7s						
SONM	**Songino Array**	**35.36**	**15**	P	**P**	**17 55 49.9**	**+0.2**
	0.6nm,0.9s,baz=199,slow=12,SNR=4.1						
	0.6nm,0.9s						
KURBB	**Kurchatov Arra**	**38.29**	**345**	P	**P**	**17 56 15.0**	**+0.6**
	0.4nm,0.2s,baz=168,slow=8.5,SNR=1.5						
	0.4nm,0.2s						
ZALV	**Zalesovo Beam**	**40.27**	**352**	P	**P**	**17 56 30.3**	**-0.5**
	0.6nm,0.8s,baz=187,slow=5.7,SNR=2.8						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**52.79**	**129**	P	**P**	**17 58 08.9**	**-0.8**
	0.3nm,0.8s,baz=310,slow=8.3,SNR=2.4						
WRA				PcP	**PcP**	**17 59 18.9**	**0.0**
	0.3nm,1.0s,baz=315,slow=3.6,SNR=2.4						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**54.75**	**133**	P	**P**	**17 58 24.5**	**+0.6**
	0.3nm,0.5s,baz=302,slow=6.6,SNR=8.4						
	0.3nm,0.5s						
EIL	**Elat**	**55.65**	**296**	LR	LR	18 24 54.6	
	comp=Z,16nm,18.1s,baz=248,slow=39						
BRTR	**Keskin Array B**	**57.73**	**308**	P	**P**	**17 58 44.4**	**-0.8**
	1.0nm,0.9s,baz=101,slow=7.5,SNR=3.9						
	1.0nm,0.9s						

*SJA **31** 17:53:37.9±0.8,29.°22S×71.°74W,h42km±14km,ML3.8,*
MW3.9
*GUC **31** 17:53:40.5±0.8,29.°27S×71.°56W,h62km±2km,ML4.0*
ISC 31 17:53:39.2±2.3,29.°22S±0.°03×71.°75W±0.°06,h29km±20km,
n36,σ1s54/64,6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.82**	**148**	⇓*i* P	**Pn**	**17 53 55.3**	**+0.5**
CO05				*i* S	**Sb**	**17 54 05.3**	**-0.4**
CO05				IAML		17 54 06.5	
	comp=E,12μm,0.3s						
LCO	**Las Campanas**	**0.94**	**77**	*e*P	**Pn**	**17 53 56.4**	**-0.2**
LCO				*e*S	**Sn**	**17 54 08.3**	**-0.9**
LCO	**Las Campanas**	**0.94**	**77**	*e*P	**Pn**	**17 53 55.6**	**-1.0**
LCO				*i* S	**Sn**	**17 54 07.6**	**-1.6**
AC04	**Llanos de Chal**	**1.17**	**30**	*e*P	**Pn**	**17 53 60.0**	**+0.3**
AC04				*e*S	**Sn**	**17 54 14.5**	**-0.1**
AC04	**Llanos de Chal**	**1.17**	**30**	*e*P	**Pn**	**17 54 00.6**	**+1.0**
AC04				*i* S	**Sn**	**17 54 14.9**	**+0.3**
AC04				IAML		17 54 18.1	
	comp=N,4μm,0.1s						
GO04	**Tololo Observa**	**1.25**	**139**	*e*P	**Pn**	**17 54 00.9**	**-0.1**
GO04				*e*S	**Sn**	**17 54 15.5**	**-1.5**
GO04	**Tololo Observa**	**1.25**	**139**	⇓*i* P	**Pn**	**17 54 00.8**	**-0.1**
GO04				*i* S	**Sn**	**17 54 14.9**	**-2.1**
AC05	**El Transito**	**1.34**	**74**	*e*P	**Pn**	**17 54 02.3**	**+0.2**
AC05				IAML		17 54 21.5	
	comp=Z,918nm,0.5s						
AC05	**El Transito**	**1.34**	**74**	⇓*i* P	**Pn**	**17 54 02.5**	**+0.4**
AC05				*i* S	**Sn**	**17 54 17.8**	**-1.3**
AC05				IAML		17 54 18.6	
	comp=E,4μm,0.5s						
CO06	**Fray Jorge**	**1.45**	**176**	*e*P	**Pn**	**17 54 04.0**	**+0.6**
CO01	**Juntas del Tor**	**1.62**	**118**	*e*P	**Pn**	**17 54 06.3**	**+0.3**
CO01				*e*S	**Sn**	**17 54 24.9**	**-1.2**
CO01				IAML		17 54 25.2	
	comp=Z,2μm,0.2s						
CO01	**Juntas del Tor**	**1.62**	**118**	⇓*i* P	**Pn**	**17 54 06.3**	**+0.3**
CO01				*i* S	**Sn**	**17 54 24.6**	**-1.6**
CO01				IAML		17 54 26.0	
	comp=E,2μm,0.4s						
CO03	**El Pedregal**	**1.85**	**151**	*e*P	**Pn**	**17 54 09.0**	**0.0**
CO03				*e*S	**Sn**	**17 54 30.1**	**-1.5**
CO03				IAML		17 54 31.4	
	comp=Z,1μm,0.5s						
CO03	**El Pedregal**	**1.85**	**151**	⇓*i* P	**Pn**	**17 54 09.1**	**0.0**
CO03				*i* S	**Sn**	**17 54 29.8**	**-1.7**
CO02	**Combarbal**	**2.08**	**162**	*e*P	**Pn**	**17 54 12.0**	**-0.2**
CO02				*e*S	**Sn**	**17 54 37.2**	**+0.1**
CO02				IAML		17 54 53.8	
	comp=Z,778nm,0.3s						
CO02	**Combarbal**	**2.08**	**162**	⇓*i* P	**Pn**	**17 54 12.6**	**+0.4**
CO02				*i* S	**Sn**	**17 54 36.5**	**-0.6**
CO02				IAML		17 54 38.8	
	comp=N,3μm,0.2s						
GO03	**Copiap**	**2.10**	**40**	*e*P	**Pn**	**17 54 12.3**	**-0.1**
GO03				*e*S	**Sn**	**17 54 37.8**	**+0.3**
GO03				IAML		17 54 45.2	
	comp=Z,335nm,0.5s						
GO03	**Copiap**	**2.10**	**40**	*e*P	**Pn**	**17 54 12.9**	**+0.5**
AROD	**Rodeo**	**2.19**	**116**	*e*P	**Pn**	**17 54 15.3**	**+1.4**
AROD				*e*S	**Sn**	**17 54 41.1**	**+0.9**
AROD				*e*S		17 54 41.8	
AC06	**Mina Casimiro**	**2.23**	**34**	*e*P	**Pn**	**17 54 15.2**	**+1.1**
AC06				*i* S	**Sn**	**17 54 40.9**	**+0.2**
ACCO	**Cerro Coronel**	**2.70**	**121**	*e*P	**Pn**	**17 54 23.0**	**+2.2**
ACCO				*e*S	**Sn**	**17 54 55.9**	**+3.2**
AGUA	**GUANDACOL**	**2.85**	**96**	*e*P	**Pn**	**17 54 25.7**	**+2.9**
AGUA				*e*S	**Sn**	**17 55 01.1**	**+4.9**
AGUA				IAML		17 55 03.2	
	comp=Z,358nm,0.5s						
DOCA	**Reserva Natura**	**2.88**	**127**	*e*P	Pn	17 54 09.0	-14
DOCA				*e*P		17 54 13.4	
DOCA				*e*S	**Sn**	**17 54 54.3**	**-2.9**
DOCA				IAML		17 55 02.3	
	comp=Z,311nm,1.1s						
VCA	**Vinchina**	**3.14**	**82**	*e*P	**Pn**	**17 54 24.8**	**-2.0**
VCA				*e*P		17 54 29.8	
VCA				*e*S	**Sn**	**17 55 03.8**	**+0.4**
VCA				IAML		17 55 09.6	
	comp=Z,457nm,0.4s						
AC01	**Pan de Azucar**	**3.23**	**19**	*e*P	**Pn**	**17 54 27.3**	**-0.6**
AC01				*e*S	**Sn**	**17 55 04.5**	**-0.8**
RTLS	**Leoncito**	**3.33**	**141**	*e*P	**Pn**	**17 54 32.1**	**+2.6**
RTLS				*e*S	**Sn**	**17 55 06.3**	**-1.9**
RTLS				*e*S		17 55 10.9	
RTLS				IAML		17 55 29.6	
	comp=Z,473nm,0.5s						
VA01	**Torpederas**	**3.79**	**179**	*e*P	**Pn**	**17 54 35.5**	**-0.1**
AVFE	**Valle Fertil**	**3.99**	**112**	*e*P	**Pn**	**17 54 39.8**	**+1.3**
AVFE				*e*S	**Sn**	**17 55 23.9**	**-0.3**
AVFE				IAML		17 55 25.8	
	comp=Z,232nm,0.7s						
MT02	**Curacav**	**4.06**	**173**	*e*P	**Pn**	**17 54 39.2**	**-0.1**
MT02				*e*S	**Sn**	**17 55 25.8**	**-0.1**
MT02				IAML		17 55 45.0	
	comp=Z,98nm,0.7s						
ASAL	**Salagasta**	**4.19**	**144**	*e*P	**Pn**	**17 54 44.2**	**+3.0**
ASAL				*e*S	**Sn**	**17 55 27.3**	**-1.8**
ASAL				IAML		17 55 55.7	
	comp=Z,71nm,0.5s						
ACLC	**CERRO LA CRUZ**	**4.19**	**94**	*e*P	**Pn**	**17 54 42.3**	**+1.0**
ACLC				*e*S	**Sn**	**17 55 24.8**	**-4.5**
ACLC				IAML		17 55 34.6	
	comp=Z,170nm,0.5s						
MT05	**Renca**	**4.25**	**169**	*e*P	**Pn**	**17 54 42.3**	**+0.4**
MT05				*e*S	**Sn**	**17 55 30.9**	**+0.4**
MT05				IAML		17 55 59.8	
	comp=Z,119nm,0.8s						
MT03	**Universidad Ad**	**4.39**	**166**	*e*S	**Sn**	**17 55 36.2**	**+2.1**
MT03				IAML		17 56 09.6	
	comp=Z,89nm,0.5s						
GO02	**Mina Guanaco**	**4.48**	**26**	*e*P	**Pn**	**17 54 45.7**	**+0.4**
GO02				IAML		17 56 07.4	
	comp=Z,80nm,0.8s						
MT01	**Popeta**	**4.65**	**175**	*e*P	**Pn**	**17 54 47.4**	**0.0**
MT01				*e*S	**Sn**	**17 55 41.1**	**+0.8**
MT01				IAML		17 56 01.2	
	comp=Z,48nm,0.6s						
BO01	**Tunca**	**5.18**	**174**	*e*P	**Pn**	**17 54 54.6**	**-0.1**
BO01				IAML		17 56 14.8	
	comp=Z,30nm,0.5s						

IDC 31 17:56:12.6±2.2,8.°23S×122.°44E,h258km±31km,mb3.1/1,
mbtmp3.2/4,Error ellipse: s-maj=249.2km
s-min=19.7km az=54.0,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.16**	**320**	P	Pn	17 57 18.7	0.0
	3.3nm,0.2s,baz=194,slow=6.4,SNR=17						
KAPI				S	S	17 58 20.2	+8.8
	1.4nm,0.4s,baz=74,slow=23,SNR=1.4						
WRA	**Warramunga Arr**	**16.38**	**137**	P	P	17 59 46.8	-0.5
	0.2nm,0.7s,baz=322,slow=11,SNR=7.3						
WRA				S	S	18 02 52.8	+7.2
	0.2nm,0.7s,baz=314,slow=22,SNR=2.3						
ASAR	**Alice Springs**	**18.88**	**146**	P	P	18 00 14.6	+0.3
	0.2nm,0.6s,baz=316,slow=12,SNR=4.8						
ASAR				S	S	18 03 32.6	-2.4
	0.3nm,0.7s,baz=301,slow=22,SNR=1.3						
MKAR	**Makanchi Array**	**65.39**	**331**	P	P	18 06 27.8	0.0
	0.3nm,0.3s,baz=138,slow=6.9,SNR=6.0						
	0.3nm,0.3s						

*CATAC **31** 17:56:53.3±0.6,12.°71N×88.°65W,h28km±4km,ML3.4*
*SNET **31** 17:56:54.2±0.5,12.°76N×88.°64W,h31km,ML3.5*
ISC 31 17:56:52.9±1.8,12.°67N±0.°07×88.°67W±0.°04,h29km±13km,
n36,σ0s68/55,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.66**	**9**	*i* P	**Pb**	**17 57 05.8**	**-0.1**
ALJI				IAML		17 57 06.2	
	comp=Z,1μm,1.0s						
ALJI				*i* S	**Sn**	**17 57 15.5**	**-0.1**
LCY	**Lacayo**	**0.83**	**26**	*e*P	**Pn**	**17 57 08.9**	**+0.2**
TECA	**Tecapa**	**0.83**	**11**	*e*P	**Pn**	**17 57 08.9**	**+0.1**
VSM	**San Miguel**	**0.84**	**27**	*i* P	**Pn**	**17 57 09.4**	**+0.4**
PACA	**Pacayal**	**0.86**	**23**	*e*P	**Pb**	**17 57 09.4**	**0.0**
PACA	**Pacayal**	**0.86**	**23**	*i* P	**Pb**	**17 57 09.3**	**0.0**
PACA				*i* S	**Sn**	**17 57 20.9**	**0.0**
PACA				IAML		17 57 22.6	
	comp=Z,5μm,1.0s						
TECO	**Alcaldia de Te**	**0.87**	**353**	*i* P	**Pn**	**17 57 08.9**	**-0.3**
TECO				*i* S	**Sn**	**17 57 20.3**	**-0.5**
TECO				IAML		17 57 22.3	
	comp=Z,1μm,1.0s						
BLLM	**Bellamira**	**0.87**	**29**	*e*P	**Pn**	**17 57 09.1**	**-0.2**
CNRM	**Centro Naciona**	**0.94**	**31**	*i* P	**Pn**	**17 57 10.2**	**+0.1**
CNRM				IAML		17 57 10.5	
	comp=Z,5μm,1.0s						
COEG	**Centro de Oper**	**0.96**	**348**	*e*P	**Pn**	**17 57 10.8**	**+0.3**
COEG	**Centro de Oper**	**0.96**	**348**	*i* P	**Pn**	**17 57 10.7**	**+0.2**
COEG				*i* S	**Sb**	**17 57 23.2**	**-0.3**
COEG				IAML		17 57 31.5	
	comp=Z,800nm,1.0s						
UESV	**Universidad de**	**0.96**	**353**	*i* P	**Pn**	**17 57 10.7**	**+0.2**
UESV				*i* S	**Sb**	**17 57 23.6**	**+0.1**
UESV				IAML		17 57 24.4	
	comp=Z,1μm,1.0s						
SJTE	**Alcalda de S**	**0.99**	**341**	*e*P	**Pn**	**17 57 11.0**	**+0.1**
SJTE	**Alcalda de S**	**0.99**	**341**	*i* P	**Pn**	**17 57 10.9**	**0.0**
SJTE				*i* S	**Sn**	**17 57 23.7**	**-0.3**
SJTE				IAML		17 57 25.5	
	comp=Z,720nm,1.0s						
CNCH	**Conchagua**	**1.01**	**54**	*e*P	**Pn**	**17 57 11.5**	**+0.3**
CNCH	**Conchagua**	**1.01**	**54**	*i* P	**Pn**	**17 57 10.8**	**-0.4**
CNCH				*i* S	**Sb**	**17 57 25.6**	**+0.7**
CNCH				IAML		17 57 27.4	
	comp=Z,1μm,1.0s						
SCLA	**Alcaldia de Sa**	**1.02**	**357**	*i* P	**Pb**	**17 57 11.8**	**-0.3**
SCLA				IAML		17 57 12.1	
	comp=Z,470nm,1.0s						
SCLA				*i* S	**Sb**	**17 57 25.4**	**+0.2**
PAVA	**Las Pavas**	**1.07**	**346**	*i* P	**Pn**	**17 57 12.4**	**+0.4**
PAVA				*i* S	**Sb**	**17 57 26.3**	**-0.2**
PAVA				IAML		17 57 27.5	
	comp=Z,1μm,1.0s						
LOMA	**Loma Larga**	**1.08**	**333**	*e*P	**Pn**	**17 57 12.4**	**+0.2**
LOMA	**Loma Larga**	**1.08**	**333**	*i* P	**Pn**	**17 57 12.3**	**+0.1**
LOMA				*i* S	**Sn**	**17 57 26.3**	**0.0**
LOMA				IAML		17 57 28.3	
	comp=Z,820nm,1.0s						
CSGN	**Cosiguina Volc**	**1.13**	**74**	*i* P	**Pn**	**17 57 11.7**	**-1.1**
CSGN				IAML		17 57 30.0	
	comp=Z,2μm,1.0s						
AMPH	**Amapala**	**1.16**	**58**	*i* P	**Pn**	**17 57 13.1**	**0.0**
AMPH				*i* S	**Sb**	**17 57 28.5**	**-0.5**
PMON	**Piamonte**	**1.21**	**329**	*i* P	**Pn**	**17 57 14.0**	**+0.1**
PMON				*i* S	**Sn**	**17 57 29.5**	**+0.1**
PMON				IAML		17 57 34.9	
	comp=Z,670nm,1.0s						
JAYA	**Jayaque - finc**	**1.24**	**322**	*e*P	**Pn**	**17 57 14.5**	**+0.1**
JAYA	**Jayaque - finc**	**1.24**	**322**	*i* P	**Pn**	**17 57 14.5**	**+0.1**
JAYA				*i* S	**Sn**	**17 57 29.4**	**-0.8**
JAYA				IAML		17 57 31.8	
	comp=Z,2μm,1.0s						
UNIC	**Universidad Ca**	**1.56**	**327**	*i* P	**Pb**	**17 57 22.4**	**+1.3**
UNIC				*i* S	**Sn**	**17 57 36.0**	**-2.0**
UNIC				IAML		17 57 40.7	
	comp=Z,310nm,1.0s						
CRIN	**San Cristobal**	**1.58**	**89**	*i* P	**Pn**	**17 57 18.8**	**-0.2**
CRIN				*i* S	**Sn**	**17 57 39.1**	**+0.5**
CRIN				IAML		17 57 46.1	
	comp=Z,830nm,1.0s						
NUBE	**Las Nubes**	**1.63**	**319**	*e*S	**Sn**	**17 57 40.1**	**+0.2**
NUBE	**Las Nubes**	**1.63**	**319**	*i* S	**Sn**	**17 57 40.1**	**+0.2**
MTO3	**Montecristo**	**1.84**	**339**	*e*P	**Pn**	**17 57 23.3**	**+0.6**
MTO3	**Montecristo**	**1.84**	**339**	*i* P	**Pn**	**17 57 23.3**	**+0.6**
MTO3				*i* S	**Sb**	**17 57 47.0**	**-1.8**
MTO3				IAML		17 57 48.8	
	comp=Z,74nm,1.0s						
COMHN	**El Horno**	**2.07**	**31**	*i* P	**Pn**	**17 57 26.6**	**+0.8**
MOMN	**Momotombo**	**2.10**	**97**	*i* P	**Pn**	**17 57 25.9**	**-0.2**
MOMN				*i* S	**Sn**	**17 57 49.7**	**-1.6**
MOMN				IAML		17 57 56.4	
	comp=Z,5.7nm,1.0s						
YUSH	**Yuscaran**	**2.19**	**54**	*i* P	**Pn**	**17 57 27.6**	**+0.2**
YUSH				*i* S	**Sn**	**17 57 53.0**	**-0.6**
LIMN	**Finca el Limon**	**2.28**	**80**	*i* P	**Pn**	**17 57 28.5**	**-0.2**
LIMN				*i* S	**Sn**	**17 57 57.2**	**+1.3**
LIMN				IAML		17 57 59.1	
	comp=Z,61nm,1.0s						
RCPN	**Sur Rio San Ju**	**2.65**	**71**	*i* P	**Pn**	**17 57 35.9**	**+2.1**
RCPN				IAML		17 58 07.2	
	comp=Z,0.3nm,1.0s						

*IDC **31** 18:22:38.3±2.4,5.°61S×147.°31E,h200km±21km,mb3.2/3,*
mbtmp3.8/5,Error ellipse: s-maj=49.8km s-min=15.5km
az=121.0
ISC 31 18:22:37.9±1.3,5.°6S±0.°1×147.°3E±0.°2,h200km,n6,
σ1s42/9,mb3.4/3,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.84**	**183**	P	**Pn**	**18 23 39.2**	**+1.5**
	13nm,0.3s,baz=18,slow=8.3,SNR=36						
PMG				S	**Sn**	**18 24 22.8**	**-1.9**
	18nm,0.3s,baz=351,slow=19,SNR=8.0						
WRA	**Warramunga Arr**	**19.09**	**220**	P	**P**	**18 26 46.6**	**+0.9**
	3.2nm,0.6s,baz=43,slow=11,SNR=32						
WRA				S	**S**	**18 30 10.2**	**-1.4**
	0.2nm,0.7s,baz=51,slow=19,SNR=5.2						
ASAR	**Alice Springs**	**22.18**	**214**	P	**P**	**18 27 19.4**	**+1.5**
	0.5nm,0.4s,baz=48,slow=8.9,SNR=21						
ASAR				S	**S**	**18 31 07.3**	**-0.2**
	0.7nm,1.2s,baz=29,slow=16,SNR=3.7						
	0.5nm,0.4s						
QSPA	**South Pole Qui**	**84.42**	**180**	P	**P**	**18 34 47.8**	**0.0**
	1.2nm,1.1s,baz=337,slow=2.7,SNR=2.0						
	1.2nm,1.1s						
ILAR	**Eielson Array**	**84.94**	**23**	P	**P**	**18 34 49.6**	**-0.6**
	0.5nm,0.8s,baz=251,slow=5.5,SNR=3.0						
	0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**145.30**	**285**	PKPbc	**PKPdf**	**18 41 52.0**	**-0.9**
	0.3nm,0.6s,baz=76,slow=3.6,SNR=2.3						

ATH 31 18:34:18.3,38.°20N×22.°80E,h14km±1km,ML1.6/3,
Manual Solution by A.Agalos This location: 2019/12/22
14:14:52 ML Amplitudes are expressed in
micrometers, All distances are expressed in degrees
Latitude uncertainty: 1 km; Longitude uncertainty: 0
km,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THAL	**Thalero**	**0.20**	**213**	P	Pg	18 34 22.9	+0.1
THAL				S	Sg	18 34 26.2	+0.4
DLFA	**Delphi**	**0.36**	**319**	P	Pg	18 34 24.8	-0.9
DLFA				S	Sg	18 34 30.7	0.0
VIL2	**Platees**	**0.37**	**89**	P	Pg	18 34 26.0	+0.1
VIL2				S	Sb	18 34 32.5	+0.1
GUR	**Goura**	**0.45**	**234**	P	Pg	18 34 26.9	-0.3
GUR				S	Sg	18 34 32.7	-0.5
KLV	**Kalavryta, Ach**	**0.53**	**253**	P	Pg	18 34 28.2	-0.6
KLV				S	Sg	18 34 35.8	-0.2
AXAR	**Agios Charalam**	**0.57**	**349**	P	Pg	18 34 28.7	-0.9
AXAR				S	Sg	18 34 37.6	+0.4
LAKA	**Lakka**	**0.65**	**274**	P	Pb	18 34 31.2	-0.2
EFP	**Efpalio**	**0.74**	**288**	P	Pg	18 34 32.6	0.0
EFP				S	Sb	18 34 43.2	+0.4
ANX	**Ano Chora**	**0.79**	**300**	P	Pb	18 34 34.1	+0.2
ANX				S	Sb	18 34 44.5	0.0
VLY	**Voula,Athens**	**0.86**	**114**	P	Pb	18 34 35.2	+0.2
VLY				S	Sg	18 34 45.9	-0.4
KRND	**KRANIDI**	**0.86**	**161**	P	Pb	18 34 35.2	+0.1
KRND				S	Sb	18 34 46.9	+0.4
MAKR	**Makrakomi, Fth**	**0.96**	**327**	P	Pg	18 34 37.0	+0.1
MAKR				S	Sg	18 34 49.5	0.0

ATH 31 18:34:57.6,38.°20N×22.°79E,h12km±3km,ML1.6/4,Error
ellipse: s-maj=3.9km s-min=0.8km az=209.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THAL	**Thalero**	**0.19**	**213**	P	Pg	18 35 02.0	+0.2
THAL				S	Sg	18 35 05.3	+0.6
THAL				AML	AML	18 35 06.1	
	comp=N,741μm,0.2s						
THAL				AML	AML	18 35 06.6	
	comp=E,746μm,0.2s						
DLFA	**Delphi**	**0.37**	**321**	P	Pg	18 35 04.1	-0.9
DLFA				S	Sg	18 35 09.5	-0.4
VIL2	**Platees**	**0.38**	**87**	P	Pg	18 35 05.2	0.0
VIL2				S	Sb	18 35 11.9	-0.2
VIL2				AML	AML	18 35 13.7	
	comp=E,99μm,0.1s						
VIL2				AML	AML	18 35 16.4	
	comp=N,134μm,0.4s						
GUR	**Goura**	**0.44**	**234**	P	Pg	18 35 06.0	-0.3
GUR				S	Sg	18 35 11.7	-0.5
GUR				AML	AML	18 35 13.2	
	comp=E,158μm,0.2s						
GUR				AML	AML	18 35 15.9	
	comp=N,95μm,0.2s						
KLV	**Kalavryta, Ach**	**0.53**	**254**	P	Pg	18 35 07.6	-0.4
KLV				S	Sg	18 35 14.4	-0.6
AXAR	**Agios Charalam**	**0.58**	**350**	P	Pg	18 35 08.2	-0.8
AXAR				S	Sb	18 35 17.4	-0.5
AXAR				AML	AML	18 35 20.0	
	comp=N,569μm,0.4s						
AXAR				AML	AML	18 35 22.4	
	comp=E,484μm,0.3s						
LAKA	**Lakka**	**0.64**	**274**	P	Pg	18 35 10.5	+0.3
LAKA				S	Sg	18 35 19.2	+0.5
EFP	**Efpalio**	**0.73**	**289**	P	Pg	18 35 11.8	-0.1
EFP				S	Sg	18 35 21.6	+0.1
ANX	**Ano Chora**	**0.79**	**300**	P	Pg	18 35 13.0	+0.1
ANX				S	Sb	18 35 23.9	-0.2
KRND	**KRANIDI**	**0.86**	**161**	P	Pg	18 35 13.6	-0.6
KRND				S	Sb	18 35 26.1	+0.2
VLY	**Voula,Athens**	**0.86**	**113**	P	Pg	18 35 14.0	-0.2
VLY				S	Sg	18 35 25.1	-0.5
MAKR	**Makrakomi, Fth**	**0.97**	**328**	P	Pg	18 35 15.9	-0.4
MAKR				S	Sb	18 35 29.2	+0.1
KYMI	**Kymi, Euboea I**	**1.12**	**67**	P	Pb	18 35 18.3	-0.6

*IDC **31** 19:04:59.1±1.7,43.°49N×105.°39W,h0km,mbtmp3.1/5,*
ML2.8/4,Error ellipse: s-maj=40.3km s-min=8.4km
az=151.0
*NEIC **31** 19:05:01.6±1.5,43.°66N±0.°05×105.°29W±0.°07,h0km±2km,*
ML3.3/70,Error ellipse: s-maj=9.1km s-min=7.6km
az=318.0
ISC 31 19:05:00.4±1.0,43.°69N±0.°06×105.°35W±0.°06,h0km,n50,
σ1s50/49,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.04**	**65**		**Pg**	**19 05 20.4**	**+0.1**
K22A	**Casper**	**1.35**	**220**		**Pg**	**19 05 25.4**	**-0.8**
K22A				IAML		19 05 47.5	
	comp=N,398nm,0.3s						
K22A				IAML		19 05 51.6	
	comp=E,515nm,0.7s						
PHWY	**Pilot Hill**	**2.39**	**182**		**Pn**	**19 05 41.9**	**+0.8**
PHWY				IAML		19 06 17.3	
	comp=E,133nm,0.7s						
RWWY	**Rawlins**	**2.43**	**215**		**Pn**	**19 05 42.6**	**+1.0**
RWWY				IAML		19 06 19.2	
	comp=E,221nm,0.8s						
N23A	**Red Feather La**	**2.83**	**189**		**Pn**	**19 05 48.2**	**+1.1**
N23A				IAML		19 06 35.4

comp=N,55nm,1.1s
ISCO Idaho Springs 3.89 183 Pn Pn 19 06 02.9 +1.1
MOOW Moose Ponds 3.91 273 Pn Pn 19 06 04.0 +2.1
IMW Indian Meadow 4.05 275 Pn Pn 19 06 06.0 +2.0
IMW IAML 19 07 14.3
comp=N,25nm,1.1s
IMW IAML 19 07 23.4
comp=N,42nm,0.7s
FXWY Fox Creek 4.12 271 Pn Pn 19 06 07.1 +2.3
O20A White River Ci 4.16 212 Pn Pn 19 06 06.6 +1.4
YHL Hebgen Lake 4.35 287 Pn Pn 19 06 09.4 +1.4
YHL IAML 19 07 34.9
comp=E,33nm,1.2s
YHL IAML 19 07 36.7
comp=N,36nm,0.9s
E28A Huff 4.38 47 Pn Pn 19 06 09.2 +1.1
RDMU Red Mountain 4.42 227 Pn Pn 19 06 11.4 +2.4
RDMU IAML 19 07 24.1
comp=E,35nm,0.8s
DGMT Dagmar 4.85 9 Pn 19 06 15.5 +0.9
BOZ Bozeman (W) 4.87 295 Pn Pn 19 06 15.5 +0.5
BOZ IAML 19 07 35.0
comp=E,19nm,1.9s
BOZ IAML 19 07 37.9
comp=E,18nm,0.9s
HWUT Hardware Ranch 5.04 248 Pn Pn 19 06 18.9 +1.6
KSCO Kaye Shedlock' 5.11 155 Pn Pn 19 06 18.1 -0.1
BSUT Blindstream Ca 5.11 234 Pn 19 06 20.5 +2.0
BSUT IAML 19 08 03.1
comp=N,15nm,2.4s
BSUT IAML 19 08 05.9
comp=E,18nm,1.8s
TCUT Toone Canyon 5.17 242 Pn Pn 19 06 21.1 +1.9
P18A Preston Nutter 5.47 224 Pn 19 06 24.3 +0.9
SPUT South Promonto 5.76 248 Pn Pn 19 06 27.8 +0.5
P17A Butcher Ranch, 5.84 226 Pn 19 06 30.9 +2.6
SDCO Great Sand Dun 5.94 181 Pn Pn 19 06 30.4 +0.5
MPU Maple Canyon 5.96 234 Pn Pn 19 06 32.4 +2.3
SRU San Rafael Swe 6.01 222 Pn 19 06 31.8 +1.2
TMUT Trail Mountain 6.21 227 Pn Pn 19 06 34.9 +1.3
BGU Big Grassy Mou 6.33 247 Pn Pn 19 06 34.7 -0.3
ECSD EROS Data Cent 6.33 87 Pn Pn 19 06 35.2 +0.2
CBKS Cedar Bluff 6.45 137 Pn Pn 19 06 36.0 -0.6
Q16A Castle Valley 6.48 225 Pn 19 06 38.6 +1.4
DUG Dugway, Tooele 6.57 240 Pn Pn 19 06 39.2 +0.9
MSO Missoula 6.83 300 Pn Pn 19 06 43.4 +1.5
MVCO Mesa Verde 6.91 201 Pn Pn 19 06 45.1 +2.0
ELK Elko 7.91 252 Pn Pn 19 06 56.7 -0.1
comp=E,0.1nm,0.3s,baz=63,slow=4.5,SNR=2.1
ELK Lg Lg 19 09 04.9
baz=119,slow=8.5,SNR=1.9
comp=E,0.3nm,0.4s
I10CA LAC DU BONNET 9.11 41 I I 20 02 40.0
comp=E,0.1nm,1.4s,baz=222,slow=339,SNR=2.4
ULM Lac du Bonnet 9.21 41 Pn Pn 19 07 13.3 -1.1
comp=E,1.3nm,0.3s,baz=236,slow=12,SNR=11
ULM Lg Lg 19 09 49.5
baz=262,slow=8.4
comp=E,2.2nm,0.3s
NVAR Mina Array Bea 11.10 246 Pn Pn 19 07 39.8 -0.7
baz=64,slow=14,SNR=1.8
comp=E,0.2nm,0.6s
YKA Yellowknife Ar 19.60 347 P P 19 09 28.7 -1.2
comp=E,0.1nm,0.3s,baz=162,slow=12,SNR=6.6
comp=E,0.1nm,0.3s

*ANF **31** 19:09:31.4±0.3,36.˚16N×97.˚66W,h5km,ML4.3/10,Error ellipse: s-maj=4.3km s-min=3.3km az=158.0*
*TUL **31** 19:09:31.7±0.3,36.˚15N±0.˚01×97.˚67W±0.˚01,h6km±4km, ML3.2,mb_Lg3.3/106(NEIC),ML3.5/64(NEIC),Error ellipse: s-maj=1.6km s-min=1.4km az=186.0*
*NEIC **31** 19:09:32.3±0.2,36.˚14N±0.˚01×97.˚67W±0.˚01,h3km±4km, Error ellipse: s-maj=1.8km s-min=1.0km az=208.0*
ISC 31 19:09:31.9±1.2,36.˚15N±0.˚02×97.˚67W±0.˚02,h6km±10km, n136,σ0°60/106,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.39**	**154**			**Pg**		**19 09 39.6**	**+0.1**
OK029				IAML				19 09 45.4	
	4µm,0.3s								
CROK	**Carrier**	**0.44**	**325**			**Pg**		**19 09 40.5**	**+0.1**
CROK				Sg		**Sg**		**19 09 47.0**	**+0.8**
CROK				IAML				19 09 47.0	
	comp=E,4µm,0.4s								
CROK				IAML				19 09 55.2	
	comp=N,4µm,0.3s								
ADOK	**Arcadia Dam**	**0.55**	**154**			**Pg**		**19 09 42.5**	**0.0**
ADOK				Sg		**Sg**		**19 09 50.1**	**+0.5**
OK033	**Mehan**	**0.60**	**100**			**Pg**		**19 09 43.4**	**0.0**
OK033				IAML				19 09 54.2	
	comp=N,2µm,0.4s								
OK048	**Pawnee Station**	**0.64**	**65**			**Pg**		**19 09 44.1**	**-0.2**
BLOK	**Blackwell**	**0.71**	**31**			**Pg**		**19 09 45.6**	**-0.1**
OK052	**Battle Ridge R**	**0.72**	**102**			**Pg**		**19 09 45.6**	**-0.1**
OK052				IAML				19 09 57.9	
	comp=N,2µm,0.4s								
GC02	**Grant County #**	**0.72**	**348**			**Pg**		**19 09 45.5**	**-0.3**
OK051	**E0350 and S346**	**0.76**	**62**			**Pg**		**19 09 46.3**	**-0.2**
OK051				IAML				19 10 00.7	
	comp=N,2µm,0.2s								
OK051				IAML				19 10 01.1	
	comp=N,2µm,0.2s								
OKCSW	**OKLAHOMA CITY**	**0.76**	**166**			**Pg**		**19 09 46.5**	**-0.1**
OKCSW				IAML				19 09 59.5	
	comp=E,2µm,0.3s								
OKCSW				IAML				19 10 04.4	
	comp=N,2µm,0.3s								
QUOK	**Quay**	**0.78**	**88**			**Pg**		**19 09 46.6**	**-0.2**
QUOK				IAML				19 10 05.8	
	comp=E,2µm,0.2s								
OK032	**Salt Plains WL**	**0.79**	**326**	Pg		**Pg**		**19 09 46.6**	**-0.4**
OK032				IAML				19 10 02.4	
	comp=E,2µm,0.2s								
OK032				IAML				19 10 02.7	
	comp=E,2µm,0.2s								
KAN14	**Manchester OK**	**0.84**	**344**			**Pg**		**19 09 47.7**	**-0.4**
KAN14				IAML				19 10 02.2	
	comp=N,2µm,0.1s								
KAN14				IAML				19 10 10.9	
	comp=E,2µm,0.1s								
KAN13	**South Haven SW**	**0.88**	**10**	Pg		**Pg**		**19 09 48.4**	**-0.4**
KAN13				IAML				19 10 11.3	
	comp=E,3µm,0.2s								
KAN17	**Caldwell West**	**0.90**	**355**	Pg		**Pg**		**19 09 48.8**	**-0.4**
KAN17				IAML				19 10 05.0	
	comp=N,2µm,0.2s								
KAN17				IAML				19 10 09.6	
	comp=E,2µm,0.2s								
FNO	**Franklin**	**0.91**	**166**			**Pg**		**19 09 49.1**	**-0.4**
OK038	**West end E0370**	**0.93**	**291**			**Pg**		**19 09 49.2**	**-0.6**
KAN05	**Bluff City Nor**	**0.97**	**350**			**Pg**		**19 09 50.1**	**-0.5**
KAN09	**Caldwell North**	**0.99**	**2**			**Pg**		**19 09 50.4**	**-0.5**
DEOK	**Depew**	**1.00**	**107**			**Pg**		**19 09 50.3**	**-0.7**
DEOK				IAML				19 10 04.9	
	comp=N,1µm,0.2s								
DEOK				IAML				19 10 09.8	
	comp=E,1µm,0.2s								
KAN01	**Argonia South**	**1.01**	**356**	Pg		**Pg**		**19 09 50.7**	**-0.5**
KAN01				IAML				19 10 11.3	
	comp=N,1µm,0.1s								
OK035	**E0210 Rd and N**	**1.01**	**304**			**Pg**		**19 09 50.8**	**-0.6**
KAN10	**Anthony SW Sta**	**1.03**	**341**			**Pg**		**19 09 51.0**	**-0.8**
KAN10				IAML				19 10 10.8	
	comp=E,1µm,0.1s								
U32A	**Winter Ranch,**	**1.10**	**283**			**Pg**		**19 09 52.2**	**-0.8**
U32A				IAML				19 10 11.7	
	comp=E,930nm,0.3s								
U32A				IAML				19 10 15.3	
	comp=N,1µm,0.5s								
U32A	**Winter Ranch,**	**1.10**	**283**	P		**Pg**		**19 09 52.2**	**-0.8**
	baz=102,SNR=49								
U32A				S		**Sb**		**19 10 07.9**	**-0.1**
	baz=102								
KAN08	**Anthony NE Sta**	**1.10**	**347**			**Pg**		**19 09 52.5**	**-0.7**
KAN06	**Argonia West S**	**1.11**	**352**			**Pg**		**19 09 52.5**	**-0.7**
KAN06				IAML				19 10 11.0	
	comp=E,1µm,0.1s								
KAN06				IAML				19 10 11.1	
	comp=N,1µm,0.2s								
KS21	**Milan North St**	**1.14**	**0**	IAML				19 10 09.0	
	comp=N,2µm,0.1s								
KS21				IAML				19 10 10.7	
	comp=N,2µm,0.2s								
KS21	**Milan North St**	**1.14**	**0**	Pg		**Pg**		**19 09 53.1**	**-0.7**
KAN12	**Harper NE Stat**	**1.18**	**347**			**Pg**		**19 09 53.7**	**-0.8**
KAN12				IAML				19 10 18.1	
	comp=E,2µm,0.4s								
W35A	**Tecumseh**	**1.18**	**147**	Pg		**Pg**		**19 09 53.5**	**-1.1**
W35A				IAML				19 10 15.3	
	comp=N,2µm,0.3s								
T35A	**Sooner Cattle**	**1.21**	**50**			**Pg**		**19 09 54.2**	**-0.8**
T35A				IAML				19 10 17.3	
	comp=E,1µm,0.3s								
T35B	**Sooner Cattle**	**1.21**	**50**	P		**Pg**		**19 09 54.4**	**-0.7**
	baz=231,SNR=557								
T35B				S		**Sb**		**19 10 10.8**	**-0.2**
	baz=231								
ELIS	**Ellis County**	**1.42**	**267**			**Pn**		**19 09 58.1**	**-0.2**
TUL3	**Leonard**	**1.54**	**98**			**Pn**		**19 09 59.4**	**-0.5**
TUL3	**Leonard**	**1.54**	**98**	P		**Pn**		**19 09 59.3**	**-0.5**
	baz=280								
TUL3				S		**Sb**		**19 10 20.7**	**+0.2**
	baz=280								
TUL3	**Leonard**	**1.54**	**98**	P		**Pn**		**19 09 59.4**	**-0.5**
	baz=280,SNR=392								
TUL3				S		**Sb**		**19 10 20.4**	**-0.1**
	baz=280								
WMOK	**Wichita Mounta**	**1.67**	**213**			**Pn**		**19 10 01.4**	**-0.3**
WMOK	**Wichita Mounta**	**1.67**	**213**	P		**Pn**		**19 10 01.6**	**-0.1**
	baz=32								
WMOK				S		**Sb**		**19 10 24.4**	**0.0**
	baz=32								
WMOK	**Wichita Mounta**	**1.67**	**213**	P		**Pn**		**19 10 01.6**	**-0.1**
	baz=32,SNR=66								
WMOK				S		**Sb**		**19 10 24.2**	**-0.2**
	baz=32								
RLO	**Rose Lookout**	**2.14**	**89**	Pn		**Pn**		**19 10 08.2**	**+0.1**
LOOK	**Love County**	**2.19**	**169**	Pn		**Pn**		**19 10 09.4**	**+0.7**
LOOK				IAmb_Lg				19 10 44.8	
	comp=E,92nm,0.8s								
SMWD	**Samnorwood**	**2.34**	**244**	Pn		**Pn**		**19 10 11.4**	**+0.5**
SMWD				IAmb_Lg				19 10 52.4	
	comp=Z,81nm,0.7s								
R32A	**Long Quarter,**	**2.42**	**340**			**Pn**		**19 10 13.3**	**+1.3**
R32A	**Long Quarter,**	**2.42**	**340**	P		**Pn**		**19 10 13.8**	**+1.8**
	baz=160								
WTFS	**Witchita Falls**	**2.46**	**196**			**Pn**		**19 10 13.3**	**+0.7**
WTFS				IAmb_Lg				19 10 47.6	
	comp=Z,20nm,0.8s								
U38A	**Gravette**	**2.67**	**83**	Pn		**Pn**		**19 10 15.7**	**+0.3**
U38A	**Gravette**	**2.67**	**83**	P		**Pn**		**19 10 15.6**	**+0.3**
	baz=265,SNR=84								
Z35A	**Perchaven, San**	**2.83**	**173**	Pn		**Pn**		**19 10 18.3**	**+0.7**
Z35A				IAmb_Lg				19 11 08.5	
	comp=E,66nm,1.1s								
Z35A	**Perchaven, San**	**2.83**	**173**	P		**Pn**		**19 10 18.3**	**+0.7**
	baz=353,SNR=16								
HHAR	**Hobbs**	**3.02**	**86**	Pn		**Pn**		**19 10 20.1**	**-0.1**
KSU1	**Kansas State U**	**3.07**	**16**			**Pn**		**19 10 21.5**	**+0.6**
KSU1	**Kansas State U**	**3.07**	**16**	P		**Pn**		**19 10 20.3**	**-0.6**
	baz=196								
KSU1				S		**Sn**		**19 10 58.3**	**+0.5**
	baz=196								
FW03	**Perrin-Whitt E**	**3.12**	**186**			**Pn**		**19 10 21.4**	**-0.2**
CBKS	**Cedar Bluff**	**3.13**	**329**			**Pn**		**19 10 22.3**	**+0.5**
CBKS				IAmb_Lg				19 11 14.1	
	comp=Z,62nm,0.8s								
CBKS	**Cedar Bluff**	**3.13**	**329**	P		**Pn**		**19 10 21.3**	**-0.5**
	baz=148								
CBKS				S		**Sn**		**19 11 00.5**	**+1.0**
	baz=148								
PLPT	**Palo Pinto**	**3.37**	**189**			**Pn**		**19 10 25.5**	**+0.4**
FW07	**Weatherford**	**3.44**	**182**	IAmb_Lg				19 11 25.8	
	comp=Z,31nm,0.8s								
AMTX	**Amarillo**	**3.51**	**250**	Pn		**Pn**		**19 10 27.4**	**+0.3**
AMTX				IAmb_Lg				19 11 30.7	
	comp=Z,81nm,0.8s								
AMTX	**Amarillo**	**3.51**	**250**	P		**Pn**		**19 10 26.6**	**-0.5**
	baz=68								
AMTX				S		**Sn**		**19 11 09.3**	**+0.4**
	baz=68								
Z38A	**Mt. Pleasant**	**3.63**	**142**			**Pn**		**19 10 28.7**	**+0.1**
Z38A				IAmb_Lg				19 11 36.0	
	comp=Z,108nm,0.8s								
Z38A	**Mt. Pleasant**	**3.63**	**142**	P		**Pn**		**19 10 28.8**	**+0.1**
	baz=323								
Z38A				S		**Sn**		**19 11 12.9**	**+1.1**
	baz=323								
DKNS	**Dickens**	**3.64**	**228**	Pn		**Pn**		**19 10 28.4**	**-0.5**
DKNS				IAmb_Lg				19 11 36.3	
	comp=Z,45nm,0.7s								
FW16	**Waxahatchie**	**3.71**	**170**	IAmb_Lg				19 11 38.6	
	comp=Z,42nm,0.9s								
FW13	**Cleburne**	**3.79**	**177**	IAmb_Lg				19 11 33.3	
	comp=Z,18nm,0.7s								
S39A	**Bolivar**	**3.81**	**65**	Pn		**Pn**		**19 10 31.2**	**+0.1**
S39A				IAmb_Lg				19 11 33.4	
	comp=Z,68nm,0.9s								
S39A	**Bolivar**	**3.81**	**65**	P		**Pn**		**19 10 31.4**	**+0.3**
	baz=247,SNR=40								
ABTX	**Abilene, Hawle**	**3.88**	**205**	Pn		**Pn**		**19 10 32.2**	**+0.2**
ABTX	**Abilene, Hawle**	**3.88**	**205**	P		**Pn**		**19 10 31.8**	**-0.2**
	baz=24								
ABTX				S		**Sn**		**19 11 18.7**	**+0.9**
	baz=24								
U40A	**Yellville**	**3.90**	**86**	P		**Pn**		**19 10 31.7**	**-0.6**
	baz=268,SNR=14								
U40A				P		**Pn**		**19 10 31.7**	**-0.6**
	baz=268,SNR=14								
RTBA	**Rita Blanca**	**4.11**	**276**	Pn		**Pn**		**19 10 33.6**	**-1.7**
RTBA				IAmb_Lg				19 11 46.9	
	comp=Z,35nm,0.7s								
WHTX	**Lake Witney,**	**4.15**	**178**			**Pn**		**19 10 36.1**	**+0.4**
WHTX	**Lake Witney,**	**4.15**	**178**	P		**Pn**		**19 10 35.8**	**+0.1**
	baz=358								
WHTX	**Lake Witney,**	**4.15**	**178**	P		**Pn**		**19 10 36.1**	**+0.4**
	baz=358,SNR=13								
SN01	**Snyder 1**	**4.22**	**220**	IAmb_Lg				19 11 48.6	
	comp=Z,92nm,0.8s								
X40A	**Basin Creek Fa**	**4.29**	**111**	Pn		**Pn**		**19 10 38.0**	**+0.4**
X40A				IAmb_Lg				19 11 47.5	
	comp=Z,86nm,0.8s								
POST	**Post**	**4.41**	**227**	Pn		**Pn**		**19 10 39.8**	**+0.4**
237A	**Washetta, Mont**	**4.41**	**159**	S		**Sn**		**19 11 30.1**	**-1.0**
	baz=340								
MGMO	**Mountain Grove**	**4.46**	**75**			**Pn**		**19 10 40.0**	**0.0**
MGMO				IAmb_Lg				19 11 56.7	
	comp=Z,72nm,0.8s								
WHAR	**Wooly Hollow**	**4.46**	**99**			**Pn**		**19 10 39.5**	**-0.5**
WLAR	**White Oak Lake**	**4.47**	**122**	Pn		**Pn**		**19 10 39.7**	**-0.5**
WLAR				IAmb_Lg				19 11 57.2	
	comp=Z,38nm,0.7s								
FCAR	**Ozark Folk Cen**	**4.50**	**92**	Pn		**Pn**		**19 10 40.2**	**-0.4**
UALR	**University of**	**4.56**	**106**	Pn		**Pn**		**19 10 41.4**	**+0.1**
UALR				IAmb_Lg				19 12 03.7	
	comp=Z,58nm,0.8s								
MSTX	**Muleshoe**	**4.72**	**244**			**Pn**		**19 10 44.1**	**+0.4**
MSTX	**Muleshoe**	**4.72**	**244**	P		**Pn**		**19 10 43.9**	**+0.3**
	baz=61								
P38A	**Dawn**	**4.77**	**42**	Pn		**Pn**		**19 10 43.8**	**-0.5**
P38A				IAmb_Lg				19 12 07.5	
	comp=Z,57nm,0.7s								
R40A	**Maddies Statio**	**4.81**	**62**	Pn		**Pn**		**19 10 44.6**	**-0.3**
R40A				IAmb_Lg				19 12 05.3	
	comp=Z,46nm,0.8s								
R40A	**Maddies Statio**	**4.81**	**62**	P		**Pn**		**19 10 44.9**	**+0.1**
	baz=245,SNR=23								
KSCO	**Kaye Shedlock'**	**4.87**	**307**	IAmb_Lg				19 12 08.1	
	comp=Z,60nm,0.7s								
KSCO	**Kaye Shedlock'**	**4.87**	**307**	P		**Pn**		**19 10 46.0**	**+0.2**
	baz=124								
Z41A	**Richland Creek**	**4.94**	**124**	IAmb_Lg				19 12 20.5	
	comp=Z,68nm,0.8s								
N35A	**Tabor**	**4.97**	**18**	Pn		**Pn**		**19 10 47.2**	**+0.2**
BRDY	**Brady**	**4.97**	**193**	Pn		**Pn**		**19 10 46.4**	**-0.7**
BRDY				IAmb_Lg				19 12 11.1	
	comp=Z,24nm,0.8s								
NATX	**Nacogdoches**	**5.04**	**149**	IAmb_Lg				19 12 22.5	
	comp=Z,33nm,0.8s								
SGCY	**Sterling City**	**5.11**	**215**	IAmb_Lg				19 12 28.2	
	comp=Z,82nm,1.0s								
BGNE	**Belgrade**	**5.27**	**356**			**Pn**		**19 10 49.6**	**-1.6**
BGNE				IAmb_Lg				19 12 14.3	
	comp=Z,37nm,0.8s								
BGNE	**Belgrade**	**5.27**	**356**	P		**Pn**		**19 10 50.7**	**-0.4**
	baz=176								
BGNE	**Belgrade**	**5.27**	**356**	P		**Pn**		**19 10 50.6**	**-0.5**
	baz=176								
CCM	**Cathedral Cave**	**5.48**	**68**	IAmb_Lg				19 12 30.1	
	comp=Z,36nm,0.8s								
CCM	**Cathedral Cave**	**5.48**	**68**	P		**Pn**		**19 10 53.9**	**0.0**
	baz=252,SNR=16								
T25A	**Trinidad**	**5.51**	**282**	IAmb_Lg				19 12 35.7	
	comp=Z,51nm,0.7s								
ODSA	**Odessa**	**5.70**	**227**	IAmb_Lg				19 12 38.4	
	comp=Z,27nm,0.9s								
OZNA	**Ozona**	**5.96**	**210**	IAmb_Lg				19 12 48.6	
	comp=Z,40nm,0.9s								
FVM	**French Village**	**6.07**	**70**	P		**Pn**		**19 11 01.6**	**-0.6**
	baz=255,SNR=14								
143A	**Socs Landing,**	**6.21**	**122**	IAmb_Lg				19 12 58.2	
	comp=Z,38nm,0.8s								
MNHN	**Monahans**	**6.40**	**223**	IAmb_Lg				19 12 54.2	
	comp=Z,20nm,0.8s								
PARMO	**Parma**	**6.41**	**83**	IAmb_Lg				19 12 59.5	
	comp=Z,51nm,0.8s								
SLM	**Saint Louis**	**6.42**	**65**	IAmb_Lg				19 12 58.3	
	comp=Z,32nm,0.7s								
SDCO	**Great Sand Dun**	**6.47**	**287**	IAmb_Lg				19 13 01.0	
	comp=Z,25nm,1.1s								
CGM3	**Cape Girardeau**	**6.54**	**78**	IAmb_Lg				19 13 02.0	
	comp=Z,35nm,0.8s								
K30B	**Basset**	**6.69**	**348**	IAmb_Lg				19 13 10.7	
	comp=Z,39nm,0.7s								
HNDO	**Hondo**	**6.74**	**192**	IAmb_Lg				19 13 09.7	
	comp=Z,56nm,1.1s								
BRIGG	**Briggsdale**	**6.85**	**312**	IAmb_Lg				19 13 17.4	
	comp=Z,40nm,0.8s								
S44A	**Carbondale**	**6.91**	**75**	IAmb_Lg				19 13 11.2	
	comp=Z,44nm,0.8s								
OXF	**Oxford**	**6.94**	**101**	IAmb_Lg				19 13 22.4	
	comp=Z,47nm,0.9s								
PECS	**Pecos**	**7.02**	**229**	IAmb_Lg				19 13 18.8	
	comp=Z,23nm,0.8s								
EF01	**Eagle Ford 01**	**7.02**	**185**	IAmb_Lg				19 13 19.1	
	comp=Z,26nm,0.7s								
Y45A	**Yeager Farm, C**	**7.04**	**106**	IAmb_Lg				19 13 31.9	
	comp=Z,26nm,0.8s								
UTMT	**University of**	**7.12**	**86**	IAmb_Lg				19 13 31.3	
	comp=Z,50nm,0.9s								
DRIO	**Del Rio**	**7.15**	**201**	IAmb_Lg				19 13 29.2	
	comp=Z,25nm,0.7s								
SAND	**Sanderson**	**7.22**	**212**	IAmb_Lg				19 13 32.4	
	comp=Z,59nm,1.1s								
ISCO	**Idaho Springs**	**7.26**	**303**	IAmb_Lg				19 13 32.0	
	comp=Z,22nm,0.8s								
ECSD	**EROS Data Cent**	**7.62**	**6**	IAmb_Lg				19 13 37.3	
	comp=Z,22nm,1.1s								
ECSD	**EROS Data Cent**	**7.62**	**6**	P		**Pn**		**19 11 21.9**	**-1.5**
	baz=186,SNR=35								
ALPN	**Alpine**	**7.62**	**223**	IAmb_Lg				19 13 47.7	
	comp=Z,26nm,1.0s								
Y22D	**IRIS PASSCAL I**	**7.86**	**257**	IAmb_Lg				19 13 49.8	
	comp=Z,32nm,0.8s								
833A	**Chaparral WMA,**	**7.94**	**191**	IAmb_Lg				19 13 53.1	
	comp=Z,32nm,1.0s								
PHWY	**Pilot Hill**	**7.97**	**313**	IAmb_Lg				19 13 50.4	
	comp=Z,18nm,0.8s								
OLIL	**Olney**	**8.04**	**68**	IAmb_Lg				19 14 08.0	
	comp=Z,30nm,0.8s								
425A	**Indio Mountain**	**8.12**	**231**	IAmb_Lg				19 14 01.0	
	comp=Z,19nm,1.0s								
USIN	**University of**	**8.20**	**74**	IAmb_Lg				19 14 01.5	
	comp=Z,30nm,1.0s								
O44A	**Mansfield**	**8.28**	**58**	IAmb_Lg				19 14 00.6	
	comp=Z,39nm,0.8s								
SUSD	**Miller**	**8.35**	**354**	IAmb_Lg				19 14 13.4	
	comp=Z,21nm,0.8s								
K22A	**Casper**	**9.44**	**316**	IAmb_Lg				19 14 57.7	
	comp=Z,32nm,0.9s								
SPMN	**Marine on St.**	**9.79**	**21**	IAmb_Lg				19 14 48.7	
	comp=Z,14nm,0.7s								
TEIG	**Tepich**	**17.87**	**150**	IAmb_Lg				19 13 19.6	
	comp=Z,44nm,1.1s								

*IDC **31** 19:22:59.3±1.8,11.˚08S×164.˚91E,h0km,mb3.9/4, mbtmp4.1/6,ML4.4/2,MS3.3/6,Error ellipse: s-maj=43.2km s-min=25.5km az=46.0*
ISC 31 19:23:04.0±1.5,11.˚1S±0.˚1×164.˚9E±0.˚2,h31km,n16, σ0°43/10,mb3.9/4,MS3.4/4,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.16**	**288**	Pn		**Pn**		**19 24 18.8**	**-0.3**
	35nm,0.3s,baz=199,slow=18,SNR=3.6								
HNR				Sn		**Sn**		**19 25 18.3**	**+0.6**
	51nm,0.3s,baz=269,slow=14,SNR=1.6								
HNR				LR		LR		19 25 35.0	
	comp=Z,303nm,21.5s,baz=236,slow=30								
	204nm,0.3s								
DZM	**Mont Dzumac**	**11.02**	**173**	Pn		**Pn**		**19 25 39.8**	**+0.2**
	1.1nm,0.3s,baz=349,slow=9.2,SNR=21								
DZM				Sn		**Sn**		**19 27 41.7**	**-0.1**
	baz=80,slow=22,SNR=1.2								
DZM				LR		LR		19 28 29.3	
	comp=Z,33nm,18.2s,baz=238,slow=30								
	3.6nm,0.4s								
CTA	**Charters Tower**	**20.06**	**241**	LR		LR		19 33 51.7	
	comp=Z,52nm,18.9s,baz=77,slow=32								
H11S2	**WAKE ISLAND Hy**	**29.45**	**3**	T		T		19 59 33.6	
	baz=183,slow=76,SNR=5.3								
H11S3	**WAKE ISLAND Hy**	**29.45**	**3**	T		T		19 59 27.9	
	baz=183,slow=76,SNR=3.3								
H11S1	**WAKE ISLAND Hy**	**29.46**	**3**	T		T		19 59 23.0	
	baz=183,slow=76,SNR=3.2								
STKA	**Stephens Creek**	**29.86**	**223**	LR		LR		19 39 40.0	
	comp=Z,48nm,18.1s,baz=26,slow=34								
H11N1	**WAKE ISLAND Hy**	**30.67**	**4**	T		T		20 00 55.2	
	baz=186,slow=74								
H11N3	**WAKE ISLAND Hy**	**30.68**	**4**	T		T		20 01 10.4	
	baz=186								
H11N2	**WAKE ISLAND Hy**	**30.69**	**4**	T		T		20 00 58.8	
	baz=186,slow=74								
WRA	**Warramunga

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CAPC				i		19 33 21.3	
	comp=Z,25nm,0.2s						
PNME	Penonome	1.97	226	eP	Pn	19 32 55.2	+1.2
CHIT3	Chitre	2.42	219	eP	Pn	19 33 00.6	+0.4
CHIT3				eS	Sn	19 33 28.5	-0.4
LCBC	Los crdobas,	2.68	112	eS	Sb	19 33 38.4	-4.1
LCBC	Los crdobas,	2.68	112	eP	Pn	19 33 05.5	+1.8
LCBC				eS	Sn	19 33 33.9	-1.2
LCBC				i		19 33 40.2	
	comp=Z,35nm,0.2s						
CACAO	El Cacao, Vera	3.17	218	eP	Pn	19 33 11.6	+1.1

TAP 31 19:33:31.6, 24°.91N×122°.40E, h22km, ML2.0, 1C, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.38	285	P	Pb	19 33 39.9	+0.2
	baz=284						
TWB1				S	Sb	19 33 46.2	+1.1
	baz=284						
SXI1	Grass Mountain	0.51	291	P	Pb	19 33 42.7	+0.8
	baz=291						
SXI1				i S	Sb	19 33 50.3	+1.4
	baz=291						
EOS2	EOS2	0.51	197	eP	Pb	19 33 42.1	+0.3
	baz=196						
EOS2				i S	Sn	19 33 50.5	-1.1
	baz=196						
TIPB	Shuangxi	0.52	277	⇑P	Pb	19 33 42.9	+0.7
	baz=276						
TIPB				S	Sn	19 33 50.9	-1.1
	baz=276						
EOS3	EOS3	0.63	187	eP	Pn	19 33 44.9	-0.2
	baz=186						
EOS3				S	Sn	19 33 54.0	-0.3
	baz=186						
TWE	Neicheng	0.69	254	P	Pb	19 33 45.4	+0.5
	baz=253						
TWE				S	Sn	19 33 55.4	-0.7
	baz=253						
EWUT	Wuta	0.73	231	P	Pb	19 33 46.0	+0.3
	baz=230						
EWUT				eS	Sb	19 33 54.6	-0.6
	baz=230						
TWA	Mucha	0.74	275	i P	Pb	19 33 46.2	+0.3
	baz=275						
TWA				eS	Sn	19 33 56.6	-0.8
	baz=275						
ENA	Nanau	0.77	231	P	Pn	19 33 46.9	-0.3
	baz=230						
ENA				eS	Sn	19 33 58.1	+0.1
	baz=230						
PCYT	Pengchaiyu	0.77	338	eP	Pb	19 33 46.8	+0.4
	baz=338						
EOS4	EOS4	0.79	185	P	Pn	19 33 47.0	-0.1
	baz=185						
EOS4				S	Sn	19 33 58.4	+0.3
	baz=185						
NACB	Ninganchiao	1.04	225	i S	Sn	19 34 05.1	+0.5
	baz=224						

*IDC **31** 19:42:35.0±0.6, 35°.72N×140°.91E, h0km, mb4.0/19, mbtmp4.0/22, ML3.5/3, MS3.4/18, Error ellipse: s-maj=18.8km s-min=14.1km az=67.0*

*NIED **31** 19:42:38.6, 35°.81N×141°.01E, h28km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.96; $M_{\theta\theta}$3.15; $M_{\phi\phi}$-0.20; $M_{r\theta}$1.56; $M_{\theta\phi}$-0.33; $M_{\phi r}$-0.53; Fault plane solution: $M_0$3.49000×10^{15} NP1: ϕ_s282.00000°, δ59.00000°, λ-83.00000°. NP2: ϕ_s88.00000°, δ32.00000°, λ-102.00000°.*

*JMA **31** 19:42:38.6±0.2, 35°.8N±0°.6×14°1E±°, h28km±1km, MD4.4/34, MV4.3/34, NEAR CHOSHI CITY*

JMA Felt II J1 at NEAR CHOSHI CITY .

*MOS **31** 19:42:39.9±1.4, 35°.88N×141°.05E, h49km, mb4.5/23, Error ellipse: s-maj=11.4km s-min=5.9km az=109.2*

*NEIC **31** 19:42:41.2±2.2, 35°.83N±0°.05×141°.0E±0°.1, h47km±7km, mb4.6/36, Error ellipse: s-maj=13.3km s-min=5.7km az=109.0*

ISC 31 19:42:40.6±0.5**, 35°.78N**±0°.04×**140°.99E**±0°.06**, h34**km±1km**, n182, σ1s.53**/165**, mb4.3**/62**, MS3.5**/18**, 10C-1D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIHU	Itakohorinouch	0.42	296	P	Pb	19 42 48.2	-1.9
JIHU				eS	Sb	19 42 54.5	-2.1
JIHU	Itakohorinouch	0.42	296	A	A	19 42 48.2	
	comp=E,97nm,0.5s,comp=N,76nm,0.7s						
JSMT	Sammumatsuo	0.46	253	P	Pb	19 42 48.8	-1.9
JSMT				S	Sb	19 42 56.9	-0.8
JSMT	Sammumatsuo	0.46	253	A	A	19 42 48.8	
	comp=E,68nm,0.7s,comp=N,126nm,1.3s						
JHYU	Hitachinakayam	0.65	330	P	Pn	19 42 51.1	-2.2
JHYU				S	Sn	19 43 00.1	-2.4
JHYU	Hitachinakayam	0.65	330	A	A	19 42 51.1	
	comp=E,26nm,0.7s,comp=N,30nm,0.9s						
JCN	Nagara	0.74	241	P	Pn	19 42 53.9	-0.8
JCN				eS	Sn	19 43 04.1	-0.5
JCN	Nagara	0.74	241	A	A	19 42 53.9	
	comp=E,50nm,1.6s,comp=N,50nm,1.3s						
JYT	Yasato	0.79	305	P	Pn	19 42 52.6	-2.7
JYT				S	Sn	19 43 02.6	-3.2
JYT	Yasato	0.79	305	A	A	19 42 52.6	
	comp=E,18nm,0.5s,comp=N,16nm,0.4s						
JHO	Hitachi	0.90	338	P	Pn	19 42 54.4	-2.5
JHO				eS	Sn	19 43 05.8	-2.7
JKUC	kamogawauchiur	0.90	226	A	A	19 42 55.5	
	comp=E,18nm,3.3s,comp=N,14nm,1.0s						
BSO4	Boso 4	0.95	214	P	Pn	19 42 57.4	-0.1
TOK	Tokyo	1.01	265	A	A	19 42 57.1	
	comp=E,26nm,1.6s,comp=N,22nm,1.9s						
BSO3	Boso 3	1.05	202	P	Pn	19 42 57.4	-1.3
TATJ	Tateyama 2	1.17	231	A	A	19 42 59.7	
	comp=E,15nm,6.4s,comp=N,15nm,1.5s						
JYO	Yokosk	1.22	243	A	A	19 43 00.4	
	comp=E,15nm,4.5s,comp=N,12nm,2.8s						
JHU	Hanno	1.39	273	A	A	19 43 02.9	
	comp=E,4.0nm,1.2s,comp=N,5.0nm,1.9s						
JSB	Shiboa	1.47	324	A	A	19 43 03.6	
	comp=E,8.0nm,1.7s,comp=N,13nm,3.1s						
JOD2	Odawara 2	1.64	252	A	A	19 43 06.6	
	comp=E,5.0nm,2.5s,comp=N,6.0nm,1.3s						
JOTO	OTAMA OYAMA	1.85	344	A	A	19 43 09.1	
	comp=E,17nm,0.8s,comp=N,14nm,1.1s						
JMM	Marumori	2.09	356		Pn	19 43 11.8	-1.4
MJAR	Matsushiro Arr	2.38	289	Pn	Pn	19 43 16.1	-1.0
	comp=N,1.4nm,0.3s,baz=92,slow=8.7,SNR=105						
MJAR				Sn	Sn	19 43 42.5	-2.7
	comp=N,2.6nm,0.3s,baz=93,slow=14,SNR=5.5						
MJAR				LR	LR	19 44 17.7	
	comp=N,399nm,21.9s,baz=111,slow=44						
	comp=N,13nm,0.4s						
MAJO	Matsushiro	2.38	289		Pn	19 43 16.8	-0.4
MAJO	Matsushiro	2.38	289	P	Pn	19 43 16.8	-0.4
MJB9	Matsu-Tunnel	2.38	290		Pn	19 43 17.6	+0.3
JSG	Sagara	2.55	245		Pn	19 43 21.2	+1.7
JHJ2	Mitsune	2.83	200	Pn	Pn	19 43 24.2	+0.8
JHJ	Hachijo jima 2	2.84	201	Pn	Pn	19 43 24.6	+1.1
	comp=N,24nm,0.3s,baz=16,slow=7.4,SNR=7.2						
JHJ				Sn	Sn	19 43 54.1	-2.4
	comp=N,13nm,0.3s,baz=65,slow=19,SNR=3.7						
JHJ				LR	LR	19 44 23.3	
	comp=N,408nm,20.5s,baz=294,slow=39						
JTM	Tenmabayashi	5.00	1		Pn	19 43 53.6	+0.4
JMN	Monobe	6.20	253	Pn	Pn	19 44 11.3	+1.5
ERM	Erimo	6.45	15	Pn	Pn	19 44 11.4	-1.7
ERM	Erimo	6.45	15	i P	Pn	19 44 12.4	-0.7
ASAJ	Asahikawa	8.42	8	P	Pn	19 44 37.7	-2.4
ASAJ	Asahikawa	8.42	8	Pn	Pn	19 44 37.5	-2.6
	comp=N,2.3nm,0.3s,baz=212,slow=11,SNR=34						
ASAJ				Sn	Sn	19 46 12.2	-1.6
	comp=N,0.3nm,0.3s,baz=258,slow=32,SNR=1.1						
	comp=N,6.5nm,0.4s						
JKA	Kamikawa-asahi	8.42	8	Pn	Pn	19 44 37.7	-2.4
JCJ	Chichijima	8.72	173	Pn	Pn	19 44 40.3	-4.0
JCJ	Chichijima	8.72	173	Pn	Pn	19 44 37.5	-6.8
	comp=N,7.0nm,0.3s,baz=293,slow=24,SNR=2.0						
JCJ				Sn	Sn	19 46 06.7	-15
	comp=N,2.2nm,0.3s,baz=295,slow=11,SNR=1.9						
JNU	Nakatsue	8.76	255	LR	LR	19 48 26.0	
	comp=N,416nm,19.9s,baz=76,slow=40						
KSRS	Korea Array	10.64	283	Pn	Pn	19 45 11.3	+0.8
	comp=N,0.1nm,0.3s,baz=98,slow=14,SNR=2.9						
KSRS				LR	LR	19 49 01.4	
	comp=N,173nm,20.8s,baz=90,slow=36						
USA0B	Ussuriysk Arra	10.87	323	Pn	Pn	19 45 15.8	+2.1
USA0B	Ussuriysk Arra	10.87	323	P	Pn	19 45 15.8	+2.1
USRK	Ussuriysk Ar.	10.87	323	Pn	Pn	19 45 14.7	+1.0
	comp=N,0.1nm,0.3s,baz=137,slow=12,SNR=6.9						
YSS	Yuzh-Sakhalins	11.24	6	Pn	Pn	19 45 16.0	-2.8
YSS	Yuzh-Sakhalins	11.24	6	eP	Pn	19 45 16.6	-2.2
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS				MLR	MLR		
	comp=Z,500nm,10.0s						
MDJ	Mudanjiang	12.39	319	P	Pn	19 45 36.5	+2.0
MDJ				pmax	pmax		
	comp=Z,8.0nm,2.3s						
MDJ				pmax	pmax		
	comp=Z,210nm,6.4s						
KLR	Kul'dur	15.05	336	i P	Pn	19 46 11.9	+1.2
KLR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KLR	Kul'dur	15.05	336	Pn	Pn	19 46 09.1	-1.5
	comp=Z,0.1nm,0.3s,baz=153,slow=9.0,SNR=1.7						
KLR				LR	LR	19 51 53.2	
	comp=Z,181nm,19.0s,baz=146,slow=37						
	comp=Z,0.3nm,0.3s						
TYV	Tymovskoe	15.12	4	eP	Pn	19 46 08.4	-3.2
TYV				eS	Sn	19 48 54.0	-3.8
TYV				pmax	pmax		
	comp=Z,15nm,0.8s						
TYV				pmax	pmax		
	comp=Z,200nm,3.0s						
TYV				smax	smax		
	comp=N,100nm,5.3s						
NJ2	Nanjing	18.74	265	eP	Pn	19 46 56.8	-0.3
NJ2				pP	pP	19 47 05.5	+0.1
NJ2				sP	sP	19 47 09.8	+0.9
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,260nm,3.5s						
ZEA	Zeya	20.37	336	eP	P	19 47 11.6	-2.5
ZEA				pmax	pmax		
	comp=N,10.0nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
HHC	Hu-ho-hao-te	23.58	291	eP	P	19 47 47.0	-1.2
HHC				pmax	pmax		
	comp=Z,19nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,5.3s						
MA2	Magadan	24.65	12	ceP	P	19 47 57.2	-0.6
MA2				pmax	pmax		
	comp=Z,16nm,1.7s						
YAK	Yakutsk	27.22	348	eP	P	19 48 20.5	-0.5
YAK				e*PP	pP	19 48 30.6	-0.1
YAK				e		19 49 03.0	
YAK				ePPP	PPP	19 49 18.8	
YAK				eS	S	19 52 57.2	-0.3
YAK				e*SS	sS	19 53 16.0	+2.4
YAK				pmax	pmax		
	comp=Z,16nm,1.0s						
YAK				pmax	pmax		
	comp=N,13nm,1.5s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.5s						
YAK				pmax	pmax		
	comp=Z,178nm,7.4s						
YAK				pmax	pmax		
	comp=N,71nm,6.2s						
YAK				pmax	pmax		
	comp=E,221nm,6.2s						
YAK				smax	smax		
	comp=E,106nm,7.3s						
YAK				smax	smax		
	comp=N,49nm,3.6s						
YAK	Yakutsk	27.22	348	LR	LR	19 58 55.9	
	comp=N,4.8nm,21.5s,baz=111,slow=36						
ULN	Ulaanbaatar	27.80	306	P	P	19 48 24.1	-2.5
ULN	Ulaanbaatar	27.80	306	i P	P	19 48 27.2	+0.6
ULN				pmax	pmax		
	comp=Z,7.0nm,1.5s						
H11N2	WAKE ISLAND Hy	27.83	118	T	T	20 17 25.2	
	baz=311,slow=75						
H11N1	WAKE ISLAND Hy	27.84	118	T	T	20 17 28.9	
	baz=311,slow=75						
H11N3	WAKE ISLAND Hy	27.85	118	T	T	20 17 26.7	
	baz=311,slow=75						
SEY	Seymchan	28.08	11	i P	P	19 48 28.7	0.0
SEY				pmax	pmax		
	comp=Z,9.0nm,1.4s						
SONM	Songino Array	28.22	306	P	P	19 48 28.5	-1.8
SONM	Songino Array	28.22	306	P	P	19 48 28.5	-1.8
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	Songino Array	28.22	306	P	P	19 48 29.0	-1.4
	comp=Z,0.6nm,0.6s,baz=106,slow=9.5,SNR=5.8						
SONM				LR	LR	20 00 04.2	
	comp=Z,80nm,18.0s,baz=177,slow=37						
	comp=Z,0.6nm,0.6s						
H11S1	WAKE ISLAND Hy	28.49	120	T	T	20 18 15.6	
	baz=312,slow=75						
H11S3	WAKE ISLAND Hy	28.49	120	T	T	20 18 17.5	
	baz=312,slow=75						
H11S2	WAKE ISLAND Hy	28.51	120	T	T	20 18 17.4	
	baz=312,slow=75						
LZH	Lanzhou	29.96	282	eP	P	19 48 42.5	-3.4
LZH				sP	sP	19 48 58.0	-1.6
LZH				pmax	pmax		
	comp=Z,3.0nm,1.0s						
DAV	Davao City (W)	31.88	210	LR	LR	20 00 00.9	
	comp=Z,40nm,20.5s,baz=360,slow=33						
GTA	Gaotai	32.63	289	eP	P	19 49 10.8	+1.5
GTA				pP	sP	19 49 21.5	-1.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
PZH	PanZhiHua	34.65	266	P	P	19 49 25.0	-2.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,6.1s						
BILL	Bilibino	35.32	16	⇑eP	P	19 49 33.1	+0.9
BILL				pmax	pmax		
	comp=Z,14nm,2.5s						
TIXI	Tiksi	36.49	354	ceP	P	19 49 40.5	-1.6
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.7s						
TOLI2	Tolitoli	39.27	213	P	P	19 50 04.2	-2.0
TOLI2				IAmb	IAmb	19 50 32.3	
	comp=Z,6.3nm,1.0s						
CMAR	Chiang Mai Arr	40.86	256	i P	P	19 50 20.7	+1.3
CMAR	Chiang Mai Arr	40.86	256	LR	LR	20 08 40.8	
	comp=Z,57nm,20.5s,baz=80,slow=38						
DGZ	Jazzator, Alta	40.86	307	i P	P	19 50 19.8	+0.5
DGZ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ZAA0	Zalesovo Array	42.52	313	P	P	19 50 31.6	-0.9
ZALV	Zalesovo Beam	42.52	313	P	P	19 50 32.4	-0.1
ZALV	Zalesovo Beam	42.52	313	i P	P	19 50 32.0	-0.5
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	Zalesovo Beam	42.52	313	P	P	19 50 32.0	-0.5
	comp=Z,1.8nm,0.7s,baz=93,slow=6.5,SNR=9.7						
	comp=Z,1.8nm,0.7s						
C16K	Lisburne Hills	43.98	26	P	P	19 50 44.7	+0.6
C16K				IAmb	IAmb	19 51 00.1	
	comp=Z,14nm,1.4s						
NRIK	Noril'sk	44.27	336	ceP	P	19 50 47.2	+0.8
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
NRIK	Noril'sk	44.27	336	P	P	19 50 46.9	+0.4
	comp=Z,3.2nm,0.9s,baz=116,slow=3.3,SNR=5.8						
	comp=Z,3.2nm,0.9s						
MK31	Makanchi Array	44.51	303	P	P	19 50 47.9	-0.9
MK31	Makanchi Array	44.51	303	ceP	P	19 50 48.4	-0.3
MKAR	Makanchi Array	44.51	303	P	P	19 50 47.9	-0.8
MKAR	Makanchi Array	44.51	303	P	P	19 50 48.5	-0.2
	comp=Z,3.9nm,0.7s,baz=91,slow=9.8,SNR=33						
MKAR				LR	LR	20 09 48.5	
	comp=Z,70nm,18.6s,baz=71,slow=37						
	comp=Z,3.9nm,0.7s						
MAKZ	Makanchi	44.72	303	P	P	19 50 49.5	-0.8
MAKZ	Makanchi	44.72	303	P	P	19 50 49.6	-0.8
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
C18K	Utukok River	45.55	26	P	P	19 50 57.2	+0.5
C18K				IAmb	IAmb	19 51 22.1	
	comp=Z,7.0nm,1.1s						
K17K	Iditarod	45.58	34	P	P	19 50 57.8	+0.8
R17K	Ugashik Creek	46.22	41	P	P	19 51 01.6	-0.5
KURK	Kurchatov	46.45	309	P	P	19 51 03.3	-0.6
KURK				IAmb	IAmb	19 51 04.0	
	comp=Z,6.3nm,0.8s						
KURK	Kurchatov	46.45	309	ceP	P	19 51 03.4	-0.6
KURK				pmax	pmax		
	comp=Z,13nm,1.7s						
KURBB	Kurchatov Arra	46.51	309	P	P	19 51 03.6	-0.9
	comp=Z,3.3nm,0.7s,baz=84,slow=7.9,SNR=36						
	comp=Z,3.3nm,0.7s						
D19K	Kuna River	46.61	26	P	P	19 51 05.6	+0.5
D19K				IAmb	IAmb	19 51 17.0	
	comp=Z,14nm,1.3s						
E19K	Redstone River	46.74	28	P	P	19 51 06.5	+0.5
E19K				IAmb	IAmb	19 51 20.5	
	comp=Z,5.8nm,1.1s						
B20K	Meade River	47.27	24	P	P	19 51 11.2	+1.0
B20K				IAmb	IAmb	19 51 38.5	
	comp=Z,16nm,1.4s						
IMAR	Indian Mountai	47.90	30	P	P	19 51 13.2	-1.9
B21K	Ikpikpuk River	48.06	25	P	P	19 51 17.0	+0.7
B21K				IAmb	IAmb	19 51 31.8	
	comp=Z,8.3nm,1.2s						
B22K	Teshekpuk Lake	48.59	24	P	P	19 51 21.3	+1.1
B22K				IAmb	IAmb	19 51 35.9	
	comp=Z,7.6nm,1.5s						
TARG	Taragay, Kyrgy	48.66	297	P	P	19 51 20.0	-1.8
TARG				IAmb	IAmb	19 51 36.7	
	comp=Z,4.7nm,0.8s						
TARG	Taragay, Kyrgy	48.66	297	P	P	19 51 20.0	-1.8
TARG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
E22K	Anaktuvuk Pass	48.87	27	P	P	19 51 23.8	+1.2
E22K				IAmb	IAmb	19 51 55.6	
	comp=Z,10nm,1.5s						
MTN	Manton Dam	49.25	193	P	P	19 51 24.6	-1.4
C23K	Itkillik River	49.47	25	P	P	19 51 28.3	+1.2
E24K	Your Creek	50.11	27	P	P	19 51 30.0	-2.0
E24K				IAmb	IAmb	19 52 08.4	
	comp=Z,6.9nm,1.4s						
MDM	Murphy Dome	50.16	32	P	P	19 51 30.5	-1.9
ILAR	Eielson Array	50.73	32	P	P	19 51 34.6	-2.2
ILAR	Eielson Array	50.73	32	P	P	19 51 34.6	-2.2
ILAR	Eielson Array	50.73	32	P	P	19 51 37.1	+0.4
	comp=Z,0.9nm,0.7s,baz=267,slow=6.0,SNR=10						
	comp=Z,0.9nm,0.7s						
AAK	Ala-Archa	50.79	299	i P	P	19 51 37.4	-0.3
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AAK	Ala-Archa	50.79	299	LR	LR	20 14 09.5	
	comp=Z,77nm,19.5s,baz=65,slow=37						
BVAR	Borovoye Array	51.17	313	P	P	19 51 39.7	-0.5
	comp=Z,1.3nm,0.6s,baz=81,slow=7.4,SNR=13						
BVAR				PcP	PcP	19 52 55.3	0.0
	comp=Z,1.2nm,0.7s,baz=72,slow=4.8,SNR=4.8						
	comp=Z,1.3nm,0.6s						
BRVK	Borovoye	51.23	313	ceP	P	19 51 40.0	-0.6
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KKAR	Karatay Array	53.47	301	P	P	19 51 56.9	-0.5
KKAR	Karatay Array	53.47	301	P	P	19 51 56.9	-0.5
G30M	tAoh Zraii Nji	54.88	28	P	P	19 52 08.6	+1.2
G30M				IAmb	IAmb	19 52 17.9	
	comp=Z,11nm,1.3s						
WB0	Warramunga Arr	55.60	188	P	P	19 52 11.8	-1.2
WB2	Warramunga Arr	55.77	188	P	P	19 52 13.2	-1.1
WB2				IAmb	IAmb	19 52 16.0	
	comp=Z,8.3nm,1.0s						
WRA	Warramunga Arr	55.78	188	P	P	19 52 13.1	-1.2
WRA	Warramunga Arr	55.78	188	P	P	19 52 12.8	-1.4
	comp=Z,5.2nm,0.9s,baz=4.0,slow=7.4,SNR=33						
	comp=Z,5.2nm,0.9s						
CTA	Charters Tower	55.79	174	LR	LR	20 15 17.0	
	comp=Z,19nm,21.4s,baz=330,slow=35						
SVE	Sverdlovsk	55.87	319	eP	P	19 52 14.8	+0.3
ARU	Arti	57.08	319	P	P	19 52 21.7	-1.5
ARU				IAmb	IAmb	19 52 27.5	
	comp=Z,7.2nm,1.0s						
ARU	Arti	57.08	319	d iP	P	19 52 22.8	-0.4
ARU						19 53 13.5	
ARU						19 54 28.4	
ARU				S	S	20 00 16.2	+0.7
ARU				SS	SS	20 04 02.4	-1.5
ARU				pmax	pmax		
	comp=Z,29nm,2.8s						
A36M	Sachs Harbour	57.55	22	P	P	19 52 24.4	-1.8
A36M				IAmb	IAmb	19 52 30.2	
	comp=Z,5.8nm,1.1s						
ABKAR	Akbulak array	58.49	311	P	P	19 52 31.1	-2.1
C36M	Paulatuk	58.71	24	P	P	19 52 35.1	+0.7
C36M				IAmb	IAmb	19 52 52.5	
	comp=Z,4.3nm,1.1s						
AS31	Alice Springs	59.50	188	P	P	19 52 38.5	-2.0
ASAR	Alice Springs	59.50	188	P	P	19 52 39.0	-1.4
ASAR	Alice Springs	59.50	188	P	P	19 52 39.0	-1.4
ASAR	Alice Springs	59.50	188	P	P	19 52 39.5	-0.9
	comp=Z,1.4nm,0.8s,baz=8.6,slow=6.9,SNR=23						
ASAR				LR	LR	20 15 47.5	
	comp=Z,26nm,21.4s,baz=326,slow=34						
	comp=Z,1.4nm,0.8s						
PSA00	Pilbara Seismi	60.46	203	P	P	19 52 45.4	-1.6
KIRV	Kirov	61.04	323	LR	LR	20 20 13.8	
	comp=Z,65nm,18.2s,slow=37						
DZM	Mont Dzumac	62.38	153	eLR	LR	20 11 19.2	
	comp=Z,57nm,24.6s						
RES	Resolute Bay	63.90	14	P	P	19 53 08.5	-0.9
RES				IAmb	IAmb	19 53 20.0	
	comp=Z,13nm,1.5s						
RES	Resolute Bay	63.90	14	P	P	19 53 08.5	-0.9
RES				pmax	pmax		
	comp=Z,13nm,1.5s						
YKA	Yellowknife Ar	65.06	30	P	P	19 53 17.5	+0.3
	comp=Z,0.6nm,0.9s,baz=301,slow=7.1,SNR=7.1						
YKA				LR	LR	20 25 07.8	
	comp=Z,23nm,18.0s,baz=304,slow=39						
	comp=Z,0.6nm,0.9s						
STKA	Stephens Creek	67.31	179	P	P	19 53 30.8	-1.0
STKA	Stephens Creek	67.31	179	P	P	19 53 30.8	-1.0
STKA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
STKA	Stephens Creek	67.31	179	P	P	19 53 31.2	-0.6
	comp=Z,3.5nm,0.8s,baz=350,slow=6.5,SNR=9.6						
	comp=Z,3.5nm,0.8s						
FORT	Forrest	67.31	192	P	P	19 53 31.4	-0.5
BBOO	Buckleboo	68.39	184	P	P	19 53 37.8	-0.8
OBN	Obninsk	68.89	323	⇑eP	P	19 53 41.5	-0.2
OBN				e		19 54 03.5	
OBN				e		19 56 17.9	
OBN				eS	S	20 02 36.9	-6.4
OBN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
OBN				MLR	MLR		
	comp=Z,57nm,16.0s						
FINES	FINESS Array B	69.76	332	P	P	19 53 45.4	-1.6
FINES	FINESS Array B	69.76	332	P	P	19 53 45.4	-1.6
FINES	FINESS Array B	69.76	332	P	P	19 53 46.5	-0.4
	comp=Z,1.8nm,0.8s,baz=28,slow=6.3,SNR=4.7						
	comp=Z,1.8nm,0.8s						
KBZ	Khabaz	71.46	311	i P	P	19 53 58.3	+0.7
KBZ				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KBZ	Khabaz	71.46	311	P	P	19 53 57.5	-0.1
	comp=Z,2.4nm,1.1s,baz=45,slow=8.6,SNR=3.8						
	comp=Z,2.4nm,1.1s						
KIV	Kislovodsk	71.47	311	ceP	P	19 53 57.0	-0.8
KIV				e		19 54 21.8	
KIV				e		19 56 43.5	
KIV				pmax	pmax		
	comp=Z,10.0nm,1.7s						
KIV				MLR	MLR		
	comp=Z,32nm,15.0s						
AKASG	Malin Array Be	75.08	322	P	P	19 54 17.8	-1.0
	comp=Z,1.2nm,0.6s,baz=47,slow=5.8,SNR=12						
	comp=Z,1.2nm,0.6s						
AKBB	Malin Array Si	75.08	322	ceP	P	19 54 20.1	+1.3
AKBB				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NB2	NORSAR Subarra	75.21	337	P	P	19 54 19.3	-0.1
	comp=Z,0.7nm,0.6s,baz=39,slow=5.9						
NOA	NORSAR Array B	75.21	337	P	P	19 54 19.0	-0.5
NOA	NORSAR Array B	75.21	337	P	P	19 54 19.0	-0.5
	comp=Z,0.8nm,0.6s,baz=39,slow=5.8,SNR=3.8						

NOA				LR	LR	20 30 16.9			
	comp=Z,51nm,20.0s,baz=0.0,slow=38								
	comp=Z,0.8nm,0.6s								
SFJD	**Kangerlussuaq**	**77.16**	**5**	LR	LR	20 30 60.0			
	comp=Z,18nm,18.6s,baz=348,slow=38								
FRB	**Frobisher Bay**	**78.07**	**13**	LR	LR	20 33 18.7			
	comp=Z,33nm,18.1s,baz=131,slow=39								
PDAR	**Pinedale Array**	**78.79**	**45**	P	**P**	**19 54 40.9**	**+0.7**		
	comp=Z,0.5nm,0.7s,baz=297,slow=0.9,SNR=6.2								
	comp=Z,0.5nm,0.7s								
BRTR	**Keskin Array B**	**79.43**	**312**	P	**P**	**19 54 43.7**	**+0.1**		
	comp=Z,0.9nm,0.8s,baz=85,slow=1.7,SNR=3.8								
	comp=Z,0.9nm,0.8s								
VYHS	**Vyhne**	**81.56**	**325**	*e*P	**P**	**19 54 54.0**	**-0.7**		
VYHS	**Vyhne**	**81.56**	**325**	*e*P	**P**	**19 54 54.0**	**-0.7**		
CLL	**Collm**	**82.01**	**330**	*e*P	**P**	**19 54 57.0**	**0.0**		
CLL	**Collm**	**82.01**	**330**	*e*P	**P**	**19 54 57.0**	**0.0**		
GERES	**GERESS Array B**	**83.59**	**328**	P	**P**	**19 55 03.4**	**-2.1**		
	comp=Z,0.4nm,0.5s,baz=24,slow=7.9,SNR=3.1								
	comp=Z,0.4nm,0.5s								
PMOR	**Pomariorio Ree**	**84.00**	**113**	*e*T	T	21 27 34.7			
	comp=Z,6.9nm,0.2s								
PPT2	**Papeete2**	**84.40**	**116**	*e*LR	LR	20 21 30.2			
	comp=Z,32nm,23.2s								
SOKA	**Soboth**	**84.64**	**326**	*e*PcP	**P**	**19 55 10.6**	**-0.2**		
	comp=Z,1.0nm,0.6s								
OBKA	**Obir**	**84.99**	**326**	*i* PcP	**P**	**19 55 13.7**	**+1.1**		
	comp=Z,0.5nm,0.3s								
KBA	**Koelnbreinsper**	**85.09**	**327**	*i* PcP	**P**	**19 55 13.9**	**+0.7**		
	comp=Z,0.9nm,0.4s								
WATA	**Walderalm**	**85.67**	**328**	*e*PcP	**P**	**19 55 16.6**	**+0.7**		
	comp=Z,0.6nm,0.4s								
WTTA	**Wattenberg**	**85.70**	**328**	*e*PcP	**P**	**19 55 16.9**	**+0.8**		
	comp=Z,0.5nm,0.3s								
ABTA	**Abfaltersbach**	**85.72**	**327**	*e*PcP	**P**	**19 55 17.0**	**+0.9**		
	comp=Z,2.1nm,1.0s								
RETA	**Reutte**	**85.89**	**329**	*e*PcP	**P**	**19 55 17.2**	**+0.2**		
	comp=Z,4.3nm,1.3s								
FETA	**Feichten**	**86.27**	**328**	*i* PcP	**P**	**19 55 18.6**	**-0.4**		
	comp=Z,6.6nm,1.9s								
TXAR	**Lajitas Array**	**91.16**	**52**	P	**P**	**19 55 43.2**	**+0.8**		
	comp=Z,0.5nm,0.7s,baz=316,slow=7.6,SNR=4.1								
	comp=Z,0.5nm,0.7s								
TKL	**Tuckaleechee C**	**97.60**	**35**	LR	LR	20 44 42.6			
	comp=Z,12nm,19.1s,baz=357,slow=38								
QSPA	**South Pole Qui**	**125.53**	**180**	PKPdf	**PKPdf**	**20 01 36.2**	**-1.1**		
H03N2	**Juan Fernandez**	**147.21**	**98**	T	T	22 46 51.3			
	baz=290,slow=76								
H03N3	**Juan Fernandez**	**147.22**	**98**	T	T	22 46 52.6			
	baz=290,slow=76								
H03N1	**Juan Fernandez**	**147.23**	**98**	T	T	22 46 50.3			
	baz=290,slow=76								

*NEIC **31** 19:43:11.2±0.5,36.°15N±0.°01×97.°68W±0.°02,h5km±4km, Error ellipse: s-maj=2.1km s-min=1.3km az=50.0*

TUL 31 19:43:10.7±0.5,36.°154N±0.°010×97.°67W±0.°01,h6km±4km, ML2.2,mb_Lg2.4/17(NEIC),ML2.5/56(NEIC),Error ellipse: s-maj=2.0km s-min=0.3km az=46.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.40**	**154**	Pg	Pg	19 43 18.4	0.0
CROK	**Carrier**	**0.43**	**324**	Pg	Pg	19 43 19.4	+0.3
ADOK	**Arcadia Dam**	**0.56**	**154**	Pg	Pg	19 43 21.2	-0.2
OK033	**Mehan**	**0.60**	**100**	Pg	Pg	19 43 22.6	+0.3
OK033				Sg	Sg	19 43 30.8	+0.6
OK048	**Pawnee Station**	**0.64**	**66**	Pg	Pg	19 43 23.2	+0.1
OK048				Sg	Sg	19 43 31.8	+0.3
BLOK	**Blackwell**	**0.71**	**31**	Pg	Pg	19 43 24.1	-0.2
GC02	**Grant County #**	**0.71**	**348**	Pg	Pg	19 43 24.4	0.0
OK052	**Battle Ridge R**	**0.72**	**103**	Pg	Pg	19 43 24.7	+0.2
OK052				Sg	Sg	19 43 34.6	+0.6
OK052				IAML		19 43 37.0	
	259nm,0.4s						
OK051	**E0350 and S346**	**0.76**	**62**	Pg	Pg	19 43 25.3	0.0
OK051				IAML		19 43 46.7	
	197nm,0.2s						
OK051				IAML		19 43 48.3	
	245nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.77**	**166**	Pg	Pg	19 43 25.4	0.0
OKCSW				IAmb_Lg		19 43 36.1	
	comp=Z,55nm,1.1s						
OKCSW				IAML		19 43 45.5	
	comp=E,193nm,0.6s						
QUOK	**Quay**	**0.78**	**88**		Pg	19 43 25.6	-0.1
QUOK				IAML		19 43 39.0	
	comp=E,178nm,0.2s						
OK032	**Salt Plains WL**	**0.78**	**326**	Pg	Pg	19 43 24.7	-1.1
OK032				IAML		19 43 42.6	
	comp=E,195nm,0.1s						
OK032				IAML		19 43 46.0	
	comp=E,194nm,0.2s						
KAN14	**Manchester OK**	**0.83**	**344**	Pg	Pg	19 43 26.1	-0.6
KAN14				IAML		19 43 42.1	
	comp=N,203nm,0.1s						
KAN14				IAML		19 43 42.4	
	comp=E,175nm,0.3s						
KAN17	**Caldwell West**	**0.89**	**355**	Pg	Pg	19 43 27.7	-0.2
KAN17				IAML		19 43 43.8	
	comp=E,201nm,0.3s						
KAN17				IAML		19 43 46.5	
	comp=N,175nm,0.2s						
FNO	**Franklin**	**0.92**	**166**	Pg	Pg	19 43 28.0	-0.4
FNO				IAML		19 43 43.9	
	comp=E,132nm,0.1s						
OK038	**West end E0370**	**0.92**	**291**	Pg	Pg	19 43 28.0	-0.5
KAN09	**Caldwell North**	**0.98**	**2**	Pg	Pg	19 43 28.8	-0.8
KAN01	**Argonia South**	**1.00**	**356**	Pg	Pg	19 43 29.1	-0.8
KAN01				IAML		19 43 45.5	
	comp=E,126nm,0.4s						
KAN01				IAML		19 43 46.6	
	comp=N,117nm,0.1s						
DEOK	**Depew**	**1.00**	**108**	Pg	Pg	19 43 29.4	-0.5
DEOK				IAML		19 43 43.9	
	comp=N,170nm,0.2s						
DEOK				IAML		19 43 44.8	
	comp=E,115nm,0.1s						
OK035	**E0210 Rd and N**	**1.00**	**304**	Pg	Pg	19 43 28.9	-1.0
KAN08	**Anthony NE Sta**	**1.10**	**347**	Pg	Pg	19 43 31.2	-0.6
KAN08				IAML		19 43 48.5	
	comp=E,104nm,1.8s						
KAN08				IAML		19 43 50.3	
	comp=N,91nm,0.9s						
U32A	**Winter Ranch,**	**1.10**	**282**	Pg	Pg	19 43 30.9	-0.9
U32A				IAML		19 43 47.5	
	comp=N,152nm,0.2s						
U32A				IAML		19 43 47.9	
	comp=E,111nm,0.1s						
KAN06	**Argonia West S**	**1.10**	**352**	Pg	Pg	19 43 31.3	-0.5
KAN06				IAML		19 43 47.6	
	comp=E,130nm,0.2s						
KAN06				IAML		19 43 49.6	
	comp=N,128nm,0.2s						
KAN12	**Harper NE Stat**	**1.17**	**347**	Pg	Pg	19 43 32.8	-0.4
W35A	**Tecumseh**	**1.19**	**147**		Pg	19 43 32.3	-1.2
W35A				IAML		19 43 54.7	
	comp=E,117nm,0.2s						
W35A				IAML		19 43 54.8	
	comp=N,80nm,0.3s						
T35A	**Sooner Cattle**	**1.21**	**50**		Pg	19 43 33.3	-0.5
T35A				IAML		19 43 56.1	
	comp=E,129nm,0.3s						
ELIS	**Ellis County**	**1.42**	**267**		Pn	19 43 36.2	-0.9
TUL3	**Leonard**	**1.54**	**98**		Pn	19 43 38.4	-0.4
TUL3				IAmb_Lg		19 44 02.0	
	comp=Z,26nm,0.9s						
WMOK	**Wichita Mounta**	**1.68**	**213**	Pn	Pn	19 43 40.5	-0.1
WMOK				IAmb_Lg		19 44 07.8	
	comp=Z,12nm,0.8s						
RLO	**Rose Lookout**	**2.14**	**89**	Pn	Pn	19 43 47.3	+0.2
SMWD	**Samnorwood**	**2.34**	**244**	Pn	Pn	19 43 49.5	-0.3
SMWD				IAmb_Lg		19 44 29.7	
	comp=Z,13nm,0.8s						
R32A	**Long Quarter,**	**2.41**	**340**	Pn	Pn	19 43 50.0	-0.7
WTFS	**Witchita Falls**	**2.47**	**196**	IAmb_Lg		19 44 30.0	
	comp=Z,7.6nm,0.7s						
KSU1	**Kansas State U**	**3.06**	**16**	IAmb_Lg		19 44 47.7	
	comp=Z,11nm,1.2s						
DKNS	**Dickens**	**3.65**	**228**	IAmb_Lg		19 45 14.7	
	comp=Z,7.5nm,1.1s						
X40A	**Basin Creek Fa**	**4.29**	**111**	IAmb_Lg		19 45 29.1	
	comp=Z,9.7nm,0.9s						
BRDY	**Brady**	**4.98**	**193**	IAmb_Lg		19 45 50.9	
	comp=Z,3.6nm,0.8s						
SGCY	**Sterling City**	**5.11**	**215**	IAmb_Lg		19 46 07.3	
	comp=Z,8.3nm,1.0s						
EF01	**Eagle Ford 01**	**7.03**	**185**	IAmb_Lg		19 47 02.8	
	comp=Z,9.5nm,0.7s						

*NEIC **31** 19:49:05.0±1.0,40.°49N±0.°03×123.°40W±0.°03,h37km±1km, Error ellipse: s-maj=3.6km s-min=3.6km az=209.0*

NCEDC 31 19:49:06.3±1.9,40.°49N±0.°02×123.°39W±0.°03,h30km±7km, Mwr3.8/3,ML3.1/90(NEIC),Error ellipse: s-maj=3.5km s-min=1.4km az=53.0,Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPPM	**Pickett Peak**	**0.14**	**171**		Pb	19 49 12.4	+0.2
KHBM	**Hayfork Bally**	**0.22**	**37**		Pb	19 49 12.9	-0.1
KHBM					Sn	19 49 18.3	0.0
KCRM	**Chalk Rock**	**0.33**	**260**		Pb	19 49 14.2	-0.1
KMRM	**Mail Ridge**	**0.36**	**223**		Pb	19 49 14.8	+0.2
KMRM				Sg	Sb	19 49 20.8	+0.5
LBPM	**Beegum Peak**	**0.42**	**113**		Pb	19 49 15.4	-0.2
KHMM	**Horse Mountain**	**0.47**	**326**		Pb	19 49 16.2	-0.2
KHMM	**Horse Mountain**	**0.47**	**326**		Sn	19 49 23.9	-0.6
O02D	**Mt. Diablo Mer**	**0.55**	**124**		Pb	19 49 17.2	-0.5
KMPM	**Mount Pierce**	**0.56**	**263**		Pb	19 49 17.1	-0.7
KMPM				Sg	Sb	19 49 24.7	-1.0
JCC	**Jacoby Creek,**	**0.59**	**305**		Pb	19 49 17.1	-1.1
JCC					Sb	19 49 25.6	-0.7
JCC				IAML		19 49 30.3	
	comp=E,1μm,0.6s						
JCC				IAML		19 49 30.6	
	comp=N,1μm,0.7s						
KBNM	**Bluenose Ridge**	**0.61**	**166**		Pb	19 49 18.3	-0.3
KIPM	**Iron Peak**	**0.68**	**186**		Pb	19 49 19.1	-0.7
N02D	**Trinity Center**	**0.71**	**47**		Pb	19 49 19.6	-0.7
KCTM	**Capetown**	**0.72**	**270**		Pb	19 49 19.4	-1.0
GROM	**Round Mountain**	**0.79**	**136**		Pn	19 49 20.6	-0.8
KOMM	**Orleans Mounta**	**0.80**	**357**		Pn	19 49 20.6	-1.0
KCPM	**Cahto Peak**	**0.81**	**191**		Pn	19 49 20.7	-1.1
KRPM	**Rodgers**	**0.83**	**325**		Pn	19 49 20.8	-1.1
KRPM					Sb	19 49 31.2	-1.8
KRPM				IAML		19 49 32.8	
	comp=E,871nm,0.6s						
KFPM	**Farley Peak**	**0.84**	**182**		Pn	19 49 21.0	-1.1
GVV	**Valley View**	**0.90**	**142**		Pn	19 49 22.3	-0.6
M02C	**Callahan**	**0.99**	**24**		Pn	19 49 23.7	-0.5
LTCM	**Tuscan Springs**	**1.01**	**106**		Pn	19 49 23.8	-0.5
DCMP	**DeCamp, Califo**	**1.01**	**178**		Pn	19 49 23.0	-1.5
GHMM	**Hull Mountain**	**1.05**	**160**		Pn	19 49 24.2	-0.9
LSHM	**Sage Hen Hill**	**1.07**	**73**		Pn	19 49 24.8	-0.4
GTC	**Three Chop Rid**	**1.09**	**187**		Pn	19 49 24.1	-1.4
KRMB	**Red Mountain**	**1.11**	**339**		Pn	19 49 24.8	-1.1
KRMB				IAML		19 49 39.2	
	comp=N,422nm,0.3s						
KRMB				IAML		19 49 39.7	
	comp=E,376nm,0.6s						
GCK	**Clark Valley**	**1.19**	**142**		Pn	19 49 27.3	+0.4
LCSM	**College of the**	**1.20**	**39**		Pn	19 49 26.4	-0.7
LDBM	**Digger Butte**	**1.23**	**92**		Pn	19 49 26.5	-0.9
O03E	**Paynes Creek**	**1.23**	**98**		Pn	19 49 26.4	-1.1
M03C	**McCloud**	**1.24**	**50**		Pn	19 49 27.8	+0.1
LGBM	**Gray Butte**	**1.25**	**46**		Pn	19 49 28.3	+0.4
LAMM	**Antelope Mount**	**1.26**	**27**		Pn	19 49 28.1	0.0
GWRM	**Wonder Ranch**	**1.28**	**177**		Pn	19 49 26.8	-1.3
GTSM	**Trough Springs**	**1.32**	**152**		Pn	19 49 28.2	-0.5
YBH	**Yreka Blue Hor**	**1.35**	**22**		Pn	19 49 28.4	-0.7
YBH				IAML		19 49 51.3	
	comp=E,241nm,1.0s						
LMPM	**Military Pass**	**1.37**	**42**		Pb	19 49 30.5	-0.9
KSXB	**Camp Six Broad**	**1.39**	**345**		Pn	19 49 28.7	-1.1
KSXB				IAML		19 50 01.3	
	comp=N,274nm,1.0s						
KSXB				IAML		19 50 02.1	
	comp=E,350nm,0.6s						
GFC	**Funks Creek**	**1.43**	**143**		Pn	19 49 30.0	-0.1
LHEM	**Herd Peak**	**1.45**	**37**		Pn	19 49 31.4	+0.8
GHLM	**Highland Sprin**	**1.47**	**169**		Pn	19 49 29.5	-1.2
HATC	**Hat Creek Radi**	**1.50**	**77**		Pn	19 49 31.7	+0.4
GBMM	**Baldy Mountain**	**1.51**	**152**		Pn	19 49 31.9	+0.6
HOPS	**Hopland Field**	**1.51**	**171**	Pn	Pn	19 49 30.1	-1.2
B040	**Montague**	**1.53**	**28**		Pn	19 49 32.1	+0.5
GWKM	**Walker Ridge**	**1.59**	**154**		Pn	19 49 32.8	+0.4
OGOM	**Van Goodin Ran**	**1.60**	**121**		Pn	19 49 30.9	-1.6
LGMM	**Garner Mountai**	**1.62**	**46**		Pn	19 49 33.3	+0.4
L02F	**Cave Junction**	**1.64**	**355**		Pn	19 49 32.3	-0.8
L02F				IAML		19 50 31.9	
	comp=N,186nm,0.8s						
L02F				IAML		19 50 33.5	
	comp=E,271nm,0.2s						
GPMM	**Pine Mountain**	**1.67**	**168**		Pn	19 49 32.6	-0.9
OSUM	**Sutter Buttes**	**1.69**	**135**		Pn	19 49 32.5	-1.2
OBHM	**Bloomer Hill**	**1.70**	**119**		Pn	19 49 33.1	-0.8
ORV	**Oroville**	**1.72**	**122**		Pn	19 49 32.7	-1.5
M04C	**Macdoel**	**1.75**	**42**		Pn	19 49 35.1	+0.5
SUTB	**Sutter Butte**	**1.76**	**135**		Pn	19 49 33.3	-1.4
PAM	**Parrott**	**1.77**	**125**		Pn	19 49 33.7	-1.1
OWYM	**Wyandotte**	**1.79**	**125**		Pn	19 49 33.9	-1.1
NMTM	**Middletown**	**1.83**	**156**		Pn	19 49 35.4	-0.2
KBO	**Bosley Butte**	**1.84**	**340**		Pn	19 49 34.9	-0.9
GHCM	**House Creek**	**1.88**	**175**		Pn	19 49 35.2	-1.2
L04D	**Klamath Falls**	**1.92**	**25**		Pn	19 49 37.6	+0.7
L04D				IAML		19 50 17.6	
	comp=N,174nm,0.9s						
L04D				IAML		19 50 24.7	
	comp=E,196nm,0.9s						
HUMO	**Hull Mountain**	**2.15**	**9**		Pn	19 49 40.5	+0.5
HUMO				IAML		19 50 20.5	
	comp=N,81nm,0.6s						
HUMO				IAML		19 50 23.1	
	comp=E,81nm,1.0s						
K02D	**Willamette Mer**	**2.22**	**355**		Pn	19 49 41.3	+0.2
K02D				IAML		19 50 09.1	
	comp=E,106nm,0.6s						
MCCM	**Marconi Confer**	**2.37**	**170**	Pn	Pn	19 49 41.9	-1.1
BEKR	**Beckworth**	**2.40**	**104**		Pn	19 49 43.8	+0.1
AFDM	**Forest Hills D**	**2.42**	**129**		Pn	19 49 43.0	-0.7
AFDM				IAML		19 50 31.1	
	comp=E,68nm,0.6s						
K04D	**Chiloquin, OR**	**2.47**	**29**	Pn	Pn	19 49 43.9	-0.6
KEBM	**Edson Butte**	**2.49**	**344**	Pn	Pn	19 49 44.4	-0.3
KEBM				IAML		19 50 41.8	
	comp=E,109nm,1.6s						
KEBM				IAML		19 50 42.7	
	comp=N,118nm,1.1s						
LOY	**Loyalton**	**2.56**	**108**		Pn	19 49 45.8	+0.1
DONR	**Donner Summit**	**2.62**	**115**		Pn	19 49 47.2	+0.5
DBO	**Dodson Butte**	**2.63**	**2**	Pn	Pn	19 49 46.8	0.0
J01E	**Myrtle Point**	**2.71**	**352**	Pn	Pn	19 49 47.5	-0.1
J01E				IAML		19 50 41.2	
	comp=E,76nm,0.9s						
J01E				IAML		19 50 57.3	
	comp=N,66nm,1.4s						
MPK	**Martis Peak**	**2.84**	**114**		Pn	19 49 50.3	+0.5
MPK				IAML		19 50 52.6	
	comp=E,106nm,0.8s						
K05A	**Summer Lake**	**2.92**	**39**		Pn	19 49 51.4	+0.6
K05A				IAML		19 50 40.9	
	comp=N,54nm,1.6s						
EMB	**Emerald Bay**	**2.95**	**120**	Pn	Pn	19 49 51.0	-0.3
EMB				IAML		19 50 47.8	
	comp=E,91nm,0.7s						
PAHR	**Pah Rah Range**	**3.17**	**103**		Pn	19 49 53.9	-0.3
I03D	**Drain, OR**	**3.21**	**1**	Pn	Pn	19 49 54.3	-0.3
I03D				IAML		19 51 04.1	
	comp=E,45nm,1.8s						
J05D	**Fort Rock, OR**	**3.23**	**29**		Pn	19 49 56.3	+1.3
J05D				IAML		19 51 10.3	
	comp=E,42nm,1.1s						
J05D				IAML		19 51 11.3	
	comp=N,34nm,1.2s						
PNTR	**Pine Nut**	**3.24**	**114**		Pn	19 49 56.2	+1.0
CMB	**Columbia Colle**	**3.38**	**135**		Pn	19 49 57.1	+0.1
CMB				IAML		19 51 04.8	
	comp=E,28nm,0.8s						
YERR	**Yerington**	**3.53**	**114**		Pn	19 49 59.6	+0.4
YERR				IAML		19 51 04.9	
	comp=N,46nm,1.1s						
YERR				IAML		19 51 11.7	
	comp=E,52nm,0.9s						
WAKR	**Walker**	**3.64**	**122**		Pn	19 50 01.6	+0.9
WAKR				IAML		19 51 09.5	
	comp=E,25nm,0.9s						
WAKR				IAML		19 51 14.2	
	comp=N,21nm,1.1s						
PINE	**Pine Mountain**	**3.77**	**28**		Pn	19 50 03.7	+1.1
PINE				IAML		19 51 16.5	
	comp=E,19nm,1.6s						
PINE				IAML		19 51 21.9	
	comp=N,26nm,1.1s						
SAO	**San Andreas Ge**	**4.01**	**157**	Pn	Pn	19 50 04.4	-1.3
WVOR	**Wild Horse Val**	**4.07**	**60**	Pn	Pn	19 50 06.5	0.0
WVOR				IAML		19 51 33.4	
	comp=N,16nm,1.0s						
RYN	**Ryan**	**4.19**	**115**	Pn	Pn	19 50 09.0	+0.7
KVN	**Kaiserville**	**4.32**	**108**		Pn	19 50 10.0	0.0
LHV	**Little Huntoon**	**4.39**	**119**		Pn	19 50 11.5	+0.6
LHV				IAML		19 51 36.4	
	comp=N,26nm,1.1s						
LHV				IAML		19 51 43.7	
	comp=E,31nm,1.0s						
MDPB	**Devils Postpil**	**4.40**	**129**	Pn	Pn	19 50 11.0	-0.2
MDPB				IAML		19 51 33.5	
	comp=N,25nm,0.8s						
MDPB				IAML		19 51 38.2	
	comp=E,20nm,0.9s						
NVAR	**Mina Array Bea**	**4.44**	**116**		Pn	19 50 12.4	+0.7
NV11	**Mina Array Sit**	**4.54**	**115**		Pn	19 50 11.4	-1.7
NV11				IAML		19 51 35.5	
	comp=N,13nm,1.6s						
NV11				IAML		19 51 43.2	
	comp=E,12nm,2.0s						
I07A	**Izee**	**4.61**	**37**	Pn	Pn	19 50 13.8	-0.1
I07A				IAML		19 50 50.7	
	comp=E,11nm,4.2s						
I07A				IAML		19 50 51.0	
	comp=N,11nm,5.0s						
PMPB	**Monarch Peak**	**4.72**	**154**	Pn	Pn	19 50 14.6	-0.9
MZP	**Montezuma Peak**	**5.44**	**119**	Pn	Pn	19 50 24.7	-0.8

IDC 31 19:50:10.3±1.4,11.°91N×144.°82E,h0km,mb3.3/4, mbtmp3.3/4,MS3.1/1,Error ellipse: s-maj=69.3km s-min=18.0km az=96.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.67**	**2**	Pn	Pb	19 50 41.7	-0.3
	142nm,0.3s,baz=253,slow=3.1,SNR=50						
GUMO					Sn	19 51 02.4	-0.5
	110nm,0.3s,baz=1.1,slow=22,SNR=15						
GUMO				LR	LR	19 51 10.3	
	comp=Z,67nm,21.7s,baz=214,slow=36						
WRA	**Warramunga Arr**	**33.29**	**198**	P	P	19 56 49.0	-0.8
	0.5nm,0.7s,baz=21,slow=9.4,SNR=6.7						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**36.94**	**197**	P	P	19 57 21.9	+0.6
	0.2nm,0.5s,baz=18,slow=10,SNR=6.8						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**62.67**	**317**	P	P	20 00 36.8	-0.2
	0.2nm,0.5s,baz=106,slow=5.1,SNR=5.5						
	0.2nm,0.5s						
RAR	**Rarotonga**	**63.59**	**121**	LR	LR	20 23 53.4	
	comp=Z,14nm,20.8s,baz=212,slow=32						
YKA	**Yellowknife Ar**	**84.36**	**27**	P	P	20 02 44.1	-0.1
	0.2nm,0.8s,baz=284,slow=5.7,SNR=3.2						
	0.2nm,0.8s						

TUN 31 19:57:12.0,36.°47N×9.°02E,h10km,MD2.0,Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRIT	**Krib**	**0.14**	**162**	*i* P	Pg	19 57 16.2	+1.1
BLIT	**Baltah**	**0.25**	**347**	*i* P	Pg	19 57 18.5	+1.4
GHAT	**Ghardimaou**	**0.58**	**273**	*i* P	Pb	19 57 24.8	+0.6

*IDC **31** 19:59:40.6±1.8,21.°14S×68.°08W,h118km±18km,mb3.4/2, mbtmp3.8/5,Error ellipse: s-maj=43.8km s-min=19.2km az=135.0*

*SJA **31** 19:59:40.5±2.1,21.°15S×68.°21W,h100km,ML3.6,MW3.6*

*GUC **31** 19:59:41.9±0.6,21.°19S×68.°41W,h136km±4km,ML3.6*

ISC 31 19:59:41.2±0.8,21.°16S±0.°03×68.°39W±0.°08,h136km±8km, n39,σ0°91/69,6C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.01**	**231**	*e*P	**Pn**	**20 00 05.2**	**+0.3**
PB09				*e*S	**Sn**	**20 00 23.4**	**+0.3**
PB09				IAML		20 00 24.3	
	comp=Z,500nm,0.5s						
PB09	**IPOC Station P**	**1.01**	**231**	⇑*i*P	**Pn**	**20 00 05.3**	**+0.3**
PB09				*e*S	**Sn**	**20 00 23.4**	**+0.3**
PB01	**IPOC Station P**	**1.03**	**276**	*e*P	**Pn**	**20 00 04.7**	**-0.4**
PB01				*e*S	**Sn**	**20 00 22.9**	**-0.3**
PB01				IAML		20 00 25.1	
	comp=Z,473nm,0.1s						
PB01	**IPOC Station P**	**1.03**	**276**	⇑*i*P	**Pn**	**20 00 04.6**	**-0.4**
PB01				*e*S	**Sn**	**20 00 22.6**	**-0.6**
PB01				IAML		20 00 23.9	
	comp=E,645nm,0.2s						
PB08	**IPOC Station P**	**1.24**	**325**	*e*P	**Pn**	**20 00 08.1**	**+0.6**
PB08				*e*S	**Sn**	**20 00 28.8**	**+1.3**
PB08				IAML		20 00 29.1	
	comp=Z,427nm,0.3s						
PB08	**IPOC Station P**	**1.24**	**325**	⇓*i*P	**Pn**	**20 00 08.1**	**+0.6**
PB08				*e*S	**Sn**	**20 00 27.9**	**+0.5**
PB08				IAML		20 00 28.8	
	comp=E,722nm,0.3s						
PB02	**IPOC Station P**	**1.42**	**263**	*e*P	**Pn**	**20 00 08.8**	**-0.2**
PB02				*e*S	**Sn**	**20 00 30.5**	**+0.5**
PB02				IAML		20 00 32.2	
	comp=Z,2μm,0.1s						
PB02	**IPOC Station P**	**1.42**	**263**	⇑*i*P	**Pn**	**20 00 08.8**	**-0.2**
PB02				*e*S	**Sn**	**20 00 29.3**	**-0.7**
PB02				IAML		20 00 30.8	
	comp=E,

PB11				IAML		20 00 41.3	
	comp=E,805nm,0.2s						
TA02	**Huaiquique**	**1.86**	**298**	*e*P	**Pn**	**20 00 13.4**	**-0.4**
TA02				*e*S	**Sn**	**20 00 39.1**	**+0.3**
TA02				IAML		20 00 39.9	
	comp=Z,907nm,0.1s						
TA02	**Huaiquique**	**1.86**	**298**	*e*P	**Pn**	**20 00 13.2**	**-0.6**
TA02				*e*S	**Sn**	**20 00 38.2**	**-0.6**
PB06	**IPOC Station P**	**1.89**	**215**	*e*P	**Pn**	**20 00 14.3**	**-0.1**
PB06				*e*S	**Sn**	**20 00 39.9**	**+0.2**
PB06				IAML		20 00 41.3	
	comp=Z,185nm,0.3s						
PB06	**IPOC Station P**	**1.89**	**215**	⇑*i*P	**Pn**	**20 00 14.3**	**-0.1**
PB06				*e*S	**Sn**	**20 00 39.5**	**-0.2**
PB06				IAML		20 00 40.0	
	comp=E,284nm,0.2s						
PB04	**IPOC Station P**	**2.01**	**234**	*e*P	**Pn**	**20 00 15.3**	**-0.5**
PB04				*e*S	**Sn**	**20 00 44.2**	**+2.0**
PB04				IAML		20 00 48.7	
	comp=Z,213nm,0.2s						
PB04	**IPOC Station P**	**2.01**	**234**	*e*P	**Pn**	**20 00 15.3**	**-0.5**
PB04				*e*S	**Sn**	**20 00 40.6**	**-1.7**
PB04				IAML		20 00 51.0	
	comp=E,274nm,0.2s						
PB15	**IPOC Station P**	**2.27**	**206**	*e*P	**Pn**	**20 00 18.7**	**-0.3**
PB15				*e*S	**Sn**	**20 00 48.6**	**+0.6**
PB15				IAML		20 00 50.7	
	comp=Z,836nm,0.2s						
PB15	**IPOC Station P**	**2.27**	**206**	*e*P	**Pn**	**20 00 19.0**	**0.0**
PB15				*e*S	**Sn**	**20 00 47.9**	**-0.1**
PB05	**IPOC Station P**	**2.38**	**225**	*e*P	**Pn**	**20 00 19.9**	**-0.4**
PB05				*e*S	**Sn**	**20 00 49.4**	**-1.0**
PB16	**IPOC Station P**	**3.00**	**339**	*e*P	**Pn**	**20 00 29.5**	**+0.8**
SIV	**San Ignacio**	**8.64**	**55**	P	**Pn**	**20 01 39.6**	**-3.7**
	comp=Z,11nm,0.7s,baz=241,slow=12,SNR=51						
PLCA	**Paso Flores**	**19.59**	**185**	P	**P**	**20 04 00.1**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=1.8,slow=13,SNR=3.2						
BDFB	**Brasilia**	**20.09**	**78**	P	**P**	**20 04 01.5**	**-3.0**
	comp=Z,0.9nm,0.4s,baz=261,slow=18,SNR=4.2						
TORD	**Torodi Ar. Bea**	**76.78**	**70**	P	**P**	**20 11 18.3**	**0.0**
	comp=Z,0.9nm,0.8s,baz=257,slow=4.6,SNR=4.1						
	comp=Z,0.9nm,0.8s						
YKA	**Yellowknife Ar**	**91.03**	**340**	P	**P**	**20 12 30.8**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=138,slow=4.1,SNR=7.8						
	comp=Z,0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**141.44**	**25**	PKP	**PKiKP**	**20 18 57.9**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=323,slow=9.5,SNR=1.7						
MKAR	**Makanchi Array**	**145.08**	**36**	PKP	**PKPdf**	**20 19 04.0**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=330,slow=4.2,SNR=4.8						

ROM 31 20:10:51.8±0.1, 43°459N±0'.004×12°776E±0'.007, h14km, ML0.8/6, Error ellipse: s-maj=0.7km s-min=0.1km az=242.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SSFR	**Montelago di S**	**0.02**	**169**	P	Pg	20 10 54.7	+0.3
SSFR				S	Sg	20 10 56.5	+0.4
FRON	**Frontone**	**0.07**	**328**	P	Pg	20 10 55.0	+0.3
FRON				S	Sg	20 10 57.2	+0.5
FRON				AML	AML		
	comp=E,52μm,0.2s						
FRON				AML	AML		
	comp=N,56μm,0.6s						
ARVD	**Arcevia**	**0.13**	**72**	P	Pg	20 10 55.6	+0.2
ARVD				S	Sg	20 10 58.1	+0.4
ARVD				AML	AML		
	comp=E,41μm,0.1s						
ARVD				AML	AML		
	comp=N,42μm,0.5s						
FOSV	**Fossato di Vic**	**0.17**	**184**	P	Pg	20 10 56.1	+0.3
FOSV				S	Sb	20 10 59.2	-0.6
PIEI	**Pieia**	**0.19**	**294**	P	Pg	20 10 56.2	-0.1
PIEI				S	Sg	20 10 59.8	+0.5
NARO	**Abbazia di Nar**	**0.21**	**317**	P	Pg	20 10 56.9	+0.4
NARO				S	Sb	20 11 00.8	-0.3
SNTG	**Esanatoglia**	**0.24**	**150**	P	Pg	20 10 57.3	+0.4
SNTG				S	Sb	20 11 01.3	-0.6
FDMO	**Fiordimonte**	**0.48**	**152**	P	Pg	20 11 01.4	+0.1
FDMO				S	Sb	20 11 08.7	-0.2

*IDC **31** 20:12:01.9±1.1, 40°.57N×28°.08E, h0km, mb3.5/9, mbtmp3.4/14, ML3.5/6, MS3.1/2, Error ellipse: s-maj=18.9km s-min=9.4km az=41.0*
*AFAD **31** 20:12:02.5±0.0, 40°.55N×27°.85E, h14km±1km, MW4.0*
*NEIC **31** 20:12:02.9±1.0, 40°.51N±0°.04×27°.86E±0°.05, h12km±8km, mb4.3/1, ML4.1/2(BUC), Error ellipse: s-maj=5.5km s-min=5.1km az=107.0*
*ISK **31** 20:12:02.3, 40°.57N×27°.87E, h13km, ML4.1/14*
*THE **31** 20:12:02.8, 40°.57N×27°.81E, h1km±1km, ML3.8/10, Error ellipse: s-maj=2.7km s-min=0.8km az=54.0*

ISC 31 20:12:03.1±0.9, 40°.55N±0°.01×27°.87E±0°.01, h13km±6km, n187, σ0°.94/244, mb3.4/8, 27C-24D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDC	**Edincik**	**0.21**	**181**	Pg	**Pg**	**20 12 07.9**	**+0.3**
EDC				Sg	**Sg**	**20 12 11.6**	**+0.9**
BAND	**Balkesir-Ban**	**0.27**	**138**	P	**Pg**	**20 12 08.6**	**0.0**
BAND				S	**Sg**	**20 12 12.7**	**+0.4**
BAND				*i* AML	AML	20 12 14.0	
	comp=N,3μm,0.2s						
KRBG	**Karabiga-Canak**	**0.47**	**250**	Pg	**Pg**	**20 12 12.0**	**-0.3**
KRBG				Sg	**Sb**	**20 12 18.9**	**-1.1**
KCTX	**Karacabey (Bur**	**0.47**	**128**	Pg	**Pg**	**20 12 12.1**	**-0.3**
KCTX				Sg	**Sg**	**20 12 19.2**	**+0.5**
TKR	**Tekirdag**	**0.50**	**330**	Pg	Pg	20 12 04.9	-8.1
GONE	**Gonen-Balikesi**	**0.53**	**195**	Pg	**Pg**	**20 12 13.3**	**-0.1**
GONE				Sg	**Sb**	**20 12 21.3**	**-0.4**
SART	**Tekirdag**	**0.54**	**285**	P	**Pg**	**20 12 13.5**	**-0.2**
SART				S	**Sg**	**20 12 20.8**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.54**	**284**	Pg	**Pg**	**20 12 13.7**	**-0.1**
RKY				Sg	**Sb**	**20 12 21.3**	**-1.0**
CRLT	**Corlu**	**0.58**	**350**	Pg	**Pg**	**20 12 14.1**	**-0.4**
SLVT	**Silivri**	**0.72**	**21**	Pg	**Pb**	**20 12 17.6**	**0.0**
ELBA	**Catalca**	**0.73**	**36**	Pg	**Pg**	**20 12 16.9**	**-0.4**
ELBA				S	**Sg**	**20 12 26.9**	**+0.1**
ARMT	**Armutlu**	**0.76**	**89**	Pg	**Pg**	**20 12 17.3**	**-0.5**
AVCI	**Avcilar-stanb**	**0.78**	**55**	Pg	**Pg**	**20 12 17.9**	**-0.4**
MDNY	**Mudanya-Bursa**	**0.80**	**103**	Pg	**Pg**	**20 12 18.3**	**-0.2**
BKES	**Balkesir-Mer**	**0.82**	**177**	P	**Pg**	**20 12 18.6**	**-0.4**
BKES				S	**Sb**	**20 12 30.7**	**+0.4**
BKES				*i* AML	AML	20 12 31.0	
	comp=N,6μm,0.4s						
BKES				*i* AML	AML	20 12 33.0	
	comp=E,1μm,0.4s						
CANM	**Can-anakkale**	**0.83**	**229**	Pg	**Pg**	**20 12 17.9**	**-1.2**
BALY	**Balya**	**0.83**	**193**	P	**Pg**	**20 12 18.5**	**-0.8**
BALY				S	**Sb**	**20 12 30.7**	**0.0**
CTKS	**Kestanelik-??a**	**0.83**	**35**	Pg	**Pg**	**20 12 18.8**	**-0.5**
LPK	**Lapseki**	**0.86**	**258**	Pg	**Pg**	**20 12 19.5**	**-0.3**
BALB	**Balikesir**	**0.91**	**179**	Pg	**Pg**	**20 12 20.3**	**-0.4**
BALB	**Balikesir**	**0.91**	**179**		**Pg**	**20 12 20.0**	**-0.7**
BALB				Sg	**Sg**	**20 12 31.3**	**-1.4**
BGKT	**Bogazkoy**	**0.93**	**47**	Pg	**Pg**	**20 12 20.5**	**-0.5**
ORLT	**Orhaneli**	**0.94**	**123**	Pg	**Pg**	**20 12 20.9**	**-0.3**
CTYL	**Yalikoy Yolu**	**0.97**	**19**	Pg	**Pg**	**20 12 21.4**	**-0.5**
KIYI	**Yalıkoy-Catalc**	**0.98**	**19**	Pg	**Pb**	**20 12 22.1**	**+0.1**
GEMT	**Gemlik**	**1.01**	**96**	Pg	**Pg**	**20 12 21.9**	**-0.7**
VIZE	**Kirklareli, Vi**	**1.02**	**359**	P	**Pg**	**20 12 22.5**	**-0.3**
VIZE				*i* AML	AML	20 12 36.0	
	comp=E,2μm,0.5s						
VIZE				S	**Sb**	**20 12 36.1**	**0.0**
KAVV	**Kandilli-Istan**	**1.04**	**60**	Pg	**Pb**	**20 12 22.2**	**-0.7**
ISK	**Istanbul-Kandi**	**1.04**	**60**	Pg	**Pb**	**20 12 22.2**	**-0.7**
ERIK	**Erikli-Kesan**	**1.04**	**277**	Pg	**Pg**	**20 12 22.3**	**-0.8**
ULDT	**Uludag**	**1.05**	**113**	P	**Pg**	**20 12 22.5**	**-0.9**
ULDT				S	**Sb**	**20 12 37.7**	**+0.6**
ULDT				*i* AML	AML	20 12 40.0	
	comp=N,8μm,0.6s						
IGD	**Bursa**	**1.06**	**105**	P	**Pb**	**20 12 22.5**	**-0.8**
IGD				S	**Sn**	**20 12 38.6**	**+0.3**
DURS	**Dursunbey**	**1.06**	**154**	P	**Pb**	**20 12 23.1**	**-0.3**
DURS				S	**Sn**	**20 12 38.1**	**-0.3**
DURS				*i* AML	AML	20 12 41.0	
	comp=N,6μm,0.3s						
DURS				*i* AML	AML	20 12 41.0	
	comp=E,7μm,0.4s						
GELI	**Tayfur-Gelibol**	**1.07**	**262**	Pg	**Pb**	**20 12 22.9**	**-0.7**
UKOP	**Uzunkopru-Edir**	**1.10**	**302**	Pn	**Pb**	**20 12 23.7**	**-0.3**
PHSR	**Pinarhisar**	**1.11**	**346**	Pn	**Pb**	**20 12 23.9**	**-0.2**
DST	**Dursunbey**	**1.11**	**149**	Pn	**Pb**	**20 12 23.6**	**-0.6**
KLYT	**Kilyos**	**1.13**	**51**	Pn	**Pb**	**20 12 23.9**	**-0.6**
COMU	**Canakkale**	**1.16**	**247**	Pn	**Pb**	**20 12 24.6**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.18**	**186**	P	**Pb**	**20 12 25.1**	**-0.3**
STEP				S	**Sn**	**20 12 42.0**	**+0.6**
STEP				*i* AML	AML	20 12 44.0	
	comp=E,8μm,0.7s						
STEP				*i* AML	AML	20 12 45.0	
	comp=N,7μm,0.6s						
BUHA	**Balikesir, Bur**	**1.22**	**210**	P	**Pn**	**20 12 25.4**	**-0.4**
BUHA				S	**Sn**	**20 12 43.0**	**+0.9**
BUHA				*i* AML	AML	20 12 44.0	
	comp=E,7μm,0.8s						
BUHA				*i* AML	AML	20 12 46.0	
	comp=N,6μm,0.3s						
BAYC	**CANAKKALE_Bayr**	**1.30**	**232**	P	**Pn**	**20 12 26.4**	**-0.6**
BAYC				S	**Sg**	**20 12 48.4**	**-0.2**
BAYC				*i* AML	AML	20 12 46.0	
	comp=E,4μm,0.4s						
BAYC				*i* AML	AML	20 12 47.0	
	comp=N,4μm,0.4s						
CAVK	**Edirne/Enez-Ca**	**1.30**	**277**	P	**Pn**	**20 12 26.8**	**-0.2**
CAVK				S	**Sb**	**20 12 44.0**	**-0.1**
CAVK				*i* AML	AML	20 12 46.0	
	comp=N,2μm,0.4s						
CAVK				*i* AML	AML	20 12 47.0	
	comp=E,2μm,0.4s						
ENZZ	**Sultanice-Enez**	**1.32**	**273**	Pn	**Pn**	**20 12 26.9**	**-0.3**
ARMN	**Kirklareli, Me**	**1.35**	**346**	P	**Pn**	**20 12 26.8**	**-0.9**
ARMN				S	**Sb**	**20 12 43.5**	**-2.0**
ARMN				*i* AML	AML	20 12 46.0	
	comp=N,3μm,0.4s						
KIRK	**Kirklareli**	**1.36**	**335**	P	**Pn**	**20 12 27.0**	**-0.8**
KIRK				S	**Sb**	**20 12 43.1**	**-2.6**
KIRK				*i* AML	AML	20 12 47.0	
	comp=E,725nm,0.7s						
KIRK				*i* AML	AML	20 12 50.0	
	comp=N,488nm,0.6s						
EZN	**Ezine**	**1.39**	**239**	Pn	**Pn**	**20 12 27.9**	**-0.3**
ECEA	**Canakkale, Ece**	**1.39**	**249**	P	**Pn**	**20 12 28.2**	**-0.1**
ECEA				S	**Sg**	**20 12 47.9**	**0.0**
ECEA				*i* AML	AML	20 12 50.0	
	comp=E,1μm,0.6s						
ECEA				*i* AML	AML	20 12 51.0	
	comp=N,8μm,0.6s						
ALN	**Alexandroupoli**	**1.43**	**284**		**Pn**	**20 12 27.8**	**-0.9**
ALN				Sn	**Sb**	**20 12 47.4**	**-0.3**
ALN	**Alexandroupoli**	**1.43**	**284**	P	**Pn**	**20 12 28.4**	**-0.3**
ALN				S	**Sb**	**20 12 47.8**	**+0.1**
	1μm,0.5s						
SEMS	**Kocaeli-K¶rfe**	**1.46**	**77**	P	**Pn**	**20 12 28.3**	**-0.9**
SEMS				S	**Sb**	**20 12 48.6**	**+0.1**
SEMS				*i* AML	AML	20 12 50.0	
	comp=E,5μm,0.4s						
SEMS				*i* AML	AML	20 12 51.0	
	comp=N,3μm,0.5s						
AYVA	**Ayvalik**	**1.54**	**216**	P	**Pn**	**20 12 30.2**	**-0.1**
AYVA				S	**Sg**	**20 12 52.9**	**+0.2**
AYVA				*i* AML	AML	20 12 54.0	
	comp=E,3μm,0.5s						
AYVA				*i* AML	AML	20 12 55.0	
	comp=N,9μm,0.4s						
GOAD	**anakkale-G¶**	**1.55**	**256**	P	**Pn**	**20 12 30.4**	**-0.1**
GOAD				S	**Sg**	**20 12 51.7**	**-1.2**
GOAD				*i* AML	AML	20 12 54.0	
	comp=N,2μm,0.8s						
GOAD				*i* AML	AML	20 12 57.0	
	comp=E,2μm,0.6s						
BOZC	**Bozcaada**	**1.56**	**243**	P	Pn	20 12 17.1	-14
HISA	**Bilecik-Osmane**	**1.57**	**93**	P	**Pn**	**20 12 30.3**	**-0.4**
HISA				S	**Sb**	**20 12 52.4**	**+0.6**
BILE	**Bilecik/Merkez**	**1.58**	**104**	P	**Pn**	**20 12 30.8**	**-0.2**
BILE				S	**Sb**	**20 12 53.1**	**+0.9**
DOMA	**Ktahya-Doman**	**1.60**	**118**	P	**Pn**	**20 12 30.9**	**-0.3**
DOMA				S	**Sn**	**20 12 49.5**	**-2.2**
EMET	**Ktahya-Emet**	**1.62**	**136**	P	**Pn**	**20 12 31.8**	**+0.2**
EMET				S	**Sn**	**20 12 52.0**	**-0.3**
DEMI	**Demirci**	**1.65**	**156**	P	**Pn**	**20 12 31.9**	**+0.1**
DEMI				S	**Sg**	**20 12 55.9**	**-0.2**
DEMI				*i* AML	AML	20 12 58.0	
	comp=E,2μm,0.5s						
DEMI				*i* AML	AML	20 13 02.0	
	comp=N,2μm,0.4s						
AKHS	**Akhisar**	**1.67**	**181**	P	**Pn**	**20 12 31.7**	**-0.4**
AKHS				S	**Sg**	**20 12 57.8**	**+0.8**
KOCA	**Canakkale, Ayv**	**1.69**	**232**	P	**Pn**	**20 12 32.2**	**-0.2**
KOCA				S	**Sb**	**20 12 56.0**	**+0.7**
LESV	**Lesvos island,**	**1.76**	**215**	P	**Pn**	**20 12 33.8**	**+0.5**
LESV				S	**Sb**	**20 12 57.2**	**-0.1**
	16μm,0.6s						
SMTH	**Samothraki Isl**	**1.79**	**268**	P	**Pn**	**20 12 32.9**	**-0.8**
PRK	**Paraskevi**	**1.79**	**224**	P	**Pn**	**20 12 33.8**	**0.0**
PRK				S	**Sb**	**20 12 57.2**	**-1.0**
	9μm,0.8s						
RDO	**Rodhopi**	**1.86**	**289**	Pn	**Pn**	**20 12 34.7**	**0.0**
RDO	**Rodhopi**	**1.86**	**289**	P	**Pn**	**20 12 34.8**	**0.0**
RDO				S	**Sn**	**20 12 58.4**	**+0.2**
	1μm,0.4s						
ANDZ	**Kutahya, Merke**	**1.88**	**123**	P	**Pn**	**20 12 35.0**	**0.0**
GDZ	**Gediz**	**1.92**	**139**	P	**Pn**	**20 12 31.3**	**-4.4**
USAK	**Uak-Merkez**	**2.04**	**154**	P	**Pn**	**20 12 37.0**	**-0.2**
USAK				S	**Sg**	**20 13 07.7**	**-1.0**
USAK				*i* AML	AML	20 13 09.0	
	comp=E,511nm,0.3s						
USAK				*i* AML	AML	20 13 11.0	
	comp=N,498nm,0.3s						
KULA	**Kula-Manisa**	**2.13**	**163**	P	**Pn**	**20 12 38.4**	**-0.1**
KULA				S	**Sb**	**20 13 07.0**	**-0.9**
MANT	**Manisa**	**2.13**	**165**	P	**Pn**	**20 12 38.3**	**-0.3**
LIA	**Limnos Island**	**2.16**	**253**	P	**Pn**	**20 12 38.4**	**-0.4**
LIA				S	**Sn**	**20 13 05.8**	**+0.4**
	5μm,0.5s						
KARB	**zmir-Karabur**	**2.20**	**211**	P	**Pn**	**20 12 39.0**	**-0.4**
THAS	**Thassos island**	**2.40**	**272**	P	**Pn**	**20 12 40.8**	**-1.3**
THAS				S	**Sn**	**20 13 12.0**	**+0.6**
MDUB	**Mudurnu**	**2.54**	**91**	Pn	**Pn**	**20 12 44.5**	**+0.4**
KAVA	**Kavala**	**2.59**	**281**	P	**Pn**	**20 12 44.5**	**-0.2**
KAVA				S	**Sn**	**20 13 16.5**	**+0.5**
	472nm,0.8s						
ELND	**Elena**	**2.80**	**328**	⇑P	**Pn**	**20 12 48.0**	**+0.3**
ELND				⇑S	**Sn**	**20 13 22.2**	**+0.9**
ELND	**Elena**	**2.80**	**328**		**Pn**	**20 12 48.0**	**+0.3**
ELND					**Sn**	**20 13 22.2**	**+0.9**
SMG	**Samos**	**2.95**	**196**	P	**Pn**	**20 12 49.5**	**-0.2**
SMG				S	**Sn**	**20 13 27.2**	**+2.1**
	2μm,0.9s						
KOKK	**Kokkinochori,**	**2.95**	**276**	P	**Pn**	**20 12 49.0**	**-0.7**
KOKK				S	**Sn**	**20 13 25.8**	**+0.7**
	382nm,0.6s						
LOZB	**Loznitsa**	**2.97**	**342**	⇓P	**Pn**	**20 12 50.2**	**+0.2**
LOZB				⇑S	**Sn**	**20 13 26.2**	**+0.7**
LOZB	**Loznitsa**	**2.97**	**342**		**Pn**	**20 12 50.2**	**+0.2**
LOZB					**Sn**	**20 13 26.2**	**+0.7**
OUR	**Ouranopolis**	**2.97**	**267**	P	**Pn**	**20 12 49.0**	**-1.0**
OUR				S	**Sn**	**20 13 25.8**	**+0.3**
	375nm,0.5s						
SKY	**Skiros Island**	**3.06**	**238**	P	**Pn**	**20 12 50.9**	**-0.3**
NVR	**Nevrokopi**	**3.14**	**286**	P	**Pn**	**20 12 51.9**	**-0.4**
NVR				S	**Sn**	**20 13 30.0**	**+0.3**
	188nm,0.6s						
RAZG	**Razgrad**	**3.18**	**342**	⇑P	**Pn**	**20 12 53.0**	**+0.2**
RAZG				⇓S	**Sn**	**20 13 30.5**	**0.0**
RAZG	**Razgrad**	**3.18**	**342**		**Pn**	**20 12 53.0**	**+0.2**
RAZG					**Sn**	**20 13 30.5**	**0.0**
PAIG	**Paliouri**	**3.27**	**260**	P	**Pn**	**20 12 54.4**	**+0.4**
PAIG				S	**Sn**	**20 14 04.0**	**+1.2**
MANR	**Mangalia**	**3.30**	**9**	⇑P	**Pn**	**20 12 55.9**	**+1.3**
MANR				⇑S	**Sn**	**20 13 34.1**	**+0.4**
ISP	**Isparta**	**3.42**	**142**		**Pn**	**20 12 54.4**	**-1.9**
SOH	**Sokhos**	**3.44**	**276**	P	**Pn**	**20 12 56.1**	**-0.4**
ICOR	**Ion Corvin**	**3.56**	**359**	⇓P	**Pn**	**20 12 58.5**	**+0.4**
ICOR				⇑S	**Sn**	**20 13 41.3**	**+1.3**
MFTR	**Murfatlar**	**3.64**	**6**	⇑P	**Pn**	**20 12 59.3**	**+0.1**
MFTR	**Murfatlar**	**3.64**	**6**		**Pn**	**20 12 59.3**	**+0.1**
BR231	**Keskin MP Arra**	**3.83**	**99**		**Pn**	**20 13 00.6**	**-1.2**
ANTO	**Ankara**	**3.83**	**99**		**Pn**	**20 12 59.8**	**-2.1**
TIRR	**Tirgusor**	**3.92**	**6**		**Pn**	**20 13 01.8**	**-1.2**
PEHC	**Pehcevo**	**3.94**	**290**	*i* Pn	**Pn**	**20 13 04.2**	**+0.7**
PEHC				*i* Sn	**Sg**	**20 14 07.8**	**-2.0**
TLBR	**Topalu**	**3.99**	**2**	⇓P	**Pn**	**20 13 04.2**	**+0.2**
TLBR	**Topalu**	**3.99**	**2**		**Pn**	**20 13 04.2**	**+0.2**
COPA	**Copaceanca**	**4.08**	**332**	⇓P	**Pn**	**20 13 05.5**	**+0.3**
VAY	**Valandovo**	**4.09**	**283**	*i* Pn	**Pn**	**20 13 07.2**	**+2.0**
VAY				*i* Sn	**Sg**	**20 14 12.8**	**-1.5**
ELL	**Elmali**	**4.12**	**157**	Pn	**Pn**	**20 13 06.9**	**+1.0**
HARR	**Harsova**	**4.13**	**1**	⇓P	**Pn**	**20 13 06.0**	**+0.1**
HARR	**Harsova**	**4.13**	**1**		**Pn**	**20 13 06.0**	**+0.1**
SULR		**4.29**	**344**	⇑P	**Pn**	**20 13 09.3**	**+1.2**
TPGR	**Topolog**	**4.32**	**5**	⇑P	**Pn**	**20 13 08.5**	**0.0**
TPGR	**Topolog**	**4.32**	**5**		**Pn**	**20 13 08.5**	**0.0**
ARG	**Arkhangelos**	**4.34**	**177**		**Pn**	**20 13 08.1**	**-0.7**
STIP	**Stip**	**4.44**	**287**	*i* Pn	**Pn**	**20 13 08.3**	**-1.9**
STIP				*i* Sn	**Sb**	**20 14 15.7**	**+1.3**
BR131	**Keskin Array S**	**4.50**	**99**		**Pn**	**20 13 10.9**	**-0.2**
BR131				Pg	**Pg**	**20 13 30.6**	**+1.4**
BRTR	**Keskin Array B**	**4.50**	**99**		**Pn**	**20 13 10.2**	**-0.9**
BRTR	**Keskin Array B**	**4.50**	**99**	Pn	**Pn**	**20 13 10.6**	**-0.5**
	1.0nm,0.3s,baz=272,slow=12,SNR=31						
BRTR				Sn	**Sn**	**20 14 01.0**	**-2.4**
	5.3nm,0.3s,baz=159,slow=24,SNR=13						
	1.7nm,0.4s						
ISR	**Istrita**	**4.67**	**348**	⇓P	**Pn**	**20 13 14.9**	**+1.6**
TLCR		**4.68**	**8**	⇑P	**Pn**	**20 13 13.7**	**+0.2**
TLCR		**4.68**	**8**		**Pn**	**20 13 13.7**	**+0.2**
BLKB	**Belogradchik**	**4.93**	**310**	⇑P	**Pn**	**20 13 17.2**	**+0.2**
BLKB	**Belogradchik**	**4.93**	**310**		**Pn**	**20 13 17.2**	**+0.2**
GIUM	**Giurgiulesti**	**4.93**	**3**	⇑P	**Pn**	**20 13 17.5**	**+0.6**
GIUM	**Giurgiulesti**	**4.93**	**3**		**Pn**	**20 13 17.5**	**+0.6**
FNA	**Florina**	**4.94**	**275**		**Pn**	**20 13 16.5**	**-0.6**
NEGRR	**Negrea**	**4.98**	**0**	⇑P	**Pn**	**20 13 17.8**	**+0.3**
MTUR	**Matau**	**5.10**	**337**	⇓P	**Pn**	**20 13 20.2**	**+0.9**
MTUR	**Matau**	**5.10**	**337**		**Pn**	**20 13 20.2**	**+0.9**
SCTR	**Scanteiesti**	**5.12**	**1**	⇑P	**Pn**	**20 13 20.2**	**+0.7**
SCTR	**Scanteiesti**	**5.12**	**1**		**Pn**	**20 13 20.2**	**+0.7**
MLR	**Muntele Rosu**	**5.13**	**345**	⇑P	**Pn**	**20 13 21.7**	**+1.9**
MLR	**Muntele Rosu**	**5.13**	**345**	Pn	**Pn**	**20 13 20.5**	**+0.7**
MLR	**Muntele Rosu**	**5.13**	**345**	Pn	**Pn**	**20 13 21.3**	**+1.5**
	8.0nm,0.3s,baz=199,slow=1.5,SNR=82						
MLR				Sn	**Sn**	**20 14 20.2**	**+1.3**
	0.8nm,0.3s,baz=179,slow=12,SNR=1.8						
MLR				Lg	Lg	20 14 46.1	
	2.0nm,0.3s,baz=83,slow=23,SNR=1.6						
MLR				LR	LR	20 15 50.2	
	comp=Z,175nm,19.8s,baz=227,slow=44						
VLDR	**Vladesti**	**5.29**	**2**	⇓P	**Pn**	**20 13 22.5**	**+0.7**
VLDR	**Vladesti**	**5.29**	**2**		**Pn**	**20 13 22.6**	**+0.7**
VOIR		**5.30**	**338**	⇓P	**Pn**	**20 13 22.8**	**+0.7**
PANC	**Panciu**	**5.34**	**355**	⇑P	**Pn**	**20 13 23.4**	**+0.9**
PANC	**Panciu**	**5.34**	**355**		**Pn**	**20 13 23.4**	**+0.9**
VARL	**Varlezi**	**5.34**	**360**	⇓P	**Pn**	**20 13 23.6**	**+1.1**
VARL	**Varlezi**	**5.34**	**360**		**Pn**	**20 13 23.6**	**+1.1**
PLOR	**Plostina**	**5.37**	**351**	⇓P	**Pn**	**20 13 24.3**	**+1.3**
VRI	**Vrincioaia**	**5.37**	**351**	⇓P	**Pn**	**20 13 24.3**	**+1.3**
COVR	**Voineasa-Covas**	**5.43**	**348**	⇓P	**Pn**	**20 13 25.5**	**+1.7**
COVR	**Voineasa-Covas**	**5.43**	**348**		**Pn**	**20 13 25.5**	**+1.7**
GHRR		**5.51**	**357**	⇑P	**Pn**	**20 13 26.6**	**+1.7**
BOVS	**Bovan**	**5.52**	**306**	⇓P	**Pn**	**20 13 25.0**	**0.0**
BOVS	**Bovan**	**5.52**	**306**		**Pn**	**20 13 25.0**	**0.0**
TURR	**Turia**	**5.66**	**347**	⇓P	**Pn**	**20 13 28.6**	**+1.6**
DOPR	**Dopca**	**5.71**	**342**	⇑P	**Pn**	**20 13 29.1**	**+1.5**
LOT	**Lotru**	**5.74**	**330**	⇓P	**Pn**	**20 13 28.8**	**+0.7**
OZUR		**5.74**	**345**	⇓P	**Pn**	**20 13 29.5**	**+1.4**
BOSR	**Bodos**	**5.75**	**344**	⇑P	**Pn**	**20 13 29.6**	**+1.4**
HERR	**Herculane**	**5.90**	**319**	⇑P	**Pn**	**20 13 29.7**	**-0.5**
TESR	**Tescani**	**6.02**	**352**	⇓P	**Pn**	**20 13 32.3**	**+0.4**
VASR	**Vaslui**	**6.08**	**359**	⇑P	**Pn**	**20 13 33.0**	**+0.3**
VASR	**Vaslui**	**6.08**	**359**		**Pn**	**20 13 33.0**	**+0.3**
MDB	**

BW06	**Boulder Array**	**3.32 256**		**Pn**	**20 20 16.5 +0.5**	
BW06			IAML		20 21 06.8	
	comp=N,26nm,0.3s					
BW06			IAML		20 21 08.8	
	comp=N,34nm,0.3s					
PD31	**Pinedale Array**	**3.32 256**	Pn	**Pn**	**20 20 16.8 +0.8**	
PDAR	**Pinedale Array**	**3.32 256**		**Pn**	**20 20 16.6 +0.6**	
PDAR	**Pinedale Array**	**3.32 256**	Pn	**Pn**	**20 20 16.8 +0.8**	
	comp=N,2.6nm,0.3s,baz=78,slow=16,SNR=23					
PDAR			Lg	Lg	20 21 02.0	
	comp=N,8.7nm,0.3s,baz=67,slow=36,SNR=3.0					
OGNE	**Ogallala**	**3.56 138**	Pn	**Pn**	**20 20 20.7 +1.6**	
YMP	**Mirror Lake Pl**	**3.75 289**		**Pn**	**20 20 23.3 +1.4**	
ISCO	**Idaho Springs**	**3.85 185**	Pn	**Pn**	**20 20 24.7 +1.4**	
LOHW	**Long Hollow**	**3.94 272**	Pn	**Pn**	**20 20 26.0 +1.5**	
LOHW			IAML		20 20 57.4	
	comp=N,12nm,4.7s					
FLWY	**Flagg Ranch**	**4.02 278**		**Pn**	**20 20 27.7 +2.2**	
FLWY			IAML		20 21 33.4	
	comp=N,13nm,4.1s					
FLWY			IAML		20 22 02.6	
	comp=N,14nm,4.2s					
MOOW	**Moose Ponds**	**4.04 274**		**Pn**	**20 20 27.6 +1.7**	
O20A	**White River Ci**	**4.18 214**		**Pn**	**20 20 28.8 +1.0**	
O20A			IAML		20 22 34.7	
	comp=E,19nm,4.7s					
IMW	**Indian Meadow**	**4.18 276**		**Pn**	**20 20 29.8 +1.9**	
IMW			IAML		20 20 58.4	
	comp=E,17nm,0.5s					
IMW			IAML		20 20 58.8	
	comp=E,10nm,0.4s					
TPAW	**Teton Pass**	**4.20 270**	Pn	**Pn**	**20 20 29.5 +1.4**	
TPAW			IAML		20 21 09.5	
	comp=E,9.9nm,4.8s					
TPAW			IAML		20 22 26.0	
	comp=E,14nm,5.0s					
FXWY	**Fox Creek**	**4.25 272**		**Pn**	**20 20 29.9 +1.1**	
AHID	**Auburn Hatcher**	**4.42 261**	Pn	**Pn**	**20 20 32.1 +1.1**	
AHID			IAML		20 21 47.6	
	comp=E,15nm,0.5s					
AHID			IAML		20 21 53.3	
	comp=E,10.0nm,0.7s					
BOZ	**Bozeman (W)**	**5.01 295**	Pn	**Pn**	**20 20 39.6 +0.5**	
BSUT	**Blindstream Ca**	**5.18 235**	Pn	**Pn**	**20 20 42.4 +0.7**	
BSUT			IAML		20 21 36.4	
	comp=E,8.0nm,4.3s					
P18A	**Preston Nutter**	**5.52 225**		**Pn**	**20 20 47.4 +1.1**	
SPUT	**South Promonto**	**5.86 249**	Pn	**Pn**	**20 20 52.2 +1.4**	
Q16A	**Castle Valley**	**6.53 226**	Pn	**Pn**	**20 21 00.6 +0.7**	
ULM	**Lac du Bonnet**	**9.17 41**	Pn	**Pn**	**20 21 34.9 -1.1**	
	comp=E,0.4nm,0.3s,baz=231,slow=13,SNR=2.7					
ULM			Lg	Lg	20 24 05.4	
	comp=E,0.1nm,0.3s,baz=159,slow=18,SNR=1.8					
	comp=E,1.0nm,0.4s					
NVAR	**Mina Array Bea**	**11.19 247**	Pn	**Pn**	**20 22 05.7 +1.8**	
	comp=E,0.1nm,0.3s,baz=64,slow=13,SNR=2.4					
	comp=E,0.2nm,0.6s					

*IDC **31** 20:27:07.1±1.8, 43.˚54N×105.˚26W, h0km, mbtmp3.2/3, ML3.1/3, Error ellipse: s-maj=44.9km s-min=9.7km az=150.0*

*NEIC **31** 20:27:08.6±1.5, 43.˚65N±0.˚05×105.˚18W±0.˚08, h0km±2km, ML3.2/38, Error ellipse: s-maj=10.3km s-min=7.6km az=124.0*

ISC 31 20:27:07.3±1.1, 43.˚62N±0.˚06×105.˚12W±0.˚07, h0km, n23, σ1ŝ38/21, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**57**	Pg	**Pb**	**20 27 26.5**	**+0.1**
K22A	**Casper**	**1.42**	**227**		**Pg**	**20 27 33.0**	**-1.4**
K22A				IAML		20 27 59.5	
	comp=N,230nm,0.3s						
PHWY	**Pilot Hill**	**2.33**	**186**	Pn	**Pn**	**20 27 48.3**	**+1.1**
PHWY				IAML		20 28 25.4	
	comp=N,103nm,0.6s						
RWWY	**Rawlins**	**2.47**	**219**		**Pn**	**20 27 49.7**	**+0.6**
RWWY				IAML		20 28 27.4	
	comp=N,157nm,0.8s						
N23A	**Red Feather La**	**2.79**	**193**		**Pn**	**20 27 54.7**	**+1.3**
N23A				IAML		20 28 41.1	
	comp=E,97nm,1.1s						
N23A				IAML		20 28 51.3	
	comp=N,110nm,0.9s						
LAO	**LASA Array**	**3.17**	**346**	Pn	**Pn**	**20 27 58.3**	**-0.2**
RLMT	**Red Lodge**	**3.33**	**298**		**Pn**	**20 28 01.5**	**+0.6**
RLMT				IAML		20 29 25.8	
	comp=N,40nm,1.0s						
RLMT				IAML		20 29 32.5	
	comp=N,50nm,4.5s						
BW06	**Boulder Array**	**3.36**	**257**		**Pn**	**20 28 01.5**	**+0.3**
BW06				IAML		20 29 00.7	
	comp=N,35nm,1.7s						
PD31	**Pinedale Array**	**3.36**	**257**		**Pn**	**20 28 01.8**	**+0.6**
PDAR	**Pinedale Array**	**3.36**	**257**		**Pn**	**20 28 01.6**	**+0.4**
PDAR	**Pinedale Array**	**3.36**	**257**	Pn	**Pn**	**20 28 02.1**	**+0.9**
	comp=N,1.4nm,0.3s,baz=83,slow=16,SNR=28						
PDAR				Lg	Lg	20 28 48.7	
	comp=N,4.1nm,0.3s,baz=76,slow=34,SNR=2.3						
	comp=N,2.4nm,0.3s						
ISCO	**Idaho Springs**	**3.84**	**186**	Pn	**Pn**	**20 28 10.4**	**+2.6**
O20A	**White River Ci**	**4.19**	**215**		**Pn**	**20 28 11.3**	**-1.4**
IMW	**Indian Meadow**	**4.23**	**276**		**Pn**	**20 28 15.9**	**+2.7**
IMW				IAML		20 29 41.6	
	comp=N,31nm,2.0s						
IMW				IAML		20 29 45.2	
	comp=N,30nm,0.7s						
TPAW	**Teton Pass**	**4.24**	**270**		**Pn**	**20 28 14.5**	**+1.1**
TPAW				IAML		20 29 40.4	
	comp=N,28nm,1.5s						
TPAW				IAML		20 29 54.8	
	comp=N,44nm,2.1s						
FXWY	**Fox Creek**	**4.29**	**272**		**Pn**	**20 28 15.8**	**+1.8**
FXWY				IAML		20 29 30.2	
	comp=N,16nm,2.9s						
AHID	**Auburn Hatcher**	**4.46**	**261**	Pn	Pn	20 28 11.7	-4.6
AHID				IAML		20 30 03.9	
	comp=N,27nm,1.2s						
HWUT	**Hardware Ranch**	**5.17**	**249**		**Pn**	**20 28 27.7**	**+1.7**
HWUT				IAML		20 30 16.6	
	comp=N,19nm,1.1s						
BSUT	**Blindstream Ca**	**5.21**	**236**		**Pn**	**20 28 27.2**	**+0.4**
BSUT				IAML		20 30 11.7	
	comp=E,17nm,3.0s						
BSUT				IAML		20 30 18.1	
	comp=N,14nm,2.1s						
P18A	**Preston Nutter**	**5.54**	**226**		**Pn**	**20 28 32.8**	**+1.5**
I10CA	**LAC DU BONNET**	**9.05**	**40**	I	I	21 24 20.0	
ULM	**Lac du Bonnet**	**9.16**	**40**	Pn	**Pn**	**20 29 20.1**	**-0.5**
	comp=N,0.6nm,0.3s,baz=236,slow=11,SNR=7.5						
ULM				Lg	Lg	20 31 52.2	
	comp=N,0.3nm,0.3s,baz=301,slow=21,SNR=1.8						
	comp=N,1.3nm,0.3s						
NVAR	**Mina Array Bea**	**11.23**	**247**	Pn	**Pn**	**20 29 50.4**	**+1.3**
	comp=N,0.1nm,0.3s,baz=71,slow=12,SNR=2.6						
	comp=N,0.4nm,0.7s						

*BJI **31** 20:27:42.0, 8.˚75S×67.˚68E, h10km, mb4.7/59, mB5.3/29, Ms4.9/38, MS7 4.6/38*

*IDC **31** 20:27:47.1±0.4, 8.˚16S×68.˚05E, h0km, mb4.3/34, mbtmp4.3/35, ML3.6/1, MS4.2/54, Error ellipse: s-maj=13.7km s-min=11.9km az=65.0*

*NEIC **31** 20:27:49.4, 8.˚12S×68.˚07E, h18km*

*NEIC **31** 20:27:49.4±1.5, 8.˚1S±0.˚1×68.˚06E±0.˚04, h10km±1km, mb4.9/66, Mww5.1/25, Error ellipse: s-maj=18.6km s-min=5.4km az=193.0*

*NEIC **31** 20:27:49.4, 8.˚02S×68.˚27E, h18km, Moment Tensor Solution. Duration: 2ŝ1 Moment tensor: Scale 10^16^Nm; Mrr=6.06; Mθθ3.37; Mφφ2.68; Mrθ0.84; Mθφ-2.72; Mφr-0.29; Fault plane solution: M0 5.98000×10^16^ NP1: φs308.34000°, δ49.06000°, λ-93.95000°. NP2: φs134.36000°, δ41.10000°, λ-85.46000°. Principal axes: T 5.8276, Plg4.0000°, Azm41.0000°; N 0.3033, Plg3.0000°, Azm311.0000°; P -6.1309, Plg85.0000°, Azm184.0000°;*

*GCMT **31** 20:27:51.4±0.1, 8.˚22S±0.˚01×68.˚14E±0.˚01, h12km, MW5.1/125, Moment Tensor Solution. s58,c79; s125,c208; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-5.07±.09; Mθθ2.68±.09; Mφφ2.39±.09; Mrθ1.07±.27; Mθφ-2.39±.07; Mφr-0.69±.28; Best double couple: M0 5.15900×10^16^ NP1:φs311.00000°, δ52.00000°, λ-93.00000°. NP2:φs136.00000°, δ38.00000°, λ-86.00000°. Principal axes: T 5.0840, Plg7.0000°, Azm43.0000°; N 0.1500, Plg2.0000°, Azm313.0000°; P -5.2340, Plg83.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 20:27:49.2±0.7, 8.˚16S±0.˚06×68.˚03E±0.˚05, h13km±3km, n294, σ1ŝ34/276, mb4.8/122, MS4.3/70, 19C-14D, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**12.94**	**285**	Pn	**Pn**	**20 30 53.1**	**+0.1**
PALK	**Pallekele**	**19.87**	**40**	P	**P**	**20 32 18.6**	**-1.8**
PALK	**Pallekele**	**19.87**	**40**	P	**Pn**	**20 32 21.5**	**-0.5**
PALK	0.2nm,0.3s,baz=317,slow=16,SNR=4.2			LR	LR	20 38 07.5	
	comp=Z,2μm,20.6s,baz=337,slow=31						
	10.0nm,1.0s						
OPO	**Ambohidratompo**	**22.73**	**241**	LR	LR	20 39 46.1	
	comp=Z,303nm,18.8s,baz=202,slow=32						
KMBO	**Kilima Mbogo**	**31.44**	**281**	P	**P**	**20 34 11.4**	**+0.5**
	1.5nm,0.8s,baz=101,slow=9.2,SNR=6.9						
KMBO				LR	LR	20 44 22.1	
	comp=Z,507nm,20.9s,baz=95,slow=32						
	1.5nm,0.8s						
ATD	**Arta Tunnel**	**31.78**	**308**	LR	LR	20 44 37.1	
	comp=Z,11nm,21.4s,baz=130,slow=32						
WSAR	**Wadi Sarin**	**32.54**	**344**	LR	LR	20 45 06.6	
	comp=Z,550nm,18.6s,baz=167,slow=32						
LODK	**Lodwar**	**34.55**	**288**	P	**P**	**20 34 38.4**	**+0.4**
LODK				IAmb	IAmb	20 34 49.4	
	comp=Z,13nm,1.1s						
KULM	**Kulim**	**35.18**	**69**	P	**P**	**20 34 38.8**	**-4.4**
KULM				IAmb	IAmb	20 34 46.7	
	comp=Z,48nm,1.5s						
IPM	**Ipoh**	**35.23**	**70**	P	**P**	**20 34 42.8**	**-0.9**
CGJI	**Cibinong**	**37.38**	**90**	P	**P**	**20 35 01.8**	**-0.3**
	comp=Z,64nm,1.1s,comp=Z,1μm						
DBJI	**Dramaga**	**38.43**	**90**	P	**P**	**20 35 10.0**	**-1.0**
	comp=Z,48nm,1.6s						
KOLN	**Koldanda**	**38.77**	**22**	*eP*	**P**	**20 35 14.7**	**+0.8**
	comp=Z,229nm,1.9s						
PYUN	**Piuthan**	**38.84**	**21**	*eP*	**P**	**20 35 15.0**	**+0.5**
DMN	**Daman**	**39.22**	**24**	*eP*	**P**	**20 35 18.5**	**+0.8**
	comp=Z,58nm,0.9s						
LEM	**Lembang**	**39.26**	**91**	P	**P**	**20 35 18.9**	**+0.7**
	comp=Z,46nm,1.2s						
LEM	**Lembang**	**39.26**	**91**	LR	LR	20 48 28.5	
	comp=Z,353nm,20.9s,baz=248,slow=32						
RAMN	**Ramite**	**39.28**	**27**	*eP*	**P**	**20 35 19.5**	**+1.3**
	comp=Z,228nm,1.7s						
PKI	**Pulchoki**	**39.31**	**25**	*eP*	**P**	**20 35 18.8**	**+0.3**
	comp=Z,166nm,1.9s						
DANN	**Dangsing**	**39.35**	**22**	*eP*	**P**	**20 35 19.2**	**+0.4**
GKN	**Gorkha**	**39.38**	**23**	*eP*	**P**	**20 35 19.6**	**+0.7**
	comp=Z,77nm,1.1s						
ODAN	**Odare**	**39.56**	**28**	*eP*	**P**	**20 35 21.8**	**+1.3**
LSZ	**Lusaka**	**39.59**	**256**	P	**P**	**20 35 21.4**	**+0.5**
LSZ				IAmb	IAmb	20 35 26.0	
	comp=Z,27nm,1.0s						
LSZ	**Lusaka**	**39.59**	**256**	LR	LR	20 50 31.6	
	comp=Z,888nm,18.7s,baz=94,slow=34						
JIRN	**Jiri**	**39.72**	**26**	*eP*	**P**	**20 35 22.5**	**+0.5**
	comp=Z,69nm,1.5s						
GUN	**Gumba**	**39.80**	**25**	*eP*	**P**	**20 35 23.5**	**+0.8**
	comp=Z,202nm,1.5s						
MATP	**Matopo**	**40.08**	**248**	LR	LR	20 50 32.8	
	comp=Z,635nm,20.0s,baz=66,slow=34						
TAPN	**Taplejung**	**40.12**	**28**	*eP*	**P**	**20 35 26.1**	**+0.8**
	comp=Z,126nm,1.6s						
H04N2	**CROZET ISLANDS**	**40.35**	**197**	T	T	21 18 30.4	
	baz=26,slow=75,SNR=58						
H04N1	**CROZET ISLANDS**	**40.35**	**197**	T	T	21 18 34.1	
	baz=26,slow=75,SNR=42						
H04N3	**CROZET ISLANDS**	**40.37**	**197**	T	T	21 18 33.5	
	baz=26,slow=75,SNR=42						
CM31	**Chiang Mai Arr**	**40.38**	**49**	P	**P**	**20 35 22.9**	**-4.3**
CMAR	**Chiang Mai Arr**	**40.38**	**49**	P	P	20 35 22.3	-4.8
CMAR	**Chiang Mai Arr**	**40.38**	**49**	P	**P**	**20 35 28.1**	**+0.9**
	comp=Z,3.4nm,0.7s,baz=242,slow=8.9,SNR=30						
CMAR				PcP	**PcP**	**20 37 31.4**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=234,slow=5.0,SNR=5.4						
CMAR				LR	LR	20 49 41.8	
	comp=Z,303nm,21.8s,baz=240,slow=33						
	comp=Z,3.4nm,0.7s						
CHTO	**Chiang Mai**	**40.60**	**48**	P	**P**	**20 35 27.9**	**-1.1**
SHL	**Shillong**	**40.78**	**34**	P	**P**	**20 35 30.0**	**-0.6**
NIL	**Nilore**	**41.88**	**7**	P	**P**	**20 35 38.3**	**-1.0**
KBL	**Kabul**	**42.48**	**1**	P	**P**	**20 35 45.8**	**+1.4**
KBL				IAmb	IAmb	20 35 48.4	
	comp=Z,29nm,1.4s						
CRAI	**Chiangrai**	**42.53**	**48**	P	**P**	**20 35 45.2**	**+0.3**
HRA	**Herat**	**42.67**	**353**	P	**P**	**20 35 45.2**	**-0.8**
LBTB	**Lobatse**	**43.76**	**242**	P	**P**	**20 35 53.7**	**-1.1**
LBTB				IAmb	IAmb	20 36 05.2	
	comp=Z,35nm,1.2s						
LBTB	**Lobatse**	**43.76**	**242**	LR	LR	20 51 47.1	
	comp=Z,1μm,21.4s,baz=71,slow=33						
TNCH	**TengChong**	**44.40**	**41**	P	**P**	**20 36 01.0**	**+1.0**
TNCH				S	**S**	**20 42 37.0**	**+2.3**
TNCH				pmax	pmax		
	comp=Z,33nm,1.7s						
TNCH				pmax	pmax		
	comp=Z,160nm,3.3s						
TNCH				LR	LR		
	comp=Z,180nm,17.0s						
TNCH				LR	LR		
	comp=Z,220nm,19.8s						
TNCH				LR	LR		
	comp=Z,400nm,21.0s						
BOSA	**Boshof**	**45.08**	**237**	P	**P**	**20 36 06.0**	**+0.5**
	comp=Z,3.6nm,1.1s,baz=94,slow=13,SNR=3.8						
BOSA				LR	LR	20 52 54.1	
	comp=Z,586nm,18.2s,baz=60,slow=33						
	comp=Z,3.6nm,1.1s						
SBUM	**Sibu**	**45.32**	**78**	P	**P**	**20 36 06.5**	**-0.9**
SBUM				IAmb	IAmb	20 36 15.9	
	comp=Z,13nm,1.2s						
SLVN	**Son La**	**45.83**	**50**	P	**P**	**20 36 11.3**	**-0.1**
SLVN				IAmb	IAmb	20 36 14.5	
	comp=Z,10nm,1.0s						
SRBI	**Singaraja**	**46.69**	**93**	P	**P**	**20 36 17.6**	**-0.6**
	comp=Z,48nm,1.6s						
GEYT	**Alibeck**	**46.78**	**349**	P	**P**	**20 36 18.1**	**-0.4**
GEYT	**Alibeck**	**46.78**	**349**	P	**P**	**20 36 19.4**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=179,slow=7.1,SNR=6.6						
GEYT				LR	LR	20 54 29.7	
	comp=Z,219nm,21.1s,baz=162,slow=34						
	comp=Z,1.0nm,0.6s						
GYA0B	**ALIBECK ARRAY**	**46.78**	**349**	P	**P**	**20 36 18.4**	**-0.1**
GYA0B				IAmb	IAmb	20 36 27.4	
	comp=Z,16nm,1.5s						
MTKI	**Muara Teweh, K**	**47.23**	**84**	P	**P**	**20 36 23.1**	**+0.7**
KMI	**Kunming**	**47.30**	**45**	⇑P	**P**	**20 36 22.5**	**-0.5**
KMI				S	**S**	**20 43 18.0**	**+1.4**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KMI				LR	LR		
	comp=Z,190nm,17.5s						
KMI				LR	LR		
	comp=Z,260nm,15.6s						
KMI				LR	LR		
	comp=Z,380nm,27.1s						
PZH	**PanZhiHua**	**47.52**	**42**	P	**P**	**20 36 25.3**	**+0.7**
PZH				sP	**pwP**	**20 36 31.8**	**+0.4**
PZH				S	**S**	**20 43 21.0**	**+1.5**
PZH				pmax	pmax		
	comp=Z,30nm,1.2s						
PZH				pmax	pmax		
	comp=Z,160nm,3.8s						
PZH				LR	LR		
	comp=Z,240nm,17.5s						
PZH				LR	LR		
	comp=Z,220nm,16.2s						
PZH				LR	LR		
	comp=Z,280nm,18.6s						
KSH	**Kashi**	**48.01**	**8**	P	**P**	**20 36 26.0**	**-2.2**
KSH				sP	pP	20 36 32.5	+1.0
KSH				S	**S**	**20 43 21.3**	**-4.7**
KSH				pmax	pmax		
	comp=Z,27nm,1.8s						
KSH				LR	LR		
	comp=Z,990nm,19.5s						
KSH				LR	LR		
	comp=Z,580nm,15.8s						
KSH				LR	LR		
	comp=Z,960nm,21.6s						
BTK	**Batken**	**48.05**	**3**	P	**P**	**20 36 28.0**	**-0.4**
TWSI	**Taliwang, Sumb**	**48.30**	**94**	P	**P**	**20 36 31.1**	**+0.4**
	comp=Z,34nm,1.4s						
BKB	**Balikpapan**	**49.15**	**85**	P	**P**	**20 36 39.6**	**+2.4**
EIL	**Elat**	**49.27**	**321**	LR	LR	20 54 32.3	
	comp=Z,132nm,20.3s,baz=70,slow=33						
QIZ	**Qiongzhong**	**49.29**	**56**	P	**P**	**20 36 38.3**	**+0.1**
QIZ				S	**S**	**20 43 45.3**	**+0.9**
QIZ				pmax	pmax		
	comp=Z,35nm,1.7s						
QIZ				LR	LR		
	comp=Z,520nm,19.4s						
QIZ				LR	LR		
	comp=Z,530nm,21.0s						
QIZ				LR	LR		
	comp=Z,630nm,23.6s						
ARSB	**Arslanbob**	**49.45**	**5**	P	**P**	**20 36 38.1**	**-1.2**
MORW	**Morawa**	**49.61**	**121**	P	**P**	**20 36 38.8**	**-1.9**
H01W3	**Cape Leeuwin H**	**49.87**	**129**	T	T	21 30 13.4	
	baz=291,slow=75,SNR=7.1						
H01W2	**Cape Leeuwin H**	**49.87**	**129**	T	T	21 30 14.9	
	baz=291,slow=75,SNR=6.0						
H01W1	**Cape Leeuwin H**	**49.88**	**129**	T	T	21 30 14.2	
	baz=291,slow=75,SNR=7.5						
SUR	**Sutherland**	**49.90**	**234**	LR	LR	20 57 28.7	
	comp=Z,379nm,18.3s,baz=35,slow=36						
CHM	**Chimkent**	**50.26**	**2**	*eP*	**P**	**20 36 45.6**	**+0.4**
	baz=1.4						
AML	**Almayashu**	**50.32**	**5**	P	**P**	**20 36 46.9**	**+0.7**
	SNR=8.8						
KZA	**Kyzart**	**50.43**	**7**	P	**P**	**20 36 48.5**	**+1.5**
	SNR=9.6						
WBSI	**Waikabubak, Su**	**50.73**	**96**	P	**P**	**20 36 49.3**	**0.0**
	comp=Z,0.1nm,0.5s						
EKS2	**Erkin-Say**	**50.85**	**5**	P	**P**	**20 36 51.4**	**+1.6**
	SNR=6.4						
GYA	**Guiyang**	**50.90**	**46**	⇓P	**P**	**20 36 51.8**	**+1.3**
GYA				pmax	pmax		
	comp=Z,18nm,0.9s						
DZA	**Taraz**	**50.90**	**3**	*eP*	**P**	**20 36 50.0**	**-0.1**
	baz=3.1						
AAK	**Ala-Archa**	**50.90**	**6**	P	**P**	**20 36 50.9**	**+0.7**
	SNR=8.2						
AAK	**Ala-Archa**	**50.90**	**6**	P	**P**	**20 36 50.5**	**+0.3**
AAK				IAmb	IAmb	20 37 00.1	
	comp=Z,20nm,1.4s						
AAK	**Ala-Archa**	**50.90**	**6**	P	**P**	**20 36 50.8**	**+0.5**
	comp=Z,3.5nm,0.9s,baz=197,slow=7.8,SNR=14						
AAK				LR	LR	20 57 24.1	
	comp=Z,476nm,20.9s,baz=195,slow=35						
	comp=Z,3.5nm,0.9s						
KK31	**Karatay Array**	**51.07**	**2**	P	**P**	**20 36 51.1**	**-0.2**
KK31				IAmb	IAmb	20 37 01.1	
	comp=Z,19nm,1.4s						
KKAR	**Karatay Array**	**51.07**	**2**	P	**P**	**20 36 52.0**	**+0.6**
KKAR	**Karatay Array**	**51.07**	**2**	P	**P**	**20 36 51.4**	**+0.1**
KKAR				IAmb	IAmb	20 37 01.1	
	comp=Z,19nm,1.4s						
FRU1	**Bishkek**	**51.09**	**6**	P	**P**	**20 36 50.8**	**-0.7**
FRU1				IAmb	IAmb	20 37 15.4	
	comp=Z,28nm,1.5s						
TKM2	**Tokmak 2**	**51.31**	**7**	P	**P**	**20 36 54.1**	**+0.7**
	SNR=7.3						
MMAI	**Mount Meron Ar**	**51.39**	**325**	LR	LR	20 56 51.2	
	comp=Z,128nm,19.9s,baz=102,slow=34						
KAPI	**Kappang**	**51.45**	**90**	LR	LR	20 59 03.6	
	comp=Z,197nm,18.0s,baz=257,slow=36						
PSA00	**Pilbara Seismi**	**51.60**	**111**	P	**P**	**20 36 54.9**	**-0.8**
PSA00				IAmb	IAmb	20 37 04.3	
	comp=Z,15nm,1.1s						
PSA00	**Pilbara Seismi**	**51.60**	**111**	P	**P**	**20 36 55.0**	**-0.7**
PSA00				IAmb	IAmb	20 37 04.3	
	comp=Z,30nm,0.9s						
NWAO	**Narrogin (SRO)**	**51.66**	**126**	LR	LR	20 54 56.2	
	comp=Z,193nm,20.0s,baz=273,slow=32						
SGDS	**Sogindy**	**51.72**	**6**	*eP*	**P**	**20 36 56.1**	**-0.2**
	comp=Z,24nm,2.1s,baz=6.1						
MDOK	**Medeo**	**51.74**	**8**	*eP*	**P**	**20 36 56.3**	**-0.2**
	baz=8.3						
TTSI	**Tana Toraja**	**51.76**	**87**	P	**P**	**20 36 57.0**	**0.0**
	comp=Z,24nm,1.7s						
AAA	**Alma-Ata**	**51.76**	**8**	*eP*	**P**	**20 36 56.7**	**+0.1**
	baz=8.2						
SATY	**Saty**	**51.85**	**10**	*eP*	**P**	**20 36 57.6**	**+0.3**
	comp=Z,26nm,1.9s,baz=9.6						
ZHN	**Zhinishke**	**51.96**	**10**	*eP*	**P**	**20 36 58.2**	**+0.1**
	comp=Z,19nm,1.7s,baz=9.6						
UZB	**Uzynbulak**	**52.04**	**10**	*eP*	**P**	**20 36 58.4**	**-0.4**
	baz=10						
SHLS	**Shalkode**	**52.13**	**11**	*eP*	**P**	**20 36 59.9**	**+0.6**
	comp=Z,24nm,1.6s,baz=11						
KUU	**Kurty**	**52.36**	**8**	*eP*	**P**	**20 37 00.5**	**-0.5**
	baz=7.5						
MPSI	**Mapaga**	**52.38**	**83**	P	**P**	**20 37 02.8**	**+1.2**
	comp=Z,19nm,1.4s,comp=Z,2μm						
GURO	**Guroymak-BITLI**	**52.40**	**334**	P	**P**	**20 37 02.8**	**+1.3**
CHKK	**Chushkaly**	**52.41**	**8**	*eP*	**P**	**20 37 00.6**	**-0.7**
	baz=8.1						
GNI	**Garni**	**52.67**	**338**	P	**P**	**20 37 03.2**	**-0.3**
GNI				IAmb	IAmb	20 37 17.7	
	comp=Z,28nm,1.4s						
GNI	**Garni**	**52.67**	**338**	LR	LR	20 58 59.9	
	comp=Z,192nm,20.4s,baz=138,slow=36						
EDFI	**Ende, Flores**	**53.05**	**95**	P	**P**	**20 37 04.0**	**-2.7**
BTLS	**Baitai**	**53.24**	**5**	*i* P	**P**	**20 37 06.9**	**-0.5**
	comp=Z,14nm,1.4s,baz=5.3						
MMRI	**Maumere**	**53.59**	**95**	P	**P**	**20 37 08.4**	**-2.2**
MMRI	**Maumere**	**53.59**	**95**	P	**P**	**20 37 09.2**	**-1.4**
	comp=Z,35nm,2.0s,comp=Z,806nm						
TDK	**Taldyqorghan**	**53.74**	**9**	*eP*	**P**	**20 37 10.6**	**-0.6**
	comp=Z,26nm,1.7s,baz=9.1						
WMQ	**Urumqi**	**54.73**	**17**	P	**P**	**20 37 20.5**	**+2.1**
WMQ				pP	pwP	20 37 26.3	+1.0
WMQ				S	**S**	**20 45 04.5**	**+5.9**
WMQ				pmax	pmax		
	comp=Z,24nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,340nm,5.1s						
WMQ				LR	LR		
	comp=Z,930nm,16.3s						
WMQ				LR	LR		
	comp=Z,730nm,15.3s						
WMQ				LR	LR		
	comp=Z,720nm,22.5s						
ENH	**Enshi**	**55.17**	**44**	P	**P**	**20 37 19.0**	**-2.9**
ENH				IAmb	IAmb	20 37 29.4	
	comp=Z,29nm,1.2s						
ONI	**Oni**	**55.27**	**338**	P

comp=Z,2.4nm,0.8s,baz=219,slow=5.5,SNR=5.7
comp=Z,3.4nm,0.7s
KBZ Khabaz 56.46 338 P **P** **20 37 31.2 +0.5**
comp=Z,2.7nm,0.9s,baz=136,slow=6.3,SNR=5.1
KBZ LR LR 21 01 57.6
comp=Z,104nm,19.1s,baz=154,slow=36
comp=Z,2.7nm,0.9s
FITZ Fitzroy Crossi 56.77 106 P **P** **20 37 34.1 +0.6**
TGY Tagaytay City 56.97 67 LR LR 20 59 26.2
comp=Z,365nm,20.7s,baz=114,slow=33
BR131 Keskin Array S 57.30 329 P **P** **20 37 36.1 -0.9**
BR131 IAmb IAmb 20 37 45.6
comp=Z,27nm,1.3s
BRTR Keskin Array B 57.30 329 P **P** **20 37 36.9 -0.1**
comp=Z,4.0nm,0.9s,baz=140,slow=11,SNR=19
BRTR LR LR 21 02 47.5
comp=Z,116nm,18.2s,baz=140,slow=37
comp=Z,4.0nm,0.9s
ZSN Zaisan 57.35 14 *e*P **P** **20 37 37.0 0.0**
comp=Z,22nm,1.8s,baz=14
ABKAR Akbulak array 57.61 354 P **P** **20 37 39.0 +0.1**
ABKAR Akbulak array 57.61 354 P **P** **20 37 38.5 -0.4**
ABKAR IAmb IAmb 20 37 46.5
comp=Z,27nm,1.2s
BRZS Berezniki 58.05 4 *e*P **P** **20 37 41.6 -0.2**
comp=Z,28nm,2.0s,baz=3.5
WHN Wuhan 58.77 47 P P 20 37 54.3 +7.0
WHN pmax pmax
comp=Z,40nm,1.3s
AKTO Aktyubinsk 59.00 353 LR LR 21 02 10.8
comp=Z,189nm,20.0s,baz=86,slow=35
KURBB Kurchatov Arra 59.25 8 P **P** **20 37 50.1 -0.1**
comp=Z,3.2nm,0.7s,baz=206,slow=7.0,SNR=30
KURBB PcP **PcP** **20 38 39.1 +0.7**
comp=Z,1.2nm,0.7s,baz=208,slow=4.3,SNR=4.8
KURBB LR LR 21 02 29.0
comp=Z,438nm,20.0s,baz=148,slow=35
comp=Z,3.2nm,0.7s
SEM Semipalatinsk 59.29 9 *e*P **P** **20 37 50.2 -0.6**
comp=Z,26nm,1.6s,baz=9.0
DAV Davao City (W) 59.34 77 LR LR 21 02 41.9
comp=Z,168nm,20.7s,baz=229,slow=35
KURK Kurchatov 59.35 8 P **P** **20 37 50.3 -0.6**
KURK IAmb IAmb 20 37 59.8
comp=Z,21nm,1.1s
MAW Mawson 59.46 182 P **P** **20 37 50.7 -0.7**
comp=Z,8.2nm,0.9s,baz=11,slow=9.2,SNR=5.7
MAW LR LR 20 58 50.4
comp=Z,116nm,18.5s,baz=348,slow=31
comp=Z,8.2nm,0.9s
LBMI Labuha 59.71 86 P **P** **20 37 54.1 -0.1**
comp=Z,106nm,1.7s,comp=Z,2µm
TNTI Ternate 59.81 84 P **P** **20 37 54.9 +0.1**
comp=Z,32nm,2.3s,comp=Z,803nm
BVAR Borovoye Array 60.98 2 P **P** **20 38 01.9 -0.2**
comp=Z,4.0nm,0.8s,baz=157,slow=8.0,SNR=34
BVAR LR LR 21 03 43.8
comp=Z,351nm,21.9s,baz=182,slow=35
comp=Z,4.0nm,0.8s
BRVK Borovoye 61.01 2 P **P** **20 38 02.3 0.0**
BRVK IAmb IAmb 20 38 03.6
comp=Z,8.5nm,0.9s
BTO Baotou 62.05 35 *e*P **P** **20 38 10.0 +0.3**
BTO PP **PP** **20 40 29.8 +3.4**
BTO S **S** **20 46 26.8 -7.5**
BTO pmax pmax
comp=Z,19nm,2.0s
BTO pmax pmax
comp=Z,330nm,5.5s
BTO LR LR
comp=Z,650nm,22.5s
BTO LR LR
comp=Z,590nm,19.5s
BTO LR LR
comp=Z,710nm,22.2s
SAUI Saumlaki 62.58 95 P **P** **20 38 14.1 +0.4**
comp=Z,154nm,1.0s,comp=Z,5µm
BELG Belogornoye 62.80 346 LR LR 21 06 04.1
comp=Z,161nm,21.4s,baz=131,slow=37
NJ2 Nanjing 62.84 48 *e*P **P** **20 38 15.3 +0.3**
NJ2 sP **pwP** **20 38 22.3 +0.4**
NJ2 pmax pmax
comp=Z,6.0nm,0.7s
NJ2 pmax pmax
comp=Z,160nm,6.8s
HNS HongShan 62.90 41 ⇓P **P** **20 38 16.8 +1.5**
HNS S **S** **20 46 45.8 +1.0**
HNS pmax pmax
comp=Z,13nm,1.2s
HNS LR LR
comp=Z,410nm,21.0s
HNS LR LR
comp=Z,250nm,17.5s
HHC Hu-ho-hao-te 63.09 36 *e*P **P** **20 38 18.0 +1.3**
HHC sP pwP 20 38 25.3 +1.7
HHC PP **PP** **20 40 36.0 +0.3**
HHC *e*S **S** **20 46 49.5 +2.0**
HHC ScS **SKSac** **20 48 05.8 -3.8**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,330nm,5.2s
HHC LR LR
comp=Z,290nm,15.2s
HHC LR LR
comp=Z,440nm,14.2s
HHC LR LR
comp=Z,300nm,15.7s
SWI Sorong 63.39 87 P **P** **20 38 19.2 +0.2**
comp=Z,21nm,1.4s
ZALV Zalesovo Beam 63.48 11 P **P** **20 38 18.5 -0.3**
ZALV Zalesovo Beam 63.48 11 P **P** **20 38 18.4 -0.5**
comp=Z,2.1nm,0.8s,baz=215,slow=5.7,SNR=16
ZALV LR LR 21 06 30.5
comp=Z,315nm,18.1s,baz=212,slow=37
comp=Z,2.1nm,0.8s
ELND Elena 63.68 327 ⇑P **P** **20 38 20.9 +0.5**
HARR Harsova 63.81 329 ⇓P **P** **20 38 22.0 +0.8**
TIA Tai'an 63.81 43 *e*P **P** **20 38 19.8 -1.6**
TIA pmax pmax
comp=Z,7.0nm,2.0s
CFR Carcaliu 64.05 330 ⇓P **P** **20 38 23.7 +1.0**
FAKI Fak Fak 64.08 89 P **P** **20 38 23.5 -0.1**
comp=Z,27nm,1.4s
PLVB Pleven 64.67 326 ⇑P **P** **20 38 27.6 +0.7**
ASAR Alice Springs 64.70 112 P **P** **20 38 27.5 -0.1**
ASAR Alice Springs 64.70 112 P **P** **20 38 27.4 -0.2**
comp=Z,3.0nm,0.7s,baz=277,slow=6.0,SNR=33
ASAR LR LR 21 02 35.7
comp=Z,140nm,21.9s,baz=279,slow=32
comp=Z,3.0nm,0.7s
AS31 Alice Springs 64.70 112 P **P** **20 38 27.6 0.0**
ISR Istrita 64.82 329 ⇓P **P** **20 38 28.6 +0.7**
ARU Arti 64.84 354 P **P** **20 38 25.8 -1.8**
ARU Arti 64.84 354 LR LR 21 06 21.8
comp=Z,170nm,19.1s,baz=164,slow=36
WRA Warramunga Arr 65.04 108 P **P** **20 38 30.0 +0.2**
comp=Z,6.7nm,1.0s,baz=279,slow=6.3,SNR=31
comp=Z,6.7nm,1.0s
WB0 Warramunga Arr 65.09 108 P **P** **20 38 29.3 -0.8**
NEHR Nehoiu 65.16 329 ⇑P **P** **20 38 30.8 +0.7**
VRI Vrincioaia 65.24 329 ⇑P **P** **20 38 31.8 +1.3**
SONM Songino Array 65.25 27 P **P** **20 38 31.0 +0.3**
SONM IAmb IAmb 20 38 38.8
comp=Z,12nm,0.9s
SONM Songino Array 65.25 27 P **P** **20 38 31.4 +0.7**
comp=Z,5.4nm,0.7s,baz=216,slow=6.7,SNR=55
SONM LR LR 21 06 21.7
comp=Z,598nm,21.2s,baz=212,slow=36
comp=Z,5.4nm,0.7s
PLOR Plostina 65.27 329 ⇑P **P** **20 38 32.2 +1.4**
BJI Beijing 65.37 39 P **P** **20 38 33.5 +2.0**
BJI pP **sP** **20 38 36.5 +0.3**
BJI S **S** **20 47 21.8 +6.4**
MLR Muntele Rosu 65.38 329 ⇑P **P** **20 38 32.5 +0.9**
COVR Voineasa-Covas 65.49 329 ⇓P **P** **20 38 33.1 +0.9**
TESR Tescani 65.73 330 ⇑P **P** **20 38 34.0 +0.3**
TURR Turia 65.73 329 ⇑P **P** **20 38 34.2 +0.4**
VOIR 65.81 328 ⇑P **P** **20 38 34.7 +0.4**
BLKB Belogradchik 65.91 326 ⇑P **P** **20 38 35.5 +0.5**
DOPR Dopca 65.99 329 ⇓P **P** **20 38 35.5 +0.1**
SORM Soroca 66.07 332 ⇓P **P** **20 38 35.7 -0.1**
TIR Tirane 66.15 322 ⇑P **P** **20 38 37.4 +0.9**
BOVS Bovan 66.46 325 ⇓P **P** **20 38 38.6 +0.2**
HERR Herculane 66.85 326 ⇓P **P** **20 38 42.0 +1.1**
MDVR Moldovita 67.17 326 ⇑P **P** **20 38 43.7 +0.7**

BURAR Bucovina Array 67.20 330 ⇑P **P** **20 38 44.9 +1.7**
DEV Deva 67.23 328 ⇓P **P** **20 38 44.1 +0.8**
AKASG Malin Array Be 67.56 334 P **P** **20 38 44.5 -0.7**
comp=Z,3.2nm,0.8s,baz=136,slow=5.5,SNR=15
comp=Z,3.2nm,0.8s
KIEV Kiev 67.56 334 ⇑P **P** **20 38 46.7 +1.5**
KIEV Kiev 67.56 334 P **P** **20 38 44.3 -0.9**
KIEV IAmb IAmb 20 38 45.3
comp=Z,11nm,1.1s
SURR Surduc 67.57 327 ⇑P **P** **20 38 46.2 +0.8**
XLT XiLinHaoTe 67.61 36 *e*P **P** **20 38 45.0 -0.9**
XLT sS sS 20 47 55.5 +7.0
XLT pmax pmax
comp=Z,8.0nm,0.8s
XLT pmax pmax
comp=Z,170nm,6.0s
XLT LR LR
comp=Z,240nm,17.4s
XLT LR LR
comp=Z,210nm,19.6s
MARR Marisel-Cluj 67.64 328 ⇑P **P** **20 38 46.9 +0.9**
BZS Buzias 67.75 327 ⇑P **P** **20 38 47.2 +0.6**
JOW Kunigami 67.94 57 LR LR 21 09 08.6
comp=Z,340nm,19.0s,baz=248,slow=36
KIRV Kirov 68.21 350 LR LR 21 09 10.4
comp=Z,252nm,19.1s,baz=150,slow=36
FRGS Fruska Gora 68.47 325 ⇓P **P** **20 38 51.8 +0.6**
SGRT San Giovanni R 68.93 321 P **P** **20 38 55.1 +1.0**
TORD Torodi Ar. Bea 69.19 287 P **P** **20 38 55.9 -0.3**
TORD Torodi Ar. Bea 69.19 287 P **P** **20 38 55.9 -0.3**
comp=Z,1.7nm,0.9s,baz=88,slow=4.5,SNR=9.7
TORD LR LR 21 08 25.8
comp=Z,166nm,19.9s,baz=106,slow=35
comp=Z,1.7nm,0.9s
ELIB Princess Elisa 69.30 194 *d*P **P** **20 38 57.8 +1.7**
comp=Z,5.3nm,1.1s
KOLS Kolonicke sedl 69.55 330 *e*P **P** **20 38 58.2 +0.5**
MORH Mrgy, Hungar 69.76 326 ⇑P **P** **20 38 59.7 +0.7**
CRVS Cervenica-Dubn 69.93 329 *e*P **P** **20 39 00.9 +0.8**
KEST Kesra 70.33 312 P **P** **20 39 02.9 0.0**
comp=Z,2.5nm,0.8s,baz=121,slow=5.9,SNR=3.6
comp=Z,2.5nm,0.8s
SRO Srobarova 70.90 327 *e*P **P** **20 39 06.6 +0.6**
MNK Minsk 70.92 337 *i* P **P** **20 39 03.7 -2.3**
comp=E,4.0nm,1.0s
MNK *i* P **P** **20 39 03.7 -2.3**
comp=N,7.0nm,0.9s
MNK *i* P **P** **20 39 03.7 -2.3**
comp=Z,14nm,1.1s,baz=137
MNK *i* PcP **PcP** **20 39 24.1 -2.4**
MNK *i* PP **PP** **20 41 40.5 -3.0**
MNK *i* PPP PPP 20 43 23.2
MNK *i* S **S** **20 48 19.6 -1.6**
MNK *i* ScS **SKSac** **20 49 07.4 -0.6**
MNK *i* SS **SS** **20 52 53.0 -1.3**
MNK *i* SSS SSS 20 56 11.8
MNK *i* LQ LQ 21 05 42.2
MNK *i* LR LR 21 08 55.6
MNK *i* LRM MLR 21 10 38.7
comp=Z,84nm,14.8s
MNK *i* LRM MLR 21 11 12.8
comp=E,363nm,23.2s
MNK *i* LRM MLR 21 11 17.4
comp=N,765nm,23.2s
VYHS Vyhne 71.03 328 *e*P **P** **20 39 07.2 +0.3**
LANS Liptovska Anna 71.11 329 *e*P **P** **20 39 08.2 +0.9**
FDMO Fiordimonte 71.28 321 P **P** **20 39 08.9 +0.4**
FDMO IAmb IAmb 20 39 18.5
comp=Z,11nm,1.0s
MODS Modra-Piesok 71.79 327 *e*P **P** **20 39 11.8 +0.4**
STKA Stephens Creek 71.80 121 P **P** **20 39 13.2 +1.3**
STKA Stephens Creek 71.80 121 P **P** **20 39 11.6 -0.4**
comp=Z,3.3nm,0.9s,baz=305,slow=3.9,SNR=6.8
comp=Z,3.3nm,0.9s
JAVC Velka Javorina 71.87 328 *e*P **P** **20 39 12.2 +0.2**
RONA Rosalia, Austr 71.93 326 *i* P **P** **20 39 12.7 +0.4**
comp=Z,15nm,1.4s
KSRS Korea Array 71.96 46 P **P** **20 39 12.2 -0.5**
comp=Z,1.8nm,1.0s,baz=224,slow=5.1,SNR=3.3
comp=Z,1.8nm,1.0s
SOKA Soboth 72.06 325 *i* P **P** **20 39 13.7 +0.5**
comp=Z,12nm,1.9s
OBKA Obir 72.25 324 *i* P **P** **20 39 16.3 +1.9**
comp=Z,7.0nm,1.2s
CONA Conrad Observa 72.30 326 *e*P **P** **20 39 15.1 +0.5**
comp=Z,17nm,1.8s,SNR=5.4
KLMR Klimovskoe 72.37 346 *e*P **P** **20 39 12.5 -2.1**
KLMR AMP 20 39 22.8
comp=Z,111nm,1.5s
JNU Nakatsue 72.40 52 LR LR 21 09 02.6
comp=Z,200nm,21.7s,baz=239,slow=34
MORC Moravsky Berou 72.48 328 *e*P **P** **20 39 15.5 -0.1**
KRUC Moravsky 72.67 327 *e*P **P** **20 39 16.3 -0.4**
VRAC Vranov 72.70 328 *e*P **P** **20 39 15.8 -1.1**
VRAC Vranov 72.70 328 LR LR 21 12 04.0
comp=Z,61nm,18.1s,baz=110,slow=36
MYKA Terra Mystica 72.84 324 *i* P **P** **20 39 19.4 +1.6**
comp=Z,14nm,1.2s
MOA Molln 73.15 325 *e*P **P** **20 39 20.2 +0.7**
comp=Z,11nm,1.1s,SNR=6.4
CLUD Cludinico 73.19 324 IAmb IAmb 20 39 21.3
comp=Z,13nm,0.9s
CN2 Changchun 73.22 40 P **P** **20 39 19.8 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
KBA Koelnbreinsper 73.25 324 *i* P **P** **20 39 20.4 0.0**
comp=Z,8.9nm,1.5s
BIOA Bad Ischl, Aus 73.42 325 *i* P **P** **20 39 21.8 +0.6**
comp=Z,17nm,1.7s
ABTA Abfaltersbach 73.56 324 *i* P **P** **20 39 23.0 +0.9**
comp=Z,15nm,1.0s
OSTC Ostas 73.63 328 *e*P **P** **20 39 23.2 +0.8**
CTI Castel Tesino 73.71 323 P **P** **20 39 23.7 +0.7**
CTI IAmb IAmb 20 39 25.3
comp=Z,7.1nm,0.8s
LESA Schwarzleotal 73.82 324 *i* P **P** **20 39 23.9 +0.2**
comp=Z,11nm,1.1s
GERES GERESS Array B 74.01 326 P **P** **20 39 24.2 -0.5**
comp=Z,1.2nm,1.0s,baz=138,slow=10,SNR=4.3
comp=Z,1.2nm,1.0s
ZVC Zvikov 74.07 327 *e*P **P** **20 39 24.9 0.0**
DBIC Dimbokro 74.15 279 P **P** **20 39 27.1 +0.9**
comp=Z,8.1nm,0.9s,baz=100,slow=7.4,SNR=10
DBIC LR LR 21 11 39.8
comp=Z,153nm,18.4s,baz=82,slow=36
comp=Z,8.1nm,0.9s
KHC Kasperske Hory 74.23 326 *e*P **P** **20 39 25.3 -0.6**
WTTA Wattenberg 74.34 324 *e*P **P** **20 39 26.9 +0.2**
comp=Z,20nm,1.0s,SNR=18
WATA Walderalm 74.41 324 *i* P **P** **20 39 27.5 +0.4**
comp=Z,22nm,1.4s,SNR=8.6
SQTA Sankt Quirin 74.57 324 *e*P **P** **20 39 28.5 +0.4**
comp=Z,16nm,1.1s,SNR=6.8
MOTA Monsalm 74.69 324 *i* P **P** **20 39 28.9 +0.1**
comp=Z,21nm,0.9s,SNR=6.9
FETA Feichten 74.75 323 *e*P **P** **20 39 30.0 +0.9**
comp=Z,12nm,0.9s,SNR=10
FUORN Ofenpass-Fuorn 74.82 323 P **P** **20 39 29.3 -0.4**
FUORN IAmb IAmb 20 39 31.8
comp=Z,8.8nm,1.0s
RETA Reutte 74.97 324 *i* P **P** **20 39 31.1 +0.8**
comp=Z,24nm,1.2s,SNR=5.6
BRG Berggiesshubel 75.00 328 *e*P **P** **20 39 31.6 +1.3**
BRG Amp 20 39 34.5
comp=Z,12nm,1.1s
BRG Berggiesshubel 75.00 328 P P 20 39 38.4 +8.1
BRG Amp 20 39 40.3
comp=Z,24nm,1.5s
BRG *erg* 21 09 49.8
BRG Amp 21 09 55.0
comp=Z,6.3nm,1.2s
HSKC Hora Svate Kat 75.12 327 *e*P **P** **20 39 33.2 +2.1**
DAVOX Davos/Dischmat 75.13 323 LR LR 21 13 51.2
comp=Z,50nm,18.1s,baz=80,slow=37
TUE Stuetta 75.30 322 P **P** **20 39 32.3 -0.1**
TUE IAmb IAmb 20 39 54.0
comp=Z,10.0nm,1.1s
BNX BinXian 75.38 39 ⇓P **P** **20 39 32.5 -0.1**
BNX pmax pmax
comp=Z,13nm,1.6s
BNX pmax pmax
comp=Z,220nm,3.8s
DAVA Damuels 75.38 323 *i* P **P** **20 39 33.6 +0.8**
comp=Z,17nm,1.0s
NKC Novy Kostel 75.45 327 *e*P **P** **20 39 34.0 +1.1**
CLL Collm 75.74 328 *i* P **P** **20 39 35.9 +1.4**

CLL *i* x x 20 39 42.3
comp=Z,42nm,1.6s
CLL *e*PP **PP** **20 42 26.0 +1.5**
MDJ Mudanjiang 76.24 40 P **P** **20 39 37.5 0.0**
MDJ ScS **ScS** **20 49 53.5 +1.0**
MDJ pmax pmax
comp=Z,13nm,1.5s
MDJ pmax pmax
comp=Z,500nm,5.6s
SNAA Sanae 76.32 198 P **P** **20 39 38.7 +1.1**
comp=Z,3.6nm,0.9s,baz=56,slow=6.3,SNR=3.8
comp=Z,3.6nm,0.9s
SENIN Lac Senin/Sane 76.50 322 P **P** **20 39 39.9 +0.6**
FINES FINESS Array B 76.70 341 P **P** **20 39 40.0 +0.3**
FINES FINESS Array B 76.70 341 P **P** **20 39 40.4 +0.6**
comp=Z,3.1nm,0.9s,baz=133,slow=8.1,SNR=4.8
FINES LR LR 21 14 18.7
comp=Z,176nm,18.2s,baz=118,slow=36
comp=Z,3.1nm,0.9s
USRK Ussuriysk Ar. 77.61 41 P **P** **20 39 44.4 -0.9**
comp=Z,2.1nm,0.8s,baz=262,slow=10,SNR=5.6
USRK LR LR 21 14 59.6
comp=Z,150nm,21.4s,baz=229,slow=36
comp=Z,2.1nm,0.8s
PMG Port Moresby 78.05 98 P **P** **20 39 48.3 0.0**
comp=Z,5.3nm,0.8s,baz=312,slow=5.0,SNR=6.0
comp=Z,5.3nm,0.8s
NRIK Noril'sk 78.51 7 P **P** **20 39 48.8 -0.9**
comp=Z,1.9nm,0.7s,baz=196,slow=4.4,SNR=6.9
NRIK LR LR 21 15 16.3
comp=Z,300nm,19.5s,baz=167,slow=36
comp=Z,1.9nm,0.7s
MJAR Matsushiro Arr 79.24 50 P **P** **20 39 54.6 +0.1**
comp=Z,4.6nm,1.1s,baz=252,slow=4.7,SNR=4.9
comp=Z,4.6nm,1.1s
GUMO Guam 79.27 75 LR LR 21 10 44.1
comp=Z,122nm,21.9s,baz=267,slow=32
JHJ Hachijo jima 2 79.43 54 LR LR 21 15 49.3
comp=Z,168nm,18.7s,baz=92,slow=36
KLR Kul'dur 79.58 37 LR LR 21 17 44.4
comp=Z,115nm,20.3s,baz=241,slow=38
MDT Midelt 80.05 305 LR LR 21 15 06.8
comp=Z,161nm,20.5s,baz=133,slow=36
HFS Hagfors 80.40 336 P **P** **20 40 00.1 -0.1**
comp=Z,5.5nm,0.8s,baz=199,slow=3.1,SNR=4.8
comp=Z,5.5nm,0.8s
ESDC Sonseca Array 81.57 312 P **P** **20 40 08.1 +1.1**
comp=Z,3.8nm,0.9s,baz=88,slow=4.1,SNR=12
comp=Z,3.8nm,0.9s
QSPA South Pole Qui 81.87 180 P **P** **20 40 08.5 +0.3**
QSPA IAmb IAmb 20 40 19.4
comp=Z,28nm,1.3s
QSPA South Pole Qui 81.87 180 P **P** **20 40 08.7 +0.5**
comp=Z,7.3nm,0.9s,baz=256,slow=3.4,SNR=16
comp=Z,7.3nm,0.9s
NOA NORSAR Array B 81.92 336 P **P** **20 40 07.5 -0.9**
comp=Z,1.1nm,0.9s,baz=108,slow=5.3,SNR=3.0
comp=Z,1.1nm,0.9s
ARCES ARCESS Array B 82.84 346 P **P** **20 40 13.7 +0.7**
comp=Z,12nm,0.9s,baz=131,slow=4.9,SNR=9.9
ARCES LR LR 21 18 51.3
comp=Z,137nm,18.6s,baz=116,slow=37
comp=Z,12nm,0.9s
VNDA Vanda 82.92 167 P **P** **20 40 13.8 +0.5**
comp=Z,1.1nm,0.8s,baz=300,slow=7.9,SNR=4.1
comp=Z,1.1nm,0.8s
YAK Yakutsk 84.42 25 LR LR 21 18 16.5
comp=Z,16nm,20.1s,baz=270,slow=36
BELA Belgrano 2 84.72 192 P **P** **20 40 23.5 +1.0**
BELA IAmb IAmb 20 40 34.8
comp=Z,7.5nm,1.2s
ASAJ Asahikawa 84.73 44 LR LR 21 18 24.9
comp=Z,72nm,19.4s,baz=267,slow=36
TIXI Tiksi 88.91 16 LR LR 21 21 35.3
comp=Z,34nm,19.5s,baz=243,slow=36
SPITS Spitsbergen Ar 90.65 351 LR LR 21 24 06.3
comp=Z,160nm,19.5s,baz=90,slow=37
MA2 Magadan 93.31 30 LR LR 21 24 23.1
comp=Z,211nm,20.0s,baz=254,slow=36
SEY Semychan 94.64 27 LR LR 21 24 39.4
comp=Z,689nm,20.5s,baz=250,slow=36
DZM Mont Dzumac 94.69 113 *e*LR LR 21 11 36.7
comp=Z,678nm,24.4s
PETK Petropavlovsk- 96.27 37 LR LR 21 26 46.1
comp=Z,150nm,21.2s,baz=279,slow=37
BORG Borgarnes 97.05 334 LR LR 21 28 31.3
comp=Z,84nm,18.0s,baz=66,slow=38
A36M Sachs Harbour 115.71 5 **PKiKP** **20 46 29.9 -0.8**
F28M Old Crow 117.74 12 **PKPdf** **20 46 34.1 -0.8**
ILAR Eielson Array 118.38 16 PKP **PKPdf** **20 46 35.0 -1.2**
comp=Z,1.2nm,0.9s,baz=311,slow=2.4,SNR=8.8
YKA Yellowknife Ar 125.74 2 PKPdf **PKPdf** **20 46 49.3 -1.0**
YKA Yellowknife Ar 125.74 2 PKP **PKPdf** **20 46 50.2 -0.1**
comp=Z,2.7nm,0.9s,baz=343,slow=2.3,SNR=33
YKA PP **PP** **20 48 41.4 -0.4**
comp=Z,0.7nm,0.8s,baz=353,slow=7.4,SNR=8.5
SAML Samuel 128.51 252 **PKiKP** **20 46 57.4 -0.3**
LPAZ La Paz 130.27 241 **PKPdf** **20 47 01.4 +0.3**
TBI Tubuai 131.79 131 *e*LR LR 21 28 39.8
comp=Z,894nm,23.8s
PPT2 Papeete2 134.89 125 *e*LR LR 21 30 23.3
comp=Z,201nm,23.0s
PPT2 *e*LR LR 21 30 32.1
comp=Z,190nm,24.0s
RSSD Black Hills 143.52 350 PKPbc 20 47 21.9 +0.5
J05D Fort Rock, OR 144.09 12 PKPbc 20 47 23.0 -0.1
CCM Cathedral Cave 144.84 331 **PKPdf** **20 47 26.3 -0.2**
PDAR Pinedale Array 145.47 357 PKPbc **PKPab** **20 47 27.9 +0.1**
comp=Z,4.7nm,0.9s,baz=72,slow=2.9,SNR=30
T35A Sooner Cattle 148.11 336 PKPdf **PKPdf** **20 47 31.3 -0.8**
PNTR Pine Nut 148.46 11 **PKPbc** **20 47 36.6 +0.3**
NVAR Mina Array Bea 149.33 10 PKPbc **PKPdf** **20 47 36.0 +1.7**
comp=Z,5.6nm,0.8s,baz=294,slow=1.6,SNR=24
RTBA Rita Blanca 150.62 345 **PKPab** **20 47 49.3 +1.0**
ANMO Albuquerque 152.87 350 **PKPdf** **20 47 34.4 -5.3**
TXAR Lajitas Array 157.54 341 PKP **PKPdf** **20 47 46.2 +0.1**
comp=Z,1.6nm,0.9s,baz=10,slow=2.0,SNR=4.8
TXAR PKPab **PKPab** **20 48 16.9 -0.8**
comp=Z,3.3nm,1.1s,baz=57,slow=4.6,SNR=5.4

IDC ***31*** *20:32:27.2± 1.2, 3.˚16S × 101.˚02E, h0km, mb3.8/10, mbtmp3.9/11, ML4.5/1, Error ellipse: s-maj=55.0km s-min=15.4km az=52.0*

DJA ***31*** *20:32:48.3± 0.3, 2.˚3S × 3.˚1 × 10.˚2E± ˚, h166km ± 3km, M4.2/17, mb4.2/7, mB5.1/4, MLv4.2/17, Mw(mB)4.5/4*

ISC 31 20:32:47.8±0.6, **2.˚47S**±0.˚07×**102.˚03E**±0.˚07, **h150**km, **n52,** σ1°**99**/45, **mb3.8**/10, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**0.68**	**304**	P	**Pn**		**20 33 13.6**	**+3.3**
KRJI				S	**Sn**		**20 33 31.9**	**+4.5**
JMBI	**JAMBI**	**1.81**	**63**	P	**Pn**		**20 33 23.1**	**+2.3**
JMBI				S	**Sn**		**20 33 48.3**	**+2.2**
LHSI	**Lahat**	**2.01**	**132**	P	**Pn**		**20 33 26.4**	**+3.3**
PPSI	**Pulau Pagai**	**2.04**	**262**	P	**Pn**		**20 33 26.6**	**+3.3**
MNAI	**Manna**	**2.10**	**154**	P	**Pn**		**20 33 26.8**	**+2.7**
MNAI	**Manna**	**2.10**	**154**	P	**Pn**		**20 33 26.5**	**+2.4**
MNAI				S	**Sn**		**20 33 55.6**	**+3.6**
PDSI	**Padang**	**2.20**	**315**	P	**Pn**		**20 33 27.0**	**+1.7**
BKNI	**Bangkinang**	**2.95**	**340**	P	**Pn**		**20 33 36.5**	**+1.9**
BKNI	**Bangkinang**	**2.95**	**340**	P	**Pn**		**20 33 36.4**	**+1.9**
SISI	**Saibi**	**3.15**	**291**	P	**Pn**		**20 33 39.5**	**+2.5**
DSRI	**Dabo**	**3.23**	**52**	P	**Pn**		**20 33 38.9**	**+0.8**
LWLI	**Liwa**	**3.25**	**141**	P	**Pn**		**20 33 40.3**	**+1.9**
KASI	**Kota Agung**	**3.91**	**141**	P	**Pn**		**20 33 48.4**	**+1.5**
PBSI	**Pulau Batu**	**4.45**	**303**	P	**Pn**		**20 33 55.2**	**+1.3**
CGJI	**Cibinong**	**5.51**	**139**	P	**Pn**		**20 34 07.0**	**-0.9**
GSI	**Gunungsitoli**	**5.82**	**310**	P	**Pn**		**20 34 12.9**	**+0.8**
GSI	**Gunungsitoli** 139nm,0.6s,3µm0.8nm	**5.82**	**310**	P	**Pn**		**20 34 12.7**	**+0.6**
CNJI	**Cibinong** 11nm,1.2s,592nm0.1nm	**7.00**	**134**	P	**Pn**		**20 34 26.4**	**-1.4**
KCSI	**Kotacane, Aceh** 34nm,0.7s,7µm0.6nm	**7.31**	**324**	P	**Pn**		**20 34 31.8**	**-0.3**
SNSI	**Sinabang, Aceh** 67nm,1.1s,0.4nm	**7.48**	**310**	P	**Pn**		**20 34 34.8**	**+0.5**
BBJI	**Bungbulang**	**7.48**	**132**	P	**Pn**		**20 34 33.9**	**-0.5**
CMJI	**Cimerak**	**8.29**	**130**	P	**Pn**		**20 34 44.3**	**-0.8**
MLSI	**Meulaboh, Aceh**	**8.74**	**320**	P	**Pn**		**20 34 51.1**	**0.0**
XMIS	**Christmas Isla** 48nm,1.8s	**8.74**	**156**	P	**Pn**		**20 34 47.7**	**-3.4**
LHMI	**Lhok Sumawe**	**9.18**	**326**	P	**Pn**		**20 34 55.6**	**-1.3**
BBKI	**Banjar Baru**	**12.84**	**95**	P	**P**		**20 35 50.4**	**+0.3**
SRBI	**Singaraja**	**14.26**	**114**	P	P		20 36 26.4	+20

TWSI	Taliwang, Sumb	16.04	113	P		P		20 36 37.3	+12
PLAI	Plampang	16.89	113	P		Pn		**20 36 35.5**	**0.0**
TTSI	Tana Toraja	17.78	92	P		Pn		20 37 04.4	+18
KAPI	Kappang	17.87	99	P		Pn		**20 36 49.5**	**+2.3**
	1.5nm,0.3s,baz=257,slow=8.1,SNR=8.3								
	4.3nm,0.4s								
BKSI	Bulukumba	18.27	99	P		Pn		**20 36 55.5**	**+3.5**
BKSI	Bulukumba	18.27	99	P		Pn		**20 36 51.5**	**-0.5**
EDFI	Ende, Flores	20.53	108	P		P		20 37 06.7	-8.0
CMAR	Chiang Mai Arr	21.01	352	P		P		**20 37 20.1**	**+0.4**
	0.7nm,0.6s,baz=191,slow=8.3,SNR=5.3								
	0.7nm,0.6s								
MMRI	Maumere	21.02	108	P		P		20 37 10.8	-9.0
SOEI	Soe	23.25	109	P		P		20 37 26.3	-16
WRA	Warramunga Arr	36.02	121	P		P		**20 39 34.4**	**-0.4**
	0.3nm,0.4s,baz=302,slow=9.2,SNR=8.0								
WRA				PcP		PcP		**20 41 56.3**	**-1.9**
	0.5nm,1.1s,baz=308,slow=2.4,SNR=2.0								
	0.3nm,0.4s								
ASAR	Alice Springs	37.35	127	P		P		**20 39 45.6**	**-0.4**
	1.0nm,0.6s,baz=298,slow=7.6,SNR=6.1								
ASAR				PcP		PcP		**20 42 00.0**	**-2.1**
	0.1nm,0.3s,baz=312,slow=3.2,SNR=1.5								
	1.0nm,0.6s								
STKA	Stephens Creek	47.34	133	P		P		**20 41 06.9**	**+0.2**
	0.9nm,0.4s,baz=326,slow=9.4,SNR=1.9								
	0.9nm,0.4s								
SONM	Songino Array	50.24	4	P		P		**20 41 30.0**	**+1.3**
	0.6nm,0.4s,baz=186,slow=10,SNR=8.2								
	0.6nm,0.4s								
MKAR	Makanchi Array	52.05	343	P		P		**20 41 41.8**	**-0.2**
	1.0nm,0.4s,baz=156,slow=9.0,SNR=26								
	1.0nm,0.4s								
KURBB	Kurchatov Arra	56.59	342	P		P		**20 42 14.1**	**-0.7**
	0.7nm,0.7s,baz=159,slow=7.1,SNR=5.6								
	0.7nm,0.7s								
ZALV	Zalesovo Beam	58.02	348	P		P		**20 42 24.2**	**-0.5**
	1.0nm,0.4s,baz=169,slow=6.6,SNR=8.2								
	1.0nm,0.4s								
BVAR	Borovoye Array	61.33	339	P		P		**20 42 46.1**	**-1.4**
	0.5nm,0.4s,baz=136,slow=9.3,SNR=11								
	0.5nm,0.4s								
H04N2	CROZET ISLANDS	61.64	217	T		T		21 48 22.8	
	baz=61,slow=75								
H04N1	CROZET ISLANDS	61.65	217	T		T		21 48 33.8	
	baz=61,slow=75								
H04N3	CROZET ISLANDS	61.66	217	T		T		21 48 20.8	
	baz=61,slow=75								
H04S1	CROZET ISLANDS	61.91	217	T		T		21 48 55.6	
	baz=58,slow=75								
H04S3	CROZET ISLANDS	61.92	217	T		T		21 48 43.9	
	baz=58,slow=75								
H04S2	CROZET ISLANDS	61.92	217	T		T		21 48 44.2	
	baz=58,slow=75								
KBZ	Khabaz	69.99	319	P		P		**20 43 41.9**	**-1.2**
	1.3nm,0.8s,baz=118,slow=4.9,SNR=4.1								
	1.3nm,0.8s								

IDC ***31*** *20:59:00.2±0.5, 52°.84S×118°.47W, h0km, mb4.5/13, mbtmp4.4/13, MS4.8/42, Error ellipse: s-maj=21.6km s-min=16.1km az=157.0*

MOS ***31*** *20:59:01.9±1.9, 53°.06S×118°.02W, h10km, mb5.1/16, Error ellipse: s-maj=21.3km s-min=12.9km az=67.9*

NEIC ***31*** *20:59:02.5±1.7, 53°.0S±0°.1×118°.4W±0°.2, h10km±1km, mb5.1/117, Error ellipse: s-maj=23.4km s-min=18.7km az=326.0*

GCMT ***31*** *20:59:05.5±0.1, 53°.04S±0°.01×118°.29W±0°.01, h14km, MW5.3/130, Moment Tensor Solution. s89,c147; s130,c213; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.15±.02; Mθθ-0.79±.02; Mφφ0.93±.02; Mrθ-0.27±.04; Mφθ-0.50±.01; Mφr-0.13±.03; Best double couple: Mo1.04600×10^17 NP1:φs28.00000°, δ79.00000°, λ-15.00000°. NP2:φs121.00000°, δ75.00000°, λ-169.00000°. Principal axes: T 1.0740, Plg3.0000°, Azm75.0000°; N -0.0560, Plg71.0000°, Azm173.0000°; P -1.0180, Plg18.0000°, Azm344.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***31*** *20:59:06.5, 53°.10S×118°.10W, h33km, mB5.3/4, Ms5.2/4, Ms7 5.0/6*

ISC 31 20:59:02.2±0.3, 52°.98S±0°.07×118°.30W±0°.07, h10km, n440, σt^2 39/368, mb5.0/74, MS4.8/47, 31C-29D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RPN	Rapa Nui	26.67	18	LR	LR		21 11 41.9	
	comp=Z,571nm,18.5s,baz=183,slow=29							
USHA	Ushuaia	28.94	114	LR	LR		21 14 15.4	
	comp=Z,2μm,18.8s,baz=262,slow=32							
PMSA	Palmer Station	29.43	135	LR	LR		21 13 49.4	
	comp=Z,782nm,19.4s,baz=272,slow=30							
COYC	Coyhaique	30.60	95	P		P	**21 05 14.0**	**-2.0**
COYC				IAmb	IAmb		21 05 18.8	
	comp=Z,38nm,1.3s							
AY01	Puyuhuapi	30.86	93	P		P	**21 05 18.3**	**0.0**
AY01				IAmb	IAmb		21 05 21.0	
	comp=Z,26nm,1.2s							
LL02	Futaleuf	32.02	91	P		P	**21 05 29.0**	**+0.4**
LL02				IAmb	IAmb		21 05 31.4	
	comp=Z,23nm,1.2s							
LR05	Currie	33.67	87	P		P	**21 05 43.0**	**0.0**
H03S2	Juan Fernandez	33.85	71	T		T	21 41 26.2	
	baz=221,slow=74							
H03S1	Juan Fernandez	33.85	71	T		T	21 41 27.5	
	baz=221,slow=74							
H03S3	Juan Fernandez	33.87	71	T		T	21 41 30.4	
	baz=221,slow=74							
H03N3	Juan Fernandez	34.12	71	T		T	21 41 44.1	
	baz=224,slow=71							
H03N2	Juan Fernandez	34.13	71	T		T	21 41 42.5	
	baz=224,slow=71							
H03N1	Juan Fernandez	34.14	71	T		T	21 41 42.5	
	baz=224,slow=71							
PLCA	Paso Flores	34.24	89	P		P	**21 05 48.5**	**+0.4**
PLCA				IAmb	IAmb		21 05 51.0	
	comp=Z,25nm,1.3s							
PLCA	Paso Flores	34.24	89	*e*P		P	**21 05 48.5**	**+0.4**
PLCA	Paso Flores	34.24	89	P		P	**21 05 48.7**	**+0.6**
	comp=Z,11nm,1.2s,baz=231,slow=11,SNR=5.7							
PLCA				LR	LR		21 16 27.8	
	comp=Z,2μm,18.7s,baz=218,slow=30							
	comp=Z,11nm,1.2s							
GO06	Curarrehue	34.39	86	P		P	**21 05 49.3**	**-0.1**
GO06				IAmb	IAmb		21 05 52.2	
	comp=Z,39nm,1.2s							
VNDA	Vanda	36.82	201	P		P	**21 06 09.7**	**0.0**
VNDA	Vanda	36.82	201	P		P	**21 06 12.9**	**+3.2**
VNDA	Vanda	36.82	201	P		P	**21 06 11.2**	**+1.4**
	comp=Z,2.1nm,0.9s,baz=85,slow=11,SNR=3.9							
VNDA				LR	LR		21 17 43.9	
	comp=Z,696nm,21.2s,baz=92,slow=30							
	comp=Z,2.1nm,0.9s							
QSPA	South Pole Qui	37.22	180	P		P	**21 06 13.3**	**-0.2**
QSPA	South Pole Qui	37.22	180	P		P	**21 06 14.9**	**+1.5**
	comp=Z,10nm,1.1s,baz=110,slow=6.0,SNR=14							
QSPA				LR	LR		21 19 27.0	
	comp=Z,2μm,20.7s,baz=101,slow=33							
	comp=Z,10nm,1.1s							
BELA	Belgrano 2	37.58	160	P		P	**21 06 16.6**	**+0.4**
TBI	Tubuai	37.86	309	*e*SS		SS	21 14 56.4	0.0
	comp=Z,2μm,23.0s							
TBI				*e*LR		LR	21 16 43.9	
	comp=Z,2μm,25.8s							
TBI	Tubuai	37.86	309	*e*T		T	21 46 27.9	
	comp=Z,7.1nm,0.3s							
BO02	Sierra Bellavi	37.95	81	P		P	**21 06 18.9**	**-1.0**
BO02				IAmb	IAmb		21 06 22.0	
	comp=Z,40nm,1.2s							
BO01	Tunca	38.05	80	P		P	**21 06 19.7**	**-0.9**
BO01				IAmb	IAmb		21 06 22.7	
	comp=Z,45nm,1.4s							
LMEL	Las Melosas	38.95	80	P		P	**21 06 28.1**	**-0.3**
LMEL				IAmb	IAmb		21 07 37.6	
	comp=Z,52nm,1.7s							
MT05	Renca	38.95	79	P		P	**21 06 28.1**	**-0.2**
MT13	San Alfonso	38.97	80	P		P	**21 06 26.5**	**-2.0**
MT13				IAmb	IAmb		21 06 32.0	
	comp=Z,107nm,1.8s							
PEL	Peldehue	39.16	79	P		P	**21 06 29.3**	**-0.7**
PEL				IAmb	IAmb		21 07 54.8	
	comp=Z,25nm,0.7s							
PEL	Peldehue	39.16	79	P		P	**21 06 29.3**	**-0.7**
	comp=Z,25nm,0.7s					pmax	pmax	
TRQA	Tornquist	41.09	92	P		P	**21 06 44.7**	**-1.3**
TRQA				IAmb	IAmb		21 06 48.3	
	comp=Z,43nm,1.2s							
TRQA	Tornquist	41.09	92	*e*P		P	**21 06 44.7**	**-1.3**
ZON	Zonda	41.48	79	P		P	**21 06 50.1**	**+0.8**
ZON	Zonda	41.48	79	P		P	**21 06 50.1**	**+0.8**
ZON				pmax	pmax			
	comp=Z,86nm,0.5s							
CFA	Coronel Fontan	41.70	80	LR	LR		21 19 49.0	
	comp=Z,3μm,21.3s,baz=222,slow=30							
MEH	Mehetia	42.02	315	*e*T		T	21 51 39.5	
	comp=Z,10nm,0.3s							
PPT2	Papeete2	42.93	313	*e*S		S	**21 13 22.2**	**-3.9**
	comp=Z,111nm,25.8s							
PPT2				*e*SS		SnSn	**21 16 53.5**	**+0.3**
	comp=Z,294nm,26.5s							
PPT2				*e*LR		LR	21 19 01.1	
	comp=Z,1μm,25.8s							
PPT2				*e*LR		LR	21 19 08.2	
	comp=Z,788nm,24.2s							
PPT	Papeete	42.95	313	LR		LR	21 20 09.0	
	comp=Z,446nm,18.6s,baz=146,slow=30							
VAH	Vaihoa	44.20	317	*e*T		T	21 54 25.1	
	comp=Z,6.7nm,0.2s							
PMOR	Pomariorio Ree	44.52	317	*e*T		T	21 54 50.9	
	comp=Z,5.1nm,0.2s							
RAR	Rarotonga	44.82	299	LR		LR	21 20 51.2	
	comp=Z,631nm,20.6s,baz=154,slow=29							
URZ	Urewera	45.94	262	LR		LR	21 22 27.5	
	comp=Z,2μm,19.5s,baz=259,slow=31							
RPZ	Rata Peaks	46.07	252	LR		LR	21 22 09.9	
	comp=Z,644nm,21.6s,baz=124,slow=30							
VNA2	Neumayer--Watz	47.06	155	⇑P		P	**21 07 34.0**	**+0.6**
	comp=Z,8.8nm,0.8s,baz=266,slow=4.0							
TAOE	Nuku Hiva Isla	47.43	330	*e*LR		LR	21 21 15.3	
	comp=Z,2μm,24.6s							
SNAA	Sanae	47.68	157	P		P	**21 07 37.3**	**-1.0**
SNAA	Sanae	47.68	157	P		P	**21 07 39.2**	**+0.9**
	comp=Z,3.8nm,0.9s,baz=264,slow=9.2,SNR=2.8							
SNAA				LR		LR	21 27 25.6	
	comp=Z,2μm,19.1s,baz=230,slow=36							
	comp=Z,3.8nm,0.9s							
LVC	Limon Verde	48.07	71	LR		LR	21 22 34.1	
	comp=Z,948nm,20.0s,baz=214,slow=29							
TROLL	Troll, Antarti	48.65	159	⇑P		P	**21 07 46.4**	**+0.5**
	comp=Z,448nm,0.7s							
RAO	Raoul Island	49.12	274	LR		LR	21 25 48.1	
	comp=Z,444nm,18.4s,baz=89,slow=33							
TA02	Huaiquique	49.24	67	P		P	**21 07 51.1**	**+0.3**
PB11	IPOC Station P	49.91	68	P		P	**21 07 55.2**	**-0.9**
ITQB	Itaqui	50.06	88	P		P	**21 07 57.1**	**+0.1**
PLTB	Pedras Altas	50.40	92	P		P	**21 07 59.9**	**+0.3**
PB16	IPOC Station P	51.14	67	IAmb	IAmb		21 08 08.6	
	comp=Z,32nm,1.1s							
NVL	N'lazarevskaya	51.52	161	*e*P		P	21 08 15.3	+7.9
NVL				*e*S		S	**21 15 30.7**	**+3.5**
NVL				pmax	pmax			
	comp=Z,25nm,1.2s							
NVL				smax	smax			
	comp=N,255nm,10.2s							
NVL				MLR	MLR			
	comp=Z,1μm,16.0s							
CPUP	Villa Florida	52.07	84	IAmb	IAmb		21 08 13.6	
	comp=Z,40nm,1.2s							
CPUP	Villa Florida	52.07	84	P		P	**21 08 11.4**	**-0.7**
	comp=Z,14nm,1.0s,baz=241,slow=7.0,SNR=18							
CPUP				LR		LR	21 27 18.9	
	comp=Z,3μm,18.6s,baz=218,slow=33							
	comp=Z,14nm,1.0s							
ELIB	Princess Elisa	52.49	166	*d*P		P	**21 08 13.9**	**-0.9**
	comp=Z,6.0nm,1.1s							
NNA	Nana	52.57	55	*i* P		P	**21 08 15.4**	**-0.6**
NNA				pmax	pmax			
	comp=Z,13nm,1.2s							
NNA	Nana	52.57	55	LR		LR	21 24 39.6	
	comp=Z,1μm,19.7s,baz=208,slow=29							
ATAH	Atahualpa	56.04	50	LR		LR	21 27 08.9	
	comp=Z,1μm,18.6s,baz=182,slow=30							
AQDB	Aquidauana	57.46	81	IAmb	IAmb		21 08 52.4	
	comp=Z,30nm,1.2s							
MCRA	Macar, Loja	57.78	47	*e*P		P	**21 08 52.9**	**-0.6**
SIV	San Ignacio	57.80	73	LR		LR	21 29 17.5	
	comp=Z,915nm,22.0s,baz=278,slow=31							
PTLB	Pontes e Lacer	59.35	74	P		P	**21 09 04.5**	**0.0**
PTLB				IAmb	IAmb		21 09 06.0	
	comp=Z,23nm,1.2s							
MAW	Mawson	59.74	181	P		P	**21 09 02.3**	**-4.1**
	comp=Z,6.1nm,0.9s,baz=194,slow=4.2,SNR=3.3							
MAW				LR		LR	21 33 59.8	
	comp=Z,299nm,18.2s,baz=170,slow=35							
COHC	Cochancay	59.78	47	*e*P		P	**21 09 06.8**	**-0.6**
VILB	Vilhena	60.73	72	P		P	**21 09 14.2**	**+0.2**
SLOR	San Lorenzo -	61.66	47	P		P	**21 09 21.2**	**+0.4**
SLOR				IAmb	IAmb		21 09 29.1	
	comp=Z,23nm,1.6s							
SAML	Samuel	62.30	66	P		P	**21 09 24.3**	**-0.3**
SAML				IAmb	IAmb		21 09 30.2	
	comp=Z,24nm,1.1s							
SAML	Samuel	62.30	66	*e*P		P	**21 09 22.8**	**-1.8**
SAML	Samuel	62.30	66	P		P	**21 09 24.3**	**-0.3**
SAML				pmax	pmax			
	comp=Z,25nm,1.2s							
PULU	Pululahua	62.33	46	P		P	**21 09 24.5**	**-0.7**
OTAV	Otavalo	62.55	46	P		P	**21 09 28.2**	**+1.5**
OTAV	Otavalo	62.55	46	*e*P		P	**21 09 25.4**	**-1.3**
OTAV	Otavalo	62.55	46	P		P	**21 09 28.2**	**+1.5**
OTAV				pmax	pmax			
	comp=Z,28nm,1.2s							
BONI	La Bonita	63.15	47	*e*P		P	21 09 36.7	+6.2
TULM	Tulcn-Chalpat	63.27	47	P		P	**21 09 31.0**	**-0.6**
TULM				IAmb	IAmb		21 09 39.0	
	comp=Z,21nm,1.0s							
DZM	Mont Dzumac	63.88	268	*e*LR		LR	21 28 23.6	
	comp=Z,2μm,26.5s							
DZM	Mont Dzumac	63.88	268	LR		LR	21 30 29.6	
	comp=Z,891nm,21.9s,baz=144,slow=30							
GCUF	Volcan Galeras	63.92	47	*e*P		P	**21 09 38.8**	**+3.0**
POPC	Popayan, Colom	65.38	47	*e*P		P	**21 09 45.0**	**-0.1**
BDFB	Brasilia	65.80	84	P		P	**21 09 48.3**	**+0.6**
BDFB				IAmb	IAmb		21 09 49.2	
	comp=Z,17nm,1.1s							
BDFB	Brasilia	65.80	84	P		P	**21 09 48.3**	**+0.6**
BDFB				pmax	pmax			
	comp=Z,17nm,1.1s							
BDFB	Brasilia	65.80	84	P		P	**21 09 47.0**	**-0.7**
	comp=Z,7.3nm,0.9s,baz=212,slow=5.2,SNR=9.2							
BDFB				LR		LR	21 35 11.8	
	comp=Z,2μm,21.6s,baz=184,slow=33							
	comp=Z,7.3nm,0.9s							
JAMC	Jamundi, Valle	65.98	47	*e*P		P	**21 09 47.4**	**-1.5**
YOTC	Yotoco, Valle	66.81	47	*e*P		P	**21 09 55.2**	**+1.0**
ORTC	Ortega, Tolima	67.23	48	*e*P		P	**21 09 57.5**	**+0.7**
GUY2C	Guyana, Caldas	68.35	47	*e*P		P	**21 10 03.2**	**-1.1**
MACA	Manacapuru-AM	68.47	65	P		P	**21 10 04.3**	**-0.2**
ROSC	El Rosal	68.48	48	P		P	**21 10 04.1**	**-0.9**
ROSC	El Rosal	68.48	48	P		P	**21 10 04.1**	**-0.9**
ROSC				pmax	pmax			
	comp=Z,30nm,1.1s							
ROSC	El Rosal	68.48	48	LR		LR	21 35 16.0	
	comp=Z,735nm,18.1s,baz=211,slow=32							
PTGC	Puerto Gaitan,	68.91	50	*e*P		P	**21 10 09.4**	**+2.2**
JTS	Las Juntas de	69.16	35	*i* P		P	**21 10 09.7**	**+1.0**
JTS	Las Juntas de	69.16	35	LR		LR	21 33 40.8	
	comp=Z,417nm,19.0s,baz=181,slow=30							
SPBC	San Pablo de B	69.31	48	*e*P		P	**21 10 06.0**	**-3.8**
DBBC	Dabeiba	69.59	45	*e*P		P	**21 10 13.4**	**+1.9**
PTBC	PUERTO BERRIO,	69.92	47	*e*P		P	**21 10 12.8**	**-0.6**
ZARC	Zaragoza, Cauc	70.60	46	*e*P		P	**21 10 15.4**	**-2.2**
STKA	Stephens Creek	70.84	242	P		P	**21 10 19.1**	**+0.1**
STKA	Stephens Creek	70.84	242	*i* P		P	**21 10 20.1**	**+1.1**
STKA	Stephens Creek	70.84	242	P		P	**21 10 17.4**	**-1.6**
	comp=Z,2.5nm,0.8s,baz=146,slow=9.9,SNR=4.9							
STKA				LR		LR	21 34 47.8	
	comp=Z,837nm,21.9s,baz=174,slow=30							
	comp=Z,2.5nm,0.8s							
OCAC	Ocana	71.94	47	*e*P		P	**21 10 26.6**	**+0.7**
CMIG	Matias Romero	72.66	23	LR		LR	21 35 44.0	
	comp=Z,219nm,18.3s,baz=190,slow=30							
BOAV	Boa Vista	73.19	62	*e*P		P	**21 10 31.0**	**-2.3**
SDV	Santo Domingo	73.73	50	LR		LR	21 37 57.0	
	comp=Z,483nm,21.7s,baz=191,slow=32							
LPIG	La Paz	77.06	7	LR		LR	21 37 28.8	
	comp=Z,349nm,18.1s,baz=218,slow=30							
TEIG	Tepich	77.41	29	LR		LR	21 38 49.7	
	comp=Z,2μm,19.2s,baz=347,slow=31							
CTA	Charters Tower	77.41	253	LR		LR	21 39 59.6	
	comp=Z,368nm,19.5s,baz=108,slow=32							
HNR	Honiara	77.57	271	LR		LR	21 37 43.4	
	comp=Z,4μm,21.1s,baz=159,slow=30							
PCRV	Puerto La Cruz	77.70	54	LR		LR	21 40 35.4	
	comp=Z,835nm,21.2s,slow=32							
MDP	Montagnes des	79.75	67	LR		LR	21 42 44.9	
	comp=Z,444nm,19.7s,baz=221,slow=33							
RCBR	Riachuelo	80.80	87	LR		LR	21 44 60.0	
	comp=Z,2μm,18.8s,baz=174,slow=34							
H01W1	Cape Leeuwin H	81.34	221	T		T	22 41 39.6	
	baz=150,slow=75,SNR=4.5							
H01W2	Cape Leeuwin H	81.34	221	T		T	22 41 38.7	
	baz=150,slow=75,SNR=5.3							
H01W3	Cape Leeuwin H	81.36	221	T		T	22 41 43.2	
	baz=150,slow=75,SNR=5.0							
ASAR	Alice Springs	81.46	242	P		P	**21 11 18.2**	**-1.4**
ASAR	Alice Springs	81.46	242	P		P	**21 11 18.2**	**-1.4**
ASAR	Alice Springs	81.46	242	P		P	**21 11 18.4**	**-1.2**
	comp=Z,5.4nm,0.9s,baz=150,slow=4.6,SNR=30							
ASAR				LR		LR	21 41 43.6	
	comp=Z,1μm,20.9s,baz=149,slow=32							
	comp=Z,5.4nm,0.9s							
AS31	Alice Springs	81.47	242	P		P	**21 11 18.8**	**-0.8**
NWAO	Narrogin (SRO)	81.78	224	LR		LR	21 40 36.9	
	comp=Z,289nm,18.5s,baz=166,slow=30							
TX31	Lajitas Ar. Si	82.95	13	IAmb		IAmb	21 11 38.3	
	comp=Z,23nm,1.3s							
TXAR	Lajitas Array	82.95	13	P		P	**21 11 26.9**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=187,slow=7.6,SNR=9.1							
TXAR				LR		LR	21 42 46.3	
	comp=Z,115nm,18.8s,baz=290,slow=32							
	comp=Z,1.6nm,0.9s							
HNDO	Hondo	83.81	17	P		P	**21 11 34.4**	**+3.0**
HNDO				IAmb	IAmb		21 11 38.7	
	comp=Z,18nm,1.2s							
SJG	San Juan	83.87	49	LR		LR	21 45 36.9	
	comp=Z,185nm,18.5s,baz=232,slow=33							
WRA	Warramunga Arr	84.25	244	P		P	**21 11 32.6**	**-1.5**
	comp=Z,6.0nm,0.9s,baz=144,slow=4.5,SNR=28							
	comp=Z,6.0nm,0.9s							
PIX	Pinacate	84.28	4	P		P	**21 11 36.6**	**+2.9**
WB0	Warramunga Arr	84.36	245	IAmb	IAmb		21 11 44.9	
	comp=Z,24nm,1.2s							
ESJX	Sierra Juarez	84.65	2	P		P	**21 11 36.9**	**+1.1**
ESJX				IAmb	IAmb		21 11 46.8	
	comp=Z,13nm,1.2s							
JCT	Junction City	84.66	16	P		P	**21 11 37.7**	**+2.0**
JCT				IAmb	IAmb		21 11 42.5	
	comp=Z,26nm,1.4s							
JCT	Junction City	84.66	16	P		P	**21 11 37.2**	**+1.5**
	baz=191							
JCT	Junction City	84.66	16	P		P	**21 11 37.7**	**+2.0**
JCT				pmax	pmax			
	comp=Z,26nm,1.4s							
214A	Organ Pipe Nat	84.71	5	IAmb	IAmb		21 11 47.5	
	comp=Z,18nm,1.2s							
214A	Organ Pipe Nat	84.71	5	P		P	**21 11 37.2**	**+1.3**
	baz=183							
HKT	Hockley	84.87	19	*i* P		P	**21 11 38.3**	**+1.7**
HKT				pmax	pmax			
	comp=Z,4.0nm,1.0s							
CBX	Cerro Bola	84.94	1	P		P	**21 11 36.9**	**-0.3**
CBX				IAmb	IAmb		21 11 47.9	
	comp=Z,20nm,1.1s							
MNTX	Cornudas Mount	85.07	11	P		P	**21 11 38.6**	**+0.9**
	baz=188							
TUC	Tucson	85.18	6	P		P	**21 11 40.0**	**+1.7**
TUC				IAmb	IAmb		21 14 14.0	
	comp=Z,8.7nm,0.8s							
TUC	Tucson	85.18	6	P		P	**21 11 39.4**	**+1.1**
	baz=185							
TUC	Tucson	85.18	6	P		P	**21 11 40.0**	**+1.7**
TUC				pmax	pmax			
	comp=Z,9.0nm,0.8s							
IKP	In-Ko-Pah, Jac	85.29	2	P		P	**21 11 39.7**	**+0.8**
	baz=181							
YUH	Yuha Desert	85.29	2	IAmb	IAmb		21 11 45.4	
	comp=Z,11nm,1.2s							
PMG	Port Moresby	85.29	261	*i* P		P	**21 11 39.1**	**-0.3**
PMG				pmax	pmax			
	comp=Z,23nm,1.1s							
PMG	Port Moresby	85.29	261	P		P	**21 11 38.3**	**-1.0**
	comp=Z,2.6nm,0.3s,baz=122,slow=5.3,SNR=1.8							
PMG				LR		LR	21 46 43.1	
	comp=Z,416nm,18.0s,baz=137,slow=34							
	comp=Z,2.6nm,0.3s							
BAR	Barrett	85.31	1	P		P	**21 11 40.9**	**+2.0**
113A	Mohawk Valley,	85.47	4	IAmb	IAmb		21 11 50.4	
	comp=Z,10.0nm,1.2s							
MONP2	Monument Peak	85.52	2	P		P	**21 11 41.4**	**+1.2**
	baz=181							
SWSC	Sam W. Stewart	85.59	2	P		P	**21 11 42.7**	**+2.5**
	baz=182							
121A	Cookes Peak, D	85.64	9	P		P	**21 11 42.0**	**+1.2**
	baz=186							
SGCY	Sterling City	85.85	15	P		P	**21 11 44.1**	**+2.5**
SGCY				IAmb	IAmb		21 11 48.7	
	comp=Z,21nm,1.1s							
MURC	Murrieta	86.22	1	P		P	**21 11 45.8**	**+2.4**
	baz=181							
PFO	Pinyon Flats O	86.24	2	P		P	**21 11 45.1**	**+1.5**
PFO	Pinyon Flats O	86.24	2	P		P	**21 11 45.2**	**+1.6**
	baz=181							
PFO	Pinyon Flats O	86.24	2	P		P	**21 11 45.1**	**+1.5**
PFO				pmax	pmax			
	comp=Z,6.0nm,1.0s							
BC3	Big Chuckawall	86.30	2	P		P	**21 11 45.8**

baz=184
V12A Nelson 88.39 3 IAmb IAmb 21 12 04.4
comp=Z,9.2nm,1.2s
VES Vestal, Richgr 88.45 359 P **P** **21 11 55.4 +1.3**
baz=180
MPMC Manual Prospec 88.67 1 P **P** **21 11 56.7 +1.3**
baz=180
CWC Cottonwood Cre 89.05 0 P **P** **21 11 57.6 +0.6**
baz=180
U15A North Rim 89.19 5 IAmb IAmb 21 12 09.3
comp=Z,11nm,1.3s
WCT Wildcat Mounta 89.41 1 IAmb IAmb 21 12 10.6
comp=Z,14nm,1.4s
TPNV Topopah Spring 89.57 2 IAmb IAmb 21 12 03.8
comp=Z,15nm,1.5s
TPNV Topopah Spring 89.57 2 P **P** **21 12 01.1 +1.5**
baz=181
LRAL Lakeview Retre 89.89 26 P **P** **21 12 02.0 +1.1**
baz=198
PRN Pahroc Range 90.06 3 IAmb IAmb 21 12 13.8
comp=Z,18nm,1.1s
MVCO Mesa Verde 90.22 8 P **P** **21 12 03.1 +0.4**
baz=186
FITZ Fitzroy Crossi 90.39 239 P **P** **21 12 03.6 -0.2**
T25A Trinidad 90.55 11 P **P** **21 12 05.5 +1.3**
baz=188
TUL3 Leonard 90.66 18 P **P** **21 12 05.8 +1.4**
baz=193
R11B Troy Canyon, C 90.98 2 IAmb IAmb 21 12 17.8
comp=Z,12nm,1.3s
R11B Troy Canyon, C 90.98 2 P **P** **21 12 07.9 +1.8**
baz=182
NVAR Mina Array Bea 91.03 360 P **P** **21 12 05.7 -0.7**
comp=Z,0.4nm,0.6s,baz=182,slow=6.2,SNR=5.7
comp=Z,0.4nm,0.6s
SDCO Great Sand Dun 91.03 10 P **P** **21 12 08.0 +1.5**
baz=188
NV11 Mina Array Sit 91.03 0 IAmb IAmb 21 12 13.1
comp=Z,11nm,1.6s
GOGA Godfrey 91.22 29 P **P** **21 12 09.1 +2.0**
baz=200
RYN Ryan 91.23 360 IAmb IAmb 21 12 18.8
comp=Z,11nm,1.3s
YERR Yerington 91.59 359 IAmb IAmb 21 12 20.4
comp=Z,11nm,1.3s
KVN Kaiserville 91.65 0 IAmb IAmb 21 12 20.6
comp=Z,17nm,1.5s
PNTR Pine Nut 91.70 359 P **P** **21 12 10.5 +1.1**
PNTR IAmb IAmb 21 12 20.9
comp=Z,6.5nm,1.0s
Q16A Castle Valley 91.73 6 IAmb IAmb 21 12 20.5
comp=Z,14nm,1.1s
SRU San Rafael Swe 91.96 6 IAmb IAmb 21 12 20.8
comp=Z,9.7nm,1.0s
ORV Oroville 92.20 358 P **P** **21 12 12.0 +0.5**
ORV IAmb IAmb 21 12 19.0
comp=Z,9.1nm,1.3s
ORV Oroville 92.20 358 P **P** **21 12 12.0 +0.5**
ORV pmax pmax
comp=Z,9.0nm,1.3s
Q24A Divide 92.27 10 P **P** **21 12 14.3 +2.0**
baz=188
PAHR Pah Rah Range 92.31 359 IAmb IAmb 21 12 20.3
comp=Z,10nm,1.3s
P18A Preston Nutter 92.49 6 IAmb IAmb 21 12 21.1
comp=Z,19nm,1.7s
WVT Waverly 92.61 24 P **P** **21 12 14.9 +1.5**
baz=198
NLU North Lily Min 92.71 5 IAmb IAmb 21 12 24.8
comp=Z,12nm,1.0s
BOSA Boshof 92.77 148 LR LR 21 46 32.7
comp=Z,309nm,21.1s,baz=198,slow=31
MPU Maple Canyon 92.80 5 IAmb IAmb 21 12 25.4
comp=Z,6.3nm,1.0s
DUG Dugway, Tooele 92.92 4 P **P** **21 12 16.1 +1.2**
baz=183
DUG Dugway, Tooele 92.92 4 P P 21 12 20.2 +5.2
O20A White River Ci 93.14 8 P **P** **21 12 17.6 +1.5**
baz=186
TKL Tuckaleechee C 93.24 28 LR LR 21 49 58.5
comp=Z,184nm,18.4s,baz=190,slow=33
YBH Yreka Blue Hor 94.41 357 LR LR 21 45 51.0
comp=Z,470nm,20.6s,baz=189,slow=30
WVOR Wild Horse Val 95.03 360 IAmb IAmb 21 12 35.3
comp=Z,8.8nm,1.1s
WVOR Wild Horse Val 95.03 360 P **P** **21 12 27.3 +2.7**
WIN Windhoek 95.40 139 P **P** **21 12 27.5 +0.4**
PDAR Pinedale Array 95.66 6 P **P** **21 12 27.4 -0.2**
comp=Z,0.8nm,0.8s,baz=195,slow=2.8,SNR=4.5
comp=Z,0.8nm,0.8s
HLID Hailey 96.22 3 P **P** **21 12 31.7 +1.7**
baz=182
H11N3 WAKE ISLAND Hy 96.76 294 T T 23 00 12.1
baz=144,slow=76
H11N1 WAKE ISLAND Hy 96.76 294 T T 23 00 22.4
baz=144,slow=76
H11N2 WAKE ISLAND Hy 96.77 294 T T 23 00 13.3
baz=144,slow=76
TORD Torodi Ar. Bea 118.33 107 PKP **PKiKP** **21 17 50.2 +0.4**
comp=Z,1.0nm,0.5s,baz=253,slow=0.3,SNR=4.0
ILAR Eielson Array 119.47 346 PKP **PKPdf** **21 17 50.7 +0.2**
comp=Z,0.2nm,0.8s,baz=176,slow=2.4,SNR=2.8
KMBO Kilima Mbogo 122.33 151 *ce*P **Pdif** **21 14 31.9 +4.6**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
A36M Sachs Harbour 124.76 357 PKPdf **PKPdf** **21 18 00.7 +0.3**
TAM Tamanrasset 128.13 103 PKPdf **PKiKP** **21 18 09.3 +0.1**
TAM Tamanrasset 128.13 103 PKiKP **PKiKP** **21 18 09.3 +0.1**
BILL Bilibino 132.90 330 *i* PKiKP **PKiKP** **21 18 22.1 +4.9**
BILL pmax pmax
comp=Z,4.0nm,1.3s
NJ2 Nanjing 134.36 266 *e*PKP **PKiKP** **21 18 21.5 +0.2**
CMAR Chiang Mai Arr 135.04 234 PKPdf **PKPdf** **21 18 20.9 -0.6**
CMAR Chiang Mai Arr 135.04 234 PKiKP **PKPdf** **21 18 21.0 -0.6**
CMAR Chiang Mai Arr 135.04 234 PKP **PKiKP** **21 18 22.6 -0.5**
comp=Z,2.4nm,1.0s,baz=194,slow=1.6,SNR=14
MDJ Mudanjiang 136.06 288 PKP **PKiKP** **21 18 25.5 +1.2**
KLR Kul'dur 137.45 294 *i* PKiKP **PKiKP** **21 18 27.2 +0.2**
KLR pmax pmax
comp=Z,4.0nm,1.1s
PZH PanZhiHua 140.21 244 PKP **PKPdf** **21 18 31.3 +0.2**
ZEA Zeya 142.12 298 *i* PKiKP **PKPdf** **21 18 35.1 +1.7**
HYB Hyderabad 142.14 207 *e*Pdif **Pdif** **21 15 55.8 +0.9**
EKA Eskdalemuir Ar 143.17 60 PKP PKPbc 21 18 33.4 +1.1
comp=Z,2.8nm,0.9s,baz=272,slow=3.5,SNR=2.3
YAK Yakutsk 144.02 312 **PKPab** **21 18 33.5 -0.5**
YAK Yakutsk 144.02 312 *e*PKiKP **PKPab** **21 18 34.4 +0.4**
YAK pmax pmax
comp=Z,14nm,0.7s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.4s
HIA Hailar 144.24 288 *i* PKiKP PKPbc 21 18 36.6 +0.9
SHL Shillong 144.49 231 **PKPab** **21 18 36.6 -0.5**
SHL Shillong 144.49 231 PKiKP **PKPab** **21 18 36.6 -0.5**
HHC Hu-ho-hao-te 144.55 270 *e*PKP **PKPab** **21 18 36.5 -0.3**
SENIN Lac Senin/Sane 144.92 78 PKPdf **PKPab** **21 18 37.2 -1.0**
DOU Dourbes 145.16 71 *d*PKP **PKPdf** **21 18 39.9 +1.0**
BTO Baotou 145.34 269 *e*PKPbc **PKPab** **21 18 41.3 +1.6**
BTO PP **PP** **21 22 05.5 +5.5**
BTO SS SS 21 40 53.8 +2.2
BMRD Maredsous 145.36 71 *d*PKP **PKPab** **21 18 39.8 +0.5**
RCHB Rochefort 145.55 71 *d*PcP **PKPab** **21 18 41.1 +1.1**
BGES Gesves 145.58 71 *d*PKP **PKiKP** **21 18 43.9 +0.3**
BCLA Clavier 145.72 71 *d*PKP **PKPdf** **21 18 34.9 -4.9**
WLF Walferdange 145.86 73 *d*PKP **PKPbc** **21 18 40.9 +0.1**
BSTI Sart Tilman 145.94 71 *d*PKP **PKPdf** **21 18 40.9 +0.7**
TIXI Tiksi 146.07 328 PKPdf **PKPdf** **21 18 39.2 -0.6**
TIXI Tiksi 146.07 328 ⇑PKP2 **PKPbc** **21 18 40.8 +0.1**
LZH Lanzhou 146.12 257 *e*PKPbc **PKPbc** **21 18 42.3 +0.1**
LZH pPKP sPKPab 21 18 48.3 +2.0
MEM Membach 146.20 71 *d*PKP **PKPab** **21 18 43.6 +1.1**
SALO Salr 146.45 82 PKPdf **PKPbc** **21 18 42.9 +0.2**
TIP Timpagrande 146.49 96 ⇓P **PKPab** **21 18 43.8 -0.2**
BFO Black Forest 146.50 76 **PKPbc** **21 18 42.9 +0.1**
BFO Black Forest 146.50 76 PKP2 **PKPbc** **21 18 42.9 +0.1**
BFO Black Forest 146.50 76 *e*L L 22 19 20.3
comp=E,314nm,20.8s
DAVA Damuels 146.91 79 *i* PKP **PKPbc** **21 18 44.0 -0.1**
comp=E,19nm,1.4s
FETA Feichten 147.29 80 *i* PKP **PKPbc** **21 18 46.3 +1.1**
comp=E,19nm,1.2s,SNR=7.8
MATE Matera 147.37 94 ⇓P **PKPbc** **21 18 45.9 +0.5**
TNS Taunus Mts 147.44 73 *e*L L 22 24 08.0
comp=E,425nm,18.5s

RETA Reutte 147.53 79 *i* PKP **PKPbc** **21 18 45.4 -0.4**
comp=E,22nm,1.3s
MOTA Moosalm 147.67 79 *i* PKP **PKPbc** **21 18 47.5 +1.2**
comp=E,21nm,1.0s,SNR=6.0
SQTA Sankt Quirin 147.67 80 *i* PKP **PKPbc** **21 18 47.5 +1.3**
comp=E,25nm,1.3s,SNR=7.7
TAPN Taplejung 147.93 227 *e*P **PKPbc** **21 18 47.4 -0.3**
comp=E,98nm,1.1s
WATA Walderalm 147.94 80 *e*PKP **PKPbc** **21 18 47.2 +0.3**
comp=E,11nm,1.1s
WTTA Wattenberg 147.95 80 *i* pPKP **PKiKP** **21 18 48.4 -0.4**
comp=E,9.8nm,0.9s,SNR=11
RAMN Ramite 148.07 225 *e*P **PKPbc** **21 18 47.8 -0.2**
comp=E,211nm,1.5s
FUR Furstenfeldbru 148.16 78 *e*L L 22 20 26.0
comp=E,281nm,20.2s
ABTA Abfaltersbach 148.22 81 *i* PKP **PKPbc** **21 18 48.6 +1.0**
comp=E,15nm,1.0s,SNR=15
ROBS Robic 148.56 83 *i* PKPbc **PKPbc** **21 18 49.4 +1.0**
LESA Schwarzleotal 148.64 80 *ep*PKP **PKiKP** **21 18 49.7 -0.4**
comp=E,15nm,0.9s
GRFO Grafenberg 148.82 75 **PKPdf** **21 18 43.2 -1.8**
GRFO Grafenberg 148.82 75 PKHKP PKPpre 21 18 43.3
GRF Grafenberg Arr 148.82 75 *e*PKPbc **PKiKP** **21 18 50.9 +0.5**
baz=244,slow=3.0
GRF *e*L L 22 18 49.3
comp=E,181nm,21.5s
MYKA Terra Mystica 148.83 82 *i* PKP **PKiKP** **21 18 50.4 -0.2**
comp=E,13nm,0.8s,SNR=5.8
GTTG Gottingen 148.86 71 *e*PKPbc **PKiKP** **21 18 51.1 +0.8**
baz=244,slow=3.0
JIRN Jiri 148.86 225 *e*P **PKPbc** **21 18 48.8 -1.4**
comp=E,54nm,1.0s
RJOB Jochberg 148.86 80 *e*PKPbc **PKiKP** **21 18 50.3 -0.3**
baz=244,slow=3.0
KBA Koelnbreinsper 148.87 81 *i* PKP **PKiKP** **21 18 50.5 -0.3**
comp=E,14nm,1.5s
RETH Rethem/Aller, 148.98 69 *e*PKPbc **PKiKP** **21 18 51.5 +1.0**
baz=244,slow=3.0
CIT Chita 148.98 289 *e*PKP2 **PKPbc** **21 18 49.2 -0.2**
CIT *e* 21 22 27.6
CIT pmax pmax
comp=Z,79nm,1.6s
PKI Pulchoki 149.12 224 *e*P **PKPbc** **21 18 49.6 -1.2**
comp=Z,217nm,1.5s
GUN Gumba 149.21 225 *e*P **PKPbc** **21 18 50.3 -0.8**
comp=Z,91nm,1.0s
DMN Daman 149.28 224 *e*P **PKPbc** **21 18 50.6 -0.5**
STON Ston 149.28 91 ⇑*i*P **PKPbc** **21 18 50.8 +0.5**
OBKA Obir 149.32 83 *i* pPKP **PKPbc** **21 18 51.0 +0.6**
comp=E,16nm,0.9s
OBKA Obir 149.32 83 ⇑*i*P **PKiKP** **21 18 51.3 -0.3**
BIOA Bad Ischl, Aus 149.34 80 *i* pPKP **PKPbc** **21 18 51.1 +0.7**
comp=Z,12nm,1.0s,SNR=11
MOX Moxa 149.45 74 *e*PKPbc **PKiKP** **21 18 52.1 +0.5**
baz=244,slow=3.0
MOX *e*L L 22 20 38.1
comp=Z,407nm,19.3s
A050A Klekovaca 149.47 88 ⇑*i*P **PKiKP** **21 18 52.2 +0.3**
MANZ Manzenberg 149.47 75 *e*PKPbc **PKiKP** **21 18 52.2 +0.5**
baz=244,slow=3.0
LEGS Legarje 149.50 84 *i* PKPbc **PKiKP** **21 18 52.4 +0.5**
WET Wettzell 149.55 77 *e*L L 22 20 32.4
comp=Z,241nm,19.8s
EIL Elat 149.57 129 PKPbc **PKPbc** **21 18 51.5 0.0**
comp=Z,8.5nm,1.1s,baz=186,slow=6.1,SNR=3.0
SOKA Soboth 149.69 83 *i* PKP **PKiKP** **21 18 52.2 -0.2**
comp=Z,12nm,1.0s,SNR=5.7
TIR Tirane 149.70 96 ⇓P **PKiKP** **21 18 53.4 +1.0**
TIR Tirane 149.70 96 ⇓PKP2 **PKiKP** **21 18 53.4 +1.0**
PLN Plauen 149.70 74 *e*PKPbc **PKiKP** **21 18 52.8 +0.7**
baz=244,slow=3.0
PERS Pernice 149.72 83 *i* PKPbc **PKiKP** **21 18 52.5 +0.2**
WERN Wernitzgruen 149.75 75 *e*PKPbc **PKiKP** **21 18 53.3 +1.0**
baz=244,slow=3.0
MGRS Mrkonjic Grad 149.76 88 ⇑*i*P **PKiKP** **21 18 52.6 +0.1**
NKC Novy Kostel 149.77 75 ⇑*e*PKP **PKiKP** **21 18 54.1 +1.8**
NKC *e*PKPAB **sPKPab** **21 19 01.6 +1.4**
NKC Novy Kostel 149.77 75 *e*PKP2 **PKiKP** **21 18 54.1 +1.8**
NEUB Neuenburg 149.77 73 *e*PKPbc **PKiKP** **21 18 53.4 +1.1**
baz=244,slow=3.0
WERD Werda 149.77 75 *e*PKPbc **PKiKP** **21 18 53.1 +0.8**
baz=244,slow=3.0
DRME Dracevica, Mon 149.78 94 ⇑*i*P **PKiKP** **21 18 52.6 0.0**
MOA Molln 149.79 80 *i* PKP **PKiKP** **21 18 52.5 0.0**
comp=Z,20nm,1.1s,SNR=8.6
GKN Gorkha 149.82 223 *e*P **PKPbc** **21 18 51.0 -1.3**
comp=Z,216nm,1.6s
TANN Tannenbergstha 149.85 75 *e*PKPbc **PKiKP** **21 18 53.4 +0.9**
baz=244,slow=3.0
GEC2 GERESS Array S 149.91 78 *e*PKPbc **PKiKP** **21 18 53.0 +0.3**
baz=244,slow=3.0
GEC2 *e*L L 22 19 49.2
comp=Z,286nm,20.6s
GERES GERESS Array B 149.91 78 PKPbc **PKPbc** **21 18 51.2 -0.6**
comp=Z,12nm,0.9s,baz=240,slow=2.6,SNR=39
BSEG Bad Segeberg 149.93 67 *e*PKPbc **PKiKP** **21 18 53.4 +1.0**
baz=244,slow=3.0
KHC Kasperske Hory 149.96 78 ⇑*e*PKP **PKiKP** **21 18 53.0 +0.2**
KHC *e*PKPAB **sPKPbc** **21 18 56.6 +1.3**
KHC Kasperske Hory 149.96 78 *e*PKP2 **PKiKP** **21 18 53.0 +0.2**
A051A Mrakovica 149.97 87 ⇑*i*P **PKiKP** **21 18 53.3 +0.3**
BLY Banja Luka 150.00 88 ⇑*i*P **PKiKP** **21 18 53.2 +0.3**
GORT1 Trebel 150.17 69 *e*L L 22 17 05.0
comp=Z,254nm,21.0s
CKRC Cesky Krumlov 150.26 79 ⇑*e*PKP **PKiKP** **21 18 53.5 +0.1**
CKRC *ex* x 21 18 57.4
CKRC Cesky Krumlov 150.26 79 *e*PKIKP **PKiKP** **21 18 53.5 +0.1**
CKRC *e* 21 18 57.4
ZVC Zvikov 150.46 77 ⇑*e*PKP **PKiKP** **21 18 54.0 +0.3**
ZVC *e*PKPAB **sPKPbc** **21 18 57.3 +0.9**
DANN Dangsing 150.48 222 *e*P **PKPbc** **21 18 52.6 -1.5**
HSKC Hora Svate Kat 150.49 75 ⇑*e*PKP **PKiKP** **21 18 54.3 +0.5**
CLL Collm 150.52 73 *i* PKPbc **PKiKP** **21 18 54.2 +0.4**
comp=Z,35nm,1.0s
CLL *i* x x 21 18 58.2
comp=Z,40nm,1.1s
CLL *i* PKPab **pPKPab** **21 19 02.1 -0.2**
comp=Z,51nm,1.1s
CLL Collm 150.52 73 *i* PKIKP **PKiKP** **21 18 54.2 +0.4**
CLL *i* 21 18 58.2
CLL *i* 21 19 02.1
CLL pmax pmax
comp=Z,35nm,1.0s
CLL Collm 150.52 73 *e*PKPbc **PKiKP** **21 18 54.9 +1.2**
baz=244,slow=3.0
BOD Bodaibo 150.54 301 *e*PKIKP **PKPbc** **21 18 51.8 -1.1**
BOD pmax pmax
comp=Z,38nm,1.4s
PYUN Piuthan 150.57 221 *e*P **PKPbc** **21 18 52.6 -1.6**
comp=Z,76nm,1.0s
FBE Freiberg 150.57 74 *e*PKPbc **PKiKP** **21 18 55.1 +1.2**
baz=244,slow=3.0
RUDO Rudo 150.71 91 ⇑*i*P **PKPbc** **21 18 54.1 +0.3**
GTA Gaotai 150.72 258 PKPbc **PKPbc** **21 18 53.5 -0.6**
GTA pPKP sPKPbc 21 18 59.5 +2.0
GTA sPKP 21 19 02.5
GTA LR LR
comp=Z,76nm,18.3s
GTA LR LR
comp=Z,130nm,19.5s
GTA LR LR
comp=Z,220nm,24.1s
HAPS Han Pijesak,Bl 150.72 90 ⇑*i*P **PKiKP** **21 18 55.5 +0.9**
CONA Conrad Observa 150.78 81 *i* PKP **PKiKP** **21 18 54.8 +0.2**
comp=Z,22nm,1.4s,SNR=6.8
BBLS Baći 150.87 91 ⇑*i*P **PKiKP** **21 18 55.6 +0.7**
SJES Sjenica 150.88 93 ⇑*i*P **PKiKP** **21 18 55.4 +0.5**
PRU Pruhonice 150.89 77 ⇑*e*PKP **PKPbc** **21 18 53.1 -0.9**
PRU *ex* x 21 18 58.4
PRU Pruhonice 150.89 77 *e*PKIKP **PKPbc** **21 18 53.1 -0.9**
PRU *e* 21 18 58.4
BRG Berggiesshubel 150.90 75 *i* PKP **PKiKP** **21 18 55.6 +1.1**
BRG Amp 21 19 00.2
comp=Z,16nm,1.0s
BRG Berggiesshubel 150.90 75 P **PKPab** **21 19 04.2 +2.8**
BRG Amp 21 19 05.3
comp=Z,32nm,1.2s
BRG Berggiesshubel 150.90 75 *i* PKIKP **PKiKP** **21 18 55.6 +1.1**
BRG pmax pmax
comp=Z,16nm,1.0s
BRG Berggiesshubel 150.90 75 *e*PKPbc **PKiKP** **21 18 55.7 +1.1**
baz=244,slow=3.0
RONA Rosalia, Austr 150.94 82 *i* PKP **PKiKP** **21 18 55.0 +0.2**
comp=Z,14nm,1.7s
ULN Ulaanbaatar 151.04 278 **PKPbc** **21 18 54.0 -0.7**

ULN Ulaanbaatar 151.04 278 ⇑PKIKP **PKPbc** **21 18 54.5 -0.1**
PVCC Panska Ves 151.13 76 ⇑*e*PKP **PKiKP** **21 18 55.7 +0.6**
PVCC *ex* x 21 19 03.5
PVCC Panska Ves 151.13 76 *e*PKIKP **PKiKP** **21 18 55.7 +0.6**
PVCC *e* 21 19 03.5
TEKS Tekeris 151.31 90 ⇑*i*P **PKiKP** **21 18 55.9 +0.2**
RUE Ruedersdorf 151.40 71 *e*PKPbc **PKiKP** **21 18 56.7 +1.2**
baz=244,slow=3.0
GOMU GeErMu 151.40 247 PKPbc **PKPbc** **21 18 54.3 -1.8**
GOMU sPKP 21 19 02.0
SONM Songino Array 151.42 278 **PKPbc** **21 18 55.0 -0.5**
SONM Songino Array 151.42 278 PKIKP **PKPbc** **21 18 55.0 -0.5**
SONM Songino Array 151.42 278 PKPbc **PKPbc** **21 18 54.9 -0.6**
comp=Z,3.7nm,0.7s,baz=128,slow=1.4,SNR=29
KRUC Moravsky 151.60 79 *e*PKP **PKPbc** **21 18 55.6 -0.1**
MORH Mrgy, Hungar 151.63 86 ⇓P **PKiKP** **21 18 57.3 +1.1**
FRGS Fruska Gora 151.80 89 ⇓P **PKiKP** **21 18 57.6 +0.9**
FRGS Fruska Gora 151.80 89 ⇑⇑P **PKPbc** **21 18 56.3 0.0**
VRAC Vranov 151.82 79 ⇓P **PKiKP** **21 18 57.9 +1.3**
VRAC Vranov 151.82 79 *e*PKP **PKPbc** **21 18 55.7 -0.5**
VRAC Vranov 151.82 79 ⇓PKIKP **PKiKP** **21 18 57.9 +1.3**
MODS Modra-Piesok 151.83 81 *e*PKP **PKiKP** **21 18 57.4 +0.8**
MODS Modra-Piesok 151.83 81 *e*PKIKP **PKiKP** **21 18 57.4 +0.8**
UPC Upice 151.97 76 ⇑*e*PKP **PKiKP** **21 19 01.4 +4.6**
UPC *e*PKPAB **PKPab** **21 19 06.4 +0.5**
NB2 NORSAR Subarra 152.01 53 PKP **PKPbc** **21 18 56.6 +0.3**
comp=Z,31nm,1.4s,baz=266,slow=2.4
NB2 NORSAR Subarra 152.01 53 PKP **PKPbc** **21 18 56.6 +0.3**
baz=266,slow=2.4
NOA NORSAR Array B 152.01 53 PKPbc **PKPbc** **21 18 56.3 0.0**
comp=Z,8.4nm,1.1s,baz=266,slow=2.1,SNR=7.7
CHVC Chvalec 152.02 76 ⇑*e*PKP **PKPbc** **21 18 54.9 -1.7**
CHVC Chvalec 152.02 76 *e*PKIKP **PKPbc** **21 18 54.9 -1.7**
DPC Dobruska-Polom 152.09 77 ⇑*e*PKP **PKiKP** **21 18 57.8 +0.7**
DPC *e*PKPAB **PKPab** **21 19 05.8 -0.7**
DPC Dobruska-Polom 152.09 77 *e*PKIKP **PKiKP** **21 18 57.8 +0.7**
DPC *e* 21 19 05.8
OSTC Ostas 152.10 76 ⇑*e*PKP **PKiKP** **21 18 57.6 +0.5**
OSTC *ex* x 21 19 04.9
OSTC Ostas 152.10 76 *e*PKIKP **PKiKP** **21 18 57.6 +0.5**
OSTC *e* 21 19 04.9
BOVS Bovan 152.13 93 ⇓P **PKiKP** **21 18 57.8 +0.5**
KRLC Kraliky 152.25 78 ⇑*e*PKP **PKiKP** **21 18 58.6 +1.1**
KRLC *ex* x 21 19 02.4
KRLC Kraliky 152.25 78 *e*PKIKP **PKiKP** **21 18 58.6 +1.1**
KRLC *e* 21 19 02.4
JAVC Velka Javorina 152.27 81 *e*PKP **PKiKP** **21 18 58.7 +1.1**
MORC Moravsky Berou 152.58 79 ⇓P **PKiKP** **21 18 59.9 +1.7**
MORC Moravsky Berou 152.58 79 *e*PKP **PKPbc** **21 18 58.3 +0.4**
MORC Moravsky Berou 152.58 79 ⇓PKIKP **PKiKP** **21 18 59.9 +1.7**
MAUC Maruska 152.58 80 ⇑*e*PKP **PKiKP** **21 18 59.0 +0.8**
MAUC *ex* x 21 19 07.1
BLKB Belogradchik 152.71 94 ⇓P **PKiKP** **21 18 59.5 +0.8**
MDVR Moldovita 152.76 91 ⇓P **PKiKP** **21 18 60.0 +1.3**
VYHS Vyhne 152.81 82 *e*PKP **PKPdf** **21 18 52.1 +0.8**
VYHS *e* 21 18 59.8
VYHS Vyhne 152.81 82 *e*PKIKP **PKPdf** **21 18 52.1 +0.8**
VYHS *e* 21 19 00.9
BZS Buzias 153.13 90 ⇓P **PKiKP** **21 19 00.7 +1.3**
BZS Buzias 153.13 90 ⇓PKIKP **PKiKP** **21 19 00.7 +1.3**
HERR Herculane 153.24 92 ⇓P **PKiKP** **21 19 00.9 +1.3**
SURR Surduc 153.51 90 ⇓P **PKPdf** **21 18 53.9 +1.6**
ZAK Zakamensk 154.34 281 *e*PKIKP **PKiKP** **21 19 07.6 +5.7**
ZAK pmax pmax
comp=Z,5.0nm,1.5s
DRGR 154.37 88 ⇓P **PKPbc** **21 18 59.0 -3.0**
DRGR 154.37 88 ⇓PKIKP **PKPbc** **21 18 59.0 -3.0**
DOPR Dopca 155.59 92 ⇓P PKPdf 21 19 05.7 +10
MLR Muntele Rosu 155.68 93 PKPdf **PKPdf** **21 18 56.0 +0.4**
MLR Muntele Rosu 155.68 93 PKIKP **PKPdf** **21 18 56.0 +0.4**
BRTR Keskin Array B 156.71 113 PKP **PKPdf** **21 18 54.5 -2.6**
comp=Z,0.9nm,0.8s,baz=207,slow=0.8,SNR=4.6
BRTR PKPab PKPab **21 19 27.3 +0.7**
comp=Z,11nm,1.1s,baz=186,slow=5.0,SNR=11
NACGM Naroch 159.48 71 *e*PKP **PKPdf** **21 18 58.5 -1.3**
KIEV Kiev 159.88 83 PKPdf **PKPdf** **21 19 00.2 -0.1**
KIEV Kiev 159.88 83 PKIKP **PKPdf** **21 19 00.2 -0.1**
AKASG Malin Array Be 159.90 83 PKP **PKPdf** **21 19 00.1 -0.3**
comp=Z,2.5nm,0.9s,baz=274,slow=1.8,SNR=8.0
MNK Minsk 160.05 72 *i* PKP **PKPdf** **21 18 59.2 -1.3**
comp=E,5.0nm,1.2s
MNK *i* PKP **PKPdf** **21 18 59.2 -1.3**
comp=N,19nm,1.3s
MNK *i* PKP **PKPdf** **21 18 59.2 -1.3**
comp=Z,5.0nm,1.0s,baz=260
MNK *i* PP **PP** **21 23 20.7 -2.5**
MNK *i* SKS **SKSdf** **21 26 04.7 -0.4**
MNK *i* PPP PPP 21 27 00.5
MNK *i* SKKS **SKKSdf** **21 34 27.7 +0.5**
MNK *i* SS **SS** **21 43 30.5 -2.1**
MNK *i* SSS SSS 21 49 34.9
MNK *i* LQ LQ 22 25 35.6
MNK *i* LR LR 22 31 32.9
MNK *i* LRM MLR 22 32 49.5
comp=E,126nm,19.9s
MNK *i* LRM MLR 22 32 49.5
comp=Z,254nm,19.9s
MNK *i* LRM MLR 22 33 33.3
comp=N,196nm,18.9s
MNK Minsk 160.05 72 *i* PKIKP **PKPdf** **21 18 59.1 -1.3**
MNK *i* 21 23 20.7
MNK *i* 21 26 04.7
MNK *i* SS SS 21 43 30.4 -2.2
MNK *i* SSS SSS 21 49 34.8
MNK pmax pmax
comp=Z,5.0nm,1.0s
MNK pmax pmax
comp=E,5.0nm,1.2s
MNK pmax pmax
comp=N,19nm,1.3s
WMQ Urumqi 160.56 252 *e*PKP **PKPdf** **21 19 02.8 +1.3**
WMQ LR LR
comp=N,180nm,21.5s
KBL Kabul 160.84 199 PKPdf **PKPdf** **21 19 01.1 -1.2**
KBL PKPab **PKPab** **21 19 44.2 -0.4**
KBL Kabul 160.84 199 PKIKP **PKPdf** **21 19 01.1 -1.2**
KBL 21 19 44.3
GEYT Alibeck 164.75 169 PKPab **PKPab** **21 20 00.7 -0.7**
comp=N,5.0nm,1.2s,baz=186,slow=2.9,SNR=4.7
GYA0B ALIBECK ARRAY 164.75 169 PKPab **PKPab** **21 20 00.6 -0.8**
MKAR Makanchi Array 165.38 253 PKPab **PKPab** **21 20 03.0 -1.2**
MKAR Makanchi Array 165.38 253 PKP2 **PKPab** **21 20 03.0 -1.2**
MKAR Makanchi Array 165.38 253 PKPab **PKPab** **21 20 03.4 -0.8**
comp=N,3.4nm,0.9s,baz=116,slow=4.9,SNR=18
MAKZ Makanchi 165.57 253 PKPab **PKPab** **21 20 03.3 -1.7**
MAKZ Makanchi 165.57 253 PKP2 **PKPab** **21 20 03.3 -1.7**
MOS Moscow 165.72 69 *e*PKIKP **PKPdf** **21 19 06.3 +0.4**
ZAA0 Zalesovo Array 166.20 283 PKPab **PKPab** **21 20 06.4 -1.1**
ZALV Zalesovo Beam 166.20 283 PKPab **PKPab** **21 20 06.1 -1.4**
ZALV Zalesovo Beam 166.20 283 PKP2 **PKPab** **21 20 06.1 -1.4**
ZALV Zalesovo Beam 166.20 283 PKP **PKPdf** **21 19 04.8 -1.6**
comp=N,0.2nm,0.3s,baz=95,slow=1.6,SNR=1.8
ZALV PKPab **PKPab** **21 20 05.3 -2.2**
comp=N,3.2nm,0.9s,baz=96,slow=4.3,SNR=8.3
MAK Makhachkala 166.21 131 *e*PKIKP **PKPdf** **21 19 02.8 -3.9**
MAK *e* 21 23 50.9
MAK *e* 21 26 04.8
MAK *e*SSS SSS 21 50 58.1
MAK pmax pmax
comp=Z,77nm,1.1s
KURK Kurchatov 169.29 265 PKIKP **PKPdf** **21 19 07.9 -0.7**
KURBB Kurchatov Arra 169.31 264 PKP **PKPdf** **21 19 07.9 -0.7**
comp=Z,0.4nm,0.5s,baz=127,slow=0.8,SNR=5.0
BVAR Borovoye Array 174.75 274 PKP **PKPdf** **21 19 08.8 -2.3**
comp=Z,1.5nm,1.1s,baz=325,slow=1.8,SNR=2.8
BVAR PKPab **PKPab** **21 20 46.0 +0.5**
comp=Z,1.7nm,0.8s,baz=106,slow=5.3,SNR=7.3
ABKAR Akbulak array 176.12 163 **PKPdf** **21 19 09.9 -1.6**

*IDC **31** 21:03:54.7±0.5,5.72S×110.74E,h536km±5km,mb3.5/26, mbtmp4.4/28,Error ellipse: s-maj=10.9km s-min=6.8km az=59.0*
*DJA **31** 21:03:55.3±0.1,6.2S×111.1E±.1°,h536km±2km,M4.5/32, mB5.1/7,mb4.3/32,MLv4.7/28,Mw(mB)4.4/7*
*NEIC **31** 21:03:56.1±0.9,5.74S±0.09×110.7E±0.1,h542km±3km, mb4.2/42,Error ellipse: s-maj=15.3km s-min=12.6km az=60.0*
ISC 31 21:03:55.5±0.4,**5.83S**±0.05×**110.66E**±0.05,**h542**km±4km, **h544km:pP-P,n187,σ1.914/207,mb4.0/46,2D,Java Sea**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SMRI	**Semarang**	**1.24**	**190**	P	**P**	**21 05 02.0**	**+0.3**
SMRI				S	**S**	**21 05 56.2**	**+0.8**
SMRI	**Semarang**	**1.24**	**190**	P	**P**	**21 05 02.2**	**+0.5**
SMRI	**Semarang**	**1.24**	**190**	P	**P**	**21 05 01.9**	**+0.3**
SMRI				S	**S**	**21 05 56.0**	**+0.6**
NGJI	**Ngawi**	**1.73**	**153**	P	**P**	**21 05 04.6**	**+1.3**
BWJI	**Bawean**	**1.98**	**91**	P	**P**	**21 05 03.6**	**-0.8**
YOGI	**Yogyakarta**	**2.01**	**190**	P	**P**	**21 05 04.2**	**-0.4**
YOGI				S	**S**	**21 05 57.8**	**-2.9**
UGM	**Wanagama**	**2.08**	**184**	P	**P**	**21 05 04.5**	**-0.4**
UGM	**Wanagama**	**2.08**	**184**	P	**P**	**21 05 04.5**	**-0.4**
UGM	**Wanagama**	**2.08**	**184**	P	**P**	**21 05 04.5**	**-0.4**
UGM				S	**S**	**21 05 58.8**	**-2.5**
KPJI	**Karang Pucung**	**2.28**	**229**	P	**P**	**21 05 05.8**	**0.0**
JCJI	**Jatiwangi**	**2.47**	**254**	P	**P**	**21 05 07.3**	**+0.5**
JCJI				S	**S**	**21 06 05.5**	**+0.7**
CMJI	**Cimerak**	**2.94**	**228**	P	**P**	**21 05 07.7**	**-1.8**
LEM	**Lembang**	**3.19**	**252**	P	**P**	**21 05 11.3**	**0.0**
LEM	**Lembang**	**3.19**	**252**	P	**P**	**21 05 11.1**	**-0.2**
	63nm,0.6s,baz=37,slow=7.6,SNR=26						
LEM				S	**S**	**21 06 11.0**	**-2.0**
	106nm,0.6s,baz=326,slow=21,SNR=8.3						
BBJI	**Bungbulang**	**3.41**	**241**	P	**P**	**21 05 11.9**	**-0.7**
BLJI	**Banyuglugur**	**3.48**	**123**	P	**P**	**21 05 13.0**	**0.0**
KMMI	**Kalianget**	**3.50**	**111**	P	**P**	**21 05 13.3**	**+0.1**
CNJI	**Cibinong**	**3.81**	**247**	P	**P**	**21 05 14.1**	**-1.3**
CBJI	**Citeko**	**3.84**	**261**	P	**P**	**21 05 14.7**	**-0.9**
DBJI	**Dramaga**	**3.96**	**259**	P	**P**	**21 05 16.3**	**-0.2**
ABJI	**Asem Bagus**	**4.05**	**119**	P	**P**	**21 05 17.8**	**+0.6**
SKJI	**Sukabumi**	**4.25**	**254**	P	**P**	**21 05 17.8**	**-0.9**
JAGI	**Jajag, Banyuwa**	**4.35**	**127**	P	**P**	**21 05 18.6**	**-0.9**
JAGI	**Jajag, Banyuwa**	**4.35**	**127**	P	**P**	**21 05 18.7**	**-0.9**
JAGI	**Jajag, Banyuwa**	**4.35**	**127**	P	**P**	**21 05 18.4**	**-1.1**
BBKI	**Banjar Baru**	**4.78**	**61**	P	**P**	**21 05 22.4**	**-0.7**
BBKI				S	**S**	**21 06 33.6**	**-0.9**
CGJI	**Cibinong**	**5.00**	**261**	P	**P**	**21 05 23.7**	**-1.2**
	245nm,0.6s,6µm1.4nm						
SRBI	**Singaraja**	**5.04**	**117**	P	**P**	**21 05 25.5**	**+0.3**
	203nm,0.8s,2µm0.8nm						
DNP	**Denpasar**	**5.33**	**122**	P	**P**	**21 05 26.3**	**-1.4**
	166nm,0.5s,5.7nm						
PPBI	**Pangkal Pinang**	**5.80**	**309**	P	**P**	**21 05 31.3**	**-0.7**
STKI	**Sintang**	**5.91**	**8**	P	**P**	**21 05 33.1**	**+0.1**
	83nm,0.8s,5µm0.3nm						
KASI	**Kota Agung**	**6.14**	**272**	P	**P**	**21 05 34.5**	**-0.6**
	85nm,0.9s,0.5nm						
MTKI	**Muara Teweh, K**	**6.43**	**41**	P	**P**	**21 05 36.8**	**-1.0**
	26nm,0.5s,0.8nm						
XMI	**Christmas Isla**	**6.74**	**227**	P	**P**	**21 05 41.4**	**+0.7**
XMIS	**Christmas Isla**	**6.78**	**227**	P	**P**	**21 05 41.5**	**+0.4**
XMIS	**Christmas Isla**	**6.78**	**227**	P	**P**	**21 05 41.6**	**+0.4**
TWSI	**Taliwang, Sumb**	**6.81**	**116**	P	**P**	**21 05 39.9**	**-1.5**
	60nm,0.7s,0.4nm						
KSM	**Kuching**	**7.26**	**357**	P	**P**	**21 05 45.5**	**-0.2**
PLAI	**Plampang**	**7.66**	**113**	P	**P**	**21 05 48.0**	**-1.6**
PLAI	**Plampang**	**7.66**	**113**	P	**P**	**21 05 47.5**	**-2.1**
	28nm,0.6s,0.4nm						
BKB	**Balikpapan**	**7.70**	**54**	P	**P**	**21 05 52.2**	**+2.2**
BKB	**Balikpapan**	**7.70**	**54**	P	**P**	**21 05 51.3**	**+1.3**
	65nm,1.0s,0.3nm						
MNAI	**Manna**	**7.81**	**280**	P	**P**	**21 05 51.7**	**+0.5**
MNAI	**Manna**	**7.81**	**280**	P	**P**	**21 05 51.6**	**+0.4**
MNAI	**Manna**	**7.81**	**280**	P	**P**	**21 05 51.2**	**0.0**
	294nm,1.5s,1.4nm						
SBUM	**Sibu**	**8.37**	**11**	P	**P**	**21 05 56.7**	**0.0**
TPRI	**Tanjung Pinang**	**9.08**	**317**	P	**P**	**21 06 03.8**	**-0.1**
	28nm,1.1s						
KAPI	**Kappang**	**9.08**	**85**	P	**P**	**21 06 03.1**	**-0.9**
KAPI	**Kappang**	**9.08**	**85**	P	**P**	**21 06 02.6**	**-1.4**
	17nm,0.8s,baz=279,slow=11,SNR=14						
SPSI	**Sidrap Palu**	**9.26**	**79**	P	**P**	**21 06 04.5**	**-1.3**
	15nm,0.9s						
BKSI	**Bulukumba**	**9.43**	**87**	P	**P**	**21 06 07.2**	**-0.3**
	21nm,0.6s						
TTSI	**Tana Toraja**	**9.54**	**74**	P	**P**	**21 06 08.8**	**+0.2**
	13nm,0.8s						
KRJI	**Kerinci**	**9.90**	**292**	P	**P**	**21 06 12.7**	**+0.2**
	43nm,1.6s						
MYKOM	**Kota Tinggi**	**10.18**	**318**	P	**P**	**21 06 15.6**	**+0.4**
BASI	**Baing, Sumba**	**10.74**	**115**	P	**P**	**21 06 20.8**	**-0.2**
	59nm,1.0s						
MPSI	**Mapaga**	**11.07**	**57**	P	**P**	**21 06 24.5**	**+0.1**
	36nm,0.9s						
PDSI	**Padang**	**11.29**	**295**	P	**P**	**21 06 25.8**	**-1.0**
	14nm,0.6s						
EDFI	**Ende, Flores**	**11.32**	**106**	P	**P**	**21 06 26.8**	**-0.3**
	5.6nm,0.7s						
TOLI2	**Tolitoli**	**12.23**	**56**		**P**	**21 06 36.4**	**-0.1**
TOLI2	**Tolitoli**	**12.23**	**56**	P	**P**	**21 06 36.2**	**-0.3**
KKM	**Kota Kinabalu**	**13.03**	**25**	P	**P**	**21 06 43.5**	**-1.4**
KKM	**Kota Kinabalu**	**13.03**	**25**	P	**P**	**21 06 43.3**	**-1.6**
GTOI	**Gorontalo**	**13.90**	**63**	P	**P**	**21 06 49.8**	**-4.0**
RPSI	**Rantau Prapat**	**14.46**	**306**	P	**P**	**21 06 59.1**	**-0.5**
PSI	**Prapat**	**14.52**	**306**	P	**P**	**21 07 00.0**	**-0.4**
KULM	**Kulim**	**14.89**	**318**	P	**P**	**21 07 03.3**	**-0.8**
SANI	**Sanana**	**15.74**	**77**	P	**P**	**21 07 11.6**	**-1.2**
	19nm,1.1s						
GIRL	**Giralia**	**17.07**	**169**	P	**P**	**21 07 26.4**	**+1.2**
GIRL	**Giralia**	**17.07**	**169**	P	**P**	**21 07 27.8**	**+2.6**
MLSI	**Meulaboh, Aceh**	**17.41**	**305**	P	**P**	**21 07 28.9**	**+0.4**
LHMI	**Lhok Sumawe**	**17.55**	**308**	P	**P**	**21 07 30.4**	**+0.7**
LHMI	**Lhok Sumawe**	**17.55**	**308**	P	**P**	**21 07 30.6**	**+0.8**
LHMI	**Lhok Sumawe**	**17.55**	**308**	P	**P**	**21 07 30.5**	**+0.7**
	150nm,1.1s						
LBMI	**Labuha**	**17.58**	**74**	P	**P**	**21 07 30.1**	**+0.1**
	68nm,1.0s						
MBWA	**Marble Bar**	**17.60**	**151**	P	**P**	**21 07 31.1**	**+1.0**
MBWA	**Marble Bar**	**17.60**	**151**	P	**P**	**21 07 31.0**	**+1.0**
TNTI	**Ternate**	**17.92**	**69**	P	**P**	**21 07 32.9**	**-0.2**
TNTI	**Ternate**	**17.92**	**69**	P	**P**	**21 07 33.3**	**+0.2**
	36nm,1.1s						
PSA00	**Pilbara Seismi**	**18.00**	**151**	P	**P**	**21 07 34.6**	**+0.9**
PSA00	**Pilbara Seismi**	**18.00**	**151**	P	**P**	**21 07 34.4**	**+0.6**
PSA00				IAmb	IAmb	21 07 36.3	
	comp=Z,13nm,0.9s						
PSA00	**Pilbara Seismi**	**18.00**	**151**	P	**P**	**21 07 34.8**	**+1.0**
FITZ	**Fitzroy Crossi**	**19.04**	**131**	P	**P**	**21 07 43.9**	**+0.6**
FITZ				IAmb	IAmb	21 07 45.5	
	comp=Z,1.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.04**	**131**	P	**P**	**21 07 45.0**	**+1.7**
MTN	**Manton Dam**	**21.36**	**111**	P	**P**	**21 08 04.9**	**+0.5**
MTN				IAmb	IAmb	21 08 27.9	
	comp=Z,7.8nm,1.2s						
MTN	**Manton Dam**	**21.36**	**111**	P	**P**	**21 08 06.3**	**+2.0**
MEEK	**Meekatharra**	**22.04**	**161**	P	**P**	**21 08 11.7**	**+1.3**
MORW	**Morawa**	**23.67**	**168**	P	**P**	**21 08 26.4**	**+1.6**
WRKA	**Warakurna**	**25.51**	**140**	P	**P**	**21 08 42.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**26.75**	**335**	P	**P**	**21 08 52.1**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=168,slow=8.2,SNR=22						
CMAR				PcP	**PcP**	**21 11 58.6**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=193,slow=2.7,SNR=6.6						
	comp=Z,2.0nm,0.8s						
WB0	**Warramunga Arr**	**26.91**	**123**	P	**P**	**21 08 53.8**	**+0.1**
WB0				IAmb	IAmb	21 09 10.8	
	comp=Z,4.8nm,1.1s						
WRA	**Warramunga Arr**	**26.95**	**124**	P	**P**	**21 08 54.2**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=304,slow=8.9,SNR=7.1						
WRA				S	**S**	**21 12 51.0**	**-2.4**
	comp=Z,1.6nm,0.9s,baz=296,slow=18,SNR=4.9						
WRA				ScP	**ScP**	**21 14 47.0**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=316,slow=2.5,SNR=5.7						
	comp=Z,2.3nm,0.7s						
WB2	**Warramunga Arr**	**26.96**	**124**	P	**P**	**21 08 54.2**	**+0.2**
WB2				IAmb	IAmb	21 09 09.2	
	comp=Z,5.2nm,1.1s						
WR0	**Warramunga Arr**	**27.13**	**123**	P	**P**	**21 08 56.0**	**+0.4**
WR0				IAmb	IAmb	21 08 56.1	
	comp=Z,3.8nm,0.6s						
NWAO	**Narrogin (SRO)**	**27.65**	**168**	P	**P**	**21 09 01.5**	**+1.6**
NWAO	**Narrogin (SRO)**	**27.65**	**168**	P	**P**	**21 09 01.1**	**+1.2**
	comp=Z,6.8nm,0.9s,baz=293,slow=7.7,SNR=1.9						
	comp=Z,6.8nm,0.9s						
ASAR	**Alice Springs**	**28.55**	**131**	P	**P**	**21 09 08.5**	**+0.6**
ASAR	**Alice Springs**	**28.55**	**131**	P	**P**	**21 09 08.2**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=313,slow=8.8,SNR=29						
ASAR				S	**S**	**21 13 15.3**	**-2.8**
	comp=Z,2.0nm,0.8s,baz=295,slow=15,SNR=9.5						
ASAR				ScP	**ScP**	**21 14 52.5**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=327,slow=3.0,SNR=4.6						
	comp=Z,2.1nm,0.7s						
AS31	**Alice Springs**	**28.55**	**131**	P	**P**	**21 09 08.2**	**+0.3**
FORT	**Forrest**	**29.72**	**149**	P	**P**	**21 09 19.0**	**+1.1**
QIS	**Mount Isa**	**31.67**	**120**	P	**P**	**21 09 35.6**	**+0.7**
OOD	**Oodnadatta**	**32.28**	**135**	P	**P**	**21 09 40.7**	**+0.8**
TNCH	**TengChong**	**32.87**	**339**	⇓P	**P**	**21 09 46.8**	**+1.7**
TNCH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PZH	**PanZhiHua**	**33.28**	**345**	P	**P**	**21 09 49.8**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,120nm,7.7s						
LCRK	**Leigh Creek**	**35.65**	**137**	P	**P**	**21 10 09.2**	**+1.0**
BBOO	**Buckleboo**	**35.78**	**142**	P	**P**	**21 10 09.7**	**+0.5**
BBOO	**Buckleboo**	**35.78**	**142**	P	**P**	**21 10 09.7**	**+0.5**
SHL	**Shillong**	**36.15**	**330**	P	**P**	**21 10 12.4**	**-0.1**
HTT	**Hallett**	**37.99**	**140**	P	**P**	**21 10 28.6**	**+1.2**
STKA	**Stephens Creek**	**38.83**	**136**	P	**P**	**21 10 35.0**	**+0.9**
STKA				IAmb	IAmb	21 10 35.7	
	comp=Z,1.6nm,0.6s						
STKA	**Stephens Creek**	**38.83**	**136**	P	**P**	**21 10 35.1**	**+0.9**
STKA	**Stephens Creek**	**38.83**	**136**	P	**P**	**21 10 35.0**	**+0.9**
	comp=Z,6.8nm,0.5s,baz=314,slow=7.9,SNR=31						
	comp=Z,6.8nm,0.5s						
ODAN	**Odare**	**39.54**	**326**	*e*P	**P**	**21 10 40.2**	**-0.1**
TAPN	**Taplejung**	**39.75**	**327**	*e*P	**P**	**21 10 42.1**	**+0.1**
	comp=Z,13nm,0.4s						
RAMN	**Ramite**	**40.05**	**326**	*e*P	**P**	**21 10 45.1**	**+0.7**
	comp=Z,6.1nm,0.3s						
LYN	**LuoYang**	**40.19**	**2**	⇓P	**P**	**21 10 45.3**	**+0.2**
LYN				pmax	pmax		
	comp=Z,15nm,0.7s						
JIRN	**Jiri**	**40.83**	**326**	*e*P	**P**	**21 10 50.9**	**+0.2**
	comp=Z,18nm,0.4s						
GUN	**Gumba**	**41.20**	**326**	*e*P	**P**	**21 10 53.7**	**+0.1**
	comp=Z,18nm,0.4s						
PKI	**Pulchoki**	**41.21**	**325**	*e*P	**P**	**21 10 53.0**	**-0.7**
DMN	**Daman**	**41.41**	**325**	*e*P	**P**	**21 10 55.0**	**-0.2**
	comp=Z,16nm,0.3s						
CMSA	**Cobar Meteorol**	**41.57**	**132**	P	**P**	**21 10 57.6**	**+1.5**
GKN	**Gorkha**	**41.98**	**325**	*e*P	**P**	**21 10 59.2**	**-0.3**
	comp=Z,23nm,0.3s						
KOLN	**Koldanda**	**42.41**	**323**	*e*P	**P**	**21 11 02.6**	**-0.4**
KOLN	**Koldanda**	**42.41**	**323**	*e*P	**P**	**21 11 02.8**	**-0.2**
DANN	**Dangsing**	**42.75**	**324**	*e*P	**P**	**21 11 05.2**	**-0.5**
PYUN	**Piuthan**	**43.02**	**323**	*e*P	**P**	**21 11 07.5**	**-0.3**
EIDS	**Eidsvold**	**43.26**	**121**	P	**P**	**21 11 10.2**	**+0.7**
EIDS				IAmb	IAmb	21 11 17.8	
	comp=Z,12nm,1.4s						
YNG	**Young**	**44.93**	**134**	P	**P**	**21 11 23.5**	**+1.2**
CAN	**Canberra**	**45.88**	**135**	P	**P**	**21 11 30.5**	**+1.0**
CAN				IAmb	IAmb	21 11 51.2	
	comp=Z,29nm,1.4s						
KSRS	**Korea Array**	**45.97**	**19**	P	**P**	**21 11 30.1**	**0.0**
	comp=Z,1.7nm,0.8s,baz=188,slow=5.9,SNR=5.1						
	comp=Z,1.7nm,0.8s						
BTO	**Baotou**	**46.20**	**359**	*e*P	**P**	**21 11 33.5**	**+1.6**
BTO				pP	**pP**	**21 13 13.8**	**+2.3**
BTO				PP	**PP**	**21 13 32.0**	**+3.4**
BTO				sP	**sP**	**21 14 12.3**	**+0.5**
BTO				S	**S**	**21 17 43.3**	**+4.5**
BTO				sS	**sS**	**21 20 42.8**	**+3.7**
BTO				SS	**SS**	**21 21 16.5**	**+2.9**
BTO				pmax	pmax		
	comp=Z,11nm,0.6s						
BTO				pmax	pmax		
	comp=Z,400nm,10.5s						
MJAR	**Matsushiro Arr**	**49.41**	**29**	P	**P**	**21 11 53.0**	**-2.8**
	comp=Z,2.6nm,0.7s,baz=208,slow=8.0,SNR=7.8						
	comp=Z,2.6nm,0.7s						
NIL	**Nilore**	**52.87**	**321**	P	**P**	**21 12 19.9**	**-1.2**
NIL				IAmb	IAmb	21 12 20.5	
	comp=Z,5.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**53.38**	**19**	P	**P**	**21 12 22.6**	**-1.8**
	comp=Z,3.0nm,0.9s,baz=190,slow=11,SNR=4.7						
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**53.56**	**356**	P	**P**	**21 12 25.3**	**-0.5**
SONM	**Songino Array**	**53.56**	**356**	P	**P**	**21 12 25.0**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=174,slow=6.4,SNR=8.1						
SONM				PcP	**PcP**	**21 13 23.2**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=166,slow=3.2,SNR=5.0						
SONM				ScP	**ScP**	**21 16 29.2**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=167,slow=4.4,SNR=6.4						
	comp=Z,1.1nm,0.7s						
HEH	**HeiHe**	**57.71**	**13**	*e*P	**P**	**21 12 53.5**	**-0.8**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MK31	**Makanchi Array**	**58.12**	**337**	P	**P**	**21 12 56.9**	**-0.3**
MKAR	**Makanchi Array**	**58.12**	**337**	P	**P**	**21 12 57.0**	**-0.2**
MKAR	**Makanchi Array**	**58.12**	**337**	P	**P**	**21 12 56.9**	**-0.2**
	comp=Z,1.9nm,0.3s,baz=151,slow=7.1,SNR=112						
MKAR				pP	**pP**	**21 14 42.1**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=140,slow=7.9,SNR=4.1						
	comp=Z,1.9nm,0.3s						
ARSB	**Arslanbob**	**58.22**	**327**	P	**P**	**21 12 57.9**	**-0.2**
MAKZ	**Makanchi**	**58.25**	**337**	P	**P**	**21 12 57.7**	**-0.4**
AAK	**Ala-Archa**	**58.36**	**329**	P	**P**	**21 12 59.4**	**+0.3**
WSAR	**Wadi Sarin**	**58.44**	**302**	P	**P**	**21 12 59.2**	**-0.6**
	comp=Z,3.9nm,0.8s,baz=98,slow=4.4,SNR=6.1						
	comp=Z,3.9nm,0.8s						
KK31	**Karatay Array**	**60.77**	**327**	P	**P**	**21 13 14.2**	**-0.8**
KKAR	**Karatay Array**	**60.77**	**327**	P	**P**	**21 13 14.2**	**-0.8**
KKAR	**Karatay Array**	**60.77**	**327**	P	**P**	**21 13 14.2**	**-0.8**
KURBB	**Kurchatov Arra**	**62.68**	**338**	P	**P**	**21 13 26.0**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=156,slow=5.3,SNR=11						
KURBB				PcP	**PcP**	**21 13 58.5**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=142,slow=4.2,SNR=5.2						
	comp=Z,1.2nm,0.7s						
KURK	**Kurchatov**	**62.72**	**338**	P	**P**	**21 13 26.9**	**-0.6**
KURK				IAmb	IAmb	21 13 27.8	
	comp=Z,3.1nm,0.8s						
ZAA0	**Zalesovo Array**	**63.39**	**343**	P	**P**	**21 13 31.0**	**-0.7**
ZAA0				IAmb	IAmb	21 13 31.6	
	comp=Z,1.9nm,0.5s						
ZALV	**Zalesovo Beam**	**63.39**	**343**	P	**P**	**21 13 30.8**	**-0.9**
ZALV	**Zalesovo Beam**	**63.39**	**343**	P	**P**	**21 13 30.4**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=153,slow=5.0,SNR=11						
ZALV				pP	**pP**	**21 15 19.8**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=123,slow=5.5,SNR=4.4						
	comp=Z,1.1nm,0.3s						
VOI	**Vohitsoka**	**63.62**	**249**	P	**P**	**21 13 34.2**	**+0.1**
GEYT	**Alibeck**	**65.37**	**316**	P	**P**	**21 13 44.4**	**-0.3**
GEYT	**Alibeck**	**65.37**	**316**	P	**P**	**21 13 43.7**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=149,slow=6.1,SNR=5.1						
	comp=Z,0.9nm,0.4s						
GYA0B	**ALIBECK ARRAY**	**65.37**	**316**	P	**P**	**21 13 44.5**	**-0.2**
GYA0B				IAmb	IAmb	21 13 45.3	
	comp=Z,3.6nm,1.1s						
LTZ	**Lake Taylor**	**65.38**	**135**	P	**P**	**21 13 45.0**	**+0.3**
LTZ				IAmb	IAmb	21 14 16.3	
	comp=Z,22nm,1.2s						
BVAR	**Borovoye Array**	**67.78**	**335**	P	**P**	**21 13 57.7**	**-1.5**
	comp=Z,2.0nm,0.6s,baz=142,slow=8.7,SNR=17						
BVAR				pP	**pP**	**21 15 48.9**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=132,slow=6.6,SNR=8.2						
	comp=Z,2.0nm,0.6s						
MAW	**Mawson**	**69.56**	**198**	P	**P**	**21 14 11.2**	**+1.6**
MAW	**Mawson**	**69.56**	**198**	P	**P**	**21 14 10.3**	**+0.7**
	comp=Z,3.8nm,0.7s,baz=63,slow=5.9,SNR=6.3						
	comp=Z,3.8nm,0.7s						
ABKAR	**Akbulak array**	**70.33**	**327**	P	**P**	**21 14 14.3**	**-0.2**
ABKAR				pP	**pP**	**21 16 06.2**	**-0.5**
ABKAR	**Akbulak array**	**70.33**	**327**	P	**P**	**21 14 14.4**	**-0.2**
ABKAR				IAmb	IAmb	21 14 15.0	
	comp=Z,8.6nm,0.7s						
VNDA	**Vanda**	**76.46**	**170**	P	**P**	**21 14 50.0**	**+0.9**
	comp=Z,2.5nm,0.6s,baz=311,slow=7.2,SNR=20						
	comp=Z,2.5nm,0.6s						
GURO	**Guroymak-BITLI**	**77.19**	**312**	P	**P**	**21 14 53.9**	**-0.1**
GURO				IAmb	IAmb	21 14 54.7	
	comp=Z,4.3nm,0.5s						
KBZ	**Khabaz**	**78.26**	**317**	P	**P**	**21 14 59.2**	**-0.2**
	comp=Z,3.7nm,0.8s,baz=133,slow=3.6,SNR=9.4						
	comp=Z,3.7nm,0.8s						
MBAR	**Mbarara**	**79.92**	**270**	P	**P**	**21 15 08.1**	**-1.0**
MBAR				IAmb	IAmb	21 15 10.9	
	comp=Z,8.5nm,0.8s						
MATP	**Matopo**	**80.67**	**250**	P	**P**	**21 15 12.9**	**+0.1**
	comp=Z,3.2nm,0.5s,baz=102,slow=3.9,SNR=18						
	comp=Z,3.2nm,0.5s						
MMAI	**Mount Meron Ar**	**80.91**	**305**	P	**P**	**21 15 13.6**	**-0.1**
	comp=Z,5.0nm,0.8s,baz=93,slow=6.2,SNR=4.4						
	comp=Z,5.0nm,0.8s						
LSZ	**Lusaka**	**81.25**	**255**	P	**P**	**21 15 14.6**	**-1.3**
LSZ				IAmb	IAmb	21 15 17.0	
	comp=Z,6.6nm,0.5s						
LBTB	**Lobatse**	**83.11**	**246**	P	**P**	**21 15 24.8**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=112,slow=3.8,SNR=7.5						
	comp=Z,2.1nm,0.6s						
BOSA	**Boshof**	**83.22**	**242**	P	**P**	**21 15 25.5**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=119,slow=3.4,SNR=12						
	comp=Z,1.5nm,0.4s						
BRTR	**Keskin Array B**	**83.79**	**311**	P	**P**	**21 15 27.4**	**-0.9**
	comp=Z,2.6nm,0.9s,baz=135,slow=6.4,SNR=12						
	comp=Z,2.6nm,0.9s						
QSPA	**South Pole Qui**	**84.15**	**180**	P	**P**	**21 15 30.5**	**+1.0**
QSPA				IAmb	IAmb	21 15 32.8	
	comp=Z,8.1nm,0.9s						
QSPA	**South Pole Qui**	**84.15**	**180**	P	**P**	**21 15 29.7**	**+0.2**
	comp=Z,7.0nm,0.9s,baz=302,slow=2.0,SNR=43						
	comp=Z,7.0nm,0.9s						
AKASG	**Malin Array Be**	**89.06**	**321**	P	**P**	**21 15 51.5**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=82,slow=4.5,SNR=14						
	comp=Z,1.0nm,0.6s						
SNAA	**Sanae**	**91.71**	**197**	P	**P**	**21 16 06.1**	**+1.2**
FINES	**FINESS Array B**	**92.48**	**331**	P	**P**	**21 16 07.4**	**-1.0**
	comp=Z,6.4nm,1.1s,baz=115,slow=6.3,SNR=5.3						
	comp=Z,6.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**109.74**	**282**	PKiKP	**PKiKP**	**21 21 25.2**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=67,slow=2.3,SNR=7.9						
YKA	**Yellowknife Ar**	**114.48**	**21**	PKP	PKPdf	21 21 32.8	-0.9
	comp=Z,0.3nm,0.7s,baz=326,slow=2.6,SNR=5.1						
NVAR	**Mina Array Bea**	**125.13**	**46**	PKP	**PKiKP**	**21 21 55.9**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=220,slow=2.8,SNR=4.3						
PDAR	**Pinedale Array**	**128.87**	**38**	PKP	**PKPdf**	**21 22 02.8**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=31,slow=2.1,SNR=2.4						
FCAR	**Ozark Folk Cen**	**143.48**	**32**		PKPab	21 22 27.2	-0.1
CO03	**El Pedregal**	**143.52**	**178**		PKPab	21 22 28.1	+0.3
PBMO	**Poplar Bluff**	**143.65**	**29**		PKPab	21 22 26.7	-1.2
LCAR	**Lake Charles**	**143.84**	**31**		PKPab	21 22 27.2	-1.5
OXF	**Oxford**	**145.95**	**30**		**PKPdf**	**21 22 31.0**	**-2.2**
CPUP	**Villa Florida**	**145.98**	**199**	PKPbc	**PKPbc**	**21 22 36.1**	**+0.7**
	comp=Z,3.7nm,0.5s,baz=140,slow=2.6,SNR=12						
BDFB	**Brasilia**	**149.99**	**224**	PKPbc	**PKPbc**	**21 22 46.5**	**+0.5**
	comp=Z,5.1nm,0.5s,baz=149,slow=2.9,SNR=10						

*GUC **31** 21:06:00.5±0.6, 27°.55S×69°.58W, h115km±4km, ML4.0*
*SJA **31** 21:06:00.3±1.5, 27°.51S×69°.44W, h85km, ML3.8, MW3.8*
*NEIC **31** 21:06:00.4±1.6, 27°.57S±0°.05×69°.59W±0°.09, h111km±7km, mb4.2/10, Error ellipse: s-maj=11.3km s-min=7.0km az=99.0*

ISC 31 21:05:59.7±0.7, 27°.55S±0°.04×69°.59W±0°.05, h111km±7km, n69, σ1°56/84, mb4.2/4, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.57**	**265**		**Pn**	**21 06 18.4**	**+1.1**
GO03				Sn	**Sn**	**21 06 31.5**	**+1.0**
GO03	**Copiap**	**0.57**	**265**	*e*P	**Pn**	**21 06 18.0**	**+0.8**
GO03				*e*S	**Sn**	**21 06 30.9**	**+0.4**
GO03				IAML		21 06 32.0	
	comp=Z,6µm,0.3s						
GO03	**Copiap**	**0.57**	**265**	*e*P	**Pn**	**21 06 18.1**	**+0.8**
GO03	

QSPA	**South Pole Qui**	**62.67**	**180**	P	**P**	**21 16 14.2**	**+1.8**
QSPA				IAmb	IAmb	21 16 14.6	
	comp=Z,4.1nm,0.6s						
MAW	**Mawson**	**78.74**	**163**	P	**P**	**21 17 50.6**	**+1.1**
TOA0	**Torodi Ar. Sit**	**80.01**	**70**	P	**P**	**21 17 57.8**	**+0.5**
TOA0				IAmb	IAmb	21 17 58.4	
	comp=Z,1.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**80.01**	**70**	P	**P**	**21 17 57.0**	**-0.2**

IDC 31 21:06:32.2±15.0, 16°22S×171°86W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=469.8km s-min=44.5km az=125.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**51.10**	**257**	P	P	21 15 36.6	-0.6
	0.2nm,0.5s,baz=95,slow=7.1,SNR=1.4						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**51.27**	**252**	P	P	21 15 38.5	+0.2
	1.7nm,0.4s,baz=88,slow=8.1,SNR=34						
	1.7nm,0.4s						
PETK	**Petropavlovsk-**	**73.86**	**341**	P	P	21 18 08.7	0.0
	3.9nm,0.9s,baz=128,slow=9.3,SNR=4.2						
	3.9nm,0.9s						

ASIES ***31*** *21:08:41.5,22°.96N×120°.96E, h6km, ML4.1, Mw4.0, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; Mrr-1.20; Mθθ0.56; Mφφ0.64; Mrθ0.16; Mθφ-0.56; Mφr0.39; Fault plane solution: $M_0$1.25395×10^{22} NP1: φs152.66000°,δ51.36000°,λ-69.95000°. NP2: φs302.36000°,δ42.80000°,λ-113.21000°. Principal axes: T Plg4.4320°, Azm228.5910°; N Plg15.5320°, Azm319.8250°; P Plg73.8180°, Azm123.1010°:*

IDC ***31*** *21:08:41.4±1.0,22°.81N×121°.09E, h0km, mb3.7/10, mbtmp3.8/10, MS4.0/5 Error ellipse: s-maj=31.9km s-min=17.7km az=63.0*

TAP ***31*** *21:08:41.5,22°.96N×120°.96E, h6km, ML4.1, C*

NIED ***31*** *21:08:42.1,22°.88N×121°.27E, h3km, MW4.2, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; Mrr-1.70; Mθθ1.23; Mφφ0.47; Mrθ1.27; Mθφ-0.21; Mφr-0.32; Fault plane solution: $M_0$1.99000×10^{15} NP1: φs284.00000°,δ66.00000°,λ-90.00000°. NP2: φs104.00000°,δ24.00000°,λ-90.00000°.*

JMA ***31*** *21:08:42.1±0.1,22°.9N±0°.5×121°.3E±0°.6, h3km±2km, MV3.7/14, TAIWAN REGION*

NEIC ***31*** *21:08:43.8±2.4,22°.983N±0°.010×121°.03E±0°.03, h10km±1km, mb4.2/17, Error ellipse: s-maj=4.2km s-min=3.0km az=258.0*

ISC 31 21:08:43.0±0.8, 22°95N±0°.01×121°01E±0°.01, h10km±5km, n204, σ1§13/281, mb4.0/17, MS4.6/5, 28C-6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LONT	**Longtian**	**0.12**	**110**	⇓*i*P	**Pg**	**21 08 45.7**	**-0.1**
	baz=107						
LONT				*i* S	**Sg**	**21 08 48.5**	**+0.7**
	baz=107						
TWG	**Pinlang**	**0.14**	**155**	Pg	**Pg**	**21 08 45.0**	**-1.1**
TWG				Sg	**Sg**	**21 08 48.6**	**+0.2**
TWG	**Pinlang**	**0.14**	**155**	⇓*i*P	**Pg**	**21 08 46.0**	**-0.1**
	baz=141						
TWG				S	**Sg**	**21 08 48.6**	**+0.2**
	baz=141						
TWGBT	**Beinan**	**0.14**	**153**	P	**Pg**	**21 08 45.9**	**-0.3**
TWGBT	**Beinan**	**0.14**	**153**	⇓*i*P	**Pg**	**21 08 46.0**	**-0.3**
	baz=141						
TWGBT				*i* S	**Sg**	**21 08 48.5**	**0.0**
	baz=141						
TTN	**Taitung**	**0.23**	**147**	*i* P	**Pg**	**21 08 48.5**	**+0.8**
	baz=139						
TTN				*e*S	**Sg**	**21 08 52.7**	**+1.8**
	baz=139						
ELDTW	**Lidau**	**0.24**	**2**	⇑*i*P	**Pg**	**21 08 46.5**	**-1.5**
	baz=13						
ELDTW				*e*S	**Sg**	**21 08 49.9**	**-1.5**
	baz=13						
ECS	**Chishang**	**0.24**	**53**	⇑*i*P	**Pg**	**21 08 47.8**	**-0.2**
	baz=58						
ECS				*e*S	**Sg**	**21 08 52.0**	**+0.7**
	baz=58						
EHD	**Haiduan**	**0.27**	**42**	⇑*i*P	**Pg**	**21 08 47.7**	**-0.8**
	baz=49						
EHD				S	**Sg**	**21 08 51.5**	**-0.6**
	baz=49						
EDH	**Donghe**	**0.27**	**85**	*e*P	**Pb**	**21 08 49.0**	**-1.0**
	baz=81						
EDH				*e*S	**Sb**	**21 08 54.1**	**-0.6**
	baz=81						
STYH	**Taoyuan**	**0.31**	**316**	⇓P	**Pg**	**21 08 47.6**	**-1.5**
	baz=320						
STYH				S	**Sg**	**21 08 51.8**	**-1.5**
	baz=320						
SLGT	**Liugui**	**0.34**	**278**	⇑P	**Pg**	**21 08 48.0**	**-1.7**
	baz=277						
SLGT				*e*S	**Sg**	**21 08 52.3**	**-1.9**
	baz=277						
ECL	**Taimali**	**0.35**	**188**	⇑*i*P	**Pg**	**21 08 49.0**	**-0.9**
	baz=182						
ECL				S	**Sg**	**21 08 53.8**	**-0.9**
	baz=182						
CHKT	**Chengkung**	**0.36**	**65**	⇑*i*P	**Pb**	**21 08 50.9**	**-0.6**
	baz=58						
CHKT				S	**Sb**	**21 08 57.7**	**+0.5**
	baz=58						
FULB	**Fuli**	**0.36**	**46**	⇑*i*P	**Pb**	**21 08 50.2**	**-1.4**
	baz=50						
FULB				*i* S	**Sb**	**21 08 56.5**	**-0.9**
	baz=50						
TSMG	**Majia**	**0.41**	**234**	⇑P	**Pg**	**21 08 49.2**	**-1.9**
	baz=224						
TSMG				*e*S	**Sg**	**21 08 53.9**	**-2.7**
	baz=224						
SGST	**Jiashian**	**0.41**	**289**	⇑*i*P	**Pg**	**21 08 49.0**	**-2.2**
	baz=294						
SGST				*e*S	**Sg**	**21 08 55.1**	**-1.5**
	baz=294						
CHKH	**Chenggong**	**0.43**	**56**	⇑*e*P	**Pb**	**21 08 51.6**	**-1.1**
	baz=49						
CHKH				*e*S	**Sb**	**21 08 59.0**	**-0.2**
	baz=49						
WTP	**Ta-pu**	**0.47**	**309**	⇓*i*P	**Pg**	**21 08 51.2**	**-0.9**
	baz=315						
WTP				S	**Sg**	**21 08 57.4**	**-1.0**
	baz=315						
SCST	**Cishan**	**0.48**	**263**	⇑*i*P	**Pg**	**21 08 51.3**	**-1.1**
	baz=256						
SCST				*e*S	**Sg**	**21 08 58.1**	**-0.5**
	baz=256						
MASBT	**Mashibuluo**	**0.48**	**226**	⇑*i*P	**Pg**	**21 08 50.6**	**-1.8**
	baz=225						
MASBT				S	**Sg**	**21 08 56.8**	**-1.9**
	baz=225						
TWF1	**Yuli**	**0.48**	**33**	⇑*i*P	**Pg**	**21 08 51.5**	**-0.9**
	baz=37						
TWF1				*i* S	**Sg**	**21 08 57.7**	**-1.1**
	baz=37						
EYUL	**Yuli**	**0.49**	**36**	⇑*i*P	**Pg**	**21 08 51.7**	**-0.8**
	baz=39						
EYUL				*e*S	**Sg**	**21 08 57.7**	**-1.3**
	baz=39						
TPUB	**Ta-pu**	**0.49**	**315**	Pg	**Pg**	**21 08 51.6**	**-1.0**
TPUB				Sg	**Sg**	**21 08 58.5**	**-0.6**
TPUB	**Ta-pu**	**0.49**	**315**	P	**Pg**	**21 08 52.2**	**-0.4**
TPUB	**Ta-pu**	**0.49**	**315**	⇑*i*P	**Pg**	**21 08 52.0**	**-0.7**
	baz=317						
TPUB				S	**Sg**	**21 08 58.6**	**-0.6**
	baz=317						
CHN1	**Nanshi**	**0.50**	**298**	*e*P	**Pg**	**21 08 52.1**	**-0.7**
	baz=305						
CHN1				*e*S	**Sg**	**21 08 58.3**	**-1.1**
	baz=305						
LDUT	**Ludao**	**0.51**	**123**	*e*P	**Pb**	**21 08 53.4**	**-0.5**
	baz=121						
LDUT				*e*S	**Sb**	**21 09 02.1**	**+0.8**
	baz=121						
YULB	**Yu-li**	**0.52**	**31**		**Pg**	**21 08 51.7**	**-1.3**
YULB				Sg	**Sg**	**21 08 59.4**	**-0.4**
YULB	**Yu-li**	**0.52**	**31**	P	**Pg**	**21 08 52.1**	**-0.9**
YULB	**Yu-li**	**0.52**	**31**	⇑*i*P	**Pg**	**21 08 51.8**	**-1.3**
	baz=34						
YULB				*e*S	**Sg**	**21 08 59.0**	**-0.9**
	baz=34						
SGLT	**Jiouru**	**0.53**	**245**	⇑*i*P	**Pg**	**21 08 52.5**	**-0.7**
	baz=246						
SNST	**Tainan City**	**0.54**	**300**	⇑*e*P	**Pg**	**21 08 52.8**	**-0.7**
	baz=301						
SNST				*e*S	**Sg**	**21 09 00.6**	**-0.2**
	baz=301						
ECBN	**Changbin**	**0.55**	**48**	*e*P	**Pb**	**21 08 53.9**	**-0.8**
	baz=39						
ECBN				*e*S	**Sb**	**21 09 03.0**	**+0.4**
	baz=39						
CHN4	**Tsaushan**	**0.56**	**316**	*e*P	**Pg**	**21 08 53.1**	**-0.6**
	baz=326						
CHN4				*e*S	**Sg**	**21 09 01.4**	**+0.3**
	baz=326						
TWM1	**Shoushan**	**0.56**	**257**	⇑*i*P	**Pg**	**21 08 53.4**	**-0.4**
	baz=256						
TWK	**Hsinying**	**0.57**	**304**	⇓P	**Pg**	**21 08 53.8**	**-0.4**
	baz=310						
TWK				*e*S	**Sg**	**21 09 01.9**	**+0.1**
	baz=310						
EAST	**Anshuo**	**0.58**	**195**	⇑*i*P	**Pg**	**21 08 53.4**	**-0.9**
	baz=192						
EAST				*e*S	**Sg**	**21 09 01.1**	**-0.8**
	baz=192						
ALS	**Alishan**	**0.59**	**341**	⇑*i*P	**Pg**	**21 08 53.2**	**-1.3**
	baz=344						
ALS				*e*S	**Sg**	**21 09 00.9**	**-1.5**
	baz=344						
TAW	**Tawu**	**0.60**	**190**	*e*P	**Pg**	**21 08 53.7**	**-0.8**
	baz=198						
TAW				*e*S	**Sg**	**21 09 01.0**	**-1.4**
	baz=198						
CHN3	**Shinhua**	**0.61**	**282**	*e*P	**Pb**	**21 08 56.0**	**+0.3**
	baz=281						
SHHT	**Tainan City**	**0.61**	**277**	*e*P	**Pb**	**21 08 56.0**	**+0.2**
	baz=270						
WCKO	**Fanlu**	**0.61**	**323**	*e*P	**Pg**	**21 08 54.3**	**-0.6**
	baz=335						
WCKO				*e*S	**Sg**	**21 09 03.1**	**+0.2**
	baz=335						
TAWH	**Dawu Township**	**0.62**	**191**	*e*P	**Pg**	**21 08 54.1**	**-0.8**
	baz=188						
TAWH				S	**Sb**	**21 09 02.7**	**-1.8**
	baz=188						
EHY	**Hungye**	**0.63**	**27**	⇑*i*P	**Pg**	**21 08 53.7**	**-1.4**
	baz=30						
EHY				*e*S	**Sg**	**21 09 02.0**	**-1.4**
	baz=30						
SNJT	**Kaohsiung City**	**0.65**	**253**	*e*P	**Pb**	**21 08 55.3**	**-1.1**
	baz=251						
HGSD	**Ruisui**	**0.66**	**35**	⇑*i*P	**Pb**	**21 08 55.5**	**-1.2**
	baz=28						
HGSD				*e*S	**Sb**	**21 09 06.0**	**+0.1**
	baz=28						
SCZT	**Fangliau**	**0.68**	**212**	⇑*i*P	**Pg**	**21 08 54.5**	**-1.5**
	baz=208						
SSHA	**Shanhua**	**0.69**	**286**	*e*P	**Pb**	**21 08 57.4**	**+0.3**
	baz=303						
TAI1	**Yung-k'ang**	**0.73**	**277**	*e*P	**Pn**	**21 08 59.0**	**-0.3**
	baz=294						
TAI1				*e*S	**Sb**	**21 09 08.3**	**+0.6**
	baz=294						
KAU	**Kaohsiung**	**0.75**	**240**	*e*P	**Pn**	**21 08 58.5**	**-1.1**
	baz=238						
WSSB	**Gushan**	**0.75**	**246**	*e*P	**Pn**	**21 08 58.6**	**-1.1**
	baz=245						
WHYT	**Xinyi Township**	**0.76**	**349**	⇑*i*P	**Pg**	**21 08 56.4**	**-1.2**
	baz=1.0						
CHN2	**Minshiung**	**0.76**	**320**	*e*P	**Pb**	**21 08 57.7**	**-0.6**
	baz=321						
CHN2				S	**Sb**	**21 09 09.6**	**+0.9**
	baz=321						
CHY	**Chiayi**	**0.77**	**316**	*e*P	**Pg**	**21 08 57.5**	**-0.3**
	baz=317						
CHY				*e*S	**Sb**	**21 09 08.6**	**-0.4**
	baz=317						
SCLT	**Jiali**	**0.78**	**287**	*e*P	**Pb**	**21 08 58.8**	**+0.1**
	baz=305						
ICHU	**Yijhu**	**0.79**	**302**	*e*P	**Pb**	**21 08 58.2**	**-0.5**
	baz=304						
VWDT	**VWDT**	**0.81**	**9**	⇑P	**Pg**	**21 08 56.6**	**-2.1**
	baz=14						
VWDT				*e*S	**Sg**	**21 09 08.3**	**-0.9**
	baz=14						
EGFH	**Guangfu**	**0.81**	**28**	⇑P	**Pg**	**21 08 57.1**	**-1.6**
	baz=42						
CHN8	**Yiju**	**0.83**	**298**	*e*P	**Pb**	**21 08 59.2**	**-0.4**
	baz=314						
SSLB	**Suanglung**	**0.84**	**357**		**Pg**	**21 08 57.3**	**-1.8**
SSLB				Sg	**Sg**	**21 09 09.2**	**-0.9**
SSLB	**Suanglung**	**0.84**	**357**	P	**Pg**	**21 08 58.2**	**-0.9**
SSLB	**Suanglung**	**0.84**	**357**	*e*P	**Pg**	**21 08 57.3**	**-1.8**
	baz=2.0						
SSLB				*e*S	**Sg**	**21 09 09.6**	**-0.4**
	baz=2.0						
WARBT	**Fenglin Townsh**	**0.84**	**24**	⇑*i*P	**Pg**	**21 08 57.3**	**-1.9**
	baz=39						
WGK	**Gukeng**	**0.84**	**331**	*i* P	**Pb**	**21 08 59.0**	**-0.7**
	baz=333						
WGK				S	**Sn**	**21 09 12.3**	**-1.0**
	baz=333						
WDLH	**Douliu**	**0.85**	**330**	*e*P	**Pb**	**21 08 59.6**	**-0.3**
	baz=331						
WDLH				*e*S	**Sn**	**21 09 12.6**	**-1.1**
	baz=331						
TSCK	**Chigu Township**	**0.87**	**283**	*e*P	**Pb**	**21 08 59.8**	**-0.4**
	baz=283						
TSCK				*e*S	**Sn**	**21 09 14.9**	**+0.8**
	baz=283						
TEGC	**Jichi Village**	**0.90**	**33**	*e*P	**Pb**	**21 08 59.9**	**-0.8**
	baz=35						
WJS	**Zhushan**	**0.91**	**344**	*e*P	**Pb**	**21 09 00.3**	**-0.5**
	baz=345						
WJS				*e*S	**Sn**	**21 09 14.8**	**-0.2**
	baz=345						
WSL	**Shuilin Townsh**	**0.92**	**309**	*e*P	**Pb**	**21 09 00.6**	**-0.4**
	baz=309						
WSL				*e*S	**Sn**	**21 09 14.8**	**-0.5**
	baz=309						
WTK	**Tuku**	**0.93**	**322**	*e*P	**Pb**	**21 09 00.8**	**-0.5**
	baz=323						
WTK				*e*S	**Sn**	**21 09 15.0**	**-0.5**
	baz=323						
SMLT	**Sun Moon Lake**	**0.94**	**354**	*e*P	**Pg**	**21 08 59.6**	**-1.4**
	baz=2.0						
SMST	**Manzhou Townsh**	**0.94**	**190**	*e*P	**Pb**	**21 09 00.7**	**-0.6**
	baz=176						
ESL	**Shilin**	**0.95**	**24**	*e*P	**Pg**	**21 08 59.3**	**-1.9**
	baz=40						
TYC	**Yuchr**	**0.96**	**352**	*e*P	**Pg**	**21 09 00.3**	**-1.2**
	baz=2.0						
TYC				*e*S	**Sn**	**21 09 15.4**	**-0.9**
	baz=2.0						
HEN	**Hengchun**	**0.97**	**195**	*e*P	**Pn**	**21 09 01.4**	**-1.2**
	baz=202						
WNT	**Mingjian**	**0.97**	**342**	*e*P	**Pb**	**21 09 01.4**	**-0.6**
	baz=344						
WNT				S	**Sn**	**21 09 15.8**	**-0.8**
	baz=344						
SHUL	**Shoufeng**	**0.98**	**31**	*e*P	**Pg**	**21 09 00.9**	**-0.9**
	baz=33						
WSF	**Szhu**	**1.00**	**314**	*e*P	**Pg**	**21 09 01.4**	**-0.7**
	baz=314						
WSF				*i* S	**Sn**	**21 09 16.5**	**-0.7**
	baz=314						
OWD	**Renai**	**1.01**	**9**	*e*P	**Pg**	**21 09 00.2**	**-2.3**
	baz=2.0						
TWK1	**Hengchun**	**1.02**	**191**	*e*P	**Pn**	**21 09 02.4**	**-1.0**
	baz=179						
TWKBT	**Hengchun**	**1.02**	**190**	*e*P	**Pn**	**21 09 02.1**	**-1.3**
	baz=179						
LAY	**Lan-yu**	**1.03**	**151**	*e*P	**Pg**	**21 09 00.8**	**-2.1**
	baz=148						
WUSB	**Renai**	**1.04**	**5**	*e*P	**Pg**	**21 09 00.7**	**-2.3**
	baz=359						
TSEB	**Hengchuen, Pin**	**1.05**	**186**	*e*P	**Pg**	**21 09 01.7**	**-1.5**
	baz=175						
LYUB	**Lan-yu**	**1.08**	**150**	*e*P	**Pg**	**21 09 00.1**	**-3.7**
	baz=148						
ETM	**Tongmen**	**1.11**	**24**	*e*P	**Pg**	**21 09 02.2**	**-2.1**
	baz=28						
ETM				*e*S	**Sg**	**21 09 16.7**	**-2.0**
	baz=28						
WCS	**Beigang Elemen**	**1.11**	**355**	*e*P	**Pg**	**21 09 03.6**	**-0.7**
	baz=3.0						
WCS				*e*S	**Sn**	**21 09 20.1**	**+0.2**
	baz=3.0						
WRL	**Guolierlin Hig**	**1.11**	**329**	*e*P	**Pg**	**21 09 03.6**	**-0.7**
	baz=329						
WRL				*i* S	**Sb**	**21 09 18.9**	**0.0**
	baz=329						
CHGB	**Renai**	**1.12**	**8**	*e*P	**Pg**	**21 09 02.5**	**-1.9**
	baz=18						
CHGB				*e*S	**Sb**	**21 09 19.2**	**0.0**
	baz=18						
LXIB	**Xiulin Townshi**	**1.13**	**19**	P	**Pg**	**21 09 03.1**	**-1.7**
	baz=21						
LXIB				*e*S	**Sb**	**21 09 19.2**	**-0.4**
	baz=21						
WTCT	**Ta-ch'eng**	**1.13**	**324**	*e*P	**Pg**	**21 09 02.6**	**-2.1**
	baz=324						
WTCT				*e*S	**Sb**	**21 09 19.4**	**0.0**
	baz=324						
HWA	**Hwalien**	**1.16**	**28**	*e*P	**Pg**	**21 09 04.5**	**-0.8**
	baz=30						
WCHH	**Zhanghua**	**1.20**	**340**	*e*P	**Pg**	**21 09 05.7**	**-0.3**
	baz=341						
WCHH				*e*S	**Sn**	**21 09 22.0**	**-0.2**
	baz=341						
WHF	**Hehuan Shan**	**1.22**	**11**	*e*P	**Pg**	**21 09 04.5**	**-1.9**
	baz=6.0						
TCU	**Taichung**	**1.23**	**346**	*e*P	**Pg**	**21 09 06.4**	**-0.3**
	baz=347						
TCU				*e*S	**Sn**	**21 09 24.3**	**+1.3**
	baz=347						
TWD	**Chiawan**	**1.25**	**25**	*e*P	**Pn**	**21 09 05.5**	**-1.0**
	baz=37						
WDGT	**Dungji**	**1.28**	**284**	*e*P	**Pn**	**21 09 05.5**	**-1.4**
	baz=283						
WDGT				*e*S	**Sb**	**21 09 22.1**	**-1.6**
	baz=283						
TDCB	**Techi**	**1.31**	**6**	*e*P	**Pn**	**21 09 06.4**	**-1.0**
	baz=18						
TDCB				*e*S	**Sn**	**21 09 25.4**	**+0.4**
	baz=18						
TWT	**Tachien**	**1.31**	**7**	*e*P	**Pn**	**21 09 06.8**	**-0.7**
	baz=18						
TWT				*e*S	**Sn**	**21 09 25.4**	**+0.3**
	baz=18						
WHP	**Taichung City**	**1.32**	**357**	*e*P	**Pg**	**21 09 07.7**	**-0.8**
	baz=359						
WHP				*e*S	**Sg**	**21 09 27.1**	**+1.5**
	baz=359						
ETLH	**Xiulin Townshi**	**1.33**	**19**	*e*P	**Pn**	**21 09 06.4**	**-1.3**
	baz=20						
ETLH				*e*S	**Sg**	**21 09 25.5**	**-0.2**
	baz=20						
ETL	**Fush Village**	**1.33**	**25**	*e*P	**Pn**	**21 09 06.6**	**-1.1**
	baz=35						
ETL				*e*S	**Sg**	**21 09 26.3**	**+0.5**
	baz=35						
NACB	**Ninganchiao**	**1.33**	**24**		**Pn**	**21 09 06.8**	**-0.9**
NACB					**Sn**	**21 09 25.1**	**-0.4**
NACB	**Ninganchiao**	**1.33**	**24**	P	**Pn**	**21 09 06.9**	**-0.8**
NACB	**Ninganchiao**	**1.33**	**24**	*e*P	**Pn**	**21 09 06.1**	**-1.5**
	baz=35						
NACB				*e*S	**Sg**	**21 09 26.0**	**+0.1**
	baz=35						
TWQ1	**Liyutan**	**1.41**	**351**	*e*P	**Pg**	**21 09 09.4**	**-0.7**
	baz=353						
TWQ1				*e*S	**Sb**	**21 09 27.6**	**+0.1**
	baz=353						
WDJ	**Dajia District**	**1.43**	**346**	*e*P	**Pg**	**21 09 09.7**	**-0.8**
	baz=337						
WDJ				S	**Sg**	**21 09 30.5**	**+1.3**
	baz=337						
PHUB	**P'eng-hu**	**1.44**	**293**	*e*P	**Pn**	**21 09 07.8**	**-1.3**
	baz=292						
PHUB				*e*S	**Sn**	**21 09 26.9**	**-1.1**
	baz=292						
PNG	**Penghu**	**1.47**	**295**	*e*P	**Pn**	**21 09 08.2**	**-1.3**
	baz=294						
PNG				*i* S	**Sn**	**21 09 27.8**	**-1.1**
	baz=294						
VCHM	**Qimei**	**1.48**	**280**	*e*P	**Pn**	**21 09 08.6**	**-1.1**
	baz=293						
VCHM				*i* S	**Sn**	**21 09 28.4**	**-0.6**
	baz=293						
NSY	**Sanyi**	**1.48**	**351**	*i* P	**Pg**	**21 09 11.2**	**-0.2**
	baz=353						
NSY				*i* S	**Sg**	**21 09 32.4**	**+1.8**
	baz=353						
NNSB	**Datong**	**1.51**	**13**	*e*P	**Pn**	**21 09 09.7**	**-0.5**
	baz=24						
NNSB				*e*S	**Sg**	**21 09 30.7**	**-1.0**
	baz=24						
NNS	**Nan Shan**	**1.52**	**13**	*e*P	**Pn**	**21 09 10.1**	**-0.3**
	baz=23						
NNS				*e*S	**Sg**	**21 09 31.0**	**-1.0**
	baz=23						
EAHA	**Aohua**	**1.53**	**26**	*e*P	**Pb**	**21 09 10.2**	**-1.2**
	baz=37						
ENA	**Nanau**	**1.62**	**24**	*e*P	**Pn**	**21 09 10.8**	**-0.8**
	baz=38						
EWUT	**Wuta**	**1.65**	**25**	*e*P	**Pb**	**21 09 12.5**	**-1.0**
	baz=27						
LATG	**Datong**	**1.65**	**17**	*e*P	**Pb**	**21 09 12.6**	**-1.0**
	baz=31						
LATG				*e*S	**Sg**	**21 09 35.5**	**-0.6**
	baz=31						
EOS4	**EOS4**	**1.68**	**46**	*e*P	**Pb**	**21 09 12.3**	**-1.4**
	baz=61						
EOS4				*e*S	**Sn**	**21 09 32.6**	**-0.8**
	baz=61						
NSTT	**Nanjuang**	**1.68**	**360**	*e*P	**Pb**	**21 09 13.2**	**-0.7**
	baz=2.0						
NSTT				*e*S	**Sg**	**21 09 36.1**	**-0.8**
	baz=2.0						
NFF	**Wufeng Townshi**	**1.68**	**3**	*e*P	**Pb**	**21 09 13.2**	**-0.8**
	baz=345						
NFF				*i* S	**Sg**	**21 09 37.6**	**+0.6**
	baz=345						
LIOB	**Emei**	**1.69**	**0**	*e*P	**Pb**	**21 09 13.2**	**-1.0**
	baz=2.0						
NDT	**Datong Townshi**	**1.71**	**16**	*e*P	**Pb**	**21 09 13.5**	**-1.0**
	baz=32						
YHNB	**Yeheng**	**1.75**	**11**		**Pb**	**21 09 14.2**	**-0.9**
YHNB	**Yeheng**	**1.75**	**11**	*e*P	**Pb**	**21 09 14.0**	**-1.2**
	baz=13						
YHNB				*e*S	**Sb**	**21 09 36.4**	**-0.8**
	baz=13						
NSK	**Sanguang**	**1.75**	**10**	*e*P	**Pb**	**21 09 14.4**	**-0.8**
	baz=13						
NSK				*e*S	**Sb**	**21 09 36.5**	**-0.8**
	baz=13						
ENTT	**Nioudou**	**1.76**	**17**	*e*P	**Pn**	**21 09 13.3**	**-0.3**
	baz=33						
ESAO	**Su ao**	**1.79**	**25**	*e*P	**Pb**	**21 09 15.3**	**-0.6**
	baz=34						
EOS3	**EOS3**	**1.79**	**42**	*e*P	**Pn**	**21 09 13.2**	**-0.6**
	baz=56						
EOS3				*e*S	**Sn**	**21 09 36.0**	**-0.6**
	baz=56						
NDS	**Dongshan**	**1.80**	**21**	*e*P	**Pb**	**21 09 15.1**	**-0.9**
	baz=37						
TWC	**Suao**	**1.82**	**25**	*e*P	**Pb**	**21 09 15.4**	**-1.0**
	baz=41						
SBCB	**Hsinchu**	**1.84**	**359**	*e*P	**Pn**	**21 09 14.7**	**+0.1**
	baz=343						
EOS2	**EOS2**	**1.84**	**37**	*e*P	**Pn**	**21 09 14.3**	**-0.3**
	baz=51						
TWE	**Neicheng**	**1.86**	**19**	*e*P	**Pn**	**21 09 14.9**	**0.0**
	baz=35						
NWLT	**Wulai**	**1.88**	**14**	*e*P	**Pb**	**21 09 16.4**	**-0.9**
	baz=1.0						
FUSB	**Fushanzhiwuyua**	**1.88**	**16**	*e*P	**Pb**	**21 09 16.4**	**-1.1**
	baz=32						
TATO	**Taipei**	**2.06**	**12**		**Pn**	**21 09 17.7**	**-0.1**
TWA	**Mucha**	**2.09**	**14**	*e*P	**Pb**	**21 09 19.2**	**-1.8**
	baz=37						
TIPB	**Shuangxi**	**2.15**	**20**	*e*P	**Pb**	**21 09 20.0**	**-2.0**
	baz=35						
NWF	**Wu-fen Shan**	**2.23**	**18**	*e*P	**Pb**	**21 09 22.1**	**-1.3**
	baz=34						
WFSB	**Wu-fen Shan**	**2.23**	**18**	*e*P	**Pb**	**21 09 21.6**	**-1.7**
	baz=33						
**TWB1

YOJ	Yonaguni jima	2.37	50	*e*P		Pn	21 09 21.3	-0.6
TWY	Chenhua	2.38	13	*e*P		Pn	21 09 21.3	-0.8
	baz=32							
VWUC	VWUC	2.48	325	*e*P		Pn	21 09 22.2	-1.2
	baz=329							
KNM	Kinmen	2.78	302	*e*P		Pn	21 09 27.9	+0.3
	baz=304							
HATJ	Hateruma jima	2.79	66	S		Sn	21 09 59.7	-1.8
KNMB	Chin-men Tao	2.84	303	*e*P		Pn	21 09 27.1	-1.2
	baz=306							
IRIF	Iriomote-Funau	2.85	61	*e*P		Pn	21 09 28.4	-0.2
IRIF				*e*S		Sn	21 10 02.7	-0.2
JKRS	Kuro-shima	3.04	64	*e*S		Sn	21 10 06.7	-0.9
ZPLA	Ao Xicun	3.15	289	*e*P		Pn	21 09 31.9	-0.8
	baz=291							
JIJ	Ishigaki jima	3.20	63	P		Pn	21 09 32.5	-0.9
JIJ				*e*S		Sn	21 10 09.8	-1.7
MATB	Ma-tsu	3.33	343	*e*P		Pn	21 09 34.1	-1.0
	baz=347							
DSXP	Dongshan	3.38	284	*e*P		Pn	21 09 35.2	-0.6
	baz=285							
AXDP	Jialang	3.39	306	*e*P		Pn	21 09 34.1	-1.8
	baz=310							
JISG	Ishigakijimahi	3.44	61	*e*P		Pn	21 09 35.7	-0.9
JISG				*e*S		Sn	21 10 15.8	-1.6
MHZQ	Yeshan	3.62	331	*e*P		Pn	21 09 38.6	-0.5
	baz=337							
XPSS	Dashiqiu	4.03	350	*e*P		Pn	21 09 43.4	-1.4
	baz=352							
SXFK	Yanhouchang	4.60	319	*e*P		Pn	21 09 50.6	-2.0
	baz=325							
MJAR	Matsushiro Arr	20.12	44	P		Pn	21 13 19.3	+0.3
	3.7nm,1.0s,baz=231,slow=7.5,SNR=4.7							
	3.7nm,1.0s							
CMAR	Chiang Mai Arr	21.11	262	P		P	21 13 29.9	+1.9
	0.8nm,0.9s,baz=58,slow=8.2,SNR=7.5							
CMAR				LR		LR	21 22 27.0	
	comp=Z,59nm,18.9s,baz=75,slow=39							
	0.8nm,0.9s							
SBUM	Sibu	22.09	204	P		P	21 13 40.0	+1.6
SBUM				IAmb		IAmb	21 13 46.5	
	comp=Z,8.1nm,1.2s							
ULN	Ulaanbaatar	27.25	339	P		P	21 14 29.0	+1.5
SONM	Songino Array	27.45	338	P		P	21 14 32.0	+2.8
SONM	Songino Array	27.45	338	P		P	21 14 30.8	+1.6
	comp=Z,1.2nm,1.0s,baz=163,slow=10,SNR=4.5							
	comp=Z,1.2nm,1.0s							
MK31	Makanchi Array	39.12	317	P		P	21 16 12.2	+1.5
MKAR	Makanchi Array	39.12	317	P		P	21 16 12.3	+1.7
MKAR	Makanchi Array	39.12	317	P		P	21 16 11.2	+0.6
	comp=Z,1.5nm,0.8s,baz=107,slow=9.5,SNR=7.0							
	comp=Z,1.5nm,0.8s							
KNRA	Kununurra	39.13	168	P		P	21 16 12.1	+1.2
MAKZ	Makanchi	39.32	317	P		P	21 16 13.1	+0.8
MAKZ				IAmb		IAmb	21 16 18.9	
	comp=Z,5.4nm,1.1s							
FITZ	Fitzroy Crossi	41.05	173	P		P	21 16 25.2	-1.6
ZAA0	Zalesovo Array	41.20	328	P		P	21 16 28.4	+0.7
ZAA0				IAmb		IAmb	21 16 29.7	
	comp=Z,3.5nm,0.9s							
ZALV	Zalesovo Beam	41.20	328	P		P	21 16 28.3	+0.6
ZALV	Zalesovo Beam	41.20	328	P		P	21 16 27.9	+0.2
	comp=Z,2.9nm,0.8s,baz=114,slow=7.5,SNR=12							
	comp=Z,2.9nm,0.8s							
PALK	Pallekele	41.74	255	LR		LR	21 35 41.1	
	comp=Z,33nm,18.0s,baz=123,slow=39							
H11N1	WAKE ISLAND Hy	42.73	85	T		T	22 01 53.8	
	baz=282,slow=74,SNR=7.0							
H11N2	WAKE ISLAND Hy	42.73	85	T		T	22 01 53.9	
	baz=282,slow=74,SNR=8.5							
H11N3	WAKE ISLAND Hy	42.75	85	T		T	22 01 54.9	
	baz=282,slow=74,SNR=8.5							
H11S3	WAKE ISLAND Hy	42.83	87	T		T	22 01 59.8	
	baz=285							
H11S1	WAKE ISLAND Hy	42.83	87	T		T	22 02 01.2	
	baz=285,slow=74							
H11S2	WAKE ISLAND Hy	42.84	87	T		T	22 02 21.0	
	baz=285,slow=74							
KURK	Kurchatov	42.94	321	P		P	21 16 42.3	+0.3
KURK				IAmb		IAmb	21 16 44.6	
	comp=Z,3.3nm,1.1s							
KURBB	Kurchatov Arra	42.95	321	P		P	21 16 42.9	+0.8
	comp=Z,1.4nm,0.8s,baz=119,slow=6.9,SNR=5.6							
	comp=Z,1.4nm,0.8s							
WB0	Warramunga Arr	44.42	162	P		P	21 16 53.9	-0.3
WB0				IAmb		IAmb	21 17 13.4	
	comp=Z,6.4nm,1.1s							
WRAB	Tennant Creek	44.56	162	P		P	21 16 56.0	+0.7
WRA	Warramunga Arr	44.57	162	P		P	21 16 53.7	-1.6
	comp=Z,0.5nm,0.5s,baz=343,slow=8.5,SNR=7.6							
	comp=Z,0.5nm,0.5s							
WB2	Warramunga Arr	44.57	162	P		P	21 16 54.9	-0.5
WB2				IAmb		IAmb	21 17 30.0	
	comp=Z,5.4nm,1.1s							
WR0	Warramunga Arr	44.65	162	P		P	21 16 55.3	-0.7
WR0				IAmb		IAmb	21 17 09.5	
	comp=Z,4.6nm,1.1s							
ASAR	Alice Springs	48.00	164	P		P	21 17 22.7	+0.3
ASAR	Alice Springs	48.00	164	P		P	21 17 20.7	-1.6
	comp=Z,0.3nm,0.4s,baz=337,slow=6.5,SNR=9.4							
	comp=Z,0.3nm,0.4s							
BVAR	Borovoye Array	48.53	321	P		P	21 17 26.8	+0.7
	comp=Z,1.1nm,0.8s,baz=109,slow=12,SNR=5.1							
	comp=Z,1.1nm,0.8s							
BRVK	Borovoye	48.60	321	P		P	21 17 28.4	+1.8
BRVK				IAmb		IAmb	21 17 29.8	
	comp=Z,4.2nm,1.1s							
ABKAR	Akbulak array	54.19	315	P		P	21 18 09.8	+1.2
GEYT	Alibeck	55.29	301			P	21 18 16.7	-0.2
GEYT				IAmb		IAmb	21 18 21.5	
	comp=Z,6.3nm,1.4s							
GEYT	Alibeck	55.29	301	P		P	21 18 18.4	+1.5
	comp=Z,1.8nm,1.0s,baz=54,slow=2.5,SNR=5.5							
	comp=Z,1.8nm,1.0s							
EIDS	Eidsvold	56.19	147	P		P	21 18 23.1	-0.1
D19K	Kuna River	65.53	24	P		P	21 19 26.7	+0.4
OPO	Ambohidratompo	83.06	247	LR		LR	21 56 32.5	
	comp=Z,332nm,21.2s,baz=2.0,slow=35							
FRB	Frobisher Bay	93.27	4	LR		LR	22 05 06.7	
	comp=Z,244nm,21.9s,baz=184,slow=36							
ESDC	Sonseca Array	99.28	320	LR		LR	22 10 35.4	
	comp=Z,292nm,20.9s,baz=224,slow=37							

*IDC **31** 21:21:58.9±8.1, 14°.63N×91°.24W, h0^{km}, mb3.8/4, mbtmp3.8/5, ML4.3/1, MS4.6/1, Error ellipse: s-maj=154.9km s-min=79.9km az=177.0*
*NEIC **31** 21:22:37.8±1.6, 16°.25N±0°.05×92°.90W±0°.07, h207^{km}±6^{km}, mb4.4/13, Md4.3/44(MEX), Error ellipse: s-maj=9.9km s-min=7.2km az=62.0*
*CATAC **31** 21:22:38.7±0.9, 16°.35N×92°.83W, h197^{km}±6^{km}, ML4.0*
*MEX **31** 21:22:38.1±1.3, 16°.32N×92°.97W, h217^{km}±6^{km}, MD4.3*

ISC 31 21:22:37.4±0.6, **16°.31N**±0°.05×**92°.97W**±0°.03, **h215**^{km}±5^{km}, **n73**, σ1°**81**/107, **mb3.5**/4, **1D, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
TGBT	Tuxtla Gutierr	0.48	347		Pn	21	23 06.1	+0.1
TGBT					S	21	23 28.0	-0.7
TGBT	Tuxtla Gutierr	0.48	347	*i* P	Pn	21	23 06.1	+0.1
TGBT				⇓ *i* S	S	21	23 28.0	-0.7
TGIG		0.49	343		Pn	21	23 06.2	0.0
TGIG					S	21	23 27.1	-1.7
TGIG		0.49	343	*i* P	Pn	21	23 06.2	0.0
TGIG				*e*S	S	21	23 27.1	-1.7
PCIG		0.65	201		Pn	21	23 06.0	-0.8
PCIG					S	21	23 28.1	-1.6
PCIG		0.65	201	*i* P	Pn	21	23 06.0	-0.8
PCIG				*e*S	S	21	23 28.1	-1.6
CCIG	Comitan	0.80	92		Pn	21	23 06.9	-0.8
CCIG	Comitan	0.80	92	*i* P	Pn	21	23 07.4	-0.2
CCIG				*i* S	S	21	23 30.0	-1.2
CCIG	Comitan	0.80	92	*i* P	Pn	21	23 07.5	-0.2
CCIG				*i* S	S	21	23 29.1	-2.1
CCIG				IAML		21	23 33.5	
	comp=Z,640nm,1.0s							
CARR	Arriaga	0.90	266	*i* P	Pn	21	23 07.8	-0.2
CARR				*i* S	S	21	23 31.6	-0.2
PAVE	Pavencul	1.35	145	*e*P	Pn	21	23 11.2	-0.3
PAVE				*e*S	S	21	23 37.6	-0.2
PATR	El Naranjo	1.38	149	*e*P	Pn	21	23 11.0	-0.7
PATR				*e*S	S	21	23 37.2	-1.1
CHUJ	Union Juarez	1.47	145	*e*P	Pn	21	23 11.6	-0.8
CHUJ				*e*S	S	21	23 38.2	-1.3
UXUV	UXUV	1.50	312	*i* P	Pn	21	23 12.4	0.0
UXUV				*e*S	S	21	23 37.4	-2.2
THIG		1.55	154		Pn	21	23 12.7	-0.2
THIG					S	21	23 39.4	-0.9
THIG		1.55	154	*i* P	Pn	21	23 12.7	-0.2
THIG				*e*S	S	21	23 39.4	-0.9
NILT	Santiago Nilte	1.60	279	*i* P	Pn	21	23 12.3	-0.9
NILT				*i* S	S	21	23 39.4	-1.4
SMCA	Catarina	1.69	149	*i* P	Pn	21	23 13.3	-0.7
SMCA				*i* S	S	21	23 40.6	-1.8
SMCA				IAML		21	23 41.5	
	comp=Z,2μm,1.0s							
HUEH	Huehuetenango	1.73	125		Pn	21	23 13.8	-0.8
HUEH	Huehuetenango	1.73	125	*i* P	Pn	21	23 13.8	-0.8
HUEH				*e*S	S	21	23 41.4	-2.0
CMIG	Matias Romero	1.99	293		Pn	21	23 16.4	-0.4
CMIG					S	21	23 45.4	-1.9
CMIG	Matias Romero	1.99	293	*i* P	Pn	21	23 16.4	-0.4
CMIG				*e*S	S	21	23 45.4	-1.9
QUIS	Sacapulas	2.08	119	*i* P	Pn	21	23 15.9	-2.0
QUIS				IAML		21	23 17.4	
	comp=Z,920nm,1.0s							
QUIS				*i* S	S	21	23 46.5	-2.7
SOKI	Kika Raxquin	2.12	134	*i* P	Pn	21	23 18.5	-0.1
SOKI				IAML		21	24 12.5	
	comp=Z,280nm,1.0s							
RTAL	Retalhuleu	2.16	145		Pn	21	23 18.1	-0.5
RTAL	Retalhuleu	2.16	145	*e*P	Pn	21	23 18.2	-0.5
RTAL				*e*S	S	21	23 48.9	-1.8
RTAL	Retalhuleu	2.16	145	*i* P	Pn	21	23 18.1	-0.5
RTAL				*i* S	S	21	23 49.0	-1.6
RTAL				IAML		21	23 51.8	
	comp=Z,530nm,1.0s							
PETF	Flores	3.04	78		Pn	21	23 26.8	-1.5
PETF	Flores	3.04	78	*i* P	Pn	21	23 26.8	-1.5
PETF				*e*S	S	21	24 03.7	-4.0
PETF	Flores	3.04	78	*i* P	Pn	21	23 26.7	-1.5
PETF				IAML		21	23 27.3	
	comp=Z,810nm,1.0s							
NEUV	Arroyo Zacate	3.04	298	*e*P	Pn	21	23 27.5	-0.8
NEUV				*e*S	S	21	24 04.5	-3.3
HUIG	Huatulco	3.06	260		Pn	21	23 27.1	-1.4
HUIG					S	21	24 05.3	-2.8
HUIG	Huatulco	3.06	260	*i* P	Pn	21	23 27.1	-1.4
HUIG				*e*S	S	21	24 05.3	-2.8
OXIG	Oaxaca	3.68	282		Pn	21	23 37.0	+1.0
OXIG					S	21	24 20.1	-1.7
VHO	Vista Hermosa	3.68	282	*e*P	Pn	21	23 37.0	+1.0
VHO				*e*S	S	21	24 20.1	-1.7
NUBE	Las Nubes	3.91	127	*i* P	Pn	21	23 38.2	-0.5
NUBE				IAML		21	25 28.0	
	comp=Z,68nm,1.0s							
ESQI	Esquipulas	3.91	116		Pn	21	23 38.0	-0.8
ESQI	Esquipulas	3.91	116	*i* P	Pn	21	23 38.4	-0.3
ESQI				IAML		21	23 38.8	
	comp=Z,600nm,1.0s							
ESQI				*i* S	S	21	24 25.5	-1.2
MTO3	Montecristo	3.97	118		Pn	21	23 38.4	-1.1
MTO3	Montecristo	3.97	118	*i* P	Pn	21	23 39.0	-0.6
MTO3				IAML		21	23 39.5	
	comp=Z,300nm,1.0s							
PEIG	Puerto Escondi	4.02	266		Pn	21	23 39.5	-0.5
PEIG					S	21	24 26.2	-2.8
PEIG	Puerto Escondi	4.02	266	*i* P	Pn	21	23 39.5	-0.5
PEIG				*e*S	S	21	24 26.2	-2.8
TOIG	Toxpalan	4.29	295		Pn	21	23 44.3	+0.9
TOIG					S	21	24 32.0	-3.1
TOIG	Toxpalan	4.29	295	*e*P	Pn	21	23 44.3	+0.9
TOIG				*e*S	S	21	24 32.0	-3.1
YOIG	Yosondua	4.42	278		Pn	21	23 46.1	+1.0
YOIG					S	21	24 32.1	-6.1
YOIG	Yosondua	4.42	278	*e*P	Pn	21	23 46.1	+1.0
YOIG				*e*S	S	21	24 32.1	-6.1
JAUV	Jalcomulco	4.75	310	*e*P	Pn	21	23 48.2	-0.8
JAUV				*e*S	S	21	24 40.0	-5.3
NISHN	Nisperales Com	4.92	95	*i* P	Pn	21	23 49.0	-2.2
TLIG	Tlapa	5.50	284		Pn	21	24 00.5	+1.9
TEIG	Tepich	5.92	48	Pn	Pn	21	24 02.0	-1.8
TXAR	Lajitas Array	16.27	325		Pn	21	26 15.6	+1.2
TXAR	Lajitas Array	16.27	325	P	Pn	21	26 17.6	+3.2
	comp=Z,0.2nm,0.3s,baz=146,slow=12,SNR=9.4							
	comp=Z,1.6nm,0.7s							
TX31	Lajitas Ar. Si	16.27	325	Pn	Pn	21	26 17.0	+2.7
ALPN	Alpine	17.07	327	Pn	Pn	21	26 25.8	+2.0
ALPN				IAmb	IAmb	21	26 28.9	
	comp=Z,5.9nm,0.8s							
PAYG	Puerto Ayora	17.08	171	Pn	Pn	21	26 23.3	-0.7
GTBY	Guantanamo Bay	17.36	75		P	21	26 24.9	-0.4
425A	Indio Mountain	18.11	325	Pn	Pn	21	26 37.0	+0.8
GOGA	Godfrey	19.07	25	P	P	21	26 43.9	+0.2
GOGA				IAmb	IAmb	21	26 48.5	
	comp=Z,6.4nm,0.8s							
WMOK	Wichita Mounta	19.07	345	P	Pn	21	26 47.6	+0.3
W35A	Tecumseh	19.09	350	P	P	21	26 45.1	+1.2
W35A				IAmb	IAmb	21	26 48.6	
	comp=Z,7.8nm,0.5s							
FNO	Franklin	19.28	349	P	Pn	21	26 50.2	+0.5
CBOC	Ciudad Bolivar	19.60	120	*e*P	P	21	26 48.6	-1.2
QUOK	Quay	20.06	351	P	Pn	21	26 56.4	-2.6
QUOK				IAmb	IAmb	21	26 56.9	
	comp=Z,9.9nm,0.5s							
AMTX	Amarillo	20.07	339	P	P	21	26 55.9	+1.3
AMTX				IAmb	IAmb	21	26 58.5	
	comp=Z,17nm,1.4s							
U38A	Gravette	20.09	357	P	Pn	21	26 56.6	-2.8
U38A				IAmb	IAmb	21	26 57.6	
	comp=Z,6.0nm,0.6s							
GUY2C	Guyana, Caldas	20.49	121	*e*P	P	21	26 58.7	-0.9
ORTC	Ortega, Tolima	21.34	123	*e*P	P	21	27 06.7	-1.4
OTAV	Otavalo	21.45	137	*e*P	P	21	27 09.4	-0.2
NVAR	Mina Array Bea	31.30	320	P	P	21	28 41.6	+3.9
	comp=Z,1.2nm,0.7s,baz=133,slow=9.4,SNR=12							
	comp=Z,1.2nm,0.7s							
ULM	Lac du Bonnet	33.93	357	P	P	21	28 58.7	-1.4
	comp=Z,1.3nm,0.5s,baz=168,slow=14,SNR=3.4							
	comp=Z,1.3nm,0.5s							
YKA	Yellowknife Ar	48.57	347	P	P	21	30 59.4	+0.5
	comp=Z,0.7nm,0.7s,baz=152,slow=7.2,SNR=15							
	comp=Z,0.7nm,0.7s							
DLBC	Dease Lake	50.17	336	LR	LR	21	55 16.6	
	comp=Z,533nm,19.3s,baz=171,slow=38							
ILAR	Eielson Array	60.36	337	P	P	21	32 24.4	+0.8
	comp=Z,0.4nm,0.6s,baz=112,slow=7.2,SNR=5.2							
	comp=Z,0.4nm,0.6s							

IDC 31 21:34:31.1±2.0, **0°.60N×125°.80E, h0**^{km}, **mb3.1**/3, **mbtmp3.1**/3, **MS3.9**/1, **Error ellipse: s-maj=181.5km s-min=27.2km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
WRA	Warramunga Arr	22.07	158	P	P	21	39 26.2	-1.6
	0.2nm,0.3s,baz=336,slow=11,SNR=5.7							
	0.2nm,0.3s							
ASAR	Alice Springs	25.38	162	P	P	21	40 01.4	+1.2
	0.2nm,0.4s,baz=345,slow=11,SNR=6.4							
	0.2nm,0.4s							
ASAJ	Asahikawa	45.84	17	LR	LR	22	01 39.9	
	comp=Z,136nm,19.9s,baz=162,slow=36							
MKAR	Makanchi Array	59.61	327	P	P	21	44 36.8	-0.1
	0.1nm,0.4s,baz=122,slow=8.8,SNR=4.3							
	0.1nm,0.4s							

*OSPL **31** 21:52:34.4±1.7, 18°.38N×72°.81W, h2^{km}±7^{km}, ML2.1*
*SSNC **31** 21:52:35.7±1.0, 18°.61N×72°.44W, h54^{km}±1^{km}, MD3.3, ML2.6, MW2.8*

ISC 31 21:52:34.9±1.8, **18°.5N**±0°.1×**72°.75W**±0°.07, **h13**^{km}±12^{km}, **n9,** σ1°**36**/14, **Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PAPH	Port-au-Prince	0.43	82	*i* P	Pg	21	52 43.3	-0.2
PAPH				*e*S	Sg	21	52 49.6	+0.3
PAPH	Port-au-Prince	0.43	82	*e*P	Pg	21	52 43.3	-0.2
PAPH				*e*S	Sg	21	52 49.6	+0.3
PAPH				IAML		21	52 50.7	
	comp=E,473nm,0.2s							
PAPH				IAML		21	52 51.0	
	comp=N,363nm,0.2s							
LOPE2	Hotel El Peder	1.05	114	*i* P	Pb	21	52 53.9	-0.9
LOPE2				IAML		21	53 08.1	
	comp=Z,58nm,1.2s							
LOPE2				*e*S	Sb	21	53 08.3	-0.2
PODR	Polo	1.43	102	*i* P	Pn	21	53 01.3	+0.6
PODR				*e*S	Sg	21	53 21.4	+0.5
SDDR	Presa de Saban	1.48	69	*i* P	Pn	21	53 02.1	+0.8
SDDR				*e*S	Sb	21	53 21.6	+0.5
SDDR				IAML		21	53 22.1	
	comp=Z,11nm,0.7s							
MASC	Masc	2.21	321	*e*P	Pn	21	53 10.3	-0.9
MASC				*e*S	Sn	21	53 35.8	-2.6
MASC				IAML		21	53 43.0	
	comp=E,3.8nm,0.2s							
MASC				IAML		21	53 43.3	
	comp=N,6.8nm,0.1s							
GTBY	Guantanamo Bay	2.67	304	*e*P	Pn	21	53 18.5	+1.0
GTBY				*e*S	Sb	21	53 54.6	-0.6
GTBY				IAML		21	53 55.9	
	comp=N,6.7nm,0.7s							
GTBY				IAML		21	53 56.6	
	comp=N,11nm,0.3s							
GTMO	Guantanamo	2.77	306	*e*S	Sn	21	53 55.2	+2.8
GTMO				IAML		21	53 58.0	
	comp=E,133nm,0.4s							
GTMO				IAML		21	53 58.0	
	comp=N,265nm,0.2s							
RCC	Rio Carpintero	3.17	299	*e*P	Pn	21	53 24.6	0.0
RCC				*e*S	Sn	21	54 01.5	-0.8
RCC				IAML		21	54 07.8	
	comp=E,7.0nm,0.9s							
RCC				IAML		21	54 09.8	
	comp=N,7.6nm,1.1s							

*SJA **31** 22:48:41.2±0.7, 20°.70S×68°.96W, h116^{km}±5^{km}, ML4.0, MW3.8*
*GUC **31** 22:48:43.1±0.6, 20°.75S×68°.85W, h103^{km}±3^{km}, ML3.9*
*IDC **31** 22:48:47.7±1.5, 21°.34S×68°.21W, h148^{km}±15^{km}, mb3.8/1, mbtmp3.7/4, Error ellipse: s-maj=38.5km s-min=24.7km az=123.0*

ISC 31 22:48:41.2±0.8, **20°.70S**±0°.03×**68°.85W**±0°.07, **h112**^{km}±7^{km}, **n44,** σ1°**47**/68, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PB08	IPOC Station P	0.62	333	*e*P	Pn	22	49 00.5	+0.8
PB08				IAML		22	49 17.1	
	comp=Z,2μm,0.2s							
PB08	IPOC Station P	0.62	333	*e*P	Pn	22	49 00.7	+1.0
PB08				*i* S	Sn	22	49 14.2	+0.7
PB08				IAML		22	49 14.8	
	comp=N,7μm,0.2s							
PB01	IPOC Station P	0.68	240	*e*P	Pn	22	48 59.7	0.0
PB01				IAML		22	49 15.1	
	comp=Z,3μm,0.2s							
PB01	IPOC Station P	0.68	240	*e*P	Pn	22	48 59.9	+0.1
PB01				*i* S	Sn	22	49 13.2	-0.5
PB01				IAML		22	49 14.7	
	comp=E,10μm,0.1s							
GO01	Chusmiza	1.08	343	*e*P	Pn	22	49 04.7	+0.7
GO01				IAML		22	49 24.7	
	comp=Z,2μm,0.1s							
GO01	Chusmiza	1.08	343	*e*P	Pn	22	49 05.3	+1.3
GO01				*i* S	Sn	22	49 23.0	+2.0
PB09	IPOC Station P	1.15	198	*e*P	Pn	22	49 05.0	+0.7
PB09				*e*S	Sn	22	49 16.0	-5.9
PB09	IPOC Station P	1.15	198	*e*P	Pn	22	49 05.0	+0.7
PB09				*i* S	Sn	22	49 22.1	+0.2
PB02	IPOC Station P	1.15	238	*e*P	Pn	22	49 04.5	+0.2
PB02				*e*S	Sn	22	49 22.1	+0.3
PB02				IAML		22	49 27.2	
	comp=Z,3μm,0.3s							
PB02	IPOC Station P	1.15	238	*e*P	Pn	22	49 04.6	+0.2
PB02				*i* S	Sn	22	49 21.2	-0.6
PB11	IPOC Station P	1.20	321	*e*P	Pn	22	49 05.1	+0.2
PB11				*e*S	Sn	22	49 24.3	+1.4
PB11				IAML		22	49 26.1	
	comp=Z,2μm,0.1s							
PB11	IPOC Station P	1.20	321	*e*P	Pn	22	49 05.9	+0.9
PB11				*i* S	Sn	22	49 23.7	+0.9
PB11				IAML		22	49 24.8	
	comp=N,4μm,0.3s							
PATCX	Punta Patache	1.22	264	*e*P	Pn	22	49 04.8	-0.3
PATCX				*e*S	Sn	22	49 26.2	+3.1
PATCX				IAML		22	49 26.9	
	comp=Z,1μm,0.5s							
PATCX	Punta Patache	1.22	264	*e*P	Pn	22	49 05.4	+0.4
PATCX				*i* S	Sn	22	49 23.1	0.0
PATCX				IAML		22	49 26.7	
	comp=N,4μm,0.3s							
TA01	Diego Aracena	1.25	276	*e*P	Pn	22	49 05.6	+0.4
TA01	Diego Aracena	1.25	276	*e*P	Pn	22	49 05.7	+0.4
TA01				*i* S	Sn	22	49 23.3	-0.2
TA01				IAML		22	49 24.6	
	comp=E,2μm,0.4s							
TA02	Huaiquique	1.27	290	*e*P	Pn	22	49 05.6	+0.1
TA02				*e*S	Sn	22	49 25.2	+1.3
TA02				IAML		22	49 26.7	
	comp=Z,3μm,0.1s							
TA02	Huaiquique	1.27	290	*e*P	Pn	22	49 06.3	+0.7
TA02				*i* S	Sn	22

comp=Z,0.4nm,0.7s,baz=138,slow=1.3,SNR=5.5
ZALV Zalesovo Beam 141.21 25 PKP **PKiKP 23 08 00.7 -0.4**
comp=Z,0.3nm,0.5s,baz=344,slow=2.1,SNR=1.8
MKAR Makanchi Array 144.96 35 PKPbc **PKiKP 23 08 07.2 -1.8**
comp=Z,0.4nm,0.6s,baz=329,slow=3.8,SNR=5.9
SONM Songino Array 152.66 7 PKPbc **PKiKP 23 08 26.9 +1.8**
comp=Z,0.3nm,0.4s,baz=307,slow=2.0,SNR=4.4

IDC ***31*** *22:50:20.8±1.2, 59°.36N×152°.99W, h72km±16km, mb3.8/14, mbtmp4.1/18, Error ellipse: s-maj=18.2km s-min=9.7km az=112.0*
NEIC ***31*** *22:50:22.3±1.2, 59°.34N±0°.03×152°.91W±0°.06, h82km±3km, Error ellipse: s-maj=4.6km s-min=4.2km az=129.0*
AEIC ***31*** *22:50:23.3±1.3, 59°.34N±0°.03×152°.90W±0°.06, h76km±3km, ML3.6, mb4.2/9(NEIC), ML3.9/142(NEIC), Error ellipse: s-maj=4.9km s-min=4.2km az=133.0*
ISC 31 22:50:22.1±0.6, 59°.33N±0°.03×152°.88W±0°.03, h86km±5km, n368, σ0=66/368, mb4.1/16, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AU22	**Augustine Moun**	**0.25**	**280**			**Pn**	**22 50 34.4**	**-0.3**
AU22						**Sn**	**22 50 43.5**	**-0.6**
AUL	**Augustine Lava**	**0.29**	**281**			**Pn**	**22 50 34.8**	**-0.2**
AUL						**Sn**	**22 50 44.3**	**-0.3**
AUCH	**Augustine Cone**	**0.29**	**277**			**Pn**	**22 50 35.1**	**-0.1**
P19K	**Oil Pt**	**0.37**	**331**			**Pn**	**22 50 35.1**	**-0.4**
P19K	**Oil Pt**	**0.37**	**331**			**Sn**	**22 50 44.8**	**-0.7**
P19K	**Oil Pt**	**0.37**	**331**	P		**Pn**	**22 50 35.1**	**-0.4**
	baz=151							
P19K				S		**Sn**	**22 50 44.8**	**-0.7**
	baz=151							
Q19K	**Cape Douglas,**	**0.56**	**225**	Pn		**Pn**	**22 50 36.5**	**-0.5**
Q19K	**Cape Douglas,**	**0.56**	**225**			**Sn**	**22 50 47.3**	**-0.8**
Q19K	**Cape Douglas,**	**0.56**	**225**	P		**Pn**	**22 50 36.5**	**-0.5**
	baz=43							
Q19K				S		**Sn**	**22 50 47.3**	**-0.8**
	baz=43							
ILS	**Iliamna Low So**	**0.64**	**352**			**Pn**	**22 50 37.0**	**-0.7**
ILSW	**Iliamna Southw**	**0.67**	**349**			**Pn**	**22 50 37.4**	**-0.7**
ILSW				IAML			22 50 48.9	
	comp=E,3μm,0.5s							
ILSW				IAML			22 50 49.1	
	comp=N,4μm,0.7s							
IVE	**Iliamna Volcan**	**0.69**	**354**			**Pn**	**22 50 37.6**	**-0.7**
IVE						**Sn**	**22 50 49.0**	**-1.3**
HOM	**Homer**	**0.71**	**62**			**Pn**	**22 50 38.7**	**+0.3**
HOM	**Homer**	**0.71**	**62**			**Sn**	**22 50 51.0**	**+0.5**
HOM	**Homer**	**0.71**	**62**	P		**Pn**	**22 50 38.7**	**+0.3**
	baz=244							
HOM				S		**Sn**	**22 50 51.2**	**+0.7**
	baz=244							
O20K	**Slope Mountain**	**0.77**	**10**			**Pn**	**22 50 39.0**	**0.0**
O20K	**Slope Mountain**	**0.77**	**10**	P		**Pn**	**22 50 39.0**	**0.0**
	baz=191							
Q20K	**Shuyak Island**	**0.77**	**160**	P		**Pn**	**22 50 38.9**	**0.0**
	baz=341							
Q20K				S		**Sn**	**22 50 51.2**	**-0.2**
	baz=341							
SYI	**Shuyak Island**	**0.77**	**160**	Pn		**Pn**	**22 50 38.9**	**0.0**
SYI				IAML			22 50 51.9	
	comp=E,4μm,0.7s							
SYI	**Shuyak Island**	**0.77**	**160**			**Sn**	**22 50 51.1**	**-0.3**
CNPM	**China Poot**	**0.86**	**76**			**Pn**	**22 50 39.9**	**-0.1**
CNPM				IAML			22 50 54.9	
	comp=N,2μm,0.5s							
CNPM				IAML			22 50 55.7	
	comp=E,2μm,0.5s							
CNPM	**China Poot**	**0.86**	**76**			**Sn**	**22 50 53.3**	**-0.1**
KAPH	**Katmai Pasha**	**1.06**	**226**			**Pn**	**22 50 42.4**	**+0.1**
KAPH						**Sn**	**22 50 56.9**	**-0.5**
RED	**Redoubt Volcan**	**1.09**	**3**			**Pn**	**22 50 42.3**	**-0.4**
RED						**Sn**	**22 50 57.8**	**-0.4**
BRLK	**Bradley Lake**	**1.11**	**66**			**Pn**	**22 50 42.3**	**-0.5**
BRLK						**Sn**	**22 50 58.0**	**-0.3**
BRLK	**Bradley Lake**	**1.11**	**66**	IAML			22 50 59.3	
	comp=E,2μm,0.5s							
BRLK				IAML			22 51 00.6	
	comp=N,3μm,0.7s							
RDSO	**Redoubt South**	**1.13**	**4**			**Pn**	**22 50 42.8**	**-0.4**
O19K	**Port Alsworth**	**1.13**	**321**			**Pn**	**22 50 42.7**	**-0.4**
O19K	**Port Alsworth**	**1.13**	**321**			**Sn**	**22 50 57.7**	**-1.0**
O19K	**Port Alsworth**	**1.13**	**321**	P		**Pn**	**22 50 42.6**	**-0.4**
	baz=139							
O19K				S		**Sn**	**22 50 57.7**	**-1.0**
	baz=139							
RSO	**Redoubt South**	**1.14**	**3**			**Pn**	**22 50 43.1**	**-0.2**
RDWB	**Redoubt West**	**1.16**	**1**			**Pn**	**22 50 43.2**	**-0.4**
BRSE	**Bradley Lake S**	**1.17**	**68**			**Pn**	**22 50 43.1**	**-0.4**
BRSE	**Bradley Lake S**	**1.17**	**68**	P		**Pn**	**22 50 43.1**	**-0.4**
	baz=251							
KAHG	**Katmai Hook Gl**	**1.20**	**227**			**Pn**	**22 50 44.1**	**+0.1**
KAHG						**Sn**	**22 51 00.2**	**-0.3**
P18K	**Big Mountain,**	**1.20**	**274**			**Pn**	**22 50 43.2**	**-0.8**
P18K	**Big Mountain,**	**1.20**	**274**	P		**Pn**	**22 50 43.2**	**-0.8**
	baz=91							
NCT	**North Crescent**	**1.24**	**359**			**Pn**	**22 50 44.1**	**-0.3**
RDJH	**Redoubt Jeurge**	**1.27**	**2**			**Pn**	**22 50 44.6**	**-0.3**
DFR	**Drift River**	**1.27**	**4**			**Pn**	**22 50 44.7**	**-0.2**
RDT	**Redoubt**	**1.27**	**11**			**Pn**	**22 50 44.5**	**-0.3**
RDT						**Sn**	**22 51 01.4**	**-0.5**
O18K	**Koktuh Hills**	**1.29**	**295**			**Pn**	**22 50 44.6**	**-0.4**
O18K	**Koktuh Hills**	**1.29**	**295**	IAML			22 51 01.9	
	comp=N,2μm,0.5s							
O18K				IAML			22 51 02.0	
	comp=E,2μm,0.6s							
O18K	**Koktuh Hills**	**1.29**	**295**	P		**Pn**	**22 50 44.6**	**-0.4**
	baz=113							
KAHC	**Katmai Hardscr**	**1.29**	**239**			**Pn**	**22 50 45.0**	**-0.2**
KAHC	**Katmai Hardscr**	**1.29**	**239**			**Sn**	**22 51 01.5**	**-1.1**
KAHC						**Sn**	**22 51 01.5**	**-1.1**
KAHC	**Katmai Hardscr**	**1.29**	**239**	P		**Pn**	**22 50 45.0**	**-0.2**
	baz=57							
Q18K	**Katmai Hardscr**	**1.30**	**239**	P		**Pn**	**22 50 45.0**	**-0.2**
	baz=57							
Q18K				S		**Sn**	**22 51 01.5**	**-1.1**
	baz=57							
KDAK	**Kodiak Island**	**1.56**	**174**	Pn		**Pn**	**22 50 48.2**	**-0.2**
KDAK				IAML			22 51 17.5	
	comp=E,754nm,0.5s							
KDAK	**Kodiak Island**	**1.56**	**174**	P		**Pn**	**22 50 48.2**	**-0.2**
	comp=E,717nm,0.5s,baz=42,slow=5.2,SNR=1076							
KDAK				S		**Sn**	**22 51 06.8**	**-1.4**
	comp=E,215nm,0.4s,baz=299,slow=23,SNR=13							
KVTA	**Katmai Vly 10**	**1.57**	**234**			**Pn**	**22 50 48.6**	**0.0**
KCE	**Katmai Mt Cerb**	**1.62**	**229**			**Pn**	**22 50 50.0**	**+0.7**
CAPN	**Captain Cook N**	**1.68**	**30**			**Pn**	**22 50 51.8**	**+1.9**
N19K	**Bonanza Creek**	**1.69**	**332**			**Pn**	**22 50 50.2**	**0.0**
N19K				IAML			22 51 11.3	
	comp=N,660nm,0.8s							
N19K				IAML			22 51 11.5	
	comp=E,1μm,0.9s							
N19K	**Bonanza Creek**	**1.69**	**332**			**Sn**	**22 51 10.7**	**-0.8**
N19K	**Bonanza Creek**	**1.69**	**332**	P		**Pn**	**22 50 50.1**	**-0.1**
	baz=151							
N19K				S		**Sn**	**22 51 10.7**	**-0.8**
	baz=151							
ACHA	**Angle Creek He**	**1.70**	**230**			**Pn**	**22 50 50.5**	**+0.2**
ANCK	**Angle Creek**	**1.77**	**231**			**Pn**	**22 50 51.5**	**+0.3**
SLKM	**Skilak Lake**	**1.79**	**47**			**Pn**	**22 50 51.6**	**+0.2**
P17K	**Kvichak River**	**1.83**	**267**			**Pn**	**22 50 51.9**	**0.0**
P17K						**Sn**	**22 51 14.6**	**+0.1**
P17K	**Kvichak River**	**1.83**	**267**	P		**Pn**	**22 50 51.9**	**0.0**
	baz=84							
P17K				S		**Sn**	**22 51 14.6**	**+0.1**
	baz=84							
CNTC	**Contact Creek**	**1.89**	**237**			**Pn**	**22 50 52.9**	**0.0**
Q17K	**Contact Creek**	**1.89**	**237**	P		**Pn**	**22 50 52.9**	**0.0**
	baz=54							
SEW	**Seward**	**1.90**	**64**			**Pn**	**22 50 52.4**	**-0.4**
SEW						**Sn**	**22 51 15.5**	**-0.8**
SEW	**Seward**	**1.90**	**64**	P		**Pn**	**22 50 52.8**	**0.0**
	baz=248							
SEW				S		**Sn**	**22 51 15.5**	**-0.8**
	baz=248							
N20K	**Mount Spurr**	**1.91**	**10**	P		**Pn**	**22 50 53.1**	**+0.2**
	baz=191							
SPCR	**Spurr Chakacha**	**1.91**	**10**			**Pn**	**22 50 53.1**	**+0.2**
SPCN	**Chakachatna No**	**1.93**	**10**			**Pn**	**22 50 53.6**	**+0.3**
R18K	**Karluk**	**1.95**	**206**			**Pn**	**22 50 53.2**	**-0.3**
R18K	**Karluk**	**1.95**	**206**	IAML			22 51 23.3	
	comp=N,694nm,0.5s							
R18K				IAML			22 51 26.7	
	comp=E,614nm,0.5s							
O22K	**Cooper Landing**	**1.97**	**53**			**Pn**	**22 50 53.7**	**0.0**
O22K	**Cooper Landing**	**1.97**	**53**	IAML			22 51 50.4	
	comp=E,1μm,0.8s							
O22K	**Cooper Landing**	**1.97**	**53**	P		**Pn**	**22 50 53.7**	**0.0**
	baz=236							
SPCP	**Crater Peak Br**	**1.98**	**10**			**Pn**	**22 50 54.4**	**+0.4**
SPCG	**Spurr Capps Gl**	**2.01**	**12**			**Pn**	**22 50 54.7**	**+0.3**
N18K	**Kilae Creek**	**2.03**	**313**			**Pn**	**22 50 54.4**	**-0.1**
N18K	**Kilae Creek**	**2.03**	**313**	IAML			22 51 19.3	
	comp=E,476nm,1.2s							
SPNN	**North Nagishla**	**2.04**	**2**			**Pn**	**22 50 55.3**	**+0.4**
Q16K	**King Salmon**	**2.06**	**253**			**Pn**	**22 50 55.3**	**+0.5**
Q16K	**King Salmon**	**2.06**	**253**	P		**Pn**	**22 50 55.3**	**+0.5**
	baz=70							
OHAK	**Old Harbor**	**2.12**	**186**			**Pn**	**22 50 55.3**	**-0.5**
OHAK	**Old Harbor**	**2.12**	**186**	P		**Pn**	**22 50 55.3**	**-0.5**
O17K	**Koliganek Bris**	**2.19**	**284**			**Pn**	**22 50 56.7**	**+0.1**
O17K						**Sn**	**22 51 22.3**	**-0.7**
O17K	**Koliganek Bris**	**2.19**	**284**	P		**Pn**	**22 50 56.7**	**+0.1**
	baz=100							
O17K				S		**Sn**	**22 51 22.3**	**-0.7**
	baz=100							
SVW2	**Sparrevohn**	**2.23**	**324**			**Pn**	**22 50 57.0**	**-0.2**
SVW2				IAML			22 51 23.5	
	comp=E,640nm,0.9s							
SVW2	**Sparrevohn**	**2.23**	**324**	P		**Pn**	**22 50 57.0**	**-0.2**
STLK	**Strandline Lak**	**2.24**	**13**			**Pn**	**22 50 57.7**	**+0.4**
FIS	**Fire Island**	**2.25**	**35**			**Pn**	**22 50 58.4**	**+0.9**
FIS				IAML			22 51 44.6	
	comp=N,729nm,0.6s							
FIS				IAML			22 51 48.1	
	comp=E,827nm,0.7s							
RC01	**Rabbit Creek A**	**2.36**	**40**			**Pn**	**22 50 59.0**	**+0.1**
RC01						**Sn**	**22 51 26.8**	**-0.3**
RC01	**Rabbit Creek A**	**2.36**	**40**	IAML			22 51 28.2	
	comp=N,684nm,0.5s							
RC01				IAML			22 51 29.2	
	comp=E,825nm,0.4s							
RC01	**Rabbit Creek A**	**2.36**	**40**	P		**Pn**	**22 50 59.0**	**+0.1**
	baz=223							
RC01				S		**Sn**	**22 51 26.8**	**-0.3**
	baz=223							
SUA	**Susitna One**	**2.39**	**25**	Pn		**Pn**	**22 51 00.3**	**+0.9**
SUA				IAML			22 51 30.5	
	comp=E,643nm,1.2s							
SUA				IAML			22 51 47.7	
	comp=N,352nm,1.1s							
SUA	**Susitna One**	**2.39**	**25**	P		**Pn**	**22 50 59.9**	**+0.5**
	baz=208							
PLK3	**Peulik 3**	**2.42**	**229**			**Pn**	**22 51 00.7**	**+0.9**
N17K	**Nushagak Hills**	**2.48**	**301**			**Pn**	**22 51 00.3**	**-0.1**
PLK1	**Peulik 1**	**2.48**	**233**			**Pn**	**22 51 01.2**	**+0.7**
R17K	**Ugashik Creek**	**2.50**	**229**			**Pn**	**22 51 01.6**	**+0.8**
R17K	**Ugashik Creek**	**2.50**	**229**	IAML			22 51 31.7	
	comp=E,322nm,0.8s							
R17K				IAML			22 51 34.3	
	comp=N,284nm,1.1s							
M20K	**Styx River**	**2.56**	**357**			**Pn**	**22 51 02.3**	**+0.6**
M18K	**Stony River**	**2.61**	**327**			**Pn**	**22 51 02.3**	**+0.1**
P16K	**Nushagak River**	**2.65**	**266**			**Pn**	**22 51 03.2**	**+0.5**
P16K	**Nushagak River**	**2.65**	**266**	P		**Pn**	**22 51 03.2**	**+0.5**
	baz=81							
O16K	**Kokwok River B**	**2.67**	**278**	Pn		**Pn**	**22 51 03.4**	**+0.3**
O16K	**Kokwok River B**	**2.67**	**278**	P		**Pn**	**22 51 03.2**	**+0.1**
	baz=93							
M19K	**Big River Lodg**	**2.69**	**345**			**Pn**	**22 51 03.6**	**+0.3**
M19K	**Big River Lodg**	**2.69**	**345**	P		**Pn**	**22 51 03.5**	**+0.3**
	baz=163							
SKT	**Skwentna**	**2.74**	**13**			**Pn**	**22 51 04.3**	**+0.3**
SKT	**Skwentna**	**2.74**	**13**	P		**Pn**	**22 51 04.1**	**+0.1**
	baz=195							
M22K	**Willow**	**2.79**	**28**			**Pn**	**22 51 05.6**	**+1.0**
SII	**Sitkinak Islan**	**2.86**	**195**	Pn		**Pn**	**22 51 05.4**	**-0.3**
SII				IAML			22 52 26.1	
	comp=E,395nm,3.5s							
SII	**Sitkinak Islan**	**2.86**	**195**	P		**Pn**	**22 51 05.4**	**-0.3**
SII	**Sitkinak Islan**	**2.86**	**195**	P		**Pn**	**22 51 05.0**	**-0.7**
	baz=13							
PMR	**Palmer**	**2.93**	**38**	Pn		**Pn**	**22 51 06.1**	**-0.4**
PMR				IAML			22 52 04.8	
	comp=N,187nm,1.0s							
PMR	**Palmer**	**2.93**	**38**			**Sn**	**22 51 38.6**	**-2.2**
PMR	**Palmer**	**2.93**	**38**	P		**Pn**	**22 51 05.9**	**-0.6**
PMR	**Palmer**	**2.93**	**38**	P		**Pn**	**22 51 06.0**	**-0.6**
	baz=221							
PMR				S		**Sn**	**22 51 38.6**	**-2.2**
	baz=221							
L19K	**White Mountain**	**3.02**	**342**			**Pn**	**22 51 08.1**	**+0.3**
L19K	**White Mountain**	**3.02**	**342**	IAML			22 51 43.2	
	comp=N,464nm,0.8s							
KNK	**Knik Glacier**	**3.03**	**45**			**Pn**	**22 51 07.5**	**-0.5**
KNK				IAML			22 51 42.3	
	comp=E,576nm,0.9s							
KNK				IAML			22 51 43.2	
	comp=N,584nm,0.6s							
KNK	**Knik Glacier**	**3.03**	**45**	P		**Pn**	**22 51 07.4**	**-0.5**
	baz=229							
R16K	**Pilot Point**	**3.03**	**236**			**Pn**	**22 51 08.7**	**+0.8**
M17K	**Holitna River**	**3.07**	**315**			**Pn**	**22 51 08.8**	**+0.4**
M17K	**Holitna River**	**3.07**	**315**	IAML			22 51 46.1	
	comp=E,538nm,0.6s							
GHO	**Glory Hole Cre**	**3.13**	**37**			**Pn**	**22 51 09.1**	**-0.3**
GHO	**Glory Hole Cre**	**3.13**	**37**	IAML			22 52 10.7	
	comp=E,369nm,1.1s							
GHO				IAML			22 52 14.6	
	comp=N,257nm,0.8s							
N16K	**Nishlik Lake**	**3.18**	**294**			**Pn**	**22 51 10.3**	**+0.3**
L20K	**Farewell, AK**	**3.20**	**352**			**Pn**	**22 51 10.7**	**+0.6**
CUT	**Chulitna**	**3.34**	**21**			**Pn**	**22 51 12.8**	**+0.8**
CUT				IAML			22 51 56.1	
	comp=N,306nm,0.6s							
CUT				IAML			22 51 58.7	
	comp=E,336nm,0.8s							
CUT	**Chulitna**	**3.34**	**21**	P		**Pn**	**22 51 12.3**	**+0.3**
	baz=204							
SML	**Sawmill**	**3.35**	**40**			**Pn**	**22 51 12.1**	**-0.2**
SML				IAML			22 51 50.7	
	comp=N,174nm,0.6s							
SML				IAML			22 52 18.2	
	comp=E,209nm,0.8s							
SML	**Sawmill**	**3.35**	**40**	P		**Pn**	**22 51 11.6**	**-0.7**
	baz=224							
HIN	**Hinchinbrook I**	**3.39**	**69**			**Pn**	**22 51 13.3**	**+0.5**
L18K	**Granite Mounta**	**3.45**	**329**			**Pn**	**22 51 13.7**	**+0.2**
L18K	**Granite Mounta**	**3.45**	**329**	IAML			22 51 53.4	
	comp=N,184nm,0.8s							
M16K	**Timber Creek**	**3.48**	**302**			**Pn**	**22 51 14.4**	**+0.5**
FID	**Port Fidalgo**	**3.51**	**63**			**Pn**	**22 51 12.8**	**-1.6**
FID	**Port Fidalgo**	**3.51**	**63**	IAML			22 51 55.0	
	comp=N,406nm,0.9s							
M23K	**Glacier View**	**3.55**	**44**			**Pn**	**22 51 14.7**	**-0.2**
M23K	**Glacier View**	**3.55**	**44**	P		**Pn**	**22 51 14.7**	**-0.2**
	baz=228							
O15K	**Ungalikthiuk R**	**3.57**	**271**			**Pn**	**22 51 16.1**	**+0.9**
PPLA	**Purkeypile**	**3.59**	**5**			**Pn**	**22 51 16.7**	**+1.1**
SCM	**Sheep Creek Mo**	**3.72**	**45**			**Pn**	**22 51 16.7**	**-0.6**
SCM	**Sheep Creek Mo**	**3.72**	**45**	IAML			22 52 00.9	
	comp=N,248nm,0.6s							
SCM				IAML			22 52 02.6	
	comp=E,312nm,0.5s							
SCM	**Sheep Creek Mo**	**3.72**	**45**	P		**Pn**	**22 51 16.8**	**-0.4**
	baz=230							
N15K	**Kwethluk River**	**3.74**	**286**			**Pn**	**22 51 18.7**	**+1.2**
N15K	**Kwethluk River**	**3.74**	**286**	IAML			22 52 03.6	
	comp=E,169nm,0.8s							
N15K				IAML			22 52 30.2	
	comp=N,132nm,0.7s							
EYAK	**Cordova Ski Ar**	**3.79**	**68**			**Pn**	**22 51 17.3**	**-0.8**
EYAK	**Cordova Ski Ar**	**3.79**	**68**	P		**Pn**	**22 51 18.0**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.79**	**68**	P		**Pn**	**22 51 17.9**	**-0.3**
	baz=254							
CHIR	**Chirikof Islan**	**3.81**	**204**			**Pn**	**22 51 17.7**	**-0.8**
CHIR	**Chirikof Islan**	**3.81**	**204**	P		**Pn**	**22 51 17.8**	**-0.7**
	baz=21							
L17K	**Donlin**	**3.87**	**319**			**Pn**	**22 51 19.2**	**-0.1**
TTA	**Tatalina**	**3.92**	**339**			**Pn**	**22 51 20.1**	**+0.2**
TTA	**Tatalina**	**3.92**	**339**	P		**Pn**	**22 51 20.1**	**+0.2**
TTA	**Tatalina**	**3.92**	**339**	P		**Pn**	**22 51 19.8**	**-0.1**
	baz=156							
DIV	**Divide**	**3.98**	**60**			**Pn**	**22 51 20.3**	**-0.5**
WAT7	**Susitna Watana**	**4.02**	**27**			**Pn**	**22 51 21.5**	**+0.1**
L16K	**Owhat River**	**4.04**	**309**	Pn		**Pn**	**22 51 21.8**	**+0.3**
L16K				IAML			22 52 08.4	
	comp=E,83nm,0.9s							
L16K				IAML			22 52 37.1	
	comp=N,91nm,0.8s							
L16K	**Owhat River**	**4.04**	**309**	P		**Pn**	**22 51 21.8**	**+0.3**
	baz=123							
KLU	**Klutina**	**4.08**	**55**			**Pn**	**22 51 21.6**	**-0.5**
KLU	**Klutina**	**4.08**	**55**	P		**Pn**	**22 51 21.6**	**-0.5**
	baz=241							
K20K	**Telida**	**4.08**	**352**			**Pn**	**22 51 22.6**	**+0.4**
WAT1	**Susitna Watana**	**4.09**	**29**			**Pn**	**22 51 22.4**	**+0.1**
WAT1	**Susitna Watana**	**4.09**	**29**	P		**Pn**	**22 51 22.4**	**+0.1**
	baz=213							
WAT6	**Susitna Watana**	**4.11**	**35**			**Pn**	**22 51 22.4**	**-0.3**
WAT6	**Susitna Watana**	**4.11**	**35**	P		**Pn**	**22 51 22.4**	**-0.3**
	baz=220							
CAST	**Castle Rocks**	**4.12**	**5**			**Pn**	**22 51 23.0**	**+0.3**
CAST	**Castle Rocks**	**4.12**	**5**	P		**Pn**	**22 51 23.0**	**+0.3**
	baz=186							
GOAT	**Goat Mountain**	**4.29**	**70**			**Pn**	**22 51 24.2**	**-0.8**
K17K	**Iditarod**	**4.30**	**325**			**Pn**	**22 51 25.1**	**0.0**
K17K	**Iditarod**	**4.30**	**325**	IAML			22 52 28.4	
	comp=N,113nm,1.2s							
K17K				IAML			22 52 43.9	
	comp=E,201nm,1.1s							
O14K	**Tigyukauivet M**	**4.30**	**273**			**Pn**	**22 51 26.0**	**+0.9**
O14K	**Tigyukauivet M**	**4.30**	**273**	IAML			22 52 53.6	
	comp=E,72nm,3.2s							
O14K				IAML			22 53 36.8	
	comp=N,102nm,3.2s							
M24K	**Tolsona, Glenn**	**4.31**	**47**			**Pn**	**22 51 25.0**	**-0.3**
M24K	**Tolsona, Glenn**	**4.31**	**47**	IAML			22 52 29.5	
	comp=N,174nm,0.8s							
M24K	**Tolsona, Glenn**	**4.31**	**47**	P		**Pn**	**22 51 25.2**	**-0.1**
	baz=233							
TRF	**Thorofare Moun**	**4.32**	**16**			**Pn**	**22 51 25.7**	**+0.2**
TRF	**Thorofare Moun**	**4.32**	**16**	IAML			22 52 18.9	
	comp=E,87nm,1.2s							
TRF				IAML			22 52 20.7	
	comp=N,120nm,1.0s							
TRF	**Thorofare Moun**	**4.32**	**16**	P		**Pn**	**22 51 25.7**	**+0.2**
	baz=198							
KAIM	**Kayak Island**	**4.34**	**78**			**Pn**	**22 51 26.1**	**+0.4**
KTH	**Kantishna Hill**	**4.34**	**12**			**Pn**	**22 51 25.8**	**+0.1**
KTH	**Kantishna Hill**	**4.34**	**12**	IAML			22 52 47.1	
	comp=N,114nm,0.9s							
KTH				IAML			22 52 47.6	
	comp=E,70nm,0.9s							
BMRM	**Bremner River**	**4.45**	**65**			**Pn**	**22 51 26.6**	**-0.5**
BMRM	**Bremner River**	**4.45**	**65**	P		**Pn**	**22 51 26.8**	**-0.4**
	baz=252							
N14K	**Kuskokwak Cree**	**4.51**	**281**			**Pn**	**22 51 29.0**	**+1.1**
RND	**Reindeer**	**4.53**	**24**			**Pn**	**22 51 28.3**	**+0.1**
RND	**Reindeer**	**4.53**	**24**	IAML			22 52 50.1	
	comp=N,56nm,1.0s							
RND				IAML			22 52 56.0	
	comp=E,59nm,1.2s							
J18K	**Innoko River**	**4.54**	**338**			**Pn**	**22 51 28.6**	**+0.3**
DHY	**Denali Highway**	**4.61**	**33**			**Pn**	**22 51 29.0**	**-0.3**
DHY	**Denali Highway**	**4.61**	**33**	IAML			22 52 23.1	
	comp=N,105nm,0.5s							
DHY				IAML			22 52 24.5	
	comp=E,116nm,0.6s							
DHY	**Denali Highway**	**4.61**	**33**	P		**Pn**	**22 51 29.2**	**-0.1**
	baz=218							
N25K	**Chitina, Valde**	**4.69**	**57**			**Pn**	**22 51 30.0**	**-0.5**
N25K	**Chitina, Valde**	**4.69**	**57**	IAML			22 52 23.4	
	comp=N,72nm,0.8s							
N25K				IAML			22 52 27.0	
	comp=E,75nm,0.7s							
N25K	**Chitina, Valde**	**4.69**	**57**	P		**Pn**	**22 51 30.2**	**-0.3**
	baz=245							
M14K	**Bethel**	**4.77**	**291**			**Pn**	**22 51 32.0**	**+0.6**
M14K	**Bethel**	**4.77**	**291**	IAML			22 52 31.8	
	comp=E,124nm,4.6s							
M14K				IAML			22 52 59.8	
	comp=N,102nm,3.6s							
M14K	**Bethel**	**4.77**	**291**	P		**Pn**	**22 51 31.6**	**+0.2**
	baz=103							
MCK	**McKinley**	**4.80**	**21**			**Pn**	**22 51 32.5**	**+0.6**
MCK	**McKinley**	**4.80**	**21**	P		**Pn**	**22 51 32.5**	**+0.6**
	baz=205							
J19K	**Poorman**	**4.86**	**346**			**Pn**	**22 51 32.8**	**+0.1**
L15K	**Ungalak Mounta**	**4.86**	**303**			**Pn**	**22 51 32.9**	**+0.3**
BPAW	**Bear Paw Mtn.**	**4.87**	**10**			**Pn**	**22 51 32.6**	**-0.3**
BPAW	**Bear Paw Mtn.**	**4.87**	**10**	IAML			22 53 14.3	
	comp=E,56nm,4.1s							
BPAW	**Bear Paw Mtn.**	**4.87**	**10**	P		**Pn**	**22 51 32.6**	**-0.3**
	baz=192							
HARP	**HAARP**	**4.87**	**48**			**Pn**	**22 51 32.9**	**0.0**

POKR Poker Plat Res 6.34 21 P Pn 22 51 52.5 -0.3
baz=206
H21K Melozitna Rive 6.35 0 Pn 22 51 53.0 +0.1
J25K Salcha River, 6.37 31 Pn 22 51 53.0 -0.3
H18K Honhosa River 6.38 339 Pn 22 51 53.7 +0.3
H18K Honhosa River 6.38 339 P Pn 22 51 53.7 +0.3
baz=154
YUK2 White River 6.43 62 Pn 22 51 54.2 +0.1
H19K Roundabout Mou 6.44 347 Pn 22 51 55.6 +1.5
L27K Beaver Creek, 6.52 50 Pn 22 51 56.3 +1.0
BCAR Beaver Creek A 6.54 50 Pn Pn 22 51 56.5 +0.9
YUK3 Moose Creek 6.60 63 Pn 22 51 57.1 +0.5
YUK3 Moose Creek 6.60 63 P Pn 22 51 57.1 +0.5
baz=254
IMAR Indian Mountai 6.69 357 Pn Pn 22 51 58.3 +0.8
J26L Joseph Creek 6.80 36 Pn 22 51 59.0 -0.1
PNL Peninsula 6.88 81 Pn 22 51 59.9 -0.3
PNL Peninsula 6.88 81 P Pn 22 52 00.1 -0.1
baz=273
H24K Noodor Dome 6.92 17 Pn 22 52 00.5 -0.4
PRP Porcupine Dome 7.08 26 Pn 22 52 02.5 -0.5
PRP Porcupine Dome 7.08 26 P Pn 22 52 02.5 -0.5
baz=212
G18K Tagagawik 7.10 340 Pn 22 52 04.1 +0.9
G19K Purcell Mounta 7.10 346 Pn Pn 22 52 03.6 +0.4
G21K Allakaket 7.22 358 Pn 22 52 05.6 +0.9
O29M Mount Kennedy 7.28 76 Pn 22 52 06.4 +0.6
YUK4 Talbot Arm 7.35 68 P Pn 22 52 07.9 +1.1
baz=260
I26K Coal Creek Min 7.51 33 Pn 22 52 07.9 -0.8
G23K Bananza Creek 7.52 9 Pn Pn 22 52 09.2 +0.2
M29M Somme Creek 7.69 60 Pn 22 52 11.3 0.0
P29M Windy Craggy 7.72 81 Pn 22 52 11.5 -0.1
EGAK Eagle 7.75 40 Pn 22 52 12.3 +0.4
G24K Hadweenzic Riv 7.79 16 Pn 22 52 12.2 -0.4
F19K Shaleruckik Mo 7.85 346 Pn 22 52 13.9 +0.6
F20K Avaraart Lake 7.85 352 Pn Pn 22 52 14.3 +1.0
F21K Alatna River 7.93 350 Pn Pn 22 52 15.4 +0.9
DAWY Dawson 7.97 48 Pn Pn 22 52 14.9 -0.1
FYU Fort Yukon 8.05 22 Pn Pn 22 52 15.0 -1.0
L29M L29M 8.06 56 Pn 22 52 16.8 +0.5
N30M Aishikik Lake 8.11 68 Pn 22 52 17.0 0.0
I27K Kandik River 8.16 35 Pn 22 52 16.9 -0.8
I27K Kandik River 8.16 35 P Pn 22 52 16.9 -0.8
baz=225
E19K Redstone River 8.39 348 Pn 22 52 22.0 +1.4
M30M Minto, Yukon 8.47 61 Pn 22 52 21.4 -0.5
M30M Minto, Yukon 8.47 61 P Pn 22 52 21.4 -0.5
baz=255
F24K Squaw Lake 8.52 13 Pn Pn 22 52 22.3 -0.2
I28M Miner Creek 8.58 39 Pn Pn 22 52 23.6 +0.2
K29M Barlow Dome 8.60 52 Pn Pn 22 52 24.1 +0.4
N31M Braeburn, Yuko 8.73 68 Pn 22 52 26.3 +0.8
E22K Anaktuvuk Pass 8.85 3 Pn Pn 22 52 27.8 +0.8
SKAG Skagway 8.96 82 Pn 22 52 29.3 +0.8
E24K Your Creek 8.99 11 Pn 22 52 28.3 -0.6
G27K Doyon Strip 9.05 29 Pn 22 52 29.7 -0.1
I29M Ogilvie Camp, 9.07 42 Pn Pn 22 52 30.4 +0.4
WHY Whitehorse 9.12 74 Pn 22 52 31.8 +1.1
E21K Killik River 9.16 357 Pn 22 52 31.9 +0.7
J30M Hart River 9.39 49 Pn Pn 22 52 35.3 +0.9
E25K Arctic Village 9.39 17 Pn Pn 22 52 33.0 -1.3
TOLK Toolik Lake Re 9.46 7 Pn Pn 22 52 35.0 -0.3
D19K Kuna River 9.48 348 Pn 22 52 36.9 +1.3
H29M Whitestone 9.57 38 Pn 22 52 36.1 -0.7
D22K Ayikyak River 9.59 0 Pn Pn 22 52 37.6 +0.6
I30M Mount Dempster 9.68 45 Pn 22 52 39.7 +1.3
S32K Killisnoo 9.79 93 Pn 22 52 40.7 +1.0
D24K Happy Valley 10.02 8 Pn 22 52 43.5 +0.6
F28M Old Crow 10.12 29 Pn 22 52 43.4 -0.9
P33M Teslin, Yukon 10.15 76 Pn 22 52 45.2 +0.3
E27K Coleen River 10.17 24 Pn 22 52 44.0 -1.1
EPYK Eagle Plains 10.19 39 Pn Pn 22 52 47.5 +2.3
B21K Ikpikpuk River 10.36 357 Pn 22 52 46.9 -0.6
D25K Kavik River 10.41 13 Pn 22 52 47.3 -1.0
Q32M Nakina River 10.59 83 Pn 22 52 51.3 +0.4
C23K Itkillik River 10.59 4 Pn 22 52 51.0 +0.3
G30M tAoh Zraii Nji 10.71 37 Pn Pn 22 52 51.6 -0.8
U33K Whale Pass 11.04 98 Pn 22 52 55.7 -1.1
B22K Teshekpuk Lake 11.06 359 Pn Pn 22 52 56.1 -0.9
R33M Jennings River 11.17 80 Pn Pn 22 52 59.3 +0.5
D27M Malcolm River 11.18 22 Pn Pn 22 52 58.3 -0.4
E29M Blow River 11.20 30 Pn 22 52 59.0 +0.1
G31M Satah River 11.31 40 Pn Pn 22 52 59.4 -1.0
F31M Tsiigehtchic 11.77 38 Pn Pn 22 53 06.2 -0.4
DLBC Dease Lake 11.85 84 P Pn 22 53 08.2 +0.5
comp=N,4.7nm,0.4s,baz=280,slow=12,SNR=26
DLBC S **Sn** 22 55 16.1 -1.8
comp=N,2.0nm,0.6s,baz=203,slow=21,SNR=1.7
T35M Bob Quinn 12.17 91 Pn Pn 22 53 14.3 +2.2
INK Inuvik 12.35 35 P Pn 22 53 13.3 -1.0
comp=N,3.7nm,0.7s,baz=223,slow=15,SNR=15
ATKA Atka Island 13.91 248 Pn P 22 53 39.5 -1.0
A36M Sachs Harbour 16.80 30 Pn Pn 22 54 11.2 -0.4
A36M IAmb IAmb 22 54 14.6
comp=Z,9.4nm,0.8s
YKA Yellowknife Ar 18.68 64 P P 22 54 33.2 +0.1
YKA Yellowknife Ar 18.68 64 P P 22 54 34.4 +1.3
comp=Z,0.7nm,0.5s,baz=277,slow=10,SNR=19
RES Resolute Bay 25.85 31 P P 22 55 44.8 -0.1
PEA0B Petropavlovsk- 27.62 279 P P 22 56 01.4 +0.3
PETK Petropavlovsk- 27.62 279 P P 22 56 00.6 -0.5
PETK Petropavlovsk- 27.62 279 P P 22 56 00.4 -0.7
comp=Z,4.2nm,0.7s,baz=69,slow=13,SNR=43
comp=Z,4.2nm,0.7s
NRIK Noril'sk 44.52 334 P P 22 58 24.7 +0.3
NRIK IAmb IAmb 22 58 25.0
comp=Z,2.0nm,0.6s
NRIK Noril'sk 44.52 334 P P 22 58 24.4 0.0
comp=Z,1.5nm,0.5s,baz=86,slow=5.3,SNR=5.4
comp=Z,1.5nm,0.5s
USRK Ussuriysk Ar. 46.28 286 P P 22 58 37.0 -1.6
comp=Z,1.5nm,0.8s,baz=51,slow=9.9,SNR=4.5
comp=Z,1.5nm,0.8s
ARCES ARCESS Array B 51.42 1 P P 22 59 17.3 -0.3
comp=Z,1.6nm,0.8s,baz=350,slow=8.2,SNR=1.1
comp=Z,1.6nm,0.8s
KSRS Korea Array 53.39 283 P P 22 59 33.1 +0.7
comp=Z,1.5nm,0.5s,baz=37,slow=7.0,SNR=9.7
comp=Z,1.5nm,0.5s
ULN Ulaanbaatar 54.94 306 P P 22 59 44.1 +0.3
ULN IAmb IAmb 22 59 44.5
comp=Z,2.1nm,0.6s
SONM Songino Array 55.23 306 P P 22 59 46.2 +0.2
SONM IAmb IAmb 22 59 47.6
comp=Z,3.7nm,0.9s
SONM Songino Array 55.23 306 P P 22 59 46.6 +0.6
comp=Z,3.6nm,0.8s,baz=44,slow=7.0,SNR=25
comp=Z,3.6nm,0.8s
ZALV Zalesovo Beam 57.95 324 P P 23 00 05.7 +0.8
ZALV Zalesovo Beam 57.95 324 P P 23 00 05.4 +0.5
comp=Z,0.7nm,0.4s,baz=35,slow=6.8,SNR=6.3
comp=Z,0.7nm,0.4s
FINES FINESS Array B 59.55 1 P P 23 00 18.0 +2.1
FINES FINESS Array B 59.55 1 P P 23 00 17.3 +1.4
comp=Z,3.4nm,0.9s,baz=355,slow=7.0,SNR=4.2
comp=Z,3.4nm,0.9s
BVAR Borovoye Array 62.69 332 P P 23 00 37.0 -0.3
comp=Z,2.0nm,0.6s,baz=20,slow=5.1,SNR=18
comp=Z,2.0nm,0.6s
KURBB Kurchatov Arra 62.73 326 P P 23 00 37.6 +0.1
comp=Z,0.6nm,0.3s,baz=28,slow=6.4,SNR=2.3
comp=Z,0.6nm,0.3s
EKA Eskdalemuir Ar 63.15 19 P P 23 00 39.9 -0.3
comp=Z,2.5nm,0.7s,baz=330,slow=5.7,SNR=7.0
comp=Z,2.5nm,0.7s
ESK Eskdalemuir 63.16 19 P P 23 00 42.2 +1.9
MKAR Makanchi Array 64.99 322 P P 23 00 52.6 +0.1
MKAR Makanchi Array 64.99 322 P P 23 00 51.1 -1.4
comp=Z,0.2nm,0.4s,baz=14,slow=4.5,SNR=11
comp=Z,0.2nm,0.4s
MAKZ Makanchi 65.08 322 P P 23 00 52.8 -0.3
MAKZ IAmb IAmb 23 01 23.9
comp=Z,1.6nm,1.1s
ABKAR Akbulak array 68.51 338 P P 23 01 15.1 +0.3
ABKAR Akbulak array 68.51 338 P P 23 01 15.0 +0.3
ABKAR IAmb IAmb 23 01 43.7
comp=Z,1.5nm,1.2s
ESDC Sonseca Array 78.05 24 P P 23 02 12.0 +1.0
comp=Z,1.0nm,0.9s,baz=344,slow=5.8,SNR=3.2
comp=Z,1.0nm,0.9s
CMAR Chiang Mai Arr 83.20 295 P P 23 02 37.3 -1.4
comp=Z,0.3nm,0.5s,baz=22,slow=5.1,SNR=1.7
comp=Z,0.3nm,0.5s

QSPA South Pole Qui 149.13 180 PKPbc **PKPbc** 23 09 59.0 +0.2
comp=Z,0.8nm,0.7s,baz=233,slow=1.5,SNR=5.3
BOSA Boshof 149.26 3 PKPbc **PKPbc** 23 09 59.6 -0.8
comp=Z,2.5nm,1.0s,baz=58,slow=2.7,SNR=6.1

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*IDC **31** 23:48:48.9±1.2, 17.91N×145.69E, h151km±10km, mb4.0/25, mbtmp4.5/29, MS3.5/37, Error ellipse: s-maj=14.8km s-min=6.7km az=90.0*
*GCMT **31** 23:48:50.0±0.3, 17.85N±0.02×146.08E±0.02, h136km±3km, MW5.0/92, Moment Tensor Solution. s25,c26; s92,c136; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.74±.10; Mθθ3.09±.11; Mϕϕ-2.34±.12; Mrθ-0.71±.08; Mrϕ-1.21±.12; Mθϕ1.66±.07; Best double couple: M≥3.53500×10¹⁶ NP1:ϕ₁144.00000°, δ80.00000°, λ-33.00000°. NP2:ϕ₂240.00000°, δ58.00000°, λ-168.00000°. Principal axes: T 3.6170, Plg15.0000°, Azm196.0000°; N -0.1590, Plg56.0000°, Azm308.0000°; P -3.4520, Plg30.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **31** 23:48:51.0±1.3, 17.86N±0.07×145.89E±0.09, h157km±4km, mb4.8/356 Error ellipse: s-maj=13.0km s-min=9.6km az=90.0*
*DJA **31** 23:48:56.2±1.4, 18°N±5°×14°6E±°, h206km±16km, M4.9/42, mbBS.4/12, mb4.8/42, Mw(mB)4.9/12, MwMwp6.2/1, Mwp6.2/1*

ISC 31 23:48:48.5±0.6, 17.95N±0.04×145.84E±0.05, h141km±5km, h141km:pP-P, n813, o0:88/769, mb4.8/213, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.43**	**192**	Pn	**Pn**	**Pn**	**23 49 54.2**	**-0.1**
GUMO	**Guam**	**4.43**	**192**	P	**Pn**	**Pn**	**23 49 54.0**	**-0.3**
GUMO	**Guam**	**4.43**	**192**	P	**Pn**	**Pn**	**23 49 53.7**	**-0.6**
	647nm,0.4s,baz=98,slow=0.4,SNR=30							
GUMO				S		**Sn**	**23 50 45.3**	**-0.1**
	256nm,0.3s,baz=11,slow=23,SNR=1.4							
JCJ	**Chichijima**	**9.71**	**340**	Pn	**Pn**	**Pn**	**23 51 08.4**	**+3.6**
JCJ	**Chichijima**	**9.71**	**340**	P	**Pn**	**Pn**	**23 51 04.2**	**-0.6**
	66nm,0.8s,baz=157,slow=20,SNR=1.9							
JCJ				S		**Sn**	**23 52 44.4**	**-7.9**
	133nm,0.6s,baz=232,slow=19,SNR=6.9							
JCJ				LR		LR	23 53 48.9	
	comp=Z,155nm,21.0s,baz=352,slow=31							
PATS	**Pohnpei**	**16.43**	**131**	P	**Pn**	**Pn**	**23 52 30.9**	**-0.2**
JOW	**Kunigami**	**18.48**	**302**	P	**Pn**	**Pn**	**23 52 56.8**	**+1.2**
JOW	**Kunigami**	**18.48**	**302**	P	**Pn**	**Pn**	**23 52 57.7**	**+2.1**
JOW	**Kunigami**	**18.48**	**302**	P	**P**	**P**	**23 52 53.6**	**-0.2**
	85nm,0.8s,baz=131,slow=11,SNR=9.6							
JOW				LR		LR	23 58 40.2	
	comp=Z,510nm,21.7s,baz=12,slow=32							
MJAR	**Matsushiro Arr**	**19.71**	**342**	P	**P**	**P**	**23 53 05.2**	**-1.8**
	2.1nm,0.9s,baz=166,slow=9.3,SNR=7.9							
MJAR				S		**S**	**23 56 37.9**	**-3.7**
	5.7nm,0.9s,baz=175,slow=16,SNR=5.4							
MJAR				LR		LR	23 59 59.4	
	comp=Z,136nm,18.4s,baz=154,slow=34							
MAJO	**Matsushiro**	**19.71**	**342**	P	**Pn**	**Pn**	**23 53 09.7**	**-0.2**
MJB9	**Matsu-Tunnel**	**19.72**	**342**	P	**Pn**	**Pn**	**23 53 10.5**	**+0.6**
WAKE	**Wake Island**	**19.77**	**83**	P	**P**	**P**	**23 53 08.3**	**+0.5**
H11S3	**WAKE ISLAND Hy**	**19.81**	**85**	T	T	T	00 14 14.4	
	baz=274,slow=74,SNR=6.1							
H11S1	**WAKE ISLAND Hy**	**19.82**	**85**	T	T	T	00 14 08.1	
	baz=274,slow=74,SNR=9.6							
H11S2	**WAKE ISLAND Hy**	**19.83**	**85**	T	T	T	00 14 25.6	
	baz=274,slow=74,SNR=6.4							
MANU	**Manus Island**	**19.92**	**176**	P	**P**	**P**	**23 53 09.4**	**0.0**
H11N1	**WAKE ISLAND Hy**	**20.00**	**82**	T	T	T	00 14 35.2	
	baz=264,slow=74,SNR=18							
H11N2	**WAKE ISLAND Hy**	**20.01**	**82**	T	T	T	00 14 43.0	
	baz=264,slow=74,SNR=17							
H11N3	**WAKE ISLAND Hy**	**20.02**	**82**	T	T	T	00 14 52.9	
	baz=264,slow=74,SNR=16							
JNU	**Nakatsue**	**20.23**	**321**	P	**P**	**P**	**23 53 12.9**	**+0.2**
	10nm,1.0s,baz=81,slow=5.9,SNR=2.6							
	10nm,1.0s							
JMM	**Marumori**	**20.33**	**348**	P	**P**	**P**	**23 53 15.2**	**+1.6**
GENI	**Genyem**	**21.16**	**196**	P	**P**	**P**	**23 53 22.7**	**0.0**
	96nm,0.9s							
DAV	**Davao City (W)**	**22.52**	**244**	LR	LR	LR	00 03 08.9	
	comp=Z,33nm,18.0s,baz=24,slow=38							
JTM	**Tenmabayashi**	**23.13**	**351**	P	**P**	**P**	**23 53 43.0**	**+0.8**
JTM				IAmb	IAmb	IAmb	23 53 46.9	
	comp=Z,69nm,1.1s							
NACB	**Ninganchiao**	**23.44**	**289**	P	**P**	**P**	**23 53 46.7**	**+1.4**
NACB				IAmb	IAmb	IAmb	23 54 07.4	
	comp=Z,53nm,1.2s							
NACB	**Ninganchiao**	**23.44**	**289**	P	**P**	**P**	**23 53 47.0**	**+1.7**
SWI	**Sorong**	**23.57**	**219**	P	**P**	**P**	**23 53 47.1**	**+0.7**
	comp=Z,152nm,1.2s							
YULB	**Yu-li**	**23.58**	**287**	P	**P**	**P**	**23 53 48.2**	**+1.6**
YULB	**Yu-li**	**23.58**	**287**	P	**P**	**P**	**23 53 48.5**	**+1.9**
TATO	**Taipei**	**23.70**	**291**	P	**P**	**P**	**23 53 48.0**	**+0.4**
TWG	**Pinlang**	**23.71**	**286**	P	**P**	**P**	**23 53 50.4**	**+2.7**
TWG				IAmb	IAmb	IAmb	23 53 50.6	
	comp=Z,33nm,0.8s							
YHNB	**Yeheng**	**23.73**	**291**	P	**P**	**P**	**23 53 49.0**	**+1.0**
YHNB				IAmb	IAmb	IAmb	23 53 51.2	
	comp=Z,37nm,0.7s							
YHNB	**Yeheng**	**23.73**	**291**	P	**P**	**P**	**23 53 50.4**	**+2.4**
SSLB	**Suanglung**	**23.95**	**288**	P	**P**	**P**	**23 53 52.3**	**+2.4**
SSLB	**Suanglung**	**23.95**	**288**	P	**P**	**P**	**23 53 53.1**	**+3.1**
TPUB	**Ta-pu**	**24.18**	**287**	P	**P**	**P**	**23 53 54.2**	**+2.2**
KMPI	**Kaimana, Papua**	**24.58**	**210**	P	**P**	**P**	**23 53 56.2**	**+0.5**
	comp=Z,230nm,0.9s,comp=Z,2μm							
FAKI	**Fak Fak**	**24.69**	**214**	P	**P**	**P**	**23 53 56.9**	**+0.3**
FAKI	**Fak Fak**	**24.69**	**214**	P	**P**	**P**	**23 53 57.5**	**+0.9**
FAKI	**Fak Fak**	**24.69**	**214**	P	**P**	**P**	**23 53 56.7**	**+0.1**
	comp=Z,85nm,0.8s,comp=Z,760nm							
KSRS	**Korea Array**	**25.00**	**325**	P	**P**	**P**	**23 53 58.8**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=143,slow=8.6,SNR=2.0							
KSRS				LR		LR	00 01 55.6	
	comp=Z,105nm,20.1s,baz=145,slow=32							
	comp=Z,0.8nm,0.5s							
ASAJ	**Asahikawa**	**26.23**	**355**	LR	LR	LR	00 04 07.7	
	comp=Z,108nm,21.9s,baz=178,slow=35							
JKA	**Kamikawa-asahi**	**26.23**	**355**	P	**P**	**P**	**23 54 11.5**	**+1.2**
MMPI	**Merauke**	**26.79**	**192**	P	**P**	**P**	23 54 23.6	+8.0
PMG	**Port Moresby**	**27.21**	**177**	P	**P**	**P**	**23 54 18.9**	**-0.4**
PMG				IAmb	IAmb	IAmb	23 54 32.9	
	comp=Z,29nm,0.9s							
PMG	**Port Moresby**	**27.21**	**177**	P	**P**	**P**	**23 54 20.5**	**+1.2**
USRK	**Ussuriysk Ar.**	**28.65**	**339**	P	**P**	**P**	**23 54 32.2**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=140,slow=9.2,SNR=1.6							
	comp=Z,1.2nm,0.8s							
MRSI	**Marisa**	**29.21**	**236**	P	**P**	**P**	**23 54 38.9**	**+1.7**
	comp=Z,21nm,1.1s,comp=Z,717nm							
LUWI	**Luwuk**	**29.52**	**233**	P	**P**	**P**	**23 54 39.5**	**-0.4**
	comp=Z,64nm,1.1s							
TOLI2	**Tolitoli**	**29.77**	**239**	P	**P**	**P**	**23 54 42.7**	**+0.6**
TOLI2				IAmb	IAmb	IAmb	23 54 43.9	
	comp=Z,22nm,0.9s							
TOLI2	**Tolitoli**	**29.77**	**239**	P	**P**	**P**	**23 54 43.0**	**+0.9**
MPSI	**Mapaga**	**30.93**	**238**	P	**P**	**P**	**23 54 53.5**	**+1.2**
	comp=Z,7.3nm,1.0s,comp=Z,1μm							
KKM	**Kota Kinabalu**	**31.24**	**251**	P	**P**	**P**	**23 54 56.8**	**+1.6**
KKM				IAmb	IAmb	IAmb	23 54 58.2	
	comp=Z,22nm,0.7s							
TTSI	**Tana Toraja**	**33.06**	**233**	P	**P**	**P**	**23 55 12.0**	**+1.0**
	comp=Z,44nm,0.8s							
KDU	**Kakadu**	**33.18**	**204**	P	**P**	**P**	**23 55 11.9**	**0.0**
KLR	**Kul'dur**	**33.23**	**343**	LR	LR	LR	00 08 18.0	
	comp=Z,80nm,19.8s,baz=156,slow=35							
SPSI	**Sidrap Palu**	**33.69**	**232**	P	**P**	**P**	**23 55 17.3**	**+0.9**
	comp=Z,34nm,1.1s,comp=Z,1μm							
MTN	**Manton Dam**	**33.86**	**206**	P	**P**	**P**	**23 55 17.8**	**-0.1**
MTN	**Manton Dam**	**33.86**	**206**	P	**P**	**P**	**23 55 17.7**	**-0.1**
BKSI	**Bulukumba**	**34.33**	**230**	P	**P**	**P**	**23 55 22.4**	**+0.4**
	comp=Z,21nm,0.9s							
KAPI	**Kappang**	**34.40**	**231**	P	**P**	**P**	**23 55 23.3**	**+0.8**
KAPI				IAmb	IAmb	IAmb	23 55 24.4	
	comp=Z,24nm,1.0s							
KAPI	**Kappang**	**34.40**	**231**	LR	LR	LR	00 08 23.2	
	comp=Z,63nm,21.6s,baz=40,slow=34							
SOEI	**Soe**	**34.81**	**219**	P	**P**	**P**	**23 55 26.6**	**+0.4**
SOEI				IAmb	IAmb	IAmb	23 55 50.1	
	comp=Z,42nm,1.2s							
SOEI						**S**	**00 00 45.8**	**-0.9**
SOEI	**Soe**	**34.81**	**219**	P	**P**	**P**	**23 55 25.1**	**-1.1**
	comp=Z,30nm,0.9s							
MMRI	**Maumere**	**35.23**	**223**	P	**P**	**P**	**23 55 29.7**	**+0.1**

MIDW Midway 35.23 66 P P 23 55 30.7 +1.2
HEH HeiHe 35.45 340 eP P 23 55 32.0 +0.8
HEH pmax pmax
comp=Z,5.0nm,1.0s
HEH pmax pmax
comp=Z,170nm,5.2s
EDFI Ende, Flores 35.67 224 P P 23 55 32.6 -1.0
comp=Z,7.1nm,1.2s
PEA0B Petropavlovsk- 36.29 12 P P 23 55 39.4 +1.1
PEA0B IAmb IAmb 23 55 57.3
comp=Z,23nm,1.1s
PETK Petropavlovsk- 36.29 12 P P 23 55 39.7 +1.4
PETK Petropavlovsk- 36.29 12 P P 23 55 39.5 +1.2
comp=Z,7.2nm,0.9s,baz=192,slow=5.9,SNR=5.8
PETK LR LR 00 08 08.1
comp=Z,90nm,20.8s,baz=204,slow=32
comp=Z,7.2nm,0.9s
SBUM Sibu 36.39 249 P P 23 55 40.7 +1.0
KNRA Kununurra 37.41 208 P P 23 55 47.9 -0.2
KNRA Kununurra 37.41 208 P P 23 55 48.6 +0.5
CTA Charters Tower 37.80 179 P P 23 55 49.9 -1.5
comp=Z,10nm,1.1s,baz=3.1,slow=9.1,SNR=8.0
comp=Z,10nm,1.1s
CTAO Charters Tower 37.80 179 P P 23 55 51.3 -0.1
CTAO Charters Tower 37.80 179 P P 23 55 51.3 -0.1
CTAO Charters Tower 37.80 179 P P 23 55 50.3 -1.1
BTO Baotou 38.16 314 eP P 23 55 56.3 +1.9
BTO Baotou 38.16 314 pP pP 23 56 31.8 +7.7
BTO Baotou 38.16 314 sP sP 23 56 49.8 +10
BTO Baotou 38.16 314 PP PP 23 57 32.5 +8.0
BTO pmax pmax
comp=Z,16nm,0.5s
BTO pmax pmax
comp=Z,300nm,5.4s
PLAI Plampang 38.42 228 P P 23 55 57.0 +0.4
PLAI Plampang 38.42 228 P P 23 55 56.4 -0.2
comp=Z,27nm,0.9s
KSM Kuching 38.53 249 P P 23 55 58.1 +0.4
KSM IAmb IAmb 23 55 59.9
comp=Z,29nm,0.9s
UBPT Khong Chiam 38.73 272 P P 23 56 01.1 +1.9
QIS Mount Isa 38.75 189 P P 23 56 00.3 +1.0
TWSI Taliwang, Sumb 39.00 230 P P 23 56 01.1 -0.4
comp=Z,68nm,0.9s,comp=Z,840nm
WB0 Warramunga Arr 39.13 197 P P 23 56 02.1 -0.4
WB0 IAmb IAmb 23 56 02.4
comp=Z,14nm,0.8s
WR0 Warramunga Arr 39.27 197 P P 23 56 03.3 -0.4
WB2 Warramunga Arr 39.31 197 P P 23 56 03.7 -0.3
WB2 IAmb IAmb 23 56 04.0
comp=Z,19nm,0.9s
WRA Warramunga Arr 39.31 197 P P 23 56 02.6 -1.3
WRA Warramunga Arr 39.31 197 P P 23 56 02.7 -1.3
comp=Z,15nm,0.9s,baz=26,slow=8.7,SNR=72
WRA PcP **PcP** 23 58 09.3 -0.7
comp=Z,0.8nm,0.5s,baz=17,slow=3.2,SNR=1.0
WRA ScP **ScP** **00 01 43.2** **-2.3**
comp=Z,1.0nm,0.8s,baz=5.0,slow=4.2,SNR=4.5
WRA S **S** **00 01 51.7** **-3.0**
comp=Z,1.0nm,0.9s,baz=21,slow=15,SNR=2.7
comp=Z,15nm,0.9s
SLVN So La 39.56 282 P P 23 56 08.2 +2.0
SRBI Singaraja 39.80 232 P P 23 56 08.8 +0.7
comp=Z,30nm,1.2s
JAGI Jajag, Banyuwa 40.84 233 P P 23 56 16.2 -0.5
JAGI IAmb IAmb 23 56 17.7
comp=Z,42nm,1.1s
FITZ Fitzroy Crossi 40.96 210 P P 23 56 18.0 +0.4
LZH Lanzhou 41.18 305 eP P 23 56 23.5 +4.0
LZH pP pwP 23 56 53.3 -1.3
LZH sP sP 23 57 16.5 +11
LZH pmax pmax
comp=Z,12nm,1.0s
LZH LR LR
comp=N,330nm,16.1s
LZH LR LR
comp=E,210nm,16.1s
LZH LR LR
comp=Z,230nm,14.8s
PZH PanZhiHua 41.54 290 P P 23 56 24.5 +2.0
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,130nm,4.7s
MA2 Magadan 41.73 4 P P 23 56 25.4 +2.1
MA2 Magadan 41.73 4 LR LR 00 11 37.0
comp=Z,53nm,20.3s,baz=193,slow=33
KOUNC Koumac, New Ca 42.32 154 P P 23 56 28.5 -0.1
CRAI Chiangrai 42.93 281 P P 23 56 35.5 +1.8
AS31 Alice Springs 42.97 196 P P 23 56 34.2 +0.3
ASAR Alice Springs 42.97 196 P P 23 56 33.7 -0.2
ASAR Alice Springs 42.97 196 P P 23 56 33.0 -0.9
comp=Z,2.0nm,0.4s,baz=16,slow=7.1,SNR=53
ASAR S **S** **00 02 45.8** **-2.9**
comp=Z,1.3nm,0.9s,baz=16,slow=16,SNR=7.5
ASAR LR LR 00 14 10.6
comp=Z,39nm,19.6s,baz=18,slow=36
comp=Z,2.0nm,0.4s
UGM Wanagama 43.32 237 P P 23 56 37.8 +0.9
EIDS Eidsvold 43.35 173 P P 23 56 37.0 +0.1
EIDS IAmb IAmb 23 56 37.2
comp=Z,18nm,1.1s
SONM Songino Array 43.81 322 P P 23 56 41.0 +0.5
SONM Songino Array 43.81 322 P P 23 56 39.8 -0.8
comp=Z,0.8nm,0.6s,baz=136,slow=7.4,SNR=5.0
SONM LR LR 00 14 19.2
comp=Z,71nm,19.1s,baz=345,slow=35
comp=Z,0.8nm,0.6s
KPJI Karang Pucung 44.26 239 P P 23 56 44.8 +0.5
comp=Z,41nm,1.1s
QLP Quilpie 44.29 182 P P 23 56 43.8 -0.5
CHTO Chiang Mai 44.41 279 P P 23 56 46.6 +1.1
CM31 Chiang Mai Arr 44.46 278 P P 23 56 47.9 +2.0
CMAR Chiang Mai Arr 44.46 278 P P 23 56 47.8 +1.9
CMAR Chiang Mai Arr 44.46 278 P P 23 56 46.9 +0.9
comp=Z,4.8nm,0.9s,baz=71,slow=6.5,SNR=30
CMAR LR LR 00 14 13.3
comp=Z,26nm,22.0s,baz=55,slow=34
NOUC Port Laguerre 44.55 152 P P 23 56 47.0 +0.5
NOUC Port Laguerre 44.55 152 P P 23 56 47.0 +0.5
DZM Mont Dzumac 44.59 152 P P 23 56 47.4 +0.5
DZM IAmb IAmb 23 56 48.5
comp=Z,22nm,1.2s
DZM Mont Dzumac 44.59 152 P P 23 56 48.0 +1.1
DZM Mont Dzumac 44.59 152 P P 23 56 47.4 +0.5
LEM Lembang 45.05 240 LR LR 00 16 15.1
comp=Z,30nm,20.0s,baz=39,slow=37
OUENC Ouen Island, N 45.07 152 P P 23 56 50.3 -0.3
OUENC IAmb IAmb 23 56 52.1
comp=Z,12nm,0.7s
GTA Gaotai 45.12 308 eP P 23 56 53.8 +2.8
GTA pP pwP 23 57 25.0 -1.5
GTA pmax pmax
comp=Z,2.0nm,0.9s
GTA LR LR
comp=N,280nm,20.3s
GTA LR LR
comp=E,120nm,15.5s
GTA LR LR
comp=Z,96nm,12.3s
SEY Seymchan 45.17 4 LR LR 00 13 36.8
comp=Z,80nm,21.5s,baz=202,slow=33
YAK Yakutsk 45.48 349 P P 23 56 55.3 +2.0
YAK IAmb IAmb 23 57 30.8
comp=Z,17nm,0.6s
INKA Innaminka 45.68 186 P P 23 56 55.3 0.0
KULM Kulim 45.88 260 P P 23 56 59.4 +2.2
KULM IAmb IAmb 23 57 53.6
comp=Z,74nm,1.8s
WRKA Warakurna 46.02 202 P P 23 56 58.0 -0.1
ATKA Atka Island 46.34 33 P P 23 57 01.3 +1.1
ATKA Atka Island 46.34 33 P P 23 57 01.4 +1.2
OOD Oodnadatta 46.52 192 P P 23 57 01.6 -0.3
MBWA Marble Bar 46.53 214 P P 23 57 01.4 -0.7
MBWA IAmb IAmb 23 57 03.2
comp=Z,24nm,0.9s
MBWA Marble Bar 46.53 214 P P 23 57 02.5 +0.4

comp=Z,28nm,1.1s
ARMA Armidale 48.41 173 P **P** **23 57 16.7 +0.1**
ARMA IAmb IAmb 23 58 45.6
comp=Z,64nm,1.9s
ARMA Armidale 48.41 173 P **P** **23 57 16.3 -0.3**
RPSI Rantau Prapat 48.41 257 P **P** **23 57 17.7 +0.9**
LCRK Leigh Creek 48.67 189 P **P** **23 57 18.7 +0.3**
CMSA Cobar Meteorol 49.20 180 P **P** **23 57 22.5 0.0**
MULG Mulgathing 49.27 193 P **P** **23 57 22.5 -0.5**
NIKH Nikolski High 49.55 34 P **P** **23 57 25.9 +1.0**
NIKH Nikolski High 49.55 34 P **P** **23 57 24.5 -0.4**
baz=243
STKA Stephens Creek 49.70 185 P **P** **23 57 26.3 0.0**
STKA Stephens Creek 49.70 185 P **P** **23 57 26.0 -0.3**
STKA Stephens Creek 49.70 185 P **P** **23 57 24.9 -1.4**
comp=Z,9.2nm,0.8s,baz=357,slow=7.2,SNR=20
STKA S **S** **00 04 23.9 -0.6**
comp=Z,1.9nm,0.8s,baz=354,slow=19,SNR=3.7
STKA LR LR 00 18 41.2
comp=Z,39nm,21.1s,baz=19,slow=36
comp=Z,9.2nm,0.8s
GSI Gunungsitoli 50.17 256 P **P** **23 57 32.4 +2.1**
GSI Gunungsitoli 50.17 256 P **P** **23 57 31.6 +1.4**
SPIA Saint Paul Isl 50.92 29 P **P** **23 57 34.7 -0.4**
baz=238
UNV Unalaska Valle 51.20 34 P **P** **23 57 38.2 +1.0**
UNV Unalaska Valle 51.20 34 P **P** **23 57 36.9 -0.4**
baz=244
BBOO Buckleboo 51.33 191 P **P** **23 57 38.4 0.0**
BBOO Buckleboo 51.33 191 P **P** **23 57 38.0 -0.5**
FORT Forrest 51.38 200 P **P** **23 57 39.1 +0.3**
FORT Forrest 51.38 200 P **P** **23 57 39.4 +0.6**
HTT Hallett 51.51 187 P **P** **23 57 40.0 +0.1**
MEEK Meekatharra 51.61 212 P **P** **23 57 41.1 +0.4**
AKUT Akutan 51.71 34 P **P** **23 57 42.3 +1.2**
AKUT Akutan 51.71 34 P **P** **23 57 42.8 +1.7**
BILL Bilibino 51.73 10 P **P** **23 57 41.8 +0.7**
BILL Bilibino 51.73 10 P **P** **23 57 41.5 +0.4**
BILL pP **pwP** **23 58 16.9 +0.2**
CAN Canberra 53.06 177 P **P** **23 57 53.0 +1.7**
FALS False Pass 53.26 34 P **P** **23 57 53.0 +0.6**
baz=247
MHA Mahukona 54.86 78 P **P** **23 58 04.4 -0.3**
MORW Morawa 54.89 212 P **P** **23 58 04.8 +0.2**
MORW Morawa 54.89 212 P **P** **23 58 04.7 0.0**
KHLU Kahalu`u 54.96 78 P **P** **23 58 05.9 +0.3**
SDPT Sand Point 55.01 34 P **P** **23 58 06.2 +1.1**
SDPT Sand Point 55.01 34 P **P** **23 58 06.4 +1.3**
SDPT Sand Point 55.01 34 P **P** **23 58 04.9 -0.3**
baz=249
HPAH Hawaii Prepara 55.08 78 P **P** **23 58 07.2 +0.9**
TOO Toolangi 55.22 180 P **P** **23 58 05.9 -0.9**
AIN Ainahou 55.40 79 P **P** **23 58 10.8 +2.0**
M13K Dall Lake 55.64 28 P **P** **23 58 09.6 0.0**
baz=243
S14K Fog Glacier 55.83 33 P **P** **23 58 11.2 0.0**
baz=250
O14K Tigyukauivet M 56.10 30 P **P** **23 58 13.1 +0.3**
baz=246
N14K Kuskokwak Cree 56.18 29 P **P** **23 58 13.3 -0.1**
baz=245
L14K Kuka Creek 56.35 27 P **P** **23 58 16.1 +1.5**
L14K Kuka Creek 56.35 27 P **P** **23 58 14.8 +0.3**
baz=243
M14K Bethel 56.40 28 P **P** **23 58 16.3 +1.4**
M14K Bethel 56.40 28 P **P** **23 58 15.4 +0.5**
baz=244
CHGN Chignik 56.43 34 P **P** **23 58 16.3 +1.1**
CHGN Chignik 56.43 34 P **P** **23 58 16.1 +0.9**
baz=251
J14K Nanvaranak Lak 56.63 25 P **P** **23 58 17.7 +1.1**
J14K Nanvaranak Lak 56.63 25 P **P** **23 58 17.1 +0.5**
baz=242
O15K Ungalikthiuk R 56.75 30 P **P** **23 58 17.9 +0.5**
baz=248
M15K Kasigluk River 56.95 28 P **P** **23 58 19.3 +0.4**
baz=246
F14K Arctic Creek 56.97 22 P **P** **23 58 19.6 +0.7**
baz=237
N15K Kwethluk River 57.01 29 P **P** **23 58 20.0 +0.7**
baz=247
L15K Ungalak Mounta 57.01 27 P **P** **23 58 20.1 +0.8**
baz=244
K15K Wolf Creek Mou 57.26 26 P **P** **23 58 21.7 +0.7**
baz=244
R16K Pilot Point 57.28 32 P **P** **23 58 22.1 +0.9**
baz=251
NWAO Narrogin (SRO) 57.51 209 P **P** **23 58 23.9 +0.8**
NWAO Narrogin (SRO) 57.51 209 P **P** **23 58 22.4 -0.7**
comp=Z,9.1nm,0.7s,baz=42,slow=6.5,SNR=4.6
comp=Z,9.1nm,0.7s
NWAO Narrogin (SRO) 57.51 209 P **P** **23 58 22.6 -0.5**
G15K Niukluk 57.54 23 P **P** **23 58 23.5 +0.5**
baz=240
P16K Nushagak River 57.57 31 P **P** **23 58 23.7 +0.5**
baz=249
F15K North Star Dit 57.69 22 P **P** **23 58 25.4 +1.4**
baz=239
O16K Kokwok River B 57.72 30 P **P** **23 58 25.6 +1.2**
baz=249
N16K Nishlik Lake 57.73 29 P **P** **23 58 25.2 +0.8**
baz=248
CHIR Chirikof Islan 57.77 35 P **P** **23 58 24.8 +0.1**
baz=254
M16K Timber Creek 57.85 28 P **P** **23 58 27.1 +1.8**
M16K Timber Creek 57.85 28 P **P** **23 58 25.5 +0.2**
baz=247
L16K Owhat River 57.90 27 P **P** **23 58 26.0 +0.5**
baz=246
R17K Ugashik Creek 57.91 32 P **P** **23 58 26.2 +0.6**
baz=252
J16K Anvik River 58.08 25 P **P** **23 58 27.7 +1.0**
baz=244
Q16K King Salmon 58.11 31 P **P** **23 58 28.1 +1.1**
baz=251
O17K Koliganek Bris 58.26 30 P **P** **23 58 29.1 +1.0**
baz=250
I17K Unalakleet 58.30 25 P **P** **23 58 29.2 +0.9**
baz=244
Q17K Contact Creek 58.36 32 P **P** **23 58 29.4 +0.4**
baz=252
G16K Koyuk River 58.36 23 P **P** **23 58 29.6 +1.0**
baz=241
P17K Kvichak River 58.38 31 P **P** **23 58 29.5 +0.7**
baz=251
N17K Nushagak Hills 58.48 29 P **P** **23 58 30.1 +0.5**
baz=249
L17K Donlin 58.58 27 P **P** **23 58 30.7 +0.5**
baz=247
M17K Holitna River 58.68 28 P **P** **23 58 31.9 +0.9**
baz=249
ZAA0 Zalesovo Array 58.69 323 P **P** **23 58 29.6 -1.6**
ZALV Zalesovo Beam 58.69 323 P **P** **23 58 30.4 -0.7**
ZALV Zalesovo Beam 58.69 323 P **P** **23 58 29.1 -2.0**
comp=Z,1.5nm,0.7s,baz=104,slow=7.3,SNR=8.9
ZALV LR LR 00 23 05.3
comp=Z,43nm,21.1s,baz=66,slow=35
comp=Z,1.5nm,0.7s
SII Sitkinak Islan 58.75 34 P **P** **23 58 32.1 +0.6**
baz=254
K17K Iditarod 58.80 26 P **P** **23 58 32.6 +0.9**
K17K Iditarod 58.80 26 P **P** **23 58 32.0 +0.3**
baz=247
C16K Lisburne Hills 58.83 19 P **P** **23 58 31.9 +0.1**
C16K IAmb IAmb 23 58 33.4
comp=Z,12nm,0.9s
C16K Lisburne Hills 58.83 19 P **P** **23 58 32.3 +0.5**
baz=237
R18K Karluk 58.88 33 P **P** **23 58 32.4 0.0**
baz=254
Q18K Katmai Hardscr 58.92 32 P **P** **23 58 33.1 +0.3**
baz=252
P18K Big Mountain, 59.03 31 P **P** **23 58 33.7 +0.2**
baz=252
G17K Kiwalik Mounta 59.04 23 P **P** **23 58 33.2 -0.2**
baz=243
H17K Granite Mounta 59.07 24 P **P** **23 58 33.8 +0.2**
H17K IAmb IAmb 23 58 35.8
comp=Z,16nm,0.9s
H17K Granite Mounta 59.07 24 P **P** **23 58 33.6 0.0**
baz=244
MK31 Makanchi Array 59.08 314 P **P** **23 58 33.8 -0.2**
MKAR Makanchi Array 59.08 314 P **P** **23 58 33.7 -0.4**
MKAR Makanchi Array 59.08 314 P **P** **23 58 33.0 -1.0**
comp=Z,0.8nm,0.5s,baz=83,slow=9.0,SNR=12
MKAR ScP **ScP** **00 03 07.2 -1.7**
comp=Z,0.4nm,0.8s,baz=89,slow=4.1,SNR=2.6
MKAR LR LR 00 24 02.5
comp=Z,44nm,20.2s,baz=124,slow=36
comp=Z,0.8nm,0.5s
N18K Kilae Creek 59.13 29 P **P** **23 58 35.1 +0.9**
N18K Kilae Creek 59.13 29 P **P** **23 58 34.2 0.0**
baz=250
O18K Kokuh Hills 59.19 30 P **P** **23 58 34.6 +0.1**
baz=252
F17K Baldwin Pennin 59.26 22 P **P** **23 58 35.3 +0.5**
baz=242
MAKZ Makanchi 59.30 314 P **P** **23 58 36.7 +1.2**
MAKZ Makanchi 59.30 314 P **P** **23 58 35.7 +0.2**
MAKZ pP **pwP** **23 59 11.3 -1.1**
L18K Granite Mounta 59.31 27 P **P** **23 58 36.0 +0.7**
baz=249
E17K Hotham Inlet 59.36 21 P **P** **23 58 35.7 +0.2**
baz=241
OHAK Old Harbor 59.40 34 P **P** **23 58 36.5 +0.6**
OHAK Old Harbor 59.40 34 P **P** **23 58 36.7 +0.8**
OHAK Old Harbor 59.40 34 P **P** **23 58 35.8 -0.1**
baz=255
M18K Stony River 59.44 28 P **P** **23 58 36.4 +0.2**
baz=250
RDOG Red Dog Mine 59.48 20 P **P** **23 58 37.1 +0.8**
RDOG IAmb IAmb 23 58 38.4
comp=Z,16nm,1.1s
RDOG Red Dog Mine 59.48 20 P **P** **23 58 36.5 +0.1**
baz=239
C17K Deong Mountai 59.61 19 P **P** **23 58 37.4 +0.1**
baz=239
Q19K Cape Douglas, 59.68 32 P **P** **23 58 38.0 +0.1**
O19K Port Alsworth 59.72 30 P **P** **23 58 38.9 +0.8**
O19K Port Alsworth 59.72 30 P **P** **23 58 38.7 +0.6**
baz=252
J18K Innoko River 59.75 26 P **P** **23 58 38.6 +0.2**
baz=248
H18K Honhosa River 59.76 24 P **P** **23 58 39.1 +0.7**
baz=246
N19K Bonanza Creek 59.83 29 P **P** **23 58 40.4 +1.4**
N19K Bonanza Creek 59.83 29 P **P** **23 58 39.9 +0.9**
baz=252
TTA Tatalina 59.86 27 P **P** **23 58 40.1 +1.0**
TTA IAmb IAmb 23 58 42.0
comp=Z,34nm,1.5s
TTA Tatalina 59.86 27 P **P** **23 58 39.0 -0.1**
baz=249
KDAK Kodiak Island 59.91 33 P **P** **23 58 39.5 +0.1**
baz=255
KDAK Kodiak Island 59.91 33 LR LR 00 21 40.9
comp=Z,47nm,21.5s,baz=261,slow=33
E18K Tukpahlearik C 59.94 21 P **P** **23 58 39.8 +0.3**
baz=242
G18K Tagagawik 59.96 23 P **P** **23 58 40.6 +1.0**
G18K Tagagawik 59.96 23 P **P** **23 58 39.9 +0.2**
baz=245
P19K Oil Pt 60.08 31 P **P** **23 58 41.2 +0.6**
P19K Oil Pt 60.08 31 P **P** **23 58 40.4 -0.3**
baz=254
L19K White Mountain 60.10 28 P **P** **23 58 41.1 +0.4**
L19K White Mountain 60.10 28 P **P** **23 58 41.5 +0.7**
baz=251
M19K Big River Lodg 60.22 28 P **P** **23 58 41.8 +0.3**
baz=251
Q20K Shuyak Island 60.22 32 P **P** **23 58 41.8 +0.3**
baz=255
C18K Utukok River 60.33 20 P **P** **23 58 43.1 +0.9**
C18K Utukok River 60.33 20 P **P** **23 58 43.1 +0.9**
baz=241
J19K Poovan 60.40 26 P **P** **23 58 43.6 +0.9**
J19K Poorman 60.40 26 P **P** **23 58 42.7 0.0**
baz=249
B18K Kokolik River 60.50 19 P **P** **23 58 44.3 +1.0**
baz=240
O20K Slope Mountain 60.50 30 P **P** **23 58 43.5 0.0**
baz=254
RSO Redoubt South 60.54 30 P **P** **23 58 44.1 +0.1**
L20K Farewell, AK 60.63 28 P **P** **23 58 44.5 +0.1**
baz=251
H19K Roundabout Mou 60.64 24 IAmb IAmb 23 58 46.5
comp=Z,10nm,0.8s
H19K Roundabout Mou 60.64 24 P **P** **23 58 45.1 +0.8**
baz=247
G19K Purcell Mounta 60.64 23 IAmb IAmb 23 58 46.2
comp=Z,13nm,0.8s
G19K Purcell Mounta 60.64 23 P **P** **23 58 44.6 +0.3**
baz=246
F19K Shaleruckik Mo 60.67 22 P **P** **23 58 45.0 +0.5**
baz=250
M20K Styx River 60.78 28 P **P** **23 58 45.1 -0.3**
baz=252
K20K Telida 60.83 27 IAmb IAmb 23 58 48.3
comp=Z,19nm,1.1s
K20K Telida 60.83 27 P **P** **23 58 45.8 +0.2**
baz=251
HOM Homer 60.86 31 P **P** **23 58 46.1 +0.2**
baz=255
N20K Mount Spurr 61.01 29 P **P** **23 58 47.4 +0.5**
baz=254
C19K Lookout Ridge 61.06 20 IAmb IAmb 23 58 49.3
comp=Z,15nm,0.8s
C19K Lookout Ridge 61.06 20 P **P** **23 58 47.8 +0.7**
baz=242,SNR=7.0
J20K Nowinta River 61.07 26 IAmb IAmb 23 58 50.0
comp=Z,31nm,1.4s
J20K Nowinta River 61.07 26 P **P** **23 58 47.3 +0.1**
baz=250
E19K Redstone River 61.13 22 P **P** **23 58 47.5 0.0**
baz=246
A19K Wainwright 61.14 18 P **P** **23 58 48.2 +0.7**
baz=240
I20K Naaghedeneel 61.15 25 P **P** **23 58 48.0 +0.3**
baz=250
H20K Anotleneega Mo 61.24 24 P **P** **23 58 48.7 +0.4**
baz=249
D19K Kuna River 61.27 20 P **P** **23 58 48.7 +0.2**
baz=244
BRSE Bradley Lake S 61.33 31 P **P** **23 58 49.3 +0.3**
baz=256
CAPN Captain Cook N 61.38 30 P **P** **23 58 49.3 -0.1**
baz=255
F20K Avaraart Lake 61.50 22 IAmb IAmb 23 58 52.2
comp=Z,8.9nm,0.8s
F20K Avaraart Lake 61.50 22 P **P** **23 58 49.8 -0.2**
baz=247
PPLA Purkeypile 61.50 27 P **P** **23 58 49.9 -0.5**
baz=253
SKT Skwentna 61.53 28 P **P** **23 58 50.2 -0.2**
baz=254
CAST Castle Rocks 61.70 27 P **P** **23 58 51.0 -0.5**
baz=253,SNR=8.5
CHUM Lake Minchumin 61.74 26 P **P** **23 58 51.9 +0.2**
baz=252,SNR=7.0
SUA Susitna One 61.76 29 P **P** **23 58 52.0 0.0**
baz=255
E20K Nigu River 61.81 21 P **P** **23 58 52.4 +0.1**
baz=246
D20K Etivluk River 61.86 20 P **P** **23 58 52.4 0.0**
baz=246
KURBB Kurchatov Arra 61.97 318 P **P** **23 58 52.0 -1.4**
comp=Z,1.9nm,0.3s,baz=96,slow=7.3,SNR=17
comp=Z,1.9nm,0.3s
SEW Seward 62.04 31 P **P** **23 58 54.0 +0.2**
baz=257
H21K Melozitna Rive 62.10 24 IAmb IAmb 23 58 56.3
comp=Z,11nm,0.9s
H21K Melozitna Rive 62.10 24 P **P** **23 58 54.4 +0.2**
baz=251
M22K Willow 62.12 29 P **P** **23 58 54.3 0.0**
baz=255
G21K Allakaket 62.12 23 P **P** **23 58 53.7 -0.5**
baz=250
RC01 Rabbit Creek A 62.13 30 P **P** **23 58 54.2 -0.3**
baz=256
CUT Chulitna 62.22 28 P **P** **23 58 54.1 -0.8**
baz=255
B20K Meade River 62.23 19 P **P** **23 58 54.9 +0.1**
baz=244,SNR=12
NRIK Noril'sk 62.36 340 P **P** **23 58 54.7 -1.0**
NRIK IAmb IAmb 23 59 06.4
comp=Z,15nm,1.4s
NRIK Noril'sk 62.36 340 P **P** **23 58 53.5 -2.2**
comp=Z,4.3nm,0.6s,baz=106,slow=8.3,SNR=15
comp=Z,4.3nm,0.6s
BPAW Bear Paw Mtn. 62.37 26 IAmb IAmb 23 58 57.8
comp=Z,16nm,0.9s
BPAW Bear Paw Mtn. 62.37 26 P **P** **23 58 56.2 +0.2**
baz=253,SNR=5.9
F21K Alatna River 62.38 23 P **P** **23 58 56.5 +0.6**
baz=249
TRF Thorofare Moun 62.48 27 P **P** **23 58 57.2 +0.3**
baz=254
PMR Palmer 62.54 29 P **P** **23 58 57.2 +0.1**
baz=256
C21K Knifeblade Rid 62.64 20 P **P** **23 58 57.9 +0.2**
baz=247
E21K Killik River 62.65 21 P **P** **23 58 58.0 +0.2**
baz=248
MLY Manley 62.73 25 P **P** **23 58 59.4 +1.0**
MLY IAmb IAmb 23 59 00.3
comp=Z,12nm,0.8s
MLY Manley 62.73 25 P **P** **23 58 58.3 -0.1**
baz=253,SNR=7.9
H22K Ishtalitna Cre 62.74 24 P **P** **23 58 58.7 +0.3**
baz=252
KNK Knik Glacier 62.81 30 P **P** **23 58 58.9 -0.1**
baz=257
B21K Ikpikpuk River 62.88 20 IAmb IAmb 23 59 01.0
comp=Z,9.9nm,1.1s
B21K Ikpikpuk River 62.88 20 P **P** **23 58 60.0 +0.8**
baz=247
F22K John River 62.95 22 P **P** **23 59 00.2 +0.5**
baz=251
SML Sawmill 62.96 29 P **P** **23 59 00.3 +0.3**
baz=257
A21K Barrow 62.97 18 P **P** **23 59 00.0 +0.3**
baz=244
G22K Bettles 63.01 23 P **P** **23 59 00.3 +0.3**
baz=252
P23K Montague Islan 63.03 31 P **P** **23 58 59.9 -0.4**
baz=259
WAT1 Susitna Watana 63.09 28 P **P** **23 59 00.2 -0.6**
baz=256
MCK McKinley 63.14 27 P **P** **23 59 00.5 -0.6**
baz=256
URZ Urewera 63.15 153 P **P** **23 59 01.5 +0.2**
M23K Glacier View 63.23 29 P **P** **23 59 01.5 -0.2**
baz=258
D22K Ayikyak River 63.24 21 IAmb IAmb 23 59 03.9
comp=Z,14nm,0.7s
D22K Ayikyak River 63.24 21 P **P** **23 59 01.6 -0.1**
baz=249
E22K Anaktuvuk Pass 63.29 22 P **P** **23 59 02.4 +0.4**
baz=251
NEA2 Nenana 63.30 26 P **P** **23 59 02.8 +0.7**
baz=255
A22K Sinclair Lake 63.32 18 P **P** **23 59 02.2 +0.2**
baz=246
I23K Minto, Yukon-K 63.33 25 P **P** **23 59 02.8 +0.5**
I23K IAmb IAmb 23 59 04.4
comp=Z,9.8nm,0.7s
I23K Minto, Yukon-K 63.33 25 P **P** **23 59 02.4 +0.2**
baz=254
RTZ Ruatahuna 63.39 153 P **P** **23 59 02.3 -0.7**
WAT6 Susitna Watana 63.40 28 P **P** **23 59 02.6 -0.3**
baz=257
SCM Sheep Creek Mo 63.43 29 P **P** **23 59 02.8 -0.3**
SCM Sheep Creek Mo 63.43 29 P **P** **23 59 02.7 -0.3**
baz=258
G23K Bananza Creek 63.50 24 P **P** **23 59 04.3 +0.9**
G23K IAmb IAmb 23 59 05.7
comp=Z,8.4nm,0.8s
G23K Bananza Creek 63.50 24 P **P** **23 59 03.5 0.0**
baz=253
QRZ Quartz Range 63.51 158 P **P** **23 59 03.9 +0.2**
QRZ Quartz Range 63.51 158 P **P** **23 59 04.7 +1.0**
QRZ Quartz Range 63.51 158 P **P** **23 59 04.3 +0.6**
B22K Teshekpuk Lake 63.53 19 P **P** **23 59 04.0 +0.5**
B22K IAmb IAmb 23 59 05.1
comp=Z,9.6nm,0.8s
B22K Teshekpuk Lake 63.53 19 P **P** **23 59 03.7 +0.2**
baz=248,SNR=5.8
COLD Coldfoot 63.59 23 P **P** **23 59 03.8 -0.1**
baz=253
BKZ Black Stump Fm 63.64 154 P **P** **23 59 04.3 -0.4**
BKZ Black Stump Fm 63.64 154 P **P** **23 59 05.0 +0.3**
DHY Denali Highway 63.67 28 P **P** **23 59 05.4 +0.6**
DHY IAmb IAmb 23 59 54.6
comp=Z,30nm,1.5s
DHY Denali Highway 63.67 28 P **P** **23 59 04.6 -0.1**
baz=257
MDM Murphy Dome 63.74 26 IAmb IAmb 23 59 07.3
comp=Z,9.7nm,0.7s
TKNZ Takaka Hill 63.85 157 P **P** **23 59 05.1 -0.9**
TKNZ Takaka Hill 63.85 157 P **P** **23 59 05.7 -0.2**
COLA College 63.88 26 P **P** **23 59 06.2 +0.4**
baz=256
EYAK Cordova Ski Ar 63.94 31 P **P** **23 59 06.6 +0.3**
baz=260
DUWZ D'Urville Isla 64.01 157 P **P** **23 59 07.1 +0.1**
KLU Klutina 64.02 30 P **P** **23 59 08.1 +1.1**
KLU Klutina 64.02 30 P **P** **23 59 07.0 0.0**
baz=260
E23K Chandalar 64.05 22 P **P** **23 59 07.2 +0.1**
baz=253
H24K Noodor Dome 64.10 25 P **P** **23 59 07.5 +0.1**
baz=256
POKR Poker Plat Res 64.11 26 P **P** **23 59 07.6 +0.2**
baz=256
HDA Harding Lake 64.15 26 P **P** **23 59 07.8 +0.2**
HDA IAmb IAmb 23 59 09.6
comp=Z,13nm,1.0s
HDA Harding Lake 64.15 26 P **P** **23 59 08.0 +0.3**
baz=257
HDA P **P** **23 59 08.0 +0.3**
baz=257
NNZ Nelson 64.17 157 P **P** **23 59 04.4 -3.6**
PALK Pallekele 64.18 269 P **P** **23 59 07.8 -1.0**
PALK IAmb IAmb 00 00 38.6
comp=Z,37nm,1.7s
TOLK Toolik Lake Re 64.24 22 P **P** **23 59 08.7 +0.5**
TOLK IAmb IAmb 23 59 10.3
comp=Z,11nm,0.9s
TOLK Toolik Lake Re 64.24 22 P **P** **23 59 08.4 +0.2**
baz=253,SNR=7.4
IL31 64.26 26 P **P** **23 59 07.7 -0.6**
ILAR Eielson Array 64.26 26 P **P** **23 59 07.5 -0.8**
comp=Z,6.2nm,0.8s,baz=253,slow=4.8,SNR=54
ILAR LR LR 00 24 17.8
comp=Z,14nm,22.0s,baz=168,slow=33
comp=Z,6.2nm,0.8s
C23K Itkillik River 64.26 20 P **P** **23 59 08.7 +0.5**
C23K IAmb IAmb 23 59 10.3
comp=Z,17nm,0.8s
C23K Itkillik River 64.26 20 P **P** **23 59 08.2 0.0**
baz=251
AAK Ala-Archa 64.45 309 LR LR 00 27 47.8
comp=Z,63nm,20.2s,baz=80,slow=36
E24K Your Creek 64.46 22 P **P** **23 59 10.1 +0.4**
baz=254
THZ Tophouse 64.47 158 P **P** **23 59 09.9 -0.1**
G24K Hadweenzic Riv 64.48 24 P **P** **23 59 10.2 +0.5**
G24K IAmb IAmb 23 59 11.9
comp=Z,10.0nm,0.8s
G24K Hadweenzic Riv 64.48 24 P **P** **23 59 10.0 +0.3**
baz=256
TCW Tory Channel 64.50 157 P **P** **23 59 09.4 -0.7**
PAX Paxson 64.50 28 P **P** **23 59 10.4 +0.3**
baz=259
K24K Donnelly Dome 64.53 27 P **P** **23 59 10.4 +0.3**
baz=258
MRZ Mangatainoka R 64.53 155 P **P** **23 59 10.2 -0.1**
F24K Squaw Lake 64.53 23 P **P** **23 59 10.8 +0.6**
F24K IAmb IAmb 23 59 12.5
comp=Z,7.5nm,0.8s
F24K Squaw Lake 64.53 23 P **P** **23 59 10.5 +0.4**
baz=255,SNR=5.9
HARP HAARP 64.54 29 P **P** **23 59 10.7 +0.5**
baz=260
BMRM Bremner River 64.56 30 P **P** **23 59 10.3 -0.2**
baz=261
D24K Happy Valley 64.65 21 P **P** **23 59 12.0 +1.2**
D24K Happy Valley 64.65 21 P **P** **23 59 11.2 +0.4**
baz=253,SNR=15
N25K Chitina, Valde 64.67 30 P **P** **23 59 12.0 +0.8**
N25K Chitina, Valde 64.67 30 P **P** **23 59 11.4 +0.2**
baz=261
HOWZ Holdsworth Sta 64.71 155 P **P** **23 59 11.3 -0.2**
SNZO South Karori 64.75 156 P **P** **23 59 10.8 -0.9**
BFZ Birch Farm 64.81 155 P **P** **23 59 12.4 +0.2**
BFZ Birch Farm 64.81 155 P **P** **23 59 12.0 -0.2**
C24K Franklin Bluff 64.86 21 P **P** **23 59 12.7 +0.6**
baz=253,SNR=7.5
J25K Salcha River, 64.86 26 P **P** **23 59 12.6 +0.2**

J25K IAmb IAmb 00 01 32.8
comp=Z,26nm,1.8s
J25K Salcha River, 64.86 26 P **P** **23 59 12.5 +0.2**
baz=258
RIDG Independent Ri 64.92 27 P **P** **23 59 13.2 +0.5**
RIDG Independent Ri 64.92 27 P **P** **23 59 13.5 +0.8**
baz=259
PRP Porcupine Dome 64.98 25 P **P** **23 59 14.2 +1.0**
PRP Porcupine Dome 64.98 25 P **P** **23 59 13.3 +0.1**
baz=258
GLB Gilahina Butte 65.01 30 P **P** **23 59 14.2 +0.8**
G25K Bearman Lake 65.02 24 P **P** **23 59 13.3 +0.1**
baz=257
TMWZ Te Maipa 65.03 155 P **P** **23 59 12.4 -1.2**
LTZ Lake Taylor 65.14 159 P **P** **23 59 13.5 -0.8**
VRDI Verde Repeater 65.15 30 P **P** **23 59 15.2 +0.8**
CRQM Cirque 65.24 31 P **P** **23 59 15.4 +0.4**
CRQE Cirque 65.26 31 P **P** **23 59 14.4 -0.7**
baz=262
KHZ Kahutara 65.27 158 P **P** **23 59 13.5 -1.6**
KHZ Kahutara 65.27 158 P **P** **23 59 14.4 -0.7**
KHZ Kahutara 65.27 158 P **P** **23 59 13.4 -1.7**
MENT Mentasta 65.28 28 P **P** **23 59 15.8 +0.8**
FYU Fort Yukon 65.32 24 P **P** **23 59 13.5 -1.6**
SCRK Sand Creek 65.34 27 P **P** **23 59 15.6 +0.1**
SCRK IAmb IAmb 23 59 16.9
comp=Z,20nm,1.2s
SCRK Sand Creek 65.34 27 P **P** **23 59 15.3 -0.2**
baz=260,SNR=5.7
F25K Christian Rive 65.39 23 P **P** **23 59 15.9 +0.2**
baz=257
L26K Log Cabin Wild 65.47 28 P **P** **23 59 16.9 +0.6**
L26K IAmb IAmb 23 59 18.5
comp=Z,9.0nm,0.9s
L26K Log Cabin Wild 65.47 28 P **P** **23 59 16.4 +0.2**
baz=261
E25K Arctic Village 65.53 23 P **P** **23 59 17.5 +0.9**
E25K IAmb IAmb 23 59 19.0
comp=Z,8.7nm,0.9s
E25K Arctic Village 65.53 23 P **P** **23 59 16.9 +0.4**
baz=257,SNR=6.2
M26K Nabesna, AK 65.53 29 P **P** **23 59 17.0 +0.3**
baz=262
D25K Kavik River 65.53 21 IAmb IAmb 23 59 18.6
comp=Z,14nm,0.8s
D25K Kavik River 65.53 21 P **P** **23 59 16.6 0.0**
baz=255
OXZ Oxford 65.55 159 P **P** **23 59 15.5 -1.4**
RPZ Rata Peaks 65.57 160 P **P** **23 59 15.1 -1.9**
GVZ Greta Valley S 65.57 158 P **P** **23 59 16.0 -1.1**
J26L Joseph Creek 65.61 27 P **P** **23 59 17.4 +0.2**
J26L IAmb IAmb 23 59 18.5
comp=Z,23nm,1.3s
J26L Joseph Creek 65.61 27 P **P** **23 59 17.0 -0.2**
baz=260,SNR=7.8
ARSB Arslanbob 65.62 308 P **P** **23 59 17.8 0.0**
BMAR Burnt Mountain 65.75 23 P **P** **23 59 19.3 +1.3**
GRNC Granite Creek 65.91 31 P **P** **23 59 20.5 +1.2**
I26K Coal Creek Min 65.92 26 P **P** **23 59 18.8 -0.3**
baz=260
G26K Porcupine Rive 65.96 24 P **P** **23 59 19.3 0.0**
baz=259
F26K Sheenjek River 65.97 23 P **P** **23 59 19.5 +0.1**
baz=258,SNR=16
NIL Nilore 66.02 299 P **P** **23 59 21.4 +1.1**
NIL IAmb IAmb 23 59 57.2
comp=Z,24nm,1.1s
NIL Nilore 66.02 299 P **P** **23 59 21.2 +0.9**
NIL pP **pwP** **23 59 56.5 -1.2**
M27K Edge Creek, AK 66.04 29 P **P** **23 59 20.2 +0.1**
baz=263
CTG Chitna Glacier 66.14 31 P **P** **23 59 20.8 +0.1**
baz=264
L27K Beaver Creek, 66.16 28 IAmb IAmb 23 59 22.0
comp=Z,7.7nm,0.8s
L27K Beaver Creek, 66.16 28 P **P** **23 59 21.1 +0.4**
baz=262
BCAR Beaver Creek A 66.18 28 P **P** **23 59 21.5 +0.7**
C26K Camden Bay 66.18 21 P **P** **23 59 21.5 +0.9**
baz=257
K27K Chicken 66.18 27 IAmb IAmb 00 00 34.8
comp=Z,15nm,1.5s
K27K Chicken 66.18 27 P **P** **23 59 21.3 +0.6**
baz=262
LOGN Logan Glacier 66.29 31 P **P** **23 59 21.8 +0.1**
BVCY Beaver Creek 66.52 29 P **P** **23 59 23.1 +0.1**
baz=264
PINM Pinnacle 66.59 32 P **P** **23 59 23.1 -0.4**
baz=265
I27K Kandik River 66.60 26 P **P** **23 59 23.9 +0.4**
baz=262
YUK3 Moose Creek 66.64 30 P **P** **23 59 23.8 -0.2**
baz=264
EGAK Eagle 66.67 27 P **P** **23 59 24.1 +0.3**
baz=262
H27K Steamboat Moun 66.72 25 P **P** **23 59 25.0 +0.8**
baz=261
G27K Doyon Strip 66.76 24 IAmb IAmb 23 59 56.3
comp=Z,25nm,2.0s
G27K Doyon Strip 66.76 24 P **P** **23 59 25.2 +0.7**
baz=261
YUK8 Steele Glacier 66.93 30 P **P** **23 59 26.1 +0.2**
baz=265
PNL Peninsula 66.99 32 P **P** **23 59 26.5 +0.5**
baz=266
E27K Coleen River 67.00 23 P **P** **23 59 26.7 +0.8**
baz=260
BVAR Borovoye Array 67.14 321 P **P** **23 59 25.7 -1.3**
comp=Z,4.5nm,0.5s,baz=95,slow=7.7,SNR=45
comp=Z,4.5nm,0.5s
BRVK Borovoye 67.20 321 P **P** **23 59 26.1 -1.3**
BRVK Borovoye 67.20 321 P **P** **23 59 26.0 -1.4**
BRVK pP **pwP** **00 00 03.2 -1.6**
I28M Miner Creek 67.27 26 P **P** **23 59 28.0 +0.2**
baz=263
KK31 Karatay Array 67.35 310 P **P** **23 59 28.3 -0.3**
DAWY Dawson 67.35 27 P **P** **23 59 29.1 +0.9**
DAWY Dawson 67.35 27 P **P** **23 59 28.3 0.0**
baz=264
D27M Malcolm River 67.40 22 P **P** **23 59 28.5 0.0**
baz=261
O29M Mount Kennedy 67.44 31 IAmb IAmb 23 59 31.9
comp=Z,24nm,0.9s
O29M Mount Kennedy 67.44 31 P **P** **23 59 28.7 -0.3**
baz=267
YUK4 Talbot Arm 67.47 30 P **P** **23 59 29.6 +0.3**
baz=266,SNR=6.8
F28M Old Crow 67.56 24 IAmb IAmb 23 59 31.5
comp=Z,9.6nm,0.8s
F28M Old Crow 67.56 24 P **P** **23 59 29.8 +0.3**
baz=262,SNR=10
YUK6 Outpost Mounta 67.58 31 P **P** **23 59 29.8 -0.2**
baz=266
M29M Somme Creek 67.64 29 IAmb IAmb 23 59 32.6
comp=Z,15nm,0.7s
M29M Somme Creek 67.64 29 P **P** **23 59 30.5 +0.4**
baz=266
E28M Babbage River 67.82 22 P **P** **23 59 31.4 +0.3**
baz=262,SNR=6.7
P29M Windy Craggy 67.83 32 P **P** **23 59 31.8 +0.5**
baz=268
L29M L29M 67.83 28 P **P** **23 59 31.4 +0.1**
baz=266
I29M Ogilvie Camp, 67.94 26 P **P** **23 59 32.6 +0.8**
baz=265
H29M Whitestone 67.99 25 P **P** **23 59 32.4 +0.2**
baz=264
HYT Haines Junctio 68.00 31 P **P** **23 59 33.9 +1.4**
HYT IAmb IAmb 23 59 35.2
comp=Z,23nm,0.8s
HYT Haines Junctio 68.00 31 P **P** **23 59 32.7 +0.3**
baz=267,SNR=8.3
K29M Barlow Dome 68.16 28 IAmb IAmb 23 59 35.6
comp=Z,16nm,0.9s
K29M Barlow Dome 68.16 28 P **P** **23 59 33.6 +0.3**
baz=266,SNR=12
G29M Pine Creek 68.20 24 P **P** **23 59 34.8 +1.3**
G29M IAmb IAmb 23 59 36.6
comp=Z,18nm,1.1s
G29M Pine Creek 68.20 24 P **P** **23 59 33.9 +0.5**
baz=264
D28M Stokes Point 68.20 22 P **P** **23 59 34.3 +1.0**
baz=263
N30M Aishikik Lake 68.23 30 IAmb IAmb 23 59 36.3
comp=Z,15nm,0.7s
N30M Aishikik Lake 68.23 30 P **P** **23 59 34.3 +0.5**
baz=267

P30M Million Dollar 68.24 32 P **P** **23 59 34.2 +0.3**
baz=268
E29M Blow River 68.39 23 P **P** **23 59 35.8 +1.2**
baz=264
M30M Minto, Yukon 68.42 29 P **P** **23 59 35.1 +0.2**
baz=267
S31K Pelican 68.58 34 P **P** **23 59 36.2 +0.3**
baz=270
EPYK Eagle Plains 68.67 25 IAmb IAmb 23 59 37.6
comp=Z,9.5nm,0.8s
EPYK Eagle Plains 68.67 25 P **P** **23 59 36.5 +0.1**
baz=266
O30N Mendenhall 68.69 31 P **P** **23 59 36.5 -0.1**
baz=269
J30M Hart River 68.72 27 P **P** **23 59 36.8 -0.1**
baz=267
I30M Mount Dempster 68.74 26 P **P** **23 59 36.9 -0.1**
baz=267
N31M Braeburn, Yuko 68.86 30 IAmb IAmb 23 59 40.2
comp=Z,20nm,0.8s
N31M Braeburn, Yuko 68.86 30 P **P** **23 59 38.0 +0.4**
baz=269,SNR=5.4
MAYO Mayo, Yukon 68.87 28 P **P** **23 59 37.9 +0.2**
baz=268
G30M tAoh Zraii Nji 68.91 24 IAmb IAmb 23 59 41.4
comp=Z,8.4nm,0.8s
G30M tAoh Zraii Nji 68.91 24 P **P** **23 59 38.2 +0.3**
baz=266,SNR=7.0
SKAG Skagway 69.05 32 P **P** **23 59 39.8 +1.0**
SKAG IAmb IAmb 23 59 41.3
comp=Z,14nm,0.9s
SKAG Skagway 69.05 32 P **P** **23 59 38.9 +0.1**
baz=270
F30M Barrier River 69.12 24 P **P** **23 59 39.5 +0.4**
baz=266
WHY Whitehorse 69.28 31 P **P** **23 59 39.7 -0.7**
baz=270
KBL Kabul 69.37 301 P **P** **23 59 41.3 -0.3**
KBL **pwP** **00 00 17.2 -2.1**
S32K Killisnoo 69.47 35 P **P** **23 59 41.1 -0.3**
baz=271
R32K Eaglecrest 69.48 34 P **P** **23 59 43.6 +2.0**
R32K Eaglecrest 69.48 34 P **P** **23 59 41.4 -0.1**
baz=271
M31M Drury Creek, Y 69.53 30 IAmb IAmb 23 59 43.3
comp=Z,8.0nm,0.7s
M31M Drury Creek, Y 69.53 30 P **P** **23 59 41.7 -0.1**
baz=270,SNR=5.9
G31M Satah River 69.67 24 P **P** **23 59 42.6 +0.1**
G31M IAmb IAmb 23 59 43.9
comp=Z,23nm,0.8s
G31M Satah River 69.67 24 P **P** **23 59 42.4 -0.1**
baz=268,SNR=14
P32M Atlin 69.88 32 P **P** **23 59 43.9 -0.1**
P32M IAmb IAmb 23 59 45.9
comp=Z,16nm,1.0s
P32M Atlin 69.88 32 P **P** **23 59 43.9 -0.1**
baz=271
F31M Tsiigehtchic 69.90 24 P **P** **23 59 43.8 0.0**
F31M IAmb IAmb 23 59 44.9
comp=Z,13nm,0.9s
F31M Tsiigehtchic 69.90 24 P **P** **23 59 43.2 -0.6**
baz=268,SNR=8.8
INK Inuvik 70.01 23 IAmb IAmb 23 59 45.6
comp=Z,14nm,0.8s
INK Inuvik 70.01 23 P **P** **23 59 44.0 -0.5**
baz=268,SNR=16
FARO Faro, Yukon 70.01 29 P **P** **23 59 45.2 +0.4**
FARO IAmb IAmb 00 00 20.6
comp=Z,49nm,2.0s
FARO Faro, Yukon 70.01 29 P **P** **23 59 44.3 -0.4**
baz=270
N32M Quiet Lake 70.16 31 P **P** **23 59 45.3 -0.4**
baz=271
P33M Teslin, Yukon 70.31 32 P **P** **23 59 46.7 0.0**
baz=272
U33K Whale Pass 70.32 36 P **P** **23 59 46.8 +0.2**
baz=273
CRAG Craig 70.35 37 P **P** **23 59 47.1 +0.3**
baz=273
Q32M Nakina River 70.64 33 P **P** **23 59 49.0 +0.2**
baz=273
R33M Jennings River 71.28 32 P **P** **23 59 53.6 +1.0**
R33M IAmb IAmb 00 00 35.9
comp=Z,27nm,1.4s
R33M Jennings River 71.28 32 P **P** **23 59 53.0 +0.4**
baz=274
S34M Telegraph Cree 71.30 34 P **P** **23 59 52.7 +0.2**
baz=274
DLBC Dease Lake 71.84 33 P **P** **23 59 56.8 +0.9**
DLBC IAmb IAmb 23 59 58.0
comp=Z,16nm,0.9s
DLBC Dease Lake 71.84 33 P **P** **23 59 56.0 +0.1**
baz=275,SNR=5.6
T35M Bob Quinn 71.84 35 P **P** **23 59 56.1 +0.2**
baz=275
WTLY Watson Lake, Y 72.32 32 P **P** **23 59 59.1 +0.4**
baz=275
TGTN Hyland Airport 72.45 30 P **P** **23 59 59.8 +0.4**
baz=275,SNR=9.9
PPT Papeete 72.67 116 P **P** **00 00 00.0 -1.4**
comp=Z,14nm,0.7s,baz=239,slow=18,SNR=2.8
PPT LR LR 00 25 49.5
comp=Z,57nm,20.7s,baz=286,slow=30
comp=Z,14nm,0.7s
A36M Sachs Harbour 72.74 19 P **P** **00 00 01.0 +0.1**
A36M IAmb IAmb 00 00 02.6
comp=Z,24nm,0.8s
C36M Paulatuk 73.39 22 P **P** **00 00 05.1 +0.4**
C36M IAmb IAmb 00 00 05.7
comp=Z,22nm,1.0s
C36M Paulatuk 73.39 22 P **P** **00 00 04.8 +0.1**
baz=276,SNR=12
ABKAR Akbulak array 73.98 317 P **P** **00 00 07.4 -1.1**
WRGLY Wrigley 74.47 28 P **P** **00 00 11.4 +0.3**
WRGLY IAmb IAmb 00 00 13.1
comp=Z,25nm,0.8s
WRGLY Wrigley 74.47 28 P **P** **00 00 12.4 +1.3**
baz=279,SNR=11
KOTAN Kotaneelee Air 74.68 31 P **P** **00 00 13.7 +1.3**
baz=279
HRA Herat 74.93 302 P **P** **00 00 13.9 -0.8**
FLDN Fort Liard 74.94 31 P **P** **00 00 13.7 -0.2**
CBB Campbell River 75.70 42 P **P** **00 00 18.7 +0.3**
GEYT Alibeck 77.45 306 P **P** **00 00 28.2 -0.4**
GEYT Alibeck 77.45 306 P **P** **00 00 27.5 -1.1**
comp=Z,2.1nm,0.9s,baz=74,slow=11,SNR=6.9
comp=Z,2.1nm,0.9s
GYA0B ALIBECK ARRAY 77.45 306 P **P** **00 00 28.5 -0.1**
E03A Lebam 77.60 45 P **P** **00 00 28.9 -0.3**
E03A IAmb IAmb 00 00 31.9
comp=Z,25nm,1.0s
GNW Green Mountain 77.86 44 P **P** **00 00 31.5 +0.9**
GNW IAmb IAmb 00 00 34.0
comp=Z,28nm,1.1s
KEBM Edson Butte 77.89 49 P **P** **00 00 31.8 +0.8**
KEBM IAmb IAmb 00 00 33.9
comp=Z,37nm,1.1s
G03D McMinnville, O 78.10 46 P **P** **00 00 32.8 +0.8**
J01E Myrtle Point 78.11 48 P **P** **00 00 33.0 +0.9**
KBO Bosley Butte 78.12 49 P **P** **00 00 33.3 +1.0**
KBO IAmb IAmb 00 00 37.2
comp=Z,50nm,1.4s
KIRV Kirov 78.17 328 LR LR 00 37 02.5
comp=Z,45nm,18.2s,baz=42,slow=37
I03D Drain, OR 78.40 48 P **P** **00 00 33.6 -0.1**
D05A Enumclaw 78.50 44 P **P** **00 00 34.7 +0.6**
B06A Marblemount 78.51 43 P **P** **00 00 33.8 -0.4**
B06A IAmb IAmb 00 00 36.2
comp=Z,13nm,0.9s
F04A Amboy 78.51 45 IAmb IAmb 00 00 36.6
comp=Z,18nm,0.8s
HILA High Level 78.53 32 P **P** **00 00 33.4 -0.8**
BUCK Buck Mountain 78.53 47 P **P** **00 00 35.0 +0.5**
BUCK IAmb IAmb 00 00 37.5
comp=Z,27nm,0.9s
YKA Yellowknife Ar 78.59 28 P **P** **00 00 33.8 -0.5**
YKA Yellowknife Ar 78.59 28 P **P** **00 00 34.4 +0.1**
comp=Z,6.5nm,0.8s,baz=288,slow=5.9,SNR=90
YKA LR LR 00 33 18.2
comp=Z,23nm,21.6s,baz=294,slow=34
comp=Z,6.5nm,0.8s
L02F Cave Junction 78.62 49 P **P** **00 00 35.0 +0.1**
L02F IAmb IAmb 00 02 16.5
comp=Z,43nm,2.0s
H04D Lebanon 78.63 47 P **P** **00 00 35.3 +0.4**
H04D IAmb IAmb 00 00 41.5

comp=Z,14nm,1.1s
LON Longmire 78.72 44 P **P** **00 00 35.0 -0.5**
HUMO Hull Mountain 78.94 49 P **P** **00 00 37.4 +0.7**
H04A Detroit Lake 78.97 47 P **P** **00 00 37.1 +0.3**
H04A IAmb IAmb 00 00 39.0
comp=Z,14nm,1.0s
I04A Tendick Farm, 79.04 47 P **P** **00 00 37.3 +0.1**
I04A IAmb IAmb 00 00 39.3
comp=Z,14nm,0.9s
HOOD Mount Hood Mea 79.18 46 P **P** **00 00 38.4 +0.3**
HOOD IAmb IAmb 00 00 43.6
comp=Z,26nm,1.1s
KCPM Cahto Peak 79.20 52 P **P** **00 00 38.5 +0.2**
KCPM IAmb IAmb 00 00 41.0
comp=Z,22nm,0.8s
YBH Yreka Blue Hor 79.33 50 P **P** **00 00 39.4 +0.4**
YBH Yreka Blue Hor 79.33 50 LR LR 00 27 42.0
comp=Z,22nm,20.5s,baz=220,slow=29
LTY Liberty 79.35 44 P **P** **00 00 39.3 +0.3**
LTY IAmb IAmb 00 00 40.8
comp=Z,14nm,0.8s
G05A Wamic 79.43 46 P **P** **00 00 40.1 +0.7**
L04D Klamath Falls 79.50 49 P **P** **00 00 40.4 +0.5**
BRLDA Berland Lookou 79.54 37 P **P** **00 00 40.5 +0.7**
BRLDA IAmb IAmb 00 00 41.7
comp=Z,16nm,0.8s
I05D Terrebonne, OR 79.65 47 P **P** **00 00 39.7 -0.9**
MXC Moxie City 79.78 44 P **P** **00 00 40.7 -0.5**
K04D Chiloquin, OR 79.80 49 P **P** **00 00 42.1 +0.7**
SPITS Spitsbergen Ar 79.93 351 P **P** **00 00 41.9 +0.5**
comp=Z,16nm,1.0s,baz=30,slow=12,SNR=0.8
comp=Z,16nm,1.0s
B08A Colville Reser 79.93 42 P **P** **00 00 42.7 +0.7**
B08A IAmb IAmb 00 00 43.8
comp=Z,10nm,0.7s
J05D Fort Rock, OR 79.99 48 P **P** **00 00 43.9 +1.4**
GDXM Geysers 80.01 52 P **P** **00 00 43.4 +0.8**
GDXM IAmb IAmb 00 02 42.9
comp=Z,41nm,1.8s
KBS Kingsbay 80.05 352 P **P** **00 00 42.4 +0.4**
PINE Pine Mountain 80.07 47 P **P** **00 00 43.6 +0.6**
E07A Sunnyside 80.07 44 P **P** **00 00 43.5 +0.8**
RES Resolute Bay 80.12 14 P **P** **00 00 42.1 -0.3**
F07A Phinny Hill Vi 80.20 45 P **P** **00 00 43.0 -0.5**
HAWA Hanford 80.33 44 IAmb IAmb 00 00 46.4
comp=Z,12nm,0.8s
K05A Summer Lake 80.38 48 P **P** **00 00 45.6 +0.9**
K05A IAmb IAmb 00 00 47.2
comp=Z,27nm,0.8s
D08A Wollman Farm, 80.56 44 P **P** **00 00 45.6 +0.3**
D08A IAmb IAmb 00 00 47.4
comp=Z,13nm,0.9s
E08A Dider Farm, El 80.62 44 P **P** **00 00 45.9 +0.3**
C09A Chrisman Ranch 80.77 43 P **P** **00 00 46.9 +0.4**
C09A IAmb IAmb 00 00 48.3
comp=Z,13nm,0.8s
ORV Oroville 80.79 51 P **P** **00 00 46.8 +0.2**
BELG Belogornoye 80.87 322 LR LR 00 38 36.2
comp=Z,53nm,18.9s,baz=155,slow=37
I07A Izee 80.99 47 P **P** **00 00 47.8 0.0**
G08A Pilot Rock 81.02 45 P **P** **00 00 47.7 -0.2**
E09A Wood Farm, Sta 81.22 44 P **P** **00 00 49.1 +0.3**
E09A IAmb IAmb 00 00 51.0
comp=Z,14nm,0.8s
AFDM Forest Hills D 81.34 52 P **P** **00 00 50.2 +0.5**
NEW Newport 81.38 42 LR LR 00 31 28.7
comp=Z,35nm,19.9s,baz=288,slow=31
SAO San Andreas Ge 81.58 54 P **P** **00 00 51.3 +0.3**
J08A Circle Bar Ran 81.91 47 P **P** **00 00 52.6 0.0**
J08A IAmb IAmb 00 00 54.8
comp=Z,16nm,0.9s
BBGB Big Mountain B 81.95 54 P **P** **00 00 52.8 -0.2**
BBGB IAmb IAmb 00 01 05.7
comp=Z,15nm,0.8s
MPK Martis Peak 81.95 51 P **P** **00 00 53.5 +0.3**
MPK IAmb IAmb 00 00 55.5
comp=Z,25nm,1.0s
EMB Emerald Bay 81.99 52 P **P** **00 00 53.3 0.0**
F10A Beach Ranch, E 81.99 44 P **P** **00 00 53.8 +0.8**
CMB Columbia Colle 82.04 53 P **P** **00 00 53.6 +0.2**
CMB IAmb IAmb 00 00 55.5
comp=Z,13nm,1.1s
WVOR Wild Horse Val 82.06 48 P **P** **00 00 53.9 +0.4**
WVOR IAmb IAmb 00 00 55.6
comp=Z,13nm,0.9s
EDM Edmonton 82.10 37 P **P** **00 00 54.1 +0.7**
EDM IAmb IAmb 00 00 54.5
comp=Z,13nm,0.9s
BMO Blue Mountains 82.27 45 P **P** **00 00 54.6 +0.1**
BMO IAmb IAmb 00 00 56.4
comp=Z,12nm,0.9s
PAHR Pah Rah Range 82.31 51 P **P** **00 00 55.3 +0.4**
PNTR Pine Nut 82.33 52 P **P** **00 00 55.2 +0.1**
PNTR IAmb IAmb 00 00 57.5
comp=Z,18nm,0.8s
WAKR Walker 82.62 52 P **P** **00 00 56.7 +0.1**
YERR Yerington 82.63 52 P **P** **00 00 57.5 +0.9**
YERR IAmb IAmb 00 00 58.9
comp=Z,19nm,1.1s
PLID Pearl Lake 83.08 45 P **P** **00 00 58.8 -0.1**
SMMC Simmler 83.12 55 P **P** **00 00 59.2 +0.1**
baz=287
MDPB Devils Postpil 83.15 53 P **P** **00 01 00.0 +0.6**
OMMB Old Mammoth Mi 83.21 53 P **P** **00 00 59.8 0.0**
ARCES ARCESS Array B 83.25 342 P **P** **00 00 56.6 -2.3**
comp=Z,4.2nm,0.9s,baz=57,slow=5.8,SNR=4.0
comp=Z,4.2nm,0.9s
RYN Ryan 83.27 52 P **P** **00 00 59.9 +0.1**
RYN IAmb IAmb 00 01 02.2
comp=Z,14nm,1.0s
PKM Mcpherson Peak 83.39 56 P **P** **00 01 00.4 -0.2**
baz=287,SNR=11
LHV Little Huntoon 83.40 52 P **P** **00 01 01.4 +1.2**
LHV IAmb IAmb 00 01 03.1
comp=Z,16nm,1.2s
KVN Kaiserville 83.46 51 P **P** **00 01 01.2 +0.3**
KVN IAmb IAmb 00 01 02.9
comp=Z,13nm,0.9s
NVAR Mina Array Bea 83.49 52 P **P** **00 01 01.4 +0.3**
NVAR Mina Array Bea 83.49 52 P **P** **00 01 02.4 +1.2**
comp=Z,9.3nm,0.8s,baz=270,slow=5.6,SNR=62
comp=Z,9.3nm,0.8s
SBC Santa Barbara 83.60 56 P **P** **00 01 01.6 +0.2**
baz=287
NV11 Mina Array Sit 83.60 52 P **P** **00 01 01.9 +0.3**
VES Vestal, Richgr 83.68 55 P **P** **00 01 02.4 +0.7**
baz=287
BMN Battle Mountai 83.68 50 P **P** **00 01 01.5 -0.5**
BCW Bitter Crk WRg 83.69 55 P **P** **00 01 01.7 -0.3**
BCW IAmb IAmb 00 01 04.6
comp=Z,17nm,1.1s
MFID Camas Ranch 83.73 46 P **P** **00 01 02.5 +0.4**
MFID IAmb IAmb 00 01 04.2
comp=Z,20nm,0.9s
MSO Missoula 83.87 43 P **P** **00 01 03.3 +0.6**
baz=290
SNCC San Nicolas Is 84.11 57 P **P** **00 01 04.9 +0.8**
baz=287
ISA Isabella, Lake 84.20 55 P **P** **00 01 03.5 -1.1**
ISA Isabella, Lake 84.20 55 P **P** **00 01 04.4 -0.2**
baz=288
CWC Cottonwood Cre 84.27 54 P **P** **00 01 05.5 +0.5**
baz=288
BPMT Black Pine Rid 84.33 43 P **P** **00 01 05.0 -0.2**
OSI Osito Audit: C 84.33 56 P **P** **00 01 05.5 +0.3**
baz=288
MZP Montezuma Peak 84.41 52 P **P** **00 01 05.4 -0.4**
TPH Tonopah 84.41 52 P **P** **00 01 05.4 -0.3**
GMN Gold Mountain 84.63 53 P **P** **00 01 07.2 +0.3**
GRAC Grapevine Rang 84.64 53 P **P** **00 01 07.6 +0.9**
GRAC Grapevine Rang 84.64 53 P **P** **00 01 07.1 +0.3**
baz=288
HLID Hailey 84.65 46 P **P** **00 01 07.0 +0.2**
HLID Hailey 84.65 46 P **P** **00 01 06.5 -0.3**
baz=290,SNR=13
DECC Green Verdugo 84.75 56 P **P** **00 01 07.4 +0.1**
baz=288
EDW2 Edwards Air Fo 84.82 55 P **P** **00 01 07.7 +0.1**
baz=288,SNR=6.5
MPMC Manual Prospec 84.84 54 P **P** **00 01 08.2 +0.2**
baz=288,SNR=10.0
LRMC Laurel Mtn Rad 84.87 55 P **P** **00 01 08.2 +0.2**
baz=288,SNR=6.5
PASC Pasadena Art C 84.89 56 P **P** **00 01 07.2 -0.7**
LYMT Lyon Mountain 84.89 42 P **P** **00 01 08.1 +0.1**

CIS	**Catalina Islan**	**84.94**	**57**	P	**P**	**00 01 08.5 +0.2**
	baz=288					
FMP	**Fort Macarthur**	**84.94**	**56**	P	**P**	**00 01 08.2 0.0**
	baz=288					
SCI2	**San Clemente I**	**84.97**	**57**	P	**P**	**00 01 08.6 +0.2**
	baz=288					
ELK	**Elko**	**85.01**	**49**	P	**P**	**00 01 09.0 +0.3**
ELK				IAmb	IAmb	00 01 11.3
	comp=Z,15nm,0.9s					
ELK	**Elko**	**85.01**	**49**	LR	LR	00 32 02.2
	comp=Z,20nm,20.2s,baz=296,slow=30					
FURC	**Furnace Creek,**	**85.19**	**53**	P	**P**	**00 01 09.5 +0.1**
	baz=289					
WCT	**Wildcat Mounta**	**85.27**	**53**	P	**P**	**00 01 09.6 -0.3**
WCT				IAmb	IAmb	00 01 12.5
	comp=Z,8.6nm,0.8s					
BFSC	**Mount Baldy Ra**	**85.28**	**56**	P	**P**	**00 01 09.6 -0.5**
	baz=288					
QSM	**Queen of Sheba**	**85.35**	**54**	P	**P**	**00 01 09.8 -0.4**
GWY	**Greenwater Val**	**85.43**	**54**	IAmb	IAmb	00 01 12.8
	comp=Z,22nm,1.6s					
TPNV	**Topopah Spring**	**85.50**	**53**	P	**P**	**00 01 11.9 +0.7**
TPNV				IAmb	IAmb	00 01 13.2
	comp=Z,13nm,1.1s					
TPNV	**Topopah Spring**	**85.50**	**53**	P	**P**	**00 01 11.3 +0.2**
	baz=289,SNR=16					
R11B	**Troy Canyon, C**	**85.55**	**51**	P	**P**	**00 01 11.1 -0.3**
R11B	**Troy Canyon, C**	**85.55**	**51**	P	**P**	**00 01 11.4 +0.1**
	baz=289,SNR=10					
GSC	**Goldstone, Bar**	**85.61**	**54**	P	**P**	**00 01 11.5 -0.2**
GSC	**Goldstone, Bar**	**85.61**	**54**	P	**P**	**00 01 11.4 -0.2**
	baz=289					
ELS	**Elsinore Mount**	**85.65**	**56**	P	**P**	**00 01 11.0 -0.8**
S11A	**Rachel**	**85.66**	**52**	P	**P**	**00 01 12.3 +0.5**
S11A				IAmb	IAmb	00 01 14.1
	comp=Z,14nm,1.0s					
BOZ	**Bozeman (W)**	**85.81**	**43**	P	**P**	**00 01 12.5 0.0**
BOZ	**Bozeman (W)**	**85.81**	**43**	P	**P**	**00 01 12.4 -0.1**
	baz=291,SNR=11					
MURC	**Murrieta**	**85.85**	**56**	P	**P**	**00 01 12.8 +0.1**
	baz=289					
Q12A	**Willow Creek R**	**85.87**	**50**	P	**P**	**00 01 13.3 +0.3**
Q12A				IAmb	IAmb	00 01 15.2
	comp=Z,11nm,0.8s					
EGMT	**Eagleton**	**86.10**	**41**	P	**P**	**00 01 13.5 -0.2**
	baz=292					
HEC	**Hector,Ludlow**	**86.13**	**55**	P	**P**	**00 01 14.3 +0.1**
	baz=289					
109C	**Camp Elliot, M**	**86.15**	**57**	P	**P**	**00 01 14.4 +0.2**
109C				IAmb	IAmb	00 01 16.0
	comp=Z,9.6nm,0.8s					
109C	**Camp Elliot, M**	**86.15**	**57**	P	**P**	**00 01 13.5 -0.7**
	baz=289					
TUQ	**Turquoise Moun**	**86.25**	**54**	P	**P**	**00 01 14.3 -0.5**
	baz=289					
SPR3	**Spring Creek 3**	**86.25**	**50**	P	**P**	**00 01 15.0 0.0**
SPR3				IAmb	IAmb	00 01 17.4
	comp=Z,12nm,1.1s					
PRN	**Pahroc Range**	**86.26**	**52**	P	**P**	**00 01 15.0 +0.2**
PRN				IAmb	IAmb	00 01 17.7
	comp=Z,11nm,1.0s					
YHL	**Hebgen Lake**	**86.38**	**44**	P	**P**	**00 01 15.9 +0.5**
YHL				IAmb	IAmb	00 01 18.0
	comp=Z,22nm,1.1s					
PFO	**Pinyon Flats O**	**86.43**	**56**	P	**P**	**00 01 15.5 -0.2**
PFO	**Pinyon Flats O**	**86.43**	**56**	P	**P**	**00 01 14.6 -1.1**
	baz=289,SNR=8.2					
TPFO	**Pinon Flats**	**86.43**	**56**	P	**P**	**00 01 14.7 -1.1**
	baz=289,SNR=6.6					
SHPR	**Sheep Range**	**86.48**	**53**	P	**P**	**00 01 16.2 +0.3**
PMD	**Palm Desert**	**86.48**	**56**	P	**P**	**00 01 15.8 -0.1**
BGU	**Big Grassy Mou**	**86.52**	**48**	P	**P**	**00 01 16.9 +0.8**
BAR	**Barrett**	**86.56**	**57**	P	**P**	**00 01 16.3 0.0**
YMR	**Madison River**	**86.59**	**44**	P	**P**	**00 01 17.0 +0.6**
YMR				IAmb	IAmb	00 01 19.2
	comp=Z,20nm,0.9s					
YHH	**Holmes Hill**	**86.62**	**44**	P	**P**	**00 01 17.7 +1.1**
BELC	**Belle Mtn. Jos**	**86.66**	**55**	P	**P**	**00 01 16.0 -0.9**
	baz=289					
GMRC	**Granite Mounta**	**86.67**	**55**	P	**P**	**00 01 16.5 -0.4**
	baz=289,SNR=5.4					
MONP2	**Monument Peak**	**86.69**	**57**	P	**P**	**00 01 17.3 +0.2**
	baz=289,SNR=9.8					
YFT	**Old Faithful**	**86.75**	**44**	P	**P**	**00 01 17.5 +0.3**
YFT				IAmb	IAmb	00 01 24.1
	comp=Z,33nm,1.7s					
YNR	**Norris Junctio**	**86.76**	**44**	P	**P**	**00 01 18.2 +1.0**
YNR				IAmb	IAmb	00 01 21.2
	comp=Z,22nm,1.1s					
GNI	**Garni**	**86.78**	**311**	LR	LR	00 43 07.1
	comp=Z,14nm,19.4s,baz=89,slow=38					
IMW	**Indian Meadow**	**86.89**	**45**	P	**P**	**00 01 18.7 +0.7**
IMW				IAmb	IAmb	00 01 20.3
	comp=Z,8.6nm,0.9s					
FXWY	**Fox Creek**	**86.93**	**45**	P	**P**	**00 01 18.2 +0.1**
DUG	**Dugway, Tooele**	**86.94**	**49**	P	**P**	**00 01 18.2 +0.1**
DUG				IAmb	IAmb	00 01 20.1
	comp=Z,22nm,1.1s					
DUG	**Dugway, Tooele**	**86.94**	**49**	P	**P**	**00 01 18.4 +0.3**
	baz=291,SNR=20					
H17A	**Grant Village**	**86.95**	**44**	P	**P**	**00 01 18.3 +0.1**
H17A				IAmb	IAmb	00 01 22.7
	comp=Z,12nm,1.1s					
H17A	**Grant Village**	**86.95**	**44**	P	**P**	**00 01 18.0 -0.2**
	baz=292					
V12A	**Nelson**	**86.97**	**54**	P	**P**	**00 01 18.1 -0.3**
V12A				IAmb	IAmb	00 01 20.6
	comp=Z,11nm,1.1s					
FLWY	**Flagg Ranch**	**86.98**	**45**	P	**P**	**00 01 18.3 0.0**
FLWY				IAmb	IAmb	00 01 21.0
	comp=Z,13nm,0.9s					
IKP	**In-Ko-Pah, Jac**	**87.02**	**57**	P	**P**	**00 01 18.5 0.0**
	baz=289					
TPAW	**Teton Pass**	**87.03**	**45**	P	**P**	**00 01 19.4 +0.7**
MOOW	**Moose Ponds**	**87.08**	**45**	P	**P**	**00 01 18.9 +0.1**
YMP	**Mirror Lake Pl**	**87.09**	**44**	P	**P**	**00 01 18.9 -0.1**
YMP				IAmb	IAmb	00 01 22.0
	comp=Z,18nm,1.2s					
REDW	**Red Top Meadow**	**87.15**	**45**	P	**P**	**00 01 19.1 0.0**
SWSC	**Sam W. Stewart**	**87.17**	**56**	P	**P**	**00 01 19.0 -0.1**
	baz=289					
YUH	**Yuha Desert**	**87.17**	**57**	P	**P**	**00 01 19.0 -0.2**
AHID	**Auburn Hatcher**	**87.20**	**46**	P	**P**	**00 01 19.4 0.0**
AHID				IAmb	IAmb	00 01 21.3
	comp=Z,11nm,1.1s					
BC3	**Big Chuckawall**	**87.20**	**56**	P	**P**	**00 01 19.6 +0.2**
	baz=290,SNR=6.3					
LOHW	**Long Hollow**	**87.22**	**45**	P	**P**	**00 01 19.8 +0.3**
LOHW				IAmb	IAmb	00 01 22.6
	comp=Z,17nm,1.9s					
IRM	**Iron Mountain**	**87.28**	**55**	P	**P**	**00 01 19.9 +0.2**
	baz=290					
HWUT	**Hardware Ranch**	**87.31**	**47**	P	**P**	**00 01 19.9 0.0**
HWUT				IAmb	IAmb	00 01 21.8
	comp=Z,14nm,0.9s					
ESJX	**Sierra Juarez**	**87.36**	**57**	P	**P**	**00 01 20.9 +0.5**
ESJX				IAmb	IAmb	00 01 22.5
	comp=Z,10nm,1.3s					
CTU	**Camp Tracy**	**87.51**	**48**	P	**P**	**00 01 21.0 +0.1**
CTU				IAmb	IAmb	00 01 22.7
	comp=Z,14nm,1.1s					
RLMT	**Red Lodge**	**87.53**	**43**	P	**P**	**00 01 20.0 -1.0**
RLMT	**Red Lodge**	**87.53**	**43**	P	**P**	**00 01 21.6 +0.6**
	baz=293,SNR=5.8					
NLU	**North Lily Min**	**87.55**	**49**	P	**P**	**00 01 21.3 +0.2**
NLU				IAmb	IAmb	00 01 23.1
	comp=Z,12nm,1.0s					
FINES	**FINESS Array B**	**87.62**	**335**	P	**P**	**00 01 16.9 -3.8**
	comp=Z,1.6nm,0.6s,baz=51,slow=5.2,SNR=10					
FFC	**Flin Flon**	**87.65**	**33**	P	**P**	**00 01 21.3 +0.3**
SZCU	**Shurtz Canyon**	**87.66**	**51**	P	**P**	**00 01 22.1 +0.4**
SZCU				IAmb	IAmb	00 01 23.9
	comp=Z,8.1nm,0.9s					
LCMT	**Little Creek M**	**87.75**	**52**	P	**P**	**00 01 21.8 -0.3**
LCMT				IAmb	IAmb	00 01 24.4
	comp=Z,7.6nm,1.0s					
MPU	**Maple Canyon**	**87.84**	**49**	P	**P**	**00 01 22.1 -0.4**
MPU				IAmb	IAmb	00 01 24.4
	comp=Z,13nm,1.1s					
GLA	**Glamis**	**87.90**	**56**	P	**P**	**00 01 23.5 +0.8**
	baz=290					
W13A	**Hualapai Mount**	**87.93**	**54**	P	**P**	**00 01 23.2 +0.2**
MVU	**Marysvale**	**87.98**	**50**	P	**P**	**00 01 23.3 +0.1**
MSU	**Marysvale**	**88.00**	**50**	P	**P**	**00 01 23.6 +0.2**
PDMCI	**Parker Dam,Lak**	**88.01**	**55**	P	**P**	**00 01 23.7 +0.5**
	baz=290					

KNB	**Kanab**	**88.06**	**52**	P	**P**	**00 01 24.4 +0.8**
MTPU	**Mount Pierson**	**88.17**	**51**	P	**P**	**00 01 23.8 -0.5**
MTPU				IAmb	IAmb	00 01 26.8
	comp=Z,6.7nm,0.9s					
BW06	**Boulder Array**	**88.25**	**45**	P	**P**	**00 01 24.9 +0.4**
	baz=293					
PD31	**Pinedale Array**	**88.25**	**45**	P	**P**	**00 01 24.4 -0.1**
PD31				IAmb	IAmb	00 01 47.5
	comp=Z,15nm,2.0s					
PDAR	**Pinedale Array**	**88.25**	**45**	P	**P**	**00 01 24.2 -0.3**
	comp=Z,0.9nm,0.7s,baz=224,slow=3.2,SNR=9.3					
	comp=Z,0.9nm,0.7s					
BSUT	**Blindstream Ca**	**88.27**	**48**	P	**P**	**00 01 24.7 0.0**
BSUT				IAmb	IAmb	00 01 26.7
	comp=Z,9.5nm,1.3s					
PKCU	**Pink Cliffs**	**88.29**	**51**	P	**P**	**00 01 24.9 +0.1**
TMUT	**Trail Mountain**	**88.42**	**49**	P	**P**	**00 01 25.9 +0.6**
TMUT				IAmb	IAmb	00 01 27.3
	comp=Z,6.2nm,0.9s					
SFX	**San Felipe**	**88.57**	**58**	P	**P**	**00 01 26.0 +0.2**
SFX				IAmb	IAmb	00 01 27.8
	comp=Z,12nm,1.1s					
Q16A	**Castle Valley**	**88.58**	**49**	P	**P**	**00 01 26.4 +0.4**
Q16A				IAmb	IAmb	00 01 28.4
	comp=Z,23nm,1.3s					
U15A	**North Rim**	**88.67**	**52**	P	**P**	**00 01 26.7 +0.1**
U15A				IAmb	IAmb	00 01 29.0
	comp=Z,10nm,1.0s					
P17A	**Butcher Ranch,**	**88.69**	**49**	P	**P**	**00 01 26.4 -0.1**
P17A				IAmb	IAmb	00 01 28.5
	comp=Z,14nm,1.1s					
LAO	**LASA Array**	**88.83**	**41**	P	**P**	**00 01 27.2 +0.4**
	baz=295					
SRU	**San Rafael Swe**	**88.98**	**49**	P	**P**	**00 01 28.0 +0.2**
SRU				IAmb	IAmb	00 01 29.5
	comp=Z,11nm,0.8s					
P18A	**Preston Nutter**	**88.98**	**49**	P	**P**	**00 01 27.3 -0.7**
Y14A	**Wickenburg**	**89.02**	**55**	P	**P**	**00 01 28.3 +0.3**
RDMU	**Red Mountain**	**89.10**	**48**	P	**P**	**00 01 28.7 +0.3**
FCC	**Fort Churchill**	**89.27**	**27**	P	**P**	**00 01 28.6 +0.1**
FCC				IAmb	IAmb	00 01 29.2
	comp=Z,11nm,1.0s					
WUAZ	**Wupatki**	**89.70**	**53**	P	**P**	**00 01 30.9 -0.4**
WUAZ				IAmb	IAmb	00 01 33.8
	comp=Z,12nm,1.0s					
WUAZ	**Wupatki**	**89.70**	**53**	P	**P**	**00 01 31.9 +0.6**
	baz=292,SNR=8.3					
214A	**Organ Pipe Nat**	**89.88**	**56**	P	**P**	**00 01 32.7 +0.7**
214A				IAmb	IAmb	00 01 34.5
	comp=Z,11nm,1.0s					
214A	**Organ Pipe Nat**	**89.88**	**56**	P	**P**	**00 01 32.0 0.0**
	baz=291,SNR=9.6					
X16A	**Lo Mia Camp, P**	**90.05**	**54**	P	**P**	**00 01 32.8 -0.1**
O20A	**White River Ci**	**90.20**	**48**	P	**P**	**00 01 33.3 -0.2**
O20A				IAmb	IAmb	00 01 36.5
	comp=Z,20nm,1.4s					
O20A	**White River Ci**	**90.20**	**48**	P	**P**	**00 01 33.4 -0.2**
	baz=294,SNR=5.3					
RWWY	**Rawlins**	**90.28**	**46**	P	**P**	**00 01 33.8 -0.1**
RWWY				IAmb	IAmb	00 01 34.6
	comp=Z,11nm,1.1s					
K22A	**Casper**	**90.34**	**45**	P	**P**	**00 01 34.3 +0.1**
	baz=295					
W18A	**Petrified Fore**	**91.09**	**53**	P	**P**	**00 01 37.7 -0.1**
	baz=293					
MVCO	**Mesa Verde**	**91.19**	**50**	P	**P**	**00 01 38.9 +0.6**
MVCO				IAmb	IAmb	00 01 40.2
	comp=Z,19nm,1.5s					
MVCO	**Mesa Verde**	**91.19**	**50**	P	**P**	**00 01 38.0 -0.2**
	baz=294					
RSSD	**Black Hills**	**91.34**	**43**	P	**P**	**00 01 38.1 -0.7**
RSSD				IAmb	IAmb	00 01 40.6
	comp=Z,14nm,1.6s					
RSSD	**Black Hills**	**91.34**	**43**	P	**P**	**00 01 37.6 -1.2**
	baz=297					
TUC	**Tucson**	**91.35**	**55**	P	**P**	**00 01 38.8 -0.1**
TUC				IAmb	IAmb	00 01 41.6
	comp=Z,12nm,1.4s					
TUC	**Tucson**	**91.35**	**55**	P	**P**	**00 01 38.7 -0.2**
	baz=292					
N23A	**Red Feather La**	**91.48**	**46**	P	**P**	**00 01 39.4 -0.2**
N23A	**Red Feather La**	**91.48**	**46**	P	**P**	**00 01 38.6 -0.9**
	baz=295					
SMCO	**Snowmass**	**91.48**	**48**	P	**P**	**00 01 39.4 -0.4**
SMCO				IAmb	IAmb	00 01 41.8
	comp=Z,11nm,1.0s					
AKASG	**Malin Array Be**	**92.00**	**325**	LR	LR	00 44 35.6
	comp=Z,55nm,18.0s,baz=11,slow=36					
ISCO	**Idaho Springs**	**92.18**	**47**	P	**P**	**00 01 43.5 +0.6**
ISCO				IAmb	IAmb	00 01 45.0
	comp=Z,9.0nm,1.2s					
ISCO	**Idaho Springs**	**92.18**	**47**	P	**P**	**00 01 42.1 -0.8**
	baz=295					
S22A	**4UR Ranch, Cre**	**92.18**	**49**	P	**P**	**00 01 43.5 +0.5**
S22A				IAmb	IAmb	00 01 45.7
	comp=Z,15nm,1.2s					
S22A	**4UR Ranch, Cre**	**92.18**	**49**	P	**P**	**00 01 42.9 0.0**
	baz=295,SNR=10.0					
HSIG		**92.45**	**59**	P	**P**	**00 01 43.7 -0.2**
HSIG				IAmb	IAmb	00 01 46.1
	comp=Z,7.6nm,1.0s					
DUN6	**Lazy B Ranch**	**92.58**	**55**	P	**P**	**00 01 45.0 +0.3**
Q24A	**Divide**	**92.86**	**48**	P	**P**	**00 01 45.9 -0.2**
	baz=296					
HFS	**Hagfors**	**93.13**	**338**	LR	LR	00 47 55.1
	comp=Z,28nm,18.2s,baz=44,slow=38					
SDCO	**Great Sand Dun**	**93.14**	**49**	P	**P**	**00 01 46.7 -0.6**
SDCO				IAmb	IAmb	00 01 49.1
	comp=Z,9.9nm,1.4s					
SDCO	**Great Sand Dun**	**93.14**	**49**	P	**P**	**00 01 47.4 +0.1**
	baz=295,SNR=6.3					
ULM	**Lac du Bonnet**	**93.14**	**34**	P	**P**	**00 01 46.2 -0.5**
ULM	**Lac du Bonnet**	**93.14**	**34**	P	**P**	**00 01 45.2 -1.4**
	comp=Z,3.4nm,0.7s,baz=290,slow=5.4,SNR=8.5					
	comp=Z,3.4nm,0.7s					
NOA	**NORSAR Array B**	**93.32**	**340**	LR	LR	00 47 19.2
	comp=Z,30nm,19.1s,baz=40,slow=38					
121A	**Cookes Peak, D**	**93.60**	**54**	P	**P**	**00 01 48.4 -1.0**
121A				IAmb	IAmb	00 01 52.2
	comp=Z,6.3nm,1.1s					
121A	**Cookes Peak, D**	**93.60**	**54**	P	**P**	**00 01 49.3 -0.1**
	baz=294					
ANMO	**Albuquerque**	**93.62**	**52**	P	**P**	**00 01 49.4 -0.1**
ANMO	**Albuquerque**	**93.62**	**52**	P	**P**	**00 01 49.3 -0.1**
	baz=295					
ANMO	**Albuquerque**	**93.62**	**52**	LR	LR	00 40 43.0
	comp=Z,20nm,18.4s,baz=54,slow=33					
T25A	**Trinidad**	**94.18**	**49**	P	**P**	**00 01 51.4 -0.7**
	baz=296					
FRB	**Frobisher Bay**	**94.31**	**15**	LR	LR	00 48 16.9
	comp=Z,20nm,18.9s,baz=58,slow=38					
BRTR	**Keskin Array B**	**94.73**	**314**	P	**P**	**00 01 52.0 -2.4**
	comp=Z,0.2nm,0.3s,baz=27,slow=9.7,SNR=1.2					
BRTR				LR	LR	00 47 25.7
	comp=Z,12nm,21.6s,baz=341,slow=37					
	comp=Z,0.2nm,0.3s					
LPIG	**La Paz**	**94.81**	**63**	LR	LR	00 35 39.5
	comp=Z,17nm,21.0s,baz=334,slow=30					
MNTX	**Cornudas Mount**	**95.80**	**54**	P	**P**	**00 01 59.0 -0.3**
	baz=295					
ECSD	**EROS Data Cent**	**96.21**	**40**	P	**P**	**00 02 00.4 -0.5**
	baz=302					
AMTX	**Amarillo**	**97.17**	**50**	P	**P**	**00 02 05.1 -0.4**
	baz=298					
EIL	**Elat**	**98.31**	**305**	LR	LR	00 51 33.5
	comp=Z,20nm,18.7s,baz=68,slow=38					
KAN10	**Anthony SW Sta**	**98.64**	**47**	P	**P**	**00 02 11.0 -0.9**
TUL3	**Leonard**	**100.86**	**47**	P	**Pdif**	**00 02 21.1 -0.7**
	baz=302					
KMSC	**Kings Mountain**	**110.78**	**40**	P	**PKiKP**	**00 07 04.9 -0.3**
	baz=312					
TORD	**Torodi Ar. Bea**	**133.03**	**309**	SKPbc	**SKPbc**	**00 10 59.3 -3.9**
	comp=Z,1.9nm,1.0s,baz=31,slow=5.5,SNR=7.6					
CPUP	**Villa Florida**	**157.00**	**115**	PKPab	**PKPab**	**00 08 59.1 +0.3**
	comp=Z,2.6nm,0.8s,baz=287,slow=5.0,SNR=4.8					

ISC Computed Locations for December 2017

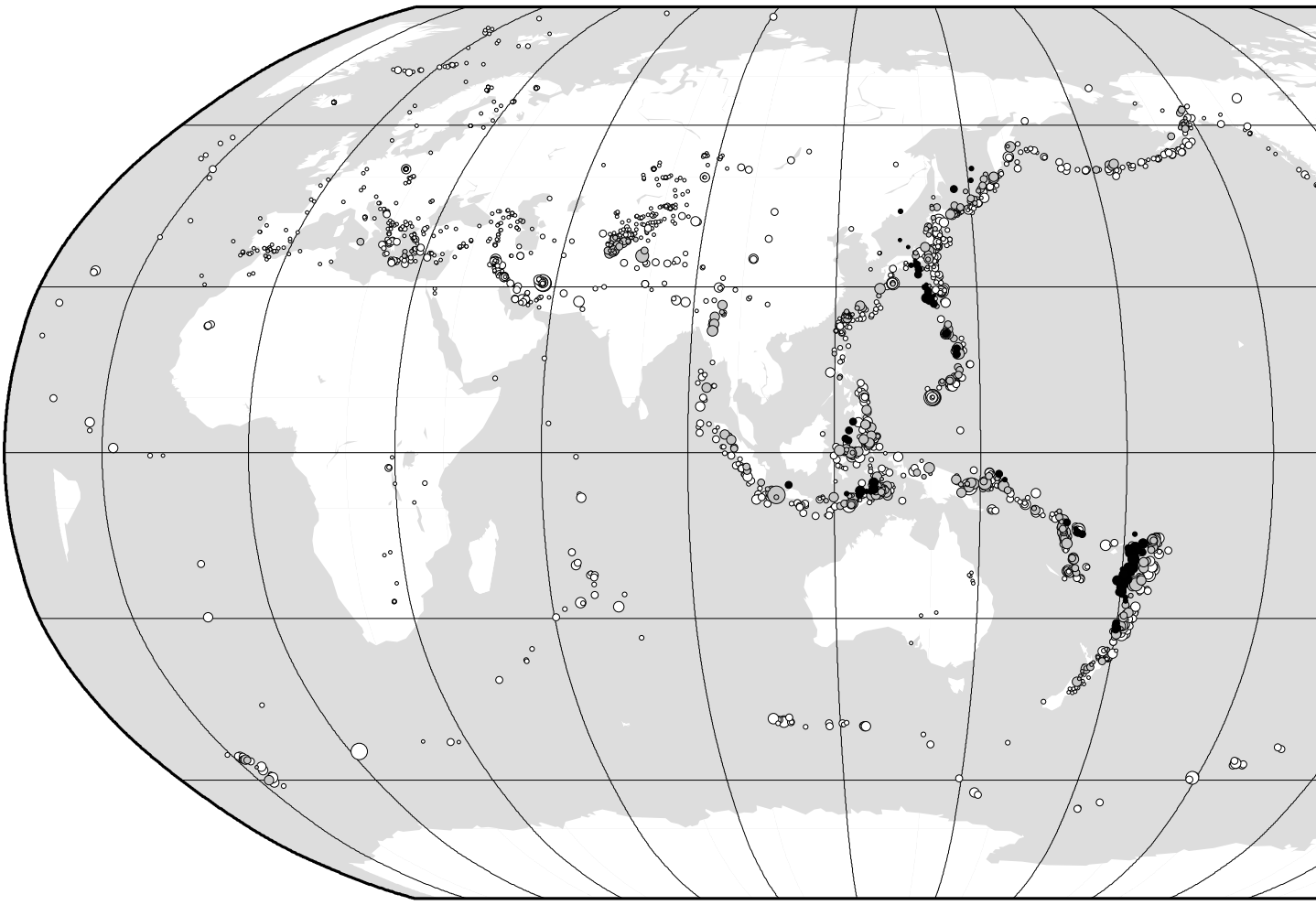

Depth (km)	0-70	70-300	>300
M=8			
M=6.5			
M=4			

Robinson Projection

2985 Events